Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1°.15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*NEIC **01** 00:07:22.7±0.9, 63°.08N±0°.04×150°.98W±0°.09, h130km±4km, Error ellipse: s-maj=5.9km s-min=5.5km az=81.0*
*ANF **01** 00:07:22.9±0.2, 63°.07N×151°.03W, h124km±2km, ML3.6/54, ML3.6/55, Error ellipse: s-maj=1.6km s-min=1.2km az=114.0*
*AEIC **01** 00:07:23±0.8, 63°.07N±0°.04×150°.98W±0°.10, h128km±4km, ML3.3, ML3.6/116(NEIC), Error ellipse: s-maj=6.2km s-min=5.2km az=80.0*

ISC 01 00:07:22.0±1.3, 63°.08N±0°.03×151°.02W±0°.03, h134km±6km, n180, σ0.78/216, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.47**	**5**		**Pn**	**00 07 42.7**	**+1.2**
KTH					**Sn**	**00 07 56.1**	**-0.2**
TRF	**Thorofare Moun**	**0.49**	**41**	P	**Pn**	**00 07 42.1**	**+0.3**
	baz=220						
TRF				S	**Sn**	**00 07 56.2**	**-0.5**
	baz=220						
TRF	**Thorofare Moun**	**0.49**	**41**		**Pn**	**00 07 42.0**	**+0.2**
TRF					**Sn**	**00 07 56.2**	**-0.5**
TRF				IAML		00 07 56.9	
	comp=N,875nm,0.4s						
TRF				IAML		00 07 57.0	
	comp=E,1μm,0.6s						
PPLA	**Purkeypile**	**0.57**	**251**	P	**Pn**	**00 07 42.5**	**+0.3**
	baz=72						
PPLA				S	**Sn**	**00 07 56.6**	**-0.7**
	baz=72						
PPLA	**Purkeypile**	**0.57**	**251**		**Pn**	**00 07 42.4**	**+0.3**
PPLA	**Purkeypile**	**0.57**	**251**		**Sn**	**00 07 56.9**	**-0.4**
HUR	**Hurricane**	**0.64**	**99**		**Pn**	**00 07 42.7**	**+0.3**
HUR					**Sn**	**00 07 58.4**	**+0.5**
CUT	**Chulitna**	**0.76**	**153**	P	**Pn**	**00 07 43.6**	**+0.3**
	baz=334,SNR=53						
CUT				S	**Sn**	**00 07 59.0**	**-0.4**
	baz=334						
CUT	**Chulitna**	**0.76**	**153**		**Pn**	**00 07 43.4**	**+0.1**
CUT					**Sn**	**00 07 59.0**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.02**	**1**	P	**Pn**	**00 07 45.7**	**+0.2**
	baz=180,SNR=260						
BPAW				S	**Sn**	**00 08 02.3**	**-1.1**
	baz=180						
BPAW	**Bear Paw Mtn.**	**1.02**	**1**		**Pn**	**00 07 45.7**	**+0.2**
WAT7	**Susitna Watana**	**1.02**	**103**		**Pn**	**00 07 45.6**	**0.0**
WAT7					**Sn**	**00 08 03.1**	**-0.5**
RND	**Reindeer**	**1.03**	**71**		**Pn**	**00 07 45.8**	**+0.2**
RND					**Sn**	**00 08 02.7**	**-1.0**
RND				IAML		00 08 05.0	
	comp=E,397nm,0.4s						
RND				IAML		00 08 06.5	
	comp=N,588nm,0.5s						
SKT	**Skwentna**	**1.13**	**192**	P	**Pn**	**00 07 46.7**	**+0.1**
	baz=13						
SKT				S	**Sn**	**00 08 04.6**	**-0.6**
	baz=13						
SKT	**Skwentna**	**1.13**	**192**		**Pn**	**00 07 46.6**	**0.0**
SKT					**Sn**	**00 08 04.5**	**-0.7**
SKT				IAML		00 08 06.3	
	comp=N,1μm,0.4s						
SKT				IAML		00 08 06.3	
	comp=E,716nm,0.3s						
MCK	**McKinley**	**1.14**	**54**	P	**Pn**	**00 07 47.2**	**+0.5**
	baz=235,SNR=34						
MCK				S	**Sn**	**00 08 04.6**	**-0.8**
	baz=235						
MCK	**McKinley**	**1.14**	**54**	Pn	**Pn**	**00 07 47.1**	**+0.4**
MCK					**Sn**	**00 08 04.5**	**-0.9**
MCK				IAML		00 08 07.2	
	comp=N,428nm,0.7s						
WAT1	**Susitna Watana**	**1.16**	**102**	S	**Sn**	**00 08 04.9**	**-0.7**
	baz=284						
WAT1	**Susitna Watana**	**1.16**	**102**		**Pn**	**00 07 48.0**	**+1.2**
BWN	**Browne**	**1.29**	**32**		**Pn**	**00 07 49.2**	**+1.0**
BWN				IAML		00 08 11.8	
	comp=N,620nm,0.7s						
BWN				IAML		00 08 13.8	
	comp=E,414nm,0.9s						
M20K	**Styx River**	**1.56**	**220**	P	**Pn**	**00 07 51.0**	**-0.1**
	baz=39						
M20K				S	**Sn**	**00 08 12.1**	**-1.2**
	baz=39						
WAT6	**Susitna Watana**	**1.59**	**107**	P	**Pn**	**00 07 51.7**	**+0.1**
	baz=290						
WAT6				S	**Sn**	**00 08 13.7**	**-0.3**
	baz=290						
WAT6	**Susitna Watana**	**1.59**	**107**		**Pn**	**00 07 51.6**	**+0.1**
SUA	**Susitna One**	**1.63**	**175**	P	**Pn**	**00 07 52.2**	**+0.2**
	baz=356,SNR=12						
SUA				S	**Sn**	**00 08 13.6**	**-1.2**
	baz=356						
SUA	**Susitna One**	**1.63**	**175**	Pn	**Pn**	**00 07 52.7**	**+0.7**
SUA				IAML		00 08 16.2	
	comp=E,382nm,1.3s						
SUA				IAML		00 08 19.6	
	comp=N,346nm,0.6s						
STLK	**Strandline Lak**	**1.64**	**194**		**Pn**	**00 07 53.2**	**+1.2**
GHO	**Glory Hole Cre**	**1.64**	**143**		**Pn**	**00 07 52.6**	**+0.6**
GHO					**Sn**	**00 08 14.8**	**0.0**
PMR	**Palmer**	**1.74**	**149**	P	**Pn**	**00 07 54.1**	**+1.1**
	baz=331,SNR=18						
PMR				S	**Sn**	**00 08 16.7**	**-0.1**
	baz=331						
PMR	**Palmer**	**1.74**	**149**	Pn	**Pn**	**00 07 53.8**	**+0.8**
PMR				Sn	**Sn**	**00 08 16.4**	**-0.3**
PMR				IAML		00 08 23.4	
	comp=E,492nm,0.3s						
PMR				IAML		00 08 24.9	
	comp=N,345nm,0.3s						
NEA2	**Nenana**	**1.74**	**29**	P	**Pn**	**00 07 53.3**	**+0.2**
	baz=210,SNR=108						
NEA2				S	**Sn**	**00 08 15.1**	**-1.8**
	baz=210						
NEA2	**Nenana**	**1.74**	**29**		**Pn**	**00 07 53.1**	**0.0**
SML	**Sawmill**	**1.79**	**135**	P	**Pn**	**00 07 53.9**	**+0.1**
	baz=317,SNR=119						
SML				S	**Sn**	**00 08 17.7**	**-0.3**
	baz=317						
SML	**Sawmill**	**1.79**	**135**		**Pn**	**00 07 53.8**	**+0.1**
SML				Sn	**Sn**	**00 08 17.6**	**-0.4**
SML				IAML		00 08 19.2	
	comp=N,709nm,0.4s						
SML				IAML		00 08 25.1	
	comp=E,673nm,0.4s						
SPCG	**Spurr Capps Gl**	**1.86**	**195**		**Pn**	**00 07 54.8**	**+0.1**
SPCP	**Crater Peak Br**	**1.90**	**197**		**Pn**	**00 07 55.6**	**+0.4**
SPCP					**Sn**	**00 08 20.4**	**0.0**
WRH	**Wood River Hil**	**1.91**	**42**		**Pn**	**00 07 55.4**	**+0.4**
SPBG	**Spurr Blockage**	**1.94**	**200**		**Pn**	**00 07 56.5**	**+0.9**
SPCN	**Chakachatna No**	**1.94**	**197**		**Pn**	**00 07 56.7**	**+1.2**
MLY	**Manley**	**1.96**	**3**	P	**Pn**	**00 07 56.2**	**+0.5**
	baz=183,SNR=134						
MLY				S	**Sn**	**00 08 20.4**	**-1.2**
	baz=183						
MLY	**Manley**	**1.96**	**3**		**Pn**	**00 07 56.0**	**+0.3**
MLY				Sn	**Sn**	**00 08 21.1**	**-0.5**
M19K	**Big River Lodg**	**1.96**	**234**	P	**Pn**	**00 07 55.8**	**0.0**
	baz=52						
M19K				S	**Sn**	**00 08 20.7**	**-0.8**
	baz=52						
SPCR	**Spurr Chakacha**	**1.97**	**197**	P	**Pn**	**00 07 56.1**	**+0.2**
	baz=17,SNR=34						
SPCR				S	**Sn**	**00 08 21.0**	**-0.8**
	baz=17						
SPCR	**Spurr Chakacha**	**1.97**	**197**		**Pn**	**00 07 56.1**	**+0.2**
L19K	**White Mountain**	**1.99**	**245**	P	**Pn**	**00 07 56.2**	**+0.1**
	baz=62						
L19K				S	**Sn**	**00 08 21.0**	**-1.2**
	baz=62						
KNK	**Knik Glacier**	**2.06**	**143**	P	**Pn**	**00 07 57.1**	**+0.1**
	baz=326,SNR=36						
KNK				S	**Sn**	**00 08 22.6**	**-1.1**
	baz=326						
KNK	**Knik Glacier**	**2.06**	**143**		**Pn**	**00 07 57.0**	**+0.1**
KNK				IAML		00 08 32.3	
	comp=N,557nm,0.6s						
RC01	**Rabbit Creek A**	**2.09**	**163**	P	**Pn**	**00 07 57.5**	**+0.2**
	baz=344						
RC01				S	**Sn**	**00 08 23.1**	**-1.2**
	baz=344						
RC01	**Rabbit Creek A**	**2.09**	**163**		**Pn**	**00 07 57.6**	**+0.2**
RC01				Sn	**Sn**	**00 08 23.3**	**-1.0**
RC01				IAML		00 08 25.5	
	comp=E,329nm,0.3s						
RC01				IAML		00 08 25.6	
	comp=N,364nm,0.3s						
CCB	**Clear Creek Bu**	**2.12**	**41**		**Pn**	**00 07 57.9**	**+0.3**
CCB				IAML		00 08 26.8	
	comp=E,171nm,0.7s						
SCM	**Sheep Creek Mo**	**2.12**	**125**		**Pn**	**00 07 57.7**	**-0.1**
SCM				IAML		00 08 26.6	
	comp=E,538nm,0.6s						
SCM				IAML		00 08 34.8	
	comp=N,451nm,0.6s						
I21K	**Tanana**	**2.15**	**349**	P	**Pn**	**00 07 58.6**	**+0.7**
	baz=168,SNR=10						
I21K				S	**Sn**	**00 08 24.8**	**-0.7**
	baz=168						
I21K	**Tanana**	**2.15**	**349**		**Pn**	**00 07 58.6**	**+0.7**
I21K					**Sn**	**00 08 24.8**	**-0.7**
I23K	**Minto, Yukon-K**	**2.20**	**19**	P	**Pn**	**00 07 59.3**	**+0.7**
	baz=200,SNR=371						
I23K				S	**Sn**	**00 08 26.2**	**-0.3**
	baz=200						
I23K	**Minto, Yukon-K**	**2.20**	**19**		**Pn**	**00 07 59.2**	**+0.7**
HDA	**Harding Lake**	**2.25**	**52**	P	**Pn**	**00 07 59.4**	**+0.3**
	baz=235,SNR=72						
HDA	**Harding Lake**	**2.25**	**52**		**Pn**	**00 07 59.4**	**+0.3**
HDA				IAML		00 08 28.3	
	comp=N,196nm,1.1s						
HDA				IAML		00 08 28.5	
	comp=E,261nm,0.7s						
MDM	**Murphy Dome**	**2.25**	**32**		**Pn**	**00 07 59.6**	**+0.4**
TCOL	**CIGO, UAF Yank**	**2.27**	**36**	P	**Pn**	**00 08 00.0**	**+0.6**
	baz=219,SNR=14						
TCOL	**CIGO, UAF Yank**	**2.27**	**36**	Pn	**Pn**	**00 07 59.6**	**+0.1**
TCOL				Sn	**Sn**	**00 08 27.3**	**-0.9**
TCOL				IAML		00 08 36.3	
	comp=E,230nm,0.6s						
TCOL				IAML		00 08 38.0	
	comp=N,299nm,0.5s						
COLA	**College**	**2.28**	**36**	P	**Pn**	**00 07 59.9**	**+0.4**
	baz=219						
COLA	**College**	**2.28**	**36**	Pn	**Pn**	**00 07 59.8**	**+0.3**
COLA	**College**	**2.28**	**36**	IAML		00 08 36.3	
	comp=N,259nm,0.6s						
COLA				IAML		00 08 38.0	
	comp=N,303nm,0.5s						
TT01	**Tatalina**	**2.29**	**268**		**Pn**	**00 08 00.0**	**+0.3**
CAPN	**Captain Cook N**	**2.32**	**182**	Pn	**Pn**	**00 08 02.5**	**+2.4**
PS08	**TAPS Pump Stn8**	**2.37**	**50**		**Pn**	**00 08 01.2**	**+0.6**
PS08					**Sn**	**00 08 29.3**	**-1.1**
M24K	**Tolsona, Glenn**	**2.44**	**111**	P	**Pn**	**00 08 02.5**	**+0.8**
	baz=296,SNR=63						
M24K	**Tolsona, Glenn**	**2.44**	**111**	Pn	**Pn**	**00 08 02.4**	**+0.7**
M24K				IAML		00 08 43.4	
	comp=E,377nm,0.7s						
M24K				IAML		00 08 44.2	
	comp=N,309nm,0.8s						
IL31		**2.49**	**45**	Pn	**Pn**	**00 08 02.5**	**+0.4**
ILAR	**Eielson Array**	**2.49**	**45**	Pn	**Pn**	**00 08 02.5**	**+0.3**
PAX	**Paxson**	**2.53**	**90**	P	**Pn**	**00 08 03.6**	**+0.8**
	baz=275						
PAX	**Paxson**	**2.53**	**90**	Pn	**Pn**	**00 08 03.5**	**+0.7**
PWL	**Port Wells**	**2.57**	**149**		**Pn**	**00 08 03.2**	**0.0**
PWL	**Port Wells**	**2.57**	**149**		**Sn**	**00 08 32.9**	**-2.0**
POKR	**Poker Plat Res**	**2.58**	**36**	P	**Pn**	**00 08 03.9**	**+0.6**
	baz=219,SNR=26						
POKR	**Poker Plat Res**	**2.58**	**36**	Pn	**Pn**	**00 08 03.8**	**+0.5**
SLKM	**Skilak Lake**	**2.61**	**171**		**Pn**	**00 08 04.1**	**+0.3**
DFR	**Drift River**	**2.62**	**198**		**Pn**	**00 08 05.0**	**+1.0**
DFR					**Sn**	**00 08 36.2**	**-0.1**
O22K	**Cooper Landing**	**2.68**	**166**	P	**Pn**	**00 08 04.3**	**-0.3**
	baz=348						
O22K	**Cooper Landing**	**2.68**	**166**	Pn	**Pn**	**00 08 04.9**	**+0.3**
NCT	**North Crescent**	**2.69**	**201**		**Pn**	**00 08 05.7**	**+0.9**
H21K	**Melozitna Rive**	**2.70**	**344**	P	**Pn**	**00 08 05.4**	**+0.6**
	baz=162						
H21K	**Melozitna Rive**	**2.70**	**344**		**Pn**	**00 08 05.5**	**+0.7**
RSO	**Redoubt South**	**2.76**	**198**	Pn	**Pn**	**00 08 07.1**	**+1.3**
HARP	**HAARP**	**2.78**	**102**	P	**Pn**	**00 08 06.9**	**+0.9**
	baz=287,SNR=112						
HARP	**HAARP**	**2.78**	**102**		**Pn**	**00 08 07.0**	**+1.0**
RED	**Redoubt Volcan**	**2.80**	**198**		**Pn**	**00 08 07.0**	**+0.7**
N19K	**Bonanza Creek**	**2.81**	**217**	P	**Pn**	**00 08 06.9**	**+0.5**
	baz=35,SNR=53						
N19K	**Bonanza Creek**	**2.81**	**217**		**Pn**	**00 08 06.8**	**+0.5**
H23K	**Yukon River**	**2.83**	**12**	P	**Pn**	**00 08 07.4**	**+0.9**
	baz=193						
PS06	**TAPS Pump Stn6**	**2.84**	**11**		**Pn**	**00 08 07.3**	**+0.7**
KLU	**Klutina**	**2.87**	**122**	P	**Pn**	**00 08 07.5**	**+0.4**
	baz=306,SNR=17						
GLI	**Glacier Island**	**2.88**	**138**	P	**Pn**	**00 08 07.1**	**-0.2**
	baz=322						
GLI	**Glacier Island**	**2.88**	**138**	Pn	**Pn**	**00 08 06.8**	**-0.5**
SVW2	**Sparrevohn**	**2.93**	**229**		**Pn**	**00 08 07.5**	**-0.3**
H24K	**Noodor Dome**	**3.08**	**25**	P	**Pn**	**00 08 10.3**	**+0.5**
	baz=207,SNR=60						
H24K	**Noodor Dome**	**3.08**	**25**		**Pn**	**00 08 10.3**	**+0.5**
SEW	**Seward**	**3.08**	**165**	P	**Pn**	**00 08 09.9**	**+0.1**
	baz=347,SNR=6.3						
SEW	**Seward**	**3.08**	**165**	Pn	**Pn**	**00 08 10.0**	**+0.3**
O20K	**Slope Mountain**	**3.11**	**195**	P	**Pn**	**00 08 10.4**	**+0.1**
	baz=14,SNR=5.8						
FID	**Port Fidalgo**	**3.18**	**135**	Pn	**Pn**	**00 08 10.9**	**-0.1**
DOT	**Dot Lake**	**3.18**	**77**		**Pn**	**00 08 11.3**	**+0.2**
SCRK	**Sand Creek**	**3.27**	**71**	P	**Pn**	**00 08 12.9**	**+0.5**
	baz=257,SNR=114						
SCRK	**Sand Creek**	**3.27**	**71**		**Pn**	**00 08 12.8**	**+0.5**
SCRK	**Sand Creek**	**3.27**	**71**	IAML		00 08 57.1	
	comp=N,109nm,0.6s						
SCRK				IAML		00 08 57.1	
	comp=E,69nm,0.8s						
O19K	**Port Alsworth**	**3.30**	**210**	P	**Pn**	**00 08 12.8**	**+0.2**
	baz=28						
BRLK	**Bradley Lake**	**3.33**	**179**	Pn	**Pn**	**00 08 13.5**	**+0.4**
BRLK				IAML		00 08 53.7	
	comp=N,107nm,0.8s						
BRLK				IAML		00 08 54.0	
	comp=E,101nm,0.4s						
N18K	**Kilae Creek**	**3.34**	**226**	P	**Pn**	**00 08 13.3**	**+0.2**
	baz=42,SNR=32						
N18K	**Kilae Creek**	**3.34**	**226**		**Pn**	**00 08 13.3**	**+0.2**
N25K	**Chitina, Valde**	**3.34**	**113**	P	**Pn**	**00 08 13.4**	**+0.1**
	baz=299,SNR=34						
N25K	**Chitina, Valde**	**3.34**	**113**	Pn	**Pn**	**00 08 13.4**	**+0.1**
N25K				IAML		00 09 07.8	
	comp=N,63nm,0.7s						
BRSE	**Bradley Lake S**	**3.36**	**178**	P	**Pn**	**00 08 13.6**	**+0.2**
	baz=358,SNR=8.1						
BRSE	**Bradley Lake S**	**3.36**	**178**		**Pn**	**00 08 13.7**	**+0.3**
PRP	**Porcupine Dome**	**3.42**	**42**	P	**Pn**	**00 08 14.7**	**+0.5**
	baz=226						
PRP	**Porcupine Dome**	**3.42**	**42**		**Pn**	**00 08 14.5**	**+0.3**
HIN	**Hinchinbrook I**	**3.45**	**139**	Pn	**Pn**	**00 08 14.2**	**-0.4**
HOM	**Homer**	**3.45**	**185**	P	**Pn**	**00 08 15.6**	**+1.0**
	baz=5.2						
HOM	**Homer**	**3.45**	**185**	Pn	**Pn**	**00 08 16.0**	**+1.5**
EYAK	**Cordova Ski Ar**	**3.56**	**133**	P	**Pn**	**00 08 16.2**	**+0.2**
	baz=318						
EYAK	**Cordova Ski Ar**	**3.56**	**133**	Pn	**Pn**	**00 08 16.2**	**+0.2**
CNPM	**China Poot**	**3.57**	**182**		**Pn**	**00 08 16.7**	**+0.5**
CNPM				IAML		00 08 58.9	
	comp=N,132nm,0.4s						
CNPM				IAML		00 08 59.6	
	comp=E,93nm,0.5s						
OPT	**Oil Point**	**3.60**	**198**		**Pn**	**00 08 18.4**	**+1.7**
BMRM	**Bremner River**	**3.69**	**122**	P	**Pn**	**00 08 17.4**	**-0.4**
	baz=308						
BMRM	**Bremner River**	**3.69**	**122**		**Pn**	**00 08 17.6**	**-0.2**
BMRM				IAML		00 09 17.0	
	comp=E,122nm,0.6s						
BMRM				IAML		00 09 22.6	
	comp=N,160nm,0.5s						
GLB	**Gilahina Butte**	**3.75**	**113**	Pn	**Pn**	**00 08 18.7**	**+0.1**
GLB				IAML		00 09 20.1	
	comp=E,48nm,0.8s						
GLB				IAML		00 09 23.7	
	comp=N,55nm,0.7s						
O18K	**Koktuh Hills**	**3.81**	**214**	P	**Pn**	**00 08 19.8**	**+0.4**
	baz=30						
AUQ	**Augustine Qik'**	**3.92**	**198**		**Pn**	**00 08 23.1**	**+2.3**
VRDI	**Verde Repeater**	**4.01**	**114**	Pn	**Pn**	**00 08 22.8**	**+0.7**
VRDI				IAML		00 09 34.2	
	comp=N,49nm,0.7s						
MCARA	**McCarthy VSAT**	**4.11**	**111**	P	**Pn**	**00 08 23.7**	**+0.5**
	baz=298,SNR=6.5						
MCARA	**McCarthy VSAT**	**4.11**	**111**	Pn	**Pn**	**00 08 23.7**	**+0.5**
MCARA				IAML		00 09 31.4	
	comp=N,109nm,0.8s						
K27K	**Chicken**	**4.11**	**73**	P	**Pn**	**00 08 23.7**	**+0.5**
	baz=260						
K27K	**Chicken**	**4.11**	**73**	Pn	**Pn**	**00 08 23.7**	**+0.5**
K27K				IAML		00 09 14.3	
	comp=E,68nm,0.7s						
COLD	**Coldfoot**	**4.18**	**4**	P	**Pn**	**00 08 25.1**	**+1.0**
	baz=185,SNR=34						
COLD	**Coldfoot**	**4.18**	**4**		**Pn**	**00 08 25.0**	**+1.0**
L27K	**Beaver Creek,**	**4.18**	**86**	P	**Pn**	**00 08 24.2**	**0.0**
	baz=274,SNR=35						
L27K	**Beaver Creek,**	**4.18**	**86**	Pn	**Pn**	**00 08 24.2**	**0.0**
BC03		**4.20**	**86**		**Pn**	**00 08 24.5**	**+0.1**
BCAR	**Beaver Creek A**	**4.20**	**86**	Pn	**Pn**	**00 08 24.4**	**-0.1**
HMT	**Hamilton**	**4.23**	**128**	Pn	**Pn**	**00 08 24.8**	**-0.2**
FYU	**Fort Yukon**	**4.28**	**33**	Pn	**Pn**	**00 08 26.2**	**+0.8**
MID	**Middleton Isla**	**4.31**	**146**	Pn	**Pn**	**00 08 27.2**	**+1.4**
CRQM	**Cirque**	**4.39**	**119**		**Pn**	**00 08 27.6**	**+0.4**
NICHA	**Nichawak Mount**	**4.41**	**127**		**Pn**	**00 08 27.4**	**+0.2**
CRQE	**Cirque**	**4.42**	**118**	P	**Pn**	**00 08 27.6**	**+0.2**
	baz=306						
PTPK	**Patty Peak**	**4.44**	**112**		**Pn**	**00 08 29.2**	**+1.4**
TGL	**Tana Glacier**	**4.52**	**117**	Pn	**Pn**	**00 08 30.7**	**+2.0**
TGL				IAML		00 09 43.0	
	comp=N,72nm,0.8s						
TGL				IAML		00 09 43.7	
	comp=E,65nm,0.7s						
KHIT	**Khitrov Hills**	**4.54**	**122**		**Pn**	**00 08 29.6**	**+0.5**
BALM	**Baldy**	**4.57**	**113**		**Pn**	**00 08 29.5**	**+0.1**
SUCK	**Suckling Hills**	**4.59**	**128**	Pn	**Pn**	**00 08 30.0**	**+0.4**
SUCK				IAML		00 09 46.7	
	comp=E,74nm,0.6s						
KIAG	**Kiagna River**	**4.62**	**114**		**Pn**	**00 08 29.9**	**-0.3**
EGAK	**Eagle**	**4.67**	**64**	P	**Pn**	**00 08 31.3**	**+0.6**
	baz=253,SNR=35						
EGAK	**Eagle**	**4.67**	**64**	Pn	**Pn**	**00 08 31.4**	**+0.7**
EGAK				IAML		00 09 40.0	
	comp=E,68nm,1.1s						
EGAK				IAML		00 09 41.3	
	comp=E,54nm,0.8s						
WAX	**Waxell Ridge**	**4.69**	**121**	Pn	**Pn**	**00 08 31.5**	**+0.5**
ISLE	**Juniper Island**	**4.80**	**117**		**Pn**	**00 08 32.4**	**-0.2**
ISLE				IAML		00 09 53.8	
	comp=E,64nm,0.8s						
ISLE				IAML		00 09 54.2	
	comp=N,76nm,1.2s						
BARN	**Barnard Glacie**	**4.85**	**111**		**Pn**	**00 08 34.0**	**+0.8**
BARN				IAML		00 09 53.7	
	comp=N,24nm,0.7s						
BARN				IAML		00 09 53.8	
	comp=E,29nm,0.8s						
YUK2	**White River**	**4.90**	**101**		**Pn**	**00 08 34.8**	**+1.0**
BAGL	**Bagley Icefiel**	**4.97**	**118**		**Pn**	**00 08 35.7**	**+1.1**
CTG	**Chitna Glacier**	**5.03**	**111**	P	**Pn**	**00 08 36.1**	**+0.5**
	baz=299,SNR=8.4						
CTGM	**Chitina Glacie**	**5.03**	**111**		**Pn**	**00 08 36.6**	**+1.0**
CTGM				IAML		00 09 58.3	
	comp=N,22nm,0.6s						
YAH	**Yahtse**	**5.18**	**118**		**Pn**	**00 08 37.8**	**0.0**
YAH				IAML		00 10 01.3	
	comp=N,34nm,1.0s						
YAH				IAML		00 10 04.5	
	comp=E,29nm,0.8s						
MESA	**MESA**	**5.21**	**120**	P	**Pn**	**00 08 38.6**	**+0.5**
	baz=308						
MESA	**MESA**	**5.21**	**120**	Pn	**Pn**	**00 08 39.1**	**+0.9**
MESA				IAML		00 10 04.8	
	comp=E,56nm,0.5s						
LOGN	**Logan Glacier**	**5.24**	**111**		**Pn**	**00 08 39.9**	**+1.5**
LOGN				IAML		00 10 04.1	
	comp=N,18nm,0.7s						
LOGN				IAML		00 10 07.2	
	comp=E,16nm,0.9s						
KABU	**Katmai Buttres**	**5.26**	**205**		**Pn**	**00 08 40.0**	**+1.3**
DAWY	**Dawson**	**5.29**	**74**		**Pn**	**00 08 39.4**	**+0.5**
KDAK	**Kodiak Island**	**5.37**	**189**	P	**Pn**	**00 08 39.3**	**-0.8**
	baz=7.8						
KDAK	**Kodiak Island**	**5.37**	**189**	Pn	**Pn**	**00 08 39.4**	**-0.6**
RKAV	**Rock Avalanche**	**5.38**	**117**		**Pn**	**00 08 40.4**	**0.0**
TOLK	**Toolik Lake Re**	**5.61**	**5**	P	**Pn**	**00 08 45.3**	**+2.0**
	baz=186,SNR=5.5						
TOLK	**Toolik Lake Re**	**5.61**	**5**		**Pn**	**00 08 46.0**	**+2.7**
SAMH	**Samovar Hills**	**5.71**	**117**		**Pn**	**00 08 46.5**	**+1.8**
PCA	**Pinnacle**	**5.95**	**115**		**Pn**	**00 08 48.6**	**+0.8**
PINM	**Pinnacle**	**5.95**	**115**	P	**Pn**	**00 08 48.5**	**+0.8**
	baz=305,SNR=15						
OHAK	**Old Harbor**	**5.99**	**192**	Pn	**Pn**	**00 08 46.4**	**-1.9**
BCPM	**Bancas Point**	**6.28**	**115**		**Pn**	**00 08 52.5**	**+0.2**
PNL	**Peninsula**	**6.55**	**116**		**Pn**	**00 08 56.6**	**+0.8**
HYT	**Haines Junctio**	**6.76**	**103**	Pn	**Pn**	**00 08 58.8**	**0.0**
EPYK	**Eagle Plains**	**6.95**	**55**	Pn	**Pn**	**00 09 01.6**	**+0.4**
INK	**Inuvik**	**8.89**	**46**	Pn	**Pn**	**00 09 28.9**	**+1.8**
BESE	**Bessie Mountai**	**9.08**	**112**	Pn	**Pn**	**00 09 30.3**	**+0.4**
SIT	**Sitka**	**9.88**	**121**	Pn	**Pn**	**00 09 42.3**	**+1.9**

*IDC **01** 00:25:31.1±5.8, 34°.74N×134°.88E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/29, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=189.1km s-min=33.7km az=127.0*
*JMA **01** 00:25:48.3±0.3, 36°.05N×137°.28E, h254km±3km, M2.5*

ISC 01 00:25:48.7±1.4, 36°.1N±0°.2×137°.3E±0°.1, h252km±10km, n12, σ0.21/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.13**	**20**	P	**Pn**	**00 26 21.2**	**0.0**
JYTA	**Yamagatataniai**	**0.66**	**220**	P	**Pn**	**00 26 22.2**	**-0.2**
JNG	**Nsakai**	**0.75**	**65**	P	**Pn**	**00 26 23.0**	**+0.2**
JNG				S	**S**	**00 26 49.7**	**+0.2**
MAT	**Matsushiro**	**0.89**	**60**	P	**Pn**	**00 26 23.3**	**0.0**
MAT				*e*S	**S**	**00 26 50.3**	**-0.2**
MAT	**Matsushiro**	**0.89**	**60**	P	**Pn**	**00 26 23.4**	**+0.1**
MJAR	**Matsushiro Arr**	**0.89**	**60**	Pn	**P

NISR				S		Sb	00 35 22.7	+0.4
	comp=E,4μm,0.2s							
NISR	Nisiros	0.28	345	P		Pg	00 35 16.7	-0.6
NISR				S		Sb	00 35 22.4	+0.1
NISR				AML		AML	00 35 24.4	
	comp=E,9464μm,0.2s							
NISR				AML		AML	00 35 25.3	
	comp=N,6858μm,0.3s							
KOSK	Kos Island	0.45	335	P		Pb	00 35 21.4	+0.6
KOSK				S		Sb	00 35 29.3	+1.9
	comp=N,998nm,0.4s							
KOSK	Kos Island	0.45	335	PG		Pb	00 35 21.4	+0.6
KOSK				SG		Sb	00 35 29.2	+1.9
DAT	Datca	0.48	37	P		Pg	00 35 21.2	+0.2
DAT	Datca	0.48	37	*i* P		Pg	00 35 20.8	-0.3
DAT				*i* S		Sg	00 35 27.5	0.0
DAT	Datca	0.48	37	PG		Pg	00 35 21.5	+0.5
DAT				SG		Sb	00 35 29.7	+1.3
DATC	Datca-Mugla	0.55	41	PG		Pb	00 35 22.9	+0.4
BODT	Bodrum	0.72	6	P		Pg	00 35 25.5	+0.1
BODT				S		Sn	00 35 37.1	-0.5
BODT	Bodrum	0.72	6	PG		Pb	00 35 26.2	+0.7
BDRM	Kayabasi	0.74	14	*i* P		Pb	00 35 26.5	+0.6
BDRM				*i* S		Sg	00 35 34.4	-1.3
BDRM				IAML			00 35 40.0	
	comp=N,156nm,0.3s							
ARG	Arkhangelos	0.75	100	P		Pn	00 35 27.0	-0.1
ARG				S		Sn	00 35 38.4	+0.3
	comp=N,1μm,0.3s							
ARG	Arkhangelos	0.75	100	P		Pb	00 35 26.4	+0.5
ARG				S		Sn	00 35 38.3	+0.3
ARG				AML		AML	00 35 40.2	
	comp=N,1869μm,0.3s							
ARG				AML		AML	00 35 40.6	
	comp=E,4048μm,0.4s							
ARG	Arkhangelos	0.75	100	PG		Pn	00 35 27.1	-0.1
KARP	Karpathos	0.80	183	P		Pg	00 35 27.1	+0.3
KARP				S		Sb	00 35 37.2	-0.1
	comp=E,315nm,0.2s							
KARP	Karpathos	0.80	183	P		Pb	00 35 26.3	-0.5
KARP				S		Sb	00 35 36.5	-0.8
KARP	Karpathos	0.80	183	PG		Pg	00 35 27.2	+0.4
TURN	Turunc	0.93	62	*i* P		Pb	00 35 29.5	+0.4
TURN				*i* S		Sb	00 35 39.6	-1.6
TURN				IAML			00 35 47.0	
	comp=N,206nm,0.4s							
TURN				IAML			00 35 48.0	
	comp=E,234nm,0.4s							
TURN	Turunc	0.93	62	PG		Pn	00 35 30.2	+0.5
MLSB	Milas	1.05	25	PG		Pg	00 35 32.7	+1.0
DDIM	Aydin, Didim	1.11	1	*i* P		Pg	00 35 33.0	+0.2
DDIM				*i* S		Sb	00 35 44.2	-2.1
DDIM				IAML			00 36 04.0	
	comp=E,89nm,0.8s							
YER	Yerkesik	1.17	47	PN		Pb	00 35 33.6	+0.5
DALY	Dalyan (Mula)	1.25	67	*i* P		Pb	00 35 34.7	+0.2
DALY				*i* S		Sb	00 35 49.3	-1.0
DALY	Dalyan (Mula)	1.25	67	PN		Pb	00 35 35.2	+0.7
MULA	Mugla, Merkez-	1.27	44	*i* P		Pg	00 35 36.6	+0.7
MULA				*i* S		Sg	00 35 52.4	0.0
GCAM	G?zelcaml?	1.35	1	*i* P		Pn	00 35 35.3	-0.3
GCAM				*i* S		Sn	00 35 50.9	-2.2
GCAM	G?zelcaml?	1.35	1	PN		Pg	00 35 38.3	+0.9
SMG	Samos	1.40	348	P		Pn	00 35 36.9	+0.8
SMG	Samos	1.40	348	P		Pn	00 35 36.4	+0.2
AYDN	Tasoluk	1.42	22	*i* P		Pb	00 35 38.1	+0.7
AYDN				*i* S		Sn	00 35 54.2	-0.7
SANT	Santorini	1.42	272	PN		Pg	00 35 38.8	+0.2
THT2	Imerovigli	1.45	274	PN		Pb	00 35 38.9	+1.0
ZKR	Zakros	1.47	214	P		Pb	00 35 39.0	+0.7
ZKR	Zakros	1.47	214	P		Pn	00 35 37.3	+0.2
ZKR				AML		AML	00 36 03.8	
	comp=N,126μm,0.6s							
ZKR				AML		AML	00 36 05.2	
	comp=E,223μm,0.5s							
FETY	Fethiye	1.53	78	*i* P		Pb	00 35 39.9	+0.6
FETY				*i* S		Sn	00 35 57.2	-0.4
FETY	Fethiye	1.53	78	PN		Pb	00 35 39.8	+0.5
APE	Apeiranthos	1.54	299	P		Pn	00 35 38.3	+0.2
APE	Apeiranthos	1.54	299	PN		Pb	00 35 40.0	+0.6
AYDB	Zeytinkoy-Aydi	1.69	18	PN		Pb	00 35 42.2	+0.1
NPS	Neapolis	1.69	231	P		Pn	00 35 39.9	-0.3
NPS	Neapolis	1.69	231	P		Pn	00 35 39.6	-0.6
DGB	zmir	1.73	351	*i* P		Pn	00 35 39.8	-0.8
DGB				*i* S		Sn	00 35 58.9	-3.4
TAVA	DENIZLI_Tavas	1.76	50	*i* P		Pb	00 35 43.8	+0.5
TAVA				*i* S		Sn	00 36 02.6	-0.8
CAME	Cameli-Denizli	1.78	70	PN		Pb	00 35 43.4	-0.2
LAST	Lasithi	1.84	231	P		Pn	00 35 42.4	+0.1
CAEL	Denizli, Camel	1.86	65	*i* P		Pg	00 35 46.4	-0.7
CAEL				*i* S		Sn	00 36 06.7	+0.8
CAEL				IAML			00 36 21.0	
	comp=N,72nm,0.7s							
CAEL				IAML			00 36 33.0	
	comp=E,70nm,1.0s							
AKAS	Kas	1.93	93	*i* P		Pn	00 35 44.8	+1.2
AKAS				*i* S		Sn	00 36 07.8	+0.2
AKAS				IAML			00 36 28.0	
	comp=E,28nm,1.0s							
AKAS				IAML			00 36 30.0	
	comp=N,32nm,0.8s							
GOLH	Golhisar	2.08	64	*i* P		Pb	00 35 48.8	0.0
GOLH				*i* S		Sn	00 36 11.1	-0.2
GOLH				IAML			00 36 30.0	
	comp=N,38nm,0.6s							
GOLH				IAML			00 37 03.0	
	comp=E,42nm,2.6s							

*IDC **01** 00:44:49.9±1.3,23°.83S×66°.69W,h199km±10km,mb3.1/4, mb1 3.4/9,mb1mx3.3/22,mbtmp3.7/9,Error ellipse: s-maj=22.7km s-min=15.2km az=11.0*
*NEIC **01** 00:44:50.2±2.2,23°.95S±0°.04×66°.81W±0°.08,h206km±8km, mb4.0/10,Md3.8(SJA),Error ellipse: s-maj=12.0km s-min=3.0km az=116.0*
*GUC **01** 00:44:51.2±0.5,23°.90S×67°.16W,h241km±8km,ML4.1*
ISC 01 00:44:50.1±0.7,23°.86S±0°.04×66°.80W±0°.07,h204km±8km, n65,σ1°22/77,mb3.7/8,7C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.31	302	P		Pn	00 45 33.6	+1.1
	57nm,0.3s,baz=130,slow=6.6,SNR=523							
LVC				S		S	00 46 06.1	+1.1
	27nm,0.3s,baz=46,slow=18,SNR=18							
LVC	Limon Verde	2.31	302	*e*P		Pn	00 45 33.6	+1.1
LVC				*e*S		S	00 46 06.1	+1.1
PB15	IPOC Station P	2.54	284	⇑*i*P		Pn	00 45 35.7	+0.8
PB15				*e*S		S	00 46 09.2	0.0
PB15	IPOC Station P	2.54	284			Pn	00 45 35.7	+0.8
PB15					Sn	S	00 46 08.9	-0.3
PB06	IPOC Station P	2.80	294	⇑*i*P		Pn	00 45 38.6	+0.8
PB06				*e*S		S	00 46 14.1	-0.3
PB06				IAML			00 46 16.0	
	comp=N,576nm,0.2s							
PB06	IPOC Station P	2.80	294			Pn	00 45 38.6	+0.8
GO02	Mina Guanaco	2.85	242	⇑*i*P		Pn	00 45 38.8	+0.3
GO02				*e*S		S	00 46 15.5	-0.3
GO02	Mina Guanaco	2.85	242	Pn		Pn	00 45 38.9	+0.3
PB09	IPOC Station P	3.05	312	⇑*i*P		Pn	00 45 42.0	+1.2
PB09				IAML			00 46 25.9	
	comp=N,140nm,0.3s							
PB09	IPOC Station P	3.05	312			Pn	00 45 42.0	+1.2
PB03	IPOC Station P	3.27	303	⇑*i*P		Pn	00 45 43.8	+0.5
PB03				*e*S		S	00 46 23.3	-1.0
PB05	IPOC Station P	3.29	287	*i* P		Pn	00 45 43.5	+0.1
PB05				*e*S		S	00 46 22.6	-1.9
PB14	IPOC Station P	3.38	256	*e*P		Pn	00 45 45.6	+0.8
PB14				*e*S		S	00 46 25.6	-1.3
PB14	IPOC Station P	3.38	256	Pn		Pn	00 45 45.5	+0.8
PB04	IPOC Station P	3.44	296	⇑*i*P		Pn	00 45 45.6	+0.3
PB04	IPOC Station P	3.44	296			Pn	00 45 45.7	+0.4
PB10	IPOC Station P	3.46	275	*i* P		Pn	00 45 45.7	+0.3
PB10				*e*S		S	00 46 25.6	-2.5
PB10	IPOC Station P	3.46	275	Pn		Pn	00 45 45.7	+0.3
PB07	IPOC Station P	3.56	306	⇑*i*P		Pn	00 45 47.0	+0.3
PB07	IPOC Station P	3.56	306			Pn	00 45 47.0	+0.3
AC02	Maricunga	3.64	215	Pn		Pn	00 45 48.2	+0.2
PB01	IPOC Station P	3.75	318	*e*P		Pn	00 45 49.1	0.0
PB01	IPOC Station P	3.75	318			Pn	00 45 49.1	0.0
AC01	Pan de Azucar	4.13	236	*e*P		Pn	00 45 52.3	-1.4
AC01				*e*S		S	00 46 39.8	-3.4
AC01	Pan de Azucar	4.13	236	Pn		Pn	00 45 52.1	-1.6
PB08	IPOC Station P	4.30	329	*e*P		Pn	00 45 57.1	+0.9
PB08	IPOC Station P	4.30	329			Pn	00 45 57.2	+1.0
TA01	Diego Aracena	4.54	316	*e*P		Pn	00 45 58.3	-0.4
TA01				*e*S		S	00 46 49.6	-2.8
TA01	Diego Aracena	4.54	316	Pn		Pn	00 45 58.5	-0.2
TA02	Huaiquique	4.72	318	Pn		Pn	00 46 00.9	-0.2
GO03	Copiap	4.84	219	Pn		Pn	00 46 00.7	-1.9
PB11	IPOC Station P	4.87	326	Pn		Pn	00 46 02.4	-0.8
PSGCX	Pisagua	5.25	323	Pn		Pn	00 46 06.2	-1.8
MNMC	Minye Minye	5.38	331			Pn	00 46 09.6	-0.2
AC04	Llanos de Chal	5.79	221	Pn		Pn	00 46 12.4	-2.2
PB16	IPOC Station P	6.05	335			Pn	00 46 18.6	-0.1
LPAZ	La Paz	7.64	350	P		Pn	00 46 39.8	+0.5
	comp=N,1.8nm,0.3s,baz=173,slow=7.2,SNR=65							
LPAZ				S		S	00 48 04.3	-1.7
	comp=N,0.2nm,0.3s,baz=265,slow=22,SNR=1.9							
CPUP	Villa Florida	8.93	108	P		Pn	00 46 53.3	-2.0
	comp=N,0.2nm,0.3s,baz=283,slow=12,SNR=8.7							
CPUP	Villa Florida	8.93	108	Pn		Pn	00 46 53.4	-1.9
SIV	San Ignacio	9.50	36	P		Pn	00 47 02.3	-0.7
	comp=N,0.2nm,0.3s,baz=226,slow=11,SNR=1.0							
TRCB	Terra Rica	13.06	88	P		P	00 47 51.9	+0.6
ITAB	Concordia	13.66	107	P		P	00 47 58.0	+0.2
PLTB	Pedras Altas	14.07	127			Pn	00 48 01.4	+0.7
TRQA	Tornquist	14.74	165	P		P	00 48 09.4	-0.4
PLCA	Paso Flores	17.12	190	P		Pn	00 48 42.2	+4.7
	comp=N,0.1nm,0.3s,baz=13,slow=11,SNR=3.8							
BDFB	Brasilia	19.46	69	P		P	00 49 01.5	-0.3
	comp=N,0.4nm,0.3s,baz=229,slow=12,SNR=6.4							
BDFB	Brasilia	19.46	69	P		P	00 49 01.4	-0.3
BDFB				IAmb		IAmb	00 49 02.2	
	comp=Z,4.1nm,0.7s							
PTGA	Pitinga	23.93	17	P		P	00 49 45.0	-0.7
	comp=Z,1.0nm,0.3s,baz=288,slow=20,SNR=1.6							
SNAA	Sanae	59.42	161	P		P	00 54 28.6	-2.3
SNAA				IAmb		IAmb	00 54 28.6	
	comp=Z,1.2nm,1.1s							
PLAL	Pickwick Lake	61.91	340	P		P	00 54 47.2	-0.8
PLAL				IAmb		IAmb	00 55 05.5	
	comp=Z,2.4nm,1.0s							
WVT	Waverly	62.89	341	P		P	00 54 54.0	-0.5
WVT				IAmb		IAmb	00 54 54.8	
	comp=Z,2.2nm,0.8s							
TXAR	Lajitas Array	63.67	324	P		P	00 55 00.9	+1.0
	comp=Z,0.3nm,0.7s,baz=156,slow=9.6,SNR=5.0							
TXAR	Lajitas Array	63.67	324	P		P	00 55 00.4	+0.4
S39A	Bolivar	66.11	337	P		P	00 55 16.4	+1.0
QSPA	South Pole Qui	66.34	180	P		P	00 55 17.6	+1.0
P38A	Dawn	67.91	338	P		P	00 55 26.9	+0.3
F64A	Sherman	69.40	359	P		P	00 55 36.4	+0.7
ECSD	EROS Data Cent	72.62	338	P		P	00 55 55.5	+0.4
ECSD				IAmb		IAmb	00 55 56.5	
	comp=Z,2.8nm,1.1s							
TOA0	Torodi Ar. Sit	76.35	69	P		P	00 56 17.5	+0.3
TORD	Torodi Ar. Bea	76.35	69	P		P	00 56 16.8	-0.3
	comp=Z,0.3nm,0.3s,baz=264,slow=5.3,SNR=4.0							
PDAR	Pinedale Array	77.12	329	P		P	00 56 21.7	+0.5
	comp=Z,0.1nm,0.4s,baz=125,slow=9.6,SNR=1.7							
ASAR	Alice Springs	128.66	205	PKP		PKPdf	01 03 33.7	0.0
	comp=Z,0.3nm,0.3s,baz=163,slow=2.6,SNR=2.6							
WRA	Warramunga Arr	131.83	207	PKP		PKPdf	01 03 40.0	+0.3
	comp=Z,0.3nm,0.4s,baz=182,slow=1.6,SNR=1.6							
ZALV	Zalesovo Beam	143.18	28	PKP		PKPbc	01 03 57.4	+0.4
	comp=Z,0.6nm,0.5s,baz=339,slow=3.7,SNR=2.6							
MKAR	Makanchi Array	146.30	40	PKPbc		PKPbc	01 04 06.1	-0.6
	comp=Z,1.1nm,0.6s,baz=302,slow=3.1,SNR=13							

*KRNET **01** 00:49:26.2±0.1,40°.50N×77°.78E,mb3.4*
*SOME **01** 00:49:28.9,40°.67N×77°.45E,h5km*
*NNC **01** 00:49:30.9±0.8,40°.73N×77°.47E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=5.5km s-min=3.6km az=175.0*
ISC 01 00:49:33.6±1.6,40°.85N±0°.07×77°.45E±0°.03,h10km,n56, σ1°59/86,31C-4D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.92	17	⇑*i*P		Pg	00 49 49.7	-1.6
	baz=1.0							
TARG				⇑*i*S		Sn	00 50 06.6	+0.1
	baz=1.0							
KDJ	Kajisay	1.30	351	⇓*i*P		Pn	00 49 56.9	-1.1
	baz=45							
KDJ				⇓*i*S		Sg	00 50 20.4	+5.0
	baz=45							
ULHL	Ulahol	1.67	327	⇑*i*P		Pb	00 50 03.7	-0.8
	baz=27							
ULHL				⇑*i*S		Sg	00 50 32.0	+4.8
	baz=27							
ANVS	Anan'yevo	1.94	5	⇑*i*P		Pn	00 50 07.0	+0.2
	baz=58							
ANVS				⇑*i*S		Sg	00 50 36.5	+0.6
	baz=58							
BOOM	Boomskoye usch	1.99	326	⇑*i*P		Pb	00 50 08.9	-1.1
	baz=26							
BOOM				⇑*i*S		Sg	00 50 39.3	+1.6
	baz=26							
IZV	Izvestkoviy	2.27	344	*e*P		Pg	00 50 15.9	-1.2
	35nm,0.6s							
IZV				*e*S		Sg	00 50 49.5	+2.8
	73nm,0.7s							
IZV	Izvestkoviy	2.27	344	Pg		Pg	00 50 15.9	-1.2
	35nm,0.6s							
IZV				Lg		Lg	00 50 49.5	
	73nm,0.7s							
SATY	Saty	2.32	18	*e*P		Pb	00 50 15.9	+0.3
	14nm,0.8s							
SATY				*e*S		Sg	00 50 49.3	+1.1
	62nm,0.3s							
SATY	Saty	2.32	18	Pg		Pb	00 50 15.9	+0.3
	14nm,0.8s							
SATY				Lg		Lg	00 50 49.3	
	62nm,0.3s							
MDOK	Medeo	2.33	353	*e*P		Pb	00 50 15.3	-0.5
	21nm,0.6s							
MDOK				*e*S		Sg	00 50 48.3	-0.2
	58nm,0.4s							
MDOK	Medeo	2.33	353	Pg		Pb	00 50 15.3	-0.5
	21nm,0.6s							
MDOK				Lg		Lg	00 50 48.3	
	58nm,0.4s							
KNDC	Almaty	2.39	351	⇓Pg		Pb	00 50 17.3	+0.5
	50nm,0.5s							
KNDC				⇑Lg		Lg	00 50 51.5	
	82nm,0.4s							
KST	Kastek	2.46	334	*e*P		Pb	00 50 17.7	-0.2
	25nm,1.2s							
KST				*e*S		Sg	00 50 52.5	0.0
	28nm,0.4s							
KST	Kastek	2.46	334	Pg		Pb	00 50 17.7	-0.2
	25nm,1.2s							
KST				Lg		Lg	00 50 52.5	
	28nm,0.4s							
TKM2	Tokmak 2	2.49	327	⇑*i*P		Pn	00 50 15.7	+1.3
	baz=27							
TKM2				⇑*i*S		Sg	00 50 51.8	-1.8
	baz=27							
TKM2	Tokmak 2	2.49	327	P		Pb	00 50 19.2	+0.7
	SNR=13							
TKM2	Tokmak 2	2.49	327	⇓Pn		Pn	00 50 15.5	+1.1
	12nm,0.5s							
TKM2				⇑Lg		Lg	00 50 54.2	
	22nm,0.8s							
ARLS	Aral	2.56	294	⇑*i*P		Pn	00 50 15.7	+0.4
	baz=98							
ARLS				⇑*i*S		Sb	00 50 52.2	+0.8
	baz=98							
KURS	Kuram	2.69	11	*e*P		Pb	00 50 22.9	+1.0
	9.5nm,1.0s							
KURS				*e*S		Sg	00 51 01.3	+1.3
	22nm,0.6s							
KURS	Kuram	2.69	11	Pg		Pb	00 50 22.9	+1.0
	9.5nm,1.0s							
KURS				Lg		Lg	00 51 01.3	
	22nm,0.6s							
DGS	Degeres	2.70	333	*e*P		Pb	00 50 22.2	+0.2
	18nm,0.8s							
DGS				*e*S		Sg	00 51 00.3	0.0
	25nm,0.3s							
DGS	Degeres	2.70	333	Pg		Pb	00 50 22.2	+0.2
	18nm,0.8s							
DGS				Lg		Lg	00 51 00.3	
	25nm,0.3s							
SHLS	Shalkode	2.75	32	*e*P		Pg	00 50 25.7	-0.6
	13nm,0.4s							
SHLS				*e*S		Sg	00 51 06.2	+4.3
	100nm,0.6s							
SHLS	Shalkode	2.75	32	Pg		Pg	00 50 25.7	-0.6
	13nm,0.4s							
SHLS				Lg		Lg	00 51 06.2	
	100nm,0.6s							
KPKS	Kokpek	2.77	19	*e*P		Pb	00 50 23.6	+0.4
	18nm,0.3s							
KPKS				*e*S		Sg	00 51 02.6	0.0
	49nm,0.6s							
AAK	Ala-Archa	2.84	310	⇑*i*P		Pn	00 50 20.5	+1.3
	baz=12							
AAK				⇑*i*S		Sb	00 51 00.2	+0.7
	baz=12							
AAK	Ala-Archa	2.84	310	P		Pb	00 50 24.5	-0.1
	SNR=8.1							
AAK	Ala-Archa	2.84	310	⇑Pg		Pb	00 50 23.8	-0.8
	9.2nm,0.4s							
AAK				⇑Lg		Lg	00 51 04.6	
	34nm,0.8s							
PDGK	Podgornoye	2.91	31	Pg		Pb	00 50 25.5	-0.1
	6.4nm,0.5s							
PDGK				Lg		Lg	00 51 05.8	
	35nm,0.7s							
PDGK	Podgornoye	2.91	31	⇑Pn		Pn	00 50 19.7	-0.3
	0.9nm,0.4s							
PDGK				⇑Pg		Pb	00 50 25.1	-0.5
	8.7nm,0.5s							
PDGK				⇑Lg		Lg	00 51 06.2	
	84nm,0.8s							
CHMS	Chumysh	2.94	318	⇑*e*P		Pn	00 50 21.7	+1.2
	baz=19							
CHMS				⇑*i*S		Sb	00 51 02.0	-0.3
	baz=19							
CHMS	Chumysh	2.94	318	P		Pb	00 50 26.3	+0.1
	SNR=7.5							
CHKK	Chushkaly	3.02	354	*e*P		Pb	00 50 27.6	+0.1
	7.2nm,0.3s							
CHKK				*e*S		Sg	00 51 09.4	-1.3
	63nm,0.6s							
CHKK	Chushkaly	3.02	354	Pg		Pb	00 50 27.6	+0.1
	7.2nm,0.3s							
CHKK				Lg		Lg	00 51 09.4	
	63nm,0.6s							
AML	Almayashu	3.10	296	⇑*i*P		Pn	00 50 23.8	+0.9
	baz=99							
AML				⇑*i*S		Sb	00 51 05.8	-1.3
	baz=99							
AML	Almayashu	3.10	296	P		Pb	00 50 28.4	-0.6
	SNR=6.3							
KRBS	Karabastau	3.14	336	*e*P		Pb	00 50 29.9	+0.4
	8.7nm,0.5s							
KRBS				*e*S		Sg	00 51 13.5	-0.8
	27nm,0.6s							
KRBS	Karabastau	3.14	336	Pg		Pb	00 50 29.9	+0.4
	8.7nm,0.5s							
KRBS				Lg		Lg	00 51 13.5	
	27nm,0.6s							
KUU	Kurty	3.15	345	*e*P		Pb	00 50 29.7	0.0
	7.3nm,0.7s							
KUU				*e*S		Sg	00 51 13.2	-1.6
	17nm,0.5s							
KUU	Kurty	3.15	345	Pg		Pb	00 50 29.7	0.0
	7.3nm,0.7s							
KUU				Lg		Lg	00 51 13.2	
	17nm,0.5s							
USP	Ospenovka	3.27	319	⇑*e*P		Pn	00 50 26.3	+1.4
	baz=19							
USP				⇑*i*S		Sb	00 51 10.2	-1.3
	baz=19							
USP	Ospenovka	3.27	319	P		Pb	00 50 31.7	0.0
	SNR=66							
EKS2	Erkin-Say	3.29	305	⇑*e*P		Pn	00 50 26.4	+1.1
	baz=7.0							
EKS2				⇑*i*S		Sb	00 51 10.4	-1.9
	baz=7.0							
EKS2	Erkin-Say	3.29	305	P		Pb	00 50 33.5	+1.3
	SNR=6.8							
SGDS	Sogindy	3.34	322	Pg		Pb	00 50 33.9	+1.0
	28nm,0.7s							
SGDS				Lg		Lg	00 51 20.4	
	7.2nm,0.6s							
ARXS	Arharly	3.37	5	*e*P		Pb	00 50 34.7	+1.2
	8.2nm,0.6s							
ARXS				*e*S		Sg	00 51 21.7	-0.2
	29nm,0.5s							
ARXS	Arharly	3.37	5	Pg		Pb	00 50 34.7	+1.2
	8.2nm,0.6s							
ARXS				Lg		Lg	00 51 21.7	
	29nm,0.5s							
KTMS	Ketmen	3.37	39	*e*P		Pb	00 50 34.4	+0.9
	4.2nm,0.5s							
KTMS				*e*S		Sg	00 51 21.2	-0.8
	33nm,0.7s							
KTMS	Ketmen	3.37	39	Pg		Pb	00 50 34.4	+0.9
	4.2nm,0.5s							
KTMS				Lg		Lg	00 51 21.2	
	33nm,0.7s							
MRKS	Merke	3.68	302	*e*P		Pb	00 50 38.4	-0.5
	7.1nm,0.7s							
MRKS				*e*S		Sg	00 51 27.6	-4.3
	6.7nm,0.5s							
MRKS	Merke	3.68	302	Pg		Pb	00 50 38.4	-0.5
	7.1nm,0.7s							
MRKS				Lg		Lg	00 51 27.6	
	6.7nm,0.5s							
DJR	Jarkent	3.88	26	*e*P		Pb	00 50 43.0	+0.7
	0.4nm,0.6s							
DJR				*e*S		Sg	00 51 35.9	-2.4
	1.2nm,0.5s							
DJR	Jarkent	3.88	26	Pg		Pb	00 50 43.0	+0.7
	0.4nm,0.6s							
DJR				Lg		Lg	00 51 35.9	
	1.2nm,0.5s							
MNAS	Manas	4.05	295	⇑*i*P		Pn	00 50 37.0	+1.2
	baz=98							
MNAS				⇑*i*S		Sn	00 51 28.0	+4.6
	baz=98							
KAPS	Kapalarasan	4.65	17	*e*P		Pg	00 50 58.7	-3.9
	0.3nm,0.6s							
KAPS				*e*S		Sg	00 52 02.8	0.0
	1.1nm,0.6s							
KAPS	Kapalarasan	4.65	17	Pg		Pg	00 50 58.7	-

FITZ	Fitzroy Crossi	11.04 198	P	Pn	01 39 00.7	-0.8
	1.5nm,0.3s,baz=22,slow=12,SNR=70					
FITZ			S	Sn	01 40 58.3	-5.0
	1.0nm,0.3s,baz=82,slow=23,SNR=9.3					
WB0	Warramunga Arr	13.16 158	Pn	Pn	01 39 28.7	-0.6
WRA	Warramunga Arr	13.31 158	P	Pn	01 39 30.6	-0.5
	0.6nm,0.3s,baz=338,slow=12,SNR=24					
WRA			S	Sn	01 41 51.6	-6.4
	1.1nm,0.3s,baz=338,slow=22,SNR=12					
WRA			LR	LR	01 44 13.3	
	comp=Z,90nm,20.2s,baz=115,slow=35					
WRA	Warramunga Arr	13.31 158		Pn	01 39 30.3	-0.8
WB2	Warramunga Arr	13.31 158	Pn	Pn	01 39 31.1	-0.1
WR0	Warramunga Arr	13.40 158	Pn	Pn	01 39 31.9	-0.4
PSA00	Pilbara Seismi	16.60 212	P	P	01 40 14.0	+1.4
PSA00			IAmb	IAmb	01 40 26.1	
	comp=Z,22nm,1.2s					
AS31	Alice Springs	16.66 165	P	P	01 40 15.2	+1.9
ASAR	Alice Springs	16.66 165	P	P	01 40 14.8	+1.6
	comp=Z,0.4nm,0.3s,baz=341,slow=9.8,SNR=21					
ASAR			S	Sn	01 43 08.1	-11
	comp=Z,0.1nm,0.3s,baz=326,slow=15,SNR=4.5					
ASAR	Alice Springs	16.66 165	P	Pn	01 40 13.9	+0.7
FORT	Forrest	23.14 182	P	P	01 41 24.2	+2.2
FORT			IAmb	IAmb	01 41 45.6	
	comp=Z,13nm,0.9s					
MORW	Morawa	24.73 208	P	P	01 41 40.1	+3.6
MK31	Makanchi Array	68.23 327	P	P	01 47 12.8	-1.0
MK31			IAmb	IAmb	01 47 27.6	
	comp=Z,1.4nm,1.2s					
MKAR	Makanchi Array	68.23 327	P	P	01 47 13.2	-0.6
	comp=Z,0.7nm,0.5s,baz=119,slow=8.1,SNR=10					
MKAR	Makanchi Array	68.23 327	P	P	01 47 13.0	-0.8
KURBB	Kurchatov Arra	72.54 329	P	P	01 47 39.8	-0.1
	comp=Z,0.8nm,0.5s,baz=128,slow=5.3,SNR=8.6					
KURK	Kurchatov	72.55 329	P	P	01 47 39.8	-0.1

TUL ***01*** *01:48:57.9±1.1,36°.75N±0°.01×97°.59W±0°.02, h8km±6km, ML2.5, mb_Lg2.1/11(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=218.0*

NEIC 01 01:48:57.4±0.6,36°.738N±0°.008×97°.58W±0°.01,h7km±7km, Error ellipse: s-maj=2.0km s-min=0.8km az=59.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.29	16		Pg	01 49 03.2	+0.1
KAN13				Sg	Sg	01 49 07.2	+0.3
BLOK	Blackwell	0.29	85	Pg	Pg	01 49 03.4	+0.3
KAN17	Caldwell West	0.34	334	Pg	Pg	01 49 04.1	0.0
KAN17				Sg	Sg	01 49 08.7	+0.1
KAN09	Caldwell North	0.40	355	Pg	Pg	01 49 05.1	-0.1
KAN09				Sg	Sg	01 49 10.5	0.0
CROK	Carrier	0.40	235		Pg	01 49 05.3	+0.1
CROK				Sg	Sg	01 49 11.0	+0.4
KAN05	Bluff City Nor	0.44	327		Pg	01 49 05.8	-0.2
KS20	Mayfield South	0.49	2	Pg	Pg	01 49 06.8	-0.2
KS20				Sg	Sg	01 49 13.6	+0.2
OK032	Salt Plains WL	0.51	278	Pg	Pg	01 49 07.0	-0.3
OK032				Sg	Sg	01 49 14.1	0.0
KAN10	Anthony SW Sta	0.57	313	Pg	Pg	01 49 08.0	-0.4
KAN10				Sg	Sg	01 49 15.8	0.0
KAN08	Anthony NE Sta	0.58	327	Pg	Pg	01 49 08.5	-0.2
KAN12	Harper NE Stat	0.65	329	Pg	Pg	01 49 09.8	-0.3
KAN12				Sg	Sg	01 49 18.6	+0.1
T35A	Sooner Cattle	0.87	78	Pg	Pg	01 49 14.0	-0.2
QUOK	Quay	0.90	129	Pg	Pg	01 49 14.6	-0.1
QUOK				Sg	Sg	01 49 26.7	+0.3
OK031	S. Brethren Rd	0.98	143	Pg	Pg	01 49 16.2	-0.1
OK031				Sg	Sg	01 49 29.4	+0.3
OK030	Cody Creek RV	1.03	141		Pg	01 49 17.1	-0.1
OK030				Sg	Sg	01 49 30.8	+0.2
BCOK	Bluff Creek, N	1.08	181	Pg	Pg	01 49 17.6	-0.5
OK025	Westminster Rd	1.17	170		Pg	01 49 19.6	-0.3
U32A	Winter Ranch,	1.20	253	Pn	Pg	01 49 19.9	-0.6
OKCFA	Oklahoma City	1.32	176	Pn	Pn	01 49 22.1	-0.3
OKCSW	OKLAHOMA CITY	1.33	175		Pn	01 49 22.4	-0.2
FNO	Franklin	1.48	174	Pn	Pn	01 49 24.7	0.0
FNO				IAmb_Lg		01 49 45.0	
	comp=Z,21nm,1.1s						
X34A	Smith Ranch, M	2.14	186	IAmb_Lg		01 50 12.3	
	comp=Z,6.6nm,0.8s						
WMOK	Wichita Mounta	2.22	207	Pn	Pn	01 49 35.7	+0.9
X37A	Clayton	2.80	139	IAmb_Lg		01 50 29.7	
	comp=Z,8.2nm,0.9s						
HHAR	Hobbs	2.96	98	Pn	Pn	01 49 46.5	+1.6
S39A	Bolivar	3.53	73	IAmb_Lg		01 50 55.5	
	comp=Z,4.2nm,0.8s						
AMTX	Amarillo	3.81	242	IAmb_Lg		01 51 00.2	
	comp=Z,5.2nm,0.8s						
U40A	Yellville	3.82	94	Pn	Pn	01 49 58.3	+1.6
MIAR	Mount Ida	3.92	123	IAmb_Lg		01 51 12.6	
	comp=Z,5.8nm,0.8s						
MGMO	Mountain Grove	4.27	83	Pn	Pn	01 50 04.5	+1.6
X40A	Basin Creek Fa	4.47	119	IAmb_Lg		01 51 30.0	
	comp=Z,3.0nm,0.9s						

IDC ***01*** *02:16:04.4±0.8,59°.53S×25°.98W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/21, mbtmp4.1/6, ML4.4/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/20, Error ellipse: s-maj=41.1km s-min=21.4km az=82.0*

NEIC ***01*** *02:16:06.5±1.7,59°.6S±0°.1×26°.1W±0°.3, h10km±1km, mb4.5/21, Error ellipse: s-maj=23.5km s-min=20.4km az=42.0*

ISC 01 02:16:10.0±0.7,59°.7S±0°.1×26°.1W±0°.1,h40km,n41, σ1§26/37,mb4.5/14,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.24	154	P	Pn	02 19 14.1	-0.9
VNA3	Neumayer Olymp	13.39	157	P	Pn	02 19 15.2	-1.9
VNA2	Neumayer--Watz	13.64	153	P	Pn	02 19 18.7	-1.8
	baz=310,slow=15						
SNAA	Sanae	15.22	152	P	Pn	02 19 40.1	-1.7
SNAA	Sanae	15.22	152	Pn	Pn	02 19 40.4	-1.3
	1.7nm,0.3s,baz=206,slow=22,SNR=63						
SNAA				Sn	Sn	02 22 14.8	-14
	0.2nm,0.3s,baz=315,slow=19,SNR=2.7						
SNAA	Sanae	15.22	152		Pn	02 19 40.0	-1.7
PMSA	Palmer Station	18.19	238	LR	LR	02 26 23.2	
	comp=Z,21nm,20.2s,baz=45,slow=34						
PMSA	Palmer Station	18.19	238	Pn	P	02 20 16.8	-2.1
PMSA				IAmb	IAmb	02 20 25.2	
	comp=Z,60nm,1.4s						
EFI	East Falkland	19.56	280	P	Pn	02 20 36.4	+0.9
MG02	Cerro Sombrero	24.57	267	P	P	02 21 24.6	-1.1
QSPA	South Pole Qui	30.56	180	P	P	02 22 20.9	+1.4
	comp=Z,1.4nm,0.5s,baz=216,slow=1.3,SNR=22						
QSPA	South Pole Qui	30.56	180	P	P	02 22 21.0	+1.5
QSPA				IAmb	IAmb	02 22 23.0	
	comp=Z,5.4nm,1.3s						
TRQA	Tornquist	31.40	297	P	P	02 22 28.0	+1.1
TRQA				IAmb	IAmb	02 22 36.8	
	comp=Z,6.3nm,1.2s						
GO05	Huala	38.52	289	P	P	02 23 27.3	-1.0
BO01	Tunca	38.62	291	P	P	02 23 29.3	+0.2
BO01				IAmb	IAmb	02 23 57.9	
	comp=Z,18nm,1.4s						
MT09	Talagante	39.08	291	P	P	02 23 32.6	-0.5
MT09				IAmb	IAmb	02 23 35.0	
	comp=Z,10.0nm,0.8s						
MT01	Popeta	39.13	291	P	P	02 23 32.8	-0.5
MT01				IAmb	IAmb	02 23 57.1	
	comp=Z,11nm,0.9s						
MT02	Curacav	39.57	291	P	P	02 23 37.0	-0.1
MT02				IAmb	IAmb	02 23 42.4	
	comp=Z,15nm,1.1s						
VA03	San Esteban	39.71	293	P	P	02 23 39.3	+1.0
VA03				IAmb	IAmb	02 23 47.1	
	comp=Z,17nm,1.2s						
SBA	Scott Base	42.49	184	P	P	02 24 03.9	+3.4
VNDA	Vanda	42.97	183	P	P	02 24 06.3	+2.0
	comp=Z,1.1nm,0.7s,baz=184,slow=6.2,SNR=9.1						
VNDA	Vanda	42.97	183	P	P	02 24 06.6	+2.2
LVC	Limon Verde	47.67	302	P	P	02 24 42.8	+0.1
PB07	IPOC Station P	48.87	301	P	P	02 24 51.3	-0.5
PB01	IPOC Station P	49.30	302	P	P	02 24 54.8	-0.1
PB01				IAmb	IAmb	02 24 57.9	
	comp=Z,9.4nm,1.0s						
MNMC	Minye Minye	51.04	303	P	P	02 25 08.2	-0.2
MNMC				IAmb	IAmb	02 25 14.5	
	comp=Z,4.8nm,0.8s						
H10N1	ASCENSION HYDR	52.46	15	T	T	03 22 19.0	
	baz=188						
H10N3	ASCENSION HYDR	52.46	15	T	T	03 22 21.6	
	baz=188						
H10N2	ASCENSION HYDR	52.48	15	T	T	03 22 16.7	
	baz=188						
LPAZ	La Paz	52.98	306	P	P	02 25 23.1	-0.1
	comp=Z,0.9nm,0.4s,baz=112,slow=4.6,SNR=12						
LPAZ	La Paz	52.98	306	P	P	02 25 23.0	-0.1
TOA0	Torodi Ar. Sit	75.97	28	P	P	02 27 53.4	+0.9
TOA0				IAmb	IAmb	02 28 05.8	
	comp=Z,6.7nm,1.4s						
TORD	Torodi Ar. Bea	75.97	28	P	P	02 27 52.5	0.0
	comp=Z,0.4nm,0.3s,baz=198,slow=6.1,SNR=14						
TORD	Torodi Ar. Bea	75.97	28	P	P	02 27 53.1	+0.7
ASAR	Alice Springs	95.35	162	P	P	02 29 29.7	-0.2
	comp=Z,0.4nm,0.7s,baz=186,slow=4.2,SNR=5.5						
ARCES	ARCESS Array B	134.09	23	PKP	PKPdf	02 35 21.1	-0.1
	comp=Z,1.3nm,0.9s,baz=132,slow=1.8,SNR=7.4						
ARCES	ARCESS Array B	134.09	23		PKiKP	02 35 21.8	-0.8
SONM	Songino Array	150.19	92	PKPbc	PKiKP	02 35 56.0	-0.4
	comp=Z,1.0nm,0.5s,baz=204,slow=3.2,SNR=4.1						
SONM	Songino Array	150.19	92		PKPbc	02 35 55.5	-0.1
ILAR	Eielson Array	152.85	306	PKPbc	PKPbc	02 36 00.4	-0.6
	comp=Z,0.2nm,0.4s,baz=153,slow=2.0,SNR=4.9						
ILAR	Eielson Array	152.85	306		PKPbc	02 35 59.6	-1.3

REY ***01*** *02:23:54.4,63°.73N×23°.45W, h10km*

IDC ***01*** *02:23:56.2±0.9,63°.86N×23°.15W, h0km, mb3.5/9, mb1 3.8/12, mb1mx3.6/49, mbtmp3.5/12, ML3.6/3, MS3.7/1, Ms1 3.7/1, ms1mx3.1/30, Error ellipse: s-maj=18.6km s-min=11.7km az=154.0*

NEIC ***01*** *02:23:58.8±1.9,64°.0N±0°.1×23°.2W±0°.1, h10km±1km, mb4.4/42, Error ellipse: s-maj=17.1km s-min=8.8km az=186.0*

DNK ***01*** *02:23:58.9±0.7,63°.44N×23°.21W, h76km±208km*

ISC 01 02:23:57.9±0.9,63°.82N±0°.05×23°.10W±0°.03,h12km±5km, n103,σ2§04/120,mb4.3/33,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.17	91	P	Pg	02 24 00.7	-1.1
IRNE	baz=75			S	Sg	02 24 06.8	+2.2
INYL	Nylenda	0.22	46	P	Pg	02 24 01.9	-0.8
INYL	baz=52			S	Sb	02 24 07.2	+1.3
IGRV	Grindav??k	0.29	82	P	Pg	02 24 02.6	-1.2
IGRV	baz=73			S	Sb	02 24 09.0	-0.6
IKRI	Krysuvik	0.46	82	P	Pg	02 24 05.1	-1.8
IKRI	baz=76			S	Sb	02 24 13.6	-1.0
IKAS	Kald??rsel	0.59	69	P	Pg	02 24 07.5	-1.9
IKAS	baz=67			S	Sb	02 24 18.0	-0.3
IVOS	Vogsosar	0.62	86	S	Sb	02 24 19.2	+0.1
IVOS	baz=80			P	Pg	02 24 08.7	-1.3
ISAN	Sandskeio	0.71	70	P	Pg	02 24 09.3	-2.4
ISAN	baz=68			S	Sb	02 24 21.5	-0.5
IKUD	Kuludalsa	0.73	46	P	Pg	02 24 10.0	-2.1
IKUD	baz=49			S	Sb	02 24 22.1	-0.5
IBJA	Bjarnastaoir	0.80	80	P	Pg	02 24 10.9	-2.5
IBJA	baz=76			S	Sb	02 24 23.6	-0.9
IHEI	Heioarbar	0.90	64	P	Pg	02 24 12.2	-3.1
IHEI	baz=63			S	Sb	02 24 27.0	-0.4
IKRO	Krokur	0.92	71	P	Pg	02 24 12.8	-2.7
IKRO	baz=69			S	Sb	02 24 27.6	-0.1
ISOL	Solvholt	0.96	83	P	Pg	02 24 13.3	-3.1
ISOL	baz=79			S	Sg	02 24 27.5	-1.4
IASM	Asmuli	1.10	88	S	Sb	02 24 31.2	-1.8
IASM	baz=84			P	Pb	02 24 15.2	-3.6
ISAU	Saurbar	1.20	81	P	Pn	02 24 17.2	-3.2
ISAU	baz=78			S	Sb	02 24 34.6	-1.2
BORG	Borgarnes	1.21	39	Pg	Pn	02 24 18.0	-2.6
	251nm,0.3s,baz=235,slow=16,SNR=115						
BORG				Lg	Lg	02 24 35.7	
	101nm,0.3s,baz=224,slow=19,SNR=32						
BORG	Borgarnes	1.21	39		Pn	02 24 17.6	-3.0
IASB	`sbjarnarst	1.21	39	P	Pn	02 24 17.6	-3.0
IASB	baz=41			S	Sb	02 24 35.5	-0.7
IVME	Vestmannaeyjar	1.31	106	P	Pn	02 24 18.2	-3.8
IVME	baz=101			S	Sb	02 24 35.8	-3.3
IGYG	Gygjarholskot	1.35	69	P	Pn	02 24 19.8	-2.6
IGYG	baz=67						
IHAU	Haukadalur	1.39	82	P	Pn	02 24 20.3	-2.8
IHAU	baz=80			S	Sn	02 24 40.4	-0.9
IMID	Miomork	1.44	95	P	Pn	02 24 20.2	-3.5
IMID	baz=91			S	Sn	02 24 40.4	-2.0
IFED	Fedgar	1.52	81	P	Pn	02 24 22.5	-2.4
	baz=78						
IMJO	Mjoaskard	1.52	84	P	Pn	02 24 22.1	-2.7
	baz=81						
IESK	Eystri-Skogar	1.65	99	P	Pn	02 24 23.5	-3.2
	baz=95						
IGOD	Go??abunga	1.69	94	P	Pn	02 24 24.2	-3.0
	baz=90						
ANGG	Ammassalik, Gr	6.48	293	*e*P	Pn	02 25 30.8	-2.1
ANGG				*e*S	Sn	02 26 38.0	-8.7
ANGG	Ammassalik, Gr	6.48	293	Pn	Pn	02 25 30.1	-2.8
SCO	Scoresbysund	6.71	3	*e*	Pn	02 25 32.0	-4.0
	baz=182,slow=9.3						
SCO				*i* P	Pn	02 25 37.4	+1.4
SCO	Scoresbysund	6.71	3	Pn	Pn	02 25 36.3	+0.3
SUMG	Summit	10.43	334	*e*P	Pn	02 26 31.4	+4.0
EKA	Eskdalemuir Ar	13.15	121	Pn	Pn	02 27 04.6	+0.4
	baz=333,slow=13,SNR=5.2						
ARCES	ARCESS Array B	19.59	52	P	Pn	02 28 25.6	-1.1
	baz=272,slow=8.0,SNR=5.9						
ARCES	ARCESS Array B	19.59	52		P	02 28 23.8	-1.5
FRB	Frobisher Bay	19.76	290	P	Pn	02 28 27.2	-1.6
	0.1nm,0.3s,baz=65,slow=12,SNR=3.8						
FIA1	FINESS Array S	22.28	74	P	P	02 28 55.2	+0.8
FIA1				IAmb	IAmb	02 28 59.1	
	comp=Z,26nm,1.4s						
FINES	FINESS Array B	22.28	74	P	P	02 28 55.5	+1.0
	comp=Z,1.0nm,0.7s,baz=297,slow=11,SNR=2.2						
FINES	FINESS Array B	22.28	74	P	P	02 28 55.8	+1.3
CLL	Collm	22.68	106	*e*P	P	02 29 02.0	+3.2
CLL				*i* Pmax		02 29 03.9	
	comp=Z,16nm,1.5s						
BRG	Berggiesshubel	23.40	106	*e*P	P	02 29 07.9	+1.7
BRG				Amp		02 29 09.2	
	comp=Z,75nm,2.7s						
CHVC	Chvalec	24.52	104	*e*P	P	02 29 22.6	+5.8
KHC	Kasperske Hory	24.57	109	*e*P	P	02 29 19.3	+2.0
KHC	Kasperske Hory	24.57	109	P	P	02 29 19.1	+1.7
DPC	Dobruska-Polom	24.81	104	*e*P	P	02 29 24.9	+5.4
GERES	GERESS Array B	24.84	110	P	P	02 29 20.6	+0.7
	comp=Z,0.3nm,0.6s,baz=316,slow=11,SNR=5.2						
GERES	GERESS Array B	24.84	110	P	P	02 29 22.1	+2.3
MORC	Moravsky Berou	25.76	104	P	P	02 29 30.1	+2.0
MORC	Moravsky Berou	25.76	104	*e*P	P	02 29 29.2	+1.1
ZOU	Zoufplan	26.36	114	P	P	02 29 35.7	+2.0
ZOU				IAmb	IAmb	02 29 46.8	
	comp=Z,11nm,1.5s						
ESDC	Sonseca Array	26.70	146	P	P	02 29 36.7	0.0
	comp=Z,0.5nm,0.8s,baz=337,slow=9.1,SNR=3.1						
CORL	Corleone	33.84	123	P	P	02 30 43.1	+3.3
CORL				IAmb	IAmb	02 30 44.4	
	comp=Z,4.7nm,1.1s						
TIRR	Tirgusor	34.59	99	P	P	02 30 48.3	+2.2
YKA	Yellowknife Ar	37.97	311	P	P	02 31 14.5	-0.3
	comp=Z,0.8nm,0.7s,baz=48,slow=9.2,SNR=5.2						
FFC	Flin Flon	38.77	295	P	P	02 31 22.5	+0.8
FFC				IAmb	IAmb	02 31 23.7	
	comp=Z,12nm,1.5s						
BR131	Keskin Array S	40.70	99	P	P	02 31 40.6	+2.6
BRTR	Keskin Array B	40.70	99	P	P	02 31 40.6	+2.6
AGMN	Agassiz Nation	40.98	283	P	P	02 31 39.9	-0.3
AGMN				IAmb	IAmb	02 31 41.4	
	comp=Z,8.0nm,1.4s						
TIXI	Tiksi	43.44	13	P	P	02 32 01.3	+1.5
TIXI				IAmb	IAmb	02 32 17.9	
	comp=Z,4.1nm,0.4s						
EGAK	Eagle	43.91	327	P	P	02 32 03.4	-0.3
DAWY	Dawson	44.07	325	P	P	02 32 06.5	+1.5
DAWY				IAmb	IAmb	02 32 07.5	
	comp=Z,6.5nm,1.4s						
ECSD	EROS Data Cent	44.88	280	P	P	02 32 12.2	+0.5
ECSD				IAmb	IAmb	02 32 13.9	
	comp=Z,4.2nm,1.2s						
IL31		45.25	330	P	P	02 32 15.8	+1.5
ILAR	Eielson Array	45.25	330	P	P	02 32 14.3	-0.1
	comp=Z,0.6nm,0.6s,baz=34,slow=8.0,SNR=6.4						
BCAR	Beaver Creek A	45.50	326	P	P	02 32 17.0	+0.5
L27K	Beaver Creek,	45.51	326	P	P	02 32 16.1	-0.5
T47A	Sharon Grove	46.17	266	P	P	02 32 22.5	+0.5
PAX	Paxson	46.47	328	P	P	02 32 24.5	+0.3
PAX				IAmb	IAmb	02 32 40.5	
	comp=Z,3.7nm,0.7s						
K31A	O'Neill	46.70	281	P	P	02 32 27.1	+0.9
EGMT	Eagleton	47.03	294	P	P	02 32 29.5	+0.8
PBMO	Poplar Bluff	47.81	269	P	P	02 32 34.9	+0.1
PBMO				IAmb	IAmb	02 32 40.7	
	comp=Z,3.5nm,1.0s						
WALA	Waterton Lakes	47.86	298	P	P	02 32 36.1	+0.8
WALA				IAmb	IAmb	02 32 53.7	
	comp=Z,6.2nm,1.4s						
S39A	Bolivar	48.34	272	P	P	02 32 37.6	-1.3
S39A				IAmb	IAmb	02 32 39.5	
	comp=Z,7.9nm,1.2s						
YNE	Yellowstone No	49.56	291	P	P	02 32 49.2	+0.7
YNE				IAmb	IAmb	02 32 50.5	
	comp=Z,3.1nm,1.1s						
MSO	Missoula	49.68	296	P	P	02 32 49.3	+0.1
BOZ	Bozeman (W)	49.75	293	P	P	02 32 50.1	+0.3
BOZ				IAmb	IAmb	02 32 53.1	
	comp=Z,6.6nm,1.4s						
WHAR	Wooly Hollow	49.88	270	P	P	02 32 50.5	-0.2
T35A	Sooner Cattle	50.40	274	P	P	02 32 54.1	-0.5
LOHW	Long Hollow	50.95	291	P	P	02 32 58.2	-0.8
PDAR	Pinedale Array	51.21	289	P	P	02 33 00.9	-0.1
	comp=Z,0.6nm,0.7s,baz=56,slow=7.9,SNR=7.2						
PDAR	Pinedale Array	51.21	289	P	P	02 33 00.2	-0.7
BW06	Boulder Array	51.21	289	P	P	02 33 00.5	-0.4
KSCO	Kaye Shedlock'	51.34	281	P	P	02 33 02.3	+0.4
BMO	Blue Mountains	52.64	297	P	P	02 33 10.6	-0.9
BMO				IAmb	IAmb	02 33 12.9	
	comp=Z,7.4nm,1.5s						
LOOK	Love County	53.14	273	P	P	02 33 15.9	+0.8
WMOK	Wichita Mounta	53.22	275	P	P	02 33 16.1	+0.4
WMOK				IAmb	IAmb	02 33 18.8	
	comp=Z,4.8nm,1.1s						
KKAR	Karatay Array	53.86	65	P	P	02 33 21.0	+0.6
PV16	Nyswonger Mesa	54.64	286	P	P	02 33 26.4	0.0
PV16				IAmb	IAmb	02 33 29.1	
	comp=Z,2.9nm,1.1s						
PV13	Radium Mtn., P	54.72	286	P	P	02 33 26.6	-0.4
PV13				IAmb	IAmb	02 33 29.2	
	comp=Z,4.1nm,1.2s						
MK31	Makanchi Array	55.23	54	P	P	02 33 32.9	+2.7
MKAR	Makanchi Array	55.23	54	P	P	02 33 30.6	+0.4
	comp=Z,0.5nm,0.7s,baz=347,slow=5.9,SNR=5.4						
MKAR	Makanchi Array	55.23	54	P	P	02 33 31.1	+0.9
ABTX	Abilene, Hawle	55.39	274	P	P	02 33 31.3	-0.3
ABTX				IAmb	IAmb	02 33 33.5	
	comp=Z,6.7nm,1.1s						
BNM	Barren Site	57.16	281	P	P	02 33 45.9	+1.5
JCT	Junction City	57.29	273	P	P	02 33 45.3	+0.1
JCT				IAmb	IAmb	02 33 47.0	
	comp=Z,6.5nm,0.9s						
TLY	Talaya	57.58	36	LR	LR	03 00 44.2	
	comp=Z,67nm,19.7s,baz=332,slow=38						
KVN	Kaiserville	57.84	294	P	P	02 33 50.8	+1.7
KVN				IAmb	IAmb	02 33 51.4	
	comp=Z,7.1nm,1.4s						
YERR	Yerington	58.36	294	P	P	02 33 54.4	+1.6
NVAR	Mina Array Bea	58.46	293	P	P	02 33 53.4	-0.1
	comp=Z,0.4nm,0.7s,baz=39,slow=5.9,SNR=3.6						
MNTX	Cornudas Mount	58.71	279	P	P	02 33 54.7	-0.4
MNTX				IAmb	IAmb	02 33 58.0	
	comp=Z,4.2nm,1.4s						
WMQ	Urumqi	59.71	52	*e*P	P	02 34 06.1	+4.2
TXAR	Lajitas Array	59.98	276	P	P	02 34 04.0	0.0
	comp=Z,1.0nm,1.1s,baz=54,slow=4.6,SNR=5.1						
TXAR	Lajitas Array	59.98	276	P	P	02 34 04.3	+0.3
HHC	Hu-ho-hao-te	69.67	35	*e*P	P	02 35 06.2	-0.8
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,50nm,6.6s						
XAN	Xi'an	75.36	40	P	P	02 35 42.4	+1.5
XAN				pP	sP	02 35 46.1	-0.3
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						

REY ***01*** *02:25:35.9,63°.62N×23°.75W, h4km*

MOS ***01*** *02:25:40.6±1.1,63°.85N×23°.15W, h10km, mb4.7/17, MS4.5/18, Error ellipse: s-maj=10.8km s-min=7.8km az=102.3*

IDC ***01*** *02:25:41.0±0.5,63°.79N×23°.11W, h0km, mb4.1/17, mb1 4.2/22, mb1mx4.1/51, mbtmp4.0/22, ML3.4/5, MS4.4/31, Ms1 4.4/31, ms1mx4.3/45, Error ellipse: s-maj=12.8km s-min=9.7km az=179.0*

DNK ***01*** *02:25:41.8±1.9,63°.67N×22°.34W, h0km±33km, Ms4.5*

NEIC ***01*** *02:25:42.6±1.8,63°.84N±0°.08×23°.02W±0°.09, h10km±1km, mb4.5/117, Error ellipse: s-maj=13.8km s-min=6.8km az=172.0*

ISC 01 02:25:42.8±0.7,63°.85N±0°.04×23°.10W±0°.03,h13km±3km, n501,σ1§54/482,mb4.4/111,MS4.5/54,3C-2D,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.18	100	P	Pg	02 25 45.2	-1.7
IRNE	baz=67			S	Sg	02 25 52.4	+2.7
INYL	Nylenda	0.20	52	P	Pg	02 25 46.3	-1.0
INYL

IHEI	**Heioarbar**	**0.89**	**66**	P	**Pg**	**02 25 57.0**	**-3.1**
	baz=61						
IKRO	**Krokur**	**0.91**	**73**	P	**Pg**	**02 25 57.6**	**-2.8**
	baz=66						
ISOL	**Solvholt**	**0.96**	**84**	P	**Pg**	**02 25 57.6**	**-3.6**
	baz=75						
ISOL				S	**Sn**	**02 26 14.8**	**-0.5**
	baz=75						
IASM	**Asmuli**	**1.10**	**90**	P	**Pg**	**02 25 59.5**	**-4.5**
	baz=80						
BORG	**Borgarnes**	**1.19**	**40**	Pg	**Pg**	**02 26 03.6**	**-2.0**
	523nm,0.3s,baz=232,slow=6.6,SNR=9.8						
BORG				Lg	Lg	02 26 20.8	
	1μm,0.3s,baz=300,slow=14,SNR=14						
BORG	**Borgarnes**	**1.19**	**40**	*e*P	**Pg**	**02 26 02.4**	**-3.3**
BORG	**Borgarnes**	**1.19**	**40**	P	**Pg**	**02 26 02.3**	**-3.3**
BORG	**Borgarnes**	**1.19**	**40**	Pn	**Pg**	**02 26 02.8**	**-2.9**
IASB	**`sbjarnarst**	**1.19**	**40**	P	**Pg**	**02 26 02.0**	**-3.7**
	baz=42						
ISAU	**Saurbar**	**1.19**	**82**	P	**Pg**	**02 26 01.5**	**-4.3**
	baz=74						
IVME	**Vestmannaeyjar**	**1.32**	**107**	S	**Sg**	**02 26 22.2**	**-3.1**
	baz=96						
IVME				P	Pg	02 26 02.1	-6.1
	baz=96						
IGYG	**Gygjarholskot**	**1.34**	**70**	P	**Pn**	**02 26 04.1**	**-3.0**
	baz=65						
IHAU	**Haukadalur**	**1.39**	**84**	P	**Pn**	**02 26 04.4**	**-3.5**
	baz=77						
IMID	**Miomork**	**1.44**	**96**	P	**Pn**	**02 26 04.0**	**-4.5**
	baz=87						
IFED	**Fedgar**	**1.52**	**82**	P	**Pn**	**02 26 06.6**	**-2.9**
	baz=76						
IMJO	**Mjoaskard**	**1.52**	**85**	S	**Sb**	**02 26 29.6**	**-0.3**
	baz=78						
IMJO				P	**Pn**	**02 26 06.8**	**-2.9**
	baz=78						
ANGG	**Ammassalik, Gr**	**6.47**	**292**	*e*P	Pn	02 27 22.3	+4.8
ANGG				IAMs_20	IAMs_20	02 29 23.0	
	comp=Z,10μm,12.6s						
ANGG				IVMs_BB	IVMs_BB	02 29 31.7	
	comp=Z,5μm,13.4s						
ANGG	**Ammassalik, Gr**	**6.47**	**292**	Pn	**Pn**	**02 27 19.5**	**+1.9**
SCO	**Scoresbysund**	**6.68**	**3**	*e*P	**Pn**	**02 27 24.0**	**+3.6**
SCO	**Scoresbysund**	**6.68**	**3**	P	**Pn**	**02 27 18.8**	**-1.6**
SCO	**Scoresbysund**	**6.68**	**3**	Pn	**Pn**	**02 27 18.8**	**-1.6**
JMIC	**Jan Mayen**	**9.07**	**32**	LR	LR	02 30 53.2	
	comp=Z,762nm,18.2s,baz=219,slow=34						
LINV	**Loch Inver, As**	**10.38**	**115**	*e*P	**Pn**	**02 28 09.2**	**-1.9**
SUMG	**Summit**	**10.41**	**334**	*e*P	**Pn**	**02 28 13.5**	**+1.7**
SUMG	**Summit**	**10.41**	**334**	P	**Pn**	**02 28 13.8**	**+2.0**
SUMG	**Summit**	**10.41**	**334**	Pn	**Pn**	**02 28 13.8**	**+2.0**
BIGH	**Upper Bighouse**	**10.68**	**111**	*e*P	**Pn**	**02 28 13.4**	**-1.8**
KPL	**Plockton**	**10.75**	**119**	*e*P	**Pn**	**02 28 14.5**	**-1.7**
MDO	**Dochfour**	**11.18**	**116**	*e*P	**Pn**	**02 28 19.7**	**-2.5**
MCD	**Coleburn Disti**	**11.53**	**114**	*e*P	**Pn**	**02 28 25.5**	**-1.4**
SFJD	**Kangerlussuaq**	**11.83**	**298**	LR	LR	02 32 29.0	
	comp=Z,5μm,19.7s,baz=91,slow=34						
INVG	**Invergeldie, C**	**12.02**	**119**	*e*P	**Pn**	**02 28 31.4**	**-2.2**
ESK	**Eskdalemuir**	**13.16**	**121**	*e*P	**Pn**	**02 28 47.6**	**-1.5**
ESK	**Eskdalemuir**	**13.16**	**121**	P	**Pn**	**02 28 49.5**	**+0.4**
ESK	**Eskdalemuir**	**13.16**	**121**	Pn	**Pn**	**02 28 49.5**	**+0.4**
EKA	**Eskdalemuir Ar**	**13.16**	**121**	Pn	**Pn**	**02 28 48.0**	**-1.2**
	baz=324,slow=12,SNR=8.8						
EKA				LR	LR	02 33 01.8	
	comp=Z,3μm,20.3s,baz=280,slow=34						
EKA	**Eskdalemuir Ar**	**13.16**	**121**	P	**Pn**	**02 28 48.0**	**-1.2**
EKA	**Eskdalemuir Ar**	**13.16**	**121**		**Pn**	**02 28 48.0**	**-1.2**
HLM1	**Long Mynd**	**15.48**	**128**	*e*P	**Pn**	**02 29 19.1**	**-1.5**
NC204	**NORSAR Array S**	**15.70**	**84**	P	**P**	**02 29 27.8**	**+0.3**
NC204				IAmb	IAmb	02 29 35.2	
	comp=Z,27nm,1.1s						
KONO	**Kongsberg**	**15.92**	**90**	*i* P	**Pn**	**02 29 26.8**	**+0.6**
KONO				pmax	pmax		
	comp=Z,22nm,1.4s						
NB2	**NORSAR Subarra**	**16.00**	**84**	P	**P**	**02 29 33.1**	**+2.4**
	comp=Z,9.2nm,1.2s,baz=295,slow=11						
NOA	**NORSAR Array B**	**16.00**	**84**	Pn	**P**	**02 29 28.7**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=291,slow=11,SNR=5.0						
NOA				LR	LR	02 35 38.0	
	comp=Z,811nm,18.2s,baz=295,slow=37						
HFS	**Hagfors**	**17.50**	**85**	P	**P**	**02 29 48.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=300,slow=9.8,SNR=5.8						
HFS				LR	LR	02 36 15.7	
	comp=Z,956nm,19.6s,baz=297,slow=36						
ARCES	**ARCESS Array B**	**19.57**	**52**	P	**Pn**	**02 30 10.6**	**-0.7**
	baz=266,slow=11,SNR=13						
ARCES				LR	LR	02 36 22.7	
	comp=Z,1μm,18.9s,baz=275,slow=33						
ARCES	**ARCESS Array B**	**19.57**	**52**	P	**Pn**	**02 30 10.8**	**-0.5**
ARCES	**ARCESS Array B**	**19.57**	**52**	P	**P**	**02 30 10.5**	**+0.5**
LDF	**La Druitiere**	**19.74**	**130**	P	**P**	**02 30 09.9**	**-2.0**
FRB	**Frobisher Bay**	**19.75**	**290**	P	**P**	**02 30 11.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=80,slow=8.2,SNR=6.5						
FRB				LR	LR	02 36 53.4	
	comp=Z,2μm,20.4s,baz=48,slow=34						
KEV	**Kevo**	**20.06**	**51**	P	Pn	02 30 17.2	+0.1
KEV	**Kevo**	**20.06**	**51**	P	Pn	02 30 17.2	+0.1
KEV				IAmb	IAmb	02 30 24.7	
	comp=Z,24nm,1.0s						
BAIF	**Baives**	**20.08**	**121**	P	Pn	02 30 16.9	-0.6
BMRD	**Maredsous**	**20.10**	**119**	*b*P	**P**	**02 30 14.2**	**-1.6**
BUG	**Bochum--Univer**	**20.21**	**114**	*e*P	Pn	02 30 19.7	+0.8
	baz=320,slow=9.9						
BCLA	**Clavier**	**20.22**	**118**	*d*PnPn	Pn	02 30 33.2	+14
SGF	**Sodankyl**	**20.31**	**58**	P	Pn	02 30 19.8	-0.3
NRDL	**Niedersach Rie**	**20.60**	**108**	*e*P	Pn	02 30 22.8	-0.6
	comp=Z,9.0nm,1.0s,baz=320,slow=9.9						
AHRW	**Bad Neuenahr-A**	**20.82**	**116**	*e*P	Pn	02 30 27.4	+1.3
	comp=Z,12nm,0.9s,baz=320,slow=9.9						
CLF	**Chambon-Foret**	**21.05**	**127**	P	**P**	**02 30 27.9**	**+1.7**
CLF				IAmb	IAmb	02 30 32.6	
	comp=Z,30nm,0.9s						
ASSE	**Asse, Remlinge**	**21.10**	**108**	*e*P	**P**	**02 30 28.1**	**+1.5**
	comp=Z,15nm,1.2s,baz=320,slow=9.9						
FLTG	**Flechtingen**	**21.20**	**107**	*e*P	**P**	**02 30 26.7**	**-0.9**
	comp=Z,16nm,1.1s,baz=320,slow=9.9						
GTTG	**Gottingen**	**21.24**	**110**	*e*P	**P**	**02 30 28.3**	**+0.2**
	baz=320,slow=9.9						
TNS	**Taunus Mts**	**21.62**	**114**	*e*P	**P**	**02 30 36.3**	**+3.9**
	comp=Z,14nm,1.1s,baz=320,slow=9.9						
NEUB	**Neuenburg**	**22.25**	**108**	*e*P	**P**	**02 30 39.7**	**+0.8**
	baz=320,slow=9.9						
FINES	**FINESS Array B**	**22.27**	**74**	P	**P**	**02 30 39.5**	**+0.3**
	comp=Z,9.1nm,0.9s,baz=320,slow=8.5,SNR=18						
FINES				LR	LR	02 39 03.7	
	comp=Z,754nm,18.2s,baz=294,slow=36						
FINES	**FINESS Array B**	**22.27**	**74**	P	**P**	**02 30 40.3**	**+1.1**
FINES	**FINESS Array B**	**22.27**	**74**	P	**P**	**02 30 40.2**	**+1.1**
FIA1	**FINESS Array S**	**22.27**	**74**	P	**P**	**02 30 40.4**	**+1.2**
FIA1				IAmb	IAmb	02 30 48.2	
	comp=Z,34nm,1.4s						
MOX	**Moxa**	**22.60**	**109**	*e*L	L	02 39 55.3	
	comp=Z,1μm,18.6s						
CLL	**Collm**	**22.69**	**107**	*i* P	**P**	**02 30 45.3**	**+1.6**
CLL				*i*		02 30 49.1	
	comp=Z,14nm,1.3s						
CLL				*i*		02 30 53.4	
	comp=Z,22nm,1.4s						
CLL				*e*(PP)		02 31 11.0	
CLL				*e*S	Sn	02 34 59.0	-6.5
CLL				LmH		02 39 00.0	
	comp=N,400nm,20.2s						
CLL				LmH		02 39 00.0	
	comp=E,1μm,19.1s						
CLL				LmH		02 39 00.0	
	comp=Z,1μm,18.9s						
CLL				Lmax		02 41 00.0	
CLL	**Collm**	**22.69**	**107**	*i* P	**P**	**02 30 45.3**	**+1.6**
CLL				*i*		02 30 49.1	
CLL	**Collm**	**22.69**	**107**	P	**P**	**02 30 45.3**	**+1.6**
WERD	**Werda**	**23.04**	**109**	*e*P	**P**	**02 30 46.4**	**-0.9**
	comp=Z,15nm,1.2s,baz=320,slow=9.9						
BFO	**Black Forest**	**23.08**	**117**	P	**P**	**02 30 47.5**	**-0.3**
BFO	**Black Forest**	**23.08**	**117**	P	**P**	**02 30 47.5**	**-0.3**
GRA1	**Grafenberg Arr**	**23.17**	**111**	P	**P**	**02 30 49.0**	**+0.3**
GRA1				IAmb	IAmb	02 30 51.8	
	comp=Z,11nm,0.9s						
GRF	**Grafenberg Arr**	**23.17**	**111**	P	**P**	**02 30 48.9**	**+0.3**
GRF	**Grafenberg Arr**	**23.17**	**111**	*e*P	**P**	**02 30 51.0**	**+2.4**
	comp=Z,12nm,0.9s,baz=320,slow=9.9						
GRF				*e*L	L	02 39 31.3	
	comp=Z,741nm,20.1s						
GRFO	**Grafenberg**	**23.17**	**111**	P	**P**	**02 30 49.1**	**+0.4**
GRFO	**Grafenberg**	**23.17**	**111**	P	**P**	**02 30 49.1**	**+0.4**
GRFO				IAmb	IAmb	02 30 51.7	
	comp=Z,10nm,0.9s						
WERN	**Wernitzgruen**	**23.19**	**109**	*e*P	**P**	**02 30 47.9**	**-1.1**
	comp=Z,14nm,1.1s,baz=320,slow=9.9						
NKC	**Novy Kostel**	**23.26**	**109**	*e*P	**P**	**02 30 49.8**	**+0.2**
NKC				MLR	MLR		
	comp=Z,1μm,12.4s						
NKC	**Novy Kostel**	**23.26**	**109**	*e*P	**P**	**02 30 49.8**	**+0.2**
NKC				AMS	AMS	02 42 50.0	
	comp=Z,1μm,12.4s						
MANZ	**Manzenberg**	**23.31**	**110**	*e*P	**P**	**02 30 48.8**	**-1.3**
	comp=Z,10nm,0.9s,baz=320,slow=9.9						
BRG	**Berggiesshubel**	**23.41**	**106**	*e*P	**P**	**02 30 51.2**	**+0.1**
BRG				Amp		02 30 54.5	
	comp=Z,8.4nm,1.0s						
BRG	**Berggiesshubel**	**23.41**	**106**	P	P	02 31 01.1	+10
BRG				Amp		02 31 03.2	
	comp=Z,14nm,1.1s						
BRG				Amp		02 41 47.0	
	comp=E,0.6nm,16.9s						
BRG				Amp		02 41 57.0	
	comp=Z,1.7nm,15.5s						
BRG				Amp		02 42 01.0	
	comp=N,1.0nm,16.2s						
ROTZ	**Rotzenmuhle**	**23.52**	**110**	*e*P	**P**	**02 30 52.0**	**-0.1**
	comp=N,5.6nm,0.8s,baz=320,slow=9.9						
SCHQ	**Schefferville**	**23.59**	**268**	P	**P**	**02 30 53.1**	**+0.2**
	comp=N,5.6nm,0.8s,baz=44,slow=9.1,SNR=7.2						
SCHQ				LR	LR	02 38 53.0	
	comp=N,1μm,18.2s,baz=60,slow=34						
SCHQ	**Schefferville**	**23.59**	**268**	P	**P**	**02 30 51.8**	**-1.1**
PVCC	**Panska Ves**	**23.94**	**106**	*e*P	**P**	**02 30 56.6**	**+0.4**
PVCC				MLR	MLR		
	comp=Z,1μm,14.8s						
PVCC	**Panska Ves**	**23.94**	**106**	*e*P	**P**	**02 30 56.6**	**+0.4**
PVCC				*e*S	**S**	**02 35 19.7**	**+7.7**
PVCC				AMS	AMS	02 41 50.0	
	comp=Z,1μm,14.8s						
VSU	**Vasula**	**24.09**	**80**	*i* P	**P**	**02 30 57.3**	**-0.3**
VSU				pmax	pmax		
	comp=Z,61nm,1.2s						
PRA	**Prague**	**24.22**	**107**	AMS	AMS	02 42 20.0	
	comp=Z,1μm,13.9s						
SENIN	**Lac Senin/Sane**	**24.30**	**122**	P	**P**	**02 30 59.5**	**-0.3**
PRU	**Pruhonice**	**24.33**	**107**	*e*P	**P**	**02 30 59.8**	**0.0**
PRU				*e*S	**S**	**02 35 25.1**	**+6.8**
PRU				MLR	MLR		
	comp=Z,1μm,12.9s						
PRU	**Pruhonice**	**24.33**	**107**	*e*P	**P**	**02 30 59.8**	**0.0**
PRU				*e*S	**S**	**02 35 25.1**	**+6.8**
PRU				AMS	AMS	02 43 30.0	
	comp=Z,1μm,12.9s						
CHVC	**Chvalec**	**24.53**	**104**	*e*P	**P**	**02 31 01.2**	**-0.5**
CHVC				AMS	AMS	02 42 00.0	
	comp=Z,1μm,19.8s						
UPC	**Upice**	**24.57**	**104**	*e*P	**P**	**02 30 56.5**	**-5.5**
UPC				MLR	MLR		
	comp=Z,2μm,14.1s						
UPC	**Upice**	**24.57**	**104**	*e*P	**P**	**02 30 56.5**	**-5.5**
UPC				*e*S	S	02 35 33.3	+11
UPC				AMS	AMS	02 42 30.0	
	comp=Z,2μm,14.1s						
KHC	**Kasperske Hory**	**24.58**	**109**	*e*P	**P**	**02 31 01.8**	**-0.4**
KHC				MLR	MLR		
	comp=Z,2μm,14.1s						
KHC	**Kasperske Hory**	**24.58**	**109**	*e*P	**P**	**02 31 01.8**	**-0.4**
KHC				AMS	AMS	02 42 20.0	
	comp=Z,2μm,14.1s						
KHC	**Kasperske Hory**	**24.58**	**109**	P	**P**	**02 31 02.4**	**+0.3**
OSTC	**Ostas**	**24.62**	**104**	*e*P	**P**	**02 31 02.4**	**-0.1**
OSTC				AMS	AMS	02 42 00.0	
	comp=Z,1μm,17.6s						
RETA	**Reutte**	**24.72**	**115**	*e*P	**P**	**02 31 04.7**	**+1.2**
	comp=Z,7.8nm,1.1s						
DPC	**Dobruska-Polom**	**24.82**	**104**	*e*P	**P**	**02 31 02.5**	**-1.8**
DPC				MLR	MLR		
	comp=Z,1μm,15.3s						
DPC	**Dobruska-Polom**	**24.82**	**104**	*e*P	**P**	**02 31 02.5**	**-1.8**
DPC				AMS	AMS	02 42 40.0	
	comp=Z,1μm,15.3s						
GEC2	**GERESS Array S**	**24.85**	**110**	P	**P**	**02 31 05.3**	**+0.6**
GEC2	**GERESS Array S**	**24.85**	**110**	*e*P	**P**	**02 31 06.7**	**+2.0**
	comp=Z,6.3nm,1.1s,baz=320,slow=9.9						
GERES	**GERESS Array B**	**24.85**	**110**	P	**P**	**02 31 04.7**	**0.0**
	comp=Z,2.5nm,0.8s,baz=317,slow=9.1,SNR=14						
GERES				LR	LR	02 41 12.9	
	comp=Z,1μm,18.1s,baz=302,slow=38						
GERES	**GERESS Array B**	**24.85**	**110**	P	**P**	**02 31 03.4**	**-1.3**
GERES	**GERESS Array B**	**24.85**	**110**	P	**P**	**02 31 03.4**	**-1.3**
DAVOX	**Davos/Dischmat**	**24.95**	**118**	P	**P**	**02 31 05.7**	**0.0**
	comp=Z,2.7nm,0.8s,baz=293,slow=12,SNR=5.6						
DAVOX				LR	LR	02 41 38.1	
	comp=Z,1μm,18.1s,baz=317,slow=38						
MOTA	**Moosalm**	**24.98**	**115**	*e*P	**P**	**02 31 07.4**	**+1.5**
	comp=Z,7.0nm,1.1s						
TUE	**Stuetta**	**25.00**	**119**	P	**P**	**02 31 06.2**	**0.0**
TUE				IAmb	IAmb	02 31 10.6	
	comp=Z,6.9nm,0.8s						
SQTA	**Sankt Quirin**	**25.12**	**115**	*e*P	**P**	**02 31 09.7**	**+2.5**
	comp=Z,4.4nm,0.9s						
CKRC	**Cesky Krumlov**	**25.12**	**109**	*e*P	**P**	**02 31 10.2**	**+3.1**
CKRC				AMS	AMS	02 42 40.0	
	comp=Z,2μm,14.4s						
WATA	**Walderalm**	**25.17**	**115**	*e*P	**P**	**02 31 09.3**	**+1.6**
	comp=Z,8.8nm,0.9s						
KRLC	**Kraliky**	**25.22**	**104**	*e*P	**P**	**02 31 07.9**	**-0.1**
KRLC				MLR	MLR		
	comp=Z,1μm,12.7s						
KRLC	**Kraliky**	**25.22**	**104**	*e*P	**P**	**02 31 07.9**	**-0.1**
KRLC				AMS	AMS	02 44 00.0	
	comp=Z,1μm,12.7s						
WTTA	**Wattenberg**	**25.25**	**115**	*e*P	**P**	**02 31 10.3**	**+1.9**
	comp=Z,6.6nm,0.7s						
TREC	**Trest**	**25.26**	**107**	*e*P	**P**	**02 31 11.2**	**+2.9**
TREC				MLR	MLR		
	comp=Z,1μm,11.7s						
TREC	**Trest**	**25.26**	**107**	*e*P	**P**	**02 31 11.2**	**+2.9**
TREC				AMS	AMS	02 43 40.0	
	comp=Z,1μm,11.7s						
RJOB	**Jochberg**	**25.35**	**112**	*e*P	**P**	**02 31 09.0**	**-0.2**
	comp=Z,65nm,0.8s,baz=320,slow=9.9						
RES	**Resolute Bay**	**25.71**	**324**	LR	LR	02 41 05.9	
	comp=Z,1μm,19.2s,baz=70,slow=36						
VRAC	**Vranov**	**25.72**	**106**	LR	LR	02 41 08.4	
	comp=Z,725nm,21.1s,baz=316,slow=36						
MORC	**Moravsky Berou**	**25.77**	**104**	P	**P**	**02 31 12.9**	**0.0**
MORC	**Moravsky Berou**	**25.77**	**104**	P	**P**	**02 31 13.0**	**0.0**
MORC	**Moravsky Berou**	**25.77**	**104**	*e*P	**P**	**02 31 12.8**	**-0.1**
OKC	**Ostrava-Krasne**	**25.99**	**103**	AMS	AMS	02 44 10.0	
	comp=Z,1μm,13.6s						
ABTA	**Abfaltersbach**	**26.03**	**114**	*e*P	**P**	**02 31 17.1**	**+1.7**
	comp=Z,4.0nm,0.9s						
CTI	**Castel Tesino**	**26.25**	**116**	P	**P**	**02 31 18.9**	**+1.5**
CTI	**Castel Tesino**	**26.25**	**116**	P	**P**	**02 31 18.9**	**+1.5**
CTI				IAmb	IAmb	02 31 23.0	
	comp=Z,9.9nm,1.0s						
ZOU	**Zoufplan**	**26.37**	**114**	P	**P**	**02 31 18.3**	**-0.2**
ZOU				IAmb	IAmb	02 31 30.4	
	comp=Z,10nm,1.0s						
CONA	**Conrad Observa**	**26.47**	**108**	*e*P	**P**	**02 31 18.9**	**-0.4**
	comp=Z,2.5nm,0.7s						
MYKA	**Terra Mystica**	**26.58**	**113**	*e*P	**P**	**02 31 23.7**	**+3.4**
	comp=Z,4.5nm,0.7s						
ESDC	**Sonseca Array**	**26.73**	**146**	P	**P**	**02 31 21.3**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=341,slow=9.2,SNR=13						
ESDC				LR	LR	02 41 00.4	
	comp=Z,1μm,18.7s,baz=320,slow=34						
ESDC	**Sonseca Array**	**26.73**	**146**	P	**P**	**02 31 23.8**	**+2.1**
PAB	**San Pablo**	**26.75**	**146**	P	**P**	**02 31 21.3**	**-0.7**
PAB	**San Pablo**	**26.75**	**146**	P	**P**	**02 31 21.3**	**-0.7**
MNK	**Minsk**	**27.01**	**86**	*i* P	**P**	**02 31 26.7**	**+2.6**
MNK				*i*		02 32 09.3	
MNK				*i* S	**S**	**02 36 04.5**	**+3.6**
MNK				*i* SS	**SnSn**	**02 37 10.0**	**+3.5**
	comp=E,1.0nm,1.2s						
MNK				pmax	pmax		
	comp=N,4.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MNK				MLR	MLR		
	comp=N,479nm,15.0s						
MNK				MLR	MLR		
	comp=Z,977nm,15.0s						
MNK				MLR	MLR		
	comp=E,77nm,14.0s						
MNK	**Minsk**	**27.01**	**86**	*i* P	**P**	**02 31 26.8**	**+2.7**
	comp=E,1.0nm,1.2s						
MNK				*i* P	**P**	**02 31 26.8**	**+2.7**
	comp=N,4.0nm,0.9s						
MNK				*i* P	**P**	**02 31 26.8**	**+2.7**
	comp=Z,6.0nm,0.8s,baz=312						
MNK				*i* PP	**PnPn**	**02 32 09.3**	**+3.0**
MNK				*i* S	**S**	**02 36 04.6**	**+3.7**
MNK				*i* SS	**SnSn**	**02 37 10.1**	**+3.5**
MNK				*i* LQ	LQ	02 39 29.6	
MNK				*i* LR	LR	02 42 07.1	
MNK				*i* LRM	MLR	02 43 06.6	
	comp=E,77nm,14.2s						
MNK				*i* LRM	MLR	02 43 06.6	
	comp=N,479nm,14.7s						
MNK				*i* LRM	MLR	02 43 06.6	
	comp=Z,977nm,14.7s						
LANS	**Liptovska Anna**	**27.07**	**103**	*e*P	**P**	**02 31 25.8**	**+1.1**
LANS	**Liptovska Anna**	**27.07**	**103**	*e*P	**P**	**02 31 25.8**	**+1.1**
SOKA	**Soboth**	**27.11**	**111**	*e*P	**P**	**02 31 26.9**	**+1.8**
	comp=Z,1.3nm,1.1s						
ZCCA	**Zocca**	**27.40**	**119**	P	**P**	**02 31 29.7**	**+2.0**
ZCCA				IAmb	IAmb	02 31 39.9	
	comp=Z,6.7nm,0.9s						
KLMR	**Klimovskoe**	**28.18**	**67**	*e*P	**P**	**02 31 31.3**	**-3.1**
KLMR				*e*S	**S**	**02 36 13.8**	**-5.3**
KLMR				pmax	pmax		
	comp=Z,11nm,1.4s						
KLMR	**Klimovskoe**	**28.18**	**67**	*e*P	**P**	**02 31 31.3**	**-3.1**
KLMR				AMP		02 31 43.6	
	comp=Z,11nm,1.4s						
KLMR				*e*S	**S**	**02 36 13.8**	**-5.3**
KLMR				*e*S	**S**	**02 36 13.8**	**-5.3**
KLMR				LQ	LQ	02 39 02.4	
KLMR				LQ	LQ	02 39 02.4	
KLMR				LR	LR	02 40 34.5	
KOLS	**Kolonicke sedl**	**28.45**	**100**	*e*P	**P**	**02 31 38.4**	**+1.4**
KOLS	**Kolonicke sedl**	**28.45**	**100**	*e*P	**P**	**02 31 38.4**	**+1.4**
BATG	**Bathurst New B**	**28.68**	**255**	P	**P**	**02 31 36.9**	**-2.1**
D63A	**Stockholm**	**29.74**	**257**	P	**P**	**02 31 47.0**	**-1.4**
	baz=39						
E64A	**Bridgewater**	**30.11**	**256**	P	**P**	**02 31 50.2**	**-1.4**
	baz=38						
D62A	**Allapoint, All**	**30.12**	**258**	P	**P**	**02 31 50.8**	**-0.9**
	baz=39						
AKASG	**Malin Array Be**	**30.22**	**91**	P	**P**	**02 31 52.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=318,slow=9.5,SNR=2.0						
AKASG				LR	LR	02 43 37.6	
	comp=Z,777nm,20.6s,baz=305,slow=36						
CHGQ	**Chibougamau**	**30.33**	**267**	P	**P**	**02 31 52.3**	**-1.3**
	baz=43						
E63A	**Oxbow**	**30.36**	**257**	P	**P**	**02 31 53.0**	**-0.9**
	baz=38						
OBN	**Obninsk**	**30.42**	**78⇑**	*e*P	**P**	**02 31 54.1**	**-0.2**
OBN				*PP	**sP**	**02 31 58.0**	**-2.0**
OBN				*SP	**pP**	**02 32 01.0**	**+2.6**
OBN						02 34 51.0	
OBN				SS	SS	02 38 31.0	-33
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,503nm,14.0s						
D61A	**St Aubert, Com**	**30.52**	**260**	P	**P**	**02 31 54.1**	**-1.1**
	baz=40						
E62A	**Clayton Lake**	**30.68**	**258**	P	**P**	**02 31 55.9**	**-0.8**
	baz=39						
F64A	**Sherman**	**30.77**	**256**	P	**P**	**02 31 56.8**	**-0.6**
	baz=38						
G65A	**Princeton**	**30.95**	**254**	P	**P**	**02 31 58.3**	**-0.8**
	baz=37						
VSL	**Villasalto**	**31.00**	**126**	P	**P**	**02 31 58.9**	**-0.7**
VSL				IAmb	IAmb	02 32 02.5	
	comp=Z,7.7nm,0.8s						
D60A	**Saint Jean D'O**	**31.06**	**260**	P	**P**	**02 31 59.4**	**-0.7**
	baz=40						
F63A	**Nahmakanta, Br**	**31.22**	**257**	P	**P**	**02 32 01.1**	**-0.4**
	baz=38						
E61A	**Lac Etchemin**	**31.25**	**259**	P	**P**	**02 32 01.0**	**-0.8**
	baz=39						
D59A	**Saint-Raymond**	**31.39**	**261**	P	**P**	**02 32 02.3**	**-0.6**
	baz=40						
G64A	**Maxfield**	**31.42**	**256**	P	**P**	**02 32 01.9**	**-1.3**
	baz=37,SNR=7.2						
F62A	**Pittston Farm,**	**31.44**	**258**	P	**P**	**02 32 02.4**	**-1.0**
	baz=38						
F62A	**Pittston Farm,**	**31.44**	**258**	P	**P**	**02 32 03.1**	**-0.3**
LATQ	**La Tuque**	**31.52**	**262**	P	**P**	**02 32 03.0**	**-1.1**
	baz=40						
PKME	**Peaks-Kenny Pk**	**31.64**	**256**	P	**P**	**02 32 04.8**	**-0.4**
	baz=38						
PKME	**Peaks-Kenny Pk**	**31.64**	**256**	P	**P**	**02 32 05.2**	**0.0**
H65A	**Eastbrook**	**31.65**	**254**	P	**P**	**02 32 04.9**	**-0.4**
	baz=37						
E60A	**Ste Agathe de**	**31.71**	**260**	P	**P**	**02 32 05.0**	**-0.8**
	baz=39						
D58A	**Chemin du LacG**	**31.78**	**262**	P	**P**	**02 32 05.7**	**-0.7**
	baz=40						

baz=38
ALGO Algonquin Park 34.94 266 P P 02 32 33.4 -0.5
baz=39
L64A Middleborough 34.99 254 P P 02 32 35.0 +0.6
baz=35
K62A Royalston 35.00 257 P P 02 32 34.2 -0.3
baz=36
VRH Novokhopyorsk 35.37 80 *e*P **P 02 32 36.8 -0.8**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VRH MLR MLR
comp=Z,700nm,15.0s
L63A North Scituate 35.38 255 P P 02 32 38.2 +0.4
baz=35
K61A Williamstown 35.44 258 P P 02 32 38.6 +0.3
baz=36
I57A Carthage 35.47 261 P P 02 32 39.0 +0.5
baz=37
M64A Tiverton 35.47 254 P P 02 32 38.4 -0.1
baz=35
J58A Remsen 35.76 260 P P 02 32 41.2 +0.2
baz=37
BELG Belogornoye 37.05 74 *i* P **P 02 32 51.8 -0.1**
BELG pmax pmax
comp=Z,2.0nm,0.9s
K56A Middlesex 37.19 262 P P 02 32 53.6 +0.3
baz=36
YKA Yellowknife Ar 37.95 311 P P 02 32 59.6 +0.2
comp=Z,3.4nm,0.9s,baz=49,slow=8.8,SNR=14
YKA PcP **PcP 02 35 15.3 +0.5**
comp=Z,0.1nm,0.4s,baz=42,slow=3.1,SNR=3.9
ANN Anapa 38.30 90 *e*P **P 02 33 00.7 -1.9**
ANN pmax pmax
comp=Z,44nm,0.9s
ANN MLR MLR
comp=Z,1µm,13.0s
NRIK Noril'sk 38.50 32 LR LR 02 49 54.5
comp=Z,126nm,20.8s,baz=328,slow=38
NRIK Noril'sk 38.50 32 *e*P **P 02 33 04.3 +0.3**
NRIK pmax pmax
comp=Z,8.0nm,1.6s
FFC Flin Flon 38.76 295 P P 02 33 06.6 +0.3
FFC Flin Flon 38.76 295 P P 02 33 06.6 +0.3
P60A Greenville 38.80 257 P P 02 33 06.7 -0.1
baz=34
SSPA Standing Stone 39.10 260 P P 02 33 09.5 +0.2
baz=35
M54A Oil Creek Stat 39.17 263 P P 02 33 10.3 +0.3
baz=36
INK Inuvik 39.22 327 P P 02 33 10.6 +0.6
comp=Z,3.1nm,1.0s,baz=36,slow=8.3,SNR=4.6
INK Inuvik 39.22 327 P P 02 33 10.1 +0.1
INK Inuvik 39.22 327 P P 02 33 10.1 +0.1
baz=41
INK Inuvik 39.22 327 P P 02 33 10.1 +0.1
EYMN Ely 39.35 280 P P 02 33 11.7 +0.3
baz=40
Q61A Milford 39.44 256 P P 02 33 12.1 -0.1
baz=33
ULM Lac du Bonnet 39.51 285 P P 02 33 12.8 +0.2
comp=Z,7.3nm,1.0s,baz=38,slow=8.0,SNR=5.8
ULM LR LR 02 48 16.5
comp=Z,860nm,20.6s,baz=41,slow=34
ULM Lac du Bonnet 39.51 285 P P 02 33 12.3 -0.3
ULM Lac du Bonnet 39.51 285 P P 02 33 12.3 -0.3
ULM IAmb IAmb 02 33 13.9
comp=Z,9.3nm,1.1s
M53A Wt Miller and 39.67 264 P P 02 33 14.3 +0.2
baz=36
O56A Blue Knob Stat 39.70 261 P P 02 33 14.5 +0.1
baz=35
N54A Moraine State 39.76 263 P P 02 33 15.4 +0.5
baz=35
N54A Moraine State 39.76 263 P P 02 33 15.9 +1.1
N54A IAmb IAmb 02 33 16.7
comp=Z,12nm,0.9s
B35A Bob, Littlefor 40.00 282 P P 02 33 16.6 -0.2
B35A IAmb IAmb 02 33 18.7
comp=Z,16nm,1.3s
SOC Sochi 40.27 89 *e*P **P 02 33 19.0 -0.1**
SOC *e* 02 34 50.2
SOC *e*S **S 02 39 28.0 +2.3**
SOC MLR MLR
comp=Z,915nm,17.0s
BR131 Keskin Array S 40.70 99 P P 02 33 22.9 0.0
BR131 Keskin Array S 40.70 99 P P 02 33 23.0 0.0
BRTR Keskin Array B 40.70 99 P **P 02 33 23.5 +0.6**
comp=Z,1.8nm,0.8s,baz=320,slow=5.6,SNR=8.0
BRTR LR LR 02 52 51.1
comp=Z,579nm,18.8s,baz=318,slow=40
BRTR Keskin Array B 40.70 99 P P 02 33 22.8 0.0
BRTR Keskin Array B 40.70 99 P P 02 33 22.8 0.0
MCWV Mont Chateau 40.76 261 P P 02 33 22.7 -0.4
baz=34
N51A Ashland 40.85 265 P P 02 33 23.8 0.0
N51A IAmb IAmb 02 33 25.0
comp=Z,14nm,1.1s
O53A New Philadelph 40.88 263 P P 02 33 24.5 +0.4
baz=35
AGMN Agassiz Nation 40.98 283 P P 02 33 25.0 +0.2
baz=40
AGMN Agassiz Nation 40.98 283 P P 02 33 24.3 -0.5
AGMN IAmb IAmb 02 33 25.4
comp=Z,9.7nm,1.3s
KIV Kislovodsk 41.30 86 *e*P **P 02 33 26.4 -1.2**
KIV *e*S **S 02 39 41.7 +0.6**
KIV pmax pmax
comp=Z,8.0nm,0.7s
KIV MLR MLR
comp=Z,1µm,16.0s
A21K Barrow 41.38 339 P P 02 33 27.0 -0.8
baz=29
EPYK Eagle Plains 41.51 326 P P 02 33 27.3 -1.7
baz=38
KBZ Khabaz 41.57 86 LR LR 02 50 53.0
comp=Z,937nm,21.9s,baz=330,slow=36
P53A Whipple 41.58 263 P P 02 33 29.9 0.0
N49A Columbus Grove 41.64 267 P P 02 33 30.4 +0.1
ACSO Alum Creek Sta 41.67 265 P P 02 33 30.9 +0.3
baz=35
P52A Corning 41.79 264 P P 02 33 31.5 0.0
baz=35
L44A Lake County Fo 42.28 271 P P 02 33 35.8 +0.3
baz=36
O49A Covington 42.31 266 P P 02 33 35.6 -0.2
O49A IAmb IAmb 02 33 37.2
comp=Z,9.0nm,0.9s
D32A Dogwood Acres, 42.37 283 P P 02 33 36.2 0.0
D32A IAmb IAmb 02 33 50.5
comp=Z,7.7nm,0.5s
TOLK Toolik Lake Re 42.47 334 P P 02 33 36.0 -0.9
baz=32
TOLK Toolik Lake Re 42.47 334 P P 02 33 37.3 +0.4
JFWS Jewell Farm 42.73 274 P P 02 33 39.7 +0.6
baz=37
MDND Maddock 42.92 286 P P 02 33 40.5 -0.3
baz=39
MDND Maddock 42.92 286 P P 02 33 41.3 +0.5
MDND IAmb IAmb 02 33 41.5
comp=Z,17nm,1.1s
P49A Miami Univ. Ec 43.01 266 P P 02 33 41.4 -0.1
baz=35
BLA Blacksburg 43.04 260 P P 02 33 41.5 -0.3
baz=33
SFIN Lafayette 43.37 269 P P 02 33 44.9 +0.5
baz=35
SFIN Lafayette 43.37 269 P P 02 33 44.6 +0.2
SFIN IAmb IAmb 02 33 45.5
comp=Z,18nm,1.3s
P48A Milroy 43.38 267 P P 02 33 43.6 -0.9
P48A IAmb IAmb 02 33 45.3
comp=Z,12nm,1.1s
TIXI Tiksi 43.41 13 *i* P **P 02 33 44.3 -0.1**
COLD Coldfoot 43.81 333 P P 02 33 47.1 -0.5
baz=31
COLD Coldfoot 43.81 333 P P 02 33 49.0 +1.4
EGAK Eagle 43.89 327 P P 02 33 47.2 -1.1
baz=34,SNR=8.0
EGAK Eagle 43.89 327 P P 02 33 48.2 -0.1
EGAK IAmb IAmb 02 33 52.5
comp=Z,5.8nm,0.9s
DAWY Dawson 44.04 325 P P 02 33 50.5 +0.9
DAWY IAmb IAmb 02 33 56.4
comp=Z,11nm,1.2s
HDIL Hopedale 44.20 271 P P 02 33 51.6 +0.5
baz=36

MAK Makhachkala 44.21 83 *e*P **P 02 33 48.9 -2.2**
MAK *e*S **S 02 40 21.4 -2.4**
MAK *e*SS **SS 02 43 44.4 +3.1**
MAK pmax pmax
comp=Z,205nm,1.1s
MAK MLR MLR
comp=Z,697nm,14.0s
PRP Porcupine Dome 44.28 330 P P 02 33 50.8 -0.8
baz=32
PRP Porcupine Dome 44.28 330 P P 02 33 53.6 +1.9
H24K Noodor Dome 44.52 331 P P 02 33 53.1 -0.4
baz=31
ABKAR Akbulak array 44.57 68 P P 02 33 55.8 +1.9
K27K Chicken 44.73 327 P P 02 33 53.6 -1.5
baz=33
K27K Chicken 44.73 327 P P 02 33 56.3 +1.2
K27K IAmb IAmb 02 33 58.2
comp=Z,5.2nm,1.0s
WCI Wyandotte Cave 44.78 266 P P 02 33 55.8 0.0
baz=34
SCIA State Center 44.84 275 P P 02 33 56.0 -0.3
baz=36
ECSD EROS Data Cent 44.87 280 P P 02 33 54.5 -2.0
baz=37,SNR=5.3
ECSD EROS Data Cent 44.87 280 P P 02 33 56.8 +0.3
ECSD IAmb IAmb 02 33 59.1
comp=Z,8.5nm,1.2s
TZTN Tazewell 44.97 262 P P 02 33 56.8 -0.5
baz=33
POKR Poker Plat Res 45.05 330 P P 02 33 56.8 -0.8
baz=31
KMSC Kings Mountain 45.18 259 P P 02 33 59.3 +0.3
baz=32
IL31 45.22 330 P P 02 33 58.8 -0.1
ILAR Eielson Array 45.22 330 P P 02 33 59.6 +0.7
comp=Z,1.2nm,0.6s,baz=30,slow=6.7,SNR=11
ILAR PcP **PcP 02 35 38.9 +0.2**
comp=Z,1.1nm,0.8s,baz=349,slow=2.5,SNR=7.1
SCRK Sand Creek 45.24 328 P P 02 33 58.7 -0.6
baz=32
GNI Garni 45.26 88 *i* P **P 02 33 59.6 -0.2**
GNI pmax pmax
comp=Z,6.0nm,1.2s
COLA College 45.35 330 *i* P **P 02 33 59.4 -0.5**
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA College 45.35 330 P P 02 34 00.9 +1.0
TCOL CIGO, UAF Yank 45.35 330 P P 02 34 01.3 +1.4
MDM Murphy Dome 45.36 331 P P 02 34 01.1 +1.0
I23K Minto, Yukon-K 45.44 331 P P 02 34 00.1 -0.5
baz=30
BCAR Beaver Creek A 45.47 326 P P 02 34 01.8 +0.7
L27K Beaver Creek, 45.49 326 P P 02 34 00.7 -0.5
baz=33,SNR=13
L27K Beaver Creek, 45.49 326 P P 02 34 02.6 +1.5
L27K IAmb IAmb 02 34 04.8
comp=Z,9.3nm,1.1s
DOT Dot Lake 45.53 328 P P 02 34 02.5 +1.1
HDA Harding Lake 45.55 330 P P 02 34 01.3 -0.2
baz=31
USIN University of 45.61 267 P P 02 34 02.5 +0.2
WHY Whitehorse 45.64 320 P P 02 34 01.0 -1.4
baz=35
BRVK Borovoye 45.66 57 *i* P **P 02 34 02.8 +0.3**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
H21K Melozitna Rive 45.70 334 P P 02 34 01.2 -1.5
baz=28
MLY Manley 45.83 332 P P 02 34 03.3 -0.5
baz=29
NEA2 Nenana 45.86 331 P P 02 34 03.8 -0.2
baz=30
NEA2 Nenana 45.86 331 P P 02 34 04.6 +0.6
NEA2 IAmb IAmb 02 34 08.6
comp=Z,4.0nm,0.9s
I21K Tanana 45.95 333 P P 02 34 03.7 -1.0
baz=29
T47A Sharon Grove 46.17 266 P P 02 34 06.2 -0.5
SLM Saint Louis 46.19 270 P P 02 34 06.8 -0.1
HODGE Hodges 46.35 259 P P 02 34 07.9 -0.4
NHSC New Hope 46.41 257 P P 02 34 08.3 -0.4
baz=31
PAX Paxson 46.45 328 P P 02 34 08.2 -0.6
baz=27
PAX Paxson 46.45 328 P P 02 34 10.8 +2.1
PAX IAmb IAmb 02 34 13.5
comp=Z,5.1nm,1.1s
S44A Carbondale 46.53 269 P P 02 34 09.8 +0.2
MCK McKinley 46.58 330 P P 02 34 08.6 -1.1
baz=30
LAO LASA Array 46.63 290 P P 02 34 09.5 -0.9
baz=37
K31A O'Neill 46.70 281 P P 02 34 11.3 +0.4
BPAW Bear Paw Mtn. 46.70 332 P P 02 34 09.3 -1.3
baz=29
W50A Signal Mountai 46.87 263 P P 02 34 11.1 -1.3
EGMT Eagleton 47.02 294 P P 02 34 13.0 -0.4
baz=37
CCM Cathedral Cave 47.12 271 P P 02 34 14.2 +0.1
baz=34
TRF Thorofare Moun 47.12 331 P P 02 34 13.3 -0.8
baz=29
CTG Chitna Glacier 47.14 324 P P 02 34 13.3 -0.9
baz=32
WVT Waverly 47.20 266 P P 02 34 13.6 -1.3
baz=33
MCARA McCarthy VSAT 47.21 325 P P 02 34 14.1 -0.5
baz=32
WAT1 Susitna Watana 47.28 329 P P 02 34 14.0 -1.2
baz=29
WAT6 Susitna Watana 47.31 329 P P 02 34 14.2 -1.5
baz=30
M24K Tolsona, Glenn 47.36 328 P P 02 34 13.4 -2.5
baz=30
N25K Chitina, Valde 47.41 326 P P 02 34 14.0 -2.2
baz=31
N25K Chitina, Valde 47.41 326 P P 02 34 16.9 +0.6
N25K IAmb IAmb 02 34 19.5
comp=Z,5.5nm,0.8s
GOGA Godfrey 47.58 260 P P 02 34 16.6 -1.2
baz=31
N33A J Bar K, Exete 47.66 278 P P 02 34 18.1 -0.2
RSSD Black Hills 47.76 286 P P 02 34 19.9 +0.5
RSSD Black Hills 47.76 286 P P 02 34 18.4 -1.0
baz=36
RSSD Black Hills 47.76 286 P P 02 34 19.9 +0.5
RSSD IAmb IAmb 02 34 24.2
comp=Z,5.2nm,1.1s
CRQE Cirque 47.77 325 P P 02 34 17.6 -1.5
baz=31
WALA Waterton Lakes 47.85 297 P P 02 34 20.0 +0.1
WALA IAmb IAmb 02 34 21.2
comp=Z,7.7nm,1.2s
PPLA Purkeypile 48.02 331 P P 02 34 20.3 -0.8
baz=28
SML Sawmill 48.12 329 P P 02 34 20.7 -1.1
baz=29
BILL Bilibino 48.23 355 *e*P **P 02 34 24.5 +2.1**
BILL 02 36 16.0
BILL *e*S **S 02 41 17.8 -3.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,158nm,16.0s
X48A Hartselle 48.27 264 P P 02 34 22.2 -1.0
X48A IAmb IAmb 02 34 22.9
comp=Z,7.5nm,0.9s
PLAL Pickwick Lake 48.27 266 P P 02 34 21.9 -1.2
PLAL IAmb IAmb 02 34 23.4
comp=Z,4.1nm,0.9s
MGMO Mountain Grove 48.32 271 P P 02 34 22.5 -1.0
MGMO IAmb IAmb 02 34 24.6
comp=Z,4.1nm,1.0s
S39A Bolivar 48.34 272 P P 02 34 23.0 -0.7
WRAK Wrangell Islan 48.38 315 P P 02 34 22.7 -1.1
baz=34
PMR Palmer 48.50 329 P P 02 34 23.1 -1.4
baz=28
SKT Skwentna 48.69 330 P P 02 34 24.8 -1.3
baz=27
LCAR Lake Charles 48.73 269 IAmb IAmb 02 34 29.0
comp=Z,3.8nm,1.0s
RC01 Rabbit Creek A 49.08 329 P P 02 34 28.3 -0.8
baz=28
M20K Styx River 49.12 331 P P 02 34 28.3 -1.2
baz=27

RLMT Red Lodge 49.15 291 P P 02 34 29.4 -0.7
baz=36
L19K White Mountain 49.21 332 P P 02 34 28.8 -1.3
baz=26
U40A Yellville 49.24 271 P P 02 34 30.7 +0.1
baz=33
U40A Yellville 49.24 271 IAmb IAmb 02 34 31.3
comp=Z,6.7nm,1.1s
OXF Oxford 49.26 266 P P 02 34 31.2 +0.5
baz=32
TIGA Tifton 49.32 259 P P 02 34 31.5 +0.3
baz=30
M19K Big River Lodg 49.37 332 P P 02 34 30.3 -1.0
baz=26
CRAG Craig 49.42 315 P P 02 34 31.1 -0.6
baz=33
OGNE Ogallala 49.48 282 P P 02 34 32.2 -0.4
baz=35
MSO Missoula 49.66 296 P P 02 34 32.6 -1.2
baz=36
BOZ Bozeman (W) 49.73 293 P P 02 34 33.1 -1.4
baz=35,SNR=8.2
BOZ Bozeman (W) 49.73 293 IAmb IAmb 02 34 36.1
comp=Z,5.0nm,1.1s
NEW Newport 49.75 299 P P 02 34 34.0 -0.4
baz=35
U38A Gravette 49.85 272 IAmb IAmb 02 34 35.3
comp=Z,5.9nm,1.1s
WHAR Wooly Hollow 49.88 270 P P 02 34 34.8 -0.7
SEW Seward 49.89 328 P P 02 34 34.1 -1.1
baz=28
W41B Gary Mavity, V 49.96 269 P P 02 34 35.8 -0.3
baz=33
K22A Casper 50.01 287 P P 02 34 35.7 -0.9
baz=35
BRSE Bradley Lake S 50.51 329 P P 02 34 38.9 -1.1
baz=27
B08A Colville Reser 50.52 301 P P 02 34 40.1 -0.1
GAMB Gambell 50.57 343 P P 02 34 39.0 -1.3
baz=17
W39A Magazine 50.62 271 P P 02 34 40.4 -0.7
baz=33
PHWY Pilot Hill 50.67 285 IAmb IAmb 02 34 44.1
comp=Z,8.2nm,1.1s
N18K Kilae Creek 50.79 332 P P 02 34 40.8 -1.2
baz=25
X40A Basin Creek Fa 50.80 270 P P 02 34 41.1 -1.3
baz=32,SNR=5.1
X40A Basin Creek Fa 50.80 270 IAmb IAmb 02 34 43.9
comp=Z,8.2nm,1.0s
MIAR Mount Ida 51.08 270 P P 02 34 43.3 -1.2
baz=32,SNR=5.9
MIAR Mount Ida 51.08 270 P P 02 34 43.5 -1.0
MIAR IAmb IAmb 02 34 46.3
comp=Z,7.7nm,1.1s
BW06 Boulder Array 51.20 289 P P 02 34 44.5 -1.1
baz=34,SNR=8.0
BW06 Boulder Array 51.20 289 IAmb IAmb 02 34 46.6
comp=Z,5.6nm,1.1s
PD31 Pinedale Array 51.20 289 IAmb IAmb 02 34 46.6
comp=Z,5.2nm,1.1s
PDAR Pinedale Array 51.20 289 P **P 02 34 45.8 +0.2**
comp=Z,3.2nm,0.9s,baz=54,slow=7.5,SNR=18
PDAR PP **PP 02 36 41.4 -0.7**
comp=Z,0.8nm,0.9s,baz=44,slow=8.7,SNR=3.8
PDAR LR LR 02 55 55.8
comp=Z,1µm,18.5s,baz=35,slow=35
N23A Red Feather La 51.21 285 P P 02 34 44.9 -0.9
baz=34,SNR=12
KSCO Kaye Shedlock' 51.34 281 P P 02 34 46.1 -0.5
baz=34
O18K Koktuh Hills 51.40 331 P P 02 34 45.5 -1.1
baz=25
ISCO Idaho Springs 51.97 284 P P 02 34 51.0 -0.6
baz=34
Q24A Divide 52.47 283 P P 02 34 54.7 -0.5
baz=34
D03D Eldon 52.61 303 P P 02 34 55.5 -0.4
baz=33
BMO Blue Mountains 52.63 297 P P 02 34 55.8 -0.3
BMO Blue Mountains 52.63 297 P P 02 34 55.8 -0.3
O20A White River Ci 52.82 287 P P 02 34 56.8 -0.9
baz=34
GEYT Alibeck 52.97 78 LR LR 02 59 53.9
comp=Z,618nm,18.1s,baz=260,slow=39
RDMU Red Mountain 53.02 288 IAmb IAmb 02 35 02.3
comp=Z,6.5nm,1.3s
LOOK Love County 53.14 273 P P 02 35 00.4 +0.5
WMOK Wichita Mounta 53.22 275 P P 02 34 59.6 -0.9
baz=32,SNR=14
TORD Torodi Ar. Bea 53.52 149 P P 02 35 01.5 -1.3
comp=Z,1.3nm,0.7s,baz=338,slow=8.0,SNR=8.0
TORD Torodi Ar. Bea 53.52 149 P P 02 35 01.2 -1.6
SDCO Great Sand Dun 53.64 283 P P 02 35 03.6 -0.2
baz=33
T25A Trinidad 53.67 281 P P 02 35 03.3 -0.7
baz=33
T25A Trinidad 53.67 281 P P 02 35 04.8 +0.7
S22A 4UR Ranch, Cre 54.21 284 P P 02 35 07.1 -1.0
baz=33,SNR=5.2
DGZ Jazzator, Alta 54.49 48 *i* P **P 02 35 09.6 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.0s
G03D McMinnville, O 54.63 301 P P 02 35 10.2 -0.4
baz=32
I05D Terrebonne, OR 54.63 299 P P 02 35 10.6 -0.2
baz=32
PV03 Paradox Valley 54.65 286 IAmb IAmb 02 35 13.7
comp=Z,4.6nm,1.1s
PV18 Skein Mesa, Pa 54.68 286 IAmb IAmb 02 35 13.8
comp=Z,5.5nm,1.0s
DUG Dugway, Tooele 54.69 290 P P 02 35 11.2 -0.1
baz=33
PV13 Radium Mtn., P 54.72 286 P P 02 35 12.1 +0.4
PV13 IAmb IAmb 02 35 13.7
comp=Z,7.2nm,1.0s
PV05 Paradox Valley 54.90 286 IAmb IAmb 02 35 13.8
comp=Z,6.7nm,1.0s
WHTX Lake Whitney, 54.96 272 P P 02 35 13.1 0.0
baz=31
MK31 Makanchi Array 55.21 54 *i* P **P 02 35 15.3 +0.4**
MK31 Makanchi Array 55.21 54 P P 02 35 15.1 +0.3
MKAR Makanchi Array 55.21 54 P P 02 35 15.9 +1.0
comp=Z,2.3nm,0.9s,baz=330,slow=5.0,SNR=12
MKAR Makanchi Array 55.21 54 P P 02 35 15.4 +0.5
MVCO Mesa Verde 55.38 285 P P 02 35 16.6 +0.1
baz=32
ABTX Abilene, Hawle 55.39 274 P P 02 35 16.9 +0.5
baz=32
ABTX Abilene, Hawle 55.39 274 IAmb IAmb 02 35 17.9
comp=Z,6.8nm,1.1s
J05D Fort Rock, OR 55.48 299 P P 02 35 16.9 -0.1
baz=32,SNR=5.6
I04A Tendick Farm, 55.51 300 P P 02 35 16.8 -0.3
baz=32
MSTX Muleshoe 55.63 278 P P 02 35 17.6 -0.6
baz=32
I02D Swisshome 55.79 301 P P 02 35 18.9 -0.1
baz=32
AAK Ala-Archa 55.82 62 *i* P **P 02 35 21.1 +1.6**
AAK pmax pmax
comp=Z,10.0nm,1.0s
K05A Summer Lake 55.82 298 IAmb IAmb 02 35 22.7
comp=Z,9.4nm,1.2s
I03D Drain, OR 55.95 301 P P 02 35 20.0 -0.2
baz=32
SPR3 Spring Creek 3 56.33 291 P P 02 35 23.3 0.0
ANMO Albuquerque 56.41 282 *i* P **P 02 35 22.7 -1.1**
ANMO pmax pmax
comp=Z,11nm,3.2s
SDPT Sand Point 56.66 332 P P 02 35 24.0 -1.0
baz=21
L04D Klamath Falls 56.80 299 P P 02 35 26.0 -0.5
baz=31
K02D Willamette Mer 56.92 300 P P 02 35 26.5 -0.8
baz=31
CHNA Chernabura Isl 56.96 332 P P 02 35 26.2 -0.9
baz=21
JCT Junction City 57.29 273 P P 02 35 29.2 -0.7
baz=31,SNR=6.5
L02E Cave Junction 57.36 300 P P 02 35 29.7 -0.5
baz=31
R11A Troy Canyon, C 57.40 291 P P 02 35 31.3 +0.5
U15A North Rim 57.65 287 IAmb IAmb 02 35 36.8
comp=Z,4.4nm,1.2s
PAHR Pah Rah Range 57.79 295 P P 02 35 34.9 +1.4
PAHR IAmb IAmb 02 35 35.5

comp=Z,6.6nm,1.2s
KVN Kaiserville 57.83 294 IAmb IAmb 02 35 35.5
comp=Z,6.4nm,1.1s
WUAZ Wupatki 58.04 286 P **P** **02 35 35.1 -0.2**
baz=31
O03E Paynes Creek 58.25 297 P **P** **02 35 36.3 -0.3**
baz=31
NVAR Mina Array Bea 58.45 293 P **P** **02 35 38.7 +0.5**
comp=Z,1.0nm,0.8s,baz=40,slow=6.3,SNR=4.7
NVAR LR LR 03 00 34.4
comp=Z,1μm,18.4s,baz=28,slow=36
DBIC Dimbokro 58.57 159 LR LR 02 59 53.3
comp=Z,121nm,19.9s,baz=342,slow=35
MNTX Cornudas Mount 58.70 279 P **P** **02 35 39.8 +0.1**
baz=31,SNR=7.1
MNTX Cornudas Mount 58.70 279 P **P** **02 35 38.4 -1.4**
MNTX IAmb IAmb 02 35 41.8
comp=Z,4.1nm,1.1s
TPNV Topopah Spring 58.87 291 P **P** **02 35 41.2 +0.2**
baz=31
TPNV Topopah Spring 58.87 291 IAmb IAmb 02 35 42.5
comp=Z,3.2nm,1.1s
833A Chaparral WMA, 58.96 271 P **P** **02 35 42.2 +0.6**
baz=30
X16A Lo Mia Camp, P 59.00 285 IAmb IAmb 02 35 44.3
comp=Z,2.4nm,0.8s
121A Cookes Peak, D 59.04 281 P **P** **02 35 42.6 +0.3**
baz=31
GRAC Grapevine Rang 59.29 292 P **P** **02 35 44.0 +0.2**
baz=31
FURC Furnace Creek, 59.53 291 P **P** **02 35 45.8 +0.4**
baz=31
WMQ Urumqi 59.69 52 *e*P **P** **02 35 50.1 +3.6**
WMQ LR LR
comp=N,580nm,15.7s
WMQ LR LR
comp=E,730nm,17.1s
WMQ LR LR
comp=Z,680nm,20.5s
TX31 Lajitas Ar. Si 59.98 276 P **P** **02 35 48.9 +0.1**
TX32 Lajitas Array 59.98 276 P **P** **02 35 48.9 +0.1**
TX32 IAmb IAmb 02 35 49.8
comp=Z,4.4nm,1.2s
TXAR Lajitas Array 59.98 276 P **P** **02 35 49.0 +0.3**
comp=Z,2.3nm,1.0s,baz=63,slow=3.4,SNR=11
TXAR LR LR 03 00 49.8
comp=Z,645nm,20.2s,baz=0.0,slow=35
MPMC Manual Prospec 60.14 291 P **P** **02 35 50.0 +0.1**
baz=30
GMRC Granite Mounta 60.48 289 P **P** **02 35 52.0 -0.1**
baz=30
TUC Tucson 60.53 284 P **P** **02 35 53.1 +0.7**
baz=30
TUC Tucson 60.53 284 P **P** **02 35 53.0 +0.5**
TUC IAmb IAmb 02 35 54.1
comp=Z,6.4nm,1.4s
HEC Hector,Ludlow 60.72 290 P **P** **02 35 54.2 +0.4**
baz=30
IRM Iron Mountain 60.80 288 P **P** **02 35 54.5 +0.3**
baz=30
ISA Isabella, Lake 60.89 292 P **P** **02 35 55.5 +0.7**
ISA Isabella, Lake 60.89 292 P **P** **02 35 55.2 +0.4**
baz=30
ISA Isabella, Lake 60.89 292 P **P** **02 35 55.5 +0.7**
ISA IAmb IAmb 02 35 58.6
comp=Z,3.8nm,0.9s
BELC Belle Mtn. Jos 61.29 289 P **P** **02 35 58.3 +0.6**
baz=30
BC3 Big Chuckawall 61.36 288 P **P** **02 35 58.9 +0.8**
baz=30
EDW2 Edwards Air Fo 61.36 291 P **P** **02 35 58.3 +0.2**
baz=30
BFSC Mount Baldy Ra 61.78 290 P **P** **02 36 01.2 +0.3**
baz=30
PFO Pinyon Flats O 61.82 289 P **P** **02 36 01.5 +0.3**
baz=30
TPFO Pinon Flats 61.82 289 P **P** **02 36 01.0 -0.2**
baz=30
ULN Ulaanbaatar 61.94 36 *i* P **P** **02 36 03.0 +1.1**
ULN pmax pmax
comp=Z,9.0nm,2.7s
CIS Catalina Islan 62.82 291 P **P** **02 36 08.7 +0.9**
baz=30
ROSC El Rosal 69.41 236 LR LR 03 03 31.4
comp=Z,113nm,21.9s,baz=12,slow=33
HHC Hu-ho-hao-te 69.65 35 *e*P **P** **02 36 51.4 -0.2**
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,34nm,6.6s
XAN Xi'an 75.33 40 P P 02 37 35.2 +10
XAN pP PcP 02 37 42.4 +3.7
XAN pmax pmax
comp=Z,5.0nm,1.8s
XAN LR LR
comp=N,170nm,23.9s
XAN LR LR
comp=E,290nm,19.5s
XAN LR LR
comp=Z,340nm,23.9s
NJ2 Nanjing 79.80 32 *e*P **P** **02 37 49.7 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
BDFB Brasilia 81.55 204 LR LR 03 08 48.2
comp=Z,150nm,18.2s,baz=360,slow=32
CMAR Chiang Mai Arr 86.62 54 LR LR 03 19 45.8
comp=Z,122nm,19.7s,baz=0.5,slow=37
LPAZ La Paz 87.08 223 LR LR 03 15 00.6
comp=Z,47nm,19.9s,baz=1.0,slow=34
CPUP Villa Florida 93.82 210 LR LR 03 15 08.2
comp=Z,83nm,19.7s,baz=15,slow=32
BOSA Boshof 99.68 138 LR LR 03 26 20.2
comp=Z,96nm,18.4s,baz=350,slow=36
TAOE Nuku Hiva Isla 109.65 291 *e*LR LR 03 16 38.3
comp=Z,409nm,22.9s
RKT Rikitea 120.13 279 *e*LR LR 03 21 21.0
comp=Z,2μm,36.0s
PPT2 Papeete2 121.37 296 *e*LR LR 03 21 59.5
comp=Z,239nm,22.8s
TBI Tubuai 126.50 293 *e*LR LR 03 24 25.3
comp=Z,355nm,23.8s

*REY **01** 02:29:49.7,63°.73N×23°.34W,h13km*
*IDC **01** 02:29:50.8±1.1,63°.87N×23°.17W,h0km,mb3.5/6,*
mb1 3.8/8,mb1mx3.5/49,mbtmp3.6/8,ML2.8/2,Error
ellipse: s-maj=20.4km s-min=13.8km az=141.0
ISC 01 02:29:53.3±1.0,63°.88N±0°.06×22°.90W±0°.05,h17km±5km,
n23,σ1¶41/36,mb3.5/7,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**0.11**	**127**	P	**Pg**	**02 29 55.3**	**-1.6**
IRNE	baz=73			S	**Sb**	**02 29 59.9**	**+0.7**
INYL	**Nylenda**	**0.12**	**38**	P	**Pg**	**02 29 56.4**	**-0.6**
INYL	baz=48			S	**Sg**	**02 30 01.7**	**+2.2**
IGRV	**Grindav??k**	**0.20**	**97**	P	**Pg**	**02 29 57.5**	**-0.7**
IGRV	baz=72			S	**Sb**	**02 30 02.8**	**+0.9**
IKRI	**Krysuvik**	**0.37**	**90**	P	**Pg**	**02 29 59.9**	**-1.0**
IKRI	baz=75			S	**Sb**	**02 30 07.6**	**+1.0**
IKAS	**Kald??rsel**	**0.48**	**73**	P	**Pg**	**02 30 02.1**	**-0.9**
IKAS	baz=65			S	**Sn**	**02 30 12.4**	**-1.0**
IVOS	**Vogsosar**	**0.53**	**93**	P	**Pb**	**02 30 03.7**	**-0.4**
IVOS	baz=80			S	**Sn**	**02 30 13.7**	**-0.8**
ISAN	**Sandskeio**	**0.61**	**73**	P	**Pg**	**02 30 04.3**	**-1.1**
ISAN	baz=67			S	**Sn**	**02 30 15.8**	**-0.7**
IKUD	**Kuludalsa**	**0.63**	**45**	P	**Pg**	**02 30 04.8**	**-1.0**
IKUD	baz=47			S	**Sn**	**02 30 16.4**	**-0.6**
IBJA	**Bjarnastaoir**	**0.71**	**84**	P	**Pg**	**02 30 05.7**	**-1.5**
IBJA	baz=76			S	**Sn**	**02 30 18.2**	**-0.7**
IHEI	**Heioarbar**	**0.80**	**66**	P	**Pb**	**02 30 07.2**	**-1.5**
IHEI	baz=62			S	**Sn**	**02 30 21.1**	**0.0**
IKRO	**Krokur**	**0.81**	**74**	P	**Pb**	**02 30 07.8**	**-1.1**
IKRO	baz=68			S	**Sn**	**02 30 21.7**	**+0.2**
ISOL	**Solvholt**	**0.87**	**86**	S	**Sn**	**02 30 22.0**	**-0.8**
ISOL	baz=78			P	**Pb**	**02 30 08.1**	**-1.7**
IASM	**Asmuli**	**1.01**	**92**	S	**Sn**	**02 30 25.7**	**-0.7**
IASM	baz=84			P	**Pb**	**02 30 09.7**	**-2.6**
BORG	**Borgarnes**	**1.11**	**38**	Pg	**Pb**	**02 30 12.3**	**-1.6**
BORG	97nm,0.3s,baz=224,slow=11,SNR=7.4			LR	LR	02 30 25.1	
BORG	comp=Z,117nm,20.0s,baz=31,slow=29			Lg	Lg	02 30 30.3	
HFS	**Hagfors**	**17.41**	**86**	P	**P**	**02 33 57.4**	**+1.2**
ARCES	**ARCESS Array B**	**19.48**	**52**	P	**Pn**	**02 34 20.1**	**0.0**
CLL	**Collm**	**22.62**	**107**	*i* (P)	**P**	**02 34 57.5**	**+4.7**
GERES	**GERESS Array B**	**24.78**	**110**	P	**P**	**02 35 15.0**	**+1.1**
ESDC	**Sonseca Array**	**26.71**	**146**	P	**P**	**02 35 31.9**	**+0.6**
YKA	**Yellowknife Ar**	**37.99**	**311**	P	**P**	**02 37 08.9**	**-0.7**
ILAR	**Eielson Array**	**45.24**	**330**	P	**P**	**02 38 08.9**	**0.0**
PDAR	**Pinedale Array**	**51.27**	**290**	P	**P**	**02 38 55.4**	**-0.6**
MKAR	**Makanchi Array**	**55.12**	**54**	P	**P**	**02 39 25.0**	**+0.9**

*IDC **01** 02:34:22.6±0.8,3°.14S×147°.75E,h0km,mb4.1/10,*
mb1 4.3/10,mb1mx4.0/46,mbtmp4.1/10,MS3.8/9,
Ms1 3.9/9,ms1mx3.5/30,Error ellipse: s-maj=40.1km
s-min=18.5km az=114.0
*NEIC **01** 02:34:24.1±2.0,2°.89S±0°.07×147°.6E±0°.1,h10km±1km,*
mb4.4/7,Error ellipse: s-maj=24.3km s-min=9.9km
az=257.0
ISC 01 02:34:24.4±0.7,2°.95S±0°.09×147°.6E±0°.1,h10km,n37,
σ1¶00/26,mb4.2/14,MS3.8/8,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**0.92**	**349**		**Pg**	**02 34 40.4**	**-1.7**
RABL	**Rabaul**	**4.77**	**105**	Pn	**Pn**	**02 35 35.8**	**-0.5**
HNR	**Honiara**	**13.90**	**118**	LR	LR	02 43 22.3	
	comp=Z,238nm,18.3s,baz=114,slow=40						
WB0	**Warramunga Arr**	**21.08**	**217**	P	**P**	**02 39 07.9**	**-1.1**
WB0				IAmb	IAmb	02 39 33.5	
	comp=Z,30nm,1.3s						
WR0	**Warramunga Arr**	**21.14**	**216**	P	**P**	**02 39 08.7**	**-1.0**
WR0				IAmb	IAmb	02 39 33.0	
	comp=Z,17nm,0.9s						
WB2	**Warramunga Arr**	**21.24**	**216**	P	**P**	**02 39 09.7**	**-1.1**
WB2				IAmb	IAmb	02 39 34.6	
	comp=Z,19nm,1.1s						
WRA	**Warramunga Arr**	**21.25**	**216**	P	**P**	**02 39 09.8**	**-1.0**
	comp=Z,6.5nm,0.8s,baz=41,slow=11,SNR=27						
WRA				LR	LR	02 48 24.0	
	comp=Z,262nm,20.6s,baz=60,slow=40						
WRA	**Warramunga Arr**	**21.25**	**216**	P	**P**	**02 39 10.2**	**-0.7**
AS31	**Alice Springs**	**24.45**	**211**	P	**P**	**02 39 43.1**	**-0.6**
AS31				IAmb	IAmb	02 40 10.4	
	comp=Z,4.4nm,1.1s						
ASAR	**Alice Springs**	**24.46**	**211**	P	**P**	**02 39 42.9**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=43,slow=7.5,SNR=29						
ASAR				LR	LR	02 49 47.0	
	comp=Z,245nm,18.3s,baz=45,slow=38						
ASAR	**Alice Springs**	**24.46**	**211**	P	**P**	**02 39 43.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**26.22**	**233**	P	**P**	**02 40 00.2**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=96,slow=9.5,SNR=6.0						
FITZ				LR	LR	02 51 03.1	
	comp=Z,338nm,19.7s,baz=62,slow=38						
FITZ	**Fitzroy Crossi**	**26.22**	**233**	P	**P**	**02 40 00.8**	**+1.1**
DZM	**Mont Dzumac**	**26.42**	**138**	LR	LR	02 48 29.6	
	comp=Z,391nm,19.7s,baz=291,slow=32						
KAPI	**Kappang**	**27.80**	**265**	LR	LR	02 51 49.4	
	comp=Z,84nm,19.0s,baz=94,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.45**	**41**	T	T	03 10 06.5	
	baz=223,slow=76,SNR=403						
H11S2	**WAKE ISLAND Hy**	**28.46**	**41**	T	T	03 10 07.6	
	baz=223,slow=76,SNR=559						
H11S1	**WAKE ISLAND Hy**	**28.47**	**41**	T	T	03 10 08.3	
	baz=223,slow=76,SNR=440						
H11N1	**WAKE ISLAND Hy**	**29.47**	**39**	T	T	03 11 22.4	
	baz=221,slow=76,SNR=100						
H11N3	**WAKE ISLAND Hy**	**29.49**	**39**	T	T	03 11 23.7	
	baz=221,slow=76,SNR=216						
H11N2	**WAKE ISLAND Hy**	**29.49**	**39**	T	T	03 11 25.0	
	baz=221,slow=76,SNR=254						
FORT	**Forrest**	**33.24**	**212**	P	**P**	**02 41 02.1**	**+0.2**
JNU	**Nakatsue**	**39.19**	**338**	LR	LR	02 54 02.6	
	comp=Z,461nm,21.4s,baz=62,slow=30						
KSRS	**Korea Array**	**44.14**	**337**	LR	LR	02 59 16.3	
	comp=Z,57nm,19.1s,baz=155,slow=34						
PETK	**Petropavlovsk-**	**56.51**	**7**	P	**P**	**02 44 07.3**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=200,slow=10,SNR=3.1						
PETK	**Petropavlovsk-**	**56.51**	**7**	P	**P**	**02 44 08.2**	**+1.5**
VNDA	**Vanda**	**74.90**	**177**	P	**P**	**02 46 03.8**	**-1.1**
	comp=Z,1.5nm,0.9s,baz=320,slow=7.8,SNR=7.6						
VNDA	**Vanda**	**74.90**	**177**	P	**P**	**02 46 03.9**	**-1.1**
VNDA				IAmb	IAmb	02 46 22.1	
	comp=Z,10.0nm,1.8s						
MKAR	**Makanchi Array**	**75.52**	**320**	P	**P**	**02 46 11.0**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=91,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**75.52**	**320**	P	**P**	**02 46 09.1**	**-0.1**
KURK	**Kurchatov**	**79.12**	**323**	P	**P**	**02 46 29.9**	**+0.7**
KURBB	**Kurchatov Arra**	**79.14**	**323**	P	**P**	**02 46 29.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=106,slow=4.4,SNR=4.6						
ILAR	**Eielson Array**	**82.48**	**23**	P	**P**	**02 46 46.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=254,slow=5.4,SNR=10						
ILAR	**Eielson Array**	**82.48**	**23**	P	**P**	**02 46 46.4**	**-0.5**
NVAR	**Mina Array Bea**	**95.07**	**52**	P	**P**	**02 47 49.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=244,slow=6.1,SNR=3.9						
NVAR				LR	LR	03 21 00.5	
	comp=Z,60nm,21.9s,baz=326,slow=29						
YKA	**Yellowknife Ar**	**96.24**	**28**	P	**P**	**02 47 53.3**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=268,slow=4.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**144.75**	**289**	PKPbc	**PKPdf**	**02 54 01.9**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=92,slow=4.0,SNR=5.9						

*TUL **01** 02:34:51.9±1.7,36°.11N±0°.01×97°.07W±0°.02,h4km±7km,*
ML2.5,mb_Lg2.2/21(NEIC),Error ellipse: s-maj=2.1km
s-min=1.6km az=120.0
NEIC 01 02:34:52.1±0.8,36°.13N±0°.01×97°.08W±0°.02,h5km±7km,
Error ellipse: s-maj=1.9km s-min=1.7km az=122.0,
Oklahoma City

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.26**	**131**		Pg	02 34 57.2	+0.1
OK031				Sg	Sg	02 35 00.9	+0.2
QUOK	**Quay**	**0.31**	**81**		Pg	02 34 58.2	+0.2
QUOK				Sg	Sg	02 35 02.5	+0.4
OK030	**Cody Creek RV**	**0.31**	**129**		Pg	02 34 58.2	+0.1
OK030				Sg	Sg	02 35 02.5	+0.2
OK029	**Liberty Lake**	**0.45**	**223**		Pg	02 35 00.8	+0.1
OK029				Sg	Sg	02 35 07.0	+0.5
OK025	**Westminster Rd**	**0.58**	**201**	Pg	Pg	02 35 03.3	0.0
OK025				Sg	Sg	02 35 11.2	+0.4
BCOK	**Bluff Creek, N**	**0.63**	**223**	Pg	Pg	02 35 04.2	0.0
BCOK				Sg	Sg	02 35 13.0	+0.5
BLOK	**Blackwell**	**0.64**	**351**		Pg	02 35 04.7	+0.2
OKCFA	**Oklahoma City**	**0.77**	**203**	Pg	Pg	02 35 06.6	-0.3
OKCFA				Sg	Sg	02 35 17.3	+0.5
OKCSW	**OKLAHOMA CITY**	**0.77**	**202**	Pg	Pg	02 35 06.6	-0.4
CROK	**Carrier**	**0.82**	**298**	Pg	Pg	02 35 08.0	+0.1
CROK				Sg	Sg	02 35 19.3	+0.8
FNO	**Franklin**	**0.90**	**197**	Pg	Pg	02 35 08.8	-0.7
FNO				Sg	Sg	02 35 21.2	+0.1
T35A	**Sooner Cattle**	**0.91**	**30**		Pg	02 35 09.5	-0.1
T35A				Sg	Sg	02 35 21.6	+0.1
KAN13	**South Haven SW**	**0.94**	**340**	Pg	Pg	02 35 10.1	-0.1
KAN17	**Caldwell West**	**1.07**	**329**	Pg	Pg	02 35 12.4	-0.2
KAN09	**Caldwell North**	**1.10**	**337**	Pg	Pg	02 35 12.7	-0.4
KAN09				Sg	Sg	02 35 27.9	-0.3
OK032	**Salt Plains WL**	**1.13**	**307**	Pg	Pg	02 35 13.7	-0.1
OK032				Sg	Sg	02 35 28.7	+0.1
KS20	**Mayfield South**	**1.17**	**341**	Pg	Pg	02 35 14.2	-0.3
KAN05	**Bluff City Nor**	**1.17**	**327**	Pg	Pg	02 35 14.4	-0.1
KAN10	**Anthony SW Sta**	**1.29**	**321**	Pn	Pg	02 35 16.4	-0.4
KAN08	**Anthony NE Sta**	**1.31**	**327**	Pn	Pn	02 35 16.8	-0.3
KAN12	**Harper NE Stat**	**1.38**	**328**	Pn	Pn	02 35 18.0	-0.1
U32A	**Winter Ranch,**	**1.57**	**280**	Pn	Pn	02 35 21.1	+0.4
U32A				IAmb_Lg		02 35 44.9	
	comp=Z,18nm,0.8s						
X34A	**Smith Ranch, M**	**1.64**	**202**	Pn	Pn	02 35 21.9	+0.2
WMOK	**Wichita Mounta**	**1.96**	**226**	Pn	Pn	02 35 26.8	+0.8
X37A	**Clayton**	**2.08**	**137**	Pn	Pn	02 35 28.3	+0.7
U38A	**Gravette**	**2.20**	**81**	Pn	Pn	02 35 30.1	+0.7
W39A	**Magazine**	**2.84**	**108**	Pn	Pn	02 35 38.8	+0.7
MIAR	**Mount Ida**	**3.27**	**118**	Pn	Pn	02 35 44.9	+0.9
MIAR				IAmb_Lg		02 36 38.0	
	comp=Z,6.7nm,1.2s						
U40A	**Yellville**	**3.43**	**85**	Pn	Pn	02 35 47.2	+1.0
X40A	**Basin Creek Fa**	**3.84**	**114**	IAmb_Lg		02 36 57.0	
	comp=Z,7.4nm,0.8s						
AMTX	**Amarillo**	**3.95**	**253**	IAmb_Lg		02 37 01.2	
	comp=Z,6.6nm,1.1s						
WHAR	**Wooly Hollow**	**3.99**	**101**	IAmb_Lg		02 37 03.7	
	comp=Z,6.1nm,0.9s						
MGMO	**Mountain Grove**	**4.01**	**74**	IAmb_Lg		02 36 57.5	
	comp=Z,5.8nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.03**	**92**	IAmb_Lg		02 37 02.2	
	comp=Z,5.2nm,0.7s						
R40A	**Maddies Statio**	**4.41**	**59**	IAmb_Lg		02 37 13.3	
	comp=Z,5.9nm,0.8s						
P38A	**Dawn**	**4.48**	**38**	IAmb_Lg		02 37 12.3	
	comp=Z,5.0nm,0.8s						
T42A	**Van Buren**	**4.91**	**78**	Pn	Pn	02 36 07.9	+1.4
P40A	**Paris**	**5.24**	**48**	IAmb_Lg		02 37 42.6	
	comp=Z,4.6nm,0.7s						
PBMO	**Poplar Bluff**	**5.40**	**81**	IAmb_Lg		02 37 54.2	
	comp=Z,3.8nm,0.7s						

*IDC **01** 02:41:29.4±1.2,21°.66N×143°.09E,h290km±11km,*
mb3.9/27,mb1 4.1/29,mb1mx3.9/56,mbtmp4.6/29,Error
ellipse: s-maj=12.7km s-min=7.0km az=83.0
*NEIC **01** 02:41:30.3±1.6,21°.66N±0°.07×143°.1E±0°.1,h294km±5km,*
mb4.4/108,Error ellipse: s-maj=16.5km s-min=10.6km
az=83.0
*JMA **01** 02:41:33.4±0.2,21°.96N×142°.84E,h300km±1km,M4.8*
ISC 01 02:41:30.2±0.8,21°.70N±0°.04×143°.04E±0°.07,h297km±7km,
n328,σ1¶06/347,mb4.4/78,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.98**	**351**	P	**Pn**	**02 42 47.6**	**+0.4**
JHH2				*e*S	**S**	**02 43 46.2**	**-3.0**
CBIJ	**Chichi jima**	**5.43**	**352**	P	**Pn**	**02 42 53.3**	**+0.7**
CBIJ				S	**S**	**02 43 55.8**	**-3.1**
JCJ	**Chichijima**	**5.43**	**352**	P	**Pn**	**02 42 53.3**	**+0.7**
	59nm,0.3s,baz=299,slow=23,SNR=22						
JCJ				S	**S**	**02 43 57.8**	**-1.1**
	74nm,0.3s,baz=322,slow=21,SNR=12						
ANA2	**Anatahan**	**5.90**	**154**	Pn	**Pn**	**02 42 58.2**	**-0.1**
BSO1	**Boso 1**	**13.04**	**352**	P	**P**	**02 44 26.5**	**+1.5**
BSO3	**Boso 3**	**13.24**	**351**	P	**Pn**	**02 44 28.1**	**+0.7**
BSO4	**Boso 4**	**13.46**	**350**	P	**Pn**	**02 44 30.4**	**+0.3**
JIE	**Ise**	**13.82**	**338**	P	**Pn**	**02 44 36.0**	**+1.4**
JKN2	**Miekihoku**	**13.84**	**336**	P	**Pn**	**02 44 36.4**	**+1.5**
HMMJ	**Hamamatsu 2**	**13.92**	**342**	P	**Pn**	**02 44 37.0**	**+1.3**
JOD2	**Odawara 2**	**13.95**	**346**	P	**Pn**	**02 44 37.1**	**+0.9**
JOD2				*e*S	**S**	**02 47 03.1**	**-6.6**
JTO	**Tosashimizu**	**14.36**	**323**	P	**Pn**	**02 44 42.7**	**+1.7**
JMN	**Monobe**	**14.46**	**328**	P	**Pn**	**02 44 44.9**	**+2.6**
JMN	**Monobe**	**14.46**	**328**	P	**Pn**	**02 44 44.4**	**+2.1**
JHU	**Hanno**	**14.48**	**348**	P	**P**	**02 44 42.2**	**+0.6**
JHU				*e*S	**S**	**02 47 13.6**	**-6.9**
INU	**Inuyama**	**14.59**	**340**	P	**P**	**02 44 43.6**	**+0.8**
JYT	**Yasato**	**14.69**	**351**	P	**Pn**	**02 44 45.8**	**+0.9**
JYT	**Yasato**	**14.69**	**351**	P	**Pn**	**02 44 45.8**	**+0.9**
JGF	**Kuroka**	**14.72**	**341**	P	**Pn**	**02 44 45.7**	**+0.4**
JRY	**Ryogami san**	**14.72**	**347**	P	**P**	**02 44 44.8**	**+0.6**
JRY				S	**S**	**02 47 19.1**	**-6.3**
JSU	**Suzuyama**	**14.89**	**314**	P	**Pn**	**02 44 48.6**	**+1.2**
JAG	**Ashikaga**	**15.01**	**349**	P	**P**	**02 44 47.9**	**+0.6**
JWT	**Wachi**	**15.10**	**335**	P	**Pn**	**02 44 51.1**	**+1.3**
JWT	**Wachi**	**15.10**	**335**	P	**Pn**	**02 44 50.5**	**+0.8**
JGN	**Niukaw**	**15.31**	**342**	P	**P**	**02 44 52.2**	**+1.4**
JAD	**Aida**	**15.32**	**331**	P	**Pn**	**02 44 53.4**	**+1.0**
MJAR	**Matsushiro Arr**	**15.38**	**345**	P	**P**	**02 44 51.5**	**+0.1**
	0.6nm,0.3s,baz=164,slow=12,SNR=24						
MJAR				S	**S**	**02 47 37.3**	**-1.2**
	baz=156,slow=19,SNR=4.0						
MJAR	**Matsushiro Arr**	**15.38**	**345**	P	**P**	**02 44 51.3**	**-0.1**
MJAR				IAmb	IAmb	02 44 53.1	
	comp=Z,7.8nm,0.7s						
MAJO	**Matsushiro**	**15.38**	**345**	P	**P**	**02 44 52.9**	**+1.4**
MAT	**Matsushiro**	**15.38**	**345**	P	**P**	**02 44 52.0**	**+0.5**
MAT				*e*S	**S**	**02 47 41.3**	**+2.7**
MAT	**Matsushiro**	**15.38**	**345**	P	**P**	**02 44 52.6**	**+1.1**
MJB9	**Matsu-Tunnel**	**15.38**	**345**	P	**P**	**02 44 52.6**	**+1.1**
JSJ	**Shimokoshiki**	**15.50**	**313**	P	**Pn**	**02 44 54.7**	**+0.2**
JNU	**Nakatsue**	**15.67**	**319**	P	**Pn**	**02 44 57.9**	**+1.4**
	comp=Z,4.3nm,0.3s,baz=125,slow=5.9,SNR=5.2						
JNU	**Nakatsue**	**15.67**	**319**	P	**Pn**	**02 44 57.3**	**+0.8**
JHS	**Saijyo**	**15.86**	**329**	P	**Pn**	**02 44 59.1**	**+0.4**
JHS	**Saijyo**	**15.86**	**329**	P	**Pn**	**02 44 58.6**	**0.0**
JMM	**Marumori**	**16.23**	**354**	P	**P**	**02 45 02.4**	**+1.7**
JMM	**Marumori**	**16.23**	**354**	P	**P**	**02 45 02.4**	**+1.7**
JSD	**Sado**	**16.80**	**347**	P	**P**	**02 45 07.1**	**+0.2**
JSD	**Sado**	**16.80**	**347**	P	**P**	**02 45 06.8**	**-0.1**
JYA	**Atsumi**	**17.08**	**351**	P	**P**	**02 45 11.9**	**+1.9**
JMK	**Ichinoseki**	**17.27**	**355**	P	**P**	**02 45 13.7**	**+1.7**
JTU	**Tsushima**	**17.53**	**320**	P	**Pn**	**02 45 18.3**	**+0.2**
JOM	**Ohasama**	**17.78**	**356**	P	**P**	**02 45 19.2**	**+1.7**
JTM	**Tenmabayashi**	**19.11**	**355**	P	**P**	**02 45 33.3**	**+1.6**
ERM	**Erimo**	**20.26**	**0**	P	**P**	**02 45 45.6**	**+1.9**
KSRS	**Korea Array**	**20.43**	**324**	P	**P**	**02 45 46.6**	**+1.1**
	comp=Z,12nm,0.7s,baz=145,slow=9.0,SNR=43						
KSRS				ScP	**ScP**	**02 52 52.6**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=150,slow=3.3,SNR=7.3						
KSAR	**Wonju Array Be**	**20.45**	**323**	P	**P**	**02 45 47.3**	**+1.6**
KS19	**Wonju Array Si**	**20.50**	**324**	P	**P**	**02 45 47.5**	**+1.2**
KS19				IAmb	IAmb	02 45 47.6	
	comp=Z,13nm,0.7s						
USA0B	**Ussuriysk Arra**	**24.24**	**340**	P	**P**	**02 46 21.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**24.24**	**340**	P	**P**	**02 46 21.0**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=155,slow=7.6,SNR=11						
KLR	**Kul'dur**	**28.91**	**345**	P	**P**	**02 47 02.6**	**+0.6**
	comp=Z,22nm,0.6s,baz=160,slow=7.8,SNR=90						
KLR				PcP	**PcP**	**02 50 03.1**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=182,slow=3.5,SNR=6.6						
KLR				ScP	**ScP**	**02 53 15.8**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=238,slow=1.1,SNR=5.7						
TOLI2	**Tolitoli**	**29.81**	**230**	P	**P**	**02 47 10.4**	**0.0**
HHC	**Hu-ho-hao-te**	**32.73**	**313**	*e*P	**P**	**02 47 39.6**	**+3.9**
HHC				pmax	pmax		
	comp=Z,30nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,7.6s						
LZH	**Lanzhou**	**36.93**	**302**	*e*P	**P**	**02 48 12.6**	**+1.1**
LZH				pP	pP	02 49 10.5	+1.2
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
SONM	**Songino Array**	**39.25**

comp=Z,43nm,1.2s
WRAB Tennant Creek 42.24 192 P P 02 48 54.2 -0.7
WB2 Warramunga Arr 42.25 192 P P 02 48 54.3 -0.7
WRA Warramunga Arr 42.25 192 P P 02 48 54.5 -0.6
comp=Z,39nm,0.7s,baz=14,slow=8.6,SNR=299
WRA PcP **PcP 02 50 42.8 -0.2**
comp=Z,2.3nm,0.6s,baz=14,slow=3.4,SNR=4.1
WRA Warramunga Arr 42.25 192 P P 02 48 53.8 -1.2
KIWB Kanaga Island 43.00 36 P P 02 49 02.3 +1.7
FITZ Fitzroy Crossi 43.06 205 P P 02 49 01.1 -0.4
comp=Z,21nm,0.6s,baz=27,slow=9.3,SNR=72
FITZ Fitzroy Crossi 43.06 205 P P 02 49 00.8 -0.7
FITZ IAmb IAmb 02 49 02.0
comp=Z,20nm,0.7s
UGM Wanagama 43.40 231 P P 02 49 04.3 -0.1
ATKA Atka Island 44.77 36 P P 02 49 14.7 0.0
CISI Cisompet, Garu 45.15 234 P P 02 49 17.1 -1.1
CISI IAmb IAmb 02 49 21.4
comp=Z,24nm,0.7s
AS31 Alice Springs 45.96 192 P P 02 49 23.2 -1.1
ASAR Alice Springs 45.96 192 P P 02 49 23.5 -0.8
comp=Z,6.6nm,0.7s,baz=16,slow=11,SNR=96
ASAR PcP **PcP 02 50 55.3 -0.3**
comp=Z,0.9nm,0.6s,baz=16,slow=4.3,SNR=3.2
ASAR Alice Springs 45.96 192 P P 02 49 22.9 -1.4
EIDS Eidsvold 47.43 170 P P 02 49 35.0 -0.6
EIDS IAmb IAmb 02 50 03.4
comp=Z,16nm,1.4s
NIKH Nikolski High 48.07 37 P P 02 49 41.1 +1.0
baz=248
PSA00 Pilbara Seismi 48.60 209 P P 02 49 43.3 -1.2
PSA00 Pilbara Seismi 48.60 209 P P 02 49 43.4 -1.1
PSA00 IAmb IAmb 02 49 45.0
comp=Z,17nm,1.0s
GSI Gunungsitoli 48.67 252 P P 02 49 45.5 +0.3
GSI IAmb IAmb 02 49 51.3
comp=Z,14nm,0.9s
SPIA Saint Paul Isl 49.04 32 P P 02 49 48.7 +1.3
baz=244
DZM Mont Dzumac 49.13 151 P P 02 49 48.6 0.0
DZM IAmb IAmb 02 49 50.9
comp=Z,29nm,1.4s
AKUT Akutan 50.20 37 P P 02 49 56.7 +0.7
AKUT IAmb IAmb 02 49 59.4
comp=Z,19nm,0.6s
WMQ Urumqi 50.48 309 *e*P **P 02 50 00.8 +2.3**
GIRL Giralia 52.25 214 P P 02 50 12.9 +1.2
STKA Stephens Creek 53.29 182 P P 02 50 18.3 -0.7
comp=Z,14nm,0.5s,baz=357,slow=7.7,SNR=36
STKA Stephens Creek 53.29 182 P P 02 50 17.9 -1.2
SDPT Sand Point 53.49 36 P P 02 50 20.4 +0.2
baz=255
SDPT Sand Point 53.49 36 P P 02 50 19.8 -0.5
SDPT IAmb IAmb 02 50 33.8
comp=Z,23nm,0.9s
CNBA Chernabura Isl 53.85 37 P P 02 50 22.8 -0.1
CNBA IAmb IAmb 02 50 24.6
comp=Z,11nm,1.0s
CHNA Chernabura Isl 53.85 37 P P 02 50 23.4 +0.5
baz=256
FORT Forrest 54.12 196 P P 02 50 24.4 -0.7
ZALV Zalesovo Beam 54.13 322 P P 02 50 25.4 +0.6
comp=Z,1.2nm,0.4s,baz=117,slow=9.5,SNR=4.7
ZALV PcP **PcP 02 51 24.9 -0.5**
comp=Z,4.4nm,0.4s,baz=115,slow=3.2,SNR=11
ZALV Zalesovo Beam 54.13 322 P P 02 50 25.6 +0.8
ZALV **PcP 02 51 24.2 -1.1**
MK31 Makanchi Array 54.60 313 P P 02 50 28.9 +0.5
MK31 PcP **PcP 02 51 27.1 -0.4**
MKAR Makanchi Array 54.60 313 P P 02 50 29.1 +0.6
comp=Z,1.1nm,0.6s,baz=90,slow=9.6,SNR=7.7
MKAR PcP **PcP 02 51 27.2 -0.2**
comp=Z,2.3nm,0.6s,baz=76,slow=4.1,SNR=10
MKAR Makanchi Array 54.60 313 P P 02 50 28.6 +0.2
MKAR **PcP 02 51 27.2 -0.2**
BBOO Buckleboo 54.61 187 P P 02 50 27.7 -0.9
MORW Morawa 56.78 208 P P 02 50 43.0 -1.0
MORW IAmb IAmb 02 50 44.1
comp=Z,14nm,0.8s
RDOG Red Dog Mine 56.92 21 P P 02 50 44.6 +0.2
baz=244
RDOG Red Dog Mine 56.92 21 P P 02 50 43.8 -0.6
RDOG IAmb IAmb 02 51 07.5
comp=Z,9.1nm,0.7s
N18K Kilae Creek 57.22 31 P P 02 50 47.8 +1.1
baz=255
O18K Koktuh Hills 57.35 32 P P 02 50 48.7 +1.1
baz=257
KURK Kurchatov 57.38 317 PcP 02 51 38.0 -0.1
KURBB Kurchatov Arra 57.43 317 P P 02 50 48.6 +0.4
comp=Z,2.5nm,0.5s,baz=94,slow=7.5,SNR=32
KURBB PcP **PcP 02 51 38.0 -0.3**
comp=Z,1.2nm,0.6s,baz=106,slow=4.0,SNR=4.3
SVW2 Sparrevohn 57.48 30 P P 02 50 49.1 +0.7
SVW2 IAmb IAmb 02 50 50.4
comp=Z,5.8nm,0.7s
OHAK Old Harbor 57.81 35 P P 02 50 51.1 +0.4
baz=260
OHAK Old Harbor 57.81 35 P P 02 50 51.3 +0.6
OHAK IAmb IAmb 02 51 07.3
comp=Z,8.0nm,1.0s
O19K Port Alsworth 57.87 32 P P 02 50 52.2 +1.1
baz=257
L19K White Mountain 58.08 29 P P 02 50 53.9 +1.3
baz=256
KDAK Kodiak Island 58.28 35 P P 02 50 53.9 -0.1
comp=Z,4.4nm,0.5s,baz=284,slow=4.4,SNR=13
KDAK Kodiak Island 58.28 35 P P 02 50 54.3 +0.4
baz=260
KDAK Kodiak Island 58.28 35 P P 02 50 54.1 +0.1
M20K Styx River 58.80 30 P P 02 50 58.5 +0.8
baz=257
TOO Toolangi 58.99 178 P P 02 50 58.7 -0.4
TOO IAmb IAmb 02 50 59.7
comp=Z,11nm,0.8s
CNPM China Poot 59.26 33 P P 02 51 00.4 -0.3
CNPM IAmb IAmb 02 51 16.1
comp=Z,14nm,1.2s
PPLA Purkeypile 59.45 29 P P 02 51 03.0 +0.9
SKT Skwentna 59.56 30 P P 02 51 02.8 +0.1
baz=259
SKT Skwentna 59.56 30 P P 02 51 02.9 +0.1
NWAO Narrogin (SRO) 59.65 205 P P 02 51 03.1 -0.5
NWAO IAmb IAmb 02 51 03.9
comp=Z,19nm,1.2s
H21K Melozitna Rive 59.83 26 P P 02 51 05.8 +1.3
baz=255
I21K Tanana 60.05 26 P P 02 51 07.2 +1.3
baz=256
KTH Kantishna Hill 60.15 28 P P 02 51 06.5 -0.3
BPAW Bear Paw Mtn. 60.23 28 P P 02 51 08.0 +0.8
baz=258
BPAW Bear Paw Mtn. 60.23 28 P P 02 51 07.2 -0.1
BPAW IAmb IAmb 02 51 08.8
comp=Z,5.7nm,0.8s
SEW Seward 60.24 32 P P 02 51 07.5 +0.3
baz=262
A21K Barrow 60.25 19 P P 02 51 08.1 +0.9
baz=248
A21K Barrow 60.25 19 P P 02 51 08.2 +1.1
A21K IAmb IAmb 02 51 12.5
comp=Z,9.7nm,1.2s
RC01 Rabbit Creek A 60.25 31 P P 02 51 07.8 +0.5
baz=261
RC01 Rabbit Creek A 60.25 31 P P 02 51 07.5 +0.1
RC01 IAmb IAmb 02 51 08.5
comp=Z,12nm,0.9s
TRF Thorofare Moun 60.41 28 P P 02 51 08.5 -0.1
baz=259
TRF Thorofare Moun 60.41 28 P P 02 51 08.5 -0.1
TRF IAmb IAmb 02 51 09.5
comp=Z,7.9nm,0.9s
MLY Manley 60.53 26 P P 02 51 10.0 +0.7
baz=258,SNR=5.7
MLY Manley 60.53 26 P P 02 51 09.7 +0.5
PWL Port Wells 60.90 31 P P 02 51 12.1 +0.4
PWL IAmb IAmb 02 51 18.8
comp=Z,13nm,0.9s
KNK Knik Glacier 60.91 31 P P 02 51 11.7 -0.1
baz=262
KNK Knik Glacier 60.91 31 P P 02 51 11.7 -0.1
KNK IAmb IAmb 02 51 12.8
comp=Z,11nm,0.6s
SML Sawmill 61.03 30 P P 02 51 12.5 -0.1
baz=262
SML Sawmill 61.03 30 P P 02 51 12.7 +0.1
SML IAmb IAmb 02 51 13.6
comp=Z,12nm,0.9s
MCK McKinley 61.05 28 P P 02 51 12.7 -0.1
baz=260
WAT1 Susitna Watana 61.08 29 P P 02 51 12.3 -0.7
baz=261
I23K Minto, Yukon-K 61.13 26 P P 02 51 13.7 +0.6
baz=259,SNR=8.4
I23K Minto, Yukon-K 61.13 26 P P 02 51 14.3 +1.1
NEA2 Nenana 61.15 27 P P 02 51 13.5 +0.2
baz=260
NEA2 Nenana 61.15 27 P P 02 51 13.4 +0.2
COLD Coldfoot 61.22 24 P P 02 51 14.8 +1.0
baz=257
COLD Coldfoot 61.22 24 P P 02 51 14.5 +0.7
WAT6 Susitna Watana 61.41 30 P P 02 51 15.4 +0.1
baz=262
GLI Glacier Island 61.50 32 P P 02 51 15.4 -0.3
baz=263
GLI Glacier Island 61.50 32 P P 02 51 15.7 0.0
GLI IAmb IAmb 02 51 42.9
comp=Z,6.6nm,1.0s
SCM Sheep Creek Mo 61.50 30 P P 02 51 16.0 +0.2
SCM IAmb IAmb 02 51 22.4
comp=Z,17nm,1.4s
WRH Wood River Hil 61.54 27 P P 02 51 15.5 -0.4
MDM Murphy Dome 61.56 27 P P 02 51 16.0 -0.1
CCB Clear Creek Bu 61.69 27 P P 02 51 16.8 -0.1
HIN Hinchinbrook I 61.74 32 P P 02 51 18.1 +0.8
TOLK Toolik Lake Re 61.77 23 P P 02 51 18.5 +1.0
baz=257
TOLK Toolik Lake Re 61.77 23 P P 02 51 18.4 +1.0
TOLK IAmb IAmb 02 51 19.4
comp=Z,5.5nm,0.6s
FID Port Fidalgo 61.79 32 P P 02 51 17.8 +0.2
FID IAmb IAmb 02 51 18.6
comp=Z,7.7nm,0.7s
H24K Noodor Dome 61.86 26 P P 02 51 18.8 +0.7
baz=260,SNR=6.8
POKR Poker Plat Res 61.92 27 P P 02 51 19.0 +0.5
baz=261
HDA Harding Lake 62.02 28 P P 02 51 19.1 0.0
baz=262
HDA Harding Lake 62.02 28 P P 02 51 17.9 -1.3
M24K Tolsona, Glenn 62.08 30 P P 02 51 21.2 +1.6
M24K IAmb IAmb 02 51 33.4
comp=Z,7.8nm,0.8s
IL31 62.10 27 P P 02 51 18.6 -0.9
IL31 IAmb IAmb 02 51 19.7
comp=Z,4.6nm,0.7s
ILAR Eielson Array 62.10 27 P P 02 51 18.9 -0.7
comp=Z,3.3nm,0.6s,baz=258,slow=5.4,SNR=38
EYAK Cordova Ski Ar 62.12 32 P P 02 51 20.3 +0.4
baz=265
EYAK Cordova Ski Ar 62.12 32 P P 02 51 20.9 +1.0
EYAK IAmb IAmb 02 51 27.5
comp=Z,21nm,1.5s
KLU Klutina 62.13 31 P P 02 51 20.6 +0.6
baz=264
KLU Klutina 62.13 31 P P 02 51 20.1 +0.1
KLU IAmb IAmb 02 51 21.3
comp=Z,6.0nm,0.5s
PAX Paxson 62.50 29 P P 02 51 23.0 +0.6
baz=264
PAX Paxson 62.50 29 P P 02 51 22.5 +0.1
HARP HAARP 62.58 30 P P 02 51 23.1 +0.2
baz=264
BVAR Borovoye Array 62.58 319 P P 02 51 23.1 +0.1
comp=Z,2.1nm,0.3s,baz=205,slow=6.1,SNR=17
BRVK Borovoye 62.65 320 P P 02 51 24.1 +0.7
BMRM Bremner River 62.72 32 P P 02 51 24.0 +0.1
baz=266
BMRM Bremner River 62.72 32 P P 02 51 24.2 +0.4
BMRM IAmb IAmb 02 51 25.3
comp=Z,22nm,1.4s
N25K Chitina, Valde 62.77 31 P P 02 51 25.4 +1.1
baz=265
N25K Chitina, Valde 62.77 31 P P 02 51 24.8 +0.6
PRP Porcupine Dome 62.77 26 P P 02 51 24.8 +0.6
baz=262
KKAR Karatay Array 62.95 308 P P 02 51 25.6 -0.1
FYU Fort Yukon 63.03 25 P P 02 51 27.3 +1.6
FYU IAmb IAmb 02 51 27.9
comp=Z,6.9nm,0.8s
GLB Gilahina Butte 63.14 31 P P 02 51 27.3 +0.7
DOT Dot Lake 63.20 29 P P 02 51 26.5 -0.4
SCRK Sand Creek 63.26 28 P P 02 51 27.4 0.0
baz=265,SNR=11
SCRK Sand Creek 63.26 28 P P 02 51 27.3 0.0
SCRK IAmb IAmb 02 51 28.3
comp=Z,6.1nm,0.6s
VRDI Verde Repeater 63.30 31 P P 02 51 27.6 -0.2
K27K Chicken 64.10 28 P P 02 51 33.4 +0.7
baz=266
L27K Beaver Creek, 64.16 29 P P 02 51 33.6 +0.4
baz=267
L27K Beaver Creek, 64.16 29 P P 02 51 33.4 +0.3
BCAR Beaver Creek A 64.18 29 P P 02 51 33.7 +0.4
CTG Chitna Glacier 64.31 32 P P 02 51 34.9 +0.6
baz=268
TABL Table Mountain 64.40 32 P P 02 51 35.8 +0.9
TABL IAmb IAmb 02 51 57.4
comp=Z,17nm,1.4s
EGAK Eagle 64.54 27 P P 02 51 35.9 +0.3
baz=267
EGAK Eagle 64.54 27 P P 02 51 35.8 +0.3
DAWY Dawson 65.28 28 P P 02 51 40.5 +0.2
HYT Haines Junctio 66.19 32 P P 02 51 47.8 +1.5
HYT IAmb IAmb 02 51 48.5
comp=Z,5.0nm,0.9s
OMRZ Omania 67.23 152 P P 02 51 53.4 +0.5
SKAG Skagway 67.35 33 P P 02 51 54.3 +0.9
baz=274
WHY Whitehorse 67.48 32 P P 02 51 55.0 +0.6
baz=274
SIT Sitka 67.56 36 P P 02 51 54.5 -0.3
baz=275
HAZ Te Kaha 67.57 151 P P 02 51 53.9 -1.1
INK Inuvik 67.62 24 P P 02 51 55.0 0.0
comp=Z,2.5nm,0.6s,baz=289,slow=5.8,SNR=7.1
INK Inuvik 67.62 24 P P 02 51 55.4 +0.5
baz=272
INK Inuvik 67.62 24 P P 02 51 55.2 +0.3
INK IAmb IAmb 02 51 55.4
comp=Z,3.0nm,0.7s
BESE Bessie Mountai 67.67 34 P P 02 51 56.6 +1.1
BESE IAmb IAmb 02 51 57.4
comp=Z,5.2nm,0.8s
URZ Urewera 67.68 152 P P 02 51 54.6 -1.0
comp=Z,9.9nm,0.4s,baz=122,slow=24,SNR=15
URZ Urewera 67.68 152 P P 02 51 54.5 -1.2
URZ Urewera 67.68 152 P P 02 51 54.4 -1.2
RUGZ Raukumara Rang 67.69 151 P P 02 51 54.4 -1.5
WMGZ Waiomatatini S 67.91 150 P P 02 51 56.5 -0.6
RTZ Ruatahuna 67.92 152 P P 02 51 56.3 -0.9
MWZ Matawai 67.93 151 P P 02 51 56.1 -1.2
JIS Juneau Island 67.94 34 P P 02 51 58.2 +1.1
JIS IAmb IAmb 02 51 59.2
comp=Z,5.6nm,1.0s
QRZ Quartz Range 67.98 156 P P 02 51 57.2 -0.2
MTHZ Maungataniwha 68.05 152 P P 02 51 57.4 -0.7
BKZ Black Stump Fm 68.16 153 P P 02 51 57.8 -0.9
BKZ Black Stump Fm 68.16 153 P P 02 51 57.8 -0.9
RIGZ Rimuhau 68.34 151 P P 02 51 58.4 -1.4
KWHZ Kaweka Forest 68.35 153 P P 02 51 59.4 -0.5
CNGZ Carnagh Statio 68.36 151 P P 02 51 59.2 -0.7
MHGZ Mahia Peninsul 68.77 152 P P 02 52 01.5 -0.9
SNZO South Karori 69.23 155 P P 02 52 04.2 -0.9
WRAK Wrangell Islan 69.26 36 P P 02 52 06.2 +0.9
baz=278
BFZ Birch Farm 69.32 154 P P 02 52 04.8 -1.0
ABKAR Akbulak array 69.45 316 P P 02 52 06.2 -0.4
MSWZ Moikau Station 69.54 155 P P 02 52 05.8 -1.3
PLWZ Palliser 69.67 155 P P 02 52 06.2 -1.7
C36M Paulatuk 70.91 22 P P 02 52 14.8 -0.1
C36M IAmb IAmb 02 52 15.6
comp=Z,6.7nm,0.6s
NLWA Neilton Lookou 76.37 44 P P 02 52 48.0 +0.9
NLWA IAmb IAmb 02 52 54.9
comp=Z,9.5nm,1.1s
YKA Yellowknife Ar 76.52 28 P P 02 52 47.5 0.0
comp=Z,3.9nm,0.5s,baz=292,slow=5.2,SNR=33
E03A Lebam 76.83 45 P P 02 52 50.3 +0.7
D03D Eldon 76.84 44 P P 02 52 50.8 +1.2
baz=288
B05A Bryant 77.25 43 P P 02 52 52.5 +0.6
baz=288
J01E Myrtle Point 77.61 48 P P 02 52 55.5 +1.6
baz=288
I03D Drain, OR 77.85 48 P P 02 52 56.1 +0.9
baz=288
K02D Willamette Mer 77.94 49 P P 02 52 56.6 +0.7
baz=288
KRMB Red Mountain 78.14 50 P P 02 52 58.1 +1.0
JCC Jacoby Creek, 78.28 51 P P 02 52 58.6 +1.0
KEV Kevo 78.32 341 P P 02 52 57.5 +0.2
I04A Tendick Farm, 78.46 47 P P 02 52 59.2 +0.5
baz=289
HUMO Hull Mountain 78.47 49 P P 02 53 00.3 +1.6
HUMO IAmb IAmb 02 53 18.6
comp=Z,12nm,1.5s
J04D Umpqua Nationa 78.85 48 P P 02 53 01.7 +0.7
baz=289
ARCES ARCESS Array B 78.88 341 P P 02 53 00.9 +0.5
comp=Z,5.7nm,0.5s,baz=74,slow=8.1,SNR=46
M02C Callahan 78.93 50 P P 02 53 02.4 +1.1
baz=289
L04D Klamath Falls 79.05 49 P P 02 53 02.5 +0.5
baz=289
N02D Trinity Center 79.18 50 P P 02 53 03.3 +0.7
baz=289
O02D Mt. Diablo Mer 79.38 51 P P 02 53 04.5 +0.8
baz=289
J05D Fort Rock, OR 79.44 48 P P 02 53 04.7 +0.6
baz=290
M04C Macdoel 79.52 49 P P 02 53 05.0 +0.5
baz=290
O03E Paynes Creek 80.05 51 P P 02 53 07.4 0.0
baz=290
NEW Newport 80.37 42 P P 02 53 09.2 +0.4
baz=292
BEKR Beckworth 81.24 51 P P 02 53 13.7 -0.1
BEKR IAmb IAmb 02 53 14.7
comp=Z,6.4nm,0.9s
KBZ Khabaz 82.27 314 P P 02 53 19.5 +0.7
comp=Z,6.4nm,0.7s,baz=123,slow=4.8,SNR=9.9
WAKR Walker 82.40 52 P P 02 53 19.9 +0.1
WAKR IAmb IAmb 02 53 21.3
comp=Z,3.6nm,0.8s
MSO Missoula 82.92 42 P P 02 53 21.2 -1.0
baz=294
FINES FINESS Array B 83.12 334 P P 02 53 22.1 -0.7
comp=Z,5.8nm,0.5s,baz=68,slow=4.8,SNR=52
NVAR Mina Array Bea 83.25 51 P P 02 53 24.7 +0.5
comp=Z,5.5nm,0.7s,baz=275,slow=5.3,SNR=34
PKM Mcpherson Peak 83.45 55 P P 02 53 25.6 +0.4
baz=292
VES Vestal, Richgr 83.64 54 P P 02 53 25.7 -0.3
baz=292
CWC Cottonwood Cre 84.17 53 P P 02 53 28.9 +0.1
baz=293
ISA Isabella, Lake 84.17 54 P P 02 53 28.0 -0.7
baz=292
LRM Limekiln Ridge 84.27 43 P P 02 53 29.0 -0.2
GRAC Grapevine Rang 84.49 52 P P 02 53 30.5 +0.3
baz=293
MPMC Manual Prospec 84.76 53 P P 02 53 31.6 -0.2
baz=293,SNR=6.6
EDW2 Edwards Air Fo 84.83 55 P P 02 53 32.3 +0.3
baz=293
BOZ Bozeman (W) 84.89 43 P P 02 53 32.2 0.0
baz=296,SNR=11
EGMT Eagleton 84.97 40 P P 02 53 33.0 +0.5
baz=297
FMP Fort Macarthur 85.06 56 P P 02 53 32.8 -0.2
baz=293
FURC Furnace Creek, 85.06 53 P P 02 53 33.3 +0.3
baz=293,SNR=6.3
R11A Troy Canyon, C 85.25 51 P P 02 53 34.2 +0.1
baz=294,SNR=5.9
TPNV Topopah Spring 85.33 52 P P 02 53 34.7 +0.1
baz=294,SNR=13
BFSC Mount Baldy Ra 85.34 55 P P 02 53 34.8 +0.2
baz=293
GSC Goldstone, Bar 85.57 54 P P 02 53 35.8 +0.2
baz=293
FFC Flin Flon 85.90 32 P P 02 53 36.6 -0.1
FFC IAmb IAmb 02 53 37.8
comp=Z,5.8nm,0.8s
MURC Murrieta 85.94 56 P P 02 53 37.4 -0.1
baz=293
HEC Hector,Ludlow 86.11 54 P P 02 53 38.4 +0.1
baz=294
TUQ Turquoise Moun 86.17 53 P P 02 53 38.7 0.0
baz=294
109C Camp Elliot, M 86.29 56 P P 02 53 39.1 0.0
baz=293
DUG Dugway, Tooele 86.44 48 P P 02 53 40.1 +0.2
baz=295,SNR=6.2
PFO Pinyon Flats O 86.50 55 P P 02 53 40.2 -0.1
baz=294
PFO Pinyon Flats O 86.50 55 P P 02 53 39.5 -0.8
PFO IAmb IAmb 02 53 41.2
comp=Z,7.7nm,0.9s
TPFO Pinon Flats 86.51 55 P P 02 53 40.1 -0.2
baz=294
RLMT Red Lodge 86.59 43 P P 02 53 41.2 +0.6
baz=297,SNR=8.7
GMRC Granite Mounta 86.64 54 P P 02 53 40.9 0.0
baz=294
BELC Belle Mtn. Jos 86.70 55 P P 02 53 41.0 -0.3
baz=294,SNR=6.0
MONP2 Monument Peak 86.82 56 P P 02 53 41.4 -0.5
baz=294
IKP In-Ko-Pah, Jac 87.16 56 P P 02 53 43.0 -0.4
baz=294
BC3 Big Chuckawall 87.25 55 P P 02 53 43.8 0.0
baz=294,SNR=5.3
SWSC Sam W. Stewart 87.28 56 P P 02 53 44.1 +0.3
baz=294
IRM Iron Mountain 87.28 54 P P 02 53 44.2 +0.3
baz=294
AKASG Malin Array Be 87.43 324 P P 02 53 43.2 -0.9
comp=Z,0.5nm,0.3s,baz=53,slow=5.0,SNR=5.6
BW06 Boulder Array 87.49 45 P P 02 53 44.5 -0.4
baz=297
PDAR Pinedale Array 87.49 45 P P 02 53 44.7 -0.2
comp=Z,0.4nm,0.4s,baz=176,slow=2.7,SNR=6.2
LAO LASA Array 87.72 40 P P 02 53 45.9 +0.2
baz=300
PDMCI Parker Dam,Lak 87.97 54 P P 02 53 47.4 +0.4
baz=295
GLA Glamis 87.98 55 P P 02 53 47.7 +0.5
baz=295
U15A North Rim 88.43 51 P P 02 53 49.8 +0.2
U15A IAmb IAmb 02 53 51.0
comp=Z,6.3nm,1.3s
NOA NORSAR Array B 88.90 339 P P 02 53 49.9 -1.0
comp=Z,0.3nm,0.6s,baz=39,slow=5.1,SNR=3.7
WUAZ Wupatki 89.50 52 P P 02 53 54.4 0.0
baz=296
K22A Casper 89.51 44 P P 02 53 54.5 +0.2
baz=299
O20A White River Ci 89.59 47 P P 02 53 54.5 -0.3
baz=298
PV17 East Wray Mesa 89.97 48 P P 02 53 56.4 -0.2
PV17 IAmb IAmb 02 53 57.5
comp=Z,5.6nm,0.9s
214A Organ Pipe Nat 89.98 56 P P 02 53 56.2 -0.4
baz=296
BRTR Keskin Array B 90.24 313 P P 02 53 56.9 -0.9
comp=Z,1.0nm,0.7s,baz=75,slow=3.3,SNR=7.7
RSSD Black Hills 90.34 42 P P 02 53 57.9 -0.3
baz=301
N23A Red Feather La 90.75 45 P P 02 54 00.7 +0.4
baz=300
MDND Maddock 90.93 37 P P 02 54 00.9 +0.3
baz=304
TUC Tucson 91.37 54 P P 02 54 03.4 +0.4
baz=297
ISCO Idaho Springs 91.52 46 P P 02 54 04.1 +0.2
baz=300
ISCO Idaho Springs 91.52 46 P P 02 54 04.3 +0.5
ISCO IAmb IAmb 02 54 05.3
comp=Z,2.6nm,0.8s
S22A 4UR Ranch, Cre 91.70 48 P P 02 54 05.0 +0.2
baz=299
GERES GERESS Array B 96.52 329 P P 02 54 25.2 -1.0
comp=Z,0.4nm,0.5s,baz=47,slow=6.2,SNR=7.1
SNAA Sanae 126.32 193 PKPdf PKPdf 02 59 56.9 0.0
VNA2 Neumayer--Watz 127.81 192 PKPdf PKPdf 03 00 00.3 +0.6
VNA3 Neumayer Olymp 127.96 191 PKPdf PKPdf 03 00 00.3 +0.3
VNA1 Neumayer--Stat 128.20 192 PKPdf PKPdf 03 00 01.1 +0.7

TORD	**Torodi Ar. Bea**	**128.64 309**	PKP	**PKPdf**	**03 00 02.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=19,slow=1.3,SNR=14					
TORD	**Torodi Ar. Bea**	**128.64 309**		**PKPdf**	**03 00 02.1**	**-0.8**
LL01	**San Ignacio de**	**143.92 133**		PKPab	03 00 28.3	-0.1
LL02	**Futaleuf**	**143.96 135**	PKPdf	PKPab	03 00 28.5	0.0
PLCA	**Paso Flores**	**145.86 131**	PKPbc	**PKPbc**	**03 00 35.3**	**+0.3**
	comp=Z,30nm,0.7s,baz=241,slow=3.7,SNR=64					
MT01	**Popeta**	**147.48 119**		**PKPbc**	**03 00 39.8**	**+0.1**
BO01	**Tunca**	**147.49 120**		**PKPbc**	**03 00 39.4**	**-0.3**
BO02	**Sierra Bellavi**	**147.64 121**	PKPbc	**PKPbc**	**03 00 39.9**	**-0.2**
LPAZ	**La Paz**	**150.07 85**	PKP	**PKPdf**	**03 00 42.8**	**+0.7**
	comp=Z,13nm,0.6s,baz=299,slow=3.3,SNR=28					
LPAZ			PKPbc	**PKPbc**	**03 00 47.8**	**+0.5**
	comp=Z,13nm,0.6s,baz=329,slow=2.1,SNR=82					
LPAZ	**La Paz**	**150.07 85**		**PKPbc**	**03 00 47.3**	**-0.1**

*IDC **01** 02:42:35.6±1.0,27°.38N×91°.24E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.0/56, mbtmp4.0/19, ML4.3/1, Error ellipse: s-maj=29.0km s-min=19.5km az=47.0*
*NDI **01** 02:42:36.8±2.3,27°.47N×91°.26E, h7km±17km, ML4.0, mb4.5(NEIC)*
*NEIC **01** 02:42:40.8±1.5,27°.27N±0°.04×91°.3E±0°.2, h35km±8km, mb4.5/34, Error ellipse: s-maj=21.5km s-min=4.3km az=77.0*
*DMN **01** 02:42:42.7±0.2,29°.26N×91°.07E, h10km, Ml4.7/7, Error ellipse: s-maj=6.8km s-min=4.0km az=172.0*
ISC 01 02:42:37.8±0.5,27°.31N±0°.04×91°.18E±0°.04, h10km, n82, σ1§70/89, mb4.3/28, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.85**	**160**	*e*P	**Pn**	**02 43 11.0**	**+1.3**
SHL				*i* x	x	02 43 12.1	
SHL				*e*S	**Sn**	**02 43 35.4**	**+2.1**
SHL				IAML		02 43 38.5	
	comp=N,1μm,0.3s						
SHL				IAML		02 43 39.0	
	comp=E,1μm,0.2s						
SHL	**Shillong**	**1.85**	**160**	Pn	**Pn**	**02 43 10.8**	**+1.1**
LSA	**Lhasa**	**2.38**	**359**	P	**Pn**	**02 43 19.6**	**+2.2**
LSA				S	**Sn**	**02 43 51.5**	**+4.6**
LSA				LR	LR		
	comp=N,310nm,2.1s						
LSA				LR	LR		
	comp=E,450nm,3.6s						
LSA				LR	LR		
	comp=Z,520nm,4.3s						
LSA	**Lhasa**	**2.38**	**359**	Pn	**Pn**	**02 43 19.9**	**+2.5**
MOKO	**MOKOCHONG**	**3.14**	**107**	*e*P	**Pn**	**02 43 28.1**	**+0.6**
MOKO				*e*S	**Sn**	**02 44 03.7**	**-1.5**
MOKO				IAML		02 44 18.3	
	comp=N,596nm,0.3s						
MOKO				IAML		02 44 19.5	
	comp=E,639nm,0.5s						
ODAN	**Odare**	**3.41**	**263**	*e*Pn	**Pb**	**02 43 42.5**	**+4.1**
ODAN				*e*Sn	**Sg**	**02 44 27.4**	**+0.1**
AGT	**Agartala**	**3.41**	**179**	IAML		02 44 33.9	
	comp=E,526nm,0.9s						
AGT				IAML		02 44 34.6	
	comp=N,460nm,0.9s						
RAMN	**Ramite**	**4.09**	**266**	*e*Pn	**Pb**	**02 43 50.2**	**0.0**
JIRN	**Jiri**	**4.44**	**276**	*e*Pn	Pn	02 43 50.7	+5.1
JIRN				*e*Sn	**Sn**	**02 44 40.2**	**+2.6**
	comp=N,264nm,0.3s						
BRDH	**Bariadhala**	**4.63**	**175**	Pn	**Pn**	**02 43 51.0**	**+3.2**
	comp=N,43nm,0.3s,baz=34,slow=15,SNR=4.5						
BRDH				Sn	**Sn**	**02 44 44.2**	**+2.6**
	comp=N,67nm,0.3s,baz=263,slow=19,SNR=2.1						
PKI	**Pulchoki**	**5.13**	**274**	*e*Pn	**Pn**	**02 43 58.7**	**+3.6**
PKI				*e*Sn	**Sn**	**02 44 56.3**	**+1.7**
PKIN	**Phulchoki**	**5.14**	**274**	*e*Pn	**Pn**	**02 43 59.5**	**+4.3**
PKIN				*e*Sn	**Sn**	**02 44 57.0**	**+2.2**
	comp=N,181nm,0.3s						
KKN	**Kakani**	**5.26**	**277**	*e*Pn	**Pn**	**02 44 00.1**	**+3.4**
KKN				*e*Sn	**Sn**	**02 44 57.9**	**+0.4**
	comp=N,145nm,0.3s						
GKN	**Gorkha**	**5.84**	**278**	*e*Pn	**Pn**	**02 44 07.6**	**+2.9**
GKN				*e*Sn	**Sn**	**02 45 09.3**	**-2.5**
	comp=N,187nm,0.3s						
BOK	**Bokaro**	**5.92**	**235**	*e*P	**Pn**	**02 44 07.0**	**+1.4**
BOK				*e*S	**Sn**	**02 45 14.0**	**+0.4**
BOK				*e*x	x	02 45 14.2	
DANN	**Dangsing**	**6.65**	**281**	*e*Pn	**Pn**	**02 44 16.1**	**+0.2**
DANN				*e*Sn	Sn	02 45 25.4	-6.5
	comp=N,86nm,0.3s						
KOLN	**Koldanda**	**6.74**	**276**	*e*Pn	**Pn**	**02 44 19.7**	**+2.6**
KOLN				*e*Sn	**Sn**	**02 45 31.3**	**-2.8**
	comp=N,64nm,0.3s						
PYUN	**Piuthan**	**7.30**	**278**	*e*Pn	**Pn**	**02 44 25.5**	**+0.8**
PYUN				*e*Sn	**Sn**	**02 45 42.9**	**-4.9**
	comp=N,126nm,0.4s						
MHMT	**Maesarieng**	**11.02**	**144**	P	**Pn**	**02 45 17.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**11.35**	**139**	Pn	**Pn**	**02 45 20.8**	**+0.7**
	comp=N,0.7nm,0.3s,baz=314,slow=13,SNR=6.3						
SMLA	**Simla**	**12.81**	**291**	*e*P	Pn	02 45 38.0	-2.0
SMLA				IAmb	IAmb	02 45 45.1	
	comp=Z,5.4nm,0.4s						
BHPL	**Bhopal**	**13.08**	**255**	*e*P	**Pn**	**02 45 42.3**	**-1.5**
BHPL				*e*S	Sn	02 48 00.0	-10
ENH	**Enshi**	**16.32**	**75**	P	**Pn**	**02 46 29.1**	**+1.9**
NIL	**Nilore**	**16.69**	**297**	P	**Pn**	**02 46 33.5**	**+1.7**
WMQ	**Urumqi**	**16.72**	**351**	*e*P	**Pn**	**02 46 33.1**	**+1.0**
BOOM	**Boomskoye usch**	**19.59**	**325**	P	**P**	**02 47 07.6**	**+1.4**
DRK	**Karamyk**	**20.18**	**312**	P	**P**	**02 47 13.7**	**+0.9**
DRK				IAmb	IAmb	02 47 25.9	
	comp=Z,8.1nm,0.6s						
KBL	**Kabul**	**20.29**	**296**	P	**P**	**02 47 15.0**	**+1.0**
AAK	**Ala-Archa**	**20.45**	**323**	P	**P**	**02 47 16.4**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=163,slow=4.8,SNR=5.9						
AAK	**Ala-Archa**	**20.45**	**323**	P	**P**	**02 47 17.2**	**+1.6**
MK31	**Makanchi Array**	**20.68**	**343**		**P**	**02 47 17.0**	**-0.9**
MKAR	**Makanchi Array**	**20.68**	**343**	P	**P**	**02 47 16.9**	**-0.9**
	comp=Z,3.4nm,0.5s,baz=151,slow=12,SNR=43						
MAKZ	**Makanchi**	**20.77**	**342**	P	**P**	**02 47 17.8**	**-1.2**
MAKZ				IAmb	IAmb	02 47 19.8	
	comp=Z,7.3nm,0.8s						
BTK	**Batken**	**21.12**	**312**	P	**P**	**02 47 23.5**	**+0.7**
CHGR	**Chuyangaron**	**21.61**	**307**		**P**	**02 47 27.8**	**-0.3**
CHGR				IAmb	IAmb	02 47 29.5	
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**23.69**	**26**	P	**P**	**02 47 48.6**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=208,slow=8.1,SNR=4.1						
SONM	**Songino Array**	**23.69**	**26**	P	**P**	**02 47 47.9**	**-1.9**
KURBB	**Kurchatov Arra**	**25.20**	**341**	P	**P**	**02 48 02.5**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=155,slow=9.5,SNR=17						
ZAA0	**Zalesovo Array**	**27.02**	**352**	P	**P**	**02 48 18.9**	**-1.1**
ZALV	**Zalesovo Beam**	**27.02**	**352**	P	**P**	**02 48 18.9**	**-1.0**
	comp=Z,2.1nm,0.3s,baz=171,slow=8.6,SNR=13						
ZALV	**Zalesovo Beam**	**27.02**	**352**	P	**P**	**02 48 18.7**	**-1.2**
BVAR	**Borovoye Array**	**29.98**	**335**	P	**P**	**02 48 45.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=182,slow=21,SNR=6.6						
ABKAR	**Akbulak array**	**32.52**	**321**	P	**P**	**02 49 08.1**	**-0.6**
BRTR	**Keskin Array B**	**48.79**	**300**	P	**P**	**02 51 22.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=101,slow=7.2,SNR=2.8						
ELL	**Elmali**	**52.02**	**297**	P	**P**	**02 51 47.6**	**-0.2**
IIGN	**Ignalina**	**53.86**	**320**	*e*P	**P**	**02 52 00.9**	**0.0**
FIA1	**FINESS Array S**	**54.53**	**328**	P	**P**	**02 52 04.8**	**-0.8**
FIA1				IAmb	IAmb	02 52 05.5	
	comp=Z,5.1nm,0.6s						
FINES	**FINESS Array B**	**54.53**	**328**	P	**P**	**02 52 04.7**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=100,slow=8.4,SNR=30						
FINES	**FINESS Array B**	**54.53**	**328**	P	**P**	**02 52 04.9**	**-0.7**
PABE	**Paberze**	**55.15**	**320**	*e*P	**P**	**02 52 09.6**	**-0.6**
PABE	**Paberze**	**55.15**	**320**	P	**P**	**02 52 09.9**	**-0.3**
KEV	**Kevo**	**55.75**	**338**	P	**P**	**02 52 13.6**	**-0.8**
KWP	**Kalwaria Pacla**	**56.01**	**313**	P	**P**	**02 52 16.4**	**-0.2**
ARCES	**ARCESS Array B**	**56.21**	**337**	P	**P**	**02 52 16.5**	**-1.2**
	comp=Z,8.1nm,1.2s,baz=102,slow=7.2,SNR=17						
ARCES	**ARCESS Array B**	**56.21**	**337**	P	**P**	**02 52 16.7**	**-1.0**
ARCES				IAmb	IAmb	02 52 33.1	
	comp=Z,8.1nm,1.4s						
RAF	**Rauma**	**56.57**	**327**	*e*P	**P**	**02 52 19.0**	**-1.3**
AGG	**Agios Georgios**	**57.57**	**301**	P	P	02 52 26.1	-1.8
AGG				IAmb	IAmb	02 52 34.0	
	comp=Z,5.4nm,1.1s						
ITM	**Ithomi**	**58.24**	**299**	P	**P**	**02 52 31.5**	**-1.1**
ITM				IAmb	IAmb	02 52 42.3	
	comp=Z,9.1nm,1.1s						
UPP	**Uppsala**	**58.59**	**325**	*e*P	**P**	**02 52 33.7**	**-0.9**
MORC	**Moravsky Berou**	**59.34**	**314**	P	**P**	**02 52 40.0**	**0.0**
MORC				IAmb	IAmb	02 52 40.2	
	comp=Z,1.7nm,0.7s						
NC405	**NORSAR Array S**	**61.45**	**327**	P	P	02 52 52.1	-2.1
NB2	**NORSAR Subarra**	**61.70**	**327**	P	P	02 52 54.0	-1.9
	comp=Z,1.8nm,0.6s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**61.70**	**327**	P	**P**	**02 52 54.5**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=84,slow=6.7,SNR=13						
GEC2	**GERESS Array S**	**61.96**	**313**	P	**P**	**02 52 57.5**	**-0.5**
GEC2				IAmb	IAmb	02 52 58.2	
	comp=Z,3.4nm,0.6s						
GERES	**GERESS Array B**	**61.96**	**313**	P	**P**	**02 52 57.3**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=74,slow=6.2,SNR=30						
GERES	**GERESS Array B**	**61.96**	**313**	P	**P**	**02 52 57.8**	**-0.3**
CLL	**Collm**	**61.98**	**316**	*e*P	**P**	**02 52 57.0**	**-1.0**
NRCA	**Norcia**	**63.61**	**307**	P	**P**	**02 53 09.2**	**+0.1**
NRCA				IAmb	IAmb	02 53 12.0	
	comp=Z,4.2nm,1.1s						
TUE	**Stuetta**	**65.34**	**311**	P	**P**	**02 53 20.1**	**-0.4**
TUE				IAmb	IAmb	02 53 20.5	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**65.34**	**137**	P	**P**	**02 53 20.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=328,slow=6.5,SNR=1.7						
SENIN	**Lac Senin/Sane**	**66.74**	**311**	P	**P**	**02 53 28.7**	**-0.8**
SENIN				IAmb	IAmb	02 53 39.6	
	comp=Z,3.8nm,1.1s						
ESDC	**Sonseca Array**	**76.78**	**308**	P	**P**	**02 54 29.4**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=43,slow=6.8,SNR=4.9						
ILAR	**Eielson Array**	**77.84**	**22**	P	**P**	**02 54 34.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=319,slow=5.9,SNR=4.4						
INK	**Inuvik**	**79.14**	**15**	P	**P**	**02 54 41.4**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=7.4,slow=4.0,SNR=2.5						
SCRK	**Sand Creek**	**79.32**	**22**	P	**P**	**02 54 42.7**	**-0.9**
SCRK				IAmb	IAmb	02 54 43.0	
	comp=Z,1.3nm,0.6s						
PWL	**Port Wells**	**79.81**	**25**	P	**P**	**02 54 45.5**	**-0.6**
PWL				IAmb	IAmb	02 55 03.7	
	comp=Z,7.8nm,1.0s						
KDAK	**Kodiak Island**	**79.94**	**29**	P	**P**	**02 54 45.8**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=339,slow=8.6,SNR=6.3						
KDAK	**Kodiak Island**	**79.94**	**29**	P	**P**	**02 54 45.6**	**-1.3**
OHAK	**Old Harbor**	**79.96**	**30**	P	**P**	**02 54 45.8**	**-1.2**
OHAK				IAmb	IAmb	02 54 49.6	
	comp=Z,14nm,1.3s						
N25K	**Chitina, Valde**	**80.70**	**24**	P	**P**	**02 54 51.0**	**0.0**
N25K				IAmb	IAmb	02 54 51.4	
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.63**	**281**	P	**P**	**02 55 06.7**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=67,slow=5.0,SNR=1.8						
YKA	**Yellowknife Ar**	**88.16**	**12**	P	**P**	**02 55 27.0**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=319,slow=3.5,SNR=4.0						

*TUL **01** 02:50:17.8±0.9,36°.30N±0°.01×97°.54W±0°.01, h6km±7km, ML2.5, mb_Lg2.2/19(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=159.0*
NEIC 01 02:50:17.9±0.9,36°.30N±0°.01×97°.54W±0°.01, h1km±8km, Error ellipse: s-maj=1.6km s-min=1.3km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**300**	Pg	Pg	02 50 26.1	+0.1
CROK				Sg	Sg	02 50 32.1	+0.7
OK029	**Liberty Lake**	**0.50**	**172**	Pg	Pg	02 50 27.7	+0.1
OK029				Sg	Sg	02 50 34.5	+0.5
BLOK	**Blackwell**	**0.53**	**29**		Pg	02 50 28.2	+0.1
BLOK				Sg	Sg	02 50 35.5	+0.5
BCOK	**Bluff Creek, N**	**0.64**	**185**	Pg	Pg	02 50 30.0	-0.2
BCOK				Sg	Sg	02 50 38.9	+0.4
OK031	**S. Brethren Rd**	**0.66**	**121**		Pg	02 50 30.4	-0.1
QUOK	**Quay**	**0.68**	**100**	Pg	Pg	02 50 30.9	-0.1
QUOK				Sg	Sg	02 50 40.2	+0.4
OK030	**Cody Creek RV**	**0.71**	**121**		Pg	02 50 31.5	-0.1
OK030				Sg	Sg	02 50 41.1	+0.3
OK025	**Westminster Rd**	**0.73**	**167**		Pg	02 50 31.8	-0.1
OK025				Sg	Sg	02 50 41.9	+0.5
OK032	**Salt Plains WL**	**0.74**	**313**		Pg	02 50 31.9	-0.3
OK032				Sg	Sg	02 50 42.0	+0.2
KAN17	**Caldwell West**	**0.77**	**346**	Pg	Pg	02 50 32.5	-0.2
KAN17				Sg	Sg	02 50 43.0	+0.3
KAN09	**Caldwell North**	**0.84**	**356**	Pg	Pg	02 50 33.7	-0.4
KAN09				Sg	Sg	02 50 45.2	+0.2
KAN05	**Bluff City Nor**	**0.85**	**342**	Pg	Pg	02 50 34.0	-0.3
KAN05				Sg	Sg	02 50 45.6	+0.2
OKCFA	**Oklahoma City**	**0.88**	**175**	Pg	Pg	02 50 34.2	-0.6
OKCFA				Sg	Sg	02 50 46.5	+0.2
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**	Pg	Pg	02 50 34.7	-0.3
KS20	**Mayfield South**	**0.93**	**359**	Pg	Pg	02 50 35.2	-0.6
KS20				Sg	Sg	02 50 48.0	+0.1
KAN10	**Anthony SW Sta**	**0.94**	**332**	Pg	Pg	02 50 35.5	-0.5
KAN08	**Anthony NE Sta**	**0.99**	**340**		Pg	02 50 36.4	-0.6
KAN08				Sg	Sg	02 50 49.0	-0.9
T35A	**Sooner Cattle**	**1.03**	**53**		Pg	02 50 37.2	-0.5
FNO	**Franklin**	**1.04**	**174**		Pg	02 50 37.3	-0.6
FNO				Sg	Sg	02 50 51.4	0.0
KAN12	**Harper NE Stat**	**1.07**	**340**	Pg	Pg	02 50 37.7	-0.6
U32A	**Winter Ranch,**	**1.19**	**274**	Pg	Pg	02 50 39.8	-0.9
U32A				Sg	Sg	02 50 56.2	+0.1
U32A				IAmb_Lg		02 50 58.5	
	comp=Z,22nm,0.9s						
X34A	**Smith Ranch, M**	**1.71**	**188**	IAmb_Lg		02 51 11.1	
	comp=Z,12nm,1.2s						
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	02 50 50.6	-0.3
X37A	**Clayton**	**2.45**	**133**	Pn	Pn	02 50 59.2	+0.2
U38A	**Gravette**	**2.55**	**86**	Pn	Pn	02 51 00.6	+0.3
W39A	**Magazine**	**3.24**	**109**	IAmb_Lg		02 52 01.9	
	comp=Z,8.8nm,0.9s						
AMTX	**Amarillo**	**3.66**	**249**	IAmb_Lg		02 52 19.4	
	comp=Z,5.3nm,0.9s						
MIAR	**Mount Ida**	**3.67**	**117**	Pn	Pn	02 51 16.3	+0.4
MIAR				IAmb_Lg		02 52 16.6	
	comp=Z,4.3nm,0.8s						
WHAR	**Wooly Hollow**	**4.38**	**102**	IAmb_Lg		02 52 45.2	
	comp=Z,5.3nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.40**	**94**	IAmb_Lg		02 52 37.4	
	comp=Z,6.0nm,1.0s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		02 52 45.7	
	comp=Z,4.8nm,0.8s						
R40A	**Maddies Statio**	**4.65**	**63**	Pn	Pn	02 51 29.1	-0.2
T42A	**Van Buren**	**5.23**	**80**	IAmb_Lg		02 53 06.1	
	comp=Z,4.8nm,0.9s						
P40A	**Paris**	**5.41**	**52**	IAmb_Lg		02 53 20.7	
	comp=Z,3.9nm,0.8s						
PBMO	**Poplar Bluff**	**5.74**	**83**	IAmb_Lg		02 53 21.5	
	comp=Z,5.0nm,0.7s						

KMA 01 03:05:42.0±2.1,37°.53N×128°.99E, h0km, Error ellipse: s-maj=19.5km s-min=4.0km az=126.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKEB	**Okgye-meyeon**	**0.09**	**356**	P	Pg	03 05 43.7	-0.1
	SNR=6.9						
OKEB	**Okgye-meyeon**	**0.09**	**356**	P	Pg	03 05 43.7	-0.1
	SNR=6.9						
KSJMJ	**Jumunjin**	**0.40**	**332**	P	Pg	03 05 49.5	-0.1
	SNR=12						
KSJMJ	**Jumunjin**	**0.40**	**332**	P	Pg	03 05 49.5	-0.1
	SNR=12						
KSWJU	**Wonju**	**0.76**	**261**	P	Pg	03 05 56.4	0.0
	SNR=9.0						
KSWJU	**Wonju**	**0.76**	**261**	P	Pg	03 05 56.4	0.0
	SNR=9.0						
KSWJU				S	Sg	03 06 06.2	-0.1
KSSKC	**Sokcho**	**0.85**	**334**	P	Pg	03 05 58.3	+0.1
	SNR=6.4						
KSSKC	**Sokcho**	**0.85**	**334**	P	Pg	03 05 58.3	+0.1
	SNR=6.4						
KSCHC	**Chuncheon**	**0.96**	**285**	P	Pg	03 06 00.7	+0.2
	SNR=8.5						
KSCHC	**Chuncheon**	**0.96**	**285**	P	Pg	03 06 00.7	+0.2
	SNR=8.5						

IDC 01 03:05:46.6±2.8,17°.89S×177°.65W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.6/3, Error ellipse: s-maj=324.3km s-min=33.7km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.35**	**259**	P	P	03 14 06.7	-0.3
	0.3nm,0.5s,baz=96,slow=7.0,SNR=7.9						
ASAR	**Alice Springs**	**45.49**	**254**	P	P	03 14 08.2	0.0
	1.3nm,0.5s,baz=87,slow=9.0,SNR=21						
TXAR	**Lajitas Array**	**85.38**	**57**	P	P	03 18 26.4	0.0
	0.3nm,0.8s,baz=221,slow=5.0,SNR=4.1						

*NIED **01** 03:16:46.5,43°.96N×148°.37E, h0km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr3.11; Mθθ0.12; Mϕϕ-3.23; Mrθ3.83; Mϕθ-2.12; Mϕr3.66; Fault plane solution: M0 6.50000×10^15^ NP1:ϕs44.00000°, δ74.00000°, λ104.00000°. NP2:ϕs182.00000°, δ21.00000°, λ50.00000°.*
*JMA **01** 03:16:46.4±0.5,43°.96N×148°.37E, h0km, M4.8*
*SKHL **01** 03:16:46.9±0.3,44°.10N×148°.70E, h37km±5km, mb5.1/11, ms4.3/4, msh5.1/1*
*MOS **01** 03:16:47.9±0.8,44°.18N×148°.55E, h39km, mb4.7/24, Error ellipse: s-maj=7.2km s-min=6.6km az=131.8*
*NEIC **01** 03:16:50.6±1.3,44°.12N±0°.09×148°.6E±0°.1, h46km±7km, mb4.5/51, Error ellipse: s-maj=13.7km s-min=10.0km az=142.0*
*IDC **01** 03:16:52.8±2.2,44°.25N×148°.55E, h66km±18km, mb3.9/20, mb1 4.1/26, mb1mx4.0/34, mbtmp4.1/26, MS3.7/22, Ms1 3.7/22, ms1mx3.5/53, Error ellipse: s-maj=16.5km s-min=11.5km az=149.0*
ISC 01 03:16:47.9±0.8,44°.11N±0°.05×148°.58E±0°.05, h28km±5km, n256, σ1§37/274, mb4.5/77, MS3.8/24, 11C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.23**	**336**	*d* iPN	**Pn**	**03 17 08.9**	**-0.4**
KUR				*e*S	**Sn**	**03 17 24.5**	**-0.6**
KUR				pmax	pmax		
	comp=N,1μm,0.4s						
KUR				pmax	pmax		
	comp=E,1μm,0.4s						
KUR				pmax	pmax		
	comp=Z,5μm,0.4s						
KUR				pmax	pmax		
	comp=N,4μm,2.1s						
KUR				pmax	pmax		
	comp=E,2μm,2.1s						
KUR				pmax	pmax		
	comp=Z,6μm,2.1s						
KUR				smax	smax		
	comp=N,17μm,2.0s						
KUR				smax	smax		
	comp=E,12μm,1.7s						
KUR				smax	smax		
	comp=N,7μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**1.23**	**336**	*i* P	**Pn**	**03 17 08.5**	**-0.8**
KUR				AMB	AMB	03 17 10.0	
	comp=E,3μm,0.3s						
KUR				AMB	AMB	03 17 14.1	
	comp=E,4μm,2.0s						
KUR				AMB	AMB	03 17 14.1	
	comp=E,2μm,2.0s						
KUR				AMB	AMB	03 17 14.1	
	comp=E,6μm,2.0s						
KUR				*i* S	**Sn**	**03 17 24.5**	**-0.6**
KUR				A	A	03 17 25.4	
	comp=E,3μm,0.5s						
KUR				A	A	03 17 25.4	
	comp=E,6μm,0.5s						
KUR				A	A	03 17 29.5	
	comp=E,7μm,0.4s						
KUR				A	A	03 17 29.5	
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**269**	*e*PN	**Pn**	**03 17 19.2**	**-0.1**
YUK				*i* S	**Sn**	**03 17 44.5**	**+1.6**
YUK				pmax	pmax		
	comp=N,240nm,0.2s						
YUK				pmax	pmax		
	comp=E,442nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=E,3.0nm,0.3s						
YUK				smax	smax		
	comp=N,3.0nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.96**	**269**	*i* P	**Pn**	**03 17 19.2**	**-0.1**
YUK				AMB	AMB	03 17 23.0	
	comp=N,240nm,0.4s						
YUK				AMB	AMB	03 17 23.0	
	comp=N,440nm,0.4s						
YUK				AMB	AMB	03 17 23.0	
	comp=N,1μm,0.4s						
YUK				*i* S	**Sn**	**03 17 43.2**	**+0.3**
YUK				A	A	03 17 49.0	
	comp=N,4μm,0.4s						
YUK				A	A	03 17 49.0	
	comp=N,3μm,0.4s						
GRPR	**Tuman**	**2.02**	**268**	*e*PN	**Pn**	**03 17 19.7**	**-0.5**
GRPR				*i* S	**Sn**	**03 17 45.7**	**+1.1**
GRPR				pmax	pmax		
	comp=Z,872nm,0.3s						
GRPR				pmax	pmax		
	comp=E,498nm,0.2s						
GRPR				pmax	pmax		
	comp=N,354nm,0.1s						
GRPR				smax	smax		
	comp=N,4μm,0.3s						
GRPR				smax	smax		
	comp=E,3μm,0.3s						
GRPR	**Tuman**	**2.02**	**268**	*e*P	**Pn**	**03 17 19.7**	**-0.5**
GRPR				AMB	AMB	03 17 26.0	
	comp=E,870nm,0.3s						
GRPR				*i* S	**Sn**	**03 17 45.7**	**+1.1**
GRPR				A	A	03 17 50.0	
	comp=E,4μm,0.4s						
GRPR				A	A	03 17 50.0	
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**2.18**	**251**	P	**Pn**	**03 17 21.5**	**-0.9**
NEM2				*e*S	**Sn**	**03 17 47.7**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.19**	**251**	*e*PN	**Pn

ERM	**Erimo**	**4.49 244**	Pn	**Pn**	**03 17 56.6 +2.6**
ERM			Sn	**Sn**	**03 18 49.4 +4.1**
JEM	**Erimo**	**4.49 244**		**Pn**	**03 17 56.1 +2.1**
JEM			Sn	**Sn**	**03 18 45.0 -0.2**
JNBK	**Urakawa-nobuka**	**4.63 249**	P	**Pn**	**03 17 57.0 +1.0**
JWK2	**Keihoku**	**4.91 287**	P	**Pn**	**03 18 03.4 +3.5**
YSS	**Yuzh-Sakhalins**	**4.98 307**	*e*PN	**Pn**	**03 17 59.8 -1.0**
YSS			MLR	MLR	
	comp=Z,500nm,13.0s				
YSS			MLR	MLR	
	comp=N,300nm,14.0s				
YSS	**Yuzh-Sakhalins**	**4.98 307**	Pn	**Pn**	**03 18 01.7 +0.8**
YSS	**Yuzh-Sakhalins**	**4.98 307**	*e*P	**Pn**	**03 18 02.1 +1.3**
YSS			AMB	AMB	03 18 03.8
	comp=N,40nm,0.6s				
YSS			*e*S	**Sn**	**03 18 58.3 +0.8**
YSS			A	A	03 19 02.3
	comp=N,550nm,0.5s				
YSS			AMS	AMS	03 20 25.0
	comp=N,300nm,14.0s				
YSS			AMS	AMS	03 20 25.0
	comp=N,500nm,14.0s				
JEW	**Eniwo**	**5.34 259**	Pn	**Pn**	**03 18 08.1 +2.4**
JRBN	**Rebuntou**	**5.51 286**	P	**Pn**	**03 18 10.7 +2.7**
JKB	**Kayabe**	**5.96 251**	P	**Pn**	**03 18 15.2 +0.9**
JKB			*e*S	**Sn**	**03 19 19.8 -1.8**
JOT	**Ohata**	**6.17 246**	P	**Pn**	**03 18 17.7 +0.5**
JOT			*e*S	**Sn**	**03 19 24.3 -2.6**
JANG	**Nango**	**6.43 237**	P	**Pn**	**03 18 19.9 -0.9**
JANG			*e*S	**Sn**	**03 19 27.7 -5.5**
JTM	**Tenmabayashi**	**6.47 242**	Pn	**Pn**	**03 18 22.4 +1.1**
JOSM	**Okushiri--Mats**	**6.96 256**	P	**Pn**	**03 18 29.9 +1.9**
TYV	**Tymovskoe**	**7.86 331**	*e*P	**Pn**	**03 18 41.5 +1.2**
TYV			AMB	AMB	03 18 42.0
	comp=N,30nm,0.6s				
TYV			*e*S	**Sn**	**03 20 07.3 -0.9**
TYV			A	A	03 20 23.3
	comp=N,30nm,0.7s				
TYV			A	A	03 20 23.3
	comp=N,60nm,0.7s				
TYV			A	A	03 20 25.0
	comp=N,400nm,4.0s				
TYV			A	A	03 20 25.0
	comp=N,600nm,4.0s				
TYV			AMS	AMS	03 21 42.8
	comp=N,700nm,16.0s				
TYV			AMS	AMS	03 21 42.8
	comp=N,500nm,16.0s				
JMM	**Marumori**	**8.57 226**	Pn	**Pn**	**03 18 49.9 -0.2**
JSD	**Sado**	**9.87 236**		**Pn**	**03 19 07.9 0.0**
GRNR	**Gornyy**	**10.58 313** ⇑	*i*PN	**Pn**	**03 19 22.3 +4.6**
GRNR			pmax	pmax	
	comp=Z,10.0nm,0.9s				
GRNR			MLR	MLR	
	comp=E,2μm,17.0s				
GRNR			MLR	MLR	
	comp=N,730nm,15.0s				
GRNR			MLR	MLR	
	comp=Z,90nm,20.0s				
GRNR	**Gornyy**	**10.58 313**	*i* P	**Pn**	**03 19 22.3 +4.6**
GRNR			AMB	AMB	03 19 24.5
	comp=Z,10.0nm,0.9s				
GRNR			AMS	AMS	03 21 53.7
	comp=Z,700nm,16.0s				
GRNR			AMS	AMS	03 21 53.7
	comp=Z,2μm,16.0s				
GRNR			AMS	AMS	03 21 53.7
	comp=Z,900nm,16.0s				
PEA0B	**Petropavlovsk-**	**10.84 31**	PN	**Pn**	**03 19 21.8 +0.7**
PEA0B	**Petropavlovsk-**	**10.84 31**		**Pn**	**03 19 21.8 +0.7**
PETK	**Petropavlovsk-**	**10.84 31**	P	**Pn**	**03 19 22.2 +1.2**
	comp=Z,0.6nm,0.3s,baz=201,slow=12,SNR=7.6				
PETK	**Petropavlovsk-**	**10.84 31**		**Pn**	**03 19 21.9 +0.8**
MJAR	**Matsushiro Arr**	**10.93 230**	P	**Pn**	**03 19 22.7 +0.2**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=9.9				
MJAR			LR	LR	03 23 46.3
	comp=Z,181nm,21.8s,baz=65,slow=38				
MJAR	**Matsushiro Arr**	**10.93 230**	PN	**Pn**	**03 19 22.2 -0.3**
MJAR	**Matsushiro Arr**	**10.93 230**		**Pn**	**03 19 22.2 -0.3**
MAJO	**Matsushiro**	**10.94 230**	PN	**Pn**	**03 19 23.1 +0.6**
MAJO	**Matsushiro**	**10.94 230**	Pn	**Pn**	**03 19 23.1 +0.6**
MAT	**Matsushiro**	**10.94 230**	P	**Pn**	**03 19 22.6 +0.1**
MAT			*e*S	**Sn**	**03 21 25.6 +1.7**
PET	**Petropavlovsk**	**11.13 33**	AMS	AMS	03 23 17.9
	comp=Z,600nm,19.0s				
USA0B	**Ussuriysk Arra**	**11.92 276**	PN	**Pn**	**03 19 37.7 +1.8**
USA0B	**Ussuriysk Arra**	**11.92 276**	Pn	**Pn**	**03 19 37.7 +1.8**
USRK	**Ussuriysk Ar.**	**11.92 276**	P	**Pn**	**03 19 37.7 +1.8**
	baz=92,slow=15,SNR=4.0				
USRK			LR	LR	03 24 22.0
	comp=Z,462nm,18.5s,baz=84,slow=38				
USRK	**Ussuriysk Ar.**	**11.92 276**		**Pn**	**03 19 37.4 +1.4**
KLR	**Kul'dur**	**12.63 300**	P	**Pn**	**03 19 50.1 +4.4**
	comp=Z,0.3nm,0.3s,baz=99,slow=11,SNR=17				
KLR			LR	LR	03 24 49.5
	comp=Z,344nm,20.5s,baz=88,slow=38				
KLR	**Kul'dur**	**12.63 300**	*i* PN	**Pn**	**03 19 47.4 +1.7**
KLR			pmax	pmax	
	comp=Z,8.0nm,0.9s				
KLR	**Kul'dur**	**12.63 300**	*e*P	**Pn**	**03 19 47.0 +1.3**
MDJ	**Mudanjiang**	**13.60 279**	P	**P**	**03 20 03.5 -4.0**
MDJ			pP	Pn	03 20 11.5 +13
MDJ			S	**Sn**	**03 22 29.6 +0.8**
MDJ			sS	S	03 22 42.6 -8.8
MDJ			ScP	**ScP**	**03 28 55.1 +0.2**
MDJ			PcS	PcS	03 29 06.4 +8.4
MDJ			pmax	pmax	
	comp=Z,17nm,1.0s				
MDJ			pmax	pmax	
	comp=Z,42nm,3.6s				
MDJ			LR	LR	
	comp=N,89nm,7.7s				
MDJ			LR	LR	
	comp=E,420nm,14.8s				
MDJ			LR	LR	
	comp=Z,630nm,16.5s				
MDJ	**Mudanjiang**	**13.60 279**	Pn	**Pn**	**03 20 00.5 +1.7**
EKMR	**Ekimchan**	**13.66 317**	*e*P	**Pn**	**03 20 00.5 +0.8**
EKMR			AMB	AMB	03 20 05.0
	comp=Z,20nm,1.0s				
BMKR	**Bomnak**	**16.60 317**	*e*P	**Pn**	**03 20 36.9 -1.5**
BMKR			AMB	AMB	03 20 43.0
	comp=Z,10.0nm,0.5s				
CN2	**Changchun**	**16.65 277**	*e*P	**P**	**03 20 40.5 -0.9**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.6s				
CN2			LR	LR	
	comp=N,200nm,16.0s				
CN2			LR	LR	
	comp=E,400nm,16.0s				
CN2			LR	LR	
	comp=Z,400nm,19.0s				
ZEA	**Zeya**	**16.95 312**	*e*P	**Pn**	**03 20 40.7 -2.1**
ZEA			AMB	AMB	03 20 41.7
	comp=Z,10.0nm,0.5s				
ZEA			AMS	AMS	03 27 55.0
	comp=Z,600nm,12.0s				
ZEA			AMS	AMS	03 27 55.0
	comp=Z,2μm,12.0s				
ZEA			AMS	AMS	03 27 55.0
	comp=Z,800nm,12.0s				
KSRS	**Korea Array**	**16.97 254**	P	**P**	**03 20 46.0 +1.0**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=9.8				
KSRS			LR	LR	03 27 44.0
	comp=Z,249nm,18.7s,baz=56,slow=38				
KSRS	**Korea Array**	**16.97 254**	P	**P**	**03 20 46.0 +1.0**
KROS	**Kirovskiy**	**17.41 314**	*e*P	**Pn**	**03 20 46.7 -1.9**
SEY	**Seymchan**	**18.99 5**	P	**P**	**03 21 06.4 -0.6**
	comp=Z,0.4nm,0.3s,baz=179,slow=8.8,SNR=7.4				
SEY	**Seymchan**	**18.99 5**	*i* P	**P**	**03 21 04.6 -2.4**
YAK	**Yakutsk**	**21.09 335**	*e*P	**P**	**03 21 34.4 +4.5**
YAK			*e*		03 25 37.4
YAK			*e**SS	sS	03 25 48.4 +14
YAK			*e*		03 32 53.8
YAK			pmax	pmax	
	comp=Z,26nm,0.9s				
YAK			pmax	pmax	
	comp=E,10.0nm,1.1s				
YAK			pmax	pmax	
	comp=N,11nm,1.4s				
BJI	**Beijing**	**24.30 272**	P	**P**	**03 22 03.3 +0.4**
BJI			pmax	pmax	
	comp=Z,14nm,0.9s				
BJI			LR	LR	
	comp=N,200nm,15.3s				
BJI			LR	LR	
	comp=E,260nm,17.0s				
BJI			LR	LR	
	comp=Z,410nm,20.4s				
BILL	**Bilibino**	**25.74 15** ⇓	*e*P	**P**	**03 22 11.3 -4.4**
BILL			pmax	pmax	
	comp=Z,4.0nm,1.1s				
BILL			MLR	MLR	
	comp=Z,127nm,18.0s				
NJ2	**Nanjing**	**26.16 253**	*e*P	**P**	**03 22 21.5 +1.6**
NJ2			pmax	pmax	
	comp=Z,9.0nm,0.5s				
HHC	**Hu-ho-hao-te**	**27.34 276**	*e*P	**P**	**03 22 33.3 +2.7**
HHC			pmax	pmax	
	comp=Z,11nm,0.8s				
HHC			pmax	pmax	
	comp=Z,100nm,5.7s				
HHC			LR	LR	
	comp=N,250nm,14.2s				
HHC			LR	LR	
	comp=E,270nm,16.1s				
HHC			LR	LR	
	comp=Z,270nm,13.4s				
H11N2	**WAKE ISLAND Hy**	**28.72 142**	T	T	03 53 27.5
	baz=333,slow=76,SNR=871				
H11N1	**WAKE ISLAND Hy**	**28.73 142**	T	T	03 53 30.4
	baz=333,slow=76,SNR=806				
H11N3	**WAKE ISLAND Hy**	**28.74 142**	T	T	03 53 27.8
	baz=333,slow=76,SNR=1324				
ULN	**Ulaanbaatar**	**28.84 292**	*ce*P	**P**	**03 22 44.7 +0.7**
ULN			pmax	pmax	
	comp=Z,3.0nm,1.0s				
ULN	**Ulaanbaatar**	**28.84 292**	*e*P	**P**	**03 22 44.7 +0.7**
TIXI	**Tiksi**	**29.23 347**	LR	LR	03 34 03.6
	comp=Z,46nm,20.4s,baz=204,slow=36				
TIXI	**Tiksi**	**29.23 347**	*i* P	**P**	**03 22 47.5 +0.6**
TIXI	**Tiksi**	**29.23 347**	*e*P	**P**	**03 22 47.5 +0.6**
SONM	**Songino Array**	**29.29 292**	P	**P**	**03 22 47.7 -0.1**
SONM			pmax	pmax	
	comp=Z,1.0nm,1.2s				
SONM	**Songino Array**	**29.29 292**	P	**P**	**03 22 47.7 -0.1**
H11S1	**WAKE ISLAND Hy**	**29.71 143**	T	T	03 54 44.3
	baz=334,slow=76,SNR=1982				
H11S3	**WAKE ISLAND Hy**	**29.72 143**	T	T	03 54 41.3
	baz=334,slow=76,SNR=883				
H11S2	**WAKE ISLAND Hy**	**29.73 143**	T	T	03 54 42.7
	baz=334,slow=76,SNR=861				
TLY	**Talaya**	**30.65 300**	*i* P	**P**	**03 23 00.4 +0.6**
TLY			pmax	pmax	
	comp=Z,3.0nm,0.7s				
TLY	**Talaya**	**30.65 300**	*e*P	**P**	**03 23 00.4 +0.6**
XAN	**Xi'an**	**32.11 265**	P	**P**	**03 23 12.8 0.0**
XAN			pP	sP	03 23 25.2 +1.7
XAN			pmax	pmax	
	comp=Z,6.0nm,1.3s				
LZH	**Lanzhou**	**34.79 272**	*e*P	**P**	**03 23 37.5 +1.2**
LZH			pP	sP	03 23 48.9 +2.0
LZH			sP	pP	03 23 53.9 +10
LZH			pmax	pmax	
	comp=Z,40nm,1.1s				
GTA	**Gaotai**	**36.25 280** ⇓	P	**P**	**03 23 49.7 +1.0**
GTA			pP	sP	03 24 02.3 +3.0
GTA			sP	pwP	03 24 06.7 +8.1
GTA			pmax	pmax	
	comp=Z,6.0nm,0.9s				
GTA			pmax	pmax	
	comp=Z,77nm,4.7s				
GTA			LR	LR	
	comp=N,93nm,15.6s				
GTA			LR	LR	
	comp=E,120nm,15.3s				
GTA			LR	LR	
	comp=Z,140nm,16.0s				
SVW2	**Sparrevohn**	**36.61 42**	P	**P**	**03 23 52.1 +0.8**
CD2	**Chengdu**	**37.46 265**	P	**P**	**03 23 59.4 +0.4**
CD2			pmax	pmax	
	comp=Z,30nm,0.5s				
OHAK	**Old Harbor**	**37.92 49**	IAmb	IAmb	03 24 02.5
	comp=Z,13nm,1.4s				
OHAK			P	**P**	**03 24 02.6 +0.1**
KDAK	**Kodiak Island**	**38.25 48**	P	**P**	**03 24 05.1 -0.2**
KDAK			pmax	pmax	
	comp=Z,7.0nm,0.8s				
KDAK	**Kodiak Island**	**38.25 48**	P	**P**	**03 24 05.1 -0.2**
KDAK			IAmb	IAmb	03 24 06.3
	comp=Z,6.9nm,0.8s				
KTH	**Kantishna Hill**	**38.83 38**	P	**P**	**03 24 10.7 +0.5**
KTH			IAmb	IAmb	03 24 12.4
	comp=Z,12nm,1.2s				
MLY	**Manley**	**38.95 36**	P	**P**	**03 24 11.9 +0.7**
COLD	**Coldfoot**	**39.30 33**	P	**P**	**03 24 14.7 +0.7**
NRIK	**Noril'sk**	**39.44 331**	LR	LR	03 41 19.5
	comp=Z,125nm,21.1s,baz=128,slow=37				
NEA2	**Nenana**	**39.65 37**	P	**P**	**03 24 18.0 +1.0**
NEA2			IAmb	IAmb	03 24 24.7
	comp=Z,3.3nm,0.5s				
TOLK	**Toolik Lake Re**	**39.66 30**	P	**P**	**03 24 17.9 +0.9**
TOLK			IAmb	IAmb	03 24 18.4
	comp=Z,8.9nm,1.4s				
MDM	**Murphy Dome**	**40.01 36**	P	**P**	**03 24 20.7 +0.7**
MDM			IAmb	IAmb	03 24 36.5
	comp=Z,6.1nm,1.1s				
COLA	**College**	**40.18 36**	*i* P	**P**	**03 24 20.3 -1.0**
COLA			pmax	pmax	
	comp=Z,5.0nm,0.8s				
IL31		**40.59 36**	P	**P**	**03 24 25.5 +0.9**
IL31			IAmb	IAmb	03 24 26.5
	comp=Z,8.7nm,1.4s				
ILAR	**Eielson Array**	**40.59 36**	P	**P**	**03 24 24.6 -0.1**
	comp=Z,1.6nm,0.9s,baz=270,slow=6.8,SNR=19				
ILAR	**Eielson Array**	**40.59 36**	P	**P**	**03 24 25.1 +0.4**
DGZ	**Jazzator, Alta**	**41.13 300**	*e*P	**P**	**03 24 28.0 -1.6**
DGZ			pmax	pmax	
	comp=Z,3.0nm,1.4s				
PRP	**Porcupine Dome**	**41.14 35**	P	**P**	**03 24 30.4 +0.9**
ZALV	**Zalesovo Beam**	**41.61 307**	P	**P**	**03 24 32.8 -0.4**
	comp=Z,1.2nm,0.4s,baz=78,slow=11,SNR=2.4				
ZALV			PcP	**PcP**	**03 26 29.8 0.0**
	comp=Z,2.0nm,0.6s,baz=109,slow=3.9,SNR=6.5				
ZALV			LR	LR	03 42 17.7
	comp=Z,94nm,19.4s,baz=66,slow=37				
SCRK	**Sand Creek**	**41.90 38**	P	**P**	**03 24 36.3 +0.7**
K27K	**Chicken**	**42.73 37**	P	**P**	**03 24 43.0 +0.8**
K27K			IAmb	IAmb	03 24 44.3
	comp=Z,8.3nm,1.0s				
WMQ	**Urumqi**	**42.92 292**	*e*P	**P**	**03 24 45.0 +0.9**
WMQ			pmax	pmax	
	comp=Z,24nm,0.7s				
WMQ			pmax	pmax	
	comp=Z,110nm,4.1s				
WMQ			LR	LR	
	comp=N,290nm,14.5s				
WMQ			LR	LR	
	comp=E,380nm,15.5s				
WMQ			LR	LR	
	comp=Z,290nm,18.1s				
L27K	**Beaver Creek,**	**42.96 39**	P	**P**	**03 24 45.0 +0.8**
L27K			IAmb	IAmb	03 24 46.0
	comp=Z,10.0nm,1.5s				
BCAR	**Beaver Creek A**	**42.98 39**	P	**P**	**03 24 46.0 +1.7**
EGAK	**Eagle**	**43.04 36**	P	**P**	**03 24 45.3 +0.6**
EPYK	**Eagle Plains**	**44.66 34**	P	**P**	**03 24 58.5 +0.7**
MK31	**Makanchi Array**	**45.33 298**	P	**P**	**03 25 03.1 -0.3**
MK31			pmax	pmax	
	comp=Z,5.0nm,0.8s				
MK31	**Makanchi Array**	**45.33 298**	P	**P**	**03 25 03.1 -0.3**
MK31			IAmb	IAmb	03 25 04.4
	comp=Z,4.7nm,0.8s				
MKAR	**Makanchi Array**	**45.33 298**	P	**P**	**03 25 03.1 -0.3**
	comp=Z,3.7nm,0.6s,baz=78,slow=8.5,SNR=40				
MKAR			PcP	**PcP**	**03 26 42.8 +0.2**
	comp=Z,1.0nm,0.8s,baz=57,slow=5.1,SNR=3.6				
MKAR			LR	LR	03 45 17.1
	comp=Z,239nm,18.1s,baz=80,slow=38				
HYT	**Haines Junctio**	**45.38 41**	P	**P**	**03 25 05.0 +1.3**
HYT			IAmb	IAmb	03 25 07.1
	comp=Z,9.3nm,0.9s				
MAKZ	**Makanchi**	**45.52 298**	P	**P**	**03 25 04.8 -0.1**
MAKZ			pmax	pmax	
	comp=Z,5.0nm,0.7s				
MAKZ	**Makanchi**	**45.52 298**	P	**P**	**03 25 04.8 -0.1**
MAKZ			IAmb	IAmb	03 25 06.0
	comp=Z,5.0nm,0.7s				
INK	**Inuvik**	**45.57 31**	P	**P**	**03 25 05.4 +0.5**
	comp=Z,2.9nm,0.5s,baz=316,slow=6.8,SNR=10				
INK	**Inuvik**	**45.57 31**	P	**P**	**03 25 04.8 -0.1**
INK			pmax	pmax	
	comp=Z,4.0nm,0.8s				
INK	**Inuvik**	**45.57 31**	P	**P**	**03 25 04.8 -0.1**
INK			IAmb	IAmb	03 25 06.6
	comp=Z,4.2nm,0.8s				
CMMT	**Chiang Mai**	**48.37 255**	P	P	03 25 39.2 +12
CHTO	**Chiang Mai**	**48.37 255**	P	P	03 25 39.2 +12
CMAR	**Chiang Mai Arr**	**48.61 255**	P	**P**	**03 25 30.6 +1.3**
	comp=Z,1.1nm,0.3s,baz=40,slow=7.5,SNR=1.5				
CMAR			LR	LR	03 48 10.8
	comp=Z,87nm,18.2s,baz=71,slow=39				
CMAR	**Chiang Mai Arr**	**48.61 255**	P	**P**	**03 25 29.4 +0.1**
CMAR	**Chiang Mai Arr**	**48.61 255**	P	**P**	**03 25 29.4 +0.1**
CM01	**Chiang Mai Arr**	**48.63 255**	P	P	03 25 21.5 -7.9
DLBC	**Dease Lake**	**49.72 43**	P	**P**	**03 25 37.1 -0.2**
DLBC			IAmb	IAmb	03 25 40.5
	comp=Z,5.7nm,1.2s				
BRVK	**Borovoye**	**50.12 310**	*ce*P	**P**	**03 25 39.0 -1.3**
BRVK			pmax	pmax	
	comp=Z,3.0nm,2.5s				
BOOM	**Boomskoye usch**	**51.26 295**	P	**P**	**03 25 49.5 +0.2**
BOOM			pmax	pmax	
	comp=Z,9.0nm,1.0s				
BOOM	**Boomskoye usch**	**51.26 295**	P	**P**	**03 25 49.5 +0.2**
AAK	**Ala-Archa**	**52.13 296**	*ce*P	**P**	**03 25 54.4 -1.4**
AAK			pmax	pmax	
	comp=Z,6.0nm,0.7s				
KK31	**Karatay Array**	**54.45 298**	P	**P**	**03 26 12.4 -0.3**
KK31			pmax	pmax	
	comp=Z,6.0nm,0.9s				
KK31	**Karatay Array**	**54.45 298**	P	**P**	**03 26 12.4 -0.3**
KK31			IAmb	IAmb	03 26 13.3
	comp=Z,5.5nm,0.9s				
KKAR	**Karatay Array**	**54.45 298**	P	**P**	**03 26 12.3 -0.4**
KKAR	**Karatay Array**	**54.45 298**	P	**P**	**03 26 12.3 -0.4**
KKAR	**Karatay Array**	**54.45 298**	P	**P**	**03 26 12.3 -0.4**
KKAR			IAmb	IAmb	03 26 13.3
	comp=Z,5.5nm,0.9s				
ARU	**Arti**	**54.79 317**	*d i*P	**P**	**03 26 13.7 -1.1**
ARU			*PP	**sP**	**03 26 24.9 -0.4**
ARU					03 27 14.5
ARU					03 28 14.0
ARU			S	**S**	**03 33 52.0 -1.6**
ARU			SS	**SS**	**03 37 35.0 -1.3**
ARU			pmax	pmax	
	comp=Z,5.0nm,0.9s				
ARU			MLR	MLR	
	comp=Z,132nm,16.0s				
ARU	**Arti**	**54.79 317**	P	**P**	**03 26 13.8 -1.1**
ARU			IAmb	IAmb	03 26 14.9
	comp=Z,3.9nm,0.9s				
YKA	**Yellowknife Ar**	**54.93 34**	P	**P**	**03 26 16.1 +0.3**
	comp=Z,2.4nm,0.9s,baz=298,slow=6.4,SNR=9.9				
GAR	**Garm**	**56.71 294**	P	**P**	**03 26 29.2 +0.1**
ABKAR	**Akbulak array**	**57.64 309**	P	**P**	**03 26 34.9 -0.5**
ABKAR			IAmb	IAmb	03 26 35.5
	comp=Z,5.5nm,1.3s				
ABKAR	**Akbulak array**	**57.64 309**	P	**P**	**03 26 34.7 -0.7**
CHGR	**Chuyangaron**	**57.65 294**	P	**P**	**03 26 36.0 +0.3**
ARCES	**ARCESS Array B**	**59.27 340**	P	**P**	**03 26 45.7 -0.7**
	comp=Z,2.0nm,0.8s,baz=40,slow=7.9,SNR=7.3				
ARCES			LR	LR	03 56 17.1
	comp=Z,80nm,18.5s,baz=90,slow=40				
FFC	**Flin Flon**	**64.80 37**	P	**P**	**03 27 24.2 +0.5**
FFC			pmax	pmax	
	comp=Z,4.0nm,0.8s				
FFC	**Flin Flon**	**64.80 37**	P	**P**	**03 27 24.2 +0.5**
FFC			IAmb	IAmb	03 27 25.7
	comp=Z,4.1nm,0.8s				
FINES	**FINESS Array B**	**65.02 333**	P	**P**	**03 27 23.1 -1.9**
	comp=Z,1.9nm,0.5s,baz=45,slow=7.2,SNR=19				
FINES			LR	LR	03 57 43.5
	comp=Z,77nm,18.1s,baz=59,slow=38				
FINES	**FINESS Array B**	**65.02 333**	*ce*P	**P**	**03 27 24.1 -0.9**
FINES			pmax	pmax	
	comp=Z,2.0nm,0.5s				
FINES	**FINESS Array B**	**65.02 333**	P	**P**	**03 27 24.2 -0.8**
WRA	**Warramunga Arr**	**65.06 195**	P	**P**	**03 27 26.0 +0.3**
	comp=Z,0.9nm,0.7s,baz=17,slow=6.9,SNR=9.6				
WRA	**Warramunga Arr**	**65.06 195**	P	**P**	**03 27 25.8 +0.1**
WRA	**Warramunga Arr**	**65.06 195**	P	**P**	**03 27 25.8 +0.1**
GEYT	**Alibeck**	**65.17 299**	P	**P**	**03 27 26.6 +0.1**
	comp=Z,5.0nm,0.8s,baz=48,slow=4.4,SNR=6.1				
GEYT			LR	LR	03 58 14.7
	comp=Z,44nm,20.4s,baz=40,slow=38				
FCC	**Fort Churchill**	**65.19 31**	P	**P**	**03 27 26.3 +0.1**
FCC			pmax	pmax	
	comp=Z,6.0nm,0.6s				
FCC	**Fort Churchill**	**65.19 31**	P	**P**	**03 27 26.3 +0.1**
LRM	**Limekiln Ridge**	**65.34 49**	P	**P**	**03 27 28.1 +0.4**
BOZ	**Bozeman (W)**	**65.93 49**	P	**P**	**03 27 31.5 0.0**
BOZ			pmax	pmax	
	comp=Z,3.0nm,0.6s				
BOZ	**Bozeman (W)**	**65.93 49**	P	**P**	**03 27 31.5 0.0**
BOZ			IAmb	IAmb	03 27 44.8
	comp=Z,3.0nm,0.6s				
NVAR	**Mina Array Bea**	**66.52 59**	P	**P**	**03 27 36.1 +0.7**
	comp=Z,1.2nm,0.6s,baz=294,slow=7.0,SNR=8.3				
NVAR			LR	LR	03 54 56.4
	comp=Z,28nm,20.4s,baz=283,slow=34				
NVAR	**Mina Array Bea**	**66.52 59**	P	**P**	**03 27 35.6 +0.2**
R11A	**Troy Canyon, C**	**68.23 57**	P	**P**	**03 27 45.9 -0.3**
ASAR	**Alice Springs**	**68.77 194**	P	**P**	**03 27 50.5 +1.1**
	comp=Z,0.8nm,0.6s,baz=9.1,slow=6.3,SNR=10				
PDAR	**Pinedale Array**	**68.89 51**	P	**P**	**03 27 50.4 0.0**
	comp=Z,0.7nm,0.6s,baz=235,slow=1.3,SNR=7.9				
PDAR			LR	LR	03 58 53.8
	comp=Z,25nm,19.5s,baz=270,slow=37				
PDAR	**Pinedale Array**	**68.89 51**	P	**P**	**03 27 50.5 +0.2**
GOF	**Gofitskoye**	**69.36 313** ⇑	*e*P	**P**	**03 27 53.6 +0.8**
GOF			pmax	pmax	
	comp=Z,29nm,0.9s				
NC303	**NORSAR Array S**	**69.44 339**	P	**P**	**03 27 52.4 -0.7**
NC405	**NORSAR Array S**	**69.45 339**	P	**P**	**03 27 51.5 -1.6**
NB201	**NORSAR Array S**	**69.61 339**	P	**P**	**03 27 53.1 -1.1**
NB2	**NORSAR Subarra**	**69.64 339**	P	**P**	**03 27 52.7 -1.7**
	comp=Z,2.0nm,0.4s,baz=31,slow=6.5				
NOA	**NORSAR Array B**	**69.64 339**	P	**P**	**03 27 53.0 -1.3**
	comp=Z,1.5nm,0.5s,baz=31,slow=6.6,SNR=31				
NOA			LR	LR	04 02 55.0
	comp=Z,19nm,18.5s,baz=15,slow=40				
SHPR	**Sheep Range**	**69.67 59**	P	**P**	**03 27 55.4 +0.3**
KIV	**Kislovodsk**	**70.29 312**	*e*P	**P**	**03 27 59.4 +0.7**
KIV			pmax	pmax	
	comp=Z,36nm,1.0s				
KIV			MLR	MLR	
	comp=Z,291nm,18.0s				
KIV	**Kislovodsk**	**70.29 312**	P	**P**	**03 27 58.8 +0.1**
KIV	**Kislovodsk**	**70.29 312**	*e*P	**P**	**03 27 59.4 +0.7**
KBZ	**Khabaz**	**70.33 312**	P	**P**	**03 27 59.2 +0.4**
	comp=Z,3.8nm,0.5s,baz=66,slow=3.9,SNR=6.3				
KBZ			LR	LR	04 04 01.9
	comp=Z,116nm,18.4s,baz=34,slow=40				
KBZ	**Khabaz**	**70.33 312**	*ce*P	**P**	**03 27 58.4 -0.4**
KBZ			pmax	pmax	
	comp=Z,5.0nm,0.7s				
KBZ	**Khabaz**	**70.33 312**	*e*P	**P**	**03 27 58.4 -0.4**
SHA1	**Shidzhatmaz**	**70.45 312**	*i* P	**P**	**03 27 59.3 -0.6**
MDND	**Maddock**	**70.59 42**	P	**P**	**03 28 00.7 +0.3**
SRU	**San Rafael Swe**	**70.75 54**	P	**P**	**03 28 01.6 -0.1**
SRU			pmax	pmax	
	comp=Z,3.0nm,1.0s				
SRU	**San Rafael Swe**	**70.75 54**	P	**P**	**03 28 01.6 -0.1**
U15A	**North Rim**	**71.47 57**	P	**P**	**03 28 06.3 +0.1**
U15A			IAmb	IAmb	03 28 08.2
	comp=Z,3.3nm,1.0s				
GNI	**Garni**	**71.73 308**	LR	LR	04 02 32.4
	comp=Z,44nm,18.6s,baz=48,slow=38				
GNI	**Garni**	**71.73 308**	*ce*P	**P**	**03 28 08.4 +0

ANMO pmax pmax
comp=Z,2.0nm,1.7s
KOLS Kolonicke sedl 76.10 327 *eP* **P 03 28 33.4 +0.5**
KOLS Kolonicke sedl 76.10 327 *eP* **P 03 28 33.4 +0.5**
SCHQ Schefferville 76.94 20 P **P 03 28 37.4 0.0**
comp=Z,1.5nm,0.5s,baz=306,slow=8.7,SNR=2.4
SCHQ Schefferville 76.94 20 P **P 03 28 37.6 +0.1**
SCHQ IAmb IAmb 03 28 38.5
comp=Z,3.9nm,1.0s
DPC Dobruska-Polom 77.16 331 *eP* **P 03 28 39.4 +0.6**
DPC Dobruska-Polom 77.16 331 *eP* **P 03 28 39.4 +0.6**
MORC Moravsky Berou 77.20 330 P **P 03 28 39.8 +0.7**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 77.20 330 P **P 03 28 39.8 +0.7**
MORC IAmb IAmb 03 28 40.1
comp=Z,6.8nm,1.1s
MORC Moravsky Berou 77.20 330 *eP* **P 03 28 39.3 +0.2**
KRLC Kraliky 77.23 330⇓ *eP* **P 03 28 39.1 -0.1**
KRLC Kraliky 77.23 330 *eP* **P 03 28 39.1 -0.1**
CLL Collm 77.47 333 *i P* **P 03 28 40.2 -0.3**
comp=Z,8.0nm,0.8s
CLL Collm 77.47 333 *i P* **P 03 28 39.2 -1.3**
CLL *e**SP **pwP 03 28 53.0 +1.8**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 77.47 333 P **P 03 28 39.9 -0.5**
VYHS Vyhne 77.79 328 *eP* **P 03 28 42.0 -0.4**
VYHS Vyhne 77.79 328 *eP* **P 03 28 42.0 -0.4**
JAVC Velka Javorina 77.92 329 *eP* **P 03 28 44.3 +1.2**
VRAC Vranov 77.94 330 *eP* **P 03 28 43.7 +0.5**
BR131 Keskin Array S 78.04 314 P **P 03 28 43.9 -0.1**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 78.04 314 P **P 03 28 43.9 -0.1**
BR131 IAmb IAmb 03 28 45.2
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 78.04 314 P **P 03 28 44.1 +0.1**
comp=Z,1.6nm,0.7s,baz=87,slow=2.5,SNR=12
BRTR LR LR 04 07 57.6
comp=Z,56nm,18.8s,baz=93,slow=39
BRTR Keskin Array B 78.04 314 *ceP* **P 03 28 44.5 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 78.04 314 P **P 03 28 44.0 -0.1**
PRU Pruhonice 78.08 332 *eP* **P 03 28 43.6 -0.3**
PRU Pruhonice 78.08 332 *eP* **P 03 28 43.6 -0.3**
KRUC Moravsky 78.21 330 *eP* **P 03 28 44.7 0.0**
KHC Kasperske Hory 79.14 332 *eP* **P 03 28 50.0 +0.2**
KHC Kasperske Hory 79.14 332 *eP* **P 03 28 50.0 +0.2**
GERES GERESS Array B 79.34 332 P **P 03 28 50.8 -0.2**
comp=Z,1.2nm,0.4s,baz=40,slow=7.0,SNR=14
CONA Conrad Observa 79.36 330 *eP* **P 03 28 50.8 -0.3**
comp=Z,5.4nm,1.3s
MOA Molln 80.00 331 *eP* **P 03 28 53.6 -0.9**
comp=Z,0.9nm,0.5s
SOKA Soboth 80.72 330 *eP* **P 03 28 57.8 -0.6**
comp=Z,5.1nm,1.0s
PERS Pernice 80.72 330 *eP* **P 03 28 57.8 -0.7**
GROS Grobnik 80.73 329 *i P* **P 03 28 57.6 -0.9**
VTS Vitosha 80.77 322 P **P 03 28 59.1 +0.1**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 80.77 322 P **P 03 28 59.1 +0.1**
VTS IAmb IAmb 03 29 00.1
comp=Z,6.2nm,1.0s
LEGS Legarje 81.23 329 *eP* **P 03 29 00.1 -1.0**
WATA Walderalm 81.37 332 *eP* **P 03 29 01.6 -0.4**
comp=Z,3.9nm,0.5s
WTTA Wattenberg 81.41 332 *i P* **P 03 29 02.1 -0.2**
comp=Z,4.8nm,0.7s
RETA Reutte 81.51 333 *eP* **P 03 29 02.6 -0.1**
comp=Z,3.6nm,1.1s
MOTA Moosalm 81.52 332 *eP* **P 03 29 02.6 -0.2**
comp=Z,9.6nm,1.1s
VISS Visnje 81.53 329 *eP* **P 03 29 01.4 -1.3**
SQTA Sankt Quirin 81.59 332 P **P 03 29 02.3 -0.8**
comp=Z,4.6nm,0.8s
TXAR Lajitas Array 81.59 57 P **P 03 29 03.7 +0.3**
comp=Z,1.6nm,0.5s,baz=299,slow=4.1,SNR=39
FETA Feichten 81.92 332 *eP* **P 03 29 04.8 -0.2**
comp=Z,2.2nm,1.0s
DAVA Damuels 81.97 333 *eP* **P 03 29 04.7 -0.5**
comp=Z,3.8nm,1.0s
KEST Kesra 92.33 328 LR LR 04 15 46.3
comp=Z,79nm,18.0s,baz=280,slow=38
ESDC Sonseca Array 93.00 339 P **P 03 29 58.3 -0.5**
comp=Z,0.3nm,0.6s,baz=359,slow=5.1,SNR=3.0
ESDC LR LR 04 16 00.6
comp=Z,38nm,21.5s,baz=305,slow=38
TORD Torodi Ar. Bea 115.53 324 PKP **PKiKP 03 35 26.7 -1.0**
comp=Z,0.2nm,0.4s,baz=43,slow=1.2,SNR=1.6
VNDA Vanda 121.63 177 PKP **PKiKP 03 35 37.8 +0.1**
comp=Z,0.5nm,0.8s,baz=336,slow=4.8,SNR=6.4
VNDA Vanda 121.63 177 **PKiKP 03 35 38.4 +0.8**
H03N2 Juan Fernandez 141.93 90 T T 06 14 54.5
baz=304,slow=77,SNR=62
H03N3 Juan Fernandez 141.95 90 T T 06 14 50.2
baz=304,slow=77,SNR=66
H03N1 Juan Fernandez 141.95 90 T T 06 14 56.4
baz=304,slow=77,SNR=59

*UCR **01** 03:24:26.9±2.0, 9°.35N×82°.51W, h20km±6km, MW3.8*
*UPA **01** 03:24:27.6±1.0, 9°.24N×82°.47W, h10km±2km, MW3.6,*
Fault plane solution: NP1:φs299.55000°, δ79.45000°, λ-44.01000°.
ISC 01 03:24:25.7±1.2, 9°37N±0°.03×82°44W±0°.02, h23km±13km, n77, σ1§05/129, 26C-26D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGM0	**Gandoca**	**0.27**	**323⇑**	*iP*	**Pn**	**03 24 34.5**	**+0.1**
RGM0				*eS*	**Sn**	**03 24 42.1**	**+2.3**
RGM0	**Gandoca**	**0.27**	**323**	*eP*	**Pn**	**03 24 34.5**	**+0.1**
RGM0				*eS*	**Sn**	**03 24 42.1**	**+2.3**
CHGR2	**Aguacate**	**0.52**	**146⇑**	*iP*	**Pb**	**03 24 36.6**	**+0.3**
CHGR2				*eS*	**Sb**	**03 24 44.1**	**+0.6**
CHGR2	**Aguacate**	**0.52**	**146⇑**	*iP*	**Pb**	**03 24 36.6**	**+0.3**
CHGR2				*eS*	**Sb**	**03 24 44.1**	**+0.6**
BC3P	**Paso Ancho**	**0.58**	**197⇑**	*iP*	**Pb**	**03 24 37.2**	**-0.2**
BC3P				*eS*	**Sb**	**03 24 44.8**	**-0.5**
BC3P	**Paso Ancho**	**0.58**	**197⇑**	*iP*	**Pb**	**03 24 37.2**	**-0.2**
BC3P				*i S*	**Sb**	**03 24 45.0**	**-0.3**
BRU2	**Volcan**	**0.63**	**203⇑**	*iP*	**Pb**	**03 24 37.9**	**-0.2**
BRU2				*eS*	**Sb**	**03 24 46.2**	**-0.4**
BRU2	**Volcan**	**0.63**	**203⇑**	*iP*	**Pb**	**03 24 37.9**	**-0.2**
BRU2				*eS*	**Sb**	**03 24 46.2**	**-0.4**
BRU2	**Volcan**	**0.63**	**203⇑**	*eP*	**Pb**	**03 24 37.9**	**-0.2**
BRU2				*eS*	**Sb**	**03 24 46.5**	**0.0**
BCO2	**Palmira**	**0.66**	**188⇑**	*iP*	**Pb**	**03 24 38.5**	**-0.2**
BCO2				*eS*	**Sb**	**03 24 47.5**	**0.0**
BCO2	**Palmira**	**0.66**	**188⇑**	*iP*	**Pb**	**03 24 38.5**	**-0.2**
BCO2				*eS*	**Sb**	**03 24 47.5**	**0.0**
LPLA	**Las Palmas La**	**0.66**	**239**	*i P*	**Pb**	**03 24 38.1**	**-0.5**
LPLA				*eS*	**Sb**	**03 24 47.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.68**	**185⇑**	*iP*	**Pb**	**03 24 38.8**	**-0.2**
PTAR3				*eS*	**Sb**	**03 24 47.4**	**-0.6**
PTAR3	**Potrerillos Ar**	**0.68**	**185⇑**	*iP*	**Pb**	**03 24 38.8**	**-0.2**
PTAR3				*i S*	**Sb**	**03 24 46.4**	**-1.6**
MLIR3	**Monte Lirio, C**	**0.69**	**213⇓**	*iP*	**Pb**	**03 24 39.5**	**+0.3**
MLIR3				*i S*	**Sb**	**03 24 47.7**	**-0.7**
PSOM3	**Paja de Sombre**	**0.69**	**170⇑**	*iP*	**Pb**	**03 24 39.0**	**-0.2**
PSOM3				*eS*	**Sb**	**03 24 48.3**	**-0.1**
PSOM3	**Paja de Sombre**	**0.69**	**170⇑**	*iP*	**Pb**	**03 24 39.0**	**-0.2**
PSOM3				*eS*	**Sb**	**03 24 48.3**	**-0.1**
DRK0	**Durika**	**0.80**	**262⇓**	*iP*	**Pb**	**03 24 40.6**	**-0.5**
DRK0				*eS*	**Sb**	**03 24 51.1**	**-0.5**
DRK0	**Durika**	**0.80**	**262⇓**	*iP*	**Pb**	**03 24 40.6**	**-0.5**
DRK0				*eS*	**Sb**	**03 24 51.1**	**-0.5**
DRK0	**Durika**	**0.80**	**262**	*eP*	**Pb**	**03 24 40.6**	**-0.5**
DRK0				*eS*	**Sb**	**03 24 51.4**	**-0.3**
GUAL3	**Gualaca, Chiri**	**0.85**	**170⇑**	*iP*	**Pb**	**03 24 41.7**	**-0.1**
GUAL3				*eS*	**Sb**	**03 24 52.2**	**-0.5**
GUAL3	**Gualaca, Chiri**	**0.85**	**170⇑**	*iP*	**Pb**	**03 24 41.7**	**-0.1**
GUAL3				*eS*	**Sb**	**03 24 52.2**	**-0.5**
EDBA	**Buenos Aires**	**0.85**	**256⇓**	*eP*	**Pb**	**03 24 42.2**	**+0.3**
CDITO	**Canoas**	**0.90**	**208⇓**	*iP*	**Pb**	**03 24 42.9**	**+0.2**
CDITO				*eS*	**Sb**	**03 24 54.7**	**+0.4**
CDITO	**Canoas**	**0.90**	**208⇓**	*iP*	**Pb**	**03 24 42.9**	**+0.2**
CDITO				*eS*	**Sb**	**03 24 54.7**	**+0.4**
BAGA3	**Bagala, Chiriq**	**0.91**	**185⇓**	*eP*	**Pn**	**03 24 43.0**	**-0.1**
BAGA3				*eS*	**Sb**	**03 24 54.0**	**-0.4**
BAGA3	**Bagala, Chiriq**	**0.91**	**185⇓**	*eP*	**Pb**	**03 24 42.3**	**-0.5**
BAGA3				*eS*	**Sb**	**03 24 54.0**	**-0.4**
DVD	**David**	**0.93**	**181⇓**	*iP*	**Pb**	**03 24 43.2**	**-0.1**
DVD				*eS*	**Sb**	**03 24 55.0**	**-0.1**
DVD	**David**	**0.93**	**181⇓**	*iP*	**Pb**	**03 24 43.2**	**-0.1**
DVD				*eS*	**Sb**	**03 24 55.0**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.94**	**177⇓**	*iP*	**Pn**	**03 24 43.4**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.98**	**179**	*eP*	**Pb**	**03 24 43.6**	**-0.5**
PEDE3				*eS*	**Sb**	**03 24 56.7**	**0.0**
PEDE3	**Pedregal, Chir**	**0.98**	**179⇑**	*iP*	**Pb**	**03 24 44.0**	**-0.1**
PEDE3				*eS*	**Sb**	**03 24 56.7**	**0.0**
EDPN	**Palmar Norte**	**1.08**	**248⇓**	*eP*	**Pb**	**03 24 46.1**	**+0.2**
BATAN	**Batan**	**1.17**	**308**	*eP*	**Pn**	**03 24 46.6**	**-0.2**
BATAN				*eS*	**Sn**	**03 25 01.4**	**-0.6**
BATAN	**Batan**	**1.17**	**308**	*eP*	**Pn**	**03 24 46.6**	**-0.2**
BATAN				*eS*	**Sn**	**03 25 01.4**	**-0.6**
PTJ1	**Puerto Jimnez**	**1.19**	**226⇑**	*eP*	**Pn**	**03 24 47.2**	**+0.2**
PTJ1				*eS*	**Sn**	**03 25 02.8**	**+0.3**
PTJ1	**Puerto Jimnez**	**1.19**	**226⇓**	*eP*	**Pn**	**03 24 47.0**	**0.0**
PTJ1				*eS*	**Sn**	**03 25 02.8**	**+0.3**
PTJ1	**Puerto Jimnez**	**1.19**	**226**	*eP*	**Pn**	**03 24 46.9**	**-0.1**
PEZE	**Perez Zeledon,**	**1.22**	**271⇓**	*eP*	**Pn**	**03 24 47.4**	**-0.1**
PEZE				*eS*	**Sn**	**03 25 03.2**	**-0.2**
REME3	**Remedios, Chir**	**1.29**	**152⇑**	*iP*	**Pb**	**03 24 49.0**	**-0.3**
REME3				*eS*	**Sb**	**03 25 05.3**	**-0.1**
REME3	**Remedios, Chir**	**1.29**	**152⇑**	*iP*	**Pb**	**03 24 49.0**	**-0.3**
REME3				*eS*	**Sb**	**03 25 05.3**	**-0.1**
PIRO	**Carate, Puerto**	**1.31**	**223⇓**	*eP*	**Pn**	**03 24 49.2**	**+0.5**
PIRO				*eS*	**Sb**	**03 25 08.5**	**+2.5**
PIRO	**Carate, Puerto**	**1.31**	**223**	*eP*	**Pn**	**03 24 48.8**	**+0.2**
PIRO				*eS*	**Sb**	**03 25 08.5**	**+2.5**
PIRO	**Carate, Puerto**	**1.31**	**223**	*eP*	**Pn**	**03 24 48.7**	**0.0**
CDM	**Cerro de Muert**	**1.32**	**278⇓**	*eP*	**Pn**	**03 24 49.1**	**-0.1**
CDM				*eS*	**Sn**	**03 25 06.4**	**+0.1**
NANC3	**Nancito, Chiri**	**1.33**	**148⇑**	*eP*	**Pb**	**03 24 49.4**	**-0.5**
NANC3				*eS*	**Sb**	**03 25 06.4**	**-0.1**
NANC3	**Nancito, Chiri**	**1.33**	**148⇓**	*eP*	**Pb**	**03 24 49.5**	**-0.5**
NANC3				*eS*	**Sb**	**03 25 06.4**	**-0.1**
CVTR	**Volcan Turrial**	**1.45**	**296**	*eP*	**Pn**	**03 24 51.3**	**+0.3**
RIMA	**Rio Macho**	**1.46**	**286**	*eP*	**Pn**	**03 24 51.2**	**+0.3**
PVID3	**Puerto Vidal,**	**1.55**	**148⇓**	*iP*	**Pb**	**03 24 53.1**	**-0.6**
PVID3				*i S*	**Sb**	**03 25 12.8**	**-0.2**
LCR2	**La Lucha 2**	**1.58**	**284**	*eP*	**Pn**	**03 24 53.6**	**+1.0**
OCM	**Ochomogo**	**1.59**	**289**	*eP*	**Pn**	**03 24 53.0**	**+0.3**
RIFO	**Rio Frio, Sara**	**1.74**	**303**	*eP*	**Pn**	**03 24 54.0**	**-0.6**
MESA3	**La Mesa, Verag**	**1.74**	**134⇑**	*eP*	**Pb**	**03 24 58.1**	**+1.1**
HDC	**Heredia**	**1.77**	**291⇓**	*eP*	**Pn**	**03 24 54.5**	**-0.6**
HDC	**Heredia**	**1.77**	**291**	*eP*	**Pn**	**03 24 54.5**	**-0.6**
SFRA3	**San Francisco,**	**1.83**	**127⇑**	*eP*	**Pb**	**03 24 57.0**	**-1.6**
STIA3	**Santiago, Vera**	**1.93**	**131**	*eS*	**Sb**	**03 25 24.8**	**+1.0**
STIA3	**Santiago, Vera**	**1.93**	**131⇑**	*eP*	**Pb**	**03 24 57.2**	**0.0**
GMAL	**Guarumal, Vera**	**2.00**	**143**	*eP*	**Pn**	**03 24 58.3**	**+0.2**
GMAL				*eS*	**Sn**	**03 25 22.4**	**0.0**
GMAL	**Guarumal, Vera**	**2.00**	**143⇓**	*eP*	**Pn**	**03 24 58.7**	**+0.6**
GMAL				*eS*	**Sn**	**03 25 22.4**	**0.0**
SRA1	**San Ramn**	**2.13**	**290**	*eP*	**Pn**	**03 25 01.8**	**+1.7**
JACO	**JACO, Garabito**	**2.21**	**278**	*eP*	**Pb**	**03 25 03.2**	**-1.8**
MARI3	**Mariato, Verag**	**2.23**	**140⇓**	*eP*	**Pn**	**03 25 00.7**	**-0.7**
VTON	**El Valle, Cocl**	**2.42**	**108**	*eS*	**Sn**	**03 25 33.2**	**+0.2**
VTON	**El Valle, Cocl**	**2.42**	**108⇓**	*eP*	**Pn**	**03 25 04.4**	**+0.4**
VTON				*i S*	**Sn**	**03 25 32.1**	**-0.9**
CACAO	**El Cacao, Vera**	**2.55**	**142**	*eP*	**Pb**	**03 25 09.2**	**-1.6**
CACAO				*eS*	**Sb**	**03 25 45.7**	**+3.9**
CACAO	**El Cacao, Vera**	**2.55**	**142⇑**	*eP*	**Pb**	**03 25 08.9**	**-2.0**
CACAO				*eS*	**Sb**	**03 25 39.8**	**-2.0**
ZANG	**Zanguenga, Cho**	**2.57**	**99⇓**	*iP*	**Pn**	**03 25 06.3**	**+0.2**
ZANG				*i S*	**Sn**	**03 25 33.4**	**-3.3**
BCIP	**Isla Barro Col**	**2.58**	**94⇓**	*eP*	**Pn**	**03 25 05.9**	**-0.2**
JTS	**Las Juntas de**	**2.64**	**290⇓**	*eP*	**Pn**	**03 25 09.6**	**+2.6**
JTS	**Las Juntas de**	**2.64**	**290**	*eP*	**Pb**	**03 25 10.6**	**-1.8**
AZU	**Azuero**	**2.66**	**126⇑**	*eP*	**Pb**	**03 25 16.7**	**+4.0**
AZU				*eS*	**Sb**	**03 25 44.7**	**-0.1**
AZU	**Azuero**	**2.66**	**126**	*eP*	**Pn**	**03 25 09.6**	**+2.4**
AZU				*eS*	**Sb**	**03 25 44.7**	**-0.1**
CHOR3	**La Chorrera**	**2.68**	**100⇓**	*eP*	**Pn**	**03 25 09.8**	**+2.3**
CHOR3				*eS*	**Sn**	**03 25 38.8**	**-0.6**
CHOR3	**La Chorrera**	**2.68**	**100**	*eS*	**Sn**	**03 25 35.9**	**-3.5**
ARRA3	**Arraijan, Pana**	**2.78**	**98**	*eP*	**Pb**	**03 25 14.3**	**-0.4**

*VIE **01** 03:53:46.4±0.6, 51°.46N×16°.13E, h0km, mb2.1/4, ml2.6/5,*
Error ellipse: s-maj=6.1km s-min=4.5km az=43.0 74 km
NW of Wroclaw Suspected Mining induced.
*PRU **01** 03:53:47.2±0.0, 51°.47N×16°.09E, h0km*
*IDC **01** 03:53:48.0±1.0, 51°.37N×16°.17E, h0km, mb1 3.1/5,*
mb1mx3.0/51, mbtmp3.0/5, ML2.4/5, Error ellipse:
s-maj=19.9km s-min=8.8km az=103.0
ISC 01 03:53:45.7±0.8, 51°52N±0°.04×16°12E±0°.03, h0km, n29, σ1§00/58, 10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**171**	*ePg*	**Pg**	**03 53 59.0**	**+0.1**
KSP				*eSg*	**Sg**	**03 54 07.5**	**-0.4**
CHVC	**Chvalec**	**0.94**	**183⇓**	*iPG*	**Pb**	**03 54 04.8**	**-0.1**
CHVC				*eSG*	**Sg**	**03 54 16.4**	**+0.6**
OSTC	**Ostas**	**0.97**	**176⇓**	*iPG*	**Pg**	**03 54 04.3**	**0.0**
OSTC				*eSG*	**Sg**	**03 54 17.0**	**+0.1**
comp=Z,20nm,0.4s							
UPC	**Upice**	**1.02**	**184⇓**	*ePG*	**Pg**	**03 54 04.9**	**-0.4**
UPC				*eSG*	**Sg**	**03 54 17.7**	**-0.8**
comp=Z,44nm,0.4s							
DPC	**Dobruska-Polom**	**1.18**	**174⇓**	*iPG*	**Pg**	**03 54 07.8**	**-0.6**
DPC				*eSG*	**Sg**	**03 54 22.3**	**-1.4**
comp=Z,16nm,0.3s							
PVCC	**Panska Ves**	**1.40**	**225⇓**	*ePG*	**Pn**	**03 54 12.2**	**-0.3**
PVCC				*eSG*	**Sg**	**03 54 30.8**	**+0.2**
comp=Z,94nm,0.3s							
KRLC	**Kraliky**	**1.51**	**164⇓**	*iPG*	**Pn**	**03 54 13.4**	**-0.7**
KRLC				*eSG*	**Sg**	**03 54 32.3**	**-1.9**
comp=Z,26nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**245**	Pg	**Pb**	**03 54 14.7**	**0.0**
BRG				Sg	**Sn**	**03 54 34.8**	**+0.3**
BRG				Amp		03 54 35.5	
comp=Z,25nm,0.5s							
PRU	**Pruhonice**	**1.83**	**214⇓**	*ePN*	**Pn**	**03 54 17.7**	**-0.8**
PRU				*ePG*	**Pb**	**03 54 19.4**	**-0.7**
PRU				*eSG*	**Sb**	**03 54 43.3**	**-0.3**
comp=Z,11nm,0.3s							
CLL	**Collm**	**1.96**	**265**	*ePn*	**Pn**	**03 54 20.0**	**-0.2**
CLL				*ePg*	**Pb**	**03 54 22.0**	**-0.3**
CLL				*i*		03 54 26.4	
CLL				*e*		03 54 38.0	
CLL				*eSg*	**Sg**	**03 54 49.0**	**+0.2**
comp=Z,7.0nm,0.5s							
MORC	**Moravsky Berou**	**1.97**	**152**	*ePN*	**Pn**	**03 54 19.9**	**-0.5**
MORC				*eSG*	**Sn**	**03 54 46.2**	**+0.4**
VRAC	**Vranov**	**2.24**	**172**	Pn	**Pn**	**03 54 24.1**	**0.0**
comp=Z,0.9nm,0.3s,baz=354,slow=15,SNR=9.6							
VRAC				Lg	Lg	03 54 55.1	
comp=Z,2.5nm,0.3s,baz=286,slow=22,SNR=10.0							
VRAC	**Vranov**	**2.24**	**172**	*ePN*	**Pn**	**03 54 24.2**	**+0.1**
VRAC				*eSG*	**Sb**	**03 54 55.2**	**-0.1**
KRUC	**Moravsky**	**2.47**	**176**	*ePN*	**Pn**	**03 54 27.3**	**+0.1**
KRUC				*eSG*	**Sb**	**03 55 02.4**	**+0.4**
NKC	**Novy Kostel**	**2.66**	**242⇓**	*ePN*	**Pn**	**03 54 29.8**	**-0.1**
NKC				*ePG*	**Pg**	**03 54 36.4**	**-0.3**
NKC				*eSG*	**Sg**	**03 55 10.9**	**-0.2**
comp=Z,16nm,0.3s							
OJC	**Ojcow**	**2.67**	**118**	*ePg*	**Pg**	**03 54 37.8**	**+0.9**
OJC				*eSg*	**Sg**	**03 55 12.8**	**+1.2**
JAVC	**Velka Javorina**	**2.85**	**159**	*ePN*	**Pn**	**03 54 32.9**	**+0.4**
KHC	**Kasperske Hory**	**2.90**	**215⇓**	*ePN*	**Pn**	**03 54 32.9**	**-0.2**
KHC				*ePG*	**Pb**	**03 54 38.7**	**+0.4**
KHC				*eSN*	**Sn**	**03 55 07.4**	**-1.3**
KHC				*eSG*	**Sg**	**03 55 18.0**	**-0.7**
comp=Z,5.7nm,0.4s							
CKRC	**Cesky Krumlov**	**2.95**	**204⇓**	*ePN*	**Pn**	**03 54 35.3**	**+1.5**
CKRC				*ePG*	**Pb**	**03 54 40.2**	**+1.1**
CKRC				*eSG*	**Sg**	**03 55 19.4**	**-0.9**
comp=Z,7.6nm,0.6s							
GERES	**GERESS Array B**	**3.10**	**211**	Pn	**Pn**	**03 54 36.7**	**+0.7**
comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=13							
GERES				Pg	**Pb**	**03 54 42.4**	**+0.7**
comp=Z,1.6nm,0.3s,baz=31,slow=17,SNR=31							
GERES				Lg	Lg	03 55 23.0	
comp=Z,1.6nm,0.3s,baz=32,slow=28,SNR=5.0							
LANS	**Liptovska Anna**	**3.20**	**137**	*ePG*	**Pg**	**03 54 46.6**	**-0.5**
LANS				*eSG*	**Sg**	**03 55 27.0**	**-1.5**
MODS	**Modra-Piesok**	**3.24**	**166**	*ePG*	**Pg**	**03 54 48.1**	**+0.3**
MODS				*eSG*	**Sg**	**03 55 28.3**	**-1.5**
CONA	**Conrad Observa**	**3.60**	**183**	*i* Pn	**Pn**	**03 54 43.4**	**+0.6**
comp=Z,0.3nm,0.1s							
CONA				Sg	**Sg**	**03 55 41.4**	**0.0**
comp=Z,5.4nm,0.3s							
MOA	**Molln**	**3.87**	**199**	*i* Pn	**Pn**	**03 54 46.5**	**+0.1**
comp=Z,0.8nm,0.2s							
MOA				Sg	**Sg**	**03 55 52.4**	**+2.5**
comp=Z,6.7nm,0.4s							
ARSA	**Arzberg**	**4.30**	**185**	*e*Pn	**Pn**	**03 54 53.7**	**+1.4**
comp=Z,1.0nm,0.6s							
ARSA				Sg	**Sg**	**03 56 07.6**	**+3.9**
comp=Z,2.6nm,0.6s							
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	**Pn**	**03 54 58.3**	**+0.1**
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**03 55 55.5**	**+2.3**
comp=Z,0.0nm,0.3s,baz=181,slow=13,SNR=1.8							
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**03 56 28.0**	**-0.9**
comp=Z,0.1nm,0.3s,baz=213,slow=15,SNR=1.2							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**03 58 03.5**	**-0.8**
baz=201,slow=12,SNR=4.0							

*NEIC **01** 04:03:11.7±1.2, 61°.87N±0°.03×150°.84W±0°.06, h66km±5km,*
Error ellipse: s-maj=4.1km s-min=3.9km az=89.0
AEIC 01 04:03:12±1.4, 61°87N±0°02×150°81W±0°06, h60km±6km, ML2.6, ML2.7/68(NEIC), Error ellipse: s-maj=4.3km s-min=2.4km az=99.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.36**	**289**		Pn	04 03 22.1	-0.6
SKT					Sn	04 03 30.6	+0.2
SKT	**Skwentna**	**0.36**	**289**	IAML		04 03 30.6	
comp=N,268nm,0.4s							
SKT				IAML		04 03 32.2	
comp=E,191nm,0.2s							
SUA	**Susitna One**	**0.40**	**176**		Pn	04 03 23.1	-0.1
SUA					Sn	04 03 31.8	+0.5
SUA	**Susitna One**	**0.40**	**176**	IAML		04 03 32.3	
comp=N,442nm,0.7s							
SUA				IAML		04 03 32.7	
comp=E,327nm,0.5s							
CUT	**Chulitna**	**0.60**	**25**		Pn	04 03 25.0	0.0
CUT					Sn	04 03 35.6	+1.1
CUT	**Chulitna**	**0.60**	**25**	IAML		04 03 36.2	
comp=N,563nm,0.2s							
STLK	**Strandline Lak**	**0.61**	**234**		Pn	04 03 25.6	+0.4
STLK					Sn	04 03 35.9	+0.9
FIS	**Fire Island**	**0.78**	**158**		Pn	04 03 27.9	+0.8
FIS					Sn	04 03 38.8	+0.6
FIS	**Fire Island**	**0.78**	**158**	IAML		04 03 43.7	
comp=E,438nm,0.4s							
SPCG	**Spurr Capps Gl**	**0.82**	**226**		Pn	04 03 27.0	-0.8
SPCG					Sn	04 03 38.9	-0.5
PMR	**Palmer**	**0.84**	**108**		Pn	04 03 27.3	-0.7
PMR					Sn	04 03 40.2	+0.4
PMR	**Palmer**	**0.84**	**108**	IAML		04 03 40.8	
comp=N,272nm,0.3s							
PMR				IAML		04 03 41.1	
comp=E,146nm,0.2s							
CRP	**Crater Peak**	**0.88**	**228**		Pn	04 03 28.9	+0.3
SPCP	**Crater Peak Br**	**0.88**	**228**		Pn	04 03 27.9	-0.7
GHO	**Glory Hole Cre**	**0.90**	**95**		Pn	04 03 28.7	-0.1
GHO					Sn	04 03 42.2	+1.0
GHO	**Glory Hole Cre**	**0.90**	**95**	IAML		04 03 43.6	
comp=N,272nm,0.8s							
GHO				IAML		04 03 43.7	
comp=E,275nm,0.5s							
SPU	**Mount Spurr**	**0.91**	**222**		Pn	04 03 29.1	+0.2
SPCN	**Chakachatna No**	**0.92**	**226**		Pn	04 03 29.2	+0.2
RC01	**Rabbit Creek A**	**0.93**	**146**		Pn	04 03 28.4	-0.8
RC01					Sn	04 03 42.2	+0.4
SPCR	**Spurr Chakacha**	**0.95**	**226**		Pn	04 03 28.7	-0.7
SPBG	**Spurr Blockage**	**0.96**	**232**		Pn	04 03 29.2	-0.4
SPBG					Sn	04 03 42.7	+0.1
SPWE	**Spurr West**	**1.03**	**235**		Pn	04 03 31.1	+0.6
CAPN	**Captain Cook N**	**1.11**	**189**		Pn	04 03 32.8	+1.3
SML	**Sawmill**	**1.18**	**92**		Pn	04 03 32.0	-0.4
SML					Sn	04 03 47.6	+0.1
SML	**Sawmill**	**1.18**	**92**	IAML		04 03 49.3	
comp=E,99nm,0.4s							
SML				IAML	

BMRM	**Bremner River**	**3.11**	**104**		Pn	04 03 59.6	+0.9
BMRM	**Bremner River**	**3.11**	**104**	IAML		04 05 57.2	
	comp=E,36nm,0.4s						
BMRM				IAML		04 05 57.2	
	comp=N,28nm,0.5s						
MLY	**Manley**	**3.18**	**1**		Pn	04 03 59.0	-0.5
PS08	**TAPS Pump Stn8**	**3.24**	**32**		Pn	04 04 00.2	-0.1
MDM	**Murphy Dome**	**3.31**	**19**		Pn	04 04 01.3	-0.1
I23K	**Minto, Yukon-K**	**3.36**	**10**		Pn	04 04 01.6	-0.2
I21K	**Tanana**	**3.37**	**352**		Pn	04 04 01.8	-0.2
IL31		**3.41**	**30**		Pn	04 04 02.5	-0.1
PRP	**Porcupine Dome**	**4.35**	**30**		Pn	04 04 15.7	+0.1
PRP				IAML		04 05 38.3	
	comp=N,6.9nm,0.5s						
PRP				IAML		04 05 38.5	
	comp=E,6.3nm,1.0s						
YAH	**Yahtse**	**4.65**	**105**	Pn	Pn	04 04 20.7	+1.0
YAH					Sn	04 05 11.5	-0.9

*NEIC **01** 04:03:36.5±1.0, 58°.08N±0°.03×153°.83W±0°.06, h78km±5km, Error ellipse: s-maj=5.4km s-min=2.7km az=125.0*
*AEIC **01** 04:03:37±1.2, 58°.09N±0°.04×153°.80W±0°.06, h65km±6km, ML3.4, ML3.7/34(NEIC), Error ellipse: s-maj=5.6km s-min=4.6km az=210.0*

ISC 01 04:03:35.9±1.4, 58°.07N±0°.04×153°.80W±0°.04, h80km±11km, n83, σ0.9±85/88, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHG	**Katmai Hook Gl**	**0.58**	**317**		**Pn**	**04 03 50.9**	**+0.5**
KAHG					**Sn**	**04 04 01.2**	**-0.1**
KAPH	**Katmai Pasha**	**0.60**	**331**		**Pn**	**04 03 51.2**	**+0.5**
KAPH					**Sn**	**04 04 00.9**	**-0.7**
KAWH	**Katmai**	**0.61**	**301**		**Pn**	**04 03 51.1**	**+0.3**
KABR	**Katmai Barrier**	**0.62**	**276**		**Pn**	**04 03 50.8**	**-0.1**
KDAK	**Kodiak Island**	**0.71**	**114**		**Pn**	**04 03 51.6**	**0.0**
KDAK				Sn	**Sn**	**04 04 03.2**	**-0.2**
KDAK	**Kodiak Island**	**0.71**	**114**	IAML		04 04 05.7	
	2μm,0.2s						
KDAK				IAML		04 04 06.4	
	2μm,0.2s						
MGLS	**Mageik Landsli**	**0.73**	**275**		**Pn**	**04 03 52.1**	**+0.3**
KCE	**Katmai Mt Cerb**	**0.75**	**284**		**Pn**	**04 03 52.9**	**+0.7**
CAHL	**Cahill**	**0.80**	**269**		**Pn**	**04 03 53.1**	**+0.4**
CAHL					**Sn**	**04 04 03.9**	**-1.3**
ACHA	**Angle Creek He**	**0.82**	**280**		**Pn**	**04 03 53.4**	**+0.4**
KVTA	**Katmai Vly 10**	**0.85**	**292**		**Pn**	**04 03 53.7**	**+0.4**
KVTA					**Sn**	**04 04 05.5**	**-0.6**
OHAK	**Old Harbor**	**0.90**	**162**	P	**Pn**	**04 03 53.7**	**0.0**
	baz=343						
OHAK				S	**Sn**	**04 04 06.5**	**-0.5**
	baz=343						
OHAK	**Old Harbor**	**0.90**	**162**		**Pn**	**04 03 53.7**	**0.0**
OHAK					**Sn**	**04 04 06.5**	**-0.5**
OHAK	**Old Harbor**	**0.90**	**162**	IAML		04 04 10.2	
	comp=E,2μm,0.3s						
ANCK	**Angle Creek**	**0.91**	**279**		**Pn**	**04 03 54.4**	**+0.5**
KJL	**Kejulik**	**0.94**	**270**		**Pn**	**04 03 55.1**	**+0.8**
AUQ	**Augustine Qik'**	**1.30**	**9**		**Pn**	**04 03 58.8**	**+0.1**
AUCH	**Augustine Cone**	**1.31**	**8**		**Pn**	**04 03 58.9**	**+0.1**
AUW	**Augustine West**	**1.31**	**7**		**Pn**	**04 03 59.8**	**+1.1**
AU22	**Augustine Moun**	**1.32**	**10**		**Pn**	**04 03 59.0**	**+0.1**
AU22					**Sn**	**04 04 16.5**	**+0.4**
AUL	**Augustine Lava**	**1.33**	**8**		**Pn**	**04 03 59.0**	**0.0**
PLK3	**Peulik 3**	**1.37**	**255**		**Pn**	**04 04 00.6**	**+1.0**
PLK1	**Peulik 1**	**1.52**	**261**		**Pn**	**04 04 02.8**	**+1.3**
OPT	**Oil Point**	**1.61**	**10**	P	**Pn**	**04 04 03.9**	**+1.2**
	baz=190						
OPT	**Oil Point**	**1.61**	**10**		**Pn**	**04 04 03.9**	**+1.2**
ILS	**Iliamna Low So**	**1.93**	**11**		**Pn**	**04 04 07.9**	**+1.0**
HOM	**Homer**	**1.94**	**34**	P	**Pn**	**04 04 08.1**	**+1.1**
	baz=216						
HOM				S	**Sn**	**04 04 32.8**	**+2.2**
	baz=216						
HOM	**Homer**	**1.94**	**34**		**Pn**	**04 04 08.1**	**+1.1**
HOM					**Sn**	**04 04 32.9**	**+2.2**
HOM	**Homer**	**1.94**	**34**	IAML		04 04 37.7	
	comp=N,597nm,0.4s						
CNPM	**China Poot**	**1.98**	**41**		**Pn**	**04 04 08.1**	**+0.6**
CNPM					**Sn**	**04 04 31.8**	**+0.3**
CNPM	**China Poot**	**1.98**	**41**	IAML		04 04 39.0	
	comp=E,353nm,0.5s						
CNPM				IAML		04 04 40.6	
	comp=N,230nm,0.7s						
IVE	**Iliamna Volcan**	**1.99**	**11**		**Pn**	**04 04 07.8**	**+0.1**
O19K	**Port Alsworth**	**2.15**	**353**	P	**Pn**	**04 04 09.4**	**-0.3**
	baz=172						
O19K				S	**Sn**	**04 04 33.9**	**-1.6**
	baz=172						
O19K	**Port Alsworth**	**2.15**	**353**		**Pn**	**04 04 09.4**	**-0.3**
O19K					**Sn**	**04 04 33.9**	**-1.6**
BRLK	**Bradley Lake**	**2.27**	**40**		**Pn**	**04 04 11.3**	**-0.1**
BRLK					**Sn**	**04 04 37.4**	**-1.2**
BRLK	**Bradley Lake**	**2.27**	**40**	IAML		04 04 37.8	
	comp=N,433nm,0.4s						
BRLK				IAML		04 04 38.0	
	comp=E,374nm,0.5s						
BRSE	**Bradley Lake S**	**2.31**	**42**	S	**Sn**	**04 04 38.2**	**-1.2**
	baz=225						
BRSE	**Bradley Lake S**	**2.31**	**42**		**Sn**	**04 04 38.2**	**-1.2**
NCT	**North Crescent**	**2.54**	**10**		**Pn**	**04 04 15.6**	**+0.6**
N19K	**Bonanza Creek**	**2.77**	**353**	P	**Pn**	**04 04 18.3**	**+0.1**
	baz=172						
N19K	**Bonanza Creek**	**2.77**	**353**		**Pn**	**04 04 18.3**	**+0.1**
N18K	**Kilae Creek**	**2.83**	**339**	P	**Pn**	**04 04 18.6**	**-0.3**
	baz=157						
N18K	**Kilae Creek**	**2.83**	**339**		**Pn**	**04 04 18.6**	**-0.3**
SLKM	**Skilak Lake**	**3.05**	**35**		**Pn**	**04 04 22.7**	**+0.7**
SVW2	**Sparrevohn**	**3.17**	**344**		**Pn**	**04 04 23.2**	**-0.2**
SVW2	**Sparrevohn**	**3.17**	**344**	IAML		04 04 58.8	
	comp=E,99nm,0.7s						
SVW2				IAML		04 05 12.5	
	comp=N,127nm,0.7s						
SPBG	**Spurr Blockage**	**3.28**	**12**		**Pn**	**04 04 25.8**	**+0.8**
SPCP	**Crater Peak Br**	**3.31**	**14**		**Pn**	**04 04 26.8**	**+1.3**
VNHG	**Veniaminof 1**	**3.46**	**240**		**Pn**	**04 04 29.1**	**+1.6**
VNSG	**Veniaminof 6**	**3.48**	**238**		**Pn**	**04 04 29.3**	**+1.5**
RC01	**Rabbit Creek A**	**3.66**	**33**	P	**Pn**	**04 04 30.6**	**+0.5**
	baz=216						
RC01	**Rabbit Creek A**	**3.66**	**33**		**Pn**	**04 04 30.6**	**+0.5**
SUA	**Susitna One**	**3.73**	**23**		**Pn**	**04 04 32.1**	**+0.8**
SUA				IAML		04 05 22.2	
	comp=N,112nm,1.1s						
SUA				IAML		04 05 24.5	
	comp=E,144nm,0.8s						
PWL	**Port Wells**	**3.95**	**43**		**Pn**	**04 04 33.8**	**-0.2**
PWL	**Port Wells**	**3.95**	**43**	IAML		04 05 16.1	
	comp=N,109nm,0.5s						
PWL				IAML		04 05 17.7	
	comp=E,83nm,0.5s						
MID	**Middleton Isla**	**4.12**	**68**		**Pn**	**04 04 36.8**	**+0.5**
MID	**Middleton Isla**	**4.12**	**68**	IAML		04 05 26.9	
	comp=N,88nm,1.7s						
MID				IAML		04 06 02.9	
	comp=E,104nm,1.9s						
KNK	**Knik Glacier**	**4.30**	**37**	P	**Pn**	**04 04 38.4**	**-0.5**
	baz=221						
KNK	**Knik Glacier**	**4.30**	**37**		**Pn**	**04 04 38.4**	**-0.5**
KNK	**Knik Glacier**	**4.30**	**37**	IAML		04 05 56.3	
	comp=E,58nm,0.8s						
HIN	**Hinchinbrook I**	**4.41**	**55**	Pn	**Pn**	**04 04 40.7**	**+0.4**
HIN					**Sn**	**04 05 28.0**	**-2.4**
GLI	**Glacier Island**	**4.43**	**48**	P	**Pn**	**04 04 39.9**	**-0.7**
	baz=233						
GLI	**Glacier Island**	**4.43**	**48**		**Pn**	**04 04 39.9**	**-0.7**
GLI	**Glacier Island**	**4.43**	**48**	IAML		04 05 28.6	
	comp=E,61nm,0.5s						
CNBA	**Chernabura Isl**	**4.58**	**227**		**Pn**	**04 04 41.7**	**-0.9**
SDPT	**Sand Point**	**4.58**	**236**	P	**Pn**	**04 04 42.7**	**+0.1**
	baz=51						
SDPT	**Sand Point**	**4.58**	**236**		**Pn**	**04 04 42.8**	**+0.1**
SDPT					**Sn**	**04 05 35.7**	**+1.2**
SCM	**Sheep Creek Mo**	**4.98**	**38**		**Pn**	**04 04 48.5**	**+0.4**
SCM	**Sheep Creek Mo**	**4.98**	**38**	IAML		04 05 43.4	
	comp=E,58nm,0.5s						
KLU	**Klutina**	**5.25**	**46**	P	**Pn**	**04 04 52.2**	**+0.4**
	baz=233						
KLU	**Klutina**	**5.25**	**46**		**Pn**	**04 04 52.2**	**+0.4**
KLU	**Klutina**	**5.25**	**46**	IAML		04 05 51.0	
	comp=N,34nm,0.4s						
KLU				IAML		04 05 52.6	
	comp=E,28nm,0.4s						
WAT6	**Susitna Watana**	**5.43**	**31**	P	**Pn**	**04 04 54.1**	**-0.2**
	baz=216						
WAT6	**Susitna Watana**	**5.43**	**31**		**Pn**	**04 04 54.1**	**-0.2**
WAX	**Waxell Ridge**	**6.10**	**62**	Pn	**Pn**	**04 05 04.1**	**+0.8**
TGL	**Tana Glacier**	**6.21**	**60**	Pn	**Pn**	**04 05 05.7**	**+0.7**
ISLE	**Juniper Island**	**6.39**	**62**	Pn	**Pn**	**04 05 08.1**	**+0.7**
YAH	**Yahtse**	**6.60**	**65**	Pn	**Pn**	**04 05 11.0**	**+0.6**
TABL	**Table Mountain**	**6.91**	**65**		**Pn**	**04 05 15.3**	**+0.7**
TABL					**Sn**	**04 06 32.1**	**+0.5**
CTGM	**Chitina Glacie**	**6.97**	**60**	Pn	**Pn**	**04 05 16.2**	**+0.8**
LOGN	**Logan Glacier**	**7.08**	**62**		**Pn**	**04 05 17.5**	**+0.7**
PCA	**Pinnacle**	**7.27**	**68**	Pn	**Pn**	**04 05 20.2**	**+0.9**
BCPM	**Bancas Point**	**7.55**	**70**		**Pn**	**04 05 23.9**	**+0.8**

*KRSC **01** 04:07:58.6±1.2, 51°.94N×157°.98E, h160km±10km, ML4.2*
*MOS **01** 04:07:59.2±0.4, 51°.95N×157°.88E, h164km, mb4.2/2, Error ellipse: s-maj=21.0km s-min=5.4km az=73.9*
*NEIC **01** 04:08:00.9±1.1, 52°.1N±0°.1×157°.6E±0°.2, h161km±7km, mb4.2/8, Error ellipse: s-maj=18.7km s-min=13.2km az=156.0*
*IDC **01** 04:08:00.8±0.9, 52°.14N×157°.46E, h164km±8km, mb3.3/11, mb1 3.6/12, mb1mx3.3/49, mbtmp3.8/12, Error ellipse: s-maj=30.8km s-min=12.0km az=138.0*

ISC 01 04:08:00.4±0.6, 51°.98N±0°.04×157°.92E±0°.05, h160km±5km, n107, σ1.17/145, mb3.8/14, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.20**	**151**	PN	**Pn**	**04 08 21.6**	**-0.3**
KDTR				S	**Sn**	**04 08 37.2**	**-1.0**
KDTR	**Khodutka, Kamc**	**0.20**	**151**	*i* P	**Pn**	**04 08 21.6**	**-0.3**
KDTR				*e*S	**Sn**	**04 08 37.2**	**-1.0**
MTVR	**Mutnovka**	**0.53**	**17**	PN	**Pn**	**04 08 23.0**	**-0.2**
MTVR				S	**Sn**	**04 08 40.1**	**-0.7**
MTVR	**Mutnovka**	**0.53**	**17**	*i* P	**Pn**	**04 08 23.0**	**-0.2**
MTVR				*e*S	**Sn**	**04 08 40.1**	**-0.7**
GRL	**Gorelyy**	**0.58**	**9**	PN	**Pn**	**04 08 23.7**	**+0.3**
GRL	**Gorelyy**	**0.58**	**9**	*e*P	**Pn**	**04 08 23.7**	**+0.3**
RUS	**Russkaya**	**0.58**	**38**	PN	**Pn**	**04 08 23.3**	**+0.1**
RUS				S	**Sn**	**04 08 40.4**	**-0.4**
RUS	**Russkaya**	**0.58**	**38**	*i* P	**Pn**	**04 08 23.3**	**+0.1**
RUS				*e*S	**Sn**	**04 08 40.4**	**-0.4**
MIPR	**Malaya Ipel'ka**	**0.78**	**293**	PN	**Pn**	**04 08 23.8**	**-0.7**
MIPR				S	**Sn**	**04 08 41.7**	**-1.3**
MIPR	**Malaya Ipel'ka**	**0.78**	**293**	*i* P	**Pn**	**04 08 23.8**	**-0.7**
MIPR				*e*S	**Sn**	**04 08 41.7**	**-1.3**
KRMR	**Karymshinskiy**	**0.86**	**8**	PN	**Pn**	**04 08 24.7**	**-0.3**
KRMR				S	**Sn**	**04 08 43.1**	**-0.9**
KRMR	**Karymshinskiy**	**0.86**	**8**	*i* P	**Pn**	**04 08 24.7**	**-0.3**
KRMR				*e*S	**Sn**	**04 08 43.1**	**-0.9**
PAU	**Pauzhetka**	**0.86**	**234**	PN	**Pn**	**04 08 25.0**	**0.0**
PAU	**Pauzhetka**	**0.86**	**234**	*i* P	**Pn**	**04 08 25.0**	**0.0**
APC	**Apacha**	**1.06**	**334**	PN	**Pn**	**04 08 27.1**	**+0.6**
APC				S	**Sn**	**04 08 46.3**	**-0.4**
APC	**Apacha**	**1.06**	**334**	*e*P	**Pn**	**04 08 27.1**	**+0.6**
APC				*e*S	**Sn**	**04 08 46.3**	**-0.4**
PET	**Petropavlovsk**	**1.14**	**23**	PN	**Pn**	**04 08 27.2**	**0.0**
PET				S	**Sn**	**04 08 47.4**	**-0.5**
PET	**Petropavlovsk**	**1.14**	**23**	*e*P	**Pn**	**04 08 27.2**	**0.0**
PET				*e*S	**Sn**	**04 08 47.4**	**-0.5**
PET	**Petropavlovsk**	**1.14**	**23**		**Pn**	**04 08 27.2**	**0.0**
PET				Sn	**Sn**	**04 08 47.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**1.14**	**353**	PN	**Pn**	**04 08 27.1**	**-0.2**
PEA0B						04 08 47.3	
PEA0B	**Petropavlovsk-**	**1.14**	**353**		**Pn**	**04 08 27.1**	**-0.2**
PEA0B				Sn	**Sn**	**04 08 47.3**	**-0.8**
PETK	**Petropavlovsk-**	**1.14**	**353**	P	**Pn**	**04 08 26.1**	**-1.1**
	57nm,0.3s,baz=159,slow=8.3,SNR=604						
PETK				S	**Sn**	**04 08 47.6**	**-0.4**
	4.5nm,0.3s,baz=207,slow=23,SNR=2.0						
PETK	**Petropavlovsk-**	**1.14**	**353**		**Pn**	**04 08 26.2**	**-1.1**
PETK					**Sn**	**04 08 46.5**	**-1.5**
DALK	**Dalny**	**1.17**	**25**	PN	**Pn**	**04 08 27.6**	**+0.1**
DALK				S	**Sn**	**04 08 47.7**	**-0.7**
DALK	**Dalny**	**1.17**	**25**	*e*P	**Pn**	**04 08 27.6**	**+0.1**
DALK				*e*S	**Sn**	**04 08 47.7**	**-0.7**
UGLR	**Uglovaya**	**1.35**	**24**	PN	**Pn**	**04 08 30.0**	**+0.7**
UGLR				S	**Sn**	**04 08 52.0**	**+0.4**
UGLR	**Uglovaya**	**1.35**	**24**	*i* P	**Pn**	**04 08 30.0**	**+0.7**
UGLR				*e*S	**Sn**	**04 08 52.0**	**+0.4**
AVH	**Avacha**	**1.38**	**21**	PN	**Pn**	**04 08 30.3**	**+0.7**
AVH	**Avacha**	**1.38**	**21**	*e*P	**Pn**	**04 08 30.3**	**+0.7**
KOK	**Koryaka**	**1.39**	**18**	PN	**Pn**	**04 08 30.2**	**+0.6**
KOK				S	**Sn**	**04 08 52.8**	**+0.6**
KOK	**Koryaka**	**1.39**	**18**	*e*P	**Pn**	**04 08 30.2**	**+0.6**
KOK				*e*S	**Sn**	**04 08 52.8**	**+0.6**
SMAR	**Somma**	**1.39**	**22**	PN	**Pn**	**04 08 30.2**	**+0.4**
SMAR	**Somma**	**1.39**	**22**	*e*P	**Pn**	**04 08 30.2**	**+0.4**
KRER	**Koryakskii**	**1.42**	**20**	PN	**Pn**	**04 08 30.5**	**+0.4**
KRER				S	**Sn**	**04 08 52.6**	**-0.4**
KRER	**Koryakskii**	**1.42**	**20**	*e*P	**Pn**	**04 08 30.5**	**+0.4**
KRER				*e*S	**Sn**	**04 08 52.6**	**-0.4**
SDLR	**Sedlovina**	**1.43**	**24**	PN	**Pn**	**04 08 30.4**	**+0.3**
SDLR	**Sedlovina**	**1.43**	**24**	*i* P	**Pn**	**04 08 30.4**	**+0.3**
KRX	**Arik**	**1.45**	**17**	PN	**Pn**	**04 08 30.5**	**+0.2**
KRX				S	**Sn**	**04 08 52.9**	**-0.6**
KRX	**Arik**	**1.45**	**17**	*i* P	**Pn**	**04 08 30.5**	**+0.2**
KRX				*e*S	**Sn**	**04 08 52.9**	**-0.6**
NLC	**Nalytchevo**	**1.48**	**35**	PN	**Pn**	**04 08 29.8**	**-0.6**
NLC				S	**Sn**	**04 08 51.6**	**-2.0**
NLC	**Nalytchevo**	**1.48**	**35**	*e*P	**Pn**	**04 08 29.8**	**-0.6**
NLC				*e*S	**Sn**	**04 08 51.6**	**-2.0**
SPN	**Mys Shipunski**	**1.70**	**48**	PN	**Pn**	**04 08 33.0**	**+0.2**
SPN				S	**Sn**	**04 08 56.5**	**-1.3**
SPN	**Mys Shipunski**	**1.70**	**48**	*e*P	**Pn**	**04 08 33.0**	**+0.2**
SPN				*e*S	**Sn**	**04 08 56.5**	**-1.3**
GNL	**Ganaly**	**1.72**	**0**	PN	**Pn**	**04 08 32.6**	**-0.5**
GNL				S	**Sn**	**04 08 57.1**	**-1.3**
GNL	**Ganaly**	**1.72**	**0**	*i* P	**Pn**	**04 08 32.6**	**-0.5**
GNL				*e*S	**Sn**	**04 08 57.1**	**-1.3**
SKR	**Severo-Kuril's**	**1.72**	**222**	PN	**Pn**	**04 08 32.9**	**-0.1**
SKR				*i* S	**Sn**	**04 08 57.8**	**-0.3**
SKR				pmax	pmax		
	comp=Z,176nm,0.8s						
SKR				smax	smax		
	comp=N,622nm,0.5s						
SKR				smax	smax		
	comp=E,631nm,0.6s						
SKR	**Severo-Kuril's**	**1.72**	**222**	*e*P	**Pn**	**04 08 32.8**	**-0.2**
SKR				*e*S	**Sn**	**04 08 56.9**	**-1.2**
ALID	**Alaid**	**1.86**	**234**	PN	**Pn**	**04 08 34.3**	**-0.3**
ALID	**Alaid**	**1.86**	**234**	*e*P	**Pn**	**04 08 34.3**	**-0.3**
KII	**Karymskiy**	**2.26**	**24**	PN	**Pn**	**04 08 39.5**	**+0.4**
KII				S	**Sn**	**04 09 08.7**	**-0.4**
KII	**Karymskiy**	**2.26**	**24**	*e*P	**Pn**	**04 08 39.5**	**+0.4**
KII				*e*S	**Sn**	**04 09 08.7**	**-0.4**
KZV	**Kizimen**	**3.44**	**23**	PN	**Pn**	**04 08 53.9**	**+0.1**
KZV	**Kizimen**	**3.44**	**23**	*e*P	**Pn**	**04 08 53.9**	**+0.1**
MKZ	**Mys Kozlova**	**3.45**	**40**	PN	**Pn**	**04 08 53.3**	**-0.4**
MKZ				S	**Sn**	**04 09 31.7**	**-3.5**
MKZ	**Mys Kozlova**	**3.45**	**40**	*e*P	**Pn**	**04 08 53.3**	**-0.4**
MKZ				*e*S	**Sn**	**04 09 31.7**	**-3.5**
TUMD	**Tumrok D**	**3.55**	**24**	*e*P	**Pn**	**04 08 55.4**	**+0.4**
TUMD				*e*S	**Sn**	**04 09 36.1**	**-1.5**
TUMR	**Tumrok**	**3.56**	**21**	PN	**Pn**	**04 08 55.4**	**+0.1**
TUMR				S	**Sn**	**04 09 36.1**	**-2.0**
TUMR	**Tumrok**	**3.56**	**21**	*e*P	**Pn**	**04 08 56.4**	**+1.1**
KMNR	**Kamenistaya**	**4.02**	**19**	PN	**Pn**	**04 09 01.8**	**+0.6**
KMNR	**Kamenistaya**	**4.02**	**19**	*e*P	**Pn**	**04 09 01.8**	**+0.6**
SRDR	**Sredinnyy**	**4.47**	**13**	PN	**Pn**	**04 09 07.3**	**+0.3**
SRDR	**Sredinnyy**	**4.47**	**13**	*e*P	**Pn**	**04 09 07.3**	**+0.3**
SRKR	**Sorokina**	**5.05**	**21**	PN	**Pn**	**04 09 16.7**	**+2.1**
SRKR	**Sorokina**	**5.05**	**21**	*e*P	**Pn**	**04 09 16.7**	**+2.1**
KBTR	**Krutoberegovo**	**5.12**	**32**	PN	**Pn**	**04 09 15.3**	**-0.1**
KBTR	**Krutoberegovo**	**5.12**	**32**	*e*P	**Pn**	**04 09 15.3**	**-0.1**
BKI	**Bering**	**5.78**	**53**	PN	**Pn**	**04 09 24.1**	**0.0**
BKI				S	**Sn**	**04 10 25.1**	**-4.6**
BKI	**Bering**	**5.78**	**53**	*e*P	**Pn**	**04 09 24.1**	**0.0**
BKI				*e*S	**Sn**	**04 10 25.1**	**-4.6**
SMY	**Shemya**	**9.93**	**79**	PN	**Pn**	**04 10 22.8**	**+3.7**
SMY	**Shemya**	**9.93**	**79**	Pn	**Pn**	**04 10 22.8**	**+3.7**
KLR	**Kul'dur**	**16.81**	**271**	P	**P**	**04 11 44.5**	**-1.1**
	comp=E,0.2nm,0.3s,baz=48,slow=6.3,SNR=4.4						
MJAR	**Matsushiro Arr**	**20.81**	**230**	P	**P**	**04 12 28.9**	**-0.2**
	comp=E,1.9nm,0.6s,baz=22,slow=9.1,SNR=4.7						
JCJ	**Chichijima**	**27.54**	**212**	P	**P**	**04 13 32.2**	**+0.2**
ILAR	**Eielson Array**	**30.54**	**44**	P	**P**	**04 13 58.8**	**+0.6**
	comp=E,0.5nm,0.6s,baz=265,slow=6.8,SNR=7.4						
ILAR	**Eielson Array**	**30.54**	**44**	P	**P**	**04 13 58.5**	**+0.3**
ILAR	**Eielson Array**	**30.54**	**44**	P	**P**	**04 13 58.5**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**32.94**	**164**	T	T	04 49 53.2	
	baz=351,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**32.96**	**164**	T	T	04 49 54.6	
	baz=351,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**32.96**	**164**	T	T	04 49 54.6	
	baz=351,slow=76,SNR=24						
INK	**Inuvik**	**35.56**	**37**	P	**P**	**04 14 42.2**	**+0.6**
	comp=E,1.0nm,0.5s,baz=288,slow=6.4,SNR=4.8						
INK	**Inuvik**	**35.56**	**37**	P	**P**	**04 14 41.9**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**35.56**	**37**	P	**P**	**04 14 41.9**	**+0.4**
YKA	**Yellowknife Ar**	**44.88**	**41**	P	**P**	**04 15 58.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=305,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.44**	**295**	P	**P**	**04 16 15.2**	**-3.3**
	comp=Z,0.2nm,0.5s,baz=62,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**47.44**	**295**	P	**P**	**04 16 16.0**	**-2.5**
MKAR	**Makanchi Array**	**47.44**	**295**	P	**P**	**04 16 16.0**	**-2.5**
NVAR	**Mina Array Bea**	**57.38**	**68**	P	**P**	**04 17 33.7**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=305,slow=6.3,SNR=4.0						
PDAR	**Pinedale Array**	**59.23**	**59**	P	**P**	**04 17 46.0**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=323,slow=4.5,SNR=7.3						
PDAR	**Pinedale Array**	**59.23**	**59**	P	**P**	**04 17 45.7**	**+1.0**
GLA	**Glamis**	**63.16**	**70**	P	**P**	**04 18 12.5**	**+1.4**
GLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GLA	**Glamis**	**63.16**	**70**	P	**P**	**04 18 12.5**	**+1.4**
TX31	**Lajitas Ar. Si**	**72.30**	**65**	P	**P**	**04 19 09.5**	**+1.1**
TX31				IAmb	IAmb	04 19 10.3	
	comp=Z,5.3nm,0.8s						
TX32	**Lajitas Array**	**72.30**	**65**	P	**P**	**04 19 09.1**	**+0.6**
TXAR	**Lajitas Array**	**72.30**	**65**	P	**P**	**04 19 09.6**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=296,slow=4.9,SNR=26						
TXAR	**Lajitas Array**	**72.30**	**65**	P	**P**	**04 19 08.9**	**+0.5**
TXAR	**Lajitas Array**	**72.30**	**65**	P	**P**	**04 19 08.9**	**+0.5**
WR0	**Warramunga Arr**	**74.49**	**203**	P	**P**	**04 19 21.1**	**+0.1**
WR0				IAmb	IAmb	04 19 24.9	
	comp=Z,3.7nm,1.1s						
WB2	**Warramunga Arr**	**74.52**	**203**	P	**P**	**04 19 21.4**	**+0.3**
WB2				IAmb	IAmb	04 19 30.9	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**74.52**	**203**	P	**P**	**04 19 20.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=19,slow=6.2,SNR=9.1						
FITZ	**Fitzroy Crossi**	**75.24**	**212**	P	**P**	**04 19 25.4**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=14,slow=3.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**75.24**	**212**	P	**P**	**04 19 26.1**	**+0.8**
FITZ				IAmb	IAmb	04 19 41.7	
	comp=Z,4.1nm,1.1s						
ASAR	**Alice Springs**	**78.21**	**202**	P	**P**	**04 19 42.3**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=15,slow=5.4,SNR=12						
ASAR	**Alice Springs**	**78.21**	**202**	P	**P**	**04 19 41.9**	**0.0**
ASAR	**Alice Springs**	**78.21**	**202**	P	**P**	**04 19 41.9**	**0.0**
H03N2	**Juan Fernandez**	**135.54**	**88**	T	T	06 58 00.5	
	baz=314,slow=77,SNR=16						
H03N1	**Juan Fernandez**	**135.56**	**88**	T	T	06 58 02.5	
	baz=314,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**135.56**	**88**	T	T	06 58 02.7	
	baz=314,slow=77,SNR=15						

MAN 01 04:19:05.7, 16°.86N×119°.89E, h25km, mb4.3, ML3.1, MS2.9, Luzon

*PRU **01** 04:23:18.5±0.0, 51°.46N×16°.14E, h0km*
*VIE **01** 04:23:18.5±1.0, 51°.42N×16°.01E, h0km, mb1.9/1, ml2.7/4, Error ellipse: s-maj=10.4km s-min=4.5

IDHR	Dehrash	1.75	126	*e*Pg		Pn	04 27 16.1 -0.1
YOVA	Hakkari_Yksek	1.86	350	*i* P		Pn	04 27 18.9 +1.1
YOVA				*i* S		Sn	04 27 38.8 -2.7
YOVA				IAML			04 27 48.0
	comp=E,154nm,0.6s						
HAKT	HAKKARI	1.97	337	*i* P		Pn	04 27 20.3 +1.0
HAKT				*i* S		Sn	04 27 43.2 -1.0
ILIN	Lien	2.04	113	*e*Pn		Pn	04 27 20.7 +0.4
ILIN				*e*			04 27 50.5
	comp=Z,4μm,0.5s						
IGHG	Ghaleghazi	2.10	132	*e*Pn		Pn	04 27 21.6 +0.5
IGHG				*e*			04 28 07.1
	comp=Z,4μm,0.8s						
KER	Kermanshah	2.43	123	*e*Pn		Pn	04 27 25.8 +0.3
KCHF	Cheshme Sefid,	2.43	126	*e*Pn		Pn	04 27 26.0 +0.4
KCHF				*e*			04 28 06.1
	comp=Z,2μm,0.3s						
BHD	Baghdad	2.48	186	*e*Pn		Pn	04 27 25.0 -1.1
BHD				*e*Sn		Sn	04 27 58.0 +1.6
IHSH	Hashtrud	2.60	52	*e*Pn		Pn	04 27 28.9 +0.9
IHSH				*e*			04 27 36.4
	comp=Z,763nm,0.4s						
IBDR	Badra	2.83	158	*e*Pn		Pn	04 27 28.0 -2.8
IBDR				*e*Sn		Sn	04 28 02.0 -2.9
IALM	Almabolaq	2.99	106	*e*Pn		Pn	04 27 33.7 +0.4
IMRD	Marand	3.07	15	*e*Pn		Pn	04 27 36.2 +1.8
IMRD				*e*			04 28 30.7
	comp=Z,752nm,0.6s						
SRTM	Siirt_Merkez	3.15	316	*i* P		Pg	04 27 44.8 -1.2
SRTM				*i* S		Sg	04 28 24.9 -1.9
SRTM				IAML			04 28 38.0
	comp=N,74nm,0.6s						
SRTM				IAML			04 28 54.0
	comp=E,40nm,0.7s						
ISRB	Sarab	3.17	48	*e*Pn		Pn	04 27 37.0 +1.2
ISRB				*e*			04 27 46.7
	comp=Z,544nm,0.4s						
IHRS	Heris	3.19	36	*e*		Pg	04 27 47.7 +0.9
	comp=Z,444nm,0.3s						
IKFM	Kafar-mosalman	3.43	129	*e*Pn		Pn	04 27 39.3 +0.2
IDOB	Doab	3.48	123	*e*Pn		Pn	04 27 39.6 -0.5
HSAM	Samen	3.57	114	*e*Pn		Pn	04 27 41.3 0.0
QSDN	Sirdan	3.72	77	*e*Pn		Pn	04 27 42.9 -0.4
HAGD	Aghdareh	3.77	103	*e*Pn		Pn	04 27 44.9 +0.9
QABG	Abgarm-Qazvin	3.99	89	*e*Pn		Pn	04 27 47.7 +0.6

*IDC **01** 04:45:20.6±0.8, 0°.36N×142°.03E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/45, mbtmp3.7/11, ML3.1/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/59, Error ellipse: s-maj=32.9km s-min=17.7km az=82.0*

ISC 01 04:45:24.1±0.7, 30°.41N±0°.08×141°.8E±0°.2, h23km, n13, σ1§68/14, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.32	175	Pn	Pn	04 46 12.9	-1.8
	2.8nm,0.3s,baz=323,slow=18,SNR=1.7						
JCJ				Sn	Sn	04 46 54.1	+0.8
	34nm,0.3s,baz=308,slow=23,SNR=6.1						
MJAR	Matsushiro Arr	6.82	335	Pn	Pn	04 47 02.3	-0.5
	0.3nm,0.3s,baz=160,slow=11,SNR=19						
MAT	Matsushiro	6.82	335	P	Pn	04 47 03.3	+0.5
MAT				*e*S	Sn	04 48 16.2	-3.6
ASAJ	Asahikawa	13.69	2	LR	LR	04 55 15.6	
	comp=Z,36nm,20.7s,baz=191,slow=43						
KLR	Kul'dur	20.29	341	P	P	04 49 59.1	+0.9
	0.7nm,0.5s,baz=168,slow=14,SNR=1.9						
MKAR	Makanchi Array	48.18	307	P	P	04 54 03.7	+1.1
	0.6nm,0.6s,baz=93,slow=9.6,SNR=8.9						
WRA	Warramunga Arr	50.58	189	P	P	04 54 21.6	+0.4
	1.9nm,0.7s,baz=6.0,slow=7.4,SNR=6.6						
ASAR	Alice Springs	54.30	189	P	P	04 54 47.0	-1.7
	0.4nm,0.4s,baz=9.7,slow=7.1,SNR=2.4						
FINES	FINESS Array B	74.85	333	P	P	04 57 02.6	+0.1
	1.1nm,0.9s,baz=64,slow=4.4,SNR=3.8						
NVAR	Mina Array Bea	78.72	52	P	P	04 57 24.5	-0.6
	0.4nm,0.6s,baz=300,slow=5.8,SNR=5.6						
AKASG	Malin Array Be	79.78	323	P	P	04 57 33.1	+2.9
	0.2nm,0.3s,baz=51,slow=5.0,SNR=1.9						
PDAR	Pinedale Array	82.08	45	P	P	04 57 43.0	-0.1
	0.1nm,0.4s,baz=270,slow=4.5,SNR=2.4						
TXAR	Lajitas Array	93.86	53	P	P	04 58 40.2	0.0
	0.3nm,0.7s,baz=326,slow=4.2,SNR=4.4						

*IDC **01** 04:47:14.2±3.9, 0°.64N×125°.80E, h66km±37km, mb4.0/9, mb1 4.1/11, mb1mx3.8/39, mbtmp4.3/11, ML4.0/2, MS3.8/2, Ms1 3.8/2, ms1mx2.9/43, Error ellipse: s-maj=31.4km s-min=13.4km az=76.0*

*DJA **01** 04:47:14.7±0.3, 1°.N±3°×12°.6E±°, h66km±9km, M4.4/13, mb4.4/4, mB4.8/1, MLv4.4/13, Mw(mB)4.1/1*

*NEIC **01** 04:47:15.9±1.7, 0°.65N±0°.09×126°.03E±0°.06, h75km±10km, mb4.2/9, Error ellipse: s-maj=13.1km s-min=8.1km az=166.0*

ISC 01 04:47:15.0±0.6, 0°.62N±0°.06×125°.99E±0°.04, h75km, n43, σ1§15/53, mb4.2/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.38	84	Pn	Pn	04 47 38.7	+0.1
TNTI				Sn	Sn	04 47 56.5	+0.1
TNTI	Ternate	1.38	84	P	Pn	04 47 38.7	+0.1
TNTI				S	Sn	04 47 57.4	+1.0
LBMI	Labuha	1.96	130	P	Pn	04 47 46.8	+0.6
LBMI				S	Sn	04 48 11.3	+1.3
SANI	Sanana	2.65	180	P	Pn	04 47 54.2	-1.4
GTOI	Gorontalo	2.98	270	P	Pn	04 48 01.3	+1.3
SGSI	Sangihe	3.08	351	P	Pn	04 48 00.9	-0.6
LUWI	Luwuk	3.62	243		Pn	04 48 10.2	+1.5
LUWI				Sn	Sn	04 48 52.7	+2.4
LUWI	Luwuk	3.62	243	P	Pn	04 48 08.9	+0.2
NLAI	Namlea	3.99	164	P	Pn	04 48 13.6	-0.2
MRSI	Marisa	4.05	268	P	Pn	04 48 14.2	-0.4
APSI	Ampana	4.60	251	P	Pn	04 48 21.6	-0.5
MSAI	Masohi	4.91	143	P	Pn	04 48 27.8	+1.4
TOLI2	Tolitoli	5.23	275	Pn	Pn	04 48 31.7	+0.9
TOLI2				Sn	Sn	04 49 32.8	+3.0
TTSI	Tana Toraja	7.16	239	P	Pn	04 49 02.4	+5.3
FAKI	Fak Fak	7.17	119	Pn	Pn	04 48 59.0	+1.6
FAKI				Sn	Sn	04 50 16.2	-1.2
BNSI	Bone	7.71	230	P	Pn	04 49 03.9	-0.7
	0.1nm20nm,0.6s						
BKSI	Bulukumba	8.32	225	P	Pn	04 49 12.9	0.0
	20nm,0.6s						
KAPI	Kappang	8.38	228	P	Pn	04 49 13.1	-0.6
	3.6nm,0.3s,baz=337,slow=14,SNR=7.6						
KAPI				S	Sn	04 50 43.6	-3.2
	1.8nm,0.3s,baz=171,slow=16,SNR=1.7						
KAPI	Kappang	8.38	228	Pn	Pn	04 49 14.6	+0.9
KAPI					Sn	04 50 44.4	-2.4
EDFI	Ende, Flores	10.24	205	P	Pn	04 49 40.0	+0.6
FITZ	Fitzroy Crossi	18.60	181	P	P	04 51 26.3	-0.2
	0.2nm,0.3s,baz=19,slow=7.9,SNR=6.4						
FITZ	Fitzroy Crossi	18.60	181	P	P	04 51 26.2	-0.2
WB0	Warramunga Arr	21.87	158	P	P	04 52 01.6	-0.2
WB0				IAmb	IAmb	04 52 06.4	
	comp=Z,15nm,1.1s						
WRA	Warramunga Arr	22.01	159	P	P	04 52 03.1	-0.2
	comp=Z,6.8nm,0.5s,baz=338,slow=11,SNR=9.2						
WRA				S	S	04 56 00.5	-1.5
	comp=Z,1.8nm,0.9s,baz=328,slow=17,SNR=5.3						
WRA				LR	LR	05 01 00.7	
	comp=Z,291nm,19.9s,baz=150,slow=37						
WRA	Warramunga Arr	22.01	159	P	P	04 52 02.8	-0.5
WB2	Warramunga Arr	22.01	159	P	P	04 52 02.9	-0.5
WB2				IAmb	IAmb	04 52 11.8	
	comp=Z,12nm,0.8s						
WR0	Warramunga Arr	22.10	158	P	P	04 52 04.2	-0.1
WR0				IAmb	IAmb	04 52 21.9	
	comp=Z,6.6nm,0.8s						
AS31	Alice Springs	25.33	163	P	P	04 52 35.9	+0.8
AS31				IAmb	IAmb	04 52 39.0	
	comp=Z,3.8nm,0.7s						
ASAR	Alice Springs	25.33	163	P	P	04 52 35.5	+0.5
	comp=Z,7.6nm,0.3s,baz=338,slow=9.1,SNR=14						
ASAR				PcP	PcP	04 56 07.2	+0.9
	comp=Z,1.0nm,0.5s,baz=345,slow=2.4,SNR=6.0						
ASAR				LR	LR	05 03 11.9	
	comp=Z,186nm,19.3s,baz=42,slow=38						
ASAR	Alice Springs	25.33	163	P	P	04 52 35.9	+0.8
ASAR					PcP	04 56 06.7	+0.4
BBOO	Buckleboo	34.58	165	P	P	04 53 57.4	+0.7
STKA	Stephens Creek	35.54	157	P	P	04 54 06.0	+1.0
	comp=Z,8.9nm,0.5s,baz=323,slow=9.3,SNR=45						
STKA	Stephens Creek	35.54	157	P	P	04 54 05.9	+1.0
STKA				IAmb	IAmb	04 54 06.7	
	comp=Z,2.4nm,0.6s						
KSRS	Korea Array	36.70	3	P	P	04 54 15.1	+0.3
	comp=Z,1.0nm,0.4s,baz=183,slow=9.3,SNR=2.7						
USRK	Ussuriysk Ar.	43.72	6	P	P	04 55 13.1	+0.4
	comp=Z,1.8nm,0.6s,baz=186,slow=8.6,SNR=5.0						
KLR	Kul'dur	48.68	5	P	P	04 55 51.7	+0.1
	comp=Z,1.8nm,0.6s,baz=221,slow=6.2,SNR=5.8						
SONM	Songino Array	50.02	343	P	P	04 56 00.9	-1.1
	comp=Z,0.9nm,0.6s,baz=157,slow=7.7,SNR=3.8						
MK31	Makanchi Array	59.70	327	P	P	04 57 10.5	-1.4
MKAR	Makanchi Array	59.70	327	P	P	04 57 10.2	-1.6
	comp=Z,2.9nm,0.5s,baz=118,slow=8.9,SNR=27						
MKAR	Makanchi Array	59.70	327	P	P	04 57 10.3	-1.5
VNDA	Vanda	80.45	173	P	P	04 59 18.9	+0.7
	comp=Z,0.7nm,0.4s,baz=316,slow=6.6,SNR=8.9						
TORD	Torodi Ar. Bea	123.12	286	PKP	PKPdf	05 06 04.1	0.0
	comp=Z,0.9nm,0.7s,baz=109,slow=2.1,SNR=6.4						
TXAR	Lajitas Array	124.06	53	PKP	PKPdf	05 06 06.4	+0.7
	comp=Z,0.3nm,0.7s,baz=232,slow=1.4,SNR=4.8						

IDC 01 04:56:46.9±2.3, 5°.87N×125°.05E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/48, mbtmp3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.8/29, Error ellipse: s-maj=150.9km s-min=27.2km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.30	24	LR	LR	04 57 59.3	
	comp=Z,524nm,21.8s,baz=134,slow=56						
FITZ	Fitzroy Crossi	23.83	179	P	P	05 02 00.8	-1.0
	0.9nm,0.8s,baz=354,slow=9.2,SNR=1.0						
WRA	Warramunga Arr	27.23	161	P	P	05 02 33.2	+0.4
	0.4nm,0.9s,baz=342,slow=9.2,SNR=1.9						
ASAR	Alice Springs	30.61	164	P	P	05 03 03.3	+0.4
	0.2nm,0.3s,baz=338,slow=7.5,SNR=4.1						
BRDH	Bariadhala	36.29	301	LR	LR	05 20 03.0	
	comp=Z,112nm,19.5s,baz=116,slow=38						
MKAR	Makanchi Array	54.85	325	P	P	05 06 19.0	-0.1
	0.2nm,0.3s,baz=112,slow=8.5,SNR=4.2						

*REY **01** 04:57:08.4, 63°.71N×23°.36W, h13km*

*IDC **01** 04:57:09.7±1.3, 63°.85N×23°.07W, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/52, mbtmp3.3/5, ML3.7/1, Error ellipse: s-maj=27.5km s-min=14.6km az=131.0*

ISC 01 04:57:12.0±1.1, 63°.84N±0°.05×22°.94W±0°.05, h17km±5km, n26, σ1§55/42, mb3.4/4, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.10	101	P	Pg	04 57 14.3	-1.3
	baz=70						
IRNE				S	Sg	04 57 18.9	+1.0
	baz=70						
INYL	Nylenda	0.16	32	P	Pg	04 57 15.5	-0.8
	baz=46						
INYL				S	Sb	04 57 20.9	+1.3
	baz=46						
IGRV	Grindav??k	0.21	84	P	Pg	04 57 16.2	-0.8
	baz=70						
IGRV				S	Sb	04 57 22.0	+1.0
	baz=70						
IKRI	Krysuvik	0.38	83	P	Pg	04 57 18.7	-1.2
	baz=73						
IKRI				S	Sb	04 57 27.1	+1.2
	baz=73						
IKAS	Kald??rsel	0.51	68	P	Pg	04 57 21.0	-1.2
	baz=64						
IKAS				S	Sb	04 57 31.3	+1.6
	baz=64						
ISAN	Sandskeio	0.64	69	P	Pg	04 57 22.9	-1.7
	baz=66						
ISAN				S	Sb	04 57 34.9	+1.6
	baz=66						
IKUD	Kuludalsa	0.67	43	P	Pg	04 57 23.6	-1.7
	baz=46						
IKUD				S	Sg	04 57 35.5	+1.3
	baz=46						
IBJA	Bjarnastaoir	0.73	81	P	Pg	04 57 24.6	-1.7
	baz=75						
IBJA				S	Sg	04 57 37.3	+1.3
	baz=75						
IHEI	Heioarbar	0.83	63	P	Pg	04 57 25.8	-2.4
	baz=62						
IHEI				S	Sg	04 57 40.5	+1.3
	baz=62						
IKRO	Krokur	0.84	71	P	Pg	04 57 25.8	-2.6
	baz=68						
IKRO				S	Sg	04 57 40.4	+0.9
	baz=68						
ISOL	Solvholt	0.89	83	S	Sg	04 57 41.3	+0.4
	baz=78						
ISOL				P	Pg	04 57 26.8	-2.4
	baz=78						
IASM	Asmuli	1.03	89	P	Pg	04 57 29.0	-2.9
	baz=83						
IASM				S	Sg	04 57 44.9	-0.5
	baz=83						
ISAU	Saurbar	1.12	81	P	Pn	04 57 30.7	-2.2
	baz=77						
ISAU				S	Sg	04 57 48.4	0.0
	baz=77						
BORG	Borgarnes	1.15	37	Pg	Pn	04 57 30.9	-2.4
	70nm,0.3s,baz=224,slow=4.9,SNR=353						
BORG				Lg	Lg	04 57 49.0	
	280nm,0.3s,baz=72,slow=18,SNR=29						
IASB	`sbjarnarst	1.15	37	P	Pn	04 57 31.1	-2.2
	baz=40						
IASB				S	Sg	04 57 48.9	-0.4
	baz=40						
IGYG	Gygjarholskot	1.28	68	P	Pn	04 57 33.2	-1.7
	baz=66						
IHAU	Haukadalur	1.32	83	P	Pn	04 57 33.9	-1.7
	baz=79						
IHAU				S	Sn	04 57 52.7	0.0
	baz=79						
IFED	Fedgar	1.45	81	P	Pn	04 57 36.1	-1.2
	baz=77						
IFED				S	Sn	04 57 57.4	+1.5
	baz=77						
IMJO	Mjoaskard	1.45	85	P	Pn	04 57 36.1	-1.2
	baz=81						
IHVE	Hveravellir	1.80	53	P	Pn	04 57 41.3	-0.8
	baz=53						
IVAT	Vatnsfell	1.80	77	P	Pn	04 57 41.6	-0.6
	baz=74						
EKA	Eskdalemuir Ar	13.10	121	Pn	Pn	05 00 17.6	+0.7
	baz=320,slow=13,SNR=3.6						
ILAR	Eielson Array	45.27	330	P	P	05 05 27.2	-0.7
	0.2nm,0.7s,baz=35,slow=8.1,SNR=2.5						
PDAR	Pinedale Array	51.27	290	P	P	05 06 15.1	+0.4
	0.3nm,0.7s,baz=37,slow=10,SNR=2.5						
TORD	Torodi Ar. Bea	53.48	150	P	P	05 06 30.9	-0.1
	0.5nm,0.8s,baz=331,slow=6.6,SNR=2.4						
MKAR	Makanchi Array	55.16	54	P	P	05 06 45.1	+2.1
	0.5nm,0.8s,baz=312,slow=6.9,SNR=4.5						

*REY **01** 04:59:23.8, 63°.72N×23°.48W, h5km*

*IDC **01** 04:59:26.1±0.5, 63°.87N×23°.31W, h0km, mb3.9/20, mb1 4.1/24, mb1mx3.9/56, mbtmp3.9/24, ML3.8/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/13, Error ellipse: s-maj=12.2km s-min=10.1km az=178.0*

*NEIC **01** 04:59:27.9±1.3, 63°.86N±0°.05×23°.1W±0°.1, h10km±1km, mb4.5/48, Error ellipse: s-maj=9.4km s-min=7.1km az=239.0*

*MOS **01** 04:59:28.0±0.9, 63°.84N×23°.27W, h22km, mb4.7/24, Error ellipse: s-maj=14.6km s-min=9.2km az=100.3*

*BGR **01** 04:59:33.2±0.0, 63°.13N×23°.41W, h33km, mb4.4, Ms4.1*

ISC 01 04:59:28.5±0.8, 63°.83N±0°.04×23°.00W±0°.03, h14km±4km, n186, σ1§96/200, mb4.4/68, MS4.4/19, 2C, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.13	96	P	Pg	04 59 30.7	-1.3
	baz=74						
IRNE				S	Sb	04 59 36.4	+1.0
	baz=74						
INYL	Nylenda	0.18	38	P	Pg	04 59 31.7	-1.1
	baz=52						
INYL				S	Sb	04 59 37.6	+0.6
	baz=52						
IGRV	Grindav??k	0.24	83	P	Pg	04 59 32.8	-1.0
	baz=72						
IGRV				S	Sb	04 59 39.6	+1.0
	baz=72						
IKRI	Krysuvik	0.41	83	P	Pg	04 59 35.2	-1.5
	baz=75						
IKRI				S	Sb	04 59 44.2	+0.6
	baz=75						
IKAS	Kald??rsel	0.54	69	P	Pg	04 59 37.5	-1.6
	baz=66						
IKAS				S	Sb	04 59 48.5	+1.3
	baz=66						
IVOS	Vogsosar	0.57	87	P	Pg	04 59 39.0	-0.7
	baz=80						
IVOS				S	Sb	04 59 49.3	+1.1
	baz=80						
ISAN	Sandskeio	0.67	70	P	Pg	04 59 39.6	-2.0
	baz=67						
ISAN				S	Sb	04 59 51.9	+1.0
	baz=67						
IKUD	Kuludalsa	0.70	45	P	Pg	04 59 40.0	-2.1
	baz=49						
IKUD				S	Sb	04 59 52.0	+0.3
	baz=49						
IBJA	Bjarnastaoir	0.76	80	S	Sb	04 59 54.1	+0.6
	baz=76						
IBJA				P	Pg	04 59 41.0	-2.2
	baz=76						
IHEI	Heioarbar	0.86	64	P	Pg	04 59 42.3	-2.8
	baz=63						
IHEI				S	Sb	04 59 57.2	+0.8
	baz=63						
IKRO	Krokur	0.87	71	P	Pb	04 59 42.6	-2.7
	baz=69						
ISOL	Solvholt	0.91	83	P	Pb	04 59 43.2	-2.8
	baz=78						
ISOL				S	Sb	04 59 57.9	-0.1
	baz=78						
IASM	Asmuli	1.06	89	P	Pb	04 59 45.5	-2.9
	baz=84						
IASM				S	Sb	05 00 02.1	0.0
	baz=84						
ISAU	Saurbar	1.15	81	P	Pn	04 59 47.3	-2.8
	baz=77						
ISAU				S	Sn	05 00 05.4	-0.2
	baz=77						
BORG	Borgarnes	1.17	38	Pg	Pn	04 59 48.0	-2.4
	304nm,0.3s,baz=223,slow=6.9,SNR=19						
BORG				Lg	Lg	05 00 05.7	
	348nm,0.3s,baz=58,slow=17,SNR=17						
IASB	`sbjarnarst	1.18	38	P	Pn	04 59 47.6	-2.8
	baz=41						
IASB				S	Sb	05 00 05.5	0.0
	baz=41						
IVME	Vestmannaeyjar	1.27	107	P	Pn	04 59 48.2	-3.5
	baz=100						
IVME				S	Sb	05 00 07.2	-1.2
	baz=100						
IHAU	Haukadalur	1.35	83	P	Pn	04 59 50.8	-2.0
	baz=79						
IMID	Miomork	1.39	96	P	Pn	04 59 50.5	-2.9
	baz=91						
IMID				S	Sn	05 00 11.5	0.0
	baz=91						
IFED	Fedgar	1.47	81	P	Pn	04 59 52.9	-1.6
	baz=78						
IFED				S	Sb	05 00 14.7	+0.6
	baz=78						
IMJO	Mjoaskard	1.47	85	P	Pn	04 59 52.6	-1.9
	baz=81						
IESK	Eystri-Skogar	1.61	99	P	Pn	04 59 53.9	-2.5
	baz=94						
ANGG	Ammassalik, Gr	6.52	292	IVMs_BB	IVMs_BB	05 03 57.7	
	comp=Z,4μm,9.0s						
ANGG	Ammassalik, Gr	6.52	292	Pn	Pn	05 01 01.5	-2.2
SCO	Scoresbysund	6.70	3	*e*	Pn	05 01 04.9	-1.3
	baz=162,slow=7.9						
SCO				*i* P	Pn	05 01 07.0	+0.8
SCO				IAML		05 02 06.5	
	comp=Z,6.3nm,0.4s						
SCO	Scoresbysund	6.70	3	Pn	Pn	05 01 07.0	+0.8
SUMG	Summit	10.45	334	*i* P	Pn	05 02 00.0	+2.1
SUMG	Summit	10.45	334	P	Pn	05 01 58.0	+0.1
SUMG	Summit	10.45	334		Pn	05 01 58.0	+0.1
EKA	Eskdalemuir Ar	13.12	121	Pn	Pn	05 02 34.8	+0.8
	baz=318,slow=13,SNR=9.9						
KONO	Kongsberg	15.88	90	*i* P	P	05 03 13.4	-1.4
KONO				pmax	pmax		
	comp=Z,46nm,3.2s						
NOA	NORSAR Array B	15.96	84	Pn	P	05 03 15.9	+0.2
	comp=Z,0.0nm,0.3s,baz=291,slow=11,SNR=7.8						
HFS	Hagfors	17.46	85	P	P	05 03 35.0	+2.6
	comp=Z,0.0nm,0.3s,baz=278,slow=10.0,SNR=4.1						
NOR	Nord	17.94	3	*e*P	P	05 03 38.8	+1.3
KBS	Kingsbay	18.25	21	*e*P	P	05 03 45.3	+4.3
TULEG	Thule	19.31	329	*e*P	Pn	05 03 53.9	+0.3
ARCES	ARCESS Array B	19.54	52	P	Pn	05 03 56.8	+0.3
	baz=268,slow=8.1,SNR=7.2						
ARCES	ARCESS Array B	19.54	52	P	Pn	05 03 56.4	-0.1
ARCES				pmax	pmax		
	comp=Z,13nm,1.4s						
ARCES	ARCESS Array B	19.54	52	P	Pn	05 03 56.4	-0.1
FRB	Frobisher Bay	19.80	290	P	P	05 03 56.1	-1.8
	comp=Z,0.2nm,0.3s,baz=75,slow=9.4,SNR=4.9						
BUG	Bochum--Univer	20.16	114	*e*P	P	05 04 02.7	+0.7
	comp=Z,19nm,1.0s,baz=319,slow=10						
NRDL	Niedersach Rie	20.55	108	*e*P	P	05 04 07.0	+0.9
	comp=Z,16nm,1.3s,baz=319,slow=10						
ASSE	Asse, Remlinge	21.05	108	*e*P	P	05 04 12.5	+1.0
	comp=Z,17nm,1.2s,baz=319,slow=10						
CLZ	Clausthal	21.14	109	*e*P	P	05 04 15.1	+2.5
	comp=Z,8.9nm,1.1s,baz=319,slow=10						
FLTG	Flechtingen	21.15	107	*e*P	P	05 04 14.0	+1.4
	comp=Z,7.4nm,0.9s,baz=319,slow=10						
GTTG	Gottingen	21.19	110	*e*P	P	05 04 14.3	+1.2
	comp=Z,56nm,1.2s,baz=319,slow=10						
TNS	Taunus Mts	21.57	114	*e*P	P	05 04 20.3	+3.0
	comp=Z,44nm,1.4s,baz=319,slow=10						
NEUB	Neuenburg	22.20	108	*e*P	P	05 04 24.9	+1.0
	comp=Z,27nm,1.0s,baz=319,slow=10						
FIA1	FINESS Array S	22.23	74	P	P	05 04 25.6	+1.4
FIA1				IAmb	IAmb	05 04 33.7	
	comp=Z,24nm,1.2s						
FINES	FINESS Array B	22.23	74	P	P	05 04 26.5	+2.2
	comp=Z,4.8nm,0.9s,baz=289,slow=13,SNR=11						
FINES	FINESS Array B	22.23	74	P	P	05 04 26.0	+1.8
FINES	FINESS Array B	22.23	74	P	P	05 04 26.0	+1.8
MOX	Moxa	22.55	109	*e*P	P	05 04 28.5	+0.7
	comp=Z,22nm,1.3s,baz=319,slow=10						
MOX				*e*L	L	05 13 58.7	
	comp=Z,1μm,19.7s						
CLL	Collm	22.64	107	*i* P	P	05 04 30.8	+2.1
	comp=Z,18nm,1.5s						
CLL				*e*S	S	05 08 41.0	+5.1
CLL	Collm	22.64	107	*i* P	P	05 04 30.8	+2.1
CLL				*e*S	S	05 08 41.0	+

MANZ	Manzenberg	23.26	110	eP		P	05 04 34.9	-0.2
	comp=Z,18nm,1.4s,baz=319,slow=10							
BRG	Berggiesshubel	23.36	106	eP		P	05 04 37.2	+1.0
BRG				Amp			05 04 38.8	
	comp=Z,5.6nm,0.8s							
BRG	Berggiesshubel	23.36	106	P		P	05 04 49.9	+14
BRG				Amp			05 04 51.7	
	comp=Z,16nm,1.5s							
BRG				Amp			05 15 28.0	
	comp=Z,1.0nm,15.5s							
BRG				Amp			05 15 29.0	
	comp=N,0.5nm,18.4s							
BRG				Amp			05 15 33.0	
	comp=E,0.7nm,16.8s							
SCHQ	Schefferville	23.64	268	P		P	05 04 36.2	-2.6
	comp=E,4.4nm,0.8s,baz=63,slow=9.7,SNR=5.0							
SCHQ	Schefferville	23.64	268	P		P	05 04 37.5	-1.3
PVCC	Panska Ves	23.89	106	AMS		AMS	05 16 30.0	
	comp=E,700nm,14.6s							
PRA	Prague	24.17	107	AMS		AMS	05 15 50.0	
	comp=E,700nm,13.8s							
PRU	Pruhonice	24.28	107	AMS		AMS	05 17 20.0	
	comp=E,800nm,12.5s							
CHVC	Chvalec	24.48	104	AMS		AMS	05 16 10.0	
	comp=E,900nm,15.4s							
UPC	Upice	24.52	104	AMS		AMS	05 16 00.0	
	comp=E,1μm,17.5s							
KHC	Kasperske Hory	24.53	109	P		P	05 04 47.4	+0.2
KHC				pmax		pmax		
	comp=Z,20nm,1.4s							
KHC	Kasperske Hory	24.53	109	eP		P	05 04 49.0	+1.8
KHC				AMS		AMS	05 16 50.0	
	comp=Z,1μm,13.1s							
KHC	Kasperske Hory	24.53	109	P		P	05 04 47.4	+0.2
KHC				IAmb		IAmb	05 04 52.3	
	comp=Z,20nm,1.4s							
OSTC	Ostas	24.57	104	AMS		AMS	05 15 40.0	
	comp=Z,1μm,18.8s							
DPC	Dobruska-Polom	24.77	104	eP		P	05 04 50.7	+1.3
DPC				AMS		AMS	05 16 10.0	
	comp=Z,1μm,17.3s							
GEC2	GERESS Array S	24.80	110			P	05 04 50.2	+0.4
GEC2				IAmb		IAmb	05 04 55.0	
	comp=Z,21nm,1.8s							
GEC2	GERESS Array S	24.80	110	eP		P	05 04 50.6	+0.9
	comp=Z,10nm,1.3s,baz=319,slow=10							
GERES	GERESS Array B	24.80	110	P		P	05 04 51.2	+1.5
	comp=Z,2.3nm,1.0s,baz=316,slow=7.4,SNR=12							
GERES	GERESS Array B	24.80	110	P		P	05 04 49.5	-0.3
GERES	GERESS Array B	24.80	110	P		P	05 04 49.5	-0.3
DAVOX	Davos/Dischmat	24.90	118	P		P	05 04 51.9	+1.2
	comp=Z,1.7nm,0.7s,baz=326,slow=10,SNR=2.1							
TUE	Stuetta	24.95	119	P		P	05 04 52.2	+1.0
TUE				IAmb		IAmb	05 04 56.6	
	comp=Z,12nm,1.2s							
CKRC	Cesky Krumlov	25.08	109	AMS		AMS	05 17 10.0	
	comp=Z,1μm,13.7s							
KRLC	Kraliky	25.17	104	eP		P	05 04 54.6	+1.6
KRLC				AMS		AMS	05 16 30.0	
	comp=Z,1μm,17.7s							
TREC	Trest	25.21	107	AMS		AMS	05 17 50.0	
	comp=Z,900nm,12.8s							
RJOB	Jochberg	25.30	113	eP		P	05 04 55.3	+1.1
	comp=Z,54nm,0.9s,baz=319,slow=10							
VRAC	Vranov	25.67	106	P		P	05 04 59.0	+1.5
	comp=Z,2.0nm,0.3s,baz=317,slow=8.8,SNR=6.2							
VRAC	Vranov	25.67	106	eP		P	05 04 59.3	+1.8
VRAC				e			05 05 36.1	
MORC	Moravsky Berou	25.72	104	P		P	05 04 59.2	+1.2
MORC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MORC	Moravsky Berou	25.72	104	P		P	05 04 59.2	+1.2
MORC	Moravsky Berou	25.72	104	eP		P	05 04 58.8	+0.8
OKC	Ostrava-Krasne	25.94	103	AMS		AMS	05 18 30.0	
	comp=Z,900nm,13.3s							
CTI	Castel Tesino	26.20	116	P		P	05 05 03.1	+0.7
CTI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CTI	Castel Tesino	26.20	116	P		P	05 05 03.1	+0.7
CTI				IAmb		IAmb	05 05 07.4	
	comp=Z,8.7nm,0.9s							
ZOU	Zoufplan	26.32	114	P		P	05 05 04.9	+1.3
ZOU				IAmb		IAmb	05 05 09.6	
	comp=Z,10nm,1.0s							
STAL	STALIGIAL	26.45	115	P		P	05 05 05.1	+0.5
STAL				IAmb		IAmb	05 05 08.0	
	comp=Z,8.0nm,1.1s							
ESDC	Sonseca Array	26.69	146	P		P	05 05 06.7	-0.1
	comp=Z,2.2nm,1.0s,baz=345,slow=8.8,SNR=13							
ESDC	Sonseca Array	26.69	146	P		P	05 05 05.6	-1.2
MNK	Minsk	26.97	86	iP		P	05 05 01.1	-8.1
MNK				iS		S	05 09 38.5	-7.1
MNK				pmax		pmax		
	comp=N,14nm,0.7s							
MNK				pmax		pmax		
	comp=E,1.0nm,0.7s							
MNK				pmax		pmax		
	comp=Z,9.0nm,0.5s							
MNK				MLR		MLR		
	comp=N,471nm,19.0s							
MNK				MLR		MLR		
	comp=E,52nm,15.0s							
MNK				MLR		MLR		
	comp=Z,592nm,16.0s							
MNK	Minsk	26.97	86	iP		P	05 05 01.2	-8.0
MNK				iP		P	05 05 01.2	-8.0
	comp=N,14nm,0.7s							
MNK				iP		P	05 05 01.2	-8.0
	comp=Z,9.0nm,0.5s,baz=131							
MNK				iPP		PnPn	05 05 41.9	-9.3
MNK				iS		S	05 09 38.5	-7.0
MNK				iSS		SnSn	05 10 43.5	-7.4
MNK				iLQ		LQ	05 12 53.6	
MNK				iLR		LR	05 15 21.4	
MNK				iLRM		MLR	05 17 30.9	
	comp=N,471nm,18.6s							
MNK				iLRM		MLR	05 17 38.1	
	comp=E,52nm,15.0s							
MNK				iLRM		MLR	05 17 38.9	
	comp=Z,592nm,15.7s							
KLMR	Klimovskoe	28.14	67	eP		P	05 05 21.4	+1.8
KLMR				pmax		pmax		
	comp=Z,12nm,1.4s							
KLMR	Klimovskoe	28.14	67	eP		P	05 05 21.5	+1.8
KLMR				AMP			05 05 23.6	
	comp=Z,12nm,1.4s							
KLMR				LQ		LQ	05 13 22.9	
KLMR				LQ		LQ	05 13 22.9	
KLMR				LR		LR	05 15 41.0	
AKASG	Malin Array Be	30.18	91	P		P	05 05 38.5	+0.7
	comp=Z,0.1nm,0.2s,baz=322,slow=9.1,SNR=0.9							
OBN	Obninsk	30.38	78	eP		P	05 05 43.0	+3.5
OBN				*SP		sP	05 05 47.0	+1.4
OBN				SS		SS	05 12 15.0	-33
OBN				pmax		pmax		
	comp=Z,23nm,1.3s							
OBN				MLR		MLR		
	comp=Z,320nm,14.0s							
MDT	Midelt	33.10	151	P		P	05 06 04.8	+1.1
	comp=Z,3.8nm,1.0s,baz=334,slow=7.7,SNR=7.7							
KEST	Kesra	34.32	129	P		P	05 06 14.3	+0.1
	comp=Z,5.4nm,1.0s,baz=239,slow=3.8,SNR=3.8							
KEST	Kesra	34.32	129	P		P	05 06 14.8	+0.6
KEST				IAmb		IAmb	05 06 17.0	
	comp=Z,10nm,1.2s							
VAE	Valguarnera	34.59	122	LR		LR	05 20 03.8	
	comp=Z,322nm,19.9s,baz=340,slow=36							
YKA	Yellowknife Ar	37.99	311	P		P	05 06 43.9	-1.4
	comp=Z,1.3nm,0.8s,baz=42,slow=11,SNR=3.5							
YKA	Yellowknife Ar	37.99	311	iP		P	05 06 49.2	+3.9
FFC	Flin Flon	38.81	295	P		P	05 06 51.9	-0.3
FFC				pmax		pmax		
	comp=Z,26nm,2.0s							
FFC	Flin Flon	38.81	295	P		P	05 06 51.9	-0.3
FFC				IAmb		IAmb	05 06 53.8	
	comp=Z,26nm,2.0s							
INK	Inuvik	39.26	327	P		P	05 06 54.2	-1.6
	comp=Z,1.3nm,0.9s,baz=12,slow=18,SNR=2.8							
INK	Inuvik	39.26	327	P		P	05 06 55.6	-0.3
INK				pmax		pmax		
	comp=Z,11nm,1.8s							
INK	Inuvik	39.26	327	P		P	05 06 55.6	-0.3
B35A	Bob, Littlefor	40.05	282	P		P	05 07 01.8	-0.9
BRTR	Keskin Array B	40.66	99	P		P	05 07 08.9	+0.9
	comp=Z,0.5nm,0.5s,baz=294,slow=3.9,SNR=5.8							
BRTR	Keskin Array B	40.66	99	iP		P	05 07 09.6	+1.6
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
BRTR	Keskin Array B	40.66	99	P		P	05 07 09.4	+1.4
AGMN	Agassiz Nation	41.02	284	P		P	05 07 10.1	-0.7
AGMN				IAmb		IAmb	05 07 11.3	
	comp=Z,18nm,1.9s							
KIV	Kislovodsk	41.25	87	eP		P	05 07 14.4	+1.7
KIV				eS		S	05 13 29.3	+3.4
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
KIV				MLR		MLR		
	comp=Z,1μm,16.0s							
F33A	5 Mile Ranch,	43.11	282	P		P	05 07 27.1	-0.7
EGAK	Eagle	43.93	327	P		P	05 07 33.1	-1.0
DAWY	Dawson	44.08	326	P		P	05 07 35.5	0.0
DAWY				IAmb		IAmb	05 07 38.8	
	comp=Z,6.5nm,1.1s							
K27K	Chicken	44.78	327	P		P	05 07 41.0	+0.1
ECSD	EROS Data Cent	44.92	280	P		P	05 07 42.0	-0.3
ECSD				IAmb		IAmb	05 07 43.3	
	comp=Z,11nm,1.6s							
ILAR	Eielson Array	45.26	330	P		P	05 07 44.1	-0.7
	comp=Z,0.7nm,0.6s,baz=28,slow=7.2,SNR=9.6							
ILAR				PcP		PcP	05 09 23.4	-0.9
	comp=Z,0.7nm,0.8s,baz=17,slow=5.7,SNR=4.7							
ILAR	Eielson Array	45.26	330	P		P	05 07 44.4	-0.4
ILAR	Eielson Array	45.26	330	P		P	05 07 44.4	-0.4
BCAR	Beaver Creek A	45.51	326	P		P	05 07 46.2	-0.6
BCAR				PP		PP	05 09 34.3	+1.3
L27K	Beaver Creek,	45.53	326	P		P	05 07 46.7	-0.2
L27K				IAmb		IAmb	05 07 51.0	
	comp=Z,5.8nm,1.1s							
BRVK	Borovoye	45.63	57	iP		P	05 07 48.7	+0.9
BRVK				pmax		pmax		
	comp=Z,8.0nm,2.3s							
T47A	Sharon Grove	46.21	266	P		P	05 07 52.1	-0.5
EGMT	Eagleton	47.06	294	P		P	05 07 57.9	-1.4
EGMT				IAmb		IAmb	05 08 05.7	
	comp=Z,7.0nm,1.1s							
BILL	Bilibino	48.25	355	eP		P	05 08 08.9	+0.8
BILL							05 09 54.0	
BILL				S		S	05 15 00.0	-6.6
BILL				eSSS		SSS	05 19 48.3	
BILL				pmax		pmax		
	comp=Z,9.0nm,1.8s							
BILL				MLR		MLR		
	comp=Z,109nm,17.0s							
S39A	Bolivar	48.38	272	P		P	05 08 08.5	-1.0
HRY	Holter Researc	48.96	294	P		P	05 08 13.7	-0.3
U40A	Yellville	49.29	271	P		P	05 08 15.2	-1.3
BOZ	Bozeman (W)	49.78	293	P		P	05 08 19.9	-0.4
BOZ				pmax		pmax		
	comp=Z,6.0nm,1.2s							
BOZ	Bozeman (W)	49.78	293	P		P	05 08 19.9	-0.4
BOZ				IAmb		IAmb	05 08 24.3	
	comp=Z,6.2nm,1.2s							
WHAR	Wooly Hollow	49.93	270	P		P	05 08 20.3	-1.0
X40A	Basin Creek Fa	50.84	270	P		P	05 08 27.0	-1.2
X40A				IAmb		IAmb	05 08 29.6	
	comp=Z,4.2nm,0.9s							
KOWA	Kowa	51.02	156	P		P	05 08 30.2	+0.4
	comp=Z,2.0nm,0.7s,baz=6.1,slow=10,SNR=4.0							
KOWA	Kowa	51.02	156	P		P	05 08 29.7	0.0
KOWA				IAmb		IAmb	05 08 35.9	
	comp=Z,6.5nm,1.1s							
PD31	Pinedale Array	51.24	290	P		P	05 08 30.7	-0.8
PDAR	Pinedale Array	51.24	290	P		P	05 08 30.6	-0.8
	comp=Z,1.3nm,0.7s,baz=64,slow=6.4,SNR=12							
BW06	Boulder Array	51.25	290	P		P	05 08 30.6	-0.9
BMO	Blue Mountains	52.68	297	P		P	05 08 41.5	-0.5
BMO				pmax		pmax		
	comp=Z,12nm,1.8s							
BMO	Blue Mountains	52.68	297	P		P	05 08 41.5	-0.5
BMO				IAmb		IAmb	05 08 42.7	
	comp=Z,12nm,1.8s							
WMOK	Wichita Mounta	53.27	275	P		P	05 08 45.6	-0.8
WMOK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
WMOK	Wichita Mounta	53.27	275	P		P	05 08 45.6	-0.8
WMOK				IAmb		IAmb	05 08 48.3	
	comp=Z,4.9nm,0.9s							
TORD	Torodi Ar. Bea	53.48	150	P		P	05 08 48.1	0.0
	comp=Z,1.7nm,1.0s,baz=341,slow=6.8,SNR=6.0							
SEY	Seymchan	53.50	3	iP		P	05 08 48.2	+0.6
T25A	Trinidad	53.72	281	P		P	05 08 48.6	-1.3
T25A				IAmb		IAmb	05 08 53.2	
	comp=Z,4.7nm,1.0s							
KKAR	Karatay Array	53.81	65	P		P	05 08 52.2	+1.9
KKAR	Karatay Array	53.81	65	P		P	05 08 52.2	+1.9
DGZ	Jazzator, Alta	54.47	48	iP		P	05 08 57.6	+2.5
DGZ				pmax		pmax		
	comp=Z,8.0nm,1.2s							
PV13	Radium Mtn., P	54.77	286	P		P	05 08 56.9	-0.7
PV13				IAmb		IAmb	05 08 58.4	
	comp=Z,9.0nm,1.4s							
PV05	Paradox Valley	54.95	286	P		P	05 08 57.6	-1.3
PV05				IAmb		IAmb	05 09 02.3	
	comp=Z,6.0nm,1.3s							
MK31	Makanchi Array	55.18	54	iP		P	05 09 02.0	+1.8
MK31	Makanchi Array	55.18	54	P		P	05 09 01.4	+1.2
MKAR	Makanchi Array	55.18	54	P		P	05 09 01.0	+0.8
	comp=Z,1.8nm,0.9s,baz=330,slow=6.0,SNR=12							
MKAR	Makanchi Array	55.18	54	iP		P	05 09 04.0	+3.8
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MKAR	Makanchi Array	55.18	54	P		P	05 09 01.4	+1.3
AAK	Ala-Archa	55.79	62	iP		P	05 09 07.0	+2.3
AAK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
ANMO	Albuquerque	56.46	282	iP		P	05 09 10.8	+1.2
ANMO				pmax		pmax		
	comp=Z,5.0nm,2.0s							
GAR	Garm	57.19	68	P		P	05 09 15.8	+1.1
JCT	Junction City	57.33	273	P		P	05 09 15.2	-0.5
JCT				pmax		pmax		
	comp=Z,11nm,1.0s							
JCT	Junction City	57.33	273	P		P	05 09 15.2	-0.5
R11A	Troy Canyon, C	57.45	291	P		P	05 09 16.6	0.0
KVN	Kaiserville	57.88	294	P		P	05 09 19.2	-0.5
KVN				pmax		pmax		
	comp=Z,17nm,2.0s							
KVN	Kaiserville	57.88	294	P		P	05 09 19.2	-0.5
NVAR	Mina Array Bea	58.49	293	P		P	05 09 23.0	-1.0
	comp=Z,0.5nm,0.8s,baz=42,slow=6.9,SNR=4.5							
NVAR	Mina Array Bea	58.49	293	P		P	05 09 23.4	-0.6
TX31	Lajitas Ar. Si	60.02	276	P		P	05 09 33.9	-0.7
TX32	Lajitas Array	60.02	276	P		P	05 09 33.3	-1.3
TXAR	Lajitas Array	60.02	276	P		P	05 09 33.3	-1.3
	comp=Z,1.2nm,0.9s,baz=92,slow=3.8,SNR=8.4							
CMAR	Chiang Mai Arr	86.59	54	P		P	05 12 12.2	+1.1
	comp=Z,0.8nm,0.3s,baz=326,slow=6.0,SNR=5.1							
CMAR	Chiang Mai Arr	86.59	54	iP		P	05 12 14.3	+3.2
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR	Chiang Mai Arr	86.59	54	P		P	05 12 11.8	+0.6

IDC ***01*** *05:00:02.5±0.5, 63°.80N×23°.21W, h0km, mb4.0/21, mb1 4.1/26, mb1mx4.0/57, mbtmp4.0/26, ML3.3/5, MS4.1/2, Ms1 4.2/2, ms1mx3.7/10, Error ellipse: s-maj=12.4km s-min=10.6km az=179.0*

REY ***01*** *05:00:02.6, 63°.71N×23°.30W, h8km*

NEIC ***01*** *05:00:05.3±2.3, 63°.72N±0°.09×23°.2W±0°.2, h10km±1km, mb4.5/29, Error ellipse: s-maj=19.8km s-min=6.3km az=219.0*

GCMT ***01*** *05:00:09.3±0.3, 63°.43N±0°.04×23°.45W±0°.04, h12km, MW4.9/87, Moment Tensor Solution. s23,c25; s87,c123; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.94±.09; Mθθ0.04±.10; Mφφ1.90±.06; Mrθ=2.14±.44; Mφφ0.04±.07; Mφr=0.63±.29; Best double couple: M=2.74800×10^16 NP1:φs=166.00000°, δ35.00000°, λ=-139.00000°. NP2: φs=41.00000°, δ68.00000°, λ=-62.00000°. Principal axes: T 2.1380, Plg18.0000°, Azm111.0000°; N 1.2210, Plg26.0000°, Azm210.0000°; P -3.3580, Plg57.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 05:00:05.4±1.0, 63°.81N±0°.05×23°.04W±0°.04, h15km±5km, n86, σ1.41/97, mb4.2/31, Iceland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.15	86	P	Pg	05 00 08.2	-1.0
	baz=67						
IRNE				S	Sg	05 00 12.6	+0.8
	baz=67						
INYL	Nylenda	0.21	38	S	Sg	05 00 14.6	+1.1
	baz=43						
INYL				P	Pg	05 00 09.5	-0.7
	baz=43						
IGRV	Grindav??k	0.26	79	P	Pg	05 00 10.2	-0.9
	baz=68						
IGRV				S	Sg	05 00 16.2	+1.4
	baz=68						
IKRI	Krysuvik	0.43	80	P	Pg	05 00 12.6	-1.4
	baz=72						
IKRI				S	Sg	05 00 20.6	+0.7
	baz=72						
IKAS	Kald??rsel	0.57	67	S	Sg	05 00 25.2	+1.1
	baz=63						
IKAS				P	Pg	05 00 15.2	-1.4
	baz=63						
ISAN	Sandskeio	0.69	68	S	Sg	05 00 28.8	+0.7
	baz=65						
ISAN				P	Pg	05 00 17.4	-1.6
	baz=65						
IKUD	Kuludalsa	0.73	44	S	Sg	05 00 29.0	0.0
	baz=45						
IKUD				P	Pg	05 00 17.6	-1.9
	baz=45						
IBJA	Bjarnastaoir	0.78	79	P	Pg	05 00 18.4	-2.1
	baz=74						
IBJA				S	Sg	05 00 30.8	0.0
	baz=74						
IHEI	Heioarbar	0.89	63	P	Pg	05 00 20.2	-2.4
	baz=61						
IHEI				S	Sg	05 00 34.0	-0.1
	baz=61						
IKRO	Krokur	0.90	70	P	Pg	05 00 20.4	-2.3
	baz=67						
IKRO				S	Sg	05 00 34.5	0.0
	baz=67						
ISOL	Solvholt	0.94	82	S	Sg	05 00 34.7	-1.0
	baz=77						
ISOL				P	Pg	05 00 20.7	-2.7
	baz=77						
IASM	Asmuli	1.07	88	S	Sb	05 00 38.6	-0.9
	baz=83						
IASM				P	Pb	05 00 22.6	-3.0
	baz=83						
ISAU	Saurbar	1.17	80	S	Sb	05 00 42.0	-0.3
	baz=76						
ISAU				P	Pn	05 00 24.5	-2.7
	baz=76						
BORG	Borgarnes	1.20	38	Pg	Pn	05 00 24.7	-2.9
	552nm,0.3s,baz=175,slow=7.5,SNR=4.7						
BORG				Lg	Lg	05 00 42.3	
	1μm,0.3s,baz=54,slow=16,SNR=7.8						
IASB	`sbjarnarst	1.20	38	P	Pn	05 00 25.2	-2.4
	baz=39						
IASB				S	Sb	05 00 42.9	-0.3
	baz=39						
IHAU	Haukadalur	1.37	82	S	Sn	05 00 47.5	-0.2
	baz=78						
IHAU				P	Pn	05 00 27.5	-2.4
	baz=78						
IFED	Fedgar	1.50	80	S	Sn	05 00 51.2	+0.3
	baz=77						
JMIC	Jan Mayen	9.09	31	LR	LR	05 04 52.6	
	comp=Z,205nm,19.3s,baz=230,slow=32						
EKA	Eskdalemuir Ar	13.12	121	Pn	Pn	05 03 10.4	-0.5
	baz=323,slow=13,SNR=5.8						
NOA	NORSAR Array B	15.98	84	Pn	Pn	05 03 51.6	+2.3
	0.0nm,0.3s,baz=291,slow=11,SNR=5.1						
HFS	Hagfors	17.48	85	P	Pn	05 04 09.9	+1.6
	0.1nm,0.3s,baz=180,slow=40,SNR=3.2						
ARCES	ARCESS Array B	19.57	52	P	P	05 04 32.1	-0.2
	baz=277,slow=9.7,SNR=7.7						
FRB	Frobisher Bay	19.79	290	P	P	05 04 33.5	-1.1
	0.1nm,0.3s,baz=80,slow=7.1,SNR=5.1						
CLF	Chambon-Feret	21.00	127		P	05 04 49.8	+1.9
FINES	FINESS Array B	22.26	74	P	P	05 05 01.4	+0.1
	9.7nm,1.0s,baz=319,slow=11,SNR=10						
FINES	FINESS Array B	22.26	74	P	P	05 05 03.7	+2.4
FIA1	FINESS Array S	22.26	74	P	P	05 05 04.3	+3.0
CLL	Collm	22.65	106	iP	P	05 05 06.1	+0.5
	comp=Z,17nm,1.2s						
CLL				i		05 05 15.9	
CLL				e		05 06 19.0	
CLL				eS	Sn	05 09 24.0	-2.8
CLL				LmH		05 13 00.0	
	comp=N,700nm,20.6s						
CLL				LmH		05 13 00.0	
	comp=E,700nm,20.2s						
CLL				LmV		05 14 00.0	
	comp=Z,1μm,20.0s						
CLL				Lmax		05 15 00.0	
CLL	Collm	22.65	106		P	05 05 04.8	-0.9
CLL				IAmb	IAmb	05 05 11.1	
	comp=Z,15nm,1.1s						
ECH	Echery	22.67	119	P	P	05 05 06.8	+1.0
SCHQ	Schefferville	23.62	268	P	P	05 05 13.8	-1.6
	comp=Z,4.8nm,0.9s,baz=30,slow=9.1,SNR=4.2						
SCHQ	Schefferville	23.62	268	P	P	05 05 14.7	-0.7
SCHQ				IAmb	IAmb	05 05 17.2	
	comp=Z,16nm,1.4s						
KHC	Kasperske Hory	24.54	109	eP	P	05 05 26.2	+2.1
KHC	Kasperske Hory	24.54	109	P	P	05 05 24.3	+0.2
KHC				IAmb	IAmb	05 05 29.1	
	comp=Z,25nm,1.5s						
DPC	Dobruska-Polom	24.78	104	eP	P	05 05 28.1	+1.8
GEC2	GERESS Array S	24.81	110	P	P	05 05 28.8	+2.1
GEC2				IAmb	IAmb	05 05 31.0	
	comp=Z,12nm,1.2s						
GERES	GERESS Array B	24.81	110	P	P	05 05 26.4	-0.2
	comp=Z,3.9nm,1.0s,baz=323,slow=11,SNR=8.5						
GERES	GERESS Array B	24.81	110		P	05 05 26.6	0.0
DAVOX	Davos/Dischmat	24.91	118	P	P	05 05 28.1	+0.5
	comp=Z,2.0nm,0.7s,baz=312,slow=22,SNR=2.1						
KRLC	Kraliky	25.18	104	eP	P	05 05 30.6	+0.7
VRAC	Vranov	25.68	106	P	P	05 05 34.5	+0.1
	comp=Z,1.8nm,0.3s,baz=318,slow=11,SNR=6.2						
MORC	Moravsky Berou	25.73	104	P	P	05 05 35.3	+0.3
MORC	Moravsky Berou	25.73	104	e	P	05 05 35.6	+0.7
ZOU	Zoufplan	26.32	114	P	P	05 05 42.1	+1.7
ZOU				IAmb	IAmb	05 05 47.7	
	comp=Z,14nm,1.1s						
ESDC	Sonseca Array	26.68	146	P	P	05 05 43.1	-0.4
	comp=Z,3.0nm,1.0s,baz=344,slow=9.7,SNR=7.0						
ESDC	Sonseca Array	26.68	146		P	05 05 44.2	+0.6
PAB	San Pablo	26.71	147	P	P	05 05 46.1	+2.3
PVAQ	Vaqueiros	28.01	153	P	P	05 05 54.5	-0.9
BATG	Bathurst New B	28.69	255	P	P	05 06 01.5	+0.1
BATG				IAmb	IAmb	05 06 05.7	
	comp=Z,8.9nm,1.2s						
AKASG	Malin Array Be	30.19	91	P	P	05 06 14.1	-0.6
	comp=Z,0.1nm,0.3s,baz=318,slow=9.2,SNR=1.4						
VSL	Villasalto	30.96	126		P	05 06 21.6	+0.1
VSL		

L27K	**Beaver Creek,**	45.54 326	P	P	05 08 24.8	+1.0
L27K			IAmb	IAmb	05 08 29.9	
	comp=Z,5.1nm,0.8s					
BOZ	**Bozeman (W)**	49.78 293	P	P	05 08 57.8	+0.7
BOZ			IAmb	IAmb	05 08 58.9	
	comp=Z,8.7nm,1.5s					
KOWA	**Kowa**	51.00 156	P	P	05 09 05.6	-0.8
	comp=Z,2.6nm,0.8s,baz=89,slow=4.7,SNR=4.5					
PDAR	**Pinedale Array**	51.23 289	P	P	05 09 07.5	-0.7
	comp=Z,0.8nm,0.5s,baz=61,slow=5.6,SNR=6.3					
PDAR	**Pinedale Array**	51.23 289	P	P	05 09 08.3	+0.1
TORD	**Torodi Ar. Bea**	53.48 150	P	P	05 09 22.8	-2.0
	comp=Z,1.3nm,0.8s,baz=338,slow=6.6,SNR=4.5					
MK31	**Makanchi Array**	55.21 54		P	05 09 39.1	+1.9
MKAR	**Makanchi Array**	55.21 54	P	P	05 09 37.3	+0.1
	comp=Z,2.5nm,0.8s,baz=355,slow=5.4,SNR=15					
MKAR	**Makanchi Array**	55.21 54		P	05 09 38.4	+1.2
GAR	**Garm**	57.22 68		P	05 09 54.3	+2.6
JCT	**Junction City**	57.32 273	P	P	05 09 53.7	+1.3
PAHR	**Pah Rah Range**	57.83 295	P	P	05 09 57.4	+1.4
PAHR			IAmb	IAmb	05 09 59.0	
	comp=Z,4.8nm,1.1s					
KVN	**Kaiserville**	57.87 294		P	05 09 57.9	+1.5
KVN			IAmb	IAmb	05 09 58.9	
	comp=Z,3.8nm,0.9s					
NVAR	**Mina Array Bea**	58.49 293	P	P	05 09 59.5	-1.2
	comp=Z,0.5nm,0.8s,baz=60,slow=4.4,SNR=2.9					
AKUT	**Akutan**	58.89 335		P	05 09 59.9	-3.0
TXAR	**Lajitas Array**	60.01 276	P	P	05 10 10.6	-0.6
	comp=Z,0.6nm,0.9s,baz=22,slow=1.0,SNR=3.7					
BDFB	**Brasilia**	81.52 204	P	P	05 12 19.5	-2.4
	comp=Z,3.6nm,0.8s,baz=180,slow=3.0,SNR=3.2					
BDFB	**Brasilia**	81.52 204	IAmb	IAmb	05 12 24.0	
	comp=Z,5.2nm,0.9s					
CMAR	**Chiang Mai Arr**	86.62 54	P	P	05 12 47.5	-0.5
	comp=Z,0.8nm,0.3s,baz=323,slow=6.3,SNR=6.3					
ASAR	**Alice Springs**	137.06 32	PKP	PKPdf	05 19 28.1	+0.8
	comp=Z,0.7nm,0.9s,baz=0.0,slow=1.8,SNR=2.9					
STKA	**Stephens Creek**	146.62 24	PKPbc	PKPbc	05 19 46.6	+1.0
	comp=Z,2.5nm,0.8s,baz=350,slow=6.1,SNR=3.7					

*REY **01** 05:01:11.4, 63°.72N×23°.39W, h7km*
*IDC **01** 05:01:13.4±1.5, 63°.87N×23°.25W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.6/54, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=33.1km s-min=13.3km az=154.0*
ISC 01 05:01:15.2±0.9, 63°.85N±0°.06×22°.96W±0°.05, h18km±5km, n28, σ1§62/44, mb3.8/6, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	0.11	105	P	**Pg**	05 01 17.7	-1.3
	baz=71						
IRNE				S	**Sg**	05 01 22.8	+1.3
	baz=71						
INYL	**Nylenda**	0.16	37	P	**Pg**	05 01 18.8	-0.7
	baz=48						
INYL				S	**Sg**	05 01 24.2	+1.7
	baz=48						
IGRV	**Grindav??k**	0.22	87	P	**Pg**	05 01 19.6	-0.8
	baz=71						
IGRV				S	**Sb**	05 01 26.1	+2.1
	baz=71						
IKRI	**Krysuvik**	0.39	85	P	**Pg**	05 01 22.2	-1.1
	baz=74						
IKRI				S	**Sb**	05 01 30.5	+1.2
	baz=74						
IKAS	**Kald??rsel**	0.52	69	P	**Pg**	05 01 24.5	-1.1
	baz=65						
IKAS				S	**Sb**	05 01 35.0	+2.1
	baz=65						
IVOS	**Vogsosar**	0.55	89	P	**Pg**	05 01 26.0	-0.3
	baz=79						
IVOS				S	**Sb**	05 01 36.6	+2.7
	baz=79						
ISAN	**Sandskeio**	0.65	70	S	**Sb**	05 01 38.5	+1.9
	baz=66						
ISAN				P	**Pg**	05 01 26.3	-1.7
	baz=66						
IKUD	**Kuludalsa**	0.67	44	P	**Pg**	05 01 27.0	-1.5
	baz=47						
IKUD				S	**Sb**	05 01 39.0	+1.6
	baz=47						
IBJA	**Bjarnastaoir**	0.74	81	P	**Pg**	05 01 28.0	-1.7
	baz=75						
IBJA				S	**Sb**	05 01 40.8	+1.6
	baz=75						
IHEI	**Heioarbar**	0.84	64	P	**Pg**	05 01 29.2	-2.3
	baz=62						
IHEI				S	**Sb**	05 01 43.7	+1.6
	baz=62						
IKRO	**Krokur**	0.85	72	P	**Pg**	05 01 30.0	-1.7
	baz=68						
IKRO				S	**Sb**	05 01 44.3	+1.9
	baz=68						
ISOL	**Solvholt**	0.89	84	P	**Pg**	05 01 30.2	-2.4
	baz=78						
ISOL				S	**Sg**	05 01 44.6	+0.2
	baz=78						
IASM	**Asmuli**	1.04	90	P	**Pb**	05 01 32.4	-2.2
	baz=83						
IASM				S	**Sg**	05 01 48.7	-0.2
	baz=83						
ISAU	**Saurbar**	1.13	82	P	**Pb**	05 01 34.2	-2.0
	baz=77						
ISAU				S	**Sb**	05 01 51.6	+1.1
	baz=77						
BORG	**Borgarnes**	1.15	37	Pg	**Pb**	05 01 35.0	-1.5
	baz=226,slow=14,SNR=0.9						
BORG				Lg	Lg	05 01 52.8	
	394nm,0.3s,baz=249,slow=23,SNR=4.4						
IASB	**`sbjarnarst**	1.15	37	P	**Pb**	05 01 34.4	-2.1
	baz=40						
IASB				S	**Sb**	05 01 52.0	+0.9
	baz=40						
IHAU	**Haukadalur**	1.33	83	P	**Pn**	05 01 37.2	-1.6
	baz=79						
IHAU				S	**Sb**	05 01 57.0	+0.8
	baz=79						
IFED	**Fedgar**	1.45	81	P	**Pn**	05 01 39.3	-1.3
	baz=78						
IMJO	**Mjoaskard**	1.46	85	P	**Pn**	05 01 39.1	-1.5
	baz=81						
EKA	**Eskdalemuir Ar**	13.11	121	Pn	**Pn**	05 04 21.8	+1.5
	baz=241,slow=37,SNR=1.6						
ARCES	**ARCESS Array B**	19.52	52	P	**Pn**	05 05 43.7	+1.3
	baz=267,slow=9.9,SNR=5.2						
FRB	**Frobisher Bay**	19.81	290	P	**P**	05 05 42.5	-1.7
	0.1nm,0.3s,baz=67,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	38.00	311	P	**P**	05 08 32.0	+0.5
	0.6nm,0.6s,baz=46,slow=9.5,SNR=4.6						
INK	**Inuvik**	39.26	327	P	**P**	05 08 42.7	+0.7
	1.1nm,0.7s,baz=76,slow=15,SNR=3.0						
ILAR	**Eielson Array**	45.26	330	P	**P**	05 09 31.7	+0.8
	0.7nm,0.6s,baz=30,slow=6.9,SNR=7.2						
PDAR	**Pinedale Array**	51.26	290	P	**P**	05 10 16.5	-1.3
	1.3nm,0.8s,baz=54,slow=7.5,SNR=5.9						
MKAR	**Makanchi Array**	55.16	54	P	**P**	05 10 48.6	+2.4
	1.1nm,0.9s,baz=347,slow=5.0,SNR=4.5						
TXAR	**Lajitas Array**	60.04	276	P	**P**	05 11 20.9	+0.1
	0.7nm,0.9s,baz=56,slow=3.2,SNR=4.3						

NOU 01 05:06:15.3, 29°.16S×116°.83E, h0km, MLv3.6, Western Australia, Western Australia

*IDC **01** 05:16:40.4±1.5, 29°.70S×179°.15W, h248km±15km, mb3.3/2, mb1 3.5/3, mb1mx3.2/23, mbtmp3.9/3, Error ellipse: s-maj=35.9km s-min=25.8km az=157.0*
ISC 01 05:16:40.3±0.9, 29°.8S±0°.1×179°.1W±0°.2, h250km, n10, σ1§75/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	1.17	61	P	**Pn**	05 17 15.7	-0.7
	56nm,0.3s,baz=70,slow=22,SNR=2.2						
URZ	**Urewera**	8.98	199	P	**Pn**	05 18 49.2	+3.4
	0.6nm,0.3s,baz=296,slow=23,SNR=1.4						
URZ				S	**S**	05 20 24.1	-3.4
	4.9nm,0.3s,baz=260,slow=23,SNR=13						
ASAR	**Alice Springs**	42.19	267	P	**P**	05 24 08.8	-0.3
	0.4nm,0.3s,baz=106,slow=7.1,SNR=5.5						
WRA	**Warramunga Arr**	43.13	272	P	**P**	05 24 16.1	-0.4
	1.0nm,0.4s,baz=111,slow=7.8,SNR=26						
FINES	**FINESS Array B**	144.28	340	PKP	**PKPdf**	05 35 46.0	+0.4
	2.6nm,0.4s,baz=48,slow=4.1,SNR=23						
NB2	**NORSAR Subarra**	148.03	351	PKP	**PKiKP**	05 35 57.1	-0.1
	comp=Z,0.4nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	148.03	351	PKPbc	**PKPbc**	05 35 56.0	+0.4
	comp=Z,0.6nm,0.5s,baz=18,slow=4.1,SNR=4.2						
AKASG	**Malin Array Be**	150.27	323	PKPbc	**PKPbc**	05 36 00.8	-0.5
	comp=Z,0.6nm,0.3s,baz=48,slow=3.2,SNR=3.7						
BRTR	**Keskin Array B**	151.49	299	PKPbc	**PKPbc**	05 36 04.7	-0.1
	comp=Z,0.5nm,0.6s,baz=127,slow=4.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	163.39	183	PKPab	**PKPab**	05 37 04.9	-0.9
	comp=Z,0.5nm,0.9s,baz=176,slow=4.0,SNR=4.2						

*DDA **01** 05:41:44.3, 40°.36N×34°.40E, h20km±1km, ML3.6*
*ISK **01** 05:41:44.6, 40°.41N×34°.39E, h6km, ML3.5/25*
ISC 01 05:41:44.4±0.9, 40°.38N±0°.02×34°.39E±0°.02, h13km±8km, n63, σ0§93/98, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORM	**Corum**	0.27	138	PG	**Pg**	05 41 50.6	+0.4
CORM				SG	**Sb**	05 41 55.8	0.0
CTAK	**Corum_Osmancik**	0.41	49	*i* P	**Pg**	05 41 52.9	+0.3
CTAK				*i* S	**Sg**	05 41 58.0	-0.1
COAL	**Corum-Alaca**	0.47	105	*i* P	**Pg**	05 41 53.8	0.0
COAL				*i* S	**Sb**	05 42 00.9	-0.6
COAL				IAML		05 42 05.0	
	comp=N,4μm,0.7s						
DELI	**KIRIKKALE**	0.53	224	*i* P	**Pg**	05 41 54.7	0.0
DELI				*i* S	**Sg**	05 42 00.3	-1.4
CANT	**Cankiri**	0.63	291	PG	**Pb**	05 41 57.1	-0.2
CANT				SG	**Sb**	05 42 06.6	+0.5
TOS	**Tosya**	0.71	337	PG	**Pg**	05 41 58.1	-0.2
CDAG	**Cicekdag**	0.76	181	*i* P	**Pg**	05 41 59.1	+0.1
CDAG				*i* S	**Sg**	05 42 07.9	-1.1
KAGI	**orum-Kargı**	0.76	5	*i* P	**Pg**	05 41 59.2	+0.1
KAGI				*i* S	**Sg**	05 42 08.9	-0.2
ILGA	**Ilgaz**	0.84	323	*i* P	**Pb**	05 42 01.0	0.0
ILGA				*i* S	**Sb**	05 42 12.2	-0.2
BRTR	**Keskin Array B**	0.87	222	PG	**Pg**	05 42 01.3	0.0
BRTR				SG	**Sb**	05 42 13.3	+0.2
CKRK	**Yozgat, Cekere**	0.90	110	*i* P	**Pg**	05 42 01.5	-0.4
CKRK				*i* S	**Sg**	05 42 11.8	-1.8
YOZ	**Yozgat**	1.03	136	PG	**Pn**	05 42 05.1	+0.5
YOZ				SG	**Sn**	05 42 20.1	+1.2
KMON	**Kastamonu**	1.09	335	PG	**Pg**	05 42 05.4	-0.1
KMON				SG	**Sn**	05 42 20.7	+0.2
AMSY	**Amasya-Merkez**	1.13	76	*i* P	**Pb**	05 42 04.6	-1.2
AMSY				*i* S	**Sn**	05 42 21.5	+0.1
BOYA	**Sinop/Boyabat-**	1.17	11	*i* P	**Pb**	05 42 06.4	-0.1
BOYA				*i* S	**Sb**	05 42 19.1	-2.6
KAYA	**Kayacik-Havza(**	1.18	61	PN	**Pg**	05 42 07.3	+0.2
SIRC	**Yozgat**	1.19	151	*i* P	**Pn**	05 42 06.3	-0.5
SIRC				*i* S	**Sb**	05 42 22.3	0.0
YARM	**Yarimca-Ladik(**	1.22	63	PN	**Pg**	05 42 07.9	0.0
YARM				SN	**Sg**	05 42 25.3	+1.6
HAVZ	**Havza**	1.22	55	*i* P	**Pn**	05 42 07.1	-0.1
HAVZ				*i* S	**Sb**	05 42 22.4	-0.7
HAVZ				IAML		05 42 27.0	
	comp=E,869nm,0.5s						
HACI	**Hacifakili, Ak**	1.23	123	*i* P	**Pg**	05 42 09.4	+1.3
HACI				*i* S	**Sb**	05 42 23.2	-0.2
KIZO	**Buyukkizoglu-L**	1.28	66	PN	**Pg**	05 42 09.3	+0.2
KIZO				SN	**Sg**	05 42 27.3	+1.5
BBAL	**Bala**	1.28	230	*i* P	**Pn**	05 42 08.4	+0.3
BBAL				*i* S	**Sb**	05 42 23.1	-1.9
KIRS	**Kırehir-Merke**	1.30	197	*i* P	**Pn**	05 42 08.2	-0.1
KIRS				*i* S	**Sb**	05 42 25.6	+0.3
HKOY	**Hamitkoy-Ladik**	1.32	67	PN	**Pb**	05 42 09.4	+0.4
ANTO	**Ankara**	1.33	248	PN	**Pg**	05 42 10.5	+0.6
ANTO				SN	**Sg**	05 42 29.1	+1.9
LOD	**Lodumlu**	1.34	249	PN	**Pg**	05 42 10.6	+0.4
KUPE	**Kupecik-Ladik(**	1.35	68	PN	**Pg**	05 42 10.4	-0.1
DIKM	**Dikmen**	1.43	27	PN	**Pb**	05 42 11.3	+0.5
KVT	**Kavak**	1.44	60	PN	**Pb**	05 42 11.5	+0.4
CMDR	**Camlidere-ANKA**	1.47	275	*i* P	**Pg**	05 42 12.2	-0.3
CMDR				*i* S	**Sn**	05 42 28.4	-1.3
YAYX	**Yaylak**	1.51	197	PN	**Pg**	05 42 13.1	-0.3
SERE	**Serefilkochisa**	1.57	204	PN	**Pb**	05 42 13.9	+0.6
KBUK	**KARABUK-Merkez**	1.59	303	*i* P	**Pb**	05 42 14.2	+0.6
KBUK				*i* S	**Sn**	05 42 32.6	-0.1
TOKA	**Tokat**	1.60	91	*i* P	**Pb**	05 42 14.3	+0.6
TOKA				*i* S	**Sg**	05 42 35.4	-0.4
BZK	**Bozkurt**	1.60	350	PN	**Pb**	05 42 13.8	-0.1
AVNS	**Nevsehir-Avano**	1.61	167	*i* P	**Pg**	05 42 15.4	+0.1
AVNS				*i* S	**Sn**	05 42 32.1	-1.2
AVNS				IAML		05 42 43.0	
	comp=N,653nm,0.9s						
AVNS				IAML		05 42 44.0	
	comp=E,814nm,0.5s						
TOKT	**Tokat**	1.65	91	PN	**Pb**	05 42 14.8	+0.2
KKUL	**Konya-Kulu**	1.66	224	*i* P	**Pb**	05 42 15.2	+0.3
KKUL				*i* S	**Sb**	05 42 35.4	-0.3
SAMS	**Samsun-Alacam**	1.68	54	*i* P	**Pb**	05 42 15.7	+0.6
SAMS				*i* S	**Sn**	05 42 34.1	-0.6
GRDE	**Gerede-Bolu**	1.71	285	PN	**Pb**	05 42 15.5	-0.3
KULU	**Kulu**	1.71	219	PN	**Pb**	05 42 16.1	+0.3
CUSAR	**Sarkisla-SIVAS**	1.72	123	*i* P	**Pb**	05 42 16.3	+0.4
CUSAR				*i* S	**Sn**	05 42 34.8	-1.2
SINO	**SINOP_Merkez**	1.75	20	*i* P	**Pb**	05 42 16.4	+0.2
SINO				*i* S	**Sn**	05 42 35.9	-0.6
SNOP	**Sinop**	1.75	20	PN	**Pb**	05 42 15.8	-0.5
GUNE	**Kayseri**	1.76	147	*i* P	**Pg**	05 42 18.3	+0.2
GUNE				*i* S	**Sb**	05 42 38.0	-0.5
GUNE				IAML		05 42 45.0	
	comp=N,782nm,0.7s						
GUNE				IAML		05 42 54.0	
	comp=E,1μm,0.5s						
AKSY	**AKSARAY - Alti**	1.80	196	*i* P	**Pb**	05 42 17.6	+0.5
AKSY				*i* S	**Sn**	05 42 38.2	+0.4
BCAM	**Yenicaga**	1.82	285	*i* P	**Pb**	05 42 18.4	+0.7
BCAM				*i* S	**Sb**	05 42 40.2	-0.3
CIDE	**Kastamonu/Cide**	1.85	324	*i* P	**Pg**	05 42 19.2	-0.8
CIDE				*i* S	**Sn**	05 42 39.7	+0.6
BNN	**Bunyan**	1.90	143	PN	**Pb**	05 42 18.6	-0.3
KURC	**Kurucasile-Bar**	1.92	320	PN	**Pb**	05 42 18.4	-0.9
KIBS	**BOLU**	1.94	272	*i* P	**Pb**	05 42 19.1	-0.5
KIBS				*i* S	**Sb**	05 42 44.4	+0.6
GULA	**Gulagac**	2.04	183	PN	**Pb**	05 42 20.7	-0.6
SVSK	**Karacayir**	2.05	102	PN	**Pb**	05 42 20.9	-0.5
YUVA	**Yuva-Kibriscik**	2.07	271	PN	**Pb**	05 42 20.7	-1.1
CHBY	**Cihanbeyli**	2.14	213	PN	**Pb**	05 42 22.1	-0.9
RSDY	**Resadiye-TOKAT**	2.24	89	PN	**Pb**	05 42 23.6	-1.1
SULT	**Sultanhani-AKS**	2.28	198	PN	**Pb**	05 42 24.2	-1.3
SVRH	**Sivrihisar-ESK**	2.40	248	PN	**Pb**	05 42 25.6	-1.8
KIZT	**Kizilcal**	2.45	233	PN	**Pb**	05 42 26.4	-2.0
SARI	**SarD1z-Kayseri**	2.52	141	PN	**Pb**	05 42 27.6	-2.0
YESY	**Yesilyurt**	2.64	191	PN	**Pn**	05 42 29.3	+2.5
LADK	**Ladik-KONYA**	2.69	216	PN	**Pn**	05 42 29.9	+2.5
CMRD	**Camardi-Nigde**	2.75	170	PN	**Pn**	05 42 30.9	+2.6

IDC 01 05:46:20.1±26.0, 20°.12S×172°.23W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/31, mbtmp4.2/4, Error ellipse: s-maj=484.8km s-min=169.1km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	38.91	263	P	P	05 53 48.3	+0.5
	4.5nm,0.3s,baz=103,slow=8.9,SNR=12						
STKA	**Stephens Creek**	42.83	245	P	P	05 54 19.8	-0.3
	2.3nm,0.9s,baz=95,slow=11,SNR=2.2						
ASAR	**Alice Springs**	49.86	256	P	P	05 55 14.2	-1.3
	0.4nm,0.3s,baz=93,slow=7.4,SNR=7.1						
WRA	**Warramunga Arr**	50.01	260	P	P	05 55 17.1	+0.5
	1.5nm,0.3s,baz=96,slow=8.3,SNR=40						

*TUL **01** 05:53:01.8±1.3, 35°.74N±0°.01×97°.38W±0°.01, h6km±4km, ML2.8, mb_Lg2.5/45(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=224.0*
NEIC 01 05:53:02.0±1.0, 35°.77N±0°.02×97°.38W±0°.02, h8km±6km, Error ellipse: s-maj=3.8km s-min=1.3km az=211.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	0.06	293		Pg	05 53 04.0	+0.1
OK029				Sg	Sg	05 53 05.5	+0.2
OK025	**Westminster Rd**	0.19	169	Pg	Pg	05 53 05.5	-0.5
OK025				Sg	Sg	05 53 08.3	-0.4
OK005	**Luther M Schoo**	0.20	127	Pg	Pg	05 53 06.7	+0.8
OK005				Sg	Sg	05 53 09.6	+0.9
BCOK	**Bluff Creek, N**	0.22	238	Pg	Pg	05 53 06.1	-0.3
BCOK				Sg	Sg	05 53 09.5	+0.2
OK001	**Jones High Sch**	0.22	160	Pg	Pg	05 53 07.1	+0.6
OK001				Sg	Sg	05 53 10.3	+0.8
OKCFA	**Oklahoma City**	0.36	189		Pg	05 53 08.6	-0.5
OKCFA				Sg	Sg	05 53 13.6	-0.2
OKCFA	**Oklahoma City**	0.36	189	P		05 53 08.6	
	baz=10,SNR=34						
OKCFA				S		05 53 13.7	
	baz=10						
OKCSW	**OKLAHOMA CITY**	0.37	187		Pg	05 53 08.6	-0.6
OK031	**S. Brethren Rd**	0.48	68		Pg	05 53 11.4	+0.1
OK030	**Cody Creek RV**	0.51	72	Pg	Pg	05 53 11.8	-0.1
FNO	**Franklin**	0.51	182	Pg	Pg	05 53 11.4	-0.5
QUOK	**Quay**	0.68	54		Pg	05 53 15.0	0.0
CROK	**Carrier**	0.88	327	Pg	Pg	05 53 19.1	+0.2
BLOK	**Blackwell**	1.00	8	Pg	Pg	05 53 21.0	-0.1
X34A	**Smith Ranch, M**	1.23	198	Pg	Pb	05 53 24.5	-0.9
OK032	**Salt Plains WL**	1.23	327	Pg	Pb	05 53 24.9	-0.5
KAN13	**South Haven SW**	1.24	357	Pn	Pn	05 53 25.5	-0.1
TUL1	**Leonard**	1.30	83	S		05 53 43.2	
	baz=263						
KAN17	**Caldwell West**	1.31	347		Pb	05 53 26.7	0.0
T35A	**Sooner Cattle**	1.34	31	Pn	Pn	05 53 27.0	0.0
T35B	**Sooner Cattle**	1.34	31	P		05 53 26.9	
	baz=211,SNR=7.8						
T35B				S		05 53 45.3	
	baz=211						
KAN09	**Caldwell North**	1.37	352		Pb	05 53 27.7	-0.2
KAN05	**Bluff City Nor**	1.39	344		Pb	05 53 28.3	+0.1
U32A	**Winter Ranch,**	1.44	295	S		05 53 48.5	
	baz=115						
KAN10	**Anthony SW Sta**	1.47	337	Pn	Pn	05 53 29.1	+0.4
KAN08	**Anthony NE Sta**	1.53	342	Pn	Pb	05 53 30.1	-0.4
WMOK	**Wichita Mounta**	1.54	228		Pn	05 53 29.5	-0.2
WMOK	**Wichita Mounta**	1.54	228	P		05 53 29.4	
	baz=48,SNR=29						
WMOK				S		05 53 50.1	
	baz=48						
X37A	**Clayton**	2.03	125	IAmb_Lg		05 54 05.8	
	comp=Z,17nm,0.7s						
X37A	**Clayton**	2.03	125	P		05 53 36.8	
	baz=306,SNR=20						
X37A				S		05 54 04.2	
	baz=306						
Z35A	**Perchaven, San**	2.44	177	P		05 53 42.6	
	baz=358,SNR=13						
U38A	**Gravette**	2.52	74	P		05 53 43.4	
	baz=255,SNR=8.0						
W39A	**Magazine**	2.99	100	Pn	Pn	05 53 49.2	-0.5
W39A				IAmb_Lg		05 54 42.5	
	comp=Z,12nm,0.9s						
W39A	**Magazine**	2.99	100	P		05 53 49.7	
	baz=282,SNR=8.2						
Z38A	**Mt. Pleasant**	3.19	141	IAmb_Lg		05 54 44.2	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	3.35	110		Pn	05 53 55.6	+1.0
MIAR				IAmb_Lg		05 54 56.6	
	comp=Z,15nm,1.0s						
MIAR	**Mount Ida**	3.35	110	P		05 53 55.4	
	baz=292,SNR=10						
MIAR				S		05 54 35.1	
	baz=292						
CBKS	**Cedar Bluff**	3.57	329	IAmb_Lg		05 54 59.7	
	comp=Z,25nm,0.8s						
AMTX	**Amarillo**	3.62	257	Pn	Pn	05 54 00.0	+1.6
ABTX	**Abilene, Hawle**	3.66	211	IAmb_Lg		05 54 59.3	
	comp=Z,9.5nm,1.0s						
U40A	**Yellville**	3.72	80	Pn	Pn	05 53 59.1	-0.5
U40A	**Yellville**	3.72	80	P		05 53 59.3	
	baz=262						
U40A				P		05 53 59.3	
	baz=262						
S39A	**Bolivar**	3.78	58	IAmb_Lg		05 55 07.2	
	comp=Z,10nm,0.7s						
X40A	**Basin Creek Fa**	3.94	108	IAmb_Lg		05 55 11.9	
	comp=Z,12nm,0.7s						
WLAR	**White Oak Lake**	4.09	119	IAmb_Lg		05 55 20.6	
	comp=Z,11nm,0.8s						
WHAR	**Wooly Hollow**	4.18	95	Pn	Pn	05 54 05.9	-0.2
WHAR				IAmb_Lg		05 55 24.4	
	comp=Z,9.0nm,0.9s						
W41B	**Gary Mavity, V**	4.23	97	P		05 54 06.9	
	baz=279,SNR=6.4						
FCAR	**Ozark Folk Cen**	4.28	87	Pn	Pn	05 54 07.5	+0.2
MGMO	**Mountain Grove**	4.35	70	IAmb_Lg		05 55 23.6	
	comp=Z,14nm,0.7s						
R40A	**Maddies Statio**	4.80	57	IAmb_Lg		05 55 45.7	
	comp=Z,11nm,0.8s						
P38A	**Dawn**	4.91	37	IAmb_Lg		05 55 36.3	
	comp=Z,7.2nm,0.8s						
435B	**Jarrell**	4.98	182	IAmb_Lg		05 55 51.0	
	comp=Z,8.1nm,0.8s						
KSCO	**Kaye Shedlock'**	5.

OCAC eS Sn 05 56 16.1 0.0
ZARC Zaragoza, Cauc 1.87 291⇑ eP Pn 05 55 59.0 +0.4
ZARC eS Sn 05 56 25.0 +0.6
ZARC i 05 56 31.1
comp=Z,4µm,0.4s
NORC Norcasia 2.16 235 eP Pn 05 56 02.5 +0.4
NORC eS Sn 05 56 30.1 -0.4
NORC i 05 56 35.8
comp=Z,2µm,0.4s
SMLC San Martn de 2.19 334⇓ eP Pn 05 56 02.4 0.0
SMLC eS Sn 05 56 30.9 -0.2
SMLC i 05 56 33.9
comp=Z,3µm,0.4s
CHIC Chingaza 2.27 196⇑ eP Pn 05 56 04.3 +0.6
CHIC eS Sn 05 56 33.5 +0.1
CHIC i 05 56 37.0
comp=Z,2µm,0.3s
ROSC El Rosal 2.31 212 P Pn 05 56 06.1 +1.9
comp=Z,426nm,0.3s,baz=235,slow=3.4,SNR=275
ROSC S Sn 05 56 36.5 +2.1
comp=Z,789nm,0.3s,baz=236,slow=23,SNR=12
ROSC El Rosal 2.31 212⇓ eP Pn 05 56 06.3 +2.0
ROSC eS Sn 05 56 33.7 -0.7
ROSC i 05 56 40.7
comp=Z,4µm,0.5s
HELC Santa Helena 2.50 256 eP Pn 05 56 07.0 +0.6
HELC eS Sn 05 56 37.5 -0.7
HELC i 05 56 45.6
comp=Z,2µm,0.5s
UREC San Jos de Ur 2.59 291⇑ eP Pn 05 56 06.4 -0.8
UREC eS Sn 05 56 38.7 -1.0
UREC i 05 56 47.8
comp=Z,2µm,0.2s
SOCV Socops 2.66 57⇓ eP Pn 05 56 08.2 +0.2
SOCV eS Sn 05 56 40.2 -1.0
LL2C La Loma 2 Cana 2.74 353 eP Pn 05 56 10.2 +1.2
LL2C eS Sn 05 56 44.6 +1.5
LL2C i 05 56 53.9
comp=Z,3µm,0.4s
LL1C La Loma 1 Cana 2.74 351 eP Pn 05 56 10.9 +1.8
LL1C eS Sn 05 56 43.6 +0.4
VILC Villavicencio, 2.76 192 eP Pn 05 56 09.7 +0.3
VILC eS Sn 05 56 44.1 +0.3
VILC i 05 56 52.8
comp=Z,3µm,0.3s
GUY2C Guyana, Caldas 2.76 235 eP Pn 05 56 10.5 +0.7
GUY2C eS Sn 05 56 44.7 +0.5
GUY2C i 05 56 53.1
comp=Z,1µm,0.7s
PTGC Puerto Gaitan, 2.78 160⇑ iP Pn 05 56 09.5 0.0
PTGC eS Sn 05 56 41.8 -2.2
CBOC Ciudad Bolivar 3.05 252⇓ eP Pn 05 56 14.5 +1.3
CBOC eS Sn 05 56 50.5 +0.2
CBOC i 05 56 54.3
comp=Z,801nm,0.5s
DBBC Dabeiba 3.10 274⇑ eP Pn 05 56 14.3 +0.7
DBBC eS Sn 05 56 50.9 -0.3
TOLC Tolima 3.13 225 eP Pn 05 56 16.0 +1.6
TOLC eS Sn 05 56 52.6 0.0
TOLC i 05 57 02.3
comp=Z,1µm,0.6s
SDV Santo Domingo 3.19 50 P Pn 05 56 16.0 +1.1
comp=Z,326nm,0.3s,baz=232,slow=11,SNR=120
SDV S Sn 05 56 53.8 +0.3
comp=Z,304nm,0.3s,baz=62,slow=21,SNR=14
SDV Santo Domingo 3.19 50 Pn 05 56 15.7 +0.8
SDV Santo Domingo 3.19 50 eP Pn 05 56 16.0 +1.1
SDV eS Sn 05 56 52.9 -0.7
SDV i 05 56 56.4
comp=Z,825nm,0.4s
SDV Santo Domingo 3.19 50 eP Pn 05 56 15.7 +0.8
MOTC Monteria, Cord 3.20 308 eP Pn 05 56 14.0 -1.0
MOTC eS Sn 05 56 52.9 -0.7
MOTC i 05 57 09.6
comp=Z,875nm,0.6s
ARGC Ariguani, Magd 3.22 339⇓ eP Pn 05 56 16.6 +1.4
ARGC eS Sn 05 56 54.7 +0.5
ARGC i 05 57 01.0
comp=Z,1µm,0.3s
PRAC Prado 3.56 210 eP Pn 05 56 20.3 +0.6
PRAC eS Sn 05 57 02.3 +0.3
PRAC i 05 57 07.9
comp=Z,2µm,0.4s
ELOV Elorza 3.59 87 eP Pn 05 56 20.8 +0.9
ELOV eS Sn 05 57 01.9 -0.6
ORTC Ortega, Tolima 3.60 217⇓ iP Pn 05 56 20.4 +0.3
ORTC eS Sn 05 57 02.5 -0.3
ORTC i 05 57 09.5
comp=Z,1µm,0.3s
SJCC San Jacinto, C 3.69 326 Pn Pn 05 56 20.6 -0.6
SJCC San Jacinto, C 3.69 326 eP Pn 05 56 21.3 +0.1
SJCC eS Sn 05 57 02.5 -2.4
SJCC i 05 57 06.0
comp=Z,2µm,0.5s
PLMC San Jos del P 3.70 239 eP Pn 05 56 22.2 +0.8
PLMC eS Sn 05 57 05.1 -0.1
PLMC i 05 57 09.5
comp=Z,724nm,0.4s
LCBC Los crdobas, 3.82 302 eP Pn 05 56 22.8 -0.1
LCBC eS Sn 05 57 08.6 +0.8
LCBC i 05 57 13.4
comp=Z,734nm,0.2s
GUVC San Jose del G 4.28 174 eP Pn 05 56 28.2 -0.7
GUVC eS Sn 05 57 17.3 -1.4
YOTC Yotoco, Valle 4.29 229⇓ eP Pn 05 56 29.0 -0.2
YOTC eS Sn 05 57 18.5 -0.6
SOLC Bahia Solano 4.33 262 eP Pn 05 56 31.2 +1.7
SOLC eS Sn 05 57 13.2 -6.5
SOLC i 05 57 27.8
comp=Z,166nm,0.5s
SMRC Santa Marta, M 4.46 346 eP Pn 05 56 31.1 -0.1
SMRC eS Sn 05 57 19.9 -3.0
SMRC i 05 57 23.9
comp=Z,367nm,0.4s
PIZC Pizarro, Choco 4.62 247 eP Pn 05 56 34.8 +1.4
PIZC eS Sn 05 57 26.8 +0.1
PIZC i 05 57 35.4
comp=Z,256nm,0.4s
PTAC Punta Ardita, 4.69 274 eP Pn 05 56 34.5 +0.2
PTAC eS Sn 05 57 24.9 -3.3
PTAC i 05 57 30.8
comp=Z,205nm,3.6s
MACC Macarena, Meta 4.71 189⇓ eP Pn 05 56 33.5 -1.1
MACC eS Sn 05 57 26.0 -2.8
MACC i 05 57 31.9
comp=Z,527nm,0.5s
BETC Betania 4.73 210 eP Pn 05 56 34.6 -0.3
BETC eS Sn 05 57 27.5 -1.9
BETC i 05 57 30.9
comp=Z,308nm,0.7s
MARP Paez Belalcaza 4.87 216 eP Pn 05 56 37.6 +0.6
MARP eS Sn 05 57 32.7 -0.4
URIC Uribia, Colomb 4.97 13 Pn 05 56 37.0 -1.0
URIC Uribia, Colomb 4.97 13 eP Pn 05 56 37.1 -0.9
URIC eS Sn 05 57 33.4 -1.6
URIC i 05 57 35.1
comp=Z,215nm,0.5s
MALC Bahia Malaga 5.06 237⇓ eP Pn 05 56 40.9 +1.7
MALC eS Sn 05 57 37.2 +0.1
MALC i 05 57 52.6
comp=Z,162nm,0.6s
GARC Garzon, Huila 5.19 208 eP Pn 05 56 40.8 -0.3
GARC eS Sn 05 57 35.7 -4.9
GARC i 05 57 42.9
comp=Z,414nm,0.3s
PCON Cinco Dias 5.54 217 eP Pn 05 56 48.1 +1.9
PCON eS Sn 05 57 50.6 +1.0
PCON i 05 58 01.4
comp=Z,166nm,0.4s
POPC Popayan, Colom 5.55 220⇓ eP Pn 05 56 40.2 -5.8
POPC eS Sn 05 57 39.4 -10
POPC i 05 57 49.2
comp=Z,82nm,0.6s
FLOC Florencia 5.79 206 Pn 05 56 48.7 -0.3
FLOC Florencia 5.79 206⇓ eP Pn 05 56 48.9 -0.1
FLOC eS Sn 05 57 55.5 +0.7
FLOC i 05 58 00.4
comp=Z,206nm,0.8s
SOTA Rioblanco 5.82 217 eP Pn 05 56 51.6 +1.7
SOTA eS Sn 05 57 53.8 -2.3
SOTA i 05 58 01.1
comp=Z,163nm,0.6s
BBAC Balboa, Cauca 6.31 221 eP Pn 05 56 56.3 +0.2
BBAC eS Sn 05 58 05.0 -2.4
BBAC i 05 58 11.8
comp=Z,170nm,0.3s
CRUC La Cruz 6.48 217 eP Pn 05 57 00.4 +1.9
CRUC eS Sn 05 58 13.5 +1.9
CRUC i 05 58 22.6
comp=Z,175nm,0.6s
UPA Univ. de Panam 6.73 289 eP Pn 05 56 59.7 -1.7
UPA eS Sn 05 58 11.3 -5.7
PTLC Puerto Leguiza 6.82 194 eP Pn 05 57 06.3 +3.5
PTLC i 05 58 21.0
comp=Z,105nm,0.5s
PTLC eS Sn 05 58 33.2 +14
GCUF Volcan Galeras 6.99 217 eP Pn 05 57 08.0 +2.6
GCUF eS Sn 05 58 23.1 -0.9
GCUF i 05 58 31.6
comp=Z,89nm,0.5s
BCIP Isla Barro Col 7.07 290 Pn Pn 05 57 04.8 -1.2
BCIP Isla Barro Col 7.07 290 eP Pn 05 57 04.7 -1.3
BCIP eS Sn 05 58 20.6 -4.6
TUMC Tumaco 7.49 229 eP Pn 05 57 05.9 -5.8
TUMC eS Sn 05 58 25.2 -10
TUMC i 05 58 44.9
comp=Z,82nm,0.7s
TULM Tulcn-Chalpat 7.66 218 eP Pn 05 57 17.8 +3.5
OTAV Otavalo 8.44 219 Pn Pn 05 57 24.2 -0.6
OTAV Otavalo 8.44 219 eP Pn 05 57 24.4 -0.4
PCRV Puerto La Cruz 9.01 68 P Pn 05 57 30.2 -1.7
comp=Z,9.7nm,0.3s,baz=263,slow=2.2,SNR=41
PCRV S Sn 05 59 10.1 -1.9
comp=Z,5.9nm,0.3s,baz=184,slow=17,SNR=2.0
PLCV Puerto La Cruz 9.04 68 Pn 05 57 30.2 -2.2
CDITO Canoas 9.84 281 Pn 05 57 43.9 +0.9
DRK0 Durika 10.34 284 Pn 05 57 50.1 +0.4
PRVC Isla de Provid 10.42 309 Pn Pn 05 57 48.0 -2.6
SRBA San Rafael, Bu 10.44 284 Pn 05 57 52.0 +1.0
PEZE Perez Zeledon, 10.78 284 Pn Pn 05 57 56.8 +1.3
RIMA Rio Macho 11.05 286 Pn 05 57 59.9 +0.8
TBTG Tabatinga, AM 11.39 164 eP Pn 05 58 02.5 -0.9
TBTG eS Sn 06 00 02.5 -6.9
LGNH Logne 11.63 2 Pn Pn 05 58 08.7 +2.2
HOJ Hope 11.67 343 iP Pn 05 58 09.9 +2.9
STH Stony Hill 11.76 342 iP Pn 05 58 09.0 +0.8
MCJ Malvern 11.91 338⇑ iP Pn 05 58 13.2 +2.9
MCJ i S Sn 06 00 16.1 -5.9
MTDJ Mount Denham 12.13 340 Pn Pn 05 58 15.0 +1.9
BBJ Bamboo Saint A 12.19 341⇑ eP Pn 05 58 17.1 +3.3
SDDR Presa de Saban 12.21 8 Pn Pn 05 58 15.9 +1.7
JTS Las Juntas de 12.22 287 P Pn 05 58 16.2 +1.9
comp=Z,1.0nm,0.3s,baz=179,slow=20,SNR=3.8
JTS Las Juntas de 12.22 287 Pn Pn 05 58 16.4 +2.1
DR12 Loma Pena Alta 12.43 17 Pn Pn 05 58 15.9 -1.1
MLPR Magueyes Islan 12.55 28 Pn Pn 05 58 14.0 -4.5
ICMP Isla Caja de M 12.73 30 Pn Pn 05 58 19.3 -1.5
OBIP Obispado Ponce 12.82 29 Pn Pn 05 58 19.8 -2.2
ACON Acoyapa 12.96 294 Pn Pn 05 58 24.4 +0.6
ACON P 05 58 24.5 -4.2
AOPR Arecibo Observ 13.02 28 Pn Pn 05 58 23.0 -1.5
PDPR Patillas Dam, 13.09 31 Pn 05 58 24.4 -1.1
SJG San Juan 13.11 30 P Pn 05 58 23.1 -2.5
SJG San Juan 13.11 30 eP Pn 05 58 23.4 -2.2
BOAV Boa Vista 13.28 109 eP Pn 05 58 27.9 0.0
HUMP Col San Antoni 13.29 31 Pn Pn 05 58 27.1 -0.8
GCPR Guaynabo City 13.31 30 Pn 05 58 27.2 -0.9
MTP Monte Pirata 13.40 33 Pn Pn 05 58 28.7 -0.8
CDVI St. Croix 13.57 36 Pn Pn 05 58 31.0 -0.5
CUPR Culebra, Puert 13.72 33 Pn Pn 05 58 32.5 -1.0
STVI Saint Thomas 13.94 34 Pn Pn 05 58 35.1 -1.1
CZSB Cruzeiro do Su 14.46 178 eP Pn 05 58 42.2 -0.6
ATAH Atahualpa 14.84 201 P Pn 05 58 48.3 +0.4
comp=Z,1.4nm,0.3s,baz=358,slow=4.4,SNR=8.0
PTGA Pitinga 15.10 119 P Pn 05 58 49.9 -0.9
comp=Z,0.8nm,0.3s,baz=299,slow=13,SNR=7.5
PTGA Pitinga 15.10 119 Pn 05 58 49.7 -1.1
PTGA Pitinga 15.10 119 eP Pn 05 58 48.1 -2.7
ETMB Extrema 17.89 157 eP P 05 59 23.0 -0.3
SOR Soroa 18.53 330 P Pn 05 59 32.0 -0.1
NNA Nana 19.05 191 P P 05 59 35.7 -0.2
comp=Z,1.2nm,0.3s,baz=247,slow=20,SNR=2.6
PETF Flores 19.22 303 P Pn 05 59 39.5 -0.7
PETF IAmb IAmb 05 59 44.1
comp=Z,20nm,0.5s
061Z Ochoppi 20.35 339 P P 05 59 50.5 +0.7
MDP Montagnes des 20.42 94 P P 05 59 51.2 +0.6
comp=Z,13nm,1.1s,baz=77,slow=6.5,SNR=2.5
ITTB Itaituba 20.59 122 eP P 05 59 54.0 +1.6
MALB Monte Alegre 20.68 114 eP P 05 59 55.3 +1.9
CCIG Comitan 20.87 298 P P 05 59 56.6 +1.0
CCIG IAmb IAmb 05 59 60.0
comp=Z,19nm,0.7s
MCPB Macapa, AP 22.17 108 eP P 06 00 10.4 +1.2
NPGB Novo Progresso 22.43 128 eP P 06 00 12.1 +0.5
VILB Vilhena 23.46 147 eP P 06 00 21.9 +0.8
LPAZ La Paz 23.48 168 P P 06 00 21.1 -0.9
comp=Z,5.2nm,0.9s,baz=346,slow=6.4,SNR=14
LPAZ La Paz 23.48 168 P P 06 00 21.2 -0.8
LPAZ La Paz 23.48 168 eP P 06 00 22.1 +0.1
CMIG Matias Romero 23.60 298 P P 06 00 19.8 -2.7
comp=Z,1.5nm,0.3s,baz=118,slow=6.1,SNR=9.0
CLDB Colider 24.61 135 eP P 06 00 31.4 -0.2
SIV San Ignacio 25.60 152 P P 06 00 39.2 -1.5
comp=Z,1.7nm,0.8s,baz=346,slow=8.0,SNR=9.0
TIGA Tifton 26.38 339 P P 06 00 49.0 +1.5
baz=156
TMAB Tom-Au,PA,Br 26.57 109 eP P 06 00 49.7 +0.3
PRPB Parauapebas 26.58 119 eP P 06 00 49.8 +0.3
NHSC New Hope 26.97 347 P P 06 00 54.2 +1.6
baz=164
152A Waverly Hall 27.90 339 P P 06 01 02.4 +1.4
152A IAmb IAmb 06 01 04.0
comp=Z,16nm,0.8s
GOGA Godfrey 28.15 341 P P 06 01 04.1 +0.9
baz=158
SALV Santo Antonio 28.40 143 eP P 06 01 06.9 +1.3
SNDB Serra Nova Dou 28.62 131 eP P 06 01 08.8 +1.3
KMSC Kings Mountain 29.19 346 P P 06 01 13.7 +1.4
baz=163
LVC Linon Verde 29.54 172 eP P 06 01 16.3 +0.3
Y49A Blount Mountai 29.59 337 P P 06 01 18.1 +2.1
Z47A Carrollton 29.70 334 IAmb IAmb 06 01 19.9
comp=Z,22nm,0.9s
SMTB Santa Maria do 29.82 121 eP P 06 01 19.6 +1.3
W52A Murphy 29.85 342 IAmb IAmb 06 01 21.4
comp=Z,16nm,0.9s
VBMS Vicksburg 30.04 330 P P 06 01 21.4 +1.5
baz=144
X48A Hartselle 30.36 337 P P 06 01 23.3 +0.5
X48A IAmb IAmb 06 01 25.5
comp=Z,15nm,0.7s
CPCT Cooper Cave 30.36 341 IAmb IAmb 06 01 25.4
comp=Z,7.1nm,0.7s
W50A Signal Mountai 30.40 340 IAmb IAmb 06 01 25.7
comp=Z,10nm,0.6s
ARAG Araguaiana, MT 30.75 137 eP P 06 01 26.1 -0.3
BLA Blacksburg 30.98 349 P P 06 01 29.0 +0.7
baz=166
PEXB Peixe 31.01 127 eP P 06 01 28.9 +0.2
TZTN Tazewell 31.09 344 P P 06 01 30.7 +1.6
baz=160
PLAL Pickwick Lake 31.24 336 P P 06 01 31.8 +1.4
PLAL IAmb IAmb 06 01 33.1
comp=Z,14nm,0.8s
CLTN Cedars of Leba 31.55 339 P P 06 01 34.1 +0.9
CLTN IAmb IAmb 06 01 35.9
comp=Z,18nm,1.3s
T50A Nancy 31.91 342 IAmb IAmb 06 01 39.2
comp=Z,11nm,1.1s
AQDB Aquidauana 32.07 148 eP P 06 01 37.2 -0.7
X43A Marvell 32.08 332 P P 06 01 38.8 +1.0
baz=145
WVT Waverly 32.14 337 P P 06 01 39.8 +1.4
baz=152
WVT Waverly 32.14 337 P P 06 01 39.3 +0.9
WVT IAmb IAmb 06 01 40.4
comp=Z,18nm,0.9s
ZAIG Zacatecas 32.50 302 P P 06 01 44.6 +2.6
833A Chaparral WMA, 32.80 314 P P 06 01 44.8 +0.5
baz=126
R50A Paris 32.93 344 P P 06 01 47.0 +1.8
R50A IAmb IAmb 06 01 48.3
comp=Z,11nm,0.7s
X40A Basin Creek Fa 33.01 329 P P 06 01 46.8 +0.9
baz=142,SNR=9.5
X40A Basin Creek Fa 33.01 329 IAmb IAmb 06 01 47.6
comp=Z,9.6nm,0.7s
435B Jarrell 33.09 319 P P 06 01 47.5 +0.7
baz=131
435B Jarrell 33.09 319 P P 06 01 47.9 +1.2
435B IAmb IAmb 06 01 48.5
comp=Z,14nm,0.7s
MCWV Mont Chateau 33.25 350 P P 06 01 49.2 +1.3
baz=168
W41B Gary Mavity, V 33.26 331 P P 06 01 49.1 +1.0
baz=144,SNR=7.3
WHAR Wooly Hollow 33.38 331 P P 06 01 49.7 +0.6
WHAR IAmb IAmb 06 01 50.8
comp=Z,17nm,0.9s
BDFB Brasilia 33.40 132 P P 06 01 48.9 -0.8
comp=Z,1.2nm,0.4s,baz=302,slow=11,SNR=3.8
MIAR Mount Ida 33.44 328 P P 06 01 49.9 +0.2
baz=141,SNR=5.5
MIAR Mount Ida 33.44 328 P P 06 01 48.7 -0.9
WCI Wyandotte Cave 33.48 341 P P 06 01 51.0 +1.1
baz=156
WCI Wyandotte Cave 33.48 341 P P 06 01 51.4 +1.5
WCI IAmb IAmb 06 01 52.4
comp=Z,15nm,0.7s
LCAR Lake Charles 33.48 333 IAmb IAmb 06 01 52.0
comp=Z,11nm,0.6s
O56A Blue Knob Stat 33.66 352 P P 06 01 53.7 +2.1
baz=170
P52A Corning 33.66 347 P P 06 01 53.4 +1.8
baz=164,SNR=6.3
P51A Williamsport 33.73 346 IAmb IAmb 06 01 54.9
comp=Z,12nm,0.6s
PBMO Poplar Bluff 33.76 335 P P 06 01 52.3 -0.1
FCAR Ozark Folk Cen 33.78 332 P P 06 01 53.2 +0.6
FCAR IAmb IAmb 06 01 54.0
comp=Z,22nm,1.0s
SDBA SAO DESIDERIO 33.92 124 eP P 06 01 53.8 -0.4
N59A State Game Lan 34.03 356 P P 06 01 56.7 +1.9
baz=175
W39A Magazine 34.05 329 P P 06 01 56.1 +1.1
baz=141,SNR=14
O52A Adamsville 34.06 348 IAmb IAmb 06 01 57.9
comp=Z,15nm,0.8s
O53A New Philadelph 34.07 349 P P 06 01 56.5 +1.5
baz=166
BLO Bloomington 34.41 341 P P 06 01 59.3 +1.3
ACSO Alum Creek Sta 34.43 347 P P 06 01 59.5 +1.4
baz=162
NBMO Morrinhos-CE 34.50 106 eP P 06 02 00.4 +1.3
U40A Yellville 34.51 331 P P 06 01 59.9 +1.0
baz=144,SNR=40
N54A Moraine State 34.55 351 P P 06 02 00.9 +1.7
baz=168
MGMO Mountain Grove 34.88 333 IAmb IAmb 06 02 03.4
comp=Z,8.5nm,0.7s
HHAR Hobbs 34.98 330 IAmb IAmb 06 02 04.0
comp=Z,8.6nm,0.7s
M54A Oil Creek Stat 35.03 351 P P 06 02 05.4 +2.0
baz=168
P46A Rosedale 35.03 341 P P 06 02 04.8 +1.5
M53A WI Miller and 35.13 350 P P 06 02 04.8 +0.7
baz=167
L58A Harry Jones Me 35.16 356 P P 06 02 06.4 +1.9
baz=175
CCM Cathedral Cave 35.18 335 P P 06 02 05.5 +0.9
baz=148
CCM Cathedral Cave 35.18 335 P P 06 02 04.7 +0.1
BINY Binghamton 35.32 356 P P 06 02 07.7 +1.9
baz=175
U38A Gravette 35.32 330 IAmb IAmb 06 02 06.8
comp=Z,11nm,1.1s
PCMB Pacaembu 35.45 143 eP P 06 02 07.7 +0.5
L61B Northampton 35.48 1 P P 06 02 09.3 +2.1
baz=181
ABTX Abilene, Hawle 35.62 320 P P 06 02 09.2 +0.7
baz=130,SNR=6.9
ABTX Abilene, Hawle 35.62 320 IAmb IAmb 06 02 10.2
comp=Z,12nm,0.8s
NBPB Pedra_Branca-C 35.63 109 eP P 06 02 09.1 +0.2
TUL1 Leonard 35.65 327 P P 06 02 08.9 +0.2
baz=139,SNR=5.4
ERPA Erie 35.68 351 P P 06 02 11.1 +2.3
baz=168
SFIN Lafayette 35.69 342 P P 06 02 10.2 +1.2
baz=156,SNR=19
S39A Bolivar 35.80 332 IAmb IAmb 06 02 11.9
comp=Z,11nm,0.6s
P43A Skaggs, Pawnee 35.86 338 P P 06 02 10.2 -0.2
JANB Januaria 35.87 127 eP P 06 02 11.8 +0.9
J60A Lant Hill Farm 36.28 360 P P 06 02 15.4 +1.5
baz=179
J58A Remsen 36.44 357 P P 06 02 16.9 +1.6
baz=176
OK029 Liberty Lake 36.47 326 P P 06 02 15.4 -0.3
OK029 IAmb IAmb 06 02 17.9
comp=Z,13nm,0.6s
TX32 Lajitas Array 36.48 312 IAmb IAmb 06 02 17.7
comp=Z,5.8nm,0.7s
TXAR Lajitas Array 36.48 312 P P 06 02 16.9 +0.9
comp=Z,4.0nm,0.4s,baz=127,slow=9.2,SNR=94
TXAR PcP PcP 06 04 38.2 +1.5
comp=Z,1.4nm,0.7s,baz=133,slow=6.2,SNR=7.9
WMOK Wichita Mounta 36.49 323 P P 06 02 15.7 -0.2
baz=134,SNR=14
WMOK Wichita Mounta 36.49 323 IAmb IAmb 06 02 16.6
comp=Z,8.1nm,0.7s
AAM Ann Arbor 36.55 347 P P 06 02 18.6 +2.4
baz=162
HDIL Hopedale 36.58 339 P P 06 02 16.7 +0.1
baz=152,SNR=7.7
HDIL Hopedale 36.58 339 P P 06 02 16.3 -0.3
I58A Old Forge 36.76 358 P P 06 02 19.6 +1.6
baz=177,SNR=6.7
T35A Sooner Cattle 36.78 328 IAmb IAmb 06 02 19.3
comp=Z,18nm,1.1s
HPIG 36.84 307 IAmb IAmb 06 02 20.9
comp=Z,5.8nm,0.5s
BLOK Blackwell 37.05 327 IAmb IAmb 06 02 22.3
comp=Z,14nm,0.9s
CROK Carrier 37.28 326 P P 06 02 22.9 +0.4
H58A Gabriels 37.46 359 P P 06 02 25.3 +1.3
baz=178
H57A Richville 37.55 357 P P 06 02 26.0 +1.4
baz=176
H60A Morristown 37.59 0 P P 06 02 26.7 +1.7
baz=181
H62A Milan 37.64 2 P P 06 02 26.7 +1.2
baz=183
DELO Deloro Mine 37.76 355 IAmb IAmb 06 02 28.4
comp=Z,4.4nm,0.5s
H64A Troy 37.82 5 P P 06 02 28.9 +2.0
baz=186
H66A Whiting 38.15 7 P P 06 02 31.4 +1.8
baz=189
G57A Newington 38.17 358 P P 06 02 31.4 +1.6
baz=177
PLVO Plevna 38.23 355 IAmb IAmb 06 02 32.5
comp=Z,6.3nm,0.7s
G62A West of Eustis 38.31 3 P P 06 02 33.3 +2.2
baz=184
G61A St-Isidore-de- 38.34 2 P P 06 02 33.4 +2.1
baz=182
AMTX Amarillo 38.37 321 P P 06 02 32.8 +1.0
baz=130
AMTX Amarillo 38.37 321 IAmb IAmb 06 02 33.5
comp=Z,23nm,1.0s
MSTX Muleshoe 38.50 319 P P 06 02 33.7 +0.8
baz=128
MSTX Muleshoe 38.50 319 IAmb IAmb 06 02 34.8
comp=Z,11nm,0.8s
L40A Anamosa 38.60 338 IAmb IAmb 06 02 34.1
comp=Z,13nm,0.7s
MNTX Cornudas Mount 38.99 314 P P 06 02 37.8 +0.8
baz=123,SNR=28
MNTX Cornudas Mount 38.99 314 IAmb IAmb 06 02 39.5
comp=Z,12nm,0.8s
JFWS Jewell Farm 39.00 340 P P 06 02 37.1 +0.3
baz=152,SNR=14
JFWS Jewell Farm 39.00 340 P P 06 02 36.9 0.0
RCBR Riachuelo 39.19 108 P P 06 02 38.4 -0.4
comp=Z,13nm,1.1s,baz=103,slow=6.7,SNR=1.6
ALGO Algonquin Park 39.22 355 P P 06 02 39.8 +1.2
baz=172,SNR=6.0
SCIA State Center 39.24 336 P P 06 02 39.3 +0.5
baz=147,SNR=6.1
E58A La Victoria 39.40 360 P P 06 02 41.9 +1.8
baz=180

E55A	Montcerf-Lytto	39.57	357	P	P	06 02 43.2 +1.7
	baz=175					
E56A	St. Veronique	39.61	358	P	P	06 02 42.8 +1.0
	baz=177					
TIJ01	Guaruva-PR	39.63	145	eP	P	06 02 44.1 +1.7
E63A	Oxbow	39.66	5	P	P	06 02 43.6 +1.4
	baz=187					
K38A	Parkersburg	39.69	337	IAmb	IAmb	06 02 43.3
	comp=Z,7.0nm,0.7s					
E64A	Bridgewater	39.71	6	P	P	06 02 44.2 +1.5
	baz=188					
E62A	Clayton Lake	39.77	4	P	P	06 02 45.0 +1.9
	baz=185					
I40A	Norwalk	39.99	340	IAmb	IAmb	06 02 46.1
	comp=Z,18nm,0.9s					
D56A	ZEC Mazanza, M	40.10	358	P	P	06 02 47.3 +1.4
	baz=177					
D58A	Chemin du LacG	40.13	0	P	P	06 02 47.8 +1.7
	baz=180					
D62A	Allapoint, All	40.26	4	P	P	06 02 48.8 +1.7
	baz=186					
D63A	Stockholm	40.30	5	P	P	06 02 49.2 +1.8
	baz=188					
D61A	St Aubert, Com	40.31	3	P	P	06 02 49.7 +2.2
	baz=184					
GUA01	Guaratinga, BA	40.32	126	eP	P	06 02 47.4 -0.6
LATQ	La Tuque	40.42	0	P	P	06 02 50.4 +1.9
	baz=180					
LATQ	La Tuque	40.42	0	P	P	06 02 50.1 +1.7
LATQ				IAmb	IAmb	06 02 50.9
	comp=Z,6.1nm,0.7s					
SJMB	Sao Joao De Ma	40.42	129	eP	P	06 02 49.2 +0.4
G40A	Rib Lake	41.08	342	IAmb	IAmb	06 02 55.5
	comp=Z,11nm,1.1s					
121A	Cookes Peak, D	41.16	313	P	P	06 02 56.9 +1.9
	baz=121					
121A	Cookes Peak, D	41.16	313	IAmb	IAmb	06 02 58.0
	comp=Z,12nm,1.1s					
RIB01	Linhares ES	41.38	129	eP	P	06 02 57.0 +0.3
T25A	Trinidad	41.51	321	P	P	06 02 59.8 +1.9
	baz=129,SNR=6.4					
T25A	Trinidad	41.51	321	IAmb	IAmb	06 03 00.2
	comp=Z,5.9nm,0.6s					
COWI	Conover	41.51	343	IAmb	IAmb	06 02 59.8
	comp=Z,9.3nm,0.9s					
ANMO	Albuquerque	41.53	317	P	P	06 02 59.5 +1.5
	baz=125					
ANMO	Albuquerque	41.53	317	P	P	06 02 58.8 +0.8
KSCO	Kaye Shedlock'	41.66	325	P	P	06 02 59.9 +1.0
	baz=133					
KSCO	Kaye Shedlock'	41.66	325	IAmb	IAmb	06 03 00.6
	comp=Z,12nm,1.0s					
319A	Douglas	41.70	311	IAmb	IAmb	06 03 02.0
	comp=Z,9.3nm,0.8s					
SPMN	Marine on St.	41.91	339	P	P	06 03 01.7 +1.0
	baz=150					
SPMN	Marine on St.	41.91	339	IAmb	IAmb	06 03 02.6
	comp=Z,8.1nm,0.4s					
CAM01	Campos-RJ	41.96	134	eP	P	06 03 02.6 +1.2
ECSD	EROS Data Cent	42.16	334	P	P	06 03 02.3 -0.5
	baz=144,SNR=14					
ECSD	EROS Data Cent	42.16	334	IAmb	IAmb	06 03 03.3
	comp=Z,9.8nm,1.0s					
LSQQ	Lebel-sur-Quev	42.22	356	P	P	06 03 04.3 +1.2
	baz=174					
SDCO	Great Sand Dun	42.56	321	P	P	06 03 08.1 +1.6
	baz=128,SNR=17					
SDCO	Great Sand Dun	42.56	321	IAmb	IAmb	06 03 09.0
	comp=Z,6.6nm,0.7s					
OGNE	Ogallala	42.66	327	P	P	06 03 07.6 +0.6
	baz=135					
F36A	Milaca	42.72	339	P	P	06 03 07.1 -0.1
F36A				IAmb	IAmb	06 03 08.8
	comp=Z,4.8nm,0.5s					
CHGQ	Chibougamau	42.96	359	P	P	06 03 10.3 +1.2
	baz=178					
Q24A	Divide	43.11	323	P	P	06 03 12.3 +1.4
	baz=130					
TUC	Tucson	43.26	311	P	P	06 03 13.3 +1.4
	baz=118					
TUC	Tucson	43.26	311	P	P	06 03 13.3 +1.4
S22A	4UR Ranch, Cre	43.40	320	P	P	06 03 14.8 +1.6
	baz=127,SNR=12					
X18A	Snowflake	43.73	314	IAmb	IAmb	06 03 18.5
	comp=Z,7.0nm,0.7s					
SUSD	Miller	43.75	333	P	P	06 03 15.6 0.0
	baz=141,SNR=14					
EYMN	Ely	43.88	342	P	P	06 03 16.7 +0.3
	baz=153,SNR=18					
W18A	Petrified Fore	43.88	315	P	P	06 03 18.9 +1.9
	baz=121					
W18A	Petrified Fore	43.88	315	IAmb	IAmb	06 03 19.8
	comp=Z,15nm,0.9s					
ISCO	Idaho Springs	43.92	323	P	P	06 03 18.6 +1.3
	baz=130,SNR=12					
ISCO	Idaho Springs	43.92	323	IAmb	IAmb	06 03 19.9
	comp=Z,9.0nm,0.9s					
MVCO	Mesa Verde	44.17	318	P	P	06 03 20.5 +1.2
	baz=124,SNR=7.6					
214A	Organ Pipe Nat	44.65	309	P	P	06 03 24.3 +1.4
	baz=116					
PV01	Paradox Valley	44.74	319	P	P	06 03 25.1 +1.3
PV01				IAmb	IAmb	06 03 26.6
	comp=Z,8.0nm,0.8s					
PV15	Paradox Valley	44.80	320	IAmb	IAmb	06 03 27.1
	comp=Z,22nm,0.9s					
N23A	Red Feather La	44.81	324	P	P	06 03 25.8 +1.4
	baz=130,SNR=8.3					
PV02	Paradox Valley	44.89	319	IAmb	IAmb	06 03 27.6
	comp=Z,12nm,0.7s					
PV13	Radium Mtn., P	44.92	319	IAmb	IAmb	06 03 27.6
	comp=Z,15nm,0.7s					
B35A	Bob, Littlefor	44.95	341	IAmb	IAmb	06 03 25.9
	comp=Z,12nm,0.6s					
PV07	Paradox Valley	44.97	320	IAmb	IAmb	06 03 28.9
	comp=Z,14nm,1.2s					
PV03	Paradox Valley	44.99	319	IAmb	IAmb	06 03 28.0
	comp=Z,7.1nm,0.6s					
PV12	Saucer Basin,	45.00	320	IAmb	IAmb	06 03 28.4
	comp=Z,11nm,0.7s					
PV18	Skein Mesa, Pa	45.02	319	IAmb	IAmb	06 03 30.2
	comp=Z,9.0nm,0.7s					
PV11	David Mesa, Pa	45.03	319	IAmb	IAmb	06 03 28.4
	comp=Z,7.3nm,0.6s					
PV05	Paradox Valley	45.05	319	IAmb	IAmb	06 03 28.1
	comp=Z,11nm,0.6s					
PV17	East Wray Mesa	45.08	319	IAmb	IAmb	06 03 30.1
	comp=Z,8.2nm,0.6s					
D32A	Dogwood Acres,	45.09	337	P	P	06 03 26.1 0.0
PV22	Blue Mesa, Par	45.11	320	IAmb	IAmb	06 03 30.0
	comp=Z,7.9nm,0.7s					
WUAZ	Wupatki	45.24	315	P	P	06 03 29.3 +1.6
	baz=120,SNR=15					
WUAZ	Wupatki	45.24	315	IAmb	IAmb	06 03 30.8
	comp=Z,19nm,0.9s					
AGMN	Agassiz Nation	45.63	339	P	P	06 03 30.6 +0.2
	baz=148,SNR=15					
AGMN	Agassiz Nation	45.63	339	IAmb	IAmb	06 03 31.4
	comp=Z,12nm,0.6s					
Y14A	Wickenburg	45.66	312	IAmb	IAmb	06 03 33.1
	comp=Z,11nm,0.7s					
O20A	White River Ci	45.71	322	P	P	06 03 32.6 +1.3
	baz=127,SNR=7.6					
RSSD	Black Hills	45.95	329	P	P	06 03 34.4 +1.2
	baz=135					
RWWY	Rawlins	46.05	324	IAmb	IAmb	06 03 36.5
	comp=Z,9.0nm,0.8s					
K22A	Casper	46.28	326	P	P	06 03 37.3 +1.5
	baz=131					
U15A	North Rim	46.34	315	IAmb	IAmb	06 03 39.2
	comp=Z,13nm,1.0s					
SRU	San Rafael Swe	46.55	319	IAmb	IAmb	06 03 40.2
	comp=Z,8.4nm,0.8s					
GLA	Glamis	46.65	310	P	P	06 03 40.2 +1.5
	baz=115					
MDND	Maddock	46.70	336	P	P	06 03 39.4 +0.6
	baz=142,SNR=8.0					
RDMU	Red Mountain	46.78	322	IAmb	IAmb	06 03 41.7
	comp=Z,16nm,1.3s					
P17A	Butcher Ranch,	46.90	320	IAmb	IAmb	06 03 42.8
	comp=Z,9.9nm,0.8s					
KNB	Kanab	47.00	316	IAmb	IAmb	06 03 44.2
	comp=Z,14nm,0.9s					
LCMT	Little Creek M	47.29	315	IAmb	IAmb	06 03 46.8
	comp=Z,11nm,0.9s					
ULM	Lac du Bonnet	47.29	340	P	P	06 03 43.1 -0.1
	comp=Z,15nm,0.4s,baz=141,slow=7.3,SNR=24					
ULM	Lac du Bonnet	47.29	340	P	P	06 03 43.0 -0.3
SWSC	Sam W. Stewart	47.35	309	P	P	06 03 45.3 +1.2
	baz=114					
IRM	Iron Mountain	47.36	311	P	P	06 03 45.4 +1.3
	baz=115					
BC3	Big Chuckawall	47.38	310	P	P	06 03 45.7 +1.3
	baz=115					
SZCU	Shurtz Canyon	47.47	316	IAmb	IAmb	06 03 46.7
	comp=Z,6.6nm,0.5s					
TCRU	Three Creeks R	47.55	318	IAmb	IAmb	06 03 48.3
	comp=Z,16nm,0.9s					
MONP2	Monument Peak	47.81	309	P	P	06 03 48.7 +0.8
	baz=113					
BELC	Belle Mtn. Jos	47.93	310	P	P	06 03 49.2 +0.5
	baz=114					
GMRC	Granite Mounta	48.01	311	P	P	06 03 49.8 +0.5
	baz=115					
BW06	Boulder Array	48.09	324	P	P	06 03 50.4 +0.5
	baz=128,SNR=11					
BW06	Boulder Array	48.09	324	IAmb	IAmb	06 03 51.4
	comp=Z,11nm,1.4s					
PDAR	Pinedale Array	48.09	324	P	P	06 03 50.5 +0.6
	comp=Z,2.9nm,0.5s,baz=126,slow=9.4,SNR=44					
PDAR				PcP	PcP	06 05 15.1 -0.2
	comp=Z,0.7nm,0.6s,baz=136,slow=5.8,SNR=3.3					
TPFO	Pinon Flats	48.12	310	P	P	06 03 50.6 +0.5
	baz=114					
PFO	Pinyon Flats O	48.13	310	P	P	06 03 51.1 +0.9
	baz=114					
SCHQ	Schefferville	48.14	5	P	P	06 03 50.2 +0.5
	comp=Z,4.0nm,0.5s,baz=202,slow=7.1,SNR=16					
SCHQ	Schefferville	48.14	5	P	P	06 03 50.2 +0.5
PSUT	Pine Spring	48.46	317	IAmb	IAmb	06 03 55.2
	comp=Z,5.1nm,0.6s					
TUQ	Turquoise Moun	48.48	312	P	P	06 03 53.8 +0.9
	baz=116					
HEC	Hector,Ludlow	48.53	311	P	P	06 03 54.3 +1.1
	baz=115					
HWUT	Hardware Ranch	48.62	322	IAmb	IAmb	06 03 55.7
	comp=Z,6.9nm,0.7s					
DUG	Dugway, Tooele	48.63	319	P	P	06 03 55.0 +1.1
	baz=122,SNR=5.4					
LAO	LASA Array	48.85	330	P	P	06 03 55.8 +0.5
	baz=134					
LAO	LASA Array	48.85	330	IAmb	IAmb	06 03 56.3
	comp=Z,6.4nm,0.6s					
SHOC	Shoshone, Teco	48.94	313	P	P	06 03 56.9 +0.7
	baz=116					
AHID	Auburn Hatcher	49.00	323	P	P	06 03 56.5 -0.3
AHID				IAmb	IAmb	06 03 58.2
	comp=Z,9.2nm,0.9s					
GSC	Goldstone, Bar	49.08	312	P	P	06 03 58.4 +1.0
	baz=115,SNR=7.3					
GSC	Goldstone, Bar	49.08	312	IAmb	IAmb	06 03 59.6
	comp=Z,7.6nm,0.8s					
BGU	Big Grassy Mou	49.16	320	IAmb	IAmb	06 03 59.7
	comp=Z,13nm,0.6s					
DGMT	Dagmar	49.16	333	P	P	06 03 59.0 +1.4
	baz=137					
SNOW	Snow King Moun	49.21	324	IAmb	IAmb	06 04 01.0
	comp=Z,12nm,1.0s					
LOHW	Long Hollow	49.21	324	IAmb	IAmb	06 04 00.2
	comp=Z,7.5nm,0.6s					
BFSC	Mount Baldy Ra	49.29	310	P	P	06 04 01.0 +2.0
	baz=113					
TPAW	Teton Pass	49.34	324	IAmb	IAmb	06 04 01.6
	comp=Z,8.1nm,0.6s					
TPNV	Topopah Spring	49.38	314	P	P	06 04 01.3 +1.5
	baz=116,SNR=8.7					
TPNV	Topopah Spring	49.38	314	IAmb	IAmb	06 04 02.4
	comp=Z,7.2nm,0.9s					
RLMT	Red Lodge	49.39	327	P	P	06 04 00.5 +0.8
	baz=130,SNR=6.1					
R11A	Troy Canyon, C	49.56	316	P	P	06 04 02.4 +1.3
	baz=118,SNR=11					
R11A	Troy Canyon, C	49.56	316	P	P	06 04 01.8 +0.7
FURC	Furnace Creek,	49.62	313	P	P	06 04 02.8 +1.6
	baz=116					
H17A	Grant Village	49.67	325	P	P	06 04 03.1 +1.2
	baz=128					
EDW2	Edwards Air Fo	49.80	311	P	P	06 04 03.7 +0.9
	baz=113					
LRMC	Laurel Mtn Rad	49.80	311	P	P	06 04 04.1 +1.2
	baz=114					
MPMC	Maual Prospec	49.90	312	P	P	06 04 04.5 +0.8
	baz=115					
YMR	Madison River	50.06	325	IAmb	IAmb	06 04 07.1
	comp=Z,7.3nm,0.5s					
GRAC	Grapevine Rang	50.21	313	P	P	06 04 07.1 +1.2
	baz=116					
CWC	Cottonwood Cre	50.49	312	P	P	06 04 09.0 +0.8
	baz=114					
SCZ2	Santa Cruz Isl	50.72	309	P	P	06 04 11.2 +1.5
	baz=111					
BOZ	Bozeman (W)	50.99	326	P	P	06 04 12.7 +1.0
	baz=127,SNR=15					
BOZ	Bozeman (W)	50.99	326	IAmb	IAmb	06 04 13.5
	comp=Z,5.5nm,0.7s					
VES	Vestal, Richgr	50.99	311	P	P	06 04 13.4 +1.7
	baz=113					
MCMT	McKenzie Canyo	51.23	324	P	P	06 04 15.0 +1.4
VOG	Valley Oaks Go	51.41	312	P	P	06 04 15.8 +1.0
	baz=113					
NVAR	Mina Array Bea	51.50	315	P	P	06 04 16.8 +1.1
	comp=Z,2.4nm,0.6s,baz=123,slow=7.1,SNR=27					
NVAR				PcP	PcP	06 05 28.7 +0.8
	comp=Z,1.2nm,0.6s,baz=138,slow=4.5,SNR=3.9					
EGMT	Eagleton	51.52	329	P	P	06 04 16.2 +0.8
	baz=131,SNR=6.8					
EGMT	Eagleton	51.52	329	IAmb	IAmb	06 04 17.5
	comp=Z,16nm,1.4s					
MFID	Camas Ranch	52.24	321	IAmb	IAmb	06 04 22.7
	comp=Z,8.3nm,0.7s					
WAKR	Walker	52.34	314	P	P	06 04 23.1 +1.3
YERR	Yerington	52.40	315	P	P	06 04 22.9 +0.6
YERR				IAmb	IAmb	06 04 25.6
	comp=Z,6.0nm,0.7s					
PNTR	Pine Nut	52.70	315	IAmb	IAmb	06 04 29.9
	comp=Z,7.1nm,0.8s					
VCNR	Virginia City	52.82	315	IAmb	IAmb	06 04 27.8
	comp=Z,9.0nm,1.1s					
MSO	Missoula	53.02	326	P	P	06 04 27.2 +0.6
	baz=126					
FFC	Flin Flon	53.09	339	P	P	06 04 26.4 -0.5
FFC				IAmb	IAmb	06 04 27.3
	comp=Z,6.5nm,0.5s					
WVOR	Wild Horse Val	53.54	319	IAmb	IAmb	06 04 33.8
	comp=Z,10.0nm,1.1s					
JTMT	Jette	53.74	327	IAmb	IAmb	06 04 33.9
	comp=Z,8.4nm,0.8s					
J08A	Circle Bar Ran	53.88	320	IAmb	IAmb	06 04 34.4
	comp=Z,7.7nm,1.2s					
FCC	Fort Churchill	54.28	347	IAmb	IAmb	06 04 36.1
	comp=Z,9.6nm,1.1s					
F10A	Beach Ranch, E	54.43	323	P	P	06 04 36.7 -0.2
F10A				IAmb	IAmb	06 04 37.9
	comp=Z,8.9nm,0.5s					
O03E	Paynes Creek	54.74	315	P	P	06 04 39.4 +0.2
	baz=114					
I07A	Izee	54.88	320	IAmb	IAmb	06 04 42.0
	comp=Z,7.1nm,0.9s					
G08A	Pilot Rock	55.13	322	P	P	06 04 42.1 +0.1
K05A	Summer Lake	55.16	318	P	P	06 04 42.8 +0.5
E09A	Wood Farm, Sta	55.26	324	IAmb	IAmb	06 04 44.1
	comp=Z,7.0nm,0.8s					
M04C	Macdoel	55.38	317	P	P	06 04 43.5 -0.3
	baz=115					
O02D	Mt. Diablo Mer	55.39	315	P	P	06 04 43.3 -0.5
	baz=113					
NEW	Newport	55.61	326	P	P	06 04 45.4 +0.2
	baz=123,SNR=5.4					
J05D	Fort Rock, OR	55.63	319	P	P	06 04 46.7 +1.1
	baz=116,SNR=7.7					
N02D	Trinity Center	55.65	316	P	P	06 04 44.5 -1.2
	baz=114					
K04D	Chiloquin, OR	55.68	318	P	P	06 04 46.8 +0.9
	baz=116					
L04D	Klamath Falls	55.88	317	P	P	06 04 48.3 +0.9
	baz=115					
D08A	Wollman Farm,	56.00	324	IAmb	IAmb	06 04 49.1
	comp=Z,4.9nm,0.9s					
I05D	Terrebonne, OR	56.17	320	P	P	06 04 50.6 +1.3
	baz=117					
J04D	Umpqua Nationa	56.19	318	P	P	06 04 50.5 +0.9
	baz=116					
G05D	Wamic, OR	56.57	321	P	P	06 04 54.4 +2.3
	baz=118					
I04A	Tendick Farm,	56.62	319	P	P	06 04 53.0 +0.5
	baz=116					
H04A	Detroit Lake	56.87	320	P	P	06 04 55.1 +0.9
H04A				IAmb	IAmb	06 04 57.9
	comp=Z,9.1nm,0.8s					
B08A	Colville Reser	56.91	325	IAmb	IAmb	06 04 55.3
	comp=Z,5.7nm,0.7s					
K02D	Willamette Mer	56.99	317	P	P	06 04 56.2 +1.0
	baz=114					
LTY	Liberty	57.13	323	IAmb	IAmb	06 04 57.9
	comp=Z,7.8nm,0.7s					
I03D	Drain, OR	57.20	318	P	P	06 04 57.5 +1.1
	baz=115					
I02D	Swisshome	57.69	319	P	P	06 05 01.4 +1.5
	baz=114					
G03D	McMinnville, O	57.78	320	P	P	06 05 02.3 +1.8
	baz=116					
D04E	Lakebay	58.35	322	P	P	06 05 05.4 +0.9
	baz=117					
B05A	Bryant	58.46	324	P	P	06 05 05.9 +0.7
	baz=118					
D03D	Eldon	58.71	323	P	P	06 05 07.4 +0.4
	baz=117					
YKA	Yellowknife Ar	63.27	340	P	P	06 05 37.2 -0.2
	comp=Z,4.1nm,0.5s,baz=103,slow=8.6,SNR=85					
CRAG	Craig	67.70	328	P	P	06 06 06.6 +0.6
	baz=112					
DBIC	Dimbokro	67.71	86	P	P	06 06 05.4 -1.5
	comp=Z,2.3nm,0.7s,baz=238,slow=7.6,SNR=4.5					
SUMG	Summit	68.98	11	P	P	06 06 14.8 +0.6
SUMG				IAmb	IAmb	06 06 16.3
	comp=Z,9.5nm,0.6s					
PMSA	Palmer Station	71.72	176	eP	P	06 06 31.1 +0.8
INK	Inuvik	73.04	340	P	P	06 06 38.7 +0.5
	baz=115,SNR=7.6					
EPYK	Eagle Plains	73.39	338	P	P	06 06 41.1 +0.7
	baz=112,SNR=6.3					
EPYK	Eagle Plains	73.39	338	IAmb	IAmb	06 06 41.5
	comp=Z,6.8nm,0.4s					
CTG	Chitna Glacier	73.59	332	P	P	06 06 43.2 +1.5
	baz=106					
TORD	Torodi Ar. Bea	73.72	78	P	P	06 06 41.6 -1.6
	comp=Z,0.4nm,0.5s,baz=285,slow=6.5,SNR=1.7					
BCAR	Beaver Creek A	74.37	334	P	P	06 06 46.8 +0.7
L27K	Beaver Creek,	74.39	334	P	P	06 06 47.6 +1.4
	baz=106,SNR=5.4					
L27K	Beaver Creek,	74.39	334	P	P	06 06 47.2 +0.9
EGAK	Eagle	74.60	336	P	P	06 06 49.0 +1.6
	baz=107					
K27K	Chicken	74.77	335	P	P	06 06 50.0 +1.7
	baz=106					
BMRM	Bremner River	75.13	331	P	P	06 06 51.8 +1.2
	baz=103					
N25K	Chitina, Valde	75.27	332	P	P	06 06 52.5 +1.1
	baz=103					
SCRK	Sand Creek	75.56	335	P	P	06 06 54.2 +1.2
	baz=104					
M24K	Tolsona, Glenn	76.11	332	P	P	06 06 57.4 +1.3
	baz=102					
GLI	Glacier Island	76.30	331	P	P	06 06 58.4 +1.3
	baz=101					
PRP	Porcupine Dome	76.57	336	P	P	06 06 59.6 +0.8
	baz=103					
HDA	Harding Lake	76.92	335	P	P	06 07 00.9 +0.3
	baz=102,SNR=5.3					
ILAR	Eielson Array	76.97	335	P	P	06 07 01.1 +0.2
	comp=Z,1.4nm,0.7s,baz=110,slow=4.5,SNR=13					
ILAR				PP	PP	06 09 56.3 +0.3
	comp=Z,0.6nm,1.0s,baz=106,slow=7.8,SNR=4.1					
KNK	Knik Glacier	77.05	331	P	P	06 07 02.3 +1.0
	baz=100					
SML	Sawmill	77.05	332	P	P	06 07 02.5 +1.1
	baz=100					
WAT1	Susitna Watana	77.33	333	P	P	06 07 03.8 +0.9
	baz=100					
PMR	Palmer	77.39	332	P	P	06 07 04.0 +0.8
	baz=99					
RND	Reindeer	77.56	333	P	P	06 07 02.8 -1.5
RND				IAmb	IAmb	06 07 06.3
	comp=Z,11nm,0.7s					
H24K	Noodor Dome	77.59	336	P	P	06 07 05.1 +0.8
	baz=101					
NEA2	Nenana	77.86	335	P	P	06 07 06.5 +0.7
	baz=100					
I23K	Minto, Yukon-K	78.08	335	P	P	06 07 07.5 +0.5
	baz=100					
TRF	Thorofare Moun	78.21	333	P	P	06 07 08.2 +0.2
	baz=98					
H23K	Yukon River	78.27	336	P	P	06 07 08.9 +0.9
	baz=100					
BPAW	Bear Paw Mtn.	78.61	334	P	P	06 07 10.3 +0.3
	baz=98					
BPAW	Bear Paw Mtn.	78.61	334	P	P	06 07 09.7 -0.2
MLY	Manley	78.64	335	P	P	06 07 10.7 +0.6
	baz=98					
MLY	Manley	78.64	335	P	P	06 07 10.2 +0.1
COLD	Coldfoot	78.76	337	P	P	06 07 12.1 +1.4
	baz=99					
TOLK	Toolik Lake Re	78.76	339	P	P	06 07 12.1 +1.4
	baz=100					
SPCR	Spurr Chakacha	78.81	331	P	P	06 07 12.3 +1.1
	baz=96					
OHAK	Old Harbor	78.99	327	P	P	06 07 12.2 +0.1
	baz=94					
PPLA	Purkeypile	78.99	333	P	P	06 07 12.9 +0.7
	baz=97					
PPLA	Purkeypile	78.99	333	IAmb	IAmb	06 07 13.4
	comp=Z,11nm,0.5s					
P19K	Oil Pt	79.16	329	P	P	06 07 12.9 -0.1
	baz=95					
I21K	Tanana	79.18	335	P	P	06 07 13.2 +0.2
	baz=97					
M20K	Styx River	79.32	332	P	P	06 07 14.1 +0.2
	baz=96					
H21K	Melozitna Rive	79.58	336	P	P	06 07 15.7 +0.5
	baz=96					
N19K	Bonanza Creek	79.88	331	P	P	06 07 16.8 -0.2
	baz=94					
M19K	Big River Lodg	79.92	332	P	P	06 07 17.5 +0.5
	baz=94					
L19K	White Mountain	80.15	332	P	P	06 07 18.6 +0.2
	baz=94					
O18K	Koktuh Hills	80.17	330	P	P	06 07 18.5 0.0
	baz=93					
SVW2	Sparrevohn	80.43	331	IAmb	IAmb	06 07 20.3
	comp=Z,5.2nm,0.6s					
N18K	Kilae Creek	80.56	330	P	P	06 07 20.6 +0.1
	baz=93					
CHNA	Chernabura Isl	82.45	324	P	P	06 07 30.5 0.0
	baz=89					
ARCES	ARCESS Array B	86.66	20	P	P	06 07 51.0 -0.5
	comp=Z,2.0nm,1.0s,baz=284,slow=3.6,SNR=6.5					
ARCES	ARCESS Array B	86.66	20	P	P	06 07 50.5 -1.0
ARCES				IAmb	IAmb	06 07 54.0
	comp=Z,7.1nm,1.3s					
FINES	FINESS Array B	88.43	28	P	P	06 08 00.1 +0.1
	comp=Z,1.3nm,0.9s,baz=186,slow=29,SNR=1.7					
SNAA	Sanae	90.33	163	P	P	06 08 07.1 -1.6
	comp=Z,0.5nm,0.6s,baz=67,slow=22,SNR=1.7					
QSPA	South Pole Qui	96.83	180	P	P	06 08 38.6 -0.2
	comp=Z,1.2nm,0.9s,baz=287,slow=4.5,SNR=2.5					
ZALV	Zalesovo Beam	116.66	14	PKP	PKPdf	06 13 50.9 -0.5
	comp=Z,0.7nm,0.4s,baz=56,slow=26,SNR=2.3					
MKAR	Makanchi Array	122.31	20	PKP	PKPdf	06 14 01.7 -0.8
	comp=Z,0.5nm,0.4s,baz=301,slow=2.3,SNR=12					
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	06 14 55.8 -0.8
	comp=Z,1.6nm,0.5s,baz=95,slow=1.5,SNR=19					
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	06 14 58.9 -0.7
	comp=Z,2.3nm,0.3s,baz=109,slow=2.7,SNR=93					
WRA	Warramunga Arr	150.36	241		PKPbc	06 14 58.3 -1.4
CMAR	Chiang Mai Arr	153.68	17	PKPbc	PKiKP	06 15 07.4 +0.2
	comp=Z,1.4nm,0.4s,baz=332,slow=

s-maj=26.8km s-min=7.2km az=134.0
RSNC ***01*** *06:23:49.2±1.1, 6°82N×73°13W, h149km±4km, ML3.7, Mw4.0, Fault plane solution: NP1:φ=20.00000°, δ41.00000°, λ98.00000°.*
ISC 01 06:23:48.6±0.8, 6°85N±0°03×73°10W±0°03, h152km±6km, n49, σ1°52/78, mb3.5/5, 14C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**199**	⇑*iP*			**Pn**	**06 24 09.8**	**+0.2**
BARC				*eS*			**Sn**	**06 24 24.8**	**-0.7**
BARC				*i*				06 24 26.8	
	comp=Z,968nm,0.3s								
RUSC	**La Rusia**	**0.95**	**179**	⇑*eP*			**Pn**	**06 24 13.8**	**0.0**
RUSC				*eS*			**Sn**	**06 24 31.5**	**-1.3**
RUSC				*i*				06 24 33.5	
	comp=Z,727nm,0.3s								
OCAC	**Ocana**	**1.40**	**351**	⇑*iP*			**Pn**	**06 24 17.9**	**+0.4**
OCAC				*eS*			**Sn**	**06 24 39.6**	**+0.1**
OCAC				*i*				06 24 44.3	
	comp=Z,702nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	⇓*eP*			**Pn**	**06 24 21.8**	**-0.5**
ZARC				*eS*			**Sn**	**06 24 47.2**	**-0.8**
ZARC				*i*				06 24 58.0	
	comp=Z,416nm,0.5s								
SMLC	**San Martn de**	**2.17**	**334**	⇓*eP*			**Pn**	**06 24 25.8**	**0.0**
SMLC				*eS*			**Sn**	**06 24 53.6**	**-0.8**
SMLC				*i*				06 24 58.0	
	comp=Z,444nm,0.2s								
NORC	**Norcasia**	**2.18**	**234**	⇑*eP*			**Pn**	**06 24 25.4**	**-0.6**
NORC				*eS*			**Sn**	**06 24 53.1**	**-1.6**
NORC				*i*				06 25 01.6	
	comp=Z,479nm,0.2s								
CHIC	**Chingaza**	**2.29**	**196**	⇑*iP*			**Pn**	**06 24 27.7**	**0.0**
CHIC				*eS*			**Sn**	**06 24 57.0**	**-0.8**
CHIC				*i*				06 25 00.8	
	comp=Z,332nm,0.6s								
ROSC	**El Rosal**	**2.34**	**211**	P			**Pn**	**06 24 29.5**	**+1.3**
	comp=Z,146nm,0.3s,baz=116,slow=0.8,SNR=140								
ROSC				S			**Sn**	**06 24 59.1**	**+0.3**
	comp=Z,120nm,0.3s,baz=217,slow=22,SNR=16								
ROSC	**El Rosal**	**2.34**	**211**	⇑*eP*			**Pn**	**06 24 29.2**	**+1.0**
ROSC				*eS*			**Sn**	**06 24 57.8**	**-0.9**
ROSC				*i*				06 25 07.7	
	comp=Z,469nm,0.3s								
HELC	**Santa Helena**	**2.50**	**255**	*eP*			**Pn**	**06 24 29.7**	**-0.5**
HELC				*eS*			**Sn**	**06 25 00.8**	**-1.4**
HELC				*i*				06 25 07.2	
	comp=Z,232nm,0.3s								
UREC	**San Jos de Ur**	**2.58**	**290**	*eP*			**Pn**	**06 24 29.4**	**-1.4**
UREC				*eS*			**Sn**	**06 25 00.3**	**-3.0**
UREC				*i*				06 25 12.2	
	comp=Z,278nm,0.2s								
SOCV	**Socops**	**2.64**	**57**	*eP*			**Pn**	**06 24 31.6**	**+0.1**
SOCV				*eS*			**Sn**	**06 25 03.0**	**-1.6**
LL2C	**La Loma 2 Cana**	**2.71**	**353**	⇑*eP*			**Pn**	**06 24 33.2**	**+0.8**
LL2C				*eS*			**Sn**	**06 25 07.2**	**+0.9**
LL2C				*i*				06 25 15.0	
	comp=Z,443nm,0.7s								
LL1C	**La Loma 1 Cana**	**2.71**	**350**	⇓*eP*			**Pn**	**06 24 34.6**	**+2.2**
LL1C				*eS*			**Sn**	**06 25 08.8**	**+2.4**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	⇓*eP*			**Pn**	**06 24 33.9**	**+0.2**
GUY2C				*eS*			**Sn**	**06 25 07.4**	**-1.1**
GUY2C				*i*				06 25 19.9	
	comp=Z,294nm,0.5s								
VILC	**Villavicencio,**	**2.78**	**192**	⇑*eP*			**Pn**	**06 24 32.9**	**-0.6**
VILC				*eS*			**Sn**	**06 25 07.1**	**-1.1**
VILC				*i*				06 25 10.5	
	comp=Z,454nm,0.5s								
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇓*iP*			**Pn**	**06 24 33.1**	**-0.5**
PTGC				*eS*			**Sn**	**06 25 05.1**	**-3.3**
PTGC				*i*				06 25 09.1	
	comp=Z,412nm,0.5s								
CBOC	**Ciudad Bolivar**	**3.06**	**251**	*eP*			**Pn**	**06 24 37.1**	**+0.2**
CBOC				*eS*			**Sn**	**06 25 12.7**	**-1.7**
CBOC				*i*				06 25 30.5	
	comp=Z,104nm,0.7s								
DBBC	**Dabeiba**	**3.10**	**273**	⇓*iP*			**Pn**	**06 24 37.2**	**-0.2**
TOLC	**Tolima**	**3.16**	**225**	*eP*			**Pn**	**06 24 38.2**	**-0.1**
TOLC				*eS*			**Sn**	**06 25 16.2**	**-0.7**
TOLC				*i*				06 25 23.4	
	comp=Z,231nm,0.5s								
SDV	**Santo Domingo**	**3.17**	**50**	P			**Pn**	**06 24 39.4**	**+1.0**
	comp=Z,10nm,0.3s,baz=227,slow=10,SNR=4.1								
SDV				S			**Sn**	**06 25 17.8**	**+0.9**
	comp=Z,62nm,0.3s,baz=54,slow=22,SNR=35								
SDV	**Santo Domingo**	**3.17**	**50**	*eP*			**Pn**	**06 24 38.6**	**+0.2**
SDV				*eS*			**Sn**	**06 25 16.1**	**-0.7**
MOTC	**Monteria, Cord**	**3.19**	**307**	⇓*iP*			**Pn**	**06 24 36.8**	**-1.6**
MOTC				*eS*			**Sn**	**06 25 14.3**	**-2.7**
MOTC				*i*				06 25 37.9	
	comp=Z,84nm,0.7s								
ARGC	**Ariguani, Magd**	**3.20**	**339**	⇑*eP*			**Pn**	**06 24 39.6**	**+1.0**
ARGC				*eS*			**Sn**	**06 25 18.5**	**+1.1**
ARGC				*i*				06 25 30.1	
	comp=Z,134nm,0.3s								
ELOV	**Elorza**	**3.59**	**87**	⇓*iP*			**Pn**	**06 24 44.1**	**+0.5**
ELOV				*eS*			**Sn**	**06 25 24.1**	**-2.1**
PRAC	**Prado**	**3.59**	**210**	⇑*eP*			**Pn**	**06 24 42.6**	**-1.0**
PRAC				*eS*			**Sn**	**06 25 25.1**	**-1.3**
PRAC				*i*				06 25 34.1	
	comp=Z,184nm,0.3s								
ORTC	**Ortega, Tolima**	**3.62**	**216**	⇑*eP*			**Pn**	**06 24 43.5**	**-0.5**
ORTC				*eS*			**Sn**	**06 25 25.4**	**-1.8**
ORTC				*i*				06 25 31.0	
	comp=Z,163nm,0.3s								
SJCC	**San Jacinto, C**	**3.66**	**326**	⇓*eP*			**Pn**	**06 24 43.5**	**-1.1**
SJCC				*eS*			**Sn**	**06 25 24.9**	**-3.2**
SJCC				*i*				06 25 32.4	
	comp=Z,72nm,0.4s								
PLMC	**San Jos del P**	**3.71**	**239**	⇑*eP*			**Pn**	**06 24 45.3**	**0.0**
PLMC				*i*				06 25 33.7	
	comp=Z,104nm,0.7s								
LCBC	**Los crdobas,**	**3.81**	**302**	*eP*			**Pn**	**06 24 45.9**	**-0.5**
LCBC				*i*				06 25 40.3	
	comp=Z,82nm,0.5s								
GUVC	**San Jose del G**	**4.30**	**174**	*eP*			**Pn**	**06 24 51.9**	**-1.1**
GUVC				*i*				06 25 45.7	
	comp=Z,233nm,0.6s								
YOTC	**Yotoco, Valle**	**4.31**	**229**	⇓*eP*			**Pn**	**06 24 52.3**	**-0.8**
YOTC				*i*				06 24 56.5	
	comp=Z,30nm,0.4s								
SMRC	**Santa Marta, M**	**4.43**	**345**	*eP*			**Pn**	**06 24 54.4**	**-0.2**
SMRC				*eS*			**Sn**	**06 25 41.6**	**-4.3**
SMRC				*i*				06 25 45.7	
	comp=Z,69nm,0.2s								
PTAC	**Punta Ardita,**	**4.69**	**274**	*eP*			**Pn**	**06 24 56.8**	**-1.1**
MACC	**Macarena, Meta**	**4.73**	**189**	⇑*eP*			**Pn**	**06 24 56.6**	**-2.0**
MACC				*i*				06 24 57.4	
	comp=Z,139nm,0.4s								
BETC	**Betania**	**4.75**	**210**	*eP*			**Pn**	**06 24 58.0**	**-1.0**
BETC				*i*				06 24 58.9	
	comp=Z,48nm,0.6s								
MARP	**Paez Belalcaza**	**4.89**	**216**	*eP*			**Pn**	**06 25 00.4**	**-0.5**
URIC	**Uribia, Colomb**	**4.94**	**13**	*eP*			**Pn**	**06 25 00.2**	**-1.1**
URIC				*eS*			**Sn**	**06 25 53.5**	**-4.6**
GARC	**Garzon, Huila**	**5.21**	**207**	*eP*			**Pn**	**06 25 03.8**	**-1.4**
GARC				*i*				06 25 05.6	
	comp=Z,101nm,0.2s								
POPC	**Popayan, Colom**	**5.57**	**220**	*eP*			Pn	06 25 03.4	-6.5
FLOC	**Florencia**	**5.82**	**206**	⇑*eP*			**Pn**	**06 25 11.9**	**-1.1**
FLOC				*i*				06 25 13.6	
	comp=Z,18nm,0.3s								
PCRV	**Puerto La Cruz**	**8.99**	**68**	P			**Pn**	**06 25 55.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=354,slow=21,SNR=1.8								
PCRV				S			**Sn**	**06 27 32.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=32,slow=17,SNR=1.5								
TXAR	**Lajitas Array**	**36.46**	**312**	P			**P**	**06 30 39.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=130,slow=8.7,SNR=9.3								
PDAR	**Pinedale Array**	**48.07**	**324**	P			**P**	**06 32 12.7**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=129,slow=12,SNR=3.9								
SCHQ	**Schefferville**	**48.11**	**5**	P			**P**	**06 32 13.6**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=201,slow=8.4,SNR=4.2								
NVAR	**Mina Array Bea**	**51.48**	**315**	P			**P**	**06 32 39.5**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=150,slow=7.3,SNR=2.3								
YKA	**Yellowknife Ar**	**63.24**	**340**	P			**P**	**06 34 00.2**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=94,slow=9.2,SNR=4.1								
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc			**PKPdf**	**06 43 16.8**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=118,slow=3.4,SNR=6.2								
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc			**PKPdf**	**06 43 21.6**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=108,slow=2.8,SNR=13								

TEH ***01*** *06:43:24.7, 28°29N×57°53E, h8km, ML4.3*

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THR ***01*** *06:43:26.1±0.7, 28°26N×57°49E, h18km±9km, ML4.2*
OMAN ***01*** *06:43:28.0±0.1, 28°07N×57°94E, h35km±15km, mb5.3/5, ml4.2/17, ms2.6/1, Error ellipse: s-maj=3.7km s-min=0.8km az=342.0*
NEIC ***01*** *06:43:28.7±2.5, 28°13N±0°07×57°45E±0°10, h50km±8km, mb4.4/28, mb_Lg4.2(TEH), Error ellipse: s-maj=12.7km s-min=10.4km az=107.0*
IDC ***01*** *06:43:28.3±2.2, 28°19N×57°47E, h49km±22km, mb3.9/20, mb1 4.0/26, mb1mx3.8/55, mbtmp4.2/26, ML4.1/6, MS3.4/17, Ms1 3.4/17, ms1mx3.2/57, Error ellipse: s-maj=15.1km s-min=13.8km az=100.0*
ISC 01 06:43:25.7±0.4, 28°18N±0°03×57°59E±0°03, h30km, n160, σ1°93/165, mb4.4/30, MS3.2/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.25**	**155**	*ePg*			**Pb**	**06 43 32.6**	**0.0**
IBND	**Bandar-abas**	**1.18**	**232**	*ePg*			**Pb**	**06 43 48.3**	**+0.9**
IBND				*e*				06 44 16.0	
	comp=Z,79μm,0.4s								
KBAM	**BAM**	**1.22**	**38**	*ePg*			**Pb**	**06 43 47.4**	**-0.8**
KBAM				*e*				06 44 13.2	
	comp=Z,42μm,0.3s								
GENO	**Geno**	**1.47**	**239**	*ePg*			**Pb**	**06 43 52.6**	**+0.1**
GENO				*e*				06 44 18.6	
	comp=Z,37μm,0.2s								
BNDS	**Bandar-Abbas**	**1.47**	**239**	*ePg*			**Pb**	**06 43 52.6**	**+0.1**
BNDS				*eSg*			**Sb**	**06 44 12.8**	**+1.8**
BNDS				IAML				06 44 17.3	
	comp=E,3μm,0.2s								
BNDS				IAML				06 44 18.3	
	comp=N,2μm,0.3s								
BNDS	**Bandar-Abbas**	**1.47**	**239**	*ePn*			**Pb**	**06 43 52.6**	**+0.1**
NGRK	**Negar Kerman**	**1.64**	**333**	*ePn*			**Pn**	**06 43 53.1**	**+0.3**
NGRK				*e*				06 44 28.6	
	comp=Z,55μm,0.3s								
CHMN	**Cheshme madani**	**1.68**	**359**	*ePg*			**Pb**	**06 43 54.8**	**-1.3**
CHMN				*e*				06 44 27.8	
	comp=Z,23μm,0.4s								
KRBR	**Kerman**	**1.94**	**338**	*ePn*			**Pb**	**06 43 58.6**	**-1.9**
KRBR				IAML				06 44 34.9	
	comp=E,2μm,0.5s								
KRBR				IAML				06 44 37.3	
	comp=N,2μm,0.4s								
KRBR	**Kerman**	**1.94**	**338**	*ePn*			**Pb**	**06 43 58.6**	**-1.9**
TVBK	**TV Kerman**	**1.94**	**338**	*ePn*			**Pb**	**06 43 58.8**	**-1.8**
KHGB	**Koh Gabri**	**2.39**	**336**	*e*				06 44 11.6	
	comp=Z,28μm,0.5s								
KHGB				*ePn*			**Pb**	**06 44 05.6**	**-2.6**
SHME	**Shamm**	**2.48**	**212**	*ePn*			**Pn**	**06 44 05.9**	**+1.9**
SHME	**Shamm**	**2.48**	**212**	P			**Pn**	**06 44 06.6**	**+2.6**
	SNR=120								
SHME				S			**Sb**	**06 44 38.0**	**-1.6**
BANOM	**Banah**	**2.52**	**207**	*ePn*			**Pn**	**06 44 06.6**	**+2.0**
BANOM	**Banah**	**2.52**	**207**	P			**Pn**	**06 44 06.7**	**+2.1**
	SNR=100								
BANOM				S			**Sb**	**06 44 41.9**	**+1.0**
JSK1	**Jask**	**2.54**	**176**	*ePn*			**Pb**	**06 44 09.0**	**-1.5**
LAR1	**LAR**	**2.89**	**261**	*ePn*			**Pb**	**06 44 13.4**	**-3.1**
LAR1				*e*				06 45 07.9	
	comp=Z,13μm,0.5s								
MASF	**Masafi**	**3.07**	**205**	P			**Pn**	**06 44 14.9**	**+2.7**
	SNR=15								
MASF				S			**Sb**	**06 44 53.3**	**-3.5**
ZHDN	**Zahedan**	**3.08**	**66**	*ePn*			**Pn**	**06 44 15.4**	**+3.0**
MSFE	**Esma-Masafi**	**3.08**	**205**	*ePn*			**Pn**	**06 44 13.9**	**+1.5**
MDH	**Madha**	**3.09**	**202**	*ePn*			**Pn**	**06 44 13.0**	**+0.6**
MDH	**Madha**	**3.09**	**202**	P			**Pn**	**06 44 13.0**	**+0.6**
	SNR=11								
ZHSF	**Zahedan**	**3.14**	**62**	*ePn*			**Pb**	**06 44 17.1**	**-3.7**
ZHSF				*eSg*			**Sb**	**06 45 05.5**	**+6.7**
ZHSF	**Zahedan**	**3.14**	**62**	*ePn*			**Pb**	**06 44 17.2**	**-3.7**
UOSS	**Minazif**	**3.45**	**201**	Pn			**Pn**	**06 44 17.6**	**+0.2**
UOSS	**Minazif**	**3.45**	**201**	P			**Pn**	**06 44 18.0**	**+0.6**
UOSS				S			**Sn**	**06 45 02.4**	**+5.1**
JHRM	**Jahrom**	**3.55**	**276**	*ePn*			**Pn**	**06 44 21.8**	**+3.0**
HATD	**Hatta, Dubai**	**3.58**	**202**	*ePn*			**Pn**	**06 44 19.5**	**+0.3**
HATD	**Hatta, Dubai**	**3.58**	**202**	P			**Pn**	**06 44 19.8**	**+0.6**
NAZ	**Nazwa, Dubai**	**3.61**	**209**	*ePn*			**Pn**	**06 44 22.7**	**+3.1**
NAZ	**Nazwa, Dubai**	**3.61**	**209**	P			**Pn**	**06 44 23.0**	**+3.4**
	SNR=12								
NAZ				S			**Sn**	**06 45 05.0**	**+3.7**
ASHO	**Ashiyiah**	**3.74**	**202**	*ePn*			**Pn**	**06 44 22.5**	**+1.1**
ASHO	**Ashiyiah**	**3.74**	**202**	P			**Pn**	**06 44 23.0**	**+1.6**
	SNR=28								
IBAF	**Bafgh**	**3.83**	**333**	*ePn*			**Pn**	**06 44 24.8**	**+2.1**
NHDN	**Nehbandan**	**3.85**	**33**	*ePn*			**Pn**	**06 44 25.7**	**+2.7**
FAQ	**Al Faqa, Dubai**	**3.86**	**208**	*ePn*			**Pn**	**06 44 25.1**	**+2.1**
FAQ	**Al Faqa, Dubai**	**3.86**	**208**	P			**Pn**	**06 44 25.8**	**+2.8**
	SNR=8.1								
FAQ				S			**Sn**	**06 45 11.0**	**+3.7**
BSRN	**Basiran**	**4.00**	**19**	*ePn*			**Pn**	**06 44 28.3**	**+3.2**
BSRN				Sn			**Sn**	**06 45 13.8**	**+2.7**
BSRN	**Basiran**	**4.00**	**19**	*ePn*			**Pn**	**06 44 28.3**	**+3.2**
LMD1	**Lamerd**	**4.00**	**259**	*ePn*			**Pn**	**06 44 28.0**	**+3.0**
QIR1	**Qir**	**4.01**	**275**	*ePn*			**Pn**	**06 44 28.2**	**+3.0**
ASUD	**Al Ashush, Dub**	**4.08**	**210**	*ePn*			**Pn**	**06 44 28.4**	**+2.4**
ASUD	**Al Ashush, Dub**	**4.08**	**210**	P			**Pn**	**06 44 29.5**	**+3.5**
	SNR=22								
IMEH	**Mehriz**	**4.11**	**322**	*ePn*			**Pn**	**06 44 29.1**	**+2.4**
SOHO	**SOHO**	**4.14**	**193**	P			**Pn**	**06 44 27.1**	**+0.2**
SRVN	**Saravan**	**4.33**	**99**	*ePn*			Pn	06 44 34.2	+4.5
IKOO	**Kooshah**	**4.41**	**16**	*ePn*			**Pn**	**06 44 32.8**	**+2.1**
ALNE	**Al Ain**	**4.42**	**202**	*ePn*			**Pn**	**06 44 34.0**	**+3.2**
ALNE	**Al Ain**	**4.42**	**202**	P			**Pn**	**06 44 34.2**	**+3.5**
	SNR=6.5								
HOQ	**Hoqain**	**4.58**	**183**	P			**Pn**	**06 44 32.9**	**0.0**
	SNR=24								
HOQ				S			**Sn**	**06 45 22.2**	**-3.0**
BIDO	**Bidbid**	**4.66**	**174**	*ePn*			**Pn**	**06 44 34.7**	**+0.6**
BIDO	**Bidbid**	**4.66**	**174**	P			**Pn**	**06 44 34.4**	**+0.3**
SHI	**Shiraz**	**4.68**	**289**	*ePn*			**Pn**	**06 44 36.3**	**+1.9**
ITEG	**Tejag**	**4.81**	**12**	*ePn*			**Pn**	**06 44 37.7**	**+1.5**
TPRV	**Parvadeh(Tabas**	**4.90**	**351**	*ePn*			**Pn**	**06 44 41.0**	**+3.7**
ARQ	**Araqi**	**4.92**	**191**	P			**Pn**	**06 44 40.3**	**+2.7**
	SNR=20								
ARQ				S			**Sn**	**06 45 36.1**	**+2.7**
IDAH	**Dahanechah**	**4.95**	**23**	*ePn*			Pn	06 44 42.7	+4.4
WSAR	**Wadi Sarin**	**5.01**	**169**	P			**Pn**	**06 44 39.7**	**+0.9**
	comp=Z,10.0nm,0.3s,baz=346,slow=4.6,SNR=101								
WSAR				S			**Sn**	**06 45 33.0**	**-2.7**
	comp=Z,29nm,0.3s,baz=174,slow=6.1,SNR=9.9								
WSAR				LR			LR	06 47 26.1	
	comp=Z,156nm,20.0s,baz=9.5,slow=47								
WSAR	**Wadi Sarin**	**5.01**	**169**	P			**Pn**	**06 44 39.7**	**+0.9**
	SNR=122								
WSAR				S			**Sn**	**06 45 33.3**	**-2.5**
ISAD	**Sadrabad**	**5.03**	**319**	*ePn*			**Pn**	**06 44 42.0**	**+2.7**
SMDO	**Samad**	**5.12**	**175**	P			**Pn**	**06 44 41.1**	**+0.7**
SMDO				S			**Sn**	**06 45 38.7**	**+0.2**
AFRZ	**Afriz**	**5.37**	**13**	*ePn*			**Pn**	**06 44 46.4**	**+2.5**
KAZ1	**Kazerun**	**5.41**	**287**	*ePn*			**Pn**	**06 44 46.7**	**+2.3**
BSY	**Bisya**	**5.42**	**184**	P			**Pn**	**06 44 47.1**	**+2.6**
	SNR=11								
BSY				S			**Sn**	**06 45 46.4**	**+0.5**
TKDS	**Koohdasht(Taba**	**5.43**	**356**	*ePn*			**Pn**	**06 44 46.9**	**+2.2**
AHBU	**AHRAM**	**5.58**	**279**	*ePn*			**Pn**	**06 44 49.1**	**+2.5**
WBK	**Wadi Bani Khal**	**5.68**	**167**	P			**Pn**	**06 44 48.6**	**+0.5**
	SNR=42								
WBK				S			**Sn**	**06 45 50.1**	**-2.3**
IRAM	**Ramesheh**	**5.78**	**310**	*ePn*			**Pn**	**06 44 51.6**	**+1.9**
JMDO	**Jabal Madar**	**5.80**	**175**	P			**Pn**	**06 44 51.6**	**+1.9**
JMDO				S			**Sn**	**06 45 57.7**	**+2.4**
ANAR	**Anarak**	**6.00**	**327**	*ePn*			**Pn**	**06 44 55.3**	**+2.8**
IZEF	**Zefreh**	**6.53**	**317**	*ePn*			**Pn**	**06 45 01.9**	**+2.0**
MHTO	**MHTO**	**7.17**	**177**	P			**Pn**	**06 45 10.8**	**+2.3**
	SNR=11								
MHTO				P			**Pn**	**06 45 10.8**	**+2.3**
	SNR=11								
MHTO				S			**Sn**	**06 46 28.5**	**-0.5**
MHTO				S			**Sn**	**06 46 28.5**	**-0.5**
IKLH	**Kolahrood**	**7.28**	**316**	*ePn*			**Pn**	**06 45 11.9**	**+1.7**
IPIR	**Pirpir**	**7.32**	**309**	*ePn*			**Pn**	**06 45 13.1**	**+2.3**
HRA	**Herat**	**7.36**	**32**	Pn			Pn	06 45 16.2	+4.9
KRSH	**Karshahi**	**7.43**	**322**	*ePn*			**Pn**	**06 45 15.9**	**+3.7**
ISFB	**Sefidab**	**7.67**	**325**	*ePn*			**Pn**	**06 45 18.1**	**+2.7**
SBZV	**Sabzevar**	**8.19**	**0**	*ePn*			Pn	06 45 27.6	+5.0
QRN	**Al-Qurain**	**8.53**	**276**	*eP*			**Pn**	**06 45 26.9**	**-0.2**
UMR	**Umm Al-Rimmam**	**8.76**	**281**	*eP*			**Pn**	**06 45 30.5**	**+0.2**
MIB	**Mutribah**	**9.12**	**283**	*eP*			**Pn**	**06 45 35.7**	**+0.5**
BMDN	**Meydan**	**9.30**	**308**	*ePn*			**Pn**	**06 45 38.2**	**+0.3**
RST	**Umm Al-Ruwaisa**	**9.38**	**281**	*eP*			**Pn**	**06 45 39.0**	**+0.2**
GEYT	**Alibeck**	**9.73**	**2**	P			**Pn**	**06 45 46.0**	**+2.3**
	comp=Z,1.4nm,0.3s,baz=179,slow=18,SNR=5.1								
GEYT				LR			LR	06 49 58.2	
	comp=Z,286nm,21.5s,baz=195,slow=40								
HSAM	**Samen**	**9.76**	**310**	*ePn*			**Pn**	**06 45 44.9**	**+0.6**
IDOB	**Doab**	**9.82**	**307**	*ePn*			**Pn**	**06 45 44.7**	**-0.3**
IKFM	**Kafar-mosalman**	**9.92**	**305**	*ePn*			**Pn**	**06 45 46.1**	**-0.1**
WHFO	**Wadi Hawf**	**10.80**	**200**	P			**Pn**	**06 45 58.1**	**-0.2**
	SNR=14								
ABTO	**Aybut**	**11.47**	**201**	P			**Pn**	**06 46 06.5**	**-1.1**
	SNR=34								
IDHR	**Dehrash**	**11.56**	**307**	*ePn*			**Pn**	**06 46 08.1**	**-0.7**
RAYN	**Ar Rayn**	**11.82**	**250**	Pn			**Pn**	**06 46 09.3**	**-3.1**
GAR	**Garm**	**15.12**	**41**				**P**	**06 47 02.7**	**+0.6**
GNI	**Garni**	**15.96**	**322**	P			**P**	**06 47 09.3**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=330,slow=9.8,SNR=2.4								
GNI				LR			LR	06 53 48.3	
	comp=Z,122nm,18.8s,baz=130,slow=39								
GNI	**Garni**	**15.96**	**322**	IAmb			IAmb	06 47 21.7	
	comp=Z,12nm,0.8s								
KK31	**Karatay Array**	**18.19**	**32**	P			**P**	**06 47 35.2**	**-0.7**
KKAR	**Karatay Array**	**18.19**	**32**	P			**P**	**06 47 36.2**	**+0.2**
KKAR	**Karatay Array**	**18.19**	**32**	P			**P**	**06 47 37.1**	**+1.2**
KBZ	**Khabaz**	**19.50**	**327**	P			**Pn**	**06 47 51.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=278,slow=20,SNR=2.2								
MMAI	**Mount Meron Ar**	**19.68**	**290**	P			**Pn**	**06 47 53.1**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=113,slow=12,SNR=4.3								
MMAI				LR			LR	06 57 24.4	
	comp=Z,125nm,19.9s,baz=25,slow=43								
EIL	**Elat**	**19.87**	**280**	P			**P**	**06 47 54.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=84,slow=16,SNR=2.7								
AAK	**Ala-Archa**	**19.90**	**39**	P			**Pn**	**06 47 56.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=209,slow=9.0,SNR=1.5								
AAK				LR			LR	06 56 47.8	
	comp=Z,95nm,18.6s,baz=232,slow=40								
BOOM	**Boomskoye usch**	**20.63**	**41**	P			Pn	06 48 05.5	+0.3
BNN	**Bunyan**	**20.97**	**306**	P			**P**	**06 48 07.1**	**+0.6**
ABKAR	**Akbulak array**	**21.12**	**4**	P			**P**	**06 48 09.0**	**+1.2**
ABKAR				IAmb			IAmb	06 48 13.1	
	comp=Z,9.7nm,0.8s								
ABKAR	**Akbulak array**	**21.12**	**4**	P			**P**	**06 48 09.0**	**+1.2**
KDJ	**Kajisay**	**21.16**	**44**	P			**P**	**06 48 11.8**	**+3.3**
KDJ				IAmb			IAmb	06 48 22.3	
	comp=Z,17nm,1.3s								
ATD	**Arta Tunnel**	**21.56**	**223**	LR			LR	06 58 14.9	
	comp=Z,73nm,20.4s,baz=292,slow=41								
CSS	**Mathiatis**	**21.71**	**294**	P			**P**	**06 48 15.3**	**+0.9**
CSS				IAmb			IAmb

*TEH **01** 06:45:53.7,28.′31N×57.′50E,h8km,ML3.7*
*IDC **01** 06:45:56.7±4.0,28.′17N×57.′46E,h45km±43km,mb3.8/5, mb1 3.9/6,mb1mx3.4/56,mbtmp4.0/6,ML3.9/1,MS3.6/2, Ms1 3.6/2,ms1mx2.6/52,Error ellipse: s-maj=40.6km s-min=26.6km az=53.0*
*THR **01** 06:45:56.4±0.8,28.′15N×57.′50E,h46km±9km,ML3.7*
ISC 01 06:45:54.6±0.8,28.′22N±0.′03×57.′71E±0.′04,h30km,n23, σ1§45/26,mb4.0/5,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.27**	**181**	*e*Pg	**Pb**	**06 46 01.8**	**0.0**
KHNJ				*e*Sg	**Sb**	**06 46 07.4**	**+0.8**
KBAM	**BAM**	**1.12**	**35**	*e*Pg	**Pb**	**06 46 16.5**	**+1.0**
IBND	**Bandar-abas**	**1.29**	**234**	*e*Pg	**Pb**	**06 46 17.5**	**-0.8**
IBND				*e*Sg	**Sb**	**06 46 34.8**	**+0.3**
IBND				*e*		06 46 51.7	
	comp=Z,35μm,0.4s						
GENO	**Geno**	**1.59**	**239**	*e*Pg	**Pn**	**06 46 21.6**	**+0.7**
GENO				*e*		06 46 47.0	
	comp=Z,12μm,0.2s						
BNDS	**Bandar-Abbas**	**1.59**	**239**	*e*Pg	**Pn**	**06 46 21.8**	**+0.9**
BNDS				*e*Sg	**Sn**	**06 46 41.5**	**+1.0**
BNDS	**Bandar-Abbas**	**1.59**	**239**	*e*Pg	**Pn**	**06 46 21.8**	**+0.9**
CHMN	**Cheshme madani**	**1.64**	**355**	*e*Pg	**Pb**	**06 46 23.7**	**-0.7**
NGRK	**Negar Kerman**	**1.66**	**329**	*e*Pg	**Pn**	**06 46 22.3**	**+0.3**
NGRK				*e*		06 46 59.2	
	comp=Z,13μm,0.4s						
KRBR	**Kerman**	**1.94**	**335**	*e*Pn	**Pb**	**06 46 28.0**	**-1.5**
KRBR				*e*Sg	**Sb**	**06 46 57.2**	**+3.8**
KRBR				IAML		06 47 03.9	
	comp=E,518nm,0.5s						
KRBR				IAML		06 47 05.1	
	comp=N,632nm,0.5s						
KRBR	**Kerman**	**1.94**	**335**	*e*Pn	**Pb**	**06 46 28.0**	**-1.5**
TVBK	**TV Kerman**	**1.94**	**335**	*e*Pn	**Pb**	**06 46 27.9**	**-1.7**
TVBK				*e*		06 46 33.2	
	comp=Z,15μm,0.3s						
KHGB	**Koh Gabri**	**2.40**	**334**	*e*Pn	**Pb**	**06 46 35.5**	**-1.8**
KHGB				*e*		06 46 39.9	
	comp=Z,8μm,0.4s						
ZHDN	**Zahedan**	**2.96**	**66**	*e*Pn	**Pb**	**06 46 45.9**	**-0.9**
ZHSF	**Zahedan**	**3.02**	**62**	*e*Pn	**Pb**	**06 46 46.0**	**-1.8**
ZHSF	**Zahedan**	**3.02**	**62**	*e*Pn	**Pb**	**06 46 46.0**	**-1.8**
WSAR	**Wadi Sarin**	**5.03**	**170**	P	**Pn**	**06 47 09.2**	**+1.1**
	comp=Z,4.4nm,0.3s,baz=348,slow=8.0,SNR=2.5						
WSAR				S	**Sn**	**06 48 03.1**	**-2.1**
	comp=Z,9.7nm,0.3s,baz=225,slow=22,SNR=4.9						
BRTR	**Keskin Array B**	**22.95**	**306**	P	**P**	**06 50 56.3**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=121,slow=11,SNR=11						
FINES	**FINESS Array B**	**39.32**	**337**	P	**P**	**06 53 20.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=122,slow=6.7,SNR=4.1						
KEST	**Kesra**	**41.36**	**293**	LR	LR	07 16 03.8	
	comp=Z,95nm,19.4s,baz=277,slow=44						
ARCES	**ARCESS Array B**	**45.33**	**345**	P	**P**	**06 54 09.5**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=134,slow=7.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**54.07**	**266**	P	**P**	**06 55 15.2**	**-1.6**
	comp=Z,2.8nm,0.5s,baz=63,slow=7.4,SNR=15						
KLR	**Kul'dur**	**59.05**	**47**	LR	LR	07 22 31.2	
	comp=Z,31nm,18.3s,baz=169,slow=37						
WRA	**Warramunga Arr**	**88.14**	**114**	P	**P**	**06 58 44.1**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=318,slow=4.2,SNR=2.7						

*IDC **01** 06:54:58.3±1.2,12.′98S×169.′22E,h637km±16km, mb3.6/24,mb1 3.8/28,mb1mx3.7/42,mbtmp4.7/28,Error ellipse: s-maj=11.5km s-min=10.8km az=17.0*
*NOU **01** 06:54:58.7,12.′97S×169.′27E,h657km,mb4.5,Santa Cruz Islands Region*
*NEIC **01** 06:54:59.2±1.6,13.′0S±0.′1×169.′2E±0.′1,h642km±7km, mb4.6/170,Error ellipse: s-maj=15.9km s-min=14.3km az=139.0*
ISC 01 06:54:57.7±0.3,12.′94S±0.′06×169.′21E±0.′06,h625km, n428,σ1§06/387,mb4.5/121,2D,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**8.02**	**193**	P	**P**	**06 56 58.8**	**+0.7**
LIFNC	**LIFOU**	**8.02**	**193**	P	**P**	**06 56 59.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**8.91**	**211**	P	**P**	**06 57 08.6**	**+2.1**
YATNC	**Mamie plateau,**	**9.33**	**193**	P	**P**	**06 57 11.4**	**+0.9**
DZM	**Mont Dzumac**	**9.46**	**196**	P	**P**	**06 57 13.1**	**+1.3**
	2.9nm,0.3s,baz=273,slow=7.3,SNR=26						
DZM				S	**S**	**06 59 04.9**	**+3.1**
	baz=323,slow=16,SNR=4.9						
DZM	**Mont Dzumac**	**9.46**	**196**	P	**P**	**06 57 12.3**	**+0.5**
DZM	**Mont Dzumac**	**9.46**	**196**	P	**P**	**06 57 13.7**	**+1.9**
NOUC	**Port Laguerre**	**9.52**	**197**	P	**P**	**06 57 14.3**	**+2.0**
ONTNC	**Ouen Toro**	**9.68**	**195**	P	**P**	**06 57 15.5**	**+1.7**
ONTNC	**Ouen Toro**	**9.68**	**195**	P	**P**	**06 57 15.9**	**+2.1**
OUENC	**Ouen Island, N**	**9.69**	**193**	P	**P**	**06 57 15.6**	**+1.6**
OUENC	**Ouen Island, N**	**9.69**	**193**	P	**P**	**06 57 16.0**	**+2.0**
HNR	**Honiara**	**9.73**	**290**	P	**P**	**06 57 16.3**	**+1.8**
	36nm,0.3s,baz=224,slow=8.0,SNR=2.2						
PINNC	**Pines Island,**	**9.77**	**190**	P	**P**	**06 57 16.9**	**+2.2**
PINNC	**Pines Island,**	**9.77**	**190**	P	**P**	**06 57 15.5**	**+0.8**
MSVF	**Nonsavu**	**9.77**	**120**	P	**P**	**06 57 16.1**	**+1.2**
	12nm,0.3s,baz=278,slow=11,SNR=72						
MSVF	**Nonsavu**	**9.77**	**120**	P	**P**	**06 57 16.0**	**+1.1**
MSVF	**Nonsavu**	**9.77**	**120**	P	**P**	**06 57 16.0**	**+1.1**
AFI	**Afiamalu**	**18.52**	**95**	P	**P**	**06 58 39.0**	**+1.8**
	1.1nm,0.3s,baz=92,slow=23,SNR=2.7						
AFI	**Afiamalu**	**18.52**	**95**	IAmb	IAmb	06 58 41.4	
	comp=Z,72nm,1.0s						
RAO	**Raoul Island**	**20.16**	**146**	P	**P**	**06 58 51.1**	**-0.6**
	comp=Z,217nm,0.4s,baz=74,slow=22,SNR=2.0						
EIDS	**Eidsvold**	**21.09**	**231**	P	**P**	**06 59 00.8**	**+0.7**
EIDS				IAmb	IAmb	06 59 24.9	
	comp=Z,18nm,1.2s						
KNTN	**Kanton**	**21.40**	**63**	P	**P**	**06 59 02.3**	**-0.7**
PMG	**Port Moresby**	**21.91**	**277**	P	**P**	**06 59 07.0**	**-0.5**
	comp=Z,28nm,1.0s,baz=280,slow=0.6,SNR=4.0						
PMG	**Port Moresby**	**21.91**	**277**	IAmb	IAmb	06 59 09.9	
	comp=Z,25nm,0.9s						
CTA	**Charters Tower**	**23.11**	**249**	P	**P**	**06 59 17.6**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=60,slow=6.3,SNR=2.3						
ARMA	**Armidale**	**23.80**	**220**	P	**P**	**06 59 25.3**	**+1.1**
ARMA				IAmb	IAmb	06 59 26.2	
	comp=Z,18nm,0.9s						
MKAZ	**Moumakai**	**24.65**	**169**	P	**P**	**06 59 32.5**	**+1.1**
TOZ	**Tahuroa Road**	**25.32**	**168**	P	**P**	**06 59 38.2**	**+0.8**
OMRZ	**Omania**	**25.86**	**167**	P	**P**	**06 59 43.4**	**+1.2**
TLZ	**Tolley Road**	**25.91**	**169**	P	**P**	**06 59 42.4**	**-0.2**
HIZ	**Hauiti**	**25.96**	**170**	P	**P**	**06 59 44.2**	**+1.3**
URZ	**Urewera**	**26.18**	**166**	P	**P**	**06 59 44.2**	**-0.7**
	comp=Z,26nm,0.7s,baz=122,slow=24,SNR=21						
URZ				S	**S**	**07 03 30.6**	**-4.1**
	comp=Z,7.7nm,1.0s,baz=300,slow=23,SNR=1.9						
URZ	**Urewera**	**26.18**	**166**	P	**P**	**06 59 44.2**	**-0.7**
URZ	**Urewera**	**26.18**	**166**	P	**P**	**06 59 44.2**	**-0.7**
PRRZ	**Plateau Road**	**26.25**	**167**	P	**P**	**06 59 46.6**	**+1.1**
MUGZ	**Murupara**	**26.31**	**167**	P	**P**	**06 59 45.9**	**-0.2**
TWGZ	**Tauwhareparae**	**26.32**	**164**	P	**P**	**06 59 45.2**	**-1.0**
RAGZ	**Rawiri**	**26.48**	**165**	P	**P**	**06 59 46.8**	**-0.8**
RTZ	**Ruatahuna**	**26.49**	**166**	P	**P**	**06 59 46.6**	**-1.1**
TKGZ	**Te Karaka**	**26.53**	**165**	P	**P**	**06 59 46.5**	**-1.5**
VRZ	**Vera Road**	**26.54**	**170**	P	**P**	**06 59 47.2**	**-0.8**
KATZ	**Kakaramea**	**26.56**	**169**	P	**P**	**06 59 50.1**	**+1.7**
MRHZ	**Matea Rd**	**26.57**	**167**	P	**P**	**06 59 48.0**	**-0.4**
NEZ	**North Egmont**	**26.58**	**171**	P	**P**	**06 59 48.9**	**+0.4**
TWVZ	**Taurewa**	**26.61**	**169**	P	**P**	**06 59 49.7**	**+1.0**
KRVZ	**Karewarewa**	**26.67**	**169**	P	**P**	**06 59 50.4**	**+1.1**
NTVZ	**North Tongarir**	**26.68**	**169**	P	**P**	**06 59 50.7**	**+1.3**
WTVZ	**West Tongariro**	**26.68**	**169**	P	**P**	**06 59 50.3**	**+0.9**
MTHZ	**Maungataniwha**	**26.68**	**167**	P	**P**	**06 59 48.3**	**-1.0**
NNVZ	**North Ngauruho**	**26.70**	**169**	P	**P**	**06 59 50.6**	**+1.0**
TMVZ	**Te Maari**	**26.70**	**169**	P	**P**	**06 59 50.4**	**+0.8**
ETVZ	**East Tongariro**	**26.72**	**169**	P	**P**	**06 59 50.6**	**+0.8**
NGZ	**Ngauruhoe**	**26.74**	**169**	P	**P**	**06 59 50.9**	**+0.9**
OTVZ	**Oturere**	**26.74**	**169**	P	**P**	**06 59 50.9**	**+0.9**
SNVZ	**South Ngauruho**	**26.76**	**169**	P	**P**	**06 59 51.2**	**+1.0**
RIGZ	**Rimuhau**	**26.76**	**165**	P	**P**	**06 59 48.5**	**-1.5**
RAHZ	**Arahi**	**26.80**	**166**	P	**P**	**06 59 49.4**	**-0.9**
FWVZ	**Far West T-bar**	**26.81**	**169**	P	**P**	**06 59 51.6**	**+1.0**
TUVZ	**Tukino**	**26.84**	**169**	P	**P**	**06 59 51.4**	**+0.6**
WHVZ	**Whangaehu Hut**	**26.84**	**169**	P	**P**	**06 59 51.7**	**+0.8**
TRVZ	**Turoa**	**26.85**	**169**	P	**P**	**06 59 51.7**	**+0.7**
WNVZ	**Wahianoa**	**26.88**	**169**	P	**P**	**06 59 51.8**	**+0.5**
BKZ	**Black Stump Fm**	**26.91**	**167**	P	**P**	**06 59 49.2**	**-2.1**
BKZ	**Black Stump Fm**	**26.91**	**167**	P	**P**	**06 59 50.4**	**-0.9**
NMHZ	**Naumai**	**26.91**	**167**	P	**P**	**06 59 50.9**	**-0.4**
MTVZ	**Mangateitei**	**26.92**	**169**	P	**P**	**06 59 52.3**	**+0.9**
MOVZ	**Moawhango**	**26.99**	**169**	P	**P**	**06 59 51.7**	**-0.4**
PRGZ	**Paritu Road**	**27.00**	**165**	P	**P**	**06 59 50.6**	**-1.5**
KNZ	**Kokohu**	**27.04**	**165**	P	**P**	**06 59 50.7**	**-1.6**
ARHZ	**Aropaoanui**	**27.11**	**167**	P	**P**	**06 59 52.0**	**-1.1**
BHHZ	**Black Hill Sta**	**27.13**	**168**	P	**P**	**06 59 52.4**	**-0.8**
KWHZ	**Kaweka Forest**	**27.14**	**168**	P	**P**	**06 59 52.7**	**-0.7**
WAZ	**Wanganui**	**27.19**	**170**	P	**P**	**06 59 54.8**	**+1.0**
MCHZ	**McNeill Hill**	**27.22**	**167**	P	**P**	**06 59 53.2**	**-0.8**
MHGZ	**Mahia Peninsul**	**27.22**	**165**	P	**P**	**06 59 52.5**	**-1.5**
KRHZ	**Kereru**	**27.34**	**168**	P	**P**	**06 59 53.9**	**-1.2**
PNHZ	**Pukenui**	**27.57**	**168**	P	**P**	**06 59 55.8**	**-1.2**
KAHZ	**Kahuranaki**	**27.59**	**167**	P	**P**	**06 59 56.0**	**-1.3**
TSZ	**Takapari Road**	**27.66**	**169**	P	**P**	**06 59 56.8**	**-1.1**
WPHZ	**Waipukurau**	**27.76**	**168**	P	**P**	**06 59 57.4**	**-1.3**
BFZ	**Birch Farm**	**28.32**	**169**	P	**P**	**07 00 01.9**	**-1.6**
SNZO	**South Karori**	**28.67**	**171**	P	**P**	**07 00 05.5**	**-1.0**
TUWZ	**Tuamarina**	**28.68**	**173**	P	**P**	**07 00 05.9**	**-0.7**
BHW	**Baring Head**	**28.79**	**171**	P	**P**	**07 00 06.5**	**-1.1**
MSWZ	**Moikau Station**	**28.86**	**171**	P	**P**	**07 00 07.5**	**-0.7**
THZ	**Tophouse**	**28.90**	**174**	P	**P**	**07 00 08.5**	**0.0**
BSWZ	**Blackbirch Sta**	**28.96**	**173**	P	**P**	**07 00 08.9**	**-0.1**
PLWZ	**Palliser**	**29.01**	**171**	P	**P**	**07 00 08.1**	**-1.4**
CMWZ	**Cape Campbell**	**29.03**	**172**	P	**P**	**07 00 09.5**	**-0.1**
KHZ	**Kahutara**	**29.61**	**174**	P	**P**	**07 00 14.2**	**-0.3**
LTZ	**Lake Taylor**	**29.85**	**175**	P	**P**	**07 00 16.0**	**-0.7**
LTZ				IAmb	IAmb	07 00 17.8	
	comp=Z,19nm,1.0s						
OXZ	**Oxford**	**30.38**	**176**	P	**P**	**07 00 21.0**	**-0.1**
FOZ	**Fox Glacier**	**30.49**	**179**	P	**P**	**07 00 22.0**	**-0.1**
RPZ	**Rata Peaks**	**30.71**	**177**	P	**P**	**07 00 23.6**	**-0.4**
STKA	**Stephens Creek**	**31.58**	**229**	P	**P**	**07 00 31.7**	**+0.2**
	comp=Z,5.7nm,0.3s,baz=143,slow=22,SNR=3.6						
STKA	**Stephens Creek**	**31.58**	**229**	P	**P**	**07 00 28.3**	**-3.3**
WB0	**Warramunga Arr**	**34.04**	**254**	P	**P**	**07 00 52.5**	**0.0**
WB2	**Warramunga Arr**	**34.10**	**254**	P	**P**	**07 00 52.7**	**-0.2**
WRA	**Warramunga Arr**	**34.11**	**254**	P	**P**	**07 00 52.9**	**-0.1**
	comp=Z,5.8nm,0.3s,baz=83,slow=8.4,SNR=179						
WRA				S	**S**	**07 05 30.0**	**-6.8**
	comp=Z,3.4nm,0.9s,baz=93,slow=14,SNR=9.1						
WRA				ScP	**ScP**	**07 05 58.3**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=84,slow=3.8,SNR=6.7						
AS31	**Alice Springs**	**35.08**	**247**	P	**P**	**07 01 00.8**	**-0.2**
ASAR	**Alice Springs**	**35.08**	**247**	P	**P**	**07 01 00.9**	**-0.1**
	comp=Z,9.7nm,0.4s,baz=75,slow=9.7,SNR=202						
ASAR				S	**S**	**07 05 47.4**	**-3.8**
	comp=Z,2.0nm,0.7s,baz=77,slow=16,SNR=12						
ASAR	**Alice Springs**	**35.08**	**247**	P	**P**	**07 01 00.7**	**-0.3**
BBOO	**Buckleboo**	**36.16**	**231**	P	**P**	**07 01 09.9**	**+0.2**
MTN	**Manton Dam**	**37.09**	**266**	P	**P**	**07 01 17.4**	**-0.1**
KNRA	**Kununurra**	**39.24**	**261**	P	**P**	**07 01 35.0**	**+0.1**
KNRA				IAmb	IAmb	07 01 35.2	
	comp=Z,17nm,0.9s						
FORT	**Forrest**	**41.83**	**238**	P	**P**	**07 01 54.8**	**-0.3**
FORT				IAmb	IAmb	07 01 56.1	
	comp=Z,41nm,1.4s						
FITZ	**Fitzroy Crossi**	**42.22**	**257**	P	**P**	**07 01 58.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=115,slow=6.6						
FITZ	**Fitzroy Crossi**	**42.22**	**257**	IAmb	IAmb	07 02 07.6	
	comp=Z,10.0nm,1.3s						
KHU	**Kahuku**	**47.16**	**48**	P	**P**	**07 02 36.5**	**+0.3**
HUH	**Hualalai**	**47.28**	**47**	P	**P**	**07 02 37.9**	**+0.7**
AIN	**Ainahou**	**47.35**	**48**	P	**P**	**07 02 37.8**	**+0.2**
MLOA	**Mauna Loa Obse**	**47.37**	**48**	P	**P**	**07 02 38.5**	**+0.5**
HMH	**Humu'ula Sheep**	**47.48**	**48**	P	**P**	**07 02 39.1**	**+0.4**
MLH	**Mauna Loa**	**47.48**	**48**	P	**P**	**07 02 39.1**	**+0.4**
POHA	**Pohakuloa**	**47.55**	**47**	P	**P**	**07 02 39.5**	**+0.4**
HPAH	**Hawaii Prepara**	**47.60**	**47**	P	**P**	**07 02 39.3**	**0.0**
PSA00	**Pilbara Seismi**	**47.75**	**253**	P	**P**	**07 02 40.6**	**+0.2**
PSA00				IAmb	IAmb	07 02 41.3	
	comp=Z,8.9nm,0.5s						
PSA00	**Pilbara Seismi**	**47.75**	**253**	P	**P**	**07 02 40.6**	**+0.2**
PSA00				IAmb	IAmb	07 02 41.3	
	comp=Z,7.4nm,1.3s						
GIRL	**Giralia**	**52.98**	**251**	P	**P**	**07 03 19.4**	**+1.2**
MJAR	**Matsushiro Arr**	**57.24**	**330**	P	**P**	**07 03 47.4**	**0.0**
	comp=Z,1.5nm,0.4s,baz=160,slow=9.8,SNR=5.4						
MJAR	**Matsushiro Arr**	**57.24**	**330**	IAmb	IAmb	07 03 49.1	
	comp=Z,13nm,1.5s						
KSRS	**Korea Array**	**63.37**	**324**	P	**P**	**07 04 27.6**	**0.0**
	comp=Z,3.4nm,1.0s,baz=127,slow=6.8,SNR=8.0						
VNDA	**Vanda**	**64.69**	**182**	P	**P**	**07 04 35.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=358,slow=6.8,SNR=15						
VNDA	**Vanda**	**64.69**	**182**	IAmb	IAmb	07 04 36.5	
	comp=Z,1.2nm,0.8s						
SBA	**Scott Base**	**64.93**	**181**	P	**P**	**07 04 38.0**	**+1.2**
SMY	**Shemya**	**65.54**	**3**	P	**P**	**07 04 40.5**	**-0.4**
NJ2	**Nanjing**	**65.75**	**314**	⇓P	**P**	**07 04 43.7**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**66.18**	**332**	P	**P**	**07 04 45.3**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=168,slow=30,SNR=4.5						
PEA0B	**Petropavlovsk-**	**66.52**	**352**	P	**P**	**07 04 47.0**	**0.0**
PETK	**Petropavlovsk-**	**66.52**	**352**	P	**P**	**07 04 47.5**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=172,slow=12,SNR=13						
PETK	**Petropavlovsk-**	**66.52**	**352**	P	**P**	**07 04 47.1**	**+0.1**
NIKH	**Nikolski High**	**68.30**	**14**	P	**P**	**07 04 57.1**	**-0.7**
	baz=203						
NIKH	**Nikolski High**	**68.30**	**14**	P	**P**	**07 04 57.7**	**-0.1**
AKUT	**Akutan**	**70.12**	**15**	P	**P**	**07 05 07.7**	**-0.9**
AKUT				IAmb	IAmb	07 05 14.0	
	comp=Z,20nm,0.9s						
KLR	**Kul'dur**	**70.17**	**335**	P	**P**	**07 05 09.6**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=149,slow=3.9,SNR=6.3						
CNBA	**Chernabura Isl**	**72.47**	**18**	P	**P**	**07 05 20.5**	**-1.7**
CNBA				IAmb	IAmb	07 05 21.6	
	comp=Z,14nm,1.1s						
CHNA	**Chernabura Isl**	**72.48**	**18**	P	**P**	**07 05 21.2**	**-1.1**
	baz=212						
SDPT	**Sand Point**	**72.66**	**18**	P	**P**	**07 05 22.3**	**-1.0**
	baz=211						
XAN	**Xi'an**	**73.90**	**311**	P	**P**	**07 05 31.7**	**+0.7**
XAN				pP	pwP	07 07 40.3	-0.9
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
LAMP	**Lampang**	**75.37**	**293**	P	**P**	**07 05 41.2**	**+1.8**
PAYA	**Payao**	**75.44**	**294**	P	**P**	**07 05 43.4**	**+3.6**
	comp=Z,48μm,0.7s						
PAYA	**Payao**	**75.44**	**294**	P	**P**	**07 05 43.4**	**+3.6**
HHC	**Hu-ho-hao-te**	**75.47**	**319**	*e*P	**P**	**07 05 40.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,41nm,6.6s						
CM35	**Chiang Mai Arr**	**75.85**	**293**	P	**P**	**07 05 43.0**	**+0.9**
CM04	**Chiang Mai Arr**	**75.92**	**293**	P	**P**	**07 05 44.2**	**+1.8**
	comp=Z,12nm,1.0s						
CM04	**Chiang Mai Arr**	**75.92**	**293**	P	**P**	**07 05 44.3**	**+1.8**
CM09	**Chiang Mai Arr**	**75.92**	**293**	P	**P**	**07 05 44.6**	**+2.1**
	comp=Z,13nm,1.0s						
CM09	**Chiang Mai Arr**	**75.92**	**293**	P	**P**	**07 05 44.0**	**+1.5**
CM01	**Chiang Mai Arr**	**75.94**	**293**	P	**P**	**07 05 44.4**	**+1.9**
	comp=Z,142nmcomp=Z,11nm,1.0s						
CM01	**Chiang Mai Arr**	**75.94**	**293**	P	**P**	**07 05 44.5**	**+1.9**
CM05	**Chiang Mai Arr**	**75.95**	**293**	P	**P**	**07 05 44.3**	**+1.7**
	comp=Z,8.4nm,1.0s						
CM05	**Chiang Mai Arr**	**75.95**	**293**	P	**P**	**07 05 44.4**	**+1.7**
CM02	**Chiang Mai Arr**	**75.96**	**293**	P	**P**	**07 05 44.7**	**+2.1**
	comp=Z,75nmcomp=Z,9.3nm,0.9s						
CM02	**Chiang Mai Arr**	**75.96**	**293**	P	**P**	**07 05 44.8**	**+2.1**
CM31	**Chiang Mai Arr**	**75.97**	**293**	P	**P**	**07 05 43.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**75.97**	**293**	P	**P**	**07 05 43.3**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=121,slow=3.6,SNR=10						
CMAR	**Chiang Mai Arr**	**75.97**	**293**	P	**P**	**07 05 42.9**	**+0.2**
CM15	**Chiang Mai Arr**	**75.98**	**293**	P	**P**	**07 05 44.9**	**+2.1**
CM15	**Chiang Mai Arr**	**75.98**	**293**	P	**P**	**07 05 45.0**	**+2.1**
CM13	**Chiang Mai Arr**	**75.99**	**293**	P	**P**	**07 05 44.6**	**+1.8**
	comp=Z,74nmcomp=Z,9.4nm,1.0s						
CM13	**Chiang Mai Arr**	**75.99**	**293**	P	**P**	**07 05 44.6**	**+1.8**
CMMT	**Chiang Mai**	**76.08**	**293**	P	**P**	**07 05 44.5**	**+1.2**
	comp=Z,11nm,1.0s						
CMMT	**Chiang Mai**	**76.08**	**293**	P	**P**	**07 05 44.5**	**+1.2**
CM33	**Chiang Mai Arr**	**76.08**	**293**	P	**P**	**07 05 44.0**	**+0.7**
CHTO	**Chiang Mai**	**76.08**	**293**	P	**P**	**07 05 44.5**	**+1.2**
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**76.08**	**293**	P	**P**	**07 05 43.6**	**+0.2**
OHAK	**Old Harbor**	**76.47**	**20**	P	**P**	**07 05 44.3**	**-0.3**
	baz=218						
OHAK	**Old Harbor**	**76.47**	**20**	IAmb	IAmb	07 05 45.4	
	comp=Z,26nm,0.9s						
SEY	**Seymchan**	**76.76**	**352**	P	**P**	**07 05 45.7**	**-0.3**
	comp=Z,4.5nm,0.7s,baz=156,slow=4.2,SNR=15						
QSPA	**South Pole Qui**	**77.08**	**180**	P	**P**	**07 05 47.5**	**-0.5**
KDAK	**Kodiak Island**	**77.14**	**20**	P	**P**	**07 05 48.0**	**-0.2**
	comp=Z,12nm,0.9s,baz=338,slow=1.4,SNR=7.7						
KDAK	**Kodiak Island**	**77.14**	**20**	P	**P**	**07 05 48.0**	**-0.2**
	baz=218						
KDAK	**Kodiak Island**	**77.14**	**20**	P	**P**	**07 05 48.3**	**+0.1**
O18K	**Koktuh Hills**	**77.99**	**17**	P	**P**	**07 05 52.5**	**-0.2**
	baz=215						
N18K	**Kilae Creek**	**78.47**	**17**	P	**P**	**07 05 55.3**	**0.0**
	baz=215						
O19K	**Port Alsworth**	**78.53**	**18**	P	**P**	**07 05 55.5**	**0.0**
	baz=216						
LZH	**Lanzhou**	**78.54**	**311**	*e*P	**P**	**07 05 57.9**	**+1.5**
LZH				pP	pwP	07 08 11.1	+3.4
LZH				sP	PP	07 09 01.5	-4.9
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
SVW2	**Sparrevohn**	**78.90**	**17**	P	**P**	**07 05 58.1**	**+0.6**
HOM	**Homer**	**78.92**	**19**	P	**P**	**07 05 58.0**	**+0.3**
	baz=219						
O20K	**Slope Mountain**	**78.95**	**18**	P	**P**	**07 05 58.2**	**+0.4**
	baz=218						
CNPM	**China Poot**	**78.95**	**19**	P	**P**	**07 05 58.2**	**+0.4**
CNPM				IAmb	IAmb	07 05 59.1	
	comp=Z,16nm,0.8s						
N19K	**Bonanza Creek**	**78.98**	**17**	P	**P**	**07 05 58.1**	**0.0**
	baz=216						
BRLK	**Bradley Lake**	**79.25**	**19**	P	**P**	**07 05 59.0**	**-0.4**
BRSE	**Bradley Lake S**	**79.28**	**19**	P	**P**	**07 05 59.5**	**-0.1**
	baz=220,SNR=5.1						
ANM	**Nome**	**79.65**	**11**	P	**P**	**07 06 01.8**	**+0.4**
	baz=205						
M19K	**Big River Lodg**	**79.89**	**17**	P	**P**	**07 06 02.6**	**-0.1**
	baz=216,SNR=6.3						
SEW	**Seward**	**79.97**	**20**	P	**P**	**07 06 02.9**	**-0.3**
	baz=221,SNR=5.1						
SEW	**Seward**	**79.97**	**20**	IAmb	IAmb	07 06 03.9	
	comp=Z,23nm,1.0s						
L19K	**White Mountain**	**79.99**	**16**	P	**P**	**07 06 04.0**	**+0.8**
	baz=215,SNR=19						
O22K	**Cooper Landing**	**80.17**	**19**	P	**P**	**07 06 03.4**	**-0.7**
	baz=220						
M20K	**Styx River**	**80.23**	**17**	P	**P**	**07 06 03.6**	**-0.9**
	baz=217						
SUA	**Susitna One**	**80.61**	**18**	P	**P**	**07 06 06.3**	**-0.2**
	baz=219						
RC01	**Rabbit Creek A**	**80.63**	**19**	P	**P**	**07 06 06.0**	**-0.6**
	baz=220						
RC01	**Rabbit Creek A**	**80.63**	**19**	P	**P**	**07 06 05.8**	**-0.8**
SKT	**Skwentna**	**80.77**	**18**	P	**P**	**07 06 06.2**	**-1.1

	baz=249							
I03D	Drain, OR	83.22	42	P	P	07 06 19.4	-0.6	
	baz=245							
PINM	Pinnacle	83.23	23	P	P	07 06 18.7	-1.1	
	baz=229							
L04D	Klamath Falls	83.30	44	P	P	07 06 20.5	-0.2	
	baz=246							
H21K	Melozitna Rive	83.34	15	P	P	07 06 20.1	0.0	
	baz=217							
BARN	Barnard Glacie	83.35	22	IAmb	IAmb	07 06 21.3		
	comp=Z,13nm,0.8s							
SIT	Sitka	83.36	27	P	P	07 06 20.0	-0.4	
	baz=234							
MLY	Manley	83.38	16	P	P	07 06 19.4	-1.0	
	baz=219,SNR=8.3							
MWC	Mount Wilson	83.39	53	IAmb	IAmb	07 06 24.0		
	comp=Z,14nm,0.8s							
CTG	Chitna Glacier	83.40	22	P	P	07 06 19.8	-0.9	
	baz=228							
CTGM	Chitina Glacie	83.40	22	IAmb	IAmb	07 06 21.4		
	comp=Z,14nm,0.8s							
M04C	Macdoel	83.44	45	P	P	07 06 20.2	-1.1	
	baz=246							
NEA2	Nenana	83.50	17	P	P	07 06 19.8	-1.2	
	baz=221,SNR=9.7							
ISA	Isabella, Lake	83.57	51	P	P	07 06 21.3	-0.8	
	baz=249,SNR=10.0							
ISA	Isabella, Lake	83.57	51	IAmb	IAmb	07 06 23.4		
	comp=Z,14nm,1.0s							
EDW2	Edwards Air Fo	83.66	52	P	P	07 06 22.4	-0.1	
	baz=249,SNR=11							
WRH	Wood River Hil	83.69	17	P	P	07 06 20.5	-1.4	
WRH				IAmb	IAmb	07 06 21.9		
	comp=Z,9.6nm,0.8s							
BFSC	Mount Baldy Ra	83.70	53	P	P	07 06 22.2	-0.6	
	baz=250,SNR=8.2							
BEKR	Beckworth	83.73	47	IAmb	IAmb	07 06 24.0		
	comp=Z,12nm,1.1s							
MDPB	Devils Postpil	83.82	49	P	P	07 06 23.5	0.0	
MDPB				IAmb	IAmb	07 06 24.7		
	comp=Z,17nm,0.9s							
K04D	Chiloquin, OR	83.84	44	P	P	07 06 23.0	-0.3	
	baz=246							
I23K	Minto, Yukon-K	83.84	16	P	P	07 06 21.5	-1.0	
	baz=220							
MURC	Murrieta	83.84	54	P	P	07 06 22.7	-0.7	
	baz=250							
J04D	Umpqua Nationa	83.85	43	P	P	07 06 23.7	+0.3	
	baz=246,SNR=5.4							
I04A	Tendick Farm,	83.88	43	P	P	07 06 22.7	-0.6	
	baz=246							
WAKR	Walker	83.88	48	P	P	07 06 23.5	-0.2	
WAKR				IAmb	IAmb	07 06 25.3		
	comp=Z,26nm,1.3s							
CCB	Clear Creek Bu	83.90	17	IAmb	IAmb	07 06 22.8		
	comp=Z,9.5nm,0.8s							
G03D	McMinnville, O	83.91	41	P	P	07 06 23.5	+0.1	
	baz=245							
HDA	Harding Lake	83.97	18	P	P	07 06 22.2	-1.1	
	baz=223,SNR=26							
PNTR	Pine Nut	83.98	48	P	P	07 06 24.1	-0.1	
PNTR				IAmb	IAmb	07 06 25.6		
	comp=Z,16nm,1.1s							
MDM	Murphy Dome	84.01	17	P	P	07 06 21.5	-2.0	
MDM				IAmb	IAmb	07 06 23.4		
	comp=Z,9.2nm,0.8s							
TCOL	CIGO, UAF Yank	84.06	17	P	P	07 06 22.1	-1.5	
	baz=222,SNR=5.2							
COLA	College	84.06	17	P	P	07 06 22.3	-1.3	
	baz=222							
LRMC	Laurel Mtn Rad	84.11	52	P	P	07 06 24.7	-0.1	
	baz=250,SNR=12							
MONP2	Monument Peak	84.22	55	P	P	07 06 25.6	+0.1	
	baz=250,SNR=10							
TIN	Tinemaha, Big	84.25	50	P	P	07 06 26.0	+0.6	
	baz=249							
IL31		84.26	17	P	P	07 06 22.6	-2.0	
IL31				IAmb	IAmb	07 06 24.6		
	comp=Z,12nm,0.9s							
ILAR	Eielson Array	84.26	17	P	P	07 06 22.9	-1.8	
	comp=Z,14nm,0.9s,baz=235,slow=5.5,SNR=67							
ILAR	Eielson Array	84.26	17	P	P	07 06 23.3	-1.4	
BBRC	Big Bear Solar	84.28	53	P	P	07 06 25.5	-0.3	
	baz=250							
PAHR	Pah Rah Range	84.36	47	P	P	07 06 25.8	-0.2	
PAHR				IAmb	IAmb	07 06 27.3		
	comp=Z,16nm,1.2s							
IKP	In-Ko-Pah, Jac	84.39	55	P	P	07 06 26.2	0.0	
	baz=251							
H04A	Detroit Lake	84.39	42	IAmb	IAmb	07 06 26.5		
	comp=Z,9.6nm,1.0s							
PFO	Pinyon Flats O	84.43	54	P	P	07 06 25.9	-0.5	
	baz=250							
PFO	Pinyon Flats O	84.43	54	P	P	07 06 26.3	-0.1	
PFO				IAmb	IAmb	07 06 27.5		
	comp=Z,8.7nm,0.9s							
TPFO	Pinon Flats	84.43	54	P	P	07 06 25.4	-1.0	
	baz=250							
RRX	Edison Barstow	84.43	52	P	P	07 06 25.7	-0.6	
	baz=250							
J05D	Fort Rock, OR	84.45	43	P	P	07 06 26.2	-0.1	
	baz=246,SNR=13							
MPMC	Manual Prospec	84.46	51	P	P	07 06 26.2	-0.4	
	baz=250,SNR=12							
K05A	Summer Lake	84.46	44	IAmb	IAmb	07 06 27.4		
	comp=Z,13nm,0.8s							
LHV	Little Huntoon	84.47	49	IAmb	IAmb	07 06 28.0		
	comp=Z,11nm,1.0s							
SCRK	Sand Creek	84.57	19	P	P	07 06 26.0	-0.3	
	baz=225,SNR=11							
SCRK	Sand Creek	84.57	19	P	P	07 06 25.0	-1.3	
RYN	Ryan	84.59	49	P	P	07 06 27.3	+0.1	
L27K	Beaver Creek,	84.64	20	P	P	07 06 26.2	-0.4	
	baz=228							
NVAR	Mina Array Bea	84.68	49	P	P	07 06 27.8	+0.1	
	comp=Z,5.6nm,0.7s,baz=231,slow=7.4,SNR=43							
GSC	Goldstone, Bar	84.72	52	P	P	07 06 27.4	-0.3	
	baz=250,SNR=5.2							
SWSC	Sam W. Stewart	84.73	55	P	P	07 06 27.5	-0.2	
	baz=251,SNR=8.8							
SKAG	Skagway	84.78	25	P	P	07 06 27.5	+0.2	
	baz=234							
NV11	Mina Array Sit	84.79	49	IAmb	IAmb	07 06 29.4		
	comp=Z,14nm,1.2s							
I05D	Terrebonne, OR	84.80	42	P	P	07 06 27.7	-0.2	
	baz=246							
PINE	Pine Mountain	84.85	43	P	P	07 06 28.6	+0.3	
PINE				IAmb	IAmb	07 06 29.7		
	comp=Z,13nm,0.8s							
GRAC	Grapevine Rang	84.88	50	P	P	07 06 28.1	-0.3	
	baz=250,SNR=6.8							
BELC	Belle Mtn. Jos	84.92	54	P	P	07 06 28.7	-0.1	
	baz=251,SNR=17							
E04D	Cinebar	84.92	40	P	P	07 06 28.5	+0.2	
	baz=245							
HEC	Hector,Ludlow	84.93	53	P	P	07 06 27.7	-1.0	
	baz=250							
D03D	Eldon	85.01	39	P	P	07 06 28.6	-0.1	
	baz=245,SNR=5.9							
KVN	Kaiserville	85.05	48	P	P	07 06 29.1	-0.3	
KVN				IAmb	IAmb	07 06 30.5		
	comp=Z,18nm,1.4s							
D04E	Lakebay	85.05	39	P	P	07 06 29.6	+0.7	
	baz=245							
FURC	Furnace Creek,	85.07	51	P	P	07 06 29.3	+0.1	
	baz=250,SNR=17							
G05D	Wamic, OR	85.18	42	P	P	07 06 29.7	+0.1	
	baz=246							
K27K	Chicken	85.21	19	P	P	07 06 28.6	-0.7	
	baz=227							
COLD	Coldfoot	85.22	15	P	P	07 06 28.7	-0.6	
	baz=219							
BC3	Big Chuckawall	85.23	54	P	P	07 06 30.2	-0.1	
	baz=251,SNR=9.2							
SHOC	Shoshone, Teco	85.33	52	P	P	07 06 30.3	-0.2	
	baz=250,SNR=6.2							
GMRC	Granite Mounta	85.44	53	P	P	07 06 31.4	+0.1	
	baz=251,SNR=12							
TUQ	Turquoise Moun	85.45	52	P	P	07 06 31.2	-0.1	
	baz=251,SNR=17							
GLA	Glamis	85.54	55	P	P	07 06 31.5	-0.2	
	baz=251							
IRM	Iron Mountain	85.64	54	P	P	07 06 32.3	+0.2	
	baz=251,SNR=15							
TPNV	Topopah Spring	85.70	51	P	P	07 06 32.5	+0.1	
	baz=250,SNR=15							
TPNV	Topopah Spring	85.70	51	P	P	07 06 32.4	-0.1	
TPNV				IAmb	IAmb	07 06 33.3		
	comp=Z,9.6nm,0.8s							
A04D	Lummi Island	85.74	38	P	P	07 06 32.6	+0.5	
	baz=245							
WVOR	Wild Horse Val	85.89	45	P	P	07 06 33.2	0.0	
WVOR				IAmb	IAmb	07 06 34.8		
	comp=Z,18nm,1.5s							
I07A	Izee	85.92	43	P	P	07 06 33.8	+0.5	
I07A				IAmb	IAmb	07 06 34.6		
	comp=Z,9.0nm,0.8s							
B05A	Bryant	85.92	39	P	P	07 06 33.0	0.0	
	baz=245,SNR=5.2							
EGAK	Eagle	86.01	19	P	P	07 06 32.3	-0.8	
	baz=228							
SHPR	Sheep Range	86.38	51	IAmb	IAmb	07 06 37.4		
	comp=Z,14nm,1.1s							
TOLK	Toolik Lake Re	86.47	14	P	P	07 06 34.9	-0.3	
	baz=220							
PDMCI	Parkde Dam,Lak	86.47	54	P	P	07 06 36.3	+0.4	
	baz=252,SNR=7.1							
R11A	Troy Canyon, C	86.66	50	P	P	07 06 37.1	+0.1	
	baz=251,SNR=9.9							
G08A	Pilot Rock	86.73	42	P	P	07 06 37.3	+0.2	
G08A				IAmb	IAmb	07 06 38.3		
	comp=Z,18nm,1.0s							
PRN	Pahroc Range	86.75	51	P	P	07 06 37.8	+0.4	
HAWA	Hanford	86.78	41	IAmb	IAmb	07 06 38.5		
	comp=Z,13nm,0.9s							
214A	Organ Pipe Nat	86.83	56	P	P	07 06 38.0	+0.3	
	baz=253,SNR=5.9							
W13A	Hualapai Mount	86.92	53	IAmb	IAmb	07 06 39.9		
	comp=Z,12nm,1.0s							
B08A	Colville Reser	87.65	39	IAmb	IAmb	07 06 41.9		
	comp=Z,17nm,1.4s							
BMO	Blue Mountains	87.67	43	P	P	07 06 41.0	-0.4	
BMO				IAmb	IAmb	07 06 42.4		
	comp=Z,12nm,1.1s							
ELK	Elko	87.70	47	IAmb	IAmb	07 06 43.1		
	comp=Z,11nm,1.1s							
SPR3	Spring Creek 3	87.80	49	P	P	07 06 42.5	+0.1	
SPR3				IAmb	IAmb	07 06 43.6		
	comp=Z,13nm,0.8s							
LCMT	Little Creek M	88.00	51	IAmb	IAmb	07 06 44.8		
	comp=Z,15nm,0.9s							
PSUT	Pine Spring	88.01	50	P	P	07 06 43.0	-0.4	
PSUT				IAmb	IAmb	07 06 44.6		
	comp=Z,8.5nm,0.9s							
CCUT	Cedar City	88.07	51	P	P	07 06 43.5	-0.2	
CCUT				IAmb	IAmb	07 06 45.4		
	comp=Z,9.8nm,1.0s							
C09A	Chrisman Ranch	88.10	40	IAmb	IAmb	07 06 43.6		
	comp=Z,4.3nm,0.6s							
F10A	Beach Ranch, E	88.11	42	P	P	07 06 43.1	-0.4	
MFID	Camas Ranch	88.17	45	IAmb	IAmb	07 06 45.0		
	comp=Z,9.0nm,0.9s							
SZCU	Shurtz Canyon	88.30	51	IAmb	IAmb	07 06 46.3		
	comp=Z,7.9nm,1.0s							
KNB	Kanab	88.32	52	IAmb	IAmb	07 06 46.5		
	comp=Z,12nm,1.1s							
EPYK	Eagle Plains	88.45	19	P	P	07 06 43.4	-1.2	
	baz=232							
TUC	Tucson	88.57	57	P	P	07 06 46.3	+0.3	
	baz=254							
TUC	Tucson	88.57	57	P	P	07 06 46.1	+0.2	
TUC				IAmb	IAmb	07 06 47.7		
	comp=Z,7.9nm,0.9s							
X16A	Lo Mia Camp, P	88.64	54	IAmb	IAmb	07 06 48.1		
	comp=Z,9.5nm,0.9s							
PKCU	Pink Cliffs	88.84	51	P	P	07 06 47.8	+0.4	
NEW	Newport	88.99	40	P	P	07 06 47.1	-0.3	
	baz=249							
NEW	Newport	88.99	40	IAmb	IAmb	07 06 48.1		
	comp=Z,8.7nm,0.9s							
WUAZ	Wupatki	89.00	53	P	P	07 06 48.1	+0.1	
	baz=253							
WUAZ	Wupatki	89.00	53	IAmb	IAmb	07 06 49.6		
	comp=Z,9.8nm,0.9s							
MTPU	Mount Pierson	89.11	51	P	P	07 06 49.3	+0.6	
MTPU				IAmb	IAmb	07 06 50.8		
	comp=Z,10nm,1.0s							
DUG	Dugway, Tooele	89.28	49	P	P	07 06 48.9	-0.2	
	baz=252							
319A	Douglas	89.55	58	P	P	07 06 51.2	+0.6	
X18A	Snowflake	89.85	55	P	P	07 06 52.3	+0.3	
X18A				IAmb	IAmb	07 06 53.4		
	comp=Z,7.2nm,1.0s							
Q16A	Castle Valley	90.12	50	P	P	07 06 53.0	-0.1	
Q16A				IAmb	IAmb	07 06 54.8		
	comp=Z,10nm,1.4s							
W18A	Petrified Fore	90.18	54	P	P	07 06 53.2	-0.3	
	baz=254							
JLU	Jordanelle	90.40	48	P	P	07 06 53.6	-0.8	
SRU	San Rafael Swe	90.66	50	P	P	07 06 54.6	-1.0	
121A	Cookes Peak, D	91.08	57	P	P	07 06 57.3	-0.3	
	baz=255							
PV14	Lion Creek, Pa	91.60	51	IAmb	IAmb	07 07 00.7		
	comp=Z,5.4nm,0.9s							
PV17	East Wray Mesa	91.62	51	P	P	07 06 58.7	-1.4	
PV17				IAmb	IAmb	07 07 02.6		
	comp=Z,9.5nm,1.3s							
PV16	Nyswonger Mesa	91.66	51	P	P	07 06 58.6	-1.6	
PV16				IAmb	IAmb	07 07 00.5		
	comp=Z,4.4nm,1.0s							
PV04	Paradox Valley	91.69	51	P	P	07 07 00.3	-0.1	
PV04				IAmb	IAmb	07 07 01.3		
	comp=Z,4.9nm,0.8s							
PV11	David Mesa, Pa	91.69	51	P	P	07 07 00.4	0.0	
PV11				IAmb	IAmb	07 07 01.0		
	comp=Z,3.9nm,0.6s							
PV03	Paradox Valley	91.70	51	P	P	07 07 00.1	-0.3	
BOZ	Bozeman (W)	91.70	44	P	P	07 07 00.8	+0.6	
	baz=253							
PV12	Saucer Basin,	91.75	51	P	P	07 07 00.7	0.0	
PV12				IAmb	IAmb	07 07 01.1		
	comp=Z,5.9nm,0.8s							
PV22	Blue Mesa, Par	91.82	51	P	P	07 07 01.5	+0.5	
PV01	Paradox Valley	91.88	51	P	P	07 06 59.8	-1.5	
PV07	Paradox Valley	91.90	51	P	P	07 07 01.5	+0.2	
PV07				IAmb	IAmb	07 07 02.9		
	comp=Z,6.5nm,0.8s							
H17A	Grant Village	92.08	45	P	P	07 07 03.3	+1.1	
	baz=254							
PDAR	Pinedale Array	92.36	47	P	P	07 07 02.5	-0.9	
	comp=Z,0.6nm,0.6s,baz=258,slow=4.0,SNR=6.8							
O20A	White River Ci	92.63	50	P	P	07 07 04.7	0.0	
	baz=255							
ANMO	Albuquerque	92.74	55	P	P	07 07 05.0	-0.2	
	baz=256							
ANMO	Albuquerque	92.74	55	P	P	07 07 04.6	-0.6	
WMQ	Urumqi	92.83	314	*eP*	P	07 07 06.4	+1.1	
MNTX	Cornudas Mount	92.86	58	P	P	07 07 05.5	-0.1	
	baz=256							
S22A	4UR Ranch, Cre	93.12	52	P	P	07 07 07.1	+0.1	
	baz=256							
SMCO	Snowmass	93.35	51	IAmb	IAmb	07 07 08.9		
	comp=Z,3.0nm,0.8s							
TX31	Lajitas Ar. Si	93.77	61	P	P	07 07 09.0	-1.0	
TX31				IAmb	IAmb	07 07 14.6		
	comp=Z,8.7nm,1.2s							
TXAR	Lajitas Array	93.77	61	P	P	07 07 09.6	-0.3	
	comp=Z,0.8nm,0.7s,baz=223,slow=5.7,SNR=13							
SDCO	Great Sand Dun	94.14	52	P	P	07 07 11.6	-0.1	
	baz=257							
K22A	Casper	94.50	47	P	P	07 07 13.1	0.0	
	baz=256							
ISCO	Idaho Springs	94.52	50	P	P	07 07 13.0	-0.4	
	baz=257							
N23A	Red Feather La	94.52	49	P	P	07 07 12.9	-0.4	
	baz=257							
YKA	Yellowknife Ar	95.11	27	P	P	07 07 14.1	-0.9	
	comp=Z,4.8nm,0.8s,baz=251,slow=4.6,SNR=23							
ZALV	Zalesovo Beam	97.07	324	P	Pdif	07 07 23.1	-0.9	
	comp=Z,0.4nm,0.3s,baz=76,slow=12,SNR=1.7							
MKAR	Makanchi Array	97.22	316	P	P	07 07 24.9	0.0	
	comp=Z,1.0nm,0.7s,baz=85,slow=5.5,SNR=7.6							
I60A	Shoreham	118.64	47	P	PKPdf	07 12 35.3	-0.8	
	baz=280							
J60A	Lant Hill Farm	118.65	48	P	PKPdf	07 12 35.5	-0.8	
	baz=279							
H60A	Morristown	118.93	46	P	PKPdf	07 12 35.9	-0.9	
	baz=281							
ARCES	ARCESS Array B	118.99	346	PKP	PKPdf	07 12 35.0	-1.2	
	comp=Z,3.6nm,0.8s,baz=73,slow=2.1,SNR=21							
F60A	Warwick	119.17	44	P	PKPdf	07 12 35.9	-1.3	
	baz=282							
J61A	Chester	119.25	47	P	PKPdf	07 12 36.3	-1.1	
	baz=280							
E61A	Lac Etchemin	120.06	44	P	PKPdf	07 12 37.9	-1.0	
	baz=283							
G62A	West of Eustis	120.31	45	P	PKPdf	07 12 38.3	-1.1	
	baz=283							
F62A	Pittston Farm,	120.54	44	P	PKPdf	07 12 38.9	-0.8	
	baz=284							
E62A	Clayton Lake	120.66	43	P	PKPdf	07 12 38.5	-1.5	
	baz=284							
L64A	Middleborough	120.75	49	P	PKPdf	07 12 39.6	-0.7	
	baz=280							
D62A	Allapoint, All	120.86	43	P	PKPdf	07 12 38.5	-1.8	
	baz=285							
G63A	Kingsbury	120.96	45	P	PKPdf	07 12 39.3	-1.3	
	baz=283							
PKME	Peaks-Kenny Pk	121.15	45	P	PKPdf	07 12 40.1	-0.8	
	baz=284							
F63A	Nahmakanta, Br	121.17	44	P	PKPdf	07 12 39.8	-1.2	
	baz=284							
H64A	Troy	121.35	45	P	PKPdf	07 12 39.9	-1.4	
	baz=283							
D63A	Stockholm	121.50	42	P	PKPdf	07 12 40.1	-1.5	
	baz=286							
G64A	Maxfield	121.52	45	P	PKPdf	07 12 40.6	-1.1	
	baz=284							
E64A	Bridgewater	121.85	43	P	PKPdf	07 12 40.8	-1.5	
	baz=286							
G65A	Princeton	122.35	44	P	PKPdf	07 12 42.0	-1.2	
	baz=285							
FINES	FINESS Array B	124.74	339	PKP	PKPdf	07 12 46.5	-0.8	
	comp=Z,2.4nm,1.0s,baz=116,slow=6.3,SNR=3.9							
NB2	NORSAR Subarra	129.37	346	PKP	PKPdf	07 12 55.4	-0.9	
	comp=Z,0.4nm,0.5s,baz=33,slow=2.9							
NOA	NORSAR Array B	129.37	346	PP	PP	07 15 20.6	+5.4	
	comp=Z,1.6nm,0.7s,baz=30,slow=3.2,SNR=11							
SENIN	Lac Senin/Sane	143.35	339		PKPab	07 13 20.5	-0.7	
TORD	Torodi Ar. Bea	167.83	272	PKP	PKPdf	07 13 52.9	-1.7	
	comp=Z,0.3nm,0.6s,baz=191,slow=1.4,SNR=1.6							

*IDC **01** 06:56:23.0±0.9, 63°.75N×23°.44W, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.7/52, mbtmp3.7/12, ML3.3/1, MS3.6/16, Ms1 3.6/16, ms1mx3.3/48, Error ellipse: s-maj=18.0km s-min=13.8km az=138.0*

*REY **01** 06:56:22.4, 63°.60N×23°.30W, h3km*

ISC 01 06:56:24.0±1.7, 63°.65N±0°.06×23°.08W±0°.06, h6km±9km, n41, σ1§71/39, mb3.6/11, MS3.6/11, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.24	44	P	Pg	06 56 29.0	+0.3
	baz=50						
IRNE				S	Sb	06 56 34.5	+2.6
	baz=50						
IGRV	Grindav??k	0.35	53	P	Pg	06 56 31.1	+0.3
	baz=55						
IGRV				S	Sb	06 56 37.9	-0.5
	baz=55						
INYL	Nylenda	0.36	25	P	Pb	06 56 30.9	-1.9
	baz=33						
INYL				S	Sb	06 56 37.1	-1.6
	baz=33						
IKRI	Krysuvik	0.50	62	P	Pg	06 56 33.4	-0.3
	baz=62						
IKRI				S	Sb	06 56 42.2	-0.6
	baz=62						
IKAS	Kald??rsel	0.66	55	P	Pg	06 56 36.2	-0.5
	baz=56						
ISAN	Sandskeio	0.79	58	P	Pg	06 56 38.2	-0.9
	baz=58						
IBJA	Bjarnastaoir	0.84	68	P	Pg	06 56 39.1	-1.1
	baz=68						
IBJA				S	Sb	06 56 52.3	-0.3
	baz=68						
IKUD	Kuludalsa	0.86	38	P	Pg	06 56 38.8	-1.7
	baz=40						
IKUD				S	Sb	06 56 51.7	-1.3
	baz=40						
IKRO	Krokur	0.98	62	P	Pg	06 56 41.7	-1.0
	baz=62						
IHEI	Heioarbar	0.99	55	P	Pg	06 56 41.3	-1.6
	baz=56						
ISOL	Solvholt	0.99	72	S	Sg	06 56 55.8	0.0
	baz=71						
ISOL				P	Pg	06 56 41.0	-2.0
	baz=71						
IASM	Asmuli	1.11	79	P	Pb	06 56 43.7	-1.9
	baz=78						
IASM				S	Sb	06 57 00.1	-0.2
	baz=78						
ISAU	Saurbar	1.23	73	P	Pn	06 56 45.1	-2.5
	baz=72						
BORG	Borgarnes	1.35	34	Pg	Pn	06 56 46.6	-2.6
	185nm,0.3s,baz=222,slow=8.2,SNR=43						
BORG				Lg	Lg	06 57 05.4	
	222nm,0.3s,baz=88,slow=19,SNR=28						
IASB	`sbjarnarst	1.35	34	P	Pn	06 56 46.6	-2.6
	baz=36						
IASB				S	Sb	06 57 05.8	-1.2
	baz=36						
SCO	Scoresbysund	6.88	3	*eP*	Pn	06 58 06.1	+0.9
SCO				*i* S	Sn	06 59 27.9	+4.2
SFJD	Kangerlussuaq	11.93	298	LR	LR	07 03 10.4	
	comp=Z,465nm,19.2s,baz=90,slow=35						
NOA	NORSAR Array B	16.02	84	LR	LR	07 05 51.2	
	comp=Z,95nm,20.5s,baz=295,slow=35						
HFS	Hagfors	17.51	85	LR	LR	07 06 24.9	
	comp=Z,142nm,20.7s,baz=273,slow=34						
ARCES	ARCESS Array B	19.69	52	P	Pn	07 00 55.8	+1.0
	baz=265,slow=11,SNR=7.2						
ARCES				LR	LR	07 06 56.1	
	comp=Z,73nm,20.4s,baz=105,slow=32						
FRB	Frobisher Bay	19.83	291	LR	LR	07 07 54.2	
	comp=Z,228nm,18.0s,baz=48,slow=35						
FINES	FINESS Array B	22.32	73	P	P	07 01 24.4	+2.5
	5.9nm,1.1s,baz=260,slow=8.9,SNR=6.4						
BRG	Berggiesshubel	23.35	106	*eP*	P	07 01 33.9	+1.2
BRG				Amp		07 01 35.6	
	comp=Z,7.1nm,1.3s						
SCHQ	Schefferville	23.59	269	P	P	07 01 32.5	-2.6
	comp=Z,1.2nm,0.7s,baz=34,slow=7.3,SNR=1.5						
GERES	GERESS Array B	24.78	109	P	P	07 01 47.0	+0.7
	comp=Z,0.3nm,0.3s,baz=318,slow=7.8,SNR=5.8						
DAVOX	Davos/Dischmat	24.85	117	P	P	07 01 48.4	+1.4
	comp=Z,1.5nm,0.4s,baz=311,slow=11,SNR=1.6						
ESDC	Sonseca Array	26.56	146	P	P	07 02 03.2	+0.8
	comp=Z,0.7nm,0.4s,baz=351,slow=8.6,SNR=7.4						
ESDC				LR	LR	07 11 41.4	
	comp=Z,46nm,19.3s,baz=215,slow=34						
AKASG	Malin Array Be	30.21	90	LR	LR	07 14 19.7	
	comp=Z,70nm,22.0s,baz=350,slow=36						
YKA	Yellowknife Ar	38.09	311	LR	LR	07 19 02.5	
	comp=Z,97nm,18.3s,baz=0.0,slow=36						
ULM	Lac du Bon

LTZ			S	Sb	06 58 36.1	-0.2
KHZ	**Kahutara**	**0.59 90**	P	Pb	06 58 30.1	-0.3
KHZ			S	Sg	06 58 38.0	+0.8
GVZ	**Greta Valley S**	**0.60 158**	P	Pb	06 58 31.1	+0.7
GVZ			S	Sb	06 58 39.8	+0.9
THZ	**Tophouse**	**0.66 11**	P	Pg	06 58 31.0	+0.2
THZ			S	Sg	06 58 38.9	-0.6
AMCZ	**Amberley**	**0.77 185**	P	Pn	06 58 34.6	-0.1
AMCZ			S	Sn	06 58 47.1	+0.8
DSZ	**Denniston Nort**	**0.96 314**	P	Pn	06 58 37.6	+0.1
DSZ			S	Sn	06 58 52.7	+1.4
INZ	**Inchbonnie**	**1.00 252**	P	Pn	06 58 38.8	+0.8
INZ			S	Sn	06 58 53.5	+1.4
OXZ	**Oxford**	**1.05 209**	P	Pn	06 58 39.0	+0.4
OXZ			S	Sn	06 58 53.5	+0.3
MQZ	**McQueen's Vall**	**1.29 183**	P	Pn	06 58 41.8	-0.2
MQZ			S	Sb	06 58 58.5	-0.4
TUWZ	**Tuamarina**	**1.33 43**	P	Pg	06 58 43.6	+0.1
TUWZ			S	Sg	06 59 01.9	+1.1
RACZ	**Rakaia**	**1.38 198**	P	Pn	06 58 43.3	+0.1
MHCZ	**Mount Hutt**	**1.41 217**	P	Pn	06 58 43.9	+0.3

*NEIC **01** 07:04:26.9±3.0, 33°.98S±0°.07×179°.5E±0°.1, h258km±7km, mb4.5/24, Error ellipse: s-maj=13.8km s-min=9.1km az=118.0*
*NOU **01** 07:04:29.8, 34°.45S×179°.39E, h290km, mb4.8, South of Kermadec Islands*
*IDC **01** 07:04:33.3±1.4, 33°.87S×179°.05E, h306km±12km, mb4.1/14, mb1 4.2/16, mb1mx4.0/39, mbtmp4.7/16, Error ellipse: s-maj=13.1km s-min=10.0km az=7.0*
*WEL **01** 07:04:34.4±0.8, 35°.S±10°×17°.9E±1°.2, h288km±15km, M5.1/29, mB5.5/7, MLv5.3/29, Mw(mB)4.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=120.6*

ISC 01 07:04:26.9±0.3, 33°.95S±0°.03×179°.20E±0°.05, h250km, n225, σ2°.31/249, mb4.5/25, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.68**	**191**	Pn		**07 05 28.4**	**+1.5**
MXZ				Sn		**S 07 06 12.5**	**-2.1**
MXZ	**Matakaoa Point**	**3.68**	**191**	P		**Pn 07 05 28.9**	**+1.9**
MXZ				S		**S 07 06 16.5**	**+1.9**
GRZ	**Great Barrier**	**3.84**	**232**	P		Pn 07 05 33.7	+4.9
WMGZ	**Waiomatatini S**	**3.92**	**189**	P		**Pn 07 05 33.2**	**+3.5**
WMGZ				S		**S 07 06 18.9**	**-0.6**
HAZ	**Te Kaha**	**3.97**	**196**	P		**Pn 07 05 32.7**	**+2.4**
HAZ				S		**S 07 06 22.8**	**+2.1**
KUZ	**Kuaotunu**	**3.99**	**225**	P		Pn 07 05 35.6	+5.1
PKGZ	**Pakihiroa**	**4.04**	**193**	P		**Pn 07 05 34.1**	**+3.0**
PUZ	**Puketiti**	**4.19**	**190**	P		**Pn 07 05 36.1**	**+3.2**
PUZ				S		**S 07 06 25.2**	**-0.2**
RUGZ	**Raukumara Rang**	**4.20**	**197**	P		**Pn 07 05 36.1**	**+3.0**
MWZ	**Matawai**	**4.58**	**197**	P		**Pn 07 05 39.9**	**+2.3**
MWZ				S		**S 07 06 35.3**	**+1.3**
CNGZ	**Carnagh Statio**	**4.60**	**190**	P		**Pn 07 05 39.9**	**+2.2**
TKGZ	**Te Karaka**	**4.62**	**193**	P		**Pn 07 05 39.0**	**+1.0**
URZ	**Urewera**	**4.62**	**201**	P		**Pn 07 05 41.5**	**+3.5**
	110nm,0.3s,baz=266,slow=3.6,SNR=86						
URZ				S		**S 07 06 34.4**	**-0.4**
	143nm,0.3s,baz=90,slow=20,SNR=5.8						
URZ	**Urewera**	**4.62**	**201**	Pn		**Pn 07 05 39.1**	**+1.0**
URZ				Sn		**S 07 06 34.2**	**-0.5**
MKRZ	**Makatiti**	**4.73**	**207**	P		Pn 07 05 45.3	+5.8
OMRZ	**Omania**	**4.74**	**208**	P		Pn 07 05 44.5	+4.9
OUZ	**Omahuta**	**4.80**	**253**			**Pn 07 05 44.5**	**+4.3**
OUZ				Sn		**S 07 06 43.2**	**+4.7**
UTU	**Utuhina**	**4.87**	**209**	P		Pn 07 05 46.3	+5.2
HLRZ	**Highlands Stat**	**4.88**	**207**	P		**Pn 07 05 45.4**	**+4.2**
HSRZ	**Hossack Road**	**4.97**	**208**	P		Pn 07 05 46.9	+4.6
RTZ	**Ruatahuna**	**4.99**	**200**	P		**Pn 07 05 45.3**	**+2.7**
RTZ				S		**S 07 06 40.8**	**-2.2**
HRRZ	**Handcock Road**	**5.02**	**207**	P		**Pn 07 05 45.4**	**+2.4**
HRRZ				S		**S 07 06 46.2**	**+2.6**
GRRZ	**Galatos Road**	**5.06**	**209**	P		Pn 07 05 47.7	+4.4
ALRZ	**Allen Road**	**5.15**	**206**	P		**Pn 07 05 47.8**	**+3.3**
ALRZ				S		**S 07 06 45.0**	**-1.5**
WPRZ	**Whakapapatarin**	**5.18**	**207**	P		**Pn 07 05 48.8**	**+3.9**
WPRZ				S		**S 07 06 55.3**	**+8.2**
RAHZ	**Arahi**	**5.25**	**198**	P		**Pn 07 05 48.7**	**+3.0**
RAHZ				S		**S 07 06 47.1**	**-1.4**
MTHZ	**Maungataniwha**	**5.25**	**201**	P		**Pn 07 05 48.8**	**+3.1**
MTHZ				S		**S 07 06 46.3**	**-2.4**
TLZ	**Tolley Road**	**5.28**	**213**	P		**Pn 07 05 49.8**	**+3.7**
TLZ				S		**S 07 06 52.1**	**+2.6**
RAO	**Raoul Island**	**5.29 28**		P		**Pn 07 05 45.4**	**-0.9**
	138nm,0.3s,baz=240,slow=20,SNR=4.5						
RAO				S		**S 07 06 46.3**	**-3.3**
	284nm,0.3s,baz=246,slow=22,SNR=4.4						
RAO	**Raoul Island**	**5.29 28**		Sn		**S 07 06 45.6**	**-4.0**
RIZ	**Raoul Island**	**5.29 28**		S		**S 07 06 46.4**	**-3.2**
KUTZ	**Kaahu Road**	**5.29**	**210**	P		Pn 07 05 50.8	+4.6
WHHZ	**Waihua**	**5.36**	**197**	P		**Pn 07 05 50.6**	**+3.5**
WHHZ				S		**S 07 06 50.2**	**-0.8**
MRHZ	**Matea Rd**	**5.37**	**204**	P		**Pn 07 05 49.3**	**+2.0**
MRHZ				S		**S 07 06 49.9**	**-1.4**
WHTZ	**Whakaora**	**5.39**	**208**	P		Pn 07 05 51.8	+4.4
NMHZ	**Naumai**	**5.49**	**200**	P		**Pn 07 05 49.7**	**+1.0**
NMHZ				S		**S 07 06 53.2**	**-0.8**
WATZ	**Wairara**	**5.51**	**210**	P		**Pn 07 05 52.4**	**+3.4**
WATZ				S		**S 07 06 57.3**	**+2.7**
HATZ	**Hinemaiaia**	**5.54**	**206**	P		**Pn 07 05 51.4**	**+2.2**
HATZ				S		**S 07 06 53.0**	**-2.0**
ARHZ	**Aropaoanui**	**5.59**	**198**	P		**Pn 07 05 53.0**	**+3.0**
ARHZ				S		**S 07 06 55.3**	**-0.9**
RATZ	**Rangitukua**	**5.63**	**208**	P		**Pn 07 05 53.8**	**+3.3**
BKZ	**Black Stump Fm**	**5.65**	**202**	Pn		**Pn 07 05 51.5**	**+0.8**
BKZ				Sn		**S 07 06 55.1**	**-2.5**
BKZ	**Black Stump Fm**	**5.65**	**202**	P		**Pn 07 05 51.2**	**+0.6**
BKZ				S		**S 07 06 55.2**	**-2.3**
HIZ	**Hauiti**	**5.75**	**216**	Pn		**Pn 07 05 54.0**	**+2.0**
HIZ	**Hauiti**	**5.75**	**216**	P		**Pn 07 05 55.7**	**+3.8**
KATZ	**Kakaramea**	**5.76**	**208**	P		**Pn 07 05 55.1**	**+3.0**
MCHZ	**McNeill Hill**	**5.84**	**199**	P		**Pn 07 05 55.9**	**+2.9**
MCHZ				S		**S 07 07 00.8**	**-1.1**
NTVZ	**North Tongarir**	**5.87**	**208**	P		**Pn 07 05 54.6**	**+1.0**
TMVZ	**Te Maari**	**5.88**	**208**	P		**Pn 07 05 54.4**	**+0.9**
KRVZ	**Karewarewa**	**5.88**	**208**	P		**Pn 07 05 55.8**	**+2.2**
ETVZ	**East Tongariro**	**5.89**	**207**	P		**Pn 07 05 54.4**	**+0.6**
KWHZ	**Kaweka Forest**	**5.91**	**201**	P		**Pn 07 05 54.0**	**+0.1**
WTVZ	**West Tongariro**	**5.92**	**208**	P		**Pn 07 05 56.5**	**+2.4**
NNVZ	**North Ngauruho**	**5.93**	**208**	P		**Pn 07 05 56.4**	**+2.2**
OTVZ	**Oturere**	**5.93**	**208**	P		**Pn 07 05 54.8**	**+0.5**
TWVZ	**Taurewa**	**5.95**	**210**	P		**Pn 07 05 56.5**	**+2.1**
CKHZ	**Cape Kidnapper**	**5.95**	**196**	P		**Pn 07 05 55.8**	**+1.4**
CKHZ				S		**S 07 07 02.0**	**-2.3**
SNVZ	**South Ngauruho**	**5.96**	**208**	P		**Pn 07 05 55.3**	**+0.6**
NGZ	**Ngauruhoe**	**5.97**	**208**	P		**Pn 07 05 55.8**	**+1.1**
TUVZ	**Tukino**	**6.03**	**207**	P		**Pn 07 05 56.1**	**+0.6**
FWVZ	**Far West T-bar**	**6.06**	**208**	P		**Pn 07 05 56.4**	**+0.5**
WHVZ	**Whangaehu Hut**	**6.07**	**208**	P		**Pn 07 05 56.9**	**+0.8**
DRZ	**Dome Shelter**	**6.07**	**208**	P		**Pn 07 05 58.3**	**+2.2**
BHHZ	**Black Hill Sta**	**6.08**	**204**	P		**Pn 07 05 55.4**	**-0.6**
TRVZ	**Turoa**	**6.10**	**208**	P		**Pn 07 05 57.5**	**+1.1**
WNVZ	**Wahianoa**	**6.10**	**207**	P		**Pn 07 05 56.5**	**+0.1**
MOVZ	**Moawhango**	**6.11**	**206**	P		**Pn 07 05 56.0**	**-0.5**
KRHZ	**Kereru**	**6.12**	**201**	P		**Pn 07 05 55.8**	**-0.7**
KAHZ	**Kahuranaki**	**6.13**	**197**	P		**Pn 07 05 56.3**	**-0.3**
PKVZ	**Pokaka**	**6.17**	**209**	P		**Pn 07 05 57.7**	**+0.6**
MTVZ	**Mangateitei**	**6.20**	**208**	P		**Pn 07 05 59.5**	**+1.9**
VRZ	**Vera Road**	**6.29**	**213**	P		**Pn 07 06 00.7**	**+2.2**
PXZ	**Pawanui**	**6.36**	**196**	P		**Pn 07 05 58.2**	**-1.1**
PNHZ	**Pukenui**	**6.42**	**201**	P		**Pn 07 05 59.2**	**-1.0**
MHEZ	**Mangahewa**	**6.45**	**216**	P		Pn 07 06 05.4	+4.8
WPHZ	**Waipukurau**	**6.49**	**199**	P		**Pn 07 06 01.3**	**+0.2**
DREZ	**Durham Road**	**6.60**	**216**	P		**Pn 07 06 05.5**	**+3.0**
TSZ	**Takapari Road**	**6.63**	**202**	P		**Pn 07 06 01.5**	**-1.4**
PRHZ	**Porangahau**	**6.63**	**197**	P		**Pn 07 06 02.9**	**0.0**
PKE	**Pukeiti**	**6.71**	**217**	P		**Pn 07 06 08.3**	**+4.4**
WAZ	**Wanganui**	**6.71**	**209**	P		**Pn 07 06 03.9**	**+0.1**
NEZ	**North Egmont**	**6.71**	**216**	P		**Pn 07 06 06.7**	**+2.7**
LREZ	**Lake Rotokare**	**6.72**	**214**	P		**Pn 07 06 06.5**	**+2.6**
PREZ	**Palmer Road**	**6.74**	**216**	P		**Pn 07 06 08.6**	**+4.3**
KHEZ	**Kahui Hut**	**6.77**	**217**	P		**Pn 07 06 07.3**	**+2.6**
DVHZ	**Dannevirke**	**6.79**	**200**	P		**Pn 07 06 03.4**	**-1.4**
NBEZ	**Newall Road No**	**6.83**	**217**	P		**Pn 07 06 09.5**	**+4.2**
ANWZ	**Angora Road**	**6.86**	**198**	P		**Pn 07 06 06.2**	**+0.5**
NMEZ	**Namu Road**	**6.93**	**217**	P		Pn 07 06 12.1	+5.5
OHWZ	**Ohakea**	**6.98**	**205**	P		**Pn 07 06 07.5**	**+0.3**
POWZ	**Post Office Ro**	**6.99**	**202**	P		**Pn 07 06 06.0**	**-1.4**
PRWZ	**Pori Road**	**7.08**	**200**	P		**Pn 07 06 07.7**	**-0.8**
BFZ	**Birch Farm**	**7.12**	**198**	Pn		**Pn 07 06 07.6**	**-1.5**
BFZ	**Birch Farm**	**7.12**	**198**	P		**Pn 07 06 07.2**	**-1.9**
MRZ	**Mangatainoka R**	**7.30**	**202**	P		**Pn 07 06 08.8**	**-2.5**
TIWZ	**Tintock**	**7.31**	**200**	P		**Pn 07 06 09.7**	**-1.8**
CPWZ	**Castlepoint**	**7.35**	**198**	P		**Pn 07 06 13.4**	**+1.5**
HOWZ	**Holdsworth Sta**	**7.53**	**202**	P		**Pn 07 06 11.5**	**-2.7**
OGWZ	**Otaki Gorge**	**7.57**	**204**	P		**Pn 07 06 12.2**	**-2.5**
TMWZ	**Te Maipa**	**7.62**	**199**	P		**Pn 07 06 12.9**	**-2.3**
KIW	**Kapiti Island**	**7.70**	**205**	P		**Pn 07 06 13.7**	**-2.6**
MTW	**Mount Morrison**	**7.78**	**201**	P		**Pn 07 06 14.9**	**-2.4**
CAW	**Cannon Point**	**7.87**	**203**	P		**Pn 07 06 15.7**	**-2.7**
TRWZ	**Traveller**	**7.94**	**200**	P		**Pn 07 06 18.9**	**-0.5**
PAWZ	**Paruwai Farm**	**8.00**	**201**	P		**Pn 07 06 17.7**	**-2.5**
DUWZ	**D'Urville Isla**	**8.03**	**210**	P		**Pn 07 06 18.8**	**-1.7**
MSWZ	**Moikau Station**	**8.09**	**202**	Pn		**Pn 07 06 18.7**	**-2.5**
MSWZ	**Moikau Station**	**8.09**	**202**	P		**Pn 07 06 19.3**	**-1.9**
WEL	**Wellington**	**8.12**	**204**	P		**Pn 07 06 19.2**	**-2.4**
SNZO	**South Karori**	**8.17**	**205**	Pn		**Pn 07 06 20.8**	**-1.4**
BHW	**Baring Head**	**8.20**	**203**	Pn		**Pn 07 06 19.9**	**-2.7**
BHW	**Baring Head**	**8.20**	**203**	P		**Pn 07 06 19.9**	**-2.7**
PLWZ	**Palliser**	**8.23**	**201**	Pn		**Pn 07 06 19.7**	**-3.3**
PLWZ	**Palliser**	**8.23**	**201**	P		**Pn 07 06 20.3**	**-2.7**
TCW	**Tory Channel**	**8.24**	**207**	P		**Pn 07 06 20.6**	**-2.5**
TUWZ	**Tuamarina**	**8.55**	**208**	Pn		**Pn 07 06 25.0**	**-2.1**
TUWZ	**Tuamarina**	**8.55**	**208**	P		**Pn 07 06 24.4**	**-2.7**
NNZ	**Nelson**	**8.60**	**211**	Pn		**Pn 07 06 24.9**	**-2.8**
NNZ	**Nelson**	**8.60**	**211**	P		**Pn 07 06 25.2**	**-2.5**
QRZ	**Quartz Range**	**8.68**	**216**	Pn		**Pn 07 06 27.4**	**-1.3**
QRZ	**Quartz Range**	**8.68**	**216**	P		**Pn 07 06 26.8**	**-1.9**
CMWZ	**Cape Campbell**	**8.73**	**205**	Pn		**Pn 07 06 27.8**	**-1.6**
CMWZ	**Cape Campbell**	**8.73**	**205**	P		**Pn 07 06 28.5**	**-0.9**
BSWZ	**Blackbirch Sta**	**8.82**	**207**	Pn		**Pn 07 06 28.9**	**-1.7**
BSWZ	**Blackbirch Sta**	**8.82**	**207**	P		**Pn 07 06 28.7**	**-1.8**
THZ	**Tophouse**	**9.25**	**211**	Pn		**Pn 07 06 34.3**	**-1.7**
THZ	**Tophouse**	**9.25**	**211**	P		**Pn 07 06 33.7**	**-2.3**
KHZ	**Kahutara**	**9.56**	**206**	Pn		**Pn 07 06 37.5**	**-2.2**
KHZ	**Kahutara**	**9.56**	**206**	P		**Pn 07 06 36.8**	**-2.9**
DSZ	**Denniston Nort**	**9.73**	**215**	P		**Pn 07 06 39.4**	**-2.7**
GVZ	**Greta Valley S**	**10.22**	**206**	P		**Pn 07 06 46.3**	**-1.9**
LTZ	**Lake Taylor**	**10.36**	**210**	Pn		**Pn 07 06 46.7**	**-3.2**
LTZ	**Lake Taylor**	**10.36**	**210**	P		**Pn 07 06 46.9**	**-3.0**
AMCZ	**Amberley**	**10.54**	**207**	P		**Pn 07 06 50.3**	**-1.9**
INZ	**Inchbonnie**	**10.67**	**213**	P		**Pn 07 06 50.8**	**-3.0**
OKCZ	**Okains Bay**	**10.87**	**204**	P		**Pn 07 06 54.5**	**-1.8**
OXZ	**Oxford**	**10.91**	**209**	Pn		**Pn 07 06 53.6**	**-3.2**
OXZ	**Oxford**	**10.91**	**209**	P		**Pn 07 06 53.0**	**-3.8**
MQZ	**McQueen's Vall**	**11.00**	**206**	Pn		**Pn 07 06 55.5**	**-2.4**
MQZ	**McQueen's Vall**	**11.00**	**206**	P		**Pn 07 06 54.6**	**-3.3**
AKCZ	**Akaroa Harbour**	**11.05**	**204**	P		**Pn 07 06 56.9**	**-1.7**
RACZ	**Rakaia**	**11.21**	**207**	P		**Pn 07 06 57.7**	**-2.8**
WVZ	**Waitaha Valley**	**11.26**	**214**	P		**Pn 07 06 58.6**	**-2.6**
MHCZ	**Mount Hutt**	**11.27**	**210**	P		**Pn 07 06 58.2**	**-3.2**
WACZ	**Wakanui South**	**11.50**	**208**	P		**Pn 07 07 01.9**	**-2.3**
RPZ	**Rata Peaks**	**11.63**	**211**	Pn		**Pn 07 07 02.7**	**-3.2**
RPZ	**Rata Peaks**	**11.63**	**211**	P		**Pn 07 07 02.5**	**-3.4**
GCSZ	**Gaunt Creek Bo**	**11.64**	**214**	P		**Pn 07 07 03.2**	**-2.8**
ARCZ	**Arundel**	**11.77**	**210**	P		**Pn 07 07 04.3**	**-3.2**
FOZ	**Fox Glacier**	**12.05**	**215**	Pn		**Pn 07 07 08.8**	**-2.2**
FOZ	**Fox Glacier**	**12.05**	**215**	P		**Pn 07 07 07.7**	**-3.3**
TMZ	**Timaru**	**12.20**	**209**	P		**Pn 07 07 09.8**	**-3.1**
LBZ	**Lake Benmore**	**12.54**	**211**	P		**Pn 07 07 14.6**	**-2.5**
ODZ	**Otahua Downs**	**12.89**	**208**	Pn		**Pn 07 07 19.3**	**-2.1**
ODZ	**Otahua Downs**	**12.89**	**208**	P		**Pn 07 07 19.0**	**-2.4**
JCZ	**Jackson Bay**	**12.95**	**216**	P		**Pn 07 07 19.3**	**-2.8**
WKZ	**Wanaka**	**13.41**	**213**	Pn		**Pn 07 07 24.4**	**-3.3**
WKZ	**Wanaka**	**13.41**	**213**	P		**Pn 07 07 24.8**	**-2.9**
EAZ	**Earnscleugh**	**13.60**	**211**	P		**Pn 07 07 26.6**	**-3.4**
MLZ	**Mavora Lakes**	**14.23**	**213**	Pn		**Pn 07 07 36.0**	**-1.8**
WHZ	**Wether Hill Ro**	**14.71**	**212**			**P 07 07 41.3**	**-2.1**
DCZ	**Deep Cove**	**14.76**	**215**	P		**P 07 07 41.7**	**-2.1**
PINNC	**Pines Island,**	**15.31**	**314**	P		**P 07 07 50.7**	**+0.5**
MSVF	**Nonsavu**	**16.18**	**356**	P		**Pn 07 08 01.3**	**0.0**
	1.3nm,0.3s,baz=159,slow=14,SNR=7.8						
DZM	**Mont Dzumac**	**16.32**	**313**	P		**Pn 07 08 04.4**	**+1.4**
	1.0nm,0.3s,baz=133,slow=13,SNR=12						
DZM	**Mont Dzumac**	**16.32**	**313**	P		**P 07 08 03.6**	**+2.1**
DZM				IAmb	IAmb	07 08 07.4	
	comp=Z,28nm,0.9s						
AFI	**Afiamalu**	**21.56**	**24**	P		**P 07 08 59.2**	**+2.1**
	comp=Z,81nm,0.9s,baz=254,slow=7.4,SNR=4.4						
ARMA	**Armidale**	**23.57**	**271**	P		**P 07 09 16.5**	**+1.1**
ARMA				IAmb	IAmb	07 09 21.9	
	comp=Z,15nm,0.8s						
MCQ	**Macquarie Isla**	**24.98**	**209**	P		**P 07 09 24.6**	**-3.1**
	comp=Z,118nm,1.3s						
EIDS	**Eidsvold**	**25.83**	**282**	P		**P 07 09 35.0**	**-0.7**
EIDS				IAmb	IAmb	07 09 38.3	
	comp=Z,14nm,0.8s						
TAU	**Tasmania Unive**	**26.41**	**241**	P		**P 07 09 41.7**	**+1.1**
TOO	**Toolangi**	**27.51**	**253**	P		**P 07 09 52.2**	**+1.7**
TOO				IAmb	IAmb	07 10 16.3	
	comp=Z,22nm,1.4s						
STKA	**Stephens Creek**	**31.53**	**263**	P		**P 07 10 27.0**	**+1.0**
	comp=Z,8.0nm,1.0s,baz=95,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**31.53**	**263**	P		**P 07 10 24.6**	**-1.3**
CTA	**Charters Tower**	**32.28**	**287**	P		**P 07 10 33.9**	**+1.3**
	comp=Z,12nm,0.8s,baz=113,slow=9.7,SNR=13						
CTAO	**Charters Tower**	**32.28**	**287**	P		**P 07 10 33.5**	**+0.9**
BBOO	**Buckleboo**	**35.85**	**259**	P		**P 07 11 02.2**	**-0.9**
BBOO				IAmb	IAmb	07 11 04.1	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**40.71**	**272**	P		**P 07 11 43.5**	**-0.2**
ASAR	**Alice Springs**	**40.71**	**272**	P		**P 07 11 43.8**	**+0.1**
	comp=Z,18nm,0.8s,baz=113,slow=7.6,SNR=108						
ASAR				ScP		**ScP 07 16 58.3**	**-7.1**
	comp=Z,0.8nm,0.7s,baz=118,slow=3.9,SNR=3.4						
ASAR				S		**S 07 17 32.0**	**-3.0**
	comp=Z,3.2nm,0.9s,baz=115,slow=15,SNR=12						
WR0	**Warramunga Arr**	**41.86**	**278**	P		**P 07 11 52.9**	**-0.1**
WR0				IAmb	IAmb	07 11 53.9	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**42.02**	**278**	P		**P 07 11 54.1**	**-0.1**
WB2				IAmb	IAmb	07 11 55.1	
	comp=Z,35nm,1.2s						
WRAB	**Tennant Creek**	**42.03**	**278**	P		**P 07 11 53.0**	**-1.4**
WRAB				IAmb	IAmb	07 11 55.1	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**42.03**	**278**	P		**P 07 11 54.2**	**-0.2**
	comp=Z,12nm,0.6s,baz=114,slow=7.6,SNR=116						
WRA				ScP		**ScP 07 17 04.1**	**-6.5**
	comp=Z,0.7nm,0.8s,baz=117,slow=3.6,SNR=1.7						
WRA				S		**S 07 17 50.2**	**-4.2**
	comp=Z,2.7nm,0.9s,baz=117,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**42.03**	**278**	P		**P 07 11 53.7**	**-0.6**
WB0	**Warramunga Arr**	**42.07**	**278**	P		**P 07 11 54.0**	**-0.6**
WB0				IAmb	IAmb	07 11 55.5	
	comp=Z,28nm,1.1s						
FORT	**Forrest**	**42.96**	**260**	P		**P 07 12 00.1**	**-1.5**
FORT				IAmb	IAmb	07 12 03.6	
	comp=Z,22nm,0.8s						
VNDA	**Vanda**	**44.35**	**185**	P		**P 07 12 14.3**	**+2.3**
	comp=Z,2.8nm,0.8s,baz=2.4,slow=8.3,SNR=16						
VNDA	**Vanda**	**44.35**	**185**	P		**P 07 12 10.9**	**-1.1**
KNRA	**Kununurra**	**48.76**	**279**	P		**P 07 12 47.0**	**0.0**
KNRA				IAmb	IAmb	07 13 11.9	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**50.12**	**274**	P		**P 07 12 57.3**	**+0.2**
	comp=Z,7.0nm,0.7s,baz=124,slow=6.6,SNR=52						
FITZ	**Fitzroy Crossi**	**50.12**	**274**	P		**P 07 12 56.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**51.01**	**253**	P		**P 07 13 02.2**	**-1.4**
	comp=Z,4.3nm,0.7s,baz=90,slow=5.1,SNR=2.3						
NWAO	**Narrogin (SRO)**	**51.01**	**253**	IAmb	IAmb	07 13 30.1	
	comp=Z,17nm,1.5s						
MORW	**Morawa**	**53.33**	**257**	P		**P 07 13 18.7**	**-2.0**
QSPA	**South Pole Qui**	**56.17**	**180**	P		**P 07 13 42.9**	**+2.2**
GIRL	**Giralia**	**57.47**	**263**	P		**P 07 13 48.8**	**-1.4**
MAW	**Mawson**	**68.15**	**202**	P		**P 07 14 60.0**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=118,slow=7.3,SNR=14						
MAW	**Mawson**	**68.15**	**202**	P		**P 07 14 57.8**	**-2.0**
SNAA	**Sanae**	**74.67**	**179**	P		**P 07 15 39.0**	**+0.5**
SNAA	**Sanae**	**74.67**	**179**	P		**P 07 15 38.7**	**+0.1**
VNA3	**Neumayer Olymp**	**74.92**	**177**	P		**P 07 15 40.4**	**+0.4**
VNA2	**Neumayer--Watz**	**75.32**	**178**	P		**P 07 15 43.1**	**+0.9**
	baz=172,slow=4.6						
VNA1	**Neumayer--Stat**	**75.56**	**177**	P		**P 07 15 44.5**	**+0.9**
PLCA	**Paso Flores**	**81.80**	**134**	P		**P 07 16 20.4**	**+2.2**
	comp=Z,6.2nm,0.6s,baz=238,slow=4.7,SNR=18						
PETK	**Petropavlovsk-**	**88.69**	**347**	P		**P 07 16 51.6**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=179,slow=10,SNR=11						
NVAR	**Mina Array Bea**	**92.44**	**44**	P		**P 07 17 10.8**	**+1.3**
	comp=Z,4.4nm,0.9s,baz=218,slow=8.0,SNR=30						
NVAR	**Mina Array Bea**	**92.44**	**44**	P		**P 07 17 07.9**	**-1.7**
TXAR	**Lajitas Array**	**96.27**	**59**	P		**P 07 17 28.2**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=206,slow=8.2,SNR=5.8						
LPAZ	**La Paz**	**98.78**	**116**	P		**P 07 17 40.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=199,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**100.32**	**45**	P		**Pdif 07 17 46.5**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=230,slow=1.2,SNR=4.5						
ILAR	**Eielson Array**	**101.92**	**14**	P		**Pdif 07 17 52.3**	**+1.0**
	comp=Z,0.4nm,1.0s,baz=191,slow=2.8,SNR=3.0						
ILAR				PKiKP		**PKiKP 07 22 12.9**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.1,SNR=6.2						
YKA	**Yellowknife Ar**	**109.66**	**27**	PKiKP		**PKiKP 07 22 26.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=259,slow=1.6,SNR=6.3						
MKAR	**Makanchi Array**	**118.20**	**309**	PKP		**PKPdf 07 22 42.1**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=203,slow=5.9,SNR=2.9						
MKAR				SKP		**SKPdf 07 25 49.1**	**-6.1**
	comp=Z,0.5nm,0.8s,baz=90,slow=1.3,SNR=4.0						
MKAR				PKKPbc		**PKKPab 07 33 04.7**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=283,slow=3.1,SNR=14						
KURK	**Kurchatov**	**121.75**	**313**			**PKPdf 07 22 48.3**	**-2.2**
KURBB	**Kurchatov Arra**	**121.77**	**313**	PKP		**PKPdf 07 22 48.3**	**-2.3**
	comp=Z,1.4nm,0.6s,baz=121,slow=1.9,SNR=12						
KURBB				PKKPbc		**PKKPbc 07 32 51.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=288,slow=4.7,SNR=9.3						
ARCES	**ARCESS Array B**	**141.48**	**346**	PKhKP		PKPpre 07 23 21.2	
	comp=Z,1.4nm,0.6s,baz=57,slow=3.3,SNR=7.8						
**FINES

	baz=328						
OWD	**Renai**	**0.50 291**	*i* P		Pn	07 46 15.9	+0.1
	baz=290						
OWD			*i* S		Sn	07 46 23.6	0.0
	baz=290						
OWD	**Renai**	**0.50 291**	*i* P		Pn	07 46 15.8	0.0
	baz=247						
YULB	**Yu-li**	**0.52 223**	P		Pn	07 46 15.3	-0.7
	baz=231						
YULB			S		Sn	07 46 23.0	-1.0
	baz=231						
WHF	**Hehuan Shan**	**0.53 314**	*e*P		Pn	07 46 16.3	-0.2
	baz=309						
WHF			*e*S		Sn	07 46 24.7	-0.1
	baz=309						
CHGB	**Renai**	**0.54 301**	P		Pn	07 46 16.7	+0.2
	baz=306						
CHGB			S		Sn	07 46 25.0	+0.2
	baz=306						
CHGB	**Renai**	**0.54 301**	P		Pn	07 46 16.3	-0.3
	baz=260						
TWF1	**Yuli**	**0.55 220**	*e*P		Pn	07 46 15.7	-0.7
	baz=227						
TWF1			S		Sn	07 46 23.7	-1.0
	baz=227						
SSLB	**Suanglung**	**0.67 271**	P		Pn	07 46 18.2	+0.2
	baz=266						
SSLB			S		Sn	07 46 28.3	+0.9
	baz=266						
TDCB	**Techi**	**0.67 315**	*e*P		Pn	07 46 18.4	+0.3
	baz=315						
TDCB			S		Sn	07 46 27.9	+0.2
	baz=315						
SMLT	**Sun Moon Lake**	**0.72 278**	*e*P		Pn	07 46 19.2	+0.4
	baz=280						
SMLT			*i* S		Sn	07 46 29.2	+0.3
	baz=280						
TYC	**Yuchr**	**0.77 279**	*e*P		Pn	07 46 19.5	+0.2
	baz=285						
WHP	**Taichung City**	**0.84 306**	P		Pn	07 46 21.1	+0.8
	baz=310						
WHP			S		Sn	07 46 32.9	+1.3
	baz=310						
ALS	**Alishan**	**0.85 252**	*e*P		Pn	07 46 21.4	+0.7
	baz=251						
YHNB	**Yeheng**	**0.93 342**	*e*P		Pn	07 46 21.5	-0.1
	baz=344						
YHNB			*e*S		Sn	07 46 33.7	-0.1
	baz=344						
CHN5	**Tsauling**	**0.94 259**	*e*P		Pn	07 46 22.6	+0.9
	baz=258						
CHN5			S		Sn	07 46 36.0	+2.0
	baz=258						
CHN4	**Tsaushan**	**1.09 247**	P		Pn	07 46 25.4	+1.7
	baz=246						
CHN4			S		Sn	07 46 40.5	+2.9
	baz=246						
TIPB	**Shuangxi**	**1.19 6**	P		Pn	07 46 25.5	+0.4
	baz=353						
CHN1	**Nanshi**	**1.22 241**	S		Sn	07 46 43.0	+2.4
	baz=239						

TAP 01 07:46:06.1, 24°.13N×121°.64E, h8km±1km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.03**	**335**	P	Pg	07 46 07.9	+0.2
	baz=335						
NACB	**Ninganchiao**	**0.06**	**317**	P	Pg	07 46 08.3	+0.4
	baz=317						
NACB				S	Sg	07 46 10.1	+1.0
	baz=317						
TWD	**Chiawan**	**0.06**	**215**	*i* P	Pg	07 46 08.2	+0.3
	baz=208						
TWD				*i* S	Sg	07 46 10.0	+0.8
	baz=208						
ETLH	**Xiulin Townshi**	**0.16**	**298**	P	Pg	07 46 10.2	+0.7
	baz=297						
ETLH				S	Sg	07 46 13.4	+1.6
	baz=297						

*IDC **01** 07:48:27.1±1.7, 63°.13N×151°.45W, h109km±18km, mb3.1/4, mb1 3.1/7, mb1mx3.0/39, mbtmp3.3/7, Error ellipse: s-maj=30.5km s-min=11.3km az=113.0*
*ANF **01** 07:48:30.3±0.2, 63°.11N×150°.93W, h130km±2km, ML3.2/53, Error ellipse: s-maj=1.7km s-min=1.4km az=123.0*
*NEIC **01** 07:48:30.1±1.0, 63°.11N±0°.04×150°.98W±0°.09, h137km±1km, Error ellipse: s-maj=5.7km s-min=5.5km az=147.0*
*AEIC **01** 07:48:30±0.9, 63°.10N±0°.04×150°.91W±0°.10, h133km±3km, ML3.0, ML3.3/112(NEIC), Error ellipse: s-maj=6.3km s-min=5.5km az=82.0*

ISC 01 07:48:30.2±0.8, 63°.11N±0°.02×150°.96W±0°.03, h140km±5km, n200, σ0.96/224, mb3.5/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.45**	**2**		**Pn**	**07 48 50.0**	**-0.2**
KTH					**Sn**	**07 49 04.2**	**-1.3**
KTH	**Kantishna Hill**	**0.45**	**2**	IAML		07 49 04.9	
	comp=N,676nm,0.6s						
KTH				IAML		07 49 05.6	
	comp=E,342nm,0.6s						
TRF	**Thorofare Moun**	**0.46**	**41**	P	**Pn**	**07 48 50.3**	**-0.1**
	baz=219						
TRF				S	**Sn**	**07 49 04.8**	**-0.9**
	baz=219						
TRF	**Thorofare Moun**	**0.46**	**41**		**Pn**	**07 48 50.2**	**-0.1**
TRF					**Sn**	**07 49 04.8**	**-0.9**
TRF	**Thorofare Moun**	**0.46**	**41**	IAML		07 49 05.7	
	comp=E,465nm,0.7s						
TRF				IAML		07 49 07.3	
	comp=N,290nm,0.4s						
PPLA	**Purkeypile**	**0.60**	**250**	P	**Pn**	**07 48 51.2**	**+0.1**
	baz=70						
PPLA				S	**Sn**	**07 49 06.2**	**-0.7**
	baz=70						
PPLA	**Purkeypile**	**0.60**	**250**		**Pn**	**07 48 51.2**	**+0.1**
PPLA					**Sn**	**07 49 06.3**	**-0.7**
HUR	**Hurricane**	**0.62**	**102**		**Pn**	**07 48 50.7**	**-0.4**
HUR					**Sn**	**07 49 06.2**	**-0.7**
CUT	**Chulitna**	**0.78**	**155**	P	**Pn**	**07 48 52.1**	**-0.1**
	baz=337,SNR=15						
CUT				S	**Sn**	**07 49 08.2**	**-0.5**
	baz=337						
CUT	**Chulitna**	**0.78**	**155**		**Pn**	**07 48 52.3**	**+0.1**
CUT					**Sn**	**07 49 08.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.99**	**359**	P	**Pn**	**07 48 53.6**	**-0.3**
	baz=178,SNR=28						
BPAW				S	**Sn**	**07 49 10.5**	**-1.6**
	baz=178						
BPAW	**Bear Paw Mtn.**	**0.99**	**359**		**Pn**	**07 48 53.7**	**-0.3**
BPAW	**Bear Paw Mtn.**	**0.99**	**359**	IAML		07 49 11.2	
	comp=N,259nm,0.8s						
RND	**Reindeer**	**1.00**	**72**		**Pn**	**07 48 53.8**	**-0.3**
RND					**Sn**	**07 49 11.5**	**-0.7**
RND	**Reindeer**	**1.00**	**72**	IAML		07 49 13.8	
	comp=N,178nm,0.6s						
RND				IAML		07 49 14.1	
	comp=E,155nm,0.6s						
WAT7	**Susitna Watana**	**1.00**	**105**		**Pn**	**07 48 53.9**	**-0.3**
WAT7					**Sn**	**07 49 11.6**	**-0.8**
MCK	**McKinley**	**1.11**	**55**	P	**Pn**	**07 48 54.9**	**-0.1**
	baz=235,SNR=36						
MCK				S	**Sn**	**07 49 12.7**	**-1.2**
	baz=235						
MCK	**McKinley**	**1.11**	**55**		**Pn**	**07 48 54.9**	**-0.1**
MCK					**Sn**	**07 49 12.7**	**-1.2**
MCK	**McKinley**	**1.11**	**55**	IAML		07 49 14.5	
	comp=N,214nm,0.6s						
WAT1	**Susitna Watana**	**1.14**	**103**	P	**Pn**	**07 48 55.0**	**-0.2**
	baz=285						
WAT1				S	**Sn**	**07 49 13.4**	**-1.0**
	baz=285						
WAT1	**Susitna Watana**	**1.14**	**103**		**Pn**	**07 48 55.1**	**-0.2**
SKT	**Skwentna**	**1.16**	**193**	P	**Pn**	**07 48 55.5**	**-0.1**
	baz=14						
SKT				S	**Sn**	**07 49 13.9**	**-0.9**
	baz=14						
SKT	**Skwentna**	**1.16**	**193**		**Pn**	**07 48 55.4**	**-0.1**
SKT	**Skwentna**	**1.16**	**193**	IAML		07 49 15.3	
	comp=N,604nm,0.4s						
SKT				IAML		07 49 15.9	
	comp=E,589nm,0.3s						
BWN	**Browne**	**1.26**	**31**		**Pn**	**07 48 55.9**	**-0.5**
BWN				IAML		07 49 16.9	
	comp=N,222nm,0.7s						
WAT6	**Susitna Watana**	**1.57**	**108**	P	**Pn**	**07 48 59.4**	**-0.6**
	baz=291						
WAT6				S	**Sn**	**07 49 21.1**	**-1.5**
	baz=291						
WAT6	**Susitna Watana**	**1.57**	**108**		**Pn**	**07 48 59.3**	**-0.6**
WAT6					**Sn**	**07 49 21.1**	**-1.5**
M20K	**Styx River**	**1.59**	**220**	P	**Pn**	**07 48 59.7**	**-0.3**
	baz=39						
M20K				S	**Sn**	**07 49 21.8**	**-1.1**
	baz=39						
GHO	**Glory Hole Cre**	**1.64**	**144**		**Pn**	**07 49 00.6**	**-0.1**
SUA	**Susitna One**	**1.66**	**176**	P	**Pn**	**07 49 01.4**	**+0.6**
	baz=357,SNR=5.9						
SUA				S	**Sn**	**07 49 23.4**	**-0.8**
	baz=357						
SUA	**Susitna One**	**1.66**	**176**		**Pn**	**07 49 01.3**	**+0.5**
SUA	**Susitna One**	**1.66**	**176**	IAML		07 49 25.5	
	comp=N,224nm,0.6s						
SUA				IAML		07 49 27.4	
	comp=E,186nm,0.4s						
STLK	**Strandline Lak**	**1.67**	**195**		**Pn**	**07 49 00.8**	**-0.1**
NEA2	**Nenana**	**1.71**	**29**	P	**Pn**	**07 49 00.8**	**-0.5**
	baz=209,SNR=26						
NEA2				S	**Sn**	**07 49 23.0**	**-2.1**
	baz=209						
NEA2	**Nenana**	**1.71**	**29**		**Pn**	**07 49 00.9**	**-0.5**
NEA2					**Sn**	**07 49 23.1**	**-2.0**
NEA2	**Nenana**	**1.71**	**29**	IAML		07 49 23.9	
	comp=E,94nm,0.8s						
PMR	**Palmer**	**1.75**	**150**	P	**Pn**	**07 49 01.2**	**-0.5**
	baz=332,SNR=42						
PMR				S	**Sn**	**07 49 24.6**	**-1.1**
	baz=332						
PMR	**Palmer**	**1.75**	**150**		**Pn**	**07 49 01.2**	**-0.5**
PMR					**Sn**	**07 49 24.8**	**-1.0**
PMR	**Palmer**	**1.75**	**150**	IAML		07 49 32.4	
	comp=E,308nm,0.6s						
PMR				IAML		07 49 34.2	
	comp=N,202nm,0.7s						
SML	**Sawmill**	**1.79**	**136**	P	**Pn**	**07 49 01.8**	**-0.5**
	baz=318,SNR=31						
SML				S	**Sn**	**07 49 25.9**	**-0.9**
	baz=318						
SML	**Sawmill**	**1.79**	**136**		**Pn**	**07 49 01.8**	**-0.5**
WRH	**Wood River Hil**	**1.87**	**42**		**Pn**	**07 49 03.0**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.89**	**196**		**Pn**	**07 49 03.6**	**+0.1**
SPCG					**Sn**	**07 49 28.4**	**-0.6**
MLY	**Manley**	**1.93**	**3**	P	**Pn**	**07 49 03.7**	**-0.2**
	baz=182,SNR=55						
MLY				S	**Sn**	**07 49 27.7**	**-2.1**
	baz=182						
MLY	**Manley**	**1.93**	**3**		**Pn**	**07 49 03.8**	**-0.2**
MLY	**Manley**	**1.93**	**3**		**Sn**	**07 49 28.3**	**-1.5**
SPCP	**Crater Peak Br**	**1.93**	**197**		**Pn**	**07 49 04.1**	**0.0**
SPBG	**Spurr Blockage**	**1.97**	**200**		**Pn**	**07 49 05.1**	**+0.6**
SPCN	**Chakachatna No**	**1.98**	**197**		**Pn**	**07 49 05.1**	**+0.6**
M19K	**Big River Lodg**	**2.00**	**234**	P	**Pn**	**07 49 04.4**	**-0.3**
	baz=52						
M19K				S	**Sn**	**07 49 30.1**	**-1.0**
	baz=52						
SPU	**Mount Spurr**	**2.00**	**195**		**Pn**	**07 49 04.2**	**-0.5**
SPCR	**Spurr Chakacha**	**2.00**	**198**	P	**Pn**	**07 49 04.6**	**-0.2**
	baz=17						
SPCR				S	**Sn**	**07 49 30.4**	**-0.9**
	baz=17						
SPCR	**Spurr Chakacha**	**2.00**	**198**		**Pn**	**07 49 04.9**	**0.0**
SPCR					**Sn**	**07 49 30.5**	**-0.8**
L19K	**White Mountain**	**2.02**	**244**	P	**Pn**	**07 49 04.9**	**-0.1**
	baz=61,SNR=14						
L19K				S	**Sn**	**07 49 30.5**	**-1.1**
	baz=61						
KNK	**Knik Glacier**	**2.07**	**144**	P	**Pn**	**07 49 05.1**	**-0.4**
	baz=327,SNR=26						
KNK				S	**Sn**	**07 49 31.6**	**-1.0**
	baz=327						
KNK	**Knik Glacier**	**2.07**	**144**		**Pn**	**07 49 05.1**	**-0.4**
KNK	**Knik Glacier**	**2.07**	**144**	IAML		07 49 39.7	
	comp=N,227nm,0.5s						
CCB	**Clear Creek Bu**	**2.08**	**41**		**Pn**	**07 49 05.5**	**-0.1**
RC01	**Rabbit Creek A**	**2.11**	**164**	P	**Pn**	**07 49 05.4**	**-0.6**
	baz=345,SNR=6.3						
RC01				S	**Sn**	**07 49 32.2**	**-1.3**
	baz=345						
RC01	**Rabbit Creek A**	**2.11**	**164**		**Pn**	**07 49 05.5**	**-0.4**
RC01	**Rabbit Creek A**	**2.11**	**164**	IAML		07 49 33.9	
	comp=N,286nm,0.2s						
RC01				IAML		07 49 34.1	
	comp=E,192nm,0.2s						
SCM	**Sheep Creek Mo**	**2.12**	**126**		**Pn**	**07 49 05.5**	**-0.7**
SCM					**Sn**	**07 49 33.3**	**-0.5**
SCM	**Sheep Creek Mo**	**2.12**	**126**	IAML		07 49 34.9	
	comp=N,238nm,0.5s						
I21K	**Tanana**	**2.13**	**348**	P	**Pn**	**07 49 06.1**	**0.0**
	baz=167,SNR=81						
I21K				S	**Sn**	**07 49 32.2**	**-1.6**
	baz=167						
I21K	**Tanana**	**2.13**	**348**		**Pn**	**07 49 06.0**	**-0.1**
I23K	**Minto, Yukon-K**	**2.16**	**18**	P	**Pn**	**07 49 06.7**	**+0.1**
	baz=199,SNR=92						
I23K				S	**Sn**	**07 49 32.6**	**-2.0**
	baz=199						
I23K	**Minto, Yukon-K**	**2.16**	**18**		**Pn**	**07 49 06.7**	**+0.1**
I23K					**Sn**	**07 49 33.3**	**-1.3**
I23K	**Minto, Yukon-K**	**2.16**	**18**	IAML		07 49 34.5	
	comp=N,88nm,0.8s						
HDA	**Harding Lake**	**2.21**	**52**	P	**Pn**	**07 49 07.0**	**-0.2**
	baz=235,SNR=14						
HDA				S	**Sn**	**07 49 34.5**	**-1.2**
	baz=235						
HDA				S	**Sn**	**07 49 34.5**	**-1.2**
	baz=235						
HDA	**Harding Lake**	**2.21**	**52**		**Pn**	**07 49 07.0**	**-0.2**
MDM	**Murphy Dome**	**2.21**	**32**		**Pn**	**07 49 07.1**	**-0.1**
TCOL	**CIGO, UAF Yank**	**2.24**	**36**	P	**Pn**	**07 49 07.4**	**0.0**
	baz=218,SNR=10						
TCOL				S	**Sn**	**07 49 34.3**	**-1.9**
	baz=218						
TCOL	**CIGO, UAF Yank**	**2.24**	**36**		**Pn**	**07 49 07.5**	**0.0**
TCOL				IAML		07 49 37.7	
	comp=N,111nm,0.5s						
TCOL	**CIGO, UAF Yank**	**2.24**	**36**		**Sn**	**07 49 35.3**	**-0.9**
TCOL	**CIGO, UAF Yank**	**2.24**	**36**	IAML		07 49 35.2	
	comp=E,80nm,0.6s						
COLA	**College**	**2.24**	**36**	P	**Pn**	**07 49 07.5**	**0.0**
	baz=218						
COLA				S	**Sn**	**07 49 34.3**	**-1.9**
	baz=218						
COLA	**College**	**2.24**	**36**		**Pn**	**07 49 07.5**	**0.0**
COLA	**College**	**2.24**	**36**	IAML		07 49 35.2	
	comp=E,94nm,0.6s						
COLA				IAML		07 49 37.7	
	comp=E,129nm,0.5s						
TTA	**Tatalina**	**2.31**	**268**	S	**Sn**	**07 49 36.4**	**-1.5**
	baz=84						
TTA	**Tatalina**	**2.31**	**268**		**Pn**	**07 49 08.7**	**+0.2**
TTA					**Sn**	**07 49 36.9**	**-1.1**
TT01	**Tatalina**	**2.32**	**267**		**Pn**	**07 49 08.5**	**0.0**
PS08	**TAPS Pump Stn8**	**2.33**	**50**		**Pn**	**07 49 09.2**	**+0.6**
M24K	**Tolsona, Glenn**	**2.43**	**112**	P	**Pn**	**07 49 10.1**	**+0.1**
	baz=297,SNR=23						
M24K	**Tolsona, Glenn**	**2.43**	**112**		**Pn**	**07 49 10.1**	**+0.1**
M24K	**Tolsona, Glenn**	**2.43**	**112**	IAML		07 49 51.6	
	comp=N,200nm,0.5s						
IL31	**Eielson Array**	**2.45**	**45**		**Pn**	**07 49 10.1**	**-0.1**
ILAR	**Eielson Array**	**2.45**	**45**	P	**Pn**	**07 49 09.7**	**-0.4**
	comp=N,2.5nm,0.3s,baz=227,slow=12,SNR=110						
ILAR				S	**Sn**	**07 49 38.7**	**-2.3**
	comp=N,1.8nm,0.3s,baz=238,slow=15,SNR=3.6						
ILAR	**Eielson Array**	**2.45**	**45**	Pn	**Pn**	**07 49 09.6**	**-0.6**
PAX	**Paxson**	**2.51**	**91**	P	**Pn**	**07 49 11.0**	**+0.1**
	baz=275						
PAX	**Paxson**	**2.51**	**91**		**Pn**	**07 49 11.2**	**+0.2**
PAX					**Sn**	**07 49 41.0**	**-1.3**
POKR	**Poker Plat Res**	**2.54**	**36**	P	**Pn**	**07 49 11.4**	**+0.1**
	baz=218,SNR=7.0						
POKR				S	**Sn**	**07 49 41.2**	**-1.8**
	baz=218						
POKR	**Poker Plat Res**	**2.54**	**36**		**Pn**	**07 49 11.4**	**+0.1**
PWL	**Port Wells**	**2.58**	**150**		**Pn**	**07 49 11.5**	**-0.3**
SLKM	**Skilak Lake**	**2.63**	**172**		**Pn**	**07 49 12.3**	**-0.2**
SLKM					**Sn**	**07 49 43.0**	**-2.1**
DFR	**Drift River**	**2.66**	**199**		**Pn**	**07 49 13.2**	**+0.3**
H21K	**Melozitna Rive**	**2.68**	**343**	P	**Pn**	**07 49 13.0**	**0.0**
	baz=161						
H21K				S	**Sn**	**07 49 43.6**	**-2.5**
	baz=161						
H21K	**Melozitna Rive**	**2.68**	**343**		**Pn**	**07 49 13.1**	**0.0**
O22K	**Cooper Landing**	**2.70**	**167**	P	**Pn**	**07 49 13.0**	**-0.3**
	baz=348						
O22K				S	**Sn**	**07 49 44.6**	**-1.9**
	baz=348						
O22K	**Cooper Landing**	**2.70**	**167**		**Pn**	**07 49 13.2**	**-0.1**
NCT	**North Crescent**	**2.72**	**201**		**Pn**	**07 49 13.6**	**-0.1**
HARP	**HAARP**	**2.77**	**102**	P	**Pn**	**07 49 14.0**	**-0.2**
	baz=287,SNR=14						
HARP	**HAARP**	**2.77**	**102**		**Pn**	**07 49 14.4**	**+0.3**
RSO	**Redoubt South**	**2.79**	**199**		**Pn**	**07 49 15.3**	**+0.7**
PS06	**TAPS Pump Stn6**	**2.81**	**10**		**Pn**	**07 49 14.9**	**+0.3**
PS06					**Sn**	**07 49 48.0**	**-1.0**
RED	**Redoubt Volcan**	**2.83**	**198**		**Pn**	**07 49 15.5**	**+0.4**
N19K	**Bonanza Creek**	**2.84**	**217**	P	**Pn**	**07 49 15.1**	**0.0**
	baz=35						
N19K				S	**Sn**	**07 49 45.6**	**-4.2**
	baz=35						
N19K	**Bonanza Creek**	**2.84**	**217**		**Pn**	**07 49 15.3**	**+0.1**
KLU	**Klutina**	**2.86**	**122**	P	**Pn**	**07 49 14.3**	**-1.0**
	baz=307						
KLU				S	**Sn**	**07 49 48.7**	**-1.6**
	baz=307						
KLU	**Klutina**	**2.86**	**122**		**Pn**	**07 49 14.6**	**-0.8**
KLU	**Klutina**	**2.86**	**122**	IAML		07 50 00.5	
	comp=N,123nm,0.5s						
KLU				IAML		07 50 04.6	
	comp=E,120nm,0.7s						
GLI	**Glacier Island**	**2.89**	**139**	P	**Pn**	**07 49 14.8**	**-0.8**
	baz=323						
GLI				S	**Sn**	**07 49 50.0**	**-0.8**
	baz=323						
GLI	**Glacier Island**	**2.89**	**139**		**Pn**	**07 49 14.9**	**-0.8**
SVW2	**Sparrevohn**	**2.96**	**229**		**Pn**	**07 49 16.7**	**0.0**
H24K	**Noodor Dome**	**3.05**	**25**	P	**Pn**	**07 49 17.6**	**-0.1**
	baz=207,SNR=20						
H24K				S	**Sn**	**07 49 52.6**	**-1.8**
	baz=207						
H24K	**Noodor Dome**	**3.05**	**25**		**Pn**	**07 49 17.6**	**-0.1**
SEW	**Seward**	**3.10**	**166**	P	**Pn**	**07 49 17.8**	**-0.6**
	baz=348,SNR=9.1						
SEW				S	**Sn**	**07 49 52.9**	**-2.7**
	baz=348						
SEW	**Seward**	**3.10**	**166**		**Pn**	**07 49 17.9**	**-0.4**
O20K	**Slope Mountain**	**3.14**	**195**	S	**Sn**	**07 49 56.6**	**-0.1**
	baz=14						
DIV	**Divide**	**3.15**	**127**		**Pn**	**07 49 17.8**	**-1.3**
DOT	**Dot Lake**	**3.15**	**77**		**Pn**	**07 49 18.6**	**-0.4**
PS12	**TAPS Pump St12**	**3.17**	**118**		**Pn**	**07 49 18.7**	**-0.6**
FID	**Port Fidalgo**	**3.18**	**136**		**Pn**	**07 49 18.5**	**-0.9**
SCRK	**Sand Creek**	**3.24**	**71**	P	**Pn**	**07 49 20.0**	**-0.3**
	baz=257,SNR=21						
SCRK	**Sand Creek**	**3.24**	**71**		**Pn**	**07 49 20.0**	**-0.3**
SCRK	**Sand Creek**	**3.24**	**71**	IAML		07 50 03.6	
	comp=E,31nm,0.5s						
MENT	**Mentasta**	**3.31**	**90**		**Pn**	**07 49 20.7**	**-0.4**
MENT				IAML		07 50 13.6	
	comp=E,79nm,0.5s						
MENT				IAML		07 50 24.4	
	comp=N,54nm,0.5s						
N25K	**Chitina, Valde**	**3.33**	**114**	P	**Pn**	**07 49 21.0**	**-0.4**
	baz=300,SNR=8.3						
N25K	**Chitina, Valde**	**3.33**	**114**		**Pn**	**07 49 21.2**	**-0.2**
N25K	**Chitina, Valde**	**3.33**	**114**	IAML		07 50 01.9	
	comp=E,52nm,0.5s						
N25K				IAML		07 50 02.6	
	comp=N,65nm,0.6s						
BRLK	**Bradley Lake**	**3.36**	**179**		**Pn**	**07 49 21.8**	**0.0**
BRLK	**Bradley Lake**	**3.36**	**179**	IAML		07 50 01.9	
	comp=N,98nm,0.6s						
BRLK				IAML		07 51 42.1	
	comp=E,61nm,0.0s						
N18K	**Kilae Creek**	**3.37**	**226**	P	**Pn**	**07 49 21.8**	**-0.1**
	baz=42						
BRSE	**Bradley Lake S**	**3.38**	**178**	P	**Pn**	**07 49 21.8**	**-0.2**
	baz=359						
BRSE	**Bradley Lake S**	**3.38**	**178**		**Pn**	**07 49 21.8**	**-0.2**
PRP	**Porcupine Dome**	**3.38**	**42**	P	**Pn**	**07 49 22.0**	**-0.1**
	baz=226						
PRP	**Porcupine Dome**	**3.38**	**42**		**Pn**	**07 49 22.0**	**-0.1**
HIN	**Hinchinbrook I**	**3.45**	**140**		**Pn**	**07 49 22.5**	**-0.5**
HIN	**Hinchinbrook I**	**3.45**	**140**	IAML		07 50 24.6	
	comp=E,99nm,1.0s						
HIN				IAML		07 50 25.4	
	comp=N,79nm,0.8s						
HOM	**Homer**	**3.48**	**186**	P	**Pn**	**07 49 23.7**	**+0.4**
	baz=5.5						
EYAK	**Cordova Ski Ar**	**3.56**	**134**	P	**Pn**	**07 49 23.7**	**-0.7**
	baz=318						
EYAK	**Cordova Ski Ar**	**3.56**	**134**		**Pn**	**07 49 24.1**	**-0.2**
CNPM	**China Poot**	**3.60**	**182**		**Pn**	**07 49 24.9**	**0.0**
BMRM	**Bremner River**	**3.69**	**123**	P	**Pn**	**07 49 24.9**	**-1.2**
	baz=308						
BMRM	**Bremner River**	**3.69**	**123**		**Pn**	**07 49 25.3**	**-0.7**
BMRM	**Bremner River**	**3.69**	**123**	IAML		07 50 28.2	
	comp=E,66nm,0.6s						
BMRM				IAML		07 50 28.3	
	comp=N,60nm,0.6s						
GLB	**Gilahina Butte**	**3.74**	**113**		**Pn**	**07 49 26.5**	**-0.2**
GLB	**Gilahina Butte**	**3.74**	**113**	IAML		07 50 09.0	
	comp=E,62nm,0.3s						
GLB				IAML		07 50 11.3	
	comp=N,54nm,0.7s						
VRDI	**Verde Repeater**	**4.00**	**115**		**Pn**	**07 49 29.6**	**-0.7**
VRDI	**Verde Repeater**	**4.00**	**115**	IAML		07 50 18.0	
	comp=E,24nm,0.7s						
VRDI				IAML		07 50 19.5	
	comp=N,27nm,0.9s						
K27K	**Chicken**	**4.08**	**73**	P	**Pn**	**07 49 30.8**	**-0.3**
	baz=261						
K27K	**Chicken**	**4.08**	**73**		**Pn**	**07 49 31.0**	**-0.1**
K27K				IAML		07 50 23.8	
	comp=N,43nm,0.5s						
MCARA	**McCarthy VSAT**	**4.10**	**111**	P	**Pn**	**07 49 31.4**	**+0.1**
	baz=298						
MCARA	**McCarthy VSAT**	**4.10**	**111**		**Pn**	**07 49 31.1**	**-0.3**
MCARA	**McCarthy VSAT**	**4.10**	**111**	IAML		07 50 47.8	
	comp=E,56nm,0.7s						
MCARA				IAML		07 50 51.4	
	comp=N,47nm,0.8s						
COLD	**Coldfoot**	**4.15**	**4**	P	**Pn**	**07 49 32.3**	**+0.3**
	baz=184,SNR=11						
COLD	**Coldfoot**	**4.15**	**4**		**Pn**	**07 49 32.4**	**+0.3**
L27K	**Beaver Creek,**	**4.15**	**87**	P	**Pn**	**07 49 31.5**	**-0.7**
	baz=275,SNR=17						
L27K	**Beaver Creek,**	**4.15**	**87**		**Pn**	**07 49 31.4**	**-0.7**
BC03		**4.17**	**87**		**Pn**	**07 49 31.8**	**-0.6**
BCAR	**Beaver Creek A**	**4.17**	**87**	Pn	**Pn**	**07 49 31.8**	**-0.6**
HMT	**Hamilton**	**4.23**	**128**	Pn	**Pn**	**07 49 33.4**	**+0.2**
FYU	**Fort Yukon**	**4.25**	**33**	Pn	**Pn**	**07 49 33.1**	**-0.2**
FYU				IAML		07 51 49.1	
	comp=N,14nm,3.9s					

CTGM	**Chitina Glacie**	**5.02 111**	IAML			07 51 10.0	
	comp=N,15nm,1.2s						
CTGM			IAML			07 52 45.5	
	comp=E,9.7nm,1.2s						
MESA	**MESA**	**5.21 120**	P		**Pn**	**07 49 45.6**	**-0.6**
	baz=308						
MESA	**MESA**	**5.21 120**			**Pn**	**07 49 45.9**	**-0.3**
DAWY	**Dawson**	**5.26 74**			**Pn**	**07 49 46.4**	**-0.3**
DAWY	**Dawson**	**5.26 74**	IAML			07 51 07.1	
	comp=E,6.7nm,0.8s						
KABU	**Katmai Buttres**	**5.30 206**			**Pn**	**07 49 48.0**	**+0.6**
KDAK	**Kodiak Island**	**5.40 189**	P		**Pn**	**07 49 46.3**	**-2.4**
	comp=E,0.4nm,0.3s,baz=59,slow=9.5,SNR=24						
KDAK			S		**Sn**	**07 50 45.2**	**-4.7**
	comp=E,2.6nm,0.3s,baz=322,slow=19,SNR=16						
KDAK	**Kodiak Island**	**5.40 189**	P		**Pn**	**07 49 46.4**	**-2.4**
	baz=8.1						
TOLK	**Toolik Lake Re**	**5.58 5**	P		**Pn**	**07 49 52.6**	**+1.5**
	baz=186,SNR=6.6						
TOLK	**Toolik Lake Re**	**5.58 5**			**Pn**	**07 49 52.3**	**+1.2**
PCA	**Pinnacle**	**5.93 116**			**Pn**	**07 49 56.0**	**+0.1**
PINM	**Pinnacle**	**5.94 116**	P		**Pn**	**07 49 55.1**	**-0.8**
	baz=305,SNR=7.7						
OHAK	**Old Harbor**	**6.02 192**	P		**Pn**	**07 49 54.9**	**-2.0**
	baz=10						
BCPM	**Bancas Point**	**6.27 115**			**Pn**	**07 50 00.3**	**0.0**
PNL	**Peninsula**	**6.54 117**			**Pn**	**07 50 03.5**	**-0.4**
YKA	**Yellowknife Ar**	**16.50 76**	P		**P**	**07 52 15.2**	**+2.0**
	comp=E,0.1nm,0.3s,baz=284,slow=16,SNR=1.1						
TXAR	**Lajitas Array**	**45.30 115**	P		**P**	**07 56 36.0**	**+2.2**
	comp=E,0.0nm,0.3s,baz=316,slow=7.6,SNR=1.2						
MKAR	**Makanchi Array**	**62.60 322**	P		**P**	**07 58 38.4**	**-0.5**
	comp=E,0.3nm,0.5s,baz=40,slow=7.1,SNR=5.3						
AKASG	**Malin Array Be**	**66.53 360**	P		**P**	**07 59 04.4**	**0.0**
	comp=E,0.4nm,0.3s,baz=7.2,slow=6.8,SNR=5.1						
ESDC	**Sonseca Array**	**74.22 26**	P		**P**	**07 59 51.4**	**+0.1**
	comp=E,0.4nm,0.4s,baz=353,slow=3.0,SNR=3.2						

*ANF **01** 08:01:31.3±0.1, 33.°17N×115.°62W, h15km, ML2.9/20,*
Error ellipse: s-maj=1.6km s-min=1.1km az=120.0
*SCEDC **01** 08:01:31.7, 33.°18N×115.°61W, h2km*
*MEX **01** 08:01:34.2±0.3, 33.°07N×115.°62W, h3km, MD3.5*
ISC 01 08:01:31.1±1.1, 33.°14N±0.°03×115.°60W±0.°03,
h15km±10km, n23, σ0.9s36/37, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.26**	**220**	P	**Pb**	**08 01 37.5**	**0.0**
	baz=34,SNR=356						
SWSC				S	**Sb**	**08 01 41.3**	**-0.4**
	baz=34						
BC3	**Big Chuckawall**	**0.53**	**14**	P	**Pg**	**08 01 41.4**	**-0.1**
	baz=196						
BC3				S	**Sg**	**08 01 48.8**	**+0.2**
	baz=196						
IKP	**In-Ko-Pah, Jac**	**0.65**	**221**	P	**Pb**	**08 01 44.5**	**+0.3**
	baz=38,SNR=88						
IKP				S	**Sb**	**08 01 53.7**	**+0.5**
	baz=38						
GLA	**Glamis**	**0.66**	**98**	P	**Pb**	**08 01 44.4**	**0.0**
	baz=281,SNR=34						
GLA				S	**Sb**	**08 01 53.6**	**+0.2**
	baz=281						
MONP2	**Monument Peak**	**0.73**	**250**	P	**Pg**	**08 01 45.6**	**+0.2**
	baz=67,SNR=102						
MONP2				S	**Sg**	**08 01 55.7**	**+0.5**
	baz=67						
MBIG	**Mexicali**	**0.81**	**155**	*i* P	**Pn**	**08 01 47.5**	**-0.5**
MBIG				*i* S	**Sb**	**08 01 58.0**	**+0.4**
PFO	**Pinyon Flats O**	**0.85**	**303**	P	**Pg**	**08 01 47.2**	**-0.5**
	baz=121,SNR=107						
PFO				S	**Sg**	**08 01 59.2**	**+0.2**
	baz=121						
BELC	**Belle Mtn. Jos**	**0.92**	**339**	P	**Pg**	**08 01 48.1**	**-0.7**
	baz=159						
BELC				S	**Sg**	**08 02 00.9**	**-0.1**
	baz=159						
IRM	**Iron Mountain**	**1.08**	**21**	P	**Pg**	**08 01 51.4**	**-0.6**
	baz=202,SNR=57						
IRM				Sg	**Sn**	**08 02 07.3**	**+0.8**
	baz=202						
TJIG	**Tijuana**	**1.15**	**232**	*e*P	**Pb**	**08 01 52.6**	**-0.1**
TJIG				*e*S	**Sb**	**08 02 06.9**	**-0.5**
109C	**Camp Elliot, M**	**1.29**	**259**	P	**Pn**	**08 01 54.3**	**-0.3**
	baz=77,SNR=25						
109C				S	**Sb**	**08 02 11.5**	**+0.1**
	baz=77						
MURC	**Murrieta**	**1.41**	**289**	P	**Pn**	**08 01 56.2**	**-0.1**
	baz=107,SNR=29						
MURC				Sg	**Sg**	**08 02 16.9**	**+0.3**
	baz=107						
BBRC	**Big Bear Solar**	**1.56**	**316**	P	**Pn**	**08 01 58.5**	**-0.2**
	baz=135,SNR=14						
BBRC				S	**Sn**	**08 02 18.2**	**-0.6**
	baz=135						
GMRC	**Granite Mounta**	**1.64**	**358**	Pg	**Pg**	**08 02 02.7**	**+0.1**
	baz=179						
HEC	**Hector,Ludlow**	**1.79**	**340**	Pg	**Pg**	**08 02 05.5**	**+0.1**
	baz=160						
BFSC	**Mount Baldy Ra**	**2.03**	**303**	P	**Pn**	**08 02 05.3**	**+0.4**
	baz=121						
TUQ	**Turquoise Moun**	**2.30**	**353**	Pg	**Pg**	**08 02 15.3**	**+0.1**
	baz=173						
GSC	**Goldstone, Bar**	**2.37**	**335**	Pg	**Pg**	**08 02 16.5**	**-0.1**
	baz=155						
EDW2	**Edwards Air Fo**	**2.63**	**312**	P	**Pn**	**08 02 13.2**	**0.0**
	baz=130						
214A	**Organ Pipe Nat**	**2.64**	**116**	P	**Pn**	**08 02 13.2**	**0.0**
	baz=298						
214A	**Organ Pipe Nat**	**2.64**	**116**	*i* P	**Pn**	**08 02 13.3**	**0.0**
214A				*i* S	**Sn**	**08 02 44.6**	**-0.4**
SHOC	**Shoshone, Teco**	**2.80**	**349**	Pg	**Pg**	**08 02 25.0**	**+0.1**
	baz=168						
ARVC	**Arvin**	**3.33**	**307**	Pg	**Pg**	**08 02 34.8**	**-0.1**
	baz=125						

*IDC **01** 08:17:12.2±1.1, 21.°09S×68.°38W, h114km±14km, mb3.8/4,*
mb1 3.7/7, mb1mx3.4/26, mbtmp4.1/7, Error ellipse:
s-maj=39.6km s-min=14.0km az=109.0
*GUC **01** 08:17:12.5±0.6, 21.°09S×68.°74W, h120km±3km, ML3.8*
*VAO **01** 08:17:20.4±0.3, 20.°83S×68.°20W, h169km, mb4.1*
ISC 01 08:17:12.1±0.6, 21.°03S±0.°03×68.°69W±0.°06, h121km±7km,
n65, σ1.9s45/84, mb4.0/3, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.74**	**269**	⇑*e*P	**Pn**	**08 17 31.2**	**-0.7**
PB01				*i* S	**Sn**	**08 17 45.5**	**-1.5**
PB08	**IPOC Station P**	**0.99**	**334**	⇑*e*P	**Pn**	**08 17 34.9**	**+0.4**
PB08				*e*S	**Sn**	**08 17 52.0**	**+0.6**
PB08				IAML		08 17 53.6	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.31**	**238**	⇑*e*P	**Pn**	**08 17 36.8**	**-0.8**
PB07				*e*S	**Sn**	**08 17 55.3**	**-1.7**
PB07				IAML		08 17 58.8	
	comp=E,2μm,0.4s						
PB03	**IPOC Station P**	**1.42**	**224**	⇑*e*P	**Pn**	**08 17 38.0**	**-0.8**
PB03				*e*S	**Sn**	**08 17 56.9**	**-2.1**
PB03				IAML		08 17 58.9	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**1.47**	**288**	*e*P	**Pn**	**08 17 38.3**	**-0.8**
TA01				*e*S	**Sn**	**08 17 58.6**	**-1.2**
TA01				IAML		08 17 59.4	
	comp=E,2μm,0.4s						
TA02	**Huaiquique**	**1.55**	**299**	⇓*i*P	**Pn**	**08 17 39.5**	**-0.5**
TA02				*i* S	**Sn**	**08 18 00.3**	**-1.1**
PB11	**IPOC Station P**	**1.56**	**324**	⇑*e*P	**Pn**	**08 17 40.1**	**-0.3**
PB11				*e*S	**Sn**	**08 18 01.6**	**-0.3**
LVC	**Limon Verde**	**1.58**	**187**	P	**Pn**	**08 17 40.5**	**-0.4**
	comp=E,19nm,0.3s,baz=39,slow=15,SNR=494						
LVC				S	**Sn**	**08 18 02.4**	**-0.4**
	comp=E,67nm,0.3s,baz=98,slow=22,SNR=41						
LVC	**Limon Verde**	**1.58**	**187**	*e*P	**Pn**	**08 17 40.5**	**-0.4**
LVC				*e*S	**Sn**	**08 18 02.1**	**-0.8**
PB06	**IPOC Station P**	**1.86**	**206**	⇑*e*P	**Pn**	**08 17 43.4**	**-0.6**
PB06				*e*S	**Sn**	**08 18 06.8**	**-1.5**
PB06				IAML		08 18 08.3	
	comp=E,1μm,0.7s						
PB04	**IPOC Station P**	**1.88**	**226**	*e*P	**Pn**	**08 17 43.1**	**-1.1**
PB04				*e*S	**Sn**	**08 18 06.4**	**-2.3**
PB04				IAML		08 18 08.5	
	comp=E,1μm,0.5s						

PSGC	**Pisagua**	**1.96**	**316**	⇑*e*P	**Pn**	**08 17 44.2**	**-0.9**
PSGC				*e*S	**Sn**	**08 18 08.9**	**-1.6**
PSGC				IAML		08 18 15.7	
	comp=E,785nm,0.4s						
MNMC	**Minye Minye**	**2.07**	**336**	*e*P	**Pn**	**08 17 47.0**	**+0.2**
MNMC				*e*S	**Sn**	**08 18 14.2**	**+1.0**
PB15	**IPOC Station P**	**2.28**	**198**	*e*P	**Pn**	**08 17 48.8**	**-0.6**
PB15				*e*S	**Sn**	**08 18 17.0**	**-1.0**
PB05	**IPOC Station P**	**2.29**	**217**	*e*P	**Pn**	**08 17 48.0**	**-1.4**
PB05				*e*S	**Sn**	**08 18 15.3**	**-2.7**
PB05				IAML		08 18 17.4	
	comp=E,720nm,0.3s						
GO02	**Mina Guanaco**	**4.19**	**191**	⇑*e*P	**Pn**	**08 18 13.1**	**-1.5**
GO02				*e*S	**Sn**	**08 19 00.2**	**-2.7**
LPAZ	**La Paz**	**4.75**	**7**	P	**Pn**	**08 18 23.6**	**+1.3**
	comp=E,1.7nm,0.3s,baz=192,slow=3.1,SNR=85						
LPAZ				S	**Sn**	**08 19 14.5**	**-2.2**
	comp=E,0.3nm,0.3s,baz=192,slow=20,SNR=1.7						
SIV	**San Ignacio**	**8.79**	**57**	P	**Pn**	**08 19 14.0**	**-2.4**
	comp=E,2.1nm,0.3s,baz=258,slow=10,SNR=52						
SIV				S	**Sn**	**08 20 47.5**	**-6.3**
	comp=E,0.0nm,0.3s,baz=318,slow=16,SNR=5.0						
ETMB	**Extrema**	**11.40**	**12**	*e*P	**Pn**	**08 19 55.1**	**+3.7**
VILB	**Vilhena**	**11.42**	**47**	*e*P	**Pn**	**08 19 53.3**	**+1.6**
AQDB	**Aquidauana**	**12.17**	**90**	*e*P	**Pn**	**08 20 02.9**	**+1.4**
SALV	**Santo Antonio**	**13.34**	**70**	*e*P	**Pn**	**08 20 16.8**	**0.0**
PP1B	**Ponte de Pedra**	**13.48**	**78**	*e*P	**Pn**	**08 20 19.2**	**+0.6**
CZSB	**Cruzeiro do Su**	**13.78**	**343**	*e*P	**P**	**08 20 28.1**	**+1.2**
ITQB	**Itaqui**	**13.88**	**131**	*e*P	**P**	**08 20 27.6**	**-0.3**
TRCB	**Terra Rica**	**15.01**	**100**	*e*P	**Pn**	**08 20 39.8**	**+1.7**
CLDB	**Colider**	**15.98**	**53**	*e*P	**Pn**	**08 20 50.4**	**+0.2**
PCMB	**Pacaembu**	**16.25**	**95**	*e*P	**Pn**	**08 20 54.1**	**+0.6**
ITAB	**Concordia**	**16.32**	**115**	*e*P	**P**	**08 20 55.9**	**+0.9**
ARAG	**Araguaiana, MT**	**16.87**	**75**	*e*P	**P**	**08 21 01.4**	**+0.3**
ITRB	**Iturama**	**17.24**	**89**	*e*P	**P**	**08 21 04.8**	**-0.5**
FRTB	**Fartura**	**17.86**	**101**	*e*P	**P**	**08 21 12.3**	**+0.2**
TRQA	**Tornquist**	**17.93**	**163**	*e*P	**Pn**	**08 21 18.2**	**+4.5**
TIJ01	**Guaruva-PR**	**18.59**	**107**	*e*P	**P**	**08 21 20.2**	**+0.1**
BB19B	**Bebedouro**	**18.82**	**94**	*e*P	**P**	**08 21 22.1**	**-0.5**
SNDB	**Serra Nova Dou**	**18.94**	**64**	*e*P	**P**	**08 21 22.9**	**-0.9**
NPGB	**Novo Progresso**	**18.97**	**45**	*e*P	**P**	**08 21 23.9**	**-0.3**
IPMB	**Ipameri, GO**	**19.54**	**85**	*e*P	**P**	**08 21 30.5**	**+0.1**
PLCA	**Paso Flores**	**19.70**	**184**	P	**P**	**08 21 32.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=16,slow=11,SNR=6.1						
RCLB	**Rio Claro- Sao**	**19.71**	**98**	*e*P	**P**	**08 21 32.0**	**-0.2**
SPB	**Sao Paulo**	**19.83**	**101**	*e*P	**P**	**08 21 33.8**	**+0.3**
PET01	**Itanhaem-SP**	**20.02**	**103**	*e*P	**P**	**08 21 36.3**	**+0.8**
VAO	**Valinhos**	**20.24**	**100**	*e*P	**P**	**08 21 37.1**	**-0.8**
BDFB	**Brasilia**	**20.34**	**78**	P	**P**	**08 21 37.9**	**-1.2**
	comp=E,2.9nm,0.5s,baz=264,slow=9.7,SNR=6.5						
ITTB	**Itaituba**	**20.81**	**39**	*e*P	**P**	**08 21 42.9**	**-1.1**
PEXB	**Peixe**	**21.44**	**69**	*e*P	**P**	**08 21 50.3**	**-0.6**
PTGA	**Pitinga**	**21.90**	**24**	P	**P**	**08 21 54.1**	**-1.5**
	comp=E,2.9nm,0.4s,baz=202,slow=15,SNR=11						
BSCB	**Bom Sucesso**	**22.32**	**94**	*e*P	**P**	**08 22 00.6**	**+0.5**
VAS01	**Vassouras-RJ**	**23.49**	**98**	*e*P	**P**	**08 22 09.5**	**-1.7**
SMTB	**Santa Maria do**	**23.67**	**62**	*e*P	**P**	**08 22 13.1**	**+0.3**
DIAM	**Diamantina, MG**	**23.71**	**88**	*e*P	**P**	**08 22 13.0**	**-0.3**
JANB	**Januaria**	**23.91**	**80**	*e*P	**P**	**08 22 14.2**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.32**	**73**	*e*P	**P**	**08 22 18.9**	**+0.2**
BOAV	**Boa Vista**	**24.62**	**20**	*e*P	**P**	**08 22 21.7**	**+0.4**
MCPB	**Macapa, AP**	**26.19**	**40**	*e*P	**P**	**08 22 35.5**	**-0.1**
BSFB	**Barra de Sao F**	**26.26**	**90**	*e*P	**P**	**08 22 36.6**	**+0.5**
RIB01	**Linhares ES**	**26.60**	**91**	*e*P	**P**	**08 22 38.2**	**-1.1**
NAN01	**Guarapari, ES**	**27.11**	**88**	*e*P	**P**	**08 22 43.5**	**-0.4**
GUA01	**Guaratinga, BA**	**27.68**	**86**	*e*P	**P**	**08 22 49.6**	**+0.6**
NBPN	**Ponto Novo - B**	**29.16**	**74**	*e*P	**P**	**08 23 02.4**	**+0.2**
NBPS	**Pedro II - PI**	**31.21**	**62**	*e*P	**P**	**08 23 19.5**	**-0.8**
NBPB	**Pedra_Branca-C**	**32.15**	**66**	*e*P	**P**	**08 23 27.8**	**-0.6**
DBIC	**Dimbokro**	**68.41**	**74**	P	**P**	**08 27 59.1**	**-2.1**
	comp=E,3.7nm,0.7s,baz=256,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.01**	**70**	P	**P**	**08 28 51.5**	**-0.6**
	comp=E,2.2nm,0.9s,baz=257,slow=5.4,SNR=9.2						
TORD				pP	**pP**	**08 29 24.5**	**+0.6**
	comp=E,0.4nm,0.5s,baz=258,slow=4.9,SNR=1.3						
MKAR	**Makanchi Array**	**145.14**	**36**	PKPbc	**PKPdf**	**08 36 36.0**	**+0.8**
	comp=E,1.3nm,0.8s,baz=343,slow=3.8,SNR=10						
MKAR				pPKPbc	pPKPbc	08 37 09.4	+0.6
	comp=E,0.6nm,0.8s,baz=283,slow=3.1,SNR=3.9						

*SOME **01** 08:31:11.5, 44.°70N×82.°00E, h10km*
*NNC **01** 08:31:12.6±1.7, 44.°67N×81.°97E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=17.1km s-min=6.0km az=122.0
ISC 01 08:31:11.6±2.4, 44.°69N±0.°05×82.°07E±0.°09, h4km±14km,
n15, σ0.8s88/24, 6C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.67**	**258**	*e*P	**Pg**	**08 31 43.4**	**-0.1**
	1.6nm,0.2s						
DJR				*e*S	**Sg**	**08 32 06.5**	**+1.3**
	1.8nm,0.3s						
DJR	**Jarkent**	**1.67**	**258**	P	**Pg**	**08 31 43.4**	**-0.1**
	1.6nm,0.2s						
DJR				S	**Sg**	**08 32 06.5**	**+1.3**
	1.8nm,0.3s						
KAPS	**Kapalarasan**	**2.01**	**288**	*e*P	**Pb**	**08 31 48.3**	**-0.4**
	0.6nm,0.3s						
KAPS				*e*S	**Sg**	**08 32 14.6**	**-1.6**
	2.3nm,0.3s						
KAPS	**Kapalarasan**	**2.01**	**288**	Pg	**Pb**	**08 31 48.3**	**-0.4**
	0.6nm,0.3s						
KAPS				Lg	Lg	08 32 14.6	
	2.3nm,0.3s						
MAKZ	**Makanchi**	**2.12**	**358**	⇑Pn	**Pb**	**08 31 50.2**	**-0.3**
	3.9nm,0.3s						
MAKZ				⇑Sn	**Sb**	**08 32 18.2**	**+1.0**
	12nm,0.3s						
PDGK	**Podgornoye**	**2.31**	**235**	Pg	**Pb**	**08 31 52.9**	**-0.9**
	5.3nm,0.3s						
PDGK				Lg	Lg	08 32 22.5	
	4.7nm,0.3s						
PDGK	**Podgornoye**	**2.31**	**235**	⇑Pg	**Pb**	**08 31 52.7**	**-1.2**
	5.5nm,0.5s						
PDGK				⇑Lg	Lg	08 32 23.8	
	19nm,0.8s						
SHLS	**Shalkode**	**2.43**	**232**	*e*P	**Pn**	**08 31 52.5**	**+0.3**
	25nm,0.3s						
SHLS				*e*S	**Sn**	**08 32 21.6**	**-0.8**
	48nm,0.4s						
SHLS	**Shalkode**	**2.43**	**232**	Pg	**Pn**	**08 31 52.5**	**+0.3**
	25nm,0.3s						
SHLS				Lg	Lg	08 32 21.6	
	48nm,0.4s						
KPKS	**Kokpek**	**2.73**	**244**	*e*P	**Pb**	**08 32 00.4**	**-0.6**
	26nm,0.2s						
KPKS				*e*S	**Sb**	**08 32 35.5**	**+0.6**
	29nm,0.3s						
ARXS	**Arharly**	**3.07**	**262**	*e*P	**Pb**	**08 32 06.1**	**-0.8**
	9.6nm,0.4s						
ARXS				*e*S	**Sb**	**08 32 45.3**	**+0.5**
	20nm,0.4s						
ARXS	**Arharly**	**3.07**	**262**	Pg	**Pb**	**08 32 06.1**	**-0.8**
	9.6nm,0.4s						
ARXS				Lg	Lg	08 32 45.3	
	20nm,0.4s						
SATY	**Saty**	**3.11**	**240**	*e*P	**Pb**	**08 32 07.1**	**-0.4**
	4.8nm,0.4s						
SATY				*e*S	**Sb**	**08 32 47.4**	**+1.5**
	12nm,0.3s						
SATY	**Saty**	**3.11**	**240**	Pg	**Pb**	**08 32 07.1**	**-0.4**
	4.8nm,0.4s						
SATY				Lg	Lg	08 32 47.4	
	12nm,0.3s						
KURBB	**Kurchatov Arra**	**6.39**	**339**	⇑Pn	**Pn**	**08 32 46.7**	**+0.2**
	0.6nm,0.4s,baz=165,slow=12						
KURBB				⇓Sn	**Sn**	**08 33 59.6**	**-0.4**
	2.2nm,0.6s						
KURBB				⇑Lg	Lg	08 34 35.1	
	3.5nm,0.7s						

*AUST **01** 08:57:30.6±1.2, 33.°11S×116.°53E, h93km±14km, Error*
ellipse: s-maj=18.6km s-min=9.4km az=121.0
NOU 01 08:57:32.0, 32.°72S×116.°37E, h0km, MLv2.5, Western Australia, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**0.76**	**106**	P	Pg	08 57 46.5	0.0
	baz=0.6						
NWAO				S	Sb	08 57 59.0	+0.1
	baz=0.6						
KLBR	**Kellerberrin**	**1.63**	**47**	P	Pn	08 58 01.2	-0.7
	baz=1.8						
KLBR				S	Sg	08 58 24.2	-0.1
	baz=1.8						
BLDU	**Ballidu**	**2.12**	**8**	P	Pn	08 58 08.7	0.0
	baz=2.5						
MORW	**Morawa**	**3.65**	**355**	P	Pn	08 58 31.3	+1.5
	baz=4.1						
MEEK	**Meekatharra**	**6.37**	**18**	P	Pn	08 59 06.3	-0.9
	baz=6.7						

IDC 01 09:09:16.0±3.1, 53.°53N×87.°91E, h0km, mb1 3.0/2,
mb1mx2.9/47, mbtmp3.0/2, ML2.8/2, 4C-1D, Error ellipse:
s-maj=28.6km s-min=17.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**284**	*i*		**09 20 40.0**	
	baz=99,slow=310,SNR=0.5						
ZAA0	**Zalesovo Array**	**1.89**	**284**	⇑Pn	Pb	09 09 50.4	-0.9
	0.2nm,0.3s,baz=101,slow=16						
ZAA0				⇑Sn	Sn	09 10 14.7	+0.7
	1.0nm,0.4s,baz=103,slow=25						
ZALV	**Zalesovo Beam**	**1.89**	**284**	Pg	Pn	09 09 50.0	+0.5
	1.1nm,0.3s,baz=100,slow=16,SNR=6.5						
ZALV				Lg	Lg	09 10 15.7	
	2.4nm,0.3s,baz=106,slow=26,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	09 10 53.4	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=6.5						
KURBB				Sn	Sn	09 12 06.5	-0.6
	0.1nm,0.3s,baz=72,slow=22,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.47**	**247**	⇑Pn	Pn	09 10 54.2	+1.7
	0.9nm,0.3s,baz=63,slow=14						
KURBB				⇑Sn	Sn	09 12 06.4	-0.7
	1.5nm,0.7s						
KURBB				⇓Lg	Lg	09 12 40.1	
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	09 11 09.6	+1.0
	0.2nm,0.3s,baz=29,slow=14,SNR=8.8						

*KRNET **01** 09:10:40.0±0.1, 40.°97N×69.°81E, mb2.8*
*SOME **01** 09:10:45.3, 40.°93N×70.°38E, h10km*
*NNC **01** 09:10:49.3±2.9, 41.°16N×70.°46E, h0km, mb3.5, mpv3.0,*
Error ellipse: s-maj=48.1km s-min=17.2km az=139.0
ISC 01 09:10:43.0±1.5, 41.°02N±0.°04×70.°23E±0.°09, h10km, n13,
σ1.9s77/21, 13C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.86**	**53**	⇑*i*P	**Pn**	**09 11 01.3**	**0.0**
	baz=64						
TRKS				⇑*i*S	**Sn**	**09 11 17.9**	**+3.9**
	baz=64						
BTK	**Batken**	**1.06**	**155**	⇑*i*P	**Pg**	**09 11 02.7**	**-0.6**
	baz=39						
BTK				⇑*i*S	**Sn**	**09 11 19.4**	**+0.6**
	baz=39						
OHH	**Osh**	**2.00**	**103**	⇑*i*P	**Pg**	**09 11 21.4**	**0.0**
	baz=0.0						
OHH				⇑*i*S	**Sg**	**09 11 50.8**	**+3.4**
	baz=0.0						
GAR	**Garm**	**2.02**	**178**	⇑*i*P	**Pn**	**09 11 17.2**	**0.0**
	baz=69						
GAR				⇑*i*S	**Sb**	**09 11 44.2**	**-0.8**
	baz=69						
MNAS	**Manas**	**2.25**	**48**	⇑*i*P	**Pb**	**09 11 24.2**	**+0.4**
	baz=52						
MNAS				⇑*i*S	**Sg**	**09 11 56.7**	**+1.5**
	baz=52						
MRKS	**Merke**	**2.83**	**51**	*e*P	**Pg**	**09 11 37.3**	**+0.2**
	4.5nm,0.4s						
MRKS				*e*S	**Sg**	**09 12 12.0**	**-1.7**
	5.1nm,0.6s						
MRKS	**Merke**	**2.83**	**51**	Lg	Lg	09 12 12.0	
	5.1nm,0.6s						
AML	**Almayashu**	**2.83**	**66**	⇑*e*P	**Pb**	**09 11 33.1**	**-0.7**
	baz=67						
AML				⇑*i*S	**Sg**	**09 12 12.0**	**-1.9**
	baz=67						
SGDS	**Sogindy**	**4.07**	**52**	Pg	**Pg**	**09 11 59.8**	**-1.2**
	2.4nm,1.0s						
SGDS				Lg	Lg	09 12 51.3	
	3.4nm,0.7s						
TKM2	**Tokmak 2**	**4.43**	**63**	⇑Pg	**Pg**	**09 12 05.5**	**-2.3**
	2.9nm,0.9s						
TKM2				⇓Lg	Lg	09 13 04.4	
	4.7nm,0.7s						
KST	**Kastek**	**4.73**	**63**	*e*P	**Pg**	**09 12 12.0**	**-1.5**
	2.8nm,0.7s						
KST				*e*S	**Sg**	**09 13 12.1**	**-2.6**
	2.6nm,0.7s						
KST	**Kastek**	**4.73**	**63**	Pg	**Pg**	**09 12 12.0**	**-1.5**
	4.8nm,1.1s						
KST				Lg	Lg	09 13 12.1	
	2.6nm,0.7s						
BTLS	**Baital**	**4.90**	**34**	*e*P	**Pg**	**09 12 17.0**	**+0.2**
	1.1nm,0.3s						
BTLS				*e*S	**Sg**	**09 13 20.6**	**+0.5**
	5.3nm,0.4s						

NEIC 01 09:12:46.3±0.9, 37.°16N±0.°02×98.°02W±0.°02, h11km±1km,
Error ellipse: s-maj=2.2km s-min=2.1km az=45.0,
Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	**Anthony SW S

P40A	Paris	5.26	61	IAmb_Lg		09 15 33.2
	comp=Z,8.5nm,1.2s					
HBAR	Harrisburg	6.16	103	Pn	Pn	09 14 17.8 +0.5
WCI	Wyandotte Cave	9.36	80	IAmb_Lg		09 17 59.1
	comp=Z,3.5nm,0.9s					

*IDC **01** 09:20:24.8±1.0,29°.86N×143°.93E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.5/42,mbtmp3.6/7,Error ellipse: s-maj=44.8km s-min=22.6km az=109.0*

ISC 01 09:20:30.0±1.0,29°.9N±0°.2×143°.9E±0°.3,h35km,n7, σ0°35/7,mb3.6/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	Seymchan	33.54	7	P	P	09 27 06.4	+0.3
	0.6nm,0.5s,baz=167,slow=11,SNR=1.6						
MKAR	Makanchi Array	49.93	308	P	P	09 29 20.0	-0.2
	0.2nm,0.6s,baz=81,slow=8.9,SNR=2.6						
WRA	Warramunga Arr	50.36	192	P	P	09 29 23.6	0.0
	0.7nm,0.8s,baz=14,slow=8.3,SNR=3.3						
KDAK	Kodiak Island	51.26	38	P	P	09 29 29.6	-0.5
	1.8nm,0.7s,baz=285,slow=12,SNR=1.6						
ASAR	Alice Springs	54.08	191	P	P	09 29 51.5	+0.2
	0.2nm,0.7s,baz=2.1,slow=5.0,SNR=4.8						
ILAR	Eielson Array	54.58	29	P	P	09 29 54.6	+0.2
	0.5nm,0.8s,baz=262,slow=6.1,SNR=4.7						
NVAR	Mina Array Bea	77.64	53	P	P	09 32 23.1	-0.1
	0.3nm,0.6s,baz=292,slow=4.8,SNR=4.7						

IDC 01 09:20:39.9±6.2,31°.06S×178°.56W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/27,mbtmp3.5/2,MS3.9/1,Ms1 3.9/1, ms1mx2.9/22,Error ellipse: s-maj=245.9km s-min=58.9km az=156.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.44	281	LR	LR	09 38 51.6	
	comp=Z,182nm,18.6s,baz=208,slow=33						
ASAR	Alice Springs	42.60	268	P	P	09 28 37.8	-0.3
	0.3nm,0.7s,baz=104,slow=7.4,SNR=6.9						
WRA	Warramunga Arr	43.65	273	P	P	09 28 46.5	0.0
	0.6nm,0.5s,baz=114,slow=7.8,SNR=13						
FINES	FINESS Array B	145.60	339	PKPbc	PKPdf	09 40 18.7	-0.7
	0.5nm,0.5s,baz=57,slow=5.1,SNR=4.9						

*IDC **01** 09:49:28.0±1.4,27°.91N×85°.18E,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.6/54,mbtmp3.7/10,ML3.8/1,Error ellipse: s-maj=44.8km s-min=21.9km az=55.0*

ISC 01 09:49:29.9±1.5,27°.9N±0°.2×85°.2E±0°.2,h12km,n10, σ1°01/10,mb3.8/9,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.96	354	P	Pn	09 53 51.6	-0.1
	0.3nm,0.3s,baz=173,slow=11,SNR=15						
KURBB	Kurchatov Arra	23.22	349	P	P	09 54 37.1	+0.4
	0.2nm,0.3s,baz=161,slow=15,SNR=1.7						
SONM	Songino Array	25.82	34	P	P	09 55 02.4	+1.3
	1.4nm,0.6s,baz=176,slow=4.3,SNR=3.1						
MJAR	Matsushiro Arr	45.16	65	P	P	09 57 45.1	-1.6
	0.9nm,0.5s,baz=283,slow=6.2,SNR=2.2						
FINES	FINESS Array B	51.18	328	P	P	09 58 32.2	-0.6
	0.5nm,0.5s,baz=95,slow=10,SNR=4.4						
HFS	Hagfors	57.05	326	P	P	09 59 15.0	-0.6
	0.5nm,0.4s,baz=82,slow=10,SNR=2.2						
SPITS	Spitsbergen Ar	58.54	347	P	P	09 59 26.1	+0.3
	2.2nm,0.8s,baz=111,slow=11,SNR=5.4						
WRA	Warramunga Arr	67.25	130	P	P	10 00 25.9	+1.3
	1.0nm,1.0s,baz=324,slow=6.3,SNR=2.9						
ASAR	Alice Springs	69.55	133	P	P	10 00 38.5	-0.4
	0.3nm,0.7s,baz=322,slow=6.5,SNR=2.5						
ILAR	Eielson Array	79.16	20	P	P	10 01 34.7	+0.4
	0.3nm,0.5s,baz=309,slow=4.2,SNR=3.1						

IDC 01 09:54:50.7±2.8,54°.46N×86°.73E,h0km,mb1 3.5/2, mb1mx3.1/51,mbtmp3.5/2,ML3.2/2,4C-1D,Error ellipse: s-maj=22.7km s-min=16.4km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	246	*i*		10 02 40.0	
	baz=64,slow=308,SNR=1.6						
ZAA0	Zalesovo Array	1.23	246	⇑P	Pg	09 55 12.3	-2.0
	0.8nm,0.6s,baz=56,slow=16						
ZAA0				⇓S	Sg	09 55 30.7	+0.5
	9.7nm,0.9s,baz=56,slow=25						
ZALV	Zalesovo Beam	1.23	246	Pg	Pg	09 55 12.8	-1.5
	2.4nm,0.3s,baz=65,slow=17,SNR=3.8						
ZALV				Lg	Lg	09 55 30.9	
	2.3nm,0.3s,baz=66,slow=23,SNR=7.4						
KURBB	Kurchatov Arra	6.30	236	Pn	Pn	09 56 25.8	+1.0
	0.2nm,0.3s,baz=54,slow=14,SNR=20						
KURBB				Sn	Sn	09 57 36.0	-1.5
	0.0nm,0.3s,baz=43,slow=18,SNR=1.8						
KURBB				Lg	Lg	09 58 11.2	
	0.1nm,0.3s,baz=47,slow=28,SNR=3.1						
KURBB	Kurchatov Arra	6.30	236	⇑Pn	Pn	09 56 22.5	-2.4
	3.2nm,0.6s,baz=54,slow=14						
KURBB				⇑Sn	Sn	09 57 38.8	+1.4
	7.0nm,0.8s						
KURBB				⇑Lg	Lg	09 58 12.5	
	19nm,0.8s						
MKAR	Makanchi Array	8.18	202	Pn	Pn	09 56 51.4	+0.8
	0.8nm,0.3s,baz=24,slow=13,SNR=27						
MKAR				Sn	Sn	09 58 23.8	+0.2
	0.2nm,0.3s,baz=24,slow=27,SNR=5.9						
MKAR				Lg	Lg	09 59 08.6	
	0.0nm,0.3s,baz=20,slow=31,SNR=2.9						

*REY **01** 10:02:08.8,63°.75N×23°.27W,h8km*
*IDC **01** 10:02:10.0±0.7,63°.89N×23°.20W,h0km,mb3.6/11, mb1 3.9/13,mb1mx3.6/49,mbtmp3.6/13,ML3.6/2,MS3.7/28, Ms1 3.7/28,ms1mx3.6/48,Error ellipse: s-maj=16.9km s-min=11.3km az=150.0*

ISC 01 10:02:11.9±0.9,63°.86N±0°.05×22°.86W±0°.04,h16km±5km, n56,σ1°46/45,mb3.7/12,MS3.6/23,Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	Reykjanes	0.08	124	S	Sg	10 02 18.0	+0.9
	baz=75						
IRNE				P	Pg	10 02 13.8	-1.2
	baz=75						
INYL	Nylenda	0.12	24	P	Pb	10 02 15.1	-0.8
	baz=46						
INYL				S	Sg	10 02 20.2	+2.2
	baz=46						
IGRV	Grindav??k	0.18	91	P	Pg	10 02 15.6	-0.6
	baz=73						
IKRI	Krysuvik	0.34	87	P	Pg	10 02 18.4	-0.7
	baz=76						
IKRI				S	Sb	10 02 25.9	+0.9
	baz=76						
IKAS	Kald??rsel	0.47	69	P	Pg	10 02 20.6	-0.8
	baz=66						
IKAS				S	Sn	10 02 30.8	-1.2
	baz=66						
IVOS	Vogsosar	0.51	90	P	Pg	10 02 22.1	+0.1
	baz=81						
IVOS				S	Sn	10 02 32.1	-0.8
	baz=81						
ISAN	Sandskeio	0.60	70	P	Pg	10 02 22.5	-1.2
	baz=67						
IKUD	Kuludalsa	0.63	43	P	Pg	10 02 23.2	-1.1
	baz=46						
IKUD				S	Sn	10 02 34.8	-1.2
	baz=46						
IBJA	Bjarnastaoir	0.69	82	P	Pb	10 02 24.1	-1.5
	baz=76						
IHEI	Heioarbar	0.79	64	P	Pb	10 02 25.4	-1.8
	baz=62						
IKRO	Krokur	0.80	72	P	Pb	10 02 26.0	-1.5
	baz=69						
ISOL	Solvholt	0.85	85	P	Pb	10 02 26.3	-1.9
	baz=79						
ISOL				S	Sn	10 02 40.5	-0.8
	baz=79						
IASM	Asmuli	0.99	91	P	Pb	10 02 28.5	-2.2
	baz=85						
IASM				S	Sg	10 02 44.1	0.0
	baz=85						

ISAU	Saurbar	1.09	82	P	Pb	10 02 30.3 -2.0
	baz=78					
BORG	Borgarnes	1.11	36	Pg	Pb	10 02 31.4 -1.3
	363nm,0.3s,baz=221,slow=6.5,SNR=22					
BORG				Lg	Lg	10 02 48.8
	255nm,0.3s,baz=211,slow=14,SNR=23					
IASB	˜sbjarnarst	1.11	36	P	Pb	10 02 30.9 -1.8
	baz=39					
IGYG	Gygjarholskot	1.23	69	P	Pn	10 02 33.5 -1.0
	baz=67					
IHAU	Haukadalur	1.28	84	P	Pn	10 02 33.3 -1.8
	baz=80					
IMJO	Mjoaskard	1.41	86	P	Pn	10 02 35.8 -1.2
	baz=82					
IESK	Eystri-Skogar	1.55	101	P	Pn	10 02 38.2 -0.6
	baz=96					
SCO	Scoresbysund	6.66	3	*e*P	Pn	10 03 53.5 +4.5
SCO				*e*S	Sb	10 05 27.7 +1.2
SUMG	Summit	10.45	333	*e*P	Pn	10 04 50.6 +9.4
SFJD	Kangerlussuaq	11.92	298	LR	LR	10 08 57.9
	comp=Z,828nm,20.2s,baz=84,slow=35					
EKA	Eskdalemuir Ar	13.08	122	Pn	Pn	10 05 18.4 +1.6
	baz=318,slow=14,SNR=2.9					
NOA	NORSAR Array B	15.89	85	LR	LR	10 11 57.3
	comp=Z,92nm,18.6s,baz=290,slow=37					
HFS	Hagfors	17.39	86	LR	LR	10 12 53.7
	comp=Z,107nm,18.6s,baz=286,slow=37					
ARCES	ARCESS Array B	19.48	52	P	Pn	10 06 39.8 +0.9
	baz=289,slow=7.6,SNR=4.8					
ARCES				LR	LR	10 12 41.4
	comp=Z,107nm,20.9s,baz=260,slow=32					
FRB	Frobisher Bay	19.85	290	LR	LR	10 13 32.6
	comp=Z,415nm,19.9s,baz=34,slow=35					
FINES	FINESS Array B	22.17	74	LR	LR	10 15 12.3
	comp=Z,143nm,20.8s,baz=252,slow=35					
CLL	Collm	22.59	107	*i* P	P	10 07 14.0 +2.6
	comp=Z,6.0nm,1.2s					
CLL				LmV		10 15 00.0
	comp=Z,200nm,20.1s					
SCHQ	Schefferville	23.70	268	P	P	10 07 21.1 -1.6
	comp=Z,2.0nm,0.7s,baz=34,slow=14,SNR=3.7					
SCHQ				LR	LR	10 15 14.3
	comp=Z,178nm,19.6s,baz=12,slow=33					
GERES	GERESS Array B	24.75	110	P	P	10 07 36.0 +3.5
	comp=Z,1.1nm,0.9s,baz=308,slow=8.5,SNR=6.1					
DAVOX	Davos/Dischmat	24.86	118	LR	LR	10 16 50.5
	comp=Z,205nm,20.8s,baz=265,slow=35					
VRAC	Vranov	25.62	106	LR	LR	10 17 37.1
	comp=Z,120nm,20.9s,baz=316,slow=36					
RES	Resolute Bay	25.76	324	LR	LR	10 17 34.0
	comp=Z,221nm,18.9s,baz=30,slow=36					
ESDC	Sonseca Array	26.68	146	P	P	10 07 50.6 +0.7
	comp=Z,1.1nm,0.8s,baz=354,slow=10,SNR=6.4					
ESDC				LR	LR	10 17 20.9
	comp=Z,178nm,19.8s,baz=315,slow=34					
AKASG	Malin Array Be	30.11	91	LR	LR	10 20 26.3
	comp=Z,132nm,19.2s,baz=290,slow=36					
KEST	Kesra	34.29	130	LR	LR	10 21 42.8
	comp=Z,127nm,20.2s,baz=264,slow=34					
YKA	Yellowknife Ar	38.02	311	P	P	10 09 27.7 -1.1
	comp=Z,1.3nm,0.9s,baz=43,slow=8.5,SNR=5.5					
YKA				LR	LR	10 24 49.5
	comp=Z,372nm,18.2s,baz=0.0,slow=36					
ULM	Lac du Bonnet	39.61	286	LR	LR	10 24 56.1
	comp=Z,129nm,19.6s,baz=46,slow=35					
BRTR	Keskin Array B	40.60	99	LR	LR	10 29 19.2
	comp=Z,102nm,18.5s,baz=330,slow=40					
KBZ	Khabaz	41.46	87	LR	LR	10 27 21.0
	comp=Z,140nm,20.6s,baz=340,slow=36					
ILAR	Eielson Array	45.27	330	P	P	10 10 27.8 -0.2
	comp=Z,0.5nm,0.7s,baz=30,slow=7.1,SNR=5.5					
ILAR				PcP	PcP	10 12 07.5 0.0
	comp=Z,0.3nm,0.7s,baz=24,slow=2.3,SNR=4.6					
ILAR				LR	LR	10 31 06.1
	comp=Z,67nm,18.2s,baz=72,slow=38					
ZALV	Zalesovo Beam	49.93	47	LR	LR	10 34 04.7
	comp=Z,15nm,18.5s,baz=87,slow=38					
KURBB	Kurchatov Arra	50.55	54	P	P	10 11 11.3 +2.3
	comp=Z,1.0nm,0.8s,baz=322,slow=7.1,SNR=4.8					
PDAR	Pinedale Array	51.29	290	P	P	10 11 14.6 -0.5
	comp=Z,0.2nm,0.4s,baz=54,slow=7.9,SNR=8.4					
PDAR				LR	LR	10 32 33.6
	comp=Z,155nm,18.1s,baz=45,slow=36					
GEYT	Alibeck	52.86	78	LR	LR	10 36 32.1
	comp=Z,66nm,18.4s,baz=25,slow=39					
TORD	Torodi Ar. Bea	53.48	150	P	P	10 11 31.0 -0.3
	comp=Z,0.7nm,0.9s,baz=352,slow=7.4,SNR=2.4					
TORD				LR	LR	10 34 36.6
	comp=Z,42nm,18.7s,baz=135,slow=36					
MKAR	Makanchi Array	55.12	54	P	P	10 11 44.7 +1.8
	comp=Z,0.9nm,0.8s,baz=319,slow=7.7,SNR=4.1					
NVAR	Mina Array Bea	58.54	294	P	P	10 12 07.1 -0.4
	comp=Z,0.1nm,0.3s,baz=28,slow=10,SNR=2.2					
NVAR				LR	LR	10 36 53.6
	comp=Z,197nm,18.7s,baz=12,slow=36					
TXAR	Lajitas Array	60.08	276	P	P	10 12 18.2 0.0
	comp=Z,1.2nm,1.1s,baz=46,slow=3.6,SNR=5.7					
TXAR				LR	LR	10 37 29.1
	comp=Z,99nm,18.5s,baz=0.0,slow=35					
ASAJ	Asahikawa	71.75	11	LR	LR	10 45 29.1
	comp=Z,35nm,19.4s,baz=164,slow=36					
BRDH	Bariadhala	79.98	59	LR	LR	10 50 40.9
	comp=Z,52nm,19.4s,baz=360,slow=36					
SIV	San Ignacio	84.88	217	LR	LR	10 48 33.1
	comp=Z,20nm,19.1s,baz=26,slow=33					
CMAR	Chiang Mai Arr	86.53	54	LR	LR	10 54 57.0
	comp=Z,12nm,18.3s,baz=100,slow=37					
ASAR	Alice Springs	136.97	32	PKP	PKiKP	10 21 34.3 -1.0
	comp=Z,0.3nm,0.7s,baz=4.2,slow=3.8,SNR=2.7					

*ISK **01** 10:35:00.2,39°.53N×26°.07E,h12km,ML2.7/18*
*DDA **01** 10:35:00.7,39°.53N×26°.12E,h14km,ML2.7*
*THE **01** 10:35:01.1,39°.54N×26°.08E,h9km±2km,ML2.4/7,Error ellipse: s-maj=2.5km s-min=0.9km az=62.0*
*ATH **01** 10:35:01.3,39°.48N×26°.06E,h24km±9km,ML2.5/4,Error ellipse: s-maj=9.7km s-min=1.9km az=172.0*

ISC 01 10:35:00.7±0.8,39°.53N±0°.02×26°.08E±0°.02,h14km±5km, n47,σ0°47/69,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.06	117	*i* P	Pg	10 35 03.4	-0.1
KOCA				IAML		10 35 05.0	
	comp=N,6μm,0.2s						
KOCA				*i* S	Sg	10 35 05.4	+0.1
BOZC	Bozcaada	0.32	357	*i* P	Pg	10 35 07.2	-0.1
BOZC				*i* S	Sg	10 35 12.0	+0.4
BOZC	Bozcaada	0.32	357	PG	Pg	10 35 07.3	0.0
BOZC				SG	Sg	10 35 12.1	+0.4
PRK	Paraskevi	0.32	151	P	Pb	10 35 08.2	0.0
PRK				S	Sb	10 35 13.0	-0.2
	comp=N,1μm,0.3s						
PRK	Paraskevi	0.32	151	P	Pb	10 35 08.2	0.0
PRK				S	Sg	10 35 12.7	+0.9
PRK				AML	AML	10 35 13.1	
	comp=N,2594μm,0.2s						
PRK				AML	AML	10 35 14.1	
	comp=E,2599μm,0.2s						
EZN	Ezine	0.36	33	P	Pg	10 35 07.9	-0.1
EZN				S	Sg	10 35 13.1	+0.2
	comp=E,1μm,0.4s						
EZN	Ezine	0.36	33	PG	Pg	10 35 07.9	-0.1
EZN				SG	Sg	10 35 13.1	+0.2
SIGR	SIGRI	0.36	208	P	Pg	10 35 07.8	-0.2
SIGR				S	Sg	10 35 13.1	+0.2
	comp=E,1μm,0.2s						
SIGR	SIGRI	0.36	208	P	Pg	10 35 07.8	-0.2
SIGR				S	Sg	10 35 12.9	0.0
SIGR				AML	AML	10 35 13.2	
	comp=N,2187μm,0.3s						
SIGR				AML	AML	10 35 13.5	
	comp=E,3098μm,0.2s						
SIGR	SIGRI	0.36	208	PG	Pg	10 35 07.8	-0.2
SIGR				SG	Sg	10 35 13.2	+0.3
BAYC	CANAKKALE_Bayr	0.42	59	*i* P	Pg	10 35 08.5	-0.7
BAYC				*i* S	Sg	10 35 14.2	-0.7
ECEA	Canakkale, Ece	0.52	8	*i* P	Pg	10 35 11.1	+0.1
ECEA				*i* S	Sg	10 35 18.6	+0.6
ECEA				IAML		10 35 19.0	
	comp=E,314nm,0.3s						
GADA	Gvkgeada	0.68	348	P	Pg	10 35 13.5	-0.4
GADA				S	Sg	10 35 23.1	+0.2
	comp=E,80nm,0.6s						
GADA	Gvkgeada	0.68	348	PG	Pg	10 35 13.7	-0.2
GADA				SG	Sb	10 35 23.7	+0.2

BUHA	Balikesir, Bur	0.78	92	*i* P	Pg	10 35 15.0 -0.8
BUHA				*i* S	Sg	10 35 26.3 +0.3
LIA	Limnos Island	0.78	299	P	Pn	10 35 17.1 -0.2
LIA				S	Sn	10 35 28.1 -0.7
	comp=E,282nm,0.3s					
LIA	Limnos Island	0.78	299	P	Pn	10 35 17.1 -0.2
LIA				S	Sb	10 35 27.8 +1.3
DKL	Dikili	0.79	125	PG	Pg	10 35 16.5 +0.5
GELI	Tayfur-Gelibol	0.92	19	PG	Pb	10 35 18.2 -0.3
ZEDA	zmir-Bergama	0.96	125	*i* P	Pb	10 35 18.4 -0.7
ZEDA				*i* S	Sb	10 35 31.0 -0.6
FOCM	Foa	0.96	148	PG	Pb	10 35 18.9 -0.2
SMTH	Samothraki Isl	1.03	336	P	Pb	10 35 19.9 -0.5
SMTH				S	Sb	10 35 33.5 -0.3
	comp=E,70nm,0.4s					
SMTH	Samothraki Isl	1.03	336	P	Pb	10 35 19.9 -0.5
SMTH				AML	AML	10 35 34.9
	comp=N,140μm,0.5s					
SMTH				AML	AML	10 35 36.5
	comp=E,141μm,0.4s					
CHOS	Chios island	1.14	181	P	Pb	10 35 21.6 -0.6
CHOS				S	Sn	10 35 38.7 +1.0
	comp=E,295nm,0.3s					
CHOS	Chios island	1.14	181	P	Pb	10 35 21.0 -1.2
CHOS				AML	AML	10 35 40.1
	comp=N,430μm,0.2s					
CHOS				AML	AML	10 35 42.5
	comp=E,744μm,0.3s					
CHOS	Chios island	1.14	181	PN	Pb	10 35 22.1 -0.1
ERIK	Erikli-Kesan	1.19	16	PN	Pn	10 35 22.7 -0.2
ENEZ	Enez	1.21	3	P	Pn	10 35 22.9 -0.3
ENEZ	Enez	1.21	3	PN	Pn	10 35 23.2 0.0
URLA	Izmir	1.23	161	PN	Pn	10 35 23.5 -0.1
KRBG	Karabiga-Canak	1.28	47	PN	Pn	10 35 24.1 0.0
STEP	BALIKESIR_Sava	1.28	96	*i* P	Pn	10 35 24.0 -0.2
STEP				*i* S	Sn	10 35 41.8 +0.6
GONE	Gonen-Balikesi	1.34	67	PN	Pn	10 35 25.2 +0.1
ALN	Alexandroupoli	1.37	359	P	Pn	10 35 25.5 +0.2
ALN	Alexandroupoli	1.37	359	PN	Pn	10 35 25.6 +0.2
KESN	Edirne-Kesan	1.38	19	*i* P	Pn	10 35 25.2 -0.7
KESN				*i* S	Sn	10 35 44.9 +0.8
BALB	Balikesir	1.40	85	PN	Pn	10 35 25.7 -0.1
RKY	Sarkoy-Tekirda	1.44	36	PN	Pn	10 35 26.5 +0.1
MAR6	Marsite Statio	1.49	37	PN	Pn	10 35 27.2 +0.1
MAR3	Marsite Statio	1.53	37	PN	Pn	10 35 27.8 +0.1
GZKV	Gazikoy-Tekird	1.55	38	PN	Pn	10 35 28.5 +0.6
MAR4	Marsite Statio	1.57	36	PN	Pn	10 35 29.0 +0.7
MRMT	Marmara Adasi	1.59	47	PN	Pn	10 35 29.3 +0.8
EDC	Edincik	1.60	59	PN	Pn	10 35 28.8 +0.2
RDO	Rodhopi	1.67	346	PN	Pn	10 35 29.7 +0.2
TKR	Tekirdag	1.84	37	PN	Pn	10 35 32.1 +0.2
KCTX	Karacabey (Bur	1.90	66	PN	Pn	10 35 32.9 +0.1

IDC 01 10:54:39.3±6.4,5°.69S×152°.47E,h61km±54km,mb3.6/4, mb1 3.9/5,mb1mx3.4/33,mbtmp3.9/5,ML2.2/1,Error ellipse: s-maj=93.9km s-min=30.6km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.43	235	P	Pn	10 56 12.3	+0.9
	3.2nm,0.3s,baz=63,slow=3.8,SNR=7.4						
PMG				S	Sn	10 57 23.8	+0.3
	2.2nm,0.3s,baz=84,slow=19,SNR=4.2						
WRA	Warramunga Arr	22.61	230	P	P	10 59 34.8	-0.5
	2.0nm,0.8s,baz=56,slow=10,SNR=13						
ASAR	Alice Springs	25.27	223	P	P	11 00 00.6	+0.4
	1.5nm,0.7s,baz=58,slow=8.9,SNR=30						
FITZ	Fitzroy Crossi	28.95	242	P	P	11 00 32.9	-0.3
	1.0nm,0.4s,baz=71,slow=10,SNR=8.2						
ILAR	Eielson Array	83.11	22	P	P	11 06 58.4	+0.1
	0.4nm,0.6s,baz=243,slow=6.0,SNR=9.2						

*DDA **01** 11:11:46.9,39°.91N×43°.19E,h7km±3km,ML2.2*
*ISK **01** 11:11:47.6,39°.91N×43°.27E,h6km,ML2.7/8*

ISC 01 11:11:47.4±1.2,39°.91N±0°.03×43°.23E±0°.03,h6km±11km, n19,σ0°76/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	Hanur-Agry	0.39	209	PG	Pg	11 11 55.5	+0.5
AGRB				SG	Sb	11 12 01.9	-1.2
DYDN	Diyadin	0.51	136	*i* P	Pg	11 11 57.1	-0.2
DYDN				*i* S	Sb	11 12 05.6	-1.2
DYDN				IAML		11 12 07.0	
	comp=N,370nm,0.2s						
IGDI	IGDIR	0.65	94	*i* P	Pg	11 12 00.1	+0.1
IGDI				*i* S	Sb	11 12 10.3	-0.4
IGDI				IAML		11 12 13.0	
	comp=N,84nm,0.4s						
IGDI				IAML		11 12 19.0	
	comp=E,98nm,0.5s						
KARS	Kars	0.72	351	PG	Pg	11 12 01.6	+0.3
TASB	TASBURUN-IGDIR	0.78	85	PG	Pg	11 12 02.4	0.0
EAK	Akyaka	0.82	20	*i* P	Pg	11 12 03.2	0.0
EAK				*i* S	Sb	11 12 16.9	+1.1
EAK				IAML		11 12 19.0	
	comp=N,130nm,0.4s						
EAK				IAML		11 12 23.0	
	comp=E,144nm,0.5s						
SENK	Senkaya-Erzuru	0.93	314	PG	Pb	11 12 06.5	+0.3
SENK				SG	Sn	11 12 20.3	-0.9
CLDR	Caldiran	0.94	145	*i* P	Pg	11 12 04.7	-0.7
CLDR				*i* S	Sg	11 12 17.5	0.0
CLDR				IAML		11 12 21.0	
	comp=E,70nm,0.4s						
CLDR				IAML		11 12 24.0	
	comp=N,61nm,0.3s						
CLDR	Caldiran	0.94	145	PG	Pg	11 12 05.1	-0.3
CLDR				SG	Sb	11 12 19.2	+0.2
VMUR	Van-Muradiye	0.96	164	*i* P	Pg	11 12 05.9	0.0
VMUR				*i* S	Sb	11 12 19.7	+0.1
VMUR				IAML		11 12 20.0	
	comp=N,80nm,0.3s						
VMUR				IAML		11 12 25.0	
	comp=E,71nm,0.8s						
HOMI	Horasan	1.03	278	*i* P	Pg	11 12 06.3	-0.9
HOMI				IAML		11 12 31.0	
	comp=N,124nm,0.6s						
HOMI				IAML		11 12 34.0	
	comp=E,137nm,0.6s						
KOPR	Koprukoy-ERZUR	1.06	275	PN	Pn	11 12 08.8	-0.3
ADCV	BITLIS_Adilcev	1.17	200	*i* P	Pn	11 12 10.5	-0.1
ADCV				*i* S	Sb	11 12 25.5	-0.3
ADCV				IAML		11 12 28.0	
	comp=E,46nm,0.4s						
ADCV				IAML		11 12 29.0	
	comp=N,46nm,1.0s						
GNI	Garni	1.18	78	PN	Pg	11 12 10.1	0.0
VANB	Van	1.32

IRNE				S		Sg	11 33 42.2 +1.6
	baz=56						
INYL	**Nylenda**	**0.43**	**36**	P		**Pg**	11 33 38.3 +0.2
	baz=39						
INYL				S		**Sg**	11 33 45.0 +1.2
	baz=39						
IGRV	**Grindav??k**	**0.44**	**59**	P		**Pg**	11 33 38.8 +0.3
	baz=60						
IGRV				S		**Sg**	11 33 45.5 +1.3
	baz=60						
IKRI	**Krysuvik**	**0.60**	**65**	P		**Pg**	11 33 41.2 -0.2
	baz=65						
IKRI				S		**Sg**	11 33 49.8 +0.5
	baz=65						
IVOS	**Vogsosar**	**0.75**	**72**	S		**Sg**	11 33 55.0 +1.0
	baz=72						
IVOS				P		**Pg**	11 33 44.7 +0.4
	baz=72						
IKAS	**Kald??rsel**	**0.76**	**58**	P		**Pg**	11 33 43.8 -0.6
	baz=58						
IKAS				S		**Sg**	11 33 55.0 +0.8
	baz=58						
ISAN	**Sandskeio**	**0.88**	**60**	P		**Pg**	11 33 46.0 -0.8
	baz=61						
ISAN				S		**Sg**	11 33 58.4 +0.2
	baz=61						
IKUD	**Kuludalsa**	**0.94**	**42**	P		**Pg**	11 33 46.5 -1.4
	baz=43						
IKUD				S		**Sg**	11 33 59.4 -0.7
	baz=43						
IBJA	**Bjarnastaoir**	**0.95**	**70**	P		**Pg**	11 33 46.8 -1.2
	baz=70						
IBJA				S		**Sg**	11 34 00.1 -0.2
	baz=70						
IKRO	**Krokur**	**1.08**	**63**	S		**Sg**	11 34 04.2 -0.3
	baz=63						
IKRO				P		**Pg**	11 33 49.2 -1.4
	baz=63						
IHEI	**Heioarbar**	**1.08**	**57**	P		**Pg**	11 33 48.7 -1.9
	baz=58						
ISOL	**Solvholt**	**1.09**	**73**	P		**Pg**	11 33 48.9 -2.0
	baz=73						
IASM	**Asmuli**	**1.22**	**79**	S		**Sg**	11 34 07.9 -1.1
	baz=79						
IASM				P		**Pg**	11 33 51.4 -1.8
	baz=79						
ISAU	**Saurbar**	**1.33**	**73**	P		**Pn**	11 33 52.9 -2.0
	baz=73						
ISAU				S		**Sg**	11 34 11.1 -1.6
	baz=73						
BORG	**Borgarnes**	**1.42**	**37**	Pn		**Pn**	11 33 54.4 -1.7
	220nm,0.3s,baz=226,slow=11,SNR=17						
BORG				Sn		**Sb**	11 34 12.7 -2.2
	521nm,0.3s,baz=129,slow=22,SNR=12						
IASB	**`sbjarnarst**	**1.42**	**37**	S		**Sb**	11 34 13.3 -1.6
	baz=38						
IASB				P		**Pn**	11 33 54.1 -2.0
	baz=38						
IHAU	**Haukadalur**	**1.52**	**76**	S		**Sn**	11 34 16.7 -0.9
	baz=76						
IHAU				P		**Pn**	11 33 56.4 -1.1
	baz=76						
SCO	**Scoresbysund**	**6.90**	**4**	*e*		Pn	11 35 06.2 -5.1
	baz=170,slow=6.5						
SCO				*i* P		**Pn**	**11 35 12.6 +1.2**
SCO				*i* S		**Sn**	**11 36 32.6 +2.6**
SCO				IAML			11 36 56.0
	comp=Z,5.4nm,0.5s						
JMIC	**Jan Mayen**	**9.31**	**31**	LR		LR	11 38 25.0
	comp=Z,156nm,21.9s,baz=258,slow=32						
SUMG	**Summit**	**10.56**	**335**	*e*P		**Pn**	**11 36 05.1 +3.3**
SUMG				*e*S		Sn	11 38 39.1 +39
NOA	**NORSAR Array B**	**16.12**	**84**	Pn		**Pn**	**11 37 17.3 +0.6**
	comp=Z,0.0nm,0.3s,baz=291,slow=11,SNR=8.4						
NOA				LR		LR	11 42 48.3
	comp=Z,220nm,21.8s,baz=290,slow=34						
HFS	**Hagfors**	**17.62**	**85**	P		**P**	**11 37 37.0 +0.4**
	comp=Z,0.1nm,0.3s,baz=304,slow=8.0,SNR=2.2						
HFS				LR		LR	11 43 43.7
	comp=Z,241nm,20.6s,baz=298,slow=35						
ARCES	**ARCESS Array B**	**19.78**	**51**	P		**P**	**11 38 01.0 +0.7**
	baz=275,slow=11,SNR=3.2						
ARCES				LR		LR	11 44 14.2
	comp=Z,147nm,18.2s,baz=265,slow=33						
FINES	**FINESS Array B**	**22.43**	**73**	P		**P**	**11 38 30.4 +1.5**
	comp=Z,14nm,1.2s,baz=322,slow=8.3,SNR=13						
CLL	**Collm**	**22.72**	**106**	*i* P		**P**	**11 38 35.1 +3.0**
	comp=Z,12nm,1.5s						
CLL				*i*			11 38 39.3
	comp=Z,20nm,1.5s						
CLL				*e*			11 39 04.0
CLL				*e*S		**S**	**11 42 42.0 +1.4**
SCHQ	**Schefferville**	**23.49**	**268**	LR		LR	11 46 32.3
	comp=Z,223nm,19.6s,baz=54,slow=34						
GERES	**GERESS Array B**	**24.87**	**109**	P		**P**	**11 38 54.8 +1.8**
	comp=Z,0.4nm,0.4s,baz=290,slow=9.7,SNR=9.6						
DAVOX	**Davos/Dischmat**	**24.93**	**117**	LR		LR	11 49 27.6
	comp=Z,190nm,18.3s,baz=265,slow=38						
ESDC	**Sonseca Array**	**26.60**	**145**	P		**P**	**11 39 09.2 +0.5**
	comp=Z,3.7nm,1.2s,baz=347,slow=9.9,SNR=9.1						
AKASG	**Malin Array Be**	**30.31**	**90**	P		**P**	**11 39 42.3 +0.8**
	comp=Z,0.3nm,0.4s,baz=318,slow=8.7,SNR=4.0						
MLR	**Muntele Rosu**	**32.76**	**100**	LR		LR	11 55 19.8
	comp=Z,142nm,18.4s,baz=350,slow=40						
YKA	**Yellowknife Ar**	**38.02**	**311**	P		**P**	**11 40 45.2 -3.0**
	comp=Z,0.4nm,0.9s,baz=44,slow=9.7,SNR=1.2						
BRTR	**Keskin Array B**	**40.77**	**98**	P		**P**	**11 41 12.9 +1.4**
	comp=Z,1.3nm,1.0s,baz=324,slow=9.8,SNR=5.3						
ILAR	**Eielson Array**	**45.36**	**330**	P		**P**	**11 41 46.6 -1.6**
	comp=Z,0.4nm,0.7s,baz=31,slow=7.4,SNR=9.3						
ILAR				PcP		**PcP**	**11 43 27.0 -0.4**
	comp=Z,0.4nm,0.7s,baz=351,slow=3.6,SNR=5.6						
EIL	**Elat**	**49.83**	**104**	LR		LR	12 06 13.0
	comp=Z,38nm,20.4s,baz=306,slow=39						
PDAR	**Pinedale Array**	**51.18**	**289**	P		**P**	**11 42 32.3 -1.4**
	comp=Z,0.8nm,0.8s,baz=69,slow=6.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**53.38**	**149**	P		**P**	**11 42 51.2 +1.3**
	comp=Z,0.8nm,0.7s,baz=332,slow=8.4,SNR=3.6						
MKAR	**Makanchi Array**	**55.41**	**53**	P		**P**	**11 43 05.2 +0.7**
	comp=Z,2.7nm,1.1s,baz=354,slow=3.8,SNR=11						
AAK	**Ala-Archa**	**56.01**	**62**	LR		LR	12 06 51.4
	comp=Z,112nm,20.4s,baz=334,slow=36						
TLY	**Talaya**	**57.79**	**36**	LR		LR	12 09 06.8
	comp=Z,32nm,19.9s,baz=350,slow=37						
NVAR	**Mina Array Bea**	**58.44**	**293**	P		**P**	**11 43 24.0 -2.3**
	comp=Z,0.1nm,0.3s,baz=52,slow=5.8,SNR=2.4						
NVAR				LR		LR	12 08 23.2
	comp=Z,266nm,18.9s,baz=9.0,slow=36						
TXAR	**Lajitas Array**	**59.91**	**276**	P		**P**	**11 43 34.9 -1.5**
	comp=Z,0.3nm,0.6s,baz=54,slow=4.6,SNR=1.7						
KSRS	**Korea Array**	**76.68**	**23**	LR		LR	12 22 36.9
	comp=Z,17nm,18.9s,baz=135,slow=38						
CMAR	**Chiang Mai Arr**	**86.83**	**54**	LR		LR	12 27 28.0
	comp=Z,20nm,18.1s,baz=285,slow=37						
BOSA	**Boshof**	**99.58**	**138**	LR		LR	12 33 48.5
	comp=Z,30nm,18.8s,baz=8.5,slow=36						
ASAR	**Alice Springs**	**137.27**	**32**	PKP		**PKPdf**	**11 52 54.7 +1.0**
	comp=Z,0.2nm,0.6s,baz=3.4,slow=4.6,SNR=1.7						
MAW	**Mawson**	**144.59**	**139**	PKP		**PKPdf**	**11 53 06.0 +0.7**
	comp=Z,0.6nm,0.5s,baz=215,slow=11,SNR=2.1						

*IDC **01** 11:33:47.5±8.8, 0.°51N×98.°39E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/51, mbtmp3.5/4, Error ellipse: s-maj=446.4km s-min=24.8km az=55.0*
*DJA **01** 11:33:55.4±1.1, 1.°N±8.°×9.°8E±.°, h54km±14km, M2.8/4, MLv2.8/4*
ISC 01 11:33:57.9±1.3, **1.°39N**±0.°09×**98.°13E**±0.°08, **h50**km, **n10**, σ3°**15/7, mb3.5**/4, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.56**	**261**	P	**Pn**	**11 34 08.6**	**-1.3**
GSI				S	**Sn**	**11 34 17.0**	**-1.5**
MNSI	**Mandailing Nat**	**1.57**	**112**	P	**Pn**	**11 34 21.1**	**-2.3**
TPTI		**2.08**	**333**	P	**Pn**	**11 34 28.2**	**-2.2**
TPTI				S	**Sn**	**11 34 53.0**	**-2.2**
H08S2	**Diego Garcia H**	**27.10**	**250**	T	T	12 06 47.1	
	baz=74,slow=75,SNR=676						
H08S3	**Diego Garcia H**	**27.10**	**250**	T	T	12 06 47.8	
	baz=74,slow=75,SNR=673						
H08S1	**Diego Carcia H**	**27.12**	**250**	T	T	12 06 48.5	
	baz=74,slow=75,SNR=826						
WRA	**Warramunga Arr**	**41.35**	**123**	P	P	11 41 29.7	-10
	0.4nm,0.7s,baz=301,slow=9.7,SNR=1.8						
ASAR	**Alice Springs**	**42.77**	**128**	P	P	11 41 41.1	-10
	0.4nm,0.6s,baz=297,slow=7.4,SNR=5.7						
MKAR	**Makanchi Array**	**47.29**	**345**	P	**P**	**11 42 29.4 +3.0**	
	0.5nm,0.5s,baz=161,slow=9.0,SNR=7.5						
ZALV	**Zalesovo Beam**	**53.52**	**350**	P	**P**	**11 43 16.8 +3.5**	
	0.9nm,0.6s,baz=167,slow=7.2,SNR=4.1						

*MRB **01** 11:35:31.7±0.3, 42.°57N×2.°11E, h7km±2km, ML1.9/24, Error ellipse: s-maj=0.8km s-min=0.7km az=259.0*
*LDG **01** 11:35:31.5±0.1, 42.°56N×2.°13E, h7km, Md2.6/2, Ml2.8/15, Error ellipse: s-maj=1.4km s-min=1.1km az=115.0*
*MDD **01** 11:35:32.1±0.2, 42.°58N×2.°13E, h7km±3km, mbLg2.3/35, Error ellipse: s-maj=2.1km s-min=1.7km az=157.0, PRXIMO*
*STR **01** 11:35:34.2±0.8, 43°N±6°×°±°, h0km, MLv2.3/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/pyrenees_taup-2.11 preliminary*
ISC 01 11:35:31.1±0.8, **42.°59N**±0.°01×**2.°14E**±0.°01, **h14**km±5km, **n101**, σ1°**20**/152, **1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLLI	**Llivia**	**0.16**	**229**	⇑Pg	**Pg**	**11 35 33.4**	**-1.8**
	0.7nm,0.1s,SNR=18						
CLLI				Lg	Lg	11 35 36.1	
	32nm,0.0s,SNR=5.6						
CLLI	**Llivia**	**0.16**	**229**	Pg	**Pg**	**11 35 35.3**	**+0.1**
	17nm,0.0s,SNR=241						
CLLI				Lg	Lg	11 35 37.7	
	152nm,0.1s,SNR=6.4						
CLLI	**Llivia**	**0.16**	**229**	P	**Pg**	**11 35 34.8**	**-0.4**
CLLI				S	**Sg**	**11 35 37.1**	**-0.9**
	326nm,0.1s						
CBRU	**Bruguera**	**0.30**	**174**	Pg	**Pg**	**11 35 37.5**	**+0.1**
CBRU				Lg	Lg	11 35 42.0	
	102nm,0.2s						
CBRU	**Bruguera**	**0.30**	**174**	P	**Pg**	**11 35 37.5**	**+0.1**
CBRU				S	**Sg**	**11 35 41.9**	**+0.1**
	204nm,0.2s						
FILF	**Fillols**	**0.31**	**95**	Pg	**Pg**	**11 35 36.2**	**-1.3**
FILF				Lg	Lg	11 35 39.5	
	200nm,0.1s						
FILF	**Fillols**	**0.31**	**95**	P	**Pg**	**11 35 36.2**	**-1.3**
FILF				S	**Sg**	**11 35 39.5**	**-2.5**
	200nm,0.1s						
FNEB	**Nbias**	**0.32**	**356**	Pg	**Pg**	**11 35 38.2**	**+0.5**
FNEB				Lg	Lg	11 35 42.9	
	8.7nm,0.2s						
FNEB	**Nbias**	**0.32**	**356**	P	**Pg**	**11 35 38.2**	**+0.5**
FNEB				S	**Sg**	**11 35 42.9**	**+0.7**
	8.7nm,0.2s						
ARBS	**La Rabassa**	**0.46**	**252**	S	**Sg**	**11 35 46.8**	**+0.3**
	73nm,0.3s						
SJAF	**Saint Jean de**	**0.56**	**100**	Pg	**Pg**	**11 35 40.6**	**-1.5**
	0.9nm,0.2s,SNR=18						
SJAF				Lg	Lg	11 35 47.1	
	14nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**0.56**	**100**	Pg	**Pg**	**11 35 42.4**	**+0.3**
	9.6nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	11 35 49.5	
	54nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**0.56**	**100**	P	**Pg**	**11 35 42.4**	**+0.3**
SJAF				S	**Sb**	**11 35 50.6**	**+0.2**
	44nm,0.1s						
EJON	**La Jonquera**	**0.57**	**104**	Pg	**Pg**	**11 35 40.9**	**-1.4**
	1.0nm,0.1s,SNR=53						
EJON				Lg	Lg	11 35 48.5	
	8.9nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**0.57**	**104**	Pg	**Pg**	**11 35 42.7**	**+0.4**
	12nm,0.1s,SNR=7.9						
EJON				Lg	Lg	11 35 50.6	
	22nm,0.1s,SNR=8.1						
CORI	**Orista**	**0.62**	**186**	Pg	**Pg**	**11 35 42.9**	**-0.2**
CORI				Lg	Lg	11 35 51.3	
	37nm,0.2s						
CORI	**Orista**	**0.62**	**186**	P	**Pg**	**11 35 43.0**	**-0.2**
CORI				S	**Sg**	**11 35 51.4**	**+0.1**
	37nm,0.2s						
CEST	**Esterri de Car**	**0.65**	**272**	Pg	**Pg**	**11 35 43.6**	**-0.3**
CEST				Lg	Lg	11 35 52.4	
	39nm,0.2s						
CEST	**Esterri de Car**	**0.65**	**272**	P	**Pg**	**11 35 43.6**	**-0.3**
CEST				S	**Sg**	**11 35 52.4**	**-0.1**
	39nm,0.2s						
CORG	**Organya**	**0.70**	**240**	Pg	**Pg**	**11 35 44.1**	**-0.7**
CORG				Lg	Lg	11 35 53.8	
	9.9nm,0.1s						
CORG	**Organya**	**0.70**	**240**	P	**Pg**	**11 35 44.2**	**-0.7**
CORG				S	**Sg**	**11 35 53.8**	**-0.3**
	20nm,0.1s						
MTLF	**Montolieu**	**0.76**	**4**	Pg	**Pg**	**11 35 46.2**	**+0.4**
MTLF				Lg	Lg	11 35 56.8	
	15nm,0.3s						
MTLF	**Montolieu**	**0.76**	**4**	*e*Pg	**Pg**	**11 35 46.2**	**+0.4**
MTLF				*e*Sg	**Sb**	**11 35 56.8**	**+0.7**
	30nm,0.3s						
MTLF	**Montolieu**	**0.76**	**4**	Pg	**Pg**	**11 35 44.5**	**-1.3**
MTLF				Pg	**Pg**	**11 35 46.1**	**+0.4**
MTLF				Sg	**Sg**	**11 35 55.4**	**-0.3**
CSOR	**Sort**	**0.77**	**255**	Pg	**Pg**	**11 35 44.2**	**-1.9**
	1.2nm,0.1s,SNR=101						
CSOR				Lg	Lg	11 35 54.0	
	10.0nm,0.1s,SNR=7.9						
CSOR	**Sort**	**0.77**	**255**	Pg	**Pg**	**11 35 45.9**	**-0.2**
	15nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	11 35 56.0	
	16nm,0.1s,SNR=8.7						
CSOR	**Sort**	**0.77**	**255**	P	**Pg**	**11 35 45.6**	**-0.5**
CSOR				S	**Sg**	**11 35 56.1**	**-0.2**
	22nm,0.2s						
CPAL	**Palau Saverder**	**0.81**	**110**	Pg	**Pg**	**11 35 46.8**	**+0.1**
CPAL				Lg	Lg	11 35 57.7	
CPAL	**Palau Saverder**	**0.81**	**110**	P	**Pg**	**11 35 46.8**	**+0.1**
CPAL				S	**Sb**	**11 35 58.0**	**+0.5**
EMIR	**Miracle**	**0.81**	**214**	Pg	**Pg**	**11 35 45.2**	**-1.6**
	1.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.81**	**214**	Pg	**Pb**	**11 35 47.4**	**+0.5**
	5.9nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	11 35 58.2	
	43nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.85**	**165**	Pg	**Pg**	**11 35 45.9**	**-1.6**
	1.0nm,0.1s,SNR=99						
CFON				Lg	Lg	11 35 58.7	
	58nm,0.1s,SNR=27						
CFON	**Fontmartina**	**0.85**	**165**	Pg	**Pg**	**11 35 47.7**	**+0.1**
	22nm,0.1s,SNR=7.9						
CFON				Lg	Lg	11 36 01.6	
	107nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**0.85**	**165**	P	**Pg**	**11 35 47.4**	**-0.2**
CFON				S	**Sg**	**11 35 58.9**	**+0.1**
	289nm,0.2s						
MLS	**Moulis**	**0.85**	**296**	Pg	**Pg**	**11 35 47.5**	**-0.1**
MLS				Lg	Lg	11 35 59.0	
	21nm,0.2s						
MLS	**Moulis**	**0.85**	**296**	Pg	**Pg**	**11 35 47.5**	**-0.1**
MLS				Sg	**Sg**	**11 35 58.6**	**-0.3**
MLS	**Moulis**	**0.85**	**296**	P	**Pg**	**11 35 47.5**	**-0.1**
MLS				S	**Sg**	**11 35 59.0**	**+0.2**
	21nm,0.2s						
CCAS	**Cassa de la Se**	**0.90**	**141**	Pg	**Pg**	**11 35 48.3**	**-0.2**
CCAS				Lg	Lg	11 36 00.6	
	52nm,0.2s						
CCAS	**Cassa de la Se**	**0.90**	**141**	P	**Pg**	**11 35 48.3**	**-0.2**
CCAS				S	**Sb**	**11 36 00.7**	**+0.4**
	52nm,0.2s						
CARA	**Val d'Aran**	**0.98**	**278**	P	**Pb**	**11 35 49.7**	**-0.2**
CARA				S	**Sb**	**11 36 02.8**	**0.0**
	56nm,0.1s						
CTRE	**Tremp**	**1.04**	**256**	Pg	**Pg**	**11 35 50.2**	**-0.7**
CTRE				Lg	Lg	11 36 04.6	
	18nm,0.2s						
CTRE	**Tremp**	**1.04**	**256**	P	**Pb**	**11 35 50.3**	**-0.7**
CTRE				S	**Sb**	**11 36 04.6**	**+0.1**
	18nm,0.2s						
FBR	**Fabra**	**1.17**	**181**	P	**Pn**	**11 35 52.7**	**-0.3**
FBR				S	**Sb**	**11 36 08.6**	**+0.6**
	32nm,0.1s						
CAVN	**Les Avellanes**	**1.25**	**236**	Pg	**Pn**	**11 35 54.2**	**+0.2**
CAVN				Lg	Lg	11 36 10.6	
	92nm,0.2s						
CAVN	**Les Avellanes**	**1.25**	**236**	P	**Pn**	**11 35 54.2**	**+0.2**
CAVN				S	**Sb**	**11 36 10.6**	**+0.3**
	185nm,0.2s						
EPF	**Esparros**	**1.40**	**289**	Pg	**Pb**	**11 35 57.7**	**+0.8**
EPF				Lg	Lg	11 36 16.0	
	8.1nm,0.3s						
EPF	**Esparros**	**1.40**	**289**	*e*Pg	**Pb**	**11 35 57.7**	**+0.8**
EPF				*e*Sg	**Sg**	**11 36 16.0**	**-0.1**
	16nm,0.3s						
ECHI	**Chisagues Biel**	**1.44**	**274**	Pg	**Pb**	**11 35 58.4**	**+0.7**
	2.6nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	11 36 18.0	
	10nm,0.1s,SNR=7.9						
ECHI	**Chisagues Biel**	**1.44**	**274**	Pg	**Pb**	**11 35 58.4**	**+0.7**
ECHI				Sg	**Sg**	**11 36 17.7**	**+0.3**
ECHI	**Chisagues Biel**	**1.44**	**274**	P	**Pn**	**11 35 57.1**	**+0.3**
ECHI				S	**Sb**	**11 36 16.8**	**+0.9**
	24nm,0.2s						
EPOB	**Poblet**	**1.47**	**213**	Pg	**Pn**	**11 35 57.1**	**0.0**
	0.4nm,0.1s,SNR=32						
EPOB				Lg	Lg	11 36 16.0	
	2.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.47**	**213**	Pg	**Pb**	**11 35 58.8**	**+0.7**
	3.5nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	11 36 17.6	
	25nm,0.1s,SNR=21						
EPOB	**Poblet**	**1.47**	**213**	P	**Pn**	**11 35 57.7**	**+0.7**
EPOB				S	**Sb**	**11 36 17.4**	**+0.8**
	36nm,0.1s						
CGAR	**Garraf**	**1.49**	**211**	Pg	**Pn**	**11 35 54.7**	**-2.7**
CGAR				Lg	Lg	11 36 12.3	
	9.1nm,0.3s						
CGAR	**Garraf**	**1.49**	**211**	P	**Pn**	**11 35 54.8**	**-2.7**
CGAR				S	**Sn**	**11 36 12.3**	**-4.4**
	18nm,0.3s						
MONQ	**Montcuq**	**1.91**	**339**	Pn	**Pb**	**11 36 05.8**	**+0.2**
LASF	**Ste Croix**	**1.95**	**39**	Pn	**Pn**	**11 36 04.0**	**+0.4**
LASF				Pg	**Pg**	**11 36 07.7**	**-0.7**
LASF				Lg	Lg	11 36 33.5	
	7.2nm,0.2s						
LASF	**Ste Croix**	**1.95**	**39**	*e*Pn	**Pn**	**11 36 04.0**	**+0.4**
LASF	**Ste Croix**	**1.95**	**39**	*e*Pg	**Pg**	**11 36 07.7**	**-0.7**
LASF				*e*Sg	**Sg**	**11 36 33.5**	**-0.1**
	14nm,0.2s						
ETSF	**Etsaut**	**2.01**	**280**	Pg	**Pb**	**11 36 08.3**	**+0.9**
ETSF				Lg	Lg	11 36 34.9	
	9.4nm,0.3s						
ETSF	**Etsaut**	**2.01**	**280**	*e*Pg	**Pb**	**11 36 08.3**	**+0.9**
ETSF				*e*Sg	**Sg**	**11 36 34.9**	**-0.9**
	19nm,0.3s						
ERTA	**Horta de San J**	**2.12**	**220**	Pg	**Pg**	**11 36 11.1**	**-0.6**
	1.3nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	11 36 37.4	
	15nm,0.2s,SNR=15						
ERTA	**Horta de San J**	**2.12**	**220**	P	**Pn**	**11 36 06.9**	**+0.9**
ERTA				S	**Sn**	**11 36 32.7**	**+0.7**
	14nm,0.3s						
ATE	**Arette**	**2.15**	**284**	Pg	**Pg**	**11 36 12.2**	**-0.1**
	4.8nm,0.2s,SNR=7.9						
ATE				Lg	Lg	11 36 40.7	
	9.4nm,0.2s,SNR=7.9						
ATE	**Arette**	**2.15**	**284**	Pg	**Pg**	**11 36 11.8**	**-0.4**
ATE				Sg	**Sg**	**11 36 40.4**	**+0.3**
CMAS	**Mas de Barbera**	**2.31**	**217**	Pg	**Pn**	**11 36 09.4**	**+0.8**
CMAS				Lg	Lg	11 36 37.4	
	13nm,0.2s						
CMAS	**Mas de Barbera**	**2.31**	**217**	P	**Pn**	**11 36 09.5**	**+0.8**
CMAS				S	**Sn**	**11 36 37.5**	**+0.7**
	13nm,0.2s						
CAF	**Calviac**	**2.34**	**359**	Pg	**Pg**	**11 36 15.5**	**-0.4**
CAF				Lg	Lg	11 36 45.7	
	5.7nm,0.3s						
CAF	**Calviac**	**2.34**	**359**	*e*Pg	**Pg**	**11 36 15.5**	**-0.4**
CAF				*e*Sg	**Sg**	**11 36 45.7**	**-0.5**
	11nm,0.3s						
ALCN	**Alcanar**	**2.39**	**212**	Pn	**Pn**	**11 36 10.5**	**+0.9**
ALCN				Sn	**Sn**	**11 36 39.1**	**+0.5**
	14nm,0.3s						
ALCN	**Alcanar**	**2.39**	**212**	P	**Pn**	**11 36 10.5**	**+0.9**
ALCN				S	**Sn**	**11 36 39.2**	**+0.5**
	14nm,0.3s						
SJPF	**Ste Jean**	**2.53**	**283**	Pg	**Pg**	**11 36 18.7**	**-0.8**
SJPF				Lg	Lg	11 36 51.0	
	4.3nm,0.4s						
SJPF	**Ste Jean**	**2.53**	**283**	*e*Pg	**Pg**	**11 36 18.7**	**-0.8**
SJPF				*e*Sg	**Sg**	**11 36 51.0**	**-1.3**
	8.7nm,0.4s						
EORO	**Oroz-Betelu**	**2.56**	**278**	Pg	**Pg**	**11 36 19.5**	**-0.6**
	3.1nm,0.2s,SNR=13						
EORO				Lg	Lg	11 36 53.4	
	16nm,0.7s,SNR=7.9						
LFF	**La Frestale**	**2.56**	**337**	Pg	**Pg**	**11 36 19.6**	**-0.5**
LFF				Lg	Lg	11 36 53.2	
	8.7nm,0.3s						
LFF	**La Frestale**	**2.56**	**337**	*e*Pg	**Pg**	**11 36 19.6**	**-0.5**
LFF				*e*Sg	**Sg**	**11 36 53.2**	**-0.1**
	17nm,0.3s						
EALK	**Alkurruntz**	**2.75**	**285**	Pg	**Pb**	**11 36 21.5**	**+1.4**
	0.7nm,0.1s,SNR=7.9						
EALK				Lg	Lg	11 36 58.7	
	7.7nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.75**	**351**	Pg	**Pg**	**11 36 22.8**	**-1.0**
RJF				Lg	Lg	11 36 59.4	
	2.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.75**	**351**	*e*Pg	**Pg**	**11 36 22.8**	**-1.0**
RJF				*e*Sg	**Sg**	**11 36 59.4**	**-0.1**
	4.7nm,0.2s						
ETOS	**Mallorca**	**2.86**	**170**	Pn	**Pn**	**11 36 16.9**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**11 36 49.5**	**-0.9**
	0.3nm,0.2s,SNR=7.9						
SMRF	**Simiane la Rot**	**2.87**	**60**	Pg	**Pg**	**11 36 24.8**	**-1.2**
SMRF				Lg	Lg	11 37 01.9	
	4.8nm,0.4s						
SMRF	**Simiane la Rot**	**2.87**	**60**	*e*Pg	**Pg**	**11 36 24.8**	**-1.2**
SMRF				*e*Sg	**Sg**	**11 37 01.9**	**-1.2**
	4.8nm,0.4s						
VIVF	**Saint-Julien-l**	**2.92**	**38**	Pg	**Pg**	**11 36 26.4**	**-0

CABF	**La Chapelle**	**4.91**	**34**	Pg	**Pb**	**11 37 01.1**	**+4.3**
CABF				Lg	Lg	11 38 06.1	
	0.6nm,0.3s						
CABF	**La Chapelle**	**4.91**	**34**	*e*Pg	**Pb**	**11 37 01.1**	**+4.3**
CABF				*e*Sg	**Sg**	**11 38 06.1**	**-2.6**
	1.2nm,0.3s						

*IDC **01** 11:41:55.4±1.7, 19°.89S×177°.40W, h548km±18km, mb3.0/6, mb1 3.3/9, mb1mx3.1/29, mbtmp4.0/9, Error ellipse: s-maj=33.2km s-min=15.7km az=149.0*
*NEIC **01** 11:41:57.9±0.7, 19°.71S±0°.06×177°.6W±0°.2, h558km±10km, mb4.1/13, Error ellipse: s-maj=28.1km s-min=5.3km az=103.0*

ISC 01 11:41:55.3±0.6, 19°.8S±0°.1×177°.3W±0°.1, h550km, n28, σ19°73/31, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.85**	**295**	P	**P**	**11 43 24.7**	**+0.6**
	2.7nm,0.3s,baz=68,slow=22,SNR=12						
MSVF	**Nonsavu**	**4.85**	**295**	P	**P**	**11 43 25.0**	**+0.9**
AFI	**Afiamalu**	**7.92**	**43**	P	**P**	**11 43 52.5**	**0.0**
	1.7nm,0.3s,baz=128,slow=21,SNR=1.4						
AFI				S	**S**	**11 45 24.5**	**-3.9**
	3.7nm,0.3s,baz=216,slow=22,SNR=1.6						
URZ	**Urewera**	**19.00**	**194**	P	**P**	**11 45 41.2**	**-0.9**
	1.0nm,0.3s,baz=302,slow=24,SNR=8.3						
URZ				S	**S**	**11 48 40.0**	**-6.3**
	0.2nm,0.3s,baz=303,slow=22,SNR=1.0						
WHZ	**Wether Hill Ro**	**28.70**	**202**	P	**P**	**11 47 10.2**	**+2.0**
CTA	**Charters Tower**	**34.20**	**263**	P	**P**	**11 47 55.2**	**-0.4**
	2.2nm,0.3s,baz=96,slow=10,SNR=7.7						
CTAO	**Charters Tower**	**34.20**	**263**	P	**P**	**11 47 55.5**	**-0.1**
BBOO	**Buckleboo**	**43.42**	**243**	P	**P**	**11 49 09.8**	**-0.1**
WR0	**Warramunga Arr**	**45.14**	**261**	P	**P**	**11 49 22.8**	**-0.6**
WR0				IAmb	IAmb	11 49 26.0	
	comp=Z,10.0nm,1.4s						
AS31	**Alice Springs**	**45.29**	**256**	P	**P**	**11 49 24.5**	**-0.1**
ASAR	**Alice Springs**	**45.30**	**256**	P	**P**	**11 49 24.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=90,slow=7.4,SNR=34						
ASAR				PcP	**PcP**	**11 50 53.1**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=100,slow=4.1,SNR=7.6						
WB0	**Warramunga Arr**	**45.30**	**261**	P	**P**	**11 49 23.6**	**-1.0**
WB0				IAmb	IAmb	11 49 27.2	
	comp=Z,9.3nm,1.2s						
WB2	**Warramunga Arr**	**45.32**	**261**	P	**P**	**11 49 24.0**	**-0.7**
WB2				IAmb	IAmb	11 49 34.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**45.33**	**261**	P	**P**	**11 49 23.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=97,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**45.33**	**261**	P	**P**	**11 49 24.1**	**-0.7**
KNRA	**Kununurra**	**51.34**	**265**	P	**P**	**11 50 08.8**	**-0.7**
KNRA				IAmb	IAmb	11 50 19.0	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.75**	**262**	P	**P**	**11 50 26.8**	**+0.1**
PSA00	**Pilbara Seismi**	**58.44**	**256**	P	**P**	**11 50 57.9**	**-1.2**
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**11 52 16.1**	**+2.9**
QSPA				IAmb	IAmb	11 52 34.3	
	comp=Z,5.2nm,1.4s						
TXAR	**Lajitas Array**	**86.16**	**57**	P	**P**	**11 53 40.8**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=220,slow=7.1,SNR=8.6						
ILAR	**Eielson Array**	**87.52**	**13**	P	**P**	**11 53 44.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=223,slow=5.0,SNR=4.4						
PDAR	**Pinedale Array**	**88.04**	**43**	P	**P**	**11 53 47.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=197,slow=2.5,SNR=3.9						
DAWY	**Dawson**	**88.64**	**16**	P	**P**	**11 53 51.3**	**+1.6**
DAWY				IAmb	IAmb	11 53 56.0	
	comp=Z,2.3nm,1.2s						
ARCES	**ARCESS Array B**	**128.37**	**350**	PKP	**PKPdf**	**11 59 58.2**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=22,slow=2.9,SNR=4.4						
ARCES	**ARCESS Array B**	**128.37**	**350**		**PKiKP**	**12 00 00.0**	**+0.3**
CLL	**Collm**	**147.54**	**348**	*e*PKPbc	**PKiKP**	**12 00 39.0**	**-0.3**
GERES	**GERESS Array B**	**149.72**	**345**	PKPbc	**PKiKP**	**12 00 44.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=21,slow=1.4,SNR=6.9						
GERES	**GERESS Array B**	**149.72**	**345**		**PKiKP**	**12 00 44.1**	**+0.1**

IDC 01 11:47:52.8±759.0, 54°.20N×41°.72E, h0km, Error ellipse: s-maj=268.7km s-min=48.7km az=147.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON 3.6**	**0**	**316**	*i*		12 11 10.0	
	baz=131,slow=324,SNR=0.7						
I26DE	**FREYUNG INFRAS**	**18.6**	**264**	*i*		13 36 50.0	
	baz=63,slow=310,SNR=0.7						
I37NO	**I37NO**	**18.32**	**333**	*i*		13 44 50.0	
	baz=133,slow=322,SNR=0.9						

SKO 01 12:02:48.5, 41°.64N×22°.32E, h3km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.11**	**298**	*i* Pg	Pg	12 02 50.6	-0.2
STIP				*i* Sg	Sg	12 02 52.9	+0.5
STIP	**Stip**	**0.11**	**298**	*i* Pg	Pg	12 02 50.6	-0.2
STIP				*i* Sg	Sg	12 02 53.0	+0.6
STIP				*e*Lg	Lg	12 02 54.8	
	comp=E,71nm,0.7s						
VAY	**Valandovo**	**0.37**	**149**	*i* Pg	Pg	12 02 56.4	+0.8
VAY				*i* Sg	Sb	12 03 02.1	-1.7
VAY				*e*Lg	Lg	12 03 02.2	
	comp=E,25nm,0.4s						
VAY				*e*Lg	Lg	12 03 02.3	
	comp=N,23nm,0.4s						
VAY	**Valandovo**	**0.37**	**149**	*i* Pg	Pg	12 02 56.6	+1.0
VAY				*i* Sg	Sg	12 03 01.9	+1.5
VAY				*e*Lg	Lg	12 03 02.2	
	comp=E,25nm,0.4s						
KNT	**Kendrikon**	**0.65**	**137**	*i* Pg	Pg	12 03 01.1	+0.2
KNT	**Kendrikon**	**0.65**	**137**	*e*Pg	Pg	12 02 58.9	-2.0
KNT				*i* Sg	Sb	12 03 10.9	-0.9
GRG	**Griva**	**0.69**	**175**	*e*Pg	Pg	12 03 02.0	+0.4
GRG	**Griva**	**0.69**	**175**	*i* Pg	Pg	12 03 02.0	+0.4
VTS	**Vitosha**	**1.19**	**35**	*i* Pg	Pg	12 03 11.6	+0.2

*IDC **01** 12:04:15.2±1.2, 29°.42N×83°.50E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/50, mbtmp3.8/10, ML3.9/2, Error ellipse: s-maj=47.2km s-min=17.8km az=59.0*

ISC 01 12:04:16.9±1.4, 29°.4N±0°.2×83°.5E±0°.3, h10km, n10, σ09°61/10, mb3.9/8, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**17.37**	**357**	P	**Pn**	**12 08 19.8**	**+0.4**
	0.2nm,0.3s,baz=183,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**17.82**	**124**	P	**Pn**	**12 08 25.2**	**0.0**
	0.3nm,0.3s,baz=309,slow=12,SNR=1.7						
KURBB	**Kurchatov Arra**	**21.50**	**351**	P	**P**	**12 09 05.0**	**-0.7**
	0.7nm,0.6s,baz=171,slow=10.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**24.52**	**2**	P	**P**	**12 09 36.4**	**0.0**
	0.8nm,0.4s,baz=170,slow=9.8,SNR=2.6						
SONM	**Songino Array**	**25.49**	**38**	P	**P**	**12 09 45.3**	**-0.1**
	1.0nm,0.5s,baz=231,slow=9.9,SNR=4.4						
FINES	**FINESS Array B**	**49.13**	**328**	P	**P**	**12 13 05.5**	**+1.1**
	1.1nm,0.6s,baz=54,slow=9.3,SNR=2.7						
ARCES	**ARCESS Array B**	**51.67**	**338**	P	**P**	**12 13 23.1**	**-0.4**
	1.3nm,0.6s,baz=87,slow=8.6,SNR=8.0						
HFS	**Hagfors**	**54.98**	**325**	P	**P**	**12 13 47.3**	**-0.7**
	1.1nm,0.5s,baz=84,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**69.36**	**129**	P	**P**	**12 15 25.1**	**+0.1**
	0.9nm,0.5s,baz=324,slow=6.5,SNR=17						
ASAR	**Alice Springs**	**71.66**	**132**	P	**P**	**12 15 38.9**	**-0.1**
	0.4nm,0.7s,baz=312,slow=5.3,SNR=6.1						

*IDC **01** 12:14:04.5±0.8, 31°.87S×177°.87W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/21, mbtmp4.2/8, ML4.5/1, MS3.9/13, Ms1 3.9/13, ms1mx3.6/41, Error ellipse: s-maj=26.9km s-min=21.3km az=90.0*
*NEIC **01** 12:14:07.0±2.2, 32°.0S±0°.1×177°.7W±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=22.3km s-min=20.4km az=143.0*

ISC 01 12:14:05.7±0.6, 32°.10S±0°.05×177°.7W±0°.1, h10km, n86, σ29°11/85, mb4.6/14, MS3.9/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.83**	**357**	P	**Pn**	**12 14 48.0**	**-3.1**
GLKZ				S	**Sn**	**12 15 21.7**	**-3.6**
RAO	**Raoul Island**	**2.84**	**357**	Pn	**Pn**	**12 14 46.4**	**-4.8**
	87nm,0.3s,baz=105,slow=23,SNR=3.2						
RAO				Sn	**Sn**	**12 15 23.5**	**-2.0**
	107nm,0.3s,baz=99,slow=22,SNR=2.1						
RIZ	**Raoul Island**	**2.85**	**357**	P	**Pn**	**12 14 49.3**	**-2.1**
RIZ				S	**Sn**	**12 15 23.5**	**-2.3**
MXZ	**Matakaoa Point**	**6.34**	**210**	P	**Pn**	**12 15 36.1**	**-3.1**
MXZ				S	**Sn**	**12 16 49.1**	**-2.6**
WMGZ	**Waiomatatini S**	**6.52**	**208**	P	**Pn**	**12 15 41.1**	**-0.6**
WMGZ				S	**Sn**	**12 16 53.3**	**-2.8**
PKGZ	**Pakihiroa**	**6.71**	**210**	P	**Pn**	**12 15 41.3**	**-3.2**
PKGZ				S	**Sn**	**12 16 58.9**	**-2.1**
HAZ	**Te Kaha**	**6.73**	**212**	P	**Pn**	**12 15 42.7**	**-1.9**
PUZ	**Puketiti**	**6.80**	**208**	P	**Pn**	**12 15 42.8**	**-2.7**
PUZ				S	**Sn**	**12 17 00.1**	**-2.9**
RUGZ	**Raukumara Rang**	**6.95**	**211**	P	**Pn**	**12 15 45.5**	**-2.3**
RUGZ				S	**Sn**	**12 17 04.7**	**-2.2**
CNGZ	**Carnagh Statio**	**7.17**	**206**	P	**Pn**	**12 15 48.4**	**-2.3**
MWZ	**Matawai**	**7.32**	**211**	P	**Pn**	**12 15 50.4**	**-2.3**
MWZ				S	**Sn**	**12 17 11.9**	**-4.1**
URZ	**Urewera**	**7.45**	**213**	Pn	**Pn**	**12 15 51.7**	**-2.7**
	1.0nm,0.3s,baz=124,slow=23,SNR=2.6						
URZ				Sn	**Sn**	**12 17 14.2**	**-4.8**
	18nm,0.3s,baz=189,slow=21,SNR=13						
URZ	**Urewera**	**7.45**	**213**		**Pn**	**12 15 58.0**	**+3.5**
URZ	**Urewera**	**7.45**	**213**	P	**Pn**	**12 15 51.8**	**-2.7**
URZ				S	**Sn**	**12 17 15.6**	**-3.4**
RAGZ	**Rawiri**	**7.51**	**210**	P	**Pn**	**12 15 52.1**	**-3.2**
RAGZ				S	**Sn**	**12 17 17.2**	**-3.3**
RIGZ	**Rimuhau**	**7.54**	**208**	P	**Pn**	**12 15 54.0**	**-1.8**
RIGZ				S	**Sn**	**12 17 18.4**	**-2.9**
RTZ	**Ruatahuna**	**7.80**	**212**	P	**Pn**	**12 15 58.4**	**-0.9**
RTZ				S	**Sn**	**12 17 23.1**	**-4.6**
OUZ	**Omahuta**	**7.86**	**244**	Pn	**Pn**	**12 16 02.6**	**+2.5**
RAHZ	**Arahi**	**8.00**	**210**	P	**Pn**	**12 16 02.5**	**+0.5**
RAHZ				S	**Sn**	**12 17 29.2**	**-3.3**
MTHZ	**Maungataniwha**	**8.05**	**212**	P	**Pn**	**12 16 03.1**	**+0.3**
NMHZ	**Naumai**	**8.27**	**211**	P	**Pn**	**12 16 05.4**	**-0.4**
BKZ	**Black Stump Fm**	**8.46**	**212**	P	**Pn**	**12 16 08.4**	**-0.1**
MCHZ	**McNeill Hill**	**8.61**	**212**	P	**Pn**	**12 16 09.6**	**-0.8**
OTVZ	**Oturere**	**8.85**	**215**	P	**Pn**	**12 16 14.6**	**+0.7**
MRZ	**Mangatainoka R**	**10.09**	**210**	P	**Pn**	**12 16 29.0**	**-1.7**
TRWZ	**Traveller**	**10.66**	**208**	P	**Pn**	**12 16 35.2**	**-3.4**
THZ	**Tophouse**	**12.20**	**215**	P	**Pn**	**12 16 57.4**	**-2.1**
MSVF	**Nonsavu**	**14.80**	**344**	LR	LR	12 21 40.7	
	comp=Z,356nm,18.8s,baz=196,slow=31						
DZM	**Mont Dzumac**	**17.25**	**302**	LR	LR	12 23 48.8	
	comp=Z,980nm,18.7s,baz=142,slow=34						
DZM	**Mont Dzumac**	**17.25**	**302**	*e*LR	LR	12 22 02.1	
	comp=Z,807nm,22.5s						
RAR	**Rarotonga**	**19.35**	**60**	LR	LR	12 24 51.5	
	comp=Z,133nm,19.8s,baz=262,slow=34						
TBI	**Tubuai**	**26.45**	**78**	*e*LR	LR	12 26 06.8	
	comp=Z,248nm,22.8s						
PPT2	**Papeete2**	**29.25**	**67**	*e*LR	LR	12 27 15.0	
	comp=Z,271nm,25.8s						
PPT	**Papeete**	**29.26**	**67**	LR	LR	12 31 11.7	
	comp=Z,142nm,18.4s,baz=260,slow=35						
TOO	**Toolangi**	**30.53**	**249**	P	**P**	**12 20 21.9**	**+2.6**
CTAO	**Charters Tower**	**34.32**	**281**	P	**P**	**12 20 54.0**	**+1.3**
CTAO				IAmb	IAmb	12 20 59.1	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**34.34**	**259**	P	**P**	**12 20 53.9**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=94,slow=9.3,SNR=6.2						
STKA				LR	LR	12 34 31.0	
	comp=Z,260nm,18.5s,baz=51,slow=36						
STKA	**Stephens Creek**	**34.34**	**259**	P	**P**	**12 20 54.8**	**+2.1**
BBOO	**Buckleboo**	**38.75**	**256**	P	**P**	**12 21 30.0**	**-0.3**
BBOO				IAmb	IAmb	12 21 32.7	
	comp=Z,21nm,1.2s						
AS31	**Alice Springs**	**43.26**	**269**	P	**P**	**12 22 07.8**	**+0.2**
ASAR	**Alice Springs**	**43.26**	**269**	P	**P**	**12 22 06.9**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=106,slow=7.1,SNR=36						
ASAR				PcP	**PcP**	**12 23 56.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=125,slow=4.7,SNR=1.0						
WR0	**Warramunga Arr**	**44.23**	**274**	P	**P**	**12 22 14.8**	**-0.6**
WR0				IAmb	IAmb	12 22 29.1	
	comp=Z,9.3nm,1.1s						
WB2	**Warramunga Arr**	**44.39**	**274**	P	**P**	**12 22 15.8**	**-1.0**
WB2				IAmb	IAmb	12 22 21.5	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**44.41**	**274**	P	**P**	**12 22 15.4**	**-1.5**
	comp=Z,4.2nm,0.3s,baz=111,slow=8.0,SNR=110						
WRA				LR	LR	12 40 09.0	
	comp=Z,199nm,19.0s,baz=100,slow=35						
WRA	**Warramunga Arr**	**44.41**	**274**	P	**P**	**12 22 16.0**	**-0.9**
WB0	**Warramunga Arr**	**44.44**	**274**	P	**P**	**12 22 16.1**	**-1.0**
FORT	**Forrest**	**45.85**	**257**	P	**P**	**12 22 28.0**	**-0.2**
VNDA	**Vanda**	**46.43**	**186**	P	**P**	**12 22 34.0**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=8.1,slow=6.2,SNR=7.3						
VNDA	**Vanda**	**46.43**	**186**	IAmb	IAmb	12 22 57.4	
	comp=Z,4.5nm,1.3s						
MTN	**Manton Dam**	**50.48**	**280**	P	**P**	**12 23 05.3**	**+1.1**
MTN				IAmb	IAmb	12 23 24.7	
	comp=Z,9.6nm,0.8s						
KNRA	**Kununurra**	**51.07**	**276**	P	**P**	**12 23 09.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.59**	**271**	P	**P**	**12 23 19.6**	**-0.3**
CASY	**Casey**	**53.75**	**208**	P	**P**	**12 23 29.4**	**+1.6**
CASY				IAmb	IAmb	12 23 31.8	
	comp=Z,9.6nm,0.8s						
QSPA	**South Pole Qui**	**58.01**	**180**	P	**P**	**12 24 00.3**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=38,slow=1.0,SNR=7.6						
QSPA	**South Pole Qui**	**58.01**	**180**	P	**P**	**12 23 60.0**	**+1.4**
BATI	**Baumata**	**58.10**	**278**	LR	LR	12 49 00.1	
	comp=Z,342nm,19.9s,baz=131,slow=36						
RPN	**Rapa Nui**	**58.79**	**104**	LR	LR	12 45 58.2	
	comp=Z,107nm,18.0s,baz=253,slow=32						
MAW	**Mawson**	**70.80**	**201**	P	**P**	**12 25 24.3**	**+2.4**
	comp=Z,3.2nm,1.0s,baz=130,slow=7.7,SNR=4.1						
SNAA	**Sanae**	**76.45**	**178**	P	**P**	**12 25 56.7**	**+1.4**
SNAA	**Sanae**	**76.45**	**178**	P	**P**	**12 25 56.9**	**+1.6**
SNAA				IAmb	IAmb	12 26 19.8	
	comp=Z,10nm,1.0s						
VNA3	**Neumayer Olymp**	**76.60**	**176**	P	**P**	**12 25 57.1**	**+1.1**
VNA2	**Neumayer--Watz**	**77.03**	**177**	P	**P**	**12 25 59.9**	**+1.4**
	baz=173,slow=5.1						
VNA1	**Neumayer--Stat**	**77.26**	**176**	P	**P**	**12 26 01.8**	**+2.1**
H03S2	**Juan Fernandez**	**79.35**	**123**	T	T	13 53 41.2	
	baz=240						
H03S1	**Juan Fernandez**	**79.36**	**123**	T	T	13 53 44.3	
	baz=240						
H03S3	**Juan Fernandez**	**79.36**	**123**	T	T	13 53 38.9	
	baz=240						
H03N3	**Juan Fernandez**	**79.55**	**123**	T	T	13 53 49.2	
	baz=241						
H03N2	**Juan Fernandez**	**79.55**	**123**	T	T	13 53 47.6	
	baz=241						
H03N1	**Juan Fernandez**	**79.56**	**123**	T	T	13 53 50.5	
	baz=241						
PLCA	**Paso Flores**	**81.19**	**133**	LR	LR	12 55 33.5	
	comp=Z,86nm,18.6s,baz=198,slow=31						
KSRS	**Korea Array**	**85.78**	**320**	LR	LR	12 59 51.3	
	comp=Z,27nm,21.7s,baz=135,slow=32						
NVAR	**Mina Array Bea**	**89.34**	**43**	P	**P**	**12 27 03.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=218,slow=6.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**94.17**	**289**	LR	LR	13 12 32.6	
	comp=Z,16nm,19.3s,baz=130,slow=37						
LPAZ	**La Paz**	**97.25**	**114**	LR	LR	13 01 00.1	
	comp=Z,36nm,21.3s,baz=237,slow=29						
CPUP	**Villa Florida**	**98.76**	**128**	LR	LR	13 09 27.4	
	comp=Z,46nm,18.4s,baz=218,slow=34						
KBZ	**Khabaz**	**146.22**	**302**	PKPbc	**PKPdf**	**12 33 44.7**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=90,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	**PKPbc**	**12 33 46.8**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=38,slow=3.9,SNR=16						
FINES	**FINESS Array B**	**146.81**	**339**		**PKPdf**	**12 33 45.7**	**+0.1**
NB2	**NORSAR Subarra**	**150.46**	**351**	PKP	**PKiKP**	**12 33 57.5**	**-0.2**
	comp=Z,7.7nm,1.4s,baz=12,slow=4.1						
NOA	**NORSAR Array B**	**150.46**	**351**	PKPbc	**PKPbc**	**12 33 57.1**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=13,slow=4.1,SNR=3.3						
AKASG	**Malin Array Be**	**152.77**	**321**	PKPbc	**PKiKP**	**12 34 02.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=42,slow=2.8,SNR=4.7						
AKASG	**Malin Array Be**	**152.77**	**321**		**PKPdf**	**12 33 54.5**	**-0.8**
AKASG				PKPbc	**pPKPbc**	**12 34 03.5**	**-0.2**
AKASG				PKPab	**PKPab**	**12 34 12.9**	**-0.5**
BRTR	**Keskin Array B**	**153.57**	**296**	PKPbc	**PKPbc**	**12 34 04.5**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=116,slow=2.9,SNR=5.1						
BRTR	**Keskin Array B**	**153.57**	**296**	PKPdf	**PKPdf**	**12 33 55.4**	**-1.6**
BRTR				PKPbc	**PKPbc**	**12 34 04.7**	**-0.1**
BRTR				PKPab	**PKPab**	**12 34 16.7**	**-0.6**
CLL	**Collm**	**159.24**	**341**	*e*PKPab	**PKPab**	**12 34 42.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**161.13**	**178**	PKPab	**PKPab**	**12 34 49.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=186,slow=2.9,SNR=6.0						

*NEIC **01** 12:15:27.4±1.0, 60°.23N±0°.04×153°.34W±0°.08, h150km±2km, Error ellipse: s-maj=6.1km s-min=5.6km az=190.0*
*ANF **01** 12:15:27.4±0.4, 60°.20N×153°.18W, h147km±4km, ML3.4/44, Error ellipse: s-maj=3.6km s-min=2.7km az=144.0*
*AEIC **01** 12:15:29±1.4, 60°.23N±0°.04×153°.24W±0°.08, h140km±3km, ML3.1, ML3.5/88(NEIC), Error ellipse: s-maj=6.3km s-min=4.5km az=46.0*

ISC 01 12:15:26.4±1.2, 60°.20N±0°.03×153°.31W±0°.03, h155km±6km, n184, σ19°03/226, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.16**	**147**		**Pn**	**12 15 47.9**	**+0.4**
IVE	**Iliamna Volcan**	**0.23**	**141**		**Pn**	**12 15 48.0**	**+0.4**
IVE					**Sn**	**12 16 03.5**	**-0.1**
ILS	**Iliamna Low So**	**0.27**	**153**		**Pn**	**12 15 48.2**	**+0.6**
RED	**Redoubt Volcan**	**0.35**	**50**		**Pn**	**12 15 48.2**	**+0.4**
RED					**Sn**	**12 16 03.8**	**-0.5**
O20K	**Slope Mountain**	**0.36**	**108**	P	**Pn**	**12 15 48.6**	**+0.7**
	baz=293,SNR=6.5						
O20K				S	**Sn**	**12 16 04.0**	**-0.2**
	baz=293						
RSO	**Redoubt South**	**0.38**	**46**		**Pn**	**12 15 48.5**	**+0.4**
NCT	**North Crescent**	**0.41**	**27**		**Pn**	**12 15 48.5**	**+0.4**
NCT					**Sn**	**12 16 04.0**	**-0.7**
REF	**Redoubt East F**	**0.42**	**46**		**Pn**	**12 15 48.6**	**+0.4**
O19K	**Port Alsworth**	**0.50**	**270**	P	**Pn**	**12 15 48.6**	**+0.3**
	baz=87,SNR=32						
O19K				S	**Sn**	**12 16 04.0**	**-1.1**
	baz=87						
O19K	**Port Alsworth**	**0.50**	**270**		**Pn**	**12 15 48.6**	**+0.3**
O19K					**Sn**	**12 16 04.1**	**-0.9**
OPT	**Oil Point**	**0.55**	**176**		**Pn**	**12 15 49.4**	**+0.7**
AUL	**Augustine Lava**	**0.82**	**184**		**Pn**	**12 15 51.1**	**+0.8**
AUL					**Sn**	**12 16 08.9**	**+0.4**
AU22	**Augustine Moun**	**0.83**	**182**		**Pn**	**12 15 51.0**	**+0.7**
AU22					**Sn**	**12 16 08.6**	**0.0**
AUW	**Augustine West**	**0.83**	**186**		**Pn**	**12 15 51.3**	**+0.9**
AUCH	**Augustine Cone**	**0.84**	**185**		**Pn**	**12 15 51.4**	**+0.8**
AUQ	**Augustine Qik'**	**0.85**	**184**		**Pn**	**12 15 51.4**	**+0.8**
N19K	**Bonanza Creek**	**0.85**	**317**	P	**Pn**	**12 15 51.0**	**+0.4**
	baz=134,SNR=74						
N19K				S	**Sn**	**12 16 08.0**	**-1.2**
	baz=134						
N19K	**Bonanza Creek**	**0.85**	**317**		**Pn**	**12 15 51.0**	**+0.4**
N19K					**Sn**	**12 16 08.1**	**-1.0**
HOM	**Homer**	**1.00**	**122**	P	**Pn**	**12 15 52.6**	**+0.9**
	baz=305						
HOM				S	**Sn**	**12 16 11.2**	**+0.2**
	baz=305						
HOM	**Homer**	**1.00**	**122**		**Pn**	**12 15 52.5**	**+0.9**
HOM					**Sn**	**12 16 11.1**	**+0.2**
HOM				IAML		12 16 13.1	
	comp=E,990nm,0.2s						
HOM				IAML		12 16 13.5	
	comp=N,880nm,0.3s						
O18K	**Koktuh Hills**	**1.01**	**251**	P	**Pn**	**12 15 52.2**	**+0.5**
	baz=69						
O18K				S	**Sn**	**12 16 10.2**	**-1.0**
	baz=69						
SPCR	**Spurr Chakacha**	**1.14**	**28**	P	**Pn**	**12 15 53.7**	**+0.8**
	baz=208,SNR=17						
SPCR	**Spurr Chakacha**	**1.14**	**28**		**Pn**	**12 15 53.7**	**+0.8**
SPBG	**Spurr Blockage**	**1.16**	**23**		**Pn**	**12 15 54.3**	**+1.2**
SPU	**Mount Spurr**	**1.17**	**32**	Pn	**Pn**	**12 15 53.9**	**+0.7**
SPCN	**Chakachatna No**	**1.17**	**28**		**Pn**	**12 15 54.2**	**+1.1**
CAPN	**Captain Cook N**	**1.21**	**61**	P	**Pn**	**12 15 55.3**	**+1.9**
	baz=243						
CAPN	**Captain Cook N**	**1.21**	**61**		**Pn**	**12 15 55.6**	**+2.1**
CAPN				IAML		12 16 18.1	
	comp=E,792nm,1.0s						
SPCP	**Crater Peak Br**	**1.21**	**28**		**Pn**	**12 15 54.7**	**+1.0**
CNPM	**China Poot**	**1.25**	**122**		**Pn**	**12 15 54.7**	**+0.8**
CNPM					**Sn**	**12 16 14.3**	**-0.6

CUT	Chulitna	2.66	32	Pn	Pn	12 16 10.3	+0.8
CUT				IAML		12 16 43.8	
comp=N,273nm,0.4s							
GHO	Glory Hole Cre	2.66	52		Pn	12 16 09.3	-0.4
GHO				IAML		12 16 42.5	
comp=E,274nm,0.6s							
GHO				IAML		12 16 43.6	
comp=N,184nm,0.4s							
KNK	Knik Glacier	2.67	61	P	Pn	12 16 09.3	-0.5
baz=245							
KNK				S	Sn	12 16 41.9	-1.6
baz=245							
PPLA	Purkeypile	2.76	11	P	Pn	12 16 12.9	+1.8
baz=191							
PPLA	Purkeypile	2.76	11	Pn	Pn	12 16 12.8	+1.8
SML	Sawmill	2.91	54	P	Pn	12 16 12.3	-0.5
baz=238							
SML				S	Sn	12 16 46.8	-2.1
baz=238							
SML	Sawmill	2.91	54		Pn	12 16 12.4	-0.5
SML				IAML		12 16 48.5	
comp=E,138nm,0.4s							
SML				IAML		12 16 49.0	
comp=N,164nm,0.5s							
OHAK	Old Harbor	2.98	180	P	Pn	12 16 12.7	-1.0
baz=0.2							
OHAK				S	Sn	12 16 47.1	-3.3
baz=0.2							
OHAK	Old Harbor	2.98	180	Pn	Pn	12 16 12.8	-0.9
OHAK				IAML		12 16 48.7	
comp=E,67nm,0.2s							
TT01	Tatalina	3.01	336		Pn	12 16 14.8	+0.8
TTA	Tatalina	3.03	336	S	Sn	12 16 50.6	-0.9
baz=153							
GLI	Glacier Island	3.15	75	P	Pn	12 16 14.4	-1.4
baz=260							
GLI				S	Sn	12 16 52.2	-1.8
baz=260							
GLI	Glacier Island	3.15	75	Pn	Pn	12 16 16.5	+0.8
GLI				IAML		12 16 54.3	
comp=N,114nm,0.3s							
GLI				IAML		12 16 55.9	
comp=E,96nm,0.2s							
SCM	Sheep Creek Mo	3.34	58		Pn	12 16 18.1	-0.2
SCM				IAML		12 17 00.1	
comp=E,123nm,0.8s							
SCM				IAML		12 17 01.6	
comp=N,86nm,0.5s							
HIN	Hinchinbrook I	3.40	84	Pn	Pn	12 16 19.5	+0.5
HIN				IAML		12 17 00.1	
comp=N,117nm,0.6s							
HIN				IAML		12 17 00.8	
comp=E,100nm,0.5s							
WAT7	Susitna Watana	3.40	37		Pn	12 16 19.7	+0.6
FID	Port Fidalgo	3.43	78	Pn	Pn	12 16 19.4	+0.1
WAT1	Susitna Watana	3.49	39	P	Pn	12 16 20.6	+0.5
baz=223							
WAT1				S	Sn	12 17 00.6	-1.3
baz=223							
WAT1	Susitna Watana	3.49	39		Pn	12 16 20.6	+0.5
TRF	Thorofare Moun	3.56	22	P	Pn	12 16 22.1	+0.8
baz=205							
TRF				S	Sn	12 17 02.6	-1.2
baz=205							
TRF	Thorofare Moun	3.56	22		Pn	12 16 22.3	+1.1
WAT6	Susitna Watana	3.59	46	P	Pn	12 16 21.5	0.0
baz=231							
WAT6				S	Sn	12 17 03.0	-1.4
baz=231							
WAT6	Susitna Watana	3.59	46		Pn	12 16 21.6	+0.1
MID	Middleton Isla	3.61	99		Pn	12 16 22.5	+0.9
MID				IAML		12 17 05.6	
comp=N,73nm,1.1s							
MID				IAML		12 17 15.7	
comp=E,81nm,1.5s							
EYAK	Cordova Ski Ar	3.77	81	P	Pn	12 16 24.1	+0.4
baz=268							
EYAK				S	Sn	12 17 06.5	-1.7
baz=268							
EYAK	Cordova Ski Ar	3.77	81	Pn	Pn	12 16 24.5	+0.8
DIV	Divide	3.83	73		Pn	12 16 24.1	-0.4
DIV					Sn	12 17 08.8	-0.9
KLU	Klutina	3.84	67	P	Pn	12 16 24.5	-0.2
baz=254							
KLU				S	Sn	12 17 09.0	-1.1
baz=254							
KLU	Klutina	3.84	67		Pn	12 16 24.8	+0.1
KLU				IAML		12 17 10.9	
comp=N,100nm,0.6s							
RND	Reindeer	3.85	31		Pn	12 16 25.5	+0.6
M24K	Tolsona, Glenn	3.95	58	P	Pn	12 16 26.7	+0.5
baz=244,SNR=6.3							
M24K				S	Sn	12 17 12.9	+0.3
baz=244							
M24K	Tolsona, Glenn	3.95	58		Pn	12 16 26.5	+0.4
M24K				IAML		12 17 14.6	
comp=E,77nm,0.4s							
M24K				IAML		12 17 28.0	
comp=N,52nm,0.9s							
BPAW	Bear Paw Mtn.	4.07	15	P	Pn	12 16 28.2	+0.6
baz=196							
BPAW				S	Sn	12 17 13.6	-1.6
baz=196							
BPAW	Bear Paw Mtn.	4.07	15	Pn	Pn	12 16 27.8	+0.3
MCK	McKinley	4.11	28	P	Pn	12 16 28.9	+0.8
baz=212,SNR=6.3							
MCK	McKinley	4.11	28		Pn	12 16 29.1	+1.0
MCK				IAML		12 17 20.1	
comp=E,26nm,0.4s							
BMRM	Bremner River	4.36	76	P	Pn	12 16 32.2	+0.7
baz=264							
BMRM				S	Sn	12 17 20.4	-1.8
baz=264							
BMRM	Bremner River	4.36	76		Pn	12 16 31.9	+0.4
BMRM				IAML		12 17 22.0	
comp=E,72nm,0.4s							
BWN	Browne	4.38	23	Pn	Pn	12 16 32.6	+1.1
N25K	Chitina, Valde	4.48	68	P	Pn	12 16 33.2	+0.2
baz=256							
N25K				S	Sn	12 17 24.1	-1.0
baz=256							
N25K	Chitina, Valde	4.48	68		Pn	12 16 33.3	+0.2
N25K				IAML		12 17 25.6	
comp=E,37nm,0.4s							
N25K				IAML		12 17 26.9	
comp=N,40nm,0.4s							
HARP	HAARP	4.51	57	P	Pn	12 16 32.9	-0.4
baz=244							
HARP				S	Sn	12 17 25.4	-0.1
baz=244							
HARP	HAARP	4.51	57		Pn	12 16 34.1	+0.8
HMT	Hamilton	4.51	84	Pn	Pn	12 16 35.8	+2.4
HMT				IAML		12 17 26.6	
comp=N,65nm,0.3s							
PAX	Paxson	4.67	50	P	Pn	12 16 35.1	-0.3
baz=237							
PAX	Paxson	4.67	50		Pn	12 16 35.5	+0.1
SUCK	Suckling Hills	4.77	87	Pn	Pn	12 16 39.0	+2.2
SUCK				IAML		12 18 04.5	
comp=E,50nm,2.1s							
GLB	Gilahina Butte	4.82	71	Pn	Pn	12 16 38.5	+1.1
GLB				IAML		12 17 32.6	
comp=N,23nm,0.8s							
GLB				IAML		12 17 32.7	
comp=E,19nm,0.8s							
NEA2	Nenana	4.83	22	P	Pn	12 16 37.7	+0.2
baz=206,SNR=35							
NEA2	Nenana	4.83	22		Pn	12 16 38.2	+0.7
WRH	Wood River Hil	4.93	27		Pn	12 16 39.4	+0.5
VRDI	Verde Repeater	4.95	74		Pn	12 16 39.7	+0.3
VRDI				IAML		12 17 37.4	
comp=E,22nm,0.4s							
VRDI				IAML		12 17 37.0	
comp=N,21nm,0.4s							
MLY	Manley	4.99	13	P	Pn	12 16 40.0	+0.2
baz=195,SNR=8.1							
MLY	Manley	4.99	13		Pn	12 16 40.3	+0.6
KHIT	Khitrov Hills	5.01	83		Pn	12 16 40.3	+0.3
I21K	Tanana	5.04	6	P	Pn	12 16 40.8	+0.6
baz=187,SNR=5.3							
I21K	Tanana	5.04	6		Pn	12 16 41.1	+0.8
CRQM	Cirque	5.07	79		Pn	12 16 42.3	+1.5
CRQE	Cirque	5.09	79	P	Pn	12 16 41.7	+0.7
baz=268							
CCB	Clear Creek Bu	5.14	27		Pn	12 16 42.2	+0.6
HDA	Harding Lake	5.16	32	P	Pn	12 16 42.3	+0.4
baz=218,SNR=25							
HDA	Harding Lake	5.16	32		Pn	12 16 42.6	+0.7
MCARA	McCarthy VSAT	5.18	72	P	Pn	12 16 43.3	+1.1
baz=261							
MCARA	McCarthy VSAT	5.18	72		Pn	12 16 43.0	+0.8
MCARA				IAML		12 17 42.7	
comp=E,39nm,0.4s							
MCARA				IAML		12 17 45.0	
comp=N,40nm,0.7s							
WAX	Waxell Ridge	5.21	83		Pn	12 16 43.9	+1.4
TGL	Tana Glacier	5.22	79		Pn	12 16 43.8	+1.0
TGL				IAML		12 17 41.0	
comp=E,43nm,0.5s							
I23K	Minto, Yukon-K	5.29	18	P	Pn	12 16 44.7	+1.2
baz=202,SNR=45							
I23K	Minto, Yukon-K	5.29	18		Pn	12 16 44.8	+1.2
MDM	Murphy Dome	5.32	24		Pn	12 16 44.9	+0.9
TCOL	CIGO, UAF Yank	5.33	26	P	Pn	12 16 44.6	+0.6
baz=210,SNR=9.7							
TCOL	CIGO, UAF Yank	5.33	26		Pn	12 16 44.8	+0.8
COLA	College	5.33	26	P	Pn	12 16 44.5	+0.4
baz=210							
COLA	College	5.33	26	Pn	Pn	12 16 44.8	+0.7
MENT	Mentasta	5.34	55	Pn	Pn	12 16 46.2	+1.9
PTPK	Patty Peak	5.42	75		Pn	12 16 46.6	+1.1
KIAG	Kiagna River	5.45	78		Pn	12 16 47.1	+1.2
ISLE	Juniper Island	5.46	81		Pn	12 16 47.4	+1.5
BALM	Baldy	5.47	76		Pn	12 16 47.5	+1.4
IL31		5.47	30		Pn	12 16 46.4	+0.5
ILAR	Eielson Array	5.47	30	Pn	Pn	12 16 46.5	+0.6
DOT	Dot Lake	5.57	48		Pn	12 16 47.9	+0.5
BAGL	Bagley Icefiel	5.58	82		Pn	12 16 48.7	+1.3
POKR	Poker Plat Res	5.63	26	P	Pn	12 16 48.5	+0.4
baz=211							
POKR	Poker Plat Res	5.63	26		Pn	12 16 49.0	+0.9
MESA	MESA	5.67	85	P	Pn	12 16 50.0	+1.2
baz=275							
YAH	Yahtse	5.76	83	Pn	Pn	12 16 51.8	+1.8
SCRK	Sand Creek	5.79	45	P	Pn	12 16 50.6	+0.3
baz=233,SNR=8.1							
SCRK	Sand Creek	5.79	45		Pn	12 16 50.6	+0.3
BARN	Barnard Glacie	5.80	76		Pn	12 16 52.5	+2.0
H23K	Yukon River	5.90	15	P	Pn	12 16 53.0	+1.3
baz=198,SNR=14							
H23K	Yukon River	5.90	15		Pn	12 16 53.2	+1.5
CTG	Chitna Glacier	5.95	77	P	Pn	12 16 53.8	+1.3
baz=266							
CTGM	Chitina Glacie	5.96	77		Pn	12 16 54.3	+1.7
RKAV	Rock Avalanche	5.96	84		Pn	12 16 53.2	+0.6
TABL	Table Mountain	6.05	82	Pn	Pn	12 16 55.5	+1.6
LOGN	Logan Glacier	6.11	79	Pn	Pn	12 16 56.5	+1.8
H24K	Noodor Dome	6.17	21	P	Pn	12 16 55.8	+0.5
baz=206,SNR=10							
H24K	Noodor Dome	6.17	21		Pn	12 16 55.9	+0.5
L27K	Beaver Creek,	6.18	57	P	Pn	12 16 56.1	+0.7
baz=247							
L27K	Beaver Creek,	6.18	57		Pn	12 16 56.5	+1.0
SDPT	Sand Point	6.19	221	P	Pn	12 16 55.4	-0.2
baz=35							
SDPT	Sand Point	6.19	221	Pn	Pn	12 16 55.3	-0.2
BC03		6.20	57		Pn	12 16 56.1	+0.5
BCAR	Beaver Creek A	6.20	57	Pn	Pn	12 16 56.9	+1.1
YUK2	White River	6.27	70		Pn	12 16 57.8	+1.0
CHNA	Chernabura Isl	6.35	215	P	Pn	12 16 56.2	-1.5
baz=30							
CNBA	Chernabura Isl	6.36	215	Pn	Pn	12 16 57.4	-0.5
PRP	Porcupine Dome	6.42	30	P	Pn	12 16 59.1	+0.5
baz=217							
PRP	Porcupine Dome	6.42	30		Pn	12 16 59.5	+0.9
K27K	Chicken	6.52	49	P	Pn	12 17 00.2	+0.3
baz=239							
K27K	Chicken	6.52	49		Pn	12 17 00.5	+0.6
PCA	Pinnacle	6.52	85	Pn	Pn	12 17 01.6	+1.6
PINM	Pinnacle	6.52	85	P	Pn	12 17 01.4	+1.3
baz=277							
PNL	Peninsula	7.01	88		Pn	12 17 07.6	+1.1
COLD	Coldfoot	7.19	10	P	Pn	12 17 08.7	-0.1
baz=192							
COLD	Coldfoot	7.19	10		Pn	12 17 09.8	+1.1
EGAK	Eagle	7.26	46	P	Pn	12 17 09.5	-0.2
baz=236							
EGAK	Eagle	7.26	46		Pn	12 17 10.2	+0.5
FYU	Fort Yukon	7.34	26	Pn	Pn	12 17 11.4	+0.6
DAWY	Dawson	7.58	53		Pn	12 17 15.7	+1.6
FALS	False Pass	7.63	230	P	Pn	12 17 15.8	+1.1
baz=41							
HYT	Haines Junctio	7.83	79	Pn	Pn	12 17 20.0	+2.6

*IDC **01** 12:25:27.2±2.9, 31°.88S×177°.92W, h0km, mb4.2/3, mb1 4.3/5, mb1mx3.8/41, mbtmp4.1/5, ML3.8/2, Error ellipse: s-maj=63.8km s-min=26.1km az=114.0*

ISC 01 12:25:26.5±2.6, 32°.1S±0°.1×177°.6W±0°.4, h18km, n6, σ1§68/8, mb4.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.82	353	Pn	Pn	12 26 09.9	-0.8
80nm,0.3s,baz=11,slow=23,SNR=2.0							
RAO				Sn	Sn	12 26 43.3	-1.0
48nm,0.3s,baz=271,slow=23,SNR=1.4							
URZ	Urewera	7.57	214	Pn	Pn	12 27 16.8	+0.9
0.3nm,0.3s,baz=124,slow=21,SNR=0.9							
URZ				Sn	Sn	12 28 38.2	-3.0
5.3nm,0.3s,baz=223,slow=23,SNR=10							
CTA	Charters Tower	34.47	281	P	P	12 32 14.8	+1.2
3.0nm,0.8s,baz=108,slow=7.2,SNR=1.9							
ASAR	Alice Springs	43.43	268	P	P	12 33 29.3	+0.8
1.0nm,0.5s,baz=104,slow=7.8,SNR=15							
WRA	Warramunga Arr	44.57	274	P	P	12 33 38.4	+0.7
1.6nm,0.3s,baz=113,slow=8.0,SNR=42							
FINES	FINESS Array B	146.84	339	PKPbc	PKiKP	12 45 09.4	-0.1
1.5nm,0.6s,baz=46,slow=4.0,SNR=6.3							

*IDC **01** 12:36:37.6±0.5, 37°.39N×144°.16E, h0km, mb4.0/23, mb1 4.2/29, mb1mx4.1/66, mbtmp4.1/29, ML3.9/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/49, Error ellipse: s-maj=15.5km s-min=12.5km az=111.0*

*NIED **01** 12:36:42.4, 37°.58N×143°.79E, h68km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}=0.79; $M_{\theta\theta}$=0.02; $M_{\phi\phi}$=0.77; $M_{r\theta}$=0.09; $M_{\theta\phi}$=0.44; $M_{\phi r}$=0.49; Fault plane solution: M_0=1.02000×10¹⁵ NP1: ϕ_s=196.00000°, δ=60.00000°, λ=-100.00000°. NP2: ϕ_s=35.00000°, δ=31.00000°, λ=-73.00000°.*

*JMA **01** 12:36:42.4±0.2, 37°.58N×143°.79E, h68km, M4.3*

ISC 01 12:36:43.0±0.6, 37°.59N±0°.05×143°.95E±0°.06, h35km, n55, σ2§26/69, mb3.9/22, MS3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.09	291	P	Pn	12 37 14.5	-1.0
JIKH				eS	Sn	12 37 38.4	-1.9
JIO	Ouri	2.23	294	P	Pn	12 37 16.5	-0.9
JIO				eS	Sn	12 37 41.7	-2.0
JKMT	Kesennumamotoy	2.30	303	P	Pn	12 37 17.4	-1.0
JKMT				S	Sn	12 37 43.1	-2.4
OFUJ	Ofunato	2.33	310	P	Pn	12 37 17.8	-1.1
OFUJ				eS	Sn	12 37 44.2	-2.1
JMK	Ichinoseki	2.54	303	P	Pn	12 37 21.0	-0.8
JMK				eS	Sn	12 37 49.8	-1.7
JOM	Ohasama	2.81	313	P	Pn	12 37 24.9	-0.5
JOM				S	Sn	12 37 56.7	-1.3
JFT	Otama	2.87	270	P	Pn	12 37 25.7	-0.6
JFT				eS	Sn	12 37 57.8	-1.8
JYK	Kaneyama	3.12	296	P	Pn	12 37 29.5	-0.2
JANG	Nango	3.37	326	P	Pn	12 37 31.9	-1.2
JANG				eS	Sn	12 38 09.4	-2.4
BSO1	Boso 1	3.79	220	P	Pn	12 37 36.5	-1.9
BSO1				S	Sn	12 38 18.8	-2.7
JRY	Ryogami san	4.34	250	P	Pn	12 37 45.2	-1.4
JRY				S	Sn	12 38 31.2	-4.8
JOT	Ohata	4.40	330	P	Pn	12 37 47.6	+0.3
JOT				eS	Sn	12 38 33.9	-3.5
JOD2	Odawara 2	4.55	241	P	Pn	12 37 47.6	-1.9
JOD2				eS	Sn	12 38 35.9	-5.3
MJAR	Matsushiro Arr	4.71	259	Pn	Pn	12 37 51.3	-0.3
4.8nm,0.3s,baz=90,slow=16,SNR=150							
MJAR				Sn	Sn	12 38 44.9	-0.1
0.8nm,0.3s,baz=80,slow=23,SNR=3.3							
MAT	Matsushiro	4.71	259	P	Pn	12 37 51.9	+0.3
MAT				eS	Sn	12 38 44.3	-0.7
JKB	Kayabe	4.85	333	P	Pn	12 37 53.6	+0.2
JKB				eS	Sn	12 38 45.3	-3.0
JCH	Churui	5.04	355	P	Pn	12 37 54.9	-1.2
JCH				S	Sn	12 38 48.7	-4.4
JHJ2	Mitsune	5.60	218	P	Pn	12 38 02.1	-1.7
JHJ	Hachijo jima 2	5.61	219	Pn	Pn	12 38 01.6	-2.3
10nm,0.3s,baz=255,slow=23,SNR=1.7							
JHJ				Sn	Sn	12 38 59.1	-8.0
54nm,0.3s,baz=18,slow=23,SNR=7.7							
NEM2	Nemuro 2	5.93	13	P	Pn	12 38 05.6	-2.7
NEM2				eS	Sn	12 39 08.5	-6.5
JHR	Hokuryu	6.38	345	P	Pn	12 38 15.2	+0.8
JTKR	Abashiri--Toko	6.38	360	P	Pn	12 38 13.2	-1.2
JTKR				eS	Sn	12 39 20.8	-5.2
ASAJ	Asahikawa	6.60	352	Pn	Pn	12 38 17.2	-0.3
2.9nm,0.3s,baz=198,slow=16,SNR=47							
ASAJ				Sn	Sn	12 39 28.7	-2.8
1.0nm,0.3s,baz=86,slow=29,SNR=2.6							
JCJ	Chichijima	10.57	189	Pn	Pn	12 39 05.9	-6.1
3.7nm,0.3s,baz=15,slow=20,SNR=1.7							
JCJ				Sn	Sn	12 40 53.5	-16
3.4nm,0.3s,baz=97,slow=23,SNR=1.6							
USRK	Ussuriysk Ar.	11.20	310	Pn	Pn	12 39 21.8	+1.3
baz=112,slow=12,SNR=6.0							
KSRS	Korea Array	12.73	274	Pn	Pn	12 39 41.7	+0.3
0.1nm,0.3s,baz=86,slow=14,SNR=11							
KSRS				LR	LR	12 44 51.7	
comp=Z,56nm,19.1s,baz=98,slow=38							
KLR	Kul'dur	14.61	327	Pn	Pn	12 40 06.6	-0.4
0.2nm,0.3s,baz=95,slow=12,SNR=4.0							
KLR				LR	LR	12 46 16.8	
comp=Z,53nm,21.4s,baz=136,slow=39							
SEY	Seymchan	25.90	9	P	P	12 42 12.8	+1.5
3.6nm,0.9s,baz=190,slow=7.9,SNR=7.2							
H11N2	WAKE ISLAND Hy	26.75	125	T	T	13 09 21.9	
baz=317,slow=75							
H11N1	WAKE ISLAND Hy	26.76	125	T	T	13 09 26.0	
baz=317							
H11N3	WAKE ISLAND Hy	26.77	125	T	T	13 09 22.1	
baz=317,slow=75							
SONM	Songino Array	29.17	303	P	P	12 42 43.1	+2.1
1.1nm,0.5s,baz=91,slow=9.1,SNR=2.6							
TLY	Talaya	31.52	310	P	P	12 43 03.4	+1.8
0.8nm,0.5s,baz=246,slow=14,SNR=1.8							
TLY				LR	LR	12 56 50.8	
comp=Z,30nm,18.6s,baz=86,slow=38							
ZALV	Zalesovo Beam	43.04	312	P	P	12 44 41.7	+2.6
0.7nm,0.4s,baz=83,slow=8.2,SNR=2.6							
ZALV				PcP	PcP	12 46 28.9	+0.3
0.8nm,0.4s,baz=90,slow=3.7,SNR=3.2							
CMAR	Chiang Mai Arr	43.59	257	P	P	12 44 44.6	+0.6
0.6nm,0.4s,baz=42,slow=7.8,SNR=5.4							
KDAK	Kodiak Island	45.33	42	P	P	12 44 56.4	-0.9
8.6nm,0.9s,baz=291,slow=4.0,SNR=5.6							
MKAR	Makanchi Array	45.54	302	P	P	12 45 00.8	+1.6
0.9nm,0.8s,baz=87,slow=8.9,SNR=6.0							
MKAR				LR	LR	13 04 12.3	
comp=Z,30nm,20.5s,baz=100,slow=36							
KURBB	Kurchatov Arra	47.26	308	P	P	12 45 14.5	+2.0
2.9nm,0.5s,baz=82,slow=8.5,SNR=8.8							
ILAR	Eielson Array	47.94	33	P	P	12 45 18.3	+0.6
1.6nm,0.7s,baz=261,slow=6.8,SNR=23							
BVAR	Borovoye Array	51.69	312	P	P	12 45 49.2	+2.8
0.5nm,0.5s,baz=233,slow=7.2,SNR=3.5							
INK	Inuvik	52.97	28	P	P	12 45 56.6	+1.1
1.5nm,0.9s,baz=276,slow=9.3,SNR=4.1							
WRA	Warramunga Arr	57.93	191	P	P	12 46 30.6	-1.2
3.3nm,0.6s,baz=12,slow=7.4,SNR=27							
WRA				PcP	PcP	12 47 23.4	-0.4
1.2nm,0.7s,baz=3.9,slow=4.1,SNR=5.0							
FITZ	Fitzroy Crossi	58.01	201	P	P	12 46 30.6	-1.7
2.0nm,0.9s,baz=0.0,slow=6.1							
AKTO	Aktyubinsk	59.80	312	P	P	12 46 46.0	+1.5
1.0nm,0.5s,baz=59,slow=9.4,SNR=5.0							
ASAR	Alice Springs	61.66	190	P	P	12 46 56.5	-0.9
2.0nm,0.7s,baz=12,slow=6.7,SNR=25							
YKA	Yellowknife Ar	62.30	31	P	P	12 47 01.5	+0.2
0.5nm,0.7s,baz=288,slow=4.5,SNR=1.7							
STKA	Stephens Creek	69.14	182	LR	LR	13 17 34.8	
comp=Z,54nm,21.0s,baz=30,slow=36							
FINES	FINESS Array B	69.25	333	P	P	12 47 46.5	+0.4
0.8nm,0.8s,baz=64,slow=6.3,SNR=1.4							
NVAR	Mina Array Bea	73.03	54	P	P	12 48 09.2	-0.4
0.7nm,0.8s,baz=272,slow=6.2,SNR=5.1							
HFS	Hagfors	74.40	337	P	P	12 48 18.1	+1.1
0.5nm,0.3s,baz=70,slow=8.4,SNR=2.3							
AKASG	Malin Array Be	75.08	323	P	P	12 48 21.1	0.0
1.0nm,0.4s,baz=49,slow=6.1,SNR=5.7							
PDAR	Pinedale Array	75.83	47	P	P	12 48 26.1	+0.3
0.6nm,0.7s,baz=290,slow=4.3,SNR=4.8							
TXAR	Lajitas Array	88.17	54	P	P	12 49 30.9	+0.3
0.3nm,0.7s,baz=276,slow=3.4,SNR=4.9							
ESDC	Sonseca Array	97.66	336	P	Pdif	12 50 17.1	+2.9
0.3nm,0.4s,baz=24,slow=4.7,SNR=2.8							
QSPA	South Pole Qui	127.33	180	PKP	PKiKP	12 55 42.6	-0.8
1.0nm,1.0s,baz=286,slow=3.7,SNR=2.3							

*INET **01** 12:40:09.6, 12°.31N×87°.48W, h28km, MW3.9*

*SNET **01** 12:40:10.4±1.1, 12°.60N×87°.93W, h32km±4km, ML4.6*

*UCR **01** 12:40:10.1±1.1, 12°.58N×87°.93W, h30km±4km, ML4.5, mb4.3(NEIC)*

*NEIC **01** 12:40:11.1±1.7, 12°.59N±0°.07×87°.69W±0°.07, h77km±10km, mb4.3/15, Md4.6(SNET), Error ellipse: s-maj=12.6km s-min=7.4km az=218.0*

*IDC **01** 12:40:12.5±2.2, 12°.89N×87°.70W, h76km±33km, mb3.6/5, mb1 3.9/7, mb1mx3.5/42, mbtmp3.9/7, MS3.4/4, Ms1 3.4/4, ms1mx3.0/30, Error ellipse: s-maj=45.1km s-min=17.2km az=38.0*

ISC 01 12:40:09.3±0.8, 12°.64N±0°.06×87°.86W±0°.04, h52km±6km, n97, σ1§64/119, mb4.1/13, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.64	2	eP	Pn	12 40 23.5	+1.0
CNCH				eP	Pn	12 40 23.7	+1.2
CNCH				eS	Sn	12 40 34.1	+2.2
CNCH	Conchagua	0.64	2	eP	Pn	12 40 23.5	+1.0
CNCH				eP	Pn	12 40 23.7	+1.2
CNCH				eS	Sn	12 40 34.1	+2.2
LCND	La Caada	0.67	357	eP	Pn	12 40 24.0	+1.2
LCND				eS	Sn	12 40 35.2	+2.7
LCND				IAML		12 40 37.7	
comp=Z,34μm,0.5s							
LCND	La Caada	0.67	357	eP	Pn

comp=Z,8µm,0.4s
COEG Centro de Oper 1.40 315 *eP* **Pn 12 40 33.6 +1.1**
COEG IAML 12 40 56.0
comp=Z,8µm,0.4s
SJTE Alcalda de S 1.48 311 *eP* **Pn 12 40 34.5 +0.8**
SJTE IAML 12 40 57.8
comp=Z,3µm,0.3s
SJTE Alcalda de S 1.48 311 *eP* **Pn 12 40 34.5 +0.8**
SJTE IAML 12 40 57.8
comp=Z,3µm,0.3s
PAVA Las Pavas 1.50 316 *eP* **Pn 12 40 35.4 +1.4**
PAVA IAML 12 40 59.9
comp=Z,5µm,0.4s
PAVA Las Pavas 1.50 316 *eP* **Pn 12 40 35.4 +1.4**
PAVA IAML 12 40 59.9
comp=Z,5µm,0.4s
TGUH Tegucigalpa,Un 1.52 22 *eP* **Pn 12 40 35.6 +1.4**
TGUH Tegucigalpa,Un 1.52 22 *eP* **Pn 12 40 35.6 +1.4**
TGUH Tegucigalpa,Un 1.52 22 **Pn 12 40 35.7 +1.4**
LFRS El Faro 1.53 310 *eP* **Pn 12 40 35.2 +0.8**
LFRS El Faro 1.53 310 *eP* **Pn 12 40 35.2 +0.8**
LBRS Las Brisas 1.59 314 *eP* **Pn 12 40 36.9 +1.7**
LBRS *eS* **Sn 12 40 56.5 +1.9**
LBRS Las Brisas 1.59 314 *eP* **Pn 12 40 36.9 +1.7**
LBRS *eS* **Sn 12 40 56.5 +1.9**
LFU La Fuente 1.65 312 *eP* **Pn 12 40 37.0 +1.1**
LFU La Fuente 1.65 312 *eP* **Pn 12 40 37.0 +1.1**
UDBS Universidad Do 1.66 310 *eP* **Pn 12 40 37.6 +1.6**
UDBS *eS* **Sn 12 40 57.5 +1.3**
UDBS Universidad Do 1.66 310 *eP* **Pn 12 40 37.6 +1.6**
UDBS *eS* **Sn 12 40 57.5 +1.3**
LALI Alcalda de L 1.66 301 *eP* **Pn 12 40 35.9 -0.1**
LALI Alcalda de L 1.66 301 *eP* **Pn 12 40 35.9 -0.1**
SNET Serv Nac Est T 1.70 308 Pn Pn 12 40 41.5 +4.8
BOQS Boqueron 1.77 308 *eP* **Pn 12 40 39.1 +1.5**
BOQS *eS* **Sn 12 41 01.1 +2.0**
BOQS Boqueron 1.77 308 *eP* **Pn 12 40 39.1 +1.5**
BOQS *eS* **Sn 12 41 01.1 +2.0**
PMON Piamonte 1.78 307 *eP* **Pn 12 40 39.1 +1.4**
PMON Piamonte 1.78 307 *eP* **Pn 12 40 39.1 +1.4**
MASN Masaya 1.79 111 Pn **Pn 12 40 37.7 -0.1**
JAYA Jayaque - finc 1.85 303 *eP* **Pn 12 40 39.8 +1.0**
JAYA *eS* **Sn 12 41 02.3 +1.1**
JAYA IAML 12 41 05.9
comp=Z,4µm,0.2s
JAYA Jayaque - finc 1.85 303 *eP* **Pn 12 40 39.8 +1.0**
JAYA *eS* **Sn 12 41 02.3 +1.1**
JAYA IAML 12 41 05.9
comp=Z,4µm,0.2s
TACO Tacachico 1.97 312 *eP* **Pn 12 40 41.5 +1.3**
TACO IAML 12 41 11.3
comp=Z,736nm,0.4s
TACO Tacachico 1.97 312 *eP* **Pn 12 40 41.5 +1.3**
TACO IAML 12 41 11.3
comp=Z,736nm,0.4s
CEVE Cerro Verde 2.09 305 *eP* **Pn 12 40 43.8 +1.7**
CEVE IAML 12 41 17.4
comp=Z,5µm,0.3s
CEVE Cerro Verde 2.09 305 *eP* **Pn 12 40 43.8 +1.7**
CEVE IAML 12 41 17.4
comp=Z,5µm,0.3s
SBLS San Blas 2.10 305 *eP* **Pn 12 40 43.8 +1.6**
SBLS San Blas 2.10 305 *eP* **Pn 12 40 43.8 +1.6**
SNJE San Jose 2.10 306 *eP* **Pn 12 40 43.8 +1.6**
SNJE San Jose 2.10 306 *eP* **Pn 12 40 43.8 +1.6**
RTR El Retiro 2.15 306 *eP* **Pn 12 40 44.5 +1.7**
RTR El Retiro 2.15 306 *eP* **Pn 12 40 44.5 +1.7**
MTO3 Montecristo 2.28 320 *eP* **Pn 12 40 45.8 +1.1**
MTO3 Montecristo 2.28 320 *eP* **Pn 12 40 45.8 +1.1**
MTO3 Montecristo 2.28 320 **Pn 12 40 46.4 +1.7**
ACON Acoyapa 2.70 104 Pn **Pn 12 40 48.2 -2.1**
ORTG Ortega, Santa 3.26 134 **Pn 12 40 57.4 -0.6**
ESPN Las Esperanzas 3.50 97 Pn **Pn 12 41 00.1 -1.1**
JTS Las Juntas de 3.68 129 P **Pn 12 41 07.6 +3.9**
comp=Z,37nm,0.3s,baz=20,slow=12,SNR=18
JTS S **Sn 12 41 51.3 +5.5**
comp=Z,7.7nm,0.3s,baz=343,slow=22,SNR=1.6
JTS LR LR 12 43 01.7
comp=Z,320nm,21.8s,baz=0.5,slow=45
JACO JACO, Garabito 4.31 133 **Pn 12 41 13.0 +0.7**
RIMA Rio Macho 4.84 126 **Pn 12 41 19.8 0.0**
SRBA San Rafael, Bu 5.56 127 **Pn 12 41 30.7 +1.1**
DRK0 Durika 5.63 126 **Pn 12 41 30.9 +0.2**
CMIG Matias Romero 8.11 304 P **Pn 12 42 06.9 +2.4**
comp=Z,1.0nm,0.3s,baz=139,slow=10.0,SNR=7.2
CMIG S **Sn 12 43 27.8 -7.0**
comp=Z,0.8nm,0.3s,baz=122,slow=23,SNR=2.3
SDV Santo Domingo 17.32 101 LR LR 12 50 48.9
comp=Z,65nm,21.2s,baz=292,slow=37
HPIG 21.94 313 P **P 12 44 57.5 -1.3**
HPIG IAmb IAmb 12 44 59.9
comp=Z,6.9nm,0.6s
TXAR Lajitas Array 22.18 321 P **P 12 45 01.6 +0.3**
comp=Z,2.9nm,0.6s,baz=143,slow=8.9,SNR=39
TXAR Lajitas Array 22.18 321 P **P 12 45 02.1 +0.8**
TX31 Lajitas Ar. Si 22.18 321 P **P 12 45 01.9 +0.7**
TX31 IAmb IAmb 12 45 04.2
comp=Z,9.7nm,0.7s
TX32 Lajitas Array 22.18 321 P **P 12 45 02.1 +0.8**
MIAR Mount Ida 22.42 348 P **P 12 45 03.6 -0.1**
MIAR IAmb IAmb 12 45 23.2
comp=Z,8.4nm,1.1s
TKL Tuckaleechee C 23.22 8 P **P 12 45 11.9 0.0**
comp=Z,2.3nm,0.6s,baz=184,slow=12,SNR=4.7
TKL Tuckaleechee C 23.22 8 P **P 12 45 12.1 +0.2**
TKL IAmb IAmb 12 45 31.9
comp=Z,17nm,1.3s
U40A Yellville 24.04 350 P **P 12 45 18.8 -0.8**
FNO Franklin 24.12 341 P **P 12 45 19.4 -0.9**
WMOK Wichita Mounta 24.14 338 P **P 12 45 19.3 -1.1**
GDL2 Guadalupe Moun 24.68 325 P **P 12 45 26.2 +0.7**
MSTX Muleshoe 25.21 330 P **P 12 45 30.3 -0.1**
MSTX IAmb IAmb 12 45 30.8
comp=Z,5.8nm,0.7s
S39A Bolivar 25.43 350 P **P 12 45 31.4 -0.7**
S39A IAmb IAmb 12 45 53.3
comp=Z,5.7nm,0.9s
KAN09 Caldwell North 25.92 342 P **P 12 45 35.9 -0.7**
PV18 Skein Mesa, Pa 31.65 327 P **P 12 46 28.4 +0.4**
PV18 IAmb IAmb 12 46 29.2
comp=Z,4.9nm,0.7s
PV04 Paradox Valley 31.76 328 P **P 12 46 29.4 +0.6**
PV04 IAmb IAmb 12 46 30.2
comp=Z,4.5nm,0.7s
O20A White River Ci 32.75 330 P **P 12 46 38.0 +0.5**
O20A IAmb IAmb 12 46 39.3
comp=Z,4.3nm,0.9s
PDAR Pinedale Array 35.42 332 P **P 12 46 59.4 -1.2**
comp=Z,0.6nm,0.6s,baz=140,slow=9.5,SNR=7.0
NVAR Mina Array Bea 37.30 319 P **P 12 47 17.9 +1.2**
comp=Z,0.5nm,0.7s,baz=140,slow=6.6,SNR=5.7
MCMT McKenzie Canyo 38.53 331 P **P 12 47 28.3 +1.2**
LRM Limekiln Ridge 39.10 333 P **P 12 47 31.9 +0.1**
SCHQ Schefferville 45.22 17 P **P 12 48 18.7 -2.5**
comp=Z,1.7nm,0.5s,baz=204,slow=4.3,SNR=5.7
FRB Frobisher Bay 52.82 11 LR LR 13 13 28.7
comp=Z,60nm,18.1s,baz=180,slow=38
DLBC Dease Lake 55.57 335 LR LR 13 17 41.6
comp=Z,68nm,18.3s,baz=274,slow=41
WRA Warramunga Arr 138.94 254 PKP **PKPdf 12 59 30.9 0.0**
comp=Z,0.5nm,0.8s,baz=89,slow=2.5,SNR=7.6
WRA pPKP **sPKPdf 12 59 49.3 -2.7**
comp=Z,0.4nm,0.6s,baz=90,slow=2.1,SNR=2.3
ASAR Alice Springs 138.97 248 PKP **PKPdf 12 59 30.4 -0.5**
comp=Z,0.6nm,0.9s,baz=186,slow=1.7,SNR=4.7
ASAR pPKP **sPKPdf 12 59 49.5 -2.5**
comp=Z,0.5nm,0.8s,baz=70,slow=1.4,SNR=2.4

*FUNV **01** 12:56:37.9, 12°.08N×69°.85W, h5km, MW4.1*
ISC 01 12:56:37.8±1.4, 12°.01N±0°.07×69°.85W±0°.03, h11km±7km, n33, σ2°.03/62, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MONV	**Montecano**	**0.13**	**245**	*eP*	**Pg**	**12 56 40.4**	**-0.5**
MONV				*eS*	**Sg**	**12 56 42.3**	**-0.8**
DABV	**Dabajuro**	**1.33**	**215**	*eP*	**Pn**	**12 57 02.2**	**0.0**
DABV				*eS*	**Sb**	**12 57 21.3**	**+1.7**
DABV	**Dabajuro**	**1.33**	**215**	*eP*	**Pn**	**12 57 03.2**	**+1.0**
DABV				*eS*	**Sb**	**12 57 21.2**	**+1.5**
SIQV	**Siquisique**	**1.35**	**178**	*eP*	**Pn**	**12 57 04.0**	**+1.4**
SIQV				*eS*	**Sg**	**12 57 23.9**	**+2.6**
JACV	**Jacura**	**1.36**	**132**	*eP*	**Pn**	**12 57 03.3**	**+0.6**
JACV				*eS*	**Sb**	**12 57 22.2**	**+1.6**
CURV	**Curarigua**	**1.99**	**183**	*eP*	**Pn**	**12 57 12.2**	**+0.8**
CURV				*eS*	**Sn**	**12 57 39.1**	**+2.7**
URIC	**Uribia, Colomb**	**2.12**	**262**	*eP*	**Pn**	**12 57 13.6**	**+0.5**
URIC				*eS*	**Sn**	**12 57 40.1**	**+0.6**
URIC				*i*		12 57 44.1	
	comp=Z,412nm,0.4s						
TURV	**Turiamo**	**2.51**	**128**	*eP*	**Pn**	**12 57 18.6**	**0.0**
MAPV	**Macapo**	**2.56**	**148**	*eP*	**Pn**	**12 57 20.2**	**+1.0**
MAPV				*eS*	**Sn**	**12 57 51.6**	**+1.1**
BENV	**Beln**	**3.01**	**132**	*eP*	**Pn**	**12 57 26.8**	**+1.4**
BENV				*eS*	**Sn**	**12 58 01.1**	**-0.4**
MCQV	**Machiques**	**3.27**	**234**	*eP*	**Pn**	**12 57 29.7**	**+0.7**
MCQV				*eS*	**Sn**	**12 58 08.4**	**+0.3**
TACV	**Tcata**	**3.34**	**124**	*eP*	**Pn**	**12 57 30.0**	**0.0**
TACV				*eS*	**Sn**	**12 58 08.7**	**-1.0**
BAUV	**El Baul**	**3.53**	**150**	*eP*	**Pn**	**12 57 33.2**	**+0.6**
BAUV				*eS*	**Sn**	**12 58 13.2**	**-1.2**
SOCV	**Socops**	**3.83**	**195**	*eP*	**Pn**	**12 57 37.6**	**+0.9**
SOCV				*eS*	**Sn**	**12 58 21.6**	**-0.2**
SOCV	**Socops**	**3.83**	**195**	*eP*	**Pn**	**12 57 37.8**	**+1.1**
SOCV				*eS*	**Sn**	**12 58 19.8**	**-2.0**
BIRV	**Birongo**	**3.83**	**113**	*eP*	**Pn**	**12 57 36.3**	**-0.5**
BIRV				*eS*	**Sn**	**12 58 19.6**	**-2.2**
SMRC	**Santa Marta, M**	**4.37**	**259**	*eP*	**Pn**	**12 57 44.6**	**+0.5**
SMRC				*eS*	**Sn**	**12 58 35.1**	**+0.1**
MERV	**Las Mercedes**	**4.44**	**128**	*eP*	**Pn**	**12 57 45.4**	**+0.3**
MERV				*eS*	**Sn**	**12 58 35.7**	**-1.2**
CAPV	**Capacho**	**4.78**	**211**	*eP*	**Pn**	**12 57 50.3**	**+0.4**
CAPV				*eS*	**Sn**	**12 58 44.2**	**-1.3**
ELOV	**Elorza**	**4.99**	**176**	*eP*	**Pn**	**12 57 53.2**	**+0.5**
ELOV				*eS*	**Sn**	**12 58 48.5**	**-1.9**
OCAC	**Ocana**	**5.07**	**223**	*eP*	**Pn**	**12 57 54.1**	**+0.2**
OCAC				*eS*	**Sn**	**12 58 51.2**	**-1.3**
OCAC				*i*		12 59 36.6	
	comp=Z,118nm,0.5s						
SMLC	**San Martn de**	**5.23**	**233**	*eP*	**Pn**	**12 57 54.8**	**-1.2**
SMLC				*eS*	**Sn**	**12 58 51.8**	**-4.6**
SMLC				*i*		12 59 05.2	
	comp=Z,21nm,0.5s						
PCRV	**Puerto La Cruz**	**5.43**	**109**	*eP*	**Pn**	**12 57 58.9**	**+0.1**
PCRV				*eS*	**Sn**	**12 58 58.1**	**-3.3**
CACV	**CAICARA DEL OR**	**5.49**	**143**	*eP*	Pn	12 58 04.6	+5.1
CACV				*eS*	**Sn**	**12 59 08.6**	**+5.8**
SJCC	**San Jacinto, C**	**5.64**	**249**	*eP*	**Pn**	**12 58 02.4**	**+0.8**
SJCC				*eS*	**Sn**	**12 59 07.0**	**+0.6**
PRGV	**PARIAGUAN**	**6.05**	**122**	*eP*	**Pn**	**12 58 06.3**	**-1.0**
PRGV				*eS*	**Sn**	**12 59 11.6**	**-5.1**
BARC	**Barichara**	**6.31**	**212**	*eP*	**Pn**	**12 58 12.4**	**+1.4**
MOTC	**Monteria, Cord**	**6.56**	**241**	*eP*	**Pn**	**12 58 13.8**	**-0.4**
MOTC				*eS*	**Sn**	**12 59 27.6**	**-1.5**
MOTC				*i*		12 59 41.7	
	comp=Z,6.0nm,0.5s						
ZARC	**Zaragoza, Cauc**	**6.67**	**228**	*eP*	**Pn**	**12 58 17.5**	**+1.7**
ZARC				*eS*	**Sn**	**12 59 28.5**	**-3.3**
ZARC				*i*		12 59 44.6	
	comp=Z,18nm,0.4s						
RUSC	**La Rusia**	**6.86**	**208**	*eP*	**Pn**	**12 58 17.7**	**-1.1**
RUSC				*eS*	**Sn**	**12 59 32.5**	**-4.8**
PAYV	**Puerto Ayacuch**	**6.90**	**161**	*eP*	**Pn**	**12 58 18.7**	**-0.2**
PAYV				*eS*	**Sn**	**12 59 33.5**	**-3.9**
UREC	**San Jos de Ur**	**7.01**	**233**	*eP*	**Pn**	**12 58 21.9**	**+1.4**
UREC				*eS*	**Sn**	**12 59 34.9**	**-5.4**
GUY2C	**Guyana, Caldas**	**8.67**	**219**	*eP*	**Pn**	**12 58 44.0**	**+0.3**

*IDC **01** 12:56:40.5±0.9, 4°.97S×133°.67E, h0km, mb4.0/6, mb1 4.2/11, mb1mx4.0/36, mbtmp4.1/11, ML3.9/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/28, Error ellipse: s-maj=45.8km s-min=16.5km az=70.0*
*NEIC **01** 12:56:42.4±2.5, 4°.74S±0°.04×134°.0E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=24.8km s-min=6.6km az=83.0*
*DJA **01** 12:56:46.0±0.5, 5°.S±5°×13°.4E±°, h57km±22km, M4.4/6, mb4.6/3, MLv4.4/6*
ISC 01 12:56:44.0±0.5, 4°.87S±0°.05×133°.90E±0°.07, h28km, n50, σ2°.04/52, mb4.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**1.22**	**351**	P	**Pb**	**12 57 06.6**	**+0.1**
KMPI				S	**Sb**	**12 57 19.9**	**-1.9**
FAKI	**Fak Fak**	**2.54**	**320**		**Pn**	**12 57 23.2**	**-0.2**
FAKI	**Fak Fak**	**2.54**	**320**	P	**Pn**	**12 57 53.3**	**+0.5**
FAKI				S	**Sn**	**12 57 53.0**	**-0.5**
BNDI	**Bandanaira**	**3.99**	**275**	P	**Pn**	**12 57 46.0**	**+2.6**
BNDI				S	**Sn**	**12 58 31.0**	**+1.7**
SAUI	**Saumlaki**	**4.02**	**220**	Pn	**Pn**	**12 57 47.0**	**+3.2**
SAUI	**Saumlaki**	**4.02**	**220**	P	**Pn**	**12 57 45.5**	**+1.7**
SIJI	**Sorong**	**4.77**	**326**	Pn	**Pn**	**12 57 53.2**	**-0.9**
	2.0nm,0.3s,baz=239,slow=22,SNR=17						
SIJI				Sn	**Sn**	**12 58 42.5**	**-6.0**
	2.6nm,0.3s,baz=204,slow=22,SNR=2.1						
SIJI				LR	LR	13 00 04.9	
	comp=Z,190nm,20.6s,baz=118,slow=43						
SWI	**Sorong**	**4.78**	**326**	P	**Pn**	**12 57 54.6**	**+0.4**
GENI	**Genyem**	**6.66**	**70**	P	**Pn**	**12 58 20.5**	**+0.5**
	0.3nm39nm,0.9s						
MTN	**Manton Dam**	**8.38**	**199**	Pn	**Pn**	**12 58 44.1**	**+0.4**
SOEI	**Soe**	**10.71**	**243**	P	**Pn**	**12 59 17.8**	**+2.0**
BATI	**Baumata**	**11.44**	**242**	Pn	**Pn**	**12 59 27.5**	**+1.7**
	1.7nm,0.3s,baz=305,slow=23,SNR=1.4						
BATI				Sn	**Sn**	**13 01 30.6**	**-2.1**
	2.4nm,0.3s,baz=71,slow=20,SNR=2.0						
KNRA	**Kununurra**	**11.86**	**205**	Pn	**Pn**	**12 59 30.7**	**-0.8**
PMG	**Port Moresby**	**13.91**	**110**	LR	LR	13 07 16.4	
	comp=Z,137nm,18.7s,baz=246,slow=45						
KAPI	**Kappang**	**14.09**	**269**	LR	LR	13 06 03.9	
	comp=Z,132nm,19.8s,baz=80,slow=41						
WB0	**Warramunga Arr**	**14.81**	**178**	Pn	**Pn**	**13 00 09.1**	**-2.7**
WRA	**Warramunga Arr**	**14.98**	**178**	Pn	**Pn**	**13 00 10.7**	**-3.3**
	0.4nm,0.3s,baz=355,slow=13,SNR=18						
WRA				Sn	**Sn**	**13 02 51.9**	**-7.4**
	0.4nm,0.3s,baz=359,slow=23,SNR=4.6						
WB2	**Warramunga Arr**	**14.98**	**178**		**Pn**	**13 00 11.2**	**-2.9**
WB2				IAmb	IAmb	13 00 21.9	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**15.01**	**178**	Pn	**Pn**	**13 00 12.0**	**-2.4**
WR0				IAmb	IAmb	13 00 22.2	
	comp=Z,26nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.42**	**211**	Pn	**Pn**	**13 00 16.4**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=32,slow=10,SNR=41						
FITZ				Sn	Sn	13 02 58.1	-12
	comp=Z,1.0nm,0.3s,baz=155,slow=12,SNR=7.3						
FITZ	**Fitzroy Crossi**	**15.42**	**211**		**Pn**	**13 00 17.5**	**-2.3**
AS31	**Alice Springs**	**18.68**	**180**		**P**	**13 01 00.9**	**+0.7**
ASAR	**Alice Springs**	**18.68**	**180**	P	**P**	**13 00 59.4**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=7.0,slow=10,SNR=63						
ASAR				S	Sn	13 04 14.4	-15
	comp=Z,0.1nm,0.3s,baz=8.0,slow=21,SNR=1.4						
CTA	**Charters Tower**	**19.32**	**143**	P	**Pn**	**13 01 09.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=285,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**19.32**	**143**	P	**Pn**	**13 01 09.8**	**+1.4**
CTAO				IAmb	IAmb	13 01 36.6	
	comp=Z,26nm,1.3s						
PSA00	**Pilbara Seismi**	**21.48**	**218**	P	**P**	**13 01 32.1**	**+1.5**
GIRL	**Giralia**	**25.95**	**225**	P	**P**	**13 02 16.7**	**+2.4**
LEM	**Lembang**	**26.21**	**264**	LR	LR	13 14 48.4	
	comp=Z,79nm,18.9s,baz=142,slow=42						
FORT	**Forrest**	**26.35**	**191**		**P**	**13 02 19.1**	**+1.3**
BBOO	**Buckleboo**	**27.87**	**176**	P	**P**	**13 02 32.3**	**+0.9**
BBOO				IAmb	IAmb	13 02 52.6	
	comp=Z,21nm,1.4s						
CMAR	**Chiang Mai Arr**	**41.53**	**305**	P	**P**	**13 04 29.2**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=131,slow=7.6,SNR=6.4						
KSRS	**Korea Array**	**42.48**	**353**	LR	LR	13 22 03.4	
	comp=Z,18nm,20.5s,baz=115,slow=36						
USRK	**Ussuriysk Ar.**	**48.88**	**358**	P	**P**	**13 05 28.2**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=184,slow=9.4,SNR=4.6						
URZ	**Urewera**	**51.41**	**136**	P	**P**	**13 05 46.2**	**-0.4**
SONM	**Songino Array**	**57.78**	**338**	P	**P**	**13 06 33.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=127,slow=9.3,SNR=2.0						
YAK	**Yakutsk**	**66.79**	**358**	P	**P**	**13 07 32.9**	**+0.2**
MK31	**Makanchi Array**	**68.66**	**325**	P	**P**	**13 07 45.8**	**+0.9**
MK31				IAmb	IAmb	13 07 47.2	
	comp=Z,3.7nm,0.9s						
MKAR	**Makanchi Array**	**68.66**	**325**	P	**P**	**13 07 46.1**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=116,slow=8.2,SNR=34						
MKAR	**Makanchi Array**	**68.66**	**325**	P	**P**	**13 07 45.9**	**+1.0**
MAKZ	**Makanchi**	**68.85**	**325**	P	**P**	**13 07 46.7**	**+0.6**
ZALV	**Zalesovo Beam**	**71.47**	**332**	P	**P**	**13 08 01.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=104,slow=6.3,SNR=3.8						
VNDA	**Vanda**	**74.11**	**174**	P	**P**	**13 08 17.9**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=274,slow=5.8,SNR=5.2						
VNDA	**Vanda**	**74.11**	**174**	P	**P**	**13 08 18.3**	**+1.1**
VNDA				IAmb	IAmb	13 08 19.3	
	comp=Z,4.9nm,1.4s						
KK31	**Karatay Array**	**74.37**	**317**	P	**P**	**13 08 20.2**	**+0.8**
KK31				IAmb	IAmb	13 08 21.5	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**74.37**	**317**	P	**P**	**13 08 20.3**	**+0.9**
KKAR	**Karatay Array**	**74.37**	**317**	P	**P**	**13 08 20.6**	**+1.2**
KKAR				IAmb	IAmb	13 08 21.5	
	comp=Z,2.6nm,0.8s						
TIXI	**Tiksi**	**76.45**	**358**	P	**P**	**13 08 31.0**	**+0.3**
TIXI				IAmb	IAmb	13 08 32.3	
	comp=Z,2.9nm,0.8s						
ABKAR	**Akbulak array**	**83.30**	**321**	P	**P**	**13 09 08.8**	**+0.6**
CPUP	**Villa Florida**	**147.13**	**161**	PKPbc	**PKPbc**	**13 16 25.0**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=228,slow=7.3,SNR=4.2						
LPAZ	**La Paz**	**149.72**	**134**	PKPbc	**PKiKP**	**13 16 34.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=236,slow=3.6,SNR=2.2						

*IDC **01** 12:58:14.6±2.3, 21°.59N×143°.10E, h316km±22km, mb3.2/15, mb1 3.4/17, mb1mx3.3/52, mbtmp3.9/17, Error ellipse: s-maj=20.9km s-min=12.3km az=88.0*
*NEIC **01** 12:58:16.3±1.1, 21°.59N±0°.09×143°.15E±0°.09, h325km±8km, mb4.1/20, Error ellipse: s-maj=14.9km s-min=9.8km az=221.0*
ISC 01 12:58:14.4±0.5, 21°.59N±0°.06×143°.2E±0°.1, h311km, n46, σ0°.94/49, mb3.8/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.55**	**351**	P	**Pn**	**12 59 39.4**	**+0.7**
	9.9nm,0.3s,baz=296,slow=24,SNR=11						
JCJ				S	**S**	**13 00 43.2**	**-3.4**
	9.4nm,0.3s,baz=287,slow=22,SNR=1.6						
JCJ	**Chichijima**	**5.55**	**351**		**Pn**	**12 59 40.6**	**+2.0**
JMN	**Monobe**	**14.61**	**328**	P	**Pn**	**13 01 29.2**	**+1.3**
JYT	**Yasato**	**14.81**	**351**	P	**Pn**	**13 01 30.7**	**+0.6**
JWT	**Wachi**	**15.24**	**335**	P	**Pn**	**13 01 35.1**	**0.0**
JWT				IAmb	IAmb	13 01 49.6	
	comp=Z,17nm,1.2s						
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**13 01 36.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=155,slow=10,SNR=6.3						
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**13 01 37.2**	**+0.8**
MAJO	**Matsushiro**	**15.51**	**345**	P	**P**	**13 01 37.1**	**+0.7**
MAJO				IAmb	IAmb	13 01 50.1	
	comp=Z,11nm,1.2s						
MJB9	**Matsu-Tunnel**	**15.52**	**345**	P	**Pn**	**13 01 39.3**	**+0.9**
MJB9				IAmb	IAmb	13 01 50.1	
	comp=Z,20nm,1.5s						
JHS	**Saijyo**	**16.00**	**329**	P	**Pn**	**13 01 44.6**	**+0.5**
JMM	**Marumori**	**16.35**	**353**	P	**Pn**	**13 01 50.0**	**+2.0**
JSD	**Sado**	**16.93**	**347**	P	**P**	**13 01 52.0**	**+0.3**
KSRS	**Korea Array**	**20.59**	**324**	P	**P**	**13 02 30.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=148,slow=9.0,SNR=9.3						
KLR	**Kul'dur**	**29.04**	**345**	P	**P**	**13 03 46.6**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=125,slow=8.0,SNR=3.7						
CTAO	**Charters Tower**	**41.53**	**176**	P	**P**	**13 05 32.6**	**+0.3**
CTAO				IAmb	IAmb	13 05 58.6	
	comp=Z,26nm,1.5s						
CMAR	**Chiang Mai Arr**	**41.56**	**274**	P	**P**	**13 05 32.6**	**0.0**
	comp=Z,0.6nm,0.5s,baz=96,slow=6.3,SNR=5.2						
WB0	**Warramunga Arr**	**41.99**	**192**	P	**P**	**13 05 35.6**	**-0.4**
WB0				IAmb	IAmb	13 05 39.1	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**42.17**	**192**	P	**P**	**13 05 37.4**	**+0.1**
WB2				IAmb	IAmb	13 05 37.9	
	comp=Z,25nm,1.1s						
WRA	**Warramunga Arr**	**42.17**	**192**	P	**P**	**13 05 37.0**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=12,slow=8.7,SNR=4.7						
TLY	**Talaya**	**42.84**	**324**	P	**P**	**13 05 43.4**	**+0.9**
TLY				IAmb	IAmb	13 06 04.8	
	comp=Z,5.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**43.01**	**205**	P	**P**	**13 05 43.6**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=18,slow=9.6,SNR=2.0						
FITZ	**Fitzroy Crossi**	**43.01**	**205**	P	**P**	**13 05 44.0**	**-0.1**
FITZ				IAmb	IAmb	13 05 45.4	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**13 06 05.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=13,slow=9.6,SNR=2.5						
PSA00	**Pilbara Seismi**	**48.56**	**209**	P	**P**	**13 06 27.3**	**+0.1**
GIRL	**Giralia**	**52.23**	**214**	P	**P**	**13 06 55.5**	**+1.1**
STKA	**Stephens Creek**	**53.18**	**182**	P	**P**	**13 06 59.9**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=333,slow=9.0,SNR=4.2						
STKA	**Stephens Creek**	**53.18**	**182**	P	**P**	**13 07 01.0**	**-0.2**
FORT	**Forrest**	**54.05**	**196**	P	**P**	**13 07 07.5**	**0.0**
FORT				IAmb	IAmb	13 07 32.0	
	comp=Z,20nm,1.4s						
ZALV	**Zalesovo Beam**	**54.28**	**322**	P	**P**	**13 07 07.4**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=119,slow=8.7,SNR=2.7						
ZALV				PcP	**PcP**	**13 08 07.9**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=109,slow=5.1,SNR=2.9						
MKAR	**Makanchi Array**	**54.75**	**313**	P	**P**	**13 07 12.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=98,slow=7.6,SNR=1.8						
MKAR				PcP	**PcP**	**13 08 10.3**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=78,slow=4.6,SNR=1.6		

JCJ	**Chichijima**	**1.18**	**356**	Pn	**Pn**	**13 53 00.9**	**-1.5**
	57nm,0.3s,baz=114,slow=23,SNR=33						
JCJ				Sn	**Sn**	**13 53 19.6**	**+2.3**
	138nm,0.3s,baz=284,slow=23,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**23.50**	**100**	T	T	14 21 27.8	
	baz=290,slow=74,SNR=23						
H11N1	**WAKE ISLAND Hy**	**23.50**	**100**	T	T	14 21 29.5	
	baz=290,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**23.52**	**100**	T	T	14 21 29.7	
	baz=290,slow=74,SNR=22						
H11S3	**WAKE ISLAND Hy**	**23.76**	**103**	T	T	14 21 53.6	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**23.76**	**103**	T	T	14 21 50.2	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**23.77**	**103**	T	T	14 21 54.6	
	baz=294						
KLR	**Kul'dur**	**24.67**	**343**	P	**P**	**13 57 59.7**	**-0.1**
	2.2nm,0.6s,baz=173,slow=8.1,SNR=10						
CMAR	**Chiang Mai Arr**	**40.66**	**269**	P	**P**	**14 00 19.5**	**0.0**
	0.3nm,0.4s,baz=50,slow=6.9,SNR=6.3						
WRA	**Warramunga Arr**	**46.23**	**190**	P	**P**	**14 01 04.8**	**+0.6**
	1.2nm,0.7s,baz=8.9,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**49.95**	**190**	P	**P**	**14 01 33.7**	**+0.7**
	0.1nm,0.4s,baz=19,slow=9.0,SNR=2.2						
MKAR	**Makanchi Array**	**51.29**	**310**	P	**P**	**14 01 42.8**	**-0.1**
	0.1nm,0.3s,baz=87,slow=10,SNR=2.2						
FINES	**FINESS Array B**	**79.03**	**334**	P	**P**	**14 04 42.1**	**-0.5**
	0.8nm,0.4s,baz=69,slow=6.9,SNR=9.2						

*ATH **01** 13:53:18.9,38.°53N×20.°59E, $h12^{km}\pm2^{km}$, ML2.6/1, Error ellipse: s-maj=3.2km s-min=0.8km az=289.0*
*TIR **01** 13:53:19.4,38.°71N×20.°91E, $h1^{km}\pm12^{km}$, Md3.4*
*THE **01** 13:53:19.0,38.°52N×20.°56E, $h9^{km}\pm1^{km}$, ML2.6/10, Error ellipse: s-maj=1.4km s-min=0.3km az=299.0*

ISC 01 13:53:18.0±0.8, 38.°53N±0.°02×20.°56E±0.°03, $h14^{km}\pm4^{km}$, n45, σ°82/82, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSK	**Fiskardo**	**0.07**	**176**	P	**Pg**	**13 53 20.6**	**-0.3**
FSK				S	**Sg**	**13 53 22.1**	**-0.7**
	45μm,0.3s						
FSK	**Fiskardo**	**0.07**	**176**	P	**Pg**	**13 53 20.6**	**-0.3**
FSK				S	**Sg**	**13 53 22.0**	**-0.7**
EVGI	**Lefkada island**	**0.12**	**42**	P	**Pb**	**13 53 21.8**	**-0.2**
EVGI				S	**Sg**	**13 53 24.2**	**+0.5**
	5μm,0.1s						
EVGI	**Lefkada island**	**0.12**	**42**	P	**Pb**	**13 53 21.7**	**-0.2**
EVGI				S	**Sg**	**13 53 23.6**	**0.0**
DRAG	**Dragano-Lefkad**	**0.15**	**6**	P	**Pb**	**13 53 22.3**	**-0.3**
DRAG				S	**Sg**	**13 53 25.5**	**+1.1**
	9μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.21**	**32**	P	**Pb**	**13 53 23.3**	**-0.3**
NYDR				S	**Sg**	**13 53 27.0**	**+1.1**
	2μm,0.4s						
KEF5	**Kardakata, Kep**	**0.27**	**195**	P	**Pg**	**13 53 24.0**	**+0.4**
KEF5				S	**Sg**	**13 53 28.3**	**+0.9**
KEF5	**Kardakata, Kep**	**0.27**	**195**	P	**Pg**	**13 53 23.8**	**+0.2**
KEF5				S	**Sb**	**13 53 28.4**	**-0.4**
LKD2	**Lefkada island**	**0.27**	**17**	P	**Pb**	**13 53 24.4**	**-0.2**
LKD2				S	**Sb**	**13 53 29.3**	**+0.3**
	1μm,0.5s						
LKD2	**Lefkada island**	**0.27**	**17**	P	**Pb**	**13 53 24.4**	**-0.2**
LKD2				S	**Sb**	**13 53 29.0**	**0.0**
LKD2	**Lefkada island**	**0.27**	**17**	P	**Pb**	**13 53 24.4**	**-0.2**
	baz=291						
LKD2				S	**Sg**	**13 53 28.0**	**+0.4**
	baz=291						
KEF4	**Livadi, Kephal**	**0.29**	**201**	P	**Pg**	**13 53 24.5**	**+0.4**
KEF4				S	**Sb**	**13 53 29.4**	**-0.3**
KEF4	**Livadi, Kephal**	**0.29**	**201**	P	**Pg**	**13 53 24.5**	**+0.4**
KEF4				S	**Sb**	**13 53 29.9**	**+0.2**
TSLK	**Tsoukalades, L**	**0.30**	**15**	P	**Pb**	**13 53 25.1**	**0.0**
TSLK				S	**Sb**	**13 53 30.4**	**+0.4**
	1μm,0.5s						
TSLK	**Tsoukalades, L**	**0.30**	**15**	P	**Pb**	**13 53 25.2**	**0.0**
TSLK				S	**Sb**	**13 53 29.7**	**-0.2**
DMLN	**Damoulianata-K**	**0.33**	**206**	P	**Pg**	**13 53 25.1**	**+0.4**
DMLN				S	**Sg**	**13 53 30.4**	**+1.1**
	2μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.35**	**196**	P	**Pg**	**13 53 25.4**	**+0.4**
LXRA				S	**Sb**	**13 53 31.4**	**+0.2**
VLS	**Valsamata**	**0.36**	**176**	P	**Pg**	**13 53 25.5**	**+0.2**
VLS				S	**Sb**	**13 53 31.0**	**-0.5**
	1μm,0.2s						
VLS	**Valsamata**	**0.36**	**176**	P	**Pg**	**13 53 25.4**	**+0.2**
VLS				S	**Sb**	**13 53 30.8**	**-0.7**
VLS				AML	AML	13 53 31.4	
	comp=E,2658μm,0.2s						
VLS				AML	AML	13 53 31.4	
	comp=N,2674μm,0.3s						
ARGA	**Argostoli. Kep**	**0.36**	**190**	P	**Pb**	**13 53 26.6**	**+0.5**
ARGA				S	**Sb**	**13 53 31.8**	**+0.2**
KEF3	**Kipouria, Keph**	**0.37**	**206**	P	**Pg**	**13 53 25.2**	**-0.2**
KEF3				S	**Sg**	**13 53 30.8**	**+0.3**
KEF3	**Kipouria, Keph**	**0.37**	**206**	P	**Pg**	**13 53 25.2**	**-0.2**
KEF3				S	**Sg**	**13 53 30.9**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.42**	**177**	P	**Pg**	**13 53 26.7**	**+0.3**
PSDA				S	**Sb**	**13 53 33.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.42**	**177**	P	**Pg**	**13 53 26.6**	**+0.3**
PSDA				S	**Sb**	**13 53 33.3**	**0.0**
VLMS	**Volimes, Zakyn**	**0.66**	**173**	P	**Pg**	**13 53 30.8**	**-0.1**
VLMS				S	**Sb**	**13 53 41.0**	**+0.7**
	comp=N,812nm,0.3s						
VLMS	**Volimes, Zakyn**	**0.66**	**173**	P	**Pg**	**13 53 30.9**	**0.0**
PVO	**Paravola**	**0.77**	**83**	P	**Pb**	**13 53 33.5**	**+0.5**
PVO				S	**Sn**	**13 53 44.5**	**-1.1**
PVO	**Paravola**	**0.77**	**83**	P	**Pb**	**13 53 33.5**	**+0.5**
LTHK	**Lithakia**	**0.85**	**165**	P	**Pg**	**13 53 34.3**	**-0.2**
LTHK				S	**Sn**	**13 53 47.3**	**-0.4**
	comp=N,195nm,0.4s						
LTHK	**Lithakia**	**0.85**	**165**	P	**Pb**	**13 53 34.5**	**0.0**
RLS	**Riolos of Patr**	**0.86**	**123**	P	**Pb**	**13 53 34.8**	**+0.2**
RLS				S	**Sn**	**13 53 47.8**	**-0.1**
RLS	**Riolos of Patr**	**0.86**	**123**	P	**Pb**	**13 53 34.8**	**+0.2**
IGT	**Igoumenitsa**	**1.01**	**350**	P	**Pn**	**13 53 38.4**	**+0.7**
IGT	**Igoumenitsa**	**1.01**	**350**	P	**Pn**	**13 53 38.2**	**+0.5**
	baz=332						
IGT				S	**Sn**	**13 53 52.8**	**+1.0**
	baz=332						
EFP	**Efpalio**	**1.06**	**95**	P	**Pg**	**13 53 37.9**	**-0.7**
SERG	**Sergoula**	**1.19**	**95**	P	**Pb**	**13 53 40.0**	**-0.2**
TRIZ	**Trizonia**	**1.20**	**98**	P	**Pb**	**13 53 40.2**	**-0.3**
SRN	**Sarande**	**1.41**	**342**	P	**Pg**	**13 53 45.5**	**+0.4**
	baz=329						
SRN				S	**Sg**	**13 54 04.7**	**+1.2**
	baz=329						
LSK	**Leskovik**	**1.61**	**1**	P	**Pg**	**13 53 48.7**	**-0.3**
	baz=351						
LSK				S	**Sg**	**13 54 11.4**	**+1.4**
	baz=351						
FNA	**Florina**	**2.33**	**15**	P	**Pb**	**13 54 00.9**	**+1.1**
	baz=9.0						
FNA				S	**Sb**	**13 54 29.2**	**+0.7**
	baz=9.0						
LSTV	**Lastovo**	**5.07**	**328**	*e*Pn	**Pn**	**13 54 33.3**	**-0.1**
LSTV				Sn	**Sn**	**13 55 29.6**	**-2.0**
KIJV	**Kijevo**	**6.30**	**332**	*e*Pn	**Pn**	**13 54 51.2**	**+0.8**
KIJV				Sn	**Sn**	**13 56 00.4**	**-1.6**
ZIRJ	**Zirje**	**6.32**	**326**	*e*Pn	**Pn**	**13 54 50.5**	**-0.1**
ZIRJ				Sn	**Sn**	**13 55 59.5**	**-3.0**
MORI	**Morici**	**6.46**	**327**	*e*Pn	**Pn**	**13 54 53.4**	**+0.9**
MORI				Sn	**Sn**	**13 56 04.0**	**-2.0**
DUGI	**Dugi Otok**	**6.85**	**325**	*e*Pn	**Pn**	**13 54 58.6**	**+0.7**
DUGI				Sn	**Sn**	**13 56 12.2**	**-3.3**

IDC 01 13:57:09.9±1.9, 1.76S×144.°74E, $h0^{km}$, mb3.5/4, mb1 3.8/4, mb1mx3.5/31, mbtmp3.6/4, Error ellipse: s-maj=107.1km s-min=30.8km az=119.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.74**	**209**	P	P	14 01 52.3	0.0
	2.5nm,0.9s,baz=31,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**24.18**	**205**	P	P	14 02 28.9	+0.7
	0.8nm,0.7s,baz=32,slow=10,SNR=4.3						
FITZ	**Fitzroy Crossi**	**24.80**	**228**	P	P	14 02 33.4	-0.5
	1.7nm,1.0s,baz=54,slow=8.7,SNR=1.1						
ILAR	**Eielson Array**	**82.51**	**24**	P	P	14 09 34.0	-0.2
	0.3nm,0.9s,baz=242,slow=5.7,SNR=2.9						

*ECX **01** 14:25:54.3±0.4, 27.°76N×111.°73W, $h19^{km}\pm8^{km}$, MD3.9, Fault plane solution: NP1:ϕ_s52.00000°, δ74.00000°, λ38.00000°.*
*MEX **01** 14:25:55.2±1.2, 27.°80N×111.°89W, $h5^{km}$, MD4.1*

ISC 01 14:25:53.6±2.3, 27.°82N±0.°07×111.°76W±0.°05, $h19^{km}\pm5^{km}$, n9, σ19°65/17, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**221**	*e*P	**Pb**	**14 26 05.4**	**-0.9**
SRIG				*i* S	**Sb**	**14 26 14.4**	**-0.5**
SRIG	**Santa Rosalia**	**0.65**	**221**	↓*e*P	**Pb**	**14 26 05.5**	**-0.9**
SRIG				*e*S	**Sb**	**14 26 14.5**	**-0.4**
GUYB	**Guaymas**	**0.79**	**84**	*e*P	**Pb**	**14 26 08.0**	**-0.8**
GUYB				*i* S	**Sb**	**14 26 18.1**	**-1.0**
GUYB	**Guaymas**	**0.79**	**84**	↑*e*P	**Pb**	**14 26 08.0**	**-0.8**
GUYB				*e*S	**Sb**	**14 26 18.4**	**-0.7**
HSIG		**1.40**	**31**	*e*P	**Pn**	**14 26 18.7**	**+0.6**
HSIG				*i* S	**Sn**	**14 26 37.7**	**+1.6**
HSIG		**1.40**	**31**	↓*e*P	**Pn**	**14 26 18.6**	**+0.6**
HSIG				*e*S	**Sn**	**14 26 37.4**	**+1.4**
NZIG	**Nacozari, Sono**	**3.20**	**37**	*e*P	**Pn**	**14 26 47.0**	**+4.0**
NZIG				*i* S	**Sg**	**14 27 34.6**	**-1.8**
CGIG		**4.17**	**52**	*e*P	**Pb**	**14 27 05.2**	**-1.4**
CGIG				*i* S	**Sg**	**14 28 06.3**	**-1.5**
SPX	**San Pedro Mart**	**4.55**	**316**	*e*P	**Pb**	**14 27 11.7**	**-1.4**

*BJI **01** 14:30:19.8±0.0, 52.°13S×160.°03E, $h13^{km}$, mB5.7/25, mb5.4/29, Ms5.4/32, Ms7 5.2/30*
*IDC **01** 14:30:20.3±0.5, 52.°08S×159.°92E, $h0^{km}$, mb5.5/17, mb1 5.5/18, mb1mx5.3/33, mbtmp5.4/18, ML4.5/1, MS5.2/21, Ms1 5.2/21, ms1mx5.2/23, Error ellipse: s-maj=20.2km s-min=13.3km az=65.0*
*NEIC **01** 14:30:21.3, 52.°19S×159.°47E, $h19^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.32; $M_{\theta\theta}$0.52; $M_{\phi\phi}$-0.85; $M_{r\theta}$-0.18; $M_{\theta\phi}$-2.64; $M_{\phi r}$-0.89; Fault plane solution: $M_0$2.89000×10^{17} NP1:ϕ_s352.71000°, δ87.88000°, λ-17.09000°. NP2:ϕ_s83.36000°, δ72.92000°, λ-177.79000°. Principal axes: T 2.6438, Plg10.0000°, Azm39.0000°; N 0.4426, Plg73.0000°, Azm166.0000°; P -3.0864, Plg14.0000°, Azm307.0000°;*
*NEIC **01** 14:30:21.7±1.9, 52.°21S±0.°05×159.°6E±0.°1, $h10^{km}\pm1^{km}$, mb5.7/65, Ms_20 5.4/489, Mwb5.6/25, Mww5.7, Mwc5.6(GCMT) Error ellipse: s-maj=16.6km s-min=4.3km az=61.0*
*NEIC **01** 14:30:22, 52.°21S×159.°93E, $h20^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.11; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-0.36; $M_{r\theta}$-0.43; $M_{\theta\phi}$-4.93; $M_{\phi r}$-1.29; Fault plane solution: $M_0$5.13000×10^{17} NP1:ϕ_s89.00000°, δ76.00000°, λ-175.00000°. NP2:ϕ_s358.00000°, δ86.00000°, λ-14.00000°. Principal axes: T 4.9574, Plg7.0000°, Azm44.0000°; N 0.3241, Plg75.0000°, Azm161.0000°; P -5.2815, Plg13.0000°, Azm312.0000°;*
*MOS **01** 14:30:22.3±1.8, 52.°16S×159.°41E, $h18^{km}$, mb5.8/17, MS5.1/7 Error ellipse: s-maj=23.3km s-min=8.7km az=108.1*
*GCMT **01** 14:30:24.7±0.1, 52.°01S±0.°01×159.°56E±0.°01, $h12^{km}$, MW5.6/132, Moment Tensor Solution. s126,c224; s132,c253; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}0.06±.03; $M_{\theta\theta}$0.40±.03; $M_{\phi\phi}$-0.45±.04; $M_{r\theta}$-0.79±.08; $M_{\theta\phi}$-3.08±.03; $M_{\phi r}$-0.21±.08; Best double couple: $M_0$3.21300×10^{17} NP1:ϕ_s356.00000°, δ76.00000°, λ-2.00000°. NP2:ϕ_s86.00000°, δ88.00000°, λ-166.00000°. Principal axes: T 3.1480, Plg9.0000°, Azm220.0000°; N 0.1300, Plg76.0000°, Azm95.0000°; P -3.2780, Plg12.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 14:30:25, 52.°02S×159.°61E, $h12^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.09; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-0.44; $M_{r\theta}$-0.12; $M_{\theta\phi}$-3.31; $M_{\phi r}$0.32; Fault plane solution: $M_0$3.35000×10^{17} NP1:ϕ_s267.00000°, δ84.00000°, λ178.00000°. NP2:ϕ_s357.00000°, δ88.00000°, λ6.00000°. Principal axes: T 3.3158, Plg5.0000°, Azm222.0000°; N 0.0705, Plg84.0000°, Azm15.0000°; P -3.3863, Plg3.0000°, Azm131.0000°;*

ISC 01 14:30:21.7±0.2, 52.°24S±0.°04×159.°79E±0.°04, $h10^{km}$, n1011, σ1°74/822, mb5.7/119, MS5.4/290, 81C-82D, Fault plane solution: NP1:ϕ_s345.51941°, δ51.69099°, λ-4.03797°. NP2:ϕ_s78.02512°, δ86.83250°, λ-141.62170°. Principal axes: T Plg23.5323°, Azm205.2254°; N Plg51.5113°, Azm82.0161°; P Plg28.5163°, Azm308.9118°; Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**2.31**	**192**	P	**Pn**	**14 30 56.4**	**-3.4**
	baz=2.3,SNR=219						
MCQ				S	**Sn**	**14 31 20.3**	**-8.0**
	baz=2.3						
MCQ	**Macquarie Isla**	**2.31**	**192**	P	**Pn**	**14 30 56.2**	**-3.6**
MCQ	**Macquarie Isla**	**2.31**	**192**	P	**Pn**	**14 30 56.2**	**-3.6**
MCQ	**Macquarie Isla**	**2.31**	**192**	P	**Pn**	**14 30 56.2**	**-3.6**
PYZ	**Puysegur Point**	**7.57**	**39**		**Pn**	**14 32 07.9**	**-4.1**
PYZ	**Puysegur Point**	**7.57**	**39**	P	**Pn**	**14 32 09.1**	**-3.0**
APZ	**The Paps**	**7.60**	**48**	P	**Pn**	**14 32 08.3**	**-4.2**
APZ				S	**Sn**	**14 33 31.9**	**-6.7**
WHZ	**Wether Hill Ro**	**8.31**	**43**		**Pn**	**14 32 18.7**	**-3.5**
WHZ	**Wether Hill Ro**	**8.31**	**43**	P	**Pn**	**14 32 18.6**	**-3.5**
WHZ				S	**Sn**	**14 33 50.1**	**-5.9**
DCZ	**Deep Cove**	**8.34**	**38**		**Pn**	**14 32 19.0**	**-3.6**
DCZ	**Deep Cove**	**8.34**	**38**	P	**Pn**	**14 32 19.3**	**-3.3**
SYZ	**Scrubby Hill**	**8.35**	**51**	P	**Pn**	**14 32 20.1**	**-2.6**
MLZ	**Mavora Lakes**	**8.80**	**42**		**Pn**	**14 32 26.2**	**-2.8**
MLZ	**Mavora Lakes**	**8.80**	**42**	P	**Pn**	**14 32 26.4**	**-2.5**
TUZ	**Tuapeka**	**9.01**	**50**	P	**Pn**	**14 32 29.5**	**-2.3**
MSZ	**Milford Sound**	**9.30**	**39**	P	**Pn**	**14 32 33.6**	**-2.2**
EAZ	**Earnscleugh**	**9.42**	**46**	P	**Pn**	**14 32 34.8**	**-2.6**
EAZ				S	**Sn**	**14 34 18.4**	**-4.9**
HHSZ	**Highcliff Hill**	**9.53**	**52**	P	**Pn**	**14 32 38.6**	**-0.2**
WKZ	**Wanaka**	**9.61**	**43**		**Pn**	**14 32 37.5**	**-2.6**
WKZ	**Wanaka**	**9.61**	**43**	P	**Pn**	**14 32 38.1**	**-2.0**
ODZ	**Otahua Downs**	**10.17**	**49**	Pn	**Pn**	**14 32 44.1**	**-3.5**
ODZ	**Otahua Downs**	**10.17**	**49**	P	**Pn**	**14 32 43.9**	**-3.7**
LBZ	**Lake Benmore**	**10.47**	**45**		Pn	14 32 46.9	-4.8
LBZ	**Lake Benmore**	**10.47**	**45**	P	**Pn**	**14 32 47.1**	**-4.7**
TMZ	**Timaru**	**10.84**	**48**	P	**Pn**	**14 32 53.9**	**-2.9**
FOZ	**Fox Glacier**	**11.00**	**42**		**Pn**	**14 32 55.0**	**-4.1**
ARCZ	**Arundel**	**11.25**	**47**	P	**Pn**	**14 32 59.7**	**-2.8**
RPZ	**Rata Peaks**	**11.38**	**46**		Pn	14 32 59.0	-5.3
RPZ	**Rata Peaks**	**11.38**	**46**	P	Pn	14 32 59.0	-5.3
WACZ	**Wakanui South**	**11.56**	**49**	P	**Pn**	**14 33 03.7**	**-2.9**
RACZ	**Rakaia**	**11.86**	**49**	P	**Pn**	**14 33 08.0**	**-2.8**
MQZ	**McQueen's Vall**	**12.12**	**50**		**Pn**	**14 33 10.0**	**-4.3**
MQZ	**McQueen's Vall**	**12.12**	**50**	P	**Pn**	**14 33 12.1**	**-2.2**
OXZ	**Oxford**	**12.13**	**47**		**Pn**	**14 33 10.1**	**-4.4**
OXZ	**Oxford**	**12.13**	**47**	P	**Pn**	**14 33 12.2**	**-2.3**
OKCZ	**Okains Bay**	**12.30**	**51**	P	**Pn**	**14 33 15.3**	**-1.6**
TAU	**Tasmania Unive**	**12.55**	**313**	P	**Pn**	**14 33 15.7**	**-4.5**
TAU	**Tasmania Unive**	**12.55**	**313**		**Pn**	**14 33 15.7**	**-4.5**
LTZ	**Lake Taylor**	**12.66**	**47**		Pn	14 33 16.0	-5.8
LTZ	**Lake Taylor**	**12.66**	**47**	P	**Pn**	**14 33 18.4**	**-3.4**
MOO	**Moorlands**	**12.98**	**314**	P	**Pn**	**14 33 23.0**	**-3.2**
	baz=13,SNR=17						
MOO				S	Sn	14 35 40.0	-11
	baz=13						
KHZ	**Kahutara**	**13.53**	**49**		Pn	14 33 27.9	-5.6
KHZ	**Kahutara**	**13.53**	**49**	P	**Pn**	**14 33 30.3**	**-3.2**
THZ	**Tophouse**	**13.76**	**46**		Pn	14 33 30.4	-6.4
THZ	**Tophouse**	**13.76**	**46**	P	**Pn**	**14 33 34.1**	**-2.7**
QRZ	**Quartz Range**	**14.37**	**42**		Pn	14 33 38.2	-6.9
QRZ	**Quartz Range**	**14.37**	**42**	P	**Pn**	**14 33 41.7**	**-3.4**
NNZ	**Nelson**	**14.41**	**45**		**Pn**	**14 33 41.3**	**-4.3**
NNZ	**Nelson**	**14.41**	**45**	P	**Pn**	**14 33 43.9**	**-1.7**
SNZO	**South Karori**	**14.93**	**49**		**Pn**	**14 33 51.2**	**-1.5**
SNZO				IAmb	IAmb	14 34 17.7	
	comp=Z,316nm,1.5s						
DUWZ	**D'Urville Isla**	**14.99**	**46**	P	**Pn**	**14 33 54.1**	**+0.6**
PLWZ	**Palliser**	**14.99**	**51**	P	**Pn**	**14 33 54.8**	**+1.2**
MTW	**Mount Morrison**	**15.43**	**50**	P	**Pn**	**14 33 59.7**	**+0.4**
OGWZ	**Otaki Gorge**	**15.54**	**49**	P	**P**	**14 34 03.3**	**-1.8**
HOWZ	**Holdsworth Sta**	**15.64**	**50**	P	**Pn**	**14 34 03.9**	**+1.9**
MRZ	**Mangatainoka R**	**15.85**	**49**	P	**Pn**	**14 34 04.1**	**-0.7**
TIWZ	**Tintock**	**15.90**	**50**	P	**P**	**14 34 07.5**	**-1.7**
BFZ	**Birch Farm**	**16.15**	**51**		**Pn**	**14 34 05.3**	**-3.4**
BFZ				IAmb	IAmb	14 34 22.5	
	comp=Z,678nm,1.5s						
BFZ	**Birch Farm**	**16.15**	**51**	P	**Pn**	**14 34 08.4**	**-0.2**
NBEZ	**Newall Road No**	**16.24**	**42**	P	**P**	**14 34 11.7**	**-1.2**
KHEZ	**Kahui Hut**	**16.27**	**43**	P	**Pn**	**14 34 08.5**	**-1.8**
PREZ	**Palmer Road**	**16.30**	**43**	P	**P**	**14 34 14.0**	**+0.4**
LREZ	**Lake Rotokare**	**16.30**	**44**	P	**P**	**14 34 14.5**	**+0.9**
DVHZ	**Dannevirke**	**16.41**	**50**	P	**Pn**	**14 34 13.4**	**+1.3**
DREZ	**Durham Road**	**16.44**	**43**	P	**P**	**14 34 15.3**	**+0.2**
VRZ	**Vera Road**	**16.73**	**44**	P	**P**	**14 34 17.8**	**-0.5**
PNHZ	**Pukenui**	**16.73**	**49**	P	**P**	**14 34 18.8**	**+0.4**
MILA	**Mila**	**16.94**	**330**	P	**Pn**	**14 34 18.1**	**-0.6**
	baz=17,SNR=7.1						
KRHZ	**Kereru**	**17.03**	**49**	P	**P**	**14 34 21.8**	**+0.1**
HIZ	**Hauiti**	**17.29**	**43**	P	**Pn**	**14 34 21.1**	**-1.9**
BKZ	**Black Stump Fm**	**17.47**	**48**		**Pn**	**14 34 24.1**	**-1.2**
TOO	**Toolangi**	**17.77**	**320**	P	**Pn**	**14 34 28.2**	**-0.9**
	baz=18,SNR=64						
TOO	**Toolangi**	**17.77**	**320**	P	**Pn**	**14 34 27.5**	**-1.7**
TOO				pmax	pmax		
	comp=Z,962nm,1.4s						
TOO	**Toolangi**	**17.77**	**320**	P	**Pn**	**14 34 27.5**	**-1.7**
TOO				IAmb	IAmb	14 34 31.9	
	comp=Z,962nm,1.4s						
TOZ	**Tahuroa Road**	**18.22**	**43**	P	**P**	**14 34 39.9**	**+5.2**
AWAZ	**Awhitu Peninsu**	**18.44**	**40**	P	**Pn**	**14 34 41.0**	**+3.8**
URZ	**Urewera**	**18.48**	**48**	P	**P**	**14 34 35.3**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=301,slow=23,SNR=20						
URZ				LR	LR	14 42 14.9	
	comp=Z,15μm,18.1s,baz=211,slow=39						
URZ	**Urewera**	**18.48**	**48**		**P**	**14 34 35.1**	**-2.5**
URZ	**Urewera**	**18.48**	**48**	P	**P**	**14 34 37.5**	**-0.2**
CNB	**Canberra Magne**	**18.49**	**332**	P	**P**	**14 34 37.6**	**-0.2**
	baz=19,SNR=115						
WTAZ	**Waiatarua**	**18.52**	**40**	P	**Pn**	**14 34 42.3**	**+4.1**
MKAZ	**Moumakai**	**18.61**	**42**	P	**Pn**	**14 34 44.1**	**+4.8**
MWZ	**Matawai**	**18.61**	**49**	P	**P**	**14 34 38.8**	**-0.4**
ETAZ	**East Tamaki Re**	**18.64**	**41**	P	**Pn**	**14 34 45.4**	**+5.6**
RVAZ	**Riverhead Bore**	**18.66**	**40**	P	**Pn**	**14 34 44.6**	**+4.6**
MBAZ	**Motutapu North**	**18.79**	**41**	P	**Pn**	**14 34 45.5**	**+3.9**
WIAZ	**Waiheke Island**	**18.87**	**41**	P	**Pn**	**14 34 48.2**	**+5.7**
ABAZ	**Army Bay**	**18.91**	**40**	P	**Pn**	**14 34 47.6**	**+4.6**
RUGZ	**Raukumara Rang**	**18.98**	**48**	P	**Pn**	**14 34 45.9**	**+1.9**
KUZ	**Kuaotunu**	**19.15**	**42**	P	**Pn**	**14 34 47.4**	**+1.6**
HAZ	**Te Kaha**	**19.20**	**48**	P	**Pn**	**14 34 47.9**	**+1.4**
PKGZ	**Pakihiroa**	**19.23**	**49**	P	**Pn**	**14 34 49.2**	**+2.3**
WCZ	**Waipu Caves**	**19.30**	**38**	P	**Pn**	**14 34 51.9**	**+4.2**
RIV	**Riverview**	**19.43**	**338**	P	**Pn**	**14 34 49.0**	**-0.2**
	baz=20,SNR=11						
GRZ	**Great Barrier**	**19.47**	**41**	P	**Pn**	**14 34 56.0**	**+6.3**
MXZ	**Matakoa Point**	**19.60**	**49**	P	**P**	**14 34 50.2**	**+0.3**
MXZ				IAmb	IAmb	14 35 05.4	
	comp=Z,561nm,1.3s						
OUZ	**Omahuta**	**19.67**	**35**	P	**Pn**	**14 34 56.2**	**+4.1**
ARPS	**Mount Arapiles**	**19.99**	**314**	P	**P**	**14 34 54.9**	**+0.7**
	baz=20,SNR=32						
MGCD	**Mangrove Creek**	**20.03**	**338**	P	**P**	**14 34 55.5**	**+0.8**
	baz=20,SNR=40						
LHI	**Lord Howe Isla**	**20.71**	**358**	P	**P**	**14 35 02.1**	**+0.1**
	baz=21,SNR=4.4						
LHI	**Lord Howe Isla**	**20.71**	**358**	P	**P**	**14 35 02.3**	**+0.2**
ARMA	**Armidale**	**22.62**	**341**	P	**P**	**14 35 22.2**	**-0.5**
	baz=23,SNR=23						
ARMA	**Armidale**	**22.62**	**341**	P	**P**	**14 35 21.5**	**-1.2**
ARMA				IAmb	IAmb	14 35 25.7	
	comp=Z,254nm,1.4s						
CMSA	**Cobar Meteorol**	**23.12**	**328**	P	**P**	**14 35 26.8**	**-0.9**

comp=Z,100nm,1.1s
NWAO Narrogin (SRO) 36.14 285 P **P** **14 37 21.9 -2.0**
NWAO IAmb IAmb 14 37 24.5
comp=Z,100nm,1.1s
WRKA Warakurna 36.14 307 P **P** **14 37 23.0 -1.1**
baz=36,SNR=301
MTSU Mount Surprise 36.15 335 P **P** **14 37 24.1 0.0**
baz=36,SNR=30
H01W1 Cape Leeuwin H 36.63 280 P **P** **14 37 29.3 +1.5**
baz=122,slow=9.9,SNR=15
H01W1 T T 15 16 49.5
baz=133,slow=75,SNR=689
H01W2 Cape Leeuwin H 36.64 280 P **P** **14 37 29.1 +1.3**
baz=122,slow=9.9,SNR=12
H01W2 T T 15 16 54.5
baz=133,slow=75,SNR=1013
H01W3 Cape Leeuwin H 36.65 280 P **P** **14 37 29.5 +1.6**
baz=122,slow=9.9,SNR=8.9
H01W3 T T 15 16 55.2
baz=133,slow=75,SNR=835
KLBR Kellerberrin 36.79 287 P **P** **14 37 29.2 -0.3**
baz=37,SNR=56
MUN Mundaring 37.42 285 P **P** **14 37 34.6 -0.2**
baz=38,SNR=43
WR0 Warramunga Arr 37.74 319 P **P** **14 37 35.5 -2.2**
WR0 IAmb IAmb 14 37 37.2
comp=Z,176nm,0.9s
WR9 Warramunga Arr 37.76 319 IAMs_20 IAMs_20 14 51 15.1
comp=Z,5μm,21.0s
WR8 Warramunga Arr 37.76 319 IAMs_20 IAMs_20 14 51 14.3
comp=Z,5μm,22.0s
WR7 Warramunga Arr 37.77 319 IAMs_20 IAMs_20 14 52 04.6
comp=Z,5μm,22.0s
WR4 Warramunga Arr 37.81 319 IAMs_20 IAMs_20 14 53 35.4
comp=Z,5μm,18.0s
WC3 Warramunga Arr 37.81 319 IAMs_20 IAMs_20 14 52 56.6
comp=Z,5μm,22.0s
WR3 Warramunga Arr 37.82 319 IAMs_20 IAMs_20 14 53 20.7
comp=Z,5μm,18.0s
WB1 Warramunga Ar. 37.82 319 IAMs_20 IAMs_20 14 51 15.8
comp=Z,4μm,21.0s
WC4 Warramunga Arr 37.82 319 IAMs_20 IAMs_20 14 52 55.9
comp=Z,6μm,22.0s
WB2 Warramunga Arr 37.84 319 P **P** **14 37 36.6 -1.9**
WB2 IAmb IAmb 14 37 38.1
comp=Z,291nm,1.2s
WB2 IAMs_20 IAMs_20 14 51 16.2
comp=Z,4μm,20.0s
WR1 Warramunga Arr 37.84 319 IAMs_20 IAMs_20 14 51 51.3
comp=Z,5μm,21.0s
WRA Warramunga Arr 37.84 319 P **P** **14 37 36.7 -1.8**
comp=Z,123nm,0.9s,baz=156,slow=7.5,SNR=428
WRA LR LR 14 52 56.8
comp=Z,3μm,18.3s,baz=155,slow=36
WRA Warramunga Arr 37.84 319 P **P** **14 37 36.7 -1.8**
WRAB Tennant Creek 37.84 319 *d iP* **P** **14 37 36.6 -1.9**
WRAB pmax pmax
comp=Z,264nm,1.3s
WRAB Tennant Creek 37.84 319 P **P** **14 37 36.5 -2.1**
WRAB IAmb IAmb 14 37 38.1
comp=Z,216nm,1.1s
WC2 Warramunga Arr 37.84 319 IAMs_20 IAMs_20 14 53 35.7
comp=Z,5μm,19.0s
WB4 Warramunga Arr 37.87 319 IAMs_20 IAMs_20 14 52 59.0
comp=Z,5μm,21.0s
QSPA South Pole Qui 37.87 180 P **P** **14 37 40.6 +2.1**
comp=Z,65nm,1.0s,baz=4.0,slow=2.6,SNR=136
QSPA South Pole Qui 37.87 180 P **P** **14 37 40.6 +2.1**
QSPA IAmb IAmb 14 37 42.1
comp=Z,219nm,1.4s
WB6 Warramunga Arr 37.91 319 IAMs_20 IAMs_20 14 53 14.1
comp=Z,6μm,20.0s
WB7 Warramunga Arr 37.91 319 IAMs_20 IAMs_20 14 53 14.8
comp=Z,4μm,18.0s
WB8 Warramunga Arr 37.94 319 IAMs_20 IAMs_20 14 51 28.9
comp=Z,5μm,19.0s
WB9 Warramunga Arr 37.96 319 IAMs_20 IAMs_20 14 53 16.4
comp=Z,5μm,18.0s
WB0 Warramunga Arr 37.98 319 P **P** **14 37 37.5 -2.1**
WB0 IAmb IAmb 14 37 39.1
comp=Z,161nm,1.1s
WB0 IAMs_20 IAMs_20 14 51 30.9
comp=Z,4μm,18.0s
BLDU Ballidu 38.11 287 P **P** **14 37 40.0 -0.7**
baz=38,SNR=42
MORW Morawa 39.64 288 P **P** **14 37 53.5 -0.1**
baz=40,SNR=64
MORW Morawa 39.64 288 P **P** **14 37 53.0 -0.6**
MORW IAmb IAmb 14 37 54.8
comp=Z,320nm,1.2s
MEEK Meekatharra 40.01 294 P **P** **14 37 55.9 -0.8**
baz=40,SNR=41
FITZ Fitzroy Crossi 43.32 309 P **P** **14 38 23.2 -0.6**
comp=Z,167nm,0.9s,baz=159,slow=9.3,SNR=179
FITZ LR LR 14 56 03.9
comp=Z,4μm,18.1s,baz=144,slow=36
FITZ Fitzroy Crossi 43.32 309 P **P** **14 38 23.2 -0.6**
baz=43,SNR=138
FITZ Fitzroy Crossi 43.32 309 P **P** **14 38 23.1 -0.6**
FITZ IAmb IAmb 14 38 24.5
comp=Z,280nm,1.1s
FITZ IAMs_20 IAMs_20 14 56 09.9
comp=Z,4μm,18.0s
MBWA Marble Bar 43.76 300 IAMs_20 IAMs_20 14 57 38.8
comp=Z,5μm,18.0s
RAR Rarotonga 43.92 61 IAMs_20 IAMs_20 14 53 40.7
comp=Z,4μm,20.0s
PMG Port Moresby 43.94 342 LR LR 14 53 00.2
comp=Z,2μm,21.9s,baz=178,slow=31
KNRA Kununurra 44.00 314 P **P** **14 38 28.3 -0.9**
baz=44,SNR=55
KNRA Kununurra 44.00 314 P **P** **14 38 28.3 -0.9**
KDU Kakadu 45.15 321 P **P** **14 38 37.2 -1.2**
baz=45,SNR=14
MTN Manton Dam 45.54 319 P **P** **14 38 40.1 -1.4**
baz=46,SNR=22
MTN Manton Dam 45.54 319 P **P** **14 38 39.7 -1.8**
MAW Mawson 45.57 212 P **P** **14 38 42.8 +1.6**
comp=Z,76nm,1.1s,baz=118,slow=9.4,SNR=85
MAW LR LR 14 56 56.3
comp=Z,6μm,18.4s,baz=94,slow=35
MAW Mawson 45.57 212 P **P** **14 38 42.8 +1.6**
MAW Mawson 45.57 212 P **P** **14 38 42.2 +1.0**
GIRL Giralia 45.60 293 P **P** **14 38 42.7 +0.8**
baz=46,SNR=24
GIRL Giralia 45.60 293 P **P** **14 38 41.5 -0.4**
GIRL IAMs_20 IAMs_20 14 52 50.9
comp=Z,4μm,20.0s
TBI Tubuai 48.06 73 *eS* **S** **14 46 02.5 +3.0**
comp=Z,743nm,28.2s
TBI *eLQ* LQ 14 50 38.5
comp=Z,4μm,29.5s
TBI *eLR* LR 14 52 41.9
comp=Z,5μm,31.2s,baz=214
RABL Rabaul 48.31 350 P **P** **14 39 00.9 -2.3**
MANU Manus Island 51.09 344 P **P** **14 39 22.9 -1.5**
BATI Baumata 51.12 312 P **P** **14 39 25.0 +0.4**
comp=Z,159nm,1.0s,baz=169,slow=5.2,SNR=9.6
BATI Baumata 51.12 312 P **P** **14 39 25.1 +0.4**
comp=Z,105nm,1.3s
SOEI Soe 51.24 313 P **P** **14 39 23.7 -1.9**
SOEI Soe 51.24 313 P **P** **14 39 26.2 +0.6**
comp=Z,2μmcomp=Z,182nm,1.1s
SYO Syowa Base 51.38 203⇑ *iP* **P** **14 39 26.8 +0.9**
SYO Syowa Base 51.38 203⇑ *eS*P sP 14 39 29.2 +0.5
SYO Syowa Base 51.38 203⇑ *eP*cP **PcP** **14 40 38.7 -1.6**
GENI Genyem 52.12 335 P **P** **14 39 30.8 -1.2**
comp=Z,142nm,1.9s
PPT2 Papeete2 52.49 68 *eS* **S** **14 47 02.2 +0.8**
comp=Z,1μm,28.5s
PPT2 *eLQ* LQ 14 52 29.4
comp=Z,3μm,25.8s
PPT2 *eLR* LR 14 54 43.2
comp=Z,8μm,27.0s,baz=219
PPT Papeete 52.51 68 LR LR 14 56 58.4
comp=Z,2μm,21.9s,baz=213,slow=30
BASI Baing, Sumba 52.56 308 P **P** **14 39 35.4 +0.1**
comp=Z,3μmcomp=Z,198nm,1.3s
TIAR Tiarei 52.65 69 *eP* **P** **14 39 38.9 +2.9**
comp=Z,12nm,1.0s
MMRI Maumere 53.15 311 P **P** **14 39 36.9 -2.9**
MMRI IAmb IAmb 14 39 40.5
comp=Z,162nm,1.2s
MMRI IAMs_20 IAMs_20 15 03 22.5
comp=Z,3μm,18.0s
MMRI Maumere 53.15 311 P **P** **14 39 39.5 -0.2**
comp=Z,2μmcomp=Z,108nm,0.9s

WSI Waingapu 53.17 308 P **P** **14 39 40.3 +0.5**
EDFI Ende, Flores 53.31 310 P **P** **14 39 38.9 -2.1**
comp=Z,508nmcomp=Z,50nm,1.5s
BNDI Bandanaira 53.61 322 P **P** **14 39 42.5 -0.6**
comp=Z,9μmcomp=Z,504nm,1.4s
WBSI Waikabubak, Su 53.63 307 P **P** **14 39 43.0 -0.3**
comp=Z,105nm,1.4s
SRPI Serui, Papua 53.92 330 P **P** **14 39 44.2 -1.1**
comp=Z,117nm,0.7s
FAKI Fak Fak 54.24 325 P **P** **14 39 46.1 -1.6**
FAKI IAmb IAmb 14 39 48.0
comp=Z,124nm,1.2s
FAKI IAMs_20 IAMs_20 15 04 36.8
comp=Z,2μm,18.0s
FAKI Fak Fak 54.24 325 P **P** **14 39 46.7 -1.0**
comp=Z,106nm,1.6s
BAKI Biak 54.60 330 P **P** **14 39 48.9 -1.4**
comp=Z,2μmcomp=Z,121nm,1.0s
MSAI Masohi 55.06 321 P **P** **14 39 51.3 -2.4**
comp=Z,405nmcomp=Z,17nm,0.8s
PLAI Plampang 55.13 306 P **P** **14 39 54.0 -0.1**
comp=Z,868nmcomp=Z,73nm,1.2s
TWSI Taliwang, Sumb 55.65 305 P **P** **14 39 57.6 -0.3**
comp=Z,1μmcomp=Z,109nm,1.2s
SNAA Sanae 55.77 187 P **P** **14 39 58.6 +0.4**
SNAA Sanae 55.77 187 *c iP* **P** **14 39 58.3 +0.1**
SNAA pmax pmax
comp=Z,94nm,1.4s
SNAA Sanae 55.77 187 P **P** **14 39 58.0 -0.2**
SNAA IAmb IAmb 14 40 13.8
comp=Z,121nm,1.4s
SNAA IAMs_20 IAMs_20 15 02 11.4
comp=Z,2μm,21.0s
NLAI Namlea 55.88 319 P **P** **14 39 59.2 -0.3**
comp=Z,4μmcomp=Z,413nm,1.2s
SIJI Sorong 56.49 325 P **P** **14 40 03.2 -0.7**
comp=Z,40nm,0.7s,baz=76,slow=5.4,SNR=24
SWI Sorong 56.50 325 P **P** **14 40 02.8 -1.1**
comp=Z,2μmcomp=Z,151nm,1.6s
DNP Denpasar 56.55 304 P **P** **14 40 03.2 -1.1**
VNA3 Neumayer Olymp 56.59 184 P **P** **14 40 04.5 +0.5**
VNA3 Neumayer Olymp 56.59 184 PcP **PcP** **14 41 00.1 -0.1**
VNA3 Neumayer Olymp 56.59 184 pP pP 14 40 06.9 +0.8
VNA2 Neumayer--Watz 56.79 185 P **P** **14 40 05.5 +0.1**
baz=170,slow=6.0
VNA2 Neumayer--Watz 56.79 185 PcP **PcP** **14 41 01.2 +0.2**
VNA2 Neumayer--Watz 56.79 185 pP pP 14 40 08.1 +0.6
RKT Rikitea 56.98 86 *eS* **S** **14 48 01.8 +0.3**
comp=Z,1μm,33.5s
BKSI Bulukumba 57.05 311 P **P** **14 40 07.1 -0.7**
comp=Z,876nmcomp=Z,102nm,1.1s
SRBI Singaraja 57.05 304 P **P** **14 40 08.2 +0.3**
comp=Z,2μmcomp=Z,213nm,1.2s
VNA1 Neumayer--Stat 57.11 185 P **P** **14 40 08.4 +0.8**
SANI Sanana 57.41 319 P **P** **14 40 09.0 -1.4**
comp=Z,2μmcomp=Z,209nm,1.1s
KAPI Kappang 57.49 311 P **P** **14 40 11.1 +0.1**
comp=Z,63nm,1.1s,baz=174,slow=3.7,SNR=15
KAPI Kappang 57.49 311 *ceP* **P** **14 40 11.5 +0.5**
KAPI Kappang 57.49 311 P **P** **14 40 10.2 -0.8**
KAPI IAmb IAmb 14 40 12.4
comp=Z,125nm,1.2s
KAPI Kappang 57.49 311 IAMs_20 IAMs_20 15 07 33.4
comp=Z,2μm,18.0s
ABJI Asem Bagus 57.80 303 P **P** **14 40 13.5 +0.3**
comp=Z,164nm,1.4s
BNSI Bone 57.86 311 P **P** **14 40 13.6 0.0**
comp=Z,2μmcomp=Z,167nm,1.4s
PMSA Palmer Station 58.50 160 P **P** **14 40 18.1 +0.7**
KMMI Kalianget 58.57 303 P **P** **14 40 18.9 +0.3**
comp=Z,2μmcomp=Z,158nm,1.3s
PWJI Pagerwojo 58.87 301 P **P** **14 40 20.9 +0.2**
comp=Z,2μmcomp=Z,75nm,1.1s
PCJI Pacitan 59.06 300 P **P** **14 40 22.0 0.0**
comp=Z,153nm,0.8s
TTSI Tana Toraja 59.19 312 P **P** **14 40 22.9 0.0**
comp=Z,1μmcomp=Z,103nm,1.2s
TNTI Ternate 59.44 321 P **P** **14 40 24.4 -0.2**
comp=Z,38nm,1.3s
UGM Wanagama 59.65 300 P **P** **14 40 24.2 -1.9**
UGM IAmb IAmb 14 40 41.1
comp=Z,116nm,1.1s
LUWI Luwuk 59.66 316 P **P** **14 40 23.7 -2.4**
LUWI IAMs_20 IAMs_20 15 04 46.1
comp=Z,3μm,22.0s
LUWI Luwuk 59.66 316 P **P** **14 40 26.0 -0.1**
comp=Z,2μmcomp=Z,205nm,1.3s
XMIS Christmas Isla 60.21 293 P **P** **14 40 28.1 -1.8**
APSI Ampana 60.26 315 P **P** **14 40 30.2 0.0**
comp=Z,1μmcomp=Z,139nm,1.3s
KPJI Karang Pucung 60.99 298 P **P** **14 40 35.6 +0.4**
comp=Z,2μmcomp=Z,161nm,1.2s
BBKI Banjar Baru 61.20 306 P **P** **14 40 36.8 +0.1**
comp=Z,13μmcomp=Z,2μmcomp=Z,127nm,1.5s
MRSI Marisa 61.38 316 P **P** **14 40 36.5 -1.3**
comp=Z,1μmcomp=Z,102nm,1.2s
CISI Cisompet, Garu 61.41 297 P **P** **14 40 37.1 -1.0**
CISI IAmb IAmb 14 40 39.3
comp=Z,68nm,1.0s
CISI Cisompet, Garu 61.41 297 P **P** **14 40 37.8 -0.3**
comp=Z,947nmcomp=Z,74nm,1.3s
CNJI Cibinong 61.99 297 P **P** **14 40 42.0 0.0**
comp=Z,2μmcomp=Z,191nm,1.4s
BKB Balikpapan 62.12 310 IAMs_20 IAMs_20 15 06 30.6
comp=Z,3μm,20.0s
LEM Lembang 62.12 297 P **P** **14 40 44.2 +1.1**
comp=Z,278nm,1.0s,baz=137,slow=3.9,SNR=42
LEM LR LR 15 04 14.5
comp=Z,3μm,20.8s,baz=149,slow=33
LEM Lembang 62.12 297 P **P** **14 40 44.2 +1.1**
LEM Lembang 62.12 297 P **P** **14 40 44.1 +1.0**
comp=Z,2μmcomp=Z,215nm,1.4s
MPSI Mapaga 62.15 314 P **P** **14 40 43.0 0.0**
comp=Z,3μmcomp=Z,317nm,1.2s
TOLI2 Tolitoli 62.45 315 P **P** **14 40 42.9 -2.1**
TOLI2 IAMs_20 IAMs_20 15 08 02.0
comp=Z,2μm,20.0s
SGSI Sangihe 62.82 321 P **P** **14 40 47.0 -0.5**
comp=Z,180nm,0.8s
DBJI Dramaga 62.82 297 P **P** **14 40 48.6 +1.0**
comp=Z,280nm,1.2s
TNG Tangerang 63.20 297 P **P** **14 40 49.9 -0.1**
comp=Z,543nm,0.5s
TNG P **pP** **14 40 51.0 -1.2**
comp=Z,803nm,0.5s
CGJI Cibinong 63.35 296 P **P** **14 40 52.0 +0.9**
comp=Z,2μmcomp=Z,138nm,1.3s
MTKI Muara Teweh, K 63.36 308 P **P** **14 40 51.4 +0.3**
comp=Z,4μmcomp=Z,136nm,1.3s
PBKI Pangkalan Bun 63.45 304 P **P** **14 40 52.2 +0.5**
comp=Z,237nm,1.3s
BLSI Bandar Lampung 64.63 296 P **P** **14 40 59.2 -0.3**
comp=Z,121nm,0.7s
KASI Kota Agung 64.92 295 P **P** **14 41 00.4 -1.0**
comp=Z,1μmcomp=Z,77nm,1.5s
TAOE Nuku Hiva Isla 64.92 71 *eS* **S** **14 49 43.3 +0.1**
comp=Z,1μm,30.1s
TAOE *eLQ* LQ 14 57 39.1
comp=Z,5μm,28.8s
TAOE *eLR* LR 15 00 25.3
comp=Z,4μm,22.5s,baz=233
XMAS Kiritimati 64.97 48 P **P** **14 41 02.1 +0.5**
XMAS IAmb IAmb 14 41 29.6
comp=Z,48nm,1.0s
TPI Tanjungpandan 65.50 300 P **P** **14 41 05.2 +0.1**
comp=Z,43nm,1.5s
LWLI Liwa 65.58 295 P **P** **14 41 06.2 +0.4**
comp=Z,216nm,0.7s
STKI Sintang 65.92 305 P **P** **14 41 08.2 +0.4**
comp=Z,75nm,1.2s
MDSI Maura Dua 65.95 296 P **P** **14 41 07.7 -0.3**
comp=Z,917nmcomp=Z,36nm,1.4s
PPBI Pangkal Pinang 66.81 299 P **P** **14 41 13.4 -0.2**
comp=Z,6μmcomp=Z,51nm,1.2s
LHSI Lahat 66.86 296 P **P** **14 41 14.1 +0.2**
comp=Z,2μmcomp=Z,135nm,1.1s
PMBI Palembang 66.92 297 IAMs_20 IAMs_20 15 08 37.4
comp=Z,2μm,20.0s
PMBI Palembang 66.92 297 P **P** **14 41 14.0 -0.2**
comp=Z,308nm,0.4s
KSI Kapahiang 67.52 295 P **P** **14 41 18.2 +0.1**
comp=Z,72nm,1.7s
SPMM Sapulut 67.57 312 P **P** **14 41 19.0 +0.6**
SBUM Sibu 67.60 307 P **P** **14 41 19.0 +0.4**
KSM Kuching 67.71 305 P **P** **14 41 19.0 -0.3**
GO09 Cerro Castillo 67.89 148 P **P** **14 41 20.9 +0.9**
GO09 IAmb IAmb 14 41 34.3

comp=Z,96nm,1.4s
JMBI JAMBI 68.61 297 P **P** **14 41 25.4 +0.5**
PDSI Padang 70.97 295 P **P** **14 41 38.2 -1.3**
comp=Z,2μmcomp=Z,36nm,0.8s
EFI East Falkland 71.65 156⇑ *eP* **P** **14 41 41.6 -1.5**
EFI pmax pmax
comp=Z,49nm,0.9s
EFI East Falkland 71.65 156 P **P** **14 41 43.3 +0.2**
BKNI Bangkinang 71.67 296 P **P** **14 41 42.1 -1.6**
comp=Z,104nm,0.4s
MNSI Mandailing Nat 72.87 295 P **P** **14 41 49.4 -1.4**
comp=Z,66nm,1.0s
HOPE Hope Point 72.98 170 P **P** **14 41 49.5 -1.4**
HOPE pmax pmax
comp=Z,122nm,1.4s
HOPE Hope Point 72.98 170 P **P** **14 41 49.5 -1.4**
HOPE IAmb IAmb 14 42 03.1
comp=Z,122nm,1.4s
GSI Gunungsitoli 74.41 293 P **P** **14 42 00.3 +0.4**
GSI Gunungsitoli 74.41 293 P **P** **14 42 01.2 +1.3**
comp=Z,129nm,1.2s
LL02 Futaleuf 75.01 144 P **P** **14 42 02.2 -0.9**
IPM Ipoh 75.12 298 P **P** **14 42 04.0 0.0**
LL01 San Ignacio de 75.50 143 P **P** **14 42 05.8 -0.1**
LL01 IAMs_20 IAMs_20 15 08 16.3
comp=Z,2μm,21.0s
TSI Tuntungan 75.66 295 P **P** **14 42 06.3 -0.8**
LL03 Petrohue 76.58 142 IAMs_20 IAMs_20 15 07 50.0
comp=Z,2μm,19.0s
SKLT Songkhla 77.59 299 P **P** **14 42 18.4 +0.4**
comp=Z,826nmcomp=Z,54nm,1.5s
PLCA Paso Flores 77.62 143 LR LR 15 10 14.6
comp=Z,1μm,18.6s,baz=202,slow=31
LHMI Lhok Sumawe 77.99 295 P **P** **14 42 19.4 -0.8**
PKDT Phuket 79.42 298 P **P** **14 42 28.8 +0.7**
comp=Z,79nm,1.1s
H03S2 Juan Fernandez 80.14 134 T T 16 10 48.1
baz=211,slow=74,SNR=1352
H03S1 Juan Fernandez 80.14 134 T T 16 10 49.4
baz=211,slow=74,SNR=1787
H03S3 Juan Fernandez 80.15 134 T T 16 10 48.7
baz=211,slow=74,SNR=1732
H03N3 Juan Fernandez 80.46 134 T T 16 11 18.2
baz=224,slow=74,SNR=49
H03N2 Juan Fernandez 80.47 134 T T 16 11 08.8
baz=224,slow=74,SNR=151
H03N1 Juan Fernandez 80.48 134 T T 16 11 50.5
baz=224,SNR=76
KIP Kipapa 82.06 39⇑ *eP* **P** **14 42 43.0 +1.0**
KIP pmax pmax
comp=Z,31nm,1.1s
H08S2 Diego Garcia H 82.36 267 T T 16 14 07.1
baz=143,SNR=32
H08S1 Diego Garcia H 82.37 267 T T 16 13 49.0
baz=143,slow=74
H08S3 Diego Garcia H 82.38 267 T T 16 13 27.9
baz=143,slow=74,SNR=71
DGAR Diego Garcia 82.56 268⇓ *eP* **P** **14 42 43.3 -1.6**
DGAR pmax pmax
comp=Z,105nm,1.1s
SRAK Srakaew 82.60 304 P **P** **14 42 43.7 -1.3**
comp=Z,3μmcomp=Z,313nm,1.0s
PHET Kaeng Krachan 82.92 302 P **P** **14 42 48.2 +1.6**
comp=Z,42nm,1.2s
BO01 Tunca 82.96 140 IAMs_20 IAMs_20 15 11 04.9
comp=Z,2μm,20.0s
TRQA Tornquist 82.99 148 *ceP* **P** **14 42 48.0 +1.1**
TRQA pmax pmax
comp=Z,30nm,1.3s
TRQA Tornquist 82.99 148 P **P** **14 42 46.6 -0.3**
QIZ Qiongzhong 83.18 313 P **P** **14 42 48.0 +0.1**
QIZ S **S** **14 53 08.2 +0.3**
QIZ SS **SS** **14 58 30.0 -2.9**
QIZ pmax pmax
comp=Z,35nm,1.2s
QIZ LR LR
comp=Z,500nm,20.6s
QIZ LR LR
comp=Z,410nm,16.7s
QIZ LR LR
comp=Z,890nm,23.9s
QIZ Qiongzhong 83.18 313 P **P** **14 42 46.7 -1.2**
QIZ IAmb IAmb 14 42 51.9
comp=Z,79nm,1.4s
MT01 Popeta 83.36 139 P **P** **14 42 49.0 +0.2**
MT01 IAmb IAmb 14 42 52.6
comp=Z,42nm,1.1s
JOW Kunigami 83.44 332 IAMs_20 IAMs_20 15 17 57.8
comp=Z,1μm,21.0s
MT02 Curacav 83.93 139 IAMs_20 IAMs_20 15 11 02.6
comp=Z,2μm,20.0s
KHLT Khaolaem Dam 85.04 302 P **P** **14 42 59.8 +2.3**
NONG Nongkai 85.49 307 P **P** **14 42 59.9 +0.3**
comp=Z,89nm,1.3s
LOEI Loei 85.95 305 P **P** **14 43 01.7 -0.3**
comp=Z,2μmcomp=Z,35nm,1.5s
VOI Vohitsoka 86.02 239 IAMs_20 IAMs_20 15 13 27.9
comp=Z,2μm,21.0s
PHIT Phitsanulok 86.11 304 P **P** **14 43 03.9 +1.2**
comp=Z,1μmcomp=Z,116nm,1.2s
CO03 El Pedregal 86.23 138 P **P** **14 43 03.6 +0.1**
ZON Zonda 86.42 140 P **P** **14 43 04.5 +0.1**
ZON pmax pmax
comp=Z,34nm,1.4s
ZON Zonda 86.42 140 P **P** **14 43 04.5 +0.1**
UTTA Uttaradit 86.51 305 P **P** **14 43 05.5 +0.8**
comp=Z,39nm,1.1s
LCO Las Campanas 87.83 137 IAMs_20 IAMs_20 15 13 07.4
comp=Z,2μm,21.0s
CM09 Chiang Mai Arr 87.89 304 P **P** **14 43 12.2 +0.8**
comp=Z,411nmcomp=Z,50nm,1.1s
CM02 Chiang Mai Arr 87.91 304 P **P** **14 43 12.2 +0.7**
comp=Z,405nmcomp=Z,47nm,1.2s
CM13 Chiang Mai Arr 87.92 304 P **P** **14 43 12.1 +0.6**
comp=Z,321nmcomp=Z,38nm,1.2s
SLVN Son La 87.92 309 P **P** **14 43 11.5 0.0**
SLVN IAmb IAmb 14 43 13.7
comp=Z,40nm,1.3s
CM31 Chiang Mai Arr 87.93 304 P **P** **14 43 11.1 -0.5**
CMAR Chiang Mai Arr 87.93 304 P **P** **14 43 12.0 +0.4**
comp=Z,35nm,1.0s,baz=166,slow=3.7,SNR=123
CMAR PP **PP** **14 46 37.4 -0.7**
comp=Z,7.5nm,1.1s,baz=159,slow=7.1,SNR=6.6
CMAR LR LR 15 22 22.1
comp=Z,618nm,19.6s,baz=197,slow=36
CMAR Chiang Mai Arr 87.93 304 P **P** **14 43 12.0 +0.4**
ABPO Ambohimpanom 88.15 241 IAMs_20 IAMs_20 15 17 10.8
comp=Z,1μm,20.0s
MHMT Maesarieng 88.21 303 P **P** **14 43 13.6 +0.7**
comp=Z,539nmcomp=Z,48nm,1.2s
CHTO Chiang Mai 88.23 304 P **P** **14 43 11.7 -1.3**
CHTO pmax pmax
comp=Z,93nm,1.3s
CHTO Chiang Mai 88.23 304 P **P** **14 43 11.7 -1.3**
SUR Sutherland 88.41 214 LR LR 15 17 04.2
comp=Z,1μm,20.7s,baz=182,slow=32
SUR Sutherland 88.41 214 P **P** **14 43 13.3 -0.8**
SUR IAmb IAmb 14 43 15.8
comp=Z,38nm,1.0s
SUR IAMs_20 IAMs_20 15 16 27.1
comp=Z,2μm,21.0s
JNU Nakatsue 88.69 336 IAMs_20 IAMs_20 15 20 16.1
comp=Z,2μm,22.0s
PALK Pallekele 89.06 283 P **P** **14 43 17.5 +0.4**
comp=Z,17nm,1.0s,baz=277,slow=5.9,SNR=3.7
PALK Pallekele 89.06 283⇑ *eP* **P** **14 43 16.1 -1.0**
PALK pmax pmax
comp=Z,25nm,1.1s
GO03 Copiap 89.27 137 P **P** **14 43 17.2 -0.8**
SSE Sheshan 89.60 328 P **P** **14 43 19.4 +0.3**
SSE S **S** **14 54 13.3 +3.4**
SSE SS **SS** **15 00 08.9 +2.0**
SSE pmax pmax
comp=Z,19nm,1.0s
SSE pmax pmax
comp=Z,71nm,3.5s
SSE LR LR
comp=Z,300nm,21.4s
BOSA Boshof 90.20 219 P **P** **14 43 22.1 -0.4**
comp=Z,10nm,1.0s,baz=135,slow=6.1,SNR=8.5
BOSA PP **PP** **14 46 54.2 -1.0**
comp=Z,4.2nm,1.0s,baz=163,slow=11,SNR=3.0
BOSA LR LR 15 17 44.3
comp=Z,1μm,20.4s,baz=165,slow=32
BOSA Boshof 90.20 219 P **P** **14 43 22.1 -0.4**
BOSA Boshof 90.20 219 P **P** **14 43 20.5 -2.0**

MJAR	**Matsushiro Arr**	**90.40 343**	P	**P**	**14 43 23.2**	**+0.4**	
	comp=Z,14nm,1.0s,baz=173,slow=6.3,SNR=16						
MJAR			LR	LR	15 22 15.4		
	comp=Z,375nm,20.0s,baz=205,slow=34						
MJAR	**Matsushiro Arr**	**90.40 343**	P	**P**	**14 43 23.2**	**+0.4**	
MAJO	**Matsushiro**	**90.40 343**	*de*P	**P**	**14 43 22.8**	**0.0**	
MAJO			pmax	pmax			
	comp=Z,82nm,1.5s						
MAJO	**Matsushiro**	**90.40 343**	P	**P**	**14 43 22.6**	**-0.1**	
MAJO			IAmb	IAmb	14 43 27.2		
	comp=Z,96nm,1.4s						
MAT	**Matsushiro**	**90.40 343**	P	**P**	**14 43 23.0**	**+0.2**	
MAT			*e*S	**S**	**14 54 17.4**	**+0.3**	
MJB9	**Matsu-Tunnel**	**90.41 343**	P	**P**	**14 43 22.7**	**-0.1**	
MJB9			IAmb	IAmb	14 43 27.2		
	comp=Z,103nm,1.4s						
GYA	**Guiyang**	**91.07 314**	⇑P	**P**	**14 43 26.8**	**+0.5**	
GYA			PP	**PP**	**14 47 01.1**	**-2.2**	
GYA			S	**S**	**14 54 28.0**	**+4.1**	
GYA			SS	**SS**	**15 00 29.1**	**+0.6**	
GYA			pmax	pmax			
	comp=Z,4.0nm,1.5s						
GYA			pmax	pmax			
	comp=Z,41nm,3.5s						
GYA			LR	LR			
	comp=Z,110nm,22.9s						
GYA			LR	LR			
	comp=Z,64nm,20.4s						
GYA			LR	LR			
	comp=Z,190nm,25.5s						
NJ2	**Nanjing**	**91.26 326**	⇑P	**P**	**14 43 27.2**	**+0.4**	
NJ2			PP	**PP**	**14 47 03.3**	**-1.2**	
NJ2			SKS	**SKSac**	**14 53 59.0**	**+0.3**	
NJ2			S	**ScS**	**14 54 27.4**	**-0.7**	
NJ2			SS	**SS**	**15 00 29.6**	**-1.3**	
NJ2			pmax	pmax			
	comp=Z,27nm,1.4s						
NJ2			pmax	pmax			
	comp=Z,160nm,3.5s						
NJ2			LR	LR			
	comp=Z,560nm,17.1s						
NJ2			LR	LR			
	comp=Z,230nm,13.7s						
NJ2			LR	LR			
	comp=Z,480nm,20.8s						
KMI	**Kunming**	**91.71 310**	⇑P	**P**	**14 43 31.2**	**+1.8**	
KMI			pP	pwP	14 43 34.9	-0.9	
KMI			PP	**PP**	**14 47 10.9**	**+2.5**	
KMI			SKS	**SKSac**	**14 54 04.4**	**+2.3**	
KMI			S	**ScS**	**14 54 33.4**	**+0.8**	
KMI			SS	**SS**	**15 00 32.0**	**-5.9**	
KMI			pmax	pmax			
	comp=Z,170nm,3.5s						
KMI			LR	LR			
	comp=Z,420nm,27.7s						
KMI			LR	LR			
	comp=Z,460nm,30.4s						
KMI			LR	LR			
	comp=Z,1μm,30.9s						
ITQB	**Itaqui**	**92.42 149**	IAMs_20	IAMs_20	15 21 54.9		
	comp=Z,1μm,20.0s						
TJN	**Taejon**	**92.68 334**	⇑*e*P	**P**	**14 43 33.9**	**+0.6**	
KSRS	**Korea Array**	**93.55 335**	P	**P**	**14 43 38.1**	**+0.8**	
	comp=Z,2.6nm,0.8s,baz=149,slow=5.0,SNR=9.4						
KSRS			PP	**PP**	**14 47 23.8**	**+1.3**	
	comp=Z,2.3nm,1.0s,baz=173,slow=8.0,SNR=6.1						
KSRS			LR	LR	15 24 11.3		
	comp=Z,553nm,20.6s,baz=164,slow=35						
KSRS	**Korea Array**	**93.55 335**	P	**P**	**14 43 38.1**	**+0.8**	
ERM	**Erimo**	**94.98 348**	⇑*e*P	**P**	**14 43 42.9**	**-0.8**	
ERM			pmax	pmax			
	comp=Z,39nm,1.3s						
MSEY	**Mahe Island**	**95.03 256**	IAMs_20	IAMs_20	15 17 11.4		
	comp=Z,2μm,20.0s						
CPUP	**Villa Florida**	**95.28 147**	P	**P**	**14 43 47.0**	**+1.2**	
	comp=Z,2.9nm,1.0s,baz=178,slow=7.3,SNR=3.7						
CPUP			LR	LR	15 22 17.6		
	comp=Z,1μm,18.0s,baz=196,slow=33						
CPUP	**Villa Florida**	**95.28 147**	P	**P**	**14 43 47.0**	**+1.2**	
CD2	**Chengdu**	**96.19 314**	P	**P**	**14 43 49.8**	**+0.2**	
CD2			PP	**PP**	**14 47 43.9**	**+0.7**	
CD2			SKS	**SKSac**	**14 54 27.0**	**+1.1**	
CD2			S	**S**	**14 55 06.5**	**-2.3**	
CD2			SS	**SS**	**15 01 42.3**	**+0.8**	
CD2			pmax	pmax			
	comp=Z,110nm,4.1s						
CD2			LR	LR			
	comp=Z,540nm,18.6s						
CD2			LR	LR			
	comp=Z,760nm,19.6s						
CD2			LR	LR			
	comp=Z,730nm,22.1s						
DL2	**Dalian**	**96.66 331**	*e*P	**P**	**14 43 49.8**	**-1.7**	
DL2			S	**S**	**14 55 09.6**	**-2.7**	
DL2			pmax	pmax			
	comp=Z,15nm,1.2s						
DL2			pmax	pmax			
	comp=Z,110nm,3.6s						
DL2			LR	LR			
	comp=Z,500nm,20.2s						
DL2			LR	LR			
	comp=Z,380nm,16.9s						
DL2			LR	LR			
	comp=Z,720nm,23.3s						
XAN	**Xi'an**	**96.73 320**	P	**P**	**14 43 51.5**	**-0.5**	
XAN			pP	sP	14 43 55.0	-0.1	
XAN			PP	**PP**	**14 47 49.9**	**+2.6**	
XAN			SKS	**SKSac**	**14 54 28.5**	**0.0**	
XAN			S	**S**	**14 55 12.9**	**-0.4**	
XAN			SS	**SS**	**15 01 51.8**	**+2.7**	
XAN			pmax	pmax			
	comp=Z,16nm,1.3s						
XAN			pmax	pmax			
	comp=Z,120nm,4.7s						
XAN			LR	LR			
	comp=Z,830nm,20.6s						
XAN			LR	LR			
	comp=Z,250nm,16.3s						
XAN			LR	LR			
	comp=Z,1μm,21.7s						
KUR	**Kuril'sk**	**97.64 352**	P	**P**	**14 43 53.1**	**-2.6**	
KUR			*e*S	**SKSac**	**14 54 36.2**	**+3.7**	
KUR			*e*		14 55 22.9		
KUR			*e*SS	**SS**	**15 02 06.9**	**+5.4**	
KUR			MLR	MLR			
	comp=Z,400nm,15.0s						
USA0B	**Ussuriysk Arra**	**99.01 340**	*ce*P	**Pdif**	**14 44 04.2**	**+2.3**	
USRK	**Ussuriysk Ar.**	**99.01 340**	LR	LR	15 28 37.6		
	comp=Z,268nm,18.5s,baz=153,slow=35						
BJI	**Beijing**	**99.41 328**	P	**Pdif**	**14 44 05.8**	**+2.0**	
BJI			PP	**PP**	**14 48 08.5**	**+0.7**	
BJI			SKS	**SKSac**	**14 54 34.3**	**-7.4**	
BJI			S	**ScS**	**14 55 38.0**	**+2.3**	
BJI			SS	**SS**	**15 02 26.6**	**0.0**	
BJI			pmax	pmax			
	comp=Z,4.0nm,0.8s						
BJI			LR	LR			
	comp=Z,730nm,20.3s						
BJI			LR	LR			
	comp=Z,380nm,18.3s						
BJI			LR	LR			
	comp=Z,1μm,19.7s						
CN2	**Changchun**	**100.16 335**	*e*P	**Pdif**	**14 44 09.3**	**+2.3**	
CN2			*e*S	**Sdif**	**14 55 41.6**	**-0.1**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.6s						
CN2			LR	LR			
	comp=Z,500nm,20.0s						
CN2			LR	LR			
	comp=Z,300nm,20.0s						
CN2			LR	LR			
	comp=Z,600nm,21.0s						
LZH	**Lanzhou**	**100.58 317**	*e*P	**Pdif**	**14 44 16.0**	**+6.7**	
LZH			sP	pwP	14 44 21.7	+5.8	
LZH	**Lanzhou**	**100.58 317**	*e*S	**Sdif**	**14 55 44.2**	**-1.8**	
LZH	**Lanzhou**	**100.58 317**	sS	sS	14 55 55.0	+5.3	
LZH	**Lanzhou**	**100.58 317**	SS	SS	15 02 44.2	+0.9	
LZH			pmax	pmax			
	comp=Z,9.0nm,1.1s						
LZH			pmax	pmax			
	comp=Z,81nm,4.3s						
LZH			LR	LR			
	comp=N,500nm,16.5s						
LZH			LR	LR			
	comp=E,540nm,16.3s						
LZH			LR	LR			
	comp=Z,580nm,19.8s						
HHC	**Hu-ho-hao-te**	**101.72 325**	*e*P	**Pdif**	**14 44 16.0**	**+1.8**	
HHC			pmax	pmax			
	comp=Z,16nm,0.7s						
HHC			pmax	pmax			
	comp=Z,75nm,6.6s						
KLR	**Kul'dur**	**103.87 341**	PP	**PP**	**14 48 43.1**	**+1.8**	
	comp=Z,1.5nm,0.9s,baz=180,slow=6.1,SNR=3.9						
PET	**Petropavlovsk**	**104.90 359**	*e*P	**Pdif**	**14 44 20.8**	**-7.0**	
PET			*e*PS	PS	14 58 07.4	+5.4	
PET			*e*SS	SS	15 03 49.7	+7.6	
PET			*e*SSS	SSS	15 07 36.8		
PET			pmax	pmax			
	comp=Z,100nm,18.3s						
PETK	**Petropavlovsk-**	**104.99 359**	PP	**PP**	**14 48 57.2**	**+7.6**	
	comp=Z,6.1nm,1.1s,baz=145,slow=9.0,SNR=4.2						
KIBK	**Kibwezi**	**106.93 243**	IAMs_20	IAMs_20	15 25 13.2		
	comp=Z,995nm,19.0s						
SONM	**Songino Array**	**109.62 325**	PP	**PP**	**14 49 23.3**	**-0.4**	
	comp=Z,4.0nm,1.2s,baz=173,slow=5.4,SNR=4.9						
SNCC	**San Nicolas Is**	**110.30 62**	P	**PKiKP**	**14 48 53.4**	**0.0**	
	baz=220						
SCI2	**San Clemente I**	**110.63 63**	P	**PKiKP**	**14 48 53.9**	**-0.1**	
	baz=220						
CCX	**Cicese**	**110.83 65**	IAMs_20	IAMs_20	15 30 33.6		
	comp=Z,969nm,18.0s						
SFX	**San Felipe**	**111.22 67**	IAMs_20	IAMs_20	15 26 25.0		
	comp=Z,824nm,21.0s						
109C	**Camp Elliot, M**	**111.35 64**	IAMs_20	IAMs_20	15 31 58.6		
	comp=Z,1μm,18.0s						
BAR	**Barrett**	**111.44 64**	IAMs_20	IAMs_20	15 31 26.6		
	comp=Z,1μm,18.0s						
RMX	**La Rumorosa**	**111.71 65**	IAMs_20	IAMs_20	15 24 47.6		
	comp=Z,1μm,22.0s						
CNBA	**Chernabura Isl**	**111.90 24**	IAMs_20	IAMs_20	15 25 30.0		
	comp=Z,960nm,22.0s						
SAO	**San Andreas Ge**	**111.95 58**	IAMs_20	IAMs_20	15 28 30.3		
	comp=Z,1μm,20.0s						
SWSC	**Sam W. Stewart**	**112.12 65**	P	**PKiKP**	**14 48 57.8**	**+0.9**	
	baz=221						
TPFO	**Pinon Flats**	**112.25 64**	P	**PKiKP**	**14 48 57.9**	**+0.6**	
	baz=221						
PFO	**Pinyon Flats O**	**112.25 64**	IAMs_20	IAMs_20	15 32 33.1		
	comp=Z,1μm,18.0s						
MBAR	**Mbarara**	**112.28 237**	IAMs_20	IAMs_20	15 31 27.2		
	comp=Z,1μm,18.0s						
VES	**Vestal, Richgr**	**112.50 60**	P	**PKiKP**	**14 48 58.2**	**+0.7**	
	baz=221						
ZAK	**Zakamensk**	**112.87 325**	*e*PKiKP	**PKiKP**	**14 49 00.6**	**+2.7**	
ZAK			pmax	pmax			
	comp=Z,8.0nm,1.7s						
LODK	**Lodwar**	**113.19 244**	IAMs_20	IAMs_20	15 28 04.5		
	comp=Z,835nm,21.0s						
HUEH	**Huehuetenango**	**113.41 95**	IAMs_20	IAMs_20	15 28 47.6		
	comp=Z,803nm,19.0s						
CMB	**Columbia Colle**	**113.46 58**	IAMs_20	IAMs_20	15 29 54.3		
	comp=Z,969nm,20.0s						
PEZE	**Perez Zeledon,**	**113.50 106**	IAMs_20	IAMs_20	15 27 14.8		
	comp=Z,1μm,18.0s						
JCC	**Jacoby Creek,**	**113.71 54**	IAMs_20	IAMs_20	15 31 36.5		
	comp=Z,1μm,19.0s						
O02D	**Mt. Diablo Mer**	**113.84 55**	P	**PKiKP**	**14 49 01.1**	**+1.1**	
	baz=221						
ORV	**Oroville**	**114.03 56**	IAMs_20	IAMs_20	15 29 53.6		
	comp=Z,827nm,19.0s						
WMQ	**Urumqi**	**114.03 311**	*e*PKP	**PKiKP**	**14 49 01.3**	**+1.0**	
WMQ			AMB	AMB			
	comp=Z,120nm,4.5s						
WMQ			LR	LR			
	comp=Z,510nm,21.1s						
WMQ			LR	LR			
	comp=Z,330nm,23.5s						
WMQ			LR	LR			
	comp=Z,1μm,25.1s						
WDC	**Whiskeytown Da**	**114.27 55**	IAMs_20	IAMs_20	15 27 10.4		
	comp=Z,1μm,21.0s						
KRMB	**Red Mountain**	**114.30 53**	IAMs_20	IAMs_20	15 32 42.1		
	comp=Z,1μm,19.0s						
TUC	**Tucson**	**114.47 68**	IAMs_20	IAMs_20	15 27 53.3		
	comp=Z,1μm,20.0s						
W13A	**Hualapai Mount**	**114.78 64**	IAMs_20	IAMs_20	15 34 05.2		
	comp=Z,1μm,18.0s						
NVAR	**Mina Array Bea**	**114.85 59**	PKP	**PKiKP**	**14 49 03.5**	**+1.2**	
	comp=Z,1.0nm,0.9s,baz=220,slow=3.7,SNR=5.4						
NVAR			PKKP	**PKKPdf**	**15 00 08.7**	**+6.7**	
	comp=Z,0.2nm,0.3s,baz=251,slow=4.1,SNR=3.6						
TPNV	**Topopah Spring**	**114.85 61**	IAMs_20	IAMs_20	15 30 18.9		
	comp=Z,1μm,20.0s						
YBH	**Yreka Blue Hor**	**115.05 54**	IAMs_20	IAMs_20	15 32 05.0		
	comp=Z,841nm,19.0s						
ROSC	**El Rosal**	**115.17 117**	IAMs_20	IAMs_20	15 33 58.6		
	comp=Z,1μm,18.0s						
KVN	**Kaiserville**	**115.41 59**	PKiKP	**PKiKP**	**14 49 03.4**	**+0.1**	
KVN	**Kaiserville**	**115.41 59**		**PKiKP**	**14 49 03.4**	**+0.1**	
HUMO	**Hull Mountain**	**115.58 53**	IAMs_20	IAMs_20	15 33 06.0		
	comp=Z,787nm,19.0s						
FURI	**Furi**	**115.79 250**	IAMs_20	IAMs_20	15 29 30.5		
	comp=Z,729nm,21.0s						
I03D	**Drain, OR**	**116.20 52**	P	**PKiKP**	**14 49 05.4**	**+1.1**	
	baz=222						
R11A	**Troy Canyon, C**	**116.23 61**		**PKiKP**	**14 49 04.9**	**0.0**	
KDAK	**Kodiak Island**	**116.36 26**	IAMs_20	IAMs_20	15 29 04.0		
	comp=Z,1μm,22.0s						
TXAR	**Lajitas Array**	**116.46 76**	PKP	**PKiKP**	**14 49 05.5**	**0.0**	
	comp=Z,0.2nm,0.7s,baz=144,slow=3.2,SNR=3.1						
TXAR			PKKPbc	**PKKPbc**	**14 59 34.2**	**+2.2**	
	comp=Z,0.8nm,0.9s,baz=54,slow=3.2,SNR=6.1						
TXAR	**Lajitas Array**	**116.46 76**	PKiKP	**PKiKP**	**14 49 05.5**	**0.0**	
WUAZ	**Wupatki**	**116.48 66**	IAMs_20	IAMs_20	15 29 58.2		
	comp=Z,1μm,20.0s						
X18A	**Snowflake**	**116.57 67**	IAMs_20	IAMs_20	15 33 13.8		
	comp=Z,920nm,18.0s						
U15A	**North Rim**	**116.63 64**	IAMs_20	IAMs_20	15 35 06.3		
	comp=Z,789nm,18.0s						
KSH	**Kashi**	**116.65 301**	*e*PKP	**PKiKP**	**14 49 06.0**	**+0.4**	
KSH			PP	**PP**	**14 50 17.9**	**+4.0**	
KSH			SS	SS	15 06 16.5	-3.6	
KSH			AMB	AMB			
	comp=Z,92nm,6.9s						
KSH			LR	LR			
	comp=Z,380nm,18.5s						
KSH			LR	LR			
	comp=Z,410nm,23.4s						
KSH			LR	LR			
	comp=Z,450nm,21.8s						
MNTX	**Cornudas Mount**	**117.16 73**		**PKPdf**	**14 49 06.6**	**0.0**	
SPR3	**Spring Creek 3**	**117.38 61**		**PKPdf**	**14 49 06.8**	**-0.5**	
PINE	**Pine Mountain**	**117.45 53**	IAMs_20	IAMs_20	15 34 19.5		
	comp=Z,714nm,19.0s						
H04A	**Detroit Lake**	**117.49 52**	IAMs_20	IAMs_20	15 29 09.6		
	comp=Z,789nm,21.0s						
I05D	**Terrebonne, OR**	**117.65 53**	P	**PKiKP**	**14 49 08.5**	**+1.3**	
	baz=223						
GAMB	**Gambell**	**117.81 14**	P	**PKiKP**	**14 49 08.9**	**+2.2**	
	baz=200						
GAMB	**Gambell**	**117.81 14**	IAMs_20	IAMs_20	15 30 43.2		
	comp=Z,738nm,22.0s						
N18K	**Kilae Creek**	**118.03 23**	P	**PKiKP**	**14 49 09.5**	**+2.1**	
	baz=209						
ELK	**Elko**	**118.15 59**	IAMs_20	IAMs_20	15 32 39.6		
	comp=Z,1μm,19.0s						
E03A	**Lebam**	**118.21 50**	IAMs_20	IAMs_20	15 33 55.2		
	comp=Z,1μm,20.0s						
CNPM	**China Poot**	**118.22 26**	IAMs_20	IAMs_20	15 39 13.7		
	comp=Z,801nm,20.0s						
HOM	**Homer**	**118.22 26**	IAMs_20	IAMs_20	15 30 50.8		
	comp=Z,918nm,22.0s						
G05D	**Wamic, OR**	**118.32 52**	P	**PKiKP**	**14 49 09.3**	**+0.8**	
	baz=223						
I07A	**Izee**	**118.37 54**	IAMs_20	IAMs_20	15 37 27.9		
	comp=Z,950nm,18.0s						
BRLK	**Bradley Lake**	**118.51 26**	IAMs_20	IAMs_20	15 39 31.2		
	comp=Z,678nm,19.0s						
DGZ	**Jazzator, Alta**	**118.60 315**	⇑*i*PKIKP	**PKPdf**	**14 49 08.3**	**-0.7**	
MK31	**Makanchi Array**	**118.79 310**	‖*i*PKIKP	**PKPdf**	**14 49 08.2**	**-1.1**	
MKAR	**Makanchi Array**	**118.79 310**	PKP	**PKPdf**	**14 49 08.0**	**-1.3**	
	comp=Z,1.0nm,0.9s,baz=129,slow=4.6,SNR=5.7						
MKAR			PP	**PP**	**14 50 24.9**	**-3.6**	
	comp=Z,2.0nm,0.9s,baz=134,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**118.79 310**	PKIKP	**PKPdf**	**14 49 08.0**	**-1.3**	
ANMO	**Albuquerque**	**118.87 69**	⇑*i*PKIKP	**PKiKP**	**14 49 11.6**	**+1.5**	
D04E	**Lakebay**	**119.04 50**	P	**PKiKP**	**14 49 10.9**	**+1.1**	
	baz=223						
DUG	**Dugway, Tooele**	**119.05 61**	IAMs_20	IAMs_20	15 32 26.2		
	comp=Z,884nm,19.0s						
D03D	**Eldon**	**119.15 49**	P	**PKiKP**	**14 49 10.6**	**+0.7**	
	baz=223						
LON	**Longmire**	**119.18 50**	IAMs_20	IAMs_20	15 34 41.1		
	comp=Z,1μm,20.0s						
SEW	**Seward**	**119.19 26**	P	**PKiKP**	**14 49 10.9**	**+1.3**	
	baz=213						
SEW	**Seward**	**119.19 26**	IAMs_20	IAMs_20	15 31 12.9		
	comp=Z,956nm,22.0s						
MVCO	**Mesa Verde**	**119.31 66**	IAMs_20	IAMs_20	15 35 16.1		
	comp=Z,1μm,18.0s						
DIB	**Dawson Inlet,**	**119.33 40**	IAMs_20	IAMs_20	15 29 35.0		
	comp=Z,852nm,21.0s						
GAR	**Garm**	**119.33 297**	IAMs_20	IAMs_20	15 42 37.4		
	comp=Z,1μm,20.0s						
D05A	**Enumclaw**	**119.42 50**	IAMs_20	IAMs_20	15 34 55.2		
	comp=Z,749nm,20.0s						
F07A	**Phinny Hill Vi**	**119.47 52**	IAMs_20	IAMs_20	15 35 57.9		
	comp=Z,959nm,18.0s						
MID	**Middleton Isla**	**119.50 28**	IAMs_20	IAMs_20	15 41 44.5		
	comp=Z,788nm,19.0s						
G08A	**Pilot Rock**	**119.51 53**	IAMs_20	IAMs_20	15 36 20.0		
	comp=Z,624nm,19.0s						
ANM	**Nome**	**119.56 16**	IAMs_20	IAMs_20	15 40 52.7		
	comp=Z,650nm,19.0s						
L19K	**White Mountain**	**119.59 23**	P	**PKiKP**	**14 49 11.7**	**+1.3**	
	baz=210						
735A	**Kenedy**	**119.64 80**	IAMs_20	IAMs_20	15 32 08.3		
	comp=Z,900nm,18.0s						
CHGR	**Chuyangaron**	**119.73 296**	IAMs_20	IAMs_20	15 41 38.9		
	comp=Z,789nm,21.0s						
MFID	**Camas Ranch**	**119.75 57**		**PKPdf**	**14 49 11.3**	**-0.1**	
MFID			IAMs_20	IAMs_20	15 37 26.7		
	comp=Z,717nm,18.0s						
PGC	**Sidney**	**119.79 48**	IAMs_20	IAMs_20	15 32 12.1		
	comp=Z,834nm,21.0s						
FIS	**Fire Island**	**119.86 25**	IAMs_20	IAMs_20	15 31 43.1		
	comp=Z,927nm,19.0s						
E07A	**Sunnyside**	**119.98 52**	IAMs_20	IAMs_20	15 35 10.4		
	comp=Z,882nm,19.0s						
HAWA	**Hanford**	**120.02 52**		**PKPdf**	**14 49 11.2**	**-0.4**	
HAWA			IAMs_20	IAMs_20	15 36 51.4		
	comp=Z,906nm,18.0s						
BMO	**Blue Mountains**	**120.02 55**	PKIKP	**PKPdf**	**14 49 11.5**	**-0.3**	
BMO	**Blue Mountains**	**120.02 55**		**PKPdf**	**14 49 11.5**	**-0.3**	
BILL	**Bilibino**	**120.06 3**	‖*i*PKIKP	**PKiKP**	**14 49 17.5**	**+6.4**	
BILL			*e*		14 49 23.5		
BILL					14 56 24.0		
BILL			*e*SS	SS	15 07 18.0	+15	
BILL			*e*SSS	SSS	15 11 31.6		
BILL			pmax	pmax			
	comp=Z,7.0nm,1.4s						
LTY	**Liberty**	**120.09 51**	IAMs_20	IAMs_20	15 31 32.1		
	comp=Z,953nm,20.0s						
PWL	**Port Wells**	**120.13 26**	IAMs_20	IAMs_20	15 31 51.3		
	comp=Z,920nm,22.0s						
B05A	**Bryant**	**120.14 49**	P	**PKiKP**	**14 49 12.7**	**+0.9**	
	baz=224						
SKT	**Skwentna**	**120.23 24**	P	**PKiKP**	**14 49 12.9**	**+1.2**	
	baz=212						
SKT	**Skwentna**	**120.23 24**	IAMs_20	IAMs_20	15 35 17.8		
	comp=Z,704nm,20.0s						
E08A	**Dider Farm, El**	**120.32 52**	IAMs_20	IAMs_20	15 31 31.3		
	comp=Z,792nm,21.0s						
BBB	**Bella Bella**	**120.33 43**	IAMs_20	IAMs_20	15 41 40.9		
	comp=Z,584nm,18.0s						
GLI	**Glacier Island**	**120.48 27**	IAMs_20	IAMs_20	15 31 58.8		
	comp=Z,811nm,21.0s						
SDV	**Santo Domingo**	**120.54 118**	IAMs_20	IAMs_20	15 43 00.8		
	comp=Z,653nm,19.0s						
KNK	**Knik Glacier**	**120.55 26**	P	**PKiKP**	**14 49 13.6**	**+1.3**	
	baz=214						
KNK	**Knik Glacier**	**120.55 26**	IAMs_20	IAMs_20	15 32 06.5		
	comp=Z,776nm,22.0s						
S22A	**4UR Ranch, Cre**	**120.63 67**	P	**PKiKP**	**14 49 13.8**	**+0.2**	
	baz=226						
E09A	**Wood Farm, Sta**	**120.78 53**	IAMs_20	IAMs_20	15 37 15.6		
	comp=Z,610nm,19.0s						
D08A	**Wollman Farm,**	**120.79 52**	IAMs_20	IAMs_20	15 37 05.7		
	comp=Z,880nm,19.0s						
CRAG	**Craig**	**120.80 38**	IAMs_20	IAMs_20	15 32 25.5		
	comp=Z,1000nm,20.0s						
PPLA	**Purkeypile**	**120.84 23**	P	**PKiKP**	**14 49 14.2**	**+1.2**	
	baz=212						
PPLA	**Purkeypile**	**120.84 23**	IAMs_20	IAMs_20	15 31 50.3		
	comp=Z,735nm,21.0s						
F10A	**Beach Ranch, E**	**120.85 54**	IAMs_20	IAMs_20	15 38 22.6		
	comp=Z,799nm,18.0s						
CUT	**Chulitna**	**120.91 25**	IAMs_20	IAMs_20	15 31 47.8		
	comp=Z,1μm,22.0s						
SIT	**Sitka**	**121.19 35**	IAMs_20	IAMs_20	15 33 21.8		
	comp=Z,873nm,20.0s						
SCM	**Sheep Creek Mo**	**121.21 26**	IAMs_20	IAMs_20	15 32 24.8		
	comp=Z,841nm,21.0s						
BMRM	**Bremner River**	**121.27 28**	P	**PKiKP**	**14 49 13.7**	**0.0**	
	baz=216						
BMRM	**Bremner River**	**121.27 28**	IAMs_20	IAMs_20	15 32 16.5		
	comp=Z,1μm,22.0s						
KLU	**Klutina**	**121.32 27**	P	**PKiKP**	**14 49 13.8**	**-0.1**	
	baz=216						
KLU	**Klutina**	**121.32 27**	IAMs_20	IAMs_20	15 32 43.8		
	comp=Z,1μm,21.0s						
B08A	**Colville Reser**	**121.51 51**	IAMs_20	IAMs_20	15 38 11.6		
	comp=Z,713nm,18.0s						
SMCO	**Snowmass**	**121.55 66**	IAMs_20	IAMs_20	15 32 52.4		
	comp=Z,1μm,20.0s						
C09A	**Chrisman Ranch**	**121.62 52**	IAMs_20	IAMs_20	15 31 58.8		
	comp=Z,1μm,21.0s						
WAT1	**Susitna Watana**	**121.70 25**	P	**PKiKP**	**14 49 15.0**	**+0.5**	
	baz=215						
KTH	**Kantishna Hill**	**121.71 24**	IAMs_20	IAMs_20	15 32 38.9		
	comp=Z,688nm,22.0s						
WAT6	**Susitna Watana**	**121.71 26**	P	**PKPdf**	**14 49 14.6**	**0.0**	
	baz=215						
M24K	**Tolsona, Glenn**	**121.75 27**	P	**PKiKP**	**14 49 14.8**	**+0.1**	
	baz=216						
M24K	**Tolsona, Glenn**	**121.75 27**	IAMs_20	IAMs_20	15 32 17.1		
	comp=Z,665nm,22.0s						
AHID	**Auburn Hatcher**	**121.77 60**	IAMs_20	IAMs_20	15 34 48.2		
	comp=Z,1μm,20.0s						
TRF	**Thorofare Moun**	**121.78 24**	P	**PKiKP**	**14 49 15.3**	**+0.4**	
	baz=214						
TRF	**Thorofare Moun**	**121.78 24**	IAMs_20	IAMs_20	15 33 02.8		
	comp=

comp=Z,701nm,20.0s
JIS Juneau Island 122.45 35 IAMs_20 IAMs_20 15 33 38.9
comp=Z,944nm,20.0s
NEW Newport 122.50 52 PKIKP **PKPdf 14 49 15.3 -1.1**
NEW Newport 122.50 52 P **PKiKP 14 49 16.8 +0.2**
baz=226
NEW Newport 122.50 52 PKPdf 14 49 15.3 -1.1
NEW Newport 122.50 52 IAMs_20 IAMs_20 15 36 46.0
comp=Z,1µm,20.0s
BESE Bessie Mountai 122.51 34 IAMs_20 IAMs_20 15 33 49.5
comp=Z,782nm,20.0s
BW06 Boulder Array 122.60 61 P **PKPdf 14 49 16.9 -0.1**
baz=227
BW06 Boulder Array 122.60 61 IAMs_20 IAMs_20 15 35 47.0
comp=Z,992nm,19.0s
PDAR Pinedale Array 122.60 61 PKP **PKPdf 14 49 17.0 0.0**
comp=Z,1.0nm,1.0s,baz=260,slow=5.3,SNR=4.1
LOHW Long Hollow 122.61 60 IAMs_20 IAMs_20 15 35 15.7
comp=Z,778nm,20.0s
PAX Paxson 122.64 26 P **PKiKP 14 49 17.0 +0.6**
baz=217
PAX Paxson 122.64 26 IAMs_20 IAMs_20 15 33 08.1
comp=Z,1µm,22.0s
DLMT Dillon 122.77 57 PKPdf 14 49 17.1 -0.1
ZALV Zalesovo Beam 122.81 317 PP PP 14 50 45.4 -10
comp=Z,1.1nm,0.7s,baz=0.0,slow=3.6,SNR=3.6
I21K Tanana 122.82 22 P **PKiKP 14 49 17.0 +0.4**
baz=213
FLWY Flagg Ranch 122.89 59 IAMs_20 IAMs_20 15 36 18.9
comp=Z,802nm,19.0s
MLY Manley 122.99 23 P **PKiKP 14 49 17.1 +0.1**
baz=214
MLY Manley 122.99 23 PKPdf 14 49 16.0 -0.8
SKAG Skagway 123.01 33 P **PKiKP 14 49 17.5 +0.4**
baz=222
NEA2 Nenana 123.03 24 IAMs_20 IAMs_20 15 33 06.8
comp=Z,983nm,22.0s
RAYN Ar Rayn 123.03 266 IAMs_20 IAMs_20 15 32 33.8
comp=Z,785nm,22.0s
H21K Melozitna Rive 123.04 21 P **PKiKP 14 49 17.5 +0.5**
baz=213
MSO Missoula 123.08 55 P **PKPdf 14 49 17.8 +0.1**
baz=227
MSO Missoula 123.08 55 PKPdf 14 49 16.8 -0.8
RWWY Rawlins 123.14 63 PKPdf 14 49 16.8 -1.3
WRH Wood River Hil 123.17 24 PKPdf 14 49 16.5 -0.6
WRH IAMs_20 IAMs_20 15 33 42.6
comp=Z,1µm,21.0s
WMOK Wichita Mounta 123.21 75 PKIKP **PKPdf 14 49 17.9 -0.3**
WMOK Wichita Mounta 123.21 75 P **PKPdf 14 49 18.3 +0.1**
baz=226
WMOK Wichita Mounta 123.21 75 PKPdf 14 49 17.9 -0.3
N23A Red Feather La 123.30 65 P **PKPdf 14 49 18.4 -0.1**
baz=227
CCB Clear Creek Bu 123.39 24 PKPdf 14 49 16.4 -1.1
CCB IAMs_20 IAMs_20 15 33 48.3
comp=Z,1µm,22.0s
HDA Harding Lake 123.41 25 P **PKiKP 14 49 18.0 +0.2**
baz=216
HDA Harding Lake 123.41 25 PKPdf 14 49 16.9 -0.7
HDA IAMs_20 IAMs_20 15 34 09.0
comp=Z,815nm,22.0s
I23K Minto, Yukon-K 123.41 23 P **PKiKP 14 49 18.5 +0.7**
baz=215
I23K Minto, Yukon-K 123.41 23 IAMs_20 IAMs_20 15 45 43.9
comp=Z,598nm,20.0s
BOZ Bozeman (W) 123.43 57 PKIKP **PKPdf 14 49 17.0 -1.4**
BOZ MLR MLR
comp=Z,800nm,19.0s
BOZ Bozeman (W) 123.43 57 P **PKiKP 14 49 19.2 +0.5**
baz=227
BOZ Bozeman (W) 123.43 57 PKPdf 14 49 17.0 -1.4
BOZ IAMs_20 IAMs_20 15 39 37.0
comp=Z,752nm,19.0s
MDM Murphy Dome 123.53 24 IAMs_20 IAMs_20 15 33 43.2
comp=Z,1µm,22.0s
JTMT Jette 123.54 54 IAMs_20 IAMs_20 15 33 28.7
comp=Z,972nm,20.0s
TCOL CIGO, UAF Yank 123.56 24 IAMs_20 IAMs_20 15 33 53.8
comp=Z,1µm,22.0s
COLA College 123.56 24 ⇑*i*PKIKP **PKPdf 14 49 17.0 -0.8**
COLA College 123.56 24 IAMs_20 IAMs_20 15 33 54.8
comp=Z,1µm,22.0s
DOT Dot Lake 123.56 26 IAMs_20 IAMs_20 15 33 57.5
comp=Z,1µm,22.0s
NATX Nacogdoches 123.61 80 P **PKPdf 14 49 18.8 -0.2**
baz=225
NATX Nacogdoches 123.61 80 IAMs_20 IAMs_20 15 35 42.5
comp=Z,781nm,19.0s
IL31 123.72 24 PKPdf 14 49 16.6 -1.5
ILAR Eielson Array 123.72 24 PKP **PKPdf 14 49 17.7 -0.5**
comp=Z,3.5nm,1.0s,baz=282,slow=3.8,SNR=24
ILAR PKKPbc **PKKPbc 14 59 05.3 -0.3**
comp=Z,1.2nm,0.9s,baz=14,slow=4.2,SNR=10.0
ILAR SKKPbc SKKPbc 15 02 59.8 +2.1
comp=Z,0.2nm,0.7s,baz=347,slow=3.5,SNR=4.1
ILAR Eielson Array 123.72 24 PKIKP **PKPdf 14 49 17.7 -0.5**
L27K Beaver Creek, 123.73 28 P **PKiKP 14 49 19.1 +0.6**
baz=219
L27K Beaver Creek, 123.73 28 PKPdf 14 49 16.5 -1.8
L27K IAMs_20 IAMs_20 15 33 45.6
comp=Z,1µm,22.0s
PHWY Pilot Hill 123.84 65 IAMs_20 IAMs_20 15 35 23.2
comp=Z,903nm,20.0s
SCRK Sand Creek 123.85 26 P **PKiKP 14 49 19.4 +0.6**
baz=218
SCRK Sand Creek 123.85 26 PKPdf 14 49 18.3 -0.3
SCRK IAMs_20 IAMs_20 15 34 06.6
comp=Z,1µm,22.0s
POKR Poker Plat Res 123.86 24 IAMs_20 IAMs_20 15 34 03.8
comp=Z,1µm,21.0s
H23K Yukon River 123.93 23 P **PKiKP 14 49 19.0 +0.2**
baz=215
WHY Whitehorse 124.05 33 P **PKPdf 14 49 19.1 +0.1**
baz=222
DLBC Dease Lake 124.13 37 PKP **PKPdf 14 49 19.1 -0.1**
comp=Z,2.2nm,0.9s,baz=307,slow=3.6,SNR=3.6
DLBC Dease Lake 124.13 37 PKPdf 14 49 19.1 -0.1
DLBC IAMs_20 IAMs_20 15 35 25.7
comp=Z,966nm,20.0s
K22A Casper 124.16 63 PKPdf 14 49 19.9 0.0
H24K Noodor Dome 124.34 23 P **PKiKP 14 49 19.8 +0.1**
baz=216
RLMT Red Lodge 124.34 59 P **PKiKP 14 49 20.7 +0.1**
baz=228
RLMT Red Lodge 124.34 59 PKPdf 14 49 19.6 -0.6
RLMT IAMs_20 IAMs_20 15 37 07.4
comp=Z,788nm,19.0s
K27K Chicken 124.41 27 P **PKiKP 14 49 20.6 +0.8**
baz=219
K27K Chicken 124.41 27 IAMs_20 IAMs_20 15 34 11.6
comp=Z,1µm,22.0s
WALA Waterton Lakes 124.60 53 PKPdf 14 49 20.1 -0.4
WALA IAMs_20 IAMs_20 15 41 01.8
comp=Z,680nm,19.0s
PRP Porcupine Dome 124.66 24 P **PKiKP 14 49 21.0 +0.5**
baz=218
PRP Porcupine Dome 124.66 24 IAMs_20 IAMs_20 15 34 26.1
comp=Z,915nm,21.0s
COLD Coldfoot 124.93 21 P **PKiKP 14 49 21.4 +0.6**
baz=215
COLD Coldfoot 124.93 21 IAMs_20 IAMs_20 15 44 03.1
comp=Z,575nm,18.0s
545A Edgard 124.94 85 IAMs_20 IAMs_20 15 40 45.0
comp=Z,917nm,19.0s
DAWY Dawson 125.20 28 PKPdf 14 49 20.4 -0.7
DAWY IAMs_20 IAMs_20 15 34 51.6
comp=Z,914nm,21.0s
EGAK Eagle 125.25 27 P **PKiKP 14 49 21.9 +0.4**
baz=220
EGAK Eagle 125.25 27 PKPdf 14 49 20.2 -0.9
CBKS Cedar Bluff 125.42 71 IAMs_20 IAMs_20 15 34 56.1
comp=Z,928nm,19.0s
TIXI Tiksi 125.52 348 PKP **PKPdf 14 49 19.4 -2.0**
comp=Z,3.0nm,0.7s,baz=143,slow=0.8,SNR=7.3
TIXI Tiksi 125.52 348 ⇑*i*PKIKP **PKPdf 14 49 20.4 -1.0**
TIXI Tiksi 125.52 348 PKPdf 14 49 19.4 -2.0
GEYT Alibeck 125.53 288 PKP **PKiKP 14 49 23.3 +0.4**
comp=Z,3.0nm,0.8s,baz=282,slow=2.8,SNR=3.0
FYU Fort Yukon 125.57 24 IAMs_20 IAMs_20 15 35 06.0
comp=Z,986nm,22.0s
EGMT Eagleton 126.00 56 IAMs_20 IAMs_20 15 37 55.5
comp=Z,587nm,20.0s
MIAR Mount Ida 126.19 79 IAMs_20 IAMs_20 15 38 50.8
comp=Z,569nm,18.0s
TOLK Toolik Lake Re 126.22 21 P **PKiKP 14 49 23.9 +0.6**
baz=216
TOLK Toolik Lake Re 126.22 21 PKPdf 14 49 22.8 -0.2
TOLK IAMs_20 IAMs_20 15 36 21.0
comp=Z,972nm,22.0s
143A Socs Landing, 126.24 82 IAMs_20 IAMs_20 15 39 36.3
comp=Z,680nm,19.0s
RSSD Black Hills 126.50 63 PKIKP **PKPdf 14 49 23.4 -1.0**
RSSD Black Hills 126.50 63 P **PKiKP 14 49 24.7 -0.2**
baz=230
RSSD Black Hills 126.50 63 PKPdf 14 49 23.4 -1.0
W39A Magazine 126.51 78 P **PKiKP 14 49 24.7 -0.2**
baz=227
X40A Basin Creek Fa 126.60 79 IAMs_20 IAMs_20 15 38 12.0
comp=Z,798nm,19.0s
LAO LASA Array 126.97 59 P **PKiKP 14 49 26.0 +0.5**
baz=230
LAO LASA Array 126.97 59 IAMs_20 IAMs_20 15 38 34.0
comp=Z,602nm,20.0s
W41B Gary Mavity, V 127.42 79 P **PKiKP 14 49 26.8 +0.1**
baz=227
KSU1 Kansas State U 127.44 72 IAMs_20 IAMs_20 15 35 33.4
comp=Z,967nm,20.0s
EPYK Eagle Plains 127.67 27 P **PKiKP 14 49 26.9 +0.6**
baz=224
EPYK Eagle Plains 127.67 27 PKPdf 14 49 25.2 -0.5
EPYK IAMs_20 IAMs_20 15 36 21.7
comp=Z,878nm,22.0s
U40A Yellville 127.85 77 P **PKiKP 14 49 27.3 -0.3**
baz=228
U40A Yellville 127.85 77 PKPdf 14 49 25.6 -1.4
N33A J Bar K, Exete 128.02 70 IAMs_20 IAMs_20 15 37 16.9
comp=Z,706nm,20.0s
BGNE Belgrade 128.05 69 P **PKiKP 14 49 27.8 0.0**
baz=230
BGNE Belgrade 128.05 69 PKPdf 14 49 26.8 -0.4
Y45A Yeager Farm, C 128.17 82 IAMs_20 IAMs_20 15 38 42.4
comp=Z,614nm,20.0s
S39A Bolivar 128.45 76 PKPdf 14 49 26.8 -1.3
K31A O'Neill 128.48 68 IAMs_20 IAMs_20 15 40 32.1
comp=Z,934nm,19.0s
OXF Oxford 128.69 81 IAMs_20 IAMs_20 15 38 45.1
comp=Z,587nm,20.0s
BRVK Borovoye 128.72 309⇑*i*PKIKP **PKPdf 14 49 27.7 -0.4**
DGMT Dagmar 129.16 59 IAMs_20 IAMs_20 15 47 38.7
comp=Z,672nm,18.0s
P38A Dawn 129.59 74 PKPdf 14 49 29.5 -0.7
PLAL Pickwick Lake 129.82 82 PKPdf 14 49 29.9 -0.9
PLAL IAMs_20 IAMs_20 15 39 21.0
comp=Z,791nm,20.0s
INK Inuvik 129.91 26 PKP **PKPdf 14 49 29.4 -0.5**
comp=Z,4.9nm,0.9s,baz=205,slow=3.3,SNR=10
INK Inuvik 129.91 26 PKIKP **PKPdf 14 49 29.2 -0.7**
INK Inuvik 129.91 26 P **PKiKP 14 49 31.4 +0.8**
baz=228
INK Inuvik 129.91 26 PKPdf 14 49 29.2 -0.7
INK IAMs_20 IAMs_20 15 37 34.0
comp=Z,1µm,22.0s
ECSD EROS Data Cent 130.40 68 P **PKiKP 14 49 32.7 +0.2**
baz=232
ECSD EROS Data Cent 130.40 68 PKPdf 14 49 30.9 -0.7
ECSD EROS Data Cent 130.40 68 IAMs_20 IAMs_20 15 36 09.6
comp=Z,899nm,21.0s
P40A Paris 130.40 75 PKPdf 14 49 30.0 -1.7
WVT Waverly 130.73 81 P **PKiKP 14 49 32.9 -0.4**
baz=229
WVT Waverly 130.73 81 IAMs_20 IAMs_20 15 38 17.1
comp=Z,858nm,20.0s
SIUC Southern Illin 130.93 79 IAMs_20 IAMs_20 15 38 41.8
comp=Z,973nm,21.0s
USIN University of 132.03 79 IAMs_20 IAMs_20 15 39 31.4
comp=Z,728nm,21.0s
NRIK Norl'sk 132.12 333 PP PP 14 52 00.2 +3.2
comp=Z,2.2nm,0.8s,baz=120,slow=4.7,SNR=3.8
YKA Yellowknife Ar 132.58 39 PKP **PKPdf 14 49 33.1 -2.0**
comp=Z,0.9nm,0.7s,baz=247,slow=1.6,SNR=6.1
YKA PP PP 14 52 11.1 +11
comp=Z,1.7nm,1.1s,baz=229,slow=6.3,SNR=5.6
YKA Yellowknife Ar 132.58 39 PKIKP **PKPdf 14 49 33.1 -2.0**
TKL Tuckaleechee C 132.89 84 IAMs_20 IAMs_20 15 41 20.5
comp=Z,852nm,20.0s
WCI Wyandotte Cave 133.03 80 IAMs_20 IAMs_20 15 40 15.9
comp=Z,782nm,20.0s
C36M Paulatuk 133.24 28 P **PKiKP 14 49 37.6 +0.3**
baz=235
C36M Paulatuk 133.24 28 IAMs_20 IAMs_20 15 39 47.1
comp=Z,738nm,21.0s
BLO Bloomington 133.49 79 IAMs_20 IAMs_20 15 42 02.0
comp=Z,857nm,20.0s
AGMN Agassiz Nation 133.53 63 IAMs_20 IAMs_20 15 42 15.6
comp=Z,888nm,20.0s
TZTN Tazewell 133.61 84 IAMs_20 IAMs_20 15 44 25.5
comp=Z,863nm,20.0s
FFC Flin Flon 133.90 53 IAMs_20 IAMs_20 15 46 10.8
comp=Z,621nm,18.0s
ULM Lac du Bonnet 134.62 61 PKP **PKPdf 14 49 39.0 -0.3**
comp=Z,3.6nm,0.7s,baz=243,slow=3.7,SNR=3.8
ULM Lac du Bonnet 134.62 61 PKIKP **PKPdf 14 49 38.7 -0.6**
ULM Lac du Bonnet 134.62 61 PKPdf 14 49 38.7 -0.6
P49A Miami Univ. Ec 134.80 80 IAMs_20 IAMs_20 15 43 43.2
comp=Z,666nm,19.0s
MAK Makhachkala 134.96 286 *i* P **Pdif 14 46 42.0 +0.2**
MAK *e* 14 56 49.2
MAK *e*SS SS 15 10 00.3 -9.0
MAK pmax pmax
comp=Z,313nm,1.1s
EYMN Ely 135.76 66 P **PKiKP 14 49 42.6 -0.6**
baz=237
EYMN Ely 135.76 66 PKPdf 14 49 41.5 -0.1
ARU Arti 136.24 308 *i* PKIKP **PKiKP 14 49 51.3 +7.5**
ARU SS SS 15 10 24.8 +0.6
ARU SSS SSS 15 15 20.4
ACSO Alum Creek Sta 136.28 80 IAMs_20 IAMs_20 15 44 40.0
comp=Z,571nm,21.0s
P52A Corning 136.43 81 IAMs_20 IAMs_20 15 44 53.5
comp=Z,738nm,19.0s
TOC3 Torodi Ar. Sit 137.20 212 IAMs_20 IAMs_20 15 45 08.0
comp=Z,498nm,20.0s
TOC5 Torodi Ar. Sit 137.21 212 IAMs_20 IAMs_20 15 48 25.2
comp=Z,536nm,20.0s
TOA0 Torodi Ar. Sit 137.22 212 PKPdf 14 49 42.7 -2.6
TORD Torodi Ar. Bea 137.22 212 PKhKP PKPpre 14 49 35.4
comp=Z,1.5nm,0.8s,baz=161,slow=2.1,SNR=5.3
TORD SKPbc **SKPbc 14 53 19.3 +0.9**
comp=Z,3.3nm,1.2s,baz=156,slow=2.2,SNR=4.4
TOB5 Torodi Ar. Sit 137.23 212 IAMs_20 IAMs_20 15 46 44.8
comp=Z,500nm,20.0s
TOB1 Torodi Ar. Sit 137.23 212 IAMs_20 IAMs_20 15 46 35.9
comp=Z,503nm,20.0s
TOC1 Torodi Ar. Sit 137.24 212 IAMs_20 IAMs_20 15 45 08.1
comp=Z,612nm,21.0s
TOC7 Torodi Ar. Sit 137.24 212 IAMs_20 IAMs_20 15 46 45.1
comp=Z,505nm,20.0s
O53A New Philadelph 137.37 81 P **PKiKP 14 49 46.7 0.0**
baz=232
O53A New Philadelph 137.37 81 IAMs_20 IAMs_20 15 45 31.2
comp=Z,531nm,19.0s
KBZ Khabaz 138.14 284 PKP **PKiKP 14 49 47.8 -0.3**
comp=Z,0.9nm,0.4s,baz=194,slow=6.2,SNR=1.6
KBZ PP **PP 14 52 34.9 -0.7**
comp=Z,2.1nm,0.9s,baz=102,slow=7.0,SNR=4.1
KBZ Khabaz 138.14 284 PKIKP **PKiKP 14 49 47.8 -0.3**
KIV Kislovodsk 138.40 284 *i* PKIKP **PKPdf 14 49 43.5 -3.2**
KIV *e*SS SS 15 10 42.1 -8.4
KIV *e*SSS SSS 15 15 54.6
KIV pmax pmax
comp=Z,36nm,1.1s
KIV MLR MLR
comp=Z,600nm,24.0s
M53A WI Miller and 138.41 80 P **PKiKP 14 49 48.8 +0.1**
baz=234
M53A WI Miller and 138.41 80 IAMs_20 IAMs_20 15 43 29.4
comp=Z,900nm,22.0s
CBN Corbin Frederi 138.45 86 IAMs_20 IAMs_20 15 43 36.8
comp=Z,584nm,21.0s
N54A Moraine State 138.54 81 IAMs_20 IAMs_20 15 45 37.3
comp=Z,681nm,20.0s
M54A Oil Creek Stat 139.06 81 IAMs_20 IAMs_20 15 43 53.0
comp=Z,680nm,22.0s
ERPA Erie 139.22 80 IAMs_20 IAMs_20 15 43 50.8
comp=Z,893nm,21.0s
SSPA Standing Stone 139.62 83 IAMs_20 IAMs_20 15 44 02.7
comp=Z,619nm,21.0s
BELG Belogornoye 139.94 298‖*e*PKIKP **PKPdf 14 49 46.2 -2.8**
N59A State Game Lan 141.09 84 IAMs_20 IAMs_20 15 46 47.8
comp=Z,805nm,20.0s
K56A Middlesex 141.17 81 P **PKiKP 14 49 53.9 -0.5**
baz=235
BR131 Keskin Array S 141.42 273⇑*e*PKIKP **PKPdf 14 49 50.6 -1.8**
BRTR Keskin Array B 141.42 273 PKhKP PKPpre 14 49 45.9
comp=Z,1.6nm,1.0s,baz=236,slow=1.6,SNR=2.5
BINY Binghamton 141.70 82 IAMs_20 IAMs_20 15 45 39.5
comp=Z,882nm,21.0s
PAL Palisades 142.28 85 P **PKiKP 14 49 55.5 -1.2**
baz=234
VRH Novokhopyorsk 142.66 294 *e*PKIKP **PKPdf 14 49 52.3 -1.7**
VRH pmax pmax
comp=Z,10.0nm,0.4s
J58A Remsen 142.78 81 P **PKiKP 14 49 56.3 -1.4**
baz=236
J58A Remsen 142.78 81 IAMs_20 IAMs_20 15 50 03.5
comp=Z,663nm,19.0s
I57A Carthage 142.87 80 P **PKiKP 14 49 56.3 -1.5**
baz=237
TRY Troy 143.41 83 IAMs_20 IAMs_20 15 47 07.0
comp=Z,791nm,21.0s
RES Resolute Bay 143.46 25 PKhKP PKPpre 14 49 51.0
comp=Z,8.9nm,0.9s,baz=114,slow=1.1,SNR=3.6
RES Resolute Bay 143.46 25 IAMs_20 IAMs_20 15 52 50.8
comp=Z,790nm,19.0s
J60A Lant Hill Farm 143.85 83 P **PKPdf 14 49 55.5 -0.9**
baz=237
LONY Lake Ozonia 143.88 80 P **PKPdf 14 49 55.9 -0.5**
baz=238
LONY Lake Ozonia 143.88 80 IAMs_20 IAMs_20 15 45 10.2
comp=Z,916nm,22.0s
G57A Newington 143.90 79 P **PKPdf 14 49 56.6 +0.2**
baz=238
H58A Gabriels 144.02 81 P PKPbc 14 49 55.4 +0.8
baz=238
VSR Storozhevoye 144.10 293 *e*PKIKP **PKPdf 14 49 55.9 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
M64A Tiverton 144.25 87 IAMs_20 IAMs_20 15 47 29.2
comp=Z,839nm,21.0s
K62A Royalston 144.25 84 P **PKPdf 14 49 57.0 -0.1**
baz=236
I60A Shoreham 144.25 82 P **PKPdf 14 49 57.1 +0.1**
baz=237
PRGR Permogore 144.40 312 *e*PKHKP PKPpre 14 49 52.2
PRGR pmax pmax
comp=Z,11nm,0.6s
J61A Chester 144.43 83 P **PKPab 14 49 55.3 -0.3**
baz=237
G58A Ormstown 144.48 80 P **PKPdf 14 49 56.7 -0.7**
baz=239,SNR=9.6
HRV Adam Dziewonsk 144.58 85 P **PKPdf 14 49 57.2 -0.5**
baz=236
MATQ Matagami 144.59 71 P **PKPdf 14 49 57.4 -0.1**
baz=243
E56A St. Veronique 144.60 77 P PKPbc 14 49 56.6 +0.2
baz=240,SNR=15
LSQQ Lebel-sur-Quev 144.65 72 P PKPbc 14 49 56.9 +0.5
baz=243
WES Weston 144.65 85 IAMs_20 IAMs_20 15 47 12.9
comp=Z,666nm,21.0s
HNH Hanover 144.79 83 IAMs_20 IAMs_20 15 46 12.4
comp=Z,871nm,22.0s
LPSR Galich'ya Gora 144.82 295 *e*PKIKP **PKPab 14 49 54.5 -2.3**
LPSR pmax pmax
comp=Z,20nm,1.0s
VT1 Waterbury 144.84 82 IAMs_20 IAMs_20 15 49 31.6
comp=Z,810nm,20.0s
BALB Balikesir 144.91 268 PKPab 14 49 57.4 -0.1
H60A Morristown 145.00 81 P **PKPdf 14 49 58.2 -0.1**
baz=238
D56A ZEC Mazanza, M 145.02 76 P **PKPdf 14 49 58.4 +0.1**
baz=241,SNR=18
LBNH Lisbon 145.30 82 P **PKPbc 14 49 58.5 -0.2**
baz=238
J63A Strafford 145.30 84 P **PKPdf 14 49 59.4 +0.5**
baz=237
H61A Lyndonville 145.45 82 P **PKPdf 14 49 59.0 -0.1**
baz=238
I62A Tamworth 145.46 83 P **PKPdf 14 49 58.8 -0.3**
baz=238
I62A Tamworth 145.46 83 IAMs_20 IAMs_20 15 46 46.6
comp=Z,906nm,22.0s
G60A Masonville 145.50 81 P **PKPab 14 49 59.9 +0.3**
baz=239,SNR=15
E58A La Victoria 145.57 78 P **PKPab 14 50 00.1 +0.4**
baz=240,SNR=11
F59A Saint Guillaume 145.61 79 P **PKPab 14 49 59.9 0.0**
baz=240,SNR=6.4
MOQ Mont Orford 145.66 80 PKPbc **PKPab 14 50 00.5 +0.3**
H62A Milan 145.94 82 P **PKPdf 14 50 00.2 +0.2**
baz=238
H62A Milan 145.94 82 PKPdf 14 50 00.0 +0.1
I63A Otisfield 146.02 83 P **PKPdf 14 50 00.3 +0.2**
baz=238
I63A Otisfield 146.02 83 PKPbc 14 50 00.7 -0.3
G61A St-Isidore-de- 146.08 81 P **PKPdf 14 50 00.3 +0.1**
baz=239,SNR=5.8
D58A Chemin du LacG 146.16 77 P **PKPdf 14 50 00.1 -0.2**
baz=241
F60A Warwick 146.17 80 P **PKPdf 14 50 00.5 +0.2**
baz=240,SNR=7.0
I64A Boothbay 146.53 84 P **PKPdf 14 50 00.3 -0.6**
baz=238
G62A West of Eustis 146.66 82 P **PKPdf 14 50 00.8 -0.3**
baz=239
G62A West of Eustis 146.66 82 PKPdf **PKPdf 14 50 00.8 -0.3**
MOS Moscow 146.67 299 *e*PKIKP **PKPdf 14 50 00.1 -0.7**
MOS pmax pmax
comp=Z,146nm,1.7s
E60A Ste Agathe de 146.67 79 P **PKPdf 14 50 00.9 -0.2**
baz=241
F61A St Evariste 146.75 80 P **PKPbc 14 50 02.3 -0.8**
baz=240
WVL Waterville 146.85 83 PKPdf **PKPdf 14 50 02.1 +0.7**
ITM Ithomi 147.00 260 PKPbc 14 50 03.6 -0.4
OBN Obninsk 147.03 298 PKPbc **PKPbc 14 50 03.6 +0.1**
comp=Z,14nm,0.5s,baz=272,slow=22,SNR=7.7
OBN Obninsk 147.03 298‖*e*PKP2 **PKPdf 14 50 02.4 +1.0**
OBN 14 50 04.0
OBN *i* 14 50 07.1
OBN *i* 14 50 12.8
OBN *e* 15 06 07.7
OBN pmax pmax
comp=Z,49nm,1.2s
OBN pmax pmax
comp=Z,158nm,1.6s
OBN MLR MLR
comp=Z,395nm,23.0s
KLMR Klimovskoe 147.07 309 *e*PKIKP **PKPdf 14 49 59.8 -1.5**
KLMR pmax pmax
comp=Z,98nm,1.5s
KLMR Klimovskoe 147.07 309 *e*PKPdf **PKPdf 14 49 59.9 -1.4**
KLMR AMP 14 50 08.0
comp=Z,98nm,1.5s
KLMR LQ LQ 15 45 28.1
KLMR LQ LQ 15 45 28.1
KLMR LR LR 15 49 47.1
MFTR Murfatlar 147.15 276⇑P **PKPbc 14 50 03.5 -0.7**
G63A Kingsbury 147.16 82 P **PKPdf 14 50 02.2 +0.2**
baz=239
H64A Troy 147.16 84 P **PKPdf 14 50 01.7 -0.3**
baz=239,SNR=6.2
RDO Rodhopi 147.24 269 P **PKPbc 14 50 03.8 -0.8**
D60A Saint Jean D'O 147.25 79 P **PKPbc 14 50 04.5 +0.1**
baz=242
E61A Lac Etchemin 147.28 80 P **PKPbc 14 50 04.6 0.0**
baz=241,SNR=9.9
TIRR Tirgusor 147.30 276⇑P **PKPbc 14 50 03.5 -1.1**
TIRR Tirgusor 147.30 276⇑PKP2 **PKPbc 14 50 03.5 -1.1**
TIRR Tirgusor 147.30 276 PKPbc **PKPbc 14 50 03.7 -0.9**
TIRR IAMs_20 IAMs_20 15 57 41.3
comp=Z,659nm,20.0s
ALE Alert 147.32 9 IAMs_20 IAMs_20 15 56 13.4
comp=Z,476nm,20.0s
F62A Pittston Farm, 147.34 81 P **PKPbc 14 50 04.3 -0.4**
baz=240
F62A Pittston Farm, 147.34 81 PKPbc 14 50 05.0 +0.3
KLV Kalavryta, Ach 147.43 261 P **PKPdf 14 50 02.4 -0.4**
TLCR 147.43 277⇑P **PKPbc 14 50 04.7 -0.2**
TLCR 147.43 277⇑PKP2 **PKPbc 14 50 04.7 -0.2**
PKME Peaks-Kenny Pk 147.43 82 P **PKPdf 14 50 03.4 +1.0**
baz=240,SNR=7.7
PKME Peaks-Kenny Pk 147.43 82 PKPdf **PKPdf 14 50 03.3 +0.9**
PURM Purcari 147.45 280⇑P **PKiKP 14 50 10.5 +3.4**
TPGR Topolog 147.50 277⇑P **PKPbc 14 50 04.3 -0.9**
HARR Harsova 147.71 276⇑P **PKPbc 14 50 05.7 -0.1**
HARR Harsova 147.71 276⇑PKP2 **PKPbc 14 50 05.7 -0.1**
G64A Maxfield 147.75 83 P **PKPdf 14 50 04.3 +1.3**
baz=240,SNR=10

F63A Nahmakanta, Br 147.77 82 P PKPbc 14 50 05.0 -0.9
baz=240
F63A Nahmakanta, Br 147.77 82 PKPdf PKPdf 14 50 03.7 +0.7
H65A Eastbrook 147.78 84 P PKPbc 14 50 06.5 +0.6
baz=239
D61A St Aubert, Com 147.83 79 P PKiKP 14 50 06.9 -1.0
baz=242,SNR=11
CFR Carcaliu 147.84 277 ⇓P PKPbc 14 50 05.6 -0.4
CFR Carcaliu 147.84 277 ⇓PKP2 PKPbc 14 50 05.6 -0.4
AGG Agios Georgios 147.93 263 P PKPbc 14 50 07.5 +0.9
AGG Agios Georgios 147.93 263 PKP2 PKPbc 14 50 05.9 -0.7
AGG Agios Georgios 147.93 263 PKPbc PKPbc 14 50 05.9 -0.7
E62A Clayton Lake 147.96 80 P PKPbc 14 50 06.9 +0.5
baz=242,SNR=9.8
E62A Clayton Lake 147.96 80 PKPbc 14 50 06.3 -0.1
EMMW East Machias 148.27 85 PKPbc PKPbc 14 50 07.8 +0.6
MILM Milestii Mici 148.27 280 ⇑P PKPbc 14 50 07.6 +0.4
F64A Sherman 148.31 82 P PKPbc 14 50 08.0 +0.8
baz=241
KIS Kishinev 148.31 280 eP PKPab 14 50 10.0 -0.4
NVR Nevrokopi 148.39 268 P PKPbc 14 50 07.8 +0.1
H66A Whiting 148.40 85 P PKPbc 14 50 07.9 +0.3
baz=239
G65A Princeton 148.46 84 P PKiKP 14 50 09.6 +0.4
baz=240
G65A Princeton 148.46 84 PKPbc PKiKP 14 50 09.1 -0.1
THL Klokotos Trika 148.46 263 P PKPbc 14 50 07.5 -0.4
D62A Allapoint, All 148.46 80 P PKiKP 14 50 09.3 +0.1
baz=242,SNR=8.1
D62A Allapoint, All 148.46 80 PKPdf PKPdf 14 50 04.2 +0.2
LIT Litokhoron 148.49 265 P PKPbc 14 50 07.0 -1.0
LIT Litokhoron 148.49 265 PKP2 PKPbc 14 50 06.6 -1.4
LIT Litokhoron 148.49 265 PKPbc 14 50 06.5 -1.4
E63A Oxbow 148.53 81 P PKiKP 14 50 09.4 0.0
baz=241
E63A Oxbow 148.53 81 PKPbc 14 50 08.1 +0.2
GRER 148.65 276 ⇓P PKPab 14 50 11.1 -0.8
GHRR 148.72 278 ⇑P PKPdf 14 50 03.8 -0.7
SULR 148.73 275 ⇓P PKiKP 14 50 09.7 -0.1
VASR Vaslui 148.76 279 ⇑P PKPbc 14 50 07.9 -0.6
E64A Bridgewater 148.89 82 P PKPbc 14 50 08.9 +0.2
baz=242
PQI Presque Isle 148.90 81 PKPbc 14 50 08.6 -0.2
D63A Stockholm 149.01 80 P PKiKP 14 50 10.5 +0.2
baz=242
VRI Vrincioaia 149.04 277 ⇑P PKiKP 14 50 09.9 -0.6
VRI Vrincioaia 149.04 277 ⇑PKP2 PKiKP 14 50 09.9 -0.6
GRG Griva 149.06 266 P PKPbc 14 50 09.5 +0.1
PLOR Plostina 149.08 277 ⇓P PKiKP 14 50 10.5 -0.1
PLOR Plostina 149.08 277 ⇑P PKPab 14 50 14.3 +0.6
PLOR Plostina 149.08 277 ⇓PKP2 PKiKP 14 50 10.5 -0.1
NEHR Nehoiu 149.09 276 ⇑P PKPbc 14 50 09.1 -0.2
SORM Soroca 149.11 282 ⇑P PKPbc 14 50 08.9 -0.3
SORM Soroca 149.11 282 ⇑PKP2 PKPbc 14 50 08.9 -0.3
VAY Valandovo 149.16 266 *i* P PKPbc 14 50 08.6 -1.0
MLR Muntele Rosu 149.33 276 ⇑P PKPbc 14 50 09.7 -0.4
MLR Muntele Rosu 149.33 276 ⇑PKP2 PKPbc 14 50 09.7 -0.4
MLR Muntele Rosu 149.33 276 PKPbc 14 50 09.1 -1.0
TESR Tescani 149.40 278 ⇑P PKPbc 14 50 09.6 -0.5
HUMR Humele 149.44 274 ⇓P PKPab 14 50 15.8 +0.7
VTS Vitosha 149.49 269 ⇓P PKPbc 14 50 10.0 -0.6
VTS Vitosha 149.49 269 ⇓PKP2 PKPbc 14 50 10.0 -0.6
VTS Vitosha 149.49 269 PKPbc 14 50 09.3 -1.3
VLAD Vladila 149.52 272 ⇓P PKiKP 14 50 11.5 0.0
TULEG Thule 149.53 20 PKPdf PKPdf 14 50 05.5 +0.6
TULEG IAMs_20 IAMs_20 16 05 07.9
comp=Z,711nm,19.0s
FNA Florina 149.58 265 P PKPbc 14 50 10.7 -0.1
FNA Florina 149.58 265 PKP2 PKPbc 14 50 09.8 -1.0
FNA Florina 149.58 265 PKPbc 14 50 09.8 -1.0
STIP Stip 149.62 267 *i* P PKPbc 14 50 09.2 -1.5
AKASG Malin Array Be 149.64 287 PKPbc PKPbc 14 50 10.4 -0.1
comp=Z,6.9nm,0.6s,baz=76,slow=3.0,SNR=23
AKASG Malin Array Be 149.64 287 PKP2 PKPbc 14 50 10.4 -0.1
AKBB Malin Array Si 149.64 287⇑ *e*PKHKP PKPpre 14 50 05.5
OZUR 149.72 277 ⇓P PKPdf 14 50 08.2 +2.0
VOIR 149.85 275 ⇑P PKPab 14 50 15.4 -1.5
VOIR 149.85 275 ⇑PKP2 PKPab 14 50 15.4 -1.5
DOPR Dopca 149.90 276 ⇑P PKPbc 14 50 11.2 -0.1
PRAR RASCA 150.04 279 ⇓P PKiKP 14 50 12.5 0.0
ARR Arges 150.07 275 ⇑P PKPbc 14 50 11.2 -0.6
OHR Ohrid 150.13 265 *i* P PKPbc 14 50 12.3 +0.2
SKO Skopje 150.23 267 *i* P PKPbc 14 50 12.1 -0.2
APA Apatity 150.25 321 ⇓ *i* PKIKP PKiKP 14 50 14.6 +2.4
APA pmax pmax
comp=Z,18nm,1.0s
BATG Bathurst New B 150.37 81 PKPbc 14 50 11.8 -0.5
LMN Caledonia Moun 150.46 84 PKPdf PKPdf 14 50 07.4 +0.1
NOR Nord 150.49 359 *i* P PKPbc 14 50 11.3 -0.4
NOR IAmb IAmb 14 50 12.7
comp=Z,10.0nm,0.9s
NOR Nord 150.49 359 *i* PKIKP PKPbc 14 50 11.3 -0.4
NOR pmax pmax
comp=Z,10.0nm,0.9s
PUNG Punghina 150.57 272 ⇓P PKPbc 14 50 12.1 -0.8
SRE Strehaia 150.60 273 ⇓P PKiKP 14 50 13.4 -0.3
SRE Strehaia 150.60 273 ⇓PKIKP PKiKP 14 50 13.4 -0.3
LOT Lotru 150.64 274 ⇓P PKPbc 14 50 13.4 +0.2
BURAR Bucovina Array 150.77 279 ⇓P PKPbc 14 50 12.7 -0.7
TIR Tirane 150.84 264 PKIKP PKPab 14 50 20.2 -0.8
TIR Tirane 150.84 264 PKPab 14 50 20.1 -0.8
TIR IAMs_20 IAMs_20 16 10 44.1
comp=Z,498nm,22.0s
BOVS Bovan 150.98 270 ⇑P PKPbc 14 50 13.7 -0.3
ARCR ARCALIA 151.06 278 ⇑P PKiKP 14 50 15.1 +0.5
HERR Herculane 151.19 272 ⇑P PKPbc 14 50 14.1 -0.3
GZR Gura Zlata 151.22 274 ⇑P PKPbc 14 50 14.6 +0.1
GZR Gura Zlata 151.22 274 ⇑PKIKP PKPbc 14 50 14.6 +0.1
CEL Celeste 151.33 255 PKPbc 14 50 14.0 -1.0
CEL IAMs_20 IAMs_20 16 00 46.1
comp=Z,535nm,21.0s
MDVR Moldovita 151.57 272 ⇑P PKPbc 14 50 15.5 +0.2
MNK Minsk 151.66 294 *i* PKIKP PKPdf 14 50 11.9 +3.1
MNK *i* 14 57 19.1
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,12nm,1.5s
MNK pmax pmax
comp=Z,101nm,1.4s
MNK Minsk 151.66 294 *i* PKP PKPdf 14 50 11.9 +3.1
comp=E,12nm,1.5s
MNK *i* PKP PKPdf 14 50 11.9 +3.1
comp=N,21nm,0.8s
MNK *i* PKP PKPdf 14 50 11.9 +3.1
comp=Z,101nm,1.4s,baz=286
MNK *i* PKS PKSdf 14 53 09.2 -34
MNK *i* SKP 14 53 43.8
MNK *i* PP PP 14 54 08.0 +12
MNK *i* SKS SKSdf 14 57 19.2 +3.4
MNK *i* PPP PPP 14 57 33.0
MNK *i* SPP SPP 15 11 12.9
MNK *i* SS SS 15 13 41.3 +20
MNK *i* SSS SSS 15 19 29.2
MNK *i* LR LR 15 56 53.5
MNK *i* LRM MLR 15 59 11.5
comp=Z,391nm,22.4s
MNK *i* LRM MLR 15 59 37.1
comp=E,23nm,23.4s
MNK *i* LRM MLR 16 00 06.5
comp=N,372nm,20.8s
PDG Podgorica 151.83 265 ⇓P PKiKP 14 50 18.7 +2.4
PDG Podgorica 151.83 265 PKPbc 14 50 15.3 -0.6
DRGR 151.93 276 ⇑P PKPbc 14 50 15.5 -0.7
DRGR 151.93 276 ⇑PKIKP PKPbc 14 50 15.5 -0.7
BZS Buzias 152.05 273 ⇓P PKiKP 14 50 16.6 -0.1
BZS Buzias 152.05 273 ⇓PKIKP PKiKP 14 50 16.6 -0.1
KEV Kevo 152.21 327 PKIKP PKPbc 14 50 15.2 -0.7
KEV Kevo 152.21 327 PKPbc 14 50 15.2 -0.7
KEV IAMs_20 IAMs_20 16 00 15.8
comp=Z,578nm,22.0s
NEEM North Greenlan 152.25 14 ⇓ *i* P PKPbc 14 50 16.1 -0.2
NEEM IAmb IAmb 14 50 16.8
comp=Z,26nm,0.7s
DIVS Divibare 152.28 269 PKPbc 14 50 16.4 -0.6
SIRR Siria 152.33 274 ⇓P PKPab 14 50 23.1 -4.1
MATE Matera 152.35 260 ⇓P PKiKP 14 50 20.0 +2.6
LVV L'vov 152.39 283 *e*PKIKP PKiKP 14 50 17.2 0.0
SCHQ Schefferville 152.57 66 PKPbc PKiKP 14 50 17.6 +0.2
comp=Z,8.9nm,0.9s,baz=308,slow=3.0,SNR=6.8
SCHQ PKPab PKPab 14 50 26.1 -1.7
comp=Z,14nm,0.8s,baz=214,slow=1.4,SNR=12
SCHQ Schefferville 152.57 66 PKPbc 14 50 17.1 -0.2

ARCES ARCESS Array B 152.78 327 PKPbc PKPbc 14 50 16.7 -0.5
comp=Z,7.8nm,0.8s,baz=64,slow=2.8,SNR=18
ARCES ARCESS Array B 152.78 327 PKIKP PKPbc 14 50 16.7 -0.5
FRGS Fruska Gora 152.93 271 ⇑P PKiKP 14 50 18.9 +0.4
UZH Uzhgorod 152.98 279 ⇓ *i* PKIKP PKPdf 14 50 09.9 -1.1
KULLO Kullorsuaq 153.03 21 *i* P PKPbc 14 50 17.6 -0.1
KULLO IAmb IAmb 14 50 17.9
comp=Z,17nm,0.9s
KULLO Kullorsuaq 153.03 21 *i* PKIKP PKPbc 14 50 17.5 -0.1
KULLO pmax pmax
comp=Z,17nm,0.9s
KOLS Kolonicke sedl 153.11 280 *e*PKIKP PKiKP 14 50 20.0 +1.2
KOLS Kolonicke sedl 153.11 280 *e*PKP PKiKP 14 50 20.0 +1.2
KEST Kesra 153.34 243 PKPbc PKiKP 14 50 20.2 +0.4
comp=Z,6.7nm,1.2s,baz=108,slow=7.1,SNR=5.5
KEST PKPab pPKPab 14 50 33.6 -0.2
comp=Z,20nm,0.9s,baz=296,slow=4.7,SNR=14
KEST Kesra 153.34 243 PKPbc 14 50 19.6 -0.1
FIA1 FINESS Array S 153.61 309 PKPbc 14 50 18.4 -0.8
FINES FINESS Array B 153.61 309 PKPbc PKPbc 14 50 18.7 -0.5
comp=Z,2.8nm,0.6s,baz=119,slow=6.7,SNR=10
FINES FINESS Array B 153.61 309 PKIKP PKPbc 14 50 18.7 -0.5
MORH Mrgy, Hungar 154.16 272 ⇓P PKPbc 14 50 17.9 -3.0
SUW Suwalki 154.20 291 PKP2 PKPab 14 50 33.1 -1.6
SUW Suwalki 154.20 291 PKPab 14 50 33.1 -1.6
SUW IAMs_20 IAMs_20 16 09 24.6
comp=Z,461nm,21.0s
VYHS Vyhne 155.02 277 *e*PKP2 PKPab 14 50 38.4 -0.1
AQU L'Aquila 155.36 260 IAMs_20 IAMs_20 16 14 41.6
comp=Z,634nm,21.0s
NRCA Norcia 155.80 260 PKPab 14 50 41.1 -1.0
GCIS Gornji Cirnik 155.85 269 *i* PKPab PKPab 14 50 41.6 -0.4
GCIS *i* 14 50 57.2
JAVC Velka Javorina 155.88 277 *e*PKP PKPdf 14 50 24.2 +9.1
SMOL Smolenice 155.89 276 *e*PKP2 PKPab 14 50 41.9 -0.3
BOJS Bojanci 155.90 268 *e*PKPab PKPab 14 50 41.7 -0.6
BOJS *e* 14 50 57.6
GOLS Golise 155.92 269 *e*PKPab PKPab 14 50 42.5 +0.1
MODS Modra-Piesok 155.93 276 *e*PKP2 PKPab 14 50 41.8 -0.6
CRES Cresnjev 155.93 269 *e*PKPab PKPab 14 50 42.3 -0.2
OKC Ostrava-Krasne 155.95 280 AMS AMS 16 10 00.0
comp=Z,300nm,24.7s
VSL Villasalto 155.97 250 IAMs_20 IAMs_20 16 02 53.7
comp=Z,704nm,19.0s
MORC Moravsky Berou 156.29 279 ⇓P PKPdf 14 50 19.1 +3.5
MORC Moravsky Berou 156.29 279 ⇓PKIKP PKPdf 14 50 19.1 +3.5
MORC Moravsky Berou 156.29 279 *e*PKP PKPdf 14 50 21.2 +5.6
SKDS Skadanscina 156.68 267 *e*PKPab PKPab 14 50 45.2 -0.5
VRAC Vranov 156.70 278 *e*PKP PKPdf 14 50 21.9 +5.8
KRUC Moravsky 156.73 277 *e*PKP PKPdf 14 50 22.3 +6.1
KRLC Kraliky 156.86 279 *e*PKIKP PKPab 14 50 33.3 -13
KRLC MLR MLR
comp=Z,400nm,19.4s
KRLC Kraliky 156.86 279⇑ *e*PKP PKPab 14 50 33.3 -13
KRLC *e*PKPAB pPKPab 14 50 46.6 -2.1
KRLC AMS AMS 16 09 30.0
comp=Z,400nm,19.4s
DPC Dobruska-Polom 157.23 280 *e*PKP2 PKPab 14 50 48.0 +0.1
DPC *e*SS SS 15 14 16.3 -6.2
DPC MLR MLR
comp=Z,400nm,18.3s
DPC Dobruska-Polom 157.23 280 *e*PKPAB PKPab 14 50 48.0 +0.1
DPC *e*SS SS 15 14 16.3 -6.2
DPC AMS AMS 16 16 40.0
comp=Z,400nm,18.3s
OSTC Ostas 157.36 280 *e*PKPAB PKPab 14 50 51.2 +2.7
OSTC *e*SS SS 15 14 19.3 -4.5
OSTC AMS AMS 16 13 40.0
comp=Z,600nm,20.6s
TREC Trest 157.37 277 AMS AMS 16 14 50.0
comp=Z,500nm,22.2s
CHVC Chvalec 157.47 280 *e*PKPAB PKPab 14 50 50.8 +1.9
CHVC AMS AMS 16 13 50.0
comp=Z,500nm,21.4s
UPC Upice 157.47 280 AMS AMS 16 17 10.0
comp=Z,400nm,16.8s
DBG Daneborg 157.85 0 *i* P PKPab 14 50 54.4 +4.6
DBG IAmb IAmb 14 50 55.1
comp=Z,10.0nm,1.1s
CKRC Cesky Krumlov 157.92 275 AMS AMS 16 10 40.0
comp=Z,600nm,19.0s
SUMG Summit 158.11 15 *i* P PKPab 14 50 53.2 +1.6
SUMG IAmb IAmb 14 50 55.0
comp=Z,13nm,1.2s
PRU Pruhonice 158.19 278 *e*SS SS 15 14 18.5 -14
PRU AMS AMS 16 14 40.0
comp=Z,500nm,17.7s
VLC Villacollemand 158.19 260 IAMs_20 IAMs_20 16 05 07.7
comp=Z,543nm,20.0s
PRA Prague 158.28 278 AMS AMS 16 15 00.0
comp=Z,500nm,18.6s
GEC2 GERESS Array S 158.30 275 PKPab 14 50 51.7 -1.0
GEC2 GERESS Array S 158.30 275 *e*PKPab PKPab 14 50 52.1 -0.6
GERES GERESS Array B 158.30 275 PKP PKPdf 14 50 19.0 +0.7
comp=Z,0.3nm,0.2s,baz=270,slow=4.9,SNR=1.6
GERES PKPab PKPab 14 50 51.1 -1.6
comp=Z,2.2nm,0.7s,baz=134,slow=3.9,SNR=9.0
GERES PP PP 14 54 36.0 +2.5
comp=Z,0.3nm,0.3s,baz=145,slow=4.9,SNR=5.1
GERES GERESS Array B 158.30 275 PKIKP PKPdf 14 50 19.0 +0.7
GERES 14 50 51.1
KHC Kasperske Hory 158.48 275 PKP2 PKPab 14 50 52.0 -1.4
KHC Kasperske Hory 158.48 275 *e*PKPDF PKPdf 14 50 18.0 -0.4
KHC *e*PKPAB PKPab 14 50 53.0 -0.4
KHC *e*PP PP 14 54 32.0 -2.4
KHC *e*x x 15 14 24.4
KHC AMS AMS 16 13 50.0
comp=Z,600nm,17.6s
KHC Kasperske Hory 158.48 275 PKPab 14 50 52.0 -1.4
BRG Berggiesshubel 158.83 280 *e*PKP PKPdf 14 50 24.6 +5.9
BRG Amp 14 50 27.2
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 158.83 280 P PKPab 14 50 54.7 -0.1
BRG Amp 14 50 57.0
comp=Z,23nm,1.4s
BRG Berggiesshubel 158.83 280 *e*PKPab PKPab 14 50 54.6 -0.2
baz=109,slow=4.4
FBE Freiberg 159.20 280 *e*PKPab PKPab 14 50 56.4 0.0
baz=109,slow=4.4
CLL Collm 159.52 281 *e*(PKP) PKPab 14 50 41.0 -17
CLL ⇑ *i* PKPab PKPab 14 50 57.3 -0.5
comp=Z,24nm,1.3s
CLL *i* 14 51 14.8
CLL *e*PP PP 14 54 39.0 -1.0
CLL *i* 14 55 01.8
comp=Z,15nm,1.4s
CLL *e* 14 55 30.0
CLL *e*PSKS 15 05 00.0
CLL *e*SS SS 15 14 45.0 -1.7
CLL *e*PSS PSS 15 15 43.0
CLL *e*SSS SSS 15 20 51.0
CLL *e*SSSS 15 25 02.0
CLL *e* 15 28 42.0
CLL LmV 16 11 00.0
comp=Z,600nm,20.4s
CLL LmH 16 22 00.0
comp=N,400nm,18.7s
CLL LmH 16 22 00.0
comp=E,300nm,18.7s
CLL Collm 159.52 281 ⇑ *i* PKP2 PKPab 14 50 57.3 -0.5
CLL pmax pmax
comp=Z,24nm,1.3s
CLL MLR MLR
comp=Z,600nm,20.4s
CLL Collm 159.52 281 IAMs_20 IAMs_20 16 11 45.7
comp=Z,616nm,20.0s
CLL Collm 159.52 281 *e*PKPab PKPab 14 50 57.0 -0.8
baz=109,slow=4.4
NKC Novy Kostel 159.54 277 AMS AMS 16 12 00.0
comp=Z,600nm,20.1s
MANZ Manzenberg 159.67 277 *e*PKPab PKPab 14 50 58.5 0.0
baz=109,slow=4.4
WERD Werda 159.70 278 *e*PKPab PKPab 14 50 57.2 -1.5
baz=109,slow=4.4
RGN Rugen 159.98 290 IAMs_20 IAMs_20 16 15 17.0
comp=Z,643nm,20.0s
TUE Stuetta 159.99 265 PKPab 14 50 59.1 -1.2
GRA1 Grafenberg Arr 160.12 275 IAMs_20 IAMs_20 16 12 26.6
comp=Z,555nm,20.0s
GRF Grafenberg Arr 160.12 275 *e*PKPab PKPab 14 51 00.5 0.0
baz=109,slow=4.4
GRF *e*L L 16 06 31.2
comp=Z,530nm,21.4s
GRFO Grafenberg 160.12 275 IAMs_20 IAMs_20 16 12 26.7
comp=Z,544nm,19.0s
MOX Moxa 160.18 278 *e*PKPab PKPab 14 51 00.5 -0.2
baz=109,slow=4.4
MOX *e*L L 16 09 25.5
comp=Z,544nm,20.5s
DY2G Dye2 160.74 32 *i* P PKPab 14 51 03.2 +0.3
ICESG Greenland Ices 160.77 21 *i* P PKPab 14 51 02.6 -0.5
ICESG IAmb IAmb 14 51 03.1
comp=Z,23nm,1.0s
NB2 NORSAR Subarra 160.78 310 P PKPab 14 51 01.3 -1.8
comp=Z,12nm,1.2s,baz=76,slow=4.4
NB2 NORSAR Subarra 160.78 310 P PKPab 14 51 01.3 -1.8
baz=76,slow=4.4
NOA NORSAR Array B 160.78 310 PKPab PKPab 14 51 01.4 -1.6
comp=Z,1.7nm,0.8s,baz=78,slow=4.6,SNR=6.5
NOA NORSAR Array B 160.78 310 PKP2 PKPab 14 51 01.4 -1.6
SENIN Lac Senin/Sane 161.19 263 PKPab 14 51 04.6 -0.9
UBBA Unterbreizbach 161.21 278 *e*PKPab PKPab 14 51 04.7 -0.4
baz=109,slow=4.4
CLZ Clausthal 161.25 281 *e*PKPab PKPab 14 51 04.7 -0.7
baz=109,slow=4.4
BFO Black Forest 161.41 269 PKP2 PKPab 14 51 04.8 -1.3
BFO Black Forest 161.41 269 PKPab 14 51 04.8 -1.3
GTTG Gottingen 161.42 280 *e*PKPab PKPab 14 51 05.9 -0.2
baz=109,slow=4.4
NRDL Niedersach Rie 161.54 283 *e*PKPab PKPab 14 51 06.6 +0.1
baz=109,slow=4.4
BSEG Bad Segeberg 161.65 287 *e*PKPab PKPab 14 51 06.9 0.0
baz=109,slow=4.4
TNS Taunus Mts 161.99 275 *e*PKPab PKPab 14 51 08.4 -0.3
baz=109,slow=4.4
ECH Echery 162.08 268 PKP2 PKPab 14 51 07.0 -2.1
ECH Echery 162.08 268 PKPab 14 51 07.0 -2.1
PVAQ Vaqueiros 162.76 216 *e*PKPab PKPab 14 51 12.9 +0.7
AHRW Bad Neuenahr-A 162.92 275 *e*PKPab PKPab 14 51 12.8 +0.1
baz=109,slow=4.4
IBBN Ibbenburen 162.92 281 *e*PKPab PKPab 14 51 12.6 0.0
baz=109,slow=4.4
PCVE Castro Verde 163.07 215 *e*PKPab PKPab 14 51 14.5 +0.9
ESDC Sonseca Array 163.15 228 PKP PKPdf 14 50 25.2 +1.4
comp=Z,0.5nm,0.8s,baz=14,slow=2.6,SNR=4.8
ESDC PKPab PKPab 14 51 13.1 -0.9
comp=Z,2.3nm,0.8s,baz=156,slow=3.9,SNR=9.4
PBAR Barrancos 163.19 218 *e*PKPab PKPab 14 51 18.9 +4.8
MESJ Messejana 163.32 215 *e*PKPab PKPab 14 51 15.6 +0.9
BTNL Ternell 163.51 275 *d*PKPdf PKPdf 14 50 23.9 +0.2
BTNL *d*PKPab PKPab 14 51 14.4 -0.9
PNCL Nicolau / Gran 163.68 215 *e*PKPab PKPab 14 51 16.7 +0.5
EVO Evora 163.87 217 *e*PKPab PKPab 14 51 18.8 +1.8
BMRD Maredsous 164.27 273 *d*PKPab PKPab 14 51 18.5 -0.1
PMTG Montargil 164.42 217 *e*PKPab PKPab 14 51 20.1 +0.7
PMAFR Mafra 164.69 214 *e*PKPab PKPab 14 51 21.5 +0.8
PCBR Castelo Branco 164.80 220 *e*PKPab PKPab 14 51 22.9 +1.8
MTE Manteigas 165.30 221 *e*PKPab PKPab 14 51 24.9 +1.5
PVIS Viseu 165.71 221 *e*PKPab PKPab 14 51 26.3 +1.1
MVO Moncorvo 165.72 224 *e*PKPab PKPab 14 51 25.9 +0.6
PBRG Braganca 166.12 227 *e*PKPab PKPab 14 51 30.0 +3.0
POLO Lamas de Olo 166.22 223 *e*PKPab PKPab 14 51 29.5 +2.0

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*IDC **01** 14:32:17.2±1.9, 41°.71N×82°.33E, h0km, mb3.5/4, mb1 3.5/7, mb1mx3.4/54, mbtmp3.4/7, ML2.9/3, MS2.4/2, Ms1 2.4/2, ms1mx2.1/38 Error ellipse: s-maj=46.6km s-min=19.1km az=95.0*

*SOME **01** 14:32:18.2, 41°.75N×81°.73E, h10km*

*NNC **01** 14:32:20.2±1.1, 41°.77N×81°.67E, h1km±6km, mb4.3, mpv4.0, Error ellipse: s-maj=7.3km s-min=6.0km az=133.0*

ISC 01 14:32:20.6±1.2, 41°.77N±0°.06×81°.56E±0°.05, h10km, n53, σ2°35/75, mb3.5/4, 8C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.90**	**332**	*e*P	**Pg**	**14 32 56.1**	**-0.9**
KTMS	8.6nm,0.2s			*e*S	**Sg**	**14 33 23.4**	**+1.6**
	113nm,0.3s						
KTMS	**Ketmen**	**1.90**	**332**	Pg	**Pg**	**14 32 56.2**	**-0.9**
KTMS	8.6nm,0.2s			Lg	Lg	14 33 23.3	
	113nm,0.3s						
SHLS	**Shalkode**	**2.08**	**313**	⇑ *e*P	**Pn**	**14 32 56.1**	**+0.4**
SHLS	163nm,0.2s			*e*S	**Sb**	**14 33 23.4**	**-1.1**
	282nm,0.3s						
SHLS	**Shalkode**	**2.08**	**313**	Pg	**Pn**	**14 32 56.1**	**+0.4**
SHLS	163nm,0.2s			Lg	Lg	14 33 23.4	
	282nm,0.3s						
PDGK	**Podgornoye**	**2.19**	**316**	Pg	**Pg**	**14 33 01.2**	**-1.3**
PDGK	48nm,0.2s			Lg	Lg	14 33 31.9	
	118nm,0.4s						
UZB	**Uzynbulak**	**2.33**	**307**	*e*P	**Pg**	**14 33 04.1**	**-1.2**
UZB	41nm,0.4s			*e*S	**Sg**	**14 33 37.3**	**+1.8**
	166nm,0.3s						
UZB	**Uzynbulak**	**2.33**	**307**	Pg	**Pg**	**14 33 04.1**	**-1.2**
UZB	41nm,0.4s			Lg	Lg	14 33 37.3	
	166nm,0.3s						
SATY	**Saty**	**2.67**	**300**	*e*P	**Pg**	**14 33 09.7**	**-2.1**
SATY	20nm,0.2s			⇓ *i*S	**Sg**	**14 33 46.6**	**+0.3**
	100nm,0.2s						
SATY	**Saty**	**2.67**	**300**	Pg	**Pg**	**14 33 09.7**	**-2.1**
SATY	20nm,0.2s			Lg	Lg	14 33 46.6	
	100nm,0.2s						
KPKS	**Kokpek**	**2.72**	**310**	*e*P	**Pg**	**14 33 10.4**	**-2.3**
KPKS	64nm,0.2s			*e*S	**Sg**	**14 33 48.1**	**+0.2**
	450nm,0.3s						
DJR	**Jarkent**	**2.88**	**334**	*e*P	**Pg**	**14 33 13.3**	**-2.3**
DJR	26nm,0.2s			*e*S	**Sg**	**14 33 53.1**	**+0.2**
	87nm,0.4s						
DJR	**Jarkent**	**2.88**	**334**	Pg	**Pg**	**14 33 13.3**	**-2.3**
DJR	26nm,0.2s			Lg	Lg	14 33 53.1	
	87nm,0.4s						
KURS	**Kuram**	**3.04**	**306**	*e*P	**Pg**	**14 33 16.4**	**-2.3**
KURS	12nm,0.4s			*e*S	**Sg**	**14 33 58.2**	**+0.1**
	31nm,0.4s						
KURS	**Kuram**	**3.04**	**306**	Pg	**Pg**	**14 33 16.4**	**-2.3**
KURS	12nm,0.4s			Lg	Lg	14 33 58.2	
	31nm,0.4s						
MDOK	**Medeo**	**3.62**	**294**	*e*P	**Pg**	**14 33 27.3**	**-2.6**
MDOK	10nm,0.3s			*e*S	**Sg**	**14 34 17.4**	**+0.6**
	34nm,0.6s						
MDOK	**Medeo**	**3.62**	**294**	⇑Pn	**Pn**	**14 33 18.8**	**+2.0**
MDOK	11nm,0.7s			⇓Lg	Lg	14 34 18.4	
	41nm,0.8s						
MDOK	**Medeo**	**3.62**	**294**	Pg	**Pg**	**14 33 27.3**	**-2.6**
MDOK	10nm,0.3s			Lg	Lg	14 34 17.4	
	34nm,0.6s						
ARXS	**Arharly**	**3.67**	**313**	*e*P	**Pg**	**14 33 28.2**	**-2.7**
ARXS	31nm,0.3s			*e*S	**Sg**	**14 34 18.8**	**+0.3**
	33nm,0.4s						
ARXS	**Arharly**	**3.67**	**313**	Pg	**Pg**	**14 33 28.2**	**-2.7**
ARXS	31nm,0.3s			Lg	Lg	14 34 18.8	
	33nm,0.4s						
KAPS	**Kapalarasan**	**3.87**	**336**	*e*P	**Pb**	**14 33 30.6**	**+1.7**
KAPS	20nm,0.3s			*e*S	**Sg**	**14 34 22.7**	**-2.0**
	24nm,0.3s						
KAPS	**Kapalarasan**	**3.87**	**336**	Pg	**Pb**	**14 33 30.6**	**+1.7**
KAPS	20nm,0.3s			Lg	Lg	14 34 22.7	
	24nm,0.3s						
IZV	**Izvestkoviy**	**3.88**	**291**	*e*P	**Pg**	**14 33 31.8**	**-3.1**
IZV	15nm,0.3s			*e*S	**Sg**	**14 34 24.9**	**-0.2**
	48nm,0.3s						
IZV	**Izvestkoviy**	**3.88**	**291**	Pg	**Pg**	**14 33 31.8**	**-3.1**
IZV	15nm,0.3s			Lg	Lg	14 34 24.9	
	48nm,0.3s						
CHKK	**Chushkaly**	**3.96**	**303**	*e*P	**Pg**	**14 33 33.9**	**-2.5**
	13nm,0.4s						

CHKK eS Sg 14 34 28.5 +0.8
30nm,0.2s
CHKK Chushkaly 3.96 303 Pg Pg 14 33 33.9 -2.5
13nm,0.4s
CHKK Lg Lg 14 34 28.5
30nm,0.2s
TDK Taldyqorghan 3.97 326 eP Pb 14 33 32.2 +1.6
74nm,0.2s
TDK eS Sg 14 34 25.1 -2.9
74nm,0.3s
TDK Taldyqorghan 3.97 326 Pg Pb 14 33 32.2 +1.6
74nm,0.2s
TDK Lg Lg 14 34 25.1
74nm,0.3s
KST Kastek 4.34 289 eP Pg 14 33 40.5 -3.2
14nm,0.4s
KST eS Sg 14 34 39.7 -0.1
29nm,0.4s
KST Kastek 4.34 289 Pg Pg 14 33 40.5 -3.2
14nm,0.4s
KST Lg Lg 14 34 39.7
29nm,0.4s
KUU Kurty 4.39 301 eP Pg 14 33 40.7 -3.9
9.0nm,0.5s
KUU eS Sg 14 34 40.2 -1.2
31nm,0.3s
KUU Kurty 4.39 301 Pg Pg 14 33 40.7 -3.9
9.0nm,0.5s
KUU Lg Lg 14 34 40.2
31nm,0.3s
DGS Degeres 4.53 291 eP Pg 14 33 43.6 -3.6
14nm,0.4s
DGS eS Sg 14 34 45.3 -0.5
26nm,0.3s
DGS Degeres 4.53 291 Pg Pg 14 33 43.7 -3.6
14nm,0.4s
DGS Lg Lg 14 34 45.3
26nm,0.3s
TKM2 Tokmak 2 4.57 287 ⇑Pn Pn 14 33 32.4 +2.5
1.7nm,0.3s
TKM2 ⇑Pg Pg 14 33 45.5 -2.6
6.4nm,0.6s
TKM2 ⇓Lg Lg 14 34 48.6
22nm,0.7s
KRBS Karabastau 4.74 296 eP Pg 14 33 48.4 -3.0
8.0nm,0.5s
KRBS eS Sg 14 34 53.1 +0.3
14nm,0.3s
KRBS Karabastau 4.74 296 Pg Pg 14 33 48.4 -3.0
8.0nm,0.5s
KRBS Lg Lg 14 34 53.1
14nm,0.3s
MAKZ Makanchi 5.05 3 ⇑Pn Pn 14 33 36.9 +0.5
2.2nm,0.2s
MAKZ ⇓Sn Sn 14 34 36.3 +1.5
6.1nm,0.6s
MAKZ ⇓Lg Lg 14 34 59.6
17nm,0.7s
MKAR Makanchi Array 5.05 6 Pn Pn 14 33 36.8 +0.3
1.8nm,0.3s,baz=186,slow=14,SNR=92
MKAR Pg Pb 14 33 51.5 +2.4
1.6nm,0.3s,baz=184,slow=17,SNR=5.7
MKAR Sn Sn 14 34 34.5 -0.4
2.2nm,0.3s,baz=184,slow=29,SNR=6.5
MKAR Lg Lg 14 34 57.2
2.7nm,0.3s,baz=179,slow=28,SNR=4.3
AAK Ala-Archa 5.32 282 Pg Pg 14 34 07.5 +5.0
1.5nm,0.3s,baz=120,slow=13,SNR=6.5
AAK Lg Lg 14 35 12.4
0.9nm,0.3s,baz=307,slow=19,SNR=1.9
AAK LR LR 14 35 51.3
comp=Z,16nm,19.0s,baz=345,slow=36
AAK Ala-Archa 5.32 282 ⇑Pg Pg 14 33 58.8 -3.6
8.4nm,0.8s
AAK ⇑Lg Lg 14 35 11.5
14nm,0.8s
SGDS Sogindy 5.38 291 Pg Pg 14 34 01.5 -2.1
3.0nm,0.5s
SGDS Lg Lg 14 35 15.9
16nm,0.8s
ZSN Zaisan 6.15 21 eP Pb 14 34 10.6 +2.8
26nm,0.2s
ZSN eS Sg 14 35 31.0 -7.0
13nm,0.2s
ZSN Zaisan 6.15 21 Pg Pb 14 34 10.6 +2.8
26nm,0.2s
ZSN Lg Lg 14 35 31.0
13nm,0.2s
MRKS Merke 6.26 282 eP Pg 14 34 16.6 -3.9
3.6nm,0.3s
MRKS eS Sg 14 35 41.7 +0.2
7.5nm,0.3s
MRKS Merke 6.26 282 Pg Pg 14 34 16.6 -3.9
3.6nm,0.3s
MRKS Lg Lg 14 35 41.7
7.5nm,0.3s
KURBB Kurchatov Arra 9.10 348 Pn Pn 14 34 35.0 +3.0
0.1nm,0.3s,baz=170,slow=12,SNR=4.8
KURBB Sn Sn 14 36 16.9 +2.5
0.1nm,0.3s,baz=156,slow=24,SNR=4.1
KURBB Lg Lg 14 37 14.6
0.1nm,0.3s,baz=176,slow=31,SNR=5.7
KURBB Kurchatov Arra 9.10 348 ⇑Pn Pn 14 34 32.6 +0.7
1.9nm,0.5s,baz=177,slow=14
KURBB ⇓Lg Lg 14 37 09.9
13nm,0.8s
ZALV Zalesovo Beam 12.38 9 Pn Pn 14 35 16.4 -0.4
0.1nm,0.3s,baz=184,slow=19,SNR=1.7
ZALV Lg Lg 14 38 56.8
0.2nm,0.3s,baz=181,slow=27,SNR=1.9
OBN Obninsk 32.10 310 LR LR 14 53 05.5
comp=Z,14nm,20.1s,baz=6.5,slow=38
ARCES ARCESS Array B 39.81 333 P P 14 39 53.2 -0.3
0.8nm,0.8s,baz=96,slow=8.3,SNR=4.2
NOA NORSAR Array B 45.40 320 P P 14 40 38.7 -0.3
0.3nm,0.7s,baz=83,slow=7.2,SNR=1.4
ILAR Eielson Array 67.24 20 P P 14 43 11.9 -2.7
0.2nm,0.7s,baz=320,slow=5.9,SNR=4.1
TORD Torodi Ar. Bea 73.85 273 P P 14 43 58.4 +2.7
0.3nm,0.6s,baz=36,slow=4.8,SNR=1.9

*KRNET **01** 14:46:01.1±0.1,40.°28N×73.°35E,h12km,mb3.0*
*SOME **01** 14:46:02.2,40.°45N×73.°27E,h10km*
*NNC **01** 14:46:05.6±0.7,40.°52N×73.°44E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=5.4km s-min=4.7km az=142.0
*ISU **01** 14:46:10,40.°10N×73.°20E,h5km*
ISC 01 14:45:59.6±1.0,40.°32N±0.°03×73.°44E±0.°02,h9km±11km,
n47,σ1§20/79,23C-17D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.32**	**171**	⇓*iP*	**Pg**	**14 46 06.5**	**+0.6**
	baz=56						
SFK				⇓*iS*	**Sg**	**14 46 10.9**	**+0.8**
	baz=56						
OHH	**Osh**	**0.54**	**292**	⇓*eP*	**Pb**	**14 46 11.0**	**-0.2**
	baz=0.0						
OHH				⇓*iS*	**Sb**	**14 46 18.1**	**-1.0**
	baz=0.0						
OHH	**Osh**	**0.54**	**292**	*eP*	**Pg**	**14 46 10.0**	**0.0**
OHH				*eS*	**Sb**	**14 46 18.0**	**-1.0**
ANR	**Andizhan**	**0.93**	**298**	*eP*	**Pn**	**14 46 19.0**	**+0.2**
ANR				*eS*	**Sn**	**14 46 34.0**	**+1.7**
DRK	**Karamyk**	**1.52**	**237**	⇑*iP*	**Pb**	**14 46 28.6**	**+0.6**
	baz=37						
DRK				⇑*iS*	**Sg**	**14 46 48.1**	**-0.2**
	baz=37						
ARLS	**Aral**	**1.68**	**23**	⇑*iP*	**Pg**	**14 46 33.0**	**+1.3**
	baz=25						
ARLS				⇑*iS*	**Sg**	**14 46 57.7**	**+4.2**
	baz=25						
AML	**Almayashu**	**1.82**	**6**	⇓*iP*	**Pg**	**14 46 35.8**	**+1.4**
	baz=8.0						
AML				⇓*iS*	**Sg**	**14 47 00.5**	**+2.5**
	baz=8.0						
BTK	**Batken**	**2.02**	**263**	⇓*iP*	**Pb**	**14 46 37.1**	**+0.5**
	baz=64						
BTK				⇓*iS*	**Sg**	**14 47 04.3**	**-0.3**
	baz=64						
BTK	**Batken**	**2.02**	**263**	*eP*	**Pg**	**14 46 38.0**	**-0.4**
BTK				*eS*	**Sg**	**14 47 05.0**	**+0.4**
TRKS	**Terek-Say**	**2.12**	**305**	⇑*iP*	**Pb**	**14 46 39.0**	**+0.8**
	baz=6.0						
TRKS				⇑*iS*	**Sg**	**14 47 06.3**	**-1.3**
	baz=6.0						
MNAS	**Manas**	**2.27**	**342**	⇑*iP*	**Pg**	**14 46 43.0**	**-0.1**
	baz=44						
MNAS				⇑*iS*	**Sg**	**14 47 13.1**	**+0.5**
	baz=44						
EKS2	**Erkin-Say**	**2.35**	**6**	⇑*iP*	**Pg**	**14 46 44.1**	**-0.5**
	baz=8.0						
EKS2				⇑*iS*	**Sg**	**14 47 14.0**	**-1.1**
	baz=8.0						
MRKS	**Merke**	**2.42**	**356**	*eP*	**Pg**	**14 46 45.6**	**-0.5**
	baz=58						
MRKS				*eS*	**Sg**	**14 47 16.6**	**-0.9**
	baz=58						
MRKS	**Merke**	**2.42**	**356**	*eP*	**Pg**	**14 46 45.6**	**-0.5**
	3.5nm,0.2s						
MRKS				*eS*	**Sg**	**14 47 16.6**	**-0.9**
	122nm,0.4s						
MRKS	**Merke**	**2.42**	**356**	Pg	**Pg**	**14 46 45.6**	**-0.5**
	3.5nm,0.2s						
MRKS				Lg	Lg	14 47 16.6	
	122nm,0.4s						
AAK	**Ala-Archa**	**2.44**	**19**	⇑*iP*	**Pg**	**14 46 45.9**	**-0.5**
	baz=20						
AAK				⇑*iS*	**Sg**	**14 47 17.4**	**-0.7**
	baz=20						
AAK	**Ala-Archa**	**2.44**	**19**	⇑Pn	**Pb**	**14 46 44.5**	**+0.7**
	5.3nm,0.4s						
AAK				⇑Lg	Lg	14 47 17.9	
	41nm,0.4s						
FRU1	**Bishkek**	**2.64**	**19**	⇑*iP*	**Pb**	**14 46 48.3**	**+1.2**
	baz=20						
FRU1				⇑*iS*	**Sg**	**14 47 22.8**	**-1.6**
	baz=20						
GAR	**Garm**	**2.75**	**242**	⇑*eP*	**Pb**	**14 46 48.6**	**-0.3**
	baz=42						
GAR				⇑*iS*	**Sb**	**14 47 21.7**	**-1.1**
	baz=42						
CHMS	**Chumysh**	**2.85**	**20**	⇓*eP*	**Pb**	**14 46 51.4**	**+0.8**
	baz=21						
CHMS				⇓*iS*	**Sb**	**14 47 27.2**	**+1.6**
	baz=21						
ULHL	**Ulahol**	**2.86**	**47**	⇑*iP*	**Pg**	**14 46 53.1**	**-1.2**
	baz=47						
ULHL				⇑*iS*	**Sg**	**14 47 29.8**	**-1.5**
	baz=47						
BOOM	**Boomskoye usch**	**2.87**	**40**	⇑*iP*	**Pb**	**14 46 51.5**	**+0.4**
	baz=41						
BOOM				⇑*iS*	**Sb**	**14 47 28.8**	**+2.5**
	baz=41						
TKM2	**Tokmak 2**	**3.06**	**31**	⇓*eP*	**Pb**	**14 46 55.1**	**+0.8**
	baz=32						
TKM2				⇓*iS*	**Sb**	**14 47 33.6**	**+1.8**
	baz=32						
TKM2	**Tokmak 2**	**3.06**	**31**	Pn	**Pb**	**14 46 53.6**	**-0.7**
TKM2				⇓Lg	Lg	14 47 37.1	
	20nm,0.6s						
SGDS	**Sogindy**	**3.25**	**16**	Pg	**Pg**	**14 47 01.0**	**-0.9**
	2.6nm,0.3s						
SGDS				Lg	Lg	14 47 43.1	
	10nm,0.3s						
KST	**Kastek**	**3.31**	**34**	*eP*	**Pg**	**14 47 02.9**	**-0.1**
	6.4nm,0.4s						
KST				*eS*	**Sg**	**14 47 46.4**	**+0.5**
	17nm,0.4s						
KST	**Kastek**	**3.31**	**34**	Pg	**Pg**	**14 47 02.9**	**-0.1**
	6.4nm,0.4s						
KST				Lg	Lg	14 47 46.4	
	17nm,0.4s						
KDJ	**Kajisay**	**3.35**	**56**	⇓*iP*	**Pb**	**14 46 58.7**	**-0.6**
	baz=56						
KDJ				⇓*iS*	**Sb**	**14 47 40.7**	**+0.5**
	baz=56						
DGS	**Degeres**	**3.40**	**30**	*eP*	**Pg**	**14 47 04.1**	**-0.6**
	6.1nm,0.6s						
DGS				*eS*	**Sg**	**14 47 48.3**	**-0.4**
	43nm,0.9s						
DGS	**Degeres**	**3.40**	**30**	Pg	**Pg**	**14 47 04.1**	**-0.6**
	6.1nm,0.6s						
DGS				Lg	Lg	14 47 48.3	
	43nm,0.9s						
IZV	**Izvestkoviy**	**3.61**	**40**	*eP*	**Pg**	**14 47 08.7**	**+0.1**
	5.8nm,0.3s						
IZV				*eS*	**Sg**	**14 47 55.9**	**+0.6**
	36nm,0.6s						
IZV	**Izvestkoviy**	**3.61**	**40**	Pg	**Pg**	**14 47 08.7**	**+0.1**
	5.8nm,0.3s						
IZV				Lg	Lg	14 47 55.9	
	36nm,0.6s						
KRBS	**Karabastau**	**3.76**	**26**	*eP*	**Pg**	**14 47 10.6**	**-1.0**
	2.2nm,0.3s						
KRBS				*eS*	**Sg**	**14 47 59.1**	**-1.2**
	9.8nm,0.4s						
KRBS	**Karabastau**	**3.76**	**26**	Pg	**Pg**	**14 47 10.6**	**-1.0**
	2.2nm,0.3s						
KRBS				Lg	Lg	14 47 59.1	
	9.8nm,0.4s						
MDOK	**Medeo**	**3.92**	**42**	*eP*	**Pg**	**14 47 13.7**	**-0.9**
	2.8nm,0.2s						
MDOK				*eS*	**Sg**	**14 48 04.5**	**-0.9**
	15nm,0.6s						
MDOK	**Medeo**	**3.92**	**42**	Pg	**Pg**	**14 47 13.5**	**-1.1**
	4.0nm,0.7s						
MDOK				Lg	Lg	14 48 04.9	
	12nm,0.6s						
MDOK	**Medeo**	**3.92**	**42**	Pg	**Pg**	**14 47 13.7**	**-0.9**
	2.8nm,0.2s						
MDOK				Lg	Lg	14 48 04.5	
	15nm,0.6s						
ANVS	**Anan'yevo**	**4.01**	**51**	⇓*iP*	**Pb**	**14 47 07.7**	**-2.9**
	baz=51						
ANVS				⇓*iS*	**Sb**	**14 47 56.6**	**-2.7**
	baz=51						
KUU	**Kurty**	**4.17**	**30**	*eP*	**Pg**	**14 47 18.3**	**-1.1**
	2.0nm,0.3s						
KUU				*eS*	**Sg**	**14 48 12.3**	**-1.1**
	17nm,0.6s						
KUU	**Kurty**	**4.17**	**30**	Pg	**Pg**	**14 47 18.3**	**-1.1**
	2.0nm,0.3s						
KUU				Lg	Lg	14 48 12.3	
	17nm,0.6s						
CHKK	**Chushkaly**	**4.41**	**36**	*eP*	**Pg**	**14 47 24.2**	**+0.2**
	1.9nm,0.2s						
CHKK				*eS*	**Sg**	**14 48 22.1**	**+1.1**
	10nm,0.3s						
CHKK	**Chushkaly**	**4.41**	**36**	Pg	**Pg**	**14 47 24.2**	**+0.2**
	1.9nm,0.2s						
CHKK				Lg	Lg	14 48 22.2	
	10nm,0.3s						
SATY	**Saty**	**4.62**	**52**	*eP*	**Pg**	**14 47 28.0**	**0.0**
	2.8nm,0.3s						
SATY				*eS*	**Sg**	**14 48 28.9**	**+1.1**
	10nm,0.3s						
SATY	**Saty**	**4.62**	**52**	Pg	**Pg**	**14 47 28.0**	**0.0**
	2.8nm,0.3s						
SATY				Lg	Lg	14 48 28.9	
	10nm,0.3s						
BTLS	**Baital**	**4.74**	**5**	*eP*	**Pg**	**14 47 28.6**	**-1.7**
	0.8nm,0.4s						
BTLS				*eS*	**Sg**	**14 48 29.9**	**-1.7**
	5.8nm,0.4s						
KPKS	**Kokpek**	**5.02**	**50**	*eP*	**Pg**	**14 47 34.0**	**-1.7**
	4.6nm,0.6s						
KPKS				*eS*	**Sg**	**14 48 39.1**	**-1.6**
	8.8nm,0.4s						
PDGK	**Podgornoye**	**5.43**	**54**	⇑Lg	Lg	14 48 53.4	
	8.9nm,0.8s						

*IDC **01** 14:49:12.1±1.7,2.°80N×89.°28E,h0km,mb3.7/4,mb1 3.8/6,*
mb1mx3.6/32,mbtmp3.7/6,ML3.8/2,Error ellipse:
s-maj=48.1km s-min=24.2km az=56.0
*NEIC **01** 14:49:14.3±0.5,2.°8N±0.°2×89.°33E±0.°09,h12km±4km,*
mb4.1/12,Error ellipse: s-maj=23.5km s-min=10.6km
az=204.0
ISC 01 14:49:12.1±1.1,2.°7N±0.°2×89.°19E±0.°09,h10km,n32,
σ1§71/27,mb3.8/8,North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**8.13**	**72**	Pn	**Pn**	**14 51 08.7**	**-1.6**
GSI	**Gunungsitoli**	**8.50**	**99**		**Pn**	**14 51 13.5**	**-2.0**
PALK	**Pallekele**	**9.58**	**298**	Pn	**Pn**	**14 51 32.4**	**+2.2**
	0.5nm,0.3s,baz=254,slow=13,SNR=7.0						
PALK				Sn	**Sn**	**14 53 12.1**	**-6.0**
	4.3nm,0.3s,baz=159,slow=6.7,SNR=9.5						
PALK	**Pallekele**	**9.58**	**298**	Pn	**Pn**	**14 51 31.7**	**+1.5**
RPSI	**Rantau Prapat**	**9.73**	**90**		**Pn**	**14 51 30.5**	**-1.7**
PBKT	**Sadao Pong**	**17.99**	**39**		**P**	**14 53 22.1**	**-0.8**
PBKT				IAmb	IAmb	14 53 38.0	
	comp=Z,9.8nm,0.9s						
CM31	**Chiang Mai Arr**	**18.32**	**31**		**P**	**14 53 26.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.32**	**31**	P	**P**	**14 53 26.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=223,slow=13,SNR=19						
CMAR	**Chiang Mai Arr**	**18.32**	**31**	P	**P**	**14 53 26.4**	**-0.3**
CHTO	**Chiang Mai**	**18.62**	**30**	P	**P**	**14 53 28.8**	**-1.2**
CHTO				IAmb	IAmb	14 53 31.2	
	comp=Z,6.7nm,1.1s						
H08S3	**Diego Garcia H**	**19.58**	**238**	T	T	15 14 21.3	
	baz=59,slow=75,SNR=184						
H08S2	**Diego Garcia H**	**19.59**	**238**	T	T	15 14 21.0	
	baz=59,slow=75,SNR=109						
H08S1	**Diego Carcia H**	**19.60**	**238**	T	T	15 14 24.1	
	baz=59,slow=75,SNR=74						
LSA	**Lhasa**	**26.89**	**4**	P	**P**	**14 54 54.4**	**+0.5**
KK31	**Karatay Array**	**43.51**	**340**	P	**P**	**14 57 17.0**	**+1.1**
KK31				IAmb	IAmb	14 57 24.1	
	comp=Z,2.3nm,1.2s						
KKAR	**Karatay Array**	**43.51**	**340**	P	**P**	**14 57 16.8**	**+1.0**
KKAR	**Karatay Array**	**43.51**	**340**	P	**P**	**14 57 17.0**	**+1.1**
KKAR				IAmb	IAmb	14 57 24.1	
	comp=Z,2.3nm,1.2s						
H01W3	**Cape Leeuwin H**	**44.14**	**150**	T	T	15 44 14.2	
	baz=325,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**44.15**	**150**	T	T	15 44 13.8	
	baz=325,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**44.16**	**150**	T	T	15 44 19.1	
	baz=325,slow=75,SNR=13						
MK31	**Makanchi Array**	**44.30**	**353**	P	**P**	**14 57 22.5**	**+0.4**
MKAR	**Makanchi Array**	**44.30**	**353**	P	**P**	**14 57 22.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=180,slow=11,SNR=7.2						
SONM	**Songino Array**	**47.33**	**16**	P	**P**	**14 57 47.1**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=198,slow=8.8,SNR=17						
SONM	**Songino Array**	**47.33**	**16**	P	**P**	**14 57 46.7**	**+0.5**
SONM				IAmb	IAmb	14 57 48.1	
	comp=Z,4.0nm,0.9s						
ULN	**Ulaanbaatar**	**47.54**	**16**	P	**P**	**14 57 47.7**	**-0.2**
ULN				IAmb	IAmb	14 57 49.3	
	comp=Z,2.5nm,0.9s						
WB0	**Warramunga Arr**	**49.69**	**119**	P	**P**	**14 58 04.8**	**0.0**
WB0				IAmb	IAmb	14 58 29.6	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	**49.71**	**119**	P	**P**	**14 58 05.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=298,slow=8.8,SNR=1.8						
WRA	**Warramunga Arr**	**49.71**	**119**	P	**P**	**14 58 04.7**	**-0.2**
ASAR	**Alice Springs**	**50.81**	**124**	P	**P**	**14 58 14.4**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=298,slow=7.4,SNR=5.8						
ABKAR	**Akbulak array**	**52.64**	**336**	P	**P**	**14 58 27.7**	**+1.3**
NRIK	**Noril'sk**	**66.51**	**359**	P	**P**	**15 00 03.0**	**+1.3**
TXAR	**Lajitas Array**	**145.82**	**20**	PKPbc	**PKiKP**	**15 08 53.9**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=188,slow=1.8,SNR=3.1						

*IDC **01** 15:05:18.0±0.5,26.°15S×11.°50W,h0km,mb4.3/19,*
mb1 4.4/19,mb1mx4.3/29,mbtmp4.3/19,MS4.3/6,
Ms1 4.3/6,ms1mx3.9/28,Error ellipse: s-maj=17.3km
s-min=13.6km az=159.0
*NEIC **01** 15:05:20.2±2.0,26.°2S±0.°1×11.°6W±0.°1,h10km±1km,*
mb4.9/79,Error ellipse: s-maj=19.4km s-min=16.9km
az=145.0
ISC 01 15:05:19.6±0.4,26.°18S±0.°08×11.°55W±0.°07,h10km,n188,
σ1§14/181,mb4.9/62,MS4.5/7,Southern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**10.91**	**183**	T	T	15 19 05.0	
	SNR=3.4						
H10S2	**ASCENSION HYDR**	**17.37**	**350**	T	T	15 27 03.5	
	baz=170,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**17.38**	**350**	T	T	15 27 04.2	
	baz=50,slow=74,SNR=33						
H10N1	**ASCENSION HYDR**	**18.44**	**351**	T	T	15 28 21.4	
	baz=171						
H10N3	**ASCENSION HYDR**	**18.45**	**351**	T	T	15 28 28.0	
	baz=171						
H10N2	**ASCENSION HYDR**	**18.46**	**351**	T	T	15 28 33.7	
	baz=171						
TSUM	**Tsumeb**	**27.72**	**82**	P	**P**	**15 11 07.1**	**-1.4**
	1.8nm,0.5s,baz=256,slow=10,SNR=3.4						
TSUM	**Tsumeb**	**27.72**	**82**	P	**P**	**15 11 07.7**	**-0.9**
NBAN	**Anadia - AL**	**28.59**	**301**	*eP*	**P**	**15 11 15.6**	**-0.7**
GDU01	**Guandu, BA**	**29.03**	**290**	*eP*	**P**	**15 11 20.9**	**+0.7**
VAS01	**Vassouras-RJ**	**29.30**	**271**	*eP*	**P**	**15 11 23.5**	**+1.0**
NBPV	**Pedro Velho**	**29.98**	**307**	*eP*	**P**	**15 11 29.4**	**+0.9**
ESAR	**Angra dos Reis**	**30.02**	**269**	*eP*	**P**	**15 11 28.9**	**+0.1**
NBLV	**Livramento - P**	**30.55**	**303**	*eP*	**P**	**15 11 34.6**	**+1.0**
NBPN	**Ponto Novo - B**	**31.05**	**294**	*eP*	**P**	**15 11 36.9**	**-1.1**
MC01	**Montes Claros**	**31.51**	**281**	*eP*	**P**	**15 11 43.2**	**+1.1**
NBPA	**Parau_RN**	**31.75**	**305**	*eP*	**P**	**15 11 44.8**	**+0.6**
NBMA	**Muriti-CE**	**31.95**	**301**	*eP*	**P**	**15 11 46.6**	**+0.7**
BOSA	**Boshof**	**32.69**	**103**	P	**P**	**15 11 51.2**	**-1.3**
	8.9nm,0.9s,baz=244,slow=8.2,SNR=9.1						
BOSA	**Boshof**	**32.69**	**103**	P	**P**	**15 11 51.6**	**-0.9**
BOSA				IAmb	IAmb	15 11 53.9	
	comp=Z,17nm,1.1s						
LIC	**Lamto**	**32.82**	**12**	*eP*	**P**	**15 11 53.5**	**0.0**
	comp=Z,118nm,1.4s						
KIC	**Kosan Boka**	**33.01**	**12**	*eP*	**P**	**15 11 55.3**	**+0.2**
	comp=Z,60nm,1.3s						
TIC	**Toumodi**	**33.23**	**12**	*eP*	**P**	**15 11 57.9**	**+0.8**
DBIC	**Dimbokro**	**33.29**	**12**	P	**P**	**15 11 56.6**	**-0.9**
LBTB	**Lobatse**	**33.45**	**96**	P	**P**	**15 11 58.2**	**-0.9**
	comp=Z,10nm,0.9s,baz=234,slow=18,SNR=7.9						
LBTB	**Lobatse**	**33.45**	**96**	P	**P**	**15 11 57.9**	**-1.3**
SDBA	**SAO DESIDERIO**	**34.21**	**287**	*eP*	**P**	**15 12 05.8**	**0.0**
IPMB	**Ipameri, GO**	**34.84**	**276**	*eP*	**P**	**15 12 12.5**	**+1.3**
BDFB	**Brasilia**	**35.52**	**280**	P	**P**	**15 12 16.6**	**-0.6**
	comp=Z,6.0nm,0.7s,baz=99,slow=7.3,SNR=8.9						
BDFB	**Brasilia**	**35.52**	**280**	P	**P**	**15 12 16.1**	**-1.0**
NBPS	**Pedro II - PI**	**35.88**	**302**	*eP*	**P**	**15 12 20.7**	**+0.5**
ITAB	**Concordia**	**36.16**	**259**	P	**P**	**15 12 23.3**	**+0.9**
ITAB	**Concordia**	**36.16**	**259**	*eP*	**P**	**15 12 23.9**	**+1.5**
ITRB	**Iturama**	**36.21**	**272**	*eP*	**P**	**15 12 23.9**	**+0.9**
PCMB	**Pacaembu**	**36.49**	**269**	*eP*	**P**	**15 12 26.3**	**+1.0**
CPSB	**Cacapava Do Su**	**36.97**	**254**	*eP*	**P**	**15 12 31.0**	**+1.7**
PLTB	**Pedras Altas**	**37.04**	**251**	P	**P**	**15 12 30.3**	**+0.4**
PLTB				IAmb	IAmb	15 12 55.2	
	comp=Z,32nm,1.4s						
PLTB	**Pedras Altas**	**37.04**	**251**	*eP*	**P**	**15 12 31.1**	**+1.3**
MATP	**Matopo**	**37.12**	**90**	P	**P**	**15 12 29.8**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=249,slow=7.4,SNR=8.0						
PEXB	**Peixe**	**37.28**	**285**	*eP*	**P**	**15 12 32.0**	**-0.1**
SMTB	**Santa Maria do**	**38.26**	**290**	*eP*	**P**	**15 12 41.3**	**+1.0**
ARAG	**Araguaiana, MT**	**38.88**	**277**	*eP*	**P**	**15 12 46.4**	**+0.9**
SNDB	**Serra Nova Dou**	**39.95**	**283**	*eP*	**P**	**15 12 55.2**	**+0.7**
AQDB	**Aquidauana**	**40.79**	**268**	*eP*	**P**	**15 13 02.6**	**+1.2**
CPUP	**Villa Florida**	**40.88**	**259**	P	**P**	**15 13 01.4**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=108,slow=8.9,SNR=8.6						
CPUP	**Villa Florida**	**40.88**	**259**	P	**P**	**15 13 01.5**	**-0.7**
CPUP	**Villa Florida**	**40.88**	**259**	*eP*	**P**	**15 13 02.3**	**+0.2**
PP1B	**Ponte de Pedra**	**40.94**	**273**	*eP*	**P**	**15 13 03.9**	**+1.2**
KOWA	**Kowa**	**41.09**	**11**	P	**P**	**15 13 03.1**	**-0.6**
KOWA				IAmb	IAmb	15 13 05.8	
	comp=Z,20nm,0.9s						
TOA0	**Torodi Ar. Sit**	**41.16**	**20**	P	**P**	**15 13 03.9**	**-0.4**
TOA0				IAmb	IAmb	15 13 05.9	
	comp=Z,23nm,1.3s						
TORD	**Torodi Ar. Bea**	**41.16**	**20**	P	**P**	**15 13 03.3**	**-1.0**
	comp=Z,5.1nm,0.7s,baz=195,slow=8.6,SNR=20						
TORD				PcP	**PcP**	**15 15 03.8**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=236,slow=1.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**41.16**	**20**	P	**P**	**15 13 04.1**	**-0.3**
TORD				IAmb	IAmb	15 13 05.9	
	comp=Z,25nm,1.4s						
SALV	**Santo Antonio**	**42.27**	**275**	*eP*	**P**	**15 13 15.0**	**+1.5**
TMAB	**Tom-Au,PA,Br**	**42.32**	**298**	*eP*	**P**	**15 13 15.0**	**+1.1**
TRQA	**Tornquist**	**43.84**	**241**	P	**P**	**15 13 26.0**	**-0.1**
TRQA	**Tornquist**	**43.84**	**241**	*eP*	**P**	**15 13 26.2**

comp=Z,1.6nm,0.5s,baz=115,slow=7.0,SNR=12
VILB Vilhena 47.43 276 *eP* **P 15 13 55.5 +0.8**
ITTB Itaituba 47.48 289 *eP* **P 15 13 55.5 +0.4**
MALB Monte Alegre 47.62 293 *eP* **P 15 13 56.6 +0.4**
PLCA Paso Flores 50.44 238 P **P 15 14 17.8 +0.2**
comp=Z,1.3nm,0.7s,baz=116,slow=9.4,SNR=3.5
PLCA LR LR 15 35 41.6
comp=Z,201nm,18.5s,baz=150,slow=36
PLCA Paso Flores 50.44 238 *eP* **P 15 14 19.4 +1.7**
PMSA Palmer Station 50.89 206 P **P 15 14 19.3 -1.1**
BO02 Sierra Bellavi 51.13 245 P **P 15 14 22.7 -0.2**
BO02 IAmb IAmb 15 14 23.9
comp=Z,13nm,0.9s
BO01 Tunca 51.43 246 P **P 15 14 24.6 -0.5**
BO01 IAmb IAmb 15 14 25.6
comp=Z,11nm,0.8s
MT09 Talagante 51.44 247 P **P 15 14 24.0 -1.4**
MT09 IAmb IAmb 15 14 27.8
comp=Z,15nm,1.0s
GO04 Tololo Observa 51.88 251 P **P 15 14 28.6 -0.2**
GO04 IAmb IAmb 15 14 29.8
comp=Z,22nm,0.9s
GO02 Mina Guanaco 51.93 258 P **P 15 14 29.6 +0.2**
LVC Limon Verde 52.00 261 P **P 15 14 29.9 -0.1**
LVC Limon Verde 52.00 261 *eP* **P 15 14 29.8 -0.1**
PB15 IPOC Station P 52.34 260 P **P 15 14 31.6 -0.6**
PB09 IPOC Station P 52.53 262 P **P 15 14 33.7 0.0**
PB09 IAmb IAmb 15 14 41.4
comp=Z,11nm,1.0s
AC01 Pan de Azucar 52.57 256 P **P 15 14 32.7 -1.0**
PB14 IPOC Station P 52.78 258 P **P 15 14 35.5 -0.2**
PB14 IAmb IAmb 15 15 01.8
comp=Z,26nm,1.3s
PB08 IPOC Station P 52.94 264 P **P 15 14 35.9 -1.1**
PB08 IAmb IAmb 15 14 38.2
comp=Z,17nm,0.9s
PB01 IPOC Station P 52.97 263 P **P 15 14 36.6 -0.2**
PB01 IAmb IAmb 15 14 37.8
comp=Z,16nm,0.9s
PB07 IPOC Station P 53.12 262 P **P 15 14 37.8 -0.2**
PB07 IAmb IAmb 15 14 56.6
comp=Z,22nm,1.1s
PB04 IPOC Station P 53.18 261 P **P 15 14 39.2 +0.8**
LPAZ La Paz 53.30 269 P **P 15 14 38.9 -1.0**
comp=Z,1.2nm,0.7s,baz=82,slow=9.4,SNR=5.5
LPAZ LR LR 15 35 26.5
comp=Z,230nm,21.1s,baz=124,slow=34
LPAZ La Paz 53.30 269 P **P 15 14 40.0 +0.1**
LPAZ La Paz 53.30 269 *eP* **P 15 14 39.3 -0.6**
PB11 IPOC Station P 53.51 264 P **P 15 14 39.8 -1.1**
PB11 IAmb IAmb 15 14 41.5
comp=Z,37nm,1.4s
LODK Lodwar 54.08 64 P **P 15 14 46.5 +1.5**
ETMB Extrema 54.08 277 *eP* **P 15 14 45.2 +0.2**
BOAV Boa Vista 55.17 293 *eP* **P 15 14 53.4 +0.6**
MAW Mawson 60.15 155 LR LR 15 36 55.5
comp=Z,128nm,18.0s,baz=256,slow=32
CZSB Cruzeiro do Su 60.77 276 *eP* **P 15 15 31.4 -0.8**
MORF Marmelete 63.20 3 *eP* **P 15 15 49.0 +1.0**
comp=Z,24nm,1.4s
PVAQ Vaqueiros 63.34 3 *eP* **P 15 15 50.3 +1.4**
comp=Z,28nm,1.6s
PVAQ Vaqueiros 63.34 3 P **P 15 15 49.6 +0.8**
PVAQ IAmb IAmb 15 15 50.6
comp=Z,10nm,0.9s
PCVE Castro Verde 63.56 3 *eP* **P 15 15 51.4 +1.1**
comp=Z,26nm,1.6s
PBEJ Beja 63.96 3 *eP* **P 15 15 53.6 +0.7**
comp=Z,19nm,1.8s
PNCL Nicolau / Gran 64.01 3 *eP* **P 15 15 54.3 +1.0**
comp=Z,27nm,1.7s
QSPA South Pole Qui 64.04 180 P **P 15 15 55.0 +1.6**
QSPA IAmb IAmb 15 16 05.9
comp=Z,18nm,1.3s
PBAR Barrancos 64.15 4 *eP* **P 15 15 54.8 +0.6**
comp=Z,26nm,1.8s
EVO Evora 64.45 3 *eP* **P 15 15 57.4 +1.2**
comp=Z,30nm,1.3s
KEST Kesra 64.66 19 P **P 15 15 57.8 0.0**
comp=Z,3.3nm,0.8s,baz=228,slow=5.1,SNR=6.7
KEST Kesra 64.66 19 P **P 15 15 57.9 +0.2**
KEST IAmb IAmb 15 16 00.7
comp=Z,13nm,1.1s
PESTR Estremoz 64.81 3 *eP* **P 15 16 00.0 +1.5**
comp=Z,29nm,1.4s
PESTR Estremoz 64.81 3 P **P 15 15 57.9 -0.7**
PESTR IAmb IAmb 15 16 60.0
comp=Z,5.8nm,0.9s
ESDC Sonseca Array 65.89 6 P **P 15 16 05.0 -0.5**
comp=Z,1.6nm,0.7s,baz=188,slow=6.5,SNR=13
ESDC Sonseca Array 65.89 6 P **P 15 16 05.2 -0.4**
MTE Manteigas 66.34 3 *eP* **P 15 16 10.3 +1.9**
comp=Z,32nm,2.0s
MTE Manteigas 66.34 3 P **P 15 16 09.0 +0.5**
MTE IAmb IAmb 15 16 10.8
comp=Z,16nm,1.0s
PVIS Viseu 66.64 3 *eP* **P 15 16 10.9 +0.6**
MVO Moncorvo 67.13 4 *eP* **P 15 16 14.0 +0.5**
comp=Z,32nm,1.5s
RUSC La Rusia 67.58 289 P **P 15 16 16.4 -1.1**
FLOC Florencia 67.64 284 P **P 15 16 15.9 -1.4**
FLOC IAmb IAmb 15 16 24.7
comp=Z,13nm,1.2s
PBRG Braganca 67.78 4 *eP* **P 15 16 18.8 +1.2**
STVI Saint Thomas 68.19 305 P **P 15 16 19.7 -0.8**
CUPR Culebra, Puert 68.40 305 P **P 15 16 19.6 -2.3**
MTP Monte Pirata 68.47 304 P **P 15 16 22.6 +0.3**
CBYP Canovanas 68.81 304 P **P 15 16 23.9 -0.6**
CEL Celeste 69.07 23 P **P 15 16 24.2 -1.5**
OTAV Otavalo 69.46 281 *eP* **P 15 16 29.5 +0.3**
MLPR Magueyes Islan 69.51 303 P **P 15 16 27.9 -0.9**
AOPR Arecibo Observ 69.52 304 P **P 15 16 28.0 -0.9**
SANT Santorini 71.33 31 P **P 15 16 39.3 -0.3**
SJCC San Jacinto, C 71.43 291 P **P 15 16 39.9 -0.8**
OSSC Osservatorio P 72.45 17 P **P 15 16 46.0 -0.2**
OSSC IAmb IAmb 15 17 08.5
comp=Z,7.4nm,0.8s
TUE Stuetta 74.75 15 P **P 15 16 57.5 -2.3**
TUE IAmb IAmb 15 17 01.1
comp=Z,13nm,1.4s
ZOU Zoufplan 75.72 17 P **P 15 17 05.7 +0.3**
SBA Scott Base 76.20 180 P **P 15 17 06.5 -1.1**
SBA IAmb IAmb 15 17 16.7
comp=Z,14nm,1.5s
BFO Black Forest 76.28 14 P **P 15 17 08.1 -0.3**
VNDA Vanda 76.47 179 P **P 15 17 10.6 +1.4**
comp=Z,0.9nm,0.7s,baz=219,slow=4.6,SNR=7.6
VNDA LR LR 15 46 45.4
comp=Z,303nm,20.2s,baz=280,slow=32
VNDA Vanda 76.47 179 P **P 15 17 09.1 0.0**
WLF Walferdange 77.13 12 P **P 15 17 13.4 +0.3**
WLF IAmb IAmb 15 17 15.2
comp=Z,10nm,1.0s
ANTO Ankara 77.62 33 P **P 15 17 18.9 +2.7**
ANTO IAmb IAmb 15 17 20.0
comp=Z,14nm,1.1s
GAZ Gaziantep 77.93 38 P **P 15 17 19.8 +1.8**
GAZ IAmb IAmb 15 17 20.6
comp=Z,10nm,0.9s
BR131 Keskin Array S 77.93 34 P **P 15 17 19.4 +1.4**
BR131 IAmb IAmb 15 17 20.3
comp=Z,14nm,1.2s
BRTR Keskin Array B 77.93 34 P **P 15 17 18.8 +0.8**
comp=Z,3.7nm,1.1s,baz=190,slow=4.8,SNR=8.5
BRTR Keskin Array B 77.93 34 P **P 15 17 19.2 +1.3**
GERES GERESS Array B 78.02 17 P **P 15 17 18.0 -0.2**
comp=Z,0.7nm,0.6s,baz=174,slow=2.7,SNR=7.4
GERES GERESS Array B 78.02 17 P **P 15 17 17.4 -0.9**
GRFO Grafenberg 78.20 15 P **P 15 17 19.4 +0.4**
GRFO IAmb IAmb 15 17 20.0
comp=Z,9.3nm,1.0s
GRA1 Grafenberg Arr 78.20 15 P **P 15 17 18.5 -0.6**
GRA1 IAmb IAmb 15 17 20.0
comp=Z,9.2nm,1.0s
KHC Kasperske Hory 78.25 17 P **P 15 17 19.3 -0.1**
KRUC Moravsky 78.95 18 *eP* **P 15 17 23.2 0.0**
ILGA Ilgaz 78.97 33 P **P 15 17 25.4 +1.6**
ILGA IAmb IAmb 15 17 26.9
comp=Z,19nm,1.2s
PSZ Piszkesteto 78.99 21 P **P 15 17 23.7 +0.1**
PSZ IAmb IAmb 15 17 25.6
comp=Z,15nm,1.3s
MLR Muntele Rosu 79.07 26 P **P 15 17 23.7 -0.4**
MLR IAmb IAmb 15 17 26.0
comp=Z,17nm,1.1s

JAVC Velka Javorina 79.14 19 *eP* **P 15 17 25.5 +1.2**
TIRR Tirgusor 79.22 28 P **P 15 17 26.1 +1.3**
VRAC Vranov 79.23 18 *eP* **P 15 17 24.4 -0.3**
MORC Moravsky Berou 79.92 19 P **P 15 17 28.8 +0.2**
MORC Moravsky Berou 79.92 19 *eP* **P 15 17 28.8 +0.2**
MARD Mardin 80.04 40 P **P 15 17 30.8 +1.2**
CLL Collm 80.12 15 *eP* **P 15 17 29.0 -0.5**
comp=Z,29nm,2.1s
CLL *e* 15 17 41.0
CLL *e* 15 17 50.0
CLL *eP* **PP 15 20 33.0 +0.8**
KWP Kalwaria Pacla 81.40 22 P **P 15 17 37.1 +0.7**
GURO Guroymak-BITLI 81.61 40 P **P 15 17 40.6 +2.6**
GURO IAmb IAmb 15 17 42.6
comp=Z,13nm,1.1s
KOPT Kop Dagi 81.76 38 P **P 15 17 41.0 +2.1**
GEVA Gevas 82.04 40 P **P 15 17 42.6 +2.3**
GEVA IAmb IAmb 15 17 43.8
comp=Z,10nm,1.1s
AKASG Malin Array Be 84.60 25 P **P 15 17 52.9 0.0**
comp=Z,2.3nm,0.6s,baz=222,slow=5.0,SNR=12
AKASG Malin Array Be 84.60 25 P **P 15 17 52.6 -0.4**
AKASG IAmb IAmb 15 17 54.1
comp=Z,10.0nm,1.4s
AKBB Malin Array Si 84.60 25 P **P 15 17 53.8 +0.9**
AKBB IAmb IAmb 15 17 56.6
comp=Z,6.2nm,1.1s
KVAR Kislovodsk Arr 85.66 36 LR LR 15 55 29.2
comp=Z,207nm,21.4s,baz=251,slow=35
NB2 NORSAR Subarra 88.85 11 P **P 15 18 15.2 +1.7**
comp=Z,5.2nm,0.9s,baz=200,slow=4.6
NOA NORSAR Array B 88.85 11 P **P 15 18 15.0 +1.5**
comp=Z,0.8nm,0.6s,baz=198,slow=4.5,SNR=5.5
D62A Allapoint, All 89.44 325 P **P 15 18 16.0 -0.6**
D62A IAmb IAmb 15 18 17.5
comp=Z,8.9nm,0.9s
FINES FINESS Array B 92.45 17 P **P 15 18 30.2 0.0**
comp=Z,1.6nm,0.7s,baz=174,slow=3.6,SNR=6.0
BELG Belogornoye 93.70 32 LR LR 16 01 55.0
comp=Z,236nm,18.4s,baz=138,slow=36
TXAR Lajitas Array 104.05 296 PP **PP 15 23 35.2 -6.3**
comp=Z,0.4nm,0.9s,baz=120,slow=7.4,SNR=4.0
TXAR Lajitas Array 104.05 296 PKiKP 15 23 38.6 -2.3
ASAR Alice Springs 120.23 143 PKPdf 15 24 11.6 -0.2
WRA Warramunga Arr 123.45 141 PKPdf 15 24 16.6 -1.3
comp=Z,0.3nm,0.6s,baz=239,slow=2.2,SNR=6.1
WRA Warramunga Arr 123.45 141 PKPdf 15 24 16.1 -1.9
WRAB Tennant Creek 123.46 141 PKPdf 15 24 15.5 -2.5
SONM Songino Array 127.44 49 PKP **PKPdf 15 24 24.9 +0.1**
comp=Z,0.4nm,0.5s,baz=317,slow=6.1,SNR=2.1
SONM Songino Array 127.44 49 PKPdf 15 24 24.4 -0.4
XAN Xi'an 128.53 66 PKP **PKPdf 15 24 24.0 -3.2**
XAN LR LR
comp=N,160nm,17.3s
XAN LR LR
comp=E,150nm,19.5s
XAN LR LR
comp=Z,180nm,19.5s
BCAR Beaver Creek A 130.91 333 PKPdf 15 24 31.1 +0.2
L27K Beaver Creek, 130.93 333 PKPdf 15 24 31.2 +0.4
ILAR Eielson Array 132.09 336 PKP **PKPdf 15 24 32.9 -0.1**
comp=Z,0.8nm,0.7s,baz=346,slow=0.9,SNR=11
USRK Ussuriysk Ar. 145.55 49 PKPbc **PKPab 15 24 58.5 0.0**
comp=Z,2.3nm,0.8s,baz=333,slow=1.9,SNR=3.5
PETK Petropavlovsk- 151.92 14 PKPbc **PKPbc 15 25 14.2 -0.4**
comp=Z,3.5nm,1.0s,baz=270,slow=1.0,SNR=4.1
PETK Petropavlovsk- 151.92 14 PKPdf 15 25 10.3 +2.2
MJAR Matsushiro Arr 152.29 61 PKPbc **PKPbc 15 25 15.7 -0.3**
comp=Z,1.2nm,0.6s,baz=274,slow=2.1,SNR=2.9

*IDC **01** 15:27:22.1±5.9, 22°.87S×67°.26W, h0km, mb3.8/1, mb1 4.0/2, mb1mx3.6/19, mbtmp3.9/2, ML4.1/1, Error ellipse: s-maj=185.1km s-min=53.5km az=61.0*
*GUC **01** 15:27:49.3±0.7, 21°.08S×67°.68W, h204km±8km, ML3.6*
ISC 01 15:27:48.3±1.3, 21°.07S±0°.05×67°.8W±0°.2, h214km±15km, n17, σ0°67/31, 7C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.58**	**305**	↓↓*iP*	**Pn**	**15 28 24.7**	**+0.3**
PB08				*i* S	**S**	**15 28 52.1**	**-0.2**
PB01	**IPOC Station P**	**1.59**	**271**	↓↓*iP*	**Pn**	**15 28 24.2**	**0.0**
PB01				*i* S	**S**	**15 28 51.3**	**-0.5**
PB01				IAML		15 28 55.4	
comp=E,200nm,0.1s							
PB07	**IPOC Station P**	**2.07**	**251**	↓↓*iP*	**Pn**	**15 28 29.3**	**+0.6**
PB07				*i* S	**S**	**15 28 59.7**	**-0.2**
PB07				IAML		15 29 00.8	
comp=E,327nm,0.3s							
HMBC	**Humberstone**	**2.12**	**291**	↓↓*iP*	**Pn**	**15 28 29.3**	**+0.1**
HMBC				*i* S	**S**	**15 29 00.2**	**-0.6**
HMBC				IAML		15 29 02.8	
comp=N,184nm,0.6s							
PB11	**IPOC Station P**	**2.18**	**306**	↑↑*iP*	**Pn**	**15 28 30.3**	**+0.4**
PB11				*i* S	**S**	**15 29 01.6**	**-0.5**
PB11				IAML		15 29 04.9	
comp=N,324nm,0.3s							
TA01	**Diego Aracena**	**2.30**	**282**	*eP*	**Pn**	**15 28 31.2**	**+0.4**
TA01				*e*S	**S**	**15 29 03.3**	**-0.5**
TA01				IAML		15 29 06.1	
comp=E,188nm,0.2s							
PB06	**IPOC Station P**	**2.33**	**225**	↑↑*iP*	**Pn**	**15 28 31.8**	**+0.4**
PB06				*i* S	**S**	**15 29 04.7**	**-0.1**
PB06				IAML		15 29 06.3	
comp=N,166nm,0.2s							
PB04	**IPOC Station P**	**2.54**	**240**	↑↑*iP*	**Pn**	**15 28 34.4**	**+0.8**
PB04				*i* S	**S**	**15 29 08.4**	**-0.3**
PB04				IAML		15 29 12.0	
comp=N,113nm,0.1s							
MNMC	**Minye Minye**	**2.57**	**318**	↑↑*iP*	**Pn**	**15 28 35.0**	**+0.8**
MNMC				*i* S	**S**	**15 29 10.2**	**+0.5**
PSGC	**Pisagua**	**2.64**	**303**	↑↑*iP*	**Pn**	**15 28 34.8**	**+0.1**
PSGC				*i* S	**S**	**15 29 09.8**	**-0.9**
PSGC				IAML		15 29 11.7	
comp=E,99nm,0.2s							
PB15	**IPOC Station P**	**2.64**	**216**	↓↓*iP*	**Pn**	**15 28 35.4**	**+0.5**
PB15				*i* S	**S**	**15 29 11.2**	**+0.1**
PB05	**IPOC Station P**	**2.86**	**231**	↑↑*iP*	**Pn**	**15 28 38.1**	**+0.9**
PB05				*i* S	**S**	**15 29 14.6**	**-0.6**
PB05				IAML		15 29 16.9	
comp=E,94nm,0.3s							
PB14	**IPOC Station P**	**4.29**	**214**	*eP*	**Pn**	**15 28 55.9**	**+1.4**
PB14				*i* S	**S**	**15 29 45.7**	**-0.6**
PB14				IAML		15 29 48.6	
comp=E,22nm,0.3s							
GO02	**Mina Guanaco**	**4.40**	**202**	↑↑*iP*	**Pn**	**15 28 55.8**	**0.0**
GO02				*i* S	**S**	**15 29 47.2**	**-1.7**
LPAZ	**La Paz**	**4.76**	**356**	Pn	**Pn**	**15 29 01.0**	**+0.2**
comp=E,1.8nm,0.3s,baz=177,slow=7.6,SNR=34							
TORD	**Torodi Ar. Bea**	**76.22**	**70**	P	**P**	**15 39 13.9**	**+0.3**
comp=E,0.3nm,0.4s,baz=249,slow=5.2,SNR=2.1							
MKAR	**Makanchi Array**	**144.67**	**36**	PKPbc	**PKiKP**	**15 47 02.3**	**-0.8**
comp=E,0.3nm,0.4s,baz=326,slow=3.6,SNR=5.7							

*IDC **01** 15:34:41.9±0.8, 32°.00S×178°.10W, h0km, mb4.2/7, mb1 4.5/9, mb1mx4.2/35, mbtmp4.3/9, ML4.3/2, MS4.0/4, Ms1 4.0/4, ms1mx3.4/31, Error ellipse: s-maj=26.8km s-min=19.2km az=117.0*
*NEIC **01** 15:34:44.0±1.7, 31°.96S±0°.08×177°.9W±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=21.7km s-min=11.8km az=107.0*
ISC 01 15:34:44.6±0.5, 32°.21S±0°.05×177°.8W±0°.1, h24km, n91, σ2°20/98, mb4.7/15, MS4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.94**	**358**	P	Pn	15 35 24.6	-5.2
GLKZ				S	**Sn**	**15 35 58.9**	**-5.4**
RAO	**Raoul Island**	**2.95**	**358**	Pn	**Pn**	**15 35 27.3**	**-2.6**
99nm,0.3s,baz=43,slow=15,SNR=7.0							
RAO				Sn	**Sn**	**15 36 03.1**	**-1.5**
202nm,0.3s,baz=150,slow=20,SNR=4.3							
RAO	**Raoul Island**	**2.95**	**358**		**Pn**	**15 35 27.5**	**-2.5**
RIZ	**Raoul Island**	**2.96**	**357**	P	Pn	**15 35 28.0**	**-2.1**
MXZ	**Matakaoa Point**	**6.24**	**210**	P	Pn	15 36 11.0	-4.1
MXZ				S	**Sn**	**15 37 23.4**	**-2.2**
WMGZ	**Waiomatatini S**	**6.41**	**208**	P	**Pn**	**15 36 15.2**	**-2.3**
WMGZ				S	**Sn**	**15 37 27.1**	**-2.8**
PKGZ	**Pakihiroa**	**6.61**	**210**	P	**Pn**	**15 36 17.3**	**-3.0**
PKGZ				S	**Sn**	**15 37 31.7**	**-3.1**
HAZ	**Te Kaha**	**6.63**	**212**	P	**Pn**	**15 36 17.3**	**-3.1**
HAZ				S	**Sn**	**15 37 33.4**	**-1.8**
PUZ	**Puketiti**	**6.69**	**208**	P	**Pn**	**15 36 17.9**	**-3.5**
PUZ				S	**Sn**	**15 37 35.2**	**-1.6**
RUGZ	**Raukumara Rang**	**6.84**	**212**	P	**Pn**	**15 36 20.2**	**-3.4**
RUGZ				S	**Sn**	**15 37 40.6**	**-0.2**
TWGZ	**Tauwhareparae**	**6.89**	**209**	P	**Pn**	**15 36 20.9**	**-3.3**
TWGZ				S	**Sn**	**15 37 40.8**	**-1.1**
KUZ	**Kuaotunu**	**7.02**	**228**	P	**Pn**	**15 36 28.6**	**+2.7**
CNGZ	**Carnagh Statio**	**7.07**	**207**	P	**Pn**	**15 36 22.7**	**-3.8**
CNGZ				S	**Sn**	**15 37 43.8**	**-2.3**
TKGZ	**Te Karaka**	**7.17**	**209**	P	**Pn**	**15 36 25.7**	**-2.2**
TKGZ				S	**Sn**	**15 37 47.8**	**-0.8**
MWZ	**Matawai**	**7.22**	**211**	P	**Pn**	**15 36 25.8**	**-2.8**
MWZ				S	**Sn**	**15 37 48.9**	**-1.0**
URZ	**Urewera**	**7.34**	**213**	Pn	**Pn**	**15 36 30.2**	**-0.1**
2.2nm,0.3s,baz=93,slow=16,SNR=11							
URZ				Sn	**Sn**	**15 37 52.0**	**-0.9**
27nm,0.3s,baz=225,slow=23,SNR=16							
URZ	**Urewera**	**7.34**	**213**	P	**Pn**	**15 36 27.2**	**-3.1**
URZ				S	**Sn**	**15 37 50.8**	**-2.0**
RAGZ	**Rawiri**	**7.40**	**211**	P	**Pn**	**15 36 28.0**	**-3.2**
RAGZ				S	**Sn**	**15 37 52.1**	**-2.3**
RIGZ	**Rimuhau**	**7.43**	**208**	P	**Pn**	**15 36 29.3**	**-2.3**
RIGZ				S	**Sn**	**15 37 54.7**	**-0.5**
WCZ	**Waipu Caves**	**7.52**	**238**	P	**Pn**	**15 36 33.2**	**+0.4**
MUGZ	**Murupara**	**7.68**	**214**	P	**Pn**	**15 36 32.1**	**-2.8**
MUGZ				P	**Sn**	**15 37 58.3**	**-2.9**
RTZ	**Ruatahuna**	**7.69**	**212**	P	Pn	15 36 31.0	-4.2
RTZ				P	**Sn**	**15 38 00.7**	**-0.9**
MHGZ	**Mahia Peninsul**	**7.77**	**206**	P	Pn	15 36 27.8	-8.4
MHGZ				P	**Sn**	**15 37 57.6**	**-5.7**
OUZ	**Omahuta**	**7.79**	**245**	Pn	**Pn**	**15 36 40.0**	**+3.5**
OUZ	**Omahuta**	**7.79**	**245**	P	**Pn**	**15 36 39.0**	**+2.6**
BKZ	**Black Stump Fm**	**8.36**	**212**	P	Pn	15 36 39.9	-4.4
BKZ				S	**Sn**	**15 38 16.0**	**-1.9**
PXZ	**Pawanui**	**8.93**	**208**	S	**Sn**	**15 38 24.4**	**-7.4**
KHZ	**Kahutara**	**12.30**	**212**	Pn	**Pn**	**15 37 38.5**	**+0.2**
RPZ	**Rata Peaks**	**14.46**	**214**	Pn	**Pn**	**15 38 04.7**	**-3.1**
ODZ	**Otahua Downs**	**15.66**	**212**	Pn	**Pn**	**15 38 21.3**	**-2.4**
ODZ				IAmb	IAmb	15 38 39.5	
comp=Z,30nm,1.3s							
DZM	**Mont Dzumac**	**17.28**	**302**	LR	LR	15 44 07.0	
comp=Z,653nm,18.5s,baz=133,slow=33							
WHZ	**Wether Hill Ro**	**17.56**	**215**	Pn	**Pn**	**15 38 46.6**	**-1.1**
EIDS	**Eidsvold**	**28.06**	**276**	P	**P**	**15 40 33.0**	**-1.3**
EIDS				IAmb	IAmb	15 40 52.8	
comp=Z,18nm,1.3s							
PPT	**Papeete**	**29.33**	**67**	LR	LR	15 50 12.8	
comp=Z,146nm,19.3s,baz=296,slow=32							
STKA	**Stephens Creek**	**34.30**	**259**	P	**P**	**15 41 28.6**	**-0.5**
comp=Z,3.3nm,0.7s,baz=106,slow=10,SNR=8.7							
STKA	**Stephens Creek**	**34.30**	**259**	P	**P**	**15 41 30.5**	**+1.3**
CTAO	**Charters Tower**	**34.31**	**282**	P	**P**	**15 41 30.5**	**+1.1**
BBOO	**Buckleboo**	**38.69**	**256**	P	**P**	**15 42 06.1**	**-0.5**
BBOO				IAmb	IAmb	15 42 21.7	
comp=Z,34nm,1.4s							
AS31	**Alice Springs**	**43.23**	**269**	P	**P**	**15 42 43.5**	**-0.7**
ASAR	**Alice Springs**	**43.23**	**269**	P	**P**	**15 42 42.5**	**-1.7**
comp=Z,2.9nm,0.5s,baz=105,slow=7.6,SNR=21							
ASAR	**Alice Springs**	**43.23**	**269**	P	**P**	**15 42 43.9**	**-0.3**
WR0	**Warramunga Arr**	**44.20**	**274**	P	**P**	**15 42 51.1**	**-0.9**
WR0				IAmb	IAmb	15 42 52.3	
comp=Z,11nm,1.0s							
WB2	**Warramunga Arr**	**44.37**	**274**	P	**P**	**15 42 52.3**	**-1.0**
WB2				IAmb	IAmb	15 42 59.0	
comp=Z,29nm,1.3s							
WRA	**Warramunga Arr**	**44.38**	**274**	P	**P**	**15 42 52.4**	**-1.1**
comp=Z,6.0nm,0.5s,baz=112,slow=7.9,SNR=60							
WRA	**Warramunga Arr**	**44.38**	**274**	P	**P**	**15 42 52.1**	**-1.4**
WB0	**Warramunga Arr**	**44.41**	**274**	P	**P**	**15 42 52.7**	**-0.9**
WB0				IAmb	IAmb	15 42 53.9	
comp=Z,16nm,0.9s							
FORT	**Forrest**	**45.79**	**257**	P	**P**	**15 43 03.9**	**-0.6**
VNDA	**Vanda**	**46.32**	**186**	P	**P**	**15 43 11.6**	**+3.6**
comp=Z,0.4nm,0.6s,baz=10,slow=6.7,SNR=6.7							
VNDA	**Vanda**	**46.32**	**186**	P	**P**	**15 43 12.4**	**+4.4**
VNDA				IAmb	IAmb	15 43 26.8	
comp=Z,4.6nm,1.4s							
MTN	**Manton Dam**	**50.47**	**280**	P	**P**	**15 43 40.3**	**-0.5**
KNRA	**Kununurra**	**51.05**	**276**	P	**P**	**15 43 44.6**	**-0.6**
KNRA				IAmb	IAmb	15 43 56.7	
comp=Z,11nm,1.0s							
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**15 43 54.6**	**-1.9**
comp=Z,4.5nm,0.9s,baz=168,slow=6.6,SNR=6.4							
FITZ	**Fitzroy Crossi**	**52.57**	**271**	P	**P**	**15 43 56.1**	**-0.4**
FITZ				IAmb	IAmb	15 44 09.7	
comp=Z,13nm,1.4s							
CASY	**Casey**	**53.64**	**208**	P	**P**	**15 44 05.5**	**+1.8**
CASY				IAmb	IAmb	15 44 06.8	
comp=Z,14nm,1.1s							
QSPA	**South Pole Qui**	**57.91**	**180**	P	**P**	**15 44 37.8**	**+3.3**
BATI	**Baumata**	**58.09**	**278**	LR	LR	16 09 24.4	
comp=Z,174nm,18.3s,baz=144,slow=36							
LEM	**Lembang**	**73.38**	**272**	LR	LR	16 17 27.2	
comp=Z,74nm,19.8s,baz=196,slow=35							
SNAA	**Sanae**	**76.35**	**178**	P	**P**	**15 46 34.2**	**+2.9**
SNAA	**Sanae**	**76.35**	**178**	P	**P**	**15 46 34.0**	**+2.7**
SNAA				IAmb	IAmb	15 46 55.5	
comp=Z,18nm,1.3s							
VNA3	**Neumayer Olymp**	**76.49**	**176**	P	**P**	**15 46 33.8**	**+1.7**
VNA2	**Neumayer--Watz**	**76.93**	**177**	P	**P**	**15 46 36.6**	**+2.1**
baz=172,slow=4.8							
VNA1	**Neumayer--Stat**	**77.16**	**176**	P	**P**	**15 46 38.0**	**+2.2**
H03S2	**Juan Fernandez**	**79.31**	**123**	T	T	17 14 05.5	
baz=237							
H03S1	**Juan Fernandez**	**79.33**	**123**	T	T	17 14 20.8	
baz=237							
H03S3	**Juan Fernandez**	**79.33**	**123**	T	T	17 14 04.7	
baz=237							
USRK	**Ussuriysk Ar.**	**88.77**	**326**	P	**P**	**15 47 36.5**	**+0.5**
comp=Z,1.3nm,0.5s,baz=130,slow=13,SNR=2.7							
USRK	**Ussuriysk Ar.**	**88.77**	**326**	P	**P**	**15 47 36.2**	**+0.2**
NVAR	**Mina Array Bea**	**89.44**	**43**	P	**P**	**15 47 41.1**	**+1.5**
comp=Z,0.6nm,0.7s,baz=222,slow=7.5,SNR=5.2							
NVAR	**Mina Array Bea**	**89.44**	**43**	P	**P**	**15 47 40.9**	**+1.2**
MKAR	**Makanchi Array**	**119.07**	**309**	PKP	**PKiKP**	**15 53 31.1**	**-0.1**
comp=Z,0.5nm,0.9s,baz=48,slow=2.1,SNR=3.7							
MKAR	**Makanchi Array**	**119.07**	**309**		**PKiKP**	**15 53 31.5**	**+0.3**
KURK	**Kurchatov**	**122.42**	**313**		**PKiKP**	**15 53 37.3**	**-0.2**
KURBB	**Kurchatov Arra**	**122.46**	**313**	PKP	**PKiKP**	**15 53 37.3**	**-0.3**
comp=Z,0.8nm,0.6s,baz=113,slow=1.6,SNR=7.2							
BVAR	**Borovoye Array**	**127.82**	**315**	PKP	**PKPdf**	**15 53 47.5**	**-0.1**
comp=Z,0.3nm,0.4s,baz=11,slow=10,SNR=5.4							
ARCES	**ARCESS Array B**	**140.39**	**347**	PKP	**PKPdf**	**15 54 10.2**	**-0.5**
comp=Z,1.6nm,0.9s,baz=33,slow=2.9,SNR=3.8							
ARCES	**ARCESS Array B**	**140.39**	**347**		PKPpre	15 54 05.7	
BELG	**Belogornoye**	**141.62**	**315**	PKP	**PKiKP**	**15 54 15.8**	**-0.4**
comp=Z,10.0nm,0.8s,baz=74,slow=4.1,SNR=4.2							
KBZ	**Khabaz**	**146.25**	**302**	PKPbc	**PKPab**	**15 54 23.1**	**-0.5**
comp=Z,8.9nm,1.1s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.32**	**177**	‖ *iP*	**Pn**	**15 35 46.7**	**+0.5**
MSLP				*i* S	Sn	15 36 01.3	-13
JCNP	**Jose Panganiba**	**2.69**	**313**	⇑ *eP*	**Pn**	**15 35 50.8**	**-0.3**
JCNP				*i* S	Sn	15 36 08.1	-15
CVP	**Callao Caves**	**5.92**	**332**	‖ *eP*	**Pn**	**15 36 35.2**	**+0.5**
APYP	**Conner**	**6.34**	**328**	‖ *iP*	**Pn**	**15 36 40.5**	**+0.1**
APYP				*i* S	Sn	15 37 22.0	-29
CMAR	**Chiang Mai Arr**	**25.55**	**287**	P	**P**	**15 40 29.1**	**-0.1**
	0.5nm,0.5s,baz=96,slow=7.2,SNR=4.3						
WRA	**Warramunga Arr**	**33.56**	**164**	P	**P**	**15 41 39.1**	**-1.0**
	0.1nm,0.3s,baz=344,slow=8.9,SNR=1.9						
ASAR	**Alice Springs**	**37.01**	**166**	P	**P**	**15 42 09.4**	**-0.2**
	0.5nm,0.4s,baz=348,slow=7.4,SNR=15						
H11N1	**WAKE ISLAND Hy**	**41.05**	**74**	T	T	16 26 05.2	
	baz=266,slow=75,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**41.06**	**74**	T	T	16 26 05.5	
	baz=266,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**41.07**	**74**	T	T	16 26 09.8	
	baz=266,slow=75,SNR=7.2						
MKAR	**Makanchi Array**	**49.38**	**322**	P	**P**	**15 43 50.1**	**+1.2**
	0.5nm,0.7s,baz=108,slow=8.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**51.99**	**331**	P	**P**	**15 44 07.9**	**-0.5**
	0.5nm,0.4s,baz=142,slow=11,SNR=1.6						

IDC 01 15:37:22.9±4.0, 7°99S×152°61E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/42, mbtmp3.6/5, ML1.7/1, Error ellipse: s-maj=98.3km s-min=40.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.57**	**255**	Pn	Pn	15 38 48.3	+1.2
	1.6nm,0.3s,baz=89,slow=4.1,SNR=6.3						
PMG				Sn	Sb	15 40 01.0	-7.6
	1.3nm,0.3s,baz=117,slow=14,SNR=1.7						
WRA	**Warramunga Arr**	**21.32**	**234**	P	P	15 42 10.1	-1.6
	0.9nm,0.6s,baz=53,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**23.76**	**227**	P	P	15 42 36.7	-0.6
	1.2nm,0.9s,baz=58,slow=9.2,SNR=8.8						
FITZ	**Fitzroy Crossi**	**28.09**	**246**	P	P	15 43 17.8	+1.1
	2.0nm,0.7s,baz=83,slow=7.7,SNR=6.1						
MKAR	**Makanchi Array**	**82.60**	**319**	P	P	15 49 48.2	+0.1
	0.5nm,1.0s,baz=106,slow=4.7,SNR=2.6						

*IDC **01** 15:51:14.7±0.9, 35°60N×34°45W, h0km, mb3.9/20, mb1 4.1/20, mb1mx3.9/61, mbtmp3.9/20, Error ellipse: s-maj=26.7km s-min=16.0km az=169.0*
*NEIC **01** 15:51:17.4±1.6, 35°68N±0°07×34°4W±0°1, h10km±1km, mb4.3/13, Error ellipse: s-maj=20.8km s-min=7.2km az=300.0*

ISC 01 15:51:17.7±0.7, 35°6N±0°2×34°45W±0°08, h17km, n50, σ0°92/47, mb4.0/25, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**7.48**	**71**	Pn	**Pn**	**15 53 06.9**	**+0.8**
ESDC	**Sonseca Array**	**24.42**	**71**	P	**P**	**15 56 34.5**	**-0.9**
	0.8nm,0.9s,baz=263,slow=8.9,SNR=2.8						
ESDC	**Sonseca Array**	**24.42**	**71**	P	**P**	**15 56 34.6**	**-0.7**
LMN	**Caledonia Moun**	**25.04**	**303**	P	**P**	**15 56 41.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**29.11**	**38**	P	**P**	**15 57 16.6**	**-0.8**
	2.0nm,0.8s,baz=247,slow=7.3,SNR=4.0						
CLL	**Collm**	**37.14**	**50**	*eP*	**P**	**15 58 27.0**	**-0.3**
GERES	**GERESS Array B**	**37.41**	**54**	P	**P**	**15 58 29.6**	**-0.1**
	0.5nm,0.5s,baz=281,slow=9.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**39.47**	**115**	P	**P**	**15 58 47.6**	**+0.3**
	0.3nm,0.5s,baz=335,slow=6.4,SNR=2.5						
FINES	**FINESS Array B**	**45.49**	**36**	P	**P**	**15 59 35.4**	**-0.3**
	1.7nm,0.7s,baz=176,slow=5.2,SNR=5.2						
FINES	**FINESS Array B**	**45.49**	**36**	P	**P**	**15 59 35.8**	**+0.1**
MGMO	**Mountain Grove**	**45.94**	**290**	P	**P**	**15 59 40.2**	**+0.5**
ARCES	**ARCESS Array B**	**46.67**	**25**	P	**P**	**15 59 44.0**	**-1.0**
	1.1nm,0.7s,baz=246,slow=9.1,SNR=5.3						
ARCES	**ARCESS Array B**	**46.67**	**25**	P	**P**	**15 59 45.4**	**+0.4**
H10N2	**ASCENSION HYDR**	**47.13**	**153**	T	T	16 50 19.6	
	baz=344						
H10N3	**ASCENSION HYDR**	**47.13**	**153**	T	T	16 50 27.4	
	baz=344						
H10N1	**ASCENSION HYDR**	**47.15**	**153**	T	T	16 50 18.7	
	baz=344						
AKASG	**Malin Array Be**	**47.37**	**51**	P	**P**	**15 59 50.3**	**-0.4**
	2.9nm,0.7s,baz=274,slow=7.4,SNR=9.4						
AKASG	**Malin Array Be**	**47.37**	**51**	P	**P**	**15 59 50.4**	**-0.2**
AKBB	**Malin Array Si**	**47.37**	**51**	P	**P**	**15 59 52.1**	**+1.5**
AKBB				IAmb	IAmb	15 59 53.3	
	comp=Z,3.2nm,0.9s						
YKA	**Yellowknife Ar**	**54.68**	**326**	P	**P**	**16 00 45.2**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=84,slow=7.4,SNR=3.0						
PDAR	**Pinedale Array**	**56.88**	**302**	P	**P**	**16 01 02.9**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=66,slow=5.0,SNR=3.2						
PDAR	**Pinedale Array**	**56.88**	**302**	P	**P**	**16 01 04.5**	**+2.6**
QLMT	**Earthquake Lak**	**57.45**	**305**	P	**P**	**16 01 07.2**	**+1.3**
TXAR	**Lajitas Array**	**57.66**	**285**	P	**P**	**16 01 05.3**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=66,slow=9.0,SNR=3.5						
KBZ	**Khabaz**	**58.08**	**56**	P	**P**	**16 01 11.2**	**+1.2**
	comp=Z,4.5nm,0.9s,baz=334,slow=4.7,SNR=5.3						
BELG	**Belogornoye**	**58.20**	**46**	P	**P**	**16 01 10.2**	**-0.4**
	comp=Z,10nm,0.9s,baz=351,slow=4.8,SNR=3.9						
INK	**Inuvik**	**60.63**	**335**	P	**P**	**16 01 26.0**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=30,slow=7.8,SNR=5.0						
INK	**Inuvik**	**60.63**	**335**	P	**P**	**16 01 26.3**	**-0.8**
INK				IAmb	IAmb	16 01 32.9	
	comp=Z,3.1nm,1.1s						
LPAZ	**La Paz**	**60.69**	**218**	P	**P**	**16 01 27.8**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=47,slow=3.1,SNR=4.8						
LPAZ	**La Paz**	**60.69**	**218**	P	**P**	**16 01 29.6**	**+0.7**
LPAZ				IAmb	IAmb	16 01 40.2	
	comp=Z,4.3nm,1.4s						
KVN	**Kaiserville**	**64.28**	**301**	P	**P**	**16 01 52.1**	**-0.3**
KVN				IAmb	IAmb	16 01 57.8	
	comp=Z,4.4nm,1.1s						
NVAR	**Mina Array Bea**	**64.70**	**300**	P	**P**	**16 01 56.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=94,slow=3.9,SNR=5.1						
AKTO	**Aktyubinsk**	**64.96**	**45**	P	**P**	**16 01 56.5**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=296,slow=6.3,SNR=14						
BCAR	**Beaver Creek A**	**66.07**	**332**	P	**P**	**16 02 05.6**	**+2.2**
ABKAR	**Akbulak array**	**66.60**	**45**	P	**P**	**16 02 07.0**	**+0.1**
ABKAR				IAmb	IAmb	16 02 07.7	
	comp=Z,1.8nm,1.1s						
ILAR	**Eielson Array**	**67.01**	**335**	P	**P**	**16 02 10.2**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=99,slow=5.6,SNR=2.7						
ILAR	**Eielson Array**	**67.01**	**335**	P	**P**	**16 02 09.7**	**+0.4**
BRVK	**Borovoye**	**70.30**	**38**	P	**P**	**16 02 30.3**	**+0.3**
BRVK				IAmb	IAmb	16 02 31.2	
	comp=Z,2.3nm,1.0s						
KURK	**Kurchatov**	**75.84**	**37**	P	**P**	**16 03 02.4**	**-0.4**
KURBB	**Kurchatov Arra**	**75.86**	**37**	P	**P**	**16 03 02.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=313,slow=5.5,SNR=15						
KK31	**Karatay Array**	**76.07**	**47**	P	**P**	**16 03 04.0**	**-0.3**
KK31				IAmb	IAmb	16 03 16.5	
	comp=Z,1.5nm,1.1s						
KKAR	**Karatay Array**	**76.07**	**47**	P	**P**	**16 03 03.6**	**-0.7**
ZALV	**Zalesovo Beam**	**76.58**	**32**	P	**P**	**16 03 07.0**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=302,slow=8.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**76.58**	**32**	P	**P**	**16 03 06.6**	**-0.3**
MK31	**Makanchi Array**	**80.25**	**39**	P	**P**	**16 03 26.8**	**-0.6**
MKAR	**Makanchi Array**	**80.25**	**39**	P	**P**	**16 03 27.2**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=318,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**80.25**	**39**	P	**P**	**16 03 26.7**	**-0.7**
WRA	**Warramunga Arr**	**161.53**	**35**	PKPab	**PKPab**	**16 12 01.7**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=342,slow=4.7,SNR=3.0						
ASAR	**Alice Springs**	**164.39**	**43**	PKPab	**PKPab**	**16 12 14.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=302,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**164.39**	**43**		**PKPab**	**16 12 15.3**	**+0.3**

*IDC **01** 16:05:09.8±0.9, 4°73N×123°97E, h483km±10km, mb3.3/8, mb1 3.4/11, mb1mx3.0/48, mbtmp4.3/11, Error ellipse: s-maj=29.1km s-min=9.3km az=80.0*
*NEIC **01** 16:05:10.0±1.6, 4°7N±0°1×123°9E±0°2, h477km±10km, mb4.1/19, Error ellipse: s-maj=23.9km s-min=15.4km az=83.0*

ISC 01 16:05:09.5±0.5, 4°75N±0°06×123°9E±0°1, h477km, n40, σ0°95/46, mb4.0/16, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.56**	**29**	⇑ *eP*	**P**	**16 06 14.6**	**-1.2**
KCP				*i* S	**S**	**16 07 10.3**	**+0.7**
DAV	**Davao City (W)**	**2.88**	**37**	P	**P**	**16 06 16.7**	**-1.1**
	69nm,0.3s,baz=255,slow=6.2,SNR=3.0						
DAV				S	**S**	**16 07 14.7**	**+1.4**
	29nm,0.3s,baz=104,slow=22,SNR=3.9						
DAV	**Davao City (W)**	**2.88**	**37**	P	**P**	**16 06 17.3**	**-0.5**
BUKP	**Musuan**	**3.34**	**21**	‖ *eP*	**P**	**16 06 21.0**	**-0.2**
BUKP				*i* S	**S**	**16 07 16.6**	**-2.8**
TOLI2	**Tolitoli**	**4.74**	**220**	P	**P**	**16 06 31.7**	**-1.2**
LUWI	**Luwuk**	**5.85**	**191**	P	**P**	**16 06 43.5**	**0.0**
KAPI	**Kappang**	**10.53**	**203**	P	**P**	**16 07 34.2**	**+1.8**
	1.8nm,0.3s,baz=24,slow=10,SNR=10						
BATI	**Baumata**	**14.86**	**181**	P	**P**	**16 08 18.4**	**-0.3**
	4.4nm,0.3s,baz=2.4,slow=2.6,SNR=5.1						
TPUB	**Ta-pu**	**18.71**	**351**	P	**P**	**16 08 58.3**	**+0.7**
MTN	**Manton Dam**	**18.91**	**158**	P	**P**	**16 08 58.7**	**-0.9**
KNRA	**Kununurra**	**20.87**	**167**	P	**P**	**16 09 17.7**	**+0.4**
KNRA				IAmb	IAmb	16 09 18.9	
	comp=Z,6.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.77**	**176**	P	**P**	**16 09 33.3**	**-1.2**
	comp=Z,3.9nm,0.8s,baz=5.1,slow=6.1,SNR=12						
FITZ	**Fitzroy Crossi**	**22.77**	**176**	P	**P**	**16 09 33.9**	**-0.6**
MBWA	**Marble Bar**	**26.06**	**189**	P	**P**	**16 10 03.8**	**0.0**
PSA00	**Pilbara Seismi**	**26.45**	**188**	P	**P**	**16 10 06.4**	**-0.8**
PSA00				IAmb	IAmb	16 10 34.1	
	comp=Z,9.2nm,1.1s						
WB0	**Warramunga Arr**	**26.48**	**157**	P	**P**	**16 10 06.2**	**-1.2**
WB0				IAmb	IAmb	16 10 26.1	
	comp=Z,7.6nm,1.3s						
WRA	**Warramunga Arr**	**26.61**	**158**	P	**P**	**16 10 07.7**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=338,slow=9.8,SNR=30						
WRA	**Warramunga Arr**	**26.61**	**158**	P	**P**	**16 10 07.7**	**-1.0**
WB2	**Warramunga Arr**	**26.62**	**158**	P	**P**	**16 10 07.8**	**-1.0**
WB2				IAmb	IAmb	16 10 08.5	
	comp=Z,3.5nm,0.7s						
WR0	**Warramunga Arr**	**26.71**	**157**	P	**P**	**16 10 08.4**	**-1.1**
WR0				IAmb	IAmb	16 10 26.6	
	comp=Z,6.4nm,1.4s						
RABL	**Rabaul**	**29.64**	**107**	P	**P**	**16 10 37.0**	**+1.6**
AS31	**Alice Springs**	**29.89**	**161**	P	**P**	**16 10 37.3**	**-0.2**
ASAR	**Alice Springs**	**29.89**	**161**	P	**P**	**16 10 37.0**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=340,slow=7.2,SNR=78						
ASAR				S	**S**	**16 14 58.8**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=339,slow=13,SNR=4.4						
ASAR				ScP	**ScP**	**16 16 22.1**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=336,slow=2.9,SNR=4.8						
ASAR	**Alice Springs**	**29.89**	**161**	P	**P**	**16 10 37.3**	**-0.2**
MORW	**Morawa**	**34.45**	**192**	P	**P**	**16 11 15.6**	**-0.7**
MORW				IAmb	IAmb	16 11 22.8	
	comp=Z,12nm,1.2s						
FORT	**Forrest**	**35.55**	**174**	P	**P**	**16 11 25.6**	**+0.1**
FORT				IAmb	IAmb	16 11 26.4	
	comp=Z,9.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.99**	**189**	P	**P**	**16 11 45.5**	**-0.1**
BBOO	**Buckleboo**	**39.11**	**164**	P	**P**	**16 11 54.8**	**+0.1**
BBOO				IAmb	IAmb	16 12 20.4	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**40.15**	**156**	P	**P**	**16 12 03.8**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=350,slow=7.8,SNR=9.4						
STKA	**Stephens Creek**	**40.15**	**156**	P	**P**	**16 12 03.9**	**+0.7**
STKA				IAmb	IAmb	16 12 04.4	
	comp=Z,2.4nm,1.1s						
ASAJ	**Asahikawa**	**42.54**	**20**	P	**P**	**16 12 21.8**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=232,slow=8.7,SNR=5.6						
MK31	**Makanchi Array**	**55.10**	**326**	P	**P**	**16 13 56.3**	**+0.6**
MKAR	**Makanchi Array**	**55.10**	**326**	P	**P**	**16 13 56.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=122,slow=8.0,SNR=11						
MKAR				PcP	**PcP**	**16 14 49.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=102,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**55.10**	**326**	P	**P**	**16 13 56.0**	**+0.4**
MAKZ	**Makanchi**	**55.29**	**326**	P	**P**	**16 13 57.6**	**+0.7**
TIXI	**Tiksi**	**66.89**	**2**	P	**P**	**16 15 12.6**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=169,slow=4.8,SNR=6.7						
TIXI	**Tiksi**	**66.89**	**2**	P	**P**	**16 15 12.5**	**-0.4**
TIXI				IAmb	IAmb	16 15 13.0	
	comp=Z,1.7nm,0.6s						
NRIK	**Noril'sk**	**68.78**	**347**	P	**P**	**16 15 24.4**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=135,slow=7.1,SNR=2.4						
ABKAR	**Akbulak array**	**69.56**	**321**	P	**P**	**16 15 29.7**	**0.0**
TOLK	**Toolik Lake Re**	**84.36**	**22**	P	**P**	**16 16 51.6**	**+1.3**
TOLK				IAmb	IAmb	16 16 51.9	
	comp=Z,4.9nm,1.5s						

*NAO **01** 16:11:02.4±2.0, 7°76N×3°51E, ML4.0*
*NEIC **01** 16:11:03.6±2.7, 79°9N±0°1×3°6E±0°4, h10km±1km, mb4.2/11, Error ellipse: s-maj=21.7km s-min=11.0km az=18.0*
*IDC **01** 16:11:03.5±0.9, 7°74N×2°76E, h0km, mb3.8/12, mb1 4.1/19, mb1mx3.8/43, mbtmp4.0/19, ML3.1/4, Error ellipse: s-maj=19.3km s-min=14.7km az=12.0*
*BER **01** 16:11:05.2±2.6, 79°68N×3°88E, h10km, ML3.0, ML3.5(DNK), Confirmed Earthquake*
*DNK **01** 16:11:05.1±5.1, 79°67N×2°97E, h35km±74km, ML3.5*
*IEPN **01** 16:11:07.0, 79°44N×4°39E, h10km*

ISC 01 16:11:04.2±3.8, 79°70N±0°06×3°48E±0°04, h10km±25km, n100, σ2°88/116, mb3.9/17, 4C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.76**	**112**	‖ *iP*	**Pn**	**16 11 32.8**	**-1.9**
KBS				IAML		16 12 05.7	
	comp=Z,936nm,0.3s						
KBS	**Kingsbay**	**1.76**	**112**	Pn	**Pn**	**16 11 32.8**	**-1.9**
KBS				Sn	**Sn**	**16 11 51.6**	**-5.4**
KBS	**Kingsbay**	**1.76**	**112**	*eP*	**Pn**	**16 11 32.8**	**-1.9**
KBS				*eS*	**Sn**	**16 11 51.7**	**-5.4**
KBS				IAML		16 12 01.7	
	comp=Z,474nm,0.3s						
KBS	**Kingsbay**	**1.76**	**112**		**Pn**	**16 11 32.9**	**-1.7**
KBS	**Kingsbay**	**1.76**	**112**	⇑ *iP*	**Pn**	**16 11 32.8**	**-1.9**
KBS				*i* S	**Sn**	**16 11 51.5**	**-5.6**
BRBA	**Barentsburg A**	**2.65**	**123**	Pn	**Pn**	**16 11 46.2**	**-0.7**
BRBA				Sn	**Sn**	**16 12 15.8**	**-3.3**
BRBA	**Barentsburg A**	**2.65**	**123**	*eP*	**Pn**	**16 11 46.4**	**-0.5**
BRBA				*eS*	**Sn**	**16 12 14.5**	**-4.5**
BRBA				IAML		16 12 21.1	
	comp=Z,231nm,0.9s						
SPA0	**Spitsbergen Ar**	**2.91**	**115**	Pn	**Pn**	**16 11 49.7**	**-0.8**
	baz=318,slow=10						
SPA0				Sn	**Sn**	**16 12 20.3**	**-5.2**
SPA0	**Spitsbergen Ar**	**2.91**	**115**	Pn	**Pn**	**16 11 49.7**	**-0.8**
	baz=318,slow=10						
SPA0				Sn	**Sn**	**16 12 20.3**	**-5.2**
SPITS	**Spitsbergen Ar**	**2.91**	**115**	Pn	**Pn**	**16 11 49.5**	**-1.0**
	baz=319,slow=8.8,SNR=3465						
SPITS				Sn	**Sn**	**16 12 20.5**	**-5.1**
	baz=339,slow=11,SNR=2.3						
HSPB	**Hornsund (broa**	**3.64**	**132**	Pn	**Pn**	**16 11 58.9**	**-1.6**
HSPB				Sn	**Sn**	**16 12 37.9**	**-5.5**
HSPB	**Hornsund (broa**	**3.64**	**132**	*eP*	**Pn**	**16 11 58.9**	**-1.6**
HSPB				*eS*	**Sn**	**16 12 37.7**	**-5.7**
HSPB				IAML		16 12 41.9	
	comp=Z,126nm,0.5s						
HSPB	**Hornsund (broa**	**3.64**	**132**	⇑ *iP*	**Pn**	**16 11 58.6**	**-1.9**
HSPB				*i* S	Sn	16 12 36.2	-7.2
NOR	**Nord**	**3.78**	**310**	*i* P	**Pn**	**16 12 02.9**	**+0.5**
NOR	**Nord**	**3.78**	**310**	Pn	**Pn**	**16 12 02.2**	**-0.2**
NOR	**Nord**	**3.78**	**310**	*i* P	**Pn**	**16 12 02.9**	**+0.5**
DAG	**Danmarks Havn**	**5.36**	**248**	*e*	**Pn**	**16 12 21.1**	**-3.0**
	baz=48,slow=14						
DAG				*i* P	**Pn**	**16 12 22.0**	**-2.1**
DAG				*i* P	**Pn**	**16 12 22.0**	**-2.1**
DAG				⇑ *eP*	**Pn**	**16 12 22.4**	**-1.7**
DAG				*i* S	**Sn**	**16 13 19.4**	**-6.4**
DAG				IAML		16 13 27.8	
	comp=Z,13nm,0.4s						
DAG	**Danmarks Havn**	**5.36**	**248**	*e*	**Pn**	**16 12 21.1**	**-3.0**
	baz=48,slow=14						
DAG				*i* P	**Pn**	**16 12 22.0**	**-2.1**
DAG				*i* S	**Sn**	**16 13 19.4**	**-6.4**
DAG				IAML		16 13 27.8	
	comp=Z,13nm,0.4s						
HOPEN	**Hopen**	**5.45**	**115**	Pn	**Pn**	**16 12 24.1**	**-1.2**
HOPEN				Sn	**Sn**	**16 13 20.8**	**-7.1**
HOPEN	**Hopen**	**5.45**	**115**	*eP*	**Pn**	**16 12 23.8**	**-1.4**
HOPEN				*eS*	**Sn**	**16 13 20.4**	**-7.4**
HOPEN				IAML		16 13 25.9	
	comp=Z,64nm,0.3s						
HOPEN	**Hopen**	**5.45**	**115**	*eP*	**Pn**	**16 12 23.6**	**-1.6**
HOPEN				*eS*	**Sn**	**16 13 20.1**	**-7.7**
BJO1	**Bjornoya**	**6.24**	**139**	Pn	**Pn**	**16 12 34.9**	**-1.2**
BJO1				Sn	Sn	16 13 38.1	-9.2
BJO1	**Bjornoya**	**6.24**	**139**	*eP*	**Pn**	**16 12 34.2**	**-1.8**
BJO1				*eS*	Sn	16 13 40.8	-6.6
BJO1				IAML		16 13 46.4	
	comp=Z,14nm,0.3s						
BJO1	**Bjornoya**	**6.24**	**139**	*eP*	**Pn**	**16 12 34.3**	**-1.8**
BJO1				*eS*	Sn	16 13 37.5	-10
ZFI2	**Zemlya Franca-**	**7.42**	**60**	*eP*	**Pn**	**16 12 51.8**	**-0.5**
ZFI2				*eS*	**Sn**	**16 14 09.3**	**-7.1**
	comp=Z,58nm,0.6s						
DBG	**Daneborg**	**7.52**	**237**	*i* P	**Pn**	**16 12 52.6**	**-1.1**
DBG				IAML		16 14 18.5	
	comp=Z,6.8nm,0.4s						
DBG	**Daneborg**	**7.52**	**237**	Pn	**Pn**	**16 12 51.8**	**-1.9**
DBG				Sn	Sn	16 14 10.8	-8.0
DBG	**Daneborg**	**7.52**	**237**	*i* P	**Pn**	**16 12 52.6**	**-1.1**
DBG				IAML		16 14 18.5	
	comp=Z,6.8nm,0.4s						
JMIC	**Jan Mayen**	**9.23**	**205**	Pn	**Pn**	**16 13 15.9**	**-1.2**
	baz=60,slow=3.9,SNR=15						
JMIC				Sn	Sn	16 14 52.2	-8.7
	baz=125,slow=14,SNR=2.6						
JMIC	**Jan Mayen**	**9.23**	**205**	Pn	**Pn**	**16 13 16.2**	**-1.0**
JMIC	**Jan Mayen**	**9.23**	**205**	*eP*	**Pn**	**16 13 15.6**	**-1.5**
HAMF	**Hammerfest**	**10.36**	**140**	Pn	**Pn**	**16 13 31.7**	**-0.9**
HAMF	**Hammerfest**	**10.36**	**140**	*eP*	**Pn**	**16 13 30.9**	**-1.6**
NEEM	**North Greenlan**	**10.68**	**286**	*i* P	**Pn**	**16 13 35.6**	**-1.5**
NEEM				*i*		16 15 26.4	
NEEM				IAML		16 15 30.7	
	comp=Z,11nm,0.4s						
SCO	**Scoresbysund**	**11.16**	**228**	Pn	**Pn**	**16 13 44.8**	**+1.3**
KEV	**Kevo**	**11.60**	**136**	Pn	**Pn**	**16 13 48.5**	**-0.9**
ARA0	**ARCESS Array S**	**11.62**	**139**	Pn	**Pn**	**16 13 48.5**	**-1.3**
	baz=344,slow=12						
ARA0				Sn	Sn	16 15 49.2	-10
	baz=345,slow=22						
ARA0	**ARCESS Array S**	**11.62**	**139**	Pn	**Pn**	**16 13 48.5**	**-1.3**
	baz=344,slow=12						
ARA0				Sn	Sn	16 15 49.2	-10
	baz=345,slow=22						
ARCES	**ARCESS Array B**	**11.62**	**139**	Pn	**Pn**	**16 13 48.9**	**-0.9**
	baz=344,slow=11,SNR=14						
ARCES				Sn	Sn	16 15 50.1	-9.3
	baz=352,slow=18,SNR=3.0						
ARCES	**ARCESS Array B**	**11.62**	**139**		**Pn**	**16 13 49.1**	**-0.7**
KTK1	**Kautokeino**	**11.87**	**144**	*eP*	**Pn**	**16 13 50.3**	**-2.8**
SUMG	**Summit**	**11.96**	**256**	*i* P	**Pn**	**16 13 53.6**	**-1.1**
SUMG	**Summit**	**11.96**	**256**	*i* P	**Pn**	**16 13 53.6**	**-1.1**
SUMG	**Summit**	**11.96**	**256**		**Pn**	**16 13 53.4**	**-1.3**
KULLO	**Kullorsuaq**	**13.74**	**281**	*i* P	**Pn**	**16 14 14.6**	**-4.1**
KULLO	**Kullorsuaq**	**13.74**	**281**	*i* P	**Pn**	**16 14 14.6**	**-4.1**
TULEG	**Thule**	**14.28**	**295**	*i* P	**Pn**	**16 14 21.6**	**-4.4**
TULEG	**Thule**	**14.28**	**295**	*i* P	**Pn**	**16 14 21.6**	**-4.4**
TULEG	**Thule**	**14.28**	**295**	Pn	**Pn**	**16 14 21.3**	**-4.7**
APA0	**Apatity Array**	**14.39**	**131**	P	Pn	16 14 23.6	-4.0
	baz=337,slow=18						
APA0	**Apatity Array**	**14.39**	**131**	P	Pn	16 14 23.6	-4.0
	baz=337,slow=18						
UPNV	**Upernavik**	**14.95**	**275**	*i* P	Pn	16 14 29.5	-5.6
UPNV	**Upernavik**	**14.95**	**275**	*i* P	Pn	16 14 29.5	-5.6
ICESG	**Greenland Ices**	**15.15**	**250**	*i* P	**Pn**	**16 14 35.2**	**-2.9**
ICESG	**Greenland Ices**	**15.15**	**250**	*i* P	**Pn**	**16 14 35.2**	**-2.9**
AMDE	**Amderma**	**17.22**	**92**	*eP*	**Pn**	**16 15 02.0**	**-2.3**
	comp=Z,7.2nm,0.8s						
AMDE				*eS*	Sn	16 17 57.1	-18
ANGG	**Ammassalik, Gr**	**17.98**	**242**	P	**P**	**16 15 15.0**	**+0.8**
ANGG				IAmb	IAmb	16 15 15.9	
	comp=Z,16nm,0.9s						
DY2G	**Dye2**	**18.62**	**254**	*i* P	**P**	**16 15 20.5**	**-1.2**
NC204	**NORSAR Array S**	**18.64**	**169**	P	**P**	**16 15 23.4**	**+

PALK Pallekele 17.35 44 LR LR 17 24 28.0
comp=Z,214nm,20.3s,baz=331,slow=32
OPO Ambohidratompo 24.77 236 LR LR 17 28 16.6
comp=Z,97nm,18.3s,baz=195,slow=32
KMBO Kilima Mbogo 31.70 277 LR LR 17 31 59.0
comp=Z,102nm,20.7s,baz=97,slow=32
CMAR Chiang Mai Arr 38.07 51 P **P 17 22 35.6 +1.4**
0.5nm,0.6s,baz=221,slow=8.5,SNR=4.5
CMAR LR LR 17 35 33.8
comp=Z,41nm,20.1s,baz=242,slow=32
BOSA Boshof 47.18 236 LR LR 17 40 27.4
comp=Z,72nm,20.3s,baz=41,slow=32
H01W3 Cape Leeuwin H 51.12 131 T T 18 19 24.0
baz=290
H01W2 Cape Leeuwin H 51.13 131 T T 18 19 26.2
baz=290
H01W1 Cape Leeuwin H 51.14 131 T T 18 19 28.8
baz=290
MKAR Makanchi Array 53.33 12 P **P 17 24 33.1 -1.4**
0.3nm,0.4s,baz=194,slow=7.3,SNR=7.0
ZALV Zalesovo Beam 60.64 11 P **P 17 25 23.6 -2.5**
0.5nm,0.5s,baz=201,slow=12,SNR=2.0
SONM Songino Array 62.48 28 P **P 17 25 39.5 +0.6**
0.4nm,0.5s,baz=222,slow=8.0,SNR=4.6
SONM LR LR 17 52 38.9
comp=Z,46nm,18.6s,baz=223,slow=36
ASAR Alice Springs 65.14 113 P **P 17 25 57.9 +1.0**
0.5nm,0.7s,baz=286,slow=6.1,SNR=9.1
WRA Warramunga Arr 65.27 109 P **P 17 25 58.6 +0.8**
1.0nm,0.7s,baz=282,slow=6.2,SNR=6.7
KSRS Korea Array 69.56 47 LR LR 17 56 07.6
comp=Z,32nm,20.7s,baz=202,slow=35
MJAR Matsushiro Arr 76.95 51 LR LR 18 03 25.6
comp=Z,24nm,18.3s,baz=250,slow=38
ESDC Sonseca Array 80.25 312 P **P 17 27 26.5 +0.1**
0.7nm,0.8s,baz=84,slow=3.0,SNR=3.7
NVAR Mina Array Bea 146.49 10 PKPbc **PKPdf 17 34 57.0 +0.9**
0.2nm,0.6s,baz=252,slow=0.3,SNR=1.4

IDC 01 17:15:28.4±7.1, 7.74S×128.90E, h80km±61km, mb3.4/1, mb1 3.6/5, mb1mx3.2/43, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=69.8km s-min=28.9km az=16.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.72**	**244**	P	Pn	17 16 52.5	+1.6
	3.2nm,0.3s,baz=118,slow=9.0,SNR=5.2						
BATI				S	Sn	17 17 55.0	-0.3
	3.9nm,0.3s,baz=335,slow=23,SNR=8.6						
FITZ	**Fitzroy Crossi**	**10.78**	**197**	P	Pn	17 17 59.1	-0.8
	0.4nm,0.3s,baz=30,slow=9.1,SNR=25						
FITZ				S	Sn	17 19 54.0	-4.7
	0.4nm,0.3s,baz=104,slow=21,SNR=7.0						
WRA	**Warramunga Arr**	**13.23**	**157**	P	Pn	17 18 32.5	-0.5
	0.3nm,0.3s,baz=343,slow=13,SNR=14						
WRA				S	Sn	17 20 54.1	-4.4
	0.2nm,0.3s,baz=327,slow=22,SNR=2.0						
ASAR	**Alice Springs**	**16.55**	**164**	P	P	17 19 17.2	+0.3
	0.2nm,0.3s,baz=338,slow=9.7,SNR=34						
ASAR				S	Sn	17 22 19.9	+0.9
	0.1nm,0.3s,baz=313,slow=21,SNR=5.4						
STKA	**Stephens Creek**	**26.77**	**155**	P	P	17 21 00.6	-0.2
	0.9nm,0.7s,baz=321,slow=7.3,SNR=3.0						

*TUL **01** 17:15:47.9±1.5, 36°.09N±0°.01×97°.10W±0°.02, h4km±7km, mb_Lg3.6/135(NEIC), Mwr3.5/25(NEIC), Error ellipse: s-maj=2.9km s-min=1.0km az=123.0*
*ANF **01** 17:15:47.7±0.6, 36°.02N×97°.11W, h0km, ML4.5/5, Error ellipse: s-maj=17.5km s-min=3.4km az=179.0*
*IDC **01** 17:15:47.8±1.9, 36°.06N×97°.11W, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.4/47, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=26.5km s-min=13.7km az=106.0*
*NEIC **01** 17:15:47.9, 36°.11N×97°.12W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.37; $M_{\theta\theta}$1.90; $M_{\phi\phi}$-1.53; $M_{r\theta}$0.29; $M_{\theta\phi}$1.81; $M_{\phi r}$0.19; Fault plane solution: $M_0$2.54000×10^{14} NP1:ϕ_s21.55000°, δ86.87000°, λ174.24000°. NP2:ϕ_s111.86000°, δ84.25000°, λ3.15000°. Principal axes: T 2.7159, Plg6.0000°, Azm337.0000°; N -0.4011, Plg83.0000°, Azm173.0000°; P -2.3148, Plg2.0000°, Azm67.0000°;*
*NEIC **01** 17:15:47.9±0.9, 36°.120N±0°.008×97°.12W±0°.01, h2km±7km Error ellipse: s-maj=1.8km s-min=1.1km az=67.0*

ISC 01 17:15:47.8±1.0, 36°.11N±0°.02×97°.10W±0°.03, h8km±9km, n133, σ0°87/105, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.26**	**126**		**Pg**	**17 15 53.1**	**+0.1**
OK031				Sg	**Sg**	**17 15 56.9**	**+0.4**
OK030	**Cody Creek RV**	**0.31**	**125**		**Pg**	**17 15 54.1**	**+0.2**
OK030				Sg	**Sg**	**17 15 58.4**	**+0.3**
QUOK	**Quay**	**0.32**	**78**	Pg	**Pg**	**17 15 54.5**	**+0.4**
QUOK				Sg	**Sg**	**17 15 59.2**	**+0.7**
OK029	**Liberty Lake**	**0.42**	**223**		**Pg**	**17 15 56.1**	**0.0**
OK005	**Luther M Schoo**	**0.46**	**190**		**Pg**	**17 15 57.7**	**+1.0**
OK025	**Westminster Rd**	**0.56**	**201**		**Pg**	**17 15 58.6**	**0.0**
OK001	**Jones High Sch**	**0.57**	**196**	Pg	**Pg**	**17 15 59.7**	**+0.9**
OK009	**Oakdale Elemen**	**0.59**	**207**		**Pg**	**17 16 00.2**	**+1.0**
BCOK	**Bluff Creek, N**	**0.61**	**223**		**Pg**	**17 15 59.5**	**-0.2**
BCOK				Sg	**Sg**	**17 16 07.8**	**+0.1**
BLOK	**Blackwell**	**0.66**	**352**		**Pg**	**17 16 00.7**	**+0.2**
OK011	**Prague**	**0.70**	**152**		**Pb**	**17 16 02.2**	**-0.1**
OKCFA	**Oklahoma City**	**0.75**	**203**		**Pg**	**17 16 02.0**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.75**	**202**		**Pg**	**17 16 01.9**	**-0.4**
CROK	**Carrier**	**0.82**	**299**		**Pg**	**17 16 03.6**	**0.0**
FNO	**Franklin**	**0.88**	**196**		**Pg**	**17 16 04.2**	**-0.6**
FNO				IAmb_Lg		17 16 16.2	
	comp=Z,438nm,0.8s						
T35A	**Sooner Cattle**	**0.94**	**30**		**Pg**	**17 16 05.9**	**+0.1**
KAN13	**South Haven SW**	**0.95**	**341**		**Pg**	**17 16 06.1**	**-0.1**
TUL1	**Leonard**	**1.08**	**100**	P	**Pb**	**17 16 07.8**	**-0.9**
	baz=281						
TUL1				S	**Sg**	**17 16 22.4**	**-0.1**
	baz=281						
KAN17	**Caldwell West**	**1.08**	**330**	Pg	**Pb**	**17 16 08.3**	**-0.4**
KAN17					**Pb**	**17 16 08.4**	**-0.4**
KAN09	**Caldwell North**	**1.11**	**338**		**Pb**	**17 16 08.9**	**-0.4**
OK032	**Salt Plains WL**	**1.14**	**308**		**Pb**	**17 16 09.1**	**-0.6**
KAN05	**Bluff City Nor**	**1.18**	**328**		**Pb**	**17 16 10.1**	**-0.4**
KS20	**Mayfield South**	**1.18**	**342**		**Pb**	**17 16 10.1**	**-0.3**
KAN10	**Anthony SW Sta**	**1.29**	**322**		**Pn**	**17 16 12.2**	**0.0**
KAN08	**Anthony NE Sta**	**1.32**	**328**		**Pn**	**17 16 12.5**	**-0.1**
KAN12	**Harper NE Stat**	**1.39**	**329**		**Pn**	**17 16 13.8**	**+0.2**
U32A	**Winter Ranch,**	**1.56**	**281**		**Pn**	**17 16 16.5**	**+0.5**
X34A	**Smith Ranch, M**	**1.62**	**202**		**Pn**	**17 16 17.3**	**+0.6**
WMOK	**Wichita Mounta**	**1.94**	**226**		**Pn**	**17 16 21.5**	**+0.5**
X37A	**Clayton**	**2.07**	**137**		**Pn**	**17 16 23.5**	**+0.7**
X37A				IAmb_Lg		17 16 57.2	
	comp=Z,392nm,0.8s						
LOOK	**Love County**	**2.11**	**182**		**Pn**	**17 16 24.1**	**+0.7**
LOOK				IAmb_Lg		17 16 57.8	
	comp=Z,349nm,0.9s						
U38A	**Gravette**	**2.22**	**81**		**Pn**	**17 16 25.3**	**+0.4**
U38A				IAmb_Lg		17 16 59.6	
	comp=Z,346nm,0.8s						
HHAR	**Hobbs**	**2.56**	**85**	Pn	**Pn**	**17 16 30.6**	**+0.9**
R32A	**Long Quarter,**	**2.65**	**331**		**Pn**	**17 16 31.1**	**+0.3**
R32A				IAmb_Lg		17 17 12.9	
	comp=Z,176nm,0.8s						
Z35A	**Perchaven, San**	**2.77**	**183**		**Pn**	**17 16 33.0**	**+0.5**
W39A	**Magazine**	**2.85**	**108**	P	**Pn**	**17 16 34.8**	**+1.3**
	baz=290						
W39A	**Magazine**	**2.85**	**108**	Pn	**Pn**	**17 16 34.0**	**+0.4**
KSU1	**Kansas State U**	**3.01**	**7**		**Pn**	**17 16 36.2**	**+0.4**
KSU1				IAmb_Lg		17 17 31.6	
	comp=Z,170nm,0.9s						
MIAR	**Mount Ida**	**3.27**	**117**	Pn	**Pn**	**17 16 40.5**	**+1.1**
MIAR				IAmb_Lg		17 17 38.6	
	comp=Z,93nm,0.8s						
Z38A	**Mt. Pleasant**	**3.33**	**148**	Pn	**Pn**	**17 16 40.8**	**+0.6**
Z38A				IAmb_Lg		17 17 42.4	
	comp=Z,132nm,0.8s						
S39A	**Bolivar**	**3.41**	**61**	Pn	**Pn**	**17 16 42.4**	**+1.0**
CBKS	**Cedar Bluff**	**3.42**	**323**	Pg	**Pb**	**17 16 50.5**	**+1.7**
CBKS				IAmb_Lg		17 17 41.3	
	comp=Z,228nm,0.8s						
U40A	**Yellville**	**3.44**	**85**	Pn	**Pn**	**17 16 42.2**	**+0.5**
U40A				IAmb_Lg		17 17 39.8	
	comp=Z,174nm,0.8s						
X40A	**Basin Creek Fa**	**3.84**	**114**	P	**Pn**	**17 16 48.8**	**+1.6**
	baz=296						
X40A	**Basin Creek Fa**	**3.84**	**114**	Pn	**Pn**	**17 16 48.4**	**+1.1**
X40A				IAmb_Lg		17 17 55.5	
	comp=Z,230nm,0.7s						
AMTX	**Amarillo**	**3.93**	**253**		**Pn**	**17 16 48.8**	**+0.2**
AMTX				IAmb_Lg		17 17 59.8	
	comp=Z,115nm,0.7s						
WHAR	**Wooly Hollow**	**4.00**	**100**		**Pn**	**17 16 49.9**	**+0.5**
WHAR				IAmb_Lg		17 18 00.8	
	comp=Z,188nm,0.9s						
MGMO	**Mountain Grove**	**4.02**	**74**		**Pn**	**17 16 49.5**	**-0.2**
MGMO				IAmb_Lg		17 17 56.4	
	comp=Z,184nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.04**	**92**		**Pn**	**17 16 50.4**	**+0.4**
FCAR				IAmb_Lg		17 18 03.0	
	comp=Z,203nm,1.1s						
W41B	**Gary Mavity, V**	**4.06**	**102**	P	**Pn**	**17 16 51.3**	**+1.2**
W41B							
	baz=285			S	**Sn**	**17 17 39.0**	**+1.2**
ABTX	**Abilene, Hawle**	**4.06**	**212**	Pn	**Pn**	**17 16 50.9**	**+0.6**
WLAR	**White Oak Lake**	**4.07**	**125**		**Pn**	**17 16 51.2**	**+0.9**
WLAR				IAmb_Lg		17 18 02.1	
	comp=Z,121nm,0.7s						
WHTX	**Lake Whitney,**	**4.12**	**184**	Pn	**Pn**	**17 16 51.0**	**0.0**
237A	**Washetta, Mont**	**4.23**	**165**	Pn	**Pn**	**17 16 52.6**	**+0.1**
R40A	**Maddies Statio**	**4.43**	**59**		**Pn**	**17 16 56.0**	**+0.7**
R40A				IAmb_Lg		17 18 13.5	
	comp=Z,119nm,0.7s						
P38A	**Dawn**	**4.50**	**38**	Pn	**Pn**	**17 16 57.1**	**+0.8**
P38A				IAmb_Lg		17 18 12.3	
	comp=Z,202nm,0.7s						
N33A	**J Bar K, Exete**	**4.63**	**357**		**Pn**	**17 16 58.5**	**+0.4**
N33A				IAmb_Lg		17 18 25.8	
	comp=Z,102nm,0.8s						
LCAR	**Lake Charles**	**4.81**	**89**		**Pn**	**17 17 00.9**	**+0.4**
LCAR				IAmb_Lg		17 18 20.1	
	comp=Z,99nm,0.8s						
N35A	**Tabor**	**4.88**	**13**		**Pn**	**17 17 01.2**	**-0.4**
CCAR	**Cane Creek**	**4.88**	**115**	IAmb_Lg		17 18 32.7	
	comp=Z,135nm,0.7s						
CCM	**Cathedral Cave**	**5.07**	**66**	Pn	**Pn**	**17 17 04.9**	**+0.9**
CCM				IAmb_Lg		17 18 39.5	
	comp=Z,104nm,0.7s						
MSTX	**Muleshoe**	**5.12**	**247**	S	**Sn**	**17 18 04.9**	**+0.6**
	baz=64						
MSTX	**Muleshoe**	**5.12**	**247**	Pn	**Pn**	**17 17 04.8**	**-0.1**
P40A	**Paris**	**5.26**	**48**		**Pn**	**17 17 07.4**	**+0.7**
P40A				IAmb_Lg		17 18 40.0	
	comp=Z,131nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.26**	**305**	Pn	**Pn**	**17 17 06.7**	**-0.2**
KSCO				IAmb_Lg		17 18 48.1	
	comp=Z,126nm,0.8s						
435B	**Jarrell**	**5.33**	**185**		**Pn**	**17 17 07.6**	**0.0**
435B				IAmb_Lg		17 18 43.5	
	comp=Z,65nm,0.7s						
BGNE	**Belgrade**	**5.36**	**351**		**Pn**	**17 17 07.7**	**-0.4**
BGNE				IAmb_Lg		17 18 53.2	
	comp=Z,163nm,0.8s						
PBMO	**Poplar Bluff**	**5.42**	**81**	Pn	**Pn**	**17 17 08.5**	**-0.3**
PBMO				IAmb_Lg		17 18 44.7	
	comp=Z,151nm,0.9s						
N38A	**Joes South For**	**5.58**	**32**		**Pn**	**17 17 10.9**	**-0.2**
143A	**Socs Landing,**	**5.80**	**124**	IAmb_Lg		17 19 05.7	
	comp=Z,95nm,0.7s						
L34A	**Svendsen Farm,**	**5.88**	**5**	Pn	**Pn**	**17 17 15.8**	**+0.6**
T25A	**Trinidad**	**5.97**	**282**	P	**Pn**	**17 17 17.5**	**+0.8**
	baz=98						
T25A	**Trinidad**	**5.97**	**282**		**Pn**	**17 17 17.3**	**+0.6**
T25A				IAmb_Lg		17 19 04.2	
	comp=Z,145nm,1.0s						
SLM	**Saint Louis**	**6.02**	**63**	IAmb_Lg		17 18 58.7	
	comp=Z,112nm,0.8s						
JCT	**Junction City**	**6.05**	**203**	Pn	**Pn**	**17 17 18.2**	**+0.5**
OGNE	**Ogallala**	**6.19**	**323**	Pn	**Pn**	**17 17 20.1**	**+0.5**
OGNE				IAmb_Lg		17 19 09.6	
	comp=Z,108nm,0.7s						
HALT	**Halls**	**6.29**	**90**	IAmb_Lg		17 19 13.8	
	comp=Z,138nm,0.7s						
S44A	**Carbondale**	**6.48**	**74**		**Pn**	**17 17 23.6**	**+0.1**
OXF	**Oxford**	**6.48**	**102**	Pn	**Pn**	**17 17 22.4**	**-1.1**
OXF				IAmb_Lg		17 19 16.5	
	comp=Z,137nm,1.1s						
SIUC	**Southern Illin**	**6.51**	**73**	Pn	**Pn**	**17 17 22.6**	**-1.3**
Y45A	**Yeager Farm, C**	**6.59**	**108**	Pn	**Pn**	**17 17 22.6**	**-2.4**
Y45A				IAmb_Lg		17 19 19.8	
	comp=Z,63nm,0.8s						
K31A	**O'Neill**	**6.63**	**349**	IAmb_Lg		17 19 29.9	
	comp=Z,122nm,0.8s						
N41A	**Harden Midland**	**6.72**	**45**		**Pn**	**17 17 27.5**	**+0.8**
SDCO	**Great Sand Dun**	**6.93**	**286**		**Pn**	**17 17 30.2**	**+0.3**
SDCO				IAmb_Lg		17 19 30.6	
	comp=Z,61nm,1.0s						
PLAL	**Pickwick Lake**	**7.44**	**96**	Pn	**Pn**	**17 17 35.6**	**-1.0**
PLAL				IAmb_Lg		17 19 49.4	
	comp=Z,54nm,0.9s						
L40A	**Anamosa**	**7.50**	**36**	Pn	**Pn**	**17 17 37.5**	**+0.1**
L40A				IAmb_Lg		17 19 52.9	
	comp=Z,92nm,0.8s						
WVT	**Waverly**	**7.50**	**87**	Pn	**Pn**	**17 17 37.9**	**+0.4**
WVT				IAmb_Lg		17 19 51.8	
	comp=Z,38nm,1.0s						
HDIL	**Hopedale**	**7.57**	**52**	Pn	**Pn**	**17 17 37.2**	**-1.2**
ECSD	**EROS Data Cent**	**7.63**	**3**	Pn	**Pn**	**17 17 38.9**	**-0.4**
ISCO	**Idaho Springs**	**7.67**	**301**	Pn	**Pn**	**17 17 40.5**	**+0.4**
ISCO				IAmb_Lg		17 20 07.8	
	comp=Z,36nm,0.8s						
ANMO	**Albuquerque**	**7.72**	**264**	Pg	Pb	17 18 08.7	+6.7
	comp=Z,0.7nm,0.3s,baz=93,slow=18,SNR=5.2						
ANMO				Lg	Lg	17 19 48.8	
	comp=Z,1.2nm,0.3s,baz=28,slow=11,SNR=2.3						
ANMO	**Albuquerque**	**7.72**	**264**		**Pn**	**17 17 40.4**	**-0.3**
USIN	**University of**	**7.77**	**73**	IAmb_Lg		17 19 53.6	
	comp=Z,62nm,0.9s						
Z47A	**Carrollton**	**7.98**	**109**	IAmb_Lg		17 20 19.9	
	comp=Z,32nm,0.8s						
BNM	**Barren Site**	**8.05**	**259**		**Pn**	**17 17 43.8**	**-1.5**
T47A	**Sharon Grove**	**8.09**	**81**	IAmb_Lg		17 20 13.8	
	comp=Z,52nm,0.8s						
MNTX	**Cornudas Mount**	**8.17**	**240**	Pn	**Pn**	**17 17 46.5**	**-0.2**
MNTX				IAmb_Lg		17 20 23.3	
	comp=Z,30nm,0.9s						
L42A	**Oliver, Polo**	**8.25**	**42**	Pn	**Pn**	**17 17 48.1**	**+0.3**
PHWY	**Pilot Hill**	**8.34**	**311**	IAmb_Lg		17 20 23.7	
	comp=Z,36nm,0.8s						
V48A	**Smith Brothers**	**8.34**	**89**	IAmb_Lg		17 20 14.0	
	comp=Z,39nm,0.7s						
X48A	**Hartselle**	**8.38**	**98**	IAmb_Lg		17 20 11.2	
	comp=Z,40nm,0.8s						
I37A	**Lemond, Waseca**	**8.39**	**19**	IAmb_Lg		17 20 23.4	
	comp=Z,79nm,0.9s						
SUSD	**Miller**	**8.45**	**351**	IAmb_Lg		17 20 41.0	
	comp=Z,32nm,0.7s						
JFWS	**Jewell Farm**	**8.61**	**36**	IAmb_Lg		17 20 27.6	
	comp=Z,88nm,0.8s						
CLTN	**Cedars of Leba**	**8.71**	**87**	IAmb_Lg		17 20 28.8	
	comp=Z,30nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.73**	**221**		**Pn**	**17 17 52.9**	**-1.6**
TX32	**Lajitas Array**	**8.73**	**221**	Pn	**Pn**	**17 17 53.3**	**-1.2**
TXAR	**Lajitas Array**	**8.73**	**221**	Pn	**Pn**	**17 17 53.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=43,slow=12,SNR=9.2						
TXAR				Lg	Lg	17 20 18.8	
	comp=Z,1.5nm,0.3s,baz=44,slow=18,SNR=6.7						
WCI	**Wyandotte Cave**	**8.88**	**73**	IAmb_Lg		17 20 32.3	
	comp=Z,58nm,0.8s						
BLO	**Bloomington**	**8.93**	**67**	IAmb_Lg		17 20 30.5	
	comp=Z,87nm,0.7s						
SFIN	**Lafayette**	**8.95**	**59**	IAmb_Lg		17 20 32.4	
	comp=Z,73nm,0.9s						
Y49A	**Blount Mountai**	**9.05**	**101**	IAmb_Lg		17 20 49.0	
	comp=Z,33nm,0.8s						
SWET	**Sewanee**	**9.13**	**92**	IAmb_Lg		17 20 41.7	
	comp=Z,26nm,0.7s						
FPAL	**Fort Paine**	**9.52**	**96**	IAmb_Lg		17 20 52.0	
	comp=Z,26nm,0.7s						
PV12	**Saucer Basin,**	**9.60**	**287**	IAmb_Lg		17 21 03.7	
	comp=Z,24nm,1.0s						
RSSD	**Black Hills**	**9.61**	**329**		**Pn**	**17 18 07.0**	**+0.5**
W50A	**Signal Mountai**	**9.63**	**92**	IAmb_Lg		17 20 54.2	
	comp=Z,45nm,0.7s						
PV11	**David Mesa, Pa**	**9.65**	**287**	IAmb_Lg		17 21 05.3	
	comp=Z,24nm,1.1s						
RWWY	**Rawlins**	**9.65**	**308**	IAmb_Lg		17 21 00.9	
	comp=Z,55nm,1.1s						
O20A	**White River Ci**	**9.66**	**298**	IAmb_Lg		17 21 21.7	
	comp=Z,26nm,1.1s						
SPMN	**Marine on St.**	**9.67**	**18**	IAmb_Lg		17 21 05.9	
	comp=Z,55nm,1.1s						
PV20	**West Nyswonger**	**9.73**	**287**	IAmb_Lg		17 21 05.9	
	comp=Z,25nm,1.0s						
F33A	**5 Mile Ranch,**	**9.74**	**3**		**Pn**	**17 18 07.0**	**-1.2**
F33A				IAmb_Lg		17 20 57.8	
	comp=Z,24nm,0.9s						
K22A	**Casper**	**9.79**	**315**	IAmb_Lg		17 21 11.6	
	comp=Z,41nm,0.8s						
P48A	**Milroy**	**9.83**	**67**	IAmb_Lg		17 21 02.7	
	comp=Z,51nm,0.8s						
T50A	**Nancy**	**9.90**	**81**	IAmb_Lg		17 21 04.6	
	comp=Z,25nm,0.8s						
F36A	**Milaca**	**10.11**	**14**		**Pn**	**17 18 13.2**	**-0.1**
TKL	**Tuckaleechee C**	**10.82**	**88**	Lg	Lg	17 21 24.8	
	comp=Z,1.8nm,0.3s,baz=174,slow=23,SNR=9.6						
PDAR	**Pinedale Array**	**11.70**	**308**	Pn	**Pn**	**17 18 36.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=103,slow=14,SNR=3.2						
PDAR				Lg	Lg	17 21 55.1	
	comp=Z,0.6nm,0.3s,baz=104,slow=23,SNR=5.9						
ULM	**Lac du Bonnet**	**14.16**	**3**	Pn	**Pn**	**17 19 04.8**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=178,slow=12,SNR=3.8						
ULM				Lg	Lg	17 23 04.9	
	comp=Z,0.4nm,0.3s,baz=149,slow=6.6,SNR=3.1						
PFO	**Pinyon Flats O**	**16.09**	**267**	Lg	Lg	17 24 09.7	
	comp=Z,0.1nm,0.3s,baz=178,slow=9.0,SNR=3.5						
SADO	**Sadowa**	**16.15**	**52**	Lg	Lg	17 24 08.2	
	comp=Z,0.3nm,0.3s,baz=350,slow=17,SNR=3.4						
ILAR	**Eielson Array**	**41.05**	**330**	P	**P**	**17 23 33.7**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=108,slow=7.9,SNR=2.2						

*MOS **01** 17:22:49.7±0.8, 43°.61N×145°.78E, h122km, mb4.1/5, Error ellipse: s-maj=9.6km s-min=8.1km az=99.2*
*SKHL **01** 17:22:50.8±0.4, 43°.60N×145°.80E, h119km±4km, mb5.0/6, msha6.0/4*
*IDC **01** 17:22:51.9±1.6, 43°.62N×145°.76E, h127km±14km, mb3.6/16, mb1 3.7/21, mb1mx3.6/46, mbtmp4.0/21, MS2.6/1, Ms1 2.6/1, ms1mx2.2/41, Error ellipse: s-maj=15.6km s-min=13.0km az=136.0*
*JMA **01** 17:22:51.4±0.1, 43°.55N×145°.84E, h113km±1km, M4.0*
JMA Felt I J1.
*NIED **01** 17:22:51.5, 43°.55N×145°.84E, h113km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-8.59; $M_{\theta\theta}$1.84; $M_{\phi\phi}$6.75; $M_{r\theta}$-0.67; $M_{\theta\phi}$2.59; $M_{\phi r}$1.71; Fault plane solution: $M_0$8.42000×10^{14} NP1: ϕ_s195.00000°, δ50.00000°, λ-100.00000°. NP2: ϕ_s31.00000°, δ41.00000°, λ-78.00000°.*
*NEIC **01** 17:22:52.2±1.6, 43°.63N±0°.05×145°.7E±0°.1, h128km±5km, mb4.2/35 Error ellipse: s-maj=14.5km s-min=7.4km az=85.0*

ISC 01 17:22:50.5±0.6, 43°.55N±0°.05×145°.84E±0°.04, h116km±4km, n133, σ0°93/150, mb4.1/37, 4C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.20**	**201**	⇓P	**Pn**	**17 23 07.2**	**+0.6**
NEM2				*e*S	**Sn**	**17 23 18.7**	**0.0**
NMR	**Nemuro--Hokkai**	**0.20**	**204**	*e*PN	**Pn**	**17 23 07.2**	**+0.6**
NMR				*e*S	**Sn**	**17 23 18.8**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.20**	**204**	*i* P	**Pn**	**17 23 07.3**	**+0.6**
NMR				*i* S	**Sn**	**17 23 18.9**	**+0.2**
GLVR	**Golovnino**	**0.30**	**310**	*e*PN	**Pn**	**17 23 07.3**	**+0.3**
GLVR				*e*S	**Sn**	**17 23 20.7**	**+1.4**
GLVR				pmax	pmax		
	comp=Z,6μm,0.5s						
GLVR				smax	smax		
	comp=N,6μm,0.3s						
GLVR				smax	smax		
	comp=E,4μm,0.2s						
GLVR	**Golovnino**	**0.30**	**310**	*e*P	**Pn**	**17 23 07.2**	**+0.3**
GLVR				AMB	AMB	17 23 08.0	
	comp=E,3μm,0.4s						
GLVR				*e*S	**Sn**	**17 23 19.8**	**+0.5**
GLVR				A	A	17 23 22.0	
	comp=E,6μm,0.4s						
GLVR				A	A	17 23 22.0	
	comp=E,4μm,0.4s						
GRPR	**Tuman**	**0.45**	**354**	*e*PN	**Pn**	**17 23 07.3**	**-0.4**
GRPR				*e*S	**Sn**	**17 23 20.9**	**+0.2**
GRPR				pmax	pmax		
	comp=Z,2μm,0.1s						
GRPR				smax	smax		
	comp=N,7μm,0.5s						
GRPR				smax	smax		
	comp=E,4μm,0.1s						
GRPR	**Tuman**	**0.45**	**354**	*e*P	**Pn**	**17 23 07.5**	**-0.2**
GRPR				AMB	AMB	17 23 08.0	
	comp=E,2μm,0.3s						
GRPR				*e*S	**Sn**	**17 23 20.9**	**+0.2**
GRPR				A	A	17 23 21.0	
	comp=E,7μm,0.5s						
GRPR				A	A	17 23 21.0	
	comp=E,4μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.49**	**2**	*e*PN	**Pn**	**17 23 08.1**	**+0.2**
YUK				*e*S	**Sn**	**17 23 21.4**	**+0.3**
YUK				pmax	pmax		
	comp=Z,2μm,0.8s						
YUK				smax	smax		
	comp=E,3μm,0.4s						
YUK				smax	smax		
	comp=N,5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.49**	**2**	*i* P	**Pn**	**17 23 08.4**	**+0.5**
YUK				AMB	AMB	17 23 09.0	
	comp=N,2μm,0.6s						
YUK				*i* S	**Sn**	**17 23 21

comp=E,12nm,0.3s,baz=37,slow=33,SNR=8.1
ASAJ LR LR 17 24 16.0
comp=E,123nm,19.2s,baz=206,slow=36
ERM Erimo 2.50 233 *e*PN **Pn 17 23 32.2 +2.1**
ERM Erimo 2.50 233 Pn **Pn 17 23 32.0 +1.9**
JEM Erimo 2.50 233 **Pn 17 23 29.1 -0.9**
JEW Eniwo 3.29 259 Pn **Pn 17 23 42.0 +1.6**
YSS Yuzh-Sakhalins 4.04 328 *e*PN **Pn 17 23 50.7 +0.3**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 4.04 328 Pn **Pn 17 23 50.8 +0.3**
YSS Yuzh-Sakhalins 4.04 328 *e*P **Pn 17 23 50.7 +0.3**
YSS AMB AMB 17 23 57.1
comp=Z,20nm,1.0s
JTM Tenmabayashi 4.49 234 Pn **Pn 17 23 56.1 -0.4**
JMM Marumori 6.85 216 Pn **Pn 17 24 27.9 -0.4**
MJAR Matsushiro Arr 9.12 222 P **Pn 17 24 59.3 +0.2**
comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=4.1
USA0B Ussuriysk Arra 10.02 279 PN **Pn 17 25 11.2 0.0**
USA0B Ussuriysk Arra 10.02 279 Pn **Pn 17 25 11.2 0.0**
USRK Ussuriysk Ar. 10.02 279 P **Pn 17 25 10.7 -0.5**
baz=90,slow=13,SNR=8.7
KLR Kul'dur 11.26 305 P **Pn 17 25 30.0 +2.1**
comp=Z,0.5nm,0.3s,baz=118,slow=13,SNR=11
KLR Kul'dur 11.26 305 *i* PN **Pn 17 25 28.5 +0.6**
KLR Kul'dur 11.26 305 *e*P **Pn 17 25 28.5 +0.6**
MDJ Mudanjiang 11.74 281 Pn **Pn 17 25 33.2 -1.0**
EKMR Ekimchan 12.80 323 *e*P **Pn 17 25 47.0 -1.1**
CN2 Changchun 14.76 278 *e*P **Pn 17 26 11.0 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 14.91 252 P **Pn 17 26 14.6 -0.7**
comp=Z,0.1nm,0.3s,baz=64,slow=14,SNR=6.6
BMKR Bomnak 15.72 321 *e*P **Pn 17 26 22.9 -2.3**
ZEA Zeya 15.91 316 *e*P **P 17 26 32.1 +3.1**
ZEA Zeya 15.91 316 *e*P **Pn 17 26 26.3 -1.4**
KROS Kirovskiy 16.43 318 *e*P **Pn 17 26 32.0 -2.1**
YAK Yakutsk 20.82 338 P **P 17 27 20.9 -1.5**
comp=Z,3.1nm,0.6s,baz=175,slow=2.3,SNR=4.0
YAK Yakutsk 20.82 338 *i* P **P 17 27 20.5 -1.9**
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 20.82 338 IAmb IAmb 17 27 21.7
comp=Z,4.8nm,0.7s
ULN Ulaanbaatar 27.23 293 P **P 17 28 23.8 +0.2**
ULN pmax pmax
comp=Z,6.0nm,0.9s
ULN Ulaanbaatar 27.23 293 P **P 17 28 23.8 +0.2**
ULN IAmb IAmb 17 28 25.4
comp=Z,5.8nm,0.9s
ULN Ulaanbaatar 27.23 293 *e*P **P 17 28 23.8 +0.2**
SONM Songino Array 27.67 293 P **P 17 28 27.9 +0.4**
comp=Z,4.9nm,0.9s,baz=86,slow=8.9,SNR=21
SONM Songino Array 27.67 293 P **P 17 28 27.7 +0.2**
SONM IAmb IAmb 17 28 28.7
comp=Z,5.9nm,1.1s
H11N2 WAKE ISLAND Hy 29.59 137 T T 17 59 52.2
baz=328,slow=75,SNR=144
H11N1 WAKE ISLAND Hy 29.60 137 T T 17 59 57.4
baz=328,slow=75,SNR=120
H11N3 WAKE ISLAND Hy 29.61 137 T T 17 59 56.2
baz=328,slow=75,SNR=139
WAKE Wake Island 29.85 138 P **P 17 28 48.2 +1.4**
H11S1 WAKE ISLAND Hy 30.53 138 T T 18 00 56.9
baz=330,slow=76,SNR=18
H11S3 WAKE ISLAND Hy 30.54 138 T T 18 01 06.9
baz=330,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 30.55 138 T T 18 01 02.8
baz=330,slow=76,SNR=12
SVW2 Sparrevohn 38.35 42 P **P 17 30 00.1 +0.3**
SVW2 IAmb IAmb 17 30 11.0
comp=Z,4.4nm,1.3s
KDAK Kodiak Island 40.09 47 P **P 17 30 14.2 0.0**
comp=Z,2.9nm,0.5s,baz=282,slow=5.4,SNR=8.0
SKT Skwentna 40.27 40 P **P 17 30 14.7 -1.1**
SKT IAmb IAmb 17 30 23.6
comp=Z,4.7nm,1.3s
ZALV Zalesovo Beam 40.36 307 P **P 17 30 15.2 -1.3**
comp=Z,0.6nm,0.4s,baz=90,slow=4.4,SNR=3.7
ZALV PcP **PcP 17 32 17.6 +0.1**
comp=Z,0.7nm,0.6s,baz=56,slow=3.6,SNR=2.6
KTH Kantishna Hill 40.50 38 P **P 17 30 16.3 -1.4**
KTH IAmb IAmb 17 30 31.8
comp=Z,8.2nm,1.5s
MLY Manley 40.56 36 P **P 17 30 18.5 +0.4**
I23K Minto, Yukon-K 41.15 36 P **P 17 30 23.4 +0.6**
NEA2 Nenana 41.28 36 P **P 17 30 24.1 +0.1**
NEA2 IAmb IAmb 17 30 25.9
comp=Z,3.5nm,0.7s
GHO Glory Hole Cre 41.52 41 P **P 17 30 26.7 +0.7**
GHO IAmb IAmb 17 30 28.9
comp=Z,7.2nm,1.2s
COLA College 41.80 36 *i* P **P 17 30 29.1 +1.0**
COLA pmax pmax
comp=Z,7.0nm,1.1s
ILAR Eielson Array 42.21 36 P **P 17 30 31.6 +0.1**
comp=Z,2.0nm,0.9s,baz=275,slow=7.7,SNR=17
ILAR Eielson Array 42.21 36 P **P 17 30 31.4 -0.2**
SCM Sheep Creek Mo 42.27 40 P **P 17 30 31.5 -0.6**
SCM pmax pmax
comp=Z,10.0nm,1.2s
SCM Sheep Creek Mo 42.27 40 P **P 17 30 31.5 -0.6**
GLI Glacier Island 42.49 42 P **P 17 30 35.0 +1.2**
GLI IAmb IAmb 17 30 40.0
comp=Z,4.1nm,0.8s
PRP Porcupine Dome 42.74 35 P **P 17 30 36.7 +0.7**
PRP IAmb IAmb 17 30 37.5
comp=Z,4.4nm,0.8s
MK31 Makanchi Array 43.83 297 P **P 17 30 44.8 -0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 43.83 297 P **P 17 30 44.8 -0.1**
MKAR Makanchi Array 43.83 297 P **P 17 30 45.0 +0.1**
comp=Z,1.9nm,0.6s,baz=80,slow=8.8,SNR=31
MKAR PcP **PP 17 32 28.7 -0.2**
comp=Z,0.1nm,0.4s,baz=107,slow=4.8,SNR=2.5
MKAR Makanchi Array 43.83 297 P **P 17 30 44.8 0.0**
MKAR Makanchi Array 43.83 297 *e*P **P 17 30 45.0 +0.1**
MAKZ Makanchi 44.03 297 P **P 17 30 46.3 -0.1**
MAKZ pmax pmax
comp=Z,2.0nm,0.5s
MAKZ Makanchi 44.03 297 P **P 17 30 46.3 -0.1**
MAKZ IAmb IAmb 17 30 47.8
comp=Z,2.0nm,0.5s
VRDI Verde Repeater 44.19 41 P **P 17 30 48.4 +0.7**
VRDI IAmb IAmb 17 31 01.9
comp=Z,9.3nm,1.2s
K27K Chicken 44.37 37 P **P 17 30 49.6 +0.8**
K27K IAmb IAmb 17 30 50.0
comp=Z,2.2nm,0.6s
L27K Beaver Creek, 44.63 38 P **P 17 30 52.0 +1.0**
L27K IAmb IAmb 17 30 53.0
comp=Z,3.8nm,0.7s
BCAR Beaver Creek A 44.65 38 P **P 17 30 51.9 +0.8**
EGAK Eagle 44.65 36 P **P 17 30 51.0 -0.1**
EPYK Eagle Plains 46.21 33 P **P 17 31 03.4 -0.1**
INK Inuvik 47.06 30 P **P 17 31 09.7 -0.2**
comp=Z,1.1nm,0.5s,baz=308,slow=4.6,SNR=5.8
INK Inuvik 47.06 30 P **P 17 31 09.6 -0.2**
HYT Haines Junctio 47.10 41 P **P 17 31 12.4 +1.8**
AAK Ala-Archa 50.58 295 *i* P **P 17 31 35.9 -1.5**
AAK pmax pmax
comp=Z,5.0nm,0.4s
AAK Ala-Archa 50.58 295 *i* P **P 17 31 35.9 -1.5**
KK31 Karatay Array 52.96 297 P **P 17 31 54.3 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 52.96 297 P **P 17 31 54.3 -0.6**
KK31 IAmb IAmb 17 31 57.2
comp=Z,1.6nm,0.7s
KKAR Karatay Array 52.96 297 P **P 17 31 53.8 -1.1**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 52.96 297 P **P 17 31 53.8 -1.1**
KKAR Karatay Array 52.96 297 P **P 17 31 54.1 -0.7**
KKAR IAmb IAmb 17 31 57.2
comp=Z,1.6nm,0.7s
ARU Arti 53.84 317 *d* iP **P 17 32 00.5 -0.5**
ARU 17 34 01.8
ARU S **S 17 39 26.2 -0.5**
ARU SS **SKiKP 17 43 03.3 +1.5**
ARU pmax pmax
comp=Z,3.0nm,1.2s
ARU Arti 53.84 317 *i* P **P 17 32 00.5 -0.5**
ABKAR Abkulak array 56.44 308 P **P 17 32 20.1 +0.2**
ABKAR IAmb IAmb 17 32 21.0
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 56.50 33 P **P 17 32 20.2 +0.2**
comp=Z,0.8nm,0.6s,baz=303,slow=7.7,SNR=4.2
GSI Gunungsitoli 60.04 239 P **P** 17 32 40.4 -4.9
WRA Warramunga Arr 64.05 192 P **P 17 33 12.2 +0.4**
comp=Z,1.0nm,0.8s,baz=15,slow=6.6,SNR=5.9
WRA Warramunga Arr 64.05 192 *i* P **P 17 33 12.8 +0.9**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 64.05 192 IAmb IAmb 17 33 21.1
comp=Z,0.2nm,1.2s
SUMG Summit 64.14 1 P **P 17 33 13.2 +0.8**
SUMG pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 64.14 1 P **P 17 33 13.2 +0.8**
FINES FINESS Array B 64.62 333 P **P 17 33 14.8 -0.3**
comp=Z,2.6nm,0.5s,baz=49,slow=8.1,SNR=23
ASAR Alice Springs 67.78 192 P **P 17 33 36.6 +0.9**
comp=Z,0.8nm,0.6s,baz=8.9,slow=5.1,SNR=19
BOZ Bozeman (W) 67.78 48 P **P 17 33 36.4 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 67.78 48 P **P 17 33 36.4 +0.6**
BOZ IAmb IAmb 17 33 37.4
comp=Z,2.2nm,0.8s
KVN Kaiserville 68.22 56 P **P 17 33 39.9 +1.1**
KVN pmax pmax
comp=Z,2.0nm,0.9s
KVN Kaiserville 68.22 56 P **P 17 33 39.9 +1.1**
KVN IAmb IAmb 17 33 40.5
comp=Z,2.2nm,0.9s
NVAR Mina Array Bea 68.49 57 P **P 17 33 41.2 +0.7**
comp=Z,0.5nm,0.3s,baz=282,slow=7.4,SNR=7.3
MNK Minsk 68.97 326 *i* P P 17 33 49.0 +6.2
MNK *i* *PP sP 17 34 18.7 -5.4
MNK *i* 17 36 26.3
MNK Minsk 68.97 326 *i* P P 17 33 49.0 +6.2
MNK *i* P P 17 33 49.0 +6.2
MNK *i* P P 17 33 49.0 +6.2
baz=224
MNK *i* pP sP 17 34 18.8 -5.3
MNK *i* PP PP 17 36 26.3 +10
MNK *i* PPP PPP 17 38 09.8
MNK *i* S S 17 42 50.0 +12
MNK *i* SS SS 17 47 23.1 +19
MNK *i* SSS SSS 17 50 53.6
MNK *i* LR LR 18 03 16.7
NOA NORSAR Array B 69.44 338 P **P 17 33 44.4 -1.3**
comp=Z,0.3nm,0.6s,baz=38,slow=5.7,SNR=3.7
BW06 Boulder Array 70.76 49 P **P 17 33 54.3 -0.1**
PD31 Pinedale Array 70.76 49 P **P 17 33 53.6 -0.8**
PDAR Pinedale Array 70.76 49 P **P 17 33 54.3 -0.1**
comp=Z,1.0nm,0.5s,baz=240,slow=1.7,SNR=7.9
PDAR Pinedale Array 70.76 49 P **P 17 33 54.0 -0.3**
AKASG Malin Array Be 71.17 323 P **P 17 33 55.6 -0.8**
comp=Z,0.1nm,0.3s,baz=39,slow=6.0,SNR=4.8
AKASG Malin Array Be 71.17 323 *i* P **P 17 33 57.7 +1.4**
ARMA Armidale 73.80 175 P **P 17 34 10.8 -1.3**
CLL Collm 77.05 332 *e*P **P 17 34 30.0 -0.5**
CLL Collm 77.05 332 *e*P **P 17 34 30.0 -0.5**
TXAR Lajitas Array 83.55 55 P **P 17 35 06.3 +0.4**
comp=Z,1.0nm,0.8s,baz=305,slow=3.6,SNR=12

PRU 01 17:34:19.3±0.0, 49°.83N×18°.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*P	Pg	17 34 24.1	-0.1
OKC	**Ostrava-Krasne**	**0.25**	**272**	*e*PG	Pg	17 34 24.1	-0.1
OKC				*e*SG	Sg	17 34 27.0	-0.5
comp=Z,6.3nm,0.4s							
MORC	**Moravsky Berou**	**0.65**	**266**	*e*PG	Pg	17 34 31.3	-0.4
MORC				*e*SG	Sg	17 34 39.6	-0.5
KRLC	**Kraliky**	**1.16**	**283**	*e*PG	Pg	17 34 40.0	-1.6
KRLC				*e*SG	Sg	17 34 56.3	-0.3
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	17 34 46.9	-0.9
DPC				*e*SG	Sg	17 35 07.4	-0.7

IDC 01 17:41:12.1±2.9, 5°.79S×148°.06E, h114km±22km, mb3.6/2, mb1 3.7/4, mb1mx3.2/33, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/27, Error ellipse: s-maj=57.7km s-min=22.9km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.70**	**194**	P	Pn	17 42 09.2	+1.6
15nm,0.3s,baz=356,slow=5.7,SNR=56							
PMG				S	Sn	17 42 49.8	-0.7
3.5nm,0.3s,baz=6.7,slow=9.0,SNR=3.5							
SIJI	**Sorong**	**17.45**	**286**	LR	LR	17 52 27.6	
comp=Z,85nm,20.7s,baz=184,slow=39							
WRA	**Warramunga Arr**	**19.39**	**222**	P	P	17 45 30.1	+0.8
0.6nm,0.3s,baz=46,slow=11,SNR=32							
ASAR	**Alice Springs**	**22.40**	**216**	P	P	17 46 01.7	+0.3
1.1nm,0.5s,baz=48,slow=9.7,SNR=34							
ASAR				PcP	PcP	17 49 51.1	-1.2
0.1nm,0.5s,baz=11,slow=2.5,SNR=4.1							
ASAR				S	S	17 50 00.8	+1.1
0.5nm,0.9s,baz=27,slow=25,SNR=4.5							
FITZ	**Fitzroy Crossi**	**25.07**	**239**	P	P	17 46 26.6	+0.4
3.0nm,0.5s,baz=46,slow=9.6,SNR=20							
TORD	**Torodi Ar. Bea**	**146.06**	**285**	PKPbc	PKPdf	18 00 38.4	-0.5
0.5nm,0.6s,baz=95,slow=3.5,SNR=2.4							

BJI ***01*** *18:24:39.0±0.0, 59°.53S×35°.16W, h15km, mB5.7/41, Ms5.3/31, Ms7 5.1/35*
MOS ***01*** *18:24:40.1±0.9, 60°.34S×35°.11W, h10km, mb5.3/7, MS4.9/5, Error ellipse: s-maj=26.9km s-min=9.4km az=103.4*
NEIC ***01*** *18:24:42.1±1.8, 60°.32S±0°.08×35°.3W±0°.2, h14km±2km, mb5.3/75, Error ellipse: s-maj=13.0km s-min=11.3km az=71.0*
GCMT ***01*** *18:24:44.1±0.1, 60°.69S±0°.01×35°.19W±0°.02, h12km, MW5.5/137, Moment Tensor Solution. s98,c169; s137,c258; Duration: 1s4 Moment tensor: Scale 10^17 Nm; M_{rr}-1.24±.03; $M_{\theta\theta}$-0.05±.03; $M_{\phi\phi}$1.30±.03; $M_{r\theta}$1.25±.08; $M_{\theta\phi}$1.24±.02; $M_{\phi r}$0.83±.07; Best double couple: $M_0$2.28400×10^17 NP1:ϕ_s1.00000°, δ32.00000°, λ-138.00000°. NP2:ϕ_s234.00000°, δ69.00000°, λ-65.00000°. Principal axes: T 2.5380, Plg20.0000°, Azm305.0000°; N -0.5000, Plg23.0000°, Azm44.0000°; P -2.0310, Plg58.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***01*** *18:24:47.8±3.7, 60°.37S×35°.51W, h57km±32km, mb4.7/16, mb1 4.8/18, mb1mx4.7/26, mbtmp5.0/18, ML4.1/1, MS4.9/15, Ms1 4.9/15, ms1mx4.7/25 Error ellipse: s-maj=17.0km s-min=12.0km az=61.0*

ISC 01 18:24:41.1±0.2, 60°.45S±0°.05×35°.31W±0°.06, h10km, n481, σ1 55/476, mb5.3/48, MS5.0/48, 6C-5D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.21**	**354**	P	Pn	18 26 12.1	-0.6
HOPE	**Hope Point**	**6.21**	**354**		Pn	18 26 12.1	-0.6
PMSA	**Palmer Station**	**13.84**	**239**	P	Pn	18 27 59.7	+2.8
1.0nm,0.3s,baz=81,slow=14,SNR=6.0							
PMSA				LR	LR	18 33 00.5	
comp=Z,5μm,18.5s,baz=70,slow=36							
VNA3	**Neumayer Olymp**	**14.91**	**147**	P	Pn	18 28 07.9	-3.7
VNA1	**Neumayer--Stat**	**14.99**	**144**	P	Pn	18 28 09.2	-3.5
EFI	**East Falkland**	**15.37**	**295**	*i* P	P	18 28 20.9	-1.5
EFI	**East Falkland**	**15.37**	**295**		P	18 28 20.6	-1.8
SNAA	**Sanae**	**17.03**	**145**	P	Pn	18 28 38.6	-0.4
SNAA	**Sanae**	**17.03**	**145**	P	Pn	18 28 39.1	+0.1
1.4nm,0.3s,baz=132,slow=5.0,SNR=66							
SNAA				S	Sn	18 31 37.7	-10
1.2nm,0.3s,baz=337,slow=20,SNR=6.5							
SNAA				LR	LR	18 33 57.9	
comp=Z,7μm,19.4s,baz=294,slow=32							
SNAA	**Sanae**	**17.03**	**145**	*d* iP	Pn	18 28 39.5	+0.6
SNAA				pmax	pmax		
comp=Z,248nm,1.7s							
SNAA	**Sanae**	**17.03**	**145**	P	Pn	18 28 39.3	+0.4
MG01	**Puerto William**	**18.00**	**273**		P	18 28 52.8	+1.2
MG01				IAmb	IAmb	18 29 07.2	
comp=Z,268nm,1.3s							
USHA	**Ushuaia**	**18.45**	**273**	P	Pn	18 28 59.3	+2.7
baz=122,slow=9.9,SNR=7.3							
MG02	**Cerro Sombrero**	**19.98**	**277**	P	P	18 29 13.9	+0.6
GO10	**Punta Arenas**	**20.67**	**275**	P	Pn	18 29 22.5	-0.5
GO09	**Cerro Castillo**	**22.43**	**278**	P	P	18 29 39.1	-0.6
TRQA	**Tornquist**	**28.01**	**311**	*e*P	P	18 30 32.4	+0.4
PLCA	**Paso Flores**	**29.28**	**296**	P	P	18 30 42.8	-0.5
comp=Z,7.1nm,0.8s,baz=145,slow=8.2,SNR=17							
PLCA				LR	LR	18 41 48.4	
comp=Z,2μm,20.0s,baz=134,slow=35							
PLCA	**Paso Flores**	**29.28**	**296**	*e*P	P	18 30 41.6	-1.7
PLCA	**Paso Flores**	**29.28**	**296**	P	P	18 30 41.6	-1.7
PLCA	**Paso Flores**	**29.28**	**296**	*e*P	P	18 30 42.6	-0.7
QSPA	**South Pole Qui**	**29.79**	**180**	P	P	18 30 49.9	+2.2
comp=Z,88nm,1.0s,baz=186,slow=4.3,SNR=161							
QSPA				LR	LR	18 41 58.1	
comp=Z,3μm,21.5s,baz=186,slow=34							
QSPA	**South Pole Qui**	**29.79**	**180**	P	P	18 30 49.8	+2.0
SYO	**Syowa Base**	**31.06**	**138**	*e*P	P	18 30 58.2	-0.4
SYO	**Syowa Base**	**31.06**	**138**	*i* sP	sP	18 31 02.6	+1.3
PLTB	**Pedras Altas**	**31.14**	**329**	P	P	18 30 58.8	-0.9
PLTB				IAmb	IAmb	18 31 06.6	
comp=Z,25nm,0.8s							
PLTB	**Pedras Altas**	**31.14**	**329**	*e*P	P	18 30 59.7	0.0
CPSB	**Cacapava Do Su**	**32.39**	**330**	*e*P	P	18 31 11.5	+0.8
TER01	**Tubaro-SC**	**33.25**	**337**	*e*P	P	18 31 17.4	-0.8
BO02	**Sierra Bellavi**	**34.35**	**302**	P	P	18 31 27.6	-0.2
GO05	**Huala**	**34.65**	**301**	P	P	18 31 30.7	+0.4
BO01	**Tunca**	**34.82**	**302**	P	P	18 31 29.3	-2.5
MT09	**Talagante**	**35.31**	**303**	P	P	18 31 34.9	-1.4
MT09				IAmb	IAmb	18 31 54.0	
comp=Z,27nm,0.8s							
VA05	**Santo Domingo**	**35.68**	**302**	P	P	18 31 36.4	-2.8
VA05				IAmb	IAmb	18 31 45.9	
comp=Z,58nm,1.1s							
MT02	**Curacav**	**35.82**	**303**	P	P	18 31 39.0	-1.5
MT02				IAmb	IAmb	18 31 49.4	
comp=Z,43nm,1.0s							
VA03	**San Esteban**	**36.01**	**304**	P	P	18 31 40.6	-1.6
VA03				IAmb	IAmb	18 32 08.6	
comp=Z,60nm,0.9s							
ZON	**Zonda**	**36.33**	**308**	P	P	18 31 44.1	-0.7
ZON				pmax	pmax		
comp=Z,53nm,1.3s							
ZON	**Zonda**	**36.33**	**308**	P	P	18 31 44.1	-0.7
ZON				IAmb	IAmb	18 31 59.2	
comp=Z,53nm,1.3s							
CPUP	**Villa Florida**	**37.29**	**326**	P	P	18 31 53.0	+0.1
comp=Z,17nm,0.7s,baz=158,slow=7.2,SNR=33							
CPUP				LR	LR	18 45 48.2	
comp=Z,2μm,21.7s,baz=164,slow=34							
CPUP	**Villa Florida**	**37.29**	**326**	P	P	18 31 52.2	-0.7
CPUP				pmax	pmax		
comp=Z,78nm,1.4s							
CPUP	**Villa Florida**	**37.29**	**326**	P	P	18 31 52.2	-0.7
CPUP				IAmb	IAmb	18 32 05.2	
comp=Z,78nm,1.4s							
CPUP	**Villa Florida**	**37.29**	**326**	*e*P	P	18 31 53.1	+0.1
CO02	**Combarbal**	**37.56**	**305**	P	P	18 31 54.9	-0.5
CO02				IAmb	IAmb	18 32 11.0	
comp=Z,45nm,0.8s							
CO03	**El Pedregal**	**37.75**	**306**	P	P	18 31 57.0	0.0
CO03				IAmb	IAmb	18 32 07.8	
comp=Z,51nm,1.1s							
PARB	**Paraibuna**	**37.77**	**344**	*e*P	P	18 31 57.7	+0.5
SPB	**Sao Paulo**	**37.79**	**342**	*e*P	P	18 31 57.9	+0.7
VAO	**Valinhos**	**38.30**	**343**	*e*P	P	18 32 02.9	+1.3
GO04	**Tololo Observa**	**38.38**	**306**	P	P	18 32 02.2	-0.3
GO04				IAmb	IAmb	18 32 19.1	
comp=Z,75nm,1.1s							
FRTB	**Fartura**	**38.39**	**339**	*e*P	P	18 32 03.7	+1.4
VAS01	**Vassouras-RJ**	**38.56**	**348**	*e*P	P	18 32 04.7	+0.9
CAM01	**Campos-RJ**	**38.84**	**351**	*e*P	P	18 32 08.6	+2.5
RCLB	**Rio Claro- Sao**	**38.95**	**342**	*e*P	P	18 32 08.4	+1.3
MAW	**Mawson**	**39.18**	**143**	P	P	18 32 09.6	+1.1
comp=Z,52nm,0.8s,baz=221,slow=8.3,SNR=62							
MAW				LR	LR	18 46 42.4	
comp=Z,1μm,19.3s,baz=246,slow=34							
MAW	**Mawson**	**39.18**	**143**	P	P	18 32 08.9	+0.4
MAW				pmax	pmax		
comp=Z,16nm,0.9s							
MAW	**Mawson**	**39.18**	**143**	P	P	18 32 08.9	+0.4
LCO	**Las Campanas**	**39.37**	**307**	P	P	18 32 11.0	+0.2
LCO				pmax	pmax		
comp=Z,49nm,1.2s							
LCO	**Las Campanas**	**39.37**	**307**	P	P	18 32 11.0	+0.2
TRCB	**Terra Rica**	**39.53**	**334**	P	P	18 32 09.4	-2.5
TRCB				IAmb	IAmb	18 32 24.2	
comp=Z,62nm,1.5s							
ALF01	**Guarapari-ES**	**39.97**	**352**	*e*P	P	18 32 16.7	+1.2
BSCB	**Bom Sucesso**	**39.98**	**346**	*e*P	P	18 32 16.4	+0.7
AC04	**Llanos de Chal**	**40.24**	**307**	P	P	18 32 16.7	-1.0
AC04				IAmb	IAmb	18 32 34.0	
comp=Z,100nm,1.0s							
PCMB	**Pacaembu**	**40.40**	**337**	*e*P	P	18 32 19.0	-0.1
BB19B	**Bebedouro**	**40.44**	**341**	*e*P	P	18 32 19.2	-0.3
GO03	**Copiap**	**40.45**	**308**	P	P	18 32 18.5	-1.1
AC02	**Maricunga**	**40.71**	**310**	P	P	18 32 22.6	+0.3
AC02				IAmb	IAmb	18 32 34.5	
comp=Z,60nm,1.1s							
RIB01	**Linhares ES**	**41.25**	**353**	*e*P	P	18 32 27.1	+1.0
SBA	**Scott Base**	**41.29**	**187**	P	P	18 32 27.4	+1.6
SBA				*PP	pP	18 32 27.8	-0.1
SBA				pmax	pmax		
comp=Z,157nm,1.5s							
SBA	**Scott Base**	**41.29**	**187**	P	P	18 32 27.4	+1.6
SBA	**Scott Base**	**41.29**	**187**		pP	18 32 27.8	-0.1
BSFB	**Barra de Sao F**	**41.75**	**352**	*e*P	P	18 32 30.6	+0.3
VNDA	**Vanda**	**41.87**	**186**	P	P	18 32 32.8	+2.1
comp=Z,23nm,1.0s,baz=183,slow=7.3,SNR=71							
VNDA				LR	LR	18 49 22.6	
comp=Z,1μm,20.6s,baz=174,slow=35							
VNDA	**Vanda**	**41.87**	**186**	P	P	18 32 32.8	+2.1
VNDA				pmax	pmax		
comp=Z,64nm,1.2s							
VNDA	**Vanda**	**41.87**	**186**	P	P	18 32 32.8	+2.1
VNDA				IAmb	IAmb	18 32 34.8	
comp=Z,64nm,1.1s							
SJMB	**Sao Joao De Ma**	**41.91**	**352**	*e*P	P	18 32 32.4	+0.9
ITRB	**Iturama**	**42.09**	**339**	*e*P	P	18 32 32.8	-0.2
GO02	**Mina Guanaco**	**42.40**	**311**	P	P	18 32 35.9	0.0
GO02				IAmb	IAmb	18 32 47.3	
comp=Z,92nm,1.2s							
AQDB	**Aquidauana**	**42.46**	**331**	P	P	18 32 34.1	-1.9
AQDB	**Aquidauana**	**42.46**	**331**	*e*P	P	18 32 34.6	-1.4
DIAM	**Diamantina, MG**	**42.52**	**348**	*e*P	P	18 32 37.4	+0.7
NAN01	**Guarapari, ES**	**42.69**	**353**	*e*P	P	18 32 38.2	+0.4
IPMB	**Ipameri, GO**	**43.41**	**342**	*e*P	P	18 32 43.6	-0.2
GUA01	**Guaratinga, BA**	**43.92**	**354**	*e*P	P	18 32 48.6	+0.7
MC01	**Montes Claros**	**44.12**	**348**	*e*P	P	18 32 50.0	+0.5
PB15	**IPOC Station P**	**44.13**	**312**	P	P	18 32 47.6	-2.1
PB15				IAmb	IAmb	18 33 09.1	
comp=Z,34nm,1.0s							
LVC	**Limon Verde**	**44.47**	**313**	*ce*P	P	18 32 54.3	+1.6
LVC				pmax	pmax		
comp=Z,40nm,1.7s							
LVC	**Limon Verde**	**44.47**	**313**	P	P	18 32 50.6	-2.0
LVC	**Limon Verde**	**44.47**	**313**	*e*P	P	18 32 51.6	-1.0
PB06	**IPOC Station P**	**44.63**	**312**	P	P	18 32 53.3	-0.4
PB06				IAmb	IAmb	18 33 05.1	
comp=Z,70nm,1.2s							
PP1B	**Ponte de Pedra**	**45.05**	**333**	*e*P	P	18 32 56.5	-0.4
PB09	**IPOC Station P**	**45.34**	**313**	P	P	18 33 00.1	+0.7
NBIT	**Itapeh - BA**	**45.54**	**354**	*e*P	P	18 33 01.4	+0.7
PB07	**IPOC Station P**	**45.64**	**312**	P	P	18 32 59.9	-1.8
PB07				IAmb	IAmb	18 33 12.7	
comp=Z,65nm,1.1s							
BDFB	**Brasilia**	**45.68**	**343**	P	P	18 33 01.1	-0.9
comp=Z,4.9nm,0.7s,baz=169,slow=2.8,SNR=6.6							
BDFB				LR	LR	18 52 14.9	
comp=Z,2μm,18.

PB08	IPOC Station P	46.83	314	P	P	18 33 11.1	-0.1
PB08				IAmb	IAmb	18 33 23.6	
	comp=Z,43nm,1.0s						
SALV	Santo Antonio	46.87	333	eP	P	18 33 10.5	-0.7
PB11	IPOC Station P	47.36	314	P	P	18 33 15.1	-0.1
MNMC	Minye Minye	47.92	314	P	P	18 33 19.7	0.0
PTLB	Pontes e Lacer	48.15	328	eP	P	18 33 20.4	-0.7
SDBA	SAO DESIDERIO	48.47	347	eP	P	18 33 24.0	+0.3
PB16	IPOC Station P	48.62	315	P	P	18 33 25.5	+0.1
PB16				IAmb	IAmb	18 33 37.1	
	comp=Z,46nm,1.2s						
PEXB	Peixe	49.20	343	eP	P	18 33 29.1	-0.2
NBPN	Ponto Novo - B	49.64	354	eP	P	18 33 32.0	-0.6
SNDB	Serra Nova Dou	49.80	339	eP	P	18 33 33.6	-0.2
LPAZ	La Paz	50.04	317	P	P	18 33 36.7	+0.3
	comp=Z,7.2nm,0.8s,baz=147,slow=5.4,SNR=26						
LPAZ				LR	LR	18 55 22.9	
	comp=Z,1µm,20.8s,baz=158,slow=37						
LPAZ	La Paz	50.04	317	eP	P	18 33 36.8	+0.4
LPAZ	La Paz	50.04	317	P	P	18 33 36.2	-0.2
LPAZ				IAmb	IAmb	18 33 58.9	
	comp=Z,22nm,0.9s						
NBAN	Anadia - AL	50.68	359	eP	P	18 33 41.1	+0.6
CASY	Casey	51.08	163	P	P	18 33 44.3	+1.4
BOSA	Boshof	51.10	80	P	P	18 33 44.1	+0.3
	comp=Z,29nm,0.9s,baz=213,slow=7.5,SNR=29						
BOSA				LR	LR	18 50 44.3	
	comp=Z,915nm,21.5s,baz=216,slow=30						
BOSA	Boshof	51.10	80	P	P	18 33 43.7	-0.1
BOSA				pmax	pmax		
	comp=Z,53nm,1.1s						
BOSA	Boshof	51.10	80	P	P	18 33 43.6	-0.1
BOSA				IAmb	IAmb	18 33 45.2	
	comp=Z,53nm,1.1s						
CLDB	Colider	51.76	334	eP	P	18 33 47.9	-0.7
SMTB	Santa Maria do	52.29	345	eP	P	18 33 52.5	-0.1
NBMA	Muriti-CE	53.03	356	eP	P	18 33 59.5	+1.4
LBTB	Lobatse	54.28	78	P	P	18 34 07.1	-0.1
LBTB				pmax	pmax		
	comp=Z,60nm,0.8s						
LBTB	Lobatse	54.28	78	P	P	18 34 07.1	-0.1
H10N1	ASCENSION HYDR	54.77	26	T	T	19 33 35.1	
	baz=192,slow=74,SNR=9208						
H10N3	ASCENSION HYDR	54.77	26	T	T	19 33 41.5	
	baz=192,slow=74,SNR=8149						
H10N2	ASCENSION HYDR	54.79	26	T	T	19 33 42.8	
	baz=192,slow=74,SNR=7512						
NBPB	Pedra_Branca-C	54.87	355	eP	P	18 34 12.1	+0.7
PRPB	Parauapebas	55.25	342	eP	P	18 34 13.8	-0.4
NPGB	Novo Progresso	55.38	336	eP	P	18 34 13.9	-1.3
SAML	Samuel	55.44	326	P	P	18 34 14.9	-0.7
SAML	Samuel	55.44	326	P	P	18 34 14.9	-0.7
TSUM	Tsumeb	55.49	66	P	P	18 34 16.6	+0.5
TSUM				IAmb	IAmb	18 34 17.7	
	comp=Z,32nm,1.1s						
ETMB	Extrema	55.50	322	eP	P	18 34 15.7	-0.3
NBPS	Pedro II - PI	56.11	353	eP	P	18 34 21.0	+0.5
NBCL	Cascavel-CE	56.13	356	eP	P	18 34 21.2	+0.7
ITTB	Itaituba	58.06	336	eP	P	18 34 33.0	-1.2
TMAB	Tom-Au,PA,Br	58.75	345	eP	P	18 34 39.6	+0.6
CZSB	Cruzeiro do Su	59.58	316	eP	P	18 34 44.6	-0.1
MALB	Monte Alegre	60.23	338	eP	P	18 34 48.6	-0.5
MCPB	Macapa, AP	61.30	341	eP	P	18 34 55.8	-0.7
PTGA	Pitinga	62.51	332	P	P	18 35 02.5	-2.2
LSZ	Lusaka	63.84	74	P	P	18 35 13.7	0.0
LSZ				pmax	pmax		
	comp=Z,34nm,1.0s						
LSZ	Lusaka	63.84	74	P	P	18 35 13.7	0.0
LSZ				IAmb	IAmb	18 35 15.1	
	comp=Z,34nm,1.0s						
BOAV	Boa Vista	65.66	332	eP	P	18 35 24.1	-1.2
PTLC	Puerto Leguiza	67.66	317	eP	P	18 35 35.9	-2.3
OTAV	Otavalo	69.01	313	ceP	P	18 35 48.9	+1.8
OTAV				pmax	pmax		
	comp=Z,47nm,1.3s						
OTAV	Otavalo	69.01	313	P	P	18 35 46.3	-0.8
OTAV				IAmb	IAmb	18 35 54.0	
	comp=Z,40nm,1.1s						
OTAV	Otavalo	69.01	313	eP	P	18 35 49.3	+2.2
FLOC	Florencia	69.27	316	P	P	18 35 46.6	-1.6
FLOC				IAmb	IAmb	18 35 59.7	
	comp=Z,44nm,1.4s						
FLOC	Florencia	69.27	316	eP	P	18 35 49.3	+1.0
GCUF	Volcan Galeras	69.53	314	eP	P	18 35 56.0	+5.6
SOTA	Rioblanco	70.12	315	eP	P	18 35 53.1	-0.9
PCON	Cinco Dias	70.22	316	eP	P	18 35 58.8	+4.1
OPO	Ambohidratompo	70.35	93	P	P	18 35 57.5	+2.5
	comp=Z,9.2nm,0.8s,baz=223,slow=6.3,SNR=8.8						
LIC	Lamto	70.61	32	eP	P	18 35 55.8	-0.5
	comp=Z,76nm,0.8s						
KIC	Kosan Boka	70.81	32	eP	P	18 35 58.0	+0.4
	comp=Z,29nm,0.9s						
PRAC	Prado	71.01	318	eP	P	18 35 59.8	+0.9
TIC	Toumodi	71.01	32	eP	P	18 36 00.4	+1.6
ORTC	Ortega, Tolima	71.31	317	eP	P	18 35 58.8	-1.8
YOTC	Yotoco, Valle	71.75	316	eP	P	18 36 02.7	-0.8
ROSC	El Rosal	71.87	319	P	P	18 36 03.4	-1.1
	comp=Z,6.7nm,0.5s,baz=71,slow=21,SNR=1.2						
ROSC				LR	LR	19 09 29.3	
	comp=Z,915nm,19.6s,baz=214,slow=37						
ROSC	El Rosal	71.87	319	P	P	18 36 02.7	-1.8
ROSC				pmax	pmax		
	comp=Z,31nm,1.3s						
ROSC	El Rosal	71.87	319	P	P	18 36 02.7	-1.8
ROSC				IAmb	IAmb	18 36 19.3	
	comp=Z,31nm,1.3s						
TOLC	Tolima	71.97	318	eP	P	18 36 03.6	-1.4
GUY2C	Guyana, Caldas	72.58	318	eP	P	18 36 06.5	-2.3
PLMC	San Jos del P	72.59	317	eP	P	18 36 08.4	0.0
NORC	Norcasia	72.73	318	eP	P	18 36 07.5	-1.8
CBOC	Ciudad Bolivar	73.39	317	eP	P	18 36 12.2	-1.0
ZARC	Zaragoza, Cauc	74.54	319	eP	P	18 36 18.2	-1.6
SDV	Santo Domingo	74.55	324	P	P	18 36 19.3	-0.8
LTZ	Lake Taylor	74.68	201	P	P	18 36 21.6	+1.2
LTZ				IAmb	IAmb	18 36 28.1	
	comp=Z,57nm,1.2s						
SMLC	San Martn de	75.52	320	eP	P	18 36 23.7	-1.7
SJCC	San Jacinto, C	76.90	320	P	P	18 36 33.0	-0.3
SJCC	San Jacinto, C	76.90	320	eP	P	18 36 30.4	-2.9
MBAR	Mbarara	77.86	69	iP	P	18 36 42.3	+3.4
MBAR	Mbarara	77.86	69	P	P	18 36 37.3	-1.6
URZ	Urewera	78.11	206	P	P	18 36 40.9	+1.0
	comp=Z,5.9nm,0.9s,baz=115,slow=22,SNR=3.4						
URZ				LR	LR	19 07 12.1	
	comp=Z,296nm,19.2s,baz=211,slow=33						
URZ	Urewera	78.11	206	IAmb	IAmb	18 36 51.5	
	comp=Z,25nm,1.0s						
KOWA	Kowa	78.80	31	P	P	18 36 44.3	+0.5
TOA0	Torodi Ar. Sit	79.08	37	P	P	18 36 45.4	0.0
TOA0				IAmb	IAmb	18 36 58.8	
	comp=Z,40nm,0.8s						
TORD	Torodi Ar. Bea	79.08	37	P	P	18 36 46.0	+0.6
	comp=Z,39nm,1.0s,baz=201,slow=6.4,SNR=100						
TORD				LR	LR	19 04 12.8	
	comp=Z,1µm,21.8s,baz=200,slow=30						
TORD	Torodi Ar. Bea	79.08	37	P	P	18 36 45.2	-0.1
TORD				IAmb	IAmb	18 36 58.7	
	comp=Z,39nm,0.9s						
KIBK	Kibwezi	79.80	77	P	P	18 36 50.6	+1.1
KMBO	Kilima Mbogo	80.47	75	P	P	18 36 56.0	+2.7
	comp=Z,3.2nm,1.0s,baz=211,slow=7.6,SNR=6.6						
KMBO				LR	LR	19 08 29.9	
	comp=Z,700nm,21.5s,baz=108,slow=33						
KMBO	Kilima Mbogo	80.47	75	iP	P	18 36 57.7	+4.4
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JTS	Las Juntas de	80.69	311	iP	P	18 36 54.8	+0.7
JTS				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TBI	Tubuai	81.03	238	eS	S	18 47 03.3	-1.8
	comp=Z,617nm,24.8s						
TBI	Tubuai	81.03	238	eLQ	LQ	18 58 56.0	
	comp=Z,1µm,32.2s						
TBI				eLR	LR	19 02 17.5	
	comp=Z,725nm,26.5s,baz=156						
OUZ	Omahuta	81.76	204	P	P	18 37 00.2	+0.5
LODK	Lodwar	83.55	71	P	P	18 37 08.9	-0.3
NWAO	Narrogin (SRO)	84.27	157	LR	LR	19 12 16.8	
	comp=Z,466nm,18.3s,baz=180,slow=34						
CAN	Canberra	84.52	184	P	P	18 37 13.7	-0.3
CAN				pmax	pmax		
	comp=Z,39nm,1.0s						
CAN	Canberra	84.52	184	P	P	18 37 13.7	-0.3
PPT2	Papeete2	86.19	241	eS	S	18 47 56.2	-1.2
	comp=Z,691nm,24.0s						
PPT2	Papeete2	86.19	241	eLQ	LQ	19 00 49.4	
	comp=Z,2µm,29.8s						
PPT2				eLR	LR	19 04 43.1	
	comp=Z,634nm,23.2s						
BBOO	Buckleboo	86.81	173	P	P	18 37 25.5	+0.1
STKA	Stephens Creek	87.98	177	P	P	18 37 30.9	-0.1
	comp=Z,15nm,0.8s,baz=156,slow=3.6,SNR=21						
STKA	Stephens Creek	87.98	177	eP	P	18 37 30.0	-1.0
STKA	Stephens Creek	87.98	177	P	P	18 37 31.1	+0.1
FORT	Forrest	88.09	166	P	P	18 37 31.5	-0.1
ARMA	Armidale	89.29	186	P	P	18 37 38.1	+0.7
ARMA				IAmb	IAmb	18 38 02.1	
	comp=Z,29nm,1.4s						
TAOE	Nuku Hiva Isla	89.58	253	eLR	LR	19 06 10.2	
	comp=Z,1µm,31.1s						
H08S1	Diego Carcia H	92.03	109	T	T	20 20 32.0	
	baz=214,slow=76,SNR=46						
H08S2	Diego Garcia H	92.03	109	T	T	20 20 36.2	
	baz=214,slow=76,SNR=29						
H08S3	Diego Garcia H	92.05	109	T	T	20 20 33.5	
	baz=214,slow=76,SNR=70						
ASAR	Alice Springs	95.73	170	P	P	18 38 06.2	-0.9
	comp=Z,7.3nm,0.8s,baz=177,slow=4.0,SNR=58						
ASAR				PP	PP	18 41 55.8	-1.9
	comp=Z,5.3nm,0.9s,baz=180,slow=7.8,SNR=12						
AS31	Alice Springs	95.73	170	P	P	18 38 06.2	-1.0
PSA00	Pilbara Seismi	95.81	157	P	P	18 38 07.4	-0.1
PSA00				IAmb	IAmb	18 38 08.6	
	comp=Z,12nm,1.1s						
DZM	Mont Dzumac	95.89	200	eLR	LR	19 09 15.2	
	comp=Z,1µm,24.1s						
WRA	Warramunga Arr	99.46	170	P	Pdif	18 38 23.6	-0.4
	comp=Z,3.3nm,0.8s,baz=193,slow=4.0,SNR=17						
WRA				PP	PP	18 42 22.6	-3.7
	comp=Z,4.3nm,1.0s,baz=181,slow=8.2,SNR=4.7						
WRA	Warramunga Arr	99.46	170	P	Pdif	18 38 23.3	-0.7
WRA	Warramunga Arr	99.46	170		Pdif	18 38 23.2	-0.7
GERES	GERESS Array B	115.92	34	PKP	PKPdf	18 43 22.2	-0.7
	comp=Z,0.5nm,0.7s,baz=224,slow=3.8,SNR=3.7						
GERES				PP	PP	18 44 25.6	-2.3
	comp=Z,0.8nm,0.9s,baz=201,slow=5.2,SNR=4.6						
CKRC	Cesky Krumlov	116.07	34	ePS	PS	18 54 18.8	+10
CKRC				AMS	AMS	19 25 20.0	
	comp=Z,500nm,24.0s						
KHC	Kasperske Hory	116.15	33	AMS	AMS	19 26 50.0	
	comp=Z,700nm,21.2s						
SRU	San Rafael Swe	116.56	303	PKIKP	PKPdf	18 43 23.8	-0.8
SRU	San Rafael Swe	116.56	303		PKPdf	18 43 23.8	-0.8
MLR	Muntele Rosu	116.72	44	PKP	PKPdf	18 43 23.2	-1.4
	comp=Z,1.8nm,0.9s,baz=214,slow=3.6,SNR=3.4						
TREC	Trest	116.83	35	AMS	AMS	19 25 50.0	
	comp=Z,300nm,19.9s						
NKC	Novy Kostel	116.85	32	AMS	AMS	19 29 50.0	
	comp=Z,200nm,20.5s						
VYHS	Vyhne	117.08	37	ePKIKP	PKiKP	18 43 29.3	+4.3
VYHS	Vyhne	117.08	37	ePKP	PKiKP	18 43 29.3	+4.3
PRU	Pruhonice	117.19	34	AMS	AMS	19 26 00.0	
	comp=Z,500nm,24.6s						
PRA	Prague	117.24	34	ePKKP		18 54 24.1	
PRA				AMS	AMS	19 28 30.0	
	comp=Z,400nm,20.1s						
PSUT	Pine Spring	117.49	300		PKPdf	18 43 25.8	-0.6
PVCC	Panska Ves	117.69	33	AMS	AMS	19 28 50.0	
	comp=Z,400nm,18.8s						
KRLC	Kraliky	117.90	35	ePKKP		18 54 11.5	
KRLC				AMS	AMS	19 28 50.0	
	comp=Z,200nm,19.8s						
CLL	Collm	117.98	32	ePKiKP	PKiKP	18 43 30.0	+3.4
CLL				ePKKPbc	PKKPab	18 53 49.0	+2.2
CLL				ePKKPab	PKKPbc	18 53 52.0	+6.3
CLL				ePS	PS	18 54 26.0	-0.3
CLL				ePPS	PPS	18 55 48.0	
CLL				eSS	SS	19 00 54.0	-1.7
CLL				eSSS	SSS	19 05 18.0	
CLL				e		19 09 30.0	
CLL				Lm	MLR	19 28 00.0	
	comp=N,300nm,21.8s						
CLL				Lm	MLR	19 28 00.0	
	comp=E,100nm,18.2s						
CLL				Lm	MLR	19 28 00.0	
	comp=Z,300nm,22.0s						
CLL	Collm	117.98	32	ePKIKP	PKiKP	18 43 30.0	+3.4
CLL				MLR	MLR		
	comp=Z,300nm,22.0s						
DPC	Dobruska-Polom	118.02	35	AMS	AMS	19 30 50.0	
	comp=Z,300nm,16.2s						
UPC	Upice	118.07	34	ePKKP		18 54 25.4	
UPC				AMS	AMS	19 27 00.0	
	comp=Z,500nm,22.5s						
OKC	Ostrava-Krasne	118.08	36	AMS	AMS	19 30 50.0	
	comp=Z,200nm,17.0s						
CHVC	Chvalec	118.16	34	AMS	AMS	19 27 00.0	
	comp=Z,500nm,21.8s						
OSTC	Ostas	118.17	35	AMS	AMS	19 27 10.0	
	comp=Z,500nm,23.4s						
PDAR	Pinedale Array	119.24	306	PKP	PKPdf	18 43 28.7	-1.0
	comp=Z,0.5nm,0.6s,baz=151,slow=5.1,SNR=5.2						
PDAR	Pinedale Array	119.24	306		PKPdf	18 43 28.3	-1.3
NVAR	Mina Array Bea	119.34	297	PKP	PKiKP	18 43 30.9	+0.9
	comp=Z,0.5nm,0.7s,baz=145,slow=2.8,SNR=6.4						
NVAR	Mina Array Bea	119.34	297		PKPdf	18 43 29.9	0.0
ULM	Lac du Bonnet	120.63	319	PKP	PKPdf	18 43 30.9	-0.8
	comp=Z,2.5nm,0.6s,baz=315,slow=2.9,SNR=3.1						
ULM	Lac du Bonnet	120.63	319	PKIKP	PKPdf	18 43 31.0	-0.8
FLWY	Flagg Ranch	120.79	306		PKiKP	18 43 32.9	+0.2
YHH	Holmes Hill	121.44	306	PKPdf	PKiKP	18 43 34.1	+0.1
KBZ	Khabaz	121.65	56	PKP	PKPdf	18 43 33.7	-0.2
	comp=Z,2.0nm,0.8s,baz=56,slow=12,SNR=1.9						
KIV	Kislovodsk	121.75	56	iPKIKP	PKPdf	18 43 33.8	-0.5
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KIV				MLR	MLR		
	comp=Z,883nm,22.0s						
GCMT	Greycliff	121.80	308		PKPdf	18 43 33.7	-0.7
AKASG	Malin Array Be	122.32	43	PKP	PKPdf	18 43 34.2	-0.8
	comp=Z,1.7nm,0.7s,baz=245,slow=1.7,SNR=8.6						
AKASG	Malin Array Be	122.32	43	iPKIKP	PKiKP	18 43 39.7	+4.6
AKASG	Malin Array Be	122.32	43	PKPdf	PKPdf	18 43 33.9	-1.1
AKBB	Malin Array Si	122.32	43	iPKIKP	PKiKP	18 43 35.9	+0.8
BOZ	Bozeman (W)	122.42	306	PKIKP	PKiKP	18 43 35.7	-0.1
BOZ	Bozeman (W)	122.42	306		PKiKP	18 43 35.7	-0.1
LRM	Limekiln Ridge	122.93	306		PKPdf	18 43 36.5	-0.1
J08A	Circle Bar Ran	123.44	300		PKPdf	18 43 37.4	-0.1
BMO	Blue Mountains	124.15	302	PKIKP	PKPdf	18 43 38.5	-0.3
BMO	Blue Mountains	124.15	302		PKPdf	18 43 38.5	-0.3
MSO	Missoula	124.35	305	PKPdf	PKPdf	18 43 39.3	+0.1
I07A	Izee	124.47	300	PKPdf	PKiKP	18 43 40.0	+0.2
PINE	Pine Mountain	124.86	298		PKiKP	18 43 41.5	+0.8
MNK	Minsk	125.10	40	iPKIKP	PKPdf	18 43 40.0	-0.2
MNK				i		18 45 35.2	
MNK				iPPP	PPP	18 48 15.4	
MNK				i		18 50 51.8	
MNK				iPS	PS	18 55 36.5	+6.7
MNK				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.7s						
MNK				MLR	MLR		
	comp=E,21nm,19.0s						
MNK				MLR	MLR		
	comp=N,408nm,24.0s						
MNK				MLR	MLR		
	comp=Z,137nm,16.0s						
MNK	Minsk	125.10	40	iPKP	PKPdf	18 43 40.1	-0.1
	comp=E,1.0nm,0.7s						
MNK				iPKP	PKPdf	18 43 40.1	-0.1
	comp=N,9.0nm,0.8s						
MNK				iPKP	PKPdf	18 43 40.1	-0.1
	comp=Z,11nm,0.8s,baz=214						
MNK				iPP	PP	18 45 35.2	+4.8
MNK				iPPP	PPP	18 48 15.5	
MNK				iSKS	SKSdf	18 50 51.9	+0.6
MNK				iPS	PS	18 55 36.6	+6.8
MNK				iSS	SS	19 02 38.1	+11
MNK				iSSS	SSS	19 07 17.3	
MNK				iLQ	LQ	19 31 24.2	
MNK				iLR	LR	19 35 59.6	
MNK				iLRM	MLR	19 38 29.4	
	comp=E,21nm,18.6s						
MNK				iLRM	MLR	19 38 29.4	
	comp=N,408nm,23.9s						
MNK				iLRM	MLR	19 38 29.4	
	comp=Z,137nm,16.4s						
G08A	Pilot Rock	125.20	301	PKPdf	PKiKP	18 43 41.3	+0.1
HFS	Hagfors	126.09	28	PKP	PKPdf	18 43 40.6	-1.3
	comp=Z,1.4nm,0.7s,baz=132,slow=2.2,SNR=4.2						
WALA	Waterton Lakes	126.13	307	PKPdf	PKPdf	18 43 42.0	-0.6
NB2	NORSAR Subarra	126.35	26	PKPdf	PKPdf	18 43 42.0	-0.4
	comp=Z,0.5nm,0.7s,baz=202,slow=1.9						
NOA	NORSAR Array B	126.35	26	PKP	PKPdf	18 43 42.4	0.0
	comp=Z,1.1nm,0.7s,baz=207,slow=1.9,SNR=6.1						
FFC	Flin Flon	126.41	319	PKIKP	PKPdf	18 43 42.1	-0.6
FFC	Flin Flon	126.41	319	PKPdf	PKPdf	18 43 42.1	-0.6
PHIT	Phitsanulok	126.47	124	PKP	PKiKP	18 43 47.6	+3.2
NEW	Newport	126.79	304	PKIKP	PKPdf	18 43 43.0	-0.7
NEW	Newport	126.79	304	PKPdf	PKPdf	18 43 43.0	-0.7
CM05	Chiang Mai Arr	126.94	122	PKP	PKiKP	18 43 46.0	+0.6
CM13	Chiang Mai Arr	126.94	122	PKP	PKiKP	18 43 46.0	+0.6
CM04	Chiang Mai Arr	126.95	122	PKP	PKiKP	18 43 46.2	+0.8
CM01	Chiang Mai Arr	126.97	122	PKP	PKiKP	18 43 46.3	+0.9
CM02	Chiang Mai Arr	126.97	122	PKP	PKiKP	18 43 46.2	+0.8
CM15	Chiang Mai Arr	126.98	122	PKP	PKiKP	18 43 46.0	+0.6
CM31	Chiang Mai Arr	126.99	122		PKPdf	18 43 45.1	+0.1
CMAR	Chiang Mai Arr	126.99	122	PKP	PKiKP	18 43 45.3	-0.2
	comp=Z,5.7nm,0.9s,baz=227,slow=3.7,SNR=28						
CMAR	Chiang Mai Arr	126.99	122	PKIKP	PKPdf	18 43 44.0	-1.0
CMAR	Chiang Mai Arr	126.99	122	PKPdf	PKPdf	18 43 44.0	-1.0
CM09	Chiang Mai Arr	127.00	122	PKP	PKiKP	18 43 46.2	+0.7
UTTA	Uttaradit	127.03	124	PKP	PKiKP	18 43 46.3	+0.8
CHTO	Chiang Mai	127.31	121	PKIKP	PKPdf	18 43 45.2	-0.4
CHTO	Chiang Mai	127.31	121	PKP	PKiKP	18 43 46.5	+0.4
CHTO	Chiang Mai	127.31	121	PKPdf	PKPdf	18 43 45.2	-0.4
CMMT	Chiang Mai	127.31	121	PKP	PKiKP	18 43 46.4	+0.3
SFJD	Kangerlussuaq	127.64	352	PKP	PKPdf	18 43 44.6	0.0
	comp=Z,5.3nm,0.7s,baz=243,slow=2.3,SNR=2.3						
B08A	Colville Reser	127.78	303	PKPdf	PKPdf	18 43 44.7	-0.9
NONG	Nongkai	128.36	126	PKP	PKiKP	18 43 48.5	+0.3
OBN	Obninsk	128.48	44	PKP	PKPdf	18 43 46.2	-0.3
	comp=Z,2.0nm,0.4s,baz=189,slow=5.8,SNR=4.7						
OBN	Obninsk	128.48	44	ePKIKP	PKPdf	18 43 46.6	0.0
OBN				i		18 43 50.6	
OBN				e		18 45 50.0	
OBN				e		18 50 49.1	
OBN				PS	PS	18 56 02.0	+2.7
OBN				iSS	SS	19 03 10.3	+1.5
OBN				pmax	pmax		
	comp=Z,27nm,1.4s						
OBN				pmax	pmax		
	comp=Z,37nm,1.8s						
OBN				MLR	MLR		
	comp=Z,155nm,18.0s						
OBN	Obninsk	128.48	44		PKPdf	18 43 46.0	-0.5
MOS	Moscow	129.34	44	ePKIKP	PKPdf	18 43 47.2	-1.0
MOS				e		18 45 54.7	
MOS				pmax	pmax		
	comp=Z,32nm,0.8s						
FINES	FINESS Array B	130.36	34	PKP	PKPdf	18 43 49.9	-0.1
	comp=Z,4.9nm,0.9s,baz=144,slow=3.5,SNR=14						
FINES	FINESS Array B	130.36	34	PKIKP	PKPdf	18 43 48.9	-1.1
FINES	FINESS Array B	130.36	34	PKPdf	PKPdf	18 43 48.9	-1.1
FIA1	FINESS Array S	130.36	34	PKPdf	PKPdf	18 43 49.9	-0.1
BELG	Belogornoye	130.46	53	PKP	PKPdf	18 43 49.9	-0.5
	comp=Z,26nm,1.1s,baz=337,slow=3.3,SNR=7.1						
BELG	Belogornoye	130.46	53	iPKIKP	PKPdf	18 43 50.2	-0.2
QIZ	Qiongzhong	131.79	134	PKP	PKiKP	18 43 55.7	+0.6
QIZ				PP	PP	18 46 18.4	+4.3
QIZ				PKS	PKSdf	18 47 25.8	-4.9
QIZ				SS	SS	19 03 57.6	+8.5
QIZ				AMB	AMB		
	comp=Z,270nm,8.8s						
QIZ				LR	LR		
	comp=Z,260nm,19.6s						
QIZ				LR	LR		
	comp=Z,180nm,23.5s						
QIZ				LR	LR		
	comp=Z,380nm,23.0s						
SUMG	Summit	132.76	359	PKIKP	PKiKP	18 43 55.9	0.0
SUMG	Summit	132.76	359		PKiKP	18 43 55.9	0.0
LSA	Lhasa	133.19	106	PKIKP	PKPdf	18 43 56.5	-0.5
LSA	Lhasa	133.19	106		PKPdf	18 43 56.5	-0.5
ABKAR	Akbulak array	133.30	64		PKPdf	18 43 54.8	-1.1
ABKAR	Akbulak array	133.30	64	PKPdf	PKPdf	18 43 54.5	-1.4
AKTO	Aktyubinsk	133.32	61	PKP	PKPdf	18 43 55.8	-0.2
	comp=Z,1.1nm,0.8s,baz=200,slow=3.6,SNR=8.4						
KSH	Kashi	133.60	84	ePKP	PKPdf	18 43 56.6	-0.4
KSH				PP	PP	18 46 28.6	+2.3
KSH				AMB	AMB		
	comp=Z,200nm,10.0s						
KSH				LR	LR		
	comp=Z,300nm,16.6s						
KSH				LR	LR		
	comp=Z,220nm,14.5s						
KSH				LR	LR		
	comp=Z,260nm,17.8s						
KK31	Karatay Array	133.66	77	PKIKP	PKPdf	18 43 55.8	-1.1
KK31	Karatay Array	133.66	77		PKP

BRVK	Borovoye	140.61	66	*i* PKIKP	PKiKP	18 44 11.3	-0.6
BVAR	Borovoye Array	140.64	66	PKhKP	PKPpre	18 44 02.3	
	comp=Z,0.4nm,0.5s,baz=191,slow=2.9,SNR=2.4						
ENH	Enshi	141.82	126		PKPpre	18 44 06.3	
MK31	Makanchi Array	142.08	82	*i* PKHKP	PKPpre	18 44 06.7	
MK31	Makanchi Array	142.08	82		PKPpre	18 44 06.1	
MKAR	Makanchi Array	142.08	82	PKhKP	PKPpre	18 44 07.2	
	comp=Z,1.7nm,0.9s,baz=242,slow=3.3,SNR=12						
MKAR	Makanchi Array	142.08	82	PKHKP	PKPpre	18 44 06.4	
MKAR	Makanchi Array	142.08	82		PKPpre	18 44 06.4	
WMQ	Urumqi	142.63	90	*e*PKP	PKPdf	18 44 14.7	+1.3
WMQ				AMB	AMB		
	comp=Z,210nm,4.1s						
WMQ				LR	LR		
	comp=Z,330nm,20.7s						
WMQ				LR	LR		
	comp=Z,460nm,22.1s						
KURBB	Kurchatov Arra	142.86	75	PKhKP	PKPpre	18 44 08.8	
	comp=Z,2.7nm,0.8s,baz=235,slow=3.7,SNR=30						
KURBB				PP	PP	18 47 23.3	-0.3
	comp=Z,0.6nm,0.8s,baz=229,slow=7.2,SNR=5.4						
KURK	Kurchatov	142.96	75	PKHKP	PKPdf	18 44 08.8	-4.8
KURK	Kurchatov	142.96	75		PKPdf	18 44 08.8	-4.8
EUNU	Eureka	143.24	347		PKPdf	18 44 10.3	-3.1
WHN	Wuhan	143.93	132	⇓PKP	PKPab	18 44 11.4	-1.8
WHN				PP	PP	18 47 29.4	-0.2
WHN				AMB	AMB		
	comp=Z,580nm,9.6s						
WHN				LR	LR		
	comp=Z,2μm,21.8s						
HYT	Haines Junctio	143.94	306		PKPdf	18 44 13.1	-2.1
LZH	Lanzhou	144.40	115	PKP	PKPbc	18 44 16.0	+0.6
LZH				pPKP	PKiKP	18 44 23.4	+2.9
LZH				sPKP		18 44 26.6	
LZH				PP	PP	18 47 31.5	-1.4
LZH				SKKS		18 54 21.8	
LZH				SS	SS	19 06 23.0	+3.9
LZH				AMB	AMB		
	comp=Z,340nm,5.4s						
LZH				LR	LR		
	comp=Z,310nm,12.2s						
LZH				LR	LR		
	comp=Z,340nm,17.3s						
LZH				LR	LR		
	comp=Z,380nm,17.4s						
JOW	Kunigami	144.57	154	PKP	PKPdf	18 44 17.3	0.0
	comp=Z,54nm,0.9s,baz=86,slow=8.0,SNR=5.2						
PCA	Pinnacle	144.65	303		PKPbc	18 44 15.7	+0.4
XAN	Xi'an	144.88	122	PKPbc	PKPab	18 44 16.2	-0.6
XAN				pPKP	PKiKP	18 44 21.6	+0.2
XAN				PP	PP	18 47 37.1	+1.6
XAN				SKKS		18 54 25.8	
XAN				LR	LR		
	comp=Z,280nm,24.9s						
XAN				LR	LR		
	comp=Z,220nm,20.6s						
XAN				LR	LR		
	comp=Z,500nm,20.6s						
XAN	Xi'an	144.88	122	PKIKP	PKPbc	18 44 17.1	+0.3
XAN	Xi'an	144.88	122		PKPbc	18 44 17.1	+0.3
TABL	Table Mountain	145.21	303		PKPbc	18 44 16.7	-0.6
GTA	Gaotai	145.22	107	⇓PKPbc	PKPbc	18 44 17.6	-0.2
GTA				LR	LR		
	comp=Z,160nm,21.1s						
GTA				LR	LR		
	comp=Z,120nm,19.3s						
GTA				LR	LR		
	comp=Z,250nm,20.7s						
LOGN	Logan Glacier	145.36	304		PKPab	18 44 18.1	+0.3
YAH	Yahtse	145.42	303		PKPab	18 44 18.4	+0.3
CTGM	Chitina Glacie	145.57	304		PKPab	18 44 18.7	+0.1
BARN	Barnard Glacie	145.76	304		PKPab	18 44 19.3	-0.1
ISLE	Juniper Island	145.79	303		PKPbc	18 44 18.8	-0.2
TGL	Tana Glacier	146.08	303		PKPdf	18 44 18.5	-0.4
CRQM	Cirque	146.21	303		PKPbc	18 44 20.2	-0.2
INK	Inuvik	146.36	318	PKPbc	PKPbc	18 44 19.8	-0.5
	comp=Z,34nm,0.9s,baz=104,slow=2.9,SNR=4.6						
INK	Inuvik	146.36	318	PKP2	PKPdf	18 44 19.1	+0.1
INK	Inuvik	146.36	318	PKPdf	PKPdf	18 44 19.1	+0.1
DAWY	Dawson	146.41	310	PKPdf	PKPbc	18 44 20.1	-0.5
HMT	Hamilton	146.46	302		PKPbc	18 44 21.2	+0.3
MCARA	McCarthy VSAT	146.49	304		PKPbc	18 44 20.8	-0.1
EPYK	Eagle Plains	146.54	314	P	PKPbc	18 44 21.0	0.0
	baz=118						
VRDI	Verde Repeater	146.59	303		PKPbc	18 44 21.2	-0.2
GLB	Gilahina Butte	146.84	304	PKPdf	PKPbc	18 44 22.1	+0.1
L27K	Beaver Creek,	146.86	307	P	PKPbc	18 44 22.6	+0.6
	baz=120						
L27K	Beaver Creek,	146.86	307		PKPdf	18 44 18.8	-1.2
NJ2	Nanjing	146.88	137	⇓PKPbc	PKPbc	18 44 22.9	0.0
NJ2				PKPab	sPKPbc	18 44 26.0	0.0
NJ2				pPKP	sPKPab	18 44 27.6	+0.2
NJ2				sPKP		18 44 31.9	
NJ2				PP	PP	18 47 48.5	+1.4
NJ2				AMB	AMB		
	comp=Z,420nm,5.1s						
BMRM	Bremner River	146.93	302		PKPbc	18 44 22.4	+0.1
EYAK	Cordova Ski Ar	147.20	301		PKPbc	18 44 22.8	-0.1
N25K	Chitina, Valde	147.25	303	P	PKPbc	18 44 23.8	+0.7
	baz=120						
N25K	Chitina, Valde	147.25	303		PKPbc	18 44 23.4	+0.3
K27K	Chicken	147.43	308	P	PKPbc	18 44 24.1	+0.6
	baz=118						
K27K	Chicken	147.43	308		PKPbc	18 44 22.9	-0.5
HIN	Hinchinbrook I	147.44	301		PKPbc	18 44 23.9	+0.3
MENT	Mentasta	147.55	306		PKPbc	18 44 23.8	-0.1
FID	Port Fidalgo	147.61	301		PKPbc	18 44 24.3	+0.2
KLU	Klutina	147.75	303		PKPbc	18 44 25.0	+0.5
HARP	HAARP	147.88	305	P	PKPbc	18 44 25.3	+0.6
	baz=119						
GLI	Glacier Island	147.94	301		PKPbc	18 44 25.2	+0.2
ZAA0	Zalesovo Array	147.95	74	PKPdf	PKPbc	18 44 24.0	-1.2
ZALV	Zalesovo Beam	147.95	74	PKPbc	PKPbc	18 44 23.8	-1.4
	comp=Z,3.6nm,0.6s,baz=270,slow=4.3,SNR=3.5						
ZALV	Zalesovo Beam	147.95	74	PKHKP	PKPdf	18 44 19.9	-2.2
ZALV	Zalesovo Beam	147.95	74		PKPdf	18 44 19.9	-2.2
DOT	Dot Lake	148.03	307		PKPdf	18 44 20.4	-1.6
SCRK	Sand Creek	148.15	308	PKPdf	PKPbc	18 44 24.5	-1.0
M24K	Tolsona, Glenn	148.15	304	P	PKiKP	18 44 27.1	-0.2
	baz=118						
M24K	Tolsona, Glenn	148.15	304		PKPbc	18 44 25.8	+0.2
PWL	Port Wells	148.45	301		PKPbc	18 44 26.4	+0.1
SCM	Sheep Creek Mo	148.50	303	PKP2	PKPbc	18 44 26.5	0.0
SCM	Sheep Creek Mo	148.50	303		PKPbc	18 44 26.5	0.0
SEW	Seward	148.56	299		PKPbc	18 44 25.6	-0.9
KDAK	Kodiak Island	148.76	293	PKP2	PKPbc	18 44 26.0	-1.1
KDAK	Kodiak Island	148.76	293		PKPbc	18 44 26.0	-1.1
KNK	Knik Glacier	148.77	301		PKPbc	18 44 27.2	+0.1
OHAK	Old Harbor	148.79	292		PKPbc	18 44 26.3	-0.9
SML	Sawmill	148.91	302		PKPbc	18 44 26.9	-0.6
BRLK	Bradley Lake	149.02	298		PKPbc	18 44 27.6	-0.2
CNPM	China Poot	149.05	297		PKPbc	18 44 27.7	-0.2
GHO	Glory Hole Cre	149.14	302		PKPbc	18 44 28.4	+0.3
PMR	Palmer	149.14	301	PKIKP	PKPbc	18 44 25.9	-2.1
PMR	Palmer	149.14	301		PKPbc	18 44 25.9	-2.1
RC01	Rabbit Creek A	149.16	300	PKPdf	PKPdf	18 44 25.8	+2.0
PRP	Porcupine Dome	149.41	310		PKiKP	18 44 29.4	-0.5
TIY	Taiyuan	149.49	124	*e*PKPbc	PKPbc	18 44 29.5	-0.2
TIY				PKPab	sPKPab	18 44 40.8	+3.0
TIY				PP	PP	18 48 11.4	+8.8
HDA	Harding Lake	149.50	307		PKPbc	18 44 28.4	-0.4
JSU	Suzuyama	149.55	156		PKiKP	18 44 30.5	-0.6
IL31		149.63	308		PKPbc	18 44 28.6	-0.5
ILAR	Eielson Array	149.63	308	PKPbc	PKPbc	18 44 28.9	-0.2
	comp=Z,28nm,0.9s,baz=154,slow=2.1,SNR=133						
FYU	Fort Yukon	149.72	312	PKPdf	PKPbc	18 44 27.2	-2.0
RND	Reindeer	149.84	305	PKP2	PKPbc	18 44 29.8	0.0
RND	Reindeer	149.84	305		PKPbc	18 44 29.8	0.0
POKR	Poker Plat Res	149.98	308	P	PKPbc	18 44 30.3	+0.3
	baz=113						
POKR	Poker Plat Res	149.98	308		PKPbc	18 44 28.7	-1.3
CUT	Chulitna	149.99	302	PKPdf	PKPdf	18 44 26.0	+0.9
P19K	Oil Pt	150.00	296	P	PKPbc	18 44 30.3	+0.1
	baz=119						
MCK	McKinley	150.01	305	PKIKP	PKPbc	18 44 29.9	-0.2
MCK	McKinley	150.01	305		PKPbc	18 44 29.9	-0.2
TIA	Tai'an	150.03	131	P	PKiKP	18 44 31.6	-0.3
TIA				pmax	pmax		
	comp=Z,54nm,1.0s						
COLA	College	150.05	308	PKIKP	PKPbc	18 44 29.8	-0.3
COLA	College	150.05	308		PKPbc	18 44 29.8	-0.3
TCOL	CIGO, UAF Yank	150.05	308	P	PKiKP	18 44 30.6	-0.4
	baz=113						
TCOL	CIGO, UAF Yank	150.05	308		PKPbc	18 44 29.8	-0.3
RSO	Redoubt South	150.18	298		PKPbc	18 44 30.7	-0.1
MDM	Murphy Dome	150.23	308		PKPbc	18 44 29.9	-0.7
SKT	Skwentna	150.34	301		PKPbc	18 44 30.5	-0.4
BWN	Browne	150.41	306		PKPbc	18 44 31.2	+0.2
NEA2	Nenana	150.42	307		PKPbc	18 44 31.0	0.0
H24K	Noodor Dome	150.43	310	P	PKiKP	18 44 31.7	-0.1
	baz=112						
CNBA	Chernabura Isl	150.44	284		PKPbc	18 44 30.7	-0.6
TRF	Thorofare Moun	150.45	304	PKPdf	PKPdf	18 44 26.3	+0.3
I23K	Minto, Yukon-K	150.75	308	P	PKPbc	18 44 31.8	0.0
	baz=112						
I23K	Minto, Yukon-K	150.75	308		PKPbc	18 44 31.6	-0.1
KTH	Kantishna Hill	150.75	304		PKPbc	18 44 31.7	-0.2
BTO	Baotou	150.87	117	*e*P	PKPbc	18 44 32.2	-0.8
M20K	Styx River	150.98	300	P	PKPbc	18 44 32.6	0.0
	baz=115						
O18K	Koktuh Hills	150.98	296	P	PKPbc	18 44 32.5	0.0
	baz=118						
BPAW	Bear Paw Mtn.	150.99	305		PKPbc	18 44 31.8	-0.6
PPLA	Purkeypile	151.00	303		PKPbc	18 44 32.5	-0.1
N19K	Bonanza Creek	151.09	298	P	PKPbc	18 44 32.5	-0.3
	baz=116						
SDPT	Sand Point	151.16	285	P	PKPbc	18 44 33.0	0.0
	baz=123						
SDPT	Sand Point	151.16	285		PKPbc	18 44 32.7	-0.3
MLY	Manley	151.25	307		PKPbc	18 44 32.5	-0.6
M19K	Big River Lodg	151.53	300	P	PKPbc	18 44 33.8	+0.1
	baz=115						
N18K	Kilae Creek	151.66	297	P	PKPbc	18 44 33.9	-0.2
	baz=116						
SVW2	Sparrevohn	151.70	298		PKPbc	18 44 33.5	-0.6
HHC	Hu-ho-hao-te	151.74	119	*e*PKPbc	PKPdf	18 44 26.7	-2.0
COLD	Coldfoot	151.78	312		PKiKP	18 44 34.7	+0.1
TOLK	Toolik Lake Re	151.97	315	P	PKiKP	18 44 35.4	+0.5
	baz=106						
TOLK	Toolik Lake Re	151.97	315		PKPbc	18 44 34.7	+0.1
H21K	Melozitna Rive	152.28	308	P	PKiKP	18 44 36.0	+0.4
	baz=109						
BJI	Beijing	152.99	126	PKPbc	PKPdf	18 44 30.3	-0.1
BJI				PP	PP	18 48 24.8	+2.3
BJI				SKKS		18 55 08.5	
BJI				AMB	AMB		
	comp=Z,290nm,6.3s						
BJI				LR	LR		
	comp=Z,220nm,25.0s						
BJI				LR	LR		
	comp=Z,220nm,22.3s						
BJI				LR	LR		
	comp=Z,250nm,29.0s						
DL2	Dalian	154.04	136	PKPbc	PKPdf	18 44 26.4	-5.5
DL2				SS	SS	19 08 06.7	+0.6
DL2				AMB	AMB		
	comp=Z,370nm,7.8s						
MOY	Mondy	154.52	90	*e*PKIKP	PKPdf	18 44 32.0	-0.3
MOY				pmax	pmax		
	comp=Z,38nm,2.3s						
KSAR	Wonju Array Be	154.62	148	PKIKP	PKPdf	18 44 32.0	-0.8
KSAR	Wonju Array Be	154.62	148	PKPdf	PKPdf	18 44 32.0	-0.8
KSRS	Korea Array	154.64	148	PKPbc	PKiKP	18 44 41.7	+0.4
	comp=Z,4.6nm,0.9s,baz=192,slow=2.0,SNR=12						
SONM	Songino Array	154.68	103	PKP	PKPdf	18 44 33.8	+1.0
	comp=Z,0.8nm,0.9s,baz=168,slow=0.8,SNR=5.8						
SONM				PKPbc	PKPbc	18 44 41.2	-0.1
	comp=Z,2.6nm,0.9s,baz=217,slow=2.3,SNR=13						
SONM				PKPab	PKPab	18 44 56.0	-0.3
	comp=Z,4.4nm,0.8s,baz=231,slow=4.2,SNR=10						
SONM	Songino Array	154.68	103	PKIKP	PKPdf	18 44 31.7	-1.0
SONM	Songino Array	154.68	103	PKPdf	PKPdf	18 44 31.7	-1.0
ZAK	Zakamensk	154.85	95	*e*PKIKP	PKPdf	18 44 31.0	-1.8
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
ULN	Ulaanbaatar	155.02	103	PKIKP	PKPdf	18 44 31.9	-1.3
ULN	Ulaanbaatar	155.02	103		PKPdf	18 44 31.9	-1.3
NRIK	Noril'sk	155.15	45	PKPab	PKPab	18 44 56.8	-0.7
	comp=Z,3.3nm,0.8s,baz=333,slow=2.3,SNR=2.0						
NRIK	Noril'sk	155.15	45	PKIKP	PKPdf	18 44 30.7	-1.8
NRIK	Noril'sk	155.15	45		PKPdf	18 44 30.7	-1.8
MJAR	Matsushiro Arr	155.72	167	PKP	PKPdf	18 44 35.2	+0.8
	comp=Z,0.7nm,0.5s,baz=208,slow=2.9,SNR=2.6						
MJAR				PKPab	PKPab	18 45 01.2	+0.4
	comp=Z,12nm,1.0s,baz=176,slow=4.9,SNR=9.7						
MJAR	Matsushiro Arr	155.72	167	PKIKP	PKPdf	18 44 32.7	-1.7
MJAR						18 45 01.2	
MJAR	Matsushiro Arr	155.72	167		PKPdf	18 44 32.7	-1.7
MJAR					PKPab	18 45 01.2	+0.4
CN2	Changchun	159.71	137	*e*PKP	PKPdf	18 44 36.2	-2.8
CN2				PP	PP	18 49 00.5	+0.8
CN2				AMB	AMB		
	comp=Z,300nm,7.0s						
CN2				LR	LR		
	comp=Z,200nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,20.0s						
CN2				LR	LR		
	comp=Z,200nm,20.0s						
MDJ	Mudanjiang	161.76	144		PKPdf	18 44 41.3	+0.1
USRK	Ussuriysk Ar.	162.03	149	PKPab	PKPab	18 45 27.3	-0.7
	comp=Z,2.8nm,0.7s,baz=169,slow=1.5,SNR=4.1						
KUR	Kuril'sk	164.64	189	*e*PKP2	PKPab	18 45 40.5	+1.2
KUR				*e*		18 49 26.2	
KUR				pmax	pmax		
	comp=Z,488nm,4.3s						
YSS	Yuzh-Sakhalins	166.44	174	*e*PKIKP	PKPdf	18 44 44.9	-0.4
YSS				*e*		18 49 31.4	
ZEA	Zeya	168.40	118	*i* PKIKP	PKPdf	18 44 45.1	-1.5
ZEA				*e*		18 49 48.4	
ZEA				pmax	pmax		
	comp=Z,100nm,5.6s						
ZEA				pmax	pmax		
	comp=Z,200nm,6.9s						
ZEA				pmax	pmax		
	comp=Z,200nm,9.0s						
PETK	Petropavlovsk-	169.77	230	PKPab	PKPab	18 46 00.5	-1.4
	comp=Z,1.0nm,0.4s,baz=246,slow=9.6,SNR=5.3						
PETK	Petropavlovsk-	169.77	230	PKP2	PKPab	18 46 00.2	-1.7
PETK	Petropavlovsk-	169.77	230		PKPab	18 46 00.2	-1.7

IDC 01 18:25:46.3±9.7, 5°.15S×68°.38E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/53, mbtmp3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.9/44, Error ellipse: s-maj=309.2km s-min=30.2km az=66.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	4.76	121	T	T	18 31 31.8	
	baz=310,slow=75						
H08S1	Diego Carcia H	4.76	122	T	T	18 31 33.7	
	baz=310,slow=75						
H08S2	Diego Garcia H	4.78	121	T	T	18 31 33.5	
	baz=310,slow=75						
PALK	Pallekele	17.42	45	LR	LR	18 35 20.6	
	comp=Z,80nm,18.7s,baz=291,slow=33						
BRDH	Bariadhala	35.81	39	LR	LR	18 45 59.3	
	comp=Z,52nm,20.0s,baz=344,slow=34						
MKAR	Makanchi Array	53.17	12	P	P	18 35 05.8	-0.3
	0.3nm,0.7s,baz=194,slow=8.0,SNR=3.1						
ZALV	Zalesovo Beam	60.48	11	P	P	18 35 58.2	+0.3
	0.3nm,0.3s,baz=195,slow=8.5,SNR=3.6						
SONM	Songino Array	62.44	28	P	P	18 36 11.1	-0.3
	0.6nm,0.9s,baz=215,slow=7.0,SNR=3.1						
ASAR	Alice Springs	65.55	114	P	P	18 36 32.2	-0.1
	0.5nm,0.7s,baz=276,slow=6.2,SNR=9.3						
WRA	Warramunga Arr	65.67	109	P	P	18 36 33.3	+0.2
	0.8nm,0.8s,baz=282,slow=6.3,SNR=6.1						

*NEIC **01** 18:32:52.4, 44°.04N×66°.24W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.84; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-1.77; $M_{r\theta}$0.66; $M_{\theta\phi}$0.90; $M_{\phi r}$0.46; Fault plane solution: $M_0$1.95000×10^{14} NP1:ϕ_s-20.95000°, δ67.89000°, λ146.97000°. NP2:ϕ_s124.70000°, δ59.67000°, λ25.85000°. Principal axes: T 1.8081, Plg39.0000°, Azm340.0000°; N 0.2521, Plg51.0000°, Azm171.0000°; P -2.0601, Plg5.0000°, Azm74.0000°.*

*NEIC **01** 18:32:53.0±1.5, 44°.14N±0°.08×66°.32W±0°.08, h5km±2km Error ellipse: s-maj=12.9km s-min=9.1km az=169.0*

*OTT **01** 18:32:54.0±0.2, 44°.09N×66°.25W, h9km, MN3.8/22*

OTT 30km northeast from Yarmouth, Ns. Felt Eastern Background Seismic Zone. Felt at Yarmouth, south west of Ns, Ns.

*ANF **01** 18:32:55.3±0.4, 44°.12N×66°.47W, h10km, ML4.2/44, Error ellipse: s-maj=4.6km s-min=2.4km az=101.0*

ISC 01 18:32:52.1±1.6, 44°.10N±0°.04×66°.31W±0°.03, h9km±11km, n150, σ1$27/177, Nova Scotia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H66A	Whiting	1.00	314	P	Pn	18 33 13.5	+1.2
	baz=132						
H66A				Sn	Sn	18 33 27.0	+0.5
	baz=132						
EMMW	East Machias	1.03	307		Pn	18 33 13.8	+1.1
GGN	Saint George	1.09	340	PG	Pn	18 33 14.8	+1.2
GGN				SG	Sn	18 33 28.9	+0.1
GGN				Trac		18 33 30.9	
	comp=Z,779nm,0.1s						
G65A	Princeton	1.42	321	P	Pg	18 33 19.6	+0.2
	baz=140,SNR=298						
G65A				S	Sn	18 33 38.5	+1.5
	baz=140						
G65A	Princeton	1.42	321		Pn	18 33 19.0	+0.9
G65A				IAmb_Lg		18 33 40.0	
	comp=Z,281nm,0.8s						
H65A	Eastbrook	1.52	294	P	Pb	18 33 21.2	+0.8
	baz=112,SNR=223						
H65A				S	Sg	18 33 40.6	-0.2
	baz=112						
WCNB	Wards Creek	1.65	20	PN	Pb	18 33 22.7	0.0
WCNB				SN	Sb	18 33 43.9	+0.3
WCNB				Trac		18 33 48.8	
	comp=Z,692nm,0.2s						
SRNB	Snider Mountai	1.80	15	PN	Pn	18 33 24.4	+1.0
SRNB				SN	Sb	18 33 47.9	0.0
SRNB				Trac		18 33 53.4	
	comp=Z,274nm,0.2s						
HANN	Hanwell	1.82	350	PN	Pn	18 33 24.8	+1.3
HANN				SN	Sb	18 33 48.4	0.0
HANN				Trac		18 33 50.2	
	comp=Z,408nm,0.2s						
ELNB	Elgin, New Bru	1.94	25	PN	Pn	18 33 26.7	+1.4
ELNB				SN	Sb	18 33 51.4	-0.5
ELNB				SN	Sb	18 33 51.4	-0.5
ELNB				SG	Sg	18 33 54.0	-0.4
ELNB				Trac		18 34 01.4	
	comp=Z,134nm,0.2s						
HKNB	Havelock Quarr	1.99	19	PN	Pn	18 33 27.4	+1.3
HKNB				SN	Sn	18 33 52.7	+1.6
HKNB				Trac		18 33 59.6	
	comp=Z,968nm,0.3s						
HAL	Halifax	2.02	74	PN	Pn	18 33 27.9	+1.6
HAL				SN	Sn	18 33 52.7	+1.0
HAL				LG	Lg	18 33 55.6	
HAL				Trac		18 33 57.3	
	comp=Z,638nm,0.2s						
HAL	Halifax	2.02	74	Pn	Pn	18 33 26.8	+0.4
LMN	Caledonia Moun	2.05	31	PN	Pn	18 33 28.1	+1.2
LMN				SN	Sn	18 33 54.1	+1.5
LMN				Trac		18 33 59.9	
	comp=Z,138nm,0.1s						
G64A	Maxfield	2.10	304	P	Pn	18 33 29.0	+1.6
	baz=122,SNR=46						
H64A	Troy	2.16	286	P	Pn	18 33 30.1	+1.8
	baz=104,SNR=150						
H64A				S	Sn	18 33 55.8	+0.6
	baz=104						
F64A	Sherman	2.29	321	P	Pn	18 33 31.1	+1.1
	baz=139,SNR=21						
F64A	Sherman	2.29	321		Pn	18 33 31.2	+1.1
SVNB	Stilesville Qu	2.30	26	PN	Pb	18 33 32.9	-1.0
SVNB				SN	Sn	18 34 00.2	+1.5
SVNB				LG	Lg	18 34 05.8	
SVNB				Trac		18 34 09.9	
	comp=Z,250nm,0.1s						
I64A	Boothbay	2.41	267	P	Pn	18 33 33.4	+1.7
	baz=85						
I64A				S	Sn	18 34 02.0	+0.7
	baz=85						
PKME	Peaks-Kenny Pk	2.43	300	PN	Pn	18 33 33.9	+1.9
PKME				SN	Sn	18 34 03.2	+1.3
PKME				Trac		18 34 16.5	
	comp=Z,433nm,0.3s						
PKME	Peaks-Kenny Pk	2.43	300	Pn	Pn	18 33 33.5	+1.5
WVL	Waterville	2.45	282	Pn	Pn	18 33 33.6	+1.3
F63A	Nahmakanta, Br	2.56	310	P	Pn	18 33 35.2	+1.4
	baz=128						
F63A				S	Sn	18 34 05.9	+0.9
	baz=128						
F63A	Nahmakanta, Br	2.56	310		Pn	18 33 35.2	+1.4
F63A				IAmb_Lg		18 34 20.5	
	comp=Z,169nm,0.8s						
E64A	Bridgewater	2.56	336	P	Pn	18 33 34.8	+1.0
	baz=154,SNR=49						
E64A				S	Sn	18 34 06.5	+1.5
	baz=154						
G63A	Kingsbury	2.58	294	P	Pn	18 33 35.7	+1.7
	baz=112						
G63A				S	Sn	18 34 05.8	+0.2
	baz=112						
H63A	New Sharon	2.73	283	S	Sn	18 34 09.6	+0.3
	baz=101						
E63A	Oxbow	2.77	328	P	Pn	18 33 37.9	+1.3
	baz=146,SNR=87						
E63A				S	Sn	18 34 10.2	+0.1
	baz=146						
E63A	Oxbow	2.77	328		Pn	18 33 38.0	+1.3
E63A				IAmb_Lg		18 34 25.6	
	comp=Z,138nm,0.9s						
PQI	Presque Isle	2.84	336		Pn	18 33 38.7	+1.0
I63A	Otisfield	3.08	271	P	Pn	18 33 42.4	+1.4
	baz=88						
I63A				S	Sn	18 34 18.1	+0.2
	baz=88						
I63A	Otisfield	3.08	271		Pn	18 33 42.4	+1.4
F62A	Pittston Farm,	3.16	306	P	Pn	18 33 43.4	+1.3
	baz=123						
F62A	Pittston Farm,	3.16	306		Pn	18 33 43.5	+1.3
BATG	Bathurst New B	3.19	3	PN	Pn	18 33 43.5	+1.1
BATG				SN	Sn	18 34 20.8	+0.3
BATG				L

	baz=118				
G61A	**St-Isidore-de-**	**3.91 289**	P	**Pn**	**18 33 54.2 +1.8**
	baz=106,SNR=9.3				
G61A			S	**Sn**	**18 34 37.8 -0.5**
	baz=106				
FFD	**Franklin Falls**	**3.92 263**	Pn	**Pn**	**18 33 54.0 +1.5**
L64A	**Middleborough**	**3.96 239**	Pn	**Pn**	**18 33 53.8 +0.8**
L64A			IAmb_Lg		18 35 07.4
	comp=Z,98nm,0.9s				
BCX	**Boston College**	**3.97 245**	Pn	**Pn**	**18 33 53.8 +0.7**
BCX			IAmb_Lg		18 35 01.0
	comp=Z,93nm,0.8s				
WES	**Weston**	**4.04 247**		**Pn**	**18 33 55.0 +0.8**
LBNH	**Lisbon**	**4.05 274**	PN	**Pn**	**18 33 55.9 +1.6**
LBNH			SN	**Sn**	**18 34 42.4 +0.6**
LBNH			LG	Lg	18 35 01.3
LBNH	**Lisbon**	**4.05 274**	Pn	**Pn**	**18 33 55.8 +1.6**
H61A	**Lyndonville**	**4.06 278**	P	**Pn**	**18 33 56.0 +1.6**
	baz=94,SNR=21				
K63A	**Dunstable**	**4.06 252**	P	**Pn**	**18 33 55.7 +1.3**
	baz=68,SNR=12				
K63A	**Dunstable**	**4.06 252**	Pn	**Pn**	**18 33 55.7 +1.3**
K63A			IAmb_Lg		18 35 11.0
	comp=Z,102nm,0.8s				
J62A	**Henniker**	**4.09 260**	P	**Pn**	**18 33 56.2 +1.4**
	baz=76,SNR=10				
D61A	**St Aubert, Com**	**4.13 320**	P	**Pn**	**18 33 57.2 +1.9**
	baz=137,SNR=18				
HRV	**Adam Dziewonsk**	**4.15 249**	Pn	**Pn**	**18 33 56.6 +1.0**
HRV			IAmb_Lg		18 35 16.7
	comp=Z,81nm,0.7s				
A11	**Saint Roch-des**	**4.17 320**	PN	**Pn**	**18 33 57.5 +1.7**
A11			SN	**Sn**	**18 34 45.2 +0.6**
A11			LG	Lg	18 35 04.2
A11			Trac		18 35 15.4
	comp=Z,54nm,0.3s				
A16	**Riviere Ouelle**	**4.25 324**	PN	**Pn**	**18 33 58.7 +1.7**
A16			SN	**Sn**	**18 34 47.2 +0.4**
A16			LG	Lg	18 35 08.6
A16			Trac		18 35 16.8
	comp=Z,188nm,0.6s				
I61A	**Oroboro, Fairl**	**4.26 270**	P	**Pn**	**18 33 58.7 +1.5**
	baz=86				
D60A	**Saint Jean D'O**	**4.30 313**	P	**Pn**	**18 33 59.3 +1.6**
	baz=129,SNR=33				
HNH	**Hanover**	**4.34 267**	Pn	**Pn**	**18 33 59.8 +1.6**
HNH			IAmb_Lg		18 35 18.8
	comp=Z,90nm,0.8s				
QCQ	**Quebec**	**4.41 309**	PN	**Pn**	**18 34 02.5 +3.3**
QCQ			Trac		18 35 23.4
	comp=Z,60nm,0.3s				
BRYW	**Bryant College**	**4.41 242**	Pn	**Pn**	**18 34 00.1 +0.9**
BRYW			IAmb_Lg		18 35 19.7
	comp=Z,93nm,0.7s				
MOQ	**Mont Orford**	**4.41 288**	PN	**Pn**	**18 34 00.9 +1.6**
MOQ			SN	**Sn**	**18 34 50.2 -0.7**
MOQ			Trac		18 35 19.2
	comp=Z,168nm,0.5s				
MOQ	**Mont Orford**	**4.41 288**	Pn	**Pn**	**18 34 00.7 +1.4**
M64A	**Tiverton**	**4.41 236**	P	**Pn**	**18 34 00.0 +0.8**
	baz=54				
M64A	**Tiverton**	**4.41 236**	Pn	**Pn**	**18 34 00.1 +0.8**
F60A	**Warwick**	**4.42 297**	P	**Pn**	**18 34 01.2 +1.9**
	baz=113,SNR=10				
G60A	**Masonville**	**4.42 285**	P	**Pn**	**18 34 01.1 +1.7**
	baz=101,SNR=92				
LMQ	**La Malbaie**	**4.45 322**	PN	**Pn**	**18 34 01.3 +1.5**
LMQ			SN	**Sn**	**18 34 51.5 -0.3**
LMQ			LG	Lg	18 35 11.5
LMQ			Trac		18 35 20.0
	comp=Z,33nm,0.2s				
LMQ	**La Malbaie**	**4.45 322**	Pn	**Pn**	**18 34 01.1 +1.2**
A61	**Sainte Mathild**	**4.46 325**	PN	**Pn**	**18 34 02.3 +2.3**
A61			Trac		18 35 20.0
	comp=Z,40nm,0.4s				
L63A	**North Scituate**	**4.49 242**	P	**Pn**	**18 34 00.9 +0.6**
	baz=59				
L63A	**North Scituate**	**4.49 242**	Pn	**Pn**	**18 34 00.9 +0.6**
L63A			IAmb_Lg		18 35 17.9
	comp=Z,88nm,0.8s				
A64	**Saint Simeon**	**4.49 327**	PN	**Pn**	**18 34 01.7 +1.4**
A64			SN	**Sn**	**18 34 52.7 0.0**
A64			Trac		18 35 22.4
	comp=Z,25nm,0.2s				
K62A	**Royalston**	**4.55 254**	P	**Pn**	**18 34 02.3 +1.1**
	baz=70				
K62A			S	**Sn**	**18 34 53.3 -0.9**
	baz=70				
K62A	**Royalston**	**4.55 254**		**Pn**	**18 34 02.2 +1.0**
J61A	**Chester**	**4.59 263**	P	**Pn**	**18 34 03.0 +1.2**
	baz=79,SNR=5.9				
H60A	**Morristown**	**4.61 278**	P	**Pn**	**18 34 03.5 +1.5**
	baz=94				
L61B	**Northampton**	**4.94 253**	P	**Pn**	**18 34 07.3 +0.8**
	baz=69,SNR=5.4				
M63A	**Gales Ferry**	**5.01 239**	IAmb_Lg		18 35 36.1
	comp=Z,69nm,1.0s				
I60A	**Shoreham**	**5.05 270**	P	**Pn**	**18 34 09.5 +1.5**
	baz=85,SNR=9.0				
J60A	**Lant Hill Farm**	**5.23 263**	P	**Pn**	**18 34 12.1 +1.6**
	baz=78,SNR=9.4				
DPQ	**Saint Jean**	**5.24 302**	PN	**Pn**	**18 34 12.8 +2.2**
DPQ			SN	**Sn**	**18 35 10.6 -0.5**
DPQ			Trac		18 35 46.9
	comp=Z,36nm,0.4s				
FRNY	**Flat Rock**	**5.26 281**	Pn	**Pn**	**18 34 12.2 +1.2**
K61A	**Williamstown**	**5.27 257**	P	**Pn**	**18 34 12.2 +1.1**
	baz=72,SNR=7.7				
H59A	**Cadyville**	**5.32 278**	P	**Pn**	**18 34 12.9 +1.1**
	baz=93,SNR=14				
CNQ	**Baie Comeau**	**5.35 347**	PN	**Pn**	**18 34 12.8 +0.7**
CNQ			SN	**Sn**	**18 35 12.2 -1.6**
CNQ			Trac		18 35 49.7
	comp=Z,19nm,0.2s				
ACCN	**Adirondack Com**	**5.38 265**	Pn	**Pn**	**18 34 13.8 +1.2**
ACCN			IAmb_Lg		18 35 52.9
	comp=Z,58nm,0.8s				
E58A	**La Victoria**	**5.42 297**	P	**Pn**	**18 34 14.8 +1.6**
	baz=112				
ICQ	**Pointe Anglais**	**5.47 353**	SN	**Sn**	**18 35 15.1 -1.6**
D58A	**Chemin du LacG**	**5.50 305**	P	**Pn**	**18 34 16.1 +1.8**
	baz=121				
TRY	**Troy**	**5.53 258**	Pn	**Pn**	**18 34 15.9 +1.3**
TRY			IAmb_Lg		18 35 57.7
	comp=Z,80nm,1.0s				
G58A	**Ormstown**	**5.63 283**	P	**Pn**	**18 34 17.0 +1.1**
	baz=98,SNR=12				
NCB	**Newcomb**	**5.71 271**	Pn	**Pn**	**18 34 18.3 +1.2**
KSCT	**Kent School, K**	**5.78 248**	Pn	**Pn**	**18 34 18.6 +0.6**
KSCT			IAmb_Lg		18 36 10.4
	comp=Z,75nm,0.8s				
WSPT	**Westport, CT**	**5.95 243**	Pn	**Pn**	**18 34 20.9 +0.6**
WSPT			IAmb_Lg		18 36 16.0
	comp=Z,73nm,0.8s				
LONY	**Lake Ozonia**	**5.96 278**	Pn	**Pn**	**18 34 21.7 +1.2**
LONY			IAmb_Lg		18 36 17.0
	comp=Z,73nm,1.1s				
J59A	**Piesco**	**5.97 267**	Pn	**Pn**	**18 34 21.7 +1.1**
SMQ	**Clarke City**	**6.13 358**	PN	**Pn**	**18 34 23.7 +0.7**
SMQ			SN	**Sn**	**18 35 30.6 -2.6**
SMQ			Trac		18 36 05.1
	comp=Z,16nm,0.3s				
I58A	**Old Forge**	**6.28 269**	P	**Pn**	**18 34 26.1 +1.2**
	baz=83				
G57A	**Newington**	**6.28 282**	P	**Pn**	**18 34 26.0 +1.1**
	baz=96,SNR=9.5				
DMCQ	**Dolbeau-Mistas**	**6.29 323**	PN	**Pn**	**18 34 27.0 +2.1**
ALFO	**Alfred**	**6.29 287**	PN	**Pn**	**18 34 25.4 +0.4**
ALFO			SN	**Sn**	**18 35 35.6 -1.2**
ALFO			LG	Lg	18 36 11.9
ALFO			Trac		18 36 14.8
	comp=Z,103nm,0.6s				
PAL	**Palisades**	**6.41 244**	Pn	**Pn**	**18 34 27.5 +0.8**
H57A	**Richville**	**6.53 276**	P	**Pn**	**18 34 30.0 +1.7**
	baz=90,SNR=7.2				
TRNY	**Table Rock, Ra**	**6.54 246**	Pn	**Pn**	**18 34 29.6 +1.0**
TRNY			IAmb_Lg		18 36 31.6
	comp=Z,46nm,0.9s				
J58A	**Remsen**	**6.55 267**	P	**Pn**	**18 34 30.2 +1.6**
	baz=80				
J58A	**Remsen**	**6.55 267**	Pn	**Pn**	**18 34 29.7 +1.1**
J58A			IAmb_Lg		18 36 26.3
	comp=Z,49nm,0.9s				
CPNY	**Central Park**	**6.55 242**	IAmb_Lg		18 36 26.7
	comp=Z,56nm,0.8s				
E56A	**St. Veronique**	**6.62 295**	P	**Pn**	**18 34 30.9 +1.3**
	baz=108,SNR=7.8				
D56A	**ZEC Mazanza, M**	**6.62 299**	P	**Pn**	**18 34 30.5 +0.8**
	baz=113				
L59A	**Walton**	**6.67 256**	Pn	**Pn**	**18 34 31.2 +0.9**
ODNJ	**Ogdensburg**	**6.83 247**	Pn	**Pn**	**18 34 33.5 +1.1**
BRNJ	**Basking Ridge**	**7.00 244**	IAmb_Lg		18 36 52.3
	comp=Z,50nm,0.8s				
KSPA	**Keystone Colle**	**7.40 253**	IAmb_Lg		18 37 01.5
	comp=Z,52nm,1.0s				
N59A	**State Game Lan**	**7.68 249**	P	**Pn**	**18 34 45.2 +1.1**
	baz=62				
N59A	**State Game Lan**	**7.68 249**	Pn	**Pn**	**18 34 44.9 +0.8**
N59A			IAmb_Lg		18 36 57.1
	comp=Z,39nm,1.0s				
PECO	**Prince Edward**	**7.71 273**	IAmb_Lg		18 37 08.3
	comp=Z,44nm,0.9s				
PLVO	**Plevna**	**7.75 281**	Pn	**Pn**	**18 34 45.7 +0.6**
PLVO			IAmb_Lg		18 37 00.8
	comp=Z,45nm,0.9s				
DRLN	**Deer Lake**	**7.95 46**	Pn	**Pn**	**18 34 48.2 +0.4**
WUPA	**West Chester U**	**8.08 242**	IAmb_Lg		18 37 19.6
	comp=Z,37nm,1.2s				
N58A	**Sunbury**	**8.35 251**	IAmb_Lg		18 37 32.0
	comp=Z,48nm,1.0s				
J55A	**Hilton**	**8.39 268**	IAmb_Lg		18 37 40.5
	comp=Z,39nm,0.9s				
M57A	**Sunshine Farm,**	**8.43 255**	IAmb_Lg		18 37 44.3
	comp=Z,33nm,0.8s				
L56A	**Greenwood**	**8.46 261**	IAmb_Lg		18 37 24.3
	comp=Z,45nm,0.8s				
MVL	**Millersville**	**8.52 245**	IAmb_Lg		18 37 34.6
	comp=Z,32nm,0.9s				
MMNY	**Mt. Morris Dam**	**8.56 265**	IAmb_Lg		18 37 29.5
	comp=Z,33nm,0.8s				
PAGS	**Pennsylvania G**	**8.65 247**	IAmb_Lg		18 37 44.6
	comp=Z,45nm,0.9s				
WVNY	**West Valley, N**	**9.13 264**	IAmb_Lg		18 38 01.3
	comp=Z,38nm,0.8s				
SDMD	**Soldier's Deli**	**9.16 243**	IAmb_Lg		18 37 49.4
	comp=Z,36nm,1.3s				
SSPA	**Standing Stone**	**9.24 252**	Pn	**Pn**	**18 35 05.8 +0.3**
SSPA			IAmb_Lg		18 38 05.6
	comp=Z,33nm,1.1s				
M55A	**Ridgway**	**9.53 258**	IAmb_Lg		18 38 14.1
	comp=Z,40nm,1.1s				
O56A	**Blue Knob Stat**	**9.87 251**	Pn	**Pn**	**18 35 15.2 +1.0**
O56A			IAmb_Lg		18 38 26.0
	comp=Z,37nm,1.0s				
SCHQ	**Schefferville**	**10.75 358**	Pn	**Pn**	**18 35 24.6 -1.6**
Q54A	**Coxs Mills**	**12.02 250**	Pn	**Pn**	**18 35 44.2 +0.6**
R53A	**Hurricane**	**13.11 249**	Pn	**Pn**	**18 35 58.7 +0.2**
U56A	**King**	**13.24 239**	Pn	**Pn**	**18 36 00.1 -0.2**
EYMN	**Ely**	**17.88 291**	Pn	**Pn**	**18 36 57.8 -3.2**
EYMN			IAmb	IAmb	18 37 03.6
	comp=Z,2.6nm,1.0s				
FCC	**Fort Churchill**	**22.48 321**	P	**P**	**18 37 52.0 +0.6**
FCC			IAmb	IAmb	18 37 55.0
	comp=Z,7.4nm,1.5s				

*NEIC **01** 19:03:21.8±1.3,27°.9S±0°.2×178°.8W±0°.3,h275km±13km, mb4.0/13,Error ellipse: s-maj=33.1km s-min=22.6km az=94.0*

*IDC **01** 19:03:21.9±8.2,27°.69S×178°.70W,h292km±70km,mb3.4/5, mb1 3.6/6,mb1mx3.3/28,mbtmp4.2/6,Error ellipse: s-maj=63.0km s-min=23.8km az=36.0*

ISC 01 19:03:22.8±1.1,28°.04S±0°.08×178°.9W±0°.2,h300km,n62, σ2°38/72,mb3.7/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.47**	**146**	Pn		**Pn**		**19 04 03.2**	**-2.5**
MXZ	**Matakaoa Point**	**9.79**	**193**	Pn		**P**		**19 05 42.8**	**+0.7**
MXZ	**Matakaoa Point**	**9.79**	**193**	P		**P**		**19 05 46.6**	**+4.6**
MXZ				S		**S**		**19 07 28.7**	**0.0**
WMGZ	**Waiomatatini S**	**10.02**	**193**	P		**P**		**19 05 48.7**	**+4.2**
WMGZ				S		**S**		**19 07 34.3**	**+0.4**
RUGZ	**Raukumara Rang**	**10.32**	**195**	P		**P**		**19 05 49.7**	**+1.7**
RUGZ				S		**S**		**19 07 41.2**	**+0.4**
CNGZ	**Carnagh Statio**	**10.70**	**192**	P		**P**		**19 05 54.0**	**+1.8**
CNGZ				S		**S**		**19 07 50.6**	**+1.3**
MWZ	**Matawai**	**10.70**	**195**	P		**P**		**19 05 53.7**	**+1.5**
MWZ				S		**S**		**19 07 48.7**	**-0.8**
TKGZ	**Te Karaka**	**10.73**	**194**	P		**P**		**19 05 53.7**	**+1.2**
URZ	**Urewera**	**10.74**	**197**	P		**P**		**19 05 53.4**	**+0.9**
	4.3nm,0.3s,baz=345,slow=2.4,SNR=18								
URZ				S		**S**		**19 07 49.9**	**-0.2**
	7.2nm,0.3s,baz=47,slow=14,SNR=14								
URZ	**Urewera**	**10.74**	**197**			**P**		**19 05 53.1**	**+0.6**
URZ	**Urewera**	**10.74**	**197**	P		**P**		**19 05 55.1**	**+2.6**
URZ				S		**S**		**19 07 48.3**	**-1.8**
RIGZ	**Rimuhau**	**11.01**	**194**	P		**P**		**19 05 57.3**	**+1.7**
RIGZ				S		S		19 07 49.7	-6.6
MUGZ	**Murupara**	**11.03**	**198**	P		**P**		**19 05 59.0**	**+3.2**
MUGZ				S		**S**		**19 07 55.6**	**-1.2**
HIZ	**Hauiti**	**11.69**	**205**	P		P		19 06 09.6	+6.4
BKZ	**Black Stump Fm**	**11.75**	**198**			**Pn**		**19 06 03.4**	**+1.2**
BKZ	**Black Stump Fm**	**11.75**	**198**	P		**P**		**19 06 04.6**	**+0.7**
BKZ				S		**S**		**19 08 10.6**	**-2.6**
TMVZ	**Te Maari**	**11.94**	**201**	P		**P**		**19 06 09.2**	**+3.1**
TWVZ	**Taurewa**	**11.98**	**202**	P		**P**		**19 06 09.7**	**+3.2**
OTVZ	**Oturere**	**11.99**	**201**	P		**P**		**19 06 09.3**	**+2.6**
KWHZ	**Kaweka Forest**	**12.01**	**198**	P		**P**		**19 06 08.6**	**+1.8**
KWHZ				S		**S**		**19 08 16.2**	**-2.8**
SNVZ	**South Ngauruho**	**12.02**	**201**	P		**P**		**19 06 10.2**	**+3.1**
NGZ	**Ngauruhoe**	**12.03**	**201**	P		**P**		**19 06 10.4**	**+3.4**
FWVZ	**Far West T-bar**	**12.11**	**201**	P		**P**		**19 06 10.5**	**+2.4**
WNVZ	**Wahianoa**	**12.16**	**201**	P		**P**		**19 06 10.6**	**+2.0**
BHHZ	**Black Hill Sta**	**12.17**	**199**	P		**P**		**19 06 09.5**	**+0.9**
BHHZ				S		**S**		**19 08 18.9**	**-3.8**
PKVZ	**Pokaka**	**12.21**	**202**	P		**P**		**19 06 11.5**	**+2.5**
KRHZ	**Kereru**	**12.23**	**198**	P		**P**		**19 06 09.6**	**+0.4**
KRHZ				S		**S**		**19 08 19.0**	**-4.9**
KAHZ	**Kahuranaki**	**12.25**	**196**	P		**P**		**19 06 11.0**	**+1.6**
KAHZ				S		**S**		**19 08 18.7**	**-5.6**
VRZ	**Vera Road**	**12.27**	**204**	P		**P**		**19 06 14.1**	**+4.6**
PXZ	**Pawanui**	**12.47**	**195**	P		**P**		**19 06 12.8**	**+0.9**
PXZ				S		**S**		**19 08 23.8**	**-5.5**
PNHZ	**Pukenui**	**12.53**	**198**	P		**P**		**19 06 13.2**	**+0.7**
PNHZ				S		S		19 08 23.5	-7.2
TSZ	**Takapari Road**	**12.73**	**198**	P		**P**		**19 06 15.3**	**+0.6**
TSZ				S		**S**		**19 08 29.8**	**-5.4**
PRHZ	**Porangahau**	**12.75**	**196**	P		**P**		**19 06 18.7**	**+3.8**
DVHZ	**Dannevirke**	**12.90**	**197**	P		**P**		**19 06 18.2**	**+1.6**
DVHZ				S		**S**		**19 08 35.2**	**-3.7**
BFZ	**Birch Farm**	**13.24**	**196**			**Pn**		**19 06 21.0**	**+0.8**
BFZ	**Birch Farm**	**13.24**	**196**	P		**Pn**		**19 06 20.8**	**+0.7**
BFZ				S		S		19 08 39.6	-6.9
MRZ	**Mangatainoka R**	**13.40**	**199**	P		**P**		**19 06 22.1**	**0.0**
MRZ				S		S		19 08 40.0	-10
TIWZ	**Tintock**	**13.42**	**197**	P		**Pn**		**19 06 24.5**	**+2.1**
TIWZ				S		S		19 08 43.2	-7.3
PINNC	**Pines Island,**	**13.51**	**291**			**P**		**19 06 21.4**	**-2.1**
HOWZ	**Holdsworth Sta**	**13.63**	**198**	P		**Pn**		**19 06 26.3**	**+1.4**
HOWZ				S		S		19 08 46.8	-8.5
TUWZ	**Tuamarina**	**14.60**	**202**	P		**P**		**19 06 35.5**	**+0.1**
THZ	**Tophouse**	**15.26**	**204**	P		**P**		**19 06 43.0**	**+0.4**
KHZ	**Kahutara**	**15.62**	**201**	P		**P**		**19 06 48.0**	**+1.5**
LTZ	**Lake Taylor**	**16.38**	**204**	P		**P**		**19 06 55.4**	**+0.6**
LTZ				IAmb		IAmb		19 07 01.5	
	comp=Z,25nm,1.3s								
STKA	**Stephens Creek**	**34.34**	**254**	P		**P**		**19 09 43.9**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=122,slow=9.5,SNR=4.6								
STKA	**Stephens Creek**	**34.34**	**254**	IAmb		IAmb		19 09 48.7	
	comp=Z,2.1nm,1.4s								
AS31	**Alice Springs**	**42.53**	**265**	P		**P**		**19 10 50.5**	**+0.7**
ASAR	**Alice Springs**	**42.53**	**265**	P		**P**		**19 10 50.6**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=98,slow=7.0,SNR=54								
WR0	**Warramunga Arr**	**43.12**	**270**	P		**P**		**19 10 55.0**	**+0.6**
WR0				IAmb		IAmb		19 11 21.1	
	comp=Z,8.3nm,1.4s								
WB2	**Warramunga Arr**	**43.29**	**270**	P		**P**		**19 10 56.6**	**+0.8**
WB2				IAmb		IAmb		19 11 00.6	
	comp=Z,16nm,1.4s								
WRA	**Warramunga Arr**	**43.30**	**270**	P		**P**		**19 10 56.7**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=109,slow=6.3,SNR=23								
WRA	**Warramunga Arr**	**43.30**	**270**	IAmb		IAmb		19 10 57.9	
	comp=Z,0.4nm,1.2s								
WB0	**Warramunga Arr**	**43.31**	**270**	P		**P**		**19 10 56.1**	**+0.1**
WB0				IAmb		IAmb		19 11 16.8	
	comp=Z,13nm,1.5s								
FORT	**Forrest**	**45.97**	**253**	P		**P**		**19 11 16.6**	**-0.1**
FORT				IAmb		IAmb		19 11 41.5	
	comp=Z,12nm,1.1s								
KNRA	**Kununurra**	**49.81**	**273**	P		**P**		**19 11 47.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**51.64**	**268**	P		**P**		**19 11 60.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=107,slow=5.7,SNR=8.1								
FITZ	**Fitzroy Crossi**	**51.64**	**268**	IAmb		IAmb		19 12 13.5	
	comp=Z,4.6nm,1.2s								
QSPA	**South Pole Qui**	**62.06**	**180**	P		**P**		**19 13 14.1**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=53,slow=12,SNR=6.5								
QSPA	**South Pole Qui**	**62.06**	**180**	IAmb		IAmb		19 13 31.2	
	comp=Z,2.4nm,1.2s								
FINES	**FINESS Array B**	**142.68**	**340**	PKP		**PKPdf**		**19 22 16.2**	**-3.4**
	comp=Z,0.9nm,0.8s,baz=22,slow=1.5,SNR=5.6								
FINES	**FINESS Array B**	**142.68**	**340**	PKPpre				19 22 15.0	
AKASG	**Malin Array Be**	**148.96**	**325**	PKPbc		**PKiKP**		**19 22 35.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=40,slow=3.0,SNR=5.2								

IDC 01 19:20:22.0±7.8,16°.51S×174°.26W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/37,mbtmp3.8/4,Error ellipse: s-maj=336.3km s-min=39.8km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.79**	**258**	P		P		19 29 09.4	+0.1
	0.4nm,0.4s,baz=94,slow=8.3,SNR=14								
ASAR	**Alice Springs**	**48.98**	**253**	P		P		19 29 11.4	+0.6
	1.8nm,0.7s,baz=87,slow=8.1,SNR=30								
FITZ	**Fitzroy Crossi**	**57.17**	**259**	P		P		19 30 09.7	-1.6
	2.8nm,1.1s,baz=79,slow=5.2,SNR=2.2								
ILAR	**Eielson Array**	**83.69**	**11**	P		P		19 32 52.3	+0.1
	0.2nm,0.5s,baz=225,slow=6.2,SNR=2.1								

*IDC **01** 19:28:34.4±1.9,3°.09N×122°.72E,h587km±27km,mb2.5/5, mb1 2.9/7,mb1mx2.6/41,mbtmp3.8/7,Error ellipse: s-maj=54.2km s-min=10.7km az=66.0*

ISC 01 19:28:32.2±1.0,3°.0N±0°.1×122°.4E±0°.2,h552km,n7, σ1°50/10,mb3.2/5,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.65**	**113**	P		**P**		**19 30 47.4**	**+0.8**
	2.4nm,0.3s,baz=331,slow=17,SNR=5.4								
BATI	**Baumata**	**13.17**	**175**	P		**P**		**19 31 24.0**	**+1.1**
	3.0nm,0.3s,baz=45,slow=6.5,SNR=5.5								
FITZ	**Fitzroy Crossi**	**21.20**	**171**	P		**P**		**19 32 40.0**	**+0.9**
	1.6nm,0.9s,baz=345,slow=12,SNR=1.4								
WRA	**Warramunga Arr**	**25.63**	**153**	P		**P**		**19 33 18.5**	**0.0**
	0.3nm,0.4s,baz=335,slow=9.4,SNR=4.6								
WRA				S		**S**		**19 37 05.2**	**-3.2**
	0.5nm,0.8s,baz=334,slow=15,SNR=2.6								
ASAR	**Alice Springs**	**28.77**	**158**	P		**P**		**19 33 46.7**	**+0.7**
	0.2nm,0.4s,baz=333,slow=7.5,SNR=5.4								
ASAR				PcP		**PcP**		**19 36 37.9**	**-0.4**
	0.1nm,0.3s,baz=343,slow=2.6,SNR=4.8								
ASAR				S		**S**		**19 37 55.8**	**-1.5**
	0.6nm,0.8s,baz=347,slow=16,SNR=4.2								
SONM	**Songino Array**	**46.76**	**345**	P		**P**		**19 36 11.8**	**-0.3**
	0.5nm,0.6s,baz=167,slow=8.4,SNR=5.8								
MKAR	**Makanchi Array**	**55.78**	**328**	P		**P**		**19 37 16.9**	**-0.3**
	0.5nm,0.4s,baz=124,slow=8.1,SNR=17								

*BJI **01** 19:35:18.7±0.0,10°.99S×162°.54E,h10km,mB5.9/73, mb5.5/81,Ms5.9/96,Ms7 5.7/88*

*NEIC **01** 19:35:21.5,10°.97S×162°.56E,h21km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.11; $M_{\theta\theta}$0.58; $M_{\phi\phi}$0.53; $M_{r\theta}$0.05; $M_{\phi\theta}$0.33; $M_{\phi r}$-0.06; Fault plane solution: $M_0$1.00000×10^{18} NP1:ϕ_s44.00000°, δ45.00000°,λ-95.00000°. NP2:ϕ_s231.00000°,δ45.00000°, λ-85.00000°. Principal axes: T 0.8858, Plg0.0000°, Azm137.0000°; N 0.2280, Plg3.0000°, Azm47.0000°; P -1.1139, Plg87.0000°, Azm231.0000°;*

*NEIC **01** 19:35:21.5±1.6,10°.99S±0°.07×162°.56E±0°.07,h12km±1km, mb5.7/349,Ms_20 5.8/594,Mwb5.8/67,Mww6.0, Mwc5.9/11(GCMT) Error ellipse: s-maj=13.4km s-min=10.3km az=222.0*

*NEIC **01** 19:35:22.2,10°.99S×162°.52E,h21km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-6.81; $M_{\theta\theta}$5.12; $M_{\phi\phi}$1.69; $M_{r\theta}$1.01; $M_{\phi\theta}$3.33; $M_{\phi r}$1.75; Fault plane solution: $M_0$7.27000×10^{17} NP1:ϕ_s66.73000°,δ38.45000°, λ-77.31000°. NP2:ϕ_s230.69000°,δ52.65000°, λ-99.90000°. Principal axes: T 7.3723, Plg7.0000°, Azm328.0000°; N -0.2030, Plg8.0000°, Azm237.0000°; P -7.1693, Plg79.0000°, Azm100.0000°;*

*NEIC **01** 19:35:25,10°.79S×162°.36E,h20km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.09; $M_{\theta\theta}$0.37; $M_{\phi\phi}$0.72; $M_{r\theta}$-0.29; $M_{\phi\theta}$0.37; $M_{\phi r}$-0.30; Fault plane solution: $M_0$1.11000×10^{18} NP1:ϕ_s209.00000°, δ34.00000°,λ-96.00000°. NP2:ϕ_s36.00000°,δ56.00000°, λ-85.00000°. Principal axes: T 1.0307, Plg11.0000°, Azm123.0000°; N 0.1442, Plg4.0000°, Azm214.0000°; P -1.1749, Plg79.0000°, Azm322.0000°;*

*MOS **01** 19:35:25.4±1.2,10°.88S×162°.47E,h51km,mb6.0/33, MS5.7/77 Error ellipse: s-maj=6.2km s-min=5.1km az=106.3*

*GCM

PMG Port Moresby 15.16 275 P **P 19 39 00.1 -0.2**
1.4nm,0.3s,baz=98,slow=10,SNR=53
PMG LR LR 19 44 52.9
comp=Z,81μm,18.9s,baz=112,slow=37
PMG Port Moresby 15.16 275 P **P 19 39 00.2 -0.2**
PMG pmax pmax
comp=Z,2μm,1.2s
TARA Tarawa 16.09 41 **Pn 19 39 07.5 -0.1**
TARA Tarawa 16.09 41 Pn **Pn 19 39 07.1 -0.6**
TARA IAmb IAmb 19 39 14.4
comp=Z,2μm,1.4s
TARA Tarawa 16.09 41 P **P 19 39 09.8 -0.9**
MSVF Nonsavu 16.49 116 P **P 19 39 16.6 +1.3**
comp=Z,1.1nm,0.3s,baz=288,slow=9.7,SNR=19
MSVF LR LR 19 44 39.8
comp=Z,21μm,20.4s,baz=286,slow=34
MSVF Nonsavu 16.49 116 P **Pn 19 39 13.6 +0.7**
MSVF pmax pmax
comp=Z,184nm,1.1s
MSVF Nonsavu 16.49 116 P **Pn 19 39 13.6 +0.7**
MSVF Nonsavu 16.49 116 P **P 19 39 17.9 +2.6**
MANU Manus Island 17.44 300 P **Pn 19 39 25.0 +0.3**
EIDS Eidsvold 17.90 216 P **P 19 39 33.3 +2.6**
baz=18,SNR=27
EIDS Eidsvold 17.90 216 **P 19 39 31.9 +1.2**
CTA Charters Tower 18.03 238 P **P 19 39 36.0 +3.8**
comp=Z,6.3nm,0.3s,baz=72,slow=13,SNR=38
CTA S **Sn 19 42 47.7 -4.8**
comp=Z,1.2nm,0.3s,baz=258,slow=20,SNR=1.5
CTA LR LR 19 45 53.5
comp=Z,21μm,19.8s,baz=72,slow=35
CTAO Charters Tower 18.03 238 P **P 19 39 35.2 +3.0**
CTAO pmax pmax
comp=Z,2μm,1.4s
CTAO Charters Tower 18.03 238 P **P 19 39 35.2 +3.0**
CTAO IAmb IAmb 19 39 39.9
comp=Z,2μm,1.4s
PATS Pohnpei 18.21 347 P **Pn 19 39 32.3 -1.8**
PATS IAmb IAmb 19 39 42.7
comp=Z,1μm,1.2s
RMQ Roma 20.11 218 P Pn 19 39 58.6 +1.7
baz=20,SNR=94
KWAJ Kwajalein Atol 20.34 15 P **P 19 39 58.3 +0.9**
KWAJ pmax pmax
comp=Z,2μm,1.4s
KWAJ MLR MLR
comp=Z,26μm,19.0s
KWAJ Kwajalein Atol 20.34 15 P **P 19 39 58.3 +0.9**
KWAJ Kwajalein Atol 20.34 15 P Pn 19 40 00.9 +1.3
LHI Lord Howe Isla 20.65 188 P **P 19 40 00.5 -0.3**
LHI IAmb IAmb 19 40 24.2
comp=Z,458nm,1.4s
LHI Lord Howe Isla 20.65 188 P Pn 19 40 06.2 +3.0
ARMA Armidale 21.78 206 P **P 19 40 15.1 +2.0**
baz=22,SNR=62
ARMA Armidale 21.78 206 P **P 19 40 14.4 +1.3**
ARMA IAmb IAmb 19 40 38.1
comp=Z,330nm,1.1s
ARMA IAMs_20 IAMs_20 19 47 17.6
comp=Z,29μm,20.0s
MMPI Merauke 21.92 275 P **P 19 40 12.7 -1.9**
QLP Quilpie 23.15 225 P **P 19 40 28.6 +1.1**
baz=23,SNR=23
GENI Genyem 23.66 289 P **P 19 40 32.3 -0.3**
comp=Z,12μmcomp=Z,14μmcomp=Z,330nm,1.7s
QIS Mount Isa 23.94 244 P **P 19 40 35.6 +0.4**
baz=24,SNR=31
MGCD Mangrove Creek 24.44 204 P **P 19 40 41.9 +2.2**
baz=25,SNR=19
RIV Riverview 24.96 203 P **P 19 40 48.1 +3.7**
baz=25,SNR=4.6
AFI Afiamalu 25.30 99 LR LR 19 49 17.4
comp=Z,20μm,18.2s,slow=33
AFI Afiamalu 25.30 99 P **P 19 40 47.6 -0.2**
AFI pmax pmax
comp=Z,320nm,1.0s
AFI Afiamalu 25.30 99 P **P 19 40 47.6 -0.2**
AFI IAmb IAmb 19 40 51.7
comp=Z,320nm,0.9s
AFI Afiamalu 25.30 99 P **P 19 40 49.6 +1.9**
CMSA Cobar Meteorol 25.66 215 P **P 19 40 51.7 +1.0**
baz=26,SNR=88
RAO Raoul Island 25.77 138 LR LR 19 49 17.1
comp=Z,31μm,19.9s,baz=330,slow=32
RAO Raoul Island 25.77 138 IAMs_20 IAMs_20 19 49 06.4
comp=Z,31μm,20.0s
RAO Raoul Island 25.77 138 P **P 19 40 54.1 +2.3**
OUZ Omahuta 26.14 159 P **P 19 40 57.3 +2.3**
CNB Canberra Magne 26.97 204 P **P 19 41 04.4 +1.7**
baz=27,SNR=16
CAN Canberra 27.12 205 P **P 19 41 05.5 +1.5**
CAN pmax pmax
comp=Z,170nm,1.5s
CAN MLR MLR
comp=Z,14μm,19.0s
CAN Canberra 27.12 205 P **P 19 41 05.5 +1.5**
CAN IAmb IAmb 19 41 15.0
comp=Z,170nm,1.5s
WR0 Warramunga Arr 28.32 248 P **P 19 41 14.3 -0.5**
WR0 IAmb IAmb 19 41 32.6
comp=Z,133nm,1.1s
STKA Stephens Creek 28.34 220 P **P 19 41 15.9 +1.1**
comp=Z,14nm,0.6s,baz=64,slow=14,SNR=28
STKA PKiKP **PKiKP 19 52 02.6 -0.4**
comp=Z,1.9nm,0.6s,baz=134,slow=5.0,SNR=4.0
STKA LR LR 19 52 06.8
comp=Z,32μm,19.5s,baz=40,slow=35
STKA Stephens Creek 28.34 220 P **P 19 41 15.9 +1.1**
baz=28,SNR=37
STKA Stephens Creek 28.34 220 P **P 19 41 15.3 +0.5**
WB0 Warramunga Arr 28.40 249 P **P 19 41 14.7 -0.9**
WB0 IAmb IAmb 19 41 22.8
comp=Z,199nm,0.9s
WRAB Tennant Creek 28.48 248*ce*P **P 19 41 16.5 +0.2**
WRAB pmax pmax
comp=Z,217nm,1.7s
WRAB MLR MLR
comp=Z,46μm,19.0s
WRAB Tennant Creek 28.48 248 P **P 19 41 15.7 -0.6**
WRAB IAmb IAmb 19 41 26.9
comp=Z,229nm,1.3s
WB2 Warramunga Arr 28.48 248 P **P 19 41 16.0 -0.4**
WB2 IAmb IAmb 19 41 27.0
comp=Z,398nm,1.5s
WRA Warramunga Arr 28.50 248 P **P 19 41 16.6 +0.1**
comp=Z,45nm,0.5s,baz=79,slow=9.1,SNR=126
WRA PcP **PcP 19 44 27.9 -0.1**
comp=Z,11nm,0.7s,baz=84,slow=3.1,SNR=3.6
WRA S **S 19 46 03.8 +1.2**
comp=Z,10nm,1.0s,baz=73,slow=16,SNR=3.3
WRA PKiKP **PKiKP 19 52 03.4 0.0**
comp=Z,3.0nm,0.6s,baz=341,slow=0.6,SNR=20
WRA LR LR 19 52 44.7
comp=Z,46μm,18.4s,baz=75,slow=36
WRA Warramunga Arr 28.50 248 P **P 19 41 15.9 -0.5**
MILA Mila 28.57 203 P **P 19 41 18.8 +1.9**
baz=29,SNR=11
KDU Kakadu 29.40 264 P **P 19 41 24.2 -0.3**
baz=29,SNR=24
HIZ Hauiti 29.54 160 P **P 19 41 23.5 -2.0**
HIZ IAmb IAmb 19 41 30.7
comp=Z,257nm,1.4s
HIZ IAMs_20 IAMs_20 19 51 29.9
comp=Z,19μm,20.0s
H11S2 WAKE ISLAND Hy 29.61 8 T T 20 12 22.3
baz=188,slow=76
H11S3 WAKE ISLAND Hy 29.61 8 T T 20 12 17.4
baz=188,slow=76
H11S1 WAKE ISLAND Hy 29.63 8 T T 20 12 20.6
baz=188,slow=76
AS31 Alice Springs 29.96 241 P **P 19 41 29.1 -0.4**
ASAR Alice Springs 29.96 241 P **P 19 41 29.1 -0.3**
comp=Z,17nm,0.3s,baz=64,slow=10,SNR=290
ASAR PcP **PcP 19 44 32.4 +0.7**
comp=Z,8.5nm,0.8s,baz=104,slow=3.0,SNR=2.6
ASAR S **S 19 46 27.2 +1.5**
comp=Z,9.2nm,1.0s,baz=69,slow=17,SNR=4.8
ASAR ScP **ScP 19 48 12.0 -0.2**
comp=Z,4.6nm,0.7s,baz=47,slow=2.9,SNR=5.8
ASAR PKiKP **PKiKP 19 52 04.1 -0.1**
comp=Z,2.0nm,0.6s,baz=91,slow=1.3,SNR=15
ASAR LR LR 19 53 07.4
comp=Z,15μm,19.0s,baz=68,slow=35
ASAR Alice Springs 29.96 241 P **P 19 41 28.8 -0.7**
MXZ Matakaoa Point 30.02 154 IAMs_20 IAMs_20 19 52 22.4
comp=Z,18μm,18.0s

URZ Urewera 30.13 157 IAMs_20 IAMs_20 19 51 45.3
comp=Z,21μm,18.0s
TOO Toolangi 30.53 207 P **P 19 41 36.4 +2.1**
baz=31,SNR=25
TOO Toolangi 30.53 207 P **P 19 41 35.3 +1.0**
TOO pmax pmax
comp=Z,110nm,1.1s
TOO MLR MLR
comp=Z,20μm,19.0s
TOO Toolangi 30.53 207 P **P 19 41 35.3 +1.0**
TOO IAmb IAmb 19 41 44.7
comp=Z,110nm,1.1s
TOO IAMs_20 IAMs_20 19 52 27.5
comp=Z,20μm,19.0s
MTN Manton Dam 30.71 263 P **P 19 41 36.6 +0.5**
baz=31,SNR=8.2
MTN Manton Dam 30.71 263 P **P 19 41 36.0 -0.1**
MTN IAmb IAmb 19 41 46.0
comp=Z,322nm,1.4s
H11N1 WAKE ISLAND Hy 30.84 8 T T 20 13 48.2
baz=190,slow=76
H11N3 WAKE ISLAND Hy 30.85 8 T T 20 13 48.0
baz=190,slow=76
H11N2 WAKE ISLAND Hy 30.86 8 T T 20 13 52.8
baz=190,slow=76
SAUI Saumlaki 30.89 273 IAMs_20 IAMs_20 19 53 12.8
comp=Z,19μm,21.0s
QRZ Quartz Range 30.99 165 IAMs_20 IAMs_20 19 51 49.4
comp=Z,17μm,21.0s
HTT Hallett 31.05 220 P **P 19 41 40.0 +1.1**
baz=31,SNR=38
ARPS Mount Arapiles 31.69 213 P **P 19 41 46.3 +1.8**
baz=32,SNR=17
ANA2 Anatahan 31.84 328 P **P 19 41 45.2 -0.7**
TUWZ Tuamarina 31.93 164 P **P 19 41 46.4 -0.1**
BFZ Birch Farm 31.96 160 IAMs_20 IAMs_20 19 53 47.8
comp=Z,23μm,19.0s
THZ Tophouse 31.97 165 P **P 19 41 47.0 +0.1**
THZ IAMs_20 IAMs_20 19 52 30.3
comp=Z,16μm,21.0s
SNZO South Karori 32.04 162 IAMs_20 IAMs_20 19 54 01.9
comp=Z,21μm,18.0s
SARN Sarigan 32.11 329 P **P 19 41 48.7 +0.4**
PLWZ Palliser 32.44 162 P **P 19 41 49.6 -1.5**
BBOO Buckleboo 32.56 224 P **P 19 41 52.8 +0.6**
baz=33,SNR=115
BBOO Buckleboo 32.56 224 P **P 19 41 51.8 -0.4**
BBOO IAmb IAmb 19 41 59.6
comp=Z,185nm,1.0s
BBOO IAMs_20 IAMs_20 19 54 58.3
comp=Z,21μm,19.0s
SIJI Sorong 32.59 286 P **P 19 41 51.9 -0.8**
comp=Z,27nm,0.8s,baz=64,slow=7.0,SNR=4.6
SWI Sorong 32.60 286 P **P 19 41 52.3 -0.4**
comp=Z,1μmcomp=Z,71nm,1.0s
KHZ Kahutara 32.74 165 P **P 19 41 54.3 +0.7**
KHZ IAMs_20 IAMs_20 19 53 06.8
comp=Z,20μm,20.0s
LTZ Lake Taylor 32.78 167 P **P 19 41 54.0 0.0**
LTZ IAmb IAmb 19 42 16.6
comp=Z,106nm,1.2s
BNDI Bandanaira 32.89 279 P **P 19 41 55.8 +0.6**
comp=Z,7μmcomp=Z,24μmcomp=Z,2μm,1.7s
FOZ Fox Glacier 33.02 170 P **P 19 41 56.0 -0.1**
FOZ IAmb IAmb 19 42 11.3
comp=Z,176nm,1.1s
FOZ IAMs_20 IAMs_20 19 55 38.2
comp=Z,14μm,18.0s
KNRA Kununurra 33.10 258 P **P 19 41 57.2 +0.1**
baz=33,SNR=477
KNRA Kununurra 33.10 258 P **P 19 41 56.6 -0.5**
OXZ Oxford 33.25 167 P **P 19 41 57.9 -0.1**
RPZ Rata Peaks 33.42 169 P **P 19 41 57.4 -2.2**
RPZ IAmb IAmb 19 42 20.7
comp=Z,214nm,1.3s
MQZ McQueen's Vall 33.75 167 P **P 19 42 01.1 -1.3**
MQZ IAmb IAmb 19 42 17.8
comp=Z,174nm,1.3s
MQZ IAMs_20 IAMs_20 19 55 02.4
comp=Z,17μm,18.0s
LBZ Lake Benmore 33.91 170 P **P 19 42 03.7 -0.1**
LBZ IAmb IAmb 19 42 18.6
comp=Z,97nm,1.4s
LBZ IAMs_20 IAMs_20 19 56 16.8
comp=Z,14μm,18.0s
MSAI Masohi 34.12 280 P **P 19 42 05.9 -0.1**
comp=Z,333nmcomp=Z,27nm,0.6s
WKZ Wanaka 34.16 172 P **P 19 42 04.6 -1.4**
WKZ IAmb IAmb 19 42 27.6
comp=Z,190nm,1.3s
WKZ IAMs_20 IAMs_20 19 54 49.5
comp=Z,22μm,20.0s
DCZ Deep Cove 34.57 174 P **P 19 42 11.3 +1.9**
DCZ IAmb IAmb 19 42 34.3
comp=Z,118nm,1.2s
MLZ Mavora Lakes 34.57 173 IAMs_20 IAMs_20 19 56 07.4
comp=Z,16μm,18.0s
ODZ Otahua Downs 34.63 170 IAMs_20 IAMs_20 19 56 57.8
comp=Z,16μm,18.0s
WHZ Wether Hill Ro 35.07 173 IAMs_20 IAMs_20 19 56 15.6
comp=Z,15μm,19.0s
WRKA Warakurna 35.25 242 P **P 19 42 15.6 -0.1**
baz=35,SNR=581
NLAI Namlea 35.91 280 P **P 19 42 22.0 +0.6**
comp=Z,5μmcomp=Z,261nm,1.3s
FITZ Fitzroy Crossi 36.29 254 P **P 19 42 24.4 -0.3**
comp=Z,217nm,0.6s,baz=78,slow=7.8,SNR=298
FITZ Fitzroy Crossi 36.29 254 P **P 19 42 24.3 -0.3**
baz=36,SNR=578
FITZ Fitzroy Crossi 36.29 254 IAMs_20 IAMs_20 19 57 00.6
comp=Z,17μm,18.0s
TNTI Ternate 36.81 286 P **P 19 42 28.9 -0.3**
comp=Z,2μmcomp=Z,2μmcomp=Z,93nm,1.6s
SANI Sanana 37.29 281 P **P 19 42 32.2 -1.0**
comp=Z,6μmcomp=Z,6μmcomp=Z,264nm,1.1s
FORT Forrest 37.47 233 P **P 19 42 35.3 +0.8**
baz=38,SNR=37
FORT Forrest 37.47 233 P **P 19 42 34.6 +0.1**
FORT IAMs_20 IAMs_20 19 57 35.3
comp=Z,18μm,20.0s
RAR Rarotonga 37.57 110 LR LR 19 54 59.9
comp=Z,4μm,21.8s,baz=256,slow=31
SOEI Soe 37.59 268 P **P 19 42 35.6 -0.3**
SOEI IAmb IAmb 19 43 00.7
comp=Z,214nm,0.9s
SOEI Soe 37.59 268 P **P 19 42 36.0 +0.1**
comp=Z,4μmcomp=Z,335nm,1.1s
BATI Baumata 38.14 267 P **P 19 42 41.2 +0.8**
comp=Z,480nm,0.6s,baz=160,slow=2.2,SNR=126
BATI Baumata 38.14 267 P **P 19 42 41.1 +0.7**
comp=Z,4μmcomp=Z,6μmcomp=Z,431nm,0.8s
SGSI Sangihe 39.56 290 P **P 19 42 51.3 -1.0**
comp=Z,4μmcomp=Z,284nm,0.8s
MMRI Maumere 39.70 270 P **P 19 42 51.9 -1.5**
MMRI Maumere 39.70 270 P **P 19 42 52.1 -1.4**
comp=Z,5μmcomp=Z,9μmcomp=Z,412nm,0.9s
EDFI Ende, Flores 40.22 269 P **P 19 42 56.2 -1.8**
comp=Z,3μmcomp=Z,127nm,1.9s
DAV Davao City (W) 40.88 294 LR LR 19 59 33.7
comp=Z,22nm,18.8s,baz=86,slow=35
BASI Baing, Sumba 41.16 267 P **P 19 43 05.2 -0.4**
comp=Z,4μmcomp=Z,278nm,1.1s
KCP Kidapawan 41.29 294||*e*P **P 19 43 07.6 +0.9**
WSI Waingapu 41.49 268 P **P 19 43 07.1 -1.2**
APSI Ampana 41.77 281 P **P 19 43 10.1 -0.5**
comp=Z,3μmcomp=Z,3μmcomp=Z,231nm,1.4s
MRSI Marisa 41.88 283 P **P 19 43 11.3 -0.1**
comp=Z,2μmcomp=Z,94nm,0.9s
PSA00 Pilbara Seismi 42.12 250 P **P 19 43 13.8 +0.4**
PSA00 Pilbara Seismi 42.12 250 P **P 19 43 13.3 -0.1**
PSA00 IAmb IAmb 19 43 21.0
comp=Z,354nm,1.5s
BKSI Bulukumba 42.27 274 P **P 19 43 13.4 -1.3**
comp=Z,2μmcomp=Z,89nm,2.1s
CGP Cagayan de Oro 42.27 296||*e*P **P 19 43 16.3 +1.6**
WBSI Waikabubak, Su 42.38 268 P **P 19 43 14.4 -1.2**
comp=Z,5μmcomp=Z,465nm,0.8s
BNSI Bone 42.46 276 P **P 19 43 15.7 -0.5**
comp=Z,4μmcomp=Z,242nm,0.9s
KAPI Kappang 42.69 275 P **P 19 43 17.8 -0.2**
comp=Z,58nm,0.6s,baz=98,slow=2.1,SNR=37
KAPI Kappang 42.69 275 P **P 19 43 17.9 -0.2**
KAPI pmax pmax
comp=Z,215nm,1.2s
KAPI Kappang 42.69 275 P **P 19 43 17.9 -0.2**
KAPI IAmb IAmb 19 43 34.3
comp=Z,215nm,1.2s

JCJ Chichijima 42.69 333 P **P 19 43 17.6 -0.2**
comp=Z,185nm,0.8s,baz=170,slow=5.3,SNR=6.4
JCJ LR LR 19 59 28.8
comp=Z,8μm,20.5s,baz=158,slow=34
JCJ Chichijima 42.69 333 P **P 19 43 17.7 -0.2**
TTSI Tana Toraja 43.02 277 P **P 19 43 20.1 -0.7**
comp=Z,5μmcomp=Z,3μmcomp=Z,91nm,0.8s
TOLI2 Tolitoli 43.17 284 P **P 19 43 21.3 -0.6**
MPSI Mapaga 43.79 282 P **P 19 43 25.2 -1.8**
comp=Z,3μmcomp=Z,2μcomp=Z,80nm,1.1s
PLAI Plampang 44.05 269 P **P 19 43 27.6 -1.5**
comp=Z,5μmcomp=Z,8μmcomp=Z,306nm,1.0s
MEEK Meekatharra 44.09 243 P **P 19 43 30.3 +1.0**
baz=44,SNR=289
TWSI Taliwang, Sumb 44.94 269 P **P 19 43 34.7 -1.5**
comp=Z,3μmcomp=Z,3μmcomp=Z,123nm,0.6s
RCP Roxas 45.40 298||*e*P **P 19 43 42.5 +2.8**
KLBR Kellerberrin 46.03 237 P **P 19 43 44.7 +0.1**
baz=46,SNR=53
DNP Denpasar 46.59 268 P **P 19 43 47.2 -2.0**
comp=Z,666nm,0.7s
BLDU Ballidu 46.64 238 P **P 19 43 49.9 +0.5**
baz=47,SNR=49
SRBI Singaraja 46.66 269 P **P 19 43 48.3 -1.5**
comp=Z,4μmcomp=Z,5μmcomp=Z,228nm,0.8s
PAE Paea 46.82 104 *e*P **P 19 43 51.1 +0.1**
comp=Z,30nm,1.1s
PPT Papeete 46.82 104 P **P 19 43 51.1 +0.1**
comp=Z,82nm,0.8s,baz=44,slow=5.3,SNR=5.3
PPT LR LR 20 00 43.1
comp=Z,4μm,18.1s,baz=266,slow=32
PPT2 Papeete2 46.82 104 *e*P **P 19 43 52.0 +0.9**
comp=Z,129nm,1.2s
PPT2 *e*S **S 19 50 39.8 -0.4**
comp=Z,4μm,28.5s
PPT2 *e*LQ LQ 19 55 11.8
comp=Z,10μm,27.2s
PPT2 *e*LR LR 19 57 13.7
comp=Z,5μm,22.8s
MORW Morawa 46.84 240 P **P 19 43 51.6 +0.6**
baz=47,SNR=54
MORW Morawa 46.84 240 P **P 19 43 51.6 +0.6**
NWAO Narrogin (SRO) 46.84 235 P **P 19 43 51.3 +0.4**
comp=Z,58nm,0.8s,baz=81,slow=6.9,SNR=23
NWAO Narrogin (SRO) 46.84 235 P **P 19 43 51.4 +0.5**
baz=47,SNR=22
NWAO Narrogin (SRO) 46.84 235 P **P 19 43 50.3 -0.6**
NWAO IAmb IAmb 19 43 58.5
comp=Z,125nm,0.9s
NWAO IAMs_20 IAMs_20 20 03 19.5
comp=Z,13μm,19.0s
TIAR Tiarei 47.04 104 *e*P **P 19 43 53.1 +0.4**
comp=Z,17nm,1.0s
TBI Tubuai 47.32 112 *e*S **S 19 50 46.4 -0.7**
comp=Z,5μm,28.8s
TBI *e*LQ LQ 19 55 21.6
comp=Z,10μm,29.2s
TBI *e*LR LR 19 57 21.6
comp=Z,6μm,26.5s
MUN Mundaring 47.40 237 P **P 19 43 55.9 +0.6**
baz=48,SNR=17
GIRL Giralia 47.41 249 P **P 19 43 57.8 +2.2**
baz=48,SNR=20
GIRL Giralia 47.41 249 P **P 19 43 56.7 +1.2**
LQP Lukban 47.65 301||*e*P **P 19 43 57.3 -0.4**
JAGI Jajag, Banyuwa 47.66 269 P **P 19 43 55.2 -2.4**
JAGI Jajag, Banyuwa 47.66 269 P **P 19 43 55.0 -2.6**
comp=Z,4μmcomp=Z,5μmcomp=Z,492nm,0.8s
ABJI Asem Bagus 47.66 269 P **P 19 43 56.8 -0.8**
comp=Z,7μmcomp=Z,276nm,1.6s
BBKI Banjar Baru 47.79 275 P **P 19 43 57.6 -1.0**
comp=Z,3μmcomp=Z,134nm,0.8s
PGP Puerto Galera 47.85 300||*e*P **P 19 44 03.8 +4.8**
MEH Mehetia 48.27 104 *e*P **P 19 44 02.6 +0.3**
comp=Z,50nm,1.0s
MTKI Muara Teweh, K 48.29 279 P **P 19 44 01.4 -1.1**
comp=Z,2μmcomp=Z,2μmcomp=Z,42nm,0.9s
SPMM Sapulut 48.38 286 P **P 19 44 03.0 -0.2**
PMOR Pomariorio Ree 48.44 100 *e*P **P 19 44 04.6 +1.0**
comp=Z,110nm,1.1s
VAH Vaihoa 48.70 101 *e*P **P 19 44 06.2 +0.7**
comp=Z,168nm,1.3s
CVP Callao Caves 49.26 305||*e*P **P 19 44 07.2 -2.5**
H01W1 Cape Leeuwin H 49.85 233 P **P 19 44 14.5 +0.6**
baz=82,slow=7.7,SNR=9.8
H01W3 Cape Leeuwin H 49.87 233 P **P 19 44 18.0 +4.0**
baz=82,slow=7.7,SNR=7.7
H01W2 Cape Leeuwin H 49.87 233 P **P 19 44 17.6 +3.6**
baz=82,slow=7.7,SNR=5.2
PWJI Pagerwojo 50.02 269 P **P 19 44 14.9 -0.8**
comp=Z,5μmcomp=Z,194nm,0.6s
JOW Kunigami 50.18 319 P **P 19 44 18.4 +1.7**
comp=Z,111nm,0.9s,baz=185,slow=7.6,SNR=11
JOW LR LR 20 05 23.4
comp=Z,4μm,19.5s,baz=130,slow=36
JOW Kunigami 50.18 319 P **P 19 44 17.0 +0.4**
KIP Kipapa 50.44 50*ce*P **P 19 44 18.4 -0.3**
KIP pmax pmax
comp=Z,100nm,0.8s
KIP MLR MLR
comp=Z,6μm,16.0s
KIP Kipapa 50.44 50 P **P 19 44 18.2 -0.5**
KIP IAmb IAmb 19 44 20.8
comp=Z,85nm,0.8s
KIP Kipapa 50.44 50 IAMs_20 IAMs_20 20 03 49.3
comp=Z,9μm,19.0s
PCJI Pacitan 50.61 268 P **P 19 44 19.9 -0.3**
comp=Z,10μmcomp=Z,619nm,0.6s
WMR Waimanalo Ridg 50.63 51 P **P 19 44 18.5 -1.7**
PBKI Pangkalan Bun 51.05 275 P **P 19 44 23.5 0.0**
comp=Z,3μmcomp=Z,183nm,1.2s
KHLU Kahalu`u 51.05 54 P **P 19 44 22.6 -0.8**
KHLU IAmb IAmb 19 44 29.6
comp=Z,98nm,0.9s
KHLU IAMs_20 IAMs_20 20 03 10.0
comp=Z,8μm,20.0s
KHU Kahuku 51.09 54 P **P 19 44 23.1 -0.8**
KHU pmax pmax
comp=Z,190nm,1.1s
KHU MLR MLR
comp=Z,8μm,20.0s
KHU Kahuku 51.09 54 P **P 19 44 23.1 -0.8**
KHU IAmb IAmb 19 44 26.6
comp=Z,190nm,1.1s
KHU IAMs_20 IAMs_20 20 03 30.9
comp=Z,8μm,20.0s
HUH Hualalai 51.15 54 P **P 19 44 24.2 -0.2**
HUH IAmb IAmb 19 44 28.2
comp=Z,218nm,1.2s
HUH IAMs_20 IAMs_20 20 03 31.5
comp=Z,8μm,20.0s
MWH Moku'aweowe 51.23 54 P **P 19 44 25.5 +0.2**
MWH IAmb IAmb 19 44 28.8
comp=Z,116nm,1.1s
MWH IAMs_20 IAMs_20 20 04 01.6
comp=Z,8μm,19.0s
MLOA Mauna Loa Obse 51.27 54 P **P 19 44 24.9 -0.7**
MLOA IAmb IAmb 19 44 28.0
comp=Z,150nm,0.9s
MLOA IAMs_20 IAMs_20 20 03 53.8
comp=Z,9μm,19.0s
AIN Ainahou 51.28 54 P **P 19 44 24.6 -0.6**
AIN IAMs_20 IAMs_20 20 03 08.0
comp=Z,8μm,20.0s
UGM Wanagama 51.29 269 P **P 19 44 24.9 -0.4**
UGM Wanagama 51.29 269 P **P 19 44 24.9 -0.4**
comp=Z,5μmcomp=Z,6μmcomp=Z,276nm,0.6s
HMH Humu'ula Sheep 51.38 54 P **P 19 44 25.4 -0.8**
HMH IAMs_20 IAMs_20 20 04 24.7
comp=Z,9μm,20.0s
MLH Mauna Loa 51.40 54 P **P 19 44 25.8 -0.5**
MLH IAmb IAmb 19 44 28.8
comp=Z,119nm,1.1s
MLH IAMs_20 IAMs_20 20 03 20.2
comp=Z,9μm,19.0s
HLK Haleakala 51.41 52 P **P 19 44 26.5 +0.1**
HLK IAMs_20 IAMs_20 20 04 54.6
comp=Z,8μm,19.0s
SDHHI Sand Hill 51.42 54 IAMs_20 IAMs_20 20 03 28.7
comp=Z,8μm,19.0s
WRMHI West Rim 51.42 54 P **P 19 44 26.0 -0.3**
WRMHI IAmb IAmb 19 44 28.6
comp=Z,102nm,0.8s
WRMHI IAMs_20 IAMs_20 20 03 24.8
comp=Z,7μm,20.0s
POHA Pohakuloa 51.43 54 P **P 19 44 25.1 -1.4**
POHA Pohakuloa 51.43 54 IAMs_20 IAMs_20 20 03 39.9

comp=Z,8μm,19.0s
UWE Uwekahuna 51.44 54 P **P** **19 44 25.6 -0.9**
UWE IAmb IAmb 19 44 36.8
comp=Z,86nm,0.8s
UWE IAMs_20 IAMs_20 20 03 21.2
comp=Z,7μm,20.0s
RIM Rim 51.44 54 P **P** **19 44 25.6 -0.9**
RIM IAmb IAmb 19 44 28.8
comp=Z,116nm,1.0s
HPAH Hawaii Prepara 51.44 53 P **P** **19 44 25.7 -0.7**
HPAH IAmb IAmb 19 44 28.8
comp=Z,159nm,0.9s
KKO Keanakako`i 51.45 54 P **P** **19 44 26.3 -0.2**
KKO IAmb IAmb 19 44 46.5
comp=Z,177nm,1.2s
JYT Yasato 51.47 337 P **P** **19 44 27.0 +0.8**
PUH Pauahi 51.47 54 IAMs_20 IAMs_20 20 03 41.1
comp=Z,7μm,19.0s
SMRI Semarang 51.49 270 P **P** **19 44 26.5 -0.4**
SMRI Semarang 51.49 270 P **P** **19 44 26.7 -0.1**
comp=Z,6μmcomp=Z,9μmcomp=Z,318nm,0.7s
YOGI Yogyakarta 51.53 269 P **P** **19 44 27.3 +0.2**
comp=Z,7μmcomp=Z,339nm,0.8s
JCUZ Jacuzzi 51.57 54 IAMs_20 IAMs_20 20 03 36.7
comp=Z,7μm,19.0s
SBUM Sibu 51.75 282 P **P** **19 44 29.0 +0.3**
STKI Sintang 51.85 279 P **P** **19 44 28.7 -0.8**
comp=Z,2μmcomp=Z,39nm,1.4s
INU Inuyama 52.02 334 P **P** **19 44 30.7 +0.4**
JGF Kuroka 52.09 334 P **P** **19 44 31.5 +0.6**
JGF IAmb IAmb 19 44 42.5
comp=Z,203nm,1.5s
JGF IAMs_20 IAMs_20 20 02 30.5
comp=Z,8μm,20.0s
JMN Monobe 52.15 330 P **P** **19 44 32.4 +1.0**
JSU Suzuyama 52.24 325 P **P** **19 44 32.3 +0.2**
MJAR Matsushiro Arr 52.53 335 P **P** **19 44 33.9 -0.3**
comp=Z,30nm,0.9s,baz=158,slow=8.8,SNR=38
MJAR LR LR 20 08 24.3
comp=Z,2μm,18.8s,baz=155,slow=38
MJAR Matsushiro Arr 52.53 335 P **P** **19 44 34.5 +0.3**
MJAR pmax pmax
comp=Z,98nm,1.3s
MJAR Matsushiro Arr 52.53 335 P **P** **19 44 34.5 +0.3**
MJAR IAmb IAmb 19 44 40.9
comp=Z,98nm,1.3s
MAJO Matsushiro 52.53 335 *i* P **P** **19 44 34.3 +0.2**
MAJO pmax pmax
comp=Z,152nm,1.4s
MAJO Matsushiro 52.53 335 P **P** **19 44 34.0 -0.2**
MAJO IAmb IAmb 19 44 45.4
comp=Z,220nm,1.4s
MAT Matsushiro 52.53 335 P **P** **19 44 33.9 -0.2**
MAT S **S** **19 52 01.0 +1.7**
MJB9 Matsu-Tunnel 52.54 335 P **P** **19 44 34.4 +0.2**
MJB9 IAmb IAmb 19 44 45.4
comp=Z,214nm,1.4s
TWG Pinlang 52.68 310 P **P** **19 44 34.8 -0.7**
JWT Wachi 52.69 332 P **P** **19 44 35.8 +0.5**
JWT IAMs_20 IAMs_20 20 04 26.5
comp=Z,9μm,20.0s
JMM Marumori 52.69 338 P **P** **19 44 36.0 +0.7**
YULB Yu-li 52.84 311 P **P** **19 44 36.6 -0.1**
KPJI Karang Pucung 52.93 269 P **P** **19 44 37.7 +0.2**
comp=Z,4μmcomp=Z,264nm,0.6s
NACB Ninganchiao 53.08 312 P **P** **19 44 37.3 -1.1**
JNU Nakatsue 53.23 327 P **P** **19 44 40.6 +1.2**
comp=Z,198nm,1.0s,baz=95,slow=3.0,SNR=33
JNU LR LR 20 05 06.5
comp=Z,4μm,21.9s,baz=147,slow=33
JNU Nakatsue 53.23 327 P **P** **19 44 39.3 -0.1**
TPUB Ta-pu 53.29 310 P **P** **19 44 40.2 +0.2**
TPUB IAmb IAmb 19 44 55.8
comp=Z,67nm,0.8s
TPUB IAMs_20 IAMs_20 20 04 53.9
comp=Z,6μm,19.0s
SSLB Suanglung 53.33 311 P **P** **19 44 39.6 -0.6**
SSLB IAmb IAmb 19 44 58.6
comp=Z,50nm,0.8s
SSLB IAMs_20 IAMs_20 20 05 14.0
comp=Z,7μm,20.0s
KSM Kuching 53.33 280 P **P** **19 44 40.0 -0.5**
YHNB Yeheng 53.53 312 P **P** **19 44 42.5 +0.7**
YHNB IAmb IAmb 19 44 59.2
comp=Z,117nm,1.0s
JHS Saijyo 53.55 330 P **P** **19 44 42.7 +1.0**
JHS IAMs_20 IAMs_20 20 05 33.3
comp=Z,9μm,20.0s
TATO Taipei 53.63 312 IAMs_20 IAMs_20 20 05 58.9
comp=Z,8μm,20.0s
JCJI Jatiwangi 53.71 270 P **P** **19 44 43.1 -0.1**
comp=Z,11μmcomp=Z,348nm,0.5s
JSD Sado 53.80 336 P **P** **19 44 43.7 +0.3**
CISI Cisompet, Garu 54.00 269 P **P** **19 44 44.1 -1.3**
CISI Cisompet, Garu 54.00 269 P **P** **19 44 44.0 -1.4**
comp=Z,2μmcomp=Z,3μmcomp=Z,161nm,0.6s
LEM Lembang 54.30 269 LR LR 20 11 46.5
comp=Z,3μm,18.0s,baz=96,slow=40
LEM Lembang 54.30 269 P **P** **19 44 47.6 -0.1**
comp=Z,3μmcomp=Z,4μmcomp=Z,180nm,1.4s
CNJI Cibinong 54.70 269 P **P** **19 44 48.8 -1.7**
comp=Z,5μmcomp=Z,206nm,1.1s
TPI Tanjungpandan 54.97 274 P **P** **19 44 51.6 -0.8**
comp=Z,2μmcomp=Z,65nm,1.6s
JTU Tsushima 55.10 327 P **P** **19 44 52.3 -0.6**
JTU IAmb IAmb 19 45 00.3
comp=Z,161nm,1.3s
CBJI Citeko 55.11 270 P **P** **19 44 52.7 -0.7**
comp=Z,9μmcomp=Z,185nm,0.6s
DBJI Dramaga 55.19 270 P **P** **19 44 52.9 -1.1**
comp=Z,3μmcomp=Z,112nm,1.5s
JTM Tenmabayashi 55.21 340 P **P** **19 44 54.5 +1.0**
JTM IAmb IAmb 19 44 55.7
comp=Z,85nm,0.8s
ERM Erimo 55.67 343 *i* P **P** **19 44 58.7 +1.8**
ERM pmax pmax
comp=Z,9.0nm,0.6s
ERM MLR MLR
comp=Z,7μm,19.0s
ERM Erimo 55.67 343 P **P** **19 44 58.3 +1.4**
ERM IAmb IAmb 19 45 10.1
comp=Z,148nm,1.1s
ERM Erimo 55.67 343 IAMs_20 IAMs_20 20 08 17.1
comp=Z,8μm,20.0s
JEM Erimo 55.67 343 IAMs_20 IAMs_20 20 08 19.5
comp=Z,9μm,20.0s
XMI Christmas Isla 55.72 265 P **P** **19 44 59.8 +1.9**
comp=Z,188nm,0.6s
QZH Quanzhou 55.75 310 P **P** **19 44 54.3 -3.5**
QZH S **S** **19 52 41.2 -1.8**
QZH pmax pmax
comp=Z,91nm,1.9s
QZH pmax pmax
comp=Z,910nm,10.9s
QZH LR LR
comp=Z,1μm,19.9s
QZH LR LR
comp=Z,3μm,19.4s
QZH LR LR
comp=Z,3μm,20.8s
XMIS Christmas Isla 55.76 265 P **P** **19 44 57.8 -0.3**
XMIS Christmas Isla 55.76 265 P **P** **19 44 59.8 +1.7**
comp=Z,151nm,0.6s
CGJI Cibinong 56.22 269 P **P** **19 45 00.1 -1.3**
comp=Z,6μmcomp=Z,417nm,0.7s
KOHB KOHEUNG 56.33 325 P **P** **19 45 01.8 0.0**
SNR=15
BOSB Boseong-gun 56.48 325 P **P** **19 45 04.0 +1.2**
SNR=18
TAOE Nuku Hiva Isla 56.49 93 *e*LR LR 20 01 40.2
comp=Z,6μm,23.9s
PPBI Pangkal Pinang 56.57 275 P **P** **19 45 03.2 -0.7**
comp=Z,4μmcomp=Z,5μmcomp=Z,85nm,1.6s
KSSCH SUNCHEON 56.68 326 P **P** **19 45 04.9 +0.7**
SNR=17
YUK Yuzh-Kuril'sk 56.83 346 *i* P **P** **19 45 02.8 -2.3**
YUK *i* 19 47 07.7
YUK *i* S **S** **19 52 56.5 -0.2**
YUK *i* SS **SS** **19 56 46.2 +0.8**
YUK pmax pmax
comp=Z,358nm,1.2s
YUK MLR MLR
comp=Z,3μm,19.0s
YUK MLR MLR
comp=N,3μm,16.0s
BLSI Bandar Lampung 56.85 271 P **P** **19 45 05.6 -0.4**
comp=N,113nm,0.5s
KSKWJ Gwangju 56.89 325 P **P** **19 45 06.8 +1.0**
SNR=17
JEW Eniwo 56.94 342 P **P** **19 45 05.8 -0.1**
JEW IAMs_20 IAMs_20 20 07 18.7
comp=Z,7μm,20.0s
SUCA Sunchang 56.96 326 P **P** **19 45 08.0 +1.7**
SNR=13
KSJEU Jeongeup 57.17 326 P **P** **19 45 09.7 +2.0**
SNR=8.7
KSJEO Jeonju 57.29 326 P **P** **19 45 10.0 +1.4**
SNR=38
OKCB Cheongsan-myeo 57.33 327 P **P** **19 45 09.4 +0.6**
SNR=15
KSMGY Mungyeong 57.42 327 P **P** **19 45 10.1 +0.7**
SNR=28
KSBON Boeun 57.44 327 P **P** **19 45 10.4 +0.8**
SNR=15
KUR Kuril'sk 57.52 348 *d* P **P** **19 45 11.6 +1.7**
KUR *e**PP **sP** **19 45 23.3 +1.8**
KUR *i* S **S** **19 53 09.3 +3.6**
KUR *e* 19 54 56.0
KUR pmax pmax
comp=Z,2μm,3.6s
KUR pmax pmax
comp=Z,377nm,1.4s
KUR MLR MLR
comp=Z,3μm,19.0s
KASI Kota Agung 57.56 270 P **P** **19 45 08.7 -2.2**
comp=Z,2μmcomp=Z,212nm,1.0s
TJN Taejon 57.58 327 *ce*P **P** **19 45 11.4 +0.8**
KSYOW Yeongwol 57.60 328 P **P** **19 45 11.8 +1.0**
SNR=26
KSCHJ Chungju 57.62 327 P **P** **19 45 12.0 +1.1**
SNR=30
KSCHJ Chungju 57.62 327 P **P** **19 45 12.0 +1.1**
SNR=29
SSE Sheshan 57.63 318 P **P** **19 45 11.4 +0.3**
SSE S **S** **19 53 07.8 0.0**
SSE pmax pmax
comp=Z,37nm,1.3s
SSE pmax pmax
comp=Z,350nm,3.8s
SSE LR LR
comp=Z,2μm,18.0s
KSGUS GUNSAN 57.65 326 P **P** **19 45 13.7 +2.7**
SNR=6.3
OKEB Okgye-meyeon 57.67 329 P **P** **19 45 13.0 +1.7**
SNR=9.6
JKA Kamikawa-asahi 57.76 343 P **P** **19 45 12.3 +0.6**
JKA IAMs_20 IAMs_20 20 06 02.5
comp=Z,9μm,22.0s
ASAJ Asahikawa 57.77 343 P **P** **19 45 12.9 +1.2**
comp=Z,258nm,0.8s,baz=210,slow=10.0,SNR=119
ASAJ LR LR 20 06 47.5
comp=Z,8μm,21.5s,baz=147,slow=32
ASAJ Asahikawa 57.77 343 P **P** **19 45 13.0 +1.2**
KOJ2 Gongju-si 57.77 327 P **P** **19 45 14.0 +2.1**
SNR=21
KSDGY Daegwallycong 57.88 329 P **P** **19 45 16.0 +3.2**
SNR=16
KSWJU Wonju 57.98 328 P **P** **19 45 16.0 +2.6**
SNR=9.7
MDSI Maura Dua 58.05 272 P **P** **19 45 13.0 -1.4**
comp=Z,2μmcomp=Z,2μmcomp=Z,65nm,1.5s
LWLI Liwa 58.08 271 P **P** **19 45 13.9 -0.8**
comp=Z,4μmcomp=Z,175nm,0.8s
KSRS Korea Array 58.09 328 P **P** **19 45 14.7 +0.5**
comp=Z,77nm,1.1s,baz=144,slow=6.9,SNR=112
KSRS LR LR 20 08 18.5
comp=Z,4μm,20.8s,baz=130,slow=34
KSAR Wonju Array Be 58.10 328 P **P** **19 45 14.2 0.0**
KSAR Wonju Array Be 58.10 328 P **P** **19 45 14.2 0.0**
KS19 Wonju Array Si 58.15 328 P **P** **19 45 14.8 +0.2**
KSSES Seosan 58.38 326 P P 19 45 24.0 +7.8
SNR=7.0
HAWB Hwaseong-si 58.42 327 P P 19 45 24.0 +7.5
SNR=6.9
SEHB SEOHWA 58.54 329 P P 19 45 24.5 +7.2
SNR=6.4
KSSEO Seoul 58.64 327 P P 19 45 25.2 +7.2
SNR=8.1
KSSEO Seoul 58.64 327 P P 19 45 26.0 +8.0
SNR=8.2
SHHB Siheung-si 58.66 327 P P 19 45 26.0 +7.9
SNR=6.3
KSSOD Songwoldong 58.68 327 P P 19 45 26.4 +8.2
SNR=5.6
INCN Inchon 58.79 327 P **P** **19 45 19.8 +0.7**
INCN pmax pmax
comp=Z,380nm,1.3s
INCN MLR MLR
comp=Z,6μm,19.0s
INCN Inchon 58.79 327 P **P** **19 45 19.8 +0.7**
INCN Inchon 58.79 327 IAMs_20 IAMs_20 20 07 41.2
comp=Z,6μm,19.0s
HWCB Hwacheon 58.80 328 P P 19 45 27.0 +7.9
SNR=7.9
LHSI Lahat 58.81 272 P **P** **19 45 18.7 -1.0**
comp=Z,2μmcomp=Z,83nm,1.7s
GZH Guangzhou 58.83 306 P **P** **19 45 20.7 +1.1**
GZH S **S** **19 53 26.4 +2.7**
GZH pmax pmax
comp=Z,420nm,3.7s
GZH LR LR
comp=Z,2μm,19.0s
GZH LR LR
comp=Z,4μm,20.0s
MYKOM Kota Tinggi 59.67 279 P **P** **19 45 25.0 -0.6**
KSI Kapahiang 59.76 272 P **P** **19 45 26.3 0.0**
comp=Z,4μmcomp=Z,60nm,0.8s
NJ2 Nanjing 59.78 317 ⇓P **P** **19 45 26.1 +0.1**
NJ2 pP **pP** **19 45 32.4 -2.0**
NJ2 sP **sP** **19 45 35.2 -2.4**
NJ2 S **S** **19 53 36.4 +0.7**
NJ2 sS **pS** **19 53 45.9 -0.3**
NJ2 SS **SS** **19 57 34.0 +1.7**
NJ2 pmax pmax
comp=Z,71nm,1.5s
NJ2 pmax pmax
comp=Z,1μm,3.8s
NJ2 LR LR
comp=Z,5μm,18.9s
NJ2 LR LR
comp=Z,2μm,20.4s
NJ2 LR LR
comp=Z,3μm,18.5s
QIZ Qiongzhong 59.85 300 P **P** **19 45 28.5 +1.7**
QIZ S **S** **19 53 37.0 -0.1**
QIZ ScS **ScS** **19 55 16.1 +0.3**
QIZ SS **SS** **19 57 35.9 +2.0**
QIZ pmax pmax
comp=Z,24nm,1.0s
QIZ pmax pmax
comp=Z,970nm,10.4s
QIZ LR LR
comp=Z,2μm,19.1s
QIZ LR LR
comp=Z,2μm,25.5s
QIZ LR LR
comp=Z,4μm,24.0s
YSS Yuzh-Sakhalins 60.34 345 *e*P **P** **19 45 30.8 +1.3**
YSS *e* 19 46 14.7
YSS *e*S **S** **19 53 42.8 +0.5**
YSS *e*SS **SS** **19 57 44.8 +4.3**
YSS pmax pmax
comp=Z,100nm,1.3s
YSS smax smax
comp=N,3μm,7.8s
YSS MLR MLR
comp=Z,3μm,17.0s
YSS MLR MLR
comp=N,3μm,16.0s
YSS Yuzh-Sakhalins 60.34 345 P **P** **19 45 30.0 +0.5**
YSS IAMs_20 IAMs_20 20 09 28.5
comp=Z,7μm,20.0s
RKT Rikitea 60.61 110 *e*S **S** **19 53 46.1 -0.7**
comp=Z,4μm,35.8s
RKT *e*LQ LQ 20 00 57.5
comp=Z,3μm,31.8s
RKT *e*LR LR 20 03 28.8
comp=Z,13μm,22.5s
VLA Vladivostok 60.69 335 *i* P **P** **19 45 32.7 +0.7**
VLA pmax pmax
comp=Z,100nm,1.1s
VLA MLR MLR
comp=Z,4μm,18.0s
USA0B Ussuriysk Arra 61.53 335 P **P** **19 45 38.0 +0.3**
USA0B pmax pmax
comp=Z,575nm,1.3s
USA0B Ussuriysk Arra 61.53 335 P **P** **19 45 38.0 +0.3**
USRK Ussuriysk Ar. 61.53 335 P **P** **19 45 39.0 +1.3**
comp=Z,169nm,1.0s,baz=144,slow=6.5,SNR=100
USRK LR LR 20 10 38.1
comp=Z,3μm,20.5s,baz=137,slow=34
USRK Ussuriysk Ar. 61.53 335 P **P** **19 45 37.9 +0.2**
SKR Severo-Kuril's 61.68 355 *e*P **P** **19 45 38.9 +0.4**
SKR *e* 19 45 57.0
SKR *e*PPP PPP 19 49 24.8
SKR *e*S **S** **19 54 02.2 +2.9**
SKR *e*SS **SS** **19 57 57.0 -4.5**
SKR *e*SSS SSS 20 00 40.4
SKR pmax pmax
comp=Z,114nm,1.0s
SKR pmax pmax
comp=Z,700nm,9.9s
SKR pmax pmax
comp=Z,1μm,3.6s
SKR pmax pmax
comp=Z,500nm,2.3s
SKR MLR MLR
comp=Z,2μm,17.0s
SKR MLR MLR
comp=Z,2μm,18.0s
WHN Wuhan 62.00 313 ⇑P **P** **19 45 42.1 +1.0**
WHN S **S** **19 54 02.8 -1.3**
WHN pmax pmax
comp=Z,1μm,2.5s
WHN LR LR
comp=Z,8μm,15.8s
WHN LR LR
comp=Z,2μm,12.8s
WHN LR LR
comp=Z,11μm,21.1s
BKNI Bangkinang 62.07 276 P **P** **19 45 41.9 -0.1**
BKNI Bangkinang 62.07 276 P **P** **19 45 41.2 -0.8**
comp=Z,5μmcomp=Z,4μmcomp=Z,391nm,1.4s
UGL Uglegorsk 62.48 345 *e*P **P** **19 45 47.5 +3.6**
UGL *e*S **S** **19 54 12.5 +3.1**
UGL smax smax
comp=N,6μm,4.8s
UGL MLR MLR
comp=E,2μm,16.0s
UGL MLR MLR
comp=N,4μm,19.0s
UGL MLR MLR
comp=Z,3μm,18.0s
DL2 Dalian 62.56 325 P **P** **19 45 44.8 +0.1**
DL2 S **S** **19 54 11.8 +1.0**
DL2 pmax pmax
comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,2μm,3.5s
DL2 LR LR
comp=Z,3μm,21.6s
DL2 LR LR
comp=Z,5μm,18.9s
DL2 LR LR
comp=Z,6μm,19.5s
MDJ Mudanjiang 62.87 334 P **P** **19 45 47.0 +0.4**
MDJ pP pP 19 45 50.0 -4.9
MDJ S **S** **19 54 17.5 +3.0**
MDJ sS pS 19 54 22.1 -3.0
MDJ ScS **SKSac** **19 55 37.4 0.0**
MDJ pmax pmax
comp=Z,120nm,1.7s
MDJ LR LR
comp=Z,5μm,20.1s
MDJ LR LR
comp=Z,4μm,18.2s
MDJ LR LR
comp=Z,5μm,24.5s
MDJ Mudanjiang 62.87 334 P **P** **19 45 47.1 +0.4**
IPM Ipoh 63.06 281 P **P** **19 45 48.0 -0.6**
TIA Tai'an 63.49 320 P **P** **19 45 51.2 +0.2**
TIA S **S** **19 54 22.1 -0.5**
TIA ScS **SKSac** **19 55 41.6 -1.0**
TIA SS **SS** **19 58 28.2 -2.1**
TIA pmax pmax
comp=Z,26nm,0.8s
TIA pmax pmax
comp=Z,1μm,3.9s
TIA LR LR
comp=Z,3μm,16.3s
TIA LR LR
comp=Z,3μm,20.4s
TIA LR LR
comp=Z,4μm,21.0s
SNY Shenyang 63.58 328 ⇑P **P** **19 45 53.1 +1.7**
SNY S **S** **19 54 24.4 +1.0**
SNY SS **SS** **19 58 29.8 -1.6**
SNY pmax pmax
comp=Z,31nm,0.8s
SNY pmax pmax
comp=Z,1μm,3.9s
SNY LR LR
comp=Z,3μm,16.5s
SNY LR LR
comp=Z,3μm,20.4s
SNY LR LR
comp=Z,8μm,18.4s
MNSI Mandailing Nat 63.60 276 P **P** **19 45 51.5 -0.6**
comp=Z,2μmcomp=Z,228nm,0.9s
KULM Kulim 63.62 282 P **P** **19 45 52.0 -0.3**
AMKA Amchitka 63.83 12 P **P** **19 45 53.4 +0.5**
PET Petropavlovsk 63.86 357 *e*P **P** **19 45 52.9 -0.1**
PET *i* S **S** **19 54 24.9 -1.6**
PET *e*SS **SS** **19 58 33.4 -2.1**
PET pmax pmax
comp=Z,2μm,10.5s
PET pmax pmax
comp=Z,1μm,10.2s
PET pmax pmax
comp=Z,211nm,1.2s
PET MLR MLR
comp=Z,4μm,17.0s
PET MLR MLR
comp=Z,3μm,18.0s
PET Petropavlovsk 63.86 357 P **P** **19 45 52.5 -0.6**
TYV Tymovskoe 63.99 346 *e*P **P** **19 45 55.6 +1.7**
TYV pmax pmax
comp=Z,67nm,1.5s
TYV pmax pmax
comp=Z,2μm,4.1s
TYV MLR MLR
comp=Z,4μm,23.0s
PEA0B Petropavlovsk- 63.99 357 P **P** **19 45 54.3 +0.4**
PEA0B pmax pmax
comp=Z,299nm,1.2s
PEA0B MLR MLR
comp=Z,4μm,20.0s
PEA0B Petropavlovsk- 63.99 357 P **P** **19 45 54.3 +0.4**
PETK Petropavlovsk- 63.99 357 P **P** **19 45 54.4 +0.5**
comp=Z,47nm,0.8s,baz=186,slow=10,SNR=58
PETK LR LR 20 08 39.9
comp=Z,3μm,21.8s,baz=173,slow=31
PETK Petropavlovsk- 63.99 357 P **P** **19 45 53.7 -0.2**
CN2 Changchun 64.11 331 *e*P **P** **19 45 55.1 +0.2**
CN2 *es*P pP 19 46 01.6 -1.6
CN2 *e*S **S** **19 54 30.7 +0.7**
CN2 pmax pmax
comp=Z,130nm,1.1s
CN2 pmax pmax
comp=Z,2μm,3.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,6μm,20.0s
SKLT Songkhla 64.15 284 P **P** **19 45 57.2 +1.4**
comp=Z,1μmcomp=Z,36nm,1.1s
SMY Shemya 64.27 8 P **P** **19 45 55.6 -0.1**
SMY pmax pmax
comp=Z,590nm,1.5s
SMY MLR MLR
comp=Z,6μm,20.0s
SMY Shemya 64.27 8 P **P** **19 45 55.6 -0.1**
SMY IAMs_20 IAMs_20 20 08 15.8
comp=Z,6μm,20.0s
RPSI Rantau Prapat 64.66 278 P **P** **19 45 57.6 -1.5**
RPSI IAmb IAmb 19 46 27.1
comp=Z,38nm,1.0s

PSI	**Prapat**	**64.69 278**	P	**P**	**19 45 57.6 -1.8**	
PSI			pmax	pmax		
	comp=Z,38nm,1.0s					
KIWB	**Kanaga Island**	**65.04 14**	P	**P**	**19 46 01.4 +0.6**	
ADK	**Adak**	**65.18 14**	P	**P**	**19 46 03.1 +1.4**	
ADK			pmax	pmax		
	comp=Z,587nm,1.5s					
ADK			MLR	MLR		
	comp=Z,5μm,21.0s					
ADK	**Adak**	**65.18 14**	P	**P**	**19 46 03.1 +1.4**	
TSI	**Tuntungan**	**65.20 279**	P	**P**	**19 46 01.8 -0.8**	
	comp=Z,2μmcomp=Z,130nm,0.9s					
NONG	**Nongkai**	**65.29 296**	P	**P**	**19 46 03.8 +0.7**	
	comp=Z,56nm,1.1s					
ENH	**Enshi**	**65.41 311**	P	**P**	**19 46 03.1 -0.7**	
CHAI	**Chaiyaphum**	**65.56 293**	P	**P**	**19 46 05.3 +0.4**	
CHAI	**Chaiyaphum**	**65.56 293**	P	**P**	**19 46 05.4 +0.5**	
GRNR	**Gornyy**	**65.58 342**	⇓*i*P	**P**	**19 46 05.4 +1.1**	
GRNR			*e*S	**S**	**19 54 53.0 +5.2**	
GRNR			pmax	pmax		
	comp=E,7.0nm,1.2s					
GRNR			pmax	pmax		
	comp=N,10.0nm,1.1s					
GRNR			pmax	pmax		
	comp=Z,30nm,1.0s					
GRNR			smax	smax		
	comp=N,3.0nm,0.9s					
GRNR			MLR	MLR		
	comp=E,2μm,20.0s					
PATY	**Pattaya**	**65.61 290**	P	**P**	**19 46 07.3 +2.1**	
	comp=E,3μmcomp=E,77nm,0.9s					
GSI	**Gunungsitoli**	**65.66 276**	P	**P**	**19 46 04.4 -1.3**	
GSI	**Gunungsitoli**	**65.66 276**	P	**P**	**19 46 04.8 -0.9**	
	comp=E,150nm,0.9s					
GYA	**Guiyang**	**65.77 306**	⇑P	**P**	**19 46 06.5 +0.3**	
GYA			S	**S**	**19 54 52.7 +1.4**	
KLR	**Kul'dur**	**65.80 338**	P	**P**	**19 46 06.5 +0.8**	
	comp=E,48nm,1.0s,baz=146,slow=3.1,SNR=59					
KLR	**Kul'dur**	**65.80 338**	*ce*P	**P**	**19 46 06.1 +0.3**	
KLR			pmax	pmax		
	comp=Z,361nm,1.7s					
SLVN	**Son La**	**65.88 299**	P	**P**	**19 46 06.4 -0.6**	
ATKA	**Atka Island**	**66.09 15**	P	**P**	**19 46 08.2 +0.6**	
BJT	**Baijiatuau**	**66.47 323**	P	**P**	**19 46 10.3 +0.1**	
BJT			pmax	pmax		
	comp=Z,45nm,1.1s					
BJT	**Baijiatuau**	**66.47 323**	P	**P**	**19 46 10.3 +0.1**	
BJT			IAmb	IAmb	19 46 12.3	
	comp=Z,44nm,1.1s					
BJI	**Beijing**	**66.47 323**	P	**P**	**19 46 11.2 +0.9**	
BJI			PP	**PP**	**19 48 34.8 -2.3**	
BJI			S	**S**	**19 54 57.1 -2.0**	
BJI			SS	**SS**	**19 59 13.4 -3.3**	
BJI			pmax	pmax		
	comp=Z,43nm,1.1s					
BJI			pmax	pmax		
	comp=Z,2μm,3.8s					
BJI			LR	LR		
	comp=Z,2μm,16.4s					
BJI			LR	LR		
	comp=Z,4μm,19.7s					
BJI			LR	LR		
	comp=Z,5μm,18.9s					
VNDA	**Vanda**	**66.50 180**	P	**P**	**19 46 11.3 +1.5**	
	comp=Z,26nm,0.8s,baz=345,slow=6.1,SNR=77					
VNDA			PKKP	**PKKPdf**	**20 06 30.7 +4.7**	
	comp=Z,0.3nm,0.7s,baz=251,slow=3.9,SNR=3.3					
VNDA			LR	LR	20 11 45.9	
	comp=Z,6μm,18.5s,baz=6.5,slow=33					
VNDA	**Vanda**	**66.50 180**	P	**P**	**19 46 10.9 +1.1**	
VNDA			IAmb	IAmb	19 46 21.5	
	comp=Z,112nm,1.3s					
NKL	**Nikolayevsk**	**66.57 346**	*e*P	**P**	**19 46 08.8 -1.8**	
NKL			*e*S	**S**	**19 55 01.3 +1.6**	
NKL			pmax	pmax		
	comp=N,2.0nm,0.6s					
NKL			pmax	pmax		
	comp=Z,139nm,1.1s					
NKL			pmax	pmax		
	comp=E,33nm,0.9s					
NKL			smax	smax		
	comp=E,133nm,1.5s					
NKL			smax	smax		
	comp=N,2.0nm,1.9s					
NKL			MLR	MLR		
	comp=E,6μm,17.0s					
SBA	**Scott Base**	**66.87 179**	P	**P**	**19 46 13.9 +1.6**	
SBA			pmax	pmax		
	comp=Z,197nm,1.5s					
SBA			MLR	MLR		
	comp=Z,5μm,18.0s					
SBA	**Scott Base**	**66.87 179**	P	**P**	**19 46 13.8 +1.6**	
SBA	**Scott Base**	**66.87 179**		**P**	**19 46 14.4 +2.2**	
SBA			IAMs_20	IAMs_20	20 12 04.0	
	comp=Z,5μm,18.0s					
TIY	**Taiyuan**	**67.39 319**	*e*P	**P**	**19 46 17.2 +0.9**	
TIY			S	**S**	**19 55 07.4 -3.1**	
TIY			pmax	pmax		
	comp=Z,24nm,0.7s					
TIY			pmax	pmax		
	comp=Z,700nm,4.5s					
TIY			LR	LR		
	comp=Z,1μm,13.6s					
TIY			LR	LR		
	comp=Z,680nm,11.6s					
TIY			LR	LR		
	comp=Z,4μm,19.5s					
PHIT	**Phitsanulok**	**67.42 294**	P	**P**	**19 46 17.7 +1.0**	
	comp=Z,1μmcomp=Z,150nm,0.9s					
PHIT	**Phitsanulok**	**67.42 294**	P	**P**	**19 46 17.8 +1.0**	
	comp=Z,278nmcomp=Z,37nm,0.9s					
UTTA	**Uttaradit**	**67.48 294**	P	**P**	**19 46 17.8 +0.7**	
	comp=Z,346nmcomp=Z,37nm,1.0s					
UTTA	**Uttaradit**	**67.48 294**	P	**P**	**19 46 17.9 +0.7**	
	comp=Z,86nmcomp=Z,9.2nm,1.0s					
SRDT	**SRDT**	**67.67 291**	P	**P**	**19 46 20.2 +1.9**	
	comp=Z,4μmcomp=Z,39nm,1.9s					
XAN	**Xi'an**	**67.75 314**	P	**P**	**19 46 17.9 -0.7**	
XAN			pP	pP	19 46 20.8 -6.4	
XAN			PP	**PP**	**19 48 45.6 -2.8**	
XAN			PcS		19 50 51.4	
XAN			S	**S**	**19 55 08.3 -6.6**	
XAN			pmax	pmax		
	comp=Z,84nm,1.0s					
XAN			pmax	pmax		
	comp=Z,2μm,4.7s					
XAN			LR	LR		
	comp=Z,3μm,19.5s					
XAN			LR	LR		
	comp=Z,3μm,19.5s					
XAN			LR	LR		
	comp=Z,5μm,19.5s					
UTHA	**Uthaitani**	**67.75 292**	P	**P**	**19 46 19.6 +0.7**	
	comp=Z,509nmcomp=Z,42nm,1.1s					
NIKH	**Nikolski High**	**68.29 18**	P	**P**	**19 46 21.2 -0.3**	
KMI	**Kunming**	**68.38 303**	⇓P	**P**	**19 46 23.0 0.0**	
KMI			pP	pP	19 46 29.1 -2.5	
KMI			PP	**PP**	**19 48 59.2 +5.0**	
KMI			S	**S**	**19 55 23.8 +0.7**	
KMI			SS	**SS**	**19 59 44.5 -2.7**	
KMI			pmax	pmax		
	comp=Z,22nm,1.4s					
KMI			pmax	pmax		
	comp=Z,1μm,3.8s					
KMI			LR	LR		
	comp=Z,2μm,19.5s					
KMI			LR	LR		
	comp=Z,4μm,17.0s					
KMI			LR	LR		
	comp=Z,5μm,19.2s					
UMPA	**Umpang Tak**	**68.50 292**	P	P	19 46 31.9 +8.3	
UMPA	**Umpang Tak**	**68.50 292**	P	P	19 46 31.0 +7.4	
	comp=Z,126nmcomp=Z,8.2nm,1.1s					
LAMP	**Lampang**	**68.58 295**	P	**P**	**19 46 25.1 +1.1**	
	comp=Z,509nmcomp=Z,59nm,0.7s					
LAMP	**Lampang**	**68.58 295**	P	**P**	**19 46 25.1 +1.1**	
	comp=Z,127nmcomp=Z,15nm,0.7s					
CM36	**Chiang Mai Arr**	**69.05 295**	P	**P**	**19 46 27.0 0.0**	
CM35	**Chiang Mai Arr**	**69.05 295**	P	**P**	**19 46 27.0 0.0**	
CM04	**Chiang Mai Arr**	**69.12 295**	P	**P**	**19 46 28.2 +0.8**	
	comp=Z,218nmcomp=Z,28nm,1.0s					
CM04	**Chiang Mai Arr**	**69.12 295**	P	**P**	**19 46 28.3 +0.8**	
	comp=Z,218nmcomp=Z,28nm,1.0s					
CM34	**Chiang Mai Arr**	**69.12 295**	P	**P**	**19 46 28.0 +0.6**	
CM09	**Chiang Mai Arr**	**69.12 295**	P	**P**	**19 46 28.7 +1.3**	
	comp=Z,302nmcomp=Z,30nm,0.9s					
CM09	**Chiang Mai Arr**	**69.12 295**	P	**P**	**19 46 28.8 +1.3**	
	comp=Z,302nmcomp=Z,30nm,0.9s					
CM01	**Chiang Mai Arr**	**69.14 295**	P	**P**	**19 46 28.8 +1.2**	
	comp=Z,227nmcomp=Z,23nm,1.0s					
CM01	**Chiang Mai Arr**	**69.14 295**	P	**P**	**19 46 28.9 +1.3**	
	comp=Z,227nmcomp=Z,23nm,1.0s					
CM05	**Chiang Mai Arr**	**69.15 295**	P	**P**	**19 46 28.8 +1.2**	
	comp=Z,171nmcomp=Z,14nm,1.1s					
CM05	**Chiang Mai Arr**	**69.15 295**	P	**P**	**19 46 28.0 +0.4**	
	comp=Z,171nmcomp=Z,14nm,1.1s					
CM02	**Chiang Mai Arr**	**69.16 295**	P	**P**	**19 46 28.9 +1.2**	
	comp=Z,186nmcomp=Z,23nm,0.9s					
CM02	**Chiang Mai Arr**	**69.16 295**	P	**P**	**19 46 28.0 +0.3**	
	comp=Z,186nmcomp=Z,23nm,0.9s					
CM31	**Chiang Mai Arr**	**69.17 295**	P	**P**	**19 46 28.6 +0.8**	
	comp=Z,7μmcomp=Z,585nm,1.1s					
CM31	**Chiang Mai Arr**	**69.17 295**	P	**P**	**19 46 26.4 -1.3**	
CMAR	**Chiang Mai Arr**	**69.17 295**	P	**P**	**19 46 27.9 +0.2**	
	comp=Z,10nm,0.9s,baz=120,slow=4.6,SNR=50					
CMAR			PKP2ab		20 14 37.6	
	comp=Z,2.4nm,0.9s,baz=277,slow=4.6,SNR=8.9					
CMAR			LR	LR	20 15 47.0	
	comp=Z,1μm,21.4s,baz=148,slow=35					
CMAR	**Chiang Mai Arr**	**69.17 295**	P	**P**	**19 46 27.3 -0.4**	
CMAR			P'P'bc		20 14 36.8 -2.0	
CM15	**Chiang Mai Arr**	**69.18 295**	P	**P**	**19 46 28.9 +1.1**	
	comp=Z,175nmcomp=Z,27nm,0.9s					
CM15	**Chiang Mai Arr**	**69.18 295**	P	**P**	**19 46 28.0 +0.2**	
	comp=Z,175nmcomp=Z,27nm,0.9s					
CM13	**Chiang Mai Arr**	**69.19 295**	P	**P**	**19 46 28.7 +0.9**	
	comp=Z,186nmcomp=Z,22nm,1.0s					
CM13	**Chiang Mai Arr**	**69.19 295**	P	**P**	**19 46 28.8 +0.9**	
	comp=Z,186nmcomp=Z,22nm,1.0s					
CMMT	**Chiang Mai**	**69.28 295**	P	**P**	**19 46 28.6 +0.2**	
	comp=Z,1μmcomp=Z,21nm,1.7s					
CMMT	**Chiang Mai**	**69.28 295**	P	**P**	**19 46 28.6 +0.2**	
	comp=Z,1μmcomp=Z,21nm,1.7s					
CM33	**Chiang Mai**	**69.29 295**	P	**P**	**19 46 28.0 -0.5**	
CHTO	**Chiang Mai**	**69.29 295**	P	**P**	**19 46 27.8 -0.7**	
CHTO			pmax	pmax		
	comp=Z,24nm,1.1s					
CHTO			MLR	MLR		
	comp=Z,2μm,20.0s					
CHTO	**Chiang Mai**	**69.29 295**	P	**P**	**19 46 28.6 +0.1**	
	comp=Z,1μmcomp=Z,21nm,1.7s					
CHTO	**Chiang Mai**	**69.29 295**	P	**P**	**19 46 27.8 -0.7**	
CM32	**Chiang Mai Arr**	**69.32 295**	P	**P**	**19 46 30.0 +1.3**	
HHC	**Hu-ho-hao-te**	**69.76 321**	*e*P	**P**	**19 46 33.0 +1.9**	
HHC			pP	pP	19 46 37.9 -1.5	
HHC			S	**S**	**19 55 39.7 +1.1**	
HHC			SKS	**SKSac**	**19 56 29.5 -0.7**	
HHC			SS	**SS**	**20 00 11.1 +3.4**	
HHC			pmax	pmax		
	comp=Z,42nm,1.0s					
HHC			pmax	pmax		
	comp=Z,2μm,5.7s					
HHC			LR	LR		
	comp=Z,3μm,18.6s					
HHC			LR	LR		
	comp=Z,2μm,17.7s					
HHC			LR	LR		
	comp=Z,3μm,19.7s					
CD2	**Chengdu**	**70.05 309**	P	**P**	**19 46 33.0 0.0**	
CD2			S	**S**	**19 55 40.5 -1.8**	
CD2			ScS	**ScS**	**19 56 35.5 +1.6**	
CD2			SS	**SS**	**20 00 17.1 +4.6**	
CD2			pmax	pmax		
	comp=Z,100nm,1.0s					
CD2			pmax	pmax		
	comp=Z,1μm,7.5s					
CD2			LR	LR		
	comp=Z,2μm,17.1s					
CD2			LR	LR		
	comp=Z,4μm,16.9s					
CD2			LR	LR		
	comp=Z,4μm,17.5s					
AKUT	**Akutan**	**70.25 19**	P	**P**	**19 46 33.0 -0.6**	
AKUT			IAmb	IAmb	19 46 39.8	
	comp=Z,96nm,1.0s					
BTO	**Baotou**	**70.58 320**	*e*P	**P**	**19 46 36.8 +0.7**	
BTO			LR	LR		
	comp=Z,9μm,22.9s					
HIA	**Hailar**	**70.79 332**	P	**P**	**19 46 35.7 -1.4**	
HIA			pmax	pmax		
	comp=Z,259nm,1.2s					
HIA	**Hailar**	**70.79 332**	P	**P**	**19 46 35.7 -1.4**	
HIA	**Hailar**	**70.79 332**	IAMs_20	IAMs_20	20 16 44.0	
	comp=Z,5μm,18.0s					
MA2	**Magadan**	**70.98 354**	*ce*P	**P**	**19 46 37.8 -0.2**	
MA2			pmax	pmax		
	comp=Z,87nm,1.0s					
MA2			MLR	MLR		
	comp=Z,2μm,18.0s					
MA2	**Magadan**	**70.98 354**	P	**P**	**19 46 37.5 -0.4**	
MA2			IAmb	IAmb	19 46 54.8	
	comp=Z,92nm,0.9s					
ZEA	**Zeya**	**71.11 339**	*de*P	**P**	**19 46 39.9 +1.0**	
ZEA			*e*		19 46 52.5	
ZEA			*e*S	**S**	**19 55 59.7 +6.1**	
ZEA			pmax	pmax		
	comp=E,400nm,3.0s					
ZEA			pmax	pmax		
	comp=N,500nm,2.3s					
ZEA			pmax	pmax		
	comp=Z,2μm,2.8s					
ZEA			pmax	pmax		
	comp=Z,200nm,1.3s					
ZEA			smax	smax		
	comp=N,1μm,8.7s					
ZEA			MLR	MLR		
	comp=N,2μm,20.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,18.0s					
SPIA	**Saint Paul Isl**	**71.57 15**	P	**P**	**19 46 41.6 +0.1**	
FALS	**False Pass**	**71.63 20**	P	**P**	**19 46 41.0 -1.0**	
FALS			IAMs_20	IAMs_20	20 14 17.4	
	comp=Z,6μm,20.0s					
LZH	**Lanzhou**	**72.38 313**	*e*P	**P**	**19 46 48.6 +1.5**	
LZH			pP	pP	19 46 53.8 -2.0	
LZH			sP	sP	19 46 57.6 -1.3	
LZH			PP	**PP**	**19 49 29.5 +1.0**	
LZH			*e*S	**S**	**19 56 02.0 -7.3**	
LZH			sS	SKiKP	19 56 21.0 -0.1	
LZH			pmax	pmax		
	comp=Z,78nm,1.1s					
LZH			LR	LR		
	comp=Z,4μm,16.3s					
LZH			LR	LR		
	comp=Z,5μm,16.3s					
LZH			LR	LR		
	comp=Z,4μm,17.6s					
CNBA	**Chernabura Isl**	**72.94 22**	P	**P**	**19 46 49.1 -0.7**	
CNBA			IAmb	IAmb	19 46 56.4	
	comp=Z,138nm,1.4s					
CNBA			IAMs_20	IAMs_20	20 14 28.3	
	comp=Z,5μm,19.0s					
SDPT	**Sand Point**	**73.03 21**	P	**P**	**19 46 48.5 -1.8**	
SDPT			IAMs_20	IAMs_20	20 14 55.6	
	comp=Z,6μm,20.0s					
SEY	**Seymchan**	**74.13 355**	P	**P**	**19 46 56.7 +0.1**	
	comp=Z,39nm,0.9s,baz=156,slow=4.7,SNR=40					
LKP	**Lekhapani**	**74.94 302**	*e*P	**P**	**19 47 00.9 -1.3**	
LKP			IAmb	IAmb	19 47 04.2	
	comp=Z,31nm,1.0s					
CIT	**Chita**	**75.56 331**	*e*P	**P**	**19 47 05.8 +0.6**	
CIT			*e*		19 47 24.5	
CIT			*e*		19 50 03.4	
CIT			*e*S	**S**	**19 56 46.7 +2.5**	
CIT			pmax	pmax		
	comp=Z,926nm,2.6s					
MOKO	**MOKOCHONG**	**75.70 301**	*e*P	**P**	**19 47 06.4 -0.3**	
MOKO			IAmb	IAmb	19 47 08.6	
	comp=Z,34nm,0.5s					
DIBR	**DIBRUGARH**	**75.77 302**	*e*P	**P**	**19 47 06.4 -0.5**	
KOHI	**KOHIMA**	**75.84 300**	*e*P	**P**	**19 47 05.1 -2.4**	
KOHI			IAmb	IAmb	19 47 10.6	
	comp=Z,199nm,1.7s					
JORH	**JORHAT**	**76.07 301**	*e*P	**P**	**19 47 08.1 -0.5**	
ULN	**Ulaanbaatar**	**76.42 325**	*ce*P	**P**	**19 47 11.0 +0.6**	
ULN			pmax	pmax		
	comp=Z,230nm,0.9s					
ULN			MLR	MLR		
	comp=Z,4μm,19.0s					
ULN	**Ulaanbaatar**	**76.42 325**	P	**P**	**19 47 10.6 +0.2**	
ULN	**Ulaanbaatar**	**76.42 325**	IAMs_20	IAMs_20	20 20 52.1	
	comp=Z,4μm,20.0s					
ITAN	**ITANAGAR**	**76.65 301**	*e*P	**P**	**19 47 11.1 -0.8**	
GTA	**Gaotai**	**76.74 315**	⇓P	**P**	**19 47 12.9 +0.5**	
GTA			pP	pP	19 47 19.3 -1.6	
GTA			sP	PcP	19 47 22.2 -1.4	
GTA			S	**S**	**19 56 58.0 +0.1**	
GTA			SS	**SS**	**20 01 53.6 -0.9**	
GTA			pmax	pmax		
	comp=Z,19nm,1.2s					
GTA			pmax	pmax		
	comp=Z,900nm,5.5s					
GTA			LR	LR		
	comp=Z,1μm,19.3s					
GTA			LR	LR		
	comp=Z,2μm,18.9s					
GTA			LR	LR		
	comp=Z,2μm,18.9s					
SONM	**Songino Array**	**76.77 325**	P	**P**	**19 47 12.9 +0.6**	
	comp=Z,137nm,0.8s,baz=138,slow=3.9,SNR=340					
SONM			LR	LR	20 20 56.4	
	comp=Z,4μm,20.1s,baz=119,slow=36					
SONM	**Songino Array**	**76.77 325**	P	**P**	**19 47 12.4 +0.1**	
OHAK	**Old Harbor**	**77.09 23**	P	**P**	**19 47 13.2 -0.5**	
OHAK			IAmb	IAmb	19 47 20.6	
	comp=Z,101nm,1.0s					
YAK	**Yakutsk**	**77.19 345**	P	**P**	**19 47 14.2 +0.1**	
	comp=Z,126nm,0.9s,baz=350,slow=0.5,SNR=61					
YAK	**Yakutsk**	**77.19 345**	*d i*P	**P**	**19 47 14.0 -0.1**	
YAK			*e**PP	**sP**	**19 47 26.5 +0.6**	
YAK			*e*		19 50 07.9	
YAK			*e*S	**S**	**19 57 03.0 +1.5**	
YAK			*e**SS	**SKSac**	**19 57 21.2 -3.4**	
YAK			*e*		19 57 34.5	
YAK			*e*SS	**SS**	**20 01 55.7 -4.2**	
YAK			pmax	pmax		
	comp=Z,259nm,1.0s					
YAK			pmax	pmax		
	comp=E,25nm,1.3s					
YAK			pmax	pmax		
	comp=N,45nm,1.1s					
YAK			pmax	pmax		
	comp=Z,184nm,1.9s					
YAK			pmax	pmax		
	comp=N,101nm,2.0s					
YAK			pmax	pmax		
	comp=E,22nm,1.1s					
YAK			smax	smax		
	comp=N,1μm,4.6s					
YAK			smax	smax		
	comp=E,226nm,4.7s					
YAK			MLR	MLR		
	comp=Z,3μm,17.0s					
YAK			MLR	MLR		
	comp=N,2μm,16.0s					
YAK			MLR	MLR		
	comp=E,1μm,15.0s					
YAK	**Yakutsk**	**77.19 345**	P	**P**	**19 47 13.4 -0.7**	
SHL	**Shillong**	**77.69 299**	P	**P**	**19 47 16.4 -1.7**	
SHL			pmax	pmax		
	comp=Z,83nm,1.3s					
SHL	**Shillong**	**77.69 299**	*e*P	**P**	**19 47 17.0 -1.0**	
SHL			IAmb	IAmb	19 47 25.1	
	comp=Z,205nm,1.7s					
SHL	**Shillong**	**77.69 299**	P	**P**	**19 47 16.4 -1.7**	
SHL			IAmb	IAmb	19 47 39.5	
	comp=Z,84nm,1.3s					
KDAK	**Kodiak Island**	**77.76 23**	P	**P**	**19 47 17.3 -0.2**	
	comp=Z,87nm,0.9s,baz=265,slow=4.3,SNR=53					
KDAK	**Kodiak Island**	**77.76 23**	P	**P**	**19 47 17.1 -0.4**	
KDAK			IAmb	IAmb	19 47 21.1	
	comp=Z,74nm,0.9s					
KDAK	**Kodiak Island**	**77.76 23**	IAMs_20	IAMs_20	20 23 30.5	
	comp=Z,4μm,18.0s					
O18K	**Koktuh Hills**	**78.31 20**	P	**P**	**19 47 19.2 -1.3**	
	baz=222					
O18K			S	**S**	**19 57 14.1 +0.3**	
	baz=222					
N18K	**Kilae Creek**	**78.70 19**	P	**P**	**19 47 22.9 +0.3**	
	baz=222					
N18K			S	**S**	**19 57 19.7 +1.8**	
	baz=222					
P19K	**Oil Pt**	**78.85 21**	P	**P**	**19 47 22.8 -0.7**	
	baz=224					
P19K			S	**S**	**19 57 16.5 -3.2**	
	baz=224					
O19K	**Port Alsworth**	**78.86 20**	P	**P**	**19 47 23.1 -0.4**	
	baz=223					
O19K			S	**S**	**19 57 20.0 +0.4**	
	baz=223					
BILL	**Bilibino**	**78.89 1**	*c i*P	**P**	**19 47 23.2 -0.3**	
BILL			*i*		19 47 34.6	
BILL			*e*S	**S**	**19 57 20.2 +0.5**	
BILL			*e*PS		19 58 12.4	
BILL			*e*SS	**SS**	**20 02 29.0 +3.6**	
BILL			pmax	pmax		
	comp=Z,203nm,0.9s					
BILL			MLR	MLR		
	comp=Z,2μm,17.0s					
BILL	**Bilibino**	**78.89 1**	P	**P**	**19 47 23.6 0.0**	
QSPA	**South Pole Qui**	**78.99 180**	P	**P**	**19 47 25.4 +0.9**	
	comp=Z,66nm,0.8s,baz=8.7,slow=1.2,SNR=80					
QSPA	**South Pole Qui**	**78.99 180**	P	**P**	**19 47 25.2 +0.8**	
QSPA			IAmb	IAmb	19 47 39.6	
	comp=Z,148nm,1.1s					
QSPA	**South Pole Qui**	**78.99 180**	IAMs_20	IAMs_20	20 20 38.1	
	comp=Z,5μm,18.0s					
SVW2	**Sparrevohn**	**79.11 19**	P	**P**	**19 47 25.3 +0.4**	
ANM	**Nome**	**79.17 14**	P	**P**	**19 47 25.9 +0.7**	
ANM			pmax	pmax		
	comp=Z,154nm,1.5s					
ANM			MLR	MLR		
	comp=Z,2μm,20.0s					
ANM	**Nome**	**79.17 14**	P	**P**	**19 47 25.9 +0.7**	
ANM			IAmb	IAmb	19 47 33.3	
	comp=Z,154nm,1.5s					
N19K	**Bonanza Creek**	**79.26 20**	P	**P**	**19 47 25.5 -0.3**	
	baz=223					
N19K			S	**S**	**19 57 23.4 -0.7**	
	baz=223					
O20K	**Slope Mountain**	**79.37 21**	P	**P**	**19 47 25.7 -0.8**	
	baz=225					
O20K			S	**S**	**19 57 24.3 -1.0**	
	baz=225					
HOM	**Homer**	**79.43 22**	P	**P**	**19 47 27.3 +0.7**	
HOM			IAMs_20	IAMs_20	20 17 48.5	
	comp=Z,4μm,20.0s					
CNPM	**China Poot**	**79.48 22**	P	**P**	**19 47 26.8 -0.1**	
CNPM			IAmb	IAmb	19 47 30.3	
	comp=Z,129nm,0.9s					
CNPM			IAMs_20	IAMs_20	20 16 07.1	
	comp=Z,5μm,21.0s					
RSO	**Redoubt South**	**79.60 21**	P	**P**	**19 47 26.6 -1.2**	
LSA	**Lhasa**	**79.63 303**	P	**P**	**19 47 28.1 -0.9**	
LSA			S	**S**	**19 57 24.1 -6.0**	
LSA			LR	LR		
	comp=Z,6μm,18.9s					
LSA			LR	LR		
	comp=Z,5μm,21.0s					
LSA			LR	LR		
	comp=Z,8μm,22.4s					
LSA			LR	LR		
	comp=Z,6μm,17.8s					
LSA	**Lhasa**	**79.63 303**	P	**P**	**19 47 28.3 -0.7**	
LSA			pmax	pmax		
	comp=Z,41nm,1.3s					
LSA			MLR	MLR		
	comp=Z,2μm,20.0s					
LSA	**Lhasa**	**79.63 303**	P	**P**	**19 47 28.3 -0.7**	
BRLK	**Bradley Lake**	**79.78 22**	P	**P**	**19 47 28.6 +0.1**	
BRLK			IAmb	IAmb	19 47 40.1	
	comp=Z,86nm,0.9s					
BRLK			IAMs_20	IAMs_20	20 16 06.4	
	comp=Z,5μm,21.0s					
ZAK	**Zakamensk**	**79.86 326**	*e*P	**P**	**19 47 29.0 -0.3**	
ZAK			pmax	pmax		
	comp=Z,130nm,1.4s					
M19K	**Big River Lodg**	**80.09 19**	P	**P**	**19 47 31.0 +0.8**	
	baz=223					
M19K			S	**S**	**19 57 35.2 +2.5**	
	baz=223					
L19K	**White Mountain**	**80.15 19**	P	**P**	**19 47 31.0 +0.5**	
	baz=222					
L19K			S	**S**	**19 57 37.4 +4.1**	
	baz=222					
IRK	**Irkutsk**	**80.30 328**	*e*P	**P**	**19 47 30.8 -0.8**	
IRK			*e*		19 57 35.2	
IRK			pmax	pmax		

comp=Z,236nm,2.4s
TLY Talaya 80.34 327 P **P 19 47 31.9 +0.1**
comp=Z,40nm,0.9s,baz=163,slow=3.2,SNR=60
TLY LR LR 20 20 49.5
comp=Z,2μm,21.7s,baz=120,slow=34
TLY Talaya 80.34 327 *d i* P **P 19 47 31.5 -0.2**
TLY *e* 19 50 35.3
TLY *e*S **S 19 57 36.6 +0.9**
TLY *e*PS **PnS 19 58 24.2 +0.7**
TLY *e*SS **SS 20 02 52.9 +5.1**
TLY pmax pmax
comp=Z,294nm,1.5s
TLY MLR MLR
comp=Z,5μm,15.0s
TLY Talaya 80.34 327 P **P 19 47 31.6 -0.2**
TLY IAmb IAmb 19 47 39.4
comp=Z,140nm,1.1s
CAPN Captain Cook N 80.38 21 P **P 19 47 32.9 +1.2**
CAPN IAMs_20 IAMs_20 20 17 20.8
comp=Z,4μm,20.0s
M20K Styx River 80.49 20 P **P 19 47 32.4 -0.1**
baz=224
M20K S **S 19 57 38.6 +1.6**
baz=224
SEW Seward 80.54 22 P **P 19 47 33.8 +1.2**
SEW IAMs_20 IAMs_20 20 16 18.0
comp=Z,4μm,22.0s
O22K Cooper Landing 80.69 22 P **P 19 47 32.6 -0.8**
baz=227
O22K Cooper Landing 80.69 22 P **P 19 47 33.9 +0.5**
O22K IAMs_20 IAMs_20 20 16 45.2
comp=Z,5μm,22.0s
FIS Fire Island 80.97 21 IAMs_20 IAMs_20 20 19 18.7
comp=Z,4μm,20.0s
SUA Susitna One 81.00 21 P **P 19 47 34.1 -1.1**
SUA IAmb IAmb 19 47 52.8
comp=Z,77nm,1.0s
GTK Tadong 81.03 300 *e*P **P 19 47 35.7 -0.4**
GTK IAmb IAmb 19 47 44.1
comp=Z,325nm,2.2s
SKT Skwentna 81.09 20 P **P 19 47 33.5 -2.1**
SKT IAMs_20 IAMs_20 20 18 53.7
comp=Z,5μm,20.0s
RC01 Rabbit Creek A 81.10 21 P **P 19 47 35.2 -0.4**
RC01 IAmb IAmb 19 47 53.4
comp=Z,120nm,1.4s
RC01 IAMs_20 IAMs_20 20 18 52.9
comp=Z,4μm,20.0s
PWL Port Wells 81.45 22 P **P 19 47 37.2 -0.3**
PWL IAmb IAmb 19 47 45.2
comp=Z,166nm,1.2s
PWL IAMs_20 IAMs_20 20 16 46.3
comp=Z,4μm,22.0s
PPLA Purkeypile 81.52 19 P **P 19 47 37.4 -0.6**
PPLA IAmb IAmb 19 47 55.8
comp=Z,127nm,1.4s
PPLA IAMs_20 IAMs_20 20 20 47.0
comp=Z,5μm,19.0s
PMR Palmer 81.66 21 P **P 19 47 38.3 -0.2**
PMR pmax pmax
comp=Z,54nm,1.0s
PMR MLR MLR
comp=Z,4μm,20.0s
PMR Palmer 81.66 21 P **P 19 47 38.3 -0.2**
PMR IAmb IAmb 19 47 44.0
comp=Z,54nm,1.0s
PMR IAMs_20 IAMs_20 20 19 01.6
comp=Z,4μm,20.0s
MOY Mondy 81.75 326 *e*P **P 19 47 39.4 0.0**
MOY pmax pmax
comp=Z,557nm,3.5s
KNK Knik Glacier 81.78 22 P **P 19 47 39.7 +0.4**
KNK IAmb IAmb 19 47 47.1
comp=Z,66nm,1.0s
KNK IAMs_20 IAMs_20 20 17 10.2
comp=Z,5μm,22.0s
CUT Chulitna 81.81 20 P **P 19 47 38.6 -0.7**
CUT IAMs_20 IAMs_20 20 19 27.9
comp=Z,3μm,19.0s
HIN Hinchinbrook I 81.84 23 P **P 19 47 39.3 -0.3**
HIN IAmb IAmb 19 47 58.1
comp=Z,89nm,1.0s
HIN IAMs_20 IAMs_20 20 17 56.5
comp=Z,6μm,21.0s
GHO Glory Hole Cre 81.85 21 P **P 19 47 39.5 -0.1**
GHO IAmb IAmb 19 47 54.8
comp=Z,58nm,1.0s
GHO IAMs_20 IAMs_20 20 17 35.7
comp=Z,5μm,21.0s
GLI Glacier Island 81.93 22 P **P 19 47 39.8 -0.2**
GLI IAmb IAmb 19 47 44.3
comp=Z,67nm,0.8s
FID Port Fidalgo 82.08 23 P **P 19 47 40.5 -0.3**
FID IAmb IAmb 19 47 57.3
comp=Z,107nm,1.3s
FID IAMs_20 IAMs_20 20 18 24.2
comp=Z,5μm,21.0s
SML Sawmill 82.08 21 P **P 19 47 40.8 -0.1**
SML IAmb IAmb 19 48 00.3
comp=Z,126nm,1.2s
SML IAMs_20 IAMs_20 20 19 25.3
comp=Z,5μm,20.0s
EYAK Cordova Ski Ar 82.23 23 P **P 19 47 41.8 +0.2**
EYAK IAMs_20 IAMs_20 20 18 07.7
comp=Z,5μm,20.0s
BOK Bokaro 82.39 296 *e*P **P 19 47 41.7 -1.6**
KTH Kantishna Hill 82.39 19 P **P 19 47 41.8 -0.7**
KTH IAmb IAmb 19 47 44.4
comp=Z,52nm,0.8s
KTH IAMs_20 IAMs_20 20 20 36.1
comp=Z,5μm,19.0s
SCM Sheep Creek Mo 82.46 22 P **P 19 47 42.6 -0.3**
SCM pmax pmax
comp=Z,92nm,0.9s
SCM MLR MLR
comp=Z,4μm,22.0s
SCM Sheep Creek Mo 82.46 22 P **P 19 47 42.6 -0.3**
SCM IAmb IAmb 19 47 47.5
comp=Z,92nm,0.9s
SCM IAMs_20 IAMs_20 20 17 08.9
comp=Z,4μm,22.0s
TRF Thorofare Moun 82.53 19 P **P 19 47 42.4 -0.9**
TRF IAmb IAmb 19 47 44.8
comp=Z,46nm,0.8s
TRF IAMs_20 IAMs_20 20 20 40.6
comp=Z,6μm,20.0s
RDOG Red Dog Mine 82.65 12 P **P 19 47 44.4 +0.8**
RDOG IAmb IAmb 19 47 48.7
comp=Z,67nm,0.8s
RDOG IAMs_20 IAMs_20 20 19 14.9
comp=Z,4μm,20.0s
HMT Hamilton 82.68 24 P **P 19 47 44.4 +0.4**
HMT IAmb IAmb 19 47 47.3
comp=Z,55nm,0.8s
HMT IAMs_20 IAMs_20 20 21 05.6
comp=Z,3μm,20.0s
BPAW Bear Paw Mtn. 82.75 19 P **P 19 47 43.0 -1.3**
BPAW IAmb IAmb 19 48 01.8
comp=Z,57nm,1.2s
BPAW IAMs_20 IAMs_20 20 20 47.6
comp=Z,4μm,20.0s
KLU Klutina 82.76 22 P **P 19 47 44.3 -0.1**
KLU IAmb IAmb 19 48 00.8
comp=Z,56nm,1.0s
BMRM Bremner River 82.93 23 P **P 19 47 45.0 -0.3**
BMRM IAmb IAmb 19 47 52.8
comp=Z,61nm,1.0s
BMRM IAMs_20 IAMs_20 20 17 59.3
comp=Z,5μm,21.0s
RND Reindeer 82.97 20 P **P 19 47 44.8 -0.7**
RND pmax pmax
comp=Z,86nm,1.0s
RND MLR MLR
comp=Z,4μm,21.0s
RND Reindeer 82.97 20 P **P 19 47 44.8 -0.7**
RND IAmb IAmb 19 47 52.6
comp=Z,86nm,1.0s
RND IAMs_20 IAMs_20 20 18 30.3
comp=Z,4μm,21.0s
M24K Tolsona, Glenn 83.06 22 P **P 19 47 45.9 -0.1**
baz=230
M24K Tolsona, Glenn 83.06 22 P **P 19 47 46.4 +0.4**
MCK McKinley 83.17 20 P **P 19 47 46.5 +0.1**
MCK pmax pmax
comp=Z,146nm,1.2s
MCK MLR MLR
comp=Z,4μm,20.0s
MCK McKinley 83.17 20 P **P 19 47 46.5 +0.1**
MCK IAMs_20 IAMs_20 20 21 38.4
comp=Z,4μm,20.0s
VIS Vishakhapatnam 83.18 289 *e*P **P 19 47 48.6 +1.2**
I21K Tanana 83.21 18 P **P 19 47 46.9 +0.4**
baz=225
I21K S **S 19 58 04.2 -0.6**
baz=225
BWN Browne 83.29 19 P **P 19 47 46.8 -0.2**
WAX Waxell Ridge 83.30 24 P **P 19 47 46.9 -0.3**
H21K Melozitna Rive 83.31 17 P **P 19 47 47.7 +0.6**
baz=224
H21K S **S 19 58 07.5 +1.7**
baz=224
N25K Chitina, Valde 83.33 23 P **P 19 47 47.6 +0.2**
baz=232
N25K S **S 19 58 07.5 +1.2**
baz=232
N25K Chitina, Valde 83.33 23 P **P 19 47 46.4 -1.0**
N25K IAmb IAmb 19 47 50.3
comp=Z,53nm,0.8s
N25K IAMs_20 IAMs_20 20 19 15.1
comp=Z,4μm,20.0s
PALK Pallekele 83.37 279 P **P 19 47 48.9 +0.3**
comp=Z,13nm,0.6s,baz=190,slow=4.0,SNR=11
PALK Pallekele 83.37 279 P **P 19 47 48.6 0.0**
PALK IAmb IAmb 19 48 06.3
comp=Z,46nm,1.2s
CRQM Cirque 83.37 24 P **P 19 47 47.7 0.0**
CRQM IAmb IAmb 19 47 51.2
comp=Z,52nm,0.8s
MLY Manley 83.48 18 P **P 19 47 47.7 -0.3**
MLY IAmb IAmb 19 47 51.6
comp=Z,69nm,0.9s
MLY IAMs_20 IAMs_20 20 20 53.8
comp=Z,6μm,20.0s
TGL Tana Glacier 83.49 24 P **P 19 47 48.5 +0.2**
TGL IAmb IAmb 19 47 51.8
comp=Z,54nm,1.0s
MESA MESA 83.51 25 P **P 19 47 48.7 +0.2**
MESA IAMs_20 IAMs_20 20 17 58.6
comp=Z,4μm,21.0s
GLB Gilahina Butte 83.52 23 P **P 19 47 48.1 -0.2**
GLB IAmb IAmb 19 47 51.0
comp=Z,54nm,0.8s
GLB IAMs_20 IAMs_20 20 18 17.0
comp=Z,4μm,21.0s
VRDI Verde Repeater 83.53 23 P **P 19 47 48.2 -0.4**
VRDI IAmb IAmb 19 48 13.6
comp=Z,57nm,1.2s
MAW Mawson 83.54 202 P **P 19 47 49.5 +1.2**
comp=Z,28nm,0.9s,baz=102,slow=6.9,SNR=22
MAW LR LR 20 20 29.0
comp=Z,2μm,21.5s,baz=87,slow=32
MAW Mawson 83.54 202 P **P 19 47 49.2 +0.9**
baz=84,SNR=20
ISLE Juniper Island 83.60 24 P **P 19 47 48.7 -0.1**
HARP HAARP 83.61 22 P **P 19 47 48.7 0.0**
baz=231
HARP S **S 19 58 10.4 +1.4**
baz=231
YAH Yahtse 83.70 24 P **P 19 47 50.0 +0.5**
YAH IAmb IAmb 19 47 53.3
comp=Z,85nm,1.0s
YAH IAMs_20 IAMs_20 20 18 57.5
comp=Z,4μm,20.0s
NEA2 Nenana 83.70 19 P **P 19 47 48.0 -1.1**
NEA2 IAmb IAmb 19 47 52.0
comp=Z,61nm,1.0s
NEA2 IAMs_20 IAMs_20 20 21 36.7
comp=Z,4μm,20.0s
PKI Pulchoki 83.82 300 *e*P **P 19 47 50.0 -1.0**
comp=Z,153nm,1.1s
PKIN Phulchoki 83.83 300 *e*P **P 19 47 50.0 -1.0**
comp=Z,379nm,1.6s
PAX Paxson 83.86 21 P **P 19 47 49.8 -0.3**
PAX pmax pmax
comp=Z,31nm,0.9s
PAX MLR MLR
comp=Z,6μm,21.0s
PAX Paxson 83.86 21 P **P 19 47 49.8 -0.3**
PAX IAmb IAmb 19 48 10.5
comp=Z,31nm,0.9s
PAX IAMs_20 IAMs_20 20 18 47.8
comp=Z,6μm,21.0s
WRH Wood River Hil 83.94 19 P **P 19 47 49.4 -1.0**
WRH IAMs_20 IAMs_20 20 21 33.8
comp=Z,5μm,20.0s
KKN Kakani 83.99 300 *e*P **P 19 47 51.0 -0.7**
comp=Z,53nm,0.8s
I23K Minto, Yukon-K 83.99 18 P **P 19 47 49.9 -0.7**
baz=227
I23K S **S 19 58 09.5 -3.0**
baz=227
I23K Minto, Yukon-K 83.99 18 P **P 19 47 49.6 -0.9**
I23K IAmb IAmb 19 47 53.9
comp=Z,36nm,0.8s
I23K IAMs_20 IAMs_20 20 20 39.2
comp=Z,4μm,20.0s
TABL Table Mountain 83.99 25 P **P 19 47 50.6 -0.3**
TABL IAMs_20 IAMs_20 20 18 56.3
comp=Z,4μm,20.0s
BARN Barnard Glacie 84.14 24 P **P 19 47 51.8 +0.1**
CCB Clear Creek Bu 84.14 19 P **P 19 47 50.0 -1.3**
PCA Pinnacle 84.16 25 P **P 19 47 51.6 0.0**
PCA IAMs_20 IAMs_20 20 21 31.9
comp=Z,4μm,20.0s
CTGM Chitina Glacie 84.21 24 P **P 19 47 52.1 +0.1**
MDM Murphy Dome 84.22 19 P **P 19 47 50.5 -1.2**
MDM IAMs_20 IAMs_20 20 21 52.2
comp=Z,3μm,20.0s
LOGN Logan Glacier 84.26 24 P **P 19 47 52.2 -0.1**
HDA Harding Lake 84.27 20 P **P 19 47 51.3 -0.8**
HDA IAMs_20 IAMs_20 20 21 43.7
comp=Z,4μm,20.0s
TCOL CIGO, UAF Yank 84.28 19 P **P 19 47 51.1 -1.0**
baz=229
TCOL S **S 19 58 13.1 -2.4**
baz=229
TCOL CIGO, UAF Yank 84.28 19 P **P 19 47 51.0 -1.0**
TCOL IAMs_20 IAMs_20 20 21 53.8
comp=Z,5μm,20.0s
COLA College 84.28 19 *j i* P **P 19 47 51.0 -1.0**
COLA pmax pmax
comp=Z,151nm,0.8s
COLA College 84.28 19 P **P 19 47 51.0 -1.0**
COLA College 84.28 19 IAMs_20 IAMs_20 20 22 03.8
comp=Z,4μm,20.0s
BCPM Bancas Point 84.34 25 P **P 19 47 52.9 +0.4**
BCPM IAmb IAmb 19 48 11.4
comp=Z,70nm,1.0s
BCPM IAMs_20 IAMs_20 20 20 27.6
comp=Z,4μm,20.0s
DIB Dawson Inlet, 84.40 33 P **P 19 47 53.1 +0.2**
DIB IAmb IAmb 19 48 07.1
comp=Z,114nm,1.2s
MENT Mentasta 84.47 22 P **P 19 47 53.4 +0.3**
MENT IAmb IAmb 19 47 59.2
comp=Z,46nm,0.9s
IL31 84.53 19 P **P 19 47 52.2 -1.0**
IL31 IAmb IAmb 19 48 09.5
comp=Z,36nm,0.8s
ILAR Eielson Array 84.53 19 P **P 19 47 52.2 -1.1**
comp=Z,20nm,0.7s,baz=237,slow=5.1,SNR=59
ILAR PKPPKP **P'P'df 20 14 10.0 +2.1**
comp=Z,0.7nm,0.9s,baz=359,slow=1.6,SNR=5.1
ILAR LR LR 20 22 12.1
comp=Z,4μm,19.6s,baz=242,slow=33
POKR Poker Plat Res 84.57 19 P **P 19 47 52.4 -1.2**
baz=229
POKR S **S 19 58 16.7 -1.8**
baz=229
POKR Poker Plat Res 84.57 19 P **P 19 47 54.2 +0.7**
POKR IAmb IAmb 19 47 55.7
comp=Z,41nm,0.9s
POKR IAMs_20 IAMs_20 20 22 22.7
comp=Z,4μm,20.0s
GKN Gorkha 84.59 300 *e*P **P 19 47 53.6 -1.1**
comp=Z,96nm,0.7s
SIT Sitka 84.77 29 P **P 19 47 55.1 +0.5**
SIT pmax pmax
comp=Z,22nm,0.9s
SIT MLR MLR
comp=Z,7μm,20.0s
SIT Sitka 84.77 29 P **P 19 47 55.1 +0.5**
DOT Dot Lake 84.78 21 P **P 19 47 54.2 -0.5**
DOT IAmb IAmb 19 47 57.4
comp=Z,46nm,0.8s
DOT IAMs_20 IAMs_20 20 19 27.0
comp=Z,5μm,21.0s
KCPM Cahto Peak 84.90 48 IAMs_20 IAMs_20 20 20 11.3
comp=Z,5μm,19.0s
H24K Noodor Dome 84.91 18 P **P 19 47 54.0 -1.3**
baz=229
H24K S **S 19 58 19.8 -2.1**
baz=229
MCCM Marconi Confer 84.94 50 IAMs_20 IAMs_20 20 21 26.3
comp=Z,4μm,19.0s
JCC Jacoby Creek, 84.94 47 IAMs_20 IAMs_20 20 19 53.4
comp=Z,4μm,20.0s
KMRM Mail Ridge 84.98 48 P **P 19 47 56.5 +0.2**
KMRM IAmb IAmb 19 48 00.2
comp=Z,74nm,1.0s
SCRK Sand Creek 85.00 21 P **P 19 47 55.9 -0.1**
SCRK IAmb IAmb 19 47 58.8
comp=Z,44nm,0.8s
SCRK IAMs_20 IAMs_20 20 21 07.1
comp=Z,5μm,20.0s
MDRS Chennai 85.03 284 *e*P **P 19 47 54.0 -2.9**
HOPS Hopland Field 85.06 49 P **P 19 47 57.9 +1.3**
HOPS IAmb IAmb 19 48 00.1
comp=Z,66nm,1.1s
HOPS IAMs_20 IAMs_20 20 21 12.5
comp=Z,5μm,19.0s
CRAG Craig 85.09 31 P **P 19 47 56.1 -0.2**
COLD Coldfoot 85.17 17 P **P 19 47 56.9 +0.4**
COLD IAmb IAmb 19 47 59.8
comp=Z,30nm,0.9s
COLD IAMs_20 IAMs_20 20 21 37.3
comp=Z,4μm,20.0s
KHMM Horse Mountain 85.18 47 P **P 19 47 57.4 +0.1**
KHMM IAmb IAmb 19 48 13.7
comp=Z,95nm,1.4s
KHMM IAMs_20 IAMs_20 20 20 38.5
comp=Z,5μm,19.0s
GDXM Geysers 85.21 49 P **P 19 47 57.7 +0.3**
GDXM IAmb IAmb 19 48 01.2
comp=Z,42nm,1.2s
L27K Beaver Creek, 85.23 22 P **P 19 47 57.3 +0.3**
baz=234
L27K S **S 19 58 25.6 +0.3**
baz=234
L27K Beaver Creek, 85.23 22 P **P 19 47 57.0 0.0**
L27K IAmb IAmb 19 48 00.2
comp=Z,59nm,0.8s
L27K IAMs_20 IAMs_20 20 20 28.6
comp=Z,3μm,20.0s
BCAR Beaver Creek A 85.25 22 P **P 19 47 57.5 +0.4**
KRMB Red Mountain 85.26 46 P **P 19 47 58.0 +0.3**
KRMB IAmb IAmb 19 48 19.7
comp=Z,105nm,1.5s
KRMB IAMs_20 IAMs_20 20 20 44.7
comp=Z,4μm,19.0s
KBO Bosley Butte 85.26 46 IAMs_20 IAMs_20 20 21 12.8
comp=Z,4μm,19.0s
KEBM Edson Butte 85.41 45 IAMs_20 IAMs_20 20 20 11.5
comp=Z,4μm,19.0s
KOLN Koldanda 85.42 299 *e*P **P 19 47 58.9 0.0**
DANN Dangsing 85.43 300 *e*P **P 19 47 57.5 -1.6**
comp=Z,73nm,0.8s
PRP Porcupine Dome 85.45 19 P **P 19 47 58.5 +0.4**
PRP IAMs_20 IAMs_20 20 22 27.8
comp=Z,4μm,20.0s
TIXI Tiksi 85.47 350 P **P 19 47 57.3 -0.6**
comp=Z,18nm,0.9s,baz=138,slow=5.9,SNR=22
TIXI Tiksi 85.47 350 *e*P **P 19 47 56.4 -1.5**
TIXI Tiksi 85.47 350 P **P 19 47 57.1 -0.7**
TIXI IAmb IAmb 19 48 04.1
comp=Z,118nm,1.4s
SAO San Andreas Ge 85.61 51 P **P 19 47 57.9 -1.5**
SAO pmax pmax
comp=Z,36nm,1.2s
SAO MLR MLR
comp=Z,11μm,19.0s
SAO San Andreas Ge 85.61 51 P **P 19 47 57.9 -1.5**
O02D Mt. Diablo Mer 85.64 48 P **P 19 47 58.6 -1.0**
baz=252
O02D S **S 19 58 28.6 -1.6**
baz=252
L02E Cave Junction 85.68 46 P **P 19 47 58.9 -0.8**
baz=251
HYT Haines Junctio 85.70 25 P **P 19 47 59.5 0.0**
HYT IAMs_20 IAMs_20 20 21 31.6
comp=Z,4μm,19.0s
K27K Chicken 85.71 21 P **P 19 48 00.8 +1.5**
baz=234
K27K S **S 19 58 29.3 -0.4**
baz=234
K27K Chicken 85.71 21 P **P 19 47 60.0 +0.7**
K27K IAMs_20 IAMs_20 20 19 22.2
comp=Z,4μm,22.0s
BESE Bessie Mountai 85.73 28 P **P 19 47 59.2 -0.3**
BESE IAmb IAmb 19 48 02.6
comp=Z,35nm,1.0s
BESE IAMs_20 IAMs_20 20 26 43.4
comp=Z,4μm,18.0s
J01E Myrtle Point 85.78 45 P **P 19 48 00.3 +0.2**
baz=251
JIS Juneau Island 85.80 28 P **P 19 47 59.5 -0.3**
JIS IAMs_20 IAMs_20 20 19 16.3
comp=Z,5μm,20.0s
K02D Willamette Mer 85.81 45 P **P 19 48 00.2 -0.2**
baz=251,SNR=7.5
WDC Whiskeytown Da 85.94 48 P **P 19 48 00.3 -0.6**
WDC pmax pmax
comp=Z,40nm,1.2s
WDC MLR MLR
comp=Z,5μm,19.0s
WDC Whiskeytown Da 85.94 48 P **P 19 48 00.3 -0.6**
N02D Trinity Center 85.94 47 P **P 19 48 01.0 0.0**
baz=252,SNR=18
SKAG Skagway 85.94 27 P **P 19 48 00.0 -0.5**
SKAG IAmb IAmb 19 48 17.0
comp=Z,47nm,1.0s
SKAG IAMs_20 IAMs_20 20 29 51.1
comp=Z,3μm,18.0s
M02C Callahan 85.97 47 P **P 19 48 01.0 -0.1**
baz=252,SNR=10.0
M02C S **S 19 58 30.9 -2.5**
baz=252
PYUN Piuthan 86.02 299 *e*P **P 19 48 02.3 +0.4**
SNCC San Nicolas Is 86.13 55 P **P 19 48 01.7 -0.4**
baz=254
I02D Swisshome 86.15 44 P **P 19 48 02.0 +0.1**
baz=251
YBH Yreka Blue Hor 86.18 46 P **P 19 48 02.2 -0.1**
YBH pmax pmax
comp=Z,42nm,1.1s
YBH MLR MLR
comp=Z,4μm,19.0s
YBH Yreka Blue Hor 86.18 46 P **P 19 48 02.1 -0.1**
YBH IAmb IAmb 19 48 05.9
comp=Z,42nm,1.1s
YBH IAMs_20 IAMs_20 20 21 06.0
comp=Z,4μm,19.0s
FYU Fort Yukon 86.20 18 P **P 19 48 02.1 +0.5**
FYU IAmb IAmb 19 48 05.5
comp=Z,39nm,1.0s
FYU IAMs_20 IAMs_20 20 22 46.7
comp=Z,5μm,20.0s
PAGB Antelope Grade 86.24 53 P **P 19 48 02.4 -0.2**
PAGB IAmb IAmb 19 48 05.6
comp=Z,54nm,1.2s
SCZ2 Santa Cruz Isl 86.24 54 P **P 19 48 01.8 -0.8**
baz=254
HUMO Hull Mountain 86.28 45 P **P 19 48 02.5 -0.2**
HUMO IAmb IAmb 19 48 06.4
comp=Z,43nm,1.0s
HUMO IAMs_20 IAMs_20 20 20 20.7
comp=Z,4μm,20.0s
SBC Santa Barbara 86.30 54 P **P 19 48 02.5 -0.4**
baz=254
TOLK Toolik Lake Re 86.31 16 P **P 19 48 02.6 +0.4**
baz=227
TOLK S **S 19 58 33.0 -2.6**
baz=227
TOLK Toolik Lake Re 86.31 16 P **P 19 48 02.2 0.0**
TOLK IAmb IAmb 19 48 18.9
comp=Z,44nm,1.1s
TOLK IAMs_20 IAMs_20 20 23 57.0
comp=Z,3μm,20.0s
SMMC Simmler 86.32 53 P **P 19 48 02.7 -0.3**

baz=254
PKM Mcpherson Peak 86.35 54 P P 19 48 03.0 -0.3
baz=254,SNR=18
I03D Drain, OR 86.36 44 P P 19 48 03.0 +0.1
baz=251
O03E Paynes Creek 86.39 48 P P 19 48 02.8 -0.5
baz=252
O03E S **S** **19 58 30.2 -7.4**
baz=252
ORV Oroville 86.39 49 P P 19 48 02.2 -1.0
ORV pmax pmax
comp=Z,32nm,1.1s
ORV MLR MLR
comp=Z,3μm,19.0s
ORV Oroville 86.39 49 P P 19 48 02.1 -1.0
ORV IAMs_20 IAMs_20 20 21 56.7
comp=Z,3μm,19.0s
EGAK Eagle 86.47 21 P P 19 48 03.2 +0.2
EGAK IAMs_20 IAMs_20 20 19 34.9
comp=Z,5μm,22.0s
A21K Barrow 86.59 12 P P 19 48 02.8 -0.6
baz=220
A21K S **S** **19 58 35.2 -2.9**
baz=220
A21K Barrow 86.59 12 IAMs_20 IAMs_20 20 23 56.5
comp=Z,4μm,20.0s
AFDM Forest Hills D 86.60 49 P P 19 48 03.9 -0.4
AFDM IAmb IAmb 19 48 07.4
comp=Z,42nm,1.0s
AFDM IAMs_20 IAMs_20 20 22 19.5
comp=Z,4μm,19.0s
L04D Klamath Falls 86.62 46 P P 19 48 02.3 -2.1
baz=252
DAWY Dawson 86.70 22 P P 19 48 04.2 0.0
DAWY IAMs_20 IAMs_20 20 20 42.1
comp=Z,5μm,22.0s
WHY Whitehorse 86.73 26 S S 19 58 37.8 -2.3
baz=241
WHY Whitehorse 86.73 26 P P 19 48 04.9 +0.4
WHY IAMs_20 IAMs_20 20 21 05.9
comp=Z,3μm,20.0s
CMB Columbia Colle 86.78 50 P P 19 48 04.4 -0.8
CMB pmax pmax
comp=Z,25nm,1.1s
CMB MLR MLR
comp=Z,4μm,18.0s
CMB Columbia Colle 86.78 50 P P 19 48 04.3 -0.8
CMB IAMs_20 IAMs_20 20 25 32.2
comp=Z,4μm,18.0s
WMQ Urumqi 86.81 316 *e*P **P 19 48 05.3 0.0**
WMQ pP PcP 19 48 09.1 +1.6
WMQ SKS **SKSac 19 58 30.3 -0.2**
WMQ S **S 19 58 42.9 +1.4**
WMQ pmax pmax
comp=Z,58nm,1.7s
WMQ pmax pmax
comp=Z,2μm,4.5s
WMQ LR LR
comp=Z,3μm,19.1s
WMQ LR LR
comp=Z,3μm,17.7s
WMQ LR LR
comp=Z,4μm,19.7s
M04C Macdoel 86.81 47 P P 19 48 05.5 +0.1
baz=252
SCI2 San Clemente I 86.85 56 P P 19 48 05.0 -0.6
baz=255
G03D McMinnville, O 86.90 43 P P 19 48 05.6 0.0
baz=251
I04A Tendick Farm, 87.03 44 P P 19 48 05.5 -0.8
baz=252
H04D Lebanon 87.04 44 P P 19 48 06.4 +0.2
baz=252
CIS Catalina Islan 87.07 55 P P 19 48 06.2 -0.5
baz=255
J04D Umpqua Nationa 87.07 45 P P 19 48 06.6 -0.1
baz=252,SNR=8.6
VOG Valley Oaks Go 87.08 52 P P 19 48 06.0 -0.6
baz=254
K04D Chiloquin, OR 87.13 46 P P 19 48 06.5 -0.4
baz=252
OSI Osito Audit: C 87.14 54 P P 19 48 06.9 -0.2
baz=255
OSI S **S** **19 58 45.7 +0.7**
baz=255
E03A Lebam 87.14 42 P P 19 48 06.6 -0.1
E03A IAMs_20 IAMs_20 20 20 09.3
comp=Z,3μm,20.0s
VES Vestal, Richgr 87.18 53 P P 19 48 06.1 -1.1
baz=254
ARVC Arvin 87.19 54 P P 19 48 07.0 -0.2
baz=254
ARVC S **S** **19 58 48.7 +3.4**
baz=254
NLWA Neilton Lookou 87.22 41 P P 19 48 06.4 -0.7
NLWA IAmb IAmb 19 48 23.1
comp=Z,46nm,1.4s
NLWA IAMs_20 IAMs_20 20 21 23.4
comp=Z,4μm,20.0s
FMP Fort Macarthur 87.24 55 P P 19 48 06.3 -1.1
baz=255
RUBR Rubicon Trail 87.24 50 IAMs_20 IAMs_20 20 22 47.4
comp=Z,4μm,19.0s
BEKR Beckworth 87.32 49 P P 19 48 07.6 -0.4
BEKR IAmb IAmb 19 48 10.5
comp=Z,48nm,1.3s
BEKR IAMs_20 IAMs_20 20 21 11.4
comp=Z,3μm,20.0s
F04D Rainier, OR 87.35 42 P P 19 48 05.7 -2.0
baz=251
DECC Green Verdugo 87.35 55 P P 19 48 07.1 -1.0
baz=255
DECC S **S** **19 58 46.0 -1.0**
baz=255
PASC Pasadena Art C 87.45 55 P P 19 48 08.0 -0.5
PASC IAmb IAmb 19 48 10.8
comp=Z,28nm,0.9s
H04A Detroit Lake 87.46 44 P P 19 48 07.9 -0.5
H04A IAmb IAmb 19 48 21.7
comp=Z,50nm,1.2s
HYB Hyderabad 87.55 288 *i* P **P 19 48 10.0 +0.7**
HYB *e*SKS **SKSac 19 58 40.0 +4.0**
MWC Mount Wilson 87.57 55 P **P 19 48 08.6 -0.7**
MWC pmax pmax
comp=Z,78nm,1.2s
MWC Mount Wilson 87.57 55 P P 19 48 08.6 -0.7
MWC IAmb IAmb 19 48 12.3
comp=Z,78nm,1.1s
ISA Isabella, Lake 87.61 53 P P 19 48 08.9 -0.4
ISA pmax pmax
comp=Z,28nm,1.3s
ISA Isabella, Lake 87.61 53 P P 19 48 08.9 -0.4
baz=255,SNR=7.0
ISA S **S** **19 58 50.1 +0.5**
baz=255
ISA Isabella, Lake 87.61 53 P P 19 48 08.9 -0.4
WAKR Walker 87.63 50 P P 19 48 09.1 -0.5
WAKR IAmb IAmb 19 48 26.9
comp=Z,39nm,1.2s
WAKR IAMs_20 IAMs_20 20 28 39.6
comp=Z,4μm,18.0s
MDPB Devils Postpil 87.67 51 P P 19 48 09.6 -0.1
MDPB IAmb IAmb 19 48 12.4
comp=Z,30nm,1.0s
PNTR Pine Nut 87.67 50 P P 19 48 09.5 -0.2
PNTR IAmb IAmb 19 48 13.1
comp=Z,32nm,1.0s
PNTR IAMs_20 IAMs_20 20 23 29.6
comp=Z,4μm,19.0s
VCNR Virginia City 87.69 49 P P 19 48 09.5 -0.3
VCNR IAmb IAmb 19 48 25.0
comp=Z,43nm,1.3s
VCNR IAMs_20 IAMs_20 20 23 04.1
comp=Z,3μm,19.0s
J05D Fort Rock, OR 87.69 45 P P 19 48 09.6 0.0
baz=253,SNR=32
K05A Summer Lake 87.77 46 P P 19 48 10.1 0.0
K05A IAmb IAmb 19 48 34.1
comp=Z,62nm,1.1s
K05A IAMs_20 IAMs_20 20 21 21.0
comp=Z,3μm,20.0s
D03D Eldon 87.77 41 P P 19 48 08.6 -1.1
baz=251
D03D S **S** **19 58 52.4 +2.0**
baz=251
EDW2 Edwards Air Fo 87.79 54 P P 19 48 09.9 -0.3
baz=255,SNR=34
EDW2 S **S** **19 58 49.5 -1.8**
baz=255
E04D Cinebar 87.79 42 P P 19 48 10.1 +0.2
baz=252
MLAC Mammoth, Mammo 87.85 51 P P 19 48 10.0 -0.7
baz=254
D04E Lakebay 87.86 41 P P 19 48 10.8 +0.7
baz=251
D04E S **S** **19 58 54.2 +3.0**
baz=251
BFSC Mount Baldy Ra 87.89 55 P P 19 48 09.5 -1.2
baz=255,SNR=22
YERR Yerington 87.91 50 P P 19 48 10.3 -0.5
YERR IAMs_20 IAMs_20 20 27 25.0
comp=Z,4μm,18.0s
DLBC Dease Lake 87.92 29 P P 19 48 09.7 -0.6
I05D Terrebonne, OR 87.93 44 P P 19 48 10.5 -0.2
baz=252
MOD Modoc Plateau 87.95 47 P P 19 48 10.6 -0.3
MOD IAmb IAmb 19 48 24.5
comp=Z,37nm,1.0s
MOD IAMs_20 IAMs_20 20 22 31.8
comp=Z,4μm,19.0s
109C Camp Elliot, M 88.00 56 P P 19 48 10.3 -0.9
baz=256
109C S **S** **19 58 53.3 +0.1**
baz=256
109C Camp Elliot, M 88.00 56 IAMs_20 IAMs_20 20 22 11.9
comp=Z,3μm,20.0s
PAHR Pah Rah Range 88.00 49 P P 19 48 10.6 -0.6
PAHR IAmb IAmb 19 48 13.9
comp=Z,33nm,1.1s
PAHR IAMs_20 IAMs_20 20 22 46.4
comp=Z,4μm,19.0s
PINE Pine Mountain 88.05 45 P P 19 48 11.3 -0.1
PINE IAmb IAmb 19 48 15.1
comp=Z,62nm,1.1s
PINE IAMs_20 IAMs_20 20 23 49.4
comp=Z,5μm,19.0s
MURC Murrieta 88.10 55 P P 19 48 11.2 -0.4
baz=256
MURC S **S** **19 58 54.5 +0.2**
baz=256
CWC Cottonwood Cre 88.12 52 P P 19 48 11.9 +0.1
baz=255
TIN Tinemaha, Big 88.16 52 P P 19 48 11.3 -0.7
baz=255
LRMC Laurel Mtn Rad 88.19 53 P P 19 48 12.0 -0.2
baz=255,SNR=20
CBX Cerro Bola 88.22 57 P P 19 48 12.1 -0.3
G05D Wamic, OR 88.22 43 P P 19 48 11.7 -0.2
baz=252
G05D S **S** **19 58 55.2 +0.3**
baz=252
LHV Little Huntoon 88.27 51 P P 19 48 12.5 +0.2
LHV IAmb IAmb 19 48 15.4
comp=Z,29nm,0.9s
BAR Barrett 88.30 56 P P 19 48 12.5 -0.2
BAR IAmb IAmb 19 48 15.2
comp=Z,29nm,1.0s
F05D White Salmon 88.32 43 P P 19 48 12.2 -0.2
baz=252
F05D S **S** **19 58 55.7 -0.1**
baz=252
TKX Tecate 88.33 57 P P 19 48 11.9 -0.8
TKX IAmb IAmb 19 48 15.3
comp=Z,31nm,1.0s
LON Longmire 88.35 42 P P 19 48 12.7 +0.2
LON pmax pmax
comp=Z,17nm,1.1s
LON MLR MLR
comp=Z,2μm,20.0s
LON Longmire 88.35 42 P P 19 48 12.7 +0.2
RYN Ryan 88.35 50 P P 19 48 12.2 -0.7
RYN IAmb IAmb 19 48 15.5
comp=Z,23nm,0.9s
RYN IAMs_20 IAMs_20 20 24 12.8
comp=Z,4μm,18.0s
D05A Enumclaw 88.37 41 P P 19 48 12.6 0.0
D05A IAmb IAmb 19 48 26.0
comp=Z,116nm,1.5s
A04D Lummi Island 88.39 40 P P 19 48 12.8 +0.2
baz=251
NVAR Mina Array Bea 88.47 51 P P 19 48 13.4 -0.2
comp=Z,17nm,0.8s,baz=234,slow=7.5,SNR=69
NVAR PKPPKP **P'P'df 20 14 04.7 +1.4**
comp=Z,0.8nm,0.8s,baz=92,slow=4.5,SNR=3.8
NVAR LR LR 20 23 10.2
comp=Z,5μm,18.7s,baz=270,slow=32
NVAR Mina Array Bea 88.47 51 P **P 19 48 12.9 -0.6**
MPMC Manual Prospec 88.48 53 P **P 19 48 13.2 -0.5**
baz=255,SNR=24
MPMC S **S** **19 58 58.4 +0.3**
baz=255
BBRC Big Bear Solar 88.49 55 P P 19 48 13.2 -0.6
baz=256
MONP2 Monument Peak 88.56 56 P P 19 48 13.9 -0.1
baz=256,SNR=38
MONP2 S **S** **19 58 58.0 -0.9**
baz=256
RRX Edison Barstow 88.58 54 P P 19 48 13.9 +0.1
baz=256
NV11 Mina Array Sit 88.58 51 P P 19 48 13.7 -0.3
NV11 IAmb IAmb 19 48 16.6
comp=Z,32nm,1.0s
B05A Bryant 88.63 40 P P 19 48 13.2 -0.5
baz=252
B05A S **S** **19 58 58.6 +0.1**
baz=252
PFO Pinyon Flats O 88.70 56 P P 19 48 14.3 -0.3
PFO pmax pmax
comp=Z,25nm,1.2s
PFO MLR MLR
comp=Z,3μm,21.0s
PFO Pinyon Flats O 88.70 56 P P 19 48 14.3 -0.3
baz=256,SNR=9.5
PFO S **S** **19 59 01.6 +1.5**
baz=256
PFO Pinyon Flats O 88.70 56 P P 19 48 14.3 -0.3
PFO Pinyon Flats O 88.70 56 IAMs_20 IAMs_20 20 19 20.6
comp=Z,3μm,21.0s
TPFO Pinon Flats 88.70 56 P P 19 48 14.0 -0.6
baz=256
TPFO S **S** **19 59 01.0 +0.8**
baz=256
IKP In-Ko-Pah, Jac 88.75 57 P P 19 48 14.6 -0.2
baz=256,SNR=15
IKP S **S** **19 59 01.8 +1.2**
baz=256
RMX La Rumorosa 88.77 57 P P 19 48 15.1 +0.1
RMX IAmb IAmb 19 48 18.7
comp=Z,48nm,1.0s
KVN Kaiserville 88.78 50 P P 19 48 14.3 -0.7
KVN Kaiserville 88.78 50 P P 19 48 14.2 -0.7
KVN IAMs_20 IAMs_20 20 27 21.1
comp=Z,3μm,18.0s
GRAC Grapevine Rang 88.82 52 P P 19 48 14.9 -0.1
baz=255,SNR=20
GRAC S **S** **19 59 01.9 +0.9**
baz=255
GSC Goldstone, Bar 88.83 54 P P 19 48 14.8 -0.4
GSC pmax pmax
comp=Z,42nm,1.5s
GSC Goldstone, Bar 88.83 54 P P 19 48 14.9 -0.2
baz=256,SNR=6.7
GSC Goldstone, Bar 88.83 54 P P 19 48 14.8 -0.4
GSC IAmb IAmb 19 48 33.4
comp=Z,42nm,1.5s
DGZ Jazzator, Alta 88.84 321 *i* P **P 19 48 14.1 -0.8**
DGZ pmax pmax
comp=Z,53nm,1.9s
EPYK Eagle Plains 88.89 21 P P 19 48 14.7 0.0
baz=239
EPYK S **S** **19 59 02.9 +2.5**
baz=239
EPYK Eagle Plains 88.89 21 P P 19 48 14.5 -0.1
EPYK IAMs_20 IAMs_20 20 22 26.2
comp=Z,4μm,20.0s
SPX San Pedro Mart 88.91 58 P P 19 48 14.7 -1.3
FURC Furnace Creek, 89.08 53 P P 19 48 16.0 -0.1
baz=256,SNR=34
SWSC Sam W. Stewart 89.08 56 P P 19 48 16.5 +0.3
baz=256,SNR=15
SWSC S **S** **19 59 04.9 +1.5**
baz=256
HEC Hector,Ludlow 89.09 54 P P 19 48 15.7 -0.7
baz=256,SNR=11
HEC S **S** **19 59 03.4 -0.3**
baz=256
B06A Marblemount 89.10 40 IAMs_20 IAMs_20 20 21 07.0
comp=Z,4μm,20.0s
I07A Izee 89.12 45 P **P 19 48 16.1 -0.2**
I07A IAmb IAmb 19 48 19.3
comp=Z,33nm,0.9s
I07A IAMs_20 IAMs_20 20 23 48.9
comp=Z,4μm,20.0s
BELC Belle Mtn. Jos 89.17 55 P **P 19 48 16.5 -0.4**
baz=256,SNR=39
BELC S **S** **19 59 06.9 +2.4**
baz=256
TPH Tonopah 89.20 51 P **P 19 48 16.2 -0.7**
TPH pmax pmax
comp=Z,180nm,1.5s
TPH Tonopah 89.20 51 P **P 19 48 16.2 -0.7**
LTY Liberty 89.25 42 P **P 19 48 16.5 -0.3**
WVOR Wild Horse Val 89.28 47 P **P 19 48 17.0 -0.1**
WVOR pmax pmax
comp=Z,126nm,1.4s
WVOR MLR MLR
comp=Z,5μm,19.0s
WVOR Wild Horse Val 89.28 47 P **P 19 48 17.0 -0.1**
C06D Leavenworth 89.30 41 P **P 19 48 16.1 -0.8**
baz=253
SHOC Shoshone, Teco 89.40 53 P **P 19 48 17.3 -0.4**
baz=256
BC3 Big Chuckawall 89.53 56 P **P 19 48 18.5 0.0**
baz=256,SNR=18
BC3 S **S** **19 59 08.2 +0.4**
baz=256
TUQ Turquoise Moun 89.57 54 P **P 19 48 18.1 -0.5**
baz=256
TUQ S **S** **19 59 10.7 +2.5**
baz=256
E07A Sunnyside 89.58 42 P **P 19 48 18.7 +0.4**
E07A IAmb IAmb 19 48 22.1
comp=Z,42nm,1.4s
GMRC Granite Mounta 89.62 55 P **P 19 48 18.5 -0.4**
baz=256,SNR=22
GMRC S **S** **19 59 10.6 +1.9**
baz=256
J08A Circle Bar Ran 89.64 46 P **P 19 48 18.6 -0.2**
J08A IAmb IAmb 19 48 22.3
comp=Z,42nm,0.9s
J08A IAMs_20 IAMs_20 20 23 39.7
comp=Z,4μm,19.0s
TPNV Topopah Spring 89.67 52 P **P 19 48 19.0 -0.2**
TPNV pmax pmax
comp=Z,29nm,1.0s
TPNV MLR MLR
comp=Z,7μm,19.0s
TPNV Topopah Spring 89.67 52 P **P 19 48 19.0 -0.2**
TPNV IAmb IAmb 19 48 21.9
comp=Z,29nm,0.9s
HAWA Hanford 89.75 43 P **P 19 48 18.8 -0.2**
ZSN Zaisan 89.79 318 *e*P **P 19 48 18.2 -1.1**
comp=Z,64nm,1.6s,baz=318
ZSN *e*S **SKSac 19 58 47.1 -1.0**
comp=Z,96nm,5.3s,baz=318
ZSN Zaisan 89.79 318 *e*P **P 19 48 18.1 -1.1**
ZSN *e*S **SKSac 19 58 47.1 -1.0**
ZSN pmax pmax
comp=Z,64nm,1.6s
ZSN smax smax
comp=E,96nm,5.3s
G08A Pilot Rock 89.83 44 P **P 19 48 19.2 -0.4**
IRM Iron Mountain 89.89 55 P **P 19 48 19.8 -0.2**
baz=257,SNR=32
IRM S **S** **19 59 13.5 +2.4**
baz=257
GLA Glamis 89.90 56 P **P 19 48 19.9 -0.2**
GLA pmax pmax
comp=Z,51nm,1.0s
GLA Glamis 89.90 56 P **P 19 48 20.4 +0.3**
baz=257,SNR=8.5
GLA S **S** **19 59 13.2 +2.0**
baz=257
GLA Glamis 89.90 56 P **P 19 48 19.9 -0.2**
GLA IAmb IAmb 19 48 24.0
comp=Z,51nm,1.0s
E08A Dider Farm, El 90.09 43 P **P 19 48 20.8 +0.2**
E08A IAmb IAmb 19 48 32.9
comp=Z,81nm,1.5s
D08A Wollman Farm, 90.33 42 P **P 19 48 22.0 +0.3**
SHPR Sheep Range 90.42 53 P **P 19 48 22.1 -0.5**
SHPR IAmb IAmb 19 48 26.3
comp=Z,40nm,1.1s
B08A Colville Reser 90.42 41 P **P 19 48 21.6 -0.6**
B08A IAMs_20 IAMs_20 20 23 33.1
comp=Z,4μm,19.0s
PNT Penticton 90.51 40 P P 19 48 09.5 -13
PNT pmax pmax
comp=Z,32nm,1.0s
PNT MLR MLR
comp=Z,4μm,19.0s
R11A Troy Canyon, C 90.52 51 P **P 19 48 22.9 -0.2**
baz=256
R11A S **S** **19 59 25.6 +8.6**
baz=256
R11A Troy Canyon, C 90.52 51 P **P 19 48 22.6 -0.5**
R11A IAmb IAmb 19 48 26.4
comp=Z,29nm,1.1s
113A Mohawk Valley, 90.70 57 P **P 19 48 24.2 +0.4**
E09A Wood Farm, Sta 90.70 43 P **P 19 48 23.7 +0.2**
E09A IAmb IAmb 19 48 32.5
comp=Z,56nm,1.3s
PRN Pahroc Range 90.71 52 P **P 19 48 24.1 +0.1**
PRN IAmb IAmb 19 48 27.7
comp=Z,79nm,1.1s
DDI Dehra Dun 90.73 301 *e*P **P 19 48 22.9 -1.2**
PDMCI Parker Dam,Lak 90.73 55 P **P 19 48 24.0 0.0**
baz=257,SNR=12
BMO Blue Mountains 90.84 45 P **P 19 48 24.0 -0.4**
BMO pmax pmax
comp=Z,43nm,1.1s
BMO MLR MLR
comp=Z,3μm,20.0s
BMO Blue Mountains 90.84 45 P **P 19 48 24.0 -0.4**
BMO IAmb IAmb 19 48 27.7
comp=Z,43nm,1.1s
SYO Syowa Base 90.86 198 ‖ *e*P **P 19 48 23.1 -0.7**
SYO Syowa Base 90.86 198 ‖ *e*PcP **P 19 48 24.0 +0.2**
SYO Syowa Base 90.86 198 ‖ *e*pP pP 19 48 29.7 -2.7
INK Inuvik 90.92 20 P **P 19 48 24.0 0.0**
comp=Z,13nm,0.9s,baz=220,slow=6.1,SNR=9.7
INK PKKPbc **PKKPdf 20 05 49.7 +1.3**
comp=Z,2.2nm,0.7s,baz=36,slow=4.2,SNR=7.1
INK Inuvik 90.92 20 P **P 19 48 24.0 0.0**
INK Inuvik 90.92 20 P **P 19 48 23.4 -0.5**
INK IAmb IAmb 19 48 39.0
comp=Z,28nm,1.1s
C09A Chrisman Ranch 90.96 41 P **P 19 48 23.3 -1.4**
W13A Hualapai Mount 91.11 55 P **P 19 48 25.4 -0.6**
F10A Beach Ranch, E 91.18 43 P **P 19 48 25.5 -0.4**
F10A IAmb IAmb 19 48 28.9
comp=Z,54nm,0.9s
MK31 Makanchi Array 91.31 317 P **P 19 48 25.4 -1.0**
MK31 pmax pmax
comp=Z,59nm,1.4s
MK31 Makanchi Array 91.31 317 P **P 19 48 25.4 -1.0**
MK31 IAmb IAmb 19 48 33.5
comp=Z,59nm,1.4s
MKAR Makanchi Array 91.31 317 P **P 19 48 25.6 -0.8**
comp=Z,15nm,0.7s,baz=97,slow=5.8,SNR=84
MKAR PKiKP **PKiKP 19 53 18.9 +0.3**
comp=Z,3.6nm,0.9s,baz=137,slow=1.1,SNR=4.7
MKAR PKKPbc **PKKPbc 20 05 49.5 -0.5**
comp=Z,0.8nm,0.8s,baz=301,slow=1.4,SNR=6.1
MKAR LR LR 20 29 41.9
comp=Z,2μm,20.8s,baz=89,slow=36
214A Organ Pipe Nat 91.32 58 P **P 19 48 26.1 -0.7**
baz=258
214A S **S** **19 59 28.6 +4.3**
baz=258
214A Organ Pipe Nat 91.32 58 P **P 19 48 26.8 0.0**
ELK Elko 91.33 49 P **P 19 48 26.7 -0.2**
ELK pmax pmax
comp=Z,34nm,1.0s
ELK MLR MLR
comp=Z,2μm,20.0s
ELK Elko 91.33 49 P **P 19 48 26.7 -0.2**
ELK IAmb IAmb 19 48 30.3
comp=Z,34nm,0.9s
MAKZ Makanchi 91.52 317 P **P 19 48 26.3 -1.1**

MAKZ pmax pmax
comp=Z,31nm,1.1s
MAKZ MLR MLR
comp=Z,2µm,20.0s
MAKZ Makanchi 91.52 317 P P 19 48 26.2 -1.1
MAKZ IAmb IAmb 19 48 43.3
comp=Z,31nm,1.1s
MFID Camas Ranch 91.53 46 P P 19 48 27.2 -0.3
MFID IAmb IAmb 19 48 30.5
comp=Z,32nm,1.1s
MFID IAMs_20 IAMs_20 20 24 29.6
comp=Z,4µm,19.0s
SPR3 Spring Creek 3 91.62 51 P P 19 48 28.1 -0.2
SPR3 IAmb IAmb 19 48 44.3
comp=Z,67nm,1.4s
SMLA Simla 91.65 301 *e*P **P 19 48 26.4 -1.8**
ZAA0 Zalesovo Array 91.66 325 IAMs_20 IAMs_20 20 27 38.9
comp=Z,3µm,22.0s
ZALV Zalesovo Beam 91.66 325 P P 19 48 26.2 -1.5
comp=Z,6.9nm,0.7s,baz=108,slow=4.8,SNR=26
ZALV PKKP **PKKPdf 20 05 45.2 -1.4**
comp=Z,0.9nm,0.5s,baz=282,slow=3.7,SNR=4.2
ZALV LR LR 20 28 22.8
comp=Z,3µm,21.5s,baz=96,slow=35
NEW Newport 91.82 41 P P 19 48 28.6 -0.1
NEW pmax pmax
comp=Z,32nm,1.0s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 91.82 41 P P 19 48 28.6 -0.1
NEW IAmb IAmb 19 48 31.6
comp=Z,32nm,0.9s
NEW Newport 91.82 41 IAMs_20 IAMs_20 20 24 35.1
comp=Z,3µm,20.0s
PSUT Pine Spring 91.88 51 P P 19 48 29.2 -0.3
PSUT IAmb IAmb 19 48 41.6
comp=Z,57nm,1.4s
LCMT Little Creek M 92.03 53 P P 19 48 29.6 -0.5
LCMT IAmb IAmb 19 48 46.2
comp=Z,33nm,1.4s
CCUT Cedar City 92.05 52 P P 19 48 29.9 -0.4
CCUT IAmb IAmb 19 48 46.7
comp=Z,35nm,1.3s
SLBS Sierra La Lagu 92.17 66 P P 19 48 31.0 +0.1
SLBS IAmb IAmb 19 48 33.8
comp=Z,51nm,1.4s
SLBS Sierra La Lagu 92.17 66 IAMs_20 IAMs_20 20 23 55.7
comp=Z,3µm,19.0s
SZCU Shurtz Canyon 92.28 52 P P 19 48 31.7 +0.4
HSIG 92.31 61 P P 19 48 31.0 -0.3
HSIG IAmb IAmb 19 48 34.6
comp=Z,30nm,1.1s
KNB Kanab 92.36 53 P P 19 48 32.0 +0.3
KNB pmax pmax
comp=Z,60nm,1.5s
KNB Kanab 92.36 53 P P 19 48 32.0 +0.3
KNB IAmb IAmb 19 48 43.1
comp=Z,60nm,1.5s
SHLS Shalkode 92.40 313 ⇓*i*P **P 19 48 29.3 -2.4**
comp=Z,76nm,2.6s,baz=313
SHLS Shalkode 92.40 313*d i*P **P 19 48 29.3 -2.4**
SHLS pmax pmax
comp=Z,76nm,2.6s
U15A North Rim 92.66 54 P P 19 48 32.7 -0.5
PKCU Pink Cliffs 92.85 53 P P 19 48 34.2 +0.1
PKCU IAmb IAmb 19 48 59.1
comp=Z,28nm,1.2s
X16A Lo Mia Camp, P 92.94 56 P P 19 48 34.6 +0.2
BGU Big Grassy Mou 93.01 49 P P 19 48 34.7 +0.1
BGU IAmb IAmb 19 48 46.7
comp=Z,26nm,1.1s
DUG Dugway, Tooele 93.02 50 P P 19 48 34.2 -0.4
DUG pmax pmax
comp=Z,13nm,1.0s
DUG MLR MLR
comp=Z,2µm,18.0s
DUG Dugway, Tooele 93.02 50 P P 19 48 34.2 -0.4
KPKS Kokpek 93.03 314 ⇓*i*P **P 19 48 33.5 -1.0**
comp=Z,88nm,2.7s,baz=314
KPKS *i* S **SKSac 19 59 05.3 -1.6**
comp=Z,72nm,4.3s,baz=314
KPKS Kokpek 93.03 314*d i*P **P 19 48 33.4 -1.0**
KPKS *i* S **SKSac 19 59 05.2 -1.6**
KPKS pmax pmax
comp=Z,88nm,2.7s
KPKS smax smax
comp=E,72nm,4.3s
TUC Tucson 93.08 58 P P 19 48 35.0 +0.1
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 93.08 58 P P 19 48 35.0 +0.1
TUC Tucson 93.08 58 IAMs_20 IAMs_20 20 26 33.5
comp=Z,4µm,19.0s
SATY Saty 93.14 313 ⇓*i*P **P 19 48 33.7 -1.3**
comp=Z,47nm,2.7s,baz=313
SATY *e*S **SKSac 19 59 05.3 -2.3**
comp=Z,101nm,6.1s,baz=313
SATY Saty 93.14 313*d i*P **P 19 48 33.7 -1.3**
SATY *e*S **SKSac 19 59 05.2 -2.3**
SATY pmax pmax
comp=Z,47nm,2.7s
SATY smax smax
comp=E,101nm,6.1s
MSU Marysvale 93.17 52 P P 19 48 36.3 +0.9
MSU Marysvale 93.17 52 P P 19 48 36.3 +0.9
WUAZ Wupatki 93.21 55 P P 19 48 35.1 -0.5
WUAZ IAMs_20 IAMs_20 20 23 19.8
comp=Z,3µm,20.0s
HVU Hansel Valley 93.37 48 P P 19 48 35.8 -0.4
HVU pmax pmax
comp=Z,32nm,1.0s
HVU Hansel Valley 93.37 48 P P 19 48 35.8 -0.4
HVU IAmb IAmb 19 48 39.7
comp=Z,32nm,1.0s
BCYI Bear Canyon 93.43 46 P P 19 48 36.5 0.0
SEM Semipalatinsk 93.49 321 ⇓*i*P **P 19 48 34.0 -2.6**
comp=Z,98nm,2.6s,baz=321
SEM *e*S **SKSac 19 59 04.7 -4.7**
baz=321
SEM *e*LR LR 20 29 35.8
comp=Z,1µm,20.1s,baz=321
SEM Semipalatinsk 93.49 321*d i*P **P 19 48 34.0 -2.6**
SEM *e*S **SKSac 19 59 04.6 -4.7**
SEM pmax pmax
comp=Z,98nm,2.6s
SEM MLR MLR
comp=Z,1µm,20.0s
NLU North Lily Min 93.53 50 P P 19 48 37.0 -0.1
TDK Taldyqorghan 93.54 315 *i* P **P 19 48 34.6 -2.1**
comp=Z,166nm,3.5s,baz=315
TDK *i* S **SKSac 19 59 05.8 -3.7**
baz=315
TDK *e*LR LR 20 29 53.8
comp=Z,2µm,17.7s,baz=315
TDK Taldyqorghan 93.54 315 *i* P **P 19 48 34.6 -2.1**
TDK *i* S **SKSac 19 59 05.7 -3.7**
TDK pmax pmax
comp=Z,166nm,3.5s
TDK MLR MLR
comp=Z,2µm,18.0s
JTMT Jette 93.56 42 P P 19 48 37.2 +0.3
MSO Missoula 93.59 43 P P 19 48 37.1 +0.1
MSO IAMs_20 IAMs_20 20 38 53.0
comp=Z,2µm,18.0s
MPU Maple Canyon 93.87 50 P P 19 48 38.6 0.0
CTU Camp Tracy 93.91 49 P P 19 48 38.2 -0.5
CTU IAmb IAmb 19 48 55.9
comp=Z,28nm,1.3s
MCMT McKenzie Canyo 93.93 45 P P 19 48 38.6 -0.2
Q16A Castle Valley 94.02 51 P P 19 48 38.8 -0.5
TMUT Trail Mountain 94.06 51 P P 19 48 39.1 -0.5
WALA Waterton Lakes 94.08 41 P P 19 48 38.7 -0.5
WALA IAmb IAmb 19 48 48.2
comp=Z,36nm,1.4s
WALA IAMs_20 IAMs_20 20 25 49.8
comp=Z,3µm,19.0s
JLU Jordanelle 94.12 50 P P 19 48 38.1 -1.6
MDOK Medeo 94.13 313 *i* P **P 19 48 38.0 -1.7**
baz=313
MDOK *i* S **SKSac 19 59 10.7 -2.4**
baz=313
MDOK Medeo 94.13 313 *i* P **P 19 48 38.0 -1.7**
MDOK *i* S **SKSac 19 59 10.6 -2.4**
319A Douglas 94.16 59 P P 19 48 39.5 -0.5

X18A Snowflake 94.17 56 P P 19 48 40.0 -0.1
DLMT Dillon 94.21 45 P P 19 48 39.3 -0.7
DLMT IAmb IAmb 19 48 42.8
comp=Z,21nm,0.9s
HWUT Hardware Ranch 94.22 49 P P 19 48 40.5 +0.3
HWUT IAMs_20 IAMs_20 20 27 42.1
comp=Z,4µm,19.0s
AAA Alma-Ata 94.24 313 *e*P **P 19 48 39.4 -0.6**
baz=313
AAA *e*S **SKSac 19 59 11.8 -1.7**
baz=313
AAA Alma-Ata 94.24 313 *e*P **P 19 48 39.4 -0.6**
AAA *e*S **SKSac 19 59 11.7 -1.7**
KSH Kashi 94.24 309 P P 19 48 40.5 +0.3
KSH pP pP 19 48 45.9 -3.0
KSH SKS **SKSac 19 59 13.6 -0.1**
KSH S **ScS 19 59 52.2 +0.8**
KSH pmax pmax
comp=Z,19nm,2.5s
KSH pmax pmax
comp=Z,780nm,4.2s
KSH LR LR
comp=Z,1µm,18.0s
KSH LR LR
comp=Z,2µm,17.5s
KSH LR LR
comp=Z,3µm,18.7s
CHKK Chushkaly 94.31 314 *e*P **P 19 48 38.5 -1.8**
baz=314
CHKK Chushkaly 94.31 314 *e*P **P 19 48 38.5 -1.8**
LRM Limekiln Ridge 94.40 44 P P 19 48 40.8 -0.2
P17A Butcher Ranch, 94.45 51 P P 19 48 40.8 -0.4
W18A Petrified Fore 94.45 55 P P 19 48 38.4 -2.9
baz=260
W18A S **S 19 59 54.7 +2.4**
baz=260
W18A Petrified Fore 94.45 55 P P 19 48 40.7 -0.7
C36M Paulatuk 94.49 20 P P 19 48 38.7 -1.7
baz=251
C36M S **S 19 59 55.5 +4.9**
baz=251
C36M Paulatuk 94.49 20 P P 19 48 39.5 -0.9
C36M IAmb IAmb 19 48 42.9
comp=Z,58nm,1.0s
KURK Kurchatov 94.57 321 P P 19 48 40.6 -0.6
KURK Kurchatov 94.57 321 P P 19 48 40.6 -0.6
KURBB Kurchatov Arra 94.61 321 P P 19 48 40.6 -0.8
comp=Z,7.2nm,0.9s,baz=111,slow=3.2,SNR=37
KURBB PP **PP 19 52 29.9 +0.2**
comp=Z,2.5nm,0.8s,baz=105,slow=7.2,SNR=4.7
KURBB PKIKP **PKiKP 19 53 24.4 +0.3**
comp=Z,3.8nm,0.8s,baz=105,slow=1.9,SNR=7.0
AHID Auburn Hatcher 94.78 48 IAMs_20 IAMs_20 20 27 34.7
comp=Z,4µm,19.0s
KUU Kurty 94.78 314 ⇓*i*P **P 19 48 40.7 -1.8**
comp=Z,114nm,2.6s,baz=314
KUU *i* S **SKSac 19 59 14.5 -1.7**
comp=Z,353nm,5.7s,baz=314
KUU Kurty 94.78 314*d i*P **P 19 48 40.6 -1.8**
KUU *i* S **SKSac 19 59 14.4 -1.7**
KUU pmax pmax
comp=Z,114nm,2.6s
KUU smax smax
comp=E,353nm,5.7s
QLMT Earthquake Lak 94.92 45 P P 19 48 43.7 +0.4
BOZ Bozeman (W) 94.92 45 P P 19 48 42.9 -0.3
BOZ pmax pmax
comp=Z,18nm,0.9s
BOZ MLR MLR
comp=Z,1µm,18.0s
BOZ Bozeman (W) 94.92 45 P P 19 48 42.9 -0.3
BOZ IAmb IAmb 19 48 46.0
comp=Z,18nm,0.9s
NRIK Noril'sk 94.98 340 P P 19 48 41.2 -1.5
comp=Z,18nm,1.0s,baz=109,slow=4.6,SNR=15
NRIK LR LR 20 29 46.1
comp=Z,4µm,21.9s,baz=106,slow=34
NRIK Noril'sk 94.98 340*ce*P **P 19 48 41.5 -1.2**
NRIK pmax pmax
comp=Z,17nm,1.1s
NRIK MLR MLR
comp=Z,3µm,19.0s
NRIK Noril'sk 94.98 340 P P 19 48 41.7 -1.0
NRIK IAmb IAmb 19 48 56.5
comp=Z,41nm,1.2s
HRY Holter Researc 94.99 44 P P 19 48 43.7 +0.2
TPAW Teton Pass 95.02 47 P P 19 48 43.9 0.0
TPAW IAMs_20 IAMs_20 20 26 23.9
comp=Z,4µm,20.0s
REDW Red Top Meadow 95.06 47 P P 19 48 42.5 -1.5
REDW IAMs_20 IAMs_20 20 26 24.2
comp=Z,3µm,19.0s
SNOW Snow King Moun 95.15 47 IAMs_20 IAMs_20 20 26 18.5
comp=Z,4µm,20.0s
LOHW Long Hollow 95.29 47 P P 19 48 44.0 -1.0
FLWY Flagg Ranch 95.30 46 IAMs_20 IAMs_20 20 30 47.4
comp=Z,3µm,18.0s
YHH Holmes Hill 95.32 46 P P 19 48 45.4 +0.1
H17A Grant Village 95.44 46 P P 19 48 46.0 +0.2
baz=260
RDMU Red Mountain 95.52 50 P P 19 48 45.1 -1.1
PV14 Lion Creek, Pa 95.58 52 P P 19 48 44.7 -1.8
121A Cookes Peak, D 95.61 58 P P 19 48 45.6 -1.1
baz=260
PV04 Paradox Valley 95.67 52 P P 19 48 46.0 -0.8
PV03 Paradox Valley 95.69 52 P P 19 48 45.8 -1.2
PV12 Saucer Basin, 95.74 52 P P 19 48 46.1 -1.1
PV22 Blue Mesa, Par 95.78 52 P P 19 48 47.4 0.0
AAK Ala-Archa 95.89 312 *i* P **P 19 48 48.7 +1.0**
AAK pmax pmax
comp=Z,13nm,1.7s
PV01 Paradox Valley 95.89 52 P P 19 48 47.4 -0.5
BW06 Boulder Array 95.90 48 P P 19 48 47.0 -0.9
BW06 IAMs_20 IAMs_20 20 27 35.3
comp=Z,3µm,20.0s
PD31 Pinedale Array 95.90 48 P P 19 48 47.1 -0.7
PDAR Pinedale Array 95.90 48 P P 19 48 47.3 -0.6
comp=Z,4.1nm,0.9s,baz=241,slow=1.5,SNR=20
PDAR PKKP **PKKPbc 20 05 35.3 -2.7**
comp=Z,0.8nm,0.8s,baz=94,slow=6.2,SNR=6.9
PDAR LR LR 20 27 27.3
comp=Z,2µm,19.1s,baz=287,slow=33
PDAR Pinedale Array 95.90 48 P P 19 48 46.8 -1.0
SGDS Sogindy 95.92 313 *e*P **P 19 48 45.2 -2.6**
baz=313
SGDS Sogindy 95.92 313 *e*P **P 19 48 45.1 -2.6**
GCMT Greycliff 96.31 45 P P 19 48 48.8 -0.7
YKA Yellowknife Ar 96.42 28 P P 19 48 47.9 -1.6
comp=Z,17nm,0.9s,baz=252,slow=4.3,SNR=46
YKA PKKP **PKKPbc 20 05 35.2 -1.8**
comp=Z,0.6nm,0.8s,baz=82,slow=3.2,SNR=4.0
O20A White River Ci 96.45 50 P P 19 48 48.3 -2.1
baz=261
O20A S **S 20 00 15.8 +6.3**
baz=261
O20A White River Ci 96.45 50 P P 19 48 49.2 -1.2
RLMT Red Lodge 96.48 45 P P 19 48 49.7 -0.8
RLMT IAMs_20 IAMs_20 20 28 19.6
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 96.57 57 P P 19 48 49.7 -1.3
baz=261
Y22D IRIS PASSCAL I 96.57 57 IAMs_20 IAMs_20 20 27 18.9
comp=Z,3µm,19.0s
BTLS Baital 96.59 314 *i* P **P 19 48 48.1 -2.5**
comp=Z,26nm,2.7s,baz=314
BTLS *i* S **SKSac 19 59 24.7 -1.0**
comp=Z,90nm,5.9s,baz=314
BTLS Baital 96.59 314 *i* P **P 19 48 48.1 -2.5**
BTLS *i* S **SKSac 19 59 24.6 -1.0**
BTLS pmax pmax
comp=Z,26nm,2.7s
BTLS smax smax
comp=E,90nm,5.9s
EGMT Eagleton 96.60 42 P P 19 48 50.0 -0.7
EGMT IAmb IAmb 19 48 53.5
comp=Z,31nm,0.9s
PMSA Palmer Station 96.78 162 IAMs_20 IAMs_20 20 25 42.3
comp=Z,4µm,20.0s
PMSA Palmer Station 96.78 162 *e*P P 19 48 55.9 +4.8
BNM Barren Site 96.82 57 P P 19 48 51.4 -0.9
SNAA Sanae 96.92 185 P P 19 48 51.8 +0.1
SNAA Sanae 96.92 185 PKKPdf PKKPdf 20 05 32.1 -4.2
SNAA Sanae 96.92 185 PKiKP **PKiKP 19 53 29.6 +1.8**
SNAA Sanae 96.92 185*ce*P **P 19 48 51.3 -0.5**
SNAA pmax pmax

comp=Z,40nm,1.0s
SNAA MLR MLR
comp=Z,5µm,17.0s
SNAA Sanae 96.92 185 P P **19 48 51.3 -0.5**
SNAA IAmb IAmb 19 48 54.7
comp=Z,38nm,1.0s
ANMO Albuquerque 97.08 56*ce*P Pdif 19 48 54.5 +1.1
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 97.08 56 P P **19 48 52.9 -0.4**
S22A 4UR Ranch, Cre 97.19 53 P P **19 48 53.2 -0.7**
baz=262
RWWY Rawlins 97.46 49 IAMs_20 IAMs_20 20 28 51.6
comp=Z,3µm,19.0s
MNTX Cornudas Mount 97.50 59 P P **19 48 54.9 -0.2**
MNTX IAMs_20 IAMs_20 20 25 59.7
comp=Z,4µm,20.0s
VNA3 Neumayer Olymp 97.76 183 P P **19 48 55.3 -0.2**
VNA3 Neumayer Olymp 97.76 183 PKKPdf PKKPdf 20 05 30.8 -3.9
VNA3 Neumayer Olymp 97.76 183 PKiKP **PKiKP 19 53 28.5 -0.8**
VNA3 Neumayer Olymp 97.76 183 sP Pdif 19 49 00.4 +4.9
K22A Casper 98.09 48 P P **19 48 57.2 -0.5**
baz=262
K22A S **S 20 00 22.2 -1.1**
baz=262
BRZS Berezniki 98.20 319 ⇓*i*P **P 19 48 55.4 -2.4**
comp=Z,27nm,2.8s,baz=319
BRZS *e*S **SKSac 19 59 31.1 -2.7**
comp=Z,84nm,6.1s,baz=319
BRZS Berezniki 98.20 319*d i*P **P 19 48 55.4 -2.4**
BRZS *e*S **SKSac 19 59 31.0 -2.7**
BRZS pmax pmax
comp=Z,27nm,2.8s
BRZS smax smax
comp=E,85nm,6.1s
SDCO Great Sand Dun 98.23 53 IAMs_20 IAMs_20 20 24 54.7
comp=Z,3µm,21.0s
VNA1 Neumayer--Stat 98.28 183 P Pdif 19 48 57.8 0.0
VNA1 Neumayer--Stat 98.28 183 PKiKP **PKiKP 19 53 32.7 +2.6**
N23A Red Feather La 98.30 50 P P **19 48 58.7 -0.1**
baz=263
N23A S **S 20 00 25.3 -0.1**
baz=263
TX31 Lajitas Ar. Si 98.64 62 P P **19 48 59.6 -0.8**
TX32 Lajitas Array 98.64 62 P P 19 48 59.4 -1.0
TXAR Lajitas Array 98.64 62 P P **19 49 00.1 -0.2**
comp=Z,1.2nm,0.8s,baz=255,slow=4.6,SNR=11
TXAR PP **PP 19 53 00.7 -0.9**
comp=Z,1.5nm,0.9s,baz=258,slow=4.5,SNR=6.2
TXAR PKKP **PKKPbc 20 05 31.0 +1.2**
comp=Z,0.8nm,0.6s,baz=107,slow=3.8,SNR=9.0
TXAR LR LR 20 27 37.1
comp=Z,2µm,19.0s,baz=0.0,slow=32
TXAR Lajitas Array 98.64 62 P P **19 48 59.5 -0.9**
PHWY Pilot Hill 98.71 50 IAMs_20 IAMs_20 20 30 51.9
comp=Z,3µm,19.0s
LAO LASA Array 98.80 44 P P **19 49 00.1 -0.5**
LAO IAmb IAmb 19 49 04.3
comp=Z,34nm,1.0s
KK31 Karatay Array 98.85 312 P P **19 48 59.9 -1.0**
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KK31 Karatay Array 98.85 312 P P 19 48 59.9 -1.0
KKAR Karatay Array 98.85 312 P P **19 48 59.8 -1.1**
KKAR pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 98.85 312 P P 19 48 59.8 -1.1
KKAR Karatay Array 98.85 312 P P **19 48 59.7 -1.1**
KKAR IAmb IAmb 19 49 12.4
comp=Z,4.8nm,1.1s
T25A Trinidad 99.02 54 Pdiff **Pdif 19 49 01.2 -0.8**
baz=263
T25A Trinidad 99.02 54 IAMs_20 IAMs_20 20 25 59.5
comp=Z,4µm,21.0s
BVAR Borovoye Array 99.95 322 P **Pdif 19 49 05.0 -0.5**
comp=Z,2.2nm,0.8s,baz=235,slow=15,SNR=8.7
BVAR Borovoye Array 99.95 322 P **Pdif 19 49 05.0 -0.5**
MSTX Muleshoe 99.97 57 Pdiff **Pdif 19 49 05.6 -0.6**
baz=263
BRVK Borovoye 100.02 322*ce*P **Pdif 19 49 04.8 -1.0**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK MLR MLR
comp=Z,3µm,20.0s
BRVK Borovoye 100.02 322 IAMs_20 IAMs_20 20 33 48.1
comp=Z,3µm,20.0s
RSSD Black Hills 100.06 47 IAMs_20 IAMs_20 20 29 08.4
comp=Z,3µm,20.0s
DGMT Dagmar 100.35 42 IAMs_20 IAMs_20 20 32 58.8
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 100.62 52 Pdiff **Pdif 19 49 08.9 -0.1**
baz=264
AMTX Amarillo 100.97 56 IAMs_20 IAMs_20 20 30 00.3
comp=Z,3µm,19.0s
OGNE Ogallala 101.25 50 IAMs_20 IAMs_20 20 33 12.1
comp=Z,4µm,19.0s
FFC Flin Flon 102.10 36 IAMs_20 IAMs_20 20 31 40.9
comp=Z,3µm,19.0s
833A Chaparral WMA, 102.24 63 Pdiff **Pdif 19 49 15.8 -0.5**
baz=264
ABTX Abilene, Hawle 102.44 59 Pdiff **Pdif 19 49 15.3 -1.8**
baz=265
CBKS Cedar Bluff 102.85 53 IAMs_20 IAMs_20 20 29 07.9
comp=Z,4µm,20.0s
WMOK Wichita Mounta 103.33 57 IAMs_20 IAMs_20 20 28 30.9
comp=Z,3µm,20.0s
MDND Maddock 103.38 43 Pdiff **Pdif 19 49 20.0 -0.9**
baz=268
RES Resolute Bay 103.89 15 IAMs_20 IAMs_20 20 33 52.9
comp=Z,2µm,20.0s
OK032 Salt Plains WL 103.93 55 IAMs_20 IAMs_20 20 27 56.6
comp=Z,3µm,21.0s
435B Jarrell 104.03 61 Pdiff **Pdif 19 49 23.5 -0.7**
baz=265
BGNE Belgrade 104.20 50 Pdiff **Pdif 19 49 25.0 +0.2**
baz=268
WHTX Lake Whitney, 104.24 60 Pdiff **Pdif 19 49 26.0 +0.9**
baz=266
OK029 Liberty Lake 104.48 56 IAMs_20 IAMs_20 20 32 24.3
comp=Z,3µm,19.0s
OK025 Westminster Rd 104.56 56 IAMs_20 IAMs_20 20 29 53.5
comp=Z,3µm,20.0s
OK031 S. Brethren Rd 104.99 56 IAMs_20 IAMs_20 20 33 35.7
comp=Z,4µm,20.0s
OK030 Cody Creek RV 105.03 56 IAMs_20 IAMs_20 20 31 59.9
comp=Z,3µm,20.0s
ECSD EROS Data Cent 105.39 48 IAMs_20 IAMs_20 20 34 09.8
comp=Z,3µm,19.0s
MSEY Mahe Island 105.71 262 IAMs_20 IAMs_20 20 37 30.0
comp=Z,3µm,20.0s
AGMN Agassiz Nation 105.89 43 IAMs_20 IAMs_20 20 47 13.6
comp=Z,2µm,18.0s
X37A Clayton 106.13 57 IAMs_20 IAMs_20 20 32 54.0
comp=Z,3µm,19.0s
ALE Alert 106.24 6 IAMs_20 IAMs_20 20 42 48.5
comp=Z,2µm,19.0s
NATX Nacogdoches 106.59 60 IAMs_20 IAMs_20 20 32 50.6
comp=Z,3µm,20.0s
ARU Arti 106.80 326 PKiKP **PKiKP 19 53 46.4 +0.6**
comp=Z,1.7nm,0.7s,baz=43,slow=2.3,SNR=5.9
ARU Arti 106.80 326 P **Pdif 19 49 36.1 +0.2**
ARU S **SKSac 20 00 10.8 -3.1**
ARU SP SP 20 03 12.2 -5.5
ARU PS PS 20 04 10.2 +48
ARU MLR MLR
comp=Z,3µm,19.0s
ARU Arti 106.80 326 IAMs_20 IAMs_20 20 40 56.4
comp=Z,3µm,19.0s
MIAR Mount Ida 107.61 57 IAMs_20 IAMs_20 20 30 03.2
comp=Z,4µm,22.0s
AKTO Aktyubinsk 107.62 319 PKiKP **PKiKP 19 53 47.5 -0.2**
comp=Z,5.0nm,0.8s,baz=14,slow=2.2,SNR=10
SCIA State Center 107.90 49 IAMs_20 IAMs_20 20 32 50.4
comp=Z,3µm,20.0s
X40A Basin Creek Fa 108.22 57 IAMs_20 IAMs_20 20 35 58.4
comp=Z,2µm,19.0s
U40A Yellville 108.22 55 PKiKP **PKiKP 19 53 48.7 -0.6**
baz=270
U40A Yellville 108.22 55 IAMs_20 IAMs_20 20 35 44.4
comp=Z,2µm,19.0s
CCM Cathedral Cave 109.50 54 IAMs_20 IAMs_20 20 35 36.9
comp=Z,2µm,20.0s
ABPO Ambohimpanom 109.56 245 IAMs_20 IAMs_20 20 37 50.1
comp=Z,3µm,19.0s
JFWS Jewell Farm 110.06 48 IAMs_20 IAMs_20 20 35 42.3
comp=Z,2µm,20.0s
MTO3 Montecristo 110.09 79 IAMs_20 IAMs_20 20 29 41.9

comp=Z,2µm,20.0s
VBMS Vicksburg 110.13 60 IAMs_20 IAMs_20 20 33 28.1
comp=Z,2µm,20.0s
SNET Serv Nac Est T 110.13 79 IAMs_20 IAMs_20 20 28 47.1
comp=Z,3µm,21.0s
COWI Conover 110.60 45 IAMs_20 IAMs_20 20 48 42.3
comp=Z,2µm,18.0s
OXF Oxford 111.05 57 IAMs_20 IAMs_20 20 35 03.2
comp=Z,2µm,20.0s
KIRV Kirov 111.29 329*c i* PKIKP **PKiKP 19 53 55.6 +1.4**
TGUH Tegucigalpa,Un 112.06 79 IAMs_20 IAMs_20 20 29 47.2
comp=Z,3µm,22.0s
PLAL Pickwick Lake 112.13 57 IAMs_20 IAMs_20 20 35 44.0
comp=Z,3µm,20.0s
WVT Waverly 112.29 55 IAMs_20 IAMs_20 20 39 13.0
comp=Z,2µm,19.0s
WCI Wyandotte Cave 113.39 53 IAMs_20 IAMs_20 20 34 16.9
comp=Z,2µm,21.0s
BELG Belogornoye 113.75 323 PKiKP **PKiKP 19 53 59.1 0.0**
comp=Z,48nm,0.9s,baz=150,slow=3.8,SNR=9.3
LVZ Lovozero 113.80 341 IAMs_20 IAMs_20 20 42 39.3
comp=Z,2µm,20.0s
JTS Las Juntas de 113.86 84 IAMs_20 IAMs_20 20 31 23.1
comp=Z,3µm,20.0s
UPNV Upernavik 114.18 12 *i* P **PKiKP 19 54 00.7 +1.3**
UPNV IAmb IAmb 19 54 02.4
comp=Z,12nm,0.9s
DAG Danmarks Havn 114.25 0 *i* P PKPdf 19 53 59.1 -0.4
DAG IAmb IAmb 19 53 60.0
comp=Z,7.5nm,0.8s
DAG Danmarks Havn 114.25 0 *i* PKIKP PKPdf 19 53 59.0 -0.4
DAG pmax pmax
comp=Z,8.0nm,0.8s
KEV Kevo 114.93 344 IAMs_20 IAMs_20 20 47 50.0
comp=Z,3µm,20.0s
AAM Ann Arbor 114.96 48 IAMs_20 IAMs_20 20 39 30.0
comp=Z,3µm,19.0s
KLMR Klimovskoe 115.28 333 *e*PKIKP **PKiKP 19 54 01.5 -0.2**
KLMR *e* 19 55 02.2
KLMR *e* 20 04 35.7
KLMR *e*SS SS 20 10 53.7 -4.3
KLMR *e*SSS SSS 20 15 14.5
KLMR pmax pmax
comp=Z,18nm,1.1s
KLMR Klimovskoe 115.28 333 *e*PKPdf **PKiKP 19 54 01.6 -0.2**
KLMR AMP 19 54 13.4
comp=Z,18nm,1.1s
KLMR *e*PP **PP 19 55 02.3 -0.1**
KLMR *e*PKKPbc **PKKPbc 20 04 35.7 -3.0**
KLMR *e*SS **SS 20 10 53.7 -4.3**
KLMR *e*SS **SS 20 10 53.7 -4.3**
KLMR *e*SSS SSS 20 15 14.6
KLMR *e*SSS SSS 20 15 14.6
KLMR LQ LQ 20 32 42.6
KLMR LQ LQ 20 32 42.6
KLMR LR LR 20 40 05.8
KLMR AMP 20 46 10.7
comp=Z,2µm,20.1s
ARCES ARCESS Array B 115.47 345 PKP **PKiKP 19 54 01.2 -0.8**
comp=Z,9.3nm,0.6s,baz=82,slow=1.9,SNR=41
ARCES PKKPbc **PKKPbc 20 04 34.0 -4.2**
comp=Z,3.9nm,0.9s,baz=249,slow=3.4,SNR=7.9
MAK Makhachkala 115.67 312 *i* P **Pdif 19 50 18.2 +2.6**
MAK *e* 19 57 34.4
MAK *e* 20 00 45.9
MAK pmax pmax
comp=Z,122nm,1.0s
TZTN Tazewell 115.71 55 IAMs_20 IAMs_20 20 42 44.5
comp=Z,3µm,18.0s
TRQA Tornquist 115.90 142 IAMs_20 IAMs_20 20 45 16.9
comp=Z,2µm,18.0s
GOGA Godfrey 116.03 58 IAMs_20 IAMs_20 20 37 56.2
comp=Z,3µm,20.0s
DBG Daneborg 116.71 1 *i* P **PKiKP 19 54 04.3 +0.1**
DBG IAmb IAmb 19 54 06.3
comp=Z,11nm,0.9s
SUMG Summit 117.21 7 *i* P **PKiKP 19 54 07.8 +2.0**
SUMG IAmb IAmb 19 54 10.0
comp=Z,12nm,1.1s
SUMG Summit 117.21 7 *i* PKIKP **PKiKP 19 54 07.8 +2.0**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 117.21 7 PKPdf **PKiKP 19 54 06.4 +0.6**
SUMG IAMs_20 IAMs_20 20 43 40.7
comp=Z,2µm,20.0s
VRH Novokhopyorsk 117.61 322 *i* PKIKP **PKPdf 19 54 05.5 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH MLR MLR
comp=Z,2µm,19.0s
ILULI Ilulissat 117.99 13 IAMs_20 IAMs_20 20 40 01.4
comp=Z,2µm,21.0s
BLA Blacksburg 118.13 54 IAMs_20 IAMs_20 20 40 16.3
comp=Z,2µm,20.0s
GNI Garni 118.17 310 PKP **PKiKP 19 54 09.0 +0.7**
comp=Z,9.5nm,0.6s,baz=359,slow=9.8,SNR=6.3
GNI Garni 118.17 310 PKIKP **PKiKP 19 54 09.0 +0.7**
MOS Moscow 118.28 328 *e*PKIKP **PKPdf 19 54 05.2 -2.5**
MOS *i* 19 55 24.3
ZEI Tsey 118.30 313 *i* PKIKP **PKiKP 19 54 09.2 +0.7**
ZEI pmax pmax
comp=Z,11nm,1.1s
ONI Oni 118.67 313 PKIKP **PKiKP 19 54 09.7 +0.6**
ONI MLR MLR
comp=Z,2µm,19.0s
ONI Oni 118.67 313 PKPdf **PKiKP 19 54 09.7 +0.6**
ONI IAMs_20 IAMs_20 20 49 18.8
comp=Z,2µm,19.0s
BCIP Isla Barro Col 118.72 86 IAMs_20 IAMs_20 20 34 23.2
comp=Z,2µm,20.0s
LPSR Galich'ya Gora 118.77 325 *i* PKIKP **PKPdf 19 54 08.2 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,2µm,20.0s
KBZ Khabaz 118.82 314 PKP **PKiKP 19 54 10.2 +1.0**
comp=Z,4.0nm,0.7s,baz=83,slow=4.2,SNR=9.0
KBZ PKKPbc **PKKPab 20 04 26.1 -0.4**
comp=Z,2.7nm,0.9s,baz=186,slow=6.6,SNR=3.7
KBZ Khabaz 118.82 314*c i* PKIKP **PKiKP 19 54 10.5 +1.3**
KBZ MLR MLR
comp=Z,2µm,21.0s
KIV Kislovodsk 118.92 314 *i* PKIKP **PKPdf 19 54 08.6 -0.9**
KIV *e* 19 55 27.8
KIV *e* 20 01 03.2
KIV *e*PS PKKPdf 20 05 15.7 +20
KIV *e*SS SS 20 11 46.4 -0.4
KIV *e*SSS SSS 20 16 13.2
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,4µm,22.0s
RAYN Ar Rayn 118.95 291 PKIKP **PKPdf 19 54 09.4 -0.7**
RAYN MLR MLR
comp=Z,1µm,19.0s
RAYN Ar Rayn 118.95 291 PKPdf **PKPdf 19 54 09.4 -0.7**
OBN Obninsk 119.09 328⇑*i* PKIKP **PKiKP 19 54 10.4 +1.1**
OBN *i* 19 55 31.3
OBN *e* 20 01 14.1
OBN *i*PS PKKPdf 20 05 12.0 +16
OBN *e*SS SS 20 12 10.5 +23
OBN pmax pmax
comp=Z,14nm,0.9s
VSR Storozhevoye 119.12 323 *i* PKIKP **PKPdf 19 54 08.5 -1.0**
VSR *e*SS SS 20 11 43.4 -5.2
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 119.13 323 *e*PKIKP **PKPdf 19 54 07.6 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.8s
GEVA Gevas 119.77 308 **PKiKP 19 54 11.4 -0.1**
E56A St. Veronique 120.09 42 PKiKP **PKPdf 19 54 10.2 -1.3**
baz=287
D56A ZEC Mazanza, M 120.12 42 PKiKP **PKPdf 19 54 10.3 -1.3**
baz=287
ICESG Greenland Ices 120.24 9 *i* P **PKPdf 19 54 11.6 0.0**
ICESG IAmb IAmb 19 54 13.5
comp=Z,20nm,0.8s
CNNC Cliffs of the 120.42 56 IAMs_20 IAMs_20 20 45 11.4
comp=Z,2µm,18.0s
GURO Guroymak-BITLI 120.52 308 **PKiKP 19 54 13.0 +0.1**
G57A Newington 120.53 44 PKiKP **PKPdf 19 54 11.7 -0.7**
baz=286
FINES FINESS Array B 120.53 337 PKP **PKPdf 19 54 11.1 -0.8**
comp=Z,15nm,0.8s,baz=101,slow=3.9,SNR=41
FINES PKKPbc **PKKPab 20 04 17.4 -1.2**
comp=Z,2.1nm,0.8s,baz=326,slow=5.1,SNR=6.5
FINES FINESS Array B 120.53 337 **PKPdf 19 54 10.8 -1.1**
L58A Harry Jones Me 120.71 48 PKiKP **PKiKP 19 54 13.0 0.0**
baz=284
J58A Remsen 120.79 46 IAMs_20 IAMs_20 20 42 10.8
comp=Z,2µm,20.0s
N59A State Game Lan 121.02 49 PKiKP **PKPdf 19 54 10.7 -2.9**
baz=283
SOC Sochi 121.09 314 *i* PKIKP **PKPdf 19 54 11.0 -2.5**
SOC *e* 19 55 39.7
SOC *e*PPP PPP 19 58 21.9
SOC *e*PS **PS 20 05 30.2 -5.8**
SOC *e*SSS SSS 20 16 40.3
G58A Ormstown 121.15 44 PKiKP **PKPdf 19 54 11.9 -1.7**
baz=287
DY2G Dye2 121.29 13 *i* P **PKPdf 19 54 12.4 -1.2**
DY2G IAmb IAmb 19 54 14.7
comp=Z,30nm,0.8s
E58A La Victoria 121.30 42 PKiKP **PKPdf 19 54 13.2 -0.7**
baz=288
D58A Chemin du LacG 121.33 41 PKiKP **PKPdf 19 54 13.2 -0.7**
baz=289
KOPT Kop Dagi 121.39 310 IAMs_20 IAMs_20 20 54 53.2
comp=Z,2µm,20.0s
SCHQ Schefferville 121.68 31 PKP **PKPdf 19 54 13.3 -1.0**
comp=Z,5.5nm,0.9s,baz=280,slow=1.4,SNR=7.7
SCHQ PKKPbc **PKKPbc 20 04 15.0 -0.4**
comp=Z,6.5nm,0.7s,baz=88,slow=3.3,SNR=11
SCHQ Schefferville 121.68 31 **PKPdf 19 54 14.2 -0.1**
SCHQ **PKKPab 20 04 13.2 -0.6**
NUUK Nuuk 121.75 17 *i* P **PKiKP 19 54 14.6 +0.3**
NUUK IAmb IAmb 19 54 15.8
comp=Z,23nm,0.9s
NUUK *i* 19 55 45.5
MEF Metsahovi 121.95 337 *e*P **PKiKP 19 54 16.3 +1.5**
CZSB Cruzeiro do Su 122.02 106 *e*P **PKiKP 19 54 16.9 +0.6**
I60A Shoreham 122.05 45 PKiKP **PKPdf 19 54 14.6 -0.8**
baz=287
VSU Vasula 122.08 334 *e*P **PKiKP 19 54 15.7 +0.6**
TRY Troy 122.10 46 IAMs_20 IAMs_20 20 43 26.7
comp=Z,2µm,20.0s
F60A Warwick 122.30 42 PKiKP **PKPdf 19 54 14.7 -1.1**
baz=289
ANN Anapa 122.32 316 *i* PKIKP **PKPdf 19 54 13.6 -2.2**
ANN *e* 19 55 50.3
ANN *e* 20 01 05.7
ANN *e*PS **PS 20 05 45.8 -1.0**
ANN pmax pmax
comp=Z,35nm,0.9s
K61A Williamstown 122.40 46 PKiKP **PKPdf 19 54 15.2 -0.9**
baz=286
RAF Rauma 122.40 339 *e*P **PKiKP 19 54 15.5 -0.1**
E60A Ste Agathe de 122.50 42 PKiKP **PKPdf 19 54 16.1 0.0**
baz=290
J61A Chester 122.71 45 PKiKP **PKiKP 19 54 16.8 0.0**
baz=287
I61A Oroboro, Fairl 122.77 45 PKiKP **PKiKP 19 54 16.9 0.0**
baz=288
H61A Lyndonville 122.78 44 PKiKP **PKiKP 19 54 17.3 +0.3**
baz=288
L61B Northampton 122.88 46 PKiKP **PKPdf 19 54 16.8 -0.2**
baz=286
BOSA Boshof 122.90 225 PKP **PKPdf 19 54 17.6 -0.1**
comp=Z,11nm,0.7s,baz=131,slow=1.1,SNR=21
BOSA Boshof 122.90 225 PKPdf **PKPdf 19 54 17.1 -0.6**
LPAZ La Paz 123.06 118 PKP **PKPdf 19 54 18.5 -0.4**
comp=Z,4.2nm,0.9s,baz=338,slow=1.4,SNR=13
LPAZ La Paz 123.06 118 PKPdf **PKPdf 19 54 17.1 -1.8**
LPAZ La Paz 123.06 118 *e*P **PKiKP 19 54 20.6 +1.5**
E61A Lac Etchemin 123.10 41 PKiKP **PKPdf 19 54 15.9 -1.4**
baz=291
K62A Royalston 123.13 46 PKiKP **PKPdf 19 54 16.0 -1.5**
baz=287
MTSE Matsula 123.13 336 *e*P **PKPdf 19 54 16.7 -0.3**
KIBK Kibwezi 123.16 260 PKPdf **PKPdf 19 54 17.4 -1.1**
KIBK IAMs_20 IAMs_20 20 42 27.4
comp=Z,3µm,21.0s
G62A West of Eustis 123.49 43 PKiKP **PKiKP 19 54 18.3 -0.1**
baz=290
G62A West of Eustis 123.49 43 IAMs_20 IAMs_20 20 44 05.1
comp=Z,3µm,20.0s
ISOG Isortoq, Green 123.57 11 *i* P **PKPdf 19 54 17.5 -0.1**
ISOG IAmb IAmb 19 54 18.7
comp=Z,20nm,0.7s
AAL Aland 123.61 339 *e*P **PKiKP 19 54 18.0 -0.1**
K63A Dunstable 123.62 46 IAMs_20 IAMs_20 20 49 51.8
comp=Z,2µm,18.0s
F62A Pittston Farm, 123.63 42 PKiKP **PKPdf 19 54 17.3 -1.1**
baz=291
F62A Pittston Farm, 123.63 42 IAMs_20 IAMs_20 20 42 20.6
comp=Z,2µm,20.0s
E62A Clayton Lake 123.65 41 PKiKP **PKPdf 19 54 16.6 -1.7**
baz=292
HRV Adam Dziewonsk 123.65 46 IAMs_20 IAMs_20 20 44 36.9
comp=Z,2µm,20.0s
ANGG Ammassalik, Gr 123.74 10 *i* P **PKPdf 19 54 17.1 -0.8**
ANGG IAmb IAmb 19 54 18.3
comp=Z,12nm,0.8s
ANGG Ammassalik, Gr 123.74 10 IAMs_20 IAMs_20 20 44 33.3
comp=Z,2µm,20.0s
J63A Strafford 123.75 45 PKiKP **PKPdf 19 54 17.8 -0.8**
baz=288
D62A Allapoint, All 123.78 40 PKiKP **PKiKP 19 54 19.2 +0.3**
baz=292
D62A Allapoint, All 123.78 40 **PKPdf 19 54 18.6 0.0**
MNK Minsk 123.79 330 *i* PKIKP **PKPdf 19 54 15.9 -2.5**
MNK *i* 20 01 25.2
MNK *i* PS PS 20 05 52.4 -7.0
MNK *i* SS SS 20 12 39.8 -8.0
MNK pmax pmax
comp=Z,38nm,0.9s
MNK pmax pmax
comp=N,15nm,0.8s
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK MLR MLR
comp=N,2µm,27.0s
MNK MLR MLR
comp=Z,1µm,20.0s
MNK MLR MLR
comp=E,89nm,19.0s
MNK Minsk 123.79 330 *i* PKP **PKPdf 19 54 16.0 -2.4**
comp=E,2.0nm,1.3s
MNK *i* PKP **PKPdf 19 54 16.0 -2.4**
comp=N,15nm,0.8s
MNK *i* PKP **PKPdf 19 54 16.0 -2.4**
comp=Z,38nm,0.9s,baz=238
MNK *i* PP **PP 19 55 55.6 -5.5**
MNK *i* PKS 19 57 52.6
MNK *i* PPP PPP 19 58 33.3
MNK *i* SKS **SKSdf 20 01 25.2 -3.1**
MNK *i* PS PS 20 05 52.4 -7.0
MNK *i* PKKS 20 08 43.5
MNK *i* SKKP 20 08 45.4
MNK *i* SKKS **SKKSdf 20 11 53.6 -4.1**
MNK *i* SS **SS 20 12 39.8 -8.0**
MNK *i* SSS SSS 20 17 13.1
MNK *i* LQ LQ 20 40 34.5
MNK *i* LR LR 20 44 51.5
MNK *i* LRM MLR 20 47 43.4
comp=N,2µm,26.5s
MNK *i* LRM MLR 20 47 51.0
comp=Z,1µm,20.2s
MNK *i* LRM MLR 20 49 04.5
comp=E,89nm,18.7s
WES Weston 123.86 46 IAMs_20 IAMs_20 20 42 51.2
comp=Z,2µm,20.0s
IDID Didziasalis 123.89 331 *e*P **PKiKP 19 54 19.6 +0.9**
ISAL Salakas 124.03 332 *e*P **PKiKP 19 54 19.3 +0.2**
IIGN Ignalina 124.12 332 *e*P **PKiKP 19 54 20.2 +1.0**
G63A Kingsbury 124.13 42 PKiKP **PKPdf 19 54 16.9 -2.5**
baz=291
M64A Tiverton 124.18 47 PKiKP **PKPdf 19 54 19.3 -0.2**
baz=287
KMBO Kilima Mbogo 124.23 261 PKP **PKPdf 19 54 20.3 -0.5**
comp=Z,1.1nm,0.5s,baz=61,slow=6.6,SNR=5.6
F63A Nahmakanta, Br 124.26 42 PKiKP **PKPdf 19 54 18.8 -0.8**
baz=291
F63A Nahmakanta, Br 124.26 42 IAMs_20 IAMs_20 20 41 30.4
comp=Z,2µm,20.0s
PKME Peaks-Kenny Pk 124.30 42 IAMs_20 IAMs_20 20 42 43.5
comp=Z,2µm,20.0s
WVL Waterville 124.30 43 IAMs_20 IAMs_20 20 44 56.6
comp=Z,2µm,19.0s
D63A Stockholm 124.39 40 PKiKP **PKPdf 19 54 17.1 -2.7**
baz=293
E63A Oxbow 124.43 41 PKiKP **PKPdf 19 54 19.4 -0.4**
baz=292
I64A Boothbay 124.54 44 PKiKP **PKiKP 19 54 20.6 +0.2**
baz=290
GAZ Gaziantep 124.54 308 **PKiKP 19 54 20.6 -0.2**
GAZ IAMs_20 IAMs_20 20 57 37.8
comp=Z,2µm,19.0s
PQI Presque Isle 124.59 40 **PKPdf 19 54 19.9 -0.2**
G64A Maxfield 124.65 42 PKiKP **PKiKP 19 54 22.2 +1.5**
baz=292
FURI Furi 124.67 273 IAMs_20 IAMs_20 20 46 05.6
comp=Z,2µm,21.0s
UPP Uppsala 124.68 339 *e*P **PKPdf 19 54 19.8 0.0**
F64A Sherman 124.69 41 IAMs_20 IAMs_20 20 41 20.7
comp=Z,3µm,21.0s
ITQB Itaqui 124.73 138 PKPdf **PKPdf 19 54 20.6 -0.3**
LBTB Lobatse 124.78 229 PKIKP **PKPdf 19 54 20.9 -0.4**
LBTB Lobatse 124.78 229 **PKPdf 19 54 20.9 -0.4**
DIKM Dikmen 124.80 313 ⇑P **PKiKP 19 54 21.1 +0.1**
E64A Bridgewater 124.81 40 PKiKP **PKiKP 19 54 22.1 +1.2**
baz=293
RUSC La Rusia 124.87 90 **PKPdf 19 54 20.7 -1.5**
AKASG Malin Array Be 125.05 326 PKP **PKPdf 19 54 20.4 -0.5**
comp=Z,32nm,0.8s,baz=59,slow=2.3,SNR=55
AKASG PP **PP 19 56 15.4 +5.8**
comp=Z,0.7nm,0.4s,baz=48,slow=7.9,SNR=4.9
AKASG PKKPbc **PKKPbc 20 04 02.1 +0.2**
comp=Z,1.3nm,0.7s,baz=255,slow=4.0,SNR=6.5
AKASG Malin Array Be 125.05 326 **PKPdf 19 54 20.1 -0.8**
AKBB Malin Array Si 125.05 326*c i* PKIKP **PKiKP 19 54 22.3 +1.1**
AKBB Malin Array Si 125.05 326 **PKiKP 19 54 22.1 +0.9**
PABE Paberze 125.06 333 *e*P **PKiKP 19 54 21.0 -0.1**
PLTB Pedras Altas 125.20 142 *e*P **PKiKP 19 54 23.5 +1.2**
G65A Princeton 125.45 42 IAMs_20 IAMs_20 20 43 08.0
comp=Z,2µm,20.0s
BATG Bathurst New B 125.57 39 **PKPdf 19 54 20.8 -1.2**
NC405 NORSAR Array S 125.58 343 **PKPdf 19 54 21.4 -0.3**
NC303 NORSAR Array S 125.59 343 **PKPdf 19 54 20.9 -0.8**
PBUR Paburge 125.64 334 *e*P **PKiKP 19 54 23.2 +1.0**
NC204 NORSAR Array S 125.72 344 **PKPdf 19 54 21.5 -0.5**
NB201 NORSAR Array S 125.76 343 **PKiKP 19 54 22.6 +0.2**
NB2 NORSAR Subarra125.79 343 PKPdf **PKPdf 19 54 20.5 -1.6**
comp=Z,7.9nm,0.9s,baz=39,slow=1.9
NB2 NORSAR Subarra125.79 343 PKPdf **PKPdf 19 54 20.5 -1.6**
baz=39,slow=1.9
NOA NORSAR Array B 125.79 343 PKP **PKPdf 19 54 21.2 -0.8**
comp=Z,11nm,0.8s,baz=34,slow=2.0,SNR=32
NOA PP **PP 19 56 19.7 +5.5**
comp=Z,3.5nm,1.0s,baz=31,slow=6.6,SNR=3.6
NOA PKKPbc **PKKPbc 20 03 57.9 -1.6**
comp=Z,1.6nm,0.7s,baz=216,slow=4.2,SNR=5.2
NRS Narsarsuaq 125.92 16 PKIKP **PKPdf 19 54 22.2 0.0**
NRS MLR MLR
comp=Z,2µm,20.0s
NRS Narsarsuaq 125.92 16 **PKPdf 19 54 22.2 0.0**
NRS IAMs_20 IAMs_20 20 48 42.4
comp=Z,2µm,20.0s
NC602 NORSAR Array S 125.94 343 PKPdf **PKPdf 19 54 21.8 -0.5**
GGN Saint George 125.96 42 **PKiKP 19 54 22.9 -0.3**
NAO01 NORSAR Array S 126.04 343 **PKiKP 19 54 22.9 0.0**
ILGA Ilgaz 126.09 313 **PKPdf 19 54 22.7 -0.8**
SUW Suwalki 126.33 331 *e*PKPdf **PKiKP 19 54 25.4 +1.7**
SUW *e*L L 20 51 34.1
comp=Z,3µm,20.8s
SUW Suwalki 126.33 331 *e*P **PKiKP 19 54 24.9 +1.2**
SUW Suwalki 126.33 331 PKIKP **PKPdf 19 54 23.1 -0.1**
SUW MLR MLR
comp=Z,3µm,20.0s
SUW Suwalki 126.33 331 **PKPdf 19 54 23.1 -0.1**
CPUP Villa Florida 126.38 134 PKP **PKPdf 19 54 23.8 -0.4**
comp=Z,8.6nm,0.8s,baz=275,slow=2.1,SNR=15
CPUP Villa Florida 126.38 134 PKPdf **PKPdf 19 54 23.4 -0.9**
CPUP Villa Florida 126.38 134 *e*P **PKiKP 19 54 26.9 +2.2**
BR131 Keskin Array S 126.56 312 PKIKP **PKPdf 19 54 23.6 -0.8**
BR131 Keskin Array S 126.56 312 **PKPdf 19 54 23.6 -0.8**
BRTR Keskin Array B 126.56 312 PKP **PKPdf 19 54 23.4 -0.9**
comp=Z,5.9nm,0.9s,baz=171,slow=2.4,SNR=13
BRTR PP **PP 19 56 20.4 -0.1**
comp=Z,4.1nm,1.1s,baz=101,slow=5.2,SNR=3.6
PURM Purcari 126.59 321 ⇓P **PKiKP 19 54 24.5 0.0**
SORM Soroca 126.78 323 ⇑P **PKPdf 19 54 23.3 -1.0**
SORM Soroca 126.78 323 ⇑PKIKP **PKPdf 19 54 23.3 -1.0**
GHAJ Ghor Haditha 127.07 301 PKPdf **PKPdf 19 54 25.1 -0.2**
MILM Milestii Mici 127.07 322 ⇓P **PKiKP 19 54 25.6 +0.2**
ANTO Ankara 127.13 312 PKIKP **PKPdf 19 54 25.1 -0.3**
ANTO Ankara 127.13 312 PKPdf **PKPdf 19 54 25.1 -0.3**
KONO Kongsberg 127.39 343*c i* PKIKP **PKiKP 19 54 27.6 +2.0**
KONO pmax pmax
comp=Z,15nm,1.7s
KONO Kongsberg 127.39 343 **PKiKP 19 54 26.8 +1.2**
KONO Kongsberg 127.39 343 IAMs_20 IAMs_20 20 50 54.5
comp=Z,2µm,21.0s
SDDR Presa de Saban 127.63 75 IAMs_20 IAMs_20 20 42 39.9
comp=Z,2µm,19.0s
SDV Santo Domingo 127.70 87 *e*P **PKiKP 19 54 27.9 0.0**
TLCR 127.85 320 ⇑P **PKiKP 19 54 27.1 +0.1**
TLCR 127.85 320 ⇑PKIKP **PKiKP 19 54 27.1 +0.1**
CSS Mathiatis 128.12 306 PKPdf **PKPdf 19 54 26.7 -0.6**
TPGR Topolog 128.24 319 ⇑P **PKPdf 19 54 27.1 -0.1**
HAL Halifax 128.26 41 PKIKP **PKPdf 19 54 27.3 +0.1**
HAL Halifax 128.26 41 **PKPdf 19 54 27.3 +0.1**
CFR Carcaliu 128.28 320 ⇓P **PKPdf 19 54 27.0 -0.2**
CFR Carcaliu 128.28 320 ⇓PKIKP **PKPdf 19 54 27.0 -0.2**
GHRR 128.33 321 ⇑P **PKPdf 19 54 26.9 -0.4**
LVV L'vov 128.35 327 *e*PKIKP **PKPdf 19 54 26.7 -0.6**
LVV MLR MLR
comp=E,2µm,19.0s
LVV MLR MLR
comp=Z,2µm,19.0s
TIRR Tirgusor 128.42 319 ⇓P **PKPdf 19 54 27.7 +0.2**
TIRR Tirgusor 128.42 319 ⇓PKIKP **PKPdf 19 54 27.7 +0.2**
TIRR Tirgusor 128.42 319 PKPdf **PKPdf 19 54 27.8 +0.2**
MFTR Murfatlar 128.54 319 ⇓P **PKiKP 19 54 28.8 +0.4**
TESR Tescani 128.58 322 ⇑P **PKiKP 19 54 28.3 -0.1**
HARR Harsova 128.63 319 ⇑P **PKiKP 19 54 29.1 +0.5**
HARR Harsova 128.63 319 ⇑PKIKP **PKiKP 19 54 29.1 +0.5**
VRI Vrincioaia 128.84 321 ⇓P **PKPdf 19 54 28.2 -0.2**
VRI Vrincioaia 128.84 321 ⇓PKIKP **PKPdf 19 54 28.2 -0.2**
BURAR Bucovina Array 128.87 324 ⇑P **PKPdf 19 54 28.6 +0.1**
PLOR Plostina 128.90 321 ⇑P **PKPdf 19 54 28.3 -0.2**
PLOR Plostina 128.90 321 ⇑PKIKP **PKPdf 19 54 28.3 -0.2**
ICOR Ion Corvin 128.97 319 ⇑P **PKiKP 19 54 30.2 +0.9**
BISRR Bisoca 129.00 321 ⇑P **PKiKP 19 54 30.1 +0.7**
BSD Bornholm Skovb 129.15 337 *e*P **PKiKP 19 54 29.9 +0.7**
BSD Bornholm Skovb 129.15 337 *i* P **PKiKP 19 54 30.8 +1.5**
BSD IAmb IAmb 19 54 31.4
comp=Z,18nm,0.8s
BSD Bornholm Skovb 129.15 337 *i* PKIKP **PKiKP 19 54 30.8 +1.5**
BSD pmax pmax
comp=Z,18nm,0.8s
GBN Guysborough 129.22 39 **PKPdf 19 54 28.6 -0.5**
ITAB Concordia 129.28 139 *e*P **PKiKP 19 54 33.1 +2.6**
OZUR 129.30 322 ⇑P **PKiKP 19 54 29.9 -0.1**
ISR Istrita 129.31 320 ⇓P **PKPdf 19 54 29.1 -0.2**
ISR Istrita 129.31 320 ⇓PKIKP **PKPdf 19 54 29.1 -0.2**
NEHR Nehoiu 129.32 321 ⇑P **PKiKP 19 54 29.7 -0.3**
MLR Muntele Rosu 129.50 321 ⇑P **PKPdf 19 54 29.5 -0.3**
MLR Muntele Rosu 129.50 321 ⇑PKIKP **PKPdf 19 54 29.5 -0.3**
MLR Muntele Rosu 129.50 321 IAMs_20 IAMs_20 20 56 01.5
comp=Z,3µm,19.0s
GKP Gorka Klasztor 129.51 334 *e*P **PKiKP 19 54 31.5 +1.5**
DOPR Dopca 129.61 322 ⇑P **PKPdf 19 54 29.4 -0.4**
KOLS Kolonicke sedl 129.80 327 *e*PKIKP **PKiKP 19 54 30.7 -0.1**
KOLS Kolonicke sedl 129.80 327 *e*PKP **PKiKP 19 54 30.7 -0.1**
UZH Uzhgorod 129.96 326*d i* PKIKP **PKiKP 19 54 33.4 +2.3**
UZH *i* 19 54 48.5
UZH *i* 19 54 53.6
UZH *i* 19 56 44.4
UZH *e* 20 06 52.0
UZH MLR MLR
comp=N,300nm,19.0s
UZH MLR MLR
comp=E,400nm,19.0s
UZH MLR MLR
comp=Z,250nm,19.0s
VOIR 130.08 321 ⇑P **PKPdf 19 54 30.1 -0.7**
VOIR 130.08 321 ⇑PKIKP **PKPdf 19 54 30.1 -0.7**
RGN Rugen 130.19 337 IAMs_20 IAMs_20 20 51 06.0
comp=Z,2µm,21.0s
CRVS Cervenica-Dubn 130.25 327 *e*PKIKP **PKiKP 19 54 32.4 +0.6**
CRVS Cervenica-Dubn 130.25 327 *e*PKP **PKiKP 19 54 32.4 +0.6**
OJC Ojcow 130.32 329 *e*PKPdf **PKPdf 19 54 30.8 -0.2**

OJC *e*PP **PP** **19 56 43.1 -1.1**
OJC *e*SS SS 20 14 13.0 +3.8
OJC *e*L L 20 50 41.2
comp=Z,2µm,22.1s
OJC Ojcow 130.32 329 PKIKP **PKPdf** **19 54 30.8 -0.2**
OJC MLR MLR
comp=Z,2µm,22.0s
OJC Ojcow 130.32 329 PKPdf **PKPdf** **19 54 30.8 -0.2**
OJC IAMs_20 IAMs_20 20 50 29.8
comp=Z,2µm,22.0s
ARR Arges 130.37 322 ⇑P **PKPdf** **19 54 31.4 +0.1**
NIE Niedzica 130.56 328 *e*PKPdf **PKPdf** **19 54 31.9 +0.3**
NIE *e*PP **PP** **19 56 47.5 +1.6**
NIE *e*L L 20 52 03.8
comp=Z,1µm,22.2s
HUMR Humele 130.57 320 ⇑P **PKPdf** **19 54 31.8 +0.1**
MBAR Mbarara 130.66 260 IAMs_20 IAMs_20 20 48 26.3
comp=Z,2µm,20.0s
ZIMR 130.74 319 ⇑P **PKiKP** **19 54 33.2 +0.4**
ZIMR 130.74 319 ⇑PKIKP **PKiKP** **19 54 33.2 +0.4**
DRGR 130.76 324 ⇑P **PKPdf** **19 54 31.1 -0.9**
DRGR 130.76 324 ⇑PKIKP **PKPdf** **19 54 31.1 -0.9**
LOT Lotru 130.85 322 ⇑P **PKPdf** **19 54 32.0 -0.3**
PTLB Pontes e Lacer 131.12 122 *e*P **PKiKP** **19 54 35.8 +1.3**
LANS Liptovska Anna 131.15 328 *e*PKIKP **PKiKP** **19 54 34.2 +0.6**
LANS Liptovska Anna 131.15 328 *e*PKP **PKiKP** **19 54 34.2 +0.6**
OKC Ostrava-Krasne 131.38 330 *e*PKIKP **PKiKP** **19 54 34.3 +0.3**
OKC Ostrava-Krasne 131.38 330 *e*PKPDF **PKiKP** **19 54 34.3 +0.3**
VILB Vilhena 131.41 118 *e*P **PKiKP** **19 54 37.2 +2.1**
GZR Gura Zlata 131.47 323 ⇑P **PKPdf** **19 54 33.2 -0.2**
GZR Gura Zlata 131.47 323 ⇑PKIKP **PKPdf** **19 54 33.2 -0.2**
MLA1 Latheron 131.59 350 *e*P **PKPdf** **19 54 33.1 -0.1**
SRE Strehaia 131.60 321 ⇑P **PKiKP** **19 54 34.3 -0.3**
SRE Strehaia 131.60 321 ⇑PKIKP **PKiKP** **19 54 34.3 -0.3**
KSP Ksiaz 131.60 332 *e*PKPdf **PKPdf** **19 54 33.4 0.0**
KSP *e*PP **PP** **19 56 53.2 +0.7**
KSP *e*SS SS 20 14 29.0 +4.3
KSP *e*L L 20 52 36.6
comp=Z,3µm,21.9s
SIRR Siria 131.65 324 ⇑P **PKPdf** **19 54 33.8 +0.1**
PSZ Piszkesteto 131.68 327 ⇑P **PKPdf** **19 54 33.2 -0.6**
PSZ Piszkesteto 131.68 327 ⇑PKIKP **PKPdf** **19 54 33.2 -0.6**
PSZ Piszkesteto 131.68 327 PKPdf **PKPdf** **19 54 34.2 +0.4**
MORC Moravsky Berou 131.72 330 PKIKP **PKPdf** **19 54 33.5 -0.2**
MORC Moravsky Berou 131.72 330 **PKPdf** **19 54 33.5 -0.2**
MORC Moravsky Berou 131.72 330 *e*PKP **PKPdf** **19 54 33.6 -0.2**
MORC *e*PP **PP** **19 56 52.8 -0.6**
MORC *e* 19 57 56.0
BBSR BB Station 131.75 56 IAMs_20 IAMs_20 20 47 02.4
comp=Z,2µm,20.0s
BSEG Bad Segeberg 131.79 338 *e*PKPdf **PKiKP** **19 54 34.1 -0.5**
baz=42,slow=1.8
CHVC Chvalec 131.88 332 *e*PKPDF **PKiKP** **19 54 34.8 -0.2**
VYHS Vyhne 131.89 328 *e*PKIKP **PKiKP** **19 54 34.6 -0.5**
VYHS Vyhne 131.89 328 *e*PKP **PKiKP** **19 54 34.6 -0.5**
KRLC Kraliky 131.89 331 *e*PKIKP **PKPdf** **19 54 26.4 -7.6**
KRLC *e* 19 56 54.6
KRLC *e* 20 08 45.8
KRLC Kraliky 131.89 331 *e*PKPpre PKPpre 19 54 26.4
KRLC *e*PKPDF **PKPdf** **19 54 33.9 -0.1**
KRLC *e*PP **PP** **19 56 54.6 +0.2**
KRLC *e*x x 20 08 45.8
TRCB Terra Rica 131.92 134 **PKPdf** **19 54 34.5 -0.5**
TRCB Terra Rica 131.92 134 *e*P **PKiKP** **19 54 37.4 +1.5**
DPC Dobruska-Polom 131.92 331 *e*PKIKP **PKPdf** **19 54 34.3 +0.2**
DPC *e* 20 08 44.4
DPC Dobruska-Polom 131.92 331 *e*PKPDF **PKPdf** **19 54 34.3 +0.2**
DPC *e*x x 20 08 44.4
UPC Upice 131.96 332 *e*PKIKP **PKiKP** **19 54 34.7 -0.4**
UPC Upice 131.96 332 *e*PKPDF **PKiKP** **19 54 34.7 -0.4**
HERR Herculane 131.96 322 ⇑P **PKPdf** **19 54 33.6 -0.6**
BZS Buzias 132.04 323 ⇑P **PKPdf** **19 54 34.0 -0.4**
BZS Buzias 132.04 323 ⇑PKIKP **PKPdf** **19 54 34.0 -0.4**
JAVC Velka Javorina 132.25 329 *e*PKP **PKiKP** **19 54 35.6 -0.3**
JAVC *e*PP **PP** **19 56 54.5 -2.3**
JAVC *e* 19 58 00.2
LEWI Lewis, Hebride 132.27 352 *e*P **PKPdf** **19 54 33.7 -0.7**
MDVR Moldovita 132.44 322 ⇑P **PKPdf** **19 54 34.1 -1.2**
VRAC Vranov 132.49 330 ⇑P **PKPdf** **19 54 33.9 -1.3**
VRAC Vranov 132.49 330 ⇑PKIKP **PKPdf** **19 54 33.9 -1.3**
VRAC Vranov 132.49 330 *e*PKP **PKPdf** **19 54 35.2 0.0**
VRAC *e*PP **PP** **19 56 54.2 -4.1**
VRAC *e* 19 58 01.2
MDO Dochfour 132.58 350 *e*P **PKiKP** **19 54 35.5 -0.6**
SMOL Smolenice 132.60 329 *e*PKIKP **PKiKP** **19 54 37.2 +0.7**
SMOL Smolenice 132.60 329 *e*PKP **PKiKP** **19 54 37.2 +0.7**
PVCC Panska Ves 132.61 333 *e*PKIKP **PKiKP** **19 54 36.8 +0.4**
PVCC Panska Ves 132.61 333 *e*PKPDF **PKiKP** **19 54 36.8 +0.4**
VTS Vitosha 132.61 319 ⇑P **PKiKP** **19 54 36.4 -0.5**
VTS Vitosha 132.61 319 ⇑PKIKP **PKiKP** **19 54 36.4 -0.5**
VTS Vitosha 132.61 319 PKPdf **PKPdf** **19 54 35.1 -0.7**
VTS IAMs_20 IAMs_20 20 56 18.0
comp=Z,2µm,21.0s
TIJ01 Guaruva-PR 132.61 140 *e*P **PKiKP** **19 54 39.5 +2.1**
BRG Berggiesshubel 132.64 333 *e*PKP **PKiKP** **19 54 36.4 -0.1**
BRG Amp 19 54 38.3
comp=Z,19nm,0.9s
BRG Berggiesshubel 132.64 333 P PKiKP 19 54 44.8 +8.3
BRG Amp 19 54 45.9
comp=Z,14nm,1.0s
BRG Berggiesshubel 132.64 333 *e*PKPdf **PKPdf** **19 54 34.8 -0.6**
baz=42,slow=1.8
CLL Collm 132.73 334 *i* PKPdf **PKPdf** **19 54 36.0 +0.5**
comp=Z,16nm,0.9s
CLL *i* sPKPdf **pPKPdf** **19 54 42.7 -1.9**
CLL *e* 19 56 44.0
CLL *e*PP **PP** **19 57 00.0 +0.3**
comp=Z,146nm,2.3s
CLL *e* 19 57 11.0
CLL *e* 19 57 18.0
CLL *e*PKSbc **PKSbc** **19 58 05.0 +1.1**
CLL *e* 19 58 37.0
CLL *e*PPP PPP 19 59 52.0
CLL *e*PKKPdf **PKKPdf** **20 04 29.0 -0.3**
CLL *e*PSKS 20 07 09.0
CLL *es*SKKPbc 20 07 33.0
CLL *e*PPS PPS 20 08 51.0
CLL *e*PPPrev 20 10 37.0
CLL *e* 20 13 48.0
CLL *e*SS SS 20 14 42.0 +3.7
CLL *e* 20 15 48.0
CLL *e*(SSS) 20 20 18.0
CLL *e*SSSS 20 23 12.0
CLL Lm MLR 20 55 00.0
comp=N,2µm,21.6s
CLL Lm MLR 20 55 00.0
comp=E,2µm,20.7s
CLL Lm MLR 20 55 00.0
comp=Z,3µm,21.1s
CLL LmV 20 56 00.0
comp=Z,3µm,20.4s
CLL Collm 132.73 334 *i* PKIKP **PKPdf** **19 54 36.0 +0.5**
CLL *e* 19 57 00.0
CLL pmax pmax
comp=Z,16nm,0.9s
CLL pmax pmax
comp=Z,146nm,2.3s
CLL MLR MLR
comp=Z,3µm,20.4s
CLL Collm 132.73 334 PKPdf **PKPdf** **19 54 35.4 -0.1**
CLL Collm 132.73 334 *e*PKPdf **PKPdf** **19 54 34.9 -0.6**
baz=42,slow=1.8
KRUC Moravsky 132.75 330 *e*PKP **PKPdf** **19 54 35.2 -0.4**
KRUC *e*PP **PP** **19 56 54.3 -5.6**
KRUC *e* 19 58 01.4
MODS Modra-Piesok 132.76 329 *e*PKIKP **PKiKP** **19 54 38.0 +1.1**
MODS Modra-Piesok 132.76 329 *e*PKP **PKiKP** **19 54 38.0 +1.1**
KPL Plockton 132.88 351 *e*P **PKiKP** **19 54 36.2 -0.5**
ZST Bratislava 132.97 329 *e*PKIKP **PKiKP** **19 54 37.5 +0.3**
ZST Bratislava 132.97 329 *e*PKP **PKiKP** **19 54 37.5 +0.3**
PRA Prague 132.99 332 PKHKP PKPpre 19 54 16.5
NRDL Niedersach Rie 133.00 337 *e*PKPdf **PKPdf** **19 54 35.7 -0.2**
baz=42,slow=1.8
PRU Pruhonice 133.00 332 *e*PKIKP **PKPdf** **19 54 35.9 -0.2**
PRU *e* 20 08 53.1
PRU MLR MLR
comp=Z,3µm,20.6s
PRU Pruhonice 133.00 332 *e*PKPDF **PKPdf** **19 54 35.9 -0.2**
PRU *ex* x 19 56 47.5
PRU *ex* x 20 08 53.1
PRU AMS AMS 20 54 20.0
comp=Z,3µm,20.6s

TREC Trest 133.04 331 *e*PKIKP **PKiKP** **19 54 37.1 -0.3**
TREC Trest 133.04 331 *e*PKPDF **PKiKP** **19 54 37.1 -0.3**
BOVS Bovan 133.05 321 ⇑P **PKPdf** **19 54 36.5 +0.1**
FRGS Fruska Gora 133.35 324 ⇑P **PKPdf** **19 54 35.7 -1.2**
FRGS Fruska Gora 133.35 324 *e*P **PKPdf** **19 54 36.4 -0.5**
MORH Mrgy, Hungar 133.39 326 ⇑P **PKPdf** **19 54 36.3 -0.6**
MORH Mrgy, Hungar 133.39 326 *e*P **PKPdf** **19 54 36.0 -0.9**
CLZ Clausthal 133.41 336 *e*PKPdf **PKPdf** **19 54 36.8 -0.1**
baz=42,slow=1.8
PBCC Pribram 133.47 332 *e*PKPDF **PKiKP** **19 54 37.8 -0.4**
INVG Invergeldie, C 133.49 350 *e*P **PKPdf** **19 54 37.2 +0.4**
TANN Tannenbergstha 133.62 334 *e*PKPdf **PKPdf** **19 54 37.0 -0.3**
baz=42,slow=1.8
FRTB Fartura 133.65 138 *e*P **PKiKP** **19 54 41.4 +1.9**
WERD Werda 133.67 334 *e*PKPdf **PKPdf** **19 54 36.3 -1.1**
baz=42,slow=1.8
VAY Valandovo 133.67 318 *i* P **PKPdf** **19 54 36.5 -1.1**
PLN Plauen 133.70 334 *e*PKPdf **PKPdf** **19 54 36.9 -0.4**
baz=42,slow=1.8
ESY Stoneypath 133.71 348 *e*P **PKiKP** **19 54 37.9 -0.6**
SALV Santo Antonio 133.72 125 *e*P **PKiKP** **19 54 41.6 +1.9**
GUNZ Gunzen 133.72 334 *e*PKPdf **PKPdf** **19 54 37.2 -0.3**
baz=42,slow=1.8
STIP Stip 133.74 319 *i* P **PKPdf** **19 54 36.2 -1.5**
WERN Wernitzgruen 133.75 334 *e*PKPdf **PKiKP** **19 54 38.4 -0.5**
baz=42,slow=1.8
NKC Novy Kostel 133.76 334 *e*PKIKP **PKiKP** **19 54 38.6 -0.2**
NKC Novy Kostel 133.76 334 *e*PKPDF **PKiKP** **19 54 38.6 -0.2**
NKC *e*PP **PP** **19 57 00.7 -5.6**
EAB Aberfoyle 133.77 350 *e*P **PKiKP** **19 54 38.7 +0.1**
CONA Conrad Observa 133.77 329 *e*P **PKiKP** **19 54 39.2 +0.2**
comp=Z,15nm,0.7s
CONA *e*P **PP** **19 57 08.5 +1.9**
comp=Z,12nm,1.3s
MOX Moxa 133.81 335 *e*PKPdf **PKPdf** **19 54 37.1 -0.5**
baz=42,slow=1.8
MOX *e*L L 20 56 47.5
comp=Z,3µm,21.1s
DIVS Divibare 133.84 323 *e*P **PKPdf** **19 54 37.4 -0.6**
DIVS Divibare 133.84 323 PKPdf **PKPdf** **19 54 37.8 -0.2**
TEKS Tekeris 133.86 323 *e*P **PKiKP** **19 54 38.7 -0.5**
LAWE Loch Awe, Argy 133.88 351 *e*P **PKPdf** **19 54 37.9 +0.4**
CKRC Cesky Krumlov 133.93 331 *e*PKPpre PKPpre 19 54 31.2
CKRC *e*PKPDF **PKiKP** **19 54 39.8 +0.6**
CKRC *e*PP **PP** **19 57 04.8 -2.6**
CKRC *ex* x 20 09 03.4
KHC Kasperske Hory 134.05 332 PKIKP **PKPdf** **19 54 37.5 -0.6**
KHC MLR MLR
comp=Z,3µm,21.0s
KHC Kasperske Hory 134.05 332 *e*PKPpre PKPpre 19 54 31.8
KHC *e*PKPDF **PKPdf** **19 54 37.8 -0.3**
KHC *e*PP **PP** **19 57 10.0 +1.8**
KHC AMS AMS 20 54 20.0
comp=Z,3µm,21.9s
KHC Kasperske Hory 134.05 332 PKPdf **PKPdf** **19 54 37.5 -0.6**
SKO Skopje 134.09 319 *i* P **PKPdf** **19 54 38.4 0.0**
MANZ Manzenberg 134.09 334 *e*PKPdf **PKPdf** **19 54 37.9 -0.3**
baz=42,slow=1.8
TSUM Tsumeb 134.19 229 PKPpre 19 54 30.0
GEC2 GERESS Array S 134.19 331 PKPdf **PKPdf** **19 54 37.9 -0.7**
GEC2 GERESS Array S 134.19 331 *e*PKPdf **PKPdf** **19 54 37.8 -0.7**
baz=42,slow=1.8
GERES GERESS Array B 134.19 331 PKhKP PKPpre 19 54 25.4
comp=Z,0.5nm,0.6s,baz=187,slow=1.1,SNR=5.0
GERES PKP **PKPdf** **19 54 38.4 -0.1**
comp=Z,11nm,0.7s,baz=76,slow=1.7,SNR=26
GERES SKP 19 58 08.4
comp=Z,1.9nm,0.9s,baz=46,slow=2.8,SNR=3.7
GERES GERESS Array B 134.19 331 **PKPdf** **19 54 38.2 -0.3**
ROTZ Rotzenmuhle 134.21 333 *e*PKPdf **PKPdf** **19 54 37.8 -0.6**
baz=42,slow=1.8
BEHE Becsehely 134.25 327 *e*P **PKPdf** **19 54 38.8 +0.3**
LIT Litokhoron 134.31 316 PKIKP **PKPdf** **19 54 38.9 0.0**
LIT Litokhoron 134.31 316 **PKPdf** **19 54 38.9 0.0**
BBLS Lazići 134.32 323 *e*PKP **PKPdf** **19 54 38.4 -0.5**
ESK Eskdalemuir 134.39 349 IAMs_20 IAMs_20 20 59 41.1
comp=Z,1µm,20.0s
ARSA Arzberg 134.39 329 *e*P **PKiKP** **19 54 39.9 -0.3**
comp=Z,7.4nm,0.8s
ARSA *e*P **PP** **19 57 12.9 +2.4**
comp=Z,11nm,1.2s
HAPS Han Pijesak,Bl 134.47 323 *e*P **PKiKP** **19 54 41.1 +0.5**
RUDO Rudo 134.49 322 *e*P **PKPdf** **19 54 39.6 +0.5**
EDMD Edmundbyers 134.59 347 *e*P **PKPdf** **19 54 39.1 +0.2**
IDI Anoyia 134.60 309 PKPdf **PKiKP** **19 54 40.4 -0.6**
MOA Molln 134.62 330 *e*P **PKPdf** **19 54 32.8 -6.4**
comp=Z,3.6nm,0.9s
MOA *e*P **PKiKP** **19 54 41.4 +0.7**
comp=Z,9.0nm,0.8s
GRA1 Grafenberg Arr 134.70 334 **PKPdf** **19 54 39.9 +0.6**
GRF Grafenberg Arr 134.70 334 PKIKP **PKPdf** **19 54 39.9 +0.6**
GRF MLR MLR
comp=Z,3µm,20.0s
GRF Grafenberg Arr 134.70 334 *e*L L 20 57 44.4
comp=Z,3µm,20.1s
GRFO Grafenberg 134.70 334 PKIKP **PKPdf** **19 54 39.8 +0.5**
GRFO MLR MLR
comp=Z,3µm,20.0s
GRFO Grafenberg 134.70 334 **PKPdf** **19 54 39.8 +0.5**
FNA Florina 134.72 318 PKIKP **PKPdf** **19 54 38.9 -0.8**
FNA Florina 134.72 318 **PKPdf** **19 54 38.9 -0.8**
SPB Sao Paulo 134.85 140 IAMs_20 IAMs_20 20 49 37.1
comp=Z,2µm,20.0s
OHR Ohrid 134.94 319 *i* P **PKPdf** **19 54 39.7 -0.4**
PERS Pernice 135.01 328 *i* PKPdf **PKPdf** **19 54 39.2 -0.8**
PERS *e*PP **PP** **19 57 15.3 +0.8**
SOKA Soboth 135.03 328 *e*P **PKPdf** **19 54 33.5 -6.6**
comp=Z,2.5nm,0.7s
SOKA *i* P **PKiKP** **19 54 41.8 +0.2**
comp=Z,19nm,1.0s,SNR=7.3
KESW Keswick, Cumbr 135.05 348 *e*P **PKiKP** **19 54 41.6 +0.3**
MRAK Mrakovica 135.09 325 *e*P **PKPdf** **19 54 39.4 -0.8**
BLY Banja Luka 135.09 325 *e*P **PKPdf** **19 54 39.6 -0.6**
GAL1 Galloway 135.10 350 *e*P **PKiKP** **19 54 40.9 -0.4**
PDG Podgorica 135.22 321 ⇑P **PKPdf** **19 54 41.0 +0.6**
PDG Podgorica 135.22 321 *e*P **PKPdf** **19 54 40.8 +0.4**
PDG Podgorica 135.22 321 PKPdf **PKPdf** **19 54 40.5 0.0**
CRES Cresnjev 135.36 327 *e*P **PKPdf** **19 54 39.8 -0.9**
OBKA Obir 135.39 329 *e*P **PKiKP** **19 54 42.3 0.0**
comp=Z,8.4nm,1.1s
OBKA *e*P **PP** **19 57 20.1 +3.2**
comp=Z,11nm,1.4s
DRME Dracevica, Mon 135.40 321 *e*P **PKPdf** **19 54 41.4 +0.6**
RJOB Jochberg 135.41 331 *e*PKPdf **PKPdf** **19 54 41.0 +0.2**
baz=42,slow=1.8
TIR Tirane 135.42 319 IAMs_20 IAMs_20 20 57 20.3
comp=Z,2µm,22.0s
SEUS St. Eustatius 135.56 76 IAMs_20 IAMs_20 20 45 14.0
comp=Z,2µm,21.0s
KBA Koelnbreinsper 135.60 330 *i* P **PKiKP** **19 54 43.1 +0.3**
comp=Z,25nm,0.8s,SNR=8.9
BOJS Bojanci 135.68 327 *e*PKPdf **PKPdf** **19 54 40.2 -1.0**
BOJS *e* 20 04 22.6
LJU Ljubljana 135.71 328 *e*PKPdf **PKPdf** **19 54 40.9 -0.4**
LJU *e* 19 54 48.5
LJU *e*PP **PP** **19 57 20.6 +1.8**
LJU *e* 19 58 15.2
LJU *e* 20 07 33.2
LJU *e* 20 09 24.2
LJU *e* 20 10 29.3
MYKA Terra Mystica 135.76 329 *e*P **PKiKP** **19 54 43.2 +0.1**
comp=Z,8.7nm,0.7s
MYKA *e*P **PP** **19 57 20.5 +1.3**
comp=Z,22nm,1.6s
GBAS Gorenja Brezov 135.82 328 *e*PKPdf **PKPdf** **19 54 40.8 -0.7**
GBAS *e* 19 54 48.6
GBAS *e*PP **PP** **19 57 20.8 +1.2**
GBAS *e* 19 58 12.8
LBWR Ladybower, Pea 135.86 346 *e*P **PKiKP** **19 54 42.3 -0.7**
STON Ston 135.91 322 *e*P **PKPdf** **19 54 38.1 -3.6**
CEY Cerknica 135.96 328 *e*P **PKPdf** **19 54 40.6 -1.2**
CEY Cerknica 135.96 328 *i* PKPdf **PKPdf** **19 54 41.1 -0.7**
CEY *e*PP **PP** **19 57 21.8 +1.4**
BTNL Ternell 136.01 338 *d*PKiKP **PKiKP** **19 54 43.5 +0.1**
ITM Ithomi 136.03 313 PKPdf **PKPdf** **19 54 42.4 +0.2**
MEM Membach 136.04 339 *d*PKiKP **PKiKP** **19 54 43.5 +0.2**
ZOU Zoufplan 136.15 330 **PKPdf** **19 54 42.2 -0.1**
CLDB Colider 136.19 119 *e*P **PKiKP** **19 54 44.5 -0.3**
BSTI Sart Tilman 136.22 339 *d*PKiKP **PKiKP** **19 54 44.2 +0.5**
PTGA Pitinga 136.23 103 **PKPdf** **19 54 42.2 -1.0**
ABTA Abfaltersbach 136.24 330 *e*P PKPdf 19 54 33.0 -9.4
comp=Z,2.9nm,0.8s
ABTA *i* P **PKiKP** **19 54 43.9 -0.2**

comp=Z,30nm,0.8s,SNR=10
ABTA *e*P **PP** **19 57 22.8 +0.6**
comp=Z,9.3nm,1.4s
BHOU Houvegnez 136.25 338 *d*PKiKP **PKiKP** **19 54 44.0 +0.1**
STU Stuttgart 136.26 335 PKIKP **PKPdf** **19 54 42.9 +0.7**
STU MLR MLR
comp=Z,2µm,20.0s
STU Stuttgart 136.26 335 PKPdf **PKPdf** **19 54 42.9 +0.7**
STU IAMs_20 IAMs_20 20 58 30.8
comp=Z,2µm,20.0s
WATA Walderalm 136.27 331 *e*P **PKPdf** **19 54 42.8 +0.3**
comp=Z,14nm,0.7s
WATA *e*P **PP** **19 57 27.3 +5.0**
comp=Z,26nm,1.6s
WTTA Wattenberg 136.29 331 *e*P PKPdf 19 54 34.5 -8.0
comp=Z,3.0nm,0.6s
WTTA *e*P **PKiKP** **19 54 43.4 -0.9**
comp=Z,20nm,0.9s
WTTA *e*P **PP** **19 57 26.1 +3.6**
comp=Z,36nm,1.9s
WME Myndd Eilian 136.42 349 *e*P **PKiKP** **19 54 44.2 +0.2**
BCLA Clavier 136.45 339 *d*PKiKP **PKiKP** **19 54 44.6 +0.4**
UCC Uccle 136.46 340 IAMs_20 IAMs_20 20 57 20.4
comp=Z,2µm,20.0s
MOTA Moosalm 136.49 332 *e*P **PKPdf** **19 54 37.2 -5.7**
comp=Z,6.2nm,1.2s
MOTA *e*P **PKiKP** **19 54 43.5 -1.1**
comp=Z,16nm,0.8s
MOTA *e*P **PP** **19 57 25.9 +2.2**
comp=Z,32nm,1.7s
BOAV Boa Vista 136.50 98 *e*P **PKiKP** **19 54 45.6 +0.2**
SQTA Sankt Quirin 136.53 332 *e*P **PKPdf** **19 54 37.6 -5.3**
comp=Z,7.4nm,0.9s
SQTA *e*P **PKiKP** **19 54 43.8 -0.8**
comp=Z,17nm,0.8s
SQTA *e*P **PP** **19 57 26.1 +2.2**
comp=Z,24nm,1.5s
WLF1 Llynfaes 136.54 349 *e*P **PKiKP** **19 54 44.4 +0.2**
RETA Reutte 136.54 332 *e*P **PKiKP** **19 54 43.7 -0.9**
comp=Z,7.0nm,0.7s
RETA *e*P **PP** **19 57 25.2 +1.3**
comp=Z,27nm,1.8s
BGES Gesves 136.55 339 *d*PKPdf **PKPdf** **19 54 43.3 +0.6**
BGES *d*PKiKP **PKiKP** **19 54 44.8 +0.3**
FOEL Foel Wylfa 136.67 347 *e*P **PKiKP** **19 54 44.2 -0.4**
UBR Ueberruh 136.69 333 *e*PKPdf **PKPdf** **19 54 42.0 -1.1**
baz=42,slow=1.8
BMRD Maredsous 136.73 339 *d*PKiKP **PKiKP** **19 54 44.5 -0.3**
WLF Walferdange 136.76 338 *d*PKiKP **PKiKP** **19 54 45.3 +0.4**
WLF *dx* x 19 54 47.0
WLF Walferdange 136.76 338 PKIKP **PKPdf** **19 54 43.5 +0.4**
WLF MLR MLR
comp=Z,2µm,22.0s
WLF Walferdange 136.76 338 PKPdf **PKPdf** **19 54 43.5 +0.4**
WLF IAMs_20 IAMs_20 20 54 30.8
comp=Z,2µm,22.0s
FETA Feichten 136.90 332 *e*P PKPdf 19 54 34.2 -9.5
comp=Z,3.3nm,0.8s
FETA *i* P **PKiKP** **19 54 44.8 -0.7**
comp=Z,22nm,0.9s,SNR=7.3
HLM1 Long Mynd 136.95 347 *e*P **PKPdf** **19 54 44.2 +0.8**
BFO Black Forest 136.97 335 IAMs_20 IAMs_20 20 58 17.4
comp=Z,2µm,20.0s
DOU Dourbes 136.97 339 *dx* x 19 54 46.6
SCTE Santa Cesarea 136.99 319 PKPdf **PKPdf** **19 54 43.9 +0.1**
SCTE IAMs_20 IAMs_20 21 02 15.1
comp=Z,2µm,19.0s
DAVA Damuels 137.09 333 *e*P **PKPdf** **19 54 38.1 -5.9**
comp=Z,3.8nm,0.8s
DAVA *i* P **PKiKP** **19 54 45.3 -0.5**
comp=Z,14nm,0.8s,SNR=5.9
DAVA *e*P **PP** **19 57 31.1 +3.6**
comp=Z,58nm,2.1s
ESAR Angra dos Reis 137.12 142 *e*P **PKiKP** **19 54 48.0 +1.5**
CTI Castel Tesino 137.16 330 PKIKP **PKPdf** **19 54 43.6 -0.5**
CTI MLR MLR
comp=Z,3µm,20.0s
CTI Castel Tesino 137.16 330 PKPdf **PKPdf** **19 54 43.6 -0.5**
MCH1 Michaelchurch 137.46 347 *e*P **PKPdf** **19 54 44.5 +0.2**
ECH Echery 137.54 336 PKIKP **PKPdf** **19 54 44.6 -0.1**
ECH MLR MLR
comp=Z,2µm,21.0s
ECH Echery 137.54 336 **PKPdf** **19 54 44.6 -0.1**
ECH IAMs_20 IAMs_20 20 55 43.5
comp=Z,2µm,21.0s
MONM Monmouth 137.56 346 *e*P **PKPdf** **19 54 44.1 -0.4**
TEOL Teolo 137.64 329 **PKPdf** **19 54 45.2 +0.4**
SGRT San Giovanni R 137.74 322 **PKPdf** **19 54 44.6 -0.7**
RSBS Rosebush, Pemb 137.87 348 *e*P **PKPdf** **19 54 44.9 -0.2**
SALO Salr 138.02 330 **PKPdf** **19 54 46.1 +0.5**
VAS01 Vassouras-RJ 138.28 143 *e*P **PKiKP** **19 54 50.1 +1.2**
NRCA Norcia 138.59 325 PKPpre 19 54 37.5
INTR Introdacqua 138.67 324 IAMs_20 IAMs_20 21 00 36.7
comp=Z,2µm,20.0s
ZCCA Zocca 138.70 329 PKPpre 19 54 38.3
PRMA PARMA 138.74 330 IAMs_20 IAMs_20 20 57 51.8
comp=Z,2µm,21.0s
AQU L'Aquila 138.74 325 *e*P **PKPdf** **19 54 45.1 -2.0**
AQU L'Aquila 138.74 325 IAMs_20 IAMs_20 21 03 17.4
comp=Z,2µm,19.0s
PAOL Paolisi 138.88 322 IAMs_20 IAMs_20 21 01 22.7
comp=Z,2µm,20.0s
SENIN Lac Senin/Sane 138.94 334 PKPpre 19 54 37.6
SENIN IAMs_20 IAMs_20 21 00 12.7
comp=Z,2µm,21.0s
ITTB Itaituba 139.02 110 *e*P **PKiKP** **19 54 50.0 -0.6**
DUB01 Friburgo-RJ 139.06 143 *e*P **PKiKP** **19 54 51.5 +1.0**
OSSC Osservatorio P 139.13 328 IAMs_20 IAMs_20 20 57 48.6
comp=Z,2µm,22.0s
SNDB Serra Nova Dou 139.42 123 *e*P **PKPdf** **19 54 49.4 +0.4**
MSSA Maissana 139.45 330 **PKPdf** **19 54 48.7 +0.3**
CLF Chambon-Foret 139.54 340 **PKiKP** **19 54 49.4 -1.2**
CLF IAMs_20 IAMs_20 21 02 25.0
comp=Z,2µm,20.0s
BDFB Brasilia 139.84 131 PKhKP PKPpre 19 54 44.1
comp=Z,4.6nm,0.8s,baz=224,slow=1.1,SNR=5.9
BDFB PKP **PKPdf** **19 54 50.3 +0.4**
comp=Z,8.2nm,0.7s,baz=346,slow=4.0,SNR=8.1
BNI Bardonecchia 140.23 333 PKHKP PKPpre 19 54 43.0
BNI MLR MLR
comp=Z,3µm,20.0s
BNI Bardonecchia 140.23 333 PKPpre 19 54 43.0
RAFF Raffo Rosso 141.24 318 PKPpre 19 54 45.7
RAFF IAMs_20 IAMs_20 21 01 45.6
comp=Z,1µm,21.0s
CORL Corleone 141.54 319 **PKPdf** **19 54 52.2 -0.1**
CLTB Caltabellotta 141.78 319 IAMs_20 IAMs_20 21 00 37.9
comp=Z,2µm,21.0s
VSL Villasalto 142.91 325 IAMs_20 IAMs_20 21 05 12.0
comp=Z,1µm,20.0s
KEST Kesra 145.38 320 PKPbc **PKPdf** **19 54 59.0 -0.1**
comp=Z,64nm,1.0s,baz=106,slow=1.1,SNR=30
KEST Kesra 145.38 320 **PKPbc** **19 54 58.7 -0.3**
KEST IAMs_20 IAMs_20 21 00 42.9
comp=Z,1µm,21.0s
CMC01 Camacan, BA 145.93 140 *e*P **PKPbc** **19 55 00.8 -0.3**
CMAH Djebel Manchou 145.99 323 P **PKPdf** **19 54 59.8 -0.3**
ABSA Djebel Ababsia 146.19 322 P **PKPbc** **19 55 01.5 0.0**
NBIT Itapeh - BA 146.30 139 *e*P **PKPbc** **19 55 02.2 -0.1**
CKFL Kef-Lekhel 146.55 323 P **PKPbc** **19 55 02.3 -0.3**
TMAB Tom-Au,PA,Br 146.81 112 *e*P **PKPbc** **19 55 03.7 -0.1**
DFRA Djebel Bou Aff 146.94 324 P **PKPbc** **19 55 04.2 +0.4**
CTEI Djebel Teioual 146.97 323 P **PKPbc** **19 55 03.6 -0.3**
GDU01 Guandu, BA 147.10 138 *e*P **PKPbc** **19 55 03.8 -0.8**
SET Setif 147.46 324 P **PKPbc** **19 55 06.0 +0.8**
PBRG Braganca 147.90 345 *e*PKPbc **PKPbc** **19 55 05.6 -0.5**
PBRG Braganca 147.90 345 *e*PKPab **PKiKP** **19 55 07.8 -0.3**
PGAV Gavieira, Arco 148.12 347 *e*PKPbc **PKPbc** **19 55 06.6 -0.2**
PGAV Gavieira, Arco 148.12 347 *e*PKPab **PKPab** **19 55 11.9 +2.3**
PGAV Gavieira, Arco 148.12 347 *e*LR LR 20 56 18.9
comp=Z,2µm,18.0s
PCAB Cabril 148.30 346 *e*PKPbc **PKPbc** **19 55 06.5 -0.7**
PCAB Cabril 148.30 346 *e*PKPab **PKPab** **19 55 09.7 -0.5**
POLO Lamas de Olo 148.57 346 *e*PKPbc **PKPbc** **19 55 07.9 -0.1**
POLO Lamas de Olo 148.57 346 *e*PKPab **PKiKP** **19 55 09.9 +0.4**
MVO Moncorvo 148.57 345 *e*PKPbc **PKPbc** **19 55 07.9 -0.1**
MVO Moncorvo 148.57 345 *e*PKPab **PKiKP** **19 55 09.8 +0.3**
MVO Moncorvo 148.57 345 *e*LR LR 20 50 14.3
comp=Z,2µm,22.0s
PVRL Vila Real 148.64 346 *e*PKPbc **PKiKP** **19 55 08.8 -0.8**
ES18 SONSECA Array 148.98 339 IAMs_20 IAMs_20 21 07 27.8
comp=Z,2µm,20.0s
ES08 SONSECA Array 148.99 339 IAMs_20 IAMs_20 21 07 31.0
comp=Z,2µm,20.0s
ES17 SONSECA Array 149.00 339 IAMs_20 IAMs_20 21 07 15.2

	comp=Z,2μm,20.0s						
ES07	SONSECA Array	149.00 339		IAMs_20	IAMs_20	21 06 48.3	
	comp=Z,2μm,20.0s						
ES02	SONSECA Array	149.00 339		IAMs_20	IAMs_20	21 07 28.4	
	comp=Z,2μm,20.0s						
ES10	SONSECA Array	149.01 339		IAMs_20	IAMs_20	21 06 59.6	
	comp=Z,2μm,20.0s						
ES06	SONSECA Array	149.01 339		IAMs_20	IAMs_20	21 07 29.6	
	comp=Z,2μm,21.0s						
ES03	SONSECA Array	149.01 339		IAMs_20	IAMs_20	21 07 20.7	
	comp=Z,2μm,20.0s						
ES01	SONSECA Array	149.01 339		IAMs_20	IAMs_20	21 07 28.7	
	comp=Z,2μm,20.0s						
ESBB	Sonseca Array	149.01 339			PKPdf	19 55 04.5	-0.5
ESBB				IAMs_20	IAMs_20	21 07 29.7	
	comp=Z,2μm,20.0s						
ES16	SONSECA Array	149.02 339		IAMs_20	IAMs_20	21 10 37.7	
	comp=Z,2μm,18.0s						
ESDC	Sonseca Array	149.02 339	PKPbc		PKPdf	19 55 06.8	+1.7
	comp=Z,16nm,0.9s,baz=14,slow=1.7,SNR=32						
ESDC	Sonseca Array	149.02 339			PKPdf	19 55 04.2	-0.8
ES11	SONSECA Array	149.02 339		IAMs_20	IAMs_20	21 07 30.0	
	comp=Z,2μm,20.0s						
ES04	SONSECA Array	149.03 339		IAMs_20	IAMs_20	21 07 29.0	
	comp=Z,2μm,20.0s						
ES05	SONSECA Array	149.03 339		IAMs_20	IAMs_20	21 07 31.0	
	comp=Z,2μm,20.0s						
ES13	SONSECA Array	149.04 339		IAMs_20	IAMs_20	21 07 18.3	
	comp=Z,2μm,20.0s						
ES12	SONSECA Array	149.04 339		IAMs_20	IAMs_20	21 07 00.4	
	comp=Z,2μm,20.0s						
ES14	SONSECA Array	149.04 339		IAMs_20	IAMs_20	21 07 15.5	
	comp=Z,2μm,20.0s						
PVIS	Viseu	149.22 346	*e*PKPbc		PKPbc	19 55 09.7	+0.1
PAB	San Pablo	149.26 340	PKIKP		PKPdf	19 55 05.8	+0.3
PAB			MLR		MLR		
	comp=Z,2μm,20.0s						
PAB	San Pablo	149.26 340			PKPdf	19 55 05.8	+0.3
PAB	San Pablo	149.26 340		IAMs_20	IAMs_20	21 07 55.3	
	comp=Z,1μm,20.0s						
MTE	Manteigas	149.43 345	*e*PKPdf		PKPdf	19 55 05.8	+0.1
MTE	Manteigas	149.43 345	*e*PKPbc		PKPbc	19 55 08.7	-1.4
MTE	Manteigas	149.43 345	*e*PKPab		PKiKP	19 55 13.0	+1.7
MTE	Manteigas	149.43 345	*e*LR		LR	20 52 08.3	
	comp=Z,1μm,18.0s						
MTE	Manteigas	149.43 345			PKPdf	19 55 05.8	+0.1
EBNR	Beni Rached	149.50 329	P		PKPab	19 55 15.2	-0.1
CART	Cartagena	149.66 333			PKPdf	19 55 05.4	-0.7
ECHA	Ech Chlef	149.69 329	P		PKiKP	19 55 12.8	+1.0
COI	Coimbra	149.82 346	PKHKP		PKPpre	19 55 09.8	
COI	Coimbra	149.82 346	*e*PKPbc		PKiKP	19 55 11.6	-0.4
COI	Coimbra	149.82 346			PKPbc	19 55 09.8	-1.2
COI				IAMs_20	IAMs_20	21 05 38.5	
	comp=Z,1μm,20.0s						
PCBR	Castelo Branco	149.94 344	*e*PKPbc		PKPbc	19 55 11.3	0.0
EANR	'Ain N'Sour	149.98 329	P		PKPbc	19 55 11.0	-0.6
PCAS	Casmilo, Conde	149.99 346	*e*PKPdf		PKPdf	19 55 05.0	-1.5
PCAS	Casmilo, Conde	149.99 346	*e*PKPbc		PKiKP	19 55 12.9	+0.5
PCAS	Casmilo, Conde	149.99 346	*e*PKPab		PKPab	19 55 18.6	+1.5
OKGL	Djebel Kef Gue	150.14 329	P		PKPbc	19 55 12.0	0.0
ROSB	Rosrio	150.14 116	*e*P		PKPbc	19 55 10.1	-2.5
PMRV	Marv??o	150.30 344	*e*PKPdf		PKPdf	19 55 07.6	+0.5
PMRV	Marv??o	150.30 344	*e*PKPbc		PKPbc	19 55 12.1	-0.1
PMRV	Marv??o	150.30 344	*e*LR		LR	20 53 14.9	
	comp=Z,1μm,20.0s						
OJGS	Djebel Guires	150.51 329	P		PKiKP	19 55 14.0	+0.3
PSBE	So Bento	150.57 346	*e*PKPdf		PKPdf	19 55 07.4	-0.1
PSBE	So Bento	150.57 346	*e*PKPbc		PKPbc	19 55 12.9	0.0
PSBE	So Bento	150.57 346	*e*PKPab		PKPab	19 55 19.8	+0.3
OJBR	Djebel Berber	150.65 329	P		PKPbc	19 55 11.0	-2.3
SHEL	Horse Pasture	150.78 204	PKIKP		PKPbc	19 55 13.8	-0.2
SHEL	Horse Pasture	150.78 204			PKPbc	19 55 13.8	-0.2
PMTG	Montargil	150.85 345	*e*PKPbc		PKPbc	19 55 13.0	-0.5
PMTG	Montargil	150.85 345	*e*PKPab		PKPab	19 55 19.9	-0.7
PESTR	Estremoz	150.88 344	*e*PKPdf		PKPdf	19 55 07.4	-0.6
PESTR	Estremoz	150.88 344	*e*PKPbc		PKiKP	19 55 15.0	+0.8
PESTR	Estremoz	150.88 344			PKPbc	19 55 13.3	-0.3
ODJA	Bouhanifia	151.10 330	P		PKiKP	19 55 15.0	+0.2
PMAFR	Mafra	151.22 347	*e*PKPbc		PKiKP	19 55 15.0	+0.1
PMAFR	Mafra	151.22 347	*e*PKPab		PKPab	19 55 21.0	-1.2
EVO	Evora	151.31 344	*e*PKPbc		PKiKP	19 55 15.6	+0.5
EVO	Evora	151.31 344	*e*PKPab		PKPab	19 55 22.0	-0.5
PBAR	Barrancos	151.37 343	*e*PKPdf		PKPdf	19 55 08.8	+0.1
PBAR	Barrancos	151.37 343	*e*PKPbc		PKiKP	19 55 15.0	-0.2
PBAR	Barrancos	151.37 343	*e*PKPab		PKPab	19 55 21.9	-0.9
LIS	Lisbon	151.41 346	*e*PKPdf		PKPdf	19 55 08.5	-0.3
LIS			*e*PP		PP	19 58 54.3	+1.6
LIS				IAMs_20	IAMs_20	21 06 56.9	
	comp=Z,1μm,20.5s						
LIS	Lisbon	151.41 346	*e*PKIKP		PKPdf	19 55 08.4	-0.3
LIS			*e*PP		PP	19 58 54.2	+1.6
NBPS	Pedro II - PI	151.70 121	*e*P		PKPbc	19 55 13.8	-2.5
PBEJ	Beja	151.74 344	*e*PKPbc		PKiKP	19 55 15.8	-0.2
PNCL	Nicolau / Gran	151.84 345	*e*PKPbc		PKiKP	19 55 16.1	-0.1
MESJ	Messejana	152.01 344	*e*PKPdf		PKPdf	19 55 09.3	-0.4
MESJ			*e*PP		PP	19 58 57.7	+1.6
MESJ				IAMs_20	IAMs_20	21 01 40.0	
	comp=Z,2μm,21.4s						
MESJ	Messejana	152.01 344	*e*PKIKP		PKPdf	19 55 09.3	-0.4
MESJ			*e*PP		PP	19 58 57.6	+1.6
MESJ	Messejana	152.01 344	*e*PKPdf		PKPdf	19 55 08.9	-0.8
MESJ	Messejana	152.01 344	*e*PKPbc		PKPbc	19 55 16.3	+0.1
PCVE	Castro Verde	152.16 344	*e*PKPbc		PKPbc	19 55 15.6	-1.0
PVAQ	Vaqueiros	152.28 343	*e*PKPdf		PKPdf	19 55 09.5	-0.6
PVAQ	Vaqueiros	152.28 343	*e*PKPbc		PKiKP	19 55 17.2	+0.1
PVAQ	Vaqueiros	152.28 343	*e*LR		LR	20 55 48.8	
	comp=Z,3μm,20.0s						
PVAQ	Vaqueiros	152.28 343			PKPbc	19 55 15.7	-1.1
PTEO	Sao Teotonio	152.42 345	*e*PKPbc		PKiKP	19 55 19.1	+1.7
PBDV	Barranco-do-Ve	152.49 343	*e*PKPdf		PKPdf	19 55 10.6	+0.1
PBDV	Barranco-do-Ve	152.49 343	*e*PKPbc		PKiKP	19 55 19.6	+2.0
PBDV	Barranco-do-Ve	152.49 343	*e*PKPab		PKPab	19 55 28.8	+1.2
MORF	Marmelete	152.63 344	*e*PKPdf		PKPdf	19 55 10.3	-0.5
MORF				IAMs_20	IAMs_20	21 08 44.5	
	comp=Z,2μm,16.3s						
MORF	Marmelete	152.63 344	*e*PKIKP		PKPdf	19 55 10.2	-0.5
MORF	Marmelete	152.63 344	*e*PKPdf		PKPdf	19 55 10.7	0.0
MORF	Marmelete	152.63 344	*e*PKPbc		PKiKP	19 55 19.4	+1.5
MORF	Marmelete	152.63 344	*e*PKPab		PKPab	19 55 28.3	+0.1
PFVI	Vila Bisbo	152.84 345	*e*PKPdf		PKPdf	19 55 11.2	+0.3
PFVI	Vila Bisbo	152.84 345	*e*PKPbc		PKPbc	19 55 17.7	-0.4
PFVI	Vila Bisbo	152.84 345		IAMs_20	IAMs_20	21 14 15.4	
	comp=Z,2μm,18.0s						
MDT	Midelt	155.26 333	PKP		PKPdf	19 55 15.8	+1.2
	comp=Z,4.8nm,0.9s,baz=193,slow=1.0,SNR=10						
MDT			PKPab		PKPab	19 55 40.3	+0.8
	comp=Z,28nm,1.1s,baz=58,slow=3.1,SNR=13						
MDT			PP		PP	19 59 18.2	+3.3
	comp=Z,5.3nm,1.1s,baz=47,slow=2.6,SNR=3.0						
TOA0	Torodi Ar. Sit	161.09 278	PKPdf		PKPdf	19 55 21.0	-1.0
TORD	Torodi Ar. Bea	161.09 278	PKP		PKPdf	19 55 21.2	-0.9
	comp=Z,15nm,0.8s,baz=17,slow=1.6,SNR=45						
TORD	Torodi Ar. Bea	161.09 278	PKPdf		PKPdf	19 55 20.7	-1.3
KOWA	Kowa	166.38 286	PKP		PKPdf	19 55 26.3	-0.6
	comp=Z,9.7nm,0.8s,baz=88,slow=0.7,SNR=22						
KOWA			PKPab		PKPab	19 56 28.6	+0.1
	comp=Z,6.8nm,0.7s,baz=46,slow=3.2,SNR=7.6						
KOWA	Kowa	166.38 286			PKPdf	19 55 25.7	-1.2
KIC	Kosan Boka	166.55 251	*e*PKIKP		PKPdf	19 55 27.4	+0.3
	comp=Z,25nm,0.7s						
KIC	Kosan Boka	166.55 251	*e*PKP1		PKPab	19 56 31.0	+1.7
	comp=Z,8.3nm,0.6s						
LIC	Lamto	166.76 250	*e*PKIKP		PKPdf	19 55 27.1	-0.2
	comp=Z,72nm,0.8s						
LIC	Lamto	166.76 250	*e*PKP1		PKPab	19 56 30.7	+0.4
	comp=Z,52nm,1.0s						
TIC	Toumodi	166.91 252	*e*PKIKP		PKPdf	19 55 27.6	+0.2
TIC	Toumodi	166.91 252	*e*PKP1		PKPab	19 56 30.0	-0.9

NEIC ***01*** *19:39:26.3±1.1,31°.3S±0°.1×179°.9E±0°.2, h407km±5km, mb4.6/11 Error ellipse: s-maj=26.0km s-min=16.1km az=126.0*

IDC ***01*** *19:39:27.6±7.2,31°.11S×179°.86E, h427km±87km, mb3.8/5, mb1 4.0/6, mb1mx3.5/39, mbtmp4.8/6, Error ellipse: s-maj=100.3km s-min=33.6km az=4.0*

WEL ***01*** *19:39:32.0±0.6,31°.S±6°.×18°.0E±1°.4, h349km±12km, M4.3/36, mB4.8/30, MLv5.2/36, Mw(mB)4.1/30, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*

ISC 01 19:39:26.9±0.8, 31°.28S±0°.07×179°.6E±0°.1, h400km, n87, σ2§05/92, mb4.5/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.95	48	P	Pn	19 40 30.8	+1.1
GLKZ				S	S	19 41 22.4	+1.9
RIZ	Raoul Island	2.96	47	P	Pn	19 40 27.5	-2.3
RIZ				S	S	19 41 21.6	+0.9
RAO	Raoul Island	2.96	48		Pn	19 40 28.5	-1.3
KUZ	Kuaotunu	6.32	209	P	Pn	19 41 09.7	+6.9
MXZ	Matakaoa Point	6.36	189		Pn	19 41 04.6	+1.4
MXZ	Matakaoa Point	6.36	189	P	Pn	19 41 05.9	+2.7
MXZ				S	S	19 42 20.2	-1.7
WCZ	Waipu Caves	6.38	222	P	Pn	19 41 09.5	+6.0
WMGZ	Waiomatatini S	6.60	188	P	P	19 41 10.6	+4.1
WIAZ	Waiheke Island	6.62	213	P	P	19 41 14.2	+7.4
HAZ	Te Kaha	6.63	192	P	P	19 41 10.1	+3.2
HAZ				S	S	19 42 27.4	-0.1
PKGZ	Pakihiroa	6.71	190	P	P	19 41 10.3	+2.5
RUGZ	Raukumara Rang	6.85	193	P	P	19 41 11.9	+2.4
RUGZ				S	S	19 42 31.0	-1.3
PUZ	Puketiti	6.87	189	P	P	19 41 12.2	+2.7
PUZ				S	S	19 42 29.3	-3.0
TWGZ	Tauwhareparae	7.01	190	P	P	19 41 14.8	+3.7
LIRZ	Lichensteins R	7.21	201	P	P	19 41 18.7	+5.4
MWZ	Matawai	7.24	193	P	P	19 41 16.1	+2.4
URZ	Urewera	7.26	196	P	P	19 41 16.8	+3.0
	37nm,0.3s,baz=341,slow=2.2,SNR=159						
URZ				S	S	19 42 39.2	-1.1
	11nm,0.3s,baz=196,slow=21,SNR=12						
URZ	Urewera	7.26	196	P	P	19 41 14.6	+0.8
URZ	Urewera	7.26	196	P	P	19 41 15.5	+1.7
URZ				S	S	19 42 37.5	-2.8
TOZ	Tahuroa Road	7.26	206	P	P	19 41 18.4	+4.5
CNGZ	Carnagh Statio	7.28	189	P	P	19 41 17.2	+3.1
TKGZ	Te Karaka	7.29	191	P	P	19 41 17.1	+3.0
OMRZ	Omania	7.31	200	P	P	19 41 19.4	+5.0
TARZ	Mount Tarawera	7.39	199	P	P	19 41 20.0	+4.6
RAGZ	Rawiri	7.42	193	P	P	19 41 19.0	+3.3
RAGZ				S	S	19 42 44.4	+0.6
MUGZ	Murupara	7.54	197	P	P	19 41 19.3	+2.3
RIGZ	Rimuhau	7.56	191	P	P	19 41 19.7	+2.5
RIGZ				S	S	19 42 44.1	-2.6
RTZ	Ruatahuna	7.63	196	P	P	19 41 20.0	+2.0
RTZ				S	S	19 42 46.3	-1.8
PRGZ	Paritu Road	7.75	190	P	P	19 41 23.3	+4.0
PRGZ				S	S	19 42 51.1	+0.4
MTHZ	Maungataniwha	7.88	196	P	P	19 41 23.2	+2.4
RAHZ	Arahi	7.89	194	P	Pn	19 41 20.1	-0.3
RAHZ				S	S	19 42 53.2	-0.4
MHGZ	Mahia Peninsul	7.98	189	P	P	19 41 26.2	+4.4
NMHZ	Naumai	8.12	195	P	P	19 41 26.3	+2.8
HIZ	Hauiti	8.19	207	P	P	19 41 30.0	+5.8
ARHZ	Aropaoanui	8.24	194	P	P	19 41 27.8	+3.0
BKZ	Black Stump Fm	8.27	197	P	Pn	19 41 24.6	-0.2
NTVZ	North Tongarir	8.43	201	P	P	19 41 29.5	+2.5
KRVZ	Karewarewa	8.44	201	P	P	19 41 29.5	+2.4
TMVZ	Te Maari	8.44	201	P	P	19 41 29.0	+1.9
ETVZ	East Tongariro	8.46	201	P	P	19 41 29.3	+2.1
WTVZ	West Tongariro	8.47	202	P	P	19 41 29.4	+1.9
NNVZ	North Ngauruho	8.48	201	P	P	19 41 30.1	+2.4
TWVZ	Taurewa	8.48	202	P	P	19 41 29.8	+2.2
MCHZ	McNeill Hill	8.48	195	P	P	19 41 28.9	+1.4
OTVZ	Oturere	8.49	201	P	Pn	19 41 27.6	+0.1
SNVZ	South Ngauruho	8.52	201	P	P	19 41 29.9	+1.9
NGZ	Ngauruhoe	8.53	201	P	P	19 41 30.4	+2.3
KWHZ	Kaweka Forest	8.53	197	P	P	19 41 29.5	+1.5
TUVZ	Tukino	8.59	201	P	P	19 41 30.6	+1.8
FWVZ	Far West T-bar	8.61	201	P	P	19 41 31.1	+1.9
WHVZ	Whangaehu Hut	8.63	201	P	P	19 41 31.2	+1.9
TRVZ	Turoa	8.65	201	P	P	19 41 31.2	+1.5
WNVZ	Wahianoa	8.66	201	P	P	19 41 30.6	+1.0
MOVZ	Moawhango	8.69	200	P	P	19 41 30.7	+0.8
PKVZ	Pokaka	8.71	202	P	P	19 41 31.6	+1.6
KRHZ	Kereru	8.75	196	P	P	19 41 30.9	+0.5
KAHZ	Kahuranaki	8.78	194	P	P	19 41 31.5	+0.7
PXZ	Pawanui	9.01	193	P	P	19 41 33.6	+0.3
PNHZ	Pukenui	9.04	197	P	Pn	19 41 33.8	0.0
BFZ	Birch Farm	9.77	195	P	P	19 41 41.1	-0.6
MSWZ	Moikau Station	10.70	198	P	P	19 41 50.2	-1.9
SNZO	South Karori	10.76	200	P	P	19 41 48.6	-4.0
QRZ	Quartz Range	11.10	209	P	P	19 41 56.6	+0.1
TUWZ	Tuamarina	11.10	203	P	P	19 41 55.9	-0.6
BSWZ	Blackbirch Sta	11.38	202	P	P	19 41 59.5	0.0
THZ	Tophouse	11.76	205	P	P	19 42 02.6	-1.1
KHZ	Kahutara	12.12	202	P	P	19 42 06.0	-1.6
TAU	Tasmania Unive	28.06	236	P	P	19 44 44.0	+0.5
CTA	Charters Tower	31.91	282	P	P	19 45 18.9	+1.5
	3.7nm,0.6s,baz=121,slow=9.0,SNR=1.0						
STKA	Stephens Creek	32.26	259	P	P	19 45 21.9	+1.7
	4.6nm,0.3s,baz=100,slow=12,SNR=12						
STKA	Stephens Creek	32.26	259	IAmb	IAmb	19 45 22.9	
	comp=Z,5.4nm,1.3s						
BBOO	Buckleboo	36.73	256	P	P	19 45 58.1	0.0
BBOO				IAmb	IAmb	19 46 05.6	
	comp=Z,44nm,1.3s						
AS31	Alice Springs	40.99	269	P	P	19 46 33.1	0.0
AS31				IAmb	IAmb	19 46 47.2	
	comp=Z,16nm,1.4s						
ASAR	Alice Springs	40.99	269	P	P	19 46 33.0	-0.1
	comp=Z,6.0nm,0.6s,baz=107,slow=7.3,SNR=8.7						
ASAR	Alice Springs	40.99	269	P	P	19 46 32.5	-0.6
WR0	Warramunga Arr	41.89	275	P	P	19 46 40.2	0.0
WR0				IAmb	IAmb	19 46 50.2	
	comp=Z,40nm,1.4s						
WB2	Warramunga Arr	42.05	274	P	P	19 46 41.6	0.0
WB2				IAmb	IAmb	19 46 48.3	
	comp=Z,62nm,1.4s						
WRAB	Tennant Creek	42.06	274	P	P	19 46 41.5	-0.1
WRA	Warramunga Arr	42.07	274	P	P	19 46 41.5	-0.2
	comp=Z,8.1nm,0.3s,baz=111,slow=8.0,SNR=44						
WRA	Warramunga Arr	42.07	274	P	P	19 46 40.4	-1.3
WB0	Warramunga Arr	42.09	275	P	P	19 46 41.8	-0.1
WB0				IAmb	IAmb	19 46 52.9	
	comp=Z,60nm,1.4s						
MTN	Manton Dam	48.08	281	P	P	19 47 27.8	-0.6
MTN				IAmb	IAmb	19 47 43.9	
	comp=Z,67nm,1.4s						
FITZ	Fitzroy Crossi	50.29	272	P	P	19 47 45.0	+0.2
	comp=Z,5.1nm,0.7s,baz=141,slow=4.9,SNR=8.7						
MORW	Morawa	54.29	255	P	P	19 48 12.8	-0.9
MORW				IAmb	IAmb	19 48 35.9	
	comp=Z,26nm,1.2s						
R55A	Marlinton	116.06	60		PKPdf	19 57 20.2	-2.9
FINES	FINESS Array B	145.21	338	PKPbc	PKPdf	19 58 14.3	-2.5
	comp=Z,1.5nm,0.4s,baz=45,slow=3.2,SNR=14						
FINES	FINESS Array B	145.21	338		PKPdf	19 58 14.8	-2.0

IDC 01 19:41:39.1±3.0, 35°.84N×82°.01E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/59, mbtmp3.6/5, ML3.0/3, Error ellipse: s-maj=74.7km s-min=26.7km az=77.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	10.94	1	Pn	Pn	19 44 17.6	+0.7
	0.4nm,0.3s,baz=184,slow=13,SNR=22						
MKAR				Sn	Sn	19 46 17.9	-2.2
	0.1nm,0.3s,baz=185,slow=24,SNR=3.4						
KURBB	Kurchatov Arra	14.99	351	Pn	Pn	19 45 10.8	-1.3
	0.0nm,0.3s,baz=173,slow=12,SNR=4.0						
ZALV	Zalesovo Beam	18.21	5	P	Pn	19 45 52.4	-0.7
	0.1nm,0.3s,baz=187,slow=12,SNR=9.6						
SONM	Songino Array	21.66	49	P	P	19 46 31.2	-0.1
	1.3nm,0.9s,baz=236,slow=10,SNR=6.0						
ASAR	Alice Springs	76.88	132	P	P	19 53 33.3	+0.1
	0.5nm,0.9s,baz=306,slow=6.8,SNR=2.6						

ROM 01 19:52:11.1±0.1, 43°.466N±0°.001×12°.761E±0°.004, h15km, ML1.0/5, 2C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSFR	Montelago di S	0.03	153	AML	AML		
	comp=E,466μm,1.3s						
SSFR				AML	AML		
	comp=N,830μm,0.2s						
SSFR				AML	AML		
	comp=N,513μm,0.1s						
SSFR				AML	AML		
	comp=E,246μm,1.1s						
FRON	Frontone	0.06	333	⇓P	Pg	19 52 14.2	+0.2
FRON				S	Sg	19 52 16.3	+0.4
FRON				AML	AML		
	comp=E,90μm,0.1s						
FRON				AML	AML		
	comp=N,100μm,0.1s						
ARVD	Arcevia	0.14	76	P	Pg	19 52 15.1	+0.3
ARVD				S	Sb	19 52 17.8	-0.5
MPAG	Monte Paganucc	0.16	360	P	Pg	19 52 15.4	+0.2
MPAG				S	Sb	19 52 18.6	-0.6
FOSV	Fossato di Vic	0.17	180	⇑P	Pg	19 52 15.6	+0.2
FOSV				S	Sb	19 52 18.9	-0.4
PIEI	Pieia	0.18	293	AML	AML		
	comp=E,69μm,0.5s						
PIEI				AML	AML		
	comp=N,58μm,0.4s						
PIEI				AML	AML		
	comp=N,58μm,0.4s						
FSSB	Fossombrone	0.23	3	⇑P	Pg	19 52 16.4	+0.2
FSSB				S	Sb	19 52 20.5	-0.4
FSSB				AML	AML		
	comp=N,100μm,0.4s						
FSSB				AML	AML		
	comp=N,100μm,0.4s						
FSSB				AML	AML		
	comp=E,94μm,0.3s						
SNTG	Esanatoglia	0.25	148	P	Pg	19 52 16.9	+0.3
SNTG				S	Sb	19 52 21.0	-0.5
SNTG				AML	AML		
	comp=N,23μm,0.3s						
SNTG				AML	AML		
	comp=E,17μm,0.7s						
ATVO	AVT- Monte Val	0.27	252	AML	AML		
	comp=E,57μm,0.5s						
ATVO				AML	AML		
	comp=E,57μm,0.5s						
ATVO				AML	AML		
	comp=N,60μm,0.2s						

IDC ***01*** *20:00:39.4±3.2,22°.36N×103°.86E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/48, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=58.0km s-min=24.9km az=164.0*

ISC 01 20:00:28.2±4.9, 24°.0N±0°.5×102°.8E±0°.4, h10km, n25, σ2§15/25, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NONG	Nongkai	5.89	177	P	Pg	20 02 11.7	-9.3
	2μm31nm,0.9s						
CM34	Chiang Mai Arr	6.14	215	P	Pg	20 02 24.0	-1.9
LAMP	Lampang	6.19	209	P	Pg	20 02 27.5	+0.7
	17nm,0.7s						
LAMP	Lampang	6.19	209	P	Pg	20 02 27.6	+0.7
CM33	Chiang Mai Arr	6.28	216	P	Pg	20 02 27.0	-1.5
CMMT	Chiang Mai	6.28	216	P	Pg	20 02 28.3	-0.3
	9.3nm,0.9s						
CMMT	Chiang Mai	6.28	216	P	Pg	20 02 28.3	-0.3
CHTO	Chiang Mai	6.28	216	P	Pg	20 02 28.3	-0.3
	6.5nm,0.8s						
CM35	Chiang Mai Arr	6.29	214	P	Pg	20 02 26.0	-2.6
CM36	Chiang Mai Arr	6.45	213	P	Pg	20 02 29.0	-2.8
CM09	Chiang Mai Arr	6.56	214	P	Pg	20 02 32.1	-1.9
	111nm14nm,0.7s						
CM09	Chiang Mai Arr	6.56	214	P	Pg	20 02 32.1	-1.9
CM31	Chiang Mai Arr	6.58	214	P	Pg	20 02 31.6	-2.6
CMAR	Chiang Mai Arr	6.58	214	Pn	Pn	20 02 08.3	+3.3
	0.3nm,0.3s,baz=35,slow=12,SNR=11						
CMAR				Pg	Pg	20 02 30.9	-3.4
	0.8nm,0.3s,baz=42,slow=17,SNR=35						
CMAR				Lg	Lg	20 03 51.0	
	0.3nm,0.3s,baz=51,slow=30,SNR=3.0						
CM15	Chiang Mai Arr	6.59	214	P	Pg	20 02 32.4	-2.1
	168nm22nm,0.9s						
CM15	Chiang Mai Arr	6.59	214	P	Pg	20 02 32.4	-2.1
CM02	Chiang Mai Arr	6.60	214	P	Pg	20 02 32.4	-2.2
	192nm29nm,0.9s						
CM01	Chiang Mai Arr	6.60	214	P	Pg	20 02 32.8	-1.9
	135nm20nm,0.9s						
CM01	Chiang Mai Arr	6.60	214	P	Pg	20 02 32.0	-2.7
CM04	Chiang Mai Arr	6.61	214	P	Pg	20 02 32.7	-2.1
	148nm20nm,0.8s						
CM05	Chiang Mai Arr	6.62	214	P	Pg	20 02 33.2	-1.9
	126nm15nm,0.8s						
CM13	Chiang Mai Arr	6.63	214	P	Pg	20 02 32.9	-2.3
	140nm17nm,0.9s						
CM13	Chiang Mai Arr	6.63	214	P	Pg	20 02 32.9	-2.3
WRA	Warramunga Arr	53.37	142	P	P	20 09 47.0	-1.1
	0.4nm,0.7s,ba

H11N2	WAKE ISLAND Hy	30.98	8	T	T	21 20 12.4	
	baz=188,slow=76,SNR=182						
KNRA	Kununurra	33.24	258	P	P	20 48 19.5	-0.4
FITZ	Fitzroy Crossi	36.42	255	P	P	20 48 46.4	-0.9
	comp=Z,1.9nm,0.6s,baz=68,slow=7.7,SNR=7.9						
SONM	Songino Array	76.99	325	P	P	20 53 35.8	+1.0
	comp=Z,0.7nm,0.8s,baz=140,slow=5.1,SNR=4.1						
SONM	Songino Array	76.99	325	IAmb	IAmb	20 53 42.0	
	comp=Z,0.9nm,0.8s						
ILAR	Eielson Array	84.61	19	P	P	20 54 13.8	-1.2
	comp=Z,0.2nm,0.5s,baz=235,slow=6.3,SNR=1.8						
NVAR	Mina Array Bea	88.43	50	P	P	20 54 34.8	+0.3
	comp=Z,0.2nm,0.3s,baz=240,slow=5.1,SNR=3.7						
MKAR	Makanchi Array	91.54	317	P	P	20 54 48.7	+0.1
	comp=Z,0.2nm,0.7s,baz=101,slow=7.5,SNR=1.4						

*IDC **01** 21:34:08.3±1.4, 3°.70N×63°.77E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/30, mbtmp3.7/7, MS3.9/5, Ms1 4.0/5, ms1mx3.6/46, Error ellipse: s-maj=42.0km s-min=27.4km az=52.0*

*NEIC **01** 21:34:10.7±0.6, 3°.7N±0°.1×63°.7E±0°.1, h10km±1km, mb4.2/10, Error ellipse: s-maj=24.1km s-min=19.8km az=320.0*

ISC 01 21:34:09.9±0.8, 3°.7N±0°.1×63°.8E±0°.1, h10km, n27, σ0=52/22, mb4.0/12, MS3.9/4, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	Mahe Island	11.72	225	Pn	Pn	21 36 57.2	-0.2
PALK	Pallekele	17.23	77	LR	LR	21 43 16.5	
	comp=Z,488nm,19.5s,baz=9.7,slow=32						
PALK	Pallekele	17.23	77	Pn	Pn	21 38 11.5	+0.6
PALK				IAmb	IAmb	21 38 14.4	
	comp=Z,23nm,1.1s						
WSAR	Wadi Sarin	20.07	346	LR	LR	21 44 53.6	
	comp=Z,409nm,20.6s,baz=201,slow=32						
KBL	Kabul	31.10	8	P	P	21 40 28.7	0.0
KBL				IAmb	IAmb	21 40 40.2	
	comp=Z,2.8nm,1.0s						
NIL	Nilore	31.10	15	P	P	21 40 28.6	0.0
LSA	Lhasa	36.63	42	P	P	21 41 17.3	+0.1
LSA				IAmb	IAmb	21 41 25.4	
	comp=Z,6.8nm,1.4s						
CMAR	Chiang Mai Arr	37.40	64	P	P	21 41 24.2	+0.8
	comp=Z,0.7nm,0.9s,baz=265,slow=8.6,SNR=6.3						
CMAR				LR	LR	21 56 12.6	
	comp=Z,98nm,19.4s,baz=312,slow=35						
CMAR	Chiang Mai Arr	37.40	64	P	P	21 41 22.7	-0.8
CHTO	Chiang Mai	37.52	64	P	P	21 41 24.4	0.0
CHTO				IAmb	IAmb	21 41 32.9	
	comp=Z,5.9nm,1.2s						
ABKAR	Akbulak array	45.53	356	P	P	21 42 29.7	+0.1
ABKAR	Akbulak array	45.53	356	P	P	21 42 29.6	-0.1
ABKAR				IAmb	IAmb	21 42 35.0	
	comp=Z,1.6nm,0.9s						
MKAR	Makanchi Array	45.85	18	P	P	21 42 31.5	-0.8
	comp=Z,0.5nm,0.9s,baz=193,slow=5.9,SNR=3.2						
MKAR	Makanchi Array	45.85	18	P	P	21 42 32.0	-0.3
ZALV	Zalesovo Beam	52.99	15	P	P	21 43 25.4	-1.3
	comp=Z,0.3nm,0.4s,baz=230,slow=9.2,SNR=3.6						
SONM	Songino Array	57.19	33	P	P	21 43 57.2	-0.1
	comp=Z,1.0nm,0.9s,baz=226,slow=5.3,SNR=4.6						
SONM	Songino Array	57.19	33	P	P	21 43 57.2	-0.1
CTI	Castel Tesino	61.80	321	P	P	21 44 30.1	+0.9
KSRS	Korea Array	67.36	51	LR	LR	22 14 15.5	
	comp=Z,109nm,21.7s,baz=340,slow=36						
ARCES	ARCESS Array B	70.41	347	LR	LR	22 17 06.7	
	comp=Z,103nm,20.1s,baz=220,slow=37						
ESDC	Sonseca Array	70.59	311	P	P	21 45 25.9	+0.2
	comp=Z,0.5nm,0.9s,baz=97,slow=7.0,SNR=2.9						
WRA	Warramunga Arr	73.10	112	P	P	21 45 41.1	0.0
	comp=Z,1.0nm,0.7s,baz=291,slow=5.2,SNR=8.0						
WRA	Warramunga Arr	73.10	112	P	P	21 45 40.7	-0.3
WB2	Warramunga Arr	73.11	112	P	P	21 45 41.3	+0.2
WB2				IAmb	IAmb	21 45 49.2	
	comp=Z,5.1nm,0.8s						
ASAR	Alice Springs	73.41	116	P	P	21 45 42.6	-0.2
	comp=Z,0.8nm,0.7s,baz=286,slow=5.4,SNR=11						
ASAR	Alice Springs	73.41	116	P	P	21 45 43.0	+0.1
TXAR	Lajitas Array	145.03	341	PKPbc	PKPbc	21 53 47.8	+0.1
	comp=Z,0.2nm,0.6s,baz=48,slow=1.3,SNR=3.2						

*MEX **01** 21:36:40.7±0.5, 31°.80N×114°.56W, h10km, MD3.7*
*ECX **01** 21:36:40.1±0.5, 31°.87N×114°.74W, h6km±7km, MD2.5, ML1.8*

ISC 01 21:36:36.4±2.6, 31°.88N±0°.06×114°.7W±0°.1, h5km±14km, n10, σ0=48/16, 3C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.86	191	eP	Pn	21 36 54.3	-0.7
SFX				eS	Sb	21 37 05.9	+0.4
SFX				IAML		21 37 06.4	
	comp=E,24nm,0.6s						
SFX				⇓e		21 37 06.4	
SPIG	San Pedro Mart	1.09	220	eP	Pb	21 36 58.0	+0.2
SPIG				eS	Sb	21 37 12.1	-0.3
SPIG	San Pedro Mart	1.09	220⇑	eP	Pn	21 36 58.4	-0.1
SPIG				eS	Sb	21 37 12.2	-0.2
SPX	San Pedro Mart	1.09	220	iP	Pn	21 36 58.3	-0.2
SPX				iS	Sg	21 37 11.8	+0.2
SPX	San Pedro Mart	1.09	220⇑	eP	Pn	21 36 58.4	-0.2
SPX				eS	Sb	21 37 12.2	-0.4
SPX				IAML		21 37 13.2	
	comp=N,28nm,0.4s						
YUH2	Yuha Desert	1.32	306	eP	Pg	21 37 02.1	+0.4
YUH2				eS	Sb	21 37 18.8	0.0
CBX	Cerro Bola	1.76	285	iP	Pb	21 37 09.3	+0.2
CBX				iS	Sn	21 37 31.1	+0.6
CBX	Cerro Bola	1.76	285	eP	Pb	21 37 09.4	+0.2
BAR	Barrett	1.89	295	e	Sg	21 37 36.0	-1.0
BAR				IAML		21 37 36.0	
	comp=N,12nm,0.1s						
SDRC	San Diego Road	2.12	294⇑	e	Pg	21 37 26.3	+9.3
SDRC				IAML		21 37 26.3	
	comp=E,9.5nm,0.0s						

IDC 01 21:53:38.1±2.2, 6°.66S×128°.91E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=81.4km s-min=29.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.80	195	Pn	Pn	21 56 28.6	+0.7
	0.1nm,0.3s,baz=26,slow=13,SNR=8.8						
FITZ				Sn	Sn	21 58 25.8	-15
	0.2nm,0.3s,baz=154,slow=21,SNR=5.9						
WRA	Warramunga Arr	14.21	159	Pn	Pn	21 57 00.3	-0.6
	0.1nm,0.3s,baz=337,slow=14,SNR=7.7						
WRA				Sn	Sn	21 59 23.4	-16
	0.1nm,0.3s,baz=336,slow=23,SNR=1.1						
ASAR	Alice Springs	17.57	165	P	Pn	21 57 44.4	-0.3
	0.1nm,0.3s,baz=345,slow=11,SNR=6.2						
MKAR	Makanchi Array	67.36	327	P	P	22 04 35.2	0.0
	0.2nm,0.5s,baz=126,slow=7.3,SNR=1.9						

*TUL **01** 21:59:53.8±1.5, 36°.07N±0°.01×97°.44W±0°.04, h6km±7km, ML3.3, mb_Lg3.1/75(NEIC), Error ellipse: s-maj=4.1km s-min=2.0km az=86.0*

NEIC 01 21:59:54.0±1.0, 36°.087N±0°.008×97°.46W±0°.03, h3km±7km, Error ellipse: s-maj=3.3km s-min=0.6km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.29	179	Pg	Pg	21 59 59.5	0.0
OK029				Sg	Sg	22 00 03.6	+0.3
BCOK	Bluff Creek, N	0.45	196		Pg	22 00 02.5	0.0
BCOK				Sg	Sg	22 00 08.8	+0.5
OK009	Oakdale Elemen	0.51	176		Pg	22 00 04.4	+0.8
OK025	Westminster Rd	0.51	169		Pg	22 00 03.7	-0.1
OK031	S. Brethren Rd	0.52	105		Pg	22 00 03.7	-0.2
OK031				Sg	Sg	22 00 10.8	0.0
OK001	Jones High Sch	0.54	165	Pg	Pg	22 00 05.2	+0.8
OK030	Cody Creek RV	0.57	106		Pg	22 00 04.7	-0.3
CROK	Carrier	0.59	315		Pg	22 00 05.8	+0.4
QUOK	Quay	0.62	82		Pg	22 00 05.5	-0.3
OKCFA	Oklahoma City	0.67	179		Pg	22 00 06.4	-0.4
OKCSW	OKLAHOMA CITY	0.68	178		Pg	22 00 06.7	-0.3
BLOK	Blackwell	0.70	16		Pg	22 00 07.4	0.0
FNO	Franklin	0.83	176		Pg	22 00 09.3	-0.6
KAN13	South Haven SW	0.93	359		Pg	22 00 11.7	0.0
OK032	Salt Plains WL	0.94	320		Pg	22 00 11.9	0.0
KAN17	Caldwell West	0.99	346	Pg	Pg	22 00 12.8	0.0
KAN09	Caldwell North	1.05	353	Pg	Pg	22 00 14.0	-0.2
KAN05	Bluff City Nor	1.07	342		Pg	22 00 14.4	-0.1
T35A	Sooner Cattle	1.13	43		Pg	22 00 15.1	-0.5
KS20	Mayfield South	1.14	356		Pg	22 00 15.6	-0.3
KAN10	Anthony SW Sta	1.15	334		Pg	22 00 15.7	-0.4
KAN08	Anthony NE Sta	1.21	340		Pg	22 00 16.9	-0.2
U32A	Winter Ranch,	1.28	284		Pg	22 00 18.0	-0.5
KAN12	Harper NE Stat	1.28	341		Pg	22 00 18.1	-0.4
X34A	Smith Ranch, M	1.51	192		Pn	22 00 21.9	-0.1
WMOK	Wichita Mounta	1.72	219		Pn	22 00 24.9	0.0
LOOK	Love County	2.10	174		Pn	22 00 30.9	+0.8
LOOK				IAmb_Lg		22 01 03.0	
	comp=Z,60nm,1.0s						
X37A	Clayton	2.27	131		Pn	22 00 32.5	+0.1
X37A				IAmb_Lg		22 01 07.8	
	comp=Z,79nm,0.8s						
U38A	Gravette	2.51	81		Pn	22 00 36.0	+0.3
R32A	Long Quarter,	2.54	337	Pn	Pn	22 00 37.0	+0.9
HHAR	Hobbs	2.86	85		Pn	22 00 39.8	-0.6
KSU1	Kansas State U	3.08	12	Pn	Pn	22 00 44.0	+0.4
W39A	Magazine	3.12	105	Pn	Pn	22 00 43.7	-0.4
CBKS	Cedar Bluff	3.27	327		Pn	22 00 46.5	+0.3
Z38A	Mt. Pleasant	3.48	143		Pn	22 00 49.3	+0.3
Z38A				IAmb_Lg		22 01 51.1	
	comp=Z,55nm,0.9s						
MIAR	Mount Ida	3.53	115		Pn	22 00 49.8	+0.1
MIAR				IAmb_Lg		22 01 51.6	
	comp=Z,42nm,0.8s						
S39A	Bolivar	3.69	63		Pn	22 00 51.7	-0.1
S39A				IAmb_Lg		22 01 49.5	
	comp=Z,42nm,0.7s						
U40A	Yellville	3.74	85	Pn	Pn	22 00 51.8	-0.8
U40A				IAmb_Lg		22 01 53.1	
	comp=Z,48nm,0.8s						
ABTX	Abilene, Hawle	3.90	208	IAmb_Lg		22 01 58.4	
	comp=Z,30nm,0.8s						
WHTX	Lake Whitney,	4.08	180	Pn	Pn	22 00 57.7	+0.4
X40A	Basin Creek Fa	4.11	112		Pn	22 00 58.5	+0.8
X40A				IAmb_Lg		22 02 05.8	
	comp=Z,41nm,0.8s						
WHAR	Woody Mountain	4.29	99	Pn	Pn	22 00 59.7	-0.4
WHAR				IAmb_Lg		22 02 09.4	
	comp=Z,32nm,0.8s						
WLAR	White Oak Lake	4.30	123	IAmb_Lg		22 02 10.1	
	comp=Z,28nm,0.8s						
MGMO	Mountain Grove	4.31	74		Pn	22 01 00.4	-0.1
MGMO				IAmb_Lg		22 02 08.1	
	comp=Z,39nm,0.7s						
FCAR	Ozark Folk Cen	4.33	91		Pn	22 01 00.5	-0.2
FCAR				IAmb_Lg		22 02 13.4	
	comp=Z,24nm,1.0s						
N33A	J Bar K, Exete	4.64	0	Pn	Pn	22 01 04.4	-0.6
R40A	Maddies Statio	4.70	61		Pn	22 01 05.3	-0.4
R40A				IAmb_Lg		22 02 23.6	
	comp=Z,39nm,0.8s						
P38A	Dawn	4.71	40		Pn	22 01 06.0	+0.2
P38A				IAmb_Lg		22 02 28.1	
	comp=Z,32nm,0.8s						
MSTX	Muleshoe	4.84	246		Pn	22 01 08.3	+0.4
KSCO	Kaye Shedlock'	5.04	307	Pn	Pn	22 01 11.8	+1.3
LCAR	Lake Charles	5.11	88	Pn	Pn	22 01 10.8	-0.6
CCAR	Cane Creek	5.15	113	IAmb_Lg		22 02 43.2	
	comp=Z,42nm,0.9s						
435B	Jarrell	5.29	181	IAmb_Lg		22 02 43.3	
	comp=Z,28nm,0.9s						
CCM	Cathedral Cave	5.35	67		Pn	22 01 14.0	-0.6
CCM				IAmb_Lg		22 02 55.5	
	comp=Z,21nm,0.8s						
T25A	Trinidad	5.69	283	IAmb_Lg		22 03 03.0	
	comp=Z,28nm,1.0s						
PBMO	Poplar Bluff	5.71	81	IAmb_Lg		22 02 55.9	
	comp=Z,28nm,0.8s						
OGNE	Ogallala	6.03	325	IAmb_Lg		22 03 08.6	
	comp=Z,34nm,0.8s						
143A	Socs Landing,	6.04	122	IAmb_Lg		22 03 07.2	
	comp=Z,19nm,0.9s						
SDCO	Great Sand Dun	6.65	287	IAmb_Lg		22 03 27.4	
	comp=Z,14nm,1.0s						
OXF	Oxford	6.77	101	IAmb_Lg		22 03 33.3	
	comp=Z,30nm,0.9s						
ISCO	Idaho Springs	7.43	302	IAmb_Lg		22 03 54.8	
	comp=Z,14nm,1.0s						
L40A	Anamosa	7.69	37	IAmb_Lg		22 03 58.3	
	comp=Z,27nm,0.9s						
USIN	University of	8.06	74	IAmb_Lg		22 04 04.2	
	comp=Z,22nm,1.0s						
PHWY	Pilot Hill	8.13	312	IAmb_Lg		22 04 21.2	
	comp=Z,14nm,0.9s						
T47A	Sharon Grove	8.39	81	IAmb_Lg		22 04 26.8	
	comp=Z,14nm,1.0s						
SUSD	Miller	8.42	353	IAmb_Lg		22 04 18.2	
	comp=Z,22nm,0.7s						
L42A	Oliver, Polo	8.46	43	IAmb_Lg		22 04 40.6	
	comp=Z,23nm,0.8s						
I37A	Lemond, Waseca	8.51	20	IAmb_Lg		22 04 36.7	
	comp=Z,16nm,0.8s						
JFWS	Jewell Farm	8.80	37	IAmb_Lg		22 04 40.6	
	comp=Z,22nm,0.9s						
WCI	Wyandotte Cave	9.17	73	IAmb_Lg		22 04 49.6	
	comp=Z,12nm,0.8s						
SFIN	Lafayette	9.21	59	IAmb_Lg		22 04 45.7	
	comp=Z,22nm,0.7s						
121A	Cookes Peak, D	9.24	250	IAmb_Lg		22 04 57.2	
	comp=Z,10nm,1.3s						
I40A	Norwalk	9.40	32	IAmb_Lg		22 04 53.5	
	comp=Z,9.0nm,0.8s						
K22A	Casper	9.60	316	IAmb_Lg		22 05 15.5	
	comp=Z,18nm,1.0s						
SPMN	Marine on St.	9.79	20	IAmb_Lg		22 05 14.1	
	comp=Z,14nm,1.2s						

*SKO **01** 22:11:04.0, 41°.18N×20°.27E, h15km*
*BEO **01** 22:11:05.8±0.6, 41°.09N×20°.27E, h7km±2km, ML2.2/12*
*ATH **01** 22:11:05.8, 41°.30N×20°.36E, h10km±4km, ML2.6/1, Error ellipse: s-maj=5.4km s-min=1.3km az=7.0*
*TIR **01** 22:11:05.0, 41°.22N×20°.29E, h2km±2km, Md2.6, Ml2.5*
*PDG **01** 22:11:05.8±0.4, 41°.22N×20°.28E, h3km, ML2.8/12, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*THE **01** 22:11:06.1, 41°.24N×20°.26E, h23km±2km, ML2.3/4, Error ellipse: s-maj=2.4km s-min=0.7km az=294.0*

ISC 01 22:11:06.2±1.0, 41°.18N±0°.02×20°.25E±0°.02, h8km±8km, n69, σ0=97/122, 2C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.33	300	ePg	Pg	22 11 12.7	-0.1
TIR				eSg	Sb	22 11 19.1	-0.8
TIR	Tirane	0.33	300	P	Pg	22 11 12.7	-0.1
TIR				S	Sb	22 11 18.9	-1.0
	438nm,0.2s						
TIR	Tirane	0.33	300	P	Pg	22 11 12.7	-0.1
TIR				S	Sb	22 11 18.9	-1.0
TIR	Tirane	0.33	300	P	Pg	22 11 12.7	-0.1
	baz=293						
TIR				S	Sg	22 11 18.6	+1.4
	baz=293						
TIR	Tirane	0.33	300	iPg	Pg	22 11 12.7	-0.1
OHR	Ohrid	0.42	99	iPg	Pg	22 11 13.7	-0.8
OHR				iSg	Sg	22 11 20.4	+0.4
OHR				eLg	Lg	22 11 20.7	
	comp=N,252nm,0.3s						
PHP	Peshkopia	0.52	16	P	Pg	22 11 15.4	-1.0
PHP				S	Sg	22 11 22.8	-0.5
PHP	Peshkopia	0.52	16	P	Pg	22 11 15.3	-1.1
	baz=13						
PHP				S	Sg	22 11 23.0	-0.2
	baz=13						
PHP				AMP			
	comp=N,1.3nm,0.1s,baz=13						
KBN	Korca	0.69	143	P	Pg	22 11 19.1	-0.5
KBN				S	Sb	22 11 31.0	+0.6
	comp=N,332nm,0.3s						
KBN	Korca	0.69	143	P	Pg	22 11 19.0	-0.6
	baz=147						
KBN				S	Sb	22 11 30.8	+0.4
	baz=147						
PUK	Puka	0.90	343	P	Pg	22 11 22.7	-0.8
	baz=341						
PUK				S	Sb	22 11 37.1	+0.8
	baz=341						
PUK				AMP			
	comp=E,1.1nm,0.1s,baz=341						
FNA	Florina	0.94	115	P	Pg	22 11 23.0	-1.4
FNA				S	Sb	22 11 37.2	-0.4
	comp=E,395nm,0.3s						
FNA	Florina	0.94	115	P	Pg	22 11 23.1	-1.4
FNA				S	Sg	22 11 36.6	-0.1
FNA				AML	AML	22 11 41.8	
	comp=N,746μm,0.5s						
FNA				AML	AML	22 11 41.9	
	comp=E,813μm,0.4s						
FNA	Florina	0.94	115	iPg	Pg	22 11 22.9	-1.4
FNA				iSg	Sb	22 11 37.4	-0.2
NEST	Nestorio	0.98	141	P	Pg	22 11 24.2	-0.8
NEST				S	Sb	22 11 38.7	+0.1
	comp=E,110nm,0.4s						
NEST	Nestorio	0.98	141	P	Pg	22 11 24.3	-0.7
LSK	Leskovik	1.07	165	P	Pg	22 11 25.2	-1.5
LSK	Leskovik	1.07	165	P	Pn	22 11 27.6	0.0
	baz=167						
LSK				S	Sn	22 11 44.0	+1.4
	baz=167						
ULC	Ulcinj	1.08	316	iPg	Pg	22 11 25.8	-1.3
ULC	Ulcinj	1.08	316	⇓iPg	Pg	22 11 25.6	-1.4
ULC				iSg	Sb	22 11 42.1	+0.5
BCI	Bajram Curri	1.19	354	P	Pb	22 11 28.0	-1.1
	baz=352						
BCI				S	Sn	22 11 46.8	+1.1
	baz=352						
SKO	Skopje	1.19	48	iPg	Pb	22 11 27.8	-1.3
SKO				iSg	Sg	22 11 44.0	-0.6
SKO				eLg	Lg	22 11 44.6	
	comp=N,6.9nm,0.3s						
DRME	Dracevica, Mon	1.28	322	⇓iPg	Pn	22 11 29.1	-1.4
DRME				iSg	Sn	22 11 48.5	+0.7
PVY	Plav	1.43	351	⇓iPg	Pn	22 11 31.5	-1.1
PVY				iSg	Sg	22 11 53.0	+0.8
PDG	Podgorica	1.45	330	ePg	Pn	22 11 32.3	-0.5
PDG				eSg	Sg	22 11 55.4	+2.5
PDG	Podgorica	1.45	330	iPg	Pn	22 11 32.3	-0.5
PDG				iSg	Sg	22 11 54.6	+1.8
TTG	Podgorica	1.45	330	⇑iPg	Pn	22 11 32.0	-0.8
TTG				iSg	Sg	22 11 54.0	+1.1
KZN	Kozani	1.45	127	P	Pn	22 11 33.1	+0.2
KPRO	Kipourio	1.49	145	P	Pb	22 11 34.0	-0.3
BUM	Brajici-Budva	1.51	318	ePg	Pn	22 11 33.0	-0.6
BUM				iSg	Sg	22 11 55.9	+1.2
STIP	Stip	1.55	70	iPn	Pg	22 11 38.0	+2.1
STIP				iSn	Sg	22 12 00.3	+4.3
STIP				eLg	Lg	22 12 01.9	
	comp=N,7.2nm,0.3s						
GRG	Griva	1.65	97	iPg	Pn	22 11 35.2	-0.3
GRG				iSg	Sb	22 11 58.3	+0.6
IGT	Igoumenitsa	1.65	178	P	Pb	22 11 37.2	+0.3
IGT	Igoumenitsa	1.65	178	iPn	Pb	22 11 37.2	+0.3
CEME	Cevo	1.69	324	⇑iPn	Pn	22 11 36.2	+0.1
CEME				iSn	Sg	22 12 01.7	+1.3
BEY	Berane	1.71	351	iPn	Pn	22 11 37.0	+0.6
IVA	Berane	1.71	351	ePn	Pn	22 11 36.4	0.0
IVA				iSn	Sg	22 12 02.2	+1.0
KOME	Kolasin	1.75	342	ePn	Pn	22 11 37.3	+0.2
KOME				iSn	Sg	22 12 03.4	+0.8
VAY	Valandovo	1.76	85	ePn	Pn	22 11 35.8	-1.2
VAY				eSn	Sn	22 11 58.7	-0.9
VAY	Valandovo	1.76	85	iPn	Pn	22 11 37.1	+0.1
VAY				iPn	Sb	22 12 00.6	-0.4
VAY				eLg	Lg	22 12 06.0	
	comp=N,26nm,0.7s						
HCY	Herceg Novi	1.82	315	ePn	Pn	22 11 38.6	+0.7
HCY				iSn	Sg	22 12 05.0	+0.3
NKME	Niksic	1.85	329	⇓iPn	Pn	22 11 39.1	+0.7
NKME				iSn	Sg	22 12 05.8	0.0
NKY	Niksic	1.88	331	ePn	Pn	22 11 39.6	+0.8
NKY				iSn	Sg	22 12 06.4	-0.2
PRVS	Prvonek	1.90	45	ePn	Pn	22 11 39.5	+0.4
PRVS				eSn	Sn	22 12 03.5	+0.2
KNT	Kendrikon	2.00	90	P	Pn	22 11 39.8	-0.6
KNT	Kendrikon	2.00	90	iPn	Pn	22 11 40.1	-0.3
BARS	Barje	2.01	35	ePn	Pb	22 11 43.0	0.0
BARS				eSn	Sb	22 12 07.1	-1.1
BARS	Barje	2.01	35	iPn	Pb	22 11 42.3	-0.7
SJES	Sjenica	2.09	355	ePn	Pb	22 11 43.6	-0.8
SJES				eSn	Sb	22 12 10.5	-0.1
BOSS	Bosilegrad	2.12	51	ePn	Pn	22 11 42.3	+0.2
BOSS				eSn	Sn	22 12 08.4	-0.3
BRY	Bratogost	2.14	324	ePn	Pn	22 11 43.5	+1.1
BRY				iSn	Sb	22 12 12.6	+0.6
SELS	Selova	2.14	17	ePn	Pn	22 11 43.1	+0.8
SELS				eSn	Sn	22 12 10.0	+1.0
PLE	Pljevlja	2.24	344	⇓iPn	Pn	22 11 44.9	+1.2
PLE				iSn	Sb	22 12 15.0	+0.1
UPM	Unac-Piva	2.25	334	ePn	Pn	22 11 45.1	+1.1
UPM				iSn	Sb	22 12 15.3	-0.1
IVAS	Ivanjica	2.39	358	ePn	Pn	22 11 46.2	+0.4
IVAS				eSn	Sb	22 12 17.8	-1.5
STON	Ston	2.54	313	ePn	Pn	22 11 47.5	-0.2
VTS	Vitosha	2.65	56	ePn	Pn	22 11 48.9	-0.6
VTS				eSn	Sn	22 12 21.4	-0.5
GRUS	Gruza	2.73	7	ePn	Pn	22 11 52.3	+2.0
ZAPS	Zavoj	2.74	40	ePn	Pn	22 11 51.2	+0.6
ZAPS				eSn	Sn	22 12 25.5	+1.6
BBLS	Lazići	2.75	347	ePn	Pn	22 11 52.3	+1.5
BBLS				eSn	Sn	22 12 26.1	+1.8
DIVS	Divibare	2.92	356	ePn	Pn	22 11 54.2	+1.1
LSTV	Lastovo	2.96	303	ePn	Pn	22 11 53.9	+0.4
LSTV				Sn	Sn	22 12 29.5	+0.3
ZAGS	Zajecar	3.01	29	ePn	Pn	22 11 55.0	+0.8
RICI	Ricice	3.27	316	ePn	Pn	22 11 57.9	+0.1
RICI				Sn	Sn	22 12 36.0	-0.8
HVAR	Hvar	3.46	307	ePn	Pn	22 12 00.9	+0.5
HVAR				Sn	Sn	22 12 41.1	-0.4
KIJV	Kijevo	4.00	316	ePn	Pn	22 12 08.2	+0.3
KIJV				Sn	Sn	22 12 54.2	-0.7
ZIR

TNTI				S	Sn	22 14 19.5	+2.0
SGSI	**Sangihe**	**2.67**	**345**	P	Pn	22 14 24.1	+1.5
SGSI				S	Sn	22 14 56.3	+2.5
GTOI	**Gorontalo**	**3.23**	**262**	P	Pn	22 14 32.5	+2.2
GTOI				S	Sn	22 15 12.1	+4.5
MRSI	**Marisa**	**4.31**	**262**	P	Pn	22 14 46.9	+1.7
NLAI	**Namlea**	**4.39**	**168**	P	Pn	22 14 49.0	+2.8
APSI	**Ampana**	**4.97**	**247**	P	Pn	22 14 56.7	+2.4
TOLI2	**Tolitoli**	**5.43**	**270**	Pn	Pn	22 15 00.1	-0.5
MPSI	**Mapaga**	**6.36**	**263**	P	Pn	22 15 13.5	+0.2
	0.1nm18nm,0.7s						
FAKI	**Fak Fak**	**7.23**	**123**	Pn	Pn	22 15 27.4	+2.1
TTSI	**Tana Toraja**	**7.59**	**237**	P	Pn	22 15 31.7	+1.4
	0.1nm26nm,0.8s						
BKSI	**Bulukumba**	**8.80**	**224**	P	Pn	22 15 47.1	+0.2
KNRA	**Kununurra**	**16.85**	**171**		Pn	22 17 34.3	-0.6
KNRA				IAmb	IAmb	22 17 35.1	
	comp=Z,42nm,1.5s						
FITZ	**Fitzroy Crossi**	**19.07**	**182**	P	P	22 17 59.5	-1.5
	comp=Z,0.3nm,0.3s,baz=13,slow=6.5,SNR=9.0						
FITZ	**Fitzroy Crossi**	**19.07**	**182**	P	P	22 17 58.4	-2.6
WB0	**Warramunga Arr**	**22.23**	**159**	P	P	22 18 32.9	-2.3
WB0				IAmb	IAmb	22 18 39.5	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**22.37**	**160**	P	P	22 18 35.2	-1.5
	comp=Z,3.8nm,0.6s,baz=340,slow=11,SNR=37						
WRA	**Warramunga Arr**	**22.37**	**160**	P	P	22 18 34.2	-2.5
AS31	**Alice Springs**	**25.72**	**164**	P	P	22 19 09.7	+1.2
ASAR	**Alice Springs**	**25.72**	**164**	P	P	22 19 07.5	-1.0
	comp=Z,0.8nm,0.4s,baz=345,slow=10,SNR=33						
ASAR	**Alice Springs**	**25.72**	**164**	P	P	22 19 09.8	+1.3
GSI	**Gunungsitoli**	**28.63**	**271**	P	P	22 19 33.3	-1.5
FORT	**Forrest**	**31.74**	**177**	P	P	22 20 01.2	-0.8
BBOO	**Buckleboo**	**34.98**	**165**	P	P	22 20 28.8	-1.4
STKA	**Stephens Creek**	**35.88**	**157**	P	P	22 20 36.9	-1.1
	comp=Z,1.7nm,0.6s,baz=333,slow=9.0,SNR=3.0						
STKA	**Stephens Creek**	**35.88**	**157**	P	P	22 20 37.0	-1.0
MJAR	**Matsushiro Arr**	**36.99**	**16**	P	P	22 20 47.3	-0.1
	comp=Z,0.7nm,0.4s,baz=186,slow=9.6,SNR=4.1						
USRK	**Ussuriysk Ar.**	**43.23**	**6**	P	P	22 21 39.6	+0.6
	comp=Z,1.2nm,0.6s,baz=206,slow=6.7,SNR=4.4						
LSA	**Lhasa**	**43.83**	**314**	P	P	22 21 43.6	-1.1
LSA				IAmb	IAmb	22 21 45.1	
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**49.63**	**343**	P	P	22 22 27.7	-1.6
	comp=Z,0.4nm,0.6s,baz=142,slow=7.3,SNR=2.8						
SONM				PcP	PcP	22 23 51.0	+0.6
	comp=Z,0.2nm,0.4s,baz=150,slow=3.2,SNR=2.7						
MSVF	**Nonsavu**	**54.33**	**113**	LR	LR	22 46 50.8	
	comp=Z,352nm,18.1s,baz=11,slow=37						
PETK	**Petropavlovsk-**	**58.06**	**22**	P	P	22 23 31.9	+1.2
	comp=Z,1.7nm,0.7s,baz=212,slow=5.1,SNR=2.2						
PETK	**Petropavlovsk-**	**58.06**	**22**	P	P	22 23 32.2	+1.5
MK31	**Makanchi Array**	**59.44**	**326**	P	P	22 23 39.9	-0.6
MK31				IAmb	IAmb	22 23 42.4	
	comp=Z,2.1nm,1.1s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	22 23 40.0	-0.4
	comp=Z,1.0nm,0.4s,baz=120,slow=7.7,SNR=22						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	22 23 39.6	-0.8
MAKZ	**Makanchi**	**59.62**	**326**	P	P	22 23 41.0	-0.7
KDJ	**Kajisay**	**59.98**	**320**	P	P	22 23 43.8	-0.7
KDJ				IAmb	IAmb	22 23 46.7	
	comp=Z,2.4nm,1.0s						
KK31	**Karatay Array**	**64.82**	**318**	P	P	22 24 16.4	-0.2
KK31				IAmb	IAmb	22 24 18.2	
	comp=Z,1.2nm,0.8s						
KKAR	**Karatay Array**	**64.82**	**318**	P	P	22 24 16.6	0.0
ABKAR	**Akbulak array**	**73.87**	**321**	P	P	22 25 12.2	-0.2
ABKAR	**Akbulak array**	**73.87**	**321**	P	P	22 25 11.9	-0.4
ABKAR				IAmb	IAmb	22 25 14.6	
	comp=Z,1.4nm,0.7s						
ARU	**Arti**	**76.89**	**328**	P	P	22 25 29.2	-0.3
ARU				IAmb	IAmb	22 25 30.3	
	comp=Z,2.3nm,0.6s						
VNDA	**Vanda**	**80.89**	**173**	P	P	22 25 52.0	+0.9
VNDA				IAmb	IAmb	22 26 01.2	
	comp=Z,1.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**123.20**	**286**	PKP	PKPdf	22 32 34.8	-0.4
	comp=Z,0.7nm,0.9s,baz=70,slow=1.0,SNR=2.3						

MAN 01 22:25:08.6, 18°.55N×120°.85E, h1km, mb4.6, ML3.5, MS3.3, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.73**	**211⇑**	*eP*	Pb	22 25 23.4	-0.6
SIPP				*eS*	Sb	22 25 34.4	-0.1
APYP	**Conner**	**0.78**	**151⇑**	*iP*	Pb	22 25 25.3	+0.3
APYP				*i* S	Sb	22 25 37.6	+1.5
CVP	**Callao Caves**	**1.25**	**132⇑**	*iP*	Pb	22 25 32.8	-0.2
CVP				*i* S	Sn	22 25 51.1	+0.4

*IDC **01** 22:28:57.8±0.6, 20°.03N×121°.53E, h0km, mb4.0/18, mb1 4.1/20, mb1mx4.0/45, mbtmp4.1/20, ML4.2/2, MS3.7/18, Ms1 3.8/18, ms1mx3.6/47, Error ellipse: s-maj=22.7km s-min=12.4km az=75.0*

*MAN **01** 22:29:01.1, 20°.23N×121°.37E, h42km, mb4.6, ML3.5, MS3.3*

*JMA **01** 22:29:02.3±0.8, 20°.26N×121°.80E, h0km, M4.7*

*NEIC **01** 22:29:02.2±1.2, 20°.09N±0°.05×121°.50E±0°.09, h27km±5km, mb4.6/44, Error ellipse: s-maj=12.2km s-min=7.8km az=99.0*

ISC 01 22:29:03.5±0.4, 20°.15N±0°.03×121°.45E±0°.06, h40km, n113, σ1§42/112, mb4.4/39, MS3.8/17, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.56**	**59⇓**	*iP*	Pn	22 29 05.5	-10
BBP				*i* S	Sn	22 29 23.7	+0.5
SGCP	**Mt. Cagua**	**1.98**	**163⇓**	*iP*	Pn	22 29 35.1	+0.6
SGCP				*i* S	Sn	22 29 57.1	-1.1
APYP	**Conner**	**2.29**	**185⇑**	*eP*	Pn	22 29 38.4	-0.3
APYP				*i* S	Sn	22 30 06.0	+0.3
SIPP	**Brgy, Tapao**	**2.41**	**203⇑**	*eP*	Pn	22 29 41.1	+0.7
SIPP				*eS*	Sn	22 30 12.1	+3.3
CVP	**Callao Caves**	**2.46**	**172⇓**	*eP*	Pn	22 29 41.6	+0.4
CVP				*i* S	Sn	22 30 12.4	+2.4
TWG	**Pinlang**	**2.68**	**352**	Pn	Pn	22 29 42.3	-1.9
SZP	**Santa**	**2.75**	**200**	Pn	Pn	22 29 44.8	-0.4
TPUB	**Ta-pu**	**3.23**	**346**		Pn	22 29 50.7	-1.0
YULB	**Yu-li**	**3.23**	**357**	Pn	Pn	22 29 51.8	0.0
NACB	**Ninganchiao**	**4.00**	**2**	Pn	Pn	22 30 02.3	0.0
HATJ	**Hateruma jima**	**4.46**	**29**	P	Pn	22 30 08.6	0.0
HATJ				*eS*	Sn	22 30 59.5	+0.3
JYNG	**Yonaguni jima**	**4.50**	**18**	P	Pn	22 30 11.7	+2.6
JYNG				*eS*	Sn	22 31 03.2	+3.0
YHNB	**Yeheng**	**4.50**	**359**	Pn	Pn	22 30 10.1	+0.8
YOJ	**Yonaguni jima**	**4.53**	**18**	P	Pn	22 30 11.3	+1.8
YOJ				S	Sn	22 31 03.6	+2.7
YOJ	**Yonaguni jima**	**4.53**	**18**	Pn	Pn	22 30 09.9	+0.4
IRIF	**Iriomote-Funau**	**4.67**	**26**	P	Pn	22 30 13.3	+1.8
IRIF				*eS*	Sn	22 31 06.2	+1.8
JKRS	**Kuro-shima**	**4.71**	**30**	P	Pn	22 30 13.9	+1.9
JKRS				*eS*	Sn	22 31 06.2	+0.9
JIJ	**Ishigaki jima**	**4.88**	**30**	P	Pn	22 30 15.5	+1.2
JIJ				S	Sn	22 31 09.4	-0.1
KNMB	**Chin-men Tao**	**5.14**	**327**	Pn	Pn	22 30 16.8	-1.3
JISG	**Ishigakijimahi**	**5.14**	**30**	P	Pn	22 30 19.2	+1.2
JISG				*eS*	Sn	22 31 16.6	+0.4
JTJ	**Tarama**	**5.38**	**33**	P	Pn	22 30 23.1	+1.8
JTJ				S	Sn	22 31 23.5	+1.4
JIRB	**Irabujima**	**5.79**	**36**	P	Pn	22 30 29.0	+2.2
JIRB				*eS*	Sn	22 31 32.2	+0.2
JOW	**Kunigami**	**9.13**	**42**	Pn	Pn	22 31 12.4	-0.4
	7.7nm,0.3s,baz=199,slow=14,SNR=12						
JOW				Sn	Sn	22 32 47.6	-6.7
	0.9nm,0.3s,baz=331,slow=18,SNR=1.5						
JOW	**Kunigami**	**9.13**	**42**		Pn	22 31 12.1	-0.7
QIZ	**Qiongzhong**	**11.00**	**266**	Pn	Pn	22 31 36.1	-2.3
KSRS	**Korea Array**	**18.14**	**17**	P	P	22 33 12.0	-0.2
	0.3nm,0.3s,baz=195,slow=11,SNR=5.7						
KSRS				LR	LR	22 39 53.6	
	comp=Z,104nm,21.4s,baz=205,slow=36						
BJT	**Baijiatuau**	**20.31**	**348**	P	P	22 33 35.9	-0.1
BJT				IAmb	IAmb	22 33 56.6	
	comp=Z,20nm,1.2s						
CMAR	**Chiang Mai Arr**	**21.31**	**269**	P	P	22 33 47.7	+0.6
	comp=Z,0.9nm,0.4s,baz=75,slow=9.0,SNR=6.1						
CMAR				LR	LR	22 41 46.7	
	comp=Z,158nm,20.7s,baz=131,slow=36						
CMAR	**Chiang Mai Arr**	**21.31**	**269**	P	P	22 33 45.9	-1.2
SIJI	**Sorong**	**23.00**	**154**	P	P	22 34 02.8	-2.2
	comp=Z,12nm,0.4s,baz=3.5,slow=19,SNR=5.4						
KAPI	**Kappang**	**25.06**	**184**	P	P	22 34 23.4	-0.9
	comp=Z,4.3nm,0.3s,baz=15,slow=13,SNR=1.2						
KAPI				LR	LR	22 44 26.8	
	comp=Z,160nm,21.0s,baz=341,slow=37						
FAKI	**Fak Fak**	**25.26**	**154**	P	P	22 34 24.5	-1.6
FAKI				IAmb	IAmb	22 34 38.8	
	comp=Z,28nm,1.1s						
USRK	**Ussuriysk Ar.**	**25.54**	**18**	P	P	22 34 30.6	+2.3
	comp=Z,0.9nm,0.5s,baz=174,slow=29,SNR=2.5						
BRDH	**Bariadhala**	**27.84**	**281**	LR	LR	22 46 22.7	
	comp=Z,118nm,19.2s,baz=346,slow=37						
ULN	**Ulaanbaatar**	**30.01**	**340**	P	P	22 35 09.2	+0.6
KLR	**Kul'dur**	**30.16**	**13**	LR	LR	22 49 30.4	
	comp=Z,196nm,18.1s,baz=200,slow=41						
SONM	**Songino Array**	**30.19**	**340**	P	P	22 35 11.8	+1.7
	comp=Z,0.5nm,0.5s,baz=160,slow=8.2,SNR=2.2						
SONM				LR	LR	22 48 49.6	
	comp=Z,260nm,19.2s,baz=144,slow=39						
SONM	**Songino Array**	**30.19**	**340**	P	P	22 35 11.1	+1.0
MTN	**Manton Dam**	**34.14**	**163**	P	P	22 35 41.9	-3.0
TLY	**Talaya**	**34.42**	**340**	LR	LR	22 51 06.1	
	comp=Z,206nm,20.8s,baz=136,slow=38						
KNRA	**Kununurra**	**36.32**	**168**	P	P	22 36 01.3	-2.3
KNRA				IAmb	IAmb	22 36 02.0	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**38.23**	**174**	P	P	22 36 17.1	-2.7
FITZ				IAmb	IAmb	22 36 34.9	
	comp=Z,12nm,1.4s						
MK31	**Makanchi Array**	**41.47**	**319**	P	P	22 36 46.9	+0.4
MKAR	**Makanchi Array**	**41.47**	**319**	P	P	22 36 47.6	+1.1
	comp=Z,1.1nm,0.6s,baz=109,slow=8.6,SNR=14						
MKAR				LR	LR	22 56 55.4	
	comp=Z,98nm,19.3s,baz=99,slow=40						
MKAR	**Makanchi Array**	**41.47**	**319**	P	P	22 36 46.7	+0.2
PALK	**Pallekele**	**41.48**	**258**	LR	LR	22 55 09.1	
	comp=Z,17nm,18.2s,baz=178,slow=38						
PSA00	**Pilbara Seismi**	**41.50**	**182**	P	P	22 36 45.5	-1.4
PSA00				IAmb	IAmb	22 36 47.4	
	comp=Z,9.4nm,1.4s						
PSA00	**Pilbara Seismi**	**41.50**	**182**	P	P	22 36 45.4	-1.4
PSA00				IAmb	IAmb	22 36 55.7	
	comp=Z,22nm,1.4s						
MAKZ	**Makanchi**	**41.67**	**319**	P	P	22 36 48.4	+0.3
WRA	**Warramunga Arr**	**41.80**	**162**	P	P	22 36 47.7	-1.7
	comp=Z,8.4nm,0.4s,baz=343,slow=9.1,SNR=141						
WRA	**Warramunga Arr**	**41.80**	**162**	P	P	22 36 47.3	-2.1
WB2	**Warramunga Arr**	**41.80**	**162**	P	P	22 36 47.4	-2.1
YAK	**Yakutsk**	**42.23**	**6**	LR	LR	22 56 16.0	
	comp=Z,66nm,19.9s,baz=271,slow=39						
TARG	**Taragay, Kyrgy**	**42.61**	**310**		pP	22 37 04.4	-2.1
H11N1	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	23 22 38.2	
	baz=278,slow=75,SNR=47						
H11N2	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	23 22 41.5	
	baz=278,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**42.62**	**84**	T	T	23 22 08.1	
	baz=281,slow=74,SNR=51						
H11S1	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	23 22 09.6	
	baz=281,slow=74,SNR=54						
H11N3	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	23 22 40.6	
	baz=278,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**42.64**	**84**	T	T	23 22 10.6	
	baz=281,slow=74,SNR=46						
PEA0B	**Petropavlovsk-**	**43.11**	**31**	P	P	22 36 59.7	0.0
PETK	**Petropavlovsk-**	**43.11**	**31**	P	P	22 37 01.1	+1.4
	comp=Z,1.5nm,0.7s,baz=203,slow=4.8,SNR=5.1						
PETK				LR	LR	22 54 24.4	
	comp=Z,79nm,18.9s,baz=210,slow=35						
PETK	**Petropavlovsk-**	**43.11**	**31**	P	P	22 36 60.0	+0.2
GIRL	**Giralia**	**43.11**	**190**	P	P	22 36 59.5	-0.6
ZAA0	**Zalesovo Array**	**43.79**	**329**	P	P	22 37 04.5	-0.7
ZAA0				IAmb	IAmb	22 37 20.8	
	comp=Z,8.6nm,1.4s						
ZALV	**Zalesovo Beam**	**43.79**	**329**	P	P	22 37 06.3	+1.1
	comp=Z,1.4nm,0.6s,baz=101,slow=7.7,SNR=6.0						
ZALV				LR	LR	22 56 44.3	
	comp=Z,65nm,18.0s,baz=147,slow=38						
ZALV	**Zalesovo Beam**	**43.79**	**329**	P	P	22 37 05.1	-0.1
AS31	**Alice Springs**	**45.21**	**164**	P	P	22 37 15.8	-1.1
ASAR	**Alice Springs**	**45.21**	**164**	P	P	22 37 16.1	-0.9
	comp=Z,8.0nm,0.4s,baz=346,slow=6.9,SNR=156						
ASAR	**Alice Springs**	**45.21**	**164**	P	P	22 37 15.6	-1.3
AAK	**Ala-Archa**	**45.23**	**311**	LR	LR	22 59 02.1	
	comp=Z,164nm,19.2s,baz=92,slow=40						
KURK	**Kurchatov**	**45.38**	**323**	P	P	22 37 19.1	+1.1
KURBB	**Kurchatov Arra**	**45.39**	**322**	P	P	22 37 19.1	+1.0
	comp=Z,0.9nm,0.2s,baz=119,slow=7.4,SNR=8.8						
KK31	**Karatay Array**	**48.18**	**310**	P	P	22 37 40.3	+0.3
KKAR	**Karatay Array**	**48.18**	**310**	P	P	22 37 40.5	+0.5
KKAR	**Karatay Array**	**48.18**	**310**	P	P	22 37 40.1	+0.1
KKAR				IAmb	IAmb	22 37 54.2	
	comp=Z,2.5nm,1.1s						
MORW	**Morawa**	**49.21**	**186**	P	P	22 37 46.8	-1.2
FORT	**Forrest**	**51.03**	**173**	P	P	22 38 01.3	-0.4
NWAO	**Narrogin (SRO)**	**52.93**	**184**	P	P	22 38 14.8	-1.0
NRIK	**Noril'sk**	**53.35**	**346**	P	P	22 38 18.7	+0.3
	comp=Z,1.4nm,0.4s,baz=112,slow=6.4,SNR=2.7						
EIDS	**Eidsvold**	**53.64**	**146**	P	P	22 38 20.6	-0.6
EIDS				IAmb	IAmb	22 38 20.8	
	comp=Z,6.3nm,0.8s						
BBOO	**Buckleboo**	**54.48**	**165**	P	P	22 38 27.1	-0.1
STKA	**Stephens Creek**	**55.22**	**159**	P	P	22 38 31.7	-0.8
	comp=Z,1.6nm,0.5s,baz=338,slow=7.0,SNR=6.2						
STKA	**Stephens Creek**	**55.22**	**159**	P	P	22 38 31.8	-0.7
ABKAR	**Akbulak array**	**56.47**	**316**	P	P	22 38 42.7	+1.3
ABKAR	**Akbulak array**	**56.47**	**316**	P	P	22 38 42.1	+0.7
ABKAR				IAmb	IAmb	22 38 56.1	
	comp=Z,2.3nm,0.9s						
GEYT	**Alibeck**	**57.11**	**303**	LR	LR	23 05 18.9	
	comp=Z,92nm,19.3s,baz=355,slow=38						
ARMA	**Armidale**	**58.06**	**149**	P	P	22 38 52.9	+0.1
ARMA				IAmb	IAmb	22 38 55.6	
	comp=Z,16nm,1.4s						
ARU	**Arti**	**58.49**	**325**	P	P	22 38 55.6	+0.1
ARU				IAmb	IAmb	22 38 58.0	
	comp=Z,6.7nm,1.3s						
TOO	**Toolangi**	**61.72**	**158**	P	P	22 39 18.5	+0.8
CNBA	**Chernabura Isl**	**67.45**	**38**	P	P	22 39 54.0	-1.0
CNBA				IAmb	IAmb	22 39 54.6	
	comp=Z,4.5nm,0.6s						
KBZ	**Khabaz**	**68.22**	**310**	LR	LR	23 13 54.0	
	comp=Z,57nm,18.5s,baz=86,slow=39						
OHAK	**Old Harbor**	**70.75**	**35**	P	P	22 40 15.8	+0.4
BPAW	**Bear Paw Mtn.**	**71.02**	**28**	P	P	22 40 17.5	+0.5
BPAW				IAmb	IAmb	22 40 35.9	
	comp=Z,5.7nm,1.2s						
SKT	**Skwentna**	**71.03**	**30**	P	P	22 40 17.1	0.0
SKT				IAmb	IAmb	22 40 45.9	
	comp=Z,4.6nm,1.3s						
KDAK	**Kodiak Island**	**71.06**	**34**	P	P	22 40 17.3	0.0
KDAK				IAmb	IAmb	22 40 30.1	
	comp=Z,12nm,1.3s						
SUA	**Susitna One**	**71.47**	**30**	P	P	22 40 20.3	+0.3
SUA				IAmb	IAmb	22 40 20.3	
	comp=Z,7.7nm,1.2s						
SML	**Sawmill**	**72.56**	**30**	P	P	22 40 26.3	0.0
SML				IAmb	IAmb	22 40 55.1	
	comp=Z,6.4nm,1.2s						
ILAR	**Eielson Array**	**72.68**	**27**	P	P	22 40 26.2	-0.7
	comp=Z,0.4nm,0.5s,baz=280,slow=5.2,SNR=5.0						
PWL	**Port Wells**	**72.73**	**31**	P	P	22 40 27.5	+0.2
PWL				IAmb	IAmb	22 40 27.7	
	comp=Z,5.8nm,1.1s						
KEV	**Kevo**	**72.80**	**339**	P	P	22 40 28.0	+0.5
KEV				IAmb	IAmb	22 40 29.1	
	comp=Z,5.6nm,0.9s						
SCM	**Sheep Creek Mo**	**73.02**	**30**	P	P	22 40 29.2	+0.1
SCM				IAmb	IAmb	22 40 44.7	
	comp=Z,15nm,1.4s						
ARCES	**ARCESS Array B**	**73.36**	**339**	P	P	22 40 31.6	+0.7
	comp=Z,0.8nm,0.7s,baz=78,slow=5.9,SNR=1.9						
ARCES				LR	LR	23 17 03.5	
	comp=Z,57nm,18.3s,baz=25,slow=39						
ARCES	**ARCESS Array B**	**73.36**	**339**	P	P	22 40 32.5	+1.6
GLB	**Gilahina Butte**	**74.75**	**30**	P	P	22 40 39.7	+0.5
GLB				IAmb	IAmb	22 41 00.2	
	comp=Z,4.7nm,1.2s						
FIA1	**FINESS Array S**	**75.04**	**330**	P	P	22 40 41.7	+0.9
FIA1				IAmb	IAmb	22 41 04.7	
	comp=Z,11nm,1.2s						
FINES	**FINESS Array B**	**75.05**	**330**	P	P	22 40 41.9	+1.1
	comp=Z,2.1nm,1.0s,baz=48,slow=5.2,SNR=7.9						
FINES				LR	LR	23 16 49.7	
	comp=Z,105nm,18.3s,baz=76,slow=38						
EGAK	**Eagle**	**75.07**	**26**	P	P	22 40 41.2	+0.4
EGAK				IAmb	IAmb	22 40 54.3	
	comp=Z,5.3nm,1.5s						
L27K	**Beaver Creek,**	**75.24**	**28**	P	P	22 40 43.1	+1.2
BCAR	**Beaver Creek A**	**75.25**	**28**	P	P	22 40 43.7	+1.6
AKASG	**Malin Array Be**	**76.05**	**319**	P	P	22 40 48.5	+1.8
	comp=Z,0.2nm,0.3s,baz=60,slow=5.6,SNR=4.2						
NOA	**NORSAR Array B**	**81.89**	**333**	P	P	22 41 19.5	+0.8
	comp=Z,0.5nm,0.7s,baz=58,slow=5.5,SNR=2.2						
NOA				LR	LR	23 20 37.4	
	comp=Z,68nm,20.7s,baz=55,slow=38						
YKA	**Yellowknife Ar**	**86.57**	**23**	P	P	22 41 42.8	+0.5
	comp=Z,0.4nm,0.5s,baz=310,slow=4.5,SNR=6.0						

IDC 01 22:36:41.9±2.2, 31°.10S×178°.50W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/43, mbtmp3.7/3, Error ellipse: s-maj=62.8km s-min=42.6km az=42.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.65**	**268**	P	P	22 44 40.2	-0.2
	0.5nm,0.6s,baz=102,slow=7.9,SNR=6.4						
WRA	**Warramunga Arr**	**43.70**	**273**	P	P	22 44 48.9	0.0
	0.9nm,0.6s,baz=114,slow=7.7,SNR=4.1						
QSPA	**South Pole Qui**	**59.01**	**180**	P	P	22 46 43.1	-0.1
	1.2nm,0.8s,baz=54,slow=6.7,SNR=2.6						
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	PKPdf	22 56 21.0	-0.5
	0.6nm,0.6s,baz=58,slow=3.4,SNR=5.3						

*IDC **01** 22:39:43.0±2.9, 6°.53S×129°.67E, h127km±37km, mb3.5/2, mb1 3.5/6, mb1mx3.2/44, mbtmp3.8/6, MS4.1/2, Ms1 4.1/2, ms1mx3.0/35, Error ellipse: s-maj=69.8km s-min=20.5km az=89.0*

ISC 01 22:39:40.8±1.0, 6°.55S±0°.08×129°.6E±0°.2, h100km, n8, σ2§16/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.89**	**17**	P	Pn	22 41 07.5	+1.7
	2.3nm,0.3s,baz=196,slow=22,SNR=20						
SIJI				S	Sn	22 42 09.7	-2.3
	4.0nm,0.3s,baz=252,slow=23,SNR=8.4						
FITZ	**Fitzroy Crossi**	**12.10**	**198**	P	Pn	22 42 32.1	+2.2
	0.2nm,0.3s,baz=26,slow=12,SNR=13						
FITZ				S	Sn	22 44 40.0	-3.0
	0.4nm,0.3s,baz=326,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**14.10**	**161**	P	Pn	22 42 56.4	+0.3
	0.2nm,0.3s,baz=344,slow=12,SNR=4.3						
WRA				S	Sn	22 45 22.2	-9.3
	0.7nm,0.3s,baz=336,slow=23,SNR=12						
ASAR	**Alice Springs**	**17.52**	**167**	P	P	22 43 39.0	+0.4
	0.3nm,0.3s,baz=340,slow=9.8,SNR=16						
ASAR				S	Sn	22 46 45.3	-8.8
	0.1nm,0.3s,baz=349,slow=28,SNR=2.5						
RAO	**Raoul Island**	**54.30**	**121**	LR	LR	23 11 30.5	
	comp=Z,182nm,18.3s,baz=214,slow=35						
MKAR	**Makanchi Array**	**67.62**	**327**	P	P	22 50 26.5	-0.5
	1.0nm,0.5s,baz=115,slow=7.3,SNR=20						
KURBB	**Kurchatov Arra**	**71.91**	**329**	P	P	22 50 52.2	-1.0
	0.3nm,0.3s,baz=124,slow=5.0,SNR=2.1						
QSPA	**South Pole Qui**	**83.42**	**180**	LR	LR	23 29 21.3	
	comp=Z,86nm,20.6s,baz=8.5,slow=36						

IDC 01 23:16:36.1±3.0, 32°.46S×178°.12W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/43, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=70.5km s-min=36.7km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.97**	**213**	Pn	Pn	23 18 19.9	+0.4
	0.9nm,0.3s,baz=256,slow=4.2,SNR=2.0						
URZ				Sn	Sn	23 19 38.6	-0.8
	4.8nm,0.3s,baz=223,slow=21,SNR=12						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	23 24 36.9	0.0
	0.9nm,0.6s,baz=105,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**44.11**	**274**	P	P	23 24 46.3	-0.1

baz=188
CHNA Chernabura Isl 3.58 243 P Pn 23 21 06.2 -1.0
baz=65,SNR=25
CNBA Chernabura Isl 3.58 242 Pn 23 21 06.0 -1.3
BRLK Bradley Lake 3.60 27 Pn Pn 23 21 07.7 +0.2
BRLK IAML 23 22 17.1
comp=E,973nm,0.9s
BRLK IAML 23 22 17.3
comp=N,684nm,1.2s
O19K Port Alsworth 3.61 358 P Pn 23 21 08.6 +1.0
baz=174
BRSE Bradley Lake S 3.62 28 P Pn 23 21 08.1 +0.4
baz=204,SNR=34
BRSE Bradley Lake S 3.62 28 Pn 23 21 08.1 +0.4
SDPT Sand Point 3.80 253 Pn Pn 23 21 10.0 -0.2
SDPT IAML 23 22 18.3
comp=E,681nm,0.9s
SDPT IAML 23 22 43.9
comp=N,622nm,1.3s
RED Redoubt Volcan 3.89 10 Pn 23 21 12.8 +1.2
RSO Redoubt South 3.94 10 Pn 23 21 13.4 +1.0
NCT North Crescent 4.02 8 Pn 23 21 14.4 +1.0
DFR Drift River 4.07 10 Pn 23 21 15.2 +1.2
N18K Kilae Creek 4.20 348 P Pn 23 21 16.6 +0.8
baz=164
N19K Bonanza Creek 4.23 357 P Pn 23 21 17.6 +1.3
baz=174
SEW Seward 4.28 33 P Pn 23 21 16.2 -0.6
baz=211,SNR=9.1
SEW Seward 4.28 33 Pn Pn 23 21 16.2 -0.6
SLKM Skilak Lake 4.41 26 Pn 23 21 18.7 0.0
CAPN Captain Cook N 4.45 19 P Pn 23 21 19.4 +0.2
baz=197
CAPN Captain Cook N 4.45 19 Pn 23 21 20.0 +0.8
O22K Cooper Landing 4.51 29 P Pn 23 21 20.8 +0.7
baz=207
O22K Cooper Landing 4.51 29 Pn 23 21 20.6 +0.6
PS4A Pavlof South-4 4.54 257 Pn 23 21 20.7 +0.3
SVW2 Sparrevohn 4.58 351 Pn Pn 23 21 21.7 +0.8
SVW2 IAML 23 22 50.1
comp=E,212nm,1.0s
SVW2 IAML 23 22 52.5
comp=N,196nm,1.1s
SPCR Spurr Chakacha 4.72 11 Pn 23 21 24.0 +1.0
SPBG Spurr Blockage 4.76 10 Pn 23 21 24.5 +1.0
SPCG Spurr Capps Gl 4.83 12 Pn 23 21 26.0 +1.5
FIS Fire Island 4.98 22 Pn 23 21 27.6 +1.2
FIS IAML 23 22 47.1
comp=E,495nm,0.9s
FIS IAML 23 23 09.1
comp=N,496nm,1.1s
MID Middleton Isla 5.00 52 P Pn 23 21 25.0 -1.7
MID Middleton Isla 5.00 52 Pn Pn 23 21 25.0 -1.7
RC01 Rabbit Creek A 5.04 25 P Pn 23 21 27.2 0.0
baz=204,SNR=24
RC01 Rabbit Creek A 5.04 25 Pn 23 21 27.2 0.0
RC01 IAML 23 22 59.9
comp=E,175nm,1.5s
RC01 IAML 23 23 00.7
comp=N,167nm,1.0s
STLK Strandline Lak 5.05 12 Pn 23 21 28.8 +1.3
SUA Susitna One 5.17 18 P Pn 23 21 29.6 +0.4
baz=197,SNR=60
SUA Susitna One 5.17 18 Pn 23 21 29.6 +0.4
PWL Port Wells 5.22 33 Pn 23 21 29.3 -0.4
M20K Styx River 5.32 5 P Pn 23 21 32.2 +0.9
baz=183
M19K Big River Lodg 5.32 358 P Pn 23 21 32.2 +1.0
baz=176
HIN Hinchinbrook I 5.51 43 Pn 23 21 33.6 -0.2
FALS False Pass 5.55 256 Pn 23 21 32.7 -1.5
SKT Skwentna 5.55 13 P Pn 23 21 34.5 +0.2
baz=191,SNR=11
SKT Skwentna 5.55 13 Pn 23 21 34.7 +0.3
L19K White Mountain 5.61 356 P Pn 23 21 36.2 +1.0
baz=173
PMR Palmer 5.62 25 P Pn 23 21 35.2 0.0
PMR Palmer 5.62 25 Pn Pn 23 21 35.2 0.0
GLI Glacier Island 5.63 37 P Pn 23 21 34.5 -0.8
baz=219,SNR=7.1
GLI Glacier Island 5.63 37 Pn 23 21 34.6 -0.7
KNK Knik Glacier 5.64 29 P Pn 23 21 34.4 -1.1
baz=209,SNR=11
KNK Knik Glacier 5.64 29 Pn 23 21 35.2 -0.3
FID Port Fidalgo 5.75 41 Pn 23 21 35.8 -1.3
GHO Glory Hole Cre 5.83 25 Pn 23 21 37.8 -0.3
EYAK Cordova Ski Ar 5.89 44 P Pn 23 21 38.0 -1.0
baz=227,SNR=11
EYAK Cordova Ski Ar 5.89 44 Pn 23 21 38.6 -0.3
SML Sawmill 6.00 27 P Pn 23 21 40.2 -0.3
baz=208,SNR=14
SML Sawmill 6.00 27 Pn 23 21 41.3 +0.8
CUT Chulitna 6.14 17 Pn 23 21 43.0 +0.6
DIV Divide 6.26 40 Pn 23 21 42.8 -1.4
SCM Sheep Creek Mo 6.29 31 P Pn 23 21 44.8 +0.3
SCM Sheep Creek Mo 6.29 31 Pn 23 21 44.8 +0.3
HMT Hamilton 6.37 50 Pn 23 21 45.1 -0.6
PPLA Purkeypile 6.39 8 P Pn 23 21 46.8 +0.9
baz=187
PPLA Purkeypile 6.39 8 Pn 23 21 46.8 +0.9
TTA Tatalina 6.42 352 P Pn 23 21 47.0 +0.7
TTA Tatalina 6.42 352 Pn Pn 23 21 47.0 +0.7
KLU Klutina 6.46 37 P Pn 23 21 46.6 -0.3
baz=220,SNR=19
KLU Klutina 6.46 37 Pn 23 21 47.0 +0.1
BMRM Bremner River 6.59 44 P Pn 23 21 47.9 -0.7
baz=228,SNR=8.4
BMRM Bremner River 6.59 44 Pn 23 21 48.2 -0.4
GRIN Grindle Hills 6.75 52 Pn 23 21 48.3 -2.5
WAT7 Susitna Watana 6.79 21 Pn 23 21 51.5 +0.1
WAT6 Susitna Watana 6.81 26 P Pn 23 21 51.5 -0.2
baz=208,SNR=20
WAT6 Susitna Watana 6.81 26 Pn 23 21 52.0 +0.3
M24K Tolsona, Glenn 6.84 33 P Pn 23 21 52.7 +0.6
baz=216,SNR=13
M24K Tolsona, Glenn 6.84 33 Pn 23 21 52.6 +0.6
WAT1 Susitna Watana 6.85 22 P Pn 23 21 51.8 -0.3
baz=203
KULT Kultieth River 7.00 54 Pn 23 21 51.4 -2.9
N25K Chitina, Valde 7.00 40 P Pn 23 21 54.1 -0.2
baz=225
N25K Chitina, Valde 7.00 40 Pn 23 21 54.6 +0.3
WAX Waxell Ridge 7.04 52 Pn 23 21 53.9 -0.8
CRQM Cirque 7.07 49 Pn 23 21 55.0 -0.3
CRQE Cirque 7.08 49 P Pn 23 21 54.6 -0.9
baz=235,SNR=8.1
AKUT Akutan 7.10 255 Pn Pn 23 21 55.5 0.0
TRF Thorofare Moun 7.13 14 P Pn 23 21 56.5 +0.4
baz=194,SNR=6.6
TRF Thorofare Moun 7.13 14 Pn 23 21 57.3 +1.2
KTH Kantishna Hill 7.15 11 Pn 23 21 57.4 +1.1
GLB Gilahina Butte 7.19 43 Pn 23 21 56.6 -0.2
TGL Tana Glacier 7.20 50 Pn 23 21 56.7 -0.3
VRDI Verde Repeater 7.20 45 Pn 23 21 56.2 -0.8
RND Reindeer 7.31 19 P Pn 23 21 58.9 +0.4
RND Reindeer 7.31 19 Pn 23 21 58.9 +0.4
ISLE Juniper Island 7.33 52 Pn 23 21 58.7 -0.2
HARP HAARP 7.38 34 P Pn 23 21 59.0 -0.3
baz=219,SNR=9.6
YAH Yahtse 7.49 55 Pn 23 22 00.5 -0.6
MCK McKinley 7.60 18 P Pn 23 22 02.9 +0.5
MCK McKinley 7.60 18 P Pn 23 22 02.6 +0.2
baz=199,SNR=8.1
MCK McKinley 7.60 18 Pn 23 22 02.9 +0.5
BPAW Bear Paw Mtn. 7.68 10 P Pn 23 22 04.1 +0.6
baz=190,SNR=9.9
BPAW Bear Paw Mtn. 7.68 10 Pn Pn 23 22 03.9 +0.4
PAX Paxson 7.72 31 P Pn 23 22 04.4 +0.2
PAX Paxson 7.72 31 P Pn 23 22 04.0 -0.2
baz=215,SNR=13
PAX Paxson 7.72 31 Pn 23 22 04.4 +0.2
TABL Table Mountain 7.79 55 Pn 23 22 04.9 -0.3
BARN Barnard Glacie 7.84 50 Pn 23 22 05.8 -0.2
CTG Chitna Glacier 7.94 51 P Pn 23 22 06.0 -1.2
baz=239
CTGM Chitina Glacie 7.94 51 Pn 23 22 07.4 +0.2
LOGN Logan Glacier 8.02 53 Pn 23 22 07.8 -0.5
PCA Pinnacle 8.07 59 Pn 23 22 08.1 -0.9
PINM Pinnacle 8.08 59 P Pn 23 22 08.4 -0.6
baz=247
MENT Mentasta 8.22 35 Pn 23 22 12.1 +1.1
BCPM Bancas Point 8.32 60 Pn 23 22 11.5 -0.8
NEA2 Nenana 8.39 15 P Pn 23 22 12.6 -0.6
baz=197,SNR=12
NEA2 Nenana 8.39 15 Pn 23 22 12.6 -0.6
WRH Wood River Hil 8.43 18 Pn 23 22 13.3 -0.4
HDA Harding Lake 8.58 21 P Pn 23 22 15.3 -0.5
baz=205,SNR=15
HDA Harding Lake 8.58 21 Pn 23 22 15.8 -0.1
MLY Manley 8.62 10 P Pn 23 22 15.6 -0.8
baz=190,SNR=8.4
MLY Manley 8.62 10 Pn Pn 23 22 15.8 -0.6
CCB Clear Creek Bu 8.64 18 Pn 23 22 16.0 -0.6
DOT Dot Lake 8.65 31 Pn 23 22 17.7 +0.9
I21K Tanana 8.67 6 P Pn 23 22 17.1 0.0
baz=186
COLA College 8.84 18 *i* P **Pn 23 22 18.6 -0.7**
MDM Murphy Dome 8.86 16 Pn 23 22 19.3 -0.4
SPIA Saint Paul Isl 8.86 280 P Pn 23 22 19.5 -0.2
baz=89
SPIA Saint Paul Isl 8.86 280 Pn **Pn 23 22 20.0 +0.3**
I23K Minto, Yukon-K 8.88 13 P Pn 23 22 19.0 -0.9
baz=195
I23K Minto, Yukon-K 8.88 13 Pn 23 22 18.9 -0.9
IL31 8.92 20 Pn 23 22 19.9 -0.5
ILAR Eielson Array 8.92 20 Pn **Pn 23 22 19.9 -0.6**
comp=N,2.6nm,0.3s,baz=204,slow=13,SNR=55
ILAR Sn **Sn 23 23 52.8 -7.2**
baz=331,slow=39,SNR=1.1
ILAR Lg Lg 23 24 45.0
baz=212,slow=18,SNR=4.3
ILAR LR LR 23 26 11.4
comp=N,608nm,18.7s,baz=214,slow=41
ILAR Eielson Array 8.92 20 P Pn 23 22 19.8 -0.7
SCRK Sand Creek 8.93 30 P Pn 23 22 19.9 -0.8
baz=216,SNR=7.7
SCRK Sand Creek 8.93 30 Pn 23 22 19.9 -0.8
L27K Beaver Creek, 8.94 39 P Pn 23 22 20.2 -0.6
baz=226
L27K Beaver Creek, 8.94 39 Pn **Pn 23 22 20.8 0.0**
BCAR Beaver Creek A 8.96 39 Pn 23 22 21.7 +0.7
H21K Melozitna Rive 9.11 3 P Pn 23 22 23.5 +0.4
baz=183
POKR Poker Plat Res 9.13 18 P Pn 23 22 23.9 +0.4
baz=202
POKR Poker Plat Res 9.13 18 Pn 23 22 23.6 +0.1
H23K Yukon River 9.51 11 P Pn 23 22 27.6 -1.0
baz=193
K27K Chicken 9.53 34 P Pn 23 22 29.3 +0.5
baz=221
K27K Chicken 9.53 34 Pn 23 22 29.7 +1.0
ANM Nome 9.71 330 P Pn 23 22 34.8 +3.5
ANM Nome 9.71 330 P Pn 23 22 32.3 +1.0
baz=140
ANM Nome 9.71 330 Pn Pn **23 22 34.8 +3.5**
H24K Noodor Dome 9.73 15 P Pn 23 22 31.3 -0.4
baz=199
PRP Porcupine Dome 9.85 21 P Pn 23 22 33.2 -0.1
baz=206,SNR=21
PRP Porcupine Dome 9.85 21 Pn 23 22 34.5 +1.1
EGAK Eagle 10.34 32 Pn 23 22 39.4 -0.5
SKAG Skagway 10.35 66 Pn Pn 23 22 37.6 -2.4
DAWY Dawson 10.42 38 Pn 23 22 40.9 -0.2
BESE Bessie Mountai 10.51 71 Pn **Pn 23 22 40.8 -1.5**
COLD Coldfoot 10.82 8 P Pn 23 22 46.6 +0.1
baz=190
COLD Coldfoot 10.82 8 Pn 23 22 46.0 -0.4
EPYK Eagle Plains 12.78 33 P Pn 23 23 11.6 -1.7
baz=226
DLBC Dease Lake 13.04 72 Pn **Pn 23 23 19.9 +3.0**
comp=N,0.3nm,0.3s,baz=338,slow=19,SNR=1.5
DLBC Sn **Sn 23 25 39.5 -1.7**
comp=N,1.7nm,0.3s,baz=147,slow=19,SNR=3.3
ADK Adak 14.00 260 P Pn 23 23 26.0 -3.9
ADK Adak 14.00 260 Pn Pn 23 23 26.0 -3.9
A21K Barrow 14.82 357 Pn **Pn 23 23 44.6 +3.6**
A21K IAmb IAmb 23 23 47.9
comp=Z,21nm,0.6s
INK Inuvik 15.00 30 Pn **Pn 23 23 43.6 +0.2**
comp=Z,0.4nm,0.3s,baz=220,slow=15,SNR=6.2
INK LR LR 23 30 03.0
comp=Z,349nm,19.8s,baz=198,slow=40
INK Inuvik 15.00 30 P Pn 23 23 44.1 +0.8
INK pmax pmax
comp=Z,13nm,0.9s
INK Inuvik 15.00 30 P Pn 23 23 42.4 -0.9
baz=227
INK Inuvik 15.00 30 Pn **Pn 23 23 44.1 +0.8**
BBB Bella Bella 15.72 95 LR LR 23 28 59.4
comp=Z,103nm,18.2s,baz=276,slow=33
AMKA Amchitka 16.44 263 Pn **Pn 23 23 59.8 -2.3**
C36M Paulatuk 18.41 34 P P 23 24 23.0 -3.3
baz=240
C36M Paulatuk 18.41 34 P P 23 24 25.4 -0.9
C36M IAmb IAmb 23 24 28.7
comp=Z,20nm,0.5s
A04D Lummi Island 20.46 99 P P 23 24 43.8 -5.1
baz=304
YKA Yellowknife Ar 20.60 57 P P 23 24 51.7 +1.5
comp=Z,9.1nm,0.8s,baz=268,slow=10,SNR=34
YKA LR LR 23 33 36.1
comp=Z,182nm,19.1s,baz=0.0,slow=39
BILL Bilibino 21.22 318 *d i* P **P 23 24 55.8 -1.2**
BILL *i* *SP **pP 23 24 59.0 -4.6**
BILL PPP PPP 23 25 26.0
BILL SS **S 23 28 53.0 +1.6**
BILL pmax pmax
comp=Z,17nm,0.7s
BILL MLR MLR
comp=Z,144nm,16.0s
BILL Bilibino 21.22 318 P P 23 24 55.8 -1.2
BILL IAmb IAmb 23 24 56.9
comp=Z,18nm,0.7s
COR Corvallis 22.73 109 P P 23 25 05.4 -7.9
COR pmax pmax
comp=Z,40nm,1.2s
COR Corvallis 22.73 109 P P 23 25 05.4 -7.8
COR IAmb IAmb 23 25 35.4
comp=Z,40nm,1.2s
J01E Myrtle Point 23.40 112 P P 23 25 15.6 -4.5
baz=315
I04A Tendick Farm, 23.74 109 P P 23 25 19.1 -4.4
baz=313
NEW Newport 23.78 95 LR LR 23 33 33.0
comp=Z,82nm,20.1s,baz=286,slow=34
SEY Seymchan 26.97 306 P P 23 25 51.0 -1.5
comp=Z,3.1nm,0.6s,baz=113,slow=9.2,SNR=8.4
SEY LR LR 23 37 60.0
comp=Z,256nm,18.1s,baz=334,slow=40
SEY Seymchan 26.97 306 *i* P **P 23 25 50.5 -2.1**
PEA0B Petropavlovsk- 27.51 283 *i* P **P 23 25 57.9 +0.3**
PEA0B Petropavlovsk- 27.51 283 P P 23 25 58.5 +0.9
PEA0B IAmb IAmb 23 26 18.6
comp=Z,24nm,1.1s
PETK Petropavlovsk- 27.51 283 P P 23 25 56.2 -1.3
comp=Z,3.4nm,0.4s,baz=73,slow=12,SNR=12
PETK Petropavlovsk- 27.51 283 P P 23 25 57.7 +0.1
PETK Petropavlovsk- 27.51 283 P P 23 25 57.7 +0.1
RES Resolute Bay 28.54 29 LR LR 23 39 03.6
comp=Z,77nm,18.6s,baz=58,slow=40
MA2 Magadan 28.59 299 *ce* P **P 23 26 06.0 -1.1**
MA2 pmax pmax
comp=Z,12nm,1.7s
NVAR Mina Array Bea 29.77 112 P P 23 26 21.3 +3.3
comp=Z,0.9nm,0.6s,baz=306,slow=8.9,SNR=6.3
NVAR Mina Array Bea 29.77 112 P P 23 26 11.9 -6.1
PDAR Pinedale Array 31.35 97 P P 23 26 35.1 +3.1
comp=Z,0.2nm,0.5s,baz=314,slow=5.7,SNR=2.9
TIXI Tiksi 33.95 326 P P 23 26 53.0 -1.1
comp=Z,4.2nm,0.5s,baz=77,slow=6.5,SNR=4.1
TIXI Tiksi 33.95 326 P P 23 26 53.2 -0.9
YAK Yakutsk 37.17 311 P P 23 27 20.5 -1.3
comp=Z,8.5nm,0.4s,baz=70,slow=1.5,SNR=1.7
YAK Yakutsk 37.17 311 P P 23 27 20.4 -1.3
NOR Nord 40.16 9 *i* P **P 23 27 47.2 +0.5**
NOR IAmb IAmb 23 27 49.5
comp=Z,3.1nm,1.0s
NOR Nord 40.16 9 *i* P **P 23 27 47.2 +0.5**
NOR pmax pmax
comp=Z,3.0nm,1.0s
KLR Kul'dur 43.27 293 P P 23 28 11.7 -0.8
comp=Z,4.2nm,0.4s,baz=62,slow=6.9,SNR=25
KLR Kul'dur 43.27 293 *ce* **P 23 28 11.4 -1.1**
KLR pmax pmax
comp=Z,12nm,1.3s
SUMG Summit 43.75 23 *i* P **P 23 28 18.0 +1.4**
SUMG IAmb IAmb 23 28 19.1
comp=Z,5.4nm,0.7s
SUMG Summit 43.75 23 P P 23 28 17.4 +0.8
SUMG pmax pmax
comp=Z,18nm,1.5s
SUMG Summit 43.75 23 P P 23 28 17.4 +0.8
SUMG IAmb IAmb 23 28 20.2
comp=Z,18nm,1.5s
DAG Danmarks Havn 43.95 13⇑ *i* P **P 23 28 17.8 +0.1**
DAG IAmb IAmb 23 28 18.4
comp=Z,9.4nm,0.6s
DAG Danmarks Havn 43.95 13⇑ *i* P **P 23 28 17.7 +0.1**
DAG pmax pmax
comp=Z,9.0nm,0.6s
R40A Maddies Statio 43.98 87 P P 23 28 13.5 -4.8
TXAR Lajitas Array 44.46 106 P P 23 28 25.2 +2.8
comp=Z,0.4nm,0.7s,baz=325,slow=6.4,SNR=4.1
TXAR LR LR 23 46 10.2
comp=Z,79nm,19.1s,baz=0.0,slow=35
SPA0 Spitsbergen Ar 45.35 3 *e* P **P 23 28 29.5 +0.7**
DBG Daneborg 45.78 16 *i* P **P 23 28 32.1 -0.1**
DBG IAmb IAmb 23 28 34.5
comp=Z,10nm,0.9s
NUUK Nuuk 45.80 37 *i* P **P 23 28 34.4 +2.0**
ICESG Greenland Ices 45.94 27 *i* P **P 23 28 34.2 +0.2**
SCHQ Schefferville 45.99 53 P P 23 28 35.2 +1.1
comp=Z,3.2nm,0.6s,baz=307,slow=7.9,SNR=9.2
SCHQ Schefferville 45.99 53 P P 23 28 33.1 -1.0
SCHQ IAmb IAmb 23 28 35.7
comp=Z,4.4nm,0.7s
NRIK Noril'sk 46.71 335 P P 23 28 39.5 -0.1
comp=Z,23nm,0.5s,baz=52,slow=6.4,SNR=31
NRIK LR LR 23 52 15.9
comp=Z,47nm,18.7s,baz=48,slow=41
NRIK Noril'sk 46.71 335 *ce* **P 23 28 39.3 -0.3**
NRIK pmax pmax
comp=Z,23nm,0.8s
NRIK Noril'sk 46.71 335 P P 23 28 39.6 +0.1
CN2 Changchun 50.13 292 *e* P **P 23 29 06.4 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
JMIC Jan Mayen 50.39 14 LR LR 23 50 03.0
comp=Z,34nm,21.4s,baz=313,slow=36
KSRS Korea Array 53.41 284 P P 23 29 30.6 -0.1
comp=Z,1.2nm,0.6s,baz=36,slow=7.6,SNR=5.7
BORG Borgarnes 53.73 23 LR LR 23 55 38.5
comp=Z,54nm,19.1s,baz=329,slow=40
KEV Kevo 53.94 360 P P 23 29 34.1 -0.1
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 53.94 360 P P 23 29 34.1 -0.1
KEV IAmb IAmb 23 29 34.7
comp=Z,8.4nm,0.6s
TRO Tromso 53.97 3 *e* P **P 23 29 34.9 +0.5**
ARA0 ARCESS Array S 54.17 0 *e* P **P 23 29 35.8 -0.1**
ARCES ARCESS Array B 54.17 0 P P 23 29 35.9 0.0
comp=Z,3.5nm,0.5s,baz=7.4,slow=7.2,SNR=38
ARCES PcP **PcP 23 30 40.7 +0.5**
comp=Z,2.1nm,0.8s,baz=20,slow=2.9,SNR=2.7
ARCES ARCESS Array B 54.17 0 P P 23 29 35.9 0.0
ARCES IAmb IAmb 23 29 36.3
comp=Z,3.9nm,0.7s
TJN Taejon 54.50 284 *ce* **P 23 29 40.6 +1.8**
TLY Talaya 54.63 312 *i* P **P 23 29 39.9 +0.3**
TLY pmax pmax
comp=Z,5.0nm,1.0s
KTK1 Kautokeino 54.68 1 *e* P **P 23 29 39.6 0.0**
LOF Lofoten 55.24 6 *e* P **P 23 29 43.4 -0.3**
LVZ Lovozero 55.64 356 P P 23 29 47.0 +0.3
LVZ pmax pmax
comp=Z,53nm,1.4s
LVZ Lovozero 55.64 356 P P 23 29 47.0 +0.3
ULN Ulaanbaatar 56.04 307 *ce* **P 23 29 49.4 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 56.04 307 P P 23 29 49.6 -0.3
ULN IAmb IAmb 23 29 50.5
comp=Z,4.1nm,0.9s
FAUS Fauske 56.08 5 *e* P **P 23 29 50.2 +0.5**
SONM Songino Array 56.35 307 P P 23 29 52.3 +0.3
comp=Z,9.7nm,0.7s,baz=44,slow=6.6,SNR=70
SONM PcP **PcP 23 30 49.4 +0.3**
comp=Z,1.6nm,0.6s,baz=63,slow=1.5,SNR=3.9
SONM LR LR 23 55 53.5
comp=Z,165nm,18.4s,baz=53,slow=38
SONM Songino Array 56.35 307 P P 23 29 52.4 +0.3
SONM IAmb IAmb 23 29 53.2
comp=Z,10nm,0.8s
NSS Namsos 58.73 7 *e* P **P 23 30 08.7 +0.4**
HHC Hu-ho-hao-te 59.26 298 *e* P **P 23 30 11.2 -1.4**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,53nm,6.6s
ZAA0 Zalesovo Array 59.79 324 P P 23 30 15.8 0.0
ZAA0 IAmb IAmb 23 30 16.8
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 59.79 324 P P 23 30 15.9 0.0
comp=Z,7.4nm,0.6s,baz=36,slow=7.1,SNR=32
ZALV PcP **PcP 23 31 02.1 -0.2**
comp=Z,2.1nm,0.7s,baz=59,slow=5.6,SNR=2.0
ZALV LR LR 23 58 45.0
comp=Z,79nm,18.6s,baz=46,slow=39
ZALV Zalesovo Beam 59.79 324 *i* P **P 23 30 15.8 -0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 59.79 324 P P 23 30 16.0 +0.1
DOMB Dombas 60.96 9 *e* P **P 23 30 24.1 +0.3**
PRGR Permogore 61.09 349 *e* P **P 23 30 24.1 -0.5**
PRGR pmax pmax
comp=Z,34nm,1.1s
SUE Sulen 61.51 12 *e* P **P 23 30 27.2 -0.3**
NC204 NORSAR Array S 61.86 8 P P 23 30 30.1 +0.1
NB2 NORSAR Subarra 62.13 8 P P 23 30 32.4 +0.6
comp=Z,2.9nm,0.7s,baz=352,slow=6.9
NB2 NORSAR Subarra 62.13 8 P P 23 30 32.4 +0.6
baz=352,slow=6.9
NOA NORSAR Array B 62.13 8 P P 23 30 32.0 +0.3
comp=Z,4.0nm,0.7s,baz=352,slow=6.8,SNR=25
SKAR Skarslia 62.24 10 *e* P **P 23 30 33.0 +0.6**
FIA1 FINESS Array S 62.29 360 P P 23 30 32.5 -0.2
FINES FINESS Array B 62.30 360 P P 23 30 33.0 +0.3
comp=Z,4.1nm,0.6s,baz=5.4,slow=8.9,SNR=51
FINES FINESS Array B 62.30 360 P P 23 30 32.8 +0.1
FINES FINESS Array B 62.30 360 P P 23 30 32.8 +0.1
KLMR Klimovskoe 62.40 353 *e* P **P 23 30 32.5 -0.9**
KLMR pmax pmax
comp=Z,17nm,0.9s
KLMR Klimovskoe 62.40 353 *e* P **P 23 30 32.6 -0.9**
KLMR AMP 23 30 34.3
comp=Z,17nm,0.9s
DGZ Jazzator, Alta 62.46 320⇑ *e* P **P 23 30 34.9 +0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
NC602 NORSAR Array S 62.46 8 *e* P **P 23 30 34.3 +0.4**
RAF Rauma 62.67 2 *e* P **P 23 30 35.5 +0.2**
KONO Kongsberg 63.37 9 *ce* **P 23 30 40.3 +0.3**
KONO pmax pmax
comp=Z,10.0nm,0.8s
KONO Kongsberg 63.37 9 P P 23 30 40.4 +0.5
KONO IAmb IAmb 23 30 41.9
comp=Z,11nm,0.8s
SVE Sverdlovsk 63.51 340 *e* P **P 23 30 41.1 +0.2**
SVE pmax pmax
comp=Z,12nm,0.9s
KIRV Kirov 63.63 347 P P 23 30 41.6 0.0
comp=Z,12nm,0.6s,baz=34,slow=3.6,SNR=4.9
KIRV Kirov 63.63 347 *ce* **P 23 30 41.2 -0.5**
UPP Uppsala 63.70 5 *e* P **P 23 30 42.9 +0.8**
ARU Arti 64.27 341 P P 23 30 45.7 -0.2
comp=Z,4.2nm,0.5s,baz=1.6,slow=3.9,SNR=34
ARU Arti 64.27 341 *c i* P **P 23 30 45.6 -0.4**
ARU 23 31 21.1
ARU S **S 23 39 21.0 -0.8**
ARU SS **SS 23 43 27.3 -3.1**
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 64.27 341 P P 23 30 45.6 -0.4
BRVK Borovoye 64.81 332 *ce* **P 23 30 49.4 -0.1**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 64.81 332 P P 23 30 49.5 -0.1
BRVK IAmb IAmb 23 30 50.2
comp=Z,13nm,0.9s
VSU Vasula 65.28 360 *e* P **P 23 30 53.4 +0.9**
XAN Xi'an 65.90 295 P P 23 31 04.9 +8.0
XAN pP sP 23 31 08.0 +0.6
XAN pmax pmax

comp=Z,10.0nm,0.9s
XAN LR LR
comp=N,130nm,15.2s
XAN LR LR
comp=E,110nm,17.3s
XAN LR LR
comp=Z,110nm,15.2s
GTA Gaotai 65.92 305 *e*P **P 23 30 56.8 -0.3**
GTA pP pP 23 31 06.1 +1.4
GTA sP sP 23 31 10.2 +2.6
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,34nm,4.3s
GTA LR LR
comp=Z,100nm,16.0s
GTA LR LR
comp=Z,120nm,17.1s
GTA LR LR
comp=Z,130nm,17.8s
SLIT Slitere, Latvi 66.08 2 *e*P **P 23 30 58.0 +0.3**
MK31 Makanchi Array 66.73 321⇑*i*P **P 23 31 01.4 -0.7**
MK31 Makanchi Array 66.73 321 P **P 23 31 01.8 -0.3**
MKAR Makanchi Array 66.73 321 P **P 23 31 01.6 -0.4**
comp=Z,3.3nm,0.6s,baz=45,slow=7.1,SNR=43
MKAR LR LR 00 02 41.1
comp=Z,75nm,19.0s,baz=27,slow=38
MKAR Makanchi Array 66.73 321 P **P 23 31 01.8 -0.3**
MAKZ Makanchi 66.83 322 P **P 23 31 02.4 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 66.83 322 P **P 23 31 02.4 -0.3**
MAKZ IAmb IAmb 23 31 02.8
comp=Z,3.7nm,0.6s
BRZS Berezniki 66.94 329 *e*P **P 23 31 02.2 -1.1**
comp=Z,5.1nm,1.1s,baz=329
BRZS Berezniki 66.94 329 *e*P **P 23 31 02.1 -1.1**
BRZS pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 67.32 316 *e*P P 23 31 13.0 +7.1
MOS Moscow 67.61 353 *e*P **P 23 31 06.1 -1.3**
OBN Obninsk 68.31 353⇓*e*P **P 23 31 12.0 +0.3**
OBN *PP **pP 23 31 15.0 -4.4**
OBN *SP sP 23 31 16.0 -6.3
OBN 23 31 44.0
OBN SSS SSS 23 47 36.0
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,29nm,17.0s
BELG Belogornoye 69.91 346 P **P 23 31 21.8 +0.1**
comp=Z,38nm,0.8s,baz=352,slow=1.6,SNR=8.5
AKTO Aktyubinsk 70.06 339 P **P 23 31 22.7 -0.1**
comp=Z,7.7nm,0.6s,baz=31,slow=5.9,SNR=33
LPSR Galich'ya Gora 70.64 352 *e*P **P 23 31 24.6 -1.6**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 70.78 337 P **P 23 31 27.0 -0.2**
ABKAR Akbulak array 70.78 337 P **P 23 31 26.9 -0.2**
ABKAR IAmb IAmb 23 31 28.0
comp=Z,10nm,0.7s
KPKS Kokpek 70.88 322 *e*P **P 23 31 27.2 -0.9**
baz=322
KPKS Kokpek 70.88 322 *e*P **P 23 31 27.1 -0.9**
SHLS Shalkode 70.89 321 *e*P **P 23 31 27.2 -0.9**
comp=Z,5.1nm,0.7s,baz=320
SHLS Shalkode 70.89 321 *e*P **P 23 31 27.1 -1.0**
SHLS pmax pmax
comp=Z,5.0nm,0.7s
BTLS Baital 70.98 326 *e*P **P 23 31 28.3 -0.2**
comp=Z,5.6nm,0.5s,baz=325
BTLS Baital 70.98 326 *e*P **P 23 31 28.2 -0.2**
BTLS pmax pmax
comp=Z,6.0nm,0.5s
CD2 Chengdu 70.98 297 *e*P **P 23 31 26.1 -2.7**
UZB Uzynbulak 71.05 322 *e*P **P 23 31 28.5 -0.7**
baz=321
UZB Uzynbulak 71.05 322 *e*P **P 23 31 28.4 -0.7**
CHKK Chushkaly 71.10 323 *e*P **P 23 31 28.3 -1.0**
baz=323
CHKK Chushkaly 71.10 323 *e*P **P 23 31 28.2 -1.0**
KUU Kurty 71.28 324 *i*P **P 23 31 29.2 -1.2**
baz=323
KUU Kurty 71.28 324 *i*P **P 23 31 29.1 -1.2**
SATY Saty 71.33 322 *e*P **P 23 31 30.2 -0.6**
baz=322
SATY Saty 71.33 322 *e*P **P 23 31 30.2 -0.6**
MDOK Medeo 71.70 323 *e*P **P 23 31 32.2 -0.8**
baz=322
MDOK Medeo 71.70 323 *e*P **P 23 31 32.2 -0.8**
VRH Novokhopyorsk 71.77 350 *e*P **P 23 31 30.7 -2.4**
VRH pmax pmax
comp=Z,4.0nm,0.5s
CLL Collm 71.93 8 *i*P **P 23 31 34.6 +0.5**
CLL Collm 71.93 8 *i*P **P 23 31 34.6 +0.5**
CLL pmax pmax
comp=Z,2.0nm,0.7s
VSR Storozhevoye 71.99 351 *e*P **P 23 31 32.2 -2.2**
VSR pmax pmax
comp=Z,8.0nm,0.9s
SGDS Sogindy 72.22 325 *e*P **P 23 31 36.1 0.0**
baz=324
SGDS Sogindy 72.22 325 *e*P **P 23 31 36.0 0.0**
KDJ Kajisay 72.58 323 P **P 23 31 38.5 +0.2**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 72.58 323 P **P 23 31 38.5 +0.2**
FRU1 Bishkek 72.80 325 P **P 23 31 40.2 +0.7**
FRU1 pmax pmax
comp=Z,14nm,0.4s
FRU1 Bishkek 72.80 325 P **P 23 31 40.2 +0.7**
CHVC Chvalec 72.87 7 *e*P **P 23 31 41.7 +2.0**
OSTC Ostas 72.91 6 *e*P **P 23 31 40.9 +1.0**
AAK Ala-Archa 73.00 325 P **P 23 31 41.0 +0.2**
comp=Z,4.1nm,0.5s,baz=171,slow=3.7,SNR=6.1
AAK Ala-Archa 73.00 325*ce*P **P 23 31 41.6 +0.8**
AAK pmax pmax
comp=Z,15nm,0.7s
AAK Ala-Archa 73.00 325 P **P 23 31 40.8 0.0**
AAK IAmb IAmb 23 31 42.0
comp=Z,4.9nm,0.7s
AKASG Malin Array Be 73.03 358 P **P 23 31 40.5 -0.1**
comp=Z,2.3nm,0.4s,baz=6.5,slow=5.7,SNR=17
AKASG Malin Array Be 73.03 358 *i*P **P 23 31 40.2 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 73.03 358 P **P 23 31 40.8 +0.2**
AKBB Malin Array Si 73.03 358 P **P 23 31 40.7 +0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 73.03 358 P **P 23 31 40.7 +0.1**
AKBB IAmb IAmb 23 31 42.9
comp=Z,5.8nm,0.6s
DPC Dobruska-Polom 73.12 6 *e*P **P 23 31 42.0 +0.8**
DPC Dobruska-Polom 73.12 6 *e*P **P 23 31 42.0 +0.8**
KRLC Kraliky 73.42 6 *e*P **P 23 31 43.9 +0.9**
KRLC Kraliky 73.42 6 *e*P **P 23 31 43.9 +0.9**
KK31 Karatay Array 73.81 328 P **P 23 31 45.6 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KK31 Karatay Array 73.81 328 P **P 23 31 45.6 +0.2**
KK31 IAmb IAmb 23 31 46.4
comp=Z,6.0nm,0.8s
KKAR Karatay Array 73.81 328 P **P 23 31 45.3 -0.1**
KKAR Karatay Array 73.81 328 P **P 23 31 45.3 -0.1**
KWP Kalwaria Pacla 74.10 2 P **P 23 31 47.8 +0.8**
KWP pmax pmax
comp=Z,56nm,1.1s
KWP Kalwaria Pacla 74.10 2 P **P 23 31 47.8 +0.8**
KHC Kasperske Hory 74.14 8 P **P 23 31 45.9 -1.3**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 74.14 8 *e*P **P 23 31 48.1 +0.9**
KHC Kasperske Hory 74.14 8 P **P 23 31 45.9 -1.3**
ECH Echery 74.39 13 P **P 23 31 47.9 -0.8**
ECH pmax pmax
comp=Z,4.0nm,0.9s
ECH Echery 74.39 13 P **P 23 31 47.9 -0.8**
GERES GERESS Array B 74.43 8 P **P 23 31 49.7 +0.7**
comp=Z,1.4nm,0.6s,baz=0.9,slow=4.6,SNR=16
GERES GERESS Array B 74.43 8 P **P 23 31 49.1 +0.1**
GERES GERESS Array B 74.43 8 P **P 23 31 49.1 +0.1**
KOLS Kolonicke sedl 74.79 2 *e*P **P 23 31 52.4 +1.4**
KOLS Kolonicke sedl 74.79 2 *e*P **P 23 31 52.4 +1.4**
MOA Molln 75.47 8 *e*P **P 23 31 56.7 +1.8**
comp=Z,0.7nm,0.8s
CONA Conrad Observa 75.50 7 *e*P **P 23 31 56.3 +1.1**
comp=Z,2.9nm,0.9s
SORM Soroca 75.61 358⇑P **P 23 31 54.4 -1.3**
SORM Soroca 75.61 358⇑P **P 23 31 54.4 -1.3**
WATA Walderalm 75.74 10 *e*P **P 23 31 58.4 +1.7**
comp=Z,7.2nm,1.4s
WTTA Wattenberg 75.82 10 *e*P **P 23 31 57.7 +0.6**
comp=Z,3.8nm,0.7s
SQTA Sankt Quirin 75.82 10 *e*P **P 23 31 58.2 +1.1**
comp=Z,5.8nm,0.8s
FETA Feichten 75.97 11 *e*P **P 23 31 58.3 +0.3**
comp=Z,3.8nm,0.9s
BURAR Bucovina Array 76.15 0⇑P **P 23 31 59.3 +0.4**
BURAR Bucovina Array 76.15 0 P **P 23 31 59.3 +0.4**
ABTA Abfaltersbach 76.41 9 *e*P **P 23 32 01.9 +1.5**
comp=Z,4.0nm,1.5s
BTK Batken 76.50 326 P **P 23 32 01.3 +0.3**
BTK pmax pmax
comp=Z,14nm,1.4s
BTK Batken 76.50 326 P **P 23 32 01.3 +0.3**
BTK IAmb IAmb 23 32 02.4
comp=Z,14nm,1.4s
ZOU Zoufplan 76.64 9 P **P 23 32 02.3 +0.4**
SOKA Soboth 76.69 8 *e*P **P 23 32 03.1 +1.2**
comp=Z,5.1nm,1.4s
OBKA Obir 76.82 8 *e*P **P 23 32 03.6 +0.9**
comp=Z,7.7nm,0.7s
DRGR 76.94 2⇑P **P 23 32 03.7 +0.3**
DRGR 76.94 2⇑P **P 23 32 03.7 +0.3**
GAR Garm 77.62 326 P **P 23 32 07.7 +0.3**
VRI Vrincioaia 77.90 359⇑P **P 23 32 08.0 -0.7**
VRI Vrincioaia 77.90 359⇑P **P 23 32 08.0 -0.7**
PLOR Plostina 77.92 359⇑P **P 23 32 09.1 +0.3**
PLOR Plostina 77.92 359⇑P **P 23 32 09.1 +0.3**
BZS Buzias 78.09 3⇑P **P 23 32 10.2 +0.5**
BZS Buzias 78.09 3⇑P **P 23 32 10.2 +0.5**
MLR Muntele Rosu 78.28 360 P **P 23 32 11.3 +0.3**
MLR pmax pmax
comp=Z,2.0nm,0.9s
MLR Muntele Rosu 78.28 360 P **P 23 32 11.3 +0.3**
CHGR Chuyangaron 78.29 327 P **P 23 32 11.3 +0.2**
GZR Gura Zlata 78.34 2⇑P **P 23 32 11.3 +0.1**
GZR Gura Zlata 78.34 2⇑P **P 23 32 11.3 +0.1**
ARR Arges 78.40 1⇑P **P 23 32 12.3 +0.8**
FRGS Fruska Gora 78.48 4⇑P **P 23 32 12.9 +1.0**
MSSA Maissana 78.51 12 P **P 23 32 11.8 -0.3**
CFR Carcaliu 78.57 358⇓P **P 23 32 12.5 +0.1**
CFR Carcaliu 78.57 358⇓P **P 23 32 12.5 +0.1**
KIV Kislovodsk 78.82 348⇑P **P 23 32 14.2 +0.3**
KIV Kislovodsk 78.82 348 *e*P **P 23 32 14.6 +0.7**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV Kislovodsk 78.82 348 P **P 23 32 14.4 +0.5**
KIV IAmb IAmb 23 32 15.4
comp=Z,5.8nm,0.7s
TPGR Topolog 78.89 358⇑P **P 23 32 13.9 -0.2**
KBZ Khabaz 79.02 348 P **P 23 32 16.1 +1.3**
comp=Z,4.9nm,0.9s,baz=262,slow=2.9,SNR=6.8
KBZ Khabaz 79.02 348*ce*P **P 23 32 15.9 +1.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
NCK Nalchik 79.17 347 *i*P **P 23 32 16.3 +0.6**
NCK pmax pmax
comp=Z,11nm,0.6s
TIRR Tirgusor 79.29 358⇑P **P 23 32 16.6 +0.3**
TIRR Tirgusor 79.29 358 P **P 23 32 16.3 0.0**
TIRR pmax pmax
comp=Z,10.0nm,0.8s
TIRR Tirgusor 79.29 358 P **P 23 32 16.3 0.0**
TIRR IAmb IAmb 23 32 17.5
comp=Z,9.7nm,0.8s
BOVS Bovan 80.07 3⇑P **P 23 32 21.2 +0.6**
ESDC Sonseca Array 80.81 23 P **P 23 32 26.0 +1.3**
comp=Z,1.3nm,0.8s,baz=342,slow=5.3,SNR=15
NIL Nilore 81.55 322 P **P 23 32 29.1 +0.4**
NIL pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 81.55 322 P **P 23 32 29.1 +0.4**
NIL IAmb IAmb 23 32 30.1
comp=Z,13nm,0.9s
GEYT Alibeck 81.95 335 P **P 23 32 31.5 +0.7**
comp=Z,2.4nm,0.7s,baz=30,slow=6.8,SNR=3.7
GEYT LR LR 00 13 54.9
comp=Z,56nm,18.1s,baz=340,slow=39
CMAR Chiang Mai Arr 83.74 294 P **P 23 32 40.0 -0.3**
comp=Z,2.6nm,0.7s,baz=12,slow=5.2,SNR=17
CMAR LR LR 00 15 10.6
comp=Z,12nm,19.3s,baz=170,slow=40
CMAR Chiang Mai Arr 83.74 294 P **P 23 32 39.7 -0.6**
CMAR Chiang Mai Arr 83.74 294 P **P 23 32 39.7 -0.6**
CM02 Chiang Mai Arr 83.76 294 P **P 23 32 43.0 +2.6**
comp=Z,5.7nm,0.8s
CM04 Chiang Mai Arr 83.77 294 P **P 23 32 40.9 +0.5**
comp=Z,6.7nm,0.9s
BRTR Keskin Array B 83.82 354 P **P 23 32 41.1 +0.6**
comp=Z,2.6nm,0.8s,baz=24,slow=3.4,SNR=7.9
BRTR Keskin Array B 83.82 354 *i*P **P 23 32 41.2 +0.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 83.82 354 P **P 23 32 40.8 +0.2**
BNN Bunyan 84.54 352 P **P 23 32 44.5 +0.3**
KEST Kesra 86.96 13 LR LR 00 14 58.4
comp=Z,56nm,19.9s,baz=242,slow=38
QSPA South Pole Qui 146.39 180 PKPbc **PKPdf 23 39 51.7 +2.5**
comp=Z,1.6nm,0.8s,baz=252,slow=1.3,SNR=7.8
BOSA Boshof 152.03 1 PKPbc **PKPbc 23 40 06.8 +0.7**
comp=Z,5.4nm,1.1s,baz=69,slow=2.1,SNR=3.9

JMA 01 23:24:44.3±0.6, 20°.33N×121°.64E, h0km, M4.2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**4.22**	**28**	*e*S		Sn	23 26 41.8	+2.0
YOJ	**Yonaguni jima**	**4.30**	**17**	P		Pn	23 25 53.0	+2.0
IRIF	**Iriomote-Funau**	**4.43**	**26**	P		Pn	23 25 54.4	+1.6
IRIF				S		Sn	23 26 46.6	+1.5
JKRS	**Kuro-shima**	**4.46**	**29**	P		Pn	23 25 56.4	+3.1
JKRS				*e*S		Sn	23 26 48.2	+2.2
JIJ	**Ishigaki jima**	**4.63**	**30**	P		Pn	23 25 57.4	+1.8
JIJ				*e*S		Sn	23 26 51.2	+1.0
JISG	**Ishigakijimahi**	**4.90**	**30**	P		Pn	23 25 59.5	+0.2
JISG				S		Sn	23 26 57.9	+1.1
JTJ	**Tarama**	**5.14**	**33**	*e*S		Sn	23 27 05.1	+2.5

*RSNC **01** 23:39:52.7±1.0, 5°.29N×73°.74W, h152km±4km, ML3.6, Mw3.7, Fault plane solution: NP1:φs50.00000°, δ53.00000°, λ.118.00000°.*
*IDC **01** 23:39:54.4±4.3, 4°.42N×75°.09W, h132km±69km, Error ellipse: s-maj=183.3km s-min=152.8km az=57.0*
ISC 01 23:39:50.7±1.1, 5°.29N±0°.03×73°.72W±0°.04, h166km±7km, n26, σ1°25/51, 7C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.66**	**181**	⇑*e*P		**Pn**	**23 40 15.2**	**0.0**
CHIC				*e*S		**Sn**	**23 40 32.2**	**-1.8**
CHIC				*i*			23 40 34.8	
comp=Z,255nm,0.2s								
ROSC	**El Rosal**	**0.75**	**233**	P		**Pn**	**23 40 16.9**	**+1.1**
comp=Z,266nm,0.3s,baz=238,slow=13,SNR=261								
ROSC				S		**Sn**	**23 40 34.5**	**-0.3**
comp=Z,194nm,0.3s,baz=183,slow=23,SNR=10								
ROSC	**El Rosal**	**0.75**	**233**	⇑*i*P		**Pn**	**23 40 16.8**	**+1.1**
ROSC				*e*P		**Pn**	**23 40 16.8**	**+1.1**
ROSC				*e*S		**Sn**	**23 40 34.5**	**-0.3**
ROSC				*i*			23 40 38.1	
comp=Z,765nm,0.6s								
RUSC	**La Rusia**	**0.87**	**46**	⇑*e*P		**Pn**	**23 40 17.6**	**+1.0**
RUSC				*e*S		**Sn**	**23 40 35.9**	**-0.6**
VILC	**Villavicencio,**	**1.17**	**179**	⇑*e*P		**Pn**	**23 40 18.6**	**0.0**
VILC				*e*S		**Sn**	**23 40 39.1**	**-1.0**
VILC				*i*			23 40 41.5	
comp=Z,799nm,0.4s								
NORC	**Norcasia**	**1.18**	**283**	*e*P		**Pn**	**23 40 18.9**	**+0.3**
NORC				*e*S		**Sn**	**23 40 38.7**	**-1.3**
NORC				*i*			23 40 40.2	
comp=Z,709nm,0.1s								
BARC	**Barichara**	**1.40**	**22**	*e*P		**Pn**	**23 40 21.3**	**+0.5**
BARC				*e*S		**Sn**	**23 40 43.4**	**-0.6**
BARC				*i*			23 40 45.1	
comp=Z,293nm,0.3s								
GUY2C	**Guyana, Caldas**	**1.64**	**268**	*e*P		**Pn**	**23 40 23.9**	**+0.5**
GUY2C				*e*S		**Sn**	**23 40 48.7**	**0.0**
GUY2C				*i*			23 40 51.6	
comp=Z,117nm,0.2s								
TOLC	**Tolima**	**1.75**	**246**	*e*P		**Pn**	**23 40 25.1**	**+0.8**
TOLC				*e*S		**Sn**	**23 40 49.7**	**-0.6**
TOLC				*i*			23 40 51.3	
comp=Z,282nm,0.3s								
PTGC	**Puerto Gaitan,**	**1.91**	**124**	⇓*i*P		**Pn**	**23 40 26.5**	**+0.6**
PTGC				*e*P			23 40 26.5	
PTGC				*e*S		**Sn**	**23 40 51.7**	**-1.3**
PTGC				*i*			23 40 55.8	
comp=Z,491nm,0.3s								
PRAC	**Prado**	**1.95**	**217**	⇑*i*P		**Pn**	**23 40 27.0**	**+0.7**
PRAC				*e*P		**Pn**	**23 40 27.0**	**+0.7**
PRAC				*e*S		**Sn**	**23 40 52.9**	**-1.1**
PRAC				*i*			23 40 55.9	
comp=Z,427nm,0.3s								
HELC	**Santa Helena**	**2.01**	**297**	*e*P		**Pn**	**23 40 28.1**	**+0.8**
HELC				*e*S		**Sn**	**23 40 54.9**	**-0.8**
HELC				*i*			23 40 57.8	
comp=Z,291nm,0.3s								
ORTC	**Ortega, Tolima**	**2.05**	**228**	⇑*e*P		**Pn**	**23 40 27.8**	**+0.4**
ORTC				*e*S		**Sn**	**23 40 54.5**	**-1.3**
ORTC				*i*			23 40 56.5	
comp=Z,236nm,0.2s								
CBOC	**Ciudad Bolivar**	**2.36**	**284**	*e*P		**Pn**	**23 40 31.9**	**+0.9**
CBOC				*e*S		**Sn**	**23 41 01.5**	**-0.8**
ZARC	**Zaragoza, Cauc**	**2.47**	**333**	*e*P		**Pn**	**23 40 31.7**	**-0.5**
ZARC				*e*S		**Sn**	**23 41 02.9**	**-1.6**
ZARC				*i*			23 41 08.6	
comp=Z,169nm,0.3s								
PLMC	**San Jos del P**	**2.58**	**262**	*e*P		**Pn**	**23 40 35.5**	**+1.8**
PLMC				*e*S		**Sn**	**23 41 08.1**	**+1.0**
OCAC	**Ocana**	**2.96**	**8**	*e*P		**Pn**	**23 40 39.8**	**+1.4**
OCAC				*e*S		**Sn**	**23 41 15.6**	**+0.2**
OCAC				*i*			23 41 24.7	
comp=Z,277nm,0.3s								
DBBC	**Dabeiba**	**3.02**	**305**	*e*P		**Pn**	**23 40 40.2**	**+1.2**
DBBC				*e*S		**Sn**	**23 41 13.8**	**-2.7**
DBBC				*i*			23 41 20.5	
comp=Z,305nm,0.5s								
UREC	**San Jos de Ur**	**3.04**	**324**	*e*P		**Pn**	**23 40 38.2**	**-1.0**
UREC				*e*S		**Sn**	**23 41 14.6**	**-2.4**
UREC				*i*			23 41 16.1	
comp=Z,127nm,0.2s								
MACC	**Macarena, Meta**	**3.13**	**182**	⇑*e*P		**Pn**	**23 40 39.9**	**-0.4**
MACC				*e*S		**Sn**	**23 41 16.2**	**-2.8**
SMLC	**San Martn de**	**3.51**	**354**	*e*P		**Pn**	**23 40 45.3**	**+0.2**
SMLC				*e*S		**Sn**	**23 41 27.2**	**-0.3**
SMLC				*i*			23 41 31.2	
comp=Z,125nm,0.3s								
MALC	**Bahia Malaga**	**3.82**	**251**	*e*P		**Pn**	**23 40 49.5**	**+0.4**
LL2C	**La Loma 2 Cana**	**4.25**	**4**	*e*P		**Pn**	**23 40 55.5**	**+0.9**
LL2C				*e*S		**Sn**	**23 41 45.3**	**+0.7**
SJCC	**San Jacinto, C**	**4.80**	**343**	*e*P		**Pn**	**23 41 00.8**	**-1.0**
SJCC				*e*S		**Sn**	**23 41 53.9**	**-3.7**
SJCC				*i*			23 41 56.9	
comp=Z,35nm,0.4s								
ASAR	**Alice Springs**	**147.73**	**233**	PKPbc		**PKiKP**	**23 59 19.8**	**+1.2**
comp=Z,0.1nm,0.3s,baz=113,slow=3.2,SNR=1.6								
WRA	**Warramunga Arr**	**149.07**	**239**	PKPbc		**PKiKP**	**23 59 22.5**	**+1.1**
comp=Z,0.3nm,0.5s,baz=115,slow=2.6,SNR=1.6								

IDC 01 23:40:50.5±2.0, 4°.33N×124°.20E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.5/3, Error ellipse: s-maj=223.9km s-min=26.0km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.10**	**158**	P		P	23 46 26.1	-0.1
0.3nm,0.4s,baz=337,slow=11,SNR=5.3								
ASAR	**Alice Springs**	**29.39**	**162**	P		P	23 46 55.9	+0.2
0.2nm,0.5s,baz=340,slow=7.9,SNR=1.9								
MKAR	**Makanchi Array**	**55.64**	**326**	P		P	23 50 28.2	-0.1
0.3nm,0.4s,baz=122,slow=7.3,SNR=9.8								

*IDC **01** 23:41:32.0±1.4, 27°.80N×85°.55E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.3/44, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=38.6km s-min=30.9km az=56.0*
ISC 01 23:41:35.0±1.3, 27°.9N±0°.2×85°.6E±0°.2, h18km, n6, σ0°95/6, mb3.7/5, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.07**	**353**	P		**Pn**	**23 45 57.1**	**-0.1**
0.1nm,0.3s,baz=177,slow=11,SNR=7.9								
SONM	**Songino Array**	**25.68**	**34**	P		**P**	**23 47 04.7**	**+0.7**
1.1nm,0.6s,baz=220,slow=9.7,SNR=7.2								
FINES	**FINESS Array B**	**51.42**	**328**	P		**P**	**23 50 37.4**	**-1.3**
0.8nm,0.8s,baz=104,slow=10,SNR=3.6								
HFS	**Hagfors**	**57.30**	**326**	P		**P**	**23 51 21.8**	**+0.4**
0.4nm,0.4s,baz=94,slow=8.7,SNR=5.2								
ASAR	**Alice Springs**	**69.26**	**133**	P		**P**	**23 52 40.9**	**-0.4**
0.4nm,0.7s,baz=304,slow=6.6,SNR=2.6								
TORD	**Torodi Ar. Bea**	**78.65**	**279**	P		**P**	**23 53 37.0**	**+0.6**
0.2nm,0.7s,baz=72,slow=5.7,SNR=1.4								

MAN 01 23:43:01.1, 13°.79N×120°.69E, h1km, mb3.4, ML2.0, MS1.4, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.39**	**137**	*i*S		Sb	23 43 21.3	+4.1
PGP	**Puerto Galera**	**0.39**	**137**	⇑*e*P		Pg	23 43 08.9	+0.4
LUBP	**Lubang**	**0.43**	**263**	*i*S		Sb	23 43 22.9	+4.4
LUBP	**Lubang**	**0.43**	**263**	⇑*i*P		Pg	23 43 09.3	-0.1

*SOME **02** 00:19:55.4, 41°.67N×81°.82E, h10km*
*IDC **02** 00:19:56.9±1.2, 41°.95N×81°.62E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/35, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=21.3km s-min=17.3km az=60.0*
*NNC **02** 00:19:57.9±1.5, 41°.90N×81°.80E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=10.5km s-min=8.6km az=165.0*
*KRNET **02** 00:19:59.3±0.1, 40°.78N×81°.56E, mb3.7*
ISC 02 00:19:54.6±1.2, 41°.78N±0°.06×81°.77E±0°.05, h10km, n63, σ1°93/82, mb3.5/4, 18C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.97**	**328**	*e*P		**Pg**	**00 20 32.5**	**+0.1**
KTMS	96nm,0.5s							
KTMS	172nm,0.5s			*e*S		**Sg**	**00 20 59.8**	**+1.8**
KTMS	**Ketmen**	**1.97**	**328**	Pg		**Pg**	**00 20 32.5**	**+0.1**
KTMS	96nm,0.5s							
KTMS	172nm,0.5s			Lg		Lg	00 20 59.8	
SHLS	**Shalkode**	**2.20**	**310**	*e*P		**Pb**	**00 20 32.5**	**-2.0**
SHLS	155nm,0.2s							
SHLS	262nm,0.4s			*e*S		**Sn**	**00 20 59.6**	**+1.0**
SHLS	**Shalkode**	**2.20**	**310**	Pg		**Pb**	**00 20 32.5**	**-2.0**
SHLS	155nm,0.2s							
SHLS	262nm,0.4s			Lg		Lg	00 20 59.6	
PDGK	**Podgornoye**	**2.29**	**313**	Pg		**Pg**	**00 20 37.7**	**-0.8**
PDGK	46nm,0.3s							
PDGK	146nm,0.5s			Lg		Lg	00 21 08.3	
PDGK	**Podgornoye**	**2.29**	**313**	⇑Pn		**Pg**	**00 20 36.9**	**-1.7**
PDGK	34nm,0.3s							
PDGK	118nm,0.6s			⇓Sn		**Sg**	**00 21 08.4**	**+0.1**
UZB	**Uzynbulak**	**2.45**	**305**	*e*P		**Pg**	**00 20 40.8**	**-0.8**
UZB	42nm,0.3s							
UZB	189nm,0.5s			*e*S		**Sg**	**00 21 14.5**	**+1.1**
UZB	**Uzynbulak**	**2.45**	**305**	Pg		**Pg**	**00 20 40.8**	**-0.8**
UZB	42nm,0.3s							
UZB	189nm,0.5s			Lg		Lg	00 21 14.5	
SATY	**Saty**	**2.80**	**298**	*e*P		**Pg**	**00 20 48.2**	**-0.1**
SATY	32nm,0.6s							
SATY	81nm,0.3s			*e*S		**Sg**	**00 21 25.9**	**+1.2**
SATY	**Saty**	**2.80**	**298**	Pg		**Pg**	**00 20 48.2**	**-0.1**
SATY	32nm,0.6s							
SATY	81nm,0.3s			Lg		Lg	00 21 25.9	

KPKS	**Kokpek**	**2.84 308**	*eP*		**Pg**	**00 20 47.9**	**-1.0**
	47nm,0.2s						
KPKS			*eS*		**Sg**	**00 21 26.6**	**+0.9**
	457nm,0.5s						
DJR	**Jarkent**	**2.94 331**	*eP*		**Pg**	**00 20 50.2**	**-0.7**
	3.3nm,0.5s						
DJR			*eS*		**Sg**	**00 21 29.0**	**0.0**
	10nm,0.6s						
DJR	**Jarkent**	**2.94 331**	Pg		**Pg**	**00 20 50.0**	**-1.0**
	3.3nm,0.5s						
DJR			Lg		Lg	00 21 29.0	
	10nm,0.6s						
TARG	**Taragay, Kyrgy**	**2.97 270**	⇑*iP*		**Pg**	**00 20 50.3**	**-1.2**
	baz=90						
TARG			⇑*iS*		**Sg**	**00 21 27.7**	**-2.3**
	baz=90						
KURS	**Kuram**	**3.16 304**	*eP*		**Pg**	**00 20 53.8**	**-1.4**
	17nm,0.6s						
KURS			*eS*		**Sg**	**00 21 35.5**	**-0.6**
	37nm,0.6s						
KURS	**Kuram**	**3.16 304**	Pg		**Pg**	**00 20 53.8**	**-1.4**
	17nm,0.6s						
KURS			Lg		Lg	00 21 35.5	
	37nm,0.6s						
ANVS	**Anan'yevo**	**3.21 290**	⇓*iP*		**Pg**	**00 20 57.9**	**+1.8**
	baz=6.0						
ANVS			⇓*iS*		**Sg**	**00 21 40.8**	**+3.2**
	baz=6.0						
KDJ	**Kajisay**	**3.44 277**	⇓*iP*		**Pg**	**00 20 58.2**	**-2.4**
	baz=94						
KDJ			⇓*iS*		**Sg**	**00 21 40.8**	**-4.4**
	baz=94						
MDOK	**Medeo**	**3.76 293**	*eP*		**Pg**	**00 21 03.6**	**-3.0**
	13nm,0.6s						
MDOK			*eS*		**Sg**	**00 21 53.5**	**-1.8**
	25nm,0.7s						
MDOK	**Medeo**	**3.76 293**	⇓Pn		Pb	00 20 56.7	-4.4
	16nm,0.8s						
MDOK			⇑Lg		Lg	00 21 54.5	
	22nm,0.6s						
MDOK	**Medeo**	**3.76 293**	Pg		**Pg**	**00 21 03.6**	**-3.0**
	13nm,0.6s						
MDOK			Lg		Lg	00 21 53.5	
	25nm,0.7s						
ARXS	**Arharly**	**3.78 311**	*eP*		**Pg**	**00 21 08.0**	**+1.0**
	45nm,0.5s						
ARXS			*eS*		**Sg**	**00 21 60.0**	**+3.9**
	29nm,0.6s						
ARXS	**Arharly**	**3.78 311**	Pg		**Pg**	**00 21 08.0**	**+1.0**
	45nm,0.5s						
ARXS			Lg		Lg	00 21 60.0	
	29nm,0.6s						
TNSS	**Tian-Shan**	**3.79 291**	Pg		**Pg**	**00 21 06.5**	**-0.7**
	15nm,0.9s						
TNSS			Lg		Lg	00 21 57.4	
	54nm,0.7s						
AAA	**Alma-Ata**	**3.87 293**	*eP*		**Pg**	**00 21 07.8**	**-0.9**
	26nm,0.3s						
AAA			*eS*		**Sg**	**00 21 59.5**	**+0.8**
	52nm,0.5s						
AAA	**Alma-Ata**	**3.87 293**	Pg		**Pg**	**00 21 07.8**	**-0.9**
	26nm,0.3s						
AAA			Lg		Lg	00 21 59.5	
	52nm,0.5s						
KAPS	**Kapalarasan**	**3.92 334**	*eP*		**Pg**	**00 21 07.8**	**-1.9**
	2.3nm,0.4s						
KAPS			*eS*		**Sg**	**00 21 59.9**	**-0.6**
	2.6nm,0.7s						
KAPS	**Kapalarasan**	**3.92 334**	Pg		**Pb**	**00 21 03.2**	**-0.7**
	2.0nm,0.2s						
KAPS			Lg		Lg	00 21 53.1	
	3.1nm,0.4s						
IZV	**Izvestkoviy**	**4.02 290**	*eP*		**Pg**	**00 21 10.3**	**-1.4**
	24nm,0.6s						
IZV			*eS*		**Sg**	**00 22 03.8**	**+0.1**
	59nm,0.5s						
IZV	**Izvestkoviy**	**4.02 290**	Pg		**Pg**	**00 21 10.3**	**-1.4**
	24nm,0.6s						
IZV			Lg		Lg	00 22 03.8	
	59nm,0.5s						
TDK	**Taldyqorghan**	**4.05 324**	*eP*		**Pg**	**00 21 11.0**	**-1.2**
	69nm,0.4s						
TDK			*eS*		**Sg**	**00 22 05.1**	**+0.5**
	34nm,0.8s						
TDK	**Taldyqorghan**	**4.05 324**	Pg		**Pg**	**00 21 11.0**	**-1.2**
	69nm,0.4s						
TDK			Lg		Lg	00 22 05.1	
	34nm,0.8s						
CHKK	**Chushkaly**	**4.09 302**	*eP*		**Pg**	**00 21 11.8**	**-1.1**
	16nm,0.7s						
CHKK			*eS*		**Sg**	**00 22 06.4**	**+0.6**
	27nm,0.5s						
CHKK	**Chushkaly**	**4.09 302**	Pg		**Pg**	**00 21 11.8**	**-1.1**
	16nm,0.7s						
CHKK			Lg		Lg	00 22 06.4	
	27nm,0.5s						
ULHL	**Ulahol**	**4.15 278**	⇑*eP*		**Pb**	**00 21 07.9**	**+0.1**
	baz=92						
ULHL			⇑*iS*		**Sb**	**00 21 57.4**	**-0.6**
	baz=92						
BOOM	**Boomskoye usch**	**4.39 281**	⇑*eP*		**Pb**	**00 21 12.1**	**+0.1**
	baz=94						
BOOM			⇑*eS*		**Sb**	**00 22 05.1**	**0.0**
	baz=94						
KUU	**Kurty**	**4.52 300**	*eP*		**Pg**	**00 21 19.1**	**-2.1**
	8.7nm,0.5s						
KUU			*eS*		**Sg**	**00 22 18.9**	**-0.8**
	36nm,0.6s						
KUU	**Kurty**	**4.52 300**	Pg		**Pg**	**00 21 19.1**	**-2.1**
	8.7nm,0.5s						
KUU			Lg		Lg	00 22 18.9	
	36nm,0.6s						
DGS	**Degeres**	**4.67 290**	*eP*		**Pg**	**00 21 22.8**	**-1.2**
	21nm,0.7s						
DGS			*eS*		**Sg**	**00 22 25.3**	**+0.8**
	28nm,0.6s						
DGS	**Degeres**	**4.67 290**	Pg		**Pg**	**00 21 22.8**	**-1.2**
	21nm,0.7s						
DGS			Lg		Lg	00 22 25.3	
	28nm,0.6s						
TKM2	**Tokmak 2**	**4.72 286**	⇑*eP*		**Pb**	**00 21 18.5**	**+1.0**
	baz=98						
TKM2			⇑*iS*		**Sb**	**00 22 15.9**	**+1.5**
	baz=98						
TKM2	**Tokmak 2**	**4.72 286**	⇑Pn		Pb	00 21 10.7	-6.9
	1.4nm,0.3s						
TKM2			⇓Pg		**Pg**	**00 21 28.3**	**+3.3**
	8.7nm,0.6s						
TKM2			Lg		Lg	00 22 26.8	
	27nm,0.6s						
KRBS	**Karabastau**	**4.88 295**	*eP*		**Pg**	**00 21 27.1**	**-1.0**
	9.8nm,0.6s						
KRBS			*eS*		**Sg**	**00 22 32.6**	**+1.3**
	14nm,0.6s						
KRBS	**Karabastau**	**4.88 295**	Pg		**Pg**	**00 21 27.1**	**-1.0**
	9.8nm,0.6s						
KRBS			Lg		Lg	00 22 32.6	
	14nm,0.6s						
MKAR	**Makanchi Array**	**5.03 4**	Pn		**Pn**	**00 21 13.1**	**+2.9**
	1.5nm,0.3s,baz=186,slow=14,SNR=66						
MKAR			Pg		**Pg**	**00 21 28.1**	**-2.9**
	1.4nm,0.3s,baz=186,slow=16,SNR=6.8						
MKAR			Sn		**Sn**	**00 22 11.3**	**+3.0**
	2.0nm,0.3s,baz=183,slow=18,SNR=5.7						
MKAR			Lg		Lg	00 22 32.4	
	2.0nm,0.3s,baz=174,slow=27,SNR=4.4						
MAKZ	**Makanchi**	**5.03 2**	⇓Pn		**Pn**	**00 21 12.9**	**+2.8**
	5.8nm,0.6s						
MAKZ			⇑Sn		**Sn**	**00 22 10.2**	**+1.8**
	3.5nm,0.6s						
AAK	**Ala-Archa**	**5.47 281**	Pg		Pg	00 21 34.8	-4.6
	0.8nm,0.3s,baz=139,slow=19,SNR=1.9						
AAK			Lg		Lg	00 22 46.3	
	0.5nm,0.3s,baz=143,slow=20,SNR=1.3						
AAK	**Ala-Archa**	**5.47 281**	⇑Pg		Pg	00 21 43.1	+3.7
	1.9nm,0.4s						
AAK			⇑Lg		Lg	00 22 50.0	
	15nm,0.7s						
SGDS	**Sogindy**	**5.53 290**	Pg		**Pg**	**00 21 38.5**	**-2.0**
	2.8nm,0.5s						
SGDS			Lg		Lg	00 22 52.4	
	20nm,1.3s						
ARLS	**Aral**	**5.57 273**	⇑*iP*		Pb	00 21 25.7	-6.3
	baz=84						
ARLS			⇑*iS*		**Sn**	**00 22 28.6**	**+6.9**
	baz=84						
ZSN	**Zaisan**	**6.09 20**	*eP*		**Pg**	**00 21 48.7**	**-2.5**
	21nm,0.3s						
ZSN			*eS*		**Sg**	**00 23 09.6**	**-0.3**
	20nm,0.6s						
ZSN	**Zaisan**	**6.09 20**	Pg		**Pg**	**00 21 48.7**	**-2.5**
	21nm,0.3s						
ZSN			Lg		Lg	00 23 09.6	
	20nm,0.6s						
MRKS	**Merke**	**6.41 282**	Pg		**Pg**	**00 21 55.2**	**-2.2**
	2.7nm,0.6s						
MRKS			Lg		Lg	00 23 20.8	
	6.1nm,0.6s						
BTLS	**Baital**	**6.50 303**	Pg		**Pg**	**00 21 54.9**	**-4.2**
	3.5nm,0.6s						
BTLS			Lg		Lg	00 23 21.9	
	4.1nm,0.9s						
KURBB	**Kurchatov Arra**	**9.13 347**	Pn		Pn	00 22 12.3	+6.0
	0.1nm,0.3s,baz=169,slow=12,SNR=1.5						
KURBB			Lg		Lg	00 24 40.2	
	0.1nm,0.3s,baz=180,slow=29,SNR=4.1						
KURBB	**Kurchatov Arra**	**9.13 347**	⇑Lg		Lg	00 24 37.6	
	15nm,0.8s						
OTUK	**Ortayu**	**9.29 317**	⇑Lg		Lg	00 24 47.9	
	8.6nm,1.1s						
ZALV	**Zalesovo Beam**	**12.35 8**	Pn		Pn	00 22 56.1	+5.7
	0.2nm,0.3s,baz=196,slow=15,SNR=2.5						
ZALV			Lg		Lg	00 26 25.1	
	0.1nm,0.3s,baz=190,slow=23,SNR=1.3						
ARU	**Arti**	**20.97 322**	P		**P**	**00 24 40.7**	**+3.1**
	0.3nm,0.3s,baz=124,slow=7.3,SNR=3.1						
ARCES	**ARCESS Array B**	**39.88 333**	P		**P**	**00 27 29.6**	**+1.5**
	0.3nm,0.5s,baz=96,slow=9.2,SNR=5.7						
NOA	**NORSAR Array B**	**45.49 320**	P		**P**	**00 28 14.8**	**+1.0**
	0.3nm,0.5s,baz=82,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**78.31 130**	P		P	00 32 00.0	+5.0
	0.2nm,0.4s,baz=311,slow=6.3,SNR=2.4						
ASAR	**Alice Springs**	**81.02 133**	P		P	00 32 15.2	+5.5
	0.2nm,0.5s,baz=327,slow=5.0,SNR=5.3						

*SOME **02** 00:30:26.2, 41.°82N×81.°82E, h10km*
*NNC **02** 00:30:27.7±1.8, 41.°90N×81.°85E, h0km, mb3.7, mpv3.3,*
Error ellipse: s-maj=12.8km s-min=10.9km az=167.0
ISC 02 00:30:29.6±2.3, 41.°95N±0.°08×81.°64E±0.°08, h10km, n36,
σ1°97/55, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.77 328**		*eP*		**Pg**		**00 31 03.3**	**-0.3**
	17nm,0.2s								
KTMS				*eS*		**Sg**		**00 31 30.6**	**+4.0**
	36nm,0.2s								
KTMS	**Ketmen**	**1.77 328**		Pg		**Pg**		**00 31 03.3**	**-0.3**
	17nm,0.2s								
KTMS				Lg		Lg		00 31 30.6	
	36nm,0.2s								
SHLS	**Shalkode**	**2.01 308**		*eP*		**Pn**		**00 31 03.0**	**-0.7**
	50nm,0.3s								
SHLS				*eS*		**Sb**		**00 31 30.1**	**-1.4**
	75nm,0.2s								
SHLS	**Shalkode**	**2.01 308**		Pg		**Pn**		**00 31 03.0**	**-0.7**
	50nm,0.3s								
SHLS				Lg		Lg		00 31 30.1	
	75nm,0.2s								
PDGK	**Podgornoye**	**2.10 312**		Pg		**Pg**		**00 31 08.3**	**-1.6**
	9.8nm,0.3s								
PDGK				Lg		Lg		00 31 38.8	
	30nm,0.4s								
PDGK	**Podgornoye**	**2.10 312**		⇑Pn		**Pb**		**00 31 07.1**	**-0.8**
	8.3nm,0.4s								
PDGK				⇓Sn		**Sg**		**00 31 38.9**	**+1.8**
	1.8nm,0.3s								
UZB	**Uzynbulak**	**2.27 303**		*eP*		**Pg**		**00 31 12.0**	**-1.2**
	11nm,0.3s								
UZB				*eS*		**Sg**		**00 31 45.3**	**+2.6**
	36nm,0.4s								
UZB	**Uzynbulak**	**2.27 303**		Pg		**Pg**		**00 31 12.0**	**-1.2**
	11nm,0.3s								
UZB				Lg		Lg		00 31 45.3	
	36nm,0.4s								
SATY	**Saty**	**2.63 296**		*eP*		**Pg**		**00 31 18.6**	**-1.5**
	6.2nm,0.2s								
SATY				*eS*		**Sg**		**00 31 56.5**	**+2.3**
	28nm,0.3s								
SATY	**Saty**	**2.63 296**		Pg		**Pg**		**00 31 18.6**	**-1.5**
	6.2nm,0.2s								
SATY				Lg		Lg		00 31 56.6	
	28nm,0.3s								
KPKS	**Kokpek**	**2.65 306**		*eP*		**Pg**		**00 31 18.5**	**-1.9**
	17nm,0.3s								
KPKS				*eS*		**Sg**		**00 31 56.9**	**+2.1**
	62nm,0.3s								
DJR	**Jarkent**	**2.74 331**		*eP*		**Pg**		**00 31 20.5**	**-1.5**
	0.7nm,0.3s								
DJR				*eS*		**Sg**		**00 31 59.4**	**+1.8**
	2.3nm,0.6s								
DJR	**Jarkent**	**2.74 331**		Pg		**Pg**		**00 31 20.5**	**-1.5**
	0.7nm,0.3s								
DJR				Lg		Lg		00 31 59.4	
	2.3nm,0.6s								
KURS	**Kuram**	**2.98 302**		*eP*		**Pb**		**00 31 23.1**	**+0.3**
	3.5nm,0.4s								
KURS				*eS*		**Sg**		**00 32 03.8**	**-1.6**
	5.9nm,0.5s								
KURS	**Kuram**	**2.98 302**		Pg		**Pb**		**00 31 23.1**	**+0.3**
	3.5nm,0.4s								
KURS				Lg		Lg		00 32 03.8	
	5.9nm,0.5s								
ARXS	**Arharly**	**3.59 310**		*eP*		**Pg**		**00 31 36.7**	**-1.7**
	7.8nm,0.4s								
ARXS				*eS*		**Sg**		**00 32 27.1**	**+2.2**
	5.5nm,0.4s								
ARXS	**Arharly**	**3.59 310**		Pg		**Pg**		**00 31 36.7**	**-1.7**
	7.8nm,0.4s								
ARXS				Lg		Lg		00 32 27.1	
	5.5nm,0.4s								
MDOK	**Medeo**	**3.60 291**		*eP*		**Pg**		**00 31 36.7**	**-1.8**
	2.1nm,0.4s								
MDOK				*eS*		**Sg**		**00 32 27.6**	**+2.3**
	5.8nm,0.6s								
MDOK	**Medeo**	**3.60 291**		Pg		**Pg**		**00 31 36.7**	**-1.8**
	2.1nm,0.4s								
MDOK				Lg		Lg		00 32 27.6	
	5.8nm,0.6s								
KAPS	**Kapalarasan**	**3.72 334**		*eP*		**Pg**		**00 31 37.9**	**-3.0**
	0.5nm,0.2s								
KAPS				*eS*		**Sg**		**00 32 29.3**	**+0.1**
	0.8nm,0.5s								
KAPS	**Kapalarasan**	**3.72 334**		Pg		**Pb**		**00 31 33.5**	**-2.0**
	0.5nm,0.2s								
KAPS				Lg		Lg		00 32 21.4	
	1.0nm,0.3s								
IZV	**Izvestkoviy**	**3.87 288**		*eP*		**Pg**		**00 31 41.4**	**-2.3**
	5.1nm,0.4s								
IZV				*eS*		**Sg**		**00 32 35.2**	**+1.3**
	9.0nm,0.4s								
IZV	**Izvestkoviy**	**3.87 288**		Pg		**Pg**		**00 31 41.4**	**-2.3**
	5.1nm,0.4s								
IZV				Lg		Lg		00 32 35.2	
	9.0nm,0.4s								
CHKK	**Chushkaly**	**3.91 301**		*eP*		**Pg**		**00 31 42.5**	**-2.0**
	1.6nm,0.2s								
CHKK				*eS*		**Sg**		**00 32 37.0**	**+1.8**
	8.2nm,0.4s								
CHKK	**Chushkaly**	**3.91 301**		Pg		**Pg**		**00 31 42.4**	**-2.0**
	1.6nm,0.2s								
CHKK				Lg		Lg		00 32 37.0	
	8.2nm,0.4s								
KST	**Kastek**	**4.34 287**		*eP*		**Pb**		**00 31 47.9**	**+1.9**
	4.1nm,0.6s								
KST				*eS*		**Sg**		**00 32 46.4**	**-2.4**
	5.3nm,0.6s								
KST	**Kastek**	**4.34 287**		Pg		**Pb**		**00 31 47.9**	**+1.9**
	4.1nm,0.6s								
KST				Lg		Lg		00 32 46.4	
	5.3nm,0.6s								
KUU	**Kurty**	**4.35 298**		*eP*		**Pg**		**00 31 50.3**	**-2.6**
	1.7nm,0.4s								
KUU				*eS*		**Sg**		**00 32 50.9**	**+1.6**
	5.3nm,0.5s								
KUU	**Kurty**	**4.35 298**		Pg		**Pg**		**00 31 50.3**	**-2.6**
	1.7nm,0.4s								
KUU				Lg		Lg		00 32 50.9	
	5.3nm,0.5s								
DGS	**Degeres**	**4.52 289**		*eP*		**Pb**		**00 31 50.9**	**+1.8**
	2.0nm,0.4s								
DGS				*eS*		**Sg**		**00 32 52.0**	**-2.7**
	5.7nm,0.5s								
DGS	**Degeres**	**4.52 289**		Pg		**Pb**		**00 31 50.9**	**+1.8**
	2.0nm,0.4s								
DGS				Lg		Lg		00 32 52.6	
	5.7nm,0.5s								
TKM2	**Tokmak 2**	**4.58 284**		⇑Pn		**Pn**		**00 31 41.3**	**+2.3**
	0.3nm,0.3s								
TKM2				⇑Pg		**Pg**		**00 31 56.3**	**-0.9**
	1.9nm,0.6s								
TKM2				⇑Lg		Lg		00 32 54.7	
	5.8nm,0.6s								
KRBS	**Karabastau**	**4.72 294**		*eP*		**Pb**		**00 31 54.7**	**+2.2**
	2.4nm,0.4s								
KRBS				*eS*		**Sg**		**00 32 58.0**	**-3.1**
	3.9nm,0.4s								
KRBS	**Karabastau**	**4.72 294**		Pg		**Pb**		**00 31 54.7**	**+2.2**
	2.4nm,0.4s								
KRBS				Lg		Lg		00 32 58.0	
	3.9nm,0.4s								
MAKZ	**Makanchi**	**4.87 3**		⇓Pn		**Pn**		**00 31 43.5**	**+0.7**
	0.5nm,0.2s								
MAKZ				⇓Sn		**Sn**		**00 32 40.2**	**+1.0**
	0.9nm,0.4s								
MAKZ				⇓Lg		Lg		00 32 59.6	
	1.4nm,0.6s								
SGDS	**Sogindy**	**5.38 289**		Pg		**Pg**		**00 32 09.9**	**-2.7**
	1.5nm,0.6s								
SGDS				Lg		Lg		00 33 24.4	
	3.2nm,1.1s								

JMA 02 00:43:01.9±0.1, 37.°09N×135.°43E, h361km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**4.35**	**85**		P		Pn	00 44 14.6	-0.6
JRG	**Rokugo**	**4.70**	**59**		P		Pn	00 44 19.9	+1.2
JMK	**Ichinoseki**	**4.94**	**66**		P		Pn	00 44 21.8	+0.6
BSO1	**Boso 1**	**5.12**	**117**		*eS*		S	00 45 28.1	-0.2

IDC 02 00:47:41.5±14.0, 3.°11S×151.°41E, h296km±142km, mb2.9/3, mb1 3.2/3, mb1mx2.8/23, mbtmp3.5/3, Error ellipse: s-maj=137.1km s-min=47.8km az=133.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.61**	**224**		P		P	00 52 27.0	+0.3
	0.5nm,0.3s,baz=49,slow=9.7,SNR=12								
ASAR	**Alice Springs**	**26.54**	**218**		P		P	00 52 52.4	-0.5
	0.2nm,0.3s,baz=49,slow=8.0,SNR=2.7								
ILAR	**Eielson Array**	**81.13**	**22**		P		P	00 59 24.0	0.0
	0.3nm,0.6s,baz=234,slow=5.5,SNR=2.6								
TORD	**Torodi Ar. Bea**	**148.45**	**290**		PKPbc		PKPbc	01 06 53.9	-0.6
	0.2nm,0.3s,baz=101,slow=2.2,SNR=6.3								

IDC 02 01:21:32.3±4.4, 4.°26S×151.°88E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/26, mbtmp3.3/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/21, Error ellipse: s-maj=149.9km s-min=35.3km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**226**		P		P	01 26 41.0	+0.6
	0.7nm,0.8s,baz=48,slow=10,SNR=2.9								
ASAR	**Alice Springs**	**25.95**	**220**		P		P	01 27 06.2	-0.6
	0.2nm,0.3s,baz=58,slow=8.8,SNR=1.8								
PPT	**Papeete**	**58.76**	**108**		LR		LR	01 54 22.8	
	comp=Z,64nm,19.2s,baz=132,slow=34								
SONM	**Songino Array**	**65.38**	**328**		P		P	01 32 17.4	+0.5
	0.4nm,0.6s,baz=116,slow=6.6,SNR=2.0								
TORD	**Torodi Ar. Bea**	**149.27**	**289**		PKPbc		PKPbc	01 41 23.1	-1.1
	0.6nm,0.8s,baz=33,slow=2.0,SNR=2.3								

ROM 02 01:27:50.8±0.1, 43.°433N±0.°001×12.°454E±0.°001, h9km, ML0.3/4, 1C, Error ellipse: s-maj=0.1km s-min=0.1km az=298.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.06**	**214**		⇑P		Pg	01 27 53.0	+0.2
ATVO					S		Sg	01 27 54.7	+0.4
ATVO					AML		AML		
	comp=N,16μm,1.5s								
ATVO					AML		AML		
	comp=N,16μm,1.5s								
ATVO					AML		AML		
	comp=E,24μm,0.1s								
PIEI	**Pieia**	**0.12**	**30**		P		Pg	01 27 54.0	+0.4
PIEI					S		Sg	01 27 56.3	+0.7
PIEI					AML		AML		
	comp=E,17μm,0.8s								
PIEI					AML		AML		
	comp=N,12μm,0.9s								
APEC	**Apecchio**	**0.13**	**349**		P		Pg	01 27 54.2	+0.4
APEC					S		Sg	01 27 56.6	+0.8
APEC					AML		AML		
	comp=E,24μm,0.3s								
APEC					AML		AML		
	comp=N,20μm,0.2s								
BADI	**Badiali**	**0.17**	**297**		P		Pg	01 27 55.0	+0.6
BADI					S		Sg	01 27 58.1	+1.1
CESI	**CESI - Serrava**	**0.54**	**142**		AML		AML		
	comp=N,20μm,0.3s								
CESI					AML		AML		
	comp=N,20μm,0.3s								
CESI					AML		AML		
	comp=E,35μm,0.5s								
GRAM	**Graiana**	**2.02**	**302**		P		Pg	01 28 29.6	0.0

*NEIC **02** 01:37:55.7±1.1, 17.°6S±0.°1×178.°7W±0.°2, h582km±11km, mb4.2/17, Error ellipse: s-maj=22.1km s-min=18.0km az=115.0*
*IDC **02** 01:37:56.3±2.0, 17.°42S×178.°84W, h582km±18km, mb3.3/6, mb1 3.5/8, mb1mx3.1/37, mbtmp4.2/8, Error ellipse: s-maj=93.8km s-min=19.9km az=154.0*
ISC 02 01:37:52.8±0.8, 17.°6S±0.°2×178.°6W±0.°1, h550km, n31, σ1°02/30, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**267**		P		P	01 39 13.9	+4.7
	4.3nm,0.3s,baz=140,slow=10,SNR=23								
OUENC	**Ouen Island, N**	**14.49**	**248**		P		**P**	**01 40 58.8**	**+1.8**
DZM	**Mont Dzumac**	**14.75**	**250**		P		**P**	**01 41 02.8**	**+2.9**
	0.4nm,0.3s,baz=0.6,slow=8.1,SNR=1.6								
DZM	**Mont Dzumac**	**14.75**	**250**		P		**P**	**01 40 59.5**	**-0.3**
BFZ	**Birch Farm**	**23.41**	**190**		P		**P**	**01 42 20.7**	**+1.4**
QRZ	**Quartz Range**	**24.36**	**196**		P		**P**	**01 42 28.4**	**+0.7**
EIDS	**Eidsvold**	**29.20**	**249**		P		**P**	**01 43 10.2**	**-0.2**
EIDS					IAmb		IAmb	01 43 13.9	
	comp=Z,6.2nm,1.1s								
TOO	**Toolangi**	**37.21**	**230**		P		**P**	**01 44 16.5**	**-1.3**
TOO					IAmb		IAmb	01 44 18.4	
	comp=Z,12nm,1.0s								
STKA	**Stephens Creek**	**38.61**	**241**		P		**P**	**01 44 29.6**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=84,slow=8.4,SNR=11								
STKA	**Stephens Creek**	**38.61**	**241**		P		**P**	**01 44 29.6**	**+0.3**
BBOO	**Buckleboo**	**43.39**	**241**		P		**P**	**01 45 06.8**	**-0.4**
WR0	**Warramunga Arr**	**44.31**	**259**		P		**P**	**01 45 14.4**	**-0.1**
WR0					IAmb		IAmb	01 45 22.5	
	comp=Z,5.3nm,1.

comp=Z,16nm,1.1s
FITZ Fitzroy Crossi 52.90 260 P **P 01 46 18.6 +0.5**
comp=Z,2.4nm,0.8s,baz=124,slow=7.3,SNR=8.2
FITZ Fitzroy Crossi 52.90 260 P **P 01 46 18.2 +0.1**
FITZ IAmb IAmb 01 46 30.7
comp=Z,4.1nm,1.1s
PSA00 Pilbara Seismi 57.81 255 P **P 01 46 51.7 -0.6**
QSPA South Pole Qui 72.44 180 P **P 01 48 22.0 -1.5**
TXAR Lajitas Array 85.99 58 P **P 01 49 37.2 +1.6**
comp=Z,0.3nm,0.6s,baz=210,slow=5.4,SNR=5.6
TXAR Lajitas Array 85.99 58 P **P 01 49 36.0 +0.3**
PDAR Pinedale Array 87.27 44 P **P 01 49 41.6 +0.1**
comp=Z,0.4nm,0.6s,baz=191,slow=3.0,SNR=4.4
PDAR Pinedale Array 87.27 44 P **P 01 49 41.4 -0.1**

MDD 02 01:51:46.1±2.3, 37°.26N×2°.17E, h20km±39km, mb3.8/3, Error ellipse: s-maj=46.1km s-min=11.5km az=147.0, PRXIMO, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**1.88**	**340**	P	Pn	01 52 16.3	-0.8
	2.1nm,0.1s,SNR=23						
EIBI				S	Sn	01 52 38.0	-2.4
	12nm,0.2s,SNR=13						
EBEN2	**Beniarda presa**	**2.34**	**308**	P	Pn	01 52 21.6	-2.0
	4.7nm,0.1s,SNR=7.9						
EBEN2				S	Sn	01 52 48.3	-3.5
	4.2nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.56**	**11**	P	Pn	01 52 25.0	-1.4
	0.6nm,0.1s,SNR=9.7						
ETOS				S	Sn	01 52 53.9	-3.1
	1.4nm,0.2s,SNR=7.4						
ETOB	**Tobarra**	**3.25**	**296**	P	Pn	01 52 34.9	-1.2
	1.2nm,0.2s,SNR=14						
ETOB				S	Sn	01 53 11.8	-2.4
	0.2nm,0.1s,SNR=7.9						
ECHE	**Chera**	**3.39**	**314**	P	Pn	01 52 37.6	-0.4
	0.7nm,0.1s,SNR=7.9						
ECHE				S	Sn	01 53 15.1	-2.6
	0.1nm,0.0s,SNR=7.9						
EMOS	**Mosqueruela**	**3.73**	**327**	P	Pn	01 52 42.2	-0.5
	0.8nm,0.1s,SNR=17						
EMOS				S	Sn	01 53 23.1	-3.0
	1.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.84**	**284**	P	Pn	01 52 43.1	-1.2
	0.3nm,0.2s,SNR=7.9						
SESP				S	Sn	01 53 25.8	-3.1
	0.5nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**3.96**	**339**	P	Pn	01 52 45.7	-0.1
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.21**	**279**	S	Sn	01 53 35.8	-2.0
	0.1nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**4.50**	**2**	S	Sn	01 53 41.4	-3.8
	0.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.17**	**351**	P	Pn	01 53 02.9	+0.4
	0.3nm,0.2s,SNR=7.9						
CSOR				S	Sn	01 53 58.8	-2.8
	0.4nm,0.2s,SNR=7.9						

IDC 02 01:55:39.1±2.2, 4°.00S×151°.60E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/34, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=94.1km s-min=28.8km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.11**	**225**	P	P	02 00 46.7	-0.3
	1.7nm,1.0s,baz=53,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**25.96**	**220**	P	P	02 01 13.9	+0.2
	0.5nm,0.6s,baz=50,slow=8.9,SNR=5.6						
FITZ	**Fitzroy Crossi**	**29.01**	**239**	LR	LR	02 14 19.7	
	comp=Z,62nm,19.9s,baz=85,slow=39						
MKAR	**Makanchi Array**	**78.94**	**319**	P	P	02 07 44.6	-0.2
	0.8nm,0.9s,baz=117,slow=6.9,SNR=4.8						
ILAR	**Eielson Array**	**81.88**	**22**	P	P	02 08 00.4	+0.2
	0.3nm,0.7s,baz=268,slow=2.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.92**	**289**	PKPbc	PKPbc	02 15 29.7	-0.4
	1.1nm,1.0s,baz=46,slow=2.0,SNR=3.7						

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*IDC **02** 01:56:09.1±0.7, 27°.70N×85°.31E, h0km, mb4.1/15, mb1 4.2/18, mb1mx3.9/55, mbtmp4.1/18, ML4.3/3, MS3.0/3, Ms1 3.0/3, ms1mx2.7/55, Error ellipse: s-maj=25.0km s-min=14.0km az=53.0*
*DMN **02** 01:56:10.6±0.1, 27°.91N×85°.58E, h25km, Ml5.1/3, Error ellipse: s-maj=3.5km s-min=1.3km az=20.0*
*NEIC **02** 01:56:11.7±1.8, 27°.98N±0°.06×85°.57E±0°.07, h10km±1km, mb4.2/37, Error ellipse: s-maj=12.3km s-min=7.8km az=130.0*
*NDI **02** 01:56:12.9±1.6, 27°.85N×85°.63E, h10km, ML4.2, mb4.2(NEIC)*
*BJI **02** 01:56:12.0±0.0, 27°.95N×85°.56E, h7km, mB4.5/8, mb4.3/12, Ms3.9/4, Ms7 3.6/4*
ISC 02 01:56:12.3±0.9, 27°.89N±0°.04×85°.53E±0°.03, h18km±3km, n108, σ1°.17/119, mb4.3/23, 3C-3D, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**0.24**	**246**	⇓*i*Pg	**Pg**	**01 56 17.9**	**-0.2**
KKN				*e*Sg	**Sg**	**01 56 21.7**	**-0.3**
	42μm,0.2s						
PKIN	**Phulchoki**	**0.33**	**200**	⇓*i*Pg	**Pg**	**01 56 19.4**	**-0.2**
PKIN				*e*Sg	**Sg**	**01 56 24.4**	**-0.1**
	36μm,0.4s						
PKI	**Pulchoki**	**0.33**	**198**	⇓*i*Pg	**Pg**	**01 56 19.4**	**-0.2**
PKI				*e*Sg	**Sg**	**01 56 24.7**	**+0.1**
JIRN	**Jiri**	**0.63**	**111**	⇑*i*Pg	**Pg**	**01 56 23.5**	**-1.5**
GKN	**Gorkha**	**0.80**	**279**	⇑*i*Pg	**Pg**	**01 56 27.9**	**0.0**
GKN				*e*Sg	**Sg**	**01 56 38.5**	**0.0**
	4μm,0.3s						
RAMN	**Ramite**	**1.33**	**134**	⇑*i*Pg	**Pn**	**01 56 35.9**	**-0.4**
RAMN				*e*Sg	**Sb**	**01 56 53.6**	**-0.2**
RAMN				*e*Sg	**Sb**	**01 56 53.6**	**-0.2**
	4μm,0.3s						
DANN	**Dangsing**	**1.63**	**287**	*e*Pg	**Pb**	**01 56 42.2**	**+0.2**
KOLN	**Koldanda**	**1.71**	**267**	*e*Pg	**Pb**	**01 56 43.5**	**+0.2**
ODAN	**Odare**	**1.95**	**121**	*e*Pg	**Pb**	**01 56 46.6**	**-0.8**
ODAN				*e*Sg	**Sb**	**01 57 11.1**	**-0.3**
	2μm,0.2s						
ODAN				*e*Sg	**Sn**	**01 57 11.2**	**+2.4**
PYUN	**Piuthan**	**2.25**	**276**	*e*Pg	**Pb**	**01 56 53.6**	**+1.0**
PYUN				*e*Sg	**Sg**	**01 57 23.7**	**-1.2**
	2μm,0.2s						
BOK	**Bokaro**	**4.09**	**175**	*e*P	**Pn**	**01 57 15.3**	**+1.4**
BOK				*e*S	**Sn**	**01 58 00.6**	**-0.7**
LSA	**Lhasa**	**5.26**	**69**	P	Pn	01 57 23.5	-6.9
LSA				S	Sg	01 59 18.4	+17
LSA				LR	LR		
	comp=N,230nm,4.6s						
LSA				LR	LR		
	comp=E,490nm,6.1s						
LSA				LR	LR		
	comp=Z,400nm,4.6s						
LSA	**Lhasa**	**5.26**	**69**	Pn	**Pn**	**01 57 29.0**	**-1.4**
LSA				Sn	**Sn**	**01 58 30.8**	**0.0**
SHL	**Shillong**	**6.14**	**111**	*e*P	**Pn**	**01 57 42.2**	**-0.1**
SHL	**Shillong**	**6.14**	**111**	Pn	**Pn**	**01 57 41.7**	**-0.5**
SHL				Sn	**Sn**	**01 58 51.5**	**-0.5**
DDI	**Dehra Dun**	**6.97**	**292**	*e*P	**Pn**	**01 57 56.3**	**+2.7**
DDI				*e*S	**Sn**	**01 59 11.1**	**-1.3**
NDI	**New Delhi**	**7.37**	**278**	*e*P	**Pn**	**01 58 01.5**	**+2.5**
NDI				*e*S	**Sn**	**01 59 20.0**	**-2.2**
SMLA	**Simla**	**7.97**	**296**	*e*P	**Pn**	**01 58 08.3**	**+1.1**
SMLA				*e*S	**Sn**	**01 59 36.1**	**-0.7**
SMLA				IAML		01 59 38.1	
	comp=N,157nm,0.4s						
SMLA				IAML		01 59 38.3	
	comp=E,300nm,0.2s						
BHPL	**Bhopal**	**8.65**	**239**	*e*P	**Pn**	**01 58 14.4**	**-2.3**
BHPL				IAML		01 59 57.8	
	comp=E,110nm,0.3s						
BHPL				IAML		01 59 57.9	
	comp=N,128nm,0.3s						
VIS	**Vishakhapatnam**	**10.32**	**192**	*e*P	**Pn**	**01 58 39.1**	**-0.3**
VIS				*e*x	x	02 00 47.0	
CHCP	**Chirah Chowk**	**12.01**	**302**	P	**Pn**	**01 59 01.7**	**-0.9**
NIL	**Nilore**	**12.01**	**302**		**Pn**	**01 59 01.7**	**-1.0**
HYB	**Hyderabad**	**12.24**	**213**	*i* P	Pn	01 59 02.0	-3.9
HYB				*e*S	Sn	02 01 39.0	+17
CEP	**Cherat**	**13.11**	**300**	P	**Pn**	**01 59 15.0**	**-2.7**
TARG	**Taragay, Kyrgy**	**15.19**	**337**	Pn	**Pn**	**01 59 43.1**	**-3.1**
TARG				IAmb	IAmb	02 00 03.7	
	comp=Z,7.1nm,1.0s						
CHTO	**Chiang Mai**	**15.27**	**123**	P	**P**	**01 59 51.8**	**0.0**
	comp=Z,9.4nm,0.8s						
CHTO	**Chiang Mai**	**15.27**	**123**	Pn	**Pn**	**01 59 47.8**	**+0.7**
CHTO				IAmb	IAmb	01 59 52.0	
	comp=Z,6.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.49**	**124**	Pn	**Pn**	**01 59 48.0**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=310,slow=13,SNR=2.1						
CMAR	**Chiang Mai Arr**	**15.49**	**124**	Pn	**Pn**	**01 59 49.5**	**-0.4**
CM02	**Chiang Mai Arr**	**15.51**	**124**	P	**P**	**01 59 55.5**	**+1.0**
	comp=Z,6.8nm,0.8s						
CM05	**Chiang Mai Arr**	**15.53**	**125**	P	**P**	**01 59 55.8**	**+1.1**
	comp=Z,6.6nm,0.8s						
CM04	**Chiang Mai Arr**	**15.55**	**125**	P	**P**	**01 59 58.5**	**+3.5**
	comp=Z,5.7nm,0.6s						
KBL	**Kabul**	**15.58**	**299**		**Pn**	**01 59 48.5**	**-2.7**
KBL				IAmb	IAmb	01 59 59.5	
	comp=Z,7.5nm,0.7s						
KDJ	**Kajisay**	**15.76**	**337**		**Pn**	**01 59 52.5**	**-0.9**
WMQ	**Urumqi**	**16.00**	**6**	*e*P	**P**	**02 00 00.3**	**+0.5**
CD2	**Chengdu**	**16.17**	**75**	*e*P	**P**	**02 00 00.9**	**-0.9**
CD2				LR	LR		
	comp=Z,140nm,6.1s						
CD2				LR	LR		
	comp=Z,220nm,5.7s						
CD2				LR	LR		
	comp=Z,300nm,10.0s						
GTA	**Gaotai**	**16.52**	**42**	*e*P	**P**	**02 00 06.3**	**+0.6**
GTA				pP	sP	02 00 11.2	-2.7
GTA				sP	pP	02 00 14.2	+2.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,37nm,4.7s						
GTA				LR	LR		
	comp=Z,60nm,13.5s						
GTA				LR	LR		
	comp=Z,86nm,13.8s						
GTA				LR	LR		
	comp=Z,110nm,13.5s						
GAR	**Garm**	**16.83**	**315**	Pn	**Pn**	**02 00 04.2**	**-2.8**
BTK	**Batken**	**17.18**	**319**	Pn	**Pn**	**02 00 09.0**	**-2.5**
BTK				IAmb	IAmb	02 00 19.6	
	comp=Z,10nm,0.7s						
AAK	**Ala-Archa**	**17.23**	**332**	P	**Pn**	**02 00 13.2**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=176,slow=14,SNR=1.5						
AAK	**Ala-Archa**	**17.23**	**332**	Pn	**Pn**	**02 00 11.2**	**-0.9**
CHGR	**Chuyangaron**	**17.37**	**312**		**Pn**	**02 00 12.5**	**-1.4**
CHGR				IAmb	IAmb	02 00 27.1	
	comp=Z,17nm,0.8s						
MK31	**Makanchi Array**	**19.05**	**353**		**P**	**02 00 33.7**	**+0.3**
MKAR	**Makanchi Array**	**19.05**	**353**	P	**Pn**	**02 00 34.1**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=172,slow=11,SNR=53						
MKAR				LR	LR	02 09 01.6	
	comp=Z,38nm,20.4s,baz=136,slow=40						
MKAR	**Makanchi Array**	**19.05**	**353**		**P**	**02 00 33.7**	**+0.3**
MAKZ	**Makanchi**	**19.09**	**353**		**P**	**02 00 34.2**	**+0.3**
KK31	**Karatay Array**	**19.45**	**325**	P	**P**	**02 00 37.5**	**-0.3**
KKAR	**Karatay Array**	**19.45**	**325**	P	**P**	**02 00 36.3**	**-1.5**
PANO	**Nakornpanom**	**20.59**	**117**	P	Pn	02 01 01.2	+8.5
PALK	**Pallekele**	**21.01**	**193**	P	**P**	**02 00 56.9**	**+1.9**
PALK				IAmb	IAmb	02 00 57.0	
	comp=Z,22nm,1.2s						
KURBB	**Kurchatov Arra**	**23.32**	**349**	P	**P**	**02 01 20.0**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=168,slow=10,SNR=24						
KURK	**Kurchatov**	**23.39**	**349**	P	**P**	**02 01 20.0**	**+0.1**
HHC	**Hu-ho-hao-te**	**24.98**	**52**	*e*P	**P**	**02 01 36.4**	**+1.5**
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,53nm,4.1s						
SONM	**Songino Array**	**25.70**	**34**	P	**P**	**02 01 43.2**	**+1.7**
	comp=Z,3.2nm,0.7s,baz=216,slow=8.9,SNR=12						
SONM	**Songino Array**	**25.70**	**34**	P	**P**	**02 01 41.5**	**0.0**
SONM				IAmb	IAmb	02 01 47.4	
	comp=Z,3.5nm,1.0s						
ZAA0	**Zalesovo Array**	**26.04**	**359**	P	**P**	**02 01 44.0**	**-0.3**
ZAA0				IAmb	IAmb	02 01 52.0	
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**26.04**	**359**	P	**P**	**02 01 45.8**	**+1.4**
	comp=Z,2.4nm,0.4s,baz=183,slow=9.3,SNR=11						
ZALV				LR	LR	02 12 15.8	
	comp=Z,10nm,19.1s,baz=110,slow=37						
ZALV	**Zalesovo Beam**	**26.04**	**359**	P	**P**	**02 01 43.9**	**-0.4**
ULN	**Ulaanbaatar**	**26.05**	**34**	P	**P**	**02 01 44.0**	**-0.6**
ULN				IAmb	IAmb	02 01 54.6	
	comp=Z,5.1nm,0.8s						
ABKAR	**Akbulak array**	**29.00**	**324**	P	**P**	**02 02 11.5**	**+0.6**
ABKAR	**Akbulak array**	**29.00**	**324**	P	**P**	**02 02 11.1**	**+0.1**
NRIK	**Noril'sk**	**41.50**	**1**	P	**P**	**02 03 59.7**	**+1.7**
	comp=Z,1.7nm,0.4s,baz=167,slow=7.6,SNR=3.7						
NRIK	**Noril'sk**	**41.50**	**1**	P	**P**	**02 03 59.1**	**+1.1**
NRIK				IAmb	IAmb	02 04 04.9	
	comp=Z,6.8nm,1.2s						
MLR	**Muntele Rosu**	**49.76**	**307**	P	**P**	**02 05 04.8**	**+1.0**
MLR				IAmb	IAmb	02 05 18.5	
	comp=Z,2.9nm,0.7s						
BURAR	**Bucovina Array**	**50.26**	**310**	P	**P**	**02 05 07.9**	**+0.3**
FIA1	**FINESS Array S**	**51.37**	**328**	P	**P**	**02 05 15.5**	**0.0**
FIA1				IAmb	IAmb	02 05 42.2	
	comp=Z,7.3nm,1.4s						
FINES	**FINESS Array B**	**51.37**	**328**	P	**P**	**02 05 15.8**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=109,slow=8.9,SNR=20						
FINES	**FINESS Array B**	**51.37**	**328**	P	**P**	**02 05 15.4**	**-0.1**
PABE	**Paberze**	**51.50**	**320**	P	**P**	**02 05 16.3**	**-0.3**
KWP	**Kalwaria Pacla**	**51.95**	**313**	P	**P**	**02 05 20.1**	**0.0**
KEV	**Kevo**	**53.34**	**338**	P	**P**	**02 05 30.4**	**+0.4**
ARA0	**ARCESS Array S**	**53.76**	**338**	*e*P	**P**	**02 05 33.8**	**+0.6**
ARCES	**ARCESS Array B**	**53.76**	**338**	P	**P**	**02 05 33.8**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=94,slow=7.1,SNR=17						
ARCES	**ARCESS Array B**	**53.76**	**338**	P	**P**	**02 05 33.8**	**+0.6**
ARCES				IAmb	IAmb	02 05 59.9	
	comp=Z,6.4nm,1.4s						
KTK1	**Kautokeino**	**54.39**	**337**	*e*P	**P**	**02 05 38.0**	**+0.3**
HAMF	**Hammerfest**	**54.70**	**339**	*e*P	**P**	**02 05 40.3**	**+0.4**
TRO	**Tromso**	**56.02**	**337**	*e*P	**P**	**02 05 49.8**	**+0.4**
FAUS	**Fauske**	**56.99**	**334**	*e*P	**P**	**02 05 56.6**	**+0.2**
STEI	**Steigen**	**57.07**	**335**	*e*P	**P**	**02 05 57.2**	**+0.3**
MOR8	**Moi Rana**	**57.20**	**333**	*e*P	**P**	**02 05 57.4**	**-0.5**
PETK	**Petropavlovsk-**	**57.68**	**43**	P	**P**	**02 06 03.4**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=262,slow=7.9,SNR=1.3						
LOF	**Lofoten**	**57.73**	**335**	*e*P	**P**	**02 06 01.7**	**+0.2**
GERES	**GERESS Array B**	**57.88**	**312**	P	**P**	**02 06 01.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=81,slow=7.5,SNR=2.2						
GERES	**GERESS Array B**	**57.88**	**312**	P	**P**	**02 06 01.4**	**-1.7**
NSS	**Namsos**	**58.14**	**331**	*e*P	**P**	**02 06 04.5**	**0.0**
NC405	**NORSAR Array S**	**58.23**	**327**	P	**P**	**02 06 04.2**	**-1.1**
NC602	**NORSAR Array S**	**58.32**	**326**	*e*P	**P**	**02 06 05.0**	**-0.8**
NB2	**NORSAR Subarra**	**58.47**	**327**	P	**P**	**02 06 06.2**	**-0.8**
	baz=89,slow=6.9						
NB2	**NORSAR Subarra**	**58.47**	**327**	P	**P**	**02 06 06.2**	**-0.8**
	baz=89,slow=6.9						
NOA	**NORSAR Array B**	**58.47**	**327**	P	**P**	**02 06 06.3**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=88,slow=7.1,SNR=4.2						
SPA0	**Spitsbergen Ar**	**58.65**	**347**	*e*P	**P**	**02 06 09.7**	**+1.7**
NRCA	**Norcia**	**59.21**	**305**	P	**P**	**02 06 11.8**	**-0.7**
NRCA				IAmb	IAmb	02 06 32.6	
	comp=Z,2.9nm,1.0s						
MURB	**Monte Urbino**	**59.55**	**306**	P	**P**	**02 06 15.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**59.99**	**135**	P	**P**	**02 06 17.7**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=310,slow=7.9,SNR=2.5						
BNI	**Bardonecchia**	**63.28**	**309**	P	**P**	**02 06 39.5**	**-0.7**
BNI				IAmb	IAmb	02 06 57.4	
	comp=Z,1.6nm,0.8s						
KEST	**Kesra**	**63.73**	**298**	P	**P**	**02 06 43.7**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=42,slow=1.4,SNR=8.1						
KEST	**Kesra**	**63.73**	**298**	P	**P**	**02 06 43.2**	**0.0**
WB0	**Warramunga Arr**	**66.92**	**130**	P	**P**	**02 07 03.8**	**-0.1**
WRA	**Warramunga Arr**	**67.01**	**130**	P	**P**	**02 07 04.3**	**0.0**
	comp=Z,2.9nm,0.7s,baz=322,slow=6.4,SNR=16						
WRA	**Warramunga Arr**	**67.01**	**130**	P	**P**	**02 07 04.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**67.57**	**151**	P	**P**	**02 07 06.3**	**-1.3**
ASAR	**Alice Springs**	**69.31**	**133**	P	**P**	**02 07 19.1**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=321,slow=6.5,SNR=23						
ASAR	**Alice Springs**	**69.31**	**133**	P	**P**	**02 07 18.8**	**0.0**
ESDC	**Sonseca Array**	**72.42**	**306**	P	**P**	**02 07 37.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=71,slow=6.6,SNR=5.4						
RES	**Resolute Bay**	**77.68**	**0**	LR	LR	02 46 25.7	
	comp=Z,44nm,20.2s,baz=286,slow=39						
TORD	**Torodi Ar. Bea**	**78.59**	**279**	P	**P**	**02 08 11.6**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=57,slow=5.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**78.59**	**279**	P	**P**	**02 08 11.6**	**-1.8**
TORD				IAmb	IAmb	02 08 13.3	
	comp=Z,1.5nm,0.9s						
TXAR	**Lajitas Array**	**122.43**	**10**	PKP	**PKPdf**	**02 15 06.6**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=107,slow=0.9,SNR=2.7						

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*DJA **02** 02:11:31.4±1.0, 5°.5S±3°.×13°.4E±°, h11km±8km, M4.6/17, mB5.2/4, mb4.7/17, MLv4.6/8, Mw(mB)4.6/4*
*IDC **02** 02:11:31.2±0.7, 4°.62S×133°.65E, h0km, mb4.2/12, mb1 4.3/16, mb1mx4.1/46, mbtmp4.2/16, ML4.4/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=30.6km s-min=15.9km az=73.0*
*NEIC **02** 02:11:36.1±1.8, 4°.59S±0°.05×133°.52E±0°.07, h30km±5km, mb4.3/14, Error ellipse: s-maj=10.4km s-min=5.6km az=115.0*
ISC 02 02:11:34.5±0.5, 4°.63S±0°.05×133°.57E±0°.08, h21km, n59, σ2°.01/64, mb4.2/16, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.97**	**8**	P	Pb	02 11 50.7	-1.8
KMPI				S	**Sb**	**02 12 03.0**	**-1.9**
FAKI	**Fak Fak**	**2.15**	**322**	Pn	**Pn**	**02 12 09.0**	**-0.1**
FAKI				Sn	**Sn**	**02 12 34.1**	**-1.0**
FAKI	**Fak Fak**	**2.15**	**322**	P	**Pn**	**02 12 09.3**	**+0.2**
BNDI	**Bandanaira**	**3.65**	**271**	P	**Pn**	**02 12 31.4**	**+1.6**
SIJI	**Sorong**	**4.38**	**328**	Pn	**Pn**	**02 12 39.0**	**-0.9**
	5.2nm,0.3s,baz=270,slow=23,SNR=2.7						
SIJI				Sn	**Sn**	**02 13 27.3**	**-3.0**
	9.6nm,0.3s,baz=282,slow=23,SNR=2.2						
SWI	**Sorong**	**4.39**	**328**	P	**Pn**	**02 12 40.0**	**0.0**
MSAI	**Masohi**	**4.80**	**285**	P	**Pn**	**02 12 47.4**	**+1.8**
	0.4nm2μm38nm,0.6s						
NLAI	**Namlea**	**6.60**	**282**	P	**Pn**	**02 13 12.3**	**+2.0**
	0.4nm2μm96nm,0.5s						
SANI	**Sanana**	**7.99**	**288**	P	**Pn**	**02 13 29.7**	**+0.3**
	43nm,0.9s						
MTN	**Manton Dam**	**8.51**	**196**		**Pn**	**02 13 37.8**	**+1.2**
MTN					**Sn**	**02 15 13.0**	**+0.8**
SOEI	**Soe**	**10.54**	**241**	Pn	**Pn**	**02 14 05.8**	**+1.2**
SOEI	**Soe**	**10.54**	**241**	P	**Pn**	**02 14 06.0**	**+1.5**
	1μm41nm,1.0s						
BATI	**Baumata**	**11.28**	**240**	Pn	**Pn**	**02 14 15.2**	**+0.6**
	8.9nm,0.3s,baz=157,slow=4.7,SNR=4.3						
BATI				Sn	**Sn**	**02 16 22.0**	**+1.9**
	3.0nm,0.3s,baz=227,slow=22,SNR=1.5						
KNRA	**Kununurra**	**11.96**	**203**	Pn	**Pn**	**02 14 23.0**	**-0.8**
KNRA					**Sn**	**02 16 36.0**	**-0.6**
EDFI	**Ende, Flores**	**12.49**	**250**	P	**Pn**	**02 14 33.2**	**+2.0**
	6.7nm,1.3s						
MPSI	**Mapaga**	**14.52**	**289**	P	**Pn**	**02 14 57.6**	**-1.3**
	9.8nm,1.3s						
WB0	**Warramunga Arr**	**15.07**	**177**	Pn	**Pn**	**02 15 02.8**	**-3.6**
WB0				IAmb	IAmb	02 15 15.5	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**15.24**	**177**	Pn	**Pn**	**02 15 04.6**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=355,slow=13,SNR=25						
WRA				Sn	Sn	02 17 46.1	-11
	comp=Z,0.8nm,0.3s,baz=356,slow=24,SNR=7.2						
WRA	**Warramunga Arr**	**15.24**	**177**		**Pn**	**02 15 05.3**	**-3.4**
WB2	**Warramunga Arr**	**15.24**	**177**	Pn	**Pn**	**02 15 05.9**	**-2.8**
WB2				IAmb	IAmb	02 15 17.6	
	comp=Z,17nm,0.9s						
WR0	**Warramunga Arr**	**15.27**	**177**	Pn	**Pn**	**02 15 08.0**	**-1.0**
WR0				IAmb	IAmb	02 15 15.2	
	comp=Z,29nm,1.2s						
FITZ	**Fitzroy Crossi**	**15.47**	**209**	Pn	**Pn**	**02 15 08.3**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=30,slow=9.8,SNR=35						
FITZ				Sn	**Sn**	**02 17 53.2**	**-9.3**
	comp=Z,1.2nm,0.3s,baz=161,slow=10,SNR=4.3						
FITZ	**Fitzroy Crossi**	**15.47**	**209**	Pn	**Pn**	**02 15 09.2**	**-2.4**
PLAI	**Plampang**	**16.23**	**254**	P	**Pn**	**02 15 21.7**	**+0.3**
	comp=Z,34nm,1.5s						
AS31	**Alice Springs**	**18.93**	**179**	P	**P**	**02 15 55.1**	**+0.9**
ASAR	**Alice Springs**	**18.93**	**179**	P	**P**	**02 15 52.2**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=1.2,slow=11,SNR=62						
ASAR				S	Sn	02 19 14.0	-13
	comp=Z,0.2nm,0.3s,baz=360,slow=27,SNR=6.0						
ASAR	**Alice Springs**	**18.93**	**179**	P	**P**	**02 15 53.6**	**-0.6**
CTA	**Charters Tower**	**19.72**	**142**	P	**P**	**02 16 02.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=328,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**19.72**	**142**	P	**P**	**02 16 03.1**	**+0.3**
CTAO				IAmb	IAmb	02 16 13.6	
	comp=Z,16nm,1.0s						
PSA00	**Pilbara Seismi**	**21.47**	**217**	P	**P**	**02 16 21.0**	**-0.8**
PSA00	**Pilbara Seismi**	**21.47

JPK	Jack Peak	0.42	75		Pb	02 18 35.7	-0.7
JPK					Sb	02 18 42.4	-0.3
PWL	Port Wells	0.45	259		Pb	02 18 36.3	-0.5
PWL					Sb	02 18 43.3	-0.2
PWL	Port Wells	0.45	259	IAML		02 18 44.7	
	comp=E,4μm,0.7s						
PWL				IAML		02 18 46.0	
	comp=N,6μm,0.4s						
FID	Port Fidalgo	0.51	113		Pb	02 18 36.6	-1.1
FID					Sb	02 18 44.1	-0.8
FID	Port Fidalgo	0.51	113	IAML		02 18 45.2	
	comp=E,17μm,0.4s						
FID				IAML		02 18 45.6	
	comp=N,11μm,0.3s						
VMT	TAPS Tl Valdez	0.53	75		Pb	02 18 37.1	-1.0
VMT					Sb	02 18 45.1	-0.5
KNK	Knik Glacier	0.68	313	P	Pb	02 18 39.6	-1.0
	baz=132,SNR=690						
KNK				S	Sb	02 18 49.0	-0.8
	baz=132						
KNK	Knik Glacier	0.68	313		Pb	02 18 39.4	-1.2
KNK					Sb	02 18 49.0	-0.8
HIN	Hinchinbrook I	0.72	140		Pb	02 18 41.0	-0.2
HIN					Sn	02 18 52.6	+1.5
HIN	Hinchinbrook I	0.72	140	IAML		02 18 54.9	
	comp=E,8μm,0.5s						
HIN				IAML		02 18 55.0	
	comp=N,7μm,0.5s						
DIV	Divide	0.83	77		Pb	02 18 41.2	-1.8
SCM	Sheep Creek Mo	0.89	3		Pb	02 18 42.2	-1.8
SCM	Sheep Creek Mo	0.89	3	IAML		02 18 55.4	
	comp=E,3μm,0.7s						
SCM				IAML		02 19 01.0	
	comp=N,3μm,0.9s						
KLU	Klutina	0.91	53	P	Pb	02 18 42.7	-1.7
	baz=234,SNR=362						
KLU				S	Sb	02 18 54.2	-2.0
	baz=234						
KLU	Klutina	0.91	53		Pb	02 18 42.5	-1.9
KLU					Sb	02 18 54.4	-1.8
KLU	Klutina	0.91	53	IAML		02 18 54.9	
	comp=N,4μm,0.5s						
KLU				IAML		02 18 57.1	
	comp=E,3μm,0.3s						
EYAK	Cordova Ski Ar	0.92	115	P	Pn	02 18 43.8	-0.1
	baz=298,SNR=349						
EYAK	Cordova Ski Ar	0.92	115		Pn	02 18 43.7	-0.1
SML	Sawmill	0.96	334	P	Pn	02 18 43.6	-1.0
	baz=152,SNR=314						
SML				S	Sb	02 18 56.2	-1.6
	baz=152						
SML	Sawmill	0.96	334		Pn	02 18 43.6	-1.0
SML	Sawmill	0.96	334	IAML		02 18 56.9	
	comp=E,5μm,0.6s						
SML				IAML		02 18 56.9	
	comp=N,4μm,0.5s						
PMR	Palmer	1.04	309	P	Pn	02 18 44.9	-0.7
	baz=127,SNR=363						
PMR				S	Sn	02 18 58.4	-0.7
	baz=127						
PMR	Palmer	1.04	309		Pn	02 18 44.9	-0.7
PMR					Sn	02 18 58.6	-0.5
GHO	Glory Hole Cre	1.10	320		Pn	02 18 45.8	-0.6
GHO	Glory Hole Cre	1.10	320	IAML		02 19 01.5	
	comp=E,4μm,1.1s						
GHO				IAML		02 19 02.4	
	comp=N,4μm,0.9s						
RC01	Rabbit Creek A	1.13	278	P	Pn	02 18 46.7	-0.2
	baz=95,SNR=241						
RC01				S	Sn	02 19 01.3	0.0
	baz=95						
RC01	Rabbit Creek A	1.13	278		Pn	02 18 46.6	-0.2
RC01	Rabbit Creek A	1.13	278	IAML		02 19 03.5	
	comp=N,4μm,0.7s						
RC01				IAML		02 19 03.5	
	comp=E,2μm,0.5s						
O22K	Cooper Landing	1.22	248	P	Pn	02 18 48.1	+0.1
	baz=66						
O22K				S	Sn	02 19 03.9	+0.5
	baz=66						
O22K	Cooper Landing	1.22	248		Pn	02 18 48.2	+0.1
PS12	TAPS Pump St12	1.23	64		Pn	02 18 47.6	-0.5
M24K	Tolsona, Glenn	1.31	27	P	Pn	02 18 49.2	0.0
	baz=208,SNR=156						
M24K	Tolsona, Glenn	1.31	27		Pn	02 18 49.0	-0.2
M24K					Sb	02 19 07.2	-0.3
SEW	Seward	1.31	231	P	Pn	02 18 48.9	-0.3
	baz=48,SNR=55						
SEW				S	Sn	02 19 06.3	+0.6
	baz=48						
SEW	Seward	1.31	231		Pn	02 18 49.0	-0.2
FIS	Fire Island	1.37	279		Pb	02 18 51.1	-1.0
BMRM	Bremner River	1.38	88	P	Pn	02 18 49.9	-0.3
	baz=271,SNR=550						
BMRM				S	Sn	02 19 08.1	+0.6
	baz=271						
BMRM	Bremner River	1.38	88		Pn	02 18 49.9	-0.3
BMRM					Sb	02 19 08.9	-0.6
BMRM	Bremner River	1.38	88	IAML		02 19 12.3	
	comp=E,3μm,0.7s						
SLKM	Skilak Lake	1.44	253		Pn	02 18 51.3	+0.2
SLKM					Sn	02 19 09.6	+0.6
PS11	TAPS Pump St11	1.47	39		Pn	02 18 52.1	+0.6
N25K	Chitina, Valde	1.52	63	P	Pn	02 18 52.0	-0.2
	baz=246,SNR=124						
N25K				S	Sn	02 19 11.1	+0.2
	baz=246						
N25K	Chitina, Valde	1.52	63		Pn	02 18 52.0	-0.2
N25K	Chitina, Valde	1.52	63	IAML		02 19 13.5	
	comp=N,1μm,0.3s						
N25K				IAML		02 19 14.2	
	comp=E,2μm,0.5s						
MID	Middleton Isla	1.62	160		Pn	02 18 53.8	+0.4
MID					Sb	02 19 16.1	-0.2
MID	Middleton Isla	1.62	160	IAML		02 19 32.2	
	comp=E,994nm,0.8s						
WAT6	Susitna Watana	1.64	355	P	Pn	02 18 53.3	-0.7
	baz=175,SNR=168						
WAT6				S	Sn	02 19 13.6	-0.5
	baz=175						
WAT6	Susitna Watana	1.64	355		Pn	02 18 53.3	-0.7
HMT	Hamilton	1.68	110		Pn	02 18 54.0	-0.3
SUA	Susitna One	1.69	289	P	Pn	02 18 54.7	+0.1
	baz=106,SNR=590						
SUA	Susitna One	1.69	289		Pn	02 18 54.6	+0.1
HARP	HAARP	1.81	36	P	Pn	02 18 57.0	+0.8
	baz=218,SNR=249						
HARP	HAARP	1.81	36		Pn	02 18 57.0	+0.8
HARP					Sn	02 19 18.3	+0.2
GLB	Gilahina Butte	1.82	73		Pn	02 18 56.5	+0.2
GLB	Gilahina Butte	1.82	73	IAML		02 19 20.8	
	comp=E,1μm,0.6s						
CAPN	Captain Cook N	1.83	266	P	Pn	02 18 57.2	+0.8
	baz=82,SNR=14						
CAPN	Captain Cook N	1.83	266		Pn	02 18 57.2	+0.8
NICHA	Nichawak Mount	1.85	111		Pn	02 18 56.4	-0.3
NICHA					Sn	02 19 20.1	+1.0
VRDI	Verde Repeater	1.95	80		Pn	02 18 58.2	0.0
VRDI	Verde Repeater	1.95	80	IAML		02 19 25.1	
	comp=N,936nm,0.7s						
WAT1	Susitna Watana	1.96	345	P	Pn	02 18 58.4	+0.2
	baz=164						
WAT1	Susitna Watana	1.96	345		Pn	02 18 58.4	+0.2
CUT	Chulitna	1.99	318	P	Pn	02 18 59.4	+0.9
	baz=136,SNR=357						
CUT	Chulitna	1.99	318		Pn	02 18 59.4	+0.9
CUT					Sn	02 19 23.1	+0.7
WAT7	Susitna Watana	2.01	341		Pn	02 18 59.0	+0.1
SUCK	Suckling Hills	2.01	114		Pn	02 18 58.5	-0.4
SUCK	Suckling Hills	2.01	114	IAML		02 19 35.1	
	comp=N,744nm,0.6s						
BRSE	Bradley Lake S	2.04	235	P	Pn	02 18 59.5	+0.2
	baz=52,SNR=58						
BRSE				S	Sn	02 19 23.9	+0.1
	baz=52						
BRSE	Bradley Lake S	2.04	235		Pn	02 18 59.5	+0.2
BRSE					Sn	02 19 24.2	+0.4
BRLK	Bradley Lake	2.09	237		Pn	02 19 00.2	+0.2
BRLK	Bradley Lake	2.09	237	IAML		02 19 32.5	
	comp=E,1μm,0.5s						
BRLK				IAML		02 19 32.7	
	comp=N,606nm,0.6s						
CRQM	Cirque	2.11	93		Pn	02 19 00.5	+0.1
KHIT	Khitrov Hills	2.12	102		Pn	02 18 59.9	-0.5
CRQE	Cirque	2.13	93	P	Pn	02 19 00.2	-0.4
	baz=278,SNR=131						
GRIN	Grindle Hills	2.13	107		Pn	02 19 00.5	-0.1
MCARA	McCarthy VSAT	2.18	77	P	Pn	02 19 01.2	0.0
	baz=261,SNR=51						
MCARA	McCarthy VSAT	2.18	77		Pn	02 19 01.5	+0.3
MCARA					Sn	02 19 29.5	+2.4
MCARA	McCarthy VSAT	2.18	77	IAML		02 19 39.6	
	comp=N,1μm,0.5s						
STLK	Strandline Lak	2.20	286		Pn	02 19 01.9	+0.4
BGLC	Bering Glacier	2.21	110	P	Pn	02 19 01.8	+0.2
	baz=294						
SKT	Skwentna	2.23	299	P	Pn	02 19 01.8	0.0
	baz=116,SNR=652						
SKT	Skwentna	2.23	299		Pn	02 19 01.8	0.0
SKT					Sn	02 19 30.2	+2.0
SKT	Skwentna	2.23	299	IAML		02 19 32.6	
	comp=N,1μm,0.4s						
SKT				IAML		02 19 33.0	
	comp=E,1μm,0.4s						
PAX	Paxson	2.23	24	P	Pn	02 19 02.6	+0.6
	baz=205,SNR=202						
PAX	Paxson	2.23	24		Pn	02 19 02.7	+0.8
SPCG	Spurr Capps Gl	2.25	281		Pn	02 19 02.5	+0.1
SPCG					Sn	02 19 30.3	+1.2
TGL	Tana Glacier	2.26	93		Pn	02 19 02.0	-0.4
TGL	Tana Glacier	2.26	93	IAML		02 19 41.4	
	comp=E,784nm,0.6s						
TGL				IAML		02 19 48.3	
	comp=N,804nm,0.8s						
HUR	Hurricane	2.29	334		Pn	02 19 03.1	+0.4
WAX	Waxell Ridge	2.31	101		Pn	02 19 02.7	-0.3
SPCP	Crater Peak Br	2.32	280		Pn	02 19 03.3	+0.1
SPCN	Chakachatna No	2.33	279		Pn	02 19 03.0	-0.2
SPCR	Spurr Chakacha	2.34	278	P	Pn	02 19 03.2	-0.2
	baz=94,SNR=21						
SPCR	Spurr Chakacha	2.34	278		Pn	02 19 03.1	-0.2
SPCR					Sn	02 19 32.1	+1.0
CNPM	China Poot	2.38	235		Pn	02 19 04.0	0.0
SPBG	Spurr Blockage	2.42	280		Pn	02 19 04.8	+0.2
PTPK	Patty Peak	2.42	82		Pn	02 19 05.1	+0.3
KULT	Kultieth River	2.43	105		Pn	02 19 04.5	-0.2
HOM	Homer	2.47	240		Pn	02 19 05.0	-0.1
HOM				IAML		02 19 45.4	
	comp=E,985nm,0.8s						
HOM				IAML		02 19 48.9	
	comp=N,962nm,0.8s						
KIAG	Kiagna River	2.48	88		Pn	02 19 05.2	-0.2
BALM	Baldy	2.48	86		Pn	02 19 05.3	-0.1
ISLE	Juniper Island	2.52	96		Pn	02 19 05.7	-0.3
ISLE	Juniper Island	2.52	96	IAML		02 19 48.5	
	comp=N,798nm,0.6s						
ISLE				IAML		02 19 49.6	
	comp=E,696nm,0.7s						
RND	Reindeer	2.55	345		Pn	02 19 06.8	+0.4
RND	Reindeer	2.55	345	IAML		02 19 47.4	
	comp=E,399nm,1.5s						
CYK	Cape Yakataga	2.59	107		Pn	02 19 06.7	-0.1
MENT	Mentasta	2.66	40		Pn	02 19 08.1	+0.4
MENT				IAML		02 19 45.5	
	comp=N,477nm,0.3s						
MENT				IAML		02 19 58.1	
	comp=E,691nm,0.8s						
BAGL	Bagley Icefiel	2.66	98		Pn	02 19 07.8	0.0
RSO	Redoubt South	2.66	262		Pn	02 19 08.1	+0.1
RED	Redoubt Volcan	2.68	261		Pn	02 19 08.0	-0.2
O20K	Slope Mountain	2.71	254	P	Pn	02 19 08.4	-0.1
	baz=69						
NCT	North Crescent	2.73	264		Pn	02 19 08.5	-0.3
BARN	Barnard Glacie	2.81	85		Pn	02 19 10.3	+0.2
BARN	Barnard Glacie	2.81	85	IAML		02 19 55.3	
	comp=E,393nm,0.6s						
BARN				IAML		02 19 58.0	
	comp=N,598nm,0.6s						
MESA	MESA	2.81	104	P	Pn	02 19 09.8	-0.3
	baz=289,SNR=31						
MESA	MESA	2.81	104		Pn	02 19 10.0	-0.1
MESA	MESA	2.81	104	IAML		02 19 58.8	
	comp=E,465nm,0.6s						
MESA				IAML		02 20 04.0	
	comp=N,710nm,0.5s						
TRF	Thorofare Moun	2.84	333	P	Pn	02 19 11.2	+0.7
	baz=150,SNR=128						
TRF	Thorofare Moun	2.84	333		Pn	02 19 11.2	+0.7
TRF	Thorofare Moun	2.84	333	IAML		02 19 55.0	
	comp=N,377nm,0.7s						
TRF				IAML		02 19 55.1	
	comp=E,374nm,0.7s						
YAH	Yahtse	2.86	99		Pn	02 19 10.6	-0.2
YAH	Yahtse	2.86	99	IAML		02 19 51.8	
	comp=E,338nm,0.6s						
YAH				IAML		02 20 00.6	
	comp=N,443nm,0.8s						
MCK	McKinley	2.88	347	P	Pn	02 19 11.7	+0.9
	baz=165,SNR=56						
MCK	McKinley	2.88	347		Pn	02 19 11.7	+0.9
MCK	McKinley	2.88	347	IAML		02 19 53.4	
	comp=N,290nm,1.1s						
MCK				IAML		02 19 57.8	
	comp=E,343nm,0.9s						
M20K	Styx River	2.90	291	P	Pn	02 19 10.9	-0.2
	baz=106						
IVE	Iliamna Volcan	2.92	254		Pn	02 19 10.9	-0.6
CTG	Chitna Glacier	2.97	87	P	Pn	02 19 11.9	-0.3
	baz=273						
CTGM	Chitina Glacie	2.97	87		Pn	02 19 12.2	0.0
CTGM	Chitina Glacie	2.97	87	IAML		02 20 00.4	
	comp=N,323nm,0.6s						
PPLA	Purkeypile	2.98	313	P	Pn	02 19 12.1	-0.2
	baz=129,SNR=148						
PPLA	Purkeypile	2.98	313		Pn	02 19 12.2	-0.1
RKAV	Rock Avalanche	3.07	100		Pn	02 19 13.7	+0.2
KTH	Kantishna Hill	3.08	329		Pn	02 19 14.5	+0.8
KTH	Kantishna Hill	3.08	329	IAML		02 19 53.5	
	comp=E,335nm,0.7s						
KTH				IAML		02 20 05.9	
	comp=N,274nm,0.7s						
DOT	Dot Lake	3.13	29		Pn	02 19 14.9	+0.6
CHX	Chaix Hills	3.25	103		Pn	02 19 16.7	+0.8
YUK2	White River	3.28	72		Pn	02 19 17.0	+0.6
BWN	Browne	3.37	345		Pn	02 19 16.4	-1.1
L27K	Beaver Creek,	3.39	49	P	Pn	02 19 18.5	+0.7
	baz=234,SNR=33						
L27K	Beaver Creek,	3.39	49		Pn	02 19 18.7	+0.9
SAMH	Samovar Hills	3.39	101		Pn	02 19 18.5	+0.6
BC03		3.40	49		Pn	02 19 18.9	+1.0
BCAR	Beaver Creek A	3.40	49	Pn	Pn	02 19 18.0	-0.1
SCRK	Sand Creek	3.43	26	P	Pn	02 19 18.5	0.0
	baz=209,SNR=54						
SCRK	Sand Creek	3.43	26		Pn	02 19 18.6	+0.1
N19K	Bonanza Creek	3.45	271	P	Pn	02 19 18.1	-0.7
	baz=84,SNR=16						
N19K				S	Sn	02 19 59.0	+0.4
	baz=84						
N19K	Bonanza Creek	3.45	271		Pn	02 19 18.7	-0.1
HDA	Harding Lake	3.48	3	P	Pn	02 19 19.2	+0.2
	baz=184,SNR=109						
HDA	Harding Lake	3.48	3		Pn	02 19 18.5	-0.5
HDA	Harding Lake	3.48	3	IAML		02 20 08.1	
	comp=N,318nm,0.7s						
HDA				IAML		02 20 08.4	
	comp=E,318nm,0.9s						
M19K	Big River Lodg	3.48	289	P	Pn	02 19 18.3	-0.7
	baz=103						
WRH	Wood River Hil	3.55	355		Pn	02 19 20.2	+0.2
WRH	Wood River Hil	3.55	355	IAML		02 20 17.0	
	comp=E,161nm,0.9s						
WRH				IAML		02 20 18.5	
	comp=N,155nm,0.8s						
BPAW	Bear Paw Mtn.	3.57	334	P	Pn	02 19 20.2	-0.1
	baz=151,SNR=40						
BPAW	Bear Paw Mtn.	3.57	334		Pn	02 19 20.2	-0.1
BPAW	Bear Paw Mtn.	3.57	334	IAML		02 20 16.0	
	comp=E,221nm,1.0s						
BPAW				IAML		02 20 16.1	
	comp=N,244nm,1.5s						
PS08	TAPS Pump Stn8	3.62	4		Pn	02 19 21.0	+0.1
PCA	Pinnacle	3.65	100		Pn	02 19 21.0	-0.4
PINM	Pinnacle	3.65	100	P	Pn	02 19 20.9	-0.6
	baz=287,SNR=11						
CCB	Clear Creek Bu	3.71	357		Pn	02 19 22.3	0.0
NEA2	Nenana	3.73	349	P	Pn	02 19 22.3	-0.2
	baz=168,SNR=48						
NEA2	Nenana	3.73	349		Pn	02 19 22.4	-0.1
NEA2	Nenana	3.73	349	IAML		02 20 21.3	
	comp=E,140nm,0.6s						
NEA2				IAML		02 20 22.6	
	comp=N,144nm,0.7s						
L19K	White Mountain	3.76	292	P	Pn	02 19 22.4	-0.5
	baz=106,SNR=110						
IL31		3.84	3		Pn	02 19 23.8	-0.2
ILAR	Eielson Array	3.84	3	Pn	Pn	02 19 24.2	+0.2
	comp=N,7.6nm,0.3s,baz=186,slow=14,SNR=106						
ILAR				Sn	Sn	02 20 12.3	+4.1
	comp=N,6.3nm,0.3s,baz=190,slow=19,SNR=8.3						
ILAR	Eielson Array	3.84	3	Pn	Pn	02 19 23.8	-0.3
ILAR					Sn	02 20 10.9	+2.8
COLA	College	3.94	357		Pn	02 19 25.6	+0.2
TCOL	CIGO, UAF Yank	3.94	357		Pn	02 19 25.4	0.0
K27K	Chicken	3.96	36	P	Pn	02 19 25.2	-0.5
	baz=221						
K27K	Chicken	3.96	36		Pn	02 19 26.1	+0.4
SVW2	Sparrevohn	3.97	276		Pn	02 19 24.6	-1.2
BCPM	Bancas Point	3.99	101		Pn	02 19 25.5	-0.5
BCPM	Bancas Point	3.99	101	IAML		02 20 33.3	
	comp=E,203nm,0.7s						
BCPM				IAML		02 20 34.8	
	comp=N,153nm,0.5s						
MDM	Murphy Dome	4.04	355		Pn	02 19 26.8	0.0
MDM	Murphy Dome	4.04	355	IAML		02 20 29.6	
	comp=N,118nm,1.1s						
MDM				IAML		02 20 32.3	
	comp=E,167nm,0.9s						
KDAK	Kodiak Island	4.13	222	Pn	Pn	02 19 27.4	-0.5
	comp=E,9.2nm,0.3s,baz=42,slow=13,SNR=171						
KDAK				Sn	Sn	02 20 11.4	-3.7
	comp=E,9.6nm,0.3s,baz=336,slow=22,SNR=13						
KDAK	Kodiak Island	4.13	222	P	Pn	02 19 27.6	-0.4
	baz=37						
KDAK	Kodiak Island	4.13	222	Pn	Pn	02 19 27.8	-0.2
KDAK					Sn	02 20 13.0	-2.1
N18K	Kilae Creek	4.15	270	P	Pn	02 19 27.2	-1.1
	baz=82						
N18K	Kilae Creek	4.15	270		Pn	02 19 27.2	-1.1
POKR	Poker Plat Res	4.18	360	P	Pn	02 19 28.3	-0.4
	baz=180						
PNL	Peninsula	4.20	104		Pn	02 19 28.5	-0.4
I23K	Minto, Yukon-K	4.30	349	P	Pn	02 19 30.4	+0.1
	baz=167,SNR=24						
I23K	Minto, Yukon-K	4.30	349		Pn	02 19 30.4	+0.1
I23K	Minto, Yukon-K	4.30	349	IAML		02 20 40.4	
	comp=E,94nm,1.1s						
I23K				IAML		02 20 45.1	
	comp=N,109nm,0.7s						
MLY	Manley	4.37	341	P	Pn	02 19 31.1	-0.1
	baz=158,SNR=39						
MLY	Manley	4.37	341		Pn	02 19 31.6	+0.4
YUK6	Outpost Mounta	4.42	86		Pn	02 19 32.0	-0.2
TT01	Tatalina	4.51	300		Pn	02 19 32.2	-1.0
PRP	Porcupine Dome	4.67	10	P	Pn	02 19 34.7	-0.8
	baz=192						
PRP	Porcupine Dome	4.67	10		Pn	02 19 34.9	-0.6
PRP	Porcupine Dome	4.67	10	IAML		02 20 36.9	
	comp=E,94nm,0.5s						
PRP				IAML		02 20 56.3	
	comp=N,100nm,0.8s						
I21K	Tanana	4.72	336	P	Pn	02 19 36.3	+0.2
	baz=152,SNR=6.5						
I21K	Tanana	4.72	336		Pn	02 19 36.4	+0.2
EGAK	Eagle	4.79	34	Pn	Pn	02 19 38.0	+1.0
OHAK	Old Harbor	4.81	222	P	Pn	02 19 36.2	-1.0
	baz=36,SNR=14						
OHAK	Old Harbor	4.81	222		Pn	02 19 36.4	-0.9
HYT	Haines Junctio	4.85	87	Pn	Pn	02 19 38.4	+0.4
DAWY	Dawson	4.86	47	Pn	Pn	02 19 38.5	+0.5
H24K	Noodor Dome	4.91	358	P	Pn	02 19 38.5	-0.2
	baz=177						
H24K	Noodor Dome	4.91	358		Pn	02 19 38.2	-0.5
H23K	Yukon River	4.99	350	P	Pn	02 19 39.7	-0.1
	baz=168,SNR=8.8						
H21K	Melozitna Rive	5.31	335	P	Pn	02 19 43.9	-0.3
	baz=150						
H21K	Melozitna Rive	5.31	335		Pn	02 19 44.2	0.0
WHY	Whitehorse	6.15	87	P	Pn	02 19 55.7	-0.1
	baz=278						
WHY	Whitehorse	6.15	87		Pn	02 19 56.2	+0.4
SKAG	Skagway	6.21	99	Pn	Pn	02 19 56.8	+0.2
COLD	Coldfoot	6.42	350	P	Pn	02 19 59.5	+0.1
	baz=168,SNR=11						
COLD	Coldfoot	6.42	350		Pn	02 19 59.4	+0.1
JIS	Juneau Island	7.14	106		Pn	02 20 09.0	-0.2
SDPT	Sand Point	8.88	237	P	Pn	02 20 33.4	+0.2
	baz=45						
CHNA	Chernabura Isl	8.91	232	P	Pn	02 20 33.5	-0.1
	baz=42						
WRAK	Wrangell Islan	9.06	113	P	Pn	02 20 35.1	-0.5
	baz=306						
DLBC	Dease Lake	9.15	98	Pn	Pn	02 20 38.7	+1.9
	comp=N,0.4nm,0.3s,baz=239,slow=12,SNR=2.7						
DLBC	Dease Lake	9.15	98		Pn	02 20 37.5	+0.7
INK	Inuvik	9.47	33	Pn	Pn	02 20 44.9	+3.8
	comp=N,0.3nm,0.3s,baz=229,slow=9.3,SNR=1.8						
INK				LR	LR	02 24 33.7	
	comp=N,41nm,21.1s,baz=96,slow=39						
INK	Inuvik	9.47	33		Pn	02 20 41.5	+0.5
YKA	Yellowknife Ar	15.54	70	Pn	P	02 22 06.6	-1.0
	comp=N,0.1nm,0.3s,baz=300,slow=10.0,SNR=5.7						
FINES	FINESS Array B	57.83	4	P	P	02 28 20.5	+5.5
	comp=N,0.6nm,0.5s,baz=10,slow=8.5,SNR=5.3						
FINES	FINESS Array B	57.83	4	P	P	02 28 16.5	+1.6
ESDC	Sonseca Array	75.38	28	P	P	02 30 13.5	+6.1
	comp=N,0.5nm,0.8s,baz=331,slow=6.1,SNR=3.1						
CTA	Charters Tower	96.53	240	LR	LR	03 11 56.6	
	comp=N,144nm,19.7s,baz=46,slow=33						

DRS **02** *02:24:05.3±0.0,41°.90N×49°.07E,h16km,ML3.4/6*
MOS 02 02:24:08.9±1.8,41°.73N×48°.68E,h12km,mb3.6/1,Error ellipse: s-maj=14.6km s-min=7.3km az=43.2,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.43	253	*e*PG	Pb	02 24 18.1	-0.3
KSMR				*e*S	Sb	02 24 28.1	+3.2
KSMR				pmax	pmax		
	comp=Z,184nm,0.3s						
KSMR	Kasumkent	0.43	253	*e*Pg	Pb	02 24 18.1	-0.3
	comp=Z,184nm,0.2s						
KSMR				*e*Sg	Sb	02 24 28.2	+3.3
	comp=Z,45nm,0.1s						
AKT	Akhty	0.75	251	*i* PG	Pb	02 24 23.9	-0.1
AKT				*e*S	Sn	02 24 36.6	-0.2
AKT				pmax	pmax		
	comp=Z,601nm,0.3s						
AKT	Akhty	0.75	251	*i* Pg	Pb	02 24 24.0	0.0
	comp=Z,601nm,0.3s						
AKT				*e*Sg	Sn	02 24 36.6	-0.1
	comp=Z,894nm,0.4s						
URKR	Urkarakh	0.89	300	*e*PG	Pg	02 24 24.5	-1.7
URKR				*e*S	S

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     comp=Z,19nm,0.1s
XNZR                          eSg     Sb      02 25 01.1 +0.2
     comp=Z,86nm,0.6s
KRNR Karanay          1.71 311 ePN     Pn      02 24 37.5 -1.1
KRNR                          pmax    pmax
     comp=Z,13nm,0.3s
KRNR Karanay          1.71 311 ePg     Pn      02 24 37.6 -1.1
KRNR                          eSg     Sn      02 25 00.5  0.0
     comp=Z,70nm,0.2s
DBC  Dubki            1.88 314 ePN     Pn      02 24 40.0 -0.9
DBC                           pmax    pmax
     comp=Z,7.0nm,0.4s
DBC  Dubki            1.88 314 ePg     Pn      02 24 40.0 -0.9
DBC                           eSg     Sb      02 25 05.7 -1.0
     comp=Z,34nm,0.3s
BTLR Botlikh          2.05 298 i PN    Pg      02 24 47.7 -0.5
DVE  Vedeno           2.25 304 ePN     Pn      02 24 47.4 +1.3
DVE                           pmax    pmax
     comp=Z,10.0nm,0.3s
GROC Groznyy          2.59 306 ePN     Pb      02 24 55.2 -0.1
GROC                          e               02 25 24.5
GROC                          pmax    pmax
     comp=Z,13nm,0.3s
GROC                          smax    smax
     comp=N,39nm,0.6s
GROC                          smax    smax
     comp=N,42nm,0.6s
GROC                          MLR     MLR
     comp=Z,27nm,2.0s
NCK  Nalchik          4.14 297 i PN    Pn      02 25 15.2 +3.2
KBZ  Khabaz           4.70 297 i PN    Pn      02 25 23.7 +4.1
KIV  Kislovodsk       4.93 299 ePN     Pn      02 25 23.5 +0.6
KIV                           eS      Sn      02 26 23.3 +3.3
KIV                           pmax    pmax
     comp=Z,5.0nm,1.0s
OBN  Obninsk         15.59 333 eP      P       02 27 50.7 -1.8
OBN                           pmax    pmax
     comp=Z,5.0nm,0.3s
ARU  Arti            16.05  20 i P     P       02 27 56.7 -0.9
ARU                           pmax    pmax
     comp=Z,4.0nm,1.6s
MKAR Makanchi Array  24.48  67 i P     P       02 29 25.7 -2.1
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IDC 02 02:26:44.3±8.4, 14°24S×14°12W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/36, mbtmp3.7/3, MS3.4/12, Ms1 3.4/12, ms1mx3.2/30, Error ellipse: s-maj=192.8km s-min=150.6km az=155.0, Southern Mid-Atlantic Ridge

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
H10S2 ASCENSION HYDR 5.28 354   T     T           02 33 08.3
     baz=176,slow=74,SNR=51
H10S3 ASCENSION HYDR 5.28 354   T     T           02 33 10.3
     baz=44,slow=74,SNR=89
H10N1 ASCENSION HYDR 6.37 357   T     T           02 34 51.1
     baz=181,slow=72,SNR=19
H10N3 ASCENSION HYDR 6.37 357   T     T           02 34 46.8
     baz=181,slow=72,SNR=77
H10N2 ASCENSION HYDR 6.38 357   T     T           02 34 50.9
     baz=181,slow=72,SNR=17
TORD Torodi Ar. Bea  31.40  31  P     P           02 33 07.3  0.0
     2.2nm,0.9s,baz=215,slow=8.6,SNR=6.0
TORD                            LR    LR          02 44 01.0
     comp=Z,68nm,18.8s,baz=85,slow=33
CPUP Villa Florida   42.09 246  LR    LR          02 49 33.1
     comp=Z,58nm,21.6s,baz=65,slow=32
LPAZ La Paz          52.02 260  LR    LR          02 58 26.4
     comp=Z,32nm,18.4s,baz=108,slow=37
ESDC Sonseca Array   54.47  10  P     P           02 36 13.6 -0.1
     0.6nm,0.8s,baz=194,slow=7.2,SNR=4.9
ESDC                            LR    LR          02 57 10.7
     comp=Z,27nm,18.6s,baz=180,slow=34
PLCA Paso Flores     55.50 230  LR    LR          02 56 59.5
     comp=Z,30nm,20.7s,baz=140,slow=33
VAE  Valguarnera     58.02  27  LR    LR          02 59 22.1
     comp=Z,27nm,20.1s,baz=212,slow=34
ROSC El Rosal        62.63 283  LR    LR          03 04 21.1
     comp=Z,54nm,18.5s,baz=248,slow=36
DAVOX Davos/Dischmat 64.46  18  LR    LR          03 04 16.1
     comp=Z,43nm,19.3s,baz=260,slow=35
MMAI Mount Meron Ar  66.66  44  LR    LR          03 05 26.1
     comp=Z,16nm,19.6s,baz=350,slow=35
VRAC Vranov          68.85  21  LR    LR          03 07 54.2
     comp=Z,30nm,18.2s,baz=157,slow=36
JTS  Las Juntas de   74.34 285  LR    LR          03 12 13.9
     comp=Z,37nm,19.6s,baz=90,slow=37
AKASG Malin Array Be 74.94  27  P     P           02 38 27.1  0.0
     0.2nm,0.3s,baz=224,slow=6.9,SNR=5.5
FINES FINESS Array B 81.87  18  LR    LR          03 14 12.8
     comp=Z,17nm,18.1s,baz=34,slow=35
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DJA 02 02:35:13.5±0.4, 6°S±6°×11°0E±°, h550km±6km, M4.2/18, mb4.4/12, mB4.6/4, MLv4.3/18, Mw(mB)3.8/4
IDC 02 02:35:13.0±0.7, 5°66S×110°40E, h550km±8km, mb3.4/19, mb1 3.5/22, mb1mx3.3/50, mbtmp4.3/22, Error ellipse: s-maj=14.4km s-min=8.0km az=58.0
NEIC 02 02:35:13.4±1.1, 5°7S±0°1×110°4E±0°1, h551km±6km, mb4.3/18, Error ellipse: s-maj=17.9km s-min=15.5km az=83.0

ISC 02 02:35:13.0±0.5, 5°76S±0°07×110°43E±0°07, h554km±6km, n90, σ1°03/100, mb3.9/26, Java Sea

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
SMRI Semarang        1.28 180   P     P           02 36 20.9 +0.5
SMRI                            S     S           02 37 17.0 +1.8
SMRI Semarang        1.28 180   P     P           02 36 21.7 +1.3
TBJI Tambak Boyo     1.76 127   P     P           02 36 23.1 +1.1
YOGI Yogyakarta      2.04 184   P     P           02 36 23.1 -0.2
UGM  Wanagama        2.14 178   P     P           02 36 24.0 +0.3
UGM                             S     S           02 37 20.8 -0.4
UGM  Wanagama        2.14 178   P     P           02 36 23.8 +0.1
UGM                             S     S           02 37 19.8 -1.4
KPJI Karang Pucung   2.16 224   P     P           02 36 24.0 +0.3
KPJI                            S     S           02 37 20.6 -0.6
PCJI Pacitan         2.53 163   P     P           02 36 25.6  0.0
PCJI                            S     S           02 37 22.4 -2.3
PWJI Pagerwojo       2.63 149   P     P           02 36 26.0 -0.1
LEM  Lembang         2.99 249   P     P           02 36 29.0 +0.5
     29nm,0.3s,baz=20,slow=6.8,SNR=29
LEM                             S     S           02 37 29.5 -0.3
     9.2nm,0.3s,baz=245,slow=23,SNR=3.7
LEM  Lembang         2.99 249   P     P           02 36 28.9 +0.5
CISI Cisompet, Garu  3.15 235   P     P           02 36 28.6 -0.7
CISI                            S     S           02 37 29.0 -2.4
CISI Cisompet, Garu  3.15 235   P     P           02 36 28.5 -0.8
CNJI Cibinong        3.62 245   P     P           02 36 31.1 -1.3
KMMI Kalianget       3.74 110   P     P           02 36 33.9 +0.7
TPI  Tanjungpandan   4.07 317   P     P           02 36 36.3 +0.6
CGJI Cibinong        4.79 260   P     P           02 36 40.1 -1.2
PPBI Pangkal Pinang  5.58 310   P     P           02 36 48.7 +0.6
     1.0nm4µm96nm,0.8s
MTKI Muara Teweh, K  6.54  43   P     P           02 36 58.3 +1.4
     1.4nm79nm,0.5s
XMIS Christmas Isla  6.66 225   P     P           02 36 57.4 -0.5
TWSI Taliwang, Sumb  7.05 115   P     P           02 37 01.9 +0.3
     0.1nm572nm18nm,1.0s
MNAI Manna           7.57 280   P     P           02 37 07.5 +0.7
MNAI Manna           7.57 280   P     P           02 37 07.1 +0.4
     1.4nm159nm,0.7s
BKB  Balikpapan      7.85  56   P     P           02 37 11.7 +2.3
     315nm,0.8s
PLAI Plampang        7.90 113   P     P           02 37 09.8 -0.1
     0.3nm41nm,0.5s
KAPI Kappang         9.31  86   P     P           02 37 24.1 +0.1
     9.2nm,0.3s,baz=258,slow=19,SNR=12
KAPI Kappang         9.31  86   P     P           02 37 24.8 +0.7
BKSI Bulukumba       9.66  88   P     P           02 37 29.0 +1.4
     34nm,0.8s
WBSI Waikabubak, Su  9.68 114   P     P           02 37 27.3 -0.5
     65nm,0.6s
BNSI Bone            9.73  82   P     P           02 37 29.2 +0.9
     44nm,0.9s
MPSI Mapaga         11.23  58   P     P           02 37 45.4 +1.7
TOLI2 Tolitoli      12.39  57   P     P           02 37 57.1 +1.4
BATI Baumata        13.83 109   S     S           02 40 32.0 -4.6
     7.6nm,0.3s,baz=327,slow=17,SNR=4.6
PSA00 Pilbara Seismi 18.17 151  P     P           02 38 53.2 +0.9
FITZ Fitzroy Crossi 19.26 131   P     P           02 39 02.7 +0.4
     0.5nm,0.3s,baz=332,slow=11,SNR=13
FITZ Fitzroy Crossi 19.26 131   P     P           02 39 03.3 +1.0
FITZ                            IAmb  IAmb        02 39 04.1
     comp=Z,5.0nm,0.8s
DAV  Davao City (W) 19.77  50   P     P           02 39 06.1 -0.9
     comp=Z,114nm,0.3s,baz=210,slow=8.1,SNR=2.9
DAV  Davao City (W) 19.77  50   P     P           02 39 06.2 -0.8
KNRA Kununurra      20.51 120   P     P           02 39 14.2 +0.6
KNRA                            IAmb  IAmb        02 39 18.2
     comp=Z,13nm,1.1s
MTN  Manton Dam     21.59 110   P     P           02 39 24.3 +0.8
MORW Morawa         23.78 168   P     P           02 39 44.3 +1.6
MORW                            IAmb  IAmb        02 39 58.8
     comp=Z,6.6nm,1.1s
CMAR Chiang Mai Arr 26.60 335   P     P           02 40 07.7 -0.1
     comp=Z,1.5nm,0.6s,baz=167,slow=7.8,SNR=6.3
WB0  Warramunga Arr 27.14 123   P     P           02 40 13.0 +0.4
WB0                             IAmb  IAmb        02 40 14.0
     comp=Z,5.0nm,0.6s
WRA  Warramunga Arr 27.18 123   P     P           02 40 13.8 +0.8
     comp=Z,2.8nm,0.3s,baz=292,slow=7.4,SNR=65
WRA                             PcP   PcP         02 43 15.1 +0.2
     comp=Z,0.7nm,0.3s,baz=325,slow=2.0,SNR=9.4
WRA                             S     S           02 44 11.8 -1.5
     comp=Z,1.1nm,0.7s,baz=302,slow=18,SNR=3.3
WRA  Warramunga Arr 27.18 123   P     P           02 40 13.6 +0.7
WRA                             PcP   PcP         02 43 15.2 +0.2
WB2  Warramunga Arr 27.19 123   P     P           02 40 13.7 +0.7
WB2                             IAmb  IAmb        02 40 14.2
     comp=Z,6.4nm,0.9s
WR0  Warramunga Arr 27.36 123   P     P           02 40 15.5 +1.0
WR0                             IAmb  IAmb        02 40 15.9
     comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 27.76 168   P     P           02 40 18.9 +1.1
     comp=Z,6.2nm,0.9s,baz=62,slow=5.3,SNR=1.8
AS31 Alice Springs  28.76 131   P     P           02 40 27.4 +0.7
ASAR Alice Springs  28.76 131   P     P           02 40 27.6 +0.8
     comp=Z,2.1nm,0.3s,baz=306,slow=7.8,SNR=35
ASAR                            PcP   PcP         02 43 19.4 +0.5
     comp=Z,0.7nm,0.3s,baz=329,slow=2.3,SNR=7.2
ASAR                            S     S           02 44 36.0 -1.8
     comp=Z,1.0nm,0.7s,baz=293,slow=15,SNR=8.5
FORT Forrest        29.89 148   P     P           02 40 37.8 +1.5
BBOO Buckleboo      35.97 142   P     P           02 41 28.2 +0.6
BBOO                            IAmb  IAmb        02 41 42.2
     comp=Z,8.3nm,1.1s
STKA Stephens Creek 39.03 136   P     P           02 41 53.9 +1.2
     comp=Z,11nm,0.3s,baz=315,slow=7.6,SNR=44
STKA Stephens Creek 39.03 136   P     P           02 41 53.9 +1.2
STKA                            IAmb  IAmb        02 41 54.2
     comp=Z,3.0nm,0.4s
SONM Songino Array  53.49 357   P     P           02 43 42.0 +0.1
     comp=Z,1.1nm,0.5s,baz=178,slow=7.1,SNR=5.5
MK31 Makanchi Array 57.97 338   P     P           02 44 12.7 -0.2
MKAR Makanchi Array 57.97 338   P     P           02 44 12.5 -0.4
     comp=Z,3.1nm,0.5s,baz=152,slow=7.6,SNR=42
MKAR                            PcP   PcP         02 44 57.2 -0.2
     comp=Z,0.3nm,0.5s,baz=151,slow=3.3,SNR=1.7
KURBB Kurchatov Arra 62.54 338  P     P           02 44 42.4 -0.6
     comp=Z,1.2nm,0.6s,baz=154,slow=5.7,SNR=8.6
KURBB                           PcP   PcP         02 45 15.6 -0.2
     comp=Z,0.6nm,0.5s,baz=153,slow=4.1,SNR=3.5
KURK Kurchatov      62.58 338   P     P           02 44 42.4 -0.8
KURK                            PcP   PcP         02 45 15.6 -0.4
ZALV Zalesovo Beam  63.26 343   P     P           02 44 46.4 -1.1
     comp=Z,1.7nm,0.4s,baz=139,slow=4.2,SNR=8.7
ZALV Zalesovo Beam  63.26 343   P     P           02 44 46.7 -0.8
BVAR Borovoye Array 67.63 335   P     P           02 45 14.7 -0.1
     comp=Z,0.7nm,0.6s,baz=39,slow=52,SNR=1.9
MAW  Mawson         69.55 198   P     P           02 45 27.2 +1.0
     comp=Z,0.7nm,0.5s,baz=51,slow=6.0,SNR=6.6
MAW  Mawson         69.55 198   P     P           02 45 27.3 +1.1
ABKAR Abkulak array 70.16 327   P     P           02 45 29.6 -0.6
ABKAR Abkulak array 70.16 327   P     P           02 45 29.7 -0.5
ABKAR                           IAmb  IAmb        02 45 30.1
     comp=Z,4.7nm,0.6s
PETK Petropavlovsk- 70.89  28   P     P           02 45 34.1 -0.2
     comp=Z,1.8nm,0.5s,baz=125,slow=1.8,SNR=7.1
PETK Petropavlovsk- 70.89  28   P     P           02 45 34.4  0.0
AKTO Aktyubinsk     71.86 328   P     P           02 45 38.9 -1.3
     comp=Z,0.5nm,0.3s,baz=144,slow=3.8,SNR=4.6
SEY  Seymchan       75.53  18   P     P           02 46 01.1 +0.4
     comp=Z,1.3nm,0.5s,baz=197,slow=20,SNR=4.3
VNDA Vanda          76.56 170   P     P           02 46 07.0 +0.8
     comp=Z,1.2nm,0.4s,baz=316,slow=6.8,SNR=13
KBZ  Khabaz         78.06 317   P     P           02 46 15.3 +0.5
     comp=Z,1.8nm,0.8s,baz=96,slow=6.5,SNR=3.8
BRTR Keskin Array B 83.58 311   P     P           02 46 43.8 +0.1
     comp=Z,0.8nm,0.5s,baz=316,slow=39,SNR=2.2
BRTR Keskin Array B 83.58 311   P     P           02 46 43.1 -0.6
QSPA South Pole Qui 84.22 180   P     P           02 46 46.8 +0.5
QSPA                            IAmb  IAmb        02 46 47.3
     comp=Z,2.3nm,0.6s
AKASG Malin Array Be 88.87 321  P     P           02 47 07.2 -1.2
     comp=Z,0.8nm,0.3s,baz=79,slow=4.4,SNR=1.8
FINES FINESS Array B 92.32 331  P     P           02 47 23.3 -0.9
     comp=Z,0.4nm,0.5s,baz=116,slow=8.7,SNR=5.9
TORD Torodi Ar. Bea 109.50 282  PKiKP PKiKP       02 52 41.1 -0.8
     comp=Z,0.3nm,0.5s,baz=44,slow=1.1,SNR=1.9
PDAR Pinedale Array 128.97  37  PKP   PKPdf       02 53 19.4 +0.7
     comp=Z,0.3nm,0.6s,baz=48,slow=1.3,SNR=3.6
TXAR Lajitas Array  140.18  50  PKhKP PKPpre       02 53 35.2
     comp=Z,0.1nm,0.4s,baz=333,slow=1.4,SNR=3.6
FCAR Ozark Folk Cen 143.55  32  PKPbc PKPab       02 53 44.0 -0.1
PBMO Poplar Bluff   143.71  29          PKPab     02 53 44.3 -0.4
P49A Miami Univ. Ec 143.71  20          PKPab     02 53 44.4 -0.1
MIAR Mount Ida      143.76  35          PKPab     02 53 45.6 +0.6
CPUP Villa Florida  145.96 200  PKPbc PKPbc       02 53 51.9 +0.1
     comp=Z,2.4nm,0.7s,baz=154,slow=1.9,SNR=7.7
TKL  Tuckaleechee C 147.50  22  PKPbc PKPbc       02 53 55.4 -0.3
     comp=Z,3.1nm,0.4s,baz=149,slow=3.2,SNR=14
TKL  Tuckaleechee C 147.50  22          PKPbc     02 53 55.7  0.0
BDFB Brasilia       149.87 225  PKPbc PKPbc       02 54 02.0 -0.2
     comp=Z,2.6nm,0.5s,baz=147,slow=2.9,SNR=7.3
BDFB Brasilia       149.87 225          PKPbc     02 54 01.4 -0.8
LPAZ La Paz         158.04 184  PKPab PKPab       02 54 45.9 +0.5
     comp=Z,0.3nm,0.6s,baz=180,slow=7.1,SNR=1.8
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IDC 02 02:45:18.4±2.5, 38°26N×73°61E, h104km±21km, mb3.5/11, mb1 3.6/16, mb1mx3.4/71, mbtmp3.9/16, MS3.4/2, Ms1 3.4/2, ms1mx2.5/34, Error ellipse: s-maj=17.8km s-min=16.4km az=155.0
SOME 02 02:45:20.3, 39°20N×73°15E, h15km
NEIC 02 02:45:21.9±1.9, 38°44N±0°03×73°51E±0°09, h136km±8km, mb4.4/10, Error ellipse: s-maj=9.7km s-min=4.5km az=84.0
NNC 02 02:45:23.3±7.6, 38°79N×73°32E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=60.9km s-min=40.6km az=163.0

ISC 02 02:45:18.1±0.6, 38°28N±0°06×73°57E±0°05, h100km, n67, σ2°14/66, mb3.9/15, 3C-3D, Tajikistan-Xinjiang border region

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Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
KSH  Kashi           2.24  56   Pg    Pn          02 45 51.8 -2.1
KSH                             Sg    Sn          02 46 11.9 -9.4
KSH                             smax  smax
     comp=N,1µm,0.2s
KSH                             smax  smax
     comp=E,1µm,0.3s
GAR  Garm            2.65 287          Pn          02 46 02.4 +3.1
GAR                             Sn    Sn          02 46 34.1 +3.3
BTK  Batken          2.78 310          Pn          02 46 04.4 +3.5
BTK                             Sn    Sn          02 46 37.2 +3.3
CHGR Chuyangaron     3.48 278   Pn    Pn          02 46 12.9 +2.5
AAK  Ala-Archa       4.41  9    P     Pn          02 46 24.3 +1.4
     comp=E,3.4nm,0.3s,baz=156,slow=5.9,SNR=7.7
AAK                             S     Sn          02 47 13.8 +0.7
     comp=E,4.0nm,0.3s,baz=8.6,slow=22,SNR=14
AAK  Ala-Archa       4.41  9 ⇑Pn     Pn          02 46 26.9 +4.0
     comp=E,0.4nm,0.2s
AAK                             ⇑Sn   Sn          02 47 15.4 +2.3
     comp=E,29nm,0.5s
AAK  Ala-Archa       4.41  9    Pn    Pn          02 46 25.4 +2.5
MRKS Merke           4.46 357   eP    Pn          02 46 26.1 +2.5
     comp=E,21nm,0.4s
MRKS                            eS    Sn          02 47 13.2 -1.2
     comp=E,95nm,0.5s
BOOM Boomskoye usch  4.57  23          Pn          02 46 27.3 +2.2
CHCP Chirah Chowk    4.62 183   P     Pn          02 46 31.1 +5.4
NIL  Nilore          4.63 183          Pn          02 46 30.7 +4.9
CEP  Cherat          4.65 197   P     Pn          02 46 30.7 +4.5
KDJ  Kajisay         4.73  35   Pn    Pn          02 46 30.3 +3.0
TARG Taragay, Kyrgy  4.73  42          Pn          02 46 30.2 +2.6
TKM2 Tokmak 2        4.88  18 ⇓Pn     Pn          02 46 31.2 +1.9
     comp=E,0.2nm,0.3s
TKM2                            ⇑Sn   Sn          02 47 24.8 +0.1
     comp=E,26nm,0.7s
DZA  Taraz           4.91 340   eP    Pn          02 46 32.3 +2.8
     comp=E,64nm,0.1s
DZA                             eS    Sn          02 47 23.6 -1.5
     comp=E,126nm,0.2s
KST  Kastek          5.09  20   eP    Pn          02 46 38.4 +6.3
     comp=E,7.1nm,0.4s
KST                             eS    Sn          02 47 34.3 +4.6
     comp=E,21nm,0.5s
KBL  Kabul           5.22 226          Pn          02 46 38.3 +4.3
KK31 Karatay Array   5.35 335 ⇓Pn      Pn          02 46 37.1 +1.7
     comp=E,2.5nm,0.2s,baz=147,slow=14
KK31                          ⇓Sn     Sn          02 47 33.8 -1.9
     comp=E,6.1nm,0.3s,baz=153,slow=24
KK31 Karatay Array   5.35 335   Pn    Pn          02 46 37.4 +2.0
KKAR Karatay Array   5.35 335   Pn    Pn          02 46 37.4 +2.0
KKAR Karatay Array   5.35 335          Pn          02 46 37.5 +2.1
THW  Thamme Wali     5.68 196   P     Pn          02 46 43.6 +3.6
KUU  Kurty           5.98  20   eP    Pn          02 47 00.3 +16
     comp=E,1.8nm,0.4s
KUU                             eS    Sn          02 48 12.3 +21
     comp=E,9.3nm,0.6s
CHKK Chushkaly       6.13  24   eP    Pn          02 47 01.4 +15
     comp=E,4.1nm,0.4s
CHKK                            eS    Sn          02 48 13.3 +18
     comp=E,12nm,0.6s
KPKS Kokpek          6.46  35   eP    Pn          02 47 07.4 +17
     comp=E,6.1nm,0.2s
KPKS                            eS    Sn          02 48 23.7 +21
     comp=E,20nm,0.6s
BTLS Baital          6.76   3   eP    Pn          02 47 08.9 +14
     comp=E,1.5nm,0.5s
BTLS                            eS    Sn          02 48 26.2 +16
     comp=E,7.7nm,0.6s
MK31 Makanchi Array 10.66  34          Pn          02 47 48.7 +1.1
MKAR Makanchi Array 10.66  34   P     Pn          02 47 48.4 +0.8
     comp=E,0.1nm,0.3s,baz=209,slow=15,SNR=8.8
MKAR Makanchi Array 10.66  34          Pn          02 47 48.6 +1.0
WMQ  Urumqi         12.01  58   eP    Pn          02 48 06.3 +0.5
WMQ                             smax  smax
     comp=N,200nm,1.7s
WMQ                             smax  smax
     comp=E,150nm,1.9s
GEYT Alibeck        12.18 273   P     Pn          02 48 06.9 -1.2
     comp=E,0.9nm,0.3s,baz=120,slow=7.6,SNR=5.5
GEYT                            S     Sn          02 50 15.0 -7.0
     comp=E,0.4nm,0.3s,baz=152,slow=20,SNR=2.3
KURBB Kurchatov Arra 12.83  14  P     Pn          02 48 14.2 -2.4
     baz=202,slow=12,SNR=2.3
KURK Kurchatov      12.94  14          Pn          02 48 14.2 -3.8
ABKAR Abkulak array 14.71 323   Pn    Pn          02 48 40.5 -0.4
BVAR Borovoye Array 14.91 353   P     P           02 48 46.8 +0.3
     comp=E,0.7nm,0.3s,baz=180,slow=25,SNR=6.8
AKTO Aktyubinsk     16.43 323   P     Pn          02 49 02.7 +0.2
     comp=E,0.2nm,0.3s,baz=136,slow=11,SNR=5.3
ZAA0 Zalesovo Array 17.46  23          P           02 49 14.2 -0.6
ZAA0                            IAmb  IAmb        02 49 15.8
     comp=Z,3.6nm,0.5s
ZALV Zalesovo Beam  17.46  23   P     P           02 49 14.2 -0.6
     comp=Z,1.1nm,0.3s,baz=214,slow=10,SNR=11
WSAR Wadi Sarin     19.70 225   P     Pn          02 49 41.0 -0.9
     comp=Z,0.4nm,0.3s,baz=45,slow=3.7,SNR=4.4
UOSS Minazif        19.84 233   P     Pn          02 49 42.9 -0.6
GTA  Gaotai         20.45  79   eP    Pn          02 49 52.0 +1.3
GTA                             pP    P           02 49 57.2 +10
GTA                             sP    pP          02 49 59.3 -8.7
GTA                             pmax  pmax
     comp=Z,5.0nm,0.5s
ARU  Arti           20.72 336   P     P           02 49 51.8 +1.6
     comp=Z,0.6nm,0.2s,baz=206,slow=4.8,SNR=3.6
SONM Songino Array  25.64  58   P     P           02 50 39.9 +1.6
     comp=Z,1.1nm,0.4s,baz=258,slow=6.8,SNR=1.7
SONM Songino Array  25.64  58   P     P           02 50 38.8 +0.5
FIA1 FINESS Array S 37.19 324   P     P           02 52 19.3 +0.1
FIA1                            IAmb  IAmb        02 52 20.0
     comp=Z,2.0nm,0.5s
FINES FINESS Array B 37.19 324  P     P           02 52 19.7 +0.5
     comp=Z,1.1nm,0.3s,baz=117,slow=10,SNR=17
FINES FINESS Array B 37.19 324  P     P           02 52 18.8 -0.4
ARCES ARCESS Array B 40.31 336  P     P           02 52 45.2 +0.1
     comp=Z,0.9nm,0.4s,baz=109,slow=8.1,SNR=22
ARCES ARCESS Array B 40.31 336  P     P           02 52 44.9 -0.3
KSRS Korea Array    42.39  74   LR    LR          03 12 24.0
     comp=Z,56nm,18.9s,baz=150,slow=38
HFS  Hagfors        42.96 321   P     P           02 53 07.3 +0.5
     comp=Z,1.9nm,0.4s,baz=103,slow=10,SNR=7.5
NC405 NORSAR Array S 43.98 322  P     P           02 53 14.2 -0.8
NC405                           IAmb  IAmb        02 53 21.0
     comp=Z,16nm,1.4s
NB2  NORSAR Subarra 44.22 322   P     P           02 53 17.0  0.0
     comp=Z,0.5nm,0.5s,baz=92,slow=7.9
NOA  NORSAR Array B 44.22 322   P     P           02 53 17.1 +0.2
     comp=Z,0.6nm,0.6s,baz=92,slow=7.6,SNR=5.5
JEW  Eniwo          50.51  62   P     P           02 54 05.9 +0.1
CISI Cisompet, Garu 55.64 137   P     P           02 54 45.4 +1.6
CISI                            IAmb  IAmb        02 55 02.2
     comp=Z,9.5nm,1.0s
RES  Resolute Bay   67.05 357   LR    LR          03 25 56.1
     comp=Z,22nm,20.4s,baz=88,slow=36
TORD Torodi Ar. Bea 67.80 269   P     P           02 56 05.0 -0.6
     comp=Z,0.3nm,0.4s,baz=47,slow=6.1,SNR=7.8
TORD Torodi Ar. Bea 67.80 269   P     P           02 56 04.5 -1.0
ILAR Eielson Array  72.49  17   P     P           02 56 32.7 -0.7
     comp=Z,0.3nm,0.9s,baz=319,slow=4.7,SNR=4.8
YKA  Yellowknife Ar 79.35   4   P     P           02 57 12.2 -0.1
     comp=Z,1.0nm,0.7s,baz=318,slow=11,SNR=7.9
WRA  Warramunga Arr 81.24 124   P     P           02 57 22.3 -0.8
     comp=Z,0.9nm,0.6s,baz=322,slow=4.6,SNR=9.2
WRA  Warramunga Arr 81.24 124   P     P           02 57 22.4 -0.7
WB2  Warramunga Arr 81.24 124   P     P           02 57 22.2 -0.9
WB2                             IAmb  IAmb        02 57 33.0
     comp=Z,14nm,1.4s
WR0  Warramunga Arr 81.38 124   P     P           02 57 22.7 -1.2
WR0                             IAmb  IAmb        02 57 28.7
     comp=Z,9.6nm,1.5s
ASAR Alice Springs  83.63 127   P     P           02 57 34.9 -0.7
     comp=Z,0.1nm,0.3s,baz=316,slow=5.2,SNR=1.6
```

IDC 02 02:52:50.8±318.0, 47°62N×44°71E, h0km, Error ellipse: s-maj=152.9km s-min=86.9km az=154.0, Ukraine-Moldova-Southwestern Russia region

```
Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
I31KZ AKTYUBINSK INF 9.19  67   i                 03 43 40.0
     baz=258,slow=313,SNR=6.1
I43RU DUBNA INFRASONI0.21 336   i                 03 58 20.0
     baz=147,slow=319,SNR=3.2
I26DE FREYUNG INFRAS20.62 285   i                 05 02 40.0
     baz=78,slow=308,SNR=4.9
I37NO I37NO         25.11 338   i                 05 27 30.0
     baz=136,slow=321,SNR=3.4
I48TN KESRA INFRASON28.69 259   i                 05 46 26.4
     baz=53,slow=312,SNR=1.0
```

IDC 02 03:00:07.0±1.8, 38°06N×20°28E, h0km, mb3.6/5, mb1 3.5/8, mb1mx3.4/41, mbtmp3.5/8, ML2.9/3, MS3.5/3, Ms1 3.4/3, ms1mx2.6/32, Error ellipse: s-maj=32.8km s-min=23.1km az=21.0
ATH 02 03:00:08.6, 37°95N×20°09E, h18km±1km, ML3.3/2, Error ellipse: s-maj=3.8km s-min=1.4km az=91.0
THE 02 03:00:08.9, 37°96N×20°10E, h2km±1km, ML3.4/14, Error ellipse: s-maj=1.8km s-min=0.8km az=53.0

ISC 02 03:00:07.9±1.1, 37°96N±0°03×20°03E±0°03, h17km±7km, n73, σ1°44/103, mb3.6/5, Ionian Sea

```
Code Station Name     Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
KEF3 Kipouria, Keph  0.35  46   P     Pb          03 00 16.1 +0.4
KEF3                            S     Sb          03 00 20.3 -0.5
     26µm,0.2s
KEF3 Kipouria, Keph  0.35  46   P     Pb          03 00 16.0 +0.4
KEF3                            S     Sb          03 00 21.1 +0.3
DMLN Damoulianata-K  0.39  44   P     Pb          03 00 16.4 +0.1
DMLN                            S     Sg          03 00 21.1 -0.1
     10µm,0.3s
DMLN Damoulianata-K  0.39  44   P     Pb          03 00 16.3  0.0
DMLN                            S     Sg          03 00 21.3 +0.1
LXRA Lixouri, Kepha  0.40  53   P     Pb          03 00 16.4 -0.1
LXRA                            S     Sg          03 00 21.4 -0.1
ARGA Argostoli. Kep  0.41  58   P     Pb          03 00 16.8 +0.1
```

ARGA				S	Sg	03 00 21.9	-0.1
ARG2	**Argostoli**	**0.42**	**59**	P	Pg	03 00 16.5	+0.1
ARG2				S	Sg	03 00 21.1	-1.1
	44μm,0.1s						
KEF4	**Livadi, Kephal**	**0.43**	**46**	P	Pb	03 00 16.9	-0.1
KEF4				S	Sg	03 00 22.3	-0.1
KEF4	**Livadi, Kephal**	**0.43**	**46**	P	Pb	03 00 16.9	-0.1
KEF4				S	Sg	03 00 22.6	+0.1
PSDA	**Pessada-Kefalo**	**0.46**	**70**	P	Pg	03 00 16.9	-0.3
PSDA				S	Sg	03 00 22.2	-1.2
PSDA	**Pessada-Kefalo**	**0.46**	**70**	P	Pg	03 00 16.8	-0.3
KEF5	**Kardakata, Kep**	**0.47**	**47**	P	Pg	03 00 17.4	+0.1
KEF5				S	Sg	03 00 22.8	-0.8
	13μm,0.2s						
KEF5	**Kardakata, Kep**	**0.47**	**47**	P	Pg	03 00 17.4	+0.1
VLS	**Valsamata**	**0.49**	**64**	P	Pg	03 00 17.3	-0.4
VLS				S	Sg	03 00 23.2	-1.1
	8μm,0.2s						
VLS	**Valsamata**	**0.49**	**64**	P	Pg	03 00 17.3	-0.4
VLS				AML	AML	03 00 23.3	
	comp=E,18863μm,0.2s						
VLS				AML	AML	03 00 28.8	
	comp=N,12276μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.50**	**99**	P	Pg	03 00 17.8	-0.2
VLMS				S	Sg	03 00 23.7	-1.1
	comp=N,6μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.50**	**99**	P	Pg	03 00 17.8	-0.2
FSK	**Fiskardo**	**0.65**	**40**	P	Pg	03 00 20.4	-0.3
FSK				S	Sb	03 00 29.5	0.0
	comp=N,2μm,0.3s						
FSK	**Fiskardo**	**0.65**	**40**	P	Pg	03 00 20.3	-0.3
FSK				S	Sb	03 00 30.0	+0.4
FSK				AML	AML	03 00 35.0	
	comp=E,3219μm,0.3s						
FSK				AML	AML	03 00 35.4	
	comp=N,4177μm,0.5s						
LTHK	**Lithakia**	**0.68**	**111**	P	Pg	03 00 20.9	-0.4
LTHK	**Lithakia**	**0.68**	**111**	P	Pg	03 00 20.9	-0.4
ZAK2	**Zakynthos**	**0.71**	**104**	P	Pg	03 00 20.6	-1.1
EVGI	**Lefkada island**	**0.82**	**36**	P	Pg	03 00 23.4	-0.5
EVGI	**Lefkada island**	**0.82**	**36**	P	Pg	03 00 23.3	-0.5
DRAG	**Dragano-Lefkad**	**0.84**	**30**	P	Pg	03 00 23.9	-0.3
DRAG				S	Sn	03 00 36.5	-0.4
	comp=N,6μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.84**	**30**	P	Pg	03 00 23.9	-0.3
NYDR	**Nydri-Lefkada**	**0.92**	**35**	P	Pg	03 00 24.9	-0.8
NYDR				S	Sn	03 00 39.3	+0.5
	comp=N,2μm,0.6s						
NYDR	**Nydri-Lefkada**	**0.92**	**35**	P	Pg	03 00 24.9	-0.8
LKD2	**Lefkada island**	**0.96**	**30**	P	Pb	03 00 25.9	-0.3
LKD2				S	Sn	03 00 40.9	+0.9
	comp=N,1μm,0.2s						
LKD2	**Lefkada island**	**0.96**	**30**	P	Pb	03 00 25.8	-0.3
TSLK	**Tsoukalades, L**	**0.99**	**29**	P	Pb	03 00 26.5	-0.1
TSLK				S	Sn	03 00 41.4	+0.7
	comp=N,2μm,0.4s						
TSLK	**Tsoukalades, L**	**0.99**	**29**	P	Pb	03 00 26.5	-0.1
RLS	**Riolos of Patr**	**1.14**	**85**	P	Pb	03 00 28.4	-0.7
RLS				S	Sn	03 00 45.3	+1.1
	comp=N,515nm,0.6s						
DRO	**Drossia**	**1.32**	**90**	P	Pb	03 00 32.5	+0.2
PVO	**Paravola**	**1.34**	**60**	P	Pb	03 00 32.8	+0.2
PVO				S	Sg	03 00 52.8	+1.5
	comp=N,820nm,0.6s						
AMT	**Artemida-Makis**	**1.40**	**107**	P	Pb	03 00 33.9	+0.4
AMT				S	Sg	03 00 52.5	-0.5
	comp=N,820nm,0.5s						
EFP	**Efpalio**	**1.55**	**72**	P	Pn	03 00 35.6	+0.9
LAKA	**Lakka**	**1.56**	**79**	P	Pb	03 00 37.1	+0.8
IGT	**Igoumenitsa**	**1.59**	**8**	P	Pb	03 00 36.7	-0.1
ANX	**Ano Chora**	**1.61**	**66**	P	Pb	03 00 37.5	+0.2
SERG	**Sergoula**	**1.66**	**74**	P	Pb	03 00 37.5	-0.5
TRIZ	**Trizonia**	**1.66**	**75**	P	Pn	03 00 37.3	+1.1
KLV	**Kalavryta, Ach**	**1.67**	**87**	P	Pb	03 00 37.8	-0.5
EVR	**Evrytania**	**1.69**	**55**	P	Pb	03 00 38.7	+0.1
ITM	**Ithomi**	**1.69**	**117**	P	Pn	03 00 37.6	+0.9
KEK	**Kerkira**	**1.76**	**354**	P	Pb	03 00 39.6	-0.1
SRN	**Sarande**	**1.92**	**359**	P	Pn	03 00 41.6	+1.8
AGG	**Agios Georgios**	**2.09**	**59**	P	Pb	03 00 44.5	-0.9
THL	**Klokotos Trika**	**2.23**	**43**	P	Pb	03 00 46.5	-1.2
LTK	**Loutraki**	**2.32**	**88**	P	Pn	03 00 46.2	+0.9
OHR	**Ohrid**	**3.20**	**10**	*i* Pn	Pn	03 00 59.6	+2.1
VAY	**Valandovo**	**3.88**	**29**	*i* Pn	Pn	03 01 06.7	-0.2
STIP	**Stip**	**4.08**	**23**	*i* Pn	Pn	03 01 13.0	+3.4
VAE	**Valguarnera**	**4.48**	**266**	Pn	Pn	03 01 19.5	+4.3
	comp=N,0.6nm,0.3s,baz=90,slow=6.1,SNR=1.6						
VAE				Sn	Sb	03 02 15.8	-4.2
	comp=N,1.3nm,0.3s,baz=190,slow=22,SNR=4.7						
IDI	**Anoyia**	**4.73**	**123**	Pn	Pn	03 01 19.5	+1.0
	comp=N,0.2nm,0.3s,baz=301,slow=12,SNR=1.6						
IDI				Sn	Sn	03 02 09.9	-3.2
	comp=N,5.0nm,0.3s,baz=304,slow=22,SNR=37						
STON	**Ston**	**5.22**	**341**	*e*Pn	Pn	03 01 26.0	+0.9
STON				Sn	Sn	03 02 21.5	-3.3
LSTV	**Lastovo**	**5.37**	**334**	*e*Pn	Pn	03 01 28.2	+1.1
LSTV				Sn	Sn	03 02 25.2	-3.4
HVAR	**Hvar**	**5.88**	**333**	*e*Pn	Pn	03 01 35.2	+1.0
HVAR				Sn	Sn	03 02 37.9	-3.4
RICI	**Ricice**	**5.95**	**339**	*e*Pn	Pn	03 01 36.3	+1.1
RICI				Sn	Sn	03 02 40.3	-2.6
ZIRJ	**Zirje**	**6.59**	**331**	*e*Pn	Pn	03 01 45.0	+1.0
ZIRJ				Sn	Sn	03 02 55.6	-3.1
KIJV	**Kijevo**	**6.63**	**337**	*e*Pn	Pn	03 01 46.4	+1.9
KIJV				Sn	Sn	03 02 57.4	-2.4
MORI	**Morici**	**6.75**	**332**	*e*Pn	Pn	03 01 48.0	+1.9
MORI				Sn	Sn	03 02 59.4	-3.2
DUGI	**Dugi Otok**	**7.10**	**330**	*e*Pn	Pn	03 01 52.2	+1.1
DUGI				Sn	Sn	03 03 07.9	-3.4
UDBI	**Udbina**	**7.31**	**335**	*e*Pn	Pn	03 01 56.0	+2.1
UDBI				Sn	Sn	03 03 13.7	-2.7
GERES	**GERESS Array B**	**11.81**	**339**	Pn	Pn	03 02 57.4	+1.8
	comp=N,0.1nm,0.3s,baz=158,slow=13,SNR=2.7						
KBZ	**Khabaz**	**18.21**	**64**	LR	LR	03 13 36.8	
	comp=N,32nm,18.6s,baz=182,slow=45						
HFS	**Hagfors**	**22.56**	**352**	P	P	03 05 09.0	+2.1
	comp=N,1.0nm,0.7s,baz=156,slow=11,SNR=7.1						
FINES	**FINESS Array B**	**23.81**	**7**	P	P	03 05 20.6	+1.0
	comp=N,0.3nm,0.4s,baz=168,slow=9.8,SNR=3.5						
ARCES	**ARCESS Array B**	**31.77**	**4**	P	P	03 06 31.1	+0.2
	comp=N,1.0nm,1.0s,baz=184,slow=12,SNR=1.4						
MKAR	**Makanchi Array**	**45.74**	**58**	P	P	03 08 27.8	-0.5
	comp=N,0.3nm,0.4s,baz=280,slow=6.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	P	03 08 30.6	-0.4
	comp=N,1.5nm,0.3s,baz=270,slow=9.1,SNR=6.4						
SCHQ	**Schefferville**	**58.36**	**317**	LR	LR	03 34 40.8	
	comp=N,37nm,18.6s,baz=88,slow=36						
JOW	**Kunigami**	**86.91**	**58**	LR	LR	03 57 13.4	
	comp=N,129nm,18.5s,baz=166,slow=40						

KRNET ***02*** *03:05:19.9±0.1, 40.°11N×77.°93E, mb2.8*
NNC ***02*** *03:05:26.5±5.2, 40.°35N×77.°39E, h0km, mb3.4, mpv3.1,*
Error ellipse: s-maj=35.9km s-min=28.8km az=16.0
SOME ***02*** *03:05:26.4, 40.°42N×77.°35E, h5km*
ISC 02 03:05:25.0±2.6, 40.°2N±0.°1×77.°56E±0.°08, h17km±15km,
n23, σ1°45/38, 15C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.56**	**7**	⇑*iP*	**Pn**	**03 05 48.9**	**-3.4**
TARG	baz=57			⇑*iS*	**Sn**	**03 06 10.0**	**-2.3**
KDJ	**Kajisay**	**1.97**	**352**	⇑*eP*	**Pn**	**03 05 55.0**	**-2.7**
KDJ	baz=45			⇑*iS*	**Sn**	**03 06 21.3**	**-0.9**
ULHL	**Ulahol**	**2.29**	**335**	⇑*eP*	**Pn**	**03 06 01.0**	**-1.2**
ULHL	baz=30			⇑*iS*	**Sn**	**03 06 30.8**	**+0.7**
BOOM	**Boomskoye usch**	**2.61**	**333**	⇑*iP*	**Pn**	**03 06 05.6**	**-1.0**
BOOM	baz=28			⇑*iS*	**Sn**	**03 06 38.4**	**+0.4**
ARLS	**Aral**	**2.97**	**305**	⇑*iP*	**Pn**	**03 06 11.6**	**+0.1**
ARLS	baz=4.0			⇑*iS*	**Sn**	**03 06 48.6**	**+1.8**
MDOK	**Medeo**	**3.00**	**353**	P	**Pn**	**03 06 14.0**	**+2.0**
MDOK	3.2nm,0.4s			⇑S	**Sb**	**03 06 55.2**	**+0.6**
	6.6nm,0.6s						
KST	**Kastek**	**3.10**	**338**	*e*P	**Pb**	**03 06 18.5**	**-1.2**
	3.1nm,0.4s						
KST				*e*S	**Sb**	**03 06 56.5**	**-0.8**
	12nm,0.6s						
KST	**Kastek**	**3.10**	**338**	Pg	**Pb**	**03 06 18.5**	**-1.2**
	3.1nm,0.4s						
KST				Lg	Lg	03 06 56.6	
	12nm,0.6s						
TKM2	**Tokmak 2**	**3.11**	**332**	⇑*e*P	**Pn**	**03 06 12.1**	**-1.4**
	baz=29						
TKM2				⇑*i*S	**Sn**	**03 06 50.9**	**+0.6**
	baz=29						
SHLS	**Shalkode**	**3.30**	**25**	*e*P	**Pg**	**03 06 27.7**	**-0.4**
	3.7nm,0.3s						
SHLS				*e*S	**Sg**	**03 07 12.5**	**+1.6**
	9.5nm,0.5s						
SHLS	**Shalkode**	**3.30**	**25**	Pg	**Pg**	**03 06 27.7**	**-0.4**
	3.7nm,0.3s						
SHLS				Lg	Lg	03 07 12.5	
	9.5nm,0.5s						
DGS	**Degeres**	**3.34**	**337**	*e*P	**Pb**	**03 06 22.7**	**-1.1**
	2.9nm,0.3s						
DGS				*e*S	**Sb**	**03 07 03.6**	**-0.5**
	5.9nm,0.8s						
DGS	**Degeres**	**3.34**	**337**	Pg	**Pb**	**03 06 22.7**	**-1.1**
	2.9nm,0.3s						
DGS				Lg	Lg	03 07 03.6	
	5.9nm,0.8s						
PDGK	**Podgornoye**	**3.46**	**24**	Pg	**Pb**	**03 06 26.9**	**+1.1**
	1.1nm,0.5s						
PDGK				Lg	Lg	03 07 11.3	
	2.4nm,0.8s						
AML	**Almayashu**	**3.51**	**305**	⇑*iP*	**Pn**	**03 06 19.1**	**0.0**
	baz=4.0						
AML				⇑*iS*	**Sn**	**03 07 02.5**	**+2.0**
	baz=4.0						
CHKK	**Chushkaly**	**3.69**	**354**	*e*P	**Pb**	**03 06 30.3**	**+0.5**
	2.9nm,0.4s						
CHKK				*e*S	**Sb**	**03 07 16.7**	**+2.3**
	9.8nm,0.3s						
CHKK	**Chushkaly**	**3.69**	**354**	Pg	**Pb**	**03 06 30.3**	**+0.5**
	2.9nm,0.4s						
CHKK				Lg	Lg	03 07 16.7	
	9.8nm,0.3s						
KRBS	**Karabastau**	**3.78**	**339**	*e*P	**Pb**	**03 06 30.3**	**-1.0**
	1.3nm,0.4s						
KRBS				*e*S	**Sb**	**03 07 16.9**	**0.0**
	5.0nm,0.5s						
KRBS	**Karabastau**	**3.78**	**339**	Pg	**Pb**	**03 06 30.3**	**-1.0**
	1.3nm,0.4s						
KRBS				Lg	Lg	03 07 16.9	
	5.0nm,0.5s						
KUU	**Kurty**	**3.82**	**347**	*e*P	**Pb**	**03 06 31.3**	**-0.6**
	1.5nm,0.3s						
KUU				*e*S	**Sb**	**03 07 18.4**	**+0.5**
	12nm,0.5s						
KUU	**Kurty**	**3.82**	**347**	Pg	**Pb**	**03 06 31.3**	**-0.6**
	1.5nm,0.3s						
KUU				Lg	Lg	03 07 18.4	
	12nm,0.5s						
ARXS	**Arharly**	**4.03**	**3**	*e*P	**Pb**	**03 06 36.4**	**+0.8**
	3.3nm,0.7s						
ARXS				*e*S	**Sb**	**03 07 27.1**	**+3.0**
	5.7nm,0.7s						
ARXS	**Arharly**	**4.03**	**3**	Pg	**Pb**	**03 06 36.4**	**+0.8**
	3.3nm,0.7s						
ARXS				Lg	Lg	03 07 27.1	
	5.7nm,0.7s						

NOU ***02*** *03:16:31.7, 40.°11S×174.°62E, h3km, MLv3.3, Cook Strait, New Zealand*
WEL 02 03:16:33.6, 40°S±5.°×17.°5E±.°, h44km±9km, M3.5/21, ML3.7/21, MLv3.5/21, Error ellipse: s-maj=0.0km s-min=0.0km az=26.8, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.39**	**20**	P	Pn	03 16 43.2	+0.1
WAZ				S	Sn	03 16 50.8	+0.9
OHWZ	**Ohakea**	**0.39**	**103**	P	Pn	03 16 43.7	+0.5
OHWZ				S	Sn	03 16 51.5	+1.5
LREZ	**Lake Rotokare**	**0.73**	**334**	P	Pn	03 16 47.8	+0.2
LREZ				S	Sn	03 16 59.2	+1.6
KIW	**Kapiti Island**	**0.74**	**175**	P	Pn	03 16 47.5	-0.2
KIW				S	Sn	03 16 57.2	-0.8
OGWZ	**Otaki Gorge**	**0.75**	**159**	P	Pn	03 16 47.8	0.0
OGWZ				S	Sn	03 16 58.3	+0.3
POWZ	**Post Office Ro**	**0.78**	**111**	P	Pn	03 16 48.9	+0.7
POWZ				S	Sn	03 16 59.9	+1.2
MRZ	**Mangatainoka R**	**0.80**	**133**	P	Pn	03 16 49.4	+0.6
MRZ				S	Sn	03 16 59.8	+0.6
TSZ	**Takapari Road**	**0.88**	**86**	P	Pn	03 16 50.1	+0.5
MTVZ	**Mangateitei**	**0.89**	**35**	P	Pn	03 16 49.8	0.0
MTVZ				S	Sn	03 17 02.3	+0.7
PKVZ	**Pokaka**	**0.93**	**26**	P	Pn	03 16 50.0	-0.2
PREZ	**Palmer Road**	**0.93**	**327**	P	Pn	03 16 50.8	+0.6
PREZ				S	Sn	03 17 04.7	+2.2
HOWZ	**Holdsworth Sta**	**0.94**	**146**	P	Pn	03 16 51.2	+0.7
DUWZ	**D'Urville Isla**	**0.96**	**225**	P	Pn	03 16 50.0	-0.8
PRWZ	**Pori Road**	**0.98**	**117**	P	Pn	03 16 52.6	+1.6
TRVZ	**Turoa**	**0.99**	**35**	P	Pn	03 16 51.1	-0.3
VRZ	**Vera Road**	**0.99**	**357**	P	Pn	03 16 51.3	+0.1
WNVZ	**Wahianoa**	**0.99**	**38**	P	Pn	03 16 51.1	-0.2
CAW	**Cannon Point**	**1.00**	**169**	P	Pn	03 16 51.4	+0.1
NMEZ	**Namu Road**	**1.01**	**314**	P	Pn	03 16 52.0	+0.7
MOVZ	**Moawhango**	**1.01**	**46**	P	Pn	03 16 51.2	-0.2
NEZ	**North Egmont**	**1.01**	**327**	P	Pn	03 16 51.9	+0.5
DRZ	**Dome Shelter**	**1.02**	**35**	P	Pn	03 16 52.0	+0.2
WHVZ	**Whangaehu Hut**	**1.03**	**36**	P	Pn	03 16 51.8	0.0
KHEZ	**Kahui Hut**	**1.03**	**323**	P	Pn	03 16 52.5	+0.8
FWVZ	**Far West T-bar**	**1.03**	**34**	P	Pn	03 16 51.7	-0.2
DREZ	**Durham Road**	**1.04**	**333**	P	Pn	03 16 52.5	+0.7
TIWZ	**Tintock**	**1.05**	**129**	P	Pn	03 16 53.5	+1.6
DVHZ	**Dannevirke**	**1.05**	**100**	P	Pn	03 16 53.1	+1.2
TUVZ	**Tukino**	**1.07**	**38**	P	Pn	03 16 52.7	+0.4
PNHZ	**Pukenui**	**1.08**	**79**	P	Pn	03 16 53.0	+0.6
MHEZ	**Mangahewa**	**1.11**	**340**	P	Pn	03 16 53.7	+1.0
NGZ	**Ngauruhoe**	**1.12**	**33**	P	Pn	03 16 53.2	+0.2
NBEZ	**Newall Road No**	**1.12**	**319**	P	Pn	03 16 53.5	+0.7
SNVZ	**South Ngauruho**	**1.13**	**35**	P	Pn	03 16 53.5	+0.3
BHHZ	**Black Hill Sta**	**1.15**	**57**	P	Pn	03 16 53.3	0.0
TWVZ	**Taurewa**	**1.15**	**25**	P	Pn	03 16 52.8	-0.6
OTVZ	**Oturere**	**1.16**	**35**	P	Pn	03 16 53.7	+0.1
MTW	**Mount Morrison**	**1.16**	**154**	P	Pn	03 16 54.6	+1.1
NNVZ	**North Ngauruho**	**1.16**	**32**	P	Pn	03 16 53.5	-0.1
WEL	**Wellington**	**1.16**	**182**	P	Pn	03 16 53.7	+0.3
TCW	**Tory Channel**	**1.17**	**200**	P	Pn	03 16 53.0	-0.5
WTVZ	**West Tongariro**	**1.17**	**31**	P	Pn	03 16 53.4	-0.2
ETVZ	**East Tongariro**	**1.20**	**35**	P	Pn	03 16 54.7	+0.6
KRVZ	**Karewarewa**	**1.21**	**32**	P	Pn	03 16 53.9	-0.2
TMVZ	**Te Maari**	**1.22**	**35**	P	Pn	03 16 54.3	0.0
NTVZ	**North Tongarir**	**1.22**	**33**	P	Pn	03 16 54.3	0.0
BFZ	**Birch Farm**	**1.23**	**118**	P	Pn	03 16 55.4	+1.1
WPHZ	**Waipukurau**	**1.25**	**88**	P	Pn	03 16 56.4	+1.8
TMWZ	**Te Maipa**	**1.28**	**141**	P	Pn	03 16 56.6	+1.5
KRHZ	**Kereru**	**1.29**	**69**	P	Pn	03 16 56.7	+1.6
BHW	**Baring Head**	**1.29**	**178**	P	Pn	03 16 55.7	+0.5
ANWZ	**Angora Road**	**1.31**	**106**	P	Pn	03 16 56.6	+1.1
KATZ	**Kakaramea**	**1.33**	**31**	P	Pn	03 16 56.1	+0.2
MSWZ	**Moikau Station**	**1.34**	**166**	P	Pn	03 16 57.2	+1.4
PAWZ	**Paruwai Farm**	**1.34**	**160**	P	Pn	03 16 57.5	+1.5
PRHZ	**Porangahau**	**1.40**	**97**	P	Pn	03 17 00.4	+3.7
KWHZ	**Kaweka Forest**	**1.42**	**61**	P	Pn	03 16 58.5	+1.5
TRWZ	**Traveller**	**1.44**	**153**	P	Pn	03 16 59.2	+2.0
RATZ	**Rangitukua**	**1.45**	**31**	P	Pn	03 16 58.7	+1.2
TUWZ	**Tuamarina**	**1.47**	**207**	P	Pn	03 16 57.1	-0.5
PLWZ	**Palliser**	**1.49**	**167**	P	Pn	03 16 58.8	+0.9
NNZ	**Nelson**	**1.55**	**224**	P	Pn	03 16 58.8	+0.1
PXZ	**Pawanui**	**1.57**	**87**	P	Pn	03 17 00.6	+1.5
WATZ	**Wairara**	**1.58**	**27**	P	Pn	03 16 59.7	+0.6
MCHZ	**McNeill Hill**	**1.60**	**66**	P	Pn	03 17 01.7	+2.3
HIZ	**Hauiti**	**1.60**	**1**	P	Pn	03 16 59.9	+0.4
BKZ	**Black Stump Fm**	**1.61**	**54**	P	Pn	03 17 01.5	+1.9
KAHZ	**Kahuranaki**	**1.62**	**79**	P	Pn	03 17 01.1	+1.4
CMWZ	**Cape Campbell**	**1.69**	**195**	P	Pn	03 17 04.8	+4.2
BSWZ	**Blackbirch Sta**	**1.75**	**204**	P	Pn	03 17 01.9	+0.4
MRHZ	**Matea Rd**	**1.79**	**45**	P	Pn	03 17 04.1	+2.1
KUTZ	**Kaahu Road**	**1.81**	**26**	P	Pn	03 17 04.6	+2.3
NMHZ	**Naumai**	**1.85**	**57**	P	Pn	03 17 07.5	+4.7
TLZ	**Tolley Road**	**1.87**	**18**	P	Pn	03 17 03.0	-0.3
QRZ	**Quartz Range**	**1.88**	**247**	P	Pn	03 17 03.0	-0.3
MTHZ	**Maungataniwha**	**2.01**	**52**	P	Pn	03 17 07.3	+2.2
RAHZ	**Arahi**	**2.13**	**56**	P	Pn	03 17 13.9	+7.2
THZ	**Tophouse**	**2.19**	**221**	P	Pn	03 17 08.2	+0.6
MUGZ	**Murupara**	**2.23**	**43**	P	Pn	03 17 09.6	+1.5
RTZ	**Ruatahuna**	**2.25**	**49**	P	Pn	03 17 11.9	+3.5
KHZ	**Kahutara**	**2.49**	**202**	P	Pn	03 17 11.6	0.0
URZ	**Urewera**	**2.58**	**45**	P	Pn	03 17 14.8	+2.0
MWZ	**Matawai**	**2.76**	**51**	P	Pn	03 17 17.4	+2.0
DSZ	**Denniston Nort**	**2.80**	**234**	P	Pn	03 17 16.1	+0.1
MKAZ	**Moumakai**	**3.02**	**5**	P	Pn	03 17 19.1	+0.1
AWAZ	**Awhitu Peninsu**	**3.05**	**357**	P	Pn	03 17 20.6	+1.3
RUGZ	**Raukumara Rang**	**3.10**	**47**	P	Pn	03 17 22.3	+2.2
GVZ	**Greta Valley S**	**3.14**	**205**	P	Pn	03 17 20.4	-0.2
LTZ	**Lake Taylor**	**3.28**	**215**	P	Pn	03 17 22.1	-0.4
HAZ	**Te Kaha**	**3.30**	**45**	P	Pn	03 17 25.1	+2.3
WIAZ	**Waiheke Island**	**3.33**	**4**	P	Pn	03 17 23.6	+0.4
INZ	**Inchbonnie**	**3.63**	**223**	P	Pn	03 17 27.3	0.0
OKCZ	**Okains Bay**	**3.83**	**199**	P	Pn	03 17 28.9	-1.1
WVZ	**Waitaha Valley**	**4.25**	**225**	P	Pn	03 17 35.6	-0.2
GCSZ	**Gaunt Creek Bo**	**4.63**	**225**	P	Pn	03 17 41.9	+0.8
FOZ	**Fox Glacier**	**5.06**	**226**	P	Pn	03 17 46.4	-0.5
TMZ	**Timaru**	**5.11**	**212**	P	Pn	03 17 46.4	-1.3

SOME ***02*** *04:06:38.5, 43.°08N×79.°45E, h5km*
KRNET ***02*** *04:06:39.0±0.1, 43.°11N×79.°50E, h21km, mb2.6*
ISC 02 04:06:41.9±1.0, 43.°18N±0.°04×79.°37E±0.°04, h19km±3km,
n21, σ1°36/42, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.07**	**112**	*e*P	**Pg**	**04 06 45.0**	**-0.7**
	baz=81						
SHLS				*e*S	**Sg**	**04 06 49.7**	**+1.5**
	baz=81						
SHLS	**Shalkode**	**0.07**	**112**	*e*P	**Pg**	**04 06 45.0**	**-0.7**
	35nm,0.1s						
SHLS				*e*S	**Sg**	**04 06 49.7**	**+1.5**
	203nm,0.1s						
KPKS	**Kokpek**	**0.58**	**300**	*e*P	**Pg**	**04 06 52.2**	**-1.3**
	baz=1.0						
KPKS				*e*S	**Sg**	**04 07 02.2**	**+0.9**
	baz=1.0						
KPKS	**Kokpek**	**0.58**	**300**	*e*P	**Pg**	**04 06 52.2**	**-1.3**
	33nm,0.1s						
KPKS				*e*S	**Sg**	**04 07 02.2**	**+0.9**
	138nm,0.3s						
SATY	**Saty**	**0.72**	**260**	*e*P	**Pg**	**04 06 54.0**	**-2.1**
	baz=67						
SATY				*e*S	**Sg**	**04 07 05.7**	**0.0**
	baz=67						
SATY	**Saty**	**0.72**	**260**	*e*P	**Pg**	**04 06 54.0**	**-2.1**
	3.6nm,0.1s						
SATY				*e*S	**Sg**	**04 07 05.7**	**0.0**
	90nm,0.1s						
KURS	**Kuram**	**0.93**	**290**	*e*P	**Pb**	**04 06 57.5**	**-1.9**
	baz=92						
KURS				*e*S	**Sb**	**04 07 11.6**	**+0.2**
	baz=92						
KURS	**Kuram**	**0.93**	**290**	*e*P	**Pb**	**04 06 57.5**	**-1.9**
	6.2nm,0.8s						
KURS				*e*S	**Sb**	**04 07 11.6**	**+0.2**
	9.1nm,0.4s						
DJR	**Jarkent**	**1.19**	**15**	*e*P	**Pn**	**04 07 01.5**	**-2.1**
	1.1nm,0.1s						
DJR				*e*S	**Sb**	**04 07 18.6**	**-0.3**
	3.3nm,0.2s						
ANVS	**Anan'yevo**	**1.31**	**253**	⇑*iP*	**Pn**	**04 07 05.1**	**-0.3**
	baz=57						
ANVS				⇑*iS*	**Sn**	**04 07 22.7**	**+0.2**
	baz=57						
ARXS	**Arharly**	**1.52**	**313**	*e*P	**Pn**	**04 07 08.5**	**+0.4**
	9.7nm,0.2s						
ARXS				*e*S	**Sb**	**04 07 30.6**	**+2.1**
	21nm,0.2s						
MDOK	**Medeo**	**1.70**	**270**	*e*P	**Pn**	**04 07 11.7**	**+1.0**
	baz=72						
MDOK				*e*S	**Sb**	**04 07 35.6**	**+1.9**
	baz=72						
MDOK	**Medeo**	**1.70**	**270**	*e*P	**Pn**	**04 07 11.7**	**+1.0**
	1.2nm,0.2s						
MDOK				*e*S	**Sb**	**04 07 35.5**	**+1.9**
	6.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.86**	**219**	⇑*iP*	**Pn**	**04 07 12.7**	**-0.4**
	baz=23						
TARG				⇑*iS*	**Sn**	**04 07 36.5**	**+0.2**
	baz=23						
CHKK

GAZI	**Gazipasa**	**1.14 124**	PN	**Pn**	**04 17 00.1**	**+2.5**
BAGO	**Egridir - ISPA**	**1.15 346**	*i* P	**Pn**	**04 16 57.9**	**+0.2**
DEMR	**Demre-Antalya**	**1.18 238**	PN	**Pn**	**04 16 59.5**	**+1.4**
BRDR	**BURDUR-Merkez**	**1.19 314**	*i* P	**Pn**	**04 16 58.7**	**+0.4**
DOGA	**KONYA_Doganhis**	**1.30 19**	*i* P	**Pn**	**04 17 00.8**	**+1.1**
DOGA			*i* S	**Sn**	**04 17 17.5**	**+0.7**
DOGA			IAML		04 17 19.0	
	comp=N,200nm,0.3s					
DOGA			IAML		04 17 20.0	
	comp=E,154nm,0.3s					
GOLH	**Golhisar**	**1.31 286**	*i* P	**Pn**	**04 17 01.0**	**+1.1**
GOLH			*i* S	**Sn**	**04 17 21.7**	**+4.6**
GOLH			IAML		04 17 25.0	
	comp=N,187nm,0.3s					
BASM	**Basmaki-Afyon**	**1.35 321**	PN	**Pn**	**04 17 00.9**	**+0.5**
AKAS	**Kas**	**1.39 243**	*i* P	**Pn**	**04 17 01.6**	**+0.7**
AKAS			*i* S	**Sn**	**04 17 19.8**	**+0.8**
AKAS			IAML		04 17 25.0	
	comp=E,200nm,0.4s					
AKAS			IAML		04 17 29.0	
	comp=N,261nm,0.9s					
AKAS	**Kas**	**1.39 243**	PN	**Pn**	**04 17 02.6**	**+1.7**
YVAC	**Isparta, Yalva**	**1.39 3**	*i* P	**Pn**	**04 17 01.4**	**+0.5**
YVAC			*i* S	**Sn**	**04 17 18.6**	**-0.4**
KONT	**Konya--Tatoy**	**1.44 42**	*i* P	**Pn**	**04 17 02.1**	**+0.6**
KONT	**Konya--Tatoy**	**1.44 42**	PN	**Pn**	**04 17 03.0**	**+1.5**
ERMK	**Ermenek**	**1.44 99**	*i* P	**Pn**	**04 17 04.0**	**+2.4**
ERMK			*i* S	**Sn**	**04 17 22.6**	**+2.4**
ERMK			IAML		04 17 25.0	
	comp=N,303nm,0.7s					
ERMK			IAML		04 17 27.0	
	comp=E,225nm,0.4s					
KSL	**Kastellorizon**	**1.45 240**	P	**Pn**	**04 17 02.4**	**+0.9**
KSL			S	**Sn**	**04 17 20.4**	**+0.4**
CAME	**Cameli-Denizli**	**1.47 273**	PN	**Pn**	**04 17 03.2**	**+1.3**
CAEL	**Denizli, Camel**	**1.48 280**	*i* P	**Pn**	**04 17 04.0**	**+2.0**
CAEL			*i* S	**Sn**	**04 17 24.9**	**+3.9**
CAEL			IAML		04 17 33.0	
	comp=N,292nm,0.5s					
CAEL			IAML		04 17 35.0	
	comp=E,354nm,0.6s					
KKBE	**Karaman, Kazim**	**1.48 76**	*i* P	**Pn**	**04 17 00.9**	**-1.1**
KZIL	**AFYON_Kizioren**	**1.59 330**	*i* P	**Pn**	**04 17 03.3**	**-0.2**
KZIL			*i* S	**Sn**	**04 17 24.0**	**+0.5**
LADK	**Ladik-KONYA**	**1.64 36**	PN	**Pn**	**04 17 05.5**	**+1.4**
FETY	**Fethiye**	**1.67 262**	PN	**Pn**	**04 17 05.8**	**+1.4**
SHUT	**Suhut-Afyon**	**1.74 345**	PN	**Pn**	**04 17 05.9**	**+0.5**
TEKE	**Tekeli-Mersin**	**1.75 114**	PN	**Pn**	**04 17 08.4**	**+3.0**
BERE	**Bereket-Mersin**	**1.76 107**	PN	**Pn**	**04 17 08.4**	**+2.7**
KDHN	**Kadinhani**	**1.81 25**	*i* P	**Pn**	**04 17 06.9**	**+0.5**
KDHN			IAML		04 17 30.0	
	comp=N,198nm,0.3s					
TAVA	**DENIZLI_Tavas**	**1.87 289**	*i* P	**Pn**	**04 17 08.7**	**+1.5**
TAVA			*i* S	**Sn**	**04 17 31.2**	**+1.1**
TAVA			IAML		04 17 36.0	
	comp=E,106nm,1.0s					
TAVA			IAML		04 17 36.0	
	comp=N,67nm,0.5s					
TEVE	**Tevekalti-Mers**	**1.90 103**	PN	**Pn**	**04 17 10.7**	**+3.2**
PASA	**Karahalli, USA**	**1.97 319**	*i* P	**Pn**	**04 17 08.2**	**-0.2**
PASA			*i* S	**Sn**	**04 17 31.2**	**-1.2**
ALIN	**Konya, Altinte**	**1.98 44**	*i* P	**Pn**	**04 17 08.6**	**0.0**
DALY	**Dalyan (Mula)**	**1.99 269**	*i* P	**Pn**	**04 17 09.8**	**+1.1**
DALY			*i* S	**Sn**	**04 17 32.2**	**-0.7**
DALY			IAML		04 17 42.0	
	comp=N,100nm,0.3s					
DALY			IAML		04 17 43.0	
	comp=E,106nm,0.3s					
DALY	**Dalyan (Mula)**	**1.99 269**	PN	**Pn**	**04 17 10.2**	**+1.6**
AFYO	**Afyonkarahisar**	**2.02 341**	*i* P	**Pn**	**04 17 08.9**	**-0.2**
AFYO			*i* S	**Sn**	**04 17 33.6**	**0.0**
AFYO			IAML		04 17 39.0	
	comp=N,79nm,0.5s					
GULN	**MERSIN_Gulnar**	**2.06 109**	*i* P	**Pn**	**04 17 10.8**	**+1.3**
GULN			*i* S	**Sn**	**04 17 36.7**	**+2.3**
GULN			IAML		04 17 40.0	
	comp=N,58nm,0.8s					
GULN			IAML		04 17 44.0	
	comp=E,43nm,0.7s					
KIZT	**Kizilcal**	**2.08 16**	PN	**Pn**	**04 17 10.9**	**+0.9**
ALFC	**Alefka**	**2.09 145**	P	**Pn**	**04 17 09.2**	**-0.7**
ALFC			S	**Sn**	**04 17 33.4**	**-1.7**
ALFC			AML	AML	04 17 38.5	
	comp=E,0.8nm,0.3s					
ALFC			AML	AML	04 17 38.5	
	comp=E,0.8nm,0.3s					
ALFC			AML	AML	04 17 39.0	
	comp=E,1.0nm,0.2s					
ALFC			AML	AML	04 17 39.0	
	comp=E,1.0nm,0.2s					
AKMS	**Akamas**	**2.09 152**	P	**Pn**	**04 17 10.1**	**+0.1**
AKMS			S	**Sn**	**04 17 34.6**	**-0.7**
AKMS			AML	AML	04 17 43.6	
	comp=E,0.7nm,0.7s					
AKMS			AML	AML	04 17 43.6	
	comp=E,0.7nm,0.7s					
AKMS			AML	AML	04 17 44.8	
	comp=E,1.3nm,0.4s					
AKMS			AML	AML	04 17 44.8	
	comp=E,1.3nm,0.4s					
KEBE	**Keben-Mersin**	**2.11 101**	PN	**Pn**	**04 17 13.5**	**+3.2**
IKL	**Isikli**	**2.15 107**	PN	**Pn**	**04 17 13.3**	**+2.6**
CHBY	**Cihanbeyli**	**2.20 39**	PN	**Pn**	**04 17 12.9**	**+1.4**
MULA	**Mugla, Merkez-**	**2.29 280**	*i* P	**Pn**	**04 17 13.5**	**+0.8**
MULA			*i* S	**Sn**	**04 17 38.0**	**-2.0**
MULA			IAML		04 17 43.0	
	comp=E,85nm,0.3s					
MULA			IAML		04 17 44.0	
	comp=N,67nm,0.6s					
YER	**Yerkesik**	**2.30 277**	PN	**Pn**	**04 17 14.3**	**+1.5**
TURN	**Turunc**	**2.33 268**	*i* P	**Pn**	**04 17 14.5**	**+1.4**
TURN			*i* S	**Sn**	**04 17 40.2**	**-0.6**
TURN			IAML		04 17 50.0	
	comp=E,62nm,0.5s					
TURN			IAML		04 17 50.0	
	comp=N,98nm,0.3s					
TURN	**Turunc**	**2.33 268**	PN	**Pn**	**04 17 14.5**	**+1.4**
NATA	**Nata**	**2.40 151**	P	**Pn**	**04 17 15.1**	**+1.0**
KERG	**Konya-Eregli**	**2.45 76**	*i* P	**Pn**	**04 17 15.5**	**+0.6**
KIZK	**Mersin**	**2.45 98**	*i* P	**Pn**	**04 17 18.0**	**+3.3**
KIZK			IAML		04 17 52.0	
	comp=E,40nm,0.4s					
KIZK			IAML		04 17 52.0	
	comp=N,44nm,0.6s					
CIFT	**Cifteler, Eski**	**2.48 359**	PN	**Pn**	**04 17 16.7**	**+1.4**
USAK	**Uak-Merkez**	**2.49 318**	*i* P	**Pn**	**04 17 15.9**	**+0.6**
USAK			*i* S	**Sn**	**04 17 43.4**	**-1.4**
USAK			IAML		04 17 44.0	
	comp=N,72nm,1.0s					
USAK			IAML		04 17 55.0	
	comp=E,201nm,0.0s					
KULA	**Kula-Manisa**	**2.56 310**	PN	**Pn**	**04 17 17.5**	**+1.2**
GDZ	**Gediz**	**2.57 330**	*i* P	**Pn**	**04 17 17.0**	**+0.5**
GDZ			*i* S	**Sn**	**04 17 45.7**	**-1.1**
SVRH	**Sivrihisar-ESK**	**2.58 7**	PN	**Pn**	**04 17 18.2**	**+1.5**
CSS	**Mathiatis**	**2.61 136**	P	**Pn**	**04 17 16.9**	**-0.1**
KKUL	**Konya-Kulu**	**2.69 31**	*i* P	**Pn**	**04 17 17.9**	**-0.2**
KKUL			*i* S	**Sn**	**04 17 47.7**	**-2.0**
MVOU	**Mavrovouni**	**2.75 132**	P	**Pn**	**04 17 19.2**	**+0.4**
MVOU			AML	AML	04 17 54.2	
	comp=E,0.3nm,0.5s					
MVOU			AML	AML	04 17 54.3	
	comp=E,0.3nm,0.6s					
EREN	**Erenkoy**	**2.80 118**	*i* P	**Pn**	**04 17 20.4**	**+0.9**
EREN			IAML		04 17 57.0	
	comp=N,54nm,0.6s					
AYDB	**Zeytinkoy-Aydi**	**2.80 293**	PN	**Pn**	**04 17 21.2**	**+1.6**
BODT	**Bodrum**	**3.07 275**	PN	**Pn**	**04 17 25.2**	**+2.0**
OSC1	**CSNet OBS 1**	**3.37 178**	P	**Pn**	**04 17 27.8**	**+0.5**
OSC1			S	**Sn**	**04 18 05.3**	**-0.8**
BRTR	**Keskin Array B**	**3.46 34**	P	**Pn**	**04 17 29.0**	**+0.5**
	comp=N,0.2nm,0.3s,baz=221,slow=15,SNR=11					
BRTR			S	**Sn**	**04 18 09.1**	**+0.7**
	comp=N,2.8nm,0.3s,baz=209,slow=26,SNR=4.7					
MMAI	**Mount Meron Ar**	**5.21 136**	P	**Pn**	**04 17 52.1**	**-0.2**
	comp=N,3.0nm,0.3s,baz=314,slow=12,SNR=5.4					
MMAI			S	**Sn**	**04 18 47.3**	**-3.7**
	comp=N,3.6nm,0.3s,baz=304,slow=21,SNR=2.3					
IDI	**Anoyia**	**5.30 254**	P	**Pn**	**04 17 54.2**	**+0.6**
	comp=N,0.6nm,0.3s,baz=65,slow=14,SNR=6.8					
IDI			S	**Sn**	**04 18 49.5**	**-3.9**
	comp=N,0.6nm,0.3s,baz=114,slow=20,SNR=2.6					
EIL	**Elat**	**7.86 155**	P	**Pn**	**04 18 27.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=38,slow=19,SNR=1.1					
EIL			S	**Sn**	**04 19 51.0**	**-5.0**
	comp=N,0.9nm,0.3s,baz=78,slow=19,SNR=2.7					
AKASG	**Malin Array Be**	**13.89 355**	P	**Pn**	**04 19 49.1**	**-0.8**
	comp=N,0.7nm,0.3s,baz=168,slow=13,SNR=4.6					
FINES	**FINESS Array B**	**24.80 354**	P	**P**	**04 21 51.3**	**+0.2**
	comp=N,0.4nm,0.4s,baz=157,slow=10,SNR=4.3					
ARCES	**ARCESS Array B**	**32.86 356**	P	**P**	**04 23 01.7**	**-1.1**
	comp=N,2.2nm,1.1s,baz=163,slow=8.9,SNR=7.2					
SONM	**Songino Array**	**54.62 53**	LR	LR	04 49 59.3	
	comp=N,33nm,21.2s,baz=45,slow=37					

ROM 02 04:23:05.2±0.2, 36.15N±0.02×12.66E±0.03, h28km±2km, ML2.9/2, 1C-1D, Error ellipse: s-maj=2.6km s-min=2.1km az=230.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPDG	**Lampedusa Capo**	**0.63**	**182**	P	Pn	04 23 18.2	-0.1
LPDG				AML	AML		
	comp=E,1840μm,0.9s						
LPDG				AML	AML		
	comp=N,2095μm,0.9s						
FAVR	**Favara**	**1.38**	**36**	P	Pb	04 23 30.2	-0.1
FAVR				AML	AML		
	comp=E,284μm,0.5s						
FAVR				AML	AML		
	comp=N,232μm,1.3s						
FAVR				AML	AML		
	comp=E,370μm,0.6s						
FAVR				AML	AML		
	comp=N,252μm,1.1s						
CLTA	**Licata**	**1.45**	**46**	P	Pn	04 23 29.7	+0.1
CLTA				AML	AML		
	comp=E,260μm,0.4s						
CLTA				AML	AML		
	comp=N,366μm,1.1s						
CLTB	**Caltabellotta**	**1.50**	**17**	⇓P	Pn	04 23 29.6	-0.7
CLTB				AML	AML		
	comp=E,798μm,0.4s						
CLTB				AML	AML		
	comp=N,1255μm,0.5s						
MMGO	**Monte Magaggia**	**1.53**	**9**	P	Pb	04 23 31.9	-1.0
WDD	**Wied Dalam**	**1.54**	**101**	P	Pn	04 23 31.0	+0.3
WDD				S	Sn	04 23 50.7	+0.8
MFNL	**Monte Finestre**	**1.65**	**7**	P	Pn	04 23 33.0	+0.6
RAFF	**Raffo Rosso**	**1.74**	**51**	P	Pn	04 23 33.6	+0.1
RAFF				AML	AML		
	comp=E,253μm,0.4s						
RAFF				AML	AML		
	comp=N,160μm,0.6s						
RAFF				AML	AML		
	comp=N,176μm,0.7s						
CORL	**Corleone**	**1.82**	**16**	P	Pn	04 23 34.6	0.0
CORL				AML	AML		
	comp=E,160μm,0.4s						
CORL				AML	AML		
	comp=N,131μm,0.5s						
ALJA	**Alia**	**1.82**	**28**	P	Pn	04 23 36.0	+1.2
ALJA				AML	AML		
	comp=N,99μm,0.5s						
ALJA				AML	AML		
	comp=E,79μm,1.3s						
RESU	**Resuttano**	**1.87**	**36**	P	Pb	04 23 37.5	-1.2
RESU				AML	AML		
	comp=N,249μm,1.1s						
RESU				AML	AML		
	comp=E,202μm,0.1s						
ERC	**Erice**	**1.89**	**358**	P	Pn	04 23 35.6	-0.1
ERC				AML	AML		
	comp=N,200μm,0.5s						
ERC				AML	AML		
	comp=E,222μm,0.3s						
HMDC	**Modica**	**1.89**	**64**	P	Pn	04 23 35.3	-0.3
HMDC				AML	AML		
	comp=E,239μm,0.8s						
HMDC				AML	AML		
	comp=N,210μm,0.9s						
PETRA	**Petralia Sopra**	**2.04**	**34**	P	Pn	04 23 39.3	+1.4
PETRA				AML	AML		
	comp=E,123μm,0.6s						
PETRA				AML	AML		
	comp=N,126μm,0.5s						
MEU	**Monte Lauro**	**2.06**	**62**	⇑P	Pn	04 23 37.3	-0.7
MEU				S	Sn	04 24 02.3	-0.5
MEU				AML	AML		
	comp=E,570μm,0.4s						
MEU				AML	AML		
	comp=N,738μm,0.3s						
SOLUN	**Solunto**	**2.06**	**19**	P	Pn	04 23 38.5	+0.5
SOLUN				AML	AML		
	comp=E,58μm,0.7s						
SOLUN				AML	AML		
	comp=N,66μm,0.5s						
CSLB	**Castelbuono**	**2.11**	**32**	P	Pn	04 23 39.7	+1.1
CSLB				AML	AML		
	comp=E,67μm,0.4s						
CSLB				AML	AML		
	comp=N,65μm,0.9s						
HLNI	**Lentini**	**2.14**	**55**	P	Pn	04 23 39.2	+0.1
HLNI				S	Sn	04 24 04.9	+0.2
HLNI				AML	AML		
	comp=E,216μm,0.3s						
HLNI				AML	AML		
	comp=N,236μm,0.2s						
HAVL	**Avola**	**2.14**	**67**	P	Pn	04 23 38.6	-0.4
HAVL				AML	AML		
	comp=E,188μm,1.5s						
HAVL				AML	AML		
	comp=N,312μm,0.2s						
GALF	**Gagliano Caste**	**2.18**	**44**	P	Pn	04 23 41.2	+1.5
GALF				AML	AML		
	comp=E,138μm,0.4s						
GALF				AML	AML		
	comp=N,153μm,0.6s						
SSY	**Sortino**	**2.18**	**62**	P	Pn	04 23 40.0	+0.4
SSY				AML	AML		
	comp=E,330μm,0.7s						
SSY				AML	AML		
	comp=N,482μm,0.6s						
HAGA	**Augusta**	**2.30**	**60**	P	Pn	04 23 41.6	+0.4
HAGA				AML	AML		
	comp=E,200μm,0.5s						
HAGA				AML	AML		
	comp=N,194μm,0.6s						
ESML	**S. M. di Licod**	**2.30**	**50**	P	Pn	04 23 42.2	+0.9
ESML				AML	AML		
	comp=N,172μm,0.3s						
ESML				AML	AML		
	comp=E,193μm,0.2s						
ESLN	**Serra La Nave**	**2.41**	**50**	P	Pn	04 23 44.3	+1.3
ESLN				AML	AML		
	comp=E,312μm,1.1s						
ESLN				AML	AML		
	comp=N,352μm,0.4s						
EPZF	**Pizzo Felice**	**2.43**	**46**	P	Pn	04 23 44.8	+1.8
EPZF				AML	AML		
	comp=E,203μm,0.4s						
EPZF				AML	AML		
	comp=N,796μm,0.5s						
MSFR	**San Fratello**	**2.43**	**39**	P	Pn	04 23 44.9	+1.8
MSFR				AML	AML		
	comp=E,46μm,0.5s						
MSFR				AML	AML		
	comp=N,69μm,0.9s						
EMSG	**Monte Spagnolo**	**2.48**	**47**	P	Pn	04 23 45.6	+1.8
MUCR	**Ucria**	**2.59**	**42**	P	Pn	04 23 46.0	+0.7
NOV	**Novara**	**2.73**	**46**	P	Pn	04 23 48.1	+1.0
MCSR	**Castroreale**	**2.82**	**46**	P	Pn	04 23 49.1	+0.6
MCSR				AML	AML		
	comp=E,134μm,0.3s						
MCSR				AML	AML		
	comp=N,165μm,0.2s						
IFIL	**Filicudi I Eol**	**2.85**	**32**	P	Pn	04 23 49.1	+0.3
IFIL				AML	AML		
	comp=N,173μm,0.3s						
IFIL				AML	AML		
	comp=E,486μm,1.0s						
MPNC	**Port Mandanici**	**2.93**	**46**	P	Pn	04 23 51.1	+1.2
MPNC				AML	AML		
	comp=N,86μm,1.3s						
MPNC				AML	AML		
	comp=E,112μm,0.6s						
MILZ	**Milazzo**	**2.95**	**43**	P	Pn	04 23 49.7	-0.4
MILZ				AML	AML		
	comp=E,69μm,0.4s						
MILZ				AML	AML		
	comp=N,61μm,0.5s						
MTTG	**Motta San Giov**	**3.05**	**52**	P	Pn	04 23 52.5	+0.9
MTTG				AML	AML		
	comp=N,45μm,0.6s						
MTTG				AML	AML		
	comp=E,44μm,1.5s						
MSRU	**Castanea**	**3.10**	**46**	P	Pn	04 23 53.5	+1.3
MSRU				AML	AML		
	comp=E,82μm,0.3s						
MSRU				AML	AML		
	comp=N,59μm,0.4s						
MPAZ	**Palizzi**	**3.23**	**55**	P	Pn	04 23 54.8	+0.8
MPAZ				AML	AML		
	comp=E,24μm,0.9s						
MPAZ				AML	AML		
	comp=N,34μm,0.4s						
PLAC	**Placanica**	**3.79**	**52**	P	Pn	04 24 02.9	+1.2
VSL	**Villasalto**	**4.24**	**323**	P	Pn	04 24 08.3	+0.4

IDC 02 04:23:11.4±5.5, 8.59S×119.03E, h101km±55km, mb2.9/2, mb1 3.3/5, mb1mx3.2/37, mbtmp3.6/5, Error ellipse: s-maj=58.7km s-min=33.4km az=57.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.85**	**110**	P	Pn	04 24 22.4	+0.3
	18nm,0.3s,baz=265,slow=7.0,SNR=8.3						
BATI				S	Sn	04 25 17.6	+0.4
	6.2nm,0.3s,baz=224,slow=17,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.43**	**146**	P	Pn	04 25 51.3	-0.2
	0.2nm,0.3s,baz=315,slow=11,SNR=14						
FITZ				S	Sn	04 27 48.8	-8.5
	0.6nm,0.3s,baz=274,slow=14,SNR=9.7						
WRA	**Warramunga Arr**	**18.62**	**129**	P	P	04 27 21.1	-0.2
	0.3nm,0.3s,baz=304,slow=12,SNR=12						
WRA				S	S	04 30 37.5	-11
	0.1nm,0.3s,baz=305,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**20.68**	**138**	P	P	04 27 43.8	+0.3
	0.4nm,0.4s,baz=315,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**64.11**	**333**	P	P	04 33 34.8	-0.1
	0.2nm,0.6s,baz=152,slow=7.1,SNR=2.3						

*NNC **02** 04:59:30.4±10.0, 37.95N×70.94E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=80.2km s-min=55.2km az=177.0*
*KRNET **02** 04:59:34.6±0.1, 38.77N×70.69E, h11km, mb3.0*
ISC 02 04:59:32.6±1.5, 38.72N±0.08×70.78E±0.06, h10km, n10, σ2.81/20, 8C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.46**	**307**	⇓*i*P	**Pg**	**04 59 41.6**	**+0.1**
	baz=9.0						
GAR				⇓*i*S	**Sg**	**04 59 47.4**	**-0.2**
	baz=9.0						
DRK	**Karamyk**	**1.09**	**46**	⇓*i*P	**Pn**	**04 59 55.5**	**+1.3**
	baz=50						
DRK				⇓*i*S	**Sn**	**05 00 11.4**	**+1.8**
	baz=50						
CHGR	**Chuyangaron**	**1.27**	**267**	⇑*e*P	**Pg**	**04 59 57.2**	**+0.2**
	baz=65						
CHGR				⇑*i*S	**Sg**	**05 00 13.5**	**0.0**
	baz=65						
BTK	**Batken**	**1.33**	**1**	⇓*i*P	**Pg**	**04 59 58.8**	**+0.6**
	baz=4.0						
BTK				⇓*i*S	**Sn**	**05 00 16.3**	**+1.1**
	baz=4.0						
TRKS	**Terek-Say**	**2.82**	**5**	⇑*e*P	**Pb**	**05 00 20.4**	**-2.7**
	baz=8.0						
TRKS				⇑*e*S	**Sn**	**05 00 53.8**	**+1.9**
	baz=8.0						
MNAS	**Manas**	**3.98**	**19**	⇑*e*P	**Pn**	**05 00 37.7**	**+3.9**
	baz=20						
MNAS				⇑*i*S	**Sn**	**05 01 23.9**	**+3.3**
	baz=20						
AML	**Almayashu**	**4.07**	**32**	⇑*i*P	**Pn**	**05 00 38.9**	**+3.7**
	baz=33						
AML				⇑*i*S	**Sn**	**05 01 26.3**	**+3.3**
	baz=33						
KK31	**Karatay Array**	**4.38**	**357**	⇓Pn	**Pb**	**05 00 44.8**	**-4.8**
	1.0nm,0.3s,baz=172,slow=12						
KK31				⇓Sn	**Sg**	**05 01 52.3**	**-0.9**
	2.7nm,0.5s,baz=176,slow=29						
AAK	**Ala-Archa**	**4.82**	**35**	⇓Pn	**Pb**	**05 00 53.9**	**-3.3**
	1.6nm,0.3s						
AAK				⇓Sn	**Sb**	**05 01 55.8**	**+0.4**
	2.9nm,0.6s						
TKM2	**Tokmak 2**	**5.56**	**40**	⇓Pn	**Pb**	**05 01 05.5**	**-4.3**
	1.5nm,0.5s						
TKM2				⇓Sn	**Sb**	**05 02 13.2**	**-3.5**
	1.7nm,0.8s						

*IDC **02** 05:04:44.9±2.6, 6.46S×129.95E, h106km±31km, mb3.9/2, mb1 3.7/6, mb1mx3.4/28, mbtmp4.0/6, Error ellipse: s-maj=50.1km s-min=14.8km az=87.0*
ISC 02 05:04:43.8±0.9, 6.60S±0.06×130.0E±0.2, h100km, n6, σ3.10/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.83**	**13**	P	**Pn**	**05 06 06.7**	**-1.1**
	2.4nm,0.3s,baz=195,slow=20,SNR=2.0						
SIJI				S	**Sn**	**05 07 12.6**	**-0.8**
	10nm,0.3s,baz=171,slow=19,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.20**	**200**	P	**Pn**	**05 07 36.6**	**+2.5**
	0.4nm,0.3s,baz=24,slow=12,SNR=18						
FITZ				S	**Sn**	**05 09 44.1**	**-4.1**
	0.9nm,0.3s,baz=5.2,slow=11,SNR=11						
WRA	**Warramunga Arr**	**13.92**	**163**	P	**Pn**	**05 07 59.0**	**+2.3**
	0.9nm,0.3s,baz=346,slow=13,SNR=28						
WRA				S	**Sn**	**05 10 27.4**	**-2.6**
	1.0nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.38**	**168**	P	**Pn**	**05 08 43.6**	**+3.5**
	0.7nm,0.3s,baz=341,slow=10,SNR=25						
ASAR				S	**Sn**	**05 11 49.8**	**-3.9**
	0.1nm,0.3s,baz=355,slow=27,SNR=3.1						
STKA	**Stephens Creek**	**27.38**	**158**	P	**P**	**05 10 21.4**	**+1.5**
	1.0nm,0.4s,baz=338,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**05 15 31.3**	**-0.3**
	1.5nm,0.4s,baz=114,slow=8.3,SNR=19						

*ISK **02** 05:06:50.4, 40.79N×41.83E, h13km, ML3.0/6*
*DDA **02** 05:06:50.1, 40.73N×41.78E, h8km±3km, ML2.1*
*TIF **02** 05:06:50.8, 40.79N×41.77E, h16km±1km*
ISC 02 05:06:50.6±0.8, 40.80N±0.02×41.77E±0.02, h15km±5km, n30, σ0.81/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDEM	**Demirkent**	**0.10**	**350**	*i* P	**Pb**	**05 06 54.1**	**+0.2**
DDEM				*i* S	**Sg**	**05 06 56.4**	**+0.3**
DBAD	**Bademkaya**	**0.23**	**345**	*i* P	**Pb**	**05 06 56.6**	**0.0**
DBAD				*i* S	**Sb**	**05 07 00.2**	**-0.4**
DBAD				IAML		05 07 03.0	
	comp=E,355nm,0.5s						
DBAD				IAML		05 07 05.0	
	comp=N,295nm,0.6s						
DAGI	**Agillar**	**0.30**	**21**	*i* P	**Pb**	**05 06 57.5**	**-0.3**
DAGI				*i* S	**Sb**	**05 07 02.2**	**-0.5**
DAGI				IAML		05 07 03.0	
	comp=E,304nm,0.4s						
DAGI				IAML		05 07 04.0	
	comp=N,235nm,0.4s						
SENK	**Senkaya-Erzuru**	**0.50**	**118**	PG	**Pg**	**05 06 59.9**	**-0.6**
SENK				SG	**Sg**	**05 07 06.8**	**-0.4**
DBOC	**Borcka**	**0.56**	**352**	*i* P	**Pb**	**05 07 02.1**	**0.0**
DBOC				*i* S	**Sg**	**05 07 08.8**	**-0.2**
DBOC				IAML		05 07 11.0	
	comp=E,111nm,0.3s						
HOPA	**Hopa-Artvin**	**0.64**	**337**	PG	**Pb**	**05 07 03.7**	**+0.2**
HOPA				SG	**Sb**	**05 07 13.3**	**+1.0**
HOMI	**Horasan**	**0.76**	**172**	*i* P	**Pg**	**05 07 04.0**	**-1.4**
H

KRIK			*i* S		Sg	05 07 15.6	-0.8
KOPR	**Koprukoy-ERZUR**	**0.81 176**	PG		**Pb**	05 07 06.2	-0.2
KOPR			SG		**Sb**	05 07 17.9	+0.7
BATM	**Batumi**	**0.81 356**	P		**Pb**	05 07 06.8	+0.3
BATM			S		**Sn**	05 07 18.8	-0.6
BATM	**Batumi**	**0.81 356**	*i* P		**Pb**	05 07 06.7	+0.3
BATM	**Batumi**	**0.81 356**	PG		**Pb**	05 07 06.9	+0.5
BATM			SG		**Sn**	05 07 18.7	-0.6
CHOM	**Cayeli-Rize**	**0.82 292**	PG		**Pn**	05 07 07.5	-0.2
CHOM			SG		**Sn**	05 07 20.1	+0.4
CHAY	**Cayeli-Rize**	**0.84 290**	PG		**Pn**	05 07 08.0	0.0
ERZM	**Erzurum**	**0.94 199**	*i* P		**Pn**	05 07 09.7	+0.2
EJDE	**Erzurum, Palan**	**1.02 201**	*i* P		**Pn**	05 07 11.3	+0.5
EJDE			IAML			05 07 29.0	
	comp=N,68nm,0.4s						
EJDE			IAML			05 07 30.0	
	comp=E,68nm,0.6s						
ABS	**Abastumani**	**1.24 39**	P		**Pg**	05 07 14.4	-0.1
ABS			S		**Sg**	05 07 32.1	+1.4
KOPT	**Kop Dagi**	**1.25 232**	*i* P		**Pg**	05 07 16.1	+1.5
BAYB	**BAYBURT**	**1.27 246**	*i* P		**Pg**	05 07 14.8	-0.3
BAYB			*i* S		**Sg**	05 07 31.5	-0.3
BAYB			IAML			05 07 34.0	
	comp=E,40nm,0.3s						
BAYB			IAML			05 07 35.0	
	comp=N,36nm,0.4s						
BGD	**Bogdanovka**	**1.46 71**	P		**Pg**	05 07 19.3	+0.7
KOTA	**Agri, Merkez-K**	**1.48 132**	*i* P		**Pg**	05 07 18.9	-0.1
MACK	**Trabzon**	**1.53 276**	*i* P		**Pg**	05 07 19.4	-0.5
MACK			*i* S		**Sg**	05 07 39.3	-0.5
KTUT	**Trabzon**	**1.53 278**	PN		**Pb**	05 07 18.6	-0.1
TKB	**Tkibuli**	**1.81 30**	P		**Pg**	05 07 24.7	-0.5
TKB			S		**Sg**	05 07 48.8	+0.1
DMNI	**Dmanisi**	**1.90 73**	P		**Pg**	05 07 25.9	-1.2
TRLG	**Trialeti**	**1.91 66**	P		**Pb**	05 07 25.7	+0.5
KELT	**Kelkit**	**2.03 252**	*i* P		**Pb**	05 07 27.5	+0.2
KELT			*i* S		**Sb**	05 07 53.4	+1.0
KELT			IAML			05 07 57.0	
	comp=N,12nm,0.3s						
ONI	**Oni**	**2.19 34**	P		**Pg**	05 07 31.4	-1.2
ONI			S		**Sg**	05 08 02.2	+1.1
ALUC	**Giresun/Alucra**	**2.33 260**	*i* P		**Pb**	05 07 33.6	+1.2
ALUC			*i* S		**Sg**	05 08 03.7	-1.8
ALUC			IAML			05 08 10.0	
	comp=N,31nm,1.3s						
ALUC			IAML			05 08 12.0	
	comp=E,27nm,0.6s						
SUSE	**Susehri**	**2.79 259**	*i* P		**Pb**	05 07 41.6	+1.5
SUSE			*i* S		**Sg**	05 08 18.0	-2.0
SUSE			IAML			05 08 25.0	
	comp=E,8.2nm,0.4s						
SUSE			IAML			05 08 27.0	
	comp=N,6.0nm,0.4s						

*VAO **02** 05:19:07.2±0.3, 22°.94S×70°.30W, h10km, mb4.4*
*NEIC **02** 05:19:27.5±1.9, 22°.69S±0°.05×69°.2W±0°.1, h116km±8km, Error ellipse: s-maj=14.8km s-min=7.4km az=91.0*
*IDC **02** 05:19:28.4±0.7, 22°.63S×68°.90W, h106km±3km, mb3.5/7, mb1 3.6/10, mb1mx3.5/25, mbtmp3.8/10, Error ellipse: s-maj=21.1km s-min=17.1km az=29.0*
*GUC **02** 05:19:28.2±0.8, 22°.69S×69°.05W, h105km±3km, ML4.0*

ISC 02 05:19:27.4±0.6, 22°.69S±0°.04×69°.02W±0°.05, h107km±5km, n98, σ1s55/111, mb3.9/7, 9C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.13**	**54**	P	**Pn**	**05 19 43.8**	**+1.1**
	716nm,0.3s,baz=190,slow=1.1						
LVC				S	**Sn**	**05 19 55.0**	**+0.8**
	898nm,0.3s,baz=180,slow=20,SNR=18						
LVC	**Limon Verde**	**0.13**	**54**	*e*P	**Pn**	**05 19 43.0**	**+0.3**
LVC				*e*S	**Sn**	**05 19 55.0**	**+0.8**
PB06	**IPOC Station P**	**0.51 268**	⇑	*e*P	**Pn**	**05 19 44.6**	**+0.4**
PB06				*e*S	**Sn**	**05 19 57.0**	**+0.2**
PB06	**IPOC Station P**	**0.51 268**			**Pn**	**05 19 44.4**	**+0.2**
PB15	**IPOC Station P**	**0.67 219**	⇑	*e*P	**Pn**	**05 19 46.1**	**+0.7**
PB15				*e*S	**Sn**	**05 19 59.8**	**+0.8**
PB15	**IPOC Station P**	**0.67 219**			**Pn**	**05 19 45.6**	**+0.2**
PB09	**IPOC Station P**	**0.91 347**			**Pn**	**05 19 48.6**	**+1.0**
PB03	**IPOC Station P**	**0.93 313**	⇑	*e*P	**Pn**	**05 19 48.1**	**+0.3**
PB03				*e*S	**Sn**	**05 20 02.8**	**-0.4**
PB03				IAML		05 20 04.6	
	comp=N,5μm,0.3s						
PB04	**IPOC Station P**	**1.10 288**	⇑	*e*P	**Pn**	**05 19 49.6**	**0.0**
PB04				*e*S	**Sn**	**05 20 06.2**	**-0.2**
PB04				IAML		05 20 13.6	
	comp=E,3μm,0.3s						
PB04	**IPOC Station P**	**1.10 288**			**Pn**	**05 19 49.5**	**0.0**
PB05	**IPOC Station P**	**1.10 261**	⇑	*e*P	**Pn**	**05 19 49.3**	**-0.3**
PB05				*e*S	**Sn**	**05 20 05.5**	**-0.9**
PB07	**IPOC Station P**	**1.25 320**	⇑	*e*P	**Pn**	**05 19 51.5**	**+0.3**
PB07				*e*S	**Sn**	**05 20 09.1**	**-0.2**
PB07				IAML		05 20 09.9	
	comp=E,4μm,0.4s						
PB07	**IPOC Station P**	**1.25 320**			**Pn**	**05 19 51.4**	**+0.1**
PB10	**IPOC Station P**	**1.64 239**	Pn		**Pn**	**05 19 55.2**	**-0.5**
PB01	**IPOC Station P**	**1.69 345**	⇑	*e*P	**Pn**	**05 19 57.1**	**+0.6**
PB01				*e*S	**Sn**	**05 20 19.0**	**+0.4**
PB01				IAML		05 20 20.6	
	comp=E,2μm,0.4s						
PB01				IAML		05 20 21.1	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.69 345**			**Pn**	**05 19 57.0**	**+0.6**
PB14	**IPOC Station P**	**2.31 213**	⇑	*e*P	**Pn**	**05 20 04.8**	**+0.3**
PB14				*e*S	**Sn**	**05 20 31.9**	**-1.0**
PB14				IAML		05 20 32.8	
	comp=E,735nm,0.3s						
PB14	**IPOC Station P**	**2.31 213**			**Pn**	**05 20 04.3**	**-0.2**
TA01	**Diego Aracena**	**2.37 333**			**Pn**	**05 20 04.3**	**-0.8**
GO02	**Mina Guanaco**	**2.52 192**	⇑	*e*P	**Pn**	**05 20 07.6**	**+0.4**
GO02				*e*S	**Sn**	**05 20 38.7**	**+0.9**
GO02	**Mina Guanaco**	**2.52 192**			**Pn**	**05 20 07.7**	**+0.4**
PB08	**IPOC Station P**	**2.54 357**	⇑	*e*P	**Pn**	**05 20 08.4**	**+0.9**
PB08				*e*S	**Sn**	**05 20 35.6**	**-2.7**
PB08				IAML		05 20 40.7	
	comp=N,456nm,0.6s						
PB08	**IPOC Station P**	**2.54 357**			**Pn**	**05 20 08.5**	**+0.9**
TA02	**Huaiquique**	**2.62 337**			**Pn**	**05 20 07.5**	**-0.7**
PB11	**IPOC Station P**	**2.97 348**	*e*P		**Pn**	**05 20 12.7**	**-0.4**
PB11				*e*S	**Sn**	**05 20 47.5**	**-0.8**
PB11				IAML		05 20 54.6	
	comp=N,398nm,0.2s						
PB11				IAML		05 20 56.2	
	comp=E,404nm,0.2s						
PB11	**IPOC Station P**	**2.97 348**		Pn	**Pn**	**05 20 12.9**	**-0.2**
PSGC	**Pisagua**	**3.24 341**		IAML		05 20 54.5	
	comp=E,186nm,0.3s						
PSGCX	**Pisagua**	**3.24 341**		Pn	**Pn**	**05 20 14.9**	**-1.8**
MNMC	**Minye Minye**	**3.58 351**			**Pn**	**05 20 21.2**	**-0.1**
AC01	**Pan de Azucar**	**3.73 202**		Pn	**Pn**	**05 20 21.8**	**-1.3**
AC02	**Maricunga**	**4.13 181**		Pn	**Pn**	**05 20 29.8**	**+0.9**
GO03	**Copiap**	**5.01 192**			**Pn**	**05 20 38.8**	**-1.6**
AC04	**Llanos de Chal**	**5.80 198**			**Pn**	**05 20 47.3**	**-3.6**
LPAZ	**La Paz**	**6.42 8**		P	**Pn**	**05 21 01.9**	**+1.8**
	comp=E,0.5nm,0.3s,baz=199,slow=10,SNR=30						
LPAZ	**La Paz**	**6.42 8**			**Pn**	**05 21 02.2**	**+2.2**
GO04	**Tololo Observa**	**7.62 192**		Pn	**Pn**	**05 21 13.2**	**-2.8**
CO03	**El Pedregal**	**8.26 190**		Pn	**Pn**	**05 21 20.8**	**-3.6**
SIV	**San Ignacio**	**10.03 50**		P	**Pn**	**05 21 46.3**	**-2.2**
	comp=E,2.6nm,0.3s,baz=250,slow=8.3,SNR=27						
SIV				S	**Sn**	**05 23 31.5**	**-7.7**
	comp=E,0.3nm,0.3s,baz=17,slow=19,SNR=4.8						
CPUP	**Villa Florida**	**11.25 111**		P	**Pn**	**05 22 03.2**	**-1.7**
	comp=E,0.1nm,0.3s,baz=310,slow=11,SNR=6.3						
CPUP	**Villa Florida**	**11.25 111**			**Pn**	**05 22 03.9**	**-0.9**
CPUP	**Villa Florida**	**11.25 111**	*e*P		**Pn**	**05 22 02.7**	**-2.1**
AQDB	**Aquidauana**	**12.59 82**	*e*P		**Pn**	**05 22 22.0**	**-0.7**
ITQB	**Itaqui**	**13.12 125**	*e*P		Pn	05 22 24.9	-4.6
H03N1	**Juan Fernandez**	**13.81 217**	P		**Pn**	**05 22 37.0**	**-1.2**
	baz=110,slow=15,SNR=15						
H03N1			T		T	05 35 17.3	
	baz=42,slow=72,SNR=7.3						
H03N2	**Juan Fernandez**	**13.82 217**	P		**Pn**	**05 22 37.3**	**-1.1**
	baz=110,slow=15,SNR=8.1						
H03N2			T		T	05 35 19.7	
	baz=42,slow=72,SNR=7.4						
H03N3	**Juan Fernandez**	**13.83 217**	P		**Pn**	**05 22 36.9**	**-1.7**
	baz=110,slow=15,SNR=12						
H03N3			T		T	05 35 14.4	
	baz=42,slow=72,SNR=8.4						
H03S3	**Juan Fernandez**	**14.10 216**	P		**Pn**	**05 22 40.0**	**-2.0**
	baz=296,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**14.11 216**	P		**Pn**	**05 22 39.7**	**-2.4**
	baz=296,slow=74,SNR=12						
H03S2	**Juan Fernandez**	**14.12 216**	P		**Pn**	**05 22 40.2**	**-2.0**
	baz=296,slow=74,SNR=8.0						
PP1B	**Ponte de Pedra**	**14.21 72**	*e*P		**Pn**	**05 22 45.0**	**+1.3**
SALV	**Santo Antonio**	**14.27 64**	*e*P		**Pn**	**05 22 45.0**	**+0.5**
TRCB	**Terra Rica**	**15.12 94**	*e*P		**Pn**	**05 22 57.0**	**+1.6**
CZSB	**Cruzeiro do Su**	**15.29 346**	*e*P		Pn	05 22 43.1	-14
CPSB	**Cacapava Do Su**	**15.91 122**	*e*P		**Pn**	**05 23 02.6**	**-2.5**
ITAB	**Concordia**	**15.97 110**		Pn	**Pn**	**05 23 06.1**	**+0.2**
ITAB				IAmb	IAmb	05 23 07.7	
	comp=Z,34nm,1.5s						
PLTB	**Pedras Altas**	**16.41 127**		Pn	**Pn**	**05 23 10.0**	**-1.4**
PLTB				IAmb	IAmb	05 23 14.2	
	comp=Z,18nm,1.4s						
PLTB	**Pedras Altas**	**16.41 127**	*e*P		**Pn**	**05 23 07.6**	**-3.7**
TRQA	**Tornquist**	**16.47 160**			**P**	**05 23 12.8**	**0.0**
TRQA				IAmb	IAmb	05 23 16.1	
	comp=Z,15nm,1.4s						
PCMB	**Pacaembu**	**16.49 90**	*e*P		**Pn**	**05 23 13.2**	**+0.8**
CLDB	**Colider**	**17.25 49**	*e*P		**Pn**	**05 23 22.2**	**+0.4**
ITRB	**Iturama**	**17.65 84**	*e*P		**Pn**	**05 23 27.3**	**+0.7**
ARAG	**Araguaiana, MT**	**17.66 70**	*e*P		**P**	**05 23 26.9**	**+0.7**
FRTB	**Fartura**	**17.93 96**	*e*P		**P**	**05 23 29.7**	**+0.7**
TER01	**Tubaro-SC**	**18.85 112**	*e*P		**P**	**05 23 38.4**	**-0.7**
BB19B	**Bebedouro**	**19.09 89**	*e*P		**P**	**05 23 43.1**	**+1.4**
RCLB	**Rio Claro- Sao**	**19.85 93**	*e*P		**P**	**05 23 50.7**	**+0.7**
PET01	**Itanhaem-SP**	**20.01 99**	*e*P		**P**	**05 23 52.3**	**+0.6**
IPMB	**Ipameri, GO**	**20.06 80**	*e*P		**P**	**05 23 53.2**	**+0.9**
NPGB	**Novo Progresso**	**20.37 42**	*e*P		**P**	**05 23 54.7**	**-1.0**
BDFB	**Brasilia**	**21.03 74**	P		**P**	**05 24 02.8**	**0.0**
	comp=Z,3.5nm,0.4s,baz=252,slow=11,SNR=13						
ITTB	**Itaituba**	**22.29 37**	*e*P		**P**	**05 24 15.3**	**-0.8**
PEXB	**Peixe**	**22.37 65**	*e*P		**P**	**05 24 16.6**	**-0.3**
PTGA	**Pitinga**	**23.53 23**	P		**P**	**05 24 28.5**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=121,slow=13,SNR=2.0						
DIAM	**Diamantina, MG**	**24.13 84**	*e*P		**P**	**05 24 34.7**	**+1.1**
JANB	**Januaria**	**24.56 76**	*e*P		**P**	**05 24 36.9**	**-0.5**
SMTB	**Santa Maria do**	**24.73 60**	*e*P		**P**	**05 24 39.5**	**+0.5**
PRPB	**Parauapebas**	**24.75 51**	*e*P		**P**	**05 24 39.9**	**+0.7**
SDBA	**SAO DESIDERIO**	**25.13 70**	*e*P		**P**	**05 24 43.4**	**+0.8**
MALB	**Monte Alegre**	**25.18 37**	*e*P		**P**	**05 24 41.7**	**-1.4**
CAM01	**Campos-RJ**	**25.33 93**	*e*P		**P**	**05 24 46.2**	**+1.9**
BOAV	**Boa Vista**	**26.27 19**	*e*P		**P**	**05 24 49.9**	**-3.0**
BSFB	**Barra de Sao F**	**26.60 87**	*e*P		**P**	**05 24 57.4**	**+1.6**
GUA01	**Guaratinga, BA**	**28.15 83**	*e*P		**P**	**05 25 11.0**	**+1.3**
GDU01	**Guandu, BA**	**29.31 77**	*e*P		**P**	**05 25 21.5**	**+1.5**
NBPN	**Ponto Novo - B**	**29.94 72**	*e*P		**P**	**05 25 27.6**	**+2.0**
NBMO	**Morrinhos-CE**	**34.05 60**	*e*P		**P**	**05 25 58.5**	**-3.0**
NBLV	**Livramento - P**	**34.43 69**	*e*P		**P**	**05 26 05.5**	**+0.5**
NBCL	**Cascavel-CE**	**34.94 63**	*e*P		**P**	**05 26 10.3**	**+1.1**
RCBR	**Riachuelo**	**36.08 67**	*e*P		**P**	**05 26 20.8**	**+1.8**
TXAR	**Lajitas Array**	**61.54 326**	P		**P**	**05 29 34.4**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=151,slow=11,SNR=3.0						
QSPA	**South Pole Qui**	**67.51 180**	P		**P**	**05 30 13.6**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=177,slow=4.8,SNR=2.4						
PDAR	**Pinedale Array**	**75.08 330**	P		**P**	**05 30 58.3**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=127,slow=5.8,SNR=1.9						
NVAR	**Mina Array Bea**	**76.36 322**	P		**P**	**05 31 08.0**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=186,slow=5.2,SNR=1.5						
TORD	**Torodi Ar. Bea**	**77.85 70**	P		**P**	**05 31 14.2**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=256,slow=5.2,SNR=21						
TORD				pP	**pP**	**05 31 42.6**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=253,slow=5.3,SNR=2.9						
ASAR	**Alice Springs**	**128.82 207**	PKP		**PKiKP**	**05 38 24.2**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=169,slow=5.2,SNR=3.0						
WRA	**Warramunga Arr**	**131.88 210**	PKP		**PKPdf**	**05 38 29.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=159,slow=1.7,SNR=6.5						
WRA				pPKP	**pPKPdf**	**05 39 00.3**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=158,slow=1.5,SNR=1.8						
MKAR	**Makanchi Array**	**146.65 37**	PKPbc		**PKPdf**	**05 38 56.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=5.7,slow=7.2,SNR=4.3						
MKAR				pPKPbc	pPKPab	05 39 26.8	-0.4
	comp=Z,1.2nm,0.9s,baz=328,slow=3.4,SNR=5.5						
MKAR	**Makanchi Array**	**146.65 37**	PKPbc		**PKPbc**	**05 38 56.3**	**-0.2**

*IDC **02** 05:32:18.9±0.8, 58°.43S×26°.30W, h133km±6km, mb3.8/8, mb1 3.9/10, mb1mx3.7/22, mbtmp4.2/10, Error ellipse: s-maj=20.0km s-min=14.8km az=96.0*
*NEIC **02** 05:32:23.1±1.5, 58°.5S±0°.1×26°.3W±0°.2, h171km±8km, mb4.4/19, Error ellipse: s-maj=16.4km s-min=12.6km az=137.0*

ISC 02 05:32:20.8±0.5, 58°.53S±0°.09×26°.12W±0°.09, h150km, n36, σ1s35/40, mb4.2/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.15 302**		Pn	**Pn**	**05 34 04.1**	**+1.4**
SNAA	**Sanae**	**16.25 153**		P	**Pn**	**05 36 00.9**	**+0.8**
	0.4nm,0.3s,baz=310,slow=9.6,SNR=16						
SNAA	**Sanae**	**16.25 153**		P	**P**	**05 36 01.3**	**+0.9**
PMSA	**Palmer Station**	**18.82 235**		P	**P**	**05 36 28.2**	**-0.3**
	1.1nm,0.3s,baz=84,slow=5.8,SNR=5.4						
PMSA	**Palmer Station**	**18.82 235**		P	**P**	**05 36 28.8**	**+0.3**
PMSA				IAmb	IAmb	05 36 35.1	
	comp=Z,30nm,1.2s						
EFI	**East Falkland**	**19.38 277**		P	**P**	**05 36 33.1**	**-1.6**
GO09	**Cerro Castillo**	**27.07 265**		P	**P**	**05 37 47.1**	**-1.9**
GO09				IAmb	IAmb	05 38 12.7	
	comp=Z,26nm,1.3s						
TRQA	**Tornquist**	**30.88 296**		P	**P**	**05 38 21.3**	**-1.5**
QSPA	**South Pole Qui**	**31.71 180**		P	**P**	**05 38 30.7**	**+0.7**
	comp=Z,10nm,0.5s,baz=219,slow=2.1,SNR=170						
QSPA	**South Pole Qui**	**31.71 180**		P	**P**	**05 38 31.1**	**+1.1**
BO02	**Sierra Bellavi**	**37.75 289**		P	**P**	**05 39 22.4**	**+0.5**
BO02				IAmb	IAmb	05 39 42.6	
	comp=Z,6.9nm,1.1s						
MAW	**Mawson**	**37.82 141**		P	**P**	**05 39 22.4**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=270,slow=11,SNR=2.0						
MAW				pP	**pP**	**05 39 52.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=294,slow=12,SNR=3.0						
MAW	**Mawson**	**37.82 141**		P	**P**	**05 39 22.4**	**+0.3**
GO05	**Huala**	**38.15 288**		P	**P**	**05 39 24.1**	**-1.1**
GO05				IAmb	IAmb	05 39 46.3	
	comp=Z,26nm,1.4s						
BO01	**Tunca**	**38.22 289**		P	**P**	**05 39 25.7**	**-0.1**
MT09	**Talagante**	**38.67 290**		P	**P**	**05 39 28.6**	**-1.1**
MT09				IAmb	IAmb	05 39 33.9	
	comp=Z,12nm,1.2s						
MT01	**Popeta**	**38.73 289**		P	**P**	**05 39 28.9**	**-1.1**
MT01				IAmb	IAmb	05 39 51.5	
	comp=Z,32nm,1.4s						
MT02	**Curacav**	**39.16 290**		P	**P**	**05 39 32.9**	**-0.7**
SBA	**Scott Base**	**43.64 184**		P	**P**	**05 40 10.8**	**+1.2**
SBA				IAmb	IAmb	05 40 11.8	
	comp=Z,6.2nm,1.2s						
VNDA	**Vanda**	**44.12 182**		P	**P**	**05 40 14.7**	**+1.3**
	comp=Z,4.0nm,0.5s,baz=183,slow=7.0,SNR=60						
VNDA				pP	**pP**	**05 40 43.0**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=269,slow=8.1,SNR=1.3						
VNDA	**Vanda**	**44.12 182**		P	**P**	**05 40 14.8**	**+1.4**
VNDA				IAmb	IAmb	05 40 15.4	
	comp=Z,4.4nm,0.6s						
BOSA	**Boshof**	**46.09 72**		P	**P**	**05 40 29.6**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=224,slow=8.5,SNR=5.7						
BOSA	**Boshof**	**46.09 72**		P	**P**	**05 40 29.8**	**+0.1**
BOSA				IAmb	IAmb	05 40 57.9	
	comp=Z,14nm,1.5s						
LBTB	**Lobatse**	**49.24 70**		P	**P**	**05 40 53.8**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=275,slow=11,SNR=2.5						
LPAZ	**La Paz**	**52.29 306**		P	**P**	**05 41 16.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=190,slow=6.1,SNR=1.8						
LPAZ				sP	**pwP**	**05 42 00.1**	**+5.4**
	comp=Z,0.9nm,0.6s,baz=151,slow=6.2,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**74.95 28**		P	**P**	**05 43 45.3**	**+0.2**
TOA0				IAmb	IAmb	05 43 46.3	
	comp=Z,4.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**74.95 28**		P	**P**	**05 43 45.5**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=198,slow=6.2,SNR=10						
TORD				pP	**pP**	**05 44 19.5**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=205,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**74.95 28**		P	**P**	**05 43 45.6**	**+0.4**
BBOO	**Buckleboo**	**87.79 165**		P	**P**	**05 44 51.9**	**-0.7**
BBOO				IAmb	IAmb	05 44 58.1	
	comp=Z,4.4nm,0.9s						
FORT	**Forrest**	**88.45 158**		P	**P**	**05 44 56.1**	**+0.4**
ASAR	**Alice Springs**	**96.45 162**		P	**P**	**05 45 32.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=184,slow=4.1,SNR=8.4						
ASAR	**Alice Springs**	**96.45 162**		P	**P**	**05 45 32.2**	**-0.7**
ARCES	**ARCESS Array B**	**133.03 22**		PKP	**PKPdf**	**05 51 16.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=247,slow=1.9,SNR=2.4						
YKA	**Yellowknife Ar**	**138.38 316**		PKP	**PKPdf**	**05 51 25.6**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=125,slow=2.7,SNR=7.4						
ILAR	**Eielson Array**	**152.15 308**		PKPbc	**PKPbc**	**05 51 55.8**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=156,slow=2.0,SNR=14						
ILAR	**Eielson Array**	**152.15 308**			**PKPbc**	**05 51 56.5**	**-0.3**

*SOME **02** 06:03:28.9, 42°.52N×78°.80E, h10km*
*KRNET **02** 06:03:28.3±0.1, 42°.47N×78°.83E, h18km, mb2.4*
*NNC **02** 06:03:29.2±1.0, 42°.52N×78°.79E, h0km, mb2.9, mpv2.9, Error ellipse: s-maj=6.2km s-min=4.1km az=7.0*

ISC 02 06:03:28.2±1.6, 42°.47N±0°.04×78°.80E±0°.05, h15km±11km, n16, σ0s89/31, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.65 334**		*e*P	**Pb**	**06 03 40.6**	**-0.8**
	baz=32						
SATY				*e*S	**Sg**	**06 03 49.3**	**-0.4**
	baz=32						
SATY	**Saty**	**0.65 334**		*e*P	**Pb**	**06 03 40.6**	**-0.8**
	1.5nm,0.1s						
SATY				*e*S	**Sg**	**06 03 49.4**	**-0.4**
	23nm,0.1s						
SATY	**Saty**	**0.65 334**		P	**Pb**	**06 03 40.6**	**-0.8**
	1.5nm,0.1s						
SATY				S	**Sg**	**06 03 49.4**	**-0.4**
	23nm,0.1s						
ANVS	**Anan'yevo**	**0.89 291**	⇑	*i*P	**Pg**	**06 03 46.0**	**+0.5**
	baz=90						
ANVS			⇑	*i*S	**Sn**	**06 03 58.8**	**-0.3**
	baz=90						
PDGK	**Podgornoye**	**1.00 31**		P	**Pn**	**06 03 47.3**	**-0.4**
	2.7nm,0.2s						
PDGK				S	**Sn**	**06 04 00.8**	**-0.8**
	1.3nm,0.2s						
KPKS	**Kokpek**	**1.00 355**		*e*P	**Pb**	**06 03 47.3**	**+0.1**
	baz=54						
KPKS				*e*S	**Sb**	**06 04 00.4**	**+0.2**
	baz=54						
KPKS	**Kokpek**	**1.00 355**		*e*P	**Pb**	**06 03 47.3**	**+0.1**
	24nm,0.1s						
KPKS				*e*S	**Sb**	**06 04 00.4**	**+0.2**
	17nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.05 225**	⇑	*i*P	**Pb**	**06 03 48.0**	**-0.3**
	baz=26						
TARG			⇑	*i*S	**Sb**	**06 04 01.8**	**-0.1**
	baz=26						
KDJ	**Kajisay**	**1.25 255**	⇑	*i*P	**Pb**	**06 03 51.7**	**+0.2**
	baz=55						
KDJ			⇑	*i*S	**Sn**	**06 04 08.3**	**+0.4**
	baz=55						
ARXS	**Arharly**	**1.88 338**		*e*P	**Pb**	**06 04 02.6**	**+0.3**
	2.4nm,0.2s						
ARXS				*e*S	**Sb**	**06 04 27.2**	**+1.6**
	7.9nm,0.3s						
ARXS	**Arharly**	**1.88 338**		P	**Pb**	**06 04 02.6**	**+0.3**
	2.4nm,0.2s						
ARXS				S	**Sb**	**06 04 27.2**	**+1.6**
	7.9nm,0.3s						
ULHL	**Ulahol**	**1.91 264**	⇑	*i*P	**Pb**	**06 04 03.6**	**+0.8**
	baz=64						
ULHL			⇑	*i*S	**Sb**	**06 04 28.4**	**+1.9**
	baz=64						
DJR	**Jarkent**	**2.00 21**		*e*P	**Pb**	**06 04 04.9**	**+0.7**
	0.6nm,0.3s						
DJR				*e*S	**Sg**	**06 04 31.6**	**-0.7**
	0.6nm,0.3s						
DJR	**Jarkent**	**2.00 21**		Pg	**Pb**	**06 04 04.9**	**+0.7**
	0.6nm,0.3s						
DJR				Lg	Lg

5.8nm,0.3s,baz=227,slow=18,SNR=6.1
NMR Nemuro--Hokkai 5.66 29 ⇓*i*P **Pn 06 07 04.4 -2.3**
NMR *e*S **Sn 06 08 04.3 -6.0**
GLVR Golovnino 5.91 26 *e*P **Pn 06 07 08.4 -1.6**
GLVR *e*S **Sn 06 08 11.7 -4.6**
GLVR pmax pmax
comp=Z,155nm,0.5s
GLVR smax smax
comp=N,1μm,0.2s
GLVR smax smax
comp=E,1μm,0.2s
RUSJ Misakicho 6.15 23 *e*P **Pn 06 07 12.7 -0.6**
RUSJ *e*S **Sn 06 08 19.6 -2.5**
JWT Wachi 6.15 241 Pn 06 07 13.8 +0.4
GRPR Tuman 6.22 26 *e*P **Pn 06 07 12.6 -1.7**
GRPR *e*S **Sn 06 08 18.2 -5.7**
GRPR pmax pmax
comp=Z,131nm,0.2s
GRPR smax smax
comp=E,374nm,0.2s
GRPR smax smax
comp=N,1μm,0.4s
YUK Yuzh-Kuril'sk 6.29 27 *e*P **Pn 06 07 14.1 -1.1**
YUK *e*S **Sn 06 08 21.5 -4.0**
YUK pmax pmax
comp=Z,143nm,0.2s
YUK smax smax
comp=N,882nm,0.4s
YUK smax smax
comp=E,752nm,0.4s
YUK MLR MLR
comp=Z,431nm,17.0s
JHS Saijyo 7.90 247 Pn **Pn 06 07 37.4 -0.1**
KUR Kuril'sk 8.06 31 ⇓*i*P **Pn 06 07 39.1 -0.4**
KUR *e*S **Sn 06 09 05.1 -4.0**
KUR pmax pmax
comp=Z,91nm,0.5s
KUR smax smax
comp=E,257nm,0.8s
KUR smax smax
comp=N,231nm,0.5s
JMN Monobe 8.07 237 Pn **Pn 06 07 38.0 -1.8**
YSS Yuzh-Sakhalins 8.50 4 *e*P **Pn 06 07 43.9 -1.5**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,300nm,20.0s
VLA Vladivostok 8.94 304 *i*P **Pn 06 07 52.1 +0.6**
MSHR Mys Shultsa 9.20 300*ce*P **Pn 06 07 55.6 +0.6**
MSHR pmax pmax
comp=Z,35nm,1.3s
USA0B Ussuriysk Arra 9.43 311 P **Pn 06 07 57.3 -0.9**
USA0B Ussuriysk Arra 9.43 311 Pn 06 07 57.3 -0.9
USRK Ussuriysk Ar. 9.43 311 P **Pn 06 07 58.8 +0.6**
baz=122,slow=13,SNR=29
USRK LR LR 06 11 25.4
comp=Z,423nm,21.2s,baz=136,slow=36
USRK Ussuriysk Ar. 9.43 311 Pn 06 07 57.1 -1.2
JNU Nakatsue 10.46 243 P **Pn 06 08 11.7 -0.7**
comp=Z,0.8nm,0.3s,baz=61,slow=1.6,SNR=8.3
JNU LR LR 06 12 43.9
comp=Z,925nm,18.7s,baz=46,slow=40
JNU Nakatsue 10.46 243 Pn 06 08 11.3 -1.1
MDJ Mudanjiang 11.12 307 P **Pn 06 08 23.8 +2.6**
MDJ pmax pmax
comp=Z,17nm,1.1s
MDJ pmax pmax
comp=Z,480nm,3.8s
MDJ Mudanjiang 11.12 307 Pn **Pn 06 08 21.0 -0.2**
KSRS Korea Array 11.13 269 P **Pn 06 08 24.5 +2.9**
comp=Z,1.5nm,0.3s,baz=81,slow=14,SNR=27
KSRS LR LR 06 12 26.9
comp=Z,305nm,19.9s,baz=95,slow=36
KSAR Wonju Array Be 11.17 269 P **Pn 06 08 21.1 -0.9**
KSAR Wonju Array Be 11.17 269 Pn 06 08 21.1 -0.9
KS19 Wonju Array Si 11.17 269 Pn 06 08 21.0 -1.0
JCJ Chichijima 11.35 179 S Sn 06 10 17.9 -12
comp=Z,11nm,0.3s,baz=287,slow=22,SNR=1.8
JCJ LR LR 06 13 57.6
comp=Z,85nm,21.2s,baz=286,slow=43
TJN Taejon 11.80 264*ce*P **Pn 06 08 33.3 +2.7**
KLR Kul'dur 13.02 329 P **Pn 06 08 46.0 -1.3**
comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=4.3
KLR LR LR 06 13 51.9
comp=Z,303nm,18.8s,baz=143,slow=38
KLR Kul'dur 13.02 329*ce*P **Pn 06 08 45.5 -1.7**
KLR pmax pmax
comp=Z,2.0nm,0.9s
CN2 Changchun 13.53 298 *e*P **Pn 06 08 53.0 -1.2**
CN2 *e*PP **PnPn 06 09 05.1 +2.8**
CN2 *e*S **Sn 06 11 21.0 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,250nm,13.0s
CN2 LR LR
comp=Z,280nm,13.0s
CN2 LR LR
comp=Z,260nm,13.0s
DL2 Dalian 15.89 278 P **Pn 06 09 26.1 +1.3**
DL2 pmax pmax
comp=Z,39nm,0.8s
PETK Petropavlovsk- 18.23 32 P **Pn 06 09 54.4 +0.7**
comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=3.0
PETK LR LR 06 17 55.3
comp=Z,132nm,18.1s,baz=213,slow=40
ZEA Zeya 18.30 331 *e*P **P 06 09 52.9 -1.1**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=E,200nm,13.0s
ZEA MLR MLR
comp=N,300nm,20.0s
ZEA MLR MLR
comp=Z,200nm,26.0s
PET Petropavlovsk 18.57 33 *e*P **Pn 06 10 01.2 +3.5**
PET *e*S **S 06 13 23.5 -1.5**
PET pmax pmax
comp=Z,100nm,9.8s
PET MLR MLR
comp=Z,200nm,14.0s
HIA Hailar 19.25 311 P **P 06 10 03.9 -0.5**
HIA pmax pmax
comp=Z,13nm,1.1s
HIA Hailar 19.25 311 P **P 06 10 03.9 -0.5**
NJ2 Nanjing 19.91 258 *e*P **P 06 10 12.6 +1.0**
NJ2 pmax pmax
comp=Z,17nm,0.5s
BJI Beijing 20.02 283 P **P 06 10 13.3 +0.5**
BJI pmax pmax
comp=Z,15nm,1.0s
BJI pmax pmax
comp=Z,71nm,6.5s
BJI LR LR
comp=Z,180nm,15.4s
BJI LR LR
comp=Z,160nm,25.0s
BJI LR LR
comp=Z,160nm,16.5s
BJT Baijiatuau 20.02 283 P **P 06 10 11.3 -1.6**
BJT pmax pmax
comp=Z,12nm,0.9s
BJT Baijiatuau 20.02 283 P **P 06 10 11.3 -1.6**
MA2 Magadan 21.86 12*ce*P **P 06 10 32.7 +0.3**
MA2 pmax pmax
comp=Z,19nm,0.8s
MA2 Magadan 21.86 12 P **P 06 10 33.0 +0.6**
MA2 IAmb IAmb 06 10 35.9
comp=Z,28nm,0.9s
HHC Hu-ho-hao-te 23.47 285 *e*P **P 06 10 49.1 -0.2**
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,100nm,4.9s
HHC LR LR
comp=Z,190nm,12.8s
HHC LR LR
comp=Z,250nm,13.2s
HHC LR LR
comp=Z,220nm,13.2s
CIT Chita 23.97 314 *e*P **P 06 10 53.6 -0.1**
CIT *e* 06 11 02.6
CIT *e* 06 11 24.8
CIT pmax pmax
comp=Z,158nm,1.9s
WHN Wuhan 24.03 259 P **P 06 10 53.0 -1.3**
YAK Yakutsk 24.77 346 *e*P **P 06 10 59.8 -0.9**
YAK *e**PP **pP 06 11 18.0 +2.3**
YAK *e*S **S 06 15 16.1 -2.4**
YAK *e**SS sS 06 15 38.0 -5.9
YAK *e*SS **SnSn 06 16 13.3 +2.6**
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax smax
comp=E,107nm,2.5s
YAK smax smax
comp=N,86nm,1.7s
YAK Yakutsk 24.77 346 P **P 06 10 59.9 -0.9**
SEY Seymchan 25.30 11 P **P 06 11 06.8 +1.3**
comp=N,17nm,1.0s,baz=203,slow=6.9,SNR=21
SEY Seymchan 25.30 11 ⇓*i*P **P 06 11 07.8 +2.2**
BOD Bodaibo 26.57 326 *e*P **P 06 11 16.6 -0.5**
BOD pmax pmax
comp=Z,23nm,0.9s
XAN Xi'an 26.93 271 P **P 06 11 19.8 -0.9**
XAN S **S 06 15 54.7 +1.4**
XAN pmax pmax
comp=Z,11nm,1.4s
XAN LR LR
comp=Z,200nm,22.8s
XAN LR LR
comp=Z,130nm,24.9s
XAN LR LR
comp=Z,270nm,23.9s
ULN Ulaanbaatar 26.94 302*ce*P **P 06 11 21.5 +0.7**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 26.94 302 P **P 06 11 21.0 +0.2**
SONM Songino Array 27.38 302 P **P 06 11 23.9 -0.7**
comp=Z,2.3nm,0.6s,baz=102,slow=9.1,SNR=12
SONM PcP **PcP 06 14 42.6 +0.4**
comp=Z,0.3nm,0.4s,baz=63,slow=0.6,SNR=3.3
SONM Songino Array 27.38 302 P **P 06 11 24.6 0.0**
ENH Enshi 27.92 263 P **P 06 11 28.7 -0.8**
H11N2 WAKE ISLAND Hy 28.55 124 T T 06 41 54.0
baz=316,slow=75,SNR=1402
H11N1 WAKE ISLAND Hy 28.55 124 T T 06 41 52.1
baz=316,slow=75,SNR=2750
H11N3 WAKE ISLAND Hy 28.56 124 T T 06 41 54.5
baz=316,slow=75,SNR=1953
H11S1 WAKE ISLAND Hy 29.31 126 T T 06 42 48.6
baz=318,slow=76,SNR=471
H11S3 WAKE ISLAND Hy 29.31 126 T T 06 42 48.7
baz=318,slow=76,SNR=766
H11S2 WAKE ISLAND Hy 29.32 126 T T 06 42 50.7
baz=318,slow=76,SNR=273
TLY Talaya 29.75 309 P **P 06 11 46.1 +0.5**
comp=Z,7.0nm,0.8s,baz=115,slow=5.3,SNR=10
TLY Talaya 29.75 309 *e*P **P 06 11 45.8 +0.2**
TLY pmax pmax
comp=Z,30nm,1.3s
TLY MLR MLR
comp=Z,371nm,19.0s
TLY Talaya 29.75 309 P **P 06 11 45.7 +0.2**
ZAK Zakamensk 29.75 306 *e*P **P 06 11 44.0 -1.7**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
LZH Lanzhou 30.29 277 *e*P **P 06 11 50.5 -0.1**
LZH pP pP 06 12 06.9 +1.0
LZH sP sP 06 12 13.2 +0.1
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,59nm,5.4s
LZH LR LR
comp=Z,170nm,15.7s
LZH LR LR
comp=Z,170nm,16.8s
LZH LR LR
comp=Z,160nm,16.8s
MOY Mondy 31.37 308 *e*P **P 06 12 00.0 0.0**
MOY pmax pmax
comp=Z,16nm,2.6s
GYA Guiyang 31.91 258 ⇓P **P 06 12 05.5 +0.5**
GYA pP pP 06 12 23.2 +3.0
GYA S **S 06 17 12.7 +0.9**
GYA pmax pmax
comp=Z,2.0nm,0.7s
CD2 Chengdu 32.13 268 P **P 06 12 06.4 -0.4**
CD2 S **S 06 17 14.0 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,110nm,7.6s
CD2 LR LR
comp=Z,150nm,12.6s
CD2 LR LR
comp=Z,300nm,14.8s
CD2 LR LR
comp=Z,340nm,16.0s
BILL Bilibino 32.53 17 *e*P **P 06 12 09.5 -0.3**
BILL *e* 06 12 23.2
BILL *e* 06 13 17.7
BILL pmax pmax
comp=Z,5.0nm,1.1s
BILL MLR MLR
comp=Z,57nm,21.0s
BILL Bilibino 32.53 17 P **P 06 12 10.0 +0.2**
BILL IAmb IAmb 06 12 11.4
comp=Z,11nm,1.1s
GTA Gaotai 32.59 285 ⇓P **P 06 12 11.3 +0.5**
GTA pP pP 06 12 23.2 -2.8
GTA PcP **PcP 06 14 57.1 +1.2**
GTA S **S 06 17 24.2 +2.1**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,37nm,4.7s
GTA LR LR
comp=Z,100nm,17.1s
GTA LR LR
comp=Z,180nm,17.1s
GTA LR LR
comp=Z,280nm,17.8s
TIXI Tiksi 33.92 353 P **P 06 12 21.2 -0.6**
comp=Z,4.8nm,0.7s,baz=143,slow=1.9,SNR=4.3
TIXI Tiksi 33.92 353*ce*P **P 06 12 21.0 -0.8**
TIXI Tiksi 33.92 353 P **P 06 12 20.9 -1.0**
TIXI IAmb IAmb 06 12 22.4
comp=Z,6.8nm,0.8s
KMI Kunming 35.63 260 ⇑P **P 06 12 38.2 +0.8**
KMI pP pP 06 12 50.3 -2.4
KMI pmax pmax
comp=Z,9.0nm,0.8s
KMI LR LR
comp=Z,190nm,18.4s
KMI LR LR
comp=Z,120nm,14.9s
KMI LR LR
comp=Z,240nm,20.5s
WMQ Urumqi 40.60 295 *e*P **P 06 13 20.1 +1.3**
WMQ pP pP 06 13 37.0 +2.6
WMQ pmax pmax
comp=Z,69nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=Z,280nm,25.3s
ZAA0 Zalesovo Array 41.28 311 P **P 06 13 23.7 -0.5**
ZAA0 IAmb IAmb 06 13 25.0
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 41.28 311 P **P 06 13 24.4 +0.2**
comp=Z,7.9nm,0.6s,baz=84,slow=7.0,SNR=13
ZALV PcP **PcP 06 15 21.9 +0.1**
comp=Z,4.1nm,0.6s,baz=88,slow=4.0,SNR=5.6
ZALV LR LR 06 31 24.4
comp=Z,118nm,18.7s,baz=71,slow=37
ZSN Zaisan 41.89 301 ⇑*i*P **P 06 13 29.4 +0.1**
comp=Z,15nm,0.8s,baz=301
ZSN Zaisan 41.89 301*c i*P **P 06 13 29.4 +0.1**
ZSN pmax pmax
comp=Z,15nm,0.8s
CNBA Chernabura Isl 42.01 47 P **P 06 13 30.3 +0.2**
CHTO Chiang Mai 42.08 255 P **P 06 13 30.6 -0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 42.08 255 P **P 06 13 30.6 -0.6**
FAKI Fak Fak 42.15 195 P **P 06 13 32.6 +1.0**
FAKI IAmb IAmb 06 13 36.4
comp=Z,34nm,1.2s
NRIK Noril'sk 42.15 335 P **P 06 13 31.2 +0.1**
comp=Z,3.2nm,0.7s,baz=145,slow=5.0,SNR=6.4
NRIK LR LR 06 32 07.6
comp=Z,163nm,20.1s,baz=69,slow=38
NRIK Noril'sk 42.15 335*ce*P **P 06 13 31.1 0.0**
NRIK pmax pmax
comp=Z,12nm,1.3s
NRIK Noril'sk 42.15 335 P **P 06 13 30.6 -0.5**
CMAR Chiang Mai Arr 42.30 254 P **P 06 13 33.2 +0.3**
comp=Z,1.0nm,0.3s,baz=86,slow=5.9,SNR=5.2
CMAR LR LR 06 31 38.3
comp=Z,41nm,20.0s,baz=98,slow=37
CMAR Chiang Mai Arr 42.30 254 P **P 06 13 32.9 0.0**
LSA Lhasa 42.53 274 P **P 06 13 36.3 +1.0**
LSA pmax pmax
comp=Z,14nm,1.1s
LSA Lhasa 42.53 274 P **P 06 13 36.3 +1.0**
LSA IAmb IAmb 06 13 59.3
comp=Z,14nm,1.1s
MK31 Makanchi Array 43.74 301 P **P 06 13 44.2 -0.1**
MK31 pmax pmax
comp=Z,11nm,1.1s
MK31 Makanchi Array 43.74 301 P **P 06 13 44.2 -0.1**
MKAR Makanchi Array 43.74 301 P **P 06 13 44.1 -0.2**
comp=Z,7.9nm,1.0s,baz=83,slow=9.9,SNR=38
MKAR PcP **PcP 06 15 30.6 +0.4**
comp=Z,1.8nm,0.9s,baz=76,slow=6.1,SNR=1.7
MKAR LR LR 06 33 13.9
comp=Z,42nm,19.2s,baz=71,slow=38
MAKZ Makanchi 43.95 301 P **P 06 13 46.0 0.0**
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 43.95 301 P **P 06 13 46.0 0.0**
SVW2 Sparrevohn 44.12 38 P **P 06 13 49.3 +2.2**
SVW2 IAmb IAmb 06 14 05.9
comp=Z,12nm,1.0s
SEM Semipalatinsk 44.43 306 *e*P **P 06 13 48.1 -1.9**
baz=306
SEM Semipalatinsk 44.43 306 *e*P **P 06 13 48.0 -1.9**
KURK Kurchatov 45.40 307 P **P 06 13 57.8 +0.4**
KURK 06 15 35.6
KURK Kurchatov 45.40 307 P **P 06 13 57.8 +0.4**
KURBB Kurchatov Arra 45.48 307 P **P 06 13 57.8 -0.2**
comp=Z,35nm,0.8s,baz=82,slow=8.2,SNR=196
KURBB PcP **PcP 06 15 35.6 -0.3**
comp=Z,2.2nm,0.7s,baz=89,slow=3.7,SNR=3.2
RSO Redoubt South 45.51 39 P **P 06 13 59.7 +1.3**
SPU Mount Spurr 45.83 38 P **P 06 14 02.4 +1.6**
KTH Kantishna Hill 46.32 35 P **P 06 14 06.0 +1.4**
KTH IAmb IAmb 06 14 22.9
comp=Z,12nm,1.0s
MLY Manley 46.40 33 P **P 06 14 06.3 +1.1**
SUA Susitna One 46.45 38 P **P 06 14 06.5 +0.9**
SUA IAmb IAmb 06 14 25.1
comp=Z,8.0nm,0.9s
SHLS Shalkode 46.57 297 *e*P **P 06 14 03.4 -3.6**
comp=Z,4.9nm,0.6s,baz=296
SHLS Shalkode 46.57 297 *e*P **P 06 14 03.3 -3.6**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
TOLK Toolik Lake Re 46.99 28 P **P 06 14 11.0 +1.3**
KPKS Kokpek 47.03 297 *e*P **P 06 14 09.5 -0.9**
comp=Z,9.3nm,1.1s,baz=297
KPKS Kokpek 47.03 297 *e*P **P 06 14 09.5 -0.9**
KPKS pmax pmax
comp=Z,9.0nm,1.1s
NEA2 Nenana 47.12 33 P **P 06 14 12.2 +1.5**
MCK McKinley 47.20 35 P **P 06 14 12.0 +0.6**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 47.20 35 P **P 06 14 12.0 +0.6**
PMR Palmer 47.22 37 P **P 06 14 11.7 +0.2**
PMR pmax pmax
comp=Z,8.0nm,1.0s
PMR Palmer 47.22 37 P **P 06 14 11.7 +0.2**
PMR IAmb IAmb 06 14 29.2
comp=Z,7.9nm,1.0s
RND Reindeer 47.25 35 P **P 06 14 12.7 +0.9**
RND pmax pmax
comp=Z,12nm,1.2s
RND Reindeer 47.25 35 P **P 06 14 12.7 +0.9**
RND IAmb IAmb 06 14 29.2
comp=Z,12nm,1.2s
SATY Saty 47.34 297 *e*P **P 06 14 10.6 -2.3**
baz=297
SATY Saty 47.34 297 *e*P **P 06 14 10.6 -2.3**
MDM Murphy Dome 47.47 33 P **P 06 14 15.1 +1.6**
MDM IAmb IAmb 06 14 16.4
comp=Z,11nm,1.2s
HDA Harding Lake 48.04 34 P **P 06 14 18.7 +0.8**
HDA IAmb IAmb 06 14 35.5
comp=Z,10nm,1.2s
IL31 48.05 33 P **P 06 14 18.5 +0.6**
IL31 IAmb IAmb 06 14 41.4
comp=Z,5.1nm,0.8s
ILAR Eielson Array 48.05 33 P **P 06 14 18.5 +0.6**
comp=Z,2.3nm,0.7s,baz=269,slow=6.4,SNR=30
ILAR pP **pP 06 14 33.7 +0.1**
comp=Z,3.8nm,0.8s,baz=270,slow=6.4,SNR=15
ILAR Eielson Array 48.05 33 P **P 06 14 18.9 +1.0**
ILAR Eielson Array 48.05 33 P **P 06 14 18.9 +1.0**
CHKK Chushkaly 48.09 298 *e*P **P 06 14 17.2 -1.4**
baz=298
CHKK Chushkaly 48.09 298 *e*P **P 06 14 17.1 -1.5**
TARG Taragay, Kyrgy 48.17 295 P **P 06 14 19.9 +0.3**
TARG IAmb IAmb 06 14 21.2
comp=Z,8.2nm,0.9s
MDOK Medeo 48.26 297 *e*P **P 06 14 18.5 -1.5**
baz=297
MDOK Medeo 48.26 297 *e*P **P 06 14 18.5 -1.5**
KDJ Kajisay 48.48 296 P **P 06 14 21.1 -0.7**
KDJ pmax pmax
comp=Z,6.0nm,1.2s
KDJ Kajisay 48.48 296 P **P 06 14 21.1 -0.7**
KUU Kurty 48.53 298⇑*e*P **P 06 14 20.7 -1.2**
comp=Z,26nm,1.9s,baz=298
KUU Kurty 48.53 298*ce*P **P 06 14 20.7 -1.2**
KUU pmax pmax
comp=Z,26nm,1.9s
KLU Klutina 48.76 37 P **P 06 14 24.7 +1.2**
KLU IAmb IAmb 06 14 53.7
comp=Z,7.9nm,0.8s
BRZS Berezniki 49.28 307 *e*P **P 06 14 25.8 -1.8**
baz=307
BRZS Berezniki 49.28 307 *e*P **P 06 14 25.7 -1.8**
SCRK Sand Creek 49.37 34 P **P 06 14 28.7 +0.5**
SCRK IAmb IAmb 06 14 45.5
comp=Z,6.1nm,0.9s
BTLS Baital 49.75 301 *e*P **P 06 14 30.1 -1.1**
comp=Z,5.9nm,1.3s,baz=300
BTLS Baital 49.75 301 *e*P **P 06 14 30.1 -1.1**
BTLS pmax pmax
comp=Z,6.0nm,1.3s
SGDS Sogindy 49.84 298 *e*P **P 06 14 30.0 -2.0**
baz=298
SGDS Sogindy 49.84 298 *e*P **P 06 14 30.0 -2.0**
BVAR Borovoye Array 49.94 312 P **P 06 14 31.9 -0.6**
comp=Z,2.7nm,0.8s,baz=69,slow=14,SNR=8.9
BVAR PcP **PcP 06 15 52.1 +0.2**
comp=Z,3.8nm,0.7s,baz=201,slow=11,SNR=5.7
BRVK Borovoye 49.99 312*ce*P **P 06 14 32.9 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 49.99 312 P **P 06 14 33.0 0.0**
BRVK IAmb IAmb 06 14 34.0
comp=Z,7.5nm,0.9s
K27K Chicken 50.20 34 P **P 06 14 36.1 +1.8**
AAK Ala-Archa 50.20 297 P **P 06 14 34.2 -0.7**
comp=Z,2.5nm,0.4s,baz=192,slow=9.3,SNR=1.6
AAK Ala-Archa 50.20 297 *i*P **P 06 14 35.2 +0.3**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 50.20 297 P **P 06 14 33.8 -1.1**
KSH Kashi 50.23 293 P **P 06 14 36.8 +1.7**
KSH pmax pmax
comp=Z,97nm,3.9s
L27K Beaver Creek, 50.45 35 P **P 06 14 37.5 +1.3**
L27K IAmb IAmb 06 14 55.0
comp=Z,8.9nm,1.1s
BCAR Beaver Creek A 50.46 35 P **P 06 14 38.5 +2.1**
MTN Manton Dam 52.04 193 P **P 06 14 48.6 0.0**

EPYK Eagle Plains 52.06 30 P **P** **06 14 50.0 +1.7**
EPYK IAmb IAmb 06 15 07.3
comp=Z,15nm,0.9s
KK31 Karatay Array 52.79 299 P **P** **06 14 54.1 +0.1**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 52.79 299 P **P** **06 14 54.1 +0.1**
KK31 IAmb IAmb 06 14 54.9
comp=Z,8.5nm,1.0s
KKAR Karatay Array 52.79 299 P **P** **06 14 54.1 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 52.79 299 P **P** **06 14 53.5 -0.5**
KKAR Karatay Array 52.79 299 P **P** **06 14 54.1 +0.1**
KKAR IAmb IAmb 06 14 54.9
comp=Z,8.5nm,1.0s
HYT Haines Junctio 52.89 37 P **P** **06 14 56.1 +1.5**
HYT IAmb IAmb 06 15 14.5
comp=Z,10nm,1.0s
INK Inuvik 52.91 28 P **P** **06 14 55.7 +1.2**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 52.91 28 P **P** **06 14 55.7 +1.2**
INK IAmb IAmb 06 14 57.0
comp=Z,7.9nm,1.1s
DRK Karamyk 53.24 295 P **P** **06 14 58.1 +0.4**
DRK IAmb IAmb 06 15 09.5
comp=Z,8.7nm,0.6s
BKNI Bangkinang 53.38 235 P **P** **06 14 58.9 +0.3**
SMRI Semarang 53.94 220 P **P** **06 15 02.2 -0.5**
SVE Sverdlovsk 54.37 318 *eP* **P** **06 15 06.1 +0.8**
SVE pmax pmax
comp=Z,31nm,1.1s
NIL Nilore 54.59 288 P **P** **06 15 07.7 +0.4**
NIL pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 54.59 288 P **P** **06 15 07.7 +0.4**
NIL IAmb IAmb 06 15 09.7
comp=Z,13nm,0.8s
ARU Arti 55.58 318 P **P** **06 15 13.9 -0.2**
comp=Z,2.4nm,0.2s,baz=68,slow=3.2,SNR=19
ARU pP **pP** **06 15 30.0 -0.3**
comp=Z,2.3nm,0.2s,baz=82,slow=6.6,SNR=1.3
ARU LR LR 06 41 03.1
comp=Z,140nm,20.4s,baz=72,slow=38
ARU Arti 55.58 318 *c iP* **P** **06 15 14.1 0.0**
ARU *PP **pP** **06 15 29.9 -0.3**
ARU S **S** **06 22 55.0 +0.1**
ARU pmax pmax
comp=Z,35nm,1.4s
ARU MLR MLR
comp=Z,123nm,18.0s
ARU Arti 55.58 318 P **P** **06 15 13.9 -0.2**
KBL Kabul 57.32 290 P **P** **06 15 26.2 -0.8**
KBL pmax pmax
comp=Z,20nm,1.3s
KBL Kabul 57.32 290 P **P** **06 15 26.2 -0.8**
ABKAR Akbulak array 57.35 310 P **P** **06 15 26.4 -0.4**
ABKAR IAmb IAmb 06 15 27.4
comp=Z,7.5nm,0.8s
AKTO Aktyubinsk 58.05 311 P **P** **06 15 31.2 -0.5**
comp=Z,5.9nm,0.8s,baz=68,slow=12,SNR=14
AKTO PcP **PcP** **06 16 23.3 +0.4**
comp=Z,3.0nm,1.0s,baz=73,slow=6.1,SNR=3.7
AKTO LR LR 06 41 51.6
comp=Z,58nm,18.4s,baz=46,slow=37
WB0 Warramunga Arr 58.36 188 P **P** **06 15 33.5 -0.6**
WRAB Tennant Creek 58.53 188 P **P** **06 15 34.4 -0.8**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 58.53 188 P **P** **06 15 34.4 -0.8**
WR0 Warramunga Arr 58.54 188 P **P** **06 15 34.8 -0.4**
WB2 Warramunga Arr 58.54 188 P **P** **06 15 34.7 -0.6**
WRA Warramunga Arr 58.54 188 P **P** **06 15 34.8 -0.5**
comp=Z,13nm,0.8s,baz=6.3,slow=7.1,SNR=97
WRA pP **pP** **06 15 50.2 -1.4**
comp=Z,6.7nm,1.0s,baz=6.7,slow=7.3,SNR=6.9
WRA Warramunga Arr 58.54 188 P **P** **06 15 35.2 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 58.54 188 P **P** **06 15 35.2 -0.1**
EUNU Eureka 58.70 9 P **P** **06 15 36.7 +0.8**
EUNU IAmb IAmb 06 15 52.4
comp=Z,6.5nm,0.9s
KIRV Kirov 59.37 323 P **P** **06 15 39.8 -0.8**
comp=Z,10.0nm,0.4s,baz=0.0,slow=1.0,SNR=7.9
KIRV LR LR 06 41 31.9
comp=Z,40nm,19.6s,baz=75,slow=36
KIRV Kirov 59.37 323 *c eP* **P** **06 15 41.5 +0.9**
NOR Nord 59.65 356 *i P* **P** **06 15 42.8 +0.5**
NOR IAmb IAmb 06 15 43.0
comp=Z,6.5nm,1.0s
NOR Nord 59.65 356 *i P* **P** **06 15 42.7 +0.5**
NOR pmax pmax
comp=Z,7.0nm,1.0s
AS31 Alice Springs 62.27 188 P **P** **06 16 00.7 0.0**
ASAR Alice Springs 62.27 188 P **P** **06 16 00.6 -0.2**
comp=Z,5.2nm,0.7s,baz=10,slow=6.3,SNR=49
ASAR Alice Springs 62.27 188 P **P** **06 16 00.8 +0.1**
ASAR Alice Springs 62.27 188 P **P** **06 16 00.8 +0.1**
HRA Herat 62.34 293 P **P** **06 16 00.9 -0.6**
YKA Yellowknife Ar 62.35 31 P **P** **06 16 00.8 +0.1**
comp=Z,3.4nm,0.9s,baz=296,slow=6.3,SNR=21
YKA pP **pP** **06 16 17.3 +0.1**
comp=Z,2.1nm,0.9s,baz=294,slow=6.7,SNR=7.0
KLMR Klimovskoe 62.78 327 *eP* **P** **06 16 01.2 -2.5**
KLMR *e* 06 18 18.9
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 62.78 327 *eP* **P** **06 16 01.2 -2.5**
KLMR AMP 06 16 04.8
comp=Z,17nm,1.5s
KLMR *e*PP **PP** **06 18 18.9 -3.0**
ARCES ARCESS Array B 62.81 339 P **P** **06 16 03.5 -0.2**
comp=Z,3.1nm,0.8s,baz=42,slow=7.4,SNR=8.6
ARCES LR LR 06 48 20.2
comp=Z,38nm,18.1s,baz=60,slow=41
ARCES ARCESS Array B 62.81 339 IAmb IAmb 06 16 04.7
comp=Z,9.2nm,1.1s
BELG Belogornoye 63.05 317 P **P** **06 16 04.7 -0.9**
comp=Z,23nm,0.9s,baz=48,slow=5.3,SNR=10
BELG LR LR 06 45 25.7
comp=Z,69nm,20.3s,baz=337,slow=38
GYA0B ALIBECK ARRAY 63.53 299 P **P** **06 16 09.0 -0.1**
GYA0B IAmb IAmb 06 16 12.0
comp=Z,10nm,1.1s
NEEM North Greenlan 64.07 3 *i P* **P** **06 16 12.9 +0.5**
NEEM IAmb IAmb 06 16 13.7
comp=Z,22nm,1.1s
DAG Danmarks Havn 64.38 355 *i P* **P** **06 16 14.4 +0.3**
DAG IAmb IAmb 06 16 15.0
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 64.38 355 *i P* **P** **06 16 14.3 +0.3**
DAG pmax pmax
comp=Z,8.0nm,1.0s
B06A Marblemount 66.22 46 P **P** **06 16 27.2 +0.9**
B06A IAmb IAmb 06 16 34.0
comp=Z,6.5nm,0.8s
MOS Moscow 66.36 323 *eP* **P** **06 16 26.6 -0.5**
MOS pmax pmax
comp=Z,58nm,0.7s
OBN Obninsk 67.21 323 P **P** **06 16 32.7 +0.2**
comp=Z,3.3nm,0.4s,baz=32,slow=9.5,SNR=3.9
OBN Obninsk 67.21 323 *eP* **P** **06 16 31.7 -0.8**
OBN *e* 06 17 02.1
OBN *e* 06 19 01.0
OBN *e*PPP PPP 06 20 39.3
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 67.21 323 P **P** **06 16 32.4 -0.1**
LTY Liberty 67.35 47 P **P** **06 16 35.2 +1.5**
B08A Colville Reser 67.52 46 P **P** **06 16 36.1 +1.5**
B08A IAmb IAmb 06 16 37.2
comp=Z,6.4nm,1.1s
FIA1 FINESS Array S 67.75 332 P **P** **06 16 35.8 -0.1**
FINES FINESS Array B 67.75 332 P **P** **06 16 35.8 0.0**
comp=Z,14nm,0.9s,baz=52,slow=7.5,SNR=37
FINES LR LR 06 48 12.0
comp=Z,49nm,18.2s,baz=43,slow=38
EDM Edmonton 67.95 39 P **P** **06 16 38.0 +0.7**
EDM pmax pmax
comp=Z,17nm,1.3s
EDM Edmonton 67.95 39 P **P** **06 16 38.0 +0.7**
EDM IAmb IAmb 06 16 40.0
comp=Z,17nm,1.3s

VSR Storozhevoye 68.14 319 *eP* **P** **06 16 37.4 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 68.22 318 *eP* **P** **06 16 36.8 -2.1**
VORD pmax pmax
comp=Z,10.0nm,0.5s
C09A Chrisman Ranch 68.42 46 P **P** **06 16 41.4 +1.1**
C09A IAmb IAmb 06 16 42.8
comp=Z,6.6nm,0.9s
D08A Wollman Farm, 68.46 47 P **P** **06 16 42.0 +1.4**
NEW Newport 68.80 45 P **P** **06 16 43.8 +1.1**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 68.80 45 P **P** **06 16 43.8 +1.1**
PINE Pine Mountain 69.08 50 P **P** **06 16 45.4 +0.7**
PINE IAmb IAmb 06 16 48.7
comp=Z,9.5nm,1.1s
MEF Metsahovi 69.18 332 *eP* **P** **06 16 45.2 +0.4**
SUMG Summit 69.25 0 *i P* **P** **06 16 46.5 +0.9**
SUMG IAmb IAmb 06 16 47.4
comp=Z,13nm,0.9s
SUMG Summit 69.25 0 *i P* **P** **06 16 46.4 +0.9**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 69.25 0 P **P** **06 16 46.6 +1.1**
VSU Vasula 69.44 329 *eP* **P** **06 16 47.2 +0.8**
RAF Rauma 69.58 333 *eP* **P** **06 16 47.5 +0.3**
STKA Stephens Creek 69.99 180 P **P** **06 16 50.4 +0.4**
comp=Z,2.7nm,1.0s,baz=267,slow=13,SNR=2.3
WALA Waterton Lakes 70.08 43 P **P** **06 16 51.5 +0.8**
WALA IAmb IAmb 06 16 53.2
comp=Z,6.8nm,1.1s
FORT Forrest 70.11 193 P **P** **06 16 50.7 0.0**
KVAR Kislovodsk Arr 70.29 311 P **P** **06 16 52.7 +0.6**
comp=Z,13nm,0.9s,baz=45,slow=8.6,SNR=11
KIV Kislovodsk 70.30 311 *eP* **P** **06 16 52.7 +0.6**
KIV pmax pmax
comp=Z,104nm,1.1s
KIV MLR MLR
comp=Z,94nm,18.0s
KIV Kislovodsk 70.30 311 P **P** **06 16 51.6 -0.4**
KBZ Khabaz 70.30 311 P **P** **06 16 52.4 +0.5**
comp=Z,9.7nm,0.9s,baz=70,slow=4.7,SNR=18
KBZ LR LR 06 49 49.2
comp=Z,58nm,20.9s,baz=104,slow=38
KBZ Khabaz 70.30 311 *c eP* **P** **06 16 52.7 +0.8**
MTSE Matsula 70.41 331 *eP* **P** **06 16 49.7 -2.6**
AAL Aland 70.80 333 *eP* **P** **06 16 54.6 -0.1**
J08A Circle Bar Ran 70.81 50 P **P** **06 16 56.5 +1.3**
MORW Morawa 71.43 204 P **P** **06 16 58.9 +0.1**
MORW IAmb IAmb 06 17 04.3
comp=Z,22nm,1.4s
MNK Minsk 71.55 326 *i P* **P** **06 16 57.2 -2.1**
MNK *i* 06 19 35.5
MNK *i* PPP PPP 06 21 19.0
MNK *i* S **S** **06 26 10.6 -2.8**
MNK *i* SS **SS** **06 30 46.2 -2.3**
MNK *i* SSS SSS 06 34 05.7
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=E,6.0nm,1.4s
MNK pmax pmax
comp=N,22nm,0.7s
MNK MLR MLR
comp=E,64nm,19.0s
MNK MLR MLR
comp=Z,154nm,18.0s
MNK Minsk 71.55 326 *i P* **P** **06 16 57.2 -2.1**
comp=E,6.0nm,1.4s
MNK *i P* **P** **06 16 57.2 -2.1**
comp=N,22nm,0.7s
MNK *i P* **P** **06 16 57.2 -2.1**
comp=Z,11nm,0.7s,baz=229
MNK *i* PP **PP** **06 19 35.6 -2.6**
MNK *i* PPP PPP 06 21 19.1
MNK *i* S **S** **06 26 10.6 -2.7**
MNK *i* SS **SS** **06 30 46.3 -2.2**
MNK *i* SSS SSS 06 34 05.7
MNK *i* LQ LQ 06 43 27.8
MNK *i* LR LR 06 48 25.4
MNK *i* LRM MLR 06 52 56.2
comp=E,64nm,19.2s
MNK *i* LRM MLR 06 53 35.8
comp=Z,154nm,17.9s
MNK *i* LRM MLR 06 53 49.9
comp=N,267nm,15.3s
BEKR Beckworth 71.65 53 P **P** **06 17 01.4 +1.0**
SLIT Slitere, Latvi 71.75 331 *eP* **P** **06 17 00.5 0.0**
UPP Uppsala 71.86 334 *eP* **P** **06 17 01.3 +0.2**
FFC Flin Flon 72.26 33 P **P** **06 17 03.8 +0.2**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 72.26 33 P **P** **06 17 03.8 +0.2**
FFC IAmb IAmb 06 17 05.5
comp=Z,7.9nm,0.9s
MFID Camas Ranch 72.34 48 P **P** **06 17 05.2 +0.7**
PABE Paberze 72.55 328 *eP* **P** **06 17 06.1 +0.9**
PABE Paberze 72.55 328 P **P** **06 17 05.6 +0.3**
HRY Holter Researc 72.61 44 P **P** **06 17 07.3 +1.3**
CMB Columbia Colle 72.68 55 P **P** **06 17 07.6 +1.1**
CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB Columbia Colle 72.68 55 P **P** **06 17 07.6 +1.1**
CMB IAmb IAmb 06 17 25.4
comp=Z,7.1nm,1.1s
ICESG Greenland Ices 72.75 1 *i P* **P** **06 17 07.4 +0.7**
ICESG IAmb IAmb 06 17 08.3
comp=Z,34nm,1.4s
LRM Limekiln Ridge 72.82 45 P **P** **06 17 09.1 +1.7**
NC405 NORSAR Array S 72.82 337 P **P** **06 17 06.2 -0.7**
NC303 NORSAR Array S 72.84 337 P **P** **06 17 07.3 +0.4**
NC303 IAmb IAmb 06 17 09.0
comp=Z,15nm,1.1s
EGMT Eagleton 72.91 42 P **P** **06 17 09.1 +1.4**
EGMT IAmb IAmb 06 17 09.9
comp=Z,10nm,1.0s
HFS Hagfors 72.96 336 P **P** **06 17 07.9 +0.3**
comp=Z,4.9nm,0.5s,baz=48,slow=4.8,SNR=21
NC204 NORSAR Array S 72.98 338 P **P** **06 17 08.3 +0.4**
NB2 NORSAR Subarra 73.03 337 P **P** **06 17 08.1 0.0**
comp=Z,21nm,1.0s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.03 337 P **P** **06 17 08.1 0.0**
baz=39,slow=6.2
NOA NORSAR Array B 73.03 337 P **P** **06 17 08.3 +0.2**
comp=Z,8.3nm,0.8s,baz=38,slow=5.9,SNR=24
NOA pP **PcP** **06 17 24.8 +0.2**
comp=Z,0.7nm,0.7s,baz=36,slow=4.5,SNR=2.0
NOA LR LR 06 51 38.3
comp=Z,58nm,21.7s,baz=345,slow=38
NBO00 NORSAR Array S 73.17 337 P **P** **06 17 08.5 -0.4**
BOZ Bozeman (W) 73.41 45 P **P** **06 17 11.5 +0.7**
BOZ pmax pmax
comp=Z,11nm,1.4s
BOZ Bozeman (W) 73.41 45 P **P** **06 17 11.5 +0.7**
BOZ IAmb IAmb 06 17 13.3
comp=Z,11nm,1.4s
AKASG Malin Array Be 73.43 322 P **P** **06 17 10.4 -0.1**
comp=Z,2.8nm,0.4s,baz=45,slow=6.2,SNR=30
AKASG LR LR 06 52 20.1
comp=Z,69nm,18.8s,baz=355,slow=38
AKASG Malin Array Be 73.43 322 P **P** **06 17 10.2 -0.4**
AKBB Malin Array Si 73.43 322 *c eP* **P** **06 17 12.7 +2.1**
AKBB Malin Array Si 73.43 322 P **P** **06 17 12.0 +1.4**
AKBB IAmb IAmb 06 17 13.5
comp=Z,14nm,0.9s
KVN Kaiserville 73.54 53 P **P** **06 17 12.9 +1.2**
KVN pmax pmax
comp=Z,8.0nm,1.0s
KVN Kaiserville 73.54 53 P **P** **06 17 12.9 +1.2**
KVN IAmb IAmb 06 17 30.7
comp=Z,8.3nm,1.0s
NVAR Mina Array Bea 73.78 54 P **P** **06 17 14.9 +1.7**
comp=Z,1.9nm,0.9s,baz=279,slow=6.2,SNR=12
NVAR pP **pP** **06 17 31.0 +1.1**
comp=Z,3.5nm,0.9s,baz=285,slow=5.0,SNR=10
NVAR Mina Array Bea 73.78 54 P **P** **06 17 14.3 +1.1**
QLMT Earthquake Lak 74.00 45 P **P** **06 17 14.8 +0.5**
GCMT Greycliff 74.36 44 P **P** **06 17 17.0 +0.7**
KONO Kongsberg 74.63 337 *c eP* **P** **06 17 19.9 +2.5**
KONO pmax pmax
comp=Z,17nm,2.5s
YNE Yellowstone No 74.67 44 P **P** **06 17 18.7 +0.4**
DY2G Dye2 75.19 3 *i P* **P** **06 17 19.9 -1.0**
DY2G IAmb IAmb 06 17 22.4
comp=Z,9.5nm,1.0s
DGMT Dagmar 75.44 39 P **P** **06 17 23.3 +0.9**
DGMT IAmb IAmb 06 17 24.5
comp=Z,13nm,1.1s
R11A Troy Canyon, C 75.54 52 P **P** **06 17 24.2 +0.9**
LAO LASA Array 75.60 41 P **P** **06 17 24.5 +1.1**
LAO IAmb IAmb 06 17 26.1
comp=Z,12nm,1.0s
BW06 Boulder Array 76.35 46 P **P** **06 17 29.1 +1.2**
PD31 Pinedale Array 76.35 46 P **P** **06 17 27.6 -0.3**
PDAR Pinedale Array 76.35 46 P **P** **06 17 28.9 +1.0**
comp=Z,3.2nm,0.7s,baz=279,slow=2.0,SNR=36
PDAR pP **pP** **06 17 44.1 -0.6**
comp=Z,2.1nm,0.6s,baz=275,slow=0.5,SNR=10
PDAR Pinedale Array 76.35 46 P **P** **06 17 28.9 +0.9**
BSD Bornholm Skovb 76.39 332 *eP* **P** **06 17 28.0 +0.5**
BSD Bornholm Skovb 76.39 332 *i P* **P** **06 17 27.4 -0.1**
BSD IAmb IAmb 06 17 28.4
comp=Z,26nm,1.2s
BSD Bornholm Skovb 76.39 332 *i P* **P** **06 17 27.4 -0.1**
BSD pmax pmax
comp=Z,26nm,1.2s
LVV L'vov 76.48 324 *eP* **P** **06 17 26.9 -1.3**
KWP Kalwaria Pacla 77.22 324 *eP* **P** **06 17 33.2 +0.9**
KWP Kalwaria Pacla 77.22 324 P **P** **06 17 33.3 +0.9**
KWP pmax pmax
comp=Z,282nm,1.1s
KWP Kalwaria Pacla 77.22 324 P **P** **06 17 33.3 +0.9**
BURAR Bucovina Array 77.45 322 P **P** **06 17 34.2 +0.3**
BURAR IAmb IAmb 06 17 35.2
comp=Z,6.7nm,0.8s
BNN Bunyan 77.47 310 P **P** **06 17 34.6 +0.4**
GAZ Gaziantep 77.70 308 P **P** **06 17 35.7 +0.3**
ULM Lac du Bonnet 78.06 34 P **P** **06 17 37.4 +0.3**
comp=Z,1.1nm,0.4s,baz=352,slow=6.1,SNR=3.9
ULM Lac du Bonnet 78.06 34 P **P** **06 17 37.3 +0.3**
ULM IAmb IAmb 06 17 38.4
comp=Z,7.8nm,1.2s
OJC Ojcow 78.09 326 *eP* **P** **06 17 37.9 +0.7**
OJC Ojcow 78.09 326 P **P** **06 17 37.7 +0.5**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 78.09 326 P **P** **06 17 37.7 +0.5**
UZH Uzhgorod 78.12 324 *eP* **P** **06 17 36.6 -0.8**
UZH *e* 06 17 48.6
SRU San Rafael Swe 78.14 49 P **P** **06 17 39.1 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 78.14 49 P **P** **06 17 39.1 +1.1**
SRU IAmb IAmb 06 17 40.4
comp=Z,6.7nm,0.9s
BRTR Keskin Array B 78.23 312 P **P** **06 17 38.8 +0.5**
comp=Z,3.0nm,1.0s,baz=65,slow=7.0,SNR=7.9
BRTR LR LR 06 55 37.3
comp=Z,34nm,19.6s,baz=72,slow=38
CRVS Cervenica-Dubn 78.31 325 *eP* **P** **06 17 39.2 +0.7**
CRVS pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 78.31 325 *eP* **P** **06 17 39.2 +0.7**
NIE Niedzica 78.46 325 *eP* **P** **06 17 40.6 +1.3**
MLR Muntele Rosu 78.57 320 P **P** **06 17 40.7 +0.5**
comp=Z,0.9nm,0.3s,baz=13,slow=5.5,SNR=6.1
BSEG Bad Segeberg 78.98 333 *eP* **P** **06 17 42.7 +0.7**
comp=Z,20nm,1.0s,baz=36,slow=5.3
LANS Liptovska Anna 79.02 326 *eP* **P** **06 17 44.3 +1.9**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 79.02 326 *eP* **P** **06 17 44.3 +1.9**
KECS Kecovo 79.06 325 *eP* **P** **06 17 43.1 +0.5**
KECS Kecovo 79.06 325 *eP* **P** **06 17 43.1 +0.5**
KSP Ksiaz 79.11 328 *eP* **P** **06 17 43.7 +0.9**
MORC Moravsky Berou 79.39 327 P **P** **06 17 45.3 +0.8**
MORC pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 79.39 327 P **P** **06 17 45.3 +0.8**
MORC IAmb IAmb 06 17 46.2
comp=Z,10nm,0.9s
MORC Moravsky Berou 79.39 327 *eP* **P** **06 17 45.2 +0.8**
DPC Dobruska-Polom 79.47 328 *eP* **P** **06 17 45.8 +0.9**
DPC Dobruska-Polom 79.47 328 *eP* **P** **06 17 45.8 +0.9**
UPC Upice 79.48 328 *eP* **P** **06 17 45.3 +0.5**
UPC Upice 79.48 328 *eP* **P** **06 17 45.3 +0.5**
KRLC Kraliky 79.49 328 *eP* **P** **06 17 45.4 +0.4**
KRLC Kraliky 79.49 328 *eP* **P** **06 17 45.4 +0.4**
PV20 West Nyswonger 79.56 49 P **P** **06 17 46.2 +0.4**
PV20 IAmb IAmb 06 17 48.5
comp=Z,9.4nm,1.0s
VYHS Vyhne 79.79 326 *eP* **P** **06 17 47.0 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 79.79 326 *eP* **P** **06 17 47.0 +0.4**
FLTG Flechtingen 79.93 332 *eP* **P** **06 17 47.1 -0.1**
comp=Z,18nm,1.1s,baz=36,slow=5.3
JAVC Velka Javorina 80.03 326 *eP* **P** **06 17 49.6 +1.7**
BRG Berggiesshubel 80.04 330 *eP* **P** **06 17 48.3 +0.4**
BRG Amp 06 17 49.4
comp=Z,11nm,1.2s
BRG Berggiesshubel 80.04 330 *eP* **P** **06 17 48.1 +0.3**
comp=Z,10nm,1.1s,baz=36,slow=5.3
CLL Collm 80.07 330 ⇑ *iP* **P** **06 17 48.1 +0.1**
comp=Z,19nm,1.0s
CLL Collm 80.07 330 ⇑ *iP* **P** **06 17 48.1 +0.1**
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 80.07 330 P **P** **06 17 48.3 +0.3**
CLL IAmb IAmb 06 17 49.2
comp=Z,18nm,1.0s
CLL Collm 80.07 330 *eP* **P** **06 17 48.0 +0.1**
comp=Z,19nm,1.0s,baz=36,slow=5.3
VRAC Vranov 80.15 327 P **P** **06 17 49.3 +0.8**
comp=Z,8.9nm,0.9s,baz=41,slow=5.7,SNR=11
VRAC Vranov 80.15 327 *eP* **P** **06 17 49.3 +0.8**
NRDL Niedersach Rie 80.21 332 *eP* **P** **06 17 49.1 +0.5**
comp=Z,17nm,1.4s,baz=36,slow=5.3
FBE Freiberg 80.23 330 *eP* **P** **06 17 49.6 +0.8**
comp=Z,20nm,1.0s,baz=36,slow=5.3
SMOL Smolenice 80.39 326 *eP* **P** **06 17 50.9 +1.1**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 80.39 326 *eP* **P** **06 17 50.9 +1.1**
KRUC Moravsky 80.42 327 *eP* **P** **06 17 50.7 +0.7**
PRU Pruhonice 80.48 329 *eP* **P** **06 17 50.8 +0.6**
PRU Pruhonice 80.48 329 *eP* **P** **06 17 50.8 +0.6**
RAYN Ar Rayn 80.52 292 P **P** **06 17 50.7 -0.2**
RAYN pmax pmax
comp=Z,17nm,1.4s
RAYN Ar Rayn 80.52 292 P **P** **06 17 50.7 -0.2**
RAYN IAmb IAmb 06 17 51.9
comp=Z,17nm,1.4s
MODS Modra-Piesok 80.57 326 *eP* **P** **06 17 52.8 +2.0**
MODS pmax pmax
comp=Z,11nm,1.1s
MODS Modra-Piesok 80.57 326 *eP* **P** **06 17 52.8 +2.0**
MVCO Mesa Verde 80.59 50 P **P** **06 17 52.3 +0.9**
NEUB Neuenburg 80.62 331 *eP* **P** **06 17 51.3 +0.3**
comp=Z,31nm,1.3s,baz=36,slow=5.3
TREC Trest 80.63 328 *eP* **P** **06 17 51.5 +0.4**
TREC Trest 80.63 328 *eP* **P** **06 17 51.5 +0.4**
CLZ Clausthal 80.64 332 *eP* **P** **06 17 51.7 +0.6**
comp=Z,23nm,1.2s,baz=36,slow=5.3
ZST Bratislava 80.78 326 *eP* **P** **06 17 53.4 +1.6**
ZST Bratislava 80.78 326 *eP* **P** **06 17 53.4 +1.6**
TANN Tannenbergstha 80.98 330 *eP* **P** **06 17 53.4 +0.4**
comp=Z,4.9nm,1.0s,baz=36,slow=5.3
GTTG Gottingen 81.03 332 *eP* **P** **06 17 53.6 +0.5**
comp=Z,22nm,1.2s,baz=36,slow=5.3
GUNZ Gunzen 81.08 330 *eP* **P** **06 17 53.9 +0.4**
comp=Z,9.9nm,1.1s,baz=36,slow=5.3
WERN Wernitzgruen 81.12 330 *eP* **P** **06 17 54.3 +0.6**
comp=Z,8.0nm,0.9s,baz=36,slow=5.3
F33A 5 Mile Ranch, 81.12 37 P **P** **06 17 54.3 +0.6**
F33A IAmb IAmb 06 17 55.4
comp=Z,8.2nm,1.1s
MOX Moxa 81.13 331 *eP* **P** **06 17 54.0 +0.3**
comp=Z,6.5nm,0.9s,baz=36,slow=5.3
MANZ Manzenberg 81.46 330 *eP* **P** **06 17 56.1 +0.6**
comp=Z,9.4nm,1.3s,baz=36,slow=5.3
CKRC Cesky Krumlov 81.49 328 *eP* **P** **06 17 57.2 +1.5**
CONA Conrad Observa 81.52 327 *i P* **P** **06 17 57.2 +1.3**
comp=Z,11nm,1.0s,SNR=7.6
KHC Kasperske Hory 81.55 329 *eP* **P** **06 17 55.7 -0.3**
KHC Kasperske Hory 81.55 329 *eP* **P** **06 17 55.7 -0.3**
KHC Kasperske Hory 81.55 329 P **P** **06 17 55.7 -0.3**
KHC IAmb IAmb 06 17 57.7
comp=Z,13nm,1.0s

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ROTZ Rotzenmuhle      81.60 330 eP      P      06 17 56.8 +0.6
     comp=Z,22nm,1.5s,baz=36,slow=5.3
GEC2 GERESS Array S   81.72 328  P      P      06 17 57.6 +0.6
GEC2                             IAmb   IAmb   06 17 58.2
     comp=Z,7.1nm,1.1s
GEC2 GERESS Array S   81.72 328 eP      P      06 17 57.0 +0.1
     comp=Z,6.8nm,1.1s,baz=36,slow=5.3
GERES GERESS Array B  81.72 328  P      P      06 17 57.1 +0.1
     comp=Z,2.7nm,0.7s,baz=37,slow=5.2,SNR=18
GERES GERESS Array B  81.72 328  P      P      06 17 57.2 +0.2
WET  Wettzell         81.82 329 eP      P      06 17 58.0 +0.6
     comp=Z,10.0nm,1.1s,baz=36,slow=5.3
EKA  Eskdalemuir Ar   81.92 341  P      P      06 17 58.9 +1.1
     comp=Z,0.9nm,0.5s,baz=334,slow=6.3,SNR=2.4
VTS  Vitosha          81.98 319  P      P      06 17 59.2 +0.7
VTS                              pmax   pmax
     comp=Z,10.0nm,0.8s
VTS  Vitosha          81.98 319  P      P      06 17 59.2 +0.7
VTS                              IAmb   IAmb   06 18 00.5
     comp=Z,9.6nm,0.8s
SDCO Great Sand Dun   82.00  48  P      P      06 17 59.6 +0.7
GRF  Grafenberg Arr   82.04 330 eP      P      06 17 59.3 +0.8
     comp=Z,23nm,1.1s,baz=36,slow=5.3
ARSA Arzberg          82.19 326 eP      P      06 18 00.1 +0.7
     comp=Z,5.6nm,1.1s
MOA  Molln            82.26 327 eP      P      06 18 01.6 +1.9
     comp=Z,9.9nm,1.4s
DIVS Divibare         82.52 322  P      P      06 18 00.6 -0.7
DIVS                             IAmb   IAmb   06 18 05.5
     comp=Z,7.3nm,1.1s
ECSD EROS Data Cent   82.52  39  P      P      06 18 01.6 +0.4
ECSD                             IAmb   IAmb   06 18 02.7
     comp=Z,6.1nm,1.0s
SOKA Soboth           82.84 326 i P     P      06 18 03.5 +0.6
     comp=Z,20nm,1.1s,SNR=13
RJOB Jochberg         82.97 328 eP      P      06 18 04.2 +0.7
     comp=Z,69nm,1.0s,baz=36,slow=5.3
OBKA Obir             83.19 326 eP      P      06 18 04.5 -0.1
     comp=Z,2.0nm,0.5s
BTNL Ternell          83.20 333 dP      P      06 18 04.8 +0.3
BTNL                             dpP    pP     06 18 21.4 -0.2
KBA  Koelnbreinsper   83.26 327 i P     P      06 18 06.0 +0.9
     comp=Z,9.3nm,0.9s,SNR=7.6
ANMO Albuquerque      83.33  50 cePP    P      06 18 08.4 +2.7
ANMO                             pmax   pmax
     comp=Z,5.0nm,1.3s
MYKA Terra Mystica    83.48 327 eP      P      06 18 05.7 -0.4
     comp=Z,6.5nm,0.9s
BGES Gesves           83.73 334 dP      P      06 18 07.1 -0.1
BGES                             dPcP   PcP    06 18 12.6 +1.4
BGES                             dpP    pP     06 18 23.9 -0.5
WATA Walderalm        83.79 329 eP      P      06 18 08.8 +1.0
     comp=Z,14nm,1.8s
WTTA Wattenberg       83.82 329 eP      P      06 18 08.3 +0.3
     comp=Z,6.9nm,1.0s
SCHQ Schefferville    83.84  16  P      P      06 18 08.1 +0.4
     comp=Z,3.0nm,0.9s,baz=314,slow=3.2,SNR=3.3
ABTA Abfaltersbach    83.87 328 eP      P      06 18 07.8 -0.3
     comp=Z,6.6nm,0.9s
BMRD Maredsous        83.91 334 κP      P      06 18 08.5 +0.3
     comp=Z,13nm,1.2s
BMRD                             dPcP   PcP    06 18 14.0 +1.9
BMRD                             dpP    pP     06 18 25.5 +0.2
BMRD                             dsP    sP     06 18 32.9 +0.8
MOTA Moosalm          83.97 329 i P     P      06 18 09.3 +0.6
     comp=Z,16nm,1.2s,SNR=5.1
RETA Reutte           84.00 329 i P     P      06 18 09.3 +0.6
     comp=Z,14nm,0.9s,SNR=7.1
PDG  Podgorica        84.12 321  P      P      06 18 09.1 -0.3
STAL STALIGIAL        84.17 327  P      P      06 18 08.4 -1.2
LIT  Litokhoron       84.19 318  P      P      06 18 09.6 -0.2
LIT                              pmax   pmax
     comp=Z,17nm,0.9s
LIT  Litokhoron       84.19 318  P      P      06 18 09.6 -0.2
BFO  Black Forest     84.26 331  P      P      06 18 10.3 +0.2
BFO                              pmax   pmax
     comp=Z,18nm,1.0s
BFO  Black Forest     84.26 331  P      P      06 18 10.3 +0.2
BFO  Black Forest     84.26 331 eP      P      06 18 10.0  0.0
     comp=Z,23nm,1.1s,baz=36,slow=5.3
G40A Rib Lake         84.34  34  P      P      06 18 10.9 +0.4
G40A                             IAmb   IAmb   06 18 11.8
     comp=Z,4.7nm,0.9s
PMOR Pomariorio Ree   84.36 114 eT      T      07 51 22.5
     comp=Z,21nm,0.2s
FETA Feichten         84.38 329 eP      P      06 18 11.3 +0.4
     comp=Z,9.8nm,1.1s
DAVA Damuels          84.51 329 i P     P      06 18 11.9 +0.4
     comp=Z,16nm,0.9s,SNR=5.1
CTI  Castel Tesino    84.78 328  P      P      06 18 12.3 -0.5
CTI                              pmax   pmax
     comp=Z,7.0nm,0.8s
CTI  Castel Tesino    84.78 328  P      P      06 18 12.3 -0.5
CTI                              IAmb   IAmb   06 18 12.8
     comp=Z,6.6nm,0.8s
ECH  Echery           84.80 332  P      P      06 18 12.1 -0.6
ECH                              pmax   pmax
     comp=Z,10.0nm,0.9s
ECH  Echery           84.80 332  P      P      06 18 12.1 -0.6
ECH                              IAmb   IAmb   06 18 13.8
     comp=Z,10nm,0.9s
PPT2 Papeete2         84.90 117 eT      T      07 52 02.7
     comp=Z,4.9nm,0.3s
DAVOX Davos/Dischmat  84.92 329  P      P      06 18 13.8 +0.2
     comp=Z,7.5nm,0.8s,baz=32,slow=3.8,SNR=9.1
TIAR Tiarei           85.04 117 eT      T      07 52 12.4
     comp=Z,1.3nm,0.2s
TUE  Stuetta          85.39 329  P      P      06 18 15.9  0.0
TAOE Nuku Hiva Isla   86.10 104 eLR     LR     06 45 34.0
     comp=Z,109nm,24.2s
MEH  Mehetia          86.16 116 eT      T      07 53 36.3
     comp=Z,55nm,0.2s
NRCA Norcia           86.70 325  P      P      06 18 23.1 +0.7
P40A Paris            87.93  39  P      P      06 18 28.9 +0.7
QUOK Quay             88.06  44  P      P      06 18 28.9 +0.1
QUOK                             IAmb   IAmb   06 18 55.6
     comp=Z,8.3nm,1.0s
TBI  Tubuai           88.89 121 eT      T      07 56 58.7
     comp=Z,36nm,0.3s
TXAR Lajitas Array    88.90  53  P      P      06 18 34.4 +1.3
     comp=Z,0.7nm,0.5s,baz=297,slow=4.0,SNR=18
TXAR                             pP     pP     06 18 50.4 +0.1
     comp=Z,0.9nm,0.6s,baz=300,slow=3.3,SNR=5.9
TXAR                             LR     LR     06 53 40.2
     comp=Z,17nm,20.7s,baz=0.0,slow=32
TXAR Lajitas Array    88.90  53  P      P      06 18 34.0 +0.9
CCM  Cathedral Cave   89.47  39  P      P      06 18 35.8 +0.3
CCM                              pmax   pmax
     comp=Z,8.0nm,0.9s
CCM  Cathedral Cave   89.47  39  P      P      06 18 35.8 +0.3
CCM                              IAmb   IAmb   06 18 37.3
     comp=Z,7.5nm,0.9s
U40A Yellville        89.97  41  P      P      06 18 38.4 +0.6
U40A                             IAmb   IAmb   06 18 39.5
     comp=Z,8.0nm,0.9s
MIAR Mount Ida        90.97  43  P      P      06 18 43.5 +1.0
MIAR                             pmax   pmax
     comp=Z,5.0nm,0.9s
MIAR Mount Ida        90.97  43  P      P      06 18 43.5 +1.0
MIAR                             IAmb   IAmb   06 18 44.5
     comp=Z,5.4nm,0.9s
ESDC Sonseca Array    96.19 334  P      P      06 19 06.8 +0.3
     comp=Z,0.3nm,0.5s,baz=52,slow=2.1,SNR=1.9
ESDC                             LR     LR     07 07 07.8
     comp=Z,44nm,19.7s,baz=340,slow=38
SNAA Sanae            142.25 197 PKPdf  PKPdf  06 25 03.8 -5.6
VNA3 Neumayer Olymp   144.07 195 PKPdf  PKPab  06 25 10.1 -0.1
VNA1 Neumayer--Stat   144.22 196 PKPdf  PKPab  06 25 10.9 +0.2
LPAZ La Paz           145.58  58 PKPbc  PKPab  06 25 18.4 +0.2
     comp=Z,7.4nm,0.9s,baz=335,slow=3.8,SNR=32
LPAZ                             pPKPbc pPKPdf 06 25 35.4 -0.2
     comp=Z,6.3nm,0.7s,baz=321,slow=4.5,SNR=8.8
LPAZ La Paz           145.58  58 PKP2   PKPdf  06 25 17.6  0.0
LPAZ La Paz           145.58  58        PKPdf  06 25 17.6  0.0
H03N2 Juan Fernandez  146.71  94  T      T      09 09 55.7
     baz=291,slow=76,SNR=14
H03N3 Juan Fernandez  146.72  94  T      T      09 09 49.9
     baz=291,slow=76,SNR=19
H03N1 Juan Fernandez  146.73  94  T      T      09 09 49.9
     baz=291,slow=76,SNR=19
LVC  Limon Verde      149.25  68 PKPbc  PKiKP  06 25 29.1 +0.4
     comp=Z,2.2nm,0.9s,baz=208,slow=1.3,SNR=4.0
SIV  San Ignacio      149.81  48 PKPbc  PKiKP  06 25 29.2 -0.4
     comp=Z,5.3nm,0.9s,baz=2.0,slow=1.7,SNR=13
SIV                              PKPab  PKPab  06 25 34.9 +0.7
     comp=Z,5.3nm,0.8s,baz=345,slow=1.2,SNR=12
SIV                              pPKPbc pPKPdf 06 25 46.3 +4.5
     comp=Z,2.2nm,0.8s,baz=300,slow=2.4,SNR=3.3
```

IDC 02 06:10:36.7±3.5, 53°60N×87°98E, h0km, mb1 2.7/2, mb1mx2.7/48, mbtmp2.7/2, ML2.4/2 Error ellipse: s-maj=32.1km s-min=18.5km az=45.0, Southwestern Siberia

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
I46RU ZALESOVO INFRA  1.91 282  i
      baz=97,slow=305,SNR=2.6                              06 22 30.0
ZALV  Zalesovo Beam   1.91 282      Pg     Pn              06 11 11.3 +0.9
      1.0nm,0.3s,baz=105,slow=7.4,SNR=5.4
ZALV                                 Lg     Lg              06 11 37.9
      2.7nm,0.3s,baz=103,slow=23,SNR=8.1
ZALV                                 i                      06 22 33.7
      1.9nm,0.3s,baz=103,slow=37,SNR=8.9
KURBB Kurchatov Arra  6.54 247      Pn     Pn              06 12 14.1 +0.1
      0.0nm,0.3s,baz=62,slow=14,SNR=4.2
KURBB                                Sn     Sn              06 13 27.9 -1.3
      0.0nm,0.3s,baz=72,slow=22,SNR=1.8
MKAR  Makanchi Array  7.72 210      Pn     Pn              06 12 31.8 +1.5
      0.1nm,0.3s,baz=31,slow=14,SNR=4.7
```

IDC 02 06:31:06.3±2.5, 54°16N×86°50E, h0km, mb1 3.3/2, mb1mx3.1/44, mbtmp3.3/2, ML2.9/2, 3C-3D, Error ellipse: s-maj=19.5km s-min=12.4km az=56.0, Southwestern Siberia

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
I46RU ZALESOVO INFRA  1.01 259  i
      baz=80,slow=304,SNR=0.9                              06 37 20.0
ZALV  Zalesovo Beam   1.01 259      Pg     Pg              06 31 24.6 -1.1
      1.9nm,0.3s,baz=80,slow=17,SNR=15
ZALV                                 Lg     Lg              06 31 40.7
      3.2nm,0.3s,baz=78,slow=28,SNR=21
KURBB Kurchatov Arra  6.03 237      Pn     Pn              06 32 36.8 +0.1
      0.2nm,0.3s,baz=55,slow=14,SNR=16
KURBB                                Sn     Sn              06 33 44.8 -1.5
      baz=69,slow=31,SNR=1.4
KURBB                                Lg     Lg              06 34 19.4
      0.1nm,0.3s,baz=54,slow=34,SNR=6.3
KURBB Kurchatov Arra  6.03 237      ⇑Pn    Pn              06 32 38.1 +1.4
      4.1nm,0.6s
KURBB                               ⇓Sn     Sn              06 33 45.8 -0.5
      4.1nm,0.8s
KURBB                               ⇓Lg     Lg              06 34 19.5
      9.8nm,0.7s
MK31  Makanchi Array  7.85 202      ⇓Pn     Pn              06 33 04.1 +2.4
      0.3nm,0.5s,baz=27,slow=14
MK31                                ⇑Sn     Sn              06 34 32.4 +1.2
      0.9nm,0.7s
MK31                                ⇑Lg     Lg              06 35 11.7
      4.6nm,1.0s,baz=21,slow=32
MKAR  Makanchi Array  7.85 202      Pn     Pn              06 33 02.9 +1.2
      0.2nm,0.3s,baz=24,slow=11,SNR=12
MKAR                                 Sn     Sn              06 34 32.4 +1.3
      0.1nm,0.3s,baz=20,slow=23,SNR=7.1
MKAR                                 Lg     Lg              06 35 14.0
      0.1nm,0.3s,baz=14,slow=33,SNR=8.2
```

IDC 02 06:33:46.7±8.0, 7°59S×129°05E, h130km±84km, mb3.2/1, mb1 3.2/5, mb1mx3.0/34, mbtmp3.6/5, Error ellipse: s-maj=74.7km s-min=25.9km az=35.0, Banda Sea

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
BATI  Baumata         5.93 244      P      Pn              06 35 13.7 +1.3
      7.0nm,0.3s,baz=68,slow=16,SNR=7.1
BATI                                 S      Sn              06 36 18.8 -0.4
      5.6nm,0.3s,baz=63,slow=15,SNR=1.7
FITZ  Fitzroy Crossi  10.97 197      P      Pn              06 36 18.9 -1.2
      0.2nm,0.3s,baz=24,slow=10,SNR=13
FITZ                                 S      Sn              06 38 16.0 -5.0
      0.5nm,0.3s,baz=0.0,slow=20,SNR=7.7
WRA   Warramunga Arr  13.31 158      P      Pn              06 36 51.0 +0.3
      0.1nm,0.3s,baz=346,slow=13,SNR=7.2
WRA                                  S      Sn              06 39 11.9 -5.8
      0.4nm,0.3s,baz=338,slow=23,SNR=9.8
ASAR  Alice Springs   16.65 164      P      P               06 37 33.2 +0.5
      0.1nm,0.3s,baz=341,slow=11,SNR=7.1
ASAR                                 S      Sn              06 40 34.5 -3.7
      0.1nm,0.3s,baz=348,slow=28,SNR=2.0
MKAR  Makanchi Array  68.20 327      P      P               06 44 33.1  0.0
      0.4nm,0.5s,baz=127,slow=7.5,SNR=6.0
```

IDC 02 06:55:34.0±1.8, 2°36N×121°92E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/50, mbtmp3.4/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/31, Error ellipse: s-maj=168.7km s-min=26.6km az=64.0

DJA 02 06:55:37.6±0.8, 2°N±5°×12°1E±°, h10km, M4.0/7, MLv4.0/7

ISC 02 06:55:39.4±1.4, 2°12N±0°10×121°18E±0°08, h35km, n10, σ1§62/13, mb3.0/3, Celebes Sea

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
MRSI  Marisa          1.80 155      P      Pn              06 56 07.9  0.0
MRSI                                 S      Sn              06 56 28.8 -0.7
MPSI  Mapaga          2.18 216      P      Pn              06 56 12.7 -0.5
MPSI                                 S      Sn              06 56 39.1 +0.1
APSI  Ampana          3.04 171      P      Pn              06 56 23.2 -1.8
APSI                                 S      Sn              06 57 00.5 +0.2
KMSI  Cibinong        3.19 119      P      Pn              06 56 25.4 -1.7
LUWI  Luwuk           3.52 153      P      Pn              06 56 34.9 +3.3
LUWI                                 S      Sn              06 57 13.2 +1.2
FITZ  Fitzroy Crossi  20.56 168      P      P               07 00 13.6 -1.6
      1.7nm,0.9s,baz=12,slow=9.3,SNR=1.4
WRA   Warramunga Arr  25.44 150      P      P               07 01 02.5 -1.7
      0.3nm,0.7s,baz=337,slow=9.4,SNR=5.5
ASAR  Alice Springs   28.46 155      P      P               07 01 31.7 +0.4
      0.1nm,0.4s,baz=337,slow=9.1,SNR=2.1
DZM   Mont Dzumac     50.30 121      LR     LR              07 27 54.6
      comp=Z,120nm,18.1s,baz=135,slow=39
MKAR  Makanchi Array  55.87 329      P      P               07 05 14.6 +1.1
      0.2nm,0.4s,baz=129,slow=7.2,SNR=4.0
```

IDC 02 07:01:41.2±0.8, 1°56S×26°41E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/48, mbtmp4.1/14, ML2.6/2, MS3.8/8, Ms1 3.7/8, ms1mx3.4/47, Error ellipse: s-maj=28.9km s-min=14.4km az=90.0

NEIC 02 07:01:43.1±2.3, 1°62S±0°09×26°48E±0°09, h10km±1km, mb4.4/12, Error ellipse: s-maj=15.6km s-min=14.5km az=204.0

ISC 02 07:01:42.5±0.5, 1°58S±0°06×26°47E±0°05, h10km, n55, σ1§12/56, mb4.2/15, MS3.7/6, Zaire

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
LWI   Lwiro           2.43 106      i P    Pn              07 02 23.4 +0.9
LWI                                  i S    Sn              07 02 53.9 +1.5
LWI                                  IAML                   07 03 09.5
      comp=Z,3μm,0.9s
BOBN  Bobandana       2.55  93      i P    Pn              07 02 25.1 +1.0
BOBN                                 i S    Sn              07 02 55.1 -0.3
BOBN                                 IAML                   07 03 00.4
      comp=Z,4μm,0.6s
KTSH  Kitshanga       2.60  83      i P    Pb              07 02 30.5 +1.0
KTSH                                 IAML                   07 03 10.9
      comp=Z,2μm,0.4s
LBGA  Luboga          2.67  83      i P    Pn              07 02 27.6 +1.8
LBGA                                 IAML                   07 03 11.8
      comp=Z,2μm,0.5s
GOM   Goma            2.76  92      i P    Pb              07 02 32.0 -0.1
GOM                                  i S    Sb              07 03 05.9 -0.3
GOM                                  IAML                   07 03 33.7
      comp=Z,1μm,0.8s
RGB   Rumangabo       2.91  86      i P    Pb              07 02 35.4 +0.8
RGB                                  i S    Sn              07 03 04.1 -0.1
RGB                                  IAML                   07 03 22.2
      comp=Z,1μm,0.7s
KIL   Kilembe         3.96  64      eP     Pb              07 02 52.1 -0.5
KIL                                  eS     Sb              07 03 37.3 -3.3
MBAR  Mbarara         4.38  77              Pn              07 02 50.7 +1.5
MBAR                                 Sn     Sn              07 03 38.2 -2.4
MBAR  Mbarara         4.38  77      eP     Pn              07 02 50.7 +1.5
MBAR                                 eS     Sn              07 03 42.4 +1.9
MBAR  Mbarara         4.38  77      i P    Pn              07 02 50.8 +1.5
MBAR                                 IAML                   07 04 06.6
      comp=Z,579nm,0.7s
MBAR  Mbarara         4.38  77      i P    Pn              07 02 50.9 +1.5
GETA  Geita           6.89 101      IAML                   07 05 45.7
      comp=Z,275nm,0.1s
LOSI  Makongolosi     9.50 136      i P    Pn              07 03 58.2 -1.5
LOSI                                 i S    Sn              07 05 35.1  -12
LOSI                                 IAML                   07 06 43.4
      comp=Z,91nm,0.9s
PDHT  Panda Hill      9.98 138      i P    Pn              07 04 06.2 -0.1
LODK  Lodwar         10.18  61      i P    Pn              07 04 07.3 -1.7
ITUM  Tunduma        10.25 140      i P    Pn              07 04 09.2 -0.8
GAWA  Igawa          10.64 132      i P    Pn              07 04 14.2 -1.0
KMBO  Kilima Mbogo   10.79  88      Pn     Pn              07 04 17.9 +0.5
      comp=Z,0.2nm,0.3s,baz=233,slow=20,SNR=2.2
KMBO                                 Lg     Lg              07 07 20.7
      comp=Z,0.6nm,0.3s,baz=345,slow=21,SNR=6.2
KALO  Kalowe         10.93 140      i P    Pn              07 04 19.1 -0.2
NTHA  Nthalire       11.26 141      i P    Pn              07 04 24.5 +0.7
LIVA  Livingstonia   11.76 140      i P    Pn              07 04 30.2 -0.4
LSZ   Lusaka         13.72 173      Pn     Pn              07 04 55.5 -1.9
MATP  Matopo         18.84 174      P      Pn              07 06 03.2 -0.2
      comp=Z,0.4nm,0.3s,baz=357,slow=13,SNR=10
MATP                                 S      Sn              07 09 20.3  -14
      comp=Z,0.4nm,0.3s,baz=230,slow=1.1,SNR=3.9
MATP                                 Lg     Lg              07 11 38.4
      comp=Z,0.6nm,0.3s,baz=276,slow=23,SNR=3.6
MATP                                 LR     LR              07 13 28.1
      comp=Z,108nm,19.5s,baz=358,slow=38
TSUM  Tsumeb         19.56 206      P      Pn              07 06 11.4 -0.7
      comp=Z,0.6nm,0.3s,baz=20,slow=11,SNR=14
TSUM                                 S      Sn              07 09 34.4  -17
      comp=Z,0.6nm,0.3s,baz=283,slow=18,SNR=3.4
TSUM                                 Lg     Lg              07 11 59.9
      comp=Z,0.2nm,0.3s,baz=286,slow=6.2,SNR=4.7
TSUM                                 LR     LR              07 14 07.8
      comp=Z,252nm,20.6s,baz=2.0,slow=38
TSUM  Tsumeb         19.56 206      P      P               07 06 10.7 -0.1
TSUM                                 IAmb   IAmb            07 06 13.9
      comp=Z,20nm,1.0s
ATD   Arta Tunnel    20.85  51      LR     LR              07 14 50.4
      comp=Z,394nm,18.6s,baz=220,slow=38
LBTB  Lobatse        23.32 182      P      P               07 06 50.9 -0.2
      comp=Z,8.4nm,1.0s,baz=359,slow=11,SNR=8.1
LBTB                                 Lg     Lg              07 13 55.9
      comp=Z,14nm,1.1s,baz=101,slow=20,SNR=7.9
LBTB                                 LR     LR              07 16 28.7
      comp=Z,75nm,20.4s,baz=3.5,slow=38
LBTB  Lobatse        23.32 182      P      P               07 06 50.1 -0.9
LBTB  Lobatse        23.32 182      P      P               07 06 48.8 -2.2
LBTB                                 IAmb   IAmb            07 06 53.1
      comp=Z,12nm,1.1s
OPO   Ambohidratompo 26.42 131      LR     LR              07 17 30.0
      comp=Z,106nm,21.3s,baz=152,slow=36
BOSA  Boshof         26.91 182      P      P               07 07 24.2 +0.1
      comp=Z,2.6nm,0.9s,baz=345,slow=8.7,SNR=4.4
BOSA                                 Lg     Lg              07 15 48.2
      comp=Z,5.1nm,0.9s,baz=63,slow=21,SNR=0.9
BOSA                                 LR     LR              07 17 44.4
      comp=Z,139nm,19.8s,baz=5.5,slow=36
BOSA  Boshof         26.91 182      IAmb   IAmb            07 07 52.6
      comp=Z,13nm,1.5s
TOA0  Torodi Ar. Sit 28.60 301      P      P               07 07 38.5 -0.7
TORD  Torodi Ar. Bea 28.60 301      P      P               07 07 38.2 -1.1
      comp=Z,7.8nm,0.6s,baz=108,slow=7.6,SNR=49
TORD                                 Lg     Lg              07 17 00.6
      comp=Z,4.2nm,0.9s,baz=128,slow=23,SNR=3.7
TORD                                 LR     LR              07 19 42.3
      comp=Z,445nm,18.0s,baz=115,slow=38
TORD  Torodi Ar. Bea 28.60 301      P      P               07 07 38.5 -0.8
TORD                                 IAmb   IAmb            07 07 39.9
      comp=Z,5.5nm,0.7s
SUR   Sutherland     31.10 189      P      P               07 08 02.6 +1.2
      comp=Z,6.7nm,0.8s,baz=90,slow=12,SNR=2.6
SUR   Sutherland     31.10 189      IAmb   IAmb            07 08 10.2
      comp=Z,19nm,1.2s
KIC   Kosan Boka     32.14 285      eP     P               07 08 11.1 +0.5
      comp=Z,19nm,0.9s
DBIC  Dimbokro       32.32 285      P      P               07 08 11.4 -0.8
LIC   Lamto          32.38 284      eP     P               07 08 11.6 -1.2
      comp=Z,33nm,0.7s
TIC   Toumodi        32.47 285      eP     P               07 08 13.6 +0.1
KOWA  Kowa           34.15 299      P      P               07 08 28.5 +0.4
BRTR  Keskin Array B 41.62  8       P      P               07 09 31.6 +0.5
      comp=Z,0.9nm,0.6s,baz=186,slow=12,SNR=2.3
BURAR Bucovina Array 49.00 359      P      P               07 10 30.4 +0.9
ESDC  Sonseca Array  49.62 329      P      P               07 10 35.3 +0.9
      comp=Z,0.4nm,0.7s,baz=141,slow=8.3,SNR=4.2
TUE   Stuetta        50.17 345      P      P               07 10 39.4 +0.8
TUE                                 IAmb   IAmb            07 10 58.2
      comp=Z,4.6nm,1.0s
GERES GERESS Array B 51.43 349      P      P               07 10 49.2 +1.3
      comp=Z,0.4nm,0.2s,baz=171,slow=7.0,SNR=1.5
AKASG Malin Array Be 52.13  2       P      P               07 10 52.7 -0.2
      comp=Z,0.2nm,0.3s,baz=190,slow=6.6,SNR=1.9
KK31  Karatay Array  59.49  36      P      P               07 11 46.0  0.0
KK31                                IAmb   IAmb            07 11 48.5
      comp=Z,1.8nm,0.8s
KKAR  Karatay Array  59.49  36      P      P               07 11 46.1 +0.1
KKAR  Karatay Array  59.49  36      P      P               07 11 46.2 +0.2
FINES FINESS Array B 62.85 360      P      P               07 12 07.8 -0.5
      comp=Z,0.7nm,0.5s,baz=178,slow=5.0,SNR=5.1
NOA   NORSAR Array B 63.54 352      P      P               07 12 12.6 -0.4
      comp=Z,0.8nm,0.7s,baz=165,slow=6.5,SNR=3.3
MKAR  Makanchi Array 68.53  38      P      P               07 12 45.9 +0.4
      comp=Z,3.6nm,0.7s,baz=243,slow=6.3,SNR=4.3
RES   Resolute Bay   99.47 347      LR     LR              08 02 54.0
      comp=Z,165nm,21.5s,baz=264,slow=37
```

IDC 02 07:03:20.3±0.6, 53°32N×172°94E, h0km, mb4.6/31, mb1 4.7/33, mb1mx4.6/60, mbtmp4.6/33, ML3.9/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/60, Error ellipse: s-maj=18.4km s-min=9.7km az=165.0

BJI 02 07:03:20.6±0.0, 53°53N×172°54E, h8km, mB4.9/28, mb5.1/53, Ms4.7/14, Ms7 4.4/14

MOS 02 07:03:22.8±1.2, 53°28N×172°95E, h28km, mb5.0/52, Error ellipse: s-maj=7.7km s-min=5.1km az=106.8

KRSC 02 07:03:22.9±2.3, 53°05N×172°46E, h36km±81km, ML4.9

NEIC 02 07:03:23.9±1.8, 53°09N±0°10×173°09E±0°09, h27km±4km, mb4.8/104, ML4.2/22(AEIC), Error ellipse: s-maj=14.6km s-min=7.3km az=192.0

AEIC 02 07:03:25±3.4, 52°8N±0°1×173°24E±0°08, h43km±5km, Error ellipse: s-maj=17.0km s-min=7.3km az=179.0

ISC 02 07:03:25.0±0.3, 53°09N±0°06×173°04E±0°03, h41km, n679, σ1§60/730, mb4.8/144, MS3.7/23, 49C-20D, Near Islands

```
Code  Station Name      Δ°   AZ°   Phase ID                Time      Res
                                   Op     ISC              h m s     ISC
SMY   Shemya          0.73 119      P      Pn              07 03 36.6 -2.2
SMY                                                        07 03 45.0
SMY   Shemya          0.73 119      Pn     Pn              07 03 36.6 -2.2
SMY   Shemya          0.73 119              Sn              07 03 45.0 -3.9
LSNW  Little Sitkin   3.53 106              Pn              07 04 16.7 -0.5
LSNW                                        Sn              07 04 53.8 -3.9
LSSA  Little Sitkin   3.53 107              Pn              07 04 17.2 -0.1
LSPA  Little Sitkin   3.56 106              Pn              07 04 17.3 -0.4
LSPA                                        Sn              07 04 57.3 -1.2
CEAP  Semis' Anvil P  4.14 103              Pn              07 04 25.5  0.0
CESW  Semis' Southwe  4.16 104              Pn              07 04 25.5 -0.3
AMKA  Amchitka        4.21 111              Pn              07 04 26.9 +0.3
AMKA  Amchitka        4.21 111              Sn              07 05 12.6 -1.8
CERAA Semis' Rag'd T  4.23 104              Pn              07 04 26.8  0.0
BKI   Bering          4.67 300      P      Pn              07 04 30.0 -2.8
BKI                                 S      Sn              07 05 21.3 -4.3
GAEA  Gareloi East    5.19 101              Pn              07 04 39.9 -0.2
TASE  Tanaga Southea  5.60  99              Pn              07 04 44.8 -0.8
TAFP  Tanaga Falls P  5.61  99              Pn              07 04 44.8 -1.0
KICM  Kanaga Island   6.08  97              Pn              07 04 51.1 -1.0
KIMD  Kanaga Island   6.10  99              Pn              07 04 51.9 -0.5
KIKV  Kanaga Island   6.10  98              Pn              07 04 51.4 -1.1
KIWB  Kanaga Island   6.12  98              Pn              07 04 51.9 -0.9
ADK   Adak            6.39  97      P      Pn              07 04 55.1 -1.4
ADK   Adak            6.39  97      Pn     Pn              07 04 55.1 -1.4
KBTR  Krutoberegovo   6.71 302      P      Pn              07 05 00.1 -0.7
KBTR                                 S      Sn              07 06 12.2 -3.6
GSTR  Great Sitkin T  6.72  94              Pn              07 04 59.8 -1.2
GSMY  Great Sitkin M  6.73  95              Pn              07 04 59.7 -1.4
KBG   Krutoberegovo   6.78 302      P      Pn              07 05 00.7 -1.1
KBG                                 S      Sn              07 06 13.6 -4.0
MKZ   Mys Kozlova     6.86 287      P      Pn              07 05 01.0 -1.8
MKZ                                 S      Sn              07 06 13.9 -5.6
SMKR  Semkarok        7.54 302      P      Pn              07 05 11.9 -0.4
BDR   Baidarnaya      7.67 302      P      Pn              07 05 14.0 -0.1
```

TUMD Tumrok D 7.72 291 P **Pn** **07 05 13.7 -1.0**
TUMD S **Sn** **07 06 37.1 -3.7**
SRKR Sorokina 7.72 302 P **Pn** **07 05 13.5 -1.3**
SRKR S **Sn** **07 06 36.2 -4.7**
BZGR Bezymyannyi-Gr 7.73 297 P **Pn** **07 05 14.8 -0.1**
BZGR S **Sn** **07 06 38.5 -2.7**
CIRR Tsirk 7.76 298 P **Pn** **07 05 14.6 -0.7**
KZV Kizimen 7.76 290 P **Pn** **07 05 13.9 -1.5**
KZV S **Sn** **07 06 36.1 -6.0**
LGNR Loginova 7.78 298 P **Pn** **07 05 14.2 -1.5**
LGNR S **Sn** **07 06 38.3 -4.2**
ATKA Atka Island 7.82 91 **Pn** **07 05 15.4 -0.5**
SPN Mys Shipunski 7.84 275 P **Pn** **07 05 14.5 -1.8**
SPN S **Sn** **07 06 37.1 -6.6**
BZMR Bezymyannaya 7.84 296 P **Pn** **07 05 16.4 -0.1**
BZWR Bezymyannyi-We 7.85 297 P **Pn** **07 05 16.7 +0.1**
BZWR S **Sn** **07 06 42.8 -1.3**
KLY Klyuchi 7.87 299 P **Pn** **07 05 15.0 -1.7**
KLY S **Sn** **07 06 38.6 -5.8**
TUMR Tumrok 7.88 291 P **Pn** **07 05 17.2 +0.2**
TUMR S **Sn** **07 06 41.0 -3.8**
KIRR Kirishev 7.93 296 P **Pn** **07 05 17.0 -0.7**
KIRR S **Sn** **07 06 42.1 -3.9**
KMNR Kamenistaya 7.93 295 P **Pn** **07 05 17.3 -0.4**
KMNR S **Sn** **07 06 42.1 -4.0**
KPT Kopyto 8.00 296 S **Sn** **07 06 44.6 -3.0**
KII Karymskiy 8.15 282 P **Pn** **07 05 18.9 -1.8**
KII S **Sn** **07 06 45.6 -5.8**
KOZ Kozyrevsk 8.21 296 P **Pn** **07 05 21.8 +0.4**
NLC Nalytchevo 8.24 276 P **Pn** **07 05 20.9 -0.9**
NLC S **Sn** **07 06 47.2 -6.3**
OSSR Ossora 8.31 322 P **Pn** **07 05 22.4 -0.3**
SRDR Sredinnyy 8.37 298 P **Pn** **07 05 22.2 -1.4**
SDLR Sedlovina 8.51 277 P **Pn** **07 05 24.0 -1.6**
SDLR S **Sn** **07 06 53.9 -6.4**
UGLR Uglovaya 8.55 276 P **Pn** **07 05 25.2 -1.0**
UGLR S **Sn** **07 06 56.2 -5.1**
SMAR Somma 8.56 277 P **Pn** **07 05 26.8 +0.4**
SMAR S **Sn** **07 06 58.3 -3.4**
KRER Koryakskii 8.59 277 P **Pn** **07 05 25.8 -1.0**
KRER S **Sn** **07 06 57.1 -5.2**
AVH Avacha 8.60 277 P **Pn** **07 05 25.6 -1.2**
AVH S **Sn** **07 06 56.5 -5.9**
DALK Dalny 8.61 275 P **Pn** **07 05 26.1 -0.8**
DALK S **Sn** **07 06 56.3 -6.2**
KRX Arik 8.64 278 P **Pn** **07 05 26.1 -1.4**
KRX S **Sn** **07 06 55.9 -7.7**
KOK Koryaka 8.66 277 P **Pn** **07 05 26.4 -1.2**
KOK S **Sn** **07 06 57.5 -6.4**
PET Petropavlovsk 8.67 275 *e*P **Pn** **07 05 24.9 -2.8**
PET *e*S **Sn** **07 07 01.9 -2.1**
PET pmax pmax
comp=Z,31nm,1.2s
PET MLR MLR
comp=Z,300nm,12.0s
PET Petropavlovsk 8.67 275 P **Pn** **07 05 27.2 -0.5**
PET S **Sn** **07 06 58.5 -5.5**
PET Petropavlovsk 8.67 275 Pn **Pn** **07 05 27.7 0.0**
ESO Esso 8.81 295 P **Pn** **07 05 31.1 +1.4**
RUS Russkaya 8.84 272 P **Pn** **07 05 28.9 -1.1**
RUS S **Sn** **07 07 01.0 -7.2**
KRMR Karymshinskiy 9.01 274 P **Pn** **07 05 32.3 0.0**
KRMR S **Sn** **07 07 07.8 -4.5**
MTVR Mutnovka 9.03 272 P **Pn** **07 05 31.5 -1.3**
MTVR S **Sn** **07 07 06.2 -6.9**
GNL Ganaly 9.05 280 P **Pn** **07 05 32.7 -0.3**
GNL S **Sn** **07 07 09.7 -3.8**
GRL Gorelyy 9.08 273 P **Pn** **07 05 32.9 -0.6**
GRL S **Sn** **07 07 09.1 -5.3**
KDTR Khodutka, Kamc 9.23 268 P **Pn** **07 05 34.1 -1.3**
KDTR S **Sn** **07 07 09.6 -8.2**
PEA0B Petropavlovsk- 9.23 276 ⇓*i*P **Pn** **07 05 35.2 -0.2**
PEA0B Petropavlovsk- 9.23 276 Pn **Pn** **07 05 35.2 -0.2**
PETK Petropavlovsk- 9.23 276 Pn **Pn** **07 05 34.5 -0.9**
comp=Z,3.6nm,0.3s,baz=94,slow=19,SNR=54
PETK Sn **Sn** **07 07 13.6 -4.3**
comp=Z,3.7nm,0.3s,baz=101,slow=8.0,SNR=9.0
PETK Petropavlovsk- 9.23 276 P **Pn** **07 05 34.6 -0.9**
PETK Petropavlovsk- 9.23 276 Pn **Pn** **07 05 35.1 -0.4**
APC Apacha 9.58 275 P **Pn** **07 05 39.8 -0.3**
APC S **Sn** **07 07 19.6 -6.7**
SPIA Saint Paul Isl 10.40 60 Pn **Pn** **07 05 51.2 -0.2**
ALID Alaid 11.02 265 P **Pn** **07 05 58.8 -1.1**
GAMB Gambell 13.32 30 P **Pn** **07 06 29.5 -1.7**
baz=223
GAMB Gambell 13.32 30 Pn **Pn** **07 06 31.1 0.0**
FALS False Pass 13.95 73 P **Pn** **07 06 38.2 -1.7**
baz=272
SEY Seymchan 14.66 320 Pn **Pn** **07 06 48.3 -1.0**
comp=Z,0.1nm,0.3s,baz=94,slow=11,SNR=6.9
SEY Seymchan 14.66 320⇑*e*P **Pn** **07 06 47.7 -1.6**
BILL Bilibino 15.35 350 *e*P **Pn** **07 06 54.1 -4.2**
BILL pmax pmax
comp=Z,2.0nm,0.3s
BILL MLR MLR
comp=Z,394nm,17.0s
SDPT Sand Point 15.62 71 P **Pn** **07 07 01.0 -0.9**
baz=273
TNA Tin City 15.73 30 P **Pn** **07 07 02.2 -1.1**
baz=226
TNA Tin City 15.73 30 Pn **Pn** **07 07 03.1 -0.2**
TNA IAmb IAmb 07 07 22.0
comp=Z,47nm,0.9s
ANM Nome 15.93 35 P **Pn** **07 07 04.8 -1.0**
baz=233
CHNA Chernabura Isl 16.16 73 P **Pn** **07 07 08.2 -0.6**
baz=275
CNBA Chernabura Isl 16.16 73 **P** **07 07 10.7 -0.9**
KUR Kuril'sk 18.17 255⇑*i*P **Pn** **07 07 37.1 +3.2**
N18K Kilae Creek 18.45 53 P **P** **07 07 36.7 -0.1**
baz=259
O18K Koktuh Hills 18.66 56 P **P** **07 07 38.4 -0.7**
baz=263
SVW2 Sparrevohn 18.68 52 **Pn** **07 07 41.8 +1.9**
RDOG Red Dog Mine 18.89 28 P **P** **07 07 40.3 -1.2**
baz=229
RDOG Red Dog Mine 18.89 28 P **Pn** **07 07 43.2 +0.8**
N19K Bonanza Creek 19.15 53 P **P** **07 07 44.7 +0.1**
baz=260,SNR=13
L19K White Mountain 19.25 49 P **P** **07 07 45.1 -0.5**
baz=256,SNR=11
M19K Big River Lodg 19.40 50 P **P** **07 07 47.3 +0.1**
baz=258,SNR=8.9
OHAK Old Harbor 19.55 64 P **P** **07 07 47.9 -1.0**
baz=272
OHAK Old Harbor 19.55 64 P **P** **07 07 48.5 -0.3**
P19K Oil Pt 19.63 57 P **P** **07 07 49.7 -0.1**
baz=265,SNR=9.4
KDAK Kodiak Island 19.91 63 P **P** **07 07 52.3 -0.5**
comp=Z,0.7nm,0.3s,baz=258,slow=7.5,SNR=14
KDAK LR LR 07 16 42.0
comp=Z,254nm,18.4s,baz=277,slow=40
KDAK Kodiak Island 19.91 63 P **P** **07 07 52.3 -0.5**
KDAK Kodiak Island 19.91 63 P **P** **07 07 51.9 -0.9**
baz=271
KDAK Kodiak Island 19.91 63 P **P** **07 07 52.9 +0.1**
RSO Redoubt South 19.95 55 P **Pn** **07 07 55.3 0.0**
O20K Slope Mountain 19.98 56 P **P** **07 07 52.8 -0.8**
baz=265
YUK Yuzh-Kuril'sk 20.04 254⇑*e*P Pn 07 07 58.1 +1.9
YSS Yuzh-Sakhalins 20.30 265 *e*P Pn 07 07 59.0 -0.3
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 20.30 265 Pn 07 07 58.3 -1.0
YSS IAmb IAmb 07 08 03.4
comp=Z,43nm,0.9s
SPU Mount Spurr 20.38 53 P **P** **07 07 58.5 +0.6**
HOM Homer 20.44 57 P **P** **07 07 58.1 -0.4**
baz=267
HOM Homer 20.44 57 P Pn 07 08 00.2 -0.6
PPLA Purkeypile 20.61 48 P **P** **07 08 00.5 -0.1**
baz=257,SNR=8.1
PPLA Purkeypile 20.61 48 P Pn 07 08 02.2 -0.8
PPLA IAmb IAmb 07 08 13.7
comp=Z,55nm,1.4s
CNPM China Poot 20.64 58 P **P** **07 08 01.1 +0.5**
CNPM IAmb IAmb 07 08 08.9
comp=Z,74nm,1.2s
SKT Skwentna 20.74 51 P **P** **07 08 01.8 0.0**
baz=260,SNR=16
SKT Skwentna 20.74 51 P Pn 07 08 03.4 -1.1
SKT IAmb IAmb 07 08 13.2
comp=Z,35nm,0.9s

SUA Susitna One 21.04 52 P **P** **07 08 04.0 -1.1**
baz=263,SNR=9.5
SUA Susitna One 21.04 52 P **P** **07 08 05.6 +0.5**
SUA IAmb IAmb 07 08 23.0
comp=Z,48nm,1.1s
H21K Melozitna Rive 21.13 40 P **P** **07 08 05.7 -0.2**
baz=250
I21K Tanana 21.30 42 P **P** **07 08 07.0 -0.7**
baz=252,SNR=5.2
KTH Kantishna Hill 21.32 46 P **P** **07 08 08.9 +0.9**
KTH IAmb IAmb 07 08 18.4
comp=Z,33nm,0.8s
BPAW Bear Paw Mtn. 21.41 45 P **P** **07 08 09.2 +0.2**
baz=256,SNR=13
BPAW Bear Paw Mtn. 21.41 45 P **P** **07 08 09.6 +0.6**
SEW Seward 21.56 56 P **P** **07 08 09.5 -1.0**
baz=268
TRF Thorofare Moun 21.57 47 P **P** **07 08 10.0 -0.9**
baz=258,SNR=22
TRF Thorofare Moun 21.57 47 P **P** **07 08 10.9 +0.1**
TRF IAmb IAmb 07 08 20.5
comp=Z,35nm,0.8s
MLY Manley 21.76 43 P **P** **07 08 12.3 -0.4**
baz=254,SNR=28
MLY Manley 21.76 43 P **P** **07 08 13.8 +1.1**
ASAJ Asahikawa 21.90 258 P **P** **07 08 15.2 +0.9**
comp=Z,18nm,0.6s,baz=54,slow=8.1,SNR=7.6
ASAJ LR LR 07 18 21.2
comp=Z,117nm,18.2s,baz=61,slow=41
ASAJ Asahikawa 21.90 258 P **P** **07 08 15.2 +0.9**
GHO Glory Hole Cre 21.94 52 P **P** **07 08 17.5 +2.8**
KNK Knik Glacier 22.13 53 P **P** **07 08 15.9 -0.8**
baz=265
PWL Port Wells 22.15 54 P **P** **07 08 15.6 -1.3**
PWL IAmb IAmb 07 08 31.2
comp=Z,34nm,0.8s
RND Reindeer 22.20 47 P **P** **07 08 17.2 -0.3**
RND pmax pmax
comp=Z,17nm,1.0s
RND Reindeer 22.20 47 P **P** **07 08 17.2 -0.3**
MCK McKinley 22.22 46 P **P** **07 08 17.2 -0.4**
MCK pmax pmax
comp=Z,36nm,1.0s
MCK McKinley 22.22 46 P **P** **07 08 17.2 -0.4**
baz=259,SNR=13
MCK McKinley 22.22 46 P **P** **07 08 17.2 -0.4**
MCK IAmb IAmb 07 08 25.9
comp=Z,36nm,1.0s
SML Sawmill 22.22 52 P **P** **07 08 17.2 -0.5**
baz=264,SNR=20
SML Sawmill 22.22 52 P **P** **07 08 17.8 +0.1**
SML IAmb IAmb 07 08 26.1
comp=Z,52nm,0.9s
WAT1 Susitna Watana 22.24 49 P **P** **07 08 17.0 -0.9**
baz=262
NEA2 Nenana 22.34 44 P **P** **07 08 18.4 -0.5**
baz=257,SNR=12
NEA2 Nenana 22.34 44 P **P** **07 08 19.7 +0.8**
I23K Minto, Yukon-K 22.35 43 P **P** **07 08 19.1 +0.1**
baz=255,SNR=14
I23K Minto, Yukon-K 22.35 43 P **P** **07 08 19.0 0.0**
H23K Yukon River 22.46 41 P **P** **07 08 20.4 +0.2**
baz=253,SNR=12
GRNR Gornyy 22.55 279⇑*i*P **P** **07 08 23.0 +1.8**
GRNR pmax pmax
comp=Z,20nm,0.9s
WAT6 Susitna Watana 22.58 50 P **P** **07 08 20.6 -1.1**
baz=263,SNR=10
COLD Coldfoot 22.66 37 P **P** **07 08 21.6 -0.7**
baz=249,SNR=8.2
COLD Coldfoot 22.66 37 P **P** **07 08 22.1 -0.2**
A21K Barrow 22.66 25 P **P** **07 08 21.5 -0.7**
baz=232
SCM Sheep Creek Mo 22.70 52 P **P** **07 08 22.9 +0.1**
SCM pmax pmax
comp=Z,32nm,0.8s
SCM Sheep Creek Mo 22.70 52 P **P** **07 08 22.9 +0.1**
SCM IAmb IAmb 07 08 31.8
comp=Z,32nm,0.8s
WRH Wood River Hil 22.73 45 P **P** **07 08 23.4 +0.3**
WRH IAmb IAmb 07 08 37.4
comp=Z,29nm,0.9s
GLI Glacier Island 22.76 54 P **P** **07 08 22.4 -0.9**
baz=268
GLI Glacier Island 22.76 54 P **P** **07 08 23.2 -0.1**
GLI IAmb IAmb 07 08 36.4
comp=Z,18nm,1.0s
MDM Murphy Dome 22.77 43 P **P** **07 08 23.2 -0.4**
MDM IAmb IAmb 07 08 26.6
comp=Z,21nm,0.9s
ERM Erimo 22.84 253⇓*i*P **P** **07 08 27.0 +2.7**
ERM pmax pmax
comp=Z,71nm,1.6s
CCB Clear Creek Bu 22.89 44 P **P** **07 08 25.9 +1.3**
CCB IAmb IAmb 07 08 38.3
comp=Z,31nm,1.0s
TCOL CIGO, UAF Yank 22.91 44 P **P** **07 08 24.4 -0.5**
baz=257,SNR=12
COLA College 22.91 44*d i*P **P** **07 08 25.1 +0.2**
COLA pmax pmax
comp=Z,41nm,0.9s
COLA College 22.91 44 P **P** **07 08 24.6 -0.3**
baz=257
COLA College 22.91 44 P **P** **07 08 24.7 -0.1**
FID Port Fidalgo 23.06 54 P **P** **07 08 26.2 -0.2**
FID IAmb IAmb 07 08 39.3
comp=Z,52nm,1.4s
H24K Noodor Dome 23.13 41 P **P** **07 08 26.3 -0.8**
baz=255,SNR=17
POKR Poker Plat Res 23.14 43 P **P** **07 08 26.2 -1.0**
baz=257,SNR=14
POKR Poker Plat Res 23.14 43 P **P** **07 08 26.9 -0.3**
POKR IAmb IAmb 07 08 40.9
comp=Z,46nm,1.0s
HDA Harding Lake 23.20 45 P **P** **07 08 27.2 -0.6**
baz=260
M24K Tolsona, Glenn 23.27 51 P **P** **07 08 28.1 -0.4**
baz=266
IL31 23.30 44 P **P** **07 08 28.4 -0.3**
ILAR Eielson Array 23.30 44 P **P** **07 08 27.9 -0.8**
comp=Z,2.9nm,0.5s,baz=250,slow=9.1,SNR=50
ILAR PcP **PcP** **07 12 13.9 -0.7**
comp=Z,0.5nm,0.6s,baz=270,slow=3.5,SNR=3.2
ILAR LR LR 07 17 53.8
comp=Z,116nm,18.7s,baz=270,slow=38
ILAR Eielson Array 23.30 44 P **P** **07 08 28.0 -0.8**
ILAR 07 12 13.9
ILAR Eielson Array 23.30 44 P **P** **07 08 29.1 +0.3**
KLU Klutina 23.35 53 P **P** **07 08 28.9 -0.5**
baz=267,SNR=15
TOLK Toolik Lake Re 23.40 34 P **P** **07 08 29.5 -0.3**
baz=247,SNR=11
TOLK Toolik Lake Re 23.40 34 P **P** **07 08 29.8 0.0**
TOLK IAmb IAmb 07 08 41.0
comp=Z,28nm,1.2s
EYAK Cordova Ski Ar 23.41 55 P **P** **07 08 29.8 -0.1**
baz=270
PAX Paxson 23.66 49 P **P** **07 08 31.8 -0.6**
PAX pmax pmax
comp=Z,17nm,1.0s
PAX Paxson 23.66 49 P **P** **07 08 31.1 -1.3**
baz=264,SNR=11
PAX Paxson 23.66 49 P **P** **07 08 31.8 -0.6**
HARP HAARP 23.76 50 P **P** **07 08 32.6 -0.6**
baz=266
BMRM Bremner River 23.98 54 P **P** **07 08 35.0 -0.3**
baz=270
N25K Chitina, Valde 23.99 52 P **P** **07 08 35.0 -0.4**
baz=268
PRP Porcupine Dome 24.01 43 P **P** **07 08 34.7 -0.9**
baz=258,SNR=16
SCRK Sand Creek 24.43 47 P **P** **07 08 39.1 -0.4**
baz=264,SNR=14
MENT Mentasta 24.46 49 P **P** **07 08 40.7 +1.0**
MENT IAmb IAmb 07 08 53.5
comp=Z,20nm,0.7s
YAK Yakutsk 24.47 309 P **P** **07 08 38.1 -1.6**
comp=Z,15nm,0.5s,baz=82,slow=2.5,SNR=6.9
YAK LR LR 07 18 20.7
comp=Z,146nm,18.7s,baz=89,slow=37
YAK Yakutsk 24.47 309 *e*P **P** **07 08 37.6 -2.1**
YAK pmax pmax
comp=Z,33nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
CRQM Cirque 24.70 54 P **P** **07 08 41.8 -0.2**
CRQE Cirque 24.72 54 P **P** **07 08 42.0 -0.2**
baz=272
MCARA McCarthy VSAT 24.74 53 P **P** **07 08 42.9 +0.7**
baz=270
MCARA McCarthy VSAT 24.74 53 P **P** **07 08 43.6 +1.5**
K27K Chicken 25.27 47 P **P** **07 08 47.1 +0.1**
baz=265
K27K Chicken 25.27 47 P **P** **07 08 47.4 +0.5**
K27K IAmb IAmb 07 09 01.5
comp=Z,18nm,1.1s
L27K Beaver Creek, 25.33 49 P **P** **07 08 47.6 +0.1**
baz=268,SNR=14
L27K Beaver Creek, 25.33 49 P **P** **07 08 48.8 +1.3**
L27K IAmb IAmb 07 08 56.8
comp=Z,15nm,0.8s
BCAR Beaver Creek A 25.34 49 P **P** **07 08 48.8 +1.1**
BARN Barnard Glacie 25.41 54 P **P** **07 08 49.7 +1.2**
CTGM Chitina Glacie 25.57 54 P **P** **07 08 49.5 -0.3**
CTGM IAmb IAmb 07 09 03.1
comp=Z,20nm,0.8s
EGAK Eagle 25.73 45 P **P** **07 08 50.2 -0.9**
baz=265,SNR=20
KLR Kul'dur 25.92 278 P **P** **07 08 53.2 +0.3**
comp=Z,15nm,0.6s,baz=64,slow=9.0,SNR=40
KLR LR LR 07 19 38.7
comp=Z,142nm,20.0s,baz=88,slow=38
KLR Kul'dur 25.92 278 P **P** **07 08 53.3 +0.3**
PINM Pinnacle 26.17 56 P **P** **07 08 55.4 +0.2**
baz=275
DAWY Dawson 26.45 47 P **P** **07 08 58.5 +0.8**
DAWY IAmb IAmb 07 09 05.0
comp=Z,15nm,0.9s
TIXI Tiksi 26.67 331 P **P** **07 08 58.9 -0.6**
comp=Z,3.7nm,0.3s,baz=118,slow=11,SNR=6.0
TIXI Tiksi 26.67 331⇓*i*P **P** **07 08 59.1 -0.4**
ZEA Zeya 26.94 290 *e*P **P** **07 09 01.9 -0.2**
ZEA *e* 07 09 10.8
ZEA pmax pmax
comp=Z,20nm,0.9s
HYT Haines Junctio 27.45 54 P **P** **07 09 08.5 +1.7**
EPYK Eagle Plains 27.69 42 P **P** **07 09 08.7 -0.1**
baz=266
USA0B Ussuriysk Arra 28.20 268 P **P** **07 09 13.8 +0.3**
USA0B pmax pmax
comp=Z,7.0nm,1.0s
USA0B Ussuriysk Arra 28.20 268 P **P** **07 09 13.8 +0.3**
USRK Ussuriysk Ar. 28.20 268 P **P** **07 09 12.9 -0.6**
comp=Z,3.7nm,0.7s,baz=61,slow=7.6,SNR=8.8
USRK PcP **PcP** **07 12 27.6 +1.4**
comp=Z,2.6nm,0.6s,baz=65,slow=1.5,SNR=6.0
USRK Ussuriysk Ar. 28.20 268 P **P** **07 09 12.9 -0.6**
USRK 07 12 27.6
USRK Ussuriysk Ar. 28.20 268 P **P** **07 09 13.4 0.0**
WHY Whitehorse 28.75 54 P **P** **07 09 18.2 -0.1**
baz=278
INK Inuvik 29.07 38 P **P** **07 09 21.6 +0.7**
comp=Z,1.5nm,0.3s,baz=261,slow=7.5,SNR=15
INK PcP **PcP** **07 12 28.4 +0.5**
comp=Z,1.1nm,0.5s,baz=273,slow=4.8,SNR=4.2
INK LR LR 07 21 10.1
comp=Z,117nm,19.6s,baz=252,slow=37
INK Inuvik 29.07 38 P **P** **07 09 21.6 +0.7**
INK 07 12 28.4
INK Inuvik 29.07 38 P **P** **07 09 21.3 +0.4**
baz=265
INK Inuvik 29.07 38 P **P** **07 09 21.7 +0.7**
MJAR Matsushiro Arr 29.36 250 P **P** **07 09 25.3 +1.4**
comp=Z,2.0nm,0.5s,baz=23,slow=7.9,SNR=5.5
MJAR LR LR 07 20 11.5
comp=Z,82nm,21.9s,baz=165,slow=34
MJAR Matsushiro Arr 29.36 250 P **P** **07 09 24.9 +1.0**
MJAR pmax pmax
comp=Z,8.0nm,1.3s
MJAR Matsushiro Arr 29.36 250 P **P** **07 09 24.9 +1.0**
MJB9 Matsu-Tunnel 29.36 250 P **P** **07 09 25.1 +1.3**
MJB9 IAmb IAmb 07 09 26.2
comp=Z,16nm,1.1s
MAJO Matsushiro 29.36 250*ce*P **P** **07 09 25.4 +1.5**
MAJO pmax pmax
comp=Z,16nm,1.1s
MAJO Matsushiro 29.36 250 P **P** **07 09 24.9 +1.1**
MAJO IAmb IAmb 07 09 26.2
comp=Z,16nm,1.1s
MAT Matsushiro 29.36 250 P **P** **07 09 25.1 +1.2**
MDJ Mudanjiang 29.42 271 P **P** **07 09 24.0 -0.3**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,170nm,3.4s
DLBC Dease Lake 31.63 57 LR LR 07 23 03.7
comp=Z,126nm,18.6s,baz=282,slow=38
CN2 Changchun 32.36 273 *e*P **P** **07 09 48.2 -2.0**
CN2 pmax pmax
comp=Z,20nm,0.8s
C36M Paulatuk 32.52 36 P **P** **07 09 51.9 +0.6**
baz=272
BOD Bodaibo 32.88 302 *e*P **P** **07 09 53.7 -0.9**
BOD pmax pmax
comp=Z,22nm,1.1s
H11N2 WAKE ISLAND Hy 33.63 190 T T 07 45 30.3
baz=5.9,slow=76,SNR=1705
H11N3 WAKE ISLAND Hy 33.65 190 T T 07 45 30.7
baz=5.9,slow=76,SNR=1489
H11N1 WAKE ISLAND Hy 33.65 190 T T 07 45 31.7
baz=5.9,slow=76,SNR=1523
JCJ Chichijima 34.62 234 LR LR 07 25 46.5
comp=Z,48nm,18.5s,baz=28,slow=39
KSRS Korea Array 34.74 262 P **P** **07 10 13.1 +2.1**
comp=Z,8.2nm,0.8s,baz=50,slow=8.3,SNR=31
KSRS LR LR 07 24 33.2
comp=Z,86nm,21.4s,baz=180,slow=37
KSRS Korea Array 34.74 262 P **P** **07 10 13.1 +2.1**
KSRS Korea Array 34.74 262 P **P** **07 10 13.1 +2.1**
KSAR Wonju Array Be 34.77 262 P **P** **07 10 12.2 +0.9**
KSAR Wonju Array Be 34.77 262 P **P** **07 10 12.2 +0.9**
H11S1 WAKE ISLAND Hy 34.86 191 T T 07 47 02.4
baz=5.5,slow=76,SNR=1985
H11S3 WAKE ISLAND Hy 34.88 191 T T 07 47 03.5
baz=5.5,slow=76,SNR=1662
H11S2 WAKE ISLAND Hy 34.88 191 T T 07 47 03.9
baz=5.5,slow=76,SNR=690
TJN Taejon 35.80 261⇓*i*P **P** **07 10 22.0 +2.0**
YKA Yellowknife Ar 37.69 46 P **P** **07 10 37.0 +1.1**
comp=Z,1.0nm,0.6s,baz=268,slow=7.3,SNR=28
YKA PcP **PcP** **07 12 52.7 +0.5**
comp=Z,0.7nm,0.8s,baz=292,slow=3.2,SNR=4.6
YKA LR LR 07 26 26.0
comp=Z,126nm,21.5s,baz=0.0,slow=37
YKA Yellowknife Ar 37.69 46 P **P** **07 10 37.0 +1.1**
YKA 07 12 52.7
YKA Yellowknife Ar 37.69 46 P **P** **07 10 37.0 +1.1**
YKA **PcP** **07 12 52.7 +0.5**
D03D Eldon 39.95 71 P **P** **07 10 54.8 -0.2**
baz=303,SNR=6.6
NRIK Noril'sk 40.31 327 P **P** **07 10 56.8 -1.0**
comp=Z,3.3nm,0.6s,baz=54,slow=6.3,SNR=4.8
NRIK Noril'sk 40.31 327⇑*e*P **P** **07 10 56.7 -1.0**
NRIK pmax pmax
comp=Z,13nm,1.5s
TLY Talaya 40.86 297 *e*P **P** **07 11 02.3 -0.2**
TLY *e*SS SS 07 20 00.5 -12
TLY *e*SSS SSS 07 21 05.5
TLY pmax pmax
comp=Z,19nm,0.8s
TLY MLR MLR
comp=Z,398nm,15.0s
TLY Talaya 40.86 297 P **P** **07 11 02.6 +0.1**
TLY IAmb IAmb 07 11 03.0
comp=Z,7.5nm,0.6s
ULN Ulaanbaatar 40.98 290*c i*P **P** **07 11 03.7 0.0**
ULN pmax pmax
comp=Z,22nm,1.7s
ULN Ulaanbaatar 40.98 290 P **P** **07 11 04.1 +0.4**
ULN IAmb IAmb 07 11 05.1
comp=Z,18nm,1.2s
SONM Songino Array 41.37 291 P **P** **07 11 07.3 +0.5**
comp=Z,6.9nm,0.6s,baz=61,slow=8.8,SNR=28
SONM PcP **PcP** **07 13 05.1 +0.7**
comp=Z,1.5nm,0.6s,baz=79,slow=1.6,SNR=4.1
SONM Songino Array 41.37 291 P **P** **07 11 07.1 +0.3**
SONM 07 13 05.1
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM Songino Array 41.37 291 P **P** **07 11 07.1 +0.3**

B08A Colville Reser 41.63 68 P **P 07 11 08.3 -0.6**
JOW Kunigami 42.20 250 P **P 07 11 15.8 +2.0**
comp=Z,34nm,0.7s,baz=71,slow=4.5,SNR=5.5
MOY Mondy 42.28 298 *e*P **P 07 11 14.4 +0.2**
MOY pmax pmax
comp=Z,17nm,1.8s
EDM Edmonton 42.30 59 P **P 07 11 15.1 +0.9**
EDM pmax pmax
comp=Z,22nm,1.0s
EDM Edmonton 42.30 59 P **P 07 11 15.1 +0.9**
EDM IAmb IAmb 07 11 22.3
comp=Z,22nm,1.0s
HHC Hu-ho-hao-te 42.42 279 *e*P **P 07 11 15.6 +0.1**
HHC S **S 07 17 35.2 +1.0**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,94nm,5.2s
HHC LR LR
comp=Z,120nm,15.3s
HHC LR LR
comp=Z,220nm,15.0s
HHC LR LR
comp=Z,200nm,14.5s
I04A Tendick Farm, 42.46 76 P **P 07 11 15.9 +0.2**
baz=306
C09A Chrisman Ranch 42.53 68 P **P 07 11 16.1 -0.1**
HAWA Hanford 42.61 71 P **P 07 11 16.6 -0.3**
HAWA IAmb IAmb 07 11 24.9
comp=Z,15nm,0.9s
NEW Newport 42.92 67 P **P 07 11 19.1 -0.3**
baz=304
J04D Umpqua Nationa 42.96 76 P **P 07 11 19.9 -0.1**
baz=307
E09A Wood Farm, Sta 43.33 70 P **P 07 11 22.8 +0.2**
J05D Fort Rock, OR 43.45 75 P **P 07 11 23.3 -0.5**
baz=307,SNR=7.7
L04D Klamath Falls 43.47 77 P **P 07 11 23.7 -0.2**
baz=308
NJ2 Nanjing 43.87 264 *e*P **P 07 11 24.9 -2.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
M04C Macdoel 44.01 78 P **P 07 11 28.3 0.0**
baz=308,SNR=6.3
WALA Waterton Lakes 44.24 64 P **P 07 11 30.8 +0.7**
WALA IAmb IAmb 07 11 38.0
comp=Z,20nm,0.9s
O03E Paynes Creek 44.96 79 P **P 07 11 35.7 -0.1**
baz=309
MSO Missoula 45.51 67 P **P 07 11 40.3 +0.1**
baz=306
MSO Missoula 45.51 67 P **P 07 11 40.7 +0.5**
BEKR Beckworth 46.08 79 P **P 07 11 45.7 +0.9**
HRY Holter Researc 46.74 66 P **P 07 11 50.0 +0.1**
NEEM North Greenlan 46.88 12⇑*i*P **P 07 11 51.1 +0.3**
NEEM IAmb IAmb 07 11 51.8
comp=Z,18nm,0.6s
PNTR Pine Nut 47.03 79 P **P 07 11 53.9 +1.5**
EGMT Eagleton 47.09 63 P **P 07 11 51.6 -0.9**
baz=307,SNR=6.6
MCMT McKenzie Canyo 47.32 69 P **P 07 11 54.2 -0.3**
BCYI Bear Canyon 47.32 69 P **P 07 11 55.0 +0.4**
BOZ Bozeman (W) 47.53 67 P **P 07 11 55.7 -0.4**
baz=308,SNR=14
WHN Wuhan 47.64 266 ⇑P **P 07 11 57.9 +1.0**
WHN pmax pmax
comp=Z,64nm,0.7s
SPA0 Spitsbergen Ar 48.22 354 *e*P **P 07 11 59.7 -1.1**
NVAR Mina Array Bea 48.23 79 P **P 07 12 03.1 +1.4**
comp=Z,1.1nm,0.6s,baz=305,slow=7.7,SNR=9.3
NVAR PcP **PcP 07 13 29.2 +0.9**
comp=Z,0.9nm,0.7s,baz=312,slow=4.3,SNR=2.5
NVAR LR LR 07 30 28.0
comp=Z,64nm,19.4s,baz=298,slow=34
NVAR Mina Array Bea 48.23 79 P **P 07 12 01.8 +0.1**
YHB Horse Butte 48.29 68 P **P 07 12 04.2 +2.1**
MLAC Mammoth, Mammo 48.44 80 P **P 07 12 03.5 +0.2**
baz=312
H17A Grant Village 48.86 68 P **P 07 12 07.1 +0.6**
H17A IAmb IAmb 07 12 15.7
comp=Z,8.0nm,0.9s
VOG Valley Oaks Go 48.99 82 P **P 07 12 07.9 +0.7**
baz=313
TPH Tonopah 49.10 78 P **P 07 12 09.4 +1.1**
TPH pmax pmax
comp=Z,28nm,0.9s
TPH Tonopah 49.10 78 P **P 07 12 09.4 +1.1**
ZAA0 Zalesovo Array 49.12 309 P **P 07 12 06.3 -1.7**
ZALV Zalesovo Beam 49.12 309 P **P 07 12 06.7 -1.4**
comp=Z,2.1nm,0.5s,baz=47,slow=7.0,SNR=10
ZALV Zalesovo Beam 49.12 309 P **P 07 12 06.5 -1.5**
ZALV Zalesovo Beam 49.12 309 P **P 07 12 06.5 -1.5**
HVU Hansel Valley 49.28 72 P **P 07 12 10.8 +1.2**
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 49.28 72 P **P 07 12 10.8 +1.2**
HVU IAmb IAmb 07 12 17.5
comp=Z,5.9nm,0.8s
TPUB Ta-pu 49.31 254 P **P 07 12 10.9 +1.1**
VES Vestal, Richgr 49.49 82 P **P 07 12 11.3 +0.2**
baz=313
LAO LASA Array 49.81 63 P **P 07 12 13.5 +0.1**
baz=309
R11A Troy Canyon, C 49.89 77 P **P 07 12 14.4 +0.1**
baz=312,SNR=6.7
UPNV Upernavik 49.91 17⇑*i*P **P 07 12 14.2 +0.4**
UPNV IAmb IAmb 07 12 14.8
comp=Z,17nm,0.8s
ISA Isabella, Lake 49.98 82 P **P 07 12 14.6 -0.2**
baz=313
LZH Lanzhou 50.11 279 ⇓P **P 07 12 16.9 +0.9**
LZH pP pP 07 12 20.6 -6.8
LZH sP sP 07 12 22.8 -9.3
LZH pmax pmax
comp=Z,71nm,1.1s
DAG Danmarks Havn 50.20 3⇑*i*P **P 07 12 15.7 -0.2**
DAG IAmb IAmb 07 12 16.3
comp=Z,11nm,0.7s
DAG Danmarks Havn 50.20 3⇑*i*P **P 07 12 15.6 -0.2**
DAG pmax pmax
comp=Z,11nm,0.7s
GTA Gaotai 50.27 285 ⇑P **P 07 12 17.6 +0.5**
GTA pP pP 07 12 23.6 -5.0
GTA sP sP 07 12 27.7 -5.6
GTA S **S 07 19 27.4 +0.8**
GTA pmax pmax
comp=Z,39nm,0.9s
GTA pmax pmax
comp=Z,54nm,5.1s
GTA LR LR
comp=Z,460nm,14.9s
GTA LR LR
comp=Z,470nm,14.9s
GTA LR LR
comp=Z,550nm,14.5s
DUG Dugway, Tooele 50.28 73 P **P 07 12 17.8 +0.5**
baz=311,SNR=5.5
MPMC Manual Prospec 50.30 81 P **P 07 12 17.8 +0.4**
baz=313
TPNV Topopah Spring 50.43 79 P **P 07 12 17.4 -1.0**
baz=313,SNR=8.7
BW06 Boulder Array 50.47 69 P **P 07 12 18.8 +0.1**
baz=310,SNR=14
PD31 Pinedale Array 50.47 69 P **P 07 12 19.1 +0.4**
PD31 IAmb IAmb 07 12 26.4
comp=Z,6.4nm,0.8s
PDAR Pinedale Array 50.47 69 P **P 07 12 19.6 +0.9**
comp=Z,1.2nm,0.5s,baz=300,slow=2.9,SNR=21
PDAR LR LR 07 33 44.3
comp=Z,40nm,20.7s,baz=268,slow=36
PDAR Pinedale Array 50.47 69 P **P 07 12 19.3 +0.6**
SNCC San Nicolas Is 51.01 85 P **P 07 12 22.9 +0.3**
baz=314
GSC Goldstone, Bar 51.22 81 P **P 07 12 24.7 +0.4**
baz=314
BJO1 Bjornoya 51.51 351 *e*P **P 07 12 24.8 -0.9**
MSU Marysvale 51.77 75 P **P 07 12 29.8 +1.3**
MSU Marysvale 51.77 75 P **P 07 12 29.8 +1.3**
SCI2 San Clemente I 51.78 84 P **P 07 12 28.9 +0.5**
baz=315
K22A Casper 52.24 67 P **P 07 12 31.9 +0.1**
baz=311
GMRC Granite Mounta 52.26 80 P **P 07 12 32.3 +0.3**
baz=314
SRU San Rafael Swe 52.33 73 P **P 07 12 33.5 +0.9**
SRU pmax pmax
comp=Z,10.0nm,0.8s
SRU San Rafael Swe 52.33 73 P **P 07 12 33.5 +0.9**
SRU IAmb IAmb 07 12 40.8
comp=Z,10nm,0.8s
MDND Maddock 52.53 58 P **P 07 12 34.2 +0.4**
baz=311
DBG Daneborg 52.58 5⇑*i*P **P 07 12 33.1 -0.6**
DBG IAmb IAmb 07 12 33.9
comp=Z,15nm,0.7s
PFO Pinyon Flats O 52.59 82 P **P 07 12 34.8 +0.3**
baz=314
BELC Belle Mtn. Jos 52.60 81 P **P 07 12 34.8 +0.2**
baz=314
RSSD Black Hills 52.64 64 P **P 07 12 34.8 0.0**
baz=311
SUMG Summit 52.73 11 *i*P **P 07 12 35.8 +0.5**
SUMG IAmb IAmb 07 12 36.5
comp=Z,10nm,0.6s
SUMG Summit 52.73 11 *i*P **P 07 12 35.8 +0.5**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 52.73 11 P **P 07 12 35.2 -0.2**
SUMG IAmb IAmb 07 12 37.4
comp=Z,12nm,0.9s
ULM Lac du Bonnet 52.83 54 P **P 07 12 36.5 +0.6**
comp=Z,2.6nm,0.8s,baz=315,slow=7.2,SNR=4.2
ULM LR LR 07 36 12.5
comp=Z,123nm,18.2s,baz=317,slow=37
ULM Lac du Bonnet 52.83 54 P **P 07 12 36.5 +0.6**
O20A White River Ci 52.95 70 P **P 07 12 36.5 -0.7**
baz=312,SNR=5.7
ZSN Zaisan 53.22 302 *e*P **P 07 12 38.5 -0.4**
baz=302
ZSN Zaisan 53.22 302 *e*P **P 07 12 38.4 -0.4**
SEM Semipalatinsk 53.55 307 *e*P **P 07 12 39.2 -2.3**
baz=307
SEM Semipalatinsk 53.55 307 *e*P **P 07 12 39.1 -2.3**
N23A Red Feather La 53.73 68 P **P 07 12 42.9 -0.1**
baz=312
PV20 West Nyswonger 53.74 73 P **P 07 12 44.0 +0.9**
PV20 IAmb IAmb 07 12 50.3
comp=Z,5.5nm,0.8s
CD2 Chengdu 53.77 275 P **P 07 12 42.3 -0.8**
CD2 PcP **PcP 07 13 50.3 +1.6**
CD2 S **S 07 20 15.0 +0.4**
CD2 SS **SS 07 23 57.9 +2.5**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,80nm,6.7s
CD2 LR LR
comp=Z,980nm,14.9s
CD2 LR LR
comp=Z,970nm,12.2s
CD2 LR LR
comp=Z,910nm,11.6s
AGMN Agassiz Nation 54.12 55 P **P 07 12 44.9 -0.6**
baz=312
AGMN Agassiz Nation 54.12 55 P **P 07 12 45.8 +0.4**
AGMN IAmb IAmb 07 12 52.8
comp=Z,8.8nm,0.8s
WMQ Urumqi 54.14 297 *e*P **P 07 12 49.2 +3.5**
WUAZ Wupatki 54.28 77 P **P 07 12 46.0 -1.0**
baz=314
MK31 Makanchi Array 54.96 303 P **P 07 12 50.8 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MK31 Makanchi Array 54.96 303 P **P 07 12 50.8 -0.8**
MK31 IAmb IAmb 07 12 51.0
comp=Z,7.6nm,0.6s
MKAR Makanchi Array 54.96 303 P **P 07 12 50.5 -1.1**
comp=Z,12nm,0.7s,baz=50,slow=6.6,SNR=57
MKAR Makanchi Array 54.96 303 P **P 07 12 50.5 -1.1**
MKAR Makanchi Array 54.96 303 P **P 07 12 50.8 -0.8**
KEV Kevo 55.00 346 P **P 07 12 50.9 -0.5**
KEV pmax pmax
comp=Z,5.0nm,0.9s
KEV Kevo 55.00 346 P **P 07 12 50.9 -0.5**
KEV IAmb IAmb 07 13 03.6
comp=Z,5.4nm,0.9s
MAKZ Makanchi 55.11 303 P **P 07 12 51.8 -0.8**
MAKZ pmax pmax
comp=Z,11nm,0.8s
MAKZ Makanchi 55.11 303 P **P 07 12 51.8 -0.8**
MAKZ IAmb IAmb 07 12 52.4
comp=Z,11nm,0.8s
GYA Guiyang 55.24 269 ⇓P **P 07 12 55.1 +1.1**
GYA pmax pmax
comp=Z,3.0nm,0.8s
S22A 4UR Ranch, Cre 55.38 72 P **P 07 12 54.1 -0.9**
baz=314,SNR=14
ARA0 ARCESS Array S 55.41 347 *e*P **P 07 12 53.7 -0.8**
ARCES ARCESS Array B 55.41 347 P **P 07 12 53.6 -0.9**
comp=Z,2.5nm,0.6s,baz=33,slow=8.7,SNR=21
ARCES PcP **PcP 07 13 53.6 -0.7**
comp=Z,3.8nm,0.8s,baz=20,slow=4.0,SNR=5.1
ARCES ARCESS Array B 55.41 347 P **P 07 12 53.6 -0.9**
ARCES 07 13 53.6
ARCES ARCESS Array B 55.41 347 P **P 07 12 53.8 -0.7**
ARCES IAmb IAmb 07 12 54.6
comp=Z,4.8nm,0.8s
LVZ Lovozero 55.41 342⇑*e*P **P 07 12 53.4 -1.1**
LVZ pmax pmax
comp=Z,40nm,1.3s
LVZ Lovozero 55.41 342 P **P 07 12 53.9 -0.6**
ICESG Greenland Ices 55.79 14 *i*P **P 07 12 57.1 -0.5**
ICESG IAmb IAmb 07 12 58.0
comp=Z,6.7nm,0.6s
SFJD Kangerlussuaq 55.81 19 P **P 07 12 57.2 -0.1**
SFJD pmax pmax
comp=Z,8.0nm,0.6s
SFJD Kangerlussuaq 55.81 19 P **P 07 12 57.2 -0.1**
SFJD IAmb IAmb 07 12 57.8
comp=Z,8.1nm,0.6s
JETT Jettan, Norway 56.04 349 *e*P **P 07 12 59.2 +0.1**
SDCO Great Sand Dun 56.13 71 P **P 07 13 00.0 -0.4**
baz=314,SNR=14
TRO Tromso 56.14 349 *e*P **P 07 12 59.4 -0.3**
KTK1 Kautokeino 56.20 347 *e*P **P 07 12 59.7 -0.5**
BRVK Borovoye 56.25 315 *c i*P **P 07 13 00.2 -0.5**
BRVK pmax pmax
comp=Z,26nm,2.5s
BRVK Borovoye 56.25 315 P **P 07 13 00.4 -0.3**
EYMN Ely 56.51 53 P **P 07 13 02.3 -0.4**
baz=314,SNR=8.3
ECSD EROS Data Cent 56.85 60 P **P 07 13 05.1 0.0**
baz=314
TUC Tucson 56.88 79 P **P 07 13 05.4 -0.2**
baz=316
DY2G Dye2 57.10 18 *i*P **P 07 13 06.2 -0.6**
T25A Trinidad 57.18 71 P **P 07 13 07.3 -0.4**
baz=315,SNR=7.4
BRZS Berezniki 57.38 311 *e*P **P 07 13 07.6 -1.1**
comp=Z,2.9nm,0.4s,baz=311
BRZS Berezniki 57.38 311 *e*P **P 07 13 07.6 -1.1**
BRZS pmax pmax
comp=Z,3.0nm,0.4s
ANMO Albuquerque 57.55 74⇓*e*P **P 07 13 12.2 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 57.55 74 P **P 07 13 09.5 -0.9**
baz=315
BGNE Belgrade 57.66 63 P **P 07 13 10.9 0.0**
baz=314
LENM Lemitar 57.80 75 P **P 07 13 14.4 +2.2**
BNM Barren Site 58.01 75 P **P 07 13 14.5 +0.8**
LOF Lofoten 58.14 351 *e*P **P 07 13 13.1 -0.7**
STEI Steigen 58.17 350 *e*P **P 07 13 13.6 -0.3**
PRGR Permogore 58.28 334 *e*P **P 07 13 13.1 -1.7**
PRGR pmax pmax
comp=Z,68nm,1.1s
ARU Arti 58.38 324 *c i*P **P 07 13 15.3 -0.3**
ARU 07 14 00.5
ARU 07 15 21.3
ARU S **S 07 21 18.9 +3.9**
ARU SS **SS 07 25 12.4 +5.8**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU MLR MLR
comp=Z,138nm,16.0s
121A Cookes Peak, D 58.49 77 P **P 07 13 16.8 -0.2**
baz=316
KMI Kunming 58.59 271 ⇓P **P 07 13 20.0 +2.1**
KMI pP pP 07 13 25.5 -3.8
KMI sP sP 07 13 30.5 -3.4
KMI pmax pmax
comp=Z,9.0nm,0.6s
KMI LR LR
comp=Z,290nm,13.3s
KMI LR LR
comp=Z,380nm,11.9s
KMI LR LR
comp=Z,550nm,11.8s
CBKS Cedar Bluff 58.62 66 P **P 07 13 17.9 +0.3**
baz=315
FAUS Fauske 58.69 350 *e*P **P 07 13 17.0 -0.6**
SHLS Shalkode 58.93 301 *e*P **P 07 13 17.7 -2.1**
comp=Z,16nm,0.6s,baz=301
SHLS Shalkode 58.93 301 *e*P **P 07 13 17.7 -2.1**
SHLS pmax pmax
comp=Z,16nm,0.6s
KPKS Kokpek 59.11 302 *e*P **P 07 13 20.5 -0.6**
comp=Z,10nm,0.5s,baz=302
KPKS Kokpek 59.11 302 *e*P **P 07 13 20.4 -0.6**
KPKS pmax pmax
comp=Z,11nm,0.5s
SATY Saty 59.54 302 *e*P **P 07 13 22.9 -1.2**
baz=302
SATY Saty 59.54 302 *e*P **P 07 13 22.8 -1.2**
CHKK Chushkaly 59.69 304 *e*P **P 07 13 23.4 -1.6**
baz=304
CHKK Chushkaly 59.69 304 *e*P **P 07 13 23.3 -1.6**
KIRV Kirov 59.70 330 *c i*P **P 07 13 25.2 +0.5**
KONS Konsvik 59.77 351 *e*P **P 07 13 24.5 -0.6**
MOR8 Moi Rana 59.96 350 *e*P **P 07 13 24.8 -1.6**
KUU Kurty 59.99 304 *e*P **P 07 13 25.7 -1.3**
comp=Z,11nm,0.8s,baz=304
KUU Kurty 59.99 304 *e*P **P 07 13 25.7 -1.3**
KUU pmax pmax
comp=Z,11nm,0.8s
MDOK Medeo 60.16 303 *e*P **P 07 13 27.4 -0.9**
baz=303
MDOK Medeo 60.16 303 *e*P **P 07 13 27.4 -0.9**
BTLS Baital 60.29 306 *e*P **P 07 13 28.0 -1.1**
comp=Z,6.5nm,0.8s,baz=306
BTLS Baital 60.29 306 *e*P **P 07 13 27.9 -1.1**
BTLS pmax pmax
comp=Z,7.0nm,0.8s
MSTX Muleshoe 60.37 72 P **P 07 13 29.4 -0.4**
baz=316
MNTX Cornudas Mount 60.50 76 P **P 07 13 30.1 -0.6**
baz=317,SNR=15
MNTX Cornudas Mount 60.50 76 P **P 07 13 32.7 +2.0**
MNTX IAmb IAmb 07 13 39.2
comp=Z,9.1nm,0.8s
KLMR Klimovskoe 60.52 336 *e*P **P 07 13 29.4 -0.8**
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR Klimovskoe 60.52 336 *e*P **P 07 13 29.5 -0.8**
KLMR AMP 07 13 31.4
comp=Z,26nm,1.2s
JFWS Jewell Farm 60.70 57 P **P 07 13 31.3 -0.6**
baz=317
SLVN Son La 60.74 267 P **P 07 13 34.6 +2.1**
TARG Taragay, Kyrgy 60.81 301 P **P 07 13 33.3 +0.1**
TARG IAmb IAmb 07 13 38.9
comp=Z,4.3nm,0.8s
TKM2 Tokmak 2 61.07 304 P **P 07 13 34.7 +0.1**
SNR=5.8
SGDS Sogindy 61.16 305 *e*P **P 07 13 34.3 -0.7**
comp=Z,8.1nm,1.1s,baz=305
SGDS Sogindy 61.16 305 *e*P **P 07 13 34.3 -0.7**
SGDS pmax pmax
comp=Z,8.0nm,1.1s
BOOM Boomskoye usch 61.21 303 P **P 07 13 35.5 0.0**
BOOM pmax pmax
comp=Z,14nm,0.9s
BOOM Boomskoye usch 61.21 303 P **P 07 13 35.5 0.0**
ULHL Ulahol 61.23 303 P **P 07 13 36.0 +0.3**
SNR=7.8
USP Ospenovka 61.36 305 P **P 07 13 36.6 +0.2**
SNR=22
P38A Dawn 61.39 61 P **P 07 13 36.9 +0.3**
P38A IAmb IAmb 07 13 37.6
comp=Z,9.3nm,1.1s
MATQ Matagami 61.46 44 P **P 07 13 36.0 -0.9**
baz=320
SCHQ Schefferville 61.61 35 P **P 07 13 38.3 +0.5**
comp=Z,17nm,0.7s,baz=332,slow=7.2,SNR=27
SCHQ Schefferville 61.61 35 P **P 07 13 38.3 +0.5**
FRU1 Bishkek 61.63 304 P **P 07 13 39.1 +0.9**
FRU1 pmax pmax
comp=Z,40nm,1.0s
FRU1 Bishkek 61.63 304 P **P 07 13 39.1 +0.9**
NSS Namsos 61.80 351 *e*P **P 07 13 38.6 -0.4**
AAK Ala-Archa 61.83 304 LR LR 07 41 14.6
comp=Z,140nm,19.9s,baz=122,slow=37
AAK Ala-Archa 61.83 304 P **P 07 13 40.0 +0.2**
SNR=6.2
AAK Ala-Archa 61.83 304 *c i*P **P 07 13 39.7 0.0**
AAK pmax pmax
comp=Z,60nm,1.0s
AAK Ala-Archa 61.83 304 P **P 07 13 39.9 +0.2**
WMOK Wichita Mounta 62.08 69 P **P 07 13 41.6 +0.3**
baz=317,SNR=7.8
EKS2 Erkin-Say 62.16 305 P **P 07 13 42.4 +0.5**
SNR=17
LSQQ Lebel-sur-Quev 62.28 44 P **P 07 13 42.1 -0.2**
baz=320
AML Almayashu 62.60 304 P **P 07 13 45.9 +0.7**
SNR=5.9
CHGQ Chibougamau 62.69 42 P **P 07 13 44.6 -0.5**
baz=321
FIA1 FINESS Array S 62.84 343 P **P 07 13 45.5 -0.4**
FINES FINESS Array B 62.84 343 P **P 07 13 45.3 -0.6**
comp=Z,7.8nm,0.7s,baz=28,slow=8.6,SNR=25
FINES PcP **PcP 07 14 23.8 -0.1**
comp=Z,3.5nm,0.7s,baz=29,slow=3.2,SNR=5.6
FINES FINESS Array B 62.84 343 P **P 07 13 45.3 -0.6**
FINES 07 14 23.8
FINES FINESS Array B 62.84 343 P **P 07 13 45.4 -0.6**
TUL1 Leonard 62.88 66 P **P 07 13 46.6 0.0**
baz=318
HDIL Hopedale 62.92 58 P **P 07 13 46.9 +0.2**
baz=318
ABTX Abilene, Hawle 63.14 71 P **P 07 13 48.9 +0.5**
baz=318
TX31 Lajitas Ar. Si 63.24 76 P **P 07 13 50.6 +1.4**
TXAR Lajitas Array 63.24 76 P **P 07 13 50.5 +1.3**
comp=Z,4.7nm,0.5s,baz=308,slow=4.6,SNR=108
TXAR Lajitas Array 63.24 76 P **P 07 13 50.0 +0.8**
TXAR Lajitas Array 63.24 76 P **P 07 13 50.0 +0.8**
ABKAR Akbulak array 63.41 318 P **P 07 13 50.0 0.0**
ABKAR Akbulak array 63.41 318 P **P 07 13 49.8 -0.2**
ABKAR IAmb IAmb 07 13 50.2
comp=Z,6.1nm,0.7s
KK31 Karatay Array 63.43 307 P **P 07 13 49.8 -0.4**
KK31 pmax pmax
comp=Z,15nm,0.8s
KK31 Karatay Array 63.43 307 P **P 07 13 49.8 -0.4**
KKAR Karatay Array 63.43 307 P **P 07 13 49.7 -0.5**
KKAR Karatay Array 63.43 307 P **P 07 13 49.7 -0.5**
CCM Cathedral Cave 63.76 61 P **P 07 13 52.0 -0.3**
baz=318
RAF Rauma 63.95 345 *e*P **P 07 13 52.6 -0.6**
MOL Molde 64.12 353 *e*P **P 07 13 54.5 +0.1**
U40A Yellville 64.16 63 P **P 07 13 54.7 -0.3**
baz=318
MEF Metsahovi 64.28 343 *e*P **P 07 13 55.3 -0.1**
W39A Magazine 64.51 65 P **P 07 13 56.9 -0.5**
baz=318
DOMB Dombas 64.52 352 *e*P **P 07 13 56.7 -0.3**
JCT Junction City 64.64 73 P **P 07 13 58.9 +0.7**
baz=318
E55A Montcerf-Lytto 64.69 46 P **P 07 13 57.9 -0.4**
baz=321
D56A ZEC Mazanza, M 64.78 44 P **P 07 13 58.7 -0.2**
baz=322
AAL Aland 65.03 346 *e*P **P 07 13 59.8 -0.5**
E56A St. Veronique 65.06 45 P **P 07 14 00.2 -0.5**
baz=322
NC303 NORSAR Array S 65.10 350 P **P 07 14 00.2 -0.6**
MIAR Mount Ida 65.11 65 P **P 07 14 00.4 -0.9**
baz=318,SNR=5.2
NB2 NORSAR Subarra 65.30 350 P **P 07 14 01.0 -1.1**
comp=Z,2.2nm,0.5s,baz=12,slow=6.5
NB2 NORSAR Subarra 65.30 350 P **P 07 14 01.0 -1.1**
baz=12,slow=6.5
NOA NORSAR Array B 65.30 350 P **P 07 14 01.8 -0.4**
comp=Z,5.9nm,0.8s,baz=12,slow=6.5,SNR=19
NOA NORSAR Array B 65.30 350 P **P 07 14 01.8 -0.4**

NOA	NORSAR Array B	65.30	350	P	P	07 14 01.8	-0.4
LATQ	La Tuque	65.34	43	P	P	07 14 02.2	-0.3
	baz=323						
W41B	Gary Mavity, V	65.36	64	P	P	07 14 02.7	-0.2
	baz=319						
VSU	Vasula	65.50	341	eP	P	07 14 03.6	+0.3
VSU	Vasula	65.50	341	d P	P	07 14 03.5	+0.2
VSU				pmax	pmax		
	comp=Z,48nm,0.7s						
NC602	NORSAR Array S	65.57	350	eP	P	07 14 03.1	-0.6
CHTO	Chiang Mai	65.66	269	P	P	07 14 06.6	+1.6
	comp=Z,12nm,1.1s						
UPP	Uppsala	65.68	347	eP	P	07 14 04.5	0.0
MTSE	Matsula	65.80	343	eP	P	07 14 02.8	-2.5
SKAR	Skarslia	65.92	352	eP	P	07 14 06.7	+0.5
CMAR	Chiang Mai Arr	65.93	269	P	P	07 14 07.9	+1.2
	comp=Z,5.0nm,0.6s,baz=27,slow=7.4,SNR=17						
CMAR	Chiang Mai Arr	65.93	269	P	P	07 14 07.9	+1.2
CMAR	Chiang Mai Arr	65.93	269	P	P	07 14 07.9	+1.2
E58A	La Victoria	65.94	44	P	P	07 14 05.9	-0.5
	baz=323						
CM02	Chiang Mai Arr	65.94	269	P	P	07 14 09.0	+2.2
	comp=Z,13nm,0.9s						
CM04	Chiang Mai Arr	65.95	269	P	P	07 14 09.1	+2.2
	comp=Z,11nm,0.8s						
CM05	Chiang Mai Arr	65.97	269	P	P	07 14 09.3	+2.3
	comp=Z,99nmcomp=Z,7.5nm,0.9s						
CM13	Chiang Mai Arr	65.98	269	P	P	07 14 09.1	+2.0
	comp=Z,9.7nm,0.9s						
P49A	Miami Univ. Ec	66.00	56	P	P	07 14 06.6	-0.3
	baz=320						
WCI	Wyandotte Cave	66.20	58	P	P	07 14 08.2	0.0
	baz=320						
G57A	Newington	66.22	46	P	P	07 14 07.1	-1.1
	baz=322						
OBN	Obninsk	66.32	334	eP	P	07 14 09.2	+0.5
OBN				e		07 14 39.5	
OBN				e		07 16 34.4	
OBN				ePPP	PPP	07 18 07.5	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,264nm,17.0s						
D60A	Saint Jean D'O	66.47	42	P	P	07 14 09.4	-0.4
	baz=324						
M53A	WI Miller and	66.50	52	P	P	07 14 09.0	-1.1
	baz=321,SNR=6.5						
G58A	Ormstown	66.58	45	P	P	07 14 09.7	-0.8
	baz=323						
E60A	Ste Agathe de	66.70	43	P	P	07 14 10.8	-0.4
	baz=324						
KONO	Kongsberg	66.83	351	eP	P	07 14 11.9	+0.1
I57A	Carthage	66.84	47	P	P	07 14 11.6	-0.6
	baz=322						
M54A	Oil Creek Stat	66.92	51	P	P	07 14 13.4	+0.5
	baz=321						
WVT	Waverly	67.00	60	P	P	07 14 13.4	+0.1
	baz=320						
E61A	Lac Etchemin	67.04	42	P	P	07 14 13.4	-0.1
	baz=324						
K56A	Middlesex	67.08	49	P	P	07 14 12.9	-0.9
	baz=322,SNR=5.5						
D62A	Allapoint, All	67.09	41	P	P	07 14 13.3	-0.4
	baz=325						
SLIT	Slitere, Latvi	67.09	343	eP	P	07 14 13.3	-0.2
H58A	Gabriels	67.11	46	P	P	07 14 13.0	-1.0
	baz=323						
O53A	New Philadelph	67.17	53	P	P	07 14 14.1	-0.3
	baz=321						
P52A	Corning	67.20	54	P	P	07 14 14.3	-0.3
	baz=321						
N54A	Moraine State	67.20	52	P	P	07 14 13.7	-0.9
	baz=321,SNR=5.8						
F61A	St Evariste	67.20	43	P	P	07 14 14.1	-0.4
	baz=324						
E62A	Clayton Lake	67.27	42	P	P	07 14 15.0	0.0
	baz=324						
BLS5	Blasjo	67.32	353	eP	P	07 14 15.2	+0.2
OXF	Oxford	67.39	62	P	P	07 14 16.2	+0.4
	baz=320						
J58A	Remsen	67.47	47	P	P	07 14 15.8	-0.4
	baz=323						
G61A	St-Isidore-de-	67.54	44	P	P	07 14 15.6	-1.1
	baz=324						
H60A	Morristown	67.63	45	P	P	07 14 16.0	-1.2
	baz=324						
F62A	Pittston Farm,	67.68	42	P	P	07 14 16.9	-0.7
	baz=324						
CLTN	Cedars of Leba	67.81	59	P	P	07 14 18.8	+0.4
E63A	Oxbow	67.87	41	P	P	07 14 18.1	-0.7
	baz=325						
I60A	Shoreham	67.95	46	P	P	07 14 18.9	-0.4
	baz=323						
H61A	Lyndonville	67.98	44	P	P	07 14 19.2	-0.2
	baz=324						
G62A	West of Eustis	68.00	43	P	P	07 14 19.6	0.0
	baz=324						
BINY	Binghamton	68.08	48	P	P	07 14 20.3	+0.2
	baz=323						
E64A	Bridgewater	68.11	41	P	P	07 14 20.0	-0.2
	baz=325						
LBNH	Lisbon	68.22	45	P	P	07 14 20.5	-0.4
	baz=324						
L58A	Harry Jones Me	68.26	48	P	P	07 14 21.1	-0.1
	baz=323						
H62A	Milan	68.27	44	P	P	07 14 21.1	-0.2
	baz=324						
MCWV	Mont Chateau	68.28	53	P	P	07 14 21.4	-0.1
	baz=322						
I61A	Oroboro, Fairl	68.34	45	P	P	07 14 21.2	-0.5
	baz=324						
F64A	Sherman	68.36	41	P	P	07 14 21.0	-0.8
	baz=325						
J60A	Lant Hill Farm	68.38	46	P	P	07 14 21.3	-0.6
	baz=324						
O56A	Blue Knob Stat	68.41	51	P	P	07 14 22.4	+0.1
	baz=322						
SSPA	Standing Stone	68.44	51	P	P	07 14 22.0	-0.4
	baz=322						
G63A	Kingsbury	68.46	43	P	P	07 14 22.3	-0.2
	baz=325						
PKME	Peaks-Kenny Pk	68.47	42	P	P	07 14 21.6	-0.8
	baz=325						
I62A	Tamworth	68.76	44	P	P	07 14 24.3	0.0
	baz=324						
PABE	Paberze	68.80	342	eP	P	07 14 24.8	+0.5
PABE	Paberze	68.80	342	P	P	07 14 24.5	+0.1
TZTN	Tazewell	68.89	57	P	P	07 14 25.2	0.0
	baz=321						
K61A	Williamstown	68.91	46	P	P	07 14 25.0	-0.3
	baz=324						
I63A	Otisfield	68.94	44	P	P	07 14 25.1	-0.3
	baz=325						
MNK	Minsk	68.95	339	i P	P	07 14 25.8	+0.5
MNK				i		07 14 50.0	
MNK				i		07 16 57.8	
MNK				i PPP	PPP	07 18 37.4	
MNK				i S	S	07 23 29.4	+3.0
MNK				i		07 24 24.9	
MNK				i SS	SS	07 27 55.8	+4.6
MNK				pmax	pmax		
	comp=Z,24nm,1.0s						
MNK				pmax	pmax		
	comp=N,20nm,1.0s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=E,15nm,10.0s						
MNK				MLR	MLR		
	comp=N,142nm,17.0s						
MNK	Minsk	68.95	339	i P	P	07 14 25.9	+0.6
	comp=E,2.0nm,1.0s						
MNK				i P	P	07 14 25.9	+0.6
	comp=N,20nm,1.0s						
MNK				i P	P	07 14 25.9	+0.6
	comp=Z,24nm,1.0s,baz=202						
MNK				i PcP	PcP	07 14 50.0	+0.7
MNK				i PP	PP	07 16 57.8	+0.6
MNK				i PPP	PPP	07 18 37.5	
MNK				i S	S	07 23 29.4	+3.0
MNK				i SS	SS	07 27 55.9	+4.7
MNK				i SSS	SSS	07 31 12.6	
MNK				i LQ	LQ	07 39 50.4	
MNK				i LR	LR	07 45 05.0	
MNK				i LRM	MLR	07 46 19.6	
MNK				i LRM	MLR	07 46 21.5	
	comp=E,15nm,9.6s						
MNK				i LRM	MLR	07 46 30.4	
	comp=N,142nm,16.5s						
N59A	State Game Lan	69.19	49	P	P	07 14 26.5	-0.6
	baz=323						
G65A	Princeton	69.22	41	P	P	07 14 26.6	-0.5
	baz=326						
NIL	Nilore	69.25	298	P	P	07 14 27.9	+0.4
NIL				pmax	pmax		
	comp=Z,52nm,1.1s						
NIL	Nilore	69.25	298	P	P	07 14 27.9	+0.4
L61B	Northampton	69.34	46	P	P	07 14 27.0	-0.9
	baz=324						
J63A	Strafford	69.36	45	P	P	07 14 27.3	-0.7
	baz=324						
H65A	Eastbrook	69.36	42	P	P	07 14 27.9	-0.1
	baz=326						
I64A	Boothbay	69.44	43	P	P	07 14 27.9	-0.6
	baz=325						
K63A	Dunstable	69.64	45	P	P	07 14 28.8	-1.0
	baz=324						
H66A	Whiting	69.66	41	P	P	07 14 28.8	-1.1
	baz=326						
HRV	Adam Dziewonsk	69.78	45	P	P	07 14 29.6	-1.0
	baz=324						
LRAL	Lakeview Retre	69.81	62	P	P	07 14 30.8	-0.2
	baz=321						
BLA	Blacksburg	69.93	55	P	P	07 14 31.9	+0.2
	baz=322						
PAL	Palisades	69.97	48	P	P	07 14 31.9	+0.2
	baz=324						
KLNR	Kaliningrad	70.33	344	eP	P	07 14 36.1	+2.3
KLNR				pmax	pmax		
	comp=Z,64nm,1.7s						
KMSC	Kings Mountain	71.10	57	P	P	07 14 39.2	+0.4
	baz=322						
GOGA	Godfrey	71.37	59	P	P	07 14 40.5	0.0
	baz=322						
AKASG	Malin Array Be	72.18	337	P	P	07 14 44.9	-0.1
	comp=Z,7.7nm,0.6s,baz=28,slow=6.2,SNR=22						
AKASG	Malin Array Be	72.18	337	P	P	07 14 44.9	-0.1
AKASG	Malin Array Be	72.18	337	P	P	07 14 45.4	+0.3
AKBB	Malin Array Si	72.18	337	P	P	07 14 46.1	+1.0
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKBB	Malin Array Si	72.18	337	P	P	07 14 46.1	+1.0
AKBB				IAmb	IAmb	07 14 47.9	
	comp=Z,8.7nm,0.8s						
GEYT	Alibeck	73.31	312	P	P	07 14 52.7	+0.7
	comp=Z,7.7nm,0.6s,baz=5.5,slow=4.5,SNR=6.6						
GYA0B	ALIBECK ARRAY	73.31	312	P	P	07 14 52.4	+0.4
GYA0B				IAmb	IAmb	07 14 53.6	
	comp=Z,10nm,0.9s						
KIV	Kislovodsk	74.36	325	eP	P	07 14 59.1	+1.0
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
NCK	Nalchik	74.44	324	eP	P	07 15 00.2	+1.6
NCK				pmax	pmax		
	comp=Z,13nm,0.2s						
KBZ	Khabaz	74.48	325	P	P	07 15 00.0	+1.4
	comp=Z,7.9nm,0.8s,baz=154,slow=1.1,SNR=17						
KBZ	Khabaz	74.48	325	ceP	P	07 15 00.1	+1.4
KBZ	Khabaz	74.48	325	P	P	07 15 00.0	+1.4
OJC	Ojcow	74.61	343	eP	P	07 15 00.1	+0.6
OJC	Ojcow	74.61	343	P	P	07 15 00.0	+0.6
OJC				pmax	pmax		
	comp=Z,17nm,1.2s						
OJC	Ojcow	74.61	343	P	P	07 15 00.0	+0.6
OJC				IAmb	IAmb	07 15 01.0	
	comp=Z,17nm,1.2s						
KWP	Kalwaria Pacla	74.62	341	P	P	07 15 00.5	+1.1
KWP				pmax	pmax		
	comp=Z,319nm,1.0s						
KWP	Kalwaria Pacla	74.62	341	P	P	07 15 00.5	+1.1
CLL	Collm	74.63	347	eP	P	07 14 59.0	-0.4
CLL				epP	pP	07 15 07.0	-3.9
CLL	Collm	74.63	347	eP	P	07 14 59.0	-0.4
CLL				e		07 15 07.0	
SORM	Soroca	74.78	336	P	P	07 15 00.3	0.0
SORM	Soroca	74.78	336	P	P	07 15 00.3	0.0
ZEI	Tsey	74.95	324	eP	P	07 15 01.7	-0.1
ZEI				pmax	pmax		
	comp=Z,14nm,1.0s						
DPC	Dobruska-Polom	75.08	345	eP	P	07 15 02.0	-0.1
DPC				e		07 15 09.1	
DPC	Dobruska-Polom	75.08	345	eP	P	07 15 02.0	-0.1
DPC				epP	pP	07 15 09.1	-4.4
KRLC	Kraliky	75.27	344	eP	P	07 15 03.1	-0.1
KRLC	Kraliky	75.27	344	eP	P	07 15 03.1	-0.1
ONI	Oni	75.29	324	P	P	07 15 05.3	+1.8
ONI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ONI	Oni	75.29	324	P	P	07 15 05.2	+1.8
ONI				IAmb	IAmb	07 15 09.8	
	comp=Z,4.4nm,0.7s						
KOLS	Kolonicke sedl	75.37	341	eP	P	07 15 05.3	+1.5
KOLS	Kolonicke sedl	75.37	341	eP	P	07 15 05.3	+1.5
MORC	Moravsky Berou	75.44	344	P	P	07 15 04.1	0.0
MORC	Moravsky Berou	75.44	344	P	P	07 15 04.1	0.0
MORC	Moravsky Berou	75.44	344	eP	P	07 15 04.2	0.0
CRVS	Cervenica-Dubn	75.56	341	eP	P	07 15 05.9	+1.0
CRVS				pmax	pmax		
	comp=Z,11nm,0.7s						
CRVS	Cervenica-Dubn	75.56	341	eP	P	07 15 05.9	+1.0
LANS	Liptovska Anna	75.70	342	eP	P	07 15 07.7	+2.0
LANS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LANS	Liptovska Anna	75.70	342	eP	P	07 15 07.7	+2.0
BURAR	Bucovina Array	76.00	338	P	P	07 15 08.0	+0.5
BURAR	Bucovina Array	76.00	338	P	P	07 15 08.1	+0.6
VRAC	Vranov	76.05	344	eP	P	07 15 08.4	+0.8
MEM	Membach	76.10	352	dP	P	07 15 08.4	+0.5
KECS	Kecovo	76.15	342	eP	P	07 15 09.5	+1.2
KECS	Kecovo	76.15	342	eP	P	07 15 09.5	+1.2
JAVC	Velka Javorina	76.30	344	eP	P	07 15 10.1	+0.9
KRUC	Moravsky	76.32	344	eP	P	07 15 10.0	+0.8
SNF	Seneffe	76.34	353	dP	P	07 15 09.8	+0.5
SNF				dpP	pP	07 15 16.3	-4.3
SNF				dsP	PcP	07 15 19.0	-2.0
SNF				dPcP	pwP	07 15 20.9	-3.6
VYHS	Vyhne	76.45	343	eP	P	07 15 10.9	+1.0
VYHS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VYHS	Vyhne	76.45	343	eP	P	07 15 10.9	+1.0
BMRD	Maredsous	76.51	352	bP	P	07 15 10.0	-0.2
SMOL	Smolenice	76.68	344	eP	P	07 15 12.5	+1.3
SMOL	Smolenice	76.68	344	eP	P	07 15 12.5	+1.3
KHC	Kasperske Hory	76.68	346	eP	P	07 15 11.7	+0.4
KHC	Kasperske Hory	76.68	346	eP	P	07 15 11.7	+0.4
ARCR	ARCALIA	76.69	339	P	P	07 15 13.1	+1.7
MODS	Modra-Piesok	76.84	344	eP	P	07 15 14.8	+2.7
MODS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MODS	Modra-Piesok	76.84	344	eP	P	07 15 14.8	+2.7
CKRC	Cesky Krumlov	76.88	346	eP	P	07 15 13.4	+1.0
GERES	GERESS Array B	76.94	346	P	P	07 15 13.0	+0.2
	comp=Z,1.4nm,0.5s,baz=35,slow=4.9,SNR=13						
GERES	GERESS Array B	76.94	346	P	P	07 15 12.7	-0.1
GERES	GERESS Array B	76.94	346	P	P	07 15 12.7	-0.1
GNI	Garni	76.95	322	eP	P	07 15 16.0	+2.9
GNI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZST	Bratislava	77.04	344	eP	P	07 15 14.9	+1.7
ZST	Bratislava	77.04	344	eP	P	07 15 14.9	+1.7
VRI	Vrincioaia	77.30	337	P	P	07 15 17.0	+2.2
VRI	Vrincioaia	77.30	337	P	P	07 15 17.0	+2.2
DRGR		77.33	340	P	P	07 15 15.3	+0.3
DRGR		77.33	340	P	P	07 15 15.3	+0.3
CONA	Conrad Observa	77.50	345	i P	P	07 15 17.2	+1.2
	comp=Z,5.9nm,0.6s,SNR=5.9						
TPGR	Topolog	77.83	335	P	P	07 15 18.0	+0.3
MLR	Muntele Rosu	77.84	337	P	P	07 15 19.2	+1.3
MLR	Muntele Rosu	77.84	337	P	P	07 15 19.2	+1.3
SIRR	Siria	78.04	340	P	P	07 15 20.2	+1.2
TIRR	Tirgusor	78.20	335	P	P	07 15 19.4	-0.3
TIRR	Tirgusor	78.20	335	P	P	07 15 19.4	-0.3
ARSA	Arzberg	78.22	345	eP	P	07 15 21.2	+1.3
	comp=Z,6.9nm,1.2s						
ARR	Arges	78.26	338	P	P	07 15 24.2	+4.0
GZR	Gura Zlata	78.64	339	P	P	07 15 23.1	+0.8
GZR	Gura Zlata	78.64	339	P	P	07 15 23.1	+0.8
BZS	Buzias	78.67	340	P	P	07 15 23.2	+0.8
BZS	Buzias	78.67	340	P	P	07 15 23.2	+0.8
MORH	Mrgy, Hungar	78.68	342	P	P	07 15 22.9	+0.5
WATA	Walderalm	78.71	347	eP	P	07 15 24.3	+1.5
	comp=Z,3.9nm,0.5s						
KBA	Koelnbreinsper	78.72	346	i P	P	07 15 24.1	+1.3
	comp=Z,15nm,0.8s,SNR=11						
MOTA	Moosalm	78.77	348	eP	P	07 15 24.5	+1.4
	comp=Z,3.3nm,0.6s						
WTTA	Wattenberg	78.78	347	eP	P	07 15 24.9	+1.7
	comp=Z,6.6nm,0.8s						
SOKA	Soboth	78.85	345	i P	P	07 15 24.5	+1.1
	comp=Z,6.5nm,0.5s,SNR=7.6						
SQTA	Sankt Quirin	78.87	347	eP	P	07 15 25.1	+1.5
	comp=Z,4.4nm,0.8s						
OBKA	Obir	79.09	345	i P	P	07 15 26.1	+1.4
	comp=Z,17nm,0.9s,SNR=5.5						
ABTA	Abfaltersbach	79.16	347	eP	P	07 15 25.7	+0.6
	comp=Z,8.8nm,1.1s						
HERR	Herculane	79.21	339	⇑P	P	07 15 26.0	+0.6
MDVR	Moldovita	79.45	340	⇑P	P	07 15 27.2	+0.5
FRGS	Fruska Gora	79.48	341	⇑P	P	07 15 27.9	+1.1
BOVS	Bovan	80.55	339	⇑P	P	07 15 29.8	-2.8
BR131	Keskin Array S	81.11	329	P	P	07 15 36.7	+0.8
BR131				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR131	Keskin Array S	81.11	329	P	P	07 15 36.7	+0.8
BR131				IAmb	IAmb	07 15 37.3	
	comp=Z,6.2nm,0.7s						
BRTR	Keskin Array B	81.11	329	P	P	07 15 36.6	+0.7
	comp=Z,3.2nm,0.7s,baz=44,slow=2.5,SNR=9.6						
BRTR	Keskin Array B	81.11	329	i P	P	07 15 36.5	+0.7
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	Keskin Array B	81.11	329	P	P	07 15 36.6	+0.7
VTS	Vitosha	81.18	338	⇑P	P	07 15 36.8	+0.6
VTS	Vitosha	81.18	338	⇑P	P	07 15 36.8	+0.6
PDG	Podgorica	82.21	341	⇑P	P	07 15 41.7	+0.4
ASAR	Alice Springs	83.65	216	P	P	07 15 50.7	+1.7
	comp=Z,5.4nm,0.6s,baz=29,slow=4.7,SNR=2.2						
ASAR	Alice Springs	83.65	216	P	P	07 15 50.7	+1.7
ESDC	Sonseca Array	87.58	358	P	P	07 16 08.3	-0.2
	comp=Z,1.7nm,0.7s,baz=353,slow=4.8,SNR=9.4						
PLCA	Paso Flores	136.25	100	PKP	PKiKP	07 22 43.3	+0.3
	comp=Z,2.3nm,0.7s,baz=270,slow=7.1,SNR=4.9						
PLCA	Paso Flores	136.25	100	PKIKP	PKiKP	07 22 43.3	+0.3
MAW	Mawson	144.73	219	PKP	PKPdf	07 22 55.6	+0.1
	comp=Z,28nm,0.7s,baz=77,slow=4.2,SNR=91						
MAW	Mawson	144.73	219	PKIKP	PKPdf	07 22 55.6	+0.1
MAW	Mawson	144.73	219		PKPdf	07 22 56.0	+0.4
BOSA	Boshof	145.96	303	PKPbc	PKPab	07 23 00.1	-0.4
	comp=Z,4.7nm,0.6s,baz=49,slow=2.1,SNR=14						
BOSA	Boshof	145.96	303	PKP2	PKPab	07 23 00.1	-0.4
BOSA	Boshof	145.96	303		PKPab	07 23 00.1	-0.4

GCMT ***02*** *07:04:30.8±0.3, 7.25S±0.02×120.18E±0.04, h430km±2km, MW5.2/74, Moment Tensor Solution. s74,c96; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.65±.03; Mθθ0.79±.04; Mφφ-0.14±.06; Mrθ-0.25±.06; Mrφ-0.06±.05; Mθφ0.50±.06; Best double couple: M0:0.91300×10^17 NP1:φs248.00000°, δ41.00000°, λ-136.00000°. NP2: φs122.00000°, δ63.00000°, λ-58.00000°. Principal axes: T 0.8570, Plg13.0000°, Azm190.0000°; N 0.1130, Plg28.0000°, Azm287.0000°; P -0.9690, Plg59.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

NEIC ***02*** *07:04:31.8±1.6, 7.45S±0.08×120.22E±0.10, h413km±6km, mb4.9/63 Error ellipse: s-maj=14.5km s-min=10.9km az=63.0*

BJI ***02*** *07:04:31.0±0.0, 7.50S×120.20E, h422km, mB4.6/31, mb4.6/55*

IDC ***02*** *07:04:31.8±0.4, 7.36S×120.32E, h419km±4km, mb4.4/36, mb1 4.4/42, mb1mx4.3/60, mbtmp5.2/42, Error ellipse: s-maj=9.7km s-min=5.2km az=66.0*

DJA ***02*** *07:04:32.1±0.1, 8.3S±2.3×12.0E±.3, h411km±2km, M5.0/58, mB5.5/38, mb5.2/58, MLv5.6/30, Mw(mB)4.9/38, MwMwp4.8/5, Mwp5.1/5*

ISC 02 07:04:32.0±0.4, 7.44S±0.04×120.29E±0.05, h424km±3km, **h426**km:**pP-P, n522,** σ1949/557, **mb4.7**/89, **44C-67D, Fault plane solution: NP1:**φs146.53775°, δ67.47121°, λ-64.37513°. **NP2:**φs275.15564°, δ33.60864°, λ-136.19505°. **Principal axes:** T Plg18.5407°, Azm217.7206°; N Plg23.5453°, Azm316.1242°; P Plg59.2977°, Azm93.3320°; **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.30	9	P	P	07 05 25.6	-1.2
EDFI	Ende, Flores	1.90	133	P	P	07 05 27.2	-2.6
BKSI	Bulukumba	2.11	355	P	P	07 05 30.3	-0.6
MMRI	Maumere	2.27	122		P	07 05 30.3	-1.5
MMRI				S	S	07 06 16.1	-4.2
MMRI	Maumere	2.27	122	P	P	07 05 30.0	-1.8
WBSI	Waikabubak, Su	2.36	202	P	P	07 05 30.3	-2.2
KAPI	Kappang	2.47	347	P	P	07 05 33.2	0.0
	282nm,0.3s,baz=181,slow=3.7,SNR=638						
KAPI				S	S	07 06 20.8	-2.0
	baz=46,slow=23,SNR=31						
KAPI	Kappang	2.47	347		P	07 05 32.3	-0.9
KAPI				S	S	07 06 22.2	-0.6
BASI	Baing, Sumba	2.78	174	P	P	07 05 34.4	-1.0
PLAI	Plampang	2.84	241	P	P	07 05 33.8	-2.1
BNSI	Bone	3.02	357	P	P	07 05 37.7	+0.4
TWSI	Taliwang, Sumb	3.61	249	P	P	07 05 40.2	-1.9
BATI	Baumata	4.32	130	P	P	07 05 48.4	-0.1
	328nm,0.3s,baz=314,slow=4.7,SNR=210						
BATI				S	S	07 06 46.2	-4.6
	1μm,0.3s,baz=26,slow=21,SNR=32						
BATI	Baumata	4.32	130	P	P	07 05 48.1	-0.4
TTSI	Tana Toraja	4.39	354	P	P	07 05 48.6	-0.6
SOEI	Soe	4.56	121		P	07 05 50.9	0.0
SOEI	Soe	4.56	121	P	P	07 05 50.4	-0.5
SRBI	Singaraja	5.07	262	P	P	07 05 55.0	-0.8
	3.4nm10μm707nm,1.2s						
DNP	Denpasar	5.18	256	P	P	07 05 54.7	-2.2
	16nm37μm3μm,0.7s						
ABJI	Asem Bagus	6.01	266	P	P	07 06 05.9	+0.4
	5.0nm14μm1μm,1.0s						
JAGI	Jajag, Banyuwa	6.17	260	P	P	07 06 05.4	-1.7
KMMI	Kalianget	6.29	273	P	P	07 06 08.3	-0.1
	3.0nm3μm10μm830nm,1.1s						
PCI	Palu	6.51	356	P	P	07 06 13.4	+2.2
	0.1nm19nm,0.7s						
APSI	Ampana	6.63	12	P	P	07 06 12.4	0.0
	2.2nm3μm8μm366nm,1.3s						
BBKI	Banjar Baru	6.71	306	P	P	07 06 13.7	+0.3
	0.9nm112nm,1.1s						
LUWI	Luwuk	6.82	21		P	07 06 14.1	-0.4
LUWI	Luwuk	6.82	21	P	P	07 06 14.6	+0.1
	3.2nm10μm699nm,1.0s						
BKB	Balikpapan	7.01	331		P	07 06 19.2	+2.6
BKB	Balikpapan	7.01	331	P	P	07 06 20.0	+3.4
	3.8nm10μm836nm,1.1s						
SMKI	Samarinda	7.60	336	P	P	07 06 25.3	+2.3
	6.7nm4μm20μm2μm,0.9s						
MPSI	Mapaga	7.74

19µm2µm,0.7s
KPJI Karang Pucung 11.27 270 P P 07 07 03.4 +0.2
112nm,0.5s
STKI Sintang 11.53 310 P P 07 07 07.9 +1.8
87nm,0.9s
KNRA Kununurra 11.65 135 P P 07 07 08.0 +0.5
baz=12,SNR=30
KNRA Kununurra 11.65 135 P P 07 07 07.6 +0.2
FITZ Fitzroy Crossi 11.81 154 P P 07 07 10.0 +0.9
17nm,0.3s,baz=344,slow=9.7,SNR=422
FITZ S S 07 09 16.6 -2.1
3.7nm,0.3s,baz=219,slow=23,SNR=7.3
FITZ Fitzroy Crossi 11.81 154 P P 07 07 10.0 +0.9
baz=12,SNR=299
FITZ Fitzroy Crossi 11.81 154 P P 07 07 09.2 +0.1
MTN Manton Dam 11.95 118 P P 07 07 11.6 +0.9
baz=12,SNR=157
MTN Manton Dam 11.95 118 P P 07 07 12.3 +1.7
CISI Cisompet, Garu 12.37 269 P P 07 07 14.4 -1.0
CISI Cisompet, Garu 12.37 269 P P 07 07 14.0 -1.4
LEM Lembang 12.59 272 P P 07 07 18.1 +0.1
8.5nm,0.3s,baz=56,slow=11,SNR=20
LEM S S 07 09 32.9 -2.0
5.2nm,0.3s,baz=329,slow=18,SNR=4.2
LEM Lembang 12.59 272 P P 07 07 18.1 +0.1
79nm,0.7s
FAKI Fak Fak 12.73 70 P P 07 07 19.4 +0.2
FAKI Fak Fak 12.73 70 P P 07 07 18.3 -1.0
6µm622nm,0.8s
SWI Sorong 12.74 60 P P 07 07 20.1 +0.7
4µm413nm,1.0s
SIJI Sorong 12.74 60 P P 07 07 19.5 +0.1
18nm,0.3s,baz=295,slow=13,SNR=16
CNJI Cibinong 13.05 270 P P 07 07 21.7 -1.1
4µm190nm,0.6s
KDU Kakadu 13.08 114 P P 07 07 23.0 0.0
baz=13,SNR=36
KDU S S 07 09 40.5 -3.9
baz=13
CBJI Citeko 13.38 274 P P 07 07 25.5 -0.9
102nm,0.5s
TPI Tanjungpandan 13.42 290 P P 07 07 28.1 +1.3
73nm,1.1s
DBJI Dramaga 13.47 273 P P 07 07 27.1 -0.3
7µm68nm,0.6s
KMPI Kaimana, Papua 13.87 75 P P 07 07 32.1 +0.4
8µm882nm,1.4s
PSA00 Pilbara Seismi 14.06 182 P P 07 07 34.1 +0.5
CGJI Cibinong 14.51 272 P P 07 07 37.1 -1.5
4µm111nm,0.5s
XMIS Christmas Isla 14.77 257 P P 07 07 40.5 -0.9
PPBI Pangkal Pinang 15.04 290 P P 07 07 44.7 +0.3
6µm225nm,0.9s
GIRL Giralia 16.20 200 P P 07 07 57.6 +1.0
baz=16,SNR=52
GIRL Giralia 16.20 200 P P 07 07 56.0 -0.6
SRPI Serui, Papua 16.83 72 P P 07 08 10.6 +7.2
WB0 Warramunga Arr 18.37 133 P P 07 08 19.2 -0.3
WRA Warramunga Arr 18.44 134 P P 07 08 20.1 -0.1
17nm,0.3s,baz=313,slow=11,SNR=542
WRA S S 07 11 26.4 -1.3
5.3nm,0.3s,baz=310,slow=20,SNR=41
WRA Warramunga Arr 18.44 134 P P 07 08 19.8 -0.5
WRA IAmb IAmb 07 08 22.4
comp=Z,31nm,0.8s
WRAB Tennant Creek 18.44 134 P P 07 08 20.0 -0.3
WB2 Warramunga Arr 18.45 134 P P 07 08 19.9 -0.5
WR0 Warramunga Arr 18.59 133 P P 07 08 21.5 -0.3
WRKA Warakurna 19.10 157 P P 07 08 26.8 +0.1
baz=19,SNR=838
MEEK Meekatharra 19.16 185 P P 07 08 27.0 -0.3
baz=19,SNR=140
MMPI Merauke 19.93 94 P P 07 08 35.9 +1.5
comp=Z,1µm,1.4s
GENI Genyem 20.37 77 P P 07 08 39.9 +1.4
comp=Z,7µmcomp=Z,409nm,1.0s
BKNI Bangkinang 20.69 291 P P 07 08 41.9 +0.5
comp=Z,7µmcomp=Z,128nm,1.4s
AS31 Alice Springs 20.76 142 P P 07 08 42.8 +0.8
AS31 IAmb IAmb 07 08 43.9
comp=Z,45nm,0.6s
ASAR Alice Springs 20.76 142 P P 07 08 42.6 +0.6
comp=Z,122nm,0.6s,baz=315,slow=8.3,SNR=1372
ASAR S S 07 12 06.0 +0.3
comp=Z,40nm,0.9s,baz=306,slow=16,SNR=12
ASAR ScP ScP 07 15 28.1 -0.9
comp=Z,32nm,0.9s,baz=338,slow=2.5,SNR=12
MORW Morawa 21.88 190 P P 07 08 52.0 0.0
baz=22,SNR=62
MORW Morawa 21.88 190 P P 07 08 51.9 -0.2
MNSI Mandailing Nat 22.22 291 P P 07 08 54.8 -0.5
comp=Z,23nm,0.9s
QIS Mount Isa 22.79 127 P P 07 09 00.5 +0.1
baz=23,SNR=43
BLDU Ballidu 23.30 188 P P 07 09 04.6 -0.2
baz=24,SNR=67
KLBR Kellerberrin 24.15 185 P P 07 09 12.4 0.0
baz=24,SNR=35
FORT Forrest 24.33 164 P P 07 09 14.5 +0.5
baz=24,SNR=56
FORT Forrest 24.33 164 P P 07 09 14.1 0.0
MUN Mundaring 24.71 188 P P 07 09 17.5 0.0
baz=25,SNR=5.4
NWAO Narrogin (SRO) 25.52 186 P P 07 09 25.1 +0.4
comp=Z,31nm,0.7s,baz=1.3,slow=6.8,SNR=21
NWAO Narrogin (SRO) 25.52 186 P P 07 09 25.1 +0.4
baz=26,SNR=20
MTSU Mount Surprise 25.69 117 P P 07 09 26.7 +0.3
baz=26,SNR=37
PMG Port Moresby 26.65 96 P P 07 09 35.6 +0.7
comp=Z,24nm,0.6s,baz=284,slow=9.3,SNR=5.6
PMG Port Moresby 26.65 96 P P 07 09 35.8 +0.9
PMG IAmb IAmb 07 10 05.9
comp=Z,40nm,0.9s
SRAK Srakaew 27.97 320 P P 07 09 43.7 -2.8
CTA Charters Tower 28.12 119 P P 07 09 48.4 +0.6
comp=Z,48nm,0.9s,baz=293,slow=11,SNR=38
CTAO Charters Tower 28.12 119 P P 07 09 48.6 +0.8
CTAO IAmb IAmb 07 09 49.5
comp=Z,71nm,1.0s
QIZ Qiongzhong 28.25 339 P P 07 09 50.6 +1.7
QIZ pP PP 07 11 05.0 +1.0
QIZ sP sP 07 11 52.3 -1.2
QIZ S S 07 14 07.2 +3.5
QIZ pmax pmax
comp=Z,81nm,2.2s
BBOO Buckleboo 29.18 152 P P 07 09 57.4 +0.5
baz=29,SNR=75
BBOO Buckleboo 29.18 152 P P 07 09 57.1 +0.1
BBOO IAmb IAmb 07 09 58.4
comp=Z,56nm,0.8s
CHAI Chaiyaphum 29.43 322 P P 07 10 00.4 +1.1
comp=Z,46nm,0.5s
CHAI Chaiyaphum 29.43 322 P P 07 10 00.0 +0.7
comp=Z,12nm,0.5s
QLP Quilpie 29.67 133 P P 07 10 02.1 +0.7
baz=30,SNR=9.1
NONG Nongkai 30.48 326 P P 07 10 11.8 +3.4
comp=Z,19nm,1.3s
NONG Nongkai 30.48 326 P P 07 10 11.0 +2.6
comp=Z,19nm,1.3s
UTHA Uthaitani 30.80 318 P P 07 10 14.9 +3.7
comp=Z,5.7nm,0.6s
HTT Hallett 31.09 149 P P 07 10 14.7 +1.1
baz=31,SNR=23
PHIT Phitsanulok 31.38 321 P P 07 10 17.8 +1.6
comp=Z,3µmcomp=Z,64nm,0.7s
PHIT Phitsanulok 31.38 321 P P 07 10 17.9 +1.6
comp=Z,732nmcomp=Z,16nm,0.7s
STKA Stephens Creek 31.39 144 P P 07 10 17.1 +0.9
comp=Z,59nm,0.6s,baz=314,slow=9.3,SNR=88
STKA S S 07 14 52.3 -0.1
comp=Z,21nm,0.8s,baz=316,slow=17,SNR=5.9
STKA ScP ScP 07 15 59.7 -0.4
comp=Z,18nm,0.8s,baz=336,slow=5.9,SNR=3.6
STKA Stephens Creek 31.39 144 P P 07 10 16.9 +0.8
baz=32,SNR=39
STKA Stephens Creek 31.39 144 P P 07 10 16.6 +0.4
SLVN Son La 32.81 331 P P 07 10 27.1 -1.4
LAMP Lampang 32.88 322 P P 07 10 30.6 +1.5
comp=Z,24nm,0.8s
RMQ Roma 33.03 128 P P 07 10 31.9 +1.5
baz=33,SNR=9.5
CM04 Chiang Mai Arr 33.19 321 P P 07 10 35.7 +4.0
comp=Z,9.6nm,1.0s
CM04 Chiang Mai Arr 33.19 321 P P 07 10 35.8 +4.0
comp=Z,9.6nm,1.0s
CM05 Chiang Mai Arr 33.21 321 P P 07 10 35.9 +4.0
comp=Z,6.6nm,1.0s
CM05 Chiang Mai Arr 33.21 321 P P 07 10 36.0 +4.0
comp=Z,6.6nm,1.0s
CM09 Chiang Mai Arr 33.21 321 P P 07 10 36.1 +4.1
comp=Z,11nm,0.9s
CM09 Chiang Mai Arr 33.21 321 P P 07 10 36.0 +4.1
comp=Z,11nm,0.9s
CM01 Chiang Mai Arr 33.22 321 P P 07 10 36.1 +4.0
comp=Z,125nmcomp=Z,13nm,1.1s
CM01 Chiang Mai Arr 33.22 321 P P 07 10 36.0 +4.0
comp=Z,125nmcomp=Z,13nm,1.1s
CM02 Chiang Mai Arr 33.23 321 P P 07 10 36.1 +4.0
comp=Z,76nmcomp=Z,11nm,0.9s
CM02 Chiang Mai Arr 33.23 321 P P 07 10 36.1 +4.0
comp=Z,76nmcomp=Z,11nm,0.9s
CM13 Chiang Mai Arr 33.25 321 P P 07 10 36.2 +3.9
comp=Z,90nmcomp=Z,8.0nm,1.1s
CM13 Chiang Mai Arr 33.25 321 P P 07 10 36.0 +3.7
comp=Z,90nmcomp=Z,8.0nm,1.1s
CM31 Chiang Mai Arr 33.25 321 P P 07 10 36.4 +4.1
CMAR Chiang Mai Arr 33.25 321 P P 07 10 32.8 +0.4
comp=Z,5.3nm,0.8s,baz=143,slow=6.4,SNR=12
CMAR PcP PcP 07 13 04.6 +1.4
comp=Z,6.5nm,0.6s,baz=172,slow=2.7,SNR=13
CMAR ScP ScP 07 16 07.6 +0.9
comp=Z,1.9nm,0.4s,baz=173,slow=2.3,SNR=8.3
CMAR Chiang Mai Arr 33.25 321 P P 07 10 32.1 -0.3
CM15 Chiang Mai Arr 33.26 321 P P 07 10 36.7 +4.3
CM15 Chiang Mai Arr 33.26 321 P P 07 10 36.8 +4.3
CHTO Chiang Mai 33.52 321 P P 07 10 37.4 +2.8
comp=Z,7.2nm,1.0s
CHTO Chiang Mai 33.52 321 P P 07 10 33.5 -1.1
CMSA Cobar Meteorol 33.71 139 P P 07 10 37.2 +1.2
baz=34,SNR=46
EIDS Eidsvold 34.36 125 P P 07 10 42.4 +0.7
baz=34,SNR=4.1
EIDS Eidsvold 34.36 125 P P 07 10 42.2 +0.6
ARPS Mount Arapiles 35.18 149 P P 07 10 49.8 +1.4
baz=35,SNR=34
GYA Guiyang 36.20 339 ⇓P **P 07 10 55.9 -1.3**
GYA PcP PcP 07 13 13.1 +1.2
GYA S S 07 16 03.9 -2.0
GYA pmax pmax
comp=Z,3.0nm,0.9s
GYA pmax pmax
comp=Z,20nm,3.5s
KMI Kunming 36.60 333 ⇑P **P 07 11 02.3 +1.6**
KMI pP pwP 07 12 20.5 -0.8
KMI S S 07 16 14.8 +2.6
KMI ScP ScP 07 16 18.6 -0.4
KMI pmax pmax
comp=Z,18nm,0.9s
KMI LR LR
comp=Z,290nm,14.7s
KMI LR LR
comp=Z,400nm,13.6s
KMI LR LR
comp=Z,210nm,14.6s
ARMA Armidale 37.20 132 P P 07 11 08.1 +2.6
baz=37,SNR=11
ARMA Armidale 37.20 132 P P 07 11 06.2 +0.6
ARMA IAmb IAmb 07 11 08.9
comp=Z,38nm,0.8s
TOO Toolangi 37.71 146 P P 07 11 11.5 +1.9
baz=38,SNR=7.8
MGCD Mangrove Creek 38.36 136 P P 07 11 17.6 +2.7
baz=38,SNR=6.0
CNB Canberra Magne 38.48 140 P P 07 11 17.5 +1.6
baz=39,SNR=8.5
HNR Honiara 39.26 96 P P 07 11 23.4 +0.9
comp=Z,242nm,0.8s,baz=247,slow=8.9,SNR=4.7
NJ2 Nanjing 39.29 358 ⇑P **P 07 11 22.9 +0.5**
NJ2 pmax pmax
comp=Z,29nm,0.5s
JCJ Chichijima 40.36 31 P P 07 11 30.0 -1.2
comp=Z,91nm,0.6s,baz=290,slow=15,SNR=5.5
JCJ Chichijima 40.36 31 IAmb IAmb 07 11 31.4
comp=Z,115nm,0.7s
CD2 Chengdu 41.29 338 P P 07 11 40.4 +1.7
CD2 S S 07 17 24.8 +3.8
CD2 sS sS 07 19 49.7 +4.1
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,90nm,7.8s
JNU Nakatsue 41.58 13 P P 07 11 40.1 -0.8
comp=Z,16nm,0.8s,baz=245,slow=1.2,SNR=3.8
XAN Xi'an 42.64 346 P P 07 11 47.8 -1.6
XAN PP PcP 07 13 32.8 +0.5
XAN S S 07 17 37.2 -3.2
XAN SS ScS 07 20 59.8 -3.0
XAN pmax pmax
comp=Z,18nm,1.0s
XAN LR LR
comp=Z,180nm,15.2s
XAN LR LR
comp=Z,270nm,17.3s
XAN LR LR
comp=Z,240nm,21.7s
XAN Xi'an 42.64 346 P P 07 11 48.9 -0.5
KSAR Wonju Array Be 45.21 9 P P 07 12 09.6 +0.3
KSRS Korea Array 45.23 9 P P 07 12 09.2 -0.2
comp=Z,12nm,0.7s,baz=188,slow=8.5,SNR=36
KSRS PcP PcP 07 13 42.4 +1.3
comp=Z,2.9nm,0.7s,baz=177,slow=2.9,SNR=8.0
KS19 Wonju Array Si 45.27 8 P P 07 12 10.1 +0.3
DL2 Dalian 46.13 1 P P 07 12 16.0 -0.4
DL2 pP PcP 07 13 45.3 +1.1
DL2 S S 07 18 26.1 -3.7
DL2 pmax pmax
comp=Z,33nm,0.6s
LSA Lhasa 46.35 324 P P 07 12 18.1 -0.8
SANVU Saraoutou 46.58 104 P P 07 12 22.4 +2.1
NOUC Port Laguerre 46.62 113 P P 07 12 21.5 +1.0
DZM Mont Dzumac 46.74 113 P P 07 12 22.6 +1.0
comp=Z,41nm,0.9s,baz=286,slow=12
DZM Mont Dzumac 46.74 113 *eP* **P 07 12 21.5 -0.1**
comp=Z,129nm,1.1s
DZM Mont Dzumac 46.74 113 IAmb IAmb 07 12 23.6
comp=Z,61nm,1.0s
DZM Mont Dzumac 46.74 113 P P 07 12 22.9 +1.3
ONTNC Ouen Toro 46.80 114 P P 07 12 22.7 +0.8
MAT Matsushiro 46.87 20 P P 07 12 19.8 -2.4
MJAR Matsushiro Arr 46.87 20 P P 07 12 20.2 -2.0
comp=Z,18nm,0.8s,baz=185,slow=8.6,SNR=28
MJAR PcP PcP 07 13 47.6 +0.6
comp=Z,6.0nm,1.0s,baz=191,slow=4.8,SNR=6.3
MJAR ScP ScP 07 17 00.2 +0.6
comp=Z,3.7nm,0.9s,baz=193,slow=4.4,SNR=5.3
MJAR Matsushiro Arr 46.87 20 P P 07 12 20.0 -2.2
YATNC Mamie plateau, 47.15 113 P P 07 12 26.7 +2.1
OUENC Ouen Island, N 47.17 114 P P 07 12 25.3 +0.6
OUENC IAmb IAmb 07 12 27.0
comp=Z,81nm,0.9s
OUENC Ouen Island, N 47.17 114 P P 07 12 26.9 +2.2
BJT Baijiatuau 47.37 356 P P 07 12 25.1 -0.7
BJT IAmb IAmb 07 12 26.4
comp=Z,22nm,0.6s
BJI Beijing 47.40 356 P P 07 12 25.3 -0.7
BJI PcP pP 07 13 49.7 +0.2
BJI sP sP 07 14 37.3 +0.4
BJI S S 07 18 44.6 -2.9
BJI sS sS 07 21 22.7 +6.7
BJI pmax pmax
comp=Z,30nm,1.3s
BJI pmax pmax
comp=Z,140nm,3.5s
BJI LR LR
comp=Z,170nm,18.4s
BJI LR LR
comp=Z,170nm,18.6s
BJI LR LR
comp=Z,250nm,22.4s
MARNC Mare, Loyalty 48.09 112 P P 07 12 33.0 +1.3
JSD Sado 48.25 19 P P 07 12 31.6 -0.9
JSD IAmb IAmb 07 12 32.5
comp=Z,68nm,0.6s
HHC Hu-ho-hao-te 48.72 351 *eP* **P 07 12 34.6 -1.5**
HHC S S 07 19 01.8 -4.3
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,69nm,4.9s
HHC LR LR
comp=Z,160nm,16.2s
HHC LR LR
comp=Z,350nm,16.2s
HHC LR LR
comp=Z,220nm,16.2s
GTA Gaotai 50.33 339 ⇓P **P 07 12 49.6 +1.4**
GTA PcP PcP 07 14 00.6 +0.9
GTA pP pP 07 14 16.9 +4.0
GTA sP sP 07 14 55.9 -4.1
GTA ScP ScP 07 17 16.8 +2.4
GTA S S 07 19 29.4 +1.1
GTA sS sS 07 22 02.1 +3.5
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,54nm,4.7s
CN2 Changchun 51.21 5 *eP* **P 07 12 52.8 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
USRK Ussuriysk Ar. 52.48 11 P **P 07 13 02.7 -0.9**
comp=Z,18nm,0.6s,baz=189,slow=6.3,SNR=39
USRK ScP ScP 07 17 24.7 +1.2
comp=Z,2.2nm,0.8s,baz=243,slow=6.0,SNR=3.0
ASAJ Asahikawa 55.14 19 P **P 07 13 21.7 -0.9**
comp=Z,12nm,0.6s,baz=221,slow=9.3,SNR=7.4
MLZ Mavora Lakes 55.90 141 P **P 07 13 28.5 +0.5**
MLZ IAmb IAmb 07 13 30.2
comp=Z,100nm,1.2s
OUZ Omahuta 56.01 128 P **P 07 13 30.6 +1.6**
ULN Ulaanbaatar 56.30 349 P **P 07 13 30.8 0.0**
SONM Songino Array 56.39 349 P **P 07 13 31.1 -0.4**
comp=Z,19nm,0.5s,baz=165,slow=8.6,SNR=46
SONM pP **pP 07 14 58.1 -0.8**
comp=Z,6.5nm,1.2s,baz=142,slow=7.2,SNR=2.2
SONM PKPPKP **P'P'df 07 43 20.5 -1.3**
comp=Z,0.3nm,0.3s,baz=320,slow=4.5,SNR=4.1
SONM Songino Array 56.39 349 P **P 07 13 31.6 +0.1**
SONM IAmb IAmb 07 13 32.5
comp=Z,26nm,0.7s
QRZ Quartz Range 57.00 134 P **P 07 13 37.4 +1.6**
QRZ IAmb IAmb 07 13 38.3
comp=Z,63nm,1.1s
RPZ Rata Peaks 57.08 138 P **P 07 13 37.2 +0.9**
MSVF Nonsavu 57.10 106 P **P 07 13 37.9 +0.9**
comp=Z,30nm,0.8s,baz=246,slow=5.9,SNR=14
MSVF Nonsavu 57.10 106 P **P 07 13 38.6 +1.6**
MSVF IAmb IAmb 07 13 39.0
comp=Z,35nm,0.8s
MSVF Nonsavu 57.10 106 P **P 07 13 38.8 +1.9**
KLR Kul'dur 57.32 9 P **P 07 13 36.4 -1.3**
comp=Z,3.2nm,0.6s,baz=177,slow=9.3,SNR=7.2
THZ Tophouse 57.60 135 P **P 07 13 41.2 +1.3**
THZ IAmb IAmb 07 13 41.5
comp=Z,62nm,0.9s
WMQ Urumqi 58.94 333 *eP* **P 07 13 50.1 +1.2**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ pmax pmax
comp=Z,180nm,3.9s
CASY Casey 59.13 185 P **P 07 13 50.9 +1.1**
CASY IAmb IAmb 07 13 53.0
comp=Z,58nm,1.8s
BKZ Black Stump Fm 59.35 131 P **P 07 13 52.5 +0.6**
BKZ IAmb IAmb 07 13 53.0
comp=Z,70nm,1.0s
URZ Urewera 59.56 130 P **P 07 13 53.0 -0.2**
comp=Z,60nm,0.8s,baz=341,slow=3.4,SNR=23
TLY Talaya 60.60 348 P **P 07 14 00.2 +0.3**
RAO Raoul Island 61.83 119 P **P 07 14 09.4 +0.9**
KSH Kashi 62.14 322 P **P 07 14 09.0 -1.4**
KSH pmax pmax
comp=Z,19nm,0.5s
KSH pmax pmax
comp=Z,64nm,4.5s
SHLS Shalkode 62.52 327 *eP* **P 07 14 11.1 -1.7**
comp=Z,23nm,1.3s,baz=328
ZSN Zaisan 63.00 334 *eP* **P 07 14 14.1 -1.7**
baz=334
SATY Saty 63.02 327 *eP* **P 07 14 14.0 -2.2**
comp=Z,5.6nm,0.6s,baz=327
KPKS Kokpek 63.15 327 *eP* **P 07 14 15.6 -1.3**
comp=Z,36nm,1.6s,baz=327
MK31 Makanchi Array 63.68 332 P **P 07 14 20.1 -0.1**
MK31 IAmb IAmb 07 14 21.2
comp=Z,15nm,0.7s
MKAR Makanchi Array 63.68 332 P **P 07 14 19.7 -0.5**
comp=Z,19nm,0.5s,baz=145,slow=7.5,SNR=60
MKAR pP **pP 07 15 49.7 -0.3**
comp=Z,3.1nm,0.8s,baz=146,slow=7.5,SNR=2.7
MKAR PKP2bc 07 43 17.8
comp=Z,0.8nm,1.0s,baz=327,slow=2.4,SNR=4.7
MDOK Medeo 63.84 326 *eP* **P 07 14 19.9 -1.6**
baz=326
KUU Kurty 64.70 326 *eP* **P 07 14 24.9 -1.9**
baz=326
AAK Ala-Archa 64.95 324 P **P 07 14 29.0 +0.5**
baz=135,slow=7.1
SGDS Sogindy 65.38 325 *eP* **P 07 14 28.8 -2.4**
baz=325
BTLS Baital 66.70 326 *eP* **P 07 14 37.1 -2.2**
baz=326
ZAA0 Zalesovo Array 68.06 338 P **P 07 14 46.7 -0.8**
ZALV Zalesovo Beam 68.06 338 P **P 07 14 46.2 -1.3**
comp=Z,37nm,0.5s,baz=139,slow=4.8,SNR=71
ZALV pP **pP 07 16 17.9 -0.9**
comp=Z,3.8nm,0.8s,baz=130,slow=4.4,SNR=2.9
ZALV PKP2bc 07 43 03.9
comp=Z,0.7nm,0.5s,baz=0.0,slow=0.0,SNR=4.2
ZALV Zalesovo Beam 68.06 338 P **P 07 14 46.5 -1.0**
PETK Petropavlovsk- 68.14 23 P **P 07 14 48.4 +0.3**
comp=Z,14nm,0.6s,baz=170,slow=2.7,SNR=18
PETK Petropavlovsk- 68.14 23 P **P 07 14 48.8 +0.7**
KURBB Kurchatov Arra 68.16 333 P **P 07 14 47.5 -0.7**
comp=Z,9.3nm,0.5s,baz=141,slow=5.6,SNR=10
KURBB pP **pP 07 16 19.5 +0.1**
comp=Z,1.4nm,0.2s,baz=142,slow=5.8,SNR=3.6
KURBB PKP2bc 07 43 04.2
comp=Z,0.7nm,0.7s,baz=301,slow=3.6,SNR=5.1
KURK Kurchatov 68.18 333 P **P 07 14 47.5 -0.8**
KURK **pP 07 16 19.5 -0.1**
NIUE Niue 68.54 108 P **P 07 14 47.5 -3.7**
baz=69,SNR=3.4
YAK Yakutsk 69.65 5 P **P 07 14 56.6 -0.4**
comp=Z,8.7nm,0.5s,baz=210,slow=1.4,SNR=4.3
BRZS Berezniki 70.53 330 *eP* **P 07 15 01.7 -0.9**
comp=Z,26nm,1.7s,baz=330
MA2 Magadan 71.08 16 P **P 07 15 06.5 +0.9**
MAW Mawson 71.13 200 P **P 07 15 06.7 +0.9**
comp=Z,14nm,1.1s,baz=67,slow=6.9,SNR=14
MAW Mawson 71.13 200 P **P 07 15 07.1 +1.3**
baz=71,SNR=10
MAW Mawson 71.13 200 P **P 07 15 07.3 +1.5**
GEYT Alibeck 73.30 313 P **P 07 15 19.1 0.0**
comp=Z,14nm,0.6s,baz=187,slow=10.0,SNR=5.8
VNDA Vanda 73.32 171 P **P 07 15 19.1 +0.7**
comp=Z,7.1nm,0.7s,baz=317,slow=5.9,SNR=61
VNDA S S 07 24 15.1 +3.5
comp=Z,1.6nm,1.1s,baz=197,slow=19,SNR=6.5
VNDA Vanda 73.32 171 P **P 07 15 19.4 +1.0**
VNDA IAmb IAmb 07 15 20.2
comp=Z,59nm,1.7s
BRVK Borovoye 73.61 331 P **P 07 15 20.0 -0.5**
SBA Scott Base 74.31 171 P **P 07 15 25.7 +1.6**
SBA IAmb IAmb 07 15 26.9
comp=Z,19nm,0.9s
SEY Seymchan 74.34 15 P **P 07 15 24.7 +0.3**
comp=Z,32nm,0.6s,baz=218,slow=4.9,SNR=90
ABKAR Akbulak array 77.04 324 P **P 07 15 39.1 -0.7**
TIXI Tiksi 79.13 3 P **P 07 15 49.8 -0.8**
comp=Z,10nm,0.7s,baz=164,slow=6.4,SNR=10
TIXI Tiksi 79.13 3 P **P 07 15 50.3 -0.4**
TIXI IAmb IAmb 07 15 50.5
comp=Z,19nm,1.0s
SYO Syowa Base 79.76 201⇑*eP*cP **PcP 07 16 00.7 +0.4**
SYO Syowa Base 79.76 201⇑*eP*P pP 07 17 28.6 0.0
NRIK Noril'sk 79.88 349 P **P 07 15 54.6 -0.1**
comp=Z,3.0nm,0.7s,baz=156,slow=7.4,SNR=5.4
QSPA South Pole Qui 82.54 180 P **P 07 16 08.9 +0.1**
comp=Z,13nm,0.9s,baz=280,slow=1.0,SNR=22
QSPA South Pole Qui 82.54 180 P **P 07 16 09.3 +0.5**
QSPA IAmb IAmb 07 16 10.1
comp=Z,58nm,1.6s
GNI Garni 83.85 312 P **P 07 16 16.6 +0.6**
GNI IAmb IAmb 07 16 33.5
comp=Z,29nm,1.2s
NIKH Nikolski High 84.59 35 P **P 07 16 18.6 -0.6**
baz=250

GEVA Gevas 84.66 310 P P 07 16 19.4 -0.6
KARS Kars 85.20 312 P P 07 16 22.7 +0.1
SPIA Saint Paul Isl 85.32 31 P P 07 16 21.9 -0.7
baz=249
ONI Oni 85.41 314 P P 07 16 24.3 +0.8
GURO Guroymak-BITLI 85.50 310 P P 07 16 24.7 +0.6
GURO IAmb IAmb 07 16 27.6
comp=Z,23nm,0.9s
KBZ Khabaz 86.08 315 P P 07 16 26.6 0.0
comp=Z,6.0nm,0.8s,baz=67,slow=3.7,SNR=11
MARD Mardin 86.20 308 P P 07 16 26.9 -0.6
MARD IAmb IAmb 07 16 29.5
comp=Z,15nm,0.6s
KOPT Kop Dagi 86.99 311 P P 07 16 31.1 -0.3
KOPT IAmb IAmb 07 16 34.1
comp=Z,49nm,1.5s
GAMB Gambell 87.15 24 P P 07 16 30.8 -0.4
baz=247
FALS False Pass 88.23 34 P P 07 16 35.6 -0.9
baz=255
MATP Matopo 89.11 250 P P 07 16 40.6 -1.0
comp=Z,3.9nm,0.5s,baz=99,slow=4.1,SNR=6.8
PMOR Pomariorio Ree 89.84 105 eP P 07 16 46.0 +1.1
comp=Z,34nm,0.9s
SDPT Sand Point 89.99 34 P P 07 16 43.3 -1.4
baz=257
ANM Nome 90.02 25 P P 07 16 44.6 -0.1
baz=253
VAH Vaihoa 90.07 105 eP P 07 16 46.7 +0.8
comp=Z,50nm,1.1s
CHNA Chernabura Isl 90.37 35 P P 07 16 46.5 +0.1
baz=258
KLMR Klimovskoe 91.97 331 eP P 07 16 49.2 -4.5
KLMR AMP 07 16 54.6
comp=Z,13nm,1.4s
BRTR Keskin Array B 92.13 310 P P 07 16 54.8 -0.4
comp=Z,4.1nm,0.9s,baz=134,slow=4.2,SNR=8.1
BRTR Keskin Array B 92.13 310 P P 07 16 54.5 -0.7
SNAA Sanae 92.83 195 P P 07 16 58.2 +0.5
SNAA Sanae 92.83 195 P P 07 16 58.1 +0.5
comp=Z,4.4nm,0.6s,baz=100,slow=5.0,SNR=29
SNAA Sanae 92.83 195 P P 07 16 56.7 -1.0
SNAA IAmb IAmb 07 16 59.0
comp=Z,6.5nm,0.6s
N18K Kilae Creek 93.41 29 P P 07 17 00.2 -0.1
baz=261
O18K Koktuh Hills 93.62 30 P P 07 17 00.5 -0.8
baz=262
SVW2 Sparrevohn 93.62 29 P P 07 17 00.7 -0.6
N19K Bonanza Creek 94.11 29 P P 07 17 02.7 -0.9
baz=262,SNR=9.4
L19K White Mountain 94.12 28 P P 07 17 02.8 -0.8
baz=262
M19K Big River Lodg 94.30 28 P P 07 17 04.3 -0.1
baz=262
P19K Oil Pt 94.58 31 P P 07 17 03.9 -1.8
baz=263
KDAK Kodiak Island 94.70 32 PP PP 07 20 56.8 -4.6
comp=Z,5.1nm,1.0s,baz=354,slow=7.7,SNR=3.9
KDAK Kodiak Island 94.70 32 P P 07 17 05.4 -0.9
baz=264
A21K Barrow 94.78 19 P P 07 17 06.2 -0.2
baz=261
VNA3 Neumayer Olymp 94.84 194 P P 07 17 06.8 0.0
M20K Styx River 94.89 28 P P 07 17 06.2 -1.0
baz=264
O20K Slope Mountain 94.94 30 P P 07 17 06.5 -1.0
baz=264
SPCR Spurr Chakacha 95.26 29 P P 07 17 07.7 -1.2
baz=264
PPLA Purkeypile 95.43 27 P P 07 17 08.7 -1.0
baz=264
H21K Melozitna Rive 95.44 25 P P 07 17 08.6 -0.9
baz=264
SKT Skwentna 95.65 28 P P 07 17 08.6 -1.9
baz=265,SNR=5.1
I21K Tanana 95.74 25 P P 07 17 09.9 -0.9
baz=265
BRSE Bradley Lake S 95.85 31 P P 07 17 10.2 -1.3
baz=265
SUA Susitna One 95.98 29 P P 07 17 10.1 -2.1
baz=266,SNR=5.2
KTH Kantishna Hill 96.06 27 P P 07 17 12.2 -0.2
KTH IAmb IAmb 07 17 13.0
comp=Z,7.0nm,1.1s
BPAW Bear Paw Mtn. 96.08 26 P P 07 17 11.4 -1.0
baz=266
MLY Manley 96.25 25 P P 07 17 12.5 -0.7
baz=266,SNR=5.5
CUT Chulitna 96.28 28 P P 07 17 11.4 -1.9
baz=266
TRF Thorofare Moun 96.34 27 P P 07 17 12.0 -1.8
baz=266
AKASG Malin Array Be 96.37 320 P P 07 17 12.8 -1.3
comp=Z,0.8nm,0.6s,baz=81,slow=4.8,SNR=4.8
AKASG Malin Array Be 96.37 320 IAmb IAmb 07 17 13.2
comp=Z,2.1nm,1.2s
RC01 Rabbit Creek A 96.44 29 P P 07 17 11.8 -2.3
baz=266
SEW Seward 96.52 30 P P 07 17 11.9 -2.5
baz=267
COLD Coldfoot 96.61 23 P P 07 17 13.2 -1.6
baz=267,SNR=6.0
COLD Coldfoot 96.61 23 P P 07 17 15.0 +0.2
COLD IAmb IAmb 07 17 16.1
comp=Z,12nm,1.2s
PMR Palmer 96.76 29 P P 07 17 13.7 -1.8
baz=267
H23K Yukon River 96.80 25 P P 07 17 14.8 -0.8
baz=267,SNR=6.9
I23K Minto, Yukon-K 96.84 25 P P 07 17 15.2 -0.6
baz=267,SNR=11
I23K Minto, Yukon-K 96.84 25 P P 07 17 14.8 -0.9
I23K IAmb IAmb 07 17 16.7
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 96.92 22 P P 07 17 16.3 +0.1
baz=268,SNR=5.2
MCK McKinley 96.96 27 P P 07 17 15.1 -1.3
baz=267
MCK McKinley 96.96 27 P P 07 17 15.8 -0.6
MCK IAmb IAmb 07 17 16.4
comp=Z,10.0nm,1.0s
RND Reindeer 96.98 27 P P 07 17 15.7 -0.9
RND IAmb IAmb 07 17 16.2
comp=Z,12nm,0.9s
KNK Knik Glacier 97.08 29 P P 07 17 15.9 -1.1
baz=268
WAT1 Susitna Watana 97.09 28 P P 07 17 14.8 -2.3
baz=268
SML Sawmill 97.15 29 P P 07 17 15.3 -2.1
baz=268
WAT6 Susitna Watana 97.46 28 P P 07 17 17.5 -1.3
baz=268
H24K Noodor Dome 97.49 25 P P 07 17 18.3 -0.4
baz=269,SNR=8.3
CCB Clear Creek Bu 97.49 26 P P 07 17 17.9 -0.8
CCB IAmb IAmb 07 17 18.4
comp=Z,13nm,1.4s
POKR Poker Plat Res 97.66 25 P P 07 17 19.2 -0.3
baz=269
GLI Glacier Island 97.72 30 P P 07 17 19.3 -0.6
baz=269
HDA Harding Lake 97.85 26 P P 07 17 19.6 -0.8
baz=269
ILAR Eielson Array 97.88 26 P P 07 17 18.9 -1.6
comp=Z,0.6nm,0.7s,baz=245,slow=5.1,SNR=11
ILAR PP PP 07 21 26.9 +1.4
comp=Z,1.1nm,0.9s,baz=252,slow=6.7,SNR=5.7
ILAR Eielson Array 97.88 26 P P 07 17 18.6 -1.9
M24K Tolsona, Glenn 98.18 28 P P 07 17 21.1 -0.9
baz=270
EYAK Cordova Ski Ar 98.38 30 P P 07 17 22.1 -0.7
baz=270
PAX Paxson 98.51 27 P P 07 17 23.1 -0.4
baz=270
HARP HAARP 98.66 28 P P 07 17 24.1 +0.1
baz=271
N25K Chitina, Valde 98.93 29 P P 07 17 25.4 +0.1
baz=271
BMRM Bremner River 98.94 29 P P 07 17 25.4 +0.1
baz=271
SCRK Sand Creek 99.15 26 P Pdif 07 17 25.7 -0.6
baz=272
K27K Chicken 99.99 26 P Pdif 07 17 30.6 +0.8
baz=274
L27K Beaver Creek, 100.16 27 P Pdif 07 17 31.4 +0.7
baz=274

EGAK Eagle 100.34 26 P Pdif 07 17 31.8 +0.4
baz=275
EPYK Eagle Plains 101.98 24 P Pdif 07 17 39.1 +0.3
baz=279
INK Inuvik 102.84 21 P Pdif 07 17 42.8 +0.4
baz=282
SIT Sitka 104.03 33 P Pdif 07 17 48.9 +0.9
baz=278
YKA Yellowknife Ar 112.25 24 PKiKP PKiKP 07 22 17.2 -0.8
comp=Z,2.8nm,0.7s,baz=304,slow=1.4,SNR=28
D03D Eldon 113.31 41 P PKiKP 07 22 21.2 +0.8
baz=285
D04E Lakebay 113.61 42 P PKiKP 07 22 21.8 +0.8
baz=285
I02D Swisshome 113.63 45 P PKiKP 07 22 21.6 +0.5
baz=283
B05A Bryant 113.76 40 P PKiKP 07 22 22.0 +0.7
baz=286
G03D McMinnville, O 113.78 44 P PKiKP 07 22 22.0 +0.6
baz=284
J01E Myrtle Point 113.78 46 P PKiKP 07 22 21.5 0.0
baz=283
E04D Cinebar 113.91 42 P PKiKP 07 22 21.9 +0.3
baz=285
K02D Willamette Mer 114.07 47 P PKiKP 07 22 22.8 +0.6
baz=283
I03D Drain, OR 114.08 45 P PKiKP 07 22 22.6 +0.6
baz=283
L02E Cave Junction 114.24 47 P PKPdf 07 22 22.3 -0.1
baz=282
H04D Lebanon 114.31 44 P PKiKP 07 22 23.3 +0.8
baz=284
I04A Tendick Farm, 114.71 45 P PKiKP 07 22 23.7 +0.3
baz=284
M02C Callahan 114.95 48 P PKiKP 07 22 24.2 +0.2
baz=283
J04D Umpqua Nationa 115.06 46 P PKiKP 07 22 24.4 +0.1
baz=284
G05D Wamic, OR 115.10 43 P PKiKP 07 22 24.5 +0.5
baz=286
N02D Trinity Center 115.15 48 P PKiKP 07 22 24.8 +0.5
baz=283
L04D Klamath Falls 115.16 47 P PKPdf 07 22 24.0 -0.4
baz=284
O02D Mt. Diablo Mer 115.26 49 P PKiKP 07 22 25.1 +0.5
baz=282
I05D Terrebonne, OR 115.32 44 P PKiKP 07 22 24.9 +0.3
baz=285
K04D Chiloquin, OR 115.46 46 P PKPdf 07 22 24.8 -0.1
baz=284
B08A Colville Reser 115.49 40 PKPdf PKPdf 07 22 24.4 -0.3
M04C Macdoel 115.60 47 P PKiKP 07 22 25.9 +0.6
baz=284
J05D Fort Rock, OR 115.67 45 P PKPdf 07 22 25.0 -0.4
baz=285
HAWA Hanford 115.97 42 PKPdf PKPdf 07 22 25.5 -0.1
O03E Paynes Creek 115.97 49 P PKiKP 07 22 26.1 +0.2
baz=283
K05A Summer Lake 116.05 46 PKiKP 07 22 26.4 +0.2
E08A Dider Farm, El 116.25 42 PKiKP 07 22 26.7 +0.6
NEW Newport 116.91 39 P PKiKP 07 22 28.4 +1.0
baz=291
SMMC Simmler 118.43 54 P PKiKP 07 22 31.3 +0.5
baz=282
PKM Mcpherson Peak 118.66 54 P PKiKP 07 22 32.0 +0.5
baz=282
SCZ2 Santa Cruz Isl 118.98 55 P PKPdf 07 22 31.8 -0.1
baz=281
VES Vestal, Richgr 119.04 53 P PKiKP 07 22 31.9 0.0
baz=283
NVAR Mina Array Bea 119.05 50 PKP PKiKP 07 22 32.8 +0.7
comp=Z,2.7nm,0.7s,baz=272,slow=2.3,SNR=24
NVAR PP PP 07 23 57.6 -1.1
comp=Z,2.7nm,1.0s,baz=273,slow=8.0,SNR=7.9
NVAR SKP 07 25 27.6
comp=Z,1.0nm,0.8s,baz=229,slow=2.2,SNR=5.9
NVAR Mina Array Bea 119.05 50 PKPdf PKiKP 07 22 33.0 +0.9
SNCC San Nicolas Is 119.21 56 P PKPdf 07 22 32.1 -0.2
baz=281
ARVC Arvin 119.40 54 P PKPdf 07 22 32.2 -0.3
baz=282
TORD Torodi Ar. Bea 119.44 281 PKP PKPdf 07 22 32.5 -0.6
comp=Z,6.6nm,0.6s,baz=68,slow=1.8,SNR=25
TIN Tinemaha, Big 119.44 52 P PKiKP 07 22 32.9 0.0
baz=284
MSO Missoula 119.44 40 P PKPdf 07 22 31.9 -0.6
baz=293
ISA Isabella, Lake 119.57 53 P PKiKP 07 22 33.5 +0.4
baz=283
OSI Osito Audit: C 119.59 54 P PKiKP 07 22 33.2 0.0
baz=282
CWC Cottonwood Cre 119.70 52 P PKiKP 07 22 33.5 +0.1
baz=284
CIS Catalina Islan 120.09 56 P PKiKP 07 22 34.4 +0.3
baz=282
EDW2 Edwards Air Fo 120.12 54 P PKPdf 07 22 34.1 0.0
baz=283,SNR=18
GRAC Grapevine Rang 120.12 51 P PKPdf 07 22 33.8 -0.2
baz=284
LRMC Laurel Mtn Rad 120.24 53 P PKiKP 07 22 34.9 +0.4
baz=283
MPMC Manual Prospec 120.25 53 P PKiKP 07 22 34.7 +0.1
baz=284,SNR=19
BFSC Mount Baldy Ra 120.53 55 P PKPdf 07 22 34.5 -0.4
baz=283
FURC Furnace Creek, 120.64 52 P PKiKP 07 22 35.4 +0.4
baz=285
ESDC Sonseca Array 120.84 312 PKP PKiKP 07 22 35.5 0.0
comp=Z,0.9nm,0.6s,baz=29,slow=3.3,SNR=6.6
GSC Goldstone, Bar 120.97 53 P PKPdf 07 22 35.5 -0.3
baz=284,SNR=13
TPNV Topopah Spring 121.00 51 P PKPdf 07 22 35.3 -0.6
baz=285
MURC Murrieta 121.05 55 P PKPdf 07 22 35.7 -0.1
baz=283
BBRC Big Bear Solar 121.12 54 P PKPdf 07 22 36.0 -0.2
baz=283
R11A Troy Canyon, C 121.12 49 P PKPdf 07 22 36.1 0.0
baz=287
SHOC Shoshone, Teco 121.25 52 P PKiKP 07 22 36.2 -0.1
baz=285
109C Camp Elliot, M 121.27 56 P PKPdf 07 22 36.3 0.0
baz=282
BOZ Bozeman (W) 121.40 40 P PKiKP 07 22 36.5 +0.1
baz=294
HEC Hector,Ludlow 121.46 54 P PKiKP 07 22 37.1 +0.2
baz=284
EGMT Eagleton 121.52 37 P PKPdf 07 22 36.0 -0.4
baz=297
TUQ Turquoise Moun 121.64 53 P PKPdf 07 22 36.3 -0.8
baz=285,SNR=6.8
PFO Pinyon Flats O 121.64 55 PKP PKiKP 07 22 38.1 +0.9
comp=Z,11nm,0.9s,baz=270,slow=1.2,SNR=17
PFO SKP 07 25 32.3
comp=Z,0.3nm,0.3s,baz=174,slow=1.3,SNR=3.9
PFO Pinyon Flats O 121.64 55 P PKPdf 07 22 36.3 -0.8
baz=283,SNR=11
TPFO Pinon Flats 121.65 55 P PKPdf 07 22 36.3 -0.8
baz=283,SNR=11
MONP2 Monument Peak 121.83 56 P PKPdf 07 22 36.8 -0.8
baz=283,SNR=11
BELC Belle Mtn. Jos 121.93 55 P PKiKP 07 22 38.3 +0.5
baz=284,SNR=18
GMRC Granite Mounta 122.01 54 P PKiKP 07 22 38.4 +0.4
baz=284,SNR=18
IKP In-Ko-Pah, Jac 122.14 56 P PKiKP 07 22 38.4 +0.2
baz=283,SNR=6.6
SWSC Sam W. Stewart 122.33 56 P PKiKP 07 22 38.4 -0.1
baz=283
BC3 Big Chuckawall 122.45 55 P PKPdf 07 22 38.1 -0.6
baz=284,SNR=12
H17A Grant Village 122.57 41 P PKPdf 07 22 38.7 -0.1
baz=294
IRM Iron Mountain 122.58 54 P PKiKP 07 22 38.9 -0.1
baz=284,SNR=12
DUG Dugway, Tooele 122.60 47 P PKPdf 07 22 38.9 +0.1
baz=290
GLA Glamis 123.10 55 P PKPdf 07 22 39.9 +0.1
baz=284
RLMT Red Lodge 123.11 40 P PKPdf 07 22 39.6 -0.1
baz=296
PDMCI Parker Dam,Lak 123.34 54 P PKPdf 07 22 39.9 -0.3
baz=285
BW06 Boulder Array 123.91 43 P PKPdf 07 22 40.9 -0.5
baz=294
PDAR Pinedale Array 123.91 43 PKP PKPdf 07 22 41.2 -0.1
comp=Z,2.6nm,0.9s,baz=222,slow=2.0,SNR=20
LAO LASA Array 124.27 37 P PKiKP 07 22 42.1 +0.1
baz=300
214A Organ Pipe Nat 125.02 56 P PKiKP 07 22 43.7 -0.2
baz=285
WUAZ Wupatki 125.18 52 P PKPdf 07 22 43.8 -0.1
baz=288,SNR=12
KIC Kosan Boka 125.45 273 eP PKiKP 07 22 45.4 +0.2
comp=Z,46nm,1.1s
LIC Lamto 125.72 272 eP PKPdf 07 22 43.8 -1.5
comp=Z,47nm,0.9s
TIC Toumodi 125.75 273 eP PKiKP 07 22 45.9 +0.1
O20A White River Ci 125.88 45 P PKPdf 07 22 44.7 -0.4
baz=294
K22A Casper 125.98 42 P PKPdf 07 22 45.0 -0.2
baz=297
W18A Petrified Fore 126.58 51 P PKiKP 07 22 47.0 -0.1
baz=289,SNR=12
TUC Tucson 126.59 55 P PKPdf 07 22 46.7 +0.1
baz=286
MVCO Mesa Verde 126.80 49 P PKPdf 07 22 47.1 0.0
baz=291,SNR=11
RSSD Black Hills 126.88 39 P PKPdf 07 22 45.5 -1.5
baz=300
N23A Red Feather La 127.15 43 P PKPdf 07 22 46.8 -0.8
baz=296
MDND Maddock 127.41 33 P PKiKP 07 22 48.1 0.0
baz=307
ULM Lac du Bonnet 127.78 29 PKP PKPdf 07 22 48.0 -0.2
comp=Z,6.2nm,1.0s,baz=336,slow=1.3,SNR=7.2
ULM SKPbc SKiKP 07 25 27.1 -17
comp=Z,3.8nm,0.8s,baz=290,slow=4.5,SNR=3.8
S22A 4UR Ranch, Cre 127.83 47 P PKPdf 07 22 49.1 +0.1
baz=293,SNR=9.8
ISCO Idaho Springs 127.85 44 P PKiKP 07 22 49.8 +0.1
baz=296
SDCO Great Sand Dun 128.80 47 P PKPdf 07 22 51.1 +0.2
baz=294,SNR=8.8
121A Cookes Peak, D 128.94 54 P PKiKP 07 22 51.6 -0.3
baz=289
AGMN Agassiz Nation 129.08 30 P PKPdf 07 22 50.9 +0.2
baz=311
Y22D IRIS PASSCAL I 129.12 52 P PKiKP 07 22 52.1 0.0
baz=290
ANMO Albuquerque 129.17 51 P PKPdf 07 22 51.9 +0.3
baz=291
T25A Trinidad 129.84 47 P PKPdf 07 22 52.2 -0.6
baz=295,SNR=8.9
KSCO Kaye Shedlock' 130.28 44 P PKiKP 07 22 54.4 0.0
baz=298
PLCA Paso Flores 131.04 169 PKP PKiKP 07 22 56.5 +0.7
comp=Z,3.2nm,0.7s,baz=168,slow=3.1,SNR=6.4
PLCA SKPbc SKPab 07 25 40.0 +0.3
comp=Z,34nm,1.0s,baz=209,slow=3.3,SNR=31
MNTX Cornudas Mount 131.14 54 P PKPdf 07 22 55.6 +0.5
baz=290
EYMN Ely 131.45 28 P PKiKP 07 22 56.3 0.0
baz=316
ECSD EROS Data Cent 131.56 36 P PKPdf 07 22 55.8 +0.2
baz=307
BGNE Belgrade 131.99 39 P PKPdf 07 22 56.9 +0.4
baz=304
CBKS Cedar Bluff 132.34 43 P PKPdf 07 22 57.8 +0.5
baz=300
MSTX Muleshoe 132.35 50 P PKPdf 07 22 57.6 +0.1
baz=294
SCHQ Schefferville 132.40 6 PKP PKiKP 07 22 57.6 -0.4
comp=Z,5.4nm,0.6s,baz=352,slow=2.6,SNR=13
SCHQ SKPbc SKPbc 07 25 43.3 0.0
comp=Z,8.8nm,0.9s,baz=352,slow=6.2,SNR=8.8
SPMN Marine on St. 132.70 32 P PKiKP 07 22 58.3 -0.6
baz=313
TXAR Lajitas Array 133.32 56 PKhKP PKPpre 07 22 49.5
comp=Z,0.8nm,0.8s,baz=254,slow=2.6,SNR=9.0
TXAR PKP PKiKP 07 23 00.6 -0.1
comp=Z,4.1nm,0.8s,baz=251,slow=1.4,SNR=25
TXAR SKPbc SKPbc 07 25 48.1 +0.8
comp=Z,3.6nm,1.0s,baz=256,slow=2.6,SNR=14
MATQ Matagami 135.22 16 P PKPdf 07 23 01.9 -0.3
baz=334
ABTX Abilene, Hawle 135.29 50 P PKPdf 07 23 01.9 -1.0
baz=295
JFWS Jewell Farm 135.62 32 P PKPdf 07 23 02.4 -0.8
baz=314
CHGQ Chibougamau 135.92 14 P PKPdf 07 23 03.8 +0.2
baz=339
LSQQ Lebel-sur-Quev 136.04 16 P PKPdf 07 23 04.2 +0.5
baz=335
JCT Junction City 136.04 53 P PKPdf 07 23 04.3 -0.2
baz=293
TUL1 Leonard 136.53 44 P PKPdf 07 23 04.5 -0.6
baz=302
833A Chaparral WMA, 137.18 56 P PKPdf 07 23 06.5 0.0
baz=291
WHTX Lake Whitney, 137.23 50 P PKPdf 07 23 06.3 -0.2
baz=297
HDIL Hopedale 137.77 34 P PKPdf 07 23 07.2 -0.1
baz=313
CCM Cathedral Cave 138.26 38 P PKPdf 07 23 07.4 -0.8
baz=309
U40A Yellville 138.26 42 P PKPdf 07 23 07.3 -1.0
baz=306
W39A Magazine 138.29 44 P PKPdf 07 23 07.8 -0.5
baz=304
D56A ZEC Mazanza, M 138.48 16 P PKPdf 07 23 08.0 -0.4
baz=337
ALGO Algonquin Park 138.49 19 P PKPdf 07 23 08.6 +0.2
baz=332
LATQ La Tuque 138.66 13 P PKPdf 07 23 09.1 +0.5
baz=340
MIAR Mount Ida 138.79 44 P PKPdf 07 23 08.6 -0.7
baz=303
E56A St. Veronique 138.87 16 P PKPdf 07 23 09.4 +0.3
baz=337
X40A Basin Creek Fa 139.34 44 P PKPdf 07 23 09.5 -0.8
baz=304
W41B Gary Mavity, V 139.35 43 P PKPdf 07 23 09.5 -0.8
baz=305
NATX Nacogdoches 139.44 49 P PKPdf 07 23 09.8 -0.7
baz=299
E58A La Victoria 139.49 14 P PKPdf 07 23 09.9 -0.3
baz=339
D60A Saint Jean D'O 139.51 12 P PKPdf 07 23 10.2 0.0
baz=343
D63A Stockholm 139.90 9 P PKPdf 07 23 10.7 -0.2
baz=347
E61A Lac Etchemin 140.06 12 P PKPdf 07 23 11.7 +0.5
baz=343
K56A Middlesex 141.60 21 P PKiKP 07 23 16.5 -0.7
baz=331
H62A Milan 141.69 13 P PKiKP 07 23 16.7 -0.6
baz=342
J58A Remsen 141.70 18 P PKiKP 07 23 16.6 -0.7
baz=335
M54A Oil Creek Stat 141.72 24 P PKiKP 07 23 16.3 -1.1
baz=327
G65A Princeton 141.77 9 P PKiKP 07 23 16.8 -0.5
baz=348
LBNH Lisbon 141.82 14 P PKiKP 07 23 17.3 -0.3
baz=340
BINY Binghamton 142.51 20 P PKPdf 07 23 13.1 -2.6
baz=333
L58A Harry Jones Me 142.69 20 P PKPdf 07 23 13.9 -2.2
baz=333
K61A Williamstown 142.93 17 P PKPdf 07 23 14.4 -2.1
baz=338
J63A Strafford 142.93 14 P PKPdf 07 23 14.1 -2.4
baz=341
SSPA Standing Stone 143.18 23 P PKPab 07 23 13.8 -0.5
baz=329
MCWV Mont Chateau 143.18 26 P PKPbc 07 23 14.6 -0.1
baz=326
O56A Blue Knob Stat 143.22 24 P PKPab 07 23 14.1 -0.4
baz=328
K62A Royalston 143.22 15 P PKPab 07 23 14.0 -0.3
baz=339
L61B Northampton 143.30 16 P PKPab 07 23 14.4 -0.3
baz=338
K63A Dunstable 143.38 15 P PKPbc 07 23 15.1 -0.1
baz=340
HRV Adam Dziewonsk 143.54 15 P PKPab 07 23 15.6 +0.1
baz=340
N59A State Game Lan 143.72 21 P PKPab 07 23 15.2 -1.1
baz=333
TZTN Tazewell 143.78 33 P PKPab 07 23 15.2 -1.4
baz=318
LRAL Lakeview Retre 144.11 41 P PKPbc 07 23 17.7 -0.2
baz=309
L63A North Scituate 144.13 15 P PKPbc 07 23 17.3 -0.3
baz=340

L64A	Middleborough	144.26	14	P		PKPbc	07 23 17.1	-1.0
	baz=341							
PAL	Palisades	144.26	19	P		PKPbc	07 23 16.8	-1.3
	baz=336							
P60A	Greenville	144.74	21	P		PKPbc	07 23 19.1	-0.6
	baz=332							
BLA	Blacksburg	144.89	29	P		**PKPdf**	**07 23 19.7**	**-0.5**
	baz=323							
BRAL	Brewton	145.22	44	P		**PKPbc**	**07 23 21.7**	**+0.3**
	baz=307							
KMSC	Kings Mountain	146.02	33	P		**PKPbc**	**07 23 23.1**	**-0.6**
	baz=319							
GOGA	Godfrey	146.07	37	P		**PKPbc**	**07 23 23.4**	**-0.4**
	baz=314							
CPUP	Villa Florida	146.35	184	PKP		**PKPdf**	**07 23 23.1**	**+0.2**
	comp=Z,42nm,0.9s,baz=170,slow=3.0,SNR=51							
CPUP				PKPbc		**PKPbc**	**07 23 25.1**	**+0.2**
	comp=Z,42nm,0.9s,baz=176,slow=2.0,SNR=58							
TIGA	Tifton	147.34	40	P		**PKPbc**	**07 23 27.2**	**-0.1**
	baz=312							
CNNC	Cliffs of the	147.69	29	P		**PKPbc**	**07 23 27.7**	**-0.4**
	baz=325							
NHSC	New Hope	148.18	34	P		**PKPbc**	**07 23 29.2**	**-0.4**
	baz=319							
DWPF	Disney Wildern	150.94	42	P		**PKPbc**	**07 23 35.3**	**-1.0**
	baz=311							
BDFB	Brasilia	154.31	207	PKP		**PKPdf**	**07 23 35.7**	**+0.2**
	comp=Z,7.6nm,0.8s,baz=126,slow=3.8,SNR=11							
BDFB				PKPbc		**PKPbc**	**07 23 44.0**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=140,slow=7.9,SNR=2.3							
BDFB				PKPab		**PKPab**	**07 24 00.7**	**+0.7**
	comp=Z,5.6nm,0.9s,baz=82,slow=7.1,SNR=4.9							
LPAZ	La Paz	155.00	161	PKP		**PKPdf**	**07 23 38.1**	**+1.0**
	comp=Z,4.5nm,0.9s,baz=184,slow=0.2,SNR=16							
LPAZ				PKPab		**PKPab**	**07 24 04.7**	**+1.1**
	comp=Z,21nm,0.8s,baz=181,slow=4.1,SNR=31							
SOLC	Bahia Solano	162.38	93	*e*P		**PKPdf**	**07 23 43.9**	**-1.1**
FLOC	Florencia	163.08	109	*e*P		**PKPdf**	**07 23 45.4**	**-0.4**
YOTC	Yotoco, Valle	163.10	101	*e*P		**PKPdf**	**07 23 42.0**	**-3.9**
PLMC	San Jos del P	163.33	98	*e*P		**PKPdf**	**07 23 46.8**	**+0.7**
MOTC	Monteria, Cord	164.15	84	*e*P		**PKPdf**	**07 23 45.2**	**-1.4**
TOLC	Tolima	164.22	99	*e*P		**PKPdf**	**07 23 47.0**	**-0.2**
HELC	Santa Helena	164.24	94	*e*P		**PKPdf**	**07 23 41.1**	**-6.2**
GUY2C	Guyana, Caldas	164.29	97	*e*P		**PKPdf**	**07 23 46.9**	**-0.6**
NORC	Norcasia	164.82	96	*e*P		**PKPdf**	**07 23 40.1**	**-7.3**
ZARC	Zaragoza, Cauc	164.98	89	⇓*e*P		**PKPdf**	**07 23 43.0**	**-4.5**
CHIC	Chingaza	165.78	101	*e*P		**PKPdf**	**07 23 46.8**	**-1.8**
OCAC	Ocana	166.49	86	*e*P		**PKPdf**	**07 23 44.9**	**-3.9**
RUSC	La Rusia	166.63	96	*e*P		**PKPdf**	**07 23 47.5**	**-1.9**

BGR ***02*** *07:18:11.7±0.0, 33°.48N×75°.17E, h10km, mb5.2*
NDI ***02*** *07:18:19.6±3.0, 34°.77N×73°.34E, h10km, mb5.4, ML4.9, mb5.3(NEIC)*
MOS ***02*** *07:18:22.8±0.9, 34°.47N×73°.64E, h15km, mb5.4/56, MS4.4/16, Error ellipse: s-maj=4.9km s-min=3.1km az=96.0*
NNC ***02*** *07:18:23.2±3.9, 34°.52N×73°.26E, h0km, mb5.5, mpv5.3, Error ellipse: s-maj=46.7km s-min=28.7km az=70.0*
NEIC ***02*** *07:18:24.0±2.1, 34°.45N±0°.04×73°.71E±0°.07, h10km±1km, mb5.3/92, Ms_20 4.6/104, Error ellipse: s-maj=10.7km s-min=6.2km az=116.0*
IDC ***02*** *07:18:25.6±2.5, 34°.48N×73°.61E, h22km±15km, mb4.9/48, mb1 5.0/55, mb1mx5.0/59, mbtmp5.1/55, ML4.6/7, MS4.1/29, Ms1 4.1/29, ms1mx3.9/59, Error ellipse: s-maj=10.3km s-min=8.0km az=4.0*
ISC 02 07:18:23.9±0.6, 34°.49N±0°.03×73°.66E±0°.03, h11km±3km, n995, σ1§39/1036, mb5.2/247, MS4.5/97, 94C-37D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	0.89	202	P	Pb	07 18 41.2	-0.2
NIL	Nilore	0.90	202	P	Pg	07 18 41.2	-0.1
NIL						07 18 52.4	
NIL	Nilore	0.90	202		Pg	07 18 41.2	-0.1
NIL					Sg	07 18 52.4	-0.7
CEP	Cherat	1.60	246	P	Pn	07 18 52.8	+0.7
THW	Thamme Wali	2.33	224	⇓P	Pn	07 19 04.0	+1.9
SARP	Sargodha	2.69	198	P	Pn	07 19 08.6	+1.5
KBL	Kabul	3.81	272	P	Pn	07 19 25.3	+2.7
KBL	Kabul	3.81	272	Pn	Pn	07 19 25.3	+2.7
KBL	Kabul	3.81	272	P	Pn	07 19 26.0	+3.3
	SNR=479						
KBL				S	Sn	07 20 13.3	+5.8
SMLA	Simla	4.47	138	*i* P	Pn	07 19 34.6	+3.1
SMLA				*e*S	Sn	07 20 26.1	+2.6
SMLA				IAML		07 20 48.2	
	comp=E,4μm,0.3s						
SMLA				IAML		07 20 49.8	
	comp=N,3μm,0.6s						
DRK	Karamyk	5.20	344		Pn	07 19 46.4	+4.6
KSH	Kashi	5.35	20	Pn	Pn	07 19 43.0	-0.7
KSH				Sn	Sn	07 20 40.2	-5.1
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,710nm,0.5s						
DDI	Dehra Dun	5.58	137	*e*P	Pn	07 19 49.0	+2.2
BTK	Batken	6.00	339	P	Pn	07 19 56.6	+4.0
BTK	Batken	6.00	339	Pn	Pn	07 19 56.6	+4.0
NDI	New Delhi	6.54	151	*e*P	Pn	07 20 01.0	+1.1
NDI				*ex*	x	07 21 14.5	
AML	Almayashu	7.63	0	P	Pn	07 20 18.4	+3.2
	SNR=64						
AML	Almayashu	7.63	0	*i* P	Pn	07 20 17.9	+2.6
	SNR=270						
AML	Almayashu	7.63	0	P	Pn	07 20 18.5	+3.2
TAS	Tashkent	7.64	334	P	Pn	07 20 16.9	+1.8
TAS	Tashkent	7.64	334	Pn	Pn	07 20 16.9	+1.8
TARG	Taragay, Kyrgy	7.93	23	Pn	Pn	07 20 21.1	+1.7
ULHL	Ulahol	8.00	14	P	Pn	07 20 24.4	+4.2
	SNR=14						
KDJ	Kajisay	8.11	19	P	Pn	07 20 24.9	+3.2
KDJ	Kajisay	8.11	19		Pn	07 20 24.9	+3.2
EKS2	Erkin-Say	8.16	1	P	Pn	07 20 25.7	+3.4
	SNR=277						
AAK	Ala-Archa	8.16	4	Pn	Pn	07 20 25.8	+3.5
	comp=E,3.5nm,0.3s,baz=188,slow=12,SNR=68						
AAK				Sn	Sn	07 21 56.3	+1.7
	comp=E,6.3nm,0.3s,baz=20,slow=23,SNR=1.5						
AAK				Lg	Lg	07 22 47.0	
	comp=E,3.6nm,0.3s,baz=117,slow=17,SNR=1.0						
AAK				LR	LR	07 23 53.1	
	comp=E,2μm,21.7s,baz=192,slow=40						
AAK	Ala-Archa	8.16	4	P	Pn	07 20 25.8	+3.5
	SNR=50						
AAK	Ala-Archa	8.16	4	*i* P	Pn	07 20 25.6	+3.2
	SNR=52						
AAK	Ala-Archa	8.16	4	⇓Pn	Pn	07 20 25.5	+3.2
	comp=E,103nm,0.9s						
AAK				⇑Sn	Sn	07 21 56.8	+2.2
	comp=E,193nm,1.0s						
AAK				⇓Lg	Lg	07 22 37.5	
	comp=E,183nm,0.8s						
AAK	Ala-Archa	8.16	4	P	Pn	07 20 25.8	+3.5
AAK						07 21 56.3	
AAK	Ala-Archa	8.16	4		Pn	07 20 25.1	+2.8
AAK	Ala-Archa	8.16	4	P	Pn	07 20 26.3	+4.0
AAK				S	Sn	07 22 00.3	+5.7
BOOM	Boomskoye usch	8.19	12	P	Pn	07 20 25.5	+2.8
BOOM	Boomskoye usch	8.19	12	Pn	Pn	07 20 25.5	+2.8
FRU1	Bishkek	8.34	5	P	Pn	07 20 28.4	+3.7
FRU1	Bishkek	8.34	5	Pn	Pn	07 20 28.4	+3.7
CHMS	Chumysh	8.54	5	P	Pn	07 20 30.8	+3.4
	SNR=85						
TKM2	Tokmak 2	8.55	10	P	Pn	07 20 31.4	+3.6
	SNR=32						
TKM2	Tokmak 2	8.55	10	⇑Pn	Pn	07 20 30.7	+2.9
	comp=E,12nm,0.2s						
DZA	Taraz	8.58	348	*e*P	Pn	07 20 29.2	+1.1
	baz=348						
DZA				*e*S	Sn	07 22 04.0	-0.8
	baz=348						
DZA	Taraz	8.58	348	*e*P	Pn	07 20 29.1	+1.1
DZA				*e*S	Sn	07 22 04.0	-0.8
USP	Ospenovka	8.79	4	P	Pn	07 20 34.9	+4.0
	SNR=12						
KK31	Karatay Array	8.94	345	⇓Pn	Pn	07 20 34.3	+1.3
	comp=E,248nm,0.5s,baz=159,slow=12						
KK31				⇓Sn	Sn	07 22 12.7	-1.0
	comp=E,143nm,0.5s,baz=169,slow=21						
KK31	Karatay Array	8.94	345	P	Pn	07 20 34.9	+2.0
KK31	Karatay Array	8.94	345		Pn	07 20 34.9	+2.0
KKAR	Karatay Array	8.94	345	P	Pn	07 20 34.8	+1.9
KKAR	Karatay Array	8.94	345		Pn	07 20 34.8	+1.9
SGDS	Sogindy	8.98	5	⇑*i*P	Pn	07 20 35.4	+1.9
	baz=4.6						
SGDS	Sogindy	8.98	5	*c i* P	Pn	07 20 35.4	+1.9
MDOK	Medeo	9.05	16	*i* P	Pn	07 20 36.8	+2.2
	baz=16						
MDOK	Medeo	9.05	16	⇑Pn	Pn	07 20 36.8	+2.2
	comp=E,0.3nm,0.1s						
MDOK	Medeo	9.05	16	*i* P	Pn	07 20 36.8	+2.2
AAA	Alma-Ata	9.07	15	*e*P	Pn	07 20 36.6	+1.9
SATY	Saty	9.32	22	⇑*i*P	Pn	07 20 40.4	+2.1
	baz=22						
SATY	Saty	9.32	22	*c i*P	Pn	07 20 40.3	+2.1
HRA	Herat	9.43	273		Pn	07 20 42.2	+2.4
KUU	Kurty	9.62	12	⇑*i*P	Pn	07 20 43.5	+1.3
	baz=12						
KUU	Kurty	9.62	12	*c i*P	Pn	07 20 43.5	+1.3
CHKK	Chushkaly	9.70	14	⇑*i*P	Pn	07 20 44.8	+1.5
	baz=14						
CHKK	Chushkaly	9.70	14	*c i*P	Pn	07 20 44.8	+1.5
SHLS	Shalkode	9.76	26	⇑*i*P	Pn	07 20 48.5	+4.2
	baz=28						
SHLS	Shalkode	9.76	26	*c i*P	Pn	07 20 48.4	+4.2
KPKS	Kokpek	9.78	22	⇑*i*P	Pn	07 20 46.5	+2.1
	baz=22						
KPKS	Kokpek	9.78	22	*c i*P	Pn	07 20 46.5	+2.1
PDGK	Podgornoye	9.92	25	⇑Pn	Pn	07 20 48.7	+2.3
	comp=E,200nm,0.7s						
ARXS	Arharly	10.23	17	*e*P	Pn	07 20 51.7	+1.1
BTLS	Baital	10.54	2	⇑*i*P	Pn	07 20 55.8	+1.0
	baz=1.5						
BTLS				*e*S	Sn	07 22 54.5	+1.7
	baz=1.5						
BTLS	Baital	10.54	2	*c i*P	Pn	07 20 55.8	+1.0
BTLS				*e*S	Sn	07 22 54.5	+1.7
TDK	Taldyqorghan	11.11	18	*e*P	Pn	07 21 01.3	-1.3
	baz=18						
TDK	Taldyqorghan	11.11	18	*e*P	Pn	07 21 01.3	-1.3
BHPL	Bhopal	11.68	163	*e*P	Pn	07 21 09.4	-1.1
BHPL				*e*S	Sn	07 23 14.1	-6.9
GEYT	Alibeck	13.01	290	Pn	Pn	07 21 28.0	-0.6
	comp=E,1.9nm,0.3s,baz=102,slow=13,SNR=37						
GEYT				Sn	Sn	07 23 54.2	+0.9
	comp=E,4.6nm,0.3s,baz=100,slow=12,SNR=4.5						
GEYT				LR	LR	07 27 31.0	
	comp=E,447nm,19.4s,baz=80,slow=42						
GEYT	Alibeck	13.01	290		Pn	07 21 28.0	-0.6
GYA0B	ALIBECK ARRAY	13.01	290	Pn	Pn	07 21 27.6	-1.1
OTUK	Ortayu	13.78	356	⇑Pn	Pn	07 21 38.0	-1.1
	comp=E,293nm,0.8s						
MAKZ	Makanchi	13.82	25	⇑Pn	Pn	07 21 39.2	-0.4
	comp=E,90nm,1.1s						
MAKZ	Makanchi	13.82	25	P	Pn	07 21 40.7	+1.1
MAKZ	Makanchi	13.82	25		Pn	07 21 40.7	+1.1
MK31	Makanchi Array	13.91	25	P	Pn	07 21 40.9	0.0
MK31	Makanchi Array	13.91	25	Pn	Pn	07 21 40.9	0.0
MKAR	Makanchi Array	13.91	25	Pn	Pn	07 21 41.5	+0.6
	comp=E,1.0nm,0.3s,baz=203,slow=12,SNR=54						
MKAR				Sn	Sn	07 24 16.2	+0.8
	baz=213,slow=23,SNR=1.8						
MKAR				LR	LR	07 27 56.6	
	comp=E,687nm,20.7s,baz=206,slow=41						
MKAR	Makanchi Array	13.91	25	P	Pn	07 21 41.5	+0.6
MKAR	Makanchi Array	13.91	25	Pn	Pn	07 21 40.7	-0.2
WMQ	Urumqi	14.31	45	*e*P	Pn	07 21 44.8	-1.6
WMQ				pP	P	07 21 50.4	-3.2
WMQ				sP		07 21 55.2	
WMQ				PP	PnPn	07 21 59.8	+5.4
WMQ				S	Sn	07 24 21.4	-3.8
WMQ				sS	S	07 24 36.0	-10
WMQ				pmax	pmax		
	comp=E,180nm,0.9s						
WMQ				pmax	pmax		
	comp=E,390nm,4.3s						
WMQ				LR	LR		
	comp=E,4μm,11.3s						
WMQ				LR	LR		
	comp=E,4μm,14.9s						
WMQ				LR	LR		
	comp=E,5μm,13.1s						
WMQ	Urumqi	14.31	45	P	Pn	07 21 45.8	-0.7
WMQ	Urumqi	14.31	45		Pn	07 21 45.8	-0.7
GTK	Tadong	14.68	115	*ex*	x	07 21 48.7	
BOK	Bokaro	15.07	132	*e*P	Pn	07 21 53.7	-3.1
BOK				*i* x	x	07 22 03.9	
BRZS	Berezniki	15.50	358	⇑*i*P	Pn	07 21 59.8	-2.5
	baz=358						
BRZS	Berezniki	15.50	358	*c i*P	Pn	07 21 59.7	-2.5
LSA	Lhasa	15.57	103	P	Pn	07 22 01.0	-2.8
LSA				LR	LR		
	comp=E,770nm,8.2s						
LSA				LR	LR		
	comp=E,710nm,7.5s						
LSA				LR	LR		
	comp=E,950nm,9.6s						
LSA	Lhasa	15.57	103	P	Pn	07 22 00.9	-2.8
LSA				pmax	pmax		
	comp=Z,54nm,0.7s						
LSA	Lhasa	15.57	103	Pn	Pn	07 22 00.9	-2.9
LSA	Lhasa	15.57	103	P	Pn	07 22 01.8	-2.0
POO	Poona	15.90	179	⇑*i x*	x	07 22 01.0	
DHUB	DHUBRI	16.43	117	*ex*	x	07 22 10.2	
DHUB				IAmb	IAmb	07 22 18.6	
	comp=Z,145nm,0.3s						
KURBB	Kurchatov Arra	16.51	11	Pn	Pn	07 22 12.9	-2.3
	comp=Z,1.5nm,0.3s,baz=199,slow=11,SNR=32						
KURBB				PcP	PcP	07 27 06.6	+0.4
	comp=Z,0.1nm,0.3s,baz=226,slow=2.5,SNR=4.7						
KURBB				PKiKP	PKiKP	07 34 58.0	-1.3
	comp=Z,0.0nm,0.3s,baz=210,slow=0.7,SNR=7.7						
KURBB	Kurchatov Arra	16.51	11	⇑Pn	Pn	07 22 12.9	-2.3
	comp=Z,98nm,0.8s						
KURK	Kurchatov	16.61	11	P	Pn	07 22 12.9	-3.7
SEM	Semipalatinsk	16.62	15	*e*P	Pn	07 22 14.5	-2.5
	baz=15						
SEM	Semipalatinsk	16.62	15	*e*P	Pn	07 22 14.4	-2.5
BANOM	Banah	17.25	245	*i* P	Pn	07 22 24.2	-0.5
	SNR=5.1						
BANOM	Banah	17.25	245	P	P	07 22 26.4	+0.2
	SNR=7.1						
WSAR	Wadi Sarin	17.27	233	P	Pn	07 22 24.1	-0.8
	comp=Z,0.4nm,0.3s,baz=75,slow=12,SNR=6.5						
WSAR	Wadi Sarin	17.27	233	P	Pn	07 22 24.1	-0.8
WSAR	Wadi Sarin	17.27	233	P	P	07 22 27.8	+1.4
SHME	Shamm	17.30	246	*i* P	Pn	07 22 25.5	+0.2
	SNR=8.5						
SHME	Shamm	17.30	246	P	Pn	07 22 26.1	+0.8
	SNR=8.4						
SHME				P	Pn	07 22 26.1	+0.8
	SNR=8.4						
BIDO	Bidbid	17.41	235	P	P	07 22 29.4	+1.4
	SNR=5.3						
BIDO				P	P	07 22 29.4	+1.4
	SNR=5.3						
WBK	Wadi Bani Khal	17.49	231	P	P	07 22 29.3	+0.4
	SNR=6.3						
JLN	Jalan Bani Buh	17.54	229	P	P	07 22 31.0	+1.6
	SNR=5.2						
JLN				P	P	07 22 31.0	+1.6
	SNR=5.2						
HYB	Hyderabad	17.56	164	*i* P	P	07 22 30.0	+0.3
HYB				*e*S	Sn	07 25 46.0	+1.8
MDH	Madha	17.60	243	*i* P	Pn	07 22 28.5	-0.6
	SNR=6.0						
MDH	Madha	17.60	243	P	Pn	07 22 29.6	+0.5
MASF	Masafi	17.66	244	P	P	07 22 32.5	+1.7
	SNR=18						
MSFE	Esma-Masafi	17.67	244	*i* P	P	07 22 32.0	+1.1
	SNR=43						
SMDO	Samad	17.78	234	P	P	07 22 33.1	+0.9
	SNR=5.6						
SMDO				P	P	07 22 33.1	+0.9
	SNR=5.6						
UOSS	Minazif	17.88	243	*i* P	Pn	07 22 32.5	0.0
	SNR=8.9						
UOSS	Minazif	17.88	243	Pn	Pn	07 22 31.7	-0.8
UOSS	Minazif	17.88	243	P	Pn	07 22 33.1	+0.6
UOSS				P	Pn	07 22 33.1	+0.6
AB31	Akbulak array	17.90	330	⇓Pn	Pn	07 22 31.1	-1.5
	comp=Z,44nm,0.7s						
ABKAR	Akbulak array	17.90	330	P	Pn	07 22 31.7	-0.9
HOQ	Hoqain	17.93	237	P	P	07 22 36.0	+2.2
HOQ				P	P	07 22 36.0	+2.2
HATD	Hatta, Dubai	18.00	242	P	P	07 22 35.0	+0.5
HATD	Hatta, Dubai	18.00	242	P	P	07 22 35.5	+0.9
	SNR=5.8						
HATD				P	P	07 22 35.5	+0.9
	SNR=5.8						
SHL	Shillong	18.09	115	P	Pn	07 22 31.6	-3.8
SHL				pmax	pmax		
	comp=Z,209nm,0.9s						
SHL	Shillong	18.09	115	Pn	Pn	07 22 31.6	-3.8
SHL				IAmb	IAmb	07 22 43.3	
	comp=Z,209nm,0.9s						
SHL	Shillong	18.09	115	P	Pn	07 22 31.6	-3.8
	SNR=55						
SOHO	SOHO	18.13	240	*i* P	Pn	07 22 35.7	+0.1
	SNR=18						
SOHO	SOHO	18.13	240	P	Pn	07 22 36.0	+0.5
SOHO				P	Pn	07 22 36.0	+0.5
ASHO	Ashiyiah	18.14	242	*i* P	P	07 22 37.3	+1.3
	SNR=26						
ASHO	Ashiyiah	18.14	242	P	P	07 22 37.8	+1.7
	SNR=13						
JMDO	Jabal Madar	18.22	233	P	P	07 22 39.3	+2.4
NAZ	Nazwa, Dubai	18.25	244	*i* P	Pn	07 22 37.3	+0.2
	SNR=14						
NAZ	Nazwa, Dubai	18.25	244	P	P	07 22 39.1	+1.8
	SNR=14						
DGZ	Jazzator, Alta	18.27	30	*d i*P	Pn	07 22 37.4	+0.1
FAQ	Al Faqa, Dubai	18.44	243	*i* P	P	07 22 40.0	+0.6
	SNR=5.8						
FAQ	Al Faqa, Dubai	18.44	243	P	Pn	07 22 40.9	+1.5
BSY	Bisya	18.57	235	P	Pn	07 22 43.0	+2.0
	SNR=6.0						
BSY				P	Pn	07 22 43.0	+2.0
	SNR=6.0						
BSY				P	Pn	07 22 43.0	+2.0
	SNR=6.0						
ARQ	Araqi	18.64	238	P	Pn	07 22 44.2	+2.3
	SNR=12						
BVAR	Borovoye Array	18.68	354	P	P	07 22 40.8	-1.0
	comp=Z,8.8nm,0.3s,baz=202,slow=19,SNR=110						
BVAR	Borovoye Array	18.68	354	P	P	07 22 40.8	-1.0
BVAR	Borovoye Array	18.68	354	P	P	07 22 40.8	-1.0
ASUD	Al Ashush, Dub	18.71	243	P	Pn	07 22 44.2	+1.5
ASUD	Al Ashush, Dub	18.71	243	P	Pn	07 22 44.8	+2.1
ITAN	ITANAGAR	18.71	108	*e*P	P	07 22 42.2	-0.1
ITAN				IAmb	IAmb	07 22 47.0	
	comp=Z,347nm,1.3s						
BRVK	Borovoye	18.72	354	⇑Pn	P	07 22 40.6	-1.6
	comp=Z,74nm,0.8s						
BRVK				⇑Sn	Sn	07 26 13.4	+1.6
	comp=Z,40nm,1.2s						
BRVK	Borovoye	18.72	354	*d i*P	P	07 22 42.2	0.0
BRVK				pmax	pmax		
	comp=Z,76nm,0.7s						
BRVK	Borovoye	18.72	354		P	07 22 41.8	-0.4
BRVK				IAmb	IAmb	07 22 44.0	
	comp=Z,81nm,0.8s						
BRVK	Borovoye	18.72	354	P	Pn	07 22 43.6	+1.0
ALNE	Al Ain	18.74	241	*i* P	Pn	07 22 44.4	+1.3
	SNR=15						
ALNE	Al Ain	18.74	241	P	Pn	07 22 45.6	+2.5
	SNR=12						
SILR	SILCHAR	19.22	115	*ex*	x	07 22 52.1	
MHTO	MHTO	19.30	230	P	Pn	07 22 51.3	+1.5
DIBR	DIBRUGARH	19.50	105	*e*P	Pn	07 22 52.1	-0.2
DIBR				IAmb	IAmb	07 22 53.4	
	comp=Z,128nm,0.6s						
AKTO	Aktyubinsk	19.61	329	P	P	07 22 52.5	+0.5
	comp=Z,16nm,0.3s,baz=133,slow=9.5,SNR=578						
AKTO				S	S	07 26 23.2	-10
	comp=Z,0.9nm,0.3s,baz=345,slow=19,SNR=3.4						
AKTO				LR	LR	07 31 23.4	
	comp=Z,236nm,19.9s,baz=149,slow=40						
AKTO	Aktyubinsk	19.61	329	P	P	07 22 52.5	+0.5
AKTO	Aktyubinsk	19.61	329		S	07 26 23.2	-10
BRDH	Bariadhala	19.66	122	LR	LR	07 31 46.6	
	comp=Z,139nm,20.2s,baz=297,slow=41						
KOHI	KOHIMA	19.71	111	*e*P	P	07 22 51.8	-1.6
KOHI				IAmb	IAmb	07 22 56.5	
	comp=Z,184nm,1.0s						
MOKO	MOKOCHONG	19.72	109	*e*P	P	07 22 51.8	-1.8
MOKO				IAmb	IAmb	07 22 55.7	
	comp=Z,168nm,0.3s						
UMZA	Um Al Zommool	20.00	239	P	Pn	07 22 59.2	+1.0
IMP	Imphal	20.06	113	*e*P	P	07 22 56.9	-0.3
IMP				IAmb	IAmb	07 23 01.3	
	comp=Z,128nm,1.0s						
LKP	Lekhapani	20.31	105	*e*P	P	07 22 58.9	-0.9
LKP				IAmb	IAmb	07 23 01.1	
	comp=Z,98nm,1.0s						
DQM	DQM	20.35	229	P	Pn	07 23 02.8	+0.5
DQM				P	Pn	07 23 02.8	+0.5
LKRN	Lenkeran, Azer	20.39	289	P	Pn	07 23 02.9	+0.2
JRN	Garnain Island	20.39	248	P	P	07 23 01.4	+0.7
	SNR=7.0						
GHWR	Ruwais	20.91	245	P	Pn	07 23 08.9	0.0
ZAA0	Zalesovo Array	20.98	19	⇑Pn	P	07 23 06.3	-0.6
	comp=Z,39nm,1.1s						
ZAA0	Zalesovo Array	20.98	19	P	P	07 23 06.8	-0.1
ZAA0				IAmb	IAmb	07 23 11.7	
	comp=Z,196nm,1.1s						
ZALV	Zalesovo Beam	20.98	19	P	P	07 23 06.8	-0.1
	comp=Z,78nm,0.6s,baz=212,slow=10,SNR=103						
ZALV	Zalesovo Beam	20.98	19	P	P	07 23 06.8	-0.1
ZALV	Zalesovo Beam	20.98	19	P	P	07 23 06.6	-0.3
SHMA	Al-Shehemyia	21.39	252	P	P	07 23 13.3	+1.8
GTA	Gaotai	21.44	69	⇑P	P	07 23 13.3	+1.2
GTA				pP	sP	07 23 17.7	-0.4
GTA				sP	pP	07 23 20.8	+4.5
GTA				S	S	07 27 12.2	+2.3
GTA				pmax	pmax		
	comp=Z,72nm,0.8s						
GTA				pmax	pmax		
	comp=Z,230nm,4.4s					

ARU SS **SnSn** **07 28 44.5 +3.2**
ARU SSS SSS 07 29 03.6
ARU pmax pmax
comp=Z,215nm,1.0s
ARU MLR MLR
comp=Z,542nm,13.0s
ARU Arti 24.25 339 P **P** **07 23 41.2 +0.5**
RBK Rabkut 24.26 231 P **P** **07 23 42.3 +1.3**
ZEI Tsey 24.58 299 *e*P **P** **07 23 44.7 +0.7**
ZEI pmax pmax
comp=Z,32nm,1.2s
LZH Lanzhou 24.65 78 ⇓P **P** **07 23 46.5 +1.8**
LZH pP sP 07 23 53.0 +2.7
LZH sP pP 07 23 58.6 +9.5
LZH S **S** **07 27 56.8 -9.2**
LZH sS sS 07 28 15.6 +2.8
LZH SS **SnSn** **07 28 55.4 +3.9**
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,350nm,4.3s
LZH LR LR
comp=Z,620nm,15.7s
LZH LR LR
comp=Z,590nm,16.8s
LZH LR LR
comp=Z,460nm,15.7s
GEVA Gevas 24.86 288 P **P** **07 23 47.7 +1.1**
ONI Oni 24.87 298 P **P** **07 23 49.0 +2.5**
ONI pmax pmax
comp=Z,34nm,0.9s
ONI Oni 24.87 298 P **P** **07 23 49.0 +2.5**
ONI IAmb IAmb 07 24 26.3
comp=Z,34nm,0.9s
KARS Kars 24.93 293 P **P** **07 23 48.6 +1.5**
KARS pmax pmax
comp=Z,144nm,1.0s
KARS Kars 24.93 293 P **P** **07 23 48.6 +1.5**
KARS IAmb IAmb 07 23 51.0
comp=Z,144nm,1.0s
NCK Nalchik 24.93 300⇑ *e*P **P** **07 23 47.6 +0.7**
NCK pmax pmax
comp=Z,76nm,0.8s
ABTO Aybut 24.95 232 P **P** **07 23 48.5 +1.2**
KBZ Khabaz 25.47 300 P **P** **07 23 51.4 -0.3**
comp=Z,14nm,0.8s,baz=111,slow=7.1,SNR=27
KBZ Khabaz 25.47 300 P **P** **07 23 51.4 -0.3**
KBZ Khabaz 25.47 300 P **P** **07 23 51.4 -0.3**
NEY Neytrino 25.51 299⇓ *e*P **P** **07 23 54.9 +2.5**
NEY pmax pmax
comp=Z,6.0nm,0.8s
CD2 Chengdu 25.53 90⇑ *i*P **P** **07 23 52.8 +0.2**
CD2 pP pP 07 23 54.5 -2.1
CD2 S **S** **07 28 20.3 +0.2**
CD2 sS sS 07 28 25.4 -1.4
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,260nm,4.9s
CD2 LR LR
comp=Z,980nm,15.0s
CD2 LR LR
comp=Z,970nm,13.3s
CD2 LR LR
comp=Z,910nm,12.1s
GOF Gofitskoye 25.65 303⇑ *e*P **P** **07 23 53.9 +0.5**
GOF pmax pmax
comp=Z,73nm,0.7s
KVAR Kislovodsk Arr 25.66 301 P **P** **07 23 54.3 +0.6**
comp=Z,2.7nm,0.4s,baz=90,slow=20,SNR=1.7
KVAR Kislovodsk Arr 25.66 301 P **P** **07 23 54.3 +0.6**
KIV Kislovodsk 25.66 301 *e*P **P** **07 23 53.7 0.0**
KIV pmax pmax
comp=Z,72nm,1.1s
KIV MLR MLR
comp=Z,547nm,15.0s
KIV Kislovodsk 25.66 301 P **P** **07 23 53.1 -0.6**
KIV IAmb IAmb 07 24 49.2
comp=Z,36nm,0.8s
KIV Kislovodsk 25.66 301 P **P** **07 23 56.1 +2.4**
BELG Belogornoye 25.81 322 P **P** **07 23 54.7 0.0**
comp=Z,161nm,0.9s,baz=107,slow=1.7,SNR=40
BELG Belogornoye 25.81 322 P **P** **07 23 54.7 0.0**
MOY Mondy 26.10 41 *e*P **P** **07 23 59.2 +1.6**
MOY pmax pmax
comp=Z,87nm,1.8s
MARD Mardin 26.71 286 P **P** **07 24 04.1 +0.8**
ZAK Zakamensk 26.78 45 *e*P **P** **07 24 04.2 +0.4**
ZAK pmax pmax
comp=Z,28nm,1.4s
KMI Kunming 26.83 103 ⇓P **P** **07 24 04.7 +0.2**
KMI pP sP 07 24 09.1 -1.2
KMI PP **PnPn** **07 24 50.7 +4.7**
KMI S **S** **07 28 37.8 -3.1**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI LR LR
comp=Z,290nm,13.3s
KMI LR LR
comp=Z,380nm,11.9s
KMI LR LR
comp=Z,550nm,11.8s
RAYN Ar Rayn 26.86 253 P **P** **07 24 04.5 -0.1**
RAYN Ar Rayn 26.86 253 P **P** **07 24 03.9 -0.7**
RAYN pmax pmax
comp=Z,31nm,1.1s
RAYN Ar Rayn 26.86 253 P **P** **07 24 03.9 -0.7**
MHMT Maesarieng 27.05 121 P **P** **07 24 06.7 +0.5**
comp=Z,1μmcomp=Z,132nm,0.6s
MHMT Maesarieng 27.05 121 P **P** **07 24 06.8 +0.5**
comp=Z,1μmcomp=Z,132nm,0.6s
CHTO Chiang Mai 27.36 118 P **P** **07 24 08.9 -0.2**
CHTO pmax pmax
comp=Z,98nm,0.8s
CHTO Chiang Mai 27.36 118 P **P** **07 24 09.6 +0.5**
comp=Z,1μmcomp=Z,162nm,1.0s
CHTO Chiang Mai 27.36 118 P **P** **07 24 08.9 -0.2**
CHTO Chiang Mai 27.36 118 P **P** **07 24 09.9 +0.8**
CM33 Chiang Mai Arr 27.36 118 P **P** **07 24 09.0 -0.1**
CM32 Chiang Mai Arr 27.39 119 P **P** **07 24 09.0 -0.4**
CM34 Chiang Mai Arr 27.49 118 P **P** **07 24 10.0 -0.2**
TLY Talaya 27.56 42 P **P** **07 24 12.3 +1.7**
comp=Z,3.9nm,0.6s,baz=250,slow=7.8,SNR=7.8
TLY LR LR 07 36 46.5
comp=Z,2μm,18.8s,baz=245,slow=40
TLY Talaya 27.56 42 *e*P **P** **07 24 12.4 +1.7**
TLY pmax pmax
comp=Z,60nm,1.6s
TLY MLR MLR
comp=Z,4μm,14.0s
TLY Talaya 27.56 42 P **P** **07 24 11.6 +1.0**
TLY IAMs_20 IAMs_20 07 36 33.0
comp=Z,2μm,18.0s
TLY Talaya 27.56 42 P **P** **07 24 12.9 +2.3**
TLY P **P** **07 24 12.9 +2.3**
CM15 Chiang Mai Arr 27.58 119 P **P** **07 24 12.0 +1.0**
comp=Z,999nmcomp=Z,123nm,1.0s
CM15 Chiang Mai Arr 27.58 119 P **P** **07 24 12.1 +1.0**
comp=Z,999nmcomp=Z,123nm,1.0s
CM13 Chiang Mai Arr 27.59 119 P **P** **07 24 11.8 +0.7**
comp=Z,803nmcomp=Z,109nm,0.9s
CM13 Chiang Mai Arr 27.59 119 P **P** **07 24 11.8 +0.7**
comp=Z,803nmcomp=Z,109nm,0.9s
CM31 Chiang Mai Arr 27.59 119 P **P** **07 24 12.2 +1.1**
comp=Z,42μmcomp=Z,2μm,1.1s
CM31 Chiang Mai Arr 27.59 119 P **P** **07 24 10.5 -0.7**
CM31 Chiang Mai Arr 27.59 119 P **P** **07 24 11.5 +0.4**
SNR=31
CMAR Chiang Mai Arr 27.59 119 P **P** **07 24 11.6 +0.5**
comp=Z,64nm,1.0s,baz=299,slow=8.6,SNR=107
CMAR PcP **PcP** **07 27 29.2 +0.4**
comp=Z,6.7nm,0.8s,baz=296,slow=3.7,SNR=5.3
CMAR ScP **ScP** **07 31 07.8 -1.5**
comp=Z,1.1nm,0.3s,baz=296,slow=2.9,SNR=4.8
CMAR LR LR 07 37 35.1
comp=Z,236nm,19.4s,baz=358,slow=42
CMAR Chiang Mai Arr 27.59 119 P **P** **07 24 11.6 +0.5**
CMAR 07 27 29.2
CMAR Chiang Mai Arr 27.59 119 P **P** **07 24 11.3 +0.2**
CM35 Chiang Mai Arr 27.60 118 P **P** **07 24 12.0 +0.8**
CM02 Chiang Mai Arr 27.61 119 P **P** **07 24 12.2 +0.9**
comp=Z,747nmcomp=Z,102nm,1.0s
CM02 Chiang Mai Arr 27.61 119 P **P** **07 24 12.2 +0.9**
comp=Z,747nmcomp=Z,102nm,1.0s
CM01 Chiang Mai Arr 27.62 119 P **P** **07 24 12.3 +0.9**
comp=Z,654nmcomp=Z,64nm,1.1s
CM01 Chiang Mai Arr 27.62 119 P **P** **07 24 12.3 +0.9**
comp=Z,654nmcomp=Z,64nm,1.1s
CM05 Chiang Mai Arr 27.63 119 P **P** **07 24 12.1 +0.6**
comp=Z,613nmcomp=Z,80nm,1.0s
CM05 Chiang Mai Arr 27.63 119 P **P** **07 24 12.0 +0.6**
comp=Z,613nmcomp=Z,80nm,1.0s
CM09 Chiang Mai Arr 27.63 119 P **P** **07 24 12.4 +0.9**
comp=Z,605nmcomp=Z,86nm,1.0s
CM09 Chiang Mai Arr 27.63 119 P **P** **07 24 12.4 +0.9**
comp=Z,605nmcomp=Z,86nm,1.0s
CM04 Chiang Mai Arr 27.65 119 P **P** **07 24 12.4 +0.7**
comp=Z,770nmcomp=Z,104nm,1.0s
CM04 Chiang Mai Arr 27.65 119 P **P** **07 24 12.4 +0.7**
comp=Z,770nmcomp=Z,104nm,1.0s
CM36 Chiang Mai Arr 27.66 119 P **P** **07 24 11.0 -0.8**
SOC Sochi 27.73 299 *e*P **P** **07 24 11.2 -0.9**
SOC *e*S **S** **07 28 52.3 -2.0**
SOC MLR MLR
comp=Z,202nm,17.0s
SONM Songino Array 27.79 51 P **P** **07 24 14.3 +1.4**
comp=Z,31nm,0.9s,baz=252,slow=9.4,SNR=128
SONM ScP **ScP** **07 31 08.4 -1.2**
comp=Z,1.2nm,0.8s,baz=242,slow=3.1,SNR=3.1
SONM LR LR 07 36 40.8
comp=Z,2μm,19.2s,baz=236,slow=39
SONM Songino Array 27.79 51 P **P** **07 24 14.3 +1.4**
SONM Songino Array 27.79 51 P **P** **07 24 13.5 +0.7**
SONM IAmb IAmb 07 24 15.4
comp=Z,44nm,1.0s
SONM Songino Array 27.79 51 **ScP** **07 31 08.4 -1.2**
PALK Pallekele 27.86 165 P **P** **07 24 14.3 +0.7**
comp=Z,14nm,0.9s,baz=34,slow=7.3,SNR=4.4
PALK ScP **ScP** **07 31 08.6 -1.5**
comp=Z,7.8nm,0.8s,baz=190,slow=9.8,SNR=3.6
PALK LR LR 07 35 59.1
comp=Z,531nm,20.9s,baz=95,slow=38
PALK Pallekele 27.86 165 P **P** **07 24 14.3 +0.7**
PALK Pallekele 27.86 165 P **P** **07 24 14.3 +0.7**
PALK Pallekele 27.86 165 **ScP** **07 31 08.6 -1.5**
PALK Pallekele 27.86 165 IAmb IAmb 07 25 05.5
comp=Z,40nm,1.1s
LAMP Lampang 28.05 118 P **P** **07 24 15.6 +0.4**
comp=Z,509nmcomp=Z,58nm,0.7s
LAMP Lampang 28.05 118 P **P** **07 24 15.7 +0.4**
comp=Z,127nmcomp=Z,14nm,0.7s
IRK Irkutsk 28.16 42 *e*P **P** **07 24 16.0 0.0**
IRK pmax pmax
comp=Z,50nm,2.2s
ULN Ulaanbaatar 28.22 52 *c i*P **P** **07 24 17.9 +1.1**
ULN pmax pmax
comp=Z,43nm,1.2s
ULN Ulaanbaatar 28.22 52 P **P** **07 24 17.4 +0.6**
ULN IAmb IAmb 07 24 19.1
comp=Z,41nm,1.1s
ULN Ulaanbaatar 28.22 52 P **P** **07 24 18.3 +1.5**
ULN P **P** **07 24 18.3 +1.5**
VRH Novokhopyorsk 28.46 316 *e*P **P** **07 24 17.2 -1.4**
VRH pmax pmax
comp=Z,20nm,0.7s
KIRV Kirov 29.00 334 P **P** **07 24 23.8 +0.6**
comp=Z,176nm,0.6s,baz=123,slow=3.8,SNR=51
KIRV LR LR 07 36 43.5
comp=Z,259nm,21.3s,baz=140,slow=38
KIRV Kirov 29.00 334 P **P** **07 24 23.8 +0.6**
UMPA Umpang Tak 29.03 123 P **P** **07 24 26.1 +2.1**
comp=Z,4μmcomp=Z,54nm,0.8s
XAN Xi'an 29.06 81 P **P** **07 24 24.4 +0.2**
XAN pP pP 07 24 27.3 -0.9
XAN S **S** **07 29 20.6 +5.0**
XAN SS **SnSn** **07 30 40.6 +1.5**
XAN pmax pmax
comp=Z,50nm,1.0s
XAN LR LR
comp=Z,420nm,14.1s
XAN LR LR
comp=Z,540nm,13.1s
XAN LR LR
comp=Z,590nm,15.3s
XAN Xi'an 29.06 81 P **P** **07 24 24.5 +0.2**
XAN Xi'an 29.06 81 P **P** **07 24 24.5 +0.2**
UTTA Uttaradit 29.22 118 P **P** **07 24 26.0 +0.4**
comp=Z,468nmcomp=Z,42nm,0.7s
UTTA Uttaradit 29.22 118 P **P** **07 24 26.0 +0.4**
comp=Z,117nmcomp=Z,10nm,0.7s
BTO Baotou 29.32 67 *e*P **P** **07 24 25.4 -1.2**
GYA Guiyang 29.45 97 *e*P **P** **07 24 27.1 -0.8**
GYA S **S** **07 29 18.9 -3.2**
GYA LR LR
comp=Z,60nm,12.5s
GYA LR LR
comp=Z,91nm,12.6s
GYA LR LR
comp=Z,110nm,11.4s
PHIT Phitsanulok 29.48 119 P **P** **07 24 29.0 +1.1**
comp=Z,148nm,0.8s
PHIT Phitsanulok 29.48 119 P **P** **07 24 29.1 +1.1**
comp=Z,37nm,0.8s
ANN Anapa 29.52 301 *e*P **P** **07 24 24.6 -3.4**
ANN *e**PP **pP** **07 24 29.1 -3.4**
ANN *e*S **S** **07 29 18.1 -4.3**
ANN pmax pmax
comp=Z,31nm,0.7s
ANN MLR MLR
comp=E,722nm,18.0s
ANN MLR MLR
comp=N,502nm,18.0s
ANN MLR MLR
comp=Z,681nm,17.0s
GAZ Gaziantep 29.56 286 P **P** **07 24 30.6 +2.0**
GAZ IAmb IAmb 07 24 39.0
comp=Z,89nm,2.0s
SLVN Son La 29.64 108 P **P** **07 24 29.6 +0.1**
UTHA Uthaitani 29.88 123 P **P** **07 24 32.5 +1.0**
comp=Z,116nmcomp=Z,14nm,0.8s
VSR Storozhevoye 29.96 314 *e*P **P** **07 24 30.9 -1.0**
VSR pmax pmax
comp=Z,20nm,1.1s
ENH Enshi 30.45 88 P **P** **07 24 36.7 +0.2**
ENH IAmb IAmb 07 24 44.4
comp=Z,34nm,1.0s
BNN Bunyan 30.49 289 P **P** **07 24 38.9 +1.9**
BNN IAmb IAmb 07 25 30.9
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 30.50 67 *e*P **P** **07 24 38.6 +1.7**
HHC sP sP 07 24 46.4 +3.3
HHC S **S** **07 29 36.8 -1.4**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,140nm,4.7s
HHC LR LR
comp=Z,510nm,14.5s
HHC LR LR
comp=Z,660nm,14.3s
HHC LR LR
comp=Z,530nm,14.7s
NONG Nongkai 30.94 114 P **P** **07 24 40.3 -0.6**
comp=Z,3μmcomp=Z,52nm,0.9s
NONG Nongkai 30.94 114 P **P** **07 24 40.4 -0.6**
comp=Z,3μmcomp=Z,52nm,0.9s
TIY Taiyuan 31.34 73 *e*P **P** **07 24 45.6 +1.2**
TIY S **S** **07 29 52.4 +0.9**
TIY pmax pmax
comp=Z,47nm,0.8s
TIY LR LR
comp=Z,260nm,12.1s
TIY LR LR
comp=Z,370nm,10.8s
TIY LR LR
comp=Z,450nm,10.2s
CHAI Chaiyaphum 31.45 119 P **P** **07 24 46.3 +0.9**
comp=Z,1μmcomp=Z,194nm,0.8s
CHAI Chaiyaphum 31.45 119 P **P** **07 24 46.0 +0.6**
comp=Z,370nmcomp=Z,48nm,0.8s
MMAI Mount Meron Ar 31.72 278 P **P** **07 24 48.7 +1.0**
comp=Z,2.6nm,0.5s,baz=86,slow=10,SNR=4.7
MMAI LR LR 07 39 48.8
comp=Z,232nm,20.9s,baz=30,slow=40
BZK Bozkurt 31.81 295 P **P** **07 24 49.4 +1.1**
PHET Kaeng Krachan 31.88 126 P **P** **07 24 50.4 +1.2**
comp=Z,692nmcomp=Z,96nm,0.9s
PHET Kaeng Krachan 31.88 126 P **P** **07 24 50.0 +0.8**
comp=Z,178nmcomp=Z,25nm,0.9s
ILGA Ilgaz 32.03 294 P **P** **07 24 51.6 +1.0**
ILGA IAmb IAmb 07 25 07.8
comp=Z,29nm,1.2s
BR131 Keskin Array S 32.15 291 P **P** **07 24 52.4 +0.8**
BR131 pmax pmax
comp=Z,17nm,1.0s
BR131 Keskin Array S 32.15 291 P **P** **07 24 52.4 +0.8**
BR131 Keskin Array S 32.15 291 P **P** **07 24 53.1 +1.6**
SNR=8.0
BRTR Keskin Array B 32.15 291 P **P** **07 24 52.2 +0.7**
comp=Z,5.4nm,0.6s,baz=106,slow=7.8,SNR=12
BRTR Keskin Array B 32.15 291 *i* P **P** **07 24 52.2 +0.7**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 32.15 291 P **P** **07 24 52.0 +0.5**
PRGR Permogore 32.50 335 *e*P **P** **07 24 53.0 -1.1**
PRGR pmax pmax
comp=Z,142nm,0.6s
MOS Moscow 32.58 322 *e*P **P** **07 24 52.6 -2.3**
MOS *e* 07 25 57.4
MOS *e* 07 26 26.7
MOS pmax pmax
comp=Z,38nm,0.7s
SRAK Srakaew 32.76 121 P P 07 25 01.8 +4.9
OBN Obninsk 32.87 320 P **P** **07 24 57.5 0.0**
comp=Z,12nm,0.4s,baz=96,slow=14,SNR=6.7
OBN Obninsk 32.87 320 *e*P **P** **07 24 57.7 +0.3**
OBN *e* 07 26 07.8
OBN *e*PPP PPP 07 26 17.8
OBN pmax pmax
comp=Z,23nm,0.4s
OBN MLR MLR
comp=Z,90nm,15.0s
EIL Elat 33.01 273 P **P** **07 25 00.1 +1.1**
comp=Z,16nm,1.1s,baz=84,slow=12,SNR=5.4
EIL LR LR 07 40 38.7
comp=Z,337nm,18.0s,baz=106,slow=40
BJT Baijiatuau 34.04 68 P **P** **07 25 08.6 +0.7**
BJT pmax pmax
comp=Z,25nm,0.7s
BJT MLR MLR
comp=Z,300nm,20.0s
BJT Baijiatuau 34.04 68 P **P** **07 25 08.6 +0.7**
BJT IAmb IAmb 07 25 10.7
comp=Z,25nm,0.7s
BJI Beijing 34.04 68 P **P** **07 25 09.7 +1.8**
BJI pmax pmax
comp=Z,34nm,0.7s
BJI pmax pmax
comp=Z,150nm,5.1s
BJI LR LR
comp=Z,480nm,11.9s
BJI LR LR
comp=Z,400nm,13.9s
BJI LR LR
comp=Z,380nm,12.4s
KLMR Klimovskoe 34.29 331 *e*P **P** **07 25 08.1 -1.7**
KLMR *e* 07 26 22.2
KLMR pmax pmax
comp=Z,90nm,1.1s
KLMR Klimovskoe 34.29 331 *e*P **P** **07 25 08.1 -1.7**
KLMR AMP 07 25 10.4
comp=Z,90nm,1.1s
KLMR *e*PP **PnPn** **07 26 22.3 -1.6**
SURT Suratani 34.31 132 P **P** **07 25 12.1 +1.7**
comp=Z,45nmcomp=Z,2.7nm,1.1s
SURT Suratani 34.31 132 P **P** **07 25 12.2 +1.8**
comp=Z,45nmcomp=Z,2.7nm,1.1s
WHN Wuhan 34.38 85 ⇓P **P** **07 25 12.2 +1.3**
WHN pmax pmax
comp=Z,130nm,1.0s
WHN LR LR
comp=Z,920nm,13.1s
ELL Elmali 35.41 287 P **P** **07 25 20.0 +0.1**
ELL pmax pmax
comp=Z,103nm,0.7s
ELL Elmali 35.41 287 P **P** **07 25 20.0 +0.1**
QIZ Qiongzhong 35.57 106 P **P** **07 25 20.8 -0.5**
QIZ S **S** **07 30 57.5 +0.3**
QIZ LR LR
comp=Z,180nm,12.0s
QIZ LR LR
comp=Z,240nm,12.7s
QIZ LR LR
comp=Z,200nm,10.2s
BOD Bodaibo 35.60 37 *e*P **P** **07 25 21.7 +0.6**
BOD pmax pmax
comp=Z,22nm,1.0s
KIS Kishinev 35.72 304 *e*P **P** **07 25 22.0 -0.3**
KIS *e*LR LR 07 44 27.0
comp=Z,150nm,15.0s
KIS Kishinev 35.72 304 *e*P **P** **07 25 22.0 -0.3**
NRIK Noril'sk 35.75 8 P **P** **07 25 23.1 +0.9**
comp=Z,30nm,1.0s,baz=191,slow=5.7,SNR=28
NRIK LR LR 07 41 41.2
comp=Z,544nm,19.4s,baz=209,slow=39
NRIK Noril'sk 35.75 8 *c i*P **P** **07 25 22.9 +0.6**
NRIK pmax pmax
comp=Z,61nm,1.3s
NRIK Noril'sk 35.75 8 P **P** **07 25 22.7 +0.4**
NRIK IAmb IAmb 07 25 24.3
comp=Z,53nm,1.1s
NRIK IAMs_20 IAMs_20 07 41 30.8
comp=Z,608nm,18.0s
AKASG Malin Array Be 35.90 311 P **P** **07 25 22.6 -1.1**
comp=Z,19nm,0.5s,baz=82,slow=6.9,SNR=53
AKASG PP **PnPn** **07 26 41.9 -2.1**
comp=Z,6.8nm,0.9s,baz=94,slow=13,SNR=4.7
AKASG PcP **PcP** **07 27 49.7 -0.9**
comp=Z,2.5nm,0.8s,baz=78,slow=3.6,SNR=4.2
AKASG LR LR 07 42 40.1
comp=Z,186nm,18.7s,baz=90,slow=40
AKASG Malin Array Be 35.90 311 P **P** **07 25 22.6 -1.1**
AKASG 07 27 49.7
AKASG Malin Array Be 35.90 311 P **P** **07 25 22.8 -0.9**
AKASG IAmb IAmb 07 25 24.2
comp=Z,20nm,0.7s
AKBB Malin Array Si 35.90 311 P **P** **07 25 24.2 +0.5**
AKBB pmax pmax
comp=Z,22nm,0.6s
AKBB MLR MLR
comp=Z,200nm,18.0s
AKBB Malin Array Si 35.90 311 P **P** **07 25 24.2 +0.5**
AKBB IAmb IAmb 07 25 26.5
comp=Z,22nm,0.6s
MFTR Murfatlar 35.91 299⇑P **P** **07 25 24.9 +1.0**
TPGR Topolog 35.91 301⇑P **P** **07 25 23.9 -0.1**
CFR Carcaliu 36.12 301⇑P **P** **07 25 25.7 0.0**
SORM Soroca 36.13 306⇓P **P** **07 25 25.0 -0.8**
MANT Manisa 36.20 290 P **P** **07 25 26.8 0.0**
MANT IAmb IAmb 07 25 43.2
comp=Z,45nm,1.0s
ICOR Ion Corvin 36.35 299⇑P **P** **07 25 28.5 +0.7**
HIA Hailar 36.76 52 P **P** **07 25 32.0 +0.8**
HIA pmax pmax
comp=Z,19nm,0.9s
HIA MLR MLR
comp=Z,1μm,18.0s
HIA Hailar 36.76 52 P **P** **07 25 32.0 +0.8**
HIA Hailar 36.76 52 IAMs_20 IAMs_20 07 42 09.3
comp=Z,1μm,18.0s
SKLT Songkhla 36.83 131 P **P** **07 25 32.6 +0.6**
comp=Z,53nm,1.0s
SKLT Songkhla 36.83 131 P **P** **07 25 32.7 +0.6**
VRI Vrincioaia 37.12 302⇑P **P** **07 25 35.8 +1.5**
PLOR Plostina 37.17 302⇓P **P** **07 25 36.0 +1.2**
TESR Tescani 37.19 303⇑P **P** **07 25 34.8 -0.1**
ISR Istrita 37.24 301⇑P **P** **07 25 36.6 +1.2**
MNK Minsk 37.45 317 *i* P **P** **07 25 35.5 -1.4**
MNK *i* 07 27 01.0
MNK *i* 07 27 53.9
MNK *i* S **S** **07 31 24.7 -0.4**
MNK *i* SS **SnSn** **07 34 01.1 -1.0**
MNK *i* 07 35 52.9
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.4s
MNK MLR MLR
comp=Z,284nm,22.0s
MNK MLR MLR
comp=E,24nm,14.0s
MNK MLR MLR
comp=N,302nm,22.0s
MNK Minsk 37.45 317 *i* P **P** **07 25 35.5 -1.4**

comp=E,3.0nm,1.4s
MNK *i* P **P** **07 25 35.5 -1.4**
comp=N,22nm,0.9s
MNK *i* P **P** **07 25 35.5 -1.4**
comp=Z,14nm,0.9s,baz=103
MNK *i* PP **PP** **07 27 01.0 -1.2**
MNK *i* PPP PPP 07 27 17.6
MNK *i* PcP **PcP** **07 27 53.9 -1.4**
MNK *i* S **S** **07 31 24.8 -0.3**
MNK *i* SS **SnSn** **07 34 01.1 -0.9**
MNK *i* SSS SSS 07 34 19.0
MNK *i* ScS **ScS** **07 35 52.9 +2.6**
MNK *i* LQ LQ 07 38 11.4
MNK *i* LR LR 07 41 02.4
MNK *i* LRM MLR 07 44 10.3
comp=Z,284nm,22.4s
MNK *i* LRM MLR 07 44 41.0
comp=E,24nm,14.1s
MNK *i* LRM MLR 07 44 44.1
comp=N,302nm,21.7s
NJ2 Nanjing 37.63 81 ⇑P **P** **07 25 39.8 +1.1**
NJ2 pP **sP** **07 25 44.0 -0.5**
NJ2 pmax pmax
comp=N,33nm,0.5s
MLR Muntele Rosu 37.67 302 P **P** **07 25 40.4 +1.3**
comp=N,90nm,0.8s,baz=109,slow=4.9,SNR=97
MLR PcP **PcP** **07 27 55.8 -0.5**
comp=N,8.3nm,0.7s,baz=212,slow=2.4,SNR=2.0
MLR Muntele Rosu 37.67 302 ⇑P **P** **07 25 40.6 +1.5**
MLR Muntele Rosu 37.67 302 P **P** **07 25 40.1 +1.0**
MLR pmax pmax
comp=Z,108nm,0.9s
MLR MLR MLR
comp=Z,300nm,21.0s
MLR Muntele Rosu 37.67 302 P **P** **07 25 40.1 +1.0**
KARP Karpathos 37.82 285 P **P** **07 25 40.8 +0.4**
ALN Alexandroupoli 37.84 294 P **P** **07 25 40.9 +0.5**
ALN pmax pmax
comp=Z,61nm,1.8s
ALN Alexandroupoli 37.84 294 P **P** **07 25 40.9 +0.5**
ALN IAmb IAmb 07 25 49.7
comp=Z,61nm,1.8s
DOPR Dopca 38.05 302 ⇑P **P** **07 25 42.6 +0.3**
BURAR Bucovina Array 38.20 305 ⇓P **P** **07 25 43.8 +0.2**
BURAR Bucovina Array 38.20 305 P **P** **07 25 43.1 -0.4**
VOIR 38.30 302 ⇑P **P** **07 25 44.7 +0.3**
KULM Kulim 38.32 133 P **P** **07 25 45.0 +0.3**
DL2 Dalian 38.37 69 P **P** **07 25 46.1 +1.2**
DL2 pmax pmax
comp=Z,73nm,1.0s
ARR Arges 38.59 301 ⇓P **P** **07 25 47.6 +0.8**
ARCR ARCALIA 38.78 304 ⇑P **P** **07 25 48.8 +0.6**
VSU Vasula 39.10 322 *e*P **P** **07 25 50.3 -0.5**
VSU Vasula 39.10 322⇑*e*P **P** **07 25 50.3 -0.5**
VSU pmax pmax
comp=Z,91nm,1.2s
LVV L'vov 39.10 309 *e*P **P** **07 25 50.2 -0.7**
LVV *e*S **S** **07 31 47.3 -2.9**
LVV pmax pmax
comp=Z,60nm,1.0s
IPM Ipoh 39.19 134 P **P** **07 25 52.0 0.0**
LOT Lotru 39.20 302 ⇓P **P** **07 25 52.3 +0.4**
CJR Cluj-Napoca 39.30 304 ⇑P **P** **07 25 53.6 +0.9**
IDI Anoyia 39.69 286 P **P** **07 25 55.8 -0.2**
comp=Z,14nm,0.7s,baz=66,slow=8.0,SNR=3.8
VTS Vitosha 39.76 297 ⇑P **P** **07 25 57.3 +0.6**
VTS Vitosha 39.76 297 P **P** **07 25 57.1 +0.4**
VTS pmax pmax
comp=Z,14nm,0.9s
VTS Vitosha 39.76 297 P **P** **07 25 57.0 +0.4**
PABE Paberze 39.86 317 *e*P **P** **07 25 58.1 +1.0**
PABE Paberze 39.86 317 P **P** **07 25 57.3 +0.2**
GZR Gura Zlata 39.90 302 ⇓P **P** **07 25 57.8 +0.1**
DRGR 39.90 304 ⇑P **P** **07 25 58.1 +0.3**
KWP Kalwaria Pacla 39.95 308 *e*P **P** **07 25 58.0 -0.1**
KWP Kalwaria Pacla 39.95 308 P **P** **07 25 57.7 -0.3**
KWP pmax pmax
comp=Z,161nm,0.9s
KWP Kalwaria Pacla 39.95 308 P **P** **07 25 57.7 -0.3**
SUW Suwalki 40.07 315 *e*P **P** **07 25 59.5 +0.5**
LVZ Lovozero 40.12 338⇑*e*P **P** **07 25 58.8 -0.5**
LVZ pmax pmax
comp=Z,44nm,1.0s
UZH Uzhgorod 40.19 307 *e*P **P** **07 26 01.7 +1.7**
UZH *e* 07 26 06.5
UZH *i* 07 26 11.0
UZH *e* 07 27 33.6
UZH *e*S **S** **07 32 09.9 +3.4**
UZH *e*SS SS 07 34 51.8 -12
APA Apatity 40.32 337⇓*i*P **P** **07 25 57.2 -3.6**
APA *i* S S 07 31 59.0 -9.0
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,1μm,14.0s
FIA1 FINESS Array S 40.35 327 P **P** **07 26 01.2 0.0**
FINES FINESS Array B 40.35 327 P **P** **07 26 00.8 -0.3**
comp=Z,17nm,0.8s,baz=101,slow=10,SNR=62
FINES PP **PP** **07 27 33.6 -0.3**
comp=Z,14nm,1.0s,baz=108,slow=12,SNR=4.2
FINES FINESS Array B 40.35 327 P **P** **07 26 00.9 -0.3**
FINES FINESS Array B 40.35 327 P **P** **07 26 00.9 -0.3**
VAY Valandovo 40.40 295 *i* P **P** **07 26 01.3 -0.5**
STIP Stip 40.64 296 *i* P **P** **07 26 02.5 -1.3**
MTSE Matsula 40.64 322 *e*P **P** **07 26 02.9 -0.7**
SIRR Siria 40.64 303 ⇑P **P** **07 26 04.7 +0.8**
CN2 Changchun 40.65 61 *e*P **P** **07 26 03.8 -0.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
MDVR Moldovita 40.68 301 ⇓P **P** **07 26 04.9 +0.7**
BZS Buzias 40.70 302 ⇑P **P** **07 26 04.5 +0.2**
CRVS Cervenica-Dubn 40.74 307 *e*P **P** **07 26 06.7 +2.1**
CRVS Cervenica-Dubn 40.74 307 *e*P **P** **07 26 06.6 +2.0**
MEF Metsahovi 40.75 325 *e*P **P** **07 26 04.6 +0.1**
BOVS Bovan 40.78 299 ⇑P **P** **07 26 05.0 0.0**
STHS Stebnicka Huta 40.90 308 *e*P **P** **07 26 07.1 +1.2**
STHS Stebnicka Huta 40.90 308 *e*P **P** **07 26 07.1 +1.2**
SKO Skopje 41.16 296 *i* P **P** **07 26 08.5 +0.4**
SLIT Slitere, Latvi 41.19 320 *e*P **P** **07 26 08.2 +0.2**
MNSI Mandailing Nat 41.36 139 P **P** **07 26 09.1 -0.9**
comp=Z,11μmcomp=Z,39nm,0.9s
FNA Florina 41.37 295 P **P** **07 26 09.4 -0.5**
FNA pmax pmax
comp=Z,16nm,0.7s
FNA Florina 41.37 295 P **P** **07 26 09.3 -0.5**
NIE Niedzica 41.51 308 *e*P **P** **07 26 11.7 +0.7**
PSZ Piszkesteto 41.80 306 *e*P **P** **07 26 13.5 +0.1**
PSZ Piszkesteto 41.80 306 P **P** **07 26 13.7 +0.3**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 41.80 306 P **P** **07 26 13.7 +0.3**
OJC Ojcow 41.85 309 *e*P **P** **07 26 13.2 -0.5**
OJC Ojcow 41.85 309 P **P** **07 26 13.1 -0.5**
OJC pmax pmax
comp=Z,20nm,1.3s
OJC Ojcow 41.85 309 P **P** **07 26 13.1 -0.5**
ZEA Zeya 41.87 46 *e*P **P** **07 26 15.6 +1.8**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=E,800nm,18.0s
ZEA MLR MLR
comp=N,300nm,17.0s
ZEA MLR MLR
comp=Z,900nm,16.0s
KLNR Kaliningrad 41.87 316⇓*e*P **P** **07 26 14.3 +0.6**
KLNR pmax pmax
comp=Z,49nm,0.8s
DIVS Divibare 41.97 300 P **P** **07 26 14.6 -0.2**
FRGS Fruska Gora 42.00 301 ⇑P **P** **07 26 15.1 +0.1**
RAF Rauma 42.22 325 *e*P **P** **07 26 16.0 -0.5**
SSLB Suanglung 42.33 92 IAMs_20 IAMs_20 07 44 28.9
comp=Z,1μm,21.0s
VYHS Vyhne 42.49 306 *e*P **P** **07 26 19.7 +0.8**
VYHS Vyhne 42.49 306 *e*P **P** **07 26 19.7 +0.8**
INCN Inchon 42.50 70 P **P** **07 26 18.9 -0.3**
INCN pmax pmax
comp=Z,96nm,1.5s
INCN Inchon 42.50 70 P **P** **07 26 18.9 -0.3**
INCN IAmb IAmb 07 26 28.7
comp=Z,96nm,1.5s
BKNI Bangkinang 42.55 137 P **P** **07 26 19.1 -0.7**
PDG Podgorica 42.70 297 P **P** **07 26 20.3 -0.4**
MORH Mrgy, Hungar 42.74 303 ⇓P **P** **07 26 21.3 +0.4**
MORH Mrgy, Hungar 42.74 303 *e*P **P** **07 26 21.3 +0.4**
MORH *e*PP **P** **07 26 25.2 +4.3**
YULB Yu-li 42.79 92 IAMs_20 IAMs_20 07 45 47.0
comp=Z,476nm,19.0s
KOVH Kovagotottos 43.12 303 *e*P **P** **07 26 24.0 0.0**
JAVC Velka Javorina 43.25 307 *e*P **P** **07 26 25.6 +0.5**
PDSI Padang 43.26 139 P **P** **07 26 24.7 -0.8**
comp=Z,3μmcomp=Z,31nm,0.6s
MORC Moravsky Berou 43.30 308 ⇓P **P** **07 26 24.0 -1.5**
MORC Moravsky Berou 43.30 308 P **P** **07 26 25.0 -0.6**
MORC pmax pmax
comp=Z,28nm,1.4s
MORC Moravsky Berou 43.30 308 P **P** **07 26 25.0 -0.6**
MORC Moravsky Berou 43.30 308 *e*P **P** **07 26 25.4 -0.2**
SMOL Smolenice 43.42 306 *e*P **P** **07 26 27.2 +0.7**
SMOL Smolenice 43.42 306 *e*P **P** **07 26 27.2 +0.7**
MPLH Magyarpolny 43.42 305 *e*P **P** **07 26 26.2 -0.3**
KS19 Wonju Array Si 43.46 70 P **P** **07 26 27.1 +0.2**
KEV Kevo 43.47 338 IAMs_20 IAMs_20 07 45 21.9
comp=Z,711nm,19.0s
KSAR Wonju Array Be 43.48 70 P **P** **07 26 26.6 -0.5**
KSAR Wonju Array Be 43.48 70 P **P** **07 26 26.6 -0.5**
KSRS Korea Array 43.51 70 P **P** **07 26 27.6 +0.3**
comp=Z,13nm,0.9s,baz=274,slow=7.4,SNR=37
KSRS PcP **PcP** **07 28 15.2 +0.1**
comp=Z,5.0nm,0.8s,baz=276,slow=3.8,SNR=6.2
KSRS LR LR 07 46 04.6
comp=Z,68nm,20.2s,baz=288,slow=38
KSRS Korea Array 43.51 70 P **P** **07 26 27.6 +0.3**
KSRS 07 28 15.3
KSRS Korea Array 43.51 70 P **P** **07 26 27.6 +0.3**
MODS Modra-Piesok 43.53 306 *e*P **P** **07 26 29.0 +1.6**
MODS Modra-Piesok 43.53 306 *e*P **P** **07 26 29.0 +1.6**
MDJ Mudanjiang 43.53 59 P **P** **07 26 26.9 -0.5**
MDJ pP pP 07 26 29.7 -2.2
MDJ pmax pmax
comp=Z,55nm,1.0s
MDJ pmax pmax
comp=Z,290nm,3.0s
MDJ LR LR
comp=Z,460nm,13.5s
MDJ LR LR
comp=Z,1μm,15.7s
MDJ LR LR
comp=Z,1μm,14.2s
MDJ Mudanjiang 43.53 59 P **P** **07 26 28.1 +0.7**
MDJ IAmb IAmb 07 26 30.4
comp=Z,49nm,1.0s
MDJ IAMs_20 IAMs_20 07 46 18.5
comp=Z,467nm,19.0s
KRLC Kraliky 43.79 309 *e*P **P** **07 26 28.8 -0.7**
KRLC Kraliky 43.79 309 *e*P **P** **07 26 28.8 -0.7**
ARAG ARCESS Array S 43.82 338 *e*P **P** **07 26 29.5 +0.1**
ARCES ARCESS Array B 43.82 338 P **P** **07 26 29.6 +0.2**
comp=Z,24nm,0.7s,baz=113,slow=8.9,SNR=156
ARCES LR LR 07 46 01.1
comp=Z,790nm,18.4s,baz=120,slow=38
ARCES ARCESS Array B 43.82 338 P **P** **07 26 29.6 +0.2**
ARCES ARCESS Array B 43.82 338 P **P** **07 26 29.4 -0.1**
ARCES IAmb IAmb 07 26 30.7
comp=Z,43nm,1.0s
VRAC Vranov 43.94 308 P **P** **07 26 30.9 +0.2**
comp=Z,16nm,0.9s,baz=89,slow=8.9,SNR=19
VRAC Vranov 43.94 308 P **P** **07 26 30.9 +0.2**
VRAC Vranov 43.94 308 *e*P **P** **07 26 30.8 +0.2**
SOP Sopron 44.05 305 *e*P **P** **07 26 31.4 -0.1**
DPC Dobruska-Polom 44.08 309 *e*P **P** **07 26 31.6 -0.2**
DPC Dobruska-Polom 44.08 309 *e*P **P** **07 26 31.6 -0.2**
KRUC Moravsky 44.08 307 *e*P **P** **07 26 31.8 +0.1**
OSTC Ostas 44.14 309 *e*P **P** **07 26 32.5 +0.3**
CHVC Chvalec 44.24 310 *e*P **P** **07 26 33.8 +0.7**
UPC Upice 44.27 309 *e*P **P** **07 26 33.2 -0.1**
UPC Upice 44.27 309 *e*P **P** **07 26 33.2 -0.1**
KTK1 Kautokeino 44.32 337 *e*P **P** **07 26 33.3 -0.1**
YAK Yakutsk 44.38 34 P **P** **07 26 34.3 +0.4**
comp=Z,22nm,0.5s,baz=77,slow=0.8,SNR=10
YAK LR LR 07 46 32.2
comp=Z,265nm,19.3s,baz=269,slow=38
YAK Yakutsk 44.38 34 *e*P **P** **07 26 33.8 -0.1**
YAK pmax pmax
comp=Z,43nm,0.7s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK MLR MLR
comp=Z,396nm,12.0s
YAK MLR MLR
comp=N,152nm,15.0s
YAK MLR MLR
comp=E,389nm,15.0s
YAK Yakutsk 44.38 34 P **P** **07 26 33.3 -0.6**
YAK IAmb IAmb 07 26 36.2
comp=Z,61nm,0.7s
CONA Conrad Observa 44.50 306 *i* P **P** **07 26 35.4 +0.1**
comp=Z,37nm,0.9s,SNR=28
BLEU Blekinge 44.52 318 *i* P **P** **07 26 34.1 -1.0**
KLR Kul'dur 44.61 52*c i*P **P** **07 26 36.9 +0.9**
KLR pmax pmax
comp=Z,29nm,0.8s
TREC Trest 44.66 308 *e*P **P** **07 26 36.5 +0.1**
TREC Trest 44.66 308 *e*P **P** **07 26 36.5 +0.1**
ARSA Arzberg 44.79 305 *e*P **P** **07 26 36.4 -1.1**
GOLS Golise 44.85 303 *i* P **P** **07 26 37.9 -0.1**
GROS Grobnik 44.88 304 *i* P **P** **07 26 38.1 -0.2**
HAMF Hammerfest 44.88 339 *e*P **P** **07 26 38.3 +0.5**
MSHR Mys Shultsa 44.94 62⇑*e*P **P** **07 26 41.5 +2.8**
MSHR pmax pmax
comp=Z,9.0nm,0.7s
BSD Bornholm Skovb 44.96 316 *i* P **P** **07 26 37.5 -1.2**
BSD IAmb IAmb 07 26 39.4
comp=Z,3.0nm,0.4s
BSD Bornholm Skovb 44.96 316 *i* P **P** **07 26 37.4 -1.2**
BSD pmax pmax
comp=Z,3.0nm,0.4s
SOKA Soboth 45.18 304 *i* P **P** **07 26 40.9 +0.2**
comp=Z,44nm,0.8s,SNR=34
PRU Pruhonice 45.23 309 *e*P **P** **07 26 41.1 +0.1**
PRU Pruhonice 45.23 309 *e*P **P** **07 26 41.1 +0.1**
USA0B Ussuriysk Arra 45.29 59 IAMs_20 IAMs_20 07 47 15.1
comp=Z,464nm,22.0s
USRK Ussuriysk Ar. 45.29 59 P **P** **07 26 42.1 +0.6**
comp=Z,11nm,0.8s,baz=284,slow=6.7,SNR=23
USRK LR LR 07 47 34.3
comp=Z,362nm,20.0s,baz=267,slow=39
USRK Ussuriysk Ar. 45.29 59 P **P** **07 26 42.1 +0.6**
USRK Ussuriysk Ar. 45.29 59 P **P** **07 26 41.4 0.0**
VLA Vladivostok 45.38 61⇓*e*P **P** **07 26 43.6 +1.4**
VLA pmax pmax
comp=Z,116nm,1.2s
JETT Jettan, Norway 45.46 337 *e*P **P** **07 26 43.4 +0.8**
CKRC Cesky Krumlov 45.47 307 *e*P **P** **07 26 43.5 +0.7**
OBKA Obir 45.53 304 *i* P **P** **07 26 42.8 -0.6**
comp=Z,16nm,0.9s,SNR=9.8
BRG Berggiesshubel 45.57 310 *i* P **P** **07 26 43.5 -0.1**
BRG Amp 07 26 44.8
comp=Z,23nm,1.0s
BRG Berggiesshubel 45.57 310 *e*P **P** **07 26 43.4 -0.2**
comp=Z,23nm,1.0s,baz=84,slow=7.7
MOA Molln 45.58 306 *i* P **P** **07 26 42.9 -0.8**
comp=Z,30nm,0.8s,SNR=18
LJU Ljubljana 45.60 303 *i* P **P** **07 26 44.1 +0.2**
DEL Delary 45.61 318 *i* P **P** **07 26 43.5 -0.3**
DEL IAmb IAmb 07 26 46.2
comp=Z,2.1nm,0.4s
PBCC Pribram 45.61 308 *e*P **P** **07 26 43.4 -0.5**
KNDS Knezji Dol 45.77 303 *i* P **P** **07 26 45.0 -0.3**
LUNU Lund 45.81 317 *i* P **P** **07 26 45.2 -0.2**
GEC2 GERESS Array S 45.86 307 *e*P **P** **07 26 45.6 -0.5**
comp=Z,9.6nm,1.1s,baz=84,slow=7.7
GERES GERESS Array B 45.86 307 P **P** **07 26 46.0 -0.1**
comp=Z,4.4nm,0.8s,baz=90,slow=7.1,SNR=25
GERES PcP **PcP** **07 28 22.6 -0.5**
comp=Z,1.5nm,0.5s,baz=66,slow=3.3,SNR=5.7
GERES LR LR 07 48 19.4
comp=Z,122nm,18.5s,baz=106,slow=39
GERES GERESS Array B 45.86 307 P **P** **07 26 46.0 -0.1**
GERES 07 28 22.7
GERES GERESS Array B 45.86 307 P **P** **07 26 45.6 -0.5**
KHC Kasperske Hory 45.92 308 *e*P **P** **07 26 45.9 -0.6**
KHC *e* 07 26 56.0
KHC Kasperske Hory 45.92 308 *e*P **P** **07 26 45.9 -0.6**
KHC *ex* x 07 26 56.0
KHC Kasperske Hory 45.92 308 P **P** **07 26 46.1 -0.4**
FBE Freiberg 45.94 310 *e*P **P** **07 26 46.5 0.0**
comp=Z,28nm,1.0s,baz=84,slow=7.7
TRO Tromso 45.97 337 *e*P **P** **07 26 46.3 -0.1**
HFS Hagfors 45.98 323 P **P** **07 26 46.2 -0.5**
comp=Z,64nm,0.6s,baz=104,slow=9.6,SNR=194
HFS Hagfors 45.98 323 P **P** **07 26 46.2 -0.5**
HFS Hagfors 45.98 323 P **P** **07 26 46.2 -0.5**
MYKA Terra Mystica 46.14 304 *e*P **P** **07 26 47.9 -0.3**
comp=Z,7.7nm,0.6s
CLL Collm 46.14 311 *i* P **P** **07 26 47.3 -0.8**
comp=Z,15nm,1.1s
CLL Collm 46.14 311 *i* P **P** **07 26 47.3 -0.8**
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 46.14 311 *e*P **P** **07 26 47.3 -0.8**
comp=Z,15nm,1.1s,baz=84,slow=7.7
FABU Falkenberg 46.26 319 *i* P **P** **07 26 48.4 -0.5**
KBA Koelnbreinsper 46.28 305 *i* P **P** **07 26 48.9 -0.6**
comp=Z,9.3nm,0.6s,SNR=6.0
N2ST Straumen 46.45 333 *e*P **P** **07 26 50.3 0.0**
N2IH Innhavet 46.49 334 *e*P **P** **07 26 50.6 +0.1**
TANN Tannenbergstha 46.54 309 *e*P **P** **07 26 51.1 -0.3**
comp=Z,12nm,0.9s,baz=84,slow=7.7
NKC Novy Kostel 46.56 309 *e*P **P** **07 26 52.0 +0.5**
NKC Novy Kostel 46.56 309 *e*P **P** **07 26 52.0 +0.5**
RJOB Jochberg 46.58 306 *e*P **P** **07 26 51.0 -0.7**
comp=Z,82nm,0.8s,baz=84,slow=7.7
FAUS Fauske 46.58 333 *e*P **P** **07 26 51.1 -0.2**
ZOU Zoufplan 46.60 304 P **P** **07 26 51.4 -0.6**
WERN Wernitzgruen 46.60 309 *e*P **P** **07 26 51.7 -0.2**
comp=Z,8.5nm,1.1s,baz=84,slow=7.7
MOR8 Moi Rana 46.62 331 *e*P **P** **07 26 50.8 -0.9**
GUNZ Gunzen 46.63 309 *e*P **P** **07 26 51.8 -0.2**
comp=Z,15nm,1.0s,baz=84,slow=7.7
WERD Werda 46.64 309 *e*P **P** **07 26 51.7 -0.3**
comp=Z,15nm,1.0s,baz=84,slow=7.7
N2TV TÝrnvik 46.69 333 *e*P **P** **07 26 52.1 0.0**
INTR Introdacqua 46.69 298 P **P** **07 26 51.9 -0.8**
INTR IAmb IAmb 07 26 56.9
comp=Z,18nm,0.9s
N2NF Nordfold 46.70 334 *e*P **P** **07 26 52.0 -0.1**
KSI Kapahiang 46.70 138 P **P** **07 26 51.4 -1.5**
comp=Z,252nm,0.7s
ONAU Onsala 46.71 319 *i* P **P** **07 26 52.0 -0.5**
PLN Plauen 46.73 310 *e*P **P** **07 26 52.4 -0.3**
comp=Z,12nm,1.0s,baz=84,slow=7.7
STEI Steigen 46.73 334 *e*P **P** **07 26 52.3 -0.2**
ROTZ Rotzenmuhle 46.76 309 *e*P **P** **07 26 53.2 +0.2**
comp=Z,23nm,1.2s,baz=84,slow=7.7
MANZ Manzenberg 46.80 309 *e*P **P** **07 26 53.5 +0.1**
comp=Z,16nm,1.0s,baz=84,slow=7.7
NBB08 Skaug oppvekst 46.82 333 *e*P **P** **07 26 53.3 +0.1**
TIXI Tiksi 46.85 21 P **P** **07 26 53.6 +0.2**
comp=Z,55nm,0.8s,baz=260,slow=4.0,SNR=31
TIXI Tiksi 46.85 21*c i*P **P** **07 26 53.2 -0.1**
TIXI Tiksi 46.85 21 P **P** **07 26 53.2 -0.1**
TIXI IAMs_20 IAMs_20 07 47 37.9
comp=Z,934nm,20.0s
TJOU Tjoern 46.89 320 *i* P **P** **07 26 52.2 -1.6**
ABTA Abfaltersbach 46.89 304 *i* P **P** **07 26 53.5 -0.7**
comp=Z,12nm,0.9s,SNR=7.4
ABTA *e*P **PcP** **07 28 25.5 -1.3**
comp=Z,6.6nm,0.9s
NEUB Neuenburg 46.92 311 *e*P **P** **07 26 53.6 -0.6**
comp=Z,36nm,1.0s,baz=84,slow=7.7
NBB17 Glomfjord BÝr 46.95 332 *e*P **P** **07 26 54.3 +0.1**
NBB05 Inndyr 46.97 332 *e*P **P** **07 26 54.2 -0.1**
JNU Nakatsue 47.01 75 P **P** **07 26 56.0 +0.8**
comp=Z,42nm,1.1s,baz=299,slow=2.6,SNR=7.9
MOX Moxa 47.06 310 *e*P **P** **07 26 55.1 -0.3**
comp=Z,18nm,1.1s,baz=84,slow=7.7
NBB30 Finnes 47.07 332 *e*P **P** **07 26 54.9 -0.3**
NBB15 Halse Church 47.08 332 *e*P **P** **07 26 55.7 +0.5**
NC602 NORSAR Array S 47.10 324 *e*P **P** **07 26 54.3 -1.1**
JOW Kunigami 47.12 84 LR LR 07 49 15.9
comp=Z,150nm,18.4s,baz=152,slow=39
NBB13 Alf Garage 47.16 332 *e*P **P** **07 26 55.6 -0.2**
STRU Stroemstad 47.17 321 *i* P **P** **07 26 55.1 -0.9**
FLTG Flechtingen 47.18 312 *e*P **P** **07 26 55.2 -1.0**
comp=Z,35nm,0.9s,baz=84,slow=7.7
KONS Konsvik 47.21 332 *e*P **P** **07 26 55.9 -0.3**
STOK Stokkvaagen 47.22 331 *e*P **P** **07 26 55.8 -0.4**
NBB40 Tonnes 47.26 332 *e*P **P** **07 26 56.5 0.0**
NB2 NORSAR Subarra 47.28 324 P **P** **07 26 55.6 -1.3**
comp=Z,36nm,0.7s,baz=96,slow=7.4
NB2 NORSAR Subarra 47.28 324 P **P** **07 26 55.6 -1.3**
baz=96,slow=7.4
NOA NORSAR Array B 47.28 324 P **P** **07 26 55.9 -1.1**
comp=Z,28nm,0.7s,baz=96,slow=7.6,SNR=148
NOA LR LR 07 50 08.0
comp=Z,154nm,19.0s,baz=90,slow=40
NOA NORSAR Array B 47.28 324 P **P** **07 26 55.9 -1.1**
NOA NORSAR Array B 47.28 324 P **P** **07 26 55.9 -1.1**
NSS Namsos 47.34 329 *e*P **P** **07 26 55.5 -1.7**
KSM Kuching 47.40 126 P **P** **07 26 59.0 +0.6**
LOF Lofoten 47.41 334 *e*P **P** **07 26 57.1 -0.6**
WTTA Wattenberg 47.42 305 *i* P **P** **07 26 57.5 -0.9**
comp=Z,34nm,1.2s,SNR=9.7
WTTA *e*P **PcP** **07 28 27.3 -1.5**
comp=Z,12nm,0.8s
WATA Walderalm 47.45 305 *i* P **P** **07 26 57.3 -1.2**
comp=Z,15nm,0.8s,SNR=6.6
WATA *e*P **PcP** **07 28 28.4 -0.5**
comp=Z,5.0nm,0.5s
MURB Monte Urbino 47.45 300 P **P** **07 26 58.7 +0.2**
OSL Oslo 47.45 323 *e*P **P** **07 26 57.9 -0.2**
RAFF Raffo Rosso 47.45 291 P **P** **07 26 59.0 +0.4**
RAFF IAmb IAmb 07 27 09.2
comp=Z,49nm,0.9s
HOPEN Hopen 47.47 346 *e*P **P** **07 26 60.0 +1.9**
GRNR Gornyy 47.51 50⇑*i*P **P** **07 27 00.0 +1.2**
GRNR *e*S **S** **07 33 56.7 +3.4**
GRNR pmax pmax
comp=E,10.0nm,1.2s
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,7.0nm,0.8s
GRNR MLR MLR
comp=E,830nm,16.0s
GRNR MLR MLR
comp=N,190nm,17.0s
GRNR MLR MLR
comp=Z,1μm,13.0s
BSEG Bad Segeberg 47.65 314 *e*P **P** **07 26 59.7 -0.1**
comp=Z,33nm,0.9s,baz=84,slow=7.7
SQTA Sankt Quirin 47.71 305 *e*P **P** **07 26 59.4 -1.2**
comp=Z,12nm,0.5s
SQTA *e*P **PcP** **07 28 29.0 -0.7**
comp=Z,15nm,0.9s
CLZ Clausthal 47.74 312 *e*P **P** **07 27 00.4 -0.3**
comp=Z,31nm,1.0s,baz=84,slow=7.7
MOTA Moosalm 47.77 305 *i* P **P** **07 26 59.7 -1.3**
comp=Z,27nm,0.8s,SNR=12
MOTA *e*P **PcP** **07 28 29.2 -0.8**
comp=Z,14nm,0.9s
BJO1 Bjornoya 47.83 343 *e*P **P** **07 27 00.8 -0.1**
NRDL Niedersach Rie 47.86 312 *e*P **P** **07 27 01.3 -0.1**
comp=Z,30nm,1.2s,baz=84,slow=7.7
RETA Reutte 47.97 306 *i* P **P** **07 27 01.5 -1.0**
comp=Z,13nm,1.0s,SNR=7.2
SBUM Sibu 47.99 123 P **P** **07 27 04.0 +1.0**
KONO Kongsberg 48.00 322*ce*P **P** **07 27 01.9 -0.6**
KONO pmax pmax
comp=Z,45nm,1.3s
KONO Kongsberg 48.00 322 *e*P **P** **07 27 01.9 -0.6**
GTTG Gottingen 48.02 311 *e*P **P** **07 27 02.5 -0.3**
comp=Z,41nm,0.9s,baz=84,slow=7.7
FETA Feichten 48.06 305 *i* P **P** **07 27 02.3 -1.1**
comp=Z,28nm,1.0s,SNR=13
FETA *e*P **PcP** **07 28 30.5 -0.6**
comp=Z,21nm,0.9s
UBBA Unterbreizbach 48.07 310 *e*P **P** **07 27 02.5 -0.5**
comp=Z,9.5nm,0.9s,baz=84,slow=7.7
ZCCA Zocca 48.34 301 P **P** **07 27 05.9 +0.4**
ZCCA IAmb IAmb 07 27 13.1
comp=Z,19nm,0.8s
DOMB Dombas 48.38 325 *e*P **P** **07 27 04.7 -0.7**
UBR Ueberruh 48.38 306 *e*P **P** **07 27 04.8 -0.9**
comp=Z,37nm,0.8s,baz=84,slow=7.7

SALO Salr 48.43 303 P **P 07 27 06.1 0.0**
HOMB Homborsund 48.55 320 *i* P **P 07 27 05.9 -0.8**
HOMB IAmb IAmb 07 27 07.4
comp=Z,7.7nm,0.4s
HOMB Homborsund 48.55 320 *eP* **P 07 27 06.0 -0.8**
DAVA Damuels 48.60 305 *i* P **P 07 27 06.6 -0.9**
comp=Z,88nm,0.8s,SNR=34
DAVOX Davos/Dischmat 48.68 305 P **P 07 27 07.2 -0.9**
comp=Z,21nm,0.7s,baz=112,slow=7.9,SNR=30
DAVOX PcP **PcP 07 28 32.9 -0.5**
comp=Z,11nm,0.6s,baz=101,slow=5.2,SNR=5.9
DAVOX Davos/Dischmat 48.68 305 P **P 07 27 07.2 -0.9**
DAVOX 07 28 32.9
SKAR Skarslia 48.68 323 *eP* **P 07 27 07.9 +0.1**
VLC Villacollemand 48.80 301 P **P 07 27 08.4 -0.5**
VLC IAmb IAmb 07 27 19.0
comp=Z,31nm,1.0s
TUE Stuetta 49.09 305 P **P 07 27 10.6 -0.8**
TUE IAmb IAmb 07 27 21.4
comp=Z,13nm,0.7s
MOL Molde 49.12 326 *eP* **P 07 27 10.8 -0.2**
TNS Taunus Mts 49.12 310 *eP* **P 07 27 10.9 -0.4**
comp=Z,13nm,0.9s,baz=84,slow=7.7
KMBO Kilima Mbogo 49.18 232 P **P 07 27 12.4 0.0**
comp=Z,5.8nm,0.9s,baz=39,slow=13,SNR=6.8
KMBO Kilima Mbogo 49.18 232 *i* P **P 07 27 15.3 +2.9**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 49.18 232 P **P 07 27 12.4 0.0**
STKI Sintang 49.22 126 P **P 07 27 14.3 +1.9**
SNART Snartemo 49.23 320 *i* P **P 07 27 11.8 -0.1**
SNART IAmb IAmb 07 27 12.4
comp=Z,4.5nm,0.5s
SNART Snartemo 49.23 320 *eP* **P 07 27 12.0 0.0**
IBBN Ibbenburen 49.31 312 *eP* **P 07 27 12.2 -0.4**
comp=Z,44nm,0.7s,baz=84,slow=7.7
AKN Aaknes 49.36 325 *eP* **P 07 27 12.5 -0.4**
SPMM Sapulut 49.46 117 P **P 07 27 16.0 +1.7**
BFO Black Forest 49.47 307 *eP* **P 07 27 12.7 -1.3**
comp=Z,12nm,1.2s,baz=84,slow=7.7
ODD1 Odda 49.51 322 *eP* **P 07 27 14.3 +0.2**
KIBK Kibwezi 49.60 230 IAMs_20 IAMs_20 07 50 24.5
comp=Z,339nm,19.0s
BLS5 Blasjo 49.60 322 *eP* **P 07 27 14.1 -0.8**
HSPB Hornsund (broa 49.62 345 *eP* **P 07 27 15.3 +0.6**
BUG Bochum--Univer 49.71 311 *eP* **P 07 27 15.2 -0.5**
comp=Z,32nm,1.0s,baz=84,slow=7.7
SPA0 Spitsbergen Ar 49.94 347 *eP* **P 07 27 17.8 +0.6**
SPITS Spitsbergen Ar 49.94 347 P **P 07 27 18.1 +1.0**
comp=Z,31nm,0.7s,baz=100,slow=7.9,SNR=26
SPITS Spitsbergen Ar 49.94 347 P **P 07 27 18.1 +1.0**
SPITS Spitsbergen Ar 49.94 347 P **P 07 27 18.1 +1.0**
AHRW Bad Neuenahr-A 49.95 310 *eP* **P 07 27 17.3 -0.3**
comp=Z,22nm,1.0s,baz=84,slow=7.7
BER Bergen 50.15 323 *eP* **P 07 27 18.4 -0.5**
ASK Askoy 50.22 323 *eP* **P 07 27 19.1 -0.3**
KMY Karmoy 50.23 322 *eP* **P 07 27 19.3 -0.2**
FOO Floro 50.28 325 *eP* **P 07 27 19.8 0.0**
SENIN Lac Senin/Sane 50.50 305 P **P 07 27 21.4 -0.8**
SENIN IAmb IAmb 07 27 22.2
comp=Z,42nm,0.8s
BTNL Ternell 50.54 310 *dP* **P 07 27 21.8 -0.3**
comp=Z,17nm,1.0s
BTNL *d*PP **PP 07 29 19.1 +1.5**
MEM Membach 50.61 310 *bP* **P 07 27 22.2 -0.4**
comp=Z,15nm,1.0s
WLF Walferdange 50.67 309 *dP* **P 07 27 23.1 +0.1**
comp=Z,26nm,1.0s
WLF *db*P **pP 07 27 26.2 -1.5**
WLF Walferdange 50.67 309 P **P 07 27 23.4 +0.4**
WLF pmax pmax
comp=Z,27nm,0.7s
WLF Walferdange 50.67 309 P **P 07 27 23.4 +0.4**
WLF IAmb IAmb 07 27 24.2
comp=Z,27nm,0.7s
WLF Walferdange 50.67 309 *eP* **P 07 27 22.9 -0.1**
comp=Z,32nm,0.8s,baz=84,slow=7.7
KBS Kingsbay 51.04 347 *eP* **P 07 27 26.2 +0.8**
BNI Bardonecchia 51.20 303 P **P 07 27 26.7 -0.6**
BNI pmax pmax
comp=Z,25nm,1.0s
BNI Bardonecchia 51.20 303 P **P 07 27 26.7 -0.6**
BNI IAmb IAmb 07 27 28.1
comp=Z,25nm,1.0s
UGL Uglegorsk 51.35 52 *eP* **P 07 27 29.2 +1.1**
UGL *eS* **S 07 34 41.4 -5.7**
UGL pmax pmax
comp=Z,140nm,0.8s
TYV Tymovskoe 51.42 49 *eP* **P 07 27 30.0 +1.4**
TYV pmax pmax
comp=Z,23nm,0.7s
BMRD Maredsous 51.44 310 κP **P 07 27 29.0 +0.1**
comp=Z,28nm,1.1s
DOU Dourbes 51.59 310 *bP* **P 07 27 29.8 -0.2**
comp=Z,21nm,1.0s
MJB9 Matsu-Tunnel 51.68 68 P **P 07 27 30.4 -0.5**
MJB9 IAmb IAmb 07 27 36.2
comp=Z,26nm,0.8s
MAJO Matsushiro 51.68 68 *d i*P **P 07 27 30.9 0.0**
MAJO pmax pmax
comp=Z,25nm,0.8s
MAJO Matsushiro 51.68 68 P **P 07 27 30.4 -0.5**
MAJO IAmb IAmb 07 27 36.2
comp=Z,22nm,0.7s
MAT Matsushiro 51.68 68 P **P 07 27 29.9 -1.0**
MJAR Matsushiro Arr 51.68 68 P **P 07 27 30.9 0.0**
comp=Z,12nm,0.8s,baz=290,slow=9.1,SNR=22
MJAR Matsushiro Arr 51.68 68 P **P 07 27 30.9 0.0**
MJAR Matsushiro Arr 51.68 68 P **P 07 27 30.4 -0.5**
SNF Seneffe 51.71 310 *dP* **P 07 27 30.7 -0.1**
comp=Z,34nm,1.0s
SNF *db*P **pP 07 27 34.8 -0.6**
KEST Kesra 51.75 291 P **P 07 27 32.1 +0.6**
comp=Z,13nm,0.8s,baz=21,slow=0.9,SNR=13
KEST Kesra 51.75 291 P **P 07 27 31.7 +0.2**
KEST IAmb IAmb 07 27 47.5
comp=Z,42nm,1.3s
KEST Kesra 51.75 291 P **P 07 27 32.6 +1.1**
SNR=7.0
KEST P **P 07 27 32.6 +1.1**
SNR=7.0
YSS Yuzh-Sakhalins 52.23 54 *eP* **P 07 27 35.2 +0.5**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS MLR MLR
comp=Z,900nm,15.0s
YSS Yuzh-Sakhalins 52.23 54 P **P 07 27 34.6 -0.1**
YSS IAmb IAmb 07 27 36.7
comp=Z,69nm,0.9s
YSS IAMs_20 IAMs_20 07 51 41.6
comp=Z,505nm,18.0s
WACR West Acre 53.55 314 *eP* **P 07 27 43.5 -0.9**
BBKI Banjar Baru 54.08 126 P **P 07 27 49.8 +1.1**
MA2 Magadan 54.62 37 *c i*P **P 07 27 52.6 +0.5**
MA2 pmax pmax
comp=Z,22nm,0.8s
MA2 Magadan 54.62 37 P **P 07 27 52.1 0.0**
MA2 IAmb IAmb 07 27 53.8
comp=Z,22nm,0.8s
HPK Haverah Park 54.64 316 *eP* **P 07 27 51.3 -1.0**
EDMD Edmundbyers 54.66 317⇑ *eP* **P 07 27 51.4 -1.1**
EDMD IAmb IAmb 07 27 52.3
comp=Z,47nm,0.8s
ESY Stoneypath 54.81 318 *eP* **P 07 27 52.5 -1.0**
MCD Coleburn Disti 54.85 320⇑ *eP* **P 07 27 53.3 -0.6**
SEY Seymchan 54.89 33 P **P 07 27 55.0 +1.0**
comp=Z,21nm,0.9s,baz=270,slow=7.0,SNR=53
SEY PcP **PcP 07 28 56.9 +1.0**
comp=Z,6.9nm,0.8s,baz=291,slow=10,SNR=3.5
SEY Seymchan 54.89 33 *c i*P **P 07 27 54.8 +0.8**
MPSI Mapaga 54.93 118 P **P 07 27 56.4 +1.5**
WOL Wolverton 54.97 312 *eP* **P 07 27 53.9 -0.8**
BIGH Upper Bighouse 55.03 321⇑ *eP* **P 07 27 54.3 -0.8**
EBL Broad Law 55.08 318 *eP* **P 07 27 54.4 -1.1**
EDI Edinburgh 55.13 318 *eP* **P 07 27 54.9 -1.0**
EKA Eskdalemuir Ar 55.23 317 P **P 07 27 55.6 -1.0**
comp=Z,19nm,0.7s,baz=94,slow=7.3,SNR=70
EKA PcP **PcP 07 28 56.4 -1.0**
comp=Z,1.9nm,0.6s,baz=87,slow=5.3,SNR=3.5
EKA Eskdalemuir Ar 55.23 317 P **P 07 27 55.6 -1.0**
EKA 07 28 56.4
EKA Eskdalemuir Ar 55.23 317 P **P 07 27 55.6 -1.0**
ESK Eskdalemuir 55.26 317⇑ *eP* **P 07 27 55.7 -1.1**
ESK IAmb IAmb 07 27 56.4
comp=Z,29nm,0.9s

KESW Keswick, Cumbr 55.36 316 *eP* **P 07 27 56.8 -0.7**
KESW IAmb IAmb 07 27 57.5
comp=Z,24nm,0.7s
MDO Dochfour 55.47 320 *eP* **P 07 27 56.6 -1.7**
INVG Invergeldie, C 55.50 319 *eP* **P 07 27 57.4 -1.1**
INVG IAmb IAmb 07 27 58.6
comp=Z,24nm,0.9s
HLM1 Long Mynd 55.69 314⇑ *eP* **P 07 27 58.9 -1.1**
HLM1 IAmb IAmb 07 27 59.7
comp=Z,24nm,1.0s
EAB Aberfoyle 55.71 319⇑ *eP* **P 07 27 58.9 -1.1**
LINV Loch Inver, As 55.77 321 *eP* **P 07 27 59.8 -0.6**
LINV IAmb IAmb 07 28 00.6
comp=Z,51nm,0.9s
FOEL Foel Wylfa 55.79 314 *eP* **P 07 27 59.7 -1.0**
FOEL IAmb IAmb 07 28 00.7
comp=Z,29nm,0.9s
MONM Monmouth 55.80 313⇑ *eP* **P 07 27 59.2 -1.5**
MONM IAmb IAmb 07 28 00.9
comp=Z,44nm,0.9s
PGBU Glenifferbraes 55.87 318 *eP* **P 07 27 59.6 -1.6**
PGBU IAmb IAmb 07 28 01.1
comp=Z,35nm,0.8s
NEWG New Galloway 55.88 317⇑ *eP* **P 07 28 00.5 -0.7**
NEWG IAmb IAmb 07 28 01.3
comp=Z,57nm,0.7s
MCH1 Michaelchurch 55.88 313⇑ *eP* **P 07 28 00.1 -1.2**
MCH1 IAmb IAmb 07 28 00.9
comp=Z,65nm,0.8s
LLW Llanuwychllyn 56.07 315⇑ *eP* **P 07 28 01.9 -0.8**
NOR Nord 56.16 350⇑ *i*P **P 07 28 03.2 +0.3**
NOR IAmb IAmb 07 28 04.3
comp=Z,24nm,1.1s
NOR *i* 07 28 59.5
NOR Nord 56.16 350⇑ *i*P **P 07 28 03.2 +0.3**
NOR *i* 07 28 59.5
NOR pmax pmax
comp=Z,24nm,1.1s
KPL Plockton 56.17 320⇑ *eP* **P 07 28 02.1 -1.1**
KPL IAmb IAmb 07 28 03.1
comp=Z,46nm,0.8s
IOMK Kirk Michael 56.26 316⇑ *eP* **P 07 28 03.3 -0.8**
IOMK IAmb IAmb 07 28 03.8
comp=Z,102nm,0.6s
LAWE Loch Awe, Argy 56.27 319⇑ *eP* **P 07 28 03.1 -1.0**
LAWE IAmb IAmb 07 28 04.1
comp=Z,42nm,0.8s
MRSI Marisa 56.34 116 P **P 07 28 06.3 +1.2**
WIM Isle of Man 56.35 316⇑ *eP* **P 07 28 04.1 -0.5**
WLF1 Llynfaes 56.40 315 *eP* **P 07 28 03.0 -2.0**
WLF1 IAmb IAmb 07 28 04.5
comp=Z,36nm,0.7s
YRC Rhoscolyn 56.51 315⇑ *eP* **P 07 28 05.0 -0.8**
LEWI Lewis, Hebride 56.63 321⇑ *eP* **P 07 28 05.8 -0.8**
LEWI IAmb IAmb 07 28 06.8
comp=Z,35nm,0.7s
CLGH Cloghs, Cushen 56.94 318 *eP* **P 07 28 07.5 -1.3**
RSBS Rosebush, Pemb 56.94 314 *eP* **P 07 28 07.3 -1.6**
RSBS IAmb IAmb 07 28 08.3
comp=Z,14nm,0.7s
GTOI Gorontalo 57.03 115 P **P 07 28 09.6 -0.4**
HTL Hartland 57.04 313 *eP* **P 07 28 08.3 -1.2**
TTSI Tana Toraja 57.21 121 P **P 07 28 12.6 +1.4**
DAG Danmarks Havn 57.26 344⇑ *i*P **P 07 28 10.6 -0.2**
DAG IAmb IAmb 07 28 11.4
comp=Z,15nm,0.8s
DAG Danmarks Havn 57.26 344⇑ *i*P **P 07 28 10.5 -0.2**
DAG pmax pmax
comp=Z,15nm,0.8s
CCA1 Carnmenellis 57.71 312 *eP* **P 07 28 13.0 -1.3**
CCA1 IAmb IAmb 07 28 13.8
comp=Z,52nm,0.8s
DBG Daneborg 58.18 341 *i* P **P 07 28 17.5 +0.2**
DBG IAmb IAmb 07 28 18.8
comp=Z,6.9nm,0.9s
JCJ Chichijima 58.34 77 LR LR 07 55 48.2
comp=Z,56nm,20.0s,baz=132,slow=38
BILL Bilibino 59.46 26 *d i*P **P 07 28 27.3 +1.0**
BILL *e* 07 29 07.6
BILL *e* 07 30 37.4
BILL pmax pmax
comp=Z,28nm,0.9s
BILL MLR MLR
comp=Z,211nm,16.0s
BILL Bilibino 59.46 26 P **P 07 28 26.4 +0.2**
BILL IAmb IAmb 07 28 28.4
comp=Z,38nm,1.0s
BILL IAMs_20 IAMs_20 07 56 20.1
comp=Z,276nm,21.0s
SKR Severo-Kuril's 59.74 47 *eP* P 07 28 12.3 -16
SKR *e* 07 29 18.0
SKR *e*SSS SSS 07 40 34.8
SKR pmax pmax
comp=Z,100nm,6.3s
PEA0B Petropavlovsk- 59.91 44 *ceP* **P 07 28 31.4 +1.8**
PEA0B Petropavlovsk- 59.91 44 IAMs_20 IAMs_20 07 56 38.5
comp=Z,552nm,20.0s
PETK Petropavlovsk- 59.91 44 P **P 07 28 29.1 -0.5**
comp=Z,2.8nm,0.6s,baz=274,slow=3.8,SNR=4.9
PETK LR LR 07 56 57.9
comp=Z,592nm,18.1s,baz=275,slow=39
PETK Petropavlovsk- 59.91 44 P **P 07 28 29.1 -0.5**
ESDC Sonseca Array 60.32 300 P **P 07 28 32.2 -0.6**
comp=Z,9.8nm,0.8s,baz=59,slow=6.7,SNR=52
ESDC S **S 07 36 43.3 -3.8**
comp=Z,0.8nm,0.7s,baz=81,slow=14,SNR=5.0
PET Petropavlovsk 60.48 44 *eP* **P 07 28 32.3 -1.2**
PET *eS* **S 07 36 42.9 -5.6**
PET pmax pmax
comp=Z,36nm,1.2s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,600nm,17.0s
PBRG Braganca 61.49 303 *eP* **P 07 28 41.9 +1.3**
comp=Z,17nm,1.8s
VOI Vohitsoka 61.63 208 P **P 07 28 43.0 +1.3**
MVO Moncorvo 61.93 302 *eP* **P 07 28 43.3 -0.3**
comp=Z,21nm,1.4s
POLO Lamas de Olo 62.38 303 *eP* **P 07 28 46.4 -0.3**
PCAB Cabril 62.41 303 *eP* **P 07 28 46.8 0.0**
PGAV Gavieira, Arco 62.48 304 *eP* **P 07 28 47.3 -0.1**
MTE Manteigas 62.59 302 *eP* **P 07 28 48.4 +0.4**
comp=Z,34nm,1.2s
PVIS Viseu 62.71 302 *eP* **P 07 28 49.0 +0.2**
comp=Z,31nm,1.2s
PCBR Castelo Branco 62.76 301 *eP* **P 07 28 50.5 +1.4**
PMRV Marv??o 62.87 301 *eP* **P 07 28 48.4 -1.4**
PBAR Barrancos 63.12 299 *eP* **P 07 28 51.5 0.0**
comp=Z,34nm,1.5s
PCAS Casmilo, Conde 63.40 302 *eP* **P 07 28 53.6 +0.2**
NEEM North Greenlan 63.44 348⇑ *i*P **P 07 28 53.6 +0.2**
NEEM IAmb IAmb 07 28 55.6
comp=Z,38nm,0.8s
SUMG Summit 63.65 342⇑ *i*P **P 07 28 55.3 +0.3**
SUMG IAmb IAmb 07 28 56.1
comp=Z,28nm,1.0s
SUMG Summit 63.65 342⇑ *i*P **P 07 28 55.2 +0.3**
SUMG pmax pmax
comp=Z,28nm,1.0s
EVO Evora 63.67 300 *eP* **P 07 28 56.1 +0.9**
comp=Z,24nm,1.4s
PBEJ Beja 63.77 299 *eP* **P 07 28 56.1 +0.2**
comp=Z,20nm,1.6s
PVAQ Vaqueiros 63.92 299 *eP* **P 07 28 56.9 0.0**
PCVE Castro Verde 64.06 299 *eP* **P 07 28 57.8 0.0**
MESJ Messejana 64.10 299 *eP* **P 07 28 55.6 -2.4**
comp=Z,42nm,1.6s
PBDV Barranco-do-Ve 64.14 299 *eP* **P 07 28 58.8 +0.4**
PNCL Nicolau / Gran 64.21 300 *eP* **P 07 28 59.5 +0.8**
SOEI Soe 65.05 123 P **P 07 29 04.7 +0.1**
EUNU Eureka 65.16 356 P **P 07 29 04.7 +0.3**
EUNU IAmb IAmb 07 29 06.3
comp=Z,28nm,0.8s
ICESG Greenland Ices 65.87 339⇑ *i*P **P 07 29 09.6 +0.1**
ICESG IAmb IAmb 07 29 10.4
comp=Z,22nm,0.9s
FAKI Fak Fak 66.33 111 P **P 07 29 12.1 -0.7**
FAKI IAmb IAmb 07 29 13.7
comp=Z,40nm,0.9s
FAKI Fak Fak 66.33 111 P **P 07 29 14.1 +1.3**
KULLO Kullorsuaq 66.52 347 *i* P **P 07 29 12.9 -0.1**
KULLO IAmb IAmb 07 29 14.1
comp=Z,15nm,0.7s
KULLO Kullorsuaq 66.52 347 *i* P **P 07 29 12.9 -0.1**

KULLO pmax pmax
comp=Z,15nm,0.7s
UPNV Upernavik 67.62 346⇑ *i*P **P 07 29 20.0 -0.1**
UPNV IAmb IAmb 07 29 20.9
comp=Z,18nm,0.7s
TOA0 Torodi Ar. Sit 67.88 271 P **P 07 29 21.3 -1.3**
TOA0 IAmb IAmb 07 29 23.1
comp=Z,22nm,0.9s
TOA0 Torodi Ar. Sit 67.88 271 P **P 07 29 22.0 -0.6**
TOA0 P **P 07 29 22.0 -0.6**
TORD Torodi Ar. Bea 67.88 271 P **P 07 29 21.5 -1.2**
comp=Z,20nm,0.7s,baz=44,slow=5.7,SNR=60
A21K Barrow 68.68 15 P **P 07 29 27.3 +0.5**
baz=317
A21K Barrow 68.68 15 P **P 07 29 26.9 +0.2**
GAMB Gambell 69.39 26 P **P 07 29 32.0 +0.7**
baz=307
RDOG Red Dog Mine 69.43 20 P **P 07 29 32.4 +0.9**
baz=313
DY2G Dye2 69.46 338⇑ *i*P **P 07 29 31.9 -0.1**
DY2G IAmb IAmb 07 29 32.3
comp=Z,17nm,0.7s
TNA Tin City 69.57 23 P **P 07 29 33.6 +1.3**
baz=309
PSA00 Pilbara Seismi 70.96 135 P **P 07 29 40.0 -1.5**
PSA00 IAmb IAmb 07 29 41.7
comp=Z,15nm,0.8s
ANM Nome 71.04 23 P **P 07 29 42.3 +0.9**
ANM pmax pmax
comp=Z,92nm,0.8s
ANM MLR MLR
comp=Z,300nm,20.0s
ANM Nome 71.04 23 P **P 07 29 42.8 +1.4**
baz=312,SNR=6.4
ANM Nome 71.04 23 P **P 07 29 42.3 +0.9**
ANM IAMs_20 IAMs_20 08 05 29.4
comp=Z,336nm,20.0s
KOWA Kowa 71.88 275 P **P 07 29 45.9 -1.3**
FITZ Fitzroy Crossi 71.95 128 LR LR 08 08 03.5
comp=Z,40nm,18.2s,baz=298,slow=41
TOLK Toolik Lake Re 72.30 15 P **P 07 29 49.6 +0.6**
baz=324,SNR=102
KNRA Kununurra 72.31 124 P **P 07 29 49.3 -0.4**
COLD Coldfoot 73.30 16 P **P 07 29 55.5 +0.6**
baz=323,SNR=66
COLD Coldfoot 73.30 16 P **P 07 29 55.0 +0.1**
H21K Melozitna Rive 73.91 18 P **P 07 29 59.0 +0.5**
baz=321
I21K Tanana 74.50 18 P **P 07 30 02.6 +0.6**
baz=322,SNR=34
H23K Yukon River 74.59 17 P **P 07 30 03.6 +1.1**
baz=324,SNR=77
LBTB Lobatse 74.70 224 P **P 07 30 03.4 -0.3**
LBTB Lobatse 74.70 224 P **P 07 30 03.4 -0.3**
MLY Manley 74.94 18 P **P 07 30 05.1 +0.5**
baz=323,SNR=83
FYU Fort Yukon 74.96 15 IAMs_20 IAMs_20 08 05 14.8
comp=Z,207nm,20.0s
H24K Noodor Dome 74.98 16 P **P 07 30 05.6 +0.8**
baz=325,SNR=70
I23K Minto, Yukon-K 75.19 17 P **P 07 30 06.6 +0.7**
baz=324,SNR=64
INK Inuvik 75.52 10 P **P 07 30 08.2 +0.5**
comp=Z,43nm,0.6s,baz=351,slow=7.0,SNR=139
INK Inuvik 75.52 10 P **P 07 30 08.2 +0.5**
INK Inuvik 75.52 10 P **P 07 30 08.2 +0.5**
baz=337
INK Inuvik 75.52 10 P **P 07 30 07.2 -0.5**
BPAW Bear Paw Mtn. 75.62 19 P **P 07 30 08.7 +0.2**
baz=323,SNR=54
BPAW Bear Paw Mtn. 75.62 19 IAMs_20 IAMs_20 08 07 40.4
comp=Z,264nm,18.0s
C36M Paulatuk 75.65 6 P **P 07 30 08.3 -0.1**
baz=345
POKR Poker Plat Res 75.68 17 P **P 07 30 09.6 +0.8**
baz=326,SNR=42
NEA2 Nenana 75.71 18 P **P 07 30 09.2 +0.2**
baz=325,SNR=135
TCOL CIGO, UAF Yank 75.78 17 P **P 07 30 09.6 +0.3**
baz=326,SNR=24
COLA College 75.78 17 *c i*P **P 07 30 09.6 +0.3**
COLA pmax pmax
comp=Z,102nm,0.8s
COLA College 75.78 17 P **P 07 30 09.8 +0.5**
baz=326
PRP Porcupine Dome 75.78 16 P **P 07 30 10.2 +0.7**
baz=327,SNR=38
PRP Porcupine Dome 75.78 16 IAMs_20 IAMs_20 08 08 13.6
comp=Z,220nm,18.0s
BWN Browne 75.96 18 IAMs_20 IAMs_20 08 00 40.3
comp=Z,483nm,19.0s
CCB Clear Creek Bu 75.98 17 IAMs_20 IAMs_20 08 08 02.9
comp=Z,243nm,18.0s
L19K White Mountain 76.05 21 P **P 07 30 11.9 +1.0**
baz=320
KTH Kantishna Hill 76.08 19 P **P 07 30 11.6 +0.5**
ILAR Eielson Array 76.10 17 P **P 07 30 10.7 -0.5**
comp=Z,28nm,0.9s,baz=308,slow=4.5,SNR=259
ILAR PP **PP 07 33 02.4 +1.2**
comp=Z,3.8nm,0.9s,baz=321,slow=8.0,SNR=6.3
ILAR LR LR 08 06 15.2
comp=Z,158nm,21.1s,baz=327,slow=38
ILAR Eielson Array 76.10 17 P **P 07 30 10.8 -0.3**
ILAR Eielson Array 76.10 17 P **P 07 30 10.8 -0.3**
PPLA Purkeypile 76.26 20 P **P 07 30 12.5 +0.2**
baz=322,SNR=16
TRF Thorofare Moun 76.33 19 P **P 07 30 12.1 -0.6**
baz=324,SNR=21
HDA Harding Lake 76.39 17 P **P 07 30 11.8 -1.0**
baz=326,SNR=28
M19K Big River Lodg 76.40 21 P **P 07 30 14.1 +1.1**
baz=321
MCK McKinley 76.45 18 P **P 07 30 13.3 +0.1**
baz=325,SNR=22
SVW2 Sparrevohn 76.66 22 P **P 07 30 14.7 +0.2**
SVW2 IAmb IAmb 07 30 16.9
comp=Z,28nm,0.9s
EPYK Eagle Plains 76.78 12 P **P 07 30 15.0 -0.1**
baz=335
M20K Styx River 76.79 21 P **P 07 30 15.6 +0.3**
baz=322
KIC Kosan Boka 76.87 269 *e*PKIKP **P 07 30 16.1 -0.3**
comp=Z,65nm,1.0s
N18K Kilae Creek 76.89 23 P **P 07 30 17.1 +1.4**
baz=320
TIC Toumodi 76.95 269 *e*PKIKP **P 07 30 16.4 -0.4**
SKT Skwentna 77.17 20 P **P 07 30 17.0 -0.3**
baz=323,SNR=70
SKT Skwentna 77.17 20 P **P 07 30 17.1 -0.2**
CUT Chulitna 77.18 19 P **P 07 30 17.0 -0.3**
baz=324
LIC Lamto 77.18 269 *e*PKIKP **P 07 30 16.6 -1.5**
comp=Z,64nm,0.9s
N19K Bonanza Creek 77.22 22 P **P 07 30 18.8 +1.2**
baz=321,SNR=26
WAT1 Susitna Watana 77.30 18 P **P 07 30 17.2 -0.8**
baz=325
EGAK Eagle 77.36 15 P **P 07 30 18.4 +0.1**
baz=331
NIKH Nikolski High 77.39 33 IAMs_20 IAMs_20 07 53 37.5
comp=Z,397nm,22.0s
SCRK Sand Creek 77.44 16 P **P 07 30 19.2 +0.3**
baz=329,SNR=43
SPCR Spurr Chakacha 77.60 21 P **P 07 30 19.6 -0.2**
baz=323
BOSA Boshof 77.67 222 P **P 07 30 20.2 -0.3**
comp=Z,6.3nm,0.7s,baz=27,slow=4.2,SNR=15
BOSA LR LR 08 03 08.2
comp=Z,100nm,21.6s,baz=9.0,slow=35
BOSA Boshof 77.67 222 P **P 07 30 20.2 -0.3**
WAT6 Susitna Watana 77.71 18 P **P 07 30 20.0 -0.5**
baz=326,SNR=18
O18K Koktuh Hills 77.74 23 P **P 07 30 22.1 +1.6**
baz=320
SUA Susitna One 77.81 20 P **P 07 30 20.9 -0.2**
baz=324,SNR=26
SUA Susitna One 77.81 20 P **P 07 30 21.0 0.0**
SUA IAmb IAmb 07 30 21.9
comp=Z,40nm,0.8s
K27K Chicken 77.83 15 P **P 07 30 21.6 +0.7**
baz=330
PAX Paxson 77.96 17 P **P 07 30 21.8 0.0**
baz=328,SNR=44
PMR Palmer 78.16 19 P **P 07 30 22.6 -0.2**
baz=325,SNR=9.4
SML Sawmill 78.20 19 P **P 07 30 23.1 0.0**
baz=326,SNR=46

FIS	Fire Island	78.22	20	IAMs_20	IAMs_20	07 53 38.2		
	comp=Z,211nm,19.0s							
O20K	Slope Mountain	78.37	22	P	P	07 30 23.9	-0.1	
	baz=322,SNR=6.3							
RC01	Rabbit Creek A	78.40	20	P	P	07 30 24.1	-0.1	
	baz=325,SNR=10							
SCM	Sheep Creek Mo	78.44	19	IAMs_20	IAMs_20	08 09 27.0		
	comp=Z,317nm,18.0s							
KNK	Knik Glacier	78.49	19	P	P	07 30 25.0	+0.3	
	baz=326							
M24K	Tolsona, Glenn	78.51	18	P	P	07 30 25.7	+0.9	
	baz=327,SNR=23							
HARP	HAARP	78.52	17	P	P	07 30 25.9	+1.2	
	baz=328,SNR=38							
P19K	Oil Pt	78.52	22	P	P	07 30 25.3	+0.4	
	baz=322							
NWAO	Narrogin (SRO)	78.56	144	P	P	07 30 24.5	-0.8	
L27K	Beaver Creek,	78.73	16	P	P	07 30 26.7	+0.7	
	baz=331							
BCAR	Beaver Creek A	78.73	16	P	P	07 30 26.4	+0.4	
PWL	Port Wells	78.98	19	IAMs_20	IAMs_20	08 09 19.3		
	comp=Z,248nm,20.0s							
HOM	Homer	79.01	22	P	P	07 30 27.1	-0.4	
	baz=323							
WRA	Warramunga Arr	79.08	123	P	P	07 30 28.6	+0.1	
	comp=Z,33nm,0.7s,baz=324,slow=5.3,SNR=265							
WRA	Warramunga Arr	79.08	123	P	P	07 30 28.6	+0.1	
WRAB	Tennant Creek	79.08	123	*c i* P	P	07 30 28.7	+0.3	
WRAB				pmax	pmax			
	comp=Z,54nm,0.9s							
KLU	Klutina	79.10	18	P	P	07 30 28.5	+0.5	
	baz=328,SNR=17							
KLU	Klutina	79.10	18	IAMs_20	IAMs_20	08 11 34.2		
	comp=Z,226nm,19.0s							
BRSE	Bradley Lake S	79.21	21	P	P	07 30 28.2	-0.5	
	baz=324,SNR=8.1							
SDPT	Sand Point	79.26	28	P	P	07 30 28.2	-0.7	
	baz=317							
SEW	Seward	79.29	20	P	P	07 30 28.9	-0.1	
	baz=325,SNR=11							
GLI	Glacier Island	79.31	19	P	P	07 30 29.2	+0.1	
	baz=327,SNR=10							
N25K	Chitina, Valde	79.33	18	P	P	07 30 30.0	+0.6	
	baz=329,SNR=11							
FID	Port Fidalgo	79.58	19	IAMs_20	IAMs_20	08 09 57.6		
	comp=Z,390nm,18.0s							
HIN	Hinchinbrook I	79.87	19	IAMs_20	IAMs_20	08 10 07.7		
	comp=Z,283nm,20.0s							
BMRM	Bremner River	79.88	18	P	P	07 30 32.8	+0.6	
	baz=329,SNR=12							
MCARA	McCarthy VSAT	79.91	17	IAMs_20	IAMs_20	07 57 56.8		
	comp=Z,222nm,20.0s							
EYAK	Cordova Ski Ar	79.94	19	P	P	07 30 33.4	+0.9	
	baz=328,SNR=13							
EYAK	Cordova Ski Ar	79.94	19	P	P	07 30 32.5	0.0	
EYAK				IAmb	IAmb	07 30 34.3		
	comp=Z,49nm,0.7s							
EYAK				IAMs_20	IAMs_20	08 10 35.6		
	comp=Z,359nm,18.0s							
CHNA	Chernabura Isl	79.99	28	P	P	07 30 32.8	-0.1	
	baz=318,SNR=15							
KDAK	Kodiak Island	80.22	23	P	P	07 30 34.7	+0.7	
	baz=323							
OHAK	Old Harbor	80.43	24	P	P	07 30 35.9	+0.7	
	baz=322,SNR=17							
OHAK	Old Harbor	80.43	24	P	P	07 30 35.5	+0.3	
CRQE	Cirque	80.44	17	P	P	07 30 36.0	+0.6	
	baz=330							
CTG	Chitna Glacier	80.68	16	P	P	07 30 37.5	+0.8	
	baz=331							
MESA	MESA	81.22	17	P	P	07 30 38.9	-0.8	
	baz=331							
AS31	Alice Springs	81.32	126	P	P	07 30 40.6	+0.1	
AS31				IAmb	IAmb	07 30 41.4		
	comp=Z,11nm,0.7s							
ASAR	Alice Springs	81.32	126	P	P	07 30 40.5	+0.1	
	comp=Z,38nm,0.8s,baz=310,slow=5.2,SNR=328							
ASAR	Alice Springs	81.32	126	P	P	07 30 40.8	+0.3	
ASAR	Alice Springs	81.32	126	P	P	07 30 40.8	+0.3	
HYT	Haines Junctio	81.66	15	IAMs_20	IAMs_20	08 08 54.9		
	comp=Z,173nm,20.0s							
PINM	Pinnacle	81.70	16	P	P	07 30 41.6	-0.5	
	baz=332							
WHY	Whitehorse	82.34	14	P	P	07 30 45.1	-0.4	
	baz=336							
SUR	Sutherland	83.01	223	P	P	07 30 50.5	+1.1	
YKA	Yellowknife Ar	83.12	4	P	P	07 30 49.3	-0.1	
	comp=Z,45nm,0.8s,baz=350,slow=4.8,SNR=290							
YKA				LR	LR	08 11 59.3		
	comp=Z,162nm,18.0s,baz=0.0,slow=39							
YKA	Yellowknife Ar	83.12	4	*i* P	P	07 30 49.2	-0.1	
YKA				pmax	pmax			
	comp=Z,46nm,0.8s							
YKA	Yellowknife Ar	83.12	4	P	P	07 30 49.3	-0.1	
SKAG	Skagway	83.36	14	P	P	07 30 51.4	+0.8	
	baz=336							
SCHQ	Schefferville	84.78	338	P	P	07 30 57.0	-0.9	
	comp=Z,14nm,0.8s,baz=38,slow=5.1,SNR=19							
SCHQ	Schefferville	84.78	338	IAMs_20	IAMs_20	08 08 36.7		
	comp=Z,184nm,20.0s							
SIT	Sitka	85.56	15	P	P	07 31 02.8	+1.0	
	baz=336							
WRAK	Wrangell Islan	86.78	14	P	P	07 31 08.8	+1.0	
	baz=339							
CHGQ	Chibougamau	91.32	340	P	P	07 31 29.4	-0.1	
	baz=26							
STKA	Stephens Creek	91.85	128	P	P	07 31 31.5	-0.5	
	comp=Z,4.2nm,0.6s,baz=306,slow=9.3,SNR=7.3							
STKA	Stephens Creek	91.85	128	P	P	07 31 31.5	-0.5	
D63A	Stockholm	91.86	335	P	P	07 31 31.5	-0.5	
	baz=31							
HAL	Halifax	92.20	331	IAMs_20	IAMs_20	08 11 01.3		
	comp=Z,293nm,21.0s							
HNR	Honiara	92.24	100	LR	LR	08 13 46.8		
	comp=Z,91nm,19.0s,baz=182,slow=36							
MATQ	Matagami	92.34	342	P	P	07 31 34.0	-0.1	
	baz=23							
LSQQ	Lebel-sur-Quev	92.81	341	P	P	07 31 36.1	-0.2	
	baz=24							
LATQ	La Tuque	93.11	338	P	P	07 31 37.5	-0.2	
	baz=27							
D59A	Saint-Raymond	93.14	337	P	P	07 31 37.2	-0.6	
	baz=28							
D58A	Chemin du LacG	93.39	338	P	P	07 31 38.7	-0.4	
	baz=27							
F62A	Pittston Farm,	93.50	335	P	P	07 31 38.7	-0.9	
	baz=29							
H66A	Whiting	93.51	333	P	P	07 31 39.2	-0.4	
	baz=31							
E60A	Ste Agathe de	93.58	337	P	P	07 31 39.7	-0.1	
	baz=28							
G64A	Maxfield	93.63	334	P	P	07 31 40.8	+0.6	
	baz=30							
F61A	St Evariste	93.78	336	P	P	07 31 40.4	-0.4	
	baz=28							
PKME	Peaks-Kenny Pk	93.81	335	P	P	07 31 40.6	-0.4	
	baz=30							
D56A	ZEC Mazanza, M	94.01	339	P	P	07 31 41.5	-0.4	
	baz=26							
F60A	Warwick	94.10	337	P	P	07 31 41.9	-0.4	
	baz=28							
E58A	La Victoria	94.16	338	P	P	07 31 42.1	-0.5	
	baz=27							
G62A	West of Eustis	94.28	336	P	P	07 31 42.2	-1.0	
	baz=29							
H64A	Troy	94.33	334	P	P	07 31 43.1	-0.3	
	baz=30							
E56A	St. Veronique	94.54	339	P	P	07 31 43.8	-0.6	
	baz=25							
G61A	St-Isidore-de-	94.56	336	P	P	07 31 43.2	-1.3	
	baz=28							
ULM	Lac du Bonnet	95.12	353	P	P	07 31 46.0	-0.9	
	comp=Z,3.9nm,0.6s,baz=18,slow=5.7,SNR=6.4							
ULM	Lac du Bonnet	95.12	353	P	P	07 31 46.0	-0.7	
ALGO	Algonquin Park	95.94	341	P	P	07 31 49.2	-1.5	
	baz=23							
LONY	Lake Ozonia	96.14	338	P	P	07 31 51.4	-0.3	
	baz=26							
J63A	Strafford	96.17	335	P	P	07 31 51.0	-0.8	
	baz=29							
B05A	Bryant	96.42	11	P	P	07 31 52.8	0.0	
	baz=347							
EYMN	Ely	96.86	350	P	P	07 31 53.8	-1.1	
	baz=12							
ACCN	Adirondack Com	96.95	337	IAMs_20	IAMs_20	08 22 39.9		
	comp=Z,258nm,22.0s							
AGMN	Agassiz Nation	97.05	353	P	P	07 31 54.8	-0.9	
	baz=8.6							
NEW	Newport	97.05	7	P	P	07 31 55.5	-0.3	
	baz=351							
L64A	Middleborough	97.26	334	P	P	07 31 55.0	-1.7	
	baz=29							
J58A	Remsen	97.50	338	P	P	07 31 56.4	-1.4	
	baz=25							
EGMT	Eagleton	97.80	2	P	P	07 31 58.7	-0.5	
	baz=357							
EGMT	Eagleton	97.80	2	IAMs_20	IAMs_20	08 19 38.3		
	comp=Z,139nm,22.0s							
K56A	Middlesex	98.72	339	P	P	07 32 00.9	-2.5	
	baz=24							
MSO	Missoula	98.76	5	P	P	07 32 03.1	-0.5	
	baz=354							
BINY	Binghamton	98.76	338	P	P	07 32 02.1	-1.5	
	baz=25							
HRY	Holter Researc	99.02	4	P	Pdif	07 32 04.5	-0.2	
LAO	LASA Array	99.19	360	P	Pdif	07 32 05.4	0.0	
	baz=0.1							
G05D	Wamic, OR	99.49	11	P	Pdif	07 32 05.6	-1.1	
	baz=348							
BOZ	Bozeman (W)	100.14	4	P	Pdif	07 32 09.6	-0.2	
	baz=356							
DLMT	Dillon	100.32	4	IAMs_20	IAMs_20	08 09 37.9		
	comp=Z,105nm,18.0s							
I03D	Drain, OR	100.65	12	P	Pdif	07 32 09.7	-2.2	
	baz=346							
RLMT	Red Lodge	100.72	2	P	Pdif	07 32 12.0	-0.5	
	baz=358							
P60A	Greenville	100.81	336	P	Pdif	07 32 11.9	-0.8	
	baz=25							
MVL	Millersville	100.87	337	IAMs_20	IAMs_20	08 08 34.6		
	comp=Z,210nm,20.0s							
J01E	Myrtle Point	101.06	13	P	Pdif	07 32 12.6	-1.1	
	baz=345							
K02D	Willamette Mer	101.56	13	P	Pdif	07 32 15.0	-1.1	
	baz=346							
JFWS	Jewell Farm	101.57	348	P	Pdif	07 32 16.1	0.0	
	baz=13							
RSSD	Black Hills	101.73	358	P	Pdif	07 32 16.2	-0.9	
	baz=1.9							
L02E	Cave Junction	102.10	13	P	Pdif	07 32 16.3	-2.1	
	baz=346							
O53A	New Philadelph	102.10	341	P	Pdif	07 32 16.5	-2.0	
	baz=21							
L04D	Klamath Falls	102.27	12	P	Pdif	07 32 17.3	-2.1	
	baz=347							
M02C	Callahan	102.98	13	P	Pdif	07 32 20.8	-1.7	
	baz=346							
BW06	Boulder Array	103.06	2	P	Pdif	07 32 22.2	-0.8	
	baz=357							
PDAR	Pinedale Array	103.06	2	Pdiff	Pdif	07 32 23.1	+0.2	
	comp=Z,0.4nm,0.5s,baz=55,slow=3.4,SNR=7.0							
PDAR				PKiKP	PKiKP	07 36 42.2	-0.6	
	comp=Z,0.8nm,0.6s,baz=69,slow=3.0,SNR=8.0							
K22A	Casper	103.23	0	P	Pdif	07 32 23.0	-0.7	
	baz=360							
O02D	Mt. Diablo Mer	104.17	13	P	Pdif	07 32 26.6	-1.2	
	baz=346							
BEKR	Beckworth	104.89	11	IAMs_20	IAMs_20	08 26 06.8		
	comp=Z,176nm,18.0s							
WCI	Wyandotte Cave	105.29	344	P	Pdif	07 32 31.7	-1.0	
	baz=17							
DUG	Dugway, Tooele	105.44	5	P	PKiKP	07 36 45.9	-1.1	
	baz=354							
O20A	White River Ci	105.72	2	P	PKiKP	07 36 47.2	-0.5	
	baz=358							
PNTR	Pine Nut	105.77	11	IAMs_20	IAMs_20	08 26 22.1		
	comp=Z,145nm,18.0s							
TZTN	Tazewell	106.20	341	P	PKiKP	07 36 48.1	-0.3	
	baz=19							
KSU1	Kansas State U	106.22	352	IAMs_20	IAMs_20	08 19 31.4		
	comp=Z,159nm,21.0s							
RYN	Ryan	106.38	10	IAMs_20	IAMs_20	08 24 08.2		
	comp=Z,132nm,20.0s							
NVAR	Mina Array Bea	106.60	10	Pdiff	Pdif	07 32 42.8	+3.9	
	comp=Z,0.5nm,0.7s,baz=347,slow=3.7,SNR=4.8							
NVAR				PKiKP	PKiKP	07 36 50.6	+1.2	
	comp=Z,0.8nm,0.6s,baz=277,slow=2.4,SNR=7.0							
CBKS	Cedar Bluff	106.81	355	P	PKiKP	07 36 49.6	+0.1	
	baz=5.6							
R11A	Troy Canyon, C	107.02	8	P	PKiKP	07 36 48.3	-1.8	
	baz=352							
S39A	Bolivar	107.17	349	IAMs_20	IAMs_20	08 26 12.6		
	comp=Z,165nm,20.0s							
PV15	Paradox Valley	107.51	2	IAMs_20	IAMs_20	08 06 09.2		
	comp=Z,269nm,20.0s							
PV18	Skein Mesa, Pa	107.59	2	IAMs_20	IAMs_20	08 31 52.4		
	comp=Z,196nm,21.0s							
LNXT	Lenox	108.03	346	IAMs_20	IAMs_20	08 31 56.6		
	comp=Z,228nm,22.0s							
SDCO	Great Sand Dun	108.12	359	IAMs_20	IAMs_20	08 24 11.6		
	comp=Z,144nm,21.0s							
TPNV	Topopah Spring	108.33	8	P	PKiKP	07 36 51.9	-0.7	
	baz=351							
NHSC	New Hope	108.41	337	P	PKiKP	07 36 52.6	+0.1	
	baz=22							
OK032	Salt Plains WL	108.67	353	IAMs_20	IAMs_20	08 07 24.1		
	comp=Z,114nm,21.0s							
PLAL	Pickwick Lake	108.81	344	IAMs_20	IAMs_20	08 13 11.1		
	comp=Z,108nm,20.0s							
OK031	S. Brethren Rd	109.36	352	IAMs_20	IAMs_20	08 26 15.4		
	comp=Z,190nm,22.0s							
OK025	Westminster Rd	109.78	352	IAMs_20	IAMs_20	08 08 07.7		
	comp=Z,98nm,20.0s							
PKM	Mcpherson Peak	109.84	12	P	PKiKP	07 36 54.9	-0.6	
	baz=348							
W18A	Petrified Fore	110.68	3	P	PKiKP	07 36 55.2	-1.9	
	baz=357							
WMOK	Wichita Mounta	110.77	353	P	PKiKP	07 36 55.9	-1.1	
	baz=6.6							
BFSC	Mount Baldy Ra	110.81	10	P	PKiKP	07 36 55.8	-1.5	
	baz=350							
MONP2	Monument Peak	112.31	9	P	PKiKP	07 36 59.7	-0.5	
	baz=351							
NATX	Nacogdoches	113.19	349	IAMs_20	IAMs_20	08 27 02.0		
	comp=Z,205nm,20.0s							
121A	Cookes Peak, D	113.32	1	P	PKiKP	07 37 01.1	-1.0	
	baz=359							
TUC	Tucson	113.42	4	P	PKiKP	07 37 02.0	-0.2	
	baz=356							
MNTX	Cornudas Mount	114.16	359	P	PKiKP	07 37 02.5	-1.0	
	baz=0.8							
JCT	Junction City	115.08	354	P	PKiKP	07 37 05.3	-0.1	
	baz=5.9							
TXAR	Lajitas Array	116.47	357	PKP	PKPdf	07 37 08.2	0.0	
	comp=Z,0.5nm,0.6s,baz=67,slow=0.1,SNR=8.4							
TXAR				PP	PP	07 38 14.6	+1.3	
	comp=Z,0.5nm,0.8s,baz=20,slow=4.0,SNR=3.8							
TXAR				PKKPbc	PKKPbc	07 47 35.6	-0.2	
	comp=Z,0.7nm,0.8s,baz=181,slow=8.1,SNR=5.2							
TXAR	Lajitas Array	116.47	357	PKiKP	PKPdf	07 37 08.2	0.0	
TXAR	Lajitas Array	116.47	357		PKPdf	07 37 08.2	0.0	
TXAR					PKKPbc	07 47 35.6	-0.2	
833A	Chaparral WMA,	117.18	353	P	PKPdf	07 37 09.1	-0.3	
	baz=6.4							
SOR	Soroa	118.87	335	IAMs_20	IAMs_20	08 34 20.2		
	comp=Z,121nm,18.0s							
HUEH	Huehuetenango	128.50	342	IAMs_20	IAMs_20	08 15 36.8		
	comp=Z,181nm,20.0s							
LVC	Limon Verde	145.24	280	*e* P	PKPbc	07 38 01.8	-0.3	
PLCA	Paso Flores	151.11	247	PKPbc	PKPbc	07 38 16.2	-0.7	
	comp=Z,4.3nm,0.6s,baz=114,slow=6.2,SNR=7.7							
PLCA	Paso Flores	151.11	247	PKiKP	PKPbc	07 38 16.3	-0.7	

JMA **02** *07:24:32.0±0.2, 22°.01N×121°.64E, h2km, M3.9*
TAP **02** *07:24:32.1, 21°.87N×121°.40E, h10km, ML3.4, D*
ISC 02 07:24:31.3±1.4, **21°.90N**±0°.04×**121°.53E**±0°.03, **h13**km±9km, **n87**, σ0°.89/149, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.14	7	*i* P	Pb	07 24 37.5	+1.5
	baz=45						
LAY				*e* S	Sb	07 24 41.3	+2.3
	baz=45						
TSEB	Hengchuen, Pin	0.59	271	*i* P	Pb	07 24 43.7	+0.2
	baz=271						
TSEB				*i* S	Sb	07 24 52.4	+0.6
	baz=271						
TWKBT	Hengchun	0.67	274	P	Pb	07 24 45.0	+0.1
	baz=274						
TWKBT				S	Sg	07 24 52.8	-0.4
	baz=274						
TWK1	Hengchun	0.68	274	*i* P	Pb	07 24 44.8	-0.2
	baz=274						
TWK1				*i* S	Sg	07 24 53.1	-0.4
	baz=274						
SNW	Nanwan	0.73	275	*e* P	Pb	07 24 45.9	-0.1
	baz=277						
SNW				S	Sg	07 24 54.6	-0.5
	baz=277						
HEN	Hengchun	0.75	279	*i* P	Pb	07 24 46.2	0.0
	baz=281						
HEN				S	Sg	07 24 54.9	-0.7
	baz=281						
TAW	Tawu	0.75	308	*i* P	Pg	07 24 46.0	+0.1
	baz=316						
TAW				S	Sb	07 24 56.2	-0.1
	baz=316						
SLIU	Shizi	0.75	295	*i* P	Pg	07 24 46.0	+0.1
	baz=301						
SLIU				S	Sg	07 24 54.6	-1.3
	baz=301						
LDUT	Ludao	0.78	356	P	Pb	07 24 47.0	+0.3
	baz=6.0						
LDUT				*e* S	Sn	07 25 00.6	+1.1
	baz=6.0						
EAST	Anshuo	0.80	308	*i* P	Pg	07 24 46.8	-0.1
	baz=315						
EAST				S	Sg	07 24 56.7	-0.7
	baz=315						
ECL	Taimali	0.88	323	*i* P	Pb	07 24 48.4	-0.1
	baz=331						
ECL				S	Sb	07 24 59.7	-0.5
	baz=331						
TTN	Taitung	0.93	337	*e* P	Pn	07 24 50.5	+0.5
	baz=346						
TTN				*e* S	Sn	07 25 04.2	+1.0
	baz=346						
SCZT	Fangliau	0.97	299	*i* P	Pb	07 24 50.0	0.0
	baz=304						
SCZT				*e* S	Sn	07 25 04.2	-0.1
	baz=304						
TWGBT	Beinan	1.01	336	P	Pb	07 24 50.3	-0.4
	baz=326						
TWGBT				*e* S	Sn	07 25 05.4	+0.1
	baz=326						
TWG	Pinlang	1.01	335	*i* P	Pb	07 24 50.3	-0.5
	baz=326						
TWG				S	Sn	07 25 04.7	-0.8
	baz=326						
SSPT	Xinbi	1.07	303	P	Pg	07 24 52.5	+0.6
	baz=308						
SSPT				*e* S	Sn	07 25 06.8	0.0
	baz=308						
LONT	Longtian	1.07	340	*i* P	Pb	07 24 51.7	-0.1
	baz=330						
EDH	Donghe	1.09	349	P	Pb	07 24 52.2	+0.1
	baz=9.0						
MASBT	Mashibuluo	1.10	311	P	Pb	07 24 51.5	-0.7
	baz=328						
MASBT				*e* S	Sb	07 25 06.2	-0.3
	baz=328						
TSMG	Majia	1.15	315	P	Pg	07 24 53.8	+0.3
	baz=319						
WLCH	Liuqiu	1.16	293	*e* P	Pb	07 24 53.3	0.0
	baz=295						
WLCH				*e* S	Sg	07 25 09.8	+0.9
	baz=295						
TWP	Hsiaoliuchiu	1.17	293	P	Pb	07 24 53.4	-0.1
	baz=294						
TWP				*e* S	Sg	07 25 08.9	-0.4
	baz=294						
SSD	Sandimen	1.19	316	*i* P	Pg	07 24 54.1	-0.1
	baz=333						
SSD				*e* S	Sb	07 25 08.8	-0.3
	baz=333						
CHKT	Chengkung	1.21	353	*i* P	Pn	07 24 53.8	-0.2
	baz=13						
CHKT				*e* S	Sg	07 25 10.5	+0.1
	baz=13						
ECS	Chishang	1.23	346	P	Pg	07 24 56.0	+0.9
	baz=336						
ECS				*e* S	Sg	07 25 13.2	+2.2
	baz=336						
FULB	Fuli	1.32	350	P	Pb	07 24 55.8	-0.1
	baz=338						
FULB				*e* S	Sg	07 25 15.6	+1.8
	baz=338						
SLGT	Liugui	1.37	323	*i* P	Pb	07 24 57.1	+0.3
	baz=328						
SLGT				S	Sg	07 25 16.7	+1.3
	baz=328						
ELDTW	Lidau	1.37	340	P	Pg	07 24 57.6	-0.2
	baz=345						
SCST	Cishan	1.38	316	*i* P	Pg	07 24 57.4	-0.4
	baz=334						
SCST				*e* S	Sg	07 25 15.6	-0.2
	baz=334						
TWM1	Shoushan	1.38	312	P	Pg	07 24 58.6	+0.7
	baz=315						
TWM1				*e* S	Sg	07 25 16.2	+0.3
	baz=315						
ECBN	Changbin	1.42	357	*e* S	Sb	07 25 15.8	+0.2
	baz=16						
STYH	Taoyuan	1.45	331	P	Pg	07 24 58.8	-0.4
	baz=352						
STYH				S	Sg	07 25 18.0	-0.1
	baz=352						
STYT	Tauyuan	1.45	331	P	Pn	07 24 57.6	+0.2
	baz=349						
STYT				*e* S	Sg	07 25 17.6	-0.5
	baz=349						
EYUL	Yuli	1.46	352	P	Pb	07 24 58.8	+0.4
	baz=341						
TWF1	Yuli	1.47	351	*i* P	Pb	07 24 59.1	+0.6
	baz=342						
SGST	Jiashian	1.47	324	*i* P	Pb	07 24 59.0	+0.4
	baz=328						
SGST				S	Sg	07 25 18.8	0.0
	baz=328						
YULB	Yu-li	1.51	352	P	Pb	07 24 58.7	-0.5
	baz=343						
CHN1	Nanshi	1.58	324	*i* P	Pg	07 25 01.9	+0.1
	baz=328						
CHN1				*i* S	Sg	07 25 23.1	+0.7
	baz=328						
WTP	Ta-pu	1.59	328	*i* P	Pg	07 25 01.3	-0.6
	baz=332						
WTP				*e* S	Sg	07 25 22.2	-0.4
	baz=332						
HGSD	Ruisui	1.59	356	P	Pb	07 25 00.4	-0.3
	baz=12						
CHN3	Shinhua	1.60	318	*e* S	Sg	07 25 22.2	-0.6
	baz=320						
EHY	Hungye	1.61	353	*e* P	Pb	07 25 01.8	+0.7
	baz=344						
SNST	Tainan City	1.63	324	*e* S	Sg	07 25 22.6	-1.2
	baz=328						
TPUB	Ta-pu	1.63	329	P	Pb	07 25 01.1	-0.2
	baz=334						
TPUB				*e* S	Sg	07 25 23.1	-0.7
	baz=334						
TWK	Hsinying	1.67	325	*i* P	Pb	07 25 02.4	+0.4
	baz=329						
TWK				S	Sb	07 25 23.5	+0.5
	baz=329						
YUS	Yu-Shan	1.68	341	P	Pb	07 25 01.9	-0.4
	baz=347						
YUS				*e* S	Sb	07 25 23.6	+0.1
	baz=347						
CHN4	Tsaushan	1.69	329	*i* P	Pb	07 25 02.2	-0.1
	baz=333						
CHN4				*e* S	Sg	07 25 25.6	-0.2
	baz=333						
ALS	Alishan	1.74	337	*i* P	Pg	07 25 04.2	-0.6
	baz=343						
ALS				*e* S	Sg	07 25 26.4	-1.1
	baz=343						
EGFH	Guangfu	1.77	357	P	Pb	07 25 04.5	+0.8

SSLB	**Suanglung**	**1.96**	**344**	P	**Pb**	**07 25 06.8**	**-0.2**
	baz=350						
SSLB				*eS*	**Sb**	**07 25 32.5**	**+1.3**
	baz=350						
WDLH	**Douliu**	**2.01**	**333**	*eP*	**Pb**	**07 25 07.3**	**-0.4**
	baz=337						
WDLH				S	**Sb**	**07 25 32.4**	**-0.2**
	baz=337						
WJS	**Zhushan**	**2.06**	**339**	*eP*	**Pb**	**07 25 08.2**	**-0.3**
	baz=344						
WJS				*eS*	**Sb**	**07 25 33.6**	**-0.4**
	baz=344						
ETM	**Tongmen**	**2.06**	**359**	*eP*	**Pb**	**07 25 08.2**	**-0.4**
	baz=352						
ETM				*eS*	**Sb**	**07 25 35.3**	**+1.1**
	baz=352						
SMLT	**Sun Moon Lake**	**2.06**	**344**	*i P*	**Pb**	**07 25 08.6**	**-0.2**
	baz=350						
SMLT				S	**Sb**	**07 25 34.8**	**+0.4**
	baz=350						
OWD	**Renai**	**2.08**	**351**	*i P*	**Pb**	**07 25 09.1**	**+0.1**
	baz=10.0						
TYC	**Yuchr**	**2.09**	**343**	*i P*	**Pb**	**07 25 09.1**	**-0.1**
	baz=349						
TYC				*eS*	**Sb**	**07 25 34.4**	**-0.7**
	baz=349						
WNT	**Mingjian**	**2.12**	**339**	*eS*	**Sb**	**07 25 35.8**	**-0.2**
	baz=344						
TWD	**Chiawan**	**2.17**	**2**	P	**Pb**	**07 25 10.3**	**-0.3**
	baz=354						
CHGB	**Renai**	**2.18**	**351**	P	**Pb**	**07 25 10.6**	**-0.2**
	baz=9.0						
WDGT	**Dungji**	**2.20**	**308**	*i P*	**Pn**	**07 25 07.9**	**+0.3**
	baz=307						
WDGT				S	**Sn**	**07 25 34.5**	**-0.1**
	baz=307						
WCS	**Beigang Elemen**	**2.23**	**345**	P	**Pb**	**07 25 11.2**	**-0.3**
	baz=351						
WCS				S	**Sb**	**07 25 39.3**	**+0.4**
	baz=351						
WHF	**Hehuan Shan**	**2.25**	**354**	*i P*	**Pb**	**07 25 12.0**	**-0.2**
	baz=1.0						
WHF				*eS*	**Sb**	**07 25 39.1**	**-1.0**
	baz=1.0						
NACB	**Ninganchiao**	**2.27**	**1**	P	**Pn**	**07 25 10.1**	**+1.6**
	baz=355						
ETLH	**Xiulin Townshi**	**2.30**	**359**	*i P*	**Pb**	**07 25 12.9**	**+0.1**
	baz=6.0						
ETLH				*eS*	**Sb**	**07 25 41.6**	**+0.4**
	baz=6.0						
PHUB	**P'eng-hu**	**2.42**	**312**	P	**Pn**	**07 25 10.6**	**-0.1**
	baz=311						
PHUB				S	**Sn**	**07 25 38.5**	**-1.7**
	baz=311						
WHP	**Taichung City**	**2.43**	**347**	*i P*	**Pb**	**07 25 13.7**	**-1.4**
	baz=354						
WHP				S	**Sb**	**07 25 43.6**	**-1.3**
	baz=354						
PNG	**Penghu**	**2.47**	**313**	*eS*	**Sn**	**07 25 40.1**	**-1.2**
	baz=312						
NNS	**Nan Shan**	**2.54**	**357**	*i P*	**Pb**	**07 25 16.6**	**-0.2**
	baz=4.0						
NNS				*eS*	**Sb**	**07 25 46.4**	**-1.7**
	baz=4.0						
NDT	**Datong Townshi**	**2.69**	**360**	*eP*	**Pb**	**07 25 18.6**	**-0.9**
	baz=5.0						
TWC	**Suao**	**2.72**	**6**	*eS*	**Sb**	**07 25 51.1**	**-1.9**
	baz=24						
YHNB	**Yeheng**	**2.77**	**357**	P	**Pb**	**07 25 18.9**	**-1.8**
	baz=15						
NSK	**Sanguang**	**2.77**	**357**	*i P*	**Pb**	**07 25 20.4**	**-0.5**
	baz=17						
NSK				S	**Sb**	**07 25 53.2**	**-1.6**
	baz=17						
NWLT	**Wulai**	**2.87**	**359**	P	**Pb**	**07 25 20.5**	**-2.0**
	baz=7.0						
NWLT				S	**Sb**	**07 25 55.1**	**-2.4**
	baz=7.0						
HATJ	**Hateruma jima**	**3.00**	**44**	P	**Pn**	**07 25 19.6**	**+1.0**
HATJ				*eS*	**Sn**	**07 25 53.7**	**-0.8**
TIPB	**Shuangxi**	**3.07**	**5**	*i P*	**Pb**	**07 25 23.3**	**-2.6**
	baz=1.0						
TIPB				S	**Sb**	**07 26 00.7**	**-2.7**
	baz=1.0						
IRIF	**Iriomote-Funau**	**3.16**	**39**	P	**Pn**	**07 25 21.9**	**+1.1**
IRIF				*eS*	**Sn**	**07 25 58.3**	**-0.1**
JKRS	**Kuro-shima**	**3.26**	**44**	P	**Pn**	**07 25 23.4**	**+1.2**
JKRS				*eS*	**Sn**	**07 26 00.9**	**0.0**
JIJ	**Ishigaki jima**	**3.44**	**44**	P	**Pn**	**07 25 25.2**	**+0.6**
JIJ				S	**Sn**	**07 26 03.6**	**-1.6**
JISG	**Ishigakijimahi**	**3.70**	**43**	P	**Pn**	**07 25 28.7**	**+0.4**
JISG				S	**Sn**	**07 26 10.8**	**-1.0**
KNM	**Kinmen**	**3.80**	**312**	*eP*	**Pn**	**07 25 32.2**	**+2.6**
	baz=304						
KNMB	**Chin-men Tao**	**3.86**	**312**	*eP*	**Pn**	**07 25 31.1**	**+0.7**
	baz=308						
KNMB				*eS*	**Sn**	**07 26 16.3**	**+0.6**
	baz=308						
JTJ	**Tarama**	**4.00**	**46**	P	**Pn**	**07 25 33.3**	**+1.0**
JTJ				S	**Sn**	**07 26 18.6**	**-0.4**
AXDP	**Jialang**	**4.43**	**313**	*eP*	**Pn**	**07 25 40.4**	**+2.1**
	baz=307						

MOS ***02*** *07:26:47.7±0.9, 34°.73S×16°.29W, h10km, mb5.6/27, MS4.9/8, Error ellipse: s-maj=12.6km s-min=8.8km az=64.8*

IDC ***02*** *07:26:47.2±0.3, 34°.70S×16°.26W, h0km, mb4.9/25, mb1 5.0/25, mb1mx5.0/29, mbtmp4.9/25, MS4.6/22, Ms1 4.5/22, ms1mx4.5/25, Error ellipse: s-maj=15.0km s-min=12.4km az=132.0*

NEIC ***02*** *07:26:49.2±1.9, 34°.70S±0°.10×16°.2W±0°.1, h10km±1km, mb5.6/79, Mwc5.2(GCMT), Error ellipse: s-maj=16.6km s-min=14.8km az=197.0*

NEIC ***02*** *07:26:52, 34°.68S×16°.07W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=5.34; Mθθ=-6.18; Mφφ=0.84; Mrθ=-2.34; Mrφ=2.75; Mθφ=-0.38; Fault plane solution: M0=6.85000×10^16^ NP1:φs=125.00000°, δ=38.00000°, λ=114.00000°. NP2:φs=275.00000°, δ=56.00000°, λ=72.00000°. Principal axes: T 5.9741, Plg73.0000°, Azm140.0000°; N 1.4993, Plg14.0000°, Azm285.0000°; P -7.4733, Plg9.0000°, Azm18.0000°;*

GCMT ***02*** *07:26:52.2±0.2, 34°.63S±0°.01×16°.10W±0°.02, h12km, MW5.2/118, Moment Tensor Solution. s50,c55; s118,c181; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=5.14±.13; Mθθ=-5.82±.11; Mφφ=0.67±.13; Mrθ=-3.10±.39; Mθφ=2.64±.10; Mφr=0.70±.46; Best double couple: M0=6.75000×10^16^ NP1:φs=115.00000°, δ=31.00000°, λ=99.00000°. NP2:φs=285.00000°, δ=59.00000°, λ=85.00000°. Principal axes: T 5.9560, Plg75.0000°, Azm180.0000°; N 1.5820, Plg5.0000°, Azm288.0000°; P -7.5440, Plg14.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 07:26:48.8±0.2, 34°.68S±0°.06×16°.17W±0°.05, h10km, n718, σ1=00/705, mb5.5/133, MS4.9/49, 39C-22D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**3.94**	**128**	Pn	**Pn**	**07 27 47.3**	**-2.0**
	SNR=240						
H09N1				T	T	07 31 47.3	
	SNR=271						
H09W1	**TRISTAN DA CUN**	**3.94**	**129**	Pn	**Pn**	**07 27 47.1**	**-2.2**
	SNR=270						
H09W1				T	T	07 31 49.4	
	SNR=2673						
SHEL	**Horse Pasture**	**20.86**	**29**	P	**P**	**07 31 30.7**	**-0.2**
SHEL				pmax	pmax		
	comp=Z,501nm,1.2s						
SHEL	**Horse Pasture**	**20.86**	**29**		**P**	**07 31 30.7**	**-0.2**
SHEL				IAmb	IAmb	07 31 36.7	
	comp=Z,501nm,1.2s						
H10S2	**ASCENSION HYDR**	**25.63**	**3**	T	T	07 58 55.2	
	baz=182,slow=74,SNR=702						
H10S3	**ASCENSION HYDR**	**25.64**	**3**	T	T	07 58 55.4	
	baz=38,slow=74,SNR=1152						
CAM01	**Campos-RJ**	**25.76**	**293**	*eP*	**P**	**07 32 20.1**	**+0.4**
ALF01	**Guarapari-ES**	**25.78**	**296**	*eP*	**P**	**07 32 22.0**	**+2.2**
DUB01	**Friburgo-RJ**	**26.16**	**292**	*eP*	**P**	**07 32 24.0**	**+0.6**
RIB01	**Linhares ES**	**26.36**	**299**	*eP*	**P**	**07 32 25.1**	**-0.1**
H10N1	**ASCENSION HYDR**	**26.75**	**4**	T	T	08 00 18.8	
	baz=190,slow=78,SNR=353						
H10N3	**ASCENSION HYDR**	**26.75**	**4**	T	T	08 00 19.1	
	baz=190,slow=78,SNR=2743						
H10N2	**ASCENSION HYDR**	**26.76**	**4**	T	T	08 00 16.6	
	baz=190,slow=78,SNR=917						
VAS01	**Vassouras-RJ**	**26.87**	**290**	*eP*	**P**	**07 32 30.2**	**+0.4**
BSFB	**Barra de Sao F**	**27.00**	**299**	*eP*	**P**	**07 32 31.5**	**+0.6**
NAN01	**Guarapari, ES**	**27.14**	**302**	*eP*	**P**	**07 32 32.5**	**+0.3**
ESAR	**Angra dos Reis**	**27.25**	**288**	*eP*	**P**	**07 32 33.6**	**+0.4**
SJMB	**Sao Joao De Ma**	**27.32**	**299**	*eP*	**P**	**07 32 34.0**	**+0.2**
GUA01	**Guaratinga, BA**	**27.79**	**304**	*eP*	**P**	**07 32 38.7**	**+0.7**
PARB	**Paraibuna**	**28.02**	**286**	*eP*	**P**	**07 32 40.2**	**0.0**
CMC01	**Camacan, BA**	**28.47**	**307**	*eP*	**P**	**07 32 44.4**	**+0.3**
BSCB	**Bom Sucesso**	**28.61**	**291**	*eP*	**P**	**07 32 45.7**	**+0.2**
TER01	**Tubaro-SC**	**28.65**	**273**	*eP*	**P**	**07 32 46.3**	**+0.7**
NBIT	**Itapeh - BA**	**28.72**	**307**	*eP*	**P**	**07 32 46.1**	**-0.2**
PET01	**Itanhaem-SP**	**28.88**	**283**	*eP*	**P**	**07 32 48.5**	**+0.7**
VAO	**Valinhos**	**29.26**	**285**	*eP*	**P**	**07 32 51.7**	**+0.5**
SPB	**Sao Paulo**	**29.34**	**284**	*eP*	**P**	**07 32 54.9**	**+3.1**
DIAM	**Diamantina, MG**	**29.39**	**297**	*eP*	**P**	**07 32 51.7**	**-0.8**
GDU01	**Guandu, BA**	**29.71**	**309**	*eP*	**P**	**07 32 54.9**	**-0.2**
TIJ01	**Guaruva-PR**	**29.81**	**279**	*eP*	**P**	**07 32 53.5**	**-2.7**
RCLB	**Rio Claro- Sao**	**30.00**	**286**	*eP*	**P**	**07 32 56.4**	**-1.4**
MC01	**Montes Claros**	**30.61**	**299**	*eP*	**P**	**07 33 02.4**	**-0.8**
SUR	**Sutherland**	**30.81**	**96**	P	**P**	**07 33 04.5**	**-0.5**
SUR				IAmb	IAmb	07 34 07.1	
	comp=Z,134nm,1.9s						
NBAN	**Anadia - AL**	**30.95**	**319**	*eP*	**P**	**07 33 05.8**	**-0.3**
FRTB	**Fartura**	**31.17**	**282**	*eP*	**P**	**07 33 08.7**	**+0.6**
NBRF	**Rio Formoso -**	**31.18**	**322**	*eP*	**P**	**07 33 08.0**	**-0.1**
PLTB	**Pedras Altas**	**31.33**	**265**	P	**P**	**07 33 09.2**	**-0.2**
PLTB				IAmb	IAmb	07 33 11.5	
	comp=Z,127nm,1.2s						
PLTB	**Pedras Altas**	**31.33**	**265**	*eP*	**P**	**07 33 10.4**	**+1.0**
BB19B	**Bebedouro**	**31.50**	**287**	*eP*	**P**	**07 33 11.8**	**+0.8**
CPSB	**Cacapava Do Su**	**31.59**	**267**	*eP*	**P**	**07 33 12.6**	**+1.0**
ITAB	**Concordia**	**31.59**	**274**	P	**P**	**07 33 12.5**	**+0.8**
ITAB				IAmb	IAmb	07 33 14.2	
	comp=Z,110nm,1.2s						
ITAB	**Concordia**	**31.59**	**274**	*eP*	**P**	**07 33 12.4**	**+0.7**
JANB	**Januaria**	**31.97**	**301**	*eP*	**P**	**07 33 14.0**	**-1.1**
NBPN	**Ponto Novo - B**	**32.29**	**312**	*eP*	**P**	**07 33 16.7**	**-1.2**
IPMB	**Ipameri, GO**	**32.99**	**292**	*eP*	**P**	**07 33 23.8**	**-0.4**
NBPV	**Pedro Velho**	**33.20**	**324**	*eP*	**P**	**07 33 25.7**	**-0.1**
NBLV	**Livramento - P**	**33.23**	**320**	*eP*	**P**	**07 33 26.2**	**0.0**
PCMB	**Pacaembu**	**33.39**	**284**	*eP*	**P**	**07 33 28.1**	**+0.5**
TSUM	**Tsumeb**	**33.62**	**72**	P	**P**	**07 33 28.9**	**-0.7**
ITRB	**Iturama**	**33.68**	**287**	*eP*	**P**	**07 33 28.9**	**-1.2**
TRCB	**Terra Rica**	**33.91**	**281**	P	**P**	**07 33 33.0**	**+0.8**
TRCB				IAmb	IAmb	07 33 34.5	
	comp=Z,148nm,1.3s						
TRCB	**Terra Rica**	**33.91**	**281**	*eP*	**P**	**07 33 34.1**	**+2.0**
RCBR	**Riachuelo**	**34.01**	**323**	P	**P**	**07 33 32.9**	**0.0**
RCBR				pmax	pmax		
	comp=Z,136nm,1.3s						
RCBR	**Riachuelo**	**34.01**	**323**	P	**P**	**07 33 32.9**	**0.0**
RCBR				IAmb	IAmb	07 33 34.5	
	comp=Z,136nm,1.3s						
RCBR	**Riachuelo**	**34.01**	**323**	*eP*	**P**	**07 33 33.9**	**+0.9**
SDBA	**SAO DESIDERIO**	**34.21**	**303**	*eP*	**P**	**07 33 34.5**	**-0.3**
BDFB	**Brasilia**	**34.28**	**296**	P	**P**	**07 33 34.8**	**-0.6**
	comp=Z,36nm,1.1s,baz=122,slow=8.6,SNR=29						
BDFB	**Brasilia**	**34.28**	**296**	P	**P**	**07 33 34.5**	**-0.9**
BDFB				IAmb	IAmb	07 33 36.4	
	comp=Z,127nm,1.4s						
ITQB	**Itaqui**	**34.44**	**267**	P	**P**	**07 33 37.0**	**+0.4**
ITQB	**Itaqui**	**34.44**	**267**	*eP*	**P**	**07 33 37.9**	**+1.3**
NBPA	**Parau_RN**	**34.69**	**321**	*eP*	**P**	**07 33 38.6**	**-0.2**
BOSA	**Boshof**	**35.60**	**92**	P	**P**	**07 33 46.2**	**-0.5**
	comp=Z,28nm,1.0s,baz=239,slow=7.5,SNR=16						
BOSA				LR	LR	07 45 36.3	
	comp=Z,388nm,20.5s,baz=250,slow=32						
BOSA	**Boshof**	**35.60**	**92**	P	**P**	**07 33 45.6**	**-1.1**
NBPB	**Pedra_Branca-C**	**36.18**	**318**	*eP*	**P**	**07 33 51.0**	**-0.7**
CPUP	**Villa Florida**	**36.22**	**272**	P	**P**	**07 33 51.7**	**-0.2**
	comp=Z,33nm,1.2s,baz=120,slow=7.0,SNR=24						
CPUP				PcP	**PcP**	**07 36 16.9**	**-0.3**
	comp=Z,8.7nm,1.0s,baz=115,slow=5.1,SNR=4.1						
CPUP	**Villa Florida**	**36.22**	**272**	P	**P**	**07 33 51.8**	**-0.2**
CPUP	**Villa Florida**	**36.22**	**272**	*eP*	**P**	**07 33 52.9**	**+0.9**
NBCL	**Cascavel-CE**	**36.59**	**321**	*eP*	**P**	**07 33 54.6**	**-0.5**
TRQA	**Tornquist**	**36.76**	**251**	P	**P**	**07 33 56.2**	**-0.2**
TRQA				pmax	pmax		
	comp=Z,55nm,1.1s						
TRQA	**Tornquist**	**36.76**	**251**	P	**P**	**07 33 56.2**	**-0.2**
TRQA	**Tornquist**	**36.76**	**251**	*eP*	**P**	**07 33 55.7**	**-0.8**
VNA3	**Neumayer Olymp**	**36.80**	**176**	P	**P**	**07 33 56.8**	**+0.4**
VNA3	**Neumayer Olymp**	**36.80**	**176**	PcP	**PcP**	**07 36 18.2**	**0.0**
PEXB	**Peixe**	**36.81**	**300**	*eP*	**P**	**07 33 56.7**	**-0.3**
ARAG	**Araguaiana, MT**	**37.11**	**292**	*eP*	**P**	**07 34 00.4**	**+0.8**
LBTB	**Lobatse**	**37.26**	**87**	P	**P**	**07 34 00.2**	**-0.8**
LBTB	**Lobatse**	**37.26**	**87**	P	**P**	**07 34 00.1**	**-0.8**
AQDB	**Aquidauana**	**37.53**	**282**	P	**P**	**07 34 03.5**	**+0.3**
AQDB				IAmb	IAmb	07 34 05.3	
	comp=Z,85nm,1.2s						
AQDB	**Aquidauana**	**37.53**	**282**	*eP*	**P**	**07 34 03.9**	**+0.7**
SNAA	**Sanae**	**37.72**	**173**	P	**P**	**07 34 04.7**	**+0.5**
SNAA	**Sanae**	**37.72**	**173**	PcP	**PcP**	**07 36 21.4**	**+0.3**
SNAA	**Sanae**	**37.72**	**173**	P	**P**	**07 34 04.3**	**0.0**
	comp=Z,11nm,1.1s,baz=323,slow=9.9,SNR=10						
SNAA				PcP	**PcP**	**07 36 20.7**	**-0.3**
	comp=Z,12nm,1.1s,baz=303,slow=5.0,SNR=5.4						
SNAA	**Sanae**	**37.72**	**173**	*eP*	**P**	**07 34 04.7**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,34nm,2.5s						
SNAA	**Sanae**	**37.72**	**173**	P	**P**	**07 34 04.3**	**0.0**
NBPS	**Pedro II - PI**	**38.16**	**316**	*eP*	**P**	**07 34 07.2**	**-1.4**
NBMO	**Morrinhos-CE**	**38.28**	**319**	*eP*	**P**	**07 34 09.8**	**+0.3**
PP1B	**Ponte de Pedra**	**38.41**	**286**	*eP*	**P**	**07 34 11.2**	**+0.6**
SMTB	**Santa Maria do**	**38.58**	**304**	*eP*	**P**	**07 34 11.7**	**-0.3**
SNDB	**Serra Nova Dou**	**39.07**	**297**	*eP*	**P**	**07 34 16.7**	**+0.6**
SALV	**Santo Antonio**	**40.01**	**288**	*eP*	**P**	**07 34 24.6**	**+0.6**
ROSB	**Rosrio**	**40.93**	**314**	*eP*	**P**	**07 34 30.9**	**-0.6**
PMSA	**Palmer Station**	**41.53**	**209**	P	**P**	**07 34 36.5**	**+0.6**
	comp=Z,26nm,0.9s,baz=69,slow=9.9,SNR=3.9						
PMSA	**Palmer Station**	**41.53**	**209**	IAmb	IAmb	07 34 37.7	
	comp=Z,45nm,1.1s						
PMSA	**Palmer Station**	**41.53**	**209**	*eP*	**P**	**07 34 37.0**	**+1.1**
LIC	**Lamto**	**42.02**	**17**	*eP*	**P**	**07 34 39.9**	**-0.5**
	comp=Z,377nm,1.6s						
PRPB	**Parauapebas**	**42.04**	**305**	*eP*	**P**	**07 34 40.8**	**+0.1**
KIC	**Kosan Boka**	**42.22**	**17**	*eP*	**P**	**07 34 42.4**	**+0.3**
	comp=Z,381nm,1.4s						
TIC	**Toumodi**	**42.43**	**17**	*eP*	**P**	**07 34 44.0**	**+0.2**
DBIC	**Dimbokro**	**42.49**	**17**	P	**P**	**07 34 43.5**	**-0.7**
DBIC	**Dimbokro**	**42.49**	**17**	P	**P**	**07 34 43.5**	**-0.7**
PLCA	**Paso Flores**	**42.87**	**245**	P	**P**	**07 34 47.8**	**+0.5**
	comp=Z,15nm,1.0s,baz=109,slow=5.3,SNR=16						
PLCA	**Paso Flores**	**42.87**	**245**	P	**P**	**07 34 46.9**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,44nm,1.3s						
PLCA	**Paso Flores**	**42.87**	**245**	P	**P**	**07 34 46.9**	**-0.4**
PLCA	**Paso Flores**	**42.87**	**245**	*eP*	**P**	**07 34 48.0**	**+0.7**
PTLB	**Pontes e Lacer**	**42.99**	**285**	*eP*	**P**	**07 34 49.0**	**+0.6**
CLDB	**Colider**	**43.14**	**294**	*eP*	**P**	**07 34 49.0**	**-0.6**
LL02	**Futaleuf**	**43.44**	**241**	P	**P**	**07 34 51.0**	**-0.7**
ZON	**Zonda**	**43.68**	**259**	P	**P**	**07 34 52.9**	**-1.1**
ZON				pmax	pmax		
	comp=Z,42nm,1.1s						
ZON	**Zonda**	**43.68**	**259**	P	**P**	**07 34 52.9**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**43.76**	**310**	*eP*	**P**	**07 34 54.8**	**+0.2**
LL01	**San Ignacio de**	**43.97**	**243**	P	**P**	**07 34 55.4**	**-0.7**
BO02	**Sierra Bellavi**	**44.39**	**254**	P	**P**	**07 34 58.1**	**-1.5**
MT03	**Universidad Ad**	**44.55**	**255**	P	**P**	**07 35 00.8**	**-0.2**
BO01	**Tunca**	**44.75**	**254**	P	**P**	**07 35 01.0**	**-1.4**
BO01				IAmb	IAmb	07 35 03.4	
	comp=Z,106nm,1.0s						
MT05	**Renca**	**44.77**	**255**	P	**P**	**07 35 01.8**	**-0.8**
VA03	**San Esteban**	**44.81**	**256**	P	**P**	**07 35 02.6**	**-0.4**
VA03				IAmb	IAmb	07 35 14.1	
	comp=Z,96nm,1.1s						
MT09	**Talagante**	**44.85**	**255**	P	**P**	**07 35 02.7**	**-0.7**
MT09				IAmb	IAmb	07 35 03.8	
	comp=Z,142nm,1.1s						
MT01	**Popeta**	**45.03**	**255**	P	**P**	**07 35 04.4**	**-0.3**
MT01				IAmb	IAmb	07 35 05.0	
	comp=Z,143nm,1.1s						
MT02	**Curacav**	**45.12**	**255**	P	**P**	**07 35 04.4**	**-1.0**
MT02				IAmb	IAmb	07 35 06.6	
	comp=Z,102nm,1.1s						
VILB	**Vilhena**	**45.26**	**287**	*eP*	**P**	**07 35 08.0**	**+1.3**
NPGB	**Novo Progresso**	**45.33**	**298**	*eP*	**P**	**07 35 07.4**	**+0.2**
CO03	**El Pedregal**	**45.54**	**259**	P	**P**	**07 35 08.3**	**-0.5**
AC02	**Maricunga**	**45.74**	**265**	P	**P**	**07 35 10.4**	**-0.5**
AC02				IAmb	IAmb	07 35 12.5	
	comp=Z,76nm,1.3s						
SYO	**Syowa Base**	**45.94**	**156**	*eP*	**P**	**07 35 09.0**	**-2.4**
SYO	**Syowa Base**	**45.94**	**156**	*eP*	**P**	**07 35 11.7**	**+0.3**
LCO	**Las Campanas**	**46.20**	**261**	P	**P**	**07 35 14.1**	**-0.2**
LCO				pmax	pmax		
	comp=Z,88nm,1.2s						
LCO	**Las Campanas**	**46.20**	**261**	P	**P**	**07 35 14.1**	**-0.2**
LCO				IAmb	IAmb	07 35 14.9	
	comp=Z,88nm,1.2s						
GO03	**Copiap**	**46.35**	**263**	P	**P**	**07 35 14.5**	**-0.7**
GO03				IAmb	IAmb	07 35 17.0	
	comp=Z,117nm,1.4s						
GO02	**Mina Guanaco**	**46.80**	**267**	P	**P**	**07 35 19.0**	**-0.1**
AC01	**Pan de Azucar**	**47.22**	**265**	P	**P**	**07 35 21.8**	**-0.2**
LVC	**Limon Verde**	**47.34**	**270**	*eP*	**P**	**07 35 22.4**	**-1.0**
ITTB	**Itaituba**	**47.44**	**300**	*eP*	**P**	**07 35 24.1**	**+0.4**
PB14	**IPOC Station P**	**47.69**	**267**	P	**P**	**07 35 25.0**	**-1.1**
MCPB	**Macapa, AP**	**47.83**	**308**	*eP*	**P**	**07 35 27.9**	**+1.0**
MALB	**Monte Alegre**	**48.20**	**304**	*eP*	**P**	**07 35 30.5**	**+0.8**
PB04	**IPOC Station P**	**48.49**	**270**	P	**P**	**07 35 31.7**	**-0.4**
PB08	**IPOC Station P**	**48.69**	**273**	P	**P**	**07 35 33.2**	**-0.7**
PB11	**IPOC Station P**	**49.29**	**273**	P	**P**	**07 35 36.9**	**-1.3**
TA01	**Diego Aracena**	**49.34**	**272**	P	**P**	**07 35 37.7**	**-0.7**
TA01				IAmb	IAmb	07 35 39.2	
	comp=Z,136nm,1.3s						
LPAZ	**La Paz**	**49.79**	**278**	P	**P**	**07 35 41.1**	**-1.5**
	comp=Z,16nm,1.2s,baz=109,slow=6.1,SNR=31						
LPAZ	**La Paz**	**49.79**	**278**	P	**P**	**07 35 41.4**	**-1.2**
LPAZ				pmax	pmax		
	comp=Z,54nm,1.4s						
LPAZ	**La Paz**	**49.79**	**278**	P	**P**	**07 35 41.4**	**-1.2**
LPAZ	**La Paz**	**49.79**	**278**	*eP*	**P**	**07 35 41.5**	**-1.1**
KOWA	**Kowa**	**50.25**	**15**	P	**P**	**07 35 44.6**	**-0.6**
TOA0	**Torodi Ar. Sit**	**50.50**	**23**	P	**P**	**07 35 46.2**	**-0.9**
TOA0				IAmb	IAmb	07 35 47.6	
	comp=Z,107nm,1.1s						
TORD	**Torodi Ar. Bea**	**50.50**	**23**	P	**P**	**07 35 46.3**	**-0.9**
	comp=Z,38nm,0.8s,baz=201,slow=8.2,SNR=109						
TORD				LR	LR	07 52 35.3	
	comp=Z,1μm,20.8s,baz=200,slow=31						
TORD	**Torodi Ar. Bea**	**50.50**	**23**	P	**P**	**07 35 46.2**	**-0.9**
TORD				IAmb	IAmb	07 35 47.6	
	comp=Z,78nm,1.0s						
MACA	**Manacapuru-AM**	**51.84**	**297**	*eP*	**P**	**07 35 58.0**	**+0.7**
ETMB	**Extrema**	**51.86**	**286**	*eP*	**P**	**07 35 58.1**	**+0.7**
PTGA	**Pitinga**	**52.98**	**300**	*eP*	**P**	**07 36 07.3**	**+1.4**
MAW	**Mawson**	**54.33**	**152**	P	**P**	**07 36 14.7**	**-0.2**
	comp=Z,8.4nm,0.9s,baz=257,slow=6.3,SNR=17						
MAW				LR	LR	07 54 32.5	
	comp=Z,448nm,21.8s,baz=254,slow=31						
MBAR	**Mbarara**	**55.33**	**63**	P	**P**	**07 36 24.2**	**+1.1**
MBAR				pmax	pmax		
	comp=Z,78nm,1.3s						
MBAR	**Mbarara**	**55.33**	**63**	P	**P**	**07 36 24.2**	**+1.1**
MBAR				IAmb	IAmb	07 36 25.9	
	comp=Z,78nm,1.3s						
BOAV	**Boa Vista**	**55.57**	**302**	*eP*	**P**	**07 36 24.8**	**+0.1**
QSPA	**South Pole Qui**	**55.57**	**180**	P	**P**	**07 36 24.8**	**+0.6**
QSPA				IAmb	IAmb	07 36 26.7	
	comp=Z,66nm,1.1s						
CZSB	**Cruzeiro do Su**	**58.26**	**284**	*eP*	**P**	**07 36 41.8**	**-1.9**
NNA	**Nana**	**59.21**	**277**	*ceP*	**P**	**07 36 51.6**	**+1.1**
NNA				pmax	pmax		
	comp=Z,97nm,1.7s						
KIBK	**Kibwezi**	**59.70**	**70**	P	**P**	**07 36 55.5**	**+1.6**
KIBK				IAmb	IAmb	07 36 58.7	
	comp=Z,74nm,1.6s						
KMBO	**Kilima Mbogo**	**59.86**	**68**	P	**P**	**07 36 57.4**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=216,slow=16,SNR=4.1						
MACC	**Macarena, Meta**	**65.21**	**292**	*eP*	**P**	**07 37 30.3**	**-0.4**
PTGC	**Puerto Gaitan,**	**65.23**	**294**	*eP*	**P**	**07 37 28.5**	**-2.3**
TZRR	**Tazzarine**	**65.87**	**10**	P		07 37 36.0	
OUK	**Oukaimeden**	**66.00**	**8**	P		07 37 37.1	
FLOC	**Florencia**	**66.24**	**290**	*eP*	**P**	**07 37 33.2**	**-4.1

PMTG Montargil 73.74 6 *eP* **P 07 38 23.1 +0.3**
comp=Z,69nm,1.6s
KEST Kesra 73.99 21 P **P 07 38 24.7 +0.3**
comp=Z,26nm,1.0s,baz=201,slow=4.6,SNR=26
KEST LR LR 08 07 55.6
comp=Z,1µm,19.9s,baz=166,slow=33
KEST Kesra 73.99 21 P **P 07 38 24.6 +0.2**
KEST IAmb IAmb 07 38 28.2
comp=Z,70nm,1.2s
PSBE So Bento 74.14 6 *eP* **P 07 38 25.7 +0.6**
comp=Z,104nm,1.8s
PMRV Marv??o 74.18 7 *eP* **P 07 38 25.9 +0.5**
comp=Z,66nm,1.5s
PMRV Marv??o 74.18 7 *eLR* LR 08 03 10.8
comp=Z,268nm,18.0s
PCBR Castelo Branco 74.58 7 *eP* **P 07 38 28.9 +1.3**
comp=Z,35nm,1.8s
PCAS Casmilo, Conde 74.69 6 *eP* **P 07 38 29.3 +1.0**
comp=Z,62nm,1.5s
ESDC Sonseca Array 74.84 10 P **P 07 38 29.6 +0.4**
comp=Z,12nm,1.1s,baz=185,slow=6.2,SNR=45
ESDC LR LR 08 10 34.0
comp=Z,338nm,18.3s,baz=205,slow=35
ESBB Sonseca Array 74.84 10 P **P 07 38 29.1 -0.1**
MTE Manteigas 75.13 7 *eP* **P 07 38 31.8 +0.9**
comp=Z,35nm,1.9s
MTE Manteigas 75.13 7 *eLR* LR 08 03 18.9
comp=Z,310nm,18.0s
PVIS Viseu 75.41 6 *eP* **P 07 38 33.3 +0.8**
comp=Z,29nm,1.9s
MVO Moncorvo 75.94 7 *eP* **P 07 38 35.7 +0.2**
comp=Z,74nm,1.7s
MVO Moncorvo 75.94 7 *eLR* LR 08 03 28.4
comp=Z,245nm,18.0s
POLO Lamas de Olo 76.07 6 *eP* **P 07 38 37.0 +0.7**
comp=Z,17nm,2.1s
CDITO Canoas 76.20 291 P **P 07 38 38.0 +0.4**
PCAB Cabril 76.38 6 *eP* **P 07 38 38.6 +0.6**
comp=Z,84nm,1.5s
PBRG Braganca 76.60 7 *eP* **P 07 38 40.3 +1.1**
comp=Z,75nm,1.6s
PGAV Gavieira, Arco 76.61 6 *eP* **P 07 38 40.3 +0.9**
comp=Z,54nm,1.7s
PGAV Gavieira, Arco 76.61 6 *eLR* LR 08 03 38.0
comp=Z,267nm,18.0s
DRK0 Durika 76.92 291 P **P 07 38 42.3 +0.4**
DRK0 IAmb IAmb 07 38 44.0
comp=Z,94nm,1.2s
VAE Valguarnera 77.21 25 P **P 07 38 44.1 +1.3**
comp=Z,6.9nm,0.3s,baz=182,slow=8.1,SNR=10
VAE LR LR 08 08 31.8
comp=Z,440nm,20.7s,baz=172,slow=32
CVTR Volcan Turrial 77.78 291 P **P 07 38 47.6 +0.6**
COVE Coope Vega, Sa 78.71 291 P **P 07 38 51.6 0.0**
JTS Las Juntas de 78.87 291 *c iP* **P 07 38 52.8 +0.3**
JTS pmax pmax
comp=Z,81nm,1.2s
DUNO Dulce Nombre, 79.16 290 P **P 07 38 54.5 +0.4**
PYL PYLOS 79.47 30 P **P 07 38 55.0 -0.3**
IDI Anoyia 79.47 33 P **P 07 38 57.6 +2.2**
comp=Z,13nm,0.9s,baz=299,slow=10,SNR=2.2
IDI PKPPKP P'P'df 08 05 53.9 +11
comp=Z,23nm,1.0s,baz=49,slow=5.8,SNR=3.4
ITM Ithomi 79.79 30 P **P 07 38 57.2 +0.2**
ITM Ithomi 79.79 30 P **P 07 38 57.2 +0.2**
ITM IAmb IAmb 07 38 59.5
comp=Z,152nm,1.6s
AMT Artemida-Makis 80.00 30 P **P 07 38 58.2 0.0**
EIL Elat 80.14 43 P **P 07 39 00.7 +1.6**
comp=Z,32nm,1.1s,baz=187,slow=4.3,SNR=21
EIL LR LR 08 10 56.1
comp=Z,478nm,21.8s,baz=284,slow=33
PAOL Paolisi 80.47 23 P **P 07 39 01.4 +0.8**
PAOL IAmb IAmb 07 39 03.1
comp=Z,64nm,1.3s
LAKA Lakka 80.72 30 P **P 07 39 04.4 +2.4**
THAL Thalero 80.83 30 P **P 07 39 03.0 +0.5**
TRIZ Trizonia 80.86 30 P **P 07 39 04.1 +1.4**
SERG Sergoula 80.90 29 P **P 07 39 03.4 +0.4**
ANX Ano Chora 81.00 29 P **P 07 39 04.0 +0.4**
KEK Kerkira 81.14 27 P **P 07 39 03.5 -0.7**
IGT Igoumenitsa 81.18 28 P **P 07 39 03.4 -1.0**
EVR Evrytania 81.23 29 P **P 07 39 05.5 +0.7**
SRN Sarande 81.36 27 P **P 07 39 05.3 0.0**
LKR Lokris 81.49 30 P **P 07 39 05.5 -0.5**
JAN Janina 81.49 28 P **P 07 39 07.0 +0.9**
AGG Agios Georgios 81.53 29 P **P 07 39 07.2 +0.9**
OSSC Osservatorio P 81.75 20 P **P 07 39 07.3 0.0**
OSSC IAmb IAmb 07 39 08.5
comp=Z,66nm,1.7s
THL Klokotos Trika 81.87 29 P **P 07 39 07.6 -0.4**
DAT Datca 81.89 34 P **P 07 39 08.8 +0.4**
KPRO Kipourio 81.95 28 P **P 07 39 09.0 +0.5**
BNI Bardonecchia 82.02 16 P **P 07 39 09.9 +1.0**
BNI pmax pmax
comp=Z,36nm,1.6s
BNI Bardonecchia 82.02 16 P **P 07 39 09.9 +1.0**
BODT Bodrum 82.04 34 P **P 07 39 08.9 -0.1**
KBN Korca 82.30 28 P **P 07 39 10.9 +0.5**
KZN Kozani 82.41 28 P **P 07 39 10.4 -0.6**
FNA Florina 82.67 28 P **P 07 39 11.4 -0.9**
FNA Florina 82.67 28 P **P 07 39 11.8 -0.4**
FNA pmax pmax
comp=Z,62nm,1.5s
FNA Florina 82.67 28 P **P 07 39 11.8 -0.4**
FNA IAmb IAmb 07 39 14.3
comp=Z,62nm,1.5s
OHR Ohrid 82.73 27 *i P* **P 07 39 13.2 +0.6**
PAIG Paliouri 82.85 30 P **P 07 39 13.1 0.0**
MMAI Mount Meron Ar 82.92 42 P **P 07 39 15.0 +1.2**
comp=Z,0.7nm,0.3s,baz=208,slow=2.8,SNR=4.3
MMAI LR LR 08 13 42.7
comp=Z,120nm,21.0s,baz=330,slow=34
PHP Peshkopia 83.09 27 P **P 07 39 14.8 +0.4**
HORT Hortiatis 83.18 29 P **P 07 39 14.5 -0.5**
PDG Podgorica 83.31 26 ⇑P **P 07 39 15.8 +0.3**
KNT Kendrikon 83.58 29 P **P 07 39 16.9 0.0**
VAY Valandovo 83.59 28 *i P* **P 07 39 17.7 +0.7**
SKO Skopje 83.71 27 *i P* **P 07 39 18.0 +0.4**
STIP Stip 83.76 28 *i P* **P 07 39 18.6 +0.8**
MANT Manisa 83.77 34 P **P 07 39 18.7 +0.4**
SRS Serrai 83.82 29 P **P 07 39 16.9 -1.3**
KULA Kula-Manisa 83.84 34 P **P 07 39 19.2 +0.8**
NVR Nevrokopi 84.12 29 P **P 07 39 19.1 -0.6**
BALB Balikesir 84.40 33 P **P 07 39 22.1 +1.0**
BALB IAmb IAmb 07 39 23.5
comp=Z,61nm,1.1s
DAVOX Davos/Dischmat 84.41 18 P **P 07 39 21.3 0.0**
comp=Z,21nm,1.0s,baz=203,slow=5.9,SNR=25
DAVOX LR LR 08 14 59.4
comp=Z,867nm,18.2s,baz=220,slow=34
KNDS Knezji Dol 84.48 21 *i P* **P 07 39 22.0 +0.5**
ENEZ Enez 84.56 31 P **P 07 39 22.4 +0.5**
GBRS Gornja Briga 84.61 21 *i P* **P 07 39 22.7 +0.6**
RDO Rodhopi 84.64 30 P **P 07 39 21.7 -0.6**
ALN Alexandroupoli 84.64 31 P **P 07 39 22.3 0.0**
VOJS Vojsko 84.80 21 *i P* **P 07 39 23.5 +0.4**
FETA Feichten 84.85 18 *i P* **P 07 39 23.1 -0.4**
comp=Z,18nm,1.3s,SNR=7.7
DAVA Damuels 84.88 17 *i P* **P 07 39 23.9 +0.3**
comp=Z,70nm,1.6s,SNR=13
VTS Vitosha 84.95 28 ⇓P **P 07 39 24.7 +0.7**
LJU Ljubljana 85.00 21 *i P* **P 07 39 24.6 +0.6**
ZOU Zoufplan 85.02 20 P **P 07 39 23.4 -0.9**
ABTA Abfaltersbach 85.07 19 *i P* **P 07 39 25.2 +0.8**
comp=Z,65nm,1.6s,SNR=22
SQTA Sankt Quirin 85.16 18 *i P* **P 07 39 25.6 +0.7**
comp=Z,51nm,1.6s
MOTA Moosalm 85.24 18 *i P* **P 07 39 25.3 -0.1**
comp=Z,28nm,1.5s,SNR=12
BOVS Bovan 85.25 27 ⇑P **P 07 39 25.3 +0.1**
MYKA Terra Mystica 85.27 20 *eP* **P 07 39 26.3 +0.9**
comp=Z,17nm,1.2s,SNR=7.2
RETA Reutte 85.29 18 *i P* **P 07 39 25.6 +0.1**
comp=Z,24nm,1.7s,SNR=9.9
UBR Ueberruh 85.30 17 *eP* **P 07 39 25.7 +0.2**
comp=Z,122nm,1.3s,baz=176,slow=5.0
WTTA Wattenberg 85.31 19 *i P* **P 07 39 25.8 +0.1**
comp=Z,64nm,1.6s,SNR=18
WATA Walderalm 85.36 19 *i P* **P 07 39 25.9 -0.1**
comp=Z,54nm,1.5s,SNR=12
OBKA Obir 85.42 21 *eP* **P 07 39 27.2 +0.9**
comp=Z,24nm,1.4s,SNR=6.4
BFO Black Forest 85.49 16 *eP* **P 07 39 26.5 +0.1**
comp=Z,50nm,1.4s,baz=176,slow=5.0
KBA Koelnbreinsper 85.60 20 *i P* **P 07 39 27.1 -0.1**
comp=Z,20nm,1.8s,SNR=12
SOKA Soboth 85.72 21 *i P* **P 07 39 28.4 +0.8**
comp=Z,41nm,1.4s,SNR=31
FRGS Fruska Gora 85.89 25 ⇑P **P 07 39 28.5 +0.1**
RJOB Jochberg 86.05 19 *eP* **P 07 39 28.6 -0.6**
comp=Z,164nm,1.6s,baz=176,slow=5.0
KOVH Kovagotottos 86.14 23 *eP* **P 07 39 29.8 +0.2**
MDVR Moldovita 86.23 26 ⇑P **P 07 39 31.0 +0.8**
WLF Walferdange 86.28 14 *dP* **P 07 39 31.8 +1.5**
comp=Z,33nm,1.9s
WLF Walferdange 86.28 14 *eP* **P 07 39 31.4 +1.1**
comp=Z,83nm,1.6s,baz=176,slow=5.0
ARSA Arzberg 86.38 21 *i P* **P 07 39 31.5 +0.7**
comp=Z,34nm,1.6s,SNR=12
DOU Dourbes 86.38 13 *bP* **P 07 39 31.9 +1.1**
comp=Z,24nm,2.2s
MORH Mrgy, Hungar 86.43 23 ⇑P **P 07 39 31.7 +0.6**
MORH Mrgy, Hungar 86.43 23 *eP* **P 07 39 31.5 +0.4**
MOA Molln 86.56 20 *i P* **P 07 39 32.0 +0.3**
comp=Z,24nm,1.4s,SNR=8.8
RCHB Rochefort 86.56 14 *bP* **P 07 39 32.5 +0.8**
HERR Herculane 86.58 26 ⇑P **P 07 39 32.0 +0.1**
BMRD Maredsous 86.61 13 κP **P 07 39 33.1 +1.3**
comp=Z,26nm,1.8s
SNF Seneffe 86.72 13 *dP* **P 07 39 33.4 +1.0**
BGES Gesves 86.75 13 κP **P 07 39 34.1 +1.5**
BCLA Clavier 86.83 14 *dP* **P 07 39 34.5 +1.6**
BHOU Houvegnez 86.90 14 *bP* **P 07 39 34.7 +1.4**
BZS Buzias 86.92 26 ⇑P **P 07 39 34.1 +0.6**
MPLH Magyarpolny 86.92 22 *eP* **P 07 39 34.6 +1.2**
BSTI Sart Tilman 87.04 14 *bP* **P 07 39 35.3 +1.4**
CONA Conrad Observa 87.09 21 *i P* **P 07 39 30.6 -3.8**
comp=Z,42nm,1.7s,SNR=21
GZR Gura Zlata 87.15 26 ⇑P **P 07 39 34.6 -0.1**
MEM Membach 87.15 14 *bP* **P 07 39 35.5 +1.0**
comp=Z,13nm,1.7s
BTNL Ternell 87.15 14 *dP* **P 07 39 35.7 +1.2**
comp=Z,13nm,2.0s
BRTR Keskin Array B 87.15 36 P **P 07 39 34.8 -0.2**
comp=Z,3.7nm,1.0s,baz=193,slow=5.9,SNR=7.1
BRTR LR LR 08 17 10.7
comp=Z,110nm,21.7s,baz=204,slow=35
BRTR Keskin Array B 87.15 36 *i P* **P 07 39 35.0 0.0**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
TNS Taunus Mts 87.29 16 *eP* **P 07 39 35.7 +0.4**
comp=Z,74nm,1.6s,baz=176,slow=5.0
GEC2 GERESS Array S 87.31 19 P **P 07 39 35.3 -0.2**
GEC2 GERESS Array S 87.31 19 *eP* **P 07 39 35.4 -0.1**
comp=Z,25nm,1.6s,baz=176,slow=5.0
GERES GERESS Array B 87.31 19 P **P 07 39 34.9 -0.6**
comp=Z,1.4nm,0.8s,baz=189,slow=5.1,SNR=14
GERES PP **PP 07 42 58.3 -1.9**
comp=Z,2.0nm,0.8s,baz=191,slow=8.0,SNR=8.4
GERES LR LR 08 15 52.4
comp=Z,278nm,21.5s,baz=220,slow=34
GERES GERESS Array B 87.31 19 P **P 07 39 35.0 -0.4**
CSKK Cskako 87.32 23 *eP* **P 07 39 35.9 +0.5**
WET Wettzell 87.36 19 *eP* **P 07 39 35.4 -0.3**
comp=Z,87nm,1.8s,baz=176,slow=5.0
GRF Grafenberg Arr 87.45 17 *eP* **P 07 39 36.4 +0.5**
comp=Z,134nm,1.6s,baz=176,slow=5.0
GRF *eL* L 08 16 49.6
comp=Z,540nm,18.6s
CKRC Cesky Krumlov 87.45 20 *eP* **P 07 39 37.0 +1.0**
SIRR Siria 87.50 25 ⇑P **P 07 39 36.8 +0.5**
KHC Kasperske Hory 87.54 19 *eP* **P 07 39 36.6 +0.1**
KHC *e* 07 43 01.5
KHC MLR MLR
comp=Z,700nm,16.6s
KHC Kasperske Hory 87.54 19 *eP* **P 07 39 36.6 +0.1**
KHC *e*PP **PP 07 43 01.5 -0.5**
KHC AMS AMS 08 17 20.0
comp=Z,700nm,16.6s
KHC Kasperske Hory 87.54 19 P **P 07 39 36.1 -0.3**
BUD Budapest 87.67 23 *eP* **P 07 39 37.5 +0.4**
ZST Bratislava 87.70 22 *eP* **P 07 39 38.3 +1.1**
ZST pmax pmax
comp=Z,99nm,1.4s
ZST Bratislava 87.70 22 *eP* **P 07 39 38.3 +1.1**
DWPF Disney Wildern 87.75 307 P **P 07 39 37.5 -0.5**
baz=132
ROTZ Rotzenmuhle 87.76 18 *eP* **P 07 39 37.5 0.0**
comp=Z,52nm,1.5s,baz=176,slow=5.0
ARR Arges 87.82 27 ⇑P **P 07 39 37.6 -0.4**
MODS Modra-Piesok 87.91 22 *eP* **P 07 39 40.5 +2.2**
MODS pmax pmax
comp=Z,55nm,1.5s
MODS Modra-Piesok 87.91 22 *eP* **P 07 39 40.5 +2.2**
MODS *e* 08 18 13.2
MANZ Manzenberg 87.94 18 *eP* **P 07 39 38.4 0.0**
comp=Z,51nm,1.8s,baz=176,slow=5.0
VOIR 88.03 28 ⇑P **P 07 39 39.6 +0.7**
UBBA Unterbreizbach 88.20 16 *eP* **P 07 39 40.5 +1.1**
comp=Z,76nm,2.2s,baz=176,slow=5.0
TREC Trest 88.21 20 *eP* **P 07 39 39.5 -0.2**
TREC MLR MLR
comp=Z,600nm,20.9s
TREC Trest 88.21 20 *eP* **P 07 39 39.5 -0.2**
TREC AMS AMS 08 16 10.0
comp=Z,600nm,20.9s
NKC Novy Kostel 88.25 18 AMS AMS 08 17 10.0
comp=Z,600nm,17.3s
KRUC Moravsky 88.27 21 *eP* **P 07 39 39.2 -0.7**
WERN Wernitzgruen 88.28 18 *eP* **P 07 39 40.5 +0.5**
comp=Z,25nm,1.4s,baz=176,slow=5.0
DRGR 88.32 26 ⇑P **P 07 39 40.9 +0.6**
PSZ Piszkesteto 88.33 23 ⇑P **P 07 39 41.6 +1.2**
PSZ Piszkesteto 88.33 23 *eP* **P 07 39 40.8 +0.4**
PSZ Piszkesteto 88.33 23 P **P 07 39 41.1 +0.7**
PSZ pmax pmax
comp=Z,41nm,1.2s
PSZ Piszkesteto 88.33 23 P **P 07 39 41.1 +0.7**
PSZ IAmb IAmb 07 39 42.2
comp=Z,41nm,1.2s
GUNZ Gunzen 88.34 18 *eP* **P 07 39 40.6 +0.4**
comp=Z,26nm,1.4s,baz=176,slow=5.0
WERD Werda 88.41 18 *eP* **P 07 39 40.9 +0.3**
comp=Z,29nm,1.5s,baz=176,slow=5.0
TANN Tannenbergstha 88.42 18 *eP* **P 07 39 41.0 +0.3**
comp=Z,33nm,1.5s,baz=176,slow=5.0
MLR Muntele Rosu 88.42 28 LR LR 08 16 59.0
comp=Z,195nm,20.8s,baz=207,slow=34
MLR Muntele Rosu 88.42 28 ⇑P **P 07 39 41.7 +0.8**
JAVC Velka Javorina 88.46 22 *eP* **P 07 39 41.6 +0.7**
VYHS Vyhne 88.50 22 *eP* **P 07 39 42.2 +1.2**
VYHS pmax pmax
comp=Z,45nm,1.6s
VYHS Vyhne 88.50 22 *eP* **P 07 39 42.1 +1.1**
VRAC Vranov 88.54 21 P **P 07 39 41.5 +0.3**
comp=Z,2.4nm,0.4s,baz=205,slow=4.5,SNR=9.6
VRAC LR LR 08 17 47.0
comp=Z,553nm,18.9s,baz=222,slow=34
VRAC Vranov 88.54 21 *eP* **P 07 39 40.9 -0.3**
PRU Pruhonice 88.58 19 *eP* **P 07 39 41.5 +0.2**
PRU MLR MLR
comp=Z,600nm,21.6s
PRU Pruhonice 88.58 19 *eP* **P 07 39 41.5 +0.2**
PRU AMS AMS 08 15 40.0
comp=Z,600nm,21.6s
PRA Prague 88.62 19 AMS AMS 08 15 40.0
comp=Z,500nm,22.1s
OZUR 88.87 28 ⇑P **P 07 39 43.6 +0.7**
PLOR Plostina 89.00 28 ⇓P **P 07 39 43.3 -0.2**
KECS Kecovo 89.02 23 *eP* **P 07 39 44.4 +0.9**
KECS pmax pmax
comp=Z,14nm,1.4s
KECS Kecovo 89.02 23 *eP* **P 07 39 44.4 +0.9**
VRI Vrincioaia 89.04 28 ⇑P **P 07 39 44.0 +0.4**
PVCC Panska Ves 89.08 19 AMS AMS 08 17 50.0
comp=Z,300nm,15.3s
BRG Berggiesshubel 89.22 19 *eP* **P 07 39 45.8 +1.5**
BRG Amp 07 39 47.7
comp=Z,55nm,2.1s
BRG PP **PP 07 43 12.4 -3.0**
BRG Amp 07 43 15.7
comp=Z,33nm,1.7s
BRG Amp 07 49 27.0
comp=Z,0.2nm,16.3s
BRG Amp 08 17 37.0
comp=N,0.4nm,16.9s
BRG Amp 08 17 47.0
comp=E,0.3nm,17.9s
BRG Amp 08 17 51.0
comp=Z,0.6nm,18.1s
BRG Berggiesshubel 89.22 19 *eP* **P 07 39 45.1 +0.8**
comp=Z,65nm,2.2s,baz=176,slow=5.0
CLZ Clausthal 89.24 16 *eP* **P 07 39 45.8 +1.4**
comp=Z,76nm,2.0s,baz=176,slow=5.0
MORC Moravsky Berou 89.24 21 *eP* **P 07 39 44.9 +0.4**
KRLC Kraliky 89.28 21 *eP* **P 07 39 45.1 +0.4**
KRLC MLR MLR
comp=Z,500nm,19.9s
KRLC Kraliky 89.28 21 *eP* **P 07 39 45.1 +0.4**
KRLC AMS AMS 08 17 20.0
comp=Z,500nm,19.9s
CLL Collm 89.38 18 *i P* **P 07 39 46.3 +1.3**
comp=Z,47nm,1.6s
CLL Lm MLR 07 18 00.0
comp=N,300nm,18.3s
CLL Lm MLR 07 18 00.0
comp=E,300nm,18.8s
CLL Lm MLR 07 18 00.0
comp=Z,400nm,18.5s
CLL *i* PP **PP 07 43 14.9 -1.7**
comp=Z,33nm,1.6s
CLL *e*SS SS 07 56 32.0 +1.3
CLL LmV 14 39 00.0
comp=Z,100nm,19.6s
CLL Collm 89.38 18 P **P 07 39 45.8 +0.7**
CLL pmax pmax
comp=Z,36nm,1.4s
CLL Collm 89.38 18 P **P 07 39 45.8 +0.7**
CLL IAmb IAmb 07 39 48.5
comp=Z,36nm,1.4s
CLL Collm 89.38 18 *eP* **P 07 39 45.7 +0.6**
comp=Z,47nm,1.6s,baz=176,slow=5.0
DPC Dobruska-Polom 89.40 20 *eP* **P 07 39 45.7 +0.4**
DPC MLR MLR
comp=Z,400nm,18.7s
DPC Dobruska-Polom 89.40 20 *eP* **P 07 39 45.7 +0.4**
DPC AMS AMS 08 18 00.0
comp=Z,400nm,18.7s
UPC Upice 89.45 20 *eP* **P 07 39 46.7 +1.2**
UPC MLR MLR
comp=Z,600nm,24.2s
UPC Upice 89.45 20 *eP* **P 07 39 46.7 +1.2**
UPC AMS AMS 08 15 30.0
comp=Z,600nm,24.2s
OKC Ostrava-Krasne 89.48 21 AMS AMS 08 19 10.0
comp=Z,500nm,17.4s
CHVC Chvalec 89.54 20 *eP* **P 07 39 47.4 +1.5**
CHVC AMS AMS 08 16 10.0
comp=Z,500nm,19.0s
OSTC Ostas 89.56 20 *eP* **P 07 39 47.7 +1.8**
OSTC AMS AMS 08 15 20.0
comp=Z,500nm,25.3s
CRVS Cervenica-Dubn 89.71 24 *eP* **P 07 39 47.3 +0.6**
CRVS pmax pmax
comp=Z,70nm,1.4s
CRVS Cervenica-Dubn 89.71 24 *eP* **P 07 39 47.2 +0.6**
UZH Uzhgorod 89.75 24 *eP* **P 07 39 48.0 +1.1**
UZH *e* 07 39 51.7
NIE Niedzica 89.78 23 *eP* **P 07 39 47.9 +0.8**
NRDL Niedersach Rie 89.79 16 *eP* **P 07 39 48.9 +2.1**
comp=Z,103nm,1.7s,baz=176,slow=5.0
KSP Ksiaz 89.83 20 *eP* **P 07 39 48.2 +1.0**
FLTG Flechtingen 89.89 16 *eP* **P 07 39 48.1 +0.7**
comp=Z,56nm,1.7s,baz=176,slow=5.0
BURAR Bucovina Array 89.92 27 ⇑P **P 07 39 49.6 +1.8**
KOLS Kolonicke sedl 90.00 24 *eP* **P 07 39 49.5 +1.4**
KOLS Kolonicke sedl 90.00 24 *eP* **P 07 39 49.5 +1.4**
NHSC New Hope 90.27 311 P **P 07 39 50.3 +0.6**
baz=132
OJC Ojcow 90.32 22 *eP* **P 07 39 50.0 +0.6**
CNNC Cliffs of the 90.32 314 P **P 07 39 50.0 +0.2**
baz=134
EKA Eskdalemuir Ar 90.34 7 P **P 07 39 50.8 +1.4**
comp=Z,25nm,1.1s,baz=180,slow=4.0,SNR=23
EKA PP PP 07 43 34.5 +10
comp=Z,1.2nm,0.5s,baz=194,slow=23,SNR=4.2
GURO Guroymak-BITLI 90.63 42 P **P 07 39 53.6 +2.2**
GURO IAmb IAmb 07 39 55.4
comp=Z,54nm,1.5s
KWP Kalwaria Pacla 90.75 24 *eP* **P 07 39 52.4 +0.9**
M65A Busby, Falmout 90.85 322 P **P 07 39 53.3 +1.2**
baz=138
KOPT Kop Dagi 90.86 40 P **P 07 39 53.8 +1.1**
KOPT IAmb IAmb 07 40 01.6
comp=Z,68nm,1.5s
U59A Littleton 91.03 315 P **P 07 39 53.5 +0.3**
U59A IAmb IAmb 07 39 55.2
comp=Z,56nm,1.4s
M64A Tiverton 91.13 322 P **P 07 39 54.3 +0.8**
baz=138
L64A Middleborough 91.23 322 P **P 07 39 55.0 +1.1**
baz=138
TIGA Tifton 91.34 308 P **P 07 39 55.3 +0.6**
baz=131
LVV L'vov 91.36 25 *eP* **P 07 39 55.0 +0.7**
LVV MLR MLR
comp=E,400nm,19.0s
LVV MLR MLR
comp=N,200nm,18.0s
LVV MLR MLR
comp=Z,400nm,18.0s
Q61A Milford 91.39 318 P **P 07 39 55.9 +1.2**
baz=135
SORM Soroca 91.54 28 ⇑P **P 07 39 55.9 +0.8**
L63A North Scituate 91.56 322 P **P 07 39 56.3 +0.8**
baz=137
H66A Whiting 91.68 326 P **P 07 39 57.4 +1.4**
baz=140
HRV Adam Dziewonsk 92.01 322 P **P 07 39 58.8 +1.3**
baz=137
H65A Eastbrook 92.05 326 P **P 07 39 58.4 +0.8**
baz=140
CBN Corbin Frederi 92.06 316 P **P 07 39 58.9 +1.0**
baz=134
I64A Boothbay 92.11 324 P **P 07 39 58.7 +0.8**
baz=139
G65A Princeton 92.11 326 P **P 07 39 59.0 +1.1**
baz=140
K63A Dunstable 92.13 323 P **P 07 39 59.1 +1.1**
baz=137
PAL Palisades 92.13 320 P **P 07 39 59.1 +1.0**
baz=136
P60A Greenville 92.21 318 P **P 07 39 59.2 +0.7**
baz=135
KMSC Kings Mountain 92.34 312 P **P 07 39 59.6 +0.4**
baz=132
J63A Strafford 92.34 323 P **P 07 40 00.4 +1.4**
baz=138
H64A Troy 92.46 325 P **P 07 40 00.8 +1.2**
baz=139
K62A Royalston 92.47 322 P **P 07 40 00.8 +1.1**
baz=137
L61B Northampton 92.53 322 P **P 07 40 01.0 +1.0**
baz=137
GOGA Godfrey 92.54 309 P **P 07 40 00.8 +0.6**
baz=131
J62A Henniker 92.66 323 P **P 07 40 01.6 +1.0**
baz=137
I63A Otisfield 92.67 324 P **P 07 40 02.0 +1.4**
baz=138
G64A Maxfield 92.70 326 P **P 07 40 01.7 +1.0**
baz=139
H63A New Sharon 92.86 325 P **P 07 40 02.7 +1.3**
baz=138
I62A Tamworth 92.90 324 P **P 07 40 02.4 +0.7**
baz=138
PKME Peaks-Kenny Pk 92.96 326 P **P 07 40 03.0 +1.1**
baz=139
F64A Sherman 92.98 326 P **P 07 40 03.3 +1.4**
baz=139
K61A Williamstown 92.99 322 P **P 07 40 03.2 +1.1**
baz=136
G63A Kingsbury 93.00 325 P **P 07 40 02.9 +0.9**
baz=139
N59A State Game Lan 93.06 319 P **P 07 40 03.6 +1.1**
baz=135
J61A Chester 93.12 323 P **P 07 40 03.4 +0.8**
baz=137
BLA Blacksburg 93.16 314 P **P 07 40 03.8 +0.7**
baz=132
E64A Bridgewater 93.16 327 P **P 07 40 03.9 +1.2**
baz=140
GNI Garni 93.25 42 *c iP* **P 07 40 04.8 +1.2**
GNI pmax pmax
comp=Z,40nm,1.7s
H62A Milan 93.33 324 P **P 07 40 03.9 +0.2**

baz=138
I61A Oroboro, Fairl 93.38 323 P P 07 40 04.6 +0.8
baz=137
E63A Oxbow 93.43 327 P P 07 40 04.7 +0.7
baz=139
BRAL Brewton 93.45 306 P P 07 40 04.5 0.0
baz=129
LBNH Lisbon 93.46 323 P P 07 40 05.2 +1.0
baz=137
J60A Lant Hill Farm 93.48 322 P P 07 40 05.2 +0.9
baz=136
G62A West of Eustis 93.51 325 P P 07 40 04.6 +0.2
baz=138
H61A Lyndonville 93.68 324 P P 07 40 06.2 +1.0
baz=137
F62A Pittston Farm, 93.75 326 P P 07 40 06.2 +0.8
baz=138
D63A Stockholm 93.76 327 P P 07 40 06.0 +0.5
baz=140
I60A Shoreham 93.85 322 P P 07 40 06.7 +0.7
baz=136
L58A Harry Jones Me 93.89 320 P P 07 40 06.4 +0.1
baz=135
AKASG Malin Array Be 93.96 27 P P 07 40 06.8 +0.5
comp=Z,17nm,1.1s,baz=223,slow=4.4,SNR=39
AKASG LR LR 08 21 20.6
comp=Z,144nm,20.9s,baz=235,slow=35
AKASG Malin Array Be 93.96 27 P P 07 40 05.8 -0.5
AKBB Malin Array Si 93.96 27 *ce*P P 07 40 09.4 +3.1
AKBB Malin Array Si 93.96 27 P P 07 40 07.2 +0.9
AKBB IAmb IAmb 07 40 09.9
comp=Z,30nm,1.3s
SSPA Standing Stone 94.02 318 P P 07 40 07.4 +0.5
baz=133
G61A St-Isidore-de- 94.03 324 P P 07 40 07.5 +0.7
baz=137
H60A Morristown 94.07 323 P P 07 40 07.8 +0.8
baz=137
BINY Binghamton 94.08 320 P P 07 40 07.7 +0.5
baz=135
E62A Clayton Lake 94.08 326 P P 07 40 07.8 +0.8
baz=139
O56A Blue Knob Stat 94.15 317 P P 07 40 07.9 +0.4
baz=133
D62A Allapoint, All 94.22 327 P P 07 40 07.7 +0.1
baz=139
D62A Allapoint, All 94.22 327 P P 07 40 07.3 -0.3
D62A IAmb IAmb 07 40 09.9
comp=Z,60nm,1.3s
F61A St Evariste 94.28 325 P P 07 40 08.0 0.0
baz=138
G60A Masonville 94.28 324 P P 07 40 08.3 +0.3
baz=137
NEY Neytrino 94.33 39⇓ *e*P P 07 40 09.7 +1.2
NEY pmax pmax
comp=Z,8.0nm,1.5s
E61A Lac Etchemin 94.39 326 P P 07 40 08.8 +0.4
baz=138
MCWV Mont Chateau 94.46 316 P P 07 40 08.8 -0.2
baz=132
J58A Remsen 94.52 321 P P 07 40 09.1 0.0
baz=135
LRAL Lakeview Retre 94.58 307 P P 07 40 09.7 +0.1
baz=129
I58A Old Forge 94.59 322 P P 07 40 09.4 -0.1
baz=135
TZTN Tazewell 94.61 312 P P 07 40 09.8 +0.1
baz=130
ZEI Tsey 94.62 40 *e*P P 07 40 10.5 +0.6
ZEI pmax pmax
comp=Z,21nm,1.5s
H59A Cadyville 94.63 323 P P 07 40 10.2 +0.6
baz=136
H58A Gabriels 94.71 322 P P 07 40 09.7 -0.3
baz=136
F60A Warwick 94.74 325 P P 07 40 10.1 0.0
baz=137
KBZ Khabaz 94.76 39 P P 07 40 11.6 +1.4
comp=Z,4.2nm,0.9s,baz=241,slow=7.2,SNR=18
KBZ LR LR 08 23 14.7
comp=Z,172nm,18.4s,baz=224,slow=36
KBZ Khabaz 94.76 39 *ce*P P 07 40 11.4 +1.2
KIV Kislovodsk 94.81 38 *e*P P 07 40 11.9 +1.3
KIV *e* 07 43 58.5
KIV *e*SS SS 07 57 49.3 -0.1
KIV pmax pmax
comp=Z,53nm,1.1s
KIV pmax pmax
comp=Z,58nm,3.4s
KIV MLR MLR
comp=Z,369nm,20.0s
D61A St Aubert, Com 94.82 326 P P 07 40 10.4 0.0
baz=138
D60A Saint Jean D'O 94.95 326 P P 07 40 12.3 +1.4
baz=138
NCK Nalchik 94.96 39⇓ *e*P P 07 40 13.8 +2.6
NCK pmax pmax
comp=Z,28nm,0.4s
F59A Saint Guilaume 95.05 324 P P 07 40 11.6 +0.2
baz=136
LONY Lake Ozonia 95.06 322 P P 07 40 11.7 +0.1
baz=135
I57A Carthage 95.12 321 P P 07 40 12.2 +0.3
baz=135
K56A Middlesex 95.13 320 P P 07 40 11.9 -0.1
baz=134
G58A Ormstown 95.17 323 P P 07 40 12.1 +0.1
baz=136
H57A Richville 95.35 322 P P 07 40 13.0 +0.2
baz=135
N54A Moraine State 95.42 317 P P 07 40 13.2 -0.1
baz=132
G57A Newington 95.60 322 P P 07 40 14.4 +0.4
baz=135
M54A Oil Creek Stat 95.60 318 P P 07 40 14.4 +0.3
baz=132
O53A New Philadelph 95.64 316 P P 07 40 13.8 -0.6
baz=132
E58A La Victoria 95.66 324 P P 07 40 14.5 +0.2
baz=136
P52A Corning 95.77 315 P P 07 40 14.4 -0.5
baz=131
D58A Chemin du LacG 96.00 325 P P 07 40 16.1 +0.3
baz=136
M53A WI Miller and 96.12 317 P P 07 40 16.4 -0.1
baz=132
LATQ La Tuque 96.16 325 P P 07 40 16.8 +0.4
baz=136
ERPA Erie 96.19 318 P P 07 40 16.9 +0.1
baz=132
KONO Kongsberg 96.37 13⇑ *e*P P 07 40 20.2 +3.1
KONO pmax pmax
comp=Z,12nm,1.2s
E56A St. Veronique 96.64 324 P P 07 40 18.8 +0.1
baz=135
H01W2 Cape Leeuwin H 96.64 141 T T 09 28 35.4
baz=221,slow=75
H01W3 Cape Leeuwin H 96.66 141 T T 09 28 36.4
baz=221,slow=75
H01W1 Cape Leeuwin H 96.66 141 T T 09 28 36.6
baz=221,slow=75
D56A ZE Mazanza, M 96.86 324 P P 07 40 20.0 +0.3
baz=135
WVT Waverly 97.03 309 P P 07 40 20.8 +0.1
baz=128
P49A Miami Univ. Ec 97.23 313 P Pdif 07 40 22.5 +0.8
baz=130
NOA NORSAR Array B 97.97 13 P Pdif 07 40 27.2 +2.7
comp=Z,1.3nm,1.0s,baz=198,slow=5.0,SNR=3.6
NOA LR LR 08 24 04.3
comp=Z,136nm,19.4s,baz=200,slow=35
BORG Borgarnes 99.18 358 LR LR 08 16 19.5
comp=Z,74nm,19.0s,baz=167,slow=30
SCHQ Schefferville 99.19 333 LR LR 08 21 48.8
comp=Z,182nm,18.0s,baz=106,slow=33
W41B Gary Mavity, V 99.34 306 P Pdif 07 40 30.5 -0.6
baz=126
GEYT Alibeck 99.80 51 PP PP 07 44 35.5 -2.7
comp=Z,1.0nm,0.5s,baz=188,slow=9.7,SNR=1.4
GEYT LR LR 08 25 44.6
comp=Z,473nm,18.7s,baz=235,slow=35
OBN Obninsk 100.19 28 *e*P Pdif 07 40 35.6 +1.3
OBN *e* 07 44 40.4
OBN *e*PPP PPP 07 46 48.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,178nm,17.0s

CCM Cathedral Cave 100.37 309 P Pdif 07 40 35.4 -0.2
baz=126
W39A Magazine 100.38 306 P Pdif 07 40 35.1 -0.6
baz=125
TXAR Lajitas Array 104.16 296 PP PKiKP 07 45 09.2 -0.7
comp=Z,4.2nm,1.2s,baz=122,slow=6.7,SNR=13
TXAR PKKPbc PKKPbc 07 56 42.0 +1.3
comp=Z,0.5nm,1.0s,baz=298,slow=2.7,SNR=4.2
MNTX Cornudas Mount 106.64 297 P PKiKP 07 45 13.4 -0.9
baz=121,SNR=10
TBI Tubuai 107.23 224 *e*LR LR 08 16 41.9
comp=Z,362nm,22.5s
ARCES ARCESS Array B 108.28 14 PP PP 07 45 38.4 -2.2
comp=Z,2.7nm,0.9s,baz=246,slow=6.8,SNR=6.1
ANMO Albuquerque 109.04 300 P PKiKP 07 45 18.5 -0.4
baz=120
ULM Lac du Bonnet 109.85 318 PP PP 07 45 49.1 -3.5
comp=Z,1.1nm,0.4s,baz=116,slow=5.1,SNR=4.8
TAOE Nuku Hiva Isla 111.63 242 *e*LR LR 08 18 44.5
comp=Z,226nm,24.7s
PPT2 Papeete2 111.72 228 *e*LR LR 08 18 46.3
comp=Z,432nm,24.5s
KSH Kashi 112.51 57 PKP PKiKP 07 45 26.2 +1.0
KSH AMB AMB
comp=Z,51nm,8.3s
KSH LR LR
comp=Z,1μm,36.5s
KSH LR LR
comp=Z,910nm,23.7s
KSH LR LR
comp=Z,250nm,18.9s
K22A Casper 112.71 307 P PKiKP 07 45 25.5 -0.1
baz=117
O20A White River Ci 112.73 304 P PKiKP 07 45 25.6 -0.1
baz=117
WUAZ Wupatki 112.86 298 P PKiKP 07 45 26.3 +0.2
baz=117
AAK Ala-Archa 112.91 53 PP PP 07 46 13.6 -1.3
comp=Z,2.1nm,0.4s,baz=255,slow=5.4,SNR=3.9
AAK PKKPbc PKKPab 07 56 22.4 +3.3
comp=Z,1.4nm,0.3s,baz=218,slow=3.9,SNR=4.6
AAK Ala-Archa 112.91 53⇑ *i*PKIKP PKiKP 07 45 25.3 -0.6
LAO LASA Array 114.28 311 P PKiKP 07 45 29.0 +0.7
baz=115
PDMCI Parker Dam,Lak 114.35 296 P PKiKP 07 45 29.1 +0.4
baz=116
BW06 Boulder Array 114.77 306 P PKiKP 07 45 29.9 +0.3
baz=115
PDAR Pinedale Array 114.77 306 PKP PKPdf 07 45 27.5 -2.1
comp=Z,0.6nm,0.7s,baz=106,slow=3.3,SNR=5.6
PDAR PP PP 07 46 25.1 -3.1
comp=Z,1.1nm,1.1s,baz=114,slow=9.0,SNR=2.0
SWSC Sam W. Stewart 114.99 294 P PKiKP 07 45 30.2 +0.2
baz=116
IRM Iron Mountain 115.03 295 P PKiKP 07 45 30.5 +0.4
baz=116
BC3 Big Chuckawall 115.04 295 P PKiKP 07 45 30.9 +0.6
baz=116
IKP In-Ko-Pah, Jac 115.09 293 P PKiKP 07 45 30.7 +0.4
baz=116
ASAR Alice Springs 115.40 150 PKP PKiKP 07 45 30.1 -1.2
comp=Z,2.6nm,1.0s,baz=198,slow=2.1,SNR=16
ASAR PKKPbc PKKPbc 07 56 03.0 -1.4
comp=Z,1.6nm,1.0s,baz=27,slow=0.2,SNR=5.6
MONP2 Monument Peak 115.43 294 P PKiKP 07 45 31.3 +0.1
baz=116
RLMT Red Lodge 115.56 308 P PKiKP 07 45 31.2 +0.1
baz=114
BELC Belle Mtn. Jos 115.60 295 P PKiKP 07 45 32.0 +0.6
baz=116
GMRC Granite Mounta 115.69 296 P PKiKP 07 45 31.7 +0.2
baz=116
TPFO Pinon Flats 115.77 294 P PKiKP 07 45 31.9 +0.3
baz=116
PFO Pinyon Flats O 115.78 294 PP PP 07 46 35.4 0.0
comp=Z,1.1nm,0.9s,baz=121,slow=5.3,SNR=6.1
PFO Pinyon Flats O 115.78 294 P PKiKP 07 45 31.9 +0.3
baz=116
DUG Dugway, Tooele 115.92 302 P PKiKP 07 45 32.5 +0.7
baz=115
109C Camp Elliot, M 115.95 293 P PKiKP 07 45 32.2 +0.3
baz=116
H17A Grant Village 116.12 307 P PKiKP 07 45 32.3 +0.2
baz=114
TUQ Turquoise Moun 116.16 296 P PKiKP 07 45 32.9 +0.5
baz=115
HEC Hector,Ludlow 116.21 296 P PKiKP 07 45 32.5 +0.1
baz=115
MURC Murrieta 116.33 294 P PKiKP 07 45 32.9 +0.3
baz=116
BBRC Big Bear Solar 116.40 295 P PKiKP 07 45 33.3 +0.2
baz=116
SHOC Shoshone, Teco 116.61 297 P PKiKP 07 45 33.5 +0.4
baz=115
GSC Goldstone, Bar 116.76 296 P PKiKP 07 45 34.1 +0.6
baz=115
BFSC Mount Baldy Ra 116.94 294 P PKiKP 07 45 34.5 +0.6
baz=115
EGMT Eagleton 117.02 311 P PKiKP 07 45 33.9 +0.3
baz=113
TPNV Topopah Spring 117.03 298 P PKPdf 07 45 33.5 -0.6
baz=114
SCI2 San Clemente I 117.08 293 P PKPdf 07 45 33.9 -0.2
baz=115
R11A Troy Canyon, C 117.12 299 P PKiKP 07 45 34.4 +0.2
baz=114
CIS Catalina Islan 117.16 293 P PKiKP 07 45 35.0 +0.8
baz=115
BOZ Bozeman (W) 117.28 308 P PKiKP 07 45 34.9 +0.7
baz=113
EDW2 Edwards Air Fo 117.47 295 P PKPdf 07 45 34.6 -0.2
baz=115,SNR=5.0
LRMC Laurel Mtn Rad 117.48 296 P PKPdf 07 45 34.6 -0.3
baz=115
MPMC Manual Prospec 117.58 296 P PKPdf 07 45 35.1 -0.1
baz=114
SNCC San Nicolas Is 117.94 293 P PKPdf 07 45 35.5 -0.2
baz=115
ISA Isabella, Lake 118.14 296 P PKiKP 07 45 36.3 +0.1
baz=114,SNR=7.9
CWC Cottonwood Cre 118.17 296 P PKiKP 07 45 36.9 +0.6
baz=114
KURBB Kurchatov Arra 118.66 46 PKP PKPdf 07 45 36.2 -0.2
comp=Z,1.0nm,0.9s,baz=260,slow=1.7,SNR=5.2
KURBB PP PP 07 46 56.4 +1.5
comp=Z,2.6nm,1.1s,baz=261,slow=6.9,SNR=6.3
VES Vestal, Richgr 118.67 295 P PKiKP 07 45 37.7 +0.7
baz=114
KURK Kurchatov 118.75 46 PKIKP PKPdf 07 45 36.3 -0.3
KURK Kurchatov 118.75 46 PP 07 46 56.4 +0.9
WRA Warramunga Arr 118.88 148 PKP PKPdf 07 45 36.5 -1.5
comp=Z,3.8nm,1.0s,baz=236,slow=1.4,SNR=11
WRA PKKPbc PKKPbc 07 55 51.2 -0.8
comp=Z,1.7nm,1.1s,baz=25,slow=4.3,SNR=5.6
WRAB Tennant Creek 118.89 148⇑ *i*PKIKP PKPdf 07 45 36.6 -1.4
WRAB pmax pmax
comp=Z,22nm,2.5s
NVAR Mina Array Bea 119.12 298 PKP PKPdf 07 45 38.0 -0.1
comp=Z,1.8nm,0.9s,baz=131,slow=3.6,SNR=11
NVAR PP PP 07 46 58.0 -0.6
comp=Z,1.2nm,1.0s,baz=120,slow=9.0,SNR=4.8
MSO Missoula 119.22 309 P PKiKP 07 45 38.2 +0.2
baz=111
MKAR Makanchi Array 119.66 51 PKP PKPdf 07 45 36.3 -2.3
comp=Z,0.9nm,1.0s,baz=270,slow=1.4,SNR=5.3
MKAR PKKPab PKKPbc 07 55 50.6 +1.1
comp=Z,2.0nm,1.1s,baz=70,slow=7.0,SNR=5.0
CM02 Chiang Mai Arr 120.67 88 PKP PKiKP 07 45 42.5 +1.0
CMAR Chiang Mai Arr 120.68 88 PKP PKiKP 07 45 41.6 +0.2
comp=Z,1.2nm,0.4s,baz=238,slow=3.7,SNR=8.9
CM04 Chiang Mai Arr 120.68 88 PKP PKiKP 07 45 53.7 +12
CM09 Chiang Mai Arr 120.72 88 PKP PKiKP 07 45 42.0 +0.4
EDFI Ende, Flores 121.24 129 PKP PKiKP 07 45 44.4 +1.5
WMQ Urumqi 122.26 56 *e*PKP PKiKP 07 45 44.6 +0.7
WMQ AMB AMB
comp=Z,180nm,4.5s
WMQ LR LR
comp=Z,250nm,19.3s
WMQ LR LR
comp=Z,260nm,20.1s
WMQ LR LR
comp=Z,510nm,20.1s
O03E Paynes Creek 122.32 299 P PKPdf 07 45 44.0 0.0
baz=110
M04C Macdoel 122.85 301 P PKiKP 07 45 45.4 +0.1
baz=109
J05D Fort Rock, OR 122.91 303 P PKiKP 07 45 45.7 +0.4
baz=109

O02D Mt. Diablo Mer 122.99 299 P PKiKP 07 45 45.5 0.0
baz=110
K04D Chiloquin, OR 123.06 302 P PKiKP 07 45 46.2 +0.6
baz=109
N02D Trinity Center 123.20 300 P PKPdf 07 45 45.3 -0.3
baz=109
I05D Terrebonne, OR 123.31 304 P PKiKP 07 45 46.3 +0.3
baz=108
L04D Klamath Falls 123.31 301 P PKiKP 07 45 46.1 0.0
baz=109
M02C Callahan 123.44 300 P PKiKP 07 45 46.4 0.0
baz=109
J04D Umpqua Nationa 123.50 303 P PKiKP 07 45 46.7 +0.1
baz=108
DZM Mont Dzumac 123.51 183 *e*LR LR 08 24 23.2
comp=Z,411nm,22.1s
G05D Wamic, OR 123.57 305 P PKPdf 07 45 46.3 +0.1
baz=107
DGZ Jazzator, Alta 123.82 49⇓ *i*PKIKP PKiKP 07 45 47.9 +1.0
F05D White Salmon 123.85 306 P PKPdf 07 45 46.4 -0.3
baz=107
I04A Tendick Farm, 123.88 303 P PKPdf 07 45 46.5 -0.3
baz=108
YKA Yellowknife Ar 123.90 326 PKP PKPdf 07 45 45.2 -0.9
comp=Z,7.0nm,1.1s,baz=101,slow=2.3,SNR=28
YKA PP PP 07 47 30.4 +0.2
comp=Z,1.0nm,1.0s,baz=97,slow=6.4,SNR=4.9
YKA PKKPbc PKKPbc 07 55 32.6 -0.9
comp=Z,0.1nm,0.6s,baz=276,slow=3.5,SNR=4.9
L02E Cave Junction 124.21 301 P PKiKP 07 45 48.0 +0.2
baz=108
H04D Lebanon 124.32 304 P PKiKP 07 45 48.3 +0.4
baz=107
K02D Willamette Mer 124.42 302 P PKPdf 07 45 48.1 +0.2
baz=108
I03D Drain, OR 124.50 303 P PKPdf 07 45 47.8 -0.1
baz=107
J01E Myrtle Point 124.75 302 P PKiKP 07 45 48.9 +0.1
baz=107
E04D Cinebar 124.78 306 P PKPdf 07 45 48.5 +0.1
baz=106
G03D McMinnville, O 124.88 305 P PKiKP 07 45 49.1 +0.2
baz=106
B05A Bryant 124.92 308 P PKPdf 07 45 48.1 -0.5
baz=105
F04D Rainier, OR 124.94 306 P PKPdf 07 45 48.3 -0.4
baz=106
I02D Swisshome 124.96 303 P PKPdf 07 45 47.7 -1.1
baz=107
D03D Eldon 125.38 307 P PKPdf 07 45 49.3 -0.2
baz=105
A04D Lummi Island 125.43 309 P PKPdf 07 45 49.1 -0.4
baz=104
MPSI Mapaga 126.65 120 PKP PKiKP 07 45 54.4 +0.9
NRIK Noril'sk 126.79 26 PKP PKPdf 07 45 51.5 -0.1
comp=Z,2.1nm,0.5s,baz=187,slow=2.2,SNR=4.0
NRIK Noril'sk 126.79 26⇑ *i*PKIKP PKPdf 07 45 51.3 -0.2
C36M Paulatuk 128.27 335 P PKPdf 07 45 54.1 -0.2
baz=87
GTA Gaotai 129.63 65 ⇓PKP PKPdf 07 45 58.0 -0.1
GTA LR LR
comp=Z,72nm,17.5s
GTA LR LR
comp=Z,110nm,20.4s
GTA LR LR
comp=Z,160nm,19.6s
CD2 Chengdu 130.01 77 PKP PKPdf 07 45 58.6 -0.4
GYA Guiyang 130.66 83 *e*PKP PKiKP 07 46 01.6 +0.3
DLBC Dease Lake 131.07 320 PKP PKPdf 07 45 59.8 -0.3
comp=Z,11nm,1.1s,baz=7.8,slow=1.4,SNR=5.9
INK Inuvik 131.80 334 PKP PKPdf 07 46 00.7 -0.5
comp=Z,17nm,1.1s,baz=118,slow=2.2,SNR=20
INK Inuvik 131.80 334 P PKPdf 07 46 00.6 -0.5
baz=79
WRAK Wrangell Islan 132.29 318 P PKPdf 07 46 02.1 -0.3
baz=91
CRAG Craig 132.71 316 P PKPdf 07 46 02.6 -0.5
baz=91
EPYK Eagle Plains 133.40 331 P PKPdf 07 46 04.2 0.0
baz=78
WHY Whitehorse 133.46 323 P PKPdf 07 46 04.5 -0.2
baz=85
SIT Sitka 133.92 319 P PKPdf 07 46 05.0 -0.4
baz=88
ZAK Zakamensk 133.99 51 *e*PKIKP PKPdf 07 46 05.1 -0.8
ZAK pmax pmax
comp=Z,7.0nm,1.8s
TLY Talaya 134.29 49 *e*PKHKP PKPpre 07 45 55.2
TLY *i* 07 46 07.4
TLY pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 135.16 74 PKP PKPdf 07 46 08.5 -0.1
XAN LR LR
comp=Z,140nm,17.3s
XAN LR LR
comp=Z,91nm,17.3s
XAN LR LR
comp=Z,150nm,17.3s
EGAK Eagle 135.58 330 P PKPdf 07 46 07.9 -0.4
baz=75
SONM Songino Array 135.84 55 PKP PKPdf 07 46 09.6 +0.1
comp=Z,0.9nm,0.8s,baz=235,slow=4.8,SNR=5.9
SONM PP PP 07 48 49.7 +1.1
comp=Z,0.6nm,0.7s,baz=270,slow=5.5,SNR=4.2
K27K Chicken 136.16 329 P PKPdf 07 46 09.8 +0.4
baz=75
PINM Pinnacle 136.18 323 P PKPdf 07 46 09.9 +0.3
baz=80
ULN Ulaanbaatar 136.28 55⇑ *i*PKIKP PKPdf 07 46 10.8 +0.4
ULN pmax pmax
comp=Z,8.0nm,1.7s
L27K Beaver Creek, 136.30 328 P PKPdf 07 46 09.7 -0.1
baz=76
CTG Chitna Glacier 136.55 325 P PKPdf 07 46 10.3 -0.2
baz=78
SCRK Sand Creek 136.98 329 P PKPdf 07 46 11.2 +0.1
baz=73
PRP Porcupine Dome 137.10 332 P PKPdf 07 46 11.5 +0.2
baz=70
MCARA McCarthy VSAT 137.25 325 P PKPdf 07 46 11.4 -0.1
baz=76
TOLK Toolik Lake Re 137.26 337 P PKPdf 07 46 11.8 +0.4
baz=62,SNR=5.1
CRQE Cirque 137.43 325 P PKPdf 07 46 12.2 +0.2
baz=77
A21K Barrow 137.81 342 P PKPdf 07 46 12.7 +0.4
baz=51
H24K Noodor Dome 137.89 333 P PKPdf 07 46 12.7 0.0
baz=67,SNR=9.6
ILAR Eielson Array 137.91 331 PKhKP PKPpre 07 46 00.1
comp=Z,4.0nm,1.2s,baz=40,slow=2.3,SNR=12
ILAR PKP PKPdf 07 46 12.2 -0.4
comp=Z,7.6nm,1.1s,baz=0.9,slow=1.0,SNR=23
ILAR PP PP 07 48 58.5 -2.2
comp=Z,0.9nm,1.0s,baz=75,slow=4.0,SNR=5.3
ILAR SKP 07 49 49.2
comp=Z,1.2nm,1.1s,baz=48,slow=1.3,SNR=4.5
PAX Paxson 137.92 328 P PKPdf 07 46 12.5 -0.3
baz=72
N25K Chitina, Valde 137.93 326 P PKPdf 07 46 13.4 +0.6
baz=74
HARP HAARP 137.96 327 P PKPdf 07 46 12.8 0.0
baz=73
POKR Poker Plat Res 138.00 332 P PKPdf 07 46 12.4 -0.4
baz=68
HDA Harding Lake 138.06 331 P PKPdf 07 46 12.4 -0.5
baz=69
BMRM Bremner River 138.10 325 P PKPdf 07 46 12.3 -0.9
baz=75
COLD Coldfoot 138.13 335 P PKPdf 07 46 13.2 +0.3
baz=63,SNR=6.6
COLA College 138.25 331⇑ *e*PKIKP PKPdf 07 46 11.8 -1.4
COLA College 138.25 331 P PKPdf 07 46 12.6 -0.6
baz=68
TCOL CIGO, UAF Yank 138.26 331 P PKPdf 07 46 13.0 -0.2
baz=68
M24K Tolsona, Glenn 138.50 327 P PKPdf 07 46 14.1 +0.3
baz=72
H23K Yukon River 138.52 333 P PKPdf 07 46 13.8 +0.1
baz=65,SNR=5.5
KLU Klutina 138.57 326 P PKPdf 07 46 14.6 +0.6
baz=73
I23K Minto, Yukon-K 138.73 332 P PKPdf 07 46 13.9 -0.2
baz=66,SNR=7.6
HHC Hu-ho-hao-te 138.73 65 *e*PKP PKPdf 07 46 11.6 -3.5
HHC LR LR
comp=Z,190nm,17.0s
HHC LR LR

	comp=Z,230nm,17.9s						
HHC				LR	LR		
	comp=Z,210nm,17.9s						
WAT6	**Susitna Watana**	**139.04**	**328**	P	**PKPdf**	**07 46 15.1**	**+0.1**
	baz=70						
MCK	**McKinley**	**139.13**	**330**	P	**PKPdf**	**07 46 14.8**	**-0.1**
	baz=68,SNR=7.2						
WAT1	**Susitna Watana**	**139.30**	**329**	P	**PKPdf**	**07 46 15.9**	**+0.6**
	baz=69						
MLY	**Manley**	**139.31**	**332**	P	**PKPdf**	**07 46 14.8**	**-0.5**
	baz=64,SNR=6.5						
SML	**Sawmill**	**139.56**	**327**	P	**PKPdf**	**07 46 15.9**	**+0.1**
	baz=70						
I21K	**Tanana**	**139.72**	**333**	P	**PKPdf**	**07 46 15.8**	**-0.2**
	baz=63,SNR=7.5						
KNK	**Knik Glacier**	**139.75**	**327**	P	**PKPdf**	**07 46 16.8**	**+0.7**
	baz=71						
H21K	**Melozitna Rive**	**139.79**	**334**	P	**PKPdf**	**07 46 16.5**	**+0.4**
	baz=61						
TRF	**Thorofare Moun**	**139.80**	**330**	P	**PKPdf**	**07 46 15.9**	**-0.5**
	baz=66,SNR=6.7						
BPAW	**Bear Paw Mtn.**	**139.81**	**331**	P	**PKPdf**	**07 46 15.6**	**-0.6**
	baz=65,SNR=6.2						
PMR	**Palmer**	**139.99**	**327**	P	**PKPdf**	**07 46 16.6**	**+0.1**
	baz=70						
RC01	**Rabbit Creek A**	**140.44**	**326**	P	**PKPdf**	**07 46 18.0**	**+0.6**
	baz=70						
SEW	**Seward**	**140.64**	**325**	P	**PKPdf**	**07 46 17.5**	**-0.2**
	baz=71						
SUA	**Susitna One**	**140.76**	**327**	P	**PKPdf**	**07 46 18.0**	**-0.1**
	baz=68						
PPLA	**Purkeypile**	**140.81**	**330**	P	**PKPdf**	**07 46 17.6**	**-0.6**
	baz=65,SNR=8.3						
SKT	**Skwentna**	**140.91**	**328**	P	**PKPdf**	**07 46 17.2**	**-1.0**
	baz=67,SNR=7.8						
BRSE	**Bradley Lake S**	**141.37**	**325**	P	**PKPdf**	**07 46 19.2**	**0.0**
	baz=70						
NJ2	**Nanjing**	**142.58**	**81**	*e*PKP	**PKPdf**	**07 46 22.3**	**+0.2**
KDAK	**Kodiak Island**	**142.94**	**322**	PKhKP	PKPpre	07 46 17.7	
	comp=Z,9.0nm,1.0s,baz=235,slow=2.9,SNR=6.3						
TNA	**Tin City**	**144.79**	**340**	PKPdf	**PKPdf**	**07 46 24.8**	**-0.1**
YAK	**Yakutsk**	**145.19**	**28**	PKPbc	**PKPbc**	**07 46 25.1**	**-0.2**
	comp=Z,68nm,0.9s,baz=229,slow=0.8,SNR=17						
YAK	**Yakutsk**	**145.19**	**28**	*e*PKIKP	**PKPbc**	**07 46 24.6**	**-0.7**
YAK				*e*		07 49 44.6	
YAK				pmax	pmax		
	comp=Z,189nm,1.0s						
YAK				pmax	pmax		
	comp=N,24nm,1.0s						
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				pmax	pmax		
	comp=Z,136nm,2.8s						
YAK				pmax	pmax		
	comp=N,83nm,2.5s						
YAK				pmax	pmax		
	comp=E,40nm,2.4s						
BILL	**Bilibino**	**146.56**	**358**	*e*PKP2	**PKPdf**	**07 46 28.1**	**+0.2**
BILL				*e*		07 49 52.7	
BILL				pmax	pmax		
	comp=Z,46nm,1.1s						
SNY	**Shenyang**	**147.82**	**65**	⇓PKPbc	**PKPbc**	**07 46 34.0**	**+0.3**
SNY				PP	PP	07 50 10.0	+8.5
SNY				AMB	AMB		
	comp=Z,190nm,6.7s						
SNY				LR	LR		
	comp=Z,140nm,28.4s						
SNY				LR	LR		
	comp=Z,320nm,21.1s						
SNY				LR	LR		
	comp=Z,210nm,21.6s						
SDPT	**Sand Point**	**147.90**	**321**		**PKPbc**	**07 46 33.3**	**-0.2**
ZEA	**Zeya**	**148.08**	**42**	*i* PKP2	**PKPbc**	**07 46 34.7**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,2.1s						
CN2	**Changchun**	**149.14**	**61**	*e*PKPbc	**PKPbc**	**07 46 36.5**	**-0.6**
SEY	**Seymchan**	**150.82**	**11**	PKP	**PKPdf**	**07 46 34.5**	**-0.4**
	comp=Z,7.4nm,1.1s,baz=267,slow=0.8,SNR=10						
SEY				PKPbc	**PKPbc**	**07 46 40.9**	**+0.3**
	comp=Z,41nm,1.0s,baz=342,slow=1.6,SNR=32						
SEY	**Seymchan**	**150.82**	**11**	*de*PKIKP	**PKPdf**	**07 46 35.5**	**+0.6**
KSRS	**Korea Array**	**150.95**	**74**	PKP	**PKPdf**	**07 46 35.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=158,slow=1.3,SNR=5.0						
KSRS				PKPbc	**PKPbc**	**07 46 41.3**	**-0.4**
	comp=Z,7.2nm,1.0s,baz=268,slow=2.6,SNR=20						
MDJ	**Mudanjiang**	**152.01**	**59**	PKPbc	**PKPdf**	**07 46 39.9**	**+2.6**
MDJ				PP	**PP**	**07 50 25.9**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,230nm,8.3s						
MDJ				LR	LR		
	comp=Z,440nm,3.5s						
MDJ				LR	LR		
	comp=Z,130nm,4.6s						
MDJ				LR	LR		
	comp=Z,250nm,20.9s						
KLR	**Kul'dur**	**152.31**	**49**	⇑*e*PKIKP	**PKPdf**	**07 46 37.8**	**+0.2**
KLR				*i*		07 46 43.7	
NIKH	**Nikolski High**	**153.37**	**322**	P	**PKiKP**	**07 46 47.6**	**+0.9**
	baz=58						
USRK	**Ussuriysk Ar.**	**153.77**	**59**	PKPbc	**PKPbc**	**07 46 46.7**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=114,slow=6.6,SNR=2.6						
USRK				PKPab	**PKPab**	**07 47 01.1**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=220,slow=4.2,SNR=4.1						
MAJO	**Matsushiro**	**159.10**	**77**	⇑*e*PKIKP	**PKPdf**	**07 46 47.2**	**0.0**
MJAR	**Matsushiro Arr**	**159.10**	**77**	PKP	**PKPdf**	**07 46 45.6**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=267,slow=2.4,SNR=5.6						
MJAR				PKPab	**pPKPab**	**07 47 25.3**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=268,slow=4.4,SNR=4.7						
PEA0B	**Petropavlovsk-**	**161.06**	**11**	⇓*e*PKIKP	**PKPdf**	**07 46 48.1**	**-0.7**
PETK	**Petropavlovsk-**	**161.06**	**11**	PKP	**PKPdf**	**07 46 48.6**	**-0.1**
	comp=Z,8.4nm,1.0s,baz=339,slow=2.0,SNR=5.9						
PETK				PKPab	**PKPab**	**07 47 31.8**	**0.0**
	comp=Z,12nm,1.2s,baz=107,slow=5.0,SNR=4.4						
PETK	**Petropavlovsk-**	**161.06**	**11**	PKPdf	**PKPdf**	**07 46 49.2**	**+0.4**
PETK				PKPab	**PKPab**	**07 47 32.3**	**+0.5**

JMA ***02*** *07:44:17.4±0.2,23°.87N×121°.04E,h0km,M3.7*
TAP ***02*** *07:44:18.4,23°.84N×121°.05E,h27km,ML4.2,B*
ISC 02 07:44:18.1±0.9,23°.85N±0°.01×121°.04E±0°.01,h17km±8km, n149,σ0°97/277,28C-21D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.10**	**231**	⇑*i*P	**Pb**	**07 44 23.5**	**+1.8**
	baz=238						
SSLB				*i* S	**Sb**	**07 44 27.0**	**+2.9**
	baz=238						
SMLT	**Sun Moon Lake**	**0.13**	**283**	⇑*i*P	**Pb**	**07 44 24.0**	**+1.7**
	baz=289						
SMLT				*i* S	**Sb**	**07 44 28.3**	**+3.3**
	baz=289						
OWD	**Renai**	**0.16**	**50**	⇓*i*P	**Pb**	**07 44 24.2**	**+1.5**
	baz=46						
OWD				S	**Sb**	**07 44 28.2**	**+2.4**
	baz=46						
TYC	**Yuchr**	**0.18**	**287**	⇑*i*P	**Pb**	**07 44 24.4**	**+1.4**
	baz=292						
TYC				*e*S	**Sb**	**07 44 28.6**	**+2.4**
	baz=292						
WPL	**Puli Township**	**0.18**	**334**	⇑*i*P	**Pb**	**07 44 24.4**	**+1.4**
	baz=335						
WPL				*i* S	**Sb**	**07 44 28.4**	**+2.2**
	baz=335						
DPDB	**Guoxing**	**0.21**	**329**	⇑*i*P	**Pb**	**07 44 24.9**	**+1.3**
	baz=331						
DPDB				*i* S	**Sb**	**07 44 29.4**	**+2.2**
	baz=331						
WHYT	**Xinyi Township**	**0.23**	**228**	⇑*i*P	**Pb**	**07 44 25.1**	**+1.1**
	baz=231						
WHYT				*i* S	**Sb**	**07 44 29.9**	**+2.1**
	baz=231						
WCS	**Beigang Elemen**	**0.24**	**330**	⇑*i*P	**Pb**	**07 44 25.2**	**+1.2**
	baz=331						
WCS				*i* S	**Sb**	**07 44 29.7**	**+1.8**
	baz=331						
CHGB	**Renai**	**0.24**	**30**	⇓*i*P	**Pb**	**07 44 25.3**	**+1.2**
	baz=28						
CHGB				S	**Sb**	**07 44 29.9**	**+1.7**
	baz=28						
WJS	**Zhushan**	**0.29**	**264**	⇑*i*P	**Pb**	**07 44 26.0**	**+1.1**
	baz=267						
WJS				*i* S	**Sb**	**07 44 31.4**	**+2.0**
	baz=267						
WNT	**Mingjian**	**0.33**	**274**	⇑*i*P	**Pb**	**07 44 26.8**	**+1.3**
	baz=277						
WNT				*i* S	**Sn**	**07 44 33.0**	**-1.5**
	baz=277						
WNT1	**Nantou City**	**0.34**	**279**	*i* P	**Pn**	**07 44 27.1**	**-1.2**
	baz=281						
WNT1				S	**Sn**	**07 44 33.4**	**-1.3**
	baz=281						
WHF	**Hehuan Shan**	**0.35**	**35**	⇓*i*P	**Pb**	**07 44 27.0**	**+0.7**
	baz=34						
WHF				*i* S	**Sb**	**07 44 32.7**	**+0.9**
	baz=34						
ESL	**Shilin**	**0.36**	**96**	⇓*i*P	**Pb**	**07 44 26.8**	**+0.7**
	baz=94						
ESL				*i* S	**Sb**	**07 44 32.4**	**+1.0**
	baz=94						
WWF	**Wufeng**	**0.37**	**301**	⇑*i*P	**Pn**	**07 44 27.7**	**-0.9**
	baz=303						
WWF				S	**Sn**	**07 44 34.6**	**-0.8**
	baz=303						
YUS	**Yu-Shan**	**0.37**	**193**	⇑*i*P	**Pb**	**07 44 27.2**	**+0.6**
	baz=193						
YUS				S	**Sb**	**07 44 33.2**	**+1.0**
	baz=193						
EGFH	**Guangfu**	**0.40**	**117**	⇓*i*P	**Pb**	**07 44 27.2**	**+0.5**
	baz=116						
EGFH				S	**Sb**	**07 44 33.2**	**+0.7**
	baz=116						
ALS	**Alishan**	**0.40**	**213**	⇑*i*P	**Pb**	**07 44 27.7**	**+0.7**
	baz=213						
ALS				*i* S	**Sb**	**07 44 34.1**	**+1.1**
	baz=213						
TDCB	**Techi**	**0.41**	**15**	⇓*i*P	**Pb**	**07 44 27.6**	**+0.5**
	baz=14						
TDCB				S	**Sb**	**07 44 33.5**	**+0.3**
	baz=14						
TWT	**Tachien**	**0.42**	**17**	⇓*i*P	**Pb**	**07 44 27.6**	**+0.5**
	baz=15						
TWT				*i* S	**Sb**	**07 44 33.8**	**+0.5**
	baz=15						
CHN5	**Tsauling**	**0.42**	**233**	⇓*i*P	**Pb**	**07 44 27.8**	**+0.6**
	baz=234						
CHN5				S	**Sb**	**07 44 34.5**	**+1.3**
	baz=234						
ETM	**Tongmen**	**0.43**	**75**	*e*P	**Pb**	**07 44 27.5**	**+0.2**
	baz=73						
ETM				*e*S	**Sb**	**07 44 33.9**	**+0.5**
	baz=73						
EHY	**Hungye**	**0.43**	**143**	⇑*i*P	**Pb**	**07 44 28.0**	**+0.7**
	baz=142						
EHY				S	**Sb**	**07 44 34.2**	**+0.7**
	baz=142						
WHP	**Taichung City**	**0.43**	**348**	⇑*i*P	**Pb**	**07 44 28.2**	**+0.8**
	baz=334						
WHP				S	**Sb**	**07 44 35.5**	**+1.9**
	baz=334						
TCU	**Taichung**	**0.45**	**311**	⇑*i*P	**Pn**	**07 44 28.8**	**-0.9**
	baz=313						
TCU				*i* S	**Sn**	**07 44 36.1**	**-1.3**
	baz=313						
WGK	**Gukeng**	**0.47**	**249**	⇓*i*P	**Pb**	**07 44 28.8**	**+0.8**
	baz=250						
WGK				*e*S	**Sb**	**07 44 36.6**	**+2.0**
	baz=250						
TEGC	**Jichi Village**	**0.48**	**107**	*e*P	**Pb**	**07 44 29.1**	**+1.0**
	baz=106						
TEGC				*e*S	**Sb**	**07 44 36.1**	**+1.3**
	baz=106						
WDLH	**Douliu**	**0.49**	**251**	P	**Pb**	**07 44 28.9**	**+0.6**
	baz=252						
WDLH				*e*S	**Sb**	**07 44 36.8**	**+1.7**
	baz=252						
WCHH	**Zhanghua**	**0.50**	**297**	⇑*i*P	**Pb**	**07 44 29.5**	**+1.1**
	baz=298						
WCHH				S	**Sn**	**07 44 37.5**	**-1.1**
	baz=298						
HGSD	**Ruisui**	**0.50**	**136**	⇑*i*P	**Pb**	**07 44 29.4**	**+0.9**
	baz=135						
HGSD				*e*S	**Sb**	**07 44 36.9**	**+1.4**
	baz=135						
TEYL	**Yanliau Villag**	**0.51**	**88**	*e*P	**Pb**	**07 44 29.3**	**+0.7**
	baz=83						
TEYL				*e*S	**Sb**	**07 44 37.5**	**+1.7**
	baz=83						
YULB	**Yu-li**	**0.52**	**153**	⇑*i*P	**Pb**	**07 44 29.1**	**+0.4**
	baz=153						
YULB				S	**Sb**	**07 44 36.2**	**+0.3**
	baz=153						
HWA	**Hwalien**	**0.53**	**76**	P	**Pb**	**07 44 29.8**	**+0.9**
	baz=75						
HWA				*e*S	**Sb**	**07 44 37.8**	**+1.5**
	baz=75						
ETLH	**Xiulin Townshi**	**0.53**	**49**	⇓*i*P	**Pb**	**07 44 29.3**	**+0.2**
	baz=48						
ETLH				*e*S	**Sb**	**07 44 36.8**	**+0.2**
	baz=48						
TWF1	**Yuli**	**0.55**	**155**	⇑*i*P	**Pb**	**07 44 29.8**	**+0.5**
	baz=154						
TWF1				*e*S	**Sb**	**07 44 37.2**	**+0.3**
	baz=154						
TWQ1	**Liyutan**	**0.55**	**334**	⇑*i*P	**Pn**	**07 44 30.6**	**-0.7**
	baz=334						
TWQ1				*e*S	**Sn**	**07 44 39.2**	**-0.8**
	baz=334						
TWD	**Chiawan**	**0.56**	**66**	⇓*i*P	**Pb**	**07 44 29.6**	**+0.2**
	baz=65						
TWD				*e*S	**Sb**	**07 44 37.5**	**+0.5**
	baz=65						
EYUL	**Yuli**	**0.56**	**153**	⇑P	**Pb**	**07 44 30.0**	**+0.4**
	baz=153						
EYUL				*e*S	**Sb**	**07 44 37.6**	**+0.3**
	baz=153						
NACB	**Ninganchiao**	**0.60**	**58**	⇓*i*P	**Pb**	**07 44 30.0**	**-0.1**
	baz=56						
NACB				*e*S	**Sb**	**07 44 38.7**	**+0.4**
	baz=56						
CHN2	**Minshiung**	**0.61**	**239**	*e*P	**Pb**	**07 44 31.1**	**+0.8**
	baz=240						
CHN2				*e*S	**Sn**	**07 44 40.5**	**-0.9**
	baz=240						
WRL	**Guolierlin Hig**	**0.61**	**275**	⇓*i*P	**Pb**	**07 44 30.9**	**+0.5**
	baz=276						
WRL				*e*S	**Sb**	**07 44 39.0**	**+0.4**
	baz=276						
ETL	**Fush Village**	**0.61**	**60**	*e*P	**Pb**	**07 44 30.5**	**+0.1**
	baz=59						
ETL				*e*S	**Sb**	**07 44 39.4**	**+0.6**
	baz=59						
WDJ	**Dajia District**	**0.61**	**323**	⇑*i*P	**Pn**	**07 44 31.6**	**-0.4**
	baz=324						
WDJ				*e*S	**Sn**	**07 44 41.3**	**-0.3**
	baz=324						
NSY	**Sanyi**	**0.62**	**335**	⇑*i*P	**Pn**	**07 44 31.9**	**-0.2**
	baz=336						
NSY				*e*S	**Sn**	**07 44 41.5**	**-0.1**
	baz=336						
WTK	**Tuku**	**0.62**	**255**	⇓P	**Pb**	**07 44 30.8**	**+0.3**
	baz=256						
WTK				*e*S	**Sb**	**07 44 40.0**	**+1.0**
	baz=256						
CHN4	**Tsaushan**	**0.65**	**220**	⇓P	**Pb**	**07 44 31.2**	**+0.2**
	baz=220						
CHN4				*e*S	**Sb**	**07 44 40.5**	**+0.8**
	baz=220						
ECBN	**Changbin**	**0.65**	**145**	*e*P	**Pn**	**07 44 32.1**	**-0.5**
	baz=144						
ECBN				*e*S	**Sn**	**07 44 42.5**	**+0.1**
	baz=144						
NNS	**Nan Shan**	**0.66**	**27**	P	**Pb**	**07 44 31.4**	**+0.2**
	baz=27						
NNS				*e*S	**Sb**	**07 44 40.2**	**0.0**
	baz=27						
ELDTW	**Lidau**	**0.66**	**182**	*i* P	**Pb**	**07 44 31.6**	**+0.3**
	baz=182						
ELDTW				S	**Sb**	**07 44 40.4**	**+0.2**
	baz=182						
CHY	**Chiayi**	**0.67**	**238**	⇓P	**Pb**	**07 44 31.6**	**+0.3**
	baz=239						
CHY				*e*S	**Sb**	**07 44 41.3**	**+1.1**
	baz=239						
TPUB	**Ta-pu**	**0.67**	**215**	⇓P	**Pb**	**07 44 31.3**	**-0.1**
	baz=215						
TPUB				*e*S	**Sb**	**07 44 41.0**	**+0.7**
	baz=215						
FULB	**Fuli**	**0.69**	**160**	⇑P	**Pn**	**07 44 32.8**	**-0.4**
	baz=160						
FULB				*e*S	**Sn**	**07 44 43.1**	**-0.4**
	baz=160						
WTCT	**Ta-ch'eng**	**0.70**	**271**	P	**Pb**	**07 44 32.2**	**+0.4**
	baz=272						
WTCT				*e*S	**Sn**	**07 44 42.9**	**-0.7**
	baz=272						
NMLH	**Miaoli**	**0.72**	**341**	⇑P	**Pn**	**07 44 33.4**	**-0.1**
	baz=342						
NMLH				*e*S	**Sn**	**07 44 44.0**	**-0.1**
	baz=342						
WTP	**Ta-pu**	**0.72**	**213**	*e*P	**Pg**	**07 44 32.0**	**-0.3**
	baz=213						
WTP				*e*S	**Sb**	**07 44 42.1**	**+0.2**
	baz=213						
STYH	**Taoyuan**	**0.72**	**200**	P	**Pb**	**07 44 32.3**	**+0.1**
	baz=200						
STYH				*e*S	**Sb**	**07 44 42.1**	**+0.2**
	baz=200						
STYT	**Tauyuan**	**0.73**	**201**	P	**Pb**	**07 44 32.8**	**+0.3**
	baz=201						
STYT				*e*S	**Sb**	**07 44 43.0**	**+0.7**
	baz=201						
WMLT	**Mailiao**	**0.75**	**266**	*e*P	**Pb**	**07 44 33.1**	**+0.3**
	baz=267						
WMLT				*e*S	**Sn**	**07 44 44.1**	**-0.8**
	baz=267						
ECS	**Chishang**	**0.77**	**168**	*e*P	**Pg**	**07 44 32.8**	**-0.4**
	baz=168						
ECS				*e*S	**Sn**	**07 44 44.9**	**-0.5**
	baz=168						
TWK	**Hsinying**	**0.77**	**221**	*e*P	**Pg**	**07 44 33.1**	**-0.2**
	baz=221						
TWK				*e*S	**Sb**	**07 44 44.5**	**+1.0**
	baz=221						
NSTT	**Nanjuang**	**0.78**	**357**	⇑P	**Pn**	**07 44 34.2**	**-0.1**
	baz=358						
NSTT				*e*S	**Sb**	**07 44 44.5**	**+1.1**
	baz=358						
WSF	**Szhu**	**0.78**	**254**	*e*P	**Pg**	**07 44 33.2**	**-0.3**
	baz=255						
WSF				*e*S	**Sb**	**07 44 44.7**	**+1.1**
	baz=255						
LIOB	**Emei**	**0.79**	**358**	⇑P	**Pn**	**07 44 34.5**	**-0.1**
	baz=358						
LIOB				*e*S	**Sn**	**07 44 45.4**	**-0.5**
	baz=358						
SNST	**Tainan City**	**0.81**	**219**	*e*P	**Pg**	**07 44 33.5**	**-0.4**
	baz=219						
SNST				*e*S	**Sb**	**07 44 44.6**	**+0.4**
	baz=219						
CHKT	**Chengkung**	**0.81**	**158**	*e*P	**Pb**	**07 44 34.2**	**+0.6**
	baz=158						
CHKT				*e*S	**Sn**	**07 44 45.9**	**-0.4**
	baz=158						
CHN1	**Nanshi**	**0.81**	**215**	⇑P	**Pb**	**07 44 33.9**	**0.0**
	baz=216						
CHN1				*e*S	**Sb**	**07 44 45.6**	**+1.1**
	baz=216						
NJN	**Zhunan**	**0.84**	**349**	*e*P	**Pn**	**07 44 35.1**	**-0.1**
	baz=349						
NJN				*e*S	**Sn**	**07 44 47.8**	**+0.6**
	baz=349						
ICHU	**Yijhu**	**0.85**	**235**	*e*P	**Pb**	**07 44 34.7**	**+0.2**
	baz=236						
ICHU				*e*S	**Sb**	**07 44 46.6**	**+1.0**
	baz=236						
ENA	**Nanau**	**0.86**	**48**	*e*P	**Pb**	**07 44 35.0**	**+0.4**
	baz=48						
ENA				*e*S	**Sb**	**07 44 46.6**	**+0.8**
	baz=48						
NDT	**Datong Townshi**	**0.86**	**30**	*e*P	**Pb**	**07 44 35.0**	**+0.4**
	baz=29						
NDT				*e*S	**Sg**	**07 44 45.7**	**-0.6**
	baz=29						
YHNB	**Yeheng**	**0.87**	**20**	⇓P	**Pb**	**07 44 35.2**	**+0.4**
	baz=20						
YHNB				*e*S	**Sg**	**07 44 46.0**	**-0.6**
	baz=20						
NSK	**Sanguang**	**0.87**	**19**	⇓*e*P	**Pb**	**07 44 35.2**	**+0.4**
	baz=19						
NSK				*e*S	**Sb**	**07 44 46.3**	**+0.2**
	baz=19						
SGST	**Jiashian**	**0.88**	**209**	*e*P	**Pg**	**07 44 34.1**	**-1.1**
	baz=209						
SGST				*e*S	**Sb**	**07 44 46.8**	**+0.5**
	baz=209						
NJD	**Zhudong**	**0.88**	**3**	*e*P	**Pn**	**07 44 36.1**	**+0.4**
	baz=3.0						
NJD				*e*S	**Sn**	**07 44 49.4**	**+1.3**
	baz=3.0						
EWUT	**Wuta**	**0.89**	**49**	⇓P	**Pb**	**07 44 35.2**	**0.0**
	baz=48						
EWUT				*e*S	**Sg**	**07 44 46.8**	**-0.6**
	baz=48						
EDH	**Donghe**	**0.91**	**165**	*e*P	**Pg**	**07 44 35.6**	**-0.2**
	baz=165						
EDH				*e*S	**Sb**	**07 44 48.0**	**+0.8**
	baz=165						
CHN8	**Yiju**	**0.91**	**237**	*e*P	**Pb**	**07 44 35.5**	**0.0**
	baz=237						
CHN8				*e*S	**Sn**	**07 44 49.3**	**+0.4**
	baz=237						
ENTT	**Nioudou**	**0.92**	**31**	*e*P	**Pn**	**07 44 36.1**	**-0.2**
	baz=31						
ENTT				*e*S	**Sn**	**07 44 48.8**	**-0.2**
	baz=31						
HSN1	**Hsinchu**	**0.92**	**359**	*e*P	**Pn**	**07 44 36.4**	**+0.1**
	baz=359						
HSN1				*e*S	**Sn**	**07 44 50.0**	**+0.9**
	baz=359						
SLGT	**Liugui**	**0.93**	**203**	*e*P	**Pg**	**07 44 36.0**	**-0.2**
	baz=204						
SLGT				*e*S	**Sn**	**07 44 49.0**	**-0.4**
	baz=204						
SBCB	**Hsinchu**	**0.94**	**357**	*e*P	**Pn**	**07 44 36.5**	**0.0**
	baz=357						
SBCB				*e*S	**Sn**	**07 44 50.2**	**+0.6**
	baz=357						
LONT	**Longtian**	**0.95**	**175**	*e*P	**Pg**	**07 44 36.3**	**-0.2**
	baz=175						
LONT				*e*S	**Sg**	**07 44 48.8**	**-0.2**
	baz=175						
HSN	**Hsinchu**	**0.95**	**356**	*e*P	**Pn**	**07 44 36.7**	**+0.1**
	baz=358						
HSN				*e*S	**Sn**	**07 44 51.0**	**+1.3**
	baz=358						
NDS	**Dongshan**	**0.99**	**38**	*e*P	**Pn**	**07 44 37.3**	**0.0**
	baz=38						
CHN3	**Shinhua**	**0.99**	**219**	*e*P	**Pg**	**07 44 37.0**	**-0.4**
	baz=219						
CHN3				*e*S	**Sn**	**07 44 52.9**	**+2.0**
	baz=219						
NWLT	**Wulai**	**1.01**	**24**	⇓P	**Pn**	**07 44 37.6**	**0.0**
	baz=24						
NWLT				*e*S	**Sb**	**07 44 49.8**	**-0.5**
	baz=24						
TWG	**Pinlang**	**1.03**	**178**	*e*P	**Pg**	**07 44 37.7**	**-0.4**
	baz=178						
TWG				*e*S	**Sg**	**07 44 51.5**	**0.0**
	baz=178						
SCLT	**Jiali**	**1.03**	**229**	*e*P	**Pg**	**07 44 37.7**	**-0.4**
	baz=229						
SCLT				*e*S	**Sn**	**07 44 52.6**	**+0.8**
	baz=229						
TWGBT	**Beinan**	**1.03**	**178**	*e*P	**Pb**	**07 44 37.7**	**+0.2**
	baz=178						
TWGBT				*e*S	**Sg**	**07 44 51.5**	**-0.2**
	baz=178						
TWE	**Neicheng**	**1.03**	**33**	*e*P	**Pn**	**07 44 38.2**	**+0.4**
	baz=34						
TWE				*e*S	**Sn**	**07 44 52.4**	**+0.5**
	baz=34						
TWC	**Suao**	**1.05**	**44**	*e*P	**Pg**	**07 44 38.1**	**-0.4**
	baz=44						
TWC				*e*S	**Sg**	**07 44 52.0**	**-0.4**
	baz=44						
SCST	**Cishan**	**1.09**	**208**	*e*P	**Pg**	**07 44 39.1**	**-0.1**
	baz=208						
SCST				*e*S	**Sg**	**07 44 53.3**	**-0.1**
	baz=208						
TAI1	**Yung-k'ang**	**1.10**	**223**	*e*P	**Pg**	**07 44 39.5**	**0.0**
	baz=223						
TAI1				*e*S	**Sn**	**07 44 55.4**	**+1.9**
	baz=223						
NCUH	**Zhongli**	**1.12**	**7**	*e*P	**Pn**	**07 44 39.1**	**+0.1**
	ba

SSD				*e*S	Sn	07 44 56.0	+0.9
	baz=199						
TWM1	**Shoushan**	**1.17**	**209**	*e*P	Pg	07 44 40.7	-0.1
	baz=209						
TATO	**Taipei**	**1.19**	**20**	*e*P	Pg	07 44 41.5	+0.3
	baz=20						
TATO				*e*S	Sg	07 44 58.1	+1.3
	baz=20						
NHDH	**Xindian Distri**	**1.19**	**22**	*e*P	Pg	07 44 41.5	+0.4
	baz=21						
NHDH				*e*S	Sg	07 44 57.3	+0.6
	baz=21						
TSMG	**Majia**	**1.20**	**198**	*e*P	Pb	07 44 40.7	+0.3
	baz=198						
TSMG				*e*S	Sg	07 44 57.1	0.0
	baz=198						
TWA	**Mucha**	**1.23**	**24**	*e*P	Pg	07 44 41.9	0.0
	baz=24						
TWA				*e*S	Sg	07 44 58.4	+0.5
	baz=24						
NTC	**Toucheng**	**1.23**	**36**	*e*P	Pg	07 44 41.7	-0.2
	baz=35						
NTC				*e*S	Sg	07 44 58.1	+0.1
	baz=35						
LDUT	**Ludao**	**1.24**	**161**	*e*P	Pn	07 44 39.6	-1.0
	baz=161						
LDUT				*e*S	Sb	07 44 55.9	-0.8
	baz=161						
ECL	**Taimali**	**1.25**	**184**	*e*P	Pn	07 44 40.8	0.0
	baz=184						
ECL				*e*S	Sb	07 44 57.5	+0.4
	baz=184						
SNJT	**Kaohsiung City**	**1.27**	**211**	*e*P	Pn	07 44 41.5	+0.4
	baz=211						
EGS		**1.28**	**39**	*e*P	Pg	07 44 42.5	-0.3
	baz=39						
TWS1	**Kuangyinshan**	**1.29**	**15**	*e*P	Pb	07 44 41.9	0.0
	baz=15						
TWS1				*e*S	Sg	07 44 59.3	-0.6
	baz=15						
MASBT	**Mashibuluo**	**1.29**	**197**	*e*P	Pn	07 44 41.6	+0.2
	baz=197						
MASBT				*e*S	Sn	07 44 59.0	+0.8
	baz=197						
TIPB	**Shuangxi**	**1.32**	**32**	*e*P	Pg	07 44 43.1	-0.6
	baz=32						
TIPB				*e*S	Sg	07 45 00.9	-0.1
	baz=32						
NTST	**Danshui**	**1.36**	**16**	*e*P	Pg	07 44 43.8	-0.5
	baz=16						
YM01	**YM01**	**1.38**	**20**	*e*P	Pn	07 44 42.8	+0.2
	baz=20						
YM01				*e*S	Sg	07 45 03.1	+0.5
	baz=20						
NWF	**Wu-fen Shan**	**1.39**	**29**	*e*P	Pg	07 44 44.9	0.0
	baz=29						
NWF				*e*S	Sg	07 45 03.3	+0.2
	baz=29						
WFSB	**Wu-fen Shan**	**1.39**	**29**	*e*P	Pg	07 44 44.9	-0.1
	baz=29						
WFSB				*e*S	Sg	07 45 03.3	+0.3
	baz=29						
PHUB	**P'eng-hu**	**1.39**	**256**	*e*P	Pn	07 44 42.0	-0.7
	baz=256						
PHUB				*e*S	Sn	07 44 60.0	-0.7
	baz=256						
PNG	**Penghu**	**1.39**	**259**	*e*P	Pn	07 44 42.2	-0.6
	baz=259						
PNG				*e*S	Sn	07 45 00.6	-0.1
	baz=259						
ANP	**Anpu**	**1.40**	**18**	*e*P	Pn	07 44 43.0	+0.1
	baz=18						
WDGT	**Dungji**	**1.40**	**245**	*e*P	Pn	07 44 42.0	-0.9
	baz=245						
WDGT				*e*S	Sn	07 45 00.7	-0.2
	baz=245						
YM08	**YM08**	**1.42**	**20**	*e*P	Pb	07 44 44.2	0.0
	baz=20						
TWB1	**Santiao Chiao**	**1.44**	**37**	*e*P	Pg	07 44 45.1	-0.8
	baz=37						
TWB1				*e*S	Sg	07 45 04.8	+0.1
	baz=37						
TNOU	**National Taiwa**	**1.45**	**27**	*e*P	Pg	07 44 45.8	-0.3
	baz=27						
EAST	**Anshuo**	**1.47**	**187**	*e*P	Pn	07 44 43.2	-0.7
	baz=187						
TAW	**Tawu**	**1.49**	**185**	*e*P	Pb	07 44 45.0	-0.5
	baz=185						
SCZT	**Fangliau**	**1.52**	**195**	*e*P	Pn	07 44 44.9	+0.3
	baz=195						
SLIU	**Shizi**	**1.64**	**188**	*e*P	Pn	07 44 46.8	+0.5
	baz=188						
VWUC	**VWUC**	**1.84**	**308**	*e*P	Pn	07 44 47.6	-1.3
	baz=308						
YOJ	**Yonaguni jima**	**1.90**	**71**	P	Pn	07 44 50.2	+0.5
YOJ				*e*S	Sn	07 45 13.2	0.0
YOJ	**Yonaguni jima**	**1.90**	**71**	*e*P	Pn	07 44 50.4	+0.7
	baz=71						
TWK1	**Hengchun**	**1.91**	**187**	*e*P	Pn	07 44 50.4	+0.5
	baz=186						
TWKBT	**Hengchun**	**1.92**	**186**	*e*P	Pn	07 44 50.3	+0.3
	baz=186						
TSEB	**Hengchuen, Pin**	**1.95**	**184**	*e*P	Pn	07 44 49.7	-0.7
	baz=185						
PCYT	**Pengchaiyu**	**2.00**	**28**	*e*P	Pn	07 44 51.2	0.0
	baz=28						
PTMZ	**Houxiangcun**	**2.11**	**304**	*e*P	Pn	07 44 52.4	-0.2
	baz=304						
PTMZ				*e*S	Sn	07 45 16.9	-1.6
	baz=304						
KNM	**Kinmen**	**2.45**	**284**	*e*P	Pn	07 44 58.0	+0.7
	baz=283						
KNM				*e*S	Sn	07 45 27.5	+0.7
	baz=283						
QZH	**Quanzhou**	**2.48**	**296**	Pn	Pn	07 44 56.7	-1.1
QZH				Sn	Sn	07 45 25.0	-2.7
QZH				smax	smax		
	comp=N,200nm,0.2s						
QZH				smax	smax		
	comp=E,140nm,0.3s						
MATB	**Ma-tsu**	**2.50**	**337**	*e*P	Pn	07 44 56.6	-1.4
	baz=336						
MATB				*e*S	Sn	07 45 25.1	-2.9
	baz=336						
KNMB	**Chin-men Tao**	**2.50**	**285**	*e*P	Pn	07 44 56.9	-1.1
	baz=284						
IRIF	**Iriomote-Funau**	**2.50**	**78**	P	Pn	07 44 58.6	+0.6
IRIF				*e*S	Sn	07 45 27.8	-0.3
MSUT	**Lienchiang**	**2.52**	**336**	*e*P	Pn	07 44 56.8	-1.5
	baz=336						
MSUT				*e*S	Sn	07 45 25.8	-2.8
	baz=336						
HATJ	**Hateruma jima**	**2.54**	**85**	P	Pn	07 44 59.4	+0.9
HATJ				S	Sn	07 45 28.8	-0.2
JKRS	**Kuro-shima**	**2.74**	**81**	P	Pn	07 45 01.9	+0.6
JKRS				*e*S	Sn	07 45 35.3	+1.3
JIJ	**Ishigaki jima**	**2.88**	**79**	P	Pn	07 45 03.2	0.0
JIJ				S	Sn	07 45 36.8	-0.6
LYJJ	**Jianjiangzhen**	**2.93**	**337**	*e*P	Pn	07 45 02.4	-1.5
	baz=337						
LYJJ				*e*S	Sn	07 45 35.9	-2.7
	baz=337						
AXDP	**Jialang**	**2.99**	**291**	*e*P	Pn	07 45 05.1	+0.3
	baz=291						
ZPLA	**Ao Xicun**	**3.01**	**272**	*e*P	Pn	07 45 04.3	-0.8
	baz=272						
ZPLA				*e*S	Sn	07 45 36.6	-4.2
	baz=272						
JISG	**Ishigakijimahi**	**3.07**	**76**	P	Pn	07 45 06.1	+0.2
JISG				S	Sn	07 45 40.4	-1.8
XPSS	**Dashiqiu**	**3.16**	**346**	*e*P	Pn	07 45 06.0	-1.0
	baz=346						
XPSS				*e*S	Sn	07 45 41.2	-3.1
	baz=346						
JTJ	**Tarama**	**3.43**	**76**	P	Pn	07 45 11.8	+1.0
JTJ				S	Sn	07 45 50.2	-0.9
JIRB	**Irabujima**	**3.89**	**75**	P	Pn	07 45 17.1	0.0
JIRB				S	Sn	07 46 01.5	-0.9

IDC 02 07:44:24.0±3.1, 54°.27N×87°.32E, h0km, mb1 2.8/2, mb1mx2.7/52, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=26.8km s-min=19.7km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**259**	*i*		07 53 30.0	
	baz=80,slow=303,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.50**	**259**	Pn	Pn	07 44 50.6	-1.6
	2.8nm,0.3s,baz=76,slow=16,SNR=22						
ZALV				Lg	Lg	07 45 12.2	
	3.0nm,0.3s,baz=76,slow=27,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.49**	**239**	Pn	Pn	07 46 01.4	+0.7
	0.1nm,0.3s,baz=56,slow=14,SNR=6.6						
KURBB				Lg	Lg	07 47 50.5	
	0.0nm,0.3s,baz=76,slow=27,SNR=4.8						
MKAR	**Makanchi Array**	**8.14**	**205**	Pn	Pn	07 46 24.9	+1.6
	0.1nm,0.3s,baz=22,slow=12,SNR=1.6						
MKAR				Lg	Lg	07 48 42.0	
	0.0nm,0.3s,baz=7.9,slow=34,SNR=2.2						

*DJA **02** 07:55:54.2±0.4, 9°.S±3°.×11°.1E±°, h10km, M4.3/12, mb4.4/2, MLv4.2/12*
*IDC **02** 07:55:59.3±4.2, 8°.69S×111°.62E, h66km±49km, mb3.3/4, mb1 3.5/5, mb1mx3.3/48, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=71.0km s-min=17.7km az=44.0*

ISC 02 07:55:57.9±1.0, 8°.97S±0°.09×111°.37E±0°.05, h58km, n20, σ1§25/21, mb3.6/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.79**	**346**	P	Pn	07 56 12.0	-1.2
PCJI				S	Sn	07 56 24.2	-0.2
PWJI	**Pagerwojo**	**1.03**	**25**	P	Pn	07 56 15.2	-1.2
PWJI				S	Sn	07 56 31.3	+1.3
UGM	**Wanagama**	**1.34**	**321**	P	Pn	07 56 20.0	-0.5
YOGI	**Yogyakarta**	**1.56**	**317**	P	Pn	07 56 23.2	-0.2
YOGI				S	Sn	07 56 43.4	+0.8
SMRI	**Semarang**	**2.11**	**334**	P	Pn	07 56 31.2	+0.2
TBJI	**Tambak Boyo**	**2.19**	**13**	P	Pn	07 56 33.1	+1.1
JAGI	**Jajag, Banyuwa**	**2.80**	**80**	P	Pn	07 56 40.0	-0.3
KPJI	**Karang Pucung**	**2.91**	**304**	P	Pn	07 56 41.6	-0.2
ABJI	**Asem Bagus**	**3.07**	**68**	P	Pn	07 56 44.7	+0.7
CISI	**Cisompet, Garu**	**3.78**	**291**	P	Pn	07 56 52.1	-1.7
LEM	**Lembang**	**4.28**	**300**	P	Pn	07 57 05.4	+4.6
	5.9nm,0.3s,baz=87,slow=19,SNR=6.9						
LEM				S	Sn	07 57 53.3	+3.8
	5.9nm,0.3s,baz=174,slow=23,SNR=4.7						
CNJI	**Cibinong**	**4.50**	**291**	P	Pn	07 57 02.8	-0.9
PLAI	**Plampang**	**6.34**	**89**	P	Pn	07 57 28.9	+0.1
WRA	**Warramunga Arr**	**24.74**	**119**	P	P	08 01 13.9	-0.3
	1.0nm,0.7s,baz=294,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.05**	**127**	P	P	08 01 25.9	-0.2
	0.4nm,0.5s,baz=302,slow=9.2,SNR=8.5						
ASAR				PcP	PcP	08 04 53.8	+0.8
	0.2nm,0.7s,baz=321,slow=2.1,SNR=1.8						
H08S2	**Diego Garcia H**	**38.48**	**269**	T	T	08 43 53.9	
	baz=94,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**38.49**	**269**	T	T	08 43 54.6	
	baz=94,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**38.49**	**269**	T	T	08 43 57.1	
	baz=94,slow=75,SNR=11						
SONM	**Songino Array**	**56.72**	**356**	P	P	08 05 35.3	-0.5
	0.4nm,0.5s,baz=177,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**61.27**	**338**	P	P	08 06 06.0	-1.1
	0.5nm,0.5s,baz=152,slow=7.7,SNR=7.9						

ISC 02 08:35:28.0±1.4, 49°.24N±0°.05×18°.92E±0°.04, h9km±14km, n5, σ0§51/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.37**	**104**	*e*PG	Pg	08 35 34.9	-0.4
LANS				*e*SG	Sg	08 35 41.0	+0.8
LANS				*e*LG	Lg	08 35 43.0	
KOLL	**Kolacno**	**0.75**	**207**	*e*PG	Pg	08 35 41.9	-0.5
KOLL				*e*SG	Sg	08 35 52.1	-0.1
VYHS	**Vyhne**	**0.75**	**184**	*e*PG	Pg	08 35 42.5	0.0
VYHS				*e*SG	Sb	08 35 53.8	+0.1
JAVC	**Velka Javorina**	**0.91**	**245**	*e*PG	Pg	08 35 45.6	+0.1
JAVC				*e*SG	Sb	08 35 58.8	+0.5
MORC	**Moravsky Berou**	**1.04**	**301**	*e*PG	Pg	08 35 47.9	-0.2
MORC				*e*SG	Sn	08 36 03.4	-0.3

*SOME **02** 08:39:43.2, 42°.30N×80°.10E, h10km*
*NNC **02** 08:39:44.4±3.2, 42°.35N×80°.02E, h0km, mpv2.7, Error ellipse: s-maj=20.4km s-min=13.1km az=147.0*
*KRNET **02** 08:39:45.8±0.1, 41°.94N×79°.72E, h17km, mb2.3*

ISC 02 08:39:42.1±1.8, 42°.28N±0°.07×80°.09E±0°.07, h10km, n13, σ1§75/24, 6C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.99**	**333**	*e*P	Pg	08 39 59.8	-1.4
	3.7nm,0.1s						
SHLS				*e*S	Sg	08 40 11.8	-2.3
	42nm,0.2s						
SHLS	**Shalkode**	**0.99**	**333**	P	Pg	08 39 59.8	-1.4
	3.7nm,0.1s						
SHLS				S	Sg	08 40 11.8	-2.3
	42nm,0.2s						
PDGK	**Podgornoye**	**1.14**	**338**	P	Pb	08 40 03.7	-0.2
	0.4nm,0.2s						
PDGK				S	Sb	08 40 18.6	-0.2
	0.8nm,0.2s						
KTMS	**Ketmen**	**1.19**	**9**	*e*P	Pg	08 40 05.5	+0.6
	1.1nm,0.1s						
KTMS				*e*S	Sn	08 40 21.6	+0.5
	2.9nm,0.1s						
KTMS	**Ketmen**	**1.19**	**9**	P	Pg	08 40 06.2	+1.3
	1.1nm,0.1s						
KTMS				S	Sn	08 40 23.5	+2.4
	2.2nm,0.1s						
SATY	**Saty**	**1.47**	**303**	*e*P	Pg	08 40 10.8	+0.6
	0.9nm,0.2s						
SATY				*e*S	Sg	08 40 30.7	+1.5
	4.6nm,0.1s						
SATY	**Saty**	**1.47**	**303**	P	Pg	08 40 10.8	+0.6
	0.9nm,0.2s						
SATY				S	Sg	08 40 30.7	+1.5
	4.6nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.79**	**253**	⇑*i*P	Pn	08 40 13.3	-0.1
	baz=62						
TARG				⇑*i*S	Sn	08 40 33.3	-3.0
	baz=62						
ANVS	**Anan'yevo**	**1.86**	**287**	⇑*i*P	Pg	08 40 18.4	+0.7
	baz=0.0						
ANVS				⇑*i*S	Sg	08 40 42.3	+0.5
	baz=0.0						
KDJ	**Kajisay**	**2.16**	**267**	⇓*i*P	Pb	08 40 21.0	-0.4
	baz=77						
KDJ				⇓*i*S	Sn	08 40 46.9	+1.6
	baz=77						
ULHL	**Ulahol**	**2.85**	**271**	⇑*i*P	Pb	08 40 31.6	-1.6
	baz=78						
ULHL				⇑*i*S	Sn	08 41 05.5	+3.1
	baz=78						
BOOM	**Boomskoye usch**	**3.08**	**275**	⇓*i*P	Pb	08 40 35.2	-1.8
	baz=82						
BOOM				⇓*i*S	Sn	08 41 10.8	+2.9
	baz=82						
MK31	**Makanchi Array**	**4.78**	**18**	⇓Lg	Lg	08 42 13.1	
	0.4nm,0.5s						

*TRN **02** 09:45:28.0, 11°.15N×61°.98W, h75km, MD3.3*
*FUNV **02** 09:45:28.6, 11°.11N×61°.70W, h20km, MW3.8*

ISC 02 09:45:29.7±1.4, 11°.22N±0°.04×61°.88W±0°.05, h75km±16km, n20, σ1§11/34, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.74**	**141**	*e*P	Pn	09 45 44.8	-0.6
TRN				*e*S	Sn	09 45 55.5	-1.5
GRGR	**Grenville**	**0.93**	**14**	*e*P	Pn	09 45 47.7	0.0
GRGR				*e*S	Sn	09 46 01.2	+0.2
GRGR	**Grenville**	**0.93**	**14**	*e*P	Pn	09 45 47.4	-0.2
GRGR				*e*S	Sn	09 46 01.2	+0.2
TOSP	**Speyside**	**1.32**	**87**	*e*P	Pn	09 45 52.0	-0.4
TOSP	**Speyside**	**1.32**	**87**	*e*	Pn	09 45 55.1	+2.6
TOSP				*e*S	Sn	09 46 10.2	+0.6
GCMP	**Grenada, Carri**	**1.33**	**19**	*e*P	Pn	09 45 52.8	+0.1
GCMP				*e*S	Sn	09 46 09.6	-0.3
CRUV	**Carupano**	**1.44**	**248**	*e*P	Pn	09 45 54.6	+0.5
CRUV				*e*S	Sn	09 46 13.9	+1.4
SVB	**Belmont**	**2.12**	**17**	*e*P	Pn	09 46 02.5	-0.7
SVB				*e*S	Sn	09 46 29.0	+0.3
SVV	**Soufriere Volc**	**2.18**	**17**	*e*P	Pn	09 46 03.4	-0.6
SVV				*e*S	Sn	09 46 30.8	+0.8
SSV	**Crater Summit**	**2.19**	**18**	*e*S	Sn	09 46 29.8	-0.7
SLB	**Belfond**	**2.71**	**17**	*e*S	Sn	09 46 42.9	-0.1
SLCP	**Castries, St.**	**2.90**	**17**	*e*P	Pn	09 46 13.2	-0.5
PCRV	**Puerto La Cruz**	**2.91**	**249**	*e*P	Pn	09 46 14.1	+0.3
PCRV				*e*S	Sn	09 46 48.0	+0.4
SLBI	**Saint Lucia, B**	**2.92**	**17**	*e*P	Pn	09 46 13.6	-0.3
SLBI				*e*S	Sn	09 46 48.0	+0.1
BIRV	**Birongo**	**4.38**	**261**	*e*P	Pn	09 46 34.8	+1.1
BIRV				*e*S	Sn	09 47 24.3	+0.7
TACV	**Tcata**	**5.17**	**258**	*e*P	Pn	09 46 45.8	+1.1
TACV				*e*S	Sn	09 47 43.6	+0.4
BENV	**Beln**	**5.76**	**258**	*e*P	Pn	09 46 53.7	+1.0
BENV				*e*S	Sn	09 47 56.5	-1.1
CACV	**CAICARA DEL OR**	**5.86**	**232**	*e*P	Pn	09 46 48.8	-5.3
CACV				*e*S	Sn	09 47 47.5	-12
BAUV	**El Baul**	**6.48**	**250**	*e*P	Pn	09 47 02.7	+0.2
BAUV				*e*S	Sn	09 48 12.3	-2.8
MAPV	**Macapo**	**6.62**	**259**	*e*P	Pn	09 47 05.0	+0.6
MAPV				*e*S	Sn	09 48 15.5	-3.0

*IDC **02** 10:01:14.8±3.8, 18°.60S×174°.82W, h74km±37km, mb3.5/6, mb1 3.7/7, mb1mx3.4/43, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=47.2km s-min=20.8km az=140.0*

ISC 02 10:01:10.5±1.1, 18°.5S±0°.2×174°.8W±0°.2, h35km, n7, σ1§35/7, mb4.1/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.35**	**33**	P	Pn	10 02 34.3	+6.4
	1.8nm,0.3s,baz=288,slow=19,SNR=1.7						
AFI				S	Sn	10 03 27.5	-0.9
	5.1nm,0.3s,baz=250,slow=21,SNR=2.2						
URZ	**Urewera**	**20.97**	**198**	P	P	10 05 49.7	-0.9
	2.1nm,0.4s,baz=176,slow=17,SNR=2.4						
URZ				S	S	10 09 24.5	-18
	4.6nm,0.9s,baz=77,slow=7.3,SNR=1.9						
CTA	**Charters Tower**	**36.78**	**261**	P	P	10 08 16.5	+1.3
	1.5nm,0.5s,baz=79,slow=9.9,SNR=1.4						
WRA	**Warramunga Arr**	**47.95**	**260**	P	P	10 09 44.5	-1.5
	0.9nm,0.4s,baz=98,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**47.99**	**254**	P	P	10 09 46.0	-0.4
	0.9nm,0.5s,baz=90,slow=7.9,SNR=18						
TXAR	**Lajitas Array**	**83.38**	**56**	P	P	10 13 35.7	+1.2
	0.1nm,0.4s,baz=230,slow=7.0,SNR=1.6						
ILAR	**Eielson Array**	**85.68**	**12**	P	P	10 13 45.1	-0.1
	0.4nm,0.6s,baz=218,slow=5.4,SNR=7.4						

*KRSC **02** 10:01:33.9±0.7, 53°.79N×159°.86E, h114km±6km, ML3.8*
*IDC **02** 10:01:36.5±1.4, 53°.79N×159°.27E, h140km±24km, mb3.1/3, mb1 3.5/3, mb1mx2.9/50, mbtmp3.5/3, Error ellipse: s-maj=52.2km s-min=24.6km az=18.0*

ISC 02 10:01:35.0±0.9, 53°.81N±0°.04×159°.78E±0°.05, h116km±6km, n44, σ0§97/58, mb3.5/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.30**	**319**	*i* P	Pn	10 01 51.4	-0.2
KII				*e*S	Sn	10 02 03.7	-0.4
NLC	**Nalytchevo**	**0.69**	**202**	*e*P	Pn	10 01 54.1	+0.3
NLC				*e*S	Sn	10 02 08.4	+0.4
SPN	**Mys Shipunski**	**0.73**	**168**	*i* P	Pn	10 01 54.4	+0.2
SPN				*e*S	Sn	10 02 08.9	+0.3
SDLR	**Sedlovina**	**0.75**	**226**	*i* P	Pn	10 01 54.6	+0.1
SDLR				*e*S	Sn	10 02 09.1	-0.1
KRER	**Koryakskii**	**0.80**	**231**	*e*P	Pn	10 01 55.2	+0.2
KRER				*e*S	Sn	10 02 10.3	+0.3
SMAR	**Somma**	**0.80**	**227**	*e*P	Pn	10 01 55.0	0.0
KRX	**Arik**	**0.81**	**237**	*i* P	Pn	10 01 55.3	+0.2
KRX				*e*S	Sn	10 02 10.4	+0.2
AVH	**Avacha**	**0.83**	**229**	*e*P	Pn	10 01 55.5	+0.4
AVH				*e*S	Sn	10 02 11.3	+1.0
UGLR	**Uglovaya**	**0.83**	**224**	*e*P	Pn	10 01 55.4	+0.2
KOK	**Koryaka**	**0.86**	**233**	*e*P	Pn	10 01 55.7	+0.3
KOK				*e*S	Sn	10 02 11.3	+0.5
DALK	**Dalny**	**0.99**	**219**	*e*P	Pn	10 01 56.7	+0.1
DALK				*e*S	Sn	10 02 12.7	-0.1
PET	**Petropavlovsk**	**1.04**	**221**	*e*P	Pn	10 01 57.1	+0.1
PET				*e*S	Sn	10 02 13.5	-0.1
GNL	**Ganaly**	**1.10**	**265**	*e*P	Pn	10 01 57.3	-0.5
KZV	**Kizimen**	**1.34**	**13**	*e*P	Pn	10 02 01.0	+0.5
KZV				*e*S	Sn	10 02 20.2	+0.4
MKZ	**Mys Kozlova**	**1.37**	**56**	*i* P	Pn	10 02 01.0	+0.4
MKZ				*e*S	Sn	10 02 20.1	+0.1
KRMR	**Karymshinskiy**	**1.39**	**226**	*e*P	Pn	10 02 02.1	+1.2
KRMR				*e*S	Sn	10 02 22.1	+1.6
PETK	**Petropavlovsk-**	**1.43**	**241**	P	Pn	10 02 00.3	-1.1
	14nm,0.3s,baz=57,slow=15,SNR=223						
PETK				S	Sn	10 02 21.4	+0.1
	3.9nm,0.3s,baz=55,slow=25,SNR=8.8						
TUMD	**Tumrok D**	**1.44**	**14**	*e*P	Pn	10 02 02.0	+0.5
TUMD				*e*S	Sn	10 02 22.1	+0.4
TUMR	**Tumrok**	**1.49**	**8**	*e*P	Pn	10 02 02.9	+0.7
RUS	**Russkaya**	**1.57**	**210**	*e*P	Pn	10 02 03.3	+0.3
RUS				*e*S	Sn	10 02 24.6	+0.3
GRL	**Gorelyy**	**1.62**	**220**	*e*P	Pn	10 02 04.5	+0.7
GRL				*e*S	Sn	10 02 26.2	+0.6
MTVR	**Mutnovka**	**1.64**	**217**	*e*P	Pn	10 02 04.7	+0.7
MTVR				*e*S	Sn	10 02 27.1	+1.1
APC	**Apacha**	**1.80**	**242**	*e*P	Pn	10 02 06.1	+0.3
KMNR	**Kamenistaya**	**1.97**	**8**	*e*P	Pn	10 02 08.8	+0.9
KIRR	**Kirishev**	**2.17**	**8**	*e*P	Pn	10 02 11.1	+0.6
BZWR	**Bezymyannyi-We**	**2.20**	**11**	*e*P	Pn	10 02 12.1	+1.2
BZGR	**Bezymyannyi-Gr**	**2.20**	**14**	*e*P	Pn	10 02 12.8	+2.0
ESO	**Esso**	**2.21**	**344**	*e*P	Pn	10 02 12.1	+1.2
KDTR	**Khodutka, Kamc**	**2.25**	**208**	*e*P	Pn	10 02 12.7	+1.3
KDTR				*e*S	Sn	10 02 40.1	+0.8
SRDR	**Sredinnyy**	**2.52**	**359**	*e*P	Pn	10 02 15.4	+0.6
BDR	**Baidarnaya**	**2.88**	**16**	*e*P	Pn	10 02 21.2	+1.6
SMKR	**Semkarok**	**2.94**	**19**	*e*P	Pn	10 02 21.1	+0.7
SRKR	**Sorokina**	**2.96**	**15**	*e*P	Pn	10 02 22.3	+1.7
KBTR	**Krutoberegovo**	**2.97**	**35**	*e*P	Pn	10 02 22.0	+1.3
BKI	**Bering**	**3.87**	**66**	*e*P	Pn	10 02 32.8	+0.2
BKI				*e*S	Sn	10 03 14.4	-2.9
H11N2	**WAKE ISLAND Hy**	**34.45**	**168**	T	T	10 45 13.7	
	baz=354,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**34.47**	**168**	T	T	10 44 58.8	
	baz=354,slow=76,SNR=9.4						
**H11

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.94**	**109**	Pn	**Pn**	**10 11 25.7**	**-2.1**
	baz=316,slow=23,SNR=1.0						
SIJI				Sn	**Sn**	**10 12 26.2**	**+2.3**
	1.0nm,0.3s,baz=259,slow=22,SNR=1.1						
KAPI	**Kappang**	**8.89**	**230**	LR	LR	10 16 44.5	
	comp=Z,41nm,19.4s,baz=109,slow=44						
FITZ	**Fitzroy Crossi**	**18.73**	**183**	P	**P**	**10 14 31.5**	**-0.4**
	0.1nm,0.3s,baz=11,slow=10,SNR=1.0						
WRA	**Warramunga Arr**	**21.90**	**160**	P	**P**	**10 15 06.3**	**0.0**
	2.4nm,0.4s,baz=339,slow=11,SNR=31						
ASAR	**Alice Springs**	**25.27**	**164**	P	**P**	**10 15 40.8**	**+1.5**
	2.2nm,0.6s,baz=345,slow=11,SNR=29						
STKA	**Stephens Creek**	**35.41**	**158**	P	**P**	**10 17 08.5**	**-0.3**
	1.1nm,0.5s,baz=319,slow=9.5,SNR=5.5						
MKAR	**Makanchi Array**	**59.94**	**326**	P	**P**	**10 20 19.4**	**+0.5**
	0.3nm,0.4s,baz=121,slow=7.1,SNR=7.4						
URZ	**Urewera**	**60.48**	**136**	LR	LR	10 47 00.4	
	comp=Z,82nm,18.8s,baz=6.0,slow=36						

*IDC **02** 10:25:08.7±2.0, 15.°15S×173.°37W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.8/33, mbtmp3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=136.2km s-min=20.9km az=150.0*

*NOU **02** 10:25:26.0, 14.°03S×172.°27W, h88km, MLv3.2, Samoa Islands*

ISC 02 10:25:15.9±2.6, 14.°8S±0.°8×173.°1W±0.°4, h29km, n18, σ0.°50/7, mb3.6/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.57**	**57**	Pn	**Pn**	**10 25 42.0**	**0.0**
	46nm,0.3s,baz=200,slow=4.8,SNR=64						
AFI				LR	LR	10 25 49.5	
	comp=Z,131nm,21.7s,baz=272,slow=21						
AFI				Sn	**Sn**	**10 26 01.5**	**+0.1**
	134nm,0.3s,baz=97,slow=21,SNR=13						
AFI	**Afiamalu**	**1.57**	**57**	P	**Pn**	**10 25 41.8**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**38.57**	**328**	T	T	11 14 00.0	
	baz=149,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**38.59**	**328**	T	T	11 14 00.8	
	baz=149,slow=76,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**38.59**	**328**	T	T	11 14 01.3	
	baz=149,slow=76,SNR=11						
PMG	**Port Moresby**	**39.16**	**273**	LR	LR	10 47 28.1	
	comp=Z,119nm,18.2s,baz=158,slow=34						
H11N3	**WAKE ISLAND Hy**	**39.51**	**330**	T	T	11 15 12.2	
	baz=149,slow=76,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**39.51**	**330**	T	T	11 15 08.9	
	baz=149,slow=76,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**39.53**	**330**	T	T	11 15 12.8	
	baz=149,slow=76,SNR=4.3						
WRA	**Warramunga Arr**	**50.24**	**256**	P	P	10 34 04.0	-5.9
	0.6nm,0.6s,baz=92,slow=7.6,SNR=2.2						
ASAR	**Alice Springs**	**50.55**	**251**	P	P	10 34 06.7	-5.6
	1.4nm,0.6s,baz=88,slow=8.1,SNR=42						
NVAR	**Mina Array Bea**	**73.69**	**42**	P	**P**	**10 36 46.8**	**-0.7**
	0.3nm,0.7s,baz=204,slow=8.7,SNR=2.4						
TXAR	**Lajitas Array**	**80.05**	**56**	P	**P**	**10 37 23.3**	**0.0**
	0.6nm,1.0s,baz=226,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**81.63**	**42**	P	**P**	**10 37 32.4**	**+0.7**
	0.4nm,0.7s,baz=234,slow=4.3,SNR=4.5						
ILAR	**Eielson Array**	**81.79**	**11**	P	**P**	**10 37 31.7**	**0.0**
	0.5nm,1.0s,baz=242,slow=5.9,SNR=3.6						
H03S2	**Juan Fernandez**	**85.32**	**124**	T	T	12 12 12.9	
	baz=252						
H03S1	**Juan Fernandez**	**85.34**	**124**	T	T	12 12 37.3	
	baz=252						
H03S3	**Juan Fernandez**	**85.34**	**124**	T	T	12 12 37.4	
	baz=252						

IDC 02 10:42:25.6±2.0, 3.°35S×151.°00E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.4/38, mbtmp3.3/4, Error ellipse: s-maj=91.1km s-min=28.1km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.16**	**223**	P	P	10 47 33.0	-0.8
	0.3nm,0.5s,baz=46,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**26.09**	**218**	P	P	10 48 01.7	+0.4
	0.5nm,0.5s,baz=53,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**78.06**	**319**	P	P	10 54 27.1	+0.8
	0.1nm,0.5s,baz=123,slow=5.3,SNR=1.6						
ILAR	**Eielson Array**	**81.51**	**23**	P	P	10 54 44.0	-0.7
	0.3nm,1.0s,baz=247,slow=4.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**148.14**	**290**	PKPbc	PKPbc	11 02 13.8	-0.7
	1.2nm,1.0s,baz=50,slow=3.1,SNR=2.7						

MAN 02 10:46:05.0, 16.°51N×120.°99E, h32km, mb4.0, ML2.8, MS2.4, Luzon

*GUC **02** 10:46:13.6±0.6, 23.°11S×67.°11W, h223km±9km, ML4.1*

*IDC **02** 10:46:24.9±8.6, 22.°05S×66.°32W, h291km±59km, mb2.8/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.7/4, Error ellipse: s-maj=111.0km s-min=26.0km az=20.0*

ISC 02 10:46:14.1±1.0, 23.°09S±0.°06×67.°13W±0.°09, h250km, n16, σ1.°84/28, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.71**	**286**	*eP*	**Pn**	**10 46 53.3**	**-1.2**
LVC				*eS*	**S**	**10 47 23.4**	**-2.9**
PB05	**IPOC Station P**	**2.85**	**274⇑**	*eP*	**Pn**	**10 47 05.4**	**+0.4**
PB05				*eS*	**S**	**10 47 44.1**	**-1.1**
PB05				IAML		10 47 47.8	
	comp=N,130nm,0.3s						
PB04	**IPOC Station P**	**2.89**	**285**	*eP*	**Pn**	**10 47 06.0**	**+0.4**
PB04				*eS*	**S**	**10 47 45.3**	**-1.0**
PB04				IAML		10 47 50.6	
	comp=N,389nm,0.1s						
PB07	**IPOC Station P**	**2.89**	**298**	*eP*	**Pn**	**10 47 05.9**	**+0.2**
PB07				*eS*	**S**	**10 47 45.1**	**-1.3**
PB01	**IPOC Station P**	**2.99**	**313⇑**	*eP*	**Pn**	**10 47 06.7**	**+0.1**
PB01				*eS*	**S**	**10 47 46.8**	**-1.4**
PB01				IAML		10 47 48.8	
	comp=N,289nm,0.2s						
GO02	**Mina Guanaco**	**3.05**	**227⇑**	*eP*	**Pn**	**10 47 07.2**	**-0.2**
GO02				*eS*	**S**	**10 47 48.3**	**-1.3**
PB10	**IPOC Station P**	**3.18**	**262**	*eP*	**Pn**	**10 47 09.0**	**+0.5**
PB10				*eS*	**S**	**10 47 50.9**	**-0.7**
PB10				IAML		10 47 53.2	
	comp=E,95nm,0.4s						
PB08	**IPOC Station P**	**3.49**	**327**	*eP*	**Pn**	**10 47 13.2**	**+0.8**
PB08				*eS*	**S**	**10 47 58.6**	**-0.1**
PB08				IAML		10 48 01.3	
	comp=E,89nm,0.2s						
PB11	**IPOC Station P**	**4.07**	**324**	*eP*	**Pn**	**10 47 18.4**	**-0.5**
PB11				*eS*	**S**	**10 48 08.3**	**-2.0**
AC01	**Pan de Azucar**	**4.38**	**225**	*eP*	**Pn**	**10 47 21.3**	**-1.1**
AC01				*eS*	**S**	**10 48 14.0**	**-2.8**
AC01				IAML		10 48 15.9	
	comp=N,78nm,0.1s						
MNMC	**Minye Minye**	**4.57**	**329**	*eP*	**Pn**	**10 47 25.3**	**+0.3**
MNMC				*eS*	**S**	**10 48 19.5**	**-1.9**
LPAZ	**La Paz**	**6.84**	**352**	P	**Pn**	**10 47 54.1**	**+0.7**
	comp=N,0.7nm,0.3s,baz=157,slow=6.8,SNR=16						
LPAZ				S	**S**	**10 49 07.7**	**-5.2**
	baz=96,slow=1.9,SNR=1.4						
BDFB	**Brasilia**	**19.48**	**71**	P	**P**	**10 50 20.5**	**-2.3**
	comp=N,0.5nm,0.3s,baz=247,slow=14,SNR=6.1						
TXAR	**Lajitas Array**	**62.88**	**324**	P	**P**	**10 56 17.8**	**+3.8**
	comp=N,0.2nm,0.8s,baz=134,slow=7.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.35**	**69**	P	**P**	**10 57 36.5**	**+0.2**
	comp=N,0.3nm,0.4s,baz=258,slow=5.8,SNR=6.4						
MKAR	**Makanchi Array**	**145.90**	**39**	PKP	**PKiKP**	**11 05 27.9**	**+0.7**
	comp=N,0.3nm,0.7s,baz=308,slow=3.3,SNR=2.5						

*IDC **02** 10:50:03.4±3.2, 26.°66N×54.°97E, h0km, mb3.4/4, mb1 3.4/4, mb1mx3.3/32, mbtmp3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/21, Error ellipse: s-maj=82.6km s-min=31.0km az=158.0*

*OMAN **02** 10:50:11.6±0.4, 27.°24N×54.°94E, h10km, mb4.5/1, ml3.3/15, Error ellipse: s-maj=7.2km s-min=4.3km az=15.0*

ISC 02 10:50:11.4±1.1, 27.°42N±0.°08×54.°99E±0.°06, h20km, n29, σ0.°90/36, mb3.4/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	**Shamm**	**1.71**	**143**	P	**Pn**	**10 50 38.3**	**-1.7**
	SNR=18						
SHME				S	**Sn**	**10 51 01.9**	**+0.7**
BANOM	**Banah**	**1.89**	**141**	P	**Pn**	**10 50 41.0**	**-1.6**
	SNR=43						
BANOM				S	**Sn**	**10 51 07.0**	**+1.1**
MASF	**Masafi**	**2.29**	**152**	P	**Pn**	**10 50 47.5**	**-0.6**
	SNR=5.4						
MASF				S	**Sn**	**10 51 15.9**	**+0.2**
MDH	**Madha**	**2.41**	**151**	P	**Pn**	**10 50 49.8**	**+0.1**
MDH				S	**Sn**	**10 51 19.7**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.49**	**166**	P	**Pn**	**10 50 51.5**	**+0.7**
UOSS	**Minazif**	**2.69**	**156**	P	**Pn**	**10 50 54.0**	**+0.5**
FAQ	**Al Faqa, Dubai**	**2.71**	**168**	P	**Pn**	**10 50 53.2**	**-0.7**
HATD	**Hatta, Dubai**	**2.78**	**158**	P	**Pn**	**10 50 55.6**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.79**	**174**	P	**Pn**	**10 50 55.0**	**0.0**
ASHO	**Ashiyiah**	**2.88**	**160**	P	**Pn**	**10 50 55.0**	**-1.3**
	SNR=28						
ALNE	**Al Ain**	**3.42**	**168**	P	**Pn**	**10 51 03.6**	**+0.1**
SOHO	**SOHO**	**3.55**	**157**	P	**Pn**	**10 51 04.6**	**-0.7**
ARQ	**Araqi**	**4.29**	**161**	P	**Pn**	**10 51 16.4**	**+0.8**
ARQ				S	**Sn**	**10 52 04.1**	**-0.9**
TRNA	**Turayna**	**4.32**	**233**	P	**Pn**	**10 51 15.3**	**-0.6**
TRNA				S	**Sn**	**10 52 05.1**	**-0.6**
UMZA	**Um Al Zommool**	**4.68**	**178**	P	**Pn**	**10 51 20.8**	**-0.1**
UMZA				S	**Sn**	**10 52 13.1**	**-1.6**
BSY	**Bisya**	**5.06**	**156**	P	**Pn**	**10 51 25.8**	**-0.4**
BSY				S	**Sn**	**10 52 24.7**	**+0.6**
SMDO	**Samad**	**5.15**	**147**	P	**Pn**	**10 51 27.2**	**-0.2**
SMDO				S	**Sn**	**10 52 26.0**	**-0.3**
WSAR	**Wadi Sarin**	**5.30**	**141**	P	**Pn**	**10 51 28.4**	**-1.1**
JMDO	**Jabal Madar**	**5.76**	**150**	P	**Pn**	**10 51 36.0**	**+0.1**
WBK	**Wadi Bani Khal**	**5.99**	**142**	P	**Pn**	**10 51 38.2**	**-0.8**
MHTO	**MHTO**	**6.95**	**156**	P	**Pn**	**10 51 50.7**	**-1.4**
DOK	**Doka**	**8.79**	**185**	P	**Pn**	**10 52 17.9**	**+0.5**
WHFO	**Wadi Hawf**	**9.52**	**187**	P	**Pn**	**10 52 27.7**	**+0.3**
ABTO	**Aybut**	**10.13**	**189**	P	**Pn**	**10 52 36.5**	**+0.7**
BRTR	**Keskin Array B**	**21.55**	**310**	P	**P**	**10 54 59.5**	**-0.2**
	0.4nm,0.3s,baz=125,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**28.89**	**41**	P	**P**	**10 56 08.1**	**-0.7**
	0.2nm,0.5s,baz=233,slow=8.3,SNR=2.3						
ZALV	**Zalesovo Beam**	**34.38**	**31**	P	**P**	**10 56 58.7**	**+1.8**
	0.6nm,0.5s,baz=228,slow=8.7,SNR=1.9						
SONM	**Songino Array**	**44.60**	**49**	LR	LR	11 19 35.2	
	comp=Z,36nm,19.6s,baz=56,slow=39						
TORD	**Torodi Ar. Bea**	**51.60**	**265**	P	P	10 59 11.4	-5.3
	0.5nm,0.7s,baz=62,slow=8.2,SNR=1.8						

IDC 02 11:18:27.5±8.5, 17.°96S×178.°59W, h586km±107km, mb3.0/4, mb1 3.2/5, mb1mx2.9/23, mbtmp4.0/5, Error ellipse: s-maj=123.4km s-min=40.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.65**	**251**	P	P	11 21 32.7	-0.2
	0.3nm,0.3s,baz=122,slow=23,SNR=1.2						
STKA	**Stephens Creek**	**38.45**	**241**	P	P	11 25 00.6	+0.1
	2.3nm,1.0s,baz=84,slow=10.0,SNR=4.6						
WRA	**Warramunga Arr**	**44.45**	**260**	P	P	11 25 47.4	-0.5
	0.7nm,0.6s,baz=97,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**44.61**	**254**	P	P	11 25 49.2	+0.1
	4.9nm,0.5s,baz=88,slow=8.6,SNR=52						
TXAR	**Lajitas Array**	**86.17**	**58**	P	P	11 30 07.9	-0.1
	0.3nm,0.7s,baz=226,slow=6.0,SNR=6.4						

IDC 02 11:28:40.7±10.0, 29.°72S×178.°81W, h319km±104km, mb2.6/2, mb1 2.9/3, mb1mx2.7/27, mbtmp3.4/3, Error ellipse: s-maj=98.6km s-min=53.2km az=13.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.16**	**201**	P	Pn	11 30 49.5	+1.1
	0.2nm,0.3s,baz=276,slow=5.4,SNR=6.7						
URZ				S	S	11 32 30.7	-1.9
	0.5nm,0.3s,baz=142,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**42.45**	**267**	P	P	11 36 06.0	+0.6
	0.5nm,0.8s,baz=103,slow=7.7,SNR=5.7						
WRA	**Warramunga Arr**	**43.38**	**272**	P	P	11 36 12.0	-0.8
	0.4nm,0.9s,baz=108,slow=7.9,SNR=5.9						
FINES	**FINESS Array B**	**144.27**	**340**	PKP	PKPbc	11 47 37.2	-0.1
	0.5nm,0.4s,baz=26,slow=3.9,SNR=7.4						

*ECX **02** 11:30:57.8±0.3, 27.°69N×111.°63W, h10km, MD3.8*

*MEX **02** 11:30:58.3±0.8, 27.°50N×111.°52W, h10km, MD4.0*

ISC 02 11:30:56.1±1.1, 27.°76N±0.°06×111.°64W±0.°05, h10km, n8, σ1.°20/16, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.69**	**78**	*eP*	**Pg**	**11 31 09.9**	**+0.5**
GUYB				*eS*	**Sg**	**11 31 19.5**	**+1.0**
GUYB	**Guaymas**	**0.69**	**78⇑**	*eP*	**Pg**	**11 31 10.0**	**+0.5**
GUYB				*eS*	**Sb**	**11 31 19.6**	**-0.2**
SRIG	**Santa Rosalia**	**0.69**	**231**	*i P*	**Pg**	**11 31 09.4**	**-0.1**
SRIG				*eS*	**Sg**	**11 31 18.6**	**0.0**
SRIG	**Santa Rosalia**	**0.69**	**231⇑**	*eP*	**Pg**	**11 31 09.3**	**-0.1**
SRIG				*eS*	**Sg**	**11 31 18.4**	**-0.1**
HSIG		**1.40**	**25**	*eP*	**Pg**	**11 31 23.5**	**+0.6**
HSIG				*eS*	**Sg**	**11 31 42.0**	**+0.9**
HSIG		**1.40**	**25**	*eP*	**Pb**	**11 31 22.9**	**+0.6**
HSIG				*eS*	**Sg**	**11 31 41.9**	**+0.8**
NZIG	**Nacozari, Sono**	**3.18**	**34**	*eP*	**Pg**	**11 31 56.6**	**-0.5**
NZIG				*eS*	**Sg**	**11 32 37.7**	**-0.6**
CGIG		**4.12**	**50**	*eP*	**Pg**	**11 32 14.7**	**-0.5**
CGIG				*eS*	**Sg**	**11 33 04.8**	**-3.8**

IDC 02 11:49:05.6±1.8, 7.°61S×130.°51E, h0km, mb3.8/1, mb1 3.8/5, mb1mx3.6/36, mbtmp3.7/5, ML3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/42, Error ellipse: s-maj=67.9km s-min=25.1km az=86.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.74**	**6**	Pn	Pn	11 50 45.9	+0.1
	0.8nm,0.3s,baz=256,slow=21,SNR=1.8						
SIJI				Sn	Sn	11 51 59.5	-3.9
	0.5nm,0.3s,baz=147,slow=23,SNR=2.1						
FITZ	**Fitzroy Crossi**	**11.46**	**204**	Pn	Pn	11 51 50.4	-0.1
	0.6nm,0.3s,baz=24,slow=10,SNR=48						
FITZ				Sn	Sn	11 53 51.5	-7.9
	1.1nm,0.3s,baz=46,slow=21,SNR=9.0						
WRA	**Warramunga Arr**	**12.81**	**164**	Pn	Pn	11 52 09.0	-0.1
	0.2nm,0.3s,baz=347,slow=13,SNR=18						
WRA				Sn	Sn	11 54 27.8	-4.9
	0.3nm,0.3s,baz=219,slow=20,SNR=7.0						
ASAR	**Alice Springs**	**16.30**	**169**	Pn	Pn	11 52 56.4	+0.4
	0.1nm,0.3s,baz=346,slow=11,SNR=2.3						
BRDH	**Bariadhala**	**48.51**	**309**	LR	LR	12 20 51.9	
	comp=Z,45nm,18.1s,baz=44,slow=39						
MKAR	**Makanchi Array**	**69.01**	**327**	P	P	12 00 13.0	0.0
	0.6nm,0.6s,baz=122,slow=6.9,SNR=7.6						

*IDC **02** 11:49:41.2±0.7, 6.°00S×151.°77E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.2/38, mbtmp4.1/14, ML2.7/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/37, Error ellipse: s-maj=27.2km s-min=16.5km az=111.0*

*NEIC **02** 11:49:46.9±1.9, 6.°12S±0.°08×151.°9E±0.°1, h41km±9km, mb4.4/13, Error ellipse: s-maj=17.1km s-min=10.4km az=112.0*

*DJA **02** 11:49:50.0±0.7, 6.°S±6.°×15.°2E±.°, h55km±10km, M4.8/7, mB4.6/1, mb4.6/7, MLv4.9/3, Mw(mB)3.8/1*

ISC 02 11:49:46.5±0.6, 6.°13S±0.°07×151.°81E±0.°10, h36km, n38, σ0.°95/34, mb4.2/16, MS3.3/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.96**	**10**		**Pn**	**11 50 17.1**	**-0.1**
PMG	**Port Moresby**	**5.64**	**234**	Pn	**Pn**	**11 51 08.5**	**+0.7**
	14nm,0.3s,baz=41,slow=9.6,SNR=32						
PMG				Sn	**Sn**	**11 52 09.9**	**-1.6**
	7.4nm,0.3s,baz=33,slow=15,SNR=2.2						
PMG				LR	LR	11 53 23.5	
	comp=Z,131nm,19.7s,baz=57,slow=39						
PMG	**Port Moresby**	**5.64**	**234**		**Pn**	**11 51 07.9**	**0.0**
MANU	**Manus Island**	**6.01**	**312**	Pn	**Pn**	**11 51 15.2**	**+2.2**
CTA	**Charters Tower**	**14.89**	**201**	Pn	**P**	**11 53 17.9**	**-1.8**
	0.2nm,0.3s,baz=12,slow=15,SNR=1.4						
CTAO	**Charters Tower**	**14.89**	**201**	Pn	**Pn**	**11 53 15.5**	**+1.0**
EIDS	**Eidsvold**	**19.14**	**182**	P	**P**	**11 54 07.3**	**+0.6**
EIDS				IAmb	IAmb	11 54 20.4	
	comp=Z,15nm,1.2s						
DZM	**Mont Dzumac**	**21.24**	**140**	P	**P**	**11 54 31.0**	**+1.3**
	comp=Z,5.3nm,0.9s,baz=288,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**21.24**	**140**	IAmb	IAmb	11 54 43.4	
	comp=Z,19nm,1.2s						
WR0	**Warramunga Arr**	**21.69**	**229**	P	**P**	**11 54 32.8**	**-1.6**
WR0				IAmb	IAmb	11 54 53.7	
	comp=Z,23nm,1.1s						
WRAB	**Tennant Creek**	**21.82**	**229**	P	**P**	**11 54 35.3**	**-0.5**
WRAB				IAmb	IAmb	11 54 53.9	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**21.83**	**229**	P	**P**	**11 54 35.7**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=53,slow=10,SNR=18						
WRA				PcP	**PcP**	**11 58 36.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=42,slow=2.3,SNR=2.3						
WRA	**Warramunga Arr**	**21.83**	**229**	P	**P**	**11 54 35.6**	**-0.4**
ASAR	**Alice Springs**	**24.51**	**223**	P	**P**	**11 55 03.3**	**+0.6**
	comp=Z,12nm,0.8s,baz=54,slow=9.2,SNR=77						
ASAR	**Alice Springs**	**24.51**	**223**	P	**P**	**11 55 02.8**	**+0.1**
KNRA	**Kununurra**	**24.51**	**245**	P	**P**	**11 55 03.6**	**+0.9**
STKA	**Stephens Creek**	**27.34**	**199**	P	**P**	**11 55 29.4**	**+1.2**
	comp=Z,2.9nm,0.6s,baz=32,slow=14,SNR=5.6						
STKA	**Stephens Creek**	**27.34**	**199**	IAmb	IAmb	11 55 36.5	
	comp=Z,3.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P	**P**	**11 55 34.8**	**-0.9**
	comp=Z,5.4nm,0.5s,baz=66,slow=6.8,SNR=3.8						
FITZ	**Fitzroy Crossi**	**28.17**	**243**	P	**P**	**11 55 35.6**	**-0.1**
FITZ				IAmb	IAmb	11 55 37.3	
	comp=Z,7.6nm,0.7s						
FORT	**Forrest**	**33.14**	**219**	P	**P**	**11 56 19.6**	**+0.2**
JCJ	**Chichijima**	**34.32**	**345**	LR	LR	12 09 15.6	
	comp=Z,56nm,19.2s,baz=199,slow=34						
GIRL	**Giralia**	**39.77**	**242**	P	**P**	**11 57 15.8**	**-0.4**
MORW	**Morawa**	**40.75**	**232**	P	**P**	**11 57 23.9**	**-0.3**
MORW				IAmb	IAmb	11 57 24.5	
	comp=Z,22nm,1.2s						
MJAR	**Matsushiro Arr**	**44.32**	**344**	LR	LR	12 16 16.9	
	comp=Z,36nm,18.2s,baz=185,slow=36						
KSRS	**Korea Array**	**48.75**	**335**	P	**P**	**11 58 28.2**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=140,slow=7.7,SNR=1.9						
PETK	**Petropavlovsk-**	**59.22**	**4**	P	**P**	**11 59 42.4**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=164,slow=6.5,SNR=1.5						
SONM	**Songino Array**	**66.93**	**329**	P	**P**	**12 00 35.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=147,slow=5.4,SNR=2.6						
SONM	**Songino Array**	**66.93**	**329**	IAmb	IAmb	12 00 45.9	
	comp=Z,4.1nm,1.3s						
MKAR	**Makanchi Array**	**80.68**	**319**	P	**P**	**12 01 56.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=112,slow=6.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**81.71**	**327**	P	**P**	**12 02 00.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.9,SNR=1.8						
ZALV				LR	LR	12 37 29.6	
	comp=Z,16nm,20.9s,baz=70,slow=35						
ILAR	**Eielson Array**	**83.75**	**22**	P	**P**	**12 02 11.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=246,slow=5.2,SNR=35						
MAW	**Mawson**	**83.97**	**203**	P	**P**	**12 02 12.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=69,slow=2.8,SNR=6.2						
NVAR	**Mina Array Bea**	**93.68**	**52**	P	**P**	**12 02 59.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=274,slow=3.5,SNR=3.3						
AKTO	**Aktyubinsk**	**97.10**	**320**	LR	LR	12 47 37.5	
	comp=Z,16nm,19.9s,baz=136,slow=36						
GERES	**GERESS Array B**	**124.65**	**328**	PKP	**PKiKP**	**12 08 43.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=103,slow=4.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.75**	**286**	PKPbc	**PKPbc**	**12 09 33.1**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=62,slow=3.1,SNR=9.0						
BDFB	**Brasilia**	**150.79**	**138**	PKPbc	**PKiKP**	**12 09 37.8**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=227,slow=19,SNR=1.9						

*IDC **02** 12:09:17.3±1.6, 20.°09S×177.°35W, h532km±24km, mb3.2/3, mb1 3.3/8, mb1mx3.0/35, mbtmp4.2/8, Error ellipse: s-maj=38.3km s-min=22.8km az=171.0*

ISC 02 12:09:17.3±0.9, 19.°9S±0.°2×177.°3W±0.°1, h550km, n8, σ1.°34/11, mb3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.92**	**295**	P	**P**	**12 10 46.8**	**+0.2**
	0.6nm,0.3s,baz=275,slow=22,SNR=1.6						
AFI	**Afiamalu**	**7.94**	**42**	P	**P**	**12 11 15.6**	**+1.0**
	2.2nm,0.3s,baz=224,slow=22,SNR=2.0						
AFI				S	**S**	**12 12 48.8**	**-1.9**
	1.6nm,0.3s,baz=193,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**15.36**	**259**	P	**P**	**12 12 29.1**	**-1.6**
	0.2nm,0.3s,baz=22,slow=16,SNR=1.3						
RAR	**Rarotonga**	**16.45**	**98**	P	**P**	**12 12 41.1**	**0.0**
	2.7nm,0.3s,baz=9.8,slow=21,SNR=2.2						
URZ	**Urewera**	**18.95**	**194**	P	**P**	**12 13 02.8**	**-0.9**
	0.5nm,0.3s,baz=193,slow=2.1,SNR=1.2					

OKCSW	OKLAHOMA CITY	0.20 195	Pg	Pg	12 15 44.8	-0.5
BCOK	Bluff Creek, N	0.20 288		Pg	12 15 45.5	0.0
BCOK				Sg	12 15 48.6	+0.4
OK029	Liberty Lake	0.21 342		Pg	12 15 45.9	+0.2
OK029			Sg	Sg	12 15 49.4	+0.7
FNO	Franklin	0.34 184	Pg	Pg	12 15 47.8	-0.1
FNO			Sg	Sg	12 15 53.0	+0.6
OK031	S. Brethren Rd	0.56 50	Pg	Pg	12 15 52.1	-0.2
OK031			Sg	Sg	12 16 00.1	+0.5
OK030	Cody Creek RV	0.58 55	Pg	Pg	12 15 52.5	-0.1
OK030			Sg	Sg	12 16 00.9	+0.6
QUOK	Quay	0.79 43		Pg	12 15 56.1	-0.4
CROK	Carrier	1.03 332	Pg	Pg	12 16 00.3	-0.9
X34A	Smith Ranch, M	1.06 201	Pg	Pg	12 16 01.5	-0.2
WMOK	Wichita Mounta	1.43 234		Pn	12 16 06.9	-0.6
KAN17	Caldwell West	1.48 348	Pn	Pn	12 16 08.3	+0.1
T35A	Sooner Cattle	1.49 28	Pn	Pn	12 16 08.0	-0.3
U32A	Winter Ranch,	1.53 301	Pn	Pn	12 16 08.8	-0.1
U32A			IAmb_Lg		12 16 31.7	
	comp=Z,6.7nm,0.7s					
KAN09	Caldwell North	1.55 353	Pn	Pn	12 16 08.0	-1.2
KAN05	Bluff City Nor	1.56 345	Pn	Pn	12 16 09.4	0.0
X37A	Clayton	1.93 121	IAmb_Lg		12 16 42.4	
	comp=Z,6.1nm,1.1s					

*IDC **02** 12:20:56.8±1.4, 7°51′S×130°34′E, h0km, mb4.0/2, mb1 4.0/6, mb1mx3.7/32, mbtmp3.9/6, ML3.8/4, MS2.8/4, Ms1 2.9/4, ms1mx2.6/31, Error ellipse: s-maj=63.1km s-min=21.9km az=79.0*
*NEIC **02** 12:21:01.4±2.8, 7°59S±0°06×130°73E±0°05, h33km±6km, mb4.2/5, Error ellipse: s-maj=10.0km s-min=6.8km az=205.0*
ISC 02 12:20:59.9±0.7, 7°59S±0°05×130°65E±0°07, h27km, n23, σ2°57/28, mb4.3/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	0.76	121	Pn	Pb	12 21 13.9	-0.6
SAUI					Sb	12 21 24.5	+0.1
FAKI	Fak Fak	4.91	19		Pn	12 22 12.0	+0.1
MTN	Manton Dam	5.24	175	Pn	Pn	12 22 21.6	+5.1
MTN					Sn	12 23 20.6	+4.5
SOEI	Soe	6.66	251	Pn	Pn	12 22 38.0	+1.8
SOEI					Sn	12 23 53.2	+1.8
SIJI	Sorong	6.70	5	Pn	Pn	12 22 36.1	-0.5
	1.3nm,0.3s,baz=204,slow=21,SNR=1.3						
SIJI				Sn	Sn	12 23 50.2	-1.9
	0.5nm,0.3s,baz=106,slow=23,SNR=1.5						
SIJI				LR	LR	12 26 08.9	
	comp=Z,68nm,21.7s,baz=214,slow=47						
KNRA	Kununurra	8.25	193		Pn	12 22 59.6	+1.8
KNRA					Sn	12 24 28.8	-1.4
KAPI	Kappang	11.13	283	LR	LR	12 27 42.3	
	comp=Z,34nm,21.7s,baz=84,slow=38						
FITZ	Fitzroy Crossi	11.53	205	Pn	Pn	12 23 41.9	-0.9
	1.0nm,0.3s,baz=30,slow=12,SNR=48						
FITZ				Sn	Sn	12 25 43.4	-7.4
	1.8nm,0.3s,baz=37,slow=22,SNR=9.9						
FITZ				LR	LR	12 28 28.8	
	comp=Z,108nm,20.6s,baz=28,slow=39						
FITZ	Fitzroy Crossi	11.53	205	Pn	Pn	12 23 42.2	-0.6
WB0	Warramunga Arr	12.64	164	Pn	Pn	12 23 58.9	+0.9
WB0					Sn	12 26 17.3	-0.7
WRAB	Tennant Creek	12.79	164	Pn	Pn	12 24 01.7	+1.7
WRA	Warramunga Arr	12.79	164	Pn	Pn	12 24 00.5	+0.4
	0.4nm,0.3s,baz=347,slow=15,SNR=30						
WRA				Sn	Sn	12 26 15.2	-6.5
	0.2nm,0.3s,baz=340,slow=19,SNR=5.0						
WB2	Warramunga Arr	12.80	164	Pn	Pn	12 23 59.8	-0.4
WR0	Warramunga Arr	12.87	163	Pn	Pn	12 24 02.6	+1.5
AS31	Alice Springs	16.29	169	P	P	12 24 49.3	-0.4
ASAR	Alice Springs	16.29	169	Pn	P	12 24 48.7	-1.0
	0.2nm,0.3s,baz=346,slow=11,SNR=16						
ASAR				Sn	Sn	12 27 45.1	-1.9
	0.1nm,0.3s,baz=351,slow=27,SNR=5.7						
GIRL	Giralia	21.76	225	P	P	12 25 52.0	+2.4
FORT	Forrest	23.20	186	P	P	12 26 03.4	-1.3
FORT				IAmb	IAmb	12 26 17.6	
	comp=Z,7.9nm,0.8s						
STKA	Stephens Creek	26.23	159	P	P	12 26 36.2	+3.5
	comp=Z,1.8nm,1.0s,baz=332,slow=13,SNR=1.8						
STKA	Stephens Creek	26.23	159	IAmb	IAmb	12 26 49.5	
	comp=Z,1.6nm,1.2s						
CMAR	Chiang Mai Arr	40.60	310	LR	LR	12 46 39.1	
	comp=Z,12nm,18.0s,baz=188,slow=38						
JWT	Wachi	42.88	6	P	P	12 28 55.9	-0.1
JWT				IAmb	IAmb	12 29 14.9	
	comp=Z,22nm,1.5s						
MKAR	Makanchi Array	69.07	327	P	P	12 32 03.0	-0.4
	comp=Z,1.1nm,0.5s,baz=142,slow=6.8,SNR=9.0						

*IDC **02** 12:29:19.2±4.9, 23°68N×109°00W, h0km, mb3.3/2, mb1 4.0/4, mb1mx3.7/38, mbtmp3.5/4, ML3.3/2, MS3.3/11, Ms1 3.3/11, ms1mx3.2/16, Error ellipse: s-maj=78.5km s-min=19.5km az=177.0*
*MEX **02** 12:29:24.1±0.3, 24°04N×108°90W, h13km, MD4.3*
ISC 02 12:29:23.6±1.4, 24°0N±0°1×108°91W±0°06, h22km, n19, σ2°72/11, MS3.4/6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	1.28	273	Pg	Pn	12 29 44.0	-2.1
	96nm,0.3s,baz=107,slow=19,SNR=27						
LPIG				Lg	Lg	12 29 59.9	
	176nm,0.3s,baz=134,slow=6.8,SNR=6.6						
LPIG	La Paz	1.28	273	*i* P	Pn	12 29 44.1	-2.0
LPIG				*i* S	Sn	12 29 59.7	-2.9
TSIG	Topolobambo	1.56	356	*i* P	Pn	12 29 48.0	-2.0
TSIG				*i* S	Sn	12 30 06.2	-3.4
SSIG	Sanalona	1.79	64	*i* P	Pn	12 29 51.1	-2.1
SSIG				*i* S	Sn	12 30 12.1	-3.3
TXAR	Lajitas Array	7.06	40	Pn	Pn	12 31 05.4	-0.3
	0.2nm,0.3s,baz=214,slow=13,SNR=14						
TXAR				Lg	Lg	12 33 03.7	
	0.2nm,0.3s,baz=236,slow=29,SNR=1.9						
TXAR				LR	LR	12 33 35.0	
	comp=Z,116nm,19.4s,baz=0.0,slow=35						
PFO	Pinyon Flats O	11.61	327	LR	LR	12 36 27.1	
	comp=Z,66nm,18.1s,baz=151,slow=36						
CMIG	Matias Romero	14.84	115	LR	LR	12 38 31.3	
	comp=Z,229nm,20.2s,baz=283,slow=37						
NVAR	Mina Array Bea	16.43	333	Pn	P	12 33 18.2	+2.5
	0.1nm,0.3s,baz=159,slow=12,SNR=14						
NVAR				LR	LR	12 39 08.4	
	comp=Z,79nm,19.0s,baz=180,slow=35						
PDAR	Pinedale Array	18.69	359	P	Pn	12 33 43.5	+2.5
	0.0nm,0.3s,baz=170,slow=11,SNR=16						
PDAR				LR	LR	12 40 12.6	
	comp=Z,63nm,20.7s,baz=205,slow=34						
TKL	Tuckaleechee C	24.62	56	LR	LR	12 45 13.9	
	comp=Z,128nm,19.3s,baz=252,slow=38						
NEW	Newport	25.04	347	LR	LR	12 44 08.5	
	comp=Z,53nm,18.9s,baz=182,slow=35						
JTS	Las Juntas de	26.60	117	LR	LR	12 44 37.3	
	comp=Z,66nm,18.6s,baz=49,slow=35						
ULM	Lac du Bonnet	28.07	18	LR	LR	12 46 08.9	
	comp=Z,86nm,19.9s,baz=178,slow=36						
YKA	Yellowknife Ar	38.64	356	P	P	12 36 46.3	+1.2
	0.5nm,0.8s,baz=166,slow=8.2,SNR=3.7						
YKA				LR	LR	12 53 02.8	
	comp=Z,82nm,19.2s,baz=0.0,slow=36						
SCHQ	Schefferville	43.70	34	LR	LR	12 56 52.4	
	comp=Z,42nm,18.9s,baz=109,slow=38						
ILAR	Eielson Array	47.56	339	P	P	12 37 58.4	+1.2
	0.3nm,0.8s,baz=156,slow=7.6,SNR=4.5						
H03N2	Juan Fernandez	63.89	152	T	T	13 49 41.2	
	baz=329,slow=74						
H03N1	Juan Fernandez	63.90	152	T	T	13 49 29.1	
	baz=329,slow=74						
H03N3	Juan Fernandez	63.91	152	T	T	13 49 26.1	
	baz=329						

*KRNET **02** 12:32:50.0±0.1, 41°36N×69°90E, mb2.5*
ISC 02 12:32:49.9±3.8, 41°33N±0°08×70°0E±0°2, h9km±19km, n7, σ0°51/12, 8C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.87	77	⇓*i*P	Pn	12 33 08.1	-0.4
	baz=84						
TRKS				⇓*i*S	Sn	12 33 21.3	-0.1
	baz=84						
BTK	Batken	1.42	154	⇓*i*P	Pb	12 33 16.2	-0.3
	baz=52						
BTK				⇓*i*S	Sg	12 33 35.3	-0.1
	baz=52						
KK31	Karatay Array	1.81	12	⇑Pn	Pg	12 33 32.0	+7.5
	1.2nm,0.3s,baz=185,slow=17						
KK31				⇑Sn	Sg	12 34 00.8	+13
	7.5nm,0.7s,baz=191,slow=25						
MNAS	Manas	2.19	57	⇓*i*P	Pn	12 33 27.2	+0.6
	baz=59						
MNAS				⇓*i*S	Sn	12 33 53.6	-0.3
	baz=59						
DRK	Karamyk	2.30	143	⇑*i*P	Pn	12 33 28.9	+0.7
	baz=42						
DRK				⇑*i*S	Sn	12 33 57.2	+0.4
	baz=42						
GAR	Garm	2.34	174	⇑*e*P	Pn	12 33 28.8	+0.2
	baz=72						
GAR				⇑*e*S	Sn	12 33 57.0	-0.6
	baz=72						
AML	Almayashu	2.87	73	⇑*i*P	Pn	12 33 36.7	+0.5
	baz=74						
AML				⇑*i*S	Sn	12 34 10.7	-0.3
	baz=74						

*ATH **02** 12:33:04.5, 35°38N×26°15E, h12km±4km, ML3.0/10, Error ellipse: s-maj=4.9km s-min=1.3km az=165.0*
*THE **02** 12:33:04.6, 35°37N×26°13E, h10km±2km, ML2.8/6, Error ellipse: s-maj=3.3km s-min=0.5km az=183.0*
ISC 02 12:33:04.4±1.0, 35°39N±0°06×26°14E±0°03, h12km±13km, n18, σ0°50/28, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIA	Sitia Lasithi	0.19	191	P	Pg	12 33 08.3	-0.3
STIA				S	Sg	12 33 11.6	+0.2
ZKR	Zakros	0.28	166	P	Pg	12 33 10.1	-0.1
ZKR				S	Sg	12 33 14.6	+0.5
	3μm,0.7s						
ZKR	Zakros	0.28	166	P	Pg	12 33 09.9	-0.3
ZKR				S	Sg	12 33 14.5	+0.4
ZKR				AML	AML	12 33 15.2	
	comp=E,8568μm,0.7s						
ZKR				AML	AML	12 33 15.2	
	comp=N,2853μm,0.7s						
NPS	Neapolis	0.45	254	P	Pg	12 33 13.6	+0.4
NPS				S	Sg	12 33 19.5	+0.4
	comp=N,2μm,0.3s						
NPS	Neapolis	0.45	254	P	Pg	12 33 13.2	0.0
NPS				AML	AML	12 33 20.0	
	comp=N,4985μm,0.3s						
NPS				AML	AML	12 33 23.6	
	comp=E,4066μm,0.4s						
FRMA	Ierapetra Chan	0.50	221	P	Pg	12 33 12.9	-1.3
FRMA				S	Sg	12 33 19.5	-1.3
	comp=E,748nm,0.3s						
LAST	Lasithi	0.58	247	P	Pg	12 33 15.9	+0.1
LAST				S	Sg	12 33 24.0	+0.5
	comp=E,928nm,0.7s						
LAST	Lasithi	0.58	247	P	Pg	12 33 15.8	0.0
LAST				S	Sg	12 33 23.8	+0.2
LAST				AML	AML	12 33 27.0	
	comp=N,2072μm,0.6s						
LAST				AML	AML	12 33 30.6	
	comp=E,1554μm,0.8s						
KARP	Karpathos	0.85	79	P	Pg	12 33 20.5	-0.3
KARP				S	Sb	12 33 33.2	+0.6
	comp=E,982nm,0.4s						
KARP	Karpathos	0.85	79	P	Pg	12 33 20.3	-0.5
KARP				AML	AML	12 33 36.1	
	comp=N,1684μm,0.3s						
KARP				AML	AML	12 33 37.0	
	comp=E,2178μm,0.3s						
IDI	Anoyia	1.02	265	P	Pg	12 33 23.7	-0.4
IDI				S	Sg	12 33 37.5	0.0
IDI				AML	AML	12 33 39.9	
	comp=N,1651μm,0.4s						
IDI				AML	AML	12 33 40.5	
	comp=E,1194μm,0.4s						
SANT	Santorini	1.12	331	P	Pb	12 33 25.4	-0.4
SANT				S	Sb	12 33 40.7	+0.3
	comp=E,595nm,0.6s						
SANT	Santorini	1.12	331	P	Pb	12 33 25.7	-0.1
SANT				AML	AML	12 33 43.5	
	comp=E,1822μm,0.4s						
SANT				AML	AML	12 33 43.9	
	comp=N,594μm,0.4s						
THR6	Thira Island,	1.14	328	P	Pb	12 33 25.5	-0.5
SNT5	Nea Kammeni, S	1.18	329	P	Pn	12 33 26.5	-0.2
SNT5				AML	AML	12 33 47.4	
	comp=E,1536μm,0.2s						
SNT5				AML	AML	12 33 48.2	
	comp=N,996μm,0.3s						
VAM	Vamos	1.58	271	P	Pb	12 33 33.8	+0.2
VAM				AML	AML	12 33 55.3	
	comp=E,807μm,0.5s						
VAM				AML	AML	12 33 56.9	
	comp=N,1682μm,0.4s						
IMMV	Iera Moni Meta	1.76	273	P	Pb	12 33 36.7	0.0
IMMV				AML	AML	12 34 02.3	
	comp=N,805μm,0.4s						
IMMV				AML	AML	12 34 06.5	
	comp=E,684μm,0.9s						
ARG	Arkhangelos	1.82	62	P	Pn	12 33 35.9	+0.4
ARG				AML	AML	12 34 07.4	
	comp=E,629μm,0.3s						
ARG				AML	AML	12 34 09.0	
	comp=N,424μm,0.3s						

*IDC **02** 12:41:39.7±1.7, 2°2S×146°1E±0°3, h35km, n14, σ0°91/6, mb3.7/6, MS2.8/3, Admiralty Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.08	212	P	P	12 46 25.8	-0.5
	4.0nm,0.9s,baz=34,slow=10,SNR=17						
ASAR	Alice Springs	24.42	208	P	P	12 47 01.3	+1.0
	1.3nm,0.6s,baz=32,slow=10,SNR=16						
FITZ	Fitzroy Crossi	25.58	230	P	P	12 47 09.8	-1.0
	2.4nm,0.8s,baz=45,slow=11,SNR=2.5						
FITZ				LR	LR	12 58 20.6	
	comp=Z,29nm,20.4s,baz=66,slow=39						
KAPI	Kappang	26.48	263	LR	LR	12 57 54.0	
	comp=Z,21nm,19.8s,baz=70,slow=37						
H11S3	WAKE ISLAND Hy	28.84	44	T	T	13 18 34.9	
	baz=228,slow=75,SNR=55						
H11S2	WAKE ISLAND Hy	28.85	44	T	T	13 18 13.9	
	baz=228,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	28.86	44	T	T	13 18 13.3	
	baz=228,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	29.82	42	T	T	13 19 26.2	
	baz=227,slow=76,SNR=48						
H11N2	WAKE ISLAND Hy	29.83	42	T	T	13 19 27.1	
	baz=227,slow=76,SNR=61						
H11N3	WAKE ISLAND Hy	29.83	42	T	T	13 19 27.5	
	baz=227,slow=76,SNR=46						
CMAR	Chiang Mai Arr	50.76	296	P	P	12 50 42.0	+0.1
	0.5nm,0.4s,baz=120,slow=5.3,SNR=5.2						
MKAR	Makanchi Array	74.04	320	P	P	12 53 17.6	+0.4
	0.2nm,0.5s,baz=130,slow=5.8,SNR=2.8						
ILAR	Eielson Array	82.34	23	P	P	12 54 02.5	-0.3
	0.6nm,1.1s,baz=243,slow=4.0,SNR=4.1						
AKTO	Aktyubinsk	90.47	320	LR	LR	13 33 47.1	
	comp=Z,13nm,21.8s,baz=356,slow=35						

*IDC **02** 12:42:36.6±2.1, 5°57S×151°27E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/30, mbtmp3.7/5, ML1.6/1, Error ellipse: s-maj=116.8km s-min=25.4km az=130.0*
ISC 02 12:42:43.9±2.3, 5°8S±0°7×151°3E±0°8, h57km, n6, σ0°99/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.49	228	Pn	Pn	12 44 01.8	-1.3
	1.3nm,0.3s,baz=191,slow=12,SNR=2.4						
PMG				Sn	Sn	12 45 05.7	+0.8
	0.9nm,0.3s,baz=232,slow=10,SNR=2.1						
WRA	Warramunga Arr	21.71	228	P	P	12 47 30.2	-0.2
	0.5nm,0.4s,baz=54,slow=10.0,SNR=1.8						
ASAR	Alice Springs	24.45	221	P	P	12 47 58.7	+1.0
	1.0nm,0.7s,baz=51,slow=9.2,SNR=1.9						
FITZ	Fitzroy Crossi	27.90	242	P	P	12 48 29.4	+0.7
	1.2nm,0.5s,baz=64,slow=10,SNR=1.5						
ILAR	Eielson Array	83.59	22	P	P	12 55 05.8	+0.1
	0.3nm,0.7s,baz=248,slow=5.7,SNR=4.3						
TORD	Torodi Ar. Bea	149.16	286	PKPbc	PKPbc	13 02 26.9	-0.2
	0.8nm,0.8s,baz=58,slow=4.1,SNR=1.9						

*TUL **02** 13:00:42.2±1.6, 35°74N±0°01×97°37W±0°02, h5km±5km, ML2.6, mb_Lg2.4/30(NEIC), Error ellipse: s-maj=2.3km s-min=1.7km az=92.0*
NEIC 02 13:00:41.7±1.0, 35°75N±0°01×97°39W±0°02, h8km±6km, Error ellipse: s-maj=2.7km s-min=1.8km az=80.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.07	307		Pg	13 00 43.7	0.0
OK029				Sg	Sg	13 00 45.3	+0.1
OK025	Westminster Rd	0.18	167	Pg	Pg	13 00 44.9	-0.4
OK025				Sg	Sg	13 00 48.1	+0.3
BCOK	Bluff Creek, N	0.21	242		Pg	13 00 45.8	0.0
BCOK				Sg	Sg	13 00 49.2	+0.4
OKCFA	Oklahoma City	0.34	189	Pg	Pg	13 00 48.2	-0.2
OKCFA				Sg	Sg	13 00 53.4	+0.4
OKCSW	OKLAHOMA CITY	0.35	187	Pg	Pg	13 00 48.3	-0.2
OKCSW				Sg	Sg	13 00 53.5	+0.4
OK031	S. Brethren Rd	0.49	66	Pg	Pg	13 00 51.1	0.0
OK031				Sg	Sg	13 00 58.0	+0.5
FNO	Franklin	0.50	181	Pg	Pg	13 00 51.1	-0.2
FNO				Sg	Sg	13 00 58.2	+0.4
OK030	Cody Creek RV	0.52	70	Sg	Sg	13 00 58.8	+0.3
QUOK	Quay	0.69	53	Sg	Sg	13 01 04.2	+0.2
CROK	Carrier	0.89	327	Pg	Pg	13 00 58.6	-0.2
CROK				Sg	Sb	13 01 11.0	-0.5
BLOK	Blackwell	1.01	8	Pg	Pg	13 01 00.8	-0.4
BLOK				Sg	Sb	13 01 15.3	+0.4
X34A	Smith Ranch, M	1.21	198	Pg	Pb	13 01 04.4	-0.4
OK032	Salt Plains WL	1.24	328	Pg	Pn	13 01 04.9	-0.4
KAN17	Caldwell West	1.32	347		Pn	13 01 06.3	-0.1
T35A	Sooner Cattle	1.36	31	Pn	Pn	13 01 06.5	-0.4
KAN09	Caldwell North	1.39	352	Pn	Pn	13 01 07.4	0.0
KAN05	Bluff City Nor	1.41	344	Pn	Pn	13 01 07.5	-0.1
U32A	Winter Ranch,	1.45	296	Pn	Pn	13 01 08.1	-0.1
KS20	Mayfield South	1.48	355	Pn	Pn	13 01 08.9	+0.4
KS20				IAmb_Lg		13 01 30.0	
	comp=Z,24nm,0.9s						
KAN10	Anthony SW Sta	1.48	337	Pn	Pn	13 01 09.0	+0.4
KS21	Milan North St	1.55	352	IAmb_Lg		13 01 34.1	
	comp=Z,20nm,0.8s						
KAN12	Harper NE Stat	1.62	342	Pn	Pn	13 01 10.2	-0.3
LOOK	Love County	1.77	174	Pn	Pn	13 01 12.9	+0.5
LOOK				IAmb_Lg		13 01 39.2	
	comp=Z,12nm,0.9s						
X37A	Clayton	2.02	125	Pn	Pn	13 01 17.1	+1.1
W39A	Magazine	2.99	100	Pn	Pn	13 01 28.9	-0.4
W39A				IAmb_Lg		13 02 21.8	
	comp=Z,9.2nm,0.8s						
MIAR	Mount Ida	3.35	110	Pn	Pn	13 01 34.9	+0.7
MIAR				IAmb_Lg		13 02 32.9	
	comp=Z,11nm,1.0s						
CBKS	Cedar Bluff	3.58	329	Pn	Pn	13 01 37.2	-0.3
CBKS				IAmb_Lg		13 02 40.7	
	comp=Z,15nm,0.8s						
AMTX	Amarillo	3.62	257	Pn	Pn	13 01 39.0	+0.9
AMTX				IAmb_Lg		13 02 41.5	
	comp=Z,7.2nm,0.8s						
U40A	Yellville	3.72	79	Pn	Pn	13 01 39.2	-0.2
S39A	Bolivar	3.79	58	Pn	Pn	13 01 40.3	-0.1
X40A	Basin Creek Fa	3.94	107	Pn	Pn	13 01 41.5	-0.8
X40A				IAmb_Lg		13 02 50.8	
	comp=Z,10nm,0.9s						
WHAR	Wooly Hollow	4.18	95	Pn	Pn	13 01 45.2	-0.5
MGMO	Mountain Grove	4.36	70	IAmb_Lg		13 03 04.7	
	comp=Z,10nm,1.1s						
R40A	Maddies Statio	4.81	57	IAmb_Lg		13 03 16.3	
	comp=Z,6.3nm,0.8s						
P38A	Dawn	4.93	37	IAmb_Lg		13 03 16.0	
	comp=Z,6.5nm,0.8s						
LCAR	Lake Charles	5.07	85	IAmb_Lg		13 03 25.8	
	comp=Z,4.8nm,0.9s						
CCM	Cathedral Cave	5.43	63	IAmb_Lg		13 03 36.9	
	comp=Z,7.8nm,0.9s						
JCT	Junction City	5.64	202	IAmb_Lg		13 03 47.8	
	comp=Z,9.6nm,1.0s						
PBMO	Poplar Bluff	5.71	78	IAmb_Lg		13 03 48.9	
	comp=Z,7.5nm,0.9s						
S44A	Carbondale	6.81	71	IAmb_Lg		13 04 30.5	
	comp=Z,6.5nm,0.7s						

*DDA **02** 13:15:27.4, 39°53N×24°21E, h15km±2km, MW3.6*
*ISK **02** 13:15:29.6, 39°50N×24°12E, h12km, ML3.6/23*
*ATH **02** 13:15:29.0, 39°51N×24°22E, h44km±3km, ML3.7/15, Error ellipse: s-maj=3.1km s-min=0.9km az=100.0*
*THE **02** 13:15:30.0, 39°52N×24°23E, h12km, ML3.6/12, Error ellipse: s-maj=0.8km s-min=0.4km az=269.0*
ISC 02 13:15:29.8±1.0, 39°52N±0°02×24°22E±0°01, h18km±5km, n153, σ1°13/203, 12C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	Alonissos	0.47	216	P	Pb	13 15 39.9	+0.5
ALNA				S	Sb	13 15 46.4	+0.4
ALNA				AML	AML	13 15 47.2	
	comp=N,16923μm,0.4s						
ALNA				AML	AML	13 15 49.1	
	comp=E,11792μm,0.4s						
PAIG	Paliouri	0.58	314	P	Pb	13 15 41.5	+0.1
PAIG				S	Sb	13 15 50.3	+1.0
	comp=E,6μm,0.7s						
PAIG	Paliouri	0.58	314	P	Pb	13 15 41.4	+0.1
PAIG				S	Sb	13 15 50.4	+1.0
PAIG				AML	AML	13 15 52.2	
	comp=E,10922μm,0.7s						
PAIG				AML	AML	13 15 52.6	
	comp=N,11275μm,0.7s						
EFSA	Agios Efstrati	0.59	88	P	Pb	13 15 42.5	+1.0
EFSA				S	Sb	13 15 50.8	+1.2
EFSA				AML	AML	13 15 51.4	
	comp=E,17084μm,0.3s						
EFSA				AML	AML	13 15 52.0	
	comp=N,13998μm,0.3s						
SKY	Skiros Island	0.69	158	P	Pg	13 15 42.9	-0.5
SKY				S	Sb	13 15 52.6	+0.1
	comp=N,12μm,0.2s						
SKY	Skiros Island	0.69	158	P	Pg	13 15 43.0	-0.5
SKY				S	Sg	13 15 52.4	-0.2
SKY				AML	AML	13 15 55.0	
	comp=E,26072μm,0.2s						
SKY				AML	AML	13 15 55.5	
	comp=N,21433μm,0.2s						
NEO	Neokhori	0.80	255	P	Pb	13 15 45.6	+0.4
NEO				S	Sn	13 15 57.3	-0.5
	comp=N,7μm,0.3s						
NEO	Neokhori	0.80	255	P	Pg	13 15 45.1	-0.3
NEO				S	Sb	13 15 56.4	+0.6
NEO				AML	AML	13 15 57.8	
	comp=E,16526μm,0.4s						
NEO				AML	AML	13 15 59.3	
	comp=N,12663μm

OUR Ouranopolis 0.83 347 P **Pg** **13 15 45.9 -0.1**
OUR S **Sn** **13 15 58.0 -0.4**
OUR AML AML 13 16 00.2
comp=N,5803μm,0.5s
OUR AML AML 13 16 00.2
comp=E,6085μm,0.3s
OUR Ouranopolis 0.83 347 PG **Pg** **13 15 46.0 -0.1**
OUR SG **Sn** **13 15 58.5 +0.1**
KYMI Kymi, Euboea I 0.90 186 P **Pb** **13 15 46.6 -0.1**
KYMI S **Sg** **13 15 59.2 +0.2**
comp=E,5μm,0.5s
KYMI Kymi, Euboea I 0.90 186 P **Pb** **13 15 46.4 -0.4**
KYMI S **Sb** **13 15 58.2 -0.1**
KYMI AML AML 13 16 01.0
comp=E,11993μm,0.6s
KYMI AML AML 13 16 01.7
comp=N,7467μm,0.5s
SMIA Simia 1.02 231 P **Pg** **13 15 49.2 -0.3**
SMIA S **Sn** **13 16 03.0 0.0**
comp=N,9μm,0.5s
PLG Polygyros 1.04 325 P **Pb** **13 15 48.8 -0.5**
PLG Polygyros 1.04 325 P **Pb** **13 15 48.7 -0.5**
PLG S **Sb** **13 16 02.6 0.0**
PLG AML AML 13 16 06.5
comp=N,1607μm,0.5s
PLG AML AML 13 16 07.7
comp=E,2276μm,0.8s
EREA Eretria 1.13 192 P **Pb** **13 15 50.6 -0.1**
EREA S **Sn** **13 16 06.6 +0.9**
comp=E,6μm,0.4s
THAS Thassos island 1.15 19 P **Pn** **13 15 50.3 -0.6**
THAS S **Sg** **13 16 07.5 +0.5**
comp=E,3μm,0.3s
THAS Thassos island 1.15 19 P **Pn** **13 15 50.2 -0.7**
THAS S **Sb** **13 16 04.9 -0.7**
THAS AML AML 13 16 09.1
comp=N,2672μm,0.3s
THAS AML AML 13 16 10.5
comp=E,6564μm,0.3s
LKR Lokris 1.29 228 P **Pn** **13 15 52.9 0.0**
LKR Lokris 1.29 228 P **Pn** **13 15 52.9 0.0**
SIGR SIGRI 1.30 103 P **Pn** **13 15 53.3 +0.2**
SIGR S **Sg** **13 16 12.1 +0.2**
comp=E,1μm,0.6s
SIGR SIGRI 1.30 103 P **Pn** **13 15 53.2 +0.2**
SIGR SIGRI 1.30 103 PN **Pg** **13 15 55.5 +0.6**
HORT Hortiatis 1.38 322 P **Pn** **13 15 54.5 +0.3**
HORT S **Sn** **13 16 12.0 0.0**
comp=E,495nm,0.5s
HORT Hortiatis 1.38 322 P **Pn** **13 15 54.5 +0.3**
HORT Hortiatis 1.38 322 PN **Pb** **13 15 54.8 -0.2**
SMTH Samothraki Isl 1.38 46 P **Pn** **13 15 53.6 -0.5**
SMTH S **Sb** **13 16 12.9 +0.6**
comp=E,800nm,0.4s
SMTH Samothraki Isl 1.38 46 P **Pn** **13 15 53.4 -0.8**
PSRA Psara 1.43 133 P **Pb** **13 15 55.8 -0.1**
PSRA S **Sn** **13 16 13.3 +0.1**
PSRA AML AML 13 16 18.6
comp=N,2362μm,0.5s
PSRA AML AML 13 16 20.7
comp=E,2704μm,0.3s
BOZC Bozcaada 1.45 77 *i* P **Pn** **13 15 55.1 +0.1**
BOZC *i* S **Sg** **13 16 15.7 -0.8**
BOZC IAML 13 16 16.0
comp=N,619nm,0.5s
BOZC Bozcaada 1.45 77 PN **Pg** **13 15 57.2 -0.4**
GADA Gvkgeada 1.45 62 PN **Pg** **13 15 57.3 -0.4**
LIT Litokhoron 1.45 294 P **Pn** **13 15 55.6 +0.5**
LIT Litokhoron 1.45 294 P **Pn** **13 15 55.5 +0.3**
LIT AML AML 13 16 14.9
comp=N,3587μm,0.4s
LIT AML AML 13 16 16.0
comp=E,1721μm,0.4s
LIT Litokhoron 1.45 294 ⇑*i* P **Pn** **13 15 55.7 +0.5**
LIT *i* S **Sb** **13 16 14.6 +0.1**
LIT IAML 13 16 16.0
comp=N,601nm,0.3s
GOKA anakkale-Gk 1.46 62 *i* P **Pn** **13 15 55.3 +0.1**
GOKA *i* S **Sn** **13 16 14.3 +0.5**
GOKA IAML 13 16 22.0
comp=E,867nm,0.3s
SOH Sokhos 1.46 333 P **Pn** **13 15 55.7 +0.5**
SOH Sokhos 1.46 333 P **Pn** **13 15 55.8 +0.5**
DION Dionisos Attik 1.46 189 P **Pn** **13 15 55.3 0.0**
DION Dionisos Attik 1.46 189 P **Pn** **13 15 55.3 0.0**
DION S **Sn** **13 16 13.4 -0.5**
DION AML AML 13 16 21.1
comp=N,8380μm,0.3s
DION AML AML 13 16 21.5
comp=E,7215μm,0.3s
THE Thessaloniki 1.47 319 P **Pn** **13 15 55.9 +0.5**
THE Thessaloniki 1.47 319 P **Pn** **13 15 55.8 +0.5**
KOCA Canakkale, Ayv 1.48 90 *i* P **Pn** **13 15 56.0 +0.4**
KOCA *i* S **Sb** **13 16 16.2 +0.9**
KOCA IAML 13 16 19.0
comp=E,405nm,0.4s
KARY Karystos 1.50 174 P **Pn** **13 15 55.9 +0.1**
PTL Penteli 1.50 191 P **Pn** **13 15 55.9 +0.1**
VILL Villia 1.53 208 P **Pn** **13 15 56.3 0.0**
AGG Agios Georgios 1.55 252 P **Pn** **13 15 56.6 +0.1**
AGG Agios Georgios 1.55 252 P **Pn** **13 15 56.4 -0.1**
AGG Agios Georgios 1.55 252 ⇓*i* P **Pn** **13 15 56.6 +0.1**
AGG *i* S **Sg** **13 16 20.6 +0.8**
AGG IAML 13 16 23.0
comp=E,225nm,0.5s
AGG Agios Georgios 1.55 252 PN **Pn** **13 15 56.8 +0.3**
ECEA Canakkale, Ece 1.59 70 *i* P **Pb** **13 15 58.1 -0.5**
ECEA *i* S **Sg** **13 16 22.0 +0.9**
ECEA IAML 13 16 23.0
comp=E,802nm,0.4s
ATHU Athens Univers 1.59 193 P **Pn** **13 15 57.2 +0.1**
ATH Athens Observa 1.60 195 P **Pn** **13 15 57.3 +0.2**
ATH Athens Observa 1.60 195 P **Pn** **13 15 57.3 +0.2**
ATH S **Sn** **13 16 17.1 -0.2**
ATH AML AML 13 16 23.4
comp=E,3274μm,0.2s
ATH AML AML 13 16 25.6
comp=N,5357μm,0.6s
PRK Paraskevi 1.61 99 P **Pb** **13 15 58.7 -0.3**
EZN Ezine 1.65 79 PN **Pb** **13 16 00.1 +0.5**
SRS Serrai 1.66 343 P **Pn** **13 15 58.1 +0.1**
SRS Serrai 1.66 343 P **Pn** **13 15 58.1 +0.1**
MAKR Makrakomi, Fth 1.70 253 P **Pn** **13 15 59.5 +0.9**
VLY Voula,Athens 1.70 192 P **Pn** **13 15 58.7 +0.1**
VLY Voula,Athens 1.70 192 P **Pn** **13 15 58.6 +0.1**
THL Klokotos Trika 1.71 272 P **Pn** **13 15 59.1 +0.5**
THL Klokotos Trika 1.71 272 P **Pn** **13 15 59.0 +0.3**
LTK Loutraki 1.79 214 P **Pn** **13 16 00.0 +0.2**
LTK Loutraki 1.79 214 P **Pn** **13 15 59.9 +0.1**
BAYC CANAKKALE_Bayr 1.81 82 *i* P **Pn** **13 16 00.3 +0.3**
BAYC *i* S **Sg** **13 16 27.1 -0.9**
BAYC IAML 13 16 28.0
comp=N,177nm,0.5s
CHOS Chios island 1.82 128 P **Pn** **13 16 01.0 +0.7**
CHOS Chios island 1.82 128 P **Pn** **13 16 00.8 +0.5**
CHOS Chios island 1.82 128 PN **Pb** **13 16 02.1 -0.5**
NVR Nevrokopi 1.84 352 P **Pn** **13 16 00.6 0.0**
NVR Nevrokopi 1.84 352 P **Pn** **13 16 00.9 +0.3**
CAVK Edirne/Enez-Ca 1.89 51 *i* P **Pn** **13 16 01.7 +0.5**
CAVK *i* S **Sg** **13 16 31.4 +0.6**
CAVK IAML 13 16 36.0
comp=N,274nm,0.2s
RDO Rodhopi 1.91 31 P **Pn** **13 16 01.0 -0.4**
RDO Rodhopi 1.91 31 P **Pn** **13 16 00.9 -0.4**
RDO Rodhopi 1.91 31 PN **Pb** **13 16 03.3 -0.7**
ENEZ Enez 1.91 50 PN **Pb** **13 16 04.4 +0.3**
THAL Thalero 1.92 220 P **Pn** **13 16 01.9 +0.3**
KNT Kendrikon 1.92 329 PN **Pn** **13 16 02.6 +1.0**
GELI Tayfur-Gelibol 1.94 63 PN **Pb** **13 16 04.6 +0.1**
ALN Alexandroupoli 1.96 45 P **Pn** **13 16 01.6 -0.4**
ALN Alexandroupoli 1.96 45 *i* P **Pn** **13 16 01.9 -0.1**
ALN *i* S **Sb** **13 16 30.8 +1.9**
ALN Alexandroupoli 1.96 45 PN **Pb** **13 16 04.4 -0.5**
EVR Evrytania 1.97 253 P **Pn** **13 16 03.1 +0.7**
EVR Evrytania 1.97 253 P **Pn** **13 16 02.8 +0.4**
GRG Griva 2.00 316 P **Pn** **13 16 03.9 +1.2**
GRG Griva 2.00 316 PN **Pn** **13 16 03.6 +0.9**
ANX Ano Chora 2.02 243 P **Pn** **13 16 03.8 +0.7**
ANX Ano Chora 2.02 243 P **Pn** **13 16 03.7 +0.7**
SERG Sergoula 2.02 237 P **Pn** **13 16 03.4 +0.4**
SERG Sergoula 2.02 237 P **Pn** **13 16 03.2 +0.3**
TRIZ Trizonia 2.04 236 P **Pn** **13 16 03.6 +0.5**
ALIK Aliki, Aigiali 2.08 233 P **Pn** **13 16 04.5 +0.8**

ERIK Erikli-Kesan 2.10 56 PN **Pb** **13 16 06.4 -0.8**
EFP Efpalio 2.11 240 P **Pn** **13 16 04.7 +0.5**
DKL Dikili 2.13 101 PN **Pb** **13 16 07.1 -0.7**
URLA Izmir 2.18 121 *i* P **Pn** **13 16 06.6 +1.4**
URLA *i* S **Sg** **13 16 41.1 +1.1**
URLA Izmir 2.18 121 PN **Pb** **13 16 07.5 -1.3**
KLV Kalavryta, Ach 2.19 228 P **Pn** **13 16 05.8 +0.4**
ZEYE Izmir, Úrla-Ze 2.19 125 *e*P **Pn** **13 16 06.0 +0.7**
ZEYE *i* S **Sg** **13 16 40.6 +0.2**
VAY Valandovo 2.19 325 *i* Pn **Pn** **13 16 06.1 +0.8**
BUHA Balikesir, Bur 2.21 90 *i* P **Pn** **13 16 06.1 +0.6**
BUHA *i* S **Sb** **13 16 36.8 +0.7**
BUHA IAML 13 16 47.0
comp=N,211nm,0.6s
ZEDA zmir-Bergama 2.29 103 *i* P **Pn** **13 16 07.5 +0.9**
ZEDA *i* S **Sg** **13 16 41.3 -1.9**
PVO Paravola 2.29 248 P **Pn** **13 16 07.8 +1.2**
KESN Edirne-Kesan 2.29 55 *i* P **Pn** **13 16 06.6 -0.3**
KESN *i* S **Sg** **13 16 43.8 +0.3**
KESN IAML 13 16 49.0
comp=E,230nm,0.4s
DRO Drossia 2.52 232 P **Pn** **13 16 11.1 +1.3**
KRBG Karabiga-Canak 2.52 69 PN **Pb** **13 16 12.8 -1.6**
FNA Florina 2.52 301 P **Pn** **13 16 11.2 +1.3**
FNA Florina 2.52 301 *i* P **Pn** **13 16 11.1 +1.3**
FNA *i* S **Sn** **13 16 39.2 -1.0**
FNA IAML 13 16 42.0
comp=E,49nm,0.5s
FNA Florina 2.52 301 PN **Pn** **13 16 10.5 +0.7**
RKY Sarkoy-Tekirda 2.55 62 PN **Pn** **13 16 12.8 +2.6**
VLX Vlachokerasia 2.59 215 P **Pn** **13 16 11.8 +0.9**
PLD Plovdiv 2.60 8 PN **Pn** **13 16 13.3 +2.3**
MAR6 Marsite Statio 2.61 62 PN **Pb** **13 16 14.2 -1.9**
APE Apeiranthos 2.66 157 ⇑P **Pn** **13 16 12.9 +1.1**
APE Apeiranthos 2.66 157 ⇓S **Sn** **13 16 44.0 +0.4**
APE Apeiranthos 2.66 157 *i* P **Pn** **13 16 12.5 +0.7**
APE *i* S **Sn** **13 16 42.4 -1.1**
APE Apeiranthos 2.66 157 PN **Pn** **13 16 13.4 +1.6**
STIP Stip 2.67 325 *i* Pn **Pn** **13 16 12.1 +0.3**
GZKV Gazikoy-Tekird 2.67 62 PN **Pb** **13 16 14.9 -2.2**
AMT Artemida-Makis 2.80 226 P **Pn** **13 16 15.2 +1.5**
MRMT Marmara Adasi 2.80 66 PN **Pn** **13 16 16.6 +2.8**
BALB Balikesir 2.83 86 PN **Pn** **13 16 17.0 +3.0**
EDC Edincik 2.92 72 PN **Pn** **13 16 18.3 +3.0**
ITM Ithomi 2.96 218 P **Pn** **13 16 17.5 +1.7**
VTS Vitosha 3.18 347 ⇑P **Pn** **13 16 19.9 +0.9**
VTS Vitosha 3.18 347 ⇑S **Sn** **13 16 58.9 +2.3**
SKO Skopje 3.23 320 *i* Pn **Pn** **13 16 21.0 +1.4**
KULA Kula-Manisa 3.60 105 PN **Pn** **13 16 28.1 +3.4**
TVSB Tavsanli 4.05 89 PN **Pn** **13 16 34.8 +3.8**
YLV Yalova 4.09 74 PN **Pn** **13 16 35.3 +3.9**
VLAD Vladila 4.47 2 ⇑P **Pn** **13 16 37.0 +0.4**
BOVS Bovan 4.52 336 ⇓P **Pn** **13 16 37.8 +0.5**
TIRR Tirgusor 5.83 31 ⇑P **Pn** **13 16 54.4 -0.9**
ARR Arges 5.85 3 ⇑P **Pn** **13 16 57.0 +1.4**
MATE Matera 5.88 283 ⇑P **Pn** **13 16 59.3 +3.4**
LOT Lotru 5.93 357 ⇑P **Pn** **13 16 57.7 +0.9**
VOIR 5.94 6 ⇓P **Pn** **13 16 57.8 +0.9**
GZR Gura Zlata 5.96 350 ⇑P **Pn** **13 16 57.7 +0.5**
MLR Muntele Rosu 6.10 11 ⇑P **Pn** **13 16 59.5 +0.5**
TPGR Topolog 6.17 29 ⇓P **Pn** **13 17 00.1 +0.1**
LSTV Lastovo 6.41 303 *e*Pn **Pn** **13 17 02.6 -0.7**
LSTV Sn **Sn** **13 18 12.1 -3.9**
DOPR Dopca 6.50 7 ⇑P **Pn** **13 17 05.6 +1.1**
VRI Vrincioaia 6.60 15 ⇓P **Pn** **13 17 05.7 -0.2**
RICI Ricice 6.64 309 *e*Pn **Pn** **13 17 08.4 +2.0**
RICI Sn **Sn** **13 18 19.4 -2.2**
KIJV Kijevo 7.36 310 *e*Pn **Pn** **13 17 18.5 +2.2**
KIJV Sn **Sn** **13 18 37.9 -1.5**
ZIRJ Zirje 7.64 305 *e*Pn **Pn** **13 17 21.0 +0.9**
ZIRJ Sn **Sn** **13 18 42.9 -3.2**
MORI Morici 7.71 307 *e*Pn **Pn** **13 17 22.1 +1.0**
MORI Sn **Sn** **13 18 44.2 -3.6**
DUGI Dugi Otok 8.18 306 *e*Pn **Pn** **13 17 28.0 +0.5**
DUGI Sn **Sn** **13 18 56.0 -3.3**

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*IDC **02** 13:28:41.1±2.3,29°.95S×178°.35W,h0km,mb4.1/3,*
mb1 4.2/4,mb1mx3.8/28,mbtmp4.1/4,ML3.2/1,Error
ellipse: s-maj=60.3km s-min=41.9km az=138.0
*NEIC **02** 13:28:41.4±2.4,29°.68S±0°.08×177°.7W±0°.1,h35km±2km,*
mb4.2/7,Error ellipse: s-maj=21.8km s-min=12.6km
az=82.0
ISC 02 13:28:40.3±1.0,29°.7S±0°.1×177°.7W±0°.2,h35km,n16,
σ1§28/16,mb4.2/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.49**	**336**		**Pn**	**13 28 50.4**	**-0.5**
URZ	**Urewera**	**9.56**	**205**	Pn	**Pn**	**13 30 53.9**	**-1.6**
0.2nm,0.3s,baz=107,slow=16,SNR=2.1							
URZ				Sn	Sn	13 32 27.9	-14
1.4nm,0.3s,baz=97,slow=16,SNR=12							
URZ	**Urewera**	**9.56**	**205**		**Pn**	**13 30 53.3**	**-2.1**
NIUE	**Niue**	**12.72**	**35**	Pn	**Pn**	**13 31 38.0**	**-0.7**
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**13 35 29.3**	**+0.7**
1.8nm,0.4s,baz=93,slow=13,SNR=7.0							
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**13 35 29.4**	**+0.7**
STKA				IAmb	IAmb	13 35 35.2	
comp=Z,1.7nm,1.5s							
BBOO	**Buckleboo**	**39.42**	**253**	P	**P**	**13 36 06.0**	**-1.0**
BBOO				IAmb	IAmb	13 36 24.5	
comp=Z,5.8nm,1.1s							
ASAR	**Alice Springs**	**43.42**	**266**	P	**P**	**13 36 40.8**	**+0.8**
comp=Z,0.7nm,0.4s,baz=105,slow=7.3,SNR=14							
WR0	**Warramunga Arr**	**44.17**	**271**	P	**P**	**13 36 47.1**	**+1.1**
WR0				IAmb	IAmb	13 37 00.1	
comp=Z,6.1nm,1.3s							
WB2	**Warramunga Arr**	**44.34**	**271**	P	**P**	**13 36 48.5**	**+1.1**
WRA	**Warramunga Arr**	**44.35**	**271**	P	**P**	**13 36 48.6**	**+1.2**
comp=Z,1.5nm,0.3s,baz=113,slow=7.7,SNR=52							
WRA	**Warramunga Arr**	**44.35**	**271**	P	**P**	**13 36 47.6**	**+0.2**
WB0	**Warramunga Arr**	**44.37**	**272**	P	**P**	**13 36 48.4**	**+0.8**
WB0				IAmb	IAmb	13 36 49.5	
comp=Z,2.6nm,0.8s							
QSPA	**South Pole Qui**	**60.41**	**180**	P	**P**	**13 38 48.0**	**+2.0**
QSPA				IAmb	IAmb	13 38 53.9	
comp=Z,4.6nm,1.4s							
FINES	**FINESS Array B**	**144.58**	**340**	PKP	**PKiKP**	**13 48 17.1**	**+1.1**
comp=Z,0.9nm,0.4s,baz=54,slow=2.4,SNR=7.1							
AKASG	**Malin Array Be**	**150.91**	**324**	PKPbc	**PKPab**	**13 48 35.3**	**-1.0**
comp=Z,0.7nm,0.3s,baz=45,slow=3.2,SNR=7.3							

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*BJI **02** 13:36:10.3±0.0,11°.31N×142°.91E,h25km,mB4.9/26,*
mb4.7/40,Ms4.2/10,Ms7 3.9/11
*IDC **02** 13:36:14.4±0.5,11°.97N×142°.42E,h0km,mb4.3/21,*
mb1 4.5/21,mb1mx4.4/39,mbtmp4.3/21,MS3.6/21,
Ms1 3.7/21,ms1mx3.4/50,Error ellipse: s-maj=21.7km
s-min=12.2km az=75.0
*NEIC **02** 13:36:22.0±1.5,11°.87N±0°.08×142°.4E±0°.1,h58km±8km,*
mb4.6/35,Error ellipse: s-maj=18.8km s-min=12.3km
az=92.0
ISC 02 13:36:20.1±0.4,11°.91N±0°.07×142°.52E±0°.09,h42km,n109,
σ1§97/95,mb4.6/57,MS3.8/26,1C,South of Mariana
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**16.37**	**107**	Pn	**P**	**13 40 07.4**	**-2.0**
SIJI	**Sorong**	**16.91**	**222**	LR	LR	13 46 18.2	
comp=Z,193nm,18.1s,baz=100,slow=36							
JOW	**Kunigami**	**20.00**	**320**	LR	LR	13 46 50.6	
comp=Z,202nm,21.2s,baz=130,slow=32							
PMG	**Port Moresby**	**21.67**	**168**	LR	LR	13 49 30.8	
comp=Z,102nm,18.1s,baz=17,slow=37							
JSU	**Suzuyama**	**22.46**	**332**	P	**P**	**13 41 16.7**	**+0.8**
JSU				IAmb	IAmb	13 41 34.1	
comp=Z,30nm,1.0s							
SSLB	**Suanglung**	**23.65**	**303**	P	**P**	**13 41 27.2**	**-0.7**
SSLB				IAmb	IAmb	13 41 42.1	
comp=Z,18nm,0.9s							
JNU	**Nakatsue**	**23.66**	**335**	P	**P**	**13 41 28.4**	**+0.6**
comp=Z,29nm,0.8s,baz=141,slow=5.7,SNR=10.0							
JNU	**Nakatsue**	**23.66**	**335**	P	**P**	**13 41 28.7**	**+0.9**
TOLI2	**Tolitoli**	**24.09**	**245**	P	**P**	**13 41 31.0**	**-0.9**
TOLI2				IAmb	IAmb	13 41 39.2	
comp=Z,26nm,1.2s							
H11S3	**WAKE ISLAND Hy**	**24.21**	**71**	T	T	14 07 19.6	
baz=258,slow=75,SNR=4.0							
H11S1	**WAKE ISLAND Hy**	**24.22**	**71**	T	T	14 07 13.0	
baz=258,slow=75,SNR=3.7							
H11S2	**WAKE ISLAND Hy**	**24.22**	**71**	T	T	14 07 03.2	
baz=258,slow=75,SNR=4.3							
JHS	**Saijyo**	**24.53**	**341**	P	**P**	**13 41 35.1**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**24.68**	**69**	T	T	14 07 38.3	
baz=255,slow=75,SNR=8.4							
H11N2	**WAKE ISLAND Hy**	**24.68**	**69**	T	T	14 07 41.7	
baz=255,slow=75,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**24.69**	**69**	T	T	14 07 39.0	
baz=255,slow=75,SNR=7.1							
MJAR	**Matsushiro Arr**	**24.84**	**352**	P	**P**	**13 41 36.8**	**-1.8**
comp=Z,6.0nm,0.9s,baz=170,slow=8.8,SNR=8.8							
MJAR				LR	LR	13 51 09.6	
comp=Z,139nm,18.8s,baz=175,slow=36							
MJAR	**Matsushiro Arr**	**24.84**	**352**	P	**P**	**13 41 38.0**	**-0.6**
MAT	**Matsushiro**	**24.84**	**352**	P	**P**	**13 41 36.9**	**-1.7**
MAT				*e*S	**S**	**13 46 00.0**	**+1.4**
JMM	**Marumori**	**25.90**	**357**	P	**P**	**13 41 46.1**	**-2.0**
JMM				IAmb	IAmb	13 41 56.3	
comp=Z,25nm,1.1s							
MTN	**Manton Dam**	**27.06**	**205**	P	**P**	**13 41 57.5**	**-1.3**
MTN				IAmb	IAmb	13 42 23.6	
comp=Z,17nm,1.1s							
SOEI	**Soe**	**28.15**	**221**	P	P	13 42 05.1	-3.6
SOEI				IAmb	IAmb	13 42 16.6	
comp=Z,20nm,1.1s							
KSRS	**Korea Array**	**28.61**	**335**	P	**P**	**13 42 11.8**	**-0.7**
comp=Z,1.2nm,0.7s,baz=154,slow=8.6,SNR=7.7							
KSRS				LR	LR	13 53 51.5	
comp=Z,91nm,18.0s,baz=170,slow=37							
NJ2	**Nanjing**	**29.60**	**316**	*e*P	**P**	**13 42 22.1**	**+0.7**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
KNRA	**Kununurra**	**30.60**	**207**	P	**P**	**13 42 27.0**	**-3.4**
KNRA				IAmb	IAmb	13 42 51.7	
comp=Z,29nm,1.5s							
CTA	**Charters Tower**	**32.00**	**173**	P	**P**	**13 42 43.5**	**+0.9**
comp=Z,1.9nm,0.6s,baz=331,slow=13,SNR=1.5							
CTAO	**Charters Tower**	**32.00**	**173**	P	**P**	**13 42 42.6**	**-0.1**
CTAO				IAmb	IAmb	13 42 56.4	
comp=Z,15nm,1.2s							
ASAJ	**Asahikawa**	**32.10**	**0**	LR	LR	13 56 29.7	
comp=Z,41nm,20.5s,baz=184,slow=38							
WB0	**Warramunga Arr**	**32.48**	**194**	P	**P**	**13 42 46.2**	**-0.6**
WB0				IAmb	IAmb	13 42 52.0	
comp=Z,17nm,1.5s							
WR0	**Warramunga Arr**	**32.62**	**194**	P	**P**	**13 42 47.3**	**-0.8**
WR0				IAmb	IAmb	13 42 54.1	
comp=Z,9.8nm,1.2s							
WB2	**Warramunga Arr**	**32.65**	**194**	P	**P**	**13 42 47.7**	**-0.7**
WRA	**Warramunga Arr**	**32.66**	**194**	P	**P**	**13 42 47.7**	**-0.7**
comp=Z,1.1nm,0.3s,baz=17,slow=9.6,SNR=26							
WRA	**Warramunga Arr**	**32.66**	**194**	P	**P**	**13 42 47.1**	**-1.3**
USA0B	**Ussuriysk Arra**	**33.43**	**346**	P	**P**	**13 42 55.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**33.43**	**346**	P	**P**	**13 42 55.3**	**+0.3**
comp=Z,10nm,0.7s,baz=179,slow=9.0,SNR=27							
USRK				LR	LR	13 54 58.7	
comp=Z,80nm,20.9s,baz=136,slow=34							
USRK	**Ussuriysk Ar.**	**33.43**	**346**	P	**P**	**13 42 55.2**	**+0.2**
AS31	**Alice Springs**	**36.34**	**193**	P	**P**	**13 43 18.9**	**-1.4**
ASAR	**Alice Springs**	**36.34**	**193**	P	**P**	**13 43 20.0**	**-0.3**
comp=Z,1.3nm,0.5s,baz=23,slow=12,SNR=25							
ASAR	**Alice Springs**	**36.34**	**193**	P	**P**	**13 43 20.3**	**0.0**
BJI	**Beijing**	**36.42**	**325**	P	**P**	**13 43 21.3**	**+0.6**
BJI				pmax	pmax		
comp=Z,14nm,1.1s							
BJI				pmax	pmax		
comp=Z,120nm,4.6s							
BJI				LR	LR		
comp=Z,190nm,20.8s							
BJI				LR	LR		
comp=Z,120nm,20.4s							
BJI				LR	LR		
comp=Z,210nm,24.0s							
XAN	**Xi'an**	**37.71**	**311**	P	**P**	**13 43 31.6**	**-0.3**
XAN				pP	pP	13 43 44.1	+1.6
XAN				S	**S**	**13 49 20.7**	**+1.3**
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
XAN				LR	LR		
comp=Z,130nm,19.5s							
XAN				LR	LR		
comp=Z,120nm,20.6s							
XAN				LR	LR		
comp=Z,210nm,20.6s							
KLR	**Kul'dur**	**38.27**	**349**	LR	LR	13 57 27.4	
comp=Z,114nm,21.4s,baz=160,slow=33							
CHAI	**Chaiyaphum**	**39.51**	**281**	P	**P**	**13 43 50.6**	**+3.5**
comp=Z,2μmcomp=Z,24nm,0.8s							
CHAI	**Chaiyaphum**	**39.51**	**281**	P	**P**	**13 43 50.7**	**+3.5**
HHC	**Hu-ho-hao-te**	**39.62**	**322**	*e*P	**P**	**13 43 48.3**	**+0.4**
HHC				pmax	pmax		
comp=Z,18nm,0.8s							
HHC				pmax	pmax		
comp=Z,110nm,5.5s							
HHC				LR	LR		
comp=Z,120nm,12.6s							
HHC				LR	LR		
comp=Z,130nm,12.8s							
HHC				LR	LR		
comp=Z,160nm,13.6s							
CD2	**Chengdu**	**40.47**	**304**	P	**P**	**13 43 54.6**	**-0.4**
CD2				pmax	pmax		
comp=Z,20nm,0.5s							
CD2				LR	LR		
comp=Z,140nm,16.5s							
CD2				LR	LR		
comp=Z,170nm,15.1s							
CD2				LR	LR		
comp=Z,180nm,18.2s							
DZM	**Mont Dzumac**	**41.12**	**145**	P	**P**	**13 44 02.7**	**+2.3**
comp=Z,7.4nm,1.0s,baz=42,slow=14,SNR=2.3							
UTHA	**Uthaitani**	**41.95**	**280**	P	**P**	**13 44 11.0**	**+3.7**
comp=Z,0.0nmcomp=Z,4.4nm,0.9s							
CM35	**Chiang Mai Arr**	**42.29**	**285**	P	**P**	**13 44 13.0**	**+3.0**
CM36	**Chiang Mai Arr**	**42.34**	**284**	P	**P**	**13 44 14.0**	**+3.6**
LZH	**Lanzhou**	**42.34**	**311**	*e*P	**P**	**13 44 10.1**	**-0.4**
LZH				pP	pP	13 44 18.9	-2.3
LZH				sP	pwP	13 44 24.4	-0.8
LZH				pmax	pmax		
comp=Z,11nm,1.0s							
LZH				pmax	pmax		
comp=Z,60nm,5.0s							
LZH				LR	LR		
comp=Z,150nm,10.8s							
LZH				LR	LR		
comp=Z,120nm,10.8s							
LZH				LR	LR		
comp=Z,96nm,11.4s							
CM09	**Chiang Mai Arr**	**42.43**	**284**	P	**P**	**13 44 15.0**	**+3.8**
comp=Z,118nmcomp=Z,16nm,0.9s							
CM09	**Chiang Mai Arr**	**42.43**	**284**	P	**P**	**13 44 15.0**	**+3.8**
comp=Z,0.0nmcomp=Z,118nmcomp=Z,16nm,0.9s							
CM04	**Chiang Mai Arr**	**42.44**	**284**	P	**P**	**13 44 14.8**	**+3.5**
comp=Z,122nmcomp=Z,19nm,0.8s							
CM04	**Chiang Mai Arr**	**42.44**	**284**	P	**P**	**13 44 14.9**	**+3.6**
comp=Z,0.1nmcomp=Z,122nmcomp=Z,19nm,0.8s							
CM01	**Chiang Mai Arr**	**42.46**	**284**	P	**P**	**13 44 15.4**	**+3.9**
comp=Z,119nmcomp=Z,17nm,0.8s							
CM01	**Chiang Mai Arr**	**42.46**	**284**	P	**P**	**13 44 15.0**	**+3.5**
comp=Z,0.0nmcomp=Z,119nmcomp=Z,17nm,0.8s							
CM02	**Chiang Mai Arr**	**42.48**	**284**	P	**P**	**13 44 15.5**	**+3.9**
comp=Z,109nmcomp=Z,15nm,0.9s							
CM02	**Chiang Mai Arr**	**42.48**	**284**	P	**P**	**13 44 15.0**	**+3.4**
comp=Z,0.0nmcomp=Z,109nmcomp=Z,15nm,0.9s							
CM05	**Chiang Mai Arr**	**42.48**	**284**	P	**P**	**13 44 15.2**	**+3.6**
comp=Z,103nmcomp=Z,14nm,0.9s							
CM05	**Chiang Mai Arr**	**42.48**	**284**	P	**P**	**13 44 15.0**	**+3.4**
comp=Z,0.0nmcomp=Z,103nmcomp=Z,14nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.48**	**284

BBOO Buckleboo 44.89 188 P **P** **13 44 30.8 +0.1**
BBOO IAmb IAmb 13 44 46.0
comp=Z,20nm,1.3s
MSVF Nonsavu 45.80 129 P **P** **13 44 41.1 +2.9**
comp=Z,2.3nm,0.5s,baz=331,slow=8.4,SNR=1.8
GTA Gaotai 46.62 314 ⇑P **P** **13 44 43.7 -0.8**
GTA pP pP 13 44 56.4 +1.0
GTA sP pwP 13 45 01.3 +1.9
GTA sS sS 13 51 50.0 +1.4
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,59nm,4.4s
GTA LR LR
comp=Z,73nm,16.0s
GTA LR LR
comp=Z,110nm,16.4s
GTA LR LR
comp=Z,74nm,17.8s
SONM Songino Array 46.84 327 P **P** **13 44 46.4 +0.3**
comp=Z,2.6nm,0.6s,baz=141,slow=7.7,SNR=12
SONM LR LR 14 05 20.5
comp=Z,56nm,18.3s,baz=112,slow=37
SONM Songino Array 46.84 327 P **P** **13 44 45.6 -0.5**
MORW Morawa 48.10 212 P **P** **13 44 55.4 -0.6**
YAK Yakutsk 50.90 352 LR LR 14 05 10.3
comp=Z,66nm,20.6s,baz=91,slow=34
WMQ Urumqi 56.67 315 *eP* **P** **13 46 01.6 +2.2**
WMQ LR LR
comp=Z,210nm,20.1s
WMQ LR LR
comp=Z,140nm,21.7s
MK31 Makanchi Array 61.13 317 P **P** **13 46 30.1 -0.2**
MK31 IAmb IAmb 13 46 31.1
comp=Z,5.6nm,0.8s
MKAR Makanchi Array 61.13 317 P **P** **13 46 30.2 -0.1**
comp=Z,6.4nm,0.7s,baz=92,slow=8.7,SNR=58
MKAR LR LR 14 14 23.0
comp=Z,71nm,18.6s,baz=92,slow=38
MAKZ Makanchi 61.34 317 P **P** **13 46 29.7 -2.0**
ZALV Zalesovo Beam 61.68 325 P **P** **13 46 32.6 -1.2**
comp=Z,1.6nm,0.5s,baz=109,slow=7.6,SNR=7.0
ZALV LR LR 14 13 47.2
comp=Z,52nm,19.6s,baz=78,slow=37
KSH Kashi 64.46 308 P **P** **13 46 51.4 -1.3**
KSH pmax pmax
comp=Z,6.0nm,0.4s
KSH pmax pmax
comp=Z,75nm,6.8s
NRIK Noril'sk 66.98 342 P **P** **13 47 07.5 -0.7**
comp=Z,2.6nm,0.5s,baz=126,slow=5.6,SNR=1.8
BRVK Borovoye 69.90 322 P **P** **13 47 26.6 -0.1**
BRVK IAmb IAmb 13 47 27.3
comp=Z,9.4nm,0.7s
I23K Minto, Yukon-K 70.13 25 P **P** **13 47 27.9 0.0**
I23K IAmb IAmb 13 47 29.8
comp=Z,5.6nm,1.1s
COLD Coldfoot 70.37 22 P **P** **13 47 30.3 +0.9**
COLD IAmb IAmb 13 47 31.7
comp=Z,8.1nm,1.0s
MDM Murphy Dome 70.54 25 P **P** **13 47 30.8 +0.3**
MDM IAmb IAmb 13 47 57.3
comp=Z,8.7nm,1.5s
ILAR Eielson Array 71.06 25 P **P** **13 47 32.5 -1.1**
comp=Z,2.0nm,0.7s,baz=247,slow=6.0,SNR=31
ILAR LR LR 14 15 33.4
comp=Z,44nm,21.7s,baz=274,slow=33
ILAR Eielson Array 71.06 25 P **P** **13 47 32.8 -0.9**
DOT Dot Lake 72.06 27 P **P** **13 47 39.7 0.0**
DOT IAmb IAmb 13 47 41.3
comp=Z,5.4nm,0.9s
ABKAR Akbulak array 76.25 318 P **P** **13 48 03.5 -0.9**
ABKAR Akbulak array 76.25 318 P **P** **13 48 03.5 -0.9**
ABKAR IAmb IAmb 13 48 04.4
comp=Z,5.3nm,0.8s
GEYT Alibeck 78.41 307 P **P** **13 48 15.3 -1.5**
comp=Z,2.0nm,0.5s,baz=1.9,slow=4.5,SNR=3.6
GEYT LR LR 14 24 45.1
comp=Z,59nm,22.0s,baz=210,slow=37
YKA Yellowknife Ar 85.39 27 P **P** **13 48 52.8 -0.1**
comp=Z,3.0nm,0.9s,baz=291,slow=5.1,SNR=18
YKA LR LR 14 27 32.3
comp=Z,46nm,19.0s,baz=0.0,slow=36
B08A Colville Reser 86.55 41 P **P** **13 48 59.9 +0.9**
ARCES ARCESS Array B 87.97 342 P **P** **13 49 04.0 -1.3**
comp=Z,1.1nm,0.8s,baz=69,slow=6.6,SNR=4.0
ARCES LR LR 14 33 12.7
comp=Z,48nm,18.2s,baz=265,slow=39
ARCES ARCESS Array B 87.97 342 P **P** **13 49 03.2 -2.2**
NEW Newport 88.00 41 P **P** **13 49 05.6 -0.4**
NEW IAmb IAmb 13 49 08.2
comp=Z,4.9nm,0.8s
NVAR Mina Array Bea 89.75 51 P **P** **13 49 16.8 +2.1**
comp=Z,2.5nm,0.7s,baz=273,slow=5.3,SNR=24
NVAR Mina Array Bea 89.75 51 P **P** **13 49 15.6 +0.9**
FINES FINESS Array B 91.70 335 P **P** **13 49 21.2 -1.7**
comp=Z,1.3nm,0.6s,baz=20,slow=2.2,SNR=6.3
FINES LR LR 14 33 44.1
comp=Z,69nm,18.7s,baz=60,slow=38
LRM Limekiln Ridge 91.77 43 P **P** **13 49 24.3 +0.3**
PDAR Pinedale Array 94.77 45 P **P** **13 49 37.6 -0.2**
comp=Z,0.3nm,0.7s,baz=44,slow=5.3,SNR=2.0
AKASG Malin Array Be 95.05 324 LR LR 14 35 19.9
comp=Z,65nm,19.1s,baz=70,slow=37
NOA NORSAR Array B 97.78 338 LR LR 14 36 46.0
comp=Z,21nm,19.7s,baz=10.0,slow=37
TORD Torodi Ar. Bea 133.85 301 PKP **PKPdf** **13 55 34.2 +0.5**
comp=Z,0.5nm,0.5s,baz=20,slow=2.6,SNR=2.5
LPAZ La Paz 149.97 102 PKPbc **PKiKP** **13 56 09.7 +1.0**
comp=Z,3.0nm,0.7s,baz=230,slow=2.9,SNR=12

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*JMA **02** 13:53:42.8±0.2, 30.°10N×143.°59E, h47km, M4.2*
*IDC **02** 13:53:44.5±0.6, 29.°96N×143.°23E, h0km, mb3.8/14, mb1 4.0/19, mb1mx3.8/56, mbtmp3.8/19, ML3.2/5, Error ellipse: s-maj=22.4km s-min=14.2km az=80.0*
*NEIC **02** 13:53:45.3±2.2, 29.°99N±0.°07×143.°3E±0.°2, h8km±5km, mb4.2/5, Error ellipse: s-maj=30.6km s-min=10.1km az=87.0*
ISC 02 13:53:45.6±0.6, 30.°05N±0.°05×143.°1E±0.°1, h10km, n44, σ2°04/49, mb3.8/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.05**	**195**	P	**Pn**	**13 54 32.7**	**-1.2**
JCJ	**Chichijima**	**3.05**	**195**	Pn	**Pn**	**13 54 32.5**	**-1.4**
JCJ	9.6nm,0.3s,baz=287,slow=22,SNR=9.2			Sn	**Sn**	**13 55 06.7**	**-3.7**
	19nm,0.3s,baz=290,slow=23,SNR=2.5						
JCJ	**Chichijima**	**3.05**	**195**		**Pn**	**13 54 32.8**	**-1.1**
JHH2	**Haha-jima-NKT2**	**3.50**	**193**	P	**Pn**	**13 54 38.8**	**-1.3**
JHH2				*e*S	**Sn**	**13 55 20.7**	**-0.8**
JHJ	**Hachijo jima 2**	**4.16**	**318**	**Pn**	**Pn**	**13 54 49.5**	**+0.4**
JHJ	5.2nm,0.3s,baz=229,slow=19,SNR=1.4			Sn	**Sn**	**13 55 34.8**	**-3.0**
	9.1nm,0.3s,baz=93,slow=23,SNR=1.8						
BSO1	**Boso 1**	**4.92**	**339**	P	**Pn**	**13 54 58.0**	**-1.1**
JHU	**Hanno**	**6.61**	**332**	S	**Sn**	**13 56 35.7**	**-2.5**
JYT	**Yasato**	**6.62**	**339**	**Pn**	**Pn**	**13 55 23.2**	**+0.3**
JHO	**Hitachi**	**6.87**	**343**	P	**Pn**	**13 55 24.8**	**-1.6**
JRY	**Ryogami san**	**6.91**	**331**	P	**Pn**	**13 55 26.9**	**0.0**
JRY				S	**Sn**	**13 56 43.1**	**-2.5**
JAG	**Ashikaga**	**7.05**	**335**	P	**Pn**	**13 55 28.4**	**-0.4**
MJAR	**Matsushiro Arr**	**7.65**	**329**	Pn	**Pn**	**13 55 37.0**	**-0.1**
MJAR	0.2nm,0.3s,baz=158,slow=12,SNR=12			Sn	**Sn**	**13 56 56.6**	**-7.3**
	baz=24,slow=30,SNR=1.4						
MJAR	**Matsushiro Arr**	**7.65**	**329**	Pn	**Pn**	**13 55 37.4**	**+0.2**
MAJO	**Matsushiro**	**7.65**	**329**	**Pn**	**Pn**	**13 55 38.5**	**+1.3**
MJB9	**Matsu-Tunnel**	**7.66**	**329**	Pn	**Pn**	**13 55 38.6**	**+1.4**
JMM	**Marumori**	**8.02**	**347**		**Pn**	**13 55 39.9**	**-2.3**
JMK	**Ichinoseki**	**9.01**	**351**	P	**Pn**	**13 55 52.4**	**-3.4**
JTM	**Tenmabayashi**	**10.84**	**352**	Pn	**Pn**	**13 56 18.6**	**-2.2**
ERM	**Erimo**	**11.94**	**0**	Pn	Pn	13 56 30.3	-5.5
KSRS	**Korea Array**	**14.60**	**304**	Pn	**P**	**13 57 15.4**	**-3.3**
	0.2nm,0.3s,baz=115,slow=14,SNR=3.0						
USRK	**Ussuriysk Ar.**	**16.64**	**331**	Pn	**P**	**13 57 41.3**	**0.0**
	baz=173,slow=13,SNR=2.4						
KLR	**Kul'dur**	**21.00**	**339**	P	**P**	**13 58 33.6**	**+4.4**
	0.7nm,0.5s,baz=159,slow=11,SNR=4.1						
SONM	**Songino Array**	**33.21**	**313**	P	**P**	**14 00 25.2**	**+2.4**
	0.4nm,0.3s,baz=127,slow=9.6,SNR=4.7						
MK31	**Makanchi Array**	**49.25**	**308**	P	**P**	**14 02 34.6**	**+0.2**
MK31				IAmb	IAmb	14 02 38.2	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**49.25**	**308**	P	**P**	**14 02 36.0**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=91,slow=8.5,SNR=8.6						
MKAR	**Makanchi Array**	**49.25**	**308**	P	**P**	**14 02 36.0**	**+1.6**
CTA	**Charters Tower**	**49.94**	**176**	P	**P**	**14 02 38.9**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=11,slow=16,SNR=1.3						
WRA	**Warramunga Arr**	**50.41**	**191**	P	**P**	**14 02 43.4**	**0.0**
	comp=Z,5.0nm,0.7s,baz=12,slow=8.0,SNR=26						
WRA				PcP	**PcP**	**14 04 01.4**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=1.5,slow=3.0,SNR=1.5						
WRA	**Warramunga Arr**	**50.41**	**191**	P	**P**	**14 02 43.4**	**0.0**
FITZ	**Fitzroy Crossi**	**50.73**	**202**	P	**P**	**14 02 45.2**	**-0.5**
	comp=Z,4.1nm,1.1s,baz=345,slow=12,SNR=2.8						
FITZ	**Fitzroy Crossi**	**50.73**	**202**	P	**P**	**14 02 44.8**	**-1.0**
FITZ				IAmb	IAmb	14 02 55.5	
	comp=Z,21nm,1.7s						
KURK	**Kurchatov**	**51.52**	**313**	P	**P**	**14 02 52.8**	**+1.4**
KURBB	**Kurchatov Arra**	**51.58**	**313**	P	**P**	**14 02 52.8**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=89,slow=7.1,SNR=1.7						
AS31	**Alice Springs**	**54.13**	**190**	P	**P**	**14 03 10.9**	**-0.1**
AS31				IAmb	IAmb	14 03 12.8	
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**54.13**	**190**	P	**P**	**14 03 11.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=12,slow=9.0,SNR=25						
ILAR	**Eielson Array**	**54.76**	**30**	P	**P**	**14 03 13.9**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=263,slow=6.4,SNR=6.7						
BVAR	**Borovoye Array**	**56.44**	**316**	P	**P**	**14 03 28.1**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=57,slow=10,SNR=1.9						
CHGR	**Chuyangaron**	**60.14**	**300**	P	**P**	**14 03 54.5**	**+1.0**
AKTO	**Aktyubinsk**	**64.48**	**315**	P	**P**	**14 04 25.6**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=134,slow=9.7,SNR=2.2						
FINES	**FINESS Array B**	**75.65**	**334**	P	**P**	**14 05 33.0**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=60,slow=5.5,SNR=2.2						
NVAR	**Mina Array Bea**	**78.09**	**53**	P	**P**	**14 05 45.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=297,slow=5.6,SNR=4.8						
PDAR	**Pinedale Array**	**81.57**	**45**	P	**P**	**14 06 04.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=134,slow=2.6,SNR=1.4						
TXAR	**Lajitas Array**	**93.21**	**53**	P	**P**	**14 07 01.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=321,slow=1.6,SNR=4.7						
LPAZ	**La Paz**	**148.32**	**71**	PKPbc	**PKiKP**	**14 13 34.8**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=331,slow=3.5,SNR=3.9						

IDC 02 14:06:50.5±2.4, 3.°76S×137.°00E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/29, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=87.7km s-min=27.8km az=81.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.29**	**189**	Pn	Pn	14 10 42.1	+1.3
	0.1nm,0.3s,baz=11,slow=12,SNR=5.4						
WRA				Sn	Sn	14 13 25.3	-17
	0.1nm,0.3s,baz=17,slow=24,SNR=1.8						
FITZ	**Fitzroy Crossi**	**18.08**	**217**	P	Pn	14 11 03.4	+0.1
	0.1nm,0.3s,baz=9.7,slow=12,SNR=1.1						
ASAR	**Alice Springs**	**20.01**	**188**	P	P	14 11 24.0	-1.1
	0.2nm,0.3s,baz=13,slow=11,SNR=9.6						
STKA	**Stephens Creek**	**28.30**	**172**	P	P	14 12 46.2	+0.3
	2.2nm,1.0s,baz=338,slow=11,SNR=1.8						
MKAR	**Makanchi Array**	**69.59**	**323**	P	P	14 18 01.6	0.0
	0.5nm,0.8s,baz=113,slow=6.5,SNR=4.8						

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*IDC **02** 14:09:57.0±4.5, 4.°85S×154.°36E, h296km±43km, mb3.2/5, mb1 3.4/6, mb1mx3.0/33, mbtmp3.9/6, Error ellipse: s-maj=41.2km s-min=19.9km az=1.0*
ISC 02 14:09:57.1±1.4, 4.°9S±0.°2×154.°4E±0.°2, h300km, n6, σ1°23/7, mb3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.45**	**237**	P	**Pn**	**14 11 55.8**	**-0.5**
	1.2nm,0.3s,baz=60,slow=14,SNR=2.0						
PMG				S	**S**	**14 13 33.7**	**+0.6**
	0.5nm,0.3s,baz=33,slow=18,SNR=1.5						
WRA	**Warramunga Arr**	**24.59**	**231**	P	**P**	**14 14 52.0**	**+1.1**
	3.1nm,0.6s,baz=56,slow=10.0,SNR=32						
MSVF	**Nonsavu**	**26.48**	**121**	P	**P**	**14 15 08.2**	**+0.4**
	2.8nm,0.3s,baz=29,slow=13,SNR=8.4						
ASAR	**Alice Springs**	**27.18**	**225**	P	**P**	**14 15 12.2**	**-1.7**
	0.2nm,0.5s,baz=60,slow=8.7,SNR=6.8						
FITZ	**Fitzroy Crossi**	**31.00**	**243**	P	**P**	**14 15 48.6**	**+1.0**
	1.2nm,0.7s,baz=49,slow=11,SNR=1.4						
MKAR	**Makanchi Array**	**81.39**	**319**	P	**P**	**14 21 40.8**	**-0.1**
	0.3nm,0.5s,baz=91,slow=3.6,SNR=3.8						

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*IDC **02** 14:33:58.1±1.9, 8.°38S×108.°93E, h90km±23km, mb3.5/5, mb1 3.6/7, mb1mx3.3/36, mbtmp3.8/7, MS2.3/1, Ms1 2.3/1, ms1mx2.2/47, Error ellipse: s-maj=116.6km s-min=15.5km az=49.0*
ISC 02 14:33:58.6±1.9, 8.°4S±0.°7×108.°9E±0.°7, h100km, n7, σ0°90/8, mb3.7/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**2.00**	**320**	P	**Pn**	**14 34 30.8**	**-0.5**
	17nm,0.3s,baz=106,slow=21,SNR=12						
LEM				S	**Sn**	**14 34 56.1**	**-0.1**
	18nm,0.3s,baz=344,slow=22,SNR=9.6						
LEM				LR	LR	14 35 41.2	
	comp=Z,72nm,19.1s,baz=86,slow=51						
FITZ	**Fitzroy Crossi**	**18.92**	**122**	P	**P**	**14 38 10.1**	**-1.6**
	0.1nm,0.3s,baz=308,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**27.16**	**118**	P	**P**	**14 39 33.2**	**+0.3**
	1.7nm,0.9s,baz=289,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**28.36**	**125**	P	**P**	**14 39 43.7**	**+0.2**
	0.5nm,0.7s,baz=300,slow=8.4,SNR=5.9						
STKA	**Stephens Creek**	**38.33**	**132**	P	**P**	**14 41 10.6**	**+0.7**
	3.7nm,0.8s,baz=299,slow=8.6,SNR=7.8						
MKAR	**Makanchi Array**	**59.81**	**339**	P	**P**	**14 43 54.1**	**+0.6**
	0.3nm,0.5s,baz=136,slow=8.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**65.33**	**345**	P	**P**	**14 44 30.3**	**+0.4**
	0.5nm,0.3s,baz=158,slow=6.2,SNR=2.9						

IDC 02 14:42:23.8±6.1, 4.°71N×96.°32E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/57, Error ellipse: s-maj=323.0km s-min=28.8km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.65**	**346**	P	P	14 50 30.1	-0.2
	0.2nm,0.3s,baz=165,slow=8.8,SNR=5.4						
WRA	**Warramunga Arr**	**44.68**	**125**	P	P	14 50 38.5	-0.3
	0.4nm,0.4s,baz=304,slow=9.3,SNR=2.4						
ASAR	**Alice Springs**	**46.24**	**129**	P	P	14 50 51.2	0.0
	0.6nm,0.4s,baz=300,slow=7.6,SNR=33						
TLY	**Talaya**	**47.21**	**6**	LR	LR	15 12 40.5	
	comp=Z,64nm,19.5s,baz=163,slow=38						

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*NOU **02** 14:47:24.7, 31.°28S×174.°95W, h10km, mb4.8, Kermadec Islands Region*
*IDC **02** 14:47:40.7±0.9, 31.°14S×177.°53W, h0km, mb4.3/8, mb1 4.5/11, mb1mx4.2/45, mbtmp4.3/11, ML3.8/3, Error ellipse: s-maj=24.8km s-min=18.7km az=120.0*
*NEIC **02** 14:47:43.4±2.8, 31.°14S±0.°07×177.°8W±0.°2, h10km±1km, mb4.7/16, Error ellipse: s-maj=23.8km s-min=11.6km az=101.0*
ISC 02 14:47:46.8±0.7, 31.°16S±0.°06×177.°8W±0.°1, h46km, n48, σ1°87/47, mb4.5/15, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.90**	**357**	Pn	**Pn**	**14 48 13.1**	**-3.6**
	92nm,0.3s,baz=90,slow=21,SNR=2.1						
RAO				Sn	**Sn**	**14 48 40.6**	**+1.2**
	220nm,0.3s,baz=329,slow=22,SNR=7.3						
RAO	**Raoul Island**	**1.90**	**357**	Pn		**14 48 14.6**	**-2.1**
URZ	**Urewera**	**8.23**	**209**	Pn	**Pn**	**14 49 41.0**	**-2.4**
	1.0nm,0.3s,baz=54,slow=3.6,SNR=9.8						
URZ				Sn	**Sn**	**14 51 12.1**	**-2.9**
	3.1nm,0.3s,baz=38,slow=9.6,SNR=4.6						
URZ	**Urewera**	**8.23**	**209**		**Pn**	**14 49 41.2**	**-2.3**
BHW	**Baring Head**	**11.81**	**208**	Pn	**Pn**	**14 50 29.3**	**-3.1**
LTZ	**Lake Taylor**	**14.04**	**212**	Pn	**Pn**	**14 50 58.3**	**-4.6**
MARNC	**Mare, Loyalty**	**15.92**	**304**	Pn	**Pn**	**14 51 26.5**	**-1.2**
DZM	**Mont Dzumac**	**16.72**	**299**	Pn	**P**	**14 51 39.3**	**-0.4**
	0.1nm,0.3s,baz=124,slow=18,SNR=1.2						
DZM	**Mont Dzumac**	**16.72**	**299**	Pn	**Pn**	**14 51 36.7**	**-1.2**
AFI	**Afiamalu**	**18.04**	**19**	P	**Pn**	**14 51 51.0**	**-3.1**
	1.5nm,0.3s,baz=216,slow=19,SNR=1.9						
AFI	**Afiamalu**	**18.04**	**19**		**Pn**	**14 51 51.2**	**-3.0**
EIDS	**Eidsvold**	**27.95**	**274**	P	**P**	**14 53 32.5**	**-0.4**
EIDS				IAmb	IAmb	14 53 36.9	
	comp=Z,11nm,1.2s						
TOO	**Toolangi**	**30.82**	**248**	P	**P**	**14 53 58.0**	**-0.4**
TOO				IAmb	IAmb	14 54 08.7	
	comp=Z,12nm,1.2s						
CTA	**Charters Tower**	**34.09**	**280**	P	**P**	**14 54 30.2**	**+3.1**
	comp=Z,6.4nm,0.5s,baz=105,slow=11,SNR=16						
CTAO	**Charters Tower**	**34.09**	**280**	P	**P**	**14 54 28.7**	**+1.7**
STKA	**Stephens Creek**	**34.48**	**258**	P	**P**	**14 54 32.5**	**+2.2**
	comp=Z,3.9nm,0.6s,baz=107,slow=16,SNR=6.4						
STKA	**Stephens Creek**	**34.48**	**258**	P	**P**	**14 54 32.4**	**+2.1**
BBOO	**Buckleboo**	**38.93**	**255**	P	**P**	**14 55 08.5**	**+0.3**
BBOO				IAmb	IAmb	14 55 16.4	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**43.24**	**268**	P	**P**	**14 55 45.6**	**+1.8**
ASAR	**Alice Springs**	**43.24**	**268**	P	**P**	**14 55 45.7**	**+1.9**
	comp=Z,4.9nm,0.6s,baz=105,slow=7.3,SNR=151						
ASAR	**Alice Springs**	**43.24**	**268**	P	**P**	**14 55 45.2**	**+1.4**
WR0	**Warramunga Arr**	**44.12**	**273**	P	**P**	**14 55 52.2**	**+1.4**
WR0				IAmb	IAmb	14 56 06.2	
	comp=Z,5.7nm,0.7s						
WB2	**Warramunga Arr**	**44.28**	**273**	P	**P**	**14 55 53.7**	**+1.5**
WB2				IAmb	IAmb	14 56 07.5	
	comp=Z,8.3nm,0.6s						
WRA	**Warramunga Arr**	**44.29**	**273**	P	**P**	**14 55 54.2**	**+1.9**
	comp=Z,3.4nm,0.4s,baz=112,slow=7.9,SNR=89						
WRA	**Warramunga Arr**	**44.29**	**273**	P	**P**	**14 55 53.0**	**+0.7**
WB0	**Warramunga Arr**	**44.32**	**273**	P	**P**	**14 55 52.0**	**-0.5**
WB0				IAmb	IAmb	14 56 10.0	
	comp=Z,14nm,0.9s						
FORT	**Forrest**	**46.02**	**256**	P	**P**	**14 56 06.4**	**+0.6**
KNRA	**Kununurra**	**50.93**	**275**	P	**P**	**14 56 45.2**	**+1.5**
KNRA				IAmb	IAmb	14 56 53.6	
	comp=Z,19nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.53**	**270**	P	**P**	**14 56 57.4**	**+1.7**
	comp=Z,2.5nm,0.7s,baz=114,slow=8.4,SNR=6.5						
FITZ	**Fitzroy Crossi**	**52.53**	**270**	P	**P**	**14 56 57.3**	**+1.7**
FITZ				IAmb	IAmb	14 57 11.7	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**58.95**	**180**	P	**P**	**14 57 43.6**	**+2.3**
MAW	**Mawson**	**71.66**	**201**	P	**P**	**14 59 04.3**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=126,slow=8.7,SNR=2.5						
H03S2	**Juan Fernandez**	**79.91**	**123**	T	T	16 29 05.6	
	baz=237,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**79.92**	**123**	T	T	16 29 16.2	
	baz=237,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**79.93**	**123**	T	T	16 29 07.4	
	baz=237,slow=74,SNR=12						
PETK	**Petropavlovsk-**	**86.58**	**346**	P	**P**	**15 00 25.6**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=168,slow=10,SNR=2.3						
NVAR	**Mina Array Bea**	**88.68**	**43**	P	**P**	**15 00 36.3**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=236,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**118.38**	**310**	PKP	**PKiKP**	**15 06 29.3**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=83,slow=2.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**121.73**	**313**	PKP	**PKiKP**	**15 06 35.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=114,slow=2.0,SNR=7.8						
ARCES	**ARCESS Array B**	**139.36**	**348**	PKP	**PKiKP**	**15 07 08.9**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=1.7,slow=3.1,SNR=5.3						
FINES	**FINESS Array B**	**145.91**	**340**	PKPbc	**PKPab**	**15 07 21.2**	**+0.2**
	comp=Z,5.3nm,0.6s,baz=66,slow=3.3,SNR=31						
FINES	**FINESS Array B**	**145.91**	**340**		**PKPab**	**15 07 21.5**	**+0.5**
NB2	**NORSAR Subarra**	**149.52**	**351**	PKP	**PKiKP**	**15 07 31.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**149.52**	**351**	PKPbc	**PKiKP**	**15 07 30.9**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=14,slow=4.1,SNR=4.2						
EIL	**Elat**	**151.76**	**276**	PKPbc	**PKiKP**	**15 07 38.1**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=135,slow=4.3,SNR=2.3						
MMAI	**Mount Meron Ar**	**151.86**	**283**	PKPbc	**PKiKP**	**15 07 38.1**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=75,slow=6.5,SNR=4.4						
AKASG	**Malin Array Be**	**152.00**	**322**	PKPbc	**PKiKP**	**15 07 37.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=44,slow=2.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**162.07**	**178**	PKPab	**PKPab**	**15 08 31.1**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=169,slow=1.5,SNR=3.1						

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*IDC **02** 14:48:50.5±1.0, 32.°47S×177.°89W, h0km, mb4.3/6, mb1 4.4/8, mb1mx4.1/44, mbtmp4.3/8, ML3.9/1, Error ellipse: s-maj=30.7km s-min=26.6km az=144.0*
*NEIC **02** 14:48:58.8±1.5, 32.°47S±0.°10×178.°4W±0.°2, h39km±13km, mb4.7/11, Error ellipse: s-maj=27.8km s-min=13.3km az=80.0*
ISC 02 14:48:53.9±0.8, 32.°40S±0.°09×178.°1W±0.°1, h20km, n32, σ1°11/33, mb4.7/11, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.04**	**213**	Pn	**Pn**	**14 50 33.3**	**-2.6**
	2.0nm,0.3s,baz=310,slow=7.2,SNR=3.2						
URZ				Sn	**Sn**	**14 51 56.0**	**+0.7**
	14nm,0.3s,baz=352,slow=24,SNR=12						
URZ	**Urewera**	**7.04**	**213**	Pn	**Pn**	**14 50 36.1**	**+0.2**
RPZ	**Rata Peaks**	**14.15**	**214**	Pn	**Pn**	**14 52 11.3**	**-2.0**
MARNC	**Mare, Loyalty**	**16.46**	**308**	Pn	**Pn**	**14 52 42.0**	**-1.8**
DZM	**Mont Dzumac**	**17.16**	**303**	P	**P**	**14 52 55.2**	**+1.0**
	baz=331,slow=20,SNR=2.0						
DZM	**Mont Dzumac**	**17.16**	**303**		**Pn**	**14 52 52.8**	**+0.1**
DZM				IAmb	IAmb	14 53 00.5	
	comp=Z,22nm,1.2s						
CTA	**Charters Tower**	**34.10**	**282**	P	**P**	**14 55 39.2**	**+1.8**
	comp=Z,6.3nm,0.9s,baz=78,slow=9.3,SNR=2.8						
BBOO	**Buckleboo**	**38.40**	**257**	P	**P**	**14 56 12.6**	**-1.4**
BBOO				IAmb	IAmb

JKRS *e*S Sg 14 55 57.4 +1.4

IDC ***02*** *14:55:59.9±1.6, 3.′91S×151.′95E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/51, mbtmp4.0/9, Error ellipse: s-maj=55.7km s-min=20.2km az=119.0*

ISC 02 14:56:00.9±3.2, 4.′4S±0.′4×153.′0E±0.′7, h35km, n16, σ1§10/7, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**228**	P	**P**	**15 01 09.7**	**-1.3**
	2.3nm,1.0s,baz=50,slow=10,SNR=6.5						
H11S3	**WAKE ISLAND Hy**	**26.45**	**30**	T	T	15 29 16.3	
	baz=218,slow=74,SNR=45						
H11S2	**WAKE ISLAND Hy**	**26.45**	**30**	T	T	15 29 17.0	
	baz=218,slow=74,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**26.46**	**30**	T	T	15 29 17.6	
	baz=218,slow=74,SNR=14						
ASAR	**Alice Springs**	**26.57**	**222**	P	**P**	**15 01 37.1**	**+1.3**
	2.0nm,0.9s,baz=57,slow=8.0,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**27.58**	**29**	T	T	15 30 45.2	
	baz=218,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**27.59**	**29**	T	T	15 30 41.0	
	baz=218,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**27.60**	**29**	T	T	15 30 40.9	
	baz=218,slow=76,SNR=50						
FITZ	**Fitzroy Crossi**	**30.00**	**241**	P	**P**	**15 02 06.8**	**+0.4**
	2.5nm,0.9s,baz=86,slow=13,SNR=1.6						
PETK	**Petropavlovsk-**	**57.40**	**3**	P	**P**	**15 05 46.1**	**+0.4**
	2.2nm,0.7s,baz=182,slow=7.0,SNR=8.0						
CMAR	**Chiang Mai Arr**	**57.83**	**295**	P	P	15 05 46.1	-3.3
	1.6nm,0.8s,baz=111,slow=5.3,SNR=7.9						
SONM	**Songino Array**	**66.04**	**328**	P	P	15 06 42.8	-1.5
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**	**15 08 07.3**	**0.0**
	0.8nm,0.9s,baz=121,slow=6.1,SNR=5.2						
ILAR	**Eielson Array**	**81.70**	**22**	P	P	15 08 21.3	+5.9
	0.8nm,0.7s,baz=248,slow=5.2,SNR=8.8						
NRIK	**Noril'sk**	**85.60**	**341**	P	**P**	**15 08 35.2**	**-0.1**
	3.1nm,0.9s,baz=161,slow=5.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.31**	**289**	PKPbc	**PKiKP**	**15 15 49.2**	**-1.1**
	0.3nm,0.4s,baz=54,slow=1.9,SNR=2.3						

TAP 02 14:56:35.9, 24.′79N×122.′01E, h10km±1km, ML1.8, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.18**	**291**	*e*P	Pg	14 56 40.8	+1.2
	baz=291						
NTC				*e*S	Sg	14 56 44.1	+1.9
	baz=291						
TWB1	**Santiao Chiao**	**0.22**	**355**	P	Pg	14 56 41.3	+0.9
	baz=357						
TWB1				S	Sg	14 56 44.8	+1.4
	baz=357						
TWC	**Suao**	**0.23**	**219**	P	Pg	14 56 41.5	+0.9
	baz=216						
TWC				*e*S	Sg	14 56 45.0	+1.2
	baz=216						
TIPB	**Shuangxi**	**0.25**	**317**	P	Pg	14 56 42.0	+1.1
	baz=317						
TIPB				S	Sg	14 56 46.2	+1.9
	baz=317						
NDS	**Dongshan**	**0.31**	**240**	*e*P	Pb	14 56 43.0	-0.6
	baz=239						
NDS				*e*S	Sb	14 56 47.5	-1.2
	baz=239						
TWE	**Neicheng**	**0.32**	**257**	*e*P	Pg	14 56 42.9	+0.7
	baz=256						
TWE				*e*S	Sb	14 56 47.8	-1.2
	baz=256						
NWF	**Wu-fen Shan**	**0.35**	**323**	*e*S	Sb	14 56 49.6	-0.3
	baz=323						
WFSB	**Wu-fen Shan**	**0.35**	**323**	*e*S	Sb	14 56 49.7	-0.1
	baz=323						
ENTT	**Nioudou**	**0.43**	**250**	*e*P	Pb	14 56 45.6	0.0
	baz=249						
ENTT				*e*S	Sb	14 56 52.6	+0.4
	baz=249						
NWLT	**Wulai**	**0.46**	**268**	P	Pb	14 56 46.0	-0.2
	baz=268						
NWLT				*e*S	Sb	14 56 52.3	-0.8
	baz=268						
NDT	**Datong Townshi**	**0.49**	**248**	*e*P	Pb	14 56 47.2	+0.6
	baz=247						
NDT				*e*S	Sb	14 56 54.9	+1.0
	baz=247						
YM01	**YM01**	**0.53**	**312**	*e*P	Pb	14 56 46.9	-0.4
	baz=311						
YM01				*e*S	Sb	14 56 54.9	-0.2
	baz=311						
YM08	**YM08**	**0.55**	**316**	*e*P	Pb	14 56 47.2	-0.4
	baz=316						
YM08				*e*S	Sb	14 56 55.0	-0.6
	baz=316						
BACT	**New Taipei Cit**	**0.56**	**292**	*e*P	Pg	14 56 46.9	+0.3
	baz=291						
BACT				*e*S	Sb	14 56 55.6	-0.1
	baz=291						
YHNB	**Yeheng**	**0.59**	**258**	*e*P	Pb	14 56 48.0	-0.3
	baz=258						
YHNB				*e*S	Sb	14 56 56.3	-0.5
	baz=258						
NACB	**Ninganchiao**	**0.72**	**212**	*e*P	Pg	14 56 50.0	+0.2
	baz=211						
NACB				*e*S	Sb	14 57 01.2	+0.7
	baz=211						
ETLH	**Xiulin Townshi**	**0.76**	**220**	*e*P	Pb	14 56 51.1	-0.1
	baz=219						
WHF	**Hehuan Shan**	**0.94**	**227**	*e*P	Pb	14 56 54.4	0.0
	baz=226						
YOJ	**Yonaguni jima**	**0.97**	**110**	*e*P	Pb	14 56 54.9	+0.1
	baz=109						
CHGB	**Renai**	**1.05**	**226**	*e*P	Pg	14 56 56.0	-0.2
	baz=226						
CHGB				*e*S	Sb	14 57 10.9	+0.5
	baz=226						
WHP	**Taichung City**	**1.10**	**242**	*e*P	Pg	14 56 56.9	0.0
	baz=242						
OWD	**Renai**	**1.13**	**223**	*e*P	Pb	14 56 57.6	0.0
	baz=222						
SSLB	**Suanglung**	**1.39**	**224**	*e*P	Pn	14 57 01.6	+0.3
	baz=223						
SSLB				*e*S	Sb	14 57 19.7	-0.1
	baz=223						
HGSD	**Ruisui**	**1.40**	**203**	*e*P	Pn	14 57 01.2	-0.3
	baz=202						

BJI ***02*** *15:01:07.2±0.0, 5.′77S×147.′70E, h88km, mB5.2/51, mb4.9/65, Ms4.7/50, Ms7 4.4/48*

MOS ***02*** *15:01:07.2±1.1, 5.′84S×147.′27E, h77km, mb5.4/33, Error ellipse: s-maj=9.4km s-min=5.3km az=100.0*

IDC ***02*** *15:01:10.1±0.4, 5.′88S×147.′38E, h92km±3km, mb4.6/39, mb1 4.7/43, mb1mx4.6/54, mbtmp5.0/43, MS4.3/19, Ms1 4.3/19, ms1mx4.1/32, Error ellipse: s-maj=10.4km s-min=5.9km az=98.0*

NEIC ***02*** *15:01:10.7±2.1, 5.′92S±0.′06×147.′32E±0.′07, h87km±4km, mb5.2/184, Error ellipse: s-maj=10.5km s-min=8.2km az=97.0*

DJA ***02*** *15:01:10.5±0.4, 6.′5S±3.′×14.′7E±.′, h80km±4km, M5.2/49, mB5.6/28, mb5.4/49, MLv5.7/4, Mw(mB)5.1/28*

GCMT ***02*** *15:01:11.7±0.1, 6.′06S±0.′01×147.′41E±0.′01, h94km, MW5.4/139, Moment Tensor Solution. s121,c195; s139,c274; Duration: 1§2 Moment tensor: Scale 10^17 Nm; M_{rr}1.17±.02; $M_{\theta\theta}$-1.41±.02; $M_{\phi\phi}$0.24±.02; $M_{r\theta}$0.66±.01; $M_{\theta\phi}$-0.07±.02; $M_{\phi r}$-0.37±.01; Best double couple: $M_0$1.50800×10^17 NP1:ϕ_s249.00000°, δ34.00000°, λ60.00000°. NP2:ϕ_s104.00000°, δ61.00000°, λ109.00000°. Principal axes: T 1.4460, Plg68.0000°, Azm53.0000°; N 0.1260, Plg16.0000°, Azm275.0000°; P -1.5710, Plg14.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 15:01:10.1±0.3, 5.′95S±0.′03×147.′36E±0.′04, h90km±2km, h90km:pP-P, n669, σ1§72/691, mb5.1/176, 15C-16D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**183**	P	**Pn**	**15 02 00.6**	**-1.0**
	143nm,0.3s,baz=357,slow=14,SNR=372						
PMG				S	**Sn**	**15 02 45.4**	**+4.0**
	388nm,0.3s,baz=36,slow=23,SNR=12						
PMG	**Port Moresby**	**3.44**	**183**		**Pn**	**15 02 00.2**	**-1.4**
PMG	**Port Moresby**	**3.44**	**183**	P	**Pn**	**15 02 00.7**	**-0.9**
PMG	**Port Moresby**	**3.44**	**183**	P	**Pn**	**15 02 00.7**	**-0.9**
MANU	**Manus Island**	**3.88**	**0**		**Pn**	**15 02 08.4**	**+0.9**
RABL	**Rabaul**	**5.09**	**70**		**Pn**	**15 02 24.4**	**+0.4**
RABL	**Rabaul**	**5.09**	**70**	P	**Pn**	**15 02 25.0**	**+1.0**
GENI	**Genyem**	**7.91**	**295**	P	**Pn**	**15 03 03.5**	**+1.1**
	5.6nm7μm282nm,0.8s						
SRPI	**Serui, Papua**	**11.81**	**290**	P	**Pn**	**15 03 55.2**	**-0.3**
	4μm247nm,0.5s						
MTSU	**Mount Surprise**	**12.47**	**194**	P	**Pn**	**15 04 04.6**	**+0.2**
	baz=13,SNR=120						
HNR	**Honiara**	**12.94**	**106**	P	**Pn**	**15 04 10.6**	**-0.1**
	4.3nm,0.3s,baz=234,slow=6.6,SNR=6.1						
HNR	**Honiara**	**12.94**	**106**	Pn	**Pn**	**15 04 10.1**	**-0.5**
CTA	**Charters Tower**	**14.10**	**184**	P	**Pn**	**15 04 25.7**	**-0.1**
	3.5nm,0.3s,baz=359,slow=15,SNR=35						
CTA				S	**Sn**	**15 07 00.1**	**-0.9**
	0.6nm,0.3s,baz=101,slow=16,SNR=1.8						
CTA				LR	LR	15 09 39.9	
	comp=Z,1μm,20.1s,baz=355,slow=36						
CTAO	**Charters Tower**	**14.10**	**184**	P	**Pn**	**15 04 25.9**	**+0.1**
CTAO	**Charters Tower**	**14.10**	**184**	Pn	**Pn**	**15 04 25.9**	**+0.1**
FAKI	**Fak Fak**	**15.36**	**281**	P	**Pn**	**15 04 43.2**	**+1.2**
SAUI	**Saumlaki**	**16.07**	**262**	P	**P**	**15 04 53.2**	**+0.7**
KDU	**Kakadu**	**16.14**	**244**	P	**Pn**	**15 04 51.6**	**-0.1**
	baz=16,SNR=87						
QIS	**Mount Isa**	**16.36**	**207**	P	**Pn**	**15 04 53.4**	**-1.0**
	baz=16,SNR=96						
PATS	**Pohnpei**	**16.75**	**41**	P	**P**	**15 05 00.1**	**0.0**
SIJI	**Sorong**	**16.84**	**287**	P	**P**	**15 05 00.9**	**-0.1**
	0.6nm,0.3s,baz=81,slow=9.3,SNR=4.6						
SWI	**Sorong**	**16.84**	**287**	P	**P**	**15 05 01.0**	**-0.1**
	2μm129nm,0.7s						
MTN	**Manton Dam**	**17.41**	**246**	P	**P**	**15 05 07.0**	**-0.3**
	baz=17,SNR=4.5						
MTN	**Manton Dam**	**17.41**	**246**	P	**P**	**15 05 07.4**	**+0.1**
MTN				IAmb	IAmb	15 05 27.6	
	comp=Z,64nm,0.6s						
BNDI	**Bandanaira**	**17.44**	**274**	P	**Pn**	**15 05 08.1**	**+0.3**
	comp=Z,6μmcomp=Z,322nm,1.0s						
MSAI	**Masohi**	**18.55**	**277**	P	**Pn**	**15 05 21.1**	**-0.1**
	comp=Z,12nm,0.5s						
WB0	**Warramunga Arr**	**18.65**	**221**	P	**P**	**15 05 20.7**	**-0.3**
WR0	**Warramunga Arr**	**18.69**	**221**	P	**P**	**15 05 21.3**	**-0.1**
WR0				IAmb	IAmb	15 05 25.8	
	comp=Z,117nm,0.7s						
WRAB	**Tennant Creek**	**18.80**	**221**	*d i*P	**P**	**15 05 22.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,155nm,0.6s						
WRAB	**Tennant Creek**	**18.80**	**221**	P	**P**	**15 05 22.3**	**-0.2**
WB2	**Warramunga Arr**	**18.80**	**221**	P	**P**	**15 05 22.5**	**-0.1**
WRA	**Warramunga Arr**	**18.81**	**221**	P	**P**	**15 05 22.5**	**-0.2**
	comp=Z,25nm,0.3s,baz=41,slow=12,SNR=619						
WRA				S	**S**	**15 08 49.3**	**-2.7**
	baz=41,slow=20,SNR=5.1						
WRA				PcP	**PcP**	**15 09 46.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=19,slow=1.6,SNR=3.5						
WRA				ScP	**ScP**	**15 13 14.3**	**+0.1**
	baz=34,slow=2.0,SNR=3.4						
WRA				LR	LR	15 13 58.6	
	comp=Z,2μm,18.8s,baz=35,slow=41						
WRA	**Warramunga Arr**	**18.81**	**221**	P	**P**	**15 05 22.4**	**-0.2**
EIDS	**Eidsvold**	**19.64**	**170**	P	**Pn**	**15 05 33.0**	**-0.9**
	baz=20,SNR=47						
EIDS	**Eidsvold**	**19.64**	**170**		**P**	**15 05 32.6**	**+1.0**
EIDS				IAmb	IAmb	15 05 33.6	
	comp=Z,126nm,0.9s						
NLAI	**Namlea**	**20.37**	**277**	P	Pn	15 05 51.0	+8.4
RMQ	**Roma**	**20.47**	**176**	P	Pn	15 05 42.2	-1.4
	baz=21,SNR=138						
KNRA	**Kununurra**	**20.65**	**241**	P	**P**	**15 05 42.8**	**0.0**
	baz=21,SNR=25						
KNRA	**Kununurra**	**20.65**	**241**	P	**P**	**15 05 42.7**	**0.0**
KNRA				IAmb	IAmb	15 06 05.8	
	comp=Z,89nm,0.8s						
QLP	**Quilpie**	**20.74**	**188**	P	**P**	**15 05 44.5**	**+1.0**
	baz=21,SNR=120						
SANVU	**Saraoutou**	**21.64**	**117**	P	**P**	**15 05 54.2**	**+0.9**
AS31	**Alice Springs**	**21.86**	**215**	P	**P**	**15 05 55.9**	**+0.2**
AS31				IAmb	IAmb	15 05 58.3	
	comp=Z,79nm,0.6s						
ASAR	**Alice Springs**	**21.87**	**215**	P	**P**	**15 05 56.0**	**+0.3**
	comp=Z,124nm,0.5s,baz=46,slow=9.1,SNR=822						
ASAR				S	**S**	**15 09 53.4**	**+1.1**
	comp=Z,21nm,0.8s,baz=30,slow=24,SNR=6.5						
ASAR				ScP	**ScP**	**15 13 21.7**	**+0.2**
	comp=Z,9.2nm,1.2s,baz=23,slow=2.4,SNR=5.1						
ASAR				LR	LR	15 15 18.8	
	comp=Z,1μm,18.3s,baz=35,slow=39						
ASAR	**Alice Springs**	**21.87**	**215**	P	**P**	**15 05 55.8**	**+0.2**
SOEI	**Soe**	**23.18**	**259**	P	**P**	**15 06 10.1**	**+0.6**
SOEI				IAmb	IAmb	15 06 24.6	
	comp=Z,78nm,0.7s						
SOEI	**Soe**	**23.18**	**259**	P	**P**	**15 06 11.9**	**+2.5**
	comp=Z,133nm,1.2s						
BATI	**Baumata**	**23.84**	**258**	P	**P**	**15 06 16.9**	**+1.7**
	comp=Z,99nm,0.4s,baz=112,slow=11,SNR=30						
BATI	**Baumata**	**23.84**	**258**	P	**P**	**15 06 17.5**	**+2.3**
	comp=Z,2μmcomp=Z,114nm,1.0s						
LIFNC	**LIFOU**	**24.27**	**129**	P	**P**	**15 06 19.3**	**+0.3**
LIFNC	**LIFOU**	**24.27**	**129**	P	**P**	**15 06 21.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**24.40**	**238**	P	**P**	**15 06 21.6**	**+1.4**
	comp=Z,149nm,0.6s,baz=55,slow=8.7,SNR=395						
FITZ				S	**S**	**15 10 33.9**	**+0.1**
	comp=Z,34nm,1.0s,baz=85,slow=23,SNR=6.6						
FITZ	**Fitzroy Crossi**	**24.40**	**238**	P	**P**	**15 06 20.6**	**+0.4**
	baz=24,SNR=479						
FITZ	**Fitzroy Crossi**	**24.40**	**238**	P	**P**	**15 06 20.8**	**+0.6**
DZM	**Mont Dzumac**	**24.44**	**133**	P	**P**	**15 06 20.8**	**+0.1**
	comp=Z,16nm,0.8s,baz=246,slow=9.3,SNR=7.9						
DZM	**Mont Dzumac**	**24.44**	**133**	*e*P	**P**	**15 06 20.2**	**-0.4**
	comp=Z,72nm,1.0s						
DZM				*e*LR	LR	15 12 25.7	
	comp=Z,3μm,32.7s						
DZM	**Mont Dzumac**	**24.44**	**133**	P	**P**	**15 06 20.3**	**-0.3**
DZM	**Mont Dzumac**	**24.44**	**133**	P	**P**	**15 06 20.7**	**+0.1**
ONTNC	**Ouen Toro**	**24.59**	**133**	P	**P**	**15 06 21.2**	**-0.7**
ARMA	**Armidale**	**24.67**	**171**	P	**P**	**15 06 23.5**	**+0.8**
	baz=25,SNR=77						
ARMA	**Armidale**	**24.67**	**171**	P	**P**	**15 06 22.8**	**+0.1**
ARMA				IAmb	IAmb	15 06 25.6	
	comp=Z,60nm,0.7s						
OUENC	**Ouen Island, N**	**24.94**	**133**	P	**P**	**15 06 29.2**	**+4.1**
MMRI	**Maumere**	**25.06**	**262**	P	**P**	**15 06 26.6**	**+0.3**
MMRI	**Maumere**	**25.06**	**262**	P	**P**	**15 06 27.1**	**+0.8**
	comp=Z,2μmcomp=Z,162nm,0.6s						
GTOI	**Gorontalo**	**25.18**	**284**	P	**P**	**15 06 31.3**	**+3.9**
	comp=Z,948nmcomp=Z,82nm,0.6s						
MARNC	**Mare, Loyalty**	**25.27**	**130**	P	**P**	**15 06 28.0**	**-0.1**
CMSA	**Cobar Meteorol**	**25.51**	**183**	P	**P**	**15 06 30.7**	**+0.5**
	baz=26,SNR=86						
EDFI	**Ende, Flores**	**25.61**	**262**	P	**P**	**15 06 30.8**	**-0.6**
	comp=Z,472nmcomp=Z,45nm,1.1s						
WRKA	**Warakurna**	**26.35**	**222**	P	**P**	**15 06 38.2**	**+0.3**
	baz=26,SNR=172						
STKA	**Stephens Creek**	**26.36**	**191**	P	**P**	**15 06 38.0**	**+0.1**
	comp=Z,41nm,0.7s,baz=356,slow=8.4,SNR=48						
STKA				LR	LR	15 17 07.9	
	comp=Z,1μm,21.8s,baz=12,slow=36						
STKA	**Stephens Creek**	**26.36**	**191**	P	**P**	**15 06 37.9**	**+0.1**
	baz=26,SNR=66						
STKA	**Stephens Creek**	**26.36**	**191**	P	**P**	**15 06 38.0**	**+0.1**
STKA	**Stephens Creek**	**26.36**	**191**	P	**P**	**15 06 37.8**	**0.0**
BKSI	**Bulukumba**	**27.11**	**270**	P	**P**	**15 06 44.4**	**-0.5**
	comp=Z,519nmcomp=Z,34nm,0.5s						
BNSI	**Bone**	**27.19**	**272**	P	**P**	**15 06 47.6**	**+2.1**
	comp=Z,36nm,1.8s						
MGCD	**Mangrove Creek**	**27.35**	**173**	P	**P**	**15 06 47.7**	**+0.9**
	baz=28,SNR=8.1						
TOLI2	**Tolitoli**	**27.45**	**284**	P	**P**	**15 06 48.4**	**+0.6**
KAPI	**Kappang**	**27.50**	**271**	P	**P**	**15 06 48.2**	**-0.1**
	comp=Z,17nm,0.6s,baz=105,slow=12,SNR=7.8						
KAPI	**Kappang**	**27.50**	**271**	P	**P**	**15 06 48.9**	**+0.6**
KAPI				pmax	pmax		
	comp=Z,55nm,1.2s						
KAPI	**Kappang**	**27.50**	**271**	P	**P**	**15 06 48.9**	**+0.6**
KAPI				IAmb	IAmb	15 06 54.0	
	comp=Z,54nm,1.2s						
TTSI	**Tana Toraja**	**27.61**	**275**	P	**P**	**15 06 51.1**	**+1.8**
	comp=Z,896nmcomp=Z,53nm,1.4s						
WBSI	**Waikabubak, Su**	**27.95**	**261**	P	**P**	**15 06 54.9**	**+2.5**
	comp=Z,1μmcomp=Z,82nm,1.6s						
HTT	**Hallett**	**28.45**	**195**	P	**P**	**15 06 57.2**	**+0.6**
	baz=29,SNR=51						
BBOO	**Buckleboo**	**28.73**	**200**	P	**P**	**15 06 59.3**	**+0.2**
	baz=29,SNR=5.9						
BBOO	**Buckleboo**	**28.73**	**200**	P	**P**	**15 06 59.3**	**+0.2**
BBOO				IAmb	IAmb	15 07 24.9	
	comp=Z,53nm,0.8s						
PLAI	**Plampang**	**29.47**	**263**	P	**P**	**15 07 05.5**	**-0.4**
	comp=Z,79nm,0.7s						
FORT	**Forrest**	**30.64**	**214**	P	**P**	**15 07 16.5**	**+0.5**
	baz=31,SNR=5.8						
FORT	**Forrest**	**30.64**	**214**	P	**P**	**15 07 16.4**	**+0.5**
PSA00	**Pilbara Seismi**	**30.82**	**237**	P	**P**	**15 07 18.6**	**+0.9**
PSA00				IAmb	IAmb	15 07 22.3	
	comp=Z,23nm,0.8s						
PSA00	**Pilbara Seismi**	**30.82**	**237**	P	**P**	**15 07 18.6**	**+0.9**
PSA00				IAmb	IAmb	15 07 41.5	
	comp=Z,13nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**30.87**	**38**	T	T	15 39 51.2	
	baz=220,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**30.88**	**38**	T	T	15 39 30.9	
	baz=220,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**30.89**	**38**	T	T	15 39 57.5	
	baz=220,slow=75,SNR=12						
ARPS	**Mount Arapiles**	**31.09**	**189**	P	**P**	**15 07 20.9**	**+1.0**
	baz=31,SNR=9.8						
TOO	**Toolangi**	**31.52**	**183**	P	**P**	**15 07 24.3**	**+0.6**
TOO				pmax	pmax		
	comp=Z,54nm,1.5s						
TOO	**Toolangi**	**31.52**	**183**	P	**P**	**15 07 24.3**	**+0.6**
TOO				IAmb	IAmb	15 07 45.6	
	comp=Z,54nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**31.93**	**37**	T	T	15 41 50.8	
	baz=218,slow=75,SNR=77						
H11N3	**WAKE ISLAND Hy**	**31.95**	**37**	T	T	15 41 51.0	
	baz=218,slow=75,SNR=13						
H11N2	**WAKE ISLAND Hy**	**31.95**	**37**	T	T	15 41 52.1	
	baz=218,slow=75,SNR=20						
MSVF	**Nonsavu**	**32.18**	**114**	P	**P**	**15 07 29.8**	**0.0**
	comp=Z,9.6nm,0.9s,baz=260,slow=12,SNR=4.3						
MSVF				LR	LR	15 18 03.4	
	comp=Z,372nm,18.8s,baz=332,slow=32						
MSVF	**Nonsavu**	**32.18**	**114**	P	**P**	**15 07 30.4**	**+0.7**
MSVF				pmax	pmax		
	comp=Z,68nm,1.5s						
MSVF	**Nonsavu**	**32.18**	**114**	P	**P**	**15 07 30.4**	**+0.7**
MSVF				IAmb	IAmb	15 07 45.9	
	comp=Z,68nm,1.5s						
BBKI	**Banjar Baru**	**32.50**	**273**	P	**P**	**15 07 33.0**	**+0.5**
	comp=Z,17nm,0.7s						
JCJ	**Chichijima**	**33.23**	**352**	P	**P**	**15 07 38.0**	**-0.7**
	comp=Z,66nm,0.4s,baz=278,slow=14,SNR=9.9						
JCJ	**Chichijima**	**33.23**	**352**	P	**P**	**15 07 38.0**	**-0.7**
MEEK	**Meekatharra**	**34.26**	**230**	P	**P**	**15 07 48.5**	**+0.8**
	baz=34,SNR=105						
PWJI	**Pagerwojo**	**35.35**	**265**	P	**P**	**15 07 57.1**	**-0.1**
	comp=Z,56nm,0.8s						
PCJI	**Pacitan**	**35.97**	**264**	P	**P**	**15 08 02.5**	**0.0**
	comp=Z,141nm,1.0s						
GIRL	**Giralia**	**36.01**	**239**	P	**P**	**15 08 05.1**	**+2.4**
SBUM	**Sibu**	**36.07**	**282**	P	**P**	**15 08 03.0**	**-0.4**
UGM	**Wanagama**	**36.61**	**265**	P	**P**	**15 08 07.7**	**-0.4**
MORW	**Morawa**	**37.48**	**228**	P	**P**	**15 08 16.4**	**+1.3**
	baz=38,SNR=17						
MORW	**Morawa**	**37.48**	**228**	P	**P**	**15 08 16.3**	**+1.2**
KLBR	**Kellerberrin**	**37.66**	**224**	P	**P**	**15 08 17.6**	**+0.9**
	baz=38,SNR=53						
BLDU	**Balliduu**	**37.83**	**226**	P	**P**	**15 08 19.2**	**+1.2**
	baz=38,SNR=32						
OUZ	**Omahuta**	**37.85**	**144**	P	**P**	**15 08 19.4**	**+1.2**
KPJI	**Karang Pucung**	**38.19**	**266**	P	**P**	**15 08 22.7**	**+1.4**
	comp=Z,72nm,0.8s						
YOJ	**Yonaguni jima**	**38.42**	**323**	P	**P**	**15 08 23.3**	**+0.2**
YOJ				pmax	pmax		
	comp=Z,107nm,1.1s						
YOJ	**Yonaguni jima**	**38.42**	**323**	P	**P**	**15 08 23.3**	**+0.2**
YULB	**Yu-li**	**38.71**	**320**	P	**P**	**15 08 24.3**	**-1.3**
YULB				IAmb	IAmb	15 08 29.4	
	comp=Z,33nm,1.3s						
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P	**P**	**15 08 27.6**	**+1.2**
	comp=Z,19nm,0.6s,baz=56,slow=8.3,SNR=18						
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P	**P**	**15 08 27.7**	**+1.4**
	baz=39,SNR=18						
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P	**P**	**15 08 27.5**	**+1.2**
NWAO				IAmb	IAmb	15 08 29.1	
	comp=Z,22nm,0.9s						
MUN	**Mundaring**	**38.95**	**224**	P	**P**	**15 08 29.3**	**+1.8**
	baz=39,SNR=18						
TPUB	**Ta-pu**	**39.08**	**319**	P	**P**	**15 08 26.6**	**-2.1**
TPUB				IAmb	IAmb	15 08 49.9	
	comp=Z,30nm,1.0s						
NACB	**Ninganchiao**	**39.08**	**321**	P	**P**	**15 08 28.3**	**-0.3**
NACB				IAmb	IAmb	15 08 32.0	
	comp=Z,43nm,1.5s						
SSLB	**Suanglung**	**39.21**	**320**	P	**P**	**15 08 28.4**	**-1.3**
CISI	**Cisompet, Garu**	**39.30**	**265**	P	**P**	**15 08 29.9**	**-0.8**
CISI	**Cisompet, Garu**	**39.30**	**265**	P	**P**	**15 08 29.7**	**-1.0**
	comp=Z,1μmcomp=Z,115nm,1.1s						
LEM	**Lembang**	**39.50**	**266**	P	**P**	**15 08 32.8**	**+0.3**
	comp=Z,70nm,0.6s,baz=48,slow=9.0,SNR=15						
JHJ	**Hachijo jima 2**	**39.51**	**350**	P	**P**	**15 08 30.8**	**-1.3**
	comp=Z,232nm,1.1s,baz=216,slow=16,SNR=2.4						
YHNB	**Yeheng**	**39.58**	**321**	P	**P**	**15 08 33.0

TUWZ	Tuamarina	42.54	150	P	P	15 08 57.5 +0.6
KASI	Kota Agung	42.65	268	P	P	15 08 56.3 -1.8
	comp=Z,80nm,1.1s					
RIGZ	Rimuhau	42.66	144	P	P	15 08 58.4 +0.5
BSWZ	Blackbirch Sta	42.73	150	P	P	15 08 58.5 +0.1
CNGZ	Carnagh Statio	42.78	144	P	P	15 09 00.3 +1.5
LTZ	Lake Taylor	42.79	153	P	P	15 08 59.8 +0.9
LTZ				IAmb	IAmb	15 09 25.1
	comp=Z,23nm,1.0s					
JHS	Saijyo	42.88	343	P	P	15 08 58.0 -1.7
JHS				IAmb	IAmb	15 09 00.1
	comp=Z,39nm,1.4s					
BHW	Baring Head	42.99	149	P	P	15 09 02.8 +2.3
RPZ	Rata Peaks	43.00	155	P	P	15 09 01.6 +1.0
RPZ				IAmb	IAmb	15 09 23.8
	comp=Z,46nm,1.1s					
MDSI	Maura Dua	43.02	270	P	P	15 09 00.7 -0.5
	comp=Z,651nmcomp=Z,50nm,1.3s					
KHZ	Kahutara	43.10	151	P	P	15 09 02.6 +1.3
KHZ				IAmb	IAmb	15 09 30.9
	comp=Z,77nm,1.4s					
LWLI	Liwa	43.11	269	P	P	15 09 02.8 +0.8
	comp=Z,80nm,0.6s					
MJAR	Matsushiro Arr	43.13	349	P	P	15 09 01.0 -0.6
	comp=Z,24nm,1.1s,baz=168,slow=8.3,SNR=25					
MJAR				pP	pP	15 09 22.1 -0.5
	comp=Z,18nm,0.6s,baz=147,slow=11,SNR=4.0					
MJAR				ScP	ScP	15 14 30.6 -2.5
	comp=Z,1.5nm,0.6s,baz=184,slow=4.0,SNR=2.9					
MJAR				LR	LR	15 25 22.1
	comp=Z,159nm,21.3s,baz=150,slow=34					
MAJO	Matsushiro	43.13	349	*c iP*	P	15 09 00.9 -0.7
MAJO				pmax	pmax	
	comp=Z,35nm,0.8s					
MAJO	Matsushiro	43.13	349	P	P	15 09 01.9 +0.2
MAJO				IAmb	IAmb	15 09 28.4
	comp=Z,40nm,0.7s					
MAT	Matsushiro	43.13	349	P	P	15 09 00.8 -0.8
MAT				S	S	15 15 21.2 -0.2
MJB9	Matsu-Tunnel	43.13	349	P	P	15 09 01.7 0.0
BFZ	Birch Farm	43.18	148	P	P	15 09 02.6 +0.5
BFZ				IAmb	IAmb	15 09 12.6
	comp=Z,45nm,1.1s					
LBZ	Lake Benmore	43.19	156	P	P	15 09 02.6 +0.5
LBZ				IAmb	IAmb	15 09 23.3
	comp=Z,43nm,1.0s					
JTU	Tsushima	43.68	338	P	P	15 09 07.1 +1.0
JTU				IAmb	IAmb	15 09 09.9
	comp=Z,44nm,1.3s					
MQZ	McQueen's Vall	43.69	153	P	P	15 09 07.4 +1.3
MQZ				IAmb	IAmb	15 09 29.0
	comp=Z,22nm,0.9s					
LHSI	Lahat	43.72	271	P	P	15 09 08.1 +1.3
	comp=Z,50nm,1.2s					
JMM	Marumori	44.02	353	P	P	15 09 09.3 +0.6
MNAI	Manna	44.25	270	P	P	15 09 10.9 -0.1
QIZ	Qiongzhong	44.52	305	P	P	15 09 14.8 +1.7
QIZ				S	S	15 15 44.9 +2.8
QIZ				pmax	pmax	
	comp=Z,12nm,1.3s					
QIZ				LR	LR	
	comp=Z,370nm,12.6s					
QIZ				LR	LR	
	comp=Z,160nm,15.7s					
QIZ				LR	LR	
	comp=Z,330nm,25.3s					
QIZ	Qiongzhong	44.52	305	P	P	15 09 11.4 -1.7
QIZ				IAmb	IAmb	15 09 13.6
	comp=Z,38nm,1.3s					
SSE	Sheshan	44.53	327	P	P	15 09 15.1 +2.2
SSE				S	S	15 15 45.8 +3.9
SSE				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SSE				pmax	pmax	
	comp=Z,110nm,3.6s					
SSE				LR	LR	
	comp=Z,170nm,17.1s					
SSE				LR	LR	
	comp=Z,180nm,18.7s					
JSD	Sado	44.57	350	P	P	15 09 13.7 +0.5
JSD				IAmb	IAmb	15 09 30.6
	comp=Z,87nm,1.4s					
RGRI	Rengat	45.28	275	P	P	15 09 25.5 +6.3
TJN	Taejon	46.09	337⇓	*eP*	P	15 09 24.9 -0.2
NJ2	Nanjing	46.54	326	⇑P	P	15 09 29.0 +0.3
NJ2				pP	pP	15 09 51.8 +1.8
NJ2				sP	sP	15 10 01.2 +1.2
NJ2				S	S	15 16 10.0 -0.7
NJ2				sS	sS	15 16 50.5 +2.6
NJ2				pmax	pmax	
	comp=Z,17nm,0.6s					
NJ2				pmax	pmax	
	comp=Z,360nm,3.6s					
KSRS	Korea Array	46.83	339	P	P	15 09 30.9 0.0
	comp=Z,7.9nm,0.8s,baz=157,slow=9.0,SNR=37					
KSRS				pP	pP	15 09 52.9 +0.5
	comp=Z,5.8nm,1.0s,baz=148,slow=8.4,SNR=3.3					
KSRS				LR	LR	15 27 55.1
	comp=Z,351nm,20.9s,baz=157,slow=34					
KSAR	Wonju Array Be	46.84	339	P	P	15 09 31.1 +0.1
KSAR	Wonju Array Be	46.84	339	P	P	15 09 31.1 +0.1
JTM	Tenmabayashi	46.86	353	P	P	15 09 31.2 +0.1
IPM	Ipoh	47.41	282	P	P	15 09 37.0 +1.0
ERM	Érimo	47.88	356	P	P	15 09 39.9 +0.9
ERM				pmax	pmax	
	comp=Z,49nm,1.4s					
ERM	Erimo	47.88	356	P	P	15 09 39.9 +0.9
ERM				IAmb	IAmb	15 09 51.3
	comp=Z,49nm,1.4s					
KULM	Kulim	47.95	283	P	P	15 09 39.0 -1.1
MIDW	Midway	48.06	43	P	P	15 09 42.1 +1.5
WHN	Wuhan	48.12	321	⇑P	P	15 09 41.4 +0.3
WHN				S	S	15 16 39.3 +6.0
WHN				sS	sS	15 17 09.4 -1.2
WHN				LR	LR	
	comp=Z,530nm,18.5s					
JOHN	Johnston Islan	48.21	61	P	P	15 09 42.9 +0.9
JEW	Eniwo	48.85	354	P	P	15 09 47.1 +0.7
YUK	Yuzh-Kuril'sk	49.77	359	*eP*	P	15 09 54.0 +0.6
YUK				*e*SP*	sP	15 10 23.4 -1.4
YUK				*e*		15 11 13.6
YUK				*e*		15 11 49.5
YUK				*e*PPP	PPP	15 12 45.8
YUK				*eS*	S	15 16 57.4 +1.5
YUK				*e*SS*	sS	15 17 32.6 -0.8
YUK				*e*		15 19 37.5
YUK				pmax	pmax	
	comp=Z,151nm,1.2s					
YUK				pmax	pmax	
	comp=N,135nm,1.0s					
YUK				pmax	pmax	
	comp=E,123nm,0.9s					
YUK				pmax	pmax	
	comp=Z,230nm,1.6s					
JKA	Kamikawa-asahi	50.02	356	P	P	15 09 56.6 +1.3
JKA				IAmb	IAmb	15 09 58.3
	comp=Z,42nm,1.2s					
ASAJ	Asahikawa	50.02	356	P	P	15 09 55.9 +0.6
	comp=Z,37nm,1.1s,baz=244,slow=9.1,SNR=7.9					
ASAJ	Asahikawa	50.02	356	P	P	15 09 56.6 +1.3
ASAJ				pmax	pmax	
	comp=Z,42nm,1.2s					
GSI	Gunungsitoli	50.23	277	P	P	15 09 56.8 -0.7
GSI				IAmb	IAmb	15 10 23.4
	comp=Z,21nm,0.7s					
MSHR	Mys Shultsa	50.50	345⇓	*eP*	P	15 09 57.1 -1.9
MSHR				pmax	pmax	
	comp=Z,12nm,1.8s					
DL2	Dalian	50.60	334	P	P	15 09 59.6 -0.2
DL2				sP	sP	15 10 34.6 +3.3
DL2				S	S	15 17 10.7 +3.1
DL2				sS	sS	15 17 43.3 -2.0
DL2				pmax	pmax	
	comp=Z,30nm,1.3s					
DL2				pmax	pmax	
	comp=Z,97nm,4.2s					
DL2				LR	LR	
	comp=Z,340nm,19.6s					
DL2				LR	LR	
	comp=Z,210nm,21.2s					
DL2				LR	LR	
	comp=Z,440nm,24.3s					
VLA	Vladivostok	50.82	345	*c iP*	P	15 10 01.8 +0.5
VLA				pmax	pmax	
	comp=Z,33nm,1.3s					
KUR	Kuril'sk	50.95	0	*c iP*	P	15 10 03.4 +1.1
ENH	Enshi	51.12	317	P	P	15 10 03.6 -0.4
ENH				IAmb	IAmb	15 10 06.9
	comp=Z,18nm,1.2s					
USA0B	Ussuriysk Arra	51.81	346	P	P	15 10 08.8 +0.1
USA0B				pmax	pmax	
	comp=Z,45nm,1.5s					
USA0B	Ussuriysk Arra	51.81	346	P	P	15 10 08.8 +0.1
USA0B				IAmb	IAmb	15 10 09.7
	comp=Z,45nm,1.4s					
USRK	Ussuriysk Ar.	51.81	346	P	P	15 10 09.0 +0.3
	comp=Z,5.6nm,0.5s,baz=160,slow=7.1,SNR=21					
USRK				pP	pP	15 10 30.6 -0.1
	comp=Z,7.4nm,0.6s,baz=196,slow=6.3,SNR=6.0					
USRK				PcP	PcP	15 11 20.9 +0.3
	comp=Z,2.2nm,0.4s,baz=172,slow=5.6,SNR=5.0					
USRK				LR	LR	15 30 37.8
	comp=Z,174nm,19.8s,baz=149,slow=34					
MDJ	Mudanjiang	52.81	344	P	P	15 10 16.0 -0.2
MDJ				pP	pP	15 10 39.3 +1.1
MDJ				sP	sP	15 10 47.6 -0.6
MDJ				S	S	15 17 42.2 +4.4
MDJ				pmax	pmax	
	comp=Z,13nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,230nm,6.5s					
MDJ				LR	LR	
	comp=Z,310nm,13.9s					
MDJ				LR	LR	
	comp=Z,370nm,16.7s					
MDJ				LR	LR	
	comp=Z,680nm,37.7s					
MDJ	Mudanjiang	52.81	344	P	P	15 10 15.6 -0.6
MDJ				IAmb	IAmb	15 10 17.7
	comp=Z,21nm,1.3s					
YSS	Yuzh-Sakhalins	52.83	356	*ceP*	P	15 10 16.8 +0.6
YSS				*eS*	S	15 17 38.4 +0.5
YSS				pmax	pmax	
	comp=Z,20nm,1.3s					
YSS				pmax	pmax	
	comp=Z,300nm,6.2s					
YSS	Yuzh-Sakhalins	52.83	356	P	P	15 10 16.3 0.0
YSS				IAmb	IAmb	15 10 17.3
	comp=Z,29nm,1.1s					
KMI	Kunming	53.25	307	⇓P	P	15 10 23.3 +3.2
KMI				pP	pP	15 10 45.0 +3.3
KMI				S	S	15 17 46.0 +1.1
KMI				SS	SKiKP	15 21 27.5 -1.2
KMI				pmax	pmax	
	comp=Z,11nm,1.2s					
KMI				LR	LR	
	comp=Z,170nm,25.7s					
KMI				LR	LR	
	comp=Z,180nm,30.6s					
KMI				LR	LR	
	comp=Z,390nm,29.6s					
RAR	Rarotonga	53.32	112	LR	LR	15 30 13.2
	comp=Z,218nm,18.9s,baz=286,slow=33					
CMAR	Chiang Mai Arr	53.54	298	P	P	15 10 21.9 -0.2
	comp=Z,1.5nm,0.5s,baz=120,slow=5.7,SNR=8.5					
CMAR	Chiang Mai Arr	53.54	298	*i P*	P	15 10 24.0 +2.0
CMAR				pmax	pmax	
	comp=Z,2.0nm,0.5s					
CHTO	Chiang Mai	53.68	298	P	P	15 10 24.2 +1.2
CHTO				pmax	pmax	
	comp=Z,9.0nm,1.4s					
CHTO	Chiang Mai	53.68	298	P	P	15 10 24.2 +1.2
XAN	Xi'an	53.87	320	P	P	15 10 23.3 -0.9
XAN				S	S	15 17 50.9 -1.8
XAN				SS	SKiKP	15 21 30.5 +1.5
XAN				pmax	pmax	
	comp=Z,16nm,1.1s					
XAN				pmax	pmax	
	comp=Z,140nm,7.3s					
XAN				LR	LR	
	comp=Z,280nm,16.3s					
XAN				LR	LR	
	comp=Z,250nm,19.5s					
XAN				LR	LR	
	comp=Z,580nm,23.9s					
BJT	Baijiatuau	54.02	331	P	P	15 10 24.4 -0.7
BJT				pmax	pmax	
	comp=Z,26nm,1.2s					
BJT	Baijiatuau	54.02	331	P	P	15 10 24.4 -0.7
BJT				IAmb	IAmb	15 10 26.0
	comp=Z,26nm,1.2s					
BJI	Beijing	54.03	331	P	P	15 10 24.6 -0.6
BJI				pP	pP	15 10 47.0 0.0
BJI				sP	sP	15 10 57.4 +0.5
BJI				S	S	15 17 53.0 -1.5
BJI				pmax	pmax	
	comp=Z,16nm,1.4s					
BJI				pmax	pmax	
	comp=Z,190nm,3.5s					
BJI				LR	LR	
	comp=Z,260nm,18.1s					
BJI				LR	LR	
	comp=Z,260nm,20.4s					
BJI				LR	LR	
	comp=Z,380nm,18.6s					
CD2	Chengdu	55.50	314	P	P	15 10 36.0 0.0
CD2				sP	sP	15 11 07.8 0.0
CD2				PP	PP	15 12 42.1 +1.1
CD2				S	S	15 18 17.0 +2.4
CD2				sS	sS	15 18 53.7 +2.0
CD2				pmax	pmax	
	comp=Z,30nm,0.6s					
CD2				pmax	pmax	
	comp=Z,150nm,4.2s					
CD2				LR	LR	
	comp=Z,580nm,20.0s					
CD2				LR	LR	
	comp=Z,650nm,19.5s					
CD2				LR	LR	
	comp=Z,390nm,20.5s					
XMAS	Kiritimati	55.68	83	P	P	15 10 37.9 +0.3
KLR	Kul'dur	56.61	348	P	P	15 10 43.9 +0.3
	comp=Z,16nm,1.1s,baz=169,slow=6.0,SNR=18					
KLR				PcP	PcP	15 11 39.0 0.0
	comp=Z,5.0nm,0.5s,baz=156,slow=4.2,SNR=6.2					
KLR	Kul'dur	56.61	348	⇓*iP*	P	15 10 43.8 +0.3
KLR				pmax	pmax	
	comp=Z,50nm,1.4s					
TYV	Tymovskoe	56.73	356	*eP*	P	15 10 45.0 +0.7
TYV				*e*		15 18 33.4
TYV				pmax	pmax	
	comp=Z,400nm,4.5s					
TYV				pmax	pmax	
	comp=Z,24nm,1.3s					
HHC	Hu-ho-hao-te	56.98	328	*eP*	P	15 10 51.4 +4.9
HHC				sP	sP	15 11 17.0 -1.3
HHC				S	S	15 18 35.2 +1.2
HHC				pmax	pmax	
	comp=Z,14nm,0.8s					
HHC				pmax	pmax	
	comp=Z,160nm,6.0s					
HHC				LR	LR	
	comp=Z,340nm,18.7s					
HHC				LR	LR	
	comp=Z,220nm,17.9s					
HHC				LR	LR	
	comp=Z,480nm,17.0s					
LZH	Lanzhou	58.41	319	*eP*	P	15 10 54.9 -1.7
LZH				pP	pP	15 11 21.2 +2.5
LZH				sP	sP	15 11 30.8 +2.3
LZH				S	S	15 18 55.1 +2.1
LZH				sS	sS	15 19 33.3 +2.3
LZH				SS	SS	15 22 45.0 -1.8
LZH				pmax	pmax	
	comp=Z,13nm,1.1s					
LZH				pmax	pmax	
	comp=Z,240nm,5.0s					
LZH				LR	LR	
	comp=Z,160nm,20.6s					
LZH				LR	LR	
	comp=Z,200nm,19.5s					
LZH				LR	LR	
	comp=Z,170nm,19.0s					
PEA0B	Petropavlovsk-	59.48	7	⇓*eP*	P	15 11 02.3 -1.2
PEA0B	Petropavlovsk-	59.48	7	P	P	15 11 04.3 +0.7
PETK	Petropavlovsk-	59.48	7	P	P	15 11 04.1 +0.6
	comp=Z,23nm,1.0s,baz=182,slow=5.3,SNR=17					
PETK				LR	LR	15 32 13.8
	comp=Z,370nm,21.8s,baz=193,slow=31					
PET	Petropavlovsk	59.52	8	*eP*	P	15 11 02.5 -1.2
PET				*eS*	S	15 19 04.5 -1.9
PET				pmax	pmax	
	comp=Z,34nm,1.2s					
PET				pmax	pmax	
	comp=Z,300nm,16.6s					
PET				MLR	MLR	
	comp=Z,300nm,19.0s					
PET	Petropavlovsk	59.52	8	P	P	15 11 02.5 -1.2
HIA	Hailar	60.03	339	P	P	15 11 07.1 -0.3
HIA				pmax	pmax	
	comp=Z,60nm,1.4s					
HIA	Hailar	60.03	339	P	P	15 11 07.1 -0.3
KIP	Kipapa	60.05	61	⇓*iP*	P	15 11 06.9 -1.2
KIP				pmax	pmax	
	comp=Z,132nm,2.5s					
HUH	Hualalai	61.40	64	P	P	15 11 19.1 +1.6
HUH				IAmb	IAmb	15 11 39.6
	comp=Z,31nm,1.0s					
MWH	Moku'aweowe	61.55	64	P	P	15 11 18.7 -0.2
POHA	Pohakuloa	61.69	64	P	P	15 11 20.2 +0.7
ZEA	Zeya	61.83	347	*eP*	P	15 11 20.0 +0.6
ZEA				*e*		15 20 08.8
ZEA				pmax	pmax	
	comp=N,30nm,1.4s					
ZEA				pmax	pmax	
	comp=Z,40nm,1.2s					
SMY	Shemya	62.71	18	P	P	15 11 26.3 +1.0
SMY				pmax	pmax	
	comp=Z,59nm,0.9s					
SMY	Shemya	62.71	18	P	P	15 11 26.3 +1.0
GTA	Gaotai	62.93	320	*eP*	P	15 11 28.9 +1.6
GTA				S	S	15 19 46.3 -4.2
GTA				pmax	pmax	
	comp=Z,4.0nm,1.2s					
GTA				pmax	pmax	
	comp=Z,100nm,6.5s					
GTA				LR	LR	
	comp=Z,93nm,17.1s					
GTA				LR	LR	
	comp=Z,78nm,18.2s					
GTA				LR	LR	
	comp=Z,140nm,17.5s					
TBI	Tubuai	63.06	113	*eS*	S	15 19 57.9 +5.5
	comp=Z,128nm,28.0s					
TBI	Tubuai	63.06	113	*eLR*	LR	15 30 17.4
	comp=Z,504nm,37.8s					
AMKA	Amchitka	63.33	22	P	P	15 11 30.0 +0.6
PMOR	Pomariorio Ree	64.11	104	*eP*	P	15 11 36.3 +1.0
	comp=Z,83nm,1.0s					
ULN	Ulaanbaatar	64.24	331	*c iP*	P	15 11 35.7 0.0
ULN				pmax	pmax	
	comp=Z,20nm,1.3s					
ULN	Ulaanbaatar	64.24	331	P	P	15 11 35.4 -0.3
SONM	Songino Array	64.53	331	P	P	15 11 37.5 -0.2
	comp=Z,4.8nm,0.6s,baz=148,slow=6.7,SNR=31					
SONM				pP	pP	15 12 01.6 +1.6
	comp=Z,5.1nm,0.6s,baz=152,slow=7.3,SNR=5.8					
SONM				LR	LR	15 38 58.3
	comp=Z,279nm,21.1s,baz=131,slow=35					
SONM				PKP2bc		15 40 29.8
	comp=Z,1.9nm,0.9s,baz=298,slow=1.1,SNR=12					
SONM	Songino Array	64.53	331	P	P	15 11 37.2 -0.5
CIT	Chita	64.55	338	*eP*	P	15 11 37.9 +0.4
CIT				*e*		15 12 14.7
CIT				pmax	pmax	
	comp=Z,119nm,1.5s					
KIWB	Kanaga Island	65.06	23	P	P	15 11 40.5 -0.3
ADK	Adak	65.27	24	P	P	15 11 42.7 +0.5
ADK				pmax	pmax	
	comp=Z,38nm,1.0s					
ADK	Adak	65.27	24	P	P	15 11 42.6 +0.5
ADK				IAmb	IAmb	15 11 44.5
	comp=Z,38nm,0.9s					
MA2	Magadan	65.37	2	*c iP*	P	15 11 42.6 0.0
MA2				pmax	pmax	
	comp=Z,55nm,1.3s					
MA2	Magadan	65.37	2	P	P	15 11 42.9 +0.3
CASY	Casey	65.40	195	P	P	15 11 43.1 +0.3
CASY				IAmb	IAmb	15 12 05.7
	comp=Z,27nm,1.0s					
TLY	Talaya	68.47	332	P	P	15 12 02.8 +0.3
	comp=Z,1.0nm,0.4s,baz=194,slow=8.1,SNR=8.6					
TLY	Talaya	68.47	332	*eP*	P	15 12 02.1 -0.4
TLY				*eS*	S	15 21 01.4 +4.2
TLY				*eSS*	SS	15 25 29.1 +6.2
TLY				pmax	pmax	
	comp=Z,44nm,1.6s					
TLY	Talaya	68.47	332	P	P	15 12 02.1 -0.4
IRK	Irkutsk	68.56	333	*eP*	P	15 12 01.4 -1.7
IRK				pmax	pmax	
	comp=Z,34nm,2.9s					
SEY	Seymchan	68.79	2	P	P	15 12 04.4 +0.2
	comp=Z,14nm,0.9s,baz=173,slow=4.8,SNR=26					
SEY	Seymchan	68.79	2	*c iP*	P	15 12 04.1 -0.1
BOD	Bodaibo	69.04	342	*eP*	P	15 12 05.4 -0.5
BOD				pmax	pmax	
	comp=Z,38nm,1.5s					
YAK	Yakutsk	69.14	351	P	P	15 12 06.4 0.0
	comp=Z,10nm,0.4s,baz=360,slow=1.0,SNR=17					
YAK	Yakutsk	69.14	351	*eP*	P	15 12 06.1 -0.3
YAK				*e*PP*	PcP	15 12 29.7 0.0
YAK				*eS*	S	15 21 04.2 -0.5
YAK				*e*SS*	sS	15 21 41.9 -1.3
YAK				pmax	pmax	
	comp=Z,64nm,1.0s					
YAK				pmax	pmax	
	comp=N,25nm,1.1s					
YAK				pmax	pmax	
	comp=E,3.0nm,1.1s					
YAK				smax	smax	
	comp=E,40nm,2.0s					
YAK				smax	smax	
	comp=N,50nm,2.3s					
YAK	Yakutsk	69.14	351	P	P	15 12 06.2 -0.2
NIKH	Nikolski High	69.37	27	P	P	15 12 07.2 -0.8
	baz=227					
MOY	Mondy	69.70	331	*eP*	P	15 12 10.2 0.0
MOY				pmax	pmax	
	comp=Z,51nm,1.7s					
HYB	Hyderabad	71.78	290	*i* P	pP	15 12 48.0 +1.7
VNDA	Vanda	71.94	177	P	P	15 12 24.1 +0.8
	comp=Z,5.1nm,0.7s,baz=332,slow=6.7,SNR=29					
VNDA				pP	pP	15 12 46.5 -0.8
	comp=Z,27nm,0.7s,baz=322,slow=6.6,SNR=22					
VNDA	Vanda	71.94	177	P	P	15 12 24.1 +0.8
VNDA				IAmb	IAmb	15 12 47.6
	comp=Z,26nm,0.7s					
SBA	Scott Base	72.58	176	P	P	15 12 29.0 +1.9
SBA				pmax	pmax	
	comp=Z,13nm,0.9s					
SBA	Scott Base	72.58	176	P	P	15 12 29.0 +1.9
WMQ	Urumqi	72.99	319	*eP*	P	15 12 33.2 +3.0
WMQ				pmax	pmax	
	comp=Z,29nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,130nm,3.9s					
SDPT	Sand Point	74.69	28	P	P	15 12 38.6 -1.1
	baz=234					
SDPT	Sand Point	74.69	28	P	P	15 12 39.4 -0.3
SDPT				IAmb	IAmb	15 12 40.5
	comp=Z,39nm,1.0s					
CNBA	Chernabura Isl	74.81	29	P	P	15 12 41.2 +0.8
CNBA				IAmb	IAmb	15 12 41.4
	comp=Z,32nm,1.1s					
CHNA	Chernabura Isl	74.81	29	P	P	15 12 39.3 -1.1
	baz=235					
BILL	Bilibino	75.01	7	*d iP*	P	15 12 41.1 -0.3
BILL				*e*		15 12 52.7
BILL				*e*		15 15 27.8
BILL				*e*PPP	PPP	15 17 18.0
BILL				pmax	pmax	
	comp=Z,17nm,1.1s					
BILL	Bilibino	75.01	7	P	P	15 12 41.0 -0.3
DGZ	Jazzator, Alta	75.80	325	*c iP*	P	15 12 45.2 -1.3
DGZ				pmax	pmax	
	comp=Z,11nm,1.5s					
MK31	Makanchi Array	77.69	320	P	P	15 12 55.9 -1.1
MK31				pmax	pmax	
	comp=Z,7.0nm,1.3s					
MK31	Makanchi Array	77.69	320	P	P	15 12 55.9 -1.1
MKAR	Makanchi Array	77.69	320	P	P	15 12 55.8 -1.2
	comp=Z,2.1nm,0.5s,baz=98,slow=7.0,SNR=41					
MKAR				pP	pP	15 13 21.8 +1.6
	comp=Z,2.1nm,0.6s,baz=104,slow=8.1,SNR=3.9					
MKAR	Makanchi Array	77.69	320	P	P	15 12 55.5 -1.4
MAKZ	Makanchi	77.89	320	P	P	15 12 56.7 -1.4

MAKZ pmax pmax
comp=Z,9.0nm,1.0s
MAKZ Makanchi 77.89 320 P **P** **15 12 56.7 -1.4**
SHLS Shalkode 78.25 316 *e*P **P** **15 12 55.9 -4.4**
baz=316
SHLS Shalkode 78.25 316 *e*P **P** **15 12 55.8 -4.5**
TIXI Tiksi 78.39 354 P **P** **15 12 58.6 -1.8**
comp=Z,3.9nm,0.5s,baz=160,slow=4.4,SNR=10
TIXI Tiksi 78.39 354 *ce*P **P** **15 12 58.4 -1.9**
TIXI Tiksi 78.39 354 P **P** **15 12 58.5 -1.8**
TNA Tin City 78.44 17 P **P** **15 13 00.8 +0.2**
baz=226
ANM Nome 78.54 19 P **P** **15 13 01.6 +0.3**
baz=228
UZB Uzynbulak 78.55 316 *e*P **P** **15 12 58.9 -3.1**
baz=316
UZB Uzynbulak 78.55 316 *e*P **P** **15 12 58.9 -3.1**
SATY Saty 78.94 316 *e*P **P** **15 13 01.7 -2.4**
baz=316
OHAK Old Harbor 79.08 28 P **P** **15 13 03.9 -0.5**
baz=241
ZALV Zalesovo Beam 79.16 328 P **P** **15 13 02.9 -2.0**
comp=Z,3.3nm,0.5s,baz=112,slow=5.8,SNR=14
ZALV pP **pP** **15 13 27.1 -1.0**
comp=Z,7.1nm,0.7s,baz=109,slow=6.4,SNR=6.2
ZALV LR LR 15 47 51.5
comp=Z,159nm,20.3s,baz=119,slow=35
KSH Kashi 79.61 312 *e*P **P** **15 13 08.2 +0.4**
KDAK Kodiak Island 79.68 28 P **P** **15 13 07.5 -0.1**
comp=Z,18nm,1.1s,baz=279,slow=5.5,SNR=6.4
KDAK Kodiak Island 79.68 28 P **P** **15 13 07.8 +0.2**
KDAK pmax pmax
comp=Z,36nm,1.4s
KDAK Kodiak Island 79.68 28 P **P** **15 13 06.7 -0.9**
baz=241
KDAK Kodiak Island 79.68 28 P **P** **15 13 07.8 +0.2**
KDAK IAmb IAmb 15 13 09.5
comp=Z,36nm,1.4s
N18K Kilae Creek 79.70 25 P **P** **15 13 08.2 +0.5**
baz=238
MDOK Medeo 79.92 316 *e*P **P** **15 13 06.6 -2.9**
baz=316
MDOK Medeo 79.92 316 *e*P **P** **15 13 06.5 -2.9**
SVW2 Sparrevohn 80.05 24 P **P** **15 13 10.4 +0.8**
SVW2 IAmb IAmb 15 13 11.5
comp=Z,22nm,1.0s
NIL Nilore 80.19 305 P **P** **15 13 10.1 -0.9**
NIL pmax pmax
comp=Z,9.0nm,0.6s
NIL Nilore 80.19 305 P **P** **15 13 10.1 -0.9**
P19K Oil Pt 80.31 26 P **P** **15 13 10.1 -0.9**
baz=240
N19K Bonanza Creek 80.36 25 P **P** **15 13 10.9 -0.5**
baz=239
KUU Kurty 80.63 316 *e*P **P** **15 13 10.4 -2.7**
baz=316
KUU Kurty 80.63 316 *e*P **P** **15 13 10.4 -2.7**
O20K Slope Mountain 80.78 26 P **P** **15 13 12.3 -1.3**
baz=241
L19K White Mountain 80.92 24 P **P** **15 13 13.6 -0.6**
baz=238
HOM Homer 81.01 27 P **P** **15 13 14.1 -0.6**
baz=242
CNPM China Poot 81.13 27 P **P** **15 13 15.3 -0.1**
KURK Kurchatov 81.38 323 P **P** **15 13 16.1 -0.8**
KURK *PP **pP** **15 13 41.0 +0.9**
KURK Kurchatov 81.38 323 P **P** **15 13 16.1 -0.8**
KURBB Kurchatov Arra 81.41 323 P **P** **15 13 16.1 -0.9**
KURBB pP **pP** **15 13 41.0 +0.8**
comp=Z,1.1nm,0.7s,baz=97,slow=6.2,SNR=13
comp=Z,1.3nm,0.7s,baz=106,slow=4.7,SNR=3.7
BRSE Bradley Lake S 81.46 27 P **P** **15 13 15.9 -1.2**
baz=242
AAK Ala-Archa 81.56 315 P **P** **15 13 17.3 -0.9**
comp=Z,2.9nm,0.5s,baz=112,slow=6.5,SNR=3.8
AAK Ala-Archa 81.56 315 *ce*P **P** **15 13 16.9 -1.3**
AAK pmax pmax
comp=Z,18nm,1.5s
AAK Ala-Archa 81.56 315 IAmb IAmb 15 13 24.5
comp=Z,4.6nm,1.1s
RDOG Red Dog Mine 81.59 17 P **P** **15 13 18.7 +1.0**
baz=230,SNR=6.4
RDOG Red Dog Mine 81.59 17 IAmb IAmb 15 13 20.9
comp=Z,25nm,0.8s
CAPN Captain Cook N 81.75 26 P **P** **15 13 18.1 -0.5**
baz=242
SKT Skwentna 82.17 25 P **P** **15 13 18.8 -2.0**
baz=242
SEW Seward 82.20 27 P **P** **15 13 19.4 -1.5**
baz=244
SEW Seward 82.20 27 IAmb IAmb 15 13 21.7
comp=Z,20nm,0.8s
O22K Cooper Landing 82.25 26 P **P** **15 13 20.5 -0.7**
baz=243
SUA Susitna One 82.25 25 P **P** **15 13 19.4 -2.0**
baz=242
PPLA Purkeypile 82.34 24 P **P** **15 13 20.5 -1.4**
baz=241
MAW Mawson 82.44 203 P **P** **15 13 22.2 +0.1**
comp=Z,4.7nm,0.6s,baz=111,slow=7.5,SNR=15
MAW pP **pP** **15 13 45.5 -1.0**
comp=Z,6.5nm,0.9s,baz=131,slow=5.8,SNR=3.8
MAW LR LR 15 47 55.4
comp=Z,115nm,21.3s,baz=62,slow=34
MAW Mawson 82.44 203 P **P** **15 13 22.3 +0.1**
baz=82,SNR=17
MAW Mawson 82.44 203 P **P** **15 13 22.1 +0.1**
RC01 Rabbit Creek A 82.52 26 P **P** **15 13 21.6 -1.0**
baz=243
BTLS Baital 82.54 317 *e*P **P** **15 13 21.5 -1.7**
comp=Z,31nm,3.4s,baz=317
BTLS Baital 82.54 317 *e*P **P** **15 13 21.4 -1.7**
BTLS pmax pmax
comp=Z,31nm,3.4s
CUT Chulitna 82.89 25 P **P** **15 13 22.3 -2.2**
baz=243
CUT Chulitna 82.89 25 IAmb IAmb 15 13 24.9
comp=Z,36nm,0.9s
PMR Palmer 83.00 26 P **P** **15 13 23.9 -1.2**
baz=244
GHO Glory Hole Cre 83.17 25 P **P** **15 13 25.9 -0.2**
GHO IAmb IAmb 15 13 26.6
comp=Z,24nm,1.0s
KNK Knik Glacier 83.22 26 P **P** **15 13 25.1 -1.2**
baz=244
KNK Knik Glacier 83.22 26 IAmb IAmb 15 13 27.2
comp=Z,27nm,1.1s
TRF Thorofare Moun 83.37 24 P **P** **15 13 25.2 -2.0**
baz=242
BPAW Bear Paw Mtn. 83.40 23 P **P** **15 13 26.0 -1.2**
baz=242,SNR=9.4
SML Sawmill 83.44 26 P **P** **15 13 26.5 -1.0**
baz=244,SNR=13
SML Sawmill 83.44 26 IAmb IAmb 15 13 28.7
comp=Z,48nm,1.1s
H21K Melozitna Rive 83.48 21 P **P** **15 13 26.9 -0.6**
baz=240,SNR=7.0
I21K Tanana 83.54 22 P **P** **15 13 27.0 -0.8**
baz=241,SNR=6.6
GLI Glacier Island 83.59 27 P **P** **15 13 27.2 -1.0**
baz=246
GLI Glacier Island 83.59 27 P **P** **15 13 28.2 +0.1**
GLI IAmb IAmb 15 13 29.3
comp=Z,20nm,0.8s
WAT1 Susitna Watana 83.79 25 P **P** **15 13 27.6 -1.6**
baz=244
FID Port Fidalgo 83.81 27 IAmb IAmb 15 13 30.5
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 83.88 26 IAmb IAmb 15 13 30.6
comp=Z,38nm,1.1s
RND Reindeer 83.92 24 IAmb IAmb 15 13 29.9
comp=Z,23nm,0.8s
MLY Manley 83.93 22 P **P** **15 13 28.5 -1.4**
baz=242,SNR=17
MLY Manley 83.93 22 IAmb IAmb 15 13 30.8
comp=Z,28nm,1.1s
QSPA South Pole Qui 84.02 180 P **P** **15 13 30.4 -0.1**
WAT6 Susitna Watana 84.02 25 P **P** **15 13 29.0 -1.6**
baz=245,SNR=7.1
MCK McKinley 84.04 24 P **P** **15 13 28.6 -1.8**
baz=244,SNR=9.1
MCK McKinley 84.04 24 IAmb IAmb 15 13 31.0
comp=Z,35nm,1.0s
EYAK Cordova Ski Ar 84.06 27 P **P** **15 13 29.1 -1.4**
baz=247
KLU Klutina 84.36 26 P **P** **15 13 31.2 -0.9**
baz=247,SNR=13

KLU Klutina 84.36 26 IAmb IAmb 15 13 33.3
comp=Z,33nm,1.1s
NEA2 Nenana 84.37 23 P **P** **15 13 30.2 -1.8**
baz=244
M24K Tolsona, Glenn 84.49 26 P **P** **15 13 32.3 -0.5**
baz=246,SNR=6.8
M24K Tolsona, Glenn 84.49 26 P **P** **15 13 33.4 +0.6**
M24K IAmb IAmb 15 13 34.1
comp=Z,30nm,0.7s
I23K Minto, Yukon-K 84.51 22 P **P** **15 13 31.3 -1.3**
baz=243,SNR=8.0
KKAR Karatay Array 84.51 314 P **P** **15 13 31.5 -1.8**
KKAR Karatay Array 84.51 314 P **P** **15 13 31.5 -1.8**
KKAR Karatay Array 84.51 314 IAmb IAmb 15 13 33.4
comp=Z,19nm,1.4s
HMT Hamilton 84.66 28 IAmb IAmb 15 13 46.9
comp=Z,36nm,1.2s
WRH Wood River Hil 84.69 23 P **P** **15 13 32.7 -0.9**
WRH IAmb IAmb 15 13 33.5
comp=Z,22nm,1.0s
BMRM Bremner River 84.74 27 P **P** **15 13 33.2 -0.8**
baz=248
BMRM Bremner River 84.74 27 IAmb IAmb 15 13 35.1
comp=Z,41nm,1.3s
H23K Yukon River 84.75 22 P **P** **15 13 33.3 -0.6**
baz=243,SNR=11
CCB Clear Creek Bu 84.88 23 IAmb IAmb 15 13 34.3
comp=Z,20nm,0.9s
COLA College 84.96 23 *c i*P **P** **15 13 33.1 -1.9**
COLA pmax pmax
comp=Z,21nm,0.9s
N25K Chitina, Valde 84.99 26 P **P** **15 13 35.0 -0.3**
baz=248
HARP HAARP 85.05 26 P **P** **15 13 34.7 -0.8**
baz=247
HDA Harding Lake 85.12 23 P **P** **15 13 33.7 -2.1**
baz=246,SNR=7.2
PAX Paxson 85.14 25 P **P** **15 13 34.8 -1.2**
baz=247
PAX Paxson 85.14 25 IAmb IAmb 15 13 36.7
comp=Z,28nm,1.5s
COLD Coldfoot 85.16 20 P **P** **15 13 35.3 -0.6**
baz=242,SNR=10
POKR Poker Plat Res 85.22 23 P **P** **15 13 35.9 -0.5**
baz=245
IL31 85.29 23 IAmb IAmb 15 13 36.5
comp=Z,16nm,0.8s
ILAR Eielson Array 85.29 23 P **P** **15 13 34.2 -2.5**
comp=Z,12nm,0.7s,baz=255,slow=4.8,SNR=87
ILAR pP **pP** **15 14 00.0 -0.1**
comp=Z,4.1nm,0.8s,baz=249,slow=4.5,SNR=3.5
ILAR LR LR 15 47 07.4
comp=Z,116nm,21.8s,baz=263,slow=32
A21K Barrow 85.31 16 P **P** **15 13 36.1 -0.5**
baz=236
CRQM Cirque 85.33 27 IAmb IAmb 15 13 38.9
comp=Z,31nm,1.1s
NRIK Noril'sk 85.34 342 P **P** **15 13 35.4 -1.4**
comp=Z,19nm,1.1s,baz=128,slow=4.6,SNR=17
NRIK pP **pP** **15 14 00.9 +0.7**
comp=Z,5.6nm,0.7s,baz=163,slow=3.3,SNR=3.0
NRIK LR LR 15 49 59.6
comp=Z,118nm,21.3s,baz=108,slow=34
NRIK Noril'sk 85.34 342 *c i*P **P** **15 13 34.7 -2.1**
NRIK pmax pmax
comp=Z,31nm,1.4s
NRIK Noril'sk 85.34 342 P **P** **15 13 35.6 -1.2**
NRIK IAmb IAmb 15 13 38.2
comp=Z,29nm,1.2s
CRQE Cirque 85.35 27 P **P** **15 13 36.6 -0.6**
baz=249
VRDI Verde Repeater 85.36 27 IAmb IAmb 15 13 38.2
comp=Z,39nm,1.4s
H24K Noodor Dome 85.37 22 P **P** **15 13 35.5 -1.6**
baz=244,SNR=7.9
MCARA McCarthy VSAT 85.61 27 P **P** **15 13 37.3 -1.0**
baz=249
MESA MESA 85.68 28 P **P** **15 13 38.4 -0.5**
baz=250
DOT Dot Lake 85.98 25 IAmb IAmb 15 13 40.9
comp=Z,23nm,1.0s
TOLK Toolik Lake Re 86.03 19 P **P** **15 13 40.0 -0.3**
baz=243
TOLK Toolik Lake Re 86.03 19 P **P** **15 13 40.2 -0.1**
BARN Barnard Glacie 86.11 27 IAmb IAmb 15 13 42.9
comp=Z,26nm,0.8s
PRP Porcupine Dome 86.12 23 P **P** **15 13 39.9 -1.0**
baz=247
SCRK Sand Creek 86.14 24 P **P** **15 13 39.8 -1.2**
baz=248,SNR=8.0
SCRK Sand Creek 86.14 24 P **P** **15 13 40.6 -0.5**
CTG Chitna Glacier 86.23 28 P **P** **15 13 40.8 -0.8**
baz=251
CTGM Chitina Glacie 86.23 28 IAmb IAmb 15 13 43.0
comp=Z,28nm,0.9s
PINM Pinnacle 86.46 29 P **P** **15 13 40.6 -2.0**
baz=252
L27K Beaver Creek, 86.72 26 P **P** **15 13 43.2 -0.6**
baz=250,SNR=14
L27K Beaver Creek, 86.72 26 IAmb IAmb 15 13 45.1
comp=Z,26nm,1.2s
BVAR Borovoye Array 86.94 324 P **P** **15 13 42.9 -2.1**
comp=Z,0.9nm,0.5s,baz=238,slow=10,SNR=6.9
BRVK Borovoye 87.01 324 ‖ *e*P **P** **15 13 43.6 -1.8**
BRVK pmax pmax
comp=Z,6.0nm,1.4s
EGAK Eagle 87.57 24 P **P** **15 13 47.0 -0.8**
baz=251
EGAK Eagle 87.57 24 IAmb IAmb 15 13 48.8
comp=Z,29nm,1.2s
DAWY Dawson 88.07 25 P **P** **15 13 50.2 -0.1**
DAWY IAmb IAmb 15 13 52.3
comp=Z,49nm,1.4s
SIT Sitka 88.10 32 P **P** **15 13 50.1 -0.3**
baz=256
SKAG Skagway 88.68 30 P **P** **15 13 52.5 -0.6**
baz=256
CRAG Craig 88.94 34 P **P** **15 13 53.1 -1.3**
baz=258
WHY Whitehorse 89.18 29 P **P** **15 13 55.1 -0.6**
baz=256
WRAK Wrangell Islan 89.56 33 P **P** **15 13 56.5 -0.8**
baz=259
EPYK Eagle Plains 89.81 23 P **P** **15 13 57.8 -0.6**
baz=255
EPYK Eagle Plains 89.81 23 IAmb IAmb 15 13 59.6
comp=Z,15nm,0.7s
SYO Syowa Base 90.77 200 ‖ *e*pP pP 15 14 25.0 -2.5
DLBC Dease Lake 91.16 31 P **P** **15 14 04.0 -0.8**
comp=Z,3.1nm,0.8s,baz=284,slow=8.3,SNR=3.1
BBB Bella Bella 91.30 38 P **P** **15 14 05.0 -0.5**
comp=Z,5.5nm,0.9s,baz=269,slow=9.1,SNR=3.2
INK Inuvik 91.47 21 P **P** **15 14 05.8 -0.2**
comp=Z,3.6nm,0.7s,baz=238,slow=6.3,SNR=6.5
INK Inuvik 91.47 21 P **P** **15 14 04.8 -1.2**
baz=258
INK Inuvik 91.47 21 IAmb IAmb 15 14 23.0
comp=Z,14nm,1.4s
ABKAR Akbulak array 92.77 319 P **P** **15 14 09.1 -3.4**
ABKAR Akbulak array 92.77 319 IAmb IAmb 15 14 10.8
comp=Z,6.0nm,1.4s
GEYT Alibeck 93.02 308 LR LR 15 57 36.2
comp=Z,46nm,21.3s,baz=205,slow=36
J01E Myrtle Point 93.08 47 P **P** **15 14 12.5 -1.4**
baz=265
I02D Swisshome 93.23 46 P **P** **15 14 14.3 -0.3**
baz=265
L02E Cave Junction 93.23 48 P **P** **15 14 14.4 -0.4**
baz=265
K02D Willamette Mer 93.23 48 P **P** **15 14 14.1 -0.7**
baz=265
I03D Drain, OR 93.55 47 P **P** **15 14 16.0 -0.1**
baz=265
O02D Mt. Diablo Mer 93.68 50 P **P** **15 14 16.5 -0.4**
baz=265
M02C Callahan 93.73 49 P **P** **15 14 16.5 -0.6**
baz=265
G03D McMinnville, O 93.73 45 P **P** **15 14 16.4 -0.5**
baz=265
N02D Trinity Center 93.80 49 P **P** **15 14 17.0 -0.5**
baz=265
YBH Yreka Blue Hor 93.86 49 IAmb IAmb 15 14 19.1
comp=Z,7.0nm,1.1s
WDC Whiskeytown Da 93.90 50 P **P** **15 14 17.2 -0.7**
WDC pmax pmax
comp=Z,23nm,1.5s
WDC Whiskeytown Da 93.90 50 P **P** **15 14 17.2 -0.7**
D03D Eldon 94.04 43 P **P** **15 14 17.7 -0.6**
baz=266

H04D Lebanon 94.05 46 P **P** **15 14 18.1 -0.3**
baz=266
L04D Klamath Falls 94.20 48 P **P** **15 14 18.7 -0.7**
baz=266
D04E Lakebay 94.22 43 P **P** **15 14 19.5 +0.3**
baz=266
ARU Arti 94.24 326 *d i*P **P** **15 14 18.1 -0.9**
ARU 15 18 05.1
ARU S **SKSac** **15 24 44.2 -1.6**
ARU pmax pmax
comp=Z,2.0nm,0.7s
ARU MLR MLR
comp=Z,161nm,19.0s
E04D Cinebar 94.32 44 P **P** **15 14 19.3 -0.3**
baz=266
J04D Umpqua Nationa 94.41 47 P **P** **15 14 20.0 -0.4**
baz=266
O03E Paynes Creek 94.44 50 P **P** **15 14 20.2 -0.2**
baz=266
M04C Macdoel 94.51 49 P **P** **15 14 20.7 -0.2**
baz=266
ORV Oroville 94.62 51 IAmb IAmb 15 14 21.2
comp=Z,11nm,1.2s
B05A Bryant 94.75 42 P **P** **15 14 22.0 +0.4**
baz=266
AFDM Forest Hills D 94.99 51 P **P** **15 14 21.4 -1.6**
AFDM IAmb IAmb 15 14 24.0
comp=Z,14nm,1.4s
C36M Paulatuk 95.01 21 P **P** **15 14 22.8 +0.6**
baz=267
I05D Terrebonne, OR 95.04 46 P **P** **15 14 22.9 -0.1**
baz=267
F05D White Salmon 95.05 45 P **P** **15 14 22.5 -0.5**
baz=267
J05D Fort Rock, OR 95.06 47 P **P** **15 14 23.2 -0.1**
baz=267
G05D Wamic, OR 95.11 45 P **P** **15 14 23.2 -0.1**
baz=267
PAGB Antelope Grade 95.37 55 IAmb IAmb 15 14 27.1
comp=Z,5.9nm,0.9s
BEKR Beckworth 95.52 51 IAmb IAmb 15 14 26.4
comp=Z,12nm,1.5s
SMMC Simmler 95.55 55 P **P** **15 14 26.1 +0.5**
baz=267
PKM Mcpherson Peak 95.68 56 P **P** **15 14 26.3 0.0**
baz=267
B08A Colville Reser 96.60 42 P **P** **15 14 28.9 -1.1**
B08A IAmb IAmb 15 14 30.2
comp=Z,15nm,1.5s
NVAR Mina Array Bea 97.05 52 P Pdif 15 14 33.0 +0.4
comp=Z,1.3nm,0.7s,baz=258,slow=4.1,SNR=8.3
NVAR PP **PP** **15 18 26.9 -2.6**
comp=Z,1.1nm,0.9s,baz=257,slow=8.3,SNR=6.6
NVAR LR LR 15 55 06.1
comp=Z,86nm,18.1s,baz=267,slow=33
CWC Cottonwood Cre 97.16 54 P **P** **15 14 32.4 -0.6**
baz=268
EDW2 Edwards Air Fo 97.17 56 P **P** **15 14 31.9 -1.1**
baz=268
E09A Wood Farm, Sta 97.37 44 IAmb IAmb 15 14 34.5
comp=Z,9.1nm,1.0s
BFSC Mount Baldy Ra 97.42 56 P **P** **15 14 34.1 -0.2**
baz=268
LRMC Laurel Mtn Rad 97.45 55 P **P** **15 14 33.9 -0.4**
baz=268
MPMC Manual Prospec 97.62 55 P **P** **15 14 34.7 -0.4**
baz=268
GRAC Grapevine Rang 97.75 54 P Pdif 15 14 35.6 +0.1
baz=268
BMO Blue Mountains 97.94 46 IAmb IAmb 15 14 36.4
comp=Z,8.1nm,1.4s
NEW Newport 98.07 42 P **P** **15 14 35.9 -0.8**
comp=Z,4.5nm,1.0s,baz=218,slow=0.9,SNR=3.3
NEW Newport 98.07 42 P **P** **15 14 36.3 -0.4**
baz=270
NEW Newport 98.07 42 IAmb IAmb 15 14 37.5
comp=Z,4.4nm,0.9s
FURC Furnace Creek, 98.14 54 P Pdif 15 14 37.4 +0.2
baz=269
GSC Goldstone, Bar 98.16 55 P **P** **15 14 36.5 -0.9**
baz=268
MONP2 Monument Peak 98.41 58 P **P** **15 14 37.7 -1.0**
baz=268
IKP In-Ko-Pah, Jac 98.67 58 P **P** **15 14 39.5 -0.3**
baz=268
BELC Belle Mtn. Jos 98.79 57 P **P** **15 14 39.4 -0.9**
baz=269
SWSC Sam W. Stewart 98.93 58 P **P** **15 14 40.8 -0.1**
baz=269
YKA Yellowknife Ar 98.96 28 PKKPbc PKKPbc 15 31 05.2 -4.1
comp=Z,0.4nm,0.7s,baz=96,slow=3.2,SNR=3.7
GMRC Granite Mounta 99.09 56 P **Pdif** **15 14 41.5 -0.1**
baz=269
R11A Troy Canyon, C 99.19 52 P **Pdif** **15 14 41.9 -0.2**
baz=270
BC3 Big Chuckawall 99.24 57 P **Pdif** **15 14 42.4 +0.1**
baz=269
IRM Iron Mountain 99.50 56 P **Pdif** **15 14 43.4 0.0**
baz=269
GLA Glamis 99.75 58 P **Pdif** **15 14 44.3 -0.3**
baz=269
SNAA Sanae 100.11 189 ‖ *e*P **Pdif** **15 14 45.0 -0.3**
SNAA pmax pmax
comp=Z,10.0nm,1.7s
MSO Missoula 100.26 44 P **Pdif** **15 14 46.0 -0.6**
baz=272
DUG Dugway, Tooele 101.31 50 P **Pdif** **15 14 51.4 -0.1**
baz=272
BOZ Bozeman (W) 101.93 45 P **Pdif** **15 14 53.9 -0.2**
baz=274
PDAR Pinedale Array 103.61 48 Pdiff **Pdif** **15 15 00.5 -1.3**
comp=Z,0.6nm,0.6s,baz=208,slow=2.1,SNR=6.5
PDAR PKKPbc **PKKPbc** **15 30 52.4 -2.9**
comp=Z,0.3nm,0.5s,baz=108,slow=3.8,SNR=4.3
PDAR Pinedale Array 103.61 48 Pdif **Pdif** **15 15 00.3 -1.5**
APA Apatity 104.48 339 ⇑ *i*P **Pdif** **15 15 18.5 +14**
APA pmax pmax
comp=Z,5.0nm,1.2s
APA MLR MLR
comp=Z,300nm,19.0s
ARCES ARCESS Array B 106.32 342 PKiKP **PKiKP** **15 19 22.6 -1.1**
comp=Z,1.8nm,1.0s,baz=107,slow=0.9,SNR=1.2
ARCES PKKPbc **PKKPbc** **15 30 44.1 -3.6**
comp=Z,0.7nm,0.5s,baz=252,slow=2.7,SNR=3.5
OBN Obninsk 106.69 326 *e*P **Pdif** **15 15 11.3 -3.4**
OBN *e* 15 19 40.9
OBN *e*PPP PPP 15 21 55.9
OBN pmax pmax
comp=Z,5.0nm,0.8s
MNTX Cornudas Mount 107.78 59 P **PKiKP** **15 19 27.6 +0.1**
baz=274
TXAR Lajitas Array 109.42 61 PKiKP **PKiKP** **15 19 30.4 -0.4**
comp=Z,0.4nm,0.8s,baz=96,slow=0.9,SNR=4.7
TXAR PP **PP** **15 20 00.4 -1.6**
comp=Z,0.9nm,1.0s,baz=258,slow=4.5,SNR=5.8
TXAR PKKPbc **PKKPbc** **15 30 35.3 -1.4**
comp=Z,0.3nm,0.5s,baz=96,slow=4.0,SNR=4.4
TXAR PKKPab **PKKPab** **15 30 48.8 +0.5**
comp=Z,0.6nm,0.8s,baz=125,slow=6.5,SNR=4.8
MSTX Muleshoe 109.76 56 P **PKiKP** **15 19 31.6 +0.2**
baz=276
VSU Vasula 110.73 331 ‖ *i*PKiKP **PKiKP** **15 19 30.8 -1.4**
MNK Minsk 111.66 327 *i* P **Pdif** **15 15 49.3 +12**
MNK *i* 15 20 13.0
MNK *i* PPP PPP 15 22 34.6
MNK *i* 15 26 33.9
MNK *i* SS SS 15 35 43.4 -2.0
MNK *i* SSS SSS 15 39 50.9
MNK pmax pmax
comp=Z,6.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=E,18nm,15.0s
MNK MLR MLR
comp=Z,80nm,19.0s
MNK MLR MLR
comp=N,80nm,12.0s
MNK Minsk 111.66 327 *i* P **Pdif** **15 15 49.3 +12**
comp=E,2.0nm,0.8s
MNK *i* P **Pdif** **15 15 49.3 +12**
comp=N,7.0nm,0.9s
MNK *i* P **Pdif** **15 15 49.3 +12**
comp=Z,6.0nm,1.0s,baz=249

MNK *i* PP **PP** 15 20 13.1 -3.9
MNK *i* PPP PPP 15 22 34.7
MNK *i* SKS **SKSdf** 15 26 34.0 -4.1
MNK *i* SS **SS** 15 35 43.4 -2.0
MNK *i* SKKS **SKKSdf** 15 37 43.9 -9.2
MNK *i* SSS SSS 15 39 50.9
MNK *i* LQ LQ 16 00 13.0
MNK *i* LR LR 16 03 32.7
MNK *i* LRM MLR 16 06 51.2
comp=E,18nm,15.5s
MNK *i* LRM MLR 16 06 58.9
comp=Z,80nm,19.3s
MNK *i* LRM MLR 16 07 06.7
comp=N,80nm,11.6s
MTSE Matsula 112.00 332 *e*P **PKiKP 15 19 36.5 +1.9**
JCT Junction City 112.66 60 P **PKiKP 15 19 36.8 0.0**
baz=277
435B Jarrell 114.51 59 P **PKiKP 15 19 40.6 +0.3**
baz=278
BOSA Boshof 114.57 235 PKP **PKiKP 15 19 41.3 +0.6**
comp=N,1.4nm,0.6s,baz=112,slow=3.2,SNR=4.0
EYMN Ely 114.96 39 P PKPdf 15 19 41.5 +0.8
baz=290
NOA NORSAR Array B 116.04 338 PKKPbc PKKPbc 15 30 13.1 -2.5
comp=N,0.5nm,0.6s,baz=40,slow=3.6,SNR=3.4
S39A Bolivar 116.68 51 PKPdf **PKPdf 15 19 42.6 -1.7**
W39A Magazine 116.88 54 P **PKPdf 15 19 44.2 -0.5**
baz=282
MIAR Mount Ida 117.19 54 P **PKiKP 15 19 45.5 +0.1**
baz=282
U40A Yellville 117.36 52 PKPdf **PKPdf 15 19 43.8 -1.9**
CRVS Cervenica-Dubn 117.53 323 *e*PKiKP **PKiKP 15 19 46.4 +0.8**
CRVS Cervenica-Dubn 117.53 323 *e*PKP **PKiKP 15 19 46.4 +0.8**
SFJD Kangerlussuaq 117.81 8 PKKPbc PKKPbc 15 30 05.6 -3.8
comp=N,6.9nm,0.4s,baz=131,slow=9.3,SNR=7.0
W41B Gary Mavity, V 118.12 53 P **PKPdf 15 19 46.4 -0.7**
baz=283
LCAR Lake Charles 118.76 52 **PKPdf 15 19 46.5 -1.8**
LCAR PP **PP 15 21 03.6 -4.0**
X43A Marvell 119.36 54 P **PKPdf 15 19 49.4 -0.1**
baz=284
E46A Sault Ste Mari 120.10 39 PKPdf **PKPdf 15 19 49.1 -1.5**
MODS Modra-Piesok 120.25 324 *e*PKiKP **PKiKP 15 19 51.8 +0.9**
MODS Modra-Piesok 120.25 324 *e*PKP **PKiKP 15 19 51.8 +0.9**
DIVS Divibare 120.42 318 PKPdf **PKPdf 15 19 50.0 -1.4**
OXF Oxford 120.54 53 P **PKPdf 15 19 51.4 -0.4**
baz=285
FNA Florina 120.72 314 PKIKP **PKPdf 15 19 50.7 -1.4**
FNA Florina 120.72 314 PKPdf **PKPdf 15 19 50.7 -1.4**
BRG Berggiesshubel 120.85 328 *e*PKP **PKPdf 15 19 51.7 -0.2**
BRG Amp 15 19 53.3
comp=Z,6.2nm,1.1s
CLL Collm 121.11 328 *e*PKPdf **PKPdf 15 19 51.0 -1.4**
comp=Z,4.0nm,0.6s
CLL *es*PKPdf **sPKPdf 15 20 23.0 -3.7**
CLL *e*PPP PPP 15 23 53.0
CLL Collm 121.11 328 *e*PKIKP **PKPdf 15 19 51.0 -1.4**
CLL pmax pmax
comp=Z,4.0nm,0.6s
CONA Conrad Observa 121.30 324 *i* P **PKPdf 15 19 52.5 -0.5**
comp=Z,2.2nm,0.6s
WVT Waverly 121.34 51 P **PKPdf 15 19 52.9 -0.4**
baz=287
PLCA Paso Flores 121.97 147 PKP **PKPdf 15 19 54.4 -0.2**
comp=Z,4.7nm,0.5s,baz=216,slow=2.5,SNR=13
GEC2 GERESS Array S 122.07 326 **PKPdf 15 19 53.0 -1.5**
GERES GERESS Array B 122.07 326 PKP **PKPdf 15 19 53.0 -1.5**
comp=Z,2.3nm,0.5s,baz=50,slow=2.1,SNR=18
GERES PKKPbc **PKKPab 15 29 51.2 -1.0**
comp=Z,0.6nm,0.6s,baz=198,slow=3.8,SNR=5.4
GERES GERESS Array B 122.07 326 PKIKP **PKPdf 15 19 53.0 -1.5**
SOKA Soboth 122.40 323 *e*P **PKPdf 15 19 53.5 -1.7**
comp=Z,3.8nm,1.0s
P49A Miami Univ. Ec 122.55 46 P **PKPdf 15 19 54.6 -0.9**
baz=292
KBA Koelnbreinsper 123.20 324 *i* P **PKPdf 15 19 55.6 -1.2**
comp=Z,2.2nm,0.5s
ACSO Alum Creek Sta 123.52 45 P **PKPdf 15 19 57.2 -0.2**
baz=293
ABTA Abfaltersbach 123.86 324 *e*P **PKPdf 15 19 56.9 -1.0**
comp=Z,3.7nm,0.6s
SADO Sadowa 124.05 39 PKP **PKPdf 15 19 57.0 -1.3**
comp=Z,6.5nm,0.9s,baz=13,slow=5.8,SNR=3.1
SCHQ Schefferville 124.05 23 PKP **PKPdf 15 19 56.5 -1.4**
comp=Z,1.5nm,0.6s,baz=70,slow=3.9,SNR=4.0
WATA Walderalm 124.08 325 *e*P **PKPdf 15 19 58.4 0.0**
comp=Z,4.3nm,0.5s
WTTA Wattenberg 124.08 325 *e*P **PKPdf 15 19 58.0 -0.5**
comp=Z,12nm,1.1s
MOTA Moosalm 124.34 325 *e*P **PKPdf 15 19 57.2 -1.8**
comp=Z,4.6nm,0.6s
P52A Corning 124.36 45 P **PKPdf 15 19 58.9 -0.1**
baz=294
TZTN Tazewell 124.48 49 P **PKPdf 15 19 58.8 -0.6**
baz=291
TKL Tuckaleechee C 124.61 50 PKP **PKPdf 15 19 58.5 -1.1**
comp=Z,5.8nm,0.6s,baz=151,slow=5.7,SNR=9.8
FETA Feichten 124.74 325 *e*P **PKPdf 15 19 59.5 -0.3**
comp=Z,8.8nm,1.3s
152A Waverly Hall 124.81 54 **PKPdf 15 19 59.1 -1.0**
MEM Membach 125.05 331 *d*PKPdf **PKiKP 15 20 00.3 0.0**
DAVA Damuels 125.06 326 *i* P **PKPdf 15 19 59.0 -1.4**
comp=Z,9.0nm,0.9s
M54A Oil Creek Stat 125.25 42 P **PKPdf 15 20 00.3 -0.3**
baz=297
DAVOX Davos/Dischmat 125.35 325 PKP **PKPdf 15 19 59.7 -1.2**
comp=Z,3.8nm,0.5s,baz=188,slow=3.4,SNR=6.8
WLF Walferdange 125.59 330 *d*PKPdf **PKiKP 15 20 01.2 -0.2**
TUE Stuetta 125.83 325 PKPdf **PKPdf 15 20 00.3 -1.5**
BMRD Maredsous 125.85 331 *d*PKP **PKPdf 15 20 00.8 -0.7**
K56A Middlesex 126.22 40 P **PKPdf 15 20 02.6 +0.1**
baz=300
HODGE Hodges 126.27 52 **PKPdf 15 20 02.0 -0.8**
O56A Blue Knob Stat 126.56 43 P **PKPdf 15 20 02.8 -0.4**
baz=297
E58A La Victoria 126.65 34 P **PKPdf 15 20 02.8 -0.3**
baz=306
KMSC Kings Mountain 126.66 50 P **PKPdf 15 20 03.0 -0.5**
baz=291
SSPA Standing Stone 126.85 42 P **PKPdf 15 20 03.1 -0.6**
baz=298
SSPA Standing Stone 126.85 42 **PKPdf 15 20 02.8 -0.9**
LONY Lake Ozonia 126.90 37 P **PKPdf 15 20 03.1 -0.6**
baz=304
J58A Remsen 127.16 38 P **PKPdf 15 20 04.3 0.0**
baz=302
H58A Gabriels 127.25 37 P **PKPdf 15 20 04.1 -0.3**
baz=304
BINY Binghamton 127.33 40 P **PKPdf 15 20 04.0 -0.6**
baz=301
L58A Harry Jones Me 127.49 40 P **PKPdf 15 20 04.5 -0.5**
baz=301
D60A Saint Jean D'O 127.60 32 P **PKPdf 15 20 04.5 -0.4**
baz=309
F60A Warwick 127.63 34 P **PKPdf 15 20 04.7 -0.4**
baz=307
I60A Shoreham 128.10 37 P **PKPdf 15 20 06.2 +0.2**
baz=305
N59A State Game Lan 128.12 41 P **PKPdf 15 20 05.9 -0.3**
baz=300
E61A Lac Etchemin 128.14 33 P **PKPdf 15 20 05.9 -0.2**
baz=309
F61A St Evariste 128.15 33 P **PKPdf 15 20 06.0 0.0**
baz=308
BNI Bardonecchia 128.18 325 PKIKP **PKPdf 15 20 05.9 -0.4**
BNI Bardonecchia 128.18 325 PKPdf **PKPdf 15 20 05.9 -0.4**
TRQA Tornquist 128.41 150 PKIKP **PKPdf 15 20 06.5 -0.4**
TRQA Tornquist 128.41 150 **PKPdf 15 20 06.5 -0.4**
H61A Lyndonville 128.50 35 P **PKPdf 15 20 06.9 +0.1**
baz=306
I61A Oroboro, Fairl 128.69 36 P **PKPdf 15 20 07.3 +0.1**
baz=306
K61A Williamstown 128.78 38 P **PKPdf 15 20 07.3 0.0**
baz=304
E63A Oxbow 129.24 31 P **PKPdf 15 20 08.3 +0.2**
baz=311
PAL Palisades 129.28 40 P **PKPdf 15 20 08.6 +0.3**
baz=302
K62A Royalston 129.41 37 P **PKPdf 15 20 08.4 -0.1**
baz=305
G63A Kingsbury 129.44 33 P **PKPdf 15 20 08.2 -0.3**
baz=309
LCO Las Campanas 129.52 136 PKIKP **PKiKP 15 20 10.2 -0.1**
LCO Las Campanas 129.52 136 PKPdf **PKiKP 15 20 10.2 -0.1**
E64A Bridgewater 129.55 31 P **PKPdf 15 20 08.9 +0.2**
baz=312
G64A Maxfield 129.82 33 P **PKPdf 15 20 09.2 -0.1**
baz=310
L63A North Scituate 130.25 38 P **PKPdf 15 20 10.0 -0.2**
baz=305
H65A Eastbrook 130.46 33 P **PKPdf 15 20 10.1 -0.3**
baz=310
G65A Princeton 130.50 32 P **PKPdf 15 20 10.1 -0.4**
baz=312
KEST Kesra 131.41 313 PKP **PKPdf 15 20 11.3 -1.4**
comp=Z,2.8nm,0.7s,baz=9.6,slow=2.0,SNR=3.7
PB06 IPOC Station P 134.00 130 **PKPdf 15 20 16.6 -1.5**
LVC Limon Verde 134.56 130 PKIKP **PKPdf 15 20 19.1 -0.2**
LVC Limon Verde 134.56 130 PKPdf **PKPdf 15 20 19.1 -0.2**
LPAZ La Paz 138.51 123 PKhKP PKPpre 15 20 17.9
comp=Z,2.9nm,0.6s,baz=290,slow=3.8,SNR=10
LPAZ PKP **PKPdf 15 20 27.6 +0.5**
comp=Z,12nm,0.9s,baz=308,slow=3.0,SNR=15
LPAZ SKPbc **SKPbc 15 23 52.3 -1.5**
comp=Z,1.3nm,0.7s,baz=180,slow=3.0,SNR=3.0
CPSB Cacapava Do Su 138.72 152 *e*P **PKPdf 15 20 26.3 -0.1**
CPUP Villa Florida 139.96 144 PKhKP PKPpre 15 20 19.4
comp=Z,1.8nm,0.6s,baz=232,slow=6.2,SNR=5.7
CPUP PKP **PKPdf 15 20 28.8 +0.1**
comp=Z,14nm,1.1s,baz=318,slow=0.7,SNR=12
CPUP Villa Florida 139.96 144 *e*P **PKPdf 15 20 29.9 +1.1**
ITAB Concordia 142.00 151 PKPdf **PKPdf 15 20 32.9 +0.5**
ETMB Extrema 143.07 115 *e*P **PKPdf 15 20 35.8 +1.2**
AOPR Arecibo Observ 144.53 67 **PKPab 15 20 34.4 -1.2**
SJG San Juan 145.14 67 PKP2 **PKPbc 15 20 36.4 -1.4**
SJG San Juan 145.14 67 **PKPbc 15 20 36.4 -1.4**
AQDB Aquidauana 145.31 140 PKPdf **PKPbc 15 20 37.5 -0.8**
TRCB Terra Rica 145.38 146 *e*P **PKPbc 15 20 38.2 -0.3**
TOA0 Torodi Ar. Sit 145.43 284 **PKPdf 15 20 37.8 -0.9**
TORD Torodi Ar. Bea 145.43 284 PKPbc **PKPdf 15 20 37.8 -0.9**
comp=Z,8.0nm,0.5s,baz=63,slow=4.0,SNR=92
TORD pPKPbc pPKPab 15 21 01.3 -1.9
comp=Z,14nm,0.7s,baz=87,slow=3.9,SNR=6.2
TORD Torodi Ar. Bea 145.43 284 PKPdf **PKPdf 15 20 37.1 -1.6**
MTP Monte Pirata 145.69 66 **PKPdf 15 20 38.2 -0.8**
SAML Samuel 146.15 116 PKP2 **PKPdf 15 20 40.1 +0.1**
SAML Samuel 146.15 116 **PKPdf 15 20 40.1 +0.1**
PTLB Pontes e Lacer 146.22 129 *e*P **PKPdf 15 20 40.1 +0.1**
FRTB Fartura 146.52 151 *e*P **PKPbc 15 20 41.9 0.0**
PET01 Itanhaem-SP 146.73 155 *e*P **PKPbc 15 20 42.4 -0.1**
VILB Vilhena 146.80 125 *e*P **PKPdf 15 20 41.6 +0.6**
PCMB Pacaembu 147.09 147 *e*P **PKPdf 15 20 42.0 +0.6**
SPB Sao Paulo 147.28 154 *e*P **PKPbc 15 20 43.9 -0.1**
PP1B Ponte de Pedra 147.91 137 *e*P **PKPdf 15 20 44.0 +1.2**
VAO Valinhos 148.00 155 *e*P **PKPdf 15 20 43.9 +1.0**
PARB Paraibuna 148.25 157 *e*P **PKPbc 15 20 46.7 0.0**
RCLB Rio Claro- Sao 148.26 153 *e*P **PKPdf 15 20 44.2 +0.8**
SALV Santo Antonio 148.50 134 *e*P **PKPdf 15 20 44.4 +0.6**
BB19B Bebedouro 148.95 150 *e*P **PKPdf 15 20 46.3 +1.8**
ESAR Angra dos Reis 148.98 159 *e*P **PKPdf 15 20 45.7 +1.3**
ITRB Iturama 149.12 146 *e*P **PKPdf 15 20 46.6 +1.8**
VAS01 Vassouras-RJ 150.02 160 *e*P **PKPdf 15 20 46.7 +0.5**
DUB01 Friburgo-RJ 150.56 161 *e*P **PKPdf 15 20 47.7 +0.7**
KOWA Kowa 150.61 289 **PKPbc 15 20 51.1 -1.6**
BSCB Bom Sucesso 150.69 156 *e*P **PKPdf 15 20 48.0 +0.7**
ARAG Araguaiana, MT 151.31 139 *e*P **PKPdf 15 20 48.5 +0.3**
CLDB Colider 151.53 126 *e*P **PKPdf 15 20 49.0 +0.4**
IPMB Ipameri, GO 151.69 147 *e*P **PKPdf 15 20 49.5 +0.6**
BOAV Boa Vista 151.97 96 *e*P **PKPdf 15 20 52.3 +2.9**
KIC Kosan Boka 152.26 272 *e*P **PKiKP 15 20 56.9 +0.1**
TIC Toumodi 152.54 273 *e*P **PKiKP 15 20 57.9 +0.5**
LIC Lamto 152.54 272 *e*P **PKPbc 15 20 55.9 -1.3**
DIAM Diamantina, MG 153.56 156 *e*P **PKPdf 15 20 52.9 +1.2**
BDFB Brasilia 153.69 145 PKP **PKPdf 15 20 51.8 -0.1**
comp=Z,6.7nm,0.7s,baz=192,slow=4.9,SNR=7.6
BDFB PKPbc **PKPbc 15 20 59.6 -0.1**
comp=Z,16nm,0.5s,baz=210,slow=2.4,SNR=23
BDFB Brasilia 153.69 145 PKIKP **PKPdf 15 20 51.4 -0.5**
BDFB 15 21 12.5
BDFB Brasilia 153.69 145 PKPdf **PKPdf 15 20 51.4 -0.5**
BDFB **PKPbc 15 20 59.4 -0.4**
BDFB PKPab **PKPab 15 21 12.4 -0.2**
SJMB Sao Joao De Ma 154.10 161 *e*P **PKPdf 15 20 55.1 +2.8**
SNMB Serra Nova Dou 154.28 134 *e*P **PKPdf 15 20 53.0 +0.4**
MC01 Montes Claros 154.87 154 *e*P **PKPdf 15 20 54.6 +1.1**
PRPB Parauapebas 159.05 125 *e*P **PKPdf 15 21 00.0 +1.2**
SMTB Santa Maria do 159.06 134 *e*P **PKPdf 15 20 59.9 +1.0**
MCPB Macapa, AP 159.63 107 *e*P **PKPdf 15 21 00.7 +1.2**
TMAB Tom-Au,PA,Br 162.49 118 *e*P **PKPdf 15 21 05.1 +2.6**
ROSB Rosrio 165.55 127 *e*P **PKPdf 15 21 06.7 +1.4**
NBPB Pedra_Branca-C 166.65 149 *e*P **PKPdf 15 21 07.7 +1.5**
NBPA Parau_RN 167.55 159 *e*P **PKPdf 15 21 08.7 +1.9**
NBMO Morrinhos-CE 168.20 141 *e*P **PKPdf 15 21 08.6 +1.2**

*JMA **02** 15:07:31.0±0.4, 30°.10N×143°.67E, h20km, M4.7*
*IDC **02** 15:07:34.0±0.6, 30°.06N×143°.27E, h0km, mb4.2/30, mb1 4.4/34, mb1mx4.2/74, mbtmp4.3/34, ML3.8/4, MS3.8/2, Ms1 3.9/2, ms1mx2.8/46, Error ellipse: s-maj=16.2km s-min=14.4km az=72.0*
*NEIC **02** 15:07:39.1±2.1, 30°.03N±0°.05×143°.2E±0°.1, h34km±2km, mb4.7/80, Error ellipse: s-maj=13.0km s-min=7.2km az=87.0*
ISC 02 15:07:38.0±0.4, **30°.03N**±0°.05×**143°.16E**±0°.07, **h30**km, **n157**, σ1°**36**/159, **mb4.5**/66, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.05**	**197**	P	**Pn**	**15 08 22.8**	**-1.4**
JCJ	**Chichijima**	**3.05**	**197**	Pn	**Pn**	**15 08 23.1**	**-1.2**
37nm,0.3s,baz=13,slow=19,SNR=14							
JCJ				Sn	**Sn**	**15 08 56.9**	**-2.9**
44nm,0.3s,baz=276,slow=23,SNR=2.2							
JCJ	**Chichijima**	**3.05**	**197**	P	**Pn**	**15 08 23.2**	**-1.0**
JHH2	**Haha-jima-NKT2**	**3.50**	**195**	P	**Pn**	**15 08 29.1**	**-1.3**
JHJ2	**Mitsune**	**4.19**	**318**	P	**Pn**	**15 08 38.9**	**-1.0**
JHJ2	**Mitsune**	**4.19**	**318**	Pn	**Pn**	**15 08 37.6**	**-2.3**
JHJ	**Hachijo jima 2**	**4.22**	**318**	Pn	**Pn**	**15 08 38.8**	**-1.5**
11nm,0.3s,baz=92,slow=6.1,SNR=2.4							
JHJ				Sn	**Sn**	**15 09 26.2**	**-2.2**
24nm,0.3s,baz=70,slow=20,SNR=1.8							
BSO1	**Boso 1**	**4.96**	**339**	P	**Pn**	**15 08 47.9**	**-2.1**
JOD2	**Odawara 2**	**6.25**	**328**	*e*S	**Sn**	**15 10 19.1**	**+0.6**
JHU	**Hanno**	**6.66**	**332**	P	**Pn**	**15 09 12.8**	**-1.0**
JYT	**Yasato**	**6.66**	**339**	P	**Pn**	**15 09 12.2**	**-1.6**
JYT				*e*S	**Sn**	**15 10 26.3**	**-2.4**
JYT	**Yasato**	**6.66**	**339**	Pn	**Pn**	**15 09 12.2**	**-1.6**
JHO	**Hitachi**	**6.91**	**342**	P	**Pn**	**15 09 15.0**	**-2.2**
JNY	**Yasuok**	**6.94**	**321**	P	**Pn**	**15 09 19.2**	**+1.5**
JRY	**Ryogami san**	**6.96**	**330**	P	**Pn**	**15 09 17.0**	**-0.9**
JAG	**Ashikaga**	**7.09**	**335**	*e*S	**Sn**	**15 10 35.6**	**-3.7**
JGF	**Kuroka**	**7.40**	**320**	Pn	**Pn**	**15 09 24.4**	**+0.5**
INU	**Inuyama**	**7.41**	**317**	Pn	**Pn**	**15 09 24.6**	**+0.5**
JFK	**Kawauchi**	**7.56**	**346**	P	**Pn**	**15 09 22.9**	**-3.3**
MJAR	**Matsushiro Arr**	**7.70**	**329**	Pn	**Pn**	**15 09 26.4**	**-1.7**
0.8nm,0.3s,baz=143,slow=12,SNR=11							
MJAR				Sn	**Sn**	**15 10 51.7**	**-2.7**
0.1nm,0.3s,baz=42,slow=54,SNR=1.2							
MAJO	**Matsushiro**	**7.70**	**329**	Pn	**Pn**	**15 09 27.7**	**-0.5**
MAT	**Matsushiro**	**7.70**	**329**	P	**Pn**	**15 09 26.9**	**-1.3**
MAT				S	**Sn**	**15 10 51.8**	**-2.6**
MJB9	**Matsu-Tunnel**	**7.71**	**329**	Pn	**Pn**	**15 09 27.8**	**-0.4**
JMM	**Marumori**	**8.06**	**346**	Pn	**Pn**	**15 09 29.7**	**-3.3**
JWT	**Wachi**	**8.38**	**311**	Pn	**Pn**	**15 09 33.5**	**-3.9**
JSD	**Sado**	**8.96**	**334**	Pn	**Pn**	**15 09 44.7**	**-0.7**
JMK	**Ichinoseki**	**9.04**	**350**	P	**Pn**	**15 09 42.9**	**-3.5**
ERM	**Erimo**	**11.96**	**360**	Pn	Pn	15 10 20.3	-6.0
JEW	**Eniwo**	**12.86**	**354**	Pn	**Pn**	**15 10 34.6**	**-4.1**
JKA	**Kamikawa-asahi**	**14.06**	**358**	Pn	**Pn**	**15 10 50.5**	**-4.6**
ASAJ	**Asahikawa**	**14.07**	**358**	Pn	**Pn**	**15 10 50.5**	**-4.7**
2.7nm,0.3s,baz=218,slow=11,SNR=26							
ASAJ				Sn	Sn	15 13 16.3	-14
0.3nm,0.3s,baz=349,slow=30,SNR=1.9							
KSRS	**Korea Array**	**14.67**	**304**	Pn	**Pn**	**15 11 05.8**	**+2.4**
0.3nm,0.3s,baz=112,slow=13,SNR=9.9							
KSAR	**Wonju Array Be**	**14.69**	**304**		**Pn**	**15 11 03.0**	**-0.8**
YSS	**Yuzh-Sakhalins**	**16.90**	**359**	Pn	**Pn**	**15 11 31.0**	**-1.2**
MDJ	**Mudanjiang**	**18.09**	**327**	P	**Pn**	**15 11 44.3**	**-2.6**
NACB	**Ninganchiao**	**20.06**	**258**	P	**P**	**15 12 06.6**	**-2.3**
YULB	**Yu-li**	**20.61**	**256**	P	**P**	**15 12 14.6**	**-0.3**
YULB				IAmb	IAmb	15 12 43.0	
comp=Z,49nm,1.6s							
SSLB	**Suanglung**	**20.74**	**258**		**P**	**15 12 16.9**	**+0.6**
SSLB				IAmb	IAmb	15 12 44.3	
comp=Z,41nm,1.5s							
KLR	**Kul'dur**	**21.05**	**339**	P	**P**	**15 12 20.3**	**+0.9**
comp=Z,3.2nm,0.5s,baz=167,slow=12,SNR=1.8							
TPUB	**Ta-pu**	**21.20**	**257**	P	**P**	**15 12 21.3**	**0.0**
TPUB				IAmb	IAmb	15 12 42.9	
comp=Z,59nm,1.5s							
SONM	**Songino Array**	**33.28**	**313**	P	**P**	**15 14 14.2**	**+1.4**
comp=Z,1.8nm,0.7s,baz=114,slow=7.2,SNR=3.2							
SEY	**Seymchan**	**33.45**	**8**	P	**P**	**15 14 14.3**	**+0.3**
comp=Z,4.6nm,0.9s,baz=189,slow=10,SNR=3.2							
CMAR	**Chiang Mai Arr**	**41.70**	**264**	LR	LR	15 32 18.4	
comp=Z,58nm,21.4s,baz=152,slow=36							
TIXI	**Tiksi**	**42.40**	**353**	P	**P**	**15 15 29.2**	**-0.1**
comp=Z,4.3nm,0.9s,baz=138,slow=8.6,SNR=3.5							
TIXI	**Tiksi**	**42.40**	**353**	P	**P**	**15 15 28.5**	**-0.8**
MTN	**Manton Dam**	**44.17**	**197**	P	**P**	**15 15 42.6**	**-1.6**
SDPT	**Sand Point**	**46.91**	**41**	P	**P**	**15 16 04.3**	**-1.2**
SDPT				IAmb	IAmb	15 16 05.2	
comp=Z,11nm,0.7s							
SVW2				IAML		15 09 37.3	
comp=N,14nm,0.7s							
SVW2				IAML		15 09 40.5	
comp=E,16nm,1.7s							
SEW	**Seward**	**5.42**	**39**	Pn	**Pn**	**15 08 05.1**	**-0.3**
CAPN	**Captain Cook N**	**5.42**	**27**	Pn	**Pn**	**15 08 07.0**	**+1.5**
O22K	**Cooper Landing**	**5.61**	**35**	Pn	**Pn**	**15 08 08.7**	**+0.7**
AKUT	**Akutan**	**5.81**	**255**	Pn	**Pn**	**15 08 09.8**	**-1.1**
RC01	**Rabbit Creek A**	**6.08**	**31**	Pn	**Pn**	**15 08 14.9**	**+0.4**
SUA	**Susitna One**	**6.12**	**25**	Pn	**Pn**	**15 08 14.3**	**-1.0**
PWL	**Port Wells**	**6.35**	**37**	Pn	**Pn**	**15 08 17.5**	**-0.7**
SKT	**Skwentna**	**6.42**	**20**	Pn	**Pn**	**15 08 19.0**	**-0.2**
KNK	**Knik Glacier**	**6.72**	**34**	Pn	**Pn**	**15 08 24.6**	**+1.3**
GLI	**Glacier Island**	**6.80**	**41**	Pn	**Pn**	**15 08 24.4**	**0.0**
GHO	**Glory Hole Cre**	**6.86**	**30**	Pn	**Pn**	**15 08 25.8**	**+0.4**
FID	**Port Fidalgo**	**6.95**	**43**	Pn	**Pn**	**15 08 25.6**	**-0.8**
CUT	**Chulitna**	**7.06**	**23**	Pn	**Pn**	**15 08 28.2**	**+0.3**
SML	**Sawmill**	**7.06**	**32**	Pn	**Pn**	**15 08 27.9**	**-0.1**
EYAK	**Cordova Ski Ar**	**7.12**	**46**	Pn	**Pn**	**15 08 29.5**	**+0.8**
PPLA	**Purkeypile**	**7.16**	**15**	Pn	**Pn**	**15 08 31.0**	**+1.6**
SCM	**Sheep Creek Mo**	**7.39**	**35**	Pn	**Pn**	**15 08 32.0**	**-0.6**
HMT	**Hamilton**	**7.63**	**51**	Pn	**Pn**	**15 08 34.6**	**-1.3**
KLU	**Klutina**	**7.63**	**40**		**Pn**	**15 08 34.7**	**-1.2**
SUCK	**Suckling Hills**	**7.73**	**53**	Pn	**Pn**	**15 08 36.5**	**-0.5**
BMRM	**Bremner River**	**7.82**	**46**	Pn	**Pn**	**15 08 37.1**	**-1.3**
SPIA	**Saint Paul Isl**	**7.82**	**284**	Pn	**Pn**	**15 08 39.8**	**+1.4**
M24K	**Tolsona, Glenn**	**7.97**	**36**	Pn	**Pn**	**15 08 41.8**	**+1.4**
NIKH	**Nikolski High**	**7.97**	**252**	Pn	**Pn**	**15 08 42.2**	**+1.7**
KTH	**Kantishna Hill**	**7.98**	**17**	Pn	**Pn**	**15 08 41.3**	**+0.7**
TRF	**Thornfare Moun**	**8.00**	**19**	Pn	**Pn**	**15 08 40.5**	**-0.4**
N25K	**Chitina, Valde**	**8.20**	**42**	Pn	**Pn**	**15 08 45.1**	**+1.5**
RND	**Reindeer**	**8.25**	**24**	Pn	**Pn**	**15 08 43.7**	**-0.6**
WAX	**Waxell Ridge**	**8.31**	**52**	Pn	**Pn**	**15 08 46.0**	**+0.9**
GLB	**Gilahina Butte**	**8.41**	**45**	Pn	**Pn**	**15 08 45.0**	**-1.4**
BPAW	**Bear Paw Mtn.**	**8.48**	**16**	Pn	**Pn**	**15 08 46.4**	**-1.0**
ISLE	**Juniper Island**	**8.60**	**52**	Pn	**Pn**	**15 08 46.5**	**-2.7**
YAH	**Yahtse**	**8.77**	**55**	Pn	**Pn**	**15 08 49.7**	**-1.9**
PAX	**Paxson**	**8.82**	**34**	Pn	**Pn**	**15 08 50.8**	**-1.3**
TABL	**Table Mountain**	**9.08**	**55**	Pn	**Pn**	**15 08 55.2**	**-0.5**
MENT	**Mentasta**	**9.37**	**37**	Pn	**Pn**	**15 08 59.8**	**+0.2**
HDA	**Harding Lake**	**9.55**	**25**	Pn	**Pn**	**15 08 59.4**	**-2.6**
CCB	**Clear Creek Bu**	**9.56**	**22**	Pn	**Pn**	**15 08 59.0**	**-3.2**
BCPM	**Bancas Point**	**9.62**	**59**	Pn	**Pn**	**15 09 01.7**	**-1.3**
ANM	**Nome**	**9.66**	**336**	Pn	**Pn**	**15 09 02.5**	**-1.0**
I23K	**Minto, Yukon-K**	**9.72**	**17**	Pn	**Pn**	**15 09 01.5**	**-2.8**
MDM	**Murphy Dome**	**9.75**	**20**	Pn	**Pn**	**15 09 02.2**	**-2.6**
IL31		**9.87**	**24**	Pn	**Pn**	**15 09 03.5**	**-2.9**
ILAR	**Eielson Array**	**9.87**	**24**	Pn	**Pn**	**15 09 03.1**	**-3.3**
comp=E,0.2nm,0.3s,baz=211,slow=14,SNR=7.3							
ILAR				Sn	Sn	15 10 44.5	-11
comp=E,0.1nm,0.3s,baz=223,slow=9.9,SNR=1.5							
ILAR	**Eielson Array**	**9.87**	**24**		**Pn**	**15 09 02.1**	**-4.4**
SCRK	**Sand Creek**	**10.01**	**33**	Pn	**Pn**	**15 09 07.1**	**-1.3**
L27K	**Beaver Creek,**	**10.11**	**40**	Pn	**Pn**	**15 09 08.6**	**-1.1**
BCAR	**Beaver Creek A**	**10.13**	**40**	Pn	**Pn**	**15 09 09.7**	**-0.3**
K27K	**Chicken**	**10.65**	**36**	Pn	**Pn**	**15 09 15.7**	**-1.3**
INK	**Inuvik**	**16.07**	**31**	Pn	**Pn**	**15 10 30.9**	**+1.1**
comp=E,0.3nm,0.3s,baz=270,slow=13,SNR=4.4							
INK	**Inuvik**	**16.07**	**31**		**P**	**15 10 31.5**	**-1.2**
C36M	**Paulatuk**	**19.53**	**34**	P	**P**	**15 11 10.4**	**-0.2**
NVAR	**Mina Array Bea**	**30.68**	**109**	P	P	15 13 01.7	+3.8
comp=E,0.2nm,0.5s,baz=297,slow=7.0,SNR=2.7							
TXAR	**Lajitas Array**	**45.47**	**103**	P	**P**	**15 15 05.6**	**+3.5**
comp=E,0.3nm,0.6s,baz=273,slow=3.8,SNR=4.1							
SONM	**Songino Array**	**55.73**	**306**	P	**P**	**15 16 18.7**	**-0.5**
comp=E,1.7nm,0.6s,baz=44,slow=6.6,SNR=6.0							
HFS	**Hagfors**	**63.88**	**6**	P	**P**	**15 17 14.3**	**-0.6**
comp=E,0.9nm,0.7s,baz=316,slow=6.0,SNR=1.8							
AKASG	**Malin Array Be**	**73.52**	**356**	P	**P**	**15 18 13.9**	**-1.1**
comp=E,0.5nm,0.4s,baz=11,slow=5.9,SNR=3.5							
CMAR	**Chiang Mai Arr**	**82.87**	**292**	P	**P**	**15 19 07.2**	**-0.1**
comp=E,0.7nm,0.7s,baz=18,slow=7.5,SNR=4.4							

*IDC **02** 15:06:41.8±1.3, 56°.04N×156°.90W, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.6/70, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=28.1km s-min=21.2km az=170.0*
*NEIC **02** 15:06:46.9±2.3, 56°.00N±0°.05×156°.15W±0°.04, h46km±11km, Error ellipse: s-maj=8.0km s-min=2.8km az=190.0*
*AEIC **02** 15:06:48.1±2.7, 55°.98N±0°.07×156°.17W±0°.09, h50km±7km, ML3.2/25, ML3.3/16(NEIC), Error ellipse: s-maj=10.6km s-min=6.3km az=

CNBA	**Chernabura Isl**	**47.34**	**41**	P	**P**	**15 16 08.6**	**-0.3**
CNBA				IAmb	IAmb	15 16 09.0	
comp=Z,7.0nm,0.7s							
ZALV	**Zalesovo Beam**	**47.88**	**317**	P	**P**	**15 16 13.0**	**-0.1**
comp=Z,1.1nm,0.6s,baz=99,slow=9.2,SNR=2.5							
ZALV				PcP	**PcP**	**15 17 41.7**	**+0.4**
comp=Z,1.3nm,0.6s,baz=126,slow=3.9,SNR=3.1							
MK31	**Makanchi Array**	**49.32**	**308**	P	**P**	**15 16 25.9**	**+1.5**
MKAR	**Makanchi Array**	**49.32**	**308**	P	**P**	**15 16 25.6**	**+1.2**
comp=Z,1.4nm,0.7s,baz=88,slow=8.9,SNR=3.5							
MKAR	**Makanchi Array**	**49.32**	**308**	P	**P**	**15 16 26.0**	**+1.7**
MAKZ	**Makanchi**	**49.53**	**308**	P	**P**	**15 16 27.9**	**+2.0**
CTAO	**Charters Tower**	**49.92**	**176**	P	**P**	**15 16 30.1**	**+1.1**
WB0	**Warramunga Arr**	**50.23**	**191**	P	**P**	**15 16 31.6**	**+0.2**
NRIK	**Noril'sk**	**50.25**	**338**	P	**P**	**15 16 31.9**	**+0.8**
comp=Z,4.5nm,0.8s,baz=112,slow=8.5,SNR=3.5							
SVW2	**Sparrevohn**	**50.37**	**34**	P	**P**	**15 16 32.8**	**+0.7**
SVW2				IAmb	IAmb	15 16 33.8	
comp=Z,3.8nm,0.8s							
WR0	**Warramunga Arr**	**50.39**	**191**	P	**P**	**15 16 33.2**	**+0.5**
WR0				IAmb	IAmb	15 16 58.4	
comp=Z,21nm,1.4s							
WRAB	**Tennant Creek**	**50.40**	**191**	P	**P**	**15 16 33.3**	**+0.6**
WRAB				IAmb	IAmb	15 17 00.8	
comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**50.41**	**191**	P	**P**	**15 16 33.3**	**+0.6**
WRA	**Warramunga Arr**	**50.41**	**191**	P	**P**	**15 16 33.8**	**+1.0**
comp=Z,6.8nm,0.7s,baz=17,slow=8.8,SNR=15							
WRA	**Warramunga Arr**	**50.41**	**191**	P	**P**	**15 16 32.3**	**-0.4**
KDAK	**Kodiak Island**	**51.52**	**38**	P	**P**	**15 16 40.4**	**-0.2**
comp=Z,5.8nm,0.4s,baz=287,slow=4.1,SNR=14							
KDAK	**Kodiak Island**	**51.52**	**38**	P	**P**	**15 16 40.6**	**-0.1**
KURK	**Kurchatov**	**51.59**	**313**	P	**P**	**15 16 42.4**	**+1.1**
KURBB	**Kurchatov Arra**	**51.65**	**313**	P	**P**	**15 16 42.4**	**+0.6**
comp=Z,1.5nm,0.5s,baz=88,slow=7.8,SNR=13							
RSO	**Redoubt South**	**51.66**	**35**	P	**P**	**15 16 42.2**	**+0.2**
PPLA	**Purkeypile**	**52.21**	**32**	P	**P**	**15 16 46.9**	**+0.9**
PPLA				IAmb	IAmb	15 16 57.4	
comp=Z,26nm,1.7s							
CNPM	**China Poot**	**52.34**	**36**	P	**P**	**15 16 46.2**	**-0.6**
CNPM				IAmb	IAmb	15 16 47.0	
comp=Z,11nm,0.8s							
SKT	**Skwentna**	**52.41**	**33**	P	**P**	**15 16 47.2**	**-0.1**
SKT				IAmb	IAmb	15 16 48.1	
comp=Z,4.7nm,0.8s							
GHO	**Glory Hole Cre**	**53.62**	**33**	P	**P**	**15 16 57.0**	**+0.6**
RND	**Reindeer**	**53.77**	**31**	P	**P**	**15 16 57.1**	**-0.3**
RND				IAmb	IAmb	15 17 07.2	
comp=Z,7.0nm,0.9s							
NEA2	**Nenana**	**53.79**	**30**	P	**P**	**15 16 57.7**	**+0.2**
NEA2				IAmb	IAmb	15 17 00.5	
comp=Z,11nm,1.2s							
KNK	**Knik Glacier**	**53.82**	**34**	P	**P**	**15 16 58.1**	**+0.3**
KNK				IAmb	IAmb	15 16 59.9	
comp=Z,14nm,1.0s							
PWL	**Port Wells**	**53.86**	**34**	P	**P**	**15 16 58.1**	**+0.1**
SML	**Sawmill**	**53.90**	**33**	P	**P**	**15 16 56.5**	**-1.9**
SML				IAmb	IAmb	15 17 10.1	
comp=Z,13nm,1.0s							
AS31	**Alice Springs**	**54.12**	**190**	P	**P**	**15 17 01.0**	**+0.6**
ASAR	**Alice Springs**	**54.13**	**190**	P	**P**	**15 17 01.1**	**+0.7**
comp=Z,2.2nm,0.8s,baz=3.1,slow=5.6,SNR=16							
MDM	**Murphy Dome**	**54.18**	**29**	P	**P**	**15 17 00.7**	**+0.4**
MDM				IAmb	IAmb	15 17 10.7	
comp=Z,15nm,1.7s							
CCB	**Clear Creek Bu**	**54.33**	**30**	P	**P**	**15 17 01.9**	**+0.5**
CCB				IAmb	IAmb	15 17 08.5	
comp=Z,9.9nm,1.6s							
SCM	**Sheep Creek Mo**	**54.38**	**33**	P	**P**	**15 17 01.5**	**-0.4**
SCM				IAmb	IAmb	15 17 03.3	
comp=Z,12nm,0.8s							
GLI	**Glacier Island**	**54.46**	**34**	P	**P**	**15 17 02.4**	**0.0**
GLI				IAmb	IAmb	15 17 43.8	
comp=Z,13nm,1.2s							
HDA	**Harding Lake**	**54.69**	**30**	P	**P**	**15 17 03.4**	**-0.6**
HDA				IAmb	IAmb	15 17 04.0	
comp=Z,3.7nm,0.7s							
IL31		**54.74**	**30**	P	**P**	**15 17 03.3**	**-0.9**
IL31				IAmb	IAmb	15 17 16.5	
comp=Z,17nm,1.7s							
ILAR	**Eielson Array**	**54.74**	**30**	P	**P**	**15 17 03.7**	**-0.6**
comp=Z,2.3nm,0.8s,baz=262,slow=6.5,SNR=4.8							
ILAR	**Eielson Array**	**54.74**	**30**	P	**P**	**15 17 03.8**	**-0.5**
M24K	**Tolsona, Glenn**	**54.94**	**33**	P	**P**	**15 17 07.0**	**+1.2**
KLU	**Klutina**	**55.04**	**34**	P	**P**	**15 17 07.3**	**+0.6**
N25K	**Chitina, Valde**	**55.68**	**33**	P	**P**	**15 17 11.8**	**+0.5**
BMRM	**Bremner River**	**55.68**	**34**	P	**P**	**15 17 12.2**	**+0.9**
BMRM				IAmb	IAmb	15 17 21.5	
comp=Z,13nm,1.1s							
KHLU	**Kahalu`u**	**55.73**	**86**	P	**P**	**15 17 11.9**	**-0.4**
DOT	**Dot Lake**	**55.93**	**31**	P	**P**	**15 17 11.3**	**-1.6**
DOT				IAmb	IAmb	15 17 13.2	
comp=Z,3.8nm,0.8s							
SCRK	**Sand Creek**	**55.97**	**31**	P	**P**	**15 17 13.0**	**-0.4**
SCRK				IAmb	IAmb	15 17 14.0	
comp=Z,3.8nm,0.6s							
PSA00	**Pilbara Seismi**	**56.00**	**206**	P	**P**	**15 17 14.2**	**+0.4**
PSA00				IAmb	IAmb	15 17 15.1	
comp=Z,11nm,1.0s							
PSA00	**Pilbara Seismi**	**56.00**	**206**	P	**P**	**15 17 14.3**	**+0.4**
PSA00				IAmb	IAmb	15 17 16.5	
comp=Z,12nm,1.6s							
BVAR	**Borovoye Array**	**56.50**	**316**	P	**P**	**15 17 17.7**	**+0.5**
comp=Z,1.4nm,0.6s,baz=218,slow=9.4,SNR=5.3							
BRVK	**Borovoye**	**56.56**	**316**	P	**P**	**15 17 18.9**	**+1.3**
WAX	**Waxell Ridge**	**56.56**	**35**	P	**P**	**15 17 18.5**	**+1.0**
ISLE	**Juniper Island**	**56.80**	**35**	P	**P**	**15 17 19.2**	**-0.1**
K27K	**Chicken**	**56.81**	**31**	P	**P**	**15 17 19.9**	**+0.7**
K27K				IAmb	IAmb	15 17 23.3	
comp=Z,10nm,1.4s							
L27K	**Beaver Creek,**	**56.94**	**32**	P	**P**	**15 17 20.6**	**+0.4**
L27K				IAmb	IAmb	15 18 04.3	
comp=Z,15nm,1.8s							
BCAR	**Beaver Creek A**	**56.96**	**32**	P	**P**	**15 17 20.8**	**+0.4**
YAH	**Yahtse**	**57.11**	**35**	P	**P**	**15 17 22.6**	**+1.0**
CTGM	**Chitina Glacie**	**57.28**	**34**	P	**P**	**15 17 22.6**	**-0.2**
DAWY	**Dawson**	**57.99**	**30**	P	**P**	**15 17 28.3**	**+0.8**
DAWY				IAmb	IAmb	15 17 29.1	
comp=Z,4.1nm,0.8s							
KK31	**Karatay Array**	**58.10**	**305**	P	**P**	**15 17 29.3**	**+0.7**
KKAR	**Karatay Array**	**58.10**	**305**	P	**P**	**15 17 29.1**	**+0.4**
KKAR	**Karatay Array**	**58.10**	**305**	P	**P**	**15 17 28.9**	**+0.2**
KKAR				IAmb	IAmb	15 17 31.2	
comp=Z,3.5nm,0.9s							
EPYK	**Eagle Plains**	**58.95**	**28**		**P**	**15 17 34.3**	**0.0**
HYT	**Haines Junctio**	**59.15**	**34**	P	**P**	**15 17 35.7**	**-0.1**
INK	**Inuvik**	**60.01**	**25**	P	**P**	**15 17 41.6**	**+0.2**
comp=Z,2.1nm,0.5s,baz=297,slow=5.4,SNR=5.3							
INK	**Inuvik**	**60.01**	**25**	P	**P**	**15 17 41.8**	**+0.4**
CHGR	**Chuyangaron**	**60.21**	**300**	P	**P**	**15 17 43.4**	**-0.1**
WHY	**Whitehorse**	**60.45**	**34**	P	**P**	**15 17 44.9**	**+0.2**
WHY				IAmb	IAmb	15 18 06.7	
comp=Z,8.0nm,1.1s							
FORT	**Forrest**	**62.16**	**195**	P	**P**	**15 17 56.1**	**-0.3**
ARU	**Arti**	**62.65**	**321**	P	**P**	**15 18 00.1**	**+0.6**
comp=Z,1.6nm,0.4s,baz=72,slow=2.0,SNR=5.2							
ARU	**Arti**	**62.65**	**321**	P	**P**	**15 17 59.6**	**+0.1**
ARU				IAmb	IAmb	15 18 01.3	
comp=Z,17nm,1.5s							
C36M	**Paulatuk**	**63.21**	**23**	P	**P**	**15 18 03.0**	**+0.1**
C36M				IAmb	IAmb	15 18 30.7	
comp=Z,5.6nm,0.9s							
ABKAR	**Akbulak array**	**63.69**	**313**	P	**P**	**15 18 07.0**	**+0.5**
AKTO	**Aktyubinsk**	**64.55**	**315**	P	**P**	**15 18 12.7**	**+0.5**
comp=Z,1.8nm,0.8s,baz=67,slow=3.7,SNR=4.1							
KIRV	**Kirov**	**66.77**	**325**	P	**P**	**15 18 27.4**	**+1.1**
comp=Z,20nm,0.7s,baz=221,slow=4.3,SNR=4.5							
YKA	**Yellowknife Ar**	**69.16**	**29**	P	**P**	**15 18 41.0**	**-0.3**
comp=Z,0.8nm,0.7s,baz=290,slow=5.9,SNR=6.0							
ARCES	**ARCESS Array B**	**71.06**	**341**	P	**P**	**15 18 54.1**	**+1.3**
comp=Z,1.4nm,0.9s,baz=64,slow=10,SNR=2.3							
PINE	**Pine Mountain**	**73.81**	**49**	P	**P**	**15 19 10.4**	**+0.5**
PINE				IAmb	IAmb	15 19 13.7	
comp=Z,26nm,1.8s							
NEW	**Newport**	**74.17**	**43**	P	**P**	**15 19 11.7**	**-0.1**
comp=Z,2.8nm,0.7s,baz=272,slow=1.3,SNR=4.3							
NEW	**Newport**	**74.17**	**43**	IAmb	IAmb	15 19 13.4	
comp=Z,4.5nm,1.1s							
WALA	**Waterton Lakes**	**75.67**	**41**	P	**P**	**15 19 21.1**	**+0.6**
WALA				IAmb	IAmb	15 19 22.3	
comp=Z,18nm,1.6s							
FIA1	**FINESS Array S**	**75.70**	**334**	P	**P**	**15 19 21.0**	**+0.8**
FINES	**FINESS Array B**	**75.70**	**334**	P	**P**	**15 19 21.2**	**+0.9**
comp=Z,2.8nm,0.6s,baz=66,slow=5.4,SNR=17							
JTMT	**Jette**	**76.10**	**43**	P	**P**	**15 19 23.1**	**+0.1**
JTMT				IAmb	IAmb	15 19 34.1	
comp=Z,15nm,1.4s							
RUBR	**Rubicon Trail**	**76.47**	**53**	P	**P**	**15 19 26.3**	**+0.9**
KBZ	**Khabaz**	**76.65**	**313**	P	**P**	**15 19 27.8**	**+1.9**
comp=Z,1.6nm,0.7s,baz=85,slow=2.4,SNR=2.8							
CMB	**Columbia Colle**	**76.78**	**54**	P	**P**	**15 19 25.8**	**-1.1**
PNTR	**Pine Nut**	**76.84**	**52**	P	**P**	**15 19 29.1**	**+1.7**
PNTR				IAmb	IAmb	15 19 37.9	
comp=Z,3.8nm,0.7s							
MEF	**Metsahovi**	**77.11**	**333**	*eP*	**P**	**15 19 29.5**	**+1.3**
SUMG	**Summit**	**77.66**	**0**	P	**P**	**15 19 33.0**	**+1.4**
SUMG				IAmb	IAmb	15 19 43.2	
comp=Z,12nm,1.5s							
KVN	**Kaiserville**	**77.88**	**52**	P	**P**	**15 19 33.6**	**+0.4**
KVN				IAmb	IAmb	15 19 44.1	
comp=Z,6.6nm,1.3s							
LHV	**Little Huntoon**	**77.99**	**53**	P	**P**	**15 19 32.8**	**-0.8**
NVAR	**Mina Array Bea**	**78.04**	**53**	P	**P**	**15 19 34.7**	**+0.5**
comp=Z,1.7nm,0.7s,baz=293,slow=5.7,SNR=12							
NVAR	**Mina Array Bea**	**78.04**	**53**	P	**P**	**15 19 33.9**	**-0.3**
NV11	**Mina Array Sit**	**78.14**	**52**	P	**P**	**15 19 35.2**	**+0.5**
LRM	**Limekiln Ridge**	**78.15**	**44**	P	**P**	**15 19 34.8**	**+0.1**
FFC	**Flin Flon**	**78.81**	**32**	P	**P**	**15 19 37.2**	**-0.6**
PABE	**Paberze**	**80.28**	**330**	*eP*	**P**	**15 19 47.2**	**+1.5**
AKASG	**Malin Array Be**	**80.76**	**324**	P	**P**	**15 19 49.0**	**+0.6**
comp=Z,1.0nm,0.4s,baz=50,slow=5.9,SNR=6.4							
HFS	**Hagfors**	**81.07**	**337**	P	**P**	**15 19 50.2**	**+0.3**
comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=3.7							
NB2	**NORSAR Subarra**	**81.21**	**339**	P	**P**	**15 19 51.4**	**+0.7**
comp=Z,0.5nm,0.6s,baz=40,slow=5.3							
NOA	**NORSAR Array B**	**81.21**	**339**	P	**P**	**15 19 51.1**	**+0.4**
comp=Z,1.7nm,0.8s,baz=39,slow=5.1,SNR=4.2							
PDAR	**Pinedale Array**	**81.53**	**45**	P	**P**	**15 19 53.2**	**+0.1**
comp=Z,0.7nm,0.7s,baz=178,slow=2.4,SNR=3.7							
PFO	**Pinyon Flats O**	**81.72**	**56**	P	**P**	**15 19 53.7**	**-0.4**
comp=Z,0.8nm,0.3s,baz=186,slow=2.2,SNR=3.6							
PFO	**Pinyon Flats O**	**81.72**	**56**	IAmb	IAmb	15 19 56.7	
comp=Z,2.9nm,0.8s							
KNB	**Kanab**	**82.51**	**52**	P	**P**	**15 19 59.0**	**+0.8**
KNB				IAmb	IAmb	15 20 00.3	
comp=Z,7.1nm,0.9s							
PV13	**Radium Mtn., P**	**84.55**	**49**	P	**P**	**15 20 08.5**	**-0.2**
PV13				IAmb	IAmb	15 20 09.7	
comp=Z,4.4nm,0.7s							
BRTR	**Keskin Array B**	**84.64**	**313**	P	**P**	**15 20 10.6**	**+1.5**
comp=Z,1.9nm,0.7s,baz=112,slow=4.5,SNR=5.3							
TXAR	**Lajitas Array**	**93.17**	**54**	P	**P**	**15 20 50.9**	**+1.1**
comp=Z,1.0nm,0.8s,baz=297,slow=2.9,SNR=6.8							
TXAR				LR	LR	15 58 14.1	
comp=Z,106nm,21.4s,baz=0.0,slow=33							
LPAZ	**La Paz**	**148.26**	**71**	PKPbc	**PKiKP**	**15 27 23.7**	**-0.6**
comp=Z,2.6nm,0.9s,baz=330,slow=3.2,SNR=5.7							
LPAZ	**La Paz**	**148.26**	**71**		**PKPbc**	**15 27 21.4**	**-1.2**

IDC 02 15:17:15.2±70.0, 9°41S×66°17E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/48, mbtmp3.6/3, Error ellipse: s-maj=1670.0km s-min=56.8km az=91.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**42.58**	**49**	P	P	15 25 13.1	-0.1
0.7nm,0.6s,baz=242,slow=9.1,SNR=5.5							
H01W3	**Cape Leeuwin H**	**50.54**	**128**	T	T	16 19 51.2	
baz=290,slow=75,SNR=16							
H01W2	**Cape Leeuwin H**	**50.54**	**128**	T	T	16 19 52.0	
baz=290,slow=75,SNR=20							
H01W1	**Cape Leeuwin H**	**50.55**	**128**	T	T	16 19 55.1	
baz=290,slow=75,SNR=19							
ASAR	**Alice Springs**	**65.95**	**112**	P	P	15 28 04.0	+0.2
0.4nm,0.7s,baz=275,slow=5.9,SNR=7.0							
WRA	**Warramunga Arr**	**66.41**	**108**	P	P	15 28 06.4	-0.4
0.8nm,0.9s,baz=268,slow=6.0,SNR=1.7							

IDC 02 15:29:25.3±1.9, 4°28N×126°30E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/36, mbtmp3.5/4, 1D, Error ellipse: s-maj=175.3km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**4.58**	**321**	‖ *iP*	Pb	15 30 45.3	-1.4
WRA	**Warramunga Arr**	**25.33**	**162**	P	P	15 34 54.2	+0.2
0.6nm,0.6s,baz=342,slow=10.0,SNR=5.1							
ASAR	**Alice Springs**	**28.75**	**165**	P	P	15 35 24.2	-0.6
0.2nm,0.5s,baz=344,slow=7.2,SNR=7.8							
ASAR				PcP	PcP	15 38 34.2	-1.1
0.1nm,0.4s,baz=350,slow=2.1,SNR=1.2							
STKA	**Stephens Creek**	**38.79**	**159**	P	P	15 36 52.6	+0.8
1.2nm,0.7s,baz=322,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**56.86**	**325**	P	P	15 39 12.1	+0.2
0.3nm,0.7s,baz=115,slow=9.1,SNR=4.3							

*IDC **02** 15:38:34.2±1.7, 23°84N×121°76E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/47, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=74.1km s-min=27.9km az=69.0*
*JMA **02** 15:38:37.6±0.1, 23°97N×122°37E, h22km±3km, M3.1*
*TAP **02** 15:38:37.7, 24°01N×122°38E, h25km, ML3.5, D*
ISC 02 15:38:37.3±1.0, 23°96N±0°02×122°39E±0°02, h26km±9km, n148, σ0°99/267, mb3.4/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.70**	**46**	P	**Pb**	**15 38 51.0**	**0.0**
JYNG				S	**Sb**	**15 38 59.8**	**-0.5**
HWA	**Hwalien**	**0.71**	**271**	*eP*	**Pb**	**15 38 51.2**	**0.0**
baz=254							
HWA				*eS*	**Sb**	**15 39 01.4**	**+0.8**
baz=254							
ETL	**Fush Village**	**0.72**	**286**	*eP*	**Pb**	**15 38 51.4**	**+0.1**
baz=267							
ETL				*eS*	**Sn**	**15 39 01.8**	**-0.3**
baz=267							
TEYL	**Yanliau Villag**	**0.73**	**263**	*eP*	**Pb**	**15 38 51.8**	**+0.4**
baz=250							
TEYL				*eS*	**Sb**	**15 39 01.1**	**+0.1**
baz=250							
TWD	**Chiawan**	**0.73**	**279**	P	**Pb**	**15 38 51.3**	**-0.1**
baz=275							
TWD				S	**Sb**	**15 39 01.3**	**+0.2**
baz=275							
EWUT	**Wuta**	**0.73**	**311**	*eP*	**Pb**	**15 38 51.0**	**-0.4**
baz=308							
EWUT				*eS*	**Sn**	**15 39 01.8**	**-0.5**
baz=308							
NACB	**Ninganchiao**	**0.75**	**286**	P	**Pb**	**15 38 51.6**	**-0.3**
baz=268							
NACB				*eS*	**Sb**	**15 39 01.5**	**-0.2**
baz=268							
YOJ	**Yonaguni jima**	**0.76**	**49**	P	**Pb**	**15 38 52.1**	**+0.2**
YOJ				S	**Sb**	**15 39 01.3**	**-0.5**
YOJ	**Yonaguni jima**	**0.76**	**49**	P	**Pb**	**15 38 51.9**	**0.0**
baz=60							
YOJ				*eS*	**Sb**	**15 39 01.5**	**-0.3**
baz=60							
TWC	**Suao**	**0.81**	**323**	P	**Pb**	**15 38 52.0**	**-0.8**
baz=321							
TWC				*eS*	**Sb**	**15 39 01.8**	**-1.5**
baz=321							
TEGC	**Jichi Village**	**0.81**	**252**	*eP*	**Pb**	**15 38 52.6**	**-0.2**
baz=248							
TEGC				*eS*	**Sn**	**15 39 04.7**	**+0.4**
baz=248							
ETM	**Tongmen**	**0.82**	**270**	P	**Pb**	**15 38 52.5**	**-0.4**
baz=256							
ETM				S	**Sb**	**15 39 03.1**	**-0.5**
baz=256							
ETLH	**Xiulin Townshi**	**0.86**	**287**	P	**Pb**	**15 38 53.4**	**-0.3**
baz=271							
ETLH				*eS*	**Sb**	**15 39 05.1**	**+0.2**
baz=271							
ESL	**Shilin**	**0.89**	**261**	*eP*	**Pb**	**15 38 53.2**	**-0.9**
baz=247							
ESL				*eS*	**Sb**	**15 39 05.5**	**0.0**
baz=247							
NDS	**Dongshan**	**0.91**	**318**	*eP*	**Pb**	**15 38 53.9**	**-0.5**
baz=315							
NDS				*eS*	**Sn**	**15 39 06.5**	**-0.1**
baz=315							
EGFH	**Guangfu**	**0.93**	**252**	*eP*	**Pb**	**15 38 53.9**	**-0.8**
baz=248							
EGFH				*eS*	**Sb**	**15 39 06.5**	**-0.1**
baz=248							
ILA	**Ilan**	**0.99**	**324**	*eP*	**Pb**	**15 38 56.0**	**+0.2**
baz=322							
ILA				*eS*	**Sn**	**15 39 08.7**	**+0.1**
baz=322							
HGSD	**Ruisui**	**1.00**	**242**	*eP*	**Pn**	**15 38 55.2**	**-0.4**
baz=239							
HGSD				*eS*	**Sb**	**15 39 09.1**	**+0.4**
baz=239							
TWE	**Neicheng**	**1.00**	**319**	P	**Pb**	**15 38 55.7**	**-0.3**
baz=317							
TWE				*eS*	**Sn**	**15 39 09.2**	**+0.3**
baz=317							
ENTT	**Nioudou**	**1.01**	**312**	*eP*	**Pb**	**15 38 55.9**	**-0.2**
baz=296							
NDT	**Datong Townshi**	**1.02**	**309**	*eP*	**Pb**	**15 38 56.3**	**-0.1**
baz=306							
NDT				*eS*	**Sn**	**15 39 10.1**	**+0.7**
baz=306							
NTC	**Toucheng**	**1.02**	**330**	*eP*	**Pb**	**15 38 56.2**	**-0.2**
baz=328							
NTC				*eS*	**Sn**	**15 39 09.8**	**+0.4**
baz=328							
NNS	**Nan Shan**	**1.04**	**297**	*eP*	**Pn**	**15 38 56.5**	**+0.2**
baz=282							
NNS				*eS*	**Sn**	**15 39 10.7**	**+0.6**
baz=282							
WHF	**Hehuan Shan**	**1.04**	**280**	P	**Pn**	**15 38 56.3**	**-0.3**
baz=264							
WHF				*eS*	**Sb**	**15 39 10.0**	**-0.4**
baz=264							
ECBN	**Changbin**	**1.07**	**233**	*eP*	**Pn**	**15 38 57.1**	**+0.5**
baz=230							
ECBN				*eS*	**Sn**	**15 39 10.7**	**0.0**
baz=230							
EHY	**Hungye**	**1.08**	**245**	*eP*	**Pn**	**15 38 56.5**	**-0.2**
baz=258							
EHY				*eS*	**Sn**	**15 39 10.6**	**-0.2**
baz=258							
TWB1	**Santiao Chiao**	**1.10**	**341**	*eP*	**Pb**	**15 38 57.5**	**-0.3**
baz=339							
TWB1				*eS*	**Sn**	**15 39 12.9**	**+1.6**
baz=339							
OWD	**Renai**	**1.11**	**270**	*eP*	**Pn**	**15 38 57.1**	**-0.1**
baz=267							
OWD				*eS*	**Sb**	**15 39 10.9**	**-1.1**
baz=267							
CHGB	**Renai**	**1.11**	**275**	*eP*	**Pn**	**15 38 57.5**	**+0.1**
baz=260							
CHGB				*eS*	**Sb**	**15 39 12.0**	**-0.3**
baz=260							
TIPB	**Shuangxi**	**1.13**	**333**	P	**Pb**	**15 38 57.9**	**-0.3**
baz=331							
TIPB				*eS*	**Sn**	**15 39 12.2**	**+0.1**
baz=331							
NWLT	**Wulai**	**1.14**	**315**	*eP*	**Pb**	**15 38 58.2**	**-0.2**
baz=312							
NWLT				*eS*	**Sb**	**15 39 13.3**	**+0.4**
baz=312							
TWT	**Tachien**	**1.14**	**285**	*eP*	**Pb**	**15 38 59.0**	**+0.5**
baz=271							
TWT				*eS*	**Sb**	**15 39 14.1**	**+1.0**
baz=271							
YULB	**Yu-li**	**1.15**	**241**	*eP*	**Pn**	**15 38 57.9**	**+0.2**
baz=254							
YULB				*eS*	**Sn**	**15 39 12.4**	**-0.1**
baz=254							
EYUL	**Yuli**	**1.16**	**238**	*eP*	**Pn**	**15 38 58.1**	**+0.3**
baz=236							
EYUL				*eS*	**Sn**	**15 39 12.9**	**+0.2**
baz=236							
TDCB	**Techi**	**1.16**	**285**	*eP*	**Pb**	**15 38 58.7**	**-0.1**
baz=271							
TDCB				*eS*	**Sb**	**15 39 13.7**	**+0.3**
baz=271							
YHNB	**Yeheng**	**1.16**	**308**	P	**Pb**	**15 38 58.3**	**-0.5**
baz=304							
YHNB				*eS*	**Sb**	**15 39 12.9**	**-0.5**
baz=304							
TWF1	**Yuli**	**1.17**	**239**	P	**Pn**	**15 38 58.3**	**+0.3**
baz=236							
TWF1				*eS*	**Sn**	**15 39 13.2**	**+0.2**
baz=236							
NWF	**Wu-fen Shan**	**1.23**	**334**	P	**Pb**	**15 38 59.3**	**-0.7**
baz=332							
NWF				*eS*	**Sb**	**15 39 16.3**	**+0.7**
baz=332							
WFSB	**Wu-fen Shan**	**1.23**	**334**	P	**Pb**	**15 38 59.3**	**-0.7**
baz=331							
WFSB				*eS*	**Sb**	**15 39 16.2**	**+0.7**
baz=331							
TWA	**Mucha**	**1.25**	**324**	*eP*	**Pb**	**15 39 00.9**	**+0.7**
baz=322							
TWA				*eS*	**Sb**	**15 39 17.0**	**+1.0**
baz=322							
FULB	**Fuli**	**1.26**	**233**	*eP*	**Pn**	**15 38 59.4**	**+0.2**
baz=218							
FULB				*eS*	**Sn**	**15 39 15.4**	**+0.2**
baz=218							
NHDH	**Xindian Distri**	**1.27**	**322**	*eP*	**Pb**	**15 39 00.2**	**-0.4**
baz=319							
NHDH				*eS*	**Sb**	**15 39 16.5**	**+0.1**
baz=319							
IRIF	**Iriomote-Funau**	**1.28**	**73**	P	**Pb**	**15 39 01.1**	**+0.3**
TATO	**Taipei**	**1.30**	**321**	*eP*	**Pb**	**15 39 00.8**	**-0.3**
baz=318			

WHYT				*e*S	**Sn**	**15 39 20.7**	**+1.2**
	baz=249						
TWS1	**Kuangyinshan**	**1.44**	**322**	*e*P	**Pb**	**15 39 02.9**	**-0.5**
	baz=320						
TWS1				*e*S	**Sb**	**15 39 21.8**	**+0.5**
	baz=320						
ANP	**Anpu**	**1.45**	**327**	*e*P	**Pb**	**15 39 03.0**	**-0.7**
	baz=325						
NTST	**Danshui**	**1.47**	**325**	*e*P	**Pb**	**15 39 03.6**	**-0.3**
	baz=338						
ELDTW	**Lidau**	**1.47**	**239**	*e*P	**Pn**	**15 39 02.2**	**-0.1**
	baz=236						
ELDTW				*e*S	**Sn**	**15 39 19.8**	**-1.0**
	baz=236						
NCUH	**Zhongli**	**1.48**	**313**	*e*P	**Pb**	**15 39 03.8**	**-0.4**
	baz=310						
HSN1	**Hsinchu**	**1.49**	**303**	*e*P	**Pn**	**15 39 03.2**	**+0.9**
	baz=301						
JKRS	**Kuro-shima**	**1.51**	**79**	P	**Pb**	**15 39 04.8**	**+0.2**
JKRS				*e*S	**Sb**	**15 39 24.1**	**+0.8**
ALS	**Alishan**	**1.52**	**253**	P	**Pn**	**15 39 04.3**	**+1.3**
	baz=250						
ALS				*e*S	**Sn**	**15 39 22.8**	**+0.8**
	baz=250						
SBCB	**Hsinchu**	**1.52**	**303**	*e*P	**Pb**	**15 39 04.5**	**-0.3**
	baz=299						
SBCB				*e*S	**Sb**	**15 39 25.2**	**+1.4**
	baz=299						
WJS	**Zhushan**	**1.52**	**265**	*e*P	**Pb**	**15 39 04.8**	**-0.1**
	baz=262						
WJS				*e*S	**Sb**	**15 39 24.9**	**+1.1**
	baz=262						
LDUT	**Ludao**	**1.54**	**213**	P	**Pn**	**15 39 02.7**	**-0.2**
	baz=211						
LDUT				S	**Sn**	**15 39 20.3**	**-1.7**
	baz=211						
WWF	**Wufeng**	**1.55**	**273**	*e*P	**Pb**	**15 39 05.8**	**+0.5**
	baz=265						
WWF				*e*S	**Sb**	**15 39 26.1**	**+1.6**
	baz=265						
NSY	**Sanyi**	**1.55**	**287**	*e*P	**Pb**	**15 39 05.5**	**+0.2**
	baz=284						
NSY				*e*S	**Sb**	**15 39 26.0**	**+1.4**
	baz=284						
WNT	**Mingjian**	**1.56**	**267**	P	**Pb**	**15 39 05.8**	**+0.3**
	baz=265						
WNT				S	**Sb**	**15 39 25.4**	**+0.6**
	baz=265						
LONT	**Longtian**	**1.56**	**228**	*e*P	**Pn**	**15 39 04.2**	**+0.9**
	baz=240						
LONT				*e*S	**Sn**	**15 39 22.7**	**0.0**
	baz=240						
WNT1	**Nantou City**	**1.56**	**268**	*e*P	**Pb**	**15 39 06.1**	**+0.6**
	baz=266						
WNT1				*e*S	**Sb**	**15 39 26.1**	**+1.2**
	baz=266						
NMLH	**Miaoli**	**1.56**	**292**	*e*P	**Pb**	**15 39 05.4**	**-0.2**
	baz=288						
NMLH				*e*S	**Sb**	**15 39 25.6**	**+0.6**
	baz=288						
TCU	**Taichung**	**1.57**	**277**	*e*P	**Pb**	**15 39 05.6**	**-0.1**
	baz=274						
TCU				*e*S	**Sb**	**15 39 25.8**	**+0.5**
	baz=274						
CHN5	**Tsauling**	**1.61**	**257**	P	**Pb**	**15 39 05.9**	**-0.4**
	baz=244						
CHN5				*e*S	**Sb**	**15 39 26.9**	**+0.6**
	baz=244						
WDJ	**Dajia District**	**1.64**	**284**	*e*P	**Pb**	**15 39 06.6**	**-0.3**
	baz=280						
WDJ				*e*S	**Sb**	**15 39 27.4**	**+0.2**
	baz=280						
JIJ	**Ishigaki jima**	**1.65**	**76**	P	**Pn**	**15 39 06.1**	**+1.5**
JIJ				*e*S	**Sn**	**15 39 26.1**	**+1.1**
TWGBT	**Beinan**	**1.66**	**227**	*e*P	**Pn**	**15 39 04.8**	**+0.2**
	baz=237						
TWGBT				*e*S	**Sn**	**15 39 25.2**	**+0.1**
	baz=237						
TTN	**Taitung**	**1.66**	**224**	*e*S	**Sn**	**15 39 25.7**	**+0.6**
	baz=221						
TWG	**Pinlang**	**1.66**	**227**	*e*P	**Pn**	**15 39 05.3**	**+0.6**
	baz=237						
TWG				*e*S	**Sn**	**15 39 25.4**	**+0.3**
	baz=237						
STYH	**Taoyuan**	**1.68**	**242**	P	**Pn**	**15 39 06.0**	**+1.1**
	baz=231						
STYH				*e*S	**Sn**	**15 39 26.6**	**+1.1**
	baz=231						
WCHH	**Zhanghua**	**1.68**	**274**	*e*P	**Pb**	**15 39 06.9**	**-0.6**
	baz=271						
WCHH				*e*S	**Sb**	**15 39 29.0**	**+0.8**
	baz=271						
PCYT	**Pengchaiyu**	**1.68**	**350**	*e*P	**Pn**	**15 39 05.2**	**+0.2**
	baz=348						
WGK	**Gukeng**	**1.69**	**261**	*e*P	**Pb**	**15 39 07.1**	**-0.7**
	baz=259						
WGK				*e*S	**Sb**	**15 39 29.0**	**+0.4**
	baz=259						
STYT	**Tauyuan**	**1.69**	**242**	P	**Pn**	**15 39 06.5**	**+1.2**
	baz=231						
STYT				*e*S	**Sn**	**15 39 27.1**	**+1.0**
	baz=231						
WDLH	**Douliu**	**1.71**	**261**	*e*P	**Pb**	**15 39 07.5**	**-0.6**
	baz=259						
WDLH				*e*S	**Sb**	**15 39 29.8**	**+0.5**
	baz=259						
TPUB	**Ta-pu**	**1.74**	**248**	P	**Pn**	**15 39 07.3**	**+1.5**
	baz=246						
TPUB				*e*S	**Sn**	**15 39 29.0**	**+1.8**
	baz=246						
CHN4	**Tsaushan**	**1.75**	**250**	*e*P	**Pn**	**15 39 07.9**	**+1.9**
	baz=248						
CHN4				*e*S	**Sb**	**15 39 30.1**	**-0.4**
	baz=248						
WTP	**Ta-pu**	**1.77**	**247**	*e*P	**Pb**	**15 39 08.6**	**-0.7**
	baz=244						
WTP				*e*S	**Sb**	**15 39 31.1**	**0.0**
	baz=244						
CHN2	**Minshiung**	**1.80**	**257**	*e*P	**Pb**	**15 39 08.8**	**-0.8**
	baz=255						
CHN2				*e*S	**Sb**	**15 39 31.9**	**0.0**
	baz=255						
WRL	**Guolierlin Hig**	**1.84**	**268**	*e*P	**Pb**	**15 39 09.6**	**-0.7**
	baz=266						
WRL				*e*S	**Sb**	**15 39 32.5**	**-0.4**
	baz=266						
WTK	**Tuku**	**1.85**	**262**	*e*P	**Pb**	**15 39 09.8**	**-0.6**
	baz=260						
WTK				*e*S	**Sb**	**15 39 34.2**	**+1.0**
	baz=260						
CHY	**Chiayi**	**1.86**	**256**	*e*P	**Pb**	**15 39 10.2**	**-0.4**
	baz=254						
CHY				*e*S	**Sb**	**15 39 32.4**	**-1.0**
	baz=254						
JISG	**Ishigakijimahi**	**1.86**	**70**	P	**Pn**	**15 39 08.5**	**+1.0**
JISG				S	**Sn**	**15 39 31.7**	**+1.5**
SLGT	**Liugui**	**1.87**	**239**	*e*P	**Pn**	**15 39 09.5**	**+1.9**
	baz=229						
SLGT				*e*S	**Sn**	**15 39 32.2**	**+1.9**
	baz=229						
CHN1	**Nanshi**	**1.87**	**246**	*e*P	**Pn**	**15 39 09.7**	**+2.1**
	baz=244						
CHN1				*e*S	**Sb**	**15 39 33.3**	**-0.5**
	baz=244						
SGST	**Jiashian**	**1.87**	**242**	*e*P	**Pn**	**15 39 09.8**	**+2.2**
	baz=231						
SGST				*e*S	**Sb**	**15 39 33.4**	**-0.5**
	baz=231						
TWK	**Hsinying**	**1.87**	**249**	*e*P	**Pb**	**15 39 10.2**	**-0.7**
	baz=246						
TWK				*e*S	**Sb**	**15 39 33.8**	**-0.2**
	baz=246						
SNST	**Tainan City**	**1.88**	**247**	*e*P	**Pn**	**15 39 10.0**	**+2.2**
	baz=245						
SNST				*e*S	**Sb**	**15 39 33.9**	**-0.2**
	baz=245						
ECL	**Taimali**	**1.89**	**224**	*e*P	**Pn**	**15 39 07.8**	**-0.1**
	baz=223						
ECL				*e*S	**Sn**	**15 39 30.4**	**-0.5**
	baz=223						
WSF	**Szhu**	**2.01**	**261**	*e*P	**Pn**	**15 39 11.1**	**+1.7**
	baz=259						
WSF				*e*S	**Sb**	**15 39 36.6**	**-1.1**
	baz=259						
SSD	**Sandimen**	**2.02**	**233**	*e*P	**Pn**	**15 39 10.7**	**+1.1**
	baz=226						
SSD				*e*S	**Sn**	**15 39 35.4**	**+1.4**
	baz=226						
ICHU	**Yijhu**	**2.02**	**253**	*e*P	**Pn**	**15 39 12.0**	**+2.3**
	baz=251						
ICHU				*e*S	**Sb**	**15 39 37.0**	**-1.1**
	baz=251						
TSMG	**Majia**	**2.03**	**232**	*e*P	**Pn**	**15 39 11.0**	**+1.1**
	baz=225						
TSMG				*e*S	**Sn**	**15 39 35.4**	**+1.0**
	baz=225						
SCST	**Cishan**	**2.04**	**239**	*e*P	**Pb**	**15 39 12.7**	**-1.0**
	baz=225						
SCST				*e*S	**Sb**	**15 39 39.4**	**+0.7**
	baz=225						
CHN3	**Shinhua**	**2.05**	**245**	*e*S	**Sb**	**15 39 39.2**	**+0.1**
	baz=244						
CHN8	**Yiju**	**2.09**	**253**	*e*P	**Pn**	**15 39 11.5**	**+0.9**
	baz=252						
CHN8				*e*S	**Sb**	**15 39 39.4**	**-0.6**
	baz=252						
MASBT	**Mashibuluo**	**2.10**	**231**	*e*P	**Pn**	**15 39 12.1**	**+1.3**
	baz=223						
MASBT				*e*S	**Sn**	**15 39 37.5**	**+1.4**
	baz=223						
TAW	**Tawu**	**2.11**	**221**	*e*P	**Pn**	**15 39 11.6**	**+0.7**
	baz=230						
TAW				*e*S	**Sn**	**15 39 35.6**	**-0.6**
	baz=230						
EAST	**Anshuo**	**2.12**	**222**	*e*P	**Pn**	**15 39 10.5**	**-0.5**
	baz=221						
EAST				*e*S	**Sn**	**15 39 36.1**	**-0.4**
	baz=221						
TWM1	**Shoushan**	**2.13**	**238**	*e*P	**Pb**	**15 39 14.4**	**-0.9**
	baz=236						
TWM1				*e*S	**Sb**	**15 39 42.1**	**+0.8**
	baz=236						
SGLT	**Jiouru**	**2.13**	**235**	*e*S	**Sb**	**15 39 41.2**	**-0.2**
	baz=233						
SCLT	**Jiali**	**2.16**	**249**	*e*P	**Pn**	**15 39 14.1**	**+2.5**
	baz=248						
SCLT				*e*S	**Sb**	**15 39 41.6**	**-0.5**
	baz=248						
JTJ	**Tarama**	**2.22**	**72**	P	**Pb**	**15 39 15.1**	**-1.6**
SSPT	**Xinbi**	**2.23**	**229**	*e*P	**Pn**	**15 39 13.9**	**+1.4**
	baz=222						
SSPT				*e*S	**Sn**	**15 39 41.1**	**+1.9**
	baz=222						
SNJT	**Kaohsiung City**	**2.24**	**238**	*e*S	**Sb**	**15 39 45.6**	**+1.3**
	baz=236						
SCZT	**Fangliau**	**2.27**	**226**	*e*P	**Pn**	**15 39 14.2**	**+1.1**
	baz=217						
SCZT				*e*S	**Sn**	**15 39 41.4**	**+1.2**
	baz=217						
SLIU	**Shizi**	**2.27**	**220**	*e*P	**Pn**	**15 39 14.3**	**+1.2**
	baz=220						
SLIU				*e*S	**Sn**	**15 39 41.9**	**+1.7**
	baz=220						
WLCH	**Liuqiu**	**2.45**	**229**	*e*P	**Pb**	**15 39 20.5**	**-0.1**
	baz=244						
TSEB	**Hengchuen, Pin**	**2.47**	**214**	*e*P	**Pn**	**15 39 17.5**	**+1.7**
	baz=214						
TSEB				*e*S	**Sn**	**15 39 47.9**	**+2.8**
	baz=214						
HEN	**Hengchun**	**2.47**	**218**	*e*P	**Pn**	**15 39 17.3**	**+1.5**
	baz=217						
HEN				*e*S	**Sn**	**15 39 47.3**	**+2.1**
	baz=217						
TWKBT	**Hengchun**	**2.48**	**216**	*e*P	**Pn**	**15 39 18.7**	**+2.7**
	baz=215						
TWKBT				*e*S	**Sn**	**15 39 46.5**	**+1.1**
	baz=215						
TWK1	**Hengchun**	**2.48**	**216**	*e*P	**Pn**	**15 39 18.0**	**+2.0**
	baz=215						
TWK1				*e*S	**Sn**	**15 39 46.9**	**+1.4**
	baz=215						
WDGT	**Dungji**	**2.60**	**255**	*e*P	**Pn**	**15 39 19.2**	**+1.6**
	baz=242						
WDGT				*e*S	**Sn**	**15 39 49.5**	**+1.2**
	baz=242						
PHUB	**P'eng-hu**	**2.62**	**261**	*e*P	**Pn**	**15 39 19.4**	**+1.5**
	baz=259						
PHUB				*e*S	**Sn**	**15 39 50.1**	**+1.3**
	baz=259						
PNG	**Penghu**	**2.62**	**262**	*e*P	**Pn**	**15 39 19.2**	**+1.3**
	baz=260						
PNG				*e*S	**Sn**	**15 39 50.8**	**+1.8**
	baz=260						
JIRB	**Irabujima**	**2.68**	**71**	*e*S	**Sn**	**15 39 53.3**	**+2.9**
JMJ2	**Miyako jima3**	**2.79**	**73**	*e*S	**Sb**	**15 39 57.5**	**-2.8**
VCHM	**Qimei**	**2.81**	**255**	*e*P	**Pn**	**15 39 21.3**	**+0.7**
	baz=253						
VCHM				*e*S	**Sn**	**15 39 54.0**	**+0.3**
	baz=253						
VWUC	**VWUC**	**2.87**	**292**	*e*P	**Pn**	**15 39 22.8**	**+1.5**
	baz=287						
VWUC				*e*S	**Sn**	**15 39 56.2**	**+1.3**
	baz=287						
MATB	**Ma-tsu**	**3.11**	**315**	*e*P	**Pn**	**15 39 26.3**	**+1.7**
	baz=312						
PTMZ	**Houxiangcun**	**3.16**	**290**	*e*P	**Pn**	**15 39 26.7**	**+1.3**
	baz=288						
LYJJ	**Jianjiangzhen**	**3.51**	**318**	*e*P	**Pn**	**15 39 31.9**	**+1.9**
	baz=314						
XPSS	**Dashiqiu**	**3.56**	**327**	*e*P	**Pn**	**15 39 32.5**	**+1.6**
	baz=332						
KNM	**Kinmen**	**3.64**	**278**	*e*P	**Pn**	**15 39 35.1**	**+3.2**
	baz=276						
KNMB	**Chin-men Tao**	**3.68**	**279**	*e*P	**Pn**	**15 39 33.8**	**+1.3**
	baz=277						
AXDP	**Jialang**	**4.13**	**284**	*e*P	**Pn**	**15 39 40.0**	**+1.3**
	baz=282						
ZPLA	**Ao Xicun**	**4.24**	**270**	*e*P	**Pn**	**15 39 41.9**	**+1.6**
	baz=269						
KSRS	**Korea Array**	**14.26**	**18**	Pn	**P**	**15 42 02.8**	**-1.7**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.3						
SONM	**Songino Array**	**27.01**	**336**	P	**P**	**15 44 16.2**	**-1.0**
	1.0nm,0.9s,baz=148,slow=8.9,SNR=3.5						
MKAR	**Makanchi Array**	**39.26**	**316**	P	**P**	**15 46 02.9**	**-0.8**
	0.4nm,0.6s,baz=104,slow=9.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**41.03**	**327**	P	**P**	**15 46 16.4**	**-1.8**
	0.7nm,0.6s,baz=111,slow=8.7,SNR=2.5						
WRA	**Warramunga Arr**	**45.17**	**164**	P	**P**	**15 46 53.1**	**+1.1**
	0.3nm,0.8s,baz=346,slow=8.6,SNR=1.8						

IDC 02 15:49:50.7±42.0, 4°.98N×127°.11E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.6/3, Error ellipse: s-maj=701.5km s-min=167.4km az=161.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.76**	**164**	P	P	15 55 23.3	-0.1
	1.0nm,1.1s,baz=344,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**29.23**	**167**	P	P	15 55 54.8	+0.3
	0.2nm,0.4s,baz=352,slow=7.9,SNR=10						
STKA	**Stephens Creek**	**39.16**	**160**	P	P	15 57 20.0	-0.4
	2.5nm,1.1s,baz=355,slow=11,SNR=2.5						

*FUNV **02** 15:56:07.2, 7°.90N×72°.12W, h5km, MW3.3*
*RSNC **02** 15:56:07.7±1.1, 7°.93N×72°.12W, h0km±6km, ML2.4*
ISC 02 15:56:05.4±1.3, 7°.91N±0°.03×72°.06W±0°.03, h4km±10km, n21, σ1§22/40, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.25**	**261**	*e*P	**Pg**	**15 56 10.2**	**-0.1**
CAPV				*e*S	**Sg**	**15 56 13.6**	**-0.1**
SOCV	**Socops**	**1.25**	**72**	*e*S	**Sn**	**15 56 48.7**	**+1.7**
OCAC	**Ocana**	**1.29**	**285**	*e*P	**Pg**	**15 56 29.3**	**-0.8**
OCAC				*e*S	**Sb**	**15 56 46.7**	**-0.5**
OCAC				*i*		15 56 50.9	
	comp=Z,134nm,0.3s						
BARC	**Barichara**	**1.71**	**220**	*e*P	**Pn**	**15 56 36.9**	**+0.7**
BARC				*e*S	**Sb**	**15 56 59.9**	**+0.3**
BARC				*i*		15 57 03.2	
	comp=Z,29nm,0.5s						
SDV	**Santo Domingo**	**1.72**	**55**	*e*S	**Sg**	**15 57 01.9**	**+1.3**
SDV				*i*		15 57 03.9	
	comp=Z,37nm,0.2s						
SDV	**Santo Domingo**	**1.72**	**55**	*e*P	**Pb**	**15 56 37.7**	**+0.1**
SDV				*e*S	**Sg**	**15 57 01.0**	**+0.4**
SMLC	**San Martn de**	**2.18**	**294**	*e*P	**Pb**	**15 56 44.9**	**-0.5**
SMLC				*e*S	**Sb**	**15 57 12.8**	**0.0**
SMLC				*i*		15 57 14.4	
	comp=Z,70nm,0.1s						
MCQV	**Machiques**	**2.18**	**348**	*e*P	**Pb**	**15 56 43.9**	**-1.5**
MCQV				*e*S	**Sn**	**15 57 09.8**	**-0.1**
RUSC	**La Rusia**	**2.24**	**207**	*e*P	**Pb**	**15 56 46.2**	**-0.6**
RUSC				*e*S	**Sb**	**15 57 15.0**	**0.0**
RUSC				*i*		15 57 23.4	
	comp=Z,9.6nm,0.4s						
RUSC	**La Rusia**	**2.24**	**207**	*e*P	**Pn**	**15 56 44.7**	**+1.0**
RUSC				*e*S	**Sn**	**15 57 11.9**	**-0.2**
ELOV	**Elorza**	**2.71**	**109**	*e*P	**Pn**	**15 56 51.2**	**+1.5**
ELOV				*e*S	**Sn**	**15 57 23.8**	**+0.8**
ZARC	**Zaragoza, Cauc**	**2.80**	**262**	*e*P	**Pn**	**15 56 52.3**	**+1.3**
ZARC				*e*S	**Sn**	**15 57 26.9**	**+1.6**
ZARC				*i*		15 57 31.9	
	comp=Z,12nm,0.4s						
CURV	**Curarigua**	**2.95**	**45**	*e*P	**Pn**	**15 56 55.0**	**+1.9**
CURV				*e*S	**Sn**	**15 57 29.7**	**+0.8**
DABV	**Dabajuro**	**3.31**	**25**	*e*P	**Pn**	**15 56 59.5**	**+1.5**
DABV				*e*S	**Sn**	**15 57 37.8**	**0.0**
SIQV	**Siquisique**	**3.52**	**39**	*e*P	**Pn**	**15 57 02.6**	**+1.7**
SIQV				*e*S	**Sn**	**15 57 42.3**	**-0.7**
MAPV	**Macapo**	**4.04**	**62**	*e*P	**Pn**	**15 57 09.1**	**+1.0**
MAPV				*e*S	**Sn**	**15 57 54.5**	**-1.5**
BAUV	**El Baul**	**4.11**	**75**	*e*P	**Pn**	**15 57 09.9**	**+0.9**
BAUV				*e*S	**Sn**	**15 57 55.8**	**-1.7**
JACV	**Jacura**	**4.49**	**45**	*e*P	**Pn**	**15 57 15.2**	**+1.0**
JACV				*e*S	**Sn**	**15 58 05.5**	**-1.4**
MONV	**Montecano**	**4.52**	**27**	*e*P	**Pn**	**15 57 15.4**	**+0.8**
MONV				*e*S	**Sn**	**15 58 05.7**	**-1.9**
BENV	**Beln**	**4.86**	**65**	*e*P	**Pn**	**15 57 20.3**	**+1.0**
BENV				*e*S	**Sn**	**15 58 14.2**	**-1.9**
PAYV	**Puerto Ayacuch**	**5.03**	**119**	*e*P	**Pn**	**15 57 21.6**	**0.0**
PAYV				*e*S	**Sn**	**15 58 17.4**	**-2.7**

*TIF **02** 15:58:51.7, 43°.26N×41°.17E, h23km±1km*
*ISK **02** 15:58:53.7, 43°.25N×41°.16E, h30km, ML3.4/6*
*MOS **02** 15:58:54.4±0.0, 43°.26N×41°.39E, h10km, ML2.8/4, MPVA3.8*
*DDA **02** 15:58:56.5, 42°.75N×40°.95E, h7km±3km, ML2.7*
ISC 02 15:58:53.1±1.1, 43°.19N±0°.02×41°.29E±0°.02, h5km±10km, n43, σ1§06/79, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.27**	**66**	*i* Pg	**Pg**	**15 58 58.6**	**+0.3**
	411nm,0.2s						
DOMR				*i* Sg	**Sg**	**15 59 01.9**	**+0.1**
	2μm,0.2s						
ARXR	**Arkhyz**	**0.38**	**358**	*i* Pg	**Pg**	**15 59 01.4**	**+1.0**
	508nm,0.1s						
ARXR				*i* Sg	**Sg**	**15 59 05.1**	**-0.3**
	1μm,0.2s						
CHVG	**Ch'k'valeri**	**0.74**	**128**	P	**Pg**	**15 59 07.8**	**+0.5**
CHVG				S	**Sb**	**15 59 20.1**	**+1.0**
RPOR	**Krasnaya Polya**	**0.91**	**305**	*e*Pg	**Pn**	**15 59 12.4**	**-0.2**
RPOR				*e*Sg	**Sn**	**15 59 24.9**	**-1.1**
NEY	**Neytrino**	**1.05**	**86**	*i* Pg	**Pg**	**15 59 12.0**	**-1.2**
NEY				*i* Sg	**Sg**	**15 59 24.1**	**-2.7**
SHA1	**Shidzhatmaz**	**1.14**	**60**	*i* Pg	**Pg**	**15 59 14.4**	**-0.5**
SHA1				*i* Sg	**Sg**	**15 59 28.6**	**-1.0**
GUZR	**Guzeripl'**	**1.18**	**314**	*e*Pg	**Pg**	**15 59 15.8**	**+0.1**
GUZR				*e*Sg	**Sb**	**15 59 31.1**	**-0.5**
SOC	**Sochi**	**1.22**	**290**	*i* Pg	**Pb**	**15 59 17.0**	**+0.5**
SOC				*e*Sg	**Sn**	**15 59 34.3**	**+0.7**
KIV	**Kislovodsk**	**1.27**	**52**	PN	**Pg**	**15 59 16.5**	**-1.0**
KIV				SN	**Sg**	**15 59 33.1**	**-0.9**
KIV	**Kislovodsk**	**1.27**	**52**	*i* Pg	**Pg**	**15 59 17.0**	**-0.5**
	357nm,0.3s						
KIV				*i* Sg	**Sg**	**15 59 33.1**	**-0.9**
	778nm,0.3s						
KIV0	**Kislovodsk Arr**	**1.28**	**52**	*i* Pg	**Pg**	**15 59 17.1**	**-0.5**
KIV0				*i* Sg	**Sg**	**15 59 33.2**	**-1.0**
KBZ	**Khabaz**	**1.29**	**65**	*i* Pg	**Pn**	**15 59 16.9**	**-0.8**
KBZ				*i* Sg	**Sb**	**15 59 33.0**	**-1.6**
BEYR	**Belyy Ugol+**	**1.38**	**53**	*i* Pg	**Pn**	**15 59 19.1**	**0.0**
BEYR				*i* Sg	**Sb**	**15 59 36.4**	**-1.0**
TKB	**Tkibuli**	**1.50**	**123**	P	**Pn**	**15 59 21.5**	**+0.7**
TKB				S	**Sb**	**15 59 42.3**	**+1.4**
PYA1	**Pyatigorsk**	**1.58**	**56**	*i* Pg	**Pn**	**15 59 22.4**	**+0.7**
	3.7nm,0.2s						
PYA1				*i* Sg	**Sn**	**15 59 42.2**	**-0.4**
	12nm,0.2s						
LZRR	**Lazarevskoye**	**1.58**	**299**	*i* Pg	**Pg**	**15 59 23.5**	**+0.2**
LZRR				*i* Sg	**Sg**	**15 59 46.1**	**+2.2**
BATM	**Batumi**	**1.61**	**169**	P	**Pn**	**15 59 22.8**	**+0.7**
BATM				S	**Sn**	**15 59 45.1**	**+1.8**
BATM	**Batumi**	**1.61**	**169**	*i* P	**Pn**	**15 59 22.8**	**+0.7**
BATM				*i* S	**Sn**	**15 59 44.1**	**+0.9**
BATM	**Batumi**	**1.61**	**169**	PN	**Pn**	**15 59 21.9**	**-0.2**
BATM				SN	**Sn**	**15 59 42.4**	**-0.9**
ONI	**Oni**	**1.69**	**110**	P	**Pb**	**15 59 26.0**	**+1.2**
ONI				S	**Sg**	**15 59 49.1**	**+1.5**
ONI	**Oni**	**1.69**	**110**	*i* Pg	**Pb**	**15 59 25.9**	**+1.2**
ONI				*e*Sg	**Sn**	**15 59 46.5**	**+1.0**
HOPA	**Hopa-Artvin**	**1.80**	**176**	PN	**Pn**	**15 59 24.5**	**-0.3**
ABS	**Abastumani**	**1.82**	**141**	P	**Pn**	**15 59 25.8**	**+0.6**
ABS				S	**Sb**	**15 59 50.8**	**+0.7**
TPSR	**Tuapse**	**1.83**	**300**	*e*Pg	**Pb**	**15 59 27.6**	**+0.6**
TPSR				*e*Sg	**Sg**	**15 59 51.3**	**-0.5**
LSNR	**Lesken**	**1.85**	**86**	*e*Pg	**Pb**	**15 59 28.6**	**+1.2**
LSNR				*e*Sg	**Sb**	**15 59 52.6**	**+1.6**
DBOC	**Borcka**	**1.86**	**171**	*i* P	**Pn**	**15 59 25.7**	**0.0**
DBOC				*i* S	**Sn**	**15 59 48.4**	**-1.2**
DBOC				IAML		15 59 52.0	
	comp=E,108nm,0.3s						
EPOS	**Posof**	**1.99**	**147**	*i* P	**Pn**	**15 59 27.9**	**+0.4**
EPOS				*i* S	**Sb**	**15 59 55.7**	**+0.7**
STDR	**Stavd-Durt**	**2.03**	**84**	*e*Pg	**Pn**	**15 59 29.1**	**+1.1**
STDR				*e*Sg	**Sn**	**15 59 54.1**	**+0.4**
CHOM	**Cayeli-Rize**	**2.12**	**191**	PN	**Pn**	**15 59 28.7**	**-0.6**
DAGI	**Agillar**	**2.16**	**167**	*i* P	**Pn**	**15 59 30.8**	**+1.0**
DAGI				*i* S	**Sn**	**15 59 56.9**	**-0.1**
DAGI				IAML		16 00 04.0	
	comp=E,53nm,0.4s						
BKRG	**Bakuriani**	**2.18**	**130**	P	**Pn**	**15 59 32.3**	**+2.1**
BKRG				S	**Sb**	**16 00 01.0**	**+0.5**
DBAD	**Bademkaya**	**2.19**	**172**	*i* P	**Pn**	**15 59 30.0**	**-0.2**
DBAD				*i* S	**Sn**	**15 59 56.3**	**-1.4**
DBAD				IAML		16 00 04.0	
	comp=E,90nm,0.5s						
DBAD				IAML		16 00 07.0	
	comp=N,100nm,0.4s						
LACR	**Lac**	**2.23**	**98**	*e*Pg	**Pb**	**15 59 34.1**	**+0.1**
LACR				*e*Sg	**Sn**	**15 59 59.2**	**+0.3**
KTUT	**Trabzon**	**2.47**	**208**	PN	**Pn**	**15 59 32.9**	**-1.1**
BGD	**Bogdanovka**	**2.57**	**137**	P	**Pb**	**15 59 39.1**	**-0.7**
BGD	

comp=Z,4μm,0.6s
MIB Mutribah 2.18 255 *e*P **Pb 16 09 26.1 -0.5**
QRN Al-Qurain 2.29 225 *e*P **Pb 16 09 27.9 -0.7**
QRN *e*S **Sb 16 09 57.8 +1.3**
QRN IAML 16 10 01.8
comp=Z,560nm,0.2s
IPIR Pirpir 2.48 23 *e*Pn **Pn 16 09 28.3 +1.3**
IPIR *e* 16 10 10.2
comp=Z,3μm,0.6s
RST Umm Al-Ruwaisa 2.56 250 *e*P **Pb 16 09 31.0 -2.0**
IRAM Ramesheh 2.66 57 *e*Pn **Pn 16 09 31.4 +2.1**
IRAM *e* 16 10 06.5
comp=Z,2μm,0.6s
IGAR Gharneh 2.80 44 *e* **Pn 16 09 34.8 +3.5**
comp=Z,1μm,0.1s
IKLH Kolahrood 3.30 27 *e*Pn **Pn 16 09 39.2 +1.0**
IKLH *e* 16 10 31.8
comp=Z,980nm,0.6s
IZEF Zefreh 3.32 41 *e*Pn **Pn 16 09 40.1 +1.6**
KHMZ Khomeyn 3.34 3 *e*Pn **Pn 16 09 40.2 +1.5**
BMDN Meydan 3.36 347 *e*Pn **Pn 16 09 39.1 +0.1**
BMDN *e* 16 10 38.5
comp=Z,2μm,0.4s
IKFM Kafar-mosalman 3.52 333 *e*Pn **Pn 16 09 41.5 +0.6**
NASN Na'in 3.54 47 *e*Pn **Pn 16 09 42.6 +1.1**
QAMS Qamsar 3.61 22 *e*Pn **Pn 16 09 44.6 +2.1**
IDOB Doab 3.64 339 *e*Pn **Pn 16 09 43.5 +0.7**
ISAD Sadrabad 3.69 65 *e*Pn **Pn 16 09 44.1 +0.5**
ISAD *e* 16 09 56.3
comp=Z,658nm,0.4s
HSAM Samen 3.93 346 *e*Pn **Pn 16 09 48.3 +1.4**
KRSH Karshahi 4.10 29 *e*Pn **Pn 16 09 50.2 +1.1**
GHVR GHOM 4.28 17 *e*Pn **Pn 16 09 52.2 +0.8**
IMEH Mehriz 4.29 75 *e*Pn **Pn 16 09 53.1 +1.3**
IBZA Bozab 4.37 339 *e*Pn **Pn 16 09 53.6 +0.7**
IBZA *e* 16 11 13.7
comp=Z,547nm,0.6s
ANAR Anarak 4.38 49 *e*Pn **Pn 16 09 54.7 +1.7**
ISFB Sefidab 4.47 27 *e*Pn **Pn 16 09 54.9 +0.8**
ISFB *e* 16 09 58.8
comp=Z,278nm,0.6s
IQOM Qom 4.57 14 *e*Pn **Pn 16 09 56.1 +0.4**
YZKH Yazd 4.59 63 *e*P **Pn 16 09 56.9 +1.1**
IVRN Varamin 4.88 19 *e*Pn **Pn 16 10 00.7 +0.9**
IRAZ Razeghan 5.00 2 *e*Pn **Pn 16 10 02.5 +1.0**
IRAZ *e* 16 11 45.2
comp=Z,477nm,0.7s
ILIN Lien 5.09 333 *e*Pn **Pn 16 10 03.2 +0.4**
ILIN *e* 16 11 18.6
comp=Z,794nm,0.5s
IDHR Dehrash 5.15 327 *e*Pn **Pn 16 10 03.9 +0.3**
QABG Abgarm-Qazvin 5.30 358 *e*Pn **Pn 16 10 05.0 -0.7**
IMHD Mahdasht 5.33 8 *e*Pn **Pn 16 10 05.9 -0.1**
QALM Alamut, Qazvin 6.07 7 *e*Pn **Pn 16 10 16.9 +0.7**
ISHM Shahmirzad 6.16 28 *e*Pn **Pn 16 10 18.9 +1.4**
TPRV Parvadeh(Tabas 6.46 64 *e*Pn **Pn 16 10 22.3 +0.8**
TKDS Koohdasht(Taba 7.03 61 *e*Pn **Pn 16 10 30.0 +0.7**
SHRO Shahrood 7.66 42 *e*Pn **Pn 16 10 39.2 +1.3**
WSAR Wadi Sarin 10.65 130 Pn **Pn 16 11 18.8 -0.1**
comp=Z,0.3nm,0.3s,baz=288,slow=13,SNR=1.2
WSAR Sn **Sn 16 13 16.1 -1.4**
comp=Z,0.3nm,0.3s,baz=127,slow=5.0,SNR=2.4
BRTR Keskin Array B 16.13 310 Pn **P 16 12 35.5 -0.7**
comp=Z,0.1nm,0.3s,baz=116,slow=13,SNR=2.1
AKASG Malin Array Be 25.44 329 P **P 16 14 12.3 -1.1**
comp=Z,0.4nm,0.5s,baz=128,slow=7.0,SNR=2.3
KURBB Kurchatov Arra 29.48 39 P **P 16 14 50.3 +0.5**
comp=Z,0.5nm,0.6s,baz=240,slow=9.1,SNR=4.1
MKAR Makanchi Array 29.97 48 P **P 16 14 54.8 +0.6**
comp=Z,0.3nm,0.4s,baz=241,slow=10.0,SNR=5.6
HFS Hagfors 38.24 332 P **P 16 16 04.5 -1.1**
comp=Z,0.3nm,0.3s,baz=131,slow=9.7,SNR=6.3
TORD Torodi Ar. Bea 47.45 260 P **P 16 17 21.7 +0.9**
comp=Z,0.8nm,0.8s,baz=53,slow=7.5,SNR=5.2

*IDC **02** 16:18:33.4±0.9,32°.15S×177°.90W,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.2/35,mbtmp4.3/10,ML4.2/2,MS3.7/3, Ms1 3.6/3,ms1mx3.1/29,Error ellipse: s-maj=33.3km s-min=21.4km az=141.0*
*NEIC **02** 16:18:34.5±2.0,32°.21S±0°.08×177°.8W±0°.2,h9km±5km, mb4.7/14,Error ellipse: s-maj=22.0km s-min=8.0km az=111.0*
ISC 02 16:18:36.7±0.7,**32°.15S**±0°.06×**177°.9W**±0°.1,**h24**km,**n59,**
σ1**31**/63,**mb4.5**/12,**MS3.8**/3,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.89**	**359**	Pn	**Pn**	**16 19 21.8**	**+0.6**
	105nm,0.3s,baz=58,slow=16,SNR=5.1						
RAO				Sn	**Sn**	**16 19 53.2**	**-2.0**
	132nm,0.3s,baz=192,slow=22,SNR=3.7						
RAO	**Raoul Island**	**2.89**	**359**		**Pn**	**16 19 21.6**	**+0.4**
RAO				Sn	**Sn**	**16 19 51.0**	**-4.1**
MXZ	**Matakaoa Point**	**6.25**	**209**	Pn	**Pn**	**16 20 06.0**	**-1.3**
MXZ				Sn	**Sn**	**16 21 18.0**	**+0.2**
URZ	**Urewera**	**7.35**	**213**	Pn	**Pn**	**16 20 20.7**	**-1.7**
	1.6nm,0.3s,baz=20,slow=4.9,SNR=9.3						
URZ				Sn	**Sn**	**16 21 44.2**	**-0.8**
	7.4nm,0.3s,baz=89,slow=23,SNR=13						
URZ	**Urewera**	**7.35**	**213**		**Pn**	**16 20 22.5**	**+0.1**
URZ				Sn	**Sn**	**16 21 44.0**	**-1.0**
OUZ	**Omahuta**	**7.74**	**244**		**Pn**	**16 20 29.1**	**+1.3**
BKZ	**Black Stump Fm**	**8.37**	**212**		**Pn**	**16 20 35.4**	**-1.1**
HIZ	**Hauiti**	**8.69**	**221**	Pn	**Pn**	**16 20 38.8**	**-2.1**
BHW	**Baring Head**	**10.91**	**210**	Pn	**Pn**	**16 21 10.7**	**-0.6**
THZ	**Tophouse**	**12.09**	**215**	Pn	**Pn**	**16 21 28.9**	**+1.4**
KHZ	**Kahutara**	**12.31**	**211**	Pn	**Pn**	**16 21 28.6**	**-1.7**
LTZ	**Lake Taylor**	**13.18**	**214**	Pn	**Pn**	**16 21 40.9**	**-1.4**
RPZ	**Rata Peaks**	**14.46**	**214**		**Pn**	**16 21 56.6**	**-3.2**
LBZ	**Lake Benmore**	**15.38**	**214**	Pn	**Pn**	**16 22 08.5**	**-3.5**
LBZ				IAmb	IAmb	16 22 43.8	
	comp=Z,145nm,1.8s						
ODZ	**Otahua Downs**	**15.67**	**211**	Pn	**Pn**	**16 22 14.1**	**-1.8**
ODZ				IAmb	IAmb	16 22 37.8	
	comp=Z,29nm,1.2s						
WHZ	**Wether Hill Ro**	**17.56**	**215**		**Pn**	**16 22 39.0**	**-0.7**
WHZ				IAmb	IAmb	16 23 19.8	
	comp=Z,50nm,1.4s						
CTA	**Charters Tower**	**34.22**	**282**	P	**P**	**16 25 22.4**	**+1.7**
	comp=Z,9.9nm,0.9s,baz=101,slow=8.8,SNR=5.7						
CTAO	**Charters Tower**	**34.22**	**282**	P	**P**	**16 25 22.0**	**+1.3**
CTAO				IAmb	IAmb	16 25 23.4	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**16 25 21.3**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=92,slow=8.8,SNR=6.3						
STKA				LR	LR	16 37 30.9	
	comp=Z,160nm,18.7s,baz=34,slow=33						
STKA	**Stephens Creek**	**34.23**	**259**	P	**P**	**16 25 21.4**	**+0.8**
BBOO	**Buckleboo**	**38.63**	**256**	P	**P**	**16 25 57.5**	**-0.7**
AS31	**Alice Springs**	**43.15**	**269**	P	**P**	**16 26 35.4**	**-0.2**
ASAR	**Alice Springs**	**43.15**	**269**	P	**P**	**16 26 35.1**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=105,slow=7.0,SNR=40						
WR0	**Warramunga Arr**	**44.12**	**274**		**P**	**16 26 42.8**	**-0.6**
WR0				IAmb	IAmb	16 27 03.5	
	comp=Z,9.7nm,1.2s						
WB2	**Warramunga Arr**	**44.29**	**274**	P	**P**	**16 26 44.1**	**-0.6**
WB2				IAmb	IAmb	16 26 51.8	
	comp=Z,31nm,1.6s						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**16 26 44.6**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=112,slow=7.9,SNR=50						
WRA	**Warramunga Arr**	**44.30**	**274**	P	**P**	**16 26 43.7**	**-1.1**
WB0	**Warramunga Arr**	**44.33**	**274**	P	**P**	**16 26 44.6**	**-0.4**
WB0				IAmb	IAmb	16 26 54.4	
	comp=Z,7.8nm,0.7s						
FORT	**Forrest**	**45.73**	**257**	P	**P**	**16 26 54.6**	**-1.4**
KNRA	**Kununurra**	**50.97**	**276**	P	**P**	**16 27 36.5**	**0.0**
FITZ	**Fitzroy Crossi**	**52.48**	**271**	P	**P**	**16 27 46.0**	**-1.9**
FITZ				IAmb	IAmb	16 27 48.4	
	comp=Z,7.7nm,1.1s						
PETK	**Petropavlovsk-**	**87.53**	**346**	P	**P**	**16 31 23.0**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=141,slow=9.3,SNR=3.3						
PETK	**Petropavlovsk-**	**87.53**	**346**	P	**P**	**16 31 22.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**88.68**	**326**	P	**P**	**16 31 28.4**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=99,slow=8.9,SNR=3.8						
USRK	**Ussuriysk Ar.**	**88.68**	**326**	P	**P**	**16 31 27.8**	**+0.1**
NVAR	**Mina Array Bea**	**89.45**	**43**	P	**P**	**16 31 33.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=217,slow=7.5,SNR=5.5						
NVAR	**Mina Array Bea**	**89.45**	**43**	P	**P**	**16 31 32.4**	**+0.6**
KLR	**Kul'dur**	**92.60**	**330**	P	**P**	**16 31 45.3**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=123,slow=2.6,SNR=5.5						
TXAR	**Lajitas Array**	**93.24**	**57**	LR	LR	17 07 09.6	
	comp=Z,24nm,19.7s,baz=0.0,slow=31						
ANMO	**Albuquerque**	**94.58**	**51**	LR	LR	17 08 35.4	

comp=Z,30nm,19.4s,baz=125,slow=32
MKAR Makanchi Array 118.97 309 PKP **PKPdf 16 37 22.1 -0.9**
comp=Z,0.4nm,0.8s,baz=115,slow=1.4,SNR=3.4
KURK Kurchatov 122.33 313 PKPdf 16 37 28.1 -1.1
KURBB Kurchatov Arra 122.36 313 PKP **PKPdf 16 37 28.1 -1.2**
comp=Z,0.8nm,0.7s,baz=118,slow=2.1,SNR=7.2
BVAR Borovoye Array 127.72 315 PKP **PKiKP 16 37 40.3 +0.2**
comp=Z,0.5nm,0.6s,baz=318,slow=1.9,SNR=2.8
AKTO Aktyubinsk 135.34 311 PKP **PKiKP 16 37 56.0 +0.5**
comp=Z,0.8nm,0.5s,baz=72,slow=6.4,SNR=3.8
KBZ Khabaz 146.15 302 PKPbc **PKPab 16 38 15.7 +0.4**
comp=Z,5.1nm,1.0s,baz=107,slow=3.4,SNR=6.3
OBN Obninsk 146.66 324 PKPbc **PKPab 16 38 16.4 -0.5**
comp=Z,5.7nm,0.4s,baz=170,slow=20,SNR=5.7
FINES FINESS Array B 146.82 339 PKPbc **PKPab 16 38 16.1 -1.1**
comp=Z,7.3nm,0.7s,baz=44,slow=3.3,SNR=34
FINES FINESS Array B 146.82 339 PKPbc 16 38 15.8 -0.2
NB2 NORSAR Subarra150.49 351 PKP **PKiKP 16 38 26.7 +0.4**
comp=Z,0.9nm,0.8s,baz=16,slow=2.5
NOA NORSAR Array B 150.49 351 PKPbc **PKPbc 16 38 24.6 -1.0**
comp=Z,2.1nm,1.0s,baz=14,slow=4.0,SNR=3.0
HFS Hagfors 150.97 348 PKPbc **PKiKP 16 38 26.6 -0.7**
comp=Z,2.8nm,0.8s,baz=226,slow=8.1,SNR=5.9
AKASG Malin Array Be 152.74 321 PKPbc **PKiKP 16 38 31.3 +0.1**
comp=Z,0.3nm,0.3s,baz=49,slow=2.7,SNR=5.0
AKASG Malin Array Be 152.74 321 PKPdf 16 38 25.4 +1.5
AKASG PKPbc **sPKPdf 16 38 32.1 0.0**
BRTR Keskin Array B 153.49 295 PKPbc **PKiKP 16 38 34.0 +0.7**
comp=Z,1.3nm,0.9s,baz=219,slow=1.8,SNR=2.6
CLL Collm 159.25 340 *i* PKPab **PKPab 16 39 09.6 -0.1**
comp=Z,5.0nm,1.0s
TORD Torodi Ar. Bea 161.08 179 PKPab **PKPab 16 39 20.9 +2.4**
comp=Z,0.8nm,0.7s,baz=202,slow=2.7,SNR=2.5
GERES GERESS Array B 161.18 336 PKPab **PKPab 16 39 18.5 +0.2**
comp=Z,0.9nm,0.9s,baz=47,slow=4.3,SNR=3.0
DAVOX Davos/Dischmat 164.22 340 PKPab **PKPab 16 39 31.9 0.0**
comp=Z,2.1nm,0.7s,baz=220,slow=2.6,SNR=4.9

*ISK **02** 16:31:37.4,40°.06N×38°.76E,h9km,ML2.6/10*
*DDA **02** 16:31:38.4,40°.00N×38°.77E,h11km,ML1.8*
ISC 02 16:31:37.0±1.5,**40°.03N**±0°.03×**38°.79E**±0°.04,**h4**km±13km,
n18,σ0**37**/27,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALUC	**Giresun/Alucra**	**0.31**	**357**	*i* P	**Pb**	**16 31 45.4**	**+0.1**
ALUC				*i* S	**Sb**	**16 31 50.4**	**-0.4**
KELT	**Kelkit**	**0.38**	**72**	*i* P	**Pb**	**16 31 46.5**	**+0.1**
KELT				*i* S	**Sb**	**16 31 52.3**	**-0.3**
KELT				IAML		16 31 53.0	
	comp=E,82nm,0.7s						
KELT				IAML		16 31 54.0	
	comp=N,88nm,0.6s						
ILIC	**ilic-Erzincan**	**0.61**	**197**	PG	**Pb**	**16 31 50.1**	**-0.1**
ILIC				SG	**Sb**	**16 31 58.9**	**-0.3**
REFA	**Refahiye_ERZN**	**0.64**	**182**	*i* P	Pg	16 31 41.7	-7.6
REFA				*i* S	Sg	16 31 43.6	-14
REFA				IAML		16 31 44.0	
	comp=N,738nm,0.2s						
REFA				IAML		16 31 44.0	
	comp=E,811nm,0.4s						
GUMT	**Gumushane**	**0.68**	**51**	PG	**Pb**	**16 31 51.1**	**-0.4**
GUMT				SG	**Sb**	**16 32 01.1**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.80**	**260**	*i* P	**Pg**	**16 31 52.3**	**0.0**
CUZAR				*i* S	**Sg**	**16 32 02.5**	**-0.1**
CUZAR				IAML		16 32 06.0	
	comp=N,48nm,0.2s						
CUZAR				IAML		16 32 12.0	
	comp=E,41nm,0.2s						
KEMA	**Kemaliye**	**0.80**	**197**	*i* P	**Pb**	**16 31 53.1**	**-0.4**
KEMA				*i* S	**Sb**	**16 32 04.7**	**+0.1**
KEMA				IAML		16 32 07.0	
	comp=E,53nm,0.5s						
KEMA				IAML		16 32 08.0	
	comp=N,55nm,0.4s						
ESPY	**Espiye-Giresun**	**0.88**	**357**	PG	**Pg**	**16 31 54.4**	**+0.4**
ESPY				SG	**Sb**	**16 32 06.7**	**-0.4**
ARPR	**Arapgir-MALATY**	**1.00**	**201**	PG	**Pb**	**16 31 57.3**	**+0.3**
TNCL	**Tunceli-Merkez**	**1.09**	**147**	*i* P	**Pn**	**16 31 59.6**	**+0.5**
TNCL				*i* S	**Sn**	**16 32 14.2**	**-0.4**
TNCL				IAML		16 32 18.0	
	comp=N,17nm,0.3s						
TNCL				IAML		16 32 18.0	
	comp=E,23nm,0.3s						
BAYT	**Aydıntepe-Bayb**	**1.09**	**70**	PN	**Pn**	**16 31 59.1**	**-0.2**
BAYB	**BAYBURT**	**1.15**	**78**	*i* P	**Pn**	**16 32 00.3**	**+0.2**
BAYB				*i* S	**Sn**	**16 32 16.3**	**-0.1**
BAYB				IAML		16 32 18.0	
	comp=N,32nm,0.4s						
BAYB				IAML		16 32 20.0	
	comp=E,28nm,0.8s						
KTUT	**Trabzon**	**1.21**	**38**	PN	**Pn**	**16 32 01.1**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.25**	**235**	*i* P	**Pg**	**16 32 00.6**	**-0.4**
CUKAN				*i* S	**Sn**	**16 32 19.0**	**+0.3**
CUKAN				IAML		16 32 25.0	
	comp=E,15nm,0.3s						
CUKAN				IAML		16 32 26.0	
	comp=N,9.6nm,0.4s						
SVSK	**Karacayir**	**1.38**	**266**	PN	**Pn**	**16 32 02.9**	**-0.2**
MALT	**Malatya**	**1.74**	**189**	PN	**Pn**	**16 32 08.8**	**+0.7**
DARE	**Darende-Malaty**	**1.78**	**215**	PN	**Pn**	**16 32 09.2**	**+0.6**
CHOM	**Cayeli-Rize**	**1.84**	**54**	PN	**Pn**	**16 32 09.9**	**+0.5**

*NEIC **02** 16:37:59.7±1.6,17°.7S±0°.2×178°.5W±0°.1,h576km±9km, mb4.6/21,Error ellipse: s-maj=32.2km s-min=13.7km az=151.0*
*IDC **02** 16:38:01.5±2.0,17°.24S×178°.82W,h588km±20km,mb3.0/5, mb1 3.3/7,mb1mx3.0/26,mbtmp4.0/7,Error ellipse: s-maj=92.5km s-min=17.5km az=151.0*
ISC 02 16:38:01.8±0.8,**17°.6S**±0°.2×**178°.7W**±0°.1,**h600**km,**n33,**
σ0**64**/32,**mb4.5**/17,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**267**	P	**P**	**16 39 20.0**	**-1.7**
	14nm,0.3s,baz=41,slow=3.3,SNR=89						
AFI	**Afiamalu**	**7.58**	**62**	P	P	16 39 50.6	-6.7
DZM	**Mont Dzumac**	**14.69**	**250**	P	**P**	**16 41 08.0**	**+0.8**
	0.6nm,0.3s,baz=239,slow=21,SNR=6.5						
EIDS	**Eidsvold**	**29.14**	**249**	P	**P**	**16 43 14.8**	**-1.4**
ARMA	**Armidale**	**29.88**	**239**	P	**P**	**16 43 23.2**	**+0.5**
CTAO	**Charters Tower**	**33.24**	**260**	P	**P**	**16 43 50.6**	**-0.6**
CTAO				IAmb	IAmb	16 44 06.1	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**16 44 35.4**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=84,slow=7.7,SNR=14						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**16 44 35.2**	**+0.5**
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**16 45 12.7**	**+0.3**
BBOO				IAmb	IAmb	16 45 13.3	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**44.24**	**259**	P	**P**	**16 45 19.4**	**-0.2**
WR0				IAmb	IAmb	16 45 25.6	
	comp=Z,35nm,1.9s						
WB0	**Warramunga Arr**	**44.40**	**259**	P	**P**	**16 45 20.4**	**-0.5**
WB0				IAmb	IAmb	16 46 12.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**44.42**	**259**	P	**P**	**16 45 20.6**	**-0.4**
WB2				IAmb	IAmb	16 46 27.8	
	comp=Z,36nm,1.9s						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**16 45 20.7**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=96,slow=6.8,SNR=49						
WRA	**Warramunga Arr**	**44.43**	**259**	P	**P**	**16 45 20.5**	**-0.6**
AS31	**Alice Springs**	**44.63**	**254**	P	**P**	**16 45 22.8**	**+0.2**
AS31				IAmb	IAmb	16 45 23.3	
	comp=Z,6.4nm,0.7s						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**16 45 22.8**	**+0.2**
	comp=Z,23nm,0.5s,baz=89,slow=7.8,SNR=455						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**16 45 22.7**	**+0.1**
MTN	**Manton Dam**	**48.54**	**268**	P	**P**	**16 45 51.5**	**-0.6**
FORT	**Forrest**	**49.91**	**244**	P	**P**	**16 46 01.5**	**-0.4**
FORT				IAmb	IAmb	16 46 25.8	
	comp=Z,22nm,1.1s						
FAKI	**Fak Fak**	**50.25**	**281**	P	**P**	**16 46 05.5**	**+0.9**
FAKI				IAmb	IAmb	16 47 14.3	
	comp=Z,37nm,1.4s						
KNRA	**Kununurra**	**50.26**	**264**	P	**P**	**16 46 04.7**	**+0.1**
KNRA				IAmb	IAmb	16 47 23.6	
	comp=Z,44nm,1.6s						
SOEI	**Soe**	**55.81**	**270**	P	**P**	**16 46 44.4**	**+0.3**
SOEI				IAmb	IAmb	16 47 04.4	
	comp=Z,70nm,1.5s						
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	**P**	**16 46 56.4**	**-0.6**
PSA00	**Pilbara Seismi**	**57.74**	**255**	P	**P**	**16 46 56.9**	**-0.1**
PSA00				IAmb	IAmb	16 47 50.6	
	comp=Z,16nm,1.3s						
GIRL	**Giralia**	**62.74**	**253**	P	**P**	**16 47 30.9**	**+0.9**
UGM	**Wanagama**	**69.39**	**268**	P	**P**	**16 48 11.7**	**+0.4**
CISI	**Cisompet, Garu**	**72.07**	**268**	P	**P**	**16 48 27.2**	**+0.2**
CISI				IAmb	IAmb	16 49 34.0	
	comp=Z,20nm,1.2s						
QSPA	**South Pole Qui**	**72.48**	**180**	P	**P**	**16 48 28.2**	**-0.2**
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**16 49 06.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=233,slow=6.7,SNR=4.0						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**16 49 41.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=223,slow=4.8,SNR=6.3						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**16 49 45.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=270,slow=1.8,SNR=1.8						
GERES	**GERESS Array B 147.22 345**			PKPbc	**PKPbc**	**16 56 39.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=343,slow=2.0,SNR=2.5						
GERES	**GERESS Array B 147.22 345**				**PKPbc**	**16 56 38.8**	**+0.1**

IDC 02 16:40:13.1±2.5,**5°.92S**×**130°.51E**,**h0**km,**mb3.7**/1,
mb1 3.3/3,**mb1mx3.2**/26,**mbtmp3.2**/3,**ML3.0**/2,**Error ellipse: s-maj=147.0km s-min=32.9km az=71.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.43**	**165**	Pn	Pn	16 43 38.1	-0.6
	0.1nm,0.3s,baz=348,slow=13,SNR=1.7						
WRA				Sn	Sn	16 46 07.3	-12
	0.3nm,0.3s,baz=330,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**17.94**	**170**	P	P	16 44 24.7	-0.3
	0.0nm,0.3s,baz=355,slow=9.3,SNR=1.3						
MKAR	**Makanchi Array**	**67.61**	**326**	P	P	16 51 11.8	0.0
	0.4nm,0.6s,baz=114,slow=8.2,SNR=5.2						

*UPP **02** 17:03:33.1±0.1,67°.07N×20°.93E,h1km,ML2.7,Explosion*
*HEL **02** 17:03:33.6±0.1,67°.07N×20°.91E,h0km,ML1.9, ML2.7(UPP),Explosion*
*NAO **02** 17:03:33.9±0.9,67°.07N×21°.15E,ML2.4*
*BER **02** 17:03:36.1±3.0,66°.98N×21°.34E,h0km,ML1.9, ML2.4(NAO),Suspected explosion*
ISC 02 17:03:32.9±0.8,**67°.09N**±0°.02×**20°.97E**±0°.02,**h0**km,**n44,**
σ0**67**/69,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**283**	P	**Pg**	**17 03 36.1**	**+0.2**
DUNU	**Dundret**	**0.16**	**283**	*i* P	**Pg**	**17 03 36.1**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**46**	P	**Pg**	**17 03 43.9**	**+0.6**
MASU	**Masugnsbyn**	**0.55**	**46**	*i* P	**Pg**	**17 03 43.9**	**+0.6**
PAJU	**Pajala**	**0.84**	**93**	P	**Pg**	**17 03 48.9**	**-0.1**
PAJU	**Pajala**	**0.84**	**93**	*i* P	**Pg**	**17 03 48.9**	**-0.1**
KUA	**Kurravaara**	**0.91**	**345**	P	**Pg**	**17 03 49.9**	**-0.3**
KUA				S	**Sg**	**17 04 02.1**	**+0.1**
KUA	**Kurravaara**	**0.91**	**345**	*e*P	**Pg**	**17 03 49.9**	**-0.3**
KUA				*e*S	**Sg**	**17 04 02.1**	**+0.1**
RATU	**Laukkuluspa**	**0.91**	**325**	P	**Pg**	**17 03 49.8**	**-0.5**
RATU				S	**Sg**	**17 04 02.3**	**+0.1**
RATU	**Laukkuluspa**	**0.91**	**325**	*e*P	**Pg**	**17 03 49.8**	**-0.5**
RATU				*e*S	**Sg**	**17 04 02.3**	**+0.1**
HARU	**Harads**	**0.93**	**180**	P	**Pg**	**17 03 49.9**	**-0.7**
HARU	**Harads**	**0.93**	**180**	*e*P	**Pg**	**17 03 49.9**	**-0.7**
LANU	**Lannavaara**	**1.04**	**21**	P	**Pg**	**17 03 52.6**	**-0.3**
LANU	**Lannavaara**	**1.04**	**21**	*e*P	**Pg**	**17 03 52.8**	**-0.1**
LANU				*e*S	**Sg**	**17 04 06.9**	**+0.5**
NIKU	**Nikkaluokta**	**1.08**	**317**	P	**Pg**	**17 03 53.0**	**-0.6**
NIKU	**Nikkaluokta**	**1.08**	**317**	*e*P	**Pg**	**17 03 53.0**	**-0.6**
KLF	**Kolari**	**1.18**	**81**	*e*P	**Pg**	**17 03 55.0**	**-0.4**
KOVU	**Salmi**	**1.19**	**345**	P	**Pg**	**17 03 55.0**	**-0.6**
KOVU				S	**Sb**	**17 04 11.7**	**-0.4**
KOVU	**Salmi**	**1.19**	**345**	*e*P	**Pg**	**17 03 55.0**	**-0.6**
KOVU				*e*S	**Sb**	**17 04 11.7**	**-0.4**
HEF	**Hetta**	**1.68**	**36**	Pn	**Pn**	**17 04 03.6**	**+0.1**
HEF				Lg	Lg	17 04 26.0	
HEF	**Hetta**	**1.68**	**36**	*e*P	**Pn**	**17 04 03.5**	**+0.1**
HEF				*e*S	**Sn**	**17 04 25.6**	**0.0**
HEF	**Hetta**	**1.68**	**36**	*e*P	**Pn**	**17 04 03.4**	**0.0**
HEF				*e*S	**Sn**	**17 04 25.5**	**-0.2**
TOF	**Tornio**	**1.68**	**125**	*e*P	**Pn**	**17 04 03.6**	**+0.2**
TOF				*e*S	**Sn**	**17 04 25.8**	**+0.2**
TOF				MSG		17 04 26.4	
	comp=Z,4.7nm,0.1s						
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn	**Pb**	**17 04 08.6**	**-0.3**
KIF				Sn	**Sg**	**17 04 35.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn	**Pb**	**17 04 08.6**	**-0.3**
KIF				Sn	**Sg**	**17 04 35.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.93**	**358**	*e*P	**Pb**	**17 04 08.6**	**-0.3**
KIF				*e*SG	**Sg**	**17 04 34.8**	**+0.1**
RNF	**Rovaniemi**	**2.05**	**101**	*e*P	**Pn**	**17 04 09.7**	**+1.1**
RNF				*e*SG	**Sb**	**17 04 37.1**	**+0

SNART				Pg		Pb	17 03 47.6 +0.6
SNART				eS		Sg	17 03 56.3 +0.9
SNART				Lg		Lg	17 03 56.3
SNART				i S		Sb	17 03 56.6 -0.1
SNART				IAML			17 03 56.7
	comp=Z,742nm,0.3s						
SNART				IAML			17 03 58.7
	comp=Z,373nm,0.3s						
SNART	**Snartemo**	**0.70**	**10**	e		**Pg**	**17 03 46.8 +0.6**
	baz=198,slow=12						
SNART				⇑iP		**Pb**	**17 03 47.5 +0.6**
SNART				eS		**Sg**	**17 03 56.3 +0.9**
SNART				IAML			17 03 56.7
	comp=Z,742nm,0.3s						
SNART				IAML			17 03 58.7
	comp=Z,373nm,0.3s						
HOMB	**Homborsund**	**1.02**	**52**	⇑iP		**Pg**	**17 03 53.2 +0.9**
HOMB				⇑iP		**Pg**	**17 03 53.2 +0.9**
HOMB				eS		**Sg**	**17 04 05.5 0.0**
HOMB				i S		**Sb**	**17 04 05.9 +0.1**
HOMB				IAML			17 04 05.9
	comp=Z,363nm,0.3s						
HOMB				IAML			17 04 06.3
	comp=Z,305nm,0.3s						
HOMB	**Homborsund**	**1.02**	**52**	Pg		**Pg**	**17 03 53.1 +0.9**
HOMB				Lg		Lg	17 04 05.4
HOMB	**Homborsund**	**1.02**	**52**	⇑iP		**Pg**	**17 03 53.2 +0.9**
HOMB				eS		**Sg**	**17 04 05.5 0.0**
HOMB				IAML			17 04 05.9
	comp=Z,363nm,0.3s						
HOMB				IAML			17 04 06.3
	comp=Z,305nm,0.3s						
GOET	**G??ttrup**	**1.36**	**116**	⇓iP		**Pn**	**17 03 59.0 +1.4**
GOET				i S		**Sb**	**17 04 17.7 +2.1**
GOET				IAML			17 04 20.7
	comp=Z,54nm,0.3s						
GOET	**G??ttrup**	**1.36**	**116**	⇓iP		**Pn**	**17 03 59.0 +1.4**
GOET				i S		**Sb**	**17 04 17.7 +2.1**
GOET				IAML			17 04 20.7
	comp=Z,54nm,0.3s						
STAV	**Stavanger**	**1.46**	**333**	eP		**Pn**	**17 03 59.7 +0.8**
STAV				eS		**Sn**	**17 04 18.6 +0.6**
STAV				IAML			17 04 18.9
	comp=Z,207nm,0.3s						
STAV	**Stavanger**	**1.46**	**333**	Pg		**Pn**	**17 03 59.7 +0.8**
STAV				Lg		Lg	17 04 18.8
MUD	**Monsted U'grnd**	**1.69**	**134**	eP		**Pn**	**17 04 02.5 +0.3**
MUD				i P		**Pn**	**17 04 03.8 +1.6**
MUD				eS		**Sb**	**17 04 26.5 +1.4**
MUD	**Monsted U'grnd**	**1.69**	**134**	i P		**Pn**	**17 04 03.8 +1.6**
MUD				eS		**Sn**	**17 04 24.0 +0.1**
BLS5	**Blasjo**	**1.80**	**351**	eP		**Pn**	**17 04 05.2 +1.5**
BLS5				eS		**Sn**	**17 04 28.4 +1.8**
BLS5				IAML			17 04 29.8
	comp=Z,70nm,0.2s						
BLS5	**Blasjo**	**1.80**	**351**	eP		**Pn**	**17 04 05.2 +1.5**
BLS5				eS		**Sn**	**17 04 28.4 +1.8**
BLS5				IAML			17 04 29.8
	comp=Z,70nm,0.2s						
KMY	**Karmoy**	**1.81**	**330**	eP		**Pn**	**17 04 04.2 +0.4**
KMY				eS		**Sn**	**17 04 25.2 -1.6**
KMY				IAML			17 04 34.6
	comp=Z,49nm,0.7s						
KMY	**Karmoy**	**1.81**	**330**	eP		**Pn**	**17 04 04.2 +0.4**
KMY				eS		**Sn**	**17 04 25.2 -1.6**
KMY				IAML			17 04 34.6
	comp=Z,49nm,0.7s						
KONO	**Kongsberg**	**2.43**	**33**	eP		**Pn**	**17 04 12.3 0.0**
KONO				eS		**Sn**	**17 04 41.0 -1.0**
KONO				IAML			17 04 47.1
	comp=Z,32nm,0.2s						
KONO	**Kongsberg**	**2.43**	**33**	eP		**Pn**	**17 04 12.3 0.0**
KONO				eS		**Sn**	**17 04 41.0 -1.0**
KONO				IAML			17 04 47.1
	comp=Z,32nm,0.2s						
TJOU	**Tjoern**	**2.51**	**79**	P		**Pn**	**17 04 13.3 -0.1**
TJOU				S		**Sn**	**17 04 41.5 -2.6**
TJOU	**Tjoern**	**2.51**	**79**	P		**Pn**	**17 04 13.3 -0.1**
TJOU				S		**Sn**	**17 04 41.5 -2.6**
STRU	**Stroemstad**	**2.61**	**56**	P		**Pn**	**17 04 14.4 -0.5**
STRU				i P		Pb	17 04 14.5 -5.0
STRU	**Stroemstad**	**2.61**	**56**	P		**Pn**	**17 04 14.4 -0.5**
STRU	**Stroemstad**	**2.61**	**56**	i P		**Pn**	**17 04 14.5 -0.3**
ONAU	**Onsala**	**2.67**	**93**	P		**Pn**	**17 04 15.3 -0.4**
ONAU				i P		Pb	17 04 15.5 -5.1
ONAU				S		**Sn**	**17 04 45.6 -2.5**
ONAU	**Onsala**	**2.67**	**93**	P		**Pn**	**17 04 15.3 -0.4**
ONAU				S		**Sn**	**17 04 45.6 -2.5**
ONAU	**Onsala**	**2.67**	**93**	i P		**Pn**	**17 04 15.5 -0.2**
VANU	**Vaenersborg**	**2.83**	**71**	P		**Pn**	**17 04 17.6 -0.2**
VANU	**Vaenersborg**	**2.83**	**71**	P		**Pn**	**17 04 17.6 -0.2**
SKAR	**Skarslia**	**3.12**	**12**	eP		**Pn**	**17 04 21.9 +0.1**
SKAR				eS		**Sn**	**17 04 57.6 -1.4**
SKAR				IAML			17 05 11.8
	comp=Z,34nm,0.4s						
SKAR	**Skarslia**	**3.12**	**12**	eP		**Pn**	**17 04 21.9 +0.1**
SKAR				eS		**Sn**	**17 04 57.6 -1.4**
SKAR				IAML			17 05 11.8
	comp=Z,34nm,0.4s						
FABU	**Falkenberg**	**3.18**	**99**	P		**Pn**	**17 04 22.7 +0.1**
FABU				i P		Pb	17 04 23.1 -6.1
FABU	**Falkenberg**	**3.18**	**99**	P		**Pn**	**17 04 22.7 +0.1**
FABU	**Falkenberg**	**3.18**	**99**	i P		**Pn**	**17 04 23.1 +0.4**
NASU	**Vaermlandsnaes**	**3.52**	**66**	P		**Pn**	**17 04 27.3 +0.1**
NASU	**Vaermlandsnaes**	**3.52**	**66**	P		**Pn**	**17 04 27.3 +0.1**
FKPU	**Falk**	**3.63**	**79**	P		**Pn**	**17 04 28.9 0.0**
FKPU				S		**Sn**	**17 05 08.6 -3.2**
FKPU	**Falk**	**3.63**	**79**	P		**Pn**	**17 04 28.9 0.0**
FKPU				S		**Sn**	**17 05 08.6 -3.2**
BJUU	**Bjuv**	**3.67**	**113**	i P		**Pn**	**17 04 28.8 -0.6**
BJUU	**Bjuv**	**3.67**	**113**	i P		**Pn**	**17 04 28.8 -0.6**
NRA0	**NORESS Array S**	**3.88**	**35**	Pn		**Pn**	**17 04 31.7 -0.6**
	baz=215,slow=16						
NRA0				Sn		**Sn**	**17 05 14.1 -3.8**
	baz=207,slow=18						
NRA0				Lg		Lg	17 05 33.5
	baz=219,slow=28						
NRA0	**NORESS Array S**	**3.88**	**35**	Pn		**Pn**	**17 04 31.7 -0.6**
	baz=215,slow=16						
NRA0				Sn		**Sn**	**17 05 14.1 -3.8**
	baz=207,slow=18						
NRA0				Lg		Lg	17 05 33.5
	baz=219,slow=28						
NRA0	**NORESS Array S**	**3.88**	**35**	Pn		**Pn**	**17 04 31.7 -0.6**
	baz=215,slow=16						
NRA0				Sn		**Sn**	**17 05 14.1 -3.8**
	baz=207,slow=18						
NRA0				Sg		**Sb**	**17 05 33.5 +5.4**
	baz=219,slow=28						
DEL	**Delary**	**3.94**	**105**	i P		**Pn**	**17 04 33.7 +0.6**
DEL	**Delary**	**3.94**	**105**	i P		**Pn**	**17 04 33.7 +0.6**
NB2	**NORSAR Subarra**	**4.03**	**31**	Pn		**Pn**	**17 04 33.9 -0.5**
NB2				Lg		Lg	17 05 34.5
	baz=231,slow=37						
NB2	**NORSAR Subarra**	**4.03**	**31**	Pn		**Pn**	**17 04 33.9 -0.5**
NB2				Lg		Lg	17 05 34.5
	baz=231,slow=37						
NB2	**NORSAR Subarra**	**4.03**	**31**	Pn		**Pn**	**17 04 33.9 -0.5**
NB2				Sg		**Sb**	**17 05 34.5 +2.1**
	baz=231,slow=37						
LUNU	**Lund**	**4.10**	**117**	i P		**Pn**	**17 04 35.2 -0.1**
LUNU				i S		**Sn**	**17 05 21.0 -2.3**
LUNU	**Lund**	**4.10**	**117**	i P		**Pn**	**17 04 35.2 -0.1**
LUNU				i S		**Sn**	**17 05 21.0 -2.3**
ASKU	**Askersund**	**4.33**	**70**	P		**Pn**	**17 04 38.3 -0.1**
ASKU	**Askersund**	**4.33**	**70**	P		**Pn**	**17 04 38.3 -0.1**
VXJU	**Vaexsjoe**	**4.38**	**96**	P		**Pn**	**17 04 39.2 0.0**
VXJU	**Vaexsjoe**	**4.38**	**96**	P		**Pn**	**17 04 39.2 0.0**
EKSU	**Eksjoe**	**4.47**	**87**	P		**Pn**	**17 04 40.8 +0.3**
EKSU	**Eksjoe**	**4.47**	**87**	P		**Pn**	**17 04 40.8 +0.3**
AKN	**Aaknes**	**4.54**	**0**	Lg		Lg	17 05 55.3
AKN	**Aaknes**	**4.54**	**0**	Lg		Lg	17 05 55.3
AKN	**Aaknes**	**4.54**	**0**	Sg		**Sg**	**17 05 55.3 -3.1**
LNKU	**Linkoeping**	**4.58**	**79**	P		**Pn**	**17 04 41.9 0.0**
LNKU	**Linkoeping**	**4.58**	**79**	P		**Pn**	**17 04 41.9 0.0**
BLEU	**Blekinge**	**5.02**	**102**	i P		**Pn**	**17 04 48.0 +0.1**
BLEU	**Blekinge**	**5.02**	**102**	i P		**Pn**	**17 04 48.0 +0.1**
EKA	**Eskdalemuir Ar**	**6.08**	**252**	Pn		**Pn**	**17 05 01.2 -1.3**
EKA				Sn		**Sn**	**17 06 05.5 -6.5**
EKA	**Eskdalemuir Ar**	**6.08**	**252**	Pn		**Pn**	**17 05 01.2 -1.3**
EKA				Sn		**Sn**	**17 06 05.5 -6.5**
EKA	**Eskdalemuir Ar**	**6.08**	**252**	Pn		**Pn**	**17 05 01.2 -1.3**
EKA				Sn		**Sn**	**17 06 05.5 -6.5**

BER 02 17:03:58.7±1.0, 66°.16N×13°.19E, h7km±2km, ML1.2, Confirmed Earthquake, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.18**	**339**	eP	Pg	17 04 02.0	-0.4
STOK				eS	Sg	17 04 04.8	-0.1
KONS	**Konsvik**	**0.34**	**356**	eP	Pg	17 04 04.8	-0.6
KONS				eS	Sg	17 04 09.4	-0.4
KONS				IAML		17 04 11.0	
	comp=Z,19nm,0.7s						
NBB40	**Tonnes**	**0.36**	**349**	eP	Pg	17 04 05.0	-0.8
NBB40				eS	Sg	17 04 10.3	-0.2
NBB40				IAML		17 04 11.7	
	comp=Z,17nm,0.6s						
NBB13	**Alf Garage**	**0.47**	**7**	eP	Pg	17 04 07.2	-0.6
NBB13	**Alf Garage**	**0.47**	**7**	eS	Sg	17 04 13.4	-0.6
NBB13				IAML		17 04 14.8	
	comp=Z,17nm,0.3s						
MOR8	**Moi Rana**	**0.51**	**88**	eP	Pb	17 04 09.9	-0.1
NBB15	**Halsa Church**	**0.60**	**15**	eP	Pg	17 04 10.3	-0.1
NBB15	**Halsa Church**	**0.60**	**15**	eS	Sg	17 04 18.1	-0.1
NBB15				IAML		17 04 20.7	
	comp=Z,7.3nm,0.4s						
NBB17	**Glomfjord BÆr**	**0.73**	**25**	eP	Pg	17 04 11.5	-1.2
NBB17	**Glomfjord BÆr**	**0.73**	**25**	eS	Sg	17 04 21.4	-0.7
NBB30	**Finnes**	**0.84**	**15**	eP	Pg	17 04 13.8	-1.1
NBB30				eS	Sg	17 04 24.9	-0.9
NBB30				IAML		17 04 27.2	
	comp=Z,6.8nm,0.2s						
NBB05	**Inndyr**	**0.94**	**21**	eP	Pg	17 04 15.6	-1.2
NBB05	**Inndyr**	**0.94**	**21**	eS	Sg	17 04 28.4	-0.6
NBB05				IAML		17 04 29.3	
	comp=Z,6.8nm,0.1s						
NBB28	**Valnes**	**1.15**	**26**	eP	Pg	17 04 18.4	-2.3
NBB28				eS	Sg	17 04 34.8	-0.9
NBB08	**Skaug oppvekst**	**1.36**	**24**	eP	Pn	17 04 22.2	-1.8
NBB08	**Skaug oppvekst**	**1.36**	**24**	eS	Sb	17 04 39.4	-2.5
N2RO	**R¸st**	**1.43**	**343**	eP	Pn	17 04 23.5	-1.4
N2RO				eS	Sb	17 04 40.5	-3.4
N2RO				IAML		17 04 51.2	
	comp=Z,3.8nm,0.6s						
N2VA	**Vr¸y**	**1.52**	**353**	eP	Pn	17 04 24.4	-1.9
N2TV	**TÆrnvik**	**1.61**	**28**	eS	Sn	17 04 45.5	-2.9
N2TV				IAML		17 04 47.9	
	comp=Z,14nm,0.3s						
NSS	**Namsos**	**1.72**	**198**	eP g	Pb	17 04 30.1	-0.4
NSS				eS g	Sb	17 04 52.1	-0.1
NSS				IAML		17 04 56.0	
	comp=Z,4.9nm,0.3s						
LOF	**Lofoten**	**1.98**	**4**	eS	Sn	17 04 54.3	-3.3
LOF				IAML		17 05 12.7	
	comp=Z,4.3nm,0.3s						

*NOU **02** 17:09:05.5, 40°.53S×176°.57E, h69km, MLv4.2, North Island, New Zealand*
*NEIC **02** 17:09:07.8±0.6, 40°.5S±0°.7×176°.5E±0°.3, h54km±25km, mb4.4/9, Error ellipse: s-maj=100.0km s-min=14.7km az=160.0*
*WEL **02** 17:09:08.2, 40°S±3°×17°6E±°, h48km±5km, M4.1/61, ML4.5/61, MLv4.1/61, Error ellipse: s-maj=0.0km s-min=0.0km az=77.2*
*IDC **02** 17:09:09.8±7.2, 40°.14S×176°.20E, h52km±52km, mb4.0/3, mb1 4.1/4, mb1mx3.6/22, mbtmp4.2/4, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=78.8km s-min=29.4km az=142.0*

ISC 02 17:09:07.3±0.9, 40°.49S±0°.03×176°.39E±0°.05, h63km±5km, n193, σ1°11/199, mb4.5/8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	**Angora Road**	**0.07**	**68**	P	**Pn**	**17 09 16.5**	**-0.2**
ANWZ				S	**Sn**	**17 09 23.0**	**-0.4**
BFZ	**Birch Farm**	**0.23**	**210**		**Pn**	**17 09 17.5**	**+0.2**
BFZ				Sn	**Sn**	**17 09 24.1**	**-0.4**
BFZ	**Birch Farm**	**0.23**	**210**		**Pn**	**17 09 17.6**	**+0.2**
DVHZ	**Dannevirke**	**0.26**	**317**	P	**Pn**	**17 09 15.9**	**-1.6**
DVHZ				S	**Sn**	**17 09 21.4**	**-3.5**
PRHZ	**Porangahau**	**0.29**	**40**	P	**Pn**	**17 09 18.4**	**+0.7**
PRHZ				S	**Sn**	**17 09 25.2**	**-0.1**
PRWZ	**Pori Road**	**0.33**	**258**	P	**Pn**	**17 09 17.8**	**-0.2**
WPHZ	**Waipukurau**	**0.42**	**5**	P	**Pn**	**17 09 17.7**	**-1.1**
CPWZ	**Castlepoint**	**0.45**	**199**	P	**Pn**	**17 09 20.8**	**+1.7**
TIWZ	**Tintock**	**0.48**	**233**	P	**Pn**	**17 09 20.0**	**+0.5**
POWZ	**Post Office Ro**	**0.49**	**281**	P	**Pn**	**17 09 18.5**	**-0.9**
TSZ	**Takapari Road**	**0.54**	**322**	P	**Pn**	**17 09 18.4**	**-1.6**
PXZ	**Pawanui**	**0.58**	**38**	P	**Pn**	**17 09 20.2**	**-0.1**
PNHZ	**Pukenui**	**0.59**	**345**	P	**Pn**	**17 09 19.2**	**-1.4**
MRZ	**Mangatainoka R**	**0.65**	**254**	P	**Pn**	**17 09 21.1**	**-0.1**
TMWZ	**Te Maipa**	**0.73**	**211**	P	**Pn**	**17 09 23.2**	**+1.0**
KAHZ	**Kahuranaki**	**0.78**	**28**	P	**Pn**	**17 09 22.7**	**-0.1**
HOWZ	**Holdsworth Sta**	**0.79**	**238**	P	**Pn**	**17 09 23.1**	**+0.3**
KRHZ	**Kereru**	**0.84**	**359**	P	**Pn**	**17 09 22.6**	**-1.0**
OHWZ	**Ohakea**	**0.87**	**288**	P	**Pn**	**17 09 24.0**	**+0.2**
MTW	**Mount Morrison**	**0.95**	**225**	P	**Pn**	**17 09 25.2**	**+0.3**
CKHZ	**Cape Kidnapper**	**0.98**	**33**	P	**Pn**	**17 09 24.9**	**-0.3**
OGWZ	**Otaki Gorge**	**0.99**	**250**	P	**Pn**	**17 09 25.4**	**+0.1**
BHHZ	**Black Hill Sta**	**1.03**	**346**	P	**Pn**	**17 09 25.1**	**-0.8**
TRWZ	**Traveller**	**1.06**	**210**	P	**Pn**	**17 09 27.1**	**+0.9**
KWHZ	**Kaweka Forest**	**1.06**	**1**	P	**Pn**	**17 09 25.6**	**-0.7**
MCHZ	**McNeill Hill**	**1.07**	**13**	P	**Pn**	**17 09 26.0**	**-0.3**
PAWZ	**Paruwai Farm**	**1.16**	**219**	P	**Pn**	**17 09 27.9**	**+0.4**
CAW	**Cannon Point**	**1.18**	**238**	P	**Pn**	**17 09 28.1**	**+0.2**
MOVZ	**Moawhango**	**1.19**	**335**	P	**Pn**	**17 09 27.5**	**-0.4**
KIW	**Kapiti Island**	**1.19**	**251**	P	**Pn**	**17 09 28.2**	**+0.3**
MSWZ	**Moikau Station**	**1.27**	**223**		**Pn**	**17 09 28.8**	**-0.3**
MSWZ	**Moikau Station**	**1.27**	**223**	P	**Pn**	**17 09 29.1**	**0.0**
WAZ	**Wanganui**	**1.30**	**304**	P	**Pn**	**17 09 29.9**	**+0.5**
ARHZ	**Aropaoanui**	**1.31**	**21**	P	**Pn**	**17 09 29.6**	**+0.1**
MTVZ	**Mangateitei**	**1.31**	**327**	P	**Pn**	**17 09 29.5**	**-0.1**
WNVZ	**Wahianoa**	**1.31**	**332**	P	**Pn**	**17 09 29.6**	**-0.1**
BKZ	**Black Stump Fm**	**1.32**	**3**		**Pn**	**17 09 28.8**	**-1.0**
BKZ	**Black Stump Fm**	**1.32**	**3**	P	**Pn**	**17 09 29.0**	**-0.8**
TUVZ	**Tukino**	**1.34**	**335**	P	**Pn**	**17 09 30.3**	**+0.1**
TRVZ	**Turoa**	**1.35**	**331**	P	**Pn**	**17 09 30.3**	**0.0**
WHVZ	**Whangaehu Hut**	**1.35**	**332**	P	**Pn**	**17 09 30.2**	**-0.1**
DRZ	**Dome Shelter**	**1.37**	**332**	P	**Pn**	**17 09 30.7**	**+0.1**
PLWZ	**Palliser**	**1.38**	**218**		**Pn**	**17 09 30.3**	**-0.3**
PLWZ	**Palliser**	**1.38**	**218**	P	**Pn**	**17 09 30.6**	**0.0**
FWVZ	**Far West T-bar**	**1.39**	**332**	P	**Pn**	**17 09 30.6**	**-0.2**
SNVZ	**South Ngauruho**	**1.42**	**336**	P	**Pn**	**17 09 31.2**	**0.0**
NMHZ	**Naumai**	**1.42**	**13**	P	**Pn**	**17 09 31.1**	**0.0**
OTVZ	**Oturere**	**1.44**	**337**	P	**Pn**	**17 09 31.3**	**-0.1**
PKVZ	**Pokaka**	**1.44**	**326**	P	**Pn**	**17 09 31.6**	**+0.2**
NGZ	**Ngauruhoe**	**1.44**	**335**	P	**Pn**	**17 09 31.4**	**-0.1**
ETVZ	**East Tongariro**	**1.45**	**338**	P	**Pn**	**17 09 31.4**	**-0.1**
TMVZ	**Te Maari**	**1.47**	**339**	P	**Pn**	**17 09 31.6**	**-0.1**
WEL	**Wellington**	**1.47**	**237**	P	**Pn**	**17 09 31.7**	**+0.1**
BHW	**Baring Head**	**1.48**	**231**		**Pn**	**17 09 31.3**	**-0.4**
BHW	**Baring Head**	**1.48**	**231**	P	**Pn**	**17 09 31.7**	**0.0**
NNVZ	**North Ngauruho**	**1.48**	**336**	P	**Pn**	**17 09 31.9**	**-0.1**
NTVZ	**North Tongarir**	**1.49**	**338**	P	**Pn**	**17 09 31.9**	**-0.2**
WTVZ	**West Tongariro**	**1.50**	**335**	P	**Pn**	**17 09 32.1**	**-0.1**
KRVZ	**Karewarewa**	**1.50**	**337**	P	**Pn**	**17 09 32.2**	**-0.1**
SNZO	**South Karori**	**1.52**	**237**		**Pn**	**17 09 32.0**	**-0.3**
WHHZ	**Waihua**	**1.55**	**25**	P	**Pn**	**17 09 32.6**	**-0.2**
RITZ	**Rihia Road**	**1.56**	**345**	P	**Pn**	**17 09 33.0**	**0.0**
TWVZ	**Taurewa**	**1.59**	**332**	P	**Pn**	**17 09 33.2**	**-0.2**
KATZ	**Kakaramea**	**1.60**	**340**	P	**Pn**	**17 09 33.4**	**-0.2**
HATZ	**Hinemaiaia**	**1.61**	**352**	P	**Pn**	**17 09 33.1**	**-0.5**
MRHZ	**Matea Rd**	**1.65**	**1**	P	**Pn**	**17 09 33.7**	**-0.5**
RAHZ	**Arahi**	**1.66**	**19**	P	**Pn**	**17 09 33.9**	**-0.3**
MTHZ	**Maungataniwha**	**1.67**	**12**	P	**Pn**	**17 09 33.7**	**-0.7**
RATZ	**Rangitukua**	**1.69**	**343**	P	**Pn**	**17 09 34.3**	**-0.4**
TCW	**Tory Channel**	**1.76**	**245**	P	**Pn**	**17 09 35.4**	**-0.2**
KNZ	**Kokohu**	**1.76**	**34**	P	**Pn**	**17 09 35.1**	**-0.5**
MHGZ	**Mahia Peninsul**	**1.77**	**42**	P	**Pn**	**17 09 35.6**	**-0.1**
LREZ	**Lake Rotokare**	**1.84**	**303**	P	**Pn**	**17 09 37.6**	**+1.0**
WATZ	**Wairara**	**1.85**	**344**	P	**Pn**	**17 09 36.2**	**-0.6**
WHTZ	**Whakaora**	**1.85**	**349**	P	**Pn**	**17 09 36.6**	**-0.2**
SNGZ	**Shannon Statio**	**1.85**	**24**	P	**Pn**	**17 09 36.6**	**-0.2**
VRZ	**Vera Road**	**1.85**	**317**	P	**Pn**	**17 09 36.9**	**0.0**
DUWZ	**D'Urville Isla**	**1.91**	**260**	P	**Pn**	**17 09 37.8**	**+0.2**
ALRZ	**Allen Road**	**1.92**	**359**	P	**Pn**	**17 09 36.8**	**-1.0**
RTZ	**Ruatahuna**	**1.92**	**14**	P	**Pn**	**17 09 37.3**	**-0.5**
PRGZ	**Paritu Road**	**1.94**	**37**	P	**Pn**	**17 09 37.5**	**-0.5**
WPRZ	**Whakapapatarin**	**1.97**	**355**	P	**Pn**	**17 09 37.6**	**-0.9**
PRRZ	**Plateau Road**	**1.98**	**360**	P	**Pn**	**17 09 37.6**	**-1.0**
MUGZ	**Murupara**	**2.03**	**8**	P	**Pn**	**17 09 38.1**	**-1.1**
KUTZ	**Kaahu Road**	**2.04**	**347**	P	**Pn**	**17 09 38.7**	**-0.7**
PREZ	**Palmer Road**	**2.06**	**303**	P	**Pn**	**17 09 41.0**	**+1.3**
RIGZ	**Rimuhau**	**2.07**	**31**	P	**Pn**	**17 09 39.2**	**-0.5**
CMWZ	**Cape Campbell**	**2.08**	**232**	Pn	**Pn**	**17 09 39.1**	**-0.8**
CMWZ	**Cape Campbell**	**2.08**	**232**	P	**Pn**	**17 09 40.0**	**+0.2**
TUWZ	**Tuamarina**	**2.08**	**242**		**Pn**	**17 09 39.1**	**-0.8**
TUWZ	**Tuamarina**	**2.08**	**242**	P	**Pn**	**17 09 39.3**	**-0.6**
HRRZ	**Handcock Road**	**2.09**	**358**	P	**Pn**	**17 09 39.3**	**-0.8**
DREZ	**Durham Road**	**2.13**	**307**	P	**Pn**	**17 09 41.7**	**+1.2**
MHEZ	**Mangahewa**	**2.13**	**311**	P	**Pn**	**17 09 41.7**	**+1.2**
RAGZ	**Rawiri**	**2.14**	**22**	P	**Pn**	**17 09 39.9**	**-0.9**
GRRZ	**Galatos Road**	**2.14**	**354**	P	**Pn**	**17 09 40.3**	**-0.6**
NEZ	**North Egmont**	**2.15**	**304**	P	**Pn**	**17 09 42.0**	**+1.1**
RRRZ	**Republican Roa**	**2.15**	**3**	P	**Pn**	**17 09 39.7**	**-1.2**
HSRZ	**Hossack Road**	**2.17**	**357**	P	**Pn**	**17 09 40.4**	**-0.8**
KHEZ	**Kahui Hut**	**2.18**	**302**	P	**Pn**	**17 09 42.7**	**+1.3**
NMEZ	**Namu Road**	**2.21**	**298**	P	**Pn**	**17 09 42.9**	**+1.3**
HLRZ	**Highlands Stat**	**2.23**	**359**	P	**Pn**	**17 09 42.1**	**+0.1**
TARZ	**Mount Tarawera**	**2.25**	**2**	P	**Pn**	**17 09 41.5**	**-0.8**
TLZ	**Tolley Road**	**2.25**	**343**	P	**Pn**	**17 09 41.3**	**-1.0**
PKE	**Pukeiti**	**2.26**	**304**	P	**Pn**	**17 09 43.5**	**+1.2**
BSWZ	**Blackbirch Sta**	**2.27**	**236**		**Pn**	**17 09 41.9**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.27**	**236**	P	**Pn**	**17 09 42.0**	**-0.4**
URZ	**Urewera**	**2.29**	**14**	P	**Pn**	**17 09 41.2**	**-1.6**
	16nm,0.3s,baz=243,slow=3.5,SNR=103						
URZ				S	**Sn**	**17 10 05.7**	**-4.1**
	72nm,0.3s,baz=248,slow=9.4,SNR=11						
URZ				LR	LR	17 10 22.9	
	comp=Z,93nm,18.7s,baz=225,slow=36						
URZ	**Urewera**	**2.29**	**14**	P	**Pn**	**17 09 41.2**	**-1.6**
NBEZ	**Newall Road No**	**2.29**	**301**	P	**Pn**	**17 09 43.9**	**+1.1**
HIZ	**Hauiti**	**2.30**	**328**		**Pn**	**17 09 42.4**	**-0.4**
HIZ	**Hauiti**	**2.30**	**328**	P	**Pn**	**17 09 42.5**	**-0.4**
UTU	**Utuhina**	**2.31**	**356**	P	**Pn**	**17 09 42.5**	**-0.5**
MWZ	**Matawai**	**2.32**	**23**	P	**Pn**	**17 09 41.9**	**-1.3**
TKGZ	**Te Karaka**	**2.33**	**29**	P	**Pn**	**17 09 42.4**	**-0.9**
OMRZ	**Omania**	**2.38**	**360**	P	**Pn**	**17 09 42.9**	**-1.1**
NGRZ	**Ngongotaha**	**2.39**	**356**	P	**Pn**	**17 09 43.6**	**-0.5**
NNZ	**Nelson**	**2.40**	**251**	Pn	**Pn**	**17 09 44.0**	**-0.2**
NNZ	**Nelson**	**2.40**	**251**	P	**Pn**	**17 09 44.1**	**-0.2**
CNGZ	**Carnagh Statio**	**2.44**	**36**	P	**Pn**	**17 09 44.2**	**-0.6**
KARZ	**Kaharoa**	**2.46**	**357**	P	**Pn**	**17 09 44.3**	**-0.8**
MARZ	**Manawahe**	**2.51**	**5**	P	**Pn**	**17 09 44.7**	**-1.1**
TWGZ	**Tauwhareparae**	**2.61**	**29**	P	**Pn**	**17 09 46.5**	**-0.7**
OPRZ	**Ohinepanea**	**2.64**	**3**	P	**Pn**	**17 09 46.0**	**-1.6**
KMRZ	**Kaimai**	**2.66**	**352**	P	**Pn**	**17 09 47.0**	**-0.8**
WHRZ	**Whale Island**	**2.67**	**10**	P	**Pn**	**17 09 46.7**	**-1.1**
RUGZ	**Raukumara Rang**	**2.71**	**22**	P	**Pn**	**17 09 47.3**	**-1.3**
TGRZ	**Tauranga**	**2.75**	**358**	P	**Pn**	**17 09 48.4**	**-0.7**
PUZ	**Puketiti**	**2.81**	**32**	P	**Pn**	**17 09 48.3**	**-1.6**
TOZ	**Tahuroa Road**	**2.84**	**346**	P	**Pn**	**17 09 49.4**	**-0.8**
KHZ	**Kahutara**	**2.88**	**227**	Pn	**Pn**	**17 09 49.5**	**-1

COK2	Cook Ranch 2	0.59	323	eP	Pb	17 32 17.6	+0.5
SWSC	Sam W. Stewart	0.70	324	eP	Pg	17 32 19.1	0.0
IKP	In-Ko-Pah, Jac	0.73	292	eP	Pg	17 32 19.8	+0.2
CBX	Cerro Bola	1.15	267	i P	Pn	17 32 26.8	+0.2
CBX				i S	Sb	17 32 41.7	+0.3
CBX	Cerro Bola	1.15	267	eP	Pn	17 32 26.9	+0.2
CBX				eS	Sb	17 32 41.9	+0.5
TJIG	Tijuana	1.16	273	i P	Pn	17 32 27.0	+0.3
TJIG				i S	Sb	17 32 41.7	+0.2
BAR	Barrett	1.19	285	eP	Pb	17 32 27.7	+0.3
BAR				eS	Sb	17 32 43.2	+0.7
BAR				IAML		17 32 44.0	
	comp=N,136nm,0.1s						
BAR				⇓e		17 32 44.0	
SPIG	San Pedro Mart	1.33	186	i P	Pn	17 32 29.1	-0.3
SPIG				i S	Sg	17 32 47.8	-0.8
SPX	San Pedro Mart	1.34	186	i P	Pn	17 32 28.9	-0.6
SPX				i S	Sg	17 32 47.8	-1.0
SDRC	San Diego Road	1.43	285	IAML		17 32 50.5	
	comp=N,74nm,0.4s						

*JMA **02** 17:46:01.0±0.2,23°.92N×122°.51E,h26km±5km,M2.1*
*TAP **02** 17:46:01.4,23°.96N×122°.57E,h48km,ML2.8,D*
ISC 02 17:45:60.0±1.1,**23°.90N**±0°.02×**122°.53E**±0°.02,**h13**km±9km,
n86,σ1º**39**/149,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.67	35	P	Pg	17 46 13.7	+0.6
JYNG				S	Sg	17 46 22.2	+0.3
YOJ	Yonaguni jima	0.71	38	P	Pg	17 46 14.6	+0.7
YOJ				eS	Sg	17 46 23.4	+0.1
YOJ	Yonaguni jima	0.71	38	P	Pg	17 46 14.5	+0.6
	baz=42						
YOJ				eS	Sg	17 46 25.0	+1.7
	baz=42						
TEYL	Yanliau Villag	0.85	268	eS	Sg	17 46 29.5	+1.9
	baz=258						
ETL	Fush Village	0.86	288	eS	Sg	17 46 29.1	+1.0
	baz=272						
TWD	Chiawan	0.87	282	eS	Sg	17 46 28.4	+0.3
	baz=278						
EWUT	Wuta	0.87	309	eP	Pg	17 46 17.6	+0.7
	baz=304						
EWUT				eS	Sg	17 46 30.0	+1.7
	baz=304						
NACB	Ninganchiao	0.89	288	eP	Pg	17 46 17.4	+0.1
	baz=273						
NACB				eS	Sg	17 46 29.6	+0.7
	baz=273						
TEGC	Jichi Village	0.92	258	eS	Sg	17 46 31.8	+2.0
	baz=254						
TWC	Suao	0.94	319	eP	Pg	17 46 18.2	0.0
	baz=307						
TWC				eS	Sg	17 46 30.2	-0.2
	baz=307						
ETM	Tongmen	0.95	274	eP	Pg	17 46 18.2	0.0
	baz=270						
ETM				eS	Sg	17 46 31.7	+1.0
	baz=270						
ETLH	Xiulin Townshi	1.00	288	eP	Pg	17 46 19.2	-0.2
	baz=275						
ETLH				eS	Sg	17 46 32.4	0.0
	baz=275						
ESL	Shilin	1.00	265	eP	Pg	17 46 18.8	-0.5
	baz=255						
ESL				eS	Sg	17 46 33.7	+1.2
	baz=255						
EGFH	Guangfu	1.03	257	eP	Pg	17 46 20.1	+0.3
	baz=244						
EGFH				eS	Sg	17 46 33.7	+0.3
	baz=244						
NDS	Dongshan	1.04	315	eP	Pg	17 46 20.2	+0.1
	baz=311						
NDS				eS	Sg	17 46 33.4	-0.2
	baz=311						
HGSD	Ruisui	1.09	248	eP	Pg	17 46 20.5	-0.5
	baz=245						
HGSD				eS	Sg	17 46 35.7	+0.6
	baz=245						
TWE	Neicheng	1.13	316	eP	Pg	17 46 21.0	-0.8
	baz=313						
TWE				eS	Sg	17 46 35.2	-1.4
	baz=313						
ECBN	Changbin	1.14	240	eP	Pg	17 46 21.7	-0.3
	baz=227						
ECBN				eS	Sg	17 46 36.2	-0.6
	baz=227						
ENTT	Nioudou	1.15	310	eP	Pg	17 46 22.3	+0.3
	baz=296						
ENTT				eS	Sg	17 46 36.2	-0.8
	baz=296						
NDT	Datong Townshi	1.16	307	eP	Pg	17 46 21.9	-0.5
	baz=294						
NDT				eS	Sg	17 46 36.6	-0.8
	baz=294						
EHY	Hungye	1.17	251	eP	Pg	17 46 21.9	-0.6
	baz=247						
EHY				eS	Sg	17 46 36.6	-1.1
	baz=247						
WHF	Hehuan Shan	1.18	282	eP	Pg	17 46 22.3	-0.4
	baz=278						
WHF				eS	Sg	17 46 37.7	-0.5
	baz=278						
NNS	Nan Shan	1.18	297	eP	Pg	17 46 22.3	-0.5
	baz=294						
NNS				eS	Sg	17 46 37.5	-0.7
	baz=294						
IRIF	Iriomote-Funau	1.18	68	P	Pg	17 46 22.4	-0.4
IRIF				eS	Sg	17 46 37.4	-0.8
YULB	Yu-li	1.23	246	P	Pg	17 46 22.9	-0.8
	baz=235						
YULB				eS	Sg	17 46 38.5	-1.3
	baz=235						
EYUL	Yuli	1.23	244	eP	Pg	17 46 22.9	-0.9
	baz=240						
EYUL				eS	Sg	17 46 40.1	+0.3
	baz=240						
OWD	Renai	1.23	273	eP	Pg	17 46 22.8	-1.0
	baz=269						
OWD				eS	Sg	17 46 38.5	-1.4
	baz=269						
TIPB	Shuangxi	1.24	329	P	Pg	17 46 22.7	-1.2
	baz=326						
TIPB				eS	Sg	17 46 37.6	-2.5
	baz=326						
CHGB	Renai	1.25	278	eP	Pg	17 46 23.3	-0.7
	baz=273						
CHGB				eS	Sg	17 46 39.5	-0.7
	baz=273						
TWF1	Yuli	1.25	244	P	Pg	17 46 23.4	-0.7
	baz=241						
TWF1				eS	Sg	17 46 39.0	-1.3
	baz=241						
NWLT	Wulai	1.28	313	eP	Pg	17 46 23.8	-0.8
	baz=310						
NWLT				eS	Sg	17 46 39.5	-1.7
	baz=310						
TWT	Tachien	1.28	286	eP	Pg	17 46 24.3	-0.4
	baz=283						
TWT				eS	Sg	17 46 40.9	-0.6
	baz=283						
YHNB	Yeheng	1.30	306	eP	Pg	17 46 23.5	-1.5
	baz=303						
YHNB				eS	Sg	17 46 40.5	-1.5
	baz=303						
FULB	Fuli	1.33	239	eP	Pg	17 46 23.5	-2.0
	baz=226						
FULB				eS	Sg	17 46 41.7	-1.0
	baz=226						
CHKT	Chengkung	1.33	233	eP	Pg	17 46 23.9	-1.6
	baz=222						
CHKT				eS	Sg	17 46 39.5	-3.3
	baz=222						
WFSB	Wu-fen Shan	1.35	330	eP	Pg	17 46 23.9	-2.0
	baz=327						
WFSB				eS	Sg	17 46 40.3	-3.2
	baz=327						
JKRS	Kuro-shima	1.40	76	P	Pg	17 46 26.1	-0.8
WPL	Puli Township	1.44	275	eP	Pn	17 46 26.4	+0.6
	baz=271						
WPL				eS	Sg	17 46 43.9	-2.4
	baz=271						
SSLB	Suanglung	1.44	266	eP	Pn	17 46 26.0	+0.1
	baz=262						
SSLB				eS	Sg	17 46 44.8	-1.6
	baz=262						
EDH	Donghe	1.45	231	eP	Pn	17 46 25.4	-0.5
	baz=222						
EDH				eS	Sg	17 46 42.0	-4.8
	baz=222						
DPDB	Guoxing	1.47	276	eP	Pn	17 46 26.9	+0.6
	baz=271						
DPDB				eS	Sg	17 46 45.2	-2.1
	baz=271						
WCS	Beigang Elemen	1.48	276	eP	Pn	17 46 27.2	+0.7
	baz=272						
WCS				eS	Sg	17 46 45.9	-1.9
	baz=272						
SMLT	Sun Moon Lake	1.49	270	eP	Pn	17 46 27.0	+0.5
	baz=266						
SMLT				eS	Sg	17 46 45.4	-2.6
	baz=266						
WHP	Taichung City	1.49	285	eP	Pn	17 46 27.4	+0.8
	baz=282						
WHP				eS	Sg	17 46 45.5	-2.6
	baz=282						
YM01	YM01	1.52	325	eP	Pn	17 46 26.4	-0.5
	baz=333						
YM01				eS	Sg	17 46 44.7	-4.2
	baz=333						
TYC	Yuchr	1.53	271	eP	Pn	17 46 27.7	+0.7
	baz=267						
TYC				eS	Sn	17 46 46.2	-0.5
	baz=267						
YM08	YM08	1.54	327	eP	Pn	17 46 26.8	-0.5
	baz=324						
YM08				eS	Sn	17 46 45.0	-2.2
	baz=324						
WHYT	Xinyi Township	1.54	263	eP	Pn	17 46 27.8	+0.5
	baz=250						
WHYT				eS	Sn	17 46 47.4	+0.1
	baz=250						
JIJ	Ishigaki jima	1.55	72	P	Pn	17 46 26.9	-0.4
JIJ				eS	Sn	17 46 46.6	-0.7
ELDTW	Lidau	1.55	243	P	Pn	17 46 27.2	-0.3
	baz=240						
ELDTW				eS	Sn	17 46 46.4	-1.2
	baz=240						
LDUT	Ludao	1.56	219	eP	Pn	17 46 26.0	-1.4
	baz=217						
LDUT				eS	Sn	17 46 46.1	-1.4
	baz=217						
LIOB	Emei	1.56	299	eP	Pn	17 46 28.7	+1.1
	baz=296						
LIOB				eS	Sn	17 46 47.8	0.0
	baz=296						
NSTT	Nanjuang	1.57	298	eP	Pn	17 46 28.3	+0.7
	baz=295						
NSTT				eS	Sn	17 46 48.1	+0.2
	baz=295						
LONT	Longtian	1.62	233	eS	Sn	17 46 48.6	-0.5
	baz=225						
ALS	Alishan	1.62	257	P	Pn	17 46 29.7	+1.0
	baz=252						
ALS				S	Sn	17 46 49.5	-0.1
	baz=252						
WJS	Zhushan	1.65	268	eP	Pn	17 46 30.2	+1.6
	baz=263						
WJS				eS	Sn	17 46 52.6	+2.8
	baz=263						
TWQ1	Liyutan	1.66	286	eP	Pn	17 46 30.1	+1.2
	baz=283						
TWQ1				eS	Sn	17 46 51.3	+1.2
	baz=283						
WNT	Mingjian	1.69	270	eP	Pn	17 46 31.0	+1.8
	baz=266						
WNT				eS	Sn	17 46 51.9	+1.2
	baz=266						
TWGBT	Beinan	1.71	231	eP	Pn	17 46 29.2	-0.3
	baz=239						
TWGBT				eS	Sn	17 46 51.2	-0.1
	baz=239						
CHN5	Tsauling	1.72	260	eP	Pn	17 46 31.3	+1.5
	baz=249						
CHN5				eS	Sn	17 46 53.0	+1.3
	baz=249						
STYH	Taoyuan	1.76	246	eP	Pn	17 46 31.4	+1.2
	baz=237						
STYH				eS	Sn	17 46 53.6	+1.1
	baz=237						
JISG	Ishigakijimahi	1.77	67	P	Pn	17 46 29.8	-0.5
JISG				eS	Sn	17 46 51.5	-1.2
PCYT	Pengchaiyu	1.77	347	eP	Pn	17 46 29.6	-0.8
	baz=345						
STYT	Tauyuan	1.78	246	eP	Pn	17 46 31.4	+0.9
	baz=237						
STYT				eS	Sn	17 46 52.8	-0.3
	baz=237						
WDLH	Douliu	1.83	264	eP	Pn	17 46 32.6	+1.4
	baz=259						
WDLH				eS	Sn	17 46 56.2	+1.9
	baz=259						
TPUB	Ta-pu	1.84	251	eP	Pn	17 46 33.0	+1.6
	baz=240						
TPUB				eS	Sn	17 46 55.5	+1.0
	baz=240						
CHN4	Tsaushan	1.85	253	eP	Pn	17 46 33.4	+1.8
	baz=249						
CHN4				eS	Sn	17 46 57.6	+2.7
	baz=249						
WTP	Ta-pu	1.87	250	eP	Pn	17 46 33.4	+1.6
	baz=246						
WTP				eS	Sn	17 46 57.0	+1.6
	baz=246						
ECL	Taimali	1.94	228	eP	Pn	17 46 33.0	+0.3
	baz=235						
ECL				eS	Sn	17 46 55.7	-1.3
	baz=235						
SLGT	Liugui	1.95	243	eP	Pn	17 46 34.1	+1.3
	baz=233						
SLGT				eS	Sn	17 46 58.0	+0.8
	baz=233						
SGST	Jiashian	1.96	246	eP	Pn	17 46 34.6	+1.7
	baz=235						
SGST				eS	Sn	17 46 59.4	+1.9
	baz=235						
WRL	Guolierlin Hig	1.96	271	eS	Sn	17 46 58.8	+1.2
	baz=279						
WTK	Tuku	1.97	264	eP	Pn	17 46 34.2	+1.2
	baz=259						
WTK				eS	Sn	17 46 59.3	+1.6
	baz=259						
TWK	Hsinying	1.97	252	eP	Pn	17 46 35.1	+2.0
	baz=247						
TWK				eS	Sn	17 46 59.7	+1.8
	baz=247						
SNST	Tainan City	1.98	250	eP	Pn	17 46 35.3	+2.0
	baz=246						
SNST				eS	Sn	17 46 59.9	+2.0
	baz=246						
SSD	Sandimen	2.08	237	eP	Pn	17 46 35.3	+0.6
	baz=231						
SSD				eS	Sn	17 47 00.3	-0.2
	baz=231						
TSMG	Majia	2.10	236	eP	Pn	17 46 36.2	+1.3
	baz=230						
TSMG				eS	Sn	17 47 00.6	-0.3
	baz=230						
SCST	Cishan	2.12	242	eP	Pn	17 46 37.9	+2.7
	baz=230						
SCST				eS	Sn	17 47 04.8	+3.4
	baz=230						
EAST	Anshuo	2.16	226	eP	Pn	17 46 35.9	+0.2
	baz=230						
EAST				eS	Sn	17 47 01.2	-1.2
	baz=230						
MASBT	Mashibuluo	2.16	234	eP	Pn	17 46 36.5	+0.7
	baz=229						
MASBT				eS	Sn	17 47 02.9	+0.5
	baz=229						
SLIU	Shizi	2.31	224	eP	Pn	17 46 39.0	+1.2
	baz=227						
SLIU				eS	Sn	17 47 06.9	+0.8
	baz=227						
WDGT	Dungji	2.70	257	eP	Pn	17 46 44.8	+1.6
	baz=252						
WDGT				eS	Sn	17 47 16.8	+1.0
	baz=252						
PHUB	P'eng-hu	2.73	263	eP	Pn	17 46 44.7	+1.1
	baz=270						
PHUB				eS	Sn	17 47 17.1	+0.5
	baz=270						
PNG	Penghu	2.74	264	eP	Pn	17 46 44.6	+0.9
	baz=271						
PNG				eS	Sn	17 47 16.7	0.0
	baz=271						
VWUC	VWUC	3.01	292	eP	Pn	17 46 47.9	+0.6
	baz=291						
VWUC				eS	Sn	17 47 22.5	-0.8
	baz=291						
PTMZ	Houxiangcun	3.30	291	eS	Sn	17 47 29.2	-1.4
	baz=290						

*NEIC **02** 17:48:09.8±1.0,7°.0S±0°.1×156°.1E±0°.1,h89km±12km,*
mb4.1/8,Error ellipse: s-maj=21.6km s-min=9.0km
az=221.0
*IDC **02** 17:48:14.5±2.9,7°.04S×155°.81E,h124km±33km,mb3.3/5,*
mb1 3.5/7,mb1mx3.3/27,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1,
ms1mx2.5/19,Error ellipse: s-maj=31.9km s-min=19.8km
az=167.0
ISC 02 17:48:16.4±0.9,**7°.3S**±0°.2×**155°.84E**±0°.09,**h150**km,**n24**,
σ1º**01**/16,**mb3.8**/9,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.61	118	P	Pn	17 49 25.0	+0.3
	4.9nm,0.3s,baz=63,slow=2.3,SNR=2.4						
HNR				S	Sn	17 50 17.8	-0.1
	5.4nm,0.3s,baz=131,slow=18,SNR=2.5						
HNR	Honiara	4.61	118	Pn	Pn	17 49 14.7	-10
RABL	Rabaul	4.75	310	Pn	Pn	17 49 19.8	-6.9
PMG	Port Moresby	8.85	255	P	Pn	17 50 20.0	-1.2
	3.6nm,0.3s,baz=46,slow=11,SNR=14						
LIFNC	LIFOU	17.40	142	P	P	17 52 08.1	-1.0
FAKI	Fak Fak	23.88	279	P	P	17 53 16.2	-0.2
WR0	Warramunga Arr	24.21	236	P	P	17 53 20.9	+1.5
WR0				IAmb	IAmb	17 53 45.7	
	comp=Z,5.5nm,1.2s						
WB0	Warramunga Arr	24.24	237	P	P	17 53 21.3	+1.6
WB0				IAmb	IAmb	17 53 25.4	
	comp=Z,7.6nm,1.2s						
WB2	Warramunga Arr	24.36	237	P	P	17 53 21.9	+1.2
WB2				IAmb	IAmb	17 53 25.0	
	comp=Z,10nm,1.3s						
WRA	Warramunga Arr	24.37	237	P	P	17 53 22.4	+1.6
	comp=Z,0.7nm,0.5s,baz=61,slow=9.8,SNR=15						
ASAR	Alice Springs	26.64	230	P	P	17 53 42.2	+0.9
	comp=Z,0.3nm,0.4s,baz=60,slow=9.4,SNR=8.5						
H11S3	WAKE ISLAND Hy 27.73	23		T	T	18 22 15.1	
	baz=202,slow=74,SNR=55						
H11S2	WAKE ISLAND Hy 27.73	23		T	T	18 22 15.2	
	baz=202,slow=74,SNR=63						
H11S1	WAKE ISLAND Hy 27.75	23		T	T	18 22 14.7	
	baz=202,slow=74,SNR=16						
H11N1	WAKE ISLAND Hy 28.92	22		T	T	18 23 38.6	
	baz=202,slow=76,SNR=5.2						
H11N3	WAKE ISLAND Hy 28.93	22		T	T	18 23 40.5	
	baz=202,slow=76,SNR=10.0						
H11N2	WAKE ISLAND Hy 28.94	22		T	T	18 23 40.0	
	baz=202,slow=76,SNR=4.8						
FITZ	Fitzroy Crossi	31.32	247	P	P	17 54 23.6	+0.8
FITZ				IAmb	IAmb	17 54 26.3	
	comp=Z,12nm,1.4s						
MJAR	Matsushiro Arr	46.59	340	LR	LR	18 13 29.4	
	comp=Z,16nm,21.3s,baz=210,slow=33						
SONM	Songino Array	70.00	327	P	P	17 59 12.0	+0.1
	comp=Z,1.0nm,0.6s,baz=139,slow=7.5,SNR=7.0						
SONM	Songino Array	70.00	327	P	P	17 59 11.9	0.0
MKAR	Makanchi Array	84.15	319	P	P	18 00 31.3	+0.5
	comp=Z,0.4nm,0.6s,baz=96,slow=5.8,SNR=6.4						
KURK	Kurchatov	87.55	322	P	P	18 00 47.2	-0.2
KURBB	Kurchatov Arra	87.58	322	P	P	18 00 47.2	-0.3
	comp=Z,0.2nm,0.5s,baz=93,slow=5.4,SNR=4.4						

*NNC **02** 18:19:09.7±6.1,38°.73N×72°.73E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=50.3km s-min=31.5km az=162.0
ISC 02 18:19:05.7±3.5,**38°.3N**±0°.2×**72°.6E**±0°.1,**h30**km,**n10**,
σ2º**06**/13,**4C-4D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.94	11	P	Pn	18 20 06.3	+1.8
	SNR=49						
EKS2	Erkin-Say	4.48	11	P	Pn	18 20 14.2	+2.6
	SNR=8.0						
AAK	Ala-Archa	4.59	17	P	Pn	18 20 15.4	+2.2
	SNR=7.2						
AAK	Ala-Archa	4.59	17	⇑P	Pn	18 20 15.1	+1.9
	6.6nm,0.5s						
AAK				⇓S	Sn	18 21 04.8	-0.8
	8.5nm,0.6s						
ULHL	Ulahol	4.84	34	P	Pn	18 20 17.7	+1.0
	SNR=6.1						
KK31	Karatay Array	5.10	342	⇑P	Pn	18 20 22.4	+2.4
	1.4nm,0.2s,baz=154,slow=13						
KK31				⇓S	Sn	18 21 17.7	-0.2
	3.7nm,0.3s,baz=152,slow=22						
TKM2	Tokmak 2	5.17	25	⇓P	Pn	18 20 22.6	+1.5
	0.7nm,0.5s						
TKM2				⇑S	Sn	18 21 18.2	-1.6
	2.5nm,0.6s						
USP	Ospenovka	5.19	15	P	Pn	18 20 23.6	+2.2
	SNR=5.2						
AB31	Akbulak array	14.29	324	⇑P	Pn	18 22 23.6	-2.3
	0.5nm,0.5s						
AKTO	Aktyubinsk	16.01	324	⇓P	Pn	18 22 47.2	-1.4
	0.6nm,0.5s						

*IDC **02** 18:24:49.8±0.7,51°.78N×176°.03W,h0km,mb3.7/12,*
mb1 4.0/14,mb1mx3.8/54,mbtmp3.8/14,ML3.9/2,MS3.2/5,
Ms1 3.2/5,ms1mx2.7/55,Error ellipse: s-maj=28.7km
s-min=14.2km az=163.0
*AEIC **02** 18:24:55±2.3,51°.58N±0°.06×175°.81W±0°.05,h38km±5km,*
ML4.1,mb4.1/27(NEIC),Error ellipse: s-maj=8.6km
s-min=4.1km az=170.0
*NEIC **02** 18:24:56.7±1.3,51°.66N±0°.07×175°.80W±0°.05,h46km±6km,*
Error ellipse: s-maj=10.2km s-min=4.3km az=172.0
ISC 02 18:24:56.1±1.3,**51°.6N**±0°.1×**175°.82W**±0°.04,**h47**km±10km,
n84,σ0º**92**/79,**mb4.0**/16,**MS3.1**/4,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.37	350		Pn	18 25 05.9	+0.2
GSIG					Sn	18 25 13.0	+0.5
GSCK	Great Sitkin C	0.45	332		Pn	18 25 07.1	+0.6
GSCK					Sn	18 25 14.8	+0.9
GSMY	Great Sitkin M	0.45	341		Pn	18 25 06.7	+0.2
GSTD	Great Sitkin T	0.48	336		Pn	18 25 07.4	+0.4
GSTR	Great Sitkin T	0.50	343		Pn	18 25 07.8	+0.6
ADK	Adak	0.60	297		Pn	18 25 08.4	0.0
ADK					Sn	18 25 17.2	+0.1
KIRH	Kanaga Island	0.84	290		Pn	18 25 11.9	+0.4
KIWB	Kanaga Island	0.86	286		Pn	18 25 11.9	+0.1
KIKV	Kanaga Island	0.88	288		Pn	18 25 12.3	+0.3
KIKV					Sn	18 25 24.4	+0.7
KIMD	Kanaga Island	0.89	280		Pn	18 25 12.2	0.0
KICM	Kanaga Island	0.90	290		Pn	18 25 12.8	+0.4
ATKA	Atka Island	1.17	59		Pn	18 25 15.7	-0.2
ATKA	Atka Island	1.17	59		Sn	18 25 30.4	-0.3
KOKL	Mount Kliuchef	1.23	54		Pn	18 25 17.8	+0.9
KOFP	Korovin Flat P	1.25	58		Pn	18 25 18.0	+0.8
TAPA	Tanaga Point A	1.25	280		Pn	18 25 17.8	+0.6
TAFP	Tanaga Falls P	1.37	283		Sn	18 25 37.2	+1.4
TASE	Tanaga Southea	1.39	280		Pn	18 25 20.1	+0.9
GAEA	Gareloi East	1.83	276		Pn	18 25 26.3	+1.3
GALAA	Gareloi Lava P	1.84	276		Pn	18 25 26.4	+1.2
CERAA	Semis' Rag'd T	2.81	278		Pn	18 25 39.3	+0.9
CEAP	Semis' Anvil P	2.88	279		Pn	18 25 40.4	+1.0
CESW	Semis' Southwe	2.88	277		Pn	18 25 40.0	+0.6
CESW					Sn	18 26 13.9	+1.0
AMKA	Amchitka	3.06	267		Pn	18 25 42.7	+0.9
LSPA	Little Sitkin	3.50	278		Pn	18 25 49.5	+1.6
LSNW	Little Sitkin	3.53	278		Pn	18 25 49.4	+1.0
LSSA	Little Sitkin	3.53	278		Pn	18 25 49.7	+1.3
NIKH	Nikolski High	4.49	70		Pn	18 26 02.4	+1.0
MAPS	Pakushin South	5.83	64		Pn	18 26 21.4	+1.6
SPIA	Saint Paul Isl	6.45	28		Pn	18 26 31.2	+2.9
KDAK	Kodiak Island	14.74	56	Pn	Pn	18 28 19.7	-1.6
	0.7nm,0.3s,baz=193,slow=1.7,SNR=12						
KDAK				LR	LR	18 34 24.2	
	comp=Z,116nm,18.6s,baz=233,slow=39						
KTH	Kantishna Hill	17.77	38	P	P	18 28 60.0	0.0
KTH				IAmb	IAmb	18 29 04.5	

comp=Z,10.0nm,0.6s
BPAW Bear Paw Mtn. 18.03 37 P **Pn 18 29 03.1 +0.3**
BPAW IAmb IAmb 18 29 11.0
comp=Z,18nm,1.8s
RND Reindeer 18.51 40 P **Pn 18 29 08.2 -0.5**
SCM Sheep Creek Mo 18.52 45 P **P 18 29 07.4 -0.9**
SCM IAmb IAmb 18 29 19.9
comp=Z,10.0nm,1.0s
MLY Manley 18.63 34 P **Pn 18 29 11.1 +1.0**
MLY IAmb IAmb 18 29 11.8
comp=Z,7.5nm,0.6s
BILL Bilibino 18.63 339 P **Pn 18 29 10.7 +0.6**
I23K Minto, Yukon-K 19.18 35 P **Pn 18 29 16.1 -0.5**
I23K IAmb IAmb 18 29 18.3
comp=Z,6.1nm,0.8s
MDM Murphy Dome 19.49 36 P **P 18 29 18.8 -0.1**
CCB Clear Creek Bu 19.50 37 P **P 18 29 18.1 -0.8**
N25K Chitina, Valde 19.68 47 Pn **Pn 18 29 22.4 -0.3**
HDA Harding Lake 19.71 38 P **P 18 29 21.2 0.0**
IL31 19.91 38 P **P 18 29 22.9 -0.3**
IL31 IAmb IAmb 18 29 28.6
comp=Z,3.6nm,0.4s
ILAR Eielson Array 19.91 38 P **P 18 29 21.6 -1.7**
comp=Z,0.3nm,0.3s,baz=235,slow=9.5,SNR=17
ILAR Eielson Array 19.91 38 P **P 18 29 23.2 -0.1**
COLD Coldfoot 20.11 29 Pn 18 29 27.1 -0.6
SEY Seymchan 20.34 316 P **P 18 29 26.6 -1.4**
comp=Z,0.6nm,0.5s,baz=101,slow=16,SNR=3.0
MENT Mentasta 20.47 44 Pn 18 29 31.7 -0.4
MENT IAmb IAmb 18 30 18.3
comp=Z,6.6nm,0.7s
DOT Dot Lake 20.57 42 P **P 18 29 30.7 +0.1**
MESA MESA 20.62 52 P **P 18 29 31.2 -0.1**
SCRK Sand Creek 20.72 41 P **P 18 29 31.6 -0.7**
TOLK Toolik Lake Re 21.20 27 P **P 18 29 37.2 -0.1**
TOLK IAmb IAmb 18 30 00.3
comp=Z,9.1nm,0.8s
L27K Beaver Creek, 21.33 44 P **P 18 29 38.9 +0.1**
L27K IAmb IAmb 18 30 27.8
comp=Z,18nm,1.9s
K27K Chicken 21.53 42 P **P 18 29 41.2 +0.4**
K27K IAmb IAmb 18 30 02.8
comp=Z,6.6nm,0.8s
EGAK Eagle 22.15 40 P **P 18 29 47.3 -0.2**
EGAK IAmb IAmb 18 30 10.0
comp=Z,8.3nm,0.8s
EPYK Eagle Plains 24.42 38 P **P 18 30 08.3 -1.5**
INK Inuvik 26.20 35 P **P 18 30 25.5 -0.3**
comp=Z,0.5nm,0.3s,baz=230,slow=6.4,SNR=4.6
INK PcP **PcP 18 33 52.0 +0.7**
INK comp=Z,0.9nm,0.5s,baz=284,slow=7.0,SNR=4.6 LR LR 18 41 25.1
comp=Z,29nm,18.3s,baz=63,slow=38
INK Inuvik 26.20 35 P **P 18 30 25.4 -0.3**
INK IAmb IAmb 18 30 57.9
comp=Z,12nm,1.8s
YKA Yellowknife Ar 33.71 47 P **P 18 31 31.8 -0.6**
comp=Z,0.3nm,0.4s,baz=286,slow=7.7,SNR=6.1
YKA PcP **PcP 18 34 11.6 +0.7**
YKA comp=Z,1.3nm,0.7s,baz=282,slow=2.5,SNR=9.0 LR LR 18 45 16.8
comp=Z,41nm,18.4s,baz=0.0,slow=36
H11N2 WAKE ISLAND Hy 34.60 210 T T 19 08 13.6
baz=18,slow=76,SNR=299
H11N3 WAKE ISLAND Hy 34.60 209 T T 19 08 14.3
baz=18,slow=76,SNR=300
H11N1 WAKE ISLAND Hy 34.61 210 T T 19 08 15.0
baz=18,slow=76,SNR=236
H11S1 WAKE ISLAND Hy 35.81 209 T T 19 09 47.4
baz=18,slow=76,SNR=72
H11S2 WAKE ISLAND Hy 35.82 209 T T 19 09 48.3
baz=18,slow=76,SNR=60
H11S3 WAKE ISLAND Hy 35.82 209 T T 19 09 48.4
baz=18,slow=76,SNR=21
NEW Newport 37.05 71 P **P 18 32 02.1 +0.9**
comp=Z,2.2nm,0.7s,baz=286,slow=13,SNR=2.6
NEW Newport 37.05 71 IAmb IAmb 18 32 03.2
comp=Z,2.8nm,0.9s
MCMT McKenzie Canyo 41.33 74 P **P 18 32 38.6 +1.4**
KSRS Korea Array 41.49 273 P **P 18 32 38.6 +0.3**
comp=Z,1.8nm,0.8s,baz=56,slow=8.7,SNR=9.2
NVAR Mina Array Bea 41.68 85 P **P 18 32 41.7 +1.6**
comp=Z,0.2nm,0.5s,baz=283,slow=8.0,SNR=1.9
BW06 Boulder Array 44.46 74 P **P 18 33 02.3 -0.3**
BW06 IAmb IAmb 18 33 17.3
comp=Z,4.0nm,1.2s
PD31 Pinedale Array 44.46 74 P **P 18 33 02.1 -0.4**
PD31 IAmb IAmb 18 33 17.4
comp=Z,3.3nm,1.1s
PDAR Pinedale Array 44.46 74 P **P 18 33 03.5 +0.9**
comp=Z,0.8nm,0.5s,baz=300,slow=4.5,SNR=5.0
SONM Songino Array 48.19 298 P **P 18 33 31.5 -0.2**
comp=Z,0.3nm,0.5s,baz=53,slow=7.9,SNR=2.9
SONM PcP **PcP 18 34 58.0 -0.3**
SONM comp=Z,0.6nm,0.6s,baz=55,slow=2.7,SNR=4.9 LR LR 18 53 44.1
comp=Z,29nm,19.5s,baz=75,slow=36
MKAR Makanchi Array 61.32 310 P **P 18 35 03.7 -2.8**
comp=Z,0.5nm,0.4s,baz=44,slow=5.9,SNR=8.9
NOA NORSAR Array B 67.55 356 LR LR 19 07 30.1
comp=Z,10nm,18.1s,baz=20,slow=38
CMAR Chiang Mai Arr 72.83 278 P **P 18 36 19.7 -0.1**
comp=Z,2.0nm,0.7s,baz=30,slow=6.9,SNR=11
WRA Warramunga Arr 83.50 226 P **P 18 37 18.9 +0.3**
comp=Z,0.4nm,0.5s,baz=29,slow=6.1,SNR=5.9
ASAR Alice Springs 86.95 225 P **P 18 37 36.1 +0.3**
comp=Z,0.8nm,0.8s,baz=33,slow=4.5,SNR=8.2
H03N2 Juan Fernandez 119.43 108 T T 20 54 41.2
baz=317,slow=77,SNR=63
H03N1 Juan Fernandez 119.44 108 T T 20 54 54.1
baz=317,slow=77,SNR=68
H03N3 Juan Fernandez 119.45 108 T T 20 54 41.8
baz=317,slow=77,SNR=69
MAW Mawson 147.81 218 PKPbc **PKPbc 18 44 34.7 +0.5**
comp=Z,1.4nm,0.7s,baz=135,slow=2.9,SNR=2.6
BOSA Boshof 152.12 317 PKPbc **PKiKP 18 44 45.7 -0.7**
comp=Z,2.8nm,0.5s,baz=41,slow=1.3,SNR=14

IDC 02 18:24:56.8±8.8, 5°.24S×151°.76E, h87km±61km, mb3.2/3, mb1 3.4/4, mb1mx3.1/41, mbtmp3.6/4, ML1.4/1, Error ellipse: s-maj=117.8km s-min=57.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.16**	**228**	P		Pn	18 26 24.7	-0.5
	0.5nm,0.3s,baz=50,slow=18,SNR=1.3							
PMG				S		Sn	18 27 37.2	+2.8
	1.1nm,0.3s,baz=98,slow=16,SNR=2.6							
WRA	**Warramunga Arr**	**22.38**	**228**	P		P	18 29 46.9	-1.3
	0.5nm,0.6s,baz=52,slow=10.0,SNR=6.7							
ASAR	**Alice Springs**	**25.13**	**221**	P		P	18 30 14.4	+0.4
	0.5nm,0.6s,baz=60,slow=8.9,SNR=6.8							
FITZ	**Fitzroy Crossi**	**28.54**	**241**	P		P	18 30 42.9	-1.6
	1.9nm,0.9s,baz=44,slow=9.1,SNR=1.8							
TORD	**Torodi Ar. Bea**	**149.45**	**287**	PKPbc		PKiKP	18 44 38.0	-0.1
	0.4nm,0.7s,baz=55,slow=4.3,SNR=2.6							

*SOME **02** 18:31:17.0, 40°.77N×78°.23E, h10km*
*NNC **02** 18:31:18.1±1.4, 40°.73N×78°.17E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.8km s-min=6.2km az=164.0*
*KRNET **02** 18:31:20.2±0.1, 40°.81N×78°.10E, mb3.1*
ISC 02 18:31:23.2±1.8, 40°.90N±0°.08×78°.09E±0°.04, h10km, n43, σ1§21/68, 13C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.40**	**331**	⇓*eP*		**Pn**	**18 31 47.6**	**-1.4**
	baz=33							
KDJ				⇓*iS*		**Sg**	**18 32 08.1**	**-0.3**
	baz=33							
ANVS	**Anan'yevo**	**1.90**	**351**	⇑*eP*		**Pb**	**18 31 56.8**	**-1.4**
	baz=51							
ANVS				⇑*iS*		**Sg**	**18 32 23.6**	**-0.8**
	baz=51							
ULHL	**Ulahol**	**1.93**	**315**	⇑*eP*		**Pn**	**18 31 56.2**	**-0.1**
	baz=17							
ULHL				⇑*iS*		**Sb**	**18 32 22.4**	**-0.4**
	baz=17							
SATY	**Saty**	**2.17**	**6**	*eP*		**Pb**	**18 32 01.9**	**-0.7**
	7.7nm,0.3s							
SATY				*eS*		**Sg**	**18 32 34.7**	**+1.9**
	49nm,0.5s							
SATY	**Saty**	**2.17**	**6**	Pg		**Pb**	**18 32 01.9**	**-0.7**
	7.7nm,0.3s							
SATY				Lg		Lg	18 32 34.7	
	49nm,0.5s							
BOOM	**Boomskoye usch**	**2.26**	**315**	⇑*iP*		**Pn**	**18 32 00.7**	**-0.1**
	baz=17							
BOOM				⇑*iS*		**Sb**	**18 32 30.1**	**-2.1**
	baz=17							
UZB	**Uzynbulak**	**2.35**	**17**	*eP*		**Pb**	**18 32 03.6**	**-2.1**
	4.0nm,0.2s							
UZB				*eS*		**Sg**	**18 32 37.5**	**-1.1**
	30nm,0.4s							
UZB	**Uzynbulak**	**2.35**	**17**	Pg		**Pb**	**18 32 03.6**	**-2.1**
	4.0nm,0.2s							
UZB				Lg		Lg	18 32 37.5	
	30nm,0.4s							
MDOK	**Medeo**	**2.39**	**341**	*eP*		**Pb**	**18 32 05.7**	**-0.7**
	11nm,0.5s							
MDOK				*eS*		**Sg**	**18 32 41.2**	**+1.3**
	70nm,0.6s							
MDOK	**Medeo**	**2.39**	**341**	Pg		**Pb**	**18 32 05.7**	**-0.7**
	11nm,0.5s							
MDOK				Lg		Lg	18 32 41.2	
	70nm,0.6s							
KURS	**Kuram**	**2.58**	**1**	*eP*		**Pb**	**18 32 09.1**	**-0.5**
	8.2nm,0.3s							
KURS				*eS*		**Sg**	**18 32 47.0**	**+0.8**
	28nm,0.7s							
KURS	**Kuram**	**2.58**	**1**	Pg		**Pb**	**18 32 09.1**	**-0.5**
	8.2nm,0.3s							
KURS				Lg		Lg	18 32 47.0	
	28nm,0.7s							
KPKS	**Kokpek**	**2.60**	**10**	*eP*		**Pb**	**18 32 08.9**	**-1.0**
	24nm,0.2s							
KPKS				*eS*		**Sg**	**18 32 46.6**	**-0.1**
	110nm,0.6s							
PDGK	**Podgornoye**	**2.64**	**23**	Pg		**Pn**	**18 32 06.3**	**+0.3**
	3.0nm,0.2s							
PDGK				Lg		Lg	18 32 42.5	
	12nm,0.8s							
KST	**Kastek**	**2.66**	**324**	*eP*		**Pb**	**18 32 08.1**	**-3.0**
	6.1nm,0.2s							
KST				*eS*		**Sb**	**18 32 45.1**	**+1.3**
	26nm,0.7s							
KST	**Kastek**	**2.66**	**324**	Pg		**Pb**	**18 32 08.1**	**-3.0**
	6.1nm,0.2s							
KST				Lg		Lg	18 32 45.1	
	26nm,0.7s							
TKM2	**Tokmak 2**	**2.74**	**318**	⇓*iP*		**Pn**	**18 32 07.1**	**-0.4**
	baz=19							
TKM2				⇓*iS*		**Sn**	**18 32 41.6**	**+0.8**
	baz=19							
TKM2	**Tokmak 2**	**2.74**	**318**	⇑Pg		**Pb**	**18 32 12.2**	**-0.2**
	1.8nm,0.3s							
TKM2				⇓Lg		Lg	18 32 50.7	
	12nm,0.6s							
DGS	**Degeres**	**2.90**	**324**	*eP*		**Pb**	**18 32 14.2**	**-0.9**
	5.6nm,0.4s							
DGS				*eS*		**Sg**	**18 32 55.7**	**-0.8**
	30nm,0.4s							
DGS	**Degeres**	**2.90**	**324**	Pg		**Pb**	**18 32 14.2**	**-0.9**
	5.6nm,0.4s							
DGS				Lg		Lg	18 32 55.7	
	30nm,0.4s							
ARLS	**Aral**	**2.99**	**290**	⇑*iP*		**Pn**	**18 32 10.3**	**-0.5**
	baz=92							
ARLS				⇑*iS*		**Sn**	**18 32 46.5**	**-0.3**
	baz=92							
KTBS	**Karatobe**	**2.99**	**340**	*eP*		**Pb**	**18 32 16.1**	**-0.5**
	4.7nm,0.5s							
KTBS				*eS*		**Sg**	**18 32 59.1**	**-0.3**
	65nm,0.6s							
KTBS	**Karatobe**	**2.99**	**340**	Pg		**Pb**	**18 32 16.1**	**-0.5**
	4.7nm,0.5s							
KTBS				Lg		Lg	18 32 59.1	
	65nm,0.6s							
KTMS	**Ketmen**	**3.05**	**33**	*eP*		**Pb**	**18 32 15.3**	**-2.4**
	2.3nm,0.5s							
KTMS				*eS*		**Sb**	**18 32 57.3**	**+2.4**
	18nm,0.6s							
KTMS	**Ketmen**	**3.05**	**33**	Pg		**Pb**	**18 32 15.3**	**-2.4**
	2.3nm,0.5s							
KTMS				Lg		Lg	18 32 57.3	
	18nm,0.6s							
CHKK	**Chushkaly**	**3.06**	**345**	*eP*		**Pb**	**18 32 17.2**	**-0.6**
	3.5nm,0.3s							
CHKK				*eS*		**Sg**	**18 33 00.7**	**-0.7**
	38nm,0.4s							
CHKK	**Chushkaly**	**3.06**	**345**	Pg		**Pb**	**18 32 17.2**	**-0.6**
	3.5nm,0.3s							
CHKK				Lg		Lg	18 33 00.7	
	38nm,0.4s							
AAK	**Ala-Archa**	**3.20**	**304**	⇑*iP*		**Pn**	**18 32 14.3**	**+0.6**
	baz=5.0							
AAK				⇑*iS*		**Sn**	**18 32 53.9**	**+2.0**
	baz=5.0							
AAK	**Ala-Archa**	**3.20**	**304**	⇓Pg		**Pb**	**18 32 20.1**	**-0.1**
	4.0nm,0.4s							
AAK				⇓Lg		Lg	18 33 03.3	
	35nm,0.9s							
CHMS	**Chumysh**	**3.25**	**311**	⇓*eP*		**Pn**	**18 32 14.5**	**+0.2**
	baz=12							
CHMS				⇓*iS*		**Sn**	**18 32 54.2**	**+1.1**
	baz=12							
KUU	**Kurty**	**3.26**	**337**	*eP*		**Pb**	**18 32 20.6**	**-0.5**
	1.2nm,0.2s							
KUU				*eS*		**Sg**	**18 33 07.0**	**-0.8**
	26nm,0.4s							
KUU	**Kurty**	**3.26**	**337**	Pg		**Pb**	**18 32 20.6**	**-0.5**
	1.2nm,0.2s							
KUU				Lg		Lg	18 33 07.0	
	26nm,0.4s							
ARXS	**Arharly**	**3.31**	**357**	*eP*		**Pb**	**18 32 21.5**	**-0.6**
	5.9nm,0.5s							
ARXS				*eS*		**Sg**	**18 33 08.3**	**-1.3**
	23nm,0.6s							
ARXS	**Arharly**	**3.31**	**357**	Pg		**Pb**	**18 32 21.5**	**-0.6**
	5.9nm,0.5s							
ARXS				Lg		Lg	18 33 08.3	
	23nm,0.6s							
KRBS	**Karabastau**	**3.31**	**328**	*eP*		**Pb**	**18 32 21.6**	**-0.5**
	3.0nm,0.4s							
KRBS				*eS*		**Sg**	**18 33 08.2**	**-1.5**
	27nm,0.5s							
KRBS	**Karabastau**	**3.31**	**328**	Pg		**Pb**	**18 32 21.6**	**-0.5**
	3.0nm,0.4s							
KRBS				Lg		Lg	18 33 08.2	
	27nm,0.5s							
AML	**Almayashu**	**3.52**	**292**	⇑*iP*		**Pn**	**18 32 18.3**	**0.0**
	baz=93							
AML				⇑*iS*		**Sn**	**18 33 01.4**	**+1.2**
	baz=93							
SGDS	**Sogindy**	**3.62**	**316**	Pg		**Pb**	**18 32 26.1**	**-1.2**
SGDS				Lg		Lg	18 33 16.4	
EKS2	**Erkin-Say**	**3.67**	**300**	⇓*iP*		**Pn**	**18 32 21.0**	**+0.9**
	baz=1.0							
EKS2				⇓*iS*		**Sn**	**18 33 05.4**	**+1.9**
	baz=1.0							
MRKS	**Merke**	**4.07**	**298**	*eP*		**Pb**	**18 32 35.7**	**+0.7**
	3.1nm,0.3s							
MRKS				*eS*		**Sg**	**18 33 32.9**	**-1.0**
	6.5nm,0.9s							
MRKS	**Merke**	**4.07**	**298**	Pg		**Pb**	**18 32 35.7**	**+0.7**
	3.1nm,0.3s							
MRKS				Lg		Lg	18 33 32.9	
	6.5nm,0.9s							
KAPS	**Kapalarasan**	**4.48**	**12**	*eP*		**Pb**	**18 32 43.4**	**+1.5**
KAPS				*eS*		**Sg**	**18 33 46.2**	**-0.7**
	5.0nm,0.4s							
KAPS	**Kapalarasan**	**4.48**	**12**	Pg		**Pb**	**18 32 43.4**	**+1.5**
KAPS				Lg		Lg	18 33 46.2	
	5.0nm,0.4s							

IDC 02 18:41:14.0±11.0, 30°.59N×140°.37E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/37, mbtmp3.3/3, Error ellipse: s-maj=427.3km s-min=35.5km az=66.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.06**	**307**	P		P	18 49 47.3	-0.1
	0.1nm,0.3s,baz=86,slow=7.7,SNR=2.3							
WRA	**Warramunga Arr**	**50.58**	**187**	P		P	18 50 14.2	-0.4
	0.6nm,0.9s,baz=5.5,slow=7.5,SNR=4.7							
ASAR	**Alice Springs**	**54.31**	**187**	P		P	18 50 42.2	+0.1
	0.1nm,0.4s,baz=1.1,slow=5.1,SNR=7.5							

IDC 02 18:48:16.5±9.2, 7°.91S×115°.38E, h198km±94km, mb3.1/5, mb1 3.3/6, mb1mx3.1/26, mbtmp3.6/6, Error ellipse: s-maj=101.2km s-min=24.4km az=57.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.23**	**136**	P		P	18 51 30.2	-0.8
	0.2nm,0.3s,baz=328,slow=11,SNR=7.8							
WRA	**Warramunga Arr**	**21.92**	**125**	P		P	18 52 52.8	-1.5
	1.0nm,0.8s,baz=299,slow=12,SNR=5.8							
ASAR	**Alice Springs**	**23.69**	**134**	P		P	18 53 11.2	+0.7
	1.2nm,0.5s,baz=305,slow=8.7,SNR=23							
STKA	**Stephens Creek**	**34.12**	**138**	P		P	18 54 42.6	0.0
	1.3nm,0.7s,baz=321,slow=11,SNR=3.0							
SONM	**Songino Array**	**56.07**	**353**	P		P	18 57 34.7	-0.3
	0.6nm,0.8s,baz=155,slow=8.2,SNR=4.6							
MKAR	**Makanchi Array**	**61.90**	**335**	P		P	18 58 15.2	+0.2
	0.1nm,0.3s,baz=142,slow=6.9,SNR=4.2							

IDC 02 18:48:35.4±5.8, 6°.26S×129°.64E, h57km±72km, mb3.8/1, mb1 3.7/4, mb1mx3.3/27, mbtmp3.7/4, ML3.2/3, Error ellipse: s-maj=117.0km s-min=26.1km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.60**	**17**	P		Pn	18 49 56.1	0.0
	0.7nm,0.3s,baz=204,slow=23,SNR=10							
SIJI				S		Sn	18 50 52.6	-6.5
	3.0nm,0.3s,baz=252,slow=23,SNR=11							
FITZ	**Fitzroy Crossi**	**12.39**	**198**	S		Sn	18 53 46.7	+1.0
	0.4nm,0.3s,baz=164,slow=21,SNR=7.0							
WRA	**Warramunga Arr**	**14.35**	**162**	P		Pn	18 51 54.6	-1.0
	0.1nm,0.3s,baz=341,slow=10,SNR=1.5							
WRA				S		Sn	18 54 22.0	-11
	0.4nm,0.3s,baz=334,slow=24,SNR=7.3							
ASAR	**Alice Springs**	**17.79**	**167**	P		P	18 52 39.2	0.0
	0.2nm,0.3s,baz=350,slow=10,SNR=14							
MKAR	**Makanchi Array**	**67.41**	**327**	P		P	18 59 25.1	+0.1
	0.8nm,0.4s,baz=112,slow=8.2,SNR=20							

*TAP **02** 18:49:11.5, 24°.03N×122°.50E, h34km, ML2.9, D*
*JMA **02** 18:49:11.0±0.2, 23°.97N×122°.49E, h22km±4km, M2.3*
ISC 02 18:49:09.3±1.0, 23°.99N±0°.02×122°.52E±0°.02, h15km±9km, n110, σ0§71/201, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.60**	**40**	P		**Pn**	**18 49 23.2**	**0.0**
JYNG				*eS*		**Sn**	**18 49 31.1**	**-1.6**
YOJ	**Yonaguni jima**	**0.65**	**44**	P		**Pn**	**18 49 24.1**	**+0.2**
YOJ				S		**Sn**	**18 49 32.6**	**-1.3**
YOJ	**Yonaguni jima**	**0.65**	**44**	P		**Pn**	**18 49 24.3**	**+0.4**
	baz=46							
YOJ				S		**Sn**	**18 49 32.5**	**-1.3**
	baz=46							
EWUT	**Wuta**	**0.81**	**304**	P		**Pn**	**18 49 26.7**	**+0.6**
	baz=302							
EWUT				S		**Sn**	**18 49 38.1**	**+0.2**
	baz=302							
ETL	**Fush Village**	**0.83**	**282**	*eP*		**Pn**	**18 49 27.3**	**+0.9**
	baz=266							
ETL				*eS*		**Sn**	**18 49 38.0**	**-0.5**
	baz=266							
HWA	**Hwalien**	**0.83**	**269**	*eP*		**Pn**	**18 49 27.1**	**+0.7**
	baz=254							
HWA				*eS*		**Sn**	**18 49 39.1**	**+0.7**
	baz=254							
TWD	**Chiawan**	**0.85**	**276**	*eP*		**Pn**	**18 49 27.1**	**+0.6**
	baz=273							
TWD				*i* S		**Sb**	**18 49 37.7**	**+0.9**
	baz=273							
TEYL	**Yanliau Villag**	**0.85**	**262**	*eP*		**Pn**	**18 49 26.5**	**-0.2**
	baz=251							
TEYL				*eS*		**Sb**	**18 49 37.8**	**+0.9**
	baz=251							
NACB	**Ninganchiao**	**0.86**	**282**	P		**Pn**	**18 49 26.9**	**+0.1**
	baz=267							
NACB				S		**Sb**	**18 49 37.7**	**+0.5**
	baz=267							
TWC	**Suao**	**0.86**	**315**	⇓*iP*		**Pn**	**18 49 26.8**	**0.0**
	baz=305							
TWC				*i* S		**Sb**	**18 49 37.5**	**+0.2**
	baz=305							
TEGC	**Jichi Village**	**0.94**	**253**	*eP*		**Pn**	**18 49 28.3**	**+0.5**
	baz=249							
TEGC				S		**Sn**	**18 49 41.1**	**+0.2**
	baz=249							
ETLH	**Xiulin Townshi**	**0.97**	**283**	*eP*		**Pn**	**18 49 28.3**	**0.0**
	baz=269							
ETLH				S		**Sn**	**18 49 41.6**	**-0.3**
	baz=269							
NDS	**Dongshan**	**0.97**	**311**	*i* P		**Pn**	**18 49 28.6**	**+0.3**
	baz=310							
NDS				*i* S		**Sn**	**18 49 41.5**	**-0.2**
	baz=310							
ESL	**Shilin**	**1.01**	**260**	*eP*		**Pb**	**18 49 28.5**	**+0.1**
	baz=248							
ESL				S		**Sb**	**18 49 41.6**	**+0.1**
	baz=248							
ILA	**Ilan**	**1.04**	**318**	S		**Sn**	**18 49 43.3**	**-0.2**
	baz=307							
EGFH	**Guangfu**	**1.05**	**252**	*eP*		**Pb**	**18 49 28.5**	**-0.5**
	baz=249							
EGFH				*eS*		**Sb**	**18 49 42.5**	**-0.1**
	baz=249							
NTC	**Toucheng**	**1.06**	**324**	*eP*		**Pg**	**18 49 30.8**	**+1.0**
	baz=324							
NTC				*eS*		**Sn**	**18 49 44.7**	**+0.7**
	baz=324							
TWE	**Neicheng**	**1.06**	**313**	*i* P		**Pg**	**18 49 30.3**	**+0.5**
	baz=313							
TWE				*i* S		**Sn**	**18 49 44.3**	**+0.2**
	baz=313							
ENTT	**Nioudou**	**1.08**	**307**	*i* P		**Pg**	**18 49 31.0**	**+0.8**
	baz=293							
NDT	**Datong Townshi**	**1.10**	**304**	P		**Pg**	**18 49 30.5**	**0.0**
	baz=291							
NDT				*eS*		**Sn**	**18 49 45.3**	**+0.3**
	baz=291							
HGSD	**Ruisui**	**1.12**	**244**	P		**Pb**	**18 49 30.1**	**-0.2**
	baz=241							
HGSD				S		**Sb**	**18 49 44.4**	**-0.2**
	baz=241							
TWB1	**Santiao Chiao**	**1.12**	**335**	P		**Pg**	**18 49 31.2**	**+0.3**
	baz=350							
TWB1				S		**Sb**	**18 49 44.5**	**-0.2**
	baz=350							
NNS	**Nan Shan**	**1.14**	**293**	P		**Pg**	**18 49 31.3**	**+0.1**
	baz=281							
NNS				S		**Sg**	**18 49 46.0**	**-0.1**
	baz=281							
WHF	**Hehuan Shan**	**1.15**	**278**	P		**Pg**	**18 49 31.5**	**-0.1**
	baz=264							
WHF				S		**Sb**	**18 49 46.5**	**+0.4**
	baz=264							
IRIF	**Iriomote-Funau**	**1.16**	**73**	P		**Pg**	**18 49 32.7**	**+1.0**
IRIF				S		**Sn**	**18 49 48.5**	**+2.1**
TIPB	**Shuangxi**	**1.16**	**327**	P		**Pg**	**18 49 31.8**	**+0.1**
	baz=327							
TIPB				S		**Sn**	**18 49 46.8**	**+0.3**
	baz=327							
EHY	**Hungye**	**1.20**	**246**	*i* P		**Pb**	**18 49 31.9**	**+0.3**
	baz=258							
EHY				*i* S		**Sb**	**18 49 47.0**	**+0.1**
	baz=258							
NWLT	**Wulai**	**1.21**	**310**	*eP*		**Pg**	**18 49 32.9**	**+0.3**
	baz=309							
NWLT				*eS*		**Sg**	**18 49 48.5**	**0.0**
	baz=309							
OWD	**Renai**	**1.23**	**269**	*eP*		**Pg**	**18 49 32.8**	**-0.2**
	baz=266							
OWD				*eS*		**Sb**	**18 49 47.6**	**-0.3**
	baz=266							
CHGB	**Renai**	**1.23**	**273**	P		**Pg**	**18 49 32.8**	**-0.3**
	baz=271							
CHGB				*eS*		**Sb**	**18 49 48.0**	**-0.1**
	baz=271							
YHNB	**Yeheng**	**1.24**	**303**	P		**Pg**	**18 49 33.5**	**+0.2**
	baz=290							
TWT	**Tachien**	**1.25**	**282**	P		**Pg**	**18 49 33.8**	**+0.3**
	baz=269							
TWT				*eS*		**Sn**	**18 49 49.1**	**+0.1**
	baz=269							

NWF			S		Sg	18 49 50.4	+0.1
	baz=328						
WFSB	**Wu-fen Shan**	**1.27 328**	P		**Pg**	18 49 33.5	-0.2
WFSB	baz=328		*e*S		**Sg**	18 49 50.2	0.0
YULB	**Yu-li**	**1.27 242**	P		**Pb**	18 49 33.0	+0.1
YULB	baz=229		S		**Sb**	18 49 48.5	-0.4
TDCB	**Techi**	**1.27 282**	*e*P		**Pg**	18 49 33.7	-0.1
TDCB	baz=269		*e*S		**Sb**	18 49 49.4	+0.3
EYUL	**Yuli**	**1.27 240**	P		**Pb**	18 49 33.3	+0.4
EYUL	baz=237		S		**Sb**	18 49 49.5	+0.5
TWF1	**Yuli**	**1.29 241**	*i* P		**Pb**	18 49 33.3	+0.1
TWF1	baz=237		*i* S		**Sb**	18 49 49.0	-0.5
TWA	**Mucha**	**1.30 319**	P		**Pg**	18 49 33.6	-0.8
TWA	baz=336		*e*S		**Sg**	18 49 51.8	+0.5
NHDH	**Xindian Distri**	**1.32 317**	P		**Pg**	18 49 35.2	+0.5
TNOU	**National Taiwa**	**1.34 330**	P		**Pb**	18 49 33.5	-0.5
TNOU	baz=330		*e*S		**Sb**	18 49 50.2	-0.7
TATO	**Taipei**	**1.35 316**	P		**Pg**	18 49 35.2	-0.2
TATO	baz=332		*e*S		**Sg**	18 49 52.1	-0.9
FULB	**Fuli**	**1.37 235**	P		**Pn**	18 49 33.8	0.0
FULB	baz=223		*e*S		**Sn**	18 49 51.8	+0.1
CHKT	**Chengkung**	**1.38 230**	P		**Pn**	18 49 33.9	0.0
CHKT	baz=218		S		**Sn**	18 49 50.2	-1.6
JKRS	**Kuro-shima**	**1.39 80**	P		**Pg**	18 49 37.6	+1.7
JKRS			*e*S		**Sg**	18 49 55.8	+1.8
BACT	**New Taipei Cit**	**1.40 316**	*e*P		**Pn**	18 49 34.2	0.0
WPL	**Puli Township**	**1.43 271**	*e*P		**Pb**	18 49 35.9	+0.4
WPL	baz=261		*e*S		**Sn**	18 49 52.5	-0.6
YM01	**YM01**	**1.44 323**	P		**Pg**	18 49 36.0	-0.9
YM01	baz=323		*e*S		**Sn**	18 49 52.1	-1.2
SSLB	**Suanglung**	**1.45 262**	*e*P		**Pn**	18 49 34.9	0.0
SSLB	baz=260		*e*S		**Sn**	18 49 52.7	-0.9
DPDB	**Guoxing**	**1.46 272**	P		**Pb**	18 49 36.4	+0.4
YM08	**YM08**	**1.46 325**	P		**Pb**	18 49 35.8	-0.4
YM08	baz=324		*e*S		**Sb**	18 49 54.4	0.0
WHP	**Taichung City**	**1.46 282**	*e*P		**Pg**	18 49 37.0	-0.5
WHP	baz=270		*e*S		**Sn**	18 49 54.4	+0.3
WCS	**Beigang Elemen**	**1.47 273**	*e*P		**Pb**	18 49 36.3	0.0
WCS	baz=264		*e*S		**Sn**	18 49 53.9	-0.2
SMLT	**Sun Moon Lake**	**1.48 266**	P		**Pg**	18 49 37.3	-0.5
SMLT	baz=263		S		**Sn**	18 49 55.1	+0.5
ECS	**Chishang**	**1.49 233**	P		**Pb**	18 49 36.6	0.0
ECS	baz=222		S		**Sn**	18 49 55.3	+0.7
TWS1	**Kuangyinshan**	**1.49 318**	P		**Pb**	18 49 36.6	0.0
TWS1	baz=334		S		**Sg**	18 49 56.4	-1.0
ANP	**Anpu**	**1.50 323**	P		**Pb**	18 49 36.2	-0.6
ANP	baz=322		*e*S		**Sn**	18 49 54.8	-0.1
NTY	**Taoyuan**	**1.50 312**	*e*P		**Pb**	18 49 36.6	-0.1
EDH	**Donghe**	**1.51 228**	*i* P		**Pn**	18 49 36.1	+0.4
EDH	baz=217		S		**Sn**	18 49 53.2	-1.8
LIOB	**Emei**	**1.52 296**	*i* P		**Pg**	18 49 38.0	-0.4
LIOB	baz=294		*e*S		**Sb**	18 49 56.5	+0.4
NTST	**Danshui**	**1.52 320**	*e*S		**Sn**	18 49 55.0	-0.3
TYC	**Yuchr**	**1.52 267**	*e*P		**Pb**	18 49 37.0	-0.1
TYC	baz=264		S		**Sn**	18 49 55.8	+0.5
NSTT	**Nanjuang**	**1.52 295**	*i* P		**Pg**	18 49 38.0	-0.5
NSTT	baz=293		S		**Sb**	18 49 56.9	+0.6
TWY	**Chenhua**	**1.53 327**	*e*P		**Pb**	18 49 37.1	-0.1
TWY	baz=327		*e*S		**Sb**	18 49 56.1	-0.3
JIJ	**Ishigaki jima**	**1.53 76**	P		**Pg**	18 49 37.9	-0.8
JIJ			*e*S		**Sg**	18 49 56.8	-1.8
NCU	**National Centr**	**1.55 309**	*e*S		**Sn**	18 49 55.8	-0.4
NCUH	**Zhongli**	**1.55 309**	*e*S		**Sn**	18 49 56.0	-0.2
ELDTW	**Lidau**	**1.59 240**	*i* P		**Pn**	18 49 37.2	+0.2
ELDTW	baz=237		S		**Sn**	18 49 56.0	-1.3
LDUT	**Ludao**	**1.63 216**	*i* P		**Pn**	18 49 37.3	0.0
LDUT	baz=214		S		**Sn**	18 49 56.4	-1.6
TWQ1	**Liyutan**	**1.63 283**	*e*P		**Pb**	18 49 39.3	+0.2
TWQ1	baz=281		*e*S		**Sb**	18 49 59.5	+0.1
ALS	**Alishan**	**1.64 253**	P		**Pb**	18 49 39.3	-0.1
ALS	baz=250		*e*S		**Sn**	18 49 58.5	-0.3
WJS	**Zhushan**	**1.65 264**	*e*P		**Pb**	18 49 39.6	+0.4
WJS	baz=262		*e*S		**Sg**	18 50 01.5	-0.9
WWF	**Wufeng**	**1.66 272**	P		**Pg**	18 49 40.9	-0.4
WWF	baz=270		S		**Sg**	18 50 02.2	-0.7
LONT	**Longtian**	**1.67 230**	P		**Pn**	18 49 38.6	+0.6
LONT	baz=240		S		**Sn**	18 49 59.4	+0.3
PCYT	**Pengchaiyu**	**1.68 346**	*e*P		**Pb**	18 49 38.9	-0.9
PCYT	baz=347		*e*S		**Sn**	18 49 59.0	-0.3
WNT	**Mingjian**	**1.68 266**	P		**Pg**	18 49 41.4	-0.2
WNT	baz=264		S		**Sb**	18 50 02.0	+1.2
WNT1	**Nantou City**	**1.68 267**	*e*P		**Pb**	18 49 40.5	+0.6
WNT1	baz=265		*e*S		**Sb**	18 50 02.4	+1.5
TCU	**Taichung**	**1.69 276**	*e*P		**Pn**	18 49 38.6	+0.4
CHN5	**Tsauling**	**1.73 257**	*e*P		**Pb**	18 49 40.7	-0.1
CHN5	baz=246		*e*S		**Sn**	18 50 00.9	+0.3
JISG	**Ishigakijimahi**	**1.74 70**	P		**Pb**	18 49 40.7	-0.2
JISG			S		**Sb**	18 50 02.1	-0.4
TTN	**Taitung**	**1.76 226**	*e*P		**Pb**	18 49 40.5	-0.7
TTN	baz=214		*e*S		**Sn**	18 50 01.1	-0.2
TWGBT	**Beinan**	**1.76 229**	*e*P		**Pn**	18 49 39.5	+0.2
TWGBT	baz=238		*e*S		**Sn**	18 50 00.2	-1.1
TWG	**Pinlang**	**1.77 229**	P		**Pn**	18 49 39.3	0.0
TWG	baz=238		S		**Sn**	18 50 00.2	-1.2
WCHH	**Zhanghua**	**1.79 273**	*e*S		**Sb**	18 50 04.5	+0.4
STYH	**Taoyuan**	**1.79 243**	*e*P		**Pn**	18 49 40.9	+1.2
STYH	baz=234		*e*S		**Sn**	18 50 02.7	+0.6
STYT	**Tauyuan**	**1.81 243**	P		**Pn**	18 49 41.2	+1.3
STYT	baz=233		*e*S		**Sn**	18 50 03.0	+0.4
WDLH	**Douliu**	**1.84 261**	*e*P		**Pb**	18 49 42.1	-0.4
WDLH	baz=258		*e*S		**Sb**	18 50 05.2	-0.1
TPUB	**Ta-pu**	**1.86 249**	*e*P		**Pb**	18 49 43.1	+0.2
TPUB	baz=246		*e*S		**Sb**	18 50 05.9	-0.2
CHN4	**Tsaushan**	**1.88 250**	*e*P		**Pb**	18 49 43.0	-0.2
CHN4	baz=248		*e*S		**Sb**	18 50 06.0	-0.4
WTP	**Ta-pu**	**1.90 247**	P		**Pb**	18 49 43.3	-0.3
WTP	baz=244		*e*S		**Sb**	18 50 06.4	-0.7
WRL	**Guolierlin Hig**	**1.96 268**	*e*P		**Pb**	18 49 43.7	-0.9
WRL	baz=278		*e*S		**Sb**	18 50 09.1	+0.2
WTK	**Tuku**	**1.97 262**	*e*S		**Sb**	18 50 09.2	0.0
SLGT	**Liugui**	**1.98 240**	*e*P		**Pb**	18 49 44.4	-0.7
SLGT	baz=230		*e*S		**Sn**	18 50 07.1	+0.3
SGST	**Jiashian**	**1.99 243**	*e*P		**Pb**	18 49 44.4	-0.8
SGST	baz=233		S		**Sb**	18 50 09.8	-0.1
CHN1	**Nanshi**	**1.99 247**	P		**Pn**	18 49 43.9	+1.5
CHN1	baz=244		*e*S		**Sb**	18 50 09.4	-0.5
TWK	**Hsinying**	**2.00 249**	*e*P		**Pb**	18 49 44.2	-1.1
TWK	baz=246		*e*S		**Sb**	18 50 09.4	-0.6
ECL	**Taimali**	**2.00 226**	P		**Pn**	18 49 42.4	0.0
ECL	baz=234		*e*S		**Sn**	18 50 05.5	-1.6
SNST	**Tainan City**	**2.01 248**	*e*P		**Pb**	18 49 44.6	-0.8
SNST	baz=245		*e*S		**Sb**	18 50 09.6	-0.6
SSD	**Sandimen**	**2.13 235**	P		**Pn**	18 49 45.8	+1.5
SSD	baz=227		*e*S		**Sn**	18 50 10.3	-0.1
WSF	**Szhu**	**2.13 261**	*e*S		**Sb**	18 50 14.3	+0.6
LAY	**Lan-yu**	**2.14 205**	*e*P		**Pn**	18 49 45.8	+1.4
LAY	baz=202		*e*S		**Sn**	18 50 10.6	0.0
TSMG	**Majia**	**2.15 234**	*e*P		**Pn**	18 49 46.1	+1.7
TSMG	baz=226		*e*S		**Sn**	18 50 11.5	+0.7
SCST	**Cishan**	**2.16 240**	*e*P		**Pb**	18 49 47.6	-0.5
SCST	baz=226		*e*S		**Sb**	18 50 15.4	+0.8
CHN8	**Yiju**	**2.21 254**	*e*S		**Sb**	18 50 15.0	-1.0
MASBT	**Mashibuluo**	**2.21 232**	*e*P		**Pb**	18 49 47.4	-1.5
MASBT	baz=225		*e*S		**Sn**	18 50 13.1	+0.7
EAST	**Anshuo**	**2.22 224**	P		**Pn**	18 49 46.0	+0.5
WDGT	**Dungji**	**2.72 255**	P		**Pn**	18 49 54.8	+2.4
WDGT	baz=242		S		**Sn**	18 50 25.4	+0.5
PHUB	**P'eng-hu**	**2.74 261**	*e*S		**Sn**	18 50 25.6	+0.2
VWUC	**VWUC**	**2.97 290**	*e*P		**Pn**	18 49 56.2	+0.4
PTMZ	**Houxiangcun**	**3.27 289**	*e*P		**Pn**	18 50 01.3	+1.4

NOU ***02*** *19:06:24.1,32.˚38S×176.˚39W,h0km,mb5.2,South of Kermadec Islands*

NEIC ***02*** *19:06:27.1±0.9,32.˚3S±0.˚2×176.˚2W±0.˚2,h40km±8km, mb5.0/32,Error ellipse: s-maj=29.3km s-min=20.8km az=56.0*

IDC ***02*** *19:06:33.7±0.4,31.˚98S×177.˚99W,h0km,mb4.8/26, mb1 4.9/29,mb1mx4.8/52,mbtmp4.8/29,ML5.3/3,MS4.6/27, Ms1 4.6/27,ms1mx4.5/41,Error ellipse: s-maj=15.3km s-min=12.8km az=105.0*

BJI ***02*** *19:06:33.0±0.0,32.˚40S×177.˚10W,h40km,mB5.6/13, mb5.1/15,Ms5.0/7,Ms7 4.7/7*

MOS ***02*** *19:06:38.7±1.8,31.˚87S×178.˚17W,h37km,mb5.3/12, MS4.8/4,Error ellipse: s-maj=13.0km s-min=9.1km az=98.9*

GCMT ***02*** *19:06:39.1±0.2,32.˚05S±0.˚01×177.˚69W±0.˚01,h16km, MW5.2/112,Moment Tensor Solution. s68,c117; s112,c188; Duration: 1s0 Moment tensor: Scale 1016 Nm; Mrr5.02±.17; Mθθ-0.22±.11; Mφφ-4.80±.11; Mrθ1.65±.32; Mθφ-1.52±.08; Mφr6.25±.41; Best double couple: M0*8.25800×1016 *NP1:*φs*199.00000°,*δ*19.00000°,* λ*93.00000°. NP2:*φs*15.00000°,*δ*71.00000°,*λ*89.00000°. Principal axes: T 8.1410, Plg64.0000°, Azm283.0000°; N 0.2320, Plg1.0000°, Azm16.0000°; P -8.3760, Plg26.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 19:06:36.5±0.3,32.˚12S±0.˚04×177.˚84W±0.˚06,h24km, n415,σ2S05/410,mb5.0/44,MS4.7/36,23C-22D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.85**	**359**	P	**Pn**	**19 07 16.9**	**-3.6**
GLKZ				S	**Sn**	**19 07 50.3**	**-3.8**
RAO	**Raoul Island**	**2.86**	**359**	Pn	**Pn**	**19 07 17.8**	**-2.9**
	327nm,0.3s,baz=144,slow=0.8,SNR=13						
RAO				Sn	**Sn**	**19 07 52.0**	**-2.3**
	679nm,0.3s,baz=130,slow=19,SNR=4.4						
RAO	**Raoul Island**	**2.86**	**359**	P	**Pn**	19 07 17.5	-3.1
RAO	**Raoul Island**	**2.86**	**359**	Pn	**Pn**	19 07 17.5	-3.1
RIZ	**Raoul Island**	**2.87**	**358**	P	**Pn**	19 07 18.9	-1.8
RIZ				S	**Sn**	19 07 51.8	-2.8
MXZ	**Matakaoa Point**	**6.28**	**209**	Pn	**Pn**	19 08 03.6	-4.1
MXZ	**Matakaoa Point**	**6.28**	**209**	P	**Pn**	19 08 05.4	-2.3
MXZ				S	**Sn**	19 09 17.8	-0.9
WMGZ	**Waiomatatini S**	**6.46**	**207**	P	**Pn**	19 08 07.4	-2.7
PKGZ	**Pakihiroa**	**6.66**	**209**	P	**Pn**	19 08 09.2	-3.7
HAZ	**Te Kaha**	**6.67**	**211**	P	**Pn**	19 08 10.3	-2.7
HAZ				S	**Sn**	19 09 29.2	+1.0
PUZ	**Puketiti**	**6.74**	**207**	P	**Pn**	19 08 10.4	-3.6
PUZ				S	**Sn**	19 09 28.1	-2.0
RUGZ	**Raukumara Rang**	**6.89**	**211**	P	**Pn**	19 08 12.6	-3.6
RUGZ				S	**Sn**	19 09 33.0	-0.9
TWGZ	**Tauwhareparae**	**6.94**	**208**	P	**Pn**	19 08 13.8	-2.9
TWGZ				S	**Sn**	19 09 35.0	-0.1
KUZ	**Kuaotunu**	**7.04**	**227**	P	**Pn**	19 08 20.5	+2.4
CNGZ	**Carnagh Statio**	**7.12**	**206**	P	**Pn**	19 08 15.8	-3.4
TKGZ	**Te Karaka**	**7.22**	**208**	P	**Pn**	**19 08 19.8**	**-0.7**
TKGZ				S	**Sn**	**19 09 39.2**	**-2.6**
MWZ	**Matawai**	**7.26**	**210**	P	**Pn**	**19 08 17.7**	**-3.5**
MWZ				S	**Sn**	**19 09 40.9**	**-2.0**
OPRZ	**Ohinepanea**	**7.33**	**217**	P	**Pn**	**19 08 20.7**	**-1.3**
OPRZ				S	**Sn**	**19 09 45.6**	**+1.1**
URZ	**Urewera**	**7.39**	**213**	Pn	**Pn**	**19 08 20.7**	**-2.1**
	7.4nm,0.3s,baz=308,slow=2.8,SNR=22						
URZ				Sn	**Sn**	**19 09 43.3**	**-2.5**
	62nm,0.3s,baz=252,slow=22,SNR=17						
URZ	**Urewera**	**7.39**	**213**	Pn	**Pn**	**19 08 19.4**	**-3.5**
URZ	**Urewera**	**7.39**	**213**	P	**Pn**	**19 08 21.6**	**-1.2**
URZ				S	**Sn**	**19 09 43.5**	**-2.3**
RIGZ	**Rimuhau**	**7.49**	**207**	P	**Pn**	**19 08 21.7**	**-2.5**
RIGZ				S	**Sn**	**19 09 45.5**	**-2.9**
PRGZ	**Paritu Road**	**7.63**	**206**	P	**Pn**	**19 08 23.1**	**-3.1**
MUGZ	**Murupara**	**7.72**	**213**	P	**Pn**	**19 08 23.8**	**-3.7**
MUGZ				S	**Sn**	**19 09 51.2**	**-2.8**
SNGZ	**Shannon Statio**	**7.72**	**209**	P	**Pn**	**19 08 26.5**	**-0.9**
OUZ	**Omahuta**	**7.78**	**244**	Pn	**Pn**	**19 08 31.7**	**+3.5**
MHGZ	**Mahia Peninsul**	**7.82**	**205**	P	**Pn**	**19 08 24.7**	**-4.1**
RAHZ	**Arahi**	**7.94**	**210**	P	**Pn**	**19 08 29.6**	**-0.9**
RAHZ				S	**Sn**	**19 09 56.6**	**-3.0**
MTHZ	**Maungataniwha**	**7.99**	**211**	P	**Pn**	**19 08 30.5**	**-0.7**
ARHZ	**Aropaoanui**	**8.27**	**209**	P	**Pn**	**19 08 31.7**	**-3.2**
BKZ	**Black Stump Fm**	**8.40**	**212**		**Pn**	**19 08 33.3**	**-3.6**
BKZ	**Black Stump Fm**	**8.40**	**212**	P	**Pn**	**19 08 37.2**	**+0.3**
MCHZ	**McNeill Hill**	**8.55**	**210**	P	**Pn**	**19 08 36.8**	**-2.0**
KWHZ	**Kaweka Forest**	**8.65**	**211**	P	**Pn**	**19 08 40.0**	**-0.2**
HIZ	**Hauiti**	**8.73**	**221**	Pn	**Pn**	**19 08 40.7**	**-0.6**
HIZ	**Hauiti**	**8.73**	**221**	P	**Pn**	**19 08 44.7**	**+3.4**
TMVZ	**Te Maari**	**8.73**	**215**	P	**Pn**	**19 08 40.1**	**-1.3**
NTVZ	**North Tongarir**	**8.73**	**215**	P	**Pn**	**19 08 40.3**	**-1.2**
KAHZ	**Kahuranaki**	**8.77**	**208**	P	**Pn**	**19 08 37.5**	**-4.4**
NNVZ	**North Ngauruho**	**8.79**	**215**	P	**Pn**	**19 08 44.7**	**+2.4**
SNVZ	**South Ngauruho**	**8.82**	**215**	P	**Pn**	**19 08 44.3**	**+1.6**
BHHZ	**Black Hill Sta**	**8.86**	**212**	P	**Pn**	**19 08 41.0**	**-2.1**
FWVZ	**Far West T-bar**	**8.92**	**215**	P	**Pn**	**19 08 45.6**	**+1.6**
WNVZ	**Wahianoa**	**8.95**	**215**	P	**Pn**	**19 08 44.7**	**+0.3**
PXZ	**Pawanui**	**8.98**	**207**	P	**Pn**	**19 08 42.2**	**-2.5**
PNHZ	**Pukenui**	**9.15**	**210**	P	**Pn**	**19 08 45.5**	**-1.5**
VRZ	**Vera Road**	**9.22**	**219**	P	Pn	19 08 42.7	-5.3
TSZ	**Takapari Road**	**9.37**	**211**	P	**Pn**	**19 08 47.5**	**-2.6**
BFZ	**Birch Farm**	**9.78**	**207**	Pn	Pn	19 08 49.7	-5.9
BFZ	**Birch Farm**	**9.78**	**207**	P	Pn	19 08 50.5	-5.2
MSWZ	**Moikau Station**	**10.80**	**209**	Pn	Pn	19 09 03.8	-5.9
TUWZ	**Tuamarina**	**11.38**	**213**	Pn	Pn	19 09 12.6	-4.9
NNZ	**Nelson**	**11.49**	**215**	Pn	**Pn**	**19 09 15.8**	**-3.2**
QRZ	**Quartz Range**	**11.63**	**219**	Pn	**Pn**	**19 09 18.2**	**-2.9**
BSWZ	**Blackbirch Sta**	**11.64**	**212**	Pn	**Pn**	**19 09 16.6**	**-4.5**
THZ	**Tophouse**	**12.13**	**215**	Pn	Pn	19 09 22.6	-5.3
KHZ	**Kahutara**	**12.35**	**211**	Pn	Pn	19 09 24.4	-6.3
LTZ	**Lake Taylor**	**13.21**	**214**	Pn	Pn	19 09 37.6	-5.1
OXZ	**Oxford**	**13.74**	**213**		**Pn**	**19 09 45.9**	**-3.9**
RPZ	**Rata Peaks**	**14.50**	**214**	Pn	**Pn**	**19 09 55.8**	**-4.4**
RPZ				IAmb	IAmb	19 10 15.7	
	comp=Z,37nm,0.6s						
MSVF	**Nonsavu**	**14.80**	**344**	Pn	**Pn**	**19 10 01.2**	**-3.2**
	comp=Z,0.9nm,0.3s,baz=121,slow=14,SNR=8.7						
MSVF	**Nonsavu**	**14.80**	**344**	P	**Pn**	**19 10 01.0**	**-3.4**
MSVF				pmax	pmax		
	comp=Z,86nm,1.3s						
MSVF	**Nonsavu**	**14.80**	**344**		**Pn**	**19 10 01.0**	**-3.4**
MSVF				IAmb	IAmb	19 10 13.8	
	comp=Z,86nm,1.2s						
NIUE	**Niue**	**14.81**	**31**	P	**P**	**19 10 09.8**	**-0.4**
	baz=15,SNR=3.4						
FOZ	**Fox Glacier**	**14.98**	**217**	Pn	**Pn**	**19 10 02.6**	**-3.9**
FOZ				IAmb	IAmb	19 10 21.5	
	comp=Z,100nm,1.2s						
LBZ	**Lake Benmore**	**15.42**	**214**	Pn	**Pn**	**19 10 07.1**	**-5.3**
ODZ	**Otahua Downs**	**15.71**	**212**	Pn	**Pn**	**19 10 10.2**	**-6.0**
PINNC	**Pines Island,**	**16.13**	**302**	P	**P**	**19 10 24.9**	**+0.1**
PINNC				IAmb	IAmb	19 10 34.8	
	comp=Z,191nm,1.3s						
WKZ	**Wanaka**	**16.31**	**215**	Pn	**Pn**	**19 10 17.5**	**-6.3**
WKZ				IAmb	IAmb	19 10 38.8	
	comp=Z,134nm,1.5s						
OUENC	**Ouen Island, N**	**16.68**	**302**	P	**P**	**19 10 33.7**	**+2.8**
OUENC				IAmb	IAmb	19 10 36.4	
	comp=Z,188nm,1.3s						
OUENC	**Ouen Island, N**	**16.68**	**302**	P	**P**	**19 10 33.9**	**+3.0**
YATNC	**Mamie plateau,**	**16.87**	**303**	P	**P**	**19 10 37.1**	**+4.0**
ONTNC	**Ouen Toro**	**17.03**	**301**	P	**P**	**19 10 37.6**	**+2.8**
ONTNC				IAmb	IAmb	19 11 00.7	
	comp=Z,80nm,1.1s						
MLZ	**Mavora Lakes**	**17.14**	**215**	Pn	**Pn**	**19 10 27.2**	**-7.2**
DZM	**Mont Dzumac**	**17.19**	**302**	Pn	**P**	**19 10 39.2**	**+2.5**
	comp=Z,1.5nm,0.3s,baz=103,slow=14,SNR=20						
DZM				LR	LR	19 16 08.4	
	comp=Z,7μm,18.2s,baz=124,slow=34						
DZM	**Mont Dzumac**	**17.19**	**302**	*e*P	**P**	**19 10 39.0**	**+2.4**
	comp=Z,47nm,0.7s						
DZM				*e*LR	LR	19 14 56.3	
	comp=Z,5μm,22.8s						
DZM	**Mont Dzumac**	**17.19**	**302**		**P**	**19 10 39.0**	**+2.4**
DZM				IAmb	IAmb	19 11 04.0	
	comp=Z,202nm,1.5s						
DZM	**Mont Dzumac**	**17.19**	**302**	P	**P**	**19 10 40.4**	**+3.8**
NOUC	**Port Laguerre**	**17.27**	**301**	P	**P**	**19 10 40.6**	**+3.2**
WHZ	**Wether Hill Ro**	**17.60**	**215**	P	**Pn**	**19 10 34.2**	**-5.8**
AFI	**Afiamalu**	**18.96**	**18**	P	**P**	**19 10 54.0**	**-2.2**
	comp=Z,3.4nm,0.3s,baz=25,slow=14,SNR=3.8						
AFI	**Afiamalu**	**18.96**	**18**	P	**P**	**19 10 54.0**	**-2.2**
RAR	**Rarotonga**	**19.43**	**60**	P	**P**	**19 10 59.5**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=52,slow=5.0,SNR=4.2						
RAR				LR	LR	19 19 19.1	
	comp=Z,846nm,18.4s,baz=260,slow=39						
KOUNC	**Koumac, New Ca**	**19.70**	**301**	P	**Pn**	**19 11 07.0**	**+1.3**
ARMA	**Armidale**	**26.11**	**266**	P	**P**	**19 12 08.6**	**-0.2**
	baz=26,SNR=6.6						
ARMA	**Armidale**	**26.11**	**266**	P	**P**	**19 12 08.5**	**-0.2**
ARMA				IAmb	IAmb	19 12 16.1	
	comp=Z,42nm,1.1s						
MGCD	**Mangrove Creek**	**26.12**	**259**	P	**P**	**19 12 09.2**	**+0.6**
	baz=26,SNR=17						
TBI	**Tubuai**	**26.53**	**78**	*e*S	S	19 16 23.8	-22
	comp=Z,215nm,22.8s						
TBI				*e*LQ	LQ	19 17 17.9	
	comp=Z,2μm,26.2s						
TBI				*e*LR	LR	19 18 25.5	
	comp=Z,1μm,22.8s,baz=245						
CNB	**Canberra Magne**	**27.40**	**254**	P	**P**	**19 12 20.4**	**+0.1**
	baz=27,SNR=6.9						
EIDS	**Eidsvold**	**28.00**	**276**	P	**P**	**19 12 26.8**	**+1.2**
	baz=28,SNR=9.1						
EIDS	**Eidsvold**	**28.00**	**276**	P	**P**	**19 12 25.7**	**0.0**
EIDS				IAmb	IAmb	19 12 28.2	
	comp=Z,29nm,1.0s						
PPT2	**Papeete2**	**29.33**	**67**	*e*S	S	19 17 10.0	-20
	comp=Z,196nm,25.5s						
PPT2				*e*LR	LR	19 19 41.4	
	comp=Z,961nm,22.0s,baz=235						
PPT	**Papeete**	**29.34**	**67**	LR	LR	19 23 21.7	
	comp=Z,931nm,18.3s,baz=236,slow=34						
RMQ	**Roma**	**29.59**	**272**	P	**P**	**19 12 40.2**	**+0.5**
	baz=29,SNR=17						
TOO	**Toolangi**	**30.45**	**249**	P	**P**	**19 12 48.2**	**+0.9**
	baz=30,SNR=4.4						
TOO	**Toolangi**	**30.45**	**249**	P	**P**	**19 12 46.1**	**-1.2**
TOO				pmax	pmax		
	comp=Z,31nm,1.3s						
TOO	**Toolangi**	**30.45**	**249**	P	**P**	**19 12 46.1**	**-1.2**
TOO				IAmb	IAmb	19 13 00.1	
	comp=Z,31nm,1.3s						
HNR	**Honiara**	**30.55**	**313**	LR	LR	19 23 52.8	
	comp=Z,1μm,19.2s,baz=210,slow=34						
CMSA	**Cobar Meteorol**	**30.90**	**261**	P	**P**	**19 12 52.5**	**+1.2**
	baz=31,SNR=108						
QLP	**Quilpie**	**33.40**	**270**	P	**P**	**19 13 13.7**	**+0.4**
	baz=33,SNR=15						
ARPS	**Mount Arapiles**	**33.40**	**251**	P	**P**	**19 13 14.0**	**+0.8**
	baz=33,SNR=13						
CTA	**Charters Tower**	**34.24**	**282**	P	**P**	**19 13 21.6**	**+0.8**
	comp=Z,34nm,0.7s,baz=109,slow=9.9,SNR=30						
CTA				LR	LR	19 26 17.0	
	comp=Z,2μm,18.8s,baz=148,slow=35						
CTAO	**Charters Tower**	**34.24**	**282**	P	**P**	**19 13 22.0**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,43nm,0.8s						
CTAO	**Charters Tower**	**34.24**	**282**	P	**P**	**19 13 21.9**	**+1.3**
STKA	**Stephens Creek**	**34.26**	**259**	P	**P**	**19 13 21.4**	**+0.6**
	comp=Z,18nm,0.7s,baz=100,slow=10,SNR=42						
STKA				LR	LR	19 26 58.8	

comp=Z,2µm,18.3s,baz=93,slow=36
STKA Stephens Creek 34.26 259 P **P 19 13 21.7 +0.9**
baz=34,SNR=35
STKA Stephens Creek 34.26 259 P **P 19 13 21.5 +0.8**
HTT Hallett 36.19 256 P **P 19 13 37.5 +0.1**
baz=36,SNR=17
MTSU Mount Surprise 36.78 283 P **P 19 13 43.7 +1.1**
baz=36,SNR=55
BBOO Buckleboo 38.66 256 P **P 19 13 57.3 -1.0**
baz=38,SNR=33
BBOO Buckleboo 38.66 256 P **P 19 13 57.1 -1.2**
BBOO IAmb IAmb 19 13 58.9
comp=Z,41nm,0.8s
PMG Port Moresby 39.49 297 LR LR 19 28 58.6
comp=Z,798nm,18.4s,baz=121,slow=34
RABL Rabaul 39.52 308 P **P 19 14 07.7 +2.0**
QIS Mount Isa 39.61 276 P **P 19 14 06.3 -0.1**
baz=39,SNR=8.0
TAOE Nuku Hiva Isla 41.89 65 *e*S S 19 20 23.6 -19
TAOE *e*LR LR 19 25 31.3
comp=Z,216nm,25.8s
comp=Z,591nm,23.4s
AS31 Alice Springs 43.18 269 P **P 19 14 34.6 -1.1**
ASAR Alice Springs 43.18 269 P **P 19 14 35.0 -0.7**
comp=Z,18nm,0.7s,baz=105,slow=7.7,SNR=274
ASAR PcP **PcP 19 16 24.0 -1.0**
comp=Z,1.8nm,0.9s,baz=115,slow=4.3,SNR=1.1
ASAR ScP **ScP 19 20 16.5 +1.8**
comp=Z,1.1nm,0.9s,baz=115,slow=4.9,SNR=4.1
ASAR S **S 19 21 00.2 -0.9**
comp=Z,0.9nm,0.9s,baz=110,slow=16,SNR=3.7
ASAR LR LR 19 32 37.4
comp=Z,1µm,18.8s,baz=118,slow=36
ASAR Alice Springs 43.18 269 P **P 19 14 34.7 -1.0**
ASAR Alice Springs 43.18 269 P **P 19 14 34.7 -1.0**
WR0 Warramunga Arr 44.15 274 P **P 19 14 42.4 -1.1**
WB2 Warramunga Arr 44.31 274 P **P 19 14 43.8 -1.0**
WRAB Tennant Creek 44.32 274⇑ *e*P **P 19 14 43.5 -1.4**
WRAB pmax pmax
comp=Z,71nm,1.3s
WRAB Tennant Creek 44.32 274 P **P 19 14 43.4 -1.4**
WRA Warramunga Arr 44.32 274 P **P 19 14 44.1 -0.8**
comp=Z,33nm,0.5s,baz=113,slow=7.7,SNR=280
WRA ScP **ScP 19 20 20.6 +1.3**
comp=Z,0.7nm,0.7s,baz=118,slow=3.6,SNR=2.6
WRA S **S 19 21 16.0 -1.9**
comp=Z,0.6nm,0.6s,baz=104,slow=15,SNR=2.8
WRA LR LR 19 32 46.4
comp=Z,2µm,18.1s,baz=105,slow=36
WRA Warramunga Arr 44.32 274 P **P 19 14 43.4 -1.5**
WRA pmax pmax
comp=Z,4.0nm,1.1s
WRA Warramunga Arr 44.32 274 P **P 19 14 43.4 -1.5**
WB0 Warramunga Arr 44.35 274 P **P 19 14 44.1 -1.0**
FORT Forrest 45.76 257 P **P 19 14 54.9 -1.3**
baz=46,SNR=32
FORT Forrest 45.76 257 P **P 19 14 54.5 -1.7**
VNDA Vanda 46.40 186 P **P 19 15 03.1 +2.6**
comp=Z,2.2nm,0.6s,baz=15,slow=8.0,SNR=13
WRKA Warakurna 47.42 264 P **P 19 15 07.4 -2.0**
baz=47,SNR=40
KDU Kakadu 49.37 281 P **P 19 15 25.3 +1.0**
baz=49,SNR=6.1
KNRA Kununurra 50.99 276 P **P 19 15 35.9 -0.7**
baz=51,SNR=18
KNRA Kununurra 50.99 276 P **P 19 15 35.3 -1.3**
FITZ Fitzroy Crossi 52.51 271 P **P 19 15 47.3 -0.7**
comp=Z,16nm,0.7s,baz=166,slow=7.3,SNR=34
FITZ Fitzroy Crossi 52.51 271 P **P 19 15 47.1 -0.9**
baz=52,SNR=22
FITZ Fitzroy Crossi 52.51 271 P **P 19 15 47.0 -0.9**
FITZ IAmb IAmb 19 15 50.3
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 53.94 250 P **P 19 15 56.9 -1.4**
comp=Z,4.7nm,0.6s,baz=96,slow=4.1,SNR=1.7
KLBR Kellerberrin 53.94 252 P **P 19 15 56.3 -2.1**
baz=54,SNR=6.9
MEEK Meekatharra 54.95 258 P **P 19 16 05.6 -0.2**
baz=55,SNR=5.1
FAKI Fak Fak 55.08 291 P **P 19 16 03.8 -3.0**
FAKI IAmb IAmb 19 16 07.4
comp=Z,26nm,0.8s
PSA00 Pilbara Seismi 55.92 264 P **P 19 16 09.5 -3.3**
PSA00 Pilbara Seismi 55.92 264 P **P 19 16 10.0 -2.8**
PSA00 IAmb IAmb 19 16 11.9
comp=Z,13nm,0.9s
MORW Morawa 56.19 254 P **P 19 16 13.1 -1.5**
baz=56,SNR=4.8
MORW Morawa 56.19 254 P **P 19 16 12.4 -2.3**
MORW IAmb IAmb 19 16 14.7
comp=Z,13nm,1.1s
SOEI Soe 57.75 279 P **P 19 16 24.0 -2.0**
QSPA South Pole Qui 57.99 180 P **P 19 16 29.4 +2.4**
comp=Z,8.5nm,0.7s,baz=50,slow=2.4,SNR=53
BATI Baumata 58.02 278 P **P 19 16 28.3 +0.5**
comp=Z,19nm,0.7s,baz=112,slow=5.4,SNR=6.4
BATI LR LR 19 41 38.0
comp=Z,2µm,19.6s,baz=147,slow=36
EDFI Ende, Flores 60.44 279 P **P 19 16 43.4 -1.2**
comp=Z,10.0nm,1.2s
BNSI Bone 64.10 282 P **P 19 17 07.4 -1.6**
comp=Z,15nm,1.0s
SRBI Singaraja 66.24 275 P P 19 17 11.5 -11
MPSI Mapaga 66.93 286 P P **19 17 26.3 -1.0**
comp=Z,21nm,0.8s
MAW Mawson 70.75 201 P **P 19 17 51.7 +1.4**
comp=Z,15nm,1.0s,baz=104,slow=7.4,SNR=19
MAW LR LR 19 49 39.0
comp=Z,803nm,18.4s,baz=106,slow=36
MAW Mawson 70.75 201 P **P 19 17 53.2 +2.9**
baz=71,SNR=16
LEM Lembang 73.32 272 LR LR 19 49 39.5
comp=Z,462nm,21.1s,baz=154,slow=35
STKI Sintang 73.73 281 P **P 19 18 08.8 -0.2**
comp=Z,13nm,1.4s
SYO Syowa Base 75.47 193⇓ *es*P **P 19 18 21.2 +3.1**
SNAA Sanae 76.44 178 P **P 19 18 25.0 +1.3**
SNAA Sanae 76.44 178 P **P 19 18 24.8 +1.1**
comp=Z,12nm,1.1s,baz=168,slow=6.2,SNR=10
SNAA Sanae 76.44 178 *de*P **P 19 18 24.7 +1.0**
SNAA pmax pmax
comp=Z,27nm,1.4s
VNA3 Neumayer Olymp 76.58 176 P **P 19 18 25.5 +1.0**
VNA2 Neumayer--Watz 77.02 177 P **P 19 18 28.4 +1.4**
baz=189,slow=4.7
VNA1 Neumayer--Stat 77.25 176 P **P 19 18 29.7 +1.5**
MDSI Maura Dua 77.45 273 P **P 19 18 28.6 -1.7**
H03S2 Juan Fernandez 79.41 123 T T 20 47 34.8
baz=236,slow=74,SNR=5.7
H03S1 Juan Fernandez 79.42 123 T T 20 47 38.8
baz=236,slow=74,SNR=6.3
H03S3 Juan Fernandez 79.42 123 T T 20 47 38.6
baz=236,slow=74,SNR=4.1
H03N3 Juan Fernandez 79.61 123 T T 20 47 52.5
baz=240,slow=72,SNR=6.8
H03N2 Juan Fernandez 79.61 123 T T 20 47 55.7
baz=240,slow=72,SNR=3.7
H03N1 Juan Fernandez 79.62 123 T T 20 47 48.2
baz=240,slow=72,SNR=12
MJAR Matsushiro Arr 79.73 325 P **P 19 18 42.1 -0.3**
comp=Z,2.8nm,0.9s,baz=166,slow=6.7,SNR=6.1
MAJO Matsushiro 79.73 325⇑ *e*P **P 19 18 42.4 +0.1**
MAJO pmax pmax
comp=Z,18nm,1.7s
MAT Matsushiro 79.73 325 P **P 19 18 41.3 -1.0**
MAT *e*S **S 19 28 46.8 +3.3**
PLCA Paso Flores 81.24 133 P **P 19 18 52.8 +2.1**
comp=Z,4.5nm,1.0s,baz=225,slow=7.1,SNR=4.3
PLCA LR LR 19 48 11.1
comp=Z,538nm,19.0s,baz=230,slow=31
ASAJ Asahikawa 84.03 333 P **P 19 19 05.7 +1.0**
comp=Z,9.7nm,0.7s,baz=149,slow=4.6,SNR=8.0
KSRS Korea Array 85.74 320 P **P 19 19 13.9 +0.5**
comp=Z,1.9nm,0.9s,baz=148,slow=6.2,SNR=8.4
KSRS LR LR 19 52 30.8
comp=Z,140nm,21.8s,baz=124,slow=32
PKM Mcpherson Peak 86.10 44 pP **P 19 19 16.8 +1.2**
baz=225,SNR=7.6
SMMC Simmler 86.28 44 pP **P 19 19 17.8 +1.5**
baz=225
YSS Yuzh-Sakhalins 86.35 334 *e*P **P 19 19 17.4 +1.2**
YSS *e**PP **pwP 19 19 27.1 -2.4**
YSS *e* 19 29 40.7
YSS *e*S **S 19 29 51.6 +1.4**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=N,400nm,18.0s
MURC Murrieta 86.81 47 pP **P 19 19 20.1 +1.2**
baz=227
MONP2 Monument Peak 86.81 48 pP **P 19 19 20.4 +1.2**
baz=227,SNR=6.0
ARVC Arvin 86.85 45 pP **P 19 19 21.1 +2.1**
baz=226
IKP In-Ko-Pah, Jac 86.85 48 pP **P 19 19 20.2 +1.0**
baz=227,SNR=5.5
BFSC Mount Baldy Ra 86.95 46 pP **P 19 19 21.4 +1.7**
baz=226,SNR=6.7
EDW2 Edwards Air Fo 87.18 45 pP **P 19 19 22.1 +1.4**
baz=226,SNR=12
VES Vestal, Richgr 87.18 44 pP **P 19 19 22.3 +1.7**
baz=225
PET Petropavlovsk 87.23 346 *e*P **P 19 19 16.4 -4.0**
PET *e*S **S 19 29 56.5 -1.9**
PET pmax pmax
comp=Z,100nm,11.5s
SWSC Sam W. Stewart 87.24 48 pP **P 19 19 22.7 +1.7**
baz=227
TPFO Pinon Flats 87.27 47 pP **P 19 19 22.6 +1.3**
baz=227,SNR=5.3
PFO Pinyon Flats O 87.27 47 P **P 19 19 22.8 +1.5**
comp=Z,6.0nm,0.9s,baz=220,slow=4.0,SNR=8.6
PFO Pinyon Flats O 87.27 47 pP **P 19 19 22.5 +1.2**
baz=227
ISA Isabella, Lake 87.42 45 pP **P 19 19 23.7 +1.9**
baz=226,SNR=20
NJ2 Nanjing 87.47 311 *e*P **P 19 19 19.3 -2.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PEA0B Petropavlovsk- 87.51 346⇓ *e*P **P 19 19 23.1 +1.4**
PETK Petropavlovsk- 87.51 346 P **P 19 19 22.4 +0.7**
comp=Z,6.4nm,0.7s,baz=114,slow=7.6,SNR=14
PETK LR LR 19 51 56.3
comp=Z,135nm,21.9s,baz=162,slow=31
FALS False Pass 87.51 8 pP pP 19 19 28.2 +0.5
baz=191
LRMC Laurel Mtn Rad 87.77 45 pP **P 19 19 25.1 +1.5**
baz=226,SNR=14
BELC Belle Mtn. Jos 87.81 47 pP **P 19 19 25.6 +1.7**
baz=227,SNR=12
MSHR Mys Shultsa 87.84 325⇓ *e*P **P 19 19 25.0 +1.4**
MSHR pmax pmax
comp=Z,20nm,1.7s
BC3 Big Chuckawall 87.93 48 pP **P 19 19 26.5 +2.1**
baz=228,SNR=16
GLA Glamis 87.93 48 pP **P 19 19 25.7 +1.4**
baz=228
CHNA Chernabura Isl 88.01 10 pP pP 19 19 30.4 +0.4
baz=194
O02D Mt. Diablo Mer 88.14 39 pP **P 19 19 28.1 +2.8**
baz=223,SNR=5.9
HEC Hector,Ludlow 88.16 46 pP **P 19 19 26.8 +1.4**
baz=227,SNR=5.2
GSC Goldstone, Bar 88.18 46 pP **P 19 19 27.0 +1.5**
baz=227,SNR=15
CWC Cottonwood Cre 88.19 44 pP **P 19 19 27.3 +1.7**
baz=226
MPMC Manual Prospec 88.28 45 pP **P 19 19 27.6 +1.4**
baz=226,SNR=17
IRM Iron Mountain 88.45 47 pP **P 19 19 28.9 +2.1**
baz=228,SNR=28
214A Organ Pipe Nat 88.52 50 pP **P 19 19 28.9 +1.7**
baz=229
GMRC Granite Mounta 88.54 47 pP **P 19 19 29.3 +2.0**
baz=227,SNR=7.5
MLAC Mammoth, Mammo 88.56 43 pP **P 19 19 29.5 +2.1**
baz=225
USRK Ussuriysk Ar. 88.67 326 P **P 19 19 27.8 +0.3**
comp=Z,7.7nm,0.8s,baz=130,slow=4.3,SNR=14
USRK LR LR 19 55 54.1
comp=Z,160nm,19.8s,baz=133,slow=34
O03E Paynes Creek 88.76 39 pP **P 19 19 29.9 +1.7**
baz=224,SNR=6.4
N02D Trinity Center 88.76 38 pP **P 19 19 30.4 +2.3**
baz=223
TUQ Turquoise Moun 88.81 46 pP **P 19 19 30.6 +2.0**
baz=227,SNR=5.6
FURC Furnace Creek, 88.93 45 pP **P 19 19 30.3 +1.4**
baz=227,SNR=5.5
M02C Callahan 88.98 38 pP **P 19 19 31.5 +2.4**
baz=223
GRAC Grapevine Rang 88.98 44 pP **P 19 19 31.8 +2.5**
baz=226,SNR=6.0
PDMCI Parker Dam,Lak 89.17 48 pP **P 19 19 31.9 +1.8**
baz=228
NVAR Mina Array Bea 89.41 43 P **P 19 19 32.9 +1.5**
comp=Z,8.6nm,1.0s,baz=220,slow=7.3,SNR=22
NVAR LR LR 19 54 45.0
comp=Z,519nm,18.8s,baz=253,slow=32
K02D Willamette Mer 89.50 37 pP **P 19 19 34.0 +2.4**
baz=222
TPNV Topopah Spring 89.62 45 pP **P 19 19 34.1 +1.7**
baz=227,SNR=11
TYV Tymovskoe 89.68 336 *e*P **P 19 19 33.6 +1.6**
TYV pmax pmax
comp=Z,26nm,1.8s
J01E Myers Point 89.71 36 pP **P 19 19 35.0 +2.6**
baz=222
M04C Macdoel 89.79 38 pP **P 19 19 35.0 +1.9**
baz=223
L04D Klamath Falls 89.86 38 pP **P 19 19 35.7 +2.3**
baz=223
TUC Tucson 90.08 51 pP **P 19 19 35.0 +0.5**
baz=230
DL2 Dalian 90.30 317 P **P 19 19 38.4 +3.1**
DL2 S **S 19 30 33.1 +5.1**
DL2 pmax pmax
comp=Z,76nm,4.9s
DL2 LR LR
comp=Z,310nm,20.8s
DL2 LR LR
comp=Z,180nm,19.0s
I03D Drain, OR 90.39 36 pP **P 19 19 37.6 +2.1**
baz=222
I02D Swisshome 90.44 36 pP **P 19 19 37.6 +1.8**
baz=222
I04A Tendick Farm, 90.93 37 pP **P 19 19 40.2 +2.0**
baz=223
R11A Troy Canyon, C 90.94 44 pP **P 19 19 39.6 +1.1**
baz=227
J05D Fort Rock, OR 91.17 38 pP **P 19 19 41.0 +1.6**
baz=224
H04D Lebanon 91.29 36 pP **P 19 19 41.8 +2.1**
baz=223
OHAK Old Harbor 91.39 13 pP pP 19 19 44.5 -1.2
baz=199
G03D McMinnville, O 91.53 35 pP **P 19 19 43.2 +2.4**
baz=222
CN2 Changchun 91.59 323 *e*P **P 19 19 40.0 -1.1**
CN2 pmax pmax
comp=Z,20nm,1.3s
WUAZ Wupatki 91.70 48 pP **P 19 19 42.7 +0.6**
baz=230
I05D Terrebonne, OR 91.86 37 pP **P 19 19 44.1 +1.7**
baz=224
121A Cookes Peak, D 92.22 53 pP **P 19 19 44.2 -0.4**
baz=232
G05D Wamic, OR 92.51 36 pP **P 19 19 46.9 +1.4**
baz=224
GYA Guiyang 92.52 300 ⇑P **P 19 19 47.6 +1.5**
KLR Kul'dur 92.59 330 P **P 19 19 46.3 +0.7**
comp=Z,6.1nm,0.7s,baz=138,slow=6.2,SNR=18
KLR LR LR 20 01 14.3
comp=Z,211nm,18.0s,baz=182,slow=36
CMIG Matias Romero 93.16 72 LR LR 19 54 57.2
comp=Z,217nm,19.8s,baz=210,slow=31
TXAR Lajitas Array 93.20 57 P **P 19 19 50.4 +1.3**
comp=Z,2.8nm,1.1s,baz=205,slow=5.5,SNR=11
TXAR LR LR 19 54 38.7
comp=Z,257nm,19.6s,baz=0.0,slow=31
MNTX Cornudas Mount 93.36 55 pP **P 19 19 50.8 +1.1**
baz=233
P19K Oil Pt 93.68 12 pP pP 19 19 56.8 +0.4
baz=200
DUG Dugway, Tooele 93.77 44 pP **P 19 19 53.6 +2.1**
baz=229
CMAR Chiang Mai Arr 94.09 289 P **P 19 19 53.7 +0.4**
comp=Z,0.6nm,0.7s,baz=135,slow=4.5,SNR=3.4
CMAR LR LR 20 04 49.7
comp=Z,87nm,19.0s,baz=125,slow=37
ANMO Albuquerque 94.54 51 P **P 19 19 56.4 +1.1**
comp=Z,2.9nm,1.0s,baz=231,slow=5.1,SNR=4.7
ANMO Albuquerque 94.54 51⇑ *e*P **P 19 19 56.7 +1.4**
ANMO pmax pmax
comp=Z,7.0nm,1.4s
ANMO Albuquerque 94.54 51 pP **P 19 19 56.6 +1.3**
baz=233
BBB Bella Bella 94.55 28 LR LR 19 53 08.4
comp=Z,180nm,21.8s,baz=206,slow=30
KMI Kunming 94.72 297 ⇓P **P 19 19 53.0 -3.3**
KMI pP sP 19 20 03.9 -0.5
KMI pmax pmax
comp=Z,5.0nm,1.1s
MA2 Magadan 94.98 345⇓ *e*P **P 19 19 56.5 +0.1**
MA2 pmax pmax
comp=Z,11nm,1.6s
XAN Xi'an 95.26 307 P **P 19 19 58.4 0.0**
XAN pP sP 19 20 08.8 +2.3
XAN SKS **SKSac 19 30 32.8 +0.1**
XAN S **ScS 19 31 14.0 +0.6**
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN pmax pmax
comp=Z,130nm,5.6s
XAN LR LR
comp=Z,110nm,17.3s
XAN LR LR
comp=Z,200nm,17.4s
XAN LR LR
comp=Z,250nm,19.5s
CD2 Chengdu 97.11 302 P **P 19 20 02.2 -4.7**
CD2 LR LR
comp=Z,230nm,16.3s
CD2 LR LR
comp=Z,160nm,12.6s
CD2 LR LR
comp=Z,270nm,14.8s
PDAR Pinedale Array 97.28 44 P Pdif 19 20 08.5 +0.8
comp=Z,0.7nm,0.8s,baz=197,slow=4.5,SNR=5.4
PDAR PP **PP 19 24 03.1 -1.7**
comp=Z,0.3nm,0.6s,baz=218,slow=4.2,SNR=3.9
PDAR PKKPbc **PKKPbc 19 36 47.7 +0.6**
comp=Z,0.5nm,0.6s,baz=89,slow=3.3,SNR=3.9
PDAR LR LR 19 57 32.1
comp=Z,319nm,19.6s,baz=244,slow=31
LPAZ La Paz 97.31 114 LR LR 19 57 14.3
comp=Z,208nm,19.4s,baz=276,slow=31
HHC Hu-ho-hao-te 97.52 314 *e*P **P 19 20 04.6 -4.0**
HHC SKS **SKSac 19 30 43.3 -1.1**
HHC S **ScS 19 31 35.2 +3.0**
HHC LR LR
comp=Z,150nm,16.2s
HHC LR LR
comp=Z,130nm,17.9s
HHC LR LR
comp=Z,150nm,17.0s
SEY Seymchan 97.68 347 P Pdif 19 20 09.1 +0.5
comp=Z,3.4nm,1.0s,baz=166,slow=8.4,SNR=5.4
ZEA Zeya 97.81 331 *e*P Pdif 19 20 11.1 +1.7
ZEA MLR MLR
comp=E,100nm,16.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
CPUP Villa Florida 98.81 129 LR LR 20 02 03.6
comp=Z,260nm,18.1s,baz=220,slow=34
ILAR Eielson Array 99.57 13 P **Pdif 19 20 17.9 +0.9**
comp=Z,0.3nm,0.5s,baz=224,slow=3.8,SNR=2.3
ILAR PP **PP 19 24 18.6 -2.9**
comp=Z,0.2nm,0.8s,baz=230,slow=7.0,SNR=2.3
ILAR LR LR 20 05 23.2
comp=Z,104nm,18.1s,baz=214,slow=36
LZH Lanzhou 99.85 306 *e*P **Pdif 19 20 15.4 -3.8**
LZH pP pP 19 20 25.6 +0.4
LZH pmax pmax
comp=Z,63nm,4.9s
LZH LR LR
comp=Z,86nm,19.0s
LZH LR LR
comp=Z,260nm,20.1s
LZH LR LR
comp=Z,150nm,18.4s
BILL Bilibino 100.56 354 *e*P **Pdif 19 20 22.2 +0.9**
BILL *e* 19 24 29.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
YAK Yakutsk 102.89 337⇓ *e*P **Pdif 19 20 30.9 -0.9**
YAK pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 104.50 318 PP **PKiKP 19 24 57.3 +1.8**
comp=Z,0.2nm,0.5s,baz=125,slow=7.2,SNR=1.9
YKA Yellowknife Ar 106.93 26 PKKPbc PKKPbc 19 36 17.2 -1.6
comp=Z,1.0nm,0.9s,baz=61,slow=3.0,SNR=4.6
WMQ Urumqi 114.39 308 *e*PKP PKPdf 19 25 06.2 -7.9
DGZ Jazzator, Alta 116.61 314⇓ *i*PKIKP **PKiKP 19 25 19.9 +1.6**
MKAR Makanchi Array 118.97 309 PKP **PKPdf 19 25 22.4 -0.4**
comp=Z,2.4nm,0.9s,baz=64,slow=2.8,SNR=16
ZALV Zalesovo Beam 119.40 318 PKP **PKiKP 19 25 24.1 +0.8**
comp=Z,0.9nm,0.5s,baz=107,slow=1.5,SNR=5.7
AAK Ala-Archa 123.17 303⇓ *i*PKIKP **PKiKP 19 25 32.1 +0.7**
BRVK Borovoye 127.79 315 *d i*PKIKP **PKiKP 19 25 40.5 +0.5**
GEYT Alibeck 134.39 294 PKP **PKiKP 19 25 54.0 +0.1**
comp=Z,1.9nm,0.5s,baz=169,slow=3.0,SNR=4.6
ARU Arti 134.50 320 *i* PKIKP **PKPdf 19 25 52.5 +0.5**
ARU 19 28 22.3
PRGR Permogore 139.38 330 *e*PKIKP **PKPdf 19 26 00.4 -0.5**
PRGR pmax pmax
comp=Z,15nm,1.5s
ARCES ARCESS Array B 140.29 347 PKhKP PKPpre 19 25 58.9
comp=Z,3.9nm,0.8s,baz=48,slow=1.8,SNR=7.4
KLMR Klimovskoe 142.33 331 *e*PKHKP PKPpre 19 26 00.3
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 142.33 331 *e*PKPdf **PKPdf 19 26 00.4 -5.9**
KLMR AMP 19 26 07.8
comp=Z,15nm,1.3s
GROC Groznyy 144.10 301 *e*PKHKP PKPpre 19 26 04.7
GROC *e* 19 29 24.3
GROC pmax pmax
comp=Z,38nm,0.6s
GNI Garni 144.96 295 *c i*PKHKP PKPpre 19 26 09.0
VRH Novokhopyorsk 145.37 315 *e*PKIKP **PKPbc 19 26 11.5 -0.3**
VRH pmax pmax
comp=Z,50nm,1.6s
ZEI Tsey 145.51 300 *i* PKIKP **PKPab 19 26 13.5 +0.4**
ZEI pmax pmax
comp=Z,38nm,1.1s
NCK Nalchik 145.68 301⇓ *e*PKIKP **PKPdf 19 26 12.9 +0.2**
MOS Moscow 145.82 324 *e*PKP2 **PKPdf 19 26 12.1 -0.4**
MOS pmax pmax
comp=Z,195nm,1.2s
GOF Gofitskoye 145.89 304⇑ *e*PKIKP **PKPbc 19 26 13.7 0.0**
GOF pmax pmax
comp=Z,90nm,0.9s
KBZ Khabaz 146.16 302 PKPbc **PKPbc 19 26 14.2 -0.2**
comp=Z,23nm,1.0s,baz=101,slow=1.6,SNR=24
KBZ Khabaz 146.16 302 *c i*PKIKP **PKPdf 19 26 13.4 -0.1**
KIV Kislovodsk 146.28 302 ⇓P **PKPbc 19 26 14.7 -0.3**
KIV Kislovodsk 146.28 302 *i* PKP2 **PKPbc 19 26 14.6 -0.4**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,335nm,25.0s
NEY Neytrino 146.33 301 *d i*PKP2 **PKPab 19 26 16.8 +0.6**
PUL Pulkovo 146.61 334 *c i*PKP2 **PKPab 19 26 17.0 +0.6**
OBN Obninsk 146.65 324 ⇑P **PKPab 19 26 17.2 +0.5**
OBN Obninsk 146.65 324 *c i*PKP2 **PKPbc 19 26 15.8 +0.3**
OBN *e* 19 29 39.5
OBN *e*PPP PPP 19 32 54.6
OBN pmax pmax
comp=Z,203nm,1.5s
FINES FINESS Array B 146.80 339 PKPbc **PKPbc 19 26 15.8 0.0**
comp=Z,22nm,0.6s,baz=54,slow=3.3,SNR=92
VSR Storozhevoye 146.88 316 *e*PKP2 **PKPbc 19 26 15.7 -0.7**
VSR pmax pmax
comp=Z,100nm,0.8s
VORD Divnogorie 146.90 316 *e*PKIKP **PKPdf 19 26 15.0 +0.5**
VORD pmax pmax
comp=Z,60nm,0.8s
MEF Metsahovi 148.28 339 *e*P **PKiKP 19 26 21.4 -0.1**
RAF Rauma 148.37 342 *e*P **PKPbc 19 26 20.1 0.0**
SOC Sochi 148.47 302 *e*PKIKP **PKPdf 19 26 17.4 +0.1**
SOC *i* 19 26 23.0
SOC *e* 19 29 48.5
SOC *e*PPP PPP 19 33 07.2
SOC pmax pmax

comp=Z,50nm,1.0s
SOC pmax pmax
comp=Z,29nm,0.8s
SOC MLR MLR
comp=Z,144nm,20.0s
KTUT Trabzon 148.72 297 ⇑P **PKiKP 19 26 22.7 -0.4**
VSU Vasula 148.84 335 *eP* **PKPbc 19 26 21.9 +0.5**
VSU Vasula 148.84 335 *d* PKP2 **PKiKP 19 26 22.3 -0.4**
AAL Aland 149.55 342 *eP* **PKiKP 19 26 23.9 -0.2**
MTSE Matsula 149.65 338 *eP* **PKiKP 19 26 24.3 -0.1**
UPP Uppsala 150.41 344 *eP* **PKPbc 19 26 25.4 +0.3**
NB2 NORSAR Subarra 150.47 351 PKP **PKPbc 19 26 25.6 +0.2**
comp=Z,19nm,1.2s,baz=15,slow=4.1
NOA NORSAR Array B 150.47 351 PKPbc **PKiKP 19 26 25.9 -0.2**
comp=Z,4.0nm,1.0s,baz=15,slow=4.6,SNR=17
IDID Didziasalis 151.08 331 *eP* **PKiKP 19 26 29.1 +1.7**
MNK Minsk 151.13 328 *i* PKIKP **PKiKP 19 26 27.4 -0.2**
MNK *i* 19 26 40.7
MNK *i* 19 33 19.4
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=N,9.0nm,1.1s
ISAL Salakas 151.15 331 *eP* **PKiKP 19 26 29.6 +2.0**
IIGN Ignalina 151.27 331 *eP* **PKiKP 19 26 29.8 +1.9**
NACGM Naroch 151.34 330 *i* PKP **PKiKP 19 26 30.4 +2.4**
baz=75
SNOP Sinop 151.99 300 PKiKP 19 26 30.0 +0.2
KONO Kongsberg 152.02 352 PKIKP **PKiKP 19 26 29.9 +0.6**
KONO Kongsberg 152.02 352 PKiKP 19 26 29.9 +0.6
PABE Paberze 152.05 333 *eP* **PKiKP 19 26 30.8 +1.4**
PABE Paberze 152.05 333 PKPbc 19 26 29.0 -0.1
AKASG Malin Array Be 152.73 321 PKPbc **PKiKP 19 26 31.5 +0.5**
comp=N,7.5nm,0.8s,baz=50,slow=2.6,SNR=30
AKBB Malin Array Si 152.73 321 PKIKP **PKiKP 19 26 33.5 +2.5**
AKBB Malin Array Si 152.73 321 PKiKP 19 26 33.5 +2.5
BZK Bozkurt 152.89 300 ⇓P **PKiKP 19 26 32.8 +1.2**
LIC Lamto 153.37 164 *eP* **PKPab 19 26 47.1 +1.8**
comp=N,72nm,1.2s
LIC Lamto 153.37 164 *eP* **PKiKP 19 26 34.0 +0.5**
comp=N,24nm,1.0s
SUW Suwalki 153.46 332 *eP* **PKiKP 19 26 34.0 +1.6**
BRTR Keskin Array B 153.50 296 PKPbc **PKiKP 19 26 33.4 +0.2**
comp=N,3.9nm,0.6s,baz=130,slow=3.5,SNR=13
KIC Kosan Boka 153.57 164 *eP* **PKPab 19 26 49.0 +2.9**
comp=N,10nm,0.6s
KIC Kosan Boka 153.57 164 *eP* **PKiKP 19 26 36.3 +2.4**
comp=N,24nm,1.2s
TIC Toumodi 153.78 164 *eP* **PKPab 19 26 48.7 +1.7**
TIC Toumodi 153.78 164 *eP* **PKPbc 19 26 33.5 -0.8**
SORM Soroca 154.55 317 ⇑P **PKiKP 19 26 38.6 +3.8**
SORM Soroca 154.55 317 ⇑PKIKP **PKiKP 19 26 38.6 +3.8**
TPGR Topolog 155.95 309 ⇓P **PKPab 19 26 57.8 +2.2**
LVV L'vov 155.95 324 *e* PKP2 **PKPab 19 26 54.2 -1.2**
TESR Tescani 156.35 314 ⇑P **PKPab 19 26 58.8 +1.6**
VRI Vrincioaia 156.60 313 ⇑P **PKPab 19 26 59.3 +0.9**
VRI Vrincioaia 156.60 313 ⇑PKP2 **PKPab 19 26 59.3 +0.9**
BURAR Bucovina Array 156.62 318 ⇑P **PKPab 19 27 00.5 +1.9**
PLOR Plostina 156.66 313 ⇑P **PKPab 19 26 52.4 -6.3**
PLOR Plostina 156.66 313 ⇑PKP2 **PKPab 19 26 52.4 -6.3**
OZUR 157.07 314 ⇓P **PKPab 19 27 00.8 +0.3**
MLR Muntele Rosu 157.26 313 ⇑P **PKPab 19 27 02.8 +1.4**
MLR Muntele Rosu 157.26 313 ⇑PKP2 **PKPab 19 27 02.8 +1.4**
DOPR Dopca 157.38 314 ⇑P **PKPab 19 27 02.3 +0.6**
KOLS Kolonicke sedl 157.40 324 *e* PKP2 **PKPab 19 27 01.5 -0.2**
KOLS Kolonicke sedl 157.40 324 *e* PKP **PKPab 19 27 01.5 -0.2**
UZH Uzhgorod 157.59 323 *e* PKP2 **PKPab 19 26 57.7 -4.8**
OJC Ojcow 157.67 329 *e* PKP2 **PKPab 19 27 03.1 +0.4**
CRVS Cervenica-Dubn 157.82 325 *e* PKP2 **PKPab 19 27 03.6 +0.1**
CRVS Cervenica-Dubn 157.82 325 *e* PKP **PKPab 19 27 03.5 0.0**
VOIR 157.84 313 ⇓P PKPab 19 26 49.3 -15
MTUR Matau 157.94 313 ⇓P **PKPab 19 26 59.2 -5.1**
MTUR Matau 157.94 313 ⇓PKP2 **PKPab 19 26 59.2 -5.1**
NIE Niedzica 158.02 327 *e* PKP **PKPab 19 27 05.3 +0.9**
ARR Arges 158.13 314 ⇓P **PKPab 19 27 07.6 +2.5**
KSP Ksiaz 158.57 335 *e* PKP **PKPab 19 27 07.5 +0.8**
LANS Liptovska Anna 158.59 328 *e* PKP2 **PKPab 19 27 07.2 +0.3**
LANS Liptovska Anna 158.59 328 *e* PKP **PKPab 19 27 07.2 +0.3**
CHVC Chvalec 158.87 335 *e* PKPAB **PKPab 19 27 06.6 -1.4**
MORC Moravsky Berou 158.95 331 *e* PKP **PKPab 19 27 08.2 -0.2**
UPC Upice 158.95 335 *e* PKP2 **PKPab 19 27 07.4 -0.9**
UPC Upice 158.95 335 *e* PKPAB **PKPab 19 27 07.4 -0.9**
DPC Dobruska-Polom 158.97 334 *e* PKP2 **PKPab 19 27 06.3 -2.2**
DPC Dobruska-Polom 158.97 334 *e* PKPAB **PKPab 19 27 06.3 -2.2**
KRLC Kraliky 159.02 333 *e* PKP2 **PKPab 19 27 07.4 -1.3**
KRLC Kraliky 159.02 333 *e* PKPAB **PKPab 19 27 07.4 -1.3**
CLL Collm 159.23 341 *i* PKPab **PKPab 19 27 09.0 -0.5**
comp=Z,33nm,1.5s
CLL *e* pPKPab **sPKPab 19 27 21.0 +3.4**
CLL *e* PP **PP 19 30 51.0 +0.8**
CLL *e* PPS PPS 19 44 12.0
CLL *e* 19 54 12.0
CLL *e* SSS SSS 19 56 42.0
CLL LmH 20 40 00.0
comp=Z,200nm,20.6s
CLL LmV 20 55 00.0
comp=Z,200nm,19.0s
CLL Collm 159.23 341 *i* PKP2 **PKPab 19 27 09.0 -0.5**
CLL *e* 19 30 51.0
CLL pmax pmax
comp=Z,33nm,1.5s
PSZ Piszkesteto 159.26 325 ⇓P **PKPab 19 27 10.0 +0.2**
BRG Berggiesshubel 159.34 338 *e* PKP **PKPab 19 27 09.8 -0.2**
BRG Amp 19 27 12.5
comp=Z,26nm,1.4s
BRG Berggiesshubel 159.34 338 P PKPab 19 27 21.5 +12
BRG Amp 19 27 24.7
comp=Z,13nm,1.3s
VYHS Vyhne 159.36 327 *e* PKP2 **PKPab 19 27 10.4 +0.2**
VYHS Vyhne 159.36 327 *e* PKP **PKPab 19 27 10.4 +0.2**
PVCC Panska Ves 159.44 337 *e* PKP2 **PKPab 19 27 10.4 0.0**
PVCC Panska Ves 159.44 337 *e* PKPAB **PKPab 19 27 10.4 0.0**
JAVC Velka Javorina 159.60 330 *e* PKP **PKPab 19 27 12.0 +0.7**
VRAC Vranov 159.70 332 *e* PKP **PKPab 19 27 11.2 -0.4**
PRA Prague 159.87 337 *e* PKP2 **PKPab 19 27 12.4 +0.1**
PRA Prague 159.87 337 *e* PKPAB **PKPab 19 27 12.4 +0.1**
PRU Pruhonice 159.91 336 *e* PKP2 **PKPab 19 27 13.4 +0.9**
PRU Pruhonice 159.91 336 *e* PKPAB **PKPab 19 27 13.4 +0.9**
SMOL Smolenice 159.97 329 *e* PKP2 **PKPab 19 27 13.2 +0.4**
SMOL Smolenice 159.97 329 *e* PKP **PKPab 19 27 13.2 +0.4**
KRUC Moravsky 159.98 332 *e* PKP **PKPab 19 27 12.6 -0.2**
MODS Modra-Piesok 160.14 329 *e* PKP2 **PKPab 19 27 15.7 +2.1**
MODS Modra-Piesok 160.14 329 *e* PKP **PKPab 19 27 15.7 +2.1**
MDVR Moldovita 160.21 315 ⇑P **PKPab 19 27 14.2 +0.1**
NKC Novy Kostel 160.35 340 *e* PKP2 **PKPab 19 27 14.4 0.0**
NKC Novy Kostel 160.35 340 *e* PKPAB **PKPab 19 27 14.4 0.0**
ZST Bratislava 160.35 329 *e* PKP2 **PKPab 19 27 14.7 +0.2**
ZST Bratislava 160.35 329 *e* PKP **PKPab 19 27 14.7 +0.2**
KHC Kasperske Hory 160.96 337 *e* PKP2 **PKPab 19 27 16.1 -1.1**
KHC Kasperske Hory 160.96 337 *e* PKPAB **PKPab 19 27 16.1 -1.1**
CKRC Cesky Krumlov 160.97 335 *e* PKPAB **PKPab 19 27 16.7 -0.5**
CONA Conrad Observa 161.09 331 *i* P **PKPab 19 27 18.4 +0.6**
comp=Z,8.8nm,0.8s,SNR=6.2
TORD Torodi Ar. Bea 161.11 179 PKPab **PKPab 19 27 19.8 +1.3**
comp=Z,4.6nm,0.5s,baz=180,slow=3.5,SNR=28
GERES GERESS Array B 161.17 336 PKPab **PKPab 19 27 17.9 -0.2**
comp=Z,1.7nm,0.7s,baz=40,slow=4.4,SNR=12
GERES GERESS Array B 161.17 336 PKP2 **PKPab 19 27 18.0 -0.2**
ARSA Arzberg 161.76 330 *eP* **PKPab 19 27 21.4 +0.7**
comp=Z,6.1nm,1.1s
MOA Molln 161.79 333 *eP* **PKPab 19 27 22.0 +1.1**
comp=Z,11nm,1.2s
SOKA Soboth 162.42 329 *i* P **PKPab 19 27 24.1 +0.4**
comp=Z,14nm,1.4s,SNR=7.7
OBKA Obir 162.76 330 *eP* **PKPab 19 27 24.1 -1.1**
comp=Z,2.4nm,0.7s
KBA Koelnbreinsper 162.78 333 *eP* **PKPab 19 27 25.8 +0.4**
comp=Z,4.4nm,0.8s
MYKA Terra Mystica 163.04 332 *eP* **PKPab 19 27 25.6 -0.7**
comp=Z,7.8nm,0.9s
WATA Walderalm 163.19 337 *eP* **PKPab 19 27 28.0 +0.9**
comp=Z,16nm,1.7s
WTTA Wattenberg 163.23 337 *eP* **PKPab 19 27 27.8 +0.5**
comp=Z,10nm,1.2s
RETA Reutte 163.31 339 *i* P **PKPab 19 27 28.0 +0.5**
comp=Z,16nm,1.2s,SNR=7.9
MOTA Moosalm 163.33 338 *i* P **PKPab 19 27 28.1 +0.4**
comp=Z,18nm,1.3s,SNR=7.4
ABTA Abfaltersbach 163.37 334 *eP* **PKPab 19 27 28.0 +0.1**
comp=Z,10nm,1.2s
SQTA Sankt Quirin 163.41 338 *eP* **PKPab 19 27 28.5 +0.5**
comp=Z,16nm,1.5s
FETA Feichten 163.74 339 *eP* **PKPab 19 27 30.7 +1.2**
comp=Z,12nm,1.2s
DAVA Damuels 163.75 341 *i* P **PKPab 19 27 29.8 +0.3**
comp=Z,14nm,1.1s,SNR=5.6
ESDC Sonseca Array 170.98 32 PKP **PKPdf 19 26 44.5 +1.8**
comp=Z,0.9nm,1.0s,baz=333,slow=0.6,SNR=4.0
ESDC PKPab **PKPab 19 28 01.1 -0.5**
comp=Z,1.1nm,0.6s,baz=336,slow=2.8,SNR=4.9

GUC ***02*** *19:07:23.6±0.5, 37°.96S×73°.35W, h10km, ML4.5*
IDC ***02*** *19:07:24.5±1.4, 37°.41S×74°.19W, h0km, mb4.0/7, mb1 4.1/9, mb1mx4.0/37, mbtmp4.0/9, ML3.9/2, MS4.5/1, Ms1 4.5/1, ms1mx3.3/20, Error ellipse: s-maj=37.4km s-min=17.8km az=73.0*
NEIC ***02*** *19:07:24.7±1.8, 37°.38S±0°.06×74°.1W±0°.1, h11km±5km, mb4.5/15, ML4.5(GUC), Error ellipse: s-maj=17.2km s-min=8.9km az=93.0*
VAO ***02*** *19:07:27.9±0.6, 37°.32S×73°.84W, h10km, mb4.6*
ISC 02 19:07:22.5±0.8, 37°.82S±0°.04×73°.8W±0°.1, h10km, n107, σ2°58/96, mb4.2/9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.12**	**30**	*eP*	**Pb**	**19 07 43.0**	**-1.0**
CCSP				*i* S	**Sb**	**19 07 57.6**	**-1.1**
CCSP				*e* S	**Sn**	**19 07 57.8**	**-2.0**
CCSP				IAML		19 08 05.8	
comp=E,25μm,0.5s							
CCSP	**San Pedro de C**	**1.12**	**30**	*eP*	**Pb**	**19 07 43.8**	**-0.2**
CCSP				*e* S	**Sb**	**19 07 56.2**	**-2.4**
CCSP				IAML		19 08 05.8	
comp=E,25μm,0.4s							
GO05	**Huala**	**3.19**	**29**	*eP*	**Pn**	**19 08 11.8**	**-1.0**
GO05				*i* S	**Sn**	**19 08 52.0**	**+1.2**
GO05				IAML		19 09 15.5	
comp=E,781nm,0.3s							
GO05	**Huala**	**3.19**	**29**	*eP*	**Pn**	**19 08 11.8**	**-1.0**
GO05				*e* S	**Sn**	**19 08 51.1**	**+0.3**
GO05				IAML		19 09 15.6	
comp=E,808nm,0.5s							
GO05	**Huala**	**3.19**	**29**		**Pn**	**19 08 11.5**	**-1.2**
LL03	**Petrohue**	**3.49**	**162**		**Pg**	**19 08 25.1**	**-4.3**
LL05	**Los Muermos**	**3.59**	**176**		**Pb**	**19 08 26.5**	**+0.4**
BO03	**Pichilemu**	**3.64**	**25**	*eP*	**Pn**	**19 08 16.9**	**-2.1**
BO03	**Pichilemu**	**3.64**	**25**	*eP*	**Pn**	**19 08 16.8**	**-2.1**
PLCA	**Paso Flores**	**3.85**	**140**	Pn	**Pg**	**19 08 32.5**	**-3.8**
comp=E,1.3nm,0.3s,baz=319,slow=13,SNR=14							
PLCA				Lg	Lg	19 09 43.3	
comp=E,4.4nm,0.3s,baz=221,slow=19,SNR=3.5							
PLCA	**Paso Flores**	**3.85**	**140**	*eP*	**Pg**	**19 08 33.4**	**-3.0**
PLCA				*e* S	Sg	19 09 32.9	+6.6
PLCA	**Paso Flores**	**3.85**	**140**	Pn	Pg	19 08 30.8	-5.5
PLCA	**Paso Flores**	**3.85**	**140**	*eP*	**Pg**	**19 08 32.3**	**-4.1**
BO02	**Sierra Bellavi**	**3.89**	**40**	*eP*	**Pn**	**19 08 22.5**	**+0.1**
BO02	**Sierra Bellavi**	**3.89**	**40**	*eP*	**Pn**	**19 08 22.8**	**+0.4**
BO02	**Sierra Bellavi**	**3.89**	**40**		**Pn**	**19 08 22.6**	**+0.2**
BO01	**Tunca**	**4.07**	**34**	*eP*	**Pn**	**19 08 24.6**	**-0.2**
BO01	**Tunca**	**4.07**	**34**	*eP*	**Pn**	**19 08 24.5**	**-0.3**
BO01	**Tunca**	**4.07**	**34**	Pn	**Pn**	**19 08 24.5**	**-0.3**
MT01	**Popeta**	**4.46**	**29**	*eP*	**Pn**	**19 08 28.7**	**-1.5**
MT01	**Popeta**	**4.46**	**29** ⇑	*eP*	**Pn**	**19 08 28.6**	**-1.7**
MT01	**Popeta**	**4.46**	**29**		**Pn**	**19 08 28.4**	**-1.9**
VA05	**Santo Domingo**	**4.52**	**24**	*eP*	**Pn**	**19 08 28.6**	**-2.4**
VA05				*e* S	Sn	19 09 13.4	-10
VA05	**Santo Domingo**	**4.52**	**24**	Pn	**Pn**	**19 08 28.4**	**-2.6**
MT09	**Talagante**	**4.64**	**30**	*eP*	**Pn**	**19 08 31.9**	**-0.9**
MT09				*i* S	**Sn**	**19 09 22.3**	**-4.6**
MT09	**Talagante**	**4.64**	**30**	*eP*	**Pn**	**19 08 31.7**	**-1.1**
MT09				*e* S	**Sn**	**19 09 21.4**	**-5.5**
MT09	**Talagante**	**4.64**	**30**		**Pn**	**19 08 31.9**	**-0.9**
LL01	**San Ignacio de**	**4.68**	**167**		**Pb**	**19 08 42.4**	**-2.2**
LMEL	**Las Melosas**	**4.93**	**38**	*eP*	**Pn**	**19 08 37.1**	**+0.3**
LMEL	**Las Melosas**	**4.93**	**38**	*eP*	**Pn**	**19 08 37.0**	**+0.2**
LMEL				*e* S	**Sn**	**19 09 29.9**	**-4.0**
MT02	**Curacav**	**5.04**	**26**		**Pn**	**19 08 36.1**	**-2.2**
MT05	**Renca**	**5.08**	**30**	*eP*	**Pn**	**19 08 37.8**	**-1.0**
MT05	**Renca**	**5.08**	**30**		**Pn**	**19 08 36.7**	**-2.1**
MT03	**Universidad Ad**	**5.08**	**33**	*eP*	**Pn**	**19 08 37.9**	**-1.0**
MT03	**Universidad Ad**	**5.08**	**33**		**Pn**	**19 08 37.6**	**-1.3**
VA01	**Torpederas**	**5.10**	**21**	Pn	Pn	19 08 31.6	-7.4
GO07	**Milladeo Hill,**	**5.29**	**179**		Pb	19 08 48.5	-6.6
LL02	**Futaleuf**	**5.57**	**165**		Pb	19 08 53.0	-6.9
VA03	**San Esteban**	**5.70**	**29**		**Pn**	**19 08 44.9**	**-2.5**
H03S1	**Juan Fernandez**	**5.73**	**312**	T	T	19 14 16.2	
baz=129,slow=74,SNR=2008							
H03S3	**Juan Fernandez**	**5.75**	**312**	T	T	19 14 13.2	
baz=129,slow=74,SNR=1366							
H03S2	**Juan Fernandez**	**5.75**	**312**	T	T	19 14 17.9	
baz=129,slow=74,SNR=1834							
CO02	**Combarbal**	**6.99**	**20**		**Pn**	**19 09 02.2**	**-2.9**
CO03	**El Pedregal**	**7.42**	**21**		**Pn**	**19 09 08.7**	**-2.3**
GO04	**Tololo Observa**	**8.03**	**19**		**Pn**	**19 09 16.5**	**-2.9**
TRQA	**Tornquist**	**9.35**	**95**	Pn	Pn	19 09 43.4	+6.0
AC02	**Maricunga**	**11.64**	**21**		**Pn**	**19 10 06.0**	**-3.3**
PB15	**IPOC Station P**	**15.03**	**16**		Pn	19 10 46.6	-8.6
LVC	**Limon Verde**	**15.73**	**17**	*eP*	**Pn**	**19 11 03.9**	**-0.8**
ITQB	**Itaqui**	**16.43**	**65**	*eP*	**P**	**19 11 17.0**	**+1.1**
PB09	**IPOC Station P**	**16.45**	**15**		**Pn**	**19 11 10.9**	**-2.8**
PB09				IAmb	IAmb	19 11 25.5	
comp=Z,33nm,1.3s							
PB01	**IPOC Station P**	**17.13**	**14**	P	**Pn**	**19 11 20.2**	**-2.0**
PB01				IAmb	IAmb	19 11 32.6	
comp=Z,28nm,0.9s							
EFI	**East Falkland**	**17.75**	**146**		P	19 11 37.3	+6.9
EFI				IAmb	IAmb	19 11 53.2	
comp=Z,86nm,1.2s							
CPUP	**Villa Florida**	**18.03**	**55**	P	**P**	**19 11 36.7**	**+3.0**
comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=6.0							
CPUP	**Villa Florida**	**18.03**	**55**	P	**P**	**19 11 36.0**	**+2.3**
CPUP	**Villa Florida**	**18.03**	**55**	*eP*	**P**	**19 11 36.5**	**+2.8**
PB11	**IPOC Station P**	**18.35**	**13**	P	**P**	**19 11 33.9**	**-3.6**
PB11				IAmb	IAmb	19 11 46.8	
comp=Z,28nm,0.8s							
MNMC	**Minye Minye**	**18.98**	**12**	P	**P**	**19 11 42.5**	**-2.0**
MNMC				IAmb	IAmb	19 11 53.0	
comp=Z,17nm,0.9s							
PB16	**IPOC Station P**	**19.77**	**12**	P	**P**	**19 11 49.6**	**-3.9**
ITAB	**Concordia**	**21.06**	**66**	P		19 12 08.1	
ITAB				IAmb	IAmb	19 12 11.4	
comp=Z,22nm,1.0s							
ITAB	**Concordia**	**21.06**	**66**	*eP*		19 12 09.6	
LPAZ	**La Paz**	**22.03**	**15**	P	**P**	**19 12 18.6**	**+0.7**
comp=Z,3.5nm,0.9s,baz=193,slow=9.3,SNR=6.9							
LPAZ	**La Paz**	**22.03**	**15**	P	**P**	**19 12 14.2**	**-3.6**
LPAZ	**La Paz**	**22.03**	**15**	*eP*	**P**	**19 12 17.7**	**-0.2**
TER01	**Tubaro-SC**	**22.58**	**73**	*eP*	**P**	**19 12 28.2**	**+5.0**
AQDB	**Aquidauana**	**23.35**	**47**	P	**P**	**19 12 30.6**	**-0.6**
AQDB				IAmb	IAmb	19 12 43.8	
comp=Z,11nm,0.6s							
AQDB	**Aquidauana**	**23.35**	**47**	*eP*	**P**	**19 12 31.6**	**+0.4**
TRCB	**Terra Rica**	**23.55**	**57**	P	**P**	**19 12 34.0**	**+0.9**
TRCB	**Terra Rica**	**23.55**	**57**	*eP*	**P**	**19 12 34.9**	**+1.7**
SIV	**San Ignacio**	**24.48**	**31**	P	**P**	**19 12 43.5**	**+1.5**
comp=Z,0.8nm,0.3s,baz=222,slow=12,SNR=5.6							
FRTB	**Fartura**	**25.28**	**62**	*eP*	**P**	**19 12 52.0**	**+2.9**
PCMB	**Pacaembu**	**25.29**	**57**	*eP*	**P**	**19 12 51.1**	**+1.9**
PTLB	**Pontes e Lacer**	**25.79**	**34**	*eP*	**P**	**19 12 55.2**	**+1.5**
PP1B	**Ponte de Pedra**	**26.11**	**45**	*eP*	**P**	**19 12 58.4**	**+1.7**
PET01	**Itanhaem-SP**	**26.32**	**67**	*eP*	**P**	**19 13 02.8**	**+4.2**
SPB	**Sao Paulo**	**26.63**	**65**	*eP*	**P**	**19 13 06.9**	**+5.5**
SALV	**Santo Antonio**	**27.06**	**41**	*eP*	**P**	**19 13 06.7**	**+1.4**
ITRB	**Iturama**	**27.23**	**55**	*eP*	**P**	**19 13 11.5**	**+4.7**
RCLB	**Rio Claro- Sao**	**27.30**	**63**	*eP*	**P**	**19 13 10.8**	**+3.3**
VAO	**Valinhos**	**27.34**	**65**	*eP*	**P**	**19 13 11.8**	**+4.0**
BB19B	**Bebedouro**	**27.50**	**60**	*eP*	**P**	**19 13 12.7**	**+3.5**
ETMB	**Extrema**	**28.71**	**16**	*eP*	**P**	**19 13 21.3**	**+1.3**
ESAR	**Angra dos Reis**	**29.16**	**68**	*eP*	P	19 13 28.4	+4.5
VAS01	**Vassouras-RJ**	**30.34**	**68**	*eP*	P	19 13 39.5	+5.1
CLDB	**Colider**	**31.33**	**36**	*eP*	**P**	**19 13 45.9**	**+2.8**
BDFB	**Brasilia**	**31.73**	**53**	P	P	19 13 51.1	+4.3
comp=Z,2.3nm,0.6s,baz=221,slow=9.3,SNR=1.8							
SNDB	**Serra Nova Dou**	**32.68**	**44**	*eP*	**P**	**19 13 58.4**	**+3.3**
RIB01	**Linhares ES**	**34.41**	**67**	*eP*	**P**	**19 14 12.4**	**+2.3**
JANB	**Januaria**	**34.56**	**57**	*eP*	**P**	**19 14 13.6**	**+2.1**
SDBA	**SAO DESIDERIO**	**36.13**	**53**	*eP*	**P**	**19 14 26.8**	**+1.7**
GUA01	**Guaratinga, BA**	**36.60**	**64**	*eP*	P	19 14 33.1	+4.1
SMTB	**Santa Maria do**	**37.29**	**46**	*eP*	**P**	**19 14 37.0**	**+2.1**
CMC01	**Camacan, BA**	**37.63**	**63**	*eP*	**P**	**19 14 40.8**	**+3.0**
NBPN	**Ponto Novo - B**	**40.35**	**57**	*eP*	**P**	**19 15 03.3**	**+2.8**
BOAV	**Boa Vista**	**41.87**	**20**	*eP*	**P**	**19 15 13.4**	**+0.5**
SNAA	**Sanae**	**48.63**	**157**	P	P	19 16 13.9	+7.7
comp=Z,4.6nm,0.8s,baz=253,slow=7.8,SNR=14							
SNAA	**Sanae**	**48.63**	**157**	P	P	19 16 13.4	+7.3
QSPA	**South Pole Qui**	**52.42**	**180**	LR	LR	19 37 05.3	
comp=Z,465nm,21.5s,baz=43,slow=34							
SYO	**Syowa Base**	**62.85**	**158** ⇑	*e* PcP	**PcP**	**19 18 19.8**	**-6.5**
TXAR	**Lajitas Array**	**72.42**	**333**	P	**P**	**19 18 49.6**	**+0.6**
comp=Z,0.3nm,0.8s,baz=155,slow=6.9,SNR=3.7							
TXAR	**Lajitas Array**	**72.42**	**333**	P	**P**	**19 18 49.2**	**+0.2**
BOSA	**Boshof**	**79.56**	**118**	P	P	19 19 36.0	+5.9
comp=Z,2.7nm,0.9s,baz=224,slow=4.2,SNR=3.9							
BOSA	**Boshof**	**79.56**	**118**	P	P	19 19 35.6	+5.5
TORD	**Torodi Ar. Bea**	**86.84**	**71**	P	**P**	**19 20 11.1**	**+3.5**
comp=Z,1.5nm,1.0s,baz=234,slow=4.7,SNR=3.4							
MNK	**Minsk**	**126.13**	**45**	*i* PKP	**PKiKP**	**19 26 27.4**	**+2.6**
comp=E,1.0nm,0.9s							
MNK				*i* PKP	**PKiKP**	**19 26 27.4**	**+2.6**
comp=N,9.0nm,1.1s							
MNK				*i* PKP	**PKiKP**	**19 26 27.4**	**+2.6**
comp=Z,28nm,0.9s,baz=238							
MNK				*i* pPKP	sPKPdf	19 26 40.8	+12
MNK				*i* SKP		19 29 45.2	
MNK				*i* PKS	PKSdf	19 29 51.9	-8.8
MNK				*i* PPP	PPP	19 33 11.2	
MNK				*i* SKKS		19 42 14.6	
MNK				*i* SSS	SSS	19 54 35.4	
MNK				*i* LQ	LQ	20 25 26.4	
MNK				*i* LR	LR	20 31 34.4	
MNK				*i* LRM	MLR	20 36 30.8	
comp=N,102nm,21.0s							
MNK				*i* LRM	MLR	20 36 46.7	
MNK				*i* LRM	MLR	20 37 00.7	
comp=E,6.0nm,19.7s							
MKAR	**Makanchi Array**	**160.24**	**55**	PKPab	**PKPab**	**19 28 05.1**	**+2.8**
comp=E,0.9nm,0.9s,baz=290,slow=3.6,SNR=3.8							
MKAR	**Makanchi Array**	**160.24**	**55**		**PKPab**	**19 28 04.9**	**+2.5**

IDC 02 19:14:26.1±7.7, 4°.97S×145°.84E, h170km±81km, mb3.3/3, mb1 3.5/5, mb1mx3.1/48, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=85.0km s-min=24.5km az=140.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.60**	**164**	P	Pn	19 15 34.9	+0.3
2.2nm,0.3s,baz=350,slow=11,SNR=14							
PMG				S	Sn	19 16 28.1	-0.3
2.6nm,0.3s,baz=164,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**18.62**	**216**	P	P	19 18 31.3	+0.5
0.3nm,0.3s,baz=38,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.86**	**211**	P	P	19 19 06.4	+1.0
0.5nm,0.4s,baz=39,slow=6.6,SNR=7.1							
FITZ	**Fitzroy Crossi**	**23.66**	**235**	P	P	19 19 21.2	-1.1
2.4nm,0.5s,baz=44,slow=9.5,SNR=12							
FITZ				LR	LR	19 28 02.6	
comp=Z,179nm,21.6s,baz=210,slow=34							
ILAR	**Eielson Array**	**85.00**	**23**	P	P	19 26 42.3	+0.3
0.9nm,0.7s,baz=258,slow=5.2,SNR=8.2							

IDC ***02*** *19:22:39.0±0.5, 31°.94S×177°.95W, h0km, mb4.7/20, mb1 4.8/23, mb1mx4.7/46, mbtmp4.7/23, ML5.0/3, MS4.3/10, Ms1 4.3/10, ms1mx4.0/32, Error ellipse: s-maj=17.6km s-min=14.2km az=98.0*
BJI ***02*** *19:22:42.2±0.0, 31°.70S×176°.97W, h44km, mB5.6/15, mb5.2/19, Ms5.2/6, Ms7 4.8/6*
MOS ***02*** *19:22:42.7±1.1, 31°.90S×178°.06W, h29km, mb5.4/9, Error ellipse: s-maj=12.0km s-min=9.1km az=84.8*
NEIC ***02*** *19:22:42.2±1.7, 31°.96S±0°.07×178°.0W±0°.1, h16km±3km, mb5.0/78, Error ellipse: s-maj=17.2km s-min=9.6km az=98.0*
GCMT ***02*** *19:22:44.2±0.4, 32°.04S±0°.04×177°.62W±0°.04, h18km±1km, MW4.9/71, Moment Tensor Solution. s21,c26; s71,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.55±.23; Mθθ-0.55±.14; Mφφ-2.00±.15; Mrθ-0.06±.42; Mrφ-0.93±.09; Mθφ2.02±.34; Best double couple: M0 3.20500×10^16 NP1:φs219.00000°, δ29.00000°, λ116.00000°. NP2: φs10.00000°, δ65.00000°, λ77.00000°. Principal axes: T 3.3570, Plg68.0000°, Azm254.0000°; N -0.3070, Plg12.0000°, Azm16.0000°; P -3.0540, Plg19.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 19:22:42.5±0.3, 32°.13S±0°.03×178°.06W±0°.06, h24km, n444, σ1°29/439, mb5.0/71, MS4.4/11, 9C-11D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.86**	**2**

BFZ Birch Farm 9.69 207 Pn **Pn** **19 24 58.3 -2.1**
MRZ Mangatainoka R 9.94 209 P Pn 19 24 58.8 -5.0
MRZ S **Sn** **19 26 48.6 -5.9**
HOWZ Holdsworth Sta 10.16 209 P **Pn** **19 25 03.7 -3.2**
HOWZ S Sn 19 26 50.5 -10
MSWZ Moikau Station 10.71 208 Pn **Pn** **19 25 14.0 -0.3**
BHW Baring Head 10.85 209 Pn **Pn** **19 25 14.7 -1.6**
TUWZ Tuamarina 11.28 212 Pn **Pn** **19 25 18.9 -3.2**
CMWZ Cape Campbell 11.41 211 Pn **Pn** **19 25 26.3 +2.3**
BSWZ Blackbirch Sta 11.53 212 Pn **Pn** **19 25 24.0 -1.6**
THZ Tophouse 12.02 214 Pn **Pn** **19 25 29.9 -2.5**
LTZ Lake Taylor 13.11 213 Pn Pn 19 25 43.0 -4.2
OXZ Oxford 13.64 212 Pn Pn 19 25 49.9 -4.4
RPZ Rata Peaks 14.39 213 Pn Pn 19 26 00.5 -4.2
MSVF Nonsavu 14.76 345 Pn **Pn** **19 26 08.2 -1.7**
0.4nm,0.3s,baz=164,slow=12,SNR=6.5
MSVF LR LR 19 29 58.2
comp=Z,494nm,19.0s,baz=171,slow=30
OUENC Ouen Island, N 16.53 302 **Pn** **19 26 32.9 +0.1**
MLZ Mavora Lakes 17.02 215 Pn **Pn** **19 26 37.1 -1.8**
DZM Mont Dzumac 17.03 302 P **P** **19 26 43.1 +2.2**
0.4nm,0.3s,baz=97,slow=13,SNR=3.9
DZM LR LR 19 32 04.6
comp=Z,3μm,18.0s,baz=126,slow=33
DZM Mont Dzumac 17.03 302 *e*P **P** **19 26 43.6 +2.7**
196nm,1.2s
DZM *e*LR LR 19 30 37.8
comp=Z,2μm,23.0s
DZM Mont Dzumac 17.03 302 **P** **19 26 40.5 -0.4**
DZM IAmb IAmb 19 26 57.8
comp=Z,94nm,1.2s
WHZ Wether Hill Ro 17.49 214 Pn **Pn** **19 26 41.7 -3.0**
AFI Afiamalu 19.02 19 P **P** **19 27 00.8 -2.1**
comp=Z,4.7nm,0.3s,baz=234,slow=19,SNR=2.3
AFI Afiamalu 19.02 19 IAmb IAmb 19 27 16.4
comp=Z,110nm,1.1s
ARMA Armidale 25.92 266 P **P** **19 28 13.3 +0.3**
ARMA IAmb IAmb 19 28 32.2
comp=Z,36nm,1.1s
MGCD Mangrove Creek 25.93 259 P **P** **19 28 14.2 +1.2**
baz=26,SNR=15
TBI Tubuai 26.72 78 *e*LQ LQ 19 33 24.4
comp=Z,729nm,25.2s
TBI *e*LR LR 19 34 50.8
comp=Z,492nm,22.5s,baz=231
CNB Canberra Magne 27.21 254 P **P** **19 28 26.3 +1.7**
baz=28,SNR=10.0
CAN Canberra 27.51 254 P **P** **19 28 28.6 +1.3**
CAN pmax pmax
comp=Z,53nm,1.5s
CAN Canberra 27.51 254 P **P** **19 28 28.6 +1.3**
CAN IAmb IAmb 19 28 36.6
comp=Z,53nm,1.5s
EIDS Eidsvold 27.82 276 P **P** **19 28 31.8 +1.8**
baz=28,SNR=4.4
EIDS Eidsvold 27.82 276 P **P** **19 28 29.9 -0.1**
EIDS IAmb IAmb 19 28 43.7
comp=Z,20nm,1.1s
RMQ Roma 29.40 272 P **P** **19 28 46.0 +1.9**
baz=30,SNR=9.7
PPT2 Papeete2 29.51 67 *e*LR LR 19 36 07.2
comp=Z,303nm,21.5s,baz=258
PPT Papeete 29.52 67 LR LR 19 38 39.6
comp=Z,341nm,18.4s,baz=244,slow=33
TOO Toolangi 30.27 249 P **P** **19 28 53.9 +2.1**
baz=31,SNR=6.8
TOO Toolangi 30.27 249 P **P** **19 28 53.6 +1.8**
TOO pmax pmax
comp=Z,36nm,1.4s
TOO Toolangi 30.27 249 **P** **19 28 53.6 +1.8**
TOO IAmb IAmb 19 28 59.9
comp=Z,36nm,1.4s
CMSA Cobar Meteorol 30.71 261 P **P** **19 28 57.9 +2.3**
baz=31,SNR=36
QLP Quilpie 33.21 270 P **P** **19 29 19.0 +1.4**
baz=33,SNR=7.4
ARPS Mount Arapiles 33.22 251 P **P** **19 29 19.4 +1.8**
baz=34,SNR=13
CTA Charters Tower 34.06 282 P **P** **19 29 27.0 +1.8**
comp=Z,26nm,0.6s,baz=105,slow=10,SNR=35
CTAO Charters Tower 34.06 282 P **P** **19 29 26.9 +1.8**
CTAO pmax pmax
comp=Z,38nm,0.8s
CTAO Charters Tower 34.06 282 P **P** **19 29 26.9 +1.8**
STKA Stephens Creek 34.07 259 P **P** **19 29 26.9 +1.8**
comp=Z,8.4nm,0.6s,baz=102,slow=11,SNR=28
STKA LR LR 19 41 57.2
comp=Z,742nm,18.3s,baz=73,slow=34
STKA Stephens Creek 34.07 259 P **P** **19 29 27.1 +2.0**
baz=34,SNR=19
STKA Stephens Creek 34.07 259 P **P** **19 29 27.1 +2.0**
HTT Hallett 36.00 256 P **P** **19 29 42.8 +1.0**
baz=36,SNR=17
MTSU Mount Surprise 36.60 283 P **P** **19 29 49.1 +2.1**
baz=37,SNR=20
BBOO Buckleboo 38.48 256 P **P** **19 30 03.0 +0.3**
baz=39,SNR=21
BBOO Buckleboo 38.48 256 P **P** **19 30 02.7 -0.1**
BBOO IAmb IAmb 19 30 04.8
comp=Z,20nm,0.8s
RABL Rabaul 39.38 309 P **P** **19 30 09.1 -1.4**
QIS Mount Isa 39.42 276 P **P** **19 30 11.7 +0.9**
baz=40,SNR=6.2
TAOE Nuku Hiva Isla 42.06 65 *e*LR LR 19 41 47.8
comp=Z,246nm,23.6s
AS31 Alice Springs 42.99 269 P **P** **19 30 40.5 +0.3**
ASAR Alice Springs 42.99 269 P **P** **19 30 40.5 +0.3**
comp=Z,18nm,0.6s,baz=105,slow=7.6,SNR=245
ASAR PcP **PcP** **19 32 29.8 -0.6**
comp=Z,1.1nm,0.6s,baz=109,slow=5.0,SNR=1.0
ASAR ScP **ScP** **19 36 23.4 +3.5**
comp=Z,0.2nm,0.7s,baz=109,slow=4.4,SNR=4.3
ASAR S **S** **19 37 03.8 -0.6**
comp=Z,2.3nm,1.0s,baz=110,slow=16,SNR=7.1
WR0 Warramunga Arr 43.96 274 P **P** **19 30 48.1 +0.2**
WR0 IAmb IAmb 19 30 49.4
comp=Z,47nm,1.3s
WB2 Warramunga Arr 44.13 274 P **P** **19 30 49.4 +0.1**
WRAB Tennant Creek 44.13 274 *c i*P **P** **19 30 49.1 -0.2**
WRAB pmax pmax
comp=Z,65nm,1.4s
WRAB Tennant Creek 44.13 274 P **P** **19 30 49.4 +0.1**
WRA Warramunga Arr 44.14 274 P **P** **19 30 49.5 +0.1**
comp=Z,23nm,0.5s,baz=113,slow=7.8,SNR=399
WRA ScP **ScP** **19 36 27.3 +2.7**
comp=Z,0.8nm,0.7s,baz=113,slow=3.5,SNR=3.2
WRA S **S** **19 37 20.4 -0.7**
comp=Z,0.8nm,0.9s,baz=109,slow=14,SNR=2.4
WRA Warramunga Arr 44.14 274 P **P** **19 30 48.4 -1.0**
WRA pmax pmax
comp=Z,3.0nm,1.3s
WRA Warramunga Arr 44.14 274 P **P** **19 30 48.4 -1.0**
WB0 Warramunga Arr 44.17 274 P **P** **19 30 49.4 -0.3**
PATS Pohnpei 44.82 326 P **P** **19 30 53.7 -1.0**
baz=45,SNR=3.4
FORT Forrest 45.58 257 P **P** **19 31 00.5 -0.2**
baz=46,SNR=23
FORT Forrest 45.58 257 P **P** **19 31 00.7 0.0**
SBA Scott Base 46.32 184 P **P** **19 31 07.1 +1.2**
SBA pmax pmax
comp=Z,21nm,1.1s
SBA Scott Base 46.32 184 P **P** **19 31 07.1 +1.2**
SBA IAmb IAmb 19 31 31.7
comp=Z,22nm,1.1s
VNDA Vanda 46.38 186 P **P** **19 31 08.4 +2.0**
comp=Z,1.6nm,0.8s,baz=17,slow=6.6,SNR=7.2
VNDA Vanda 46.38 186 P **P** **19 31 05.6 -0.8**
VNDA pmax pmax
comp=Z,8.0nm,1.4s
VNDA Vanda 46.38 186 P **P** **19 31 05.6 -0.8**
WRKA Warakurna 47.23 264 P **P** **19 31 12.9 -0.9**
baz=48,SNR=57
GENI Genyem 49.01 298 P **P** **19 31 29.2 +1.6**
comp=Z,29nm,0.8s
KNRA Kununurra 50.80 276 P **P** **19 31 41.3 +0.1**
baz=51,SNR=13
KNRA Kununurra 50.80 276 P **P** **19 31 41.0 -0.2**
FITZ Fitzroy Crossi 52.33 271 P **P** **19 31 52.5 -0.1**
baz=52,SNR=12
FITZ Fitzroy Crossi 52.33 271 P **P** **19 31 52.8 +0.2**
FITZ IAmb IAmb 19 32 07.6
comp=Z,35nm,1.4s
CASY Casey 53.60 208 P **P** **19 32 02.0 +0.7**
KLBR Kellerberrin 53.76 252 P **P** **19 32 01.9 -1.2**
baz=54,SNR=5.1
MEEK Meekatharra 54.77 258 P **P** **19 32 09.5 -0.9**
baz=55,SNR=6.9
FAKI Fak Fak 54.90 291 P **P** **19 32 11.3 -0.2**
PSA00 Pilbara Seismi 55.73 264 P **P** **19 32 16.5 -1.0**
PSA00 IAmb IAmb 19 32 35.3
comp=Z,16nm,1.1s
MORW Morawa 56.01 255 P **P** **19 32 18.2 -1.1**
baz=56,SNR=6.1
MORW Morawa 56.01 255 P **P** **19 32 17.9 -1.4**
MORW IAmb IAmb 19 32 36.2
comp=Z,11nm,1.0s
BATI Baumata 57.84 278 LR LR 19 57 53.2
comp=Z,884nm,18.3s,baz=136,slow=36
QSPA South Pole Qui 57.99 180 P **P** **19 32 35.1 +2.1**
comp=Z,16nm,1.1s,baz=46,slow=6.0,SNR=33
QSPA South Pole Qui 57.99 180 P **P** **19 32 35.0 +2.1**
NLAI Namlea 58.83 287 P **P** **19 32 40.1 +0.7**
comp=Z,1μmcomp=Z,15nm,0.7s
RPN Rapa Nui 59.04 104 LR LR 19 54 22.9
comp=Z,281nm,18.3s,baz=234,slow=32
MAW Mawson 70.68 201 P **P** **19 33 57.3 +1.5**
comp=Z,7.2nm,1.0s,baz=148,slow=6.5,SNR=5.5
STKI Sintang 73.55 281 P **P** **19 34 15.2 +1.3**
comp=Z,13nm,1.3s
SYO Syowa Base 75.42 193 ⇑ *e*P **P** **19 34 25.0 +1.1**
SYO Syowa Base 75.42 193 ⇓ *e*sP sP 19 34 32.0 0.0
SNAA Sanae 76.44 178 P **P** **19 34 30.4 +0.7**
SNAA Sanae 76.44 178 *c i*P **P** **19 34 30.1 +0.4**
SNAA pmax pmax
comp=Z,16nm,1.0s
SNAA Sanae 76.44 178 P **P** **19 34 30.5 +0.8**
VNA3 Neumayer Olymp 76.59 176 P **P** **19 34 30.9 +0.4**
VNA3 Neumayer Olymp 76.59 176 PcP **PcP** **19 34 41.5 -0.6**
VNA2 Neumayer--Watz 77.02 177 P **P** **19 34 33.8 +0.8**
baz=176,slow=4.5
VNA2 Neumayer--Watz 77.02 177 PcP **PcP** **19 34 43.4 -0.5**
VNA1 Neumayer--Stat 77.25 177 P **P** **19 34 35.0 +0.7**
LL02 Futaleuf 79.18 134 P **P** **19 34 45.0 -0.5**
H03S2 Juan Fernandez 79.56 123 T T 21 02 13.6
baz=239
H03S1 Juan Fernandez 79.57 123 T T 21 02 16.3
baz=239,slow=74,SNR=3.7
H03S3 Juan Fernandez 79.58 123 T T 21 02 15.2
baz=239,slow=74,SNR=4.5
MJAR Matsushiro Arr 79.63 326 P **P** **19 34 46.6 -1.2**
comp=Z,24nm,1.5s,baz=155,slow=6.4,SNR=6.8
MJAR Matsushiro Arr 79.63 326 P **P** **19 34 46.1 -1.7**
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 79.63 326 P **P** **19 34 46.1 -1.7**
MAT Matsushiro 79.63 326 P **P** **19 34 50.2 +2.4**
JHS Saijyo 81.00 321 P **P** **19 34 56.2 +1.0**
JHS IAmb IAmb 19 34 59.6
comp=Z,12nm,0.8s
PLCA Paso Flores 81.37 133 P **P** **19 34 57.4 0.0**
comp=Z,6.6nm,1.0s,baz=222,slow=7.0,SNR=7.8
PLCA LR LR 20 04 35.1
comp=Z,189nm,18.6s,baz=214,slow=31
PLCA Paso Flores 81.37 133 P **P** **19 34 57.1 -0.3**
PLCA pmax pmax
comp=Z,30nm,1.5s
PLCA Paso Flores 81.37 133 P **P** **19 34 57.1 -0.3**
PLCA IAmb IAmb 19 35 01.9
comp=Z,30nm,1.4s
JKA Kamikawa-asahi 83.94 333 P **P** **19 35 10.7 +0.4**
JKA Kamikawa-asahi 83.94 333 IAmb IAmb 19 35 19.8
comp=Z,16nm,1.0s
ASAJ Asahikawa 83.94 333 P **P** **19 35 10.7 +0.4**
comp=Z,5.8nm,0.7s,baz=129,slow=9.1,SNR=6.9
BO02 Sierra Bellavi 84.65 128 P **P** **19 35 13.2 -1.3**
MT01 Popeta 84.87 127 P **P** **19 35 14.5 -1.0**
KSRS Korea Array 85.63 320 P **P** **19 35 19.1 +0.2**
comp=Z,2.4nm,0.9s,baz=142,slow=5.6,SNR=7.7
PKM Mcpherson Peak 86.23 44 P **P** **19 35 23.2 +1.0**
baz=226
YSS Yuzh-Sakhalins 86.28 334 *e*P **P** **19 35 22.6 +0.7**
YSS pmax pmax
comp=Z,30nm,0.7s
PMPB Monarch Peak 86.57 43 P **P** **19 35 24.3 +0.6**
PMPB IAmb IAmb 19 35 47.7
comp=Z,14nm,1.2s
SAO San Andreas Ge 86.59 42 P **P** **19 35 24.4 +0.7**
SAO pmax pmax
comp=Z,12nm,1.2s
SAO San Andreas Ge 86.59 42 P **P** **19 35 24.4 +0.7**
SAO IAmb IAmb 19 35 36.4
comp=Z,12nm,1.1s
MURC Murrieta 86.95 47 P **P** **19 35 26.2 +0.6**
baz=228
MONP2 Monument Peak 86.96 48 P **P** **19 35 26.6 +0.8**
baz=228
IKP In-Ko-Pah, Jac 87.00 48 P **P** **19 35 26.8 +0.9**
baz=228
CO03 El Pedregal 87.02 125 P **P** **19 35 25.4 -0.9**
BFSC Mount Baldy Ra 87.09 46 P **P** **19 35 27.2 +0.8**
baz=227
EDW2 Edwards Air Fo 87.32 46 P **P** **19 35 27.4 0.0**
baz=227,SNR=5.7
NJ2 Nanjing 87.33 311 *e*P **P** **19 35 30.0 +2.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
SWSC Sam W. Stewart 87.39 48 P **P** **19 35 28.2 +0.6**
baz=228
TPFO Pinon Flats 87.41 47 P **P** **19 35 28.5 +0.5**
baz=228
PFO Pinyon Flats O 87.41 47 P **P** **19 35 27.6 -0.4**
comp=Z,1.2nm,0.4s,baz=182,slow=4.8,SNR=5.8
PFO Pinyon Flats O 87.41 47 *ce*P **P** **19 35 29.1 +1.1**
PFO Pinyon Flats O 87.41 47 P **P** **19 35 28.5 +0.5**
baz=228
PEA0B Petropavlovsk- 87.47 346 ⇓ *i*P **P** **19 35 27.6 0.0**
PETK Petropavlovsk- 87.47 346 P **P** **19 35 27.4 -0.1**
comp=Z,6.7nm,0.7s,baz=138,slow=6.0,SNR=11
PETK Petropavlovsk- 87.47 346 P **P** **19 35 27.1 -0.5**
PETK Petropavlovsk- 87.47 346 P **P** **19 35 27.1 -0.5**
ISA Isabella, Lake 87.56 45 P **P** **19 35 28.6 0.0**
ISA pmax pmax
comp=Z,16nm,1.1s
ISA Isabella, Lake 87.56 45 P **P** **19 35 28.8 +0.3**
baz=227,SNR=7.4
ISA Isabella, Lake 87.56 45 P **P** **19 35 28.6 0.0**
MSHR Mys Shultsa 87.74 325 ⇓ *i*P **P** **19 35 29.5 +0.4**
MSHR pmax pmax
comp=Z,12nm,1.3s
LRMC Laurel Mtn Rad 87.91 45 P **P** **19 35 29.9 -0.4**
baz=227,SNR=9.9
BELC Belle Mtn. Jos 87.96 47 P **P** **19 35 30.8 +0.3**
baz=228,SNR=5.7
BC3 Big Chuckawall 88.07 48 P **P** **19 35 31.6 +0.5**
baz=229,SNR=7.1
GLA Glamis 88.07 49 P **P** **19 35 31.8 +0.8**
baz=229
CMB Columbia Colle 88.08 42 P **P** **19 35 30.1 -0.8**
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 88.08 42 P **P** **19 35 30.1 -0.8**
CMB IAmb IAmb 19 35 35.1
comp=Z,5.6nm,1.0s
O02D Mt. Diablo Mer 88.27 39 P **P** **19 35 33.0 +1.2**
baz=224
HEC Hector,Ludlow 88.30 46 P **P** **19 35 32.9 +0.8**
baz=228
CWC Cottonwood Cre 88.32 44 P **P** **19 35 32.5 +0.3**
baz=227
GSC Goldstone, Bar 88.32 46 P **P** **19 35 31.7 -0.5**
GSC pmax pmax
comp=Z,14nm,1.2s
GSC Goldstone, Bar 88.32 46 P **P** **19 35 32.0 -0.2**
baz=228,SNR=5.7
GSC Goldstone, Bar 88.32 46 P **P** **19 35 31.6 -0.5**
GSC IAmb IAmb 19 35 43.0
comp=Z,14nm,1.1s
MPMC Manual Prospec 88.42 45 P **P** **19 35 32.7 0.0**
baz=227,SNR=11
USRK Ussuriysk Ar. 88.57 327 P **P** **19 35 32.6 -0.4**
comp=Z,8.0nm,0.9s,baz=175,slow=4.6,SNR=11
USRK Ussuriysk Ar. 88.57 327 P **P** **19 35 32.8 -0.2**
IRM Iron Mountain 88.59 48 P **P** **19 35 33.4 -0.1**
baz=229,SNR=13
GMRC Granite Mounta 88.68 47 P **P** **19 35 34.0 +0.1**
baz=228,SNR=5.7
O03E Paynes Creek 88.88 40 P **P** **19 35 35.7 +1.0**
baz=225
N02D Trinity Center 88.88 39 P **P** **19 35 36.1 +1.4**
baz=224
WAKR Walker 88.94 42 P **P** **19 35 35.3 +0.1**
WAKR IAmb IAmb 19 35 46.5
comp=Z,8.1nm,1.1s
TUQ Turquoise Moun 88.95 46 P **P** **19 35 35.9 +0.7**
baz=228
FURC Furnace Creek, 89.06 45 P **P** **19 35 36.2 +0.7**
baz=228
M02C Callahan 89.10 38 P **P** **19 35 37.4 +1.7**
baz=224
GRAC Grapevine Rang 89.12 44 P **P** **19 35 36.6 +0.7**
baz=228,SNR=7.5
PNTR Pine Nut 89.25 42 P **P** **19 35 36.6 -0.1**
PNTR IAmb IAmb 19 35 47.0
comp=Z,16nm,1.2s
L02E Cave Junction 89.27 37 P **P** **19 35 38.2 +1.8**
baz=224
LHV Little Huntoon 89.30 43 P **P** **19 35 37.2 +0.6**
LHV IAmb IAmb 19 35 48.0
comp=Z,10.0nm,1.2s
PDMCI Parker Dam,Lak 89.32 48 P **P** **19 35 38.1 +1.3**
baz=229
BEKR Beckworth 89.37 41 P **P** **19 35 36.0 -1.1**
YERR Yerington 89.38 42 P **P** **19 35 37.3 +0.1**
NVAR Mina Array Bea 89.54 43 P **P** **19 35 38.1 0.0**
comp=Z,6.1nm,1.1s,baz=219,slow=7.5,SNR=22
NVAR Mina Array Bea 89.54 43 P **P** **19 35 37.5 -0.5**
RYN Ryan 89.55 42 P **P** **19 35 36.7 -1.2**
RYN IAmb IAmb 19 35 50.9
comp=Z,7.8nm,1.2s
TYV Tymovskoe 89.61 336 *e*P **P** **19 35 38.4 +0.7**
TYV *e* 19 46 26.8
TYV pmax pmax
comp=Z,18nm,1.1s
NV11 Mina Array Sit 89.63 43 P **P** **19 35 37.8 -0.6**
TPNV Topopah Spring 89.75 45 P **P** **19 35 37.8 -1.2**
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV Topopah Spring 89.75 45 P **P** **19 35 38.5 -0.5**
baz=228,SNR=6.2
TPNV Topopah Spring 89.75 45 P **P** **19 35 37.8 -1.2**
TPNV IAmb IAmb 19 35 49.7
comp=Z,8.2nm,1.0s
PAHR Pah Rah Range 89.80 41 P **P** **19 35 38.5 -0.7**
PAHR IAmb IAmb 19 35 49.3
comp=Z,5.9nm,1.0s
Y14A Wickenburg 89.81 49 P **P** **19 35 39.4 +0.3**
Y14A IAmb IAmb 19 36 07.5
comp=Z,9.2nm,0.9s
J01E Myrtle Point 89.83 36 P **P** **19 35 40.5 +1.5**
baz=223
M04C Macdoel 89.92 38 P **P** **19 35 40.6 +1.0**
baz=225
TPH Tonopah 89.93 44 P **P** **19 35 39.6 -0.2**
TPH pmax pmax
comp=Z,38nm,1.0s
TPH Tonopah 89.93 44 P **P** **19 35 39.6 -0.2**
L04D Klamath Falls 89.98 38 P **P** **19 35 40.8 +0.9**
baz=224
W13A Hualapai Mount 89.99 48 P **P** **19 35 40.2 -0.1**
W13A IAmb IAmb 19 35 51.2
comp=Z,9.8nm,1.0s
MDJ Mudanjiang 90.02 326 P **P** **19 35 40.6 +0.8**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,230nm,5.4s
MDJ Mudanjiang 90.02 326 P **P** **19 35 39.8 0.0**
KVN Kaiserville 90.08 42 P **P** **19 35 39.6 -0.9**
KVN pmax pmax
comp=Z,7.0nm,1.2s
KVN Kaiserville 90.08 42 P **P** **19 35 39.6 -0.9**
KVN IAmb IAmb 19 35 51.1
comp=Z,7.2nm,1.2s
SHPR Sheep Range 90.12 46 P **P** **19 35 40.2 -0.5**
NONG Nongkai 90.36 291 P **P** **19 35 43.2 +1.2**
PRN Pahroc Range 90.77 45 P **P** **19 35 43.7 0.0**
PRN IAmb IAmb 19 35 55.0
comp=Z,11nm,1.1s
MOD Modoc Plateau 90.82 39 P **P** **19 35 43.2 -0.6**
MOD IAmb IAmb 19 35 56.3
comp=Z,8.9nm,1.1s
I04A Tendick Farm, 91.05 37 P **P** **19 35 44.9 +0.2**
baz=224
R11A Troy Canyon, C 91.07 44 P **P** **19 35 44.8 -0.3**
baz=229
K05A Summer Lake 91.08 38 P **P** **19 35 41.7 -3.4**
K05A IAmb IAmb 19 35 58.1
comp=Z,14nm,1.1s
J05D Fort Rock, OR 91.29 38 P **P** **19 35 47.0 +1.0**
baz=225
CN2 Changchun 91.48 323 *e*P **P** **19 35 45.6 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
LCMT Little Creek M 91.62 46 P **P** **19 35 46.9 -0.7**
LCMT IAmb IAmb 19 35 58.9
comp=Z,5.2nm,1.0s
PINE Pine Mountain 91.80 37 P **P** **19 35 45.7 -2.7**
PINE IAmb IAmb 19 36 01.5
comp=Z,11nm,1.1s
U15A North Rim 91.84 47 P **P** **19 35 49.3 +0.4**
U15A IAmb IAmb 19 35 59.4
comp=Z,11nm,1.1s
WUAZ Wupatki 91.84 49 P **P** **19 35 49.4 +0.6**
baz=231
WUAZ Wupatki 91.84 49 P **P** **19 35 49.4 +0.6**
WUAZ IAmb IAmb 19 35 50.6
comp=Z,6.3nm,0.9s
KNB Kanab 91.88 47 P **P** **19 35 49.3 +0.4**
KNB pmax pmax
comp=Z,9.0nm,1.0s
KNB Kanab 91.88 47 P **P** **19 35 49.3 +0.4**
KNB IAmb IAmb 19 36 02.3
comp=Z,9.3nm,1.0s
CCUT Cedar City 91.89 46 P **P** **19 35 49.4 +0.4**
I05D Terrebonne, OR 91.98 37 P **P** **19 35 50.0 +0.9**
baz=225
KLR Kul'dur 92.50 330 P **P** **19 35 51.5 +0.2**
comp=Z,5.9nm,1.0s,baz=114,slow=3.4,SNR=13
KLR Kul'dur 92.50 330 ⇓ *i*P **P** **19 35 51.4 +0.2**
KLR pmax pmax
comp=Z,12nm,1.3s
I07A Izee 92.75 38 P **P** **19 35 52.5 -0.2**
I07A IAmb IAmb 19 36 05.0
comp=Z,5.0nm,1.1s
ELK Elko 92.85 43 P **P** **19 35 53.2 -0.2**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 92.85 43 P **P** **19 35 53.2 -0.2**
MTPU Mount Pierson 92.92 46 P **P** **19 35 54.0 0.0**
MTPU IAmb IAmb 19 36 05.3
comp=Z,7.3nm,1.1s
TX31 Lajitas Ar. Si 93.36 57 P **P** **19 35 55.6 -0.2**
TX32 Lajitas Array 93.36 57 P **P** **19 35 55.7 -0.2**
TX32 IAmb IAmb 19 36 08.6
comp=Z,8.0nm,1.5s
TXAR Lajitas Array 93.36 57 P **P** **19 35 55.8 -0.1**
comp=Z,1.4nm,1.0s,baz=209,slow=6.9,SNR=9.9
TXAR Lajitas Array 93.36 57 P **P** **19 35 55.4 -0.5**
TXAR Lajitas Array 93.36 57 P **P** **19 35 55.4 -0.5**
MNTX Cornudas Mount 93.52 55 P **P** **19 35 56.9 +0.5**
baz=234
G08A Pilot Rock 93.86 37 P **P** **19 35 57.9 +0.1**
G08A IAmb IAmb 19 35 59.4
comp=Z,6.1nm,1.2s
MFID Camas Ranch 94.27 40 P **P** **19 35 59.7 0.0**
ANMO Albuquerque 94.69 51 ⇓ *e*P **P** **19 36 02.2 +0.2**
ANMO pmax pmax
comp=Z,2.0nm,1.3s
ANMO Albuquerque 94.69 51 P **P** **19 36 03.0 +1.1**
baz=234
HVU Hansel Valley 94.93 43 P **P** **19 36 02.5 -0.4**
HVU pmax pmax
comp=Z,3.0nm,0.9s
HVU Hansel Valley 94.93 43 P **P** **19 36 02.5 -0.4**
XAN Xi'an 95.11 307 P P 19 36 11.4 +7.7
XAN pP pwP 19 36 21.9 +5.6
XAN Xi'an 95.11 307 S S 19 47 27.7 +10
HHC Hu-ho-hao-te 97.39 314 *e*P Pdif 19 36 17.1 +3.0
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,87nm,5.0s
PDAR Pinedale Array 97.42 44 P **P** **19 36 12.8 -1.4**
comp=Z,0.6nm,0.8s,baz=256,slow=0.7,SNR=3.3
LPAZ La Paz 97.48 114 LR LR 20 14 15.5
comp=Z,63nm,18.0s,baz=282,slow=32
SEY Seymchan 97.64 347 P **P** **19 36 13.7 -0.7**
comp=Z,2.1nm,0.8s,baz=125,slow=6.8,SNR=5.1

SEY Seymchan 97.64 347‖ eP P 19 36 13.2 -1.2
ILAR Eielson Array 99.62 13 P Pdif 19 36 23.4 +0.2
comp=Z,0.3nm,0.7s,baz=268,slow=2.7,SNR=2.5
LZH Lanzhou 99.71 306 eP Pdif 19 36 25.1 +0.6
LZH pP sP 19 36 34.5 +1.4
LZH sP pwP 19 36 40.5 +3.4
LZH pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 104.38 318 PP PKiKP 19 41 04.1 +2.8
comp=Z,0.2nm,0.5s,baz=116,slow=9.8,SNR=1.5
WMQ Urumqi 114.24 308 ePKP PKiKP 19 41 20.0 +0.1
WMQ LR LR
comp=Z,330nm,20.1s
WMQ LR LR
comp=Z,270nm,18.9s
DGZ Jazzator, Alta 116.47 314‖ iPKIKP PKiKP 19 41 25.4 +1.3
MK31 Makanchi Array 118.83 309 PKIKP PKPdf 19 41 27.6 -0.9
MK31 Makanchi Array 118.83 309 PKPdf PKPdf 19 41 27.6 -0.9
MKAR Makanchi Array 118.83 309 PKP PKPdf 19 41 27.9 -0.7
comp=Z,1.5nm,0.8s,baz=202,slow=1.3,SNR=12
MKAR Makanchi Array 118.83 309 PKIKP PKPdf 19 41 27.1 -1.4
MKAR Makanchi Array 118.83 309 PKPdf PKPdf 19 41 27.1 -1.4
L58A Harry Jones Me 119.13 56 P PKiKP 19 41 30.3 +1.0
baz=252
ZALV Zalesovo Beam 119.28 318 PKP PKPdf 19 41 28.5 -0.6
comp=Z,0.7nm,0.5s,baz=116,slow=3.4,SNR=4.0
ZALV Zalesovo Beam 119.28 318 PKIKP PKPdf 19 41 27.1 -2.0
ZALV Zalesovo Beam 119.28 318 PKPdf 19 41 27.1 -2.0
NRIK Noril'sk 121.19 336‖ iPKIKP PKiKP 19 41 33.3 +0.8
L63A North Scituate 122.10 58 P PKiKP 19 41 36.7 +1.6
baz=254
CHGQ Chibougamau 122.25 48 P PKiKP 19 41 36.8 +1.6
baz=257
M64A Tiverton 122.30 58 P PKiKP 19 41 36.5 +1.0
baz=254
G61A St-Isidore-de- 123.04 54 P PKiKP 19 41 37.8 +0.9
baz=256
PKME Peaks-Kenny Pk 124.58 54 P PKiKP 19 41 40.8 +1.0
baz=257
E62A Clayton Lake 124.71 53 P PKiKP 19 41 40.7 +0.6
baz=258
KBL Kabul 124.83 292 PKIKP PKiKP 19 41 41.1 +0.1
KBL Kabul 124.83 292 PKPdf PKiKP 19 41 41.1 +0.1
GAR Garm 125.12 298 PKiKP 19 41 41.0 -0.4
H65A Eastbrook 125.18 55 P PKiKP 19 41 41.4 +0.3
baz=257
E63A Oxbow 125.41 53 P PKiKP 19 41 42.1 +0.6
baz=258
D63A Stockholm 125.74 52 P PKiKP 19 41 42.9 +0.8
baz=259
KK31 Karatay Array 125.97 303 PKIKP PKPdf 19 41 42.2 -0.2
KK31 Karatay Array 125.97 303 PKPdf PKPdf 19 41 42.2 -0.2
KKAR Karatay Array 125.97 303 PKIKP PKPdf 19 41 41.4 -1.0
KKAR Karatay Array 125.97 303 PKPdf PKPdf 19 41 41.4 -1.0
KKAR Karatay Array 125.97 303 PKPdf 19 41 42.1 -0.2
BRVK Borovoye 127.66 315‖ iPKIKP PKPdf 19 41 44.0 -1.2
SPA0 Spitsbergen Ar 133.42 356 ePKPdf PKiKP 19 41 55.8 -0.9
GEYT Alibeck 134.22 294 PKP PKiKP 19 41 59.1 -0.5
comp=Z,1.5nm,0.7s,baz=204,slow=3.2,SNR=2.5
ARU Arti 134.38 320 i PKIKP PKiKP 19 41 58.7 -0.5
ARU 19 44 28.8
ARU Arti 134.38 320 PKPdf PKiKP 19 41 59.1 -0.1
PRGR Permogore 139.29 330 ePKIKP PKPdf 19 42 06.0 -0.7
PRGR pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 140.26 347 PKhKP PKPpre 19 42 01.9
comp=Z,1.5nm,0.6s,baz=356,slow=3.6,SNR=13
ARCES ARCESS Array B 140.26 347 PKHKP PKPpre 19 42 02.3
ARCES ARCESS Array B 140.26 347 PKPpre 19 42 02.3
KTK1 Kautokeino 141.12 348 ePKPdf PKPdf 19 42 09.5 -0.5
KLMR Klimovskoe 142.25 331 ePKIKP PKPdf 19 42 10.7 -1.4
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 142.25 331 ePKPdf PKPdf 19 42 10.8 -1.4
KLMR AMP 19 42 19.8
comp=Z,10.0nm,1.0s
STEI Steigen 143.32 352 ePKPdf PKPdf 19 42 13.9 +0.1
LOF Lofoten 143.33 353 ePKPdf PKPdf 19 42 13.6 -0.2
GROC Groznyy 143.94 301 ePKIKP PKPbc 19 42 13.4 -0.1
GROC e 19 45 28.8
GROC pmax pmax
comp=Z,16nm,0.6s
GNI Garni 144.79 295‖ ePKIKP PKPdf 19 42 17.5 0.0
KONS Konsvik 144.95 352 ePKPbc PKPab 19 42 15.9 -0.1
MOR8 Moi Rana 145.10 351 ePKPbc PKPbc 19 42 15.6 -1.0
STOK Stokkvaagen 145.12 352 ePKPbc PKPdf 19 42 16.5 -0.4
VRH Novokhopyorsk 145.25 315 ePKP2 PKPbc 19 42 16.3 -1.1
VRH pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 145.35 300 i PKIKP PKPbc 19 42 17.6 -0.7
ZEI pmax pmax
comp=Z,25nm,1.2s
NCK Nalchik 145.52 301‖ ePKIKP PKPab 19 42 18.8 -0.1
ONI Oni 145.69 300 PKP2 PKPab 19 42 20.4 +0.8
ONI Oni 145.69 300 PKPab 19 42 20.4 +0.8
MOS Moscow 145.71 324 ePKP2 PKPdf 19 42 17.4 -0.9
MOS pmax pmax
comp=Z,99nm,1.0s
GOF Gofitskoye 145.74 304‖ ePKP2 PKPab 19 42 19.9 +0.3
GOF pmax pmax
comp=Z,64nm,0.8s
KBZ Khabaz 146.00 302 PKPbc PKPbc 19 42 19.9 -0.1
comp=Z,28nm,1.1s,baz=93,slow=1.1,SNR=19
KBZ Khabaz 146.00 302c iPKP2 PKPbc 19 42 19.5 -0.5
GEVA Gevas 146.06 292 PKPbc 19 42 20.2 -0.5
KARS Kars 146.06 296 PKP2 PKPbc 19 42 20.0 -0.5
KARS Kars 146.06 296 PKPbc 19 42 20.0 -0.5
KIV Kislovodsk 146.13 302 i PKP2 PKPbc 19 42 20.0 -0.6
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,442nm,25.0s
KIV Kislovodsk 146.13 302 PKPdf PKPbc 19 42 19.8 -0.8
NEY Neytrino 146.18 301‖ ePKP2 PKPab 19 42 21.2 -0.4
OBN Obninsk 146.54 324c iPKP2 PKPbc 19 42 20.2 -1.0
OBN e 19 45 41.9
OBN ePPP PPP 19 48 57.1
OBN pmax pmax
comp=Z,42nm,0.9s
OBN Obninsk 146.54 324 PKPbc 19 42 20.6 -0.7
FIA1 FINESS Array S 146.74 339 PKPdf PKPdf 19 42 20.2 +0.3
FINES FINESS Array B 146.74 339 PKPbc PKPbc 19 42 20.9 -0.8
comp=Z,27nm,0.7s,baz=50,slow=3.6,SNR=167
FINES FINESS Array B 146.74 339 PKP2 PKPdf 19 42 20.2 +0.3
FINES FINESS Array B 146.74 339 PKPdf PKPdf 19 42 20.2 +0.3
VSR Storozhevoye 146.76 316 ePKP2 PKPbc 19 42 21.0 -1.0
VSR pmax pmax
comp=Z,60nm,0.8s
VORD Divnogorie 146.77 316 ePKP2 PKPbc 19 42 21.4 -0.6
VORD pmax pmax
comp=Z,40nm,0.9s
NSS Namsos 146.98 352 ePKPdf PKPdf 19 42 19.9 -0.3
KOPT Kop Dagi 148.05 295 PKiKP 19 42 27.2 -0.9
MEF Metsahovi 148.22 339 eP PKPbc 19 42 24.4 -1.3
RAF Rauma 148.31 342 eP PKPbc 19 42 25.6 -0.4
VSU Vasula 148.77 335 eP PKPbc 19 42 25.8 -1.4
VSU Vasula 148.77 335c iPKP2 PKPbc 19 42 25.8 -1.4
AAL Aland 149.50 342 eP PKPbc 19 42 27.0 -1.9
MTSE Matsula 149.58 337 eP PKPbc 19 42 28.8 -0.4
DOMB Dombas 149.72 353 ePKPdf PKPdf 19 42 23.8 -1.0
NC303 NORSAR Array S 150.25 351 PKPbc 19 42 29.3 -1.5
NC405 NORSAR Array S 150.31 350 PKPdf 19 42 24.7 -1.1
UPP Uppsala 150.36 344 eP PKPbc 19 42 30.5 -0.5
NB201 NORSAR Array S 150.43 351 PKPdf 19 42 25.2 -0.8
NB2 NORSAR Subarra 150.44 351 PKP PKPbc 19 42 31.3 0.0
comp=Z,4.4nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 150.44 351 PKPbc PKiKP 19 42 31.5 -0.6
comp=Z,2.7nm,0.6s,baz=13,slow=4.1,SNR=19
GAZ Gaziantep 150.66 290 PKPbc 19 42 32.6 0.0
NC602 NORSAR Array S 150.69 350 ePKPbc PKPbc 19 42 31.8 -0.1
ISAL Salakas 151.07 331 eP PKPab 19 42 39.3 -1.2
SKAR Skarslia 151.13 354 ePKPbc PKiKP 19 42 33.1 -0.4
IIGN Ignalina 151.18 331 eP PKPbc 19 42 32.9 -0.3
BNN Bunyan 151.70 293 PKPbc 19 42 34.4 -0.7
PABE Paberze 151.97 333 eP PKiKP 19 42 35.2 -0.1
PABE Paberze 151.97 333 PKPbc 19 42 34.5 -0.5
KONO Kongsberg 152.00 352 ePKPbc PKPbc 19 42 34.3 -0.6
PBUR Paburge 152.33 336 eP PKiKP 19 42 36.7 +0.7
AKASG Malin Array Be 152.62 321 PKPbc PKPbc 19 42 36.3 -0.2
comp=Z,4.7nm,0.7s,baz=56,slow=2.7,SNR=24
AKBB Malin Array Si 152.62 321 PKIKP PKiKP 19 42 37.7 +0.9
AKBB Malin Array Si 152.62 321 PKiKP 19 42 37.6 +0.9
ILGA Ilgaz 153.09 298 PKPbc 19 42 37.0 -1.3

BR131 Keskin Array S 153.33 295 PKIKP PKPbc 19 42 38.3 -0.5
BR131 Keskin Array S 153.33 295 PKPbc 19 42 38.3 -0.5
BRTR Keskin Array B 153.33 295 PKPbc PKiKP 19 42 39.2 +0.4
comp=Z,2.6nm,0.6s,baz=147,slow=1.6,SNR=10
BRTR PKPab **PKPab 19 42 50.6 -0.2**
comp=Z,8.6nm,0.9s,baz=131,slow=3.4,SNR=12
BRTR Keskin Array B 153.33 295 PKIKP PKPdf 19 42 31.5 +0.3
BRTR Keskin Array B 153.33 295 PKPdf PKPdf 19 42 31.5 +0.3
SUW Suwalki 153.38 331 eP PKiKP 19 42 38.7 +0.5
LIC Lamto 153.42 164 ePKP1 PKiKP 19 42 40.6 +1.0
comp=Z,52nm,1.4s
KIC Kosan Boka 153.62 165 ePKP1 PKiKP 19 42 41.7 +1.7
comp=Z,26nm,1.4s
TIC Toumodi 153.83 164 ePKP1 PKiKP 19 42 40.9 +0.4
KOLS Kolonicke sedl 157.30 324 ePKP2 PKPab 19 43 08.0 +0.7
UZH Uzhgorod 157.48 323 ePKP2 PKPab 19 42 59.8 -8.2
CRVS Cervenica-Dubn 157.72 324 ePKP2 PKPab 19 43 09.0 -0.1
OSTC Ostas 158.76 334 ePKPAB PKPab 19 43 13.5 0.0
CHVC Chvalec 158.80 335 ePKPAB PKPab 19 43 13.9 +0.2
UPC Upice 158.88 334 ePKP2 PKPab 19 43 13.1 -0.9
UPC Upice 158.88 334 ePKPAB PKPab 19 43 13.1 -0.9
DPC Dobruska-Polom 158.89 334 ePKP2 PKPab 19 43 12.7 -1.4
DPC Dobruska-Polom 158.89 334 ePKPAB PKPab 19 43 12.7 -1.4
KRLC Kraliky 158.94 333 ePKP2 PKPab 19 43 13.3 -1.0
KRLC Kraliky 158.94 333 ePKPAB PKPab 19 43 13.3 -1.0
CLL Collm 159.18 340 i PKPab PKPab 19 43 14.1 -1.1
comp=Z,15nm,1.3s
CLL *i* pPKPab **sPKPab 19 43 22.4 -1.0**
CLL *e* 19 43 27.0
CLL *e* 19 43 36.0
CLL ePP **PP 19 46 56.0 +0.1**
CLL Collm 159.18 340 *i* PKP2 **PKPab 19 43 14.1 -1.1**
CLL pmax pmax
comp=Z,15nm,1.3s
CLL Collm 159.18 340 ePKPab PKPab 19 43 14.4 -0.8
baz=25,slow=4.4
VYHS Vyhne 159.26 327 ePKP2 PKPab 19 43 15.8 0.0
BRG Berggiesshubel 159.28 338 ePKPab PKPab 19 43 15.1 -0.6
baz=25,slow=4.4
CLZ Clausthal 159.35 345 ePKPab PKPab 19 43 15.4 -0.6
baz=25,slow=4.4
PVCC Panska Ves 159.37 337 ePKP2 PKPab 19 43 16.0 -0.1
PVCC Panska Ves 159.37 337 ePKPAB PKPab 19 43 16.0 -0.1
FBE Freiberg 159.41 339 ePKPab PKPab 19 43 16.1 -0.2
baz=25,slow=4.4
PRU Pruhonice 159.83 336 ePKP2 PKPab 19 43 17.4 -0.8
PRU Pruhonice 159.83 336 ePKPAB PKPab 19 43 17.4 -0.8
SMOL Smolenice 159.88 329 ePKP2 PKPab 19 43 18.7 +0.3
MODS Modra-Piesok 160.05 329 ePKP2 PKPab 19 43 20.3 +1.1
TANN Tannenbergstha 160.13 340 ePKPab PKPab 19 43 19.1 -0.4
baz=25,slow=4.4
PLN Plauen 160.15 341 ePKPab PKPab 19 43 19.1 -0.4
baz=25,slow=4.4
MOX Moxa 160.16 342 ePKPab PKPab 19 43 18.8 -0.8
baz=25,slow=4.4
GUNZ Gunzen 160.21 340 ePKPab PKPab 19 43 19.5 -0.3
baz=25,slow=4.4
ZST Bratislava 160.26 329 ePKP2 PKPab 19 43 20.0 -0.1
WERN Wernitzgruen 160.27 340 ePKPab PKPab 19 43 19.9 -0.2
baz=25,slow=4.4
NKC Novy Kostel 160.29 340 ePKP2 PKPab 19 43 19.9 -0.3
NKC Novy Kostel 160.29 340 ePKPAB PKPab 19 43 19.9 -0.3
KHC Kasperske Hory 160.90 336 ePKP2 PKPab 19 43 21.1 -1.8
KHC Kasperske Hory 160.90 336 ePKPAB PKPab 19 43 21.1 -1.8
CKRC Cesky Krumlov 160.90 334 ePKPAB PKPab 19 43 22.5 -0.4
CONA Conrad Observa 161.00 330 i P PKPab 19 43 23.4 -0.1
comp=Z,7.6nm,0.8s,SNR=5.5
GEC2 GERESS Array S 161.09 335 ePKPab PKPab 19 43 22.9 -0.9
baz=25,slow=4.4
GERES GERESS Array B 161.09 335 PKPab PKPab 19 43 22.9 -0.9
comp=Z,1.6nm,0.7s,baz=35,slow=4.9,SNR=16
TOA0 Torodi Ar. Sit 161.11 179 PKPab PKPab 19 43 24.1 -0.3
TORD Torodi Ar. Bea 161.11 179 PKPab PKPab 19 43 24.9 +0.5
comp=Z,4.7nm,0.8s,baz=185,slow=2.9,SNR=10
TORD Torodi Ar. Bea 161.11 179 PKPab 19 43 24.1 -0.3
WET Wettzell 161.12 337 ePKPab PKPab 19 43 23.7 -0.2
baz=25,slow=4.4
GRF Grafenberg Arr 161.13 341 ePKPab PKPab 19 43 23.8 -0.1
baz=25,slow=4.4
TNS Taunus Mts 161.28 347 ePKPab PKPab 19 43 23.7 -0.9
baz=25,slow=4.4
ARSA Arzberg 161.67 329 eP PKPab 19 43 25.8 -0.5
comp=Z,2.8nm,0.7s
SOKA Soboth 162.33 329 eP PKPab 19 43 28.5 -0.8
comp=Z,5.2nm,0.9s
RJOB Jochberg 162.35 335 ePKPab PKPab 19 43 29.3 -0.1
baz=25,slow=4.4
OBKA Obir 162.67 330 eP PKPab 19 43 29.5 -1.3
comp=Z,3.3nm,0.8s
MYKA Terra Mystica 162.95 332 eP PKPab 19 43 30.7 -1.3
comp=Z,6.2nm,1.1s
WATA Walderalm 163.12 337 eP PKPab 19 43 32.8 0.0
comp=Z,5.1nm,0.7s
WTTA Wattenberg 163.16 337 i P PKPab 19 43 32.6 -0.4
comp=Z,3.8nm,0.7s
RETA Reutte 163.25 339 i P PKPab 19 43 32.9 -0.3
comp=Z,10nm,0.9s,SNR=6.4
MOTA Moosalm 163.27 338 i P PKPab 19 43 33.0 -0.4
comp=Z,11nm,0.9s,SNR=6.3
ABTA Abfaltersbach 163.29 334 eP PKPab 19 43 32.1 -1.4
comp=Z,7.0nm,0.9s
SQTA Sankt Quirin 163.34 337 eP PKPab 19 43 32.9 -0.8
comp=Z,7.2nm,0.9s
FETA Feichten 163.67 338 eP PKPab 19 43 34.9 -0.4
comp=Z,8.4nm,1.1s
DAVA Damuels 163.69 340 eP PKPab 19 43 34.9 -0.4
comp=Z,9.7nm,1.1s

*IDC **02** 19:33:50.8±3.4, 9.°09N×122.°39E, h0km, mb3.4/3,*
mb1 3.6/3, mb1mx3.3/47, mbtmp3.4/3, Error ellipse:
s-maj=410.3km s-min=30.3km az=63.0
*MAN **02** 19:33:52.1, 8.°74N×121.°39E, h36km, mb4.7, ML3.6, MS3.5*
ISC 02 19:33:56.0±1.2, 8.°71N±0.°09×121.°53E±0.°09, h35km, n13,
σ1§57/13, mb3.5/3, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNOP	**Candoni, Negro**	**1.57**	**45**	‖ iP	**Pn**	**19 34 18.1**	**-3.2**
SNPH	**Sibulan**	**1.81**	**69**	‖ iP	**Pn**	**19 34 23.1**	**-1.6**
SNPH				*i* S	**Sn**	**19 34 46.9**	**+0.5**
DCPH	**Dipolog City**	**1.81**	**94**	‖ iP	**Pn**	**19 34 23.7**	**-1.0**
PAGZ	**Pagadian**	**2.03**	**115**	‖ eP	**Pn**	**19 34 25.4**	**-2.3**
RCP	**Roxas**	**3.08**	**23**	‖ eP	**Pn**	**19 34 42.7**	**+0.5**
CGP	**Cagayan de Oro**	**3.14**	**94**	‖ eP	**Pn**	**19 34 43.3**	**+0.3**
CGP				eS	**Sn**	**19 35 19.8**	**+0.4**
MSLP	**Maasin**	**3.58**	**66**	‖ eP	**Pn**	**19 34 49.2**	**+0.2**
BUKP	**Musuan**	**3.60**	**103**	‖ eP	Pn	19 34 43.6	-5.7
LUBP	**Lubang**	**5.15**	**346**	‖ eP	**Pn**	**19 35 09.0**	**-1.7**
JCNP	**Jose Panganiba**	**5.67**	**12**	‖ eP	Pn	19 35 01.2	-17
WRA	**Warramunga Arr**	**31.14**	**156**	P	**P**	**19 40 11.7**	**+0.1**
	0.3nm,0.7s,baz=337,slow=9.5,SNR=1.5						
ASAR	**Alice Springs**	**34.37**	**160**	P	**P**	**19 40 40.2**	**+0.3**
	0.5nm,0.8s,baz=352,slow=7.6,SNR=4.3						
MKAR	**Makanchi Array**	**50.55**	**326**	P	**P**	**19 42 52.3**	**+1.2**
	0.4nm,0.7s,baz=120,slow=8.5,SNR=2.1						

*ANF **02** 19:38:38.9±0.3, 33.°02N×115.°60W, h10km, ML3.4/19,*
Error ellipse: s-maj=2.8km s-min=2.0km az=141.0
*SCEDC **02** 19:38:39.8, 32.°98N×115.°58W, h12km*
*PAS **02** 19:38:39.8±2.5, 32.°98N±0.°04×115.°58W±0.°04, h12km±4km,*
ML3.6/177, ML3.4/80(NEIC), Error ellipse: s-maj=5.6km
s-min=4.8km az=124.0
*NEIC **02** 19:38:39.1±2.0, 32.°92N±0.°04×115.°58W±0.°04, h18km±2km,*
Error ellipse: s-maj=5.9km s-min=4.1km az=46.0
ISC 02 19:38:39.4±1.0, 32.°97N±0.°02×115.°59W±0.°02, h18km±4km,
n67, σ0§96/79, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.17**	**263**	P	**Pg**	**19 38 43.9**	**-0.1**
	baz=79,SNR=1000						
SWSC				S	**Sg**	**19 38 46.8**	**-0.3**
	baz=79						
SUP	**Superstition M**	**0.19**	**266**		**Pg**	**19 38 44.2**	**-0.1**
SUP					**Sg**	**19 38 47.6**	**+0.1**
UABX	**UABC, Campus M**	**0.36**	**159**	Pg	**Pg**	**19 38 47.5**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.54**	**234**	P	**Pg**	**19 38 50.3**	**+0.1**
	baz=53,SNR=326						
IKP				S	**Sg**	**19 38 57.1**	**-0.3**
	baz=53						
RMX	**La Rumorosa**	**0.55**	**228**	Pg	**Pg**	**19 38 50.6**	**+0.2**
RMX				IAML		19 38 59.3	
	comp=N,2μm,0.2s						
RMX				IAML		19 38 59.5	
	comp=E,3μm,0.6s						
CPBX	**Cerro Prieto**	**0.60**	**156**	Pg	**Pg**	**19 38 51.0**	**-0.3**
CPBX				IAML		19 39 03.7	
	comp=E,3μm,0.5s						
CPBX				IAML		19 39 12.7	
	comp=N,4μm,0.5s						
GLA	**Glamis**	**0.65**	**82**	P	**Pg**	**19 38 51.6**	**-0.7**
	baz=264,SNR=554						
GLA				S	**Sg**	**19 39 00.7**	**-0.3**
	baz=264						
GLA	**Glamis**	**0.65**	**82**	Pg	**Pg**	**19 38 51.4**	**-0.9**
BC3	**Big Chuckawall**	**0.70**	**10**	P	**Pg**	**19 38 52.3**	**-0.8**
	baz=189,SNR=857						
BC3				S	**Sg**	**19 39 02.3**	**-0.2**
	baz=189						
MONP2	**Monument Peak**	**0.70**	**264**	P	**Pg**	**19 38 53.1**	**-0.2**
	baz=83,SNR=913						
MONP2				S	**Sg**	**19 39 02.7**	**+0.1**
	baz=83						
GUVIX	**Guadalupe Vict**	**0.79**	**146**	Pg	**Pg**	**19 38 53.7**	**-1.3**
GUVIX				IAML		19 39 23.7	
	comp=N,2μm,0.6s						
TKX	**Tecate**	**0.94**	**245**	Pg	**Pg**	**19 38 56.5**	**-1.2**
TKX				IAML		19 39 10.3	
	comp=E,881nm,0.5s						
BAR	**Barrett**	**0.95**	**253**		**Pg**	**19 38 56.9**	**-1.0**
BAR				IAML		19 39 10.7	
	comp=N,2μm,0.6s						
PFO	**Pinyon Flats O**	**0.97**	**312**	P	**Pg**	**19 38 56.7**	**-1.6**
	baz=130,SNR=275						
PFO				S	**Sg**	**19 39 09.7**	**-1.3**
	baz=130						
PFO	**Pinyon Flats O**	**0.97**	**312**	Pg	**Pg**	**19 38 56.7**	**-1.6**
PFO				IAML		19 39 17.9	
	comp=N,773nm,0.9s						
PFO				IAML		19 39 18.7	
	comp=N,678nm,1.1s						
BELC	**Belle Mtn. Jos**	**1.08**	**342**	P	**Pb**	**19 38 58.5**	**-1.2**
	baz=161,SNR=151						
BELC				S	**Sb**	**19 39 12.9**	**-0.8**
	baz=161						
CBX	**Cerro Bola**	**1.11**	**234**		**Pb**	**19 38 59.8**	**-0.4**
CBX				IAML		19 39 18.8	
	comp=E,1μm,0.6s						
GVDA	**Garner Valley**	**1.14**	**308**		**Sb**	**19 39 14.6**	**-0.7**
IRM	**Iron Mountain**	**1.24**	**17**	P	**Pn**	**19 39 00.8**	**-1.1**
	baz=197,SNR=694						
IRM				S	**Sb**	**19 39 17.8**	**-0.4**
	baz=197						
109C	**Camp Elliot, M**	**1.27**	**267**	P	**Pn**	**19 39 01.5**	**-0.8**
	baz=86,SNR=17						
109C				S	**Sb**	**19 39 18.4**	**-0.5**
	baz=86						
109C	**Camp Elliot, M**	**1.27**	**267**	Pn	**Pn**	**19 39 01.5**	**-0.8**
109C				IAML		19 39 21.2	
	comp=N,905nm,0.5s						
109C				IAML		19 39 21.2	
	comp=E,632nm,0.5s						
TJX	**Tijuana**	**1.31**	**250**	Pn	**Pn**	**19 39 03.1**	**+0.3**
CCX	**Cicese**	**1.42**	**220**		**Pn**	**19 39 05.7**	**+1.3**
MURC	**Murrieta**	**1.48**	**296**	P	**Pn**	**19 39 04.3**	**-0.9**
	baz=114,SNR=44						
113A	**Mohawk Valley,**	**1.55**	**97**	Pn	**Pn**	**19 39 04.7**	**-1.4**
BBRC	**Big Bear Solar**	**1.70**	**320**	Pg	**Pb**	**19 39 11.3**	**+1.0**
	baz=139						
PDMCI	**Parker Dam,Lak**	**1.80**	**42**	Sb	**Sb**	**19 39 34.7**	**+0.6**
	baz=223						
GMRC	**Granite Mounta**	**1.81**	**358**	P	**Pn**	**19 39 08.8**	**-1.1**
	baz=178						
SPX	**San Pedro Mart**	**1.93**	**177**	Pn	**Pn**	**19 39 11.1**	**-0.5**
HEC	**Hector,Ludlow**	**1.96**	**342**	Pg	**Pb**	**19 39 16.1**	**+1.5**
	baz=161						
HEC				Sg	**Sg**	**19 39 43.1**	**+0.6**
	baz=161						
BFSC	**Mount Baldy Ra**	**2.14**	**307**	Pg	**Pb**	**19 39 19.2**	**+1.5**
	baz=125						
BFSC				Sb	**Sb**	**19 39 45.3**	**+1.3**
	baz=125						
Y14A	**Wickenburg**	**2.37**	**65**		**Pn**	**19 39 17.1**	**-0.3**
Y14A				IAML		19 39 58.9	
	comp=E,317nm,0.5s						
PASC	**Pasadena Art C**	**2.47**	**300**	Pn	**Pn**	**19 39 19.5**	**+0.6**
TUQ	**Turquoise Moun**	**2.48**	**354**	Pg	**Pg**	**19 39 25.6**	**-1.3**
	baz=173						
GSC	**Goldstone, Bar**	**2.54**	**337**	Pg	**Pg**	**19 39 27.7**	**-0.4**
	baz=156						
GSC	**Goldstone, Bar**	**2.54**	**337**		**Pn**	**19 39 20.9**	**+1.1**
GSC				IAML		19 40 16.1	
	comp=E,114nm,0.8s						
W13A	**Hualapai Mount**	**2.56**	**33**		**Pn**	**19 39 20.1**	**-0.1**
W13A				IAML		19 40 10.7	
	comp=E,149nm,0.9s						
W13A				IAML		19 40 11.2	
	comp=N,149nm,1.0s						
214A	**Organ Pipe Nat**	**2.56**	**112**	P	**Pn**	**19 39 18.5**	**-1.6**
	baz=294,SNR=14						
214A	**Organ Pipe Nat**	**2.56**	**112**		**Pn**	**19 39 18.6**	**-1.5**
214A				IAML		19 40 11.0	
	comp=N,116nm,1.2s						
214A				IAML		19 40 21.1	
	comp=E,114nm,0.8s						
EDW2	**Edwards Air Fo**	**2.76**	**314**	Pg	**Pb**	**19 39 30.8**	**+2.5**
	baz=133						
SNCC	**San Nicolas Is**	**3.31**	**276**	Pn	**Pn**	**19 39 29.5**	**-0.9**
SHPR	**Sheep Range**	**3.55**	**6**		**Pn**	**19 39 34.8**	**+1.0**
SHPR				IAML		19 40 48.2	
	comp=E,49nm,1.0s						
ISA	**Isabella, Lake**	**3.59**	**319**	Pn	**Pn**	**19 39 35.7**	**+1.4**
X16A	**Lo Mia Camp, P**	**3.75**	**66**		**Pn**	**19 39 37.2**	**+0.6**
X16A				IAML		19 40 43.2	
	comp=N,70nm,1.2s						
X16A				IAML		19 40 48.6	
	comp=E,74nm,0.9s						
TPNV	**Topopah Spring**	**4.01**	**352**		**Pn**	**19 39 39.6**	**-0.5**
TPNV				IAML		19 41 08.6	
	comp=E,36nm,0.7s						
TPNV				IAML		19 41 20.5	
	comp=E,31nm,1.1s						
TUC	**Tucson**	**4.11**	**98**	Pn	**Pn**	**19 39 40.6**	**-0.8**
WUAZ	**Wupatki**	**4.32**	**53**	Pn	**Pn**	**19 39 45.1**	**+0.7**
WUAZ				IAML		19 41 08.3	
	comp=E,71nm,1.1s						
WUAZ				IAML		19 41 23.3	
	comp=E,57nm,0.8s						
U15A	**North Rim**	**4.39**	**37**		**Pn**	**19 39 46.8**	**+1.3**
U15A				IAML		19 41 00.7	
	comp=N,53nm,0.9s						
PRN	**Pahroc Range**	**4.45**	**6**		**Pn**	**19 39 45.8**	**-0.4**
PRN				IAML		19 41 16.9	
	comp=E,54nm,0.8s						
PRN				IAML		19 41 23.6	
	comp=N,62nm,0.9s						
LCMT	**Little Creek M**	**4.47**	**25**		**Pn**	**19 39 47.4**	**+0.9**
LCMT				IAML		19 41 08.0	
	comp=E,36nm,1.4s						
KNB	**Kanab**	**4.64**	**29**		**Pn**	**19 39 48.5**	**-0.2**
KNB				IAML		19 41 18.1	
	comp=N,46nm,1.4s						
KNB				IAML		19 41 24.4	
	comp=E,52nm,1.0s						
CCUT	**Cedar City**	**4.92**	**21**	Pn	**Pn**	**19 39 52.2**	**-0.5**
CCUT				IAML		19 41 21.4	
	comp=N,16nm,1.8s						
CCUT				IAML		19 41 27.1	
	comp=E,23nm,2.0s						
X18A	**Snowflake**	**4.95**	**70**		**Pn**	**19 39 53.1**	**0.0**
X18A				IAML		19 41 36.0	
	comp=E,41nm,0.9s						
SZCU	**Shurtz Canyon**	**5.05**	**23**		**Pn**	**19 39 55.2**	**+0.8**
SZCU				IAML		19 41 29.8	
	comp=N,24nm,0.8s						
SZCU				IAML		19 41 32.0	
	comp=E,30nm,0.8s						

PV02	Paradox Valley	7.65	45	Pn	19 40 31.0	+0.9
PV04	Paradox Valley	7.67	43	Pn	19 40 30.2	-0.3
PV22	Blue Mesa, Par	7.84	43	Pn	19 40 32.5	-0.2

*IDC **02** 19:47:51.8±2.8, 32°.04S×177°.94W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/34, mbtmp4.1/4, ML3.4/1, Error ellipse: s-maj=64.7km s-min=44.3km az=131.0*
*NEIC **02** 19:47:55.6±0.3, 31°.99S±0°.04×178°.27W±0°.3, h10km±2km, mb4.5/5, Error ellipse: s-maj=39.6km s-min=6.2km az=96.0*

ISC 02 19:47:56.5±1.3, 32°.09S±0°.10×178°.1W±0°.2, h24km, n14, σ1§12/14, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.84	3	Pn	Pn	19 48 39.5	-0.8
URZ	Urewera	7.29	211	Pn	Pn	19 49 40.9	-0.6
0.6nm,0.3s,baz=354,slow=16,SNR=1.7							
URZ				Sn	Sn	19 51 02.4	-1.0
3.4nm,0.3s,baz=219,slow=23,SNR=9.5							
URZ	Urewera	7.29	211	Pn	Pn	19 49 40.1	-1.3
OUZ	Omahuta	7.58	243	Pn	Pn	19 49 45.4	-0.1
BKZ	Black Stump Fm	8.31	210	Pn	Pn	19 49 55.0	-0.5
CTA	Charters Tower	34.01	282	P	P	19 54 40.2	+1.6
4.5nm,0.9s,baz=108,slow=13,SNR=2.0							
ASAR	Alice Springs	42.95	269	P	P	19 55 53.4	-0.4
0.7nm,0.6s,baz=104,slow=7.6,SNR=17							
WR0	Warramunga Arr	43.91	274	P	P	19 56 01.7	+0.1
WR0				IAmb	IAmb	19 56 27.6	
comp=Z,13nm,1.4s							
WB2	Warramunga Arr	44.08	274	P	P	19 56 02.3	-0.6
WRA	Warramunga Arr	44.09	274	P	P	19 56 02.6	-0.4
comp=Z,1.7nm,0.4s,baz=114,slow=8.0,SNR=20							
WRA	Warramunga Arr	44.09	274	IAmb	IAmb	19 56 05.9	
comp=Z,0.3nm,1.1s							
WB0	Warramunga Arr	44.12	274	P	P	19 56 02.8	-0.4
WB0				IAmb	IAmb	19 56 04.2	
comp=Z,4.8nm,0.8s							
QSPA	South Pole Qui	58.02	180	P	P	19 57 49.2	+2.0
QSPA				IAmb	IAmb	19 58 01.9	
comp=Z,5.0nm,0.9s							
FINES	FINESS Array B	146.69	339	PKPbc	PKPbc	20 07 33.9	-1.5
comp=Z,1.2nm,0.4s,baz=40,slow=3.0,SNR=17							

*IDC **02** 19:50:31.7±1.3, 5°.39S×153°.05E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/38, mbtmp4.0/8, ML1.8/1, Error ellipse: s-maj=34.3km s-min=24.5km az=118.0*

ISC 02 19:50:37.5±1.1, 5°.5S±0°.2×152°.9E±0°.1, h37km, n9, σ1§39/10, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.91	235	Pn	Pn	19 52 17.1	+0.8
1.0nm,0.3s,baz=45,slow=4.3,SNR=2.5							
PMG				Sn	Sn	19 53 31.3	-2.3
1.0nm,0.3s,baz=306,slow=19,SNR=1.3							
DZM	Mont Dzumac	21.06	143	P	P	19 55 17.4	-1.2
10nm,1.1s,baz=64,slow=23,SNR=1.7							
WRA	Warramunga Arr	23.09	230	P	P	19 55 40.3	+0.1
3.2nm,0.8s,baz=55,slow=10.0,SNR=11							
ASAR	Alice Springs	25.73	223	P	P	19 56 06.9	+2.2
1.6nm,0.9s,baz=53,slow=9.4,SNR=8.6							
STKA	Stephens Creek	28.32	201	P	P	19 56 27.7	-0.1
1.7nm,0.9s,baz=10,slow=11,SNR=3.4							
FITZ	Fitzroy Crossi	29.43	242	P	P	19 56 38.2	+0.4
2.5nm,0.8s,baz=62,slow=9.7,SNR=2.5							
PETK	Petropavlovsk-	58.51	3	P	P	20 00 29.1	-0.8
0.8nm,0.5s,baz=183,slow=5.3,SNR=4.4							
VNDA	Vanda	72.15	178	P	P	20 01 58.5	+0.6
0.3nm,0.7s,baz=359,slow=5.5,SNR=1.8							
TORD	Torodi Ar. Bea	150.61	287	PKPbc	PKPbc	20 10 26.4	-0.2
0.9nm,0.8s,baz=71,slow=2.8,SNR=3.3							

*JMA **02** 19:55:11.1, 33°.57N×132°.42E, h43km, M3.9 Broadband fault plane solution: P waves. NP1:ϕ_s262.00000°, δ57.00000°, λ-169.00000°. NP2:ϕ_s166.00000°, δ81.00000°, λ-34.00000°. Principal axes: T Plg16.0000°, Azm218.0000°; N Plg55.0000°, Azm332.0000°; P Plg30.0000°, Azm119.0000°;*
JMA Felt II J1.
*NIED **02** 19:55:11.1, 33°.57N×132°.42E, h43km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.29; $M_{\theta\theta}$2.61; $M_{\phi\phi}$1.68; $M_{r\theta}$-0.49; $M_{\theta\phi}$-2.09; $M_{\phi r}$2.52; Fault plane solution: $M_0$4.98000×10^{14} NP1: ϕ_s147.00000°, δ60.00000°, λ-72.00000°. NP2: ϕ_s293.00000°, δ35.00000°, λ-119.00000°.*
*IDC **02** 19:55:12.2±1.7, 33°.61N×132°.42E, h58km±17km, mb3.2/5, mb1 3.5/8, mb1mx3.3/43, mbtmp3.7/8 Error ellipse: s-maj=15.3km s-min=13.8km az=123.0*

ISC 02 19:55:11.2±0.8, 33°.57N±0°.04×132°.47E±0°.04, h43km±7km, n51, σ0§58/60, mb3.5/5, 4C-2D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	Nagahama	0.01	141	⇓P	Pn	19 55 17.8	-0.2
JNA				S	Sn	19 55 22.6	-0.2
UWA2	Uwa jima 2	0.38	160	⇓P	Pn	19 55 20.4	-0.2
UWA2				S	Sn	19 55 27.2	-0.1
JET	Tanbara	0.53	66	⇑P	Pn	19 55 22.7	+0.2
JET				S	Sn	19 55 31.3	+0.8
JKU	Kubokawa	0.56	117	⇑P	Pn	19 55 23.2	+0.3
JKU				S	Sn	19 55 32.2	+1.0
JHM	Kurahashi	0.57	5	P	Pn	19 55 22.9	-0.1
JHM				S	Sn	19 55 31.7	+0.3
JTO	Tosashimizu	0.76	158	⇑P	Pn	19 55 25.5	0.0
JTO				S	Sn	19 55 36.3	+0.4
JHT	Toyohira	1.09	358	⇑P	Pn	19 55 30.3	+0.2
JHT				S	Sn	19 55 44.5	+0.5
JMN	Monobe	1.19	82	P	Pn	19 55 31.5	+0.1
JNU	Nakatsue	1.40	252	P	Pn	19 55 35.5	+1.1
184nm,0.3s,baz=76,slow=10,SNR=784							
JNU				S	Sn	19 55 52.4	+0.7
48nm,0.3s,baz=245,slow=16,SNR=20							
KSPHA	Pohang	3.65	317	P	Pn	19 56 05.0	-0.2
SNR=7.3							
KSPHA	Pohang	3.65	317	P	Pn	19 56 05.0	-0.2
SNR=7.3							
GWYB	Gwangyang	4.19	290	P	Pn	19 56 13.0	+0.5
SNR=6.3							
GWYB	Gwangyang	4.19	290	P	Pn	19 56 13.0	+0.5
SNR=6.3							
GWYB	Gwangyang	4.19	290	P	Pn	19 56 13.0	+0.5
SNR=6.3							
KOHB	KOHEUNG	4.43	285	P	Pn	19 56 16.0	+0.1
SNR=22							
KOHB	KOHEUNG	4.43	285	P	Pn	19 56 16.0	+0.1
SNR=22							
KOHB	KOHEUNG	4.43	285	P	Pn	19 56 16.0	+0.1
SNR=22							
BOSB	Boseong-gun	4.52	287	P	Pn	19 56 17.3	+0.2
SNR=9.6							
BOSB	Boseong-gun	4.52	287	P	Pn	19 56 17.3	+0.2
SNR=9.6							
BOSB	Boseong-gun	4.52	287	P	Pn	19 56 17.3	+0.2
SNR=9.6							
KSTBA	Taebaek	4.56	322	P	Pn	19 56 18.1	+0.3
SNR=14							
KSTBA	Taebaek	4.56	322	P	Pn	19 56 18.1	+0.3
SNR=14							
KSTBA	Taebaek	4.56	322	P	Pn	19 56 18.1	+0.3
SNR=14							
KSMGY	Mungyeong	4.75	312	P	Pn	19 56 20.8	+0.6
SNR=8.6							
KSMGY	Mungyeong	4.75	312	P	Pn	19 56 20.8	+0.6
SNR=8.6							
KSMGY	Mungyeong	4.75	312	P	Pn	19 56 20.8	+0.6
SNR=8.6							
KSKWJ	Gwangju	4.80	291	P	Pn	19 56 21.2	+0.2
SNR=7.6							
KSKWJ	Gwangju	4.80	291	P	Pn	19 56 21.2	+0.2
SNR=7.6							
KSKWJ	Gwangju	4.80	291	P	Pn	19 56 21.2	+0.2
SNR=7.6							
KSJEO	Jeonju	4.87	300	P	Pn	19 56 22.0	+0.1
SNR=22							
KSJEO	Jeonju	4.87	300	P	Pn	19 56 22.0	+0.1
SNR=22							
KSJEO	Jeonju	4.87	300	P	Pn	19 56 22.0	+0.1
SNR=22							
KSJEU	Jeongeup	4.96	294	P	Pn	19 56 23.5	+0.4
SNR=14							
KSJEU	Jeongeup	4.96	294	P	Pn	19 56 23.5	+0.4
SNR=14							
KSJEU	Jeongeup	4.96	294	P	Pn	19 56 23.5	+0.4
SNR=14							
GOCB	Gochang-gun	5.16	292	P	Pn	19 56 26.2	+0.3
SNR=13							
GOCB	Gochang-gun	5.16	292	P	Pn	19 56 26.2	+0.3
SNR=13							
GOCB	Gochang-gun	5.16	292	P	Pn	19 56 26.2	+0.3
SNR=13							
KSJMJ	Jumunjin	5.26	326	P	Pn	19 56 28.0	+0.8
SNR=5.7							
KSJMJ	Jumunjin	5.26	326	P	Pn	19 56 28.0	+0.8
SNR=5.7							
KSJMJ	Jumunjin	5.26	326	P	Pn	19 56 28.0	+0.8
SNR=5.7							
KSRS	Korea Array	5.36	318	P	Pn	19 56 29.6	+1.0
0.2nm,0.3s,baz=126,slow=14,SNR=2.8							
KSRS				S	Sn	19 57 29.2	+0.1
1.3nm,0.3s,baz=136,slow=22,SNR=4.7							
MJAR	Matsushiro Arr	5.56	56	P	Pn	19 56 33.2	+1.8
0.4nm,0.3s,baz=239,slow=13,SNR=24							
SEHB	SEOHWA	5.80	325	P	Pn	19 56 35.2	+0.5
SNR=25							
SEHB	SEOHWA	5.80	325	P	Pn	19 56 35.2	+0.5
SNR=25							
JCJ	Chichijima	10.58	125	P	Pn	19 57 41.2	+0.9
6.5nm,0.3s,baz=293,slow=20,SNR=1.4							
SONM	Songino Array	24.22	314	P	P	20 00 22.7	-1.2
0.3nm,0.6s,baz=137,slow=11,SNR=2.9							
MKAR	Makanchi Array	39.89	305	P	P	20 02 41.1	+0.3
0.3nm,0.7s,baz=93,slow=8.7,SNR=2.9							
WRA	Warramunga Arr	53.24	178	P	P	20 04 24.9	-0.5
0.8nm,0.8s,baz=354,slow=8.2,SNR=2.7							
ASAR	Alice Springs	56.93	178	P	P	20 04 52.1	+0.1
0.4nm,0.7s,baz=9.6,slow=12,SNR=4.8							
FINES	FINESS Array B	68.32	330	P	P	20 06 06.0	-1.4
1.5nm,0.8s,baz=90,slow=1.4,SNR=6.3							

*IDC **02** 19:56:48.2±2.5, 5°.09S×152°.94E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.6/34, mbtmp3.9/5, ML1.7/1, Error ellipse: s-maj=52.3km s-min=36.2km az=179.0*

ISC 02 19:56:53.9±2.0, 5°.2S±0°.3×152°.9E±0°.2, h35km, n6, σ0§38/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.09	234	Pn	Pn	19 58 35.6	+0.3
0.8nm,0.3s,baz=4.8,slow=12,SNR=2.9							
PMG				Sn	Sn	19 59 54.7	0.0
0.9nm,0.3s,baz=135,slow=20,SNR=1.8							
DZM	Mont Dzumac	21.26	143	P	P	20 01 37.5	+0.1
2.5nm,0.6s,baz=283,slow=14,SNR=1.3							
WRA	Warramunga Arr	23.29	229	P	P	20 01 58.1	-0.6
2.4nm,0.8s,baz=55,slow=9.8,SNR=11							
ASAR	Alice Springs	25.95	223	P	P	20 02 23.1	-0.2
1.1nm,0.8s,baz=53,slow=8.9,SNR=10							
FITZ	Fitzroy Crossi	29.59	242	P	P	20 02 55.9	0.0
2.6nm,0.9s,baz=64,slow=11,SNR=2.2							
TORD	Torodi Ar. Bea	150.56	288	PKPbc	PKPbc	20 16 43.1	0.0
0.3nm,0.4s,baz=74,slow=2.7,SNR=2.3							

NNC 02 20:09:39.8±5.3, 36°.99N×71°.05E, h0km, mb3.5, mpv3.2, 3C-3D, Error ellipse: s-maj=43.5km s-min=38.4km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.12	356	⇓P	Pn	20 11 12.8	+1.3
0.5nm,0.2s,baz=180,slow=13							
KK31				⇑S	Sn	20 12 23.8	+1.5
0.6nm,0.3s,baz=174,slow=23							
AAK	Ala-Archa	6.23	24	⇓P	Pn	20 11 13.7	+0.5
1.7nm,0.4s							
AAK				⇑S	Sn	20 12 25.7	+0.5
1.1nm,0.5s							
TKM2	Tokmak 2	6.88	29	⇓P	Pn	20 11 21.8	-0.3
0.5nm,0.5s							
AB31	Akbulak array	14.68	330	⇑P	Pn	20 13 05.6	-3.0
0.2nm,0.4s							

IDC 02 20:15:16.3±2.1, 6°.42S×129°.09E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.2/29, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=120.4km s-min=32.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.38	160	Pn	Pn	20 18 42.2	+0.9
0.1nm,0.3s,baz=338,slow=13,SNR=1.5							
WRA				Sn	Sn	20 21 06.2	-15
0.3nm,0.3s,baz=340,slow=22,SNR=7.0							
ASAR	Alice Springs	17.77	165	P	Pn	20 19 24.6	-0.6
0.0nm,0.3s,baz=344,slow=8.8,SNR=2.2							
ASAR				S	Sn	20 22 29.2	-15
0.1nm,0.3s,baz=360,slow=26,SNR=1.8							
MKAR	Makanchi Array	67.25	327	P	P	20 26 12.7	0.0
0.3nm,0.4s,baz=111,slow=7.9,SNR=5.6							

*DDA **02** 20:15:48.6, 36°.98N×28°.32E, h7km±2km, ML1.4*

ISK 02 20:15:48.1, 36°.97N×28°.35E, h14km, ML2.0/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.17	342	PG	Pg	20 15 52.4	+0.2
YER				SG	Sg	20 15 55.6	+0.6
TURN	Turunc	0.21	203	*i* P	Pg	20 15 53.3	+0.5
TURN				IAML		20 15 57.0	
comp=N,182nm,0.3s							
TURN				*i* S	Sb	20 15 57.2	-0.4
TURN				IAML		20 15 58.0	
comp=E,121nm,0.1s							
TURN	Turunc	0.21	203	PG	Pg	20 15 53.2	+0.4
TURN				SG	Sb	20 15 57.0	-0.6
MULA	Mugla, Merkez-	0.28	355	*i* P	Pg	20 15 54.5	+0.4
MULA				*i* S	Sg	20 15 58.8	+0.6
MULA				IAML		20 16 00.0	
comp=E,72nm,0.1s							
MULA				IAML		20 16 00.0	
comp=N,36nm,0.2s							
MRSB	Marmaris-Mugla	0.28	205	PG	Pg	20 15 54.2	+0.1
DALY	Dalyan (Mula)	0.29	122	*i* P	Pb	20 15 55.2	+0.1
DALY				IAML		20 15 59.0	
comp=N,79nm,0.2s							
DALY				*i* S	Sb	20 15 59.4	-0.4
DALY				IAML		20 16 01.0	
comp=E,65nm,0.2s							
DALY	Dalyan (Mula)	0.29	122	PG	Pb	20 15 54.7	-0.4
MLSB	Milas	0.56	305	PG	Pg	20 15 59.3	+0.2
DAT	Datca	0.67	249	PG	Pb	20 16 01.8	+0.2
TAVA	DENIZLI_Tavas	0.67	42	*i* P	Pg	20 16 01.3	+0.2
TAVA				*i* S	Sb	20 16 11.7	+0.9
TAVA				IAML		20 16 14.0	
comp=E,14nm,0.9s							
TAVA				IAML		20 16 16.0	
comp=N,7.9nm,0.7s							
FETY	Fethiye	0.68	120	PG	Pb	20 16 01.7	-0.1
CAME	Cameli-Denizli	0.76	92	PG	Pb	20 16 03.2	-0.1
ARG	Arkhangelos	0.78	193	PG	Pg	20 16 03.2	0.0
AYDN	Tasoluk	0.78	332	*i* P	Pb	20 16 03.7	+0.1
AYDN				*i* S	Sb	20 16 14.3	+0.2
AYDN				IAML		20 16 18.0	
comp=N,8.0nm,0.2s							
AYDN				IAML		20 16 19.0	
comp=E,15nm,0.4s							
BODT	Bodrum	0.84	276	PG	Pb	20 16 04.7	+0.3
AYDB	Zeytinkoy-Aydi	1.04	340	PG	Pn	20 16 08.4	0.0
GCAM	G?zelcaml?	1.15	310	PN	Pg	20 16 10.4	+0.2

BUC 02 20:20:26.3±0.1, 45°.55N×27°.01E, h25km±1km, ml1.5/21, 34C-34D, Error ellipse: s-maj=1.1km s-min=0.9km az=18.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRER		0.17	189	⇓P	Pb	20 20 31.2	-0.4
GRER				⇓S	Sb	20 20 36.0	+0.8
GRER		0.17	189	⇓P	Pb	20 20 31.2	-0.4
GRER		0.17	189	⇓S	Sb	20 20 36.0	+0.8
BISRR	Bisoca	0.21	270	⇑P	Pb	20 20 31.3	-0.9
BISRR				⇓S	Sb	20 20 36.7	+0.4
BISRR	Bisoca	0.21	270	⇑P	Pb	20 20 31.3	-0.9
BISRR	Bisoca	0.21	270	⇓S	Sb	20 20 36.7	+0.4
ODBI	Odobesti	0.22	8	⇓P	Pb	20 20 32.1	0.0
ODBI				⇑S	Sb	20 20 36.7	+0.5
ODBI	Odobesti	0.22	8	⇓P	Pb	20 20 32.1	0.0
ODBI	Odobesti	0.22	8	⇑S	Sb	20 20 36.7	+0.5
PETR	Petresti	0.23	41	⇓P	Pb	20 20 32.4	+0.1
PETR				⇑S	Sb	20 20 36.9	+0.4
PETR	Petresti	0.23	41	⇓P	Pb	20 20 32.4	+0.1
PETR	Petresti	0.23	41	⇑S	Sb	20 20 36.9	+0.4
VRI	Vrincioaia	0.38	328	⇑P	Pb	20 20 33.9	-0.5
VRI				⇑S	Sb	20 20 41.0	+0.9
VRI	Vrincioaia	0.38	328	⇑P	Pb	20 20 33.9	-0.5
PLOR	Plostina	0.40	320	⇑P	Pb	20 20 34.5	-0.3
PLOR				⇑S	Sb	20 20 41.4	+0.8
PLOR	Plostina	0.40	320	⇑P	Pb	20 20 34.5	-0.3
TUDR		0.46	84	⇓P	Pb	20 20 35.4	-0.5
TUDR				⇓S	Sb	20 20 42.9	+0.5
TUDR		0.46	84	⇓P	Pb	20 20 35.4	-0.5
NEHR	Nehoiu	0.52	257	⇓P	Pb	20 20 37.2	+0.3
NEHR				⇓S	Sb	20 20 44.7	+0.7
NEHR	Nehoiu	0.52	257	⇓P	Pb	20 20 37.2	+0.3
GHRR		0.58	28	⇓P	Pb	20 20 37.9	0.0
GHRR				⇓S	Sb	20 20 46.4	+0.6
GHRR		0.58	28	⇓P	Pb	20 20 37.9	0.0
MLR	Muntele Rosu	0.75	266	⇑P	Pb	20 20 41.1	+0.2
MLR				⇑S	Sn	20 20 51.4	-0.7
MLR	Muntele Rosu	0.75	266	⇑P	Pb	20 20 41.1	+0.2
BIR	Birlad	0.83	31	⇑P	Pb	20 20 41.5	-0.7
BIR	Birlad	0.83	31	⇑P	Pb	20 20 41.5	-0.7
CFR	Carcaliu	0.88	115	⇓S	Sn	20 20 54.8	-0.1
CFR	Carcaliu	0.88	115	⇓S	Sn	20 20 54.8	-0.1
TESR	Tescani	1.00	345	⇓P	Pb	20 20 45.2	+0.3
TESR				⇓S	Sn	20 20 57.9	0.0
TESR	Tescani	1.00	345	⇓P	Pb	20 20 45.2	+0.3
OZUR		1.02	303	⇑P	Pb	20 20 45.6	+0.4
OZUR		1.02	303	⇑P	Pb	20 20 45.6	+0.4
HARR	Harsova	1.08	143	⇑P	Pn	20 20 45.0	-0.7
HARR	Harsova	1.08	143	⇑P	Pn	20 20 45.0	-0.7
LEHL	Lehliu	1.08	187	⇑P	Pn	20 20 45.9	+0.1
LEHL	Lehliu	1.08	187	⇑P	Pn	20 20 45.9	+0.1
TPGR	Topolog	1.21	124	⇓P	Pn	20 20 47.2	-0.4
TPGR	Topolog	1.21	124	⇓P	Pn	20 20 47.2	-0.4
VASR	Vaslui	1.22	26	⇓P	Pn	20 20 47.7	-0.1
VASR	Vaslui	1.22	26	⇓P	Pn	20 20 47.7	-0.1
TLBR	Topalu	1.24	144	⇓S	Sb	20 21 04.7	0.0
TLBR	Topalu	1.24	144	⇓S	Sb	20 21 04.7	0.0
TLCR		1.32	105	⇓P	Pn	20 20 49.4	+0.4
TLCR				⇑S	Sb	20 21 07.0	+0.1
TLCR		1.32	105	⇓P	Pn	20 20 49.4	+0.4
VOIR		1.39	266	⇑P	Pn	20 20 50.0	-0.1
VOIR				⇑S	Sb	20 21 08.4	-0.5
VOIR		1.39	266	⇑P	Pn	20 20 50.0	-0.1
TIRR	Tirgusor	1.48	137	⇑P	Pn	20 20 51.8	+0.6
TIRR				⇑S	Sn	20 21 10.3	+0.7
TIRR	Tirgusor	1.48	137	⇑P	Pn	20 20 51.8	+0.6
ICOR	Ion Corvin	1.54	158	⇑P	Pn	20 20 52.1	0.0
ICOR				⇑S	Sn	20 21 11.9	+0.7
ICOR	Ion Corvin	1.54	158	⇑P	Pn	20 20 52.1	0.0
ARR	Arges	1.68	265	⇓P	Pn	20 20 54.2	0.0
ARR				⇑S	Sn	20 21 15.5	+0.5
ARR	Arges	1.68	265	⇓P	Pn	20 20 54.2	0.0

*WEL **02** 20:25:00, 46°.27S×166°.09E, h19km, ML5.1, Mw4.9, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16} Nm; M_{rr}1.65; $M_{\theta\theta}$0.84; $M_{\phi\phi}$-2.48; $M_{r\theta}$1.23; $M_{\theta\phi}$0.35; $M_{\phi r}$-1.21; Fault plane solution: $M_0$2.80000×10^{16} NP1: ϕ_s24.00000°, δ37.00000°, λ141.00000°. NP2: ϕ_s147.00000°, δ68.00000°, λ60.00000°. Principal axes: T 2662.4100, Plg56.0000°, Azm17.0000°; N 270.4200, Plg28.0000°, Azm159.0000°; P -2932.8300, Plg17.0000°, Azm259.0000°;*
*IDC **02** 20:25:07.3±0.7, 46°.12S×166°.14E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/37, mbtmp4.2/8, ML4.6/1, MS4.2/17, Ms1 4.2/17, ms1mx4.0/27 Error ellipse: s-maj=26.0km s-min=22.1km az=52.0*
*WEL **02** 20:25:09.1±1.3, 46°.S±7°.×16°.6E±°., h11km±4km, M5.1/8, ML5.3/8, MLv5.1/8, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*
*NEIC **02** 20:25:10.0±1.6, 46°.37S±0°.08×166°.14E±0°.10, h21km±4km, mb4.5/13, Error ellipse: s-maj=14.3km s-min=5.8km az=143.0*

ISC 02 20:25:10.8±1.2, 46°.23S±0°.06×166°.11E±0°.05, h29km±9km, n195, σ1§69/175, mb4.2/10, MS4.2/19, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	Puysegur Point	0.40	81		Pb	20 25 19.0	-0.5
PYZ	Puysegur Point	0.40	81	P	Pb	20 25 19.0	-0.5
PYZ				S	Sb	20 25 25.7	+0.2
DCZ	Deep Cove	1.06	44	Pn	Pn	20 25 28.0	-1.7
DCZ	Deep Cove	1.06	44	P	Pn	20 25 28.0	-1.7
DCZ				S	Sn	20 25 43.1	-0.3
WHZ	Wether Hill Ro	1.32	76		Pn	20 25 33.2	-0.1
WHZ	Wether Hill Ro	1.32	76	P	Pn	20 25 33.3	-0.1
WHZ				S	Sn	20 25 51.1	+1.1
APZ	The Paps	1.43	115	P	Pn	20 25 34.0	-0.8
MLZ	Mavora Lakes	1.65	59		Pn	20 25 39.0	+1.2
MLZ	Mavora Lakes	1.65	59	P	Pn	20 25 39.1	+1.2
MLZ				S	Sb	20 26 02.9	+2.0
MSZ	Milford Sound	2.02	40	P	Pn	20 25 43.2	+0.4
SYZ	Scrubby Hill	2.12	99	P	Pn	20 25 44.4	+0.2
SYZ				S	Sn	20 26 10.5	+1.0
EAZ	Earnscleugh	2.45	67	P	Pn	20 25 50.5	+1.6
EAZ				S	Sn	20 26 20.4	+2.5
TUZ	Tuapeka	2.46	85	P	Pn	20 25 49.7	+0.7
TUZ				S	Sn	20 26 20.7	+2.6
WKZ	Wanaka	2.48	57	Pn	Pn	20 25 51.5	+2.2
WKZ	Wanaka	2.48	57	P	Pn	20 25 51.6	+2.3
JCZ	Jackson Bay	2.87	42	P	Pn	20 25 56.4	+1.7
HHSZ	Highcliff Hill	3.14	85	P	Pn	20 25 58.9	+0.6
ODZ	Otahua Downs	3.40	71		Pn	20 26 01.2	-0.6
ODZ	Otahua Downs

BHW	Baring Head	7.96	56	P		Pn	20 27 06.0 +1.5
PLWZ	Palliser	8.08	58			Pn	20 27 07.3 +1.2
PLWZ	Palliser	8.08	58	P		Pn	20 27 09.0 +2.9
MSWZ	Moikau Station	8.17	57			Pn	20 27 07.8 +0.3
MSWZ	Moikau Station	8.17	57	P		Pn	20 27 08.1 +0.7
CAW	Cannon Point	8.27	55	P		Pn	20 27 08.6 -0.1
KIW	Kapiti Island	8.34	53	P		Pn	20 27 11.1 +1.4
TRWZ	Traveller	8.44	58	P		Pn	20 27 12.6 +1.5
MTW	Mount Morrison	8.48	57	P		Pn	20 27 12.9 +1.2
OGWZ	Otaki Gorge	8.52	54	P		Pn	20 27 13.0 +0.9
HOWZ	Holdsworth Sta	8.66	55	P		Pn	20 27 14.7 +0.6
TMWZ	Te Maipa	8.74	58	P		Pn	20 27 16.2 +0.9
MRZ	Mangatainoka R	8.85	54	P		Pn	20 27 17.0 +0.3
NMEZ	Namu Road	8.88	43	P		Pn	20 27 21.1 +4.0
KHEZ	Kahui Hut	9.04	43	P		Pn	20 27 21.5 +2.1
CPWZ	Castlepoint	9.05	58	P		Pn	20 27 23.4 +4.0
LREZ	Lake Rotokare	9.10	45	P		Pn	20 27 23.8 +3.6
NEZ	North Egmont	9.10	43	P		Pn	20 27 23.0 +2.8
PKE	Pukeiti	9.11	42	P		Pn	20 27 22.5 +2.2
PRWZ	Pori Road	9.15	55	P		Pn	20 27 21.1 +0.3
WAZ	Wanganui	9.17	48	P		Pn	20 27 25.5 +4.4
BFZ	Birch Farm	9.22	57	Pn		Pn	20 27 22.4 +0.6
BFZ	Birch Farm	9.22	57	P		Pn	20 27 22.7 +0.9
DVHZ	Dannevirke	9.43	55	P		Pn	20 27 25.3 +0.7
TSZ	Takapari Road	9.48	53	P		Pn	20 27 26.6 +1.3
ANWZ	Angora Road	9.50	56	P		Pn	20 27 26.6 +1.0
VRZ	Vera Road	9.54	45	P		Pn	20 27 27.9 +1.8
PNHZ	Pukenui	9.71	53	P		Pn	20 27 29.7 +1.2
PRHZ	Porangahau	9.72	56	P		Pn	20 27 31.0 +2.4
WPHZ	Waipukurau	9.74	54	P		Pn	20 27 31.7 +2.8
WNVZ	Wahianoa	9.81	49	P		Pn	20 27 32.8 +2.8
WHVZ	Whangaehu Hut	9.83	48	P		Pn	20 27 33.6 +3.2
FWVZ	Far West T-bar	9.84	48	P		Pn	20 27 33.1 +2.7
NGZ	Ngauruhoe	9.92	48	P		Pn	20 27 35.2 +3.7
SNVZ	South Ngauruho	9.93	48	P		Pn	20 27 34.4 +2.7
BHHZ	Black Hill Sta	9.93	51	P		Pn	20 27 32.6 +1.0
WTVZ	West Tongariro	9.96	48	P		Pn	20 27 34.9 +2.9
NNVZ	North Ngauruho	9.96	48	P		Pn	20 27 34.8 +2.7
OTVZ	Oturere	9.96	48	P		Pn	20 27 33.9 +1.8
KRHZ	Kereru	9.99	52	P		Pn	20 27 33.3 +0.9
KRVZ	Karewarewa	10.00	48	P		Pn	20 27 35.3 +2.7
PXZ	Pawanui	10.00	56	P		Pn	20 27 34.0 +1.5
ETVZ	East Tongariro	10.01	48	P		Pn	20 27 35.9 +3.2
NTVZ	North Tongarir	10.02	48	P		Pn	20 27 36.4 +3.6
TMVZ	Te Maari	10.02	48	P		Pn	20 27 35.2 +2.4
HIZ	Hauiti	10.06	43	Pn		Pn	20 27 33.6 +0.3
HIZ	Hauiti	10.06	43	P		Pn	20 27 33.6 +0.3
KATZ	Kakaramea	10.12	48	P		Pn	20 27 38.2 +4.0
KAHZ	Kahuranaki	10.17	55	P		Pn	20 27 36.4 +1.6
RATZ	Rangitukua	10.24	47	P		Pn	20 27 38.8 +3.0
MCHZ	McNeill Hill	10.31	53	P		Pn	20 27 42.5 +5.7
BKZ	Black Stump Fm	10.40	51			Pn	20 27 38.1 +0.1
BKZ	Black Stump Fm	10.40	51	P		Pn	20 27 44.0 +6.0
TLZ	Tolley Road	10.54	45	P		Pn	20 27 41.7 +1.9
ARHZ	Aropaoanui	10.60	53	P		Pn	20 27 43.8 +3.1
KNZ	Kokohu	11.15	54	P		Pn	20 27 48.1 -0.1
AWAZ	Awhitu Peninsu	11.16	38	P		Pn	20 27 49.9 +1.6
MHGZ	Mahia Peninsul	11.19	55	P		Pn	20 27 49.4 +0.7
WTAZ	Waiatarua	11.24	37	P		Pn	20 27 50.2 +0.8
URZ	Urewera	11.39	50	Pn		Pn	20 27 51.1 -0.4
	4.1nm,0.3s,baz=238,slow=9.3,SNR=15						
URZ				Sn		Sn	20 29 50.6 -7.1
	0.5nm,0.3s,baz=198,slow=20,SNR=1.7						
URZ	Urewera	11.39	50			Pn	20 27 50.3 -1.2
URZ	Urewera	11.39	50	P		Pn	20 27 50.9 -0.5
OUZ	Omahuta	12.37	30	Pn		Pn	20 28 05.3 +0.4
MXZ	Matakaoa Point	12.54	51	Pn		Pn	20 28 06.5 -0.6
TAU	Tasmania Unive	13.80	277	Pn		Pn	20 28 20.9 -3.4
MOO	Moorlands	14.06	279	P		Pn	20 28 25.8 -2.1
	baz=14,SNR=4.6						
MILA	Mila	15.62	300	P		Pn	20 28 43.9 -5.0
	baz=15,SNR=6.1						
MILA				S		Sn	20 31 28.8 -12
	baz=15						
CAN	Canberra	16.90	304	Pn		Pn	20 29 04.6 -0.5
CAN				IAmb		IAmb	20 29 16.6
	comp=Z,53nm,1.5s						
TOO	Toolangi	17.58	292	P		Pn	20 29 12.5 -1.2
	baz=17,SNR=10						
TOO	Toolangi	17.58	292	Pn		Pn	20 29 13.7 +0.1
TOO				IAmb		IAmb	20 29 24.2
	comp=Z,48nm,1.3s						
RAO	Raoul Island	21.07	42	LR		LR	20 37 49.8
	comp=Z,1μm,20.9s,baz=196,slow=36						
CMSA	Cobar Meteorol	21.54	306	P		P	20 29 54.9 -2.8
	baz=21,SNR=6.1						
STKA	Stephens Creek	23.71	299	P		P	20 30 21.4 +1.2
	comp=Z,1.7nm,0.9s,baz=159,slow=10,SNR=2.9						
STKA				LR		LR	20 39 01.7
	comp=Z,476nm,18.0s,baz=142,slow=35						
STKA	Stephens Creek	23.71	299	P		P	20 30 18.8 -1.3
	baz=23,SNR=4.3						
EIDS	Eidsvold	24.05	325	P		P	20 30 21.0 -2.4
	baz=24						
DZM	Mont Dzumac	24.11	1	P		P	20 30 24.4 +0.3
	comp=Z,24nm,1.0s,baz=164,slow=7.2,SNR=7.3						
DZM				LR		LR	20 40 13.6
	comp=Z,482nm,18.0s,baz=150,slow=38						
DZM	Mont Dzumac	24.11	1	eLR		LR	20 35 54.5
	comp=Z,340nm,21.6s						
DZM	Mont Dzumac	24.11	1	P		P	20 30 24.9 +0.9
DZM				IAmb		IAmb	20 30 28.1
	comp=Z,42nm,1.0s						
BBOO	Buckleboo	26.60	290	P		P	20 30 45.5 -1.0
	baz=26						
MSVF	Nonsavu	30.10	23	LR		LR	20 42 00.1
	comp=Z,949nm,18.5s,baz=166,slow=34						
VNDA	Vanda	31.44	182	LR		LR	20 41 54.0
	comp=Z,522nm,19.6s,baz=20,slow=32						
AS31	Alice Springs	34.33	300	P		P	20 31 54.7 -0.2
AS31				IAmb		IAmb	20 32 16.9
	comp=Z,1.1nm,0.7s						
ASAR	Alice Springs	34.33	300	P		P	20 31 55.2 +0.4
	comp=Z,1.7nm,0.5s,baz=132,slow=8.0,SNR=44						
WRKA	Warakurna	36.83	292	P		P	20 32 16.7 +0.3
	baz=36,SNR=8.0						
WC3	Warramunga Arr	36.91	305	P		P	20 32 14.8 -2.3
	baz=36						
WB2	Warramunga Arr	36.94	305	P		P	20 32 14.7 -2.5
	baz=36						
WRA	Warramunga Arr	36.94	304	P		P	20 32 17.5 +0.1
	comp=Z,2.3nm,0.5s,baz=136,slow=7.9,SNR=21						
NWAO	Narrogin (SRO)	39.34	272	LR		LR	20 47 00.5
	comp=Z,264nm,19.9s,baz=137,slow=33						
KLBR	Kellerberrin	39.75	274	P		P	20 32 40.1 -0.8
	baz=39						
H01W1	Cape Leeuwin H	40.40	267	T		T	21 15 33.5
	baz=122,slow=75,SNR=2117						
H01W2	Cape Leeuwin H	40.41	267	T		T	21 15 34.3
	baz=122,slow=75,SNR=1601						
H01W3	Cape Leeuwin H	40.42	267	T		T	21 15 34.8
	baz=122,slow=75,SNR=1547						
TBI	Tubual	42.33	73	eLR		LR	20 44 12.8
	comp=Z,416nm,32.5s						
FITZ	Fitzroy Crossi	43.57	296	P		P	20 33 12.7 +0.5
	comp=Z,1.9nm,0.6s,baz=203,slow=19,SNR=1.8						
FITZ				LR		LR	20 51 01.8
	comp=Z,381nm,19.0s,baz=132,slow=36						
FITZ	Fitzroy Crossi	43.57	296	P		P	20 33 11.1 -1.1
	baz=43,SNR=3.1						
QSPA	South Pole Qui	43.89	180	P		P	20 33 17.2 +2.7
	comp=Z,1.8nm,0.8s,baz=35,slow=0.4,SNR=9.9						
QSPA	South Pole Qui	43.89	180	P		P	20 33 13.8 -0.6
QSPA				IAmb		IAmb	20 33 25.4
	comp=Z,6.8nm,1.1s						
MTN	Manton Dam	44.46	307	P		P	20 33 20.4 +1.0
PSA00	Pilbara Seismi	44.78	287	P		P	20 33 22.1 +0.2
PSA00				IAmb		IAmb	20 33 42.7
	comp=Z,13nm,1.4s						
PPT2	Papeete2	46.37	67	eLR		LR	20 46 10.7
	comp=Z,626nm,30.2s						
PPT	Papeete	46.39	67	LR		LR	20 50 31.3
	comp=Z,189nm,21.1s,baz=168,slow=33						
BATI	Baumata	50.88	301	LR		LR	20 56 22.7
	comp=Z,187nm,19.4s,baz=170,slow=37						
MAW	Mawson	52.85	208	LR		LR	20 55 35.6
	comp=Z,405nm,18.1s,baz=92,slow=34						
MAW	Mawson	52.85	208	P		P	20 34 21.8 -1.3
SIJI	Sorong	54.52	315	LR		LR	20 58 25.8
	comp=Z,179nm,18.6s,baz=91,slow=37						
KAPI	Kappang	57.33	301	LR		LR	21 01 35.5
	comp=Z,181nm,18.2s,baz=172,slow=38						
TNTI	Ternate	57.88	312	P		P	20 34 59.2 -0.8
SNAA	Sanae	62.14	184	P		P	20 35 28.5 -0.2
SNAA				IAmb		IAmb	20 35 48.7
	comp=Z,7.7nm,1.1s						
LEM	Lembang	63.56	289	LR		LR	21 01 24.6
	comp=Z,200nm,21.9s,baz=145,slow=34						
GO09	Cerro Castillo	70.62	145	P		P	20 36 22.7 -0.4
PLCA	Paso Flores	79.75	140	LR		LR	21 03 31.3
	comp=Z,58nm,20.1s,baz=186,slow=29						
H08S2	Diego Garcia H	87.04	262	T		T	22 13 52.1
	baz=136,slow=76,SNR=137						
H08S1	Diego Garcia H	87.05	262	T		T	22 13 53.4
	baz=136,slow=76,SNR=139						
H08S3	Diego Garcia H	87.06	262	T		T	22 13 46.4
	baz=136,slow=76,SNR=284						
CMAR	Chiang Mai Arr	88.33	299	P		P	20 38 01.1 +1.4
	comp=Z,0.7nm,0.8s,baz=164,slow=3.2,SNR=5.1						
CMAR				LR		LR	21 19 06.8
	comp=Z,61nm,19.7s,baz=185,slow=37						
BOSA	Boshof	97.49	214	LR		LR	21 18 15.1
	comp=Z,71nm,18.1s,baz=184,slow=33						
CPUP	Villa Florida	97.74	141	LR		LR	21 19 17.2
	comp=Z,56nm,18.3s,baz=202,slow=33						
ILAR	Eielson Array	116.58	21	PKP		PKPdf	20 43 50.9 +0.2
	comp=Z,0.6nm,1.0s,baz=240,slow=2.6,SNR=4.3						
YKA	Yellowknife Ar	125.28	34	PKP		PKPdf	20 44 07.9 +0.5
	comp=Z,0.3nm,0.7s,baz=242,slow=1.3,SNR=2.6						
BVAR	Borovoye Array	127.99	310	PKP		PKPdf	20 44 13.3 +0.4
	comp=Z,0.1nm,0.3s,baz=174,slow=40,SNR=2.2						
TORD	Torodi Ar. Bea	144.49	207	PKP		PKPbc	20 44 43.8 +0.6
	comp=Z,1.7nm,0.6s,baz=155,slow=2.0,SNR=11						
TORD	Torodi Ar. Bea	144.49	207			PKPab	20 44 42.4 -0.5
BRTR	Keskin Array B	145.06	277	PKPbc		PKPdf	20 44 45.4 +0.3
	comp=Z,2.2nm,0.8s,baz=129,slow=4.0,SNR=7.2						
SPITS	Spitsbergen Ar	145.89	349	PKPbc		PKPab	20 44 46.5 +0.1
	comp=Z,7.5nm,0.8s,baz=99,slow=5.2,SNR=13						
SCHQ	Schefferville	146.01	56	PKPbc		PKPdf	20 44 46.5 +0.6
	comp=Z,5.5nm,0.7s,baz=237,slow=2.9,SNR=6.5						
ARCES	ARCESS Array B	149.60	334	PKPbc		PKiKP	20 44 57.1 0.0
	comp=Z,3.7nm,0.6s,baz=76,slow=2.9,SNR=19						
ARCES	ARCESS Array B	149.60	334			PKiKP	20 44 57.2 +0.1
SUMG	Summit	151.23	15	eP		PKiKP	20 45 02.3 +1.4
AKASG	Malin Array Be	151.38	295	PKPbc		PKiKP	20 45 01.5 +0.2
	comp=Z,1.0nm,0.4s,baz=74,slow=2.6,SNR=6.7						
AKASG	Malin Array Be	151.38	295			PKiKP	20 45 01.6 +0.3
MLR	Muntele Rosu	152.45	283	PKPbc		PKiKP	20 45 04.5 +0.6
	comp=Z,1.3nm,0.7s,baz=122,slow=16,SNR=2.2						
MLR	Muntele Rosu	152.45	283			PKPbc	20 45 02.0 -1.7
FINES	FINESS Array B	152.49	318	PKPbc		PKiKP	20 45 03.7 +0.4
	comp=Z,0.7nm,0.5s,baz=94,slow=4.4,SNR=7.7						
DY2G	Dye2	153.46	29	*i* P		PKPbc	20 45 05.0 -0.4
DY2G				*i*			20 45 17.4
GERES	GERESS Array B	161.23	288	PKPab		PKPab	20 45 51.8 0.0
	comp=Z,0.3nm,0.5s,baz=99,slow=5.1,SNR=1.9						
ESDC	Sonseca Array	170.21	231	PKPab		PKPab	20 46 32.6 +1.1
	comp=Z,0.3nm,0.9s,baz=130,slow=2.0,SNR=1.6						

TUL ***02*** *20:28:37.2±1.2, 36°.42N±0°.02×97°.33W±0°.04, h5km±6km, ML3.2, mb_Lg3.0/82(NEIC), Error ellipse: s-maj=5.4km s-min=1.7km az=66.0*

NEIC 02 20:28:37.1±1.3, 36°.41N±0°.02×97°.36W±0°.04, h6km±7km, Error ellipse: s-maj=5.4km s-min=0.9km az=55.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	Blackwell	0.37	18	Pg	Pg	20 28 44.5	+0.1
CROK	Carrier	0.51	281	Pg	Pg	20 28 47.6	+0.5
CROK				Sg	Sb	20 28 55.2	-1.1
QUOK	Quay	0.58	114	Pg	Pg	20 28 48.1	-0.1
OK029	Liberty Lake	0.61	187	Pg	Pb	20 28 49.6	-0.6
OK029				Sg	Sg	20 28 56.9	+1.0
KAN13	South Haven SW	0.61	351	Pg	Pg	20 28 48.9	0.0
KAN13				Sg	Sg	20 28 56.9	-0.1
OK031	S. Brethren Rd	0.62	137	Pg	Pg	20 28 49.2	+0.2
OK031				Sg	Sg	20 28 57.8	+0.7
OK030	Cody Creek RV	0.67	135	Pg	Pg	20 28 50.2	+0.3
OK030				Sg	Sg	20 28 59.2	+0.6
KAN17	Caldwell West	0.72	333	Sg	Sg	20 29 00.6	+0.3
KAN09	Caldwell North	0.76	344	Pg	Pg	20 28 51.5	-0.2
BCOK	Bluff Creek, N	0.77	195		Pg	20 28 52.5	+0.5
OK032	Salt Plains WL	0.79	300	Pg	Pg	20 28 52.4	0.0
KAN05	Bluff City Nor	0.81	330	Pg	Pg	20 28 52.8	0.0
OK025	Westminster Rd	0.82	179		Pg	20 28 53.3	+0.3
KS20	Mayfield South	0.84	349	Pg	Pg	20 28 53.0	-0.3
T35A	Sooner Cattle	0.85	53	Pg	Pg	20 28 53.1	-0.4
KAN10	Anthony SW Sta	0.93	321		Pg	20 28 55.1	+0.1
KAN08	Anthony NE Sta	0.96	329		Pg	20 28 55.1	-0.3
OKCFA	Oklahoma City	0.99	184		Pg	20 28 56.1	0.0
OKCSW	OKLAHOMA CITY	1.00	184		Pg	20 28 56.3	0.0
KAN12	Harper NE Stat	1.03	330		Pg	20 28 56.8	-0.1
FNO	Franklin	1.15	182		Pg	20 28 58.9	-0.2
U32A	Winter Ranch,	1.32	269		Pn	20 29 02.2	0.0
X34A	Smith Ranch, M	1.84	192	Pn	Pn	20 29 08.9	-0.4
WMOK	Wichita Mounta	2.03	215		Pn	20 29 12.2	+0.4
R32A	Long Quarter,	2.28	332		Pn	20 29 15.4	+0.1
R32A				IAmb_Lg		20 29 55.4	
	comp=Z,52nm,0.7s						
U38A	Gravette	2.40	88		Pn	20 29 17.8	+0.8
LOOK	Love County	2.41	176		Pn	20 29 17.6	+0.5
X37A	Clayton	2.43	138		Pn	20 29 18.1	+0.7
X37A				IAmb_Lg		20 29 58.2	
	comp=Z,77nm,0.8s						
KSU1	Kansas State U	2.76	12		Pn	20 29 21.9	0.0
HHAR	Hobbs	2.76	92		Pn	20 29 22.5	+0.5
Z35A	Perchaven, San	3.07	178	Pn	Pn	20 29 26.8	+0.7
W39A	Magazine	3.15	111		Pn	20 29 26.7	-0.5
W39A				IAmb_Lg		20 30 23.8	
	comp=Z,55nm,1.1s						
S39A	Bolivar	3.48	67	Pn	Pn	20 29 31.5	-0.3
S39A				IAmb_Lg		20 30 25.3	
	comp=Z,33nm,0.7s						
MIAR	Mount Ida	3.60	120	Pn	Pn	20 29 34.4	+0.9
U40A	Yellville	3.64	89	Pn	Pn	20 29 33.7	-0.2
Z38A	Mt. Pleasant	3.70	147	IAmb_Lg		20 30 43.2	
	comp=Z,81nm,0.8s						
AMTX	Amarillo	3.83	248	Pn	Pn	20 29 34.5	-2.3
AMTX				IAmb_Lg		20 30 43.8	
	comp=Z,38nm,0.7s						
MGMO	Mountain Grove	4.16	78		Pn	20 29 40.5	-0.6
MGMO				IAmb_Lg		20 30 55.2	
	comp=Z,24nm,0.8s						
X40A	Basin Creek Fa	4.16	116		Pn	20 29 41.9	+0.8
ABTX	Abilene, Hawle	4.22	207		Pn	20 29 41.0	-0.9
WHAR	Wooly Hollow	4.27	104	Pn	Pn	20 29 42.0	-0.6
WHAR				IAmb_Lg		20 30 52.8	
	comp=Z,44nm,1.2s						
FCAR	Ozark Folk Cen	4.27	95		Pn	20 29 40.8	-1.8
FCAR				IAmb_Lg		20 30 59.4	
	comp=Z,25nm,0.7s						
N33A	J Bar K, Exete	4.33	359	Pn	Pn	20 29 40.6	-2.8
P38A	Dawn	4.41	42		Pn	20 29 43.3	-1.3
P38A				IAmb_Lg		20 30 57.3	
	comp=Z,35nm,0.7s						
WLAR	White Oak Lake	4.42	127	IAmb_Lg		20 30 58.3	
	comp=Z,23nm,0.8s						
R40A	Maddies Statio	4.47	64		Pn	20 29 45.7	+0.3
R40A				IAmb_Lg		20 31 00.4	
	comp=Z,53nm,0.8s						
N35A	Tabor	4.65	16	IAmb_Lg		20 31 16.1	
	comp=Z,45nm,0.8s						
KSCO	Kaye Shedlock'	4.92	303		Pn	20 29 51.1	-0.7
KSCO				IAmb_Lg		20 31 19.3	
	comp=Z,18nm,0.7s						
LCAR	Lake Charles	5.03	92	Pn	Pn	20 29 52.4	-0.7
LCAR				IAmb_Lg		20 31 16.3	
	comp=Z,21nm,0.8s						
BGNE	Belgrade	5.03	353	Pn	Pn	20 29 52.3	-0.9
BGNE				IAmb_Lg		20 31 20.1	
	comp=Z,35nm,0.8s						
MSTX	Muleshoe	5.05	243		Pn	20 29 52.2	-1.4
NATX	Nacogdoches	5.15	153	IAmb_Lg		20 31 31.9	
	comp=Z,33nm,0.8s						
CCM	Cathedral Cave	5.15	70		Pn	20 29 51.7	-3.1
CCM				IAmb_Lg		20 31 28.3	
	comp=Z,40nm,0.8s						
P40A	Paris	5.23	52	IAmb_Lg		20 31 28.3	
	comp=Z,31nm,0.8s						
PBMO	Poplar Bluff	5.59	84	IAmb_Lg		20 31 33.5	
	comp=Z,28nm,0.7s						
435B	Jarrell	5.61	182	IAmb_Lg		20 31 42.6	
	comp=Z,28nm,0.7s						
T25A	Trinidad	5.71	279		Pn	20 30 01.9	-0.7
T25A				IAmb_Lg		20 31 41.1	
	comp=Z,17nm,0.9s						
OGNE	Ogallala	5.82	323	Pn	Pn	20 30 04.7	+0.6
OGNE				IAmb_Lg		20 31 43.8	
	comp=Z,28nm,0.8s						
JCT	Junction City	6.25	200	IAmb_Lg		20 32 06.8	
	comp=Z,16nm,0.7s						
SCIA	State Center	6.37	29	IAmb_Lg		20 32 02.2	
	comp=Z,34nm,0.7s						
N41A	Harden Midland	6.67	48	IAmb_Lg		20 32 12.2	
	comp=Z,32nm,0.8s						
Y45A	Yeager Farm, C	6.89	109	Pn	Pn	20 30 17.9	-0.7
K38A	Parkersburg	7.17	28	IAmb_Lg		20 32 35.2	
	comp=Z,22nm,0.8s						
L40A	Anamosa	7.39	38	IAmb_Lg		20 32 28.7	
	comp=Z,14nm,0.8s						
WVT	Waverly	7.70	89	IAmb_Lg		20 32 58.6	
	comp=Z,9.7nm,0.8s						
USIN	University of	7.89	76	IAmb_Lg		20 32 47.3	
	comp=Z,28nm,0.9s						
O44A	Mansfield	7.93	59	IAmb_Lg		20 32 46.9	
	comp=Z,24nm,0.7s						
Y22D	IRIS PASSCAL i	8.16	256	IAmb_Lg		20 33 06.8	
	comp=Z,9.8nm,0.8s						
L42A	Oliver, Polo	8.18	45	IAmb_Lg		20 33 01.4	
	comp=Z,22nm,0.9s						
I37A	Lemond, Waseca	8.18	20	IAmb_Lg		20 32 56.7	
	comp=Z,11nm,0.7s						
JFWS	Jewell Farm	8.50	38	IAmb_Lg		20 33 04.4	
	comp=Z,15nm,0.7s						
V48A	Smith Brothers	8.56	91	IAmb_Lg		20 33 11.6	
	comp=Z,8.7nm,0.8s						
CLTN	Cedars of Leba	8.91	89	IAmb_Lg		20 33 18.8	
	comp=Z,12nm,1.0s						
SFIN	Lafayette	8.98	61	IAmb_Lg		20 33 18.9	
	comp=Z,20nm,0.8s						
WCI	Wyandotte Cave	9.00	75	IAmb_Lg		20 33 19.3	
	comp=Z,23nm,1.1s						
U49A	Red Boiling Sp	9.33	86	IAmb_Lg		20 33 34.2	
	comp=Z,7.0nm,0.8s						
K22A	Casper	9.43	314	IAmb_Lg		20 33 48.7	
	comp=Z,14nm,1.1s						
P48A	Milroy	9.91	68	IAmb_Lg		20 33 52.8	
	comp=Z,16nm,0.8s						

DJA ***02*** *20:33:04.3±0.2, 4°S±2°×12°7E±°, h58km±4km, M4.6/19, mb4.8/19, mB5.1/10, MLv4.7/18, Mw(mB)4.4/10*

NEIC ***02*** *20:33:04.8±2.0, 3°.55S±0°.07×126°.78E±0°.08, h70km±8km, mb4.6/40, Error ellipse: s-maj=11.8km s-min=10.4km az=100.0*

IDC ***02*** *20:33:05.6±1.6, 3°.61S×126°.76E, h82km±14km, mb4.0/19, mb1 4.2/21, mb1mx3.9/48, mbtmp4.4/21, MS2.9/5, Ms1 3.0/5, ms1mx2.8/42, Error ellipse: s-maj=18.7km s-min=8.0km az=72.0*

ISC 02 20:33:02.4±0.4, 3°.59S±0°.04×126°.72E±0°.05, h50km, n97, σ1875/104, mb4.6/39, MS3.1/3, 1C, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.52	48	P	Pn	20 33 15.9	+2.0
NLAI				S	Sn	20 33 24.7	+2.6
SANI	Sanana	1.69	335	P	Pn	20 33 29.4	-0.2
SANI				S	Sn	20 33 49.1	-1.0
MSAI	Masohi	2.22	84	P	Pn	20 33 37.8	+1.0
BNDI	Bandanaira	3.31	106	P	Pn	20 33 53.7	+2.0
TNTI	Ternate	4.38	9		Pn	20 34 08.0	+1.5
SWI	Sorong	5.29	59	P	Pn	20 34 20.8	+1.9
	1.4nm2μm172nm,0.7s						
SIJI	Sorong	5.29	59	P	Pn	20 34 19.9	+1.0
	17nm,0.3s,baz=255,slow=22,SNR=84						
SIJI				S	Sn	20 35 18.4	-0.2
	12nm,0.3s,baz=94,slow=20,SNR=18						
SIJI				LR	LR	20 37 04.6	
	comp=Z,135nm,21.2s,baz=321,slow=46						
FAKI	Fak Fak	5.56	83	Pn	Pn	20 34 25.0	+2.3
FAKI	Fak Fak	5.56	83	P	Pn	20 34 25.0	+2.3
	0.6nm1μm62nm,0.7s						
APSI	Ampana	5.72	298	P	Pn	20 34 27.4	+2.6
	0.8nm2μm224nm,0.7s						
APSI				S	Sn	20 35 29.7	+0.5
	0.8nm2μm224nm,0.7s						
MRSI	Marisa	6.25	310	P	Pn	20 34 34.2	+2.1
	1.4nm2μm199nm,0.6s						
SOEI	Soe	6.59	202	Pn	Pn	20 34 40.8	+3.9
SOEI	Soe	6.59	202	P	Pn	20 34 41.9	+5.0
	0.3nm82nm,0.7s						
BNSI	Bone	6.64	263	P

comp=Z,6.5nm,0.8s
ENH Enshi 37.49 335 P **P 20 40 12.1 +0.6**
ENH IAmb IAmb 20 40 13.4
comp=Z,8.9nm,0.8s
CAN Canberra 37.72 150 P **P 20 40 14.5 +1.2**
JWT Wachi 39.52 11 P **P 20 40 28.9 +0.6**
JWT IAmb IAmb 20 40 30.0
comp=Z,13nm,1.0s
KSRS Korea Array 40.85 1 P **P 20 40 40.0 +0.7**
comp=Z,2.8nm,0.7s,baz=181,slow=9.4,SNR=14
KSRS LR LR 21 00 39.3
comp=Z,13nm,18.6s,baz=152,slow=40
KS19 Wonju Array Si 40.90 1 P **P 20 40 39.4 -0.3**
XAN Xi'an 41.02 337 P **P 20 40 41.0 +0.1**
XAN pP pP 20 40 44.8 -10
XAN pmax pmax
comp=Z,15nm,0.6s
MAJO Matsushiro 41.34 14 P **P 20 40 42.7 -0.8**
MAJO IAmb IAmb 20 40 43.9
comp=Z,10nm,1.2s
MJAR Matsushiro Arr 41.34 14 P **P 20 40 43.0 -0.4**
comp=Z,2.2nm,0.5s,baz=182,slow=9.1,SNR=8.6
MJB9 Matsu-Tunnel 41.35 14 P **P 20 40 42.4 -1.1**
MJB9 IAmb IAmb 20 40 43.7
comp=Z,12nm,1.2s
JSD Sado 42.78 13 P **P 20 40 55.0 -0.1**
SHL Shillong 44.50 313 P **P 20 41 09.8 +0.3**
SHL IAmb IAmb 20 41 10.6
comp=Z,11nm,0.8s
LSA Lhasa 47.49 317 P **P 20 41 34.1 +0.8**
LSA IAmb IAmb 20 41 35.8
comp=Z,5.6nm,0.7s
USA0B Ussuriysk Arra 47.81 5 P **P 20 41 34.9 +0.1**
USA0B IAmb IAmb 20 41 36.2
comp=Z,6.0nm,0.6s
USRK Ussuriysk Ar. 47.81 5 P **P 20 41 35.5 +0.7**
comp=Z,7.6nm,0.6s,baz=186,slow=7.3,SNR=16
GTA Gaotai 49.44 333 ⇑P **P 20 41 48.5 +0.8**
GTA pP pP 20 42 05.1 +3.6
GTA sP sP 20 42 12.2 +4.8
GTA pmax pmax
comp=Z,5.0nm,0.9s
KLR Kul'dur 52.79 4 P **P 20 42 12.5 +0.1**
comp=Z,1.0nm,0.6s,baz=180,slow=7.1,SNR=2.6
ULN Ulaanbaatar 54.07 344 P **P 20 42 21.8 -0.3**
ULN IAmb IAmb 20 42 23.3
comp=Z,7.5nm,1.1s
SONM Songino Array 54.22 343 P **P 20 42 23.4 +0.2**
comp=Z,1.6nm,0.6s,baz=151,slow=7.5,SNR=11
SONM Songino Array 54.22 343 P **P 20 42 22.6 -0.5**
SONM IAmb IAmb 20 42 24.5
comp=Z,7.0nm,1.4s
PETK Petropavlovsk- 62.21 21 P **P 20 43 19.1 +0.4**
comp=Z,2.8nm,0.5s,baz=151,slow=3.4,SNR=4.9
MK31 Makanchi Array 63.61 328 P **P 20 43 27.7 -0.5**
MK31 IAmb IAmb 20 43 28.9
comp=Z,4.7nm,0.8s
MKAR Makanchi Array 63.61 328 P **P 20 43 28.2 0.0**
comp=Z,5.3nm,0.5s,baz=115,slow=8.7,SNR=98
MKAR Makanchi Array 63.61 328 P **P 20 43 27.9 -0.3**
MAKZ Makanchi 63.78 327 P **P 20 43 28.6 -0.7**
MAKZ IAmb IAmb 20 43 29.6
comp=Z,6.0nm,0.5s
BOOM Boomskoye usch 64.85 321 P **P 20 43 36.6 0.0**
YAK Yakutsk 65.48 2 **P 20 43 39.7 -0.2**
KBL Kabul 66.08 310 P **P 20 43 44.0 -0.8**
KBL IAmb IAmb 20 43 45.4
comp=Z,11nm,1.4s
DRK Karamyk 66.14 316 P **P 20 43 45.1 0.0**
GAR Garm 66.96 315 P **P 20 43 49.7 -0.5**
GAR IAmb IAmb 20 43 50.7
comp=Z,12nm,1.0s
BTK Batken 67.07 316 P **P 20 43 49.1 -1.7**
ZAA0 Zalesovo Array 67.11 335 P **P 20 43 48.9 -1.8**
ZAA0 IAmb IAmb 20 43 50.4
comp=Z,4.7nm,0.8s
ZALV Zalesovo Beam 67.11 335 P **P 20 43 49.6 -1.0**
comp=Z,3.9nm,0.7s,baz=125,slow=4.9,SNR=22
ZALV Zalesovo Beam 67.11 335 P **P 20 43 49.1 -1.5**
KURBB Kurchatov Arra 67.92 329 P **P 20 43 55.5 -0.3**
comp=Z,6.5nm,0.7s,baz=130,slow=5.6,SNR=51
KURK Kurchatov 67.93 329 P **P 20 43 55.5 -0.4**
KK31 Karatay Array 68.64 319 P **P 20 43 58.5 -2.0**
KKAR Karatay Array 68.64 319 P **P 20 43 58.2 -2.3**
KKAR Karatay Array 68.64 319 P **P 20 43 58.1 -2.4**
KKAR IAmb IAmb 20 44 00.6
comp=Z,4.6nm,1.4s
BVAR Borovoye Array 73.46 328 P **P 20 44 29.0 -0.5**
comp=Z,1.6nm,0.7s,baz=190,slow=17,SNR=13
BRVK Borovoye 73.53 328 P **P 20 44 28.9 -1.0**
BRVK IAmb IAmb 20 44 30.2
comp=Z,5.1nm,0.9s
NRIK Noril'sk 77.50 347 P **P 20 44 52.0 -0.3**
comp=Z,2.0nm,0.6s,baz=104,slow=7.2,SNR=3.6
ABKAR Abkulak array 77.83 322 P **P 20 44 52.9 -1.6**
ABKAR Abkulak array 77.83 322 P **P 20 44 53.1 -1.5**
AKTO Aktyubinsk 79.40 323 P **P 20 45 02.6 -0.5**
comp=Z,2.3nm,0.9s,baz=102,slow=9.2,SNR=6.4
KBZ Khabaz 87.99 314 P **P 20 45 46.6 -0.6**
comp=Z,0.9nm,0.4s,baz=34,slow=19,SNR=3.7
I23K Minto, Yukon-K 90.67 25 P **P 20 45 58.3 -1.1**
ILAR Eielson Array 91.68 25 P **P 20 46 03.1 -1.0**
comp=Z,0.4nm,0.8s,baz=242,slow=4.9,SNR=2.8
ILAR LR LR 21 26 02.9
comp=Z,109nm,20.6s,baz=224,slow=35
TORD Torodi Ar. Bea 124.89 283 PKP **PKPdf 20 51 57.7 -0.3**
comp=Z,0.8nm,0.9s,baz=59,slow=4.2,SNR=2.9

*TUL **02** 20:43:28.4±1.9, 36°.52N±0°.04×98°.94W±0°.04, h0km±7km, ML2.8, mb_Lg2.6/45(NEIC), Error ellipse: s-maj=5.4km s-min=4.4km az=145.0*
NEIC 02 20:43:29.1±1.9, 36°.54N±0°.03×98°.96W±0°.04, h10km±7km, Error ellipse: s-maj=5.4km s-min=4.4km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.16**	**193**		Pg	20 43 32.3	-0.3
OK032	**Salt Plains WL**	**0.66**	**66**		Pg	20 43 41.8	-0.1
CROK	**Carrier**	**0.79**	**92**		Pg	20 43 42.8	-1.5
KAN10	**Anthony SW Sta**	**0.91**	**49**	Sg	Sb	20 43 59.4	+0.2
KAN05	**Bluff City Nor**	**1.04**	**56**	Pg	Pg	20 43 47.6	-1.6
KAN08	**Anthony NE Sta**	**1.05**	**49**	Sg	Sb	20 44 03.7	+0.4
KAN12	**Harper NE Stat**	**1.08**	**45**		Pg	20 43 48.4	-1.6
KAN09	**Caldwell North**	**1.23**	**60**	Pg	Pn	20 43 51.1	-1.4
KAN13	**South Haven SW**	**1.28**	**68**	Pg	Pn	20 43 52.5	-0.6
KS20	**Mayfield South**	**1.32**	**58**		Pb	20 43 54.1	0.0
BCOK	**Bluff Creek, N**	**1.40**	**128**		Pn	20 43 52.9	-1.9
OK029	**Liberty Lake**	**1.42**	**121**		Pn	20 43 54.8	-0.3
OK025	**Westminster Rd**	**1.62**	**125**		Pn	20 43 58.0	+0.1
WMOK	**Wichita Mounta**	**1.80**	**175**		Pn	20 44 00.3	0.0
OK031	**S. Brethren Rd**	**1.81**	**108**		Pn	20 44 00.2	-0.2
R32A	**Long Quarter,**	**1.90**	**6**		Pn	20 44 02.0	+0.4
T35A	**Sooner Cattle**	**2.00**	**78**		Pn	20 44 04.1	+1.0
X34A	**Smith Ranch, M**	**2.14**	**154**	Pn	Pn	20 44 06.4	+1.5
X34A				IAmb_Lg		20 44 37.9	
comp=Z,22nm,1.1s							
CBKS	**Cedar Bluff**	**2.36**	**345**	Pn	Pn	20 44 08.4	+0.5
CBKS				IAmb_Lg		20 44 46.1	
comp=Z,22nm,0.7s							
AMTX	**Amarillo**	**2.76**	**234**		Pn	20 44 13.0	-0.6
X37A	**Clayton**	**3.51**	**123**	IAmb_Lg		20 45 25.5	
comp=Z,15nm,0.8s							
U38A	**Gravette**	**3.69**	**90**		Pb	20 44 35.5	+1.1
U38A				IAmb_Lg		20 45 28.3	
comp=Z,9.9nm,0.7s							
KSCO	**Kaye Shedlock'**	**3.82**	**311**	IAmb_Lg		20 45 39.6	
comp=Z,17nm,0.8s							
HHAR	**Hobbs**	**4.05**	**92**		Pb	20 44 40.8	+0.1
HHAR				IAmb_Lg		20 45 39.4	
comp=Z,11nm,0.7s							
W39A	**Magazine**	**4.41**	**106**	Pn	Pn	20 44 34.2	-2.0
W39A				IAmb_Lg		20 45 58.1	
comp=Z,16nm,0.8s							
T25A	**Trinidad**	**4.42**	**279**		Pn	20 44 34.6	-1.8
T25A				IAmb_Lg		20 45 48.4	
comp=Z,8.1nm,0.7s							
S39A	**Bolivar**	**4.65**	**74**	IAmb_Lg		20 45 57.6	
comp=Z,10nm,0.8s							
U40A	**Yellville**	**4.92**	**90**	IAmb_Lg		20 46 14.5	
comp=Z,9.6nm,0.8s							
P38A	**Dawn**	**5.28**	**53**	IAmb_Lg		20 46 25.5	
comp=Z,6.7nm,0.7s							
MGMO	**Mountain Grove**	**5.40**	**81**	IAmb_Lg		20 46 22.2	
comp=Z,10.0nm,0.8s							
R40A	**Maddies Statio**	**5.61**	**70**	IAmb_Lg		20 46 29.5	
comp=Z,9.6nm,1.0s							
JCT	**Junction City**	**6.08**	**187**	IAmb_Lg		20 46 49.8	
comp=Z,6.4nm,0.8s							
N38A	**Joes South For**	**6.17**	**45**	IAmb_Lg		20 46 55.6	
comp=Z,15nm,0.7s							
CCM	**Cathedral Cave**	**6.33**	**74**	Pn	Pn	20 45 02.5	-0.1
CCM				IAmb_Lg		20 46 54.9	
comp=Z,11nm,0.8s							
PBMO	**Poplar Bluff**	**6.86**	**85**	IAmb_Lg		20 47 12.9	
comp=Z,8.3nm,0.8s							
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		20 47 13.5	
comp=Z,7.2nm,0.7s							
N41A	**Harden Midland**	**7.59**	**54**	IAmb_Lg		20 47 35.7	
comp=Z,12nm,0.8s							
S44A	**Carbondale**	**7.84**	**79**	IAmb_Lg		20 47 44.5	
comp=Z,9.9nm,0.8s							
L40A	**Anamosa**	**8.15**	**45**	IAmb_Lg		20 47 49.2	
comp=Z,7.6nm,0.9s							
W18A	**Petrified Fore**	**8.87**	**264**	IAmb_Lg		20 48 28.9	
comp=Z,9.1nm,0.8s							
JFWS	**Jewell Farm**	**9.25**	**44**	IAmb_Lg		20 48 36.7	
comp=Z,8.4nm,0.7s							

*IDC **02** 20:46:17.6±5.3, 3°.44S×127°.19E, h130km±60km, mb3.4/3, mb1 3.6/6, mb1mx3.3/44, mbtmp4.0/6, Error ellipse: s-maj=55.6km s-min=17.1km az=91.0*
ISC 02 20:46:19.0±1.2, 3°.5S±0°.1×127°.3E±0°.1, h150km, n6, σ0s86/7, mb3.7/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.71**	**57**	P	**Pn**	**20 47 27.6**	**-1.0**
3.1nm,0.3s,baz=248,slow=23,SNR=14							
SIJI				S	**Sn**	**20 48 24.1**	**+1.2**
1.5nm,0.3s,baz=102,slow=20,SNR=4.5							
FITZ	**Fitzroy Crossi**	**14.63**	**186**	P	**Pn**	**20 49 38.9**	**0.0**
0.3nm,0.3s,baz=3.7,slow=10,SNR=7.1							
WRA	**Warramunga Arr**	**17.74**	**158**	P	**Pn**	**20 50 16.5**	**-0.4**
0.5nm,0.3s,baz=337,slow=11,SNR=32							
ASAR	**Alice Springs**	**21.06**	**163**	P	**P**	**20 50 52.0**	**+0.5**
1.2nm,0.3s,baz=343,slow=11,SNR=27							
MKAR	**Makanchi Array**	**63.84**	**327**	P	**P**	**20 56 35.6**	**+0.2**
0.7nm,0.5s,baz=114,slow=8.9,SNR=12							
KURBB	**Kurchatov Arra**	**68.13**	**329**	P	**P**	**20 57 02.9**	**+0.1**
0.9nm,0.8s,baz=134,slow=5.4,SNR=6.5							

*NEIC **02** 21:21:55.4±2.4, 19°.53S±0°.09×172°.88W±0°.05, h10km±1km, mb4.7/22, Error ellipse: s-maj=16.5km s-min=6.9km az=20.0*
*IDC **02** 21:21:56.9±0.9, 19°.45S×173°.50W, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.2/35, mbtmp4.2/15, ML4.1/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/26, Error ellipse: s-maj=37.3km s-min=14.1km az=149.0*
ISC 02 21:21:55.9±0.5, 19°.49S±0°.07×172°.96W±0°.06, h10km, n62, σ2s25/60, mb4.6/21, MS3.7/9, 7C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.90**	**82**	Pn	**Pn**	**21 22 42.4**	**+0.3**
NIUE				Sn	**Sn**	**21 23 14.6**	**-2.4**
AFI	**Afiamalu**	**5.67**	**12**	Pn	**Pn**	**21 23 22.2**	**+2.0**
3.3nm,0.3s,baz=123,slow=20,SNR=1.6							
AFI				Sn	**Sn**	**21 24 16.6**	**-8.8**
1.4nm,0.3s,baz=62,slow=19,SNR=1.7							
AFI	**Afiamalu**	**5.67**	**12**		**Pn**	**21 23 21.9**	**+1.6**
AFI					**Sn**	**21 24 23.1**	**-2.4**
MSVF	**Nonsavu**	**8.70**	**280**	Pn	**Pn**	**21 24 06.6**	**+4.7**
0.4nm,0.3s,baz=119,slow=16,SNR=2.8							
MSVF				LR	LR	21 27 01.5	
comp=Z,627nm,20.0s,baz=160,slow=37							
MSVF	**Nonsavu**	**8.70**	**280**	Pn	**Pn**	**21 24 05.2**	**+3.2**
RAR	**Rarotonga**	**12.49**	**100**	Pn	**Pn**	**21 24 53.8**	**+0.1**
OUENC	**Ouen Island, N**	**19.09**	**258**	P	**P**	**21 26 17.5**	**-1.3**
DZM	**Mont Dzumac**	**19.43**	**259**	P	**P**	**21 26 19.9**	**-2.7**
0.9nm,0.3s,baz=85,slow=16,SNR=11							
DZM				LR	LR	21 32 39.7	
comp=Z,265nm,18.9s,baz=76,slow=34							
DZM	**Mont Dzumac**	**19.43**	**259**	*e*P	**P**	**21 26 23.4**	**+0.8**
67nm,1.2s							
DZM				*e*LR	LR	21 30 54.6	
comp=Z,266nm,22.6s							
DZM	**Mont Dzumac**	**19.43**	**259**	P	**P**	**21 26 23.0**	**+0.4**
ONTNC	**Ouen Toro**	**19.43**	**258**	P	**P**	**21 26 22.1**	**-0.5**
ONTNC				IAmb	IAmb	21 26 41.1	
comp=Z,27nm,0.9s							
URZ	**Urewera**	**20.59**	**203**	P	**P**	**21 26 35.3**	**+0.2**
comp=Z,3.1nm,0.4s,baz=23,slow=16,SNR=2.1							
URZ	**Urewera**	**20.59**	**203**	P	**P**	**21 26 33.5**	**-1.5**
URZ				IAmb	IAmb	21 26 51.9	
comp=Z,30nm,1.2s							
TBI	**Tubuai**	**22.20**	**104**	*e*LR	LR	21 31 58.0	
comp=Z,297nm,27.2s							
PPT2	**Papeete2**	**22.25**	**89**	*e*LR	LR	21 32 10.6	
comp=Z,203nm,21.2s							
PPT	**Papeete**	**22.25**	**89**	LR	LR	21 34 08.3	
comp=Z,224nm,19.1s,baz=341,slow=32							
BFZ	**Birch Farm**	**23.05**	**201**	P	**P**	**21 27 00.3**	**-1.1**
BFZ				IAmb	IAmb	21 27 08.0	
comp=Z,24nm,0.9s							
BHW	**Baring Head**	**24.18**	**203**	P	**P**	**21 27 11.3**	**-1.1**
HNR	**Honiara**	**28.03**	**287**	LR	LR	21 37 45.2	
comp=Z,170nm,18.4s,baz=157,slow=34							
CTA	**Charters Tower**	**38.31**	**262**	P	**P**	**21 29 15.2**	**-1.9**
comp=Z,10nm,0.7s,baz=94,slow=9.8,SNR=11							
CTAO	**Charters Tower**	**38.31**	**262**	P	**P**	**21 29 14.7**	**-2.3**
CTAO				IAmb	IAmb	21 29 17.2	
comp=Z,16nm,0.8s							
STKA	**Stephens Creek**	**42.49**	**244**	P	**P**	**21 29 50.1**	**-1.3**
comp=Z,1.6nm,0.7s,baz=91,slow=6.6,SNR=5.8							
STKA				LR	LR	21 46 09.8	
comp=Z,186nm,18.4s,baz=31,slow=35							
BBOO	**Buckleboo**	**47.23**	**243**	P	**P**	**21 30 28.7**	**-0.6**
BBOO				IAmb	IAmb	21 30 47.8	
comp=Z,5.8nm,1.1s							
WR0	**Warramunga Arr**	**49.25**	**260**	P	**P**	**21 30 42.3**	**-2.8**
WR0				IAmb	IAmb	21 30 58.3	
comp=Z,8.4nm,1.1s							
AS31	**Alice Springs**	**49.36**	**255**	P	**P**	**21 30 43.9**	**-2.0**
ASAR	**Alice Springs**	**49.36**	**255**	P	**P**	**21 30 44.4**	**-1.5**
comp=Z,11nm,0.9s,baz=96,slow=8.1,SNR=46							
ASAR	**Alice Springs**	**49.36**	**255**	P	**P**	**21 30 43.9**	**-2.0**
WB0	**Warramunga Arr**	**49.41**	**260**	P	**P**	**21 30 44.5**	**-1.8**
WB0				IAmb	IAmb	21 30 56.3	
comp=Z,6.8nm,0.8s							
WB2	**Warramunga Arr**	**49.42**	**260**	P	**P**	**21 30 44.5**	**-1.9**
WB2				IAmb	IAmb	21 30 57.5	
comp=Z,13nm,1.1s							
WRAB	**Tennant Creek**	**49.43**	**260**	P	**P**	**21 30 44.8**	**-1.6**
WRA	**Warramunga Arr**	**49.44**	**260**	P	**P**	**21 30 44.0**	**-2.5**
comp=Z,3.3nm,0.8s,baz=97,slow=8.0,SNR=28							
WRA				S	**S**	**21 37 52.4**	**-1.6**
comp=Z,0.4nm,0.3s,baz=112,slow=7.9,SNR=9.7							
WRA	**Warramunga Arr**	**49.44**	**260**	P	**P**	**21 30 44.6**	**-1.9**
FORT	**Forrest**	**54.03**	**246**	P	**P**	**21 31 19.4**	**-1.3**
KNRA	**Kununurra**	**55.47**	**264**	P	**P**	**21 31 30.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**57.86**	**260**	P	**P**	**21 31 47.4**	**-0.9**
comp=Z,3.2nm,0.5s,baz=128,slow=4.5,SNR=20							
PSA00	**Pilbara Seismi**	**62.51**	**255**	P	**P**	**21 32 19.5**	**-0.7**
PSA00				IAmb	IAmb	21 32 21.2	
comp=Z,4.4nm,0.9s							
NWAO	**Narrogin (SRO)**	**63.04**	**242**	P	**P**	**21 32 23.5**	**-0.1**
MORW	**Morawa**	**64.58**	**246**	P	**P**	**21 32 33.7**	**-0.1**
MORW				IAmb	IAmb	21 32 41.5	
comp=Z,4.3nm,1.1s							
MJAR	**Matsushiro Arr**	**72.33**	**320**	P	**P**	**21 33 22.0**	**0.0**
comp=Z,0.9nm,0.6s,baz=153,slow=8.2,SNR=2.3							
MJAR				LR	LR	22 00 32.0	
comp=Z,37nm,21.0s,baz=330,slow=32							
NVAR	**Mina Array Bea**	**77.10**	**41**	P	**P**	**21 33 53.8**	**+4.0**
comp=Z,0.5nm,0.6s,baz=233,slow=10,SNR=6.0							
KSRS	**Korea Array**	**79.37**	**316**	P	**P**	**21 34 02.6**	**+0.5**
comp=Z,0.4nm,0.4s,baz=122,slow=7.4,SNR=2.4							
KSRS				LR	LR	22 04 51.7	
comp=Z,31nm,18.7s,baz=121,slow=33							
TXAR	**Lajitas Array**	**82.56**	**55**	P	P	21 34 25.1	+5.7
comp=Z,0.7nm,0.9s,baz=200,slow=6.6,SNR=5.8							
PDAR	**Pinedale Array**	**85.03**	**41**	P	**P**	**21 34 36.0**	**+4.0**
comp=Z,0.5nm,0.8s,baz=176,slow=3.6,SNR=3.1							
WRH	**Wood River Hil**	**85.88**	**11**	P	**P**	**21 34 35.2**	**-0.2**
CCB	**Clear Creek Bu**	**86.09**	**11**	P	**P**	**21 34 36.9**	**+0.5**
CCB				IAmb	IAmb	21 34 42.2	
comp=Z,6.0nm,0.9s							
MDM	**Murphy Dome**	**86.30**	**10**	P	**P**	**21 34 37.6**	**+0.1**
MDM				IAmb	IAmb	21 34 41.7	
comp=Z,5.5nm,1.1s							
ILAR	**Eielson Array**	**86.36**	**11**	P	**P**	**21 34 40.4**	**+2.6**
comp=Z,1.2nm,0.8s,baz=217,slow=5.0,SNR=10.0							
ILAR	**Eielson Array**	**86.36**	**11**	P	**P**	**21 34 37.9**	**0.0**
PLCA	**Paso Flores**	**86.47**	**132**	LR	LR	22 06 09.5	
comp=Z,66nm,18.5s,baz=192,slow=30							
CMAR	**Chiang Mai Arr**	**94.28**	**288**	P	**P**	**21 35 18.3**	**+2.2**
comp=Z,0.5nm,0.4s,baz=90,slow=3.6,SNR=4.1							
LPAZ	**La Paz**	**98.02**	**110**	LR	LR	22 11 48.0	
comp=Z,30nm,18.7s,baz=306,slow=30							
AKASG	**Malin Array Be**	**144.24**	**336**	PKP	**PKPdf**	**21 41 32.1**	**+0.1**
comp=Z,0.2nm,0.3s,baz=38,slow=4.7,SNR=7.6							
CLL	**Collm**	**147.91**	**353**	*e*PKPbc	**PKPbc**	**21 41 40.0**	**-1.2**
CLL				*i* pPKPbc	**sPKPab**	**21 41 44.3**	**+0.1**
comp=Z,9.0nm,1.4s							
CHVC	**Chvalec**	**148.16**	**349**	⇑*e*PKP	**PKPab**	**21 41 47.6**	**+2.8**
OSTC	**Ostas**	**148.16**	**349**	⇑*e*PKP	**PKPab**	**21 41 45.7**	**+0.9**
DPC	**Dobruska-Polom**	**148.34**	**349**	⇑*e*PKP	**PKPab**	**21 41 45.8**	**+0.3**
KRLC	**Kraliky**	**148.51**	**348**	⇑*e*PKP	**PKPab**	**21 41 45.5**	**-0.7**
PRU	**Pruhonice**	**148.99**	**351**	⇑*e*PKP	**PKPab**	**21 41 52.5**	**+4.4**
BRTR	**Keskin Array B**	**149.51**	**317**	PKPbc	**PKiKP**	**21 41 48.0**	**+1.0**
comp=Z,1.3nm,0.9s,baz=170,slow=0.9,SNR=2.6							
KHC	**Kasperske Hory**	**149.97**	**351**	⇑*e*PKP	**PKiKP**	**21 41 47.0**	**-0.5**
CKRC	**Cesky Krumlov**	**150.16**	**350**	⇑*e*PKP	**PKPab**	**21 41 50.3**	**-2.6**
GERES	**GERESS Array B**	**150.23**	**351**	PKPbc	**PKPab**	**21 41 50.8**	**-2.5**
comp=Z,0.3nm,0.3s,baz=338,slow=2.9,SNR=5.0							

*NNC **02** 21:23:38.8±10.0, 47°.09N×85°.45E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=75.9km s-min=43.7km az=82.0*
*SOME **02** 21:23:39.4, 47°.33N×84°.92E, h20km*
ISC 02 21:23:34.2±4.0, 47°.9N±0°.2×85°.4E±0°.2, h10km, n5, σ0s82/8, 3C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.54**	**218**	*e*P	**Pn**	**21 23 47.8**	**-0.2**
30nm,0.1s							
ZSN				*e*S	**Sb**	**21 23 53.5**	**-0.1**
209nm,0.1s							
MK31	**Makanchi Array**	**2.35**	**244**	⇑Pn	**Pb**	**21 24 16.2**	**-0.4**
4.5nm,0.4s,baz=90,slow=17							
MK31				⇑Sn	**Sb**	**21 24 44.3**	**-1.3**
11nm,0.4s,baz=79,slow=30							
MAKZ	**Makanchi**	**2.53**	**246**	⇓Pn	**Pb**	**21 24 19.8**	**0.0**
2.3nm,0.3s							
MAKZ				⇑Sn	**Sb**	**21 24 51.7**	**+0.7**
5.4nm,0.5s							
KAPS	**Kapalarasan**	**4.88**	**240**	*e*P	**Pb**	**21 25 00.6**	**+0.8**
1.3nm,0.4s							
KAPS				*e*S	**Sb**	**21 25 58.9**	**+0.4**
2.1nm,0.4s							
KURBB	**Kurchatov Arra**	**5.25**	**304**	⇓Lg	Lg	21 26 36.8	
6.1nm,0.5s							

IDC 02 21:25:17.2±7.5, 30°.95S×178°.60W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/29, mbtmp3.5/2, Error ellipse: s-maj=314.8km s-min=59.4km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.56**	**268**	P	P	21 33 15.1	0.0
0.3nm,0.5s,baz=111,slow=7.1,SNR=1.2							
WRA	**Warramunga Arr**	**43.60**	**273**	P	P	21 33 23.2	-0.3
0.4nm,0.4s,baz=111,slow=8.0,SNR=6.6							
FINES	**FINESS Array B**	**145.48**	**339**	PKPbc	PKPdf	21 44 55.8	-0.8
1.2nm,0.8s,baz=60,slow=5.6,SNR=6.6							

*JMA **02** 22:22:11.7±0.1, 23°.76N×121°.66E, h0km, M3.5*
*TAP **02** 22:22:13.6, 23°.79N×121°.57E, h26km, ML4.0, C*
ISC 02 22:22:13.9±0.8, 23°.78N±0°.01×121°.59E±0°.02, h26km±4km, n142, σ0s85/246, 12C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.08**	**215**	⇑*i*P	**Pb**	**22 22 18.4**	**-0.1**
baz=186							
TEGC				S	**Sb**	**22 22 23.2**	**+1.6**
baz=186							
TEYL	**Yanliau Villag**	**0.09**	**3**	⇑*i*P	**Pb**	**22 22 18.7**	**+0.1**
baz=21							
TEYL				*i* S	**Sb**	**22 22 23.4**	**+1.7**
baz=21							
ESL	**Shilin**	**0.15**	**284**	⇓*i*P	**Pb**	**22 22 18.5**	**-0.6**
baz=282							
ESL				*i* S	**Sb**	**22 22 22.1**	**-0.4**
baz=282							
EGFH	**Guangfu**	**0.18**	**235**	⇓*i*P	**Pb**	**22 22 19.2**	**-0.2**
baz=236							
EGFH				S	**Sb**	**22 22 22.9**	**-0.3**
baz=236							
HWA	**Hwalien**	**0.20**	**3**	⇑*i*P	**Pb**	**22 22 19.5**	**-0.2**
baz=17							
HWA				S	**Sb**	**22 22 25.1**	**+1.5**
baz=17							
ETM	**Tongmen**	**0.21**	**334**	⇓*i*P	**Pb**	**22 22 19.3**	**-0.5**
baz=331							
ETM				*i* S	**Sb**	**22 22 23.2**	**-0.5**
baz=331							
TWD	**Chiawan**	**0.30**	**1**	⇓*i*P	**Pb**	**22 22 20.8**	**-0.3**
baz=357							
TWD				*i* S	**Sb**	**22 22 26.3**	**+0.4**
baz=357							
HGSD	**Ruisui**	**0.32**	**209**	P	**Pb**	**22 22 21.8**	**+0.5**
baz=213							
HGSD				S	**Sn**	**22 22 28.2**	**-0.6**
baz=213							
EHY	**Hungye**	**0.37**	**223**	⇓*i*P	**Pb**	**22 22 21.2**	**-0.8**
baz=226							
EHY				S	**Sb**	**22 22 26.7**	**-0.7**
baz=226							
ETL	**Fush Village**	**0.38**	**4**	P	**Pb**	**22 22 21.8**	**-0.5**
baz=359							
ETL				S	**Sb**	**22 22 27.9**	**-0.1**
baz=359							
NACB	**Ninganchiao**	**0.40**	**0**	⇓*i*P	**Pb**	**22 22 21.9**	**-0.6

TDCB	baz=321			S	Sb	22 22 33.1	-1.5
WPL	**Puli Township** baz=321	**0.63**	**292**	P	Pb	22 22 25.7	-0.6
WPL	baz=292			S	Sb	22 22 33.7	-1.0
FULB	**Fuli** baz=292	**0.64**	**206**	P	Pb	22 22 26.1	-0.4
SMLT	**Sun Moon Lake** baz=216	**0.64**	**280**	⇓*i*P	Pb	22 22 26.0	-0.6
SMLT	baz=284			S	Sb	22 22 34.2	-1.0
YUS	**Yu-Shan** baz=284	**0.65**	**244**	⇓*i*P	Pb	22 22 26.6	-0.4
YUS	baz=243			*i* S	Sb	22 22 34.8	-1.1
DPDB	**Guoxing** baz=243	**0.66**	**293**	P	Pb	22 22 26.4	-0.4
DPDB	baz=293			*e*S	Sb	22 22 34.8	-0.9
WHYT	**Xinyi Township** baz=293	**0.68**	**263**	*e*P	Pb	22 22 26.8	-0.4
WHYT	baz=259			*e*S	Sb	22 22 35.7	-0.6
WCS	**Beigang Elemen** baz=259	**0.68**	**294**	P	Pb	22 22 26.7	-0.5
WCS	baz=295			S	Sb	22 22 34.8	-1.4
TYC	**Yuchr** baz=295	**0.69**	**281**	⇓*i*P	Pb	22 22 26.6	-0.7
TYC	baz=286			*i* S	Sb	22 22 35.7	-0.6
EWUT	**Wuta** baz=286	**0.69**	**14**	*e*P	Pb	22 22 26.7	-0.6
EWUT	baz=3.0			*e*S	Sb	22 22 35.5	-0.9
NNS	**Nan Shan** baz=3.0	**0.69**	**343**	⇑*i*P	Pb	22 22 26.7	-0.7
NNS	baz=344			*i* S	Sb	22 22 35.2	-1.5
CHKT	**Chengkung** baz=344	**0.70**	**197**	⇑*i*P	Pb	22 22 27.3	-0.3
CHKT	baz=207			*i* S	Sn	22 22 38.5	+0.2
ECS	**Chishang** baz=207	**0.76**	**207**	*e*P	Pb	22 22 27.4	-1.1
ALS	**Alishan** baz=216	**0.77**	**250**	⇑*i*P	Pb	22 22 28.7	-0.1
ALS	baz=249			*i* S	Sb	22 22 38.5	-0.5
WHP	**Taichung City** baz=249	**0.77**	**310**	P	Pn	22 22 28.3	-1.0
WHP	baz=311			S	Sb	22 22 38.1	-0.9
ELDTW	**Lidau** baz=311	**0.79**	**222**	P	Pn	22 22 27.6	-1.9
WJS	**Zhushan** baz=211	**0.79**	**273**	*e*P	Pn	22 22 29.3	-0.1
WJS	baz=274			*e*S	Sn	22 22 41.0	+0.5
NDT	**Datong Townshi** baz=274	**0.83**	**355**	P	Pn	22 22 28.8	-1.2
WNT	**Mingjian** baz=355	**0.84**	**277**	P	Pb	22 22 30.2	+0.4
WNT	baz=277			S	Sn	22 22 42.0	+0.4
EDH	**Donghe** baz=277	**0.84**	**198**	*e*P	Pn	22 22 29.1	-1.0
EDH	baz=211			*e*S	Sn	22 22 41.9	+0.2
WNT1	**Nantou City** baz=211	**0.84**	**279**	*e*P	Pb	22 22 30.2	+0.3
WNT1	baz=279			*e*S	Sn	22 22 42.4	+0.6
CHN5	**Tsauling** baz=279	**0.86**	**258**	⇑*i*P	Pb	22 22 30.4	+0.2
CHN5	baz=250			*i* S	Sb	22 22 41.9	+0.6
ENTT	**Nioudou** baz=250	**0.86**	**358**	P	Pn	22 22 29.3	-1.1
WWF	**Wufeng** baz=360	**0.86**	**288**	P	Pb	22 22 30.8	+0.6
WWF	baz=292			*e*S	Sn	22 22 43.2	+1.0
NDS	**Dongshan** baz=292	**0.86**	**8**	*e*P	Pn	22 22 29.5	-0.9
NDS	baz=355			*e*S	Sb	22 22 40.4	-1.0
TWC	**Suao** baz=355	**0.86**	**16**	P	Pn	22 22 29.5	-0.9
TWC	baz=359			*e*S	Sb	22 22 40.8	-0.6
YHNB	**Yeheng** baz=359	**0.91**	**348**	P	Pn	22 22 30.3	-0.9
YHNB	baz=357			*e*S	Sn	22 22 41.2	-2.3
TCU	**Taichung** baz=357	**0.92**	**294**	*e*P	Pb	22 22 32.2	+1.1
TCU	baz=294			*e*S	Sb	22 22 43.8	+0.9
TWQ1	**Liyutan** baz=294	**0.94**	**307**	⇓*i*P	Pb	22 22 32.0	+0.4
TWQ1	baz=308			*i* S	Sb	22 22 44.3	+0.6
TWE	**Neicheng** baz=308	**0.94**	**4**	*e*P	Pn	22 22 30.9	-0.7
WGK	**Gukeng** baz=6.0	**0.95**	**265**	P	Pb	22 22 31.9	+0.2
WGK	baz=265			S	Sb	22 22 45.1	+1.3
STYH	**Taoyuan** baz=265	**0.96**	**231**	*e*P	Pn	22 22 31.3	-0.5
STYH	baz=231			*e*S	Sn	22 22 43.3	-1.3
LONT	**Longtian** baz=231	**0.96**	**206**	*e*P	Pn	22 22 30.5	-1.3
WDLH	**Douliu** baz=190	**0.97**	**265**	P	Pb	22 22 32.1	+0.1
WDLH	baz=265			S	Sn	22 22 44.6	-0.2
STYT	**Tauyuan** baz=265	**0.98**	**232**	⇑*i*P	Pn	22 22 31.8	-0.3
STYT	baz=231			S	Sn	22 22 44.8	-0.3
NSY	**Sanyi** baz=231	**0.99**	**310**	P	Pb	22 22 33.2	+0.7
NSY	baz=311			S	Sb	22 22 45.8	+0.7
WCHH	**Zhanghua** baz=311	**0.99**	**288**	*e*P	Pb	22 22 32.6	+0.1
WCHH	baz=288			*e*S	Sb	22 22 46.2	+1.1
NWLT	**Wulai** baz=288	**1.00**	**355**	*e*P	Pn	22 22 31.5	-0.8
NWLT	baz=354			*e*S	Sn	22 22 43.9	-1.7
TPUB	**Ta-pu** baz=354	**1.00**	**242**	P	Pn	22 22 32.5	+0.1
TPUB	baz=242			S	Sb	22 22 46.3	+0.9
NSTT	**Nanjuang** baz=242	**1.01**	**328**	⇑*i*P	Pn	22 22 32.6	+0.2
NSTT	baz=322			*i* S	Sn	22 22 44.9	-0.9
CHN4	**Tsaushan** baz=322	**1.01**	**245**	⇑*i*P	Pb	22 22 32.8	+0.1
CHN4	baz=246			S	Sb	22 22 47.1	+1.5
LIOB	**Emei** baz=246	**1.01**	**329**	P	Pb	22 22 33.0	+0.1
LIOB	baz=323			*e*S	Sn	22 22 45.7	-0.3
WDJ	**Dajia District** baz=323	**1.04**	**303**	*e*P	Pb	22 22 33.7	+0.4
WDJ	baz=304			*e*S	Sb	22 22 47.7	+1.2
WTP	**Ta-pu** baz=304	**1.04**	**240**	⇑*i*P	Pb	22 22 33.2	-0.1
WTP	baz=247			S	Sb	22 22 46.8	+0.3
CHN2	**Minshiung** baz=247	**1.05**	**257**	*e*P	Pb	22 22 34.1	+0.7
CHN2	baz=257			*e*S	Sb	22 22 48.4	+1.6
NMLH	**Miaoli** baz=257	**1.05**	**316**	*e*P	Pb	22 22 33.7	+0.2
NMLH	baz=316			*e*S	Sb	22 22 47.6	+0.7
NJD	**Zhudong** baz=316	**1.06**	**334**	*e*P	Pb	22 22 34.0	+0.4
NJD	baz=342			*e*S	Sb	22 22 49.0	+1.9
TWGBT	**Beinan** baz=342	**1.06**	**206**	*e*P	Pn	22 22 30.9	-2.3
TWG	**Pinlang** baz=191	**1.06**	**207**	P	Pn	22 22 31.0	-2.2
NTC	**Toucheng** baz=191	**1.09**	**11**	*e*P	Pb	22 22 35.3	+1.1
NTC	baz=357			*e*S	Sb	22 22 49.9	+1.8
TTN	**Taitung** baz=357	**1.10**	**202**	*e*P	Pn	22 22 32.9	-0.8
LDUT	**Ludao** baz=201	**1.10**	**186**	*e*P	Pn	22 22 32.0	-1.8
LDUT	baz=175			*e*S	Sb	22 22 48.2	0.0
CHY	**Chiayi** baz=175	**1.11**	**256**	P	Pb	22 22 34.3	0.0
CHY	baz=256			S	Sb	22 22 48.9	+0.5
WTK	**Tuku** baz=256	**1.11**	**266**	*e*P	Pb	22 22 34.5	+0.1
WTK	baz=266			*e*S	Sb	22 22 49.3	+1.0
WRL	**Guolierlin Hig** baz=266	**1.12**	**277**	*e*P	Pn	22 22 34.3	+0.3
WRL	baz=277			*e*S	Sn	22 22 48.8	+0.2
HSN1	**Hsinchu** baz=277	**1.13**	**332**	*e*P	Pb	22 22 35.1	+0.3
HSN1	baz=318			*e*S	Sb	22 22 51.1	+2.2
TWK	**Hsinying** baz=318	**1.13**	**244**	⇓*i*P	Pb	22 22 34.6	-0.2
TWK	baz=244			*i* S	Sb	22 22 50.2	+1.0
CHN1	**Nanshi** baz=244	**1.14**	**239**	P	Pb	22 22 34.9	-0.1
CHN1	baz=251			S	Sb	22 22 50.6	+1.3
SNST	**Tainan City** baz=251	**1.15**	**241**	*e*P	Pb	22 22 34.9	-0.2
SNST	baz=242			*e*S	Sb	22 22 50.9	+1.3
SBCB	**Hsinchu** baz=242	**1.15**	**331**	*e*P	Pb	22 22 35.6	+0.4
SBCB	baz=316			*e*S	Sb	22 22 50.3	+0.6
SGST	**Jiashian** baz=316	**1.16**	**233**	*e*P	Pn	22 22 34.1	-0.3
SGST	baz=223			*e*S	Sb	22 22 50.3	+0.5
SLGT	**Liugui** baz=223	**1.17**	**228**	*e*P	Pb	22 22 35.3	-0.1
SLGT	baz=219			*e*S	Sb	22 22 50.6	+0.4
HSN	**Hsinchu** baz=219	**1.17**	**331**	*e*P	Pn	22 22 34.0	-0.7
HSN	baz=318			*e*S	Sb	22 22 52.1	+1.9
NHDH	**Xindian Distri** baz=318	**1.18**	**357**	*e*P	Pb	22 22 35.4	-0.3
NHDH	baz=355			*e*S	Sn	22 22 49.5	-0.6
TATO	**Taipei** baz=355	**1.20**	**355**	*e*P	Pn	22 22 34.7	-0.3
TWA	**Mucha** baz=7.0	**1.20**	**360**	*e*P	Pn	22 22 35.1	+0.1
TWA	baz=358			*e*S	Sn	22 22 49.6	-0.9
TIPB	**Shuangxi** baz=358	**1.21**	**10**	*e*P	Pn	22 22 35.3	+0.1
TIPB	baz=357			*e*S	Sb	22 22 52.8	+1.4
NCUH	**Zhongli** baz=357	**1.24**	**343**	*e*P	Pb	22 22 36.6	-0.1
NCUH	baz=341			*e*S	Sb	22 22 52.6	+0.3
NCU	**National Centr** baz=341	**1.24**	**343**	*e*P	Pb	22 22 37.0	+0.3
NCU	baz=341			*e*S	Sb	22 22 53.6	+1.3
WSF	**Szhu** baz=341	**1.26**	**264**	*e*P	Pb	22 22 36.9	-0.1
WSF	baz=265			*e*S	Sb	22 22 53.5	+0.6
ICHU	**Yijhu** baz=265	**1.27**	**251**	*e*P	Pb	22 22 37.0	-0.2
ICHU	baz=252			*e*S	Sb	22 22 53.0	-0.1
TWB1	**Santiao Chiao** baz=252	**1.28**	**16**	*e*P	Pb	22 22 37.7	+0.4
TWB1	baz=1.0			*e*S	Sb	22 22 53.5	+0.2
NWF	**Wu-fen Shan** baz=1.0	**1.30**	**8**	*e*P	Pb	22 22 37.4	-0.4
NWF	baz=5.0			*e*S	Sb	22 22 54.6	+0.5
WFSB	**Wu-fen Shan** baz=5.0	**1.30**	**8**	*e*P	Pb	22 22 37.4	-0.2
WFSB	baz=5.0			*e*S	Sb	22 22 54.2	+0.2
ECL	**Taimali** baz=195	**1.31**	**207**	*e*P	Pn	22 22 35.9	-0.7
CHN3	**Shinhua** baz=239	**1.32**	**239**	*e*P	Pb	22 22 38.5	+0.4
CHN3	baz=239			*e*S	Sb	22 22 57.2	+2.5
TWS1	**Kuangyinshan** baz=3.0	**1.33**	**353**	*e*P	Pb	22 22 37.6	-0.5
TWS1	baz=3.0			*e*S	Sb	22 22 55.5	+0.8
CHN8	**Yiju** baz=252	**1.34**	**252**	*e*P	Pb	22 22 37.7	-0.6
CHN8	baz=252			*e*S	Sb	22 22 55.6	+0.6
SCST	**Cishan** baz=244	**1.34**	**229**	*e*P	Pb	22 22 39.0	+0.6
SCST	baz=244			*e*S	Sb	22 22 57.2	+2.1
SSD	**Sandimen** baz=229	**1.35**	**221**	*e*P	Pn	22 22 37.3	+0.2
YM01	**YM01** baz=359	**1.36**	**359**	*e*P	Pn	22 22 37.6	+0.3
TSMG	**Majia** baz=220	**1.38**	**219**	*e*P	Pb	22 22 38.5	-0.5
TSMG	baz=220			*e*S	Sb	22 22 57.3	+1.2
TNOU	**National Taiwa** baz=7.0	**1.38**	**7**	*e*P	Pb	22 22 38.7	-0.3
ANP	**Anpu** baz=358	**1.41**	**357**	*e*P	Pn	22 22 38.7	+0.7
JYNG	**Yonagunijimaku**	**1.41**	**61**	P	Pn	22 22 38.0	+0.1
JYNG				S	Sb	22 22 56.3	-0.7
TWM1	**Shoushan** baz=241	**1.43**	**229**	*e*P	Pb	22 22 40.7	+0.7
MASBT	**Mashibuluo** baz=218	**1.46**	**217**	*e*P	Pn	22 22 38.0	-0.5
MASBT	baz=218			*e*S	Sb	22 22 58.0	-0.4
YOJ	**Yonaguni jima** baz=197	**1.47**	**62**	P	Pn	22 22 38.8	+0.1
YOJ				*e*S	Sb	22 22 58.0	-0.7
YOJ	**Yonaguni jima** baz=62	**1.47**	**62**	P	Pn	22 22 38.8	+0.1
EAST	**Anshuo** baz=197	**1.55**	**206**	*e*P	Pn	22 22 39.1	-0.8
SSPT	**Xinbi** baz=216	**1.59**	**216**	*e*P	Pn	22 22 40.8	+0.3
SCZT	**Fangliau** baz=214	**1.66**	**213**	*e*P	Pn	22 22 41.5	+0.1
SCZT	baz=214			*e*S	Sb	22 23 04.2	-0.1
SLIU	**Shizi** baz=195	**1.72**	**205**	*e*P	Pn	22 22 43.0	+0.9
LAY	**Lan-yu** baz=172	**1.73**	**181**	*e*P	Pn	22 22 40.3	-2.1
WDGT	**Dungji** baz=255	**1.85**	**254**	P	Pn	22 22 44.0	0.0
WDGT	baz=255			*e*S	Sn	22 23 05.8	-0.7
PHUB	**P'eng-hu** baz=248	**1.87**	**262**	*e*P	Pn	22 22 44.4	+0.1
PHUB	baz=248			*e*S	Sn	22 23 07.1	0.0
PNG	**Penghu** baz=265	**1.88**	**264**	P	Pn	22 22 44.6	+0.3
PNG	baz=265			S	Sn	22 23 07.5	+0.2
PCYT	**Pengchaiyu** baz=358	**1.90**	**13**	*e*P	Pn	22 22 45.3	+0.6
HEN	**Hengchun** baz=195	**1.93**	**204**	*e*P	Pb	22 22 47.5	-0.9
TWK1	**Hengchun** baz=193	**1.96**	**202**	*e*P	Pn	22 22 47.0	+1.4
TWKBT	**Hengchun** baz=193	**1.96**	**202**	*e*P	Pn	22 22 46.1	+0.5
TSEB	**Hengchuen, Pin** baz=189	**1.97**	**199**	*e*P	Pn	22 22 47.1	+1.4
IRIF	**Iriomote-Funau**	**2.03**	**74**	P	Pn	22 22 46.7	+0.2
IRIF				*e*S	Sn	22 23 11.4	+0.4
HATJ	**Hateruma jima**	**2.04**	**82**	P	Pn	22 22 46.6	-0.1
HATJ				*e*S	Sn	22 23 10.8	-0.6
VCHM	**Qimei** baz=256	**2.06**	**255**	*e*P	Pn	22 22 47.0	0.0
VCHM	baz=256			*e*S	Sn	22 23 12.0	+0.1
JKRS	**Kuro-shima**	**2.26**	**78**	P	Pn	22 22 49.9	+0.3
JKRS				S	Sn	22 23 17.1	+0.5
JIJ	**Ishigaki jima**	**2.40**	**75**	P	Pn	22 22 51.4	-0.2
JIJ				S	Sn	22 23 19.4	-0.8
PTMZ	**Houxiangcun** baz=300	**2.58**	**300**	*e*P	Pn	22 22 54.5	+0.4
PTMZ	baz=300			*e*S	Sn	22 23 23.3	-1.3
JISG	**Ishigakijimahi**	**2.61**	**71**	P	Pn	22 22 54.3	-0.1
JISG				S	Sn	22 23 24.3	-1.0
MATB	**Ma-tsu** baz=327	**2.80**	**328**	*e*P	Pn	22 22 56.6	-0.5
KNM	**Kinmen** baz=282	**2.96**	**283**	*e*P	Pn	22 23 00.7	+1.5
JTJ	**Tarama**	**2.97**	**73**	P	Pn	22 22 59.5	+0.2
JTJ				*e*S	Sn	22 23 34.4	+0.3
KNMB	**Chin-men Tao** baz=284	**3.01**	**284**	*e*P	Pn	22 22 59.5	-0.4
LYJJ	**Jianjiangzhen** baz=328	**3.22**	**329**	*e*P	Pn	22 23 03.2	+0.4
XPSS	**Dashiqiu** baz=337	**3.39**	**338**	*e*P	Pn	22 23 04.4	-0.7
JIRB	**Irabujima**	**3.43**	**72**	*e*S	Sn	22 23 46.3	+0.7
AXDP	**Jialang** baz=290	**3.49**	**289**	*e*P	Pn	22 23 07.3	+0.8
ZPLA	**Ao Xicun** baz=273	**3.52**	**273**	*e*P	Pn	22 23 06.6	-0.3
JIKM	**Ikemajima**	**3.52**	**70**	P	Pn	22 23 08.5	+1.5
JMJ2	**Miyako jima3**	**3.54**	**74**	P	Pn	22 23 08.2	+0.9
JMJ2				*e*S	Sn	22 23 48.3	0.0

*ISK **02** 22:22:25.9, 39.˙68N×27.˙85E, h6km, ML4.0/50*
*DDA **02** 22:22:25.7, 39.˙66N×27.˙84E, h12km±1km, MW3.9*
*IDC **02** 22:22:27.0±2.1, 39.˙10N×28.˙05E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/35, mbtmp3.3/3, ML3.1/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/22, Error ellipse: s-maj=90.3km s-min=23.3km az=157.0*
*IASPEI **02** 22:22:26.2±0.8, 39.˙66N±0.˙02×27.˙85E±0.˙02, h11km±5km, Error ellipse: s-maj=2.5km s-min=2.3km az=42.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*SOF **02** 22:22:27.2, 39.˙90N×27.˙69E, h2km, MD3.9*
*THE **02** 22:22:28.4, 39.˙64N×27.˙81E, h20km±3km, ML3.7/5, Error ellipse: s-maj=3.5km s-min=0.9km az=60.0*

ISC 02 22:22:26.2±0.8, 39.˙66N±0.˙01×27.˙85E±0.˙01, h10km±5km, n183, σ0.92/245, 28C-24D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.03**	**121**		PG		**Pg**	**22 22 28.2**	**+0.1**
BALB					SG		**Sg**	**22 22 29.4**	**0.0**
BALY	**Balya**	**0.20**	**296**	⇓*i*P	P		**Pg**	**22 22 30.4**	**0.0**
BALY				*i* S	S		**Sg**	**22 22 33.5**	**+0.2**
BALY				IAML				22 22 35.0	
	comp=N,20μm,0.7s								
BALY				IAML				22 22 35.0	
	comp=E,8μm,0.5s								
STEP	**BALIKESIR_Sava**	**0.30**	**200**	⇑*i*P	P		**Pg**	**22 22 32.2**	**+0.1**
STEP				*i* S	S		**Sb**	**22 22 37.1**	**-1.5**
STEP				IAML				22 22 38.0	
	comp=E,19μm,0.3s								
STEP				IAML				22 22 39.0	
	comp=N,16μm,0.4s								
GONE	**Gonen-Balikesi**	**0.41**	**342**		PG		**Pg**	**22 22 34.3**	**0.0**
GONE					SG		**Sg**	**22 22 39.9**	**+0.1**
DURS	**Dursunbey**	**0.49**	**96**	⇓*i*P	P		**Pg**	**22 22 35.4**	**-0.3**
DURS				*i* S	S		**Sg**	**22 22 42.5**	**+0.3**
DURS				IAML				22 22 43.0	
	comp=N,13μm,0.3s								
DURS				IAML				22 22 43.0	
	comp=E,15μm,0.2s								
DST	**Dursunbey**	**0.60**	**95**		PG		**Pg**	**22 22 37.6**	**-0.2**
BUHA	**Balikesir, Bur**	**0.61**	**256**	⇑*i*P	P		**Pg**	**22 22 37.9**	**-0.2**
BUHA				*i* S	S		**Sb**	**22 22 47.0**	**-0.8**
BUHA				IAML				22 22 50.0	
	comp=E,4μm,0.5s								
BUHA				IAML				22 22 51.0	
	comp=N,3μm,0.4s								
KNL	**Balıkesir**	**0.66**	**338**	⇓*i*P	P		**Pg**	**22 22 38.7**	**-0.4**
KNL				*i* S	S		**Sg**	**22 22 48.0**	**+0.2**
KNL				IAML				22 22 49.0	
	comp=N,3μm,0.3s								
KNL				IAML				22 22 50.0	
	comp=E,3μm,0.4s								
EDC	**Edincik**	**0.69**	**1**		PG		**Pg**	**22 22 39.3**	**-0.3**
EDC					SG		**Sg**	**22 22 48.9**	**+0.2**
KCTX	**Karacabey (Bur**	**0.72**	**33**		PG		**Pg**	**22 22 39.8**	**-0.4**
KCTX					SG		**Sg**	**22 22 49.7**	**0.0**
AKHS	**Akhisar**	**0.78**	**182**	⇑*i*P	P		**Pg**	**22 22 40.9**	**-0.3**
AKHS				*i* S	S		**Sb**	**22 22 52.2**	**-0.2**
AKHS				IAML				22 22 53.0	
	comp=E,2μm,0.5s								
KRBG	**Karabiga-Canak**	**0.85**	**330**		PG		**Pg**	**22 22 41.9**	**-0.7**
KRBG					SG		**Sb**	**22 22 54.3**	**-0.2**
DEMI	**Demirci**	**0.91**	**132**	⇓*i*P	P		**Pb**	**22 22 43.5**	**-0.6**
DEMI				*i* S	S		**Sb**	**22 22 55.8**	**-0.6**
ZEDA	**zmir-Bergama**	**0.91**	**221**	⇑*i*P	P		**Pg**	**22 22 43.4**	**-0.4**
ZEDA				*i* S	S		**Sn**	**22 22 57.2**	**-1.1**
ZEDA				IAML				22 22 59.0	
	comp=N,3μm,0.6s								
ZEDA				IAML				22 22 59.0	
	comp=E,3μm,0.7s								
DKL	**Dikili**	**0.94**	**232**		PG		**Pb**	**22 22 44.1**	**-0.4**
DKL					SG		**Sn**	**22 22 58.5**	**-0.3**
GOMA	**Golmarmara-Man**	**0.95**	**177**		PG		**Pn**	**22 22 44.9**	**-0.7**
AYVA	**Ayvalik**	**0.96**	**249**	⇑*i*P	P		**Pg**	**22 22 44.2**	**-0.5**
AYVA				*i* S	S		**Sn**	**22 22 59.0**	**-0.4**
AYVA				IAML				22 23 00.0	
	comp=E,4μm,0.5s								
AYVA				IAML				22 23 02.0	
	comp=N,4μm,0.3s								
MRMT	**Marmara Adasi**	**0.97**	**349**		PG		**Pg**	**22 22 44.7**	**-0.2**
MRMT					SG		**Sb**	**22 22 58.3**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.01**	**275**	*i* P	P		**Pb**	**22 22 44.7**	**-1.0**
BAYC				*i* S	S		**Sg**	**22 22 58.1**	**-0.7**
BAYC				IAML				22 23 01.0	
	comp=N,4μm,0.4s								
BAYC				IAML				22 23 01.0	
	comp=E,5μm,0.6s								
SMAA	**Simav-Kutahya**	**1.04**	**122**		PG		**Pn**	**22 22 46.5**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.07**	**48**		PG		**Pb**	**22 22 46.3**	**-0.5**
MDNY					SG		**Sn**	**22 23 01.2**	**-0.9**
CAND	**Candarli**	**1.07**	**230**		PN		**Pb**	**22 22 46.5**	**-0.3**
ULDT	**Uludag**	**1.10**	**63**	⇑*i*P	P		**Pb**	**22 22 46.8**	**-0.7**
ULDT				*i* S	S		**Sg**	**22 23 01.8**	**-0.1**
ULDT				IAML				22 23 05.0	
	comp=N,3μm,0.3s								
ULDT				IAML				22 23 07.0	
	comp=E,2μm,0.4s								
MAR2	**Marsite Statio**	**1.14**	**339**		PN		**Pb**	**22 22 47.8**	**-0.2**
MAR6	**Marsite Statio**	**1.14**	**337**		PN		**Pn**	**22 22 47.9**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.15**	**334**		PN		**Pb**	**22 22 48.0**	**-0.3**
RKY					SN		**Sn**	**22 23 04.3**	**0.0**
SART	**Tekirdag**	**1.15**	**334**	*i* P	P		**Pb**	**22 22 47.8**	**-0.5**
SART				*i* S	S		**Sn**	**22 23 04.2**	**-0.2**
GZKV	**Gazikoy-Tekird**	**1.16**	**340**		PN		**Pg**	**22 22 48.5**	**-0.1**
MAR3	**Marsite Statio**	**1.17**	**339**		PN		**Pb**	**22 22 48.2**	**-0.3**
MAR3					SN		**Sn**	**22 23 04.4**	**-0.2**

EZN **Ezine** 1.19 279 P Pn 22 22 48.3 -0.6
EZN S Sb 22 23 04.0 -0.2
comp=E,2μm,0.9s
EZN **Ezine** 1.19 279 PN Pg 22 22 49.2 +0.2
ARMT **Armutlu** 1.20 40 PN Pb 22 22 48.7 -0.3
IGD **Bursa** 1.21 59⇑ i P Pn 22 22 48.5 -0.7
IGD i S Sn 22 23 06.1 +0.6
SHAP **Saphane-Kutahy** 1.24 120 PN Pg 22 22 50.6 +0.6
TVSB **Tavsanli** 1.26 99 PN Pg 22 22 50.4 -0.1
FOCM **Foa** 1.28 223 PN Pb 22 22 50.1 -0.3
MANT **Manisa** 1.29 154⇑ i P Pg 22 22 50.4 -0.6
MANT i S Sn 22 23 06.9 -1.0
PRK **Paraskevi** 1.29 252 P Pb 22 22 50.3 -0.2
PRK S Sb 22 23 06.6 -0.5
comp=E,5μm,0.5s
GELI **Tayfur-Gelibol** 1.29 306 PN Pb 22 22 50.4 -0.2
GEMT **Gemlik** 1.29 52 PN Pn 22 22 49.9 -0.4
KULA **Kula-Manisa** 1.30 151 P Pg 22 22 50.8 -0.5
KULA S Sg 22 23 07.7 -0.5
KULA **Kula-Manisa** 1.30 151 PN Pg 22 22 50.9 -0.4
USAK **Uak-Merkez** 1.31 136⇓ i P Pb 22 22 50.6 -0.3
USAK i S Sg 22 23 07.6 -0.7
KOCA **Canakkale, Ayv** 1.33 264 i P Pn 22 22 50.7 -0.2
KOCA i S Sg 22 23 08.6 -0.4
KOCA IAML 22 23 11.0
comp=N,3μm,1.0s
KOCA IAML 22 23 14.0
comp=E,2μm,0.6s
ECEA **Canakkale, Ece** 1.35 287 i P Pb 22 22 51.4 -0.1
ECEA i S Sg 22 23 09.1 -0.5
ECEA IAML 22 23 13.0
comp=N,2μm,0.5s
ECEA IAML 22 23 15.0
comp=E,2μm,0.5s
TKR **Tekirdag** 1.35 350 PN Pb 22 22 51.7 0.0
GEDZ **Gediz** 1.36 116 PN Pg 22 22 52.2 -0.1
GDZ **Gediz** 1.39 114 ⇓ i P Pb 22 22 52.1 -0.2
GDZ i S Sg 22 23 10.7 -0.2
TRML **Termal-Yalova** 1.39 46 PN Pn 22 22 50.9 -0.8
BOZC **Bozcaada** 1.40 278 i P Pn 22 22 51.1 -0.1
BOZC i S Sb 22 23 10.2 -0.1
BOZC **Bozcaada** 1.40 278 PN Pb 22 22 52.5 +0.1
BLCB **Balcova** 1.42 207 P Pn 22 22 51.0 -1.0
ERIK **Erikli-Kesan** 1.44 315 PN Pb 22 22 52.9 -0.2
KESN **Edirne-Kesan** 1.47 323 ⇓ i P Pn 22 22 52.5 -0.6
KESN i S Sn 22 23 12.3 -0.3
CRLT **Corlu** 1.48 357 PN Pn 22 22 52.7 -0.1
YLV **Yalova** 1.48 52 PN Pb 22 22 53.7 -0.2
AVCI **Avcilar-stanb** 1.50 26 PN Pb 22 22 53.9 -0.2
BUY **Buyukada** 1.54 39 i P Pn 22 22 52.4 -1.4
BUY i S Sg 22 23 16.4 +0.6
ELBA **Catalca** 1.56 16 i P Pn 22 22 53.1 -0.9
ELBA i S Sb 22 23 15.0 +0.1
GOKA **anakkale-Gk** 1.58 290 i P Pn 22 22 54.4 0.0
GOKA i S Sg 22 23 16.4 -0.8
ANDZ **Kutahya, Merke** 1.59 95⇑ i P Pb 22 22 54.7 -1.1
ANDZ i S Sg 22 23 17.3 -0.2
GADA **Gvkgeada** 1.59 290 P Pn 22 22 54.4 0.0
GADA S Sn 22 23 14.1 -0.9
comp=E,2μm,1.0s
GADA **Gvkgeada** 1.59 290 PN Pb 22 22 55.0 -0.7
SLVT **Silivri** 1.60 10 PN Pb 22 22 54.9 -0.9
SIGR **SIGRI** 1.61 255 P Pn 22 22 54.0 -0.6
SIGR S Sn 22 23 14.3 -1.1
comp=E,2μm,0.6s
SIGR **SIGRI** 1.61 255 PN Pb 22 22 55.7 -0.2
URLA **Izmir** 1.62 217 i P Pn 22 22 54.0 -0.9
URLA i S Sn 22 23 15.5 -0.3
URLA **Izmir** 1.62 217 PN Pb 22 22 55.9 -0.3
CAVI **Cavuskoy** 1.63 70 PN Pb 22 22 56.1 -0.3
BILE **Bilecik/Merkez** 1.64 71 i P Pn 22 22 54.8 -0.4
BILE i S Sg 22 23 18.6 -0.3
ADVT **Abdulvahap** 1.65 61 PN Pb 22 22 56.3 -0.3
CAVK **Edirne/Enez-Ca** 1.65 309 ⇓ i P Pn 22 22 55.3 0.0
CAVK i S Sn 22 23 16.6 +0.1
CTKS **Kestanelik-??a** 1.66 17 PN Pb 22 22 55.9 -0.9
BGKT **Bogazkoy** 1.68 25 PN Pb 22 22 56.5 -0.7
KAVV **Kandilli-Istan** 1.69 33 PN Pb 22 22 56.5 -0.8
ENEZ **Enez** 1.69 310 P Pn 22 22 55.9 +0.1
ENEZ S Sn 22 23 15.8 -1.6
comp=E,1μm,0.5s
ENEZ **Enez** 1.69 310 PN Pn 22 22 56.1 +0.3
AUBOZ **BOZOYUK** 1.70 81 i P Pn 22 22 55.7 -0.4
AUBOZ i S Sg 22 23 20.5 -0.4
AUBOZ **BOZOYUK** 1.70 81 PN Pb 22 22 56.8 -0.9
AYDB **Zeytinkoy-Aydi** 1.71 179 PN Pb 22 22 56.8 -1.0
UKOP **Uzunkopru-Edir** 1.74 328 PN Pb 22 22 57.6 -1.1
ZEYE **Izmir, Urla-Ze** 1.76 217 i P Pn 22 22 55.8 -1.0
ZEYE i S Sg 22 23 23.8 +1.0
DGB **zmir** 1.77 206 i P Pn 22 22 57.0 +0.1
DGB i S Sg 22 23 21.6 -1.5
CESE **eme** 1.79 223 PN Pb 22 22 58.3 -0.8
HRT **Hereke** 1.82 50 PN Pb 22 22 58.3 -1.3
PASA **Karahalli, USA** 1.83 135 i P Pn 22 22 57.8 0.0
PASA i S Sg 22 23 24.0 -0.9
KLYT **Kilyos** 1.84 29 PN Pn 22 22 58.2 +0.4
CTYL **Yalikoy Yolu** 1.85 10 PN Pn 22 22 57.6 -0.4
ALN **Alexandroupoli** 1.85 313 P Pn 22 22 57.8 -0.3
ALN **Alexandroupoli** 1.85 313 PN Pn 22 22 57.9 -0.2
CHOS **Chios island** 1.89 228 P Pn 22 22 57.9 -0.7
CHOS **Chios island** 1.89 228 PN Pb 22 22 59.7 -1.1
VIZE **Kirklareli, Vi** 1.92 360 i P Pn 22 22 58.1 -0.9
VIZE i S Sn 22 23 22.3 -1.0
SMTH **Samothraki Isl** 1.96 295 P Pn 22 22 59.0 -0.5
PHSR **Pinarhisar** 1.99 353 PN Pn 22 23 00.5 +0.6
GPA **Golpazari** 2.00 71 PN Pb 22 23 01.0 -1.6
GCAM **G?zelcaml?** 2.01 194 i P Pn 22 22 59.0 -1.2
GCAM i S Sg 22 23 30.9 +0.1
GCAM **G?zelcaml?** 2.01 194 PN Pb 22 23 01.6 -1.2
BORA **Eskisehir** 2.02 83 i P Pn 22 23 00.3 -0.1
BORA i S Sg 22 23 30.7 -0.5
BORA **Eskisehir** 2.02 83 PN Pb 22 23 01.5 -1.6
SILT **Sile** 2.03 42 PN Pb 22 23 01.5 -1.7
GEYV **SAKARYA_Geyve** 2.05 65 i P Pn 22 23 00.4 -0.4
GEYV i S Sg 22 23 32.4 +0.2
LIA **Limnos Island** 2.07 278 P Pn 22 23 00.9 -0.1
AFYO **Afyonkarahisar** 2.09 114 i P Pg 22 23 05.3 -1.1
AFYO i S Sg 22 23 33.6 +0.2
SMG **Samos** 2.10 202 P Pn 22 23 00.1 -1.3
AUKIR **Kırka- Seyitga** 2.11 99 i P Pb 22 23 04.2 -0.5
AUKIR i S Sg 22 23 34.0 -0.1
SRCK **Saricakaya, Es** 2.17 79 PN Pb 22 23 02.8 +0.3
SAUV **Serdivan-Sakar** 2.19 59 PN Pb 22 23 03.9 -2.0
GULT **Gulveren** 2.19 68 PN Pn 22 23 03.6 +0.8
DDIM **Aydin, Didim** 2.25 192 i P Pb 22 23 06.4 -0.5
DDIM i S Sg 22 23 38.5 +0.1
KZIL **AFYON_Kizioren** 2.27 127 i P Pn 22 23 04.0 +0.1
KZIL i S Sg 22 23 39.8 +0.6
RDO **Rodhopi** 2.31 311 P Pn 22 23 04.4 +0.1
KAYN **Sakarya, Kayna** 2.31 55 i P Pn 22 23 03.8 -0.6
KAYN i S Sg 22 23 39.2 -1.3
SGAZ **Eskisehir, Sey** 2.31 92 i P Pn 22 23 04.3 -0.2
SGAZ i S Sg 22 23 39.9 -0.7
TAVA **DENIZLI_Tavas** 2.34 159 i P Pn 22 23 04.8 0.0
TAVA i S Sg 22 23 42.5 +1.1
MULA **Mugla, Merkez-** 2.42 171 i P Pn 22 23 05.4 -0.5
MULA i S Sb 22 23 39.8 -0.1
BRDR **BURDUR-Merkez** 2.61 138 i P Pn 22 23 08.7 +0.2
BRDR i S Sg 22 23 54.2 +4.0
BODT **Bodrum** 2.62 189 P Pn 22 23 07.6 -1.1
GOLH **Golhisar** 2.76 150 i P Pn 22 23 10.2 -0.5
GOLH i S Sb 22 23 46.7 -3.0
CAEL **Denizli, Camel** 2.78 155 i P Pn 22 23 12.5 +1.5
CAEL i S Sg 22 24 00.3 +4.8
DAT **Datca** 2.93 184 P Pn 22 23 12.3 -0.6
DIM **Dimitrovgrad** 2.97 324 P Pn 22 23 13.1 -0.3
DIM **Dimitrovgrad** 2.97 324 Pg Pb 22 23 20.2 +1.0
JMB **Yambol** 2.97 342 P Pn 22 23 13.8 +0.4
YVAC **Isparta, Yalva** 2.98 117 i P Pn 22 23 14.4 +0.7
YVAC i S Sg 22 24 01.4 -0.7
OUR **Ouranopolis** 3.05 284 P Pn 22 23 14.2 -0.2
RZN **Rozhen** 3.13 311 i P Pn 22 23 15.9 +0.1
APE **Apeiranthos** 3.16 216 ⇑P Pb 22 23 24.1 +1.6
PLD **Plovdiv** 3.42 317 i P Pn 22 23 19.8 +0.3
ROIA **ROIAK** 3.45 354 P Pn 22 23 20.8 +0.7
NVR **Nevrokopi** 3.48 300 P Pn 22 23 20.7 +0.3
PRD **Provadia** 3.56 355 P Pn 22 23 21.7 +0.2
MMB **Musomiste** 3.68 303 i P Pn 22 23 23.0 -0.2
KALB **Balgarevo** 3.77 6 ⇑P Pn 22 23 25.3 +0.9
KALB **Balgarevo** 3.77 6 ⇑S Sn 22 24 08.5 -0.3

SANT **Santorini** 3.78 211 ⇑P Pb 22 23 32.0 -1.1
PGB **Panagyurishte** 4.01 317 i P Pn 22 23 27.7 -0.1
PSN **Preselentsi** 4.03 3 P Pn 22 23 27.3 -0.7
KKB **Krupnik** 4.24 303 i P Pn 22 23 30.9 0.0
VAY **Valandovo** 4.36 294 i Pn Pb 22 23 39.5 -3.4
ICOR **Ion Corvin** 4.46 360 ⇑P Pn 22 23 35.2 +1.4
BRTR **Keskin Array B** 4.47 87 Pn Pn 22 23 34.8 +0.6
comp=E,1.0nm,0.3s,baz=264,slow=12,SNR=26
BRTR Pg Pg 22 23 49.2 -2.7
comp=E,2.6nm,0.3s,baz=267,slow=15,SNR=25
BRTR Lg Lg 22 24 53.0
comp=E,4.4nm,0.3s,baz=266,slow=26,SNR=9.8
BRTR LR LR 22 25 31.3
comp=E,35nm,20.0s,baz=302,slow=42
VTS **Vitosha** 4.57 312 ⇓P Pn 22 23 35.2 -0.3
VTS **Vitosha** 4.57 312 P Pn 22 23 35.9 +0.4
STIP **Stip** 4.76 297 i Pn Pn 22 23 36.7 -1.3
MPEP **Malo Peshtene** 4.81 321 P Pn 22 23 39.0 +0.2
TIRR **Tirgusor** 4.82 5 ⇑P Pn 22 23 38.6 -0.1
HARR **Harsova** 5.03 1 ⇓P Pn 22 23 42.2 +0.5
BZK **Bozkurt** 5.21 62 ⇓P Pn 22 23 49.3 +5.2
TPGR **Topolog** 5.21 4 ⇓P Pn 22 23 46.0 +1.7
HUMR **Humele** 5.32 337 ⇑P Pn 22 23 45.4 -0.2
CFR **Carcaliu** 5.52 2 ⇓P Pn 22 23 47.9 -0.5
TLCR 5.57 7 ⇑P Pn 22 23 51.5 +2.4
NEHR **Nehoiu** 5.88 349 ⇓P Pn 22 23 55.0 +1.6
DIKM **Dikmen** 5.98 68 ⇓P Pn 22 24 01.5 +6.8
MLR **Muntele Rosu** 6.00 347 ⇑P Pn 22 23 55.8 +0.6
BOVS **Bovan** 6.08 313 ⇓P Pn 22 23 56.9 +0.7
ODBI **Odobesti** 6.13 355 ⇑P Pn 22 23 58.1 +1.2
VOIR 6.14 341 ⇑P Pn 22 23 57.1 +0.1
ARR **Arges** 6.18 338 ⇓P Pn 22 23 58.4 +0.8
VARL **Varlezi** 6.24 0 ⇓P Pn 22 23 59.4 +1.1
VRI **Vrincioaia** 6.26 353 ⇓P Pn 22 24 01.0 +2.3
LOT **Lotru** 6.53 334 ⇓P Pn 22 24 02.1 -0.3
DOPR **Dopca** 6.56 345 ⇑P Pn 22 24 03.3 +0.5
HERR **Herculane** 6.59 324 ⇑P Pn 22 24 02.1 -1.1
OZUR 6.61 347 ⇑P Pn 22 24 04.0 +0.6
GZR **Gura Zlata** 6.85 329 ⇓P Pn 22 24 06.0 -0.7
MDVR **Moldovita** 6.85 320 ⇑P Pn 22 24 07.2 +0.4
TESR **Tescani** 6.91 353 ⇓P Pn 22 24 09.0 +1.5
PDG **Podgorica** 7.06 296 ⇓P Pn 22 24 10.6 +1.0
BZS **Buzias** 7.52 324 ⇑P Pn 22 24 14.8 -1.1
DRGR 8.06 334 ⇑P Pn 22 24 24.1 +0.8
BURAR **Bucovina Array** 8.18 347 ⇑P Pn 22 24 26.2 +1.1
SORM **Soroca** 8.48 2 ⇓P Pn 22 24 27.7 -1.4
MORH **Mrgy, Hungar** 9.40 317 *e*PN Pn 22 24 40.9 -0.8
MORH **Mrgy, Hungar** 9.40 317 *e*P Pn 22 24 41.5 -0.2
KOVH **Kovagotottos** 9.62 315 *e*PN Pn 22 24 43.6 -1.0
KOVH **Kovagotottos** 9.62 315 *e*P Pn 22 24 44.4 -0.2
MPLH **Magyarpolny** 10.61 318 *e*PN Pn 22 24 58.9 +0.7
MPLH **Magyarpolny** 10.61 318 *e*P Pn 22 24 59.5 +1.3
GERES **GERESS Array B** 13.66 317 Pn Pn 22 25 40.8 +0.8
comp=E,0.0nm,0.3s,baz=117,slow=14,SNR=1.8
TORD **Torodi Ar. Bea** 35.05 228 P P 22 29 19.5 +0.2
comp=E,0.4nm,0.6s,baz=34,slow=7.4,SNR=1.9
MKAR **Makanchi Array** 39.62 61 P P 22 30 01.4 +3.5
comp=E,0.2nm,0.5s,baz=288,slow=6.9,SNR=4.3

IDC ***02*** *22:31:25.7±0.6, 23°.05S×14°.07W, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/29, mbtmp4.1/18, MS3.6/15, Ms1 3.6/15, ms1mx3.5/27, Error ellipse: s-maj=18.7km s-min=14.9km az=153.0*
NEIC ***02*** *22:31:28.2±1.3, 23°.05±0°.1×14°.1W±0°.1, h10km±1km, mb4.8/36, Error ellipse: s-maj=19.1km s-min=18.4km az=144.0*
ISC 02 22:31:27.3±0.5, **23°.00S**±0°.09×**14°.11W**±0°.09, **h10**km, **n79**, σ0**97**/68, **mb4.5**/37, **MS3.7**/15, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	**ASCENSION HYDR**	**15.07**	**359**	T	T	22 50 15.2	
	baz=188,slow=20,SNR=6.7						
H10N3	**ASCENSION HYDR**	**15.08**	**359**	T	T	22 50 15.5	
	baz=188,slow=20,SNR=21						
H10N2	**ASCENSION HYDR**	**15.09**	**359**	T	T	22 50 14.2	
	baz=188,slow=20,SNR=7.2						
RCBR	**Riachuelo**	**27.07**	**306**	LR	LR	22 44 54.2	
	comp=Z,148nm,20.3s,baz=139,slow=30						
RCBR	**Riachuelo**	**27.07**	**306**	P	**P**	**22 37 08.2**	**-2.1**
TSUM	**Tsumeb**	**29.78**	**89**	LR	LR	22 47 18.1	
	comp=Z,64nm,21.1s,baz=322,slow=32						
LIC	**Lamto**	**30.38**	**18**	*e*PKP1	**P**	**22 37 43.7**	**+4.0**
	26nm,1.1s						
KIC	**Kosan Boka**	**30.59**	**19**	*e*PKP1	**P**	**22 37 42.9**	**+1.4**
	12nm,0.6s						
TIC	**Toumodi**	**30.78**	**18**	*e*PKP1	**P**	**22 37 43.8**	**+0.6**
DBIC	**Dimbokro**	**30.85**	**18**	P	**P**	**22 37 44.0**	**+0.2**
BDFB	**Brasilia**	**32.76**	**277**	P	**P**	**22 37 59.7**	**-1.1**
	2.3nm,0.6s,baz=78,slow=8.0,SNR=3.9						
BDFB	**Brasilia**	**32.76**	**277**	P	**P**	**22 38 00.2**	**-0.7**
BDFB				IAmb	IAmb	22 38 02.8	
	comp=Z,22nm,1.6s						
ITAB	**Concordia**	**34.59**	**255**	P	**P**	**22 38 17.1**	**+0.5**
ITAB				IAmb	IAmb	22 38 44.1	
	comp=Z,31nm,1.7s						
BOSA	**Boshof**	**35.77**	**107**	P	**P**	**22 38 25.1**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=298,slow=10,SNR=3.2						
BOSA				LR	LR	22 50 09.2	
	comp=Z,109nm,21.2s,baz=304,slow=32						
BOSA	**Boshof**	**35.77**	**107**	P	**P**	**22 38 25.4**	**-1.5**
PLTB	**Pedras Altas**	**35.98**	**247**	P	**P**	**22 38 28.5**	**0.0**
PLTB				IAmb	IAmb	22 39 08.9	
	comp=Z,21nm,1.6s						
LBTB	**Lobatse**	**36.24**	**101**	P	**P**	**22 38 30.0**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=312,slow=13,SNR=4.1						
LBTB	**Lobatse**	**36.24**	**101**	P	**P**	**22 38 30.9**	**-0.1**
LBTB				IAmb	IAmb	22 38 49.4	
	comp=Z,13nm,1.4s						
KOWA	**Kowa**	**38.56**	**16**	P	**P**	**22 38 50.6**	**+0.2**
KOWA				IAmb	IAmb	22 38 52.0	
	comp=Z,12nm,0.9s						
AQDB	**Aquidauana**	**38.62**	**266**	P	**P**	**22 38 51.1**	**+0.1**
SACV	**Santiago Islan**	**38.87**	**345**	P	**P**	**22 38 51.9**	**-1.1**
SACV				IAmb	IAmb	22 39 31.1	
	comp=Z,29nm,1.1s						
TOA0	**Torodi Ar. Sit**	**39.12**	**25**	P	**P**	**22 38 55.4**	**+0.3**
TOA0				IAmb	IAmb	22 38 56.7	
	comp=Z,35nm,1.1s						
TORD	**Torodi Ar. Bea**	**39.12**	**25**	P	**P**	**22 38 55.6**	**+0.4**
	comp=Z,16nm,0.7s,baz=202,slow=8.9,SNR=55						
TORD				LR	LR	22 52 04.0	
	comp=Z,158nm,19.8s,baz=210,slow=32						
TORD	**Torodi Ar. Bea**	**39.12**	**25**	P	**P**	**22 38 55.4**	**+0.3**
TORD				IAmb	IAmb	22 38 56.6	
	comp=Z,24nm,1.1s						
CPUP	**Villa Florida**	**39.28**	**256**	P	**P**	**22 38 57.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=69,slow=7.3,SNR=4.9						
CPUP	**Villa Florida**	**39.28**	**256**	P	**P**	**22 38 57.5**	**+1.0**
MATP	**Matopo**	**39.58**	**95**	P	**P**	**22 38 59.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=232,slow=7.8,SNR=2.8						
TRQA	**Tornquist**	**43.41**	**238**	P	**P**	**22 39 29.8**	**-0.5**
TRQA				IAmb	IAmb	22 40 34.6	
	comp=Z,41nm,1.8s						
SIV	**San Ignacio**	**44.66**	**270**	P	**P**	**22 39 42.2**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=116,slow=4.8,SNR=8.0						
VNA2	**Neumayer-Watz**	**48.10**	**177**	P	**P**	**22 40 07.0**	**+0.1**
	baz=338,slow=9.7						
MBAR	**Mbarara**	**48.91**	**69**	LR	LR	22 58 12.8	
	comp=Z,30nm,20.8s,baz=220,slow=33						
SNAA	**Sanae**	**49.12**	**175**	P	**P**	**22 40 14.8**	**0.0**
	comp=Z,1.8nm,0.9s,baz=16,slow=8.6,SNR=3.9						
SNAA	**Sanae**	**49.12**	**175**	P	**P**	**22 40 15.1**	**+0.3**
SNAA				IAmb	IAmb	22 40 17.0	
	comp=Z,12nm,1.5s						
PTGA	**Pitinga**	**49.71**	**290**	P	**P**	**22 40 21.1**	**+1.1**
PLCA	**Paso Flores**	**50.23**	**235**	P	**P**	**22 40 22.7**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=56,slow=6.3,SNR=4.3						
PLCA				LR	LR	23 01 10.5	
	comp=Z,33nm,18.1s,baz=124,slow=36						
PLCA	**Paso Flores**	**50.23**	**235**	P	**P**	**22 40 24.2**	**+0.4**
PLCA				IAmb	IAmb	22 40 58.3	
	comp=Z,24nm,1.6s						
LVC	**Limon Verde**	**50.26**	**259**	P	**P**	**22 40 25.2**	**+0.7**
GO02	**Mina Guanaco**	**50.39**	**256**	P	**P**	**22 40 25.9**	**+0.5**
BO02	**Sierra Bellavi**	**50.40**	**243**	P	**P**	**22 40 25.6**	**+0.5**
BO02				IAmb	IAmb	22 40 57.3	
	comp=Z,32nm,1.8s						
BO01	**Tunca**	**50.67**	**244**	P	**P**	**22 40 27.8**	**+0.7**
LPAZ	**La Paz**	**51.08**	**267**	P	**P**	**22 40 30.2**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=140,slow=5.1,SNR=6.6						

LPAZ **La Paz** 51.08 267 P **P** 22 40 30.9 -0.2
LPAZ IAmb IAmb 22 42 04.5
comp=Z,7.1nm,0.4s
PB01 **IPOC Station P** 51.11 261 P **P** 22 40 31.0 +0.3
MNMC **Minye Minye** 51.67 263 P **P** 22 40 35.1 0.0
MNMC IAmb IAmb 22 41 14.4
comp=Z,17nm,1.2s
TA01 **Diego Aracena** 51.85 261 P **P** 22 40 34.5 -1.6
PSGCX **Pisagua** 52.03 263 P **P** 22 40 37.7 0.0
KEST **Kesra** 62.49 21 P **P** 22 41 51.9 +0.9
comp=Z,6.4nm,0.9s,baz=240,slow=0.8,SNR=7.3
KEST **Kesra** 62.49 21 P **P** 22 41 52.0 +0.9
KEST IAmb IAmb 22 41 53.7
comp=Z,8.4nm,0.9s
ESDC **Sonseca Array** 63.07 9 P **P** 22 41 54.4 -0.4
comp=Z,0.9nm,1.0s,baz=177,slow=7.9,SNR=6.1
ESDC LR LR 23 07 02.3
comp=Z,60nm,21.4s,baz=175,slow=34
MAW **Mawson** 64.00 155 P **P** 22 42 00.7 +0.1
comp=Z,3.7nm,0.9s,baz=270,slow=8.1,SNR=8.0
MAW **Mawson** 64.00 155 P **P** 22 42 01.0 +0.4
MTP **Monte Pirata** 64.76 305 P **P** 22 42 06.7 +0.3
ROSC **El Rosal** 64.93 287 LR LR 23 09 14.3
comp=Z,125nm,19.3s,baz=240,slow=35
QSPA **South Pole Qui** 67.20 180 LR LR 23 06 15.2
comp=Z,78nm,18.8s,baz=212,slow=31
QSPA **South Pole Qui** 67.20 180 P **P** 22 42 21.7 +0.1
QSPA IAmb IAmb 22 42 51.1
comp=Z,8.4nm,1.1s
OSSC **Osservatorio P** 70.18 19 P **P** 22 42 40.2 0.0
DAVA **Damuels** 73.23 17 *e*P **P** 22 42 58.3 -0.3
comp=Z,4.4nm,0.8s
ABTA **Abfaltersbach** 73.48 19 *e*P **P** 22 43 00.5 +0.5
comp=Z,4.3nm,1.8s
WTTA **Wattenberg** 73.69 18 *e*P **P** 22 43 00.8 -0.6
comp=Z,5.4nm,1.1s
SOKA **Soboth** 74.20 20 *e*P **P** 22 43 05.0 +0.8
comp=Z,2.7nm,0.6s
ARSA **Arzberg** 74.86 20 *e*P **P** 22 43 08.7 +0.7
comp=Z,4.5nm,0.8s
MOA **Molln** 75.00 19 *e*P **P** 22 43 08.3 -0.5
comp=Z,3.0nm,1.0s
CONA **Conrad Observa** 75.57 20 *e*P **P** 22 43 12.7 +0.6
comp=Z,1.4nm,0.6s
GERES **GERESS Array B** 75.72 19 P **P** 22 43 12.6 -0.4
comp=Z,0.6nm,0.7s,baz=182,slow=5.2,SNR=6.1
GERES PP **PP** 22 46 00.7 -2.4
comp=Z,0.3nm,0.3s,baz=193,slow=8.1,SNR=4.4
BR131 **Keskin Array S** 76.68 36 P **P** 22 43 19.4 +0.7
BR131 IAmb IAmb 22 43 20.8
comp=Z,3.7nm,0.7s
BRTR **Keskin Array B** 76.68 36 P **P** 22 43 20.1 +1.3
comp=Z,1.5nm,0.8s,baz=187,slow=5.8,SNR=3.9
BRTR LR LR 23 18 31.1
comp=Z,23nm,18.5s,baz=235,slow=37
BRTR **Keskin Array B** 76.68 36 P **P** 22 43 19.6 +0.9
MLR **Muntele Rosu** 77.30 28 P **P** 22 43 22.1 0.0
MLR IAmb IAmb 22 43 22.9
comp=Z,4.0nm,0.7s
VNDA **Vanda** 79.67 179 LR LR 23 14 27.1
comp=Z,38nm,19.9s,baz=211,slow=32
AKASG **Malin Array Be** 82.74 26 P **P** 22 43 50.5 -0.7
comp=Z,0.3nm,0.3s,baz=221,slow=5.1,SNR=6.4
AKASG **Malin Array Be** 82.74 26 P **P** 22 43 50.8 -0.3
KBZ **Khabaz** 84.49 38 P **P** 22 44 00.8 +0.5
comp=Z,1.7nm,0.7s,baz=210,slow=4.6,SNR=3.7
NOA **NORSAR Array B** 86.22 12 LR LR 23 22 49.0
comp=Z,14nm,19.0s,baz=325,slow=36
SCHQ **Schefferville** 89.66 333 LR LR 23 19 14.0
comp=Z,32nm,18.3s,baz=68,slow=32
FINES **FINESS Array B** 90.14 18 P **P** 22 44 27.8 +0.5
comp=Z,0.9nm,0.7s,baz=230,slow=1.5,SNR=5.4
FINES LR LR 23 25 37.4
comp=Z,33nm,18.8s,baz=228,slow=36
ARCES **ARCESS Array B** 96.55 13 LR LR 23 27 28.5
comp=Z,27nm,21.1s,baz=265,slow=35
ASAR **Alice Springs** 124.16 144 PKP **PKPdf** 22 50 26.5 -0.5
comp=Z,0.2nm,0.5s,baz=204,slow=2.0,SNR=2.1
ILAR **Eielson Array** 128.26 336 PKP **PKiKP** 22 50 35.0 +1.0
comp=Z,0.2nm,0.5s,baz=0.0,slow=3.8,SNR=2.1
KSRS **Korea Array** 144.43 57 PKP **PKPab** 22 51 02.3 0.0
comp=Z,0.8nm,0.6s,baz=44,slow=16,SNR=2.1

TUL ***02*** *22:40:35±1.6, 36°.824N±0°.010×97°.72W±0°.01, h5km±6km, ML3.1, mb_Lg3.0/82(NEIC), Error ellipse: s-maj=1.6km s-min=1.3km az=95.0*
NEIC 02 22:40:35.2±0.8, **36°.806N**±0°.010×**97°.716W**±0°.009, **h5**km±2km, **Error ellipse: s-maj=3.0km s-min=1.9km az=333.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.24**	**351**	Pg	Pg	22 40 39.9	0.0
KAN17				Sg	Sg	22 40 43.3	+0.1
KAN13	**South Haven SW**	**0.28**	**43**	Pg	Pg	22 40 40.8	+0.1
KAN13				Sg	Sg	22 40 44.8	+0.3
KAN05	**Bluff City Nor**	**0.33**	**338**	Pg	Pg	22 40 41.5	0.0
KAN05				Sg	Sg	22 40 46.3	+0.4
KAN09	**Caldwell North**	**0.34**	**13**		Pg	22 40 41.8	0.0
KAN09				Sg	Sg	22 40 46.5	+0.2
CROK	**Carrier**	**0.37**	**216**	Pg	Pg	22 40 42.7	+0.3
CROK				Sg	Sg	22 40 47.7	+0.5
OK032	**Salt Plains WL**	**0.40**	**270**		Pg	22 40 42.9	0.0
OK032				Sg	Sg	22 40 48.3	+0.2
BLOK	**Blackwell**	**0.41**	**96**	Pg	Pg	22 40 43.2	+0.1
BLOK				Sg	Sg	22 40 49.0	+0.6
KAN10	**Anthony SW Sta**	**0.44**	**316**		Pg	22 40 43.7	0.0
KAN10				Sg	Sg	22 40 49.4	0.0
KS20	**Mayfield South**	**0.44**	**17**		Pg	22 40 43.7	-0.1
KS20				Sg	Sg	22 40 49.6	0.0
KAN08	**Anthony NE Sta**	**0.47**	**334**		Pg	22 40 44.2	-0.1
KAN08				Sg	Sg	22 40 50.6	+0.2
T35A	**Sooner Cattle**	**0.97**	**83**	Pg	Pg	22 40 53.5	-0.4
T35A				Sg	Sg	22 41 06.4	-0.1
OK029	**Liberty Lake**	**1.03**	**168**		Pg	22 40 54.7	-0.2
OK029				Sg	Sg	22 41 08.2	0.0
QUOK	**Quay**	**1.03**	**128**		Pg	22 40 54.7	-0.3
QUOK				Sg	Sg	22 41 08.3	0.0
OK031	**S. Brethren Rd**	**1.11**	**140**		Pg	22 40 56.2	-0.3
OK031				Sg	Sg	22 41 11.0	+0.2
U32A	**Winter Ranch,**	**1.12**	**248**		Pg	22 40 56.0	-0.6
U32A				Sg	Sg	22 41 11.1	0.0
BCOK	**Bluff Creek, N**	**1.15**	**176**		Pg	22 40 56.8	-0.4
BCOK				Sg	Sg	22 41 12.3	+0.2
OK030	**Cody Creek RV**	**1.16**	**139**		Pg	22 40 57.0	-0.4
OK030				Sg	Sg	22 41 12.1	-0.2
OK025	**Westminster Rd**	**1.26**	**166**		Pg	22 40 58.9	-0.5
OK025				Sg	Sb	22 41 16.1	+0.1
OKCFA	**Oklahoma City**	**1.40**	**171**		Pn	22 41 01.4	0.0
OKCSW	**OKLAHOMA CITY**	**1.42**	**171**		Pn	22 41 01.7	+0.1
FNO	**Franklin**	**1.57**	**171**	Pn	Pn	22 41 03.8	+0.1
R32A	**Long Quarter,**	**1.80**	**334**		Pn	22 41 07.5	+0.5
X34A	**Smith Ranch, M**	**2.20**	**182**	Pn

FCAR	Ozark Folk Cen	4.61	100	IAmb_Lg		22 42 58.5	
	comp=Z,34nm,1.0s						
BGNE	Belgrade	4.61	356	Pn	Pn	22 41 44.8	-0.7
WLAR	White Oak Lake	4.89	128	IAmb_Lg		22 43 24.4	
	comp=Z,22nm,0.8s						
CCM	Cathedral Cave	5.30	74	IAmb_Lg		22 43 31.0	
	comp=Z,25nm,0.8s						
N38A	Joes South For	5.30	40	Pn	Pn	22 41 55.1	+0.1
OGNE	Ogallala	5.33	322	IAmb_Lg		22 43 33.5	
	comp=Z,27nm,0.8s						
LCAR	Lake Charles	5.34	96	IAmb_Lg		22 43 30.0	
	comp=Z,21nm,0.9s						
T25A	Trinidad	5.37	276	IAmb_Lg		22 43 37.3	
	comp=Z,20nm,0.7s						
PBMO	Poplar Bluff	5.85	88	IAmb_Lg		22 43 56.4	
	comp=Z,16nm,0.7s						
435B	Jarrell	6.01	179	IAmb_Lg		22 44 00.8	
	comp=Z,25nm,0.8s						
JCT	Junction City	6.54	196	IAmb_Lg		22 44 06.7	
	comp=Z,16nm,0.8s						
N41A	Harden Midland	6.63	52	IAmb_Lg		22 44 04.8	
	comp=Z,24nm,0.8s						
ISCO	Idaho Springs	6.89	298	IAmb_Lg		22 44 16.6	
	comp=Z,12nm,0.9s						
ECSD	EROS Data Cent	6.97	7	IAmb_Lg		22 44 17.8	
	comp=Z,13nm,1.1s						
P43A	Skaggs, Pawnee	7.04	64	IAmb_Lg		22 44 31.5	
	comp=Z,14nm,0.7s						
Q44A	Meyer Farm, Va	7.19	70	IAmb_Lg		22 44 33.4	
	comp=Z,21nm,0.9s						
L40A	Anamosa	7.27	42	IAmb_Lg		22 44 32.7	
	comp=Z,21nm,0.8s						
I37A	Lemond, Waseca	7.92	23	IAmb_Lg		22 44 56.0	
	comp=Z,16nm,0.7s						
PLAL	Pickwick Lake	8.03	100	IAmb_Lg		22 44 49.0	
	comp=Z,13nm,0.8s						
USIN	University of	8.09	79	IAmb_Lg		22 45 04.7	
	comp=Z,17nm,0.8s						
L42A	Oliver, Polo	8.11	48	IAmb_Lg		22 44 55.5	
	comp=Z,16nm,0.7s						
T47A	Sharon Grove	8.50	86	IAmb_Lg		22 45 17.9	
	comp=Z,16nm,1.1s						
P46A	Rosedale	8.74	68	IAmb_Lg		22 45 18.1	
	comp=Z,16nm,0.7s						
RSSD	Black Hills	8.75	329	IAmb_Lg		22 45 25.4	
	comp=Z,8.3nm,1.2s						
RWWY	Rawlins	8.83	306	IAmb_Lg		22 45 23.9	
	comp=Z,12nm,1.1s						
V48A	Smith Brothers	8.86	94	IAmb_Lg		22 45 17.5	
	comp=Z,8.8nm,0.9s						
I40A	Norwalk	8.91	35	IAmb_Lg		22 45 32.0	
	comp=Z,10nm,0.7s						
K22A	Casper	8.95	313	IAmb_Lg		22 45 35.5	
	comp=Z,9.1nm,0.8s						
F33A	5 Mile Ranch,	9.09	6	IAmb_Lg		22 45 20.2	
	comp=Z,9.7nm,1.1s						
BLO	Bloomington	9.15	72	IAmb_Lg		22 45 34.2	
	comp=Z,14nm,0.8s						
WCI	Wyandotte Cave	9.19	78	IAmb_Lg		22 45 28.0	
	comp=Z,10nm,0.7s						
Y49A	Blount Mountai	9.69	104	IAmb_Lg		22 45 47.9	
	comp=Z,9.8nm,0.8s						

NEIC 02 22:45:36.7±0.8, 37°.053N±0°.008×97°.86W±0°.01, h5km±1km, mb_Lg2.6/39, Error ellipse: s-maj=2.9km s-min=1.8km az=293.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	Bluff City Nor	0.06	349	Pg	Pg	22 45 38.0	-0.1
KAN05				Sg	Sg	22 45 39.0	-0.1
KAN17	Caldwell West	0.07	97		Pg	22 45 38.5	+0.2
KAN17				Sg	Sg	22 45 40.0	+0.5
KAN08	Anthony NE Sta	0.20	333	Pg	Pg	22 45 40.6	0.0
KAN08				Sg	Sg	22 45 43.6	+0.5
KAN10	Anthony SW Sta	0.20	290	Pg	Pg	22 45 40.6	-0.1
KAN10				Sg	Sg	22 45 43.4	+0.1
KAN09	Caldwell North	0.21	67	Pg	Pg	22 45 41.0	+0.1
KAN09				Sg	Sg	22 45 44.1	+0.6
KAN12	Harper NE Stat	0.27	335		Pg	22 45 41.9	0.0
KAN12				Sg	Sg	22 45 45.9	+0.4
KS20	Mayfield South	0.30	54	Pg	Pg	22 45 42.6	0.0
KS20				Sg	Sg	22 45 47.1	+0.6
KAN13	South Haven SW	0.31	97	Pg	Pg	22 45 42.8	+0.2
KAN13				Sg	Sg	22 45 47.3	+0.6
OK032	Salt Plains WL	0.38	229	Pg	Pg	22 45 43.9	0.0
OK032				Sg	Sg	22 45 49.2	+0.3
CROK	Carrier	0.56	190	Pg	Pg	22 45 47.3	-0.1
BLOK	Blackwell	0.59	119		Pg	22 45 48.0	-0.1
BLOK				Sg	Sg	22 45 56.3	+0.5
T35A	Sooner Cattle	1.09	97		Pg	22 45 57.0	-0.5
T35A				Sg	Sg	22 46 11.2	-0.4
OK029	Liberty Lake	1.29	165	Pn	Pn	22 46 00.1	-1.3
OK031	S. Brethren Rd	1.37	143	Pn	Pn	22 46 02.1	-0.3
BCOK	Bluff Creek, N	1.41	172	Pn	Pn	22 46 02.0	-1.0
R32A	Long Quarter,	1.52	334		Pn	22 46 04.4	-0.2
OK025	Westminster Rd	1.53	164		Pn	22 46 04.3	-0.3
OKCFA	Oklahoma City	1.67	168	Pn	Pn	22 46 06.5	-0.1
OKCFA				IAmb_Lg		22 46 34.0	
	comp=Z,31nm,0.7s						
OKCSW	OKLAHOMA CITY	1.68	168	Pn	Pn	22 46 07.1	+0.4
FNO	Franklin	1.83	168	Pn	Pn	22 46 09.2	+0.4
WMOK	Wichita Mounta	2.43	198	Pn	Pn	22 46 16.9	-0.1
X34A	Smith Ranch, M	2.45	180	Pn	Pn	22 46 15.9	-1.4
X37A	Clayton	3.18	140	IAmb_Lg		22 47 22.5	
	comp=Z,17nm,0.8s						
HHAR	Hobbs	3.24	103	Pn	Pn	22 46 28.0	-0.3
HHAR				IAmb_Lg		22 47 28.4	
	comp=Z,12nm,0.8s						
S39A	Bolivar	3.67	79	Pn	Pn	22 46 33.3	-0.8
AMTX	Amarillo	3.78	236	IAmb_Lg		22 47 38.3	
	comp=Z,14nm,0.8s						
U40A	Yellville	4.08	98	Pn	Pn	22 46 39.5	-0.3
U40A				IAmb_Lg		22 47 48.8	
	comp=Z,14nm,0.7s						
KSCO	Kaye Shedlock'	4.24	299	IAmb_Lg		22 47 53.1	
	comp=Z,16nm,1.0s						
P38A	Dawn	4.26	52	IAmb_Lg		22 47 56.3	
	comp=Z,9.4nm,0.7s						
MIAR	Mount Ida	4.29	124	IAmb_Lg		22 47 55.8	
	comp=Z,13nm,0.9s						
MGMO	Mountain Grove	4.47	87	Pn	Pn	22 46 45.8	+0.7
MGMO				IAmb_Lg		22 48 09.3	
	comp=Z,9.0nm,1.1s						
R40A	Maddies Statio	4.60	73	IAmb_Lg		22 48 11.0	
	comp=Z,8.4nm,0.8s						
ABTX	Abilene, Hawle	4.66	199	IAmb_Lg		22 48 05.5	
	comp=Z,8.6nm,1.1s						
X40A	Basin Creek Fa	4.82	121	IAmb_Lg		22 48 13.4	
	comp=Z,12nm,0.8s						
WHAR	Wooly Hollow	4.84	110	IAmb_Lg		22 48 14.8	
	comp=Z,16nm,1.2s						
L34A	Svendsen Farm,	5.04	13	IAmb_Lg		22 48 31.0	
	comp=Z,13nm,0.8s						
P40A	Paris	5.20	60	IAmb_Lg		22 48 27.6	
	comp=Z,14nm,1.0s						
T25A	Trinidad	5.24	273	IAmb_Lg		22 48 36.6	
	comp=Z,5.7nm,0.8s						
CCM	Cathedral Cave	5.35	77	IAmb_Lg		22 48 34.5	
	comp=Z,6.2nm,0.8s						
PBMO	Poplar Bluff	5.96	90	IAmb_Lg		22 48 50.6	
	comp=Z,8.0nm,0.8s						
ISCO	Idaho Springs	6.68	297	IAmb_Lg		22 49 12.0	
	comp=Z,4.2nm,0.7s						
K38A	Parkersburg	6.82	33	IAmb_Lg		22 49 26.4	
	comp=Z,11nm,0.8s						
PHWY	Pilot Hill	7.27	308	IAmb_Lg		22 49 25.7	
	comp=Z,8.1nm,1.1s						

*IDC **02** 23:16:12.9±3.1, 57°.48N×155°.36W, h59km±26km, mb3.4/8, mb1 3.6/10, mb1mx3.4/42, mbtmp3.6/10, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=29.2km s-min=17.3km az=32.0*

*NEIC **02** 23:16:12.3±1.4, 57°.20N±0°.05×155°.19W±0°.08, h65km±11km, Error ellipse: s-maj=7.4km s-min=6.1km az=183.0*

*AEIC **02** 23:16:13±1.6, 57°.20N±0°.04×155°.21W±0°.07, h51km±7km, ML3.3, ML3.5/24(NEIC), Error ellipse: s-maj=6.9km s-min=3.4km az=130.0*

ISC 02 23:16:12.3±1.0, 57°.22N±0°.05×155°.23W±0°.04, h62km±10km, n79, σ1°00/80, mb3.7/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.06	89	P	Pn	23 16 30.5	-0.6
	baz=269						
OHAK				S	Sn	23 16 45.1	0.0
	baz=269						
OHAK	Old Harbor	1.06	89		Pn	23 16 30.5	-0.6
OHAK					Sn	23 16 44.8	-0.3
OHAK				IAML		23 16 51.1	
	comp=E,790nm,0.5s						
OHAK				IAML		23 16 51.4	
	comp=N,1μm,0.8s						
KABU	Katmai Buttres	1.06	358		Pn	23 16 30.9	-0.3
KABU					Sn	23 16 46.4	+1.1
KDAK	Kodiak Island	1.54	67	P	Pn	23 16 37.1	-0.3
	comp=N,15nm,0.3s,baz=253,slow=9.6,SNR=473						
KDAK				S	Sn	23 16 56.6	+0.2
	comp=N,35nm,0.3s,baz=270,slow=20,SNR=5.9						
KDAK				LR	LR	23 17 26.9	
	comp=N,102nm,19.9s,baz=253,slow=49						
KDAK	Kodiak Island	1.54	67		Pn	23 16 37.2	-0.2
KDAK				IAML		23 16 57.1	
	comp=N,318nm,0.3s						
AUCH	Augustine Cone	2.35	23		Pn	23 16 49.6	+1.1
VNHG	Veniaminof 1	2.39	247		Pn	23 16 49.5	+0.4
VNSG	Veniaminof 6	2.39	244		Pn	23 16 49.1	0.0
VNSG					Sn	23 17 16.6	-0.7
O18K	Koktuh Hills	2.65	0	P	Pn	23 16 52.2	-0.3
	baz=180						
O18K	Koktuh Hills	2.65	0		Pn	23 16 52.2	-0.3
IVE	Iliamna Volcan	3.04	21		Pn	23 16 58.5	+0.5
IVE					Sn	23 17 32.8	-0.3
CNPM	China Poot	3.13	41		Pn	23 16 59.1	0.0
CNPM	China Poot	3.13	41	IAML		23 17 46.6	
	comp=N,89nm,0.6s						
CNPM				IAML		23 17 48.7	
	comp=E,74nm,0.7s						
BRLK	Bradley Lake	3.42	40		Pn	23 17 02.6	-0.5
BRLK	Bradley Lake	3.42	40	IAML		23 17 53.5	
	comp=E,99nm,0.7s						
CNBA	Chernabura Isl	3.43	227		Pn	23 17 04.0	+0.8
CNBA				IAML		23 17 59.0	
	comp=N,113nm,0.6s						
CNBA				IAML		23 18 03.1	
	comp=E,125nm,0.6s						
RED	Redoubt Volcan	3.46	21		Pn	23 17 04.6	+1.0
SDPT	Sand Point	3.47	240	P	Pn	23 17 04.2	+0.4
	baz=56						
SDPT	Sand Point	3.47	240		Pn	23 17 04.2	+0.4
N18K	Kilae Creek	3.49	355	P	Pn	23 17 03.8	-0.3
	baz=174						
N18K	Kilae Creek	3.49	355		Pn	23 17 03.8	-0.3
RSO	Redoubt South	3.50	21		Pn	23 17 05.7	+1.4
NCT	North Crescent	3.56	19		Pn	23 17 06.3	+1.3
N19K	Bonanza Creek	3.63	6	P	Pn	23 17 06.7	+0.7
	baz=186						
N19K	Bonanza Creek	3.63	6		Pn	23 17 06.7	+0.7
SVW2	Sparrevohn	3.90	357	Pn	Pn	23 17 10.1	+0.5
CAPN	Captain Cook N	4.14	29	Pn	Pn	23 17 13.1	+0.3
SEW	Seward	4.18	44	Pn	Pn	23 17 12.8	-0.6
SLKM	Skilak Lake	4.20	36		Pn	23 17 13.7	-0.1
SPCP	Crater Peak Br	4.36	20		Pn	23 17 16.7	+0.7
STLK	Strandline Lak	4.63	21		Pn	23 17 20.7	+1.0
M19K	Big River Lodg	4.72	5	P	Pn	23 17 21.2	+0.3
	baz=185						
M19K	Big River Lodg	4.72	5		Pn	23 17 21.2	+0.3
RC01	Rabbit Creek A	4.80	34	P	Pn	23 17 22.0	+0.1
	baz=218						
RC01	Rabbit Creek A	4.80	34		Pn	23 17 22.0	+0.1
RC01	Rabbit Creek A	4.80	34	IAML		23 18 30.6	
	comp=E,26nm,0.5s						
RC01				IAML		23 18 33.5	
	comp=N,24nm,0.6s						
SUA	Susitna One	4.84	26	Pn	Pn	23 17 23.4	+0.8
PWL	Port Wells	5.10	41		Pn	23 17 25.2	-0.8
PWL	Port Wells	5.10	41	IAML		23 18 42.4	
	comp=N,37nm,0.6s						
PWL				IAML		23 18 44.4	
	comp=E,34nm,1.2s						
SKT	Skwentna	5.13	20	P	Pn	23 17 26.5	0.0
	baz=203						
SKT	Skwentna	5.13	20		Pn	23 17 26.5	0.0
KNK	Knik Glacier	5.45	37	P	Pn	23 17 30.6	-0.2
	baz=222						
KNK	Knik Glacier	5.45	37		Pn	23 17 30.6	-0.2
HIN	Hinchinbrook I	5.54	51		Pn	23 17 31.5	-0.6
GLI	Glacier Island	5.58	45	P	Pn	23 17 31.1	-1.4
	baz=232						
GLI	Glacier Island	5.58	45		Pn	23 17 31.1	-1.4
GHO	Glory Hole Cre	5.58	32		Pn	23 17 32.8	0.0
TT01	Tatalina	5.72	356		Pn	23 17 34.9	+0.3
FID	Port Fidalgo	5.75	48		Pn	23 17 33.1	-1.7
JPK	Jack Peak	5.88	45		Pn	23 17 35.8	-0.9
SCM	Sheep Creek Mo	6.13	38		Pn	23 17 39.6	-0.5
DIV	Divide	6.25	47		Pn	23 17 41.3	-0.5
KLU	Klutina	6.40	44	P	Pn	23 17 43.5	-0.4
	baz=232						
KLU	Klutina	6.40	44		Pn	23 17 43.5	-0.4
HMT	Hamilton	6.50	57		Pn	23 17 44.8	-0.4
NICHA	Nichawak Mount	6.60	58		Pn	23 17 45.7	-0.8
BMRM	Bremner River	6.64	51	P	Pn	23 17 46.6	-0.6
	baz=240						
BMRM	Bremner River	6.64	51		Pn	23 17 46.5	-0.6
KTH	Kantishna Hill	6.71	17	Pn	Pn	23 17 50.1	+2.1
TRF	Thorofare Moun	6.72	19	Pn	Pn	23 17 50.2	+2.0
RND	Reindeer	6.97	24	Pn	Pn	23 17 51.9	+0.3
N25K	Chitina, Valde	6.98	47	Pn	Pn	23 17 52.0	+0.2
CRQM	Cirque	7.18	55	Pn	Pn	23 17 53.6	-1.1
WAX	Waxell Ridge	7.19	58	Pn	Pn	23 17 54.7	0.0
GLB	Gilahina Butte	7.21	49	Pn	Pn	23 17 54.2	-0.8
BPAW	Bear Paw Mtn.	7.21	15	Pn	Pn	23 17 56.2	+1.2
NEA2	Nenana	7.98	19		Pn	23 18 05.1	-0.3
ILAR	Eielson Array	8.59	25	P	Pn	23 18 11.8	-1.9
	comp=E,0.3nm,0.3s,baz=206,slow=14,SNR=12						
ILAR				S	Sn	23 19 44.3	-4.6
	comp=E,0.2nm,0.3s,baz=212,slow=27,SNR=3.0						
INK	Inuvik	14.80	33	P	Pn	23 19 37.8	+0.2
	comp=E,0.1nm,0.3s,baz=231,slow=13,SNR=1.8						
YKA	Yellowknife Ar	20.80	58	P	Pn	23 20 51.4	+0.4
	comp=E,1.4nm,0.8s,baz=267,slow=11,SNR=6.5						
NEW	Newport	24.45	95	LR	LR	23 30 20.8	
	comp=E,25nm,19.3s,baz=163,slow=34						
PETK	Petropavlovsk-	26.77	281	P	P	23 21 45.5	-0.4
	comp=E,1.5nm,0.8s,baz=54,slow=11,SNR=1.8						
NVAR	Mina Array Bea	30.58	112	P	P	23 22 22.4	+2.3
	comp=E,0.3nm,0.6s,baz=312,slow=8.4,SNR=2.9						
PDAR	Pinedale Array	32.05	97	P	P	23 22 34.7	+1.7
	comp=E,0.8nm,0.5s,baz=321,slow=3.1,SNR=11						
TXAR	Lajitas Array	45.23	106	P	P	23 24 25.2	+2.0
	comp=E,0.3nm,0.8s,baz=324,slow=4.5,SNR=2.5						
SONM	Songino Array	55.48	306	P	P	23 25 40.0	-0.4
	comp=E,0.6nm,0.6s,baz=45,slow=6.5,SNR=3.3						
FINES	FINESS Array B	61.67	359	P	P	23 26 22.1	-1.0
	comp=E,0.6nm,0.7s,baz=19,slow=8.8,SNR=1.4						
AKASG	Malin Array Be	72.38	357	P	P	23 27 30.5	-0.6
	comp=E,0.9nm,0.7s,baz=8.2,slow=7.3,SNR=2.1						
GERES	GERESS Array B	73.91	8	P	P	23 27 39.3	-1.0
	comp=E,0.3nm,0.6s,baz=339,slow=2.5,SNR=2.8						

UPP 02 23:33:24.2±0.2, 67°.83N×20°.20E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	22	P	Pg	23 33 27.1	+0.2
KUA				S	Sg	23 33 29.1	+0.4
RATU	Laukkuluspa	0.23	270	P	Pg	23 33 28.8	+0.2
RATU				S	Sg	23 33 31.9	+0.4
KOVU	Salmi	0.40	358	P	Pg	23 33 31.9	+0.1
KOVU				S	Sg	23 33 37.3	+0.2
NIKU	Nikkaluokta	0.44	276	P	Pg	23 33 32.7	0.0

*HEL **02** 23:34:03.4, 67°.79N×20°.11E, h0km, ML1.9, Explosion*

UPP 02 23:34:04.0±0.1, 67°.85N×20°.20E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.23	264	P	Pg	23 34 08.6	+0.1
RATU				S	Sg	23 34 11.9	+0.4
RATU	Laukkuluspa	0.23	264	*i* P	Pg	23 34 08.6	+0.1
RATU				*i* S	Sg	23 34 11.9	+0.4
KOVU	Salmi	0.38	358	P	Pg	23 34 11.2	0.0
KOVU				S	Sg	23 34 16.2	+0.2
KOVU	Salmi	0.38	358	*i* P	Pg	23 34 11.2	0.0
KOVU				*i* S	Sg	23 34 16.2	+0.2
NIKU	Nikkaluokta	0.44	273	P	Pg	23 34 12.5	0.0
NIKU	Nikkaluokta	0.44	273	*i* P	Pg	23 34 12.5	0.0
LANU	Lannavaara	0.70	73	P	Pg	23 34 17.2	-0.2
LANU				S	Sg	23 34 26.5	-0.1
LANU	Lannavaara	0.70	73	*e*P	Pg	23 34 17.2	-0.2
LANU				*e*S	Sg	23 34 26.4	-0.1
DUNU	Dundret	0.74	169	S	Sg	23 34 28.1	+0.2
DUNU	Dundret	0.74	169	*i* S	Sg	23 34 28.1	+0.2
KIF	Kilpisjarvi	1.18	11	MSG		23 34 42.3	
	comp=Z,12nm,0.2s						
KIF				*e*SB	Sb	23 34 42.6	-0.4
PAJU	Pajala	1.40	125	P	Pn	23 34 29.4	-1.2
PAJU				S	Sg	23 34 48.1	-0.7
PAJU	Pajala	1.40	125	*e*PG	Pn	23 34 29.4	-1.3
PAJU				*e*SB	Sg	23 34 48.0	-0.8
HEF	Hetta	1.41	65	*e*PG	Pn	23 34 30.1	-0.7
	baz=249						
HEF				MSG		23 34 47.5	
	comp=Z,9.9nm,0.2s						
KLF	Kolari	1.57	111	*e*PN	Pn	23 34 33.0	-0.1
KLF				*e*SN	Sg	23 34 54.4	-0.1
TOF	Tornio	2.41	136	*e*PB	Pn	23 34 45.9	+1.4
	baz=314						
TOF				MSG		23 35 14.1	
	comp=Z,4.3nm,0.2s						
TOF				*e*SG	Sb	23 35 18.2	0.0
SGF	Sodankyl	2.45	97	*e*PG	Pb	23 34 47.7	-1.2
ARA0	ARCESS Array S	2.57	46	*e*PG	Pb	23 34 50.8	-0.1
RNF	Rovaniemi	2.58	116	*e*SG	Sb	23 35 23.0	-0.3
MSF	Maaselka	3.99	115	*e*PG	Pb	23 35 16.5	+1.4
KU6	Riekki	4.23	111	*e*PG	Pb	23 35 19.6	+0.5
	baz=303						

*IDC **02** 23:51:30.6±2.0, 41°.43S×86°.93E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/31, mbtmp4.1/5, MS3.9/6, Ms1 3.8/6, ms1mx3.5/24, Error ellipse: s-maj=61.7km s-min=23.8km az=130.0*

*NEIC **02** 23:51:32.3±1.0, 41°.4S±0°.1×86°.8E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=30.3km s-min=18.8km az=307.0*

ISC 02 23:51:31.7±1.0, 41°.3S±0°.2×86°.8E±0°.2, h10km, n34, σ0°62/22, mb4.4/9, MS3.9/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	22.38	82	T	T	00 19 22.2	
	baz=244,slow=74,SNR=90						
H01W3	Cape Leeuwin H	22.39	82	T	T	00 19 21.9	
	baz=244,slow=74,SNR=70						
H01W1	Cape Leeuwin H	22.39	82	T	T	00 19 26.3	
	baz=244,slow=74,SNR=62						
NWAO	Narrogin (SRO)	25.56	81	P	P	23 57 00.4	-0.3
MAW	Mawson	29.39	198	LR	LR	00 06 42.2	
	comp=Z,315nm,20.7s,baz=54,slow=31						
MAW	Mawson	29.39	198	P	P	23 57 35.1	+0.5
PSA00	Pilbara Seismi	34.08	65	P	P	23 58 16.9	+0.5
PSA00				IAmb	IAmb	23 58 22.5	
	comp=Z,4.7nm,1.1s						
FORT	Forrest	34.68	86	P	P	23 58 21.7	+0.2
H08S2	Diego Garcia H	35.87	335	T	T	00 36 39.8	
	baz=162,slow=76,SNR=18						
H08S1	Diego Garcia H	35.88	335	T	T	00 36 43.5	
	baz=162,slow=76,SNR=18						
H08S3	Diego Garcia H	35.89	335	T	T	00 36 44.2	
	baz=162,slow=76,SNR=18						
ASAR	Alice Springs	42.88	81	P	P	23 59 29.8	-0.6
	comp=Z,1.7nm,0.6s,baz=226,slow=7.3,SNR=28						
ASAR	Alice Springs	42.88	81	P	P	23 59 30.1	-0.2
AS31	Alice Springs	42.88	81	P	P	23 59 30.2	-0.1
STKA	Stephens Creek	44.34	96	LR	LR	00 16 45.7	
	comp=Z,144nm,18.9s,baz=204,slow=34						
WRA	Warramunga Arr	45.45	77	P	P	23 59 50.7	-0.3
	comp=Z,1.4nm,0.8s,baz=232,slow=7.8,SNR=8.7						
WRA	Warramunga Arr	45.45	77	P	P	23 59 51.1	+0.2
WB2	Warramunga Arr	45.46	77	P	P	23 59 49.2	-1.8
WB2				IAmb	IAmb	23 59 57.7	
	comp=Z,9.4nm,1.3s						
WR0	Warramunga Arr	45.59	77	P	P	23 59 51.5	-0.5
WR0				IAmb	IAmb	00 00 01.8	
	comp=Z,11nm,1.3s						
WB0	Warramunga Arr	45.60	77	P	P	23 59 51.6	-0.5
WB0				IAmb	IAmb	00 00 03.3	
	comp=Z,13nm,1.4s						
VNDA	Vanda	46.82	163	P	P	00 00 01.2	+0.2
	comp=Z,0.7nm,0.7s,baz=293,slow=7.8,SNR=6.2						
VNDA				LR	LR	00 17 36.0	
	comp=Z,66nm,19.8s,baz=284,slow=34						
VNDA	Vanda	46.82	163	IAmb	IAmb	00 00 20.0	
	comp=Z,6.0nm,1.4s						
QSPA	South Pole Qui	48.83	180	P	P	00 00 16.1	-0.8
	comp=Z,6.7nm,0.8s,baz=290,slow=5.0,SNR=30						
QSPA	South Pole Qui	48.83	180	P	P	00 00 16.3	-0.6
QSPA				IAmb	IAmb	00 00 17.6	
	comp=Z,8.3nm,0.8s						
BOSA	Boshof	51.04	264	LR	LR	00 18 23.4	
	comp=Z,47nm,19.2s,baz=169,slow=32						
SNAA	Sanae	51.29	204	P	P	00 00 34.9	-0.5
	comp=Z,3.8nm,0.9s,baz=140,slow=13,SNR=6.5						
SNAA	Sanae	51.29	204	P	P	00 00 35.8	+0.4
SNAA				IAmb	IAmb	00 00 39.0	
	comp=Z,5.9nm,1.1s						
TOLI2	Tolitoli	52.27	45	P	P	00 00 43.5	+0.2
CMAR	Chiang Mai Arr	60.53	13	P	P	00 01 41.7	-0.3
CMWZ	Cape Campbell	62.49	123	P	P	00 01 55.1	-0.1
BHW	Baring Head	63.09	123	P	P	00 01 59.9	+0.7
RAR	Rarotonga	92.44	121	LR	LR	00 39 12.8	
	comp=Z,212nm,21.6s,baz=306,slow=31						
PLCA	Paso Flores	95.78	197	LR	LR	00 48 51.1	
	comp=Z,50nm

	baz=312						
NDS			eS	Sn	23 52 45.5	-0.2	
	baz=312						
ESL	Shilin	0.94 260	eP	Pb	23 52 32.8	-0.4	
	baz=247						
EGFH	Guangfu	0.98 252	P	Pn	23 52 33.1	-0.8	
	baz=248						
EGFH			eS	Sb	23 52 46.3	-0.2	
	baz=248						
TWE	Neicheng	1.02 316	P	Pn	23 52 34.4	0.0	
	baz=314						
TWE			eS	Sb	23 52 46.8	-0.8	
	baz=314						
NTC	Toucheng	1.03 327	P	Pn	23 52 34.2	-0.4	
	baz=325						
NTC			eS	Sn	23 52 48.0	-0.3	
	baz=325						
ENTT	Nioudou	1.03 309	P	Pb	23 52 35.4	+0.5	
	baz=293						
ENTT			eS	Sb	23 52 47.8	-0.2	
	baz=293						
NDT	Datong Townshi	1.05 306	P	Pb	23 52 35.2	+0.1	
	baz=303						
NDT			eS	Sn	23 52 48.9	+0.1	
	baz=303						
HGSD	Ruisui	1.06 243	P	Pn	23 52 34.3	-0.6	
	baz=239						
NNS	Nan Shan	1.08 295	eP	Pn	23 52 35.1	-0.2	
	baz=292						
NNS			eS	Sb	23 52 49.5	+0.1	
	baz=292						
WHF	Hehuan Shan	1.09 279	P	Pn	23 52 35.5	-0.3	
	baz=275						
WHF			eS	Sb	23 52 50.2	+0.1	
	baz=275						
TWB1	Santiao Chiao	1.10 338	P	Pn	23 52 35.4	-0.1	
	baz=354						
TWB1			eS	Sn	23 52 50.2	+0.3	
	baz=354						
TIPB	Shuangxi	1.13 330	P	Pn	23 52 35.9	-0.1	
	baz=329						
TIPB			eS	Sb	23 52 50.4	-0.4	
	baz=329						
EHY	Hungye	1.14 245	P	Pn	23 52 36.0	+0.1	
	baz=257						
EHY			eS	Sb	23 52 51.4	+0.5	
	baz=257						
OWD	Renai	1.16 269	P	Pn	23 52 36.6	+0.1	
	baz=265						
OWD			eS	Sn	23 52 51.8	+0.1	
	baz=265						
CHGB	Renai	1.17 274	P	Pn	23 52 36.8	+0.2	
	baz=271						
CHGB			eS	Sn	23 52 52.0	+0.1	
	baz=271						
NWLT	Wulai	1.17 313	P	Pb	23 52 37.1	0.0	
	baz=310						
NWLT			eS	Sb	23 52 52.4	+0.5	
	baz=310						
YHNB	Yeheng	1.19 305	P	Pn	23 52 36.9	0.0	
	baz=290						
YHNB			eS	Sb	23 52 52.6	0.0	
	baz=290						
TDCB	Techi	1.21 283	eP	Pn	23 52 37.1	0.0	
	baz=268						
TDCB			eS	Sn	23 52 52.6	-0.2	
	baz=268						
YULB	Yu-li	1.21 241	P	Pn	23 52 37.0	0.0	
	baz=226						
YULB			eS	Sn	23 52 52.0	-0.6	
	baz=226						
IRIF	Iriomote-Funau	1.22 73	P	Pb	23 52 38.2	+0.2	
IRIF			eS	Sb	23 52 53.9	+0.5	
TWF1	Yuli	1.23 239	P	Pn	23 52 37.2	0.0	
	baz=236						
TWF1			eS	Sn	23 52 53.6	+0.5	
	baz=236						
NWF	Wu-fen Shan	1.24 331	P	Pn	23 52 37.3	-0.2	
	baz=330						
NWF			eS	Sb	23 52 54.6	+0.6	
	baz=330						
WFSB	Wu-fen Shan	1.24 331	P	Pn	23 52 37.2	-0.2	
	baz=330						
WFSB			eS	Sb	23 52 54.7	+0.8	
	baz=330						
HATJ	Hateruma jima	1.24 86	eS	Sb	23 52 54.6	+0.6	
TWA	Mucha	1.27 322	eP	Pn	23 52 37.8	0.0	
	baz=320						
TWA			eS	Sb	23 52 54.9	+0.3	
	baz=320						
TNOU	National Taiwa	1.31 332	eP	Pn	23 52 38.4	0.0	
	baz=331						
TNOU			eS	Sb	23 52 55.4	-0.6	
	baz=331						
FULB	Fuli	1.32 234	eP	Pb	23 52 40.1	+0.5	
	baz=231						
TATO	Taipei	1.32 319	eP	Pb	23 52 39.6	0.0	
	baz=317						
TATO			eS	Sb	23 52 56.1	0.0	
	baz=317						
CHKT	Chengkung	1.33 229	eP	Pn	23 52 37.8	-0.8	
	baz=225						
CHKT			eS	Sn	23 52 53.7	-1.8	
	baz=225						
WPL	Puli Township	1.36 271	eP	Pb	23 52 41.1	+0.7	
	baz=269						
SSLB	Suanglung	1.38 262	eP	Pb	23 52 40.4	-0.3	
	baz=259						
SSLB			eS	Sn	23 52 55.9	-1.1	
	baz=259						
DPDB	Guoxing	1.39 272	eP	Pb	23 52 41.5	+0.6	
	baz=269						
WHP	Taichung City	1.40 282	eP	Pb	23 52 40.9	-0.3	
	baz=269						
WHP			eS	Sn	23 52 56.6	-0.9	
	baz=269						
YM01	YM01	1.41 326	eP	Pn	23 52 38.8	-0.9	
	baz=324						
YM01			eS	Sb	23 52 58.4	-0.3	
	baz=324						
WCS	Beigang Elemen	1.41 273	eP	Pb	23 52 41.2	+0.1	
	baz=270						
SMLT	Sun Moon Lake	1.42 266	eP	Pn	23 52 40.4	+0.4	
	baz=253						
YM08	YM08	1.43 327	eP	Pn	23 52 39.8	-0.3	
	baz=325						
JKRS	Kuro-shima	1.45 80	P	Pb	23 52 41.7	-0.2	
EDH	Donghe	1.46 226	eP	Pn	23 52 40.3	-0.1	
	baz=215						
EDH			eS	Sn	23 52 56.9	-1.8	
	baz=215						
YUS	Yu-Shan	1.46 251	eP	Pn	23 52 41.2	+0.4	
	baz=247						
YUS			eS	Sn	23 52 59.4	0.0	
	baz=247						
TYC	Yuchr	1.46 267	eP	Pb	23 52 42.2	+0.2	
	baz=264						
LIOB	Emei	1.46 297	eP	Pb	23 52 41.8	-0.3	
	baz=295						
LIOB			eS	Sb	23 53 00.8	+0.5	
	baz=295						
NSTT	Nanjuang	1.47 296	eP	Pn	23 52 41.1	+0.6	
	baz=294						
NSTT			eS	Sb	23 53 00.6	+0.2	
	baz=294						
TWY	Chenhua	1.50 329	eP	Pb	23 52 42.6	-0.1	
	baz=328						
ELDTW	Lidau	1.53 239	eP	Pn	23 52 41.9	+0.4	
	baz=237						
ALS	Alishan	1.58 253	eP	Pn	23 52 43.4	+1.1	
	baz=250						
ALS			eS	Sn	23 53 02.5	+0.4	
	baz=250						
LDUT	Ludao	1.58 215	eP	Pn	23 52 41.6	-0.6	
	baz=213						
JIJ	Ishigaki jima	1.59 76	S	Sb	23 53 03.9	-0.2	
CHN5	Tsauling	1.67 257	eP	Pb	23 52 45.3	-0.3	
	baz=244						
CHN5			eS	Sb	23 53 06.2	0.0	
	baz=244						
PCYT	Pengchaiyu	1.67 348	eP	Pn	23 52 43.3	-0.1	
	baz=349						
PCYT			eS	Sn	23 53 03.9	-0.2	
	baz=349						
STYH	Taoyuan	1.73 242	eP	Pn	23 52 45.1	+0.9	
	baz=231						
STYH			eS	Sn	23 53 07.2	+1.6	
	baz=231						
STYT	Tauyuan	1.75 243	eP	Pn	23 52 45.4	+0.9	
	baz=230						
STYT			eS	Sb	23 53 08.0	-0.6	
	baz=230						
WDLH	Douliu	1.77 261	eP	Pb	23 52 46.8	-0.6	
	baz=258						
TPUB	Ta-pu	1.80 248	eP	Pb	23 52 47.5	-0.3	
	baz=245						
TPUB			eS	Sb	23 53 09.7	-0.4	
	baz=245						
JISG	Ishigakijimahi	1.80 70	P	Pn	23 52 45.5	+0.3	
JISG			S	Sn	23 53 08.4	+1.1	
CHN4	Tsaushan	1.81 250	eP	Pn	23 52 46.6	+1.3	
	baz=248						
WTP	Ta-pu	1.83 247	eP	Pb	23 52 47.5	-1.0	
	baz=244						
WTP			eS	Sn	23 53 10.0	+1.8	
	baz=244						
SLGT	Liugui	1.93 240	eP	Pb	23 52 49.5	-0.5	
	baz=229						
SLGT			eS	Sb	23 53 13.6	0.0	
	baz=229						
CHN1	Nanshi	1.93 246	eP	Pb	23 52 49.4	-0.7	
	baz=243						
CHN1			eS	Sb	23 53 13.8	0.0	
	baz=243						
SGST	Jiashian	1.93 243	eP	Pb	23 52 49.4	-0.7	
	baz=231						
TWK	Hsinying	1.93 249	eP	Pb	23 52 49.4	-0.8	
	baz=246						
SSD	Sandimen	2.07 234	eP	Pn	23 52 50.2	+1.4	
	baz=224						
MASBT	Mashibuluo	2.16 231	eP	Pn	23 52 51.2	+1.2	
	baz=221						
JTJ	Tarama	2.16 72	S	Sb	23 53 19.0	-1.3	
EAST	Anshuo	2.17 223	eP	Pn	23 52 50.1	-0.2	
	baz=221						
SCZT	Fangliau	2.32 227	eP	Pn	23 52 54.5	+2.2	
	baz=225						
SLIU	Shizi	2.32 221	eP	Pn	23 52 52.6	+0.3	
	baz=219						
TWKBT	Hengchun	2.53 217	eP	Pn	23 52 54.2	-0.9	
	baz=215						
WDGT	Dungji	2.66 255	eP	Pn	23 52 58.4	+1.5	
	baz=253						
PHUB	P'eng-hu	2.67 260	eP	Pn	23 52 58.2	+1.0	
	baz=272						
PHUB			eS	Sn	23 53 29.9	+1.1	
	baz=272						
VWUC	VWUC	2.91 291	eP	Pn	23 53 00.5	+0.1	
	baz=288						
MATB	Ma-tsu	3.13 314	eP	Pn	23 53 03.4	-0.1	
	baz=299						
PTMZ	Houxiangcun	3.21 290	eP	Pn	23 53 05.4	+0.9	
	baz=287						
XPSS	Dashiqiu	3.57 326	eP	Pn	23 53 08.7	-0.8	
	baz=322						

*DJA **03** 00:00:43.0±1.6, 8°.5S±5°.5×12°.1E±°, h14km±13km, M3.5/7, MLv3.5/7*
*IDC **03** 00:00:47.4±2.0, 8°.51S×120°.88E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/35, mbtmp3.3/4, ML3.1/3, MS3.1/1, Ms1 3.3/1, ms1mx2.7/13, Error ellipse: s-maj=173.4km s-min=28.3km az=57.0*
ISC 03 00:00:42.8±1.2, **7.98**S±0.07×**120.78E**±0.05, **h10**km, **n12**, σ0.95/14, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	1.19	130	P	Pb	00 01 05.0	-0.5
EDFI				S	Sb	00 01 21.6	+0.6
MMRI	Maumere	1.59	114	P	Pn	00 01 10.8	-0.2
MMRI				S	Sn	00 01 32.3	+0.7
WBSI	Waikabubak, Su	2.14	220	P	Pn	00 01 17.8	-0.9
WBSI				S	Sn	00 01 47.0	+1.6
BASI	Baing, Sumba	2.23	185	P	Pn	00 01 18.6	-1.3
BASI				S	Sn	00 01 49.2	+1.6
BKSI	Bulukumba	2.72	346	P	Pn	00 01 26.3	-0.3
PLAI	Plampang	3.08	254	P	Pn	00 01 31.3	-0.3
TWSI	Taliwang, Sumb	3.92	259	P	Pn	00 01 42.6	-0.6
FITZ	Fitzroy Crossi	11.12	155	Pn	Pn	00 03 21.8	-0.2
	0.1nm,0.3s,baz=336,slow=13,SNR=1.7						
WRA	Warramunga Arr	17.72	134	P	Pn	00 04 49.4	-0.5
	0.1nm,0.3s,baz=308,slow=12,SNR=1.6						
ASAR	Alice Springs	20.04	143	P	P	00 05 16.7	+0.4
	0.1nm,0.3s,baz=313,slow=9.0,SNR=1.9						
CMAR	Chiang Mai Arr	33.97	321	LR	LR	00 23 31.3	
	comp=Z,32nm,19.7s,baz=190,slow=40						
MKAR	Makanchi Array	64.38	332	P	P	00 11 28.7	+10
	0.3nm,0.7s,baz=134,slow=8.3,SNR=1.9						

*IDC **03** 00:24:28.4±0.8, 15°.06S×173°.62W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/29, mbtmp3.9/8, ML4.6/1, Error ellipse: s-maj=41.4km s-min=18.9km az=143.0*
*NEIC **03** 00:24:30.6±1.8, 15°.06S±0°.04×173°.40W±0°.07, h19km±5km, mb4.5/16, Error ellipse: s-maj=10.4km s-min=4.1km az=62.0*
ISC 03 00:24:32.2±0.6, **15°.07S**±0°.08×**173°.36W**±0°.09, **h30**km, **n34**, σ1.80/30, **mb4.3**/14, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.92	53	Pn	Pn	00 25 03.2	+0.2
	208nm,0.3s,baz=229,slow=11,SNR=57						
AFI				Sn	Sn	00 25 22.4	-3.7
	730nm,0.3s,baz=184,slow=23,SNR=18						
AFI	Afiamalu	1.92	53	Pn	Pn	00 25 03.1	+0.2
AFI				Sn	Sn	00 25 22.7	-3.3
NIUE	Niue	5.16	141	Pn	Pn	00 25 47.8	+0.3
NIUE				Sn	Sn	00 26 39.6	-6.5
KNTN	Kanton	12.32	8	Pn	Pn	00 27 26.2	+0.5
PINNC	Pines Island,	19.64	245	P	P	00 28 56.2	-2.4
PINNC				IAmb	IAmb	00 29 04.8	
	comp=Z,51nm,1.1s						
BFZ	Birch Farm	27.08	198	P	P	00 30 11.8	-0.5
BFZ				IAmb	IAmb	00 30 25.0	
	comp=Z,26nm,1.1s						
NNZ	Nelson	28.49	201	P	P	00 30 23.9	-0.9
LTZ	Lake Taylor	30.25	201	P	P	00 30 38.2	-2.3
WHZ	Wether Hill Ro	34.51	203	P	P	00 31 16.8	-1.0
EIDS	Eidsvold	34.81	247	P	P	00 31 23.4	+2.8
EIDS				IAmb	IAmb	00 31 29.1	
	comp=Z,9.3nm,1.1s						
ARMA	Armidale	35.55	238	P	P	00 31 27.2	+0.2
ARMA				IAmb	IAmb	00 31 33.5	
	comp=Z,7.1nm,1.0s						
H11S2	WAKE ISLAND Hy	38.70	329	T	T	01 12 50.7	
	baz=146,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy	38.71	329	T	T	01 12 45.3	
	baz=146,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	38.72	329	T	T	01 12 49.7	
	baz=146,slow=76,SNR=6.6						
H11N3	WAKE ISLAND Hy	39.64	330	T	T	01 13 54.6	
	baz=143,slow=74						
H11N1	WAKE ISLAND Hy	39.65	330	T	T	01 13 52.6	
	baz=143,slow=74						
H11N2	WAKE ISLAND Hy	39.66	330	T	T	01 13 53.1	
	baz=143						
BBOO	Buckleboo	49.01	240	P	P	00 33 15.2	-1.3
BBOO				IAmb	IAmb	00 33 30.3	
	comp=Z,8.2nm,1.1s						
WR0	Warramunga Arr	49.77	256	P	P	00 33 20.8	-1.6
WR0				IAmb	IAmb	00 33 35.2	
	comp=Z,3.0nm,1.0s						
WB0	Warramunga Arr	49.92	257	P	P	00 33 21.9	-1.6
WB0				IAmb	IAmb	00 33 29.8	
	comp=Z,2.9nm,1.0s						
WB2	Warramunga Arr	49.95	256	P	P	00 33 21.5	-2.3
WRA	Warramunga Arr	49.96	256	P	P	00 33 22.1	-1.8
	comp=Z,0.6nm,0.4s,baz=96,slow=7.6,SNR=11						
AS31	Alice Springs	50.25	252	P	P	00 33 25.0	-1.1
ASAR	Alice Springs	50.25	252	P	P	00 33 24.3	-1.8
	comp=Z,3.2nm,0.5s,baz=86,slow=8.2,SNR=61						
SBA	Scott Base	63.58	185	P	P	00 35 01.1	+1.5
SBA				IAmb	IAmb	00 35 02.6	
	comp=Z,2.0nm,0.8s						
VNDA	Vanda	63.71	186	P	P	00 35 02.1	+1.6
	comp=Z,1.0nm,0.8s,baz=30,slow=7.2,SNR=6.0						
VNDA	Vanda	63.71	186	P	P	00 35 01.8	+1.3
NVAR	Mina Array Bea	74.06	42	P	P	00 36 08.4	+2.7
	comp=Z,0.8nm,0.8s,baz=222,slow=10,SNR=4.9						
TXAR	Lajitas Array	80.39	56	P	P	00 36 42.8	+1.5
	comp=Z,0.4nm,0.8s,baz=243,slow=5.8,SNR=3.0						
PDAR	Pinedale Array	81.99	42	P	P	00 36 51.4	+1.7
	comp=Z,0.2nm,0.6s,baz=248,slow=6.7,SNR=2.6						
MAW	Mawson	88.12	199	P	P	00 37 19.8	+0.1
	comp=Z,1.3nm,0.6s,baz=125,slow=6.1,SNR=7.3						
MAW	Mawson	88.12	199	P	P	00 37 20.0	+0.3
GERES	GERESS Array B	145.82	352	PKPbc	PKPab	00 44 10.3	+1.3
	comp=Z,0.4nm,0.7s,baz=0.0,slow=2.8,SNR=4.5						
BRTR	Keskin Array B	145.92	321	PKPbc	PKPab	00 44 09.9	+0.1
	comp=Z,1.6nm,0.7s,baz=94,slow=1.9,SNR=5.0						

*SNET **03** 00:33:28.3±2.1, 12°.86N×89°.02W, h39km±102km, ML3.6*
*INET **03** 00:33:28.2, 13°.89N×88°.77W, h66km, MW3.2*
*UCR **03** 00:33:28.3±2.2, 12°.85N×89°.02W, h36km±5km, ML3.6*
ISC 03 00:33:26.9±2.6, **12°.8N**±0°.1×**89°.03W**±0°.04, **h25**km±15km, **n59**, σ0.29/91, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	Alcaldia de Te	0.79	18	eP	Pb	00 33 42.0	0.0
TECO				eS	Sb	00 33 52.6	+0.2
TECO				IAML		00 33 55.8	
	comp=Z,1μm,0.2s						
SJTE	Alcalda de S	0.83	1	eP	Pb	00 33 42.8	0.0
SJTE				eS	Sb	00 33 53.7	+0.1
SJTE	Alcalda de S	0.83	1	eP	Pb	00 33 42.8	0.0
SJTE				eS	Sb	00 33 53.7	+0.1
LFRS	El Faro	0.84	358	eP	Pb	00 33 43.0	0.0
LFRS				eS	Sb	00 33 54.1	+0.1
LFRS	El Faro	0.84	358	eP	Pb	00 33 43.0	0.0
LFRS				eS	Sb	00 33 54.1	+0.1
COEG	Centro de Oper	0.85	10	eP	Pb	00 33 43.4	+0.3
COEG				eS	Sb	00 33 53.4	-0.7
COEG				IAML		00 34 00.1	
	comp=Z,2μm,0.3s						
COEG	Centro de Oper	0.85	10	eP	Pb	00 33 43.4	+0.3
COEG				eS	Sb	00 33 53.4	-0.7
COEG				IAML		00 34 00.1	
	comp=Z,2μm,0.3s						
COEB	Comit de Eme	0.86	34	eP	Pb	00 33 43.7	+0.3
COEB	Comit de Eme	0.86	34	eP	Pb	00 33 43.7	+0.3
TECA	Tecapa	0.88	36	eP	Pb	00 33 43.7	+0.1
TECA	Tecapa	0.88	36	eP	Pb	00 33 43.7	+0.1
UESV	Universidad de	0.88	15	eP	Pb	00 33 43.5	-0.2
UESV				eS	Sb	00 33 54.8	-0.2
UESV	Universidad de	0.88	15	eP	Pb	00 33 43.5	-0.2
UESV				eS	Sb	00 33 54.8	-0.2
ITCA	Escuela Especi	0.92	345	eP	Pb	00 33 44.6	+0.2
ITCA	Escuela Especi	0.92	345	eP	Pb	00 33 44.6	+0.2
SNET	Serv Nac Est T	0.92	348	eP	Pb	00 33 43.7	-0.7
SNET				IAML		00 33 59.5	
	comp=Z,2μm,0.2s						
SNET	Serv Nac Est T	0.92	348	eP	Pb	00 33 43.7	-0.7
SNET				IAML		00 33 59.5	
	comp=Z,2μm,0.2s						
PAVA	Las Pavas	0.93	5	eP	Pb	00 33 44.6	0.0
PAVA				eS	Sb	00 33 56.6	0.0
PAVA				IAML		00 33 59.8	
	comp=Z,1μm,0.2s						
PAVA	Las Pavas	0.93	5	eP	Pb	00 33 44.6	0.0
PAVA				eS	Sb	00 33 56.6	0.0
PAVA				IAML		00 33 59.8	
	comp=Z,1μm,0.2s						
MAGS	Ministerio de	0.93	344	eP	Pb	00 33 44.5	-0.1
LBRS	Las Brisas	0.95	359	eP	Pb	00 33 44.6	-0.3
LBRS	Las Brisas	0.95	359	eP	Pb	00 33 44.6	-0.3
PQSS	Presa 15 de Se	0.95	28	eP	Pb	00 33 44.4	-0.4
PQSS				eS	Sb	00 33 57.4	+0.3
PQSS				IAML		00 33 58.9	
	comp=Z,4μm,0.2s						
UEES	Universidad Ev	0.95	347	eP	Pb	00 33 44.6	-0.3
UEES	Universidad Ev	0.95	347	eP	Pb	00 33 44.6	-0.3
LCY	Lacayo	0.96	48	eP	Pb	00 33 45.0	0.0
LCY				eS	Sb	00 33 58.1	+0.8
LCY	Lacayo	0.96	48	eP	Pb	00 33 45.0	0.0
LCY				eS	Sb	00 33 58.1	+0.8
JAYA	Jayaque - finc	0.96	335	eP	Pb	00 33 44.8	-0.3
JAYA				eS	Sb	00 33 57.4	-0.1
JAYA				IAML		00 33 58.4	
	comp=Z,4μm,0.2s						
JAYA	Jayaque - finc	0.96	335	eP	Pb	00 33 44.8	-0.3
JAYA				eS	Sb	00 33 57.4	-0.1
JAYA				IAML		00 33 58.4	
	comp=Z,4μm,0.2s						
LFU	La Fuente	0.97	355	eP	Pb	00 33 44.9	-0.2
LFU				eS	Sb	00 33 57.3	-0.3
LFU	La Fuente	0.97	355	eP	Pb	00 33 44.9	-0.2
LFU				eS	Sb	00 33 57.3	-0.3
PACA	Pacayal	0.97	45	eP	Pb	00 33 45.3	+0.1
PACA				eS	Sb	00 33 57.6	0.0
PACA				IAML		00 33 59.8	
	comp=Z,1μm,0.2s						
PACA	Pacayal	0.97	45	eP	Pb	00 33 45.3	+0.1
PACA				eS	Sb	00 33 57.6	0.0
PACA				IAML		00 33 59.8	
	comp=Z,1μm,0.2s						
PMON	Piamonte	0.97	343	eP	Pb	00 33 45.1	0.0
PMON				eS	Sb	00 33 57.5	-0.1
PMON	Piamonte	0.97	343	eP	Pb	00 33 45.1	0.0
PMON				eS	Sb	00 33 57.5	-0.1
RANC	El Ranchito	0.97	48	eP	Pb	00 33 45.0	-0.2
RANC				eS	Sb	00 33 57.6	0.0
RANC				IAML		00 34 00.7	
	comp=Z,2μm,0.1s						
RANC	El Ranchito	0.97	48	eP	Pb	00 33 45.0	-0.2
RANC				eS	Sb	00 33 57.6	0.0
RANC				IAML		00 34 00.7	
	comp=Z,2μm,0.1s						
BOQS	Boqueron	0.98	345	eP	Pb	00 33 45.4	0.0
BOQS				eS	Sb	00 33 58.4	+0.3
BOQS	Boqueron	0.98	345	eP	Pb	00 33 45.4	0.0
BOQS				eS	Sb	00 33 58.4	+0.3
CEDA	San Andres	1.08	341	eP	Pn	00 33 41.2	-5.3
CEDA				IAML		00 34 04.7	
	comp=Z,1μm,0.3s						
CEDA	San Andres	1.08	341	eP	Pn	00 33 41.2	-5.3
CEDA				IAML		00 34 04.7	
	comp=Z,1μm,0.3s						
CEVE	Cerro Verde	1.19	331	eP	Pn	00 33 48.7	+0.4
CEVE				IAML		00 34 16.9	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde	1.19	331	eP	Pn	00 33 48.7	+0.4
CEVE				IAML		00 34 16.9	
	comp=Z,2μm,0.3s						
SBLS	San Blas	1.20	331	eP	Pn	00 33 48.5	0.0
SBLS				eS	Sb	00 34 04.2	-0.2
SBLS	San Blas	1.20	331	eP	Pn	00 33 48.5	0.0
SBLS				eS	Sb	00 34 04.2	-0.2
SNJE	San Jose	1.22	333	eP	Pn	00 33 49.0	+0.3
SNJE	San Jose	1.22	333	eP	Pn	00 33 49.0	+0.3
LCND	La Caada	1.23	64	eP	Pn	00 33 48.5	-0.1
LCND				eS	Sn	00 34 03.7	-0.6
LCND				IAML		00 34 06.3	
	comp=Z,4μm,0.4s						
LCND	La Caada	1.23	64	eP	Pn	00 33 48.5	-0.1
LCND				eS	Sn	00 34 03.7	-0.6
LCND				IAML		00 34 06.3	
	comp=Z,4μm,0.4s						
TACO	Tacachico	1.23	345	eP	Pn	00 33 48.5	0.0
TACO				IAML		00 34 04.9	
	comp=Z,183nm,0.3s						
TACO	Tacachico	1.23	345	eP	Pn	00 33 48.5	0.0
TACO				IAML		00 34 04.9	
	comp=Z,183nm,0.3s						
CNCH	Conchagua	1.26	67	eP	Pn	00 33 49.0	-0.1
CNCH				eS	Sn	00 34 05.4	0.0
CNCH	Conchagua	1.26	67	eP	Pn	00 33 49.0	-0.1
CNCH				eS	Sn	00 34 05.4	0.0
RTR	El Retiro	1.26	332	eP	Pn	00 33 49.5	+0.3
RTR				eS	Sn	00 34 05.8	+0.3
RTR	El Retiro	1.26	332	eP	Pn	00 33 49.5	+0.3
RTR				eS	Sn	00 34 05.8	+0.3
MTO3	Montecristo	1.64	349	eP	Pn	00 33 54.6	+0.2
MTO3	Montecristo	1.64	349	eP	Pn	00 33 54.6	+0.2
TGUH	Tegucigalpa,Un	2.13	53	eP	Pn	00 34 01.2	+0.1
TGUH	Tegucigalpa,Un	2.13	53	eP	Pn	00 34 01.2	+0.1

*BJI **03** 00:37:40.1±0.0, 12°.78N×93°.23E, h46km, mB4.9/36, mb4.8/53, Ms4.2/34, Ms7 3.9/30*
*DJA **03** 00:37:41.2±0.4, 13°N±4°.9×9°.3E±°, h10km, M4

*IDC **03** 00:37:44.5±0.6, 13°.12N×93°.34E, h49km±4km, mb4.1/27, mb1 4.2/29, mb1mx4.1/38, mbtmp4.3/29, Error ellipse: s-maj=12.2km s-min=10.5km az=68.0*
*NDI **03** 00:37:45.4±2.7, 13°.21N×93°.24E, h47km±31km, mb4.3, mb4.8(NEIC)*
*NEIC **03** 00:37:45.4±1.1, 13°.15N±0°.07×93°.29E±0°.09, h51km±7km, mb4.8/86, Error ellipse: s-maj=13.8km s-min=9.4km az=118.0*
ISC 03 00:37:44.6±0.5, 13°.10N±0°.05×93°.22E±0°.04, h52km±4km, h52km:pP-P, n328, σ1§23/349, mb4.6/85, MS3.9/7, 4C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.29**	**286**	*e*P	**Pn**	**00 37 51.7**	**-2.0**
DGPR				*e*S	**Sn**	**00 37 58.8**	**-1.5**
PBA	**Port Blair**	**1.51**	**198**	*e*P	Pn	00 38 11.3	+2.0
PBA				*e*S	Sn	00 38 30.5	+2.7
PBA	**Port Blair**	**1.51**	**198**		Pn	00 38 10.5	+1.2
PHET	**Kaeng Krachan**	**6.25**	**91**	P	**Pn**	**00 39 15.0**	**+0.7**
	1.1nm3μm303nm,0.8s						
PHET	**Kaeng Krachan**	**6.25**	**91**	P	**Pn**	**00 39 15.1**	**+0.7**
	0.3nm676nm78nm,0.8s						
UMPA	**Umpang Tak**	**6.28**	**60**	P	**Pn**	**00 39 14.5**	**-0.1**
	1.9nm6μm602nm,0.8s						
UMPA	**Umpang Tak**	**6.28**	**60**	P	**Pn**	**00 39 14.6**	**-0.1**
	0.5nm1μm149nm,0.8s						
UTHA	**Uthaitani**	**6.51**	**67**	P	**Pn**	**00 39 18.0**	**+0.1**
	0.3nm738nm66nm,0.6s						
MHMT	**Maesarieng**	**6.79**	**41**	P	**Pn**	**00 39 21.4**	**-0.3**
	1.0nm2μm179nm,0.7s						
MHMT	**Maesarieng**	**6.79**	**41**	P	**Pn**	**00 39 21.4**	**-0.3**
	1.0nm2μm179nm,0.7s						
PATY	**Pattaya**	**7.46**	**90**	P	**Pn**	**00 39 35.4**	**+4.6**
	0.6nm3μm68nm,0.6s						
PATY	**Pattaya**	**7.46**	**90**	P	**Pn**	**00 39 35.5**	**+4.6**
	0.1nm656nm18nm,0.6s						
CM13	**Chiang Mai Arr**	**7.62**	**45**	P	**Pn**	**00 39 33.0**	**0.0**
	0.2nm754nm50nm,0.6s						
CM13	**Chiang Mai Arr**	**7.62**	**45**	P	**Pn**	**00 39 33.0**	**0.0**
	0.2nm754nm50nm,0.6s						
CM05	**Chiang Mai Arr**	**7.63**	**46**	P	**Pn**	**00 39 33.2**	**0.0**
	0.3nm1μm93nm,0.9s						
CM05	**Chiang Mai Arr**	**7.63**	**46**	P	**Pn**	**00 39 33.0**	**-0.2**
	0.3nm1μm93nm,0.9s						
CM15	**Chiang Mai Arr**	**7.65**	**45**	P	**Pn**	**00 39 34.0**	**+0.5**
	0.4nm103nm,0.7s						
CM15	**Chiang Mai Arr**	**7.65**	**45**	P	**Pn**	**00 39 34.0**	**+0.5**
	0.4nm103nm,0.7s						
CM01	**Chiang Mai Arr**	**7.65**	**46**	P	**Pn**	**00 39 33.6**	**+0.1**
	0.4nm1μm132nm,0.8s						
CM01	**Chiang Mai Arr**	**7.65**	**46**	P	**Pn**	**00 39 33.6**	**+0.1**
	0.4nm1μm132nm,0.8s						
CM04	**Chiang Mai Arr**	**7.65**	**46**	P	**Pn**	**00 39 33.6**	**+0.1**
	0.5nm1μm142nm,1.0s						
CM04	**Chiang Mai Arr**	**7.65**	**46**	P	**Pn**	**00 39 33.0**	**-0.5**
	0.5nm1μm142nm,1.0s						
CM02	**Chiang Mai Arr**	**7.65**	**45**	P	**Pn**	**00 39 33.6**	**+0.1**
	0.3nm773nm88nm,0.8s						
CM02	**Chiang Mai Arr**	**7.65**	**45**	P	**Pn**	**00 39 33.6**	**+0.1**
	0.3nm773nm88nm,0.8s						
CM31	**Chiang Mai Arr**	**7.67**	**45**	P	**Pn**	**00 39 34.4**	**+0.7**
	10.0nm38μm2μm,0.7s						
CM31	**Chiang Mai Arr**	**7.67**	**45**	Pn	**Pn**	**00 39 32.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**7.67**	**45**	P	**Pn**	**00 39 33.7**	**0.0**
	9.0nm,0.3s,baz=236,slow=16,SNR=62						
CMAR				S	**Sn**	**00 40 57.5**	**-1.8**
	3.2nm,0.3s,baz=237,slow=27,SNR=3.2						
CMAR	**Chiang Mai Arr**	**7.67**	**45**	Pn	**Pn**	**00 39 33.2**	**-0.5**
CM09	**Chiang Mai Arr**	**7.69**	**46**	P	**Pn**	**00 39 34.2**	**+0.2**
	0.4nm1μm121nm,0.8s						
CM09	**Chiang Mai Arr**	**7.69**	**46**	P	**Pn**	**00 39 34.2**	**+0.2**
	0.4nm1μm121nm,0.8s						
CM32	**Chiang Mai Arr**	**7.74**	**44**	P	**Pn**	**00 39 35.0**	**+0.3**
CM36	**Chiang Mai Arr**	**7.81**	**46**	P	**Pn**	**00 39 35.0**	**-0.7**
CHTO	**Chiang Mai**	**7.91**	**43**	P	**Pn**	**00 39 36.9**	**-0.2**
	0.4nm950nm100nm,1.2s						
CHTO	**Chiang Mai**	**7.91**	**43**	Pn	**Pn**	**00 39 35.9**	**-1.2**
CMMT	**Chiang Mai**	**7.92**	**43**	P	**Pn**	**00 39 36.9**	**-0.3**
	0.4nm1μm102nm,1.2s						
CMMT	**Chiang Mai**	**7.92**	**43**	P	**Pn**	**00 39 36.0**	**-1.2**
	0.4nm1μm102nm,1.2s						
CM33	**Chiang Mai Arr**	**7.92**	**43**	P	**Pn**	**00 39 36.0**	**-1.2**
CM35	**Chiang Mai Arr**	**7.96**	**45**	P	**Pn**	**00 39 37.0**	**-0.8**
PHIT	**Phitsanulok**	**8.05**	**59**	P	**Pn**	**00 39 40.3**	**+1.3**
	0.9nm3μm297nm,0.8s						
PHIT	**Phitsanulok**	**8.05**	**59**	P	**Pn**	**00 39 40.3**	**+1.3**
	0.2nm671nm74nm,0.8s						
CM34	**Chiang Mai Arr**	**8.08**	**44**	P	**Pn**	**00 39 39.0**	**-0.4**
LAMP	**Lampang**	**8.20**	**48**	P	**Pn**	**00 39 41.3**	**+0.3**
	0.8nm3μm244nm,0.8s						
LAMP	**Lampang**	**8.20**	**48**	P	**Pn**	**00 39 41.3**	**+0.3**
	0.2nm681nm61nm,0.8s						
PBKT	**Sadao Pong**	**8.25**	**64**	P	**Pn**	**00 39 45.4**	**+3.6**
	0.3nm46nm,0.9s						
PBKT	**Sadao Pong**	**8.25**	**64**	P	**Pn**	**00 39 45.0**	**+3.2**
	0.3nm46nm,0.9s						
PBKT	**Sadao Pong**	**8.25**	**64**	Pn	**Pn**	**00 39 41.2**	**-0.6**
UTTA	**Uttaradit**	**8.45**	**56**	P	**Pn**	**00 39 45.0**	**+0.6**
	0.3nm753nm66nm,0.9s						
UTTA	**Uttaradit**	**8.45**	**56**	P	**Pn**	**00 39 45.0**	**+0.6**
	0.1nm188nm17nm,0.9s						
SRAK	**Srakaew**	**8.63**	**83**	P	Pn	00 39 56.1	+9.1
CHAI	**Chaiyaphum**	**8.94**	**71**	P	**Pn**	**00 39 53.2**	**+2.0**
	1μm119nm,0.7s						
CHAI	**Chaiyaphum**	**8.94**	**71**	P	**Pn**	**00 39 53.2**	**+2.0**
	289nm30nm,0.7s						
VIS	**Vishakhapatnam**	**10.58**	**297**	*e*P	**Pn**	**00 40 12.2**	**-1.5**
VIS				*e*S	Sn	00 42 00.5	-10
NONG	**Nongkai**	**10.76**	**61**	P	**Pn**	**00 40 18.1**	**+1.9**
	13μm29nm,0.4s						
NONG	**Nongkai**	**10.76**	**61**	P	**Pn**	**00 40 18.0**	**+1.9**
SHL	**Shillong**	**12.46**	**354**	*ex*	Pn	00 40 34.8	-4.8
SHL				*ex*	x	00 42 49.3	
SHL	**Shillong**	**12.46**	**354**	Pn	Pn	00 40 34.5	-5.1
MDRS	**Chennai**	**12.63**	**271**	*e*P	**Pn**	**00 40 43.0**	**+1.2**
MDRS				*e*S	Sn	00 42 49.6	-11
BOK	**Bokaro**	**12.70**	**328**	*e*P	**Pn**	**00 40 41.1**	**-1.5**
BOK				IAmb	IAmb	00 40 47.9	
	comp=Z,22nm,0.2s						
BOK				*ex*	x	00 42 56.7	
SLVN	**Son La**	**13.08**	**50**	Pn	**Pn**	**00 40 44.5**	**-3.4**
PALK	**Pallekele**	**13.61**	**246**	P	**Pn**	**00 40 57.1**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=108,slow=13,SNR=1.5						
PALK				S	Sn	00 43 15.0	-10
	comp=Z,1.9nm,0.3s,baz=80,slow=3.5,SNR=5.1						
PALK	**Pallekele**	**13.61**	**246**	Pn	**Pn**	**00 40 54.0**	**-1.0**
HYB	**Hyderabad**	**14.78**	**289**	*e*P	**Pn**	**00 41 11.8**	**+1.1**
HYB				*ex*	**Sn**	**00 43 56.3**	**+2.9**
KMI	**Kunming**	**14.96**	**36**	⇑P	**Pn**	**00 41 13.5**	**+0.4**
KMI				pP	P	00 41 19.5	+1.8
KMI				S	**Sn**	**00 44 01.0**	**+3.2**
KMI				sS	S	00 44 14.0	+0.6
KMI				SS	**SnSn**	**00 44 20.2**	**+8.9**
KMI				pmax	pmax		
	comp=Z,23nm,1.0s						
KMI				pmax	pmax		
	comp=Z,89nm,3.5s						
KMI				LR	LR		
	comp=Z,480nm,20.5s						
KMI				LR	LR		
	comp=Z,300nm,22.1s						
KMI				LR	LR		
	comp=Z,570nm,25.8s						
LSA	**Lhasa**	**16.63**	**354**		**Pn**	**00 41 34.0**	**-0.7**
QIZ	**Qiongzhong**	**17.03**	**68**	P	**Pn**	**00 41 38.7**	**-0.6**
QIZ				S	**Sn**	**00 44 47.9**	**+0.1**
QIZ				LR	LR		
	comp=Z,370nm,15.5s						
QIZ				LR	LR		
	comp=Z,470nm,21.2s						
QIZ				LR	LR		
	comp=Z,580nm,20.2s						
BHPL	**Bhopal**	**18.06**	**306**	*e*P	**Pn**	**00 41 53.1**	**+1.1**
BHPL				IAmb	IAmb	00 42 07.2	
	comp=Z,21nm,1.1s						
BHPL				*ex*	Sn	00 45 01.1	-12
GYA	**Guiyang**	**18.33**	**42**	⇑P	**Pn**	**00 41 56.7**	**+1.4**
GYA				pP	pP	00 42 06.0	-0.2
GYA				S	**Sn**	**00 45 17.7**	**-1.7**
GYA				sS	sS	00 45 36.3	-4.1
CD2	**Chengdu**	**20.22**	**27**	⇓*i*P	**P**	**00 42 15.4**	**0.0**
CD2				pP	pP	00 42 25.1	-1.6
CD2				sP	sP	00 42 30.0	-3.0
CD2				S	**S**	**00 45 59.7**	**+0.1**
CD2				sS	sS	00 46 19.3	+0.9
CD2				SS	**SnSn**	**00 46 27.4**	**+7.3**
CD2				pmax	pmax		
	comp=Z,70nm,1.3s						
CD2				pmax	pmax		
	comp=Z,280nm,7.0s						
CD2				LR	LR		
	comp=Z,670nm,26.7s						
CD2				LR	LR		
	comp=Z,500nm,19.6s						
CD2				LR	LR		
	comp=Z,370nm,25.2s						
ENH	**Enshi**	**22.77**	**39**	P	**P**	**00 42 40.8**	**-2.0**
ENH				IAmb	IAmb	00 42 43.1	
	comp=Z,97nm,1.2s						
SMLA	**Simla**	**23.25**	**323**	*e*P	**P**	**00 42 48.1**	**+0.6**
SMLA				IAmb	IAmb	00 42 57.0	
	comp=Z,15nm,0.9s						
LZH	**Lanzhou**	**24.81**	**21**	⇑P	**P**	**00 43 02.2**	**+0.1**
LZH				pP	pP	00 43 15.0	0.0
LZH				sP	sP	00 43 22.3	+1.2
LZH				pmax	pmax		
	comp=Z,52nm,1.2s						
LZH				pmax	pmax		
	comp=Z,170nm,6.0s						
LZH				LR	LR		
	comp=Z,430nm,16.8s						
LZH				LR	LR		
	comp=Z,360nm,16.3s						
LZH				LR	LR		
	comp=Z,420nm,16.8s						
XAN	**Xi'an**	**25.27**	**32**	P	**P**	**00 43 03.8**	**-2.4**
XAN				pP	pP	00 43 14.9	-4.0
XAN				S	**S**	**00 47 30.8**	**+2.4**
XAN				SS	**SnSn**	**00 48 32.0**	**+8.5**
XAN				pmax	pmax		
	comp=Z,32nm,1.2s						
XAN				pmax	pmax		
	comp=Z,110nm,7.7s						
XAN				LR	LR		
	comp=Z,250nm,18.4s						
XAN				LR	LR		
	comp=Z,470nm,18.9s						
XAN				LR	LR		
	comp=Z,470nm,24.0s						
GTA	**Gaotai**	**26.85**	**11**	⇑P	**P**	**00 43 21.2**	**+0.7**
GTA				pP	pP	00 43 30.5	-2.9
GTA				sP	sP	00 43 37.1	-2.4
GTA				sS	sS	00 48 15.1	-0.5
GTA				ScP	**ScP**	**00 50 20.0**	**+1.9**
GTA				pmax	pmax		
	comp=Z,22nm,1.2s						
GTA				pmax	pmax		
	comp=Z,110nm,5.5s						
GTA				LR	LR		
	comp=Z,130nm,18.9s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
GTA				LR	LR		
	comp=Z,130nm,18.5s						
NIL	**Nilore**	**27.36**	**322**	P	**P**	**00 43 25.0**	**-0.1**
NJ2	**Nanjing**	**30.14**	**47**	⇓P	**P**	**00 43 49.7**	**0.0**
NJ2				pP	**pP**	**00 43 59.9**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				LR	LR		
	comp=Z,670nm,13.3s						
NJ2				LR	LR		
	comp=Z,340nm,12.8s						
NJ2				LR	LR		
	comp=Z,990nm,19.9s						
WMQ	**Urumqi**	**30.98**	**352**	*e*P	**P**	**00 43 57.2**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,71nm,3.7s						
TARG	**Taragay, Kyrgy**	**31.53**	**338**	P	**P**	**00 44 03.1**	**+0.8**
HHC	**Hu-ho-hao-te**	**31.98**	**27**	*e*P	**P**	**00 44 05.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,99nm,5.6s						
HHC				LR	LR		
	comp=Z,170nm,14.5s						
HHC				LR	LR		
	comp=Z,240nm,15.3s						
HHC				LR	LR		
	comp=Z,120nm,15.3s						
KDJ	**Kajisay**	**32.11**	**337**	P	**P**	**00 44 07.9**	**+0.7**
KDJ				IAmb	IAmb	00 44 09.7	
	comp=Z,11nm,1.4s						
SHLS	**Shalkode**	**32.22**	**341**	*e*P	**P**	**00 44 06.7**	**-1.3**
	baz=341						
UZB	**Uzynbulak**	**32.35**	**340**	*e*P	**P**	**00 44 08.1**	**-1.2**
	baz=340						
DRK	**Karamyk**	**32.37**	**328**	P	**P**	**00 44 10.9**	**+1.3**
SATY	**Saty**	**32.48**	**340**	*e*P	**P**	**00 44 09.0**	**-1.4**
	baz=340						
KPKS	**Kokpek**	**32.75**	**340**	*e*P	**P**	**00 44 12.2**	**-0.5**
	baz=340						
BOOM	**Boomskoye usch**	**32.89**	**336**	P	**P**	**00 44 13.2**	**-0.8**
MDOK	**Medeo**	**33.05**	**338**	*e*P	**P**	**00 44 15.9**	**+0.5**
	baz=338						
BTK	**Batken**	**33.31**	**328**	P	**P**	**00 44 18.8**	**+1.2**
BTK				IAmb	IAmb	00 44 21.6	
	comp=Z,7.6nm,0.5s						
BJT	**Baijiatuan**	**33.57**	**33**	P	**P**	**00 44 19.4**	**-0.3**
BJT				IAmb	IAmb	00 44 20.5	
	comp=Z,6.2nm,0.8s						
AAK	**Ala-Archa**	**33.60**	**335**	P	**P**	**00 44 21.0**	**+0.8**
FRU1	**Bishkek**	**33.69**	**335**	P	**P**	**00 44 22.7**	**+1.8**
FRU1				IAmb	IAmb	00 44 50.4	
	comp=Z,13nm,0.5s						
KUU	**Kurty**	**33.94**	**338**	*e*P	**P**	**00 44 21.8**	**-1.1**
	baz=338						
MK31	**Makanchi Array**	**34.82**	**347**	P	**P**	**00 44 30.6**	**+0.1**
MK31				IAmb	IAmb	00 44 32.0	
	comp=Z,14nm,1.5s						
MKAR	**Makanchi Array**	**34.82**	**347**	P	**P**	**00 44 31.0**	**+0.4**
	comp=Z,4.7nm,0.6s,baz=162,slow=7.8,SNR=38						
MKAR				PcP	**PcP**	**00 47 03.1**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=183,slow=4.5,SNR=2.3						
MKAR	**Makanchi Array**	**34.82**	**347**	P	**P**	**00 44 30.9**	**+0.4**
MAKZ	**Makanchi**	**34.91**	**346**	P	**P**	**00 44 31.6**	**+0.3**
MAKZ				IAmb	IAmb	00 44 33.0	
	comp=Z,5.8nm,0.7s						
KK31	**Karatay Array**	**35.74**	**331**	P	**P**	**00 44 39.0**	**+0.4**
KKAR	**Karatay Array**	**35.74**	**331**	P	**P**	**00 44 39.3**	**+0.7**
KKAR	**Karatay Array**	**35.74**	**331**	P	**P**	**00 44 39.2**	**+0.7**
KKAR				IAmb	IAmb	00 44 40.5	
	comp=Z,6.1nm,1.3s						
BTLS	**Baital**	**35.78**	**337**	*e*P	**P**	**00 44 37.6**	**-1.1**
	baz=336						
SONM	**Songino Array**	**36.34**	**15**	P	**P**	**00 44 44.1**	**+0.4**
	comp=Z,11nm,1.1s,baz=199,slow=9.5,SNR=37						
SONM				PcP	**PcP**	**00 47 07.7**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=192,slow=3.6,SNR=3.9						
SONM				ScP	**ScP**	**00 50 50.6**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=191,slow=4.3,SNR=7.4						
SONM	**Songino Array**	**36.34**	**15**	P	**P**	**00 44 44.0**	**+0.3**
SONM				IAmb	IAmb	00 44 45.2	
	comp=Z,13nm,1.2s						
ULN	**Ulaanbaatar**	**36.53**	**16**	P	**P**	**00 44 44.8**	**-0.6**
ULN				IAmb	IAmb	00 44 46.6	
	comp=Z,12nm,1.3s						
JSU	**Suzuyama**	**38.77**	**56**	P	**P**	**00 45 03.6**	**-0.8**
JSU				IAmb	IAmb	00 45 09.6	
	comp=Z,42nm,1.3s						
KSAR	**Wonju Array Be**	**39.27**	**46**	P	**P**	**00 45 07.0**	**-1.4**
KS19	**Wonju Array Si**	**39.29**	**46**	P	**P**	**00 45 07.5**	**-1.1**
KS19				IAmb	IAmb	00 45 35.2	
	comp=Z,31nm,1.5s						
KSRS	**Korea Array**	**39.31**	**46**	P	**P**	**00 45 07.3**	**-1.4**
	comp=Z,7.2nm,0.8s,baz=243,slow=9.8,SNR=24						
KSRS				ScP	**ScP**	**00 51 00.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=230,slow=3.0,SNR=1.7						
TLY	**Talaya**	**39.39**	**10**	P	**P**	**00 45 09.0**	**-0.3**
TLY				IAmb	IAmb	00 45 11.8	
	comp=Z,9.5nm,1.0s						
GEYT	**Alibeck**	**39.81**	**315**	P	**P**	**00 45 14.5**	**+1.5**
	comp=Z,92nm,0.8s,baz=126,slow=7.4,SNR=4.3						
GYA0B	**ALIBECK ARRAY**	**39.81**	**315**	P	**P**	**00 45 13.1**	**+0.2**
GYA0B				IAmb	IAmb	00 45 41.8	
	comp=Z,5.0nm,0.7s						
CN2	**Changchun**	**41.23**	**36**	*e*P	**P**	**00 45 24.0**	**-0.5**
CN2				S	**S**	**00 51 32.1**	**-2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
ZAA0	**Zalesovo Array**	**41.29**	**352**	P	**P**	**00 45 24.5**	**-0.4**
ZAA0				IAmb	IAmb	00 45 26.0	
	comp=Z,37nm,1.5s						
ZALV	**Zalesovo Beam**	**41.29**	**352**	P	**P**	**00 45 24.9**	**0.0**
	comp=Z,9.0nm,0.4s,baz=175,slow=8.0,SNR=48						
ZALV	**Zalesovo Beam**	**41.29**	**352**	P	**P**	**00 45 24.5**	**-0.3**
HIA	**Hailar**	**42.17**	**26**	P	**P**	**00 45 31.7**	**-0.4**
HIA				IAmb	IAmb	00 45 37.3	
	comp=Z,15nm,1.2s						
BRVK	**Borovoye**	**43.85**	**340**	P	**P**	**00 45 45.6**	**0.0**
ABKAR	**Akbulak array**	**45.26**	**330**	P	**P**	**00 45 57.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**45.35**	**39**	P	**P**	**00 45 56.2**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=255,slow=8.8,SNR=5.4						
USRK	**Ussuriysk Ar.**	**45.35**	**39**	P	**P**	**00 45 56.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**46.49**	**52**	P	**P**	**00 46 06.2**	**-0.7**
MJB9				IAmb	IAmb	00 46 07.2	
	comp=Z,18nm,1.2s						
MAJO	**Matsushiro**	**46.49**	**52**	P	**P**	**00 46 06.4**	**-0.5**
MAJO				IAmb	IAmb	00 46 07.2	
	comp=Z,20nm,1.3s						
MAT	**Matsushiro**	**46.49**	**52**	P	**P**	**00 46 06.3**	**-0.6**
MJAR	**Matsushiro Arr**	**46.50**	**52**	P	**P**	**00 46 06.6**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=267,slow=7.1,SNR=7.6						
MJAR				PcP	**PcP**	**00 47 40.5**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=224,slow=3.4,SNR=5.7						
MJAR				ScP	**ScP**	**00 51 29.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=230,slow=4.1,SNR=2.0						
MJAR	**Matsushiro Arr**	**46.50**	**52**	P	**P**	**00 46 06.3**	**-0.6**
MJAR				IAmb	IAmb	00 46 07.7	
	comp=Z,6.6nm,1.2s						
KLR	**Kul'dur**	**47.96**	**33**	P	**P**	**00 46 18.0**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=222,slow=10,SNR=3.0						
JTM	**Tenmabayashi**	**49.98**	**47**	P	**P**	**00 46 31.9**	**-1.8**
ARU	**Arti**	**50.76**	**336**	P	**P**	**00 46 39.5**	**+0.1**
ARU				IAmb	IAmb	00 46 40.5	
	comp=Z,7.4nm,0.6s						
WB0	**Warramunga Arr**	**52.05**	**128**	P	**P**	**00 46 48.0**	**-1.5**
WB0				IAmb	IAmb	00 46 48.6	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**52.11**	**128**	P	**P**	**00 46 48.3**	**-1.7**
	comp=Z,2.2nm,0.5s,baz=309,slow=7.7,SNR=46						
WRA				pP	**pP**	**00 47 03.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=307,slow=8.0,SNR=4.7						
WRA				PcP	**PcP**	**00 48 00.3**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=312,slow=3.3,SNR=7.3						
WRA				ScP	**ScP**	**00 51 53.2**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=325,slow=3.6,SNR=1.6						
WRA	**Warramunga Arr**	**52.11**	**128**	P	**P**	**00 46 48.6**	**-1.4**
WRAB	**Tennant Creek**	**52.12**	**128**	P	**P**	**00 46 49.6**	**-0.4**
WB2	**Warramunga Arr**	**52.12**	**128**	P	**P**	**00 46 48.6**	**-1.5**
WB2				IAmb	IAmb	00 46 48.9	
	comp=Z,6.6nm,0.8s						
WR0	**Warramunga Arr**	**52.28**	**128**	P	**P**	**00 46 49.7**	**-1.5**
WR0				IAmb	IAmb	00 47 07.1	
	comp=Z,4.4nm,0.8s						
KIV	**Kislovodsk**	**52.91**	**316**	P	**P**	**00 46 55.1**	**-0.6**
KIV				IAmb	IAmb	00 47 17.2	
	comp=Z,5.0nm,0.8s						
AS31	**Alice Springs**	**54.02**	**132**	P	**P**	**00 47 02.6**	**-1.4**
ASAR	**Alice Springs**	**54.02**	**132**	P	**P**	**00 47 02.5**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=308,slow=6.8,SNR=36						
ASAR				pP	**pP**	**00 47 17.2**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=307,slow=6.7,SNR=9.0						
ASAR				PcP	**PcP**	**00 48 08.2**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=311,slow=3.7,SNR=7.7						
ASAR				ScP	**ScP**	**00 52 01.4**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=316,slow=5.1,SNR=7.9						
ASAR				S	**S**	**00 54 33.0**	**-3.6**
	comp=Z,0.8nm,0.9s,baz=296,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**54.02**	**132**	P	**P**	**00 47 02.9**	**-1.1**
FORT	**Forrest**	**55.00**	**143**	P	**P**	**00 47 10.9**	**-0.1**
FORT				IAmb	IAmb	00 47 28.2	
	comp=Z,21nm,1.1s						
NRIK	**Noril'sk**	**56.31**	**358**	P	**P**	**00 47 20.6**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=163,slow=6.6,SNR=8.6						
NRIK	**Noril'sk**	**56.31**	**358**	P	**P**	**00 47 20.2**	**+0.4**
NRIK				IAmb	IAmb	00 47 21.2	
	comp=Z,5.8nm,0.7s						
BRTR	**Keskin Array B**	**58.41**	**309**	P	**P**	**00 47 34.7**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=111,slow=6.2,SNR=2.6						
BRTR				pP	**pP**	**00 47 48.0**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=133,slow=7.1,SNR=3.9						
BRTR	**Keskin Array B**	**58.41**	**309**	P	**P**	**00 47 34.9**	**-0.4**
ELL	**Elmali**	**60.94**	**305**	P	**P**	**00 47 53.3**	**+0.5**
KLMR	**Klimovskoe**	**61.40**	**333**	*e*P	**P**	**00 47 53.5**	**-1.7**
KLMR				AMP		00 47 56.1	
	comp=Z,11nm,1.0s						
TIXI	**Tiksi**	**62.33**	**12**	P	**P**	**00 48 00.1**	**-1.1**
	comp=Z,8.4nm,0.4s,baz=174,slow=4.7,SNR=13						
TIXI	**Tiksi**	**62.33**	**12**	P	**P**	**00 48 00.1**	**-1.1**
AKASG	**Malin Array Be**	**63.55**	**320**	P	**P**	**00 48 09.3**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=87,slow=4.8,SNR=8.0						
PETK	**Petropavlovsk-**	**64.36**	**37**	P	**P**	**00 48 13.6**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=232,slow=7.1,SNR=2.9						
PETK	**Petropavlovsk-**	**64

SPA0	Spitsbergen Ar	74.57	348	eP	P	00 49 18.2	+0.5
SPITS	Spitsbergen Ar	74.57	348	P	P	00 49 18.2	+0.5
	comp=Z,1.9nm,0.5s,baz=115,slow=5.9,SNR=9.1						
NC602	NORSAR Array S	74.61	330	eP	P	00 49 17.9	-0.2
NB2	NORSAR Subarra	74.77	330	P	P	00 49 18.4	-0.7
	comp=Z,1.2nm,0.5s,baz=89,slow=5.9						
NB2	NORSAR Subarra	74.77	330	P	P	00 49 18.4	-0.7
	baz=89,slow=5.9						
NOA	NORSAR Array B	74.77	330	P	P	00 49 18.6	-0.5
	comp=Z,2.2nm,0.6s,baz=90,slow=5.6,SNR=16						
WATA	Walderalm	74.84	316	eP	P	00 49 20.1	+0.1
	comp=Z,3.4nm,0.9s						
OSL	Oslo	75.01	329	eP	P	00 49 20.7	+0.3
SQTA	Sankt Quirin	75.10	316	eP	P	00 49 21.1	-0.4
	comp=Z,5.2nm,1.0s						
MOTA	Moosalm	75.16	316	eP	P	00 49 20.8	-1.1
	comp=Z,4.8nm,1.4s						
RETA	Reutte	75.39	316	eP	P	00 49 22.6	-0.4
	comp=Z,8.1nm,1.4s						
FETA	Feichten	75.44	316	eP	P	00 49 24.0	+0.6
	comp=Z,3.6nm,1.1s						
ZCCA	Zocca	75.45	313	P	P	00 49 24.5	+1.1
ZCCA				IAmb	IAmb	00 49 53.5	
	comp=Z,7.2nm,1.2s						
KONO	Kongsberg	75.58	329	eP	P	00 49 23.7	0.0
DOMB	Dombas	75.79	331	eP	P	00 49 25.1	+0.1
DAVA	Damuels	76.00	316	eP	P	00 49 26.3	-0.3
	comp=Z,3.3nm,1.0s						
SKAR	Skarslia	76.20	330	eP	P	00 49 27.6	+0.3
TUE	Stuetta	76.43	315	P	P	00 49 29.5	+0.4
MOL	Molde	76.49	332	eP	P	00 49 29.3	+0.5
KEST	Kesra	77.55	304	P	P	00 49 35.5	0.0
	comp=Z,3.1nm,1.1s,baz=94,slow=3.2,SNR=2.4						
BOSA	Boshof	77.63	237	P	P	00 49 37.1	+1.0
	comp=Z,2.5nm,0.7s,baz=76,slow=6.1,SNR=7.3						
SENIN	Lac Senin/Sane	77.85	315	P	P	00 49 37.6	+0.5
BNI	Bardonecchia	78.43	314	P	P	00 49 40.9	+0.7
ANM	Nome	83.11	25	P	P	00 50 04.5	-0.2
	baz=286						
MAW	Mawson	83.44	191	P	P	00 50 07.2	+1.1
	comp=Z,1.4nm,0.6s,baz=45,slow=4.1,SNR=7.8						
MAW				pP	pP	00 50 21.8	+1.0
	comp=Z,3.5nm,0.9s,baz=51,slow=6.9,SNR=4.7						
MAW	Mawson	83.44	191	P	P	00 50 07.5	+1.4
A21K	Barrow	83.97	18	P	P	00 50 09.3	+0.4
	baz=293						
EUNU	Eureka	87.00	360	P	P	00 50 24.3	+0.3
EUNU				IAmb	IAmb	00 50 26.0	
	comp=Z,5.1nm,0.8s						
ESDC	Sonseca Array	87.18	310	P	P	00 50 25.9	+0.3
	comp=Z,0.6nm,0.6s,baz=61,slow=4.6,SNR=10						
ESDC	Sonseca Array	87.18	310	P	P	00 50 25.6	-0.1
TOLK	Toolik Lake Re	87.34	19	P	P	00 50 26.3	+0.4
	baz=300						
TOLK	Toolik Lake Re	87.34	19	P	P	00 50 26.2	+0.3
PAB	San Pablo	87.50	310	P	P	00 50 28.0	+0.7
PAB				IAmb	IAmb	00 50 36.0	
	comp=Z,7.7nm,1.4s						
H21K	Melozitna Rive	87.66	22	P	P	00 50 28.0	+0.7
	baz=297						
COLD	Coldfoot	87.84	20	P	P	00 50 28.4	+0.2
	baz=299						
COLD	Coldfoot	87.84	20	IAmb	IAmb	00 50 29.8	
	comp=Z,7.3nm,1.3s						
I21K	Tanana	88.19	23	P	P	00 50 30.4	+0.6
	baz=298						
L19K	White Mountain	88.39	26	P	P	00 50 31.2	+0.4
	baz=295,SNR=8.6						
TORD	Torodi Ar. Bea	88.53	283	P	P	00 50 33.0	+0.5
	comp=Z,0.9nm,0.9s,baz=70,slow=4.3,SNR=3.3						
TORD				pP	pP	00 50 48.4	+0.9
	comp=Z,1.0nm,0.7s,baz=72,slow=4.2,SNR=4.5						
N18K	Kilae Creek	88.57	27	P	P	00 50 32.1	+0.3
	baz=294						
M19K	Big River Lodg	88.70	26	P	P	00 50 33.2	+0.9
	baz=296						
MLY	Manley	88.72	22	P	P	00 50 32.8	+0.3
	baz=299						
MLY	Manley	88.72	22	P	P	00 50 32.7	+0.3
MLY				IAmb	IAmb	00 50 34.1	
	comp=Z,15nm,1.4s						
H23K	Yukon River	88.76	21	P	P	00 50 33.3	+0.7
	baz=300,SNR=6.0						
CHNA	Chernabura Isl	89.02	34	P	P	00 50 34.6	+0.6
	baz=291						
BPAW	Bear Paw Mtn.	89.08	23	P	P	00 50 34.4	+0.3
	baz=299,SNR=14						
N19K	Bonanza Creek	89.14	27	P	P	00 50 35.1	+0.6
	baz=296,SNR=9.3						
I23K	Minto, Yukon-K	89.17	22	P	P	00 50 34.8	+0.4
	baz=300						
I23K	Minto, Yukon-K	89.17	22	IAmb	IAmb	00 50 36.7	
	comp=Z,4.5nm,0.8s						
O18K	Koktuh Hills	89.22	28	P	P	00 50 35.4	+0.6
	baz=295						
M20K	Styx River	89.25	26	P	P	00 50 35.6	+0.6
	baz=297						
H24K	Noodor Dome	89.35	21	P	P	00 50 35.8	+0.4
	baz=301,SNR=6.4						
O19K	Port Alsworth	89.48	27	P	P	00 50 36.1	+0.1
	baz=296						
NEA2	Nenana	89.56	22	P	P	00 50 36.3	-0.1
	baz=300						
NEA2	Nenana	89.56	22	IAmb	IAmb	00 50 38.6	
	comp=Z,5.0nm,0.7s						
TRF	Thorofare Moun	89.66	24	P	P	00 50 36.9	-0.2
	baz=299						
FYU	Fort Yukon	89.86	20	P	P	00 50 39.0	+1.4
SKT	Skwentna	89.87	25	P	P	00 50 37.7	-0.2
	baz=298						
POKR	Poker Plat Res	89.89	22	P	P	00 50 38.1	+0.3
	baz=302						
MCK	McKinley	90.05	23	P	P	00 50 38.4	-0.2
	baz=300						
MCK	McKinley	90.05	23	P	P	00 50 39.0	+0.4
IL31		90.27	22	P	P	00 50 38.9	-0.6
IL31				IAmb	IAmb	00 50 40.6	
	comp=Z,3.7nm,0.8s						
ILAR	Eielson Array	90.27	22	P	P	00 50 38.7	-1.0
	comp=Z,1.8nm,0.7s,baz=304,slow=5.2,SNR=14						
ILAR				PP	PP	00 54 13.2	-0.3
	comp=Z,0.3nm,0.7s,baz=306,slow=8.7,SNR=4.1						
ILAR	Eielson Array	90.27	22	P	P	00 50 38.5	-1.1
HDA	Harding Lake	90.44	22	P	P	00 50 39.5	-0.9
	baz=302						
SUA	Susitna One	90.45	26	P	P	00 50 40.5	-0.2
	baz=299						
RC01	Rabbit Creek A	91.06	26	P	P	00 50 43.0	-0.4
	baz=300						
RC01	Rabbit Creek A	91.06	26	P	P	00 50 43.5	+0.2
WAT6	Susitna Watana	91.11	24	P	P	00 50 43.7	-0.1
	baz=302						
SML	Sawmill	91.28	25	P	P	00 50 44.2	-0.3
	baz=301						
OHAK	Old Harbor	91.28	30	P	P	00 50 44.0	-0.4
	baz=297						
BRSE	Bradley Lake S	91.29	27	P	P	00 50 44.2	-0.3
	baz=299						
KDAK	Kodiak Island	91.36	29	P	P	00 50 44.4	-0.4
	baz=297						
KNK	Knik Glacier	91.43	25	P	P	00 50 45.2	+0.1
	baz=301						
KNK	Knik Glacier	91.43	25	P	P	00 50 45.2	+0.1
SEW	Seward	91.67	26	P	P	00 50 45.7	-0.5
	baz=300						
SCRK	Sand Creek	91.76	22	P	P	00 50 46.1	-0.7
	baz=305						
HARP	HAARP	92.22	23	P	P	00 50 48.4	-0.3
	baz=304						
INK	Inuvik	92.25	16	P	P	00 50 48.7	+0.1
	comp=Z,3.2nm,0.6s,baz=323,slow=3.7,SNR=5.5						
INK	Inuvik	92.25	16	P	P	00 50 48.6	-0.1
	baz=315						
INK	Inuvik	92.25	16	P	P	00 50 49.0	+0.4
GLI	Glacier Island	92.27	25	P	P	00 50 49.4	+0.4
	baz=302						
EGAK	Eagle	92.28	20	P	P	00 50 48.8	-0.1
	baz=308						
K27K	Chicken	92.41	21	P	P	00 50 49.5	0.0
	baz=307						
K27K	Chicken	92.41	21	P	P	00 50 49.8	+0.2
K27K				IAmb	IAmb	00 50 51.8	
	comp=Z,9.7nm,1.2s						
KLU	Klutina	92.42	24	P	P	00 50 49.4	-0.3
	baz=303						
KLU	Klutina	92.42	24	IAmb	IAmb	00 50 52.9	
	comp=Z,14nm,1.4s						
EPYK	Eagle Plains	92.68	18	P	P	00 50 50.8	0.0
	baz=312						
N25K	Chitina, Valde	92.88	24	P	P	00 50 52.4	+0.5
	baz=304						
N25K	Chitina, Valde	92.88	24	IAmb	IAmb	00 50 54.4	
	comp=Z,7.1nm,0.8s						
L27K	Beaver Creek,	93.08	22	P	P	00 50 52.0	-0.8
	baz=307						
L27K	Beaver Creek,	93.08	22	IAmb	IAmb	00 50 55.5	
	comp=Z,6.7nm,1.2s						
BCAR	Beaver Creek A	93.09	22	P	P	00 50 53.3	+0.5
BMRM	Bremner River	93.24	24	P	P	00 50 53.9	+0.3
	baz=304						
BMRM	Bremner River	93.24	24	P	P	00 50 54.1	+0.6
DAWY	Dawson	93.32	20	P	P	00 50 53.4	-0.4
DAWY				IAmb	IAmb	00 50 55.8	
	comp=Z,8.6nm,1.1s						
MCARA	McCarthy VSAT	93.63	24	P	P	00 50 55.4	+0.2
	baz=306						
CTG	Chitna Glacier	94.53	23	P	P	00 50 59.5	0.0
	baz=307						
NRS	Narsarsuaq	99.07	341	P	Pdif	00 51 20.6	+0.7
PDAR	Pinedale Array	120.61	19	PKP	PKPdf	00 56 31.1	-0.2
	comp=Z,0.2nm,0.4s,baz=288,slow=0.9,SNR=5.0						
NVAR	Mina Array Bea	120.86	29	PKP	PKiKP	00 56 32.8	+0.8
	comp=Z,1.5nm,0.7s,baz=286,slow=2.0,SNR=13						
NVAR				SKP		01 00 04.1	
	comp=Z,0.6nm,0.8s,baz=290,slow=3.0,SNR=4.8						
I64A	Boothbay	121.14	346	P	PKiKP	00 56 32.6	+0.6
	baz=19						
DUG	Dugway, Tooele	121.72	23	P	PKiKP	00 56 33.7	+0.2
	baz=330						
I57A	Carthage	122.34	351	P	PKiKP	00 56 34.4	0.0
	baz=13						
J61A	Chester	122.34	348	P	PKPdf	00 56 33.3	-1.0
	baz=16						
I58A	Old Forge	122.47	350	P	PKPdf	00 56 33.8	-0.7
	baz=14						
CWC	Cottonwood Cre	122.56	30	P	PKiKP	00 56 35.8	+0.5
	baz=323						
ECSD	EROS Data Cent	122.73	8	P	PKPdf	00 56 34.5	-0.6
	baz=349						
FURC	Furnace Creek,	123.12	29	P	PKiKP	00 56 36.4	+0.3
	baz=324						
MPMC	Manual Prospec	123.15	30	P	PKiKP	00 56 37.1	+0.6
	baz=324						
O20A	White River Ci	123.41	20	P	PKPdf	00 56 36.6	-0.1
	baz=335						
N23A	Red Feather La	123.42	17	P	PKPdf	00 56 36.8	0.0
	baz=338						
GSC	Goldstone, Bar	124.09	30	P	PKiKP	00 56 38.8	+0.5
	baz=324						
BFSC	Mount Baldy Ra	124.52	31	P	PKiKP	00 56 39.8	+0.5
	baz=323						
PAL	Palisades	124.86	348	P	PKiKP	00 56 39.4	-0.1
	baz=15						
GMRC	Granite Mounta	125.05	29	P	PKiKP	00 56 40.6	+0.3
	baz=325						
BELC	Belle Mtn. Jos	125.53	30	P	PKiKP	00 56 42.3	+1.1
	baz=324						
IRM	Iron Mountain	125.81	29	P	PKiKP	00 56 42.4	+0.7
	baz=325						
N54A	Moraine State	125.85	354	P	PKiKP	00 56 41.4	-0.1
	baz=8.1						
S22A	4UR Ranch, Cre	126.03	20	P	PKiKP	00 56 43.1	+0.7
	baz=336						
BC3	Big Chuckawall	126.07	30	P	PKiKP	00 56 42.5	+0.2
	baz=325						
MONP2	Monument Peak	126.21	31	P	PKiKP	00 56 43.3	+0.6
	baz=323						
O56A	Blue Knob Stat	126.36	352	P	PKiKP	00 56 42.6	-0.1
	baz=9.8						
GLA	Glamis	126.87	30	P	PKiKP	00 56 44.4	+0.6
	baz=325						
W18A	Petrified Fore	127.34	24	P	PKiKP	00 56 45.6	+0.7
	baz=332						
T25A	Trinidad	127.35	18	P	PKiKP	00 56 44.8	-0.2
	baz=338						
ANMO	Albuquerque	128.70	21	P	PKiKP	00 56 47.7	0.0
	baz=335						
214A	Organ Pipe Nat	128.73	29	P	PKiKP	00 56 48.5	+1.0
	baz=327						
TUC	Tucson	129.34	26	P	PKiKP	00 56 49.2	+0.4
	baz=329						
BLA	Blacksburg	129.60	353	P	PKiKP	00 56 49.2	0.0
	baz=7.9						
121A	Cookes Peak, D	130.38	23	P	PKiKP	00 56 50.7	-0.4
	baz=333						
TZTN	Tazewell	130.53	357	P	PKPdf	00 56 49.8	-0.4
	baz=4.0						
WVT	Waverly	131.03	1	P	PKiKP	00 56 51.9	-0.1
	baz=359						
W39A	Magazine	131.51	8	P	PKiKP	00 56 53.1	+0.1
	baz=351						
KMSC	Kings Mountain	131.75	354	P	PKiKP	00 56 53.7	+0.2
	baz=7.0						
TXAR	Lajitas Array	134.77	21	PKP	PKiKP	00 56 59.7	-0.2
	comp=Z,0.7nm,0.6s,baz=65,slow=0.9,SNR=7.1						
TXAR				SKPbc	SKPbc	01 00 25.6	+1.0
	comp=Z,2.4nm,1.0s,baz=270,slow=1.3,SNR=13						
JCT	Junction City	134.90	16	P	PKPdf	00 56 59.3	+0.7
	baz=342						
PLCA	Paso Flores	149.01	204	PKPbc	PKiKP	00 57 28.3	-0.4
	comp=Z,2.2nm,0.8s,baz=254,slow=5.3,SNR=5.0						
CPUP	Villa Florida	149.40	240	PKPbc	PKiKP	00 57 29.9	+0.1
	comp=Z,1.0nm,0.8s,baz=135,slow=4.3,SNR=2.2						

*IDC **03** 00:39:25.1±0.7,54.10N×163.04W,h0km,mb4.1/21, mb1 4.3/25,mb1mx4.2/47,mbtmp4.1/25,ML4.2/4,MS3.6/9, Ms1 3.6/9,ms1mx3.4/68,Error ellipse: s-maj=20.8km s-min=11.4km az=3.0*

*NEIC **03** 00:39:28.3±1.8,54.05N±0.04×162.80W±0.03,h14km±4km, Error ellipse: s-maj=5.2km s-min=2.7km az=167.0*

*AEIC **03** 00:39:29.7±1.8,54.08N±0.04×162.85W±0.05,h26km±5km, ML4.3/50,mb4.4/130(NEIC),ML4.4/6(NEIC),Error ellipse: s-maj=6.1km s-min=4.4km az=181.0*

*ANF **03** 00:39:29.6±1.5,54.04N×162.66W,h18km±10km,ML4.9/5, Error ellipse: s-maj=5.7km s-min=4.5km az=137.0*

ISC 03 00:39:27.2±1.4,54.01N±0.05×162.82W±0.03,h16km±8km, n355,σ1°35/368,mb4.4/93,MS3.4/5,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.83	320			Pn	00 39 43.9	-0.5
BRPK						Sg	00 39 54.2	-0.2
ISLZ	Isanotski Laza	0.89	324			Pn	00 39 44.7	-0.4
ISLZ						Sn	00 39 56.5	-1.1
FALS	False Pass	0.92	338	P		Pn	00 39 45.2	-0.3
FALS	baz=157,SNR=115							
FALS				S		Sg	00 39 56.4	-0.5
FALS	baz=157							
FALS	False Pass	0.92	338	Pn		Pn	00 39 45.2	-0.3
FALS						Sb	00 39 54.4	-2.3
FALS	False Pass	0.92	338			Sg	00 39 56.2	-0.7
SSLS	Shishaldin Sou	0.98	316			Pn	00 39 46.7	+0.2
SSLS						Sn	00 39 60.0	-0.2
ISNN	Isanotski Nort	0.99	326			Pg	00 39 47.1	+0.6
SSLN	Shishaldin Nor	1.05	320			Pg	00 39 48.2	+0.5
SSLN						Sn	00 40 02.8	+0.9
DT1	Dutton Round H	1.14	16			Pn	00 39 48.2	-0.4
WESN	West Dahl Nort	1.18	299			Pg	00 39 49.6	-0.3
WESP	Westdahl Peak	1.22	294			Pb	00 39 50.1	+0.1
WECS	Westdahl Cape	1.26	295			Pb	00 39 50.9	+0.2
HAG	Hague Volcano	1.41	22			Pb	00 39 53.1	-0.1
PS4A	Pavlof South-4	1.45	22			Pb	00 39 53.6	-0.3
PVV	Pavlof Volcano	1.49	23			Pb	00 39 54.1	-0.5
PS1A	Pavlof South-1	1.54	23			Pb	00 39 55.1	-0.4
AKSA	Akutan Strait	1.70	275			Pn	00 39 56.1	-0.2
AKUT	Akutan	1.74	275	Pn		Pb	00 39 58.2	-0.7
AKUT				Sn		Sb	00 40 19.8	-0.7
AKUT				IAML			00 40 27.7	
	comp=N,3μm,1.0s							
AKUT				IAML			00 40 29.0	
	comp=E,3μm,1.2s							
HSB	Akutan Spr's B	1.83	277			Pb	00 39 59.8	-0.6
AKLV	Akutan Long Va	1.85	276			Pb	00 39 59.8	-0.9
AKGG	Akutan Green G	1.88	277			Pn	00 39 59.5	+0.8
AKGG						Sb	00 40 23.2	-1.2
AKMO	Akutan Morgan	1.88	274			Pb	00 40 00.1	-1.2
SDPT	Sand Point	1.91	44	P		Pn	00 40 00.0	+0.9
SDPT	baz=228,SNR=164							
SDPT				S		Sb	00 40 23.8	-1.5
	baz=228							
SDPT	Sand Point	1.91	44	Pn		Pn	00 40 00.3	+1.1
SDPT				Sn		Sb	00 40 24.4	-0.8
SDPT						Sg	00 40 26.2	-2.4
SDPT				IAML			00 40 33.0	
	comp=N,10μm,0.9s							
AKRB	Akutan Reef Bi	1.92	275			Pb	00 40 00.9	-1.0
CNBA	Chernabura Isl	2.05	66			Pn	00 40 01.9	+0.7
CNBA				Sn		Sn	00 40 25.4	-1.0
CNBA				IAML			00 40 45.1	
	comp=N,1μm,1.0s							
CHNA	Chernabura Isl	2.06	65	P		Pn	00 40 01.2	0.0
	baz=250,SNR=38							
CHNA				S		Sn	00 40 26.1	-0.4
	baz=250							
MTBL	Makushin Table	2.28	270			Pn	00 40 05.4	+1.1
MNAT	Makushin Natee	2.29	268			Pn	00 40 05.6	+1.3
MSW	Makushin Switc	2.34	269			Pn	00 40 06.2	+1.0
MSW						Sn	00 40 35.3	+1.7
MGOD	Makushin Gods	2.41	266			Pn	00 40 07.7	+1.6
MAPS	Pakushin South	2.45	267			Pn	00 40 07.9	+1.3
VNFG	Fog Glacier, M	2.95	38			Pn	00 40 15.9	+2.4
VNSG	Veniaminof 6	3.02	44			Pn	00 40 16.7	+2.3
VNHG	Veniaminof 1	3.05	42			Pn	00 40 17.3	+2.4
OKFG	Magazine Ridge	3.09	261			Pn	00 40 17.8	+2.5
OKTU	Okmok Mt. Tuli	3.17	261			Pn	00 40 18.8	+2.3
OKSO	Okmok South	3.24	260			Pn	00 40 19.6	+2.1
NIKH	Nikolski High	3.75	256	P		Pn	00 40 27.7	+3.2
NIKH	baz=70							
NIKH				S		Sb	00 41 15.0	-3.3
	baz=70							
NIKH	Nikolski High	3.75	256			Pn	00 40 26.5	+2.0
SPIA	Saint Paul Isl	5.27	310	P		Pn	00 40 47.6	+2.3
	baz=124							
SPIA	Saint Paul Isl	5.27	310	Pn		Pn	00 40 48.1	+2.9
ANCK	Angle Creek	5.86	41			Pn	00 40 57.0	+3.4
KABU	Katmai Buttres	5.99	42			Pn	00 40 57.3	+1.9
KVTA	Katmai Vly 10	6.07	41			Pn	00 40 59.3	+3.1
OHAK	Old Harbor	6.28	55	P		Pn	00 40 59.2	0.0
	baz=244							
OHAK				Sb		Sb	00 42 32.3	+1.3
	baz=244							
OHAK	Old Harbor	6.28	55	Pn		Pn	00 40 59.6	+0.5
KAHC	Katmai Hardscr	6.36	40			Pn	00 41 03.5	+3.2
KDAK	Kodiak Island	6.88	53	Pn		Pn	00 41 07.1	-0.3
	comp=N,4.7nm,0.3s,baz=264,slow=9.1,SNR=40							
KDAK				Sn		Sn	00 42 20.1	-5.2
	baz=197,slow=20,SNR=1.3							
KDAK				LR		LR	00 44 09.2	
	comp=N,413nm,20.6s,baz=253,slow=41							
KDAK	Kodiak Island	6.88	53	P		Pn	00 41 06.8	-0.6
	baz=242							
KDAK				S		Sn	00 42 23.9	-1.4
	baz=242							
KDAK	Kodiak Island	6.88	53	Pn		Pn	00 41 07.3	-0.1
ATKA	Atka Island	7.09	260	Pn		Pn	00 41 13.4	+3.2
O18K	Koktuh Hills	7.18	32	P		Pn	00 41 13.5	+1.9
	baz=219							
O18K				S		Sn	00 42 33.5	+0.7
	baz=219							
N18K	Kilae Creek	7.66	26	P		Pn	00 41 18.5	+0.4
	baz=213							
N18K				S		Sn	00 42 47.4	+2.9
	baz=213							
P19K	Oil Pt	7.71	39	P		Pn	00 41 21.2	+2.3
	baz=227							
SVW2	Sparrevohn	8.09	26	Pn		Pn	00 41 25.2	+1.2
N19K	Bonanza Creek	8.16	30	P		Pn	00 41 27.6	+2.5
	baz=217							
N19K				S		Sn	00 43 00.8	+3.8
	baz=217							
GSTR	Great Sitkin T	8.21	262	Pn		Pn	00 41 29.1	+3.5
O20K	Slope Mountain	8.23	38	P		Pn	00 41 28.6	+2.6
	baz=227							
CNPM	China Poot	8.42	44	Pn		Pn	00 41 29.3	+0.8
RSO	Redoubt South	8.45	36			Pn	00 41 32.8	+3.6
ADK	Adak	8.64	261			Pn	00 41 34.2	+2.7
BRLK	Bradley Lake	8.70	44	Pn		Pn	00 41 32.6	+0.2
BRSE	Bradley Lake S	8.75	44	P		Pn	00 41 32.9	-0.1
	baz=235							
BRSE				S		Sn	00 43 09.0	-2.3
	baz=235							
KIWB	Kanaga Island	8.92	262			Pn	00 41 38.2	+2.7
M19K	Big River Lodg	9.08	26	P		Pn	00 41 39.6	+2.0
	baz=214							
M19K				S		Sn	00 43 19.7	+0.2
	baz=214							
SPCR	Spurr Chakacha	9.17	34	P		Pn	00 41 40.8	+1.9
	baz=223							
L19K	White Mountain	9.20	24	P		Pn	00 41 40.6	+1.3
	baz=211,SNR=24							
L19K				S		Sn	00 43 24.9	+2.5
	baz=211							
CAPN	Captain Cook N	9.24	38	P		Pn	00 41 38.7	-0.9
	baz=228							
CAPN	Captain Cook N	9.24	38	Pn		Pn	00 41 39.4	-0.2
M20K	Styx River	9.41	29	P		Pn	00 41 45.2	+3.1
	baz=218							
SEW	Seward	9.49	45	P		Pn	00 41 44.1	+0.9
	baz=236							
SEW				S		Sn	00 43 29.6	+0.2
	baz=236							
SEW	Seward	9.49	45			Pn	00 41 43.8	+0.7
O22K	Cooper Landing	9.60	42	P		Pn	00 41 46.3	+1.7
	baz=234							
O22K	Cooper Landing	9.60	42	Pn		Pn	00 41 43.3	-1.3
TTA	Tatalina	9.62	19	S		Sn	00 43 34.1	+1.4
	baz=205							
SUA	Susitna One	9.86	36	P		Pn	00 41 49.6	+1.3
	baz=226							
SUA	Susitna One	9.86	36			Pn	00 41 49.5	+1.3
SKT	Skwentna	9.97	32	P		Pn	00 41 52.5	+2.8
	baz=222							
SKT	Skwentna	9.97	32			Pn	00 41 52.0	+2.3
RC01	Rabbit Creek A	9.97	39	P		Pn	00 41 50.6	+0.9
	baz=231							
RC01	Rabbit Creek A	9.97	39	Pn		Pn	00 41 51.2	+1.5
PWL	Port Wells	10.38	43			Pn	00 41 55.7	+0.4
PMR	Palmer	10.52	38	Pn		Pn	00 41 58.5	+1.3
MID	Middleton Isla	10.54	52	Pn		Pn	00 41 57.6	0.0
KNK	Knik Glacier	10.66	40	P		Pn	00 41 58.7	-0.4
	baz=233							
KNK				S		Sn	00 43 57.7	-0.3
	baz=233							
KNK	Knik Glacier	10.66	40	Pn		Pn	00 41 59.5	+0.4
ANM	Nome	10.66	354	P		Pn	00 42 01.4

BMRM S **Sn** **00 44 28.6 -2.1**
baz=243
MCK McKinley 12.07 31 Pn 00 42 19.7 +1.2
N25K Chitina, Valde 12.30 45 P **Pn 00 42 21.2 -0.4**
baz=240,SNR=9.1
N25K S **Sn** **00 44 35.5 -2.9**
baz=240
N25K Chitina, Valde 12.30 45 Pn **Pn 00 42 21.7 0.0**
I21K Tanana 12.45 22 P **Pn 00 42 25.7 +2.2**
baz=211
HARP HAARP 12.50 41 P **Pn 00 42 24.5 +0.2**
baz=236,SNR=7.5
HARP S **Sn** **00 44 42.3 -0.9**
baz=236
WAX Waxell Ridge 12.56 51 Pn 00 42 25.8 +0.6
MLY Manley 12.60 24 P **Pn 00 42 27.6 +1.9**
baz=215
MLY Manley 12.60 24 Pn **Pn 00 42 27.7 +1.9**
NEA2 Nenana 12.68 28 P **Pn 00 42 27.6 +0.8**
baz=220
NEA2 Nenana 12.68 28 Pn 00 42 27.2 +0.4
TGL Tana Glacier 12.69 50 Pn **Pn 00 42 27.1 +0.2**
H21K Melozitna Rive 12.69 19 P **Pn 00 42 29.0 +2.1**
baz=208
H21K S **Sn** **00 44 48.4 +0.6**
baz=208
PAX Paxson 12.72 38 Pn 00 42 27.9 +0.6
MCARA McCarthy VSAT 12.86 47 P **Pn 00 42 30.9 +1.6**
baz=244
MCARA McCarthy VSAT 12.86 47 Pn 00 42 30.0 +0.8
MESA MESA 12.88 53 P **Pn 00 42 29.3 -0.4**
baz=251
MESA MESA 12.88 53 Pn **Pn 00 42 30.2 +0.5**
I23K Minto, Yukon-K 13.04 26 P **Pn 00 42 32.4 +0.8**
baz=218
I23K Minto, Yukon-K 13.04 26 Pn 00 42 32.6 +1.0
CCB Clear Creek Bu 13.08 30 Pn 00 42 32.0 -0.2
MDM Murphy Dome 13.20 28 Pn 00 42 34.1 +0.3
BARN Barnard Glacie 13.33 50 Pn 00 42 36.0 +0.2
TABL Table Mountain 13.35 52 Pn 00 42 36.9 +0.8
MENT Mentasta 13.35 40 Pn 00 42 36.1 +0.1
CTG Chitina Glacier 13.44 50 P **Pn 00 42 36.5 -0.8**
baz=249
CTGM Chitina Glacie 13.44 50 Pn 00 42 37.3 0.0
ILAR Eielson Array 13.45 30 Pn **Pn 00 42 34.3 -2.8**
comp=N,0.4nm,0.3s,baz=220,slow=12,SNR=11
ILAR Sn **Sn** **00 45 03.1 -3.0**
comp=N,0.0nm,0.3s,baz=209,slow=16,SNR=1.8
ILAR LR LR 00 48 05.4
comp=N,336nm,21.3s,baz=248,slow=39
ILAR Eielson Array 13.45 30 Pn **Pn 00 42 37.5 +0.3**
POKR Poker Plat Res 13.54 29 Pn **Pn 00 42 38.5 0.0**
H23K Yukon River 13.54 24 P **Pn 00 42 39.5 +1.0**
baz=216,SNR=18
LOGN Logan Glacier 13.54 51 Pn 00 42 39.1 +0.4
DOT Dot Lake 13.63 37 Pn **Pn 00 42 39.5 -0.3**
PCA Pinnacle 13.66 54 Pn **Pn 00 42 41.0 +0.7**
PINM Pinnacle 13.66 54 P **Pn 00 42 40.3 +0.1**
baz=254
YKU2 Yakutat 13.80 57 Pn **Pn 00 42 45.4 +3.4**
SMY Shemya 13.83 274 Pn **Pn 00 42 44.2 +1.8**
SCRK Sand Creek 13.86 36 P **Pn 00 42 44.5 +1.6**
baz=233
SCRK Sand Creek 13.86 36 Pn **Pn 00 42 41.8 -1.1**
BCPM Bancas Point 13.92 55 Pn 00 42 44.4 +0.6
H24K Noodor Dome 13.97 26 P **Pn 00 42 44.3 -0.1**
baz=219
L27K Beaver Creek, 14.15 42 P **Pn 00 42 46.9 0.0**
baz=240,SNR=7.6
BCAR Beaver Creek A 14.17 42 Pn **Pn 00 42 47.0 -0.1**
K27K Chicken 14.57 38 P **Pn 00 42 51.8 -0.8**
baz=236
K27K Chicken 14.57 38 Pn 00 42 52.4 -0.2
COLD Coldfoot 14.58 20 P **Pn 00 42 54.8 +2.1**
baz=211,SNR=16
COLD Coldfoot 14.58 20 Pn **Pn 00 42 55.1 +2.5**
HYT Haines Junctio 15.18 53 P **P 00 43 03.6 -2.2**
HYT IAmb IAmb 00 43 21.0
comp=Z,14nm,0.7s
FYU Fort Yukon 15.22 27 Pn **Pn 00 43 01.8 +0.5**
EGAK Eagle 15.33 37 Pn **Pn 00 43 03.4 +0.7**
TOLK Toolik Lake Re 15.93 18 P **Pn 00 43 12.0 +1.5**
baz=210,SNR=16
TOLK Toolik Lake Re 15.93 18 IAmb IAmb 00 43 24.2
comp=Z,21nm,0.7s
BESE Bessie Mountai 16.11 62 Pn **Pn 00 43 13.6 +0.7**
JIS Juneau Island 16.34 63 P 00 43 17.9 -0.7
JIS IAmb IAmb 00 43 28.7
comp=Z,55nm,1.4s
WHY Whitehorse 16.39 55 P **Pn 00 43 16.6 0.0**
baz=259
WHY Whitehorse 16.39 55 P **Pn 00 43 17.9 +1.4**
WHY IAmb IAmb 00 43 24.2
comp=Z,16nm,0.7s
WRAK Wrangell Islan 17.48 70 Pn **Pn 00 43 30.1 0.0**
DLBC Dease Lake 18.64 63 P **Pn 00 43 45.8 +1.4**
comp=Z,0.4nm,0.3s,baz=243,slow=9.3,SNR=2.5
DLBC LR LR 00 50 21.6
comp=Z,136nm,21.1s,baz=264,slow=35
INK Inuvik 19.82 32 P **P 00 43 56.6 -0.2**
comp=Z,0.9nm,0.3s,baz=216,slow=12,SNR=9.8
INK LR LR 00 52 16.1
comp=Z,258nm,21.8s,baz=238,slow=39
INK Inuvik 19.82 32 P **P 00 43 56.3 -0.5**
baz=238
INK Inuvik 19.82 32 P **P 00 43 56.3 -0.5**
BBB Bella Bella 20.80 81 LR LR 00 50 43.9
comp=Z,148nm,19.2s,baz=296,slow=32
PEA0B Petropavlovsk- 23.27 284 P **P 00 44 33.5 -0.3**
PETK Petropavlovsk- 23.27 284 P **P 00 44 32.9 -1.0**
comp=Z,14nm,0.7s,baz=89,slow=13,SNR=22
PETK LR LR 00 52 56.0
comp=Z,124nm,21.3s,baz=95,slow=35
PETK Petropavlovsk- 23.27 284 P **P 00 44 32.6 -1.2**
C36M Paulatuk 23.36 34 P **P 00 44 34.2 -0.3**
baz=249
C36M Paulatuk 23.36 34 P **P 00 44 34.4 -0.2**
NLWA Neilton Lookou 25.29 89 P **P 00 44 54.9 +2.1**
NLWA IAmb IAmb 00 44 56.6
comp=Z,24nm,1.4s
YKA Yellowknife Ar 26.16 52 P **P 00 45 02.1 +1.6**
comp=Z,2.6nm,0.7s,baz=273,slow=9.1,SNR=11
H04A Detroit Lake 27.72 93 P **P 00 45 14.5 -0.2**
KBO Bosley Butte 27.98 99 P **P 00 45 17.5 +0.3**
KRMB Red Mountain 28.60 100 P **P 00 45 24.2 +1.5**
NEW Newport 28.83 83 LR LR 00 55 12.7
comp=Z,121nm,20.3s,baz=296,slow=33
PINE Pine Mountain 28.96 93 P **P 00 45 27.3 +1.3**
PINE IAmb IAmb 00 45 29.6
comp=Z,19nm,1.4s
J05D Fort Rock, OR 29.09 94 P **P 00 45 28.3 +1.2**
baz=306,SNR=5.7
K05A Summer Lake 29.62 95 P **P 00 45 33.6 +1.8**
I07A Izee 29.64 92 P **P 00 45 33.2 +1.3**
I07A IAmb IAmb 00 45 35.4
comp=Z,8.4nm,1.2s
MOD Modoc Plateau 30.47 96 P **P 00 45 40.6 +1.3**
MOD IAmb IAmb 00 45 42.7
comp=Z,12nm,1.2s
J08A Circle Bar Ran 30.67 92 P **P 00 45 42.6 +1.6**
J08A IAmb IAmb 00 45 43.9
comp=Z,8.4nm,1.0s
WVOR Wild Horse Val 31.13 94 P **P 00 45 46.3 +1.3**
WVOR IAmb IAmb 00 45 48.7
comp=Z,11nm,1.1s
BEKR Beckworth 31.73 99 P **P 00 45 51.2 +0.7**
AFDM Forest Hills D 31.98 101 P **P 00 45 53.7 +1.2**
AFDM IAmb IAmb 00 45 55.4
comp=Z,6.3nm,1.4s
MFID Camas Ranch 32.20 90 IAmb IAmb 00 45 56.8
comp=Z,4.4nm,1.1s
PAHR Pah Rah Range 32.40 98 P **P 00 45 57.9 +1.5**
PAHR IAmb IAmb 00 45 59.3
comp=Z,9.5nm,1.1s
VCNR Virginia City 32.52 99 P **P 00 45 58.5 +1.1**
VCNR IAmb IAmb 00 46 00.8
comp=Z,6.6nm,0.9s
PNTR Pine Nut 32.69 99 P **P 00 46 00.1 +1.2**
CMB Columbia Colle 32.94 101 P **P 00 46 02.1 +1.3**
CMB IAmb IAmb 00 46 03.9
comp=Z,6.2nm,1.4s
WAKR Walker 33.17 100 P **P 00 46 05.1 +2.0**
WAKR IAmb IAmb 00 46 06.0
comp=Z,5.0nm,0.8s
SAO San Andreas Ge 33.20 104 P **P 00 46 05.3 +2.1**
SAO IAmb IAmb 00 46 08.9
comp=Z,5.4nm,0.9s
KVN Kaiserville 33.59 98 P **P 00 46 07.9 +1.2**
KVN IAmb IAmb 00 46 09.7
comp=Z,7.0nm,1.1s
RYN Ryan 33.62 99 P **P 00 46 07.2 +0.2**
RYN IAmb IAmb 00 46 09.5
comp=Z,4.1nm,0.7s
NVAR Mina Array Bea 33.88 99 P **P 00 46 11.4 +2.1**
comp=Z,4.3nm,0.7s,baz=300,slow=9.0,SNR=39
NVAR LR LR 00 57 19.7
comp=Z,121nm,21.4s,baz=276,slow=32
LHV Little Huntoon 33.88 99 P **P 00 46 10.8 +1.8**
LHV IAmb IAmb 00 46 14.1
comp=Z,8.9nm,1.2s
NV11 Mina Array Sit 33.96 99 P **P 00 46 11.2 +1.3**
MDPB Devils Postpil 33.97 101 P **P 00 46 12.3 +2.2**
MDPB IAmb IAmb 00 46 13.5
comp=Z,5.6nm,0.8s
YHB Horse Butte 34.16 84 P **P 00 46 14.0 +2.3**
YHB IAmb IAmb 00 46 19.1
comp=Z,3.4nm,0.8s
ELK Elko 34.17 93 P **P 00 46 13.1 +1.3**
YHH Holmes Hill 34.34 84 P **P 00 46 14.9 +1.6**
PAGB Antelope Grade 34.62 104 P **P 00 46 17.5 +2.0**
PAGB IAmb IAmb 00 46 18.7
comp=Z,7.1nm,1.1s
TPH Tonopah 34.75 98 P **P 00 46 18.6 +1.7**
HVU Hansel Valley 34.98 90 P **P 00 46 19.3 +0.5**
BGU Big Grassy Mou 35.36 91 P **P 00 46 23.3 +1.2**
R11A Troy Canyon, C 35.52 97 P **P 00 46 24.1 +0.6**
baz=312,SNR=24
ISA Isabella, Lake 35.68 103 P **P 00 46 25.7 +1.0**
ISA IAmb IAmb 00 46 27.4
comp=Z,3.2nm,0.7s
SPR3 Spring Creek 3 35.83 95 P **P 00 46 28.0 +1.7**
SPR3 IAmb IAmb 00 46 30.4
comp=Z,4.6nm,1.0s
DUG Dugway, Tooele 35.95 92 P **P 00 46 27.4 +0.4**
baz=310,SNR=8.0
DUG Dugway, Tooele 35.95 92 P **P 00 46 27.9 +0.8**
DUG IAmb IAmb 00 46 29.6
comp=Z,6.0nm,1.0s
MPMC Manual Prospec 35.97 101 P **P 00 46 28.2 +0.8**
baz=315
TPNV Topopah Spring 36.08 99 P **P 00 46 28.5 +0.3**
baz=314,SNR=17
TPNV Topopah Spring 36.08 99 P **P 00 46 29.5 +1.2**
DGMT Dagmar 36.19 74 P **P 00 46 29.3 +0.3**
DGMT IAmb IAmb 00 46 30.2
comp=Z,8.3nm,0.9s
PDAR Pinedale Array 36.28 86 P **P 00 46 31.4 +1.4**
comp=Z,0.3nm,0.6s,baz=324,slow=7.3,SNR=4.0
PDAR LR LR 00 59 08.6
comp=Z,60nm,20.6s,baz=304,slow=32
PDAR Pinedale Array 36.28 86 P **P 00 46 30.1 +0.1**
PSUT Pine Spring 36.42 95 P **P 00 46 32.4 +1.3**
PSUT IAmb IAmb 00 46 34.7
comp=Z,5.6nm,0.7s
PRN Pahroc Range 36.47 97 P **P 00 46 33.0 +1.5**
GSC Goldstone, Bar 36.90 101 P **P 00 46 36.4 +1.2**
GSC IAmb IAmb 00 46 38.1
comp=Z,13nm,1.3s
SHPR Sheep Range 37.02 98 P **P 00 46 37.2 +1.0**
TCRU Three Creeks R 37.20 93 P **P 00 46 38.8 +1.0**
TCRU IAmb IAmb 00 46 40.6
comp=Z,5.4nm,0.9s
CCUT Cedar City 37.36 96 P **P 00 46 40.9 +1.7**
MSU Marysvale 37.42 93 P **P 00 46 41.2 +1.5**
TMUT Trail Mountain 37.48 92 IAmb IAmb 00 46 42.7
comp=Z,4.7nm,0.9s
SZCU Shurtz Canyon 37.49 95 P **P 00 46 41.7 +1.4**
P17A Butcher Ranch, 37.64 91 P **P 00 46 42.1 +0.6**
MTPU Mount Pierson 37.73 94 P **P 00 46 44.0 +1.5**
MTPU IAmb IAmb 00 46 45.4
comp=Z,5.9nm,1.2s
Q16A Castle Valley 37.74 92 IAmb IAmb 00 46 45.7
comp=Z,5.2nm,0.9s
LCMT Little Creek M 37.79 96 P **P 00 46 44.6 +1.8**
LCMT IAmb IAmb 00 46 45.6
comp=Z,5.4nm,0.9s
GMRC Granite Mounta 37.93 101 P **P 00 46 44.9 +1.0**
baz=316,SNR=7.7
SRU San Rafael Swe 38.00 91 P **P 00 46 45.6 +1.0**
SRU IAmb IAmb 00 46 46.9
comp=Z,5.6nm,0.8s
KNB Kanab 38.04 96 IAmb IAmb 00 46 47.7
comp=Z,4.4nm,0.7s
KNB **PcP** **00 49 01.5 +1.5**
PKCU Pink Cliffs 38.05 95 P **P 00 46 45.9 +0.7**
PKCU IAmb IAmb 00 46 48.0
comp=Z,6.6nm,0.7s
K22A Casper 38.13 84 P **P 00 46 45.5 -0.1**
PFO Pinyon Flats O 38.31 103 P **P 00 46 48.5 +1.4**
comp=Z,2.6nm,0.6s,baz=297,slow=8.0,SNR=4.2
PFO Pinyon Flats O 38.31 103 P **P 00 46 48.0 +0.9**
baz=317
PFO Pinyon Flats O 38.31 103 P **P 00 46 48.2 +1.0**
PFO IAmb IAmb 00 46 49.6
comp=Z,11nm,1.4s
TPFO Pinon Flats 38.31 103 P **P 00 46 47.4 +0.2**
baz=317
109C Camp Elliot, M 38.46 104 P **P 00 46 49.9 +1.6**
IRM Iron Mountain 38.67 101 P **P 00 46 50.8 +0.7**
baz=316,SNR=8.2
O20A White River Ci 38.69 88 P **P 00 46 50.7 +0.3**
baz=310,SNR=5.7
O20A White River Ci 38.69 88 IAmb IAmb 00 46 51.9
comp=Z,7.0nm,0.8s
RSSD Black Hills 38.71 80 P **P 00 46 50.5 0.0**
W13A Hualapai Mount 38.74 99 P **P 00 46 52.0 +1.1**
W13A IAmb IAmb 00 46 53.5
comp=Z,6.8nm,0.8s
U15A North Rim 38.75 96 P **P 00 46 52.1 +1.1**
U15A IAmb IAmb 00 46 53.7
comp=Z,6.6nm,0.9s
MONP2 Monument Peak 38.85 104 P **P 00 46 53.1 +1.3**
baz=317
MDND Maddock 39.12 72 P **P 00 46 53.9 +0.3**
baz=304
MDND Maddock 39.12 72 P **P 00 46 54.7 +1.0**
CBX Cerro Bola 39.14 105 P **P 00 46 54.8 +0.7**
PV17 East Wray Mesa 39.47 91 IAmb IAmb 00 46 59.1
comp=Z,8.7nm,1.4s
PV16 Nyswonger Mesa 39.47 91 P **P 00 46 57.7 +0.7**
KLR Kul'dur 39.60 291 P **P 00 46 55.9 -1.8**
comp=Z,2.1nm,0.9s,baz=63,slow=4.5,SNR=4.9
PV13 Radium Mtn., P 39.63 91 IAmb IAmb 00 46 59.8
comp=Z,8.0nm,0.8s
PV02 Paradox Valley 39.65 91 P **P 00 46 58.7 +0.3**
GLA Glamis 39.65 102 P **P 00 46 59.9 +1.6**
GLA IAmb IAmb 00 47 01.7
comp=Z,14nm,1.2s
PV15 Paradox Valley 39.71 90 P **P 00 46 58.6 -0.4**
PV01 Paradox Valley 39.80 91 P **P 00 47 00.2 +0.5**
PV01 IAmb IAmb 00 47 01.2
comp=Z,4.2nm,0.7s
ULM Lac du Bonnet 39.88 67 P **P 00 46 59.9 -0.1**
comp=Z,5.4nm,0.6s,baz=302,slow=7.7,SNR=6.4
ULM Lac du Bonnet 39.88 67 P **P 00 47 00.4 +0.4**
ULM IAmb IAmb 00 47 01.0
comp=Z,5.8nm,0.8s
WUAZ Wupatki 39.92 96 P **P 00 47 01.4 +0.8**
Y14A Wickenburg 40.07 99 P **P 00 47 02.6 +0.8**
Y14A IAmb IAmb 00 47 04.2
comp=Z,6.5nm,1.0s
113A Mohawk Valley, 40.47 101 P **P 00 47 06.7 +1.7**
113A IAmb IAmb 00 47 07.5
comp=Z,8.2nm,1.3s
X16A Lo Mia Camp, P 40.65 97 P **P 00 47 08.1 +1.4**
X16A IAmb IAmb 00 47 09.7
comp=Z,4.9nm,0.8s
SPX San Pedro Mart 40.77 105 P **P 00 47 09.9 +2.0**
SPX IAmb IAmb 00 47 11.4
comp=Z,11nm,1.4s
AGMN Agassiz Nation 40.96 70 P **P 00 47 08.6 -0.2**
baz=304
AGMN Agassiz Nation 40.96 70 IAmb IAmb 00 47 09.9
comp=Z,6.6nm,0.8s
W18A Petrified Fore 41.16 95 P **P 00 47 11.8 +0.9**
H11N2 WAKE ISLAND Hy 41.32 226 T T 01 31 43.3
baz=26,slow=76,SNR=607
H11N3 WAKE ISLAND Hy 41.33 226 T T 01 31 26.9
baz=26,slow=76,SNR=707
H11N1 WAKE ISLAND Hy 41.34 226 T T 01 31 24.2
baz=26,slow=76,SNR=355
X18A Snowflake 41.44 96 P **P 00 47 14.4 +1.2**
X18A IAmb IAmb 00 47 15.5
comp=Z,5.2nm,0.7s
214A Organ Pipe Nat 41.62 101 P **P 00 47 15.2 +0.7**
baz=317
214A Organ Pipe Nat 41.62 101 P **P 00 47 15.6 +1.1**
214A IAmb IAmb 00 47 17.2
comp=Z,13nm,1.3s
SDCO Great Sand Dun 41.86 89 P **P 00 47 15.9 -0.9**
baz=312
B35A Bob, Littlefor 42.10 68 IAmb IAmb 00 47 18.8
comp=Z,6.5nm,0.6s
F33A 5 Mile Ranch, 42.13 73 P **P 00 47 18.4 -0.2**
NEEM North Greenlan 42.28 18 *i* P **P 00 47 19.2 -0.5**
NEEM IAmb IAmb 00 47 20.9
comp=Z,2.8nm,0.6s
H11S1 WAKE ISLAND Hy 42.49 225 T T 01 33 04.0
baz=26,slow=76,SNR=453
H11S2 WAKE ISLAND Hy 42.51 225 T T 01 33 02.0
baz=26,slow=76,SNR=406
H11S3 WAKE ISLAND Hy 42.51 225 T T 01 32 56.3
baz=26,slow=76,SNR=446
TUC Tucson 42.53 99 P **P 00 47 23.0 +1.0**
baz=317
TUC Tucson 42.53 99 P **P 00 47 23.2 +1.1**
JSD Sado 42.62 273 P **P 00 47 22.5 0.0**
T25A Trinidad 42.91 89 P **P 00 47 26.2 +0.9**
ANMO Albuquerque 43.21 93 P **P 00 47 28.6 +1.0**
comp=Z,0.4nm,0.3s,baz=328,slow=3.9,SNR=3.3
ANMO PcP **PcP** **00 49 17.2 +0.5**
comp=Z,2.4nm,0.8s,baz=318,slow=3.2,SNR=6.8
ANMO Albuquerque 43.21 93 P **P 00 47 27.0 -0.6**
baz=314
ECSD EROS Data Cent 43.22 76 P **P 00 47 26.6 -0.8**
baz=308
EYMN Ely 43.56 68 P **P 00 47 29.6 -0.5**
baz=306
EYMN Ely 43.56 68 P **P 00 47 30.0 -0.1**
EYMN IAmb IAmb 00 47 46.3
comp=Z,7.7nm,1.0s
MJAR Matsushiro Arr 43.65 271 P **P 00 47 31.4 +0.5**
BNM Barren Site 43.66 94 P **P 00 47 32.3 +0.9**
121A Cookes Peak, D 44.13 96 P **P 00 47 36.4 +1.3**
baz=316,SNR=5.7
121A Cookes Peak, D 44.13 96 P **P 00 47 35.9 +0.9**
121A IAmb IAmb 00 47 37.5
comp=Z,4.8nm,0.8s
E38A The Farm, Brul 44.32 69 IAmb IAmb 00 47 36.7
comp=Z,7.6nm,0.8s
HSIG 44.87 102 P **P 00 47 40.9 +0.1**
HSIG IAmb IAmb 00 47 43.0
comp=Z,5.8nm,0.9s
G40A Rib Lake 45.89 70 P **P 00 47 48.2 -0.4**
G40A IAmb IAmb 00 47 49.1
comp=Z,2.8nm,0.7s
COWI Conover 45.96 68 P **P 00 47 48.7 -0.5**
COWI IAmb IAmb 00 48 03.8
comp=Z,5.4nm,1.2s
MNTX Cornudas Mount 46.14 95 P **P 00 47 51.5 +0.7**
baz=317,SNR=5.9
MNTX Cornudas Mount 46.14 95 IAmb IAmb 00 47 53.1
comp=Z,3.7nm,0.8s
L40A Anamosa 47.35 74 P **P 00 48 00.2 +0.1**
DAG Danmarks Havn 47.52 11 *i* P **P 00 47 59.7 -1.2**
DAG IAmb IAmb 00 48 00.9
comp=Z,3.1nm,0.7s
P38A Dawn 47.62 78 P **P 00 48 01.8 -0.5**
WMOK Wichita Mounta 47.88 87 P **P 00 48 04.3 -0.1**
baz=314,SNR=5.2
WMOK Wichita Mounta 47.88 87 IAmb IAmb 00 48 05.3
comp=Z,3.7nm,0.8s
SUMG Summit 47.98 20 *i* P **P 00 48 05.0 -0.1**
SUMG IAmb IAmb 00 48 05.9
comp=Z,6.4nm,1.0s
SUMG Summit 47.98 20 P **P 00 48 05.3 +0.2**
SUMG IAmb IAmb 00 48 11.7
comp=Z,5.5nm,0.8s
OK031 S. Brethren Rd 48.18 84 P **P 00 48 06.0 -0.6**
FNO Franklin 48.33 85 P **P 00 48 07.6 -0.2**
P40A Paris 48.54 77 P **P 00 48 08.9 -0.5**
ABTX Abilene, Hawle 48.86 89 P **P 00 48 12.3 +0.3**
ABTX IAmb IAmb 00 48 13.1
comp=Z,5.8nm,1.0s
TX32 Lajitas Array 48.87 96 IAmb IAmb 00 48 14.0
comp=Z,4.3nm,0.8s
TXAR Lajitas Array 48.88 96 P **P 00 48 13.1 +0.8**
comp=Z,3.6nm,0.7s,baz=301,slow=5.7,SNR=37
TXAR PcP **PcP** **00 49 36.2 -0.3**
comp=Z,0.6nm,0.5s,baz=242,slow=0.5,SNR=4.4
KSRS Korea Array 49.07 280 P **P 00 48 13.3 -0.1**
comp=Z,4.6nm,0.8s,baz=52,slow=6.8,SNR=18
KSAR Wonju Array Be 49.10 280 P **P 00 48 13.3 -0.4**
SFJD Kangerlussuaq 49.10 29 P **P 00 48 14.3 +1.0**
DBG Daneborg 49.52 13 *i* P **P 00 48 15.3 -1.1**
DBG IAmb IAmb 00 48 15.7
comp=Z,4.6nm,0.7s
JCT Junction City 50.31 91 P **P 00 48 22.6 -0.5**
baz=317
ICESG Greenland Ices 50.39 23 *i* P **P 00 48 23.3 -0.2**
ICESG IAmb IAmb 00 48 24.9
comp=Z,4.0nm,0.6s
MIAR Mount Ida 51.07 83 P **P 00 48 28.1 -0.6**
baz=315
833A Chaparral WMA, 52.14 93 P **P 00 48 37.2 +0.5**
baz=318
WVT Waverly 53.30 77 P **P 00 48 43.9 -1.3**
baz=315
WVT Waverly 53.30 77 P **P 00 48 44.8 -0.4**
ULN Ulaanbaatar 53.42 303 P **P 00 48 45.8 -0.4**
ULN IAmb IAmb 00 48 47.3
comp=Z,4.4nm,0.7s
SONM Songino Array 53.77 303 P **P 00 48 48.4 -0.3**
comp=Z,1.7nm,0.7s,baz=43,slow=7.8,SNR=10
SONM Songino Array 53.77 303 P **P 00 48 47.9 -0.8**
R50A Paris 53.79 73 P **P 00 48 48.4 -0.4**
J55A Hilton 53.92 64 P **P 00 48 49.9 +0.1**
ZALV Zalesovo Beam 58.77 320 P **P 00 49 23.1 -1.0**
comp=Z,0.6nm,0.3s,baz=15,slow=7.4,SNR=1.6
NB2 NORSAR Subarra 65.19 3 P **P 00 50 06.3 -0.9**
comp=Z,1.2nm,0.6s,baz=356,slow=7.4
NOA NORSAR Array B 65.19 3 P **P 00 50 06.4 -0.8**
comp=Z,1.3nm,0.8s,baz=357,slow=6.7,SNR=4.9
MKAR Makanchi Array 65.42 317 P **P 00 50 07.6 -1.3**
comp=Z,1.0nm,0.5s,baz=51,slow=6.0,SNR=9.6
AKASG Malin Array Be 75.17 352 P **P 00 51 07.1 -1.3**
comp=Z,2.1nm,0.5s,baz=12,slow=6.0,SNR=13
GERES GERESS Array B 77.47 2 P **P 00 51 21.4 -0.2**
comp=Z,1.1nm,0.7s,baz=2.7,slow=5.6,SNR=5.3
CONA Conrad Observa 78.43 1 *eP* **P 00 51 27.8 +0.8**
comp=Z,2.0nm,0.8s
MOTA Moosalm 78.89 4 *eP* **P 00 51 29.5 -0.1**
comp=Z,2.0nm,0.8s
WTTA Wattenberg 78.99 4 *eP* **P 00 51 30.5 +0.3**
comp=Z,2.9nm,0.8s
SQTA Sankt Quirin 79.01 4 *eP* **P 00 51 31.2 +0.9**
comp=Z,3.4nm,0.8s
FETA Feichten 79.19 4 *eP* **P 00 51 32.1 +0.8**
comp=Z,3.6nm,1.0s
KBA Koelnbreinsper 79.23 3 *eP* **P 00 51 32.7 +1.2**
comp=Z,5.2nm,1.0s
SOKA Soboth 79.67 2 *eP* **P 00 51 34.5 +0.7**
comp=Z,3.0nm,1.0s
OBKA Obir 79.83 2 *eP* **P 00 51 34.5 -0.2**
comp=Z,5.5nm,0.7s
CMAR Chiang Mai Arr 79.99 287 P **P 00 51 36.0 +0.1**
comp=Z,1.1nm,0.4s,baz=9.3,slow=5.2,SNR=7.0
KBZ Khabaz 80.18 341 P **P 00 51 37.0 +0.6**
comp=Z,3.4nm,1.0s,baz=212,slow=14,SNR=4.6
ESDC Sonseca Array 84.92 16 P **P 00 52 02.1 +0.7**
comp=Z,0.5nm,0.7s,baz=352,slow=6.7,SNR=3.2
BRTR Keskin Array B 85.56 347 P **P 00 52 05.3 +0.7**
comp=Z,0.7nm,0.5s,baz=356,slow=4.3,SNR=3.7
ASAR Alice Springs 94.53 235 P **P 00 52 46.4 -0.4**
comp=Z,0.1nm,0.3s,baz=27,slow=4.4,SNR=1.8
H03N2 Juan Fernandez 112.97 115 T T 03 00 59.6
baz=323,slow=77,SNR=351
H03N1 Juan Fernandez 112.98 115 T T 03 01 00.8
baz=323,slow=77,SNR=410
H03N3 Juan Fernandez 112.98 115 T T 03 01 00.3
baz=323,slow=77,SNR=310

*IDC **03** 01:00:17.3±0.9, 17°.10N×122°.35E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/53, mbtmp3.7/8, MS4.4/1, Ms1 4.4/1, ms1mx3.0/61, Error ellipse: s-maj=64.6km s-min=17.6km*

az=71.0
MAN ***03*** *01:00:21.5, 17°.25N×121°.90E, h53km, mb4.4, ML3.3, MS3.1*
ISC 03 01:00:20.1±0.8, 17°.19N±0°.05×122°.0E±0°.1, h10km, n22, σ1°58/16, mb3.7/7, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.54**	**341**	⇓*e*P	**Pb**	**01 00 32.6**	**+1.0**
CVP				*i* S	**Sb**	**01 00 40.0**	**+0.6**
SIPP	**Brgy, Tapao**	**1.64**	**296**	⇓*e*P	**Pg**	**01 00 50.6**	**-1.0**
SIPP				*i* S	Sg	01 01 20.2	+7.2
PCPH	**Palayan**	**1.84**	**208**	⇑*e*P	**Pn**	**01 00 51.6**	**-0.2**
PCPH				*e*S	**Sn**	**01 01 15.0**	**-0.1**
LQP	**Lukban**	**3.10**	**188**	*e*P	**Pn**	**01 01 10.2**	**+1.0**
LQP				*i* S	**Sn**	**01 01 50.4**	**+4.0**
GQP	**Guinayangan**	**3.30**	**172**	⇓*e*P	**Pn**	**01 01 12.8**	**+1.0**
GQP				*e*S	**Sn**	**01 01 51.2**	**+0.1**
RCP	**Roxas**	**5.65**	**173**	⇑*e*P	Pg	01 02 15.7	+7.4
RCP				*e*S	Sn	01 02 28.5	-21
JAP	**San Jose, Anti**	**6.41**	**180**	⇑*e*P	**Pb**	**01 02 11.8**	**0.0**
KSRS	**Korea Array**	**20.85**	**13**	P	**P**	**01 05 01.2**	**-0.8**
	3.2nm,0.7s,baz=196,slow=12,SNR=14						
SONM	**Songino Array**	**33.14**	**341**	P	**P**	**01 06 56.6**	**0.0**
	0.6nm,0.6s,baz=158,slow=7.7,SNR=4.0						
PMG	**Port Moresby**	**36.29**	**135**	LR	LR	01 21 14.6	
	comp=Z,584nm,21.7s,baz=111,slow=35						
WRA	**Warramunga Arr**	**38.84**	**161**	P	P	01 07 42.9	-2.8
	1.5nm,0.7s,baz=342,slow=9.4,SNR=7.3						
ASAR	**Alice Springs**	**42.24**	**164**	P	**P**	**01 08 11.6**	**-2.1**
	0.4nm,0.7s,baz=343,slow=8.9,SNR=2.2						
H11S3	**WAKE ISLAND Hy**	**42.48**	**81**	T	T	01 53 22.4	
	baz=276,slow=74,SNR=57						
H11S1	**WAKE ISLAND Hy**	**42.49**	**81**	T	T	01 53 26.7	
	baz=276,slow=74,SNR=16						
H11S2	**WAKE ISLAND Hy**	**42.49**	**81**	T	T	01 53 27.9	
	baz=276,slow=74,SNR=29						
H11N1	**WAKE ISLAND Hy**	**42.56**	**79**	T	T	01 53 18.6	
	baz=274,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**42.57**	**79**	T	T	01 53 20.0	
	baz=274,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**42.58**	**79**	T	T	01 53 24.4	
	baz=274,slow=75,SNR=13						
MKAR	**Makanchi Array**	**44.05**	**321**	P	**P**	**01 08 30.1**	**+1.9**
	0.3nm,0.6s,baz=106,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**48.06**	**324**	P	**P**	**01 09 00.6**	**+0.9**
	0.3nm,0.5s,baz=119,slow=8.2,SNR=3.2						
STKA	**Stephens Creek**	**52.28**	**159**	P	P	01 09 28.4	-3.4
	1.9nm,0.6s,baz=330,slow=7.9,SNR=6.6						
NOA	**NORSAR Array B**	**84.75**	**333**	P	**P**	**01 12 53.0**	**-1.4**
	0.5nm,0.7s,baz=61,slow=5.1,SNR=2.6						

DJA 03 01:02:17.8±3.1, 8°S±6°×12°1E±°, h20km±26km, M3.7/5, MLv3.7/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.21**	**132**	P	Pn	01 02 39.1	-0.6
EDFI				S	Sn	01 02 56.1	+0.6
EDFI	**Ende, Flores**	**1.21**	**132**	P	Pn	01 02 38.9	-0.8
EDFI				S	Sb	01 02 54.6	-0.7
MMRI	**Maumere**	**1.60**	**116**	P	Pn	01 02 45.3	+0.3
MMRI	**Maumere**	**1.60**	**116**	P	Pn	01 02 44.5	-0.5
MMRI				S	Sn	01 03 05.1	0.0
WBSI	**Waikabubak, Su**	**2.18**	**219**	P	Pn	01 02 53.5	+0.5
WBSI	**Waikabubak, Su**	**2.18**	**219**	P	Pn	01 02 53.3	+0.3
BASI	**Baing, Sumba**	**2.27**	**185**	P	Pn	01 02 53.3	-0.9
BASI	**Baing, Sumba**	**2.27**	**185**	P	Pn	01 02 53.8	-0.4
BKSI	**Bulukumba**	**2.68**	**346**	S	Sn	01 03 32.5	+0.7
BKSI	**Bulukumba**	**2.68**	**346**	P	Pn	01 03 00.8	+0.9
PLAI	**Plampang**	**3.10**	**253**	P	Pn	01 03 06.1	+0.5
PLAI	**Plampang**	**3.10**	**253**	P	Pn	01 03 05.4	-0.2

IDC ***03*** *01:07:22.2±1.6, 40°.19N×16°.76E, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.5/52, mbtmp3.6/5, ML3.2/4, MS2.8/1, Ms1 2.8/1, ms1mx2.7/50, Error ellipse: s-maj=33.9km s-min=16.3km az=87.0*
ROM ***03*** *01:07:23.9±0.1, 39°.929N±0°.004×16°.535E±0°.008, h19km±1km, ML3.3/84, Mw3.4, Error ellipse: s-maj=0.6km s-min=0.3km az=88.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.40; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-1.06; $M_{r\theta}$0.02; $M_{\theta\phi}$-0.41; $M_{\phi r}$-0.29; Fault plane solution: $M_0$1.35187×10^{14} NP1:ϕ_s29.00000°, δ40.00000°, λ98.00000°. NP2:ϕ_s199.00000°, δ51.00000°, λ84.00000°.*
TIR ***03*** *01:07:23.1, 40°.01N×16°.56E, h74km±9km, Ml3.8*
ISC 03 01:07:23.9±0.8, 39°.95N±0°.02×16°.54E±0°.02, h25km±5km, n222, σ1°77/261, 32C-22D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORI	**Oriolo Calabro**	**0.14**	**331**	⇑P	**Pb**	**01 07 28.7**	**-0.2**
ORI				S	**Sb**	**01 07 32.5**	**+0.1**
SALB	**San Lorenzo Be**	**0.16**	**245**	⇑P	**Pb**	**01 07 28.8**	**-0.6**
SALB				S	**Sb**	**01 07 32.4**	**-0.5**
TDS	**Terranova Siba**	**0.32**	**208**	⇑P	**Pb**	**01 07 30.6**	**-0.7**
TDS				S	**Sb**	**01 07 35.9**	**-0.4**
TDS				AML	AML		
	comp=N,4925μm,1.4s						
TDS				AML	AML		
	comp=E,3180μm,0.3s						
T0701	**Viggianello (P**	**0.32**	**277**	P	**Pb**	**01 07 31.0**	**-0.4**
T0701				S	**Sb**	**01 07 36.4**	**-0.1**
T0701				AML	AML		
	comp=N,24400μm,0.5s						
T0701				AML	AML		
	comp=N,24450μm,0.5s						
T0701				AML	AML		
	comp=E,20750μm,0.6s						
T0701				AML	AML		
	comp=N,24400μm,0.5s						
T0702	**Acquaformosa (**	**0.41**	**237**	⇑P	**Pb**	**01 07 32.5**	**-0.2**
T0702				AML	AML		
	comp=E,7465μm,1.4s						
T0702				AML	AML		
	comp=N,5060μm,0.5s						
T0702				AML	AML		
	comp=E,7470μm,1.4s						
T0702				AML	AML		
	comp=E,7450μm,1.4s						
T0702				AML	AML		
	comp=N,5055μm,0.5s						
MMN	**Mormanno**	**0.42**	**263**	⇓P	**Pb**	**01 07 32.3**	**-0.5**
MMN				S	**Sb**	**01 07 39.4**	**+0.5**
MMN				AML	AML		
	comp=E,2895μm,0.2s						
MMN				AML	AML		
	comp=N,3980μm,1.4s						
CRAC	**Craco**	**0.43**	**350**	⇑P	**Pb**	**01 07 33.3**	**+0.4**
CRAC				AML	AML		
	comp=E,8650μm,1.5s						
CRAC				AML	AML		
	comp=N,6365μm,0.4s						
SCHR	**S. Chirico Rap**	**0.43**	**306**	P	**Pb**	**01 07 32.7**	**-0.4**
SCHR				S	**Sn**	**01 07 40.4**	**-1.4**
SCHR				AML	AML		
	comp=N,3630μm,0.5s						
SCHR				AML	AML		
	comp=E,5330μm,0.5s						
PIPA	**Pietrapaola**	**0.51**	**155**	⇓P	**Pb**	**01 07 34.1**	**-0.2**
PIPA				AML	AML		
	comp=E,5295μm,1.2s						
PIPA				AML	AML		
	comp=E,5320μm,0.2s						
PIPA				AML	AML		
	comp=N,3600μm,0.2s						
PIPA				AML	AML		
	comp=N,3475μm,0.2s						
CELI	**Celico**	**0.54**	**182**	⇑P	**Pb**	**01 07 34.3**	**-0.7**
CELI				AML	AML		
	comp=E,1510μm,0.6s						
CELI				AML	AML		
	comp=E,1515μm,0.6s						
CELI				AML	AML		
	comp=N,1340μm,0.4s						
CELI				AML	AML		
	comp=N,3385μm,0.4s						
CELI				AML	AML		
	comp=N,1335μm,0.4s						
CELI				AML	AML		
	comp=E,3815μm,0.6s						
CUC	**Castrocucco**	**0.56**	**275**	⇓P	**Pb**	**01 07 34.5**	**-0.6**
CUC				AML	AML		
	comp=N,3640μm,0.4s						
CUC				AML	AML		
	comp=N,4435μm,0.4s						
CUC				AML	AML		
	comp=E,3405μm,0.5s						
CUC				AML	AML		
	comp=E,4200μm,0.5s						
SIRI	**Monte Sirino -**	**0.56**	**295**	⇓P	**Pb**	**01 07 34.5**	**-0.8**
SIRI				S	**Sb**	**01 07 43.0**	**0.0**
SIRI				AML	AML		
	comp=E,6425μm,0.4s						
SIRI				AML	AML		
	comp=E,6240μm,0.4s						
SIRI				AML	AML		
	comp=N,5905μm,0.6s						
SIRI				AML	AML		
	comp=N,6075μm,0.6s						
CET2	**Cetraro**	**0.61**	**227**	P	**Pb**	**01 07 36.0**	**0.0**
CET2				AML	AML		
	comp=N,8760μm,0.5s						
CET2				AML	AML		
	comp=E,8455μm,0.9s						
CET2				AML	AML		
	comp=N,8755μm,0.5s						
MIGL	**Miglionico**	**0.66**	**354**	P	**Pb**	**01 07 36.4**	**-0.5**
MIGL				AML	AML		
	comp=E,9130μm,0.4s						
MIGL				AML	AML		
	comp=N,11965μm,1.2s						
SPS2	**Spezzano della**	**0.67**	**193**	P	**Pb**	**01 07 36.2**	**-0.7**
SPS2				AML	AML		
	comp=E,648μm,0.5s						
SPS2				AML	AML		
	comp=N,1065μm,0.4s						
SPS2				AML	AML		
	comp=E,648μm,0.5s						
MCEL	**Monticello**	**0.68**	**304**	⇓P	**Pb**	**01 07 36.4**	**-0.8**
MCEL				S	**Sn**	**01 07 47.5**	**-0.3**
MCEL				AML	AML		
	comp=E,4510μm,0.7s						
MCEL				AML	AML		
	comp=E,4515μm,0.7s						
MCEL				AML	AML		
	comp=N,5165μm,0.4s						
MCEL				AML	AML		
	comp=N,5355μm,0.4s						
MCEL				AML	AML		
	comp=E,4615μm,0.7s						
MTSN	**Montesano sull**	**0.68**	**298**	⇓P	**Pb**	**01 07 36.4**	**-0.8**
MTSN				S	**Sn**	**01 07 47.1**	**-0.8**
MTSN				AML	AML		
	comp=E,3440μm,1.5s						
MTSN				AML	AML		
	comp=N,3360μm,0.3s						
PTRP	**Pietrapertosa**	**0.68**	**328**	P	**Pn**	**01 07 38.2**	**+0.1**
PTRP				AML	AML		
	comp=N,6670μm,1.2s						
PTRP				AML	AML		
	comp=E,5400μm,0.7s						
LTRZ	**Laterza**	**0.69**	**18**	P	**Pb**	**01 07 36.7**	**-0.7**
LTRZ				AML	AML		
	comp=E,4230μm,0.7s						
LTRZ				AML	AML		
	comp=N,6010μm,0.6s						
LTRZ				AML	AML		
	comp=E,4175μm,0.8s						
LTRZ				AML	AML		
	comp=N,6265μm,0.6s						
MATE	**Matera**	**0.72**	**10**	⇑P	**Pn**	**01 07 39.4**	**+1.0**
MATE	**Matera**	**0.72**	**10**	P	**Pb**	**01 07 37.4**	**-0.3**
MATE				AML	AML		
	comp=E,1760μm,1.3s						
MATE				AML	AML		
	comp=N,2390μm,0.4s						
CAR1	**CAROLEI**	**0.73**	**200**	P	**Pb**	**01 07 37.4**	**-0.7**
CAR1				AML	AML		
	comp=E,2985μm,0.4s						
CAR1				AML	AML		
	comp=N,2915μm,0.4s						
CAR1				AML	AML		
	comp=N,2910μm,0.4s						
CAR1				AML	AML		
	comp=E,2725μm,0.4s						
CAR1				AML	AML		
	comp=N,3185μm,0.4s						
LADO	**San Nicola del**	**0.74**	**152**	P	**Pb**	**01 07 37.5**	**-0.8**
LADO				AML	AML		
	comp=E,195μm,0.3s						
LADO				AML	AML		
	comp=N,212μm,1.1s						
MGR	**Morigerati**	**0.78**	**285**	⇓P	**Pb**	**01 07 37.9**	**-0.9**
MGR				AML	AML		
	comp=E,3130μm,0.5s						
MGR				AML	AML		
	comp=E,2810μm,0.4s						
MGR				AML	AML		
	comp=N,2890μm,1.5s						
MGR				AML	AML		
	comp=N,2225μm,1.5s						
BULG	**Bulgheria - Ca**	**0.90**	**279**	P	**Pb**	**01 07 40.4**	**-0.5**
BULG				AML	AML		
	comp=E,2035μm,0.5s						
BULG				AML	AML		
	comp=N,3660μm,0.4s						
BULG				AML	AML		
	comp=E,2005μm,0.5s						
BULG				AML	AML		
	comp=N,3810μm,0.4s						
SERS	**Sersale**	**0.92**	**172**	P	**Pb**	**01 07 40.5**	**-0.7**
SERS				AML	AML		
	comp=E,942μm,0.6s						
SERS				AML	AML		
	comp=N,1020μm,0.3s						
SERS				AML	AML		
	comp=E,1048μm,0.3s						
SERS				AML	AML		
	comp=N,1024μm,0.6s						
SERS				AML	AML		
	comp=E,940μm,0.6s						
SERS				AML	AML		
	comp=N,1020μm,0.6s						
SERS				AML	AML		
	comp=E,1050μm,0.3s						
SERS				AML	AML		
	comp=N,1022μm,0.3s						
NOCI	**Noci**	**0.94**	**25**	P	**Pn**	**01 07 41.8**	**+0.3**
	baz=26						
NOCI	**Noci**	**0.94**	**25**	P	**Pn**	**01 07 42.0**	**+0.6**
NOCI				AML	AML		
	comp=E,3075μm,1.2s						
NOCI				AML	AML		
	comp=N,3540μm,1.6s						
ACER	**Acerenza**	**0.95**	**332**	⇓P	**Pb**	**01 07 41.5**	**-0.4**
ACER				AML	AML		
	comp=E,3335μm,0.5s						
ACER				AML	AML		
	comp=E,3120μm,0.5s						
ACER				AML	AML		
	comp=N,2295μm,1.2s						
ACER				AML	AML		
	comp=N,2415μm,0.5s						
ACER				AML	AML		
	comp=E,3330μm,0.5s						
AMUR	**Altamura**	**0.96**	**3**	P	**Pn**	**01 07 42.3**	**+0.5**
AMUR				AML	AML		
	comp=N,1315μm,1.3s						
AMUR				AML	AML		
	comp=E,1365μm,0.9s						
CMPR	**Campora**	**1.01**	**292**	P	**Pn**	**01 07 42.3**	**-0.3**
CMPR				AML	AML		
	comp=E,1396μm,0.4s						
CMPR				AML	AML		
	comp=N,2170μm,0.5s						
CMPR				AML	AML		
	comp=E,1396μm,0.4s						
CDRU	**Civita di Ruta**	**1.09**	**300**	P	**Pn**	**01 07 43.6**	**0.0**
CDRU				AML	AML		
	comp=N,1445μm,0.6s						
CDRU				AML	AML		
	comp=E,1215μm,0.6s						
PALZ	**Palazzo San Ge**	**1.09**	**336**	P	**Pb**	**01 07 44.5**	**+0.4**
PALZ				AML	AML		
	comp=E,1780μm,1.3s						
PALZ				AML	AML		
	comp=N,1735μm,0.7s						
GRI	**Girifalco**	**1.12**	**185**	P	**Pb**	**01 07 45.4**	**+0.7**
GRI				AML	AML		
	comp=E,662μm,0.4s						
GRI				AML	AML		
	comp=N,770μm,0.6s						
MRLC	**Muro Lucano**	**1.14**	**316**	P	**Pb**	**01 07 46.0**	**+1.1**
MRLC				AML	AML		
	comp=E,1370μm,0.7s						
MRLC				AML	AML		
	comp=N,1585μm,1.3s						
MRVN	**Minervino Murg**	**1.14**	**347**	⇑P	**Pb**	**01 07 45.3**	**+0.3**
MRVN				AML	AML		
	comp=E,1270μm,0.4s						
MRVN				AML	AML		
	comp=N,794μm,1.5s						
MESG	**Mesagne**	**1.20**	**57**	P	**Pb**	**01 07 45.8**	**0.0**
MESG				S	**Sb**	**01 08 02.2**	**+1.3**
MESG				AML	AML		
	comp=E,5235μm,0.4s						
MESG				AML	AML		
	comp=N,4990μm,0.7s						
VULT	**Monte Vulture**	**1.23**	**326**	P	**Pb**	**01 07 47.9**	**+1.4**
VULT				AML	AML		
	comp=E,985μm,0.4s						
VULT				AML	AML		
	comp=N,1710μm,1.5s						
VULT				AML	AML		
	comp=N,1685μm,1.5s						
VULT				AML	AML		
	comp=E,997μm,0.4s						
CAPA	**Cerignola FG**	**1.33**	**336**	P	**Pb**	**01 07 48.2**	**0.0**
CAPA				AML	AML		
	comp=E,1990μm,0.8s						
CAPA				AML	AML		
	comp=N,1390μm,0.8s						
MCRV	**Calabrutti - M**	**1.34**	**309**	P	**Pb**	**01 07 49.4**	**+1.0**
MCRV				AML	AML		
	comp=N,1400μm,1.1s						
MCRV				AML	AML		
	comp=E,1020μm,0.4s						
SNAL	**S. Angelo Dei**	**1.41**	**315**	P	**Pb**	**01 07 49.9**	**+0.4**
SNAL				AML	AML		
	comp=E,1300μm,0.8s						
SNAL				AML	AML		
	comp=N,1515μm,1.2s						
JOPP	**Joppolo**	**1.43**	**201**	P	**Pb**	**01 07 49.5**	**-0.3**
JOPP				AML	AML		
	comp=N,546μm,1.2s						
JOPP				AML	AML		
	comp=E,736μm,0.6s						
CAFE	**Carife**	**1.47**	**318**	P	**Pb**	**01 07 50.5**	**0.0**
CAFE				AML	AML		
	comp=N,882μm,1.0s						
CAFE				AML	AML		
	comp=E,970μm,0.5s						
CAFE				AML	AML		
	comp=N,810μm,1.0s						
CAFE				AML	AML		
	comp=E,930μm,0.6s						
SCTE	**Santa Cesarea**	**1.49**	**84**	P	**Pn**	**01 07 49.7**	**+0.7**
	baz=86						
SCTE				S	**Sn**	**01 08 08.8**	**+1.2**
	baz=86						
SCTE	**Santa Cesarea**	**1.49**	**84**	⇑P	**Pn**	**01 07 49.8**	**+0.7**
SCTE				AML	AML		
	comp=N,1328μm,0.3s						
SCTE				AML	AML		
	comp=E,1790μm,0.5s						
PLAC	**Placanica**	**1.50**	**183**	P	**Pb**	**01 07 51.5**	**+0.5**
PLAC				AML	AML		
	comp=E,588μm,0.8s						
PLAC				AML	AML		
	comp=N,442μm,1.4s						
PLAC				AML	AML		
	comp=E,476μm,1.4s						
PLAC				AML	AML		
	comp=N,606μm,0.8s						
IST3	**Stromboli F**	**1.53**	**222**	P	**Pb**	**01 07 51.3**	**-0.2**
IST3				AML	AML		
	comp=N,3005μm,0.8s						
IST3				AML	AML		
	comp=E,1575μm,0.7s						
ISTR	**Stromboli Gino**	**1.56**	**222**	P	**Pb**	**01 07 51.6**	**-0.4**
ISTR				AML	AML		
	comp=E,2850μm,0.6s						
ISTR				AML	AML		
	comp=N,2845μm,0.7s						
MRB1	**Monte Rocchett**	**1.68**	**315**	P	**Pb**	**01 07 54.2**	**+0.1**
MRB1				AML	AML		
	comp=E,834μm,1.3s						
MRB1				AML	AML		
	comp=E,788μm,1.3s						
MRB1				AML	AML		
	comp=N,1035μm,0.6s						
MRB1				AML	AML		
	comp=N,1100μm,0.6s						
SGRT	**San Giovanni R**	**1.91**	**342**	P	**Pn**	**01 07 55.7**	**+0.9**
	baz=342						
SGRT				S	**Sn**	**01 08 18.6**	**+0.6**
	baz=342						
SGRT	**San Giovanni R**	**1.91**	**342**	P	**Pn**	**01 07 55.8**	**+0.9**
SGRT				AML	AML		
	comp=E,512μm,0.6s						
SGRT				AML	AML		
	comp=N,634μm,0.6s						
SOI	**Samo**	**1.91**	**191**	P	**Pb**	**01 07 57.6**	**-0.4**
SOI				AML	AML		
	comp=E,218μm,0.4s						
SOI				AML	AML		
	comp=N,175μm,0.8s						
VITU	**Vitulano (BN)**	**1.91**	**311**	P	**Pb**	**01 07 56.9**	**-1.1**
VITU				AML	AML		
	comp=E,738μm,0.6s						
VITU				AML	AML		
	comp=N,1048μm,0.6s						
MILZ	**Milazzo**	**1.96**	**212**	P	**Pn**	**01 07 56.8**	**+1.4**
MILZ				AML	AML		
	comp=E,608μm,0.5s						
MILZ				AML	AML		
	comp=N,498μm,0.4s						
VPL	**Vulcano Piano**	**1.98**	**218**	P	**Pn**	**01 07 57.5**	**+1.8**
VPL				AML	AML		
	comp=E,1635μm,0.6s						
VPL				AML	AML		
	comp=N,2125μm,0.5s						
MPNC	**Port Mandanici**	**2.02**	**208**	P	**Pn**	**01 07 57.4**	**+1.1**
MPNC				AML	AML		
	comp=N,781μm,1.0s						
MPNC				AML	AML		
	comp=E,1180μm,0.6s						
MPAZ	**Palizzi**	**2.03**	**192**	P	**Pb**	**01 07 59.5**	**-0.6**
MPAZ				AML	AML		
	comp=E,222μm,0.5s						
MPAZ				AML	AML		
	comp=N,250μm,1.3s						
IFIL	**Filicudi I Eol**	**2.06**	**229**	P	**Pn**	**01 07 57.7**	**+0.8**
IFIL				AML	AML		
	comp=N,510μm,0.6s						
IFIL				AML	AML		
	comp=E,1280μm,0.8s						
MELA	**Melanico ??? S**	**2.06**	**329**	P	**Pb**	**01 07 58.8**	**-1.8**
MELA				AML	AML		
	comp=N,693μm,0.7s						
MELA				AML	AML		
	comp=N,716μm,0.8s						
MELA				AML	AML		
	comp=E,1031μm,0.5s						
MELA				AML	AML		
	comp=E,1032μm,0.4s						
PTRJ	**Pietraroja**	**2.08**	**314**	AML	AML		
	comp=E,430μm,0.4s						
PTRJ				AML	AML		
	comp=N,334μm,0.7s						
MCSR	**Castroreale**	**2.13**	**208**	P	**Pn**	**01 07 59.1**	**+1.2**
MCSR				AML	AML		
	comp=E,515μm,0.4s						
MCSR				AML	AML		
	comp=N,635μm,0.3s						
BSSO	**Busso**	**2.17**	**318**	P	**Pb**	**01 08 01.1**	**-1.6**
BSSO				AML	AML		
	comp=N,101μm,1.6s						
BSSO				AML	AML		
	comp=E,105μm,0.7s						
SGG	**Gregorio Mates**	**2.18**	**312**	P	**Pb**	**01 08 01.1**	**-1.7**
SGG				AML	AML		
	comp=E,431μm,0.5s						
SGG				AML	AML		
	comp=N,317μm,0.6s						
IACL	**Alicudi**	**2.20**	**231**	P	**Pn**	**01 07 59.4**	**+0.6**

IACL AML AML
comp=E,528μm,0.5s
IACL AML AML
comp=N,477μm,0.5s
NOV Novara 2.20 210 P **Pn 01 08 00.4 +1.5**
NOV AML AML
comp=E,370μm,0.5s
NOV AML AML
comp=N,264μm,0.4s
AIO Antillo 2.22 208 P **Pb 01 08 01.7 -1.6**
AIO AML AML
comp=N,236μm,0.4s
AIO AML AML
comp=E,182μm,0.9s
MUCR Ucria 2.30 215 ⇑P **Pn 01 08 02.6 +2.3**
MUCR AML AML
comp=E,232μm,1.5s
MUCR AML AML
comp=N,380μm,0.6s
TREM Isole Tremiti 2.31 341 P **Pn 01 08 01.7 +1.4**
TREM AML AML
comp=E,588μm,1.3s
TREM AML AML
comp=N,681μm,1.6s
VLO Vlora 2.33 76 P **Pn 01 08 02.1 +1.6**
baz=77
VLO S **Sn 01 08 31.2 +2.9**
baz=77
VLO AMP
comp=N,3.8nm,0.3s,baz=77
VLO Vlora 2.33 76 ⇓P **Pb 01 08 08.9 +3.8**
TRIV Trivento 2.36 321 ⇑P **Pb 01 08 04.0 -1.8**
TRIV AML AML
comp=E,242μm,0.7s
TRIV AML AML
comp=N,310μm,0.5s
MSFR San Fratello 2.44 219 ⇑P **Pn 01 08 04.4 +2.3**
MSFR AML AML
comp=N,72μm,0.4s
MSFR AML AML
comp=E,69μm,0.6s
EMSG Monte Spagnolo 2.46 211 P **Pb 01 08 06.8 -0.6**
EMSG AML AML
comp=E,785μm,0.6s
EMSG AML AML
comp=N,802μm,0.4s
EPZF Pizzo Felice 2.49 212 P **Pb 01 08 07.1 -0.9**
EPZF AML AML
comp=N,616μm,0.5s
EPZF AML AML
comp=E,596μm,1.2s
RNI2 Rionero Sannit 2.52 315 ⇑P **Pb 01 08 07.3 -1.2**
RNI2 AML AML
comp=N,211μm,0.6s
RNI2 AML AML
comp=N,209μm,0.6s
RNI2 AML AML
comp=E,197μm,1.6s
RNI2 AML AML
comp=E,192μm,1.6s
KEK Kerkira 2.52 94 P **Pn 01 08 04.3 +1.0**
KEK Kerkira 2.52 94 ⇑P **Pb 01 08 06.9 -1.6**
KEK AML AML
comp=E,78μm,0.4s
KEK AML AML
comp=N,88μm,1.1s
CERA Filignano 2.52 312 ⇑P **Pb 01 08 06.2 -2.4**
CERA AML AML
comp=E,218μm,0.5s
CERA AML AML
comp=N,362μm,0.6s
VENT Ventotene 2.52 291 ⇓P **Pn 01 08 04.5 +1.3**
VENT AML AML
comp=E,156μm,1.0s
VENT AML AML
comp=N,268μm,1.6s
SRN Sarande 2.67 90 P **Pb 01 08 08.8 -2.1**
baz=91
SRN S **Sb 01 08 40.8 -2.4**
baz=91
SRN AMP
comp=N,0.5nm,0.5s,baz=91
GALF Gagliano Caste 2.71 215 ⇓P **Pb 01 08 11.1 -0.6**
GALF AML AML
comp=N,222μm,0.7s
GALF AML AML
comp=E,275μm,0.7s
LSTV Lastovo 2.83 5 *e*Pn **Pn 01 08 07.5 -0.1**
LSTV Sn **Sn 01 08 37.9 -2.9**
INTR Introdacqua 2.87 317 ⇑P **Pb 01 08 11.4 -3.0**
INTR AML AML
comp=E,184μm,1.0s
INTR AML AML
comp=N,268μm,0.7s
TIR Tirane 2.90 60 ⇓P **Pn 01 08 11.5 +3.2**
TIR Tirane 2.90 60 P **Pn 01 08 09.7 +1.3**
TIR Tirane 2.90 60 P **Pn 01 08 09.0 +0.7**
baz=60
TIR Tirane 2.90 60 ⇓P **Pn 01 08 10.2 +1.9**
TIR AML AML
comp=E,246μm,0.5s
TIR AML AML
comp=N,284μm,0.8s
HLNI Lentini 2.90 207 P **Pn 01 08 11.3 +2.9**
HLNI AML AML
comp=E,70μm,1.1s
HLNI AML AML
comp=N,67μm,1.2s
HCY Herceg Novi 2.90 30 *e*Pn **Pn 01 08 08.3 -0.2**
IGT Igoumenitsa 2.96 97 P **Pn 01 08 10.8 +1.6**
IGT Igoumenitsa 2.96 97 P **Pn 01 08 10.8 +1.6**
baz=98
VAE Valguarnera 2.97 215 Pn **Pb 01 08 13.8 -2.3**
comp=N,1.3nm,0.3s,baz=94,slow=19,SNR=12
DRME Dracevica, Mon 3.00 41 *e*Pn **Pn 01 08 10.6 +0.7**
SSY Sortino 3.01 203 ⇑P **Pn 01 08 12.9 +2.9**
SSY AML AML
comp=N,198μm,0.5s
SSY AML AML
comp=E,101μm,0.7s
STON Ston 3.05 16 *e*Pn **Pn 01 08 09.7 -0.8**
STON Ston 3.05 16 *e*Pn **Pn 01 08 10.3 -0.2**
STON Sn **Sn 01 08 44.0 -2.2**
STON Ston 3.05 16 S **Sn 01 08 46.0 -0.2**
TREB Trebinje 3.09 26 *e*Pn **Pn 01 08 11.1 +0.1**
MEU Monte Lauro 3.11 204 P **Pn 01 08 14.7 +3.3**
MEU AML AML
comp=N,138μm,0.3s
MEU AML AML
comp=E,147μm,1.4s
LSK Leskovik 3.13 85 P **Pn 01 08 12.9 +1.3**
baz=86
HAVL Avola 3.18 201 ⇑P **Pn 01 08 14.9 +2.6**
HAVL AML AML
comp=E,103μm,0.8s
HAVL AML AML
comp=N,134μm,0.3s
RAFF Raffo Rosso 3.21 213 ⇓P **Pn 01 08 15.8 +3.1**
RAFF AML AML
comp=N,76μm,1.3s
RAFF AML AML
comp=E,69μm,0.6s
PDG Podgorica 3.22 39 ⇑P **Pn 01 08 13.0 +0.2**
PDG Podgorica 3.22 39 *e*Pn **Pn 01 08 13.8 +1.0**
PDG Podgorica 3.22 39 ⇑P **Pn 01 08 14.4 +1.6**
PDG AML AML
comp=E,153μm,0.8s
PDG AML AML
comp=E,95μm,1.0s
PDG AML AML
comp=N,121μm,0.9s
PDG AML AML
comp=N,79μm,0.7s
HVAR Hvar 3.23 359 *e*Pn **Pn 01 08 13.0 0.0**
HVAR Sn **Sn 01 08 47.6 -3.0**
CORL Corleone 3.25 232 ⇑P **Pn 01 08 16.7 +3.5**
CORL AML AML
comp=N,67μm,1.2s
CORL AML AML
comp=E,87μm,0.5s
PUK Puka 3.29 49 P **Pn 01 08 15.2 +1.3**
baz=50
PUK AMP
comp=N,0.4nm,0.5s,baz=50
PUK Puka 3.29 49 ⇑P **Pn 01 08 15.8 +1.8**
PUK AML AML
comp=E,158μm,0.3s
PUK AML AML
comp=N,170μm,0.6s
BRY Bratogost 3.32 26 *e*Pn **Pn 01 08 14.5 +0.2**
KBN Korca 3.32 77 P **Pn 01 08 16.9 +2.5**
baz=77
TSLK Tsoukalades, L 3.38 108 P **Pn 01 08 16.7 +1.6**
LKD2 Lefkada island 3.40 109 P **Pn 01 08 16.7 +1.4**
HPAC Pachino 3.43 199 S **Sn 01 08 58.0 +2.5**
PHP Peshkopia 3.44 58 P **Pn 01 08 17.3 +1.4**
PHP Peshkopia 3.44 58 P **Pn 01 08 17.2 +1.4**
baz=59
DMLN Damoulianata-K 3.44 118 P **Pn 01 08 17.2 +1.4**
KEF3 Kipouria, Keph 3.44 119 P **Pn 01 08 17.2 +1.4**
OHR Ohrid 3.45 69 *i* Pn **Pn 01 08 18.1 +2.0**
NYDR Nydri-Lefkada 3.46 110 P **Pn 01 08 17.4 +1.4**
EVGI Lefkada island 3.46 111 P **Pn 01 08 17.7 +1.6**
FSK Fiskardo 3.46 114 P **Pn 01 08 17.6 +1.4**
KEF5 Kardakata, Kep 3.48 117 P **Pn 01 08 17.7 +1.2**
RICI Ricice 3.58 7 *e*Pn **Pn 01 08 17.9 +0.2**
RICI Sn **Sn 01 08 57.1 -2.0**
MMGO Monte Magaggia 3.59 232 ⇓P **Pn 01 08 22.2 +4.2**
BCI Bajram Curri 3.60 47 AMP
comp=E,0.6nm,0.5s,baz=47
VLS Valsamata 3.62 118 P **Pn 01 08 19.3 +1.0**
PSDA Pessada-Kefalo 3.65 119 P **Pn 01 08 20.0 +1.4**
UPM Unac-Piva 3.71 28 *e*Pn **Pn 01 08 21.3 +1.6**
KPRO Kipourio 3.71 88 P **Pn 01 08 22.3 +2.7**
ZIRJ Zirje 3.77 350 *e*Pn **Pn 01 08 20.7 +0.4**
ZIRJ Sn **Sn 01 09 02.4 -1.4**
VLMS Volimes, Zakyn 3.83 121 P **Pn 01 08 22.1 +0.9**
MORI Morici 3.97 351 *e*Pn **Pn 01 08 23.6 +0.5**
MORI Sn **Sn 01 09 07.2 -1.5**
KIJV Kijevo 4.06 359 *e*Pn **Pn 01 08 25.3 +1.0**
KIJV Sn **Sn 01 09 09.1 -1.9**
PVO Paravola 4.09 107 P **Pn 01 08 27.2 +2.4**
DUGI Dugi Otok 4.19 345 *e*Pn **Pn 01 08 26.8 +0.6**
DUGI Sn **Sn 01 09 12.5 -1.8**
EVR Evrytania 4.21 102 P **Pn 01 08 29.8 +3.3**
RUDO Rudo 4.24 29 *e*Pn **Pn 01 08 27.2 +0.4**
THL Klokotos Trika 4.24 93 P **Pn 01 08 29.7 +2.9**
EL6 Elcito 4.25 324 ⇓P **Pn 01 08 30.0 +2.9**
EL6 AML AML
comp=N,125μm,1.5s
EL6 AML AML
comp=E,85μm,1.3s
ANX Ano Chora 4.39 106 P **Pn 01 08 32.1 +3.1**
EFP Efpalio 4.44 108 P **Pn 01 08 32.2 +2.6**
BBLS Lazići 4.46 28 *e*Pn **Pn 01 08 30.9 +0.9**
MGRS Mrkonjic Grad 4.49 5 *e*Pn **Pn 01 08 31.7 +1.4**
HAPS Han Pijesak,BI 4.51 23 *e*Pn **Pn 01 08 31.2 +0.5**
SACS San Casciano d 4.53 311 S **Sn 01 09 22.0 -0.8**
SERG Sergoula 4.55 108 P **Pn 01 08 33.8 +2.6**
LAKA Lakka 4.56 110 P **Pn 01 08 35.4 +4.1**
FRON Frontone 4.57 323 P **Pn 01 08 33.5 +2.2**
AGG Agios Georgios 4.58 100 P **Pn 01 08 34.7 +3.2**
TRIZ Trizonia 4.58 108 P **Pn 01 08 34.3 +2.7**
STIP Stip 4.63 66 *i* Pn **Pn 01 08 35.9 +3.7**
ALIK Aliki, Aigiali 4.65 109 P **Pn 01 08 34.8 +2.3**
FSSB Fossombrone 4.68 324 ⇓P **Pn 01 08 35.9 +3.0**
FSSB AML AML
comp=E,65μm,1.2s
FSSB AML AML
comp=N,71μm,0.4s
KLV Kalavryta, Ach 4.77 112 P **Pn 01 08 36.6 +2.4**
KLV Kalavryta, Ach 4.77 112 ⇓P **Pn 01 08 37.2 +3.1**
NVLJ Novalja 4.78 346 *e*Pn **Pn 01 08 35.1 +0.9**
NVLJ Sn **Sn 01 09 26.4 -2.3**
VAY Valandovo 4.79 71 *i* Pn **Pn 01 08 36.4 +2.0**
BLY Banja Luka 4.83 6 *e*Pn **Pn 01 08 36.2 +1.3**
DIVS Divibare 4.88 31 *e*Pn **Pn 01 08 36.4 +0.7**
DIVS Divibare 4.88 31 ⇑P **Pn 01 08 36.5 +0.7**
RABC Rab 4.97 345 *e*Pn **Pn 01 08 37.9 +1.0**
RABC Sn **Sn 01 09 31.1 -2.4**
ITM Ithomi 5.05 121 P **Pn 01 08 39.8 +1.8**
PYL PYLOS 5.10 125 P **Pn 01 08 39.9 +1.3**
XOR Xorichti 5.17 94 P **Pn 01 08 42.0 +2.3**
LKR Lokris 5.18 102 P **Pn 01 08 41.9 +2.2**
BOVS Bovan 5.34 45 ⇑P **Pn 01 08 42.7 +0.8**
LTK Loutraki 5.37 109 P **Pn 01 08 43.7 +1.4**
PAIG Paliouri 5.49 88 P **Pn 01 08 44.8 +0.8**
VSL Villasalto 5.54 268 P **Pn 01 08 45.3 +0.6**
VSL S **Sn 01 09 51.0 +3.5**
BOJS Bojanci 5.64 351 ⇑P **Pn 01 08 48.0 +2.0**
BOJS S **Sn 01 09 51.0 +1.1**
BOJS Bojanci 5.64 351 *i* Pn **Pn 01 08 47.9 +2.0**
BOJS *e*Sn **Sn 01 09 48.6 -1.3**
BOJS IAML 01 09 53.3
comp=Z,8.5nm,0.4s
MOSL Moslavina 5.67 2 *e*Pn **Pn 01 08 46.8 +0.3**
MOSL Sn **Sn 01 09 47.5 -3.2**
VTS Vitosha 5.71 60 ⇑P **Pn 01 08 49.2 +2.1**
OZLJ Ozalj 5.72 352 *e*Pn **Pn 01 08 48.6 +1.4**
FRGS Fruska Gora 5.74 24 *e*Pn **Pn 01 08 46.1 -1.4**
KRND KRANIDI 5.77 114 P **Pn 01 08 49.7 +1.8**
CRES Cresnjev 5.93 353 *e*Pn **Pn 01 08 51.3 +1.2**
CRES Cresnjev 5.93 353 *i* Pn **Pn 01 08 51.5 +1.4**
GCIS Gornji Cirnik 5.96 354 *i* Pn **Pn 01 08 51.7 +1.2**
GCIS *e*Sn **Sn 01 09 56.1 -1.7**
PTJ Puntijarka 5.97 356 *e*Pn **Pn 01 08 52.0 +1.3**
CEY Cerknica 5.99 346 *e*Pn **Pn 01 08 52.4 +1.4**
VLY Voula,Athens 6.04 108 P **Pn 01 08 53.3 +1.8**
MDVR Moldovita 6.17 37 ⇑P **Pn 01 08 52.5 -0.9**
GBAS Gorenja Brezov 6.18 346 *i* Pn **Pn 01 08 54.4 +0.9**
GBAS *e*Sn **Sn 01 10 01.5 -1.9**
GBAS IAML 01 10 04.3
comp=Z,13nm,0.6s
KALN Kalnik 6.18 359 *e*Pn **Pn 01 08 53.9 +0.3**
KOVH Kovagotottos 6.25 10 *e*PN **Pn 01 08 54.9 +0.5**
KOVH *e*SN **Sn 01 10 01.4 -3.5**
LJU Ljubljana 6.27 347 P **Pn 01 08 57.6 +2.8**
KTHA Kythira Island 6.33 124 P **Pn 01 08 58.3 +2.7**
VOJS Vojsko 6.39 343 *e*Pn **Pn 01 08 57.2 +0.8**
MORH Mrgy, Hungar 6.45 13 ⇑P **Pn 01 08 55.4 -1.8**
MORH Mrgy, Hungar 6.45 13 *e*PN **Pn 01 08 57.0 -0.2**
MORH Mrgy, Hungar 6.45 13 *e*P **Pn 01 09 00.1 +2.9**
MORH Mrgy, Hungar 6.45 13 *e*Pn **Pn 01 08 55.8 -1.4**
KOGS Kog 6.50 358 P **Pn 01 08 59.2 +1.3**
HERR Herculane 6.58 39 ⇑P **Pn 01 08 59.3 +0.4**
OBKA Obir 6.72 348 *i* Pn **Pn 01 09 02.5 +1.5**
comp=Z,3.9nm,0.2s,SNR=8.3
OBKA *e*Sn **Sn 01 10 16.2 -0.5**
comp=Z,4.7nm,0.3s
BZS Buzias 6.79 32 ⇑P **Pn 01 09 00.2 -1.6**
SOKA Soboth 6.82 351 *e*Pn **Pn 01 09 03.5 +1.1**
comp=Z,1.2nm,0.3s
SOKA *e*Sn **Sn 01 10 17.0 -2.1**
comp=Z,3.3nm,0.6s
MYKA Terra Mystica 7.01 343 *e*Sn **Sn 01 10 23.2 -0.5**
comp=Z,2.3nm,0.4s
KEST Kesra 7.07 236 Pn Pn 01 09 11.4 +5.5
comp=Z,0.2nm,0.3s,baz=45,slow=2.9,SNR=5.7
KEST LR LR 01 12 20.1
comp=Z,72nm,19.0s,baz=5.5,slow=40
GZR Gura Zlata 7.13 38 ⇑P **Pn 01 09 05.3 -1.2**
MPLH Magyarpolny 7.26 5 *e*PN **Pn 01 09 11.1 +2.8**
MPLH *e*SN **Sn 01 10 27.3 -2.5**
ARSA Arzberg 7.34 355 *i* Pn **Pn 01 09 10.7 +1.3**
comp=Z,1.8nm,0.3s
ABTA Abfaltersbach 7.40 338 *i* Pn **Pn 01 09 12.4 +2.0**
comp=Z,1.0nm,0.3s
ABTA *e*Sn **Sn 01 10 32.6 -0.9**
comp=Z,4.8nm,0.5s
QLNO Quiliano 7.49 308 ⇓P Pb 01 09 42.7 +10
RISI Rein 7.71 337 ⇓P **Pn 01 09 15.9 +1.2**
ABSI Aberstueckl 7.77 332 ⇓P **Pn 01 09 17.5 +2.0**
CONA Conrad Observa 8.00 357 *i* Pn **Pn 01 09 20.3 +1.8**
comp=Z,0.7nm,0.2s
ARR Arges 8.06 45 ⇓P **Pn 01 09 20.5 +1.1**
MOA Molln 8.07 349 *i* Pn **Pn 01 09 21.2 +1.8**
comp=Z,1.7nm,0.3s,SNR=8.7
IDI Anoyia 8.10 122 Pn **Pn 01 09 20.2 +0.3**
comp=Z,0.5nm,0.3s,baz=360,slow=19,SNR=23
IDI Sn **Sn 01 10 49.0 -1.6**
comp=Z,1.4nm,0.3s,baz=306,slow=23,SNR=8.2
WTTA Wattenberg 8.13 336 *i* Pn **Pn 01 09 24.7 +4.2**
comp=Z,0.8nm,0.2s
WTTA *e*Sn **Sn 01 10 52.8 +1.2**
comp=Z,6.9nm,0.7s
FETA Feichten 8.23 331 *e*Sn **Sn 01 10 51.8 -2.3**
comp=Z,2.6nm,0.6s
VOIR 8.33 46 ⇑P **Pn 01 09 23.3 +0.2**
MOTA Moosalm 8.38 334 *i* Pn **Pn 01 09 28.1 +4.4**
comp=Z,1.0nm,0.4s
MOTA *e*Sn **Sn 01 10 58.8 +1.2**
comp=Z,3.4nm,0.5s
RETA Reutte 8.62 333 *i* Pn **Pn 01 09 31.7 +4.7**
comp=Z,1.2nm,0.5s
RETA *e*Sn **Sn 01 11 05.9 +2.5**
comp=Z,3.1nm,0.4s
KOLL Kolacno 8.73 8 *e*PN **Pn 01 09 31.7 +3.2**
KOLL *e*SN **Sn 01 11 03.4 -2.7**
DAVA Damuels 8.78 329 *i* Pn **Pn 01 09 33.6 +4.3**
comp=Z,1.9nm,0.6s
DAVA *e*Sn **Sn 01 11 07.9 +0.4**
comp=Z,8.2nm,1.0s
GERES GERESS Array B 9.13 348 Pn **Pn 01 09 34.5 +0.5**
comp=Z,0.3nm,0.3s,baz=164,slow=11,SNR=8.7
GERES Sn **Sn 01 11 11.6 -4.3**
comp=Z,0.4nm,0.3s,baz=161,slow=25,SNR=6.0
KHC Kasperske Hory 9.42 348 *e*PN **Pn 01 09 39.6 +1.6**
KHC *e*SN **Sn 01 11 19.5 -3.6**
ARCES ARCESS Array B 30.03 6 P **P 01 13 30.8 +0.4**
comp=Z,0.4nm,0.5s,baz=172,slow=8.2,SNR=4.8

NNC ***03*** *01:07:37.7±3.7,37°.01N×78°.56E,h0km,mb6.5,mpv6.3, Error ellipse: s-maj=42.0km s-min=31.5km az=103.0*
IDC ***03*** *01:07:42.7±0.3,37°.44N×78°.16E,h0km,mb5.4/44, mb1 5.4/50,mb1mx5.4/54,mbtmp5.4/50,ML5.5/5,MS6.3/53, Ms1 6.3/53,ms1mx6.2/57,Error ellipse: s-maj=8.9km s-min=7.8km az=34.0*
BJI ***03*** *01:07:44.6±0.0,37°.56N×78°.15E,h10km,mB6.1/60, mb5.6/69,ML6.4/7,Ms6.5/93,Ms7 6.4/87*
MOS ***03*** *01:07:44.9±0.9,37°.43N×78°.14E,h22km,mb6.1/73, MS6.7/75,Error ellipse: s-maj=4.7km s-min=3.0km az=110.5*
NEIC ***03*** *01:07:47.5,37°.46N×78°.13E,h23km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}2.09; $M_{\theta\theta}$-1.89; $M_{\phi\phi}$-0.20; $M_{r\theta}$-0.72; $M_{r\phi}$0.66; $M_{\theta r}$0.74; Fault plane solution: $M_0$2.34000×10^18^ NP1:ϕ_s98.22000°, δ34.18000°,λ71.57000°. NP2:ϕ_s300.16000°,δ57.79000°, λ102.12000°. Principal axes: T 2.3715, Plg74.0000°, Azm243.0000°; N -0.0601, Plg10.0000°, Azm114.0000°; P -2.3115, Plg12.0000°, Azm21.0000°;*
NEIC ***03*** *01:07:47.3±2.1,37°.46N±0°.06×78°.15E±0°.08,h20km±1km, mb6.0/391,Ms_20 6.6/928,Mwb6.2/65,Mwc6.4/77,Mww6.4, Mwc6.4(GCMT) Error ellipse: s-maj=10.5km s-min=9.8km az=130.0*
BGR ***03*** *01:07:49.8±0.0,36°.50N×77°.30E,h33km,mb6.2, mB_BB6.6,Ms6.8*
GCMT ***03*** *01:07:50.3±0.0,37°.58N×78°.14E,h16km,MW6.4/161, Moment Tensor Solution. s160,c392; s161,c712; Duration: 4s0 Moment tensor: Scale 10^18^Nm; M_{rr}3.58±.02; $M_{\theta\theta}$-3.22±.01; $M_{\phi\phi}$-0.36±.01; $M_{r\theta}$-3.50±.06; $M_{\theta\phi}$1.37±.01; $M_{\phi r}$1.64±.05; Best double couple: $M_0$5.33400×10^18^ NP1:ϕ_s109.00000°,δ22.00000°, λ85.00000°. NP2:ϕ_s294.00000°,δ68.00000°,λ92.00000°. Principal axes: T 5.2420, Plg67.0000°, Azm208.0000°; N 0.1800, Plg2.0000°, Azm114.0000°; P -5.4260, Plg23.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***03*** *01:07:50,37°.57N×78°.13E,h16km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}3.73; $M_{\theta\theta}$-2.73; $M_{\phi\phi}$-1.00; $M_{r\theta}$-2.13; $M_{\theta\phi}$1.18; $M_{\phi r}$3.27; Fault plane solution: $M_0$5.27000×10^18^ NP1:ϕ_s105.00000°, δ24.00000°,λ60.00000°. NP2:ϕ_s317.00000°,δ69.00000°, λ102.00000°. Principal axes: T 5.6355, Plg64.0000°, Azm247.0000°; N -0.8217, Plg12.0000°, Azm133.0000°; P -4.8138, Plg23.0000°, Azm38.0000°;*
SOME ***03*** *01:07:52.7,37°.88N×77°.92E,h0km,MS6.9*
NEIC ***03*** *01:07:52,37°.54N×78°.21E,h13km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}3.51; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$-0.32; $M_{r\theta}$-1.23; $M_{\theta\phi}$1.48; $M_{\phi r}$2.29; Fault plane solution: $M_0$4.50000×10^18^ NP1:ϕ_s94.00000°, δ34.00000°,λ56.00000°. NP2:ϕ_s313.00000°,δ63.00000°, λ110.00000°. Principal axes: T 4.6129, Plg66.0000°, Azm261.0000°; N -0.2360, Plg18.0000°, Azm124.0000°; P -4.3770, Plg15.0000°, Azm28.0000°;*
NEIC ***03*** *01:07:58.9,37°.60N×77°.43E,h10km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}3.30; $M_{\theta\theta}$-2.77; $M_{\phi\phi}$-0.53; $M_{r\theta}$-2.90; $M_{\theta\phi}$1.23; $M_{\phi r}$1.72; Fault plane solution: $M_0$4.73000×10^18^ NP1:ϕ_s298.77000°, δ67.83000°,λ93.72000°. NP2:ϕ_s109.00000°,δ22.46000°, λ80.96000°. Principal axes: T 4.7285, Plg67.0000°, Azm216.0000°; N -0.0070, Plg3.0000°, Azm117.0000°; P -4.7215, Plg23.0000°, Azm26.0000°;*

ISC 03 01:07:46.2±0.3,**37°.47N**±0°.02×**78°.12E**±0°.02,**h19**km±1km, **h19**km:**pP-P,n2419,**σ**1**$\mathbf{\hat{s}}$**81**/2550,**mb6.0**/517,**MS6.6**/632, **584C-206D,Fault plane solution: NP1:**ϕ_s125.24574°, δ22.28101°,λ88.88457°. **NP2:**ϕ_s306.45114°,δ67.72343°, λ90.45700°. **Principal axes:** T Plg67.2735°, Azm217.2876°; N Plg0.4229°, Azm126.2779°; P Plg22.7221°, Azm36.1008°; **Fault plane solution: NP1:**ϕ_s270.31906°,δ56.86211°,λ103.94594°. **NP2:** ϕ_s65.88847°,δ35.64188°,λ69.73742°. **Principal axes:** T Plg73.9855°, Azm218.4691°; N Plg11.6427°, Azm82.5885°; P Plg10.8422°, Azm350.3268°; **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.65**	**321**	Pg	**Pn**	**01 08 28.9**	**+0.9**
KSH				Sg	**Sn**	**01 09 01.6**	**+1.9**
KSH				smax	smax		
	comp=N,350μm,0.4s						
KSH				smax	smax		
	comp=E,453μm,0.7s						
TARG	**Taragay, Kyrgy**	**4.26**	**357**		**Pn**	**01 08 52.6**	**+2.2**
KDJ	**Kajisay**	**4.71**	**351**	P	**Pn**	**01 08 58.7**	**+2.3**
KDJ	**Kajisay**	**4.71**	**351**		**Pn**	**01 08 58.7**	**+2.3**
ULHL	**Ulahol**	**4.98**	**344**	P	**Pn**	**01 09 02.6**	**+2.4**
	SNR=165						
BOOM	**Boomskoye usch**	**5.29**	**342**	P	**Pn**	**01 09 07.1**	**+2.8**
BOOM	**Boomskoye usch**	**5.29**	**342**		**Pn**	**01 09 07.1**	**+2.8**
DRK	**Karamyk**	**5.35**	**294**		**Pn**	**01 09 07.5**	**+2.2**
CHCP	**Chirah Chowk**	**5.49**	**228**	P	**Pn**	**01 09 10.3**	**+3.3**
NIL	**Nilore**	**5.50**	**228**	P	**Pn**	**01 09 09.3**	**+2.1**
NIL	**Nilore**	**5.50**	**228**		**Pn**	**01 09 09.3**	**+2.1**
NIL	**Nilore**	**5.50**	**228**	P	**Pn**	**01 09 09.3**	**+2.1**
SATY	**Saty**	**5.59**	**2**	*e*P	**Pb**	**01 09 27.7**	**+4.5**
	6μm,1.1s						
SATY				*e*S	**Sb**	**01 10 36.2**	**+6.4**
	26μm,1.1s						
SATY	**Saty**	**5.59**	**2**	*e*P	**Pn**	**01 09 09.8**	**+1.3**
	baz=1.8						
SATY	**Saty**	**5.59**	**2**	Pg	**Pb**	**01 09 27.0**	**+3.8**
	6μm,1.1s						
SATY				Lg	Lg	01 10 41.6	
	26μm,1.1s						
SATY	**Saty**	**5.59**	**2**	*e*P	**Pn**	**01 09 09.7**	**+1.3**
UZB	**Uzynbulak**	**5.71**	**7**⇓	*i*P	**Pn**	**01 09 11.4**	**+1.3**
	baz=6.4						
UZB				*e*S	**Sn**	**01 10 15.5**	**+0.3**
	baz=6.4						
UZB	**Uzynbulak**	**5.71**	**7**	*d i*P	**Pn**	**01 09 11.4**	**+1.3**
UZB				*e*S	**Sn**	**01 10 15.5**	**+0.3**
MDOK	**Medeo**	**5.75**	**352**	*e*P	Pb	01 09 31.0	+5.1
	5μm,0.8s						
MDOK				*e*S	**Sb**	**01 10 41.4**	**+7.0**
	12μm,1.1s						
MDOK	**Medeo**	**5.75**	**352**	*e*P	**Pn**	**01 09 12.4**	**+1.8**
	baz=352						
MDOK				*e*S	**Sn**	**01 10 15.4**	**-0.6**
	baz=352						
MDOK				*e*LR	LR	01 11 28.4	
	850μm,12.6s,baz=352						
MDOK	**Medeo**	**5.75**	**352**	Pg	**Pb**	**01 09 26.4**	**+0.6**
	5μm,0.8s						
MDOK				Lg	Lg	01 10 41.4	
	12μm,1.1s						
MDOK	**Medeo**	**5.75**	**352**	*e*P	**Pn**	**01 09 12.4**	**+1.8**
MDOK				*e*S	**Sn**	**01 10 15.4**	**-0.6**
MDOK				MLR	MLR		
	comp=Z,850μm,13.0s						
AML	**Almayashu**	**5.77**	**325**	P	**Pn**	**01 09 13.3**	**+2.2**

	SNR=276						
AML	**Almayashu**	**5.77 325**	*i*	P	**Pn**	**01 09 13.3**	**+2.2**
	SNR=378						
AML	**Almayashu**	**5.77 325**		P	**Pn**	**01 09 14.0**	**+2.8**
SHLS	**Shalkode**	**5.77 10**	*eP*		**Pg**	**01 09 34.0**	**-2.7**
	comp=Z,4μm,0.7s						
SHLS			*eS*		**Sg**	**01 10 47.1**	**-4.3**
	comp=Z,21μm,1.1s						
SHLS	**Shalkode**	**5.77 10**	⇓*i*	P	**Pn**	**01 09 13.5**	**+2.6**
	baz=13						
SHLS			*eS*		**Sn**	**01 10 19.7**	**+3.0**
	baz=13						
SHLS	**Shalkode**	**5.77 10**	*d i*	P	**Pn**	**01 09 13.5**	**+2.6**
SHLS			*eS*		**Sn**	**01 10 19.7**	**+3.0**
TKM2	**Tokmak 2**	**5.78 341**		P	**Pn**	**01 09 13.5**	**+2.4**
	SNR=586						
TKM2	**Tokmak 2**	**5.78 341**		Pn	**Pn**	**01 09 14.2**	**+3.1**
	comp=Z,479nm,1.1s						
TKM2				Pg	Pb	01 09 31.3	+4.8
	comp=Z,3μm,0.9s						
TKM2				Lg	Lg	01 10 59.2	
	comp=Z,25μm,1.1s						
AAA	**Alma-Ata**	**5.81 351**	⇓*i*	P	**Pn**	**01 09 13.7**	**+2.4**
	baz=351						
AAA			*eS*		**Sn**	**01 10 18.8**	**+1.3**
	baz=351						
AAA			*eLR*		LR	01 11 33.1	
	comp=Z,990μm,13.0s,baz=351						
AAA	**Alma-Ata**	**5.81 351**	*d i*	P	**Pn**	**01 09 13.7**	**+2.4**
AAA			*eS*		**Sn**	**01 10 18.7**	**+1.3**
AAA				MLR	MLR		
	comp=Z,990μm,13.0s						
KST	**Kastek**	**5.81 344**	*eP*		**Pg**	**01 09 32.7**	**-4.6**
	comp=Z,4μm,0.7s						
KST			*eS*		**Sg**	**01 10 44.7**	**-7.8**
	comp=Z,6μm,1.7s						
KST	**Kastek**	**5.81 344**		Pg	**Pb**	**01 09 26.4**	**-0.5**
	comp=Z,4μm,0.7s						
KST				Lg	Lg	01 10 40.3	
	comp=Z,6μm,1.7s						
KNDC	**Almaty**	**5.81 352**	⇓	Pn	**Pn**	**01 09 13.8**	**+2.5**
	comp=Z,290nm,0.6s						
KNDC			⇑	Pg	**Pg**	**01 09 33.0**	**-4.3**
	comp=Z,13μm,0.8s						
KNDC			⇓	Lg	Lg	01 10 59.9	
	comp=Z,95μm,0.8s						
AAK	**Ala-Archa**	**5.86 333**		Pn	**Pn**	**01 09 15.0**	**+2.7**
	comp=Z,166nm,0.3s,baz=158,slow=13,SNR=202						
AAK				Pg	Pb	01 09 32.7	+4.8
	comp=Z,291nm,0.3s,baz=131,slow=8.6,SNR=13						
AAK				Sn	**Sn**	**01 10 20.4**	**+1.4**
	comp=Z,351nm,0.3s,baz=117,slow=18,SNR=4.6						
AAK				Lg	Lg	01 10 48.8	
	comp=Z,1μm,0.3s,baz=241,slow=19,SNR=8.0						
AAK				LR	LR	01 11 43.5	
	comp=Z,107μm,21.1s,baz=151,slow=41						
AAK	**Ala-Archa**	**5.86 333**		P	**Pn**	**01 09 14.9**	**+2.7**
	SNR=206						
AAK	**Ala-Archa**	**5.86 333**	*i*	P	**Pn**	**01 09 15.0**	**+2.7**
	SNR=242						
AAK	**Ala-Archa**	**5.86 333**	⇓	Pn	**Pn**	**01 09 15.7**	**+3.5**
	comp=Z,607nm,0.8s						
AAK			⇑	Pg	**Pg**	**01 09 36.4**	**-2.0**
	comp=Z,2μm,0.6s						
AAK			⇓	Lg	Lg	01 11 02.2	
	comp=Z,43μm,1.0s						
AAK	**Ala-Archa**	**5.86 333**	*d i*	P	**Pn**	**01 09 14.5**	**+2.3**
AAK	**Ala-Archa**	**5.86 333**		Pn	**Pn**	**01 09 14.8**	**+2.6**
AAK	**Ala-Archa**	**5.86 333**		P	**Pn**	**01 09 15.6**	**+3.3**
AAK				P	**Pn**	**01 09 15.6**	**+3.3**
FRU1	**Bishkek**	**5.97 334**		P	**Pn**	**01 09 16.7**	**+3.2**
FRU1	**Bishkek**	**5.97 334**			**Pn**	**01 09 16.7**	**+3.2**
KPKS	**Kokpek**	**6.00 4**	*eP*		**Pg**	**01 09 38.3**	**-2.9**
	comp=Z,4μm,0.7s						
KPKS			*eS*		**Sg**	**01 10 54.2**	**-4.6**
	comp=Z,16μm,1.1s						
KPKS	**Kokpek**	**6.00 4**	⇓*i*	P	**Pn**	**01 09 15.3**	**+1.2**
	baz=3.6						
KPKS	**Kokpek**	**6.00 4**	*d i*	P	**Pn**	**01 09 15.3**	**+1.2**
DGS	**Degeres**	**6.04 343**	*eP*		**Pb**	**01 09 35.4**	**+4.5**
	comp=Z,2μm,0.5s						
DGS			*eS*		**Sb**	**01 10 48.9**	**+6.1**
	comp=Z,8μm,0.7s						
CHMS	**Chumysh**	**6.09 336**		P	**Pn**	**01 09 18.1**	**+2.8**
	SNR=41						
EKS2	**Erkin-Say**	**6.16 329**		P	**Pn**	**01 09 19.1**	**+2.8**
	SNR=384						
CEP	**Cherat**	**6.23 236**		P	**Pn**	**01 09 18.7**	**+1.4**
BTK	**Batken**	**6.26 297**		P	**Pn**	**01 09 19.2**	**+1.5**
BTK	**Batken**	**6.26 297**			**Pn**	**01 09 19.2**	**+1.5**
GAR	**Garm**	**6.33 286**			**Pn**	**01 09 19.8**	**+1.2**
SMLA	**Simla**	**6.38 187**	*eP*		**Pn**	**01 09 22.1**	**+3.0**
SMLA			*ex*		**Sn**	**01 10 30.3**	**-1.1**
USP	**Ospenovka**	**6.42 336**		P	**Pn**	**01 09 22.7**	**+3.0**
	SNR=62						
CHKK	**Chushkaly**	**6.43 353**	⇓*i*	P	**Pn**	**01 09 21.5**	**+1.6**
	baz=352						
CHKK			*eS*		**Sn**	**01 10 31.1**	**-1.7**
	baz=352						
CHKK	**Chushkaly**	**6.43 353**	⇓*i*	P	**Pn**	**01 09 21.5**	**+1.6**
CHKK			*eS*		**Sn**	**01 10 31.1**	**-1.7**
MRKS	**Merke**	**6.47 326**	*eP*		**Pg**	**01 09 47.8**	**-2.2**
	comp=Z,1μm,0.8s						
MRKS			*eS*		**Sg**	**01 11 11.1**	**-2.6**
	comp=Z,20μm,1.6s						
SGDS	**Sogindy**	**6.54 337**	⇓*i*	P	**Pn**	**01 09 22.9**	**+1.4**
	baz=336						
SGDS	**Sogindy**	**6.54 337**	*d i*	P	**Pn**	**01 09 22.8**	**+1.4**
KUU	**Kurty**	**6.56 349**	*eP*		Pg	01 09 46.1	-5.6
	comp=Z,2μm,0.7s						
KUU			*eS*		Sg	01 11 07.7	-8.8
	comp=Z,13μm,1.4s						
KUU	**Kurty**	**6.56 349**	⇓*i*	P	**Pn**	**01 09 23.2**	**+1.6**
	baz=348						
KUU	**Kurty**	**6.56 349**	*d i*	P	**Pn**	**01 09 23.2**	**+1.6**
ARXS	**Arharly**	**6.74 358**	*eP*		**Pn**	**01 09 25.2**	**+1.0**
THW	**Thamme Wali**	**7.00 230**		P	**Pn**	**01 09 29.2**	**+1.4**
SARP	**Sargodha**	**7.12 221**		P	**Pn**	**01 09 30.7**	**+1.3**
DDI	**Dehra Dun**	**7.13 180**	*eP*		**Pn**	**01 09 33.4**	**+3.9**
DDI			*ex*		**Sn**	**01 10 52.5**	**+2.4**
DDI			*eS*		**Sn**	**01 10 52.5**	**+2.4**
CHGR	**Chuyangaron**	**7.17 282**		Pn	**Pn**	**01 09 29.6**	**-0.5**
DZA	**Taraz**	**7.50 318**	*eP*		**Pn**	**01 09 35.3**	**+0.7**
	baz=317						
DZA			*eS*		**Sn**	**01 10 58.5**	**-0.8**
	baz=317						
DZA	**Taraz**	**7.50 318**	*eP*		**Pn**	**01 09 35.3**	**+0.7**
DZA			*eS*		**Sn**	**01 10 58.4**	**-0.8**
TDK	**Taldyqorghan**	**7.53 2**	*eP*		**Pn**	**01 09 35.5**	**+0.5**
	baz=1.3						
TDK			*eLR*		LR	01 12 37.1	
	comp=Z,642μm,12.2s,baz=1.3						
TDK	**Taldyqorghan**	**7.53 2**	*eP*		**Pn**	**01 09 35.4**	**+0.5**
TDK				MLR	MLR		
	comp=Z,642μm,12.0s						
TAS	**Tashkent**	**7.84 302**		P	**Pn**	**01 09 38.8**	**-0.4**
TAS	**Tashkent**	**7.84 302**		Pn	**Pn**	**01 09 38.8**	**-0.4**
KBL	**Kabul**	**7.92 251**		P	**Pn**	**01 09 41.0**	**+0.5**
KBL	**Kabul**	**7.92 251**		Pn	**Pn**	**01 09 41.0**	**+0.5**
KBL	**Kabul**	**7.92 251**		P	**Pn**	**01 09 41.9**	**+1.4**
	SNR=247						
KBL				P	**Pn**	**01 09 41.9**	**+1.4**
	SNR=247						
KBL				S	**Sn**	**01 11 10.2**	**+0.6**
KBL				S	**Sn**	**01 11 10.2**	**+0.6**
KK31	**Karatay Array**	**8.09 316**		P	**Pn**	**01 09 42.8**	**+0.2**
KK31	**Karatay Array**	**8.09 316**		Pn	**Pn**	**01 09 42.8**	**+0.2**
KKAR	**Karatay Array**	**8.09 316**		P	**Pn**	**01 09 43.3**	**+0.7**
KKAR	**Karatay Array**	**8.09 316**		Pn	**Pn**	**01 09 43.3**	**+0.7**
BTLS	**Baital**	**8.16 339**	⇓*i*	P	**Pn**	**01 09 44.3**	**+0.7**
	baz=338						
BTLS	**Baital**	**8.16 339**	*d i*	P	**Pn**	**01 09 44.3**	**+0.7**
NDI	**New Delhi**	**8.80 185**	*ex*		**Pn**	**01 09 56.0**	**+3.6**
NDI			*ex*		**Sn**	**01 11 30.0**	**-1.0**
WMQ	**Urumqi**	**9.65 46**		P	**Pn**	**01 10 03.9**	**-0.2**
WMQ				S	**Sn**	**01 11 51.6**	**-0.3**
WMQ				smax	smax		
	comp=Z,23μm,1.1s						
WMQ				smax	smax		
	comp=Z,20μm,1.1s						
WMQ				LR	LR		
	comp=Z,114μm,10.9s						
WMQ				LR	LR		
	comp=Z,176μm,14.3s						
WMQ				LR	LR		
	comp=Z,176μm,13.3s						
WMQ	**Urumqi**	**9.65 46**		P	**Pn**	**01 10 03.9**	**-0.2**
WMQ	**Urumqi**	**9.65 46**			**Pn**	**01 10 03.9**	**-0.2**
MAKZ	**Makanchi**	**9.76 16**	⇓	P	**Pn**	**01 10 05.3**	**-0.2**
	comp=Z,2μm,1.3s						
MAKZ	**Makanchi**	**9.76 16**		P	**Pn**	**01 10 05.5**	**0.0**
MAKZ	**Makanchi**	**9.76 16**			**Pn**	**01 10 05.5**	**0.0**
MK31	**Makanchi Array**	**9.82 17**		P	**Pn**	**01 10 06.3**	**0.0**
MK31	**Makanchi Array**	**9.82 17**		Pn	**Pn**	**01 10 06.3**	**0.0**
MKAR	**Makanchi Array**	**9.82 17**		Pn	**Pn**	**01 10 06.3**	**0.0**
	comp=Z,123nm,0.3s,baz=199,slow=12,SNR=2032						
MKAR				Sn	**Sn**	**01 11 55.1**	**-0.9**
	comp=Z,170nm,0.3s,baz=191,slow=25,SNR=5.6						
MKAR	**Makanchi Array**	**9.82 17**		Pn	**Pn**	**01 10 06.1**	**-0.2**
PYUN	**Piuthan**	**10.20 155**	*eP*		**Pn**	**01 10 11.5**	**-0.3**
	comp=Z,221nm,0.3s						
DANN	**Dangsing**	**10.25 151**	⇓*eP*		**Pn**	**01 10 11.3**	**-1.3**
	comp=Z,112nm,0.3s						
KOLN	**Koldanda**	**10.72 153**	*eP*		**Pn**	**01 10 18.3**	**-0.6**
	comp=Z,122nm,0.3s						
GKN	**Gorkha**	**10.91 148**	*eP*		**Pn**	**01 10 20.2**	**-1.4**
	comp=Z,153nm,0.6s						
ZSN	**Zaisan**	**11.14 24**	⇓*i*	P	**Pn**	**01 10 23.4**	**-1.0**
	baz=25						
ZSN			*eS*		**Sn**	**01 12 25.8**	**-2.7**
	baz=25						
ZSN	**Zaisan**	**11.14 24**	*d i*	P	**Pn**	**01 10 23.4**	**-1.0**
ZSN			*eS*		**Sn**	**01 12 25.8**	**-2.7**
KKN	**Kakani**	**11.38 146**	*eP*		**Pn**	**01 10 26.6**	**-1.4**
	comp=Z,201nm,0.6s						
PKIN	**Phulchoki**	**11.61 146**	*eP*		**Pn**	**01 10 29.6**	**-1.6**
	comp=Z,231nm,0.6s						
PKI	**Pulchoki**	**11.62 146**	*eP*		**Pn**	**01 10 29.8**	**-1.6**
JIRN	**Jiri**	**11.91 143**	⇓*eP*		**Pn**	**01 10 34.0**	**-1.4**
	comp=Z,240nm,0.5s						
RAMN	**Ramite**	**12.70 143**	⇑*i*	P	**Pn**	**01 10 44.0**	**-2.1**
	comp=Z,210nm,0.5s						
SEM	**Semipalatinsk**	**13.02 6**	⇓*i*	P	**Pn**	**01 10 47.8**	**-2.6**
	baz=6.0						
SEM			*eLR*		LR	01 15 51.1	
	comp=Z,202μm,12.1s,baz=6.0						
SEM	**Semipalatinsk**	**13.02 6**	*d i*	P	**Pn**	**01 10 47.7**	**-2.6**
SEM				MLR	MLR		
	comp=Z,202μm,12.0s						
KURBB	**Kurchatov Arra**	**13.15 1**		Pn	**Pn**	**01 10 50.0**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=189,slow=12,SNR=160						
KURBB				Lg	Lg	01 14 42.0	
	comp=Z,4.1nm,0.3s,baz=182,slow=27,SNR=6.5						
KURBB	**Kurchatov Arra**	**13.15 1**	⇑	P	**Pn**	**01 10 49.6**	**-2.3**
	comp=Z,669nm,1.0s						
HRA	**Herat**	**13.23 261**		Pn	**Pn**	**01 10 51.6**	**-1.6**
KURK	**Kurchatov**	**13.25 1**		P	**Pn**	**01 10 50.1**	**-3.1**
KURK	**Kurchatov**	**13.25 1**			**Pn**	**01 10 50.0**	**-3.1**
LSA	**Lhasa**	**13.33 122**		P	**Pn**	**01 10 58.3**	**+3.4**
LSA				S	**Sn**	**01 13 22.6**	**-0.2**
LSA				pmax	pmax		
	comp=Z,880nm,2.0s						
LSA				LR	LR		
	comp=Z,133μm,11.4s						
LSA				LR	LR		
	comp=Z,92μm,10.3s						
LSA				LR	LR		
	comp=Z,116μm,11.7s						
LSA	**Lhasa**	**13.33 122**		P	**Pn**	**01 10 56.0**	**+1.1**
LSA	**Lhasa**	**13.33 122**		Pn	**Pn**	**01 10 56.0**	**+1.1**
DGZ	**Jazzator, Alta**	**13.95 26**	*d i*	P	**Pn**	**01 11 01.2**	**-1.7**
BHPL	**Bhopal**	**14.20 183**	*eP*		**Pn**	**01 11 04.0**	**-2.3**
BOK	**Bokaro**	**15.17 152**	*ex*		**Pn**	**01 11 14.4**	**-5.1**
BOK			*ex*		**Sn**	**01 14 07.9**	**+0.9**
GEYT	**Alibeck**	**15.84 278**		Pn	**Pn**	**01 11 22.8**	**-5.4**
	baz=161,slow=6.3,SNR=0.9						
GEYT				Sn	**Sn**	**01 14 15.3**	**-8.0**
	comp=Z,27nm,0.3s,baz=39,slow=21,SNR=4.5						
GEYT				LR	LR	01 19 29.1	
	comp=Z,357μm,18.6s,baz=105,slow=44						
GYA0B	**ALIBECK ARRAY**	**15.84 278**	⇑	P	**Pn**	**01 11 21.9**	**-6.3**
GYA0B	**ALIBECK ARRAY**	**15.84 278**		Pn	**Pn**	**01 11 24.0**	**-4.2**
GYA0B				IAmb	IAmb	01 11 41.6	
	comp=Z,806nm,0.8s						
BVAR	**Borovoye Array**	**16.46 343**		Pn	**Pn**	**01 11 33.3**	**-2.7**
	comp=Z,3.0nm,0.3s,baz=206,slow=16,SNR=46						
BVAR				Lg	Lg	01 16 22.1	
	comp=Z,6.6nm,0.3s,baz=169,slow=33,SNR=7.9						
BRVK	**Borovoye**	**16.52 343**	⇑	P	**Pn**	**01 11 36.0**	**-0.6**
	comp=Z,2μm,1.1s						
BRVK	**Borovoye**	**16.52 343**	*d i*	P	**Pn**	**01 11 34.6**	**-2.1**
BRVK	**Borovoye**	**16.52 343**		Pn	**Pn**	**01 11 35.8**	**-0.9**
BRVK	**Borovoye**	**16.52 343**		P	**Pn**	**01 11 37.7**	**+1.0**
BRVK				P	**Pn**	**01 11 37.7**	**+1.0**
SHL	**Shillong**	**16.67 131**		P	**Pn**	**01 11 34.4**	**-4.5**
SHL				pmax	pmax		
	comp=Z,369nm,1.1s						
SHL	**Shillong**	**16.67 131**	*ex*		**Pn**	**01 11 35.4**	**-3.5**
SHL	**Shillong**	**16.67 131**			**Pn**	**01 11 34.4**	**-4.5**
SHL	**Shillong**	**16.67 131**		P	**Pn**	**01 11 35.7**	**-3.3**
	SNR=77						
GTA	**Gaotai**	**17.10 77**	⇓	P	**Pn**	**01 11 41.2**	**-3.1**
GTA				pP	P	01 11 46.3	+0.3
GTA				sP	pP	01 11 50.0	-1.8
GTA				S	**Sn**	**01 14 51.3**	**-2.7**
GTA				sS	S	01 15 00.5	-2.9
GTA				SS	**SnSn**	**01 15 14.2**	**+7.0**
GTA				pmax	pmax		
	comp=Z,9μm,8.2s						
GTA				LR	LR		
	comp=Z,111μm,18.7s						
GTA				LR	LR		
	comp=Z,95μm,18.7s						
GTA				LR	LR		
	comp=Z,114μm,18.0s						
ZAA0	**Zalesovo Array**	**17.12 14**	⇑	P	**Pn**	**01 11 40.9**	**-3.3**
	comp=Z,225nm,1.4s						
ZAA0	**Zalesovo Array**	**17.12 14**		Pn	**Pn**	**01 11 41.0**	**-3.3**
ZAA0				IAmb	IAmb	01 11 52.5	
	comp=Z,2μm,1.4s						
ZALV	**Zalesovo Beam**	**17.12 14**		P	**Pn**	**01 11 41.0**	**-3.3**
	comp=Z,4.2nm,0.3s,baz=196,slow=9.3,SNR=176						
ZALV				Lg	Lg	01 16 33.2	
	baz=185,slow=28,SNR=1.8						
ZALV	**Zalesovo Beam**	**17.12 14**		P	**Pn**	**01 11 41.2**	**-3.0**
ZALV	**Zalesovo Beam**	**17.12 14**		Pn	**Pn**	**01 11 41.2**	**-3.0**
AGT	**Agartala**	**17.61 137**	*ex*		**Pn**	**01 11 53.2**	**+2.7**
ABKAR	**Akbulak array**	**17.65 318**		Pn	**Pn**	**01 11 48.8**	**-2.1**
LKP	**Lekhapani**	**18.03 119**	⇑*eP**		**Pn**	**01 11 55.3**	**-0.5**
BRDH	**Bariadhala**	**18.79 138**		P	**Pn**	**01 12 04.6**	**-0.4**
	comp=Z,42nm,0.3s,baz=323,slow=5.5,SNR=24						
BRDH				LR	LR	01 21 05.1	
	comp=Z,62μm,18.4s,baz=324,slow=43						
POO	**Poona**	**19.24 192**	*eP*		**P**	**01 12 09.3**	**-0.2**
AKTO	**Aktyubinsk**	**19.35 318**		P	**P**	**01 12 10.7**	**+0.3**
	comp=Z,6.5nm,0.3s,baz=115,slow=11,SNR=218						
AKTO				S	**Sn**	**01 15 46.8**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=136,slow=15,SNR=1.9						
AKTO				Lg	Lg	01 17 54.9	
	baz=202,slow=17,SNR=1.8						
AKTO				LR	LR	01 19 36.8	
	comp=Z,27μm,21.8s,baz=131,slow=37						
AKTO	**Aktyubinsk**	**19.35 318**	⇑	P	**P**	**01 12 10.8**	**+0.3**
	comp=Z,498nm,0.9s						
HYB	**Hyderabad**	**19.98 179**	*i*	P	**P**	**01 12 17.0**	**-0.6**
HYB			*eS*		**Sn**	**01 16 04.0**	**+0.4**
HYB	**Hyderabad**	**19.98 179**	*eP*		**P**	**01 12 17.8**	**+0.2**
VIS	**Vishakhapatnam**	**20.20 165**	*eP*		**P**	**01 12 20.3**	**+0.4**
VIS			*i*	x	Pn	01 12 20.8	-1.1
VIS				IAmb	IAmb	01 12 27.2	
	comp=Z,536nm,0.6s						
VIS			*eS*		**S**	**01 16 05.9**	**0.0**
LZH	**Lanzhou**	**20.64 86**	⇑	P	Pn	01 12 26.1	-1.0
LZH				pP	pP	01 12 31.5	+0.9
LZH				sP	sP	01 12 34.8	+1.4
LZH				S	**S**	**01 16 11.5**	**-3.2**
LZH				sS	Sn	01 16 18.6	-0.8
LZH				pmax	pmax		
	comp=Z,190nm,1.2s						
LZH				pmax	pmax		
	comp=Z,6μm,4.9s						
LZH				LR	LR		
	comp=Z,91μm,12.5s						
LZH				LR	LR		
	comp=Z,117μm,11.4s						
LZH				LR	LR		
	comp=Z,81μm,14.1s						
MOY	**Mondy**	**21.49 41**	*eP*		**P**	**01 12 35.4**	**+1.7**
MOY				pmax	pmax		
	comp=Z,2μm,1.9s						
BANOM	**Banah**	**21.79 244**	*i*	P	**P**	**01 12 36.5**	**-0.6**
	SNR=84						
BANOM	**Banah**	**21.79 244**		P	**P**	**01 12 38.0**	**+0.9**
	SNR=81						
BANOM				P	**P**	**01 12 38.0**	**+0.9**
	SNR=81						
BANOM				P	**pP**	**01 12 38.3**	**-4.8**
BANOM				P	**pP**	**01 12 38.3**	**-4.8**
BANOM				S	**S**	**01 16 37.3**	**0.0**
BANOM				S	**S**	**01 16 37.3**	**0.0**
SHME	**Shamm**	**21.83 245**	*i*	P	**P**	**01 12 36.9**	**-0.6**
	SNR=96						
SHME	**Shamm**	**21.83 245**		P	**P**	**01 12 38.7**	**+1.3**
	SNR=102						
SHME				P	**P**	**01 12 38.7**	**+1.3**
	SNR=102						
SHME				S	**S**	**01 16 38.8**	**+0.8**
SHME				S	**S**	**01 16 38.8**	**+0.8**
WSAR	**Wadi Sarin**	**21.94 235**		P	**P**	**01 12 38.6**	**-0.1**
	comp=Z,153nm,0.9s,baz=100,slow=5.9,SNR=40						
WSAR				S	**S**	**01 16 41.3**	**+1.1**
	comp=Z,46nm,1.0s,baz=106,slow=9.6,SNR=1.3						
WSAR				LR	LR	01 23 32.7	
	comp=Z,72μm,18.4s,baz=80,slow=43						
WSAR	**Wadi Sarin**	**21.94 235**		P	**P**	**01 12 40.5**	**+1.8**
	SNR=48						
WSAR				S	**S**	**01 16 43.7**	**+3.5**
BIDO	**Bidbid**	**22.08 237**		P	**P**	**01 12 40.8**	**+0.6**
	SNR=14						
BIDO				P	**P**	**01 12 40.8**	**+0.6**
	SNR=14						
BIDO				S	**S**	**01 16 45.9**	**+3.1**
BIDO				S	**S**	**01 16 45.9**	**+3.1**
ZAK	**Zakamensk**	**22.12 46**	*eP*		**P**	**01 12 40.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,529nm,1.4s						
CD2	**Chengdu**	**22.16 100**	⇑*i*	P	**P**	**01 12 41.7**	**+0.7**
CD2				pP	sP	01 12 48.6	-1.1
CD2				sP	pP	01 12 51.0	+4.1
CD2				S	**S**	**01 16 40.5**	**-3.8**
CD2				sS	pS	01 16 49.7	-3.0
CD2				SS	**SnSn**	**01 17 20.6**	**+9.4**
CD2				pmax	pmax		
	comp=Z,280nm,1.8s						
CD2				pmax	pmax		
	comp=Z,10μm,13.9s						
CD2				LR	LR		
	comp=Z,50μm,9.0s						
CD2				LR	LR		
	comp=Z,42μm,9.2s						
CD2				LR	LR		
	comp=Z,48μm,10.6s						
WBK	**Wadi Bani Khal**	**22.17 233**		P	**P**	**01 12 42.5**	**+1.3**
	SNR=26						
WBK				P	**P**	**01 12 42.5**	**+1.3**
	SNR=26						
WBK				P	**P**	**01 12 42.5**	**+1.3**
	SNR=26						
WBK				S	**S**	**01 16 49.8**	**+5.2**
WBK				S	**S**	**01 16 49.8**	**+5.2**
WBK				S	**S**	**01 16 49.8**	**+5.2**
MDH	**Madha**	**22.17 243**	*i*	P	**P**	**01 12 39.5**	**-1.6**
	SNR=29						
MDH	**Madha**	**22.17 243**		P	**P**	**01 12 41.7**	**+0.6**
	SNR=30						
MDH				P	**P**	**01 12 41.7**	**+0.6**
	SNR=30						
MDH				S	**S**	**01 16 46.9**	**+2.3**
MDH				S	**S**	**01 16 46.9**	**+2.3**
JLN	**Jalan Bani Buh**	**22.22 232**		P	**P**	**01 12 43.1**	**+1.4**
	SNR=62						
JLN				P	**P**	**01 12 43.1**	**+1.4**
	SNR=62						
JLN				P	**P**	**01 12 43.1**	**+1.4**
	SNR=62						
MASF	**Masafi**	**22.23 243**		P	**P**	**01 12 43.4**	**+1.6**
	SNR=51						
MASF				P	**P**	**01 12 43.4**	**+1.6**
	SNR=51						
MASF				S	**S**	**01 16 47.1**	**+1.4**
MASF				S	**S**	**01 16 47.1**	**+1.4**
MSFE	**Esma-Masafi**	**22.23 243**	*i*	P	**P**	**01 12 40.8**	**-1.1**
	SNR=77						
SMDO	**Samad**	**22.45 236**		P	**P**	**01 12 44.8**	**+0.6**
	SNR=41						
SMDO				P	**P**	**01 12 44.8**	**+0.6**
	SNR=41						
SMDO				P	**P**	**01 12 44.8**	**+0.6**
	SNR=41						
SMDO				S	**S**	**01 16 53.5**	**+3.5**
SMDO				S	**S**	**01 16 53.5**	**+3.5**
SMDO				S	**S**	**01 16 53.5**	**+3.5**
UOSS	**Minazif**	**22.46 242**	*i*	P	**P**	**01 12 42.9**	**-1.3**
	SNR=111						
UOSS	**Minazif**	**22.46 242**		P	**P**	**01 12 43.5**	**-0.8**
UOSS	**Minazif**	**22.46 242**		P	**P**	**01 12 42.7**	**-1.5**
UOSS				P	**P**	**01 12 42.7**	**-1.5**
UOSS				S	**S**	**01 16 53.6**	**+3.6**
UOSS				S	**S**	**01 16 53.6**	**+3.6**
HOQ	**Hoqain**	**22.58 238**		P	**P**	**01 12 45.2**	**-0.3**
	SNR=56						
HOQ				P	**P**	**01 12 45.2**	**-0.3**
	SNR=56						
HOQ				P	**P**	**01 12 45.2**	**-0.3**
	SNR=56						
HOQ				S	**S**	**01 16 57.0**	**+4.8**
HOQ				S	**S**	**01 16 57.0**	**+4.8**
HOQ				S	**S**	**01 16 57.0**	**+4.8**
HATD	**Hatta, Dubai**	**22.59 242**	*i*	P	**P**	**01 12 44.6**	**-1.0**
	SNR=105						
HATD	**Hatta, Dubai**	**22.59 242**		P	**P**	**01 12 44.2**	**-1.4**
	SNR=164						
HATD				P	**P**	**01 12 44.2**	**-1.4**
	SNR=164						
HATD				S	**S**	**01 16 54.6**	**+2.3**
HATD				S	**S**	**01 16 54.6**	**+2.3**
SVE	**Sverdlovsk**	**22.60 335**	*ceP*		**P**	**01 12 46.3**	**+0.8**
SVE			*eS*		**S**

TLY LR LR 01 23 13.1
comp=E,187μm,20.4s,baz=236,slow=41
TLY Talaya 22.92 44 *d iP* **P 01 12 49.7 +0.9**
TLY *e*S **S 01 16 58.8 +1.0**
TLY pmax pmax
comp=Z,1μm,1.6s
TLY MLR MLR
comp=Z,162μm,12.0s
TLY Talaya 22.92 44 P **P 01 12 48.9 0.0**
TLY IAmb IAmb 01 12 58.4
comp=Z,1μm,1.8s
TLY IAMs_20 IAMs_20 01 23 00.8
comp=Z,206μm,21.0s
TLY Talaya 22.92 44 P **P 01 12 49.8 +0.9**
TLY P **P 01 12 49.8 +0.9**
TLY P **P 01 12 49.8 +0.9**
TLY S **S 01 16 59.5 +1.6**
TLY S **S 01 16 59.5 +1.6**
TLY S **S 01 16 59.5 +1.6**
FAQ Al Faqa, Dubai 23.02 243 *i* P **P 01 12 49.5 -0.6**
SNR=46
FAQ Al Faqa, Dubai 23.02 243 P **P 01 12 50.1 0.0**
SNR=176
FAQ P **P 01 12 50.1 0.0**
SNR=176
FAQ S **S 01 17 05.2 +5.3**
FAQ S **S 01 17 05.2 +5.3**
ARU Arti 23.05 332 P **P 01 12 51.1 +1.0**
comp=Z,27nm,0.6s,baz=142,slow=6.1,SNR=56
ARU S **S 01 17 00.4 +0.6**
comp=Z,31nm,0.9s,baz=68,slow=18,SNR=2.1
ARU Lg Lg 01 19 47.4
comp=Z,40nm,1.0s,baz=172,slow=23,SNR=1.7
ARU LR LR 01 21 11.7
comp=Z,34μm,18.5s,baz=132,slow=35
ARU Arti 23.05 332 *c iP* **P 01 12 50.5 +0.4**
ARU PPP PPP 01 13 24.2
ARU S **S 01 17 03.5 +3.7**
ARU SS **SnSn 01 17 36.1 +3.6**
ARU pmax pmax
comp=Z,155nm,1.3s
ARU pmax pmax
comp=Z,5μm,5.7s
ARU MLR MLR
comp=Z,206μm,13.0s
ARU Arti 23.05 332 P **P 01 12 50.4 +0.2**
ARU IAmb IAmb 01 13 25.5
comp=Z,557nm,0.9s
SONM Songino Array 23.11 54 P **P 01 12 51.6 +0.5**
comp=Z,63nm,0.7s,baz=252,slow=11,SNR=114
SONM PcP **PcP 01 16 40.2 +0.8**
comp=Z,17nm,0.9s,baz=194,slow=3.5,SNR=0.9
SONM S **S 01 17 00.8 -0.6**
comp=Z,36nm,1.1s,baz=265,slow=13,SNR=1.5
SONM Lg Lg 01 19 54.7
comp=Z,71nm,1.1s,baz=250,slow=29,SNR=2.0
SONM LR LR 01 23 21.0
comp=Z,254μm,18.4s,baz=250,slow=41
SONM Songino Array 23.11 54 P **P 01 12 51.3 +0.2**
BSY Bisya 23.23 237 P **P 01 12 53.4 +1.1**
SNR=22
BSY P **P 01 12 53.4 +1.1**
SNR=22
BSY P **P 01 12 53.4 +1.1**
SNR=22
ASUD Al Ashush, Dub 23.28 243 *i* P **P 01 12 53.7 +0.9**
SNR=77
ASUD Al Ashush, Dub 23.28 243 P **P 01 12 53.6 +0.9**
SNR=56
ASUD P **P 01 12 53.6 +0.9**
SNR=56
ASUD S **S 01 17 08.6 +4.4**
ASUD S **S 01 17 08.6 +4.4**
ARQ Araqi 23.28 239 P **P 01 12 54.5 +1.7**
SNR=65
ARQ P **P 01 12 54.5 +1.7**
SNR=65
ARQ P **P 01 12 54.5 +1.7**
SNR=65
ARQ S **S 01 17 09.2 +4.9**
ARQ S **S 01 17 09.2 +4.9**
ARQ S **S 01 17 09.2 +4.9**
ALNE Al Ain 23.34 241 *i* P **P 01 12 54.3 +0.9**
SNR=192
ALNE Al Ain 23.34 241 P **P 01 12 54.4 +1.0**
SNR=171
ALNE P **P 01 12 54.4 +1.0**
SNR=171
ALNE P **P 01 12 54.4 +1.0**
SNR=171
ALNE S **S 01 17 09.4 +4.0**
ALNE S **S 01 17 09.4 +4.0**
ALNE S **S 01 17 09.4 +4.0**
IRK Irkutsk 23.53 43 *e*P **P 01 12 55.6 +0.6**
IRK *e* 01 17 09.8
IRK smax smax
comp=N,1μm,1.6s
ULN Ulaanbaatar 23.55 55 P **P 01 12 55.6 +0.2**
ULN pmax pmax
comp=Z,574nm,1.0s
ULN MLR MLR
comp=Z,173μm,18.0s
ULN Ulaanbaatar 23.55 55 P **P 01 12 55.6 +0.2**
ULN IAmb IAmb 01 13 03.6
comp=Z,574nm,1.0s
ULN Ulaanbaatar 23.55 55 IAMs_20 IAMs_20 01 23 15.5
comp=Z,173μm,18.0s
ULN Ulaanbaatar 23.55 55 P **P 01 12 55.3 -0.1**
ULN P **P 01 12 55.3 -0.1**
ULN P **P 01 12 55.3 -0.1**
ULN S **S 01 17 04.3 -4.3**
ULN S **S 01 17 04.3 -4.3**
ULN S **S 01 17 04.3 -4.3**
AJN Ajban 23.56 244 *i* P **P 01 12 56.0 +0.4**
SNR=93
AJN Ajban 23.56 244 P **P 01 12 55.8 +0.3**
SNR=69
AJN P **P 01 12 55.8 +0.3**
SNR=69
AJN S **S 01 17 10.2 +1.4**
AJN S **S 01 17 10.2 +1.4**
MAK Makhachkala 23.93 293 *d iP* **P 01 12 59.7 +0.7**
MAK *e* 01 13 27.9
MAK *e*S **S 01 17 13.4 -1.1**
MAK pmax pmax
comp=Z,697nm,2.1s
MAK pmax pmax
comp=Z,8μm,4.3s
MAK MLR MLR
comp=N,146μm,13.0s
MAK MLR MLR
comp=Z,136μm,13.0s
MAK MLR MLR
comp=E,155μm,12.0s
MHTO MHTO 23.98 232 P **P 01 13 00.8 +1.2**
SNR=57
MHTO P **P 01 13 00.8 +1.2**
SNR=57
MHTO S **S 01 17 16.3 +0.8**
MHTO S **S 01 17 16.3 +0.8**
KMI Kunming 24.29 113 ⇑P **P 01 13 02.4 -0.3**
KMI pP pP 01 13 09.7 +0.7
KMI sP sP 01 13 11.8 +0.2
KMI PP **PnPn 01 13 38.3 +5.5**
KMI S **S 01 17 21.5 +0.5**
KMI sS pS 01 17 28.2 -0.1
KMI SS **SnSn 01 18 12.9 +8.9**
KMI pmax pmax
comp=E,160nm,1.4s
KMI pmax pmax
comp=E,5μm,6.3s
KMI LR LR
comp=E,25μm,18.0s
KMI LR LR
comp=E,28μm,18.8s
KMI LR LR
comp=E,28μm,21.2s
MDRS Chennai 24.38 175 *i* x **P 01 13 04.9 +1.7**
MDRS IAmb IAmb 01 13 06.7
comp=Z,187nm,1.0s
UMZA Um Al Zommool 24.63 240 P **P 01 13 06.7 +1.2**
UMZA P **P 01 13 06.7 +1.2**
JRN Qarnain Island 24.88 247 P **P 01 13 07.5 -0.3**
SNR=54
JRN P **P 01 13 07.5 -0.3**
SNR=54
JRN S **S 01 17 34.1 +4.2**
JRN S **S 01 17 34.1 +4.2**
BTO Baotou 24.90 73 *e*P **P 01 13 07.7 -0.3**
BTO S **S 01 17 24.1 -6.3**
BTO pmax pmax
comp=Z,360nm,1.2s
BTO LR LR
comp=Z,312μm,20.6s
BTO LR LR
comp=Z,385μm,15.3s
BTO LR LR
comp=Z,570μm,15.9s
DQM DQM 25.04 231 P **P 01 13 10.3 +1.1**
SNR=38
DQM P **P 01 13 10.3 +1.1**
SNR=38
XAN Xi'an 25.17 88 P **P 01 13 11.0 +0.6**
XAN pP pP 01 13 16.5 -0.2
XAN S **S 01 17 36.4 +1.7**
XAN pmax pmax
comp=Z,470nm,1.2s
XAN pmax pmax
comp=Z,7μm,11.0s
XAN LR LR
comp=Z,82μm,14.3s
XAN LR LR
comp=Z,64μm,13.1s
XAN LR LR
comp=Z,95μm,13.1s
GROC Groznyy 25.20 293 *e*P **P 01 13 09.5 -1.0**
GROC *e* 01 13 44.0
GROC *e*S **S 01 17 35.3 +0.5**
GROC pmax pmax
comp=Z,2μm,1.0s
GHWR Ruwais 25.44 245 P **P 01 13 13.0 +0.1**
GHWR P **P 01 13 13.0 +0.1**
KHOR Al-Khor Airpor 25.48 250 P **P 01 13 13.3 +0.2**
KHOR S **S 01 17 41.7 +2.2**
SHMA Al-Shehemyia 25.76 251 P **P 01 13 16.4 +0.7**
CRAI Chiangrai 25.88 125 P **P 01 13 20.7 +3.9**
comp=Z,4μmcomp=Z,22nm,1.0s
CRAI Chiangrai 25.88 125 P **P 01 13 20.8 +3.9**
comp=Z,3μmcomp=Z,21nm,1.0s
MHMT Maesarieng 25.91 132 P **P 01 13 18.0 +0.9**
comp=Z,25μmcomp=Z,5μmcomp=Z,435nm,1.0s
MHMT Maesarieng 25.91 132 P **P 01 13 18.0 +0.9**
comp=Z,25μmcomp=Z,5μmcomp=Z,435nm,1.0s
SAKB Bahrain 26.02 252 P **P 01 13 18.0 -0.1**
SAKB S **S 01 17 53.4 +5.4**
CM33 Chiang Mai Arr 26.02 130 P **P 01 13 18.0 -0.2**
CHTO Chiang Mai 26.02 130 P **P 01 13 17.6 -0.6**
CHTO pmax pmax
comp=Z,122nm,0.8s
CHTO Chiang Mai 26.02 130 P **P 01 13 18.5 +0.3**
comp=Z,23μmcomp=Z,4μmcomp=Z,174nm,1.0s
CHTO Chiang Mai 26.02 130 P **P 01 13 17.6 -0.6**
CHTO Chiang Mai 26.02 130 P **P 01 13 19.4 +1.2**
CHTO P **P 01 13 19.4 +1.2**
CHTO P **P 01 13 19.4 +1.2**
CHTO S **S 01 17 43.7 -4.5**
CHTO S **S 01 17 43.7 -4.5**
CHTO S **S 01 17 43.7 -4.5**
CMMT Chiang Mai 26.03 130 P **P 01 13 18.5 +0.3**
comp=Z,4μmcomp=Z,173nm,1.0s
CMMT Chiang Mai 26.03 130 P **P 01 13 18.5 +0.3**
comp=Z,4μmcomp=Z,173nm,1.0s
HHC Hu-ho-hao-te 26.06 72 *e*P **P 01 13 20.3 +1.8**
HHC sP sP 01 13 27.7 +0.3
HHC S **S 01 17 46.1 -2.6**
HHC sS sS 01 17 58.1 -1.4
HHC pmax pmax
comp=Z,260nm,1.2s
HHC pmax pmax
comp=Z,6μm,9.5s
HHC LR LR
comp=Z,70μm,14.5s
HHC LR LR
comp=Z,57μm,15.3s
HHC LR LR
comp=Z,83μm,14.9s
GNI Garni 26.06 286 P **P 01 13 20.7 +2.1**
comp=Z,250nm,0.9s,baz=3.7,slow=2.2,SNR=111
GNI S **S 01 17 50.9 +2.0**
comp=Z,116nm,1.2s,baz=74,slow=16,SNR=1.3
GNI Garni 26.06 286 P **P 01 13 20.7 +2.1**
GNI Garni 26.06 286 *c iP* **P 01 13 20.3 +1.7**
GNI pmax pmax
comp=Z,998nm,2.5s
GNI MLR MLR
comp=Z,44μm,19.0s
GNI Garni 26.06 286 P **P 01 13 20.1 +1.5**
GNI IAmb IAmb 01 13 54.0
comp=Z,676nm,1.1s
GNI Garni 26.06 286 P **P 01 13 21.3 +2.7**
GNI P **P 01 13 21.3 +2.7**
CM32 Chiang Mai Arr 26.09 130 P **P 01 13 20.0 +1.2**
CM34 Chiang Mai Arr 26.12 129 P **P 01 13 18.0 -1.1**
TRNA Turayna 26.20 249 P **P 01 13 21.4 +1.6**
SLWR Sila 26.24 247 P **P 01 13 20.1 0.0**
SLWR P **P 01 13 20.1 0.0**
CM35 Chiang Mai Arr 26.26 130 P **P 01 13 20.0 -0.3**
CM15 Chiang Mai Arr 26.29 130 P **P 01 13 23.2 +2.6**
comp=Z,2μmcomp=Z,240nm,0.8s
CM15 Chiang Mai Arr 26.29 130 P **P 01 13 23.0 +2.4**
comp=Z,2μmcomp=Z,240nm,0.8s
CM31 Chiang Mai Arr 26.30 130 P **P 01 13 23.1 +2.5**
comp=Z,46μmcomp=Z,6μm,0.9s
CM31 Chiang Mai Arr 26.30 130 P **P 01 13 20.2 -0.5**
CM31 IAmb IAmb 01 13 31.6
comp=Z,377nm,1.1s
CMAR Chiang Mai Arr 26.30 130 P **P 01 13 19.9 -0.7**
comp=Z,29nm,0.5s,baz=318,slow=9.8,SNR=33
CMAR PcP **PcP 01 16 47.3 +0.6**
comp=Z,18nm,1.0s,baz=302,slow=5.3,SNR=1.4
CMAR S **S 01 17 53.9 +1.4**
comp=Z,4.2nm,0.3s,baz=334,slow=16,SNR=4.5
CMAR ScP **ScP 01 20 27.6 +2.2**
comp=Z,2.2nm,0.3s,baz=327,slow=4.5,SNR=2.4
CMAR LR LR 01 26 17.0
comp=Z,14μm,21.9s,baz=352,slow=42
CMAR Chiang Mai Arr 26.30 130 P **P 01 13 19.6 -1.1**
CM13 Chiang Mai Arr 26.30 131 P **P 01 13 23.0 +2.3**
comp=Z,2μmcomp=Z,247nm,0.8s
CM13 Chiang Mai Arr 26.30 131 P **P 01 13 23.1 +2.3**
comp=Z,2μmcomp=Z,247nm,0.8s
CM02 Chiang Mai Arr 26.32 130 P **P 01 13 21.9 +1.1**
comp=Z,2μmcomp=Z,280nm,0.8s
CM02 Chiang Mai Arr 26.32 130 P **P 01 13 21.9 +1.1**
comp=Z,2μmcomp=Z,280nm,0.8s
CM01 Chiang Mai Arr 26.33 130 P **P 01 13 23.5 +2.5**
comp=Z,2μmcomp=Z,242nm,0.8s
CM01 Chiang Mai Arr 26.33 130 P **P 01 13 23.0 +2.0**
comp=Z,2μmcomp=Z,242nm,0.8s
CM09 Chiang Mai Arr 26.34 130 P **P 01 13 23.4 +2.4**
comp=Z,2μmcomp=Z,210nm,0.8s
CM09 Chiang Mai Arr 26.34 130 P **P 01 13 23.5 +2.4**
comp=Z,2μmcomp=Z,210nm,0.8s
CM05 Chiang Mai Arr 26.34 130 P **P 01 13 22.8 +1.7**
comp=Z,2μmcomp=Z,234nm,0.8s
CM05 Chiang Mai Arr 26.34 130 P **P 01 13 22.9 +1.8**
comp=Z,2μmcomp=Z,234nm,0.8s
CM36 Chiang Mai Arr 26.34 130 P **P 01 13 20.0 -1.1**
CM04 Chiang Mai Arr 26.36 130 P **P 01 13 23.6 +2.3**
comp=Z,2μmcomp=Z,198nm,0.9s
CM04 Chiang Mai Arr 26.36 130 P **P 01 13 23.7 +2.4**
comp=Z,2μmcomp=Z,198nm,0.9s
TASB TASBURUN-IGDIR 26.46 286 P **P 01 13 23.9 +1.8**
UMR Umm Al-Rimmam 26.47 262 *e*P **P 01 13 21.6 -0.5**
GYA Guiyang 26.49 106 ⇓P **P 01 13 24.6 +2.1**
GYA pP sP 01 13 32.7 +1.3
GYA PcP **PcP 01 16 52.0 +4.8**
GYA S **S 01 17 55.5 -0.3**
GYA ScS **ScS 01 24 16.5 -0.2**
GYA pmax pmax
comp=Z,63nm,1.0s
GYA LR LR
comp=Z,7μm,23.6s
GYA LR LR
comp=Z,6μm,21.2s
GYA LR LR
comp=Z,6μm,20.3s
ZEI Tsey 26.58 292 *e*P **P 01 13 26.4 +3.1**
ZEI pmax pmax
comp=Z,203nm,1.4s
MIB Mutribah 26.66 262 *e*P **P 01 13 23.3 -0.6**
MIB IAmb IAmb 01 13 30.1
comp=Z,3μm,0.8s
QRN Al-Qurain 26.66 260 *e*P **P 01 13 22.9 -1.0**
QRN IAmb IAmb 01 13 27.9
comp=Z,2μm,0.7s
LAMP Lampang 26.67 129 P **P 01 13 24.5 +0.5**
comp=Z,2μmcomp=Z,216nm,0.8s
LAMP Lampang 26.67 129 P **P 01 13 24.0 0.0**
comp=Z,442nmcomp=Z,54nm,0.8s
CLDR Caldiran 26.80 284 P **P 01 13 27.4 +2.0**
NCK Nalchik 26.81 294 *c iP* **P 01 13 25.1 0.0**
NCK pmax pmax
comp=Z,283nm,1.0s
NCK MLR MLR
comp=Z,105μm,16.0s
ONI Oni 26.91 292 P **P 01 13 28.0 +1.9**
ONI pmax pmax
comp=Z,1μm,1.1s
ONI Oni 26.91 292 P **P 01 13 28.0 +1.9**
ENH Enshi 26.93 96 P **P 01 13 27.8 +1.5**
ENH IAmb IAmb 01 14 18.7
comp=Z,302nm,1.1s
RST Umm Al-Ruwaisa 27.06 262 *e*P **P 01 13 26.7 -0.7**
RST IAmb IAmb 01 13 31.1
comp=Z,2μm,1.0s
TIY Taiyuan 27.11 79 *e*P **P 01 13 30.0 +2.1**
TIY S **S 01 18 06.3 +1.1**
TIY pmax pmax
comp=Z,120nm,0.9s
TIY LR LR
comp=Z,52μm,14.3s
TIY LR LR
comp=Z,31μm,13.2s
TIY LR LR
comp=Z,59μm,17.9s
GOF Gofitskoye 27.27 297 ⇑ *i* P **P 01 13 29.6 +0.3**
GOF pmax pmax
comp=Z,188nm,0.9s
KARS Kars 27.29 288 P **P 01 13 32.0 +2.4**
KARS Kars 27.29 288 P **P 01 13 31.5 +1.9**
KARS pmax pmax
comp=Z,2μm,1.4s
KARS Kars 27.29 288 P **P 01 13 31.5 +1.9**
VANB Van 27.29 283 P **P 01 13 31.5 +1.9**
KBZ Khabaz 27.32 294 P **P 01 13 29.4 -0.2**
comp=Z,21nm,0.7s,baz=124,slow=6.9,SNR=23
KBZ LR LR 01 26 36.1
comp=Z,77μm,18.4s,baz=96,slow=41
KBZ Khabaz 27.32 294 *c iP* **P 01 13 29.1 -0.6**
KBZ pmax pmax
comp=Z,58nm,0.9s
KBZ MLR MLR
comp=Z,77μm,18.0s
CUKT Cukurca 27.35 280 P **P 01 13 31.6 +1.4**
NEY Neytrino 27.44 293 *c iP* **P 01 13 32.3 +1.3**
NEY pmax pmax
comp=Z,39nm,1.0s
AGRB Hanur-Agry 27.46 285 P **P 01 13 33.6 +2.4**
KVAR Kislovodsk Arr 27.47 295 Lg Lg 01 22 12.0
comp=Z,92nm,1.2s,baz=169,slow=19,SNR=1.0
KVAR LR LR 01 24 42.9
comp=Z,126μm,21.2s,baz=210,slow=37
KIV Kislovodsk 27.48 295 *i* P **P 01 13 31.2 -0.1**
SNR=27
KIV Kislovodsk 27.48 295 *e*P **P 01 13 30.6 -0.6**
KIV *e*S **S 01 18 11.2 +0.2**
KIV *e*SS **SnSn 01 19 23.7 +2.5**
KIV pmax pmax
comp=Z,1μm,3.6s
KIV pmax pmax
comp=Z,197nm,1.0s
KIV MLR MLR
comp=Z,109μm,15.0s
KIV Kislovodsk 27.48 295 P **P 01 13 31.4 +0.1**
KIV IAmb IAmb 01 14 20.9
comp=Z,193nm,0.8s
DGPR DIGLIPUR 27.57 147 *e*P **P 01 13 33.1 +1.0**
GEVA Gevas 27.59 283 P **P 01 13 33.0 +0.6**
AKDM Akdamar-Van 27.64 283 P **P 01 13 34.7 +1.8**
SHAO Shalim 27.65 232 P **P 01 13 33.5 +0.6**
SHAO Shalim 27.65 232 P **P 01 13 33.3 +0.4**
SHAO P **P 01 13 33.3 +0.4**
SHAO P **P 01 13 33.3 +0.4**
UTTA Uttaradit 27.83 129 P **P 01 13 36.0 +1.6**
comp=Z,1μmcomp=Z,125nm,0.9s
UTTA Uttaradit 27.83 129 P **P 01 13 36.0 +1.6**
comp=Z,264nmcomp=Z,31nm,0.9s
SENK Senkaya-Erzuru 27.85 288 P **P 01 13 36.8 +2.1**
MLAZ Malazgirt-MUS 27.86 285 P **P 01 13 37.1 +2.3**
UMPA Umpang Tak 28.00 134 P P 01 13 45.5 +9.4
UMPA Umpang Tak 28.00 134 P P 01 13 45.6 +10
PHIT Phitsanulok 28.16 130 P **P 01 13 41.7 +4.3**
comp=Z,3μmcomp=Z,345nm,0.9s
PHIT Phitsanulok 28.16 130 P **P 01 13 41.0 +3.6**
comp=Z,802nmcomp=Z,86nm,0.9s
DOK Doka 28.17 235 P **P 01 13 38.0 +0.6**
DOK P **P 01 13 38.0 +0.6**
KIRV Kirov 28.17 328 P **P 01 13 37.3 +0.2**
comp=Z,52nm,0.5s,baz=103,slow=1.7,SNR=45
KIRV S **S 01 18 19.5 -1.9**
comp=Z,38nm,0.9s,baz=217,slow=20,SNR=1.4
KIRV Lg Lg 01 22 30.9
comp=Z,169nm,1.3s,baz=225,slow=19,SNR=3.7
KOPR Koprukoy-ERZUR 28.28 286 P **P 01 13 41.2 +2.6**
DMTO DMTO 28.31 232 P **P 01 13 39.0 +0.2**
DMTO P **P 01 13 39.0 +0.2**
DMTO P **P 01 13 39.0 +0.2**
GURO Guroymak-BITLI 28.34 283 P **P 01 13 42.1 +3.0**
GURO Guroymak-BITLI 28.34 283 P **P 01 13 40.4 +1.3**
VRTB Varto-Mus 28.70 285 P **P 01 13 46.5 +4.3**
CIT Chita 28.73 48 *e*P **P 01 13 42.5 +0.2**
CIT *e* 01 13 55.2
CIT *e* 01 14 42.4
CIT *e* 01 16 47.4
CIT *e* 01 20 12.6
TRD Trivandrum 28.85 182 *e*P **P 01 13 44.6 +1.0**
TRD *ex* x 01 18 39.5
UTHA Uthaitani 28.86 133 P **P 01 13 45.4 +1.8**
comp=Z,379nmcomp=Z,40nm,0.8s
PBA Port Blair 28.86 149 *e*P P 01 13 45.6 +2.0
PBA IAmb IAmb 01 13 46.8
comp=Z,537nm,1.4s
PBA Port Blair 28.86 149 P P 01 13 44.7 +1.1
PBA IAmb IAmb 01 13 54.2
comp=Z,331nm,0.9s
WHFO Wadi Hawf 28.91 234 P **P 01 13 44.1 -0.1**
SNR=5.0
WHFO P **P 01 13 44.1 -0.1**
SNR=5.0
RBK Rabkut 28.94 233 P **P 01 13 44.5 +0.1**
RBK P **P 01 13 44.5 +0.1**
RBK P **P 01 13 44.5 +0.1**
RBK S **S 01 18 36.3 +2.1**
RBK S **S 01 18 36.3 +2.1**
RBK S **S 01 18 36.3 +2.1**
PBKT Sadao Pong 28.98 130 P P 01 14 00.5 +16
PBKT Sadao Pong 28.98 130 P P 01 14 00.0 +15
PBKT Sadao Pong 28.98 130 P **P 01 13 45.1 +0.5**
KARO Karliova-Bingo 28.99 285 P **P 01 13 47.2 +2.3**
CHOM Cayeli-Rize 29.00 289 P **P 01 13 46.5 +1.8**
SVAN Silvan-Diyarba 29.06 283 P **P 01 13 47.3 +2.0**
VRH Novokhopyorsk 29.10 310 *e*P **P 01 13 45.8 +0.3**
VRH *e*S **S 01 18 33.7 -2.5**
VRH pmax pmax
comp=Z,190nm,0.7s
VRH smax smax
comp=N,2μm,5.0s
VRH MLR MLR
comp=Z,98μm,11.0s
NONG Nongkai 29.24 125 P **P 01 13 48.4 +1.4**
comp=Z,4μmcomp=Z,113nm,0.8s
NONG Nongkai 29.24 125 P **P 01 13 48.4 +1.4**
comp=Z,4μmcomp=Z,112nm,0.8s
KOPT Kop Dagi 29.31 287 P **P 01 13 48.1 +0.3**
KOPT IAmb IAmb 01 14 38.4
comp=Z,709nm,2.0s
BNGB Bingl 29.32 285 P **P 01 13 49.7 +2.0**
YEDI Yedisu-Bingol 29.36 286 P **P 01 13 49.9 +1.8**
MNCI Minicoy 29.42 190 IAMs_20 IAMs_20 01 25 59.1
comp=Z,154μm,18.0s
MARD Mardin 29.54 281 IAmb IAmb 01 13 55.6
comp=Z,146nm,0.8s
ABTO Aybut 29.63 234 P **P 01 13 50.5 0.0**

ABTO P **P** **01 13 50.5 0.0**
SOC Sochi 29.63 294 *c iP* **P** **01 13 49.0 -1.3**
SOC *e* 01 14 44.6
SOC *e*S **S** **01 18 44.4 -0.3**
SOC *e*SS **SnSn** **01 20 14.6 +1.1**
SOC pmax pmax
comp=Z,84nm,1.0s
SOC MLR MLR
comp=Z,57μm,15.0s
BJT Baijiatuau 29.64 73 IAMs_20 IAMs_20 01 27 08.9
comp=Z,94μm,18.0s
BJI Beijing 29.64 73 P **P** **01 13 52.1 +1.7**
BJI S **S** **01 18 46.9 +2.0**
BJI pmax pmax
comp=Z,16nm,0.8s
BJI pmax pmax
comp=Z,2μm,7.7s
BJI LR LR
comp=N,46μm,12.0s
BJI LR LR
comp=E,70μm,13.6s
BJI LR LR
comp=Z,92μm,17.0s
BJI Beijing 29.64 73 P **P** **01 13 52.0 +1.7**
BJI pP **pP** **01 13 57.6 +0.9**
BJI S **S** **01 18 47.3 +2.4**
BJI pmax pmax
comp=Z,16nm,0.8s
BJI pmax pmax
comp=Z,3μm,12.0s
BJI LR LR
comp=Z,42μm,13.6s
BJI LR LR
comp=Z,74μm,15.4s
BJI LR LR
comp=Z,93μm,18.6s
KTUT Trabzon 29.76 289 P **P** **01 13 52.9 +1.5**
MAZI Mazidag 29.77 282 P **P** **01 13 53.2 +1.4**
DYBB Diyarbakir 29.92 283 P **P** **01 13 55.0 +2.0**
CHAI Chaiyaphum 30.11 129 P **P** **01 13 56.3 +1.6**
comp=Z,2μmcomp=Z,163nm,1.0s
CHAI Chaiyaphum 30.11 129 P **P** **01 13 56.4 +1.6**
comp=Z,431nmcomp=Z,41nm,1.0s
PALK Pallekele 30.15 175 P **P** **01 13 55.1 0.0**
comp=Z,74nm,1.1s,baz=89,slow=8.9,SNR=16
PALK S **S** **01 18 53.6 +0.3**
comp=Z,7.1nm,0.7s,baz=301,slow=18,SNR=1.0
PALK LR LR 01 25 37.9
comp=Z,44μm,21.3s,baz=99,slow=36
PALK Pallekele 30.15 175 P **P** **01 13 56.1 +1.0**
PALK IAmb IAmb 01 13 57.7
comp=Z,290nm,1.4s
PALK IAMs_20 IAMs_20 01 26 17.5
comp=Z,101μm,22.0s
PALK Pallekele 30.15 175 P **P** **01 13 56.1 +1.0**
VORD Divnogorie 30.55 309 *e*P **P** **01 13 58.3 +0.1**
VORD *e*S **S** **01 18 56.1 -2.7**
VORD pmax pmax
comp=Z,130nm,0.7s
VORD smax smax
comp=E,230nm,3.6s
VORD MLR MLR
comp=Z,112μm,11.0s
ESPY Espiye-Giresun 30.55 289 P **P** **01 13 59.8 +1.4**
VSR Storozhevoye 30.67 309 *e*P **P** **01 13 59.7 +0.3**
VSR *e*S **S** **01 18 58.5 -2.3**
VSR pmax pmax
comp=Z,130nm,0.6s
VSR smax smax
comp=N,4μm,6.7s
VSR MLR MLR
comp=Z,149μm,12.0s
WHN Wuhan 30.68 92 ⇓*i iP* **P** **01 14 01.5 +1.8**
WHN pP **pP** **01 14 06.3 +0.3**
WHN S **S** **01 19 04.3 +2.9**
WHN pmax pmax
comp=Z,82nm,0.9s
WHN LR LR
comp=Z,83μm,11.4s
WHN LR LR
comp=Z,48μm,11.2s
WHN LR LR
comp=Z,108μm,14.4s
VORR Voronezh 30.74 310 *e*P **P** **01 14 00.0 0.0**
VORR *e*S **S** **01 19 01.0 -0.9**
VORR pmax pmax
comp=Z,350nm,2.0s
ILIC ilic-Erzincan 30.87 286 P **P** **01 14 02.9 +1.5**
URFA Urfa 31.04 282 P **P** **01 14 04.5 +1.6**
BOD Bodaibo 31.05 37 *e*P **P** **01 14 03.4 +0.8**
BOD pmax pmax
comp=Z,216nm,1.7s
TIA Tai'an 31.09 80 P **P** **01 14 05.4 +2.1**
TIA S **S** **01 19 10.7 +2.9**
TIA SS **SnSn** **01 20 55.6 +6.3**
TIA pmax pmax
comp=Z,21nm,1.1s
TIA pmax pmax
comp=Z,1μm,5.1s
TIA LR LR
comp=Z,25μm,13.5s
TIA LR LR
comp=Z,40μm,15.7s
TIA LR LR
comp=Z,67μm,17.1s
PHET Kaeng Krachan 31.10 136 P **P** **01 14 05.4 +1.9**
comp=Z,1μmcomp=Z,198nm,0.8s
PHET Kaeng Krachan 31.10 136 P **P** **01 14 05.0 +1.5**
comp=Z,335nmcomp=Z,51nm,0.8s
LPSR Galich'ya Gora 31.11 312 *e*P **P** **01 14 04.0 +0.8**
LPSR *e*S **S** **01 19 04.2 -3.5**
LPSR pmax pmax
comp=Z,260nm,0.7s
LPSR smax smax
comp=E,2μm,5.4s
LPSR MLR MLR
comp=Z,141μm,13.0s
MALT Malatya 31.17 284 P **P** **01 14 06.5 +2.4**
RAYN Ar Rayn 31.18 253 *i* P **P** **01 14 03.2 -1.1**
SNR=103
RAYN Ar Rayn 31.18 253 P **P** **01 14 03.1 -1.1**
RAYN pmax pmax
comp=Z,145nm,1.3s
RAYN MLR MLR
comp=Z,130μm,18.0s
RAYN Ar Rayn 31.18 253 P **P** **01 14 03.1 -1.2**
RAYN IAMs_20 IAMs_20 01 28 11.8
comp=Z,130μm,18.0s
ANN Anapa 31.25 297 *c iP* **P** **01 14 04.2 -0.3**
ANN *e**PP **pP** **01 14 08.9 -1.9**
ANN *i* 01 15 07.7
ANN *e* 01 16 55.0
ANN *e*S **S** **01 19 10.4 +0.4**
ANN pmax pmax
comp=E,281nm,2.3s
ANN pmax pmax
comp=Z,3μm,8.1s
ANN pmax pmax
comp=N,140nm,1.3s
ANN pmax pmax
comp=Z,164nm,0.9s
ANN pmax pmax
comp=N,75nm,1.1s
ANN pmax pmax
comp=E,49nm,0.8s
ANN smax smax
comp=E,2μm,4.0s
ANN smax smax
comp=N,8μm,7.4s
PRGR Permogore 31.49 331 *e*P **P** **01 14 07.4 +0.9**
PRGR *e* 01 15 08.8
PRGR pmax pmax
comp=Z,290nm,1.5s
SRAK Srakaew 31.61 131 P P 01 14 13.3 +5.4
comp=Z,6μmcomp=Z,554nm,0.8s
RSDY Resadiye-TOKAT 31.67 288 P **P** **01 14 09.6 +1.2**
PATY Pattaya 31.79 134 P **P** **01 14 11.7 +2.3**
comp=Z,104nm,0.8s
PATY Pattaya 31.79 134 P **P** **01 14 11.8 +2.3**
comp=Z,27nm,0.8s
DARE Darende-Malaty 31.85 285 P **P** **01 14 12.0 +1.9**
SVSK Karacayir 31.99 287 P **P** **01 14 13.1 +2.0**
HIA Hailar 32.08 55 *de*P **P** **01 14 12.9 +1.0**
HIA Hailar 32.08 55 IAmb IAmb 01 14 20.5
comp=Z,160nm,0.9s
HIA Hailar 32.08 55 IAMs_20 IAMs_20 01 28 58.4
comp=Z,126μm,19.0s
TOKT Tokat 32.27 288 P **P** **01 14 14.9 +1.2**
NRIK Noril'sk 32.34 6 P **P** **01 14 14.0 +0.2**
comp=Z,34nm,0.5s,baz=193,slow=7.7,SNR=42
NRIK S **S** **01 19 21.7 -4.8**
comp=Z,29nm,1.0s,baz=190,slow=8.5,SNR=1.3
NRIK LR LR 01 29 33.1
comp=Z,26μm,20.4s,baz=212,slow=40
NRIK Noril'sk 32.34 6 *d iP* **P** **01 14 13.5 -0.3**
NRIK pmax pmax
comp=Z,74nm,1.0s
NRIK MLR MLR
comp=Z,72μm,15.0s
NRIK Noril'sk 32.34 6 P **P** **01 14 14.3 +0.4**
GAZ Gaziantep 32.35 282 P **P** **01 14 15.8 +1.3**
GAZ Gaziantep 32.35 282 IAmb IAmb 01 14 20.5
comp=Z,218nm,0.9s
KMRS Kahramanmaras 32.52 283 P **P** **01 14 17.3 +1.4**
KVT Kavak 32.54 290 P **P** **01 14 17.3 +1.3**
MOS Moscow 32.67 317 *e*P **P** **01 14 16.1 -0.8**
MOS *e* 01 15 23.8
MOS *i* S **S** **01 19 30.8 -1.1**
MOS *e*SS **SnSn** **01 21 30.7 +3.5**
MOS pmax pmax
comp=Z,2μm,1.8s
MOS pmax pmax
comp=Z,1μm,1.4s
MOS smax smax
comp=N,14μm,5.5s
MOS smax smax
comp=E,8μm,5.5s
MOS MLR MLR
comp=E,304μm,14.0s
MOS MLR MLR
comp=Z,367μm,14.0s
SARI SarD1z-Kayseri 32.70 285 P **P** **01 14 19.4 +1.8**
SNOP Sinop 33.05 292 P **P** **01 14 20.5 +0.1**
BNN Bunyan 33.06 286 P **P** **01 14 21.9 +1.2**
BNN Bunyan 33.06 286 IAmb IAmb 01 14 29.3
comp=Z,458nm,1.4s
DIKM Dikmen 33.06 291 ⇑P **P** **01 14 21.3 +0.9**
DIKM Dikmen 33.06 291 P **P** **01 14 21.5 +1.0**
OBN Obninsk 33.08 316 LR LR 01 27 41.8
comp=Z,12μm,18.8s,baz=98,slow=36
OBN Obninsk 33.08 316 ⇓P **P** **01 14 21.6 +1.1**
OBN Obninsk 33.08 316 *c iP* **P** **01 14 20.4 -0.1**
OBN *e* 01 15 37.3
OBN *e*PPP PPP 01 15 48.8
OBN *i* S **S** **01 19 39.9 +1.6**
OBN pmax pmax
comp=Z,491nm,1.7s
OBN MLR MLR
comp=Z,168μm,15.0s
OBN Obninsk 33.08 316 P **P** **01 14 20.9 +0.4**
OBN IAMs_20 IAMs_20 01 28 39.1
comp=Z,157μm,21.0s
SOCY Socotra 33.17 227 P **P** **01 14 20.0 -1.8**
SOCY IAmb IAmb 01 14 21.5
comp=Z,198nm,1.1s
QIZ Qiongzhong 33.22 115 P **P** **01 14 20.7 -1.4**
QIZ PcP **PcP** **01 17 04.4 -0.1**
QIZ S **S** **01 19 38.6 -2.6**
QIZ pmax pmax
comp=Z,2μm,11.0s
QIZ LR LR
comp=Z,18μm,18.4s
QIZ LR LR
comp=Z,26μm,17.8s
QIZ LR LR
comp=Z,35μm,18.8s
YOZ Yozgat 33.31 287 P **P** **01 14 24.5 +1.6**
TAHT Tahtakopru-Hat 33.34 281 P **P** **01 14 24.6 +1.6**
KOZT Kozan 33.36 283 P **P** **01 14 24.7 +1.5**
GZH Guangzhou 33.41 105 P **P** **01 14 23.8 +0.1**
GZH S **S** **01 19 45.3 +1.2**
GZH pmax pmax
comp=Z,2μm,7.8s
GZH LR LR
comp=Z,35μm,14.7s
GZH LR LR
comp=Z,33μm,14.3s
YAYL Yayladag 33.49 281 P **P** **01 14 25.3 +0.8**
CEYT Ceyhan 33.53 282 P **P** **01 14 26.5 +1.9**
SIM Simferopol' 33.60 297 *c iP* **P** **01 14 24.4 -0.8**
SIM *e*PPP PPP 01 15 41.0
SIM *e*S **S** **01 19 45.0 -1.7**
SIM *e*SS **SS** **01 22 17.0 +5.3**
SIM pmax pmax
comp=Z,336nm,0.9s
KLMR Klimovskoe 33.63 327 *c iP* **P** **01 14 25.3 +0.1**
KLMR *e*S **S** **01 19 48.6 +1.9**
KLMR pmax pmax
comp=Z,345nm,1.3s
KLMR Klimovskoe 33.63 327 ⇑*i iP* **P** **01 14 25.4 +0.2**
KLMR ⇑*i iP* **P** **01 14 25.4 +0.2**
KLMR ⇓*i iP* **P** **01 14 25.4 +0.2**
KLMR AMP 01 14 42.6
comp=Z,345nm,1.3s
KLMR *e*S **S** **01 19 48.7 +2.0**
KLMR *e*S **S** **01 19 48.7 +2.0**
KLMR LQ LQ 01 25 30.9
KLMR LQ LQ 01 25 30.9
KLMR LR LR 01 27 26.0
NJ2 Nanjing 33.71 87 ⇑P **P** **01 14 27.7 +1.5**
NJ2 pP **pP** **01 14 32.8 +0.2**
NJ2 sP **sP** **01 14 35.3 +0.1**
NJ2 PP **PnPn** **01 15 38.8 +0.5**
NJ2 S **S** **01 19 50.3 +1.8**
NJ2 ScS **ScS** **01 24 52.6 +1.8**
NJ2 pmax pmax
comp=Z,110nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,5.7s
NJ2 LR LR
comp=Z,111μm,18.5s
NJ2 LR LR
comp=Z,50μm,18.9s
NJ2 LR LR
comp=Z,67μm,19.1s
CORM Corum 33.74 288 P **P** **01 14 28.3 +1.7**
KRTS Karatas 33.93 282 P **P** **01 14 30.2 +2.1**
BZK Bozkurt 33.95 292 ⇑P **P** **01 14 29.9 +1.7**
BZK Bozkurt 33.95 292 P **P** **01 14 29.2 +1.0**
DL2 Dalian 33.99 74 P **P** **01 14 30.6 +2.0**
DL2 pP **sP** **01 14 40.2 +2.6**
DL2 S **S** **01 19 54.8 +2.1**
DL2 sS **sS** **01 20 05.8 +2.2**
DL2 pmax pmax
comp=Z,210nm,1.3s
DL2 pmax pmax
comp=Z,3μm,10.5s
DL2 LR LR
comp=Z,46μm,13.8s
DL2 LR LR
comp=Z,37μm,14.2s
DL2 LR LR
comp=Z,77μm,18.3s
SURT Suratani 33.99 141 P **P** **01 14 30.4 +1.6**
comp=Z,122nmcomp=Z,15nm,1.1s
SURT Suratani 33.99 141 P **P** **01 14 30.0 +1.2**
comp=Z,122nmcomp=Z,15nm,1.1s
KARA Karaisali 34.01 283 P **P** **01 14 30.4 +1.6**
HWQ Hawqa 34.12 278 *e*P **P** **01 14 31.1 +1.1**
ILGA Ilgaz 34.29 290 P **P** **01 14 32.1 +0.7**
ILGA IAmb IAmb 01 14 39.4
comp=Z,416nm,1.2s
CANT Cankiri 34.43 289 P **P** **01 14 33.6 +1.1**
RCY Rachaya 34.45 276 *e*P **P** **01 14 34.0 +1.1**
BHL Bhannes 34.46 277 *e*P **P** **01 14 34.4 +1.4**
HKC Hong Kong Obse 34.49 106 ⇑P **P** **01 14 34.0 +1.0**
MERS Mersin 34.52 283 P **P** **01 14 34.7 +1.4**
QRWL Qaraoun 34.55 277 *e*P **P** **01 14 35.1 +1.5**
BR131 Keskin Array S 34.57 288 P **P** **01 14 34.9 +1.1**
SNR=174
BR131 P **P** **01 14 34.9 +1.1**
SNR=174
BRTR Keskin Array B 34.57 288 P **P** **01 14 34.4 +0.5**
comp=Z,173nm,0.9s,baz=99,slow=7.6,SNR=136
BRTR LR LR 01 30 42.6
comp=Z,49μm,19.4s,baz=96,slow=40
BRTR Keskin Array B 34.57 288 P **P** **01 14 33.9 +0.1**
BRTR Keskin Array B 34.57 288 P **P** **01 14 33.9 +0.1**
YAYX Yaylak 34.59 286 P **P** **01 14 34.7 +0.7**
PKDT Phuket 34.69 143 P **P** **01 14 35.5 +0.7**
comp=Z,6μmcomp=Z,425nm,1.0s
PKDT Phuket 34.69 143 P **P** **01 14 35.6 +0.7**
comp=Z,6μmcomp=Z,425nm,1.0s
SERE Sereflikochisa 34.78 286 P **P** **01 14 36.2 +0.6**
KRAB Krabi 34.82 141 P **P** **01 14 37.6 +1.6**
comp=Z,3μm,0.9s
KRAB Krabi 34.82 141 P **P** **01 14 37.6 +1.6**
comp=Z,847nm,0.9s
KURC Kurucasile-Bar 34.90 292 P **P** **01 14 35.7 -0.7**
KIZK Mersin 34.91 282 P **P** **01 14 37.6 +1.0**
MMAI Mount Meron Ar 34.95 276 S **S** **01 20 12.1 +4.2**
comp=Z,1.6nm,0.6s,baz=121,slow=5.6,SNR=2.2
MMAI LR LR 01 32 22.6
comp=Z,36μm,19.9s,baz=20,slow=42
SNY Shenyang 34.96 68 ⇓P **P** **01 14 38.6 +1.7**
SNY S **S** **01 20 08.8 +1.2**
SNY pmax pmax
comp=Z,22nm,1.0s
SNY pmax pmax
comp=Z,2μm,8.7s
SNY LR LR
comp=Z,64μm,13.2s
SNY LR LR
comp=Z,196μm,16.1s
SNY LR LR
comp=Z,237μm,16.9s
SULT Sultanhani-AKS 34.98 285 P **P** **01 14 38.9 +1.6**
SILI Silifke-Mersin 35.11 282 P **P** **01 14 39.3 +1.0**
EREN Erenkoy 35.15 280 P **P** **01 14 39.7 +1.1**
ANTO Ankara 35.19 288 P **P** **01 14 39.7 +0.7**
ANTO pmax pmax
comp=Z,425nm,1.2s
ANTO Ankara 35.19 288 P **P** **01 14 39.7 +0.7**
ANTO IAmb IAmb 01 14 47.5
comp=Z,425nm,1.2s
KULU Kulu 35.19 287 P **P** **01 14 38.7 -0.4**
BR231 Keskin MP Arra 35.20 288 P **P** **01 14 40.0 +0.7**
BR231 IAmb IAmb 01 14 54.9
comp=Z,189nm,0.9s
LOD Lodumlu 35.20 288 P **P** **01 14 40.5 +1.3**
KEBE Keben-Mersin 35.25 282 P **P** **01 14 40.7 +1.0**
IKL Isikli 35.33 282 P **P** **01 14 40.6 +0.4**
CHBY Cihanbeyli 35.37 286 P **P** **01 14 40.9 +0.2**
GHAJ Ghor Haditha 35.42 273 P **P** **01 14 41.2 +0.2**
GHAJ IAmb IAmb 01 14 57.2
comp=Z,295nm,1.1s
GHAJ IAMs_20 IAMs_20 01 31 44.8
comp=Z,118μm,19.0s
AKKU Akkuyu-Mersin 35.46 282 P **P** **01 14 41.8 +0.5**
TEVE Tevekalti-Mers 35.47 282 P **P** **01 14 42.7 +1.2**
BERE Bereket-Mersin 35.66 282 P **P** **01 14 44.0 +0.7**
LFK Lefkose 35.72 280 P P 01 14 36.0 -7.7
LADK Ladik-KONYA 35.86 286 P **P** **01 14 45.6 +0.7**
SSE Sheshan 35.91 87 P **P** **01 14 45.2 0.0**
SSE S **S** **01 20 22.3 -0.1**
SSE pmax pmax
comp=Z,180nm,3.7s
KONT Konya--Tatoy 35.92 285 P **P** **01 14 46.5 +1.1**
CN2 Changchun 36.07 65 *e*P **P** **01 14 47.2 +0.7**
CN2 PP **PP** **01 16 10.7 +2.2**
CN2 *e*S **S** **01 20 24.7 0.0**
CN2 pmax pmax
comp=Z,2μm,9.2s
CN2 LR LR
comp=Z,45μm,15.0s
CN2 LR LR
comp=Z,141μm,15.0s
CN2 LR LR
comp=Z,180μm,16.0s
SVRH Sivrihisar-ESK 36.23 288 P **P** **01 14 48.6 +0.6**
LEF Lefka 36.27 280 ⇓P **P** **01 14 49.6 +1.3**
LEF Lefka 36.27 280 P **P** **01 14 48.9 +0.6**
GAZI Gazipasa 36.40 282 P **P** **01 14 49.5 +0.1**
LHMI Lhok Sumawe 36.41 147 P **P** **01 14 50.0 +0.4**
LHMI IAmb IAmb 01 14 53.3
comp=Z,270nm,1.0s
LHMI Lhok Sumawe 36.41 147 P **P** **01 14 49.4 -0.2**
comp=Z,17μmcomp=Z,6μmcomp=Z,278nm,1.1s
SKLT Songkhla 36.44 140 P **P** **01 14 50.9 +1.1**
comp=Z,4μmcomp=Z,92nm,0.8s
SKLT Songkhla 36.44 140 P **P** **01 14 50.0 +0.2**
PURM Purcari 36.48 300 ⇓P **P** **01 14 51.1 +1.1**
QZH Quanzhou 36.53 98 ⇑*i iP* **P** **01 14 51.1 +0.5**
QZH S **S** **01 20 34.1 +2.0**
QZH pmax pmax
comp=Z,45nm,0.9s
QZH pmax pmax
comp=Z,2μm,9.2s
QZH LR LR
comp=Z,25μm,16.1s
QZH LR LR
comp=Z,22μm,18.0s
QZH LR LR
comp=Z,32μm,13.3s
EIL Elat 36.55 271 P **P** **01 14 51.0 +0.3**
comp=Z,64nm,1.0s,baz=103,slow=6.2,SNR=30
EIL LR LR 01 32 45.2
comp=Z,94μm,18.7s,baz=74,slow=41
CIFT Cifteler, Eski 36.60 288 P **P** **01 14 51.7 +0.5**
KNMB Chin-men Tao 36.61 99 P **P** **01 14 52.5 +1.2**
KNMB IAmb IAmb 01 14 59.4
comp=Z,204nm,1.1s
SRCK Saricakaya, Es 36.78 289 P **P** **01 14 53.3 +0.6**
GULT Gulveren 36.79 290 P **P** **01 14 53.9 +1.1**
AKASG Malin Array Be 36.86 307 P **P** **01 14 52.9 -0.3**
comp=Z,33nm,0.3s,baz=75,slow=7.5,SNR=179
AKASG S **S** **01 20 33.9 -2.7**
comp=Z,2.6nm,0.6s,baz=90,slow=11,SNR=2.1
AKASG LR LR 01 32 39.3
comp=Z,107μm,19.5s,baz=90,slow=41
AKASG Malin Array Be 36.86 307 P **P** **01 14 52.7 -0.4**
AKASG pmax pmax
comp=Z,665nm,1.8s
AKASG Malin Array Be 36.86 307 P **P** **01 14 52.7 -0.4**
AKASG IAmb IAmb 01 15 00.3
comp=Z,665nm,1.8s
AKBB Malin Array Si 36.86 307 *ce*P **P** **01 14 55.1 +2.0**
SAUV Serdivan-Sakar 36.87 290 P **P** **01 14 53.7 +0.3**
SHUT Suhut-Afyon 37.17 287 P **P** **01 14 56.9 +0.8**
KIS Kishinev 37.18 301 ⇑*i iP* **P** **01 14 55.5 -0.4**
comp=Z,2μm,10.0s
KIS Kishinev 37.18 301 *e*PP PP 01 16 23.0 +2.4
KIS *e*S **S** **01 20 41.0 -0.5**
comp=Z,4μm,5.3s
KIS *e*LQ LQ 01 30 02.0
comp=Z,25μm,20.0s
KIS *e*LR LR 01 32 29.0
comp=Z,38μm,17.0s
KIS Kishinev 37.18 301 *c iP* **P** **01 14 55.5 -0.4**
KIS *e* 01 16 23.0
KIS *e*S **S** **01 20 41.0 -0.5**
KIS *e* 01 20 52.0
KIS *e* 01 23 17.0
KIS pmax pmax
comp=Z,2μm,10.0s
KIS smax smax
comp=N,4μm,5.3s
KIS MLR MLR
comp=E,23μm,17.0s
KIS MLR MLR
comp=Z,38μm,17.0s
ZEA Zeya 37.20 48 *de*P **P** **01 14 59.7 +3.7**
ZEA *e* 01 15 03.2
ZEA *e* 01 17 18.2
ZEA *e*S **S** **01 20 49.8 +8.2**
ZEA smax smax
comp=N,1μm,12.0s
ZEA smax smax
comp=E,2μm,11.8s
ZEA MLR MLR
comp=E,110μm,15.0s
ZEA MLR MLR
comp=N,31μm,11.0s
ZEA MLR MLR
comp=Z,120μm,15.0s
SILT Sile 37.31 291 P **P** **01 14 57.4 +0.4**
TLCR 37.33 298 ⇑P **P** **01 14 58.0 +0.9**
CAVI Cavuskoy 37.34 290 P **P** **01 14 58.3 +0.9**
HRT Hereke 37.35 291 P **P** **01 14 57.9 +0.4**
ISP Isparta 37.37 286 IAmb IAmb 01 15 03.8
comp=Z,244nm,1.2s
ADVT Abdulvahap 37.37 290 P **P** **01 14 57.0 -0.6**
BCK Bucak 37.41 285 P **P** **01 14 58.5 +0.4**
SORM Soroca 37.44 303 ⇑P **P** **01 14 58.4 +0.3**
ANTB Antalya 37.50 284 P **P** **01 14 58.0 -0.8**

PUL	**Pulkovo**	**37.54 322**	⇓*e*P	**P**	**01 15 01.0 +2.2**		
PUL			pmax	pmax			
	comp=Z,767nm,1.0s						
PUL			MLR	MLR			
	comp=Z,222μm,15.0s						
YLV	**Yalova**	**37.62 290**	P	**P**	**01 15 00.3 +0.5**		
TPGR	**Topolog**	**37.64 297**	⇑P	**P**	**01 15 01.3 +1.4**		
TIRR	**Tirgusor**	**37.70 297**	⇑P	**P**	**01 15 00.8 +0.5**		
TIRR	**Tirgusor**	**37.70 297**	IAmb	IAmb	01 16 09.2		
	comp=Z,469nm,1.6s						
TIRR			IAMs_20	IAMs_20	01 32 39.6		
	comp=Z,96μm,19.0s						
KORT	**Korkueli**	**37.71 284**	P	**P**	**01 14 58.3 -2.4**		
MFTR	**Murfatlar**	**37.72 296**	⇑P	**P**	**01 15 02.0 +1.5**		
GIUM	**Giurgiulesti**	**37.72 298**	⇑P	**P**	**01 15 01.8 +1.2**		
KLYT	**Kilyos**	**37.73 291**	P	**P**	**01 14 59.4 -1.2**		
KAVV	**Kandilli-Istan**	**37.76 291**	P	**P**	**01 15 02.7 +1.8**		
GEMT	**Gemlik**	**37.78 290**	P	**P**	**01 15 01.4 +0.3**		
TVSB	**Tavsanli**	**37.79 288**	P	**P**	**01 15 01.8 +0.5**		
CFR	**Carcaliu**	**37.81 298**	⇓P	**P**	**01 15 02.1 +0.9**		
VASR	**Vaslui**	**37.91 300**	⇑P	**P**	**01 15 02.6 +0.5**		
GEDZ	**Gediz**	**37.92 288**	P	**P**	**01 15 03.7 +1.3**		
MNK	**Minsk**	**37.92 313**	*i* P	**P**	**01 15 02.3 +0.2**		
MNK			*i*		01 16 29.3		
MNK			*i*		01 17 19.7		
MNK			*i* S	**S**	**01 20 52.2 -0.4**		
MNK			*i* SS	**SnSn**	**01 23 30.9 -3.3**		
MNK			pmax	pmax			
	comp=Z,263nm,0.7s						
MNK			pmax	pmax			
	comp=N,24nm,0.8s						
MNK			pmax	pmax			
	comp=E,23nm,0.7s						
MNK			MLR	MLR			
	comp=N,29μm,20.0s						
MNK			MLR	MLR			
	comp=E,13μm,14.0s						
MNK			MLR	MLR			
	comp=Z,54μm,11.0s						
MNK	**Minsk**	**37.92 313**	*i* P	**P**	**01 15 02.4 +0.3**		
	comp=E,23nm,0.7s						
MNK			*i* P	**P**	**01 15 02.4 +0.3**		
	comp=N,24nm,0.8s						
MNK			*i* P	**P**	**01 15 02.4 +0.3**		
	comp=Z,263nm,0.7s,baz=275						
MNK			*i* PP	**PP**	**01 16 29.4 +0.7**		
MNK			*i* PPP	PPP	01 16 46.0		
MNK			*i* PcP	**PcP**	**01 17 19.7 +2.0**		
MNK			*i* S	**S**	**01 20 52.3 -0.3**		
MNK			*i* SS	**SnSn**	**01 23 31.0 -3.3**		
MNK			*i* SSS	SSS	01 23 52.7		
MNK			*i* LQ	LQ	01 27 09.1		
MNK			*i* LR	LR	01 29 45.6		
MNK			*i* LRM	MLR	01 31 54.4		
	comp=N,29μm,19.9s						
MNK			*i* LRM	MLR	01 32 00.9		
	comp=E,13μm,13.8s						
MNK			*i* LRM	MLR	01 32 02.8		
	comp=Z,54μm,10.9s						
VARL	**Varlezi**	**37.93 299**	⇑P	**P**	**01 15 03.9 +1.6**		
TLBR	**Topalu**	**37.94 297**	⇑P	**P**	**01 15 03.6 +1.2**		
BGKT	**Bogazkoy**	**37.95 291**	P	**P**	**01 15 02.9 +0.5**		
ARMT	**Armutlu**	**38.00 290**	P	**P**	**01 15 03.0 0.0**		
HARR	**Harsova**	**38.01 297**	⇓P	**P**	**01 15 03.9 +0.9**		
MDNY	**Mudanya-Bursa**	**38.02 290**	P	**P**	**01 15 02.9 -0.2**		
HUK2	**Heuksan-myeon**	**38.04 79**	P	P	01 15 11.0 +7.7		
	SNR=6.4						
BIR	**Birlad**	**38.05 300**	⇓P	**P**	**01 15 04.4 +1.1**		
KULM	**Kulim**	**38.07 142**	P	**P**	**01 15 04.0 +0.3**		
TUDR		**38.09 299**	⇑P	**P**	**01 15 05.2 +1.6**		
ELL	**Elmali**	**38.12 284**	P	**P**	**01 15 03.7 -0.5**		
CTKS	**Kestanelik-??a**	**38.13 292**	P	**P**	**01 15 04.6 +0.6**		
KSMUS	**Musan**	**38.15 74**	P	P	01 15 11.2 +7.1		
	SNR=6.3						
INCN	**Inchon**	**38.15 75**	P	**P**	**01 15 04.6 +0.3**		
INCN			pmax	pmax			
	comp=Z,605nm,1.3s						
INCN			MLR	MLR			
	comp=Z,45μm,20.0s						
INCN	**Inchon**	**38.15 75**	P	**P**	**01 15 04.6 +0.3**		
INCN			IAmb	IAmb	01 15 11.8		
	comp=Z,605nm,1.3s						
KSSES	**Seosan**	**38.20 76**	P	P	01 15 11.0 +6.3		
	SNR=13						
GHRR		**38.22 299**	⇑P	**P**	**01 15 05.7 +0.9**		
YNCB	**YEONCHEON**	**38.23 74**	P	P	01 15 11.5 +6.6		
	SNR=14						
SHHB	**Siheung-si**	**38.24 75**	P	P	01 15 12.0 +7.0		
	SNR=10						
CTYL	**Yalikoy Yolu**	**38.25 292**	P	**P**	**01 15 05.8 +0.8**		
TPTI		**38.28 148**	P	**P**	**01 15 03.0 -2.4**		
	comp=Z,3μmcomp=Z,682nmcomp=Z,46nm,1.3s						
SLVT	**Silivri**	**38.35 292**	P	**P**	**01 15 04.9 -1.0**		
HAWB	**Hwaseong-si**	**38.37 75**	P	P	01 15 13.0 +6.9		
	SNR=11						
KSDDC	**Dongducheon**	**38.37 74**	P	P	01 15 13.1 +7.0		
	SNR=11						
KSSEO	**Seoul**	**38.37 75**	P	P	01 15 13.0 +6.9		
	SNR=8.8						
KSSEO	**Seoul**	**38.37 75**	P	P	01 15 13.0 +6.9		
	SNR=8.9						
PETR	**Petresti**	**38.38 299**	⇓P	**P**	**01 15 07.5 +1.4**		
KSSOD	**Songwoldong**	**38.39 74**	P	P	01 15 13.4 +7.2		
	SNR=9.1						
PORA	**Boryeong**	**38.41 77**	P	P	01 15 13.1 +6.6		
	SNR=8.3						
KCTX	**Karacabey (Bur**	**38.44 290**	P	**P**	**01 15 07.6 +0.9**		
ODBI	**Odobesti**	**38.50 299**	⇓P	**P**	**01 15 09.3 +2.3**		
AKAS	**Kas**	**38.50 283**	P	**P**	**01 15 06.7 -0.7**		
AKAS	**Kas**	**38.50 283**	IAmb	IAmb	01 15 12.6		
	comp=Z,214nm,0.9s						
KSL	**Kastellorizon**	**38.54 283**	P	**P**	**01 15 05.8 -1.7**		
SMKB	**Mukjeong-gil**	**38.60 78**	P	P	01 15 17.0 +9.0		
	SNR=5.9						
KULA	**Kula-Manisa**	**38.61 287**	P	**P**	**01 15 08.3 +0.1**		
KULA	**Kula-Manisa**	**38.61 287**	P	**P**	**01 15 07.9 -0.3**		
IDID	**Didziasalis**	**38.66 314**	*e*P	**P**	**01 15 09.6 +1.3**		
MANT	**Manisa**	**38.70 287**	IAmb	IAmb	01 15 14.0		
	comp=Z,550nm,1.1s						
TESR	**Tescani**	**38.70 300**	⇓P	**P**	**01 15 09.2 +0.4**		
VRI	**Vrincioaia**	**38.72 299**	⇑P	**P**	**01 15 10.0 +1.0**		
CRLT	**Corlu**	**38.72 292**	P	**P**	**01 15 09.5 +0.5**		
PLOR	**Plostina**	**38.77 299**	⇓P	**P**	**01 15 11.6 +2.1**		
PHSR	**Pinarhisar**	**38.78 292**	P	**P**	**01 15 09.9 +0.4**		
FETY	**Fethiye**	**38.79 284**	P	**P**	**01 15 08.2 -1.5**		
FETY	**Fethiye**	**38.79 284**	P	**P**	**01 15 07.6 -2.1**		
EDC	**Edincik**	**38.79 290**	P	**P**	**01 15 09.9 +0.3**		
LVZ	**Lovozero**	**38.81 335**	*ce*P	**P**	**01 15 10.1 +0.7**		
LVZ			pmax	pmax			
	comp=Z,101nm,0.8s						
LVZ			MLR	MLR			
	comp=Z,228μm,14.0s						
LVZ	**Lovozero**	**38.81 335**	P	**P**	**01 15 09.7 +0.3**		
LVZ			IAmb	IAmb	01 15 37.7		
	comp=Z,230nm,0.9s						
LVZ			IAMs_20	IAMs_20	01 31 10.3		
	comp=Z,67μm,19.0s						
YHNB	**Yeheng**	**38.86 97**	P	**P**	**01 15 11.1 +0.7**		
PRAR	**RASCA**	**38.92 302**	⇑P	**P**	**01 15 11.6 +1.0**		
MDJ	**Mudanjiang**	**38.92 63**	P	**P**	**01 15 11.6 +0.9**		
MDJ			pP	pP	01 15 17.7 +0.7		
MDJ			S	**S**	**01 21 07.9 -0.1**		
MDJ			SS	**SnSn**	**01 23 56.0 -2.8**		
MDJ			pmax	pmax			
	comp=Z,80nm,1.0s						
MDJ			pmax	pmax			
	comp=Z,3μm,4.3s						
MDJ			LR	LR			
	comp=Z,67μm,23.7s						
MDJ			LR	LR			
	comp=Z,120μm,13.3s						
MDJ			LR	LR			
	comp=Z,167μm,12.9s						
MDJ	**Mudanjiang**	**38.92 63**	P	**P**	**01 15 11.2 +0.5**		
MDJ			IAmb	IAmb	01 15 19.7		
	comp=Z,448nm,1.1s						
MDJ			IAMs_20	IAMs_20	01 32 59.6		
	comp=Z,87μm,22.0s						
ISR	**Istrita**	**38.93 298**	⇑P	**P**	**01 15 12.9 +2.1**		
BALB	**Balikesir**	**38.94 289**	P	**P**	**01 15 11.5 +0.7**		
MRMT	**Marmara Adasi**	**38.94 291**	P	**P**	**01 15 11.2 +0.3**		
IPM	**Ipoh**	**38.95 142**	P	**P**	**01 15 11.0 -0.1**		
IIGN	**Ignalina**	**38.95 314**	*e*P	**P**	**01 15 12.4 +1.6**		
SSLB	**Suanglung**	**38.97 98**	P	**P**	**01 15 13.2 +1.9**		
TJN	**Taejon**	**39.02 76**	*ce*P	**P**	**01 15 11.4 -0.1**		
ISAL	**Salakas**	**39.03 315**	*e*P	**P**	**01 15 13.1 +1.8**		
DALY	**Dalyan (Mula)**	**39.07 285**	P	**P**	**01 15 10.7 -1.2**		
NEHR	**Nehoiu**	**39.07 299**	⇓P	**P**	**01 15 14.4 +2.5**		
APA	**Apatity**	**39.07 335**	⇑*i*P	**P**	**01 15 11.6 0.0**		
APA			*i*		01 16 45.0		
APA			*i* S	**S**	**01 21 08.0 -1.7**		
APA			*i* SS	**SnSn**	**01 23 53.0 -8.7**		
APA			pmax	pmax			
	comp=Z,34nm,0.7s						
APA			MLR	MLR			
	comp=Z,294μm,12.0s						
VSU	**Vasula**	**39.07 319**	*e*P	**P**	**01 15 12.9 +1.2**		
VSU	**Vasula**	**39.07 319**	*c i*P	**P**	**01 15 12.1 +0.4**		
VSU			pmax	pmax			
	comp=Z,1μm,1.1s						
VSU			MLR	MLR			
	comp=Z,567μm,16.0s						
KSAR	**Wonju Array Be**	**39.12 74**	P	**P**	**01 15 12.7 +0.3**		
KSAR	**Wonju Array Be**	**39.12 74**	P	**P**	**01 15 12.7 +0.3**		
KSRS	**Korea Array**	**39.15 74**	P	**P**	**01 15 11.9 -0.7**		
	comp=Z,16nm,0.7s,baz=283,slow=8.2,SNR=56						
KSRS			PcP	**PcP**	**01 17 22.4 +0.5**		
	comp=Z,26nm,1.0s,baz=293,slow=4.4,SNR=5.1						
KSRS			ScP	**ScP**	**01 21 09.2 -0.1**		
	comp=Z,1.8nm,0.8s,baz=296,slow=3.6,SNR=2.5						
KSRS			LR	LR	01 33 20.0		
	comp=Z,44μm,20.5s,baz=288,slow=39						
RKY	**Sarkoy-Tekirda**	**39.23 291**	P	**P**	**01 15 13.8 +0.5**		
YER	**Yerkesik**	**39.27 285**	P	**P**	**01 15 12.7 -1.0**		
SECR		**39.28 298**	⇑P	**P**	**01 15 16.0 +2.4**		
MLR	**Muntele Rosu**	**39.30 299**	S	**S**	**01 21 15.3 +1.2**		
	comp=Z,17nm,1.0s,baz=112,slow=19,SNR=1.0						
MLR			LR	LR	01 35 26.3		
	comp=Z,107μm,18.4s,baz=60,slow=42						
MLR	**Muntele Rosu**	**39.30 299**	⇓P	**P**	**01 15 16.2 +2.2**		
MLR	**Muntele Rosu**	**39.30 299**	IAmb	IAmb	01 16 17.3		
	comp=Z,480nm,1.2s						
MLR			IAMs_20	IAMs_20	01 34 33.2		
	comp=Z,85μm,20.0s						
OZUR		**39.34 300**	⇓P	**P**	**01 15 15.6 +1.4**		
AYDB	**Zeytinkoy-Aydi**	**39.34 287**	P	**P**	**01 15 14.7 +0.3**		
TURN	**Turunc**	**39.40 285**	P	**P**	**01 15 13.0 -1.7**		
YULB	**Yu-li**	**39.45 98**	P	**P**	**01 15 16.6 +1.3**		
SGRR	**Singureni**	**39.46 297**	⇑P	**P**	**01 15 16.3 +1.1**		
TWG	**Pinlang**	**39.56 99**	IAmb	IAmb	01 15 26.0		
	comp=Z,379nm,1.2s						
BURAR	**Bucovina Array**	**39.58 302**	⇓P	**P**	**01 15 17.2 +1.0**		
BURAR	**Bucovina Array**	**39.58 302**	P	**P**	**01 15 16.3 +0.1**		
MLSB	**Milas**	**39.61 286**	P	**P**	**01 15 15.8 -0.7**		
DOPR	**Dopca**	**39.63 300**	⇑P	**P**	**01 15 18.0 +1.4**		
ARG	**Arkhangelos**	**39.65 284**	P	**P**	**01 15 16.5 -0.3**		
ERIK	**Erikli-Kesan**	**39.73 291**	P	**P**	**01 15 22.0 +4.6**		
DKL	**Dikili**	**39.80 289**	P	**P**	**01 15 18.4 +0.3**		
GELI	**Tayfur-Gelibol**	**39.81 291**	P	**P**	**01 15 19.1 +1.0**		
BLCB	**Balcova**	**39.88 288**	P	**P**	**01 15 18.7 0.0**		
YAK	**Yakutsk**	**39.88 35**	P	**P**	**01 15 17.8 -0.5**		
	comp=Z,22nm,0.4s,baz=282,slow=1.5,SNR=2.0						
YAK			S	**S**	**01 21 14.6 -7.3**		
	comp=Z,8.7nm,0.3s,baz=310,slow=18,SNR=1.2						
YAK			LR	LR	01 32 31.0		
	comp=Z,26μm,20.8s,baz=260,slow=37						
YAK	**Yakutsk**	**39.88 35**	*e*P	**P**	**01 15 18.4 +0.1**		
YAK			*e**PP	**sP**	**01 15 30.2 +2.8**		
YAK			*e*		01 16 48.5		
YAK			*e*		01 17 22.5		
YAK			*e*S	**S**	**01 21 21.0 -0.9**		
YAK			*e*SS	**SS**	**01 24 18.7 +0.6**		
YAK			*e*SSS	SSS	01 24 53.1		
YAK			*e*		01 25 20.9		
YAK			pmax	pmax			
	comp=Z,508nm,1.0s						
YAK			pmax	pmax			
	comp=N,64nm,1.1s						
YAK			pmax	pmax			
	comp=E,262nm,1.3s						
YAK			pmax	pmax			
	comp=Z,370nm,1.6s						
YAK			pmax	pmax			
	comp=N,55nm,1.6s						
YAK			pmax	pmax			
	comp=E,254nm,1.8s						
YAK			smax	smax			
	comp=N,373nm,1.9s						
YAK			smax	smax			
	comp=E,683nm,1.8s						
YAK			MLR	MLR			
	comp=Z,40μm,13.0s						
YAK			MLR	MLR			
	comp=N,23μm,13.0s						
YAK			MLR	MLR			
	comp=E,38μm,15.0s						
YAK	**Yakutsk**	**39.88 35**	P	**P**	**01 15 19.3 +0.9**		
YAK			IAmb	IAmb	01 15 25.5		
	comp=Z,440nm,0.8s						
GCAM	**G?zelcaml?**	**39.91 286**	P	**P**	**01 15 19.9 +0.9**		
DAT	**Datca**	**39.92 285**	P	**P**	**01 15 18.6 -0.6**		
DAT	**Datca**	**39.92 285**	P	**P**	**01 15 19.0 -0.2**		
KLR	**Kul'dur**	**39.94 55**	P	**P**	**01 15 18.8 -0.3**		
	comp=Z,42nm,0.6s,baz=278,slow=8.4,SNR=94						
KLR			S	S	01 21 12.3 -11		
	comp=Z,7.7nm,1.0s,baz=270,slow=6.1,SNR=3.9						
KLR			LR	LR	01 34 07.2		
	comp=Z,76μm,21.4s,baz=274,slow=40						
KLR	**Kul'dur**	**39.94 55**	*d i*P	**P**	**01 15 19.7 +0.7**		
KLR			pmax	pmax			
	comp=Z,326nm,0.9s						
KLR			MLR	MLR			
	comp=Z,89μm,16.0s						
VOIR		**39.94 299**	⇓P	**P**	**01 15 20.2 +1.0**		
FIA1	**FINESS Array S**	**39.97 324**	P	**P**	**01 15 19.7 +0.6**		
FIA1			IAmb	IAmb	01 15 27.0		
	comp=Z,215nm,0.9s						
FINES	**FINESS Array B**	**39.97 324**	LR	LR	01 32 23.9		
	comp=Z,47μm,18.8s,baz=100,slow=37						
ENEZ	**Enez**	**39.98 291**	P	**P**	**01 15 19.6 +0.1**		
ENEZ	**Enez**	**39.98 291**	P	**P**	**01 15 20.4 +0.9**		
ZIMR		**39.98 296**	⇑P	**P**	**01 15 21.2 +1.7**		
ALN	**Alexandroupoli**	**40.02 292**	P	**P**	**01 15 20.0 +0.1**		
BODT	**Bodrum**	**40.03 285**	P	**P**	**01 15 19.7 -0.3**		
BODT	**Bodrum**	**40.03 285**	P	**P**	**01 15 20.4 +0.4**		
EZN	**Ezine**	**40.06 290**	P	**P**	**01 15 20.7 +0.6**		
EZN	**Ezine**	**40.06 290**	P	**P**	**01 15 19.9 -0.2**		
HUMR	**Humele**	**40.12 297**	⇓P	**P**	**01 15 21.8 +1.2**		
LVV	**L'vov**	**40.20 306**	*e*P	**P**	**01 15 21.2 0.0**		
LVV			*e*		01 16 54.8		
LVV			*e*S	**S**	**01 21 20.2 -6.9**		
LVV			*e*		01 24 13.0		
LVV			pmax	pmax			
	comp=Z,400nm,1.2s						
LVV			MLR	MLR			
	comp=N,62μm,16.0s						
LVV			MLR	MLR			
	comp=E,116μm,16.0s						
LVV			MLR	MLR			
	comp=Z,123μm,16.0s						
GSI	**Gunungsitoli**	**40.21 149**	P	**P**	**01 15 21.5 -0.1**		
GSI	**Gunungsitoli**	**40.21 149**	P	**P**	**01 15 21.4 -0.2**		
	comp=Z,19μmcomp=Z,9μmcomp=Z,362nm,0.9s						
SMG	**Samos**	**40.21 287**	P	**P**	**01 15 21.5 0.0**		
ARCR	**ARCALIA**	**40.21 301**	⇑P	**P**	**01 15 23.2 +1.9**		
URLA	**Izmir**	**40.22 288**	P	**P**	**01 15 21.7 +0.1**		
ARR	**Arges**	**40.24 299**	⇓P	**P**	**01 15 22.9 +1.3**		
PRK	**Paraskevi**	**40.24 289**	P	**P**	**01 15 22.8 +1.1**		
PABE	**Paberze**	**40.25 314**	*e*P	**P**	**01 15 22.5 +1.0**		
PABE	**Paberze**	**40.25 314**	P	**P**	**01 15 22.2 +0.8**		
PABE			IAMs_20	IAMs_20	01 31 57.4		
	comp=Z,78μm,18.0s						
BOZC	**Bozcaada**	**40.26 290**	P	**P**	**01 15 22.5 +0.7**		
GADA	**Gvkgeada**	**40.29 291**	P	**P**	**01 15 22.2 +0.1**		
GADA	**Gvkgeada**	**40.29 291**	P	**P**	**01 15 22.0 -0.1**		
RDO	**Rodhopi**	**40.34 292**	P	**P**	**01 15 22.8 +0.3**		
MSHR	**Mys Shultsa**	**40.38 66**	*de*P	**P**	**01 15 24.1 +1.3**		
MSHR			pmax	pmax			
	comp=Z,186nm,1.3s						
MSHR			MLR	MLR			
	comp=Z,56μm,16.0s						
SMTH	**Samothraki Isl**	**40.50 291**	P	**P**	**01 15 23.8 0.0**		
MEF	**Metsahovi**	**40.55 322**	*e*P	**P**	**01 15 25.3 +1.4**		
SIGR	**SIGRI**	**40.56 289**	P	**P**	**01 15 23.8 -0.5**		
KARP	**Karpathos**	**40.60 283**	P	**P**	**01 15 23.7 -1.0**		
VLAD	**Vladila**	**40.61 297**	⇑P	**P**	**01 15 26.0 +1.3**		
CHOS	**Chios island**	**40.62 288**	P	**P**	**01 15 24.3 -0.7**		
MTSE	**Matsula**	**40.62 319**	*e*P	**P**	**01 15 25.5 +0.9**		
SUW	**Suwalki**	**40.65 312**	*e*P	**P**	**01 15 24.8 0.0**		
SUW			*e*S	**S**	**01 21 32.4 -1.1**		
SUW			*e*L	L	01 33 37.1		
	comp=Z,235μm,15.2s						
SUW	**Suwalki**	**40.65 312**	*e*P	**P**	**01 15 25.5 +0.7**		
SUW	**Suwalki**	**40.65 312**	IAMs_20	IAMs_20	01 33 23.9		
	comp=Z,112μm,22.0s						
USA0B	**Ussuriysk Arra**	**40.69 63**	P	**P**	**01 15 26.0 +0.7**		
USA0B			pmax	pmax			
	comp=Z,178nm,1.7s						
USA0B			MLR	MLR			
	comp=Z,81μm,20.0s						
USA0B	**Ussuriysk Arra**	**40.69 63**	P	**P**	**01 15 26.0 +0.7**		
USA0B			IAMs_20	IAMs_20	01 34 04.9		
	comp=Z,81μm,20.0s						
USRK	**Ussuriysk Ar.**	**40.69 63**	P	**P**	**01 15 25.2 -0.1**		
	comp=Z,4.0nm,0.6s,baz=272,slow=7.2,SNR=12						
USRK			S	**S**	**01 21 32.8 -1.6**		
	comp=Z,0.8nm,0.5s,baz=264,slow=8.5,SNR=1.4						
USRK			LR	LR	01 34 15.3		
	comp=Z,64μm,18.7s,baz=271,slow=39						
USRK	**Ussuriysk Ar.**	**40.69 63**	P	**P**	**01 15 25.8 +0.5**		
CJR	**Cluj-Napoca**	**40.77 301**	⇑P	**P**	**01 15 28.2 +2.1**		
CBBR	**Cluj-Babes-Bol**	**40.80 301**	⇑P	**P**	**01 15 28.2 +2.0**		
VLA	**Vladivostok**	**40.80 65**	⇑*e*P	**P**	**01 15 26.7 +0.4**		
VLA			pmax	pmax			
	comp=Z,543nm,1.4s						
VLA			MLR	MLR			
	comp=Z,106μm,16.0s						
ATD	**Arta Tunnel**	**40.81 240**	LR	LR	01 34 45.8		
	comp=Z,18μm,19.5s,baz=46,slow=40						
ATD	**Arta Tunnel**	**40.81 240**	P	**P**	**01 15 27.5 +0.9**		
ATD	**Arta Tunnel**	**40.81 240**	⇑*i*P	**P**	**01 15 25.0 -1.7**		
ATD			*e*S	S	01 21 24.7 -12		
ATD	**Arta Tunnel**	**40.81 240**	*i* P	**P**	**01 15 27.8 +1.1**		
ATD			*e*S	S	01 21 24.1 -13		
LOT	**Lotru**	**40.83 299**	⇓P	**P**	**01 15 27.9 +1.3**		
LIA	**Limnos Island**	**40.90 290**	P	**P**	**01 15 26.4 -0.7**		
KWP	**Kalwaria Pacla**	**41.07 305**	*e*P	**P**	**01 15 29.1 +0.7**		
KWP			*e*S	**S**	**01 21 39.9 -0.1**		
KWP			*e*L	L	01 35 27.6		
	comp=Z,167μm,19.4s						
THAS	**Thassos island**	**41.07 292**	P	**P**	**01 15 28.6 +0.1**		
JTU	**Tsushima**	**41.18 78**	P	**P**	**01 15 30.7 +1.3**		
JTU			IAmb	IAmb	01 15 37.0		
	comp=Z,347nm,1.6s						
SLIT	**Slitere, Latvi**	**41.32 318**	*e*P	**P**	**01 15 30.8 +0.5**		
DEV	**Deva**	**41.36 300**	⇓P	**P**	**01 15 32.9 +2.0**		
DRGR		**41.37 301**	⇓P	**P**	**01 15 32.5 +1.5**		
APE	**Apeiranthos**	**41.39 286**	⇓P	**P**	**01 15 32.8 +1.5**		
APE	**Apeiranthos**	**41.39 286**	P	**P**	**01 15 32.1 +0.8**		
KOLS	**Kolonicke sedl**	**41.41 304**	*e*P	**P**	**01 15 31.7 +0.4**		
KOLS	**Kolonicke sedl**	**41.41 304**	*e*P	**P**	**01 15 31.7 +0.4**		
PBUR	**Paburge**	**41.42 315**	*e*P	**P**	**01 15 32.7 +1.5**		
UZH	**Uzhgorod**	**41.43 304**	*e*P	**P**	**01 15 30.5 -0.9**		
UZH			*e*		01 15 34.3		
UZH			*e*		01 15 40.3		
UZH			*e*		01 17 06.5		
UZH			*e*S	**S**	**01 21 42.5 -2.9**		
UZH			*e*SS	SS	01 24 37.7 -12		
MNSI	**Mandailing Nat**	**41.52 147**	P	**P**	**01 15 32.0 -0.4**		
	comp=Z,5μmcomp=Z,243nm,1.0s						
GZR	**Gura Zlata**	**41.53 299**	⇑P	**P**	**01 15 33.6 +1.3**		
NVR	**Nevrokopi**	**41.53 293**	P	**P**	**01 15 32.6 +0.2**		
STIA	**Sitia Lasithi**	**41.54 283**	P	**P**	**01 15 32.9 +0.5**		
PUNG	**Punghina**	**41.61 297**	⇓P	**P**	**01 15 33.7 +0.8**		
SKY	**Skiros Island**	**41.63 289**	P	**P**	**01 15 33.2 +0.1**		
SANT	**Santorini**	**41.66 285**	⇑P	**P**	**01 15 33.4 -0.1**		
SANT	**Santorini**	**41.66 285**	IAmb	IAmb	01 15 45.5		
	comp=Z,288nm,1.1s						
OUR	**Ouranopolis**	**41.68 291**	P	**P**	**01 15 33.8 +0.3**		
VTS	**Vitosha**	**41.71 295**	⇑P	**P**	**01 15 35.8 +1.8**		
VTS	**Vitosha**	**41.71 295**	P	**P**	**01 15 34.5 +0.6**		
VTS			pmax	pmax			
	comp=Z,82nm,1.1s						
VTS			MLR	MLR			
	comp=Z,15μm,19.0s						
VTS	**Vitosha**	**41.71 295**	P	**P**	**01 15 34.5 +0.6**		
SRS	**Serrai**	**41.78 293**	P	**P**	**01 15 34.7 +0.3**		
LTVH	**Ltavrtes, Hu**	**41.84 302**	⇓P	**P**	**01 15 36.6 +1.9**		
LTVH	**Ltavrtes, Hu**	**41.84 302**	*e*P	**P**	**01 15 36.8 +2.0**		
HERR	**Herculane**	**41.86 298**	⇑P	**P**	**01 15 35.6 +0.6**		
NPS	**Neapolis**	**41.89 283**	P	**P**	**01 15 34.5 -0.8**		
TEND	**Ethiopian Broa**	**41.91 242**	*i* P	**P**	**01 15 36.8 +1.1**		
KARY	**Karystos**	**41.95 288**	P	**P**	**01 15 36.1 +0.3**		
RAF	**Rauma**	**41.95 323**	*e*P	**P**	**01 15 37.1 +1.7**		
CRVS	**Cervenica-Dubn**	**41.95 304**	*e*P	**P**	**01 15 36.2 +0.5**		
CRVS			pmax	pmax			
	comp=Z,61nm,1.1s						
CRVS	**Cervenica-Dubn**	**41.95 304**	*e*P	**P**	**01 15 36.2 +0.5**		
CRVS			*e*PP	**PP**	**01 17 12.8 +0.1**		
CRVS			*e*S	**S**	**01 21 50.6 -2.5**		
CRVS			*e*SS	**SS**	**01 24 55.6 -4.2**		
CRVS			*e*L	L	01 36 14.2		
PAIG	**Paliouri**	**42.01 291**	P	**P**	**01 15 36.0 -0.2**		
LAST	**Lasithi**	**42.02 283**	P	**P**	**01 15 36.9 +0.4**		
SOH	**Sokhos**	**42.03 292**	P	**P**	**01 15 36.5 +0.1**		
KYMI	**Kymi, Euboea I**	**42.03 289**	P	**P**	**01 15 36.2 -0.3**		
STHS	**

NIE Niedzica 42.65 305 *e*P **P** **01 15 42.8 +1.3**
NIE *e*S **S** **01 22 04.1 +0.6**
NIE *e*L L 01 36 54.2
comp=Z,140µm,18.6s
BANR Banloc 42.67 299 ⇑P **P** **01 15 42.7 +1.2**
STIP Stip 42.68 294 *i* P **P** **01 15 40.0 -1.6**
GRG Griva 42.70 293 P **P** **01 15 41.6 -0.3**
AAL Aland 42.72 321 *e*P **P** **01 15 42.3 +0.6**
VILL Villia 42.76 288 P **P** **01 15 41.8 -0.6**
TIXI Tiksi 42.77 21 P **P** **01 15 41.6 -0.4**
comp=Z,19nm,0.4s,baz=225,slow=4.3,SNR=16
TIXI S **S** **01 22 00.4 -4.2**
comp=Z,4.2nm,0.4s,baz=250,slow=7.3,SNR=1.7
TIXI Tiksi 42.77 21 P **P** **01 15 41.3 -0.7**
TIXI pmax pmax
comp=Z,99nm,0.8s
TIXI MLR MLR
comp=Z,29µm,20.0s
TIXI Tiksi 42.77 21 P **P** **01 15 41.3 -0.7**
AMBH Ambrzfalva 42.79 301 ⇑P **P** **01 15 44.1 +1.7**
AMBH Ambrzfalva 42.79 301 *e*P **P** **01 15 45.3 +2.9**
JNU Nakatsue 42.82 79 P **P** **01 15 43.6 +0.7**
comp=Z,52nm,1.0s,baz=309,slow=5.1,SNR=8.3
JNU S **S** **01 22 04.8 -1.5**
comp=Z,7.9nm,0.4s,baz=338,slow=9.2,SNR=1.3
JNU LR LR 01 37 04.0
comp=Z,27µm,18.6s,baz=294,slow=41
JNU Nakatsue 42.82 79 IAmb IAmb 01 15 50.8
comp=Z,333nm,1.2s
GRNR Gornyy 42.82 53 ⇓*i*P P 01 15 49.2 +6.5
GRNR pmax pmax
comp=E,120nm,0.9s
GRNR pmax pmax
comp=N,60nm,0.7s
GRNR pmax pmax
comp=Z,180nm,0.8s
GRNR MLR MLR
comp=E,85µm,15.0s
GRNR MLR MLR
comp=N,11µm,16.0s
GRNR MLR MLR
comp=Z,100µm,16.0s
LIT Litokhoron 42.85 291 P **P** **01 15 42.5 -0.6**
LKR Lokris 42.86 289 P **P** **01 15 42.5 -0.6**
OJC Ojcow 42.89 307 *e*P **P** **01 15 43.6 +0.3**
OJC *e*S **S** **01 22 06.9 0.0**
OJC *e*L L 01 36 54.9
comp=Z,125µm,17.1s
OJC Ojcow 42.89 307 IAmb IAmb 01 15 51.1
comp=Z,350nm,1.4s
VAM Vamos 42.93 284 P **P** **01 15 43.4 -0.4**
BSZH Besenyszg 42.95 302 ⇓P **P** **01 15 44.9 +1.2**
BSZH Besenyszg 42.95 302 *e*P **P** **01 15 46.2 +2.5**
LTK Loutraki 43.06 288 P **P** **01 15 43.2 -1.6**
LOUT Loutraki 43.07 288 P **P** **01 15 43.2 -1.7**
IMMV Iera Moni Meta 43.08 284 P **P** **01 15 44.3 -0.7**
PSZ Piszkesteto 43.11 303 ⇑P **P** **01 15 46.1 +0.9**
PSZ Piszkesteto 43.11 303 *e*P **P** **01 15 46.4 +1.2**
PSZ Piszkesteto 43.11 303 P **P** **01 15 46.0 +0.9**
PSZ pmax pmax
comp=Z,113nm,1.2s
PSZ MLR MLR
comp=Z,50µm,19.0s
PSZ Piszkesteto 43.11 303 P **P** **01 15 46.0 +0.9**
PSZ IAMs_20 IAMs_20 01 36 32.3
comp=Z,50µm,19.0s
KRND KRANIDI 43.11 287 P **P** **01 15 42.9 -2.3**
KTK1 Kautokeino 43.12 334 *e*P **P** **01 15 45.6 +0.8**
KTK1 *e*S **S** **01 22 09.8 0.0**
SKO Skopje 43.15 294 *i* P **P** **01 15 45.5 0.0**
GVDS Gavdos 43.20 284 P **P** **01 15 45.3 -0.7**
GVD Gavdhos 43.21 283 P **P** **01 15 45.3 -0.7**
LANS Liptovska Anna 43.23 305 *e*P **P** **01 15 47.6 +1.5**
LANS pmax pmax
comp=Z,22nm,1.0s
LANS Liptovska Anna 43.23 305 *e*P **P** **01 15 47.6 +1.5**
AGG Agios Georgios 43.26 290 P **P** **01 15 45.6 -0.8**
AGG Agios Georgios 43.26 290 IAmb IAmb 01 16 46.3
comp=Z,380nm,1.6s
THAL Thalero 43.29 288 P **P** **01 15 44.9 -1.7**
JOW Kunigami 43.32 89 LR LR 01 36 36.2
comp=Z,28µm,18.7s,baz=308,slow=40
KZN Kozani 43.32 292 P **P** **01 15 46.4 -0.6**
DESE Dese 43.34 243 *i* P **P** **01 15 49.5 +1.8**
THL Klokotos Trika 43.34 291 P **P** **01 15 46.2 -0.8**
KNDR Palaiochora Ch 43.39 284 P **P** **01 15 47.4 0.0**
MAKR Makrakomi, Fth 43.41 290 P **P** **01 15 47.0 -0.6**
ANKY Antikythira Is 43.47 285 P **P** **01 15 46.7 -1.5**
VLI Veliai 43.48 287 P **P** **01 15 45.7 -2.5**
FNA Florina 43.49 293 P **P** **01 15 47.6 -0.7**
HAMF Hammerfest 43.50 337 *e*P **P** **01 15 48.9 +1.1**
HAMF *e*pP **pP** **01 15 54.6 +0.2**
HAMF IVmB_BB 01 15 55.9
comp=Z,5µm,2.1s
HAMF *e*S **S** **01 22 17.5 +2.3**
HAMF IVMs_BB IVMs_BB 01 34 38.2
comp=Z,152µm,12.9s
KTHA Kythira Island 43.53 286 P **P** **01 15 47.1 -1.5**
KTHR Kythira 43.57 286 P **P** **01 15 47.5 -1.5**
FRGS Fruska Gora 43.63 299 ⇑P **P** **01 15 51.0 +1.6**
FRGS Fruska Gora 43.63 299 ⇑*i*P **P** **01 15 49.9 +0.6**
SERG Sergoula 43.63 289 P **P** **01 15 48.1 -1.4**
TRIZ Trizonia 43.63 289 P **P** **01 15 47.7 -1.7**
KLV Kalavryta, Ach 43.67 289 P **P** **01 15 48.1 -1.7**
EVR Evrytania 43.67 290 P **P** **01 15 49.2 -0.7**
ANX Ano Chora 43.68 289 P **P** **01 15 49.2 -0.8**
VLX Vlachokerasia 43.70 288 P **P** **01 15 48.1 -2.0**
DIVS Divibare 43.72 298 ⇑*i*P **P** **01 15 50.7 +0.6**
DIVS Divibare 43.72 298 IAMs_20 IAMs_20 01 37 05.5
comp=Z,49µm,19.0s
KPRO Kipourio 43.72 292 P **P** **01 15 49.5 -0.7**
VYHS Vyhne 43.73 304 *e*P **P** **01 15 50.7 +0.6**
VYHS pmax pmax
comp=Z,245nm,1.5s
VYHS Vyhne 43.73 304 *e*P **P** **01 15 50.7 +0.6**
VYHS *e*PP **PcP** **01 17 38.2 +1.5**
VYHS *e*S **S** **01 22 18.3 -0.9**
VYHS *e*SS **SS** **01 25 36.6 +1.9**
VYHS *e*L L 01 37 35.2
EFP Efpalio 43.74 289 P **P** **01 15 49.2 -1.1**
LAKA Lakka 43.74 289 P **P** **01 15 50.8 +0.4**
BUD Budapest 43.76 303 *e*P **P** **01 15 51.6 +1.4**
PENT Pentalofos 43.82 292 P **P** **01 15 50.4 -0.6**
NEST Nestorio 43.83 292 P **P** **01 15 50.3 -0.8**
OHR Ohrid 43.83 293 *i* P **P** **01 15 48.6 -2.4**
UPP Uppsala 43.88 321 *e*P **P** **01 15 52.3 +1.2**
JHS Saijyo 43.90 76 IAMs_20 IAMs_20 01 37 12.2
comp=Z,44µm,18.0s
PHP Peshkopia 43.95 294 P **P** **01 15 50.9 -1.1**
KBN Korca 43.97 293 P **P** **01 15 51.2 -1.0**
KBN Korca 43.97 293 P **P** **01 15 51.7 -0.5**
KBN pmax pmax
comp=Z,91nm,1.0s
KBN Korca 43.97 293 P **P** **01 15 51.7 -0.5**
PVO Paravola 43.97 290 P **P** **01 15 51.7 -0.4**
OKC Ostrava-Krasne 43.99 306 *e*P **P** **01 15 53.1 +0.9**
OKC *e*S **S** **01 22 24.4 +1.4**
OKC MLR MLR
comp=Z,98µm,13.8s
OKC Ostrava-Krasne 43.99 306 ⇓*e*P **P** **01 15 53.1 +0.9**
OKC *e*S **S** **01 22 24.4 +1.4**
OKC AMS AMS 01 36 10.0
comp=Z,98µm,13.8s
KOLL Kolacno 44.00 304 *e*P **P** **01 15 54.3 +2.1**
DRO Drossia 44.03 289 P **P** **01 15 51.5 -1.2**
IVA Berane 44.06 296 *e*P **P** **01 15 53.9 +1.0**
PVY Plav 44.08 296 *e*P **P** **01 15 53.6 +0.5**
ITM Ithomi 44.10 288 P **P** **01 15 51.4 -1.9**
ITM Ithomi 44.10 288 IAmb IAmb 01 15 59.0
comp=Z,201nm,1.3s
SRO2 Moca 44.13 303 *e*P **P** **01 15 53.5 +0.2**
SRO2 Moca 44.13 303 *e*P **P** **01 15 53.5 +0.2**
AMT Artemida-Makis 44.16 288 P **P** **01 15 52.0 -1.7**
SRO Srobarova 44.18 303 *e*P **P** **01 15 55.7 +2.1**
SRO pmax pmax
comp=Z,344nm,1.9s
SRO Srobarova 44.18 303 *e*P **P** **01 15 55.7 +2.1**
BBLS Lazići 44.18 298 ⇑*i*P **P** **01 15 54.5 +0.7**
JAN Janina 44.18 291 P **P** **01 15 53.6 -0.3**
RLS Riolos of Patr 44.18 289 P **P** **01 15 52.8 -1.0**
GKP Gorka Klasztor 44.20 311 *e*P **P** **01 15 54.4 +0.6**
GKP *e*S **S** **01 22 26.9 +1.0**
GKP *e*L L 01 36 02.8
comp=Z,156µm,17.8s
GKP Gorka Klasztor 44.20 311 *e*P **P** **01 15 54.1 +0.3**
LSK Leskovik 44.23 292 P **P** **01 15 54.2 -0.1**
MORH Mrgy, Hungar 44.23 301 ⇓P **P** **01 15 55.1 +0.9**
MORH Mrgy, Hungar 44.23 301 *e*P **P** **01 15 54.3 +0.2**
MORH Mrgy, Hungar 44.23 301 ⇑*i*P **P** **01 15 54.3 +0.2**
RUDO Rudo 44.26 297 *e*P **P** **01 15 54.6 +0.2**
PLE Pljevlja 44.31 297 *e*P **P** **01 15 55.9 +0.9**
ANKE Ethiopia-Afar 44.33 241 *i* P **P** **01 15 57.3 +1.7**
KOME Kolasin 44.33 296 *e*P **P** **01 15 55.6 +0.5**
PYL PYLOS 44.33 287 P **P** **01 15 52.6 -2.5**
MORC Moravsky Berou 44.39 306 ⇓P **P** **01 15 56.6 +1.2**
MORC Moravsky Berou 44.39 306 IAmb IAmb 01 16 03.7
comp=Z,548nm,1.8s
MORC Moravsky Berou 44.39 306 ⇑*i*P **P** **01 15 56.0 +0.6**
MORC *e*S **S** **01 22 29.3 +0.4**
MORC *e*SCS **SS** **01 25 37.2 -10**
JAVC Velka Javorina 44.44 305 ⇑*i*P **P** **01 15 57.5 +1.7**
JAVC *e*S **S** **01 22 32.8 +3.1**
JAVC *e*SCS **SS** **01 25 47.9 -0.8**
TIR Tirane 44.45 294 ⇓P **P** **01 15 56.3 +0.4**
TIR Tirane 44.45 294 P **P** **01 15 54.5 -1.4**
HAPS Han Pijesak,Bl 44.45 298 *e*P **P** **01 15 56.6 +0.5**
TSLK Tsoukalades, L 44.56 290 P **P** **01 15 55.4 -1.5**
NYDR Nydri-Lefkada 44.56 290 P **P** **01 15 55.1 -1.8**
LKD2 Lefkada island 44.57 290 P **P** **01 15 54.8 -2.2**
IGT Igoumenitsa 44.60 291 P **P** **01 15 55.7 -1.5**
PDG Podgorica 44.62 296 ⇑P **P** **01 15 58.1 +0.9**
PDG Podgorica 44.62 296 ⇑*i*P **P** **01 15 56.9 -0.4**
TTG Todgorica 44.62 296 *e*P **P** **01 15 57.4 +0.1**
EVGI Lefkada island 44.62 290 P **P** **01 15 55.7 -1.7**
KOVH Kovagotottos 44.63 301 *e*P **P** **01 15 57.5 +0.2**
SMOL Smolenice 44.65 304 *e*P **P** **01 15 58.5 +1.1**
SMOL Smolenice 44.65 304 *e*P **P** **01 15 58.5 +1.1**
DRAG Dragano-Lefkad 44.66 290 P **P** **01 15 56.2 -1.5**
UPM Unac-Piva 44.69 297 *e*P **P** **01 15 59.0 +1.0**
UPM Unac-Piva 44.69 297 *e*P **P** **01 15 58.3 +0.3**
NKY Niksic 44.72 296 *e*P **P** **01 15 58.5 +0.3**
DRME Dracevica, Mon 44.73 295 ⇑*i*P **P** **01 15 58.0 -0.1**
DRME Dracevica, Mon 44.73 295 *e*P **P** **01 15 58.1 -0.1**
FSK Fiskardo 44.74 290 P **P** **01 15 56.2 -2.1**
ULC Ulcinj 44.74 295 *e*P **P** **01 15 58.2 -0.1**
SRN Sarande 44.75 292 P **P** **01 15 56.8 -1.5**
NKME Niksic 44.75 296 *e*P **P** **01 15 58.5 +0.1**
TRO Tromso 44.76 335 ⇑*i*P **P** **01 15 58.4 +0.4**
TRO *e*pP **pP** **01 16 04.9 +0.5**
TRO IVmB_BB 01 16 06.0
comp=Z,3µm,2.4s
TRO *e*S **S** **01 22 34.6 +1.0**
TRO *e*SS **SS** **01 25 56.7 +2.7**
TRO IVMs_BB IVMs_BB 01 35 25.6
comp=Z,137µm,12.0s
LTHK Lithakia 44.76 289 P **P** **01 15 56.2 -2.3**
MODS Modra-Piesok 44.77 304 *e*P **P** **01 16 00.8 +2.4**
MODS pmax pmax
comp=Z,130nm,1.4s
MODS Modra-Piesok 44.77 304 *e*P **P** **01 16 00.8 +2.4**
MODS *e*PP **PP** **01 17 46.0 +3.1**
MODS *e*S **S** **01 22 33.7 -0.8**
MODS *e*SS **SS** **01 25 57.7 +2.6**
MODS *e*L L 01 38 38.9
MPLH Magyarpolny 44.80 303 *e*P **P** **01 15 59.3 +0.6**
VLS Valsamata 44.81 289 P **P** **01 15 56.7 -2.1**
PSDA Pessada-Kefalo 44.83 289 P **P** **01 15 56.9 -2.1**
CEME Cevo 44.83 296 *e*P **P** **01 15 59.0 -0.1**
KRLC Kraliky 44.83 307 ⇓*i*P **P** **01 16 00.1 +1.1**
KRLC *e*S **S** **01 22 35.7 +0.3**
KRLC MLR MLR
comp=Z,165µm,12.6s
KRLC Kraliky 44.83 307 ⇓*i*P **P** **01 16 00.1 +1.1**
KRLC *e*S **S** **01 22 35.7 +0.3**
KRLC AMS AMS 01 36 40.0
comp=Z,165µm,12.6s
BLEU Blekinge 44.84 316 ⇑*i*P **P** **01 15 58.5 -0.4**
VLMS Volimes, Zakyn 44.84 289 P **P** **01 15 56.7 -2.5**
KEF5 Kardakata, Kep 44.87 290 P **P** **01 15 57.2 -2.1**
EGYH Egyhazaskeszo 44.90 303 *e*P **P** **01 15 56.7 -2.7**
KEF4 Livadi, Kephal 44.91 290 P **P** **01 15 57.9 -1.7**
BUM Brajici-Budva 44.91 295 *e*P **P** **01 15 59.7 0.0**
ZST Bratislava 44.92 304 *e*P **P** **01 16 00.5 +0.9**
ZST pmax pmax
comp=Z,148nm,1.1s
ZST Bratislava 44.92 304 *e*P **P** **01 16 00.5 +0.9**
ZST *e*S **S** **01 22 40.6 +4.1**
ZST *e*SS SS 01 26 09.7 +12
KEK Kerkira 44.94 292 P **P** **01 15 58.2 -1.7**
DMLN Damoulianata-K 44.95 290 P **P** **01 15 58.4 -1.6**
VLO Vlora 44.95 293 P **P** **01 15 59.1 -0.9**
VLO Vlora 44.95 293 P **P** **01 15 59.9 -0.1**
VLO pmax pmax
comp=Z,261nm,0.7s
VLO Vlora 44.95 293 P **P** **01 15 59.9 -0.1**
DGAR Diego Garcia 44.96 188 P **P** **01 16 00.6 +0.5**
DGAR pmax pmax
comp=Z,535nm,1.3s
DGAR MLR MLR
comp=Z,44µm,18.0s
DGAR Diego Garcia 44.96 188 P **P** **01 16 00.6 +0.5**
DGAR Diego Garcia 44.96 188 IAMs_20 IAMs_20 01 33 48.6
comp=Z,44µm,18.0s
KEF3 Kipouria, Keph 44.98 289 P **P** **01 15 57.9 -2.3**
BRY Bratogost 45.02 296 *e*P **P** **01 16 01.2 +0.6**
BRY Bratogost 45.02 296 *e*P **P** **01 16 00.8 +0.2**
KSP Ksiaz 45.04 308 *e*P **P** **01 16 01.2 +0.7**
KSP *e*S **S** **01 22 37.4 -0.9**
KSP *e*L L 01 37 02.0
comp=Z,182µm,17.4s
VRAC Vranov 45.07 306 LR LR 01 37 36.9
comp=Z,81µm,18.9s,baz=72,slow=40
VRAC Vranov 45.07 306 ⇓P **P** **01 16 02.4 +1.6**
VRAC Vranov 45.07 306 ⇑*i*P **P** **01 16 01.7 +0.9**
VRAC *e*S **S** **01 22 40.1 +1.4**
VRAC *e*SCS **ScS** **01 25 50.7 -6.1**
DPC Dobruska-Polom 45.09 307 ⇓*i*P **P** **01 16 02.4 +1.4**
DPC *e*S **S** **01 22 39.9 +0.9**
DPC MLR MLR
comp=Z,162µm,13.6s
DPC Dobruska-Polom 45.09 307 ⇓*i*P **P** **01 16 02.4 +1.4**
DPC *e*PP PP 01 18 00.4 +14
DPC *e*S **S** **01 22 39.9 +0.9**
DPC AMS AMS 01 36 30.0
comp=Z,162µm,13.6s
OSTC Ostas 45.13 307 ⇓*i*P **P** **01 16 02.4 +1.2**
OSTC *e*S **S** **01 22 40.6 +1.0**
OSTC AMS AMS 01 36 40.0
comp=Z,168µm,14.4s
HCY Herceg Novi 45.16 296 *e*P **P** **01 16 01.5 -0.1**
HCY Herceg Novi 45.16 296 *e*P **P** **01 16 01.5 -0.1**
TREB Trebinje 45.20 296 *e*P **P** **01 16 01.9 0.0**
NKL Nikolayevsk 45.22 49 *e*P **P** **01 16 00.5 -1.3**
NKL *e*S **S** **01 22 43.0 +2.3**
NKL pmax pmax
comp=N,3.0nm,0.8s
NKL pmax pmax
comp=E,40nm,1.0s
NKL pmax pmax
comp=Z,613nm,1.0s
NKL smax smax
comp=E,76nm,1.2s
NKL smax smax
comp=N,1.0nm,1.4s
CHVC Chvalec 45.22 308 ⇓*i*P **P** **01 16 04.4 +2.4**
CHVC *e*S **S** **01 22 43.8 +2.8**
CHVC AMS AMS 01 36 50.0
comp=N,175µm,14.6s
KRUC Moravsky 45.24 305 ⇑*i*P **P** **01 16 03.0 +0.9**
KRUC *e*S **S** **01 22 44.4 +3.3**
KRUC *e*SCS **ScS** **01 25 55.0 -2.8**
UPC Upice 45.26 307 ⇓*i*P **P** **01 16 03.7 +1.4**
UPC *e*S **S** **01 22 42.2 +0.7**
UPC MLR MLR
comp=Z,186µm,14.6s
UPC Upice 45.26 307 ⇓*i*P **P** **01 16 03.7 +1.4**
UPC *e*S **S** **01 22 42.2 +0.7**
UPC AMS AMS 01 36 40.0
comp=Z,186µm,14.6s
SOP Sopron 45.37 303 *e*P **P** **01 16 04.3 +1.2**
AAE Adis Abeba 45.40 242 ⇑*i*P P 01 15 58.7 -5.4
AAE *e*S S 01 23 00.8 +16
AAE Adis Abeba 45.40 242 *i* P **P** **01 16 05.1 +0.9**
AAE *e*S **S** **01 22 37.9 -6.9**
AAE Adis Abeba 45.40 242 *e*P **P** **01 16 04.8 +0.6**
BSD Bornholm Skovb 45.42 314 *e*P **P** **01 16 03.7 +0.3**
BSD Bornholm Skovb 45.42 314 ⇑*i*P **P** **01 16 02.7 -0.7**
BSD IAmb IAmb 01 16 04.8
comp=Z,61nm,0.8s
BSD IAMs_20 IAMs_20 01 36 20.9
comp=Z,189µm,13.8s
BSD Bornholm Skovb 45.42 314 ⇑*i*P **P** **01 16 02.7 -0.7**
BSD pmax pmax
comp=Z,61nm,0.8s
BSD MLR MLR
comp=Z,190µm,14.0s
BEHE Becsehely 45.45 302 *e*P **P** **01 16 05.6 +1.7**
BEHE Becsehely 45.45 302 ⇑*i*P **P** **01 16 04.5 +0.6**
N2IH Innhavet 45.49 332 ⇑*i*P **P** **01 16 04.7 +0.9**
HOPEN Hopen 45.49 345 *e*P **P** **01 16 05.8 +2.0**
HOPEN *e*pP **pP** **01 16 11.4 +1.2**
HOPEN IVmB_BB 01 16 12.2
comp=Z,4µm,1.7s
HOPEN *e*S **S** **01 22 46.1 +1.9**
HOPEN IVMs_BB IVMs_BB 01 38 43.2
comp=Z,84µm,12.4s
N2ST Straumen 45.52 331 *e*P **P** **01 16 04.8 +0.8**
JMBI JAMBI 45.53 143 P **P** **01 16 03.6 -1.1**
comp=Z,248nm,1.2s
BLY Banja Luka 45.54 299 ⇑*i*P **P** **01 16 04.9 +0.3**
FURI Furi 45.55 242 P **P** **01 16 06.2 +0.8**
FURI Furi 45.55 242 ⇓*i*P **P** **01 16 05.9 +0.6**
FURI *e*S **S** **01 22 47.3 +0.3**
FURI Furi 45.55 242 *i* P **P** **01 16 07.2 +1.8**
FURI *e*S **S** **01 22 45.9 -1.1**
FURI Furi 45.55 242 *e*P **P** **01 16 06.9 +1.6**
FURI Furi 45.55 242 ⇑*i*P **P** **01 16 06.0 +0.6**
FURI IAmb IAmb 01 16 32.3
comp=Z,106nm,1.1s
STON Ston 45.62 297 ⇑*i*P **P** **01 16 04.9 -0.3**
FAUS Fauske 45.64 331 ⇑*i*P **P** **01 16 05.9 +0.9**
FAUS *e*pP **pP** **01 16 11.9 +0.4**
FAUS IVmB_BB 01 16 12.7
comp=Z,3µm,1.6s
FAUS *e*S **S** **01 22 48.3 +1.8**
FAUS *e*SS **SS** **01 26 14.2 +4.1**
FAUS IVMs_BB IVMs_BB 01 36 05.7
comp=Z,128µm,11.2s
MGRS Mrkonjic Grad 45.68 299 *e*P **P** **01 16 06.7 +0.9**
N2NF Nordfold 45.72 332 ⇑*i*P **P** **01 16 06.6 +1.0**
N2TV Tvrnvik 45.73 331 ⇑*i*P **P** **01 16 06.9 +1.2**
STEI Steigen 45.74 332 ⇑*i*P **P** **01 16 06.7 +0.9**
STEI *e*pP **pP** **01 16 12.6 +0.3**
STEI IVmB_BB 01 16 13.8
comp=Z,4µm,2.3s
STEI *e*S **S** **01 22 46.9 -1.0**
STEI *e*SS **SS** **01 26 15.1 +3.4**
STEI IVMs_BB IVMs_BB 01 36 33.3
comp=Z,100µm,10.2s
CONA Conrad Observa 45.78 304 *i* P **P** **01 16 07.2 +0.7**
comp=Z,399nm,1.6s,SNR=101
TREC Trest 45.78 306 ⇓*i*P **P** **01 16 07.7 +1.2**
TREC *e*S **S** **01 22 49.9 +0.8**
TREC MLR MLR
comp=Z,133µm,14.9s
TREC Trest 45.78 306 ⇓*i*P **P** **01 16 07.7 +1.2**
TREC *e*S **S** **01 22 49.9 +0.8**
TREC AMS AMS 01 37 10.0
comp=Z,133µm,14.9s
KOGS Kog 45.81 302 *e*P **P** **01 16 06.7 0.0**
KOGS *e* 01 16 09.8
KOGS *i* pP **pP** **01 16 13.6 +0.4**
SCTE Santa Cesarea 45.82 293 IAmb IAmb 01 16 12.0
comp=Z,180nm,1.4s
MOR8 Moi Rana 45.83 329 ⇑*i*P **P** **01 16 06.6 +0.1**
MOR8 *e*pP **pP** **01 16 12.9 -0.1**
MOR8 IVmB_BB 01 16 13.1
comp=Z,4µm,0.5s
MOR8 *e*S **S** **01 22 48.9 -0.3**
HFS Hagfors 45.87 321 LR LR 01 36 59.9
comp=Z,82µm,18.2s,baz=88,slow=38
LNIZ Loecknitz 45.99 312 *e*P **P** **01 16 08.6 +0.7**
baz=80,slow=7.7
BJO1 Bjornoya 46.11 341 *e*P **P** **01 16 09.1 +0.5**
BJO1 IVmB_BB 01 16 15.2
comp=Z,5µm,1.6s
BJO1 *e*S **S** **01 22 53.1 0.0**
BJO1 IVMs_BB IVMs_BB 01 37 19.3
comp=Z,64µm,11.9s
ARSA Arzberg 46.14 303 *i* P **P** **01 16 09.7 +0.4**
comp=Z,119nm,1.6s,SNR=25
PVCC Panska Ves 46.17 308 ⇓*i*P **P** **01 16 10.8 +1.3**
PVCC *e*S **S** **01 22 54.7 +0.2**
PVCC MLR MLR
comp=Z,168µm,14.5s
PVCC Panska Ves 46.17 308 ⇓*i*P **P** **01 16 10.8 +1.3**
PVCC *e*S **S** **01 22 54.7 +0.2**
PVCC AMS AMS 01 37 20.0
comp=Z,168µm,14.5s
N2VI Vinje 46.18 332 *e*P **P** **01 16 10.0 +0.7**
NBB30 Finnes 46.19 331 ⇑*i*P **P** **01 16 10.4 +1.1**
LUNU Lund 46.22 315 ⇑*i*P **P** **01 16 10.3 +0.6**
NBB15 Halsa Church 46.23 330 ⇑*i*P **P** **01 16 11.1 +1.4**
PRU Pruhonice 46.27 307 ⇓*i*P **P** **01 16 11.5 +1.2**
PRU *e* 01 17 59.9
PRU *e*S **S** **01 22 56.4 +0.4**
PRU MLR MLR
comp=Z,164µm,13.4s
PRU Pruhonice 46.27 307 ⇓*i*P **P** **01 16 11.5 +1.2**
PRU *e*PP **PP** **01 17 59.9 +1.1**
PRU *e*S **S** **01 22 56.4 +0.4**
PRU AMS AMS 01 37 20.0
comp=Z,164µm,13.4s
PRA Prague 46.33 307 ⇓*i*P **P** **01 16 12.1 +1.4**
PRA *e* 01 18 02.2
PRA *e*S **S** **01 22 58.0 +1.2**
PRA MLR MLR
comp=Z,164µm,13.9s
PRA Prague 46.33 307 ⇓*i*P **P** **01 16 12.1 +1.4**
PRA *e*PP **PP** **01 18 02.2 +2.8**
PRA *e*S **S** **01 22 58.0 +1.2**
PRA AMS AMS 01 37 30.0
comp=Z,164µm,13.9s
RUE Ruedersdorf 46.37 310 *e*P **P** **01 16 11.6 +0.6**
baz=80,slow=7.7
KONS Konsvik 46.39 330 *e*P **P** **01 16 11.8 +0.9**
KONS *e*S **S** **01 22 56.3 -0.9**
RGN Rugen 46.39 313 IAMs_20 IAMs_20 01 38 40.9
comp=Z,63µm,19.0s
LOF Lofoten 46.40 332 *e*P **P** **01 16 11.3 +0.3**
LOF IVmB_BB 01 16 18.0
comp=Z,3µm,2.4s
LOF *e*pP **pP** **01 16 18.2 +0.7**
LOF *e*PP **PP** **01 18 02.5 +2.6**
LOF *e*S **S** **01 22 57.1 -0.2**
LOF IVMs_BB IVMs_BB 01 37 00.8
comp=Z,112µm,10.4s
BJUU Bjuv 46.41 315 ⇑*i*P **P** **01 16 11.6 +0.4**
STOK Stokkvaagen 46.41 330 *e*P **P** **01 16 11.8 +0.7**
STOK *e*S **S** **01 22 57.3 -0.2**
STOK *e*SS **SS** **01 26 26.0 +3.1**
KSM Kuching 46.48 133 P **P** **01 16 13.0 +0.7**
CRES Cresnjev 46.48 301 ⇑*i*P **P** **01 16 12.3 +0.3**
BRG Berggiesshubel 46.51 308 ⇑*i*P **P** **01 16 12.8 +0.7**
BRG Amp 01 16 21.2
comp=Z,583nm,1.7s
BRG Berggiesshubel 46.51 308 S **S** **01 23 02.0 +2.6**
BRG Berggiesshubel 46.51 308 SS SS 01 26 33.0 +8.0
BRG Amp 01 37 45.0
comp=N,37nm,10.3s
BRG Amp 01 37 55.0
comp=Z,219nm,15.1s
BRG Amp 01 37 56.0
comp=E,146nm,15.8s
BRG Berggiesshubel 46.51 308 *e*P **P** **01 16 13.0 +0.9**
comp=E,388nm,1.9s,baz=80,slow=7.7
FABU Falkenberg 46.51 317 ⇑*i*P **P** **01 16 12.2 +0.2**
PERS Pernice 46.54 302 *i* P **P** **01 16 13.1 +0.6**
PERS *e* 01 16 15.4
PERS *e*pP **pP** **01 16 19.8 +0.8**
PERS *e*S **S** **01 23 01.8 +1.8**
N2SV S rvΨgen 46.57 332 ⇑*i*P **P** **01 16 12.1 -0.2**
SOKA Soboth 46.59 302 *i* P **P** **01 16 13.5 +0.6**
comp=E,330nm,1.4s,SNR=216
CKRC Cesky Krumlov 46.63 305 ⇓*e*PP PP 01 18 04.0 +1.3
CKRC *e*S **S** **01 23 04.4 +3.1**
CKRC AMS AMS 01 37 50.0
comp=E,128µm,15.0s

N2VA Vr.y 46.67 331⇑ *iP* **P 01 16 13.1 0.0**
UGL Uglegorsk 46.67 54 *eP* **P 01 16 13.7 +0.3**
UGL *eS* **S 01 22 59.7 -2.0**
UGL *eSS* **ScS 01 26 08.0 +1.0**
UGL pmax pmax
comp=Z,4μm,7.3s
UGL pmax pmax
comp=Z,600nm,0.9s
PBCC Pribram 46.68 307⇓ *iP* **P 01 16 14.5 +1.0**
PBCC *eS* **S 01 23 03.1 +1.3**
BOJS Bojanci 46.70 301 *iP* **P 01 16 14.4 +0.8**
BOJS *ePP* **PP 01 18 04.7 +1.3**
BOJS *eS* **S 01 23 03.3 +1.1**
TYV Tymovskoe 46.73 52 *eP* P 01 16 20.7 +6.8
TYV *e* 01 23 17.5
TYV pmax pmax
comp=Z,2μm,2.7s
TYV pmax pmax
comp=Z,231nm,1.3s
TYV MLR MLR
comp=E,72μm,14.0s
TYV MLR MLR
comp=Z,116μm,16.0s
NSS Namsos 46.74 327 *eP* **P 01 16 14.3 +0.6**
NSS *epP* **pP 01 16 20.9 +0.7**
NSS IVmB_BB 01 16 21.2
comp=Z,3μm,3.0s
NSS *ePP* **PP 01 18 05.5 +2.0**
NSS *eS* **S 01 23 02.5 +0.2**
NSS IVMs_BB IVMs_BB 01 36 51.3
comp=Z,122μm,11.4s
INU Inuyama 46.77 74 IAmb IAmb 01 16 21.6
comp=Z,274nm,1.5s
COP Copenhagen 46.78 315⇑ *iP* **P 01 16 15.1 +0.9**
COP IAmb IAmb 01 16 16.7
comp=Z,105nm,0.8s
COP IAMs_20 IAMs_20 01 37 08.0
comp=Z,132μm,13.6s
COP Copenhagen 46.78 315⇑ *iP* **P 01 16 15.0 +0.9**
COP pmax pmax
comp=Z,100nm,0.8s
COP MLR MLR
comp=Z,130μm,14.0s
JSD Sado 46.80 70 IAmb IAmb 01 16 21.0
comp=Z,285nm,1.3s
JSD IAMs_20 IAMs_20 01 37 42.1
comp=Z,71μm,18.0s
KSI Kapahiang 46.81 145 P **P 01 16 13.6 -1.3**
comp=Z,425nm,0.8s
SBUM Sibu 46.85 130 P **P 01 16 16.0 +0.9**
MOA Molln 46.85 304 *iP* **P 01 16 15.2 +0.3**
comp=Z,92nm,0.8s,SNR=68
FBE Freiberg 46.87 308 *eP* **P 01 16 16.0 +1.0**
comp=Z,156nm,0.9s,baz=80,slow=7.7
N2RO R st 46.87 331⇑ *iP* **P 01 16 14.7 0.0**
GID Gilleleje 46.88 316 *iP* **P 01 16 19.5 +4.6**
ONAU Onsala 46.91 317 *iP* **P 01 16 14.7 -0.4**
NC602 NORSAR Array S 46.92 322⇑ *iP* **P 01 16 15.5 +0.3**
NC602 *epP* **pP 01 16 22.1 +0.4**
NC602 IVmB_BB 01 16 22.8
comp=Z,4μm,1.3s
NC602 *eS* **S 01 23 03.9 -1.1**
NC602 *eSS* **SS 01 26 28.6 -2.7**
NC602 IVMs_BB IVMs_BB 01 36 43.3
comp=Z,104μm,16.1s
MSEY Mahe Island 46.93 212 P **P 01 16 14.5 -1.3**
MSEY Mahe Island 46.93 212 P **P 01 16 16.1 +0.3**
MSEY pmax pmax
comp=Z,105nm,1.1s
MSEY Mahe Island 46.93 212 P **P 01 16 16.1 +0.3**
MSEY Mahe Island 46.93 212 P **P 01 16 14.8 -1.0**
MSEY P **P 01 16 14.8 -1.0**
MSEY P **P 01 16 14.8 -1.0**
MSEY Mahe Island 46.93 212 *iP* **P 01 16 13.6 -2.2**
MATE Matera 46.94 294⇑ P **P 01 16 16.3 +0.7**
OBKA Obir 46.95 302 *iP* **P 01 16 16.3 +0.5**
comp=Z,198nm,1.2s,SNR=105
GBRS Gornja Briga 46.99 301 *iP* **P 01 16 16.8 +0.8**
GBRS *epP* **pP 01 16 23.5 +1.0**
TJOU Tjoern 47.02 318⇑ *iP* **P 01 16 15.8 -0.2**
GEC2 GERESS Array S 47.02 305 IAmb IAmb 01 16 23.8
comp=Z,253nm,1.4s
GEC2 GERESS Array S 47.02 305 *eP* **P 01 16 17.2 +0.9**
comp=Z,632nm,2.3s,baz=80,slow=7.7
GEC2 *eL* L 01 38 34.9
comp=Z,65μm,18.4s
GERES GERESS Array B 47.02 305 P **P 01 16 16.6 +0.3**
comp=Z,68nm,0.9s,baz=75,slow=7.1,SNR=278
GERES S **S 01 23 06.2 -0.8**
comp=Z,1.5nm,0.8s,baz=51,slow=13,SNR=1.6
GERES LR LR 01 39 30.2
comp=Z,56μm,18.1s,baz=74,slow=40
CLL Collm 47.02 309 *iP* **P 01 16 16.4 +0.3**
comp=Z,84nm,0.9s
CLL *iP* **pP 01 16 22.5 -0.1**
comp=Z,376nm,1.5s
CLL *ePP* **PP 01 18 12.0 +5.4**
CLL *ePPP* PPP 01 18 48.0
CLL *ePPPP* 01 19 00.0
CLL *eS* **S 01 23 06.0 -0.7**
CLL *iS* **sS 01 23 17.8 +0.2**
CLL *eSS* **SS 01 26 34.0 +0.7**
CLL LmH 01 34 00.0
comp=N,132μm,20.5s
CLL LmH 01 34 00.0
comp=E,38μm,20.4s
CLL LmV 01 38 00.0
comp=Z,118μm,18.7s
CLL Lmax 01 38 00.0
CLL Collm 47.02 309 *iP* **P 01 16 16.4 +0.3**
CLL *i* 01 16 22.5
CLL *eS* **S 01 23 06.0 -0.7**
CLL pmax pmax
comp=Z,376nm,1.5s
CLL MLR MLR
comp=Z,118μm,18.7s
CLL Collm 47.02 309 IAmb IAmb 01 16 23.9
comp=Z,359nm,1.5s
CLL Collm 47.02 309 *eP* **P 01 16 16.5 +0.4**
comp=Z,376nm,1.5s,baz=80,slow=7.7
CLL *eL* L 01 37 59.8
comp=Z,118μm,18.7s
KHC Kasperske Hory 47.05 306⇓ *iP* **P 01 16 17.7 +1.3**
KHC *e* 01 18 08.5
KHC *eS* **S 01 23 11.2 +4.0**
KHC MLR MLR
comp=Z,141μm,13.1s
KHC Kasperske Hory 47.05 306⇓ *iP* **P 01 16 17.7 +1.3**
KHC *ePP* **PP 01 18 08.5 +1.6**
KHC *eS* **S 01 23 11.2 +4.0**
KHC AMS AMS 01 38 00.0
comp=Z,141μm,13.1s
KHC Kasperske Hory 47.05 306 IAmb IAmb 01 16 24.8
comp=Z,416nm,1.6s
KHC IAMs_20 IAMs_20 01 39 03.4
comp=Z,68μm,20.0s
LJU Ljubljana 47.07 302 *iP* **P 01 16 17.5 +0.9**
LJU *e* 01 16 19.8
LJU *epP* **pP 01 16 24.0 +1.0**
LJU *iPP* **PP 01 18 09.2 +2.0**
LJU *eS* **S 01 23 09.4 +1.9**
LJU *e* 01 26 49.7
NB2 NORSAR Subarra 47.07 322 P **P 01 16 16.2 -0.2**
comp=Z,340nm,0.8s,baz=88,slow=7.9
NB2 NORSAR Subarra 47.07 322 P **P 01 16 16.2 -0.2**
baz=88,slow=7.9
NOA NORSAR Array B 47.07 322 P **P 01 16 16.1 -0.4**
comp=Z,72nm,0.7s,baz=90,slow=7.7,SNR=317
NOA LR LR 01 36 51.2
comp=Z,60μm,18.4s,baz=85,slow=37
PMBI Palembang 47.20 142 P **P 01 16 18.0 +0.2**
CEY Cerknica 47.21 301⇑ *iP* **P 01 16 18.1 +0.4**
PPBI Pangkal Pinang 47.22 140 P **P 01 16 18.2 +0.2**
comp=Z,14μmcomp=Z,27μmcomp=Z,168nm,0.8s
MJB9 Matsu-Tunnel 47.26 72 IAmb IAmb 01 16 25.0
comp=Z,285nm,1.5s
MAJO Matsushiro 47.26 72 *ceP* **P 01 16 18.3 +0.1**
MAJO pmax pmax
comp=Z,40nm,1.0s
MAJO MLR MLR
comp=Z,28μm,17.0s
MAJO Matsushiro 47.26 72 P **P 01 16 18.4 +0.1**
MAJO IAmb IAmb 01 16 25.0
comp=Z,234nm,1.4s
MJAR Matsushiro Arr 47.26 72 P **P 01 16 17.6 -0.6**
comp=Z,24nm,0.9s,baz=286,slow=8.3,SNR=41
MJAR LR LR 01 38 04.3
comp=Z,22μm,18.5s,baz=285,slow=38
MJAR P3KP 01 46 23.2
comp=Z,1.0nm,0.3s,baz=23,slow=1.3,SNR=4.3
MJAR Matsushiro Arr 47.26 72 P **P 01 16 18.2 0.0**
MJAR IAmb IAmb 01 16 25.2
comp=Z,226nm,1.4s
SGRT San Giovanni R 47.32 296 IAmb IAmb 01 17 33.8
comp=Z,102nm,1.0s
OSL Oslo 47.36 321 *eP* **P 01 16 19.3 +0.7**
OSL *epP* **pP 01 16 25.6 +0.5**
OSL IVmB_BB 01 16 26.7
comp=Z,4μm,2.2s
OSL *eS* **S 01 23 10.4 -0.9**
OSL IVMs_BB IVMs_BB 01 37 05.3
comp=Z,130μm,13.7s
LHSI Lahat 47.39 144 P **P 01 16 17.4 -1.9**
comp=Z,13μmcomp=Z,121nm,1.9s
WET Wettzell 47.49 306 *eP* **P 01 16 20.8 +0.9**
comp=Z,418nm,1.7s,baz=80,slow=7.7
WET *eL* L 01 38 40.1
comp=Z,98μm,18.2s
TANN Tannenbergstha 47.52 308 *eP* **P 01 16 20.8 +0.7**
comp=Z,358nm,1.7s,baz=80,slow=7.7
MYKA Terra Mystica 47.53 303 *iP* **P 01 16 20.5 +0.3**
comp=Z,54nm,1.0s,SNR=25
NKC Novy Kostel 47.56 308 *eP* **P 01 16 21.5 +1.1**
NKC MLR MLR
comp=Z,240μm,14.6s
NKC Novy Kostel 47.56 308⇓ *eP* **P 01 16 21.5 +1.1**
NKC AMS AMS 01 38 10.0
comp=Z,240μm,14.6s
YSS Yuzh-Sakhalins 47.56 57⇓ *iP* **P 01 16 21.8 +1.4**
YSS *e* 01 18 17.4
YSS *eS* **S 01 23 14.7 +0.3**
YSS *eSS* **ScS 01 26 09.1 -3.9**
YSS pmax pmax
comp=Z,4μm,8.6s
YSS pmax pmax
comp=E,1μm,9.2s
YSS pmax pmax
comp=Z,310nm,1.1s
YSS pmax pmax
comp=E,80nm,0.9s
YSS smax smax
comp=E,4μm,13.8s
YSS MLR MLR
comp=Z,121μm,15.0s
YSS MLR MLR
comp=N,33μm,16.0s
YSS MLR MLR
comp=E,66μm,16.0s
YSS Yuzh-Sakhalins 47.56 57 P **P 01 16 21.2 +0.9**
DILA Dilla 47.58 240 *eP* **P 01 16 21.8 +0.8**
WERN Wernitzgruen 47.59 308 *eP* **P 01 16 21.5 +0.9**
comp=E,240nm,1.7s,baz=80,slow=7.7
GUNZ Gunzen 47.61 308 *eP* **P 01 16 21.5 +0.8**
comp=E,424nm,1.8s,baz=80,slow=7.7
WERD Werda 47.61 308 *eP* **P 01 16 21.3 +0.6**
comp=E,344nm,1.8s,baz=80,slow=7.7
KBA Koelnbreinsper 47.63 303 *iP* **P 01 16 21.4 +0.3**
comp=E,109nm,1.1s,SNR=34
PLN Plauen 47.69 308 *eP* **P 01 16 22.1 +0.7**
comp=E,230nm,1.5s,baz=80,slow=7.7
HSPB Hornsund (broa 47.70 344 *eP* **P 01 16 22.7 +1.6**
HSPB *eS* **S 01 23 18.4 +2.6**
HSPB *eL* L 01 39 05.1
comp=E,125μm,16.5s
HSPB Hornsund (broa 47.70 344 *epP* **pP 01 16 27.9 +0.4**
HSPB *ePP* **PP 01 18 16.2 +3.7**
HSPB *eS* **S 01 23 18.7 +3.0**
HSPB *eSS* **SS 01 26 47.4 +3.9**
NEUB Neuenburg 47.80 309 *eP* **P 01 16 22.8 +0.7**
comp=E,356nm,1.2s,baz=80,slow=7.7
ROTZ Rotzenmuhle 47.80 307 *eP* **P 01 16 23.5 +1.2**
comp=E,274nm,1.4s,baz=80,slow=7.7
MANZ Manzenberg 47.82 307 *eP* **P 01 16 23.5 +1.1**
comp=E,250nm,1.6s,baz=80,slow=7.7
SPMM Sapulut 47.83 123 P **P 01 16 25.0 +2.1**
RJOB Jochberg 47.84 304 *eP* **P 01 16 23.1 +0.4**
comp=E,208nm,0.8s,baz=80,slow=7.7
SPA0 Spitsbergen Ar 47.90 346 *eP* **P 01 16 23.9 +1.3**
FLTG Flechtingen 47.93 311 *eP* **P 01 16 23.4 +0.2**
comp=E,384nm,1.3s,baz=80,slow=7.7
KONO Kongsberg 47.95 320*c iP* **P 01 16 22.8 -0.4**
KONO pmax pmax
comp=Z,164nm,1.0s
KONO MLR MLR
comp=Z,190μm,15.0s
KONO Kongsberg 47.95 320⇑ *iP* **P 01 16 23.7 +0.5**
KONO *epP* **pP 01 16 30.3 +0.6**
KONO IVmB_BB 01 16 31.0
comp=Z,3μm,1.4s
KONO *ePP* **PP 01 18 17.4 +2.4**
KONO *eS* **S 01 23 17.5 -2.2**
KONO *eSS* **SS 01 26 48.5 +0.5**
KONO IVMs_BB IVMs_BB 01 37 31.4
comp=Z,150μm,12.4s
KONO Kongsberg 47.95 320 P **P 01 16 24.1 +0.9**
KONO IAmb IAmb 01 16 31.1
comp=Z,207nm,0.9s
KONO Kongsberg 47.95 320 IAMs_20 IAMs_20 01 35 12.9
comp=Z,49μm,19.0s
MOX Moxa 48.00 308 *eP* **P 01 16 24.6 +0.8**
comp=Z,288nm,1.4s,baz=80,slow=7.7
MOX *eL* L 01 38 40.8
comp=Z,156μm,18.4s
JTM Tenmabayashi 48.01 65 IAMs_20 IAMs_20 01 38 16.5
comp=Z,51μm,18.0s
DOMB Dombas 48.06 324⇑ *iP* **P 01 16 24.5 +0.4**
DOMB *epP* **pP 01 16 31.3 +0.7**
DOMB IVmB_BB 01 16 31.7
comp=Z,4μm,0.9s
DOMB *ePP* **PP 01 18 17.8 +1.8**
DOMB *eS* **S 01 23 21.7 +0.4**
DOMB *eSS* **SS 01 26 54.1 +4.2**
ASAJ Asahikawa 48.15 61 S **S 01 23 18.2 -4.7**
comp=Z,2.9nm,0.5s,baz=217,slow=14,SNR=1.1
JKA Kamikawa-asahi 48.16 61 IAmb IAmb 01 16 40.0
comp=Z,284nm,1.2s
BSEG Bad Segeberg 48.22 313 *eP* **P 01 16 26.6 +1.2**
comp=Z,516nm,1.3s,baz=80,slow=7.7
BSEG *eL* L 01 38 52.6
comp=Z,107μm,19.5s
STAL STALIGIAL 48.24 302 IAmb IAmb 01 16 31.8
comp=Z,136nm,1.1s
ABTA Abfaltersbach 48.26 303 *iP* **P 01 16 25.3 -0.6**
comp=Z,110nm,1.4s,SNR=69
MDSI Maura Dua 48.28 144 P **P 01 16 23.4 -2.8**
comp=Z,6μmcomp=Z,1μmcomp=Z,40nm,1.1s
CEL Celeste 48.29 291 IAmb IAmb 01 17 16.0
comp=Z,145nm,0.9s
STKI Sintang 48.30 133 P **P 01 16 27.4 +1.0**
comp=Z,134nm,1.1s
PAOL Paolisi 48.38 295 IAmb IAmb 01 17 51.3
comp=Z,176nm,1.3s
PAOL IAMs_20 IAMs_20 01 40 27.9
comp=Z,48μm,18.0s
GOET G??ttrup 48.41 317⇑ *iP* **P 01 16 28.2 +1.4**
GOET IAmb IAmb 01 16 29.6
comp=Z,112nm,0.9s
GOET IAMs_20 IAMs_20 01 37 57.5
comp=Z,236μm,15.0s
GRA1 Grafenberg Arr 48.44 307 IAMs_20 IAMs_20 01 37 29.3
comp=Z,68μm,21.0s
GRF Grafenberg Arr 48.44 307 *eP* **P 01 16 28.7 +1.5**
comp=Z,691nm,1.9s,baz=80,slow=7.7
GRF *eL* L 01 38 58.2
comp=Z,115μm,19.3s
GRFO Grafenberg 48.44 307 P **P 01 16 28.2 +1.0**
GRFO pmax pmax
comp=Z,380nm,1.2s
GRFO MLR MLR
comp=Z,142μm,22.0s
GRFO Grafenberg 48.44 307 P **P 01 16 28.2 +1.0**
TPI Tanjungpandan 48.51 139 P **P 01 16 28.3 +0.3**
comp=Z,9μmcomp=Z,2μmcomp=Z,97nm,1.1s
MUD Monsted U'grnd 48.51 316⇑ *iP* **P 01 16 28.6 +1.1**
MUD IAmb IAmb 01 16 33.2
comp=Z,94nm,1.0s
MUD IAMs_20 IAMs_20 01 38 09.8
comp=Z,194μm,15.5s
MUD Monsted U'grnd 48.51 316⇑ *iP* **P 01 16 28.6 +1.1**
MUD pmax pmax
comp=Z,94nm,1.0s
MUD MLR MLR
comp=Z,190μm,16.0s
SKAR Skarslia 48.51 322⇑ *iP* **P 01 16 28.7 +1.1**
SKAR *epP* **pP 01 16 35.3 +1.2**
SKAR IVmB_BB 01 16 36.6
comp=Z,4μm,2.0s
SKAR *ePP* **PP 01 18 23.2 +3.0**
SKAR *eS* **S 01 23 29.4 +1.6**
SKAR IVMs_BB IVMs_BB 01 37 49.4
comp=Z,108μm,15.8s
CLZ Clausthal 48.55 310 *eP* **P 01 16 28.8 +0.8**
comp=Z,256nm,1.1s,baz=80,slow=7.7
INTR Introdacqua 48.56 296 IAmb IAmb 01 17 12.6
comp=Z,106nm,0.8s
INTR IAMs_20 IAMs_20 01 40 27.7
comp=Z,40μm,19.0s
NRDL Niedersach Rie 48.59 311 *eP* **P 01 16 29.5 +1.3**
comp=Z,664nm,1.4s,baz=80,slow=7.7
SKMB Sankelmark Bun 48.61 314 *eP* **P 01 16 30.1 +1.7**
comp=Z,1μm,2.0s,baz=80,slow=7.7
HOMB Homborsund 48.64 319⇑ *iP* **P 01 16 28.9 +0.4**
HOMB Homborsund 48.64 319⇑ *iP* **P 01 16 29.0 +0.4**
HOMB *epP* **pP 01 16 35.2 +0.2**
HOMB IVmB_BB 01 16 36.6
comp=Z,4μm,2.0s
HOMB *ePP* **PP 01 18 23.2 +1.9**
HOMB *eS* **S 01 23 28.3 -1.1**
HOMB *eSS* **SS 01 26 57.2 -2.0**
HOMB IVMs_BB IVMs_BB 01 37 56.3
comp=Z,126μm,14.3s
LWLI Liwa 48.69 145 P **P 01 16 24.9 -4.6**
comp=Z,322nm,0.7s
WTTA Wattenberg 48.72 304 *iP* **P 01 16 29.3 -0.2**
comp=Z,132nm,1.0s,SNR=81
WATA Walderalm 48.74 304 *iP* **P 01 16 29.3 -0.4**
comp=Z,88nm,0.9s,SNR=54
FUR Furstenfeldbru 48.74 305 *eP* **P 01 16 30.7 +1.1**
comp=Z,624nm,1.4s,baz=80,slow=7.7
FUR *eL* L 01 39 23.3
comp=Z,76μm,18.4s
MOL Molde 48.74 324⇑ *iP* **P 01 16 30.4 +1.2**
MOL *epP* **pP 01 16 36.3 +0.5**
MOL IVmB_BB 01 16 37.2
comp=Z,3μm,0.9s
MOL *ePP* **PP 01 18 24.1 +1.9**
MOL *eS* **S 01 23 31.8 +1.1**
MOL IVMs_BB IVMs_BB 01 38 06.2
comp=Z,131μm,11.9s
AQU L'Aquila 48.82 297⇑ *iP* **P 01 16 30.8 +0.6**
AQU L'Aquila 48.82 297 IAmb IAmb 01 17 43.8
comp=Z,176nm,1.0s
AQU IAMs_20 IAMs_20 01 40 56.4
comp=Z,42μm,19.0s
GTTG Gottingen 48.85 310 *eP* **P 01 16 31.3 +1.0**
comp=Z,351nm,1.0s,baz=80,slow=7.7
NRCA Norcia 48.88 298 IAmb IAmb 01 16 37.4
comp=Z,122nm,0.7s
KBS Kingsbay 48.97 346 *iP* **P 01 16 31.6 +0.8**
KBS *i* 01 18 27.3
KBS IAMs_20 IAMs_20 01 41 00.9
comp=Z,358μm,14.1s
KBS Kingsbay 48.97 346 P **P 01 16 32.0 +1.2**
KBS pmax pmax
comp=Z,102nm,0.9s
KBS MLR MLR
comp=Z,110μm,20.0s
KBS Kingsbay 48.97 346⇑ *iP* **P 01 16 31.7 +0.9**
KBS *epP* **pP 01 16 38.0 +0.7**
KBS *eS* **S 01 23 32.8 -0.8**
KBS *eSS* **SS 01 27 09.4 +5.5**
KBS Kingsbay 48.97 346 P **P 01 16 32.0 +1.2**
KBS IAmb IAmb 01 17 34.5
comp=Z,102nm,0.9s
UBBA Unterbreizbach 48.98 309 *eP* **P 01 16 32.0 +0.9**
comp=Z,188nm,1.4s,baz=80,slow=7.7
SQTA Sankt Quirin 49.01 304 *iP* **P 01 16 31.3 -0.4**
comp=Z,92nm,0.8s,SNR=55
AKN Aaknes 49.02 324⇑ *iP* **P 01 16 33.1 +1.7**
AKN *epP* **pP 01 16 38.7 +0.7**
AKN IVmB_BB 01 16 41.8
comp=Z,3μm,6.3s
AKN *ePP* **PP 01 18 28.4 +3.6**
AKN *eS* **S 01 23 35.9 +1.1**
AKN *eSS* **SS 01 27 08.8 +3.4**
AKN IVMs_BB IVMs_BB 01 38 07.4
comp=Z,173μm,12.8s
MOTA Moosalm 49.05 304 *iP* **P 01 16 31.6 -0.5**
comp=Z,88nm,1.0s,SNR=50
ERM Erimo 49.14 63*c iP* **P 01 16 32.6 0.0**
ERM pmax pmax
comp=Z,354nm,1.7s
ERM MLR MLR
comp=Z,58μm,15.0s
ERM Erimo 49.14 63 P **P 01 16 33.2 +0.6**
ERM IAmb IAmb 01 16 40.7
comp=Z,233nm,1.1s
ERM Erimo 49.14 63 IAMs_20 IAMs_20 01 39 20.9
comp=Z,62μm,19.0s
JEM Erimo 49.14 63 IAMs_20 IAMs_20 01 39 23.5
comp=Z,67μm,19.0s
MURB Monte Urbino 49.17 298 IAMs_20 IAMs_20 01 40 59.8
comp=Z,38μm,18.0s
TEOL Teolo 49.18 301 IAMs_20 IAMs_20 01 41 19.9
comp=Z,50μm,20.0s
RETA Reutte 49.24 304 *iP* **P 01 16 33.3 -0.1**
comp=Z,157nm,1.1s,SNR=69
SNART Snartemo 49.31 319 *iP* **P 01 16 34.0 +0.3**
SNART Snartemo 49.31 319 *eP* **P 01 16 34.6 +0.9**
SNART IVmB_BB 01 16 42.2
comp=Z,12μm,1.6s
SNART *eS* **S 01 23 40.9 +2.0**
KASI Kota Agung 49.34 144 P P 01 16 28.8 -5.5
comp=Z,2μmcomp=Z,182nm,0.8s
FETA Feichten 49.38 304 *iP* **P 01 16 34.1 -0.5**
comp=Z,64nm,0.7s,SNR=54
ODD1 Odda 49.42 321 *eP* **P 01 16 34.7 +0.1**
ODD1 *eS* **S 01 23 41.3 +0.8**
HYA Hoyanger 49.50 323 *eP* **P 01 16 35.9 +0.8**
HYA IVmB_BB 01 16 43.5
comp=Z,2μm,1.9s
HYA *eS* **S 01 23 42.8 +1.4**
HYA IVMs_BB IVMs_BB 01 38 28.6
comp=Z,129μm,13.0s
BLS5 Blasjo 49.56 320⇑ *iP* **P 01 16 36.7 +1.0**
BLS5 *epP* **pP 01 16 43.0 +0.8**
BLS5 IVmB_BB 01 16 44.6
comp=Z,4μm,2.7s
BLS5 *ePP* **PP 01 18 33.0 +3.2**
BLS5 *eS* **S 01 23 44.3 +1.8**
BLS5 IVMs_BB IVMs_BB 01 38 30.7
comp=Z,132μm,11.6s
HLG Helgoland 49.59 313 *eP* **P 01 16 37.5 +1.6**
comp=Z,502nm,1.1s,baz=80,slow=7.7
UBR Ueberruh 49.62 305 *eP* **P 01 16 36.8 +0.5**
comp=Z,598nm,1.5s,baz=80,slow=7.7
MILB Miltenberg 49.63 308 *eP* **P 01 16 36.9 +0.6**
comp=Z,246nm,1.3s,baz=80,slow=7.7
DAVA Damuels 49.87 304 *iP* **P 01 16 38.1 -0.2**
comp=Z,247nm,0.8s,SNR=142
KASTN Kahler Asten 49.87 309 *eP* **P 01 16 38.8 +0.6**
comp=Z,124nm,1.6s,baz=80,slow=7.7
SALO Salr 49.88 302 IAmb IAmb 01 16 45.3
comp=Z,208nm,1.1s
ZCCA Zocca 49.93 300 IAmb IAmb 01 18 28.2
comp=Z,374nm,1.4s
ZCCA IAMs_20 IAMs_20 01 39 05.9
comp=Z,67μm,20.0s
STU Stuttgart 49.94 306 IAmb IAmb 01 16 46.8
comp=Z,270nm,1.1s
STU Stuttgart 49.94 306 *eP* **P 01 16 39.5 +0.8**
comp=Z,298nm,1.1s,baz=80,slow=7.7
OSSC Osservatorio P 49.98 299 IAmb IAmb 01 17 28.6
comp=Z,245nm,1.2s
FOO Floro 50.00 323⇑ *iP* **P 01 16 39.5 +0.7**
FOO *epP* **pP 01 16 46.0 +0.6**
FOO IVmB_BB 01 16 47.5
comp=Z,3μm,2.3s
FOO *ePP* **PP 01 18 36.1 +2.5**
FOO *eS* **S 01 23 50.8 +2.5**
FOO IVMs_BB IVMs_BB 01 38 44.8
comp=Z,187μm,11.4s
DAVOX Davos/Dischmat 50.00 304 LR LR 01 38 24.2
comp=Z,16μm,20.1s,baz=56,slow=37
BER Bergen 50.01 322⇑ *iP* **P 01 16 40.0 +1.1**
BER *epP* **pP 01 16 45.7 +0.3**
BER IVmB_BB 01 16 46.9

comp=Z,3μm,0.9s
BER eS S 01 23 49.6 +1.2
BER eSS SS 01 27 24.5 +3.5
BER eSS SS 01 27 24.8 +3.8
BER IVMs_BB IVMs_BB 01 38 38.6
comp=Z,115μm,13.4s
IBBN Ibbenburen 50.04 311 eP P 01 16 40.1 +0.8
comp=Z,761nm,1.9s,baz=80,slow=7.7
MA2 Magadan 50.04 39 d iP P 01 16 39.6 +0.4
MA2 pmax pmax
comp=Z,300nm,0.9s
MA2 MLR MLR
comp=Z,20μm,17.0s
MA2 Magadan 50.04 39 P P 01 16 39.3 +0.1
ASK Askoy 50.06 322 eP P 01 16 40.2 +0.8
ASK epP pP 01 16 46.7 +0.8
ASK IVmB_BB 01 16 47.7
comp=Z,8μm,1.9s
ASK eS S 01 23 49.6 +0.3
ASK eSS SS 01 27 29.0 +7.1
ASK IVMs_BB IVMs_BB 01 38 39.3
comp=Z,229μm,13.0s
TNS Taunus Mts 50.07 308 eP P 01 16 40.4 +0.7
comp=Z,174nm,1.4s,baz=80,slow=7.7
TNS eL L 01 39 52.4
comp=Z,81μm,21.5s
WDD Wied Dalam 50.16 289 IAmb IAmb 01 16 53.1
comp=Z,210nm,1.0s
SUE Sulen 50.20 323⇑ iP P 01 16 41.2 +0.8
SUE epP pP 01 16 47.6 +0.7
SUE IVmB_BB 01 16 48.8
comp=Z,3μm,3.7s
SUE ePP PP 01 18 39.2 +3.8
SUE eS S 01 23 53.2 +2.0
SUE IVMs_BB IVMs_BB 01 38 50.6
comp=Z,177μm,13.8s
KMY Karmoy 50.21 320 eP P 01 16 40.9 +0.5
KMY IVmB_BB 01 16 48.8
comp=Z,3μm,2.0s
KMY eS S 01 23 53.8 +2.4
KMY IVMs_BB IVMs_BB 01 38 51.4
comp=Z,113μm,12.7s
PRMA PARMA 50.27 301 IAmb IAmb 01 17 47.1
comp=Z,338nm,1.3s
PRMA IAMs_20 IAMs_20 01 42 07.8
comp=Z,59μm,18.0s
CORL Corleone 50.33 292 IAmb IAmb 01 17 48.8
comp=Z,293nm,1.6s
VLC Villacollemand 50.39 300 IAmb IAmb 01 17 49.6
comp=Z,183nm,0.9s
VLC IAMs_20 IAMs_20 01 40 30.1
comp=Z,43μm,19.0s
SEY Seymchan 50.40 35 S S 01 23 52.5 -1.5
comp=Z,1.8nm,0.5s,baz=153,slow=14,SNR=1.7
SEY Seymchan 50.40 35 de P 01 16 42.8 +0.9
YUK Yuzh-Kuril'sk 50.43 60 eP P 01 16 42.5 +0.1
YUK e 01 18 00.7
YUK e 01 18 38.3
YUK ePPP PPP 01 19 34.0
YUK eS S 01 23 56.7 +1.8
YUK e 01 26 33.3
YUK eSS SS 01 27 32.0 +3.6
YUK eSSS SSS 01 28 59.4
YUK pmax pmax
comp=Z,1μm,1.2s
YUK pmax pmax
comp=N,224nm,1.1s
YUK pmax pmax
comp=E,267nm,1.0s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK MLR MLR
comp=Z,83μm,16.0s
YUK MLR MLR
comp=N,29μm,15.0s
YUK MLR MLR
comp=E,89μm,15.0s
TUE Stuetta 50.44 303 IAmb IAmb 01 16 52.8
comp=Z,99nm,0.8s
TUE IAMs_20 IAMs_20 01 41 54.3
comp=Z,60μm,20.0s
BUG Bochum--Univer 50.52 310 eP P 01 16 43.8 +0.9
comp=Z,390nm,1.5s,baz=80,slow=7.7
BFO Black Forest 50.61 306 P P 01 16 43.4 -0.4
BFO pmax pmax
comp=Z,114nm,1.2s
BFO MLR MLR
comp=Z,83μm,21.0s
BFO Black Forest 50.61 306 P P 01 16 43.4 -0.4
BFO Black Forest 50.61 306 eP P 01 16 44.1 +0.3
comp=Z,406nm,2.1s,baz=80,slow=7.7
BFO eL L 01 40 25.9
comp=Z,78μm,18.5s
AHRW Bad Neuenahr-A 50.85 309 eP P 01 16 46.4 +0.9
baz=80,slow=7.7
CGJI Cibinong 50.85 144 P P 01 16 43.5 -2.3
comp=Z,2μmcomp=Z,126nm,0.7s
MSSA Maissana 50.94 301 IAMs_20 IAMs_20 01 42 33.6
comp=Z,48μm,19.0s
MTKI Muara Teweh, K 51.15 130 P P 01 16 48.2 +0.1
comp=Z,7μmcomp=Z,8μmcomp=Z,53nm,0.9s
ECH Echery 51.40 306 IAmb IAmb 01 16 57.3
comp=Z,174nm,1.3s
BTNL Ternell 51.42 309 dP P 01 16 50.2 +0.4
BTNL dpP pP 01 16 55.9 -0.5
BTNL dS S 01 24 08.6 0.0
MEM Membach 51.49 309 dP P 01 16 50.6 +0.3
MEM dPP PP 01 18 47.1 -0.3
MEM dS S 01 24 11.3 +1.9
HGN Heimansgroeve 51.50 309⇑ eP P 01 16 50.6 +0.2
BHOU Houvegnez 51.56 309 dP P 01 16 51.6 +0.8
BHOU dS S 01 24 12.4 +2.0
WLF Walferdange 51.65 308 dP P 01 16 52.5 +1.0
comp=Z,189nm,1.1s
WLF dS S 01 24 13.8 +2.2
WLF Walferdange 51.65 308 IAmb IAmb 01 16 59.3
comp=Z,291nm,1.1s
WLF Walferdange 51.65 308 eP P 01 16 52.5 +1.0
comp=Z,294nm,1.0s,baz=80,slow=7.7
BEBN Eben Emael 51.65 310 dP P 01 16 52.0 +0.5
BEBN dpP pP 01 16 57.9 -0.1
BEBN dS S 01 24 12.8 +1.3
LODK Lodwar 51.75 240 P P 01 16 53.3 +0.6
LODK Lodwar 51.75 240 P P 01 16 53.7 +0.9
SNR=30
BSTI Sart Tilman 51.77 309 dP P 01 16 53.1 +0.7
BSTI dpP pP 01 16 58.1 -0.8
SENIN Lac Senin/Sane 51.83 304 IAmb IAmb 01 17 02.9
comp=Z,133nm,0.8s
SENIN IAMs_20 IAMs_20 01 42 30.1
comp=Z,74μm,22.0s
LEM Lembang 51.97 142 LR LR 01 42 35.7
comp=Z,13μm,19.4s,baz=300,slow=40
BCLA Clavier 51.98 309 bP P 01 16 54.5 +0.6
BCLA dS S 01 24 18.2 +2.1
RCHB Rochefort 52.09 309 dP P 01 16 55.4 +0.6
RCHB dS S 01 24 18.8 +1.1
BGES Gesves 52.12 309 dP P 01 16 55.5 +0.5
BGES dpP pP 01 17 01.4 -0.1
BGES dPP PP 01 18 56.3 +3.2
BGES dS S 01 24 20.1 +2.1
BMRD Maredsous 52.34 309 dP P 01 16 57.1 +0.5
BMRD dS S 01 24 23.2 +2.1
UCC Uccle 52.46 310⇑ eP P 01 16 57.5 +0.1
UCC Uccle 52.46 310 dP P 01 16 57.7 +0.2
UCC dpP pP 01 17 03.7 -0.3
UCC dS S 01 24 23.9 +1.3
UCC Uccle 52.46 310 IAMs_20 IAMs_20 01 42 34.5
comp=Z,60μm,22.0s
DOU Dourbes 52.50 309 bP P 01 16 58.4 +0.6
DOU dPcP PcP 01 18 09.4 +1.3
DOU dS S 01 24 25.5 +2.2
DAV Davao City (W) 52.56 113 LR LR 01 40 28.4
comp=Z,55nm,21.2s,baz=351,slow=37
DAV Davao City (W) 52.56 113 P P 01 16 59.7 +1.1
SNF Seneffe 52.58 309 dP P 01 16 58.7 +0.3
SNF dpP pP 01 17 05.1 +0.2
BNI Bardonecchia 52.64 302 IAmb IAmb 01 17 09.0
comp=Z,199nm,1.0s
BNI IAMs_20 IAMs_20 01 43 08.6
comp=Z,45μm,20.0s
CISI Cisompet, Garu 52.69 142 P P 01 16 59.0 -0.7
CISI Cisompet, Garu 52.69 142 P P 01 17 04.8 +5.2
KPJI Karang Pucung 53.06 141 P P 01 17 02.3 0.0
comp=Z,12μmcomp=Z,2μmcomp=Z,93nm,0.8s

BBKI Banjar Baru 53.11 132 P P 01 17 03.4 +0.7
comp=Z,4μmcomp=Z,202nm,0.9s
LRW Lerwick 53.24 322⇑ eP P 01 17 03.5 +0.3
LRW IAMs_20 IAMs_20 01 41 33.8
comp=Z,208μm,12.4s
MPSI Mapaga 53.35 124 P P 01 17 06.1 +1.6
comp=Z,11μmcomp=Z,4μmcomp=Z,216nm,0.9s
TOLI2 Tolitoli 53.37 122 IAmb IAmb 01 17 07.8
comp=Z,343nm,1.3s
SMRI Semarang 53.59 139 P P 01 17 06.5 +0.3
SMRI IAmb IAmb 01 17 19.5
comp=Z,297nm,1.2s
SMRI Semarang 53.59 139 P P 01 17 07.0 +0.8
comp=Z,13μmcomp=Z,5μmcomp=Z,242nm,1.1s
KMBO Kilima Mbogo 53.86 234 P P 01 17 08.9 +0.3
comp=Z,36nm,0.9s,baz=34,slow=10,SNR=47
KMBO S S 01 24 43.8 +0.8
comp=Z,2.0nm,0.9s,baz=55,slow=18,SNR=1.4
KMBO LR LR 01 42 10.4
comp=Z,29μm,18.5s,baz=38,slow=38
NOR Nord 53.89 350 eP P 01 17 09.0 +1.4
NOR IAMs_20 IAMs_20 01 43 34.0
comp=Z,112μm,16.5s
NOR Nord 53.89 350 eP P 01 17 08.9 +1.4
NOR MLR MLR
comp=Z,110μm,16.0s
JMIC Jan Mayen 54.01 336 S S 01 24 43.2 0.0
baz=156,slow=10.0
JMIC LR LR 01 39 21.9
comp=Z,15μm,19.4s,baz=90,slow=35
JMIC Jan Mayen 54.01 336⇑ iP P 01 17 09.5 +0.9
JMIC epP pP 01 17 15.9 +0.8
JMIC eS S 01 24 46.9 +3.8
JMIC IVMs_BB IVMs_BB 01 48 23.1
comp=Z,14μm,12.3s
KEST Kesra 54.09 291 P P 01 17 09.8 0.0
comp=Z,24nm,0.8s,baz=20,slow=4.3,SNR=28
KEST S S 01 24 44.2 -1.2
comp=Z,3.9nm,0.8s,baz=65,slow=3.4,SNR=1.7
KEST LR LR 01 45 29.7
comp=Z,29μm,18.2s,baz=355,slow=42
KEST Kesra 54.09 291 IAmb IAmb 01 17 55.5
comp=Z,172nm,1.4s
KEST Kesra 54.09 291 P P 01 17 10.2 +0.4
SNR=19
WACR West Acre 54.15 313 eP P 01 17 10.2 +0.4
WACR IAmb IAmb 01 17 14.5
comp=Z,432nm,0.8s
WACR IAMs_20 IAMs_20 01 45 24.1
comp=Z,126μm,13.6s
XMIS Christmas Isla 54.24 146 IAmb IAmb 01 17 15.0
comp=Z,86nm,0.8s
KIBK Kibwezi 54.28 232 P P 01 17 10.8 -0.7
KIBK Kibwezi 54.28 232 P P 01 17 12.1 +0.7
SNR=17
ELSH Elham, Standar 54.31 311⇑ eP P 01 17 11.3 +0.2
ELSH IAMs_20 IAMs_20 01 43 32.1
comp=Z,224μm,14.4s
GDLE Glaisdale, N Y 54.49 315⇑ eP P 01 17 12.6 +0.3
MRSI Marisa 54.62 122 P P 01 17 15.1 +1.4
comp=Z,10μmcomp=Z,7μmcomp=Z,637nm,0.9s
MLA1 Latheron 54.78 320 eP P 01 17 15.0 +0.6
HMNX Herstmonceux 54.88 311⇑ eP P 01 17 15.7 +0.5
HMNX IAMs_20 IAMs_20 01 43 51.7
comp=Z,205μm,14.9s
MCD Coleburn Disti 54.92 319 eP P 01 17 16.0 +0.5
BIGH Upper Bighouse 55.01 321⇑ eP P 01 17 16.3 +0.3
BIGH IAMs_20 IAMs_20 01 42 12.5
comp=Z,419μm,15.8s
EDMD Edmundbyers 55.02 316 eP P 01 17 16.5 +0.4
EDMD IAMs_20 IAMs_20 01 43 21.6
comp=Z,144μm,13.8s
ESY Stoneypath 55.06 317 eP P 01 17 16.4 0.0
SKR Severo-Kuril's 55.06 49 eP P 01 17 19.1 +2.6
SKR eS S 01 24 55.4 -2.5
SKR eSS SS 01 28 45.9 +4.6
SKR pmax pmax
comp=Z,1μm,7.0s
SKR pmax pmax
comp=Z,90nm,1.3s
SKR MLR MLR
comp=Z,64μm,16.0s
SKR MLR MLR
comp=Z,66μm,16.0s
HPK Haverah Park 55.08 315 eP P 01 17 17.1 +0.4
EDU Dundee 55.09 316⇑ eP P 01 17 16.9 +0.3
PWJI Pagerwojo 55.13 138 P P 01 17 16.7 -0.7
comp=Z,40nm,1.0s
CMAH Djebel Manchou 55.15 292 P P 01 17 17.6 +0.1
BILL Bilibino 55.18 27 P P 01 17 18.3 +1.1
BILL IAmb IAmb 01 17 25.5
comp=Z,137nm,0.8s
PEA0B Petropavlovsk- 55.24 46 c iP P 01 17 19.4 +1.6
PEA0B Petropavlovsk- 55.24 46 IAmb IAmb 01 17 25.9
comp=Z,317nm,1.4s
PEA0B IAMs_20 IAMs_20 01 42 39.8
comp=Z,66μm,20.0s
PETK Petropavlovsk- 55.24 46 P P 01 17 16.2 -1.6
comp=Z,16nm,1.1s,baz=226,slow=3.9,SNR=11
PETK LR LR 01 42 51.0
comp=Z,67μm,20.9s,baz=285,slow=38
PETK PKP2bc 01 47 34.5
comp=Z,4.8nm,1.0s,baz=63,slow=10,SNR=3.9
PETK Petropavlovsk- 55.24 46 P P 01 17 18.7 +0.8
ABSA Djebel Ababsia 55.25 292 P P 01 17 18.4 +0.1
CWF Charnwood Fore 55.27 313⇑ eP P 01 17 17.8 -0.2
CWF IAMs_20 IAMs_20 01 44 22.5
comp=Z,119μm,12.6s
LBWR Ladybower, Pea 55.31 314⇑ eP P 01 17 18.2 0.0
LBWR IAMs_20 IAMs_20 01 43 42.9
comp=Z,93μm,12.7s
EBL Broad Law 55.33 317⇑ eP P 01 17 18.5 +0.1
EDI Edinburgh 55.36 317⇑ eP P 01 17 18.8 +0.1
EDI IAMs_20 IAMs_20 01 43 34.6
comp=Z,104μm,13.0s
DAG Danmarks Havn 55.40 344⇑ iP P 01 17 19.0 +0.4
DAG IAmb IAmb 01 17 20.3
comp=Z,36nm,1.1s
DAG IAMs_20 IAMs_20 01 44 14.1
comp=Z,42μm,17.8s
DAG Danmarks Havn 55.40 344⇑ iP P 01 17 19.0 +0.4
DAG pmax pmax
comp=Z,36nm,1.1s
DAG MLR MLR
comp=Z,42μm,18.0s
APSI Ampana 55.44 123 P P 01 17 21.0 +1.3
comp=Z,6μmcomp=Z,5μmcomp=Z,279nm,1.1s
EKA Eskdalemuir Ar 55.52 317 LR LR 01 41 42.5
comp=Z,41μm,19.1s,baz=75,slow=37
MDO Dochfour 55.54 319⇑ eP P 01 17 19.8 -0.1
ESK Eskdalemuir 55.55 317⇑ eP P 01 17 20.0 0.0
ESK IAMs_20 IAMs_20 01 43 29.7
comp=Z,217μm,15.1s
ESK Eskdalemuir 55.55 317 P P 01 17 20.7 +0.7
ESK pmax pmax
comp=Z,168nm,1.0s
ESK MLR MLR
comp=Z,115μm,20.0s
ESK Eskdalemuir 55.55 317 P P 01 17 20.7 +0.7
ESK IAmb IAmb 01 17 27.7
comp=Z,168nm,0.9s
WOL Wolverton 55.67 312⇑ eP P 01 17 20.9 0.0
INVG Invergeldie, C 55.67 318⇑ eP P 01 17 20.8 0.0
INVG IAmb IAmb 01 17 27.7
comp=Z,92nm,0.9s
INVG IAMs_20 IAMs_20 01 43 49.3
comp=Z,70μm,12.5s
STNC Stoke 55.68 314⇑ eP P 01 17 21.4 +0.5
STNC IAmb IAmb 01 17 33.6
comp=Z,274nm,1.3s
STNC IAMs_20 IAMs_20 01 43 31.4
comp=Z,93μm,15.1s
KESW Keswick, Cumbr 55.72 316⇑ eP P 01 17 21.2 0.0
KESW IAMs_20 IAMs_20 01 43 43.3
comp=Z,120μm,14.4s
LINV Loch Inver, As 55.76 320⇑ eP P 01 17 22.0 +0.6
LINV IAMs_20 IAMs_20 01 42 44.3
comp=Z,189μm,15.3s
CKFL Kef-Lekhel 55.76 292 P P 01 17 22.3 +0.3
PET Petropavlovsk 55.82 46 de P P 01 17 22.4 +0.5
PET e 01 18 14.3
PET e 01 19 28.4
PET ePPP PPP 01 20 44.9
PET eS S 01 25 04.8 -3.1
PET e 01 27 04.9
PET eSS SS 01 28 49.8 -3.2

PET pmax pmax
comp=Z,3μm,10.0s
PET pmax pmax
comp=Z,185nm,1.1s
PET pmax pmax
comp=Z,3μm,17.9s
PET MLR MLR
comp=Z,72μm,20.0s
PET MLR MLR
comp=Z,56μm,20.0s
PET Petropavlovsk 55.82 46 P P 01 17 22.3 +0.4
PET IAmb IAmb 01 17 28.1
comp=Z,155nm,1.1s
PET IAMs_20 IAMs_20 01 42 56.9
comp=Z,54μm,21.0s
TTSI Tana Toraja 55.86 127 P P 01 17 23.5 +0.8
comp=Z,9μmcomp=Z,3μmcomp=Z,138nm,0.9s
CASM Ain Smara 55.99 292 P P 01 17 23.6 +0.1
STRD Stroud 56.08 312⇑ eP P 01 17 22.9 -0.9
STRD IAmb IAmb 01 17 24.8
comp=Z,154nm,0.7s
STRD IAMs_20 IAMs_20 01 44 39.4
comp=Z,173μm,13.7s
PGBU Glenifferbraes 56.09 318 eP P 01 17 24.5 +0.7
PGBU IAMs_20 IAMs_20 01 43 41.9
comp=Z,102μm,12.9s
CTEI Djebel Teioual 56.13 292 P P 01 17 25.2 +0.6
MAHO Mahon 56.14 297 P P 01 17 24.5 +0.1
MAHO S S 01 25 12.8 +0.2
TEBE Entebbe 56.17 239 i P P 01 17 23.6 -1.5
NEWG New Galloway 56.17 317⇑ eP P 01 17 24.7 +0.2
NEWG IAMs_20 IAMs_20 01 43 47.8
comp=Z,174μm,15.3s
KPL Plockton 56.23 320 eP P 01 17 25.3 +0.4
KPL IAMs_20 IAMs_20 01 43 00.6
comp=Z,126μm,16.1s
HLM1 Long Mynd 56.25 313⇑ eP P 01 17 25.2 +0.2
HLM1 IAmb IAmb 01 17 26.9
comp=Z,74nm,1.0s
HLM1 IAMs_20 IAMs_20 01 44 59.9
comp=Z,119μm,12.4s
ABJI Asem Bagus 56.27 135 P P 01 17 31.1 +5.5
FOEL Foel Wylfa 56.31 314⇑ eP P 01 17 25.9 +0.4
FOEL IAMs_20 IAMs_20 01 44 51.2
comp=Z,117μm,13.9s
DFRA Djebel Bou Aff 56.32 293 P P 01 17 26.5 +0.5
SBD1 Bryn Du 56.34 314⇑ eP P 01 17 37.0 +11
OLDB Oldbury-Upon-S 56.34 312⇑ eP P 01 17 25.4 -0.3
OLDB IAMs_20 IAMs_20 01 44 48.1
comp=Z,162μm,13.6s
MONM Monmouth 56.43 313⇑ eP P 01 17 26.2 -0.1
MONM IAmb IAmb 01 17 33.4
comp=Z,211nm,1.0s
MONM IAMs_20 IAMs_20 01 44 51.3
comp=Z,147μm,13.8s
LAWE Loch Awe, Argy 56.44 318⇑ eP P 01 17 26.8 +0.5
LAWE IAmb IAmb 01 17 35.0
comp=Z,237nm,1.2s
LAWE IAMs_20 IAMs_20 01 43 25.2
comp=Z,104μm,14.5s
MCH1 Michaelchurch 56.49 313⇑ eP P 01 17 26.7 -0.1
MCH1 IAmb IAmb 01 17 31.3
comp=Z,225nm,0.7s
MCH1 IAMs_20 IAMs_20 01 45 07.3
comp=Z,95μm,12.8s
DBG Daneborg 56.53 341⇑ iP P 01 17 27.8 +1.0
DBG IAMs_20 IAMs_20 01 46 24.2
comp=Z,35μm,12.9s
LLW Llanuwychllyn 56.59 314⇑ eP P 01 17 27.5 0.0
LEWI Lewis, Hebride 56.60 321⇑ eP P 01 17 28.1 +0.6
LEWI IAmb IAmb 01 17 35.2
comp=Z,1μm,2.4s
LEWI IAMs_20 IAMs_20 01 43 09.6
comp=Z,170μm,15.6s
IOMK Kirk Michael 56.63 316⇑ eP P 01 17 28.0 +0.2
IOMK IAMs_20 IAMs_20 01 44 22.4
comp=Z,208μm,14.7s
WIM Isle of Man 56.73 316⇑ eP P 01 17 29.4 +0.9
WME Myndd Eilian 56.77 315⇑ eP P 01 17 29.2 +0.5
YLL Llanberis 56.78 314⇑ eP P 01 17 28.7 -0.1
CKHR Kef el Ahmar 56.81 292 P P 01 17 31.4 +1.9
SET Setif 56.81 293 P P 01 17 30.0 +0.5
WLF1 Llynfaes 56.86 315⇑ eP P 01 17 29.4 0.0
WLF1 IAmb IAmb 01 17 36.9
comp=Z,3μm,2.5s
WLF1 IAMs_20 IAMs_20 01 47 18.3
comp=Z,196μm,13.9s
JQE Queens East 56.88 309 eP P 01 17 29.2 -0.4
WPS Cemaes, Angles 56.88 315⇑ eP P 01 17 29.6 +0.1
WPS IAmb IAmb 01 17 37.1
comp=Z,1μm,2.3s
WPS IAMs_20 IAMs_20 01 45 40.6
comp=Z,123μm,12.7s
JSA Saint Aubin 56.96 310 eP P 01 17 29.8 -0.4
JSA IAMs_20 IAMs_20 01 45 43.4
comp=Z,111μm,15.5s
YRC Rhoscolyn 56.98 315⇑ eP P 01 17 30.6 +0.5
RENF Rennes 57.01 308⇑ eP P 01 17 30.6 +0.1
SRBI Singaraja 57.06 135 P P 01 17 31.4 +0.2
comp=Z,11μmcomp=Z,3μmcomp=Z,118nm,1.2s
BNSI Bone 57.08 127 P P 01 17 31.6 +0.2
comp=Z,10μmcomp=Z,2μmcomp=Z,32nm,1.1s
BBAT Babati 57.16 233 i S P 01 17 31.6 -0.6
SBV Sambava 57.17 213 P P 01 17 33.2 +1.3
SNR=9.1
CLGH Cloghs, Cushen 57.21 317⇑ eP P 01 17 32.2 +0.4
CLGH IAMs_20 IAMs_20 01 44 30.9
comp=Z,100μm,14.4s
KAPI Kappang 57.33 128 S S 01 25 29.4 +0.7
comp=Z,5.4nm,0.3s,baz=246,slow=20,SNR=1.6
KAPI Kappang 57.33 128 P P 01 17 32.1 -1.0
KAPI pmax pmax
comp=Z,98nm,1.3s
KAPI Kappang 57.33 128 P P 01 17 32.1 -1.0
KAPI Kappang 57.33 128 P P 01 17 32.1 -1.0
KAPI P P 01 17 32.1 -1.0
GMM Mts of Mourne 57.41 316 eP P 01 17 33.3 +0.1
RSBS Rosebush, Pemb 57.52 313⇑ eP P 01 17 34.0 -0.1
RSBS IAmb IAmb 01 17 40.9
comp=Z,125nm,0.8s
RSBS IAMs_20 IAMs_20 01 44 47.5
comp=Z,78μm,16.7s
DYA Yadsworthy 57.58 311⇑ eP P 01 17 33.9 -0.6
DYA IAMs_20 IAMs_20 01 45 35.7
comp=Z,155μm,17.0s
KOND Kondoa 57.69 233 i S P 01 17 35.4 -0.5
ILTH Belurgan, Co L 57.69 316⇑ eP P 01 17 35.2 0.0
HTL Hartland 57.71 312⇑ eP P 01 17 35.2 -0.1
HTL IAMs_20 IAMs_20 01 45 47.5
comp=Z,126μm,13.5s
GETA Geita 57.79 236⇑ iP P 01 17 40.4 +3.8
GETA IAmb IAmb 01 17 43.0
comp=Z,422nm,2.5s
BKSI Bulukumba 57.80 128 P P 01 17 36.0 -0.4
comp=Z,7μmcomp=Z,2μmcomp=Z,63nm,1.8s
MBAR Mbarara 57.83 240 P P 01 17 36.5 -0.5
MBAR pmax pmax
comp=Z,329nm,1.5s
MBAR Mbarara 57.83 240 P P 01 17 36.5 -0.5
MBAR IAmb IAmb 01 17 42.6
comp=Z,328nm,1.4s
MBAR Mbarara 57.83 240 i P P 01 17 36.4 -0.6
MBAR IAmb IAmb 01 17 42.0
comp=Z,351nm,1.5s
MBAR i S S 01 25 42.7 +6.9
ROSF Rostrenen 57.95 309⇑ eP P 01 17 37.0 -0.2
TNTI Ternate 58.17 117 P P 01 17 38.5 -0.5
TNTI Ternate 58.17 117 P P 01 17 40.8 +1.7
comp=Z,5μmcomp=Z,7μmcomp=Z,477nm,1.3s
SINGT Singida 58.28 234 i S P 01 17 40.3 +0.2
SCO Scoresbysund 58.41 337⇑ iP P 01 17 42.0 +1.9
SCO IAmb IAmb 01 17 43.0
comp=Z,29nm,0.9s
SCO IAMs_20 IAMs_20 01 47 06.0
comp=Z,30μm,14.7s
SCO Scoresbysund 58.41 337⇑ iP P 01 17 41.9 +1.9
SCO pmax pmax
comp=Z,29nm,0.9s
SCO MLR MLR
comp=Z,30μm,15.0s
SCO Scoresbysund 58.41 337 IAMs_20 IAMs_20 01 42 33.1
comp=Z,28μm,19.0s
CCA1 Carnmenellis 58.45 311⇑ eP P 01 17 40.4 -0.2
CCA1 IAMs_20 IAMs_20 01 46 19.6
comp=Z,146μm,13.9s

IWEX	Carrickbyrne,	58.53 314⇑	eP	P	01 17 41.4	+0.2		
IWEX			IAMs_20	IAMs_20	01 46 36.4			
comp=Z,96µm,12.9s								
ALE	Alert	58.67 354	IAMs_20	IAMs_20	01 45 34.7			
comp=Z,28µm,18.0s								
DODT	Dodoma, Tanzan	58.70 232⇑	iP	P	01 17 41.3	-1.6		
SANI	Sanana	59.21 120	P	P	01 17 46.7	+0.4		
comp=Z,8µmcomp=Z,7µmcomp=Z,478nm,1.5s								
IGLA	Glengowla, Co	59.60 316	eP	P	01 17 48.1	-0.4		
IGLA			IAMs_20	IAMs_20	01 45 45.8			
comp=Z,126µm,16.1s								
EBNR	Beni Rached	59.60 294	P	P	01 17 48.0	-0.9		
ECHA	Ech Chlef	59.78 294	P	P	01 17 49.0	-1.0		
EANR	'Ain N'Sour	60.06 294	P	P	01 17 51.0	-1.1		
ETRT	Tiaret	60.17 293	P	P	01 17 52.0	-0.9		
OKGL	Djebel Kef Gue	60.35 294	P	P	01 17 58.0	+3.9		
OJGS	Djebel Guires	60.52 294	P	P	01 17 57.0	+1.8		
BORG	Borgarnes	60.58 331	S	S	01 26 14.1	+4.4		
baz=134,slow=4.8								
BORG	Borgarnes	60.58 331	P	P	01 17 57.4	+2.4		
BORG			pmax	pmax				
comp=Z,93nm,0.9s								
BORG			MLR	MLR				
comp=Z,65µm,18.0s								
BORG	Borgarnes	60.58 331	P	P	01 17 57.4	+2.4		
BORG			IAmb	IAmb	01 18 05.1			
comp=Z,93nm,0.9s								
WBSI	Waikabubak, Su	60.73 132	P	P	01 17 54.8	-2.0		
comp=Z,2µmcomp=Z,126nm,1.1s								
OJBR	Djebel Berber	60.77 294	P	P	01 17 59.0	+2.0		
NLAI	Namlea	60.83 120	P	P	01 17 58.9	+1.5		
comp=Z,3µmcomp=Z,120nm,0.8s								
CART	Cartagena	60.84 297	P	P	01 17 56.2	-1.1		
CART			S	S	01 26 14.7	+0.7		
CART	Cartagena	60.84 297	P	P	01 17 56.9	-0.4		
CART			IAmb	IAmb	01 18 01.9			
comp=Z,134nm,0.8s								
CART	Cartagena	60.84 297	P		01 17 57.7			
UCM	Universidad Co	61.20 300	P	P	01 17 59.1	-0.7		
UCM			S	S	01 26 17.3	-1.3		
NEEM	North Greenlan	61.24 349	iP	P	01 18 00.8	+1.0		
NEEM			IAMs_20	IAMs_20	01 47 46.2			
comp=Z,47µm,17.1s								
ODJA	Bouhanifia	61.25 294	P	P	01 18 02.0	+1.8		
BAKO	Makambako	61.34 231⇑	iP	P	01 18 00.4	-0.7		
BAKO			IAmb	IAmb	01 18 03.0			
comp=Z,1µm,2.7s								
MFRI	Mfriga	61.38 230	iP	P	01 18 00.8	-0.6		
MFRI			IAmb	IAmb	01 18 18.4			
comp=Z,249nm,1.8s								
EDFI	Ende, Flores	61.43 129	P	P	01 17 58.5	-3.1		
comp=Z,5µmcomp=Z,866nmcomp=Z,24nm,0.7s								
GAWA	Igawa	61.54 231	iP	P	01 18 02.1	-0.3		
GAWA			IAmb	IAmb	01 18 04.5			
comp=Z,304nm,2.2s								
KIDE	Kidegembe	61.55 230	iP	P	01 18 00.7	-1.8		
KIDE			IAmb	IAmb	01 18 03.9			
comp=Z,214nm,1.9s								
MMRI	Maumere	61.68 129	P	P	01 18 01.4	-1.8		
MMRI	Maumere	61.68 129	P	P	01 18 01.5	-1.6		
comp=Z,7µmcomp=Z,244nm,0.9s								
WINO	Wino	61.75 230	iP	P	01 18 02.9	-0.9		
WINO			IAmb	IAmb	01 18 05.5			
comp=Z,175nm,1.6s								
CHML	Chimala	61.81 231⇑	iP	P	01 18 02.4	-1.8		
CHML			IAmb	IAmb	01 18 06.0			
comp=Z,962nm,2.2s								
BANG	Mbangamawe	61.82 229⇑	iP	P	01 18 02.8	-1.4		
BANG			IAmb	IAmb	01 18 06.2			
comp=Z,508nm,1.9s								
UWEM	Njombe	61.84 230	iP	P	01 18 04.1	-0.4		
UWEM			IAmb	IAmb	01 18 05.0			
comp=Z,174nm,1.8s								
BASI	Baing, Sumba	61.90 131	P	P	01 18 04.4	-0.2		
comp=Z,3µmcomp=Z,262nm,1.6s								
KIPE	Kipengere	61.92 231	iP	P	01 18 04.5	-0.6		
KIPE			IAmb	IAmb	01 18 07.0			
comp=Z,348nm,1.8s								
ES19	SONSECA Array	61.92 300	IAMs_20	IAMs_20	01 49 35.4			
comp=Z,33µm,22.0s								
ES09	SONSECA Array	61.94 300	IAMs_20	IAMs_20	01 49 52.6			
comp=Z,26µm,19.0s								
SUMG	Summit	61.94 342⇑	iP	P	01 18 22.4	+18		
SUMG			IAmb	IAmb	01 18 24.2			
comp=Z,65nm,1.3s								
SUMG			IAMs_20	IAMs_20	01 48 00.0			
comp=Z,40µm,14.1s								
ES08	SONSECA Array	61.95 300	IAMs_20	IAMs_20	01 49 36.9			
comp=Z,34µm,22.0s								
ES10	SONSECA Array	61.95 300	IAMs_20	IAMs_20	01 49 14.9			
comp=Z,28µm,18.0s								
MATAM	Matamba	61.95 231	iP	P	01 18 04.4	-0.9		
MATAM			IAmb	IAmb	01 18 07.2			
comp=Z,263nm,1.8s								
ES18	SONSECA Array	61.95 300	IAMs_20	IAMs_20	01 49 37.2			
comp=Z,33µm,22.0s								
ES02	SONSECA Array	61.96 300	IAMs_20	IAMs_20	01 49 21.3			
comp=Z,33µm,22.0s								
ES11	SONSECA Array	61.96 300	IAMs_20	IAMs_20	01 49 15.4			
comp=Z,29µm,19.0s								
ES03	SONSECA Array	61.96 300	IAMs_20	IAMs_20	01 49 21.4			
comp=Z,35µm,22.0s								
ES07	SONSECA Array	61.97 300	IAMs_20	IAMs_20	01 49 21.5			
comp=Z,33µm,22.0s								
ES01	SONSECA Array	61.97 300	IAMs_20	IAMs_20	01 49 37.6			
comp=Z,33µm,21.0s								
ES06	SONSECA Array	61.97 300	IAMs_20	IAMs_20	01 49 37.6			
comp=Z,33µm,21.0s								
ES04	SONSECA Array	61.97 300	IAMs_20	IAMs_20	01 49 15.7			
comp=Z,28µm,18.0s								
ES17	SONSECA Array	61.98 300	IAMs_20	IAMs_20	01 49 36.7			
comp=Z,34µm,21.0s								
ESBB	Sonseca Array	61.98 300	IAmb	IAmb	01 18 12.4			
comp=Z,139nm,1.4s								
ESDC	Sonseca Array	61.98 300	P	P	01 18 04.6	-0.4		
comp=Z,22nm,0.6s,baz=55,slow=6.6,SNR=137								
ESDC			S	S	01 26 26.2	-2.3		
comp=Z,0.6nm,0.7s,baz=50,slow=3.4,SNR=1.1								
ESDC			PKP2bc		01 47 18.4			
comp=Z,1.9nm,1.1s,baz=270,slow=1.5,SNR=7.6								
ESDC			LR	LR	01 50 04.7			
comp=Z,23µm,19.0s,baz=50,slow=41								
ESDC	Sonseca Array	61.98 300	P	P	01 18 04.3	-0.7		
ES05	SONSECA Array	61.98 300	IAMs_20	IAMs_20	01 49 15.9			
comp=Z,31µm,18.0s								
ES13	SONSECA Array	61.99 300	IAMs_20	IAMs_20	01 48 51.2			
comp=Z,29µm,21.0s								
ES16	SONSECA Array	62.00 300	IAMs_20	IAMs_20	01 48 51.3			
comp=Z,30µm,21.0s								
ES14	SONSECA Array	62.01 300	IAMs_20	IAMs_20	01 48 52.6			
comp=Z,29µm,21.0s								
LOSI	Makongolosi	62.01 232	iP	P	01 18 05.2	-0.3		
LOSI			IAmb	IAmb	01 18 06.6			
comp=Z,303nm,2.2s								
RER	Riviere de l'E	62.01 204	iP	P	01 18 06.5	+1.2		
RER			IAmb	IAmb	01 18 07.0			
comp=Z,296nm,1.0s								
ES15	SONSECA Array	62.01 300	IAMs_20	IAMs_20	01 48 51.7			
comp=Z,31µm,21.0s								
JILO	Lwanjilo	62.02 232	iP	P	01 18 05.6	-0.2		
JILO			IAmb	IAmb	01 18 08.1			
comp=Z,99nm,1.4s								
KIMO	Ikongo	62.04 228	iP	P	01 18 05.4	-0.3		
KIMO			IAmb	IAmb	01 18 07.6			
comp=Z,273nm,1.5s								
MUDIN	Mudindi	62.06 230	iP	P	01 18 04.8	-1.1		
MUDIN			IAmb	IAmb	01 18 06.7			
comp=Z,40nm,0.8s								
SWI	Sorong	62.09 115	P	P	01 18 06.6	+0.7		
comp=Z,7µmcomp=Z,5µmcomp=Z,234nm,1.3s								
MAKE	Makete	62.10 231	iP	P	01 18 05.9	-0.5		
MAKE			IAML		01 18 22.9			
comp=Z,137nm,1.3s								
MSAI	Masohi	62.17 119	P	P	01 18 05.9	-0.6		
comp=Z,948nmcomp=Z,23nm,0.6s								
IGOM	Igoma	62.17 231	iP	P	01 18 07.4	+0.6		
UKWA	Ukwama	62.18 231	iP	P	01 18 06.9	0.0		
UKWA			IAmb	IAmb	01 18 08.8			
comp=Z,546nm,2.3s								
NKAL	Nkalisi	62.25 231	iP	P	01 18 07.4	+0.2		
NKAL			IAmb	IAmb	01 18 09.0			
comp=Z,591nm,2.0s								
NGEA	Songea	62.25 229	iP	P	01 18 06.2	-1.0		
NGEA			IAmb	IAmb	01 18 09.0			
comp=Z,277nm,1.6s								
BUMI	Ibumi	62.26 230⇑	iP	P	01 18 04.4	-2.8		
BUMI			IAmb	IAmb	01 18 08.0			
comp=Z,44nm,0.8s								
ZINI	Mgazini	62.29 229	iP	P	01 18 07.0	-0.4		
ZINI			IAmb	IAmb	01 18 23.2			
comp=Z,605nm,2.5s								
PAB	San Pablo	62.30 300	P	P	01 18 06.9	-0.3		
PAB			pmax	pmax				
comp=Z,107nm,1.3s								
PAB			MLR	MLR				
comp=Z,24µm,20.0s								
PAB	San Pablo	62.30 300	P	P	01 18 06.9	-0.3		
PAB			IAmb	IAmb	01 18 14.7			
comp=Z,107nm,1.3s								
PAB	San Pablo	62.30 300	P		01 18 07.5			
UNDA	Madunda	62.33 230	iP	P	01 18 07.3	-0.4		
UNDA			IAmb	IAmb	01 18 09.4			
comp=Z,463nm,2.2s								
MZUN	Kiwira	62.37 231	iP	P	01 18 08.9	+0.9		
MZUN			IAmb	IAmb	01 18 16.0			
comp=Z,234nm,1.5s								
EUNU	Eureka	62.40 357	P	P	01 18 08.1	+0.8		
EUNU			IAmb	IAmb	01 20 00.4			
comp=Z,116nm,1.2s								
PDHT	Panda Hill	62.42 232	iP	P	01 18 08.4	+0.1		
PDHT			IAmb	IAmb	01 18 11.4			
comp=Z,56nm,1.0s								
ILIND	Ilindi	62.44 232⇑	iP	P	01 18 09.6	+1.1		
ILIND			IAmb	IAmb	01 18 26.9			
comp=Z,350nm,1.8s								
NIND	Nindi	62.49 230	iP	P	01 18 07.9	-0.9		
NIND			IAmb	IAmb	01 18 09.3			
comp=Z,172nm,1.6s								
LIGA	Liganga	62.51 229	iP	P	01 18 08.1	-0.8		
LIGA			IAmb	IAmb	01 18 10.7			
comp=Z,320nm,1.9s								
ISOK	Kyela	62.67 231⇑	iP	P	01 18 09.8	-0.2		
ISOK			IAmb	IAmb	01 18 12.8			
comp=Z,528nm,2.2s								
MANDA	Manda	62.74 230	iP	P	01 18 10.0	-0.3		
MANDA			IAmb	IAmb	01 18 12.4			
comp=Z,269nm,1.8s								
ITUM	Tunduma	62.77 232⇑	iP	P	01 18 11.8	+1.1		
ITUM			IAmb	IAmb	01 18 13.6			
comp=Z,238nm,1.7s								
KURU	Muhukuru	62.80 228	iP	P	01 18 08.9	-1.8		
KURU			IAmb	IAmb	01 18 12.4			
comp=Z,275nm,1.7s								
TIRI	Matiri	62.80 229	iP	P	01 18 09.8	-1.0		
TIRI			IAmb	IAmb	01 18 12.6			
comp=Z,377nm,1.8s								
OPO	Ambohidratompo	62.90 213	S	S	01 26 45.8	+5.4		
comp=Z,2.5nm,0.9s,baz=41,slow=14,SNR=1.3								
PBRG	Braganca	62.90 303⇑	iP	P	01 18 11.3	+0.2		
comp=Z,125nm,1.9s								
MKIL	Mkili	63.01 229	iP	P	01 18 12.0	-0.1		
MKIL			IAmb	IAmb	01 18 14.1			
comp=Z,319nm,1.6s								
TAF	Taforalt	63.13 295	P		01 18 13.1			
MBAM	Mbamba Bay	63.23 229	iP	P	01 18 13.5	-0.1		
MBAM			IAmb	IAmb	01 18 15.3			
comp=Z,1µm,2.7s								
ABPO	Ambohimpanom	63.27 213	P	P	01 18 14.2	+0.3		
ABPO			pmax	pmax				
comp=Z,142nm,1.2s								
ABPO	Ambohimpanom	63.27 213	P	P	01 18 14.2	+0.3		
ABPO			IAmb	IAmb	01 18 16.2			
comp=Z,142nm,1.2s								
ABPO	Ambohimpanom	63.27 213	iP	P	01 18 13.5	-0.4		
MELI	Melilla	63.28 295	P	P	01 18 13.1	-0.6		
MELI			S	S	01 26 43.6	-1.1		
GOG	Mont Gurugu	63.36 295	P		01 18 14.3			
MVO	Moncorvo	63.38 303⇑	iP	P	01 18 14.5	+0.1		
comp=Z,137nm,2.2s								
MVO			eS	S	01 26 47.6	+1.5		
MVO			eSKSac	ScS	01 28 08.8	+2.1		
MVO			eSS	SS	01 30 54.2	+1.8		
MVO	Moncorvo	63.38 303	eLR	LR	01 43 08.9			
comp=Z,30µm,20.0s								
JBK	JBK	63.47 294	P		01 18 16.0			
FIGM	Figuig	63.58 291	P		01 18 15.3			
EMAL	Malaga-Limoner	63.65 297	P	P	01 18 14.0	-2.1		
EMAL			S	S	01 26 45.6	-3.8		
TDRA	Tendrara	63.70 293	P		01 18 18.0			
BATI	Baumata	63.77 128	P	P	01 18 15.1	-2.1		
comp=Z,154nm,0.6s,baz=256,slow=1.9,SNR=19								
BATI			S	S	01 26 47.7	-3.6		
comp=Z,12nm,0.3s,baz=279,slow=19,SNR=1.3								
BATI	Baumata	63.77 128	P	P	01 18 16.6	-0.6		
comp=Z,5µmcomp=Z,2µmcomp=Z,134nm,0.7s								
PVRL	Vila Real	63.79 303⇑	iP	P	01 18 16.9	-0.2		
comp=Z,78nm,1.4s								
PCAB	Cabril	63.80 304⇑	eP	P	01 18 17.1	0.0		
comp=Z,247nm,1.5s								
POLO	Lamas de Olo	63.80 303⇑	iP	P	01 18 17.6	+0.4		
comp=Z,43nm,1.3s								
SOEI	Soe	63.81 128	P	P	01 18 16.6	-0.9		
comp=Z,11µmcomp=Z,6µmcomp=Z,579nm,1.0s								
PGAV	Gavieira, Arco	63.84 304⇑	iP	P	01 18 17.7	+0.3		
comp=Z,170nm,1.6s								
PGAV			eS	S	01 26 52.5	+0.7		
PGAV			eSKSac	ScS	01 28 10.6	+0.4		
PGAV			eSS	SS	01 31 01.7	+2.2		
PGAV	Gavieira, Arco	63.84 304	eLR	LR	01 42 33.0			
comp=Z,25µm,16.0s								
PALE	Palemas	64.04 296	P		01 18 19.0			
MTE	Manteigas	64.09 302⇑	iP	P	01 18 19.6	+0.6		
comp=Z,168nm,1.3s								
MTE			eS	S	01 26 56.4	+1.6		
MTE			eSKSac	ScS	01 28 15.0	+2.9		
MTE	Manteigas	64.09 302	eLR	LR	01 44 01.4			
comp=Z,26µm,20.0s								
MTE	Manteigas	64.09 302	IAmb	IAmb	01 18 27.2			
comp=Z,224nm,1.4s								
MTE			IAMs_20	IAMs_20	01 48 40.5			
comp=Z,31µm,20.0s								
PVIS	Viseu	64.17 303⇑	iP	P	01 18 19.5	-0.1		
comp=Z,157nm,1.4s								
FAKI	Fak Fak	64.22 116	P	P	01 18 20.0	-0.1		
FAKI	Fak Fak	64.22 116	P	P	01 18 21.0	+0.9		
comp=Z,8µmcomp=Z,5µmcomp=Z,158nm,0.7s								
LIJA	Lijar	64.27 298	P	P	01 18 19.2	-1.1		
PCBR	Castelo Branco	64.31 302⇑	iP	P	01 18 21.4	+1.0		
comp=Z,89nm,1.5s								
PVLZ	Peæn de	64.32 296	P	P	01 18 18.6	-2.0		
PVLZ			S	S	01 26 53.6	-4.1		
TULEG	Thule	64.36 352	iP	P	01 18 23.1	+3.0		
TULEG			IAMs_20	IAMs_20	01 51 25.5			
comp=Z,52µm,14.4s								
TULEG	Thule	64.36 352	P	P	01 18 22.2	+2.0		
TULEG			IAmb	IAmb	01 18 27.1			
comp=Z,115nm,1.0s								
TULEG			IAMs_20	IAMs_20	01 48 54.0			
comp=Z,33µm,20.0s								
ICESG	Greenland Ices	64.39 339⇑	iP	P	01 18 22.2	+1.4		
ICESG			IAmb	IAmb	01 18 22.7			
comp=Z,71nm,1.0s								
ICESG			IAMs_20	IAMs_20	01 50 10.8			
comp=Z,30µm,15.5s								
KULLO	Kullorsuaq	64.39 348⇑	iP	P	01 18 20.9	+0.5		
KULLO			IAMs_20	IAMs_20	01 48 37.2			
comp=Z,62µm,19.1s								
KULLO	Kullorsuaq	64.39 348⇑	iP	P	01 18 20.8	+0.5		
KULLO			MLR	MLR				
comp=Z,62µm,19.0s								
PMRV	Marv??o	64.44 301⇑	iP	P	01 18 21.4	+0.1		
comp=Z,125nm,2.1s								
PMRV			eS	S	01 27 00.8	+1.6		
PMRV			eSKSac	SKSac	01 28 14.7	0.0		
PMRV			eSS	SS	01 31 11.2	+2.3		
PMRV	Marv??o	64.44 301	eLR	LR	01 43 22.7			
comp=Z,24µm,20.0s								
CEU	Ceuta	64.73 297	P	P	01 18 20.1	-3.1		
CEU			S	S	01 26 57.0	-5.8		
COI	Coimbra	64.76 302⇑	iP	P	01 18 23.9	+0.5		
comp=Z,267nm,1.3s								
COI	Coimbra	64.76 302	IAmb	IAmb	01 18 33.4			
comp=Z,155nm,0.8s								
COI			IAMs_20	IAMs_20	01 48 45.3			
comp=Z,37µm,18.0s								
PBAR	Barrancos	64.80 300⇑	iP	P	01 18 23.7	0.0		
comp=Z,199nm,1.4s								
A21K	Barrow	64.82 17	P	P	01 18 23.5	+0.3		
baz=314,SNR=11								
A21K			S	S	01 26 59.1	-3.7		
baz=314								
SMIR	Smir Dam	64.84 297	P		01 18 24.0			
PESTR	Estremoz	64.85 301⇑	iP	P	01 18 23.7	-0.3		
comp=Z,84nm,1.9s								
PESTR	Estremoz	64.85 301	P	P	01 18 24.3	+0.3		
PESTR	Estremoz	64.85 301	P		01 18 25.0			
PCAS	Casmilo, Conde	64.89 302⇑	iP	P	01 18 24.7	+0.4		
comp=Z,138nm,1.8s								
SFS	San Fernando	65.05 298	P	P	01 18 24.6	-0.7		
SFS			S	S	01 27 06.4	-0.2		
CHEFC	Chefchaouen	65.10 296	P		01 18 26.0			
GAMB	Gambell	65.12 27	P	P	01 18 25.6	+0.4		
baz=305								
GAMB			S	S	01 27 02.7	-3.8		
baz=305								
GAMB	Gambell	65.12 27	P	P	01 18 26.8	+1.6		
GAMB			IAmb	IAmb	01 18 33.5			
comp=Z,162nm,1.3s								
GAMB			IAMs_20	IAMs_20	01 48 34.2			
comp=Z,27µm,18.0s								
PMTG	Montargil	65.18 301⇑	iP	P	01 18 25.9	-0.2		
comp=Z,88nm,1.7s								
EVO	Evora	65.30 301	P	P	01 18 27.1	+0.2		
EVO			S	S	01 27 11.0	+1.3		
EVO	Evora	65.30 301⇑	iP	P	01 18 28.1	+1.2		
comp=Z,109nm,1.9s								
PSBE	So Bento	65.35 302⇑	iP	P	01 18 27.9	+0.6		
comp=Z,255nm,1.1s								
RDOG	Red Dog Mine	65.39 21	P	P	01 18 27.1	+0.1		
RDOG			S	S	01 27 07.8	-2.1		
baz=310								
RDOG	Red Dog Mine	65.39 21	IAMs_20	IAMs_20	01 50 59.2			
comp=Z,27µm,18.0s								
TNA	Tin City	65.39 25	P	P	01 18 26.9	-0.1		
baz=307								
TNA			S	S	01 27 09.1	-0.8		
baz=307								
TNA	Tin City	65.39 25	IAMs_20	IAMs_20	01 50 13.3			
comp=Z,25µm,18.0s								
PBEJ	Beja	65.44 300⇑	eP	P	01 18 27.9	0.0		
comp=Z,85nm,1.4s								
LCRM	LCR	65.45 295	P		01 18 29.0			
RSA	Sarsar	65.55 296	P		01 18 29.0			
UPNV	Upernavik	65.61 346	iP	P	01 18 28.5	+0.2		
UPNV			IAMs_20	IAMs_20	01 54 24.4			
comp=Z,41µm,14.3s								
PVAQ	Vaqueiros	65.64 299⇑	iP	P	01 18 29.2	0.0		
comp=Z,177nm,1.4s								
PVAQ			eS	S	01 27 15.9	+2.0		
PVAQ	Vaqueiros	65.64 299	eLR	LR	01 44 14.9			
comp=Z,30µm,18.0s								
PVAQ	Vaqueiros	65.64 299	IAmb	IAmb	01 18 36.8			
comp=Z,192nm,1.3s								
PVAQ			IAMs_20	IAMs_20	01 51 58.9			
comp=Z,30µm,21.0s								
PVAQ	Vaqueiros	65.65 299	P		01 18 29.5			
MDT	Midelt	65.70 294	P		01 18 29.9			
IFR	Ifrane	65.73 294	P	P	01 18 30.1	+0.1		
IFR			S	S	01 27 16.8	+1.4		
PCVE	Castro Verde	65.76 300⇑	iP	P	01 18 30.2	+0.3		
comp=Z,76nm,1.6s								
MESJ	Messejana	65.78 300	eP	P	01 18 30.2	+0.1		
MESJ			eS	S	01 27 16.4	+0.8		
MESJ			IAMs_20	IAMs_20	01 45 47.8			
comp=N,51µm,19.1s								
MESJ	Messejana	65.78 300	eP	P	01 18 30.1	+0.1		
MESJ			eS	S	01 27 16.3	+0.8		
MESJ	Messejana	65.78 300⇑	iP	P	01 18 30.1	+0.1		
comp=N,115nm,1.6s								
PNCL	Nicolau / Gran	65.86 300⇑	iP	P	01 18 30.6	+0.1		
comp=N,106nm,1.5s								
PBDV	Barranco-do-Ve	65.87 299⇑	iP	P	01 18 31.0	+0.3		
comp=N,234nm,1.5s								
ANGG	Ammassalik, Gr	65.95 336	iP	P	01 18 31.4	+0.8		
ANGG			IAmb	IAmb	01 18 32.4			
comp=Z,65nm,0.7s								
ANGG			IAMs_20	IAMs_20	01 50 35.6			
comp=Z,30µm,14.6s								
PMAFR	Mafra	65.96 301⇑	iP	P	01 18 31.2	0.0		
comp=Z,200nm,1.5s								
LIS	Lisbon	65.98 301	eP	P	01 18 31.6	+0.3		
LIS			eS	S	01 27 19.0	+1.0		
LIS			IAMs_20	IAMs_20	01 54 13.5			
comp=E,42µm,18.2s								
LIS	Lisbon	65.98 301	eP	P	01 18 31.6	+0.3		
LIS			eS	S	01 27 19.0	+1.0		
LIS	Lisbon	65.98 301⇑	iP	P	01 18 31.7	+0.4		
comp=E,252nm,1.4s								
PMST	Lisbon--Monsan	66.00 301⇑	iP	P	01 18 31.8	+0.4		
comp=E,196nm,1.9s								
VOI	Vohitsoka	66.02 212	P	P	01 18 32.1	+0.4		
VOI	Vohitsoka	66.02 212	P	P	01 18 31.8	+0.1		
SNR=18								
ZOMB	Zomba	66.19 226	iP	P	01 18 31.3	-1.6		
ZOMB			IAmb	IAmb	01 18 32.7			
comp=Z,29nm,1.1s								
PTEO	Sao Teotonio	66.27 300⇑	eP	P	01 18 33.5	+0.3		
comp=Z,170nm,1.6s								
MORF	Marmelete	66.34 300	eP	P	01 18 34.0	+0.2		
MORF			eS	S	01 27 23.2	+0.7		
MORF			IAMs_20	IAMs_20	01 54 25.6			
comp=E,55µm,14.1s								
MORF	Marmelete	66.34 300	eP	P	01 18 33.9	+0.2		
MORF			eS	S	01 27 23.2	+0.7		
MORF	Marmelete	66.34 300⇑	iP	P	01 18 33.9	+0.2		
comp=E,74nm,1.4s								
ISOG	Isortoq, Green	66.42 336	iP	P	01 18 33.8	+0.1		
ISOG			IAmb	IAmb	01 18 35.1			
comp=Z,39nm,1.0s								
ISOG			IAMs_20	IAMs_20	01 50 59.4			
comp=Z,36µm,15.0s								
PFVI	Vila Bisbo	66.55 300⇑	iP	P	01 18 35.3	+0.3		
comp=Z,133nm,1.3s								
PFVI	Vila Bisbo	66.55 300	P	P	01 18 34.8	-0.2		
PFVI			IAmb	IAmb	01 20 01.8			
comp=Z,181nm,1.3s								
ANM	Nome	66.86 25	P	P	01 18 37.5	+1.0		
ANM			pmax	pmax				
comp=Z,220nm,0.9s								
ANM			MLR	MLR				
comp=Z,21µm,20.0s								
ANM	Nome	66.86 25	P	P	01 18 35

comp=Z,20µm,16.0s
SFJD Kangerlussuaq 68.82 341 *i* P **P 01 18 48.1 -0.6**
SFJD MLR MLR
comp=Z,20µm,16.0s
SFJD Kangerlussuaq 68.82 341 P **P 01 18 49.2 +0.5**
SFJD Kangerlussuaq 68.82 341 IAms_20 IAms_20 01 53 19.0
comp=Z,25µm,20.0s
OUK Oukaimeden 68.90 294 P 01 18 51.1
COLD Coldfoot 69.39 18 P **P 01 18 52.3 0.0**
baz=321,SNR=74
COLD S **S 01 27 54.2 -3.7**
baz=321
COLD Coldfoot 69.39 18 P **P 01 18 52.9 +0.6**
COLD IAms_20 IAms_20 01 52 26.9
comp=Z,22µm,20.0s
SPIA Saint Paul Isl 69.62 33 P **P 01 18 54.0 +0.2**
baz=308
SPIA S **S 01 27 59.6 -1.3**
baz=308
SPIA Saint Paul Isl 69.62 33 IAms_20 IAms_20 01 52 03.4
comp=Z,27µm,20.0s
TTIG Tnine Tigouga, 69.67 293 P 01 18 56.0
GENI Genyem 69.80 110 P **P 01 18 57.4 +1.8**
comp=Z,7µmcomp=Z,7µmcomp=Z,348nm,0.9s
H21K Melozitna Rive 69.92 20 P **P 01 18 55.8 +0.1**
baz=319
H21K S **S 01 28 02.1 -2.1**
baz=319
I21K Tanana 70.50 20 P **P 01 18 59.7 +0.5**
baz=320
I21K S **S 01 28 09.1 -1.9**
baz=320
H23K Yukon River 70.65 19 P **P 01 19 00.7 +0.6**
baz=322,SNR=243
H23K S **S 01 28 11.7 -1.1**
baz=322
PSA00 Pilbara Seismi 70.65 139 P **P 01 18 60.0 -0.6**
PSA00 IAmb IAmb 01 19 01.6
comp=Z,186nm,1.1s
MLY Manley 70.95 20 P **P 01 19 02.1 +0.1**
baz=321,SNR=28
MLY S **S 01 28 14.0 -2.5**
baz=321
MLY Manley 70.95 20 P **P 01 19 02.8 +0.8**
MLY IAmb IAmb 01 19 09.9
comp=Z,210nm,1.0s
MLY IAms_20 IAms_20 01 56 06.5
comp=Z,22µm,18.0s
TTA Tatalina 71.01 23 S **S 01 28 16.5 -0.8**
baz=317
H24K Noodor Dome 71.06 18 P **P 01 19 02.8 +0.2**
baz=323,SNR=151
H24K S **S 01 28 15.5 -2.2**
baz=323
FITZ Fitzroy Crossi 71.09 132 S **S 01 28 16.0 -3.0**
comp=Z,3.1nm,0.9s,baz=295,slow=19,SNR=1.5
FITZ LR LR 01 52 56.9
comp=Z,7µm,21.5s,baz=306,slow=38
FITZ Fitzroy Crossi 71.09 132 P **P 01 19 02.8 -0.5**
KNRA Kununurra 71.13 128 P **P 01 19 03.7 +0.1**
KNRA IAmb IAmb 01 19 05.3
comp=Z,198nm,1.2s
I23K Minto, Yukon-K 71.23 19 P **P 01 19 04.2 +0.6**
baz=322,SNR=176
I23K S **S 01 28 16.5 -3.0**
baz=322
I23K Minto, Yukon-K 71.23 19 IAms_20 IAms_20 01 54 10.7
comp=Z,30µm,19.0s
NUUK Nuuk 71.26 339 *i* P **P 01 19 04.2 +0.5**
NUUK IAmb IAmb 01 19 09.2
comp=Z,49nm,0.9s
NUUK IAms_20 IAms_20 01 54 16.6
comp=Z,32µm,14.9s
TOC2 Torodi Ar. Sit 71.38 272 IAms_20 IAms_20 01 53 58.0
comp=Z,34µm,20.0s
TOC1 Torodi Ar. Sit 71.39 273 IAms_20 IAms_20 01 53 57.2
comp=Z,41µm,19.0s
TOC3 Torodi Ar. Sit 71.39 272 IAms_20 IAms_20 01 53 57.3
comp=Z,34µm,20.0s
TOB1 Torodi Ar. Sit 71.40 273 IAms_20 IAms_20 01 53 58.5
comp=Z,34µm,19.0s
TOA2 Torodi Ar. Sit 71.40 272 IAms_20 IAms_20 01 53 57.6
comp=Z,36µm,19.0s
TOB3 Torodi Ar. Sit 71.41 272 IAms_20 IAms_20 01 53 58.6
comp=Z,33µm,19.0s
TOA0 Torodi Ar. Sit 71.41 272 IAmb IAmb 01 19 05.9
comp=Z,75nm,0.7s
TOA0 IAms_20 IAms_20 01 53 58.7
comp=Z,34µm,20.0s
TOA0 Torodi Ar. Sit 71.41 272 P **P 01 19 06.1 +0.6**
SNR=35
TORD Torodi Ar. Bea 71.41 272 P **P 01 19 04.4 -1.1**
comp=Z,56nm,0.5s,baz=45,slow=5.2,SNR=514
TORD S **S 01 28 18.4 -4.7**
comp=Z,1.7nm,0.9s,baz=64,slow=4.9,SNR=1.7
TORD PKPPKP **P'P'df 01 47 00.8 +0.4**
comp=Z,1.7nm,1.0s,baz=294,slow=1.5,SNR=4.1
TORD LR LR 01 55 44.3
comp=Z,18µm,18.1s,baz=40,slow=40
TORD Torodi Ar. Bea 71.41 272 P **P 01 19 04.3 -1.2**
TORD IAmb IAmb 01 19 05.9
comp=Z,76nm,0.7s
TOC7 Torodi Ar. Sit 71.41 273 IAms_20 IAms_20 01 53 58.8
comp=Z,35µm,19.0s
TOA3 Torodi Ar. Sit 71.41 272 IAms_20 IAms_20 01 53 58.8
comp=Z,33µm,19.0s
TOB5 Torodi Ar. Sit 71.42 273 IAms_20 IAms_20 01 53 58.9
comp=Z,37µm,19.0s
TOC4 Torodi Ar. Sit 71.42 272 IAms_20 IAms_20 01 53 59.0
comp=Z,34µm,19.0s
TOB4 Torodi Ar. Sit 71.42 272 IAms_20 IAms_20 01 53 59.0
comp=Z,34µm,19.0s
NRS Narsarsuaq 71.54 335 *i* P **P 01 19 05.8 +0.3**
NRS IAmb IAmb 01 19 10.6
comp=Z,79nm,0.8s
NRS IAms_20 IAms_20 01 56 54.3
comp=Z,26µm,13.2s
NRS Narsarsuaq 71.54 335 *i* P **P 01 19 05.8 +0.3**
NRS pmax pmax
comp=Z,79nm,0.8s
NRS MLR MLR
comp=Z,26µm,13.0s
NRS Narsarsuaq 71.54 335 IAmb IAmb 01 19 13.4
comp=Z,102nm,0.7s
NRS IAms_20 IAms_20 01 52 34.2
comp=Z,23µm,18.0s
BPAW Bear Paw Mtn. 71.61 20 P **P 01 19 06.1 +0.1**
baz=321,SNR=59
BPAW S **S 01 28 20.1 -4.0**
baz=321
MDM Murphy Dome 71.67 19 IAmb IAmb 01 19 14.0
comp=Z,181nm,0.9s
MDM IAms_20 IAms_20 01 55 10.4
comp=Z,26µm,18.0s
NEA2 Nenana 71.75 19 P **P 01 19 06.8 0.0**
baz=322,SNR=35
NEA2 S **S 01 28 21.3 -4.2**
baz=322
NEA2 Nenana 71.75 19 IAms_20 IAms_20 01 56 02.3
comp=Z,19µm,18.0s
POKR Poker Plat Res 71.75 19 P **P 01 19 07.1 +0.4**
baz=323,SNR=101
POKR S **S 01 28 22.6 -3.0**
baz=323
POKR Poker Plat Res 71.75 19 IAms_20 IAms_20 01 54 50.5
comp=Z,28µm,18.0s
TCOL CIGO, UAF Yank 71.84 19 P **P 01 19 07.3 +0.1**
baz=323,SNR=29
TCOL S **S 01 28 23.5 -3.0**
baz=323
TCOL CIGO, UAF Yank 71.84 19 IAms_20 IAms_20 01 56 21.8
comp=Z,25µm,18.0s
COLA College 71.84 19 *c i* P **P 01 19 08.1 +0.9**
COLA pmax pmax
comp=Z,71nm,1.0s
COLA MLR MLR
comp=Z,24µm,17.0s
COLA College 71.84 19 P **P 01 19 07.3 +0.1**
baz=323
COLA S **S 01 28 22.3 -4.2**
baz=323
COLA College 71.84 19 P **P 01 19 08.3 +1.1**
PRP Porcupine Dome 71.90 18 P **P 01 19 08.0 +0.2**
baz=325
PRP S **S 01 28 23.9 -3.6**
baz=325
PRP Porcupine Dome 71.90 18 IAmb IAmb 01 19 15.8
comp=Z,297nm,1.5s
PRP IAms_20 IAms_20 01 52 46.3
comp=Z,24µm,22.0s
INK Inuvik 71.91 12 S **S 01 28 21.6 -5.7**
comp=Z,1.1nm,0.6s,baz=243,slow=6.8,SNR=1.2
INK Inuvik 71.91 12 P **P 01 19 07.8 +0.2**
baz=334,SNR=31
INK S **S 01 28 22.2 -5.0**
baz=334
L19K White Mountain 71.93 23 P **P 01 19 08.1 +0.2**
baz=318,SNR=58
L19K S **S 01 28 27.1 -0.7**
baz=318
CCB Clear Creek Bu 72.03 19 IAmb IAmb 01 19 15.6
comp=Z,276nm,1.3s
CCB IAms_20 IAms_20 01 55 30.0
comp=Z,30µm,18.0s
WRH Wood River Hil 72.10 19 IAmb IAmb 01 19 15.8
comp=Z,172nm,1.1s
WRH IAms_20 IAms_20 01 55 30.7
comp=Z,24µm,19.0s
ITZ Itezhi-Tezhi 72.11 233 *i* P **P 01 19 08.5 -1.2**
IL31 72.17 19 IAmb IAmb 01 19 16.2
comp=Z,186nm,0.9s
ILAR Eielson Array 72.17 19 P **P 01 19 08.4 -0.9**
comp=Z,25nm,0.8s,baz=316,slow=4.4,SNR=167
ILAR S **S 01 28 27.8 -2.6**
comp=Z,0.3nm,0.9s,baz=304,slow=8.6,SNR=1.2
ILAR PKPPKP **P'P'df 01 46 58.4 -4.7**
comp=Z,0.7nm,0.9s,baz=186,slow=2.2,SNR=4.7
ILAR LR LR 01 55 22.4
comp=Z,22µm,18.3s,baz=324,slow=40
ILAR Eielson Array 72.17 19 P **P 01 19 08.7 -0.6**
C36M Paulatuk 72.24 8 P **P 01 19 08.5 -1.0**
baz=342,SNR=27
C36M S **S 01 28 24.6 -6.3**
baz=342
M19K Big River Lodg 72.28 23 P **P 01 19 11.1 +1.1**
baz=318
M19K S **S 01 28 30.4 -1.3**
baz=318
TRF Thorofare Moun 72.31 21 P **P 01 19 09.2 -1.1**
baz=321,SNR=72
TRF S **S 01 28 28.9 -3.5**
baz=321
TRF Thorofare Moun 72.31 21 IAmb IAmb 01 19 19.6
comp=Z,106nm,0.8s
HDA Harding Lake 72.44 19 P **P 01 19 09.5 -1.5**
baz=324,SNR=90
HDA S **S 01 28 28.9 -4.7**
baz=324
HDA S **S 01 28 28.9 -4.7**
baz=324
HDA Harding Lake 72.44 19 IAmb IAmb 01 19 18.0
comp=Z,123nm,0.9s
HDA IAms_20 IAms_20 01 56 39.9
comp=Z,21µm,18.0s
MCK McKinley 72.46 20 P **P 01 19 10.9 -0.1**
baz=322,SNR=46
MCK S **S 01 28 31.1 -2.8**
baz=322
MCK McKinley 72.46 20 IAmb IAmb 01 19 19.1
comp=Z,362nm,1.4s
SVW2 Sparrevohn 72.50 24 IAmb IAmb 01 19 20.4
comp=Z,278nm,1.2s
SVW2 IAms_20 IAms_20 01 56 19.0
comp=Z,20µm,19.0s
M20K Styx River 72.69 23 P **P 01 19 12.1 -0.5**
baz=320
M20K S **S 01 28 34.1 -2.5**
baz=320
N18K Kilae Creek 72.71 25 P **P 01 19 13.5 +0.9**
baz=318,SNR=49
N18K S **S 01 28 36.8 +0.1**
baz=318
RND Reindeer 72.75 20 IAmb IAmb 01 19 19.7
comp=Z,151nm,0.8s
NIKH Nikolski High 72.89 36 P **P 01 19 14.5 +0.8**
baz=310
N19K Bonanza Creek 73.07 24 P **P 01 19 15.0 +0.2**
baz=319,SNR=33
N19K S **S 01 28 39.8 -1.2**
baz=319
EPYK Eagle Plains 73.07 14 P **P 01 19 14.0 -0.7**
baz=332,SNR=64
EPYK S **S 01 28 38.9 -1.8**
baz=332
EPYK Eagle Plains 73.07 14 IAmb IAmb 01 19 21.6
comp=Z,183nm,1.1s
SKT Skwentna 73.10 22 P **P 01 19 14.6 -0.3**
baz=321,SNR=85
SKT S **S 01 28 36.6 -4.6**
baz=321
CUT Chulitna 73.14 21 P **P 01 19 14.7 -0.3**
baz=322,SNR=9.4
CUT S **S 01 28 36.0 -5.5**
baz=322
CUT Chulitna 73.14 21 P **P 01 19 15.4 +0.4**
WAT1 Susitna Watana 73.29 20 P **P 01 19 15.4 -0.6**
baz=323
WAT1 S **S 01 28 38.1 -5.2**
baz=323
SPCR Spurr Chakacha 73.50 23 P **P 01 19 17.3 0.0**
baz=320,SNR=13
SPCR S **S 01 28 45.3 -0.5**
baz=320
AKUT Akutan 73.52 33 IAms_20 IAms_20 01 55 06.7
comp=Z,20µm,20.0s
EGAK Eagle 73.53 16 P **P 01 19 17.7 +0.4**
baz=328,SNR=30
EGAK S **S 01 28 40.8 -5.1**
baz=328
EGAK Eagle 73.53 16 IAmb IAmb 01 19 24.8
comp=Z,317nm,1.4s
EGAK IAms_20 IAms_20 01 55 15.6
comp=Z,20µm,19.0s
SCRK Sand Creek 73.55 18 P **P 01 19 17.0 -0.6**
baz=326,SNR=148
SCRK S **S 01 28 41.7 -4.6**
baz=326
SCRK Sand Creek 73.55 18 IAmb IAmb 01 19 25.1
comp=Z,217nm,0.9s
O18K Koktuh Hills 73.55 25 P **P 01 19 17.5 0.0**
baz=318
O18K S **SKiKP 01 28 47.3 +0.6**
baz=318
O19K Port Alsworth 73.59 24 P **P 01 19 17.9 +0.1**
baz=319
O19K S **SKiKP 01 28 45.0 -1.7**
baz=319
WAT6 Susitna Watana 73.71 20 P **P 01 19 17.6 -1.0**
baz=324,SNR=33
WAT6 S **SKiKP 01 28 43.1 -3.9**
baz=324
SUA Susitna One 73.74 22 P **P 01 19 18.1 -0.6**
baz=321,SNR=115
SUA S **SKiKP 01 28 45.0 -2.1**
baz=321
SUA Susitna One 73.74 22 IAms_20 IAms_20 01 56 23.0
comp=Z,28µm,19.0s
DOT Dot Lake 73.80 18 IAmb IAmb 01 19 26.2
comp=Z,153nm,0.9s
PMPST Porto Santo, M 73.91 299⇑ *eP* **P 01 19 20.5 +0.4**
comp=Z,225nm,1.6s
PMPS Porto Santo 73.92 299 *eP* **P 01 19 20.5 +0.3**
comp=Z,217nm,2.0s
K27K Chicken 73.96 17 P **P 01 19 20.2 +0.3**
baz=328
K27K S **SKiKP 01 28 45.8 -1.3**
baz=328
PAX Paxson 74.00 19 P **P 01 19 19.7 -0.6**
baz=325,SNR=22
PAX S **S 01 28 50.7 -0.7**
baz=325
GHO Glory Hole Cre 74.03 21 IAms_20 IAms_20 01 55 50.3
comp=Z,19µm,19.0s
FALS False Pass 74.04 32 P **P 01 19 20.5 0.0**
baz=313
PMR Palmer 74.11 21 P **P 01 19 20.9 +0.1**
baz=323,SNR=11
PMR S **S 01 28 50.5 -1.9**
baz=323
PMR Palmer 74.11 21 IAmb IAmb 01 19 28.1
comp=Z,200nm,0.8s
FIS Fire Island 74.15 22 IAms_20 IAms_20 01 56 35.9
comp=Z,25µm,18.0s
CAPN Captain Cook N 74.16 23 P **P 01 19 21.0 -0.1**
baz=321,SNR=10
CAPN S **S 01 28 53.4 +0.4**
baz=321
CAPN Captain Cook N 74.16 23 IAms_20 IAms_20 01 55 17.2
comp=Z,19µm,18.0s
SML Sawmill 74.17 21 P **P 01 19 20.3 -0.9**
baz=323,SNR=306
SML S **S 01 28 51.7 -1.6**
baz=323
SML Sawmill 74.17 21 IAms_20 IAms_20 01 55 10.4
comp=Z,23µm,21.0s
O20K Slope Mountain 74.23 24 P **P 01 19 21.8 +0.2**
baz=320,SNR=28
RC01 Rabbit Creek A 74.33 22 P **P 01 19 22.3 +0.2**
baz=322,SNR=39
RC01 S **S 01 28 53.1 -1.9**
baz=322
RC01 Rabbit Creek A 74.33 22 P **P 01 19 22.0 -0.1**
RC01 IAms_20 IAms_20 01 55 31.8
comp=Z,21µm,20.0s
P19K Oil Pt 74.36 24 P **P 01 19 22.5 +0.2**
baz=320
P19K S **S 01 28 55.0 -0.5**
baz=320
KNK Knik Glacier 74.45 21 P **P 01 19 23.3 +0.5**
baz=323,SNR=76
KNK S **S 01 28 54.6 -1.8**
baz=323
KNK Knik Glacier 74.45 21 IAms_20 IAms_20 01 55 41.8
comp=Z,21µm,20.0s
PMAR Madeira 74.51 299⇑ *iP* **P 01 19 24.2 +0.3**
comp=Z,337nm,2.0s
M24K Tolsona, Glenn 74.53 20 P **P 01 19 24.0 +0.7**
baz=325,SNR=122
M24K S **S 01 28 55.9 -1.4**
baz=325
FUL Funchal 74.54 299 *eP* **P 01 19 24.4 +0.6**
comp=Z,161nm,1.7s
DAWY Dawson 74.54 16 IAmb IAmb 01 19 30.6
comp=Z,153nm,0.8s
HARP HAARP 74.56 19 P **P 01 19 23.9 +0.5**
baz=326,SNR=201
HARP S **S 01 28 56.9 -0.6**
baz=326
PMOZ Porto Moniz, M 74.65 300⇑ *iP* **P 01 19 25.1 +0.5**
comp=Z,179nm,1.8s
PMOZ *e*S **S 01 29 01.9 +2.2**
PMOZ Porto Moniz, M 74.65 300 *e*LR LR 01 48 20.5
comp=Z,20µm,20.0s
O22K Cooper Landing 74.82 22 P **P 01 19 24.3 -0.5**
baz=322,SNR=9.8
O22K S **S 01 28 57.2 -3.2**
baz=322
O22K Cooper Landing 74.82 22 IAms_20 IAms_20 01 56 39.7
comp=Z,29µm,20.0s
L27K Beaver Creek, 74.84 18 P **P 01 19 25.9 +0.8**
baz=328,SNR=36
L27K S **S 01 28 58.1 -2.6**
baz=328
L27K Beaver Creek, 74.84 18 IAmb IAmb 01 19 33.2
comp=Z,158nm,0.9s
L27K IAms_20 IAms_20 01 55 47.2
comp=Z,21µm,20.0s
BCAR Beaver Creek A 74.85 18 P **P 01 19 25.1 0.0**
BCAR pP **pP 01 19 32.4 +0.5**
HOM Homer 74.87 24 P **P 01 19 24.9 -0.3**
baz=321
HOM S **S 01 28 56.2 -4.8**
baz=321
SDPT Sand Point 74.90 30 P **P 01 19 25.0 -0.4**
baz=315
SDPT S **S 01 28 57.8 -3.7**
baz=315
MANU Manus Island 74.91 105 P **P 01 19 27.4 +1.3**
MANU IAmb IAmb 01 19 29.3
comp=Z,225nm,1.4s
PWL Port Wells 74.93 22 IAmb IAmb 01 19 33.0
comp=Z,172nm,0.8s
PWL IAms_20 IAms_20 01 55 54.6
comp=Z,22µm,20.0s
BRLK Bradley Lake 75.03 23 IAmb IAmb 01 19 33.2
comp=Z,254nm,1.0s
BRSE Bradley Lake S 75.09 23 P **P 01 19 26.4 -0.2**
baz=322,SNR=30
BRSE S **S 01 29 01.3 -2.3**
baz=322
KLU Klutina 75.10 20 P **P 01 19 26.6 0.0**
baz=325,SNR=39
KLU S **S 01 29 02.2 -1.6**
baz=325
KLU Klutina 75.10 20 IAmb IAmb 01 19 34.5
comp=Z,234nm,1.1s
CNPM China Poot 75.11 24 IAmb IAmb 01 19 36.4
comp=Z,218nm,1.0s
MORW Morawa 75.13 146 IAmb IAmb 01 19 28.2
comp=Z,254nm,1.1s
KOWA Kowa 75.16 277 P **P 01 19 27.1 -0.5**
KOWA IAmb IAmb 01 19 33.5
comp=Z,290nm,1.2s
KOWA Kowa 75.16 277 *i* P **P 01 19 25.1 -2.5**
SEW Seward 75.20 22 P **P 01 19 27.5 +0.4**
baz=323,SNR=36
SEW S **S 01 29 01.9 -2.7**
baz=323
SEW Seward 75.20 22 IAmb IAmb 01 19 34.5
comp=Z,279nm,1.0s
SEW IAms_20 IAms_20 01 57 09.8
comp=Z,30µm,19.0s
GLI Glacier Island 75.27 21 P **P 01 19 27.4 -0.1**
baz=324,SNR=29
GLI S **S 01 29 04.9 -0.7**
baz=324
GLI Glacier Island 75.27 21 IAmb IAmb 01 19 35.0
comp=Z,213nm,0.8s
GLI IAms_20 IAms_20 01 56 17.6
comp=Z,23µm,20.0s
N25K Chitina, Valde 75.36 20 P **P 01 19 28.1 0.0**
baz=326,SNR=60
N25K S **S 01 29 05.4 -1.3**
baz=326
FID Port Fidalgo 75.56 21 IAms_20 IAms_20 01 56 26.6
comp=Z,25µm,20.0s
CHNA Chernabura Isl 75.63 30 P **P 01 19 29.1 -0.6**
baz=316
CHNA S **S 01 29 07.4 -2.2**
baz=316
GLB Gilahina Butte 75.71 19 IAmb IAmb 01 19 38.0
comp=Z,231nm,1.2s
HIN Hinchinbrook I 75.84 21 IAms_20 IAms_20 01 56 35.5
comp=Z,29µm,20.0s
BMRM Bremner River 75.89 20 P **P 01 19 31.6 +0.5**
baz=326,SNR=60
BMRM S **S 01 29 08.4 -4.1**
baz=326
BMRM Bremner River 75.89 20 IAmb IAmb 01 19 39.7
comp=Z,269nm,1.0s
BMRM IAms_20 IAms_20 01 59 02.1
comp=Z,21µm,18.0s
EYAK Cordova Ski Ar 75.93 21 P **P 01 19 31.7 +0.5**
baz=325,SNR=25
EYAK S **S 01 29 08.6 -4.1**
baz=325
EYAK Cordova Ski Ar 75.93 21 IAmb IAmb 01 19 39.4
comp=Z,165nm,0.8s
EYAK IAms_20 IAms_20 01 56 15.8
comp=Z,24µm,22.0s
MCARA McCarthy VSAT 75.97 19 P **P 01 19 31.6 +0.1**
baz=327,SNR=36
MCARA S **S 01 29 12.2 -1.0**
baz=327
MCARA McCarthy VSAT 75.97 19 IAms_20 IAms_20 01 57 34.9
comp=Z,21µm,20.0s
KDAK Kodiak Island 76.02 25 S **S 01 29 15.8 +2.0**
comp=Z,16nm,1.1s,baz=270,slow=20,SNR=16
KDAK Kodiak Island 76.02 25 P **P 01 19 32.5 +0.7**
KDAK pmax pmax
comp=Z,758nm,1.4s
KDAK MLR MLR
comp=Z,30µm,20.0s
KDAK Kodiak Island 76.02 25 P **P 01 19 32.1 +0.2**
baz=321
KDAK S **S 01 29 15.5 +1.7**
baz=321
KDAK Kodiak Island 76.02 25 P **P 01 19 32.5 +0.7**
KDAK Kodiak Island 76.02 25 IAms_20 IAms_20 01 56 11.5
comp=Z,30µm,20.0s
OHAK Old Harbor 76.21 26 P **P 01 19 33.4 +0.5**
baz=320
OHAK S **S 01 29 18.3 +2.4**
baz=320

OHAK Old Harbor 76.21 26 IAMs_20 IAMs_20 01 56 52.6
comp=Z,24µm,21.0s
CRQE Cirque 76.48 19 P **P** **01 19 35.0 +0.4**
baz=327,SNR=48
CRQE S **S** **01 29 20.2 +1.1**
baz=327
HMT Hamilton 76.52 20 P **P** **01 19 35.7 +1.0**
BARN Barnard Glacie 76.59 19 IAmb IAmb 01 19 43.4
comp=Z,306nm,1.2s
BARN IAMs_20 IAMs_20 01 57 31.4
comp=Z,20µm,19.0s
CTG Chitna Glacier 76.75 19 P **P** **01 19 36.7 +0.6**
baz=329,SNR=12
CTG S **S** **01 29 21.7 -0.4**
baz=329
CTGM Chitina Glacie 76.76 19 IAmb IAmb 01 19 44.3
comp=Z,202nm,0.9s
CTGM IAMs_20 IAMs_20 01 57 35.7
comp=Z,18µm,18.0s
WAX Waxell Ridge 76.80 20 IAMs_20 IAMs_20 01 58 14.0
comp=Z,20µm,19.0s
ISLE Juniper Island 76.81 19 IAmb IAmb 01 19 44.2
comp=Z,159nm,1.0s
ISLE IAMs_20 IAMs_20 01 58 04.1
comp=Z,20µm,19.0s
SUCK Suckling Hills 76.87 20 IAMs_20 IAMs_20 02 00 01.8
comp=Z,24µm,18.0s
LOGN Logan Glacier 76.96 19 IAmb IAmb 01 19 45.3
comp=Z,123nm,0.9s
BGLC Bering Glacier 76.96 20 P **P** **01 19 37.8 +0.7**
baz=327
BGLC S **S** **01 29 25.0 +1.0**
baz=327
BART Pico Bartolome 77.02 308 *e*P **P** **01 19 37.6 -0.4**
comp=Z,140nm,0.6s
KUKU Kukurantumi 77.13 268 *i*P **P** **01 19 37.2 -1.6**
YAH Yahtse 77.17 19 IAmb IAmb 01 19 46.8
comp=Z,174nm,0.8s
YAH IAMs_20 IAMs_20 01 58 14.7
comp=Z,22µm,20.0s
PCALD Caldeiras da R 77.21 308 *e*P **P** **01 19 40.2 +1.2**
comp=Z,106nm,0.4s
CMLA Cha da Macela 77.25 308 *e*P **P** **01 19 37.6 -1.6**
comp=Z,75nm,0.6s
CMLA *e*S **S** **01 29 29.9 +1.9**
CMLA Cha da Macela 77.25 308 IAMs_20 IAMs_20 01 56 42.7
comp=Z,25µm,18.0s
GRON Grota Negra 77.25 308 *e*P **P** **01 19 40.6 +1.3**
comp=Z,194nm,1.1s
TABL Table Mountain 77.25 19 IAMs_20 IAMs_20 01 57 41.9
comp=Z,20µm,19.0s
MESA MESA 77.27 19 P **P** **01 19 38.8 -0.3**
baz=328,SNR=22
MESA S **S** **01 29 27.2 -0.7**
baz=328
MESA MESA 77.27 19 IAMs_20 IAMs_20 01 58 38.3
comp=Z,24µm,20.0s
PSET Sete Cidades 77.34 308 *e*P **P** **01 19 37.0 -2.7**
comp=Z,267nm,0.7s
PSET *e*S **S** **01 29 31.9 +2.9**
PSMN Pico do Norte, 77.42 307 *e*P **P** **01 19 37.6 -2.6**
comp=Z,57nm,0.7s
PSMN *e*S **S** **01 29 29.9 0.0**
PSMA Santa Maria 77.47 307 *e*P **P** **01 19 39.3 -1.1**
comp=Z,158nm,0.8s
PAGU Águalva, Azore 77.67 309 *e*P **P** **01 19 39.0 -2.5**
comp=Z,98nm,1.1s
PAGU *e*S **S** **01 29 32.6 +0.1**
PSCM Serra do Cume 77.67 309 *e*P **P** **01 19 42.5 +1.0**
WB0 Warramunga Arr 77.74 127 IAmb IAmb 01 19 43.6
comp=Z,339nm,1.5s
PCA Pinnacle 77.78 19 IAmb IAmb 01 19 49.9
comp=Z,202nm,0.9s
PCA IAMs_20 IAMs_20 01 57 56.8
comp=Z,18µm,20.0s
PINM Pinnacle 77.78 19 P **P** **01 19 42.4 +0.5**
baz=330,SNR=9.2
PINM S **S** **01 29 31.7 -1.4**
baz=330
WRA Warramunga Arr 77.83 127 P **P** **01 19 42.0 -0.5**
comp=Z,48nm,0.9s,baz=328,slow=5.7,SNR=154
WRA S **S** **01 29 33.1 -1.5**
comp=Z,1.0nm,1.0s,baz=323,slow=4.9,SNR=3.4
WRA PKKPbc **PKKPbc** **01 38 44.4 +0.5**
comp=Z,1.6nm,0.7s,baz=117,slow=4.2,SNR=24
WRA LR LR 02 00 31.6
comp=Z,2µm,19.2s,baz=255,slow=41
WRA Warramunga Arr 77.83 127 P **P** **01 19 41.3 -1.3**
WRA pmax pmax
comp=Z,33nm,1.9s
WRA Warramunga Arr 77.83 127 P **P** **01 19 41.3 -1.3**
WRAB Tennant Creek 77.83 127*c i*P **P** **01 19 42.0 -0.5**
WRAB pmax pmax
comp=Z,252nm,1.5s
WRAB MLR MLR
comp=Z,4µm,22.0s
WRAB Tennant Creek 77.83 127 P **P** **01 19 42.9 +0.3**
WRAB IAmb IAmb 01 19 44.3
comp=Z,336nm,1.5s
WB2 Warramunga Arr 77.84 127 IAmb IAmb 01 19 44.3
comp=Z,379nm,1.6s
WR0 Warramunga Arr 77.97 127 IAmb IAmb 01 19 44.9
comp=Z,161nm,1.3s
PGRA Graciosa 77.99 310 *e*P **P** **01 19 41.5 -1.8**
comp=Z,156nm,0.6s
PGRA *e*S **S** **01 29 34.7 -1.3**
BCPM Bancas Point 78.06 18 IAmb IAmb 01 19 51.5
comp=Z,150nm,0.8s
PATS Pohnpei 78.10 90 P **P** **01 19 43.4 -0.9**
PMAN Manadas 78.31 310 *e*P **P** **01 19 40.9 -4.1**
comp=Z,90nm,0.6s
PMAN *e*S **S** **01 29 40.3 +0.9**
ROSA Rosais 78.34 310 *e*P **P** **01 19 45.1 -0.2**
comp=Z,237nm,0.9s
ROSA *e*S **S** **01 29 38.2 -1.6**
PID Ribeirinha 78.44 310 *e*P **P** **01 19 44.3 -1.6**
comp=Z,124nm,0.8s
NEPA Kaukuwa 78.51 237 *i*P **P** **01 19 46.5 0.0**
NEPA IAmb IAmb 01 20 09.8
comp=Z,139nm,1.1s
PPNO Prainha do Nor 78.51 310 *e*P **P** **01 19 48.0 +1.7**
comp=Z,61nm,0.3s
PPNO *e*S **S** **01 29 42.4 +0.7**
WHY Whitehorse 78.55 16 P **P** **01 19 46.1 0.0**
baz=334
WHY S **S** **01 29 38.9 -2.5**
baz=334
WHY Whitehorse 78.55 16 IAmb IAmb 01 19 53.2
comp=Z,101nm,0.8s
PICO Pico 78.59 310 *e*P **P** **01 19 46.5 -0.2**
comp=Z,352nm,1.2s
PICO *e*S **S** **01 29 44.5 +1.9**
PCAN Candelaria 78.65 310 *e*P **P** **01 19 46.5 -0.5**
comp=Z,110nm,0.6s
PCED Cedros 78.68 310 *e*P **P** **01 19 48.0 +0.9**
comp=Z,216nm,1.0s
HOR Horta 78.70 310 *e*P **P** **01 19 47.3 +0.1**
comp=Z,274nm,0.9s
CALA Caldeira 78.71 310 *e*P **P** **01 19 46.3 -1.1**
comp=Z,336nm,1.0s
NWAO Narrogin (SRO) 78.96 147 P **P** **01 19 47.1 -1.4**
comp=Z,95nm,0.7s,baz=331,slow=4.7,SNR=47
NWAO S **S** **01 29 40.2 -5.8**
comp=Z,7.7nm,1.0s,baz=259,slow=16,SNR=2.2
NWAO Narrogin (SRO) 78.96 147 IAmb IAmb 01 19 49.3
comp=Z,317nm,1.4s
NWAO Narrogin (SRO) 78.96 147 P **P** **01 19 47.9 -0.6**
LBTB Lobatse 79.37 227 P **P** **01 19 51.0 0.0**
comp=Z,115nm,0.9s,baz=38,slow=5.2,SNR=135
LBTB Lobatse 79.37 227 P **P** **01 19 51.0 0.0**
LBTB Lobatse 79.37 227 IAmb IAmb 01 19 53.2
comp=Z,271nm,1.1s
LBTB Lobatse 79.37 227 *i*P **P** **01 19 50.5 -0.5**
LBTB IAmb IAmb 01 19 52.9
comp=Z,300nm,1.2s
PMG Port Moresby 79.48 110 P **P** **01 19 51.5 -0.2**
comp=Z,137nm,1.0s,baz=351,slow=4.0,SNR=18
PMG Port Moresby 79.48 110*c i*P **P** **01 19 52.6 +0.8**
PMG pmax pmax
comp=Z,190nm,0.8s
PMG Port Moresby 79.48 110 P **P** **01 19 52.0 +0.2**
PMG IAmb IAmb 01 19 54.1
comp=Z,244nm,1.1s
SKAG Skagway 79.52 17 P **P** **01 19 51.4 +0.1**
baz=334
SKAG S **S** **01 29 51.0 -0.6**
baz=334

YKA Yellowknife Ar 79.85 6 P **P** **01 19 52.2 -0.9**
comp=Z,28nm,0.8s,baz=350,slow=4.9,SNR=100
YKA S **S** **01 29 51.7 -3.3**
comp=Z,1.5nm,1.0s,baz=348,slow=9.7,SNR=3.9
YKA PKKPbc **PKKPbc** **01 38 36.5 -2.3**
comp=Z,0.6nm,0.7s,baz=279,slow=5.8,SNR=5.7
YKA LR LR 01 57 47.7
comp=Z,16µm,20.1s,baz=0.0,slow=38
YKA Yellowknife Ar 79.85 6*ce*P **P** **01 19 52.7 -0.4**
YKA pmax pmax
comp=Z,28nm,0.8s
RABL Rabaul 79.97 103 P **P** **01 19 55.2 +0.7**
RABL IAmb IAmb 01 20 02.8
comp=Z,298nm,1.2s
TSUM Tsumeb 80.11 237 P **P** **01 19 55.3 +0.1**
comp=Z,29nm,0.7s,baz=8.2,slow=7.3,SNR=40
TSUM Tsumeb 80.11 237 P **P** **01 19 54.7 -0.5**
TSUM Tsumeb 80.11 237 IAMs_20 IAMs_20 01 58 17.9
comp=Z,18µm,20.0s
TSUM Tsumeb 80.11 237 *i*P **P** **01 19 55.2 0.0**
TSUM IAmb IAmb 01 19 56.8
comp=Z,713nm,2.6s
ASAR Alice Springs 80.30 130 P **P** **01 19 55.2 -0.8**
comp=Z,20nm,0.6s,baz=315,slow=5.3,SNR=234
ASAR S **S** **01 29 58.6 -2.2**
comp=Z,2.6nm,1.0s,baz=308,slow=9.8,SNR=7.2
ASAR PKKPbc **PKKPbc** **01 38 38.9 +0.4**
comp=Z,2.7nm,0.6s,baz=125,slow=2.2,SNR=23
ASAR PKPPKP **P'P'df** **01 46 43.0 +3.8**
comp=Z,1.0nm,0.8s,baz=112,slow=3.0,SNR=5.4
ASAR LR LR 01 58 53.9
comp=Z,3µm,20.9s,baz=306,slow=38
ASAR Alice Springs 80.30 130 P **P** **01 19 55.1 -1.0**
ASAR Alice Springs 80.30 130 P **P** **01 19 55.1 -1.0**
BESE Bessie Mountai 80.42 17 IAmb IAmb 01 20 04.7
comp=Z,305nm,1.2s
KIC Kosan Boka 80.51 271 *e*PKIKP **P** **01 19 58.6 +1.2**
comp=Z,111nm,0.7s
TIC Toumodi 80.56 271 *e*PKIKP **P** **01 19 58.8 +1.1**
JIS Juneau Island 80.81 17 IAmb IAmb 01 20 06.8
comp=Z,253nm,1.2s
JIS IAMs_20 IAMs_20 02 01 39.8
comp=Z,17µm,18.0s
LIC Lamto 80.82 271 *e*PKIKP **P** **01 19 59.1 0.0**
comp=Z,324nm,1.6s
DLBC Dease Lake 81.59 15 S **S** **01 30 12.8 -0.7**
comp=Z,0.9nm,0.4s,baz=205,slow=19,SNR=1.6
DLBC Dease Lake 81.59 15 IAmb IAmb 01 20 10.6
comp=Z,167nm,1.1s
SIT Sitka 81.69 18 P **P** **01 20 03.4 +0.5**
baz=334
BOSA Boshof 82.32 225 P **P** **01 20 05.9 -0.8**
comp=Z,48nm,0.8s,baz=26,slow=3.4,SNR=92
BOSA PKPPKP **P'P'df** **01 46 38.6 +3.6**
comp=Z,4.2nm,1.1s,baz=252,slow=6.4,SNR=3.6
BOSA LR LR 01 56 55.5
comp=Z,6µm,20.1s,baz=31,slow=36
BOSA Boshof 82.32 225 IAmb IAmb 01 20 08.2
comp=Z,167nm,1.2s
WRAK Wrangell Islan 82.96 16 P **P** **01 20 09.7 0.0**
baz=336
WRAK Wrangell Islan 82.96 16 IAmb IAmb 01 20 17.9
comp=Z,197nm,1.0s
SCHQ Schefferville 83.27 340 P **P** **01 20 10.2 -1.1**
comp=Z,30nm,0.7s,baz=29,slow=3.9,SNR=11
SCHQ S **S** **01 30 27.9 -2.8**
comp=Z,1.9nm,0.8s,baz=17,slow=17,SNR=1.3
SCHQ LR LR 01 59 14.7
comp=Z,20µm,20.3s,baz=22,slow=37
SCHQ Schefferville 83.27 340 IAmb IAmb 01 20 18.2
comp=Z,232nm,1.8s
SCHQ IAMs_20 IAMs_20 01 58 53.0
comp=Z,24µm,19.0s
CRAG Craig 83.65 17 P **P** **01 20 13.1 -0.1**
baz=336
CRAG S **S** **01 30 38.6 +4.3**
baz=336
FCC Fort Churchill 83.90 356 P **P** **01 20 16.0 +1.6**
FCC pmax pmax
comp=Z,224nm,1.6s
FCC Fort Churchill 83.90 356 P **P** **01 20 15.9 +1.6**
FCC IAmb IAmb 01 20 21.8
comp=Z,224nm,1.6s
DRLN Deer Lake 85.12 333 IAmb IAmb 01 20 28.4
comp=Z,64nm,0.8s
DRLN IAMs_20 IAMs_20 02 02 49.4
comp=Z,19µm,19.0s
CTA Charters Tower 85.89 119 P **P** **01 20 24.5 -0.5**
comp=Z,80nm,0.7s,baz=325,slow=6.3,SNR=46
CTAO Charters Tower 85.89 119 P **P** **01 20 24.8 -0.2**
CTAO pmax pmax
comp=Z,281nm,1.3s
CTAO Charters Tower 85.89 119 P **P** **01 20 24.8 -0.2**
SUR Sutherland 87.66 225 P **P** **01 20 33.8 +0.2**
SUR IAmb IAmb 01 20 36.3
comp=Z,123nm,1.1s
FFC Flin Flon 88.17 0 P **P** **01 20 35.5 -0.1**
FFC pmax pmax
comp=Z,127nm,1.1s
FFC Flin Flon 88.17 0 P **P** **01 20 35.5 -0.1**
FFC IAmb IAmb 01 20 42.7
comp=Z,127nm,1.1s
BBOO Buckleboo 88.34 134 IAmb IAmb 01 20 37.6
comp=Z,156nm,1.2s
HNR Honiara 89.26 102 P **P** **01 20 41.1 -0.3**
comp=Z,55nm,0.3s,baz=315,slow=13,SNR=5.3
HNR Honiara 89.26 102 P **P** **01 20 41.0 -0.3**
HNR pmax pmax
comp=Z,537nm,1.5s
HNR Honiara 89.26 102 P **P** **01 20 41.0 -0.3**
CHGQ Chibougamau 89.66 343 P **P** **01 20 42.5 -0.2**
baz=22,SNR=12
CHGQ S **S** **01 31 29.6 -3.4**
baz=22
MATQ Matagami 90.54 345 P **P** **01 20 47.0 +0.2**
baz=19,SNR=19
MATQ S **S** **01 31 37.4 -3.6**
baz=19
D63A Stockholm 90.60 338 P **P** **01 20 47.8 +0.7**
baz=26
D63A S **S** **01 31 40.3 -1.4**
baz=26
LMN Caledonia Moun 90.60 335 IAMs_20 IAMs_20 02 06 05.2
comp=Z,21µm,19.0s
D62A Allapoint, All 90.84 338 P **P** **01 20 48.8 +0.6**
baz=26
D62A S **S** **01 31 43.6 -0.3**
baz=26
D62A Allapoint, All 90.84 338 P **P** **01 20 49.5 +1.3**
D62A IAmb IAmb 01 20 56.1
comp=Z,75nm,1.3s
D62A IAMs_20 IAMs_20 02 04 48.4
comp=Z,18µm,18.0s
PQI Presque Isle 90.90 337 IAmb IAmb 01 20 56.2
comp=Z,198nm,1.7s
PQI IAMs_20 IAMs_20 02 02 47.9
comp=Z,23µm,18.0s
STKA Stephens Creek 90.92 130 P **P** **01 20 47.6 -1.0**
comp=Z,4.5nm,0.6s,baz=357,slow=9.4,SNR=7.3
STKA LR LR 02 07 14.0
comp=Z,7µm,19.2s,baz=297,slow=39
LSQQ Lebel-sur-Quev 91.06 344 P **P** **01 20 49.1 -0.1**
baz=20
LSQQ S **S** **01 31 44.5 -1.3**
baz=20
D61A St Aubert, Com 91.06 339 P **P** **01 20 50.0 +0.7**
baz=25
D61A S **S** **01 31 44.6 -1.3**
baz=25
E64A Bridgewater 91.07 337 P **P** **01 20 49.6 +0.2**
baz=26
E64A S **S** **01 31 43.8 -2.2**
baz=26
HAL Halifax 91.24 334 IAMs_20 IAMs_20 02 04 14.3
comp=Z,18µm,18.0s
E63A Oxbow 91.25 338 P **P** **01 20 50.2 0.0**
baz=26
E63A S **S** **01 31 46.7 -0.9**
baz=26
E63A Oxbow 91.25 338 IAmb IAmb 01 20 57.8
comp=Z,104nm,1.6s
E63A IAMs_20 IAMs_20 02 03 08.2
comp=Z,17µm,19.0s
E62A Clayton Lake 91.40 338 P **P** **01 20 51.1 +0.2**
baz=25
E62A S **S** **01 31 46.1 -2.9**
baz=25

E62A Clayton Lake 91.40 338 IAMs_20 IAMs_20 02 05 14.1
comp=Z,16µm,20.0s
D60A Saint Jean D'O 91.53 339 P **P** **01 20 51.3 -0.1**
baz=24
D60A S **S** **01 31 46.7 -3.4**
baz=24
LATQ La Tuque 91.61 341 P **P** **01 20 51.8 0.0**
baz=23
LATQ S **S** **01 31 48.3 -2.5**
baz=23
D59A Saint-Raymond 91.70 340 P **P** **01 20 52.0 -0.2**
baz=23
D59A S **S** **01 31 50.0 -1.7**
baz=23
F64A Sherman 91.73 337 P **P** **01 20 52.4 0.0**
baz=26
F64A S **S** **01 31 51.1 -1.0**
baz=26
F64A Sherman 91.73 337 IAmb IAmb 01 21 00.2
comp=Z,85nm,1.6s
F64A IAMs_20 IAMs_20 02 07 05.9
comp=Z,27µm,19.0s
E61A Lac Etchemin 91.85 339 P **P** **01 20 53.0 +0.1**
baz=24
E61A S **S** **01 31 51.6 -1.6**
baz=24
D58A Chemin du LacG 91.90 341 P **P** **01 20 53.3 +0.1**
baz=23
D58A S **S** **01 31 52.7 -0.9**
baz=23
GGN Saint George 91.92 336 IAMs_20 IAMs_20 02 02 52.9
comp=Z,15µm,18.0s
VLDQ Val d'Or 92.06 344 IAmb IAmb 01 21 01.6
comp=Z,66nm,1.0s
VLDQ IAMs_20 IAMs_20 02 06 20.1
comp=Z,25µm,19.0s
G65A Princeton 92.08 336 P **P** **01 20 53.8 -0.2**
baz=27
G65A S **S** **01 31 53.1 -2.0**
baz=27
G65A Princeton 92.08 336 IAmb IAmb 01 21 01.8
comp=Z,101nm,1.6s
G65A IAMs_20 IAMs_20 02 04 57.2
comp=Z,21µm,18.0s
PGC Sidney 92.14 14 P **P** **01 20 54.8 +0.6**
PGC IAmb IAmb 01 21 02.5
comp=Z,100nm,1.1s
E60A Ste Agathe de 92.18 339 P **P** **01 20 55.1 +0.7**
baz=24
E60A S **S** **01 31 53.5 -2.5**
baz=24
F62A Pittston Farm, 92.18 338 P **P** **01 20 55.3 +0.8**
baz=25
F62A S **S** **01 31 53.1 -3.0**
baz=25
F62A Pittston Farm, 92.18 338 IAMs_20 IAMs_20 02 03 53.9
comp=Z,16µm,20.0s
A04D Lummi Island 92.21 14 S **S** **01 31 54.0 -2.2**
baz=344
H66A Whiting 92.36 336 P **P** **01 20 56.3 +0.9**
baz=27
H66A S **S** **01 31 54.9 -2.9**
baz=27
E59A St. Maurice 92.37 340 P **P** **01 20 55.6 +0.3**
baz=23
E59A S **S** **01 31 56.1 -1.6**
baz=23
G64A Maxfield 92.40 337 P **P** **01 20 55.5 0.0**
baz=26
G64A S **S** **01 31 55.9 -2.2**
baz=26
F61A St Evariste 92.41 339 P **P** **01 20 56.4 +0.9**
baz=24
F61A S **S** **01 31 55.9 -2.3**
baz=24
EMMW East Machias 92.48 336 IAMs_20 IAMs_20 02 06 26.9
comp=Z,17µm,18.0s
ULM Lac du Bonnet 92.49 356 P **P** **01 20 54.5 -1.4**
comp=Z,4.8nm,0.6s,baz=13,slow=5.7,SNR=9.2
ULM S **SKSac** **01 31 22.8 -5.6**
comp=Z,0.9nm,0.4s,baz=0.0,slow=12,SNR=1.4
ULM LR LR 02 07 14.1
comp=Z,61µm,18.2s,baz=18,slow=39
ULM Lac du Bonnet 92.49 356 IAmb IAmb 01 21 02.4
comp=Z,73nm,1.2s
PKME Peaks-Kenny Pk 92.55 338 P **P** **01 20 57.3 +1.1**
baz=25
PKME S **S** **01 31 56.1 -3.3**
baz=25
PKME Peaks-Kenny Pk 92.55 338 IAmb IAmb 01 21 03.4
comp=Z,113nm,1.6s
PKME IAMs_20 IAMs_20 02 05 41.8
comp=Z,23µm,19.0s
B06A Marblemount 92.63 13 IAmb IAmb 01 21 03.6
comp=Z,73nm,1.0s
B06A IAMs_20 IAMs_20 02 10 26.3
comp=Z,17µm,19.0s
E58A La Victoria 92.67 341 P **P** **01 20 56.8 +0.1**
baz=22
E58A S **S** **01 31 57.5 -3.0**
baz=22
F60A Warwick 92.68 340 P **P** **01 20 57.3 +0.5**
baz=23
F60A S **S** **01 31 58.8 -1.8**
baz=23
EIDS Eidsvold 92.71 120 IAmb IAmb 01 20 58.6
comp=Z,73nm,1.4s
H65A Eastbrook 92.74 337 P **P** **01 20 57.1 0.0**
baz=26
H65A S **S** **01 31 57.9 -3.3**
baz=26
B05A Bryant 92.76 13 P **P** **01 20 57.0 -0.2**
baz=344,SNR=22
B05A S **S** **01 31 58.3 -2.9**
baz=344
G63A Kingsbury 92.79 338 P **P** **01 20 58.3 +1.0**
baz=25
G63A S **S** **01 32 00.6 -1.0**
baz=25
E56A St. Veronique 92.96 342 P **P** **01 20 58.5 +0.4**
baz=21
E56A S **S** **01 31 59.2 -3.8**
baz=21
G62A West of Eustis 92.96 338 P **P** **01 20 58.5 +0.4**
baz=24
G62A S **S** **01 32 01.4 -1.8**
baz=24
G62A West of Eustis 92.96 338 IAMs_20 IAMs_20 02 03 32.6
comp=Z,15µm,19.0s
F59A Saint Guilaume 93.02 340 P **P** **01 20 58.5 +0.2**
baz=23
F59A S **S** **01 31 59.9 -3.6**
baz=23
H64A Troy 93.09 337 P **P** **01 20 58.9 +0.2**
baz=25
H64A S **S** **01 32 02.0 -2.3**
baz=25
B08A Colville Reser 93.14 12 IAmb IAmb 01 21 06.6
comp=Z,158nm,1.4s
WALA Waterton Lakes 93.19 8 IAmb IAmb 01 21 06.3
comp=Z,106nm,1.4s
WALA IAMs_20 IAMs_20 02 09 38.0
comp=Z,19µm,19.0s
G61A St-Isidore-de- 93.19 339 P **P** **01 20 59.4 +0.2**
baz=24
G61A S **S** **01 32 05.0 -0.2**
baz=24
NLWA Neilton Lookou 93.25 15 IAMs_20 IAMs_20 02 09 31.9
comp=Z,15µm,18.0s
D03D Eldon 93.27 14 P **P** **01 20 60.0 +0.5**
baz=343,SNR=26
D03D S **S** **01 32 04.4 -1.3**
baz=343
F58A St-Lin Laurent 93.28 341 P **P** **01 20 59.7 +0.2**
baz=22
F58A S **S** **01 32 04.1 -1.7**
baz=22
E55A Montcerf-Lytto 93.30 342 P **P** **01 20 59.8 +0.2**
baz=20
E55A S **S** **01 32 05.0 -1.0**
baz=20
WVL Waterville 93.30 338 IAMs_20 IAMs_20 02 03 03.5
comp=Z,16µm,20.0s
C06D Leavenworth 93.31 13 P **P** **01 20 59.3 -0.4**
baz=345
C06D S **S** **01 32 04.1 -2.0**
baz=345
H63A New Sharon 93.32 338 P **P** **01 21 00.1 +0.3**

H63A		baz=25		S	**S**	**01 32 05.2**	**-1.1**
NEW	**Newport**	baz=25	**93.57**	**10**	P	**P**	**01 21 01.0**	**+0.1**
NEW		baz=348,SNR=55			S	**S**	**01 32 02.8**	**-5.7**
NEW	**Newport**	baz=348	**93.57**	**10**	IAmb	IAmb	01 21 08.5	
NEW	**Newport**	comp=Z,82nm,1.2s	**93.57**	**10**	IAMs_20	IAMs_20	02 10 30.1	
G60A	**Masonville**	comp=Z,23µm,18.0s	**93.59**	**340**	P	**P**	**01 21 01.2**	**+0.1**
G60A		baz=23			S	**S**	**01 32 06.4**	**-2.3**
D04E	**Lakebay**	baz=23	**93.68**	**14**	P	**P**	**01 21 01.4**	**+0.1**
D04E		baz=344			S	**S**	**01 32 08.4**	**-0.9**
H62A	**Milan**	baz=344	**93.73**	**339**	P	**P**	**01 21 01.7**	**0.0**
H62A		baz=24			S	**S**	**01 32 06.6**	**-3.3**
H62A	**Milan**	baz=24	**93.73**	**339**	IAMs_20	IAMs_20	02 04 05.0	
D05A	**Enumclaw**	comp=Z,17µm,20.0s	**93.82**	**14**	IAMs_20	IAMs_20	02 09 59.8	
C09A	**Chrisman Ranch**	comp=Z,14µm,18.0s	**93.85**	**11**	IAmb	IAmb	01 21 09.9	
C09A		comp=Z,72nm,0.9s			IAMs_20	IAMs_20	02 10 17.7	
I64A	**Boothbay**	comp=Z,23µm,18.0s	**93.87**	**337**	P	**P**	**01 21 02.2**	**-0.1**
I64A		baz=25			S	**S**	**01 32 08.1**	**-3.0**
H61A	**Lyndonville**	baz=25	**93.99**	**339**	P	**P**	**01 21 02.7**	**-0.2**
H61A		baz=23			S	**S**	**01 32 10.3**	**-1.9**
G58A	**Ormstown**	baz=23	**94.01**	**341**	P	**P**	**01 21 02.7**	**-0.2**
G58A		baz=22			S	**S**	**01 32 10.0**	**-2.3**
I63A	**Otisfield**	baz=22	**94.04**	**338**	S	**S**	**01 32 11.4**	**-1.2**
I63A	**Otisfield**	baz=24	**94.04**	**338**	IAMs_20	IAMs_20	02 06 37.1	
E03A	**Lebam**	comp=Z,21µm,19.0s	**94.13**	**15**	IAmb	IAmb	01 21 12.4	
H60A	**Morristown**	comp=Z,97nm,1.0s	**94.19**	**340**	P	**P**	**01 21 04.6**	**+0.8**
ALGO	**Algonquin Park**	baz=23	**94.23**	**344**	P	**P**	**01 21 03.4**	**-0.5**
ALGO		baz=19,SNR=5.5			S	**S**	**01 32 12.6**	**-1.6**
B35A	**Bob, Littlefor**	baz=19	**94.24**	**355**	IAmb	IAmb	01 21 10.8	
LBNH	**Lisbon**	comp=Z,93nm,1.6s	**94.26**	**339**	P	**P**	**01 21 04.7**	**+0.6**
LBNH		baz=23			S	**S**	**01 32 13.3**	**-1.3**
LBNH	**Lisbon**	baz=23	**94.26**	**339**	IAMs_20	IAMs_20	02 05 33.9	
LON	**Longmire**	comp=Z,20µm,19.0s	**94.27**	**14**	P	**P**	**01 21 04.1**	**-0.1**
LON					pmax	pmax		
LON	**Longmire**	comp=Z,39nm,0.9s	**94.27**	**14**	P	**P**	**01 21 04.0**	**-0.1**
LON					IAmb	IAmb	01 21 11.9	
LON		comp=Z,39nm,0.9s			IAMs_20	IAMs_20	02 10 13.8	
G57A	**Newington**	comp=Z,13µm,19.0s	**94.29**	**341**	P	**P**	**01 21 04.5**	**+0.3**
G57A		baz=21			S	**S**	**01 32 13.8**	**-1.0**
E04D	**Cinebar**	baz=21	**94.31**	**14**	P	**P**	**01 21 04.9**	**+0.6**
E04D		baz=344,SNR=7.5			S	**S**	**01 32 13.8**	**-1.1**
H59A	**Cadyville**	baz=344	**94.38**	**340**	P	**P**	**01 21 04.1**	**-0.6**
H59A		baz=22			S	**S**	**01 32 13.4**	**-2.2**
DGMT	**Dagmar**	baz=22	**94.41**	**2**	P	**P**	**01 21 04.4**	**-0.4**
DGMT		baz=358			S	**S**	**01 32 13.8**	**-2.0**
VT1	**Waterbury**	baz=358	**94.41**	**339**	IAMs_20	IAMs_20	02 07 47.1	
I62A	**Tamworth**	comp=Z,19µm,19.0s	**94.43**	**338**	S	**S**	**01 32 14.4**	**-1.6**
JTMT	**Jette**	baz=24	**94.44**	**8**	IAmb	IAmb	01 21 12.5	
JTMT		comp=Z,94nm,1.3s			IAMs_20	IAMs_20	02 09 48.1	
AGMN	**Agassiz Nation**	comp=Z,19µm,18.0s	**94.44**	**356**	P	**P**	**01 21 04.7**	**-0.1**
AGMN		baz=4.8			S	**S**	**01 32 12.3**	**-3.7**
EYMN	**Ely**	baz=4.8	**94.46**	**353**	P	**P**	**01 21 04.9**	**0.0**
EYMN		baz=8.2			S	**S**	**01 32 12.3**	**-3.8**
EYMN	**Ely**	baz=8.2	**94.46**	**353**	IAmb	IAmb	01 21 12.1	
EYMN	**Ely**	comp=Z,52nm,0.8s	**94.46**	**353**	IAMs_20	IAMs_20	02 07 19.6	
D08A	**Wollman Farm,**	comp=Z,23µm,19.0s	**94.48**	**12**	IAMs_20	IAMs_20	02 10 33.2	
EGMT	**Eagleton**	comp=Z,13µm,19.0s	**94.59**	**5**	P	**P**	**01 21 05.5**	**-0.1**
EGMT		baz=354			S	**S**	**01 32 13.4**	**-4.1**
EGMT	**Eagleton**	baz=354	**94.59**	**5**	IAmb	IAmb	01 21 12.8	
EGMT		comp=Z,59nm,1.1s			IAMs_20	IAMs_20	02 08 11.1	
LONY	**Lake Ozonia**	comp=Z,14µm,20.0s	**94.64**	**341**	P	**P**	**01 21 06.2**	**+0.3**
LONY		baz=21			S	**S**	**01 32 16.7**	**-1.2**
LONY	**Lake Ozonia**	baz=21	**94.64**	**341**	P	**P**	**01 21 06.0**	**+0.1**
LONY					IAmb	IAmb	01 21 13.5	
LONY		comp=Z,56nm,1.2s			IAMs_20	IAMs_20	02 08 11.8	
F04D	**Rainier, OR**	comp=Z,16µm,18.0s	**94.68**	**15**	S	**S**	**01 32 18.5**	**+0.3**
H58A	**Gabriels**	baz=343	**94.72**	**340**	P	**P**	**01 21 06.6**	**+0.3**
H58A		baz=22			S	**S**	**01 32 15.8**	**-2.9**
SHEL	**Horse Pasture**	baz=22	**94.80**	**254**	IAMs_20	IAMs_20	02 05 38.3	
E07A	**Sunnyside**	comp=Z,13µm,18.0s	**94.81**	**12**	IAMs_20	IAMs_20	02 10 05.9	
HNH	**Hanover**	comp=Z,14µm,18.0s	**94.86**	**339**	IAMs_20	IAMs_20	02 04 59.6	
PLVO	**Plevna**	comp=Z,20µm,18.0s	**94.87**	**343**	IAMs_20	IAMs_20	02 04 10.8	
FFD	**Franklin Falls**	comp=Z,23µm,20.0s	**94.89**	**338**	IAMs_20	IAMs_20	02 04 15.5	
J63A	**Strafford**	comp=Z,16µm,21.0s	**94.89**	**338**	S	**S**	**01 32 17.8**	**-2.2**
H57A	**Richville**	baz=24	**94.99**	**341**	P	**P**	**01 21 07.7**	**+0.2**
H57A		baz=21			S	**S**	**01 32 17.8**	**-3.1**
E08A	**Dider Farm, El**	baz=21	**95.00**	**12**	IAmb	IAmb	01 21 15.2	
E08A		comp=Z,48nm,1.0s			IAMs_20	IAMs_20	02 11 00.1	
HAWA	**Hanford**	comp=Z,15µm,19.0s	**95.02**	**12**	IAMs_20	IAMs_20	02 11 05.6	
MDND	**Maddock**	comp=Z,21µm,18.0s	**95.03**	**358**	P	**P**	**01 21 07.3**	**-0.3**
MDND		baz=1.8			S	**S**	**01 32 19.2**	**-2.0**
MDND	**Maddock**	baz=1.8	**95.03**	**358**	IAMs_20	IAMs_20	02 09 25.8	
E46A	**Sault Ste Mari**	comp=Z,20µm,19.0s	**95.06**	**348**	IAmb	IAmb	01 22 40.6	
E09A	**Wood Farm, Sta**	comp=Z,52nm,1.2s	**95.13**	**11**	IAmb	IAmb	01 21 15.5	
E09A		comp=Z,67nm,1.0s			IAMs_20	IAMs_20	02 11 37.4	
NCB	**Newcomb**	comp=Z,12µm,18.0s	**95.15**	**340**	IAMs_20	IAMs_20	02 04 33.2	
		comp=Z,13µm,20.0s						

F05D	**White Salmon**	baz=344,SNR=5.9	**95.17**	**14**	P	**P**	**01 21 08.3**	**+0.1**
F05D		baz=344			S	**S**	**01 32 22.0**	**-0.5**
J61A	**Chester**	baz=23	**95.26**	**339**	P	**P**	**01 21 08.4**	**-0.3**
J61A		baz=23			S	**S**	**01 32 20.8**	**-2.5**
MSO	**Missoula**	baz=350,SNR=23	**95.38**	**8**	P	**P**	**01 21 08.8**	**-0.6**
MSO		baz=350			S	**S**	**01 32 22.5**	**-2.0**
F07A	**Phinny Hill Vi**	comp=Z,56nm,1.2s	**95.44**	**13**	IAmb	IAmb	01 21 17.5	
F07A		comp=Z,16µm,21.0s			IAMs_20	IAMs_20	02 08 06.6	
G03D	**McMinnville, O**	baz=343	**95.46**	**15**	P	**P**	**01 21 09.2**	**-0.4**
G03D		baz=343			S	**S**	**01 32 25.0**	**0.0**
DELO	**Deloro Mine**	comp=Z,22µm,20.0s	**95.49**	**343**	P	**P**	**01 21 09.9**	**+0.2**
DELO					IAMs_20	IAMs_20	02 04 40.2	
ACCN	**Adirondack Com**	comp=Z,66nm,1.6s	**95.54**	**340**	P	**P**	**01 21 11.2**	**+1.2**
ACCN					IAmb	IAmb	01 23 08.5	
ACCN		comp=Z,18µm,18.0s			IAMs_20	IAMs_20	02 10 11.7	
I57A	**Carthage**	baz=21	**95.55**	**341**	P	**P**	**01 21 09.9**	**-0.1**
I57A		baz=21			S	**S**	**01 32 25.0**	**-0.8**
K63A	**Dunstable**	baz=24	**95.57**	**338**	S	**S**	**01 32 23.9**	**-2.1**
SADO	**Sadowa**	comp=Z,27µm,20.0s	**95.60**	**344**	IAMs_20	IAMs_20	02 08 16.0	
J60A	**Lant Hill Farm**	baz=22	**95.60**	**340**	P	**P**	**01 21 10.7**	**+0.4**
J60A		baz=22			S	**S**	**01 32 25.3**	**-1.0**
I58A	**Old Forge**	baz=21	**95.61**	**341**	P	**P**	**01 21 10.1**	**-0.2**
I58A		baz=21			S	**S**	**01 32 24.0**	**-2.4**
D32A	**Dogwood Acres,**	baz=24	**95.66**	**357**	P	**P**	**01 21 12.0**	**+1.5**
HRV	**Adam Dziewonsk**	baz=24	**95.74**	**338**	S	**S**	**01 32 24.2**	**-3.2**
HRV	**Adam Dziewonsk**	comp=Z,23µm,19.0s	**95.74**	**338**	IAMs_20	IAMs_20	02 07 00.1	
BCX	**Boston College**	comp=Z,23µm,19.0s	**95.78**	**338**	IAMs_20	IAMs_20	02 06 40.2	
E38A	**The Farm, Brul**	comp=Z,18µm,20.0s	**95.79**	**353**	IAMs_20	IAMs_20	02 08 20.9	
F10A	**Beach Ranch, E**	comp=Z,12µm,18.0s	**95.79**	**11**	IAMs_20	IAMs_20	02 09 21.0	
K62A	**Royalston**	baz=23	**95.80**	**338**	P	**P**	**01 21 10.8**	**-0.4**
K62A		baz=23			S	**S**	**01 32 27.0**	**-1.0**
G05D	**Wamic, OR**	baz=345	**95.82**	**14**	P	**P**	**01 21 11.0**	**-0.2**
G05D		baz=345			S	**S**	**01 32 27.9**	**-0.3**
PECO	**Prince Edward**	comp=Z,24µm,19.0s	**95.89**	**342**	IAMs_20	IAMs_20	02 05 12.8	
J58A	**Remsen**	baz=21	**96.00**	**341**	P	**P**	**01 21 12.4**	**+0.3**
J58A		baz=21			S	**S**	**01 32 27.5**	**-2.2**
J58A	**Remsen**	comp=Z,24µm,18.0s	**96.00**	**341**	IAMs_20	IAMs_20	02 06 26.7	
COWI	**Conover**	comp=Z,25µm,21.0s	**96.02**	**351**	IAMs_20	IAMs_20	02 07 08.0	
L64A	**Middleborough**	baz=24	**96.04**	**337**	S	**S**	**01 32 27.7**	**-2.3**
K61A	**Williamstown**	baz=22	**96.09**	**339**	P	**P**	**01 21 13.4**	**+0.8**
L61B	**Northampton**	baz=23	**96.12**	**339**	P	**P**	**01 21 13.0**	**+0.3**
LAO	**LASA Array**	baz=356	**96.13**	**3**	P	**P**	**01 21 13.4**	**+0.7**
LAO		baz=356			S	**S**	**01 32 28.0**	**-2.9**
LAO	**LASA Array**	comp=Z,150nm,1.4s	**96.13**	**3**	IAmb	IAmb	01 21 20.8	
LAO		comp=Z,19µm,20.0s			IAMs_20	IAMs_20	02 07 53.7	
TRY	**Troy**	comp=Z,16µm,20.0s	**96.14**	**339**	IAMs_20	IAMs_20	02 03 30.7	
H04A	**Detroit Lake**		**96.19**	**14**	P	**P**	**01 21 13.6**	**+0.6**
H04A		comp=Z,13µm,18.0s			IAMs_20	IAMs_20	02 12 56.5	
G08A	**Pilot Rock**	comp=Z,17µm,18.0s	**96.19**	**12**	IAMs_20	IAMs_20	02 11 45.5	
F42A	**Maple Grove Fa**		**96.23**	**350**	P	**P**	**01 21 14.3**	**+1.2**
H04D	**Lebanon**	baz=344	**96.23**	**15**	S	**S**	**01 32 30.6**	**-1.1**
BRYW	**Bryant College**	comp=Z,25µm,19.0s	**96.27**	**338**	IAMs_20	IAMs_20	02 06 54.2	
M65A	**Busby, Falmout**	baz=24	**96.33**	**337**	P	**P**	**01 21 13.5**	**0.0**
M65A	**Busby, Falmout**	comp=Z,18µm,19.0s	**96.33**	**337**	IAMs_20	IAMs_20	02 09 00.5	
E28A	**Huff**	comp=Z,24µm,21.0s	**96.33**	**359**	IAMs_20	IAMs_20	02 07 52.0	
I02D	**Swisshome**	baz=343	**96.40**	**16**	P	**P**	**01 21 14.2**	**+0.4**
I02D		baz=343			S	**S**	**01 32 31.8**	**-1.3**
UCCT	**U. Connecticut**	comp=Z,22µm,19.0s	**96.59**	**338**	IAMs_20	IAMs_20	02 07 24.5	
GLMI	**Grayling**	baz=14	**96.61**	**348**	P	**P**	**01 21 14.7**	**-0.1**
GLMI		baz=14			S	**S**	**01 32 32.3**	**-2.6**
GLMI	**Grayling**	comp=Z,26µm,21.0s	**96.61**	**348**	IAMs_20	IAMs_20	02 06 49.7	
I05D	**Terrebonne, OR**	baz=345	**96.68**	**14**	S	**S**	**01 32 34.7**	**-1.0**
J55A	**Hilton**	comp=Z,23µm,20.0s	**96.72**	**343**	IAMs_20	IAMs_20	02 05 48.7	
PLID	**Pearl Lake**	comp=Z,74nm,1.5s	**96.84**	**10**	IAmb	IAmb	01 21 22.8	
BOZ	**Bozeman (W)**	baz=352,SNR=40	**96.84**	**7**	P	**P**	**01 21 15.6**	**-0.4**
BOZ		baz=352			S	**S**	**01 32 35.4**	**-1.8**
BOZ	**Bozeman (W)**	comp=Z,19µm,19.0s	**96.84**	**7**	IAMs_20	IAMs_20	02 11 52.7	
BMO	**Blue Mountains**	comp=Z,14µm,20.0s	**96.88**	**11**	IAMs_20	IAMs_20	02 10 04.7	
I03D	**Drain, OR**	baz=343	**96.89**	**16**	P	**P**	**01 21 15.7**	**-0.4**
I03D		baz=343			S	**S**	**01 32 36.5**	**-0.8**
G40A	**Rib Lake**	comp=Z,32nm,0.9s	**96.97**	**352**	IAmb	IAmb	01 21 23.5	
G40A		comp=Z,20µm,19.0s			IAMs_20	IAMs_20	02 09 40.0	
DLMT	**Dillon**	comp=Z,102nm,1.7s	**96.98**	**8**	IAmb	IAmb	01 21 24.2	
DLMT		comp=Z,16µm,19.0s			IAMs_20	IAMs_20	02 11 49.3	
I04A	**Tendick Farm,**	baz=344	**97.00**	**15**	P	**P**	**01 21 16.2**	**-0.4**
I04A		baz=344			S	**S**	**01 32 36.6**	**-1.8**
KSCT	**Kent School, K**	comp=Z,21µm,18.0s	**97.02**	**339**	IAMs_20	IAMs_20	02 11 24.9	
K56A	**Middlesex**	baz=19	**97.13**	**342**	P	Pdif	01 21 17.5	+0.1
K56A		baz=19			S	**S**	**01 32 36.0**	**-3.6**
I49A	**Point Hope**	comp=Z,18µm,20.0s	**97.14**	**346**	IAMs_20	IAMs_20	02 10 20.9	
YLE	**Yale**	comp=Z,15µm,19.0s	**97.24**	**338**	IAMs_20	IAMs_20	02 10 04.8	
MMNY	**Mt. Morris Dam**	comp=Z,25µm,21.0s	**97.24**	**342**	IAMs_20	IAMs_20	02 06 03.7	
BINY	**Binghamton**	baz=20	**97.26**	**341**	P	Pdif	01 21 18.2	+0.2
BINY		baz=20			S	**S**	**01 32 37.0**	**-3.7**
BINY	**Binghamton**	comp=Z,25µm,19.0s	**97.26**	**341**	IAMs_20	IAMs_20	02 07 14.3	
I07A	**Izee**	comp=Z,45nm,1.3s	**97.27**	**13**	IAmb	IAmb	01 21 26.1	
I07A					IAMs_20	IAMs_20	02 12 53.1	

		comp=Z,16µm,18.0s						
SPMN	**Marine on St.**	baz=7.2	**97.28**	**354**	P	Pdif	01 21 17.9	0.0
SPMN	**Marine on St.**		**97.28**	**354**	P	Pdif	01 21 19.0	+1.1
J01E	**Myrtle Point**	baz=342	**97.28**	**16**	P	Pdif	01 21 18.2	+0.3
PINE	**Pine Mountain**	comp=Z,32nm,1.0s	**97.29**	**14**	IAmb	IAmb	01 21 26.4	
PINE		comp=Z,16µm,18.0s			IAMs_20	IAMs_20	02 12 34.6	
L58A	**Harry Jones Me**	baz=20	**97.37**	**341**	P	Pdif	01 21 18.7	+0.3
L58A		baz=20			S	**S**	**01 32 37.9**	**-3.7**
RLMT	**Red Lodge**	baz=354,SNR=6.4	**97.52**	**5**	P	**P**	**01 21 19.2**	**0.0**
RLMT		baz=354			S	**S**	**01 32 39.7**	**-3.5**
RLMT	**Red Lodge**	comp=Z,47nm,1.4s	**97.52**	**5**	IAmb	IAmb	01 23 32.6	
WVNY	**West Valley, N**	comp=Z,21µm,20.0s	**97.72**	**343**	IAMs_20	IAMs_20	02 08 07.2	
J05D	**Fort Rock, OR**	baz=345,SNR=6.4	**97.72**	**14**	P	**P**	**01 21 19.9**	**-0.1**
J05D		baz=345			S	**S**	**01 32 43.2**	**-1.6**
YHB	**Horse Butte**		**97.72**	**7**	P	Pdif	01 21 21.6	+1.4
TRNY	**Table Rock, Ra**	comp=Z,17µm,18.0s	**97.77**	**339**	IAMs_20	IAMs_20	02 12 39.7	
K02D	**Willamette Mer**	baz=343	**97.78**	**16**	S	**S**	**01 32 44.3**	**-0.9**
KSPA	**Keystone Colle**	comp=Z,20µm,20.0s	**97.81**	**341**	IAMs_20	IAMs_20	02 07 19.7	
PAL	**Palisades**	baz=22	**97.81**	**339**	P	**P**	**01 21 19.6**	**-0.6**
PAL		baz=22			S	**S**	**01 32 42.4**	**-2.9**
PAL	**Palisades**	comp=Z,13µm,18.0s	**97.81**	**339**	IAMs_20	IAMs_20	02 06 38.8	
BCYI	**Bear Canyon**		**97.93**	**8**	P	**P**	**01 21 20.4**	**-0.7**
ODNJ	**Ogdensburg**	comp=Z,22µm,18.0s	**97.93**	**340**	IAMs_20	IAMs_20	02 11 44.1	
CPNY	**Central Park**	comp=Z,16µm,19.0s	**98.02**	**339**	IAMs_20	IAMs_20	02 11 15.4	
J08A	**Circle Bar Ran**	comp=Z,17µm,18.0s	**98.15**	**12**	IAMs_20	IAMs_20	02 12 34.3	
K50A	**Casco**	comp=Z,20µm,18.0s	**98.23**	**346**	IAMs_20	IAMs_20	02 11 22.6	
K04D	**Chiloquin, OR**	baz=344	**98.25**	**15**	P	**P**	**01 21 22.3**	**-0.1**
K04D		baz=344			S	**S**	**01 32 48.1**	**-1.2**
L02E	**Cave Junction**	baz=343	**98.31**	**16**	P	Pdif	01 21 23.0	+0.5
L02E		baz=343			S	**S**	**01 32 48.0**	**-1.6**
ERPA	**Erie**	baz=17	**98.31**	**344**	P	Pdif	01 21 22.8	+0.3
ERPA		baz=17			S	**S**	**01 32 46.3**	**-3.3**
ERPA	**Erie**	comp=Z,26µm,20.0s	**98.31**	**344**	IAMs_20	IAMs_20	02 09 58.8	
K05A	**Summer Lake**	comp=Z,41nm,1.1s	**98.32**	**14**	IAmb	IAmb	01 21 31.0	
I40A	**Norwalk**	comp=Z,22µm,18.0s	**98.37**	**352**	IAMs_20	IAMs_20	02 10 41.3	
N59A	**State Game Lan**	baz=21	**98.41**	**340**	P	Pdif	01 21 23.3	+0.2
N59A		baz=21			S	**S**	**01 32 48.4**	**-2.0**
N59A	**State Game Lan**	comp=Z,18µm,18.0s	**98.41**	**340**	IAMs_20	IAMs_20	02 12 03.5	
SUSD	**Miller**	baz=2.3	**98.42**	**358**	P	**P**	**01 21 22.9**	**-0.1**
SUSD		baz=2.3			S	**S**	**01 32 46.3**	**-4.2**
FLWY	**Flagg Ranch**	comp=Z,56nm,1.4s	**98.43**	**6**	IAmb	IAmb	01 21 31.8	
MFID	**Camas Ranch**	comp=Z,17µm,18.0s	**98.50**	**10**	IAMs_20	IAMs_20	02 13 29.6	
L04D	**Klamath Falls**	baz=344	**98.53**	**15**	P	**P**	**01 21 22.5**	**-1.2**
LUPA	**Lehigh Univers**	comp=Z,18µm,18.0s	**98.59**	**340**	IAMs_20	IAMs_20	02 11 44.6	
M55A	**Ridgway**	comp=Z,25µm,20.0s	**98.64**	**343**	IAMs_20	IAMs_20	02 06 56.7	
RSSD	**Black Hills**		**98.76**	**2**	P	**P**	**01 21 24.7**	**-0.1**
RSSD					pmax	pmax		
RSSD	**Black Hills**	comp=Z,74nm,1.6s	**98.76**	**2**	Pdiff	**P**	**01 21 24.6**	**-0.2**
RSSD		baz=358			S	**S**	**01 32 52.4**	**-1.4**
RSSD	**Black Hills**	baz=358	**98.76**	**2**		**P**	**01 21 24.6**	**-0.1**
RSSD					IAmb	IAmb	01 21 32.5	
M54A	**Oil Creek Stat**	comp=Z,74nm,1.6s	**98.82**	**343**	Pdiff	**P**	**01 21 23.9**	**-1.0**
M54A		baz=18			S	**S**	**01 32 50.7**	**-3.3**
AAM	**Ann Arbor**	baz=18	**98.89**	**346**	Pdiff	**P**	**01 21 24.1**	**-0.9**
AAM		baz=14			S	**S**	**01 32 51.8**	**-2.6**
AAM	**Ann Arbor**	baz=14	**98.89**	**346**	IAMs_20	IAMs_20	02 11 24.9	
LOHW	**Long Hollow**	comp=Z,19µm,19.0s	**98.91**	**6**	IAMs_20	IAMs_20	02 11 59.3	
TPAW	**Teton Pass**	comp=Z,17µm,18.0s	**99.00**	**7**	IAMs_20	IAMs_20	02 12 55.7	
ECSD	**EROS Data Cent**	comp=Z,19µm,18.0s	**99.03**	**356**	Pdiff	**Pdif**	**01 21 24.8**	**-1.0**
ECSD		baz=4.2			S	**S**	**01 32 54.9**	**-0.7**
SNOW	**Snow King Moun**	baz=4.2	**99.04**	**7**	IAMs_20	IAMs_20	02 13 03.9	
M04C	**Macdoel**	comp=Z,22µm,18.0s	**99.04**	**15**	Pdiff	**Pdif**	**01 21 25.4**	**-0.7**
M53A	**WI Miller and**	baz=344	**99.11**	**344**	Pdiff	**Pdif**	**01 21 25.9**	**-0.2**
M53A		baz=17			S	**S**	**01 32 51.1**	**-5.2**
M53A	**WI Miller and**	baz=17	**99.11**	**344**	IAMs_20	IAMs_20	02 10 43.9	
REDW	**Red Top Meadow**	comp=Z,25µm,19.0s	**99.13**	**7**	IAMs_20	IAMs_20	02 12 59.3	
M52A	**Chesterland**	comp=Z,18µm,19.0s	**99.16**	**345**	IAMs_20	IAMs_20	02 10 22.2	
M02C	**Callahan**	comp=Z,19µm,20.0s	**99.20**	**16**	Pdiff	**Pdif**	**01 21 26.3**	**-0.3**
M02C		baz=343			S	**S**	**01 32 54.5**	**-2.9**
SSPA	**Standing Stone**	baz=343	**99.22**	**342**	Pdiff	**Pdif**	**01 21 26.7**	**+0.1**
SSPA		baz=19			S	**S**	**01 32 55.0**	**-2.3**
SSPA	**Standing Stone**	baz=19	**99.22**	**342**	IAMs_20	IAMs_20	02 13 40.0	
WUPA	**West Chester U**	comp=Z,15µm,18.0s	**99.28**	**340**	IAMs_20	IAMs_20	02 10 26.7	
JFWS	**Jewell Farm**	comp=Z,14µm,18.0s	**99.30**	**351**	Pdiff	**Pdif**	**01 21 25.9**	**-1.0**
JFWS		baz=9.3			S	**S**	**01 32 55.3**	**-2.6**
P61A	**Hammonton**	baz=9.3	**99.30**	**339**	IAMs_20	IAMs_20	02 12 42.1	
PAGS	**Pennsylvania G**	comp=Z,18µm,18.0s	**99.30**	**341**	IAMs_20	IAMs_20	02 06 49.3	
L48A	**N Adams**	comp=Z,23µm,20.0s	**99.37**	**347**	IAMs_20	IAMs_20	02 11 39.8	
P60A	**Greenville**	comp=Z,20µm,21.0s	**99.40**	**340**	Pdiff	**Pdif**	**01 21 26.0**	**-1.4**
P60A		baz=21			S	**S**	**01 32 55.0**	**-3.8**
N54A	**Moraine State**	baz=21	**99.41**	**343**	Pdiff	**Pdif**	**01 21 27.0**	**-0.5**
N54A		baz=17			S	**S**	**01 32 56.7**	**-2.3**
N54A	**Moraine State**	baz=17	**99.41**	**343**	IAMs_20	IAMs_20	02 11 17.0	
MVL	**Millersville**	comp=Z,23µm,20.0s	**99.42**	**340**	IAMs_20	IAMs_20	02 05 23.4	
JCC	**Jacoby Creek,**	comp=Z,18µm,21.0s	**99.49**	**17**	IAMs_20	IAMs_20	02 10 08.0	
M50A	**Fremont**	comp=Z,13µm,18.0s	**99.63**	**346**	IAMs_20	IAMs_20	02 07 40.8	
N02D	**Trinity Center**	comp=Z,22µm,19.0s	**99.64**	**16**	Pdiff	**Pdif**	**01 21 29.0**	**+0.4**
		baz=343						

AHID Auburn Hatcher 99.70 7 Pdif Pdif 01 21 28.8 -0.2
AHID IAMs_20 IAMs_20 02 12 37.3
comp=Z,21µm,18.0s
L44A Lake County Fo 99.71 350 Pdiff Pdif 01 21 28.6 -0.2
baz=11
O56A Blue Knob Stat 99.73 342 Pdiff Pdif 01 21 28.7 -0.3
baz=19
BW06 Boulder Array 99.83 6 Pdiff Pdif 01 21 28.8 -0.8
baz=354
PD31 Pinedale Array 99.83 6 Pdif Pdif 01 21 31.6 +1.9
PDAR Pinedale Array 99.83 6 P Pdif 01 21 28.4 -1.3
comp=Z,0.8nm,0.7s,baz=45,slow=3.7,SNR=7.3
PDAR PP PP 01 25 31.6 -1.5
comp=Z,2.1nm,1.0s,baz=29,slow=6.8,SNR=2.0
PDAR PKiKP PKiKP 01 25 58.2 +0.3
comp=Z,1.3nm,0.6s,baz=90,slow=2.1,SNR=2.1
PDAR S SKSac 01 32 05.3 -2.3
comp=Z,0.1nm,0.3s,baz=32,slow=8.6,SNR=1.7
PDAR PKKPbc PKKPbc 01 37 48.5 -0.8
comp=Z,0.8nm,0.9s,baz=170,slow=4.5,SNR=5.1
PDAR LR LR 02 11 30.8
comp=Z,19µm,20.0s,baz=12,slow=38
N51A Ashland 99.97 345 IAMs_20 IAMs_20 02 12 45.7
comp=Z,21µm,18.0s
WDC Whiskeytown Da 100.05 16 IAMs_20 IAMs_20 02 15 14.8
comp=Z,14µm,18.0s
K22A Casper 100.14 3 Pdiff Pdif 01 21 29.7 -1.3
baz=356
K22A Casper 100.14 3 IAMs_20 IAMs_20 02 10 05.0
comp=Z,17µm,18.0s
O54A Avella 100.24 343 IAMs_20 IAMs_20 02 07 36.0
comp=Z,26µm,21.0s
N49A Columbus Grove 100.32 346 IAMs_20 IAMs_20 02 12 58.9
comp=Z,20µm,18.0s
O53A New Philadelph 100.36 344 Pdiff Pdif 01 21 31.2 -0.5
baz=16
O02D Mt. Diablo Mer 100.38 16 Pdiff Pdif 01 21 32.3 +0.4
baz=343
O03E Paynes Creek 100.48 15 Pdiff Pdif 01 21 31.8 -0.6
baz=344
HVU Hansel Valley 100.50 8 P Pdif 01 21 32.9 +0.4
HVU Hansel Valley 100.50 8 Pdif Pdif 01 21 32.9 +0.4
SCIA State Center 100.60 353 Pdiff Pdif 01 21 31.7 -1.0
baz=7.0
MCWV Mont Chateau 100.62 343 Pdiff Pdif 01 21 32.4 -0.5
baz=18
O52A Adamsville 100.63 344 IAMs_20 IAMs_20 02 10 57.1
comp=Z,20µm,19.0s
R61A Willards 100.70 339 IAMs_20 IAMs_20 02 13 04.3
comp=Z,14µm,18.0s
ACSO Alum Creek Sta 100.75 345 Pdiff Pdif 01 21 32.2 -1.3
baz=15
ACSO Alum Creek Sta 100.75 345 IAMs_20 IAMs_20 02 08 11.4
comp=Z,20µm,20.0s
HWUT Hardware Ranch 100.80 7 IAMs_20 IAMs_20 02 14 07.5
comp=Z,23µm,19.0s
Q56A Snyder Ridge, 101.05 342 IAMs_20 IAMs_20 02 13 47.4
comp=Z,21µm,18.0s
O49A Covington 101.06 346 IAMs_20 IAMs_20 02 08 47.4
comp=Z,19µm,20.0s
RWWY Rawlins 101.07 4 IAMs_20 IAMs_20 02 10 39.4
comp=Z,11µm,18.0s
KIP Kipapa 101.14 52 IAMs_20 IAMs_20 02 06 27.0
comp=Z,13µm,20.0s
P52A Corning 101.15 345 Pdiff Pdif 01 21 34.5 -0.8
baz=16
P52A Corning 101.15 345 IAMs_20 IAMs_20 02 11 13.0
comp=Z,19µm,19.0s
BEKR Beckworth 101.19 14 IAMs_20 IAMs_20 02 15 42.8
comp=Z,12µm,18.0s
ELK Elko 101.20 10 P Pdif 01 21 36.6 +0.8
ELK Elko 101.20 10 Pdif Pdif 01 21 36.6 +0.8
ELK IAMs_20 IAMs_20 02 14 14.2
comp=Z,21µm,18.0s
HON Honolulu 101.22 52 IAMs_20 IAMs_20 02 06 30.3
comp=Z,15µm,21.0s
SFIN Lafayette 101.35 349 Pdiff Pdif 01 21 34.8 -1.3
baz=12
CBN Corbin Frederi 101.38 341 Pdiff Pdif 01 21 35.5 -0.7
baz=20
CBN Corbin Frederi 101.38 341 IAMs_20 IAMs_20 02 11 42.1
comp=Z,16µm,19.0s
BGNE Belgrade 101.42 357 Pdiff Pdif 01 21 36.4 -0.1
baz=3.0
P51A Williamsport 101.49 345 IAMs_20 IAMs_20 02 11 17.9
comp=Z,12µm,18.0s
HDIL Hopedale 101.50 350 Pdiff Pdif 01 21 36.2 -0.5
baz=10
R58B Mineral 101.74 341 IAMs_20 IAMs_20 02 06 57.6
comp=Z,19µm,22.0s
P49A Miami Univ. Ec 101.76 347 Pdiff Pdif 01 21 36.7 -1.3
baz=14
DZM Mont Dzumac 101.81 109 *e*PP **PP 01 25 50.2 +0.5**
comp=Z,543nm,25.9s
DZM *e*SKSac **SKSac 01 32 15.4 -1.8**
comp=Z,1µm,24.6s
DZM *e*S SKKSac 01 33 16.3 +22
comp=Z,2µm,26.6s
DZM *e*SP **SP 01 34 48.5 -3.6**
comp=Z,1µm,25.4s
DZM Mont Dzumac 101.81 109 *e*LR LR 01 55 02.7
comp=Z,9µm,25.4s
VCNR Virginia City 101.88 14 IAMs_20 IAMs_20 02 15 39.1
comp=Z,12µm,18.0s
N23A Red Feather La 101.92 3 Pdiff Pdif 01 21 38.6 -0.4
baz=357
OGNE Ogallala 101.96 0 Pdiff Pdif 01 21 37.2 -1.7
baz=360
P48A Milroy 101.96 347 IAMs_20 IAMs_20 02 10 14.4
comp=Z,22µm,20.0s
Q51A Peebles 101.99 345 IAMs_20 IAMs_20 02 08 25.1
comp=Z,17µm,22.0s
RDMU Red Mountain 102.02 6 Pdif Pdif 01 21 41.2 +1.9
DUG Dugway, Tooele 102.06 9 Pdiff Pdif 01 21 39.5 0.0
baz=351
DUG Dugway, Tooele 102.06 9 IAMs_20 IAMs_20 02 14 50.8
comp=Z,12µm,19.0s
PNTR Pine Nut 102.09 14 IAMs_20 IAMs_20 02 15 44.6
comp=Z,12µm,18.0s
T60A Surry 102.20 340 IAMs_20 IAMs_20 02 10 19.1
comp=Z,16µm,18.0s
KVN Kaiserville 102.40 13 IAMs_20 IAMs_20 02 17 19.0
comp=Z,13µm,18.0s
O20A White River Ci 102.55 5 Pdiff Pdif 01 21 42.2 +0.4
baz=355
O20A White River Ci 102.55 5 IAMs_20 IAMs_20 02 13 23.7
comp=Z,22µm,18.0s
T59A Double "B" Far 102.58 340 IAMs_20 IAMs_20 02 09 02.1
comp=Z,13µm,20.0s
HLK Haleakala 102.73 51 IAMs_20 IAMs_20 02 07 33.1
comp=Z,13µm,20.0s
RYN Ryan 102.74 13 Pdif Pdif 01 21 43.1 +0.6
R50A Paris 102.90 346 IAMs_20 IAMs_20 02 09 30.3
comp=Z,23µm,22.0s
CMB Columbia Colle 102.95 15 IAMs_20 IAMs_20 02 16 48.5
comp=Z,14µm,18.0s
NVAR Mina Array Bea 102.97 13 Pdiff Pdif 01 21 43.9 +0.2
comp=Z,0.9nm,0.8s,baz=338,slow=3.2,SNR=7.4
NVAR PKiKP PKiKP 01 26 04.0 +0.4
comp=Z,2.4nm,0.8s,baz=342,slow=4.0,SNR=3.6
NVAR Sdiff 01 32 25.6
comp=Z,0.2nm,0.5s,baz=232,slow=4.4,SNR=0.8
NVAR PKKPbc PKKPbc 01 37 38.0 -2.2
comp=Z,0.9nm,0.7s,baz=184,slow=4.9,SNR=4.7
NVAR Mina Array Bea 102.97 13 Pdif Pdif 01 21 45.2 +1.5
NV11 Mina Array Sit 102.99 13 IAMs_20 IAMs_20 02 11 22.6
comp=Z,15µm,22.0s
ISCO Idaho Springs 103.03 3 Pdiff Pdif 01 21 43.3 -0.8
baz=357
SPR3 Spring Creek 3 103.05 10 IAMs_20 IAMs_20 02 13 38.9
comp=Z,21µm,20.0s
BLA Blacksburg 103.08 343 Pdiff Pdif 01 21 43.4 -0.6
baz=17
BLA Blacksburg 103.08 343 IAMs_20 IAMs_20 02 12 43.3
comp=Z,23µm,20.0s
U59A Littleton 103.23 340 IAMs_20 IAMs_20 02 08 11.2
comp=Z,16µm,20.0s
WCI Wyandotte Cave 103.31 347 Pdiff Pdif 01 21 44.8 -0.1
baz=13
S51A Beattyville 103.38 345 IAMs_20 IAMs_20 02 14 46.9
comp=Z,18µm,20.0s
V61A Roper 103.42 339 IAMs_20 IAMs_20 02 14 53.3
comp=Z,20µm,18.0s
R11A Troy Canyon, C 103.50 11 Pdiff Pdif 01 21 45.9 -0.1
baz=349
R11A Troy Canyon, C 103.50 11 IAMs_20 IAMs_20 02 16 22.0
comp=Z,18µm,18.0s
SMCO Snowmass 103.58 4 IAMs_20 IAMs_20 02 16 23.0
comp=Z,18µm,18.0s
MLAC Mammoth, Mammo 103.65 14 Pdiff Pdif 01 21 46.6 -0.1
baz=346
KSU1 Kansas State U 103.65 356 Pdiff Pdif 01 21 46.0 -0.4
baz=4.3
HUH Hualalai 103.79 52 IAMs_20 IAMs_20 02 07 52.1
comp=Z,14µm,20.0s
MSU Marysvale 103.80 8 P Pdif 01 21 49.7 +2.3
MSU Marysvale 103.80 8 Pdif Pdif 01 21 49.7 +2.3
KHLU Kahalu`u 103.82 52 IAMs_20 IAMs_20 02 07 44.0
comp=Z,13µm,20.0s
Q24A Divide 103.88 3 Pdiff Pdif 01 21 47.3 -0.5
baz=357
KSCO Kaye Shedlock' 103.89 1 Pdiff Pdif 01 21 46.8 -0.8
baz=359
KSCO Kaye Shedlock' 103.89 1 IAMs_20 IAMs_20 02 12 14.1
comp=Z,21µm,20.0s
POHA Pohakuloa 103.92 51 IAMs_20 IAMs_20 02 08 07.6
comp=Z,12µm,20.0s
SAO San Andreas Ge 103.95 16 IAMs_20 IAMs_20 02 18 53.9
comp=Z,10µm,18.0s
MLOA Mauna Loa Obse 104.06 52 IAMs_20 IAMs_20 02 07 51.3
comp=Z,15µm,20.0s
CBKS Cedar Bluff 104.06 358 Pdiff Pdif 01 21 46.8 -1.5
baz=1.7
HMH Humu'ula Sheep 104.07 51 IAMs_20 IAMs_20 02 08 00.5
comp=Z,14µm,20.0s
U54A Nelsons Funny 104.07 343 IAMs_20 IAMs_20 02 09 43.2
comp=Z,23µm,21.0s
MWH Moku'aweowe 104.08 52 IAMs_20 IAMs_20 02 08 02.0
comp=Z,15µm,20.0s
V58A Windy Hill, Pi 104.11 341 IAMs_20 IAMs_20 02 12 20.4
comp=Z,17µm,18.0s
CCM Cathedral Cave 104.21 351 Pdiff Pdif 01 21 48.3 -0.6
baz=8.7
CCM Cathedral Cave 104.21 351 IAMs_20 IAMs_20 02 11 57.7
comp=Z,21µm,20.0s
MLH Mauna Loa 104.21 51 IAMs_20 IAMs_20 02 08 35.3
comp=Z,13µm,20.0s
T50A Nancy 104.22 346 IAMs_20 IAMs_20 02 11 29.2
comp=Z,19µm,21.0s
PV14 Lion Creek, Pa 104.24 6 IAMs_20 IAMs_20 02 14 21.5
comp=Z,23µm,20.0s
KHU Kahuku 104.25 52 IAMs_20 IAMs_20 02 07 56.4
comp=Z,17µm,20.0s
AIN Ainahou 104.25 52 IAMs_20 IAMs_20 02 07 56.5
comp=Z,17µm,21.0s
CNNC Cliffs of the 104.30 340 Pdiff Pdif 01 21 48.8 -0.5
baz=19
CNNC Cliffs of the 104.30 340 IAMs_20 IAMs_20 02 17 07.7
comp=Z,19µm,20.0s
TIN Tinemaha, Big 104.32 13 Pdiff Pdif 01 21 49.0 -0.5
baz=347
UWE Uwekahuna 104.32 51 IAMs_20 IAMs_20 02 08 18.3
comp=Z,13µm,20.0s
UWB Uwekahuna B 104.33 51 IAMs_20 IAMs_20 02 08 09.4
comp=Z,16µm,22.0s
WRMHI West Rim 104.33 51 IAMs_20 IAMs_20 02 08 16.4
comp=Z,13µm,20.0s
OBL Observatory Le 104.33 51 IAMs_20 IAMs_20 02 08 35.5
comp=Z,12µm,20.0s
NPH North Pit 104.33 51 IAMs_20 IAMs_20 02 07 58.6
comp=Z,13µm,20.0s
HATHI Halema'uma'u T 104.34 51 IAMs_20 IAMs_20 02 07 54.7
comp=Z,12µm,19.0s
SDHHI Sand Hill 104.34 51 IAMs_20 IAMs_20 02 08 17.9
comp=Z,13µm,20.0s
RIM Rim 104.35 51 IAMs_20 IAMs_20 02 08 10.1
comp=Z,13µm,20.0s
PV03 Paradox Valley 104.37 6 Pdif Pdif 01 21 51.5 +1.5
PUH Pauahi 104.40 51 IAMs_20 IAMs_20 02 08 10.5
comp=Z,12µm,20.0s
HLP Hilina Pali 104.41 52 IAMs_20 IAMs_20 02 08 30.5
comp=Z,14µm,20.0s
TZTN Tazewell 104.42 345 Pdiff Pdif 01 21 49.3 -0.6
baz=15
PRN Pahroc Range 104.51 11 IAMs_20 IAMs_20 02 14 28.6
comp=Z,14µm,18.0s
PV01 Paradox Valley 104.52 5 IAMs_20 IAMs_20 02 15 16.7
comp=Z,22µm,20.0s
GRAC Grapevine Rang 104.53 13 Pdiff Pdif 01 21 49.7 -0.7
baz=347
PMPB Monarch Peak 104.61 16 IAMs_20 IAMs_20 02 17 48.6
comp=Z,11µm,18.0s
TPNV Topopah Spring 104.77 12 Pdiff Pdif 01 21 49.5 -2.1
baz=348
TPNV Topopah Spring 104.77 12 IAMs_20 IAMs_20 02 17 37.5
comp=Z,19µm,18.0s
VOG Valley Oaks Go 104.81 15 Pdiff Pdif 01 21 49.4 -2.1
baz=346
CWC Cottonwood Cre 104.94 13 Pdiff Pdif 01 21 51.6 -0.8
baz=347
S22A 4UR Ranch, Cre 105.02 4 Pdiff Pdif 01 21 50.6 -2.3
baz=356
SDCO Great Sand Dun 105.08 3 Pdiff Pdif 01 21 51.1 -2.1
baz=357
FURC Furnace Creek, 105.13 12 Pdiff Pdif 01 21 52.2 -0.8
baz=348
MGMO Mountain Grove 105.22 352 IAMs_20 IAMs_20 02 14 44.3
comp=Z,19µm,18.0s
KMSC Kings Mountain 105.28 343 Pdiff Pdif 01 21 53.6 -0.1
baz=17
V51A Loudon 105.30 345 IAMs_20 IAMs_20 02 10 17.9
comp=Z,22µm,19.0s
TKL Tuckaleechee C 105.32 345 IAMs_20 IAMs_20 02 15 59.5
comp=Z,21µm,18.0s
VES Vestal, Richgr 105.33 14 Pdiff Pdif 01 21 52.8 -1.1
baz=346
PBMO Poplar Bluff 105.36 350 IAMs_20 IAMs_20 02 11 16.3
comp=Z,13µm,19.0s
SHPR Sheep Range 105.37 11 IAMs_20 IAMs_20 02 15 57.6
comp=Z,20µm,18.0s
MAW Mawson 105.39 186 Pdiff Pdif 01 21 53.0 -0.1
comp=Z,2.1nm,0.8s,baz=30,slow=5.9,SNR=4.9
MAW PKKPbc PKKPbc 01 37 33.2 -0.6
comp=Z,0.6nm,0.3s,baz=327,slow=13,SNR=1.2
CLTN Cedars of Leba 105.40 347 IAMs_20 IAMs_20 02 11 11.4
comp=Z,23µm,21.0s
MPMC Manual Prospec 105.42 13 Pdiff Pdif 01 21 51.5 -3.1
baz=347
MVCO Mesa Verde 105.44 5 Pdiff Pdif 01 21 50.2 -4.5
baz=355
Y60A Bolivia 105.56 340 IAMs_20 IAMs_20 02 10 40.8
comp=Z,18µm,21.0s
WVT Waverly 105.62 348 Pdiff Pdif 01 21 50.0 -5.2
baz=12
ISA Isabella, Lake 105.62 14 Pdiff Pdif 01 21 51.9 -3.5
baz=346
ISA Isabella, Lake 105.62 14 IAMs_20 IAMs_20 02 18 49.2
comp=Z,13µm,18.0s
SMMC Simmler 105.65 15 Pdiff Pdif 01 21 51.3 -4.1
baz=345
CPCT Cooper Cave 105.68 345 IAMs_20 IAMs_20 02 10 29.7
comp=Z,18µm,19.0s
T25A Trinidad 105.72 2 Pdiff Pdif 01 21 53.3 -2.7
baz=358
Y59A Loris 105.75 340 IAMs_20 IAMs_20 02 11 08.9
comp=Z,18µm,21.0s
BG3 Lake Jocassee 105.78 344 IAMs_20 IAMs_20 02 16 12.7
comp=Z,17µm,18.0s
SHOC Shoshone, Teco 105.79 12 Pdiff Pdif 01 21 50.3 -5.7
baz=348
U15A North Rim 105.84 9 IAMs_20 IAMs_20 02 16 18.8
comp=Z,21µm,19.0s
LRMC Laurel Mtn Rad 105.95 13 Pdiff Pdif 01 21 53.1 -3.8
baz=347
Y58A Scranton 106.04 341 IAMs_20 IAMs_20 02 14 42.5
comp=Z,21µm,19.0s
U40A Yellville 106.07 352 Pdiff Pdif 01 21 55.8 -1.4
baz=7.4
ARVC Arvin 106.07 14 Pdiff Pdif 01 21 53.9 -3.3
baz=346
JSC Jenkinsville 106.08 342 IAMs_20 IAMs_20 02 14 34.5
comp=Z,14µm,19.0s
PKM Mcpherson Peak 106.10 15 Pdiff Pdif 01 21 55.2 -2.4
baz=345
LCAR Lake Charles 106.16 351 IAMs_20 IAMs_20 02 12 58.1
comp=Z,19µm,20.0s
SWET Sewanee 106.18 346 IAMs_20 IAMs_20 02 11 34.0
comp=Z,21µm,22.0s
GSC Goldstone, Bar 106.28 13 Pdiff Pdif 01 21 56.2 -2.1
baz=348
GSC Goldstone, Bar 106.28 13 IAMs_20 IAMs_20 02 18 42.6
comp=Z,14µm,18.0s
TUQ Turquoise Moun 106.30 12 Pdiff Pdif 01 21 56.2 -2.2
baz=348
U32A Winter Ranch, 106.47 358 IAMs_20 IAMs_20 02 16 09.5
comp=Z,18µm,18.0s
EDW2 Edwards Air Fo 106.47 14 Pdiff Pdif 01 21 56.5 -2.6
baz=347
LPAR Lepanto 106.50 350 IAMs_20 IAMs_20 02 14 45.5
comp=Z,21µm,18.0s
SBC Santa Barbara 106.56 15 Pdiff Pdif 01 21 55.5 -3.9
baz=345
OSI Osito Audit: C 106.59 14 Pdiff Pdif 01 21 58.6 -1.0
baz=346
OSI Osito Audit: C 106.59 14 IAMs_20 IAMs_20 02 19 40.9
comp=Z,13µm,18.0s
HBAR Harrisburg 106.60 350 IAMs_20 IAMs_20 02 16 27.9
comp=Z,18µm,18.0s
X51A Calhoun 106.60 345 IAMs_20 IAMs_20 02 10 58.2
comp=Z,24µm,21.0s
RRX Edison Barstow 106.66 13 Pdiff Pdif 01 21 58.1 -1.8
baz=348
TUL1 Leonard 106.77 355 Pdiff Pdif 01 21 58.3 -2.0
baz=5.0
FPAL Fort Paine 106.77 346 IAMs_20 IAMs_20 02 16 17.8
comp=Z,20µm,18.0s
HEC Hector,Ludlow 106.82 12 Pdiff Pdif 01 22 00.3 -0.4
baz=348
WUAZ Wupatki 106.85 8 Pdiff Pdif 01 21 59.1 -1.8
baz=352
WUAZ Wupatki 106.85 8 IAMs_20 IAMs_20 02 17 41.5
comp=Z,11µm,19.0s
HDBT Hernando Brdge 106.91 350 IAMs_20 IAMs_20 02 14 40.3
comp=Z,14µm,20.0s
MET Memphis--Engin 106.93 350 IAMs_20 IAMs_20 02 14 49.7
comp=Z,19µm,19.0s
W13A Hualapai Mount 106.94 10 IAMs_20 IAMs_20 02 14 39.0
comp=Z,19µm,20.0s
GMRC Granite Mounta 106.98 12 Pdiff Pdif 01 22 01.2 -0.2
baz=349
DECC Green Verdugo 107.02 14 Pdiff Pdif 01 22 00.7 -0.8
baz=346
WHAR Wooly Hollow 107.06 352 IAMs_20 IAMs_20 02 13 12.2
comp=Z,13µm,19.0s
Y52A Lilburn 107.11 345 IAMs_20 IAMs_20 02 10 59.9
comp=Z,19µm,21.0s
BFSC Mount Baldy Ra 107.16 14 Pdiff Pdif 01 22 02.8 +0.5
baz=347
W41B Gary Mavity, V 107.17 352 Pdiff Pdif 01 22 00.9 -1.2
baz=8.0
BBRC Big Bear Solar 107.27 13 Pdiff Pdif 01 22 01.1 -1.8
baz=348
W18A Petrified Fore 107.41 7 Pdiff Pdif 01 22 00.1 -3.3
baz=354
W18A Petrified Fore 107.41 7 IAMs_20 IAMs_20 02 16 36.4
comp=Z,19µm,20.0s
GOGA Godfrey 107.42 344 Pdiff Pdif 01 22 00.8 -2.4
baz=15
OXF Oxford 107.45 349 Pdiff Pdif 01 22 00.2 -3.1
baz=10
FMP Fort Macarthur 107.55 14 Pdiff Pdif 01 22 02.3 -1.5
baz=346
Y49A Blount Mountai 107.59 347 IAMs_20 IAMs_20 02 14 50.3
comp=Z,22µm,21.0s
IRM Iron Mountain 107.67 12 Pdiff Pdif 01 22 01.9 -2.6
baz=349
PDMCI Parker Dam,Lak 107.69 11 Pdiff Pdif 01 22 04.4 0.0
baz=350
BELC Belle Mtn. Jos 107.69 12 Pdiff Pdif 01 22 07.5 +2.9
baz=348
SNCC San Nicolas Is 107.75 15 Pdiff Pdif 01 22 07.0 +2.3
baz=345
SNCC San Nicolas Is 107.75 15 IAMs_20 IAMs_20 02 21 06.5
comp=Z,11µm,18.0s
ANMO Albuquerque 107.82 4 P Pdif 01 22 07.6 +2.3
ANMO Albuquerque 107.82 4 Pdiff Pdif 01 22 06.5 +1.2
baz=356
ANMO Albuquerque 107.82 4 Pdif Pdif 01 22 07.6 +2.3
CIS Catalina Islan 107.83 14 Pdiff Pdif 01 22 05.9 +0.8
baz=346
MURC Murrieta 107.87 13 Pdiff Pdif 01 22 06.6 +1.3
baz=347
X40A Basin Creek Fa 107.92 352 Pdiff Pdif 01 22 06.7 +1.3
baz=7.5
X16A Lo Mia Camp, P 107.93 8 IAMs_20 IAMs_20 02 14 46.0
comp=Z,17µm,21.0s
MIAR Mount Ida 107.93 353 Pdiff Pdif 01 22 06.7 +1.2
baz=6.9
X18A Snowflake 107.97 7 IAMs_20 IAMs_20 02 21 06.2
comp=Z,10µm,18.0s
PFO Pinyon Flats O 107.99 13 Pdiff Pdif 01 22 08.1 +2.1
baz=348
PFO Pinyon Flats O 107.99 13 IAMs_20 IAMs_20 02 18 58.9
comp=Z,12µm,18.0s
TPFO Pinon Flats 107.99 13 Pdiff Pdif 01 22 09.3 +3.4
baz=348
AMTX Amarillo 108.01 360 Pdiff Pdif 01 22 05.6 -0.4
baz=0.1
WMOK Wichita Mounta 108.10 357 Pdiff Pdif 01 22 03.9 -2.4
baz=2.6
154A Montrose 108.11 343 IAMs_20 IAMs_20 02 11 30.2
comp=Z,21µm,21.0s
BC3 Big Chuckawall 108.12 12 Pdiff Pdif 01 22 05.2 -1.3
baz=349
Y14A Wickenburg 108.20 10 IAMs_20 IAMs_20 02 18 58.4
comp=Z,18µm,18.0s
CCAR Cane Creek 108.36 351 IAMs_20 IAMs_20 02 14 15.5
comp=Z,21µm,19.0s
LRAL Lakeview Retre 108.50 347 Pdiff Pdif 01 22 04.7 -3.4
baz=12
109C Camp Elliot, M 108.58 13 Pdiff Pdif 01 22 07.3 -1.1
baz=347
109C Camp Elliot, M 108.58 13 IAMs_20 IAMs_20 02 20 16.3
comp=Z,16µm,18.0s
Y22D IRIS PASSCAL I 108.67 4 Pdiff Pdif 01 22 05.6 -3.4
baz=356
MONP2 Monument Peak 108.70 13 Pdiff Pdif 01 22 06.9 -2.3
baz=348
SWSC Sam W. Stewart 108.75 12 Pdiff Pdif 01 22 08.9 -0.3
baz=348
GLA Glamis 108.81 11 Pdiff Pdif 01 22 07.8 -1.8
baz=349
GLA Glamis 108.81 11 IAMs_20 IAMs_20 02 17 38.4
comp=Z,11µm,18.0s
BAR Barrett 108.86 13 IAMs_20 IAMs_20 02 20 11.8
comp=Z,15µm,18.0s
MSTX Muleshoe 108.92 1 Pdiff Pdif 01 22 09.2 -0.9
baz=359
IKP In-Ko-Pah, Jac 108.99 13 Pdiff Pdif 01 22 10.6 +0.2
baz=348
UABX UABC, Campus M 109.12 12 IAMs_20 IAMs_20 02 18 39.7
comp=Z,10µm,19.0s
Z41A Richland Creek 109.13 352 Pdiff Pdif 01 22 10.8 0.0
baz=7.6
146A Union 109.23 349 IAMs_20 IAMs_20 02 16 45.8
comp=Z,19µm,20.0s
113A Mohawk Valley, 109.25 11 IAMs_20 IAMs_20 02 20 39.0
comp=Z,16µm,18.0s
GUVIX Guadalupe Vict 109.50 12 IAMs_20 IAMs_20 02 18 02.8
comp=Z,10µm,19.0s
CCX Cicese 109.65 13 IAMs_20 IAMs_20 02 20 44.8
comp=Z,10µm,18.0s
VBMS Vicksburg 109.86 350 Pdiff Pdif 01 22 11.6 -2.5
baz=9.5
VBMS Vicksburg 109.86 350 IAMs_20 IAMs_20 02 14 20.4
comp=Z,20µm,20.0s
TUC Tucson 110.08 8 Pdiff Pdif 01 22 12.6 -2.6
baz=352
TUC Tucson 110.08 8 IAMs_20 IAMs_20 02 16 33.1
comp=Z,15µm,20.0s
121A Cookes Peak, D 110.14 5 Pdiff Pdif 01 22 12.1 -3.5
baz=355
214A Organ Pipe Nat 110.18 10 Pdiff Pdif 01 22 15.9 +0.3
baz=351
214A Organ Pipe Nat 110.18 10 IAMs_20 IAMs_20 02 19 07.8
comp=Z,17µm,19.0s
ABTX Abilene, Hawle 110.23 358 Pdiff Pdif 01 22 15.4 -0.4
baz=1.9
BRAL Brewton 110.32 346 Pdiff Pdif 01 22 15.6 -0.6
baz=12
451A Vernon 110.61 345 IAMs_20 IAMs_20 02 14 02.2
comp=Z,21µm,21.0s
553A Crawfordville 110.74 344 IAMs_20 IAMs_20 02 17 01.8
comp=Z,13µm,19.0s
WHTX Lake Whitney, 110.77 356 Pdiff Pdif 01 22 18.3 +0.1
baz=3.7
NATX Nacogdoches 110.80 353 Pdiff Pdif 01 22 19.6 +1.3
baz=6.1
MNTX Cornudas Mount 111.11 3 Pdiff Pdif 01 22 18.9 -0.8
baz=357
319A Douglas 111.16 7 IAMs_20 IAMs_20 02 20 45.7
comp=Z,19µm,19.0s
441A DeRidder 111.65 352 IAMs_20 IAMs_20 02 18 58.6
comp=Z,18µm,19.0s

435B Jarrell 111.98 356 Pdiff Pdif 01 22 22.5 -1.1
baz=3.6
JCT Junction City 112.38 358 Pdiff Pdif 01 22 20.0 -3.5
baz=1.8
RCBR Riachuelo 112.54 280 IAMs_20 IAMs_20 02 16 52.5
comp=Z,13μm,19.0s
ANWB Willy Bob 113.43 318 IAMs_20 IAMs_20 02 13 19.9
comp=Z,14μm,20.0s
TXAR Lajitas Array 113.53 2 Pdiff Pdif 01 22 30.4 -0.2
comp=Z,0.2nm,0.5s,baz=27,slow=0.2,SNR=1.9
TXAR PKiKP PKiKP 01 26 23.6 +0.1
comp=Z,1.8nm,0.8s,baz=188,slow=0.8,SNR=6.9
TXAR Sdiff 01 33 10.3
comp=Z,0.3nm,0.7s,baz=249,slow=4.5,SNR=1.5
TXAR PKKPbc PKKPbc 01 37 06.1 -0.6
comp=Z,1.3nm,0.8s,baz=179,slow=7.8,SNR=6.2
735A Kenedy 113.91 356 IAMs_20 IAMs_20 02 19 10.5
comp=Z,17μm,20.0s
061Z Ochoppi 113.99 339 IAMs_20 IAMs_20 02 18 18.1
comp=Z,19μm,20.0s
833A Chaparral WMA, 114.51 358 Pdiff Pdif 01 22 30.4 -4.5
baz=2.1
GRTK Grand Turk 114.58 328 IAMs_20 IAMs_20 02 17 54.5
comp=Z,17μm,20.0s
SRIG Santa Rosalia 114.82 10 IAMs_20 IAMs_20 02 20 47.7
comp=Z,10μm,21.0s
SJG San Juan 115.28 322 IAMs_20 IAMs_20 02 14 01.8
comp=Z,14μm,21.0s
XMAS Kiritimati 115.35 66 IAMs_20 IAMs_20 02 17 47.6
comp=Z,10μm,19.0s
HPIG 115.84 4 PKPdf PKPdf 01 26 28.6 +0.5
HPIG IAMs_20 IAMs_20 02 22 12.4
comp=Z,16μm,18.0s
BBGH Gun Hill 115.86 313 IAMs_20 IAMs_20 02 15 37.9
comp=Z,12μm,19.0s
SC01 Santiago de Io 116.25 327 IAMs_20 IAMs_20 02 17 17.0
comp=Z,17μm,20.0s
SDDR Presa de Saban 116.89 327 IAMs_20 IAMs_20 02 19 35.8
comp=Z,18μm,20.0s
URZ Urewera 118.13 118 PKP PKPdf 01 26 29.2 -2.5
comp=Z,21nm,0.6s,baz=277,slow=3.9,SNR=14
URZ Urewera 118.13 118 PKPdf PKPdf 01 26 29.6 -2.1
ZAIG Zacatecas 120.08 1 PKPdf PKiKP 01 26 36.8 +0.2
CMC01 Camacan, BA 121.03 274 eP PKiKP 01 26 40.1 +2.0
MCPB Macapa, AP 121.14 297 eP PKiKP 01 26 39.5 +1.0
SNAA Sanae 122.35 202 PKPdf PKPdf 01 26 38.3 -0.6
SNAA Sanae 122.35 202 ⅊ PKiKP PKiKP 01 26 39.7 +0.6
SNAA Sanae 122.35 202 PKPdf PKPdf 01 26 38.5 -0.5
NAN01 Guarapari, ES 122.90 272 eP PKiKP 01 26 42.5 +0.8
MOIG Morelia 123.16 359 PKPdf PKPdf 01 26 40.6 -1.7
PRPB Paraupebas 123.44 290 eP PKiKP 01 26 42.9 0.0
SMTB Santa Maria do 123.48 286 eP PKiKP 01 26 43.9 +0.9
VNA2 Neumayer--Watz 123.48 203 PKPdf PKiKP 01 26 41.4 +0.1
VNA1 Neumayer--Stat 123.67 204 PKPdf PKiKP 01 26 42.0 +0.4
MALB Monte Alegre 123.75 297 eP PKiKP 01 26 43.7 +0.2
BSFB Barra de Sao F 124.01 272 eP PKiKP 01 26 43.7 -0.1
SJMB Sao Joao De Ma 124.21 272 eP PKiKP 01 26 46.7 +2.4
VNA3 Neumayer Olymp 124.28 203 PKPdf PKiKP 01 26 42.7 -0.1
BOAV Boa Vista 124.86 306 eP PKiKP 01 26 46.7 +0.9
VNDA Vanda 124.92 165 PKP PKPdf 01 26 42.9 -0.8
comp=Z,5.7nm,1.0s,baz=283,slow=4.9,SNR=9.4
VNDA Vanda 124.92 165 PKIKP PKiKP 01 26 44.2 +0.2
VNDA Vanda 124.92 165 PKPdf PKiKP 01 26 44.2 +0.2
TLIG Tlapa 125.17 356 IAMs_20 IAMs_20 02 30 34.9
comp=Z,12μm,20.0s
SDV Santo Domingo 125.39 321 PKPdf PKPdf 01 26 45.9 -0.8
SDV Santo Domingo 125.39 321 eP PKPdf 01 26 46.4 -0.3
CCIG Comitan 125.75 348 IAMs_20 IAMs_20 02 24 05.5
comp=Z,16μm,21.0s
DIAM Diamantina, MG 125.96 274 eP PKiKP 01 26 48.8 +0.8
SBA Scott Base 126.02 165 PKIKP PKiKP 01 26 47.0 +0.9
SBA Scott Base 126.02 165 PKiKP 01 26 47.0 +0.9
SBA Scott Base 126.02 165 IAMs_20 IAMs_20 02 17 13.2
comp=Z,9μm,20.0s
PEXB Peixe 126.03 283 eP PKPdf 01 26 47.0 -0.6
ELOV Elorza 126.41 319 eP PKiKP 01 26 49.0 +0.1
HUEH Huehuetenango 126.59 347 IAMs_20 IAMs_20 02 25 29.7
comp=Z,14μm,21.0s
PTGA Pitinga 126.85 303 PKPdf 01 26 49.3 +0.1
PTGA IAMs_20 IAMs_20 02 20 19.0
comp=Z,11μm,21.0s
ESQI Esquipulas 126.92 345 IAMs_20 IAMs_20 02 30 31.5
comp=Z,15μm,18.0s
TGUH Tegucigalpa,Un 126.94 342 IAMs_20 IAMs_20 02 25 32.1
comp=Z,12μm,21.0s
TGUH Tegucigalpa,Un 126.94 342 eP PKPdf 01 26 49.1 -0.4
MTO3 Montecristo 127.08 345 IAMs_20 IAMs_20 02 29 51.8
comp=Z,14μm,19.0s
QSPA South Pole Qui 127.26 180 PKPdf PKPdf 01 26 48.6 +0.2
QSPA South Pole Qui 127.26 180 IAMs_20 IAMs_20 02 18 36.7
comp=Z,15μm,19.0s
OCAC Ocana 127.26 324 eP PKPdf 01 26 47.8 -2.5
RTAL Retalhuleu 127.40 348 IAMs_20 IAMs_20 02 28 33.2
comp=Z,12μm,20.0s
SNET Serv Nac Est T 127.74 344 IAMs_20 IAMs_20 02 25 12.4
comp=Z,17μm,22.0s
MOTC Monteria, Cord 127.86 326 eP PKiKP 01 26 51.7 0.0
BDFB Brasilia 127.90 280 PKP PKPdf 01 26 50.9 -0.4
comp=Z,5.6nm,0.8s,baz=34,slow=1.7,SNR=6.7
BDFB PP PP 01 28 50.4 -3.5
comp=Z,10nm,1.0s,baz=69,slow=6.1,SNR=3.0
BDFB Brasilia 127.90 280 IAMs_20 IAMs_20 02 25 30.8
comp=Z,15μm,19.0s
ESPN Las Esperanzas 127.91 338 IAMs_20 IAMs_20 02 27 38.2
comp=Z,13μm,19.0s
CRIN San Cristobal 128.19 341 IAMs_20 IAMs_20 02 25 18.3
comp=Z,8μm,20.0s
ACON Acoyapa 128.38 339 IAMs_20 IAMs_20 02 26 04.5
comp=Z,14μm,20.0s
BARC Barichara 128.63 322 eP PKPdf 01 26 53.3 +0.3
ZARC Zaragoza, Cauc 128.63 325 eP PKPdf 01 26 52.4 -0.3
UREC San Jos de Ur 128.71 326 eP PKPdf 01 26 53.0 +0.1
MACA Manacapuru-AM 129.12 302 eP PKiKP 01 26 55.1 +0.8
RUSC La Rusia 129.19 322 eP PKPdf 01 26 54.2 -0.1
BCIP Isla Barro Col 129.22 331 IAMs_20 IAMs_20 02 21 08.3
comp=Z,9μm,21.0s
COVE Coope Vega, Sa 129.34 338 IAMs_20 IAMs_20 02 27 03.0
comp=Z,13μm,20.0s
IPMB Ipameri, GO 129.38 277 eP PKiKP 01 26 55.4 +0.7
BATAN Batan 129.60 336 IAMs_20 IAMs_20 02 26 09.1
comp=Z,12μm,21.0s
DBBC Dabeiba 129.66 326 eP PKiKP 01 26 56.6 +1.1
JTS Las Juntas de 129.91 338 IAMs_20 IAMs_20 02 26 37.1
comp=Z,11μm,20.0s
RIMA Rio Macho 130.07 337 IAMs_20 IAMs_20 02 26 45.4
comp=Z,17μm,21.0s
HELC Santa Helena 130.09 325 eP PKPdf 01 26 54.2 -1.7
PTGC Puerto Gaitan, 130.16 320 eP PKPdf 01 26 54.2 -1.4
NORC Norcasia 130.33 324 eP PKPdf 01 26 56.1 +0.2
PEZE Perez Zeledon, 130.37 336 IAMs_20 IAMs_20 02 26 30.5
comp=Z,18μm,22.0s
JACO JACO, Garabito 130.41 337 IAMs_20 IAMs_20 02 31 26.5
comp=Z,13μm,19.0s
CAO2 Cobano, Puntar 130.53 338 IAMs_20 IAMs_20 02 27 39.4
comp=Z,12μm,20.0s
CHIC Chingaza 130.59 322 eP PKPdf 01 26 54.4 -2.5
ROSC El Rosal 130.70 323 PKP PKPdf 01 26 56.0 -1.0
comp=Z,41nm,0.9s,baz=333,slow=4.5,SNR=17
ROSC SKPbc SKPab 01 30 21.4 +1.5
comp=Z,38nm,0.8s,baz=84,slow=3.1,SNR=4.8
ROSC El Rosal 130.70 323 IAMs_20 IAMs_20 02 23 07.2
comp=Z,14μm,21.0s
ROSC El Rosal 130.70 323 eP PKPdf 01 26 56.8 -0.2
GUY2C Guyana, Caldas 130.86 324 eP PKPdf 01 26 57.7 +0.2
CDITO Canoas 130.86 335 IAMs_20 IAMs_20 02 26 03.6
comp=Z,11μm,22.0s
ARAG Araguaiana, MT 130.91 282 eP PKiKP 01 26 58.6 +0.9
BB19B Bebedouro 131.30 274 eP PKiKP 01 26 58.7 +0.2
TOLC Tolima 131.40 324 eP PKiKP 01 26 59.6 +0.3
PLMC San Jos del P 131.57 325 eP PKPdf 01 26 57.1 -1.3
SPB Sao Paulo 131.72 270 IAMs_20 IAMs_20 02 34 51.0
comp=Z,10μm,18.0s
SPB Sao Paulo 131.72 270 eP PKiKP 01 26 59.2 +0.1
PET01 Itanhaem-SP 131.94 270 eP PKiKP 01 27 00.4 +0.9
PRAC Prado 131.95 322 eP PKPdf 01 26 58.4 -0.7
ORTC Ortega, Tolima 131.96 323 eP PKPdf 01 26 57.7 -1.3
PIZC Pizarro, Choco 132.00 326 eP PKiKP 01 27 05.0 +4.9
ITRB Iturama 132.03 277 eP PKPdf 01 26 59.4 +0.5
YOTC Yotoco, Valle 132.41 324 eP PKPdf 01 26 59.0 -1.0
HOPE Hope Point 133.23 227 IAMs_20 IAMs_20 02 30 13.9
comp=Z,8μm,18.0s
FRTB Fartura 133.29 272 eP PKiKP 01 27 01.8 -0.6
PMOR Pomariorio Ree 133.61 74 ePKIKP PKPdf 01 27 00.9 -1.0
comp=Z,45nm,0.9s
PCMB Pacaembu 133.75 275 eP PKiKP 01 27 02.8 -0.5

POPC Popayan, Colom 133.83 324 eP PKPpre 01 26 56.4
PPT Papeete 133.83 78 PKP PKPdf 01 27 02.6 +0.3
comp=Z,31nm,0.7s,baz=77,slow=5.7,SNR=2.0
PPT2 Papeete2 133.85 78 ePKIKP PKPdf 01 27 01.4 -1.0
comp=Z,92nm,1.2s
PPT2 Papeete2 133.85 78 ePP PP 01 29 32.3 +0.1
comp=Z,3μm,25.0s
PPT2 Papeete2 133.85 78 eSS SS 01 47 18.8 -0.2
comp=Z,6μm,30.0s
PPT2 Papeete2 133.85 78 eLR LR 02 09 50.9
comp=Z,7μm,22.0s,baz=314
PCON Cinco Dias 133.88 323 eP PKiKP 01 27 04.4 -0.2
VAH Vaihoa 133.96 74 ePKIKP PKPdf 01 27 01.6 -0.9
comp=Z,43nm,1.1s
SALV Santo Antonio 134.02 285 eP PKPdf 01 27 03.0 +0.3
SOTA Rioblanco 134.15 324 eP PKPdf 01 27 04.2 +0.5
FLOC Florencia 134.17 322 eP PKPdf 01 27 03.1 -0.1
PP1B Ponte de Pedra 134.40 283 eP PKiKP 01 27 04.3 -0.5
BBAC Balboa, Cauca 134.55 324 eP PKPdf 01 27 03.0 -1.2
PTLC Puerto Leguiza 134.96 320 eP PKPdf 01 27 04.3 -0.3
SAML Samuel 135.00 299 PKIKP PKPdf 01 27 03.7 -0.9
SAML Samuel 135.00 299 eP PKPdf 01 27 03.7 -0.9
SAML Samuel 135.00 299 IAMs_20 IAMs_20 02 37 30.5
comp=Z,8μm,19.0s
TAOE Nuku Hiva Isla 135.23 60 ePP PP 01 29 37.5 -3.2
comp=Z,3μm,24.9s
TAOE Nuku Hiva Isla 135.23 60 eSS SS 01 47 33.3 -1.8
comp=Z,5μm,28.5s
TAOE Nuku Hiva Isla 135.23 60 eLR LR 02 10 30.5
comp=Z,6μm,28.1s
GCUF Volcan Galeras 135.30 324 eP PKiKP 01 27 07.9 +0.5
TER01 Tubaro-SC 135.37 265 eP PKPdf 01 27 05.0 +0.1
TRCB Terra Rica 135.45 275 IAMs_20 IAMs_20 02 30 29.0
comp=Z,11μm,19.0s
TBTG Tabatinga, AM 135.82 311 eP PKiKP 01 27 10.1 +2.3
PTLB Pontes e Lacer 136.37 288 eP PKiKP 01 27 08.8 0.0
AQDB Aquidauana 136.65 280 IAMs_20 IAMs_20 02 32 36.5
comp=Z,14μm,19.0s
AQDB Aquidauana 136.65 280 eP PKPdf 01 27 07.6 +0.1
OTAV Otavalo 136.68 325 PKIKP PKPdf 01 27 07.8 -0.6
OTAV MLR MLR
comp=Z,14μm,21.0s
OTAV Otavalo 136.68 325 PKPdf PKPdf 01 27 07.8 -0.6
OTAV Otavalo 136.68 325 IAMs_20 IAMs_20 02 28 14.6
comp=Z,14μm,21.0s
OTAV Otavalo 136.68 325 eP PKPdf 01 27 09.0 +0.6
OTAV Otavalo 136.68 325 eP PKiKP 01 27 09.7 -0.5
TBI Tubuai 137.05 85 ePP PP 01 29 49.1 -3.3
comp=Z,2μm,27.2s
TBI Tubuai 137.05 85 eSS SS 01 47 47.6 -10
comp=Z,4μm,29.2s
TBI Tubuai 137.05 85 eLR LR 02 11 20.5
comp=Z,9μm,26.0s,baz=312
ITAB Concordia 137.18 269 PKPdf 01 27 06.7 -1.6
ITAB IAMs_20 IAMs_20 02 30 28.9
comp=Z,13μm,20.0s
ITAB Concordia 137.18 269 eP PKPdf 01 27 08.2 -0.1
CPSB Cacapava Do Su 139.56 265 eP PKiKP 01 27 14.2 -0.7
PLTB Pedras Altas 140.21 263 IAMs_20 IAMs_20 02 31 33.2
comp=Z,13μm,20.0s
CPUP Villa Florida 140.90 273 PKhKP PKPpre 01 27 07.5
comp=Z,5.1nm,0.8s,baz=36,slow=1.9,SNR=15
CPUP PKP PKPdf 01 27 14.8 -0.4
comp=Z,9.7nm,0.6s,baz=49,slow=2.4,SNR=12
CPUP Villa Florida 140.90 273 PKiKP PKPdf 01 27 13.8 -1.3
CPUP Villa Florida 140.90 273 PKPdf PKPdf 01 27 13.8 -1.3
ITQB Itaqui 141.79 268 IAMs_20 IAMs_20 02 30 51.1
comp=Z,11μm,21.0s
ITQB Itaqui 141.79 268 eP PKiKP 01 27 18.4 -1.1
LPAZ La Paz 143.53 296 PKhKP PKPpre 01 27 15.6
comp=Z,3.8nm,0.7s,baz=14,slow=8.8,SNR=7.6
LPAZ PKP PKPdf 01 27 20.4 -0.4
comp=Z,9.7nm,0.9s,baz=133,slow=0.7,SNR=18
LPAZ La Paz 143.53 296 PKIKP PKPab 01 27 17.5 +0.3
LPAZ La Paz 143.53 296 PKPdf PKPab 01 27 17.5 +0.3
LPAZ La Paz 143.53 296 eP PKiKP 01 27 22.9 -1.4
PMSA Palmer Station 144.75 297 eP PKPbc 01 27 20.0 +0.3
NNA Nana 146.14 312 PKP2 PKPab 01 27 26.3 0.0
NNA MLR MLR
comp=Z,7μm,20.0s
NNA Nana 146.14 312 PKPbc PKPab 01 27 26.3 0.0
NNA Nana 146.14 312 IAMs_20 IAMs_20 02 35 21.3
comp=Z,7μm,20.0s
EFI East Falkland 146.25 231 c iPKP2 PKPdf 01 27 23.5 -0.2
EFI East Falkland 146.25 231 PKPab 01 27 25.6 0.0
MNMC Minye Minye 146.44 294 PKPbc 01 27 26.7 0.0
MNMC IAMs_20 IAMs_20 02 39 12.9
comp=Z,10μm,18.0s
AP01 Chacalluta 146.49 296 IAMs_20 IAMs_20 02 38 44.0
comp=Z,10μm,20.0s
PB08 IPOC Station P 146.75 292 IAMs_20 IAMs_20 02 39 14.2
comp=Z,12μm,19.0s
PB11 IPOC Station P 146.88 293 IAMs_20 IAMs_20 02 39 56.7
comp=Z,10μm,19.0s
PSGCX Pisagua 147.12 294 IAMs_20 IAMs_20 02 37 17.9
comp=Z,8μm,21.0s
PB01 IPOC Station P 147.55 291 IAMs_20 IAMs_20 02 41 29.4
comp=Z,8μm,19.0s
TA02 Huaiquique 147.55 293 IAMs_20 IAMs_20 02 42 39.3
comp=Z,7μm,18.0s
PB09 IPOC Station P 147.81 290 IAMs_20 IAMs_20 02 34 27.6
comp=Z,8μm,22.0s
LVC Limon Verde 148.04 288 PKP2 PKPdf 01 27 28.8 +0.7
LVC Limon Verde 148.04 288 PKPdf 01 27 28.8 +0.7
LVC Limon Verde 148.04 288 eP PKPbc 01 27 30.3 -0.9
PB07 IPOC Station P 148.25 291 IAMs_20 IAMs_20 02 33 33.2
comp=Z,9μm,22.0s
PB06 IPOC Station P 148.59 289 IAMs_20 IAMs_20 02 34 46.3
comp=Z,10μm,22.0s
TRQA Tornquist 148.62 257 PKP2 PKPbc 01 27 31.7 -0.1
TRQA Tornquist 148.62 257 PKPbc PKPbc 01 27 31.7 -0.1
TRQA Tornquist 148.62 257 eP PKPdf 01 27 29.7 +1.6
PB15 IPOC Station P 148.80 288 IAMs_20 IAMs_20 02 38 12.9
comp=Z,9μm,21.0s
PB04 IPOC Station P 148.81 290 IAMs_20 IAMs_20 02 34 12.0
comp=Z,10μm,22.0s
PB10 IPOC Station P 149.79 288 IAMs_20 IAMs_20 02 35 31.1
comp=Z,10μm,20.0s
GO02 Mina Guanaco 149.96 285 IAMs_20 IAMs_20 02 47 42.8
comp=Z,8μm,18.0s
PB14 IPOC Station P 150.29 286 IAMs_20 IAMs_20 02 43 35.6
comp=Z,7μm,18.0s
AC02 Maricunga 150.45 281 IAMs_20 IAMs_20 02 42 45.9
comp=Z,9μm,18.0s
MG01 Puerto William 150.96 222 IAMs_20 IAMs_20 02 38 07.1
comp=Z,7μm,20.0s
AC01 Pan de Azucar 151.25 284 IAMs_20 IAMs_20 02 38 06.9
comp=Z,8μm,20.0s
GO03 Copiap 151.68 281 PKPdf 01 27 32.3 -1.0
GO03 PKPbc PKPbc 01 27 39.5 -0.1
GO03 IAMs_20 IAMs_20 02 39 45.4
comp=Z,7μm,20.0s
ZON Zonda 152.10 272 IAMs_20 IAMs_20 02 36 45.1
comp=Z,10μm,21.0s
AC04 Llanos de Chal 152.62 281 IAMs_20 IAMs_20 02 40 09.3
comp=Z,8μm,20.0s
MG02 Cerro Sombrero 152.64 225 IAMs_20 IAMs_20 02 46 11.8
comp=Z,6μm,19.0s
LCO Las Campanas 152.69 279 PKIKP PKPdf 01 27 36.5 +1.5
LCO Las Campanas 152.69 279 PKPdf PKPdf 01 27 36.5 +1.5
LCO Las Campanas 152.69 279 IAMs_20 IAMs_20 02 40 25.3
comp=Z,8μm,19.0s
GO04 Tololo Observa 153.26 277 IAMs_20 IAMs_20 02 39 11.4
comp=Z,9μm,21.0s
CO02 Combarbal 153.82 275 IAMs_20 IAMs_20 02 39 18.4
comp=Z,9μm,22.0s
VA03 San Esteban 154.01 271 IAMs_20 IAMs_20 02 37 42.6
comp=Z,9μm,21.0s
MT03 Universidad Ad 154.21 269 IAMs_20 IAMs_20 02 42 49.9
comp=Z,9μm,20.0s
MT05 Renca 154.36 270 IAMs_20 IAMs_20 02 43 39.8
comp=Z,8μm,19.0s
MT02 Curacav 154.64 270 IAMs_20 IAMs_20 02 41 38.2
comp=Z,9μm,20.0s
MT09 Talagante 154.68 269 PKPbc 01 27 45.9 -0.2
MT09 IAMs_20 IAMs_20 02 38 04.2
comp=Z,7μm,21.0s
BO02 Sierra Bellavi 154.80 267 IAMs_20 IAMs_20 02 37 04.3
comp=Z,8μm,21.0s
MT01 Popeta 154.91 269 IAMs_20 IAMs_20 02 41 42.4
comp=Z,8μm,20.0s
BO01 Tunca 154.93 268 IAMs_20 IAMs_20 02 37 06.9
comp=Z,7μm,20.0s
VA01 Torpederas 154.97 271 IAMs_20 IAMs_20 02 38 07.7
comp=Z,10μm,21.0s
GO09 Cerro Castillo 154.98 227 IAMs_20 IAMs_20 02 51 43.0
comp=Z,9μm,19.0s
PLCA Paso Flores 155.54 253 PKP PKPdf 01 27 38.0 -0.4
comp=Z,8.0nm,0.8s,baz=155,slow=1.4,SNR=10
PLCA PKPab PKPab 01 28 02.5 -1.9
comp=Z,13nm,0.9s,baz=40,slow=2.6,SNR=4.9
PLCA Paso Flores 155.54 253 eP PKPdf 01 27 40.5 +2.0
GO05 Huala 155.76 267 PKPdf 01 27 39.2 +0.3
GO05 PKPab PKPab 01 28 06.3 +0.7
GO05 IAMs_20 IAMs_20 02 49 12.0
comp=Z,7μm,20.0s
LL01 San Ignacio de 156.94 249 IAMs_20 IAMs_20 02 43 09.4
comp=Z,12μm,21.0s
LL03 Petrohue 156.95 252 IAMs_20 IAMs_20 02 48 08.9
comp=Z,7μm,20.0s
LL07 Hotel Espejo d 157.70 247 IAMs_20 IAMs_20 02 42 25.4
comp=Z,9μm,21.0s
LL05 Los Muermos 157.76 251 IAMs_20 IAMs_20 02 47 50.2
comp=Z,9μm,20.0s
GO07 Milladeo Hill, 157.81 246 PKPdf PKPdf 01 27 41.5 +0.4
GO07 PKPab 01 28 13.1 -0.9
GO07 IAMs_20 IAMs_20 02 46 43.3
comp=Z,11μm,20.0s

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*NEIC **03** 01:13:13.9±2.4, 37.°31N±0.°09×78.°1E±0.°2, h10km±1km, mb4.9/4 Error ellipse: s-maj=24.1km s-min=13.2km az=251.0*
*IDC **03** 01:13:13.2±1.0, 37.°50N×77.°89E, h0km, mb4.5/10, mb1 4.7/12, mb1mx4.4/60, mbtmp4.6/12, ML4.1/1, Error ellipse: s-maj=26.3km s-min=18.2km az=49.0*
ISC 03 01:13:15.3±0.8, 37.°3N±0.°1×77.°91E±0.°10, h17km, n19, σ1§73/18, mb4.6/11, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	Taragay, Kyrgy	4.46	359	Pn	Pn	01 14 22.1	-0.4
AAK	Ala-Archa	5.97	335	Pn	Pn	01 14 42.6	-0.4
5.8nm,0.3s,baz=179,slow=18,SNR=1.5							
AAK				Pg	Pb	01 14 60.0	+1.0
20nm,0.3s,baz=141,slow=24,SNR=0.6							
AAK				Lg	Lg	01 16 12.7	
30nm,0.3s,baz=232,slow=17,SNR=1.5							
WMQ	Urumqi	9.91	46	eP	Pn	01 15 40.8	+3.8
WMQ				smax	smax		
comp=N,1μm,1.7s							
WMQ				smax	smax		
comp=E,1μm,1.7s							
MKAR	Makanchi Array	10.06	17	Pn	Pn	01 15 36.4	-2.6
baz=202,slow=12,SNR=1.0							
SONM	Songino Array	23.37	54	P	P	01 18 23.4	+0.5
comp=E,24nm,1.1s,baz=235,slow=11,SNR=1.5							
BRTR	Keskin Array B	34.48	288	P	P	01 20 03.0	+0.7
comp=E,5.3nm,0.8s,baz=94,slow=9.1,SNR=1.5							
KS19	Wonju Array Si	39.31	74	P	P	01 20 39.6	-3.8
KS19				IAmb	IAmb	01 20 43.2	
comp=Z,27nm,1.5s							
ARCES	ARCESS Array B	42.65	336	P	P	01 21 09.9	-0.5
comp=Z,12nm,1.0s,baz=106,slow=8.2,SNR=1.4							
NOA	NORSAR Array B	47.13	322	P	P	01 21 46.0	-0.3
comp=Z,6.7nm,0.9s,baz=88,slow=9.0,SNR=0.9							
MA2	Magadan	50.31	39	P	P	01 22 11.1	+0.5
ESDC	Sonseca Array	61.94	300	P	P	01 23 33.4	-0.7
comp=Z,2.3nm,1.0s,baz=45,slow=6.2,SNR=1.0							
ESDC	Sonseca Array	61.94	300	IAmb	IAmb	01 23 40.4	
comp=Z,5.5nm,1.1s							
MBWA	Marble Bar	70.21	139	P	P	01 24 26.2	-1.1
TORD	Torodi Ar. Bea	71.25	272	P	P	01 24 34.2	+0.4
comp=Z,3.5nm,0.9s,baz=43,slow=5.3,SNR=1.1							
KDAK	Kodiak Island	76.28	25	P	P	01 25 02.7	0.0
comp=Z,4.3nm,0.6s,baz=351,slow=9.8,SNR=1.4							
KDAK	Kodiak Island	76.28	25	IAmb	IAmb	01 25 09.6	
comp=Z,20nm,1.1s							
WRA	Warramunga Arr	77.84	127	P	P	01 25 13.8	+1.9
comp=Z,6.5nm,1.1s,baz=327,slow=5.5,SNR=1.6							
YKA	Yellowknife Ar	80.08	6	P	P	01 25 22.6	-1.0
comp=Z,1.4nm,0.7s,baz=354,slow=5.6,SNR=1.1							
ASAR	Alice Springs	80.30	130	P	P	01 25 26.0	+0.6
comp=Z,1.8nm,0.8s,baz=324,slow=5.7,SNR=1.1							

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*IDC **03** 01:13:28.4±0.7, 15.°20S×168.°32E, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.5/44, mbtmp4.5/14, ML4.4/1, MS3.7/2, Ms1 3.7/2, ms1mx3.3/41, Error ellipse: s-maj=31.1km s-min=16.3km az=88.0*
*NEIC **03** 01:13:37.3±1.9, 15.°46S±0.°09×168.°3E±0.°1, h54km±6km, mb4.9/20, Error ellipse: s-maj=17.3km s-min=13.0km az=111.0*
ISC 03 01:13:34.1±0.4, 15.°24S±0.°07×168.°23E±0.°10, h36km, n74, σ1§24/64, mb4.8/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	LIFOU	5.58	190	Pn	Pn	01 14 54.9	+0.3
MARNC	Mare, Loyalty	6.21	182	Pn	Pn	01 15 02.3	-0.9
DZM	Mont Dzumac	7.00	194	Pn	Pn	01 15 12.9	-1.2
6.2nm,0.3s,baz=74,slow=11,SNR=38							
DZM				Sn	Sn	01 16 30.6	-2.0
1.5nm,0.3s,baz=317,slow=23,SNR=1.7							
DZM				LR	LR	01 17 40.1	
comp=Z,389nm,18.6s,baz=18,slow=36							
DZM	Mont Dzumac	7.00	194		Pn	01 15 13.0	-1.2
DZM	Mont Dzumac	7.00	194	P	Pn	01 15 13.1	-1.1
NOUC	Port Laguerre	7.06	195	P	Pn	01 15 14.3	-0.6
ONTNC	Ouen Toro	7.23	193		Pn	01 15 16.7	-0.5
ONTNC	Ouen Toro	7.23	193	P	Pn	01 15 17.1	-0.1
OUENC	Ouen Island, N	7.26	190		Pn	01 15 17.4	-0.3
OUENC	Ouen Island, N	7.26	190	P	Pn	01 15 17.2	-0.4
PINNC	Pines Island,	7.37	186	Pn	Pn	01 15 19.6	+0.5
MSVF	Nonsavu	9.74	106	Pn	Pn	01 15 52.8	+1.1
1.1nm,0.3s,baz=279,slow=17,SNR=9.2							
MSVF				LR	LR	01 18 37.0	
comp=Z,524nm,20.3s,baz=298,slow=32							
MSVF	Nonsavu	9.74	106		Pn	01 15 53.6	+1.8
CTA	Charters Tower	21.48	254	P	P	01 18 24.4	+4.6
2.0nm,0.6s,baz=80,slow=15,SNR=2.0							
URZ	Urewera	24.23	163	P	P	01 18 47.8	+0.2
21nm,0.8s,baz=19,slow=5.4,SNR=7.3							
URZ	Urewera	24.23	163	P	P	01 18 48.0	+0.5
URZ				IAmb	IAmb	01 18 56.4	
comp=Z,30nm,0.9s							
LTZ	Lake Taylor	27.66	174	P	P	01 19 17.6	-1.0
STKA	Stephens Creek	29.38	231	P	P	01 19 34.4	+0.5
comp=Z,2.0nm,0.4s,baz=52,slow=9.9,SNR=6.9							
STKA	Stephens Creek	29.38	231	P	P	01 19 34.5	+0.5
H11N1	WAKE ISLAND Hy	34.76	358	T	T	01 57 15.7	
baz=172							
H11N3	WAKE ISLAND Hy	34.77	358	T	T	01 57 18.6	
baz=172							
H11N2	WAKE ISLAND Hy	34.78	358	T	T	01 57 16.1	
baz=172							
MJAR	Matsushiro Arr	58.79	332	P	P	01 23 27.9	-0.9
comp=Z,7.5nm,0.9s,baz=171,slow=7.1,SNR=9.0							
MJAR	Matsushiro Arr	58.79	332	IAmb	IAmb	01 23 30.4	
comp=Z,11nm,1.1s							
MAJO	Matsushiro	58.79	332	P	P	01 23 28.5	-0.3
VNDA	Vanda	62.38	182	P	P	01 23 52.6	0.0
comp=Z,2.6nm,0.8s,baz=356,slow=6.4,SNR=15							
VNDA	Vanda	62.38	182	P	P	01 23 53.0	+0.3
SBA	Scott Base	62.63	180	P	P	01 23 54.6	+0.2
KSRS	Korea Array	64.69	325	P	P	01 24 09.6	+1.1
comp=Z,2.9nm,0.8s,baz=140,slow=7.2,SNR=8.6							
USRK	Ussuriysk Ar.	67.76	333	P	P	01 24 28.2	+0.2
comp=Z,3.1nm,0.7s,baz=105,slow=6.8,SNR=6.8							
QSPA	South Pole Qui	74.79	180	P	P	01 25 10.2	-0.3
CMAR	Chiang Mai Arr	76.00	294	P	P	01 25 18.7	+0.6
comp=Z,1.8nm,0.7s,baz=206,slow=6.2,SNR=1.6							
SEY	Seymchan	78.90	353	P	P	01 25 33.5	+0.3
comp=Z,7.2nm,0.8s,baz=204,slow=19,SNR=3.6							
MAW	Mawson	81.76	202	P	P	01 25 48.6	-0.2
comp=Z,1.5nm,0.8s,baz=170,slow=6.0,SNR=2.1							
MAW	Mawson	81.76	202	P	P	01 25 48.9	+0.2
SONM	Songino Array	83.46	323	P	P	01 25 57.2	-0.8
comp=Z,12nm,1.0s,baz=123,slow=5.3,SNR=2.8							
SAO	San Andreas Ge	83.96	49	P	P	01 26 01.8	+1.1
SAO				IAmb	IAmb	01 26 09.7	
comp=Z,22nm,1.3s							
PMPB	Monarch Peak	84.21	50	IAmb	IAmb	01 26 11.6	
comp=Z,24nm,1.2s							

YBH IAmb IAmb 01 26 08.4
comp=Z,18nm,1.2s
ISA Isabella, Lake 85.74 51 P **P 01 26 10.4 +0.6**
ISA IAmb IAmb 01 26 19.6
comp=Z,10nm,1.0s
MDPB Devils Postpil 86.03 49 P **P 01 26 11.3 -0.1**
ILAR Eielson Array 86.73 18 P **P 01 26 12.4 -1.4**
comp=Z,2.1nm,0.8s,baz=236,slow=5.3,SNR=4.7
NVAR Mina Array Bea 86.90 49 P **P 01 26 15.8 +0.2**
comp=Z,5.9nm,0.8s,baz=237,slow=6.8,SNR=12
GLA Glamis 87.63 55 P **P 01 26 19.1 0.0**
GLA IAmb IAmb 01 26 28.3
comp=Z,5.3nm,0.8s
W13A Hualapai Mount 89.05 53 P **P 01 26 27.1 +1.2**
W13A IAmb IAmb 01 26 32.5
comp=Z,12nm,1.5s
TXAR Lajitas Array 95.71 61 P **P 01 26 57.3 +0.6**
YKA Yellowknife Ar 97.58 27 P **P 01 27 03.8 -0.5**
comp=Z,0.5nm,0.7s,baz=254,slow=4.4,SNR=2.5
H03S2 Juan Fernandez 99.62 129 T T 03 18 14.6
baz=243
H03S1 Juan Fernandez 99.63 129 T T 03 18 14.9
baz=243,slow=74
H03S3 Juan Fernandez 99.64 129 T T 03 18 16.4
baz=243,slow=74
ARCES ARCESS Array B 120.98 346 PKP **PKPdf 01 32 21.8 -0.3**
comp=Z,7.0nm,1.0s,baz=83,slow=2.8,SNR=2.1
DIVS Divibare 140.58 323 PKPdf 01 32 59.7 -0.3
SOKA Soboth 141.51 330 *eP* **PKPdf 01 33 00.3 -1.2**
comp=Z,0.4nm,0.3s
FNA Florina 141.60 318 PKPdf 01 33 01.0 -0.9
WTTA Wattenberg 142.62 334 *eP* **PKPdf 01 33 06.6 -3.1**
comp=Z,2.7nm,0.7s
ABTA Abfaltersbach 142.63 332 *eP* **PKPdf 01 32 60.0 -3.6**
comp=Z,5.8nm,0.8s
MOTA Moosalm 142.78 334 *eP* **PKPdf 01 33 01.1 -2.8**
comp=Z,4.9nm,0.8s
SQTA Sankt Quirin 142.84 334 *eP* **PKPdf 01 33 01.0 -3.0**
comp=Z,1.2nm,0.4s
FETA Feichten 143.19 334 *eP* PKPbc 01 33 02.2 +0.6
comp=Z,5.2nm,0.8s
DAVA Damuels 143.34 335 *i* P PKPbc 01 33 03.2 +1.2
comp=Z,3.7nm,0.7s
DAVOX Davos/Dischmat 143.74 335 PKP PKPbc 01 33 04.4 +1.1
comp=Z,6.9nm,0.7s,baz=37,slow=0.6,SNR=12
TUE Stuetta 144.21 335 PKPdf 01 33 06.0 -0.5
ZCCA Zocca 145.15 331 PKPbc **PKPdf 01 33 09.6 +1.6**
INTR Introdacqua 145.34 325 PKPdf 01 33 08.9 +0.4
OSSC Osservatorio P 145.64 330 PKPbc **PKPab 01 33 09.5 0.0**
BNI Bardonecchia 146.44 336 PKPbc **PKPab 01 33 13.0 +0.4**
RAFF Raffo Rosso 148.12 318 PKPbc 01 33 16.5 +0.1
CLTB Caltabellotta 148.62 320 PKPbc 01 33 16.8 -1.0
KEST Kesra 152.19 321 PKPbc **PKPbc 01 33 26.4 -0.1**
comp=Z,6.4nm,0.9s,baz=90,slow=1.0,SNR=6.4
KEST Kesra 152.19 321 PKiKP 01 33 27.4 +0.6
ESDC Sonseca Array 154.72 346 PKPab **PKPab 01 33 46.4 -0.2**
comp=Z,0.7nm,0.8s,baz=20,slow=4.2,SNR=4.9
ESDC Sonseca Array 154.72 346 PKPdf **PKPdf 01 33 22.6 -0.6**

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*IDC **03** 01:17:29.1±2.4, 37.°45N×77.°97E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/66, mbtmp4.1/6, Error ellipse: s-maj=53.5km s-min=28.9km az=90.0*
*NEIC **03** 01:17:48.0±2.8, 37.°56N±0.°07×78.°00E±0.°08, h10km±1km, mb4.8/12, Error ellipse: s-maj=12.3km s-min=9.0km az=215.0*
ISC 03 01:17:47.1±0.6, 37.°50N±0.°08×78.°05E±0.°08, h10km, n43, σ1§34/37, mb4.4/8, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.23**	**358**	Pn	**Pn**	**01 18 50.3**	**-1.8**
KDJ	**Kajisay**	**4.67**	**352**		**Pn**	**01 18 57.6**	**-0.3**
BOOM	**Boomskoye usch**	**5.24**	**343**	Pn	**Pn**	**01 19 05.9**	**+0.1**
DRK	**Karamyk**	**5.29**	**294**		**Pn**	**01 19 07.5**	**+1.1**
NIL	**Nilore**	**5.48**	**227**	Pn	**Pn**	**01 19 10.3**	**+1.5**
AAK	**Ala-Archa**	**5.81**	**333**	Pg	**Pn**	**01 19 16.3**	**+2.8**
	2.8nm,0.3s,baz=144,slow=8.7,SNR=1.9						
AAK				Lg	Lg	01 20 33.0	
	3.0nm,0.3s,baz=38,slow=19,SNR=1.8						
AAK	**Ala-Archa**	**5.81**	**333**	Pn	**Pn**	**01 19 14.0**	**+0.5**
FRU1	**Bishkek**	**5.92**	**335**		**Pn**	**01 19 17.1**	**+2.2**
BTK	**Batken**	**6.20**	**297**	Pn	**Pn**	**01 19 20.0**	**+1.2**
GAR	**Garm**	**6.27**	**286**		**Pn**	**01 19 20.0**	**+0.2**
CHGR	**Chuyangaron**	**7.11**	**282**	Pn	**Pn**	**01 19 30.3**	**-1.0**
KBL	**Kabul**	**7.87**	**251**	Pn	**Pn**	**01 19 42.6**	**+0.8**
KK31	**Karatay Array**	**8.03**	**317**		**Pn**	**01 19 44.1**	**+0.3**
KKAR	**Karatay Array**	**8.03**	**317**		**Pn**	**01 19 44.8**	**+1.0**
MAKZ	**Makanchi**	**9.75**	**16**		**Pn**	**01 20 08.4**	**+1.0**
MK31	**Makanchi Array**	**9.81**	**17**		**Pn**	**01 20 08.0**	**-0.2**
MKAR	**Makanchi Array**	**9.81**	**17**	Pn	Pn	01 19 53.3	-15
	baz=200,slow=13,SNR=1.1						
MKAR				Sn	Sn	01 21 37.7	-21
	1.2nm,0.3s,baz=7.6,slow=10.0,SNR=1.4						
MKAR	**Makanchi Array**	**9.81**	**17**		**Pn**	**01 20 07.6**	**-0.6**
HRA	**Herat**	**13.18**	**261**		**Pn**	**01 20 55.3**	**+0.8**
GYA0B	**ALIBECK ARRAY**	**15.78**	**278**		**Pn**	**01 21 27.9**	**-1.6**
GYA0B				IAmb	IAmb	01 21 32.8	
	comp=Z,114nm,1.1s						
BRVK	**Borovoye**	**16.48**	**343**	Pn	**Pn**	**01 21 36.1**	**-2.1**
BRVK				IAmb	IAmb	01 21 45.0	
	comp=Z,67nm,1.1s						
ZAA0	**Zalesovo Array**	**17.10**	**14**	Pn	**Pn**	**01 21 44.5**	**-1.7**
ZAA0				IAmb	IAmb	01 21 46.5	
	comp=Z,84nm,1.2s						
ZALV	**Zalesovo Beam**	**17.10**	**14**	Pn	**Pn**	**01 21 45.2**	**-0.9**
ABKAR	**Akbulak array**	**17.59**	**318**	Pn	**Pn**	**01 21 50.0**	**-2.3**
ARU	**Arti**	**22.99**	**332**		**P**	**01 22 53.9**	**+2.1**
SONM	**Songino Array**	**23.14**	**54**		**P**	**01 22 54.4**	**+0.9**
ULN	**Ulaanbaatar**	**23.58**	**55**		**P**	**01 22 58.9**	**+1.0**
ENH	**Enshi**	**26.99**	**96**		**P**	**01 23 30.6**	**+1.4**
ENH				IAmb	IAmb	01 23 40.2	
	comp=Z,22nm,1.1s						
PALK	**Pallekele**	**30.18**	**175**		**P**	**01 23 56.9**	**-0.8**
BURAR	**Bucovina Array**	**39.51**	**302**		**P**	**01 25 17.6**	**-0.4**
BURAR				IAmb	IAmb	01 25 18.1	
	comp=Z,19nm,1.1s						
RPSI	**Rantau Prapat**	**39.59**	**146**		**P**	**01 25 19.6**	**+0.9**
FIA1	**FINESS Array S**	**39.91**	**324**		**P**	**01 25 22.6**	**+1.7**
HFS	**Hagfors**	**45.81**	**321**		**P**	01 25 51.6	-17
	comp=Z,8.5nm,0.9s,baz=87,slow=8.8,SNR=2.2						
NOA	**NORSAR Array B**	**47.02**	**322**		P	01 26 02.9	-15
	comp=Z,0.8nm,0.6s,baz=90,slow=7.7,SNR=1.4						
MAJO	**Matsushiro**	**47.31**	**72**		**P**	**01 26 21.3**	**+0.4**
MAJO				IAmb	IAmb	01 26 21.5	
	comp=Z,19nm,1.4s						
EKA	**Eskdalemuir Ar**	**55.46**	**317**		P	01 27 06.0	-16
	comp=Z,1.6nm,0.9s,baz=78,slow=6.7,SNR=2.0						
ESDC	**Sonseca Array**	**61.92**	**300**		P	01 27 50.1	-17
	comp=Z,1.3nm,1.1s,baz=48,slow=6.0,SNR=1.5						
TORD	**Torodi Ar. Bea**	**71.35**	**272**		P	01 28 50.4	-17
	comp=Z,0.7nm,0.4s,baz=46,slow=5.3,SNR=5.6						
WB0	**Warramunga Arr**	**77.80**	**127**		**P**	**01 29 42.7**	**-2.0**
WR0	**Warramunga Arr**	**78.03**	**127**		**P**	**01 29 44.8**	**-1.2**
DBIC	**Dimbokro**	**80.36**	**271**		**P**	**01 29 57.8**	**-1.2**
AS31	**Alice Springs**	**80.37**	**130**		**P**	**01 29 58.6**	**-0.1**
DELO	**Deloro Mine**	**95.44**	**343**		**P**	**01 31 11.7**	**-0.2**

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*IDC **03** 01:19:09.2±5.6, 37.°18N×78.°26E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.7/66, mbtmp4.0/6, Error ellipse: s-maj=128.2km s-min=61.2km az=169.0*
ISC 03 01:19:11.4±5.1, 37.°3N±0.°8×78.°2E±0.°4, h10km, n8, σ0§62/7, mb3.9/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**9.71**	**45**	*eP*	Pn	01 21 41.5	+10
WMQ				smax	smax		
	comp=N,360nm,1.6s						
WMQ				smax	smax		
	comp=E,460nm,1.8s						
ARCES	**ARCESS Array B**	**42.73**	**336**	P	**P**	**01 27 08.2**	**-0.1**
	comp=E,3.7nm,0.9s,baz=104,slow=7.7,SNR=1.5						
HFS	**Hagfors**	**46.06**	**321**	P	**P**	**01 27 35.2**	**+0.2**
	comp=E,6.0nm,0.9s,baz=81,slow=9.2,SNR=2.2						
GERES	**GERESS Array B**	**47.20**	**306**	P	**P**	**01 27 45.1**	**+0.8**
	comp=E,0.6nm,0.8s,baz=76,slow=8.4,SNR=1.7						
NB2	**NORSAR Subarra**	**47.27**	**322**	P	**P**	**01 27 44.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.27**	**322**	P	**P**	**01 27 44.0**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=90,slow=7.8,SNR=4.1						
ESDC	**Sonseca Array**	**62.15**	**300**	P	**P**	**01 29 32.3**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=61,slow=6.4,SNR=1.2						
YKA	**Yellowknife Ar**	**80.02**	**6**	P	**P**	**01 31 20.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=349,slow=5.1,SNR=4.8						

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*IDC **03** 01:22:00.4±3.6, 37.°35N×78.°21E, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.7/64, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=75.4km s-min=36.2km az=113.0*
ISC 03 01:22:06.2±1.6, 37.°8N±0.°2×77.°6E±0.°1, h10km, n7, σ1§17/7, mb4.2/4, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.41**	**335**	Pg	**Pg**	**01 23 49.4**	**-0.4**
	2.2nm,0.3s,baz=153,slow=14,SNR=1.1						
MKAR	**Makanchi Array**	**9.68**	**20**	Pn	**Pn**	**01 24 25.0**	**-0.5**
	0.3nm,0.3s,baz=206,slow=13,SNR=1.4						
WMQ	**Urumqi**	**9.78**	**49**	*eP*	**Pn**	**01 24 26.8**	**-0.1**
ARCES	**ARCESS Array B**	**42.08**	**336**	P	**P**	**01 29 58.4**	**+0.6**
	27nm,1.4s,baz=111,slow=10.0,SNR=1.8						
HFS	**Hagfors**	**45.36**	**321**	P	**P**	**01 30 26.2**	**+1.8**
	5.4nm,1.0s,baz=107,slow=9.7,SNR=1.8						
ESDC	**Sonseca Array**	**61.45**	**300**	P	**P**	**01 32 22.1**	**-0.8**
	0.2nm,0.4s,baz=58,slow=6.6,SNR=1.9						
TORD	**Torodi Ar. Bea**	**70.95**	**272**	P	**P**	**01 33 23.4**	**-0.8**
	0.4nm,0.4s,baz=48,slow=5.5,SNR=4.9						

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*NNC **03** 01:22:47.0±5.9, 37.°46N×77.°93E, h0km, mb5.3, mpv4.9, Error ellipse: s-maj=57.2km s-min=39.9km az=77.0*
*IDC **03** 01:22:48.6±1.5, 37.°57N×77.°87E, h0km, mb4.1/12, mb1 4.2/17, mb1mx3.9/64, mbtmp4.1/17, ML3.2/4, Error ellipse: s-maj=27.6km s-min=18.7km az=124.0*
*NEIC **03** 01:22:50.0±2.1, 37.°65N±0.°08×78.°13E±0.°06, h10km±2km, mb4.5/4, Error ellipse: s-maj=14.9km s-min=6.0km az=158.0*
ISC 03 01:22:50.5±1.2, 37.°5N±0.°1×78.°0E±0.°1, h17km, n38, σ1§64/38, mb4.2/12, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.24**	**358**	Pn	**Pn**	**01 23 54.9**	**+0.2**
BOOM	**Boomskoye usch**	**5.24**	**343**	Pn	**Pn**	**01 24 09.1**	**+0.8**
NIL	**Nilore**	**5.45**	**227**	Pn	Pn	01 24 13.7	+2.7
SATY	**Saty**	**5.57**	**3**	Pg	**Pb**	**01 24 30.5**	**+3.1**
	258nm,1.2s						
SATY				Lg	Lg	01 25 44.1	
	139nm,0.9s						
MDOK	**Medeo**	**5.72**	**353**	Pg	**Pb**	**01 24 32.2**	**+2.3**
	226nm,1.7s						
MDOK				Lg	Lg	01 25 47.3	
	359nm,2.0s						
TKM2	**Tokmak 2**	**5.73**	**342**	⇑Pg	**Pb**	**01 24 28.6**	**-1.6**
	129nm,0.8s						
TKM2				⇓Lg	Lg	01 25 51.3	
	164nm,1.2s						
KST	**Kastek**	**5.77**	**345**	Pg	**Pb**	**01 24 33.2**	**+2.5**
	245nm,2.4s						
KST				Lg	Lg	01 25 49.4	
	237nm,1.8s						
AAK	**Ala-Archa**	**5.81**	**333**	Pn	**Pn**	**01 24 17.9**	**+1.9**
	3.0nm,0.3s,baz=148,slow=9.5,SNR=1.4						
AAK				Pg	**Pb**	**01 24 34.0**	**+2.6**
	10nm,0.3s,baz=156,slow=12,SNR=7.5						
AAK				Lg	Lg	01 25 47.2	
	6.1nm,0.3s,baz=217,slow=20,SNR=2.7						
AAK	**Ala-Archa**	**5.81**	**333**	⇑Pg	**Pb**	**01 24 33.2**	**+1.8**
	92nm,0.7s						
AAK				⇓Lg	Lg	01 25 54.0	
	142nm,0.8s						
GAR	**Garm**	**6.24**	**286**	Pn	**Pn**	**01 24 22.9**	**+0.9**
CHGR	**Chuyangaron**	**7.08**	**282**	Pn	**Pn**	**01 24 33.1**	**-0.4**
KBL	**Kabul**	**7.84**	**251**	Pn	**Pn**	**01 24 45.0**	**+1.0**
WMQ	**Urumqi**	**9.70**	**46**	*eP*	Pn	01 25 16.5	+7.1
WMQ				smax	smax		
	comp=N,210nm,1.7s						
WMQ				smax	smax		
	comp=E,180nm,1.9s						
MAKZ	**Makanchi**	**9.77**	**16**	Pn	**Pn**	**01 25 09.8**	**-0.4**
MK31	**Makanchi Array**	**9.83**	**17**	Pn	**Pn**	**01 25 10.8**	**-0.2**
MKAR	**Makanchi Array**	**9.83**	**17**	Pn	**Pn**	**01 25 11.7**	**+0.6**
	comp=E,7.0nm,0.3s,baz=203,slow=13,SNR=22						
MKAR				Sn	**Sn**	**01 26 58.5**	**-2.4**
	comp=E,0.9nm,0.3s,baz=191,slow=22,SNR=3.3						
KURBB	**Kurchatov Arra**	**13.14**	**1**	Pn	**Pn**	**01 25 55.1**	**-1.2**
	comp=E,0.0nm,0.3s,baz=190,slow=12,SNR=1.4						
KURK	**Kurchatov**	**13.23**	**2**		**Pn**	**01 25 55.1**	**-2.4**
BVAR	**Borovoye Array**	**16.42**	**344**	Pn	**Pn**	**01 26 35.2**	**-4.9**
	comp=E,0.1nm,0.3s,baz=206,slow=19,SNR=1.4						
BRVK	**Borovoye**	**16.48**	**343**		**Pn**	**01 26 42.0**	**+1.2**
BRVK				IAmb	IAmb	01 26 51.5	
	comp=Z,56nm,1.1s						
ZAA0	**Zalesovo Array**	**17.12**	**14**	Pn	**Pn**	**01 26 46.4**	**-2.5**
ZALV	**Zalesovo Beam**	**17.12**	**14**	P	**Pn**	**01 26 47.0**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=256,slow=12,SNR=1.3						
ABKAR	**Akbulak array**	**17.58**	**318**		**Pn**	**01 26 54.7**	**+0.1**
SONM	**Songino Array**	**23.17**	**54**	P	**P**	**01 27 57.6**	**+1.3**
	comp=Z,8.5nm,1.3s,baz=248,slow=11,SNR=1.5						
BR131	**Keskin Array S**	**34.48**	**288**	P	**P**	**01 29 37.0**	**-0.7**
BR131				IAmb	IAmb	01 29 39.8	
	comp=Z,7.0nm,1.1s						
BRTR	**Keskin Array B**	**34.48**	**288**	P	**P**	**01 29 37.5**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=92,slow=8.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**34.86**	**276**	P	**P**	**01 29 41.3**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=9.8,SNR=2.2						
BURAR	**Bucovina Array**	**39.49**	**302**	P	**P**	**01 30 20.7**	**+0.5**
ARCES	**ARCESS Array B**	**42.47**	**336**	P	**P**	**01 30 44.5**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=132,slow=7.5,SNR=1.2						
HFS	**Hagfors**	**45.80**	**321**	P	**P**	**01 31 11.3**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=105,slow=11,SNR=17						
GERES	**GERESS Array B**	**46.94**	**305**	P	**P**	**01 31 20.4**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=88,slow=6.8,SNR=4.5						
NB2	**NORSAR Subarra**	**47.01**	**322**	P	**P**	**01 31 21.1**	**+0.5**
	comp=Z,12nm,0.7s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.01**	**322**	P	**P**	**01 31 19.6**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=81,slow=9.2,SNR=3.4						
SPITS	**Spitsbergen Ar**	**47.86**	**346**	P	**P**	**01 31 27.3**	**+0.3**
	comp=Z,7.2nm,1.0s,baz=82,slow=11,SNR=1.8						
DAVOX	**Davos/Dischmat**	**49.92**	**304**	P	**P**	**01 31 42.6**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=75,slow=16,SNR=2.5						
EKA	**Eskdalemuir Ar**	**55.45**	**317**	P	**P**	**01 32 23.6**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=90,slow=7.5,SNR=3.7						
ESDC	**Sonseca Array**	**61.90**	**300**	P	**P**	**01 33 08.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=56,slow=6.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**71.32**	**272**	P	**P**	**01 34 08.8**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=42,slow=5.2,SNR=8.0						

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*IDC **03** 01:25:08.4±0.7, 37.°42N×78.°08E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.0/62, mbtmp4.0/18, ML3.5/3, Error ellipse: s-maj=19.4km s-min=14.6km az=44.0*
*NEIC **03** 01:25:11.1±1.9, 37.°52N±0.°06×78.°1E±0.°1, h10km±1km, mb4.7/18, Error ellipse: s-maj=17.1km s-min=10.5km az=273.0*
*BJI **03** 01:25:12.8±0.0, 37.°48N×77.°90E, h10km, mb4.5/1, ML4.5/2*
ISC 03 01:25:11.3±0.5, 37.°47N±0.°06×78.°17E±0.°07, h17km, n53, σ1§38/51, mb4.3/25, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.26**	**356**	Pn	**Pn**	**01 26 15.2**	**-0.6**
KDJ	**Kajisay**	**4.72**	**351**	Pn	**Pn**	**01 26 21.4**	**-0.5**
AAK	**Ala-Archa**	**5.88**	**332**	Pg	**Pb**	**01 26 56.7**	**+3.2**
	4.2nm,0.3s,baz=157,slow=12,SNR=1.4						
AAK				Lg	Lg	01 28 12.4	
	3.3nm,0.3s,baz=71,slow=9.2,SNR=2.2						
SMLA	**Simla**	**6.38**	**188**	*ex*	Pn	01 26 48.7	+4.2
SMLA				*ex*	**Sn**	**01 28 01.6**	**+4.6**
DDI	**Dehra Dun**	**7.13**	**181**	*ex*	x	01 27 03.4	
DDI				*ex*	x	01 28 22.7	
KKAR	**Karatay Array**	**8.12**	**316**	Pn	**Pn**	**01 27 07.0**	**-1.4**
WMQ	**Urumqi**	**9.62**	**46**	*eP*	Pn	01 27 36.8	+7.8
WMQ				smax	smax		
	comp=N,200nm,1.7s						
WMQ				smax	smax		
	comp=E,150nm,1.9s						
MKAR	**Makanchi Array**	**9.80**	**17**	Pn	**Pn**	**01 27 32.9**	**+1.4**
	1.8nm,0.3s,baz=199,slow=13,SNR=7.3						
MKAR				Sn	**Sn**	**01 29 19.3**	**-1.9**
	1.3nm,0.3s,baz=197,slow=24,SNR=3.7						
BHPL	**Bhopal**	**14.20**	**183**	*ex*	x	01 28 35.5	
BOK	**Bokaro**	**15.15**	**152**	*ex*	**Pn**	**01 28 42.8**	**-1.8**
GEYT	**Alibeck**	**15.88**	**278**	Pn	**Pn**	**01 28 53.1**	**-1.0**
	baz=78,slow=16,SNR=0.4						
BVAR	**Borovoye Array**	**16.48**	**343**	Pn	**Pn**	**01 29 01.5**	**0.0**
	0.4nm,0.3s,baz=170,slow=8.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**17.11**	**13**	P	**Pn**	**01 29 08.3**	**-1.2**
	0.2nm,0.3s,baz=217,slow=9.6,SNR=2.8						
AKTO	**Aktyubinsk**	**19.38**	**318**	P	**P**	**01 29 36.4**	**+0.2**
	0.1nm,0.3s,baz=101,slow=16,SNR=1.6						
WSAR	**Wadi Sarin**	**21.97**	**235**	P	**P**	**01 30 02.4**	**-2.1**
	3.1nm,0.8s,baz=68,slow=12,SNR=1.1						
SONM	**Songino Array**	**23.08**	**54**	P	**P**	**01 30 17.7**	**+1.6**
	2.6nm,0.7s,baz=251,slow=9.6,SNR=1.8						
CMAR	**Chiang Mai Arr**	**26.26**	**130**	P	**P**	**01 30 44.7**	**-1.1**
	2.1nm,0.4s,baz=231,slow=9.0,SNR=1.4						
RAYN	**Ar Rayn**	**31.22**	**253**	P	**P**	**01 31 29.7**	**-0.3**
BRTR	**Keskin Array B**	**34.61**	**288**	P	**P**	**01 31 59.8**	**+0.2**
	3.9nm,0.8s,baz=96,slow=6.3,SNR=8.5						
ANTO	**Ankara**	**35.22**	**288**	P	**P**	**01 32 05.6**	**+0.8**
ANTO				IAmb	IAmb	01 32 07.3	
	comp=Z,18nm,1.2s						
MANT	**Manisa**	**38.74**	**287**	P	**P**	**01 32 35.0**	**+0.1**
FIA1	**FINESS Array S**	**39.99**	**324**	P	**P**	**01 32 45.4**	**+0.7**
ARCES	**ARCESS Array B**	**42.54**	**336**	P	**P**	**01 33 05.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=114,slow=1.5,SNR=1.0						
JOW	**Kunigami**	**43.28**	**89**	P	**P**	**01 33 09.6**	**-2.6**
PUK	**Puka**	**44.29**	**295**	P	**P**	**01 33 20.2**	**0.0**
HFS	**Hagfors**	**45.89**	**321**	P	**P**	**01 33 31.2**	**-1.3**
	comp=Z,6.0nm,0.9s,baz=90,slow=17,SNR=2.4						
NC405	**NORSAR Array S**	**46.85**	**322**	P	**P**	**01 33 39.3**	**-0.8**
GERES	**GERESS Array B**	**47.05**	**305**	P	**P**	**01 33 41.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=60,slow=5.3,SNR=3.0						
NB2	**NORSAR Subarra**	**47.10**	**322**	P	**P**	**01 33 42.5**	**+0.4**
	comp=Z,5.2nm,0.7s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.10**	**322**	P	**P**	**01 33 42.0**	**0.0**
	comp=Z,1.3nm,0.9s,baz=95,slow=8.9,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**47.53**	**57**	P	**P**	**01 33 46.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**55.55**	**317**	P	**P**	**01 34 45.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=86,slow=6.8,SNR=6.1						
ESDC	**Sonseca Array**	**62.02**	**300**	P	**P**	**01 35 30.4**	**-0.4**
	comp=Z,1.2nm,1.1s,baz=58,slow=6.3,SNR=5.7						
TOLK	**Toolik Lake Re**	**68.43**	**17**	P	**P**	**01 36 13.9**	**+2.1**
COLD	**Coldfoot**	**69.38**	**18**	P	**P**	**01 36 17.6**	**0.0**
PSA00	**Pilbara Seismi**	**70.63**	**139**	P	**P**	**01 36 26.3**	**+0.4**
PSA00				IAmb	IAmb	01 36 28.3	
	comp=Z,3.1nm,0.8s						
FYU	**Fort Yukon**	**71.09**	**17**	P	**P**	**01 36 30.2**	**+2.1**
FYU				IAmb	IAmb	01 36 30.6	
	comp=Z,9.4nm,1.3s						
TOA0	**Torodi Ar. Sit**	**71.45**	**273**	P	**P**	**01 36 29.6**	**-1.6**
TOA0				IAmb	IAmb	01 36 31.4	
	comp=Z,4.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.45**	**273**	P	**P**	**01 36 29.3**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=44,slow=5.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**71.45**	**273**	P	**P**	**01 36 30.1**	**-1.0**
IL31		**72.16**	**19**	P	**P**	**01 36 34.3**	**-0.2**
IL31				IAmb	IAmb	01 36 35.9	
	comp=Z,6.2nm,1.4s						
ILAR	**Eielson Array**	**72.16**	**19**	P	**P**	**01 36 34.3**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=319,slow=5.3,SNR=9.4						
SKT	**Skwentna**	**73.08**	**22**	P	**P**	**01 36 41.4**	**+1.2**
SKT				IAmb	IAmb	01 36 48.4	
	comp=Z,10nm,1.4s						
SML	**Sawmill**	**74.16**	**21**	P	**P**	**01 36 47.3**	**+0.7**
SML				IAmb	IAmb	01 36 48.9	
	comp=Z,9.3nm,0.9s						
RC01	**Rabbit Creek A**	**74.32**	**22**	P	**P**	**01 36 48.5**	**+1.1**
RC01				IAmb	IAmb	01 36 49.6	
	comp=Z,4.1nm,0.6s						
SCM	**Sheep Creek Mo**	**74.42**	**21**	P	**P**	**01 36 49.4**	**+1.3**
M24K	**Tolsona, Glenn**	**74.51**	**20**	P	**P**	**01 36 49.5**	**+0.8**
M24K				IAmb	IAmb	01 36 56.6	
	comp=Z,8.3nm,1.0s						
BCAR	**Beaver Creek A**	**74.84**	**18**	P	**P**	**01 36 51.9**	**+1.4**
MORW	**Morawa**	**75.11**	**146**	P	**P**	**01 36 52.8**	**+0.5**
GLI	**Glacier Island**	**75.26**	**21**	P	**P**	**01 36 54.2**	**+1.3**
GLI				IAmb	IAmb	01 37 08.5	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**77.80**	**127**	P	**P**	**01 37 07.9**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=317,slow=4.8,SNR=5.6						
YKA	**Yellowknife Ar**	**79.85**	**6**	P	**P**	**01 37 19.0**	**+0.6**

489nm,0.7s
AAK Ala-Archa 5.86 334 Pn **Pn 01 32 51.1 +1.6**
11nm,0.3s,baz=163,slow=7.8,SNR=12
AAK Pg **Pb 01 33 07.2 +2.1**
33nm,0.3s,baz=134,slow=7.2,SNR=12
AAK Sn **Sn 01 34 02.4 +6.1**
baz=126,slow=16,SNR=1.5
AAK Lg Lg 01 34 21.9
16nm,0.3s,baz=145,slow=19,SNR=2.2
AAK Ala-Archa 5.86 334 ⇑Pn **Pn 01 32 51.2 +1.6**
18nm,0.4s
AAK ⇓Pg **Pb 01 33 07.9 +2.8**
100nm,0.7s
AAK ⇓Lg Lg 01 34 21.7
231nm,1.3s
AAK Ala-Archa 5.86 334 Pn **Pn 01 32 49.8 +0.3**
FRU1 Bishkek 5.97 335 Pn **Pn 01 32 53.2 +2.4**
KPKS Kokpek 6.04 5 *eP* **Pb 01 33 11.2 +3.1**
223nm,0.6s
KPKS *eS* **Sg 01 34 30.6 -6.6**
162nm,0.6s
DGS Degeres 6.05 344 *eP* **Pb 01 33 10.6 +2.3**
98nm,0.6s
DGS *eS* Sb 01 34 29.7 +9.2
20μm,5.9s
BTK Batken 6.22 297 Pn **Pn 01 32 53.6 -0.7**
SMLA Simla 6.33 187 *eP* **Pn 01 32 58.7 +2.9**
SMLA *ex* **Sn 01 34 11.0 +3.3**
KTBS Karatobe 6.35 351 *eP* **Pb 01 33 15.6 +2.2**
30nm,0.6s
KTBS *eS* Sb 01 34 38.5 +9.4
93nm,0.9s
MRKS Merke 6.46 327 *eP* **Pb 01 33 16.7 +1.5**
38nm,0.5s
MRKS *eS* **Sb 01 34 39.7 +7.6**
74nm,1.0s
KRBS Karabastau 6.51 345 *eP* **Pb 01 33 17.4 +1.4**
18nm,0.7s
KRBS *eS* **Sb 01 34 41.3 +7.8**
80nm,0.9s
KUU Kurty 6.58 349 *eP* Pb 01 33 22.7 +5.5
69nm,1.0s
KUU *eS* **Sg 01 34 49.8 -4.4**
141nm,0.9s
DDI Dehra Dun 7.09 180 *eP* **Pn 01 33 10.4 +4.0**
KBL Kabul 7.84 251 Pn **Pn 01 33 15.7 -1.0**
KK31 Karatay Array 8.07 317 Pn **Pn 01 33 20.1 +0.5**
KKAR Karatay Array 8.07 317 Pn **Pn 01 33 20.1 +0.5**
WMQ Urumqi 9.72 46 *eP* Pn 01 33 48.1 +5.7
WMQ smax smax
comp=N,52nm,1.1s
WMQ smax smax
comp=E,83nm,1.3s
MAKZ Makanchi 9.81 16 ⇑P **Pn 01 33 42.3 -1.2**
32nm,0.6s
MK31 Makanchi Array 9.87 17 **Pn 01 33 44.0 -0.3**
MKAR Makanchi Array 9.87 17 Pn **Pn 01 33 44.0 -0.3**
12nm,0.3s,baz=201,slow=13,SNR=57
MKAR Sn **Sn 01 35 31.2 -3.5**
2.0nm,0.3s,baz=206,slow=26,SNR=2.2
MKAR Makanchi Array 9.87 17 Pn **Pn 01 33 44.8 +0.5**
KURBB Kurchatov Arra 13.19 1 Pn **Pn 01 34 27.8 -1.8**
0.1nm,0.3s,baz=186,slow=12,SNR=4.3
KURBB Lg Lg 01 38 17.5
0.1nm,0.3s,baz=192,slow=27,SNR=4.1
KURBB Kurchatov Arra 13.19 1 ⇓P **Pn 01 34 29.7 +0.1**
3.4nm,0.5s
KURK Kurchatov 13.28 2 **Pn 01 34 27.8 -3.1**
BHPL Bhopal 14.16 182 *eP* **P 01 34 50.3 -0.3**
BHPL IAmb IAmb 01 34 52.2
comp=Z,9.6nm,1.0s
BHPL *eS* **Sn 01 37 19.8 0.0**
BOK Bokaro 15.17 151 *eP* **P 01 35 01.5 -0.3**
BOK IAmb IAmb 01 35 04.3
comp=Z,11nm,0.8s
GEYT Alibeck 15.78 278 Pn **Pn 01 35 03.0 -1.7**
comp=Z,33nm,0.3s,baz=87,slow=13,SNR=3.2
GYA0B ALIBECK ARRAY 15.78 278 Pn **Pn 01 35 04.8 +0.1**
GYA0B IAmb IAmb 01 35 08.8
comp=Z,22nm,0.8s
BVAR Borovoye Array 16.48 344 Pn **Pn 01 35 13.0 -0.5**
comp=Z,2.0nm,0.3s,baz=199,slow=17,SNR=18
BRVK Borovoye 16.53 343 ⇑P **P 01 35 16.8 +0.1**
comp=Z,42nm,0.7s
BRVK Borovoye 16.53 343 Pn **Pn 01 35 12.5 -1.6**
BRVK IAmb IAmb 01 35 25.1
comp=Z,65nm,1.0s
SHL Shillong 16.70 131 **P 01 35 19.1 +0.2**
ZAA0 Zalesovo Array 17.17 14 ⇑P **Pn 01 35 22.3 +0.1**
comp=Z,5.2nm,1.4s
ZAA0 Zalesovo Array 17.17 14 Pn **Pn 01 35 22.8 +0.6**
ZALV Zalesovo Beam 17.17 14 P **Pn 01 35 19.3 -2.8**
comp=Z,1.0nm,0.3s,baz=205,slow=13,SNR=12
ZALV Zalesovo Beam 17.17 14 Pn **Pn 01 35 21.7 -0.4**
GTA Gaotai 17.18 77 *eP* **Pn 01 35 19.5 -3.1**
GTA pP P 01 35 25.1 +1.0
GTA sP pP 01 35 28.3 -1.1
GTA pmax pmax
comp=Z,13nm,0.9s
AKTO Aktyubinsk 19.33 319 P **P 01 35 47.0 -0.6**
comp=Z,0.3nm,0.3s,baz=124,slow=11,SNR=2.4
WSAR Wadi Sarin 21.86 235 P **P 01 36 14.4 -0.8**
comp=Z,7.8nm,1.0s,baz=90,slow=17,SNR=1.8
UOSS Minazif 22.38 242 P **P 01 36 21.4 +0.6**
UOSS IAmb IAmb 01 36 31.8
comp=Z,24nm,1.1s
ARU Arti 23.04 332 P **P 01 36 27.4 0.0**
comp=Z,1.1nm,0.6s,baz=137,slow=15,SNR=3.3
ARU Arti 23.04 332 IAmb IAmb 01 36 34.8
comp=Z,8.0nm,0.7s
SONM Songino Array 23.19 54 P **P 01 36 29.2 0.0**
comp=Z,5.3nm,0.6s,baz=251,slow=10,SNR=11
SONM Songino Array 23.19 54 P **P 01 36 31.0 +1.8**
ULN Ulaanbaatar 23.62 55 P **P 01 36 35.3 +1.8**
ULN IAmb IAmb 01 36 41.0
comp=Z,12nm,0.9s
GNI Garni 26.01 286 P **P 01 36 53.5 -1.9**
comp=Z,5.2nm,0.8s,baz=84,slow=10,SNR=3.7
GNI Garni 26.01 286 P **P 01 36 54.5 -0.9**
GNI IAmb IAmb 01 37 21.3
comp=Z,16nm,1.3s
CHTO Chiang Mai 26.05 130 P **P 01 36 57.4 +1.5**
HHC Hu-ho-hao-te 26.14 72 *eP* **P 01 36 58.4 +1.8**
HHC pmax pmax
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 26.33 130 P **P 01 36 57.6 -0.7**
comp=Z,1.1nm,0.5s,baz=332,slow=5.4,SNR=1.3
BR131 Keskin Array S 34.52 288 P **P 01 38 09.9 -0.8**
BRTR Keskin Array B 34.52 288 P **P 01 38 10.3 -0.4**
comp=Z,4.7nm,0.8s,baz=91,slow=7.5,SNR=13
ANTO Ankara 35.13 288 P **P 01 38 16.2 +0.3**
ANTO IAmb IAmb 01 38 17.0
comp=Z,9.6nm,1.0s
AKASG Malin Array Be 36.82 307 P **P 01 38 28.9 -1.3**
comp=Z,0.3nm,0.4s,baz=75,slow=7.8,SNR=1.6
KSRS Korea Array 39.23 74 P **P 01 38 49.0 -1.6**
comp=Z,0.4nm,0.4s,baz=284,slow=9.8,SNR=1.3
MLR Muntele Rosu 39.26 299 P **P 01 38 50.7 -0.3**
comp=Z,1.8nm,0.3s,baz=105,slow=9.4,SNR=4.3
KLR Kul'dur 40.01 55 P **P 01 38 55.8 -1.2**
comp=Z,1.1nm,0.5s,baz=292,slow=11,SNR=2.6
ARCES ARCESS Array B 42.53 336 P **P 01 39 16.9 -0.6**
comp=Z,0.7nm,0.5s,baz=106,slow=7.7,SNR=7.2
GERES GERESS Array B 46.98 305 P **P 01 39 52.5 -0.9**
comp=Z,1.0nm,0.9s,baz=54,slow=6.8,SNR=4.2
CLL Collm 46.99 309 *eP* **P 01 39 54.0 +0.8**
NB2 NORSAR Subarra 47.06 322 P **P 01 39 53.5 -0.2**
comp=Z,49nm,1.4s,baz=88,slow=7.9
NB2 NORSAR Subarra 47.06 322 P **P 01 39 53.5 -0.2**
baz=88,slow=7.9
NOA NORSAR Array B 47.06 322 P **P 01 39 52.5 -1.1**
comp=Z,0.2nm,0.3s,baz=62,slow=4.3,SNR=4.2
MJAR Matsushiro Arr 47.34 72 P **P 01 39 55.6 -0.6**
comp=Z,1.0nm,0.6s,baz=262,slow=6.9,SNR=1.3
KMBO Kilima Mbogo 53.79 234 P **P 01 40 44.0 -1.3**
comp=Z,0.4nm,0.4s,baz=350,slow=15,SNR=1.6
EKA Eskdalemuir Ar 55.50 317 P **P 01 40 55.9 -1.1**
comp=Z,1.1nm,0.7s,baz=104,slow=6.0,SNR=5.0
ESDC Sonseca Array 61.94 300 P **P 01 41 40.0 -2.1**
comp=Z,0.4nm,0.5s,baz=44,slow=7.8,SNR=5.7
SUMG Summit 61.95 342 *i* P P 01 41 48.2 +6.1
SUMG IAmb IAmb 01 41 50.4
comp=Z,11nm,1.2s
ICESG Greenland Ices 64.39 339 *eP* **P 01 42 00.4 +2.1**
COLD Coldfoot 69.44 18 P **P 01 42 33.1 +3.0**
I23K Minto, Yukon-K 71.28 19 P **P 01 42 43.3 +2.0**
I23K IAmb IAmb 01 42 48.2
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 71.34 272 P **P 01 42 40.0 -2.4**
comp=Z,0.9nm,0.4s,baz=50,slow=5.1,SNR=16
TORD Torodi Ar. Bea 71.34 272 IAmb IAmb 01 42 58.7
comp=Z,4.7nm,1.4s
BPAW Bear Paw Mtn. 71.67 20 P **P 01 42 46.9 +3.3**
NEA2 Nenana 71.80 19 P **P 01 42 46.9 +2.5**
IL31 72.22 19 P **P 01 42 48.9 +2.0**
IL31 IAmb IAmb 01 42 52.7
comp=Z,3.8nm,0.8s
ILAR Eielson Array 72.22 19 P **P 01 42 45.7 -1.3**
comp=Z,3.2nm,0.8s,baz=297,slow=4.0,SNR=12
ILAR Eielson Array 72.22 19 P **P 01 42 48.6 +1.7**
SUA Susitna One 73.80 22 P **P 01 43 00.4 +3.9**
SUA IAmb IAmb 01 43 03.5
comp=Z,7.5nm,0.9s
SML Sawmill 74.23 21 P **P 01 43 00.8 +1.9**
BCAR Beaver Creek A 74.90 18 P **P 01 43 06.0 +3.2**
N25K Chitina, Valde 75.42 20 P **P 01 43 08.2 +2.4**
N25K IAmb IAmb 01 43 17.8
comp=Z,5.8nm,0.8s
WRA Warramunga Arr 77.87 127 P **P 01 43 18.9 -1.2**
comp=Z,1.0nm,0.8s,baz=329,slow=5.5,SNR=6.1
NWAO Narrogin (SRO) 78.97 147 P **P 01 43 24.5 -1.4**
comp=Z,5.0nm,0.6s,baz=0.8,slow=10,SNR=5.2
NWAO Narrogin (SRO) 78.97 147 IAmb IAmb 01 43 29.0
comp=Z,27nm,1.4s
YKA Yellowknife Ar 79.89 6 P **P 01 43 29.6 -1.0**
comp=Z,0.1nm,0.4s,baz=348,slow=5.8,SNR=4.2
ASAR Alice Springs 80.33 130 P **P 01 43 31.8 -1.8**
comp=Z,0.6nm,0.7s,baz=326,slow=6.5,SNR=4.9
BOSA Boshof 82.24 225 P **P 01 43 42.4 -1.4**
comp=Z,1.0nm,0.5s,baz=36,slow=3.0,SNR=3.8
JTMT Jette 94.48 8 P **P 01 44 43.7 +1.1**
JTMT IAmb IAmb 01 45 02.0
comp=Z,2.0nm,0.7s

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*IDC **03** 01:34:50.5±1.2, 37.°59N×77.°85E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.6/55, mbtmp3.7/12, ML3.7/4, Error ellipse: s-maj=26.6km s-min=20.2km az=57.0*
*NNC **03** 01:34:55.6±2.6, 37.°83N×78.°18E, h0km, mb5.0, mpv4.6, Error ellipse: s-maj=30.7km s-min=18.0km az=74.0*
ISC 03 01:34:53.8±1.0, 37°64N±0°09×77°81E±0°10, h17km, n18, σ2°88/20, mb3.6/8, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.54**	**343**	⇑Pg	**Pb**	**01 36 34.5**	**+4.3**
	21nm,0.7s						
TKM2				⇑Lg	Lg	01 37 48.0	
	24nm,0.8s						
MDOK	**Medeo**	**5.55**	**354**	Pg	**Pb**	**01 36 34.5**	**+4.1**
	72nm,0.7s						
MDOK				Lg	Lg	01 37 47.5	
	73nm,0.6s						
AAK	**Ala-Archa**	**5.60**	**334**	Pn	**Pn**	**01 36 19.0**	**+2.5**
	3.3nm,0.3s,baz=158,slow=19,SNR=1.4						
AAK				Pg	**Pb**	**01 36 35.9**	**+4.6**
	7.1nm,0.3s,baz=144,slow=9.8,SNR=4.2						
AAK				Lg	Lg	01 37 51.4	
	4.1nm,0.3s,baz=202,slow=18,SNR=2.0						
AAK	**Ala-Archa**	**5.60**	**334**	⇓Pg	**Pg**	**01 36 37.8**	**-3.2**
	39nm,0.6s						
AAK				⇓Lg	Lg	01 37 52.9	
	76nm,1.0s						
KNDC	**Almaty**	**5.61**	**354**	⇑Pg	**Pb**	**01 36 35.0**	**+3.7**
	100nm,0.6s						
KNDC				⇓Lg	Lg	01 37 50.1	
	149nm,0.7s						
WMQ	**Urumqi**	**9.72**	**47**	*eP*	**Pn**	**01 37 16.2**	**+3.4**
WMQ				smax	smax		
	comp=N,110nm,1.5s						
WMQ				smax	smax		
	comp=E,71nm,1.1s						
MKAR	**Makanchi Array**	**9.73**	**19**	Pn	**Pn**	**01 37 13.4**	**+0.4**
	comp=E,2.2nm,0.3s,baz=198,slow=11,SNR=1.4						
MKAR				Sn	**Sn**	**01 38 58.4**	**-3.6**
	comp=E,1.9nm,0.3s,baz=252,slow=19,SNR=2.6						
BVAR	**Borovoye Array**	**16.23**	**344**	Pn	**Pn**	**01 38 36.3**	**-4.6**
	comp=E,0.3nm,0.3s,baz=207,slow=16,SNR=2.0						
ZALV	**Zalesovo Beam**	**17.02**	**14**	P	**Pn**	**01 38 48.9**	**-1.9**
	comp=E,0.2nm,0.3s,baz=185,slow=15,SNR=2.2						
SONM	**Songino Array**	**23.22**	**55**	P	**P**	**01 39 59.7**	**-0.4**
	comp=E,0.6nm,0.6s,baz=238,slow=8.3,SNR=1.6						
ARCES	**ARCESS Array B**	**42.27**	**336**	P	**P**	**01 42 46.3**	**+0.4**
	comp=E,0.6nm,0.5s,baz=90,slow=3.6,SNR=2.2						
GERES	**GERESS Array B**	**46.72**	**305**	P	**P**	**01 43 22.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=38,slow=15,SNR=2.0						
NB2	**NORSAR Subarra**	**46.79**	**322**	P	**P**	**01 43 22.7**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**46.79**	**322**	P	**P**	**01 43 22.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=94,slow=7.1,SNR=3.1						
ESDC	**Sonseca Array**	**61.68**	**300**	P	**P**	**01 45 09.6**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=50,slow=7.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**71.15**	**272**	P	**P**	**01 46 11.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**78.13**	**127**	P	**P**	**01 46 51.9**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=298,slow=3.4,SNR=2.2						
YKA	**Yellowknife Ar**	**79.71**	**6**	P	**P**	**01 46 59.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=336,slow=8.4,SNR=2.7						

IDC 03 01:42:39.4±2.5, 37.°49N×77.°95E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/42, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=51.1km s-min=30.5km az=89.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.78**	**334**	Pg	Pg	01 44 26.6	-3.6
	1.6nm,0.3s,baz=143,slow=8.3,SNR=2.3						
AAK				Lg	Lg	01 45 41.5	
	1.0nm,0.3s,baz=233,slow=20,SNR=1.9						
MKAR	**Makanchi Array**	**9.84**	**18**	Pn	Pn	01 45 03.3	+1.2
	0.4nm,0.3s,baz=196,slow=13,SNR=6.6						
ARCES	**ARCESS Array B**	**42.45**	**336**	P	P	01 50 36.6	+0.9
	1.0nm,0.7s,baz=99,slow=10,SNR=2.1						
NOA	**NORSAR Array B**	**46.97**	**322**	P	P	01 51 10.9	-0.9
	0.2nm,0.5s,baz=85,slow=5.9,SNR=1.7						
TORD	**Torodi Ar. Bea**	**71.27**	**272**	P	P	01 54 00.8	-0.2
	0.6nm,0.6s,baz=45,slow=5.6,SNR=2.2						

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*IDC **03** 01:44:41.0±0.5, 37.°40N×78.°11E, h0km, mb4.3/25, mb1 4.4/29, mb1mx4.3/41, mbtmp4.3/29, ML4.4/3, Error ellipse: s-maj=12.2km s-min=10.4km az=42.0*
*SOME **03** 01:44:41.0, 37.°50N×78.°03E, h0km, MS4.7*
*MOS **03** 01:44:44.0±1.0, 37.°46N×78.°07E, h27km, mb5.0/32, MS5.3/7, Error ellipse: s-maj=7.0km s-min=4.5km az=117.4*
*BJI **03** 01:44:44.3±0.0, 37.°48N×78.°19E, h10km, mb4.6/30, ML4.7/7*
*NEIC **03** 01:44:44.5±1.8, 37.°46N±0.°07×78.°03E±0.°08, h10km±1km, mb4.7/78, Error ellipse: s-maj=11.8km s-min=10.8km az=142.0*
*NNC **03** 01:44:47.3±2.5, 37.°74N×78.°30E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=31.5km s-min=19.9km az=70.0*
ISC 03 01:44:46.0±0.8, 37.°37N±0.°03×78.°05E±0.°04, h28km±5km, h28km:pP-P, n341, σ1°98/350, mb4.6/107, MS5.5/15, 34C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.69**	**323**	Pg	**Pn**	**01 45 30.2**	**+2.6**
KSH				Sn	**Sn**	**01 45 56.4**	**-3.0**
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.5s						
TARG	**Taragay, Kyrgy**	**4.36**	**358**		**Pn**	**01 45 50.3**	**-0.5**
KDJ	**Kajisay**	**4.80**	**352**	P	**Pn**	**01 45 56.2**	**-0.5**
KDJ	**Kajisay**	**4.80**	**352**	Pn	**Pn**	**01 45 56.2**	**-0.5**
DRK	**Karamyk**	**5.34**	**295**		**Pn**	**01 46 03.8**	**-0.4**
BOOM	**Boomskoye usch**	**5.37**	**343**	P	**Pn**	**01 46 03.9**	**-0.5**
BOOM	**Boomskoye usch**	**5.37**	**343**	Pn	**Pn**	**01 46 03.9**	**-0.5**
NIL	**Nilore**	**5.39**	**228**	P	**Pn**	**01 46 05.4**	**+0.8**
NIL	**Nilore**	**5.39**	**228**	Pn	**Pn**	**01 46 05.4**	**+0.8**
SATY	**Saty**	**5.69**	**3**	*eP*	**Pb**	**01 46 24.3**	**-0.4**
	179nm,0.8s						
SATY				*eS*	**Sb**	**01 47 38.4**	**+6.0**
	309nm,1.1s						
SATY	**Saty**	**5.69**	**3**	Pg	**Pb**	**01 46 24.4**	**-0.2**
	179nm,0.8s						
SATY				Lg	Lg	01 47 38.0	
	309nm,1.1s						
AML	**Almayashu**	**5.82**	**326**	P	**Pn**	**01 46 11.8**	**+0.9**
MDOK	**Medeo**	**5.84**	**353**	*eP*	**Pb**	**01 46 27.1**	**-0.1**
	156nm,0.5s						
MDOK				*eS*	**Sb**	**01 47 43.5**	**+6.8**
	340nm,0.8s						
MDOK	**Medeo**	**5.84**	**353**	⇓Pn	**Pn**	**01 46 11.3**	**+0.4**
	8.0nm,0.4s						
MDOK				⇑Pg	**Pb**	**01 46 26.2**	**-1.0**
	223nm,0.9s						
MDOK				⇑Lg	Lg	01 47 42.3	
	332nm,0.6s						
MDOK	**Medeo**	**5.84**	**353**	Pg	**Pb**	**01 46 27.5**	**+0.3**
	156nm,0.5s						
MDOK				Lg	Lg	01 47 45.2	
	340nm,0.8s						
TKM2	**Tokmak 2**	**5.85**	**342**	⇑Pn	**Pn**	**01 46 13.0**	**+1.8**
	11nm,0.6s						
TKM2				⇓Pg	**Pb**	**01 46 27.7**	**+0.3**
	62nm,0.5s						
TKM2				⇑Lg	Lg	01 47 44.9	
	99nm,0.6s						
SHLS	**Shalkode**	**5.88**	**10**	*eP*	**Pb**	**01 46 30.0**	**+2.1**
	233nm,0.7s						
SHLS				*eS*	Sb	01 47 48.5	+11
	479nm,1.0s						
KST	**Kastek**	**5.89**	**345**	*eP*	**Pb**	**01 46 27.5**	**-0.5**
	147nm,0.8s						
KST				*eS*	**Sb**	**01 47 44.0**	**+6.0**
	196nm,0.7s						
KST	**Kastek**	**5.89**	**345**	Pg	**Pb**	**01 46 27.5**	**-0.5**
	147nm,0.8s						
KST				Lg	Lg	01 47 44.0	
	196nm,0.7s						
KNDC	**Almaty**	**5.90**	**352**	⇓Pn	**Pn**	**01 46 12.0**	**+0.3**
	26nm,0.3s						
KNDC				⇑Pg	**Pb**	**01 46 28.6**	**+0.4**
	267nm,0.7s						
KNDC				⇑Lg	Lg	01 47 44.6	
	794nm,0.6s						
AAK	**Ala-Archa**	**5.93**	**334**	Pn	**Pn**	**01 46 13.2**	**+1.1**
	5.9nm,0.3s,baz=159,slow=9.1,SNR=6.5						
AAK				Pg	**Pb**	**01 46 30.1**	**+1.5**
	37nm,0.3s,baz=146,slow=10.0,SNR=21						
AAK				Lg	Lg	01 47 45.9	
	17nm,0.3s,baz=162,slow=20,SNR=2.1						
AAK	**Ala-Archa**	**5.93**	**334**	P	**Pn**	**01 46 13.3**	**+1.2**
AAK	**Ala-Archa**	**5.93**	**334**	⇓Pn	**Pn**	**01 46 13.0**	**+0.9**
	10nm,0.5s						
AAK				⇓Pg	**Pb**	**01 46 30.0**	**+1.3**
	71nm,0.8s						
AAK				⇑Lg	Lg	01 47 44.9	
	128nm,0.8s						
AAK	**Ala-Archa**	**5.93**	**334**	⇓*eP*	**Pn**	**01 46 13.5**	**+1.4**
AAK	**Ala-Archa**	**5.93**	**334**	Pn	**Pn**	**01 46 09.4**	**-2.7**
FRU1	**Bishkek**	**6.03**	**335**	P	**Pn**	**01 46 13.4**	**-0.1**
FRU1	**Bishkek**	**6.03**	**335**	Pn	**Pn**	**01 46 13.4**	**-0.1**
KPKS	**Kokpek**	**6.11**	**4**	*eP*	**Pb**	**01 46 31.4**	**-0.4**
	70nm,0.4s						
KPKS				*eS*	**Sb**	**01 47 51.1**	**+6.6**
	303nm,1.0s						
DGS	**Degeres**	**6.12**	**344**	*eP*	**Pb**	**01 46 31.6**	**-0.3**
	69nm,0.8s						
DGS				*eS*	**Sb**	**01 47 51.2**	**+6.5**
	133nm,0.8s						
BTK	**Batken**	**6.26**	**298**	P	**Pn**	**01 46 16.6**	**0.0**
BTK	**Batken**	**6.26**	**298**	Pn	**Pn**	**01 46 16.6**	**0.0**
SMLA	**Simla**	**6.27**	**187**	*eP*	**Pn**	**01 46 20.4**	**+3.8**
SMLA				*ex*	x	01 47 30.2	
GAR	**Garm**	**6.30**	**287**		**Pn**	**01 46 17.2**	**-0.1**
MRKS	**Merke**	**6.52**	**327**	*eP*	**Pb**	**01 46 41.8**	**+3.0**
	44nm,0.5s						
MRKS				*eS*	Sb	01 48 08.8	+13
	210nm,1.1s						
KRBS	**Karabastau**	**6.57**	**345**	*eP*	**Pb**	**01 46 40.5**	**+0.9**
	50nm,0.7s						
KRBS				*eS*	Sb	01 48 06.3	+8.6
	100nm,1.2s						
KUU	**Kurty**	**6.64**	**349**	*eP*	**Pb**	**01 46 41.9**	**+1.1**
	30nm,0.8s						
KUU				*eS*	Sb	01 48 08.7	+9.0
	199nm,0.7s						
ARXS	**Arharly**	**6.84**	**359**	*eP*	**Pn**	**01 46 22.0**	**-2.6**
DDI	**Dehra Dun**	**7.03**	**180**	*eP*	**Pn**	**01 46 29.2**	**+2.1**
DDI				*ex*	**Sn**	**01 47 49.5**	**+3.3**
CHGR	**Chuyangaron**	**7.13**	**283**	Pn	**Pn**	**01 46 28.9**	**+0.3**
KBL	**Kabul**	**7.83**	**252**	P	**Pn**	**01 46 39.8**	**+1.5**
KBL	**Kabul**	**7.83**	**252**	Pn	**Pn**	**01 46 39.8**	**+1.5**
TAS	**Tashkent**	**7.85**	**303**	P	**Pn**	**01 46 38.1**	**-0.2**
TAS	**Tashkent**	**7.85**	**303**	Pn	**Pn**	**01 46 38.1**	**-0.2**
KK31	**Karatay Array**	**8.12**	**317**	P	**Pn**	**01 46 41.7**	**-0.4**
KK31	**Karatay Array**	**8.12**	**317**	Pn	**Pn**	**01 46 41.7**	**-0.4**
KKAR	**Karatay Array**	**8.12**	**317**	P	**Pn**	**01 46 41.2**	**-0.9**
KKAR	**Karatay Array**	**8.12**	**317**		**Pn**	**01 46 41.2**	**-0.9**
NDI	**New Delhi**	**8.69**	**185**	*eP*	**Pn**	**01 46 52.0**	**+2.1**
NDI				*ex*	**Sn**	**01 48 29.0**	**+2.0**
WMQ	**Urumqi**	**9.76**	**46**	*eP*	**Pn**	**01 47 06.6**	**+2.0**
WMQ				S	**Sn**	**01 48 48.3**	**-5.0**
WMQ				smax	smax		
	comp=N,250nm,1.3s						
WMQ				smax	smax		
	comp=E,290nm,1.1s						
WMQ	**Urumqi**	**9.76**	**46**	P	**Pn**	**01 47 07.9**	**+3.3**
WMQ	**Urumqi**	**9.76**	**46**		**Pn**	**01 47 07.9**	**+3.3**
MAKZ	**Makanchi**	**9.87**	**16**	⇓P	**Pn**	**01 47 04.0**	**-2.1**
	52nm,0.6s						
MAKZ	**Makanchi**	**9.87**	**16**	P	**Pn**	**01 47 04.1**	**-2.0**
MAKZ	**Makanchi**	**9.87**	**16**		**Pn**	**01 47 04.1**	**-2.0**
MK31	**Makanchi Array**	**9.93**	**17**	P	**Pn**	**01 47 05.3**	**-1.6**
MK31	**Makanchi Array**	**9.93**	**17**	Pn	**Pn**	**01 47 05.2**	**-1.6**
MKAR	**Makanchi Array**	**9.93**	**17**	Pn	**Pn**	**01 47 04.8**	**-2.1**
	8.3nm,0.3s,baz=203,slow=13,SNR=51						
MKAR				Sn	**Sn**	**01 48 51.6**	**-5.8**
	6.8nm,0.3s,baz=202,slow=27,SNR=5.7						
MKAR	**Makanchi Array**	**9.93**	**17**	Pn	**Pn**	**01 47 04.6**	**-2.3**
HRA	**Herat**	**13.16**	**262**	Pn	**Pn**	**01 47 50.9**	**-0.3**
KURBB	**Kurchatov Arra**	**13.26**	**1**	Pn	**Pn**	**01 47 48.4**	**-3.9**
	0.1nm,0.3s,baz=187,slow=12,SNR=8.2						
KURBB				Lg	Lg	01 51 37.8	
	0.1nm,0.3s,baz=189,slow=28,SNR=3.0						
KURBB	**Kurchatov Arra**	**13.26**	**1**	⇑P	**Pn**	**01 47 54.2**	**+1.9**
	12nm,1.1s						
LSA	**Lhasa**	**13.33**	**121**	P	**Pn**	**01 47 55.7**	**+1.8**
LSA	**Lhasa**	**13.33**	**121**	Pn	**Pn**	**01 47 55.7**	**+1.8**
KURK	**Kurchatov**	**13.35**	**2**	P	Pn	01 47 48.4	-5.1
KURK	**Kurchatov**	**13.35**	**2**		Pn	01 47 48.4	-5.2
DGZ	**Jazzator, Alta**	**14.06**	**26**	⇓*eP*	**Pn**	**01 47 59.6**	**-3.9**
BHPL	**Bhopal**	**14.09**	**182**	*eP*	**Pn**	**01 48 02.0**	**-1.9**
BHPL				*ex*	**Sn**	**01 50 31.4**	**-8.0**
BOK	**Bokaro**	**15.11**	**151**	*ex*	**Pn**	**01 48 12.6**	**-5.0**
GEYT	**Alibeck**	**15.80**	**278**	Pn	**Pn**	**01 48 21.6**	**-5.0**
	17nm,0.3s,baz=89,slow=15,SNR=5.2						
GEYT				Sn	Sn	01 51 07.6	-13
	baz=27,slow=27,SNR=0.6						
GYA0B	**ALIBECK ARRAY**	**15.80**	**278**		**Pn**	**01 48 27.0**	**+0.5**
BRVK	**Borovoye**	**16.60**	**343**	⇑P	**P**	**01 48 39.2**	**+0.4**
	71nm,1.3s						
BRVK	**Borovoye**	**16.60**	**343**	⇓*eP*	**Pn**	**01 48 35.3**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,22

HYB	**Hyderabad**	**19.88**	**179**	*e*P	**P**	**01 49 16.2 +0.9**
HYB				IAmb	IAmb	01 49 21.8
	comp=Z,31nm,0.5s					
VIS	**Vishakhapatnam**	**20.12**	**165**	*e*P	**P**	**01 49 18.9 +1.2**
LZH	**Lanzhou**	**20.70**	**86**	*e*P	Pn	01 49 29.1 +2.4
LZH				pP	pP	01 49 33.1 +0.9
LZH				sP	sP	01 49 37.1 +1.1
LZH				pmax	pmax	
	comp=Z,26nm,1.1s					
MOY	**Mondy**	**21.60**	**41**	*e*P	**P**	**01 49 33.3 -0.4**
BANOM	**Banah**	**21.69**	**245**	*i* P	**P**	**01 49 36.5 +1.6**
	SNR=7.3					
BANOM	**Banah**	**21.69**	**245**	P	**P**	**01 49 36.8 +2.0**
SHME	**Shamm**	**21.73**	**245**	*i* P	**P**	**01 49 37.1 +1.9**
	SNR=8.2					
SHME	**Shamm**	**21.73**	**245**	P	**P**	**01 49 39.2 +4.0**
WSAR	**Wadi Sarin**	**21.83**	**235**	P	**P**	**01 49 35.8 -0.5**
	comp=Z,33nm,1.2s,baz=132,slow=6.7,SNR=5.3					
WSAR	**Wadi Sarin**	**21.83**	**235**	P	**P**	**01 49 39.0 +2.7**
MDH	**Madha**	**22.07**	**243**	P	**P**	**01 49 41.1 +2.2**
MDH	**Madha**	**22.07**	**243**	P	**P**	**01 49 41.4 +2.6**
MASF	**Masafi**	**22.13**	**244**	P	**P**	**01 49 42.4 +2.9**
MSFE	**Esma-Masafi**	**22.14**	**244**	*i* P	**P**	**01 49 41.7 +2.1**
	SNR=7.0					
ZAK	**Zakamensk**	**22.23**	**46**	*e*P	**P**	**01 49 39.9 -0.6**
ZAK				pmax	pmax	
	comp=Z,11nm,1.6s					
SMDO	**Samad**	**22.34**	**236**	P	**P**	**01 49 45.4 +3.5**
UOSS	**Minazif**	**22.36**	**243**	*i* P	**P**	**01 49 44.2 +2.2**
	SNR=8.1					
UOSS	**Minazif**	**22.36**	**243**	P	**P**	**01 49 42.1 +0.1**
UOSS				IAmb	IAmb	01 49 46.0
	comp=Z,32nm,1.0s					
UOSS	**Minazif**	**22.36**	**243**	P	**P**	**01 49 45.2 +3.2**
HOQ	**Hoqain**	**22.48**	**238**	P	**P**	**01 49 44.7 +1.4**
HATD	**Hatta, Dubai**	**22.49**	**242**	*i* P	**P**	**01 49 46.0 +2.7**
	SNR=7.2					
HATD	**Hatta, Dubai**	**22.49**	**242**	P	**P**	**01 49 47.3 +4.0**
ASHO	**Ashiyiah**	**22.63**	**242**	*i* P	**P**	**01 49 47.9 +3.1**
	SNR=6.5					
ASHO	**Ashiyiah**	**22.63**	**242**	P	**P**	**01 49 48.0 +3.1**
SOHO	**SOHO**	**22.65**	**240**	P	**P**	**01 49 46.7 +1.7**
SVE	**Sverdlovsk**	**22.67**	**335**	*e*P	**P**	**01 49 50.6 +5.7**
NAZ	**Nazwa, Dubai**	**22.72**	**243**	*i* P	**P**	**01 49 49.0 +3.2**
	SNR=7.6					
NAZ	**Nazwa, Dubai**	**22.72**	**243**	P	**P**	**01 49 48.8 +3.0**
TLY	**Talaya**	**23.03**	**43**	P	**P**	**01 49 47.2 -1.7**
	comp=Z,0.7nm,0.4s,baz=198,slow=20,SNR=0.8					
TLY	**Talaya**	**23.03**	**43**	⇓*e*P	**P**	**01 49 48.5 -0.3**
TLY	**Talaya**	**23.03**	**43**	P	**P**	**01 49 49.8 +0.9**
ARU	**Arti**	**23.11**	**332**	P	**P**	**01 49 47.8 -1.7**
	comp=Z,0.9nm,0.6s,baz=102,slow=20,SNR=1.5					
ARU	**Arti**	**23.11**	**332**	*c i*P	**P**	**01 49 49.6 +0.1**
ARU						01 50 10.8
ARU				S	**S**	**01 53 59.0 +0.2**
ARU				pmax	pmax	
	comp=Z,73nm,4.5s					
ARU	**Arti**	**23.11**	**332**	P	**P**	**01 49 49.4 -0.1**
ARU				IAmb	IAmb	01 50 16.3
	comp=Z,12nm,0.8s					
BSY	**Bisya**	**23.12**	**237**	P	**P**	**01 49 54.2 +4.2**
ARQ	**Araqi**	**23.18**	**239**	P	**P**	**01 49 54.9 +4.3**
ASUD	**Al Ashush, Dub**	**23.18**	**243**	*i* P	**P**	**01 49 53.2 +2.7**
	SNR=6.8					
ASUD	**Al Ashush, Dub**	**23.18**	**243**	P	**P**	**01 49 54.1 +3.6**
	SNR=6.8					
SONM	**Songino Array**	**23.22**	**54**	P	**P**	**01 49 49.3 -1.6**
	comp=Z,10nm,0.8s,baz=245,slow=10,SNR=13					
SONM				PcP	**PcP**	**01 53 38.0 -0.1**
	comp=Z,0.4nm,0.3s,baz=302,slow=1.6,SNR=1.1					
SONM	**Songino Array**	**23.22**	**54**	P	**P**	**01 49 49.2 -1.6**
ALNE	**Al Ain**	**23.24**	**242**	P	**P**	**01 49 53.5 +2.4**
ALNE	**Al Ain**	**23.24**	**242**	P	**P**	**01 49 53.6 +2.4**
	SNR=10					
ULN	**Ulaanbaatar**	**23.65**	**54**	⇑*e*P	**P**	**01 49 54.3 -0.9**
ULN				pmax	pmax	
	comp=Z,19nm,0.8s					
ULN	**Ulaanbaatar**	**23.65**	**54**	P	**P**	**01 49 54.8 -0.4**
ULN				IAmb	IAmb	01 50 00.5
	comp=Z,17nm,0.8s					
GROC	**Groznyy**	**25.18**	**294**	*e*P	**P**	**01 50 08.6 -0.5**
GROC				*e*		01 50 44.4
GROC				*e*S	**S**	**01 54 34.5 +2.0**
GROC				pmax	pmax	
	comp=Z,66nm,0.9s					
XAN	**Xi'an**	**25.23**	**88**	P	**P**	**01 50 13.7 +4.0**
XAN				pP	pP	01 50 19.4 +1.1
XAN				pmax	pmax	
	comp=Z,18nm,1.1s					
XAN	**Xi'an**	**25.23**	**88**	P	**P**	**01 50 14.4 +4.7**
XAN	**Xi'an**	**25.23**	**88**	P	**P**	**01 50 14.3 +4.7**
GNI	**Garni**	**26.04**	**286**	P	**P**	**01 50 18.7 +1.6**
	comp=Z,21nm,0.6s,baz=5.2,slow=11,SNR=5.4					
GNI	**Garni**	**26.04**	**286**	⇓*e*P	**P**	**01 50 19.5 +2.5**
GNI				pmax	pmax	
	comp=Z,14nm,0.7s					
GNI	**Garni**	**26.04**	**286**	P	**P**	**01 50 17.4 +0.4**
HHC	**Hu-ho-hao-te**	**26.15**	**72**	*e*P	**P**	**01 50 19.7 +1.7**
HHC				pmax	pmax	
	comp=Z,23nm,0.9s					
CM15	**Chiang Mai Arr**	**26.27**	**130**	P	P	01 50 28.8 +10
	comp=Z,15nm,0.7s					
CM31	**Chiang Mai Arr**	**26.27**	**130**	P	**P**	**01 50 21.0 +1.8**
CM31				IAmb	IAmb	01 50 31.5
	comp=Z,14nm,0.9s					
CMAR	**Chiang Mai Arr**	**26.27**	**130**	P	**P**	**01 50 19.4 +0.2**
	comp=Z,3.3nm,0.5s,baz=309,slow=11,SNR=13					
CMAR	**Chiang Mai Arr**	**26.27**	**130**	*i* P	**P**	**01 50 22.3 +3.1**
CMAR				pmax	pmax	
	comp=Z,3.0nm,0.4s					
CM13	**Chiang Mai Arr**	**26.28**	**130**	P	**P**	**01 50 24.3 +5.1**
	comp=Z,114nmcomp=Z,11nm,0.7s					
CM02	**Chiang Mai Arr**	**26.30**	**130**	P	P	01 50 28.9 +10
	comp=Z,10nm,0.7s					
CM05	**Chiang Mai Arr**	**26.32**	**130**	P	P	01 50 29.1 +10
	comp=Z,7.6nm,0.7s					
GYA	**Guiyang**	**26.52**	**106**	⇓P	**P**	**01 50 24.1 +2.6**
GYA				pmax	pmax	
	comp=Z,2.0nm,1.0s					
MIB	**Mutribah**	**26.59**	**263**	*e*P	**P**	**01 50 21.3 -0.6**
ONI	**Oni**	**26.89**	**292**	P	**P**	**01 50 24.3 -0.3**
ONI				pmax	pmax	
	comp=Z,23nm,1.3s					
ONI	**Oni**	**26.89**	**292**	P	**P**	**01 50 24.3 -0.3**
ONI				IAmb	IAmb	01 50 34.8
	comp=Z,23nm,1.3s					
RST	**Umm Al-Ruwaisa**	**26.98**	**262**	*e*P	**P**	**01 50 25.0 -0.5**
KARS	**Kars**	**27.26**	**288**	P	**P**	**01 50 29.2 +1.1**
KARS				pmax	pmax	
	comp=Z,30nm,0.8s					
KARS	**Kars**	**27.26**	**288**	P	**P**	**01 50 29.2 +1.1**
KIV	**Kislovodsk**	**27.47**	**295**	*e*P	**P**	**01 50 29.9 +0.1**
KIV				pmax	pmax	
	comp=Z,14nm,1.0s					
GEVA	**Gevas**	**27.55**	**283**	P	**P**	**01 50 31.7 +1.0**
GEVA				IAmb	IAmb	01 50 58.8
	comp=Z,8.0nm,0.9s					
GURO	**Guroymak-BITLI**	**28.31**	**284**	P	**P**	**01 50 38.2 +0.7**
VRH	**Novokhopyorsk**	**29.12**	**310**	*e*P	**P**	**01 50 43.1 -1.2**
VRH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
MARD	**Mardin**	**29.51**	**281**	P	**P**	**01 50 48.6 +0.5**
MARD				IAmb	IAmb	01 50 50.4
	comp=Z,9.3nm,0.8s					
VORD	**Divnogorie**	**30.56**	**309**	*e*P	**P**	**01 50 55.5 -1.6**
VORD				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VSR	**Storozhevoye**	**30.69**	**309**	*e*P	**P**	**01 50 56.4 -1.8**
VSR				pmax	pmax	
	comp=Z,10.0nm,0.5s					
RAYN	**Ar Rayn**	**31.10**	**253**	P	**P**	**01 51 01.5 -0.7**
RAYN	**Ar Rayn**	**31.10**	**253**	P	**P**	**01 51 01.7 -0.4**
RAYN				pmax	pmax	
	comp=Z,4.0nm,1.2s					
RAYN	**Ar Rayn**	**31.10**	**253**	P	**P**	**01 51 01.7 -0.4**
LPSR	**Galich'ya Gora**	**31.14**	**312**	*e*P	**P**	**01 51 00.3 -1.8**
LPSR				pmax	pmax	
	comp=Z,20nm,0.7s					
PRGR	**Permogore**	**31.55**	**331**	*e*P	**P**	**01 51 03.0 -2.7**
PRGR				pmax	pmax	
	comp=Z,19nm,0.8s					
GAZ	**Gaziantep**	**32.32**	**282**	P	**P**	**01 51 13.1 +0.3**
NRIK	**Noril'sk**	**32.45**	**6**	P	**P**	**01 51 13.6 +0.2**
	comp=Z,7.5nm,0.7s,baz=184,slow=7.8,SNR=3.9					
NRIK	**Noril'sk**	**32.45**	**6**	⇑*e*P	**P**	**01 51 12.8 -0.6**
NRIK				pmax	pmax	
	comp=Z,13nm,1.1s					
NRIK	**Noril'sk**	**32.45**	**6**	P	**P**	**01 51 13.4 0.0**
NRIK				IAmb	IAmb	01 51 18.9
	comp=Z,10nm,1.0s					
MOS	**Moscow**	**32.71**	**317**	*e*P	**P**	**01 51 15.3 -0.6**
MOS				pmax	pmax	
	comp=Z,46nm,0.7s					
BNN	**Bunyan**	**33.03**	**286**	IAmb	IAmb	01 51 39.3
	comp=Z,13nm,1.0s					
OBN	**Obninsk**	**33.11**	**316**	P	**P**	**01 51 19.3 0.0**
	comp=Z,2.7nm,0.4s,baz=73,slow=9.3,SNR=3.4					
OBN	**Obninsk**	**33.11**	**316**	⇑*e*P	**P**	**01 51 19.4 0.0**
OBN				*e*		01 52 29.7
OBN				*e*PPP	PPP	01 52 45.5
OBN				pmax	pmax	
	comp=Z,8.0nm,0.5s					
OBN				MLR	MLR	
	comp=Z,4μm,15.0s					
OBN	**Obninsk**	**33.11**	**316**	P	**P**	**01 51 18.5 -0.9**
SIM	**Simferopol'**	**33.59**	**297**	*e*P	**P**	**01 51 23.2 -0.6**
SIM				pmax	pmax	
	comp=Z,15nm,0.8s					
KLMR	**Klimovskoe**	**33.68**	**327**	*e*P	**P**	**01 51 23.5 -0.8**
KLMR				pmax	pmax	
	comp=Z,8.0nm,0.9s					
KLMR	**Klimovskoe**	**33.68**	**327**	*e*P	**P**	**01 51 23.5 -0.8**
KLMR				AMP		01 51 30.1
	comp=Z,8.0nm,0.9s					
NJ2	**Nanjing**	**33.77**	**87**	*e*P	**P**	**01 51 26.1 +0.7**
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
ILGA	**Ilgaz**	**34.27**	**290**	P	**P**	**01 51 30.0 0.0**
ILGA				IAmb	IAmb	01 51 38.2
	comp=Z,13nm,0.8s					
BR131	**Keskin Array S**	**34.55**	**288**	P	**P**	**01 51 32.2 -0.1**
BR131				pmax	pmax	
	comp=Z,17nm,1.0s					
BR131	**Keskin Array S**	**34.55**	**288**	P	**P**	**01 51 32.2 -0.1**
BRTR	**Keskin Array B**	**34.55**	**288**	P	**P**	**01 51 32.8 +0.5**
	comp=Z,7.1nm,0.8s,baz=94,slow=7.4,SNR=20					
ANTO	**Ankara**	**35.16**	**288**	P	**P**	**01 51 38.0 +0.5**
ANTO				pmax	pmax	
	comp=Z,12nm,1.0s					
ANTO	**Ankara**	**35.16**	**288**	P	**P**	**01 51 38.0 +0.5**
ANTO				IAmb	IAmb	01 51 39.5
	comp=Z,12nm,0.9s					
BR231	**Keskin MP Arra**	**35.18**	**288**	P	**P**	**01 51 37.6 -0.1**
BR231				IAmb	IAmb	01 51 45.4
	comp=Z,10nm,0.8s					
AKASG	**Malin Array Be**	**36.87**	**307**	P	**P**	**01 51 51.4 -0.5**
	comp=Z,7.7nm,0.5s,baz=75,slow=7.8,SNR=20					
SORM	**Soroca**	**37.44**	**303**	⇓P	**P**	**01 51 55.9 -0.9**
TPGR	**Topolog**	**37.64**	**297**	⇑P	**P**	**01 51 58.2 -0.3**
CFR	**Carcaliu**	**37.80**	**298**	⇑P	**P**	**01 52 00.1 +0.3**
MNK	**Minsk**	**37.95**	**313**	*i* P	**P**	**01 52 01.4 +0.5**
MNK				*i* PPP	PPP	01 53 52.4
MNK				*i*		01 54 16.0
MNK				*i* S	**S**	**01 57 51.8 +0.9**
MNK				*i* SS	**SnSn**	**02 00 32.9 -0.5**
MNK				*i* SSS	SSS	02 00 56.0
MNK				pmax	pmax	
	comp=Z,22nm,0.7s					
MNK				pmax	pmax	
	comp=N,9.0nm,1.4s					
MNK				pmax	pmax	
	comp=E,3.0nm,0.9s					
MNK				MLR	MLR	
	comp=N,2μm,16.0s					
MNK				MLR	MLR	
	comp=E,312nm,18.0s					
MNK				MLR	MLR	
	comp=Z,3μm,17.0s					
MNK	**Minsk**	**37.95**	**313**	*i* P	**P**	**01 52 01.4 +0.5**
	comp=E,3.0nm,0.9s					
MNK				*i* P	**P**	**01 52 01.4 +0.5**
	comp=N,9.0nm,1.4s					
MNK				*i* P	**P**	**01 52 01.4 +0.5**
	comp=Z,22nm,0.7s,baz=275					
MNK				*i* PP	**PP**	**01 53 22.9 -4.8**
MNK				*i* PPP	PPP	01 53 52.4
MNK				*i* PcP	**PcP**	**01 54 16.0 -0.3**
MNK				*i* S	**S**	**01 57 51.8 +1.0**
MNK				*i* SS	**SnSn**	**02 00 33.0 -0.4**
MNK				*i* SSS	SSS	02 00 56.1
MNK				*i* LQ	LQ	02 03 19.9
MNK				*i* LR	LR	02 07 13.1
MNK				*i* LRM	MLR	02 10 10.1
	comp=N,2μm,16.0s					
MNK				*i* LRM	MLR	02 10 29.9
	comp=E,312nm,17.9s					
MNK				*i* LRM	MLR	02 10 35.0
	comp=Z,3μm,16.6s					
IDID	**Didziasalis**	**38.69**	**314**	*e*P	**P**	**01 52 07.9 +0.8**
TESR	**Tescani**	**38.70**	**300**	⇓P	**P**	**01 52 07.6 +0.1**
VRI	**Vrincioaia**	**38.71**	**299**	⇓P	**P**	**01 52 07.1 -0.5**
PLOR	**Plostina**	**38.77**	**299**	⇑P	**P**	**01 52 09.0 +1.0**
LVZ	**Lovozero**	**38.88**	**336**	⇑*e*P	**P**	**01 52 11.6 +2.9**
LVZ				pmax	pmax	
	comp=Z,23nm,1.7s					
IIGN	**Ignalina**	**38.98**	**314**	*e*P	**P**	**01 52 10.5 +0.9**
VSU	**Vasula**	**39.11**	**319**	*e*P	**P**	**01 52 11.0 +0.3**
VSU	**Vasula**	**39.11**	**319**	⇓*e*P	**P**	**01 52 10.9 +0.3**
VSU				pmax	pmax	
	comp=Z,25nm,0.8s					
KSRS	**Korea Array**	**39.23**	**74**	P	**P**	**01 52 10.8 -1.2**
	comp=Z,0.8nm,0.4s,baz=295,slow=10,SNR=2.0					
MLR	**Muntele Rosu**	**39.30**	**299**	IAmb	IAmb	01 52 15.1
	comp=Z,9.5nm,0.7s					
BURAR	**Bucovina Array**	**39.58**	**302**	P	**P**	**01 52 14.8 -0.1**
DOPR	**Dopca**	**39.63**	**300**	⇑P	**P**	**01 52 16.3 +1.1**
VOIR		**39.93**	**299**	⇓P	**P**	**01 52 17.8 -0.1**
FIA1	**FINESS Array S**	**40.01**	**324**	P	**P**	**01 52 18.2 +0.1**
FIA1				IAmb	IAmb	01 52 24.5
	comp=Z,16nm,0.6s					
KLR	**Kul'dur**	**40.04**	**55**	P	**P**	**01 52 17.0 -1.6**
	comp=Z,2.5nm,0.7s,baz=287,slow=8.4,SNR=36					
KLR	**Kul'dur**	**40.04**	**55**	⇓*e*P	**P**	**01 52 17.9 -0.7**
KLR				pmax	pmax	
	comp=Z,14nm,0.6s					
LVV	**L'vov**	**40.21**	**306**	*e*P	**P**	**01 52 19.7 -0.3**
ARR	**Arges**	**40.23**	**299**	⇑P	**P**	**01 52 20.2 -0.1**
PABE	**Paberze**	**40.28**	**315**	*e*P	**P**	**01 52 21.1 +0.7**
PABE	**Paberze**	**40.28**	**315**	P	**P**	**01 52 20.1 -0.3**
KARP	**Karpathos**	**40.56**	**283**	P	**P**	**01 52 23.6 +0.5**
MEF	**Metsahovi**	**40.59**	**322**	*e*P	**P**	**01 52 23.3 +0.4**
MTSE	**Matsula**	**40.66**	**319**	*e*P	**P**	**01 52 22.5 -1.0**
SUW	**Suwalki**	**40.67**	**312**	*e*P	**P**	**01 52 23.6 0.0**
SUW	**Suwalki**	**40.67**	**312**	P	**P**	**01 52 23.4 -0.3**
SUW				pmax	pmax	
	comp=Z,21nm,1.0s					
SUW	**Suwalki**	**40.67**	**312**	P	**P**	**01 52 23.4 -0.3**
SUW				IAmb	IAmb	01 52 29.7
	comp=Z,21nm,1.0s					
LOT	**Lotru**	**40.83**	**299**	⇑P	**P**	**01 52 25.6 +0.3**
KWP	**Kalwaria Pacla**	**41.08**	**306**	P	**P**	**01 52 27.8 +0.7**
KWP				pmax	pmax	
	comp=Z,44nm,0.6s					
KWP	**Kalwaria Pacla**	**41.08**	**306**	P	**P**	**01 52 27.8 +0.7**
DRGR		**41.37**	**301**	⇑P	**P**	**01 52 30.4 +0.7**
KOLS	**Kolonicke sedl**	**41.42**	**305**	*e*P	**P**	**01 52 30.5 +0.5**
KOLS	**Kolonicke sedl**	**41.42**	**305**	*e*P	**P**	**01 52 30.5 +0.5**
GZR	**Gura Zlata**	**41.52**	**299**	⇑P	**P**	**01 52 30.2 -0.7**
VTS	**Vitosha**	**41.70**	**295**	⇑P	**P**	**01 52 31.6 -0.9**
VTS	**Vitosha**	**41.70**	**295**	P	**P**	**01 52 31.4 -1.1**
VTS				pmax	pmax	
	comp=Z,3.0nm,0.6s					
VTS	**Vitosha**	**41.70**	**295**	P	**P**	**01 52 31.4 -1.1**
SIRR	**Siria**	**42.16**	**301**	⇑P	**P**	**01 52 35.7 -0.4**
BZS	**Buzias**	**42.29**	**300**	⇑P	**P**	**01 52 37.9 +0.8**
MDVR	**Moldovita**	**42.37**	**298**	⇑P	**P**	**01 52 38.3 +0.5**
BOVS	**Bovan**	**42.59**	**297**	⇑P	**P**	**01 52 38.1 -1.5**
ARCES	**ARCESS Array B**	**42.59**	**336**	P	**P**	**01 52 39.2 -0.1**
	comp=Z,2.6nm,0.5s,baz=106,slow=9.0,SNR=24					
ARCES	**ARCESS Array B**	**42.59**	**336**	P	**P**	**01 52 39.1 -0.1**
ARCES				pmax	pmax	
	comp=Z,9.0nm,1.1s					
ARCES	**ARCESS Array B**	**42.59**	**336**	P	**P**	**01 52 39.1 -0.1**
TIXI	**Tiksi**	**42.89**	**21**	P	**P**	**01 52 40.4 -1.2**
	comp=Z,2.3nm,0.4s,baz=275,slow=12,SNR=1.4					
OJC	**Ojcow**	**42.90**	**307**	P	**P**	**01 52 41.8 -0.2**
OJC				pmax	pmax	
	comp=Z,7.0nm,0.8s					
OJC	**Ojcow**	**42.90**	**307**	P	**P**	**01 52 41.8 -0.2**
FNA	**Florina**	**43.48**	**293**	P	**P**	**01 52 46.1 -0.8**
FNA				pmax	pmax	
	comp=Z,4.0nm,0.7s					
FNA	**Florina**	**43.48**	**293**	P	**P**	**01 52 46.1 -0.8**
FRGS	**Fruska Gora**	**43.63**	**299**	⇑P	**P**	**01 52 47.0 -0.9**
DIVS	**Divibare**	**43.71**	**298**	IAmb	IAmb	01 52 50.1
	comp=Z,6.4nm,0.8s					
OKC	**Ostrava-Krasne**	**44.00**	**306**	AMS	AMS	02 32 40.0
	comp=Z,4μm,15.6s					
GKP	**Gorka Klasztor**	**44.23**	**311**	*e*P	**P**	**01 52 53.1 +0.5**
MORH	**Mrgy, Hungar**	**44.23**	**301**	*e*P	**P**	**01 52 53.3 +0.5**
MORC	**Moravsky Berou**	**44.40**	**306**	⇑P	**P**	**01 52 54.7 +0.5**
MORC	**Moravsky Berou**	**44.40**	**306**	*e*P	**P**	**01 52 54.5 +0.4**
JAVC	**Velka Javorina**	**44.45**	**305**	*e*P	**P**	**01 52 55.8 +1.3**
PDG	**Podgorica**	**44.61**	**296**	⇑P	**P**	**01 52 54.9 -0.9**
PDG	**Podgorica**	**44.61**	**296**	P	**P**	**01 52 55.9 +0.1**
PDG				IAmb	IAmb	01 52 56.6
	comp=Z,6.1nm,0.7s					
KOVH	**Kovagotottos**	**44.63**	**301**	*e*P	**P**	**01 52 56.5 +0.6**
KRLC	**Kraliky**	**44.85**	**307**	*e*P	**P**	**01 52 57.5 -0.2**
KRLC				MLR	MLR	
	comp=Z,3μm,17.0s					
KRLC	**Kraliky**	**44.85**	**307**	*e*P	**P**	**01 52 57.5 -0.2**
KRLC				AMS	AMS	02 33 10.0
	comp=Z,3μm,17.0s					
VRAC	**Vranov**	**45.08**	**306**	*e*P	**P**	**01 53 00.1 +0.6**
DPC	**Dobruska-Polom**	**45.10**	**307**	*e*P	**P**	**01 53 00.3 +0.6**
DPC				*e*		01 53 05.3
DPC				MLR	MLR	
	comp=Z,6μm,16.9s					
DPC	**Dobruska-Polom**	**45.10**	**307**	*e*P	**P**	**01 53 00.3 +0.6**
DPC				*e*pP	**pP**	**01 53 05.3 -3.3**
DPC				AMS	AMS	02 34 30.0
	comp=Z,6μm,16.9s					
OSTC	**Ostas**	**45.14**	**308**	AMS	AMS	02 34 20.0
	comp=Z,6μm,17.2s					
CHVC	**Chvalec**	**45.24**	**308**	*e*P	**P**	**01 53 01.9 +1.1**
CHVC				*ex*	x	01 53 06.7
CHVC				AMS	AMS	02 34 20.0
	comp=Z,6μm,17.0s					
KRUC	**Moravsky**	**45.25**	**305**	*e*P	**P**	**01 53 01.3 +0.5**
UPC	**Upice**	**45.28**	**307**	*e*P	**P**	**01 53 01.5 +0.5**
UPC				*e*		01 53 07.4
UPC				MLR	MLR	
	comp=Z,6μm,17.3s					
UPC	**Upice**	**45.28**	**307**	*e*P	**P**	**01 53 01.5 +0.5**
UPC				*e*pP	**pP**	**01 53 07.4 -2.6**
UPC				AMS	AMS	02 34 40.0
	comp=Z,6μm,17.3s					
SOP	**Sopron**	**45.37**	**303**	*e*P	**P**	**01 53 04.3 +2.5**
CONA	**Conrad Observa**	**45.79**	**304**	*i* P	**P**	**01 53 05.8 +0.5**
	comp=Z,5.5nm,0.7s,SNR=6.1					
TREC	**Trest**	**45.80**	**306**	AMS	AMS	02 34 50.0
	comp=Z,6μm,17.5s					
ARSA	**Arzberg**	**46.14**	**303**	*e*P	**P**	**01 53 08.2 +0.2**
	comp=Z,3.5nm,0.8s					
PVCC	**Panska Ves**	**46.19**	**308**	AMS	AMS	02 32 40.0
	comp=Z,4μm,17.5s					
PRU	**Pruhonice**	**46.29**	**307**	*e*P	**P**	**01 53 08.9 -0.1**
PRU				*e*pP	**pP**	**01 53 15.1 -2.9**
PRU				AMS	AMS	02 33 10.0
	comp=Z,4μm,17.2s					
PRA	**Prague**	**46.34**	**307**	AMS	AMS	02 33 40.0
	comp=Z,4μm,18.0s					
BRG	**Berggiesshubel**	**46.52**	**308**	*i* P	**P**	**01 53 11.6 +0.8**
BRG				Amp		01 53 12.3
	comp=Z,8.0nm,0.9s					
BRG	**Berggiesshubel**	**46.52**	**308**	P	P	01 53 17.4 +6.5
BRG				Amp		01 53 19.3
	comp=Z,5.5nm,1.0s					
SOKA	**Soboth**	**46.59**	**302**	*i* P	**P**	**01 53 12.0 +0.5**
	comp=Z,8.3nm,0.8s,SNR=8.9					
CKRC	**Cesky Krumlov**	**46.64**	**305**	*e*P	**P**	**01 53 13.7 +1.8**
CKRC				AMS	AMS	02 35 40.0
	comp=Z,5μm,16.9s					
MOA	**Molln**	**46.86**	**304**	*e*P	**P**	**01 53 13.6 +0.1**
	comp=Z,3.4nm,0.7s					
OBKA	**Obir**	**46.95**	**302**	*e*P	**P**	**01 53 14.6 +0.2**
	comp=Z,5.3nm,0.8s					
GERES	**GERESS Array B**	**47.03**	**306**	P	**P**	**01 53 15.1 +0.1**
	comp=Z,3.7nm,0.7s,baz=70,slow=7.7,SNR=34					
GERES	**GERESS Array B**	**47.03**	**306**	P	**P**	**01 53 15.2 +0.2**
NC303	**NORSAR Array S**	**47.04**	**323**	P	**P**	**01 53 15.0 +0.2**
CLL	**Collm**	**47.04**	**309**	*i* P	**P**	**01 53 15.1 +0.2**
CLL				*i* pP	**pP**	**01 53 20.6 -3.2**
CLL	**Collm**	**47.04**	**309**	P	**P**	**01 53 14.7 -0.2**
CLL				pmax	pmax	
	comp=Z,5.0nm,0.6s					
CLL	**Collm**	**47.04**	**309**	P	**P**	**01 53 14.7 -0.2**
CLL				IAmb	IAmb	01 53 15.7
	comp=Z,4.8nm,0.6s					
KHC	**Kasperske Hory**	**47.06**	**306**	*e*P	**P**	**01 53 15.4 +0.3**
KHC				*e*		01 53 20.7
KHC				MLR	MLR	
	comp=Z,5μm,18.4s					
KHC	**Kasperske Hory**	**47.06**	**306**	*e*P	**P**	**01 53 15.4 +0.3**
KHC				*e*pP	**pP**	**01 53 20.7 -3.4**
KHC				AMS	AMS	02 34 00.0
	comp=Z,5μm,18.4s					
KHC	**Kasperske Hory**	**47.06**	**306**	IAmb	IAmb	01 53 16.8
	comp=Z,6.1nm,0.8s					
NB2	**NORSAR Subarra**	**47.12**	**322**	P	**P**	**01 53 14.2 -1.2**
	comp=Z,11nm,0.6s,baz=89,slow=7.9					
NOA	**NORSAR Array B**	**47.12**	**322**	P	**P**	**01 53 14.3 -1.1**
	comp=Z,4.5nm,0.6s,baz=90,slow=7.7,SNR=28					
NC204	**NORSAR Array S**	**47.33**	**323**	P	**P**	**01 53 17.1 0.0**
MJAR	**Matsushiro Arr**	**47.35**	**72

BPAW Bear Paw Mtn. 71.73 20 P P 01 56 04.8 -0.4
BPAW IAmb IAmb 01 56 10.9
comp=Z,7.9nm,0.8s
COLA College 71.95 19 ⇑*e*P P **01 56 08.9 +2.4**
COLA pmax pmax
comp=Z,13nm,0.8s
CCB Clear Creek Bu 72.15 19 P P **01 56 09.6 +2.0**
IL31 72.28 19 P P **01 56 08.7 +0.2**
IL31 IAmb IAmb 01 56 13.6
comp=Z,6.2nm,0.8s
ILAR Eielson Array 72.28 19 P P **01 56 07.1 -1.4**
comp=Z,1.4nm,0.7s,baz=318,slow=3.9,SNR=14
ILAR PP **PP 01 58 53.3 +4.6**
comp=Z,0.7nm,0.9s,baz=310,slow=9.0,SNR=4.4
ILAR Eielson Array 72.28 19 P P **01 56 09.9 +1.4**
EGAK Eagle 73.65 16 P P **01 56 17.2 +0.6**
EGAK IAmb IAmb 01 56 28.3
comp=Z,13nm,1.6s
SCRK Sand Creek 73.66 18 P P **01 56 18.9 +2.0**
SCRK IAmb IAmb 01 56 22.1
comp=Z,6.5nm,0.6s
SUA Susitna One 73.85 22 P P **01 56 18.7 +0.7**
SUA IAmb IAmb 01 56 43.3
comp=Z,7.3nm,0.7s
SML Sawmill 74.29 21 P P **01 56 20.1 -0.4**
RC01 Rabbit Creek A 74.45 22 P P **01 56 24.6 +3.3**
RC01 IAmb IAmb 01 56 26.8
comp=Z,12nm,1.0s
M24K Tolsona, Glenn 74.64 20 P P **01 56 24.2 +1.7**
L27K Beaver Creek, 74.96 18 P P **01 56 24.4 +0.1**
L27K IAmb IAmb 01 56 30.2
comp=Z,4.0nm,0.8s
BCAR Beaver Creek A 74.96 18 P P **01 56 24.7 +0.4**
KOWA Kowa 75.11 277 P P **01 56 26.0 +0.1**
KOWA IAmb IAmb 01 56 26.5
comp=Z,9.6nm,0.8s
VRDI Verde Repeater 76.10 19 P P **01 56 31.0 -0.1**
VRDI IAmb IAmb 01 56 37.1
comp=Z,8.3nm,0.9s
WRA Warramunga Arr 77.82 127 P P **01 56 39.9 -1.1**
comp=Z,1.7nm,0.7s,baz=329,slow=5.7,SNR=24
LBTB Lobatse 79.26 227 P P **01 56 49.1 +0.1**
LBTB pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 79.26 227 P P **01 56 49.1 +0.1**
YKA Yellowknife Ar 79.96 6 P P **01 56 51.0 -1.2**
comp=Z,2.1nm,0.7s,baz=348,slow=5.1,SNR=14
YKA Yellowknife Ar 79.96 6 P P **01 56 51.0 -1.2**
AS31 Alice Springs 80.28 130 P P **01 56 54.5 0.0**
ASAR Alice Springs 80.28 130 P P **01 56 53.2 -1.2**
comp=Z,1.6nm,0.6s,baz=319,slow=5.7,SNR=30
BOSA Boshof 82.20 225 P P **01 57 04.2 -0.4**
comp=Z,3.3nm,0.4s,baz=20,slow=3.8,SNR=20
SCHQ Schefferville 83.34 340 P P **01 57 10.4 +0.2**
SCHQ IAmb IAmb 01 57 21.0
comp=Z,8.5nm,1.4s
WALA Waterton Lakes 93.30 8 P P **01 57 58.0 -0.2**
WALA IAmb IAmb 01 58 11.5
comp=Z,2.9nm,1.1s
YHH Holmes Hill 97.83 6 P P **01 58 18.7 -0.5**
YHH IAmb IAmb 01 58 47.2
comp=Z,1.5nm,1.2s
PDAR Pinedale Array 99.94 6 P **Pdif 01 58 26.1 -2.6**
comp=Z,0.1nm,0.4s,baz=347,slow=3.7,SNR=1.8
NVAR Mina Array Bea 103.08 13 Pdiff **Pdif 01 58 41.8 -0.9**
comp=Z,0.3nm,0.4s,baz=28,slow=2.1,SNR=3.0
LPAZ La Paz 143.52 296 PKP **PKPdf 02 04 18.7 -0.6**
comp=Z,0.7nm,0.6s,baz=52,slow=4.0,SNR=3.8
PLCA Paso Flores 155.45 252 PKPab **PKPab 02 05 02.2 -0.3**
comp=Z,0.8nm,0.7s,baz=81,slow=4.6,SNR=4.9

NNC 03 01:54:52.1±2.6, 37°.81N×77°.87E, h0km, mb3.9, mpv3.5, 1C-3D, Error ellipse: s-maj=24.8km s-min=17.2km az=79.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.26**	**4**	Pg	Pb	01 56 28.5	+3.5
SATY	12nm,0.8s			Lg	Lg	01 57 39.0	
	14nm,0.5s						
MDOK	**Medeo**	**5.39**	**354**	Pg	Pb	01 56 29.3	+2.2
MDOK	3.0nm,0.5s			Lg	Lg	01 57 43.3	
	37nm,0.8s						
MDOK	**Medeo**	**5.39**	**354**	Pg	Pb	01 56 30.2	+3.1
MDOK	18nm,2.2s			Lg	Lg	01 57 42.5	
	33nm,0.8s						
TKM2	**Tokmak 2**	**5.39**	**342**	⇓Pg	Pb	01 56 30.3	+3.0
TKM2	0.5nm,0.3s			⇓Lg	Lg	01 57 43.0	
	9.9nm,0.8s						
KST	**Kastek**	**5.43**	**345**	Pg	Pg	01 56 32.9	-3.2
KST	7.8nm,0.8s			Lg	Lg	01 57 45.5	
	16nm,0.9s						
AAK	**Ala-Archa**	**5.47**	**333**	⇑Pg	Pb	01 56 31.1	+2.5
AAK	3.7nm,0.7s			⇓Lg	Lg	01 57 46.7	
	8.8nm,0.4s						

*IDC **03** 02:12:46.0±0.6, 0°.78N×27°.74W, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.0/54, mbtmp4.1/19, ML4.5/1, Error ellipse: s-maj=21.9km s-min=12.8km az=139.0*
*NEIC **03** 02:12:48.4±1.9, 0°.6N±0°.1×27°.60W±0°.08, h10km±1km, mb4.6/23, Error ellipse: s-maj=24.1km s-min=8.7km az=152.0*
ISC 03 02:12:47.7±0.4, 0°.75N±0°.09×27°.77W±0°.08, h10km, n83, σ1§42/76, mb4.4/30, 1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBPV	**Pedro Velho**	**10.35**	**226**	*e*P	**Pn**	**02 15 15.1**	**-1.2**
RCBR	**Riachuelo**	**10.43**	**231**	Pn	**Pn**	**02 15 16.0**	**-1.4**
RCBR	4.0nm,0.3s,baz=68,slow=8.6,SNR=30			Sn	Sn	02 17 02.1	-12
	baz=140,slow=18,SNR=1.3						
RCBR	**Riachuelo**	**10.43**	**231**	Pn	**Pn**	**02 15 15.1**	**-2.3**
RCBR	**Riachuelo**	**10.43**	**231**	*e*P	**Pn**	**02 15 16.1**	**-1.4**
NBPA	**Parau_RN**	**11.35**	**235**	*e*P	**Pn**	**02 15 27.5**	**-2.6**
NBCL	**Cascavel-CE**	**11.62**	**245**	*e*P	**Pn**	**02 15 30.8**	**-3.0**
NBRF	**Rio Formoso -**	**11.90**	**218**	*e*P	**Pn**	**02 15 37.1**	**-0.4**
NBMO	**Morrinhos-CE**	**12.92**	**252**	*e*P	**Pn**	**02 15 47.8**	**-3.7**
NBPB	**Pedra_Branca-C**	**13.36**	**242**	*e*P	**Pn**	**02 15 55.0**	**-2.5**
NBAN	**Anadia - AL**	**13.38**	**219**	*e*P	**Pn**	**02 15 57.5**	**-0.3**
NBPS	**Pedro II - PI**	**14.59**	**249**	*e*P	**Pn**	**02 16 11.9**	**-2.6**
H10N3	**ASCENSION HYDR**	**15.74**	**123**	T	T	02 32 57.1	
	baz=302,slow=74,SNR=98						
H10N2	**ASCENSION HYDR**	**15.74**	**123**	T	T	02 32 53.2	
	baz=302,slow=74,SNR=76						
H10N1	**ASCENSION HYDR**	**15.76**	**123**	T	T	02 32 54.6	
	baz=302,slow=74,SNR=120						
H10S3	**ASCENSION HYDR**	**16.23**	**127**	T	T	02 33 35.8	
	baz=275,slow=74,SNR=93						
H10S2	**ASCENSION HYDR**	**16.24**	**127**	T	T	02 33 35.6	
	baz=305,slow=74,SNR=35						
NBPN	**Ponto Novo - B**	**16.90**	**227**	*e*P	**Pn**	**02 16 45.2**	**+0.6**
GDU01	**Guandu, BA**	**18.54**	**219**	*e*P	**Pn**	**02 17 06.7**	**+1.9**
NBIT	**Itapeh - BA**	**19.39**	**216**	*e*P	**Pn**	**02 17 17.9**	**+2.8**
CMC01	**Camacan, BA**	**19.78**	**216**	*e*P	**Pn**	**02 17 21.0**	**+1.3**
GUA01	**Guaratinga, BA**	**20.92**	**214**	*e*P	Pn	02 17 34.8	+1.6
SMTB	**Santa Maria do**	**21.94**	**244**	*e*P	**P**	**02 17 41.3**	**-0.3**
JANB	**Januaria**	**22.68**	**226**	*e*P	**P**	**02 17 49.9**	**+0.2**
BSFB	**Barra de Sao F**	**23.32**	**213**	*e*P	**P**	**02 17 58.3**	**+2.1**
LIC	**Lamto**	**23.33**	**76**	*e*P	**P**	**02 17 56.5**	**+0.2**
	20nm,0.8s						
SJMB	**Sao Joao De Ma**	**23.40**	**214**	*e*P	**P**	**02 17 58.5**	**+1.6**
TIC	**Toumodi**	**23.43**	**75**	*e*P	**P**	**02 17 59.4**	**+2.0**
DBIC	**Dimbokro**	**23.59**	**75**	P	**P**	**02 17 57.5**	**-1.5**
KIC	**Kosan Boka**	**23.64**	**76**	*e*P	**P**	**02 17 59.8**	**+0.4**
	21nm,1.2s						
PEXB	**Peixe**	**24.06**	**237**	*e*P	**P**	**02 18 03.7**	**+0.2**
MCPB	**Macapa, AP**	**24.32**	**267**	*e*P	**P**	**02 18 04.0**	**-1.8**
DIAM	**Diamantina, MG**	**24.56**	**219**	*e*P	**P**	**02 18 09.1**	**+1.0**
MDP	**Montagnes des**	**25.21**	**280**	P	**P**	**02 18 14.1**	**+0.1**
	9.4nm,0.8s,baz=72,slow=5.9,SNR=2.0						
BDFB	**Brasilia**	**25.80**	**230**	P	**P**	**02 18 18.8**	**-0.6**
	3.4nm,0.7s,baz=57,slow=15,SNR=2.8						
KOWA	**Kowa**	**27.16**	**59**	P	**P**	**02 18 30.4**	**-1.2**
KOWA				IAmb	IAmb	02 18 32.5	
	comp=Z,7.6nm,0.9s						
TOA0	**Torodi Ar. Sit**	**31.68**	**66**	P	**P**	**02 19 10.9**	**-0.7**
TOA0				IAmb	IAmb	02 19 12.4	
	comp=Z,5.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**31.68**	**66**	P	**P**	**02 19 11.7**	**0.0**
	comp=Z,3.2nm,0.5s,baz=254,slow=9.5,SNR=27						
TORD	**Torodi Ar. Bea**	**31.68**	**66**	P	**P**	**02 19 11.2**	**-0.5**
TORD				IAmb	IAmb	02 19 13.0	
	comp=Z,5.4nm,1.1s						
FRTB	**Fartura**	**31.98**	**220**	*e*P	**P**	**02 19 16.9**	**+2.6**
SALV	**Santo Antonio**	**32.16**	**238**	*e*P	**P**	**02 19 16.6**	**+0.6**
PP1B	**Ponte de Pedra**	**32.33**	**234**	*e*P	**P**	**02 19 19.3**	**+1.9**
BOAV	**Boa Vista**	**32.78**	**273**	*e*P	**P**	**02 19 20.6**	**-0.9**
PTLB	**Pontes e Lacer**	**34.93**	**241**	*e*P	**P**	**02 19 40.7**	**+0.7**
SIV	**San Ignacio**	**36.85**	**242**	P	**P**	**02 19 57.1**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=104,slow=11,SNR=8.5						
MDT	**Midelt**	**38.63**	**32**	P	**P**	**02 20 11.5**	**0.0**
	comp=Z,2.5nm,1.1s,baz=297,slow=6.8,SNR=1.9						
CPUP	**Villa Florida**	**39.21**	**224**	P	**P**	**02 20 17.8**	**+1.4**
	comp=Z,3.1nm,1.0s,baz=64,slow=5.5,SNR=6.9						
CPUP	**Villa Florida**	**39.21**	**224**	P	**P**	**02 20 17.4**	**+1.1**
ETMB	**Extrema**	**39.68**	**254**	*e*P	**P**	**02 20 19.3**	**-1.2**
PVAQ	**Vaqueiros**	**40.90**	**25**	P	**P**	**02 20 31.6**	**+1.5**
LPAZ	**La Paz**	**43.28**	**245**	P	**P**	**02 20 50.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=76,slow=8.6,SNR=7.2						
LPAZ	**La Paz**	**43.28**	**245**	P	**P**	**02 20 50.8**	**+0.1**
LPAZ	**La Paz**	**43.28**	**245**	*e*P	**P**	**02 20 51.3**	**+0.7**
ESDC	**Sonseca Array**	**44.41**	**26**	P	**P**	**02 20 58.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=225,slow=10,SNR=11						
ESDC	**Sonseca Array**	**44.41**	**26**	P	**P**	**02 20 59.2**	**+0.4**
CASP	**Castiglione de**	**54.28**	**34**	P	**P**	**02 22 13.7**	**-0.5**
CASP				IAmb	IAmb	02 22 15.0	
	comp=Z,9.0nm,1.1s						
OSSC	**Osservatorio P**	**54.97**	**34**	P	**P**	**02 22 19.5**	**+0.3**
OSSC				IAmb	IAmb	02 22 20.6	
	comp=Z,6.2nm,1.2s						
DAVOX	**Davos/Dischmat**	**56.39**	**30**	P	**P**	**02 22 28.5**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=196,slow=12,SNR=2.2						
BMRD	**Maredsous**	**56.59**	**24**	*d*PcP	**PcP**	**02 23 27.0**	**0.0**
STAL	**STALIGIAL**	**57.52**	**32**	P	**P**	**02 22 37.5**	**+0.1**
STAL				IAmb	IAmb	02 22 47.7	
	comp=Z,3.8nm,0.9s						
LBTB	**Lobatse**	**57.59**	**120**	P	**P**	**02 22 39.5**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=294,slow=4.4,SNR=4.4						
EKA	**Eskdalemuir Ar**	**57.99**	**16**	P	**P**	**02 22 38.6**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=185,slow=7.8,SNR=1.9						
BOSA	**Boshof**	**58.49**	**125**	P	**P**	**02 22 44.0**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=304,slow=9.2,SNR=4.2						
PDG	**Podgorica**	**59.11**	**39**	P	**P**	**02 22 48.7**	**+0.3**
PDG				IAmb	IAmb	02 22 49.6	
	comp=Z,5.0nm,0.9s						
FNA	**Florina**	**59.66**	**42**	P	**P**	**02 22 52.9**	**+0.5**
FNA				IAmb	IAmb	02 22 54.0	
	comp=Z,5.7nm,1.0s						
GERES	**GERESS Array B**	**59.69**	**30**	P	**P**	**02 22 51.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=223,slow=5.3,SNR=7.7						
GERES	**GERESS Array B**	**59.69**	**30**	P	**P**	**02 22 52.0**	**-0.5**
VTS	**Vitosha**	**61.75**	**41**	P	**P**	**02 23 07.1**	**+0.3**
PSZ	**Piszkesteto**	**62.44**	**34**	P	**P**	**02 23 12.3**	**+1.1**
WVT	**Waverly**	**65.70**	**310**	P	**P**	**02 23 34.7**	**+1.9**
BR131	**Keskin Array S**	**67.83**	**47**	P	**P**	**02 23 45.6**	**-0.9**
BR131				IAmb	IAmb	02 23 47.7	
	comp=Z,4.3nm,0.9s						
BRTR	**Keskin Array B**	**67.83**	**47**	P	**P**	**02 23 46.7**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=256,slow=4.0,SNR=2.6						
BRTR	**Keskin Array B**	**67.83**	**47**	P	**P**	**02 23 45.8**	**-0.6**
AKASG	**Malin Array Be**	**69.12**	**35**	P	**P**	**02 23 53.3**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=243,slow=6.3,SNR=12						
AKASG	**Malin Array Be**	**69.12**	**35**	P	**P**	**02 23 53.9**	**-0.2**
AKASG				IAmb	IAmb	02 23 54.4	
	comp=Z,3.6nm,1.2s						
AKBB	**Malin Array Si**	**69.12**	**35**	P	**P**	**02 23 54.7**	**+0.6**
AKBB				IAmb	IAmb	02 23 56.9	
	comp=Z,4.6nm,0.9s						
SUMG	**Summit**	**72.04**	**357**	P	**P**	**02 24 14.4**	**+2.4**
SUMG				IAmb	IAmb	02 24 33.2	
	comp=Z,6.4nm,1.0s						
GURO	**Guroymak-BITLI**	**73.81**	**50**	P	**P**	**02 24 23.4**	**+0.5**
GURO				IAmb	IAmb	02 24 26.0	
	comp=Z,4.2nm,0.7s						
SNAA	**Sanae**	**74.06**	**172**	P	**P**	**02 24 23.1**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=297,slow=4.5,SNR=1.9						
ULM	**Lac du Bonnet**	**75.56**	**322**	P	**P**	**02 24 33.1**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=135,slow=4.3,SNR=3.0						
ULM	**Lac du Bonnet**	**75.56**	**322**	IAmb	IAmb	02 24 39.3	
	comp=Z,2.7nm,0.8s						
ABPO	**Ambohimpanom**	**76.07**	**110**	P	**P**	**02 24 32.4**	**-3.9**
PDAR	**Pinedale Array**	**83.46**	**113**	P	**P**	**02 25 17.5**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=119,slow=5.4,SNR=3.4						
ASAR	**Alice Springs**	**151.10**	**143**	PKPbc	**PKPbc**	**02 32 41.1**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=194,slow=1.1,SNR=1.5						

*IDC **03** 02:13:38.3±3.3, 37°.30N×78°.62E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/58, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=63.4km s-min=34.8km az=118.0*
*NNC **03** 02:13:44.5±3.5, 37°.60N×77°.92E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=35.0km s-min=23.4km az=79.0*
ISC 03 02:13:40.5±2.2, 37°.5N±0°.1×78°.6E±0°.2, h10km, n14, σ2§65/13, mb3.7/4, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.60**	**358**	Pg	**Pg**	**02 15 24.5**	**-3.3**
SATY	16nm,0.4s			Lg	Lg	02 16 37.0	
	12nm,0.4s						
MDOK	**Medeo**	**5.83**	**349**	Pg	**Pb**	**02 15 26.0**	**+3.7**
MDOK	7.8nm,0.6s			Lg	Lg	02 16 42.9	
	22nm,0.8s						
MDOK	**Medeo**	**5.83**	**349**	Pg	Pg	02 15 27.8	-4.3
MDOK	7.3nm,0.3s			Lg	Lg	02 16 42.8	
	11nm,0.7s						
TKM2	**Tokmak 2**	**5.93**	**338**	⇓Pg	**Pb**	**02 15 25.3**	**+1.2**
TKM2	4.4nm,0.8s			⇑Lg	Lg	02 16 45.8	
	8.6nm,0.8s						
KST	**Kastek**	**5.94**	**341**	Pg	**Pb**	**02 15 26.8**	**+2.6**
KST	6.1nm,0.5s			Lg	Lg	02 16 40.5	
	6.0nm,0.7s						
AAK	**Ala-Archa**	**6.07**	**330**	Pg	**Pb**	**02 15 29.5**	**+3.1**
AAK	2.3nm,0.3s,baz=153,slow=12,SNR=4.6			Lg	Lg	02 16 43.8	
	1.4nm,0.3s,baz=108,slow=19,SNR=2.0						
AAK	**Ala-Archa**	**6.07**	**330**	⇓Pg	**Pb**	**02 15 28.6**	**+2.2**
AAK	4.8nm,0.6s			⇓Lg	Lg	02 16 44.5	
	18nm,0.9s						
WMQ	**Urumqi**	**9.38**	**44**	*e*P	Pn	02 16 05.9	+10
MKAR	**Makanchi Array**	**9.72**	**15**	Pn	**Pn**	**02 16 03.0**	**+2.6**
	0.3nm,0.3s,baz=200,slow=11,SNR=11						
MKAR				Sn	**Sn**	**02 17 46.6**	**-3.1**
	0.5nm,0.3s,baz=238,slow=25,SNR=2.7						
GEYT	**Alibeck**	**16.24**	**278**	Pn	**P**	**02 17 29.7**	**-2.2**
	0.5nm,0.3s,baz=125,slow=12,SNR=4.4						
AKASG	**Malin Array Be**	**37.18**	**307**	P	**P**	**02 20 51.6**	**0.0**
	0.3nm,0.3s,baz=88,slow=5.7,SNR=2.4						
HFS	**Hagfors**	**46.13**	**321**	P	**P**	**02 22 05.2**	**+0.5**
	0.6nm,0.6s,baz=92,slow=13,SNR=1.6						
NOA	**NORSAR Array B**	**47.33**	**322**	P	**P**	**02 22 14.8**	**+0.6**
	0.2nm,0.6s,baz=90,slow=7.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**71.81**	**273**	P	**P**	**02 25 02.6**	**-1.0**
	0.4nm,0.5s,baz=49,slow=5.7,SNR=7.6						

*IDC **03** 02:17:26.0±3.7, 37°.28N×78°.32E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/60, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=74.0km s-min=38.6km az=115.0*
*NEIC **03** 02:17:27.8±1.5, 37°.21N±0°.08×78°.3E±0°.2, h10km±2km, mb4.1/2, Error ellipse: s-maj=20.7km s-min=13.2km az=102.0*
*NNC **03** 02:17:33.9±4.8, 37°.73N×77°.86E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=46.6km s-min=31.9km az=79.0*
ISC 03 02:17:28.9±1.4, 37°.36N±0°.10×78°.1E±0°.1, h10km, n22, σ2§81/22, mb3.8/3, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.74**	**322**	Pn	Pn	02 18 07.8	-5.3
KSH				Sn	**Sn**	**02 18 43.9**	**-2.4**
KSH				smax	smax		
	comp=N,610nm,0.3s						
KSH				smax	smax		
	comp=E,370nm,0.3s						
TARG	**Taragay, Kyrgy**	**4.37**	**357**	Pn	**Pn**	**02 18 37.1**	**+1.4**
KDJ	**Kajisay**	**4.82**	**351**	Pn	**Pn**	**02 18 42.6**	**+0.9**
BOOM	**Boomskoye usch**	**5.39**	**342**	Pn	**Pn**	**02 18 51.3**	**+1.7**
DRK	**Karamyk**	**5.41**	**295**	Pn	**Pn**	**02 18 50.0**	**+0.1**
NIL	**Nilore**	**5.44**	**229**	Pn	**Pn**	**02 18 48.3**	**-1.9**
SATY	**Saty**	**5.69**	**2**	Pg	**Pb**	**02 19 11.8**	**+3.4**
	comp=E,9.8nm,0.4s						
SATY				Lg	Lg	02 20 23.1	
	comp=E,26nm,0.8s						
MDOK	**Medeo**	**5.85**	**352**	Pg	**Pb**	**02 19 13.4**	**+2.3**
	comp=E,9.7nm,0.7s						
MDOK				Lg	Lg	02 20 27.4	
	comp=E,39nm,0.9s						
MDOK	**Medeo**	**5.85**	**352**	Pg	**Pb**	**02 19 14.7**	**+3.6**
	comp=E,9.3nm,0.6s						
MDOK				Lg	Lg	02 20 28.2	
	comp=E,24nm,0.6s						
TKM2	**Tokmak 2**	**5.88**	**341**	⇑Pg	**Pb**	**02 19 10.0**	**-1.6**
	comp=E,7.2nm,1.0s						
TKM2				⇓Lg	Lg	02 20 28.7	
	comp=E,16nm,1.0s						
KST	**Kastek**	**5.91**	**344**	Pg	**Pb**	**02 19 15.4**	**+3.3**
	comp=E,6.5nm,0.6s						
KST				Lg	Lg	02 20 28.7	
	comp=E,13nm,0.3s						
AAK	**Ala-Archa**	**5.96**	**333**	Pg	**Pb**	**02 19 16.3**	**+3.3**
	comp=E,2.0nm,0.3s,baz=152,slow=13,SNR=4.1						
AAK				Lg	Lg	02 20 29.3	
	comp=E,3.8nm,0.3s,baz=53,slow=20,SNR=6.4						
AAK	**Ala-Archa**	**5.96**	**333**	⇓Pg	**Pb**	**02 19 16.5**	**+3.5**
	comp=E,15nm,1.2s						
AAK				⇑Lg	Lg	02 20 30.0	
	comp=E,33nm,0.8s						
AAK	**Ala-Archa**	**5.96**	**333**	Pn	**Pn**	**02 18 58.0**	**+0.5**
BTK	**Batken**	**6.32**	**297**	Pn	**Pn**	**02 19 03.9**	**+1.6**
WMQ	**Urumqi**	**9.71**	**45**	*e*P	**Pn**	**02 19 52.3**	**+3.5**
MKAR	**Makanchi Array**	**9.91**	**17**	Pn	**Pn**	**02 19 51.6**	**+0.1**
	comp=E,1.1nm,0.3s,baz=200,slow=13,SNR=20						
MKAR				Sn	**Sn**	**02 21 35.8**	**-7.0**
	comp=E,0.3nm,0.3s,baz=192,slow=17,SNR=1.6						
BRVK	**Borovoye**	**16.62**	**343**	Pn	**Pn**	**02 21 19.9**	**-2.0**
BRVK				IAmb	IAmb	02 21 26.9	
	comp=Z,8.0nm,1.1s						
HFS	**Hagfors**	**45.96**	**321**	P	**P**	**02 25 52.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=98,slow=7.4,SNR=1.4						
NOA	**NORSAR Array B**	**47.16**	**322**	P	**P**	**02 26 01.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=90,slow=7.8,SNR=2.0						
TORD	**Torodi Ar. Bea**	**71.43**	**273**	P	**P**	**02 28 49.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=52,slow=4.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**71.43**	**273**	IAmb	IAmb	02 28 54.0	
	comp=Z,5.5nm,1.5s						

IDC 03 02:19:33.1±6.0, 6°.44S×154°.96E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/43, mbtmp3.6/3, Error ellipse: s-maj=172.0km s-min=38.6km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**234**	P	P	02 24 51.4	+0.6
	1.3nm,0.8s,baz=59,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**26.51**	**228**	P	P	02 25 11.9	-0.7
	0.2nm,0.3s,baz=59,slow=8.2,SNR=4.3						
SONM	**Songino Array**	**68.86**	**327**	P	P	02 30 39.9	+0.1
	0.5nm,0.5s,baz=131,slow=5.9,SNR=1.8						

*IDC **03** 02:20:28.8±0.4, 11°.40N×95°.05E, h0km, mb4.3/32, mb1 4.3/33, mb1mx4.2/63, mbtmp4.2/33, ML4.3/1, MS4.7/4, Ms1 4.7/4, ms1mx4.0/56, Error ellipse: s-maj=15.9km s-min=11.1km az=68.0*
*BJI **03** 02:20:30.4±0.0, 11°.47N×94°.74E, h9km, mB5.3/4, mb4.7/51, Ms4.8/7, Ms7 4.6/7*
*NEIC **03** 02:20:32.0±1.9, 11°.49N±0°.06×94°.93E±0°.07, h10km±1km, mb4.8/83, Error ellipse: s-maj=11.0km s-min=10.7km az=221.0*
*NDI **03** 02:20:38.7±4.2, 12°.06N×94°.67E, h10km, mb4.6, ML4.2, mb4.8(NEIC)*
ISC 03 02:20:33.0±0.3, 11°.45N±0°.05×94°.85E±0°.05, h24km, n221, σ1§65/199, mb4.7/77, 3C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.07**	**276**	*e*P	Pb	02 21 09.3	-0.6
PBA				*e*S	Sb	02 21 37.9	+2.6
PBA				IAML		02 21 46.6	
	comp=E,3μm,1.7s						
PBA				IAML		02 21 53.8	
	comp=N,2μm,1.1s						
PBA	**Port Blair**	**2.07**	**276**	Pn	Pn	02 21 07.9	+1.6
DGPR	**DIGLIPUR**	**2.54**	**313**	*e*P	**Pn**	**02 21 14.6**	**+1.8**
DGPR				*e*S	**Sn**	**02 21 37.4**	**-5.5**
SURT	**Suratani**	**4.61**	**122**	P	Pn	02 21 27.5	-14
SURT	**Suratani**	**4.61**	**122**	P	**Pn**	**02 21 38.1**	**-3.1**
PHET	**Kaeng Krachan**	**4.90**	**72**	P	**Pn**	**02 21 41.5**	**-3.7**
PHET	**Kaeng Krachan**	**4.90**	**72**	P	**Pn**	**02 21 41.4**	**-3.9**
PKDT	**Phuket**	**4.94**	**135**	P	**Pn**	**02 21 50.2**	**+4.5**
SRDT	**SRDT**	**5.07**	**55**	P	Pb	02 21 54.4	-6.6
	comp=N,0.8nmcomp=N,6μmcomp=N,36nm,0.5s						
SRDT	**SRDT**	**5.07**	**55**	P	**Pn**	**02 21 45.5**	**-2.0**
KRAB	**Krabi**	**5.36**	**126**	P	**Pn**	**02 21 48.3**	**-3.2**
SRIT	**Nakonsritamara**	**5.48**	**121**	P	**Pn**	**02 21 49.5**	**-3.7**
UTHA	**Uthaitani**	**6.05**	**47**	P	**Pn**	**02 21 59.7**	**-1.5**
PATY	**Pattaya**	**6.07**	**75**	P	**Pn**	**02 22 00.7**	**-0.6**
	comp=N,1.1nmcomp=N,7μmcomp=N,142nm,0.4s						
PATY	**Pattaya**	**6.07

LSA pmax pmax
comp=Z,88nm,1.7s
LSA Lhasa 18.48 350 P P 02 24 46.8 -1.0
GYA Guiyang 18.63 35 ⇓P Pn 02 24 52.1 +2.6
BHPL Bhopal 20.32 308 *eP* Pn 02 25 10.9 +1.2
BHPL IAmb IAmb 02 25 34.4
comp=Z,40nm,1.3s
CD2 Chengdu 21.05 22⇑ *iP* **P 02 25 14.5 -0.9**
CD2 pP pP 02 25 18.3 -3.0
CD2 pmax pmax
comp=Z,40nm,0.9s
ENH Enshi 23.14 34 P **P 02 25 37.1 -0.6**
ENH IAmb IAmb 02 25 54.2
comp=Z,53nm,1.2s
SZP Santa 25.51 73 P **P 02 26 00.8 +1.0**
LZH Lanzhou 25.84 17 *eP* **P 02 26 05.8 +2.9**
LZH pP pP 02 26 09.2 +0.1
LZH sP sP 02 26 11.1 -0.6
LZH pmax pmax
comp=Z,27nm,1.1s
XAN Xi'an 25.90 28 P **P 02 26 01.4 -1.9**
XAN pmax pmax
comp=Z,43nm,1.3s
XAN Xi'an 25.90 28 P **P 02 26 02.9 -0.4**
WHN Wuhan 26.23 41 ⇓P **P 02 26 12.7 +6.4**
WHN pmax pmax
comp=Z,48nm,0.8s
GTA Gaotai 28.19 8 ⇑P **P 02 26 24.9 +0.9**
GTA pP pP 02 26 29.1 -1.1
GTA sP sP 02 26 32.3 -0.5
GTA pmax pmax
comp=Z,16nm,1.2s
H08S3 Diego Garcia H 29.23 231 T T 02 57 29.0
baz=48,SNR=4.9
H08S2 Diego Garcia H 29.23 231 T T 02 57 26.5
baz=48
H08S1 Diego Garcia H 29.25 231 T T 02 57 26.0
baz=48
NIL Nilore 29.64 322 P **P 02 26 35.9 -0.9**
NIL IAmb IAmb 02 26 52.9
comp=Z,15nm,1.3s
NJ2 Nanjing 30.16 43 *eP* **P 02 26 42.5 +1.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
HHC Hu-ho-hao-te 32.78 24 *eP* **P 02 27 04.9 +0.5**
HHC pmax pmax
comp=Z,18nm,0.6s
WMQ Urumqi 32.84 350 *eP* **P 02 27 07.8 +2.9**
WMQ pmax pmax
comp=Z,19nm,0.7s
KBL Kabul 32.87 319 P **P 02 27 04.7 -0.7**
TARG Taragay, Kyrgy 33.65 337 P **P 02 27 13.5 +1.1**
TARG IAmb IAmb 02 27 15.4
comp=Z,10nm,0.9s
BJT Baijiatuau 34.14 30 P **P 02 27 16.1 -0.1**
BJT IAmb IAmb 02 27 24.9
comp=Z,19nm,1.3s
KDJ Kajisay 34.24 336 P **P 02 27 18.3 +1.1**
KDJ IAmb IAmb 02 27 31.0
comp=Z,22nm,1.4s
SHLS Shalkode 34.30 340 *eP* **P 02 27 17.5 -0.1**
comp=Z,12nm,0.8s,baz=340
UZB Uzynbulak 34.44 339 *eP* **P 02 27 20.1 +1.2**
comp=Z,12nm,1.4s,baz=339
SATY Saty 34.58 339 *eP* **P 02 27 21.0 +0.9**
comp=Z,14nm,1.0s,baz=338
DRK Karamyk 34.60 328 P **P 02 27 21.1 +0.5**
DRK IAmb IAmb 02 27 31.7
comp=Z,12nm,0.7s
KPKS Kokpek 34.84 339 *eP* **P 02 27 23.3 +1.0**
comp=Z,16nm,0.7s,baz=339
BOOM Boomskoye usch 35.04 335 P **P 02 27 24.8 +0.6**
MDOK Medeo 35.17 337 *eP* **P 02 27 23.0 -2.2**
baz=337
BTK Batken 35.54 327 P **P 02 27 29.4 +1.0**
BTK IAmb IAmb 02 27 41.5
comp=Z,13nm,1.1s
AAK Ala-Archa 35.77 334 P **P 02 27 30.2 -0.2**
comp=Z,1.9nm,0.2s,baz=178,slow=6.5,SNR=7.4
AAK Ala-Archa 35.77 334 P **P 02 27 30.2 -0.2**
AAK Ala-Archa 35.77 334 IAmb IAmb 02 27 44.3
comp=Z,18nm,1.4s
CHKK Chushkaly 35.78 338 *eP* **P 02 27 28.7 -1.7**
baz=338
KUU Kurty 36.06 337 *eP* **P 02 27 31.2 -1.5**
baz=337
SGDS Sogindy 36.37 335 *eP* **P 02 27 34.9 -0.5**
baz=335
MK31 Makanchi Array 36.79 346 P **P 02 27 39.5 +0.5**
MKAR Makanchi Array 36.79 346 P **P 02 27 39.7 +0.8**
comp=Z,5.2nm,1.0s,baz=161,slow=9.0,SNR=21
MKAR Makanchi Array 36.79 346 P **P 02 27 39.3 +0.4**
ZSN Zaisan 36.85 349 *eP* **P 02 27 39.0 -0.4**
baz=349
MAKZ Makanchi 36.88 345 P **P 02 27 40.2 +0.5**
SONM Songino Array 37.54 13 P **P 02 27 45.4 -0.1**
comp=Z,4.7nm,1.0s,baz=198,slow=8.7,SNR=24
SONM Songino Array 37.54 13 P **P 02 27 45.4 -0.1**
SONM IAmb IAmb 02 27 54.3
comp=Z,31nm,1.4s
ULN Ulaanbaatar 37.72 13 P **P 02 27 47.1 +0.2**
ULN IAmb IAmb 02 27 55.4
comp=Z,24nm,1.4s
BTLS Baital 37.92 336 *eP* **P 02 27 47.5 -1.0**
baz=336
KK31 Karatay Array 37.95 331 P **P 02 27 49.9 +1.1**
KKAR Karatay Array 37.95 331 P **P 02 27 49.1 +0.3**
KSAR Wonju Array Be 39.33 43 P **P 02 27 59.7 -0.7**
KSRS Korea Array 39.36 43 P **P 02 27 59.0 -1.6**
comp=Z,2.8nm,1.0s,baz=240,slow=9.9,SNR=6.0
KSRS Korea Array 39.36 43 P **P 02 27 59.0 -1.6**
SEM Semipalatinsk 40.66 346 *eP* **P 02 28 09.9 -1.6**
baz=346
TLY Talaya 40.75 8 P **P 02 28 12.0 -0.1**
TLY IAmb IAmb 02 28 22.7
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 40.98 143 P **P 02 28 13.2 -1.1**
PSA00 IAmb IAmb 02 28 21.3
comp=Z,19nm,1.3s
KURBB Kurchatov Arra 41.29 344 P **P 02 28 16.8 +0.3**
comp=Z,4.5nm,0.9s,baz=162,slow=7.7,SNR=24
KURK Kurchatov 41.35 344 P **P 02 28 16.8 -0.2**
CN2 Changchun 41.67 34 *eP* **P 02 28 20.1 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
GEYT Alibeck 42.09 315 P **P 02 28 25.2 +1.9**
comp=Z,24nm,0.8s,baz=169,slow=8.9,SNR=6.1
GYA0B ALIBECK ARRAY 42.09 315 P **P 02 28 24.4 +1.1**
GYA0B IAmb IAmb 02 28 47.9
comp=Z,18nm,1.1s
FITZ Fitzroy Crossi 42.26 134 P **P 02 28 22.7 -2.1**
comp=Z,3.5nm,0.8s,baz=282,slow=6.0,SNR=2.7
FITZ LR LR 02 47 15.2
comp=Z,589nm,18.2s,baz=324,slow=38
FITZ Fitzroy Crossi 42.26 134 P **P 02 28 22.7 -2.1**
FITZ Fitzroy Crossi 42.26 134 IAmb IAmb 02 28 43.1
comp=Z,22nm,1.4s
HIA Hailar 42.98 24 P **P 02 28 30.7 +0.3**
HIA IAmb IAmb 02 28 39.2
comp=Z,33nm,1.3s
ZAA0 Zalesovo Array 43.13 351 P **P 02 28 31.6 +0.1**
ZAA0 IAmb IAmb 02 28 56.9
comp=Z,23nm,1.4s
ZALV Zalesovo Beam 43.13 351 P **P 02 28 31.7 +0.3**
comp=Z,1.9nm,0.7s,baz=169,slow=8.9,SNR=7.4
ZALV Zalesovo Beam 43.13 351 P **P 02 28 31.8 +0.3**
MDJ Mudanjiang 44.49 36 P **P 02 28 43.0 +0.5**
MDJ IAmb IAmb 02 28 49.9
comp=Z,28nm,1.5s
USRK Ussuriysk Ar. 45.64 37 P **P 02 28 50.1 -1.6**
comp=Z,0.5nm,0.5s,baz=248,slow=7.6,SNR=2.7
USRK Ussuriysk Ar. 45.64 37 P **P 02 28 50.1 -1.6**
BVAR Borovoye Array 45.87 340 P **P 02 28 52.9 -0.4**
comp=Z,2.4nm,0.8s,baz=212,slow=17,SNR=13
BRVK Borovoye 45.94 340 P **P 02 28 54.3 +0.5**
BRVK IAmb IAmb 02 29 15.2
comp=Z,25nm,1.4s
MAJO Matsushiro 46.30 50 P **P 02 28 57.6 +0.6**
MAJO IAmb IAmb 02 29 04.9
comp=Z,18nm,1.2s
MAT Matsushiro 46.30 50 P **P 02 28 59.0 +2.0**
MJAR Matsushiro Arr 46.30 50 P **P 02 28 55.8 -1.2**
comp=Z,1.0nm,0.4s,baz=227,slow=7.8,SNR=2.5
MJAR Matsushiro Arr 46.30 50 P **P 02 28 55.8 -1.2**
MJAR Matsushiro Arr 46.30 50 IAmb IAmb 02 29 01.0
comp=Z,5.2nm,1.3s
ABKAR Akbulak array 47.48 329 P **P 02 29 06.7 +0.6**
KLR Kul'dur 48.48 32 P **P 02 29 13.0 -0.8**
comp=Z,1.6nm,1.0s,baz=254,slow=12,SNR=3.0
JMM Marumori 48.70 49 P **P 02 29 15.9 +0.3**
AKTO Aktyubinsk 49.20 330 P **P 02 29 19.6 +0.3**
comp=Z,0.5nm,0.4s,baz=142,slow=4.3,SNR=4.0
WB0 Warramunga Arr 49.79 128 P **P 02 29 23.3 -0.9**
WB0 IAmb IAmb 02 29 31.3
comp=Z,15nm,1.1s
WRA Warramunga Arr 49.85 128 P **P 02 29 22.1 -2.5**
comp=Z,7.2nm,0.8s,baz=306,slow=8.7,SNR=35
WRA Warramunga Arr 49.85 128 P **P 02 29 22.7 -2.0**
WR0 Warramunga Arr 50.01 128 P **P 02 29 23.9 -1.9**
WR0 IAmb IAmb 02 29 25.5
comp=Z,14nm,1.0s
ASAR Alice Springs 51.74 133 P **P 02 29 37.0 -1.9**
comp=Z,5.4nm,0.9s,baz=311,slow=6.9,SNR=38
ASAR Alice Springs 51.74 133 P **P 02 29 37.0 -1.9**
AS31 Alice Springs 51.74 133 P **P 02 29 37.5 -1.4**
JKA Kamikawa-asahi 52.30 42 P **P 02 29 43.4 +0.7**
GNI Garni 52.51 312 P **P 02 29 45.4 +0.9**
comp=Z,3.3nm,0.5s,baz=176,slow=9.1,SNR=1.8
GNI Garni 52.51 312 P **P 02 29 45.4 +0.9**
FORT Forrest 52.74 144 P **P 02 29 45.8 -0.4**
ARU Arti 52.91 336 P **P 02 29 47.5 +0.4**
comp=Z,1.0nm,0.4s,baz=146,slow=3.6,SNR=11
ARU Arti 52.91 336 P **P 02 29 47.7 +0.7**
YSS Yuzh-Sakhalins 53.57 39 P **P 02 29 52.6 +0.6**
KARS Kars 53.86 312 P **P 02 29 55.6 +1.0**
GURO Guroymak-BITLI 54.05 310 P **P 02 29 56.5 +0.6**
MARD Mardin 54.71 308 P **P 02 30 02.9 +2.2**
KIV Kislovodsk 55.19 316 P **P 02 30 04.5 +0.5**
YAK Yakutsk 56.40 19 P **P 02 30 14.9 +2.7**
NRIK Noril'sk 58.02 357 P **P 02 30 23.7 +0.1**
comp=Z,1.2nm,0.3s,baz=152,slow=3.0,SNR=5.3
NRIK Noril'sk 58.02 357 P **P 02 30 23.1 -0.5**
NRIK IAmb IAmb 02 30 33.2
comp=Z,15nm,1.4s
BRTR Keskin Array B 60.68 309 P **P 02 30 42.5 -0.2**
comp=Z,0.5nm,0.5s,baz=116,slow=6.7,SNR=1.4
ILGA Ilgaz 60.85 311 P **P 02 30 45.0 +1.0**
ILGA IAmb IAmb 02 31 12.3
comp=Z,7.1nm,0.8s
STKA Stephens Creek 62.11 135 P **P 02 30 50.4 -1.8**
comp=Z,5.8nm,0.7s,baz=326,slow=6.5,SNR=12
STKA Stephens Creek 62.11 135 P **P 02 30 51.9 -0.3**
OBN Obninsk 62.77 327 P **P 02 30 58.0 +1.7**
MA2 Magadan 63.30 28 P **P 02 31 00.9 +1.2**
KLMR Klimovskoe 63.57 333 *eP* **P 02 31 00.5 -1.0**
KLMR AMP 02 31 12.4
comp=Z,27nm,1.4s
TIXI Tiksi 63.61 11 P **P 02 30 59.8 -1.8**
comp=Z,2.4nm,0.5s,baz=12,slow=4.1,SNR=1.8
TIXI Tiksi 63.61 11 P **P 02 30 59.8 -1.8**
AKASG Malin Array Be 65.82 321 P **P 02 31 18.6 +2.2**
MLR Muntele Rosu 67.14 315 P **P 02 31 26.8 +1.7**
comp=Z,1.0nm,0.3s,baz=165,slow=14,SNR=1.8
MLR Muntele Rosu 67.14 315 P **P 02 31 26.5 +1.4**
MLR IAmb IAmb 02 31 35.7
comp=Z,8.7nm,1.1s
MNK Minsk 67.42 324 *i* P P 02 31 21.3 -5.2
comp=E,2.0nm,1.1s
MNK *i* P P 02 31 21.3 -5.2
comp=N,9.0nm,1.5s
MNK *i* P P 02 31 21.3 -5.2
comp=Z,6.0nm,0.8s,baz=102
MNK *i* PcP pwP 02 31 44.1 +7.0
MNK *i* PP PP 02 33 38.2 -17
MNK *i* PPP PPP 02 35 24.2
MNK *i* S **S** **02 40 15.0 -6.0**
MNK *i* SS **SS** **02 44 42.7 +1.7**
MNK *i* SSS SSS 02 47 48.8
MNK *i* LQ LQ 02 56 09.1
MNK *i* LR LR 03 00 40.7
MNK *i* LRM MLR 03 04 16.6
comp=N,427nm,12.7s
MNK *i* LRM MLR 03 05 05.6
comp=E,84nm,19.7s
MNK *i* LRM MLR 03 05 47.5
comp=Z,596nm,13.5s
BURAR Bucovina Array 67.90 317 P **P 02 31 32.1 +2.3**
PABE Paberze 69.82 325 P **P 02 31 42.1 +0.7**
FIA1 FINESS Array S 69.90 332 P **P 02 31 43.7 +1.8**
CRVS Cervenica-Dubn 70.54 318 *eP* P 02 31 51.8 +5.8
PSZ Piszkesteto 71.51 317 P **P 02 31 53.5 +1.5**
PSZ IAmb IAmb 02 32 16.2
comp=Z,11nm,1.5s
OJC Ojcow 71.72 319 P **P 02 31 54.3 +1.1**
ARCES ARCESS Array B 72.16 340 P **P 02 31 55.2 -0.2**
comp=Z,1.0nm,0.8s,baz=58,slow=4.6,SNR=4.5
ARCES ARCESS Array B 72.16 340 P **P 02 31 55.2 -0.2**
BILL Bilibino 72.53 22 P **P 02 31 59.7 +2.1**
BILL IAmb IAmb 02 32 06.0
comp=Z,16nm,1.1s
JAVC Velka Javorina 73.03 318 *eP* P 02 32 09.4 +8.3
MORC Moravsky Berou 73.15 319 P **P 02 32 02.3 +0.5**
MORC IAmb IAmb 02 32 12.4
comp=Z,8.4nm,1.1s
MORC Moravsky Berou 73.15 319 *eP* P 02 32 08.6 +6.8
BRG Berggiesshubel 75.47 320 *eP* P 02 32 25.1 +10
BRG Amp 02 32 26.2
comp=Z,8.8nm,1.3s
GEC2 GERESS Array S 75.65 318 P **P 02 32 17.1 +0.7**
GEC2 IAmb IAmb 02 32 26.9
comp=Z,8.6nm,1.4s
GERES GERESS Array B 75.65 318 P **P 02 32 16.6 +0.2**
comp=Z,0.5nm,0.6s,baz=104,slow=4.5,SNR=6.9
CLL Collm 76.06 320 *i* (sP) **sP** **02 32 27.6 -0.2**
comp=Z,21nm,1.9s
CLL *i* 02 32 34.6
ZOU Zoufplan 76.21 315 P **P 02 32 20.0 +0.2**
ZOU IAmb IAmb 02 32 44.5
comp=Z,12nm,1.5s
STAL STALIGIAL 76.40 315 P **P 02 32 20.9 +0.2**
STAL IAmb IAmb 02 32 30.5
comp=Z,12nm,1.2s
LBTB Lobatse 76.57 241 P **P 02 32 22.1 0.0**
LBTB IAmb IAmb 02 32 24.4
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 76.98 330 P P 02 32 32.5 +8.9
comp=Z,0.7nm,0.7s,baz=88,slow=6.2
NOA NORSAR Array B 76.98 330 P **P 02 32 24.4 +0.8**
comp=Z,0.6nm,0.8s,baz=91,slow=5.4,SNR=1.9
SALO Salr 77.36 314 P **P 02 32 30.1 +0.7**
BOSA Boshof 78.08 237 P **P 02 32 30.5 +0.1**
comp=Z,14nm,1.1s,baz=88,slow=4.9,SNR=10.0
BOSA Boshof 78.08 237 P **P 02 32 30.8 +0.3**
DAVOX Davos/Dischmat 78.32 316 P **P 02 32 32.3 +0.7**
comp=Z,0.7nm,0.4s,baz=77,slow=8.5,SNR=2.5
CASY Casey 78.38 174 P **P 02 32 31.2 +0.1**
CASY IAmb IAmb 02 32 52.1
comp=Z,13nm,1.4s
KEST Kesra 79.79 304 P **P 02 32 40.3 +0.6**
comp=Z,2.9nm,0.9s,baz=34,slow=7.3,SNR=2.9
KEST Kesra 79.79 304 P **P 02 32 40.3 +0.6**
MAW Mawson 82.16 192 P **P 02 32 52.1 +0.8**
comp=Z,9.3nm,1.1s,baz=27,slow=8.4,SNR=10
MAW Mawson 82.16 192 P **P 02 32 52.2 +0.8**
A21K Barrow 85.05 18 P **P 02 33 08.9 +2.6**
MLY Manley 89.62 23 IAmb IAmb 02 33 37.7
comp=Z,8.6nm,1.0s
BPAW Bear Paw Mtn. 89.94 24 P **P 02 33 31.2 +1.0**
I23K Minto, Yukon-K 90.08 22 IAmb IAmb 02 33 39.8
comp=Z,12nm,1.2s
TORD Torodi Ar. Bea 90.45 283 P **P 02 33 33.8 +0.3**
comp=Z,2.9nm,0.9s,baz=72,slow=4.1,SNR=12
TORD Torodi Ar. Bea 90.45 283 P **P 02 33 33.5 0.0**
MCK McKinley 90.92 24 P **P 02 33 34.9 +0.2**
URZ Urewera 91.02 129 LR LR 03 20 02.2
comp=Z,2μm,18.8s,baz=136,slow=39
IL31 91.19 22 P **P 02 33 38.1 +2.3**
IL31 IAmb IAmb 02 33 44.3
comp=Z,4.0nm,1.1s
ILAR Eielson Array 91.19 22 P **P 02 33 34.8 -1.1**
comp=Z,0.8nm,0.9s,baz=288,slow=4.3,SNR=6.4
ILAR PP **PP** **02 37 12.3 -0.1**
comp=Z,0.3nm,0.9s,baz=277,slow=7.9,SNR=1.9
RC01 Rabbit Creek A 91.84 26 P **P 02 33 39.0 0.0**
K27K Chicken 93.35 22 P **P 02 33 47.0 +1.1**
K27K IAmb IAmb 02 33 59.6
comp=Z,8.6nm,1.1s
BCAR Beaver Creek A 94.01 22 P **P 02 33 48.7 -0.3**
VNDA Vanda 96.27 168 P **P 02 33 57.6 -1.3**
comp=Z,0.5nm,0.8s,baz=302,slow=5.6,SNR=4.0
VNDA Vanda 96.27 168 P **P 02 33 57.6 -1.3**
YKA Yellowknife Ar 102.81 14 PP **PKiKP** **02 38 44.9 -4.0**
comp=Z,0.5nm,0.8s,baz=326,slow=6.6,SNR=4.1
NVAR Mina Array Bea 121.50 30 PKP **PKiKP** **02 39 25.6 +0.1**
comp=Z,0.8nm,0.7s,baz=253,slow=2.5,SNR=5.1
NVAR Mina Array Bea 121.50 30 **PKPdf** **02 39 24.3 -1.0**
PDAR Pinedale Array 121.60 21 PKP **PKPdf** **02 39 24.2 -1.2**
comp=Z,0.5nm,0.8s,baz=60,slow=3.6,SNR=4.7
TXAR Lajitas Array 135.69 23 PKhKP PKPpre 02 39 44.9
comp=Z,0.3nm,0.5s,baz=54,slow=4.6,SNR=2.8
TXAR PKP **PKPdf** **02 39 51.6 -0.7**
comp=Z,0.2nm,0.5s,baz=336,slow=5.9,SNR=3.7
BDFB Brasilia 143.69 259 PKP PKPbc 02 40 05.6 +0.9
comp=Z,4.7nm,1.0s,baz=72,slow=9.6,SNR=4.8
PLTB Pedras Altas 144.58 230 PKPdf PKPbc 02 40 07.5 +0.6
LL02 Futaleuf 146.33 198 PKPbc **PKPab** **02 40 13.1 +0.3**
ITQB Itaqui 147.86 231 PKPbc **PKPbc** **02 40 17.3 +0.6**
PLCA Paso Flores 148.12 201 PKPbc **PKPbc** **02 40 16.6 -0.6**
comp=Z,6.3nm,1.0s,baz=108,slow=6.4,SNR=3.7
PLCA Paso Flores 148.12 201 **PKPbc** **02 40 16.6 -0.6**
TLIG Tlapa 148.27 25 **PKiKP** **02 40 19.9 -0.1**
CPUP Villa Florida 149.89 237 PKPbc **PKPbc** **02 40 21.9 -0.2**
comp=Z,9.8nm,1.0s,baz=97,slow=4.4,SNR=3.8
CPUP Villa Florida 149.89 237 PKPbc **PKPbc** **02 40 22.5 +0.4**
LPAZ La Paz 162.79 252 PKPbc **PKPdf** **02 40 33.5 -1.4**
comp=Z,0.9nm,0.9s,baz=127,slow=5.1,SNR=2.6
LPAZ PKPab **PKPab** **02 41 24.1 +0.3**
comp=Z,2.8nm,1.0s,baz=87,slow=2.7,SNR=5.7
LPAZ La Paz 162.79 252 PKPdf **PKPdf** **02 40 34.1 -0.8**
LPAZ La Paz 162.79 252 **PKPab** **02 41 24.1 +0.3**

IDC 03 02:26:58.4±3.6, 37°.63N×78°.43E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/54, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=70.6km s-min=38.7km az=115.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.83**	**330**	Pg		Pb	02 28 43.9	+2.9
	1.3nm,0.3s,baz=160,slow=12,SNR=5.4							
AAK				Lg		Lg	02 29 52.3	
	0.9nm,0.3s,baz=204,slow=19,SNR=1.6							
MKAR	**Makanchi Array**	**9.59**	**16**	Pn		Pn	02 29 18.7	+1.0
	0.9nm,0.3s,baz=202,slow=13,SNR=23							
NB2	**NORSAR Subarra**	**47.09**	**322**	P		P	02 35 33.8	+2.1
	comp=Z,0.5nm,0.6s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**47.09**	**322**	P		P	02 35 32.7	+1.0
	comp=Z,0.6nm,0.5s,baz=90,slow=7.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**71.64**	**273**	P		P	02 38 21.6	-0.5
	comp=Z,0.6nm,1.0s,baz=49,slow=6.2,SNR=1.6							

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*NNC **03** 02:28:15.9±11.0, 36°.97N×76°.96E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=122.7km s-min=75.1km az=86.0*
*IDC **03** 02:28:30.1±2.4, 37°.43N×77°.77E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.3/53, mbtmp3.5/6, ML1.8/1, Error ellipse: s-maj=55.0km s-min=27.0km az=139.0*
ISC 03 02:28:32.8±1.8, 37°.6N±0°.1×77°.8E±0°.2, h10km, n14, σ2§48/10, mb3.6/3, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.48**	**5**	Pg		**Pb**	**02 30 12.0**	**+3.4**
	25nm,1.0s							
SATY				Lg		Lg	02 31 28.9	
	27nm,0.7s							
TKM2	**Tokmak 2**	**5.58**	**343**	⇑Pg		Pn	02 30 02.7	+6.6
	5.8nm,0.6s							
TKM2				⇑Lg		Lg	02 31 32.7	
	17nm,0.8s							
MDOK	**Medeo**	**5.59**	**354**	Pg		Pb	02 30 04.0	-6.5
	15nm,1.1s							
MDOK				Lg		Lg	02 31 30.7	
	35nm,0.8s							
MDOK	**Medeo**	**5.59**	**354**	Pg		**Pb**	**02 30 11.7**	**+1.1**
	12nm,0.9s							
MDOK				Lg		Lg	02 31 27.9	
	9.8nm,0.7s							
KST	**Kastek**	**5.62**	**346**	Pg		**Pb**	**02 30 12.5**	**+1.4**
	10nm,0.7s							
KST				Lg		Lg	02 31 29.1	
	13nm,0.6s							
AAK	**Ala-Archa**	**5.64**	**334**	Lg		Lg	02 31 28.5	
	0.4nm,0.3s,baz=120,slow=20,SNR=1.7							
AAK	**Ala-Archa**	**5.64**	**334**	⇓Pg		Pn	02 30 02.2	+5.3
	16nm,1.0s							
AAK				⇓Lg		Lg	02 31 30.7	
	31nm,0.8s							
WMQ	**Urumqi**	**9.74**	**47**	*e*P		Pn	02 30 57.3	+4.3
MKAR	**Makanchi Array**	**9.77**	**18**	Pn		**Pn**	**02 30 54.0**	**+0.7**
	1.0nm,0.3s,baz=203,slow=13,SNR=15							
MKAR				Sn		**Sn**	**02 32 38.1**	**-5.0**
	0.4nm,0.3s,baz=196,slow=26,SNR=2.8							
KURBB	**Kurchatov Arra**	**13.04**	**2**	Pn		**Pn**	**02 31 38.3**	**+0.4**
	0.0nm,0.3s,baz=185,slow=12,SNR=2.3							
ZALV	**Zalesovo Beam**	**17.06**	**14**	P		**P**	**02 32 33.3**	**+0.4**
	baz=205,slow=17,SNR=1.1							
SONM	**Songino Array**	**23.24**	**55**	P		**P**	**02 33 40.4**	**+0.2**
	0.2nm,0.4s,baz=253,slow=8.9,SNR=1.8							
NOA	**NORSAR Array B**	**46.82**	**322**	P		**P**	**02 37 02.7**	**+0.2**
	0.3nm,0.5s,baz=89,slow=8.9,SNR=1.8							
TORD	**Torodi Ar. Bea**	**71.16**	**272**	P		**P**	**02 39 50.5**	**-1.5**
	0.5nm,0.7s,baz=36,slow=5.3,SNR=6.6							

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*IDC **03** 02:32:46.8±3.3, 37°.45N×78°.26E, h0km, mb3.9/1, mb1 4.2/3, mb1mx3.4/53, mbtmp4.2/3, ML3.9/2, Error ellipse: s-maj=61.6km s-min=28.4km az=120.0*
*NNC **03** 02:32:48.0±2.5, 37°.48N×77°.96E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=25.3km s-min=16.5km az=79.0*
*NEIC **03** 02:32:49.5±1.7, 37°.5N±0°.1×78°.3E±0°.1, h10km±1km, mb4.2/4, Error ellipse: s-maj=23.2km s-min=9.9km az=136.0*
ISC 03 02:32:49.2±1.2, 37°.45N±0°.09×78°.29E±0°.09, h10km, n25, σ1§72/25, mb4.4/3, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.75**	**319**	Pn		Pn	02 33 20.0	-14
KSH				Sn		**Sn**	**02 34 03.8**	**-3.1**
KSH				smax		smax		
	comp=N,360nm,0.3s							
KSH				smax		smax		
	comp=E,410nm,0.3s							
TARG	**Taragay, Kyrgy**	**4.29**	**355**	Pn		**Pn**	**02 33 54.5**	**-0.4**
KDJ	**Kajisay**	**4.75**	**350**	Pn		**Pn**	**02 34 02.0**	**+0.9**
BOOM	**Boomskoye usch**	**5.35**	**341**	Pn		**Pn**	**02 34 09.8**	**+0.6**
DRK	**Karamyk**	**5.48**	**294**	Pn		**Pn**	**02 34 11.3**	**+0.1**
SATY	**Saty**	**5.61**	**1**	Pg		**Pb**	**02 34 30.2**	**+3.0**
	comp=E,16nm,0.6s							
SATY				Lg		Lg	02 35 46.9	
	comp=E,13nm,0.4s							
MDOK	**Medeo**	**5.79**	**351**	Pg		**Pb**	**02 34 32.2**	**+1.9**
	comp=E,13nm,0.5s							
MDOK				Lg		Lg	02 35 49.0	
	comp=E,20nm,0.6s							
MDOK	**Medeo**	**5.79**	**351**	Pg		**Pb**	**02 34 32.2**	**+1.9**
	comp=E,19nm,0.6s							
MDOK				Lg		Lg	02 35 49.3	
	comp=E,14nm,0.8s							
TKM2	**Tokmak 2**	**5.84**	**340**	⇑Pg		**Pb**	**02 34 31.4**	**+0.1**
	comp=E,6.5nm,0.6s							
TKM2				⇓Lg		Lg	02 35 48.0	
	comp=E,8.7nm,0.6s							
KST	**Kastek**	**5.87**	**343**	Pg		**Pb**	**02 34 33.6**	**+2.0**
	comp=E,12nm,0.6s							
KST				Lg		Lg	02 35 51.6	
	comp=E,5.6nm,0.5s							
AAK	**Ala-Archa**	**5.95**	**332**	Pg		**Pb**	**02 34 35.5**	**+2.5**
	comp=E,3.3nm,0.3s,baz=157,slow=9.5,SNR=5.7							
AAK				Lg		Lg	02 35 51.4	
	comp=E,1.3nm,0.3s,baz=221,slow=20,SNR=1.5							
AAK	**Ala-Archa**	**5.95**	**332**	⇑Pg		**Pb**	**02 34 34.2**	**+1.3**
	comp=E,10nm,0.6s							
AAK				⇑Lg		Lg	02 35 54.2	
	comp=E,21nm,0.9s							
AAK	**Ala-Archa**	**5.95**	**332**	Pn		**Pn**	**02 34 17.6**	**+0.1**
BTK	**Batken**	**6.39**	**296**	Pn		**Pn**	**02 34 25.2**	**+1.7**
KBL	**Kabul**	**8.04**	**252**	Pn		**Pn**	**02 34 46.2**	**0.0**
KKAR	**Karatay Array**	**8.20**	**316**	Pn		**Pn**	**02 34 48.1**	**-0.1**
WMQ	**Urumqi**	**9.57**	**45**	*e*P		Pn	02 35 12.0	+5.0
MKAR	**Makanchi Array**	**9.80**	**16**	Pn		**Pn**	**02 35 11.1**	**+0.9**
	comp=E,0.8nm,0.3s,baz=203,slow=13,SNR=8.8							
MKAR				Sn		**Sn**	**02 36 57.3**	**-2.9**

comp=E,0.4nm,0.3s,baz=205,slow=26,SNR=2.9
GEYT Alibeck 15.98 278 Pn Pn 02 36 33.9 -0.2
comp=E,0.6nm,0.3s,baz=83,slow=12,SNR=5.3
BRVK Borovoye 16.58 343 Pn Pn 02 36 41.0 -0.6
BRVK IAmb IAmb 02 36 48.0
comp=Z,2.1nm,0.8s
AKTO Aktyubinsk 19.46 318 P Pn 02 37 19.9 +2.8
comp=Z,0.1nm,0.3s,baz=120,slow=11,SNR=4.8
MDJ Mudanjiang 38.82 63 P P 02 40 14.4 +0.3
MDJ IAmb IAmb 02 40 22.2
comp=Z,4.1nm,0.5s
TOA0 Torodi Ar. Sit 71.54 273 P P 02 44 10.6 -0.1
TOA0 IAmb IAmb 02 44 15.3
comp=Z,8.0nm,1.4s
TORD Torodi Ar. Bea 71.54 273 P P 02 44 09.5 -1.2
comp=Z,0.5nm,0.4s,baz=48,slow=5.9,SNR=6.8
FFC Flin Flon 88.19 0 P P 02 45 38.1 -2.1

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*IDC **03** 02:37:05.9±4.7, 37°.32N×78°.21E, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.4/55, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=99.0km s-min=36.0km az=126.0*
ISC 03 02:37:07.6±1.1, 37°.24N±0°.07×78°.2E±0°.2, h17km, n7, σ1§90/8, mb3.8/3, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**6.16**	**189**	*eP*	**Pg**	**02 39 03.0**	**-2.4**
SMLA				⇑*eS*	Sn	02 39 12.9	-35
SMLA				*eS*	**Sb**	**02 40 10.8**	**+3.0**
SMLA				IAML		02 40 32.1	
	comp=N,135nm,0.3s						
SMLA				IAML		02 40 32.5	
	comp=E,138nm,0.5s						
MKAR	**Makanchi Array**	**10.01**	**16**	Pn	**Pn**	**02 39 31.4**	**+0.8**
	comp=E,0.4nm,0.3s,baz=203,slow=12,SNR=1.7						
ZALV	**Zalesovo Beam**	**17.32**	**13**	P	**P**	**02 41 09.3**	**-0.5**
	comp=E,0.3nm,0.3s,baz=186,slow=12,SNR=1.7						
AKTO	**Aktyubinsk**	**19.59**	**319**	P	**Pn**	**02 41 35.3**	**-0.8**
	comp=E,0.1nm,0.3s,baz=166,slow=21,SNR=2.2						
ARCES	**ARCESS Array B**	**42.78**	**336**	P	**P**	**02 45 03.3**	**-0.5**
	comp=E,1.8nm,1.0s,baz=122,slow=14,SNR=5.5						
NOA	**NORSAR Array B**	**47.32**	**322**	P	**P**	**02 45 40.3**	**+0.3**
	comp=E,0.5nm,0.5s,baz=89,slow=7.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**71.52**	**273**	P	**P**	**02 48 28.9**	**+1.1**
	comp=E,0.5nm,0.6s,baz=55,slow=5.5,SNR=4.4						

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*IDC **03** 02:37:23.4±0.5, 37°.46N×78°.00E, h0km, mb4.2/24, mb1 4.2/30, mb1mx4.1/58, mbtmp4.1/30, ML3.4/6, Error ellipse: s-maj=11.7km s-min=11.0km az=70.0*
*MOS **03** 02:37:24.6±1.2, 37°.46N×78°.02E, h21km, mb4.7/19, Error ellipse: s-maj=7.0km s-min=4.1km az=105.6*
*SOME **03** 02:37:24.5, 37°.67N×77°.87E, h0km, MS3.9*
*NEIC **03** 02:37:25.5±1.6, 37°.56N±0°.07×78°.02E±0°.09, h10km±1km, mb4.5/43, Error ellipse: s-maj=13.2km s-min=11.2km az=135.0*
*BJI **03** 02:37:26.1±0.0, 37°.56N×77°.95E, h10km, mB4.5/1, mb4.4/23, ML4.5/6*
*NNC **03** 02:37:32.8±2.5, 37°.91N×77°.80E, h0km, mb5.0, mpv4.5, Error ellipse: s-maj=33.2km s-min=18.3km az=81.0*
ISC 03 02:37:26.0±0.3, 37°.38N±0°.03×77°.95E±0°.04, h17km, n245, σ2§27/267, mb4.4/70, 25C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.64**	**325**	Pg	**Pn**	**02 38 08.4**	**+0.5**
KSH				Sg	**Sn**	**02 38 38.2**	**-1.4**
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,3μm,0.5s						
TARG	**Taragay, Kyrgy**	**4.35**	**359**		**Pn**	**02 38 30.9**	**-0.7**
KDJ	**Kajisay**	**4.78**	**353**	P	**Pn**	**02 38 36.6**	**-0.8**
KDJ	**Kajisay**	**4.78**	**353**		**Pn**	**02 38 36.6**	**-0.8**
DRK	**Karamyk**	**5.27**	**295**		**Pn**	**02 38 45.6**	**+1.4**
BOOM	**Boomskoye usch**	**5.33**	**344**	P	**Pn**	**02 38 44.6**	**-0.4**
BOOM	**Boomskoye usch**	**5.33**	**344**		**Pn**	**02 38 44.6**	**-0.4**
NIL	**Nilore**	**5.34**	**227**	P	**Pn**	**02 38 48.3**	**+3.3**
NIL	**Nilore**	**5.34**	**227**		**Pn**	**02 38 48.3**	**+3.3**
SATY	**Saty**	**5.69**	**3**	*eP*	**Pb**	**02 39 06.3**	**+1.5**
	157nm,1.0s						
SATY				*eS*	**Sb**	**02 40 19.6**	**+6.9**
	252nm,0.8s						
SATY	**Saty**	**5.69**	**3**	*eP*	**Pn**	**02 38 50.0**	**+0.2**
	baz=3.0						
SATY				*eS*	Sn	02 39 45.4	-9.3
	baz=3.0						
SATY	**Saty**	**5.69**	**3**	Pg	**Pb**	**02 39 05.9**	**+1.1**
	157nm,1.0s						
SATY				Lg	Lg	02 40 19.6	
	252nm,0.8s						
SATY	**Saty**	**5.69**	**3**	*eP*	**Pn**	**02 38 49.9**	**+0.2**
SATY				*eS*	Sn	02 39 45.3	-9.4
MDOK	**Medeo**	**5.82**	**353**	*eP*	**Pb**	**02 39 07.3**	**+0.2**
	94nm,0.4s						
MDOK				*eS*	**Sb**	**02 40 21.6**	**+5.0**
	160nm,0.8s						
MDOK	**Medeo**	**5.82**	**353**	*eP*	**Pn**	**02 38 54.5**	**+2.8**
	baz=353						
MDOK	**Medeo**	**5.82**	**353**	Pn	**Pn**	**02 38 54.1**	**+2.5**
	7.3nm,0.5s						
MDOK				Pg	**Pb**	**02 39 10.1**	**+3.0**
	53nm,0.4s						
MDOK				Lg	Lg	02 40 21.2	
	189nm,0.8s						
MDOK	**Medeo**	**5.82**	**353**	Pg	**Pb**	**02 39 07.3**	**+0.2**
	94nm,0.4s						
MDOK				Lg	Lg	02 40 21.6	
	160nm,0.8s						
MDOK	**Medeo**	**5.82**	**353**	*eP*	**Pn**	**02 38 54.4**	**+2.8**
UZB	**Uzynbulak**	**5.82**	**8**	*eP*	**Pn**	**02 38 51.8**	**+0.2**
	baz=7.6						
UZB				*eS*	**Sn**	**02 39 55.4**	**-2.7**
	baz=7.6						
UZB	**Uzynbulak**	**5.82**	**8**	*eP*	**Pn**	**02 38 51.8**	**+0.2**
UZB				*eS*	**Sn**	**02 39 55.3**	**-2.7**
TKM2	**Tokmak 2**	**5.82**	**343**	⇑Pn	**Pn**	**02 38 53.6**	**+1.9**
	3.0nm,0.4s						
TKM2				⇑Pg	**Pb**	**02 39 08.1**	**+0.9**
	24nm,0.4s						
TKM2				⇓Lg	Lg	02 40 18.0	
	106nm,0.6s						
KST	**Kastek**	**5.86**	**346**	*eP*	**Pb**	**02 39 09.4**	**+1.6**
	56nm,0.7s						
KST				*eS*	**Sb**	**02 40 25.1**	**+7.4**
	116nm,0.5s						
KST	**Kastek**	**5.86**	**346**	Pg	**Pb**	**02 39 09.5**	**+1.8**
	56nm,0.7s						
KST				Lg	Lg	02 40 25.1	
	116nm,0.5s						
AAA	**Alma-Ata**	**5.88**	**353**	*eP*	**Pn**	**02 38 51.4**	**-0.9**
	baz=352						
AAA	**Alma-Ata**	**5.88**	**353**	*eP*	**Pn**	**02 38 51.4**	**-0.9**
KNDC	**Almaty**	**5.88**	**353**	⇑Pg	**Pb**	**02 39 09.5**	**+1.5**
	133nm,0.5s						
KNDC				⇓Lg	Lg	02 40 20.6	
	381nm,0.6s						
AAK	**Ala-Archa**	**5.88**	**334**	Pn	**Pn**	**02 38 53.7**	**+1.2**
	2.3nm,0.3s,baz=155,slow=8.2,SNR=3.3						
AAK				Pg	**Pb**	**02 39 09.3**	**+1.1**
	11nm,0.3s,baz=134,slow=10,SNR=6.4						
AAK				Sn	**Sn**	**02 40 02.3**	**+2.6**
	11nm,0.3s,baz=180,slow=16,SNR=2.0						
AAK				Lg	Lg	02 40 22.9	
	18nm,0.3s,baz=225,slow=20,SNR=2.4						
AAK	**Ala-Archa**	**5.88**	**334**	⇓Pg	**Pb**	**02 39 10.3**	**+2.1**
	39nm,0.6s						
AAK				⇑Lg	Lg	02 40 24.8	
	118nm,0.6s						
AAK	**Ala-Archa**	**5.88**	**334**	*de*P	**Pn**	**02 38 54.5**	**+2.0**
AAK	**Ala-Archa**	**5.88**	**334**	Pn	**Pn**	**02 38 51.5**	**-1.0**
SHLS	**Shalkode**	**5.89**	**11**	*eP*	**Pn**	**02 38 54.0**	**+1.5**
	baz=14						
SHLS				*eS*	**Sn**	**02 40 00.2**	**+0.5**
	baz=14						
SHLS	**Shalkode**	**5.89**	**11**	*eP*	**Pn**	**02 38 54.0**	**+1.5**
SHLS				*eS*	**Sn**	**02 40 00.1**	**+0.5**
FRU1	**Bishkek**	**5.99**	**336**	P	**Pn**	**02 38 53.0**	**-0.9**
FRU1	**Bishkek**	**5.99**	**336**	Pn	**Pn**	**02 38 53.0**	**-0.9**
DGS	**Degeres**	**6.09**	**345**	*eP*	**Pb**	**02 39 13.3**	**+1.7**
	67nm,0.6s						
DGS				*eS*	**Sb**	**02 40 31.4**	**+7.1**
	186nm,0.6s						
KPKS	**Kokpek**	**6.11**	**5**	*eP*	**Pb**	**02 39 13.2**	**+1.3**
	216nm,0.5s						
KPKS				*eS*	**Sb**	**02 40 31.6**	**+6.9**
	261nm,0.9s						
KPKS	**Kokpek**	**6.11**	**5**	*eP*	**Pn**	**02 38 55.6**	**0.0**
	baz=4.7						
KPKS	**Kokpek**	**6.11**	**5**	*eP*	**Pn**	**02 38 55.5**	**0.0**
BTK	**Batken**	**6.19**	**298**	P	**Pn**	**02 38 56.5**	**-0.1**
BTK	**Batken**	**6.19**	**298**		**Pn**	**02 38 56.5**	**-0.1**
GAR	**Garm**	**6.23**	**287**		**Pn**	**02 38 59.0**	**+1.7**
MRKS	**Merke**	**6.47**	**327**	*eP*	**Pb**	**02 39 20.1**	**+2.0**
	18nm,0.5s						
MRKS				*eS*	**Sb**	**02 40 42.9**	**+7.7**
	100nm,0.9s						
KRBS	**Karabastau**	**6.54**	**345**	*eP*	**Pb**	**02 39 20.0**	**+0.6**
	33nm,0.8s						
KRBS				*eS*	**Sb**	**02 40 43.0**	**+5.7**
	107nm,0.8s						
SGDS	**Sogindy**	**6.58**	**338**	*eP*	**Pn**	**02 39 06.1**	**+4.1**
	baz=337						
SGDS				*eS*	**Sn**	**02 40 11.9**	**-4.6**
	baz=337						
SGDS	**Sogindy**	**6.58**	**338**	*eP*	**Pn**	**02 39 06.0**	**+4.1**
SGDS				*eS*	**Sn**	**02 40 11.9**	**-4.6**
KUU	**Kurty**	**6.62**	**350**	*eP*	**Pb**	**02 39 21.0**	**+0.4**
	14nm,0.6s						
KUU				*eS*	**Sb**	**02 40 44.8**	**+5.3**
	101nm,1.2s						
KUU	**Kurty**	**6.62**	**350**	*eP*	**Pn**	**02 39 07.3**	**+4.8**
	baz=349						
KUU	**Kurty**	**6.62**	**350**	*eP*	**Pn**	**02 39 07.3**	**+4.8**
DDI	**Dehra Dun**	**7.04**	**179**	*eP*	Pn	02 39 14.6	+6.3
DDI				*ex*	**Sn**	**02 40 34.9**	**+7.0**
CHGR	**Chuyangaron**	**7.06**	**283**	Pn	**Pn**	**02 39 08.9**	**+0.3**
KBL	**Kabul**	**7.76**	**251**	P	**Pn**	**02 39 19.7**	**+1.4**
KBL	**Kabul**	**7.76**	**251**	Pn	**Pn**	**02 39 19.7**	**+1.4**
KK31	**Karatay Array**	**8.06**	**317**	P	**Pn**	**02 39 21.8**	**-0.5**
KK31	**Karatay Array**	**8.06**	**317**	Pn	**Pn**	**02 39 21.8**	**-0.5**
KKAR	**Karatay Array**	**8.06**	**317**	P	**Pn**	**02 39 21.8**	**-0.6**
KKAR	**Karatay Array**	**8.06**	**317**		**Pn**	**02 39 21.8**	**-0.6**
KKAR	**Karatay Array**	**8.06**	**317**	Pn	**Pn**	**02 39 21.7**	**-0.6**
BTLS	**Baital**	**8.20**	**340**	*eP*	**Pn**	**02 39 27.3**	**+3.2**
	baz=340						
BTLS	**Baital**	**8.20**	**340**	*eP*	**Pn**	**02 39 27.3**	**+3.2**
NDI	**New Delhi**	**8.69**	**184**	*ex*	**Pn**	**02 39 27.0**	**-4.0**
NDI				*ex*	x	02 41 23.0	
WMQ	**Urumqi**	**9.81**	**46**	*eP*	**Pn**	**02 39 45.7**	**-0.6**
WMQ				S	**Sn**	**02 41 31.1**	**-4.9**
WMQ				smax	smax		
	comp=N,110nm,1.1s						
WMQ				smax	smax		
	comp=E,150nm,0.9s						
MAKZ	**Makanchi**	**9.88**	**16**	P	**Pn**	**02 39 44.9**	**-2.4**
MAKZ	**Makanchi**	**9.88**	**16**		**Pn**	**02 39 44.9**	**-2.4**
MK31	**Makanchi Array**	**9.94**	**18**	P	**Pn**	**02 39 46.5**	**-1.6**
MK31	**Makanchi Array**	**9.94**	**18**	Pn	**Pn**	**02 39 46.5**	**-1.6**
MKAR	**Makanchi Array**	**9.94**	**18**	Pn	**Pn**	**02 39 47.1**	**-0.9**
	5.4nm,0.3s,baz=200,slow=13,SNR=60						
MKAR				Sn	**Sn**	**02 41 31.8**	**-7.4**
	4.5nm,0.3s,baz=201,slow=23,SNR=6.5						
MKAR	**Makanchi Array**	**9.94**	**18**		**Pn**	**02 39 45.9**	**-2.1**
ZSN	**Zaisan**	**11.28**	**25**	*eP*	**Pn**	**02 40 04.4**	**-2.0**
	baz=25						
ZSN	**Zaisan**	**11.28**	**25**	*eP*	**Pn**	**02 40 04.3**	**-2.0**
HRA	**Herat**	**13.09**	**262**		**Pn**	**02 40 31.8**	**+0.6**
KURBB	**Kurchatov Arra**	**13.25**	**2**	Pn	**Pn**	**02 40 30.6**	**-2.5**
	0.1nm,0.3s,baz=189,slow=12,SNR=8.8						
KURBB				Sn	**Sn**	**02 42 53.4**	**-6.6**
	0.1nm,0.3s,baz=201,slow=31,SNR=1.4						
KURBB				Lg	Lg	02 44 11.5	
	0.1nm,0.3s,baz=216,slow=28,SNR=2.2						
KURK	**Kurchatov**	**13.34**	**2**	P	**Pn**	**02 40 30.6**	**-3.8**
KURK						02 42 53.4	
KURK	**Kurchatov**	**13.34**	**2**		**Pn**	**02 40 30.6**	**-3.8**
KURK					**Sn**	**02 42 53.4**	**-8.9**
DGZ	**Jazzator, Alta**	**14.09**	**26**	*de*P	**Pn**	**02 40 42.5**	**-2.3**
BHPL	**Bhopal**	**14.10**	**182**	*ex*	**Pn**	**02 40 45.8**	**+0.8**
BHPL				*ex*	**Sn**	**02 43 15.9**	**-5.2**
BOK	**Bokaro**	**15.15**	**151**	*eP*	**P**	**02 41 03.6**	**-0.7**
GEYT	**Alibeck**	**15.72**	**278**	Pn	**Pn**	**02 41 06.3**	**-0.4**
	0.5nm,0.3s,baz=137,slow=15,SNR=2.1						
GEYT				Sn	**Sn**	**02 43 51.8**	**-8.8**
	0.5nm,0.3s,baz=82,slow=31,SNR=1.6						
GYA0B	**ALIBECK ARRAY**	**15.72**	**278**	Pn	**Pn**	**02 41 07.5**	**+0.9**
GYA0B				IAmb	IAmb	02 41 12.0	
	comp=Z,20nm,0.7s						
BVAR	**Borovoye Array**	**16.51**	**344**	Pn	**Pn**	**02 41 14.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=232,slow=16,SNR=3.1						
BVAR				Lg	Lg	02 46 03.8	
	comp=Z,0.2nm,0.3s,baz=64,slow=34,SNR=2.8						
BRVK	**Borovoye**	**16.57**	**344**	⇑*eP*	**P**	**02 41 20.1**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BRVK	**Borovoye**	**16.57**	**344**	Pn	**Pn**	**02 41 15.9**	**-1.5**
BRVK				IAmb	IAmb	02 41 28.1	
	comp=Z,56nm,1.1s						
SHL	**Shillong**	**16.71**	**131**	P	**Pn**	**02 41 18.4**	**-1.0**
SHL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SHL	**Shillong**	**16.71**	**131**	Pn	**Pn**	**02 41 18.4**	**-1.0**
ZAA0	**Zalesovo Array**	**17.24**	**14**		**Pn**	**02 41 21.9**	**-3.9**
ZALV	**Zalesovo Beam**	**17.24**	**14**	P	**Pn**	**02 41 22.6**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=203,slow=10,SNR=2.0						
ZALV				S	**Sn**	**02 44 38.0**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=206,slow=36,SNR=1.8						
ZALV				Lg	Lg	02 46 26.5	
	comp=Z,0.1nm,0.3s,baz=209,slow=30,SNR=1.3						
ZALV	**Zalesovo Beam**	**17.24**	**14**		**Pn**	**02 41 21.3**	**-4.4**
GTA	**Gaotai**	**17.25**	**77**	*eP*	P	02 41 35.6	+7.9
GTA				pP	sP	02 41 43.7	+8.3
GTA				sP	pP	02 41 47.0	+14
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ABKAR	**Akbulak array**	**17.63**	**318**	Pn	**Pn**	**02 41 27.4**	**-3.2**
AKTO	**Aktyubinsk**	**19.33**	**319**	P	**P**	**02 41 50.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=128,slow=12,SNR=10						
AKTO				S	**Sn**	**02 45 22.7**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=158,slow=19,SNR=1.3						
AKTO				Lg	Lg	02 47 38.0	
	comp=Z,0.1nm,0.3s,baz=212,slow=19,SNR=1.0						
HYB	**Hyderabad**	**19.89**	**178**	*i* P	**Pn**	**02 42 01.0**	**+2.7**
VIS	**Vishakhapatnam**	**20.15**	**165**	*eP*	Pn	02 42 02.4	+1.2
WSAR	**Wadi Sarin**	**21.78**	**235**	P	**P**	**02 42 18.4**	**+1.4**
	comp=Z,12nm,1.0s,baz=121,slow=11,SNR=2.9						
ZAK	**Zakamensk**	**22.28**	**46**	*eP*	**P**	**02 42 23.3**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
UOSS	**Minazif**	**22.30**	**242**	P	**P**	**02 42 22.4**	**-0.1**
UOSS				IAmb	IAmb	02 42 27.1	
	comp=Z,14nm,0.9s						
ARU	**Arti**	**23.06**	**332**	P	**P**	**02 42 30.4**	**0.0**
	comp=Z,1.2nm,0.5s,baz=63,slow=5.0,SNR=5.4						
ARU				Lg	Lg	02 49 29.5	
	comp=Z,0.4nm,0.3s,baz=95,slow=21,SNR=1.4						
ARU	**Arti**	**23.06**	**332**	*c i*P	**P**	**02 42 30.6**	**+0.3**
ARU						02 42 53.3	
ARU				S	**S**	**02 46 41.8**	**+1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**23.06**	**332**		**P**	**02 42 27.8**	**-2.5**
TLY	**Talaya**	**23.08**	**44**	*eP*	**P**	**02 42 36.7**	**+6.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**23.27**	**54**	P	**P**	**02 42 33.1**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=260,slow=8.6,SNR=10.0						
SONM				Lg	Lg	02 49 39.2	
	comp=Z,0.3nm,0.4s,baz=239,slow=38,SNR=1.5						
SONM	**Songino Array**	**23.27**	**54**	P	**P**	**02 42 30.3**	**-2.5**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SONM	**Songino Array**	**23.27**	**54**	P	**P**	**02 42 30.3**	**-2.5**
ULN	**Ulaanbaatar**	**23.71**	**55**	P	**P**	**02 42 37.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**23.71**	**55**	P	**P**	**02 42 37.2**	**+0.2**
KMI	**Kunming**	**24.38**	**113**	⇑P	**P**	**02 42 47.5**	**+3.9**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GROC	**Groznyy**	**25.11**	**293**	*eP*	**P**	**02 42 49.2**	**-0.6**
GROC				*e*		02 43 22.9	
GROC				*e*		02 46 22.2	
GROC				pmax	pmax		
	comp=Z,45nm,0.8s						
XAN	**Xi'an**	**25.31**	**88**	P	**P**	**02 42 52.2**	**+0.5**
XAN				pP	pP	02 42 55.4	-2.0
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GNI	**Garni**	**25.96**	**286**	P	**P**	**02 42 59.4**	**+1.7**
	comp=Z,8.8nm,0.8s,baz=143,slow=5.1,SNR=5.0						
GNI	**Garni**	**25.96**	**286**	*de*P	**P**	**02 42 59.7**	**+2.0**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI	**Garni**	**25.96**	**286**	P	**P**	**02 42 57.0**	**-0.7**
GNI				IAmb	IAmb	02 43 20.3	
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**26.21**	**72**	*eP*	**P**	**02 43 01.8**	**+1.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.34**	**130**	P	**P**	**02 43 02.3**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=312,slow=7.2,SNR=1.5						
GYA	**Guiyang**	**26.59**	**106**	⇓P	**P**	**02 43 05.8**	**+2.3**
GYA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ONI	**Oni**	**26.82**	**292**	P	**P**	**02 43 03.5**	**-1.9**
ONI				pmax	pmax		
	comp=Z,11nm,1.1s						
ONI	**Oni**	**26.82**	**292**	P	**P**	**02 43 03.5**	**-1.9**
ONI				IAmb	IAmb	02 43 10.6	
	comp=Z,11nm,1.1s						
KBZ	**Khabaz**	**27.24**	**295**	⇑*eP*	**P**	**02 43 08.5**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KVAR	**Kislovodsk Arr**	**27.39**	**295**	P	**P**	**02 43 10.9**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=61,slow=10,SNR=2.2						
KIV	**Kislovodsk**	**27.40**	**295**	*eP*	**P**	**02 43 11.7**	**+1.1**
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIV	**Kislovodsk**	**27.40**	**295**	P	**P**	**02 43 10.2**	**-0.4**
VRH	**Novokhopyorsk**	**29.06**	**310**	*eP*	**P**	**02 43 24.4**	**-0.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MARD	**Mardin**	**29.43**	**281**	P	**P**	**02 43 28.8**	**0.0**
MARD				IAmb	IAmb	02 43 31.4	
	comp=Z,6.6nm,0.5s						
VSR	**Storozhevoye**	**30.63**	**309**	*eP*	**P**	**02 43 37.6**	**-1.4**
VSR				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RAYN	**Ar Rayn**	**31.03**	**253**	P	**P**	**02 43 43.2**	**+0.3**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RAYN	**Ar Rayn**	**31.03**	**253**	P	**P**	**02 43 43.2**	**+0.3**
LPSR	**Galich'ya Gora**	**31.07**	**312**	*eP*	**P**	**02 43 42.3**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GAZ	**Gaziantep**	**32.24**	**282**	P	**P**	**02 43 53.1**	**-0.5**
MOS	**Moscow**	**32.65**	**317**	*eP*	**P**	**02 43 55.6**	**-1.2**
MOS				pmax	pmax		
	comp=Z,28nm,0.9s						
OBN	**Obninsk**	**33.05**	**316**	⇓*eP*	**P**	**02 44 00.4**	**+0.1**
OBN				*e*		02 45 09.9	
OBN				pmax	pmax		
	comp=Z,17nm,1.2s						
OBN				MLR	MLR		
	comp=Z,1μm,17.0s						
OBN	**Obninsk**	**33.05**	**316**	P	**P**	**02 43 59.4**	**-0.8**
QIZ	**Qiongzhong**	**33.30**	**114**	P	**P**	**02 44 04.6**	**+1.7**
QIZ				S	**S**	**02 49 25.4**	**+2.7**
SIM	**Simferopol'**	**33.52**	**297**	*eP*	**P**	**02 44 04.1**	**-0.5**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLMR	**Klimovskoe**	**33.63**	**327**	*eP*	**P**	**02 44 03.2**	**-2.1**
KLMR				*e*		02 45 15.1	
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLMR	**Klimovskoe**	**33.63**	**327**	*eP*	**P**	**02 44 03.2**	**-2.1**
KLMR				AMP		02 44 06.1	
	comp=Z,10.0nm,1.1s						
KLMR				*e*PP	**PnPn**	**02 45 15.1**	**-1.9**
NJ2	**Nanjing**	**33.84**	**87**	*eP*	**P**	**02 44 06.9**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
BRTR	**Keskin Array B**	**34.47**	**288**	P	**P**	**02 44 13.8**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=95,slow=7.6,SNR=15						
BRTR	**Keskin Array B**	**34.47**	**288**	P	**P**	**02 44 12.6**	**-0.5**
ANTO	**Ankara**	**35.09**	**288**	P	**P**	**02 44 19.5**	**+1.2**
ANTO				pmax	pmax		
	comp=Z,13nm,1.1s						
ANTO	**Ankara**	**35.09**	**288**	P	**P**	**02 44 19.4**	**+1.2**
ANTO				IAmb	IAmb	02 44 20.2	
	comp=Z,13nm,1.1s						
AKASG	**Malin Array Be**	**36.81**	**307**	P	**P**	**02 44 32.1**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=75,slow=7.8,SNR=8.8						
AKASG	**Malin Array Be**	**36.81**	**307**	*ce*P	**P**	**02 44 32.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKBB	**Malin Array Si**	**36.81**	**307**	*ce*P	**P**	**02 44 34.8**	**+2.1**
AKBB	**Malin Array Si**	**36.81**	**307**	P	**P**	**02 44 33.0**	**+0.2**
AKBB				IAmb	IAmb	02 44 34.6	
	comp=Z,3.8nm,0.5s						
ZEA	**Zeya**	**37.36**	**48**	*eP*	P	02 44 23.6	-14
SORM	**Soroca**	**37.38**	**303**	⇑P	**P**	**02 44 36.2**	**-1.4**
VRI	**Vrincioaia**	**38.65**	**299**	⇑P	**P**	**02 44 47.5**	**-0.9**
PLOR	**Plostina**	**38.70**	**299**	⇑P	**P**	**02 44 49.7**	**+0.8**
IIGN	**Ignalina**	**38.92**	**314**	*eP*	**P**	**02 44 50.1**	**-0.4**
ISAL	**Salakas**	**39.00**	**315**	*eP*	**P**	**02 44 50.5**	**-0.7**
VSU	**Vasula**	**39.06**	**319**	*eP*	**P**	**02

DPC Dobruska-Polom 45.04 307 *e*P P 02 45 41.2 +0.6
DPC *e* 02 45 47.2
DPC Dobruska-Polom 45.04 307 *e*P P 02 45 41.2 +0.6
DPC *ex* x 02 45 47.2
OSTC Ostas 45.08 307 *e*P P 02 45 41.3 +0.4
CHVC Chvalec 45.17 308 *e*P P 02 45 43.2 +1.5
CHVC *ex* x 02 45 49.0
KRUC Moravsky 45.18 305 *e*P P 02 45 41.7 0.0
CONA Conrad Observa 45.72 304 *e*P P 02 45 46.5 +0.3
comp=Z,4.6nm,1.3s
BRG Berggiesshubel 46.46 308 *e*P P 02 45 52.0 +0.2
BRG Amp 02 45 53.1
comp=Z,6.6nm,1.1s
BRG Berggiesshubel 46.46 308 P P 02 45 58.3 +6.5
BRG Amp 02 45 59.1
comp=Z,5.1nm,1.2s
SOKA Soboth 46.52 302 *e*P P 02 45 52.8 +0.3
comp=Z,4.7nm,0.9s
OBKA Obir 46.88 302 *e*P P 02 45 55.7 +0.4
comp=Z,2.2nm,0.7s
GEC2 GERESS Array S 46.97 306 P P 02 45 55.4 -0.6
GEC2 IAmb IAmb 02 45 57.2
comp=Z,2.9nm,0.8s
GERES GERESS Array B 46.97 306 P P 02 45 56.6 +0.6
comp=Z,1.2nm,0.8s,baz=75,slow=7.2,SNR=16
GERES GERESS Array B 46.97 306 P P 02 45 56.2 +0.2
GERES GERESS Array B 46.97 306 P P 02 45 56.1 +0.2
CLL Collm 46.98 309 *i*P P 02 45 55.3 -0.5
comp=Z,4.0nm,0.8s
CLL *e* 02 46 05.0
CLL Collm 46.98 309 *i*P P 02 45 55.3 -0.5
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 46.98 309 P P 02 45 55.6 -0.2
CLL IAmb IAmb 02 45 56.2
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 46.99 306 *e*P P 02 45 56.5 +0.4
KHC *e* 02 46 02.8
KHC Kasperske Hory 46.99 306 *e*P P 02 45 56.5 +0.4
KHC *ex* x 02 46 02.8
KHC Kasperske Hory 46.99 306 IAmb IAmb 02 45 57.4
comp=Z,3.8nm,0.9s
NB2 NORSAR Subarra 47.06 322 P P 02 45 56.3 -0.1
comp=Z,2.5nm,0.7s,baz=88,slow=7.9
NOA NORSAR Array B 47.06 322 P P 02 45 55.9 -0.6
comp=Z,2.4nm,0.9s,baz=95,slow=6.7,SNR=17
NC204 NORSAR Array S 47.28 323 P P 02 45 57.1 -1.0
MJAR Matsushiro Arr 47.42 72 P P 02 45 57.4 -2.1
comp=Z,0.9nm,0.5s,baz=270,slow=7.3,SNR=1.8
STAL STALIGIAL 48.18 302 P P 02 46 03.3 -2.0
STAL IAmb IAmb 02 46 05.2
comp=Z,3.2nm,1.1s
ABTA Abfaltersbach 48.20 303 *e*P P 02 46 05.7 +0.1
comp=Z,1.7nm,0.7s
GRA1 Grafenberg Arr 48.39 307 IAmb IAmb 02 46 08.3
comp=Z,5.6nm,0.8s
GRFO Grafenberg 48.39 307 P P 02 46 05.1 -1.8
GRFO pmax pmax
comp=Z,5.0nm,0.8s
GRFO Grafenberg 48.39 307 P P 02 46 05.0 -1.8
GRFO IAmb IAmb 02 46 08.3
comp=Z,4.9nm,0.8s
NRCA Norcia 48.80 298 P P 02 46 09.8 -0.4
NRCA IAmb IAmb 02 46 11.4
comp=Z,3.5nm,0.8s
MURB Monte Urbino 49.10 298 P P 02 46 12.0 -0.4
RETA Reutte 49.18 304 *e*P P 02 46 13.4 +0.4
comp=Z,3.7nm,1.0s
FETA Feichten 49.32 304 *e*P P 02 46 14.3 +0.1
comp=Z,4.2nm,1.2s
DAVA Damuels 49.81 304 *e*P P 02 46 17.2 -0.8
comp=Z,4.9nm,0.6s
WLF Walferdange 51.60 308 P P 02 46 31.2 0.0
WLF pmax pmax
comp=Z,8.0nm,0.9s
WLF Walferdange 51.60 308 P P 02 46 31.2 0.0
WLF IAmb IAmb 02 46 32.7
comp=Z,7.8nm,0.9s
SENIN Lac Senin/Sane 51.77 304 IAmb IAmb 02 46 44.4
comp=Z,7.0nm,1.2s
BNI Bardonecchia 52.58 302 IAmb IAmb 02 46 45.0
comp=Z,6.7nm,1.1s
KMBO Kilima Mbogo 53.70 234 P P 02 46 49.1 +1.7
comp=Z,1.1nm,0.7s,baz=47,slow=18,SNR=2.8
MBAR Mbarara 57.67 240 P P 02 47 15.8 -0.1
comp=Z,3.6nm,0.3s,baz=57,slow=17,SNR=12
ESDC Sonseca Array 61.91 300 P P 02 47 43.7 -0.9
comp=Z,0.8nm,0.6s,baz=50,slow=6.8,SNR=14
TORD Torodi Ar. Bea 71.28 272 P P 02 48 43.8 -1.0
comp=Z,1.3nm,0.5s,baz=47,slow=6.0,SNR=27
TORD Torodi Ar. Bea 71.28 272 P P 02 48 44.3 -0.5
TORD IAmb IAmb 02 48 45.0
comp=Z,2.7nm,0.8s
COLA College 71.97 19⇓*e*P P 02 48 47.2 -0.9
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 72.30 18 P P 02 48 49.2 -0.9
comp=Z,1.8nm,0.9s,baz=313,slow=4.4,SNR=12
ILAR Eielson Array 72.30 18 P P 02 48 48.4 -1.7
ILAR Eielson Array 72.30 18 P P 02 48 48.4 -1.7
SKT Skwentna 73.23 22 P P 02 48 54.5 -1.2
SML Sawmill 74.30 21 P P 02 49 01.1 -1.0
NWAO Narrogin (SRO) 78.96 147 P P 02 49 28.4 -0.2
comp=Z,3.8nm,0.6s,baz=295,slow=8.5,SNR=1.4
YKA Yellowknife Ar 79.96 6 P P 02 49 32.9 -0.8
comp=Z,1.0nm,0.7s,baz=346,slow=5.1,SNR=8.4
AS31 Alice Springs 80.35 130 P P 02 49 36.8 +0.4
ASAR Alice Springs 80.35 130 P P 02 49 37.0 +0.6
comp=Z,1.1nm,0.8s,baz=324,slow=6.7,SNR=7.2
ASAR Alice Springs 80.35 130 P P 02 49 36.5 +0.1
ASAR Alice Springs 80.35 130 P P 02 49 36.5 +0.1
BOSA Boshof 82.16 225 P P 02 49 46.4 +0.4
comp=Z,2.7nm,0.9s,baz=135,slow=4.3,SNR=2.7
CTA Charters Tower 85.96 119 P P 02 50 05.8 +0.4
comp=Z,5.1nm,0.7s,baz=6.3,slow=9.2,SNR=3.9

IDC 03 02:46:15.7±2.2,7°.04S×132°.06E,h0km,mb3.4/1,
mb1 3.8/5,mb1mx3.6/31,mbtmp3.7/5,ML3.7/4,Error
ellipse: s-maj=82.8km s-min=26.0km az=85.0,Tanimbar
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.18**	**353**	Pn	Pn	02 47 47.2	-1.0
	1.3nm,0.3s,baz=206,slow=23,SNR=1.6						
SIJI				Sn	Sn	02 48 50.2	-9.4
	1.4nm,0.3s,baz=180,slow=23,SNR=1.3						
FITZ	**Fitzroy Crest**	**12.65**	**209**	Pn	Pn	02 49 17.5	+0.5
	0.3nm,0.3s,baz=30,slow=11,SNR=20						
FITZ				Sn	Sn	02 51 30.4	-8.4
	0.4nm,0.3s,baz=342,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**13.02**	**170**	Pn	Pn	02 49 21.4	-0.7
	0.5nm,0.3s,baz=356,slow=13,SNR=17						
WRA				Sn	Sn	02 51 40.1	-7.7
	0.1nm,0.3s,baz=355,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**16.63**	**174**	Pn	Pn	02 50 10.1	-0.3
	0.2nm,0.3s,baz=1.0,slow=14,SNR=9.6						
MKAR	**Makanchi Array**	**69.39**	**326**	P	P	02 57 25.9	+0.4
	0.2nm,0.4s,baz=132,slow=5.6,SNR=1.6						

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*NEIC **03** 02:48:10.8±0.9,37°.2N±0°.1×78°.3E±0°.1,h10km±2km,*
mb4.2/3,Error ellipse: s-maj=22.0km s-min=15.3km
az=139.0
*IDC **03** 02:48:10.6±3.7,37°.25N×78°.29E,h0km,mb3.5/2,*
mb1 3.6/3,mb1mx3.2/41,mbtmp3.5/3,ML3.6/1,MS4.2/1,
Ms1 4.2/1,ms1mx3.2/49,Error ellipse: s-maj=74.3km
s-min=38.5km az=114.0
*NNC **03** 02:48:16.2±3.3,37°.62N×77°.97E,h0km,mb4.3,mpv3.9,*
Error ellipse: s-maj=32.9km s-min=22.0km az=79.0
ISC 03 02:48:11.5±1.4,37°.3N±0°.1×78°.4E±0°.1,h10km,n25,
σ1°96/25,mb4.0/4,2C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.47**	**355**	Pn	**Pn**	**02 49 20.7**	**+1.1**
KDJ	**Kajisay**	**4.93**	**350**	Pn	**Pn**	**02 49 25.9**	**+0.1**
BOOM	**Boomskoye usch**	**5.53**	**341**	Pn	**Pn**	**02 49 33.8**	**-0.2**
DRK	**Karamyk**	**5.60**	**295**	Pn	**Pn**	**02 49 34.4**	**-0.7**
SATY	**Saty**	**5.78**	**0**	Pg	**Pb**	**02 49 57.0**	**+4.6**
	23nm,0.8s						
SATY				Lg	Lg	02 51 09.2	
	27nm,0.9s						
MDOK	**Medeo**	**5.97**	**351**	Pg	**Pb**	**02 49 56.7**	**+1.1**
	20nm,0.9s						
MDOK				Lg	Lg	02 51 12.3	
	21nm,0.6s						
MDOK	**Medeo**	**5.97**	**351**	Pg	**Pb**	**02 49 57.2**	**+1.6**
	12nm,0.7s						
MDOK				Lg	Lg	02 51 12.8	
	22nm,0.6s						
TKM2	**Tokmak 2**	**6.02**	**340**	⇓Pg	**Pb**	**02 49 57.0**	**+0.4**
	5.9nm,0.7s						
TKM2				⇑Lg	Lg	02 51 14.1	
	15nm,0.8s						
KST	**Kastek**	**6.05**	**343**	Pg	**Pb**	**02 50 00.2**	**+3.3**
	7.6nm,0.5s						
KST				Lg	Lg	02 51 15.8	
	12nm,0.8s						
AAK	**Ala-Archa**	**6.12**	**332**	Pg	**Pb**	**02 50 01.5**	**+3.2**
	1.3nm,0.3s,baz=113,slow=7.0,SNR=7.6						
AAK				Lg	Lg	02 51 14.0	
	0.3nm,0.3s,baz=180,slow=20,SNR=4.4						
AAK	**Ala-Archa**	**6.12**	**332**	⇑Pg	**Pb**	**02 49 59.9**	**+1.6**
	6.7nm,0.6s						
AAK				⇓Lg	Lg	02 51 17.8	
	26nm,0.8s						
AAK	**Ala-Archa**	**6.12**	**332**	Pn	**Pn**	**02 49 41.8**	**-0.3**
FRU1	**Bishkek**	**6.22**	**334**	Pn	**Pn**	**02 49 43.5**	**+0.1**
BTK	**Batken**	**6.52**	**298**	Pn	**Pn**	**02 49 46.0**	**-1.5**
GAR	**Garm**	**6.57**	**288**	Pn	**Pn**	**02 49 47.3**	**-0.9**
KKAR	**Karatay Array**	**8.36**	**317**	Pn	**Pn**	**02 50 11.2**	**-1.5**
MAKZ	**Makanchi**	**9.90**	**15**	Pn	**Pn**	**02 50 32.6**	**-1.2**
MKAR	**Makanchi Array**	**9.95**	**16**	Pn	**Pn**	**02 50 36.8**	**+2.3**
	0.5nm,0.3s,baz=200,slow=12,SNR=14						
MKAR				Sn	**Sn**	**02 52 22.1**	**-4.0**
	0.5nm,0.3s,baz=210,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**9.95**	**16**		**Pn**	**02 50 34.4**	**-0.1**
BRVK	**Borovoye**	**16.76**	**343**	Pn	**Pn**	**02 52 04.5**	**-1.7**
BRVK				IAmb	IAmb	02 52 19.4	
	comp=Z,3.7nm,0.9s						
BJT	**Baijiatuau**	**29.52**	**73**	P	**P**	**02 54 15.1**	**-0.8**
BJT				IAmb	IAmb	02 54 15.6	
	comp=Z,4.6nm,0.6s						
NRIK	**Noril'sk**	**32.51**	**6**	P	**P**	**02 54 41.2**	**-0.8**
NRIK				IAmb	IAmb	02 54 48.1	
	comp=Z,4.6nm,1.2s						
IDI	**Anoyia**	**42.67**	**284**	LR	LR	03 18 02.2	
	comp=Z,277nm,20.4s,baz=320,slow=42						
NOA	**NORSAR Array B**	**47.34**	**322**	P	**P**	**02 56 46.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=90,slow=8.9,SNR=1.7						
TORD	**Torodi Ar. Bea**	**71.60**	**273**	P	**P**	**02 59 33.6**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=45,slow=5.8,SNR=1.3						

ROM 03 03:01:50.2±0.1,41°.886N±0°.007×14°.074E±0°.007,
h8km,ML0.9/2,2C,Error ellipse: s-maj=0.7km
s-min=0.6km az=23.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	**0.18**	**315**	⇑P	Pg	03 01 54.8	+0.9
INTR				S	Sg	03 01 57.7	+1.2
INTR				AML	AML		
	comp=E,88μm,0.7s						
INTR				AML	AML		
	comp=N,141μm,0.9s						
INTR				AML	AML		
	comp=E,88μm,0.7s						
LPEL	**Lama dei Peligno**	**0.18**	**27**	P	Pg	03 01 54.4	+0.4
LPEL				S	Sg	03 01 57.3	+0.8
LPEL				AML	AML		
	comp=E,463μm,0.8s						
LPEL				AML	AML		
	comp=N,430μm,0.7s						
RNI2	**Rionero Sannitio**	**0.19**	**162**	P	Pg	03 01 54.8	+0.6
MIDA	**Miranda**	**0.28**	**151**	P	Pb	03 01 57.0	-0.5
MIDA				S	Sb	03 02 01.7	-0.6
MIDA				AML	AML		
	comp=E,27μm,1.3s						
MIDA				AML	AML		
	comp=N,21μm,1.3s						
MIDA				AML	AML		
	comp=N,21μm,1.3s						
MIDA				AML	AML		
	comp=E,27μm,1.3s						
CERA	**Filignano**	**0.29**	**188**	P	Pb	03 01 57.4	-0.3
CERA				S	Sb	03 02 01.7	-1.0
POFI	**Posta Fibreno**	**0.32**	**238**	⇑P	Pg	03 01 57.1	+0.6
POFI				S	Sb	03 02 02.3	-1.2
VVLD	**Villa Vallelonga**	**0.34**	**268**	P	Pg	03 01 57.5	+0.6
VVLD				S	Sb	03 02 03.2	-0.9
TRIV	**Trivento**	**0.38**	**108**	P	Pb	03 01 58.3	-0.8
T0110	**Collepietro**	**0.41**	**327**	P	Pb	03 01 59.1	-0.6
T0110				S	Sb	03 02 06.0	0.0
PTRJ	**Pietraroja**	**0.62**	**147**	AML	AML		
	comp=N,147μm,0.1s						
PTRJ				AML	AML		
	comp=E,98μm,1.5s						

ATH 03 03:03:16.7,38°.15N×20°.44E,h16km±2km,ML0.9/1,Error
ellipse: s-maj=3.0km s-min=1.2km az=38.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.10**	**308**	P	Pg	03 03 19.9	-0.1
KEF3				S	Sg	03 03 22.4	+0.2
KEF4	**Livadi, Kephal**	**0.11**	**352**	P	Pg	03 03 20.1	-0.1
KEF4				S	Sb	03 03 22.9	-0.2
PSDA	**Pessada-Kefalo**	**0.12**	**106**	P	Pg	03 03 20.1	-0.1
PSDA				S	Sg	03 03 22.6	+0.1
VLS	**Valsamata**	**0.12**	**74**	P	Pg	03 03 20.1	-0.2
VLS				S	Sg	03 03 22.6	-0.1
VLS	**Valsamata**	**0.12**	**74**	P	Pg	03 03 20.1	-0.3
KEF5	**Kardakata, Kep**	**0.13**	**8**	P	Pg	03 03 20.3	-0.2
KEF5				S	Sg	03 03 23.1	0.0
VLMS	**Volimes, Zakyn**	**0.32**	**147**	P	Pg	03 03 23.6	+0.1
VLMS				AML	AML	03 03 29.6	
	comp=E,71μm,0.1s						
VLMS				AML	AML	03 03 30.5	
	comp=N,57μm,0.1s						
EVGI	**Lefkada island**	**0.50**	**19**	P	Pg	03 03 26.5	-0.3

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*IDC **03** 03:10:27.8±2.2,37°.95N×77°.24E,h0km,mb3.4/3,*
mb1 3.6/6,mb1mx3.3/69,mbtmp3.5/6,ML3.5/2,Error
ellipse: s-maj=45.6km s-min=30.6km az=146.0
ISC 03 03:10:31.8±1.4,38°.5N±0°.2×76°.72E±0°.10,h10km,n8,
σ2°41/9,mb3.3/3,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.47**	**338**	Pn	**Pb**	**03 11 49.5**	**-0.9**
	1.1nm,0.3s,baz=141,slow=13,SNR=2.6						
MKAR	**Makanchi Array**	**9.25**	**25**	Pn	**Pn**	**03 12 47.4**	**+2.2**
	0.6nm,0.3s,baz=202,slow=13,SNR=16						
WMQ	**Urumqi**	**9.84**	**54**	*e*Pn	**Pn**	**03 12 55.8**	**+2.5**
WMQ				Sn	**Sn**	**03 14 41.7**	**-2.1**
WMQ				smax	smax		
	comp=N,140nm,1.1s						
WMQ				smax	smax		
	comp=E,200nm,1.5s						
GEYT	**Alibeck**	**14.64**	**274**	Pn	**P**	**03 14 05.2**	**-0.1**
	comp=E,0.5nm,0.3s,baz=71,slow=18,SNR=2.3						
ZALV	**Zalesovo Beam**	**16.42**	**17**	Pn	**Pn**	**03 14 23.0**	**+0.9**
	baz=198,slow=8.8,SNR=1.4						
SONM	**Songino Array**	**23.45**	**57**	P	**P**	**03 15 37.6**	**-3.7**
	comp=E,0.6nm,0.6s,baz=254,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**70.27**	**271**	P	**P**	**03 21 44.9**	**-0.6**
	comp=E,0.4nm,0.7s,baz=44,slow=5.1,SNR=1.3						
ILAR	**Eielson Array**	**71.54**	**18**	P	**P**	**03 21 54.5**	**+1.9**
	comp=E,0.1nm,0.5s,baz=330,slow=5.2,SNR=3.5						

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*BGR **03** 03:11:06.4±0.0,36°.64N×80°.80E,h33km,mb5.1,Ms4.5*
*IDC **03** 03:11:10.7±0.6,37°.45N×77°.96E,h0km,mb4.2/29,*
mb1 4.4/34,mb1mx4.2/71,mbtmp4.3/34,ML3.8/6,MS4.3/7,
Ms1 4.3/7,ms1mx3.9/52,Error ellipse: s-maj=12.6km
s-min=11.6km az=148.0
*NNC **03** 03:11:10.9±6.1,37°.52N×78°.37E,h10km±26km,mb5.3,*
mpv5.0,Error ellipse: s-maj=62.7km s-min=39.7km
az=76.0
*BJI **03** 03:11:12.9±0.0,37°.48N×78°.06E,h7km,mB4.5/9,*
mb4.3/23,ML4.8/4,Ms4.7/10,Ms7 4.5/10
*NEIC **03** 03:11:12.5±1.9,37°.39N±0°.06×78°.19E±0°.03,h10km±1km,*
mb4.7/82,Error ellipse: s-maj=10.8km s-min=3.9km
az=197.0
*MOS **03** 03:11:13.6±1.1,37°.50N×78°.07E,h28km,mb4.8/31,*
MS4.7/4,Error ellipse: s-maj=6.9km s-min=4.3km
az=105.3
*SOME **03** 03:11:14.0,37°.62N×78°.15E,h0km,MS4.8*
ISC 03 03:11:13.6±0.3,37°.50N±0°.03×78°.03E±0°.04,h17km,n323,
σ2°11/304,mb4.6/98,MS4.7/7,19C-17D,Southern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.23**	**358**		**Pn**	**03 12 19.3**	**+1.6**
KDJ	**Kajisay**	**4.67**	**352**	P	**Pn**	**03 12 24.7**	**+1.2**
KDJ	**Kajisay**	**4.67**	**352**	Pn	**Pn**	**03 12 24.7**	**+1.2**
BOOM	**Boomskoye usch**	**5.24**	**343**	P	**Pn**	**03 12 32.9**	**+1.6**
BOOM	**Boomskoye usch**	**5.24**	**343**	Pn	**Pn**	**03 12 32.9**	**+1.6**
DRK	**Karamyk**	**5.27**	**294**		**Pn**	**03 12 34.3**	**+2.4**
CHCP	**Chirah Chowk**	**5.45**	**227**	P	Pn	03 12 39.0	+4.9
NIL	**Nilore**	**5.47**	**227**	P	**Pn**	**03 12 35.7**	**+1.4**
NIL	**Nilore**	**5.47**	**227**		**Pn**	**03 12 35.7**	**+1.4**
UZB	**Uzynbulak**	**5.70**	**7**	*e*P	**Pn**	**03 12 39.2**	**+1.7**
	baz=7.4						
UZB				*e*S	**Sn**	**03 13 38.6**	**-4.0**
	baz=7.4						
UZB	**Uzynbulak**	**5.70**	**7**	*e*P	**Pn**	**03 12 39.2**	**+1.7**
UZB				*e*S	**Sn**	**03 13 38.6**	**-4.0**
AML	**Almayashu**	**5.71**	**326**	P	**Pb**	**03 12 53.1**	**+0.2**
MDOK	**Medeo**	**5.71**	**353**	*e*P	**Pg**	**03 12 59.9**	**-3.0**
	183nm,0.8s						
MDOK				*e*S	**Sg**	**03 14 16.5**	**-0.3**
	472nm,0.8s						
MDOK	**Medeo**	**5.71**	**353**	⇑Pg	**Pb**	**03 12 54.7**	**+1.8**
	292nm,0.8s						
MDOK				⇑Lg	Lg	03 14 14.0	
	1μm,1.2s						
MDOK	**Medeo**	**5.71**	**353**	Pg	Pb	03 12 58.1	+5.3
	183nm,0.8s						
MDOK				Lg	Lg	03 14 12.9	
	472nm,0.8s						
TKM2	**Tokmak 2**	**5.73**	**342**	⇑Pn	**Pn**	**03 12 35.4**	**-2.6**
	37nm,0.8s						
TKM2				⇑Pg	**Pb**	**03 12 57.9**	**+4.7**
	200nm,1.1s						
TKM2				⇑Lg	Lg	03 14 20.4	
	800nm,1.3s						
KST	**Kastek**	**5.76**	**345**	*e*P	**Pg**	**03 13 00.3**	**-3.5**
	167nm,1.0s						
KST				*e*S	**Sg**	**03 14 16.7**	**-1.7**
	266nm,1.2s						
KST	**Kastek**	**5.76**	**345**	Pg	**Pb**	**03 12 57.0**	**+3.3**
	167nm,1.0s						
KST				Lg	Lg	03 14 10.6	
	172nm,1.0s						
KNDC	**Almaty**	**5.77**	**352**	⇑Pg	**Pb**	**03 12 56.0**	**+2.2**
	499nm,0.8s						
KNDC				⇓Lg	Lg	03 14 19.5	
	2μm,0.9s						
AAK	**Ala-Archa**	**5.81**	**333**	Pn	**Pn**	**03 12 41.7**	**+2.7**
	4.0nm,0.3s,baz=120,slow=6.9,SNR=8.7						
AAK				Pg	**Pb**	**03 12 55.3**	**+0.9**
	6.7nm,0.3s,baz=179,slow=8.5,SNR=11						
AAK				Sn	**Sn**	**03 13 51.1**	**+5.8**
	22nm,0.3s,baz=16,slow=19,SNR=2.3						
AAK				Lg	Lg	03 14 13.2	
	30nm,0.3s,baz=49,slow=12,SNR=4.7						
AAK	**Ala-Archa**	**5.81**	**333**	⇑Pn	**Pn**	**03 12 40.9**	**+1.8**
	49nm,1.0s						
AAK				⇑Pg	**Pb**	**03 12 55.1**	**+0.6**
	242nm,0.8s						
AAK				⇑Lg	Lg	03 14 19.9	
	985nm,0.8s						
AAK	**Ala-Archa**	**5.81**	**333**		**Pn**	**03 12 41.5**	**+2.5**
AAK	**Ala-Archa**	**5.81**	**333**	P	**Pb**	**03 12 55.9**	**+1.4**
FRU1	**Bishkek**	**5.91**	**335**	P	**Pn**	**03 12 42.8**	**+2.4**
FRU1	**Bishkek**	**5.91**	**335**	Pn	**Pn**	**03 12 42.8**	**+2.4**
KPKS	**Kokpek**	**5.98**	**5**	*e*P	**Pb**	**03 13 01.1**	**+3.6**
	92nm,1.1s						
KPKS				*e*S	**Sg**	**03 14 18.5**	**-7.1**
	250nm,0.8s						
KPKS	**Kokpek**	**5.98**	**5**	*e*P	**Pn**	**03 12 43.4**	**+1.9**
	baz=4.5						
KPKS				*e*S	**Sn**	**03 13 44.8**	**-4.8**
	baz=4.5						
KPKS	**Kokpek**	**5.98**	**5**	*e*P	**Pn**	**03 12 43.3**	**+1.9**
KPKS				*e*S	**Sn**	**03 13 44.8**	**-4.8**
DGS	**Degeres**	**5.99**	**344**	*e*P	**Pg**	**03 13 05.0**	**-3.3**
	131nm,1.1s						
DGS				*e*S	**Sg**	**03 14 24.9**	**-1.0**
	361nm,0.6s						
DGS	**Degeres**	**5.99**	**344**	Pg	**Pb**	**03 13 01.6**	**+4.0**
	131nm,1.1s						
DGS				Lg	Lg	03 14 17.6	
	143nm,1.0s						
CEP	**Cherat**	**6.18**	**235**	P	**Pn**	**03 12 47.1**	**+2.8**
BTK	**Batken**	**6.19**	**297**	P	**Pn**	**03 12 47.0**	**+2.7**
BTK	**Batken**	**6.19**	**297**	Pn	**Pn**	**03 12 47.0**	**+2.7**
GAR	**Garm**	**6.25**	**286**		**Pn**	**03 12 48.2**	**+3.1**
KTBS	**Karatobe**	**6.29**	**351**	*e*P	Pb	03 13 08.1	+5.4
	48nm,0.6s						
KTBS				*e*S	**Sg**	**03 14 30.0**	**-5.5**
	281nm,0.7s						
SMLA	**Simla**	**6.39**	**187**	*e*P	**Pn**	**03 12 49.2**	**+2.2**
SMLA				*e*S	**Sn**	**03 13 58.2**	**-1.4**
SMLA				IAML		03 14 13.4	
	comp=E,322nm,0.3s						
SMLA				IAML		03 14 13.8	
	comp=N,224nm,0.6s						
KRBS	**Karabastau**	**6.45**	**345**	*e*P	**Pb**	**03 13 09.8**	**+4.5**
	comp=N,36nm,1.0s						
KRBS				*e*S	**Sg**	**03 14 33.1**	**-7.3**
	comp=N,221nm,1.0s						
SGDS	**Sogindy**	**6.49**	**338**	*e*P	**Pn**	**03 12 46.9**	**-1.5**
	baz=337						
SGDS	**Sogindy**	**6.49**	**338**	*e*P	**Pn**	**03 12 46.8**	**-1.5**
KUU	**Kurty**	**6.52**	**349**	*e*P	**Pn**	**03 12 49.1**	**+0.4**
	baz=349						
KUU				*e*S	**Sn**	**03 13 59.6**	**-3.0**
	baz=349						
KUU	**Kurty**	**6.52**	**349**	*e*P	**Pn**	**03 12 49.1**	**+0.4**
KUU				*e*S	**Sn**	**03 13 59.6**	**-3.0**
THW	**Thamme Wali**	**6.96**	**230**	P	**Pn**	**03 12 56.6**	**+1.7**
CHGR	**Chuyangaron**	**7.09**	**282**	Pn	**Pn**	**03 12 57.7**	**+1.0**
SARP	**Sargodha**	**7.10**	**220**	P	**Pn**	**03 12 59.0**	**+2.3**
DDI	**Dehra Dun**	**7.16**	**180**	*e*P	**Pn**	**03 13 00.1**	**+2.6**
DDI				*e*S	**Sn**	**03 14 12.3**	**-6.2**
DDI				IAML		03 14 24.6	
	comp=N,546nm,0.2s						
DDI				IAML		03 14 25.8	
	comp=E,536nm,0.3s						
TAS	**Tashkent**	**7.77**	**302**	P	**Pn**	**03 13 08.6**	**+2.8**
TAS	**Tashkent**	**7.77**	**302**	Pn	**Pn**	**03 13 08.6**	**+2.8**
KBL	**Kabul**	**7.86**	**251**	P	**Pn**	**03 13 08.5**	**+1.2**
KBL	**Kabul**	**7.86**	**251**	Pn	**Pn**	**03 13 08.5**	**+1.2**
KBL	**Kabul**	**7.86**	**251**	P	**Pn**	**03 13 08.9**	**+1.7**
	SNR=11						
NDI	**New Delhi**	**8.81**	**185**	*e*P	Pn	03 13 31.0	+11
WMQ	**Urumqi**	**9.68**	**46**	*e*P	**Pn**	**03 13 33.2**	**+1.0**
WMQ				S	**Sn**	**03 15 27.3**	**+6.8**
WMQ				smax	smax		
	comp=E,140nm,1.1s						
WMQ				smax	smax		
	comp=E,180nm,1.1s						
WMQ				LR	LR		
	comp=E,3μm,9.1s						
WMQ				LR	LR		
	comp=E,4μm,12.1s						
WMQ				LR	LR		
	comp=E,3μm,15.1s						
MAKZ	**Makanchi**	**9.75**	**16**	P	**Pn**	**03 13 33.6**	**+0.5**
MAKZ	**Makanchi**	**9.75**	**16**		**Pn**	**03 13 33.6**	**+0.5**
MK31	**Makanchi Array**	**9.81**	**17**	P	**

KURBB Lg Lg 03 18 13.3
comp=E,0.1nm,0.3s,baz=191,slow=34,SNR=4.3
KURBB Kurchatov Arra 13.13 1 ⇓P Pn 03 14 14.9 -4.3
comp=E,27nm,1.1s,baz=186,slow=10
HRA Herat 13.16 261 Pn **Pn 03 14 19.5 -0.4**
KURK Kurchatov 13.22 2 P **Pn 03 14 17.0 -3.5**
KURK Kurchatov 13.22 2 Pn 03 14 16.9 -3.5
DGZ Jazzator, Alta 13.96 26*c iP* **Pn 03 14 30.8 +0.2**
BHPL Bhopal 14.22 182 *eP* **Pn 03 14 33.3 -0.9**
BHPL *eS* Sn 03 17 01.3 -10
GEYT Alibeck 15.77 278 Pn **Pn 03 14 51.6 -3.2**
comp=E,0.3nm,0.3s,baz=70,slow=21,SNR=2.9
GEYT Sn **Sn 03 17 42.1 -7.1**
comp=E,3.1nm,0.3s,baz=134,slow=52,SNR=4.6
GYA0B ALIBECK ARRAY 15.77 278 Pn 03 14 55.0 +0.1
GYA0B IAmb IAmb 03 15 05.7
comp=Z,55nm,0.7s
BVAR Borovoye Array 16.42 343 Pn **Pn 03 15 00.2 -2.9**
comp=Z,0.2nm,0.3s,baz=228,slow=28,SNR=3.6
BRVK Borovoye 16.47 343 ⇑P **Pn 03 15 03.0 -0.7**
comp=Z,128nm,1.1s
BRVK Borovoye 16.47 343*deP* **Pn 03 15 03.1 -0.7**
BRVK Borovoye 16.47 343 Pn 03 15 03.9 +0.1
SHL Shillong 16.74 131 P **Pn 03 15 02.4 -5.1**
SHL pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 16.74 131 Pn **Pn 03 15 02.4 -5.1**
ZAA0 Zalesovo Array 17.11 14 Pn 03 15 09.2 -2.5
ZALV Zalesovo Beam 17.11 14 P **Pn 03 15 09.0 -2.8**
comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=7.0
ZALV LR LR 03 21 19.8
comp=Z,332nm,18.3s,baz=275,slow=36
ZALV Zalesovo Beam 17.11 14 P **Pn 03 15 09.0 -2.8**
GTA Gaotai 17.17 77 *eP* **P 03 15 15.6 +1.3**
GTA pP pP 03 15 19.4 -0.2
GTA sP sP 03 15 21.7 -0.2
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,22nm,5.1s
GTA LR LR
comp=Z,2μm,14.5s
GTA LR LR
comp=Z,2μm,16.7s
GTA LR LR
comp=Z,2μm,15.6s
ABKAR Akbulak array 17.58 318 Pn **Pn 03 15 16.1 -1.6**
POO Poona 19.25 192 *eP* **Pn 03 15 38.0 -0.2**
AKTO Aktyubinsk 19.28 318 P **P 03 15 37.4 +0.1**
comp=Z,0.6nm,0.3s,baz=119,slow=10,SNR=32
AKTO LR LR 03 22 42.9
comp=Z,826nm,18.9s,baz=157,slow=36
AKTO Aktyubinsk 19.28 318 ⇓P **P 03 15 37.4 +0.1**
comp=Z,18nm,0.8s
HYB Hyderabad 20.01 179 *i* P **P 03 15 44.0 -1.5**
HYB *eS* **Sn 03 19 34.0 +2.0**
LZH Lanzhou 20.71 86 *eP* **P 03 15 49.5 -3.7**
LZH pP Pn 03 15 55.2 -0.3
LZH sP pP 03 15 57.8 -0.6
LZH pmax pmax
comp=Z,22nm,1.1s
BANOM Banah 21.74 244 P **P 03 16 05.5 +1.3**
BANOM Banah 21.74 244 P **P 03 16 06.2 +2.1**
SNR=5.4
SHME Shamm 21.77 245 *i* P **P 03 16 06.6 +2.1**
SNR=5.4
SHME Shamm 21.77 245 P **P 03 16 07.5 +2.9**
WSAR Wadi Sarin 21.89 235 P **P 03 16 03.5 -2.4**
comp=Z,20nm,1.1s,baz=62,slow=15,SNR=2.7
WSAR Wadi Sarin 21.89 235 P **P 03 16 07.8 +2.0**
MDH Madha 22.12 243 P **P 03 16 09.7 +1.4**
MDH Madha 22.12 243 P **P 03 16 10.1 +1.8**
ZAK Zakamensk 22.15 46 *eP* **P 03 16 10.1 +1.5**
ZAK pmax pmax
comp=Z,11nm,1.6s
MASF Masafi 22.17 243 P **P 03 16 10.6 +1.7**
SNR=5.4
MSFE Esma-Masafi 22.18 243 *i* P **P 03 16 10.6 +1.7**
SNR=8.6
SMDO Samad 22.40 236 P **P 03 16 13.0 +1.6**
UOSS Minazif 22.41 242 *i* P **P 03 16 13.2 +1.8**
SNR=11
UOSS Minazif 22.41 242 P **P 03 16 10.3 -1.0**
UOSS Minazif 22.41 242 P **P 03 16 13.5 +2.1**
HATD Hatta, Dubai 22.53 242 *i* P **P 03 16 16.3 +3.6**
SNR=9.5
HATD Hatta, Dubai 22.53 242 P **P 03 16 13.8 +1.1**
SNR=7.7
HOQ Hoqain 22.53 238 P **P 03 16 15.7 +3.0**
SVE Sverdlovsk 22.55 335 *eP* **P 03 16 15.0 +2.5**
SVE pmax pmax
comp=Z,24nm,0.9s
ASHO Ashiyiah 22.68 242 *i* P **P 03 16 16.9 +2.7**
SNR=63
ASHO Ashiyiah 22.68 242 P **P 03 16 17.4 +3.1**
SNR=20
SOHO SOHO 22.70 240 P **P 03 16 15.7 +1.3**
NAZ Nazwa, Dubai 22.76 243 *i* P **P 03 16 17.4 +2.3**
SNR=12
NAZ Nazwa, Dubai 22.76 243 P **P 03 16 17.9 +2.8**
SNR=6.5
JMDO Jabal Madar 22.85 234 P **P 03 16 17.5 +1.4**
TLY Talaya 22.95 44 P **P 03 16 17.1 +0.2**
comp=Z,0.9nm,0.3s,baz=234,slow=8.7,SNR=1.6
TLY LR LR 03 26 38.8
comp=Z,1μm,20.9s,baz=293,slow=40
TLY Talaya 22.95 44 *eP* **P 03 16 20.1 +3.2**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,3μm,13.0s
TLY Talaya 22.95 44 P **P 03 16 16.2 -0.7**
ARU Arti 22.99 332 P **P 03 16 16.6 -0.6**
comp=Z,3.2nm,0.8s,baz=142,slow=3.7,SNR=11
ARU Arti 22.99 332*c iP* **P 03 16 18.7 +1.5**
ARU PPP PPP 03 16 49.9
ARU S **S 03 20 29.1 +2.4**
ARU pmax pmax
comp=Z,8.0nm,0.8s
ARU Arti 22.99 332 P **P 03 16 17.7 +0.5**
ARU IAmb IAmb 03 16 24.8
comp=Z,26nm,0.8s
SONM Songino Array 23.16 54 P **P 03 16 18.8 -0.3**
comp=Z,15nm,1.1s,baz=251,slow=9.1,SNR=28
SONM LR LR 03 26 46.4
comp=Z,3μm,18.1s,baz=328,slow=40
SONM Songino Array 23.16 54 P **P 03 16 18.3 -0.9**
SONM pmax pmax
comp=Z,14nm,1.2s
SONM Songino Array 23.16 54 P **P 03 16 18.3 -0.9**
ASUD Al Ashush, Dub 23.23 243 *i* P **P 03 16 22.5 +2.6**
SNR=11
ASUD Al Ashush, Dub 23.23 243 P **P 03 16 22.2 +2.3**
ARQ Araqi 23.23 239 P **P 03 16 23.3 +3.2**
ALNE Al Ain 23.29 241 *i P* **P 03 16 22.3 +1.8**
SNR=12
ALNE Al Ain 23.29 241 P **P 03 16 22.7 +2.1**
SNR=8.4
IRK Irkutsk 23.56 43 *eP* **P 03 16 24.6 +1.6**
IRK pmax pmax
comp=Z,49nm,3.1s
ULN Ulaanbaatar 23.59 55*deP* **P 03 16 24.0 +0.5**
ULN pmax pmax
comp=Z,23nm,2.5s
ULN Ulaanbaatar 23.59 55 P **P 03 16 22.8 -0.7**
MHTO MHTO 23.94 232 P **P 03 16 28.2 +1.4**
UMZA Um Al Zommool 24.58 240 P **P 03 16 35.7 +3.0**
JRN Qarnain Island 24.82 247 P **P 03 16 35.3 +0.4**
DQM DQM 25.00 231 P **P 03 16 37.8 +1.2**
GROC Groznyy 25.12 293 *eP* **P 03 16 38.5 +1.0**
GROC *e* 03 17 12.8
GROC *e* 03 20 13.0
GROC *eS* **S 03 21 06.4 +5.0**
GROC pmax pmax
comp=Z,67nm,0.9s
XAN Xi'an 25.25 88 P **P 03 16 38.8 0.0**
XAN pP pP 03 16 42.1 -2.3
XAN pmax pmax
comp=Z,7.0nm,1.3s
GNI Garni 25.99 286 P **P 03 16 43.6 -2.0**
comp=Z,3.8nm,0.6s,baz=90,slow=12,SNR=1.6
GNI Garni 25.99 286 P **P 03 16 48.6 +3.0**
GNI Garni 25.99 286*ceP* **P 03 16 48.4 +2.8**
GNI pmax pmax
comp=Z,22nm,0.9s
GNI Garni 25.99 286 P **P 03 16 47.5 +1.9**
GNI IAmb IAmb 03 16 55.0
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 26.12 72 *eP* **P 03 16 46.6 -0.1**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,430nm,5.4s
SLWR Sila 26.19 247 P **P 03 16 48.2 +0.9**
CMAR Chiang Mai Arr 26.37 130 P **P 03 16 49.7 +0.7**
comp=Z,1.4nm,0.3s,baz=312,slow=9.4,SNR=7.2
ZEI Tsey 26.50 292 *eP* **P 03 16 53.4 +3.1**
ZEI pmax pmax
comp=Z,8.0nm,0.8s
GYA Guiyang 26.57 106 *eP* **P 03 16 50.7 -0.2**
NCK Nalchik 26.73 294⇓*eP* **P 03 16 56.0 +3.9**
NCK pmax pmax
comp=Z,13nm,0.6s
ONI Oni 26.84 292 IAmb IAmb 03 17 19.6
comp=Z,19nm,0.9s
KARS Kars 27.21 288 P **P 03 16 57.4 +0.8**
KARS pmax pmax
comp=Z,42nm,1.0s
KARS Kars 27.21 288 P **P 03 16 57.4 +0.8**
KBZ Khabaz 27.24 294 P P 03 17 05.8 +9.1
comp=Z,1.2nm,0.6s,baz=96,slow=16,SNR=2.6
KIV Kislovodsk 27.40 295 *eP* **P 03 16 59.1 +0.9**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 27.40 295 P **P 03 16 59.2 +1.0**
GEVA Gevas 27.51 283 P **P 03 16 59.8 +0.5**
KIRV Kirov 28.11 328⇓*eP* **P 03 17 05.5 +1.3**
GURO Guroymak-BITLI 28.27 283 P **P 03 17 06.9 +0.8**
PBA Port Blair 28.92 149 P P 03 17 13.9 +2.1
SNR=42
MARD Mardin 29.47 281 P **P 03 17 17.2 +0.5**
MARD IAmb IAmb 03 17 19.7
comp=Z,11nm,1.0s
VORD Divnogorie 30.47 309 *eP* **P 03 17 25.6 +0.3**
VORD pmax pmax
comp=Z,5.0nm,0.8s
VSR Storozhevoye 30.60 309 *eP* **P 03 17 25.8 -0.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 31.04 312 *eP* **P 03 17 31.0 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 31.12 253 P **P 03 17 30.5 -0.8**
RAYN Ar Rayn 31.12 253 P **P 03 17 30.6 -0.8**
RAYN pmax pmax
comp=Z,4.0nm,0.8s
RAYN Ar Rayn 31.12 253 P **P 03 17 30.6 -0.8**
PRGR Permogore 31.43 331 *eP* **P 03 17 33.5 -0.1**
GAZ Gaziantep 32.28 282 P **P 03 17 42.3 +0.8**
NRIK Noril'sk 32.32 6 P **P 03 17 41.9 +0.5**
comp=Z,7.6nm,1.0s,baz=168,slow=6.8,SNR=7.5
NRIK Noril'sk 32.32 6*deP* **P 03 17 42.4 +1.0**
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 32.32 6 P **P 03 17 41.9 +0.5**
NRIK IAmb IAmb 03 17 49.2
comp=Z,17nm,1.1s
MOS Moscow 32.60 317 *eP* P 03 17 49.9 +5.9
MOS *e* 03 22 57.2
MOS pmax pmax
comp=Z,49nm,0.8s
MOS MLR MLR
comp=E,2μm,15.0s
MOS MLR MLR
comp=Z,2μm,15.0s
BNN Bunyan 32.98 286 P **P 03 17 48.5 +0.8**
KLMR Klimovskoe 33.57 327 *eP* **P 03 17 52.2 -0.1**
KLMR *e* 03 20 37.6
KLMR pmax pmax
comp=Z,24nm,1.3s
KLMR Klimovskoe 33.57 327 *eP* **P 03 17 52.3 -0.1**
KLMR AMP 03 18 01.7
comp=Z,24nm,1.3s
KLMR *e*PPP PPP 03 19 14.4
KLMR *e*PcP **PcP 03 20 37.6 +5.1**
KLMR LQ LQ 03 27 23.2
KLMR LQ LQ 03 27 23.2
KLMR LR LR 03 31 24.9
NJ2 Nanjing 33.78 87 *eP* **P 03 17 51.2 -3.3**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ILGA Ilgaz 34.21 290 P **P 03 17 59.0 +0.5**
ILGA IAmb IAmb 03 18 01.9
comp=Z,13nm,0.8s
BRTR Keskin Array B 34.49 288 P **P 03 18 01.1 +0.2**
comp=Z,9.1nm,0.9s,baz=93,slow=7.4,SNR=19
BRTR Keskin Array B 34.49 288 P **P 03 18 00.1 -0.7**
ANTO Ankara 35.11 288 P **P 03 18 06.7 +0.6**
ANTO pmax pmax
comp=Z,19nm,1.1s
ANTO Ankara 35.11 288 P **P 03 18 06.7 +0.6**
ANTO IAmb IAmb 03 18 09.4
comp=Z,19nm,1.1s
AKASG Malin Array Be 36.78 307 P **P 03 18 20.3 +0.2**
comp=Z,0.3nm,0.3s,baz=77,slow=7.7,SNR=8.8
AKASG Malin Array Be 36.78 307 *i P* **P 03 18 20.2 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 36.78 307 P **P 03 18 21.9 +1.8**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
AKBB Malin Array Si 36.78 307 P **P 03 18 21.9 +1.8**
AKBB IAmb IAmb 03 18 29.4
comp=Z,8.8nm,0.9s
ZEA Zeya 37.23 48 *eP* **P 03 18 27.3 +3.3**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
CFR Carcaliu 37.73 298 ⇑P **P 03 18 28.1 -0.1**
PLOR Plostina 38.70 299 ⇑P **P 03 18 37.8 +1.3**
LVZ Lovozero 38.76 335⇓*eP* **P 03 18 37.6 +0.9**
LVZ pmax pmax
comp=Z,16nm,1.0s
LVZ Lovozero 38.76 335 P **P 03 18 38.4 +1.8**
LVZ IAmb IAmb 03 18 58.4
comp=Z,15nm,0.8s
VSU Vasula 39.01 319 *eP* **P 03 18 40.5 +1.6**
VSU Vasula 39.01 319⇓*eP* **P 03 18 39.4 +0.6**
VSU pmax pmax
comp=Z,13nm,0.8s
TJN Taejon 39.09 76⇓*eP* **P 03 18 43.5 +3.7**
KSRS Korea Array 39.21 74 P **P 03 18 41.2 +0.3**
comp=Z,0.5nm,0.3s,baz=308,slow=12,SNR=1.5
MLR Muntele Rosu 39.23 299 P **P 03 18 41.5 +0.4**
comp=Z,11nm,0.8s,baz=131,slow=12,SNR=9.5
MLR Muntele Rosu 39.23 299 ⇑P **P 03 18 42.1 +1.1**
MLR Muntele Rosu 39.23 299 P **P 03 18 42.5 +1.5**
MLR IAmb IAmb 03 18 57.7
comp=Z,11nm,0.8s
BURAR Bucovina Array 39.50 302 ⇑P **P 03 18 39.3 -4.0**
VOIR 39.86 299 ⇓P **P 03 18 47.5 +1.2**
FIA1 FINESS Array S 39.90 324 IAmb IAmb 03 18 54.3
comp=Z,12nm,0.9s
KLR Kul'dur 39.98 55 P **P 03 18 47.9 +0.9**
comp=Z,3.1nm,0.9s,baz=278,slow=10,SNR=5.5
KLR Kul'dur 39.98 55⇓*eP* **P 03 18 48.0 +0.9**
KLR pmax pmax
comp=Z,6.0nm,1.3s
LVV L'vov 40.13 306 *eP* P 03 18 54.9 +6.6
ARR Arges 40.16 299 ⇑P **P 03 18 50.2 +1.5**
PABE Paberze 40.18 314 *eP* **P 03 18 50.2 +1.6**
PABE Paberze 40.18 314 P **P 03 18 49.5 +0.9**
MEF Metsahovi 40.48 322 *eP* **P 03 18 52.7 +1.7**
MTSE Matsula 40.56 319 *eP* **P 03 18 51.6 -0.1**
SUW Suwalki 40.57 312 *eP* **P 03 18 53.5 +1.6**
KOLS Kolonicke sedl 41.34 304 *eP* P 03 19 04.3 +5.9
KOLS Kolonicke sedl 41.34 304 *eP* P 03 19 04.3 +5.9
VTS Vitosha 41.63 295 P **P 03 19 02.9 +1.9**
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 41.63 295 P **P 03 19 02.9 +1.9**
KLNR Kaliningrad 42.32 313⇑*eP* **P 03 19 06.1 -0.1**
KLNR pmax pmax
comp=Z,39nm,0.7s
ARCES ARCESS Array B 42.47 336 P **P 03 19 06.7 -0.6**
comp=Z,4.4nm,0.9s,baz=104,slow=10,SNR=8.3
ARCES ARCESS Array B 42.47 336 P **P 03 19 07.8 +0.5**
BKNI Bangkinang 42.65 145 P **P 03 19 07.0 -2.4**
TIXI Tiksi 42.77 21 P **P 03 19 10.2 +0.5**
comp=Z,1.1nm,0.3s,baz=142,slow=2.3,SNR=1.7
TIXI Tiksi 42.77 21 IAmb IAmb 03 19 16.9
comp=Z,8.4nm,1.1s
OJC Ojcow 42.82 307 P **P 03 19 11.5 +1.1**
OJC pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 42.82 307 P **P 03 19 11.5 +1.1**
VYHS Vyhne 43.65 304 *eP* P 03 19 25.2 +8.0
VYHS Vyhne 43.65 304 *eP* P 03 19 25.2 +8.0
UPP Uppsala 43.82 321 *eP* **P 03 19 19.9 +1.6**
MORH Mrgy, Hungar 44.16 301 *eP* P 03 19 29.7 +8.5
PUK Puka 44.18 295 P **P 03 19 21.4 -0.2**
PUK IAmb IAmb 03 19 32.3
comp=Z,6.4nm,0.7s
MORC Moravsky Berou 44.31 306 *eP* **P 03 19 23.5 +1.0**
JAVC Velka Javorina 44.36 305 *eP* **P 03 19 25.1 +2.2**
MODS Modra-Piesok 44.70 304 *eP* P 03 19 33.0 +7.5
MODS Modra-Piesok 44.70 304 *eP* P 03 19 33.0 +7.5
KRLC Kraliky 44.76 307 *eP* **P 03 19 26.4 +0.3**
KRLC *e* 03 19 32.6
KRLC Kraliky 44.76 307 *eP* **P 03 19 26.4 +0.3**
KRLC *ex* x 03 19 32.6
VRAC Vranov 44.99 306 P **P 03 19 28.3 +0.4**
comp=Z,1.1nm,0.4s,baz=70,slow=14,SNR=1.9
DPC Dobruska-Polom 45.02 307 *eP* **P 03 19 29.0 +0.9**
DPC *e* 03 19 34.9
DPC Dobruska-Polom 45.02 307 *eP* **P 03 19 29.0 +0.9**
DPC *ep*P **pP 03 19 34.9 +1.0**
OSTC Ostas 45.05 307 *eP* **P 03 19 31.8 +3.4**
CHVC Chvalec 45.15 307 *eP* **P 03 19 30.8 +1.7**
CHVC *ex* x 03 19 36.3
HFS Hagfors 45.80 321 P **P 03 19 34.3 +0.2**
comp=Z,4.9nm,0.8s,baz=98,slow=11,SNR=9.0
BRG Berggiesshubel 46.44 308 *eP* **P 03 19 40.5 +1.3**
BRG Amp 03 19 41.7
comp=Z,6.3nm,1.1s
BRG Berggiesshubel 46.44 308 P P 03 19 46.4 +7.2
BRG Amp 03 19 47.5
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 46.44 308 *eP* P 03 19 46.3 +7.1
comp=Z,9.0nm,0.9s,baz=83,slow=6.9
SOKA Soboth 46.51 302 *eP* **P 03 19 40.4 +0.4**
comp=Z,10.0nm,0.9s
NC405 NORSAR Array S 46.76 322 P **P 03 19 41.7 0.0**
MOA Molln 46.78 304 *eP* **P 03 19 42.9 +0.9**
comp=Z,4.0nm,0.8s
OBKA Obir 46.87 302 *eP* **P 03 19 44.4 +1.5**
comp=Z,5.9nm,0.9s
NC303 NORSAR Array S 46.93 323 P **P 03 19 44.3 +1.4**
GEC2 GERESS Array S 46.95 305 IAmb IAmb 03 19 51.6
comp=Z,5.8nm,0.9s
GEC2 GERESS Array S 46.95 305 *eL* L 03 41 42.4
comp=Z,605nm,20.2s
GERES GERESS Array B 46.95 305 P **P 03 19 43.9 +0.5**
comp=Z,2.1nm,0.8s,baz=69,slow=7.4,SNR=16
CLL Collm 46.95 309 *eP* **P 03 19 44.0 +0.8**
comp=Z,4.0nm,0.9s
CLL *i* pP **pP 03 19 50.0 +0.9**
comp=Z,7.0nm,0.9s
CLL *e*PPPP 03 22 27.0
CLL LmH 03 40 00.0
comp=N,700nm,18.5s
CLL LmH 03 40 00.0
comp=E,400nm,21.2s
CLL Lm MLR 03 41 00.0
comp=Z,500nm,21.9s
CLL Collm 46.95 309 *eP* **P 03 19 44.0 +0.8**
CLL *i* 03 19 50.0
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL MLR MLR
comp=Z,500nm,21.9s
CLL Collm 46.95 309 IAmb IAmb 03 19 50.9
comp=Z,5.9nm,0.8s
CLL Collm 46.95 309 *eL* L 03 41 24.3
comp=Z,523nm,21.9s
KHC Kasperske Hory 46.97 306 *eP* **P 03 19 44.2 +0.7**
KHC *e* 03 19 49.5
KHC Kasperske Hory 46.97 306 *eP* **P 03 19 44.2 +0.7**
KHC *ep*P **pP 03 19 49.5 +0.1**
KHC Kasperske Hory 46.97 306 P **P 03 19 44.5 +1.0**
KHC IAmb IAmb 03 19 51.8
comp=Z,7.0nm,0.9s
NB2 NORSAR Subarra 47.01 322 P **P 03 19 43.9 +0.3**
comp=Z,19nm,1.0s,baz=89,slow=7.9
NOA NORSAR Array B 47.01 322 P **P 03 19 43.8 +0.2**
comp=Z,3.0nm,0.7s,baz=85,slow=9.3,SNR=14
NOA LR LR 03 38 29.6
comp=Z,195nm,18.2s,baz=95,slow=35
MJAR Matsushiro Arr 47.32 72 P **P 03 19 46.4 0.0**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 47.32 72 P **P 03 19 46.4 0.0**
WET Wettzell 47.42 306 *eL* L 03 42 29.4
comp=Z,457nm,18.8s
MOX Moxa 47.93 308 *eL* L 03 43 32.5
comp=Z,456nm,19.3s
BSEG Bad Segeberg 48.15 313 *eP* P 03 19 59.6 +7.1
comp=Z,18nm,0.8s,baz=83,slow=6.9
BSEG *eL* L 03 42 27.4
comp=Z,477nm,19.8s
ABTA Abfaltersbach 48.18 303 *eP* **P 03 19 54.1 +1.1**
comp=Z,4.4nm,1.1s
PAOL Paolisi 48.30 295 P **P 03 19 55.6 +1.7**
PAOL IAmb IAmb 03 20 01.1
comp=Z,4.7nm,0.8s
GRF Grafenberg Arr 48.37 307 *eP* P 03 20 01.6 +7.2
comp=Z,161nm,3.0s,baz=83,slow=6.9
GRF *eL* L 03 43 09.1
comp=Z,357nm,21.8s
GRFO Grafenberg 48.37 307 P **P 03 19 55.7 +1.4**
GRFO pmax pmax
comp=Z,12nm,1.0s
GRFO Grafenberg 48.37 307 P **P 03 19 55.7 +1.4**
INTR Introdacqua 48.48 296 P **P 03 19 56.0 +0.6**
INTR IAmb IAmb 03 20 06.9
comp=Z,8.8nm,1.1s
FUR Furstenfeldbru 48.67 305 *eL* L 03 43 05.6
comp=Z,627nm,18.7s
NRCA Norcia 48.80 298 IAmb IAmb 03 19 59.9
comp=Z,5.6nm,0.9s
DAVA Damuels 49.80 304 *eP* **P 03 20 06.0 +0.5**
comp=Z,12nm,0.9s
JHJ Hachijo jima 2 49.80 75 LR LR 03 44 18.5
comp=Z,1μm,19.8s,baz=108,slow=40
OSSC Osservatorio P 49.91 299 P **P 03 20 06.3 +0.1**
OSSC IAmb IAmb 03 20 14.2
comp=Z,7.3nm,1.1s
DAVOX Davos/Dischmat 49.93 304 P **P 03 20 05.8 -0.7**
comp=Z,2.3nm,0.5s,baz=109,slow=9.5,SNR=7.3
TNS Taunus Mts 50.00 308 *eL* L 03 40 57.8
comp=Z,464nm,20.5s
TUE Stuetta 50.36 303 P **P 03 20 10.6 +0.8**
TUE IAmb IAmb 03 20 38.4
comp=Z,6.1nm,1.0s
SEY Seymchan 50.42 35⇓*iP* **P 03 20 09.7 -0.1**
BFO Black Forest 50.54 306 *eL* L 03 43 51.2
comp=Z,581nm,20.3s
SENIN Lac Senin/Sane 51.75 304 IAmb IAmb 03 20 27.5
comp=Z,7.3nm,1.0s
BNI Bardonecchia 52.57 302 IAmb IAmb 03 20 33.6
comp=Z,9.2nm,1.1s
KMBO Kilima Mbogo 53.82 234 P **P 03 20 34.3 -1.6**
comp=Z,2.8nm,0.9s,baz=51,slow=14,SNR=5.6
KIBK Kibwezi 54.24 232 P **P 03 20 38.6 -0.3**
KIBK IAmb IAmb 03 20 46.3
comp=Z,8.4nm,1.0s
BILL Bilibino 55.19 27 P **P 03 20 46.0 +1.1**
BILL IAmb IAmb 03 20 47.4
comp=Z,9.3nm,1.2s
DAG Danmarks Havn 55.35 344⇓*iP* **P 03 20 46.7 +0.7**
DAG IAmb IAmb 03 20 47.5
comp=Z,5.7nm,0.8s
DAG Danmarks Havn 55.35 344⇓*iP* **P 03 20 46.6 +0.7**
DAG pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 55.45 317 P **P 03 20 47.2 +0.2**
comp=Z,3.3nm,0.7s,baz=84,slow=7.7,SNR=11
DBG Daneborg 56.48 341 *i P* **P 03 20 54.8 +0.7**
DBG IAmb IAmb 03 20 56.1
comp=Z,2.5nm,0.8s

MBAR	**Mbarara**	**57.78**	**240**	P	**P**	**03 21 03.7**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=35,slow=11,SNR=6.6						
MBAR	**Mbarara**	**57.78**	**240**	IAmb	IAmb	03 21 11.6	
	comp=Z,6.0nm,0.7s						
NEEM	**North Greenlan**	**61.20**	**349**	*i* P	**P**	**03 21 27.4**	**+0.2**
SUMG	**Summit**	**61.89**	**342**	*i* P	**P**	**03 21 33.0**	**+1.0**
SUMG				IAmb	IAmb	03 21 35.4	
	comp=Z,4.6nm,0.8s						
SUMG	**Summit**	**61.89**	**342**	*i* P	**P**	**03 21 33.0**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SUMG	**Summit**	**61.89**	**342**	P	**P**	**03 21 33.1**	**+1.0**
ESDC	**Sonseca Array**	**61.91**	**300**	P	**P**	**03 21 31.7**	**-0.5**
	comp=Z,1.5nm,1.0s,baz=48,slow=5.6,SNR=6.6						
ESDC	**Sonseca Array**	**61.91**	**300**	IAmb	IAmb	03 21 33.6	
	comp=Z,2.9nm,1.2s						
ICESG	**Greenland Ices**	**64.34**	**339**	*i* P	**P**	**03 21 49.4**	**+1.2**
ICESG				IAmb	IAmb	03 21 50.0	
	comp=Z,8.5nm,0.9s						
MDT	**Midelt**	**65.62**	**294**	P	**P**	**03 21 56.6**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=304,slow=9.8,SNR=2.8						
DY2G	**Dye2**	**67.96**	**339**	*i* P	**P**	**03 22 15.8**	**+4.4**
SFJD	**Kangerlussuaq**	**68.77**	**341**	P	**P**	**03 22 18.6**	**+2.4**
SFJD				pmax	pmax		
	comp=Z,11nm,1.0s						
SFJD	**Kangerlussuaq**	**68.77**	**341**	P	**P**	**03 22 18.6**	**+2.4**
COLD	**Coldfoot**	**69.39**	**18**	IAmb	IAmb	03 22 21.9	
	comp=Z,7.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**71.33**	**272**	P	**P**	**03 22 33.7**	**+0.9**
TOA0				IAmb	IAmb	03 22 48.2	
	comp=Z,7.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P	**P**	**03 22 30.8**	**-2.0**
	comp=Z,2.4nm,0.6s,baz=37,slow=5.6,SNR=9.5						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P	**P**	**03 22 32.1**	**-0.6**
BPAW	**Bear Paw Mtn.**	**71.61**	**20**	IAmb	IAmb	03 22 41.2	
	comp=Z,11nm,1.1s						
NEA2	**Nenana**	**71.74**	**19**	IAmb	IAmb	03 22 36.1	
	comp=Z,6.7nm,0.9s						
COLA	**College**	**71.84**	**19**	*d i* P	**P**	**03 22 35.7**	**+0.8**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	**Inuvik**	**71.90**	**12**	P	**P**	**03 22 35.5**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=324,slow=4.6,SNR=5.8						
INK	**Inuvik**	**71.90**	**12**	IAmb	IAmb	03 22 47.0	
	comp=Z,4.8nm,0.9s						
IL31		**72.17**	**19**	IAmb	IAmb	03 22 48.2	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**72.17**	**19**	P	**P**	**03 22 36.4**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=313,slow=4.8,SNR=30						
TRF	**Thorofare Moun**	**72.31**	**21**	P	**P**	**03 22 38.0**	**-0.1**
TRF				IAmb	IAmb	03 22 50.7	
	comp=Z,7.2nm,0.8s						
SCRK	**Sand Creek**	**73.54**	**18**	P	**P**	**03 22 44.5**	**-0.7**
SCRK				IAmb	IAmb	03 22 53.6	
	comp=Z,16nm,1.5s						
SUA	**Susitna One**	**73.74**	**22**	IAmb	IAmb	03 22 58.6	
	comp=Z,8.9nm,0.9s						
K27K	**Chicken**	**73.96**	**17**	IAmb	IAmb	03 22 55.5	
	comp=Z,7.4nm,1.2s						
DAWY	**Dawson**	**74.54**	**16**	IAmb	IAmb	03 22 58.2	
	comp=Z,7.0nm,1.2s						
BCAR	**Beaver Creek A**	**74.84**	**18**	P	**P**	**03 22 53.2**	**+0.4**
KOWA	**Kowa**	**75.09**	**277**	P	**P**	**03 22 54.9**	**0.0**
KOWA				IAmb	IAmb	03 23 02.6	
	comp=Z,6.7nm,0.8s						
HYT	**Haines Junctio**	**77.80**	**17**	IAmb	IAmb	03 23 22.5	
	comp=Z,8.0nm,1.0s						
LBTB	**Lobatse**	**79.33**	**227**	P	**P**	**03 23 18.2**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,13nm,1.0s						
LBTB	**Lobatse**	**79.33**	**227**	P	**P**	**03 23 18.2**	**-0.3**
YKA	**Yellowknife Ar**	**79.83**	**6**	P	**P**	**03 23 20.3**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=348,slow=5.0,SNR=14						
TSUM	**Tsumeb**	**80.06**	**237**	P	**P**	**03 23 21.0**	**-1.7**
BOSA	**Boshof**	**82.28**	**225**	P	**P**	**03 23 33.3**	**-1.0**
	comp=Z,7.9nm,1.1s,baz=352,slow=4.1,SNR=7.4						
BOSA	**Boshof**	**82.28**	**225**	IAmb	IAmb	03 23 41.6	
	comp=Z,10nm,1.1s						
SHEL	**Horse Pasture**	**94.74**	**254**	*i* P	**P**	**03 24 35.5**	**+1.1**
PB16	**IPOC Station P**	**145.79**	**295**	PKPbc	**PKPdf**	**03 30 51.8**	**-0.6**
PLCA	**Paso Flores**	**155.48**	**253**	PKPab	**PKPab**	**03 31 31.8**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=62,slow=6.1,SNR=3.6						

*ATH **03** 03:14:05.3, 36°.64N×28°.34E, h66km±13km, ML3.7/4, Error ellipse: s-maj=15.7km s-min=3.1km az=198.0*
*IDC **03** 03:14:06.6±1.1, 36°.31N×28°.44E, h46km±19km, mb3.9/2, mb1 4.1/7, mb1mx3.6/60, mbtmp4.0/7, ML4.0/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/55, Error ellipse: s-maj=15.8km s-min=9.0km az=170.0*
*DDA **03** 03:14:07.0, 36°.49N×28°.31E, h53km±1km, MW3.7*
*ISK **03** 03:14:07.9, 36°.55N×28°.32E, h55km±1km, ML3.8/23*
*THE **03** 03:14:08.7, 36°.52N×28°.34E, h58km±2km, ML3.6/11, Error ellipse: s-maj=2.2km s-min=0.6km az=133.0*
*NIC **03** 03:14:08.9±0.0, 36°.31N×28°.48E, h58km±1km, Ml4.2/4*
*HLW **03** 03:14:08.3, 36°.28N×28°.43E, h22km±23km, Md4.3, Ml4.2*

ISC 03 03:14:07.5±0.8, 36°.47N±0°.03×28°.36E±0°.02, h60km±5km, n116, σ1°31/175, 4C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.28**	**333**	PG	**Pn**	**03 14 16.7**	**-0.8**
MRSB				SG	**Sn**	03 14 23.9	-0.8
ARG	**Arkhangelos**	**0.31**	**217**	P	**Pn**	**03 14 18.8**	**+1.1**
ARG				S	**Sn**	**03 14 25.9**	**+0.8**
	8μm,0.2s						
ARG	**Arkhangelos**	**0.31**	**217**	P	**Pn**	**03 14 18.8**	**+1.1**
ARG				S	**Sn**	**03 14 26.6**	**+1.5**
ARG				AML	AML	03 14 27.1	
	comp=N,13537μm,0.3s						
ARG				AML	AML	03 14 27.4	
	comp=E,16392μm,0.3s						
ARG	**Arkhangelos**	**0.31**	**217**	PG	**Pn**	**03 14 18.7**	**+1.1**
ARG				SG	**Sn**	**03 14 26.6**	**+1.5**
ARG	**Arkhangelos**	**0.31**	**217**	⇑P	**Pn**	**03 14 18.9**	**+1.1**
ARG				S	**Sn**	**03 14 26.8**	**+1.8**
TURN	**Turunc**	**0.32**	**344**	PG	**Pn**	**03 14 17.7**	**0.0**
TURN				SG	**Sn**	**03 14 24.6**	**-0.6**
DALY	**Dalyan (Mula)**	**0.42**	**34**	*i* P	**Pn**	**03 14 18.7**	**+0.1**
DALY				*i* S	**Sn**	**03 14 26.4**	**-0.4**
DALY				IAML		03 14 27.0	
	comp=E,2μm,0.4s						
DALY				IAML		03 14 28.0	
	comp=N,4μm,0.7s						
DALY	**Dalyan (Mula)**	**0.42**	**34**	PG	**Pn**	**03 14 18.7**	**+0.1**
DALY				SG	**Sn**	**03 14 26.5**	**-0.2**
FETY	**Fethiye**	**0.61**	**74**	P	**Pn**	**03 14 21.1**	**+0.4**
FETY				S	**Sn**	**03 14 30.3**	**0.0**
FETY	**Fethiye**	**0.61**	**74**	PG	**Pn**	**03 14 21.4**	**+0.7**
FETY				SG	**Sn**	**03 14 31.3**	**+1.0**
YER	**Yerkesik**	**0.67**	**355**	P	**Pn**	**03 14 21.8**	**+0.4**
YER				S	**Sn**	**03 14 31.3**	**-0.3**
YER	**Yerkesik**	**0.67**	**355**	PG	**Pn**	**03 14 21.8**	**+0.4**
YER				SG	**Sn**	**03 14 30.8**	**-0.8**
DAT	**Datca**	**0.68**	**293**	P	**Pn**	**03 14 21.6**	**0.0**
DAT				S	**Sn**	**03 14 32.0**	**+0.1**
DAT	**Datca**	**0.68**	**293**	PG	**Pn**	**03 14 21.5**	**0.0**
DAT				SG	**Sn**	**03 14 31.7**	**-0.2**
MULA	**Mugla, Merkez-**	**0.79**	**358**	*i* P	**Pn**	**03 14 23.4**	**+0.5**
MULA				*i* S	**Sn**	**03 14 34.4**	**+0.2**
MULA				IAML		03 14 36.0	
	comp=N,2μm,0.4s						
MULA				IAML		03 14 37.0	
	comp=E,3μm,0.3s						
CAME	**Cameli-Denizli**	**0.90**	**58**	PG	**Pn**	**03 14 25.0**	**+0.7**
CAME				SG	**Sn**	**03 14 38.2**	**+1.5**
BDRM	**Kayabasi**	**0.94**	**309**	*i* P	**Pn**	**03 14 24.4**	**-0.4**
BDRM				*i* S	**Sn**	**03 14 36.0**	**-1.6**
BDRM				IAML		03 14 37.0	
	comp=E,722nm,0.2s						
BDRM				IAML		03 14 41.0	
	comp=N,955nm,0.5s						
MLSB	**Milas**	**0.95**	**331**	PG	**Pn**	**03 14 25.4**	**+0.5**
MLSB				SG	**Sn**	**03 14 37.1**	**-0.6**
NIS1	**Nisyros Isl.**	**0.96**	**278**	P	**Pn**	**03 14 25.3**	**+0.3**
NIS1				S	**Sn**	**03 14 38.9**	**+1.0**
NIS1	**Nisyros Isl.**	**0.96**	**278**	P	**Pn**	**03 14 25.0**	**0.0**
NIS1				AML	AML	03 14 40.2	
	comp=N,12966μm,0.3s						
NIS1				AML	AML	03 14 48.1	
	comp=E,11017μm,0.6s						
NIS1	**Nisyros Isl.**	**0.96**	**278**	PG	**Pn**	**03 14 25.5**	**+0.5**
NIS1				SG	**Sn**	**03 14 38.2**	**+0.3**
NISR	**Nisiros**	**1.00**	**279**	P	**Pn**	**03 14 26.0**	**+0.5**
NISR				S	**Sn**	**03 14 38.6**	**-0.2**
	comp=E,2μm,0.2s						
NISR	**Nisiros**	**1.00**	**279**	P	**Pn**	**03 14 25.7**	**+0.2**
NISR				AML	AML	03 14 39.4	
	comp=N,2705μm,0.2s						
NISR				AML	AML	03 14 39.9	
	comp=E,6457μm,0.2s						
CAEL	**Denizli, Camel**	**1.01**	**49**	*i* P	**Pn**	**03 14 26.6**	**+0.8**
CAEL				*i* S	**Sn**	**03 14 41.1**	**+1.7**
CAEL				IAML		03 14 43.0	
	comp=E,2μm,0.4s						
CAEL				IAML		03 14 49.0	
	comp=N,2μm,0.7s						
BODT	**Bodrum**	**1.03**	**306**	P	**Pn**	**03 14 25.9**	**0.0**
BODT				S	**Sn**	**03 14 38.8**	**-0.8**
BODT	**Bodrum**	**1.03**	**306**	PG	**Pn**	**03 14 25.9**	**0.0**
BODT				SG	**Sn**	**03 14 39.0**	**-0.6**
AKAS	**Kas**	**1.03**	**103**	*i* P	**Pn**	**03 14 26.5**	**+0.5**
AKAS				*i* S	**Sn**	**03 14 41.7**	**+1.9**
AKAS				IAML		03 14 44.0	
	comp=E,814nm,0.3s						
AKAS				IAML		03 14 48.0	
	comp=N,828nm,0.3s						
AKAS	**Kas**	**1.03**	**103**	PN	**Pn**	**03 14 27.6**	**+1.5**
AKAS				SN	**Sn**	**03 14 41.9**	**+2.0**
KSL	**Kastellorizon**	**1.04**	**107**	P	**Pn**	**03 14 26.8**	**+0.8**
KSL				S	**Sn**	**03 14 41.2**	**+1.4**
	comp=N,2μm,0.4s						
KSL	**Kastellorizon**	**1.04**	**107**	P	**Pn**	**03 14 26.8**	**+0.8**
KSL				AML	AML	03 14 42.9	
	comp=E,4699μm,0.3s						
KSL				AML	AML	03 14 43.3	
	comp=N,2039μm,0.4s						
KSL	**Kastellorizon**	**1.04**	**107**	⇑P	**Pn**	**03 14 26.3**	**+0.2**
KSL				S	**Sn**	**03 14 40.3**	**+0.5**
YKAV	**Yalikavak-Bodr**	**1.08**	**308**	PG	**Pn**	**03 14 26.7**	**+0.1**
YKAV				SG	**Sn**	**03 14 40.4**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.09**	**24**	*i* P	**Pn**	**03 14 26.9**	**+0.1**
TAVA				*i* S	**Sn**	**03 14 41.0**	**-0.2**
TAVA				IAML		03 14 42.0	
	comp=N,982nm,0.4s						
TAVA				IAML		03 14 43.0	
	comp=E,1μm,0.5s						
KOSK	**Kos Island**	**1.14**	**285**	PN	**Pn**	**03 14 27.8**	**+0.4**
KOSK				SN	**Sn**	**03 14 42.8**	**+0.6**
GOLH	**Golhisar**	**1.23**	**51**	*i* P	**Pn**	**03 14 30.2**	**+1.5**
GOLH				*i* S	**Sn**	**03 14 48.3**	**+3.8**
GOLH				IAML		03 14 55.0	
	comp=N,435nm,0.5s						
AYDN	**Tasoluk**	**1.25**	**342**	*i* P	**Pn**	**03 14 29.2**	**+0.3**
AYDN				*i* S	**Sn**	**03 14 44.6**	**-0.2**
AYDN				IAML		03 14 46.0	
	comp=N,515nm,0.6s						
AYDN				IAML		03 14 46.0	
	comp=E,631nm,0.5s						
ELL	**Elmali**	**1.28**	**77**	PN	**Pn**	**03 14 31.1**	**+1.8**
DDIM	**Aydin, Didim**	**1.33**	**318**	*i* P	**Pn**	**03 14 30.1**	**+0.2**
DDIM				*i* S	**Sn**	**03 14 46.4**	**-0.3**
DDIM				IAML		03 14 48.0	
	comp=N,1μm,0.4s						
DDIM				IAML		03 14 48.0	
	comp=E,2μm,0.6s						
KARP	**Karpathos**	**1.33**	**227**	P	**Pn**	**03 14 31.4**	**+1.4**
KARP				S	**Sn**	**03 14 47.6**	**+0.8**
	comp=E,2μm,0.2s						
KARP	**Karpathos**	**1.33**	**227**	PN	**Pn**	**03 14 32.0**	**+2.0**
KARP				SN	**Sn**	**03 14 48.9**	**+2.1**
KARP	**Karpathos**	**1.33**	**227**	⇑P	**Pn**	**03 14 31.4**	**+1.4**
KARP				S	**Sn**	**03 14 48.6**	**+1.8**
KARP				AML	AML	03 14 51.4	
	comp=E,4.1nm,0.2s						
KARP				AML	AML	03 14 51.4	
	comp=E,4.1nm,0.2s						
KARP				AML	AML	03 14 54.0	
	comp=E,4.7nm,0.3s						
KARP				AML	AML	03 14 54.0	
	comp=E,4.7nm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.52**	**346**	PN	**Pn**	**03 14 32.6**	**0.0**
AYDB				SN	**Sn**	**03 14 50.5**	**-1.0**
GCAM	**G?zelcaml?**	**1.52**	**324**	*i* P	**Pn**	**03 14 32.5**	**+0.1**
GCAM				*i* S	**Sn**	**03 14 50.4**	**-0.8**
GCAM				IAML		03 14 52.0	
	comp=N,2μm,0.2s						
GCAM				IAML		03 14 52.0	
	comp=E,937nm,0.2s						
GCAM	**G?zelcaml?**	**1.52**	**324**	PN	**Pn**	**03 14 32.7**	**+0.3**
GCAM				SN	**Sn**	**03 14 50.9**	**-0.4**
AKUM	**Antalya-Kumluc**	**1.61**	**95**	*i* P	**Pn**	**03 14 35.0**	**+1.4**
AKUM				*i* S	**Sn**	**03 14 54.1**	**+0.8**
AKUM				IAML		03 14 56.0	
	comp=E,533nm,0.4s						
AKUM				IAML		03 14 58.0	
	comp=N,477nm,0.5s						
KORT	**Korkueli**	**1.69**	**71**	*i* P	**Pn**	**03 14 35.9**	**+1.1**
KORT				*i* S	**Sn**	**03 14 57.6**	**+2.1**
KORT				IAML		03 14 59.0	
	comp=E,365nm,0.4s						
KORT				IAML		03 15 17.0	
	comp=N,260nm,0.6s						
KORT	**Korkueli**	**1.69**	**71**	PN	**Pn**	**03 14 35.9**	**+1.1**
SMG	**Samos**	**1.73**	**316**	P	**Pn**	**03 14 35.1**	**-0.3**
SMG				S	**Sn**	**03 14 55.0**	**-1.4**
	comp=N,6μm,0.2s						
SMG	**Samos**	**1.73**	**316**	P	**Pn**	**03 14 35.1**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.83**	**48**	*i* P	**Pn**	**03 14 37.3**	**+0.5**
BRDR				IAML		03 15 12.0	
	comp=E,104nm,0.4s						
BRDR				IAML		03 15 18.0	
	comp=N,145nm,0.9s						
ANTB	**Antalya**	**1.90**	**76**	PN	**Pn**	**03 14 39.9**	**+2.4**
BUCA	**Burdur, Bucak-**	**1.96**	**63**	*i* P	**Pn**	**03 14 40.0**	**+1.6**
BUCA				*i* S	**Sn**	**03 15 04.2**	**+2.1**
BUCA				IAML		03 15 05.0	
	comp=N,107nm,0.3s						
BUCA				IAML		03 15 05.0	
	comp=E,145nm,0.5s						
BASM	**Basmaki-Afyon**	**1.98**	**43**	PN	**Pn**	**03 14 38.7**	**-0.1**
KULA	**Kula-Manisa**	**2.06**	**7**	PN	**Pn**	**03 14 39.3**	**-0.5**
PASA	**Karahalli, USA**	**2.08**	**25**	*i* P	**Pn**	**03 14 39.6**	**-0.5**
PASA				*i* S	**Sn**	**03 15 03.5**	**-1.5**
PASA				IAML		03 15 04.0	
	comp=E,77nm,0.4s						
PASA				IAML		03 15 20.0	
	comp=N,47nm,0.7s						
BLCB	**Balcova**	**2.18**	**332**	P	**Pn**	**03 14 41.1**	**-0.3**
ZKR	**Zakros**	**2.20**	**233**	PN	**Pn**	**03 14 44.5**	**+2.8**
GOMA	**Golmarmara-Man**	**2.26**	**351**	PN	**Pn**	**03 14 42.5**	**0.0**
SANT	**Santorini**	**2.34**	**269**	PN	**Pn**	**03 14 44.9**	**+1.3**
URLA	**Izmir**	**2.35**	**324**	PN	**Pn**	**03 14 44.4**	**+0.6**
THT2	**Imerovigli**	**2.37**	**270**	P	**Pn**	**03 14 45.5**	**+1.6**
SNT5	**Nea Kammeni, S**	**2.39**	**269**	P	**Pn**	**03 14 45.4**	**+1.2**
THR6	**Thira Island,**	**2.39**	**268**	P	**Pn**	**03 14 45.2**	**+1.0**
NPS	**Neapolis**	**2.53**	**242**	P	**Pn**	**03 14 47.2**	**+1.0**
NPS				S	**Sn**	**03 15 15.9**	**0.0**
	comp=N,445nm,0.3s						
CHOS	**Chios island**	**2.65**	**317**	P	**Pn**	**03 14 47.8**	**-0.1**
CHOS				S	**Sn**	**03 15 17.4**	**-1.4**
	comp=N,928nm,0.3s						
CHOS	**Chios island**	**2.65**	**317**	P	**Pn**	**03 14 47.9**	**+0.1**
CHOS	**Chios island**	**2.65**	**317**	PN	**Pn**	**03 14 48.3**	**+0.4**
CHOS				SN	**Sn**	**03 15 17.5**	**-1.4**
LAST	**Lasithi**	**2.68**	**242**	P	**Pn**	**03 14 49.3**	**+1.1**
SHUT	**Suhut-Afyon**	**2.72**	**39**	PN	**Pn**	**03 14 49.1**	**+0.3**
CAND	**Candarli**	**2.77**	**334**	PN	**Pn**	**03 14 50.0**	**+0.6**
DKL	**Dikili**	**2.84**	**337**	PN	**Pn**	**03 14 50.8**	**+0.4**
IDI	**Anoyia**	**3.05**	**248**	P	**Pn**	**03 14 54.1**	**+0.8**
	comp=N,15nm,0.3s,baz=81,slow=15,SNR=292						
IDI				S	**Sn**	**03 15 27.9**	**-0.7**
	comp=N,21nm,0.3s,baz=16,slow=6.6,SNR=14						
IDI	**Anoyia**	**3.05**	**248**	P	**Pn**	**03 14 53.8**	**+0.5**
PRK	**Paraskevi**	**3.23**	**330**	P	**Pn**	**03 14 56.8**	**+1.2**
PRK				S	**Sn**	**03 15 32.2**	**-0.7**
	comp=N,455nm,0.6s						
SIGR	**SIGRI**	**3.38**	**325**	P	**Pn**	**03 14 57.9**	**+0.2**
SIGR				S	**Sn**	**03 15 34.6**	**-2.0**
AKMS	**Akamas**	**3.54**	**113**	P	**Pn**	**03 15 00.1**	**0.0**
AKMS				AML	AML	03 15 40.5	
	comp=N,2.9nm,0.3s						
AKMS				AML	AML	03 15 40.5	
	comp=N,2.9nm,0.3s						
AKMS				AML	AML	03 15 40.9	
	comp=N,4.4nm,0.3s						
AKMS				AML	AML	03 15 40.9	
	comp=N,4.4nm,0.3s						
AKMS				S	**Sn**	**03 15 41.1**	**+0.4**
ALFC	**Alefka**	**3.69**	**110**	⇑P	**Pn**	**03 15 01.5**	**-0.5**
ALFC				AML	AML	03 15 44.3	
	comp=N,1.1nm,0.2s						
ALFC				AML	AML	03 15 44.9	
	comp=N,1.2nm,0.3s						
OSC1	**CSNet OBS 1**	**3.81**	**140**	P	**Pn**	**03 15 03.5**	**-0.1**
NATA	**Nata**	**3.82**	**115**	P	**Pn**	**03 15 04.1**	**+0.2**
GVDS	**Gavdos**	**3.83**	**246**	P	**Pn**	**03 15 06.2**	**+2.2**
SZAC	**Souni**	**4.06**	**114**	P	**Pn**	**03 15 07.5**	**+0.4**
SZAC				AML	AML	03 15 53.5	
	comp=N,1.2nm,0.2s						
ANKY	**Antikythira Is**	**4.13**	**263**	P	**Pn**	**03 15 09.5**	**+1.4**
GADA	**Gvkgeada**	**4.19**	**333**	P	**Pn**	**03 15 09.4**	**+0.6**
GADA				S	**Sn**	**03 15 54.4**	**-2.1**
	comp=N,312nm,0.4s						
LIA	**Limnos Island**	**4.24**	**325**	P	**Pn**	**03 15 10.0**	**+0.5**
LIA				S	**Sn**	**03 15 55.3**	**-2.4**
	comp=N,108nm,0.6s						
CSS	**Mathiatis**	**4.32**	**109**	P	**Pn**	**03 15 11.0**	**+0.4**
ASGA	**Asgata**	**4.32**	**111**	P	**Pn**	**03 15 10.7**	**+0.1**
SMTH	**Samothraki Isl**	**4.57**	**332**	P	**Pn**	**03 15 14.2**	**+0.1**
SMTH				S	**Sn**	**03 16 03.2**	**-2.7**
	comp=N,75nm,0.4s						
OSC2	**CSNet OBS 4**	**4.67**	**135**	S	**Sn**	**03 16 07.4**	**-0.9**
ALN	**Alexandroupoli**	**4.78**	**338**	P	**Pn**	**03 15 16.8**	**-0.1**
PARAL	**Paralimni**	**4.85**	**106**	S	**Sn**	**03 16 12.8**	**+0.1**
RDO	**Rodhopi**	**5.16**	**336**	P	**Pn**	**03 15 22.8**	**+0.7**
MATC	**Matruh**	**5.19**	**191**	P	**Pn**	**03 15 23.0**	**+0.4**
	baz=192						
BRTR	**Keskin Array B**	**5.29**	**50**	P	**Pn**	**03 15 24.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=215,slow=13,SNR=7.2						
BRTR				S	**Sn**	**03 16 23.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=223,slow=28,SNR=2.1						
SLUM	**Salum**	**5.61**	**209**	P	**Pn**	**03 15 28.2**	**-0.1**
	baz=211						
BHL	**Bhannes**	**6.50**	**111**	*e* P	**Pn**	**03 15 40.1**	**-0.5**
DQRL	**Deir Qamar**	**6.52**	**113**	*e* P	**Pn**	**03 15 39.3**	**-1.6**
HWQ	**Hawqa**	**6.57**	**107**	*e* P	**Pn**	**03 15 41.0**	**-0.6**
MMAI	**Mount Meron Ar**	**6.75**	**119**	P	**Pn**	**03 15 42.2**	**-1.7**
	comp=N,17nm,0.3s,baz=319,slow=13,SNR=41						
MMAI				S	**Sn**	**03 16 55.3**	**-4.0**
	comp=N,46nm,0.3s,baz=342,slow=33,SNR=15						
RCY	**Rachaya**	**6.82**	**114**	*e* P	**Pn**	**03 15 44.0**	**-1.0**
HNAT	**Natroun**	**7.08**	**164**	P	**Pn**	**03 15 48.6**	**+0.2**
	baz=163						
STIP	**Stip**	**7.09**	**319**	*i* P	**Pn**	**03 15 50.0**	**+1.4**
KOT	**Kottamia**	**7.14**	**155**	P	**Pn**	**03 15 49.5**	**+0.2**
	baz=154						
HSAF	**As Saff**	**7.34**	**158**	P	**Pn**	**03 15 51.5**	**-0.5**
	baz=157						
GLL	**Jalalah**	**7.42**	**157**	P	**Pn**	**03 15 52.9**	**-0.3**
	baz=156						
OHR	**Ohrid**	**7.50**	**310**	*i* P	**Pn**	**03 15 52.5**	**-1.7**
RYAN	**Fayoum**	**7.54**	**167**	P	**Pn**	**03 15 53.9**	**-0.9**
	baz=167						
SUZ	**Suez**	**7.60**	**149**	P	**Pn**	**03 15 55.2**	**-0.3**
	baz=148						
SWA2		**7.61**	**200**	P	**Pn**	**03 15 56.1**	**+0.5**
	baz=201						
ZNM	**Zenema**	**8.03**	**150**	P	**Pn**	**03 16 01.3**	**-0.1**
	baz=150						
EIL	**Elat**	**8.75**	**139**	P	**Pn**	**03 16 09.8**	**-1.5**
	comp=N,2.8nm,0.3s,baz=302,slow=1.6,SNR=39						
EIL				S	**Sn**	**03 17 42.7**	**-5.7**
	comp=N,3.6nm,0.3s,baz=88,slow=15,SNR=9.1						
HBST	**Basata**	**9.00**	**142**	P	**Pn**	**03 16 14.5**	**-0.2**
	baz=141						
MLR	**Muntele Rosu**	**9.20**	**349**	P	**Pn**	**03 16 19.9**	**+2.5**
	comp=N,0.3nm,0.3s,baz=169,slow=16,SNR=2.4						
HFRF	**Wahat Farafira**	**9.29**	**180**	P	**Pn**	**03 16 18.2**	**-0.5**
	baz=181						
HFRF				S	**Sn**	**03 17 54.3**	**-7.4**
	baz=181						
HFRF				AMP		03 18 00.0	
	baz=181						
GERES	**GERESS Array B**	**16.37**	**324**	P	**P**	**03 17 55.0**	**-0.3**
	comp=N,0.1nm,0.3s,baz=133,slow=13,SNR=7.9						
GERES				LR	LR	03 25 04.5	
	comp=N,296nm,18.8s,baz=279,slow=40						
ESDC	**Sonseca Array**	**25.57**	**287**	P	**P**	**03 19 31.2**	**+0.3**
	comp=N,0.8nm,0.6s,baz=81,slow=9.2,SNR=9.7						
TORD	**Torodi Ar. Bea**	**33.33**	**233**	P	**P**	**03 20 40.6**	**+0.8**
	comp=N,3.8nm,0.3s,baz=33,slow=9.0,SNR=50						

KMA 03 03:14:22.6±1.8, 36°.79N×127°.53E, h10km±29km, Error ellipse: s-maj=7.8km s-min=3.3km az=1.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSB	**Eumseong**	**0.20**	**24**	P	Pg	03 14 26.7	0.0
	SNR=8.2						
EMSB	**Eumseong**	**0.20**	**24**	P	Pg	03 14 26.7	0.0
	SNR

Mθθ0.27; Mφφ0.57; Mrθ1.09; Mθφ2.36; Mφr-0.84; Fault plane solution: M₀2.83000×10^17 NP1:φ₁4.00000°, δ65.00000°, λ-156.00000°. NP2:φ₂263.00000°, δ68.00000°, λ-27.00000°. Principal axes: T 2.7866, Plg2.0000°, Azm314.0000°; N 0.0864, Plg56.0000°, Azm47.0000°; P -2.8730, Plg34.0000°, Azm222.0000°;

NEIC **03** *03:16:38, 11.°34N×94.°79E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-0.18; Mθθ-0.48; Mφφ0.66; Mrθ-0.74; Mθφ1.64; Mφr-0.54; Fault plane solution: M₀1.97000×10^17 NP1:φ₁168.00000°, δ66.00000°, λ174.00000°. NP2:φ₂261.00000°, δ85.00000°, λ24.00000°. Principal axes: T 2.1550, Plg21.0000°, Azm127.0000°; N -0.4424, Plg66.0000°, Azm273.0000°; P -1.7127, Plg13.0000°, Azm32.0000°;*

NDI **03** *03:16:39.0±3.8, 11.°95N×94.°89E, h10km, mb5.6, MS4.8, mb5.7(NEIC)*

BGR **03** *03:16:39.3±0.0, 10.°60N×94.°06E, h33km, mb5.5, Ms5.0*

ISC 03 03:16:35.9±0.3, **11.°34N**±0.°03×**94.°95E**±0.°03, **h17**km±1km, **h17**km:**pP-P, n1229,** σ1°**43**/1038, **mb5.5**/337, **MS5.3**/334, **288C-103D, Fault plane solution: NP1:**φ₁229.14842°, δ80.63113°, λ-34.53657°. **NP2:**φ₂325.54092°, δ55.98778°, λ-168.67416°. **Principal axes:** T Plg16.2855°, Azm281.7872°; N Plg54.3681°, Azm35.8404°; P Plg30.7067°, Azm181.7952°; **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.19**	**279**	*eP*	Pn	03 17 13.3	+1.8
PBA				*eS*	Sb	03 17 41.1	-0.9
PBA	**Port Blair**	**2.19**	**279**	Pn	Pn	03 17 12.7	+1.1
DGPR	**DIGLIPUR**	**2.69**	**313**	*eP*	**Pn**	**03 17 18.5**	**0.0**
DGPR				*eS*	**Sn**	**03 17 44.3**	**-6.5**
SURT	**Suratani**	**4.46**	**122**	P	**Pn**	**03 17 41.4**	**-1.4**
SURT	**Suratani**	**4.46**	**122**	P	**Pn**	**03 17 41.4**	**-1.4**
639nm20nm,0.9s							
SURT	**Suratani**	**4.46**	**122**	P	**Pn**	**03 17 41.1**	**-1.7**
PKDT	**Phuket**	**4.78**	**135**	P	**Pn**	**03 17 45.9**	**-1.2**
PKDT	**Phuket**	**4.78**	**135**	P	**Pn**	**03 17 46.0**	**-1.2**
PKDT	**Phuket**	**4.78**	**135**	P	**Pn**	**03 17 46.0**	**-1.2**
PHET	**Kaeng Krachan**	**4.84**	**71**	P	**Pn**	**03 17 44.7**	**-3.3**
SRDT	**SRDT**	**5.05**	**53**	P	**Pn**	**03 17 49.3**	**-1.7**
BSI	**Banda Aceh**	**5.81**	**177**	P	**Pn**	**03 18 02.9**	**+1.5**
6.2nm27μm1μm,0.7s							
PATY	**Pattaya**	**6.00**	**74**	P	**Pn**	**03 18 00.8**	**-3.1**
3.3nm21μm529nm,0.8s							
PATY	**Pattaya**	**6.00**	**74**	P	**Pn**	**03 18 00.6**	**-3.3**
UTHA	**Uthaitani**	**6.06**	**46**	P	**Pn**	**03 18 02.6**	**-2.2**
UMPA	**Umpang Tak**	**6.15**	**38**	P	**Pn**	**03 18 03.1**	**-3.0**
2.2nm5μm593nm,0.8s							
UMPA	**Umpang Tak**	**6.15**	**38**	P	**Pn**	**03 18 02.2**	**-4.0**
LHMI	**Lhok Sumawe**	**6.38**	**162**		**Pn**	**03 18 10.2**	**+0.9**
LHMI	**Lhok Sumawe**	**6.38**	**162**	P	**Pn**	**03 18 10.7**	**+1.5**
3.5nm14μm5μm240nm,0.9s							
SKLT	**Songkhla**	**6.96**	**126**	P	**Pn**	**03 18 15.5**	**-1.7**
SKLT	**Songkhla**	**6.96**	**126**	P	**Pn**	**03 18 15.5**	**-1.7**
2.1nm3μm84nm,0.7s							
SKLT	**Songkhla**	**6.96**	**126**	P	**Pn**	**03 18 14.8**	**-2.4**
MLSI	**Meulaboh, Aceh**	**7.17**	**168**	P	**Pn**	**03 18 21.3**	**+1.2**
3.5nm8μm1μm,0.8s							
MHMT	**Maesarieng**	**7.39**	**23**	P	**Pn**	**03 18 24.8**	**+1.7**
1.2nm3μm147nm,0.9s							
MHMT	**Maesarieng**	**7.39**	**23**	P	**Pn**	**03 18 23.4**	**+0.4**
SRAK	**Srakaew**	**7.41**	**68**	P	**Pn**	**03 18 28.0**	**+4.6**
13nm14μm1μm,0.6s							
PBKT	**Sadao Pong**	**7.82**	**48**	P	**Pn**	**03 18 33.1**	**+4.1**
PBKT	**Sadao Pong**	**7.82**	**48**		**Pn**	**03 18 27.5**	**-1.5**
PHIT	**Phitsanulok**	**7.87**	**42**	P	**Pn**	**03 18 29.6**	**-0.1**
2.3nm4μm559nm,0.7s							
PHIT	**Phitsanulok**	**7.87**	**42**	P	**Pn**	**03 18 28.0**	**-1.7**
CM05	**Chiang Mai Arr**	**8.02**	**28**	P	**Pn**	**03 18 30.4**	**-1.3**
CM13	**Chiang Mai Arr**	**8.02**	**28**	P	**Pn**	**03 18 31.0**	**-0.7**
CM04	**Chiang Mai Arr**	**8.03**	**29**	P	**Pn**	**03 18 30.9**	**-1.1**
CM01	**Chiang Mai Arr**	**8.04**	**28**	P	**Pn**	**03 18 31.1**	**-1.0**
CM02	**Chiang Mai Arr**	**8.04**	**28**	P	**Pn**	**03 18 30.8**	**-1.3**
CM15	**Chiang Mai Arr**	**8.05**	**28**	P	**Pn**	**03 18 31.1**	**-1.1**
CM31	**Chiang Mai Arr**	**8.06**	**28**	P	**Pn**	**03 18 31.7**	**-0.6**
CM31	**Chiang Mai Arr**	**8.06**	**28**		**Pn**	**03 18 30.0**	**-2.4**
CMAR	**Chiang Mai Arr**	**8.06**	**28**	Pn	**Pn**	**03 18 31.1**	**-1.2**
2.7nm,0.3s,baz=218,slow=15,SNR=66							
CMAR				LR	LR	03 21 43.7	
comp=Z,12μm,19.1s,baz=265,slow=39							
CMAR	**Chiang Mai Arr**	**8.06**	**28**	Pn	**Pn**	**03 18 30.7**	**-1.7**
CM09	**Chiang Mai Arr**	**8.07**	**28**	P	**Pn**	**03 18 32.0**	**-0.5**
CHAI	**Chaiyaphum**	**8.21**	**56**	P	**Pn**	**03 18 32.4**	**-1.9**
KULM	**Kulim**	**8.24**	**136**	P	**Pn**	**03 18 33.0**	**-1.7**
TPTI		**8.32**	**164**	P	**Pn**	**03 18 37.6**	**+1.7**
2μm35nm,0.6s							
UTTA	**Uttaradit**	**8.37**	**40**	P	**Pn**	**03 18 37.5**	**+1.0**
0.4nm1μm102nm,0.9s							
UTTA	**Uttaradit**	**8.37**	**40**	P	**Pn**	**03 18 35.5**	**-1.0**
CHTO	**Chiang Mai**	**8.38**	**27**	P	**Pn**	**03 18 35.5**	**-1.1**
CHTO	**Chiang Mai**	**8.38**	**27**	P	**Pn**	**03 18 36.2**	**-0.4**
0.4nm1μm86nm,1.0s							
CHTO	**Chiang Mai**	**8.38**	**27**	Pn	**Pn**	**03 18 35.5**	**-1.1**
CMMT	**Chiang Mai**	**8.38**	**27**	P	**Pn**	**03 18 36.2**	**-0.5**
0.4nm2μm85nm,0.8s							
CMMT	**Chiang Mai**	**8.38**	**27**	P	**Pn**	**03 18 36.1**	**-0.6**
TSI	**Tuntungan**	**8.57**	**155**	P	**Pn**	**03 18 40.9**	**+1.6**
197nm,0.7s							
PSI	**Prapat**	**9.35**	**155**	P	**Pn**	**03 18 50.8**	**+0.7**
RPSI	**Rantau Prapat**	**9.44**	**155**		**Pn**	**03 18 50.8**	**-0.6**
GSI	**Gunungsitoli**	**10.30**	**165**		**Pn**	**03 19 04.6**	**+1.5**
GSI	**Gunungsitoli**	**10.30**	**165**	P	**Pn**	**03 19 03.8**	**+0.7**
14μm86nm,0.7s							
NONG	**Nongkai**	**10.37**	**49**	P	**Pn**	**03 19 02.2**	**-1.8**
MNSI	**Mandailing Nat**	**11.44**	**156**	P	**Pn**	**03 19 20.5**	**+1.9**
62nm,0.4s							
BRDH	**Bariadhala**	**11.71**	**345**	Pn	**Pn**	**03 19 20.1**	**-2.3**
20nm,0.3s,baz=127,slow=5.0,SNR=16							
BKNI	**Bangkinang**	**12.50**	**151**	P	**Pn**	**03 19 34.0**	**+0.9**
154nm,0.4s							
VIS	**Vishakhapatnam**	**12.92**	**301**	*eP*	**Pn**	**03 19 35.1**	**-3.7**
VIS				*i x*	x	03 19 38.4	
VIS				IAMs_20	IAMs_20	03 24 09.5	
comp=Z,12μm,20.4s							
SLVN	**Son La**	**13.13**	**40**	Pn	**Pn**	**03 19 40.4**	**-1.5**
SISI	**Saibi**	**13.23**	**162**	P	**Pn**	**03 19 45.0**	**+1.8**
comp=Z,38nm,1.4s							
PDSI	**Padang**	**13.34**	**155**	P	**Pn**	**03 19 46.2**	**+1.5**
comp=Z,3μmcomp=Z,34nm,1.6s							
SHL	**Shillong**	**14.45**	**349**	*eP*	Pn	03 19 52.5	-7.5
MDRS	**Chennai**	**14.48**	**278**	*eP*	**Pn**	**03 20 01.2**	**+0.9**
MDRS				IAMs_20	IAMs_20	03 27 19.7	
comp=Z,5μm,15.3s							
PALK	**Pallekele**	**14.63**	**255**	LR	LR	03 25 39.1	
comp=Z,5μm,19.0s,baz=177,slow=37							
PALK	**Pallekele**	**14.63**	**255**	P	**Pn**	**03 20 02.7**	**+0.3**
PALK	**Pallekele**	**14.63**	**255**	Pn	**Pn**	**03 20 02.7**	**+0.3**
BOK	**Bokaro**	**15.10**	**326**	*eP*	**Pn**	**03 20 06.5**	**-2.1**
BOK				IAmb	IAmb	03 20 16.9	
comp=Z,173nm,2.2s							
BOK				IAMs_20	IAMs_20	03 27 52.7	
comp=Z,6μm,14.5s							
DSRI	**Dabo**	**15.14**	**140**	P	**Pn**	**03 20 10.3**	**+1.1**
comp=Z,2μmcomp=Z,73nm,1.4s							
JMBI	**JAMBI**	**15.51**	**146**	P	**Pn**	**03 20 15.2**	**+1.1**
comp=Z,6μmcomp=Z,237nm,1.0s							
KMI	**Kunming**	**15.57**	**27**	⇑P	**Pn**	**03 20 16.8**	**+1.8**
KMI				pP	pP	03 20 21.8	-1.4
KMI				sP	sP	03 20 24.1	-0.9
KMI				PP	**pwP**	**03 20 28.7**	**+1.5**
KMI				S	**Sn**	**03 23 10.6**	**+3.2**
KMI				sS	S	03 23 19.8	-3.0
KMI				SS	**SnSn**	**03 23 29.3**	**+8.6**
KMI				pmax	pmax		
comp=Z,76nm,1.2s							
KMI				pmax	pmax		
comp=Z,2μm,6.4s							
KMI				LR	LR		
comp=Z,11μm,12.9s							
KMI				LR	LR		
comp=Z,15μm,10.8s							
KMI				LR	LR		
comp=Z,12μm,11.5s							
KMI	**Kunming**	**15.57**	**27**	P	**P**	**03 20 18.0**	**-1.2**
KMI	**Kunming**	**15.57**	**27**	P	**P**	**03 20 18.0**	**-1.2**
QIZ	**Qiongzhong**	**16.27**	**60**	P	**P**	**03 20 27.6**	**+0.8**
QIZ				S	**Sn**	**03 23 23.4**	**-0.8**
QIZ				ScS	**ScS**	**03 32 30.3**	**-0.7**
QIZ				pmax	pmax		
comp=Z,65nm,1.1s							
QIZ				LR	LR		
comp=Z,20μm,17.1s							
QIZ				LR	LR		
comp=Z,12μm,11.6s							
QIZ				LR	LR		
comp=Z,12μm,11.2s							
QIZ	**Qiongzhong**	**16.27**	**60**	Pn	**Pn**	**03 20 20.7**	**-3.1**
KSI	**Kapahiang**	**16.72**	**153**	P	**Pn**	**03 20 29.9**	**+0.3**
comp=Z,78nm,0.9s							
HYB	**Hyderabad**	**16.99**	**293**	*i* P	**Pn**	**03 20 33.0**	**0.0**
HYB				*eS*	**Sn**	**03 23 43.0**	**+1.3**
HYB	**Hyderabad**	**16.99**	**293**	*eP*	**Pn**	**03 20 32.8**	**-0.2**
HYB				IAMs_20	IAMs_20	03 26 34.2	
comp=Z,7μm,20.1s							
PMBI	**Palembang**	**17.21**	**145**	P	**Pn**	**03 20 36.0**	**+0.3**
comp=Z,732nm,0.8s							
LHSI	**Lahat**	**17.31**	**150**	P	**Pn**	**03 20 37.6**	**+0.6**
comp=Z,3μmcomp=Z,71nm,1.6s							
PPBI	**Pangkal Pinang**	**17.42**	**140**	P	**Pn**	**03 20 38.8**	**+0.4**
comp=Z,14μmcomp=Z,193nm,1.3s							
MNAI	**Manna**	**17.51**	**153**	P	**P**	**03 20 42.9**	**+2.4**
comp=Z,219nm,1.2s							
TRD	**Trivandrum**	**17.95**	**263**	*eP*	**P**	**03 20 49.7**	**+4.4**
TRD				IAMs_20	IAMs_20	03 26 46.3	
comp=Z,3μm,16.1s							
KSM	**Kuching**	**18.12**	**122**	P	**P**	**03 20 48.0**	**+0.7**
MDSI	**Maura Dua**	**18.20**	**149**	P	**Pn**	**03 20 47.4**	**-0.6**
comp=Z,2μmcomp=Z,19nm,1.0s							
LWLI	**Liwa**	**18.60**	**150**	P	**Pn**	**03 20 54.3**	**+1.3**
comp=Z,187nm,0.7s							
LSA	**Lhasa**	**18.61**	**350**	P	**P**	**03 20 51.6**	**-1.5**
LSA				S	Sn	03 24 09.6	-12
LSA				LR	LR		
comp=Z,3μm,11.4s							
LSA				LR	LR		
comp=Z,3μm,10.0s							
LSA				LR	LR		
comp=Z,6μm,11.0s							
LSA	**Lhasa**	**18.61**	**350**	*i* P	**P**	**03 20 52.6**	**-0.6**
SNR=18							
LSA	**Lhasa**	**18.61**	**350**	P	**P**	**03 20 51.7**	**-1.4**
LSA				pmax	pmax		
comp=Z,260nm,1.0s							
LSA	**Lhasa**	**18.61**	**350**	P	**P**	**03 20 51.7**	**-1.4**
GYA	**Guiyang**	**18.66**	**35**	⇓P	**Pn**	**03 20 53.7**	**0.0**
GYA				sP	pwP	03 21 00.9	-0.4
GYA				S	**S**	**03 24 24.7**	**-0.9**
GYA				sS	sS	03 24 36.0	+4.1
GYA				pmax	pmax		
comp=Z,350nm,10.4s							
GYA				LR	LR		
comp=Z,3μm,9.8s							
GYA				LR	LR		
comp=Z,1μm,11.7s							
GYA				LR	LR		
comp=Z,4μm,13.8s							
TPI	**Tanjungpandan**	**18.86**	**137**	P	**P**	**03 20 55.6**	**+0.2**
comp=Z,3μmcomp=Z,64nm,1.6s							
KASI	**Kota Agung**	**19.25**	**150**	P	**P**	**03 21 00.1**	**+0.4**
comp=Z,1μmcomp=Z,42nm,1.1s							
SBUM	**Sibu**	**19.27**	**116**	P	**Pn**	**03 21 01.0**	**0.0**
STKI	**Sintang**	**19.87**	**123**	P	**P**	**03 21 06.6**	**+0.1**
comp=Z,67nm,1.5s							
BHPL	**Bhopal**	**20.47**	**308**	*eP*	Pn	03 21 15.4	+0.2
BHPL				IAmb	IAmb	03 21 20.1	
comp=Z,113nm,0.6s							
BHPL				*ex*	Sn	03 25 05.1	-0.7
BHPL				IAMs_20	IAMs_20	03 28 06.3	
comp=Z,8μm,24.1s							
GZH	**Guangzhou**	**21.07**	**54**	P	**P**	**03 21 25.5**	**+6.0**
GZH				S	Sn	03 25 24.0	+3.9
GZH				LR	LR		
comp=Z,9μm,10.8s							
GZH				LR	LR		
comp=Z,8μm,11.8s							
CD2	**Chengdu**	**21.12**	**21**	⇑*i* P	**P**	**03 21 18.1**	**-1.9**
CD2				pP	pP	03 21 22.3	-1.7
CD2				S	**S**	**03 25 15.6**	**+1.1**
CD2				sS	sS	03 25 20.4	-0.5
CD2				SS	**SnSn**	**03 25 44.7**	**+8.1**
CD2				pmax	pmax		
comp=Z,400nm,1.0s							
CD2				pmax	pmax		
comp=Z,3μm,6.6s							
CD2				LR	LR		
comp=Z,23μm,12.0s							
CD2				LR	LR		
comp=Z,22μm,13.0s							
DBJI	**Dramaga**	**21.30**	**146**	P	**P**	**03 21 18.9**	**-3.1**
POO	**Poona**	**21.59**	**292**	⇑*i* P	**P**	**03 21 23.0**	**-2.2**
comp=Z,160nm,1.0s							
POO				*eS*	**S**	**03 25 20.0**	**-4.1**
PBKI	**Pangkalan Bun**	**21.70**	**129**	P	**P**	**03 21 26.0**	**-0.3**
comp=Z,486nm,1.3s							
LEM	**Lembang**	**22.01**	**144**	P	**P**	**03 21 31.2**	**+1.4**
comp=Z,13nm,0.3s,baz=344,slow=21,SNR=1.5							
LEM				LR	LR	03 30 43.0	
comp=Z,8μm,20.9s,baz=305,slow=39							
SPMM	**Sapulut**	**22.29**	**105**	P	**P**	**03 21 34.0**	**+1.3**
KPJI	**Karang Pucung**	**23.18**	**143**	P	**P**	**03 21 42.9**	**+0.9**
comp=Z,2μmcomp=Z,71nm,1.7s							
ENH	**Enshi**	**23.18**	**33**	P	**P**	**03 21 39.4**	**-2.5**
MTKI	**Muara Teweh, K**	**23.27**	**120**	P	**P**	**03 21 41.2**	**-1.8**
comp=Z,74nm,1.4s							
COCO	**West Island**	**23.45**	**175**	P	**P**	**03 21 45.3**	**+0.7**
COCO				pmax	pmax		
comp=Z,350nm,1.0s							
COCO	**West Island**	**23.45**	**175**	P	**P**	**03 21 45.3**	**+0.7**
COCO				IAmb	IAmb	03 21 54.8	
comp=Z,350nm,1.0s							
SMRI	**Semarang**	**23.90**	**139**	P	**P**	**03 21 49.2**	**+0.1**
SMRI	**Semarang**	**23.90**	**139**	P	**P**	**03 21 50.0**	**+1.0**
comp=Z,10μmcomp=Z,229nm,1.3s							
NDI	**New Delhi**	**23.93**	**319**	*eP*	**P**	**03 21 51.0**	**+1.7**
XMIS	**Christmas Isla**	**24.14**	**153**	P	**P**	**03 21 52.2**	**+0.8**
XMIS				IAmb	IAmb	03 22 00.2	
comp=Z,297nm,1.6s							
DDI	**Dehra Dun**	**24.56**	**323**	*eP*	**P**	**03 21 55.0**	**-0.1**
DDI				IAmb	IAmb	03 21 58.3	
comp=Z,597nm,1.7s							
UGM	**Wanagama**	**24.61**	**140**	P	**P**	**03 21 56.0**	**+0.3**
UGM	**Wanagama**	**24.61**	**140**	P	**P**	**03 21 56.9**	**+1.3**
comp=Z,5μmcomp=Z,210nm,1.8s							
BBKI	**Banjar Baru**	**24.65**	**125**	P	**P**	**03 21 57.4**	**+1.4**
comp=Z,5μmcomp=Z,189nm,1.2s							
SZP	**Santa**	**25.44**	**73**	P	**P**	**03 22 04.2**	**+1.0**
SZP				IAmb	IAmb	03 22 14.2	
comp=Z,252nm,1.1s							
SMLA	**Simla**	**25.67**	**323**	*eP*	**P**	**03 22 04.9**	**-0.2**
SMLA				IAmb	IAmb	03 22 08.4	
comp=Z,312nm,1.1s							
KNMB	**Chin-men Tao**	**25.79**	**56**	IAMs_20	IAMs_20	03 32 48.8	
comp=Z,7μm,18.0s							
LZH	**Lanzhou**	**25.92**	**17**	⇑P	**P**	**03 22 07.2**	**-0.3**
LZH				pP	sP	03 22 13.2	-0.4
LZH				sP	pwP	03 22 15.7	-0.1
LZH				PP	**PnPn**	**03 22 49.5**	**+4.3**
LZH				sS	sS	03 26 45.2	+0.9
LZH				SS	**SnSn**	**03 27 42.6**	**+8.4**
LZH				pmax	pmax		
comp=Z,120nm,1.2s							
LZH				pmax	pmax		
comp=Z,2μm,4.9s							
LZH				LR	LR		
comp=Z,5μm,15.7s							
LZH				LR	LR		
comp=Z,10μm,15.2s							
LZH				LR	LR		
comp=Z,4μm,15.2s							
XAN	**Xi'an**	**25.96**	**27**	P	**P**	**03 22 05.1**	**-2.6**
XAN				S	**S**	**03 26 33.8**	**-3.7**
XAN				SS	**SnSn**	**03 27 40.0**	**+5.1**
XAN				pmax	pmax		
comp=Z,260nm,1.2s							
XAN				pmax	pmax		
comp=Z,1μm,6.5s							
XAN				LR	LR		
comp=Z,12μm,13.6s							
XAN				LR	LR		
comp=Z,11μm,13.6s							
XAN				LR	LR		
comp=Z,19μm,13.8s							
WHN	**Wuhan**	**26.25**	**40**	⇑P	**P**	**03 22 09.6**	**-0.8**
WHN				S	**S**	**03 26 43.3**	**+1.1**
WHN				pmax	pmax		
comp=Z,440nm,1.2s							
WHN				LR	LR		
comp=Z,12μm,11.7s							
WHN				LR	LR		
comp=Z,12μm,11.3s							
WHN				LR	LR		
comp=Z,28μm,13.5s							
TPUB	**Ta-pu**	**27.20**	**61**	P	**P**	**03 22 17.8**	**-1.2**
TPUB				IAMs_20	IAMs_20	03 32 49.1	
comp=Z,7μm,20.0s							
TWG	**Pinlang**	**27.41**	**62**	P	**P**	**03 22 20.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**27.42**	**135**	IAMs_20	IAMs_20	03 34 51.7	
comp=Z,6μm,18.0s							
TOLI2	**Tolitoli**	**27.58**	**110**	P	**P**	**03 22 20.2**	**-2.3**
SSLB	**Suanglung**	**27.65**	**60**	P	**P**	**03 22 20.5**	**-2.6**
SSLB				IAMs_20	IAMs_20	03 33 35.1	
comp=Z,6μm,19.0s							
YULB	**Yu-li**	**27.80**	**61**	P	**P**	**03 22 23.2**	**-1.2**
YULB				IAMs_20	IAMs_20	03 33 30.1	
comp=Z,10μm,19.0s							
SRBI	**Singaraja**	**27.90**	**133**	P	**P**	**03 22 25.4**	**+0.1**
comp=Z,86nm,1.1s							
GTA	**Gaotai**	**28.29**	**8**	⇓P	**P**	**03 22 28.8**	**+0.1**
GTA				pP	pP	03 22 33.8	+0.8
GTA				sP	pwP	03 22 37.2	+0.1
GTA				pmax	pmax		
comp=Z,41nm,1.3s							
GTA				pmax	pmax		
comp=Z,700nm,4.4s							
GTA				LR	LR		
comp=Z,3μm,16.0s							
GTA				LR	LR		
comp=Z,5μm,15.3s							
GTA				LR	LR		
comp=Z,3μm,18.2s							
NACB	**Ninganchiao**	**28.34**	**60**	P	**P**	**03 22 30.1**	**+0.9**
YHNB	**Yeheng**	**28.34**	**59**	P	**P**	**03 22 29.1**	**-0.2**
YHNB				IAmb	IAmb	03 23 02.8	
comp=Z,94nm,1.2s							
TTSI	**Tana Toraja**	**28.57**	**119**	P	**P**	**03 22 33.5**	**+2.2**
comp=Z,2μmcomp=Z,66nm,1.4s							
MRSI	**Marisa**	**28.89**	**110**	P	**P**	**03 22 35.4**	**+1.2**
comp=Z,2μmcomp=Z,136nm,1.4s							
APSI	**Ampana**	**29.19**	**113**	P	**P**	**03 22 37.5**	**+0.7**
comp=Z,1μmcomp=Z,76nm,1.5s							
H08S3	**Diego Garcia H**	**29.23**	**231**	T	T	03 53 34.9	
baz=49,slow=76,SNR=18							
H08S2	**Diego Garcia H**	**29.24**	**231**	T	T	03 53 26.9	
baz=49,slow=76,SNR=17							
H08S1	**Diego Carcia H**	**29.25**	**231**	T	T	03 53 45.0	
baz=49,slow=76,SNR=15							
KAPI	**Kappang**	**29.54**	**122**	P	**P**	**03 22 40.3**	**+0.3**
comp=Z,12nm,0.8s,baz=284,slow=10,SNR=3.9							
KAPI				LR	LR	03 35 05.1	
comp=Z,3μm,20.0s,baz=314,slow=38							
KAPI	**Kappang**	**29.54**	**122**	P	**P**	**03 22 40.5**	**+0.6**
KAPI				IAmb	IAmb	03 22 49.9	
comp=Z,130nm,1.8s							
NIL	**Nilore**	**29.79**	**322**	P	**P**	**03 22 41.0**	**-1.1**
NIL				pmax	pmax		
comp=Z,121nm,1.2s							
NIL				MLR	MLR		
comp=Z,3μm,22.0s							
NIL	**Nilore**	**29.79**	**322**	P	**P**	**03 22 41.0**	**-1.1**
NIL				IAmb	IAmb	03 22 42.9	
comp=Z,122nm,1.1s							
BKSI	**Bulukumba**	**30.02**	**122**	P	**P**	**03 22 45.9**	**+1.7**
comp=Z,1μmcomp=Z,65nm,0.7s							
NJ2	**Nanjing**	**30.17**	**43**	*eP*	**P**	**03 22 43.7**	**-1.6**
NJ2				pP	**pP**	**03 22 48.1**	**-1.6**
NJ2				sP	**sP**	**03 22 52.1**	**+0.7**
NJ2				S	**S**	**03 27 45.5**	**+1.6**
NJ2				sS	**sS**	**03 27 51.2**	**+0.2**
NJ2				pmax	pmax		
comp=Z,19nm,0.5s							
NJ2				pmax	pmax		
comp=Z,560nm,4.3s							
NJ2				LR	LR		
comp=Z,4μm,10.4s							
NJ2				LR	LR		
comp=Z,6μm,10.4s							
NJ2				LR	LR		
comp=Z,6μm,12.3s							
LUWI	**Luwuk**	**30.26**	**112**	P	**P**	**03 22 46.7**	**+0.4**
LUWI	**Luwuk**	**30.26**	**112**	P	**P**	**03 22 46.4**	**+0.1**
comp=Z,5μmcomp=Z,240nm,1.5s							
TIY	**Taiyuan**	**30.59**	**28**	*eP*	**P**	**03 22 50.6**	**+1.5**
TIY				pmax	pmax		
comp=Z,26nm,0.5s							
TIY				pmax	pmax		
comp=Z,480nm,8.5s							
TIY				LR	LR		
comp=Z,7μm,12.1s							
TIY				LR	LR		
comp=Z,11μm,11.6s							
TIY				LR	LR		
comp=Z,16μm,13.1s							
KMSI	**Cibinong**	**30.75**	**108**	P	**P**	**03 22 52.7**	**+2.1**
comp=Z,315nm,0.8s							
SSE	**Sheshan**	**31.24**	**47**	P	**P**	**03 22 54.0**	**-0.8**
SSE				S	**S**	**03 28 01.2**	**+0.6**
SSE				pmax	pmax		
comp=Z,15nm,0.6s							
SSE				pmax	pmax		
comp=Z,110nm,4.4s							
SSE				LR	LR		
comp=Z,4μm,15.0s							
SSE				LR	LR		
comp=Z,2μm,14.1s							
TIA	**Tai'an**	**31.86**	**35**	P	**P**	**03 22 59.5**	**-0.7**
TIA				S	**S**	**03 28 13.1**	**+2.9**
TIA				LR	LR		
comp=Z,4μm,12.8s							
TIA				LR	LR		
comp=Z,7μm,12.8s							
BTO	**Baotou**	**32.05**	**22**	*eP*	**P**	**03 23 00.5**	**-1.4**
BTO				pmax	pmax		
comp=Z,150nm,1.2s							
BTO				LR	LR		
comp=Z,13μm,21.0s							
BTO				LR	LR		
comp=Z,30μm,15.1s							
KSH	**Kashi**	**32.74**	**332**	P	**P**	**03 23 05.8**	**-2.2**
KSH				S	**S**	**03 28 23.4**	**-0.7**
KSH				pmax	pmax		
comp=Z,110nm,0.5s							
KSH				pmax	pmax		
comp=Z,580nm,4.2s							
KSH				LR	LR		
comp=Z,2μm,22.2s			

MMRI Maumere 33.62 125 P **P** **03 23 15.1 -0.8**
MMRI IAmb IAmb 03 24 12.8
comp=Z,80nm,1.0s
TNTI Ternate 33.85 106 P **P** **03 23 18.5 +0.6**
TNTI IAmb IAmb 03 23 26.0
comp=Z,70nm,1.1s
BJT Baijiatuau 34.19 30 P **P** **03 23 20.0 -0.5**
BJT pmax pmax
comp=Z,72nm,1.1s
BJT MLR MLR
comp=Z,3μm,22.0s
BJT Baijiatuau 34.19 30 P **P** **03 23 20.0 -0.5**
BJT IAmb IAmb 03 23 29.5
comp=Z,72nm,1.1s
BJI Beijing 34.21 30 P **P** **03 23 20.6 0.0**
BJI S **S** **03 28 50.1 +3.5**
BJI pmax pmax
comp=Z,16nm,1.1s
BJI pmax pmax
comp=Z,780nm,12.0s
BJI LR LR
comp=Z,4μm,17.2s
BJI LR LR
comp=Z,5μm,15.4s
BJI LR LR
comp=Z,4μm,16.1s
KDJ Kajisay 34.39 336 P **P** **03 23 21.8 -0.6**
KDJ pmax pmax
comp=Z,153nm,1.0s
KDJ MLR MLR
comp=Z,2μm,21.0s
KDJ Kajisay 34.39 336 P **P** **03 23 21.8 -0.6**
KDJ IAmb IAmb 03 23 24.6
comp=Z,153nm,1.0s
SHLS Shalkode 34.44 340 *e*P **P** **03 23 21.9 -1.0**
comp=Z,171nm,0.9s,baz=341
SHLS *e*S **S** **03 28 48.5 -2.0**
baz=341
SHLS Shalkode 34.44 340 *e*P **P** **03 23 21.8 -1.0**
SHLS *e*S **S** **03 28 48.4 -2.0**
SHLS pmax pmax
comp=Z,171nm,0.9s
UZB Uzynbulak 34.58 339 *e*P **P** **03 23 23.8 -0.3**
comp=Z,126nm,1.3s,baz=340
UZB *i* S **S** **03 28 53.0 +0.3**
baz=340
UZB Uzynbulak 34.58 339 *e*P **P** **03 23 23.7 -0.3**
UZB *i* S **S** **03 28 53.0 +0.3**
UZB pmax pmax
comp=Z,126nm,1.3s
ULHL Ulahol 34.86 335 P **P** **03 23 26.9 +0.4**
SNR=20
JOW Kunigami 34.92 59 LR LR 03 39 20.7
comp=Z,2μm,18.8s,baz=260,slow=39
KPKS Kokpek 34.98 339 *e*P **P** **03 23 26.9 -0.6**
comp=Z,244nm,0.9s,baz=340
KPKS *i* S **S** **03 28 58.9 +0.2**
baz=340
KPKS Kokpek 34.98 339 *e*P **P** **03 23 26.8 -0.6**
KPKS *i* S **S** **03 28 58.8 +0.1**
KPKS pmax pmax
comp=Z,244nm,0.9s
BOOM Boomskoye usch 35.19 335 P **P** **03 23 28.4 -1.0**
BOOM pmax pmax
comp=Z,63nm,1.0s
BOOM MLR MLR
comp=Z,2μm,22.0s
BOOM Boomskoye usch 35.19 335 P **P** **03 23 28.4 -1.0**
BOOM IAmb IAmb 03 23 30.7
comp=Z,63nm,1.0s
GAR Garm 35.21 326 P **P** **03 23 28.9 -0.7**
MDOK Medeo 35.32 337 *e*P **P** **03 23 30.4 0.0**
baz=338
MDOK *i* S **S** **03 29 03.8 -0.2**
baz=338
MDOK Medeo 35.32 337 *e*P **P** **03 23 30.4 0.0**
MDOK *i* S **S** **03 29 03.7 -0.2**
AAA Alma-Ata 35.41 337 *e*P **P** **03 23 31.0 -0.1**
baz=338
AAA *i* S **S** **03 29 04.8 -0.5**
baz=338
AAA Alma-Ata 35.41 337 *e*P **P** **03 23 30.9 -0.1**
AAA *i* S **S** **03 29 04.7 -0.5**
BATI Baumata 35.67 126 P **P** **03 23 35.8 +2.1**
comp=Z,62nm,0.6s,baz=271,slow=20,SNR=2.8
TKM2 Tokmak 2 35.69 335 P **P** **03 23 34.0 +0.3**
SNR=22
BTK Batken 35.70 327 IAmb IAmb 03 23 56.6
comp=Z,210nm,1.2s
AML Almayashu 35.87 333 P **P** **03 23 35.4 0.0**
SNR=26
AML Almayashu 35.87 333 *i* P **P** **03 23 36.2 +0.8**
SNR=26
SOEI Soe 35.90 125 P **P** **03 23 36.4 +0.8**
SOEI IAmb IAmb 03 24 18.2
comp=Z,116nm,1.1s
SOEI IAMs_20 IAMs_20 03 39 57.9
comp=Z,4μm,18.0s
SOEI Soe 35.90 125 P P 03 23 48.3 +13
AAK Ala-Archa 35.92 334 P **P** **03 23 36.6 +1.0**
comp=Z,69nm,1.0s,baz=156,slow=6.5,SNR=25
AAK Ala-Archa 35.92 334 P **P** **03 23 35.9 +0.3**
SNR=24
AAK Ala-Archa 35.92 334 *i* P **P** **03 23 37.0 +1.4**
SNR=12
AAK Ala-Archa 35.92 334*c i*P **P** **03 23 36.4 +0.8**
AAK pmax pmax
comp=Z,315nm,1.0s
AAK Ala-Archa 35.92 334 P **P** **03 23 35.9 +0.3**
AAK IAmb IAmb 03 23 37.8
comp=Z,102nm,1.1s
CHKK Chushkaly 35.93 338 *e*P **P** **03 23 34.6 -1.0**
baz=338
CHKK Chushkaly 35.93 338 *e*P **P** **03 23 34.5 -1.0**
FRU1 Bishkek 36.00 334 IAmb IAmb 03 23 38.4
comp=Z,116nm,0.9s
CHMS Chumysh 36.10 335 P **P** **03 23 37.5 +0.5**
SNR=24
KUU Kurty 36.21 337 *e*P **P** **03 23 36.8 -1.2**
comp=Z,207nm,1.3s,baz=338
KUU *e*S **S** **03 29 15.8 -1.6**
baz=338
KUU Kurty 36.21 337 *e*P **P** **03 23 36.7 -1.2**
KUU *e*S **S** **03 29 15.8 -1.6**
KUU pmax pmax
comp=Z,207nm,1.3s
EKS2 Erkin-Say 36.25 333 P **P** **03 23 38.5 +0.1**
SNR=38
DL2 Dalian 36.30 36 P **P** **03 23 38.9 +0.2**
DL2 S **S** **03 29 17.6 -1.2**
DL2 pmax pmax
comp=Z,130nm,1.0s
DL2 pmax pmax
comp=Z,440nm,7.6s
DL2 LR LR
comp=Z,5μm,15.1s
DL2 LR LR
comp=Z,4μm,10.4s
DL2 LR LR
comp=Z,5μm,13.7s
TDK Taldyqorghan 36.43 340 *e*P **P** **03 23 38.2 -1.6**
baz=341
TDK *i* S **S** **03 29 18.7 -2.0**
baz=341
TDK Taldyqorghan 36.43 340 *e*P **P** **03 23 38.1 -1.6**
TDK *i* S **S** **03 29 18.7 -2.0**
USP Ospenovka 36.43 335 P **P** **03 23 39.1 -0.7**
SNR=55
SGDS Sogindy 36.52 335 *e*P **P** **03 23 39.2 -1.5**
comp=Z,33nm,1.0s,baz=335
SGDS *i* S **S** **03 29 20.7 -1.6**
baz=335
SGDS Sogindy 36.52 335 *e*P **P** **03 23 39.1 -1.5**
SGDS *i* S **S** **03 29 20.6 -1.7**
SGDS pmax pmax
comp=Z,33nm,1.0s
WSAR Wadi Sarin 36.54 294 P **P** **03 23 43.2 +2.2**
comp=Z,39nm,1.1s,baz=121,slow=7.7,SNR=8.8
MSAI Masohi 36.81 111 P **P** **03 23 43.7 +0.3**
comp=Z,30nm,0.6s
MK31 Makanchi Array 36.93 345 IAmb IAmb 03 23 53.9
comp=Z,111nm,1.1s
MKAR Makanchi Array 36.93 345 P **P** **03 23 44.0 0.0**
comp=Z,73nm,0.9s,baz=157,slow=7.9,SNR=70
MKAR LR LR 03 43 26.2
comp=Z,2μm,19.1s,baz=158,slow=44

MKAR Makanchi Array 36.93 345 P **P** **03 23 43.6 -0.4**
MKAR pwP **pwP** **03 23 52.6 +0.2**
ZSN Zaisan 36.99 349 *e*P **P** **03 23 43.2 -1.3**
comp=Z,66nm,1.7s,baz=349
ZSN *e*S **S** **03 29 29.7 +0.5**
baz=349
ZSN Zaisan 36.99 349 *e*P **P** **03 23 43.2 -1.3**
ZSN *e*S **S** **03 29 29.7 +0.5**
ZSN pmax pmax
comp=Z,66nm,1.7s
MAKZ Makanchi 37.02 345 P **P** **03 23 44.4 -0.4**
MAKZ pmax pmax
comp=Z,66nm,1.0s
MAKZ Makanchi 37.02 345 P **P** **03 23 44.4 -0.4**
TAS Tashkent 37.41 328 P **P** **03 23 47.9 -0.3**
TAS pmax pmax
comp=Z,258nm,1.1s
TAS MLR MLR
comp=Z,3μm,22.0s
TAS Tashkent 37.41 328 P **P** **03 23 47.9 -0.3**
TAS IAmb IAmb 03 24 09.9
comp=Z,258nm,1.1s
DZA Taraz 37.55 331 *e*P **P** **03 23 47.3 -2.1**
baz=332
DZA *e*S **S** **03 29 35.0 -2.9**
baz=332
DZA Taraz 37.55 331 *e*P **P** **03 23 47.3 -2.1**
DZA *e*S **S** **03 29 35.0 -2.9**
HRA Herat 37.60 313 P **P** **03 23 49.1 -1.0**
HRA IAMs_20 IAMs_20 03 40 22.9
comp=Z,5μm,21.0s
SONM Songino Array 37.63 13 P **P** **03 23 49.8 -0.3**
comp=Z,60nm,1.0s,baz=198,slow=7.7,SNR=115
SONM LR LR 03 40 45.9
comp=Z,4μm,20.5s,baz=194,slow=39
SONM Songino Array 37.63 13 P **P** **03 23 49.1 -1.0**
SONM *PP **pwP** **03 23 57.8 -0.6**
SONM pmax pmax
comp=Z,207nm,1.3s
SONM Songino Array 37.63 13 P **P** **03 23 49.1 -1.0**
SONM pwP **pwP** **03 23 57.8 -0.6**
SONM IAmb IAmb 03 23 58.9
comp=Z,207nm,1.3s
ULN Ulaanbaatar 37.81 13*c i*P **P** **03 23 51.0 -0.6**
ULN pmax pmax
comp=Z,115nm,1.7s
ULN Ulaanbaatar 37.81 13 P **P** **03 23 51.2 -0.4**
ULN IAmb IAmb 03 24 00.1
comp=Z,328nm,1.8s
BTLS Baital 38.07 336 *e*P **P** **03 23 51.8 -1.9**
comp=Z,39nm,0.9s,baz=336
BTLS *i* S **S** **03 29 43.8 -1.9**
baz=336
BTLS Baital 38.07 336 *e*P **P** **03 23 51.7 -1.9**
BTLS *i* S **S** **03 29 43.7 -1.9**
BTLS pmax pmax
comp=Z,39nm,0.9s
SIJI Sorong 38.07 106 P **P** **03 23 52.4 -1.7**
comp=Z,21nm,0.7s,baz=298,slow=3.4,SNR=4.5
KK31 Karatay Array 38.10 331 P **P** **03 23 53.2 -0.8**
KK31 pmax pmax
comp=Z,60nm,1.2s
KK31 Karatay Array 38.10 331 P **P** **03 23 53.2 -0.8**
TJN Taejon 38.42 44*ce*P **P** **03 23 55.7 -1.0**
INCN Inchon 38.53 42 P **P** **03 23 56.9 -0.8**
INCN pmax pmax
comp=Z,192nm,1.9s
INCN MLR MLR
comp=Z,6μm,20.0s
INCN Inchon 38.53 42 P **P** **03 23 56.9 -0.8**
INCN IAmb IAmb 03 24 04.9
comp=Z,192nm,1.9s
INCN Inchon 38.53 42 IAMs_20 IAMs_20 03 41 18.5
comp=Z,6μm,20.0s
SOHO SOHO 38.61 295 *i* P **P** **03 24 01.0 +2.5**
SNR=11
DGZ Jazzator, Alta 38.75 352*ce*P **P** **03 23 59.7 +0.2**
DGZ pmax pmax
comp=Z,23nm,1.1s
JTU Tsushima 38.93 48 P **P** **03 24 00.6 -0.4**
UOSS Minazif 39.08 296 P **P** **03 24 03.7 +1.3**
UOSS Minazif 39.08 296 P **P** **03 24 02.5 +0.1**
HATD Hatta, Dubai 39.12 295 *i* P **P** **03 24 04.8 +2.0**
SNR=8.8
ASHO Ashiyiah 39.15 295 *i* P **P** **03 24 06.0 +2.9**
SNR=17
BANOM Banah 39.23 297 P **P** **03 24 05.1 +1.4**
ALNE Al Ain 39.29 294 P **P** **03 24 07.0 +2.8**
KSAR Wonju Array Be 39.34 43 P **P** **03 24 03.0 -1.4**
KSAR *PP **sP** **03 24 11.1 +0.6**
KSAR Wonju Array Be 39.34 43 P **P** **03 24 03.0 -1.4**
KSAR pwP **sP** **03 24 11.1 +0.6**
KS19 Wonju Array Si 39.36 43 IAmb IAmb 03 24 12.2
comp=Z,154nm,1.6s
SNY Shenyang 39.36 34 ↓P **P** **03 24 04.7 +0.2**
SNY S **S** **03 30 13.9 +8.7**
SNY pmax pmax
comp=Z,33nm,1.4s
SNY pmax pmax
comp=Z,1μm,7.7s
SNY LR LR
comp=Z,4μm,15.8s
SNY LR LR
comp=Z,5μm,14.4s
SNY LR LR
comp=Z,5μm,13.0s
KSRS Korea Array 39.37 43 P **P** **03 24 03.0 -1.7**
comp=Z,15nm,1.1s,baz=250,slow=9.2,SNR=24
KSRS LR LR 03 41 21.4
comp=Z,3μm,18.6s,baz=244,slow=38
KSRS Korea Array 39.37 43 P **P** **03 24 03.0 -1.7**
JNU Nakatsue 39.41 51 P **P** **03 24 05.3 +0.1**
comp=Z,13nm,0.6s,baz=250,slow=6.2,SNR=6.2
JNU Nakatsue 39.41 51 IAmb IAmb 03 24 13.5
comp=Z,113nm,1.1s
ZAK Zakamensk 39.53 8 *e*P **P** **03 24 05.5 -0.5**
ZAK pmax pmax
comp=Z,151nm,1.5s
NAZ Nazwa, Dubai 39.57 296 P **P** **03 24 08.4 +1.8**
FAKI Fak Fak 39.71 109 P **P** **03 24 07.2 -0.6**
FAKI IAmb IAmb 03 24 16.9
comp=Z,92nm,0.9s
FAKI Fak Fak 39.71 109 P **P** **03 24 07.6 -0.2**
comp=Z,2μmcomp=Z,124nm,1.5s
FAKI pP **pwP** **03 24 15.7 -0.4**
comp=Z,2μmcomp=Z,124nm,1.5s
ASUD Al Ashush, Dub 39.79 295 *i* P **P** **03 24 11.1 +2.7**
SNR=11
MOY Mondy 40.52 6 *e*P **P** **03 24 17.3 +3.1**
MOY pmax pmax
comp=Z,136nm,2.1s
PSAB1 Pilbara Seismi 40.81 143 IAMs_20 IAMs_20 03 43 09.9
comp=Z,4μm,19.0s
PSAB2 Pilbara Seismi 40.82 143 IAMs_20 IAMs_20 03 43 01.3
comp=Z,3μm,19.0s
PSA00 Pilbara Seismi 40.83 143 P **P** **03 24 16.0 -0.9**
PSA00 Pilbara Seismi 40.83 143 IAmb IAmb 03 24 17.3
comp=Z,43nm,0.8s
PSAA3 Pilbara Seismi 40.84 143 IAMs_20 IAMs_20 03 43 14.6
comp=Z,4μm,19.0s
TLY Talaya 40.85 8 P **P** **03 24 17.9 +1.1**
comp=Z,43nm,1.0s,baz=216,slow=7.1,SNR=39
TLY LR LR 03 44 24.5
comp=Z,2μm,18.5s,baz=185,slow=41
TLY Talaya 40.85 8*c i*P **P** **03 24 17.2 +0.4**
TLY *e*PPP PPP 03 26 23.0
TLY *e*S **S** **03 30 31.3 +4.0**
TLY pmax pmax
comp=Z,544nm,1.3s
TLY MLR MLR
comp=Z,3μm,11.0s
TLY Talaya 40.85 8 P **P** **03 24 16.1 -0.7**
TLY IAmb IAmb 03 24 26.6
comp=Z,150nm,1.0s
IRK Irkutsk 41.49 9 *e*P **P** **03 24 22.3 +0.3**
IRK *e*S **S** **03 30 43.1 +6.4**
IRK pmax pmax
comp=Z,289nm,2.4s
CN2 Changchun 41.71 34 *e*P **P** **03 24 23.3 -0.6**
CN2 PP **PnPn** **03 26 06.4 +1.0**
CN2 S **S** **03 30 41.4 +1.3**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,600nm,7.3s

CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,5μm,13.1s
JHS Saijyo 41.88 49 P **P** **03 24 26.0 +0.5**
JHS IAmb IAmb 03 24 35.4
comp=Z,198nm,2.0s
JHS IAMs_20 IAMs_20 03 43 05.5
comp=Z,4μm,19.0s
JMN Monobe 41.95 52 IAmb IAmb 03 24 35.0
comp=Z,201nm,1.4s
JMN IAMs_20 IAMs_20 03 42 05.4
comp=Z,4μm,18.0s
FITZ Fitzroy Crossi 42.11 134 P **P** **03 24 26.3 -1.2**
comp=Z,8.3nm,0.7s,baz=325,slow=3.2,SNR=6.4
FITZ Fitzroy Crossi 42.11 134 P **P** **03 24 26.6 -0.8**
GEYT Alibeck 42.25 315 P **P** **03 24 28.3 -0.2**
comp=Z,80nm,0.7s,baz=158,slow=9.7,SNR=78
GEYT LR LR 03 44 33.6
comp=Z,1μm,18.3s,baz=80,slow=40
GEYT Alibeck 42.25 315 P **P** **03 24 29.4 +0.9**
GYA0B ALIBECK ARRAY 42.25 315 P **P** **03 24 29.2 +0.7**
GYA0B IAmb IAmb 03 24 31.0
comp=Z,113nm,0.8s
HIA Hailar 43.05 24*ce*P **P** **03 24 33.9 -0.9**
HIA pmax pmax
comp=Z,133nm,1.4s
HIA Hailar 43.05 24 P **P** **03 24 34.5 -0.3**
HIA IAmb IAmb 03 24 43.3
comp=Z,147nm,1.0s
HIA Hailar 43.05 24 IAMs_20 IAMs_20 03 44 48.8
comp=Z,4μm,18.0s
ZAA0 Zalesovo Array 43.27 351 P **P** **03 24 35.5 -0.9**
ZAA0 IAmb IAmb 03 24 45.4
comp=Z,179nm,1.3s
ZALV Zalesovo Beam 43.27 351 P **P** **03 24 36.3 -0.1**
comp=Z,37nm,0.8s,baz=169,slow=8.9,SNR=61
ZALV LR LR 03 45 42.7
comp=Z,1μm,21.7s,baz=174,slow=40
ZALV Zalesovo Beam 43.27 351 P **P** **03 24 35.8 -0.6**
ZALV *PP **pwP** **03 24 44.3 -0.5**
ZALV Zalesovo Beam 43.27 351 P **P** **03 24 35.8 -0.6**
ZALV pwP **pwP** **03 24 44.3 -0.5**
CIT Chita 43.29 17 *e*P **P** **03 24 39.8 +3.1**
CIT *e* 03 26 21.4
CIT pmax pmax
comp=Z,292nm,2.7s
JWT Wachi 43.71 50 P **P** **03 24 39.8 -0.5**
MDJ Mudanjiang 44.52 35 P **P** **03 24 47.2 +0.5**
MDJ pP pP 03 24 50.3 -0.8
MDJ PP **PP** **03 26 32.5 +1.8**
MDJ S **S** **03 31 22.4 +0.9**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,760nm,5.2s
MDJ LR LR
comp=Z,3μm,14.2s
MDJ LR LR
comp=Z,4μm,11.8s
MDJ LR LR
comp=Z,4μm,16.9s
MDJ Mudanjiang 44.52 35 P **P** **03 24 46.5 -0.3**
MDJ IAMs_20 IAMs_20 03 45 01.0
comp=Z,3μm,18.0s
VLA Vladivostok 45.01 38↑*e*P **P** **03 24 52.7 +2.1**
VLA pmax pmax
comp=Z,172nm,1.2s
MORW Morawa 45.03 154 P **P** **03 24 51.6 +0.7**
MORW IAmb IAmb 03 25 00.5
comp=Z,97nm,1.6s
JSG Sagara 45.61 52 IAMs_20 IAMs_20 03 45 03.3
comp=Z,3μm,18.0s
USRK Ussuriysk Ar. 45.67 37 P **P** **03 24 55.0 -0.8**
comp=Z,7.5nm,0.9s,baz=249,slow=5.3,SNR=11
USRK PP **PP** **03 26 41.2 -1.7**
comp=Z,4.4nm,1.0s,baz=145,slow=5.3,SNR=2.1
USRK LR LR 03 45 14.4
comp=Z,2μm,18.4s,baz=213,slow=38
USRK Ussuriysk Ar. 45.67 37 P **P** **03 24 55.1 -0.7**
BVAR Borovoye Array 46.02 340 P **P** **03 24 58.2 -0.3**
comp=Z,63nm,1.0s,baz=191,slow=14,SNR=63
BRVK Borovoye 46.08 340*de*P **P** **03 24 58.1 -0.8**
BRVK pmax pmax
comp=Z,189nm,1.3s
BRVK Borovoye 46.08 340 P **P** **03 24 58.6 -0.3**
MJB9 Matsu-Tunnel 46.29 50 IAmb IAmb 03 25 09.7
comp=Z,233nm,1.8s
MJB9 IAMs_20 IAMs_20 03 45 47.1
comp=Z,3μm,19.0s
MAJO Matsushiro 46.29 50*de*P **P** **03 25 00.6 -0.3**
MAJO pmax pmax
comp=Z,60nm,1.8s
MAJO Matsushiro 46.29 50 P **P** **03 25 00.1 -0.7**
MAJO IAmb IAmb 03 25 08.9
comp=Z,103nm,1.4s
MAJO Matsushiro 46.29 50 IAMs_20 IAMs_20 03 45 48.1
comp=Z,3μm,19.0s
MAT Matsushiro 46.29 50 P **P** **03 25 00.0 -0.9**
MAT *e*S **S** **03 31 47.2 -0.1**
MJAR Matsushiro Arr 46.29 50 P **P** **03 25 00.6 -0.3**
comp=Z,22nm,1.3s,baz=248,slow=8.4,SNR=19
MJAR PP **PP** **03 26 45.8 -3.9**
comp=Z,15nm,1.2s,baz=227,slow=2.6,SNR=3.4
MJAR LR LR 03 46 17.3
comp=Z,2μm,18.4s,baz=260,slow=39
MJAR Matsushiro Arr 46.29 50 P **P** **03 25 00.9 0.0**
MJAR IAmb IAmb 03 25 09.2
comp=Z,149nm,1.8s
ABKAR Akbulak array 47.64 329 P **P** **03 25 10.4 -0.7**
RAYN Ar Rayn 48.49 291 *i* P **P** **03 25 19.1 +0.8**
SNR=11
RAYN Ar Rayn 48.49 291 P **P** **03 25 18.1 -0.2**
RAYN pmax pmax
comp=Z,42nm,1.1s
RAYN MLR MLR
comp=Z,2μm,20.0s
RAYN Ar Rayn 48.49 291 P **P** **03 25 18.1 -0.2**
RAYN IAmb IAmb 03 25 43.1
comp=Z,42nm,1.1s
KLR Kul'dur 48.53 32 P **P** **03 25 17.4 -0.6**
comp=Z,3.4nm,0.7s,baz=242,slow=8.7,SNR=12
KLR LR LR 03 45 36.1
comp=Z,1μm,21.2s,baz=228,slow=36
KLR Kul'dur 48.53 32*ce*P **P** **03 25 17.3 -0.7**
KLR pmax pmax
comp=Z,114nm,1.8s
BOD Bodaibo 48.62 13 *e*P **P** **03 25 17.4 -1.2**
BOD pmax pmax
comp=Z,327nm,1.4s
NWAO Narrogin (SRO) 48.88 155 P **P** **03 25 20.6 -0.3**
comp=Z,15nm,0.8s,baz=330,slow=12,SNR=5.0
NWAO Narrogin (SRO) 48.88 155 IAmb IAmb 03 26 54.8
comp=Z,56nm,1.4s
AKTO Aktyubinsk 49.35 330 P **P** **03 25 23.7 -0.7**
comp=Z,21nm,1.1s,baz=133,slow=8.3,SNR=12
ZEA Zeya 49.49 25 *e*P **P** **03 25 25.6 +0.2**
ZEA pmax pmax
comp=E,30nm,1.1s
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA MLR MLR
comp=E,3μm,13.0s
ZEA MLR MLR
comp=N,3μm,15.0s
ZEA MLR MLR
comp=Z,4μm,13.0s
WB0 Warramunga Arr 49.63 128 P **P** **03 25 25.7 -1.3**
WB0 IAmb IAmb 03 25 27.1
comp=Z,41nm,0.8s
WB0 IAMs_20 IAMs_20 03 49 49.4
comp=Z,3μm,19.0s
WB8 Warramunga Arr 49.65 128 IAMs_20 IAMs_20 03 49 41.4
comp=Z,3μm,19.0s
WB6 Warramunga Arr 49.66 128 IAMs_20 IAMs_20 03 49 49.2
comp=Z,4μm,21.0s
WB7 Warramunga Arr 49.66 128 IAMs_20 IAMs_20 03 49 41.0
comp=Z,3μm,19.0s
WB5 Warramunga Arr 49.68 128 IAMs_20 IAMs_20 03 49 32.6
comp=Z,3μm,19.0s
WC1 Warramunga Arr 49.68 128 IAMs_20 IAMs_20 03 49 31.7
comp=Z,3μm,19.0s

WB4	**Warramunga Arr**	**49.69**	**128**	IAMs_20	IAMs_20	03 49 22.8	
	comp=Z,3μm,19.0s						
WR1	**Warramunga Arr**	**49.69**	**128**	IAMs_20	IAMs_20	03 49 32.0	
	comp=Z,3μm,20.0s						
WRA	**Warramunga Arr**	**49.69**	**128**	P	**P**	**03 25 26.3**	**-1.1**
	comp=Z,27nm,0.8s,baz=304,slow=8.6,SNR=32						
WRA				LR	LR	03 49 52.7	
	comp=Z,2μm,18.8s,baz=280,slow=40						
WRA	**Warramunga Arr**	**49.69**	**128**	P	**P**	**03 25 27.5**	**+0.1**
WRA				pwP	**pwP**	**03 25 35.1**	**-0.7**
WRAB	**Tennant Creek**	**49.70**	**128**	*d iP*	**P**	**03 25 26.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,45nm,1.3s						
WRAB	**Tennant Creek**	**49.70**	**128**	P	**P**	**03 25 27.1**	**-0.3**
WRAB	**Tennant Creek**	**49.70**	**128**	IAMs_20	IAMs_20	03 49 41.3	
	comp=Z,3μm,20.0s						
WB2	**Warramunga Arr**	**49.70**	**128**	IAmb	IAmb	03 25 35.9	
	comp=Z,132nm,1.6s						
WB2				IAMs_20	IAMs_20	03 49 21.3	
	comp=Z,3μm,19.0s						
WC4	**Warramunga Arr**	**49.70**	**128**	IAMs_20	IAMs_20	03 49 23.3	
	comp=Z,3μm,19.0s						
WB1	**Warramunga Ar.**	**49.71**	**128**	IAMs_20	IAMs_20	03 49 21.4	
	comp=Z,3μm,19.0s						
WC3	**Warramunga Arr**	**49.73**	**128**	IAMs_20	IAMs_20	03 49 23.9	
	comp=Z,3μm,21.0s						
WR4	**Warramunga Arr**	**49.75**	**128**	IAMs_20	IAMs_20	03 44 13.5	
	comp=Z,3μm,22.0s						
WR0	**Warramunga Arr**	**49.86**	**128**	IAmb	IAmb	03 25 28.9	
	comp=Z,43nm,0.8s						
JTM	**Tenmabayashi**	**49.96**	**46**	IAMs_20	IAMs_20	03 47 45.0	
	comp=Z,2μm,19.0s						
ATD	**Arta Tunnel**	**51.01**	**276**	P	**P**	**03 25 37.7**	**+0.2**
ASAR	**Alice Springs**	**51.58**	**133**	P	**P**	**03 25 40.7**	**-1.0**
	comp=Z,18nm,0.8s,baz=312,slow=7.4,SNR=47						
ASAR				LR	LR	03 47 28.6	
	comp=Z,1μm,21.3s,baz=280,slow=36						
ASAR	**Alice Springs**	**51.58**	**133**	P	**P**	**03 25 40.6**	**-1.1**
ASAR				pwP	**pwP**	**03 25 49.9**	**-0.3**
GRNR	**Gornyy**	**51.87**	**32**	*⇓ iP*	**P**	**03 25 43.8**	**+0.4**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,780nm,12.0s						
GRNR				MLR	MLR		
	comp=N,2μm,13.0s						
GRNR				MLR	MLR		
	comp=Z,1μm,13.0s						
ERM	**Erimo**	**51.88**	**45**	*⇑ eP*	**P**	**03 25 41.8**	**-1.8**
ERM				pmax	pmax		
	comp=Z,52nm,1.7s						
ERM	**Erimo**	**51.88**	**45**	IAMs_20	IAMs_20	03 48 53.9	
	comp=Z,3μm,20.0s						
JEM	**Erimo**	**51.88**	**45**	IAMs_20	IAMs_20	03 48 55.2	
	comp=Z,3μm,20.0s						
ASAJ	**Asahikawa**	**52.31**	**42**	P	**P**	**03 25 47.4**	**+0.6**
	comp=Z,4.9nm,0.3s,baz=250,slow=19,SNR=5.4						
JKA	**Kamikawa-asahi**	**52.31**	**42**	IAmb	IAmb	03 25 56.3	
	comp=Z,183nm,1.3s						
JKA				IAMs_20	IAMs_20	03 48 15.2	
	comp=Z,2μm,19.0s						
SVE	**Sverdlovsk**	**52.52**	**337**	*d iP*	**P**	**03 25 48.7**	**+0.6**
SVE				*e*S	**S**	**03 33 11.2**	**-2.8**
SVE				pmax	pmax		
	comp=Z,514nm,1.3s						
SVE				MLR	MLR		
	comp=Z,2μm,21.0s						
FORT	**Forrest**	**52.58**	**144**	P	**P**	**03 25 48.9**	**0.0**
FORT				IAmb	IAmb	03 25 50.4	
	comp=Z,81nm,1.2s						
GNI	**Garni**	**52.66**	**312**	P	**P**	**03 25 50.6**	**+0.9**
	comp=Z,76nm,1.1s,baz=169,slow=2.2,SNR=49						
GNI	**Garni**	**52.66**	**312**	P	**P**	**03 25 51.0**	**+1.3**
GNI	**Garni**	**52.66**	**312**	P	**P**	**03 25 49.5**	**-0.1**
GNI				pmax	pmax		
	comp=Z,274nm,1.1s						
GNI	**Garni**	**52.66**	**312**	P	**P**	**03 25 49.5**	**-0.1**
GROC	**Groznyy**	**52.97**	**316**	*e*P	**P**	**03 25 49.6**	**-2.1**
GROC				*e*		03 26 57.6	
GROC				*e*		03 27 50.1	
GROC				*e*S	**S**	**03 33 18.9**	**-1.6**
GROC				pmax	pmax		
	comp=Z,145nm,1.1s						
ARU	**Arti**	**53.06**	**336**	P	**P**	**03 25 51.1**	**-1.0**
	comp=Z,52nm,1.0s,baz=136,slow=4.5,SNR=52						
ARU				LR	LR	03 50 41.0	
	comp=Z,1μm,21.6s,baz=128,slow=39						
ARU	**Arti**	**53.06**	**336**	*c iP*	**P**	**03 25 51.6**	**-0.5**
ARU						03 27 04.6	
ARU						03 27 48.7	
ARU				PPP	PPP	03 28 57.4	
ARU				S	**S**	**03 33 23.5**	**+2.2**
ARU						03 35 37.7	
ARU				pmax	pmax		
	comp=Z,208nm,1.1s						
ARU				MLR	MLR		
	comp=Z,2μm,25.0s						
ARU	**Arti**	**53.06**	**336**	P	**P**	**03 25 51.1**	**-1.0**
GEVA	**Gevas**	**53.37**	**310**	P	**P**	**03 25 54.8**	**-0.1**
GEVA				IAMs_20	IAMs_20	03 50 56.9	
	comp=Z,3μm,22.0s						
YSS	**Yuzh-Sakhalins**	**53.59**	**39**	*e*P	**P**	**03 25 56.5**	**+0.4**
YSS				*e*		03 27 55.8	
YSS				*e*		03 37 08.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.3s						
YSS				pmax	pmax		
	comp=Z,700nm,4.5s						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**53.59**	**39**	P	**P**	**03 25 55.9**	**-0.2**
YSS				IAmb	IAmb	03 26 04.9	
	comp=Z,152nm,1.1s						
YSS				IAMs_20	IAMs_20	03 49 13.2	
	comp=Z,2μm,19.0s						
ZEI	**Tsey**	**54.12**	**315**	*e*P	**P**	**03 26 00.4**	**0.0**
ZEI				pmax	pmax		
	comp=Z,67nm,1.3s						
UGL	**Uglegorsk**	**54.13**	**36**	*e*P	**P**	**03 25 59.6**	**-0.4**
UGL				*e*S	**S**	**03 33 34.7**	**-1.3**
UGL				pmax	pmax		
	comp=Z,300nm,1.0s						
UGL				MLR	MLR		
	comp=E,4μm,14.0s						
UGL				MLR	MLR		
	comp=N,2μm,12.0s						
UGL				MLR	MLR		
	comp=Z,4μm,14.0s						
GURO	**Guroymak-BITLI**	**54.21**	**310**	IAmb	IAmb	03 26 35.7	
	comp=Z,80nm,1.3s						
GURO				IAMs_20	IAMs_20	03 52 06.1	
	comp=Z,2μm,21.0s						
ONI	**Oni**	**54.37**	**315**	IAmb	IAmb	03 26 13.6	
	comp=Z,52nm,1.2s						
NCK	**Nalchik**	**54.58**	**316**	*⇓ iP*	**P**	**03 26 04.4**	**+0.9**
NCK				pmax	pmax		
	comp=Z,73nm,2.1s						
MARD	**Mardin**	**54.86**	**308**	P	**P**	**03 26 05.2**	**-0.6**
MARD				IAmb	IAmb	03 26 32.6	
	comp=Z,34nm,0.7s						
NEY	**Neytrino**	**55.09**	**315**	*deP*	**P**	**03 26 09.6**	**+2.2**
NEY				pmax	pmax		
	comp=Z,11nm,1.0s						
KBZ	**Khabaz**	**55.13**	**316**	P	**P**	**03 26 07.8**	**+0.3**
	comp=Z,19nm,1.1s,baz=97,slow=5.6,SNR=21						
KBZ				LR	LR	03 53 40.8	
	comp=Z,644nm,19.7s,baz=102,slow=40						
KBZ	**Khabaz**	**55.13**	**316**	*c iP*	**P**	**03 26 07.7**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,46nm,1.3s						
TYV	**Tymovskoe**	**55.30**	**35**	*e*P	**P**	**03 26 10.6**	**+2.1**
TYV				pmax	pmax		
	comp=Z,200nm,2.3s						
TYV				pmax	pmax		
	comp=Z,31nm,1.3s						
TYV				MLR	MLR		
	comp=E,3μm,15.0s						
TYV				MLR	MLR		
	comp=Z,4μm,17.0s						
KIV	**Kislovodsk**	**55.35**	**316**	*i* P	**P**	**03 26 09.9**	**+0.7**
	SNR=22						
KIV	**Kislovodsk**	**55.35**	**316**	*e*P	**P**	**03 26 09.5**	**+0.4**
KIV				*e*S	**S**	**03 33 54.6**	**+1.7**
KIV				*e*SS	**SS**	**03 37 39.3**	**+1.9**
KIV				pmax	pmax		
	comp=Z,328nm,1.0s						
KIV				pmax	pmax		
	comp=Z,190nm,3.8s						
KIV				MLR	MLR		
	comp=Z,2μm,17.0s						
KIV	**Kislovodsk**	**55.35**	**316**	P	**P**	**03 26 08.9**	**-0.3**
KIV				IAmb	IAmb	03 26 20.1	
	comp=Z,131nm,1.1s						
FURI	**Furi**	**55.38**	**273**	P	**P**	**03 26 10.7**	**+0.6**
FURI				IAmb	IAmb	03 26 42.0	
	comp=Z,81nm,1.1s						
FURI	**Furi**	**55.38**	**273**	IAMs_20	IAMs_20	03 47 06.8	
	comp=Z,3μm,21.0s						
GOF	**Gofitskoye**	**55.49**	**317**	*⇑ iP*	**P**	**03 26 10.3**	**+0.3**
GOF				pmax	pmax		
	comp=Z,101nm,0.9s						
PMG	**Port Moresby**	**55.85**	**110**	P	**P**	**03 26 11.8**	**-1.2**
	comp=Z,31nm,1.0s,baz=245,slow=4.7,SNR=4.8						
PMG	**Port Moresby**	**55.85**	**110**	P	**P**	**03 26 12.7**	**-0.3**
PMG				pmax	pmax		
	comp=Z,46nm,1.1s						
PMG	**Port Moresby**	**55.85**	**110**	P	**P**	**03 26 12.7**	**-0.3**
PMG				IAmb	IAmb	03 26 14.0	
	comp=Z,46nm,1.1s						
ABPO	**Ambohimpanom**	**55.88**	**238**	P	**P**	**03 26 14.2**	**+0.8**
ABPO				pmax	pmax		
	comp=Z,24nm,1.1s						
ABPO	**Ambohimpanom**	**55.88**	**238**	P	**P**	**03 26 14.2**	**+0.8**
YAK	**Yakutsk**	**56.48**	**19**	P	**P**	**03 26 16.0**	**-0.7**
	comp=Z,24nm,0.6s,baz=336,slow=1.0,SNR=13						
YAK	**Yakutsk**	**56.48**	**19**	*e*P	**P**	**03 26 15.6**	**-1.1**
YAK				*e**PP	**sP**	**03 26 23.2**	**+0.2**
YAK				*e*		03 27 12.4	
YAK				*e*		03 28 22.0	
YAK				*e*PPP	PPP	03 29 35.6	
YAK				*e*S	**S**	**03 34 04.4**	**-2.7**
YAK				*e**SS	sS	03 34 25.9	+11
YAK				*e*		03 36 00.8	
YAK				pmax	pmax		
	comp=Z,90nm,1.2s						
YAK				pmax	pmax		
	comp=N,36nm,1.3s						
YAK				pmax	pmax		
	comp=E,25nm,1.1s						
YAK				pmax	pmax		
	comp=Z,43nm,1.5s						
YAK				pmax	pmax		
	comp=N,40nm,1.4s						
YAK				pmax	pmax		
	comp=E,30nm,1.3s						
YAK				smax	smax		
	comp=N,48nm,2.8s						
YAK				smax	smax		
	comp=E,92nm,2.9s						
YAK				MLR	MLR		
	comp=Z,4μm,15.0s						
YAK				MLR	MLR		
	comp=N,2μm,16.0s						
YAK				MLR	MLR		
	comp=E,2μm,15.0s						
YAK	**Yakutsk**	**56.48**	**19**	P	**P**	**03 26 15.4**	**-1.3**
SOC	**Sochi**	**57.28**	**315**	*c iP*	**P**	**03 26 21.7**	**-1.1**
SOC				*e*S	**S**	**03 34 20.3**	**+2.0**
SOC				*e*SSS	SSS	03 40 16.3	
SOC				pmax	pmax		
	comp=Z,43nm,0.7s						
SOC				MLR	MLR		
	comp=Z,779nm,19.0s						
GAZ	**Gaziantep**	**57.61**	**307**	P	**P**	**03 26 25.2**	**-0.2**
NRIK	**Noril'sk**	**58.15**	**357**	P	**P**	**03 26 27.9**	**-0.6**
	comp=Z,20nm,0.9s,baz=155,slow=5.6,SNR=26						
NRIK				LR	LR	03 54 07.2	
	comp=Z,1μm,18.7s,baz=170,slow=39						
NRIK	**Noril'sk**	**58.15**	**357**	*c iP*	**P**	**03 26 27.8**	**-0.6**
NRIK				pmax	pmax		
	comp=Z,70nm,1.6s						
NRIK	**Noril'sk**	**58.15**	**357**	IAmb	IAmb	03 26 37.0	
	comp=Z,128nm,1.4s						
KIBK	**Kibwezi**	**58.19**	**260**	P	**P**	**03 26 29.8**	**+0.1**
KIRV	**Kirov**	**58.25**	**334**	P	**P**	**03 26 29.4**	**+0.1**
	comp=Z,79nm,0.8s,baz=132,slow=3.0,SNR=60						
KIRV	**Kirov**	**58.25**	**334**	*c iP*	**P**	**03 26 29.3**	**0.0**
VRH	**Novokhopyorsk**	**58.59**	**324**	*e*P	**P**	**03 26 30.7**	**-1.1**
VRH				*e**SP	**pwP**	**03 26 39.6**	**-0.7**
VRH				pmax	pmax		
	comp=Z,90nm,1.0s						
VRH				MLR	MLR		
	comp=Z,1μm,23.0s						
KMBO	**Kilima Mbogo**	**58.66**	**262**	P	**P**	**03 26 33.6**	**+0.4**
	comp=Z,4.1nm,1.0s,baz=56,slow=7.6,SNR=6.0						
KMBO	**Kilima Mbogo**	**58.66**	**262**	*i* P	**P**	**03 26 35.0**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BNN	**Bunyan**	**58.99**	**309**	IAmb	IAmb	03 26 55.1	
	comp=Z,68nm,1.0s						
ANN	**Anapa**	**59.20**	**316**	*e*P	**P**	**03 26 32.5**	**-3.6**
ANN				pmax	pmax		
	comp=Z,55nm,1.0s						
ANN				MLR	MLR		
	comp=Z,1μm,18.0s						
CTA	**Charters Tower**	**59.36**	**122**	P	**P**	**03 26 37.7**	**0.0**
	comp=Z,13nm,1.0s,baz=334,slow=6.0,SNR=6.4						
CTAO	**Charters Tower**	**59.36**	**122**	P	**P**	**03 26 36.9**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,62nm,1.5s						
CTAO	**Charters Tower**	**59.36**	**122**	P	**P**	**03 26 36.9**	**-0.8**
CTAO				IAmb	IAmb	03 27 22.9	
	comp=Z,62nm,1.5s						
LODK	**Lodwar**	**59.53**	**267**	P	**P**	**03 26 40.1**	**+1.0**
VORD	**Divnogorie**	**59.93**	**323**	*e*P	**P**	**03 26 40.2**	**-0.9**
VORD				*e**SP	**pwP**	**03 26 49.2**	**-0.4**
VORD				pmax	pmax		
	comp=Z,60nm,1.0s						
VSR	**Storozhevoye**	**60.09**	**323**	*e*P	**P**	**03 26 41.3**	**-0.9**
VSR				*e**SP	**sP**	**03 26 49.4**	**+1.0**
VSR				pmax	pmax		
	comp=Z,60nm,1.0s						
VSR				MLR	MLR		
	comp=Z,1μm,19.0s						
VORR	**Voronezh**	**60.23**	**324**	*e*P	**P**	**03 26 44.0**	**+0.9**
VORR				pmax	pmax		
	comp=Z,300nm,1.2s						
CSS	**Mathiatis**	**60.38**	**304**	IAmb	IAmb	03 27 32.9	
	comp=Z,40nm,1.0s						
LPSR	**Galich'ya Gora**	**60.72**	**325**	*e*P	**P**	**03 26 45.8**	**-0.7**
LPSR				*e**SP	**pwP**	**03 26 54.4**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,110nm,1.4s						
LPSR				MLR	MLR		
	comp=Z,1μm,23.0s						
BR131	**Keskin Array S**	**60.83**	**309**	P	**P**	**03 26 46.4**	**-1.3**
BR131				pmax	pmax		
	comp=Z,55nm,1.2s						
BR131	**Keskin Array S**	**60.83**	**309**	P	**P**	**03 26 46.4**	**-1.3**
BR131				IAmb	IAmb	03 26 56.5	
	comp=Z,55nm,1.1s						
BRTR	**Keskin Array B**	**60.83**	**309**	P	**P**	**03 26 46.6**	**-1.1**
	comp=Z,12nm,0.8s,baz=120,slow=7.3,SNR=32						
BRTR				LR	LR	03 56 40.7	
	comp=Z,1μm,19.5s,baz=112,slow=40						
BRTR	**Keskin Array B**	**60.83**	**309**	*i* P	**P**	**03 26 46.5**	**-1.1**
BRTR				pmax	pmax		
	comp=Z,13nm,0.8s						
BZK	**Bozkurt**	**60.97**	**312**	IAMs_20	IAMs_20	03 55 26.9	
	comp=Z,2μm,21.0s						
ILGA	**Ilgaz**	**61.01**	**311**	IAmb	IAmb	03 26 59.4	
	comp=Z,103nm,1.4s						
ANTO	**Ankara**	**61.50**	**309**	P	**P**	**03 26 50.9**	**-1.2**
ANTO				pmax	pmax		
	comp=Z,45nm,1.2s						
ANTO	**Ankara**	**61.50**	**309**	P	**P**	**03 26 50.9**	**-1.2**
ANTO				IAmb	IAmb	03 27 01.2	
	comp=Z,45nm,1.2s						
SIM	**Simferopol'**	**61.52**	**315**	*d iP*	**P**	**03 26 51.3**	**-0.8**
SIM				*e*S	**S**	**03 35 12.0**	**-1.0**
SIM				pmax	pmax		
	comp=Z,78nm,1.3s						
PRGR	**Permogore**	**61.52**	**336**	*e*P	**P**	**03 26 48.0**	**-3.7**
PRGR				*e*		03 27 29.4	
PRGR				pmax	pmax		
	comp=Z,23nm,1.5s						
STKA	**Stephens Creek**	**61.95**	**136**	P	**P**	**03 26 54.6**	**-0.5**
	comp=Z,21nm,0.8s,baz=311,slow=8.1,SNR=35						
STKA				LR	LR	03 56 33.0	
	comp=Z,1μm,18.4s,baz=298,slow=39						
STKA	**Stephens Creek**	**61.95**	**136**	P	**P**	**03 26 55.0**	**-0.1**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**61.95**	**136**	P	**P**	**03 26 55.0**	**-0.1**
MOS	**Moscow**	**62.58**	**328**	*e*P	**P**	**03 26 56.9**	**-2.1**
MOS				*e*		03 27 05.7	
MOS				*e*		03 27 34.3	
MOS				*e*		03 29 15.7	
MOS				*e*PPP	PPP	03 30 45.5	
MOS				*e*S	**S**	**03 35 23.2**	**-2.8**
MOS				*e*		03 36 48.2	
MOS				pmax	pmax		
	comp=Z,187nm,1.3s						
OBN	**Obninsk**	**62.92**	**327**	P	**P**	**03 27 00.9**	**-0.3**
	comp=Z,7.2nm,0.4s,baz=76,slow=1.7,SNR=3.3						
OBN				LR	LR	03 57 14.3	
	comp=Z,230nm,21.0s,baz=102,slow=39						
OBN	**Obninsk**	**62.92**	**327**	*c iP*	**P**	**03 27 00.9**	**-0.3**
OBN				*e*		03 27 38.4	
OBN				*e*		03 29 17.4	
OBN				*e*PPP	PPP	03 30 51.5	
OBN				pmax	pmax		
	comp=Z,210nm,1.3s						
OBN	**Obninsk**	**62.92**	**327**	P	**P**	**03 27 01.0**	**-0.3**
ELL	**Elmali**	**63.34**	**305**	P	**P**	**03 27 03.7**	**-0.9**
ELL				pmax	pmax		
	comp=Z,229nm,0.9s						
ELL				MLR	MLR		
	comp=Z,3μm,21.0s						
ELL	**Elmali**	**63.34**	**305**	P	**P**	**03 27 03.7**	**-0.9**
MA2	**Magadan**	**63.35**	**28**	*c iP*	**P**	**03 27 03.6**	**-0.4**
MA2				pmax	pmax		
	comp=Z,55nm,0.8s						
MA2	**Magadan**	**63.35**	**28**	P	**P**	**03 27 03.8**	**-0.2**
MA2				IAMs_20	IAMs_20	03 57 30.8	
	comp=Z,2μm,19.0s						
TIXI	**Tiksi**	**63.70**	**11**	P	**P**	**03 27 04.9**	**-1.2**
	comp=Z,54nm,1.1s,baz=200,slow=3.4,SNR=38						
TIXI	**Tiksi**	**63.70**	**11**	P	**P**	**03 27 04.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,203nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,2μm,20.0s						
TIXI	**Tiksi**	**63.70**	**11**	P	**P**	**03 27 04.5**	**-1.6**
TIXI				IAMs_20	IAMs_20	03 58 23.7	
	comp=Z,2μm,20.0s						
KLMR	**Klimovskoe**	**63.73**	**333**	*e*P	**P**	**03 27 03.9**	**-2.6**
KLMR				*e*		03 29 25.5	
KLMR				pmax	pmax		
	comp=Z,359nm,1.4s						
KLMR				MLR	MLR		
	comp=Z,1μm,17.0s						
KLMR	**Klimovskoe**	**63.73**	**333**	*e*P	**P**	**03 27 03.9**	**-2.6**
KLMR				AMP		03 27 17.1	
	comp=Z,359nm,1.4s						
KLMR				*e*PP	**PP**	**03 29 25.6**	**-1.0**
KLMR				LQ	LQ	03 50 15.8	
KLMR				LQ	LQ	03 50 15.8	
KLMR				LR	LR	03 54 57.8	
KLMR				AMP		03 59 37.4	
	comp=Z,1μm,17.1s						
PEA0B	**Petropavlovsk-**	**64.75**	**36**	*ceP*	**P**	**03 27 15.1**	**+1.7**
PEA0B	**Petropavlovsk-**	**64.75**	**36**	P	**P**	**03 27 14.0**	**+0.6**
PEA0B				IAmb	IAmb	03 27 51.7	
	comp=Z,54nm,1.1s						
PETK	**Petropavlovsk-**	**64.75**	**36**	P	**P**	**03 27 14.1**	**+0.7**
	comp=Z,16nm,0.9s,baz=207,slow=6.3,SNR=6.2						
PETK				PKKPbc	PKKPbc	03 48 20.3	
	comp=Z,2.0nm,0.7s,baz=45,slow=1.0,SNR=3.5						
PETK				LR	LR	03 57 20.3	
	comp=Z,956nm,19.1s,baz=264,slow=38						
PETK	**Petropavlovsk-**	**64.75**	**36**	P	**P**	**03 27 13.7**	**+0.3**
PETK				pwP	**sP**	**03 27 20.0**	**+0.4**
MBAR	**Mbarara**	**64.88**	**264**	IAMs_20	IAMs_20	03 53 32.2	
	comp=Z,1μm,19.0s						
BALB	**Balikesir**	**65.22**	**308**	P	**P**	**03 27 16.6**	**-0.1**
BALB				IAmb	IAmb	03 27 44.4	
	comp=Z,94nm,1.7s						
PET	**Petropavlovsk**	**65.28**	**37**	*⇑ eP*	**P**	**03 27 18.7**	**+1.9**
PET				pmax	pmax		
	comp=Z,32nm,1.1s						
SEY	**Seymchan**	**65.47**	**25**	P	**P**	**03 27 17.7**	**-0.1**
	comp=Z,17nm,1.1s,baz=246,slow=9.6,SNR=13						
SEY	**Seymchan**	**65.47**	**25**	*⇑ eP*	**P**	**03 27 16.7**	**-1.1**
KIS	**Kishinev**	**65.55**	**317**	*⇑ iP*	**P**	**03 27 17.8**	**-0.8**
KIS	**Kishinev**	**65.55**	**317**	*i* P	**P**	**03 27 14.8**	**-3.8**
KIS				*e*		03 27 26.0	
KIS				*e*PPP	PPP	03 31 16.0	
KIS				MLR	MLR		
	comp=Z,300nm,21.5s						
EIDS	**Eidsvold**	**65.72**	**125**	P	**P**	**03 27 20.2**	**+0.1**
CFR	**Carcaliu**	**65.72**	**315**	*⇑ P*	**P**	**03 27 19.5**	**-0.3**
AKASG	**Malin Array Be**	**65.98**	**321**	P	**P**	**03 27 20.3**	**-1.0**
	comp=Z,17nm,0.9s,baz=86,slow=4.8,SNR=63						
AKASG				LR	LR	04 00 25.0	
	comp=Z,976nm,20.4s,baz=75,slow=40						
AKASG	**Malin Array Be**	**65.98**	**321**	P	**P**	**03 27 20.4**	**-1.0**
AKASG				*PP	**pwP**	**03 27 29.1**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,45nm,1.5s						
AKASG	**Malin Array Be**	**65.98**	**321**	P	**P**	**03 27 20.4**	**-1.0**
AKASG				pwP	**pwP**	**03 27 29.1**	**-0.8**
AKASG				IAmb	IAmb	03 27 30.4	
	comp=Z,45nm,1.5s						
AKBB	**Malin Array Si**	**65.98**	**321**	*ceP*	**P**	**03 27 22.6**	**+1.2**
AKBB	**Malin Array Si**	**65.98**	**321**	IAmb	IAmb	03 27 32.4	
	comp=Z,46nm,1.2s						
SORM	**Soroca**	**66.05**	**318**	*⇑ P*	**P**	**03 27 21.0**	**-0.9**
ALN	**Alexandroupoli**	**66.74**	**310**	IAmb	IAmb	03 27 35.8	
	comp=Z,44nm,1.2s						
VRI	**Vrincioaia**	**66.80**	**315**	*⇑ P*	**P**	**03 27 26.7**	**-0.1**
ISR	**Istrita**	**66.83**	**314**	*⇑ P*	**P**	**03 27 27.6**	**+0.6**
PLOR	**Plostina**	**66.85**	**315**	*⇑ P*	**P**	**03 27 27.6**	**+0.5**
TESR	**Tescani**	**66.94**	**316**	*⇑ P*	**P**	**03 27 27.4**	**-0.2**
NEHR	**Nehoiu**	**67.05**	**315**	*⇑ P*	**P**	**03 27 27.8**	**-0.5**
MLR	**Muntele Rosu**	**67.30**	**315**	LR	LR	04 00 58.8	
	comp=Z,1μm,22.0s,baz=61,slow=40						
MLR	**Muntele Rosu**	**67.30**	**315**	*⇑ P*	**P**	**03 27 30.5**	**+0.5**
MLR	**Muntele Rosu**	**67.30**	**315**	IAMs_20	IAMs_20	04 00 04.1	
	comp=Z,2μm,22.0s						
IDI	**Anoyia**	**67.30**	**304**	*⇓ P*	**P**	**03 27 29.8**	**-0.4**
MNK	**Minsk**	**67.57**	**324**	*e*P	**P**	**03 27 30.0**	**-1.4**
PUL	**Pulkovo**	**67.60**	**330**	*⇓ eP*	**P**	**03 27 32.2**	**+0.7**
PUL				pmax	pmax		
	comp=Z,163nm,0.7s						
DOPR	**Dopca**	**67.74**	**315**	*⇑ P*	**P**	**03 27 33.0**	**+0.3**
TOO	**Toolangi**	**67.87**	**139**	P	**P**	**03 27 33.8**	**+0.2**
TOO				pmax	pmax		
	comp=Z,34nm,1.1s						
TOO				MLR	MLR		
	comp=Z,4μm,22.0s						
TOO	**Toolangi**	**67.87**	**139**	P	**P**	**03 27 33.8**	**+0.2**
TOO				IAmb	IAmb	03 27 44.9	
	comp=Z,34nm,1.1s						
VOIR		**67.92**	**314**	*⇑ P*	**P**	**03 27 34.7**	**+0.8**
BURAR	**Bucovina Array**	**68.06**	**317**	*

VSU Vasula 69.06 328 *c iP* **P 03 27 40.5 -0.2**
VSU pmax pmax
comp=Z,215nm,0.9s
LVV L'vov 69.12 319 *eP* **P 03 27 40.7 -0.6**
GZR Gura Zlata 69.51 314 ⇓P **P 03 27 43.4 -0.4**
DRGR 69.67 316 ⇑P **P 03 27 45.1 +0.2**
HERR Herculane 69.72 314 ⇑P **P 03 27 44.7 -0.4**
ITM Ithomi 69.75 305 IAmb IAmb 03 28 14.5
comp=Z,44nm,1.0s
KWP Kalwaria Pacla 69.95 319 *eP* **P 03 27 46.4 0.0**
PABE Paberze 69.98 325 *eP* **P 03 27 46.6 +0.2**
PABE Paberze 69.98 325 P **P 03 27 45.8 -0.6**
FIA1 FINESS Array S 70.06 332 P **P 03 27 46.7 -0.1**
FINES FINESS Array B 70.06 332 LR LR 04 01 07.6
comp=Z,1µm,21.7s,baz=104,slow=38
UZH Uzhgorod 70.12 318 *eP* **P 03 27 46.1 -1.3**
UZH *e* 03 27 53.1
UZH *e* 03 28 09.7
BOVS Bovan 70.15 312 ⇑P **P 03 27 46.5 -1.2**
KOLS Kolonicke sedl 70.16 318 *eP* **P 03 27 48.3 +0.6**
KOLS Kolonicke sedl 70.16 318 *eP* **P 03 27 48.3 +0.6**
SUW Suwalki 70.20 323 *eP* **P 03 27 47.2 -0.6**
SUW Suwalki 70.20 323 *eP* **P 03 27 47.6 -0.2**
MDVR Moldovita 70.21 314 ⇑P **P 03 27 47.8 -0.4**
BZS Buzias 70.34 314 ⇑P **P 03 27 47.8 -1.0**
SIRR Siria 70.35 315 ⇑P **P 03 27 49.1 +0.1**
MEF Metsahovi 70.60 330 *eP* **P 03 27 49.9 -0.2**
MTSE Matsula 70.61 328 *eP* **P 03 27 50.1 -0.1**
CRVS Cervenica-Dubn 70.69 318 *eP* **P 03 27 51.5 +0.5**
CRVS pmax pmax
comp=Z,137nm,1.3s
CRVS Cervenica-Dubn 70.69 318 *eP* **P 03 27 51.5 +0.5**
PBUR Paburge 71.19 325 *eP* **P 03 27 54.7 +0.9**
SLIT Slitere, Latvi 71.22 327 *eP* **P 03 27 53.5 -0.5**
KECS Kecovo 71.31 317 *eP* **P 03 27 54.8 +0.1**
KECS Kecovo 71.31 317 *eP* **P 03 27 54.8 +0.1**
BEL Belsk 71.39 321 *eP* **P 03 27 55.3 +0.2**
TIR Tirane 71.42 310 P **P 03 27 56.3 +0.7**
TIR pmax pmax
comp=Z,34nm,1.0s
TIR Tirane 71.42 310 P **P 03 27 56.3 +0.7**
TIR IAmb IAmb 03 28 26.7
comp=Z,34nm,1.0s
NIE Niedzica 71.49 318 *eP* **P 03 27 56.4 +0.6**
FRGS Fruska Gora 71.58 314 ⇑P **P 03 27 56.5 +0.1**
PSZ Piszkesteto 71.66 317 ⇑P **P 03 27 57.0 0.0**
PSZ Piszkesteto 71.66 317 IAmb IAmb 03 28 06.9
comp=Z,115nm,1.7s
KEV Kevo 71.86 340 P **P 03 27 57.5 -0.1**
KEV pmax pmax
comp=Z,92nm,1.2s
KEV MLR MLR
comp=Z,2µm,21.0s
KEV Kevo 71.86 340 P **P 03 27 57.5 -0.1**
KEV IAmb IAmb 03 28 11.2
comp=Z,92nm,1.2s
KEV IAMs_20 IAMs_20 04 03 04.7
comp=Z,2µm,21.0s
OJC Ojcow 71.88 319 *eP* **P 03 27 58.0 -0.1**
OJC Ojcow 71.88 319 IAmb IAmb 03 28 08.0
comp=Z,102nm,1.2s
PDG Podgorica 71.90 311 ⇑P **P 03 27 56.7 -1.7**
PDG Podgorica 71.90 311 IAmb IAmb 03 28 07.1
comp=Z,50nm,1.3s
KLNR Kaliningrad 72.00 324 *c iP* **P 03 27 58.5 -0.2**
KLNR pmax pmax
comp=Z,198nm,1.0s
LANS Liptovska Anna 72.02 318 *eP* **P 03 27 59.7 +0.7**
LANS pmax pmax
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 72.02 318 *eP* **P 03 27 59.7 +0.7**
RAF Rauma 72.02 331 *eP* **P 03 27 58.6 0.0**
ARA0 ARCESS Array S 72.31 340 *eP* **P 03 27 57.5 -2.8**
ARCES ARCESS Array B 72.31 340 P **P 03 28 00.5 +0.2**
comp=Z,9.4nm,0.8s,baz=89,slow=5.1,SNR=21
ARCES LR LR 04 03 45.3
comp=Z,1µm,18.1s,baz=120,slow=39
ARCES ARCESS Array B 72.31 340 P **P 03 28 00.4 +0.1**
VYHS Vyhne 72.40 317 *eP* **P 03 28 01.0 -0.3**
VYHS pmax pmax
comp=Z,24nm,1.1s
VYHS Vyhne 72.40 317 *eP* **P 03 28 01.0 -0.3**
MORH Mrgy, Hungar 72.44 315 ⇓P **P 03 28 00.7 -0.8**
BILL Bilibino 72.60 22 P **P 03 28 01.6 -0.5**
BILL IAmb IAmb 03 28 10.2
comp=Z,122nm,1.1s
SRO Srobarova 72.72 317 *eP* **P 03 28 04.3 +1.1**
SRO Srobarova 72.72 317 *eP* **P 03 28 04.3 +1.1**
AAL Aland 72.76 330 *eP* **P 03 28 03.3 +0.2**
OKC Ostrava-Krasne 72.92 319 *eP* **P 03 28 04.8 +0.5**
OKC *e* 03 28 13.4
OKC MLR MLR
comp=Z,500nm,19.7s
OKC Ostrava-Krasne 72.92 319 *eP* **P 03 28 04.8 +0.5**
OKC *ex* x 03 28 13.4
OKC AMS AMS 04 03 50.0
comp=Z,500nm,19.7s
KTK1 Kautokeino 72.96 339 *eP* **P 03 28 03.6 -0.6**
JAVC Velka Javorina 73.19 318 ⇑*iP* **P 03 28 06.8 +0.8**
JAVC *e* 03 28 15.0
HAMF Hammerfest 73.19 341 *eP* **P 03 28 06.0 +0.5**
MORC Moravsky Berou 73.31 319 ⇑P **P 03 28 06.2 -0.5**
MORC Moravsky Berou 73.31 319 IAmb IAmb 03 28 17.0
comp=Z,84nm,1.2s
MORC Moravsky Berou 73.31 319 ⇑*iP* **P 03 28 06.9 +0.2**
MORC *e* 03 28 15.3
SMOL Smolenice 73.34 317 *eP* **P 03 28 06.9 +0.1**
SMOL pmax pmax
comp=Z,11nm,1.3s
SMOL Smolenice 73.34 317 *eP* **P 03 28 06.9 +0.1**
MODS Modra-Piesok 73.43 317 *eP* **P 03 28 08.6 +1.2**
MODS pmax pmax
comp=Z,25nm,1.1s
MODS Modra-Piesok 73.43 317 *eP* **P 03 28 08.6 +1.2**
ZST Bratislava 73.55 317 *eP* **P 03 28 08.5 +0.5**
ZST pmax pmax
comp=Z,121nm,1.2s
ZST Bratislava 73.55 317 *eP* **P 03 28 08.5 +0.5**
GKP Gorka Klasztor 73.65 322 *eP* **P 03 28 08.6 0.0**
KRLC Kraliky 73.81 319 *eP* **P 03 28 09.9 +0.3**
KRLC *e* 03 28 18.7
KRLC MLR MLR
comp=Z,600nm,22.4s
KRLC Kraliky 73.81 319 *eP* **P 03 28 09.9 +0.3**
KRLC *ex* x 03 28 18.7
KRLC AMS AMS 04 04 10.0
comp=Z,600nm,22.4s
MATE Matera 73.82 309 ⇑P **P 03 28 08.2 -1.6**
UPP Uppsala 73.91 329 *eP* **P 03 28 10.2 +0.3**
VRAC Vranov 73.91 318 P **P 03 28 10.4 +0.2**
comp=Z,5.3nm,0.8s,baz=78,slow=6.4,SNR=13
VRAC Vranov 73.91 318 ⇓P **P 03 28 10.0 -0.2**
VRAC Vranov 73.91 318 ⇑*iP* **P 03 28 10.2 0.0**
VRAC *e* 03 28 18.4
KRUC Moravsky 74.03 318 ⇑*iP* **P 03 28 10.9 0.0**
KRUC *e* 03 28 19.0
JETT Jettan, Norway 74.06 339 *eP* **P 03 28 11.2 +0.5**
KOGS Kog 74.10 315 *eP* **P 03 28 11.4 0.0**
KOGS *i* pP **pwP 03 28 19.9 0.0**
KOGS *eS* S **03 37 50.2 +6.5**
DPC Dobruska-Polom 74.11 319 *eP* **P 03 28 12.3 +0.9**
DPC *e* 03 28 19.9
DPC MLR MLR
comp=Z,900nm,21.5s
DPC Dobruska-Polom 74.11 319 *eP* **P 03 28 12.3 +0.9**
DPC *ex* x 03 28 19.9
DPC AMS AMS 04 04 20.0
comp=Z,900nm,21.5s
KSP Ksiaz 74.14 320 *eP* **P 03 28 11.9 +0.4**
OSTC Ostas 74.18 319 *eP* **P 03 28 12.4 +0.6**
OSTC *ex* x 03 28 20.0
OSTC AMS AMS 04 04 50.0
comp=Z,900nm,22.3s
CHVC Chvalec 74.28 319 *eP* **P 03 28 13.9 +1.5**
CHVC AMS AMS 04 04 40.0
comp=Z,1µm,21.9s
UPC Upice 74.31 319 *eP* **P 03 28 13.1 +0.6**
UPC *e* 03 28 21.7
UPC MLR MLR
comp=Z,1µm,20.8s
UPC Upice 74.31 319 *eP* **P 03 28 13.1 +0.6**
UPC *ex* x 03 28 21.7
UPC AMS AMS 04 04 20.0
comp=Z,1µm,20.8s
CONA Conrad Observa 74.37 317 *i* P **P 03 28 12.9 -0.1**
comp=Z,29nm,1.9s,SNR=15
HOPEN Hopen 74.41 347 *eP* **P 03 28 12.3 -0.2**
SMY Shemya 74.50 38 P **P 03 28 14.7 +1.2**
SMY pmax pmax
comp=Z,190nm,1.1s
SMY Shemya 74.50 38 P **P 03 28 14.7 +1.2**
CEL Celeste 74.52 307 IAmb IAmb 03 28 46.1
comp=Z,51nm,0.9s
TRO Tromso 74.58 339 *eP* **P 03 28 13.2 -0.5**
ARSA Arzberg 74.60 316 *i P* **P 03 28 14.6 +0.3**
comp=Z,26nm,1.6s,SNR=15
TREC Trest 74.63 318 *eP* **P 03 28 14.6 +0.2**
TREC MLR MLR
comp=Z,900nm,20.8s
TREC Trest 74.63 318 *eP* **P 03 28 14.6 +0.2**
TREC AMS AMS 04 03 20.0
comp=Z,900nm,20.8s
LEGS Legarje 74.75 315 *eP* **P 03 28 15.1 0.0**
BOJS Bojanci 74.80 314 *i P* **P 03 28 15.3 -0.1**
BOJS *i* pP **pwP 03 28 23.7 -0.4**
SOKA Soboth 74.94 315 *i P* **P 03 28 16.6 +0.2**
comp=Z,40nm,1.3s,SNR=34
BSD Bornholm Skovb 75.09 324 *i P* **P 03 28 16.5 -0.3**
BSD IAmb IAmb 03 28 17.1
comp=Z,33nm,1.0s
BSD Bornholm Skovb 75.09 324 *i P* **P 03 28 16.5 -0.3**
BSD pmax pmax
comp=Z,33nm,1.0s
GBRS Gornja Briga 75.11 314 *eP* **P 03 28 17.2 -0.1**
PVCC Panska Ves 75.23 319 *eP* **P 03 28 18.4 +0.6**
PVCC MLR MLR
comp=Z,900nm,21.2s
PVCC Panska Ves 75.23 319 *eP* **P 03 28 18.4 +0.6**
PVCC AMS AMS 04 05 20.0
comp=Z,900nm,21.2s
PRU Pruhonice 75.25 319 *eP* **P 03 28 18.5 +0.6**
PRU *e* 03 28 26.4
PRU MLR MLR
comp=Z,700nm,21.2s
PRU Pruhonice 75.25 319 *eP* **P 03 28 18.5 +0.6**
PRU *ex* x 03 28 26.4
PRU AMS AMS 04 06 10.0
comp=Z,700nm,21.2s
OBKA Obir 75.28 315 *i P* **P 03 28 18.6 +0.3**
comp=Z,30nm,1.1s,SNR=21
LJU Ljubljana 75.30 315 *i P* **P 03 28 18.6 +0.2**
LJU *i* pP **pwP 03 28 27.0 0.0**
LJU *eS* **S 03 37 53.6 -3.5**
PRA Prague 75.32 319 *eP* **P 03 28 19.2 +0.9**
PRA *e* 03 28 27.6
PRA Prague 75.32 319 *eP* **P 03 28 19.2 +0.9**
PRA *ex* x 03 28 27.6
BJO1 Bjornoya 75.40 344 *eP* **P 03 28 17.6 -0.7**
CKRC Cesky Krumlov 75.41 318 *eP* **P 03 28 20.1 +1.2**
CKRC *ex* x 03 28 28.5
CKRC AMS AMS 04 07 20.0
comp=Z,800nm,18.5s
MOA Molln 75.45 317 *i P* **P 03 28 19.0 -0.1**
comp=Z,21nm,1.1s,SNR=14
LNIZ Loecknitz 75.47 322 *eP* **P 03 28 19.6 +0.5**
comp=Z,125nm,1.1s,baz=88,slow=5.6
PBCC Pribram 75.61 319 *eP* **P 03 28 20.3 +0.3**
BRG Berggiesshubel 75.63 320 *eP* **P 03 28 20.6 +0.5**
BRG Amp 03 28 21.9
comp=Z,49nm,1.1s
BRG Berggiesshubel 75.63 320 P P 03 28 29.2 +9.1
BRG Amp 03 28 30.6
comp=Z,62nm,1.1s
BRG Berggiesshubel 75.63 320 *eP* **P 03 28 20.7 +0.6**
comp=Z,49nm,1.1s,baz=88,slow=5.6
FAUS Fauske 75.63 337 *eP* **P 03 28 17.8 -1.9**
STEI Steigen 75.70 337 *eP* **P 03 28 17.4 -2.7**
RUE Ruedersdorf 75.73 321 *eP* **P 03 28 21.0 +0.5**
comp=Z,114nm,1.0s,baz=88,slow=5.6
GEC2 GERESS Array S 75.81 318 P **P 03 28 20.9 -0.4**
GEC2 IAmb IAmb 03 28 30.8
comp=Z,42nm,0.9s
GEC2 GERESS Array S 75.81 318 *eP* **P 03 28 21.6 +0.2**
comp=Z,41nm,1.0s,baz=88,slow=5.6
GEC2 *eL* L 04 03 23.4
comp=Z,733nm,21.4s
GERES GERESS Array B 75.81 318 P **P 03 28 21.5 +0.2**
comp=Z,20nm,0.8s,baz=87,slow=5.7,SNR=138
GERES LR LR 04 08 19.3
comp=Z,676nm,18.6s,baz=92,slow=41
GERES GERESS Array B 75.81 318 P **P 03 28 21.5 +0.2**
GERES pwP **pwP 03 28 29.9 -0.1**
MOR8 Moi Rana 75.87 336 *eP* **P 03 28 18.2 -3.0**
KHC Kasperske Hory 75.89 318 *eP* **P 03 28 21.7 0.0**
KHC *e* 03 28 30.1
KHC MLR MLR
comp=Z,800nm,20.4s
KHC Kasperske Hory 75.89 318 *eP* **P 03 28 21.7 0.0**
KHC *ex* x 03 28 30.1
KHC AMS AMS 04 05 00.0
comp=Z,800nm,20.4s
HFS Hagfors 75.90 329 P **P 03 28 21.4 0.0**
comp=Z,16nm,0.7s,baz=91,slow=5.9,SNR=37
HFS LR LR 04 05 05.1
comp=Z,2µm,21.9s,baz=94,slow=38
MYKA Terra Mystica 75.90 315 *i P* **P 03 28 21.8 -0.1**
comp=Z,23nm,1.8s,SNR=6.1
FBE Freiberg 76.00 320 *eP* **P 03 28 23.0 +0.8**
comp=Z,87nm,1.1s,baz=88,slow=5.6
RGN Rugen 76.00 324 *eP* **P 03 28 22.9 +0.8**
baz=88,slow=5.6
KBA Koelnbreinsper 76.09 316 *i P* **P 03 28 22.7 -0.3**
comp=Z,17nm,1.2s,SNR=8.3
CLL Collm 76.22 320 ⇑*iP* **P 03 28 23.5 +0.1**
comp=Z,50nm,1.4s
CLL ⇓*i* 03 28 32.0
comp=Z,60nm,1.3s
CLL *i* 03 28 50.6
CLL *e*PP **PP 03 31 13.0 -1.5**
CLL *e* 03 51 08.0
CLL Lm MLR 04 06 00.0
comp=N,700nm,20.8s
CLL Lm MLR 04 06 00.0
comp=E,900nm,20.5s
CLL Collm 76.22 320 ⇑*iP* **P 03 28 23.5 +0.1**
CLL *i* 03 28 32.0
CLL pmax pmax
comp=Z,50nm,1.4s
CLL Collm 76.22 320 P **P 03 28 23.2 -0.2**
CLL IAmb IAmb 03 28 33.4
comp=Z,86nm,1.5s
CLL Collm 76.22 320 *eP* **P 03 28 23.6 +0.1**
comp=Z,50nm,1.4s,baz=88,slow=5.6
CLL *eL* L 04 06 37.0
comp=Z,766nm,21.3s
AQU L'Aquila 76.24 311 IAmb IAmb 03 28 33.4
comp=Z,71nm,1.6s
WET Wettzell 76.34 318 *eP* **P 03 28 24.7 +0.4**
comp=Z,34nm,1.2s,baz=88,slow=5.6
WET *eL* L 04 07 56.3
comp=Z,728nm,21.2s
LOF Lofoten 76.35 338 *eP* **P 03 28 22.1 -1.8**
ZOU Zoufplan 76.36 315 IAmb IAmb 03 28 39.5
comp=Z,50nm,1.2s
KONS Konsvik 76.42 336 *eP* **P 03 28 22.2 -2.0**
RJOB Jochberg 76.44 317 *eP* **P 03 28 24.5 -0.4**
comp=Z,69nm,1.0s,baz=88,slow=5.6
STAL STALIGIAL 76.56 315 IAmb IAmb 03 28 35.1
comp=Z,130nm,1.2s
TANN Tannenbergstha 76.58 319 *eP* **P 03 28 26.0 +0.4**
comp=Z,31nm,1.2s,baz=88,slow=5.6
NKC Novy Kostel 76.59 319 *eP* **P 03 28 26.2 +0.6**
NKC *e* 03 28 34.4
NKC MLR MLR
comp=Z,900nm,20.2s
NKC Novy Kostel 76.59 319 *eP* **P 03 28 26.2 +0.6**
NKC *ex* x 03 28 34.4
NKC AMS AMS 04 06 20.0
comp=Z,900nm,20.2s
LBTB Lobatse 76.61 241 P **P 03 28 26.6 +0.3**
LBTB pmax pmax
comp=Z,39nm,1.2s
LBTB Lobatse 76.61 241 P **P 03 28 26.6 +0.3**
SPA0 Spitsbergen Ar 76.64 348 *eP* **P 03 28 25.0 -0.4**
WERN Wernitzgruen 76.64 319 *eP* **P 03 28 26.4 +0.5**
comp=Z,22nm,1.1s,baz=88,slow=5.6
HSPB Hornsund (broa 76.65 347 *eP* **P 03 28 25.6 +0.2**
HSPB *eL* L 04 07 02.5
comp=Z,2µm,22.6s
GUNZ Gunzen 76.67 319 *eP* **P 03 28 26.5 +0.5**
comp=Z,36nm,1.2s,baz=88,slow=5.6
ABTA Abfaltersbach 76.67 316 *i P* **P 03 28 25.6 -0.7**
comp=Z,18nm,1.1s,SNR=12
WERD Werda 76.68 319 *eP* **P 03 28 26.5 +0.4**
comp=Z,35nm,1.1s,baz=88,slow=5.6
ROTZ Rotzenmuhle 76.76 319 *eP* **P 03 28 27.4 +0.8**
comp=Z,54nm,1.3s,baz=88,slow=5.6
PLN Plauen 76.77 319 *eP* **P 03 28 26.9 +0.2**
comp=Z,23nm,1.1s,baz=88,slow=5.6
MANZ Manzenberg 76.82 319 *eP* **P 03 28 27.7 +0.8**
comp=Z,68nm,1.5s,baz=88,slow=5.6
NSS Namsos 76.83 334 *eP* **P 03 28 25.6 -1.0**
NC602 NORSAR Array S 76.97 330 *eP* **P 03 28 25.1 -2.5**
MOX Moxa 77.11 320 *eP* **P 03 28 28.8 +0.3**
comp=Z,33nm,1.2s,baz=88,slow=5.6
MOX *eL* L 04 07 30.9
comp=Z,914nm,21.0s
NB2 NORSAR Subarra 77.14 330 P **P 03 28 27.6 -0.9**
comp=Z,62nm,1.4s,baz=90,slow=5.6
NB2 NORSAR Subarra 77.14 330 P **P 03 28 27.6 -0.9**
baz=90,slow=5.6
NOA NORSAR Array B 77.14 330 P **P 03 28 28.0 -0.5**
comp=Z,12nm,1.1s,baz=94,slow=5.7,SNR=16
NOA LR LR 04 05 43.0
comp=Z,570nm,20.4s,baz=100,slow=38
WTTA Wattenberg 77.25 316 *i P* **P 03 28 28.9 -0.7**
comp=Z,26nm,0.9s,SNR=19
WATA Walderalm 77.28 316 *i P* **P 03 28 28.9 -0.8**
comp=Z,25nm,1.3s,SNR=10
FLTG Flechtingen 77.29 321 *eP* **P 03 28 29.2 -0.2**
comp=Z,24nm,1.0s,baz=88,slow=5.6
TEOL Teolo 77.33 314 IAmb IAmb 03 28 58.9
comp=Z,37nm,1.0s
GRA1 Grafenberg Arr 77.41 319 IAmb IAmb 03 28 40.9
comp=Z,88nm,1.4s
GRF Grafenberg Arr 77.41 319 *eP* **P 03 28 31.0 +0.8**
comp=Z,51nm,1.3s,baz=88,slow=5.6
GRF *eL* L 04 07 13.5
comp=Z,1µm,21.8s
GRFO Grafenberg 77.41 319 P **P 03 28 31.0 +0.8**
GRFO pmax pmax
comp=Z,83nm,1.4s
GRFO MLR MLR
comp=Z,1µm,22.0s
GRFO Grafenberg 77.41 319 P **P 03 28 31.0 +0.8**
GRFO IAmb IAmb 03 28 40.9
comp=Z,83nm,1.4s
FUR Furstenfeldbru 77.44 317 *eP* **P 03 28 30.4 -0.1**
baz=88,slow=5.6
FUR *eL* L 03 59 47.3
comp=Z,621nm,20.9s
DZM Mont Dzumac 77.54 116 P **P 03 28 31.1 -0.4**
comp=Z,9.7nm,1.0s,baz=272,slow=23,SNR=4.3
DZM Mont Dzumac 77.54 116 *eLR* LR 03 52 31.6
comp=Z,1µm,21.9s
SQTA Sankt Quirin 77.54 316 *i P* **P 03 28 30.6 -0.6**
comp=Z,22nm,0.9s,SNR=12
KBS Kingsbay 77.60 349 *i P* **P 03 28 30.6 -0.2**
KBS IAmb IAmb 03 28 31.4
comp=Z,98nm,1.1s
KBS Kingsbay 77.60 349 ⇓*iP* **P 03 28 30.6 -0.2**
KBS pmax pmax
comp=Z,36nm,1.3s
KBS Kingsbay 77.60 349 *eP* **P 03 28 30.4 -0.4**
KBS Kingsbay 77.60 349 P **P 03 28 30.5 -0.3**
KBS IAmb IAmb 03 28 40.1
comp=Z,71nm,1.1s
KBS Kingsbay 77.60 349 IAMs_20 IAMs_20 04 07 29.8
comp=Z,1µm,22.0s
MOTA Moosalm 77.61 316 *i P* **P 03 28 30.7 -0.8**
comp=Z,39nm,1.0s,SNR=21
ASSE Asse, Remlinge 77.64 321 *eP* **P 03 28 31.7 +0.3**
comp=Z,11nm,1.1s,baz=88,slow=5.6
BSEG Bad Segeberg 77.78 323 *eP* **P 03 28 33.0 +0.8**
comp=Z,100nm,1.1s,baz=88,slow=5.6
BSEG *eL* L 04 08 50.8
comp=Z,1µm,18.7s
RETA Reutte 77.83 316 *i P* **P 03 28 32.2 -0.5**
comp=Z,46nm,1.1s,SNR=26
CLZ Clausthal 77.84 321 *eP* **P 03 28 33.1 +0.5**
comp=Z,62nm,1.0s,baz=88,slow=5.6
FETA Feichten 77.88 316 *i P* **P 03 28 32.8 -0.3**
comp=Z,29nm,1.1s,SNR=20
ZCCA Zocca 77.88 313 IAmb IAmb 03 29 10.4
comp=Z,58nm,0.9s
KONO Kongsberg 77.96 329 ⇑*eP* **P 03 28 32.6 -0.5**
KONO Kongsberg 77.96 329 P **P 03 28 33.3 +0.3**
KONO IAmb IAmb 03 28 43.2
comp=Z,156nm,1.6s
NRDL Niedersach Rie 77.97 321 *eP* **P 03 28 34.3 +1.1**
comp=Z,108nm,1.4s,baz=88,slow=5.6
BOSA Boshof 78.10 237 P **P 03 28 35.2 +0.7**
comp=Z,25nm,1.0s,baz=81,slow=6.3,SNR=24
BOSA Boshof 78.10 237 P **P 03 28 35.3 +0.7**
BOSA IAmb IAmb 03 28 37.1
comp=Z,71nm,1.4s
GTTG Gottingen 78.11 321 *eP* **P 03 28 34.5 +0.5**
comp=Z,66nm,1.0s,baz=88,slow=5.6
SALO Salr 78.11 314 IAmb IAmb 03 28 44.3
comp=Z,100nm,1.0s
UBBA Unterbreizbach 78.13 320 *eP* **P 03 28 34.2 +0.2**
baz=88,slow=5.6
CASY Casey 78.25 174 P **P 03 28 34.9 +0.5**
CASY IAmb IAmb 03 28 36.5
comp=Z,56nm,1.4s
UBR Ueberruh 78.26 317 *eP* **P 03 28 34.7 -0.4**
comp=Z,26nm,1.1s,baz=88,slow=5.6
MUD Monsted U'grnd 78.32 326 ⇑*iP* **P 03 28 36.0 +0.9**
MUD IAmb IAmb 03 28 36.9
comp=Z,65nm,1.0s
MUD Monsted U'grnd 78.32 326 ⇑*iP* **P 03 28 35.9 +0.9**
MUD pmax pmax
comp=Z,65nm,1.0s
VLC Villacollemand 78.32 313 P **P 03 28 35.1 -0.4**
DAVA Damuels 78.44 316 *i P* **P 03 28 36.1 -0.1**
comp=Z,42nm,1.1s,SNR=16
DAVOX Davos/Dischmat 78.48 316 P **P 03 28 36.7 +0.2**
comp=Z,18nm,0.9s,baz=102,slow=5.2,SNR=32
SKAR Skarslia 78.57 330 *eP* **P 03 28 35.0 -1.5**
MILB Miltenberg 78.65 319 *eP* **P 03 28 37.3 +0.2**
comp=Z,27nm,1.0s,baz=88,slow=5.6
STU Stuttgart 78.79 318 P **P 03 28 37.6 -0.3**
STU pmax pmax
comp=Z,56nm,1.4s
STU Stuttgart 78.79 318 P **P 03 28 37.6 -0.3**
STU IAmb IAmb 03 28 48.1
comp=Z,56nm,1.4s
MOL Molde 78.83 332 *eP* **P 03 28 35.6 -2.2**
TUE Stuetta 78.87 315 IAmb IAmb 03 28 54.8
comp=Z,245nm,2.0s
KASTN Kahler Asten 79.10 320 *eP* **P 03 28 40.0 +0.4**
comp=Z,33nm,1.2s,baz=88,slow=5.6
AKN Aaknes 79.11 331 *eP* **P 03 28 37.2 -2.2**
TNS Taunus Mts 79.16 319 *eP* **P 03 28 40.3 +0.3**
comp=Z,26nm,1.1s,baz=88,slow=5.6
TNS *eL* L 04 08 58.6
comp=Z,639nm,21.5s
BFO Black Forest 79.40 317 P **P 03 28 40.9 -0.4**
BFO pmax pmax
comp=Z,30nm,1.3s
BFO Black Forest 79.40 317 P **P 03 28 40.9 -0.4**
BFO Black Forest 79.40 317 *eP* **P 03 28 41.1 -0.2**
comp=Z,23nm,1.3s,baz=88,slow=5.6
BFO *eL* L 04 09 51.9
comp=Z,635nm,21.3s
IBBN Ibbenburen 79.42 321 *eP* **P 03 28 41.9 +0.6**
comp=Z,99nm,1.1s,baz=88,slow=5.6
BLS5 Blasjo 79.57 329 *eP* **P 03 28 40.2 -1.8**
BUG Bochum--Univer 79.80 321 *eP* **P 03 28 43.8 +0.5**
comp=Z,77nm,1.1s,baz=88,slow=5.6
KEST Kesra 79.94 305 P **P 03 28 45.0 +0.4**
comp=Z,22nm,0.9s,baz=303,slow=2.3,SNR=22
AHRW Bad Neuenahr-A 80.00 320 *eP* **P 03 28 45.3 +0.8**
comp=Z,60nm,1.2s,baz=88,slow=5.6
BTNL Ternell 80.60 320 *dP* **P 03 28 46.9 -0.9**
BTNL *dx* x 03 28 56.5
MEM Membach 80.68 320 *dP* **P 03 28 48.6 +0.5**
comp=Z,16nm,1.5s
MEM *dx* x 03 28 56.8
WLF Walferdange 80.69 319 *dP* **P 03 28 49.2 +1.0**
comp=Z,44nm,1.8s
WLF *dx* x 03 28 57.4
WLF Walferdange 80.69 319 IAmb IAmb 03 28 59.1
comp=Z,183nm,1.8s
WLF Walferdange 80.69 319 *eP* **P 03 28 49.2 +1.0**

comp=Z,58nm,1.5s,baz=88,slow=5.6
BHOU Houvegnez 80.71 320 *d*P **P 03 28 48.5 +0.2**
comp=Z,23nm,2.4s
BHOU *dx* x 03 28 56.9
BEBN Eben Emael 80.86 320 *d*P **P 03 28 49.8 +0.7**
BEBN *dx* x 03 28 58.1
BNI Bardonecchia 80.87 314 IAmb IAmb 03 29 01.9
comp=Z,41nm,1.0s
BSTI Sart Tilman 80.96 320 *d*P **P 03 28 50.0 +0.4**
BSTI *dx* x 03 28 58.5
BCLA Clavier 81.14 320 *b*P **P 03 28 50.2 -0.4**
comp=Z,30nm,1.8s
BCLA *dx* x 03 28 59.1
RCHB Rochefort 81.22 319 *d*P **P 03 28 51.3 +0.3**
RCHB *d*Lg Lg 03 28 59.6
BGES Gesves 81.29 320 *d*P **P 03 28 51.7 +0.4**
comp=Z,22nm,1.4s
BGES *dx* x 03 28 59.9
CMAH Djebel Manchou 81.38 306 P **P 03 28 52.3 +0.1**
GAMB Gambell 81.40 27 P **P 03 28 48.8 -2.8**
baz=278
BMRD Maredsous 81.50 320 *d*P **P 03 28 52.5 +0.1**
comp=Z,22nm,1.9s
BMRD *dx* x 03 29 01.0
DOU Dourbes 81.64 319 *b*P **P 03 28 53.2 0.0**
comp=Z,31nm,1.8s
DOU *dx* x 03 29 01.0
UCC Uccle 81.69 320 *d*P **P 03 28 53.1 -0.3**
UCC *dx* x 03 29 01.6
UCC Uccle 81.69 320 P **P 03 28 52.7 -0.8**
UCC pmax pmax
comp=Z,19nm,1.0s
UCC Uccle 81.69 320 P **P 03 28 52.7 -0.8**
SNF Seneffe 81.78 320 *d*P **P 03 28 54.5 +0.6**
comp=Z,42nm,1.1s
SNF *dx* x 03 29 02.4
NOR Nord 81.95 352 *i* P **P 03 28 53.4 -0.9**
NOR IAmb IAmb 03 28 55.2
comp=Z,35nm,1.1s
NOR Nord 81.95 352 *i* P **P 03 28 53.4 -0.9**
NOR pmax pmax
comp=Z,35nm,1.1s
CKFL Kef-Lekhel 81.96 305 P **P 03 28 56.3 +0.9**
TSUM Tsumeb 82.02 249 P **P 03 28 56.7 +0.7**
MAW Mawson 82.06 192 P **P 03 28 55.6 +0.7**
comp=Z,15nm,0.8s,baz=9.2,slow=6.3,SNR=30
MAW LR LR 04 00 46.4
comp=Z,621nm,18.2s,baz=42,slow=32
MAW Mawson 82.06 192 P **P 03 28 56.5 +1.6**
CTEI Djebel Teioual 82.26 305 P **P 03 28 58.2 +1.2**
DFRA Djebel Bou Aff 82.61 306 P **P 03 28 59.8 +1.0**
TNA Tin City 82.71 25 P **P 03 28 58.8 +0.4**
baz=281
TNA Tin City 82.71 25 IAMs_20 IAMs_20 04 09 10.3
comp=Z,1µm,20.0s
SUR Sutherland 82.95 235 P **P 03 29 00.8 +0.2**
SUR IAmb IAmb 03 29 04.1
comp=Z,46nm,0.8s
CLF Chambon-Foret 83.46 318 IAmb IAmb 03 29 12.4
comp=Z,62nm,1.1s
WACR West Acre 83.68 322 *e*P **P 03 29 04.6 +0.8**
WACR IAmb IAmb 03 29 05.5
comp=Z,117nm,1.0s
ANM Nome 83.98 25 P **P 03 29 04.5 -0.6**
baz=284
ANM Nome 83.98 25 IAMs_20 IAMs_20 04 11 44.9
comp=Z,1µm,18.0s
RDOG Red Dog Mine 84.06 22 P **P 03 29 05.6 +0.1**
baz=285
RDOG Red Dog Mine 84.06 22 IAmb IAmb 03 29 16.0
comp=Z,105nm,1.4s
DAG Danmarks Havn 84.28 348⇑ *i* P **P 03 29 05.1 -1.3**
DAG IAmb IAmb 03 29 07.1
comp=Z,25nm,1.2s
DAG Danmarks Havn 84.28 348⇑ *i* P **P 03 29 05.1 -1.3**
DAG pmax pmax
comp=Z,25nm,1.2s
NIKH Nikolski High 84.75 37 P **P 03 29 08.9 -0.3**
baz=282
HPK Haverah Park 84.77 324 *e*P **P 03 29 10.3 +1.0**
HPK IAmb IAmb 03 29 10.9
comp=Z,100nm,1.3s
EDMD Edmundbyers 84.78 325 *e*P **P 03 29 10.1 +0.8**
EDMD IAmb IAmb 03 29 10.9
comp=Z,51nm,1.2s
LBWR Ladybower, Pea 84.94 323 *e*P **P 03 29 10.6 +0.4**
LBWR IAmb IAmb 03 29 11.6
comp=Z,44nm,1.0s
WOL Wolverton 85.08 321 *e*P **P 03 29 11.3 +0.4**
WOL IAmb IAmb 03 29 12.4
comp=Z,87nm,1.1s
A21K Barrow 85.13 18 P **P 03 29 10.7 0.0**
baz=291,SNR=6.1
A21K Barrow 85.13 18 IAMs_20 IAMs_20 04 11 00.9
comp=Z,1µm,19.0s
EKA Eskdalemuir Ar 85.34 325 P **P 03 29 12.9 +0.7**
comp=Z,10nm,0.9s,baz=94,slow=6.3,SNR=20
EKA PP **PP 03 32 30.5 +0.7**
comp=Z,2.2nm,1.0s,baz=32,slow=30,SNR=3.1
ESK Eskdalemuir 85.37 325 P **P 03 29 12.6 +0.3**
ESK pmax pmax
comp=Z,117nm,1.6s
ESK Eskdalemuir 85.37 325 P **P 03 29 12.6 +0.3**
ESK IAmb IAmb 03 29 23.2
comp=Z,117nm,1.6s
DBG Daneborg 85.73 346 *i* P **P 03 29 13.1 -0.6**
DBG IAmb IAmb 03 29 14.9
comp=Z,12nm,1.1s
OLDB Oldbury-Upon-S 85.81 322 *e*P **P 03 29 15.2 +0.7**
MONM Monmouth 85.93 322 *e*P **P 03 29 15.6 +0.5**
PGBU Glenifferbraes 85.96 326 *e*P **P 03 29 15.7 +0.5**
MCH1 Michaelchurch 86.01 322 *e*P **P 03 29 15.2 -0.3**
MCH1 IAmb IAmb 03 29 16.7
comp=Z,31nm,1.1s
JSA Saint Aubin 86.12 319 *e*P **P 03 29 16.9 +0.8**
JSA IAmb IAmb 03 29 17.3
comp=Z,34nm,1.1s
JVM Valle D.L. Mar 86.14 319 *e*P **P 03 29 16.2 0.0**
LAWE Loch Awe, Argy 86.35 327 *e*P **P 03 29 19.1 +2.0**
LAWE IAmb IAmb 03 29 27.9
comp=Z,198nm,1.9s
WIM Isle of Man 86.48 324 *e*P **P 03 29 18.7 +0.9**
WLF1 Llynfaes 86.53 324 *e*P **P 03 29 18.4 +0.3**
MSVF Nonsavu 86.95 109 P **P 03 29 22.0 +1.1**
comp=Z,15nm,1.1s,baz=271,slow=23,SNR=5.5
TOLK Toolik Lake Re 88.44 19 P **P 03 29 26.5 -0.6**
baz=298,SNR=14
H21K Melozitna Rive 88.64 23 P **P 03 29 28.8 +0.8**
baz=295
EUNU Eureka 88.75 0 IAmb IAmb 03 29 37.1
comp=Z,27nm,1.1s
COLD Coldfoot 88.89 21 P **P 03 29 29.1 0.0**
baz=297,SNR=14
COLD Coldfoot 88.89 21 IAmb IAmb 03 29 42.8
comp=Z,86nm,1.5s
SYO Syowa Base 88.93 197⇓ *e*P **P 03 29 30.6 +1.6**
SYO Syowa Base 88.93 197⇓ *e*PcP **PcP 03 29 31.3 +0.8**
I21K Tanana 89.15 23 P **P 03 29 29.5 -0.9**
baz=296
L19K White Mountain 89.22 26 P **P 03 29 30.4 -0.4**
baz=293,SNR=32
NEEM North Greenlan 89.28 353⇑ *i* P **P 03 29 31.1 -0.1**
SVW2 Sparrevohn 89.32 27 IAmb IAmb 03 29 40.9
comp=Z,68nm,1.4s
N18K Kilae Creek 89.34 28 P **P 03 29 30.9 -0.4**
baz=292,SNR=6.5
M19K Big River Lodg 89.53 26 P **P 03 29 32.8 +0.5**
baz=293
CHNA Chernabura Isl 89.54 34 P **P 03 29 32.2 -0.1**
baz=289
ESBB Sonseca Array 89.61 310 P **P 03 29 33.7 +0.6**
ESDC Sonseca Array 89.61 310 P **P 03 29 33.6 +0.5**
comp=Z,3.9nm,0.9s,baz=55,slow=4.6,SNR=24
ESDC LR LR 04 15 51.0
comp=Z,380nm,18.8s,baz=70,slow=40
ESDC Sonseca Array 89.61 310 P **P 03 29 34.0 +0.9**
MLY Manley 89.69 23 P **P 03 29 32.6 -0.3**
baz=297,SNR=17
MLY Manley 89.69 23 IAmb IAmb 03 29 42.4
comp=Z,80nm,1.0s
MLY IAMs_20 IAMs_20 04 13 24.8
comp=Z,1µm,18.0s
H23K Yukon River 89.77 22 P **P 03 29 33.0 -0.3**
baz=298,SNR=37
N19K Bonanza Creek 89.92 27 P **P 03 29 33.4 -0.8**
baz=293,SNR=15

PAB San Pablo 89.93 310 P **P 03 29 35.2 +0.5**
PAB pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 89.93 310 P **P 03 29 35.2 +0.5**
O18K Koktuh Hills 89.97 28 P **P 03 29 33.5 -0.8**
baz=293
BPAW Bear Paw Mtn. 90.01 24 P **P 03 29 33.9 -0.5**
baz=296,SNR=56
BPAW Bear Paw Mtn. 90.01 24 IAMs_20 IAMs_20 04 15 44.4
comp=Z,1µm,18.0s
M20K Styx River 90.08 26 P **P 03 29 35.3 +0.4**
baz=295
I23K Minto, Yukon-K 90.15 22 P **P 03 29 34.8 -0.2**
baz=298,SNR=20
I23K Minto, Yukon-K 90.15 22 IAmb IAmb 03 29 44.6
comp=Z,90nm,1.2s
O19K Port Alsworth 90.24 28 P **P 03 29 35.0 -0.5**
baz=294
KTH Kantishna Hill 90.28 24 IAMs_20 IAMs_20 04 16 37.5
comp=Z,987nm,20.0s
H24K Noodor Dome 90.37 21 P **P 03 29 35.1 -1.0**
baz=299,SNR=22
NEA2 Nenana 90.53 23 P **P 03 29 35.9 -1.0**
baz=298,SNR=6.6
NEA2 Nenana 90.53 23 IAmb IAmb 03 29 45.6
comp=Z,45nm,1.0s
BORG Borgarnes 90.56 337 P **P 03 29 37.4 +0.4**
comp=Z,15nm,1.0s,baz=302,slow=12,SNR=2.4
TOA0 Torodi Ar. Sit 90.58 283 P **P 03 29 38.2 +0.1**
TORD Torodi Ar. Bea 90.58 283 P **P 03 29 38.2 +0.1**
comp=Z,5.0nm,0.9s,baz=80,slow=4.4,SNR=16
TORD PP **PP 03 33 13.5 +0.4**
comp=Z,1.0nm,0.8s,baz=65,slow=8.4,SNR=3.5
TORD LR LR 04 12 16.3
comp=Z,684nm,18.5s,baz=40,slow=37
TORD Torodi Ar. Bea 90.58 283 P **P 03 29 38.2 +0.1**
TRF Thorofare Moun 90.58 24 P **P 03 29 37.2 -0.1**
baz=297
TRF Thorofare Moun 90.58 24 IAmb IAmb 03 29 46.5
comp=Z,44nm,0.9s
SKT Skwentna 90.73 26 P **P 03 29 36.6 -1.3**
baz=296,SNR=31
SPCR Spurr Chakacha 90.77 27 P **P 03 29 37.3 -0.9**
baz=295
TCOL CIGO, UAF Yank 90.84 22 P **P 03 29 37.6 -0.7**
baz=299
COLA College 90.85 22⇓ *e*P **P 03 29 38.2 -0.1**
COLA pmax pmax
comp=Z,31nm,1.2s
COLA College 90.85 22 P **P 03 29 38.0 -0.3**
baz=299
COLA College 90.85 22 P **P 03 29 38.8 +0.5**
COLA IAmb IAmb 03 29 48.3
comp=Z,41nm,1.3s
URZ Urewera 90.86 129 LR LR 04 15 15.0
comp=Z,798nm,18.0s,baz=244,slow=39
POKR Poker Plat Res 90.88 22 P **P 03 29 37.5 -1.0**
baz=300
POKR Poker Plat Res 90.88 22 IAmb IAmb 03 29 48.4
comp=Z,91nm,1.4s
POKR IAMs_20 IAMs_20 04 13 16.3
comp=Z,1µm,20.0s
WRH Wood River Hil 90.95 23 IAmb IAmb 03 29 48.3
comp=Z,31nm,1.0s
SUMG Summit 90.96 347 *i* P **P 03 29 38.9 -0.4**
SUMG Summit 90.96 347 *i* P **P 03 29 38.8 -0.4**
SUMG Summit 90.96 347 IAmb IAmb 03 29 50.7
comp=Z,67nm,1.3s
CCB Clear Creek Bu 90.98 23 IAmb IAmb 03 29 51.2
comp=Z,46nm,1.6s
MCK McKinley 90.99 24 P **P 03 29 38.4 -0.6**
baz=298,SNR=46
O20K Slope Mountain 91.06 28 P **P 03 29 40.3 +0.8**
baz=295
CUT Chulitna 91.07 25 P **P 03 29 38.7 -0.6**
baz=297,SNR=8.2
CUT Chulitna 91.07 25 P **P 03 29 38.5 -0.8**
PBRG Braganca 91.08 313 *e*P **P 03 29 41.3 +1.3**
comp=Z,50nm,2.3s
IL31 91.26 22 IAmb IAmb 03 29 49.1
comp=Z,54nm,1.4s
ILAR Eielson Array 91.26 22 P **P 03 29 38.6 -1.6**
comp=Z,2.8nm,0.8s,baz=292,slow=4.4,SNR=20
ILAR PP **PP 03 33 13.4 -3.5**
comp=Z,3.8nm,1.0s,baz=297,slow=7.3,SNR=5.3
ILAR LR LR 04 15 24.4
comp=Z,797nm,18.3s,baz=314,slow=39
ILAR Eielson Array 91.26 22 P **P 03 29 40.0 -0.2**
SUA Susitna One 91.29 26 P **P 03 29 40.2 -0.4**
baz=297,SNR=38
SUA Susitna One 91.29 26 IAMs_20 IAMs_20 04 16 19.3
comp=Z,956nm,18.0s
PRP Porcupine Dome 91.37 21 P **P 03 29 41.0 +0.1**
baz=301,SNR=5.5
HDA Harding Lake 91.42 23 P **P 03 29 40.3 -0.6**
baz=300,SNR=5.4
HDA Harding Lake 91.42 23 IAmb IAmb 03 29 48.6
comp=Z,33nm,1.0s
CAPN Captain Cook N 91.42 27 P **P 03 29 41.3 +0.3**
baz=296
MVO Moncorvo 91.47 312 *e*P **P 03 29 43.3 +1.5**
comp=Z,66nm,1.8s
WAT1 Susitna Watana 91.57 24 P **P 03 29 40.3 -1.5**
baz=299
MXZ Matakoa Point 91.62 128 IAMs_20 IAMs_20 04 11 43.0
comp=Z,1µm,21.0s
FIS Fire Island 91.66 26 IAMs_20 IAMs_20 04 14 35.2
comp=Z,1µm,19.0s
MDT Midelt 91.82 304 P **P 03 29 44.4 +0.8**
comp=Z,4.7nm,0.9s,baz=76,slow=7.1,SNR=10
RC01 Rabbit Creek A 91.90 26 P **P 03 29 42.7 -0.6**
baz=298,SNR=15
RC01 Rabbit Creek A 91.90 26 IAMs_20 IAMs_20 04 14 55.3
comp=Z,1µm,20.0s
PMR Palmer 91.92 25 P **P 03 29 42.0 -1.3**
baz=298,SNR=6.6
PMR Palmer 91.92 25 IAMs_20 IAMs_20 04 14 41.9
comp=Z,1µm,19.0s
GHO Glory Hole Cre 91.92 25 IAMs_20 IAMs_20 04 13 09.9
comp=Z,1µm,21.0s
PVRL Vila Real 91.94 313 *e*P **P 03 29 45.6 +1.7**
comp=Z,55nm,1.5s
OHAK Old Harbor 91.94 30 P **P 03 29 42.8 -0.7**
baz=294,SNR=6.5
POLO Lamas de Olo 91.96 313 *e*P **P 03 29 45.4 +1.3**
comp=Z,30nm,1.7s
WAT6 Susitna Watana 92.02 24 P **P 03 29 42.9 -1.1**
baz=299,SNR=13
PCAB Cabril 92.03 313 *e*P **P 03 29 45.8 +1.4**
comp=Z,64nm,1.4s
KDAK Kodiak Island 92.06 30 P **P 03 29 44.4 +0.4**
comp=Z,22nm,1.1s,baz=101,slow=8.3,SNR=6.3
KDAK Kodiak Island 92.06 30 P **P 03 29 43.9 -0.1**
KDAK pmax pmax
comp=Z,78nm,1.3s
KDAK Kodiak Island 92.06 30 P **P 03 29 44.5 +0.4**
baz=295
KDAK Kodiak Island 92.06 30 P **P 03 29 43.9 -0.1**
MTE Manteigas 92.06 312 *e*P **P 03 29 46.4 +1.8**
comp=Z,63nm,1.4s
MTE Manteigas 92.06 312 IAmb IAmb 03 30 16.6
comp=Z,34nm,1.1s
BRSE Bradley Lake S 92.07 28 P **P 03 29 43.4 -0.6**
baz=297
SML Sawmill 92.15 25 P **P 03 29 43.6 -0.9**
baz=299,SNR=15
SML Sawmill 92.15 25 IAMs_20 IAMs_20 04 13 06.1
comp=Z,985nm,21.0s
PCBR Castelo Branco 92.17 311 *e*P **P 03 29 47.3 +2.3**
comp=Z,45nm,1.2s
O22K Cooper Landing 92.18 27 P **P 03 29 44.2 -0.4**
baz=298
PMRV Marv??o 92.23 311 *e*P **P 03 29 46.6 +1.3**
comp=Z,47nm,1.4s
PVIS Viseu 92.23 312 *e*P **P 03 29 46.6 +1.3**
comp=Z,57nm,1.9s
KNK Knik Glacier 92.29 25 P **P 03 29 44.6 -0.5**
baz=299,SNR=6.3
PBAR Barrancos 92.31 310 *e*P **P 03 29 47.2 +1.5**
comp=Z,64nm,1.4s
SEW Seward 92.48 27 P **P 03 29 45.5 -0.5**
baz=298,SNR=5.3
SEW Seward 92.48 27 IAMs_20 IAMs_20 04 17 49.7
comp=Z,1µm,18.0s
SCM Sheep Creek Mo 92.56 25 IAMs_20 IAMs_20 04 13 40.7
comp=Z,978nm,19.0s
PWL Port Wells 92.61 26 IAMs_20 IAMs_20 04 12 18.2
comp=Z,1µm,20.0s

PAX Paxson 92.72 23 P **P 03 29 47.3 +0.1**
baz=301
SCRK Sand Creek 92.75 22 P **P 03 29 46.5 -0.8**
baz=303
SCRK Sand Creek 92.75 22 P **P 03 29 46.9 -0.4**
SCRK IAmb IAmb 03 29 56.3
comp=Z,51nm,1.0s
M24K Tolsona, Glenn 92.89 24 P **P 03 29 47.8 -0.1**
baz=301
EVO Evora 92.95 310 *e*P **P 03 29 51.2 +2.6**
comp=Z,30nm,1.4s
PMTG Montargil 92.95 311 *e*P **P 03 29 49.5 +0.9**
comp=Z,35nm,1.3s
PBEJ Beja 92.98 310 *e*P **P 03 29 50.8 +2.0**
comp=Z,28nm,1.5s
GLI Glacier Island 93.13 26 P **P 03 29 48.6 -0.3**
baz=300,SNR=5.8
HARP HAARP 93.14 24 P **P 03 29 48.7 -0.3**
baz=302,SNR=5.5
KLU Klutina 93.31 25 P **P 03 29 50.2 +0.3**
baz=301
KLU Klutina 93.31 25 IAmb IAmb 03 29 59.4
comp=Z,47nm,1.2s
EGAK Eagle 93.32 21 P **P 03 29 49.6 -0.2**
baz=305
EGAK Eagle 93.32 21 IAmb IAmb 03 29 58.6
comp=Z,40nm,1.2s
K27K Chicken 93.42 22 P **P 03 29 50.2 0.0**
baz=304
FID Port Fidalgo 93.45 26 IAMs_20 IAMs_20 04 14 57.4
comp=Z,961nm,20.0s
INK Inuvik 93.47 16 P **P 03 29 50.7 +0.5**
comp=Z,18nm,1.2s,baz=310,slow=6.5,SNR=11
INK PP **PP 03 33 36.5 +2.4**
comp=Z,4.0nm,0.9s,baz=32,slow=3.1,SNR=4.3
INK Inuvik 93.47 16 P **P 03 29 49.8 -0.5**
baz=313
ICESG Greenland Ices 93.72 345 *i* P **P 03 29 52.8 +0.8**
ICESG IAmb IAmb 03 29 54.2
comp=Z,22nm,1.1s
N25K Chitina, Valde 93.79 24 P **P 03 29 53.2 +1.1**
baz=302
N25K Chitina, Valde 93.79 24 IAmb IAmb 03 30 01.8
comp=Z,54nm,1.1s
EPYK Eagle Plains 93.81 18 P **P 03 29 50.7 -1.3**
baz=310
EYAK Cordova Ski Ar 93.87 26 P **P 03 29 52.9 +0.6**
baz=301
RES Resolute Bay 93.93 3 P **P 03 29 54.2 +1.8**
comp=Z,7.7nm,1.0s,baz=63,slow=5.5,SNR=2.2
RES Resolute Bay 93.93 3 P **P 03 29 52.5 +0.2**
RES pmax pmax
comp=Z,31nm,1.1s
RES Resolute Bay 93.93 3 P **P 03 29 52.5 +0.2**
RES IAmb IAmb 03 30 01.9
comp=Z,31nm,1.1s
L27K Beaver Creek, 94.06 22 P **P 03 29 53.6 +0.3**
baz=305
L27K Beaver Creek, 94.06 22 IAmb IAmb 03 30 03.1
comp=Z,34nm,1.1s
BCAR Beaver Creek A 94.08 22 P **P 03 29 53.6 +0.3**
BMRM Bremner River 94.12 25 P **P 03 29 53.1 -0.5**
baz=302,SNR=7.2
BMRM Bremner River 94.12 25 IAMs_20 IAMs_20 04 14 10.2
comp=Z,1µm,21.0s
GLB Gilahina Butte 94.19 24 IAmb IAmb 03 30 03.3
comp=Z,32nm,1.1s
DAWY Dawson 94.36 21 IAmb IAmb 03 30 03.7
comp=Z,53nm,1.1s
VRDI Verde Repeater 94.46 24 IAmb IAmb 03 30 04.6
comp=Z,31nm,1.1s
MCARA McCarthy VSAT 94.54 24 P **P 03 29 55.8 +0.4**
baz=304
CRQE Cirque 94.86 25 P **P 03 29 56.2 -0.9**
baz=303
TGL Tana Glacier 94.97 25 IAMs_20 IAMs_20 04 15 02.6
comp=Z,889nm,20.0s
C36M Paulatuk 95.03 13 P **P 03 29 57.3 -0.1**
baz=322
C36M Paulatuk 95.03 13 IAmb IAmb 03 30 05.6
comp=Z,38nm,0.9s
ISLE Juniper Island 95.26 25 IAMs_20 IAMs_20 04 15 08.1
comp=Z,1µm,20.0s
BARN Barnard Glacie 95.27 24 P **P 03 29 58.4 -0.6**
BARN IAmb IAmb 03 30 14.6
comp=Z,40nm,1.4s
CTG Chitna Glacier 95.45 24 P **P 03 29 59.9 +0.1**
baz=305
CTGM Chitina Glacie 95.46 24 IAmb IAmb 03 30 10.2
comp=Z,57nm,1.4s
LOGN Logan Glacier 95.67 24 IAMs_20 IAMs_20 04 14 44.0
comp=Z,1µm,22.0s
KOWA Kowa 95.71 286 P **P 03 30 00.5 -1.2**
AFI Afiamalu 95.80 103 P **P 03 29 58.8 -3.4**
AFI pmax pmax
comp=Z,92nm,1.1s
AFI Afiamalu 95.80 103 P **P 03 29 58.8 -3.4**
VNDA Vanda 96.14 168 P **P 03 30 01.8 -0.4**
comp=Z,1.4nm,0.9s,baz=282,slow=7.3,SNR=5.9
VNDA LR LR 04 11 08.6
comp=Z,357nm,18.4s,baz=308,slow=34
VNDA Vanda 96.14 168 P **P 03 30 03.0 +0.7**
DY2G Dye2 97.36 345 *i* P Pdif 03 30 09.2 +0.7
DY2G IAmb IAmb 03 30 10.1
comp=Z,34nm,1.4s
WHY Whitehorse 98.14 22 P **P 03 30 11.1 -0.8**
baz=311
QSPA South Pole Qui 101.21 180 IAMs_20 IAMs_20 04 16 54.3
comp=Z,996nm,18.0s
YKA Yellowknife Ar 102.89 14 Pdiff **Pdif 03 30 35.2 +2.3**
comp=Z,2.3nm,1.0s,baz=330,slow=4.3,SNR=5.5
YKA PP **PP 03 34 44.1 -2.1**
comp=Z,3.6nm,1.0s,baz=334,slow=6.5,SNR=6.2
BBB Bella Bella 106.69 26 IAMs_20 IAMs_20 04 20 37.6
comp=Z,662nm,20.0s
PGC Sidney 111.32 26 IAMs_20 IAMs_20 04 24 49.9
comp=Z,884nm,20.0s
B06A Marblemount 112.26 25 IAMs_20 IAMs_20 04 30 24.6
comp=Z,863nm,19.0s
SCHQ Schefferville 112.32 349 IAMs_20 IAMs_20 04 32 33.3
comp=Z,641nm,20.0s
B08A Colville Reser 113.26 24 IAMs_20 IAMs_20 04 27 59.2
comp=Z,712nm,19.0s
LON Longmire 113.48 27 IAMs_20 IAMs_20 04 25 58.2
comp=Z,764nm,22.0s
LTY Liberty 113.58 26 IAMs_20 IAMs_20 04 31 08.9
comp=Z,777nm,18.0s
C09A Chrisman Ranch 114.14 24 IAMs_20 IAMs_20 04 29 44.3
comp=Z,893nm,18.0s
E08A Dider Farm, El 114.87 25 IAMs_20 IAMs_20 04 29 18.7
comp=Z,686nm,20.0s
F10A Beach Ranch, E 116.04 24 IAMs_20 IAMs_20 04 33 05.6
comp=Z,702nm,19.0s
J05D Fort Rock, OR 116.40 29 PKiKP **PKiKP 03 35 17.8 -1.5**
baz=320
I07A Izee 116.58 27 IAMs_20 IAMs_20 04 27 29.2
comp=Z,832nm,22.0s
MSO Missoula 116.59 22 PKiKP **PKPdf 03 35 18.4 -1.1**
baz=328
MSO Missoula 116.59 22 **PKPdf 03 35 19.4 -0.1**
BMO Blue Mountains 116.92 25 IAMs_20 IAMs_20 04 30 30.9
comp=Z,696nm,20.0s
EGMT Eagleton 116.96 18 PKiKP **PKiKP 03 35 20.3 +0.2**
baz=333
PLID Pearl Lake 117.26 24 IAMs_20 IAMs_20 04 34 40.9
comp=Z,820nm,20.0s
PPT2 Papeete2 117.45 104 *e*LR LR 04 11 08.0
comp=Z,680nm,23.2s
TBI Tubuai 117.79 110 *e*LR LR 04 11 17.3
comp=Z,578nm,30.5s
MOD Modoc Plateau 117.90 29 IAMs_20 IAMs_20 04 09 33.3
comp=Z,703nm,19.0s
O02D Mt. Diablo Mer 117.95 32 PKiKP **PKiKP 03 35 22.9 +0.6**
baz=317
O03E Paynes Creek 118.37 31 PKiKP **PKiKP 03 35 23.5 +0.4**
baz=318
BOZ Bozeman (W) 118.47 21 PKiKP **PKiKP 03 35 23.6 +0.4**
baz=330
BOZ Bozeman (W) 118.47 21 IAMs_20 IAMs_20 04 34 40.8
comp=Z,793nm,19.0s
MATQ Matagami 118.82 355 PKiKP **PKiKP 03 35 23.7 +0.1**
baz=8.2
LAO LASA Array 119.20 17 PKiKP **PKiKP 03 35 24.8 +0.3**
baz=336
LAO LASA Array 119.20 17 IAMs_20 IAMs_20 04 31 03.0
comp=Z,890nm,21.0s
RLMT Red Lodge 119.69 20 PKiKP **PKiKP 03 35 26.0 +0.2**
baz=332

AGMN	Agassiz Nation	119.86	8	IAMs_20	IAMs_20	04 33 58.1			
	comp=Z,745nm,19.0s								
PAHR	Pah Rah Range	120.03	30	IAMs_20	IAMs_20	04 31 25.7			
	comp=Z,617nm,21.0s								
D62A	Allapoint, All	120.11	347	IAMs_20	IAMs_20	04 35 16.7			
	comp=Z,970nm,21.0s								
PNTR	Pine Nut	120.40	31		PKPdf	03 35 26.8	-0.4		
E63A	Oxbow	120.60	347	IAMs_20	IAMs_20	04 36 37.6			
	comp=Z,837nm,21.0s								
E62A	Clayton Lake	120.65	348	IAMs_20	IAMs_20	04 35 49.9			
	comp=Z,973nm,21.0s								
F63A	Nahmakanta, Br	121.44	347	IAMs_20	IAMs_20	04 36 16.6			
	comp=Z,742nm,20.0s								
F62A	Pittston Farm,	121.44	348	IAMs_20	IAMs_20	04 38 20.6			
	comp=Z,783nm,19.0s								
GGN	Saint George	121.45	345	IAMs_20	IAMs_20	04 27 21.1			
	comp=Z,579nm,21.0s								
NVAR	Mina Array Bea	121.55	30	PKP	PKPdf	03 35 28.5	-0.9		
	comp=Z,1.6nm,0.6s,baz=286,slow=2.1,SNR=12								
NVAR				PKKPbc	PKKPbc	03 45 30.3	+0.1		
	comp=Z,1.2nm,0.7s,baz=151,slow=4.3,SNR=5.8								
NVAR	Mina Array Bea	121.55	30	PKPdf	PKPdf	03 35 29.3	-0.2		
LHV	Little Huntoon	121.59	31	IAMs_20	IAMs_20	04 29 25.1			
	comp=Z,580nm,21.0s								
BW06	Boulder Array	121.67	21	PKiKP	PKPdf	03 35 28.7	-0.9		
	baz=332								
BW06	Boulder Array	121.67	21	IAMs_20	IAMs_20	04 34 50.4			
	comp=Z,721nm,20.0s								
PDAR	Pinedale Array	121.67	21	PKP	PKPdf	03 35 28.2	-1.3		
	comp=Z,2.6nm,1.1s,baz=90,slow=1.9,SNR=11								
PDAR				PP	PP	03 37 02.9	+1.9		
	comp=Z,3.5nm,1.0s,baz=17,slow=1.5,SNR=4.6								
PKME	Peaks-Kenny Pk	121.89	347	IAMs_20	IAMs_20	04 36 10.8			
	comp=Z,820nm,19.0s								
HWUT	Hardware Ranch	121.93	23	IAMs_20	IAMs_20	04 38 17.6			
	comp=Z,663nm,20.0s								
E38A	The Farm, Brul	122.03	5	IAMs_20	IAMs_20	04 35 43.5			
	comp=Z,581nm,19.0s								
F33A	5 Mile Ranch,	122.20	9	IAMs_20	IAMs_20	04 34 56.9			
	comp=Z,917nm,20.0s								
G62A	West of Eustis	122.20	348	IAMs_20	IAMs_20	04 34 27.8			
	comp=Z,782nm,22.0s								
DUG	Dugway, Tooele	122.63	25	PKIKP	PKPdf	03 35 30.8	-0.6		
DUG	Dugway, Tooele	122.63	25	PKiKP	PKiKP	03 35 31.8	+0.3		
	baz=327								
DUG	Dugway, Tooele	122.63	25		PKPdf	03 35 30.8	-0.6		
WVL	Waterville	122.64	347	IAMs_20	IAMs_20	04 37 45.5			
	comp=Z,718nm,21.0s								
K22A	Casper	122.79	19	PKiKP	PKiKP	03 35 32.5	+0.7		
	baz=335								
R11A	Troy Canyon, C	122.92	28	PKiKP	PKPdf	03 35 31.8	-0.3		
	baz=324								
R11A	Troy Canyon, C	122.92	28	IAMs_20	IAMs_20	04 29 18.2			
	comp=Z,657nm,22.0s								
H62A	Milan	122.95	348	IAMs_20	IAMs_20	04 33 16.5			
	comp=Z,808nm,21.0s								
F42A	Maple Grove Fa	123.11	3	IAMs_20	IAMs_20	04 37 39.0			
	comp=Z,845nm,20.0s								
FRNY	Flat Rock	123.14	350	IAMs_20	IAMs_20	04 36 26.5			
	comp=Z,782nm,21.0s								
CWC	Cottonwood Cre	123.20	32	PKiKP	PKPdf	03 35 32.3	-0.3		
	baz=320								
I63A	Otisfield	123.33	348	IAMs_20	IAMs_20	04 33 53.7			
	comp=Z,774nm,22.0s								
LBNH	Lisbon	123.42	349	IAMs_20	IAMs_20	04 36 39.0			
	comp=Z,900nm,21.0s								
RWWY	Rawlins	123.43	20	IAMs_20	IAMs_20	04 36 53.9			
	comp=Z,762nm,20.0s								
PKM	Mcpherson Peak	123.44	34	PKiKP	PKiKP	03 35 33.8	+0.5		
	baz=318								
VT1	Waterbury	123.48	349	IAMs_20	IAMs_20	04 33 08.9			
	comp=Z,694nm,22.0s								
I62A	Tamworth	123.65	348	IAMs_20	IAMs_20	04 33 47.3			
	comp=Z,686nm,22.0s								
TPNV	Topopah Spring	123.72	30	PKiKP	PKPdf	03 35 33.7	+0.2		
	baz=322								
FURC	Furnace Creek,	123.80	31	PKiKP	PKPdf	03 35 33.0	-0.4		
	baz=322								
MPMC	Manual Prospec	123.80	32	PKiKP	PKPdf	03 35 33.7	-0.1		
	baz=321								
HNH	Hanover	124.00	349	IAMs_20	IAMs_20	04 36 35.4			
	comp=Z,692nm,20.0s								
DELO	Deloro Mine	124.01	354	PKPdf	PKPdf	03 35 33.5	-0.2		
DELO				IAMs_20	IAMs_20	04 38 33.2			
	comp=Z,708nm,18.0s								
NCB	Newcomb	124.08	351	IAMs_20	IAMs_20	04 33 22.4			
	comp=Z,810nm,22.0s								
FFD	Franklin Falls	124.11	348	IAMs_20	IAMs_20	04 37 57.2			
	comp=Z,742nm,21.0s								
LRMC	Laurel Mtn Rad	124.14	32	PKiKP	PKiKP	03 35 35.2	+0.5		
	baz=320								
ECSD	EROS Data Cent	124.19	10	PKiKP	PKPdf	03 35 33.5	-0.6		
	baz=346								
I57A	Carthage	124.33	352	PKiKP	PKiKP	03 35 35.2	+0.6		
	baz=11								
H43A	Windswept, Lux	124.41	2	IAMs_20	IAMs_20	04 35 12.4			
	comp=Z,816nm,21.0s								
EDW2	Edwards Air Fo	124.44	33	PKiKP	PKPdf	03 35 34.9	0.0		
	baz=320								
O20A	White River Ci	124.45	21	PKiKP	PKPdf	03 35 34.6	-0.3		
	baz=332								
O20A	White River Ci	124.45	21	IAMs_20	IAMs_20	04 39 06.2			
	comp=Z,785nm,20.0s								
PECO	Prince Edward	124.51	353	IAMs_20	IAMs_20	04 36 24.5			
	comp=Z,830nm,21.0s								
SHOC	Shoshone, Teco	124.54	31	PKiKP	PKiKP	03 35 35.5	+0.2		
	baz=322								
ACCN	Adirondack Com	124.56	350	IAMs_20	IAMs_20	04 38 28.2			
	comp=Z,808nm,20.0s								
SHPR	Sheep Range	124.60	29		PKiKP	03 35 35.6	0.0		
GSC	Goldstone, Bar	124.73	32	PKiKP	PKPdf	03 35 35.2	-0.2		
	baz=321								
I40A	Norwalk	124.81	5	IAMs_20	IAMs_20	04 41 44.0			
	comp=Z,784nm,18.0s								
J58A	Remsen	124.84	351	IAMs_20	IAMs_20	04 41 25.5			
	comp=Z,574nm,19.0s								
I49A	Point Hope	124.95	358	IAMs_20	IAMs_20	04 33 18.0			
	comp=Z,566nm,20.0s								
K62A	Royalston	125.00	348	IAMs_20	IAMs_20	04 39 09.7			
	comp=Z,661nm,21.0s								
HRV	Adam Dziewonsk	125.01	348	PKiKP	PKiKP	03 35 35.9	-0.1		
	baz=16								
HRV	Adam Dziewonsk	125.01	348	IAMs_20	IAMs_20	04 38 22.2			
	comp=Z,750nm,20.0s								
WES	Weston	125.08	348	IAMs_20	IAMs_20	04 37 54.0			
	comp=Z,632nm,20.0s								
TRY	Troy	125.20	350	IAMs_20	IAMs_20	04 34 09.0			
	comp=Z,836nm,22.0s								
J55A	Hilton	125.27	354	IAMs_20	IAMs_20	04 35 07.5			
	comp=Z,894nm,22.0s								
L64A	Middleborough	125.41	347	IAMs_20	IAMs_20	04 41 19.7			
	comp=Z,563nm,20.0s								
BRYW	Bryant College	125.57	348	IAMs_20	IAMs_20	04 39 01.1			
	comp=Z,740nm,22.0s								
L63A	North Scituate	125.64	348	IAMs_20	IAMs_20	04 38 19.9			
	comp=Z,656nm,20.0s								
ISCO	Idaho Springs	125.66	19	PKIKP	PKPdf	03 35 37.1	-0.3		
ISCO	Idaho Springs	125.66	19	PKPdf	PKPdf	03 35 37.1	-0.3		
PV22	Blue Mesa, Par	125.66	23	IAMs_20	IAMs_20	04 38 42.1			
	comp=Z,636nm,20.0s								
PV14	Lion Creek, Pa	125.71	23	IAMs_20	IAMs_20	04 34 56.5			
	comp=Z,564nm,19.0s								
M65A	Busby, Falmout	125.72	347	IAMs_20	IAMs_20	04 41 30.0			
	comp=Z,632nm,20.0s								
GMRC	Granite Mounta	125.72	31	PKiKP	PKPdf	03 35 37.5	+0.1		
	baz=322								
TAOE	Nuku Hiva Isla	125.76	93	eLR	LR	04 14 51.2			
	comp=Z,496nm,27.0s								
K56A	Middlesex	125.77	353	PKiKP	PKPdf	03 35 36.9	-0.2		
	baz=9.2								
JFWS	Jewell Farm	125.81	5	IAMs_20	IAMs_20	04 36 21.4			
	comp=Z,659nm,21.0s								
UCCT	U. Connecticut	125.83	348	IAMs_20	IAMs_20	04 37 41.9			
	comp=Z,641nm,20.0s								
PV12	Saucer Basin,	125.84	23	IAMs_20	IAMs_20	04 37 05.0			
	comp=Z,817nm,21.0s								
PV18	Skein Mesa, Pa	125.86	23	IAMs_20	IAMs_20	04 42 33.5			
	comp=Z,675nm,21.0s								
PV13	Radium Mtn., P	125.97	23	IAMs_20	IAMs_20	04 36 21.5			
	comp=Z,564nm,20.0s								
BINY	Binghamton	126.08	352	PKiKP	PKPdf	03 35 36.5	-1.3		
	baz=11								
BINY	Binghamton	126.08	352	IAMs_20	IAMs_20	04 35 13.3			
	comp=Z,877nm,21.0s								
PV01	Paradox Valley	126.09	23	IAMs_20	IAMs_20	04 37 18.6			
	comp=Z,734nm,21.0s								
KSCT	Kent School, K	126.14	349	IAMs_20	IAMs_20	04 34 13.9			
	comp=Z,865nm,21.0s								
BELC	Belle Mtn. Jos	126.16	32	PKiKP	PKPdf	03 35 37.7	-0.5		
	baz=322								
L58A	Harry Jones Me	126.22	352	PKiKP	PKPdf	03 35 37.6	-0.4		
	baz=11								
PFO	Pinyon Flats O	126.22	33	PKiKP	PKiKP	03 35 38.7	-0.1		
	baz=321								
TPFO	Pinon Flats	126.23	33	PKiKP	PKPdf	03 35 37.0	-1.4		
	baz=321								
YLE	Yale	126.44	349	IAMs_20	IAMs_20	04 37 01.8			
	comp=Z,599nm,21.0s								
IRM	Iron Mountain	126.48	31	PKiKP	PKiKP	03 35 39.4	+0.2		
	baz=322								
ERPA	Erie	126.61	355	PKiKP	PKiKP	03 35 39.6	+0.4		
	baz=6.1								
WSPT	Westport, CT	126.65	349	IAMs_20	IAMs_20	04 34 51.4			
	comp=Z,800nm,22.0s								
KSPA	Keystone Colle	126.68	351	IAMs_20	IAMs_20	04 35 42.1			
	comp=Z,820nm,22.0s								
L44A	Lake County Fo	126.69	3	IAMs_20	IAMs_20	04 36 32.8			
	comp=Z,858nm,20.0s								
BC3	Big Chuckawall	126.71	32	PKiKP	PKPdf	03 35 38.2	-1.2		
	baz=322								
TJX	Tijuana	126.75	34	IAMs_20	IAMs_20	04 33 05.9			
	comp=Z,504nm,20.0s								
MONP2	Monument Peak	126.80	33	PKiKP	PKPdf	03 35 38.1	-1.5		
	baz=320								
PDMCI	Parker Dam,Lak	126.86	30	PKiKP	PKiKP	03 35 39.7	-0.2		
	baz=324								
PAL	Palisades	126.92	349	IAMs_20	IAMs_20	04 40 46.4			
	comp=Z,780nm,19.0s								
MVCO	Mesa Verde	126.92	23	PKiKP	PKPdf	03 35 38.9	-0.8		
	baz=331								
MVCO	Mesa Verde	126.92	23	PKPdf	PKPdf	03 35 39.0	-0.8		
MVCO				IAMs_20	IAMs_20	04 38 50.7			
	comp=Z,544nm,20.0s								
ODNJ	Ogdensburg	126.96	350	IAMs_20	IAMs_20	04 34 59.6			
	comp=Z,746nm,22.0s								
S22A	4UR Ranch, Cre	127.08	22	PKiKP	PKPdf	03 35 40.3	+0.1		
	baz=333								
SWSC	Sam W. Stewart	127.09	33	PKiKP	PKiKP	03 35 41.0	+0.6		
	baz=321								
M55A	Ridgway	127.14	354	IAMs_20	IAMs_20	04 34 53.1			
	comp=Z,711nm,20.0s								
IKP	In-Ko-Pah, Jac	127.15	33	PKiKP	PKPdf	03 35 39.2	-0.9		
	baz=321								
WUAZ	Wupatki	127.17	27	PKiKP	PKPdf	03 35 40.3	0.0		
	baz=327								
M54A	Oil Creek Stat	127.19	355	IAMs_20	IAMs_20	04 39 43.3			
	comp=Z,708nm,21.0s								
KSCO	Kaye Shedlock'	127.30	17	IAMs_20	IAMs_20	04 33 44.2			
	comp=Z,644nm,19.0s								
N59A	State Game Lan	127.31	351	IAMs_20	IAMs_20	04 36 00.7			
	comp=Z,798nm,21.0s								
GLA	Glamis	127.51	32	PKiKP	PKPdf	03 35 40.7	0.0		
	baz=322								
SDCO	Great Sand Dun	127.55	20	PKiKP	PKPdf	03 35 40.9	-0.1		
	baz=334								
SDCO	Great Sand Dun	127.55	20	IAMs_20	IAMs_20	04 35 01.0			
	comp=Z,726nm,20.0s								
LUPA	Lehigh Univers	127.56	351	IAMs_20	IAMs_20	04 40 57.4			
	comp=Z,527nm,20.0s								
N54A	Moraine State	127.76	355	IAMs_20	IAMs_20	04 40 49.4			
	comp=Z,742nm,20.0s								
SSPA	Standing Stone	127.87	353	IAMs_20	IAMs_20	04 37 12.5			
	comp=Z,633nm,20.0s								
N41A	Harden Midland	127.94	6	IAMs_20	IAMs_20	04 39 32.0			
	comp=Z,815nm,20.0s								
N51A	Ashland	127.95	357	IAMs_20	IAMs_20	04 36 49.4			
	comp=Z,728nm,21.0s								
W18A	Petrified Fore	128.22	26	PKiKP	PKPdf	03 35 42.5	+0.2		
	baz=329								
HDIL	Hopedale	128.22	4	IAMs_20	IAMs_20	04 40 48.4			
	comp=Z,789nm,20.0s								
CBKS	Cedar Bluff	128.26	15	IAMs_20	IAMs_20	04 38 18.6			
	comp=Z,618nm,19.0s								
MVL	Millersville	128.29	351	IAMs_20	IAMs_20	04 36 51.8			
	comp=Z,808nm,21.0s								
O56A	Blue Knob Stat	128.31	354	IAMs_20	IAMs_20	04 35 32.1			
	comp=Z,600nm,22.0s								
P61A	Hammonton	128.37	350	IAMs_20	IAMs_20	04 36 14.8			
	comp=Z,637nm,20.0s								
P60A	Greenville	128.37	351	IAMs_20	IAMs_20	04 42 44.9			
	comp=Z,635nm,18.0s								
T25A	Trinidad	128.46	20	PKiKP	PKiKP	03 35 43.3	0.0		
	baz=336								
T25A	Trinidad	128.46	20	IAMs_20	IAMs_20	04 41 50.2			
	comp=Z,536nm,19.0s								
SFIN	Lafayette	128.51	2	IAMs_20	IAMs_20	04 42 03.2			
	comp=Z,745nm,20.0s								
O53A	New Philadelph	128.56	356	IAMs_20	IAMs_20	04 38 35.4			
	comp=Z,777nm,22.0s								
ACSO	Alum Creek Sta	128.66	358	IAMs_20	IAMs_20	04 41 01.1			
	comp=Z,597nm,20.0s								
P38A	Dawn	128.69	8	IAMs_20	IAMs_20	04 38 46.8			
	comp=Z,687nm,19.0s								
P57A	Homestead Farm	129.02	353	IAMs_20	IAMs_20	04 40 14.9			
	comp=Z,686nm,20.0s								
SFX	San Felipe	129.07	33	PKPdf	PKiKP	03 35 44.9	+0.6		
P46A	Rosedale	129.27	2	IAMs_20	IAMs_20	04 40 06.1			
	comp=Z,714nm,19.0s								
P53A	Whipple	129.33	356	IAMs_20	IAMs_20	04 35 37.8			
	comp=Z,722nm,20.0s								
214A	Organ Pipe Nat	129.41	31	PKiKP	PKPdf	03 35 44.7	+0.3		
	baz=324								
P51A	Williamsport	129.41	358	IAMs_20	IAMs_20	04 41 53.0			
	comp=Z,656nm,20.0s								
P48A	Milroy	129.47	0	IAMs_20	IAMs_20	04 37 08.4			
	comp=Z,861nm,22.0s								
ANMO	Albuquerque	129.70	23	PKiKP	PKPdf	03 35 45.1	0.0		
ANMO	Albuquerque	129.70	23	PKiKP	PKPdf	03 35 45.2	+0.1		
	baz=332								
ANMO	Albuquerque	129.70	23		PKPdf	03 35 45.1	0.0		
Q44A	Meyer Farm, Va	129.89	4	IAMs_20	IAMs_20	04 38 36.4			
	comp=Z,721nm,20.0s								
Q52A	Bidwell	129.90	357	IAMs_20	IAMs_20	04 42 20.9			
	comp=Z,520nm,19.0s								
TUC	Tucson	130.11	29	PKiKP	PKPdf	03 35 45.1	-0.7		
TUC	Tucson	130.11	29	PKiKP	PKPdf	03 35 45.6	-0.2		
	baz=326								
TUC	Tucson	130.11	29		PKPdf	03 35 45.0	-0.7		
CBN	Corbin Frederi	130.20	352	IAMs_20	IAMs_20	04 36 04.2			
	comp=Z,655nm,20.0s								
Y22D	IRIS PASSCAL I	130.28	24	IAMs_20	IAMs_20	04 44 09.7			
	comp=Z,641nm,20.0s								
R55A	Marlinton	130.43	355	IAMs_20	IAMs_20	04 35 12.1			
	comp=Z,700nm,21.0s								
R58B	Mineral	130.50	353	IAMs_20	IAMs_20	04 43 12.2			
	comp=Z,738nm,19.0s								
CCM	Cathedral Cave	130.53	6	IAMs_20	IAMs_20	04 41 13.4			
	comp=Z,701nm,20.0s								
R49A	Shybyville	130.63	0	IAMs_20	IAMs_20	04 39 05.3			
	comp=Z,548nm,20.0s								
WCI	Wyandotte Cave	130.68	1	IAMs_20	IAMs_20	04 42 02.6			
	comp=Z,662nm,20.0s								
121A	Cookes Peak, D	131.27	26	PKiKP	PKPdf	03 35 47.2	-0.9		
	baz=330								
121A	Cookes Peak, D	131.27	26	IAMs_20	IAMs_20	04 42 44.8			
	comp=Z,704nm,21.0s								
S51A	Beattyville	131.27	358	IAMs_20	IAMs_20	04 40 51.1			
	comp=Z,768nm,21.0s								
T59A	Double "B" Far	131.44	352	IAMs_20	IAMs_20	04 43 44.0			
	comp=Z,705nm,19.0s								
U38A	Gravette	131.68	10	IAMs_20	IAMs_20	04 43 55.8			
	comp=Z,625nm,20.0s								
T45A	Paducah	131.79	4	IAMs_20	IAMs_20	04 42 57.8			
	comp=Z,686nm,18.0s								
MSTX	Muleshoe	131.90	20	PKiKP	PKPdf	03 35 48.9	-0.2		
	baz=336								
T47A	Sharon Grove	131.90	2	IAMs_20	IAMs_20	04 42 24.7			
	comp=Z,712nm,19.0s								
T50A	Nancy	131.90	360	IAMs_20	IAMs_20	04 39 50.9			
	comp=Z,729nm,20.0s								
U40A	Yellville	132.00	8	IAMs_20	IAMs_20	04 40 44.3			
	comp=Z,635nm,21.0s								
NBAN	Anadia - AL	132.06	267	eP	PKiKP	03 35 50.5	-0.3		
U59A	Littleton	132.08	352	IAMs_20	IAMs_20	04 43 48.9			
	comp=Z,664nm,20.0s								
TZTN	Tazewell	132.36	358	IAMs_20	IAMs_20	04 41 33.0			
	comp=Z,594nm,20.0s								
EPT	El Paso	132.46	25	IAMs_20	IAMs_20	04 40 47.4			
	comp=Z,452nm,19.0s								
FCAR	Ozark Folk Cen	132.56	8	IAMs_20	IAMs_20	04 42 46.1			
	comp=Z,661nm,21.0s								
LNXT	Lenox	132.63	5	IAMs_20	IAMs_20	04 37 25.2			
	comp=Z,797nm,22.0s								
HSIG		132.72	31	PKPdf	PKiKP	03 35 51.6	-0.2		
V58A	Windy Hill, Pi	132.79	353	IAMs_20	IAMs_20	04 45 18.8			
	comp=Z,608nm,18.0s								
V55A	Taylorsville	132.93	356	IAMs_20	IAMs_20	04 43 34.3			
	comp=Z,700nm,18.0s								
MNTX	Cornudas Mount	132.98	24	PKiKP	PKPdf	03 35 51.6	+0.5		
	baz=332								
LPAR	Lepanto	133.06	6	IAMs_20	IAMs_20	04 41 40.3			
	comp=Z,660nm,19.0s								
V52A	Sevierville	133.06	358	IAMs_20	IAMs_20	04 43 34.6			
	comp=Z,649nm,19.0s								
V48A	Smith Brothers	133.15	2	IAMs_20	IAMs_20	04 45 09.9			
	comp=Z,731nm,19.0s								
W41B	Gary Mavity, V	133.25	8	PKiKP	PKPdf	03 35 51.4	-0.1		
	baz=350								
TKL	Tuckaleechee C	133.25	359	IAMs_20	IAMs_20	04 43 40.5			
	comp=Z,675nm,18.0s								
CPCT	Cooper Cave	133.47	359	IAMs_20	IAMs_20	04 44 01.3			
	comp=Z,752nm,20.0s								
MIAR	Mount Ida	133.66	10	PKiKP	PKPdf	03 35 52.0	-0.3		
	baz=348								
SWET	Sewanee	133.70	1	IAMs_20	IAMs_20	04 39 47.3			
	comp=Z,823nm,21.0s								
W50A	Signal Mountai	133.72	0	IAMs_20	IAMs_20	04 42 09.0			
	comp=Z,762nm,21.0s								
X40A	Basin Creek Fa	133.84	9	IAMs_20	IAMs_20	04 46 54.0			
	comp=Z,651nm,19.0s								
PLAL	Pickwick Lake	133.85	3	IAMs_20	IAMs_20	04 40 38.3			
	comp=Z,654nm,20.0s								
BG3	Lake Jocassee	133.88	358	IAMs_20	IAMs_20	04 38 41.4			
	comp=Z,658nm,21.0s								
PAULI	Pauline	134.00	356	IAMs_20	IAMs_20	04 42 41.4			
	comp=Z,753nm,20.0s								
BIRD	Birdtown, Kers	134.07	355	IAMs_20	IAMs_20	04 45 01.4			
	comp=Z,727nm,19.0s								
Z35A	Perchaven, San	134.09	14	IAMs_20	IAMs_20	04 43 21.7			
	comp=Z,774nm,20.0s								
ABTX	Abilene, Hawle	134.12	17	IAMs_20	IAMs_20	04 44 34.7			
	comp=Z,574nm,19.0s								
X51A	Calhoun	134.35	360	IAMs_20	IAMs_20	04 39 53.7			
	comp=Z,809nm,21.0s								
X48A	Hartselle	134.43	2	IAMs_20	IAMs_20	04 42 30.7			
	comp=Z,705nm,19.0s								
Y60A	Bolivia	134.45	352	IAMs_20	IAMs_20	04 38 27.6			
	comp=Z,708nm,22.0s								
Y59A	Loris	134.55	353	IAMs_20	IAMs_20	04 46 21.2			
	comp=Z,601nm,18.0s								
CCAR	Cane Creek	134.55	8	IAMs_20	IAMs_20	04 38 13.8			
	comp=Z,810nm,21.0s								
HODGE	Hodges	134.61	357	IAMs_20	IAMs_20	04 45 53.6			
	comp=Z,644nm,20.0s								
Y57A	Sumter	134.68	355	IAMs_20	IAMs_20	04 40 55.7			
	comp=Z,647nm,20.0s								
NBPB	Pedra_Branca-C	134.70	273	eP	PKiKP	03 35 56.0	-0.2		
Y49A	Blount Mountai	135.04	2	IAMs_20	IAMs_20	04 44 36.9			
	comp=Z,683nm,19.0s								
Y52A	Lilburn	135.04	359	IAMs_20	IAMs_20	04 39 03.1			
	comp=Z,734nm,22.0s								
237A	Washetta, Mont	135.69	13	IAMs_20	IAMs_20	04 42 57.3			
	comp=Z,671nm,21.0s								
TXAR	Lajitas Array	135.76	24	PKhKP	PKPpre	03 35 53.9			
	comp=Z,1.4nm,1.1s,baz=310,slow=4.1,SNR=4.3								
TXAR				PP	PP	03 38 33.4	+0.2		
	comp=Z,2.0nm,1.0s,baz=40,slow=9.9,SNR=2.8								
TXAR	Lajitas Array	135.76	24	PKiKP	PKPdf	03 35 56.5	0.0		
TXAR	Lajitas Array	135.76	24		PKPdf	03 35 56.5	0.0		
143A	Socs Landing,	135.79	8	IAMs_20	IAMs_20	04 45 32.8			
	comp=Z,622nm,20.0s								
LRAL	Lakeview Retre	135.84	2	IAMs_20	IAMs_20	04 45 05.1			
	comp=Z,728nm,19.0s								
JCT	Junction City	136.07	18	PKiKP	PKPdf	03 35 56.7	-0.3		
	baz=339		

ROSC El Rosal 160.71 326 PKP **PKPdf 03 36 37.6 +0.9**
comp=Z,5.3nm,0.4s,baz=185,slow=22,SNR=3.6
ROSC PKPab **PKPab 03 37 19.3 +1.0**
comp=Z,6.0nm,0.4s,baz=137,slow=2.2,SNR=3.6
GUY2C Guyana, Caldas 160.94 329 *e*P **PKPab 03 37 16.2 -3.1**
LVC Limon Verde 160.94 232 PKP **PKPdf 03 36 36.5 -0.1**
comp=Z,1.0nm,0.3s,baz=23,slow=6.4,SNR=1.0
LVC PKPab **PKPab 03 37 20.7 +1.4**
comp=Z,9.1nm,0.9s,baz=52,slow=2.8,SNR=4.6
LVC Limon Verde 160.94 232 PKIKP **PKPdf 03 36 34.3 -2.3**
LVC 03 37 18.1
LVC Limon Verde 160.94 232 PKPdf **PKPdf 03 36 34.3 -2.3**
LVC **PKPab 03 37 18.1 -1.1**
LVC Limon Verde 160.94 232 *e*P **PKPdf 03 36 39.0 +2.3**
TOLC Tolima 161.46 328 *e*P **PKPab 03 37 28.1 +6.6**
MACC Macarena, Meta 162.58 320 *e*P PKPab 03 37 34.2 +8.2
LPAZ La Paz 162.85 251 PKP **PKPdf 03 36 39.0 0.0**
comp=Z,2.2nm,1.1s,baz=25,slow=4.8,SNR=4.7
LPAZ PKPab **PKPab 03 37 28.9 +0.8**
comp=Z,3.4nm,1.0s,baz=94,slow=6.2,SNR=3.9
LPAZ La Paz 162.85 251 PKIKP **PKPdf 03 36 36.8 -2.2**
LPAZ 03 37 27.0
LPAZ La Paz 162.85 251 PKPdf 03 36 36.8 -2.2
LPAZ PKPab **PKPab 03 37 26.9 -1.2**
OTAV Otavalo 166.76 330 *e*P **PKPdf 03 36 44.9 +2.6**

*IDC **03** 03:17:15.0±2.5, 37.°49N×78.°02E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/67, mbtmp3.7/5, ML3.6/1 Error ellipse: s-maj=44.8km s-min=26.4km az=102.0*
*NNC **03** 03:17:19.6±2.5, 37.°66N×77.°73E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=36.9km s-min=16.7km az=75.0*
ISC 03 03:17:20.7±1.6, 37.8N±0.1×77.4E±0.1, h10km, n12, σ2°26/11, mb3.7/4, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.29**	**345**	⇓Pg	Pb	03 18 59.7	+6.4
	12nm,0.8s						
TKM2				⇓Lg	Lg	03 20 12.5	
	22nm,0.8s						
AAK	**Ala-Archa**	**5.31**	**336**	Pg	**Pg**	**03 19 02.5**	**0.0**
	3.1nm,0.3s,baz=163,slow=9.8,SNR=5.1						
AAK				Lg	Lg	03 20 17.8	
	3.4nm,0.3s,baz=21,slow=19,SNR=2.2						
AAK	**Ala-Archa**	**5.31**	**336**	⇓Pg	Pb	03 19 00.8	+7.0
	19nm,1.0s						
AAK				⇑Lg	Lg	03 20 16.9	
	78nm,1.1s						
KST	**Kastek**	**5.34**	**348**	Pg	**Pg**	**03 19 01.3**	**-1.6**
	36nm,1.1s						
KST				Lg	Lg	03 20 16.8	
	24nm,1.3s						
MDOK	**Medeo**	**5.34**	**357**	Pg	**Pb**	**03 18 59.0**	**+4.7**
	25nm,0.7s						
MDOK				Lg	Lg	03 20 15.4	
	29nm,0.9s						
DGS	**Degeres**	**5.56**	**347**	Pg	**Pg**	**03 19 05.8**	**-1.4**
	13nm,0.5s						
DGS				Lg	Lg	03 20 24.4	
	12nm,0.4s						
MKAR	**Makanchi Array**	**9.66**	**20**	Pn	**Pn**	**03 19 39.4**	**-0.4**
	0.5nm,0.3s,baz=200,slow=13,SNR=8.2						
MKAR				Sn	**Sn**	**03 21 25.5**	**-2.8**
	1.4nm,0.3s,baz=185,slow=28,SNR=5.7						
WMQ	**Urumqi**	**9.81**	**49**	*e*P	**Pn**	**03 19 42.0**	**+0.1**
WMQ				smax	smax		
	comp=N,70nm,1.1s						
WMQ				smax	smax		
	comp=E,52nm,1.1s						
AKASG	**Malin Array Be**	**36.22**	**307**	P	**P**	**03 24 24.2**	**+0.7**
	comp=E,0.6nm,0.5s,baz=80,slow=6.7,SNR=4.1						
HFS	**Hagfors**	**45.25**	**321**	P	**P**	**03 25 39.3**	**+1.3**
	comp=E,0.9nm,0.7s,baz=102,slow=11,SNR=1.8						
NOA	**NORSAR Array B**	**46.47**	**322**	P	**P**	**03 25 47.5**	**-0.1**
	comp=E,0.3nm,0.6s,baz=90,slow=7.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**70.86**	**272**	P	**P**	**03 28 36.1**	**-2.0**
	comp=E,0.2nm,0.3s,baz=46,slow=6.2,SNR=4.2						

*IDC **03** 03:17:35.2±3.4, 3.°22S×140.°08E, h0km, mb3.7/4, mb1 4.2/6, mb1mx3.9/53, mbtmp4.0/6, ML4.3/2, Error ellipse: s-maj=61.3km s-min=39.6km az=38.0*
*NEIC **03** 03:17:45.0±1.8, 3.°37S±0.°06×139.°7E±0.°1, h62km±9km, mb4.1/12, Error ellipse: s-maj=17.0km s-min=7.2km az=107.0*
*DJA **03** 03:17:45.9±0.3, 3.°S±3.°×14.°0E±.°, h76km±5km, M5.0/12, mB5.5/5, mb4.8/12, MLv5.2/6, Mw(mB)5.0/5*
ISC 03 03:17:44.3±0.7, 3.31S±0.°05×139.64E±0.°06, h50km, n30, σ2°80/34, mb3.8/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.89**	**37**	P	**Pn**	**03 18 02.5**	**+1.9**
GENI				S	**Sn**	**03 18 16.1**	**+3.5**
WAMI	**Wamena**	**1.08**	**238**	P	**Pn**	**03 18 07.1**	**+3.9**
WAMI				S	**Sn**	**03 18 22.8**	**+5.7**
SRPI	**Serui, Papua**	**3.68**	**293**	P	**Pn**	**03 18 41.3**	**+2.5**
SRPI				S	**Sn**	**03 19 22.3**	**+1.3**
MMPI	**Merauke**	**5.17**	**172**	P	**Pn**	**03 19 02.7**	**+3.5**
MMPI				S	**Sn**	**03 20 01.5**	**+3.8**
FAKI	**Fak Fak**	**7.39**	**273**	Pn	**Pn**	**03 19 32.1**	**+2.5**
FAKI	**Fak Fak**	**7.39**	**273**	P	**Pn**	**03 19 32.2**	**+2.5**
	0.6nm53nm,1.3s						
SIJI	**Sorong**	**8.71**	**286**	Pn	**Pn**	**03 19 49.0**	**+1.2**
	3.3nm,0.3s,baz=117,slow=16,SNR=3.0						
SIJI				Sn	**Sn**	**03 21 24.0**	**-0.6**
	1.2nm,0.3s,baz=235,slow=22,SNR=1.5						
SWI	**Sorong**	**8.72**	**286**	P	**Pn**	**03 19 50.0**	**+2.1**
	2μm34nm,0.7s						
SAUI	**Saumlaki**	**9.50**	**240**	P	**Pn**	**03 20 01.8**	**+3.2**
	505nm,0.8s						
BNDI	**Bandanaira**	**9.78**	**263**	P	**Pn**	**03 20 04.9**	**+2.4**
	14μm317nm,0.8s						
NLAI	**Namlea**	**12.52**	**270**	P	**Pn**	**03 20 42.6**	**+2.8**
	22nm,0.8s						
MTN	**Manton Dam**	**12.66**	**221**	Pn	**Pn**	**03 20 42.0**	**+0.1**
TNTI	**Ternate**	**12.92**	**288**	P	**Pn**	**03 20 47.2**	**+1.9**
KNRA	**Kununurra**	**16.29**	**220**	Pn	**Pn**	**03 21 29.8**	**-0.1**
KNRA				IAmb	IAmb	03 21 33.8	
	comp=Z,19nm,0.6s						
WB0	**Warramunga Arr**	**17.14**	**197**	Pn	**Pn**	**03 21 38.8**	**-1.7**
WB0				IAmb	IAmb	03 21 43.3	
	comp=Z,6.7nm,0.6s						
WR0	**Warramunga Arr**	**17.27**	**196**	Pn	**Pn**	**03 21 40.3**	**-1.9**
WR0				IAmb	IAmb	03 21 45.9	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**17.31**	**197**		**Pn**	**03 21 41.0**	**-1.7**
WB2				IAmb	IAmb	03 21 46.9	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**17.32**	**197**	P	**Pn**	**03 21 41.4**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=17,slow=13,SNR=28						
WRA				S	Sn	03 24 39.7	-15
	comp=Z,0.2nm,0.3s,baz=4.8,slow=23,SNR=4.5						
WRA	**Warramunga Arr**	**17.32**	**197**	P	**Pn**	**03 21 42.0**	**-0.7**
GUMO	**Guam**	**17.58**	**17**	P	**Pn**	**03 21 45.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.10**	**222**	P	**P**	**03 22 13.6**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=42,slow=14,SNR=3.5						
FITZ				S	**S**	**03 25 48.4**	**-8.8**
	comp=Z,13nm,0.7s,baz=213,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**20.10**	**222**	IAmb	IAmb	03 22 14.3	
	comp=Z,4.7nm,0.9s						
AS31	**Alice Springs**	**20.98**	**195**	P	**P**	**03 22 23.1**	**-0.4**
ASAR	**Alice Springs**	**20.98**	**195**	P	**P**	**03 22 22.7**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=28,slow=10,SNR=19						
EIDS	**Eidsvold**	**24.54**	**154**	P	**P**	**03 22 58.4**	**-1.1**
EIDS				IAmb	IAmb	03 23 00.2	
	comp=Z,6.0nm,0.6s						
STKA	**Stephens Creek**	**28.47**	**177**	P	**P**	**03 23 34.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=342,slow=13,SNR=1.6						
GIRL	**Giralia**	**31.23**	**230**	P	**P**	**03 23 58.1**	**-1.2**
VNDA	**Vanda**	**75.10**	**175**	P	**P**	**03 29 18.3**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=340,slow=6.0,SNR=5.5						
VNDA	**Vanda**	**75.10**	**175**	IAmb	IAmb	03 29 25.5	
	comp=Z,2.1nm,1.4s						
SDPT	**Sand Point**	**76.18**	**31**	P	**P**	**03 29 26.6**	**-0.4**

NNC 03 03:30:59.5±5.5, 37.°57N×78.°06E, h0km, mb4.0, mpv3.6, 3C-1D, Error ellipse: s-maj=56.1km s-min=37.0km az=78.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.49**	**3**	Pg	Pb	03 32 38.5	+2.1
	7.3nm,0.7s						
SATY				Lg	Lg	03 33 51.5	
	8.0nm,0.6s						
MDOK Medeo		**5.64**	**352**	Pg	Pb	03 32 41.0	+2.0
	3.0nm,0.6s						
MDOK				Lg	Lg	03 34 00.4	
	12nm,0.8s						
MDOK Medeo		**5.64**	**352**	Pg	Pg	03 32 45.0	-2.7
	5.0nm,0.4s						
MDOK				Lg	Lg	03 34 02.1	
	9.5nm,0.8s						
TKM2 Tokmak 2		**5.67**	**341**	⇑Pg	Pb	03 32 41.5	+2.0
	3.9nm,1.0s						
TKM2				⇑Lg	Lg	03 33 58.4	
	4.2nm,0.6s						
KST Kastek		**5.70**	**344**	Pg	Pg	03 32 45.8	-2.9
	6.6nm,0.7s						
KST				Lg	Lg	03 34 02.9	
	5.7nm,1.1s						
AAK Ala-Archa		**5.76**	**333**	⇓Pg	Pb	03 32 44.6	+3.7
	1.8nm,0.5s						
AAK				⇑Lg	Lg	03 33 59.4	
	6.4nm,0.9s						

*MOS **03** 03:33:26.7±1.0, 42.°08N×141.°46E, h110km, mb4.6/24, Error ellipse: s-maj=7.0km s-min=5.8km az=79.1*
*IDC **03** 03:33:27.1±1.0, 42.°07N×141.°52E, h99km±8km, mb4.0/24, mb1 4.1/31, mb1mx4.0/40, mbtmp4.3/31, Error ellipse: s-maj=10.7km s-min=7.8km az=124.0*
*NEIC **03** 03:33:27.2±1.7, 42.°05N±0.°06×141.°52E±0.°09, h100km±5km, mb4.5/78, Error ellipse: s-maj=10.9km s-min=7.1km az=125.0*
*JMA **03** 03:33:27.6±0.1, 42.°09N×141.°44E, h103km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=351.00000°, δ33.00000°, λ95.00000°. NP2: φs=165.00000°, δ57.00000°, λ87.00000°. Principal axes: T Plg78.0000°, Azm63.0000°; N Plg3.0000°, Azm166.0000°; P Plg12.0000°, Azm257.0000°;*
JMA Felt I J1.
*SKHL **03** 03:33:27.8±0.5, 42.°00N×141.°60E, h112km±5km, mb5.3/7, msha6.0/5*
ISC 03 03:33:27.3±0.5, 42.°05N±0.°03×141.°56E±0.°03, h102km±3km, h101km:pP-P, n383, σ1°08/404, mb4.5/82, 17C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.42**	**247**	⇑P	**Pn**	**03 33 42.7**	**0.0**
JKB				*e*S	**Sn**	**03 33 54.2**	**-0.1**
JNB	**Noboribetsu**	**0.57**	**318**	⇑P	**Pn**	**03 33 43.3**	**-0.4**
JIAM	**Iburiatsuma**	**0.63**	**25**	⇓P	**Pn**	**03 33 45.1**	**+0.8**
JIAM				*e*S	**Sn**	**03 33 58.4**	**+1.4**
JOT	**Ohata**	**0.77**	**210**	⇑P	**Pn**	**03 33 45.9**	**+0.4**
JOT				*e*S	**Sn**	**03 34 00.3**	**+1.2**
JEW	**Eniwo**	**0.79**	**354**	⇑P	**Pn**	**03 33 46.0**	**+0.2**
JEW				*e*S	**Sn**	**03 33 59.7**	**+0.1**
JEW	**Eniwo**	**0.79**	**354**		**Pn**	**03 33 45.9**	**+0.2**
JYM2	**Yakumo 2**	**0.89**	**275**	⇑P	**Pn**	**03 33 46.3**	**-0.3**
JYM2				*e*S	**Sn**	**03 34 00.2**	**-1.0**
JNBK	**Urakawa-nobuka**	**0.92**	**75**	⇓P	**Pn**	**03 33 48.3**	**+1.3**
JNBK				*e*S	**Sn**	**03 34 04.8**	**+3.0**
JBT2	**Biratori 2**	**0.94**	**39**	P	**Pn**	**03 33 48.2**	**+1.0**
JBT2				*e*S	**Sn**	**03 34 03.7**	**+1.5**
JSR	**Shiriuchi**	**1.00**	**239**	⇑P	**Pn**	**03 33 48.0**	**+0.2**
JSR				*e*S	**Sn**	**03 34 03.0**	**-0.2**
ERM	**Erimo**	**1.19**	**91**	*d i*PN	**Pn**	**03 33 51.8**	**+1.8**
ERM	**Erimo**	**1.19**	**91**		**Pn**	**03 33 51.6**	**+1.7**
JISS	**Ishikarishitsu**	**1.23**	**355**	⇑P	**Pn**	**03 33 50.8**	**+0.4**
JISS				*e*S	**Sn**	**03 34 08.4**	**+0.6**
JSH	**Shimam**	**1.27**	**298**	P	**Pn**	**03 33 50.5**	**-0.3**
JOMM	**Oshimamatsumae**	**1.27**	**246**	⇓P	**Pn**	**03 33 51.1**	**+0.2**
JOMM				*e*S	**Sn**	**03 34 08.4**	**-0.3**
JTM	**Tenmabayashi**	**1.32**	**196**		**Pn**	**03 33 52.0**	**+0.6**
JFR	**Furan**	**1.35**	**34**	⇓P	**Pn**	**03 33 52.0**	**+0.2**
JFR				*e*S	**Sn**	**03 34 10.6**	**+0.2**
JCH	**Churui**	**1.45**	**67**	⇓P	**Pn**	**03 33 54.5**	**+1.5**
JCH				*e*S	**Sn**	**03 34 14.5**	**+1.9**
JSK	**Shakotan**	**1.52**	**329**	⇑P	**Pn**	**03 33 53.8**	**-0.1**
JOSM	**Okushiri--Mats**	**1.55**	**272**	⇓P	**Pn**	**03 33 53.5**	**-0.7**
JOSM				*e*S	**Sn**	**03 34 13.4**	**-1.3**
JANG	**Nango**	**1.68**	**181**	P	**Pn**	**03 33 55.7**	**-0.2**
JHR	**Hokuryu**	**1.69**	**4**	P	**Pn**	**03 33 57.1**	**+1.0**
JHR				*e*S	**Sn**	**03 34 18.6**	**+0.7**
JKK2	**Kamakawa 2**	**2.02**	**25**	⇓P	**Pn**	**03 34 00.7**	**+0.5**
JKK2				*e*S	**Sn**	**03 34 25.5**	**+0.2**
ASAJ	**Asahikawa**	**2.20**	**20**	P	**Pn**	**03 34 03.0**	**+0.5**
	24nm,0.3s,baz=229,slow=9.9,SNR=57						
ASAJ				S	**Sn**	**03 34 29.5**	**0.0**
	58nm,0.3s,baz=154,slow=13,SNR=5.4						
JKA	**Kamikawa-asahi**	**2.20**	**20**	Pn	**Pn**	**03 34 03.0**	**+0.5**
JKA	**Kamikawa-asahi**	**2.20**	**20**		**Sn**	**03 34 29.5**	**0.0**
NMR	**Nemuro--Hokkai**	**3.34**	**65**	⇓*i*PN	**Pn**	**03 34 17.4**	**-0.2**
NMR				*i* S	**Sn**	**03 34 54.4**	**-2.1**
NMR	**Nemuro--Hokkai**	**3.34**	**65**	*i* P	**Pn**	**03 34 17.4**	**-0.2**
NMR				*i* S	**Sn**	**03 34 54.5**	**-2.1**
GLVR	**Golovnino**	**3.37**	**59**	*e*PN	**Pn**	**03 34 18.6**	**+0.7**
GLVR				*e*S	**Sn**	**03 34 56.4**	**-0.6**
GLVR				pmax	pmax		
	comp=Z,517nm,0.3s						
GLVR				pmax	pmax		
	comp=E,146nm,0.2s						
GLVR				pmax	pmax		
	comp=N,211nm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR	**Golovnino**	**3.37**	**59**	*e*P	**Pn**	**03 34 18.6**	**+0.7**
GLVR				AMB	AMB	03 34 24.2	
	comp=E,520nm,0.4s						
GLVR				*e*S	**Sn**	**03 34 56.4**	**-0.6**
GLVR				A	A	03 35 02.7	
	comp=E,3μm,0.5s						
GLVR				A	A	03 35 02.7	
	comp=E,1μm,0.5s						
RUSJ	**Misakicho**	**3.40**	**52**	⇑*i*PN	**Pn**	**03 34 19.8**	**+1.5**
RUSJ				*e*S	**Sn**	**03 34 58.6**	**+0.9**
GRPR	**Tuman**	**3.65**	**56**	⇑*i*PN	**Pn**	**03 34 22.8**	**+1.1**
GRPR				*e*S	**Sn**	**03 35 03.9**	**0.0**
GRPR				pmax	pmax		
	comp=Z,430nm,0.3s						
GRPR				pmax	pmax		
	comp=N,183nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR				smax	smax		
	comp=E,861nm,0.4s						
GRPR	**Tuman**	**3.65**	**56**	*e*P	**Pn**	**03 34 22.9**	**+1.2**
GRPR				AMB	AMB	03 34 24.4	
	comp=E,630nm,0.4s						
GRPR				*e*S	**Sn**	**03 35 03.9**	**0.0**
GRPR				A	A	03 35 07.0	
	comp=E,1μm,0.4s						
GRPR				A	A	03 35 07.0	
	comp=E,860nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.73**	**56**	*e*PN	**Pn**	**03 34 23.8**	**+1.0**
YUK				*i* S	**Sn**	**03 35 05.7**	**0.0**
YUK				pmax	pmax		
	comp=E,411nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,377nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.73**	**56**	*e*P	**Pn**	**03 34 23.8**	**+1.0**
YUK				AMB	AMB	03 34 24.8	
	comp=E,1μm,0.4s						
YUK				*e*S	**Sn**	**03 35 06.0**	**+0.3**
YUK				A	A	03 35 07.8	
	comp=E,2μm,0.5s						
YUK				A	A	03 35 07.8	
	comp=E,1μm,0.5s						
JMM	**Marumori**	**4.22**	**188**		**Pn**	**03 34 29.2**	**-0.3**
JSD	**Sado**	**4.74**	**213**	Pn	**Pn**	**03 34 36.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.98**	**10**	*e*PN	**Pn**	**03 34 41.6**	**+2.0**
YSS				*e*S	**Sn**	**03 35 37.7**	**+1.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.98**	**10**	Pn	**Pn**	**03 34 41.7**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.98**	**10**	*e*P	**Pn**	**03 34 41.6**	**+2.0**
YSS				AMB	AMB	03 34 46.6	
	comp=Z,30nm,0.5s						
YSS				*e*S	**Sn**	**03 35 37.7**	**+1.8**
YSS				A	A	03 35 45.0	
	comp=Z,90nm,0.7s						
YSS				A	A	03 35 45.0	
	comp=Z,60nm,0.7s						
KUR	**Kuril'sk**	**5.58**	**53**	*e*P	**Pn**	**03 34 49.7**	**+2.0**
KUR				AMB	AMB	03 34 59.3	
	comp=Z,50nm,0.5s						
KUR				AMB	AMB	03 34 59.3	
	comp=Z,60nm,0.5s						
KUR				AMB	AMB	03 34 59.3	
	comp=Z,80nm,0.5s						
KUR				*e*S	**Sn**	**03 35 51.1**	**+0.7**
KUR				A	A	03 35 58.3	
	comp=Z,120nm,0.3s						
KUR				A	A	03 35 58.3	
	comp=Z,80nm,0.3s						
JYT	**Yasato**	**5.91**	**191**	Pn	**Pn**	**03 34 51.2**	**-1.2**
MJB9	**Matsu-Tunnel**	**6.08**	**206**		**Pn**	**03 34 54.0**	**-0.8**
MAJO	**Matsushiro**	**6.08**	**206**	PN	**Pn**	**03 34 54.0**	**-0.8**
MAJO	**Matsushiro**	**6.08**	**206**	Pn	**Pn**	**03 34 54.0**	**-0.8**
MAT	**Matsushiro**	**6.08**	**206**	P	**Pn**	**03 34 56.4**	**+1.7**
MAT				*e*S	**Sn**	**03 36 02.5**	**-0.5**
MJAR	**Matsushiro Arr**	**6.08**	**206**	P	**Pn**	**03 34 56.5**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=23,slow=12,SNR=14						
MJAR				S	**Sn**	**03 36 03.8**	**+0.8**
	baz=20,slow=3.1,SNR=1.7						
MJAR	**Matsushiro Arr**	**6.08**	**206**	Pn	**Pn**	**03 34 54.2**	**-0.5**
VLA	**Vladivostok**	**7.22**	**282**	*i* PN	**Pn**	**03 35 10.6**	**+0.6**
VLA				pmax	pmax		
	comp=Z,117nm,0.7s						
VLA	**Vladivostok**	**7.22**	**282**	*i* P	**Pn**	**03 35 10.6**	**+0.6**
USA0B	**Ussuriysk Arra**	**7.32**	**290**	PN	**Pn**	**03 35 10.9**	**-0.6**
USA0B	**Ussuriysk Arra**	**7.32**	**290**	Pn	**Pn**	**03 35 10.9**	**-0.6**
USRK	**Ussuriysk Ar.**	**7.32**	**290**	P	**Pn**	**03 35 11.8**	**+0.3**
	baz=96,slow=14,SNR=59						
USRK	**Ussuriysk Ar.**	**7.32**	**290**	Pn	**Pn**	**03 35 11.4**	**-0.1**
MSHR	**Mys Shultsa**	**7.73**	**277**	*i* PN	**Pn**	**03 35 14.8**	**-2.2**
JWT	**Wachi**	**8.29**	**217**		**Pn**	**03 35 25.6**	**+0.8**
TYV	**Tymovskoe**	**8.85**	**5**	*e*P	**Pn**	**03 35 33.8**	**+1.7**
TYV				AMB	AMB	03 35 34.7	
	comp=Z,40nm,0.8s						
MDJ	**Mudanjiang**	**9.09**	**290**	Pn	**Pn**	**03 35 36.1**	**+0.6**
KLR	**Kul'dur**	**9.93**	**320**	P	**Pn**	**03 35 47.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=16						
KLR	**Kul'dur**	**9.93**	**320**	*i* PN	**Pn**	**03 35 47.2**	**+0.3**
KLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSRS	**Korea Array**	**11.45**	**251**	P	**Pn**	**03 36 08.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=60,slow=13,SNR=12						
KSRS				S	**Sn**	**03 38 21.2**	**+7.8**
	comp=Z,0.2nm,0.3s,baz=65,slow=24,SNR=6.4						
KS19	**Wonju Array Si**	**11.47**	**251**	Pn	**Pn**	**03 36 07.7**	**-0.1**
KSAR	**Wonju Array Be**	**11.48**	**251**	PN	**Pn**	**03 36 06.3**	**-1.7**
KSAR	**Wonju Array Be**	**11.48**	**251**		**Pn**	**03 36 06.3**	**-1.7**
OKH	**Okha**	**11.54**	**4**	*de*PN	**Pn**	**03 36 04.8**	**-3.8**
OKH				MLR	MLR		
	comp=N,600nm,14.0s						
OKH				MLR	MLR		
	comp=Z,700nm,14.0s						
OKH				MLR	MLR		
	comp=E,1μm,14.0s						
JNU	**Nakatsue**	**12.29**	**227**	P	**Pn**	**03 36 20.2**	**+1.5**
	baz=34,slow=11,SNR=1.4						
EKMR	**Ekimchan**	**12.45**	**335**	*e*P	**Pn**	**03 36 20.6**	**-0.1**
ZEA	**Zeya**	**15.09**	**326**	*e*P	**Pn**	**03 36 55.6**	**+0.8**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA	**Zeya**	**15.09**	**326**	*e*P	**Pn**	**03 36 53.4**	**-1.4**
ZEA				AMB	AMB	03 36 56.5	
	comp=Z,10.0nm,0.8s						
BMKR	**Bomnak**	**15.19**	**331**	*e*P	**Pn**	**03 36 54.6**	**-1.5**
BMKR				AMB	AMB	03 36 57.9	
	comp=Z,4.0nm,0.7s						
PETK	**Petropavlovsk-**	**15.48**	**39**	P	**P**	**03 37 00.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=251,slow=13,SNR=5.0						
KROS	**Kirovskiy**	**15.70**	**327**	*e*P	**Pn**	**03 37 00.5**	**-2.0**
MA2	**Magadan**	**18.45**	**15**	*e*P	**Pn**	**03 37 35.1**	**-0.9**
SEY	**Seymchan**	**21.87**	**13**	P	**P**	**03 38 09.5**	**-2.0**
	comp=Z,4.5nm,0.5s,baz=203,slow=8.0,SNR=14						
ULN	**Ulaanbaatar**	**24.95**	**295**	*i* P	**P**	**03 38 40.6**	**-0.6**
ULN	**Ulaanbaatar**	**24.95**	**295**	P	**P**	**03 38 40.0**	**-1.2**
ULN	**Ulaanbaatar**	**24.95**	**295**	*i* P	**P**	**03 38 40.6**	**-0.6**
SONM	**Songino Array**	**25.40**	**295**	P	**P**	**03 38 43.3**	**-1.9**
	comp=Z,3.9nm,0.5s,baz=77,slow=8.5,SNR=22						
SONM	**Songino Array**	**25.40**	**295**	IAmb	IAmb	03 38 45.5	
	comp=Z,3.4nm,0.6s						
TLY	**Talaya**	**27.37**	**304**	P	**P**	**03 39 02.4**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=354,slow=2.6,SNR=8.0						
TLY	**Talaya**	**27.37**	**304**	*e*P	**P**	**03 39 02.1**	**-0.7**
TLY				pmax	pmax		
	comp=Z,12nm,0.8s						
TLY	**Talaya**	**27.37**	**304**	IAmb	IAmb	03 39 03.0	
	comp=Z,4.7nm,0.6s						
TLY	**Talaya**	**27.37**	**304**	*e*P	**P**	**03 39 02.1**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**30.91**	**128**	T	T	04 12 15.2	
	baz=324						
H11N1	**WAKE ISLAND Hy**	**30.91**	**128**	T	T	04 12 14.5	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**30.92**	**128**	T	T	04 12 23.5	
	baz=324						
H11S1	**WAKE ISLAND Hy**	**31.75**	**130**	T	T	04 13 15.0	
	baz=321						
H11S3	**WAKE ISLAND Hy**	**31.76**	**130**	T	T	04 13 18.4	
	baz=321						
H11S2	**WAKE ISLAND Hy**	**31.77**	**130**	T	T	04 13 22.8	
	baz=321						
**GAMB

comp=Z,1.3nm,0.3s,baz=38,slow=7.1,SNR=5.8
KDAK Kodiak Island 43.39 45 P P 03 41 19.7 +0.3
comp=Z,6.6nm,0.6s,baz=301,slow=8.5,SNR=12
KDAK Kodiak Island 43.39 45 P P 03 41 19.7 +0.3
baz=278
BPAW Bear Paw Mtn. 43.54 36 P P 03 41 22.1 +1.7
baz=273
CAPN Captain Cook N 43.74 41 P P 03 41 22.5 +0.5
baz=276
COLD Coldfoot 43.77 32 P P 03 41 23.3 +1.0
baz=270
SUA Susitna One 43.86 40 P P 03 41 23.6 +0.4
baz=276
CUT Chulitna 43.99 38 P P 03 41 24.7 +0.6
baz=276
TOLK Toolik Lake Re 44.01 29 P P 03 41 25.2 +1.0
baz=270
BRSE Bradley Lake S 44.07 42 P P 03 41 24.9 +0.1
baz=278
H23K Yukon River 44.07 34 P P 03 41 25.4 +0.7
baz=273
I23K Minto, Yukon-K 44.18 35 P P 03 41 26.5 +1.0
baz=273
NEA2 Nenana 44.34 35 P P 03 41 27.8 +0.9
baz=274
NEA2 Nenana 44.34 35 IAmb IAmb 03 41 29.4
comp=Z,6.2nm,0.6s
RC01 Rabbit Creek A 44.39 40 P P 03 41 27.5 +0.3
baz=277
MCK McKinley 44.47 37 P P 03 41 28.0 +0.1
baz=275
PMR Palmer 44.61 40 P P 03 41 29.3 +0.3
baz=277
SEW Seward 44.66 42 P P 03 41 29.1 -0.3
baz=278
GHO Glory Hole Cre 44.69 39 IAmb IAmb 03 41 31.0
comp=Z,9.5nm,0.7s
WAT1 Susitna Watana 44.73 38 P P 03 41 30.1 0.0
baz=276
H24K Noodor Dome 44.75 33 P P 03 41 30.8 +0.7
baz=274
COLA College 44.84 35 *ce*P **P 03 41 32.0 +1.2**
COLA pmax pmax
comp=Z,9.0nm,1.3s
KNK Knik Glacier 44.95 40 P P 03 41 32.4 +0.6
baz=278
SML Sawmill 44.96 39 P P 03 41 32.6 +0.7
baz=278
WAT6 Susitna Watana 45.14 38 P P 03 41 33.7 +0.3
baz=277
IL31 45.26 35 IAmb IAmb 03 41 35.5
comp=Z,6.0nm,0.9s
ILAR Eielson Array 45.26 35 P P 03 41 34.2 +0.1
comp=Z,4.4nm,0.9s,baz=270,slow=6.6,SNR=41
ILAR PcP **PcP 03 43 11.3 -0.9**
comp=Z,0.4nm,0.6s,baz=286,slow=2.8,SNR=2.1
HDA Harding Lake 45.27 35 P P 03 41 34.1 -0.2
baz=276
GLI Glacier Island 45.69 40 P P 03 41 38.0 +0.4
baz=280
PRP Porcupine Dome 45.75 34 P P 03 41 39.0 +0.8
baz=276
M24K Tolsona, Glenn 45.93 39 P P 03 41 40.5 +1.0
baz=279
PAX Paxson 46.11 37 P P 03 41 41.2 +0.2
baz=279
KLU Klutina 46.15 39 P P 03 41 41.7 +0.5
baz=280
KLU Klutina 46.15 39 IAmb IAmb 03 41 46.0
comp=Z,5.7nm,0.7s
HARP HAARP 46.35 38 P P 03 41 43.4 +0.7
baz=280
EYAK Cordova Ski Ar 46.40 41 P P 03 41 43.7 +0.6
baz=281
SCRK Sand Creek 46.61 36 P P 03 41 45.0 0.0
baz=279
SCRK Sand Creek 46.61 36 P P 03 41 44.7 -0.3
N25K Chitina, Valde 46.75 39 P P 03 41 47.0 +1.0
baz=281
BMRM Bremner River 46.87 40 P P 03 41 47.7 +0.9
baz=282
MENT Mentasta 46.91 37 P P 03 41 47.3 +0.2
MENT IAmb IAmb 03 41 50.8
comp=Z,13nm,1.4s
BOOM Boomskoye usch 47.43 294 P P 03 41 50.5 -1.1
BOOM pmax pmax
comp=Z,17nm,1.1s
BOOM Boomskoye usch 47.43 294 P P 03 41 50.5 -1.1
K27K Chicken 47.44 36 P P 03 41 52.3 +1.1
baz=281
BRVK Borovoye 47.44 309 *ce*P **P 03 41 53.9 +2.6**
BRVK pmax pmax
comp=Z,14nm,2.5s
BRVK Borovoye 47.44 309 P P 03 41 51.4 +0.1
BRVK IAmb IAmb 03 41 54.1
comp=Z,12nm,1.4s
MCARA McCarthy VSAT 47.53 39 P P 03 41 52.6 +0.6
baz=282
CRQE Cirque 47.64 40 P P 03 41 53.8 +0.8
baz=283
EGAK Eagle 47.69 34 P P 03 41 53.4 +0.3
baz=281
EGAK Eagle 47.69 34 IAmb IAmb 03 41 53.6
comp=Z,4.2nm,0.6s
BGLC Bering Glacier 47.69 41 P P 03 41 53.0 -0.1
baz=283
L27K Beaver Creek, 47.73 37 P P 03 41 54.9 +1.3
baz=282
L27K Beaver Creek, 47.73 37 IAmb IAmb 03 41 55.7
comp=Z,8.8nm,0.7s
AAK Ala-Archa 48.35 295 *i* P **P 03 41 57.3 -1.4**
AAK pmax pmax
comp=Z,18nm,0.8s
AAK Ala-Archa 48.35 295 *i* P **P 03 41 57.3 -1.4**
CTG Chitna Glacier 48.42 39 P P 03 42 00.1 +1.1
baz=284
EPYK Eagle Plains 49.16 32 P P 03 42 05.7 +1.2
baz=283
PINM Pinnacle 49.17 40 P P 03 42 05.1 +0.5
baz=286
INK Inuvik 49.91 29 P P 03 42 10.3 +0.4
comp=Z,2.2nm,0.4s,baz=296,slow=6.9,SNR=12
INK PcP **PcP 03 43 29.2 +0.5**
comp=Z,1.3nm,0.9s,baz=302,slow=2.9,SNR=1.4
INK Inuvik 49.91 29 P P 03 42 10.5 +0.5
baz=284
INK Inuvik 49.91 29 IAmb IAmb 03 42 11.1
comp=Z,7.4nm,1.1s
KK31 Karatay Array 50.84 297 IAmb IAmb 03 42 19.9
comp=Z,3.8nm,0.7s
KKAR Karatay Array 50.84 297 P P 03 42 16.3 -1.1
KKAR Karatay Array 50.84 297 P P 03 42 16.3 -1.1
WHY Whitehorse 51.55 39 P P 03 42 23.4 +0.8
baz=289
ARU Arti 52.75 316 *c i*P **P 03 42 30.0 -1.3**
ARU *PP **pP 03 42 52.7 -3.2**
ARU S **S 03 49 52.1 +0.7**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 52.75 316 P P 03 42 29.2 -2.2
ARU IAmb IAmb 03 42 33.6
comp=Z,3.4nm,0.9s
ARU Arti 52.75 316 *i* P **P 03 42 30.0 -1.3**
C36M Paulatuk 52.86 26 P P 03 42 31.9 0.0
baz=291
NIL Nilore 53.29 285 P P 03 42 35.7 -0.1
NIL pmax pmax
comp=Z,12nm,0.6s
NIL Nilore 53.29 285 P P 03 42 35.6 -0.1
CHGR Chuyangaron 53.74 292 P P 03 42 40.1 +1.1
ABKAR Akbulak array 54.88 308 IAmb IAmb 03 42 51.5
comp=Z,2.9nm,0.7s
KBL Kabul 55.85 288 P P 03 42 54.5 +0.1
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 55.85 288 P P 03 42 54.5 +0.1
KBL IAmb IAmb 03 43 20.9
comp=Z,5.2nm,0.7s
RES Resolute Bay 57.73 15 P P 03 43 05.9 -0.9
RES pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 57.73 15 P P 03 43 05.9 -0.9
ARCES ARCESS Array B 59.36 338 P P 03 43 16.9 -1.4
comp=Z,1.6nm,0.8s,baz=40,slow=7.9,SNR=8.1
YKA Yellowknife Ar 59.45 32 P P 03 43 19.4 +0.4
comp=Z,0.9nm,0.4s,baz=307,slow=9.3,SNR=22
NEEM North Greenlan 60.52 3 *i* P **P 03 43 25.7 -0.7**
NEEM IAmb IAmb 03 43 26.1
comp=Z,4.7nm,0.7s
DAG Danmarks Havn 60.79 355⇑ *i* P **P 03 43 27.0 -0.9**
DAG IAmb IAmb 03 43 27.7
comp=Z,5.2nm,0.7s
DAG Danmarks Havn 60.79 355⇑ *i* P **P 03 43 26.9 -0.9**
DAG pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 62.04 188 P P 03 43 36.2 -0.7
comp=Z,1.4nm,0.5s,baz=5.1,slow=6.9,SNR=41
B05A Bryant 63.80 48 P P 03 43 49.3 +0.9
baz=304
OBN Obninsk 64.18 322⇑ *e*P **P 03 43 52.2 +1.5**
OBN *e* 03 44 26.8
OBN *e* 03 46 20.9
OBN *e*S **S 03 52 24.6 +5.0**
OBN pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 64.18 322 *e*P **P 03 43 52.2 +1.5**
FIA1 FINESS Array S 64.45 331 P P 03 43 52.2 -0.2
FIA1 IAmb IAmb 03 44 36.4
comp=Z,7.3nm,1.0s
FINES FINESS Array B 64.45 331 P P 03 43 51.2 -1.2
comp=Z,2.9nm,0.4s,baz=33,slow=7.6,SNR=36
E04D Cinebar 64.51 50 P P 03 43 53.4 +0.3
baz=305
EDM Edmonton 65.38 40 P P 03 43 58.5 -0.2
EDM pmax pmax
comp=Z,6.0nm,0.7s
EDM Edmonton 65.38 40 P P 03 43 58.5 -0.2
EDM IAmb IAmb 03 43 59.8
comp=Z,6.3nm,0.7s
SUMG Summit 65.67 0 *i* P **P 03 44 00.8 +0.1**
SUMG IAmb IAmb 03 44 01.7
comp=Z,7.2nm,0.7s
SUMG Summit 65.67 0 *i* P **P 03 44 00.7 +0.1**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 65.67 0 P P 03 44 00.2 -0.4
SUMG IAmb IAmb 03 44 01.5
comp=Z,7.3nm,0.7s
ASAR Alice Springs 65.77 188 P P 03 44 01.1 -0.2
comp=Z,0.6nm,0.4s,baz=3.0,slow=6.1,SNR=12
C09A Chrisman Ranch 66.16 47 P P 03 44 02.7 -1.0
C09A IAmb IAmb 03 44 05.3
comp=Z,4.0nm,0.8s
NEW Newport 66.50 46 P P 03 44 06.7 +0.8
baz=307
I05D Terrebonne, OR 66.50 51 P P 03 44 07.2 +1.2
baz=306
J05D Fort Rock, OR 67.19 52 P P 03 44 11.2 +0.7
baz=307
L04D Klamath Falls 67.20 53 P P 03 44 11.1 +0.5
baz=307
N02D Trinity Center 67.70 55 P P 03 44 15.2 +1.5
baz=307
KIV Kislovodsk 67.75 310 *e*P **P 03 44 14.6 +0.6**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 67.75 310 *e*P **P 03 44 14.6 +0.6**
O02D Mt. Diablo Mer 68.12 55 P P 03 44 17.0 +0.7
baz=307
MNK Minsk 68.43 325 *i* P **P 03 44 17.8 -0.1**
MNK *i* *PP **PcP 03 44 42.4 -0.1**
MNK *i* *SP **sP 03 44 54.0 -0.5**
MNK *i* 03 46 48.1
MNK *i* PPP PPP 03 48 29.5
MNK *i* S **S 03 53 10.3 -0.8**
MNK *i* 03 53 43.3
MNK *i* *SS **sS 03 53 55.1 -0.1**
MNK *i* SS **SS 03 57 35.8 +0.2**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.6s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=Z,387nm,17.0s
MNK MLR MLR
comp=N,245nm,16.0s
MNK MLR MLR
comp=E,14nm,15.0s
MNK Minsk 68.43 325 *i* P **P 03 44 17.8 -0.1**
comp=E,1.0nm,0.9s
MNK *i* P **P 03 44 17.8 -0.1**
comp=N,5.0nm,0.6s
MNK *i* P **P 03 44 17.8 -0.1**
comp=Z,10.0nm,0.9s,baz=227
MNK *i* pP **PcP 03 44 42.5 -0.1**
MNK *i* sP **sP 03 44 54.1 -0.4**
MNK *i* PP **PP 03 46 48.1 -1.4**
MNK *i* PPP PPP 03 48 29.5
MNK *i* S **S 03 53 10.3 -0.8**
MNK *i* pS **pS 03 53 43.4 +1.9**
MNK *i* sS **sS 03 53 55.1 -0.1**
MNK *i* SS **SS 03 57 35.9 +0.3**
MNK *i* SSS SSS 04 00 56.1
MNK *i* LQ LQ 04 09 18.1
MNK *i* LR LR 04 12 25.5
MNK *i* LRM MLR 04 17 23.7
comp=Z,387nm,17.4s
MNK *i* LRM MLR 04 17 54.1
comp=N,245nm,16.5s
MNK *i* LRM MLR 04 18 41.1
comp=E,14nm,14.8s
O03E Paynes Creek 68.66 55 P P 03 44 20.2 +0.6
baz=308
MSO Missoula 69.08 45 P P 03 44 22.2 0.0
baz=310
ICESG Greenland Ices 69.17 0 *i* P **P 03 44 22.7 0.0**
ICESG IAmb IAmb 03 44 23.2
comp=Z,5.8nm,0.6s
FFC Flin Flon 69.45 34 P P 03 44 24.1 -0.1
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 69.45 34 P P 03 44 24.1 -0.1
FFC IAmb IAmb 03 44 25.3
comp=Z,5.6nm,0.8s
NB2 NORSAR Subarra 69.62 337 P P 03 44 24.3 -0.9
comp=Z,0.7nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 69.62 337 P P 03 44 24.1 -1.1
comp=Z,1.1nm,0.5s,baz=37,slow=6.2,SNR=7.7
BEKR Beckworth 69.79 54 P P 03 44 26.2 -0.6
AKASG Malin Array Be 70.42 321 P P 03 44 29.2 -1.0
comp=Z,1.7nm,0.5s,baz=46,slow=6.1,SNR=6.9
AKASG Malin Array Be 70.42 321 *i* P **P 03 44 30.0 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
EGMT Eagleton 70.46 42 P P 03 44 30.9 +0.3
baz=312
EGMT Eagleton 70.46 42 IAmb IAmb 03 44 32.0
comp=Z,6.2nm,1.0s
CMB Columbia Colle 70.91 56 P P 03 44 33.6 +0.1
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 70.91 56 P P 03 44 33.6 +0.1
YERR Yerington 71.02 54 IAmb IAmb 03 44 35.8
comp=Z,5.0nm,0.7s
BOZ Bozeman (W) 71.10 45 P P 03 44 34.8 +0.1
baz=311,SNR=8.5
DY2G Dye2 71.64 3 *i* P **P 03 44 37.4 -0.2**
DY2G IAmb IAmb 03 44 37.6
comp=Z,8.5nm,0.8s
KVN Kaiserville 71.67 54 IAmb IAmb 03 44 40.0
comp=Z,5.1nm,0.7s
LHV Little Huntoon 71.93 55 IAmb IAmb 03 44 42.1
comp=Z,5.4nm,0.8s
NVAR Mina Array Bea 71.94 54 P P 03 44 41.1 +1.3
comp=Z,2.5nm,0.6s,baz=297,slow=5.9,SNR=20
NVAR Mina Array Bea 71.94 54 P P 03 44 40.5 +0.7
H17A Grant Village 72.46 46 P P 03 44 43.9 +1.0
baz=312
RLMT Red Lodge 72.66 44 P P 03 44 44.4 +0.4
baz=313
LAO LASA Array 73.14 42 P P 03 44 46.9 +0.3
baz=314
LAO LASA Array 73.14 42 P P 03 44 46.8 +0.2
LAO IAmb IAmb 03 44 48.2
comp=Z,8.6nm,1.1s
CWC Cottonwood Cre 73.35 56 P P 03 44 48.5 +0.3
baz=310
GRAC Grapevine Rang 73.42 55 P P 03 44 49.7 +1.2
baz=310,SNR=6.4
R11A Troy Canyon, C 73.62 53 P P 03 44 50.3 +0.5
baz=311,SNR=5.1
R11A Troy Canyon, C 73.62 53 IAmb IAmb 03 44 51.7
comp=Z,10nm,1.7s
SPR3 Spring Creek 3 73.94 52 P P 03 44 52.0 +0.3
SPR3 IAmb IAmb 03 44 54.2
comp=Z,11nm,1.7s
MPMC Manual Prospec 73.96 56 P P 03 44 52.4 +0.6
baz=311
DUG Dugway, Tooele 74.02 50 P P 03 44 52.3 +0.3
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 74.02 50 P P 03 44 52.7 +0.7
baz=312,SNR=5.8
DUG Dugway, Tooele 74.02 50 P P 03 44 52.3 +0.3
DUG IAmb IAmb 03 44 53.6
comp=Z,3.9nm,0.8s
FURC Furnace Creek, 74.08 55 P P 03 44 53.1 +0.9
baz=311,SNR=6.5
BW06 Boulder Array 74.10 46 P P 03 44 52.5 -0.1
baz=313,SNR=5.3
PDAR Pinedale Array 74.10 46 P P 03 44 52.9 +0.3
comp=Z,1.7nm,0.5s,baz=273,slow=0.4,SNR=22
PDAR Pinedale Array 74.10 46 P P 03 44 52.2 -0.4
TPNV Topopah Spring 74.14 54 P P 03 44 53.5 +0.7
baz=311,SNR=6.5
TPNV Topopah Spring 74.14 54 IAmb IAmb 03 44 54.6
comp=Z,4.3nm,0.8s
KWP Kalwaria Pacla 74.14 324 P P 03 44 52.7 +0.3
KWP pmax pmax
comp=Z,30nm,0.7s
KWP Kalwaria Pacla 74.14 324 P P 03 44 52.7 +0.3
EDW2 Edwards Air Fo 74.41 57 P P 03 44 54.9 +0.6
baz=311
BURAR Bucovina Array 74.47 321 P P 03 44 54.3 -0.1
SHOC Shoshone, Teco 74.81 55 P P 03 44 56.6 +0.1
baz=311
GSC Goldstone, Bar 74.87 56 P P 03 44 57.3 +0.3
baz=311
OJC Ojcow 74.95 326 P P 03 44 55.8 -1.2
OJC pmax pmax
comp=Z,6.0nm,1.1s
OJC Ojcow 74.95 326 P P 03 44 55.8 -1.2
OJC IAmb IAmb 03 44 57.6
comp=Z,6.4nm,1.1s
FMP Fort Macarthur 74.97 58 P P 03 44 58.2 +0.8
baz=311
BFSC Mount Baldy Ra 75.03 57 P P 03 44 58.3 +0.3
baz=311
ULM Lac du Bonnet 75.27 34 P P 03 44 58.6 -0.3
comp=Z,1.8nm,0.5s,baz=333,slow=7.4,SNR=3.8
TUQ Turquoise Moun 75.33 55 P P 03 45 00.2 +0.6
baz=311
MDND Maddock 75.45 38 P P 03 44 60.0 0.0
baz=318
HEC Hector,Ludlow 75.47 56 P P 03 45 01.4 +1.0
baz=311
RDMU Red Mountain 75.59 48 IAmb IAmb 03 45 03.0
comp=Z,8.9nm,0.7s
BRTR Keskin Array B 75.64 311 P P 03 45 01.2 -0.2
comp=Z,0.7nm,0.5s,baz=96,slow=2.9,SNR=1.9
P17A Butcher Ranch, 75.69 50 IAmb IAmb 03 45 03.5
comp=Z,7.5nm,1.0s
K22A Casper 75.80 45 P P 03 45 02.6 +0.4
baz=315
MTPU Mount Pierson 75.83 51 IAmb IAmb 03 45 05.2
comp=Z,22nm,1.9s
GMRC Granite Mounta 75.92 56 P P 03 45 04.0 +0.9
baz=312,SNR=5.3
RSSD Black Hills 76.04 43 P P 03 45 03.8 +0.2
baz=316
SRU San Rafael Swe 76.06 50 IAmb IAmb 03 45 05.4
comp=Z,6.9nm,0.9s
PFO Pinyon Flats O 76.19 57 P P 03 45 05.8 +1.2
baz=312
BELC Belle Mtn. Jos 76.23 57 P P 03 45 05.3 +0.5
baz=312
MORC Moravsky Berou 76.23 326 P P 03 45 03.1 -1.3
MORC pmax pmax
comp=Z,4.0nm,1.3s
MORC Moravsky Berou 76.23 326 P P 03 45 03.1 -1.3
O20A White River Ci 76.63 48 P P 03 45 08.1 +1.1
baz=314
IRM Iron Mountain 76.65 56 P P 03 45 07.5 +0.4
baz=312
AGMN Agassiz Nation 76.77 35 P P 03 45 06.5 -0.9
baz=320
CLL Collm 76.81 330 *e*P **P 03 45 07.0 -0.6**
CLL Collm 76.81 330 *e*P **P 03 45 07.0 -0.6**
U15A North Rim 76.85 53 IAmb IAmb 03 45 10.8
comp=Z,5.5nm,1.0s
PDMCI Parker Dam,Lak 77.17 55 P P 03 45 11.1 +1.2
baz=312
N23A Red Feather La 77.34 46 P P 03 45 12.1 +1.0
baz=315
PV19 Morning Glory 77.48 49 P P 03 45 12.0 +0.1
PV19 IAmb IAmb 03 45 13.6
comp=Z,8.5nm,0.8s
B35A Bob, Littlefor 77.62 34 P P 03 45 11.1 -1.0
B35A IAmb IAmb 03 45 12.5
comp=Z,7.8nm,0.7s
SUSD Miller 78.28 40 P P 03 45 16.8 +0.8
baz=319
ISCO Idaho Springs 78.30 46 P P 03 45 17.0 +0.5
baz=316
GERES GERESS Array B 78.52 328 P P 03 45 16.5 -0.7
comp=Z,0.4nm,0.5s,baz=54,slow=6.8,SNR=5.2
GERES GERESS Array B 78.52 328 P P 03 45 15.1 -2.1
MVCO Mesa Verde 78.52 50 P P 03 45 18.6 +1.0
baz=315
EYMN Ely 78.87 33 P P 03 45 18.6 -0.5
baz=323
EYMN Ely 78.87 33 P P 03 45 17.8 -1.3
EYMN IAmb IAmb 03 45 19.4
comp=Z,5.0nm,0.7s
S22A 4UR Ranch, Cre 79.09 49 P P 03 45 20.9 0.0
baz=315
214A Organ Pipe Nat 79.58 56 P P 03 45 24.4 +1.1
baz=313
SDCO Great Sand Dun 79.83 48 P P 03 45 25.7 +0.9
baz=316
ECSD EROS Data Cent 79.92 39 P P 03 45 24.4 -0.5
baz=320
TUC Tucson 80.58 55 P P 03 45 29.8 +1.1
baz=314
T25A Trinidad 80.86 48 P P 03 45 30.7 +0.4
baz=317
STAL STALIGIAL 81.00 327 P P 03 45 28.2 -2.4
ANMO Albuquerque 81.29 50 *ce*P **P 03 45 34.4 +1.8**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 81.29 50 P P 03 45 33.9 +1.3
baz=316
BNM Barren Site 81.76 51 P P 03 45 35.4 +0.3
SCIA State Center 82.91 38 P P 03 45 41.0 +0.3
baz=322
SCIA State Center 82.91 38 P P 03 45 39.8 -0.9
LSQQ Lebel-sur-Quev 83.14 24 P P 03 45 41.6 -0.1
baz=332
CHGQ Chibougamau 83.15 22 P P 03 45 41.3 -0.5
baz=334
AMTX Amarillo 84.02 48 P P 03 45 47.5 +1.0
baz=318
MSTX Muleshoe 84.09 49 P P 03 45 47.5 +0.5
baz=318
GLMI Grayling 84.16 31 P P 03 45 47.0 0.0
baz=327
MNTX Cornudas Mount 84.25 52 P P 03 45 48.4 +0.7
baz=317
ALGO Algonquin Park 85.54 26 P P 03 45 53.5 -0.4
baz=332
WMOK Wichita Mounta 85.70 46 P P 03 45 54.8 -0.1
baz=320
E55A Montcerf-Lytto 85.74 25 P P 03 45 54.3 -0.5
baz=333
HDIL Hopedale 85.76 36 P P 03 45 54.7 -0.3
baz=325
OK031 S. Brethren Rd 85.79 44 P P 03 45 53.2 -2.1
OK031 IAmb IAmb 03 48 57.3
comp=Z,5.7nm,0.8s
LATQ La Tuque 85.89 23 P P 03 45 55.6 0.0
baz=335
E56A St. Veronique 85.98 24 P P 03 45 55.8 -0.3
baz=334
TUL1 Leonard 86.36 43 P P 03 45 58.4 +0.3
baz=321
E58A La Victoria 86.66 23 P P 03 45 59.2 -0.2
baz=335
D60A Saint Jean D'O 86.84 22 P P 03 46 00.0 -0.2

baz=336
CCM Cathedral Cave 86.89 39 P **P 03 46 00.5 -0.1**
baz=324
TX31 Lajitas Ar. Si 86.98 53 P **P 03 46 00.4 -1.0**
TXAR Lajitas Array 86.98 53 P **P 03 46 02.0 +0.6**
comp=Z,0.7nm,0.5s,baz=300,slow=2.8,SNR=7.2
G57A Newington 87.29 25 P **P 03 46 02.8 +0.4**
baz=334
D63A Stockholm 87.47 20 P **P 03 46 03.6 +0.3**
baz=338
U40A Yellville 87.48 41 P **P 03 46 03.5 -0.1**
baz=323
G58A Ormstown 87.53 24 P **P 03 46 02.8 -0.8**
baz=334
H57A Richville 87.73 26 P **P 03 46 05.1 +0.5**
baz=334
SIUC Southern Illin 88.11 38 P **P 03 46 05.8 -0.7**
E64A Bridgewater 88.11 20 P **P 03 46 07.9 +1.6**
baz=339
H58A Gabriels 88.15 25 P **P 03 46 06.5 -0.1**
baz=334
G61A St-Isidore-de- 88.16 23 P **P 03 46 06.8 +0.1**
baz=336
PBMO Poplar Bluff 88.31 39 P **P 03 46 07.1 -0.3**
JCT Junction City 88.36 49 P **P 03 46 08.0 +0.1**
baz=319
G62A West of Eustis 88.50 22 P **P 03 46 07.9 -0.3**
baz=337
WHTX Lake Whitney, 88.51 47 P **P 03 46 09.4 +0.9**
baz=320
MIAR Mount Ida 88.56 43 P **P 03 46 08.8 +0.1**
baz=322
P49A Miami Univ. Ec 88.57 34 P **P 03 46 08.5 -0.1**
baz=328
K56A Middlesex 88.66 28 P **P 03 46 08.5 -0.5**
baz=332
ACSO Alum Creek Sta 88.69 32 P **P 03 46 09.0 -0.1**
baz=329
W41B Gary Mavity, V 88.72 41 P **P 03 46 09.4 0.0**
baz=323
J58A Remsen 88.75 26 P **P 03 46 09.4 0.0**
baz=334
M54A Oil Creek Stat 88.86 30 P **P 03 46 09.6 -0.4**
baz=331
H62A Milan 88.92 23 P **P 03 46 10.3 +0.1**
baz=336
N54A Moraine State 89.22 30 P **P 03 46 11.9 +0.2**
baz=330
O53A New Philadelph 89.37 31 P **P 03 46 12.6 +0.2**
baz=330
H64A Troy 89.40 21 P **P 03 46 12.1 -0.3**
baz=338
P52A Corning 89.54 32 P **P 03 46 13.0 -0.2**
baz=329
BINY Binghamton 89.55 27 P **P 03 46 12.2 -1.0**
baz=333
I63A Otisfield 89.56 23 P **P 03 46 12.6 -0.5**
baz=337
L58A Harry Jones Me 89.74 27 P **P 03 46 14.0 -0.1**
baz=333
H66A Whiting 89.77 20 P **P 03 46 13.0 -1.1**
baz=339
WVT Waverly 90.04 38 P **P 03 46 15.6 0.0**
baz=326
J63A Strafford 90.13 23 P **P 03 46 15.8 0.0**
baz=336
K62A Royalston 90.34 24 P **P 03 46 17.4 +0.5**
baz=336
O56A Blue Knob Stat 90.35 30 P **P 03 46 17.2 +0.1**
baz=331
N59A State Game Lan 90.77 27 P **P 03 46 19.0 +0.1**
baz=333
PAL Palisades 91.31 26 P **P 03 46 22.2 +0.8**
baz=334
L64A Middleborough 91.43 24 P **P 03 46 22.1 +0.3**
baz=337
M64A Tiverton 91.67 24 P **P 03 46 23.9 +0.9**
baz=336
ESDC Sonseca Array 92.84 334 P **P 03 46 27.4 -1.2**
comp=Z,0.6nm,0.9s,baz=20,slow=4.1,SNR=2.2
LRAL Lakeview Retre 92.98 39 P **P 03 46 29.1 -0.2**
baz=326
VNDA Vanda 119.96 175 PKP **PKiKP 03 52 05.4 +0.9**
comp=Z,0.3nm,0.7s,baz=302,slow=4.2,SNR=1.5
VNDA Vanda 119.96 175 PKIKP **PKiKP 03 52 04.9 +0.5**
VNDA Vanda 119.96 175 **PKiKP 03 52 04.9 +0.5**
MAW Mawson 124.08 207 PKP **PKiKP 03 52 13.0 +0.3**
comp=Z,1.0nm,0.7s,baz=72,slow=3.2,SNR=2.1
PB11 IPOC Station P 145.51 60 PKPbc **PKPab 03 52 54.4 -0.1**
SNAA Sanae 145.55 199 PKP2 **PKPdf 03 52 51.3 -1.0**
SNAA Sanae 145.55 199 **PKPdf 03 52 51.3 -1.0**
H03N2 Juan Fernandez 147.10 88 T T 06 36 40.6
baz=300,slow=76,SNR=9.0
H03N3 Juan Fernandez 147.12 88 T T 06 36 44.3
baz=300,slow=76,SNR=5.7
H03N1 Juan Fernandez 147.12 88 T T 06 36 42.2
baz=300,slow=76,SNR=9.2
AC01 Pan de Azucar 149.23 69 PKPbc **PKPbc 03 53 02.7 -1.4**
PLCA Paso Flores 155.95 98 PKPab **PKPab 03 53 37.1 +0.2**
comp=Z,1.6nm,1.0s,baz=275,slow=4.0,SNR=6.4

NNC 03 03:39:06.6±4.9, 37°.90N×78°.00E, h0km, mb4.0, mpv3.6, 2C-2D, Error ellipse: s-maj=46.8km s-min=32.7km az=78.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.17**	**3**	Pg	Pb	03 40 41.4	+3.4
	10nm,0.4s						
SATY				Lg	Lg	03 41 50.9	
	8.9nm,0.4s						
MDOK	**Medeo**	**5.31**	**352**	Pg	Pb	03 40 43.3	+2.8
	5.3nm,0.5s						
MDOK				Lg	Lg	03 41 55.7	
	14nm,0.6s						
MDOK	**Medeo**	**5.31**	**352**	Pg	Pb	03 40 44.4	+3.9
	6.9nm,0.6s						
MDOK				Lg	Lg	03 41 56.5	
	17nm,0.6s						
TKM2	**Tokmak 2**	**5.34**	**341**	⇑Pg	Pb	03 40 41.5	+0.4
	1.5nm,0.4s						
TKM2				⇑Lg	Lg	03 41 51.9	
	7.7nm,0.8s						
KST	**Kastek**	**5.37**	**344**	Pg	Pb	03 40 45.4	+3.9
KST				Lg	Lg	03 41 57.8	
AAK	**Ala-Archa**	**5.44**	**332**	⇓Pg	Pg	03 40 46.9	-4.0
	2.9nm,0.7s						
AAK				⇓Lg	Lg	03 42 03.5	
	20nm,0.9s						
WMQ	**Urumqi**	**9.43**	**48**	*e*P	Pn	03 41 22.0	-1.8

*NEIC **03** 03:50:05.5±1.8, 36°.82N×78°.06×79°.14E±0°.10, h10km±1km, mb4.1/12, Error ellipse: s-maj=14.0km s-min=9.3km az=117.0*
*IDC **03** 03:50:10.8±0.8, 37°.42N×78°.21E, h0km, mb3.8/13, mb1 4.0/18, mb1mx3.8/62, mbtmp3.8/18, ML3.5/5, Error ellipse: s-maj=18.9km s-min=14.8km az=57.0*
*BJI **03** 03:50:14.1±0.0, 37°.53N×78°.16E, h9km, mb3.6/5, ML4.0/6*
*NNC **03** 03:50:15.4±5.7, 37°.55N×77°.98E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=61.2km s-min=37.9km az=80.0*
ISC 03 03:50:05.1±0.6, 36°.87N±0°.05×79°.07E±0°.08, h10km, n65, σ1§96/61, mb4.0/19, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.60**	**318**	Pg	**Pn**	**03 50 57.9**	**-3.1**
KSH				Sg	Sn	03 51 25.7	-18
KSH				smax	smax		
	comp=N,370nm,0.3s						
KSH				smax	smax		
	comp=E,430nm,0.3s						
TARG	**Taragay, Kyrgy**	**4.95**	**349**		**Pn**	**03 51 21.6**	**+1.7**
KDJ	**Kajisay**	**5.45**	**345**	Pn	**Pn**	**03 51 27.4**	**+0.8**
NIL	**Nilore**	**5.74**	**238**	Pn	**Pn**	**03 51 29.7**	**-0.7**
SMLA	**Simla**	**5.94**	**196**	*e*P	**Pb**	**03 51 50.1**	**+1.4**
SMLA				*e*S	**Sb**	**03 53 00.2**	**+0.3**
BOOM	**Boomskoye usch**	**6.11**	**338**	Pn	**Pn**	**03 51 37.1**	**+1.5**
SATY	**Saty**	**6.20**	**355**	Pg	**Pb**	**03 51 54.9**	**+1.7**
	29nm,1.0s						
SATY				Lg	Lg	03 53 08.2	
	48nm,0.9s						
DRK	**Karamyk**	**6.29**	**297**	Pn	**Pn**	**03 51 39.5**	**+1.2**
MDOK	**Medeo**	**6.48**	**347**	Pg	**Pb**	**03 51 57.3**	**-0.7**
	8.3nm,0.4s						
MDOK				Lg	Lg	03 53 11.8	
	47nm,0.9s						
MDOK	**Medeo**	**6.48**	**347**	Pg	**Pb**	**03 52 00.5**	**+2.6**
	18nm,0.7s						
MDOK				Lg	Lg	03 53 17.3	
	59nm,0.7s						
KNDC	**Almaty**	**6.54**	**346**	⇓Pg	**Pb**	**03 52 00.4**	**+1.4**
	38nm,0.6s						
KNDC				⇑Lg	Lg	03 53 18.0	
	127nm,0.6s						
TKM2	**Tokmak 2**	**6.61**	**337**	⇑Pg	**Pb**	**03 51 57.3**	**-2.9**
	4.2nm,0.4s						
TKM2				⇑Lg	Lg	03 53 12.3	
	8.0nm,0.5s						
KST	**Kastek**	**6.61**	**340**	Pg	**Pb**	**03 52 03.1**	**+2.9**
	23nm,0.8s						
KST				Lg	Lg	03 53 22.1	
	38nm,1.3s						
AAK	**Ala-Archa**	**6.75**	**330**	Pn	**Pn**	**03 51 42.7**	**-1.7**
	1.1nm,0.3s,baz=138,slow=12,SNR=2.2						
AAK				Pg	**Pb**	**03 52 00.2**	**-2.4**
	3.6nm,0.3s,baz=199,slow=14,SNR=6.2						
AAK				Sn	Sn	03 52 50.2	-11
	3.4nm,0.3s,baz=156,slow=11,SNR=5.2						
AAK				Lg	Lg	03 53 18.1	
	3.9nm,0.3s,baz=15,slow=22,SNR=4.7						
AAK	**Ala-Archa**	**6.75**	**330**	⇑Pg	Pb	03 51 58.3	-4.4
	5.6nm,0.6s						
AAK				⇑Lg	Lg	03 53 18.0	
	10nm,0.7s						
AAK	**Ala-Archa**	**6.75**	**330**	Pn	**Pn**	**03 51 46.5**	**+2.0**
FRU1	**Bishkek**	**6.85**	**331**	Pn	**Pn**	**03 51 47.3**	**+1.7**
BTK	**Batken**	**7.21**	**299**		**Pn**	**03 51 50.0**	**-0.7**
GAR	**Garm**	**7.24**	**290**	Pn	**Pn**	**03 51 52.6**	**+1.6**
CHGR	**Chuyangaron**	**8.05**	**286**		**Pn**	**03 52 03.2**	**+1.0**
KBL	**Kabul**	**8.48**	**257**	Pn	**Pn**	**03 52 08.9**	**+0.7**
KK31	**Karatay Array**	**9.05**	**316**	Pn	**Pn**	**03 52 17.4**	**+1.6**
KKAR	**Karatay Array**	**9.05**	**316**	Pn	**Pn**	**03 52 17.1**	**+1.4**
WMQ	**Urumqi**	**9.56**	**41**	*e*P	Pn	03 52 37.1	+14
WMQ				smax	smax		
	comp=N,36nm,0.9s						
WMQ				smax	smax		
	comp=E,46nm,0.9s						
MAKZ	**Makanchi**	**10.16**	**11**		**Pn**	**03 52 33.1**	**+2.0**
MK31	**Makanchi Array**	**10.20**	**13**	Pn	**Pn**	**03 52 33.1**	**+1.5**
MKAR	**Makanchi Array**	**10.20**	**13**	Pn	**Pn**	**03 52 34.3**	**+2.8**
	0.8nm,0.3s,baz=200,slow=14,SNR=19						
MKAR				Sn	**Sn**	**03 54 22.3**	**-3.7**
	1.2nm,0.3s,baz=193,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**10.20**	**13**	Pn	**Pn**	**03 52 32.8**	**+1.2**
KURBB	**Kurchatov Arra**	**13.76**	**359**	Pn	**Pn**	**03 53 18.8**	**-1.3**
	0.1nm,0.3s,baz=190,slow=15,SNR=3.7						
KURBB				Lg	Lg	03 57 12.0	
	0.0nm,0.3s,baz=173,slow=31,SNR=2.1						
KURK	**Kurchatov**	**13.85**	**359**		**Pn**	**03 53 18.8**	**-2.5**
SHL	**Shillong**	**15.70**	**132**	Pn	**Pn**	**03 53 42.5**	**-4.1**
SHL				IAmb	IAmb	03 54 33.4	
	comp=Z,5.6nm,0.5s						
GEYT	**Alibeck**	**16.69**	**280**	Pn	**Pn**	**03 53 56.0**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=98,slow=25,SNR=1.4						
GYA0B	**ALIBECK ARRAY**	**16.69**	**280**	Pn	**Pn**	**03 53 57.2**	**-1.8**
GYA0B				IAmb	IAmb	03 54 01.3	
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**17.26**	**342**	Pn	**Pn**	**03 54 03.9**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=4.1						
BRVK	**Borovoye**	**17.32**	**342**	Pn	**Pn**	**03 54 07.0**	**+0.2**
BRVK				IAmb	IAmb	03 54 15.7	
	comp=Z,11nm,1.1s						
ZAA0	**Zalesovo Array**	**17.54**	**11**	Pn	**Pn**	**03 54 07.1**	**-2.4**
ZALV	**Zalesovo Beam**	**17.54**	**11**	P	**Pn**	**03 54 10.5**	**+0.9**
	baz=213,slow=10,SNR=1.4						
ZALV	**Zalesovo Beam**	**17.54**	**11**	Pn	**Pn**	**03 54 08.5**	**-1.0**
ABKAR	**Abkulak array**	**18.61**	**318**	P	**P**	**03 54 18.7**	**-3.7**
AKTO	**Aktyubinsk**	**20.30**	**319**	P	**P**	**03 54 38.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=112,slow=8.8,SNR=6.7						
SONM	**Songino Array**	**22.86**	**53**	P	P	03 55 19.9	+11
	comp=Z,1.0nm,0.6s,baz=247,slow=10,SNR=4.3						
SONM	**Songino Array**	**22.86**	**53**	P	**P**	**03 55 06.5**	**-2.0**
ARU	**Arti**	**23.93**	**331**	P	**P**	**03 55 19.8**	**+0.7**
ARU				IAmb	IAmb	03 55 27.7	
	comp=Z,3.4nm,0.4s						
CM31	**Chiang Mai Arr**	**25.33**	**131**	P	**P**	**03 55 30.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.33**	**131**	P	**P**	**03 55 30.3**	**-1.8**
CM02	**Chiang Mai Arr**	**25.35**	**131**	P	**P**	**03 55 32.5**	**+0.2**
	comp=Z,173nmcomp=Z,19nm,1.0s						
CM09	**Chiang Mai Arr**	**25.37**	**131**	P	**P**	**03 55 30.7**	**-1.8**
	comp=Z,17nm,0.9s						
CM05	**Chiang Mai Arr**	**25.37**	**131**	P	**P**	**03 55 32.8**	**+0.3**
	comp=Z,152nmcomp=Z,12nm,1.1s						
PHIT	**Phitsanulok**	**27.20**	**130**	P	**P**	**03 55 48.6**	**-0.4**
	comp=Z,1μmcomp=Z,48nm,1.0s						
BRTR	**Keskin Array B**	**35.48**	**289**	P	**P**	**03 57 02.1**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=116,slow=5.6,SNR=3.8						
MLR	**Muntele Rosu**	**40.26**	**299**	P	**P**	**03 57 44.0**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=125,slow=9.5,SNR=4.1						
MLR	**Muntele Rosu**	**40.26**	**299**	IAmb	IAmb	03 57 47.2	
	comp=Z,4.2nm,0.9s						
FINES	**FINESS Array B**	**40.90**	**324**	P	**P**	**03 57 47.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=112,slow=9.5,SNR=7.1						
ARCES	**ARCESS Array B**	**43.39**	**336**	P	**P**	**03 58 08.3**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=107,slow=9.3,SNR=7.4						
MORC	**Moravsky Berou**	**45.36**	**307**	P	**P**	**03 58 24.8**	**+1.4**
MORC				IAmb	IAmb	03 58 27.0	
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**46.81**	**321**	P	**P**	**03 58 35.6**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=99,slow=9.6,SNR=5.0						
GERES	**GERESS Array B**	**47.99**	**306**	P	**P**	**03 58 45.1**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=69,slow=7.7,SNR=7.0						
NB2	**NORSAR Subarra**	**48.01**	**323**	P	**P**	**03 58 44.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**48.01**	**323**	P	**P**	**03 58 44.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=90,slow=7.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**72.20**	**273**	P	**P**	**04 01 32.3**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=46,slow=5.2,SNR=6.5						
ILAR	**Eielson Array**	**72.49**	**19**	P	P	04 01 36.6	+5.1
	comp=Z,0.4nm,0.7s,baz=328,slow=6.3,SNR=5.2						
ILAR	**Eielson Array**	**72.49**	**19**	P	**P**	**04 01 31.9**	**+0.3**
WRA	**Warramunga Arr**	**76.86**	**127**	P	P	04 02 08.8	+11
	comp=Z,0.8nm,0.9s,baz=327,slow=6.1,SNR=1.8						
ASAR	**Alice Springs**	**79.34**	**130**	P	P	04 02 23.7	+13
	comp=Z,0.4nm,0.7s,baz=322,slow=7.0,SNR=5.6						
YKA	**Yellowknife Ar**	**80.37**	**6**	P	**P**	**04 02 20.8**	**+4.6**
	comp=Z,0.5nm,0.4s,baz=342,slow=5.8,SNR=4.7						

NNC 03 03:57:08.7±13.0, 37°.20N×77°.22E, h0km, mb4.0, mpv3.6, 1C-1D, Error ellipse: s-maj=176.4km s-min=88.0km az=81.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.82**	**340**	⇑Pg	Pb	03 58 52.9	+1.7
	2.1nm,0.6s						
AAK				Lg	Lg	04 00 20.1	
	5.0nm,0.6s						
TKM2	**Tokmak 2**	**5.85**	**348**	⇓Pg	Pb	03 58 50.6	-1.2
	1.8nm,0.6s						
TKM2				Lg	Lg	04 00 15.5	
	3.0nm,0.6s						
KST	**Kastek**	**5.92**	**351**	Pg	Pg	03 59 01.9	-0.2
	3.8nm,0.4s						
KST				Lg	Lg	04 00 15.4	
	3.2nm,0.4s						
SATY	**Saty**	**5.92**	**8**	Pg	Pb	03 58 57.1	+4.1
	6.2nm,0.7s						
SATY				Lg	Lg	04 00 07.1	
	4.8nm,0.4s						
MDOK	**Medeo**	**5.96**	**359**	Pg	Pb	03 58 56.3	+2.7
	4.0nm,0.8s						
MDOK				Lg	Lg	04 00 15.2	
	7.0nm,0.6s						
MDOK	**Medeo**	**5.96**	**359**	Pg	Pg	03 59 01.3	-1.6
	5.5nm,0.6s						
MDOK				Lg	Lg	04 00 15.1	
	8.1nm,0.8s						

*NEIC **03** 04:02:03.1±1.7, 23°.1S±0°.1×179°.4E±0°.2, h543km±4km, mb4.1/16, Error ellipse: s-maj=22.3km s-min=17.6km az=88.0*
*IDC **03** 04:02:03.6±1.4, 23°.13S×179°.25E, h538km±16km, mb3.2/8, mb1 3.3/11, mb1mx3.2/29, mbtmp4.1/11, Error ellipse: s-maj=20.8km s-min=20.0km az=147.0*
ISC 03 04:02:03.8±0.6, 23°.13S±0°.08×179°.3E±0°.1, h553km, n50, σ1§36/47, mb4.0/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.49**	**347**	P	**P**	**04 03 37.8**	**-0.5**
	1.4nm,0.3s,baz=256,slow=22,SNR=7.4						
MSVF				S	**S**	**04 04 54.3**	**-1.1**
	baz=163,slow=19,SNR=1.4						
MSVF	**Nonsavu**	**5.49**	**347**	P	**P**	**04 03 37.7**	**-0.6**
MARNC	**Mare, Loyalty**	**10.57**	**277**	P	**P**	**04 04 27.7**	**0.0**
DZM	**Mont Dzumac**	**11.94**	**273**	P	**P**	**04 04 40.9**	**-1.0**
	0.3nm,0.3s,baz=142,slow=19,SNR=1.8						
OUZ	**Omahuta**	**13.04**	**201**	P	**P**	**04 04 53.6**	**+0.7**
URZ	**Urewera**	**15.20**	**187**	P	**P**	**04 05 13.3**	**-1.8**
	3.7nm,0.3s,baz=285,slow=1.7,SNR=16						
URZ				S	**S**	**04 07 47.7**	**-4.7**
	0.6nm,0.3s,baz=60,slow=23,SNR=7.1						
URZ	**Urewera**	**15.20**	**187**	IAmb	IAmb	04 05 14.9	
	comp=Z,23nm,0.9s						
VRZ	**Vera Road**	**16.41**	**193**	P	**P**	**04 05 28.1**	**+1.2**
KWHZ	**Kaweka Forest**	**16.43**	**188**	P	**P**	**04 05 26.7**	**-0.5**
BHHZ	**Black Hill Sta**	**16.55**	**189**	P	**P**	**04 05 25.9**	**-2.3**
KRHZ	**Kereru**	**16.66**	**188**	P	**P**	**04 05 29.2**	**+0.1**
LREZ	**Lake Rotokare**	**16.81**	**193**	P	P	04 05 23.1	-7.4
ANWZ	**Angora Road**	**17.45**	**187**	P	**P**	**04 05 35.9**	**-0.4**
BFZ	**Birch Farm**	**17.70**	**188**	P	**P**	**04 05 37.1**	**-1.5**
MRZ	**Mangatainoka R**	**17.77**	**189**	P	**P**	**04 05 37.4**	**-1.8**
OGWZ	**Otaki Gorge**	**17.98**	**190**	P	**P**	**04 05 39.8**	**-1.4**
HOWZ	**Holdsworth Sta**	**18.01**	**189**	P	**P**	**04 05 40.5**	**-0.9**
MTW	**Mount Morrison**	**18.26**	**189**	P	**P**	**04 05 43.0**	**-0.8**
CAW	**Cannon Point**	**18.28**	**190**	P	**P**	**04 05 42.7**	**-1.3**
TRWZ	**Traveller**	**18.47**	**189**	P	**P**	**04 05 45.2**	**-0.5**
QRZ	**Quartz Range**	**18.55**	**196**	P	**P**	**04 05 48.3**	**+1.9**
MSWZ	**Moikau Station**	**18.55**	**190**	P	**P**	**04 05 45.4**	**-1.1**
BHW	**Baring Head**	**18.61**	**191**	P	**P**	**04 05 47.3**	**+0.4**
CTA	**Charters Tower**	**30.85**	**269**	P	**P**	**04 07 36.2**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=90,slow=9.3,SNR=7.8						
CTAO	**Charters Tower**	**30.85**	**269**	P	**P**	**04 07 36.0**	**+0.4**
CTAO				IAmb	IAmb	04 07 36.8	
	comp=Z,6.8nm,0.7s						
TOO	**Toolangi**	**32.35**	**236**	P	**P**	**04 07 47.8**	**-0.4**
STKA	**Stephens Creek**	**34.44**	**247**	P	**P**	**04 08 06.3**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=99,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**34.44**	**247**	IAmb	IAmb	04 08 09.5	
	comp=Z,1.3nm,1.4s						
BBOO	**Buckleboo**	**39.17**	**246**	P	**P**	**04 08 44.1**	**-0.6**
BBOO				IAmb	IAmb	04 08 55.2	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**41.54**	**260**	P	**P**	**04 09 03.1**	**-0.6**
AS31				IAmb	IAmb	04 09 04.7	
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs**	**41.55**	**260**	P	**P**	**04 09 03.7**	**0.0**
	comp=Z,3.6nm,0.8s,baz=90,slow=8.1,SNR=33						
ASAR				PcP	**PcP**	**04 10 47.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=91,slow=5.0,SNR=1.6						
ASAR				ScP	**ScP**	**04 13 49.5**	**+3.8**
	comp=Z,0.6nm,0.7s,baz=86,slow=4.4,SNR=4.8						
WR0	**Warramunga Arr**	**41.65**	**266**	P	**P**	**04 09 04.2**	**-0.4**
WR0				IAmb	IAmb	04 09 24.0	
	comp=Z,7.2nm,1.1s						
WB0	**Warramunga Arr**	**41.82**	**266**	P	**P**	**04 09 05.2**	**-0.8**
WB0				IAmb	IAmb	04 09 05.9	
	comp=Z,4.3nm,0.8s						
WB2	**Warramunga Arr**	**41.82**	**266**	P	**P**	**04 09 05.2**	**-0.8**
WB2				IAmb	IAmb	04 09 06.0	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**41.84**	**266**	P	**P**	**04 09 05.4**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=95,slow=8.0,SNR=91						
WRA	**Warramunga Arr**	**41.84**	**266**	IAmb	IAmb	04 09 06.0	
	comp=Z,0.3nm,0.8s						
FORT	**Forrest**	**46.00**	**249**	P	**P**	**04 09 37.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.26**	**265**	P	**P**	**04 10 10.6**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=82,slow=7.2,SNR=6.2						
VNDA	**Vanda**	**55.10**	**185**	P	**P**	**04 10 45.0**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=14,slow=5.6,SNR=3.8						
VNDA	**Vanda**	**55.10**	**185**	IAmb	IAmb	04 10 49.8	
	comp=Z,2.4nm,1.4s						
QSPA	**South Pole Qui**	**66.95**	**180**	P	**P**	**04 12 02.5**	**+1.0**
QSPA				IAmb	IAmb	04 12 09.3	
	comp=Z,7.5nm,1.4s						
MAW	**Mawson**	**78.25**	**201**	P	**P**	**04 13 07.5**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=129,slow=5.2,SNR=7.3						
MAW	**Mawson**	**78.25**	**201**	IAmb	IAmb	04 13 08.1	
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**84.64**	**44**	P	**P**	**04 13 41.5**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=223,slow=4.8,SNR=3.0						
NEA2	**Nenana**	**90.81**	**13**	P	**P**	**04 14 06.2**	**-1.7**
NEA2				IAmb	IAmb	04 14 20.8	
	comp=Z,3.4nm,1.2s						
MSTX	**Muleshoe**	**93.27**	**54**	P	**P**	**04 14 19.1**	**-0.9**
ARCES	**ARCESS Array B**	**131.00**	**348**	PKP	**PKPdf**	**04 20 11.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=103,slow=2.9,SNR=1.5						
AKASG	**Malin Array Be**	**143.98**	**327**	PKP	PKPbc	04 20 34.8	-0.9
	comp=Z,0.2nm,0.3s,baz=40,slow=3.7,SNR=2.0						
CLL	**Collm**	**149.93**	**343**	*i* PKPbc	**PKiKP**	**04 20 52.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**169.82**	**193**	PKPab	**PKPab**	**04 22 27.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=172,slow=1.2,SNR=3.6						

NNC 03 04:15:39.5±5.3, 53°.48N×87°.81E, h2km±47km, mb3.5, mpv3.2, 4C-4D, Error ellipse: s-maj=57.1km s-min=22.5km az=73.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.84**	**286**	⇑Pn	Pn	04 16 11.7	-0.4
	1.6nm,0.6s						
ZAA0				⇑Sn	Sb	04 16 36.8	-0.4
	8.0nm,0.6s						
KURBB	**Kurchatov Arra**	**6.40**	**247**	⇓Pn	Pn	04 17 16.3	+1.7
	4.3nm,0.5s,baz=63,slow=14						
KURBB				⇓Sn	Sn	04 18 28.1	0.0
	4.8nm,0.6s						
KURBB				⇑Lg	Lg	04 19 02.0	
	15nm,1.0s,baz=65,slow=31						
MAKZ	**Makanchi**	**7.65**	**212**	⇓Pn	Pn	04 17 31.9	0.0
	2.0nm,0.8s						
MAKZ				⇓Sn	Sn	04 19 01.9	+2.9
	1.5nm,0.7s						
MAKZ				⇑Lg	Lg	04 19 44.2	
	5.4nm,1.0s						

*NEIC **03** 04:18:25.9±1.9, 53°.0N±0°.1×171°.51W±0°.08, h140km±6km, mb4.2/38, ML3.8(AEIC), Error ellipse: s-maj=16.6km s-min=6.3km az=168.0*
*IDC **03** 04:18:25.7±1.0, 52°.88N×171°.70W, h146km±8km, mb3.5/14, mb1 3.7/15, mb1mx3.4/61, mbtmp3.9/15, Error ellipse: s-maj=22.1km s-min=13.9km az=173.0*
*AEIC **03** 04:18:26±3.0, 52°.6N±0°.2×171°.38W±0°.09, h146km±5km, Error ellipse: s-maj=22.4km s-min=6.

KIWB	Kanaga Island	3.63	256		Pn	04 19 21.0	-0.2
KIKV	Kanaga Island	3.64	256		Pn	04 19 20.5	-0.8
KICM	Kanaga Island	3.64	257		Pn	04 19 20.6	-0.6
KIMD	Kanaga Island	3.71	255		Pn	04 19 21.9	-0.3
TAPA	Tanaga Point A	4.04	257		Pn	04 19 26.1	-0.4
TAFP	Tanaga Falls P	4.11	259		Pn	04 19 27.0	-0.4
TASE	Tanaga Southea	4.16	258		Pn	04 19 27.8	-0.3
WEBT	Westdahl Beart	4.34	64		Pn	04 19 31.1	+0.8
GALAA	Gareloi Lava P	4.62	259		Pn	04 19 33.7	-0.4
SSBA	Shishaldin	4.74	64		Pn	04 19 36.3	+0.6
SSLS	Shishaldin Sou	4.79	65		Pn	04 19 37.1	+0.8
BRPK	Brown Peak	4.91	66		Pn	04 19 38.5	+0.6
ISLZ	Isanotski Laza	4.95	65		Pn	04 19 39.0	+0.6
FALS	False Pass	5.16	64	P	Pn	04 19 40.3	-0.8
	baz=258						
FALS	False Pass	5.16	64		Pn	04 19 41.4	+0.3
CERAA	Semis' Rag'd T	5.51	263		Pn	04 19 45.9	+0.1
CESW	Semis' Southwe	5.58	263		Pn	04 19 46.7	-0.1
DT1	Dutton Round H	5.86	64		Pn	04 19 50.5	+0.1
AMKA	Amchitka	5.88	259	Pn	Pn	04 19 49.7	-1.1
HAG	Hague Volcano	6.13	63		Pn	04 19 55.1	+1.0
PS4A	Pavlof South-4	6.17	63		Pn	04 19 55.9	+1.4
SDPT	Sand Point	6.92	65	P	Pn	04 20 03.6	-0.8
	baz=259						
SDPT	Sand Point	6.92	65	Pn	Pn	04 20 04.1	-0.4
CNBA	Chernabura Isl	7.29	70		Pn	04 20 07.9	-1.6
CHNA	Chernabura Isl	7.29	70	P	Pn	04 20 07.9	-1.6
	baz=265,SNR=5.9						
OHAK	Old Harbor	11.28	60	P	Pn	04 20 58.4	-4.0
	baz=259						
O18K	Koktuh Hills	11.38	46	P	Pn	04 21 01.8	-1.9
	baz=242						
N18K	Kilae Creek	11.55	41	P	Pn	04 21 03.4	-2.5
	baz=237						
KDAK	Kodiak Island	11.80	58	P	Pn	04 21 05.8	-3.4
	4.5nm,0.3s,baz=272,slow=6.8,SNR=54						
KDAK				S	Sn	04 23 13.1	-6.4
	0.0nm,0.3s,baz=288,slow=20,SNR=1.8						
KDAK	Kodiak Island	11.80	58	P	Pn	04 21 05.8	-3.4
	baz=257						
KDAK	Kodiak Island	11.80	58		Pn	04 21 07.4	-1.8
SVW2	Sparrevohn	11.92	40	Pn	Pn	04 21 10.5	-0.2
P19K	Oil Pt	12.16	49	P	Pn	04 21 12.7	-1.3
	baz=247						
N19K	Bonanza Creek	12.19	43	P	Pn	04 21 13.3	-1.1
	baz=240,SNR=15						
L19K	White Mountain	12.86	37	P	Pn	04 21 22.6	-0.3
	baz=234						
M19K	Big River Lodg	12.86	39	P	Pn	04 21 22.8	-0.1
	baz=236						
HOM	Homer	12.90	50	P	Pn	04 21 22.2	-1.1
	baz=250						
CNPM	China Poot	13.04	51		Pn	04 21 25.6	+0.4
BRLK	Bradley Lake	13.30	51	Pn	Pn	04 21 29.3	+0.8
M20K	Styx River	13.33	40	P	Pn	04 21 27.9	-1.1
	baz=238						
BRSE	Bradley Lake S	13.36	51	P	Pn	04 21 27.5	-1.7
	baz=251						
SKT	Skwentna	14.02	42	P	P	04 21 39.2	-1.6
	baz=241,SNR=9.3						
SKT	Skwentna	14.02	42	P	P	04 21 40.2	-0.6
SUA	Susitna One	14.09	44	P	Pn	04 21 37.8	-0.8
	baz=244						
SEW	Seward	14.09	50	P	Pn	04 21 36.4	-2.1
	baz=252,SNR=7.2						
SEW	Seward	14.09	50	Pn	Pn	04 21 37.0	-1.5
RC01	Rabbit Creek A	14.35	47	P	Pn	04 21 40.7	-1.1
	baz=247						
KNK	Knik Glacier	15.05	46	P	Pn	04 21 49.4	-1.1
	baz=248						
SML	Sawmill	15.27	45	P	Pn	04 21 52.5	-0.8
	baz=247,SNR=5.9						
BPAW	Bear Paw Mtn.	15.43	35	P	P	04 21 56.8	+0.4
	baz=235,SNR=20						
GLI	Glacier Island	15.46	49	P	Pn	04 21 54.7	-0.8
	baz=252						
GLI	Glacier Island	15.46	49	IAmb	IAmb	04 21 56.0	
	comp=Z,8.9nm,0.6s						
WAT1	Susitna Watana	15.65	42	P	Pn	04 21 58.0	+0.1
	baz=243						
WAT6	Susitna Watana	15.86	43	P	Pn	04 22 00.0	-0.6
	baz=245						
H21K	Melozitna Rive	15.87	29	P	P	04 22 01.6	+0.4
	baz=227						
MCK	McKinley	15.96	38	P	Pn	04 22 00.7	-1.0
	baz=240						
EYAK	Cordova Ski Ar	15.98	51	P	Pn	04 22 01.0	-0.9
	baz=255						
MLY	Manley	16.09	33	P	P	04 22 03.4	-0.3
	baz=233						
MLY	Manley	16.09	33	P	P	04 22 04.5	+0.7
KLU	Klutina	16.21	48	P	Pn	04 22 03.3	-1.5
	baz=252						
KLU	Klutina	16.21	48	IAmb	IAmb	04 22 07.0	
	comp=Z,7.3nm,0.4s						
M24K	Tolsona, Glenn	16.32	46	P	Pn	04 22 04.8	-1.4
	baz=249,SNR=7.8						
I23K	Minto, Yukon-K	16.62	34	P	Pn	04 22 11.1	+1.5
	baz=235,SNR=12						
I23K	Minto, Yukon-K	16.62	34	IAmb	IAmb	04 22 13.3	
	comp=Z,15nm,1.0s						
HMT	Hamilton	16.63	53	IAmb	IAmb	04 22 13.9	
	comp=Z,15nm,0.8s						
BMRM	Bremner River	16.64	50	P	P	04 22 08.4	-1.4
	baz=255						
N25K	Chitina, Valde	16.84	48	P	P	04 22 11.2	-0.9
	baz=253,SNR=8.1						
N25K	Chitina, Valde	16.84	48	IAmb	IAmb	04 22 13.5	
	comp=Z,8.9nm,0.5s						
CCB	Clear Creek Bu	16.88	37		P	04 22 11.1	-1.2
CCB				IAmb	IAmb	04 22 16.0	
	comp=Z,5.5nm,0.4s						
HARP	HAARP	16.88	45	P	P	04 22 12.3	0.0
	baz=250,SNR=6.8						
H23K	Yukon River	16.98	32	P	P	04 22 13.1	-0.4
	baz=233,SNR=7.1						
HDA	Harding Lake	17.06	38	P	P	04 22 14.3	0.0
	baz=241,SNR=7.8						
HDA	Harding Lake	17.06	38	P	P	04 22 13.8	-0.6
HDA				IAmb	IAmb	04 22 22.9	
	comp=Z,8.8nm,0.4s						
GLB	Gilahina Butte	17.15	49	IAmb	IAmb	04 22 17.2	
	comp=Z,7.5nm,0.6s						
VRDI	Verde Repeater	17.25	50	IAmb	IAmb	04 22 22.0	
	comp=Z,16nm,1.5s						
IL31		17.27	37	P	Pn	04 22 16.9	-0.6
ILAR	Eielson Array	17.27	37	P	Pn	04 22 17.1	-0.4
	comp=Z,1.7nm,0.3s,baz=230,slow=9.6,SNR=68						
ILAR	Eielson Array	17.27	37	P	Pn	04 22 17.5	0.0
H24K	Noodor Dome	17.53	33	P	Pn	04 22 20.0	-0.6
	baz=235,SNR=17						
MENT	Mentasta	17.70	44	P	P	04 22 20.4	-1.0
MENT				IAmb	IAmb	04 22 36.9	
	comp=Z,5.8nm,0.6s						
SCRK	Sand Creek	18.00	41	P	P	04 22 24.7	-0.1
	baz=247,SNR=10						
SCRK	Sand Creek	18.00	41	IAmb	IAmb	04 22 32.1	
	comp=Z,8.4nm,0.5s						
CTG	Chitna Glacier	18.18	52	P	P	04 22 26.1	-0.7
	baz=259						
PETK	Petropavlovsk-	18.50	283	P	Pn	04 22 31.8	-0.3
	comp=Z,0.4nm,0.3s,baz=100,slow=12,SNR=2.5						
PINM	Pinnacle	18.54	55	P	P	04 22 30.6	-0.1
	baz=263						
K27K	Chicken	18.79	42	P	P	04 22 33.9	+0.6
	baz=249						
K27K	Chicken	18.79	42	IAmb	IAmb	04 22 40.0	
	comp=Z,7.1nm,0.8s						
TOLK	Toolik Lake Re	18.89	25	P	P	04 22 34.6	+0.3
	baz=226						
EGAK	Eagle	19.45	40	P	P	04 22 40.0	-0.3
	baz=248,SNR=11						
EGAK	Eagle	19.45	40	IAmb	IAmb	04 22 45.9	
	comp=Z,7.4nm,0.5s						
HYT	Haines Junctio	20.00	53	P	P	04 22 47.2	+0.8
HYT				IAmb	IAmb	04 22 51.9	
	comp=Z,8.1nm,0.9s						
EPYK	Eagle Plains	21.77	38	P	P	04 23 04.6	-0.5
	baz=250,SNR=5.7						
EPYK	Eagle Plains	21.77	38	P	P	04 23 04.9	-0.3
EPYK				IAmb	IAmb	04 23 06.8	
	comp=Z,7.0nm,0.7s						
INK	Inuvik	23.63	35	P	P	04 23 23.8	+1.1
	comp=Z,6.1nm,0.3s,baz=249,slow=6.6,SNR=54						
INK	Inuvik	23.63	35	P	P	04 23 23.6	+0.8
	baz=250,SNR=12						
INK	Inuvik	23.63	35	P	P	04 23 23.3	+0.6
INK				IAmb	IAmb	04 23 24.5	
	comp=Z,11nm,0.9s						
DLBC	Dease Lake	23.72	60	P	P	04 23 26.6	+2.8
	comp=Z,3.1nm,0.6s,baz=246,slow=9.3,SNR=8.6						
DLBC	Dease Lake	23.72	60	P	P	04 23 25.8	+2.0
DLBC				IAmb	IAmb	04 23 28.9	
	comp=Z,9.8nm,1.2s						
C36M	Paulatuk	27.22	35	P	P	04 23 55.4	+0.3
	baz=258						
YKA	Yellowknife Ar	30.87	49	P	P	04 24 28.4	+1.0
	comp=Z,0.2nm,0.3s,baz=334,slow=11,SNR=8.3						
NEW	Newport	34.12	75	P	P	04 24 57.8	+1.8
	comp=Z,1.4nm,0.5s,baz=257,slow=6.6,SNR=2.8						
NEW	Newport	34.12	75	IAmb	IAmb	04 24 58.2	
	comp=Z,4.1nm,1.2s						
H11N2	WAKE ISLAND Hy	37.10	215	T	T	05 04 14.3	
	baz=21,slow=76,SNR=3.2						
H11N3	WAKE ISLAND Hy	37.11	215	T	T	05 04 08.1	
	baz=21,slow=76,SNR=4.0						
H11N1	WAKE ISLAND Hy	37.12	215	T	T	05 04 11.7	
	baz=21,slow=76,SNR=3.1						
EGMT	Eagleton	38.52	72	P	P	04 25 35.2	+1.9
EGMT				IAmb	IAmb	04 25 36.0	
	comp=Z,5.9nm,1.2s						
PDAR	Pinedale Array	41.55	78	P	P	04 26 00.1	+1.5
	comp=Z,0.4nm,0.4s,baz=304,slow=2.7,SNR=4.3						
PDAR				pP	pP	04 26 31.1	-0.4
	comp=Z,0.2nm,0.6s,baz=284,slow=7.3,SNR=1.8						
SONM	Songino Array	49.94	299	P	P	04 27 04.5	+0.5
	comp=Z,0.3nm,0.4s,baz=48,slow=6.4,SNR=2.7						
SONM	Songino Array	49.94	299	IAmb	IAmb	04 27 11.4	
	comp=Z,2.3nm,1.5s						
HHC	Hu-ho-hao-te	51.54	289	eP	P	04 27 16.3	+0.2
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.7s						
TX31	Lajitas Ar. Si	54.01	88	P	P	04 27 33.9	-0.4
TX31				IAmb	IAmb	04 27 36.7	
	comp=Z,5.1nm,1.1s						
TXAR	Lajitas Array	54.01	88	P	P	04 27 35.2	+0.9
	comp=Z,0.7nm,0.7s,baz=298,slow=5.5,SNR=5.0						
TXAR				pP	pP	04 28 09.6	+0.7
	comp=Z,0.8nm,0.8s,baz=340,slow=5.7,SNR=3.9						
ARCES	ARCESS Array B	57.26	353	P	P	04 27 56.9	+0.1
	comp=Z,1.4nm,0.9s,baz=358,slow=9.7,SNR=4.0						
ARCES	ARCESS Array B	57.26	353	IAmb	IAmb	04 28 13.7	
	comp=Z,4.7nm,1.3s						
KURBB	Kurchatov Arra	61.24	317	P	P	04 28 24.6	+0.2
	comp=Z,0.3nm,0.3s,baz=51,slow=8.8,SNR=1.6						
KURBB				pP	pP	04 28 59.1	+0.4
	comp=Z,0.2nm,0.5s,baz=46,slow=7.4,SNR=1.2						
WMQ	Urumqi	62.20	307	eP	P	04 28 35.2	+4.1
MKAR	Makanchi Array	62.52	312	P	P	04 28 32.1	-0.9
	comp=Z,0.2nm,0.4s,baz=54,slow=9.7,SNR=2.6						
HFS	Hagfors	67.26	357	P	P	04 29 03.5	0.0
	comp=Z,1.2nm,0.9s,baz=57,slow=9.0,SNR=1.9						
AKTO	Aktyubinsk	68.92	329	P	P	04 29 13.2	-0.7
	comp=Z,1.3nm,0.5s,baz=62,slow=4.6,SNR=4.4						
WRA	Warramunga Arr	86.34	230	P	P	04 30 49.9	-0.8
	comp=Z,0.7nm,0.6s,baz=32,slow=5.5,SNR=6.4						
ASAR	Alice Springs	89.76	228	P	P	04 31 07.1	+0.2
	comp=Z,2.4nm,0.7s,baz=27,slow=4.7,SNR=26						
BOSA	Boshof	152.78	326	PKPbc	PKiKP	04 38 05.0	+0.2
	comp=Z,1.5nm,0.4s,baz=1.2,slow=1.2,SNR=14						

*TUL **03** 04:18:57.8±1.3, 36°.83N±0°.01×97°.73W±0°.01, h4km±7km, ML2.5, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=136.0*

NEIC 03 04:18:58.1±1.0, 36°.82N±0°.01×97°.72W±0°.01, h5km±7km, Error ellipse: s-maj=1.8km s-min=1.6km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	Caldwell West	0.23	352		Pg	04 19 02.8	+0.2
KAN17				Sg	Sg	04 19 05.9	+0.2
KAN13	South Haven SW	0.28	45		Pg	04 19 03.7	+0.2
KAN13				Sg	Sg	04 19 07.4	+0.2
KAN05	Bluff City Nor	0.32	338		Pg	04 19 04.4	+0.2
KAN09	Caldwell North	0.33	15	Sg	Sg	04 19 09.2	+0.2
CROK	Carrier	0.37	214		Pg	04 19 05.2	-0.1
CROK				Sg	Sg	04 19 11.1	+0.9
OK032	Salt Plains WL	0.39	269	Pg	Pg	04 19 05.7	0.0
OK032				Sg	Sg	04 19 11.0	+0.2
BLOK	Blackwell	0.41	97	Pg	Pg	04 19 06.1	+0.1
BLOK				Sg	Sg	04 19 12.0	+0.6
KAN10	Anthony SW Sta	0.43	316		Pg	04 19 06.0	-0.4
KS20	Mayfield South	0.43	18	Pg	Pg	04 19 06.1	-0.4
KAN08	Anthony NE Sta	0.46	334		Pg	04 19 06.5	-0.4
KAN12	Harper NE Stat	0.53	335		Pg	04 19 08.1	-0.1
T35A	Sooner Cattle	0.98	84		Pg	04 19 16.1	-0.7
OK029	Liberty Lake	1.04	168		Pg	04 19 17.8	-0.2
QUOK	Quay	1.04	128		Pg	04 19 17.8	-0.2
OK031	S. Brethren Rd	1.12	140		Pg	04 19 19.1	-0.4
U32A	Winter Ranch,	1.12	247	Pg	Pg	04 19 18.6	-1.0
BCOK	Bluff Creek, N	1.16	175	Pg	Pg	04 19 20.3	0.0
OK030	Cody Creek RV	1.17	139		Pg	04 19 19.6	-0.8
OK025	Westminster Rd	1.27	166		Pg	04 19 21.7	-0.7
OKCFA	Oklahoma City	1.41	171	Pn	Pn	04 19 23.4	-1.1
OKCSW	OKLAHOMA CITY	1.43	171		Pn	04 19 24.4	-0.3
FNO	Franklin	1.58	170		Pn	04 19 26.7	-0.1
R32A	Long Quarter,	1.79	334		Pn	04 19 29.9	+0.2
X34A	Smith Ranch, M	2.21	182	Pn	Pn	04 19 36.2	+0.7
X34A				IAmb_Lg		04 20 10.1	
	comp=Z,13nm,1.0s						
WMOK	Wichita Mounta	2.24	203	Pn	Pn	04 19 35.9	-0.1
CBKS	Cedar Bluff	2.56	322	Pn	Pn	04 19 40.4	+0.2
U38A	Gravette	2.71	97	Pn	Pn	04 19 41.7	-0.7
X37A	Clayton	2.93	139	Pn	Pn	04 19 45.3	-0.1
W39A	Magazine	3.58	116	Pn	Pn	04 19 54.5	+0.2
W39A				IAmb_Lg		04 20 57.9	
	comp=Z,9.3nm,0.9s						
S39A	Bolivar	3.62	75	Pn	Pn	04 19 54.4	-0.5
MIAR	Mount Ida	4.06	123	Pn	Pn	04 20 01.1	+0.2
MIAR				IAmb_Lg		04 21 08.4	
	comp=Z,6.4nm,0.8s						
P38A	Dawn	4.33	48	Pn	Pn	04 20 03.8	-0.8
P38A				IAmb_Lg		04 21 15.3	
	comp=Z,5.2nm,0.8s						
N35A	Tabor	4.35	21	Pn	Pn	04 20 05.4	+0.5
MGMO	Mountain Grove	4.38	84	IAmb_Lg		04 21 15.1	
	comp=Z,6.4nm,0.8s						
R40A	Maddies Statio	4.58	70	Pn	Pn	04 20 07.5	-0.5
FCAR	Ozark Folk Cen	4.61	100	IAmb_Lg		04 21 23.5	
	comp=Z,5.1nm,0.8s						
OGNE	Ogallala	5.32	322	IAmb_Lg		04 21 49.6	
	comp=Z,5.8nm,1.0s						
LCAR	Lake Charles	5.35	96	IAmb_Lg		04 21 51.0	
	comp=Z,3.8nm,0.9s						
PBMO	Poplar Bluff	5.85	88	IAmb_Lg		04 22 11.9	
	comp=Z,4.3nm,0.7s						

*IDC **03** 04:24:03.1±3.8, 19°.54S×177°.48W, h374km±40km, mb3.2/5, mb1 3.5/7, mb1mx3.2/29, mbtmp4.0/7, Error ellipse: s-maj=24.0km s-min=17.4km az=115.0*

ISC 03 04:24:01.0±1.1, 19°.65±0°.2×177°.4W±0°.2, h350km, n7, σ1°.09/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.33	258	P	P	04 27 21.1	+1.7
	0.3nm,0.3s,baz=69,slow=15,SNR=2.1						
URZ	Urewera	19.24	193	P	P	04 28 01.4	+0.3
	1.7nm,0.3s,baz=74,slow=13,SNR=7.9						
URZ				S	S	04 31 19.0	-0.4
	0.4nm,0.3s,baz=77,slow=14,SNR=1.8						
STKA	Stephens Creek	38.73	243	P	P	04 30 52.9	+0.1
	0.9nm,0.5s,baz=61,slow=10,SNR=1.7						
ASAR	Alice Springs	45.31	256	P	P	04 31 44.8	-0.9
	4.1nm,0.6s,baz=93,slow=8.3,SNR=63						
WRA	Warramunga Arr	45.32	261	P	P	04 31 44.3	-1.4
	0.4nm,0.3s,baz=98,slow=7.6,SNR=14						
NVAR	Mina Array Bea	79.94	43	P	P	04 35 32.1	-0.2
	0.5nm,0.7s,baz=213,slow=8.1,SNR=5.6						
TXAR	Lajitas Array	86.06	57	P	P	04 36 03.8	+0.4
	0.6nm,0.9s,baz=211,slow=6.9,SNR=3.1						

NNC 03 04:34:45.1±3.1, 37°.79N×77°.78E, h0km, mb3.7, mpv3.3, 2C-2D, Error ellipse: s-maj=29.8km s-min=20.7km az=80.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.28	5	Pg	Pb	04 36 21.4	+3.1
	3.1nm,0.4s						
SATY				Lg	Lg	04 37 30.8	
	6.4nm,0.5s						
TKM2	Tokmak 2	5.39	343	⇓Pg	Pb	04 36 23.8	+3.6
	0.6nm,0.4s						
TKM2				⇑Lg	Lg	04 37 35.5	
	7.7nm,1.4s						
MDOK	Medeo	5.39	354	Pg	Pb	04 36 22.0	+1.7
	1.6nm,0.5s						
MDOK				Lg	Lg	04 37 38.1	
	6.7nm,0.6s						
MDOK	Medeo	5.39	354	Pg	Pg	04 36 24.9	-3.5
	2.3nm,0.5s						
MDOK				Lg	Lg	04 37 37.4	
	3.4nm,0.4s						
KST	Kastek	5.42	346	Pg	Pb	04 36 24.8	+4.1
	2.5nm,0.4s						
KST				Lg	Lg	04 37 37.8	
	2.5nm,0.4s						
AAK	Ala-Archa	5.45	334	⇑Pg	Pb	04 36 23.5	+2.3
	1.1nm,0.4s						
AAK				⇓Lg	Lg	04 37 38.4	
	7.9nm,0.9s						

*AEIC **03** 04:36:36±2.1, 52°.0N±0°.1×176°.61E±0°.08, h137km±6km, Error ellipse: s-maj=17.2km s-min=3.4km az=201.0*
*NEIC **03** 04:36:37.4±1.6, 52°.4N±0°.1×176°.83E±0°.10, h131km±7km, mb4.1/12, ML3.5(AEIC), Error ellipse: s-maj=19.0km s-min=7.8km az=191.0*
*IDC **03** 04:36:37.6±4.3, 52°.39N×176°.91E, h131km±40km, mb3.6/14, mb1 3.6/16, mb1mx3.4/67, mbtmp4.0/16, Error ellipse: s-maj=24.2km s-min=15.4km az=163.0*

ISC 03 04:36:37.2±0.6, 52°.4N±0°.1×176°.80E±0°.05, h131km, n45, σ1°.35/44, mb3.8/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	1.13	111		Pn	04 37 01.0	-0.4
LSNW					Sn	04 37 19.5	-0.3
LSSA	Little Sitkin	1.14	112		Pn	04 37 01.2	-0.3
LSSA					Sn	04 37 20.2	+0.2
LSPA	Little Sitkin	1.17	110		Pn	04 37 01.4	-0.4
LSPA					Sn	04 37 21.8	+1.3
LSSE	Little Sitkin	1.18	112		Pn	04 37 01.8	-0.1
SMY	Shemya	1.69	283		Pn	04 37 06.6	-0.8
CEAP	Semis' Anvil P	1.75	101		Pn	04 37 08.2	+0.1
CESW	Semis' Southwe	1.77	105		Pn	04 37 07.8	-0.6
AMKA	Amchitka	1.84	122		Pn	04 37 07.6	-1.7
AMKA					Sn	04 37 31.1	-2.8
TAFP	Tanaga Falls P	3.25	96		Pn	04 37 26.8	-0.2
KIWB	Kanaga Island	3.76	96	Pn	Pn	04 37 32.4	-1.4
ADK	Adak	4.04	94	Pn	Pn	04 37 37.4	0.0
PETK	Petropavlovsk-	11.60	281	P	Pn	04 39 19.7	+1.0
	0.5nm,0.3s,baz=83,slow=18,SNR=4.2						
PETK				S	Sn	04 41 20.8	-5.5
	0.8nm,0.3s,baz=90,slow=17,SNR=2.0						
SDPT	Sand Point	13.72	68	Pn	Pn	04 39 44.4	-1.6
OHAK	Old Harbor	17.82	62	P	P	04 40 35.2	-0.3
OHAK				IAmb	IAmb	04 40 35.8	
	comp=Z,13nm,1.0s						
KDAK	Kodiak Island	18.24	61	P	P	04 40 39.6	-0.5
	comp=Z,3.8nm,0.3s,baz=284,slow=5.7,SNR=57						
KDAK	Kodiak Island	18.24	61	P	P	04 40 39.2	-0.8
KDAK				IAmb	IAmb	04 40 41.3	
	comp=Z,14nm,0.6s						
CNPM	China Poot	19.12	55	P	P	04 40 50.3	+0.6
CNPM				IAmb	IAmb	04 40 52.7	
	comp=Z,39nm,1.4s						
NEA2	Nenana	21.30	42	P	P	04 41 13.6	+0.5
NEA2				IAmb	IAmb	04 41 15.9	
	comp=Z,3.6nm,0.9s						
IL31		22.25	42	P	P	04 41 23.3	+0.4
ILAR	Eielson Array	22.25	42	P	P	04 41 23.4	+0.4
	comp=Z,0.4nm,0.6s,baz=249,slow=6.7,SNR=4.4						
JKA	Kamikawa-asahi	24.04	264	P	P	04 41 41.5	+1.6
JKA	Kamikawa-asahi	24.04	264	IAmb	IAmb	04 41 42.8	
	comp=Z,27nm,1.2s						
ASAJ	Asahikawa	24.04	264	P	P	04 41 41.5	+1.6
	comp=Z,4.0nm,0.3s,baz=32,slow=13,SNR=3.6						
BCAR	Beaver Creek A	24.11	48	P	P	04 41 41.0	+0.6
KLR	Kul'dur	28.29	282	P	P	04 42 19.1	+1.1
	comp=Z,0.6nm,0.4s,baz=64,slow=12,SNR=5.2						
USRK	Ussuriysk Ar.	30.49	273	P	P	04 42 37.6	+0.1
	comp=Z,1.1nm,0.5s,baz=56,slow=10.0,SNR=4.2						
H11N2	WAKE ISLAND Hy	33.49	197	T	T	05 18 39.2	
	baz=11,slow=76,SNR=8.7						
H11N3	WAKE ISLAND Hy	33.50	197	T	T	05 18 41.5	
	baz=11,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	33.51	197	T	T	05 18 40.5	
	baz=11,slow=76,SNR=8.3						
KSRS	Korea Array	36.94	266	P	P	04 43 35.2	+1.9
	comp=Z,0.8nm,0.5s,baz=50,slow=8.0,SNR=4.4						
ULN	Ulaanbaatar	43.37	293	P	P	04 44 24.8	-1.6
ULN				IAmb	IAmb	04 44 25.5	
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	43.75	293	P	P	04 44 30.6	+1.2
	comp=Z,1.7nm,0.5s,baz=72,slow=8.5,SNR=12						
SONM	Songino Array	43.75	293	IAmb	IAmb	04 44 31.2	
	comp=Z,1.4nm,0.7s						
PDAR	Pinedale Array	48.57	70	P	P	04 45 07.0	-0.2
	comp=Z,0.2nm,0.5s,baz=296,slow=4.5,SNR=2.6						
KURK	Kurchatov	56.33	311	P	P	04 46 05.4	+1.4
KURBB	Kurchatov Arra	56.44	311	P	P	04 46 05.4	+0.7

*IDC **03** 04:43:48.2±1.8, 37°.46N×78°.07E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/51, mbtmp3.7/5, ML3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/41, Error ellipse: s-maj=30.2km s-min=26.8km az=82.0*

ISC 03 04:43:46.4±0.9, 36°.94N±0°.06×78°.4E±0°.1, h10km, n24, σ2°31/19, mb3.8/3, 4C, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.80 355**			**Pn**	**04 45 01.5**	**+2.3**
KDJ	**Kajisay**	**5.26 350**			**Pn**	**04 45 06.5**	**+1.1**
NIL	**Nilore**	**5.34 234**		Pn	**Pn**	**04 45 08.1**	**+1.9**
DRK	**Karamyk**	**5.78 298**		Pn	**Pn**	**04 45 14.8**	**+2.3**
BOOM	**Boomskoye usch**	**5.86 342**			**Pn**	**04 45 15.4**	**+2.0**
SMLA	**Simla**	**5.89 190**		*e*P	**Pb**	**04 45 27.5**	**-1.7**
SMLA				*e*S	**Sb**	**04 46 38.6**	**-1.1**
SATY	**Saty**	**6.11 0**		Pg	**Pb**	**04 45 31.0**	**-2.0**
	16nm,0.5s						
SATY				Lg	Lg	04 46 52.4	
	22nm,0.6s						
MDOK	**Medeo**	**6.30 351**		Pg	**Pb**	**04 45 33.0**	**-3.3**
	10nm,0.4s						
MDOK				Lg	Lg	04 46 53.2	
	23nm,0.7s						
MDOK	**Medeo**	**6.30 351**		Pg	**Pb**	**04 45 32.8**	**-3.4**
	18nm,0.4s						
MDOK				Lg	Lg	04 46 54.5	
	23nm,0.7s						
TKM2	**Tokmak 2**	**6.35 341**		⇑Pg	Pb	04 45 32.6	-4.5
	3.6nm,0.3s						
TKM2				⇑Lg	Lg	04 46 58.1	
	7.9nm,0.5s						
KST	**Kastek**	**6.37 344**		Pg	Pb	04 45 32.6	-4.9
	10nm,0.4s						
KST				Lg	Lg	04 46 54.2	
	7.3nm,1.0s						
AAK	**Ala-Archa**	**6.43 333**		Pn	**Pn**	**04 45 20.0**	**-1.3**
	1.4nm,0.3s,baz=195,slow=12,SNR=2.7						
AAK				Pg	Pb	04 45 34.5	-4.0
	5.0nm,0.3s,baz=150,slow=6.8,SNR=9.0						
AAK				Lg	Lg	04 46 53.9	
	1.2nm,0.3s,baz=204,slow=20,SNR=1.6						
AAK	**Ala-Archa**	**6.43 333**		⇑Pg	Pb	04 45 32.6	-5.9
	5.9nm,0.5s						
AAK				⇑Lg	Lg	04 46 58.1	
	28nm,1.2s						
AAK	**Ala-Archa**	**6.43 333**			**Pn**	**04 45 24.3**	**+3.0**
GAR	**Garm**	**6.71 290**		Pn	**Pn**	**04 45 26.9**	**+1.8**
WMQ	**Urumqi**	**9.87 43**		*e*P	**Pn**	**04 46 11.4**	**+3.0**
MKAR	**Makanchi Array**	**10.26 15**		Pn	**Pn**	**04 46 11.5**	**-2.2**
	1.7nm,0.3s,baz=203,slow=13,SNR=27						
MKAR				Sn	Sn	04 47 58.1	-11
	0.4nm,0.3s,baz=201,slow=23,SNR=2.5						
BRVK	**Borovoye**	**17.09 343**		Pn	**Pn**	**04 47 45.3**	**+0.1**
BRVK				IAmb	IAmb	04 47 52.5	
	comp=Z,7.1nm,1.2s						
SONM	**Songino Array**	**23.24 53**		P	**P**	**04 48 56.2**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=264,slow=9.9,SNR=2.4						
SONM	**Songino Array**	**23.24 53**		IAmb	IAmb	04 49 40.9	
	comp=Z,8.4nm,1.8s						
KLR	**Kul'dur**	**40.06 55**		LR	LR	05 08 30.6	
	comp=Z,195nm,20.4s,baz=300,slow=37						
ARCES	**ARCESS Array B**	**43.10 336**		P	**P**	**04 51 46.0**	**-0.3**
	comp=Z,2.1nm,1.1s,baz=106,slow=9.5,SNR=1.5						
TORD	**Torodi Ar. Bea**	**71.66 273**		P	**P**	**04 55 10.0**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=43,slow=5.5,SNR=8.9						
TORD	**Torodi Ar. Bea**	**71.66 273**		IAmb	IAmb	04 57 33.7	
	comp=Z,11nm,1.9s						

*IDC **03** 04:44:20.9±2.3, 15°.33S×175°.10W, h229km±34km, mb3.6/4, mb1 3.8/5, mb1mx3.3/33, mbtmp4.2/5, Error ellipse: s-maj=118.4km s-min=19.1km az=144.0*

ISC 03 04:44:21.4±1.1, 15°.4S±0°.5×174°.9W±0°.2, h250km, n8, σ1°09/10, mb3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.33 65**		P	**Pn**	**04 45 18.1**	**+0.5**
	18nm,0.3s,baz=209,slow=19,SNR=3.8						
AFI				S	**S**	**04 46 01.4**	**-0.6**
	7.6nm,0.3s,baz=221,slow=22,SNR=1.7						
STKA	**Stephens Creek**	**42.83 240**		P	**P**	**04 51 56.1**	**+1.0**
	1.1nm,0.5s,baz=73,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**48.47 257**		P	**P**	**04 52 39.1**	**-0.3**
	0.6nm,0.3s,baz=84,slow=6.3,SNR=38						
WRA				PcP	**PcP**	**04 54 01.2**	**-0.3**
	0.7nm,1.0s,baz=97,slow=3.8,SNR=1.7						
ASAR	**Alice Springs**	**48.77 252**		P	**P**	**04 52 41.1**	**-0.5**
	18nm,0.7s,baz=87,slow=7.9,SNR=174						
ILAR	**Eielson Array**	**82.70 12**		P	**P**	**04 56 17.8**	**+1.1**
	0.2nm,0.5s,baz=225,slow=6.7,SNR=5.0						
ARCES	**ARCESS Array B**	**124.38 351**		PKP	**PKiKP**	**05 02 50.9**	**+0.6**
	1.3nm,0.8s,baz=45,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**145.23 320**		PKPbc	**PKiKP**	**05 03 32.1**	**-1.6**
	0.6nm,0.5s,baz=83,slow=6.2,SNR=3.0						
GERES	**GERESS Array B**	**145.88 350**		PKPbc	**PKiKP**	**05 03 33.2**	**-1.5**
	0.5nm,0.5s,baz=46,slow=4.2,SNR=5.0						

*NNC **03** 05:03:08.8±2.7, 37°.73N×78°.01E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=26.6km s-min=18.1km az=78.0*

ISC 03 05:03:11.4±6.1, 37°.6N±0°.4×78°.2E±0°.2, h17km, n7, σ0°90/7, 4C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.43 2**		Pg	**Pb**	**05 04 46.1**	**+0.3**
	14nm,0.7s						
SATY				Lg	Lg	05 05 59.9	
	16nm,0.5s						
MDOK	**Medeo**	**5.59 352**		Pg	**Pb**	**05 04 47.9**	**-0.7**
	13nm,0.8s						
MDOK				Lg	Lg	05 06 01.4	
	22nm,1.2s						
MDOK	**Medeo**	**5.59 352**		Pg	**Pb**	**05 04 47.9**	**-0.7**
	7.5nm,0.6s						
MDOK				Lg	Lg	05 06 02.0	
	8.0nm,0.6s						
TKM2	**Tokmak 2**	**5.63 341**		⇑Pg	**Pb**	**05 04 49.2**	**-0.2**
	4.1nm,0.6s						
TKM2				⇑Lg	Lg	05 06 03.2	
	5.2nm,0.6s						
KST	**Kastek**	**5.66 344**		Pg	**Pb**	**05 04 51.2**	**+1.4**
	4.6nm,0.7s						
KST				Lg	Lg	05 06 06.7	
	5.7nm,0.8s						
AAK	**Ala-Archa**	**5.73 332**		⇑Pg	**Pb**	**05 04 50.8**	**-0.3**
	3.8nm,0.5s						
AAK				⇑Lg	Lg	05 06 05.6	
	7.5nm,0.6s						
WMQ	**Urumqi**	**9.53 47**		*e*P	**Pn**	**05 05 27.8**	**0.0**

*IDC **03** 05:06:27.1±1.0, 37°.44N×78°.05E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.7/44, mbtmp3.7/15, ML3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/46, Error ellipse: s-maj=21.5km s-min=18.1km az=57.0*

*BJI **03** 05:06:30.1±0.0, 37°.49N×77°.98E, h6km, mB3.6/1, mb3.6/3, ML3.9/6*

*NNC **03** 05:06:33.8±2.9, 37°.78N×77°.78E, h0km, mb4.6, mpv4.1, Error ellipse: s-maj=38.3km s-min=21.6km az=90.0*

ISC 03 05:06:30.3±0.9, 37°.47N±0°.09×77°.97E±0°.08, h17km, n26, σ2°13/30, mb3.7/11, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.60 3**		Pg	**Pb**	**05 08 11.4**	**+3.8**
	31nm,0.5s						
SATY				Lg	Lg	05 09 23.7	
	60nm,0.8s						
MDOK	**Medeo**	**5.73 353**		Pn	**Pn**	**05 07 55.2**	**+0.4**
	3.4nm,0.6s						
MDOK				Pg	**Pb**	**05 08 10.3**	**+0.3**
	33nm,0.5s						
MDOK				Lg	Lg	05 09 28.3	
	58nm,0.6s						
MDOK	**Medeo**	**5.73 353**		Pg	**Pb**	**05 08 12.0**	**+2.0**
	52nm,0.5s						
MDOK				Lg	Lg	05 09 24.1	
	21nm,0.7s						
TKM2	**Tokmak 2**	**5.74 342**		⇑Pn	**Pn**	**05 07 57.0**	**+2.1**
	2.8nm,0.5s						
TKM2				⇑Pg	**Pb**	**05 08 10.0**	**-0.2**
	9.8nm,0.4s						
TKM2				⇓Lg	Lg	05 09 24.5	
	17nm,0.6s						
KST	**Kastek**	**5.78 345**		Pg	**Pb**	**05 08 08.6**	**-2.0**
	17nm,0.7s						
KST				Lg	Lg	05 09 18.1	
	14nm,0.7s						
KNDC	**Almaty**	**5.80 353**		⇓Pg	**Pb**	**05 08 14.0**	**+3.1**
	67nm,0.6s						
KNDC				⇓Lg	Lg	05 09 29.2	
	161nm,0.9s						
AAK	**Ala-Archa**	**5.81 334**		Pn	**Pn**	**05 07 58.3**	**+2.4**
	1.5nm,0.3s,baz=108,slow=5.7,SNR=3.7						
AAK				Pg	**Pb**	**05 08 13.7**	**+2.4**
	3.5nm,0.3s,baz=69,slow=5.0,SNR=6.7						
AAK				Lg	Lg	05 09 27.4	
	1.7nm,0.3s,baz=54,slow=19,SNR=1.6						
AAK	**Ala-Archa**	**5.81 334**		⇑Pn	**Pn**	**05 07 57.6**	**+1.7**
	4.0nm,0.5s						
AAK				⇑Pg	**Pb**	**05 08 12.6**	**+1.3**
	19nm,0.7s						
AAK				⇑Lg	Lg	05 09 29.2	
	26nm,0.7s						
WMQ	**Urumqi**	**9.74 46**		*e*P	**Pn**	**05 08 51.3**	**+1.7**
WMQ				S	**Sn**	**05 10 41.7**	**+3.1**
WMQ				smax	smax		
	comp=N,39nm,1.1s						
WMQ				smax	smax		
	comp=E,45nm,0.9s						
MKAR	**Makanchi Array**	**9.86 18**		Pn	**Pn**	**05 08 50.7**	**-0.5**
	3.3nm,0.3s,baz=200,slow=13,SNR=57						
MKAR				Sn	**Sn**	**05 10 34.9**	**-6.5**
	1.9nm,0.3s,baz=196,slow=17,SNR=5.9						
KURBB	**Kurchatov Arra**	**13.16 2**		Pn	**Pn**	**05 09 35.1**	**-1.2**
	baz=188,slow=12,SNR=4.7						
KURBB				Lg	Lg	05 13 24.5	
	0.0nm,0.3s,baz=190,slow=25,SNR=1.8						
ZALV	**Zalesovo Beam**	**17.15 14**		P	**Pn**	**05 10 26.5**	**-2.5**
	0.3nm,0.3s,baz=207,slow=12,SNR=1.9						
GTA	**Gaotai**	**17.22 77**		*e*P	P	05 10 38.2	+6.6
GTA				pP	sP	05 10 41.7	+2.3
GTA				sP	pP	05 10 44.5	+7.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**23.21 54**		P	**P**	**05 11 36.5**	**0.0**
	1.4nm,0.7s,baz=251,slow=9.0,SNR=3.0						
BRTR	**Keskin Array B**	**34.46 288**		P	**P**	**05 13 18.2**	**+0.9**
	1.2nm,0.6s,baz=88,slow=11,SNR=3.2						
AKASG	**Malin Array Be**	**36.76 307**		P	**P**	**05 13 36.4**	**-0.4**
	0.9nm,0.4s,baz=74,slow=8.0,SNR=5.3						
FINES	**FINESS Array B**	**39.90 324**		P	**P**	**05 14 03.4**	**+0.4**
	1.2nm,0.3s,baz=109,slow=9.6,SNR=15						
YAK	**Yakutsk**	**39.95 35**		LR	LR	05 32 37.3	
	comp=Z,61nm,20.9s,baz=306,slow=39						
ARCES	**ARCESS Array B**	**42.48 336**		P	**P**	**05 14 25.3**	**+1.2**
	0.8nm,0.7s,baz=104,slow=11,SNR=2.3						
GERES	**GERESS Array B**	**46.93 305**		P	**P**	**05 14 59.8**	**-0.1**
	0.2nm,0.4s,baz=96,slow=7.2,SNR=3.8						
NB2	**NORSAR Subarra**	**47.00 322**		P	**P**	**05 15 00.1**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**47.00 322**		P	**P**	**05 15 00.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=89,slow=7.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**71.29 272**		P	**P**	**05 17 48.0**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=44,slow=5.6,SNR=8.9						
ILAR	**Eielson Array**	**72.21 19**		P	**P**	**05 17 52.5**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=342,slow=5.7,SNR=1.4						
WRA	**Warramunga Arr**	**77.92 127**		P	**P**	**05 18 27.2**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=326,slow=5.0,SNR=1.9						
ASAR	**Alice Springs**	**80.39 130**		P	**P**	**05 18 39.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=325,slow=5.9,SNR=3.4						

*IDC **03** 05:19:31.5±0.9, 36°.33N×97°.59W, h0km, mb3.7/1, mb1 3.8/9, mb1mx3.6/56, mbtmp3.6/9, ML3.4/8, MS4.0/2, Ms1 4.0/2, ms1mx2.9/57, Error ellipse: s-maj=12.8km s-min=10.3km az=134.0*

*TUL **03** 05:19:31.6±1.4, 36°.28N±0°.01×97°.52W±0°.02, h5km±7km, ML3.8, mb_Lg3.8/143(NEIC), Mwr3.5/34(NEIC), Error ellipse: s-maj=2.8km s-min=1.6km az=66.0*

*ANF **03** 05:19:31.4±0.2, 36°.31N×97°.51W, h5km, ML4.8/16, Error ellipse: s-maj=2.4km s-min=2.1km az=19.0*

*NEIC **03** 05:19:32±1.4, 36°.29N±0°.01×97°.51W±0°.02, h5km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=244.0*

*NEIC **03** 05:19:32.1, 36°.29N×97°.51W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.60; $M_{\theta\theta}$2.77; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.11; $M_{\phi r}$-1.00; Fault plane solution: $M_0$2.62000×10^{14} NP1:ϕ_s303.33000°, δ59.76000°, λ-43.66000°. NP2:ϕ_s59.00000°, δ53.39000°, λ-141.14000°. Principal axes: T 2.7931, Plg4.0000°, Azm2.0000°; N -0.3803, Plg39.0000°, Azm96.0000°; P -2.4128, Plg51.0000°, Azm268.0000°;*

ISC 03 05:19:31.7±1.0, 36°.30N±0°.02×97°.52W±0°.02, h7km±8km, n179, σ0°83/163, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43 299**			**Pg**	**05 19 40.2**	**+0.3**
CROK				Sg	**Sg**	**05 19 46.5**	**+0.9**
OK029	**Liberty Lake**	**0.51 174**		Pg	**Pg**	**05 19 41.2**	**-0.2**
OK029				Sg	**Sg**	**05 19 48.2**	**+0.2**
BLOK	**Blackwell**	**0.52 28**			**Pg**	**05 19 42.2**	**+0.5**
BLOK				Sg	**Sg**	**05 19 49.3**	**+0.8**
BCOK	**Bluff Creek, N**	**0.65 187**			**Pg**	**05 19 43.7**	**-0.4**
BCOK				Sg	**Sg**	**05 19 52.5**	**-0.1**
OK031	**S. Brethren Rd**	**0.65 122**			**Pg**	**05 19 44.1**	**-0.1**
OK031				Sg	**Sg**	**05 19 52.6**	**0.0**
QUOK	**Quay**	**0.67 101**			**Pg**	**05 19 44.5**	**-0.1**
QUOK				IAmb_Lg		05 19 52.9	
	comp=Z,655nm,0.8s						
OK005	**Luther M Schoo**	**0.70 158**			**Pg**	**05 19 44.9**	**-0.2**
OK005				Sg	**Sg**	**05 19 53.9**	**-0.3**
OK030	**Cody Creek RV**	**0.70 122**			**Pg**	**05 19 45.0**	**-0.2**
OK030				Sg	**Sg**	**05 19 54.4**	**+0.1**
KAN13	**South Haven SW**	**0.71 3**			**Pg**	**05 19 45.7**	**+0.3**
OK009	**Oakdale Elemen**	**0.72 174**		Pg	**Pg**	**05 19 45.0**	**-0.5**
OK025	**Westminster Rd**	**0.73 168**			**Pg**	**05 19 45.4**	**-0.3**
OK025				Sg	**Sg**	**05 19 55.3**	**0.0**
OK032	**Salt Plains WL**	**0.75 312**			**Pg**	**05 19 46.2**	**0.0**
OK032				Sg	**Sg**	**05 19 56.5**	**+0.7**
OK001	**Jones High Sch**	**0.76 166**			**Pg**	**05 19 45.9**	**-0.4**
KAN17	**Caldwell West**	**0.77 345**			**Pg**	**05 19 46.7**	**+0.2**
KAN17				Sg	**Sg**	**05 19 56.7**	**+0.3**
KAN09	**Caldwell North**	**0.84 354**			**Pg**	**05 19 47.9**	**+0.1**
KAN05	**Bluff City Nor**	**0.85 341**			**Pg**	**05 19 48.2**	**+0.1**
KAN05				Sg	**Sb**	**05 19 59.9**	**-0.7**
OKCFA	**Oklahoma City**	**0.89 176**			**Pg**	**05 19 48.1**	**-0.6**
OKCFA	**Oklahoma City**	**0.89 176**		P		05 19 48.1	
	baz=356,SNR=90						
OKCFA				S		05 20 00.0	
	baz=356						
OKCSW	**OKLAHOMA CITY**	**0.90 176**			**Pg**	**05 19 48.3**	**-0.6**
KS20	**Mayfield South**	**0.93 358**			**Pg**	**05 19 49.5**	**0.0**
KS20				Sg	**Sb**	**05 20 02.3**	**-0.4**
KAN10	**Anthony SW Sta**	**0.94 331**			**Pg**	**05 19 49.7**	**-0.1**
KAN10				Sg	**Sb**	**05 20 02.6**	**-0.5**
KAN08	**Anthony NE Sta**	**0.99 339**			**Pg**	**05 19 50.7**	**0.0**
KAN08				Sg	**Sb**	**05 20 04.3**	**-0.3**
T35A	**Sooner Cattle**	**1.02 53**		Pg	**Pg**	**05 19 51.1**	**-0.1**
T35B	**Sooner Cattle**	**1.02 53**		P		05 19 51.0	
	baz=232,SNR=316						
T35B				S		05 20 04.4	
	baz=232						
FNO	**Franklin**	**1.05 175**			**Pg**	**05 19 50.9**	**-0.9**
KAN12	**Harper NE Stat**	**1.07 339**			**Pg**	**05 19 52.0**	**-0.1**
U32A	**Winter Ranch,**	**1.20 274**			**Pg**	**05 19 53.9**	**-0.8**
U32A	**Winter Ranch,**	**1.20 274**		P		05 19 53.9	
	baz=94,SNR=200						
TUL1	**Leonard**	**1.45 105**		P	**Pn**	**05 19 57.8**	**-0.6**
	baz=285,SNR=511						
TUL1				S	**Sb**	**05 20 17.5**	**-0.2**
	baz=285						
TUL1	**Leonard**	**1.45 105**		P		05 19 57.7	
	baz=285,SNR=687						
TUL1				S		05 20 17.3	
	baz=285						
X34A	**Smith Ranch, M**	**1.72 189**		Pn	**Pn**	**05 20 02.8**	**+0.7**
WMOK	**Wichita Mounta**	**1.87 214**		P	**Pn**	**05 20 04.4**	**+0.3**
	baz=33,SNR=357						
WMOK				S	**Sn**	**05 20 29.1**	**+1.1**
	baz=33						
WMOK	**Wichita Mounta**	**1.87 214**			**Pn**	**05 20 04.6**	**+0.5**
WMOK	**Wichita Mounta**	**1.87 214**		P		05 20 04.5	
	baz=33,SNR=752						
WMOK				S		05 20 29.2	
	baz=33						
LOOK	**Love County**	**2.32 173**		Pn	**Pn**	**05 20 10.9**	**+0.5**
LOOK				IAmb_Lg		05 20 49.8	
	comp=Z,317nm,0.8s						
R32A	**Long Quarter,**	**2.32 336**			**Pn**	**05 20 11.8**	**+1.4**
R32A	**Long Quarter,**	**2.32 336**		P		05 20 11.1	
	baz=156,SNR=16						
R32A				S		05 20 40.5	
	baz=156						
X37A	**Clayton**	**2.45 134**			**Pn**	**05 20 12.9**	**+0.8**
X37A				IAmb_Lg		05 20 54.5	
	comp=Z,477nm,0.8s						
X37A	**Clayton**	**2.45 134**		P		05 20 12.8	
	baz=315,SNR=86						
X37A				S		05 20 42.9	
	baz=315						
U38A	**Gravette**	**2.53 86**			**Pn**	**05 20 14.6**	**+1.3**
U38A				IAmb_Lg		05 20 53.7	
	comp=Z,277nm,0.7s						
KSU1	**Kansas State U**	**2.89 14**		P	**Pn**	**05 20 18.9**	**+0.8**
	baz=195						
KSU1	**Kansas State U**	**2.89 14**		Pn	**Pn**	**05 20 19.2**	**+1.1**
KSU1				IAmb_Lg		05 21 05.7	
	comp=Z,187nm,0.8s						
HHAR	**Hobbs**	**2.89 89**			**Pn**	**05 20 18.8**	**+0.6**
HHAR				IAmb_Lg		05 21 02.6	
	comp=Z,262nm,0.8s						
HHAR	**Hobbs**	**2.89 89**		P		05 20 18.7	
	baz=271						
Z35A	**Perchaven, San**	**2.97 176**			**Pn**	**05 20 18.3**	**-1.0**
Z35A	**Perchaven, San**	**2.97 176**		P		05 20 20.0	
	baz=356,SNR=31						
CBKS	**Cedar Bluff**	**3.07 326**		P	**Pn**	**05 20 20.5**	**-0.2**
	baz=144						
CBKS				Sb	**Sg**	**05 21 07.1**	**-3.1**
	baz=144						
CBKS	**Cedar Bluff**	**3.07 326**		Pn	**Pn**	**05 20 21.6**	**+0.9**
W39A	**Magazine**	**3.23 109**		P	**Pn**	**05 20 22.9**	**0.0**
	baz=291,SNR=30						
W39A				S	**Sn**	**05 21 02.5**	**+0.9**
	baz=291						
W39A	**Magazine**	**3.23 109**			**Pn**	**05 20 23.6**	**+0.8**
W39A	**Magazine**	**3.23 109**		P		05 20 23.4	
	baz=291,SNR=27						
W39A				S		05 21 02.6	
	baz=291						
S39A	**Bolivar**	**3.63 66**		Pn	**Pn**	**05 20 29.4**	**+1.0**
S39A				IAmb_Lg		05 21 30.3	
	comp=Z,352nm,0.9s						
S39A	**Bolivar**	**3.63 66**		P		05 20 29.0	
	baz=248,SNR=79						
MIAR	**Mount Ida**	**3.66 117**		P	**Pn**	**05 20 29.1**	**+0.2**
	baz=300,SNR=80						
MIAR				S	**Sn**	**05 21 12.8**	**+0.5**
	baz=300						
MIAR	**Mount Ida**	**3.66 117**		Pn	**Pn**	**05 20 29.8**	**+0.9**
MIAR				IAmb_Lg		05 21 37.8	
	comp=Z,274nm,0.8s						
MIAR	**Mount Ida**	**3.66 117**		P		05 20 29.6	
	baz=300,SNR=191						
MIAR				S		05 21 12.2	
	baz=300						
AMTX	**Amarillo**	**3.68 249**		P	**Pn**	**05 20 29.1**	**0.0**
	baz=66						
AMTX				Sb	**Sb**	**05 21 24.0**	**+2.1**
	baz=66						
AMTX	**Amarillo**	**3.68 249**		Pn	**Pn**	**05 20 30.1**	**+1.0**
AMTX				IAmb_Lg		05 21 33.2	
	comp=Z,429nm,1.1s						
AMTX	**Amarillo**	**3.68 249**		P		05 20 29.9	
	baz=66,SNR=22						
Z38A	**Mt. Pleasant**	**3.68 145**			**Pn**	**05 20 29.4**	**+0.3**
Z38A	**Mt. Pleasant**	**3.68 145**		P		05 20 29.4	
	baz=326						
U40A	**Yellville**	**3.77 88**		P	**Pn**	**05 20 30.3**	**0.0**
	baz=270,SNR=16						
U40A	**Yellville**	**3.77 88**			**Pn**	**05 20 30.8**	**+0.6**
U40A				IAmb_Lg		05 21 32.7	
	comp=Z,440nm,0.9s						
U40A	**Yellville**	**3.77 88**		P		05 20 30.8	
	baz=270,SNR=27						
U40A				P		05 20 30.8	
	baz=270,SNR=27						
ABTX	**Abilene, Hawle**	**4.07 206**		P	**Pn**	**05 20 34.7**	**+0.3**
	baz=25						
ABTX	**Abilene, Hawle**	**4.07 206**			**Pn**	**05 20 35.2**	**+0.8**
ABTX				IAmb_Lg		05 21 42.6	
	comp=Z,285nm,0.8s						
ABTX	**Abilene, Hawle**	**4.07 206**		P		05 20 34.3	
	baz=25						
X40A	**Basin Creek Fa**	**4.23 114**		P	**Pn**	**05 20 36.9**	**+0.3**
	baz=296,SNR=14						
X40A				S	**Sn**	**05 21 26.6**	**+0.3**
	baz=296						
X40A	**Basin Creek Fa**	**4.23 114**			**Pn**	**05 20 37.4**	**+0.8**
X40A	**Basin Creek Fa**	**4.23 114**		P		05 20 37.1	
	baz=296,SNR=41						
X40A				P		05 20 37.1	
	baz=296,SNR=41						
WHTX	**Lake Whitney,**	**4.30 179**		P	**Pn**	**05 20 37.7**	**+0.1**
	baz=359,SNR=6.5						
WHTX				S	**Sn**	**05 21 28.1**	**+0.1**
	baz=359						
WHTX	**Lake Whitney,**	**4.30 179**			**Pn**	**05 20 37.7**	**+0.1**
WHTX	**Lake Whitney,**	**4.30 179**		P		05 20 37.6	
	baz=359,SNR=33						
MGMO	**Mountain Grove**	**4.30 77**			**Pn**	**05 20 38.7**	**+1.1**
MGMO				IAmb_Lg		05 21 50.5	
	comp=Z,257nm,0.8s						
WHAR	**Wooly Hollow**	**4.37 102**		Pn	**Pn**	**05 20 39.3**	**+0.8**
WHAR				IAmb_Lg		05 21 53.7	
	comp=Z,271nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.39 94**			**Pn**	**05 20 40.0**	**+1.2**
FCAR				IAmb_Lg		05 21 58.9	
	comp=Z,148nm,0.8s						
N33B	**J Bar K, Exete**	**4.43 1**		P		05 20 39.0	
	baz=181,SNR=18						
N33A	**J Bar K, Exete**	**4.43 1**			**Pn**	**05 20 39.1**	**-0.3**
N33A				IAmb_Lg		05 22 01.0	
	comp=Z,131nm,0.8s						
W41B	**Gary Mavity, V**	**4.43 103**		P	**Pn**	**05 20 39.0**	**-0.3**
	baz=286,SNR=14						

LCAR IAmb_Lg 05 22 12.6
comp=Z,145nm,1.1s
CCAR Cane Creek 5.28 115 IAmb_Lg 05 22 29.0
comp=Z,283nm,0.9s
CCM Cathedral Cave 5.31 69 P **Pn 05 20 51.1 -0.3**
baz=252
CCM Cathedral Cave 5.31 69 Pn 05 20 52.5 +1.1
CCM Cathedral Cave 5.31 69 P 05 20 51.5
baz=252,SNR=21
P40A Paris 5.39 52 Pn 05 20 53.2 +0.6
P40A IAmb_Lg 05 22 29.5
comp=Z,303nm,0.7s
435B Jarrell 5.50 181 P **Pn 05 20 54.0 -0.1**
baz=0.6
435B Jarrell 5.50 181 Pn 05 20 55.2 +1.1
435B IAmb_Lg 05 22 36.8
comp=Z,148nm,0.9s
435B Jarrell 5.50 181 P 05 20 54.1
baz=0.6,SNR=13
T25A Trinidad 5.60 281 P **Pn 05 20 55.0 -0.6**
baz=97,SNR=12
T25A Trinidad 5.60 281 Pn 05 20 55.9 +0.3
T25A IAmb_Lg 05 22 34.9
comp=Z,118nm,0.7s
N38A Joes South For 5.60 36 Pn 05 20 55.4 -0.1
N38A Joes South For 5.60 36 P 05 20 55.0
baz=218,SNR=10
L34A Svendsen Farm, 5.73 9 Pn 05 20 58.9 +1.7
PBMO Poplar Bluff 5.73 83 Pn 05 20 58.6 +1.5
OGNE Ogallala 5.83 324 P **Pn 05 20 59.4 +0.7**
baz=142
OGNE Ogallala 5.83 324 IAmb_Lg 05 22 43.6
comp=Z,203nm,0.8s
LPAR Lepanto 5.90 95 IAmb_Lg 05 22 53.0
comp=Z,223nm,0.9s
JCT Junction City 6.11 199 P **Pn 05 21 03.0 +0.4**
baz=18
JCT Junction City 6.11 199 P 05 21 03.1
baz=18,SNR=7.2
143A Socs Landing, 6.19 124 IAmb_Lg 05 22 52.9
comp=Z,218nm,0.8s
PEBM Pemiscott Bayo 6.19 89 IAmb_Lg 05 22 52.0
comp=Z,265nm,0.9s
MET Memphis--Engin 6.28 99 IAmb_Lg 05 23 04.3
comp=Z,225nm,1.0s
K31A O'Neill 6.38 352 P 05 21 06.5
baz=171,SNR=7.0
K31A O'Neill 6.39 352 Pn 05 21 06.1 -0.1
LNXT Lenox 6.49 89 IAmb_Lg 05 23 00.0
comp=Z,218nm,0.7s
SCIA State Center 6.52 30 P **Pn 05 21 08.1 0.0**
baz=212,SNR=6.4
SCIA State Center 6.52 30 Pn 05 21 08.6 +0.5
SCIA State Center 6.52 30 P 05 21 08.3
baz=212,SNR=10
SDCO Great Sand Dun 6.55 285 P **Pn 05 21 08.5 -0.2**
baz=100,SNR=31
SDCO Great Sand Dun 6.55 285 Pn 05 21 09.7 +1.0
441A DeRidder 6.61 146 IAmb_Lg 05 23 15.4
comp=Z,89nm,1.2s
HALT Halls 6.63 91 IAmb_Lg 05 23 21.0
comp=Z,215nm,1.0s
GLAT Glass 6.65 88 IAmb_Lg 05 23 15.0
comp=Z,196nm,0.8s
S44A Carbondale 6.76 76 Pn 05 21 12.5 +1.1
S44A IAmb_Lg 05 23 11.6
comp=Z,220nm,0.7s
SIUC Southern Illin 6.79 76 IAmb_Lg 05 23 12.2
comp=Z,239nm,0.8s
OXF Oxford 6.86 103 IAmb_Lg 05 23 16.2
comp=Z,170nm,0.9s
W45A Hickory Valley 6.87 97 IAmb_Lg 05 23 09.9
comp=Z,197nm,0.9s
Y45A Yeager Farm, C 6.97 108 IAmb_Lg 05 23 31.6
comp=Z,126nm,0.9s
UTMT University of 6.99 87 IAmb_Lg 05 23 19.4
comp=Z,205nm,0.8s
VBMS Vicksburg 7.08 123 IAmb_Lg 05 23 32.5
comp=Z,69nm,0.9s
P43A Skaggs, Pawnee 7.14 60 P 05 21 16.6
baz=244,SNR=15
Q44A Meyer Farm, Va 7.23 66 Pn 05 21 19.3 +1.5
ISCO Idaho Springs 7.28 301 P **Pn 05 21 19.0 +0.2**
baz=116
ISCO Idaho Springs 7.28 301 Pn 05 21 20.7 +1.9
ISCO IAmb_Lg 05 23 34.7
comp=Z,75nm,0.9s
K38A Parkersburg 7.32 29 Pn 05 21 19.4 +0.3
ANMO Albquerque 7.41 262 Pn **Pn 05 21 21.5 +1.1**
comp=Z,0.1nm,0.3s,baz=98,slow=15,SNR=5.5
ANMO Pg Pb 05 21 46.4 +5.8
comp=Z,1.8nm,0.3s,baz=78,slow=16,SNR=23
ANMO Lg Lg 05 23 20.0
comp=Z,1.4nm,0.3s,baz=100,slow=12,SNR=1.5
ANMO Albquerque 7.41 262 Pn 05 21 20.4 0.0
735A Kenedy 7.43 182 IAmb_Lg 05 23 42.1
comp=Z,77nm,0.9s
ECSD EROS Data Cent 7.46 5 P **Pn 05 21 19.9 -1.0**
baz=186,SNR=22
ECSD EROS Data Cent 7.46 5 IAmb_Lg 05 23 28.7
comp=Z,64nm,1.1s
ECSD EROS Data Cent 7.46 5 P 05 21 19.9
baz=186,SNR=43
L40A Anamosa 7.55 38 Pn 05 21 21.0 -1.2
L40A IAmb_Lg 05 23 40.2
comp=Z,161nm,0.8s
HDIL Hopedale 7.73 54 P **Pn 05 21 24.8 +0.2**
baz=239
HDIL Hopedale 7.73 54 Pn 05 21 25.8 +1.1
PLAL Pickwick Lake 7.80 97 IAmb_Lg 05 23 46.5
comp=Z,86nm,1.0s
WVT Waverly 7.83 88 P **Pn 05 21 26.4 +0.4**
baz=274
WVT Waverly 7.83 88 Pn 05 21 27.3 +1.2
OLIL Olney 7.87 69 Pn 05 21 27.4 +0.9
PHWY Pilot Hill 7.96 311 IAmb_Lg 05 23 55.8
comp=Z,144nm,0.9s
MNTX Cornudas Mount 7.98 237 P **Pn 05 21 27.7 -0.5**
baz=53
MNTX Cornudas Mount 7.98 237 Pn 05 21 27.8 -0.3
MNTX IAmb_Lg 05 23 43.1
comp=Z,52nm,0.8s
N23A Red Feather La 8.03 307 P **Pn 05 21 28.8 -0.3**
baz=122
O44A Mansfield 8.09 59 Pn 05 21 30.6 +1.0
833A Chaparral WMA, 8.11 192 P **Pn 05 21 30.8 +0.9**
baz=11
SUSD Miller 8.21 353 IAmb_Lg 05 24 09.2
comp=Z,78nm,0.8s
I37A Lemond, Waseca 8.32 21 IAmb_Lg 05 24 03.8
comp=Z,110nm,0.7s
L42A Oliver, Polo 8.34 45 Pn 05 21 32.6 -0.4
Z47A Carrollton 8.37 109 IAmb_Lg 05 24 21.1
comp=Z,47nm,0.8s
T47A Sharon Grove 8.40 82 Pn 05 21 35.0 +1.2
TXAR Lajitas Array 8.66 218 Pn **Pn 05 21 35.7 -1.8**
comp=Z,0.5nm,0.3s,baz=43,slow=10,SNR=31
TXAR Lg Lg 05 24 01.4
comp=Z,5.2nm,0.3s,baz=44,slow=30,SNR=11
TX31 Lajitas Ar. Si 8.66 218 Pn 05 21 37.5 0.0
TX32 Lajitas Array 8.66 218 Pn 05 21 38.0 +0.4
JFWS Jewell Farm 8.66 38 P **Pn 05 21 37.0 -0.5**
baz=223,SNR=7.5
JFWS Jewell Farm 8.66 38 Pn 05 21 37.6 +0.1
JFWS IAmb_Lg 05 24 07.6
comp=Z,164nm,0.8s
X48A Hartselle 8.75 99 IAmb_Lg 05 24 11.2
comp=Z,46nm,0.8s
P46A Rosedale 8.79 65 Pn 05 21 41.3 +2.1
CLTN Cedars of Leba 9.05 88 IAmb_Lg 05 24 22.3
comp=Z,42nm,0.9s
SFIN Lafayette 9.14 60 P **Pn 05 21 44.3 +0.2**
baz=247
SFIN Lafayette 9.14 60 Pn 05 21 44.6 +0.6
SFIN IAmb_Lg 05 24 19.3
comp=Z,154nm,0.8s
WCI Wyandotte Cave 9.15 75 P **Pn 05 21 44.3 +0.1**
baz=261
WCI Wyandotte Cave 9.15 75 Pn 05 21 45.4 +1.2
WCI IAmb_Lg 05 24 22.3
comp=Z,102nm,0.9s
WCI Wyandotte Cave 9.15 75 P 05 21 43.7
baz=261,SNR=12
BLO Bloomington 9.17 68 Pn 05 21 45.0 +0.6
PV13 Radium Mtn., P 9.20 285 IAmb_Lg 05 24 36.0
comp=Z,69nm,1.2s
I40A Norwalk 9.24 33 Pn 05 21 44.5 -0.9
I40A IAmb_Lg 05 24 24.2
comp=Z,125nm,1.1s
LRAL Lakeview Retre 9.26 108 P **Pn 05 21 45.6 0.0**
baz=294
RSSD Black Hills 9.26 329 Pn 05 21 46.1 +0.2
RSSD IAmb_Lg 05 24 46.1
comp=Z,69nm,1.1s
RWWY Rawlins 9.26 308 IAmb_Lg 05 24 33.4
comp=Z,92nm,0.9s
O20A White River Ci 9.27 298 IAmb_Lg 05 24 44.6
comp=Z,48nm,1.1s
PV11 David Mesa, Pa 9.27 286 IAmb_Lg 05 24 51.2
comp=Z,91nm,1.2s
121A Cookes Peak, D 9.28 249 IAmb_Lg 05 24 42.9
comp=Z,71nm,1.2s
PV04 Paradox Valley 9.30 286 IAmb_Lg 05 24 41.1
comp=Z,51nm,1.0s
PV20 West Nyswonger 9.35 286 IAmb_Lg 05 24 49.9
comp=Z,50nm,1.3s
Y49A Blount Mountai 9.42 102 IAmb_Lg 05 24 39.8
comp=Z,39nm,0.7s
U49A Red Boiling Sp 9.47 85 IAmb_Lg 05 24 41.9
comp=Z,63nm,1.1s
SWET Sewanee 9.48 93 IAmb_Lg 05 24 42.6
comp=Z,41nm,0.9s
F33A 5 Mile Ranch, 9.57 5 Pn 05 21 49.4 -0.6
SPMN Marine on St. 9.60 20 P **Pn 05 21 49.6 -0.7**
baz=203
SPMN Marine on St. 9.60 20 Pn 05 21 49.0 -1.3
SPMN IAmb_Lg 05 24 46.5
comp=Z,57nm,0.8s
W50A Signal Mountai 9.98 93 IAmb_Lg 05 25 08.1
comp=Z,61nm,0.8s
I42A Draeger Farm, 10.04 38 Pn 05 21 55.6 -0.7
P48A Milroy 10.06 68 Pn 05 21 56.9 +0.2
P49A Miami Univ. Ec 10.62 68 P **Pn 05 22 03.8 -0.4**
baz=256
O49A Covington 11.07 66 Pn 05 22 10.7 +0.3
TKL Tuckaleechee C 11.16 89 Pn **Pn 05 22 12.3 +0.6**
comp=Z,0.3nm,0.3s,baz=281,slow=16,SNR=1.8
TKL Lg Lg 05 25 16.9
comp=Z,3.0nm,0.3s,baz=9.5,slow=17,SNR=9.5
S51A Beattyville 11.22 79 Pn 05 22 12.8 +0.2
PDAR Pinedale Array 11.31 308 Pn **Pn 05 22 14.2 +0.2**
comp=Z,0.1nm,0.3s,baz=119,slow=17,SNR=3.0
PDAR Lg Lg 05 25 21.6
comp=Z,0.5nm,0.3s,baz=108,slow=35,SNR=1.7
AGMN Agassiz Nation 12.05 5 P **Pn 05 22 20.3 -3.5**
baz=186,SNR=5.2
ULM Lac du Bonnet 13.99 4 Pn Pn 05 22 45.0 -5.3
comp=Z,0.3nm,0.3s,baz=187,slow=10,SNR=2.2
ULM Sn Sn 05 25 13.9 -12
comp=Z,0.4nm,0.3s,baz=245,slow=23,SNR=1.9
ULM Lg Lg 05 26 43.2
comp=Z,0.5nm,0.3s,baz=304,slow=21,SNR=1.9
SADO Sadowa 16.30 53 Pn **Pn 05 23 19.6 -1.5**
comp=Z,0.3nm,0.3s,baz=249,slow=16,SNR=1.4
SADO Sn Sn 05 26 08.7 -13
comp=Z,0.2nm,0.3s,baz=292,slow=8.9,SNR=1.8
SADO Lg Lg 05 27 56.2
comp=Z,0.6nm,0.3s,baz=177,slow=20,SNR=2.5
NVAR Mina Array Bea 16.66 284 Pn **Pn 05 23 25.5 -0.4**
comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=1.6
CMIG Matias Romero 19.28 172 P **Pn 05 23 59.9 +1.8**
comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=2.0
SDV Santo Domingo 36.64 132 LR LR 05 44 03.5
comp=Z,56nm,19.6s,baz=270,slow=40
ILAR Eielson Array 40.71 330 P **P 05 27 13.6 +1.0**
comp=Z,0.9nm,0.8s,baz=116,slow=6.0,SNR=9.2
SONM Songino Array 93.55 344 LR LR 06 19 07.6
comp=Z,278nm,20.3s,baz=178,slow=38

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*IDC **03** 05:20:28.3±3.8, 37°.30N×78°.36E, h0km, mb3.8/2, mb1 3.7/3, mb1mx3.3/47, mbtmp3.6/3, ML3.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/47, Error ellipse: s-maj=73.8km s-min=38.9km az=114.0*
*NNC **03** 05:20:31.4±1.7, 37°.50N×78°.11E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=17.2km s-min=11.2km az=78.0*
ISC 03 05:20:33.7±2.1, 37°.6N±0°.1×77°.8E±0°.2, h10km, n12, σ3°69/9, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.45**	**5**	Pg	**Pb**	**05 22 12.8**	**+3.8**
SATY	9.0nm,0.6s			Lg	Lg	05 23 28.5	
TKM2	**Tokmak 2**	**5.56**	**343**	Pg	**Pb**	**05 22 15.2**	**+4.2**
TKM2	1.9nm,0.5s			Lg	Lg	05 23 33.6	
MDOK	**Medeo**	**5.57**	**354**	Pg	Pb	05 22 15.9	+4.9
MDOK	3.3nm,0.4s			Lg	Lg	05 23 32.6	
MDOK	**Medeo**	**5.57**	**354**	Pg	**Pb**	**05 22 15.4**	**+4.4**
MDOK	7.7nm,0.4s			Lg	Lg	05 23 33.3	
KST	**Kastek**	**5.60**	**346**	Pg	Pb	05 22 16.9	+5.3
KST	4.4nm,0.3s			Lg	Lg	05 23 35.7	
AAK	**Ala-Archa**	**5.62**	**334**	Pg	**Pg**	**05 22 18.8**	**-2.5**
AAK	1.1nm,0.3s,baz=153,slow=12,SNR=4.0			Lg	Lg	05 23 33.3	
AAK	**Ala-Archa**	**5.62**	**334**	⇑Pg	**Pg**	**05 22 18.5**	**-2.8**
AAK	0.3nm,0.3s,baz=191,slow=20,SNR=2.1 2.9nm,0.6s			⇑Lg	Lg	05 23 36.5	
MKAR	**Makanchi Array**	**9.74**	**18**	Pn	**Pn**	**05 22 53.5**	**-0.4**
MKAR	0.2nm,0.3s,baz=201,slow=14,SNR=9.2			Sn	**Sn**	**05 24 39.7**	**-3.7**
AKTO	**Aktyubinsk**	**19.08**	**318**	LR	LR	05 32 19.2	
FINES	**FINESS Array B**	**39.71**	**324**	P	**P**	**05 28 06.7**	**+0.9**
YAK	**Yakutsk**	**39.89**	**35**	LR	LR	05 46 57.8	
TORD	**Torodi Ar. Bea**	**71.17**	**272**	P	**P**	**05 31 51.6**	**-1.3**

comp=Z,4.2nm,0.3s,baz=46,slow=4.9,SNR=2.5

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*IDC **03** 05:26:07.2±0.6, 41°.41S×86°.88E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.1/40, mbtmp4.4/12, MS4.4/16, Ms1 4.4/16, ms1mx4.2/33, Error ellipse: s-maj=20.8km s-min=16.3km az=143.0*
*NEIC **03** 05:26:09.3±0.6, 41°.4S±0°.1×86°.9E±0°.1, h10km±1km, mb4.6/17, Error ellipse: s-maj=22.3km s-min=13.9km az=319.0*
*GCMT **03** 05:26:12.3±0.2, 41°.50S±0°.01×87°.15E±0°.02, h15km±1km, MW5.1/106, Moment Tensor Solution. s26,c29; s106,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.23±.17; $M_{\theta\theta}$=4.54±.19; $M_{\phi\phi}$=-3.31±.15; $M_{r\theta}$=1.49±.51; $M_{r\phi}$=-2.58±.13; $M_{\theta\phi}$=0.34±.49; Best double couple: M_0=4.86800×10^{16} NP1:ϕ_s=332.00000°, δ80.00000°, λ7.00000°. NP2:ϕ_s=241.00000°, δ83.00000°, λ170.00000°. Principal axes: T 5.6500, Plg12.0000°, Azm197.0000°; N -1.5640, Plg77.0000°, Azm27.0000°; P -4.0860, Plg2.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 05:26:09.0±0.5, 41°.44S±0°.09×86°.9E±0°.1, h10km, n56, σ0°71/38, mb4.4/18, MS4.5/19, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**22.34**	**82**	T	T	05 53 55.4	
	baz=244,slow=74,SNR=486						
H01W3	**Cape Leeuwin H**	**22.34**	**82**	T	T	05 53 56.0	
	baz=244,slow=74,SNR=536						
H01W1	**Cape Leeuwin H**	**22.35**	**82**	T	T	05 53 56.6	
	baz=244,slow=74,SNR=464						
NWAO	**Narrogin (SRO)**	**25.52**	**80**	LR	LR	05 39 26.7	
	comp=Z,705nm,20.2s,baz=238,slow=31						
CASY	**Casey**	**28.16**	**160**	P	**P**	**05 32 01.2**	**+0.1**
CASY				IAmb	IAmb	05 32 03.0	
	comp=Z,6.6nm,0.9s						
MAW	**Mawson**	**29.29**	**199**	P	**P**	**05 32 11.1**	**0.0**
	comp=Z,6.4nm,0.9s,baz=41,slow=13,SNR=11						
MAW				LR	LR	05 41 19.0	
	comp=Z,2μm,20.8s,baz=40,slow=31						
MAW	**Mawson**	**29.29**	**199**	P	**P**	**05 32 11.4**	**+0.2**
H08S2	**Diego Garcia H**	**36.00**	**335**	T	T	06 11 23.4	
	baz=162,slow=76,SNR=48						
H08S1	**Diego Carcia H**	**36.01**	**335**	T	T	06 11 18.2	
	baz=162,slow=76,SNR=55						
H08S3	**Diego Garcia H**	**36.02**	**335**	T	T	06 11 16.1	
	baz=162,slow=76,SNR=49						
CNJI	**Cibinong**	**38.45**	**33**	P	**P**	**05 33 32.7**	**+1.6**
	comp=Z,1μmcomp=Z,58nm,1.2s						
ASAR	**Alice Springs**	**42.84**	**81**	P	**P**	**05 34 07.0**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=227,slow=7.3,SNR=51						
ASAR				PcP	**PcP**	**05 35 57.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=223,slow=2.5,SNR=6.4						
ASAR				LR	LR	05 49 53.9	
	comp=Z,812nm,20.6s,baz=236,slow=33						
AS31	**Alice Springs**	**42.84**	**81**	P	**P**	**05 34 07.2**	**-0.3**
STKA	**Stephens Creek**	**44.26**	**96**	P	**P**	**05 34 18.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=270,slow=11,SNR=5.0						
STKA				PcP	**PcP**	**05 36 03.1**	**0.0**
	comp=Z,2.3nm,0.7s,baz=287,slow=4.3,SNR=4.2						
STKA				LR	LR	05 51 30.9	
	comp=Z,368nm,18.0s,baz=225,slow=34						
EDFI	**Ende, Flores**	**44.77**	**53**	P	P	05 34 31.4	+8.4
WRA	**Warramunga Arr**	**45.42**	**77**	P	**P**	**05 34 28.1**	**0.0**
	comp=Z,7.7nm,1.0s,baz=231,slow=7.4,SNR=21						
WRA				LR	LR	05 51 41.7	
	comp=Z,296nm,20.2s,baz=215,slow=34						
WRA	**Warramunga Arr**	**45.42**	**77**	P	**P**	**05 34 28.2**	**+0.1**
WB2	**Warramunga Arr**	**45.43**	**77**	P	**P**	**05 34 27.8**	**-0.3**
WRAB	**Tennant Creek**	**45.43**	**77**	P	**P**	**05 34 27.9**	**-0.3**
VNDA	**Vanda**	**46.69**	**163**	P	**P**	**05 34 36.8**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=283,slow=7.9,SNR=17						
VNDA				LR	LR	05 52 04.5	
	comp=Z,271nm,21.9s,baz=276,slow=33						
VNDA	**Vanda**	**46.69**	**163**	P	**P**	**05 34 37.8**	**+0.4**
VNDA				IAmb	IAmb	05 34 47.8	
	comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**48.71**	**180**	P	**P**	**05 34 53.3**	**-0.2**
	comp=Z,22nm,0.8s,baz=300,slow=2.8,SNR=58						
QSPA	**South Pole Qui**	**48.71**	**180**	P	**P**	**05 34 53.2**	**-0.3**
PALK	**Pallekele**	**48.81**	**352**	LR	LR	05 52 15.7	
	comp=Z,688nm,18.1s,baz=285,slow=32						
BOSA	**Boshof**	**51.09**	**264**	P	**P**	**05 35 11.7**	**-0.2**
	comp=Z,4.1nm,1.0s,baz=159,slow=5.9,SNR=4.6						
BOSA				LR	LR	05 53 08.7	
	comp=Z,442nm,18.6s,baz=136,slow=32						
BOSA	**Boshof**	**51.09**	**264**	IAmb	IAmb	05 35 16.9	
	comp=Z,13nm,1.3s						
SNAA	**Sanae**	**51.20**	**204**	P	**P**	**05 35 13.3**	**+1.1**
SNAA	**Sanae**	**51.20**	**204**	P	**P**	**05 35 12.1**	**0.0**
	comp=Z,13nm,1.1s,baz=132,slow=11,SNR=18						
SNAA	**Sanae**	**51.20**	**204**	P	**P**	**05 35 12.9**	**+0.7**
SNAA				IAmb	IAmb	05 35 14.9	
	comp=Z,12nm,1.0s						
LBTB	**Lobatse**	**52.78**	**268**	P	**P**	**05 35 24.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=119,slow=8.9,SNR=2.2						
VNA2	**Neumayer--Watz**	**52.83**	**204**	P	**P**	**05 35 25.6**	**+1.5**
	baz=107,slow=8.2						
VNA1	**Neumayer--Stat**	**53.20**	**204**	P	**P**	**05 35 27.9**	**+1.1**
VNA3	**Neumayer Olymp**	**53.41**	**204**	P	**P**	**05 35 29.2**	**+0.8**
KMBO	**Kilima Mbogo**	**60.02**	**298**	P	**P**	**05 36 15.6**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=96,slow=6.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**60.63**	**13**	P	**P**	**05 36 19.8**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=211,slow=6.7,SNR=6.8						
CMAR				LR	LR	05 58 03.7	
	comp=Z,195nm,21.5s,baz=220,slow=32						
DZM	**Mont Dzumac**	**68.11**	**101**	*e*LR	LR	05 58 20.4	
	comp=Z,302nm,21.6s						
KBL	**Kabul**	**77.37**	**345**	P	**P**	**05 38 03.7**	**-0.4**
KBL				IAmb	IAmb	05 38 16.1	
	comp=Z,7.5nm,1.1s						
GAR	**Garm**	**81.47**	**347**	P	**P**	**05 38 25.6**	**-0.6**
GEYT	**Alibeck**	**83.25**	**337**	LR	LR	06 10 20.6	
	comp=Z,63nm,21.9s,baz=210,slow=32						
AAK	**Ala-Archa**	**84.44**	**351**	LR	LR	06 12 19.7	
	comp=Z,215nm,20.5s,baz=203,slow=33						
KK31	**Karatay Array**	**85.45**	**348**	P	**P**	**05 38 46.8**	**+0.3**
KK31				IAmb	IAmb	05 38 58.5	
	comp=Z,5.9nm,1.2s						
KKAR	**Karatay Array**	**85.45**	**348**	P	**P**	**05 38 46.1**	**-0.4**
KKAR	**Karatay Array**	**85.45**	**348**	P	**P**	**05 38 46.8**	**+0.3**
KKAR				IAmb	IAmb	05 38 58.5	
	comp=Z,5.9nm,1.2s						
KSRS	**Korea Array**	**87.01**	**32**	LR	LR	06 19 24.9	
	comp=Z,63nm,18.0s,baz=240,slow=37						
MK31	**Makanchi Array**	**87.95**	**357**	P	**P**	**05 39 00.4**	**+1.8**
MK31				IAmb	IAmb	05 39 02.7	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**87.95**	**357**	LR	LR	06 15 30.4	
	comp=Z,174nm,21.4s,baz=197,slow=34						
MKAR	**Makanchi Array**	**87.95**	**357**	P	**P**	**05 38 59.5**	**+0.9**
SONM	**Songino Array**	**90.56**	**13**	P	**P**	**05 39 10.1**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=180,slow=4.3,SNR=2.2						
TLY	**Talaya**	**93.88**	**10**	LR	LR	06 22 11.5	
	comp=Z,143nm,18.4s,baz=154,slow=36						
TORD	**Torodi Ar. Bea**	**95.03**	**283**	LR	LR	06 20 59.1	
	comp=Z,251nm,18.2s,baz=110,slow=35						
PLCA	**Paso Flores**	**95.69**	**197**	LR	LR	06 21 31.3	
	comp=Z,266nm,20.3s,baz=164,slow=35						
TBI	**Tubuai**	**97.07**	**130**	*e*LR	LR	06 11 40.0	
	comp=Z,179nm,31.5s						
PPT2	**Papeete2**	**101.42**	**126**	*e*LR	LR	06 13 36.1	
	comp=Z,233nm,27.2s						
NVAR	**Mina Array Bea**	**160.46**	**91**	PKPab	**PKPab**	**05 46 50.1**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=229,slow=7.2,SNR=5.5						
TXAR	**Lajitas Array**	**165.18**	**141**	PKPab	**PKPab**	**05 47 10.6**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=210,slow=5.2,SNR=3.0						
PDAR	**Pinedale Array**	**167.70**	**78**	PKPab	**PKPab**	**05 47 21.1**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=223,slow=3.7,SNR=1.8						

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*IDC **03** 05:28:28.2±1.2, 37°.43N×78°.12E, h0km, mb3.7/8, mb1 3.9/12, mb1mx3.7/46, mbtmp3.8/12, ML3.3/5, Error ellipse: s-maj=22.6km s-min=21.3km az=31.0*
*BJI **03** 05:28:32.1±0.0, 37°.51N×77°.97E, h10km, mB4.1/1, mb3.8/2, ML4.0/5*
*SOME **03** 05:28:33.1, 37°.60N×78°.08E, h0km*
*NNC **03** 05:28:33.0±2.9, 37°.67N×78°.05E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=38.3km s-min=19.9km az=89.0*
ISC 03 05:28:32.9±0.8, 37°.58N±0°.05×77°.95E±0°.07, h17km, n30, σ2°44/35, mb3.8/8, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.49**	**4**	*e*P	**Pg**	**05 30 17.4**	**-0.6**
SATY	51nm,0.8s			*e*S	**Sg**	**05 31 32.8**	**+3.8**
	68nm,0.9s						
SATY	**Saty**	**5.49**	**4**	Pg	**Pb**	**05 30 11.2**	**+2.8**
SATY	34nm,1.1s			Lg	Lg	05 31 27.2	
	68nm,0.9s						
MDOK	**Medeo**	**5.62**	**353**	*e*P	**Pg**	**05 30 19.2**	**-1.4**
MDOK	46nm,0.6s			*e*S	**Sg**	**05 31 35.4**	**+2.0**
	48nm,0.6s						
MDOK	**Medeo**	**5.62**	**353**	Pg	**Pb**	**05 30 13.7**	**+3.0**
MDOK	49nm,0.6s			Lg	Lg	05 31 30.3	
	78nm,0.8s						
MDOK	**Medeo**	**5.62**	**353**	Pg	**Pb**	**05 30 12.1**	**+1.4**
MDOK	26nm,0.8s			Lg	Lg	05 31 28.9	
	48nm,0.6s						
TKM2	**Tokmak 2**	**5.63**	**342**	⇑Pn	**Pn**	**05 29 58.7**	**+2.6**
TKM2	3.3nm,0.5s			⇑Pg	**Pb**	**05 30 13.7**	**+2.8**
	29nm,1.1s						
TKM2				⇓Lg	Lg	05 31 31.2	
	26nm,0.9s						
KST	**Kastek**	**5.67**	**345**	*e*P	Pb	05 30 19.2	+7.7
KST	18nm,0.7s			*e*S	**Sg**	**05 31 35.2**	**+0.4**
	37nm,1.0s						
KST	**Kastek**	**5.67**	**345**	Pg	**Pb**	**05 30 12.8**	**+1.4**
KST	23nm,0.6s			Lg	Lg	05 31 30.2	
	37nm,1.0s						
KNDC	**Almaty**	**5.69**	**353**	⇑Pg	**Pb**	**05 30 16.4**	**+4.7**
KNDC	55nm,0.4s			⇑Lg	Lg	05 31 30.7	
	111nm,0.5s						
AAK	**Ala-Archa**	**5.71**	**333**	Pn	**Pn**	**05 29 59.2**	**+2.2**
AAK	1.1nm,0.3s,baz=143,slow=5.1,SNR=6.3			Pg	**Pb**	**05 30 15.1**	**+3.0**

1.0nm,0.3s,baz=144,slow=13,SNR=6.9
AAK Lg Lg 05 31 29.9
1.2nm,0.3s,baz=181,slow=22,SNR=1.0
AAK Ala-Archa 5.71 333 ⇓Pn **Pn 05 29 59.2 +2.2**
4.7nm,0.6s
AAK ⇑Pg **Pb 05 30 14.8 +2.6**
21nm,0.7s
AAK ⇓Lg Lg 05 31 35.5
55nm,0.8s
DGS Degeres 5.90 344 *e*P Pb 05 30 23.0 +7.6
40nm,0.7s
DGS *e*S **Sg 05 31 42.4 +0.2**
48nm,1.1s
MRKS Merke 6.30 326 *e*P Pb 05 30 31.1 +8.9
12nm,0.6s
MRKS *e*S **Sg 05 31 56.4 +1.3**
30nm,0.8s
CHKK Chushkaly 6.31 354 *e*P Pb 05 30 28.3 +5.9
13nm,0.7s
CHKK *e*S Sb 05 31 51.2 +14
24nm,0.6s
KUU Kurty 6.43 350 *e*P Pb 05 30 31.7 +7.4
16nm,1.0s
KUU *e*S **Sg 05 31 57.1 -2.0**
28nm,1.0s
WMQ Urumqi 9.68 47 *e*P **Pn 05 30 53.1 +1.7**
WMQ smax smax
comp=N,70nm,1.1s
WMQ smax smax
comp=E,52nm,1.1s
MKAR Makanchi Array 9.76 18 Pn **Pn 05 30 52.3 -0.1**
1.5nm,0.3s,baz=200,slow=13,SNR=42
MKAR Sn **Sn 05 32 37.5 -4.0**
1.2nm,0.3s,baz=201,slow=17,SNR=5.7
KURBB Kurchatov Arra 13.05 2 Pn **Pn 05 31 35.9 -1.5**
0.0nm,0.3s,baz=188,slow=12,SNR=7.3
GEYT Alibeck 15.69 277 Pn **Pn 05 32 14.5 +1.2**
0.5nm,0.3s,baz=76,slow=14,SNR=1.6
ZALV Zalesovo Beam 17.05 14 P **Pn 05 32 27.8 -2.5**
0.2nm,0.3s,baz=207,slow=9.6,SNR=7.2
GTA Gaotai 17.21 77 *e*P **P 05 32 39.8 +5.6**
GTA pP sP 05 32 43.2 +1.4
GTA sP pP 05 32 45.9 +6.6
GTA pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 23.16 55 P **P 05 33 37.0 -1.6**
0.8nm,0.6s,baz=257,slow=9.0,SNR=3.7
BRTR Keskin Array B 34.41 288 P **P 05 35 19.2 -0.2**
1.6nm,0.8s,baz=111,slow=6.8,SNR=7.2
FINES FINESS Array B 39.80 324 P **P 05 36 05.2 +0.4**
2.5nm,0.8s,baz=92,slow=11,SNR=3.8
ARCES ARCESS Array B 42.37 336 P **P 05 36 26.4 +0.5**
0.9nm,0.7s,baz=104,slow=7.6,SNR=1.4
NB2 NORSAR Subarra 46.91 322 P **P 05 37 01.9 -0.3**
comp=Z,2.1nm,0.9s,baz=90,slow=7.9
NOA NORSAR Array B 46.91 322 P **P 05 37 01.5 -0.6**
comp=Z,0.8nm,0.8s,baz=89,slow=7.9,SNR=3.4
TORD Torodi Ar. Bea 71.27 272 P **P 05 39 49.7 -2.0**
comp=Z,0.8nm,0.8s,baz=54,slow=5.6,SNR=4.8
ILAR Eielson Array 72.11 19 P **P 05 39 55.0 -1.0**
comp=Z,0.3nm,0.7s,baz=319,slow=4.8,SNR=4.5
WRA Warramunga Arr 78.00 127 P **P 05 40 27.1 -3.4**
comp=Z,0.5nm,0.8s,baz=327,slow=4.9,SNR=4.8

IDC 03 05:43:24.2±5.1, 21°.79S×177°.87W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, Error ellipse: s-maj=186.3km s-min=81.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.35**	**246**	P	P	05 50 37.5	-1.1
	0.5nm,0.3s,baz=90,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**44.35**	**258**	P	P	05 51 36.4	-0.2
	0.4nm,0.5s,baz=98,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**44.55**	**263**	P	P	05 51 38.8	+0.6
	0.5nm,0.7s,baz=96,slow=8.4,SNR=12						
AKASG	**Malin Array Be**	**144.19**	**330**	PKP	PKPdf	06 03 01.2	-0.6
	0.1nm,0.2s,baz=45,slow=3.8,SNR=2.3						

NNC 03 05:44:06.7±3.8, 37°.01N×78°.69E, h0km, mb4.1, mpv3.8, 2C-2D, Error ellipse: s-maj=43.0km s-min=25.3km az=75.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**6.05**	**358**	Pg	Pb	05 45 57.5	+4.4
	16nm,0.9s						
SATY				Lg	Lg	05 47 18.4	
	31nm,1.0s						
MDOK	**Medeo**	**6.28**	**349**	Pg	Pb	05 46 01.0	+4.1
	6.2nm,0.6s						
MDOK				Lg	Lg	05 47 30.3	
	12nm,0.7s						
MDOK	**Medeo**	**6.28**	**349**	Pg	Pb	05 46 00.7	+3.8
MDOK				Lg	Lg	05 47 23.9	
TKM2	**Tokmak 2**	**6.37**	**339**	⇑Pg	Pb	05 46 01.0	+2.5
	2.3nm,0.7s						
TKM2				⇑Lg	Lg	05 47 28.8	
	11nm,0.9s						
KST	**Kastek**	**6.38**	**342**	Pg	Pg	05 46 03.9	-5.1
	4.3nm,0.6s						
KST				Lg	Lg	05 47 29.4	
	8.4nm,1.0s						
AAK	**Ala-Archa**	**6.49**	**331**	⇓Pg	Pg	05 46 06.2	-4.7
	5.2nm,0.7s						
AAK				⇓Lg	Lg	05 47 32.1	
	18nm,1.0s						

*TEH **03** 05:45:08.8, 35°.92N×53°.04E, h8km, ML3.9*
*THR **03** 05:45:09.4±0.5, 36°.05N×52°.96E, h14km±8km, ML3.8*
*IDC **03** 05:45:11.2±1.9, 36°.04N×53°.22E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/46, mbtmp3.7/8, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/41, Error ellipse: s-maj=27.6km s-min=19.6km az=7.0*
ISC 03 05:45:10.1±0.7, 35°.92N±0°.03×53°.04E±0°.02, h10km, n55, σ1°.83/55, mb3.6/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.24**	**119**	*e*Pg	**Pg**	**05 45 14.0**	**-1.1**
ISHM				*e*Sg	**Sg**	**05 45 18.2**	**-0.3**
ISHM				*e*		05 45 18.4	
	comp=Z,1215μm,0.3s						
IALA	**Alasht**	**0.24**	**311**	*e*Pg	**Pg**	**05 45 14.1**	**-1.2**
ILAS	**Lasjerd**	**0.54**	**187**	*e*Pg	**Pb**	**05 45 20.0**	**-1.9**
ILAS				*e*		05 45 28.7	
	comp=Z,82μm,0.2s						
IPRN	**Peran**	**0.65**	**300**	*e*Pg	**Pg**	**05 45 21.3**	**-1.4**
IANJ	**Anjilo**	**0.85**	**122**	*e*Pg	**Pg**	**05 45 25.0**	**-1.5**
IANJ				*e*		05 45 43.8	
	comp=Z,47μm,0.4s						
IGLO	**Ghaloghah**	**0.86**	**48**	*e*Pg	**Pg**	**05 45 25.7**	**-1.1**
DAMV	**Damavand**	**0.91**	**252**	*e*Pg	**Pg**	**05 45 26.3**	**-1.4**
TEH	**Tehran**	**1.36**	**263**	*e*Pg	**Pg**	**05 45 34.7**	**-1.5**
TEH				*e*		05 46 03.5	
	comp=Z,15μm,0.9s						
IVRN	**Varamin**	**1.41**	**229**	*e*Pg	**Pg**	**05 45 35.7**	**-1.6**
IVRN				*e*		05 46 02.6	
	comp=Z,15μm,0.2s						
IHSB	**Hasanabad**	**1.51**	**252**	*e*Pn	**Pb**	**05 45 37.3**	**-1.0**
CHTH	**Charan**	**1.55**	**270**	*e*Pg	**Pn**	**05 45 37.2**	**-0.8**
ISFB	**Sefidab**	**1.70**	**203**	*e*Pg	**Pb**	**05 45 40.0**	**-1.5**
IQOM	**Qom**	**1.93**	**237**	*e*Pn	**Pb**	**05 45 44.3**	**-1.3**
IMHD	**Mahdasht**	**1.94**	**264**	*e*Pn	**Pb**	**05 45 44.8**	**-0.8**
IMHD				*e*		05 46 18.5	
	comp=Z,5μm,0.2s						
QALM	**Alamut, Qazvin**	**2.00**	**285**	*e*Pn	**Pb**	**05 45 45.9**	**-0.8**
QALM				*e*		05 46 20.2	
	comp=Z,12μm,0.5s						
GHVR	**GHOM**	**2.03**	**225**	*e*Pn	**Pb**	**05 45 46.3**	**-0.8**
GHVR				*e*Sg	**Sg**	**05 46 15.7**	**+0.5**
GHVR				IAML		05 46 22.2	
	comp=N,510nm,0.6s						
GHVR				IAML		05 46 22.8	
	comp=E,710nm,0.7s						
KRSH	**Karshahi**	**2.08**	**201**	*e*Pn	**Pb**	**05 45 45.9**	**-2.2**
KRSH				*e*		05 46 21.3	
	comp=Z,16μm,0.6s						
IGZV	**Ghazvin**	**2.33**	**282**	*e*Pn	**Pb**	**05 45 51.5**	**-0.8**
IGZV				*e*		05 46 29.9	
	comp=Z,7μm,0.4s						
IMND	**Minoodasht**	**2.33**	**54**	*e*Pn	**Pn**	**05 45 49.0**	**+0.5**

IMND *e* 05 46 26.1
comp=Z,8μm,0.8s
SHRO Shahrood 2.41 88 *e*Pn **Pb 05 45 51.3 -2.4**
QCNT Qazvin 2.48 279 *e*Pn **Pb 05 45 52.4 -2.4**
QAMS Qamsar 2.56 212 *e*Pn **Pb 05 45 53.2 -3.2**
QAMS *e* 05 46 30.9
comp=Z,5μm,0.4s
IRAZ Razeghan 2.58 259 *e*Pn **Pb 05 45 54.8 -1.9**
IRAZ *e* 05 46 44.6
comp=Z,3μm,0.8s
QABG Abgarm-Qazvin 2.81 267 *e*Pn **Pb 05 45 57.1 -3.5**
QABG *e* 05 46 41.8
comp=Z,2μm,0.7s
IKLH Kolahrood 2.86 205 *e*Pn **Pn 05 45 57.2 +1.1**
IKLH *e* 05 46 56.6
comp=Z,4μm,0.6s
MRVT Maraveh tapeh 3.00 54 *e*Pn **Pn 05 45 58.4 +0.6**
IZEF Zefreh 3.08 191 *e*Pn **Pn 05 46 00.1 +1.1**
IZEF *e* 05 46 49.7
comp=Z,3μm,0.5s
HAGD Aghdareh 3.37 252 *e*Pn **Pb 05 46 05.8 -4.3**
TNSJ Nastanj 3.53 123 *e*Pn **Pn 05 46 06.2 +1.1**
IPIR Pirpir 3.69 209 *e*Pn **Pn 05 46 09.8 +2.4**
SBZV Sabzevar 3.73 82 *e*Pn **Pn 05 46 09.4 +1.4**
ICHK Chekchek 3.84 162 *e*Pn **Pn 05 46 10.1 +0.6**
SHK1 Shahrekord 4.00 207 *e*Pn **Pn 05 46 14.4 +2.6**
HSAM Samen 4.02 246 *e*Pn **Pn 05 46 14.4 +2.4**
ISAD Sadrabad 4.04 172 *e*Pn **Pn 05 46 13.1 +0.9**
TKDS Koohdasht(Taba 4.08 123 *e*Pn **Pn 05 46 13.7 +1.1**
IRAM Ramesheh 4.14 188 *e*Pn **Pn 05 46 14.9 +1.3**
ISFR Sfrayin 4.16 73 *e*Pn **Pn 05 46 16.1 +2.2**
TPRV Parvadeh(Tabas 4.17 133 *e*Pn **Pn 05 46 15.4 +1.4**
GEYT Alibeck 4.54 62 Pn **Pn 05 46 20.2 +1.3**
comp=Z,5.1nm,0.3s,baz=250,slow=17,SNR=18
GEYT Sn **Sn 05 47 12.9 +1.2**
comp=Z,2.9nm,0.3s,baz=240,slow=20,SNR=1.9
GEYT LR LR 05 48 34.5
comp=Z,144nm,19.0s,baz=210,slow=47
ISRB Sarab 4.71 295 *e*Pn **Pn 05 46 23.3 +1.9**
IMEH Mehriz 4.71 163 *e*Pn **Pn 05 46 22.6 +1.2**
IKFM Kafar-mosalman 4.90 242 *e*Pn **Pn 05 46 26.4 +2.6**
KLNJ Kolanjah 5.05 194 *e*Pn **Pn 05 46 27.8 +1.6**
IHRS Heris 5.35 298 *e*Pn **Pn 05 46 32.4 +2.1**
IMYA Miami 5.73 84 *e*Pn **Pn 05 46 36.8 +1.3**
GNI Garni 7.79 305 Pn Pn 05 47 10.5 +6.9
comp=Z,1.8nm,0.3s,baz=122,slow=13,SNR=4.9
AKTO Aktyubinsk 14.95 12 Pn **Pn 05 48 38.3 -3.1**
comp=Z,0.4nm,0.3s,baz=180,slow=14,SNR=9.9
AKTO Sn Sn 05 51 15.0 -12
comp=Z,0.2nm,0.3s,baz=89,slow=16,SNR=9.2
ARU Arti 20.85 9 P Pn 05 49 52.3 -2.1
comp=Z,1.2nm,0.4s,baz=186,slow=11,SNR=5.1
BVAR Borovoye Array 21.02 30 P **P 05 49 54.1 +0.3**
comp=Z,2.0nm,0.7s,baz=201,slow=25,SNR=7.3
AKASG Malin Array Be 22.63 318 P **P 05 50 12.2 +1.1**
comp=Z,0.3nm,0.4s,baz=122,slow=9.9,SNR=1.7
KURBB Kurchatov Arra 23.52 43 P **P 05 50 22.0 +1.9**
comp=Z,0.5nm,0.6s,baz=241,slow=11,SNR=2.4
GERES GERESS Array B 31.43 307 P **P 05 51 35.0 +3.4**
comp=Z,0.3nm,0.2s,baz=97,slow=8.0,SNR=4.0
KSRS Korea Array 58.53 64 P **P 05 55 07.1 +0.4**
comp=Z,1.0nm,0.5s,baz=286,slow=6.9,SNR=4.4
PETK Petropavlovsk- 69.99 38 LR LR 06 31 12.9
comp=Z,52nm,19.1s,baz=227,slow=40

IDC 03 05:54:48.6±3.2, 32°.21S×178°.08W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/21, mbtmp3.7/3, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.8/22, Error ellipse: s-maj=73.2km s-min=37.5km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.20**	**212**	Pn	Pn	05 56 33.8	-1.3
	0.3nm,0.3s,baz=20,slow=23,SNR=2.0						
URZ				Sn	Sn	05 57 58.5	+0.8
	0.5nm,0.3s,baz=238,slow=19,SNR=2.2						
URZ				LR	LR	05 58 58.0	
	comp=Z,109nm,21.4s,baz=238,slow=35						
ASAR	**Alice Springs**	**42.97**	**269**	P	P	06 02 49.9	+0.1
	0.3nm,0.5s,baz=106,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**44.12**	**274**	P	P	06 02 59.0	0.0
	0.4nm,0.3s,baz=112,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**146.81**	**339**	PKPbc	PKPbc	06 14 31.1	-0.8
	0.6nm,0.6s,baz=64,slow=3.2,SNR=5.1						

*IDC **03** 05:56:03.7±1.5, 34°.05N×25°.13E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.4/39, mbtmp3.8/4, MS4.0/1, Ms1 4.0/1, ms1mx2.6/46, Error ellipse: s-maj=30.1km s-min=16.3km az=83.0*
*ISK **03** 05:56:03.9, 35°.75N×23°.46E, h11km, ML3.2/8*
*THE **03** 05:56:04.5, 35°.77N×23°.46E, h2km±2km, ML3.1/8, Error ellipse: s-maj=3.0km s-min=0.5km az=235.0*
*ATH **03** 05:56:05.1, 35°.80N×23°.50E, h7km±2km, ML3.2/7, Error ellipse: s-maj=2.8km s-min=0.5km az=235.0*
ISC 03 05:56:04.6±0.8, 35°.78N±0°.03×23°.48E±0°.03, h16km±6km, n49, σ1°.63/69, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.17**	**301**	P	**Pg**	**05 56 09.1**	**+0.1**
ANKY				S	**Sg**	**05 56 11.0**	**-0.8**
ANKY				AML	AML	05 56 12.5	
	comp=N,37306μm,0.3s						
ANKY				AML	AML	05 56 12.9	
	comp=E,29988μm,0.5s						
IMMV	**Iera Moni Meta**	**0.52**	**128**	P	**Pb**	**05 56 14.9**	**-0.4**
IMMV				S	**Sg**	**05 56 21.7**	**-0.1**
	comp=E,5μm,0.2s						
IMMV	**Iera Moni Meta**	**0.52**	**128**	P	**Pb**	**05 56 14.9**	**-0.4**
IMMV				S	**Sb**	**05 56 22.1**	**-0.5**
IMMV				AML	AML	05 56 23.9	
	comp=E,9724μm,0.2s						
IMMV				AML	AML	05 56 25.5	
	comp=N,10286μm,0.3s						
IMMV	**Iera Moni Meta**	**0.52**	**128**	PG	**Pg**	**05 56 14.5**	**-0.4**
IMMV				SG	**Sb**	**05 56 22.2**	**-0.3**
KNDR	**Palaiochora Ch**	**0.57**	**163**	P	**Pg**	**05 56 14.7**	**-1.1**
KNDR				S	**Sg**	**05 56 22.5**	**-0.9**
	comp=N,2μm,0.3s						
KNDR	**Palaiochora Ch**	**0.57**	**163**	PG	**Pg**	**05 56 14.9**	**-0.9**
KNDR				SG	**Sg**	**05 56 23.0**	**-0.4**
KTHA	**Kythira Island**	**0.59**	**325**	P	**Pg**	**05 56 16.0**	**-0.2**
KTHA				S	**Sg**	**05 56 23.8**	**-0.2**
	comp=N,3μm,0.2s						
KTHA	**Kythira Island**	**0.59**	**325**	P	**Pg**	**05 56 16.2**	**-0.1**
KTHA				S	**Sg**	**05 56 23.9**	**-0.1**
KTHA				AML	AML	05 56 24.9	
	comp=E,7397μm,0.3s						
KTHA				AML	AML	05 56 26.5	
	comp=N,3849μm,0.2s						
KTHA	**Kythira Island**	**0.59**	**325**	PG	**Pg**	**05 56 16.1**	**-0.2**
KTHR	**Kythira**	**0.62**	**321**	P	**Pg**	**05 56 16.5**	**-0.3**
KTHR				S	**Sg**	**05 56 24.1**	**-0.9**
	comp=N,2μm,0.2s						
VAM	**Vamos**	**0.69**	**122**	P	**Pb**	**05 56 18.3**	**0.0**
VAM				S	**Sb**	**05 56 27.5**	**-0.1**
	comp=N,3μm,0.3s						
VAM	**Vamos**	**0.69**	**122**	P	**Pb**	**05 56 18.2**	**-0.1**
VAM				S	**Sb**	**05 56 28.1**	**+0.5**
VAM				AML	AML	05 56 31.3	
	comp=N,8789μm,0.3s						
VAM				AML	AML	05 56 34.0	
	comp=E,4810μm,0.3s						
PRNS	**Prines Rethymn**	**0.93**	**116**	P	**Pg**	**05 56 22.0**	**-0.6**
PRNS				S	**Sg**	**05 56 33.8**	**-1.0**
VLI	**Veliai**	**1.04**	**335**	P	**Pg**	**05 56 24.5**	**-0.2**
VLI				S	**Sb**	**05 56 39.3**	**+1.7**
	comp=E,310nm,0.2s						
VLI	**Veliai**	**1.04**	**335**	P	**Pg**	**05 56 24.5**	**-0.2**
VLI				S	**Sg**	**05 56 37.7**	**-0.6**
VLI				AML	AML	05 56 41.5	
	comp=E,553μm,0.3s						
VLI				AML	AML	05 56 41.5	
	comp=N,794μm,0.4s						
GVDS	**Gavdos**	**1.06**	**152**	P	**Pg**	**05 56 24.5**	**-0.6**
GVDS	**Gavdos**	**1.06**	**152**	PG	**Pg**	**05 56 24.5**	**-0.6**
GVDS				SG	**Sb**	**05 56 39.1**	**+1.0**
GVD	**Gavdhos**	**1.06**	**152**	P	**Pb**	**05 56 24.8**	**+0.2**
GVD				S	**Sn**	**05 56 39.9**	**+0.7**
	comp=N,912nm,0.3s						
GVD	**Gavdhos**	**1.06**	**152**	P	**Pb**	**05 56 24.8**	**+0.2**
GVD				AML	AML	05 56 44.0	
	comp=N,1622μm,0.3s						
GVD				AML	AML	05 56 46.5	
	comp=E,1971μm,0.3s						
GVD	**Gavdhos**	**1.06**	**152**	PG	**Pg**	**05 56 24.6**	**-0.5**
GVD				SG	**Sb**	**05 56 38.9**	**+0.7**
MHLO	**Agia Marina, M**	**1.18**	**39**	P	**Pg**	**05 56 26.5**	**-0.9**
MHLO	**Agia Marina, M**	**1.18**	**39**	P	**Pg**	**05 56 26.4**	**-0.9**
IDI	**Anoyia**	**1.25**	**113**	Pg	**Pn**	**05 56 28.3**	**+0.8**
	comp=E,19nm,0.3s,baz=242,slow=10,SNR=201						
IDI				Lg	Lg	05 56 44.0	
	comp=E,34nm,0.3s,baz=315,slow=19,SNR=13						
IDI	**Anoyia**	**1.25**	**113**	P	**Pg**	**05 56 28.1**	**-0.6**
IDI	**Anoyia**	**1.25**	**113**	P	**Pg**	**05 56 27.9**	**-0.8**
IDI				AML	AML	05 56 47.3	
	comp=E,884μm,0.3s						
IDI				AML	AML	05 56 54.4	
	comp=N,856μm,0.6s						
IDI	**Anoyia**	**1.25**	**113**	PN	**Pg**	**05 56 28.1**	**-0.6**
HRKL	**Herakleio**	**1.40**	**109**	PN	**Pn**	**05 56 30.0**	**+0.5**
SANT	**Santorini**	**1.71**	**69**	PN	**Pn**	**05 56 35.0**	**+1.2**
LAST	**Lasithi**	**1.74**	**110**	P	**Pn**	**05 56 35.2**	**+0.9**
LAST				S	**Sg**	**05 56 59.3**	**-1.5**
	comp=N,255nm,0.5s						
LAST	**Lasithi**	**1.74**	**110**	P	**Pn**	**05 56 35.2**	**+0.9**
ITM	**Ithomi**	**1.88**	**319**	PN	**Pn**	**05 56 36.7**	**+0.6**
VLY	**Voula,Athens**	**2.08**	**7**	P	**Pn**	**05 56 39.2**	**+0.3**
APE	**Apeiranthos**	**2.10**	**51**	PN	**Pn**	**05 56 40.3**	**+1.2**
LTK	**Loutraki**	**2.28**	**350**	P	**Pn**	**05 56 42.7**	**+1.1**
DION	**Dionisos Attik**	**2.32**	**9**	P	**Pn**	**05 56 42.6**	**+0.4**
ZKR	**Zakros**	**2.33**	**106**	PN	**Pn**	**05 56 43.8**	**+1.5**
VILL	**Villia**	**2.38**	**357**	P	**Pn**	**05 56 43.8**	**+0.7**
KLV	**Kalavryta, Ach**	**2.50**	**335**	P	**Pn**	**05 56 46.2**	**+1.5**
KARP	**Karpathos**	**3.00**	**93**	PN	**Pn**	**05 56 52.6**	**+1.0**
CHOS	**Chios island**	**3.32**	**38**	PN	**Pn**	**05 56 57.6**	**+1.6**
ARG	**Arkhangelos**	**3.79**	**82**	PN	**Pn**	**05 57 04.6**	**+2.2**
LSTV	**Lastovo**	**8.65**	**326**	*e*Pn	**Pn**	**05 58 08.8**	**-0.2**
LSTV				Sn	**Sn**	**05 59 39.6**	**-6.6**
KIJV	**Kijevo**	**9.85**	**329**	*e*Pn	**Pn**	**05 58 26.0**	**+0.5**
KIJV				Sn	**Sn**	**06 00 09.8**	**-5.9**
ZIRJ	**Zirje**	**9.91**	**325**	*e*Pn	**Pn**	**05 58 26.9**	**+0.5**
ZIRJ				Sn	**Sn**	**06 00 10.7**	**-6.5**
AKTO	**Aktyubinsk**	**28.85**	**49**	P	**P**	**06 02 04.9**	**+2.7**
	comp=N,1.1nm,0.6s,baz=256,slow=8.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.88**	**227**	P	**P**	**06 02 12.0**	**+0.5**
	comp=N,0.5nm,0.5s,baz=33,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**44.58**	**57**	P	**P**	**06 04 16.6**	**+0.8**
	comp=N,0.6nm,0.6s,baz=271,slow=7.7,SNR=4.4						
NRIK	**Noril'sk**	**47.91**	**25**	LR	LR	06 29 24.1	
	comp=N,169nm,21.6s,baz=198,slow=41						
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**06 06 13.2**	**+1.7**
	comp=N,0.5nm,0.6s,baz=297,slow=7.9,SNR=2.6						

NNC 03 06:05:03.7±4.4, 37°.30N×77°.95E, h0km, mb4.3, mpv4.0, 2C-2D, Error ellipse: s-maj=46.3km s-min=29.4km az=79.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.77**	**3**	Pg	Pb	06 06 49.6	+4.4
	19nm,0.9s						
SATY				Lg	Lg	06 08 06.7	
	17nm,0.7s						
MDOK	**Medeo**	**5.90**	**354**	Pg	Pb	06 06 51.0	+3.5
	7.8nm,0.5s						
MDOK				Lg	Lg	06 08 15.1	
	22nm,0.8s						
MDOK	**Medeo**	**5.90**	**354**	Pg	Pb	06 06 51.3	+3.8
	10nm,0.6s						
MDOK				Lg	Lg	06 08 09.7	
	11nm,0.8s						
TKM2	**Tokmak 2**	**5.90**	**343**	⇓Pg	Pb	06 06 48.9	+1.4
	4.8nm,0.5s						
TKM2				⇑Lg	Lg	06 08 11.2	
	9.4nm,0.7s						
KST	**Kastek**	**5.94**	**346**	Pg	Pb	06 06 52.0	+3.9
	7.9nm,0.6s						
KST				Lg	Lg	06 08 10.7	
	6.4nm,0.7s						
AAK	**Ala-Archa**	**5.96**	**335**	⇓Pg	Pg	06 06 54.3	-3.5
	7.7nm,0.6s						
AAK				⇑Lg	Lg	06 08 13.0	
	27nm,0.9s						

NNC 03 06:17:32.0±2.8, 37°.35N×78°.02E, h0km, mb3.8, mpv3.6, 3C-1D, Error ellipse: s-maj=27.6km s-min=18.8km az=77.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.71**	**3**	Pg	Pb	06 19 16.3	+3.6
	3.5nm,0.1s						
SATY				Lg	Lg	06 20 35.2	
	7.3nm,0.5s						
MDOK	**Medeo**	**5.86**	**353**	Pg	Pb	06 19 18.1	+3.0
	1.8nm,0.3s						
MDOK				Lg	Lg	06 20 38.4	
	6.8nm,0.6s						
TKM2	**Tokmak 2**	**5.87**	**342**	⇑Pg	Pb	06 19 19.6	+4.3
	0.8nm,0.3s						
TKM2				⇓Lg	Lg	06 20 37.8	
	5.8nm,0.6s						
KST	**Kastek**	**5.90**	**345**	Pg	Pb	06 19 18.7	+2.8
	2.8nm,0.7s						
KST				Lg	Lg	06 20 39.5	
	4.5nm,0.7s						
AAK	**Ala-Archa**	**5.94**	**334**	⇑Pg	Pg	06 19 21.3	-4.5
	1.8nm,0.5s						
AAK				⇑Lg	Lg	06 20 40.1	
	11nm,0.8s						

*IDC **03** 06:22:23.8±0.9, 4°.74S×152°.93E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/38, mbtmp4.2/8, Error ellipse: s-maj=27.4km s-min=22.0km az=72.0*
*NEIC **03** 06:22:31.4±0.9, 4°.74S±0°.08×152°.98E±0°.08, h50km±5km, mb4.3/11, Error ellipse: s-maj=14.5km s-min=8.0km az=50.0*
ISC 03 06:22:30.9±0.7, 4°.79S±0°.07×152°.94E±0°.10, h50km, n29, σ0°.77/29, mb4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.98**	**308**		**Pn**	**06 22 48.9**	**+0.5**
RABL				Sn	**Sn**	**06 23 01.7**	**+0.5**
PMG	**Port Moresby**	**7.34**	**231**	Sn	**Sn**	**06 25 35.1**	**-2.5**
	1.9nm,0.3s,baz=104,slow=9.2,SNR=1.8						
PMG	**Port Moresby**	**7.34**	**231**	Pn	**Pn**	**06 24 16.9**	**+1.3**
PATS	**Pohnpei**	**12.74**	**25**	Pn	**Pn**	**06 25 28.5**	**-0.9**
DZM	**Mont Dzumac**	**21.59**	**144**	P	**P**	**06 27 16.7**	**-0.1**
	3.7nm,0.6s,baz=315,slow=17,SNR=9.0						
DZM	**Mont Dzumac**	**21.59**	**144**	IAmb	IAmb	06 27 37.2	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**22.97**	**248**	P	**P**	**06 27 31.9**	**+0.5**
WRAB	**Tennant Creek**	**23.54**	**229**	P	**P**	**06 27 36.7**	**-0.2**
WRAB				IAmb	IAmb	06 27 38.7	
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**23.54**	**229**	P	**P**	**06 27 36.8**	**-0.2**
WRA	**Warramunga Arr**	**23.55**	**229**	P	**P**	**06 27 36.6**	**-0.4**
	comp=Z,14nm,0.6s,baz=54,slow=9.9,SNR=62						
WRA				PcP	**PcP**	**06 31 21.7**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=68,slow=2.5,SNR=1.4						
WRA	**Warramunga Arr**	**23.55**	**229**	P	**P**

comp=Z,4.7nm,1.5s
MK31 Makanchi Array 80.41 319 P P 06 34 37.4 +0.1
MK31 IAmb IAmb 06 34 38.4
comp=Z,1.8nm,0.9s
MKAR Makanchi Array 80.41 319 P P 06 34 37.1 -0.2
comp=Z,0.5nm,0.5s,baz=104,slow=6.1,SNR=4.5
GERES GERESS Array B 124.12 329 PKP PKPdf 06 41 24.1 -0.1
comp=Z,0.2nm,0.3s,baz=103,slow=1.3,SNR=1.8
LPAZ La Paz 134.30 118 PKP PKPdf 06 41 45.9 +0.8
comp=Z,0.7nm,1.0s,baz=243,slow=2.3,SNR=3.9
TOA0 Torodi Ar. Sit 150.44 288 PKPbc PKPbc 06 42 17.6 -0.5
TORD Torodi Ar. Bea 150.44 288 PKPbc PKPbc 06 42 17.2 -0.8
comp=Z,4.4nm,0.7s,baz=71,slow=2.1,SNR=19
TORD Torodi Ar. Bea 150.44 288 PKPbc 06 42 17.5 -0.5
BDFB Brasilia 150.97 135 PKPbc PKPbc 06 42 19.0 -0.4
comp=Z,3.4nm,0.8s,baz=190,slow=6.5,SNR=5.5

*IDC **03** 06:24:45.1±2.8, 0°.27N×96°.89E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/44, mbtmp3.7/6, ML4.5/1, Error ellipse: s-maj=88.4km s-min=24.5km az=62.0*
*DJA **03** 06:24:47.2±3.0, 0°.N±3°.×9°.7E±°, h24km±30km, M4.4/11, mb4.6/4, mB5.0/1, MLv4.2/11, Mw(mB)4.4/1*
ISC 03 06:24:48.7±1.2, 0°.36N±0°.07×97°.0E±0°.1, h23km, n23, σ0.94/19, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.10**	**31**	P	**Pb**	**06 25 08.2**	**-0.8**
GSI				S	**Sb**	**06 25 24.0**	**+1.1**
PBSI	**Pulau Batu**	**1.34**	**108**	P	**Pb**	**06 25 12.1**	**-1.0**
PBSI				S	**Sn**	**06 25 28.0**	**-1.1**
MNSI	**Mandailing Nat**	**2.61**	**80**	P	**Pn**	**06 25 29.4**	**-0.1**
SISI	**Saibi**	**2.68**	**129**	P	**Pn**	**06 25 29.9**	**-0.5**
TPTI		**2.88**	**4**	P	**Pn**	**06 25 31.7**	**-1.6**
TSI	**Tuntungan**	**3.49**	**27**	P	**Pn**	**06 25 40.7**	**-0.8**
MLSI	**Meulaboh, Aceh**	**3.93**	**351**	P	**Pn**	**06 25 45.9**	**-1.7**
BKNI	**Bangkinang**	**4.04**	**90**	P	**Pn**	**06 25 49.9**	**+0.4**
LHMI	**Lhok Sumawe**	**4.84**	**359**	P	**Pn**	**06 25 59.0**	**-1.1**
MNAI	**Manna**	**7.57**	**128**	P	**Pn**	**06 26 38.7**	**+1.0**
0.8nm161nm,1.2s
MDSI **Maura Dua** **8.63** **124** P **Pn** **06 26 52.8** **+0.5**
CMAR **Chiang Mai Arr** **18.09** **6** P **P** **06 28 59.0** **+0.1**
0.6nm,0.3s,baz=197,slow=10,SNR=7.5
H08S2 **Diego Garcia H** **25.70** **251** T T 06 57 24.7
baz=72,slow=75,SNR=21
H08S3 **Diego Garcia H** **25.70** **252** T T 06 57 21.1
baz=72,slow=75,SNR=28
H08S1 **Diego Carcia H** **25.72** **251** T T 06 57 17.1
baz=72,slow=75,SNR=28
H01W3 **Cape Leeuwin H** **38.55** **157** T T 07 13 33.3
baz=333,slow=76,SNR=11
H01W2 **Cape Leeuwin H** **38.56** **157** T T 07 13 24.7
baz=333,slow=76,SNR=11
H01W1 **Cape Leeuwin H** **38.57** **157** T T 07 13 22.7
baz=333,slow=76,SNR=10
WRA **Warramunga Arr** **41.77** **121** P **P** **06 32 36.9** **+0.2**
0.6nm,0.6s,baz=304,slow=8.9,SNR=2.9
ASAR **Alice Springs** **43.05** **126** P **P** **06 32 47.3** **+0.2**
0.3nm,0.5s,baz=296,slow=8.3,SNR=4.9
KSRS **Korea Array** **46.65** **34** P **P** **06 33 16.2** **+0.8**
0.5nm,0.4s,baz=226,slow=8.5,SNR=4.7
MKAR **Makanchi Array** **48.01** **346** P **P** **06 33 26.2** **+0.3**
0.4nm,0.6s,baz=154,slow=7.5,SNR=3.0
ZALV **Zalesovo Beam** **54.35** **351** P **P** **06 34 13.9** **+0.6**
0.6nm,0.4s,baz=163,slow=7.5,SNR=1.0

NNC 03 06:26:08.8±1.5, 37°.82N×77°.76E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=14.8km s-min=10.3km az=80.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.25**	**5**	Pg	Pb	06 27 44.9	+3.3
5.4nm,0.6s
SATY Lg Lg 06 28 56.0
18nm,0.6s
TKM2 **Tokmak 2** **5.35** **343** ⇓Pg Pb 06 27 46.1 +2.8
1.4nm,0.6s
TKM2 ⇓Lg Lg 06 28 59.6
4.3nm,0.8s
MDOK **Medeo** **5.36** **354** Pg Pb 06 27 46.1 +2.7
5.1nm,0.7s
MDOK Lg Lg 06 28 58.1
11nm,0.6s
MDOK **Medeo** **5.36** **354** Pg Pb 06 27 46.7 +3.2
3.0nm,0.5s
MDOK Lg Lg 06 28 58.9
13nm,0.5s
KST **Kastek** **5.39** **346** Pg Pg 06 27 48.0 -4.1
2.9nm,0.5s
KST Lg Lg 06 29 01.1
4.5nm,0.8s
AAK **Ala-Archa** **5.42** **334** ⇑Pg Pb 06 27 47.4 +3.0
1.8nm,0.6s
AAK ⇑Lg Lg 06 29 00.9
4.9nm,0.8s

*IDC **03** 06:31:51.4±1.7, 7°.17S×127°.38E, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.6/33, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=52.1km s-min=24.9km az=81.0*
ISC 03 06:32:01.3±4.7, 7°.7S±0°.3×127°.2E±0°.2, h150km, n6, σ1.975/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.32**	**234**	Pn	**Pn**	**06 33 05.1**	**-0.6**
68nm,0.3s,baz=70,slow=3.4,SNR=19
BATI Sn **Sn** **06 33 56.5** **+0.6**
3.9nm,0.3s,baz=166,slow=17,SNR=1.6
FITZ **Fitzroy Cross** **10.49** **188** Pn **Pn** **06 34 28.8** **+1.1**
0.3nm,0.3s,baz=9.4,slow=10.0,SNR=20
FITZ Sn **Sn** **06 36 22.3** **-1.5**
1.3nm,0.3s,baz=282,slow=23,SNR=12
WRA **Warramunga Arr** **14.03** **151** Pn P 06 35 16.0 -0.9
0.3nm,0.3s,baz=323,slow=13,SNR=11
WRA Sn **Sn** **06 37 47.6** **-1.7**
0.5nm,0.3s,baz=315,slow=23,SNR=9.8
ASAR **Alice Springs** **17.16** **159** P Pn 06 35 58.8 +6.6
0.1nm,0.3s,baz=338,slow=11,SNR=2.6
ASAR S **Sn** **06 39 05.9** **+1.5**
0.2nm,0.3s,baz=312,slow=19,SNR=5.9
MKAR **Makanchi Array** **67.29** **328** P P 06 42 47.2 +7.4
0.9nm,0.9s,baz=124,slow=7.7,SNR=3.8
ZALV **Zalesovo Beam** **70.98** **335** P P 06 43 07.2 +4.9
0.5nm,0.4s,baz=133,slow=7.5,SNR=3.7

NNC 03 06:35:11.1±3.9, 37°.79N×77°.76E, h0km, mb4.0, mpv3.6, 1C-2D, Error ellipse: s-maj=35.2km s-min=26.1km az=78.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.29**	**5**	Pg	Pb	06 36 47.6	+3.1
6.2nm,0.4s
SATY Lg Lg 06 37 59.3
24nm,0.8s
TKM2 **Tokmak 2** **5.38** **343** Pg Pb 06 36 47.8 +1.6
2.3nm,0.7s
TKM2 ⇓Lg Lg 06 37 60.0
8.4nm,1.1s
MDOK **Medeo** **5.39** **354** Pg Pb 06 36 49.4 +3.1
8.5nm,0.5s
MDOK Lg Lg 06 38 02.1
19nm,0.6s
KST **Kastek** **5.42** **346** Pg Pg 06 36 51.3 -3.7
3.6nm,0.4s
KST Lg Lg 06 38 05.7
8.0nm,1.0s
AAK **Ala-Archa** **5.45** **334** ⇓Pg Pb 06 36 50.9 +3.6
2.7nm,0.5s
AAK ⇑Lg Lg 06 38 04.9
15nm,1.0s

IDC 03 06:40:26.8±2.0, 31°.98S×178°.04W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.9/35, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=62.7km s-min=34.5km az=150.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.42**	**211**	Pn	Pn	06 42 15.3	-1.0
0.3nm,0.3s,baz=3.5,slow=19,SNR=2.1
URZ Sn Sn 06 43 36.4 -4.8
1.7nm,0.3s,baz=49,slow=22,SNR=9.1
ASAR **Alice Springs** **43.02** **269** P P 06 48 28.4 +0.1
1.3nm,0.9s,baz=106,slow=7.2,SNR=11
WRA **Warramunga Arr** **44.15** **274** P P 06 48 37.2 -0.2
2.2nm,0.6s,baz=113,slow=7.7,SNR=19
NVAR **Mina Array Bea** **89.42** **43** P P 06 53 25.7 0.0
0.5nm,0.8s,baz=206,slow=5.8,SNR=4.6

*MOS **03** 06:43:19.0±0.9, 10°.07N×125°.81E, h33km, mb6.2/94, MS5.7/49, Error ellipse: s-maj=7.2km s-min=3.6km az=114.2*
*NEIC **03** 06:43:19.7, 8°.88N×126°.46E, h44km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.95; Mθθ0.06; Mφφ-2.01; Mrθ0.76; Mrφ0.18; Mθφ0.43; Fault plane solution: M0 2.16000×1018 NP1:φs156.80000°, δ43.00000°, λ60.60000°. NP2:φs14.42000°, δ53.55000°, λ114.60000°. Principal axes: T 2.2677, Plg70.0000°, Azm342.0000°; N -0.2054, Plg20.0000°, Azm179.0000°; P -2.0623, Plg6.0000°, Azm87.0000°;*
*BJI **03** 06:43:19.2±0.0, 9°.96N×126°.19E, h41km, mB5.9/79, mb5.8/81, Ms6.0/95, Ms7 5.8/86*
*NEIC **03** 06:43:21.5±2.1, 10°.17N±0°.05×125°.89E±0°.08, h32km±1km, mb6.0/207, Ms_20 5.8/769, Mwb6.2/58, Mwc6.2/15, Mww6.1, Mwc6.1(GCMT), Error ellipse: s-maj=13.1km s-min=9.1km az=261.0*
*DJA **03** 06:43:22.3±0.3, 10°.N±2°.×12°.6E±°, h48km±3km, M6.0/120, mB6.4/115, mb5.9/120, MLv6.7/2, Mw(mB)6.1/115, MwMwp5.9/93, Mwp6.0/93*
*NEIC **03** 06:43:22.1, 10°.18N×125°.90E, h40km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr2.11; Mθθ0.37; Mφφ-2.48; Mrθ0.40; Mrφ0.61; Mθφ0.73; Fault plane solution: M0 2.53000×1018 NP1:φs152.10000°, δ39.80000°, λ64.94000°. NP2:φs3.43000°, δ54.56000°, λ109.44000°. Principal axes: T 2.3411, Plg72.0000°, Azm325.0000°; N 0.3491, Plg16.0000°, Azm172.0000°; P -2.6902, Plg8.0000°, Azm80.0000°;*
*IDC **03** 06:43:23.0±1.3, 10°.08N×125°.89E, h55km±11km, mb5.6/49, mb1 5.6/51, mb1mx5.5/58, mbtmp5.9/51, MS5.6/47, Ms1 5.6/47, ms1mx5.6/54 Error ellipse: s-maj=11.2km s-min=6.6km az=69.0*
*MAN **03** 06:43:22.9, 10°.07N×126°.16E, h74km, mb4.6, ML3.4, MS6.1*
*GCMT **03** 06:43:23.5±0.1, 10°.08N×126°.25E, h44km, MW6.1/166, Moment Tensor Solution. s166,c383; s164,c551; Duration: 28 Moment tensor: Scale 1018Nm; Mrr1.60±.01; Mθθ0.22±.01; Mφφ-1.82±.01; Mrθ0.33±.01; Mθφ0.09±.01; Mφr0.65±.01; Best double couple: M0 1.86600×1018 NP1:φs164.00000°, δ36.00000°, λ69.00000°. NP2:φs10.00000°, δ56.00000°, λ105.00000°. Principal axes: T 1.7920, Plg74.0000°, Azm320.0000°; N 0.1450, Plg12.0000°, Azm181.0000°; P -1.9390, Plg10.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*KLM **03** 06:43:24, 10°.28N×126°.21E, h58km, mb6.1*
*NEIC **03** 06:43:25, 10°.13N×126°.31E, h44km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.58; Mθθ0.28; Mφφ-1.85; Mrθ0.33; Mθφ0.18; Mφr0.73; Fault plane solution: M0 1.92000×1018 NP1:φs160.00000°, δ36.00000°, λ66.00000°. NP2:φs9.00000°, δ58.00000°, λ106.00000°. Principal axes: T 1.8141, Plg72.0000°, Azm319.0000°; N 0.1933, Plg14.0000°, Azm180.0000°; P -2.0074, Plg11.0000°, Azm87.0000°;*
*NEIC **03** 06:43:29, 9°.86N×126°.14E, h46km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr1.58; Mθθ0.29; Mφφ-1.88; Mrθ0.19; Mθφ-0.01; Mφr1.18; Fault plane solution: M0 2.11000×1018 NP1:φs173.00000°, δ28.00000°, λ79.00000°. NP2:φs6.00000°, δ62.00000°, λ96.00000°. Principal axes: T 1.9645, Plg72.0000°, Azm290.0000°; N 0.2738, Plg5.0000°, Azm183.0000°; P -2.2383, Plg17.0000°, Azm92.0000°;*
*BGR **03** 06:43:33.5±0.0, 12°.46N×124°.48E, h33km, mb6.0, mB_BB6.4, Ms5.9*
ISC 03 06:43:22.8±0.3, 10°.14N±0°.02×125°.98E±0°.03, h51km±2km, h51km: pP-P, n2313, σ1.962/2239, mb6.0/357, MS5.8/504, 360C-82D, Fault plane solution: NP1:φs9.94856°, δ57.75964°, λ121.84633°. **NP2:φs140.60623°, δ44.06976°,** λ50.08499°. **Principal axes:** T Plg62.2852°, Azm333.2934°; N Plg26.5059°, Azm171.6152°; P Plg7.5175°, Azm77.8417°; **Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.99**	**275**	⇓*i*P	**Pn**	**06 43 57.1**	**+3.1**
LLP *i* S **Sn** **06 44 25.0** **+7.2**
CGP **Cagayan de Oro** **2.10** **217** ⇑*i*P **Pn** **06 43 56.7** **+1.1**
CGP *i* S **Sn** **06 44 23.3** **+2.8**
SNPH **Sibulan** **2.81** **254** ⇓*e*P **Pn** **06 44 08.2** **+2.8**
SNPH *e*S Sn 06 44 52.8 +15
DCPH **Dipolog City** **3.02** **239** ⇑*e*P **Pn** **06 44 11.2** **+3.1**
DCPH *i* S **Sn** **06 44 47.2** **+4.2**
DAV **Davao City (W)** **3.07** **187** P **Pn** **06 44 10.6** **+1.6**
559nm,0.3s,baz=6.1,slow=1.2,SNR=62
DAV S **Sn** **06 44 47.8** **+3.3**
1μm,0.3s,baz=2.6,slow=23,SNR=6.7
DAV **Davao City (W)** **3.07** **187** **Pn** **06 44 09.3** **+0.3**
DAV **Davao City (W)** **3.07** **187** P **Pn** **06 44 12.5** **+3.5**
MMPH **Masbate** **3.19** **314** ⇓*e*P **Pn** **06 44 14.0** **+3.4**
MMPH *i* S Sn 06 45 03.8 +16
KCP **Kidapawan** **3.23** **196** ⇑*i*P **Pn** **06 44 13.4** **+2.2**
KCP *i* S **Sn** **06 44 51.4** **+2.9**
RCP **Roxas** **3.48** **294** ⇓*e*P **Pn** **06 44 17.9** **+3.5**
RCP *e*S **Sn** **06 44 54.8** **+0.5**
KALP **Kalibo** **3.89** **294** ⇓*e*P **Pn** **06 44 23.9** **+3.8**
JAP **San Jose, Anti** **4.01** **279** ⇓*e*P Pn 06 44 26.7 +4.9
GQP **Guinayangan** **5.09** **318** ⇑*e*P **Pn** **06 44 39.5** **+2.9**
GQP *e*S **Sn** **06 45 32.3** **-1.9**
LQP **Lukban** **5.87** **313** *e*P **Pn** **06 44 50.9** **+3.4**
PGP **Puerto Galera** **5.95** **305** ⇑*e*P **Pn** **06 44 52.3** **+3.9**
TGY **Tagaytay City** **6.31** **309** ⇓*e*P **Pn** **06 44 51.3** **-2.1**
SGSI **Sangihe** **6.43** **184** P **Pn** **06 44 56.4** **+1.4**
31nm39μm3μm,0.7s
SGSI S **Sn** **06 46 13.1** **+6.1**
31nm39μm3μm,0.7s
PCPH **Palayan** **7.19** **319** ⇑*e*P **Pn** **06 45 07.0** **+1.5**
PCPH *e*S **Sn** **06 46 26.5** **+0.7**
SZP **Santa** **9.11** **325** **Pn** **06 45 29.6** **-2.1**
TNTI **Ternate** **9.41** **171** Pn **Pn** **06 45 36.5** **+0.7**
TNTI **Ternate** **9.41** **171** P **Pn** **06 45 36.3** **+0.5**
15μm18μm1μm,1.4s
SIPP **Brgy, Tapao** **9.41** **326** ⇓*e*P **Pn** **06 45 39.2** **+3.4**
KMSI **Cibinong** **9.71** **192** P **Pn** **06 45 42.6** **+2.7**
839nm15μm2μm,0.8s
GTOI **Gorontalo** **9.89** **198** P **Pn** **06 45 44.7** **+2.2**
21μm8μm652nm,0.9s
TOLI2 **Tolitoli** **10.35** **210** Pn **Pn** **06 45 48.6** **-0.1**
MRSI **Marisa** **10.40** **203** P **Pn** **06 45 52.1** **+2.6**
58μm8μm439nm,1.0s
LBMI **Labuha** **10.81** **172** P **Pn** **06 45 55.8** **+0.7**
19μm664nm,0.9s
MPSI **Mapaga** **11.46** **212** P **Pn** **06 46 06.9** **+3.0**
62μm5μm179nm,0.9s
APSI **Ampana** **11.79** **202** P **Pn** **06 46 12.2** **+3.7**
29μm15μm628nm,1.8s
SANI **Sanana** **12.11** **180** P **Pn** **06 46 11.2** **-1.6**
27μm9μm744nm,0.7s
SWI **Sorong** **12.13** **154** P **Pn** **06 46 12.5** **-0.5**
44μm7μm497nm,0.9s
SIJI **Sorong** **12.14** **154** P **Pn** **06 46 10.6** **-2.6**
12nm,0.3s,baz=349,slow=8.6,SNR=11
SIJI S Sn 06 48 16.8 -10
3.9nm,0.3s,baz=258,slow=18,SNR=1.3
SIJI LR LR 06 50 52.9
comp=Z,22μm,20.6s,baz=318,slow=37
PCI **Palu** **12.56** **209** P **Pn** **06 46 22.4** **+3.5**
122nm2.7nm,1.2s
NLAI **Namlea** **13.34** **175** P **Pn** **06 46 30.4** **+0.8**
5μm382nm,0.9s
TWG **Pinlang** **13.46** **340** **Pn** **06 46 28.8** **-2.4**
SMKI **Samarinda** **13.66** **220** P **Pn** **06 46 36.6** **+2.5**
75μm25μm687nm,1.0s
MSAI **Masohi** **13.71** **167** P **Pn** **06 46 36.6** **+1.9**
2μm112nm,0.8s
YULB **Yu-li** **13.92** **342** Pn **Pn** **06 46 36.2** **-1.3**
TPUB **Ta-pu** **14.05** **339** **Pn** **06 46 38.1** **-1.2**
RKPI **Ransiki, Papua** **14.16** **144** P **Pn** **06 46 40.3** **-0.5**
24μm805nm,0.8s
SSLB **Suanglung** **14.39** **341** Pn **Pn** **06 46 41.0** **-2.8**
FAKI **Fak Fak** **14.40** **154** **Pn** **06 46 42.3** **-1.6**
FAKI **Fak Fak** **14.40** **154** P **Pn** **06 46 44.0** **+0.1**
38μm31μm1μm,2.6s
TTSI **Tana Toraja** **14.46** **205** P **P** **06 46 47.7** **-2.6**
34μm16μm734nm,0.8s
BKB **Balikpapan** **14.49** **219** Pn **Pn** **06 46 44.1** **-1.0**
BKB **Balikpapan** **14.49** **219** P **Pn** **06 46 47.1** **+2.0**
85μm40μm1μm,0.9s
YOJ **Yonaguni jima** **14.52** **349** P **Pn** **06 46 45.7** **+0.2**
YOJ **Yonaguni jima** **14.52** **349** **Pn** **06 46 45.7** **+0.2**
NACB **Ninganchiao** **14.57** **344** **Pn** **06 46 44.8** **-1.3**
BNDI **Bandanaira** **15.08** **165** P **Pn** **06 46 54.5** **+1.7**
28μm27μm624nm,0.7s
YHNB **Yeheng** **15.10** **344** Pn **Pn** **06 46 52.4** **-0.7**
YHNB IAmb IAmb 06 47 16.5
comp=Z,1μm,1.6s
BAKI **Biak** **15.11** **138** P **Pn** **06 46 54.8** **+1.6**
comp=Z,25μmcomp=Z,1μm,2.1s
TATO **Taipei** **15.36** **344** Pn **Pn** **06 46 56.0** **-0.4**
TATO **Taipei** **15.36** **344** P **Pn** **06 46 56.5** **+0.1**
TATO P **Pn** **06 46 56.5** **+0.1**
TATO P **Pn** **06 46 56.5** **+0.1**
TATO **Taipei** **15.36** **344** P **Pn** **06 46 56.5** **+0.1**
TATO P **Pn** **06 46 56.5** **+0.1**
TATO P **Pn** **06 46 56.5** **+0.1**
BNSI **Bone** **15.58** **202** P **P** **06 47 02.1** **-0.6**
comp=Z,31μmcomp=Z,32μmcomp=Z,839nm,0.8s
MTKI **Muara Teweh, K** **15.58** **226** P **P** **06 47 05.8** **+3.1**
comp=Z,30μmcomp=Z,14μmcomp=Z,384nm,2.2s
SBUM **Sibu** **15.65** **242** P **P** **06 47 05.0** **+1.5**
SRPI **Serui, Papua** **15.71** **139** P **Pn** **06 46 59.7** **-1.2**
comp=Z,47μmcomp=Z,16μmcomp=Z,741nm,1.3s
KMPI **Kaimana, Papua** **15.72** **150** P **Pn** **06 46 58.7** **-2.4**
comp=Z,34μmcomp=Z,1μm,2.4s
KNMB **Chin-men Tao** **15.97** **334** Pn **Pn** **06 47 03.1** **-1.1**
KAPI **Kappang** **16.28** **203** P **Pn** **06 47 07.5** **-0.7**
comp=Z,1.3nm,0.3s,baz=26,slow=6.1,SNR=45
KAPI LR LR 06 53 44.9
comp=Z,27μm,20.5s,baz=5.5,slow=38
KAPI **Kappang** **16.28** **203** P **Pn** **06 47 08.8** **+0.6**
KAPI pmax pmax
comp=Z,1μm,1.5s
KAPI **Kappang** **16.28** **203** **Pn** **06 47 08.8** **+0.6**
KAPI IAmb IAmb 06 47 19.8
comp=Z,1μm,1.4s
KAPI **Kappang** **16.28** **203** P **P** **06 47 10.3** **-0.1**
KAPI P **P** **06 47 10.3** **-0.1**
KAPI **Kappang** **16.28** **203** P **P** **06 47 10.3** **-0.1**
KAPI P **P** **06 47 10.3** **-0.1**
QZH **Quanzhou** **16.31** **335** ⇑*i*P **Pn** **06 47 08.8** **+0.3**
QZH S **Sn** **06 50 11.5** **+2.9**
QZH pmax pmax
comp=Z,200nm,0.9s
QZH pmax pmax
comp=Z,7μm,9.4s
QZH LR LR
comp=Z,26μm,17.6s
QZH LR LR
comp=Z,20μm,19.9s
QZH LR LR
comp=Z,36μm,18.2s
BKSI **Bulukumba** **16.43** **201** P **P** **06 47 11.7** **-0.4**
comp=Z,30μmcomp=Z,11μmcomp=Z,442nm,1.2s
JOW **Kunigami** **16.75** **7** P **P** **06 47 15.5** **-0.1**
comp=Z,9.9nm,0.3s,baz=194,slow=9.7,SNR=20
JOW LR LR 06 52 38.6
comp=Z,27μm,22.0s,baz=164,slow=33
JOW **Kunigami** **16.75** **7** **P** **06 47 14.9** **-0.7**
MCO **Taipa Grande** **16.85** **317** P **P** **06 47 19.0** **+2.3**
BSSI **Bau Bau, Buton** **17.07** **199** P **P** **06 47 19.7** **+0.4**
comp=Z,73μmcomp=Z,161nm,1.0s
BBKI **Banjar Baru** **17.48** **220** P **P** **06 47 28.2** **+4.4**
comp=Z,22μmcomp=Z,13μmcomp=Z,313nm,1.6s
STKI **Sintang** **17.55** **236** P **P** **06 47 29.2** **+4.6**
comp=Z,40μmcomp=Z,18μmcomp=Z,330nm,1.7s
GZH **Guangzhou** **17.65** **318** P **P** **06 47 29.7** **+4.1**
GZH S **S** **06 50 48.2** **+1.8**
GZH pmax pmax
comp=Z,14μm,6.7s
GZH LR LR
comp=Z,60μm,21.2s
GZH LR LR
comp=Z,29μm,22.4s
KSM **Kuching** **17.80** **242** P **P** **06 47 31.0** **+3.7**
QIZ **Qiongzhong** **17.93** **301** P **P** **06 47 32.2** **+3.5**
QIZ S **Sn** **06 50 47.4** **-0.5**
QIZ pmax pmax
comp=Z,160nm,2.4s
QIZ pmax pmax
comp=Z,12μm,6.3s
QIZ LR LR
comp=Z,26μm,19.2s
QIZ LR LR
comp=Z,20μm,17.7s
QIZ LR LR
comp=Z,36μm,19.8s
QIZ **Qiongzhong** **17.93** **301** **Pn** **06 47 27.3** **-1.4**
SAUI **Saumlaki** **18.77** **163** P **P** **06 47 37.1** **-0.8**
SAUI IAmb IAmb 06 47 46.7
comp=Z,1μm,0.8s
SAUI **Saumlaki** **18.77** **163** P **Pn** **06 47 38.7** **-0.1**
comp=Z,22μmcomp=Z,25μmcomp=Z,2μm,0.8s
GUMO **Guam** **18.80** **78** P **Pn** **06 47 38.7** **-0.6**
GUMO pmax pmax
comp=Z,399nm,1.2s
GUMO **Guam** **18.80** **78** P **Pn** **06 47 38.7** **-0.6**
GENI **Genyem** **18.96** **131** P **P** **06 47 39.6** **-0.5**
comp=Z,69μmcomp=Z,59μmcomp=Z,2μm,1.0s
MMRI **Maumere** **19.02** **191** **P** **06 47 40.5** **-0.2**
MMRI IAmb IAmb 06 48 04.6
comp=Z,1μm,0.9s
MMRI **Maumere** **19.02** **191** P **Pn** **06 47 45.5** **+3.7**
comp=Z,23μmcomp=Z,18μmcomp=Z,2μm,1.0s
PBKI **Pangkalan Bun** **19.12** **229** P **Pn** **06 47 47.7** **+4.6**
comp=Z,19μmcomp=Z,780nm,1.4s
EDFI **Ende, Flores** **19.24** **193** P **Pn** **06 47 45.1** **+0.5**
comp=Z,14μmcomp=Z,8μmcomp=Z,202nm,0.8s
SOEI **Soe** **19.84** **185** P **P** **06 47 50.3** **+0.5**
SOEI **Soe** **19.84** **185** P **Pn** **06 47 52.3** **+0.6**
comp=Z,34μmcomp=Z,27μmcomp=Z,1μm,1.0s
ANA2 **Anatahan** **20.17** **70** Pn 06 47 55.8 +0.3
ANA2 IAmb IAmb 06 48 00.1
comp=Z,582nm,1.0s
ANA2 **Anatahan** **20.17** **70** P Pn 06 47 56.8 +1.3
comp=Z,856nm,0.7s
SARN **Sarigan** **20.33** **69** P Pn 06 47 59.5 +2.1
comp=Z,538nm,2.3s
BATI **Baumata** **20.34** **187** P **P** **06 47 54.6** **-0.5**
comp=Z,492nm,0.7s,baz=320,slow=1.6,SNR=15
BATI S **S** **06 51 40.2** **-0.3**
comp=Z,124nm,0.7s,baz=52,slow=20,SNR=2.6
BATI LR LR 06 56 31.0
comp=Z,13μm,21.5s,baz=337,slow=39
BATI **Baumata** **20.34** **187** P Pn 06 47 57.9 +0.3
comp=Z,12μmcomp=Z,10μmcomp=Z,937nm,1.2s
PLAI **Plampang** **20.53** **204** P Pn 06 48 01.6 +1.8
comp=Z,23μmcomp=Z,17μmcomp=Z,593nm,1.4s
WBSI **Waikabubak, Su** **20.71** **199** P Pn 06 48 00.9 -1.1
comp=Z,8μmcomp=Z,447nm,0.8s
TWSI **Taliwang, Sumb** **20.82** **206** P Pn 06 48 04.0 +0.8
comp=Z,12μmcomp=Z,7μmcomp=Z,273nm,1.1s
KMMI **Kalianget** **20.85** **215** P Pn 06 48 04.1 +0.6
comp=Z,24μmcomp=Z,16μmcomp=Z,794nm,1.6s
BASI **Baing, Sumba** **20.93** **195** P Pn 06 48 07.1 +2.7
comp=Z,6μmcomp=Z,421nm,1.6s
SRBI **Singaraja** **21.04** **211** P **P** **06 48 06.8** **+4.2**
comp=Z,18μmcomp=Z,9μmcomp=Z,369nm,1.2s
ABJI **Asem Bagus** **21.31** **214** P **P** **06 48 08.7** **+3.2**
comp=Z,23μmcomp=Z,14μmcomp=Z,433nm,1.3s
SSE **Sheshan** **21.32** **349** P **P** **06 48 07.0** **+1.5**
SSE S **S** **06 52 03.2** **+3.5**
SSE pmax pmax
comp=Z,120nm,0.6s
SSE pmax pmax
comp=Z,5μm,10.4s
SSE LR LR
comp=Z,4μm,18.6s
SSE LR LR
comp=Z,4μm,17.8s
DNP **Denpasar** **21.55** **210** P **P** **06 48 13.1** **+5.0**

comp=Z,35μmcomp=Z,418nm,0.6s
JSU Suzuyama 21.66 10 P **P 06 48 09.8 +0.5**
JAGI Jajag, Banyuwa 21.92 213 P **P 06 48 11.3 -0.7**
JAGI IAmb IAmb 06 48 39.6
comp=Z,512nm,1.1s
JAGI Jajag, Banyuwa 21.92 213 P **P 06 48 13.3 +1.2**
comp=Z,18μmcomp=Z,10μmcomp=Z,436nm,1.0s
TBJI Tambak Boyo 21.95 220 P **P 06 48 16.1 +3.7**
comp=Z,20μmcomp=Z,17μmcomp=Z,384nm,1.1s
TPI Tanjungpandan 22.30 236 P **P 06 48 18.6 +2.4**
comp=Z,28μmcomp=Z,6μmcomp=Z,216nm,1.5s
JCJ Chichijima 22.77 40 P **P 06 48 21.1 0.0**
comp=Z,395nm,0.6s,baz=238,slow=1.9,SNR=17
JCJ LR LR 06 55 20.8
comp=Z,15μm,21.3s,baz=244,slow=31
JCJ Chichijima 22.77 40 P **P 06 48 20.2 -0.9**
NJ2 Nanjing 22.78 344 ⇑*i*P **P 06 48 21.9 +0.8**
NJ2 pP **pP 06 48 32.0 -0.9**
NJ2 sP **sP 06 48 40.7 +1.5**
NJ2 PP **PnPn 06 48 53.9 +6.8**
NJ2 S **S 06 52 27.6 +1.1**
NJ2 sS Sn 06 52 44.2 0.0
NJ2 pmax pmax
comp=Z,360nm,1.0s
NJ2 pmax pmax
comp=Z,10μm,6.3s
NJ2 LR LR
comp=Z,7μm,21.8s
NJ2 LR LR
comp=Z,8μm,19.9s
NJ2 LR LR
comp=Z,12μm,17.1s
PWJI Pagerwojo 22.91 219 P **P 06 48 25.2 +2.6**
comp=Z,7μmcomp=Z,356nm,1.1s
WHN Wuhan 23.01 334 ⇑P **P 06 48 23.5 0.0**
WHN S **S 06 52 36.7 +6.3**
WHN pmax pmax
comp=Z,13μm,4.1s
WHN LR LR
comp=Z,39μm,21.9s
WHN LR LR
comp=Z,19μm,12.2s
WHN LR LR
comp=Z,54μm,24.8s
SMRI Semarang 23.04 223 P **P 06 48 24.8 +0.8**
SMRI Semarang 23.04 223 P **P 06 48 26.5 +2.5**
comp=Z,38μmcomp=Z,60μmcomp=Z,2μm,0.9s
HALB Hallimjungang- 23.16 1 P **P 06 48 28.0 +3.1**
SNR=23
KSJJU Jeju 23.19 1 P **P 06 48 26.8 +1.5**
SNR=16
PPBI Pangkal Pinang 23.23 239 P **P 06 48 25.2 -0.6**
comp=Z,30μmcomp=Z,253nm,0.9s
JNU Nakatsue 23.32 10 P **P 06 48 27.1 +0.6**
comp=Z,52nm,0.7s,baz=180,slow=8.4,SNR=11
JNU ScP **ScP 06 55 47.4 +0.9**
comp=Z,12nm,0.8s,baz=176,slow=4.3,SNR=2.3
JNU LR LR 06 57 20.2
comp=Z,8μm,20.8s,baz=172,slow=36
JNU Nakatsue 23.32 10 P **P 06 48 26.2 -0.4**
MMPI Merauke 23.39 142 P **P 06 48 29.8 +2.4**
comp=Z,28μmcomp=Z,72μmcomp=Z,5μm,2.0s
MTN Manton Dam 23.40 167 P **P 06 48 26.3 -1.1**
baz=23,SNR=28
MTN Manton Dam 23.40 167 P **P 06 48 25.9 -1.6**
MTN IAmb IAmb 06 48 30.1
comp=Z,496nm,0.9s
PCJI Pacitan 23.43 219 P **P 06 48 30.0 +2.3**
comp=Z,23μmcomp=Z,17μmcomp=Z,683nm,1.2s
NONG Nongkai 23.48 292 P **P 06 48 28.1 -0.1**
comp=Z,14μmcomp=Z,822nm,1.1s
NONG Nongkai 23.48 292 P **P 06 48 28.2 -0.1**
comp=Z,14μmcomp=Z,813nm,1.1s
KDU Kakadu 23.58 164 P **P 06 48 27.6 -1.5**
baz=24,SNR=218
UGM Wanagama 23.63 221 P **P 06 48 29.0 -0.6**
UGM IAMs_20 IAMs_20 06 58 34.0
comp=Z,26μm,20.0s
UGM Wanagama 23.63 221 P **P 06 48 33.6 +4.0**
comp=Z,28μmcomp=Z,35μmcomp=Z,1μm,1.8s
YOGI Yogyakarta 23.71 222 P **P 06 48 34.7 +4.4**
comp=Z,16μmcomp=Z,24μmcomp=Z,622nm,1.5s
DSRI Dabo 23.76 245 P **P 06 48 34.4 +3.5**
comp=Z,19μmcomp=Z,8μmcomp=Z,257nm,1.0s
SLVN Son La 23.95 300 P **P 06 48 32.2 -0.4**
SLVN IAMs_20 IAMs_20 06 57 46.8
comp=Z,27μm,20.0s
CHAI Chaiyaphum 24.05 286 P **P 06 48 33.6 +0.1**
comp=Z,6μmcomp=Z,603nm,0.8s
CHAI Chaiyaphum 24.05 286 P **P 06 48 33.7 +0.2**
comp=Z,1μmcomp=Z,150nm,0.8s
KPJI Karang Pucung 24.28 225 P **P 06 48 38.5 +2.9**
comp=Z,42μmcomp=Z,20μmcomp=Z,460nm,1.4s
GYA Guiyang 24.43 314 ⇓*i*P **P 06 48 38.0 +1.0**
GYA pP pP 06 48 46.8 -3.3
GYA PcP **PcP 06 52 16.0 +0.8**
GYA S **S 06 52 56.6 +2.9**
GYA ScP **ScP 06 55 53.0 +3.2**
GYA pmax pmax
comp=Z,850nm,13.6s
GYA LR LR
comp=Z,2μm,24.0s
GYA LR LR
comp=Z,4μm,20.8s
GYA LR LR
comp=Z,6μm,21.4s
JTU Tsushima 24.47 7 P **P 06 48 37.2 0.0**
MANU Manus Island 24.49 118 P **P 06 48 38.2 +0.6**
MANU IAmb IAmb 06 48 49.5
comp=Z,572nm,1.8s
BOSB Boseong-gun 24.54 2 P **P 06 48 42.0 +4.3**
SNR=6.9
JMN Monobe 24.57 16 P **P 06 48 38.8 +0.6**
JMN IAmb IAmb 06 49 15.5
comp=Z,740nm,1.4s
KSNAH Namhae 24.63 4 P **P 06 48 40.8 +2.3**
SNR=17
GWYB Gwangyang 24.74 3 P **P 06 48 42.0 +2.4**
SNR=27
PATY Pattaya 24.76 279 P **P 06 48 43.7 +3.8**
comp=Z,9μmcomp=Z,128nm,1.1s
PATY Pattaya 24.76 279 P **P 06 48 43.7 +3.8**
comp=Z,2μmcomp=Z,33nm,1.1s
PMBI Palembang 24.79 240 IAMs_20 IAMs_20 06 58 58.6
comp=Z,28μm,22.0s
PMBI Palembang 24.79 240 P **P 06 48 45.9 +5.7**
comp=Z,1μm,1.2s
LEM Lembang 24.87 228 P **P 06 48 41.3 +0.1**
comp=Z,176nm,0.8s,baz=342,slow=9.9,SNR=27
LEM LR LR 07 00 11.0
comp=Z,18μm,18.3s,baz=60,slow=41
KSBSA Busan_acc 25.01 6 P **P 06 48 43.7 +1.7**
SNR=8.0
KSMAS Masan 25.03 5 P **P 06 48 43.9 +1.6**
SNR=15
PBKT Sadao Pong 25.14 287 P **P 06 48 46.0 +2.6**
comp=Z,5μmcomp=Z,280nm,1.0s
PBKT Sadao Pong 25.14 287 P **P 06 48 46.0 +2.6**
comp=Z,5μmcomp=Z,280nm,1.0s
PBKT Sadao Pong 25.14 287 P **P 06 48 42.4 -1.0**
EURB Uiryeong-eup 25.16 4 P **P 06 48 46.0 +2.6**
SNR=19
KSBUS Busan 25.16 6 P **P 06 48 44.6 +1.2**
SNR=12
KSBUS Busan 25.16 6 P **P 06 48 45.0 +1.6**
SNR=12
CBJI Citeko 25.17 230 P **P 06 48 47.4 +3.7**
comp=Z,33μmcomp=Z,25μmcomp=Z,673nm,1.1s
CISI Cisompet, Garu 25.22 226 P **P 06 48 42.6 -1.6**
CISI Cisompet, Garu 25.22 226 P **P 06 48 47.6 +3.4**
comp=Z,10μmcomp=Z,5μmcomp=Z,233nm,1.9s
SKLT Songkhla 25.24 265 P **P 06 48 47.9 +3.6**
comp=Z,13μmcomp=Z,203nm,1.8s
SKLT Songkhla 25.24 265 P **P 06 48 48.0 +3.6**
comp=Z,13μmcomp=Z,203nm,1.8s
ENH Enshi 25.25 325 P **P 06 48 43.4 -1.0**
ENH IAmb IAmb 06 48 46.9
comp=Z,563nm,1.6s
DBJI Dramaga 25.33 230 P **P 06 48 49.0 +3.8**
comp=Z,76μmcomp=Z,32μmcomp=Z,576nm,1.3s
IPM Ipoh 25.37 259 P **P 06 48 47.0 +1.4**
CNJI Cibinong 25.55 228 P **P 06 48 46.9 -0.2**
comp=Z,9μmcomp=Z,655nm,1.1s
KULM Kulim 25.55 261 P **P 06 48 49.0 +1.8**
JHS Saijyo 25.59 14 P **P 06 48 48.0 +0.7**
KSDAG Daegu 25.65 5 P **P 06 48 52.0 +4.1**
SNR=8.0

RGRI Rengat 25.73 247 P **P 06 48 50.0 +1.2**
BLSI Bandar Lampung 25.76 234 P **P 06 48 52.1 +3.0**
comp=Z,31μmcomp=Z,12μmcomp=Z,487nm,1.1s
SKJI Sukabumi 25.77 229 P **P 06 48 52.7 +3.5**
comp=Z,17μmcomp=Z,14μmcomp=Z,806nm,1.8s
UTTA Uttaradit 25.78 290 P **P 06 48 49.7 +0.5**
comp=Z,3μmcomp=Z,418nm,0.9s
UTTA Uttaradit 25.78 290 P **P 06 48 49.8 +0.5**
comp=Z,858nmcomp=Z,104nm,0.9s
PHIT Phitsanulok 25.79 289 P **P 06 48 50.2 +1.0**
comp=Z,14μmcomp=Z,2μm,0.9s
PHIT Phitsanulok 25.79 289 P **P 06 48 50.3 +1.0**
comp=Z,3μmcomp=Z,518nm,0.9s
KNRA Kununurra 25.80 174 P **P 06 48 48.5 -0.8**
baz=26,SNR=64
KNRA Kununurra 25.80 174 P **P 06 48 48.1 -1.2**
KNRA IAmb IAmb 06 49 24.3
comp=Z,494nm,0.8s
NANT Nan 25.92 292 P **P 06 48 53.2 +2.7**
comp=Z,87μmcomp=Z,4μm,1.0s
NANT Nan 25.92 292 P **P 06 48 53.0 +2.5**
comp=Z,22μmcomp=Z,1μm,1.0s
MDSI Maura Dua 26.12 237 P **P 06 48 53.1 +0.7**
comp=Z,12μmcomp=Z,3μmcomp=Z,119nm,1.4s
TJN Taejon 26.15 3*ce*P **P 06 48 53.0 +0.6**
JHJ Hachijo jima 2 26.17 27 P **P 06 48 52.2 -0.3**
comp=Z,164nm,0.8s,baz=180,slow=20,SNR=2.6
JHJ LR LR 06 58 59.7
comp=Z,9μm,19.1s,baz=251,slow=36
CGJI Cibinong 26.17 231 P **P 06 48 56.6 +3.8**
comp=Z,8μmcomp=Z,271nm,1.8s
LHSI Lahat 26.32 239 P **P 06 48 57.2 +3.1**
comp=Z,18μmcomp=Z,8μmcomp=Z,326nm,0.9s
UTHA Uthaitani 26.41 285 P **P 06 48 56.5 +1.6**
comp=Z,778nmcomp=Z,100nm,1.0s
KASI Kota Agung 26.45 235 P **P 06 48 56.2 +0.9**
comp=Z,19μmcomp=Z,7μmcomp=Z,349nm,1.4s
JWT Wachi 26.46 17 P **P 06 48 55.4 +0.2**
LWLI Liwa 26.52 236 P **P 06 48 58.3 +2.2**
comp=Z,14μmcomp=Z,1μm,0.8s
SRDT SRDT 26.57 282 P **P 06 48 58.2 +1.8**
comp=Z,33μmcomp=Z,12μmcomp=Z,207nm,1.4s
SRDT SRDT 26.57 282 P **P 06 48 58.0 +1.6**
comp=Z,33μmcomp=Z,12μmcomp=Z,207nm,1.4s
KMI Kunming 26.62 307 ⇑P **P 06 48 56.5 -0.6**
KMI pP pP 06 49 06.8 -3.3
KMI sP sP 06 49 10.6 -5.5
KMI PcP **PcP 06 52 21.3 +1.0**
KMI S **S 06 53 28.0 -0.8**
KMI sS sS 06 53 47.6 -3.2
KMI SS **SnSn 06 54 42.4 +7.1**
KMI ScP **ScP 06 56 00.0 +3.7**
KMI pmax pmax
comp=Z,35nm,1.0s
KMI pmax pmax
comp=Z,3μm,9.0s
KMI LR LR
comp=Z,9μm,17.5s
KMI LR LR
comp=Z,18μm,18.0s
KMI LR LR
comp=Z,26μm,19.5s
CRAI Chiangrai 26.63 295 P **P 06 48 59.3 +2.4**
comp=Z,4μmcomp=Z,16nm,1.0s
CRAI Chiangrai 26.63 295 P **P 06 48 59.3 +2.4**
comp=Z,4μmcomp=Z,15nm,1.0s
BKNI Bangkinang 26.65 250 P **P 06 48 58.2 +1.1**
BKNI IAmb IAmb 06 49 12.4
comp=Z,748nm,1.1s
BKNI Bangkinang 26.65 250 P **P 06 49 00.2 +3.1**
comp=Z,24μmcomp=Z,34μmcomp=Z,764nm,1.5s
EMSB Eumseong 26.76 3 P **P 06 48 59.0 +1.2**
SNR=13
LAMP Lampang 26.82 291 P **P 06 48 59.6 +0.9**
comp=Z,3μmcomp=Z,429nm,0.9s
LAMP Lampang 26.82 291 P **P 06 48 59.6 +0.9**
comp=Z,757nmcomp=Z,107nm,0.9s
SURT Suratani 26.83 270 P **P 06 49 03.7 +5.0**
comp=Z,88nmcomp=Z,10.0nm,1.1s
SURT Suratani 26.83 270 P **P 06 49 03.0 +4.3**
comp=Z,88nmcomp=Z,10.0nm,1.1s
JSG Sagara 26.85 23 P **P 06 48 58.7 -0.1**
JSG IAmb IAmb 06 49 32.8
comp=Z,445nm,1.3s
JSG IAMs_20 IAMs_20 07 00 55.7
comp=Z,18μm,18.0s
KSI Kapahiang 27.02 241 P **P 06 49 02.5 +2.0**
comp=Z,15μmcomp=Z,20μmcomp=Z,386nm,1.0s
INU Inuyama 27.04 20 P **P 06 49 00.0 -0.3**
UMPA Umpang Tak 27.07 286 P **P 06 49 02.7 +1.9**
comp=Z,7μmcomp=Z,318nm,0.9s
UMPA Umpang Tak 27.07 286 P **P 06 49 02.8 +1.9**
comp=Z,2μmcomp=Z,79nm,0.9s
MNAI Manna 27.08 239 P **P 06 49 01.6 +0.6**
MNAI IAmb IAmb 06 49 05.5
comp=Z,685nm,1.0s
MNAI IAMs_20 IAMs_20 07 00 20.1
comp=Z,22μm,22.0s
MNAI Manna 27.08 239 P **P 06 49 04.7 +3.7**
comp=Z,24μmcomp=Z,15μmcomp=Z,814nm,1.0s
KHLT Khaolaem Dam 27.13 283 P **P 06 49 04.4 +3.0**
comp=Z,1μmcomp=Z,82nm,0.8s
KHLT Khaolaem Dam 27.13 283 P **P 06 49 04.5 +3.0**
comp=Z,1μmcomp=Z,82nm,0.8s
TIA Tai'an 27.17 344 P **P 06 49 01.5 -0.1**
TIA PcP **PcP 06 52 20.9 -0.2**
TIA S **S 06 53 38.6 +1.8**
TIA ScP **ScP 06 55 57.3 -0.1**
TIA pmax pmax
comp=Z,3μm,5.3s
TIA LR LR
comp=Z,9μm,20.6s
TIA LR LR
comp=Z,6μm,18.5s
TIA LR LR
comp=Z,12μm,17.8s
KSAR Wonju Array Be 27.24 3 P **P 06 49 02.8 +0.7**
KSAR Wonju Array Be 27.24 3 P **P 06 49 02.8 +0.7**
KSRS Korea Array 27.25 3 P **P 06 49 02.5 +0.3**
comp=Z,28nm,0.8s,baz=183,slow=10,SNR=102
KSRS PcP **PcP 06 52 21.8 +0.6**
comp=Z,16nm,0.9s,baz=183,slow=2.1,SNR=6.7
KSRS ScP **ScP 06 55 57.6 0.0**
comp=Z,7.0nm,0.9s,baz=195,slow=3.6,SNR=6.4
KSRS LR LR 06 59 41.0
comp=Z,8μm,21.5s,baz=189,slow=36
KSRS PKiKP **PKiKP 06 59 58.0 -0.7**
comp=Z,2.2nm,0.8s,baz=196,slow=2.1,SNR=6.3
KSRS P3KPbc 07 21 35.1
comp=Z,4.0nm,0.8s,baz=359,slow=4.9,SNR=13
KS19 Wonju Array Si 27.30 3 P **P 06 49 02.9 +0.2**
CM35 Chiang Mai Arr 27.30 291 P **P 06 49 03.0 0.0**
CM36 Chiang Mai Arr 27.32 291 P **P 06 49 03.0 -0.1**
CM34 Chiang Mai Arr 27.35 292 P **P 06 49 04.0 +0.6**
JGF Kuroka 27.38 20 P **P 06 49 03.7 +0.2**
PKDT Phuket 27.39 268 P P 06 49 18.5 +15
PKDT Phuket 27.39 268 P P 06 49 18.6 +15
CM04 Chiang Mai Arr 27.39 290 P **P 06 49 05.4 +1.6**
comp=Z,2μmcomp=Z,228nm,1.1s
CM04 Chiang Mai Arr 27.39 290 P **P 06 49 05.5 +1.6**
comp=Z,2μmcomp=Z,228nm,1.1s
CM09 Chiang Mai Arr 27.39 291 P **P 06 49 05.1 +1.2**
comp=Z,2μmcomp=Z,327nm,0.9s
CM09 Chiang Mai Arr 27.39 291 P **P 06 49 05.0 +1.2**
comp=Z,2μmcomp=Z,327nm,0.9s
CM01 Chiang Mai Arr 27.42 291 P **P 06 49 05.3 +1.3**
comp=Z,2μmcomp=Z,244nm,1.1s
CM01 Chiang Mai Arr 27.42 291 P **P 06 49 05.3 +1.3**
comp=Z,2μmcomp=Z,244nm,1.1s
CM05 Chiang Mai Arr 27.43 290 P **P 06 49 05.7 +1.6**
comp=Z,1μmcomp=Z,143nm,1.0s
CM05 Chiang Mai Arr 27.43 290 P **P 06 49 05.8 +1.6**
comp=Z,1μmcomp=Z,143nm,1.0s
CM02 Chiang Mai Arr 27.43 291 P **P 06 49 05.4 +1.3**
comp=Z,2μmcomp=Z,257nm,0.9s
CM02 Chiang Mai Arr 27.43 291 P **P 06 49 05.0 +0.9**
comp=Z,2μmcomp=Z,257nm,0.9s
CM31 Chiang Mai Arr 27.44 291 P **P 06 49 05.4 +1.2**
comp=Z,16μmcomp=Z,59μmcomp=Z,6μm,1.1s
CM31 Chiang Mai Arr 27.44 291 P **P 06 49 05.0 +0.8**
CM31 IAmb IAmb 06 49 08.0
comp=Z,358nm,1.1s
CM31 Chiang Mai Arr 27.44 291 P **P 06 49 05.5 +1.2**
SNR=73
CM31 P **P 06 49 05.5 +1.2**
SNR=73
CM31 P **P 06 49 05.5 +1.2**

SNR=73
CM31 Chiang Mai Arr 27.44 291 P **P 06 49 05.5 +1.2**
SNR=73
CM31 P **P 06 49 05.5 +1.2**
SNR=73
CM31 P **P 06 49 05.5 +1.2**
SNR=73
CMAR Chiang Mai Arr 27.44 291 P **P 06 49 04.5 +0.3**
comp=Z,186nm,1.0s,baz=105,slow=7.1,SNR=244
CMAR PcP **PcP 06 52 22.6 +0.6**
comp=Z,42nm,1.0s,baz=78,slow=1.1,SNR=8.8
CMAR ScP **ScP 06 55 57.7 -0.8**
comp=Z,2.4nm,0.5s,baz=160,slow=2.8,SNR=2.3
CMAR PKiKP **PKiKP 06 59 58.8 -0.5**
comp=Z,1.8nm,0.6s,baz=294,slow=0.9,SNR=4.9
CMAR LR LR 07 00 19.0
comp=Z,18μm,19.6s,baz=170,slow=37
CMAR P3KPbc 07 21 31.6
comp=Z,0.6nm,0.3s,baz=280,slow=5.3,SNR=1.3
CMAR Chiang Mai Arr 27.44 291 P **P 06 49 04.8 +0.6**
CM15 Chiang Mai Arr 27.46 291 P **P 06 49 05.4 +1.1**
comp=Z,2μmcomp=Z,285nm,0.9s
CM15 Chiang Mai Arr 27.46 291 P **P 06 49 05.5 +1.1**
comp=Z,2μmcomp=Z,285nm,0.9s
CM13 Chiang Mai Arr 27.46 290 P **P 06 49 05.6 +1.2**
comp=Z,1μmcomp=Z,184nm,0.9s
CM13 Chiang Mai Arr 27.46 290 P **P 06 49 05.7 +1.2**
comp=Z,1μmcomp=Z,184nm,0.9s
CMMT Chiang Mai 27.52 291 P **P 06 49 05.6 +0.7**
comp=Z,5μmcomp=Z,215nm,1.1s
CMMT Chiang Mai 27.52 291 P **P 06 49 05.6 +0.7**
comp=Z,5μmcomp=Z,215nm,1.1s
CM33 Chiang Mai Arr 27.52 291 P **P 06 49 05.0 0.0**
CHTO Chiang Mai 27.53 291 P **P 06 49 04.4 -0.6**
CHTO pmax pmax
comp=Z,268nm,1.1s
CHTO Chiang Mai 27.53 291 P **P 06 49 05.6 +0.6**
comp=Z,5μmcomp=Z,238nm,1.1s
CHTO Chiang Mai 27.53 291 P **P 06 49 04.3 -0.6**
CHTO IAmb IAmb 06 49 08.2
comp=Z,268nm,1.1s
CHTO Chiang Mai 27.53 291 P **P 06 49 06.1 +1.1**
CHTO P **P 06 49 06.1 +1.1**
CHTO P **P 06 49 06.1 +1.1**
CHTO Chiang Mai 27.53 291 P **P 06 49 06.1 +1.1**
CHTO P **P 06 49 06.1 +1.1**
CHTO P **P 06 49 06.1 +1.1**
CM32 Chiang Mai Arr 27.58 291 P **P 06 49 06.0 +0.6**
PDSI Padang 27.66 248 P **P 06 49 07.3 +1.0**
comp=Z,12μmcomp=Z,5μmcomp=Z,123nm,0.8s
MNSI Mandailing Nat 27.84 252 P **P 06 49 09.1 +1.3**
comp=Z,19μmcomp=Z,8μmcomp=Z,270nm,2.4s
TSI Tuntungan 27.99 258 P **P 06 49 07.4 -1.7**
FITZ Fitzroy Crossi 28.06 181 P **P 06 49 08.2 -1.5**
comp=Z,78nm,0.8s,baz=11,slow=8.2,SNR=109
FITZ LR LR 07 02 13.4
comp=Z,7μm,21.1s,baz=54,slow=40
FITZ Fitzroy Crossi 28.06 181 P **P 06 49 08.6 -1.0**
baz=28,SNR=113
FITZ Fitzroy Crossi 28.06 181 P **P 06 49 08.4 -1.2**
MHMT Maesarieng 28.31 290 P **P 06 49 13.6 +1.6**
comp=Z,7μmcomp=Z,472nm,1.1s
MHMT Maesarieng 28.31 290 P **P 06 49 13.7 +1.6**
XAN Xi'an 28.47 329 P **P 06 49 12.6 -0.7**
XAN pP pP 06 49 22.1 -4.2
XAN S **S 06 53 58.6 +1.3**
XAN pmax pmax
comp=Z,580nm,0.7s
XAN pmax pmax
comp=Z,3μm,11.0s
XAN LR LR
comp=Z,12μm,22.8s
XAN LR LR
comp=Z,14μm,19.4s
XAN LR LR
comp=Z,18μm,22.8s
XAN Xi'an 28.47 329 P **P 06 49 12.7 -0.6**
XAN Xi'an 28.47 329 P **P 06 49 12.7 -0.6**
MAJO Matsushiro 28.53 21 *i* P **P 06 49 13.3 -0.4**
MAJO pmax pmax
comp=Z,3.0nm,0.4s
MAJO Matsushiro 28.53 21 P **P 06 49 12.5 -1.2**
MAT Matsushiro 28.53 21 P **P 06 49 12.1 -1.6**
MAT S **S 06 53 53.6 -4.5**
MJAR Matsushiro Arr 28.53 21 P **P 06 49 12.1 -1.6**
comp=Z,13nm,0.8s,baz=185,slow=9.6,SNR=29
MJAR PcP **PcP 06 52 24.4 0.0**
comp=Z,16nm,0.8s,baz=171,slow=2.9,SNR=6.8
MJAR LR LR 07 00 26.0
comp=Z,12μm,19.9s,baz=215,slow=36
MJAR P3KPbc 07 21 25.8
comp=Z,5.6nm,1.1s,baz=15,slow=5.0,SNR=1.8
MJAR Matsushiro Arr 28.53 21 P **P 06 49 11.9 -1.8**
MJAR **PcP 06 52 25.6 +1.2**
MJB9 Matsu-Tunnel 28.53 21 P **P 06 49 12.2 -1.5**
PMG Port Moresby 28.66 132 P **P 06 49 14.1 -0.9**
comp=Z,111nm,0.8s,baz=348,slow=8.3,SNR=13
PMG Port Moresby 28.66 132 *d i* P **P 06 49 16.0 +0.9**
PMG pmax pmax
comp=Z,151nm,0.9s
PMG Port Moresby 28.66 132 P **P 06 49 14.1 -0.9**
PMG Port Moresby 28.66 132 P **P 06 49 15.5 +0.4**
comp=Z,174nm,1.1s
PMG Port Moresby 28.66 132 P **P 06 49 15.7 +0.6**
comp=Z,174nm,1.1s
XMIS Christmas Isla 28.78 225 P **P 06 49 14.5 -1.6**
DL2 Dalian 28.91 353 P **P 06 49 18.1 +1.1**
DL2 PcP **PcP 06 52 25.6 +0.4**
DL2 S **S 06 54 03.8 -0.2**
DL2 PcS **PcS 06 56 03.8 -4.1**
DL2 pmax pmax
comp=Z,210nm,0.8s
DL2 pmax pmax
comp=Z,3μm,4.7s
DL2 LR LR
comp=Z,10μm,22.9s
DL2 LR LR
comp=Z,3μm,9.9s
DL2 LR LR
comp=Z,11μm,17.2s
SISI Saibi 29.09 248 P **P 06 49 21.8 +2.9**
comp=Z,12μmcomp=Z,6μmcomp=Z,315nm,1.7s
LHMI Lhok Sumawe 29.17 263 P **P 06 49 19.9 +0.3**
LHMI IAmb IAmb 06 49 40.0
comp=Z,477nm,0.9s
LHMI Lhok Sumawe 29.17 263 P **P 06 49 23.2 +3.6**
comp=Z,27μmcomp=Z,9μmcomp=Z,627nm,0.9s
CD2 Chengdu 29.21 318 ⇑*i*P **P 06 49 19.0 -0.9**
CD2 pP pP 06 49 31.4 -1.6
CD2 sP sP 06 49 39.6 +0.6
CD2 S **S 06 54 10.2 +1.0**
CD2 sS sS 06 54 32.4 +1.2
CD2 pmax pmax
comp=Z,80nm,0.7s
CD2 pmax pmax
comp=Z,4μm,11.2s
CD2 LR LR
comp=Z,43μm,20.0s
CD2 LR LR
comp=Z,45μm,20.6s
CD2 LR LR
comp=Z,64μm,20.2s
GSI Gunungsitoli 29.56 255 P **P 06 49 22.1 -1.0**
GSI IAmb IAmb 06 49 45.3
comp=Z,326nm,0.9s
GSI IAMs_20 IAMs_20 07 03 26.7
comp=Z,20μm,21.0s
GSI Gunungsitoli 29.56 255 P **P 06 49 24.2 +1.0**
comp=Z,24μmcomp=Z,6μmcomp=Z,442nm,1.2s
RABL Rabaul 29.71 117 P **P 06 49 25.4 +0.9**
RABL IAmb IAmb 06 49 48.9
comp=Z,199nm,0.9s
JSD Sado 29.89 20 P **P 06 49 24.5 -1.3**
MLSI Meulaboh, Aceh 29.90 261 P **P 06 49 27.1 +1.0**
comp=Z,4μmcomp=Z,161nm,0.8s
TIY Taiyuan 30.04 338 *e*P **P 06 49 28.7 +1.5**
TIY S **S 06 54 24.5 +2.5**
TIY pmax pmax
comp=Z,110nm,0.9s
TIY pmax pmax
comp=Z,2μm,4.6s
TIY LR LR
comp=Z,18μm,19.0s
TIY LR LR
comp=Z,3μm,11.0s
TIY LR LR

comp=Z,15μm,17.2s
JMM Marumori 30.66 23 P **P 06 49 31.1 -1.4**
BSI Banda Aceh 30.73 264 P P 06 49 43.9 +10
WB0 Warramunga Arr 30.85 164 P **P 06 49 33.0 -1.4**
WB0 IAmb IAmb 06 50 43.7
comp=Z,184nm,1.0s
WRAB Tennant Creek 31.00 165 *ce*P **P 06 49 33.7 -2.0**
WRAB pmax pmax
comp=Z,117nm,0.8s
WRAB Tennant Creek 31.00 165 P **P 06 49 33.9 -1.8**
WRAB IAmb IAmb 06 50 33.1
comp=Z,325nm,1.4s
WRA Warramunga Arr 31.00 165 P **P 06 49 33.5 -2.2**
comp=Z,88nm,0.8s,baz=342,slow=9.6,SNR=260
WRA PcP **PcP 06 52 30.9 0.0**
comp=Z,40nm,0.8s,baz=339,slow=3.0,SNR=4.8
WRA S S 06 54 26.3 -11
comp=Z,30nm,0.8s,baz=345,slow=16,SNR=11
WRA ScP **ScP 06 56 08.1 -1.7**
comp=Z,21nm,0.9s,baz=349,slow=3.3,SNR=4.8
WRA LR LR 07 05 14.7
comp=Z,4μm,19.1s,baz=350,slow=42
WRA P3KPbc 07 21 17.4
comp=Z,1.6nm,0.7s,baz=164,slow=4.1,SNR=12
WRA Warramunga Arr 31.00 165 P **P 06 49 34.0 -1.8**
WRA 06 52 31.0
WRA pmax pmax
comp=Z,38nm,1.6s
WRA Warramunga Arr 31.00 165 P **P 06 49 34.0 -1.8**
WRA PcP **PcP 06 52 31.0 0.0**
WB2 Warramunga Arr 31.01 165 P **P 06 49 34.1 -1.7**
BJT Baijiatuau 31.01 345 P **P 06 49 35.9 +0.3**
BJT pmax pmax
comp=Z,130nm,0.8s
BJT MLR MLR
comp=Z,10μm,20.0s
BJT Baijiatuau 31.01 345 P **P 06 49 35.9 +0.3**
BJI Beijing 31.03 345 P **P 06 49 36.1 +0.4**
BJI PcP **PcP 06 52 33.8 +3.1**
BJI S **S 06 54 38.6 +1.4**
BJI ScP **ScP 06 56 11.1 +1.6**
BJI PcS **PcS 06 56 17.7 +3.0**
BJI ScS **ScS 07 00 09.6 +3.1**
BJI pmax pmax
comp=Z,130nm,1.8s
BJI pmax pmax
comp=Z,5μm,3.8s
BJI LR LR
comp=Z,6μm,20.6s
BJI LR LR
comp=Z,11μm,18.6s
BJI LR LR
comp=Z,14μm,20.1s
WR0 Warramunga Arr 31.07 164 P **P 06 49 34.4 -2.0**
SNY Shenyang 31.64 357 ⇑P **P 06 49 42.5 +1.4**
SNY pP **pP 06 49 56.0 +2.0**
SNY S **S 06 54 50.1 +3.4**
SNY pmax pmax
comp=Z,270nm,1.2s
SNY pmax pmax
comp=Z,4μm,7.0s
SNY LR LR
comp=Z,6μm,19.9s
SNY LR LR
comp=Z,7μm,17.1s
SNY LR LR
comp=Z,13μm,19.8s
PSA00 Pilbara Seismi 32.08 191 P **P 06 49 44.1 -1.1**
PSA00 IAmb IAmb 06 50 00.2
comp=Z,198nm,0.8s
PSA00 Pilbara Seismi 32.08 191 P **P 06 49 44.1 -1.1**
PSA00 IAmb IAmb 06 50 00.1
comp=Z,94nm,0.8s
PSA00 PcP **PcP 06 52 34.0 +0.2**
MSHR Mys Shultsa 32.63 7 *ce*P **P 06 49 51.3 +1.5**
MSHR pmax pmax
comp=Z,41nm,0.9s
MSHR MLR MLR
comp=Z,5μm,20.0s
LZH Lanzhou 32.72 326 ⇑P **P 06 49 51.6 +0.7**
LZH pP pP 06 50 03.0 -1.1
LZH sP sP 06 50 07.4 -2.7
LZH PP **PnPn 06 50 59.4 -1.1**
LZH PcP **PcP 06 52 38.1 +2.5**
LZH S **S 06 55 07.5 +3.4**
LZH sS sS 06 55 22.3 -4.0
LZH ScP **ScP 06 56 16.3 +0.7**
LZH PcS **PcS 06 56 22.1 +1.1**
LZH pmax pmax
comp=Z,250nm,1.1s
LZH pmax pmax
comp=Z,1μm,6.0s
LZH LR LR
comp=Z,9μm,14.6s
LZH LR LR
comp=Z,21μm,14.6s
LZH LR LR
comp=Z,17μm,14.6s
LKP Lekhapani 33.13 305 *i*P **P 06 49 51.7 -2.7**
HHC Hu-ho-hao-te 33.14 340 *e*P **P 06 49 55.4 +1.0**
HHC sP sP 06 50 11.3 -2.3
HHC S **S 06 55 07.4 -3.0**
HHC sS sS 06 55 31.6 -1.0
HHC SS SS 06 57 12.4 -22
HHC pmax pmax
comp=Z,260nm,1.0s
HHC pmax pmax
comp=Z,4μm,7.3s
HHC LR LR
comp=Z,15μm,16.2s
HHC LR LR
comp=Z,5μm,17.9s
HHC LR LR
comp=Z,17μm,17.0s
VLA Vladivostok 33.26 8 *c i*P **P 06 49 55.9 +0.6**
VLA pmax pmax
comp=Z,173nm,1.7s
VLA MLR MLR
comp=Z,10μm,22.0s
JTM Tenmabayashi 33.32 21 P **P 06 49 54.4 -1.5**
JTM IAMs_20 IAMs_20 07 02 59.3
comp=Z,14μm,20.0s
MTSU Mount Surprise 33.42 147 P **P 06 49 56.7 -0.3**
baz=34,SNR=95
BTO Baotou 33.48 338 *e*P **P 06 49 58.4 +1.1**
BTO pmax pmax
comp=Z,530nm,2.6s
BTO LR LR
comp=Z,43μm,21.4s
BTO LR LR
comp=Z,30μm,16.5s
CN2 Changchun 33.54 359 *e*P **P 06 49 57.9 +0.2**
CN2 PP **PnPn 06 51 11.3 +0.8**
CN2 S **S 06 55 15.5 -0.8**
CN2 pmax pmax
comp=Z,50nm,1.8s
CN2 pmax pmax
comp=Z,3μm,12.0s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,7μm,19.0s
CN2 LR LR
comp=Z,4μm,17.0s
IMP Imphal 33.75 300 *e*P P 06 49 54.3 -5.7
IMP IAmb IAmb 06 50 12.4
comp=Z,81nm,0.4s
KOHI KOHIMA 33.93 301 *i*P **P 06 49 58.9 -2.7**
USA0B Ussuriysk Arra 34.33 8 P **P 06 50 04.9 +0.3**
USA0B pmax pmax
comp=Z,444nm,1.9s
USA0B Ussuriysk Arra 34.33 8 P **P 06 50 04.9 +0.3**
USA0B IAmb IAmb 06 50 08.0
comp=Z,444nm,1.9s
USRK Ussuriysk Ar. 34.33 8 P **P 06 50 04.7 +0.1**
comp=Z,37nm,0.7s,baz=191,slow=8.1,SNR=60
USRK PcP **PcP 06 52 39.7 0.0**
comp=Z,16nm,0.6s,baz=221,slow=2.8,SNR=5.4
USRK LR LR 07 03 00.6
comp=Z,9μm,21.7s,baz=178,slow=34
USRK Ussuriysk Ar. 34.33 8 P **P 06 50 05.4 +0.8**
USRK 06 52 39.7
USRK Ussuriysk Ar. 34.33 8 P **P 06 50 05.4 +0.8**
ASAR Alice Springs 34.48 167 P **P 06 50 04.7 -1.4**
comp=Z,60nm,0.5s,baz=350,slow=6.7,SNR=722
ASAR PcP **PcP 06 52 40.0 -0.6**
comp=Z,59nm,0.8s,baz=353,slow=2.1,SNR=9.0
ASAR S **S 06 55 25.1 -6.2**
comp=Z,43nm,0.8s,baz=359,slow=23,SNR=11
ASAR ScP **ScP 06 56 21.1 -0.7**
comp=Z,22nm,1.0s,baz=346,slow=1.9,SNR=3.4
ASAR LR LR 07 05 56.4
comp=Z,6μm,19.1s,baz=350,slow=39
ASAR P3KPbc 07 21 04.0
comp=Z,1.8nm,0.7s,baz=162,slow=4.3,SNR=13
ASAR Alice Springs 34.48 167 P **P 06 50 05.0 -1.2**
ASAR PcP **PcP 06 52 40.8 +0.2**
MDJ Mudanjiang 34.49 5 P **P 06 50 07.5 +1.5**
MDJ sP pwP 06 50 21.4 +0.4
MDJ PP **PP 06 51 24.3 -0.6**
MDJ S **S 06 55 35.4 +4.4**
MDJ pmax pmax
comp=Z,240nm,1.6s
MDJ pmax pmax
comp=Z,5μm,3.5s
MDJ LR LR
comp=Z,5μm,16.9s
MDJ LR LR
comp=Z,7μm,16.9s
MDJ LR LR
comp=Z,10μm,19.4s
MDJ Mudanjiang 34.49 5 P **P 06 50 06.7 +0.7**
GIRL Giralia 34.55 199 P **P 06 50 08.1 +1.4**
baz=35,SNR=11
SILR SILCHAR 34.71 299 ⇑*i*P **P 06 50 08.4 +0.2**
SILR IAmb IAmb 06 50 19.2
comp=Z,284nm,0.5s
ITAN ITANAGAR 34.78 304 *i*P **P 06 50 07.8 -0.9**
ITAN IAmb IAmb 06 50 21.0
comp=Z,158nm,0.4s
WRKA Warakurna 35.03 176 P **P 06 50 10.0 -0.9**
baz=35,SNR=532
BRDH Bariadhala 35.12 295 LR LR 07 05 04.1
comp=Z,18μm,21.8s,baz=152,slow=37
ERM Erimo 35.16 22 *c i*P **P 06 50 12.5 +0.8**
ERM pmax pmax
comp=Z,113nm,2.0s
SHL Shillong 35.76 300 P **P 06 50 16.9 -0.5**
SHL pmax pmax
comp=Z,423nm,1.0s
SHL Shillong 35.76 300 ⇑*i*P **P 06 50 16.8 -0.6**
SHL Shillong 35.76 300 P **P 06 50 16.9 -0.5**
SHL Shillong 35.76 300 P **P 06 50 16.8 -0.5**
SNR=72
SHL Shillong 35.76 300 P **P 06 50 16.8 -0.5**
SNR=72
AGT Ágartala 35.79 297 *i*P **P 06 50 18.5 +1.1**
AGT IAmb IAmb 06 50 24.1
comp=Z,341nm,0.4s
CTA Charters Tower 36.06 146 P **P 06 50 19.2 -0.6**
comp=Z,45nm,0.7s,baz=325,slow=10.0,SNR=50
CTAO Charters Tower 36.06 146 P **P 06 50 19.4 -0.4**
CTAO pmax pmax
comp=Z,898nm,1.9s
CTAO MLR MLR
comp=Z,8μm,19.0s
CTAO Charters Tower 36.06 146 P **P 06 50 19.4 -0.4**
ASAJ Asahikawa 36.79 20 P **P 06 50 26.9 +1.2**
ASAJ pmax pmax
comp=Z,104nm,0.8s
JKA Kamikawa-asahi 36.79 20 P **P 06 50 26.9 +1.2**
JKA IAMs_20 IAMs_20 07 03 33.7
comp=Z,15μm,22.0s
MEEK Meekatharra 37.25 191 P **P 06 50 30.4 +0.6**
baz=37,SNR=15
GTA Gaotai 37.33 326 ⇑P **P 06 50 30.5 0.0**
GTA pP pP 06 50 39.7 -4.1
GTA sP sP 06 50 44.4 -5.4
GTA PP **PnPn 06 51 59.2 +1.8**
GTA PcP **PcP 06 52 49.5 +0.5**
GTA S **S 06 56 12.3 -2.5**
GTA ScP **ScP 06 56 32.6 +0.5**
GTA PcS **PcS 06 56 34.9 -2.6**
GTA ScS **ScS 07 00 39.4 -0.8**
GTA pmax pmax
comp=Z,42nm,0.7s
GTA pmax pmax
comp=Z,2μm,5.5s
GTA LR LR
comp=Z,8μm,18.5s
GTA LR LR
comp=Z,16μm,18.9s
GTA LR LR
comp=Z,20μm,20.7s
LSA Lhasa 37.87 306 P **P 06 50 35.2 -0.4**
LSA LR LR
comp=Z,1μm,5.0s
LSA LR LR
comp=Z,4μm,9.3s
LSA LR LR
comp=Z,2μm,6.4s
LSA Lhasa 37.87 306 P **P 06 50 36.0 +0.4**
LSA Lhasa 37.87 306 P **P 06 50 35.6 0.0**
LSA pmax pmax
comp=Z,393nm,1.6s
LSA MLR MLR
comp=Z,13μm,20.0s
LSA Lhasa 37.87 306 P **P 06 50 35.6 0.0**
LSA IAmb IAmb 06 51 08.1
comp=Z,393nm,1.6s
LSA IAMs_20 IAMs_20 07 06 51.7
comp=Z,13μm,20.0s
YUK Yuzh-Kuril'sk 37.91 24 *e*P **P 06 50 35.3 +0.1**
YUK *e* 06 52 02.8
YUK *e*S **S 06 56 24.0 +0.7**
YUK *e*SS **SS 06 59 10.1 -1.0**
YUK pmax pmax
comp=Z,507nm,2.1s
YUK pmax pmax
comp=Z,362nm,1.2s
YUK pmax pmax
comp=E,105nm,1.0s
YUK pmax pmax
comp=N,143nm,1.1s
HNR Honiara 39.00 119 P **P 06 50 44.8 +0.1**
comp=N,164nm,0.7s,baz=307,slow=4.7,SNR=2.6
HNR LR LR 07 04 43.7
comp=N,9μm,21.9s,baz=298,slow=33
GTK Tadong 39.11 301 *i*P **P 06 50 44.8 -0.9**
KLR Kul'dur 39.27 6 *ce*P **P 06 50 47.0 +0.5**
KLR pmax pmax
comp=Z,193nm,1.5s
KLR MLR MLR
comp=Z,6μm,16.0s
HIA Hailar 39.35 354 *c i*P **P 06 50 47.8 +0.6**
HIA pmax pmax
comp=Z,121nm,1.0s
HIA MLR MLR
comp=Z,12μm,22.0s
HIA Hailar 39.35 354 P **P 06 50 47.1 -0.1**
YSS Yuzh-Sakhalins 39.36 18 *α i*P **P 06 50 48.7 +1.4**
YSS *e**SP **sP 06 51 03.7 -2.7**
YSS *e* 06 52 18.2
YSS *e* 06 52 55.7
YSS *e*S **S 06 56 44.8 -0.2**
YSS pmax pmax
comp=Z,1μm,7.5s
YSS pmax pmax
comp=E,300nm,6.6s
YSS pmax pmax
comp=Z,100nm,0.9s
YSS smax smax
comp=N,1μm,6.3s
YSS MLR MLR
comp=N,3μm,18.0s
YSS MLR MLR
comp=E,3μm,18.0s
YSS MLR MLR
comp=Z,5μm,18.0s
YSS Yuzh-Sakhalins 39.36 18 P **P 06 50 47.7 +0.4**
YSS IAmb IAmb 06 50 51.8
comp=Z,381nm,1.7s
ODAN Odare 39.99 300 *e*P **P 06 50 53.3 +0.1**
MORW Morawa 40.14 194 P **P 06 50 53.0 -1.0**
baz=40,SNR=40
MORW Morawa 40.14 194 P **P 06 50 52.8 -1.2**
BOK Bokaro 40.52 295 ⇑*i*P **P 06 50 58.5 +1.1**
baz=265,slow=74
H11N1 WAKE ISLAND Hy 40.57 72 T T 07 34 17.6
baz=265,slow=74
H11N2 WAKE ISLAND Hy 40.58 72 T T 07 34 21.9
baz=265,slow=74
QLP Quilpie 40.58 154 P **P 06 50 56.6 -1.1**
baz=41,SNR=12
H11N3 WAKE ISLAND Hy 40.59 72 T T 07 34 18.9
baz=265,slow=74
RAMN Ramite 40.70 300 *e*P **P 06 50 59.4 +0.4**
comp=Z,314nm,0.6s
FORT Forrest 40.73 177 P **P 06 50 58.2 -0.6**
baz=41,SNR=536
FORT Forrest 40.73 177 P **P 06 50 58.1 -0.7**
ULN Ulaanbaatar 40.85 340 *ce*P **P 06 51 00.5 +0.7**
ULN pmax pmax
comp=Z,305nm,1.0s
ULN Ulaanbaatar 40.85 340 P **P 06 51 00.7 +0.9**
ULN IAmb IAmb 06 51 01.9
comp=Z,204nm,0.7s
ULN Ulaanbaatar 40.85 340 IAMs_20 IAMs_20 07 10 32.3
comp=Z,10μm,18.0s
ULN Ulaanbaatar 40.85 340 P **P 06 51 01.1 +1.2**
ULN P **P 06 51 01.1 +1.2**
ULN Ulaanbaatar 40.85 340 P **P 06 51 01.1 +1.2**
ULN P **P 06 51 01.1 +1.2**
ULN P **P 06 51 01.1 +1.2**
SONM Songino Array 41.04 340 P **P 06 51 01.6 +0.2**
comp=Z,77nm,0.7s,baz=159,slow=9.6,SNR=243
SONM PcP **PcP 06 53 00.8 +0.2**
comp=Z,37nm,0.8s,baz=167,slow=4.1,SNR=5.0
SONM ScP **ScP 06 56 46.2 0.0**
comp=Z,20nm,1.1s,baz=158,slow=3.6,SNR=6.5
SONM LR LR 07 10 47.9
comp=Z,10μm,18.9s,baz=153,slow=40
SONM Songino Array 41.04 340 P **P 06 51 01.8 +0.4**
SONM IAmb IAmb 06 51 04.0
comp=Z,465nm,1.6s
SONM PcP **PcP 06 52 59.1 -1.5**
UGL Uglegorsk 41.08 16 *c i*P **P 06 51 03.2 +1.7**
UGL *e* 06 52 47.3
UGL *e*S **S 06 57 12.9 +2.3**
UGL pmax pmax
comp=Z,200nm,1.0s
UGL pmax pmax
comp=Z,4μm,6.1s
UGL smax smax
comp=N,4μm,13.0s
UGL MLR MLR
comp=E,3μm,15.0s
UGL MLR MLR
comp=N,4μm,18.0s
UGL MLR MLR
comp=Z,4μm,14.0s
JIRN Jiri 41.25 301 *e*P **P 06 51 03.7 0.0**
comp=Z,487nm,0.5s
GRNR Gornyy 41.41 10 ⇑*i*P **P 06 51 06.5 +2.3**
GRNR *e*S **S 06 57 20.3 +4.7**
GRNR pmax pmax
comp=N,50nm,1.1s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR smax smax
comp=N,3.0nm,0.9s
GRNR MLR MLR
comp=E,1μm,18.0s
GRNR MLR MLR
comp=N,3μm,20.0s
GRNR MLR MLR
comp=Z,4μm,20.0s
BLDU Ballidu 41.49 192 P **P 06 51 03.9 -1.2**
baz=42,SNR=43
GUN Gumba 41.59 301 *e*P **P 06 51 06.0 -0.4**
comp=Z,737nm,0.7s
PKI Pulchoki 41.89 300 *e*P **P 06 51 08.0 -0.9**
comp=Z,182nm,0.6s
PKIN Phulchoki 41.90 300 *e*P **P 06 51 08.1 -0.8**
comp=Z,220nm,0.6s
VIS Vishakhapatnam 42.00 285 *e*P **P 06 51 09.8 +0.3**
KKN Kakani 42.06 300 *e*P **P 06 51 09.5 -0.6**
comp=Z,93nm,0.5s
KLBR Kellerberrin 42.23 190 P **P 06 51 10.6 -0.5**
baz=42,SNR=123
RMQ Roma 42.61 149 P **P 06 51 13.5 -0.8**
baz=43,SNR=5.4
GKN Gorkha 42.66 300 *e*P **P 06 51 14.3 -0.7**
comp=Z,148nm,0.6s
TYV Tymovskoe 42.86 16 *e*P **P 06 51 18.5 +2.5**
TYV *e*S **S 06 57 44.8 +7.9**
TYV pmax pmax
comp=Z,54nm,1.8s
TYV pmax pmax
comp=Z,4μm,3.5s
TYV smax smax
comp=N,4μm,6.9s
TYV MLR MLR
comp=E,4μm,18.0s
TYV MLR MLR
comp=Z,4μm,21.0s
MUN Mundaring 42.91 192 P **P 06 51 16.0 -0.6**
baz=43,SNR=52
EIDS Eidsvold 42.94 146 P **P 06 51 16.1 -0.9**
baz=43,SNR=6.9
EIDS Eidsvold 42.94 146 IAMs_20 IAMs_20 07 11 45.8
comp=Z,11μm,19.0s
CIT Chita 42.97 349 *e*P **P 06 51 18.2 +1.2**
CIT *e* 06 51 30.6
CIT *e* 06 53 06.6
CIT *e* 06 57 40.3
CIT *e* 07 01 31.5
CIT pmax pmax
comp=Z,1μm,2.5s
KOLN Koldanda 43.48 300 *e*P **P 06 51 21.3 -0.4**
comp=Z,292nm,0.7s
ZEA Zeya 43.49 1 *e*P **P 06 51 21.3 +0.2**
ZEA *e* 06 53 08.7
ZEA *e*S **S 06 57 50.2 +4.1**
ZEA *e* 07 01 21.0
ZEA pmax pmax
comp=N,60nm,1.8s
ZEA pmax pmax
comp=Z,120nm,1.9s
ZEA pmax pmax
comp=N,400nm,4.2s
ZEA pmax pmax
comp=Z,500nm,8.3s
ZEA pmax pmax
comp=N,1μm,6.6s
ZEA pmax pmax
comp=Z,2μm,7.9s
ZEA smax smax
comp=Z,400nm,6.9s
ZEA smax smax
comp=N,400nm,7.6s
ZEA MLR MLR
comp=E,2μm,16.0s
ZEA MLR MLR
comp=N,3μm,20.0s
ZEA MLR MLR
comp=Z,3μm,17.0s
DANN Dangsing 43.51 301 *e*P **P 06 51 21.2 -0.7**
comp=Z,362nm,0.6s
NWAO Narrogin (SRO) 43.63 191 P **P 06 51 21.3 -1.1**
comp=Z,236nm,0.7s,baz=18,slow=8.2,SNR=99
NWAO Narrogin (SRO) 43.63 191 P **P 06 51 22.1 -0.3**
baz=44,SNR=84
NWAO Narrogin (SRO) 43.63 191 P **P 06 51 21.5 -0.9**
NWAO pmax pmax
comp=Z,510nm,1.3s
NWAO Narrogin (SRO) 43.63 191 P **P 06 51 21.5 -0.9**
NWAO IAmb IAmb 06 51 35.9
comp=Z,510nm,1.2s
BBOO Buckleboo 43.78 168 P **P 06 51 23.0 -0.6**
baz=44,SNR=343
BBOO Buckleboo 43.78 168 P **P 06 51 22.8 -0.8**
PYUN Piuthan 44.09 300 *e*P **P 06 51 26.5 -0.1**
comp=Z,390nm,0.7s
ZAK Zakamensk 44.28 339 *e*P **P 06 51 27.2 -0.4**
ZAK *e* 06 53 12.0
ZAK pmax pmax
comp=Z,74nm,1.3s
ZAK pmax pmax
comp=Z,64nm,1.3s
ZAK pmax pmax
comp=Z,28nm,1.3s
STKA Stephens Creek 44.37 161 P **P 06 51 27.6 -0.7**
comp=Z,86nm,0.6s,baz=338,slow=8.1,SNR=153
STKA S **S 06 57 54.8 -4.6**
comp=Z,30nm,0.8s,baz=103,slow=18,SNR=9.3
STKA LR LR 07 11 34.1
comp=Z,4μm,22.0s,baz=342,slow=38
STKA Stephens Creek 44.37 161 P **P 06 51 27.7 -0.7**

baz=44,SNR=172
STKA Stephens Creek 44.37 161 P P 06 51 28.0 -0.4
STKA pmax pmax
comp=Z,36nm,0.9s
STKA Stephens Creek 44.37 161 P P 06 51 28.0 -0.4
NKL Nikolayevsk 44.50 13 *e*P **P 06 51 30.2 +1.1**
NKL *e*S **S 06 57 57.2 -3.5**
NKL *i* SS **ScS 07 01 26.0 +3.6**
NKL pmax pmax
comp=N,2.0nm,1.0s
NKL pmax pmax
comp=Z,141nm,1.1s
NKL pmax pmax
comp=E,71nm,0.8s
NKL smax smax
comp=E,114nm,0.8s
PALK Pallekele 44.82 270 LR LR 07 10 42.1
comp=E,8μm,20.5s,baz=192,slow=37
PALK Pallekele 44.82 270 P **P 06 51 32.9 +0.6**
PALK pmax pmax
comp=Z,98nm,0.9s
PALK MLR MLR
comp=Z,14μm,22.0s
PALK Pallekele 44.82 270 P **P 06 51 32.9 +0.6**
PALK IAMs_20 IAMs_20 07 09 07.8
comp=Z,14μm,22.0s
MDRS Chennai 44.85 278 *i* P **P 06 51 33.0 +0.6**
MDRS IAmb IAmb 06 51 37.3
comp=Z,229nm,1.0s
HTT Hallett 45.05 165 P **P 06 51 33.5 -0.3**
baz=45,SNR=95
TLY Talaya 45.26 341 LR LR 07 13 25.1
comp=Z,6μm,18.9s,baz=143,slow=40
TLY Talaya 45.26 341*c i*P **P 06 51 35.9 +0.6**
TLY *e* 06 53 14.6
TLY *e* 06 53 26.0
TLY *e*S **S 06 58 12.0 +0.1**
TLY *e*SS **ScS 07 01 25.5 -2.0**
TLY pmax pmax
comp=Z,898nm,1.4s
TLY MLR MLR
comp=Z,15μm,20.0s
TLY Talaya 45.26 341 P **P 06 51 35.9 +0.6**
TLY IAmb IAmb 06 51 48.9
comp=Z,288nm,1.0s
TLY Talaya 45.26 341 P **P 06 51 36.7 +1.5**
TLY Talaya 45.26 341 P **P 06 51 36.7 +1.5**
TLY P **P 06 51 36.7 +1.5**
IRK Irkutsk 45.54 341 *e*P **P 06 51 37.0 -0.5**
IRK *e* 06 53 15.1
IRK *e*S **S 06 58 18.7 +2.8**
IRK pmax pmax
comp=Z,458nm,2.9s
CMSA Cobar Meteorol 45.54 156 P **P 06 51 37.5 -0.2**
baz=46,SNR=10
H01W3 Cape Leeuwin H 46.16 194 P **P 06 51 40.8 -1.4**
baz=48,slow=8.3,SNR=7.7
MOY Mondy 46.16 339 *e*P **P 06 51 43.2 +0.7**
MOY pmax pmax
comp=Z,508nm,2.9s
H01W1 Cape Leeuwin H 46.16 194 P **P 06 51 40.0 -2.2**
baz=48,slow=8.3,SNR=7.0
H01W2 Cape Leeuwin H 46.17 194 P **P 06 51 42.3 0.0**
baz=48,slow=8.3,SNR=6.9
HYB Hyderabad 46.53 284 *i* P **P 06 51 46.0 +0.2**
HYB *e*pP **pP 06 51 55.0 -4.4**
HYB *e*PcP **PcP 06 53 19.5 -0.1**
HYB *e*PP **PP 06 53 38.0 +2.2**
HYB *e*S **S 06 58 32.0 +0.9**
HYB Hyderabad 46.53 284 *i* P **P 06 51 46.8 +1.0**
WMQ Urumqi 47.15 322 P **P 06 51 51.0 +0.7**
WMQ pP pP 06 51 59.1 -4.9
WMQ sP sP 06 52 03.1 -6.8
WMQ PcP **PcP 06 53 20.3 -1.1**
WMQ PP **PP 06 53 42.3 +0.7**
WMQ S **S 06 58 38.7 -0.6**
WMQ SS **SS 07 02 07.2 +0.2**
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ pmax pmax
comp=Z,2μm,5.1s
WMQ LR LR
comp=Z,22μm,16.7s
WMQ LR LR
comp=Z,19μm,17.9s
WMQ LR LR
comp=Z,27μm,18.9s
WMQ Urumqi 47.15 322 P **P 06 51 51.2 +0.9**
WMQ Urumqi 47.15 322 P **P 06 51 51.2 +0.9**
ARMA Armidale 47.27 149 P **P 06 51 51.5 +0.2**
baz=47,SNR=21
ARMA Armidale 47.27 149 P **P 06 51 51.4 0.0**
ARMA IAmb IAmb 06 52 15.0
comp=Z,524nm,1.9s
ARMA IAMs_20 IAMs_20 07 10 59.3
comp=Z,9μm,21.0s
SKR Severo-Kuril's 47.42 26 *e*P **P 06 51 53.4 +1.2**
SKR *e*S **S 06 58 43.0 +0.3**
SKR pmax pmax
comp=Z,63nm,1.0s
SKR pmax pmax
comp=Z,2μm,3.5s
SKR pmax pmax
comp=Z,800nm,11.6s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=Z,2μm,17.0s
BHPL Bhopal 48.08 292 *i* P **P 06 51 58.1 +0.3**
SANVU Saraoutou 48.10 121 P **P 06 52 00.1 +2.2**
comp=Z,359nm,0.9s
TRD Trivandrum 48.36 272 *i* P **P 06 51 59.3 -0.8**
BOD Bodaibo 48.46 351 *e*P **P 06 52 00.6 +0.5**
BOD pmax pmax
comp=Z,304nm,1.1s
KOUNC Koumac, New Ca 48.47 129 P **P 06 52 02.0 +1.3**
comp=Z,179nm,2.6s
DDI Dehra Dun 48.82 301 *i* P **P 06 52 02.3 -1.2**
ARPS Mount Arapiles 48.98 163 P **P 06 52 04.2 -0.2**
baz=49,SNR=72
YNG Young 49.05 155 P **P 06 52 05.6 +0.6**
baz=49,SNR=8.4
NDI New Delhi 49.17 299 *e*P **P 06 52 05.0 -1.1**
MGCD Mangrove Creek 49.31 152 P **P 06 52 08.6 +1.6**
baz=49,SNR=8.4
SMLA Simla 49.76 302⇑ *i*P **P 06 52 08.8 -1.7**
RIV Riverview 49.85 152 P **P 06 52 12.5 +1.5**
baz=50,SNR=3.3
PEA0B Petropavlovsk- 49.88 24*ce*P **P 06 52 12.0 +0.9**
PEA0B Petropavlovsk- 49.88 24 P **P 06 52 12.0 +0.9**
PEA0B IAmb IAmb 06 52 40.9
comp=Z,168nm,1.0s
PETK Petropavlovsk- 49.88 24 P **P 06 52 11.6 +0.6**
comp=Z,46nm,0.7s,baz=210,slow=14,SNR=68
PETK LR LR 07 12 28.7
comp=Z,6μm,21.8s,baz=219,slow=35
CAN Canberra 50.18 155 P **P 06 52 14.1 +0.5**
CAN pmax pmax
comp=Z,403nm,1.2s
CAN Canberra 50.18 155 P **P 06 52 14.1 +0.5**
PET Petropavlovsk 50.21 25*ce*P **P 06 52 14.5 +1.0**
PET *e*S **S 06 59 24.0 +2.1**
PET *e*SS **SS 07 02 51.4 -4.4**
PET pmax pmax
comp=Z,128nm,1.1s
PET pmax pmax
comp=Z,3μm,16.1s
PET pmax pmax
comp=Z,3μm,14.6s
PET MLR MLR
comp=Z,6μm,19.0s
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 50.21 25 P **P 06 52 14.5 +1.0**
PET IAmb IAmb 06 52 27.4
comp=Z,139nm,1.1s
CNB Canberra Magne 50.33 155 P **P 06 52 15.6 +0.9**
baz=50,SNR=47
DGZ Jazzator, Alta 50.73 328*c i*P **P 06 52 17.6 -0.1**
DGZ pmax pmax
comp=Z,55nm,0.7s
ZSN Zaisan 50.81 325⇑ *i*P **P 06 52 17.5 -0.7**
comp=Z,287nm,3.5s,baz=325
ZSN *i* S **S 06 59 29.2 -1.3**
comp=Z,244nm,6.5s,baz=325
ZSN Zaisan 50.81 325*c i*P **P 06 52 17.5 -0.7**
ZSN *i* S **S 06 59 29.2 -1.3**
ZSN pmax pmax
comp=Z,287nm,3.5s
ZSN smax smax
comp=N,244nm,6.5s
TOO Toolangi 50.86 160 P **P 06 52 19.6 +0.9**
baz=51,SNR=68
TOO Toolangi 50.86 160 P **P 06 52 19.0 +0.3**
TOO pmax pmax
comp=Z,183nm,1.0s
TOO Toolangi 50.86 160 P **P 06 52 19.0 +0.3**
TOO IAmb IAmb 06 52 21.3
comp=Z,183nm,0.9s
LIFNC LIFOU 50.88 127 P **P 06 52 19.5 +0.5**
LIFNC LIFOU 50.88 127 P **P 06 52 20.2 +1.1**
comp=Z,2μm,0.8s
NOUC Port Laguerre 50.90 129 P **P 06 52 19.9 +0.7**
comp=Z,161nm,1.3s
DZM Mont Dzumac 50.99 129 P **P 06 52 20.5 +0.5**
comp=Z,201nm,0.8s,baz=262,slow=9.1,SNR=110
DZM Mont Dzumac 50.99 129 *e*P **P 06 52 20.5 +0.5**
comp=Z,941nm,1.6s
DZM *e*S **S 06 59 34.5 +0.7**
comp=Z,17μm,26.9s
DZM *e*LQ LQ 07 04 51.4
comp=Z,12μm,32.5s
DZM *e*LR LR 07 06 55.7
comp=Z,18μm,26.4s
DZM Mont Dzumac 50.99 129 P **P 06 52 20.3 +0.3**
DZM IAmb IAmb 06 52 31.6
comp=Z,275nm,0.9s
DZM Mont Dzumac 50.99 129 P **P 06 52 21.0 +1.0**
comp=Z,431nm,1.1s
POO Poona 51.04 286⇑ *i*P **P 06 52 20.1 -0.3**
POO Poona 51.04 286⇑ *i*P P 06 52 15.0 -5.5
comp=Z,230nm,1.3s
ONTNC Ouen Toro 51.13 129 P **P 06 52 21.1 +0.2**
ONTNC Ouen Toro 51.13 129 P **P 06 52 21.9 +1.0**
comp=Z,253nm,2.1s
YATNC Mamie plateau, 51.32 129 P **P 06 52 23.3 +0.9**
comp=Z,518nm,1.5s
OUENC Ouen Island, N 51.49 129 P **P 06 52 24.3 +0.7**
OUENC IAmb IAmb 06 52 35.6
comp=Z,294nm,1.0s
OUENC Ouen Island, N 51.49 129 P **P 06 52 24.5 +0.9**
comp=Z,426nm,1.9s
MILA Mila 51.74 156 P **P 06 52 26.1 +0.8**
baz=52,SNR=8.0
YAK Yakutsk 51.87 2 LR LR 07 15 46.3
comp=Z,3μm,19.1s,baz=183,slow=37
YAK Yakutsk 51.87 2*c i*P **P 06 52 26.5 +0.7**
YAK *e**PP **pP 06 52 36.8 -2.8**
YAK *e* 06 53 37.5
YAK *e* 06 54 24.5
YAK *e*PPP PPP 06 55 24.8
YAK *e*S **S 06 59 45.1 +0.5**
YAK *e**SS **sS 07 00 04.3 -3.4**
YAK *e* 07 02 08.7
YAK *e*SS **SS 07 03 23.6 +1.8**
YAK *e*SSS SSS 07 05 02.8
YAK pmax pmax
comp=Z,688nm,0.9s
YAK pmax pmax
comp=N,155nm,0.9s
YAK pmax pmax
comp=E,38nm,0.8s
YAK pmax pmax
comp=Z,640nm,3.7s
YAK pmax pmax
comp=N,672nm,3.8s
YAK pmax pmax
comp=E,261nm,3.7s
YAK smax smax
comp=N,94nm,1.7s
YAK smax smax
comp=E,230nm,1.9s
YAK Yakutsk 51.87 2 P **P 06 52 25.5 -0.3**
MARNC Mare, Loyalty 51.89 128 P **P 06 52 27.2 +0.7**
MARNC Mare, Loyalty 51.89 128 P **P 06 52 28.2 +1.6**
comp=E,5.1nm,0.9s
MK31 Makanchi Array 51.96 323 P **P 06 52 26.1 -0.7**
MK31 pmax pmax
comp=Z,171nm,0.8s
MK31 Makanchi Array 51.96 323 P **P 06 52 26.1 -0.7**
MK31 IAmb IAmb 06 52 28.4
comp=Z,170nm,0.8s
MKAR Makanchi Array 51.96 323 P **P 06 52 26.2 -0.7**
comp=Z,226nm,0.8s,baz=121,slow=8.0,SNR=856
MKAR PcP **PcP 06 53 38.5 -0.3**
comp=Z,54nm,0.9s,baz=97,slow=4.3,SNR=5.5
MKAR LR LR 07 16 23.4
comp=Z,15μm,21.1s,baz=116,slow=38
MKAR PKPPKP 07 22 57.5
comp=Z,4.1nm,1.1s,baz=272,slow=3.0,SNR=7.2
MKAR Makanchi Array 51.96 323 *i* P **P 06 52 26.7 -0.1**
MKAR pmax pmax
comp=Z,226nm,0.8s
MKAR Makanchi Array 51.96 323 P **P 06 52 26.5 -0.3**
SHLS Shalkode 52.05 318⇑ *i*P **P 06 52 25.1 -2.7**
comp=Z,72nm,0.9s,baz=318
SHLS *i* S **S 06 59 42.8 -5.2**
comp=Z,156nm,3.5s,baz=318
SHLS Shalkode 52.05 318*c i*P **P 06 52 25.0 -2.7**
SHLS *i* S **S 06 59 42.7 -5.2**
SHLS pmax pmax
comp=Z,72nm,0.9s
SHLS smax smax
comp=N,156nm,3.5s
PINNC Pines Island, 52.06 129 P **P 06 52 29.0 +1.1**
PINNC Pines Island, 52.06 129 P **P 06 52 29.8 +2.0**
comp=N,926nm,1.5s
MAKZ Makanchi 52.15 323 P **P 06 52 27.7 -0.6**
MAKZ pmax pmax
comp=Z,137nm,0.8s
MAKZ MLR MLR
comp=Z,17μm,21.0s
MAKZ Makanchi 52.15 323 P **P 06 52 27.7 -0.6**
MAKZ IAmb IAmb 06 52 29.8
comp=Z,137nm,0.8s
LHI Lord Howe Isla 52.16 144 IAMs_20 IAMs_20 07 11 31.9
comp=Z,8μm,22.0s
UZB Uzynbulak 52.34 317⇑ *i*P **P 06 52 29.4 -0.5**
comp=Z,99nm,1.6s,baz=317
UZB *e*S **S 06 59 50.3 -1.7**
baz=317
UZB Uzynbulak 52.34 317*c i*P **P 06 52 29.3 -0.6**
UZB *e*S **S 06 59 50.2 -1.7**
UZB pmax pmax
comp=Z,99nm,1.6s
TARG Taragay, Kyrgy 52.59 315 P **P 06 52 32.3 +0.2**
KPKS Kokpek 52.69 318⇑ *i*P **P 06 52 31.7 -0.8**
comp=Z,125nm,1.1s,baz=317
KPKS *e*S **S 06 59 55.6 -1.2**
baz=317
KPKS Kokpek 52.69 318*c i*P **P 06 52 31.6 -0.8**
KPKS *e*S **S 06 59 55.5 -1.2**
KPKS pmax pmax
comp=Z,125nm,1.1s
SATY Saty 52.71 317⇑ *i*P **P 06 52 32.4 -0.2**
comp=Z,124nm,1.6s,baz=317
SATY *e*S **S 06 59 56.9 -0.1**
baz=317
SATY Saty 52.71 317*c i*P **P 06 52 32.4 -0.2**
SATY *e*S **S 06 59 56.9 -0.1**
SATY pmax pmax
comp=Z,124nm,1.6s
MA2 Magadan 52.74 16*ce*P **P 06 52 32.5 +0.2**
MA2 pmax pmax
comp=Z,85nm,0.7s
MA2 MLR MLR
comp=Z,3μm,19.0s
MA2 Magadan 52.74 16 P **P 06 52 32.6 +0.2**
MA2 IAmb IAmb 06 52 34.5
comp=Z,104nm,0.8s
KDJ Kajisay 53.18 316 P **P 06 52 35.6 -0.5**
KDJ pmax pmax
comp=Z,96nm,1.1s
KDJ MLR MLR
comp=Z,30μm,21.0s
KDJ Kajisay 53.18 316 P **P 06 52 35.6 -0.5**
TDK Taldyqorghan 53.52 319 *i* P **P 06 52 37.9 -0.5**
comp=Z,157nm,0.9s,baz=319
TDK *e*S **S 06 59 57.1 -2.1**
baz=319
TDK *e*LR LR 07 14 51.2
comp=Z,15μm,21.7s,baz=319
TDK Taldyqorghan 53.52 319 *i* P **P 06 52 37.9 -0.5**
TDK *e*S **S 07 00 05.7 -2.1**
TDK pmax pmax
comp=Z,157nm,0.9s
TDK MLR MLR
comp=Z,15μm,22.0s
ARXS Arharly 53.57 318 *e*P **P 06 52 38.8 0.0**
NIL Nilore 53.57 304 P **P 06 52 38.4 -0.6**
NIL pmax pmax
comp=Z,283nm,1.1s
NIL Nilore 53.57 304 P **P 06 52 38.4 -0.6**
NIL IAmb IAmb 06 52 41.4
comp=Z,283nm,1.1s
MDOK Medeo 53.66 317 *i* P **P 06 52 39.3 -0.4**
baz=316
MDOK *i* S **S 07 00 07.4 -2.7**
baz=316
MDOK *e*LR LR 07 15 16.5
comp=Z,7μm,20.1s,baz=316
MDOK Medeo 53.66 317 *i* P **P 06 52 39.2 -0.4**
MDOK *i* S **S 07 00 07.3 -2.7**
MDOK MLR MLR
comp=Z,7μm,20.0s
AAA Alma-Ata 53.77 317 *e*P **P 06 52 39.4 -1.0**
baz=316
AAA *e*S **S 07 00 09.4 -1.9**
baz=316
AAA Alma-Ata 53.77 317 *e*P **P 06 52 40.1 -0.2**
ULHL Ulahol 53.87 315 P **P 06 52 41.2 -0.1**
SNR=33
CHKK Chushkaly 53.98 318 *e*P **P 06 52 39.3 -2.4**
baz=317
CHKK Chushkaly 53.98 318 *e*P **P 06 52 39.3 -2.4**
BOOM Boomskoye usch 54.16 316 P **P 06 52 43.0 -0.4**
BOOM pmax pmax
comp=Z,83nm,1.3s
BOOM MLR MLR
comp=Z,22μm,22.0s
BOOM Boomskoye usch 54.16 316 P **P 06 52 43.0 -0.4**
KUU Kurty 54.42 317⇑ *i*P **P 06 52 44.4 -0.7**
comp=Z,289nm,1.3s,baz=317
KUU *e*S **S 07 00 19.6 -0.5**
baz=317
KUU Kurty 54.42 317*c i*P **P 06 52 44.3 -0.7**
KUU *e*S **S 07 00 19.5 -0.5**
KUU pmax pmax
comp=Z,289nm,1.3s
TKM2 Tokmak 2 54.56 316 P **P 06 52 46.0 -0.3**
SNR=32
ZAA0 Zalesovo Array 54.60 331 P **P 06 52 45.0 -1.1**
ZAA0 IAmb IAmb 06 52 46.8
comp=Z,108nm,0.8s
ZALV Zalesovo Beam 54.60 331 P **P 06 52 44.9 -1.2**
comp=Z,108nm,0.7s,baz=118,slow=6.8,SNR=260
ZALV PcP **PcP 06 53 47.4 -1.2**
comp=Z,30nm,0.6s,baz=118,slow=2.0,SNR=5.3
ZALV ScS ScS 07 02 27.0 -3.9
comp=Z,1.0nm,0.4s,baz=116,slow=6.6,SNR=3.8
ZALV LR LR 07 18 37.6
comp=Z,10μm,18.8s,baz=132,slow=39
ZALV PKP2bc 07 23 08.5
comp=Z,0.8nm,0.3s,baz=300,slow=3.3,SNR=4.1
KBK Karagaybulak 54.91 315 P **P 06 52 49.0 +0.3**
SNR=29
SEM Semipalatinsk 54.96 326⇑ *i*P **P 06 52 46.9 -2.2**
comp=Z,63nm,0.7s,baz=326
SEM *i* S **S 07 00 23.6 -3.7**
baz=326
SEM *e*LR LR 07 18 36.5
comp=Z,3μm,15.9s,baz=326
SEM Semipalatinsk 54.96 326*c i*P **P 06 52 46.8 -2.2**
SEM *i* S **S 07 00 23.6 -3.7**
SEM pmax pmax
comp=Z,63nm,0.7s
SEM MLR MLR
comp=Z,3μm,16.0s
CHMS Chumysh 55.16 316 P **P 06 52 50.0 -0.4**
SNR=24
AAK Ala-Archa 55.22 315 LR LR 07 19 18.4
comp=Z,14μm,21.5s,baz=98,slow=39
AAK Ala-Archa 55.22 315 P **P 06 52 51.5 +0.6**
SNR=8.1
AAK Ala-Archa 55.22 315 *i* P **P 06 52 50.6 -0.4**
SNR=28
AAK Ala-Archa 55.22 315*ce*P **P 06 52 51.1 +0.1**
AAK pmax pmax
comp=Z,273nm,2.5s
AAK Ala-Archa 55.22 315 P **P 06 52 50.4 -0.5**
AAK Ala-Archa 55.22 315 P **P 06 52 51.5 +0.6**
AAK Ala-Archa 55.22 315 P **P 06 52 51.5 +0.6**
AAK P **P 06 52 51.5 +0.6**
SGDS Sogindy 55.41 316⇑ *i*P **P 06 52 50.9 -1.3**
comp=Z,160nm,3.3s,baz=316
SGDS *e*S **S 07 00 32.5 -0.9**
baz=316
SGDS Sogindy 55.41 316*c i*P **P 06 52 50.9 -1.3**
SGDS *e*S **S 07 00 32.4 -0.9**
SGDS pmax pmax
comp=Z,160nm,3.3s
USP Ospenovka 55.43 316 P **P 06 52 52.1 -0.3**
SNR=12
AML Almayashu 55.60 315 P **P 06 52 54.2 +0.2**
SNR=19
AML Almayashu 55.60 315 *i* P **P 06 52 53.5 -0.5**
SNR=20
AML Almayashu 55.60 315 P **P 06 52 54.7 +0.6**
AML Almayashu 55.60 315 P **P 06 52 54.7 +0.6**
EKS2 Erkin-Say 55.72 315 P **P 06 52 54.7 +0.1**
SNR=49
KURBB Kurchatov Arra 56.02 326 P4KPbc 07 30 10.9
comp=Z,0.8nm,0.8s,baz=114,slow=4.1,SNR=4.9
SEY Seymchan 56.02 14 LR LR 07 15 14.3
comp=Z,5μm,21.9s,baz=202,slow=34
SEY Seymchan 56.02 14*c i*P **P 06 52 57.8 +1.7**
H08S2 Diego Garcia H 56.11 254 P **P 06 52 53.4 -3.8**
baz=44,slow=12,SNR=9.5
H08S3 Diego Garcia H 56.11 254 P **P 06 52 54.2 -3.1**
baz=44,slow=12,SNR=11
H08S1 Diego Carcia H 56.13 254 P **P 06 52 54.7 -2.7**
baz=44,slow=12,SNR=16
BTLS Baital 56.38 318⇑ *i*P **P 06 52 58.0 -1.0**
comp=Z,61nm,1.2s,baz=318
BTLS *i* S **S 07 00 43.8 -2.2**
comp=Z,68nm,4.4s,baz=318
BTLS Baital 56.38 318*c i*P **P 06 52 58.0 -1.0**
BTLS *i* S **S 07 00 43.7 -2.2**
BTLS pmax pmax
comp=Z,61nm,1.2s
BTLS smax smax
comp=N,68nm,4.4s
BTK Batken 57.05 311 P **P 06 53 03.7 -0.3**
BTK pmax pmax
comp=Z,75nm,1.0s
BTK Batken 57.05 311 P **P 06 53 03.7 -0.3**
GAR Garm 57.15 310 P **P 06 53 04.1 -0.7**
GAR IAmb IAmb 06 53 07.0
comp=Z,241nm,1.1s
KBL Kabul 57.17 305 P **P 06 53 03.9 -1.2**
KBL pmax pmax
comp=Z,95nm,1.1s
KBL MLR MLR
comp=Z,6μm,20.0s
KBL Kabul 57.17 305 P **P 06 53 03.9 -1.2**
KBL IAMs_20 IAMs_20 07 20 28.6
comp=Z,6μm,20.0s
KBL Kabul 57.17 305 P **P 06 53 04.7 -0.4**
SNR=38
KBL P **P 06 53 04.7 -0.4**
SNR=38
KBL Kabul 57.17 305 P **P 06 53 04.7 -0.4**
SNR=38
KBL P **P 06 53 04.7 -0.4**
SNR=38
KBL P **P 06 53 04.7 -0.4**
SNR=38
SMY Shemya 57.42 33 P **P 06 53 07.7 +1.5**
SMY pmax pmax
comp=Z,155nm,0.9s
SMY Shemya 57.42 33 P **P 06 53 07.7 +1.5**
SMY IAmb IAmb 06 53 12.4
comp=Z,155nm,0.9s
DZA Taraz 57.50 315 *e*P **P 06 53 05.1 -2.0**
baz=314
DZA *e*S **S 07 00 59.0 -2.0**
baz=314

DZA	**Taraz**	**57.50 315**	*e*P	**P**	**06 53 05.1**	**-2.0**
DZA			*e*S	**S**	**07 00 58.9**	**-2.0**
CHGR	**Chuyangaron**	**57.95 309**	P	**P**	**06 53 09.4**	**-0.9**
CHGR			IAmb	IAmb	06 53 13.9	
	comp=Z,247nm,1.0s					
KK31	**Karatay Array**	**58.14 315**	P	**P**	**06 53 10.5**	**-1.0**
KK31			pmax	pmax		
	comp=Z,95nm,1.1s					
KK31	**Karatay Array**	**58.14 315**	P	**P**	**06 53 10.5**	**-1.0**
KK31			IAmb	IAmb	06 53 51.9	
	comp=Z,95nm,1.1s					
KKAR	**Karatay Array**	**58.14 315**	P	**P**	**06 53 10.6**	**-0.9**
KKAR			pmax	pmax		
	comp=Z,95nm,1.1s					
KKAR	**Karatay Array**	**58.14 315**	P	**P**	**06 53 10.6**	**-0.9**
KKAR	**Karatay Array**	**58.14 315**	P	**P**	**06 53 10.6**	**-0.9**
KKAR			IAmb	IAmb	06 53 52.0	
	comp=Z,95nm,1.1s					
MSVF	**Nonsavu**	**58.41 118**	P	**P**	**06 53 15.0**	**+1.2**
	comp=Z,65nm,0.8s,baz=261,slow=4.9,SNR=30					
MSVF	**Nonsavu**	**58.41 118**	P	**P**	**06 53 15.3**	**+1.5**
MSVF			pmax	pmax		
	comp=Z,174nm,1.0s					
MSVF	**Nonsavu**	**58.41 118**	P	**P**	**06 53 15.3**	**+1.5**
MSVF			IAmb	IAmb	06 53 27.9	
	comp=Z,174nm,1.0s					
MSVF	**Nonsavu**	**58.41 118**	P	**P**	**06 53 15.8**	**+2.0**
	comp=Z,191nm,1.1s					
AMKA	**Amchitka**	**59.68 36**	P	**P**	**06 53 22.9**	**+1.0**
TIXI	**Tiksi**	**61.49 1**	P	**P**	**06 53 34.1**	**+0.2**
TIXI			pmax	pmax		
	comp=Z,460nm,1.0s					
TIXI			MLR	MLR		
	comp=Z,9μm,21.0s					
TIXI	**Tiksi**	**61.49 1**	P	**P**	**06 53 34.1**	**+0.2**
BRVK	**Borovoye**	**61.68 326**	*ce*P	**P**	**06 53 34.9**	**-0.7**
BRVK			pmax	pmax		
	comp=Z,232nm,1.0s					
BRVK	**Borovoye**	**61.68 326**	P	**P**	**06 53 34.8**	**-0.8**
BRVK			IAmb	IAmb	06 53 36.8	
	comp=Z,173nm,0.8s					
BRVK	**Borovoye**	**61.68 326**	IAMs_20	IAMs_20	07 22 53.9	
	comp=Z,4μm,18.0s					
BRVK	**Borovoye**	**61.68 326**	P	**P**	**06 53 35.6**	**0.0**
BRVK	**Borovoye**	**61.68 326**	P	**P**	**06 53 35.6**	**0.0**
BRVK			P	**P**	**06 53 35.6**	**0.0**
HRA	**Herat**	**62.70 303**	P	**P**	**06 53 42.0**	**-1.1**
HRA			IAmb	IAmb	06 53 45.2	
	comp=Z,63nm,0.8s					
HRA			IAMs_20	IAMs_20	07 26 10.2	
	comp=Z,7μm,21.0s					
JOHN	**Johnston Islan**	**62.85 76**	P	**P**	**06 53 44.4**	**+0.3**
KNTN	**Kanton**	**63.34 98**	P	**P**	**06 53 47.3**	**0.0**
KNTN	**Kanton**	**63.34 98**	P	**P**	**06 53 49.1**	**+1.8**
	comp=Z,209nm,1.3s					
BILL	**Bilibino**	**63.61 16**	P	**P**	**06 53 49.0**	**+0.8**
OUZ	**Omahuta**	**63.71 138**	IAMs_20	IAMs_20	07 25 22.9	
	comp=Z,5μm,19.0s					
ATKA	**Atka Island**	**63.74 36**	P	**P**	**06 53 50.2**	**+0.9**
NRIK	**Noril'sk**	**64.07 346**	P	**P**	**06 53 50.7**	**-0.5**
	comp=Z,86nm,0.8s,baz=119,slow=6.7,SNR=79					
NRIK			PKP2bc		07 22 47.0	
	comp=Z,2.1nm,0.5s,baz=307,slow=2.2,SNR=4.4					
NRIK			LR	LR	07 25 17.9	
	comp=Z,14μm,18.4s,baz=146,slow=39					
NRIK	**Noril'sk**	**64.07 346**	*ce*P	**P**	**06 53 51.0**	**-0.2**
NRIK			pmax	pmax		
	comp=Z,127nm,0.9s					
NRIK			MLR	MLR		
	comp=Z,9μm,22.0s					
NRIK	**Noril'sk**	**64.07 346**	P	**P**	**06 53 50.5**	**-0.6**
NRIK			IAmb	IAmb	06 53 52.3	
	comp=Z,102nm,0.8s					
JLN	**Jalan Bani Buh**	**64.62 290**	P	**P**	**06 53 55.3**	**-0.4**
JLN	**Jalan Bani Buh**	**64.62 290**	P	**P**	**06 53 55.3**	**-0.4**
WBK	**Wadi Bani Khal**	**65.02 290**	P	**P**	**06 53 59.0**	**+0.7**
	SNR=6.1					
WBK			P	**P**	**06 53 59.0**	**+0.7**
	SNR=6.1					
WBK	**Wadi Bani Khal**	**65.02 290**	P	**P**	**06 53 59.0**	**+0.7**
	SNR=6.1					
WBK			P	**P**	**06 53 59.0**	**+0.7**
	SNR=6.1					
WSAR	**Wadi Sarin**	**65.33 291**	P	**P**	**06 53 59.5**	**-0.8**
	comp=Z,61nm,0.7s,baz=138,slow=5.4,SNR=43					
WSAR	**Wadi Sarin**	**65.33 291**	P	**P**	**06 54 00.5**	**+0.3**
	SNR=6.6					
WSAR	**Wadi Sarin**	**65.33 291**	P	**P**	**06 54 00.5**	**+0.3**
	SNR=6.6					
BIDO	**Bidbid**	**65.79 291**	P	**P**	**06 54 04.0**	**+0.8**
	SNR=36					
BIDO			P	**P**	**06 54 04.0**	**+0.8**
	SNR=36					
BIDO	**Bidbid**	**65.79 291**	P	**P**	**06 54 04.0**	**+0.8**
	SNR=36					
BIDO			P	**P**	**06 54 04.0**	**+0.8**
	SNR=36					
JMDO	**Jabal Madar**	**65.83 290**	P	**P**	**06 54 04.0**	**+0.5**
	SNR=11					
JMDO			P	**P**	**06 54 04.0**	**+0.5**
	SNR=11					
JMDO	**Jabal Madar**	**65.83 290**	P	**P**	**06 54 04.0**	**+0.5**
	SNR=11					
JMDO			P	**P**	**06 54 04.0**	**+0.5**
	SNR=11					
SMDO	**Samad**	**65.86 291**	P	**P**	**06 54 04.0**	**+0.2**
	SNR=11					
SMDO			P	**P**	**06 54 04.0**	**+0.2**
	SNR=11					
SMDO	**Samad**	**65.86 291**	P	**P**	**06 54 04.0**	**+0.2**
	SNR=11					
SMDO			P	**P**	**06 54 04.0**	**+0.2**
	SNR=11					
MHTO	**MHTO**	**66.00 288**	P	**P**	**06 54 04.0**	**-0.6**
	SNR=13					
MHTO	**MHTO**	**66.00 288**	P	**P**	**06 54 04.0**	**-0.6**
	SNR=13					
MHTO			P	**P**	**06 54 04.0**	**-0.6**
	SNR=13					
GEYT	**Alibeck**	**66.39 307**	P	**P**	**06 54 06.4**	**-0.5**
	comp=Z,188nm,0.4s,baz=183,slow=5.8,SNR=57					
GEYT			LR	LR	07 27 28.8	
	comp=Z,7μm,20.5s,baz=80,slow=40					
GYA0B	**ALIBECK ARRAY**	**66.39 307**	P	**P**	**06 54 07.2**	**+0.3**
GYA0B			IAmb	IAmb	06 54 12.4	
	comp=Z,127nm,0.9s					
DQM	**DQM**	**66.44 287**	P	**P**	**06 54 08.0**	**+0.6**
	SNR=6.7					
DQM			P	**P**	**06 54 08.0**	**+0.6**
	SNR=6.7					
DQM	**DQM**	**66.44 287**	P	**P**	**06 54 08.0**	**+0.6**
	SNR=6.7					
DQM			P	**P**	**06 54 08.0**	**+0.6**
	SNR=6.7					
DQM			P	**P**	**06 54 08.0**	**+0.6**
	SNR=6.7					
HIZ	**Hauiti**	**66.45 140**	IAMs_20	IAMs_20	07 19 07.7	
	comp=Z,5μm,20.0s					
HOQ	**Hoqain**	**66.53 291**	P	**P**	**06 54 08.1**	**+0.1**
	SNR=42					
HOQ			P	**P**	**06 54 08.1**	**+0.1**
	SNR=42					
HOQ	**Hoqain**	**66.53 291**	P	**P**	**06 54 08.1**	**+0.1**
	SNR=42					
HOQ			P	**P**	**06 54 08.1**	**+0.1**
	SNR=42					
BSY	**Bisya**	**66.66 290**	P	**P**	**06 54 09.1**	**+0.3**
	SNR=11					
ABKAR	**Akbulak array**	**66.79 319**	P	**P**	**06 54 08.1**	**-1.0**
NIKH	**Nikolski High**	**67.09 37**	P	**P**	**06 54 11.3**	**+0.3**
	baz=256					
NIKH			S	**S**	**07 03 01.4**	**+0.3**
	baz=256					
NNZ	**Nelson**	**67.17 143**	IAMs_20	IAMs_20	07 23 40.6	
	comp=Z,6μm,21.0s					
THZ	**Tophouse**	**67.23 144**	P	**P**	**06 54 12.3**	**+0.2**
THZ			IAmb	IAmb	06 54 13.9	
	comp=Z,180nm,0.8s					
THZ			IAMs_20	IAMs_20	07 20 23.2	
	comp=Z,6μm,21.0s					
SOHO	**SOHO**	**67.23 292**	*i* P	**P**	**06 54 11.4**	**-1.0**
	SNR=81					
SOHO	**SOHO**	**67.23 292**	P	**P**	**06 54 12.0**	**-0.4**
SOHO			P	**P**	**06 54 12.0**	**-0.4**
SOHO	**SOHO**	**67.23 292**	P	**P**	**06 54 12.0**	**-0.4**
SOHO			P	**P**	**06 54 12.0**	**-0.4**
ARQ	**Araqi**	**67.26 291**	P	**P**	**06 54 13.0**	**+0.4**
	SNR=21					
ARQ			P	**P**	**06 54 13.0**	**+0.4**
	SNR=21					
ARQ	**Araqi**	**67.26 291**	P	**P**	**06 54 13.0**	**+0.4**
	SNR=21					
ARQ			P	**P**	**06 54 13.0**	**+0.4**
	SNR=21					
LBZ	**Lake Benmore**	**67.41 147**	IAMs_20	IAMs_20	07 19 51.7	
	comp=Z,7μm,22.0s					
BANOM	**Banah**	**67.42 294**	*i* P	**P**	**06 54 12.7**	**-0.9**
	SNR=6.8					
BANOM	**Banah**	**67.42 294**	P	**P**	**06 54 15.0**	**+1.3**
	SNR=13					
BANOM			P	**P**	**06 54 15.0**	**+1.3**
	SNR=13					
BANOM	**Banah**	**67.42 294**	P	**P**	**06 54 15.0**	**+1.3**
	SNR=13					
BANOM			P	**P**	**06 54 15.0**	**+1.3**
	SNR=13					
MDH	**Madha**	**67.43 293**	*i* P	**P**	**06 54 11.5**	**-2.1**
	SNR=11					
MDH	**Madha**	**67.43 293**	P	**P**	**06 54 15.1**	**+1.4**
	SNR=6.4					
MDH			P	**P**	**06 54 15.1**	**+1.4**
	SNR=6.4					
MDH	**Madha**	**67.43 293**	P	**P**	**06 54 15.1**	**+1.4**
	SNR=6.4					
MDH			P	**P**	**06 54 15.1**	**+1.4**
	SNR=6.4					
SPIA	**Saint Paul Isl**	**67.44 32**	P	**P**	**06 54 14.7**	**+1.6**
	baz=253					
SPIA			S	**S**	**07 03 06.9**	**+1.6**
	baz=253					
SPIA	**Saint Paul Isl**	**67.44 32**	P	**P**	**06 54 14.4**	**+1.4**
UOSS	**Minazif**	**67.52 293**	*i* P	**P**	**06 54 12.8**	**-1.4**
	SNR=32					
UOSS	**Minazif**	**67.52 293**	P	**P**	**06 54 12.3**	**-1.9**
UOSS			IAmb	IAmb	06 54 22.4	
	comp=Z,101nm,0.8s					
UOSS	**Minazif**	**67.52 293**	P	**P**	**06 54 13.5**	**-0.8**
UOSS			P	**P**	**06 54 13.5**	**-0.8**
UOSS	**Minazif**	**67.52 293**	P	**P**	**06 54 13.5**	**-0.8**
UOSS			P	**P**	**06 54 13.5**	**-0.8**
MASF	**Masafi**	**67.55 293**	P	**P**	**06 54 15.5**	**+1.1**
	SNR=13					
MASF	**Masafi**	**67.55 293**	P	**P**	**06 54 15.5**	**+1.1**
	SNR=13					
MSFE	**Esma-Masafi**	**67.55 293**	*i* P	**P**	**06 54 13.6**	**-0.9**
	SNR=33					
SHME	**Shamm**	**67.56 294**	*i* P	**P**	**06 54 14.2**	**-0.3**
	SNR=20					
SHME	**Shamm**	**67.56 294**	P	**P**	**06 54 16.8**	**+2.3**
	SNR=10					
SHME	**Shamm**	**67.56 294**	P	**P**	**06 54 16.8**	**+2.3**
	SNR=10					
HATD	**Hatta, Dubai**	**67.59 293**	*i* P	**P**	**06 54 14.0**	**-0.7**
	SNR=73					
HATD	**Hatta, Dubai**	**67.59 293**	P	**P**	**06 54 15.0**	**+0.3**
	SNR=23					
HATD			P	**P**	**06 54 15.0**	**+0.3**
	SNR=23					
HATD	**Hatta, Dubai**	**67.59 293**	P	**P**	**06 54 15.0**	**+0.3**
	SNR=23					
HATD			P	**P**	**06 54 15.0**	**+0.3**
	SNR=23					
HATD			P	**P**	**06 54 15.0**	**+0.3**
	SNR=23					
ASHO	**Ashiyiah**	**67.66 293**	*i* P	**P**	**06 54 13.9**	**-1.3**
	SNR=16					
ASHO	**Ashiyiah**	**67.66 293**	P	**P**	**06 54 16.0**	**+0.8**
	SNR=34					
ASHO			P	**P**	**06 54 16.0**	**+0.8**
	SNR=34					
ASHO	**Ashiyiah**	**67.66 293**	P	**P**	**06 54 16.0**	**+0.8**
	SNR=34					
ASHO			P	**P**	**06 54 16.0**	**+0.8**
	SNR=34					
ASHO			P	**P**	**06 54 16.0**	**+0.8**
	SNR=34					
URZ	**Urewera**	**67.76 139**	IAMs_20	IAMs_20	07 20 35.3	
	comp=Z,6μm,22.0s					
BSWZ	**Blackbirch Sta**	**67.77 143**	P	**P**	**06 54 15.5**	**+0.1**
BKZ	**Black Stump Fm**	**67.87 140**	IAMs_20	IAMs_20	07 25 49.3	
	comp=Z,5μm,20.0s					
ALNE	**Al Ain**	**67.95 292**	*i* P	**P**	**06 54 16.1**	**-0.9**
	SNR=114					
ALNE	**Al Ain**	**67.95 292**	P	**P**	**06 54 16.9**	**-0.1**
	SNR=61					
ALNE			P	**P**	**06 54 16.9**	**-0.1**
	SNR=61					
ALNE	**Al Ain**	**67.95 292**	P	**P**	**06 54 16.9**	**-0.1**
	SNR=61					
ALNE			P	**P**	**06 54 16.9**	**-0.1**
	SNR=61					
ALNE			P	**P**	**06 54 16.9**	**-0.1**
	SNR=61					
NAZ	**Nazwa, Dubai**	**68.01 293**	*i* P	**P**	**06 54 16.1**	**-1.2**
	SNR=29					
NAZ	**Nazwa, Dubai**	**68.01 293**	P	**P**	**06 54 17.0**	**-0.3**
	SNR=16					
NAZ			P	**P**	**06 54 17.0**	**-0.3**
	SNR=16					
NAZ	**Nazwa, Dubai**	**68.01 293**	P	**P**	**06 54 17.0**	**-0.3**
	SNR=16					
NAZ			P	**P**	**06 54 17.0**	**-0.3**
	SNR=16					
FAQ	**Al Faqa, Dubai**	**68.08 293**	*i* P	**P**	**06 54 16.7**	**-1.0**
	SNR=43					
FAQ	**Al Faqa, Dubai**	**68.08 293**	P	**P**	**06 54 18.0**	**+0.2**
	SNR=16					
FAQ			P	**P**	**06 54 18.0**	**+0.2**
	SNR=16					
FAQ	**Al Faqa, Dubai**	**68.08 293**	P	**P**	**06 54 18.0**	**+0.2**
	SNR=16					
FAQ			P	**P**	**06 54 18.0**	**+0.2**
	SNR=16					
MXZ	**Matakaoa Point**	**68.16 137**	IAMs_20	IAMs_20	07 24 53.1	
	comp=Z,5μm,21.0s					
SVE	**Sverdlovsk**	**68.17 327**	*d i* P	**P**	**06 54 17.1**	**-0.6**
SVE			*e*S	**S**	**07 03 11.7**	**-2.2**
SVE			pmax	pmax		
	comp=Z,211nm,0.8s					
SVE			MLR	MLR		
	comp=Z,5μm,23.0s					
AKTO	**Aktyubinsk**	**68.24 320**	P	**P**	**06 54 17.2**	**-1.1**
	comp=Z,44nm,0.7s,baz=92,slow=8.5,SNR=139					
MQZ	**McQueen's Vall**	**68.32 145**	IAMs_20	IAMs_20	07 18 45.8	
	comp=Z,6μm,18.0s					
ASUD	**Al Ashush, Dub**	**68.32 292**	*i* P	**P**	**06 54 19.0**	**-0.3**
	SNR=40					
ASUD	**Al Ashush, Dub**	**68.32 292**	P	**P**	**06 54 20.0**	**+0.7**
	SNR=20					
ASUD			P	**P**	**06 54 20.0**	**+0.7**
	SNR=20					
ASUD	**Al Ashush, Dub**	**68.32 292**	P	**P**	**06 54 20.0**	**+0.7**
	SNR=20					
ASUD			P	**P**	**06 54 20.0**	**+0.7**
	SNR=20					
SHAO	**Shalim**	**68.36 285**	*i* P	**P**	**06 54 19.5**	**-0.1**
	SNR=10					
SHAO	**Shalim**	**68.36 285**	P	**P**	**06 54 20.4**	**+0.8**
SHAO	**Shalim**	**68.36 285**	P	**P**	**06 54 20.4**	**+0.8**
SHAO			P	**P**	**06 54 20.4**	**+0.8**
PLWZ	**Palliser**	**68.51 142**	P	**P**	**06 54 19.9**	**-0.2**
UMZA	**Um Al Zommool**	**68.54 290**	P	**P**	**06 54 20.4**	**-0.2**
UMZA	**Um Al Zommool**	**68.54 290**	P	**P**	**06 54 20.4**	**-0.2**
UMZA			P	**P**	**06 54 20.4**	**-0.2**
BFZ	**Birch Farm**	**68.59 141**	P	**P**	**06 54 20.6**	**+0.1**
BFZ			IAmb	IAmb	06 54 22.1	
	comp=Z,138nm,0.9s					
GAMB	**Gambell**	**68.91 25**	P	**P**	**06 54 23.6**	**+1.5**
	baz=249					
GAMB			S	**S**	**07 03 25.0**	**+2.5**
	baz=249					
GAMB	**Gambell**	**68.91 25**	P	**P**	**06 54 23.8**	**+1.7**
DMTO	**DMTO**	**69.02 285**	P	**P**	**06 54 24.1**	**+0.4**
DMTO			P	**P**	**06 54 24.1**	**+0.4**
DMTO	**DMTO**	**69.02 285**	P	**P**	**06 54 24.1**	**+0.4**
DMTO			P	**P**	**06 54 24.1**	**+0.4**
DMTO			P	**P**	**06 54 24.1**	**+0.4**
ARU	**Arti**	**69.18 327**	P	**P**	**06 54 22.7**	**-1.3**
	comp=Z,84nm,0.6s,baz=117,slow=3.3,SNR=276					
ARU	**Arti**	**69.18 327**	*ce*P	**P**	**06 54 22.5**	**-1.5**
ARU			pmax	pmax		
	comp=Z,218nm,0.6s					
ARU			MLR	MLR		
	comp=Z,6μm,20.0s					
ARU	**Arti**	**69.18 327**	IAMs_20	IAMs_20	07 26 21.3	
	comp=Z,7μm,22.0s					
DOK	**Doka**	**69.73 286**	P	**P**	**06 54 28.0**	**-0.1**
	SNR=9.0					
DOK			P	**P**	**06 54 28.0**	**-0.1**
	SNR=9.0					
DOK			P	**P**	**06 54 28.0**	**-0.1**
DOK			P	**P**	**06 54 28.0**	**-0.1**
DOK	**Doka**	**69.73 286**	P	**P**	**06 54 28.0**	**-0.1**
	SNR=9.0					
DOK			P	**P**	**06 54 28.0**	**-0.1**
	SNR=9.0					
DOK			P	**P**	**06 54 28.0**	**-0.1**
	SNR=9.0					
DOK			P	**P**	**06 54 28.0**	**-0.1**
DOK			P	**P**	**06 54 28.0**	**-0.1**
DOK			P	**P**	**06 54 28.0**	**-0.1**
RBK	**Rabkut**	**69.75 285**	P	**P**	**06 54 28.8**	**+0.6**
	SNR=7.1					
RBK			P	**P**	**06 54 28.8**	**+0.6**
	SNR=7.1					
RBK	**Rabkut**	**69.75 285**	P	**P**	**06 54 28.8**	**+0.6**
	SNR=7.1					
RBK			P	**P**	**06 54 28.8**	**+0.6**
	SNR=7.1					
RBK			P	**P**	**06 54 28.8**	**+0.6**
	SNR=7.1					
WHFO	**Wadi Hawf**	**70.13 285**	P	**P**	**06 54 30.2**	**-0.4**
	SNR=5.7					
WHFO	**Wadi Hawf**	**70.13 285**	P	**P**	**06 54 30.2**	**-0.4**
	SNR=5.7					
WHFO			P	**P**	**06 54 30.2**	**-0.4**
	SNR=5.7					
MCQ	**Macquarie Isla**	**70.14 160**	P	**P**	**06 54 31.6**	**+1.8**
	baz=70,SNR=4.6					
SOCY	**Socotra**	**70.47 279**	P	**P**	**06 54 31.8**	**-1.0**
SOCY	**Socotra**	**70.47 279**	P	**P**	**06 54 32.0**	**-0.8**
SOCY	**Socotra**	**70.47 279**	P	**P**	**06 54 32.0**	**-0.8**
JRN	**Qarnain Island**	**70.56 293**	P	**P**	**06 54 32.7**	**-0.4**
	SNR=38					
JRN	**Qarnain Island**	**70.56 293**	P	**P**	**06 54 32.7**	**-0.4**
	SNR=38					
GHWR	**Ruwais**	**70.58 292**	P	**P**	**06 54 33.3**	**+0.1**
GHWR	**Ruwais**	**70.58 292**	P	**P**	**06 54 33.3**	**+0.1**
ABTO	**Aybut**	**70.62 285**	P	**P**	**06 54 33.7**	**0.0**
	SNR=8.0					
ABTO	**Aybut**	**70.62 285**	P	**P**	**06 54 33.7**	**0.0**
	SNR=8.0					
ABTO			P	**P**	**06 54 33.7**	**0.0**
	SNR=8.0					
FALS	**False Pass**	**70.63 35**	P	**P**	**06 54 32.6**	**-0.2**
	baz=260					
FALS	**False Pass**	**70.63 35**	P	**P**	**06 54 33.4**	**+0.5**
FALS			IAMs_20	IAMs_20	07 21 23.1	
	comp=Z,5μm,21.0s					
TNA	**Tin City**	**71.03 24**	P	**P**	**06 54 36.3**	**+1.2**
	baz=252					
TNA			S	**S**	**07 03 50.1**	**+2.8**
	baz=252					
TNA	**Tin City**	**71.03 24**	P	**P**	**06 54 36.1**	**+0.9**
SLWR	**Sila**	**71.66 292**	P	**P**	**06 54 39.9**	**+0.2**
SLWR	**Sila**	**71.66 292**	P	**P**	**06 54 39.9**	**+0.2**
MSEY	**Mahe Island**	**71.73 262**	*i* P	**P**	**06 54 40.3**	**-0.1**
	SNR=7.7					
MSEY	**Mahe Island**	**71.73 262**	P	**P**	**06 54 39.9**	**-0.5**
MSEY			pmax	pmax		
	comp=Z,120nm,1.1s					
MSEY	**Mahe Island**	**71.73 262**	P	**P**	**06 54 39.9**	**-0.5**
MSEY			IAmb	IAmb	06 54 42.9	
	comp=Z,120nm,1.1s					
MSEY	**Mahe Island**	**71.73 262**	IAMs_20	IAMs_20	07 23 46.3	
	comp=Z,4μm,22.0s					
MSEY	**Mahe Island**	**71.73 262**	P	**P**	**06 54 40.9**	**+0.5**
MSEY	**Mahe Island**	**71.73 262**	P	**P**	**06 54 40.9**	**+0.5**
KHOR	**Al-Khor Airpor**	**71.74 294**	P	**P**	**06 54 40.3**	**+0.1**
KHOR	**Al-Khor Airpor**	**71.74 294**	P	**P**	**06 54 40.3**	**+0.1**
ANM	**Nome**	**71.79 25**	P	**P**	**06 54 40.7**	**+0.9**
ANM			pmax	pmax		
	comp=Z,79nm,0.9s					
ANM			MLR	MLR		
	comp=Z,3μm,21.0s					
ANM	**Nome**	**71.79 25**	P	**P**	**06 54 41.3**	**+1.6**
	baz=255					
ANM			S	**S**	**07 03 58.9**	**+2.8**
	baz=255					
ANM	**Nome**	**71.79 25**	P	**P**	**06 54 40.6**	**+0.9**
TRNA	**Turayna**	**72.06 293**	P	**P**	**06 54 42.0**	**-0.1**
TRNA	**Turayna**	**72.06 293**	P	**P**	**06 54 42.0**	**-0.1**
SHMA	**Al-Shehemyia**	**72.22 294**	P	**P**	**06 54 43.1**	**0.0**
SHMA	**Al-Shehemyia**	**72.22 294**	P	**P**	**06 54 43.1**	**0.0**
SDPT	**Sand Point**	**72.37 35**	P	**P**	**06 54 43.4**	**+0.1**
	baz=262					
SDPT			S	**S**	**07 04 01.3**	**-1.7**
	baz=262					
SDPT	**Sand Point**	**72.37 35**	P	**P**	**06 54 44.0**	**+0.6**
SDPT			IAmb	IAmb	06 54 56.7	
	comp=Z,268nm,0.9s					
SAKB	**Bahrain**	**72.60 294**	P	**P**	**06 54 45.2**	**-0.2**
SAKB	**Bahrain**	**72.60 294**	P	**P**	**06 54 45.2**	**-0.2**
CNBA	**Chernabura Isl**	**72.81 36**	P	**P**	**06 54 46.9**	**+0.9**
CNBA			IAmb	IAmb	06 54 58.5	
	comp=Z,92nm,0.9s					
CHNA	**Chernabura Isl**	**72.81 36**	P	**P**	**06 54 46.4**	**+0.4**
	baz=263					
CHNA			S	**S**	**07 04 07.9**	**-0.2**
	baz=263					
KIP	**Kipapa**	**73.42 71**	*ce*P	**P**	**06 54 52.5**	**+2.2**
KIP			pmax	pmax		
	comp=Z,324nm,2.5s					
RDOG	**Red Dog Mine**	**73.63 22**	P	**P**	**06 54 53.3**	**+2.7**
	baz=256					
RDOG			S	**S**	**07 04 20.9**	**+3.9**
	baz=256					
KIRV	**Kirov**	**74.41 328**	P	**P**	**06 54 54.4**	**-0.9**
	comp=Z,384nm,0.7s,baz=112,slow=1.3,SNR=119					
KIRV			LR	LR	07 29 51.7	
	comp=Z,5μm,21.9s,baz=82,slow=38					
KIRV	**Kirov**	**74.41 328**	*ce*P	**P**	**06 54 54.3**	**-1.0**
MAK	**Makhachkala**	**74.74 312**	*e*P	**P**	**06 54 57.3**	**-0.3**
MAK			*e*		06 55 11.2	
MAK			*e*		06 57 46.9	
MAK			*e*PPP	PPP	06 59 32.7	
MAK			*e*S	**S**	**07 04 29.9**	**-0.4**
MAK			*e*		07 05 19.3	
MAK			*e*SSS	SSS	07 12 31.5	
MAK			pmax	pmax		
	comp=Z,184nm,1.2s					
MAK			MLR	MLR		
	comp=Z,5μm,21.0s					
QRN	**Al-Qurain**	**74.78 297**	*e*P	**P**	**06 54 56.5**	**-1.6**
UMR	**Umm Al-Rimmam**	**74.91 298**	*e*P	**P**	**06 54 56.8**	**-2.1**
MIB	**Mutribah**	**75.22 298**	*e*P	**P**	**06 54 59.2**	**-1.4**
N18K	**Kilae Creek**	**75.41 30**	P	**P**	**06 55 02.6**	**+1.5**
	baz=265,SNR=80					
N18K			S	**S**	**07 04 39.8**	**+2.6**
	baz=265					
RST	**Umm Al-Ruwaisa**	**75.54 298**	*e*P	**P**	**06 55 00.6**	**-1.9**
KHLU	**Kahalu`u**	**75.57 72**	IAMs_20	IAMs_20	07 24 25.8	
	comp=Z,4μm,21.0s					
TTA	**Tatalina**	**75.58 28**	S	**S**	**07 04 40.0**	**+0.9**
	baz=264					
RER	**Riviere de l'E**	**75.64 245**	P	**P**	**06 55 04.0**	**+0.8**
RER	**Riviere de l'E**	**75.64 245**	P	**P**	**06 55 04.0**	**+0.8**
O18K	**Koktuh Hills**	**75.68 31**	P	**P**	**06 55 04.1**	**+1.4**
	baz=266,SNR=198					
O18K			S	**S**	**07 04 42.0**	**+1.8**
	baz=266					
MWH	**Moku'aweowe**	**75.86 72**	IAMs_20	IAMs_20	07 23 45.5	
	comp=Z,4μm,20.0s					
MLOA	**Mauna Loa Obse**	**75.87 72**	P	**P**	**06 55 05.0**	**0.0**
MLOA			IAmb	IAmb	06 55 18.1	
	comp=Z,202nm,0.9s					
MLOA			IAMs_20	IAMs_20	07 23 35.9	
	comp=Z,4μm,20.0s					
POHA	**Pohakuloa**	**75.89 72**	P	**P**	**06 55 04.6**	**-0.3

GROC				*e*SS	**SS**	**07 09 36.8**	**-0.8**
GROC				pmax	pmax		
	comp=Z,455nm,1.3s						
AIN	**Ainahou**	**76.00**	**72**	P	**P**	**06 55 05.5**	**0.0**
AIN				IAMs_20	IAMs_20	07 20 46.3	
	comp=Z,5μm,22.0s						
L19K	**White Mountain**	**76.04**	**28**	P	**P**	**06 55 06.1**	**+1.4**
	baz=265						
L19K				S	**S**	**07 04 45.1**	**+1.0**
	baz=265						
MLH	**Mauna Loa**	**76.05**	**72**	IAMs_20	IAMs_20	07 23 41.7	
	comp=Z,5μm,21.0s						
N19K	**Bonanza Creek**	**76.11**	**30**	P	**P**	**06 55 06.9**	**+1.7**
	baz=266,SNR=131						
N19K				S	**S**	**07 04 47.7**	**+2.6**
	baz=266						
WRMHI	**West Rim**	**76.14**	**72**	IAMs_20	IAMs_20	07 24 48.1	
	comp=Z,4μm,20.0s						
HLP	**Hilina Pali**	**76.15**	**73**	IAMs_20	IAMs_20	07 23 43.2	
	comp=Z,5μm,21.0s						
O19K	**Port Alsworth**	**76.15**	**30**	P	**P**	**06 55 06.4**	**+1.1**
	baz=266						
O19K				S	**S**	**07 04 46.8**	**+1.6**
	baz=266						
UWE	**Uwekahuna**	**76.15**	**72**	P	**P**	**06 55 07.7**	**+1.4**
UWE				IAMs_20	IAMs_20	07 24 53.3	
	comp=Z,4μm,21.0s						
SDHHI	**Sand Hill**	**76.15**	**72**	P	**P**	**06 55 07.4**	**+1.1**
SDHHI				IAMs_20	IAMs_20	07 23 45.3	
	comp=Z,4μm,21.0s						
OBL	**Observatory Le**	**76.16**	**72**	IAMs_20	IAMs_20	07 23 43.4	
	comp=Z,5μm,21.0s						
NPH	**North Pit**	**76.16**	**72**	IAMs_20	IAMs_20	07 23 44.5	
	comp=Z,4μm,20.0s						
RIM	**Rim**	**76.17**	**72**	IAMs_20	IAMs_20	07 24 43.8	
	comp=Z,4μm,20.0s						
SBLHI	**Steaming Bluff**	**76.17**	**72**	P	**P**	**06 55 07.1**	**+0.7**
SBLHI				IAMs_20	IAMs_20	07 21 05.8	
	comp=Z,4μm,21.0s						
KKO	**Keanakako`i**	**76.18**	**72**	IAMs_20	IAMs_20	07 23 44.0	
	comp=Z,4μm,22.0s						
HATHI	**Halema'uma'u T**	**76.18**	**72**	IAMs_20	IAMs_20	07 23 45.0	
	comp=Z,5μm,21.0s						
BYL	**Byron's Ledge**	**76.18**	**72**	P	**P**	**06 55 05.6**	**-0.9**
BYL				IAmb	IAmb	06 55 20.8	
	comp=Z,161nm,0.9s						
PUH	**Pauahi**	**76.22**	**72**	P	**P**	**06 55 07.0**	**+0.3**
PUH				IAMs_20	IAMs_20	07 20 52.3	
	comp=Z,5μm,22.0s						
M19K	**Big River Lodg**	**76.23**	**29**	P	**P**	**06 55 07.4**	**+1.6**
	baz=266						
M19K				S	**S**	**07 04 48.0**	**+1.8**
	baz=266						
A21K	**Barrow**	**76.42**	**19**	P	**P**	**06 55 07.9**	**+1.2**
	baz=261,SNR=11						
A21K				S	**S**	**07 04 49.4**	**+1.5**
	baz=261						
A21K	**Barrow**	**76.42**	**19**	P	**P**	**06 55 07.6**	**+1.0**
XMAS	**Kiritimati**	**76.43**	**90**	P	**P**	**06 55 10.7**	**+2.9**
	comp=Z,220nm,1.2s						
OHAK	**Old Harbor**	**76.53**	**34**	P	**P**	**06 55 08.4**	**+0.9**
	baz=268,SNR=44						
OHAK				S	**S**	**07 04 50.1**	**+0.6**
	baz=268						
OHAK	**Old Harbor**	**76.53**	**34**	P	**P**	**06 55 07.9**	**+0.4**
OHAK				IAmb	IAmb	06 55 10.1	
	comp=Z,133nm,0.8s						
OHAK				IAMs_20	IAMs_20	07 27 14.0	
	comp=Z,3μm,20.0s						
PRGR	**Permogore**	**76.56**	**331**	*e*P	**P**	**06 55 04.7**	**-2.9**
PRGR				*e*		06 57 55.3	
PRGR				*e*S	**S**	**07 04 47.4**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,15nm,1.0s						
P19K	**Oil Pt**	**76.66**	**31**	P	**P**	**06 55 08.1**	**-0.2**
	baz=267,SNR=12						
P19K				S	**S**	**07 04 48.7**	**-2.4**
	baz=267						
M20K	**Styx River**	**76.83**	**29**	P	**P**	**06 55 10.8**	**+1.5**
	baz=267						
M20K				S	**S**	**07 04 55.7**	**+2.8**
	baz=267						
GNI	**Garni**	**76.86**	**309**	P	**P**	**06 55 09.8**	**-0.2**
	comp=Z,63nm,0.8s,baz=127,slow=0.1,SNR=38						
GNI				LR	LR	07 34 11.8	
	comp=Z,5μm,21.6s,baz=94,slow=40						
GNI	**Garni**	**76.86**	**309**	P	**P**	**06 55 10.2**	**+0.2**
GNI	**Garni**	**76.86**	**309**	*i* P	**P**	**06 55 10.7**	**+0.7**
GNI	**Garni**	**76.86**	**309**	*ce*P	**P**	**06 55 09.7**	**-0.2**
GNI				pmax	pmax		
	comp=Z,180nm,1.3s						
GNI	**Garni**	**76.86**	**309**	P	**P**	**06 55 10.1**	**+0.1**
GNI				IAmb	IAmb	06 55 18.7	
	comp=Z,130nm,0.8s						
GNI	**Garni**	**76.86**	**309**	IAMs_20	IAMs_20	07 34 10.4	
	comp=Z,5μm,22.0s						
GNI	**Garni**	**76.86**	**309**	P	**P**	**06 55 11.5**	**+1.5**
KDAK	**Kodiak Island**	**76.93**	**33**	LR	LR	07 25 12.8	
	comp=Z,4μm,21.8s,baz=279,slow=33						
KDAK	**Kodiak Island**	**76.93**	**33**	P	**P**	**06 55 11.0**	**+1.2**
	baz=268						
KDAK				S	**S**	**07 04 54.4**	**+0.6**
	baz=268						
KDAK	**Kodiak Island**	**76.93**	**33**	IAMs_20	IAMs_20	07 24 28.5	
	comp=Z,5μm,21.0s						
O20K	**Slope Mountain**	**76.99**	**31**	P	**P**	**06 55 10.2**	**+0.1**
	baz=268,SNR=13						
O20K				S	**S**	**07 04 52.3**	**-2.4**
	baz=268						
CASY	**Casey**	**77.06**	**186**	P	**P**	**06 55 09.9**	**-0.3**
H21K	**Melozitna Rive**	**77.20**	**25**	P	**P**	**06 55 12.6**	**+1.4**
	baz=266,SNR=163						
H21K				S	**S**	**07 04 58.5**	**+1.8**
	baz=266						
SPCR	**Spurr Chakacha**	**77.24**	**29**	P	**P**	**06 55 11.9**	**+0.4**
	baz=268,SNR=13						
SPCR				S	**S**	**07 04 55.8**	**-1.5**
	baz=268						
TASB	**TASBURUN-IGDIR**	**77.25**	**309**	*i* P	**P**	**06 55 12.7**	**+0.6**
SPU	**Mount Spurr**	**77.31**	**29**	P	**P**	**06 55 12.5**	**+0.6**
RAYN	**Ar Rayn**	**77.35**	**292**	*i* P	**P**	**06 55 11.7**	**-1.2**
	SNR=191						
ZEI	**Tsey**	**77.39**	**312**	*e*P	**P**	**06 55 10.4**	**-2.6**
ZEI				pmax	pmax		
	comp=Z,237nm,0.9s						
HOM	**Homer**	**77.47**	**31**	P	**P**	**06 55 12.9**	**+0.2**
	baz=269						
HOM				S	**S**	**07 04 57.8**	**-1.9**
	baz=269						
I21K	**Tanana**	**77.52**	**25**	P	**P**	**06 55 14.5**	**+1.6**
	baz=267,SNR=103						
I21K				S	**S**	**07 05 02.4**	**+2.3**
	baz=267						
CLDR	**Caldiran**	**77.54**	**308**	*i* P	**P**	**06 55 14.5**	**+0.6**
SKT	**Skwentna**	**77.59**	**29**	P	**P**	**06 55 13.3**	**-0.1**
	baz=268,SNR=64						
SKT				S	**S**	**07 04 58.5**	**-2.5**
	baz=268						
ONI	**Oni**	**77.73**	**311**	P	**P**	**06 55 15.7**	**+1.0**
ONI				pmax	pmax		
	comp=Z,194nm,1.1s						
ONI				MLR	MLR		
	comp=Z,9μm,22.0s						
ONI	**Oni**	**77.73**	**311**	P	**P**	**06 55 15.7**	**+1.0**
ONI				IAmb	IAmb	06 55 19.6	
	comp=Z,194nm,1.1s						
CAPN	**Captain Cook N**	**77.74**	**30**	P	**P**	**06 55 14.9**	**+0.7**
	baz=269,SNR=8.0						
CAPN				S	**S**	**07 05 02.9**	**+0.4**
	baz=269						
BPAW	**Bear Paw Mtn.**	**77.90**	**26**	P	**P**	**06 55 15.9**	**+0.8**
	baz=268,SNR=248						
BPAW				S	**S**	**07 05 04.5**	**+0.2**
	baz=268						
BPAW	**Bear Paw Mtn.**	**77.90**	**26**	P	**P**	**06 55 16.0**	**+0.8**
BPAW				IAmb	IAmb	06 55 17.9	
	comp=Z,229nm,0.8s						
KTH	**Kantishna Hill**	**77.92**	**27**	P	**P**	**06 55 15.8**	**+0.6**
KTH				IAmb	IAmb	06 55 19.6	
	comp=Z,408nm,1.8s						
GOF	**Gofitskoye**	**77.92**	**314**	*c* P	**P**	**06 55 14.9**	**-0.7**
GOF				*e*S	**SKSac**	**07 05 25.1**	**-0.4**
GOF				pmax	pmax		
	comp=Z,212nm,1.5s						
BRSE	**Bradley Lake S**	**77.93**	**31**	P	**P**	**06 55 15.4**	**+0.1**
	baz=270,SNR=47						
BRSE				S	**S**	**07 05 02.5**	**-2.2**
	baz=270						
SUA	**Susitna One**	**77.95**	**29**	P	**P**	**06 55 15.5**	**-0.1**
	baz=269,SNR=155						
SUA				S	**S**	**07 05 01.9**	**-3.2**
	baz=269						
VANB	**Van**	**77.98**	**307**	*i* P	**P**	**06 55 16.4**	**+0.2**
MLY	**Manley**	**78.04**	**26**	P	**P**	**06 55 16.9**	**+1.0**
	baz=268,SNR=216						
MLY				S	**S**	**07 05 06.7**	**+0.8**
	baz=268						
KBZ	**Khabaz**	**78.08**	**313**	P	**P**	**06 55 15.9**	**-0.6**
	comp=Z,151nm,1.1s,baz=98,slow=4.0,SNR=98						
KBZ				LR	LR	07 34 16.2	
	comp=Z,6μm,18.9s,baz=72,slow=39						
KBZ	**Khabaz**	**78.08**	**313**	*ce*P	**P**	**06 55 15.1**	**-1.4**
KBZ				pmax	pmax		
	comp=Z,151nm,1.0s						
KARS	**Kars**	**78.11**	**309**	*i* P	**P**	**06 55 17.7**	**+0.8**
KARS	**Kars**	**78.11**	**309**	P	**P**	**06 55 17.2**	**+0.3**
KARS				pmax	pmax		
	comp=Z,617nm,0.9s						
KARS				MLR	MLR		
	comp=Z,15μm,22.0s						
KARS	**Kars**	**78.11**	**309**	P	**P**	**06 55 17.2**	**+0.3**
CUT	**Chulitna**	**78.19**	**28**	P	**P**	**06 55 16.5**	**-0.2**
	baz=269,SNR=19						
CUT				S	**S**	**07 05 05.0**	**-2.3**
	baz=269						
TRF	**Thorofare Moun**	**78.20**	**27**	P	**P**	**06 55 17.1**	**+0.1**
	baz=269,SNR=62						
TRF				S	**S**	**07 05 07.2**	**-0.6**
	baz=269						
TRF	**Thorofare Moun**	**78.20**	**27**	P	**P**	**06 55 17.6**	**+0.7**
TRF				IAmb	IAmb	06 55 19.1	
	comp=Z,110nm,0.8s						
FIS	**Fire Island**	**78.20**	**30**	P	**P**	**06 55 17.7**	**+0.9**
FIS				IAmb	IAmb	06 55 19.3	
	comp=Z,144nm,0.9s						
KVAR	**Kislovodsk Arr**	**78.22**	**313**	P	**P**	**06 55 17.9**	**+0.5**
	comp=Z,58nm,0.7s,baz=114,slow=20,SNR=19						
KVAR				LR	LR	07 34 04.4	
	comp=Z,5μm,20.4s,baz=228,slow=39						
KIV	**Kislovodsk**	**78.23**	**313**	*i* P	**P**	**06 55 16.6**	**-0.9**
	SNR=41						
KIV	**Kislovodsk**	**78.23**	**313**	*i* P	**P**	**06 55 17.2**	**-0.2**
KIV	**Kislovodsk**	**78.23**	**313**	*e*P	**P**	**06 55 16.8**	**-0.6**
KIV				*e*		06 58 13.2	
KIV				*e*S	**S**	**07 05 07.8**	**-0.9**
KIV				*e*SS	**SS**	**07 10 11.2**	**-0.3**
KIV				pmax	pmax		
	comp=Z,956nm,1.1s						
KIV				pmax	pmax		
	comp=Z,652nm,2.8s						
KIV				MLR	MLR		
	comp=Z,14μm,18.0s						
KIV	**Kislovodsk**	**78.23**	**313**	P	**P**	**06 55 17.7**	**+0.3**
KIV	**Kislovodsk**	**78.23**	**313**	P	**P**	**06 55 17.7**	**+0.3**
KIV				P	**P**	**06 55 17.7**	**+0.3**
AGRB	**Hanur-Agry**	**78.23**	**308**	*i* P	**P**	**06 55 18.4**	**+0.7**
NEY	**Neytrino**	**78.23**	**312**	*c i* P	**P**	**06 55 17.9**	**+0.3**
NEY				pmax	pmax		
	comp=Z,27nm,0.8s						
NEY				MLR	MLR		
	comp=Z,3μm,21.0s						
AKDM	**Akdamar-Van**	**78.32**	**307**	*i* P	**P**	**06 55 18.6**	**+0.4**
COLD	**Coldfoot**	**78.33**	**23**	P	**P**	**06 55 18.8**	**+1.4**
	baz=268,SNR=165						
COLD				S	**S**	**07 05 10.7**	**+2.0**
	baz=268						
RC01	**Rabbit Creek A**	**78.44**	**30**	P	**P**	**06 55 18.0**	**-0.1**
	baz=270,SNR=39						
RC01				S	**S**	**07 05 07.4**	**-2.6**
	baz=270						
O22K	**Cooper Landing**	**78.44**	**30**	P	**P**	**06 55 18.3**	**+0.2**
	baz=270						
O22K				S	**S**	**07 05 07.1**	**-3.0**
	baz=270						
H23K	**Yukon River**	**78.56**	**25**	P	**P**	**06 55 20.2**	**+1.4**
	baz=269,SNR=154						
H23K				S	**S**	**07 05 13.8**	**+2.5**
	baz=269						
SEW	**Seward**	**78.58**	**31**	P	**P**	**06 55 19.0**	**+0.2**
	baz=270,SNR=31						
SEW				S	**S**	**07 05 10.4**	**-1.2**
	baz=270						
SEW	**Seward**	**78.58**	**31**	P	**P**	**06 55 18.9**	**0.0**
SEW				IAmb	IAmb	06 55 29.7	
	comp=Z,308nm,1.4s						
VRH	**Novokhopyorsk**	**78.58**	**320**	*e*P	**P**	**06 55 17.6**	**-1.5**
VRH				*e*S	**S**	**07 05 05.2**	**-6.8**
VRH				pmax	pmax		
	comp=Z,330nm,0.8s						
VRH				pmax	pmax		
	comp=Z,370nm,0.8s						
VRH				smax	smax		
	comp=E,150nm,1.4s						
VRH				MLR	MLR		
	comp=Z,3μm,19.0s						
TOLK	**Toolik Lake Re**	**78.60**	**22**	P	**P**	**06 55 20.4**	**+1.5**
	baz=269,SNR=145						
TOLK				S	**S**	**07 05 13.0**	**+1.2**
	baz=269						
MLAZ	**Malazgirt-MUS**	**78.60**	**308**	*i* P	**P**	**06 55 21.2**	**+1.5**
I23K	**Minto, Yukon-K**	**78.63**	**25**	P	**P**	**06 55 20.1**	**+1.1**
	baz=270,SNR=214						
I23K				S	**S**	**07 05 12.4**	**+0.5**
	baz=270						
SENK	**Senkaya-Erzuru**	**78.67**	**309**	*i* P	**P**	**06 55 20.6**	**+0.5**
PMR	**Palmer**	**78.72**	**29**	P	**P**	**06 55 19.7**	**0.0**
PMR				pmax	pmax		
	comp=Z,99nm,0.8s						
PMR	**Palmer**	**78.72**	**29**	P	**P**	**06 55 19.6**	**0.0**
	baz=270,SNR=86						
PMR				S	**S**	**07 05 10.5**	**-2.6**
	baz=270						
PMR	**Palmer**	**78.72**	**29**	P	**P**	**06 55 19.6**	**0.0**
PMR				IAmb	IAmb	06 55 20.9	
	comp=Z,99nm,0.8s						
NEA2	**Nenana**	**78.75**	**26**	P	**P**	**06 55 20.1**	**+0.3**
	baz=270,SNR=64						
NEA2				S	**S**	**07 05 12.4**	**-1.0**
	baz=270						
SIRT	**Sirnak**	**78.81**	**306**	*i* P	**P**	**06 55 21.6**	**+0.8**
MCK	**McKinley**	**78.81**	**27**	P	**P**	**06 55 20.3**	**+0.2**
	baz=270,SNR=133						
MCK				S	**S**	**07 05 11.6**	**-2.4**
	baz=270						
WAT1	**Susitna Watana**	**78.99**	**28**	P	**P**	**06 55 21.1**	**-0.1**
	baz=271						
WAT1				S	**S**	**07 05 13.7**	**-2.3**
	baz=271						
SBV	**Sambava**	**79.03**	**254**	P	**P**	**06 55 23.3**	**+1.2**
SBV	**Sambava**	**79.03**	**254**	P	**P**	**06 55 23.3**	**+1.2**
GURO	**Guroymak-BITLI**	**79.05**	**307**	*i* P	**P**	**06 55 23.9**	**+1.8**
KNK	**Knik Glacier**	**79.05**	**29**	P	**P**	**06 55 22.1**	**+0.5**
	baz=271,SNR=43						
KNK				S	**S**	**07 05 14.7**	**-2.0**
	baz=271						
KOPR	**Koprukoy-ERZUR**	**79.08**	**309**	*i* P	**P**	**06 55 22.8**	**+0.5**
BATM	**Batumi**	**79.09**	**311**	*i* P	**P**	**06 55 18.3**	**-3.8**
SML	**Sawmill**	**79.10**	**29**	P	**P**	**06 55 22.2**	**+0.3**
	baz=271,SNR=93						
SML				S	**S**	**07 05 16.5**	**-0.9**
	baz=271						
PWL	**Port Wells**	**79.12**	**30**	P	**P**	**06 55 22.1**	**+0.2**
PWL				IAmb	IAmb	06 55 24.0	
	comp=Z,222nm,0.8s						
H24K	**Noodor Dome**	**79.24**	**25**	P	**P**	**06 55 23.8**	**+1.3**
	baz=271,SNR=152						
H24K				S	**S**	**07 05 20.4**	**+1.8**
	baz=271						
TCOL	**CIGO, UAF Yank**	**79.26**	**26**	P	**P**	**06 55 22.4**	**-0.2**
	baz=271,SNR=17						
TCOL				S	**S**	**07 05 17.0**	**-1.8**
	baz=271						
COLA	**College**	**79.27**	**26**	P	**P**	**06 55 22.2**	**-0.3**
	baz=271						
COLA				S	**S**	**07 05 17.3**	**-1.4**
	baz=271						
WAT6	**Susitna Watana**	**79.36**	**28**	P	**P**	**06 55 23.6**	**+0.2**
	baz=272,SNR=118						
WAT6				S	**S**	**07 05 18.2**	**-2.1**
	baz=272						
POKR	**Poker Plat Res**	**79.44**	**25**	P	**P**	**06 55 23.5**	**0.0**
	baz=271,SNR=23						
POKR				S	**S**	**07 05 18.3**	**-2.4**
	baz=271						
POKR	**Poker Plat Res**	**79.44**	**25**	P	**P**	**06 55 23.5**	**0.0**
POKR				IAmb	IAmb	06 55 26.6	
	comp=Z,82nm,0.8s						
VRTB	**Varto-Mus**	**79.45**	**308**	*i* P	**P**	**06 55 26.9**	**+2.6**
KLMR	**Klimovskoe**	**79.50**	**330**	*e*P	**P**	**06 55 21.1**	**-2.8**
KLMR				*e*S	**S**	**07 05 19.1**	**-2.2**
KLMR				pmax	pmax		
	comp=Z,295nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,3μm,17.0s						
KLMR	**Klimovskoe**	**79.50**	**330**	*e*P	**P**	**06 55 21.1**	**-2.8**
KLMR				AMP		06 55 25.8	
	comp=Z,295nm,1.3s						
KLMR				*e*PP	**PP**	**06 58 18.1**	**-6.5**
KLMR				*e*S	**S**	**07 05 19.2**	**-2.1**
KLMR				*e*S	**S**	**07 05 19.2**	**-2.1**
KLMR				LQ	LQ	07 24 01.7	
KLMR				LQ	LQ	07 24 01.7	
KLMR				LR	LR	07 29 35.5	
KLMR				AMP		07 35 16.6	
	comp=Z,3μm,16.5s						
HDA	**Harding Lake**	**79.67**	**26**	P	**P**	**06 55 24.2**	**-0.5**
	baz=272,SNR=95						
HDA				S	**S**	**07 05 19.9**	**-3.2**
	baz=272						
HDA				S	**S**	**07 05 19.9**	**-3.2**
	baz=272						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**06 55 23.9**	**-0.9**
	comp=Z,46nm,0.8s,baz=239,slow=5.4,SNR=230						
ILAR				PKKP	**PKKPdf**	**07 13 59.0**	**-3.4**
	comp=Z,0.4nm,0.8s,baz=55,slow=1.0,SNR=4.5						
ILAR				PKKPbc	**PKKPbc**	**07 14 11.2**	**-3.2**
	comp=Z,4.0nm,1.0s,baz=70,slow=1.0,SNR=13						
ILAR				PKPPKP	**P'P'df**	**07 22 12.6**	**-4.6**
	comp=Z,1.2nm,0.9s,baz=130,slow=1.4,SNR=4.7						
ILAR				LR	LR	07 27 41.3	
	comp=Z,1μm,21.9s,baz=274,slow=33						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**06 55 24.4**	**-0.5**
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**06 55 24.4**	**-0.5**
GLI	**Glacier Island**	**79.73**	**30**	P	**P**	**06 55 25.7**	**+0.5**
	baz=272,SNR=73						
GLI				S	**S**	**07 05 23.0**	**-0.8**
	baz=272						
GLI	**Glacier Island**	**79.73**	**30**	P	**P**	**06 55 25.4**	**+0.2**
GLI				IAmb	IAmb	06 55 27.3	
	comp=Z,155nm,0.7s						
SVAN	**Silvan-Diyarba**	**79.73**	**307**	*i* P	**P**	**06 55 26.2**	**+0.4**
KARO	**Karliova-Bingo**	**79.75**	**308**	*i* P	**P**	**06 55 26.5**	**+0.5**
CHOM	**Cayeli-Rize**	**79.83**	**310**	*i* P	**P**	**06 55 26.1**	**-0.1**
BNGB	**Bingl**	**80.07**	**308**	*i* P	**P**	**06 55 28.3**	**+0.7**
M24K	**Tolsona, Glenn**	**80.11**	**28**	P	**P**	**06 55 28.4**	**+1.1**
	baz=273,SNR=48						
M24K				S	**S**	**07 05 28.3**	**+0.4**
	baz=273						
M24K	**Tolsona, Glenn**	**80.11**	**28**	P	**P**	**06 55 28.6**	**+1.2**
M24K				IAmb	IAmb	06 55 32.0	
	comp=Z,233nm,0.9s						
KOPT	**Kop Dagi**	**80.12**	**309**	P	**P**	**06 55 28.3**	**+0.2**
VORD	**Divnogorie**	**80.12**	**320**	*e*P	**P**	**06 55 26.0**	**-1.5**
VORD				pmax	pmax		
	comp=Z,150nm,0.8s						
YEDI	**Yedisu-Bingol**	**80.13**	**308**	*i* P	**P**	**06 55 28.4**	**+0.4**
MARD	**Mardin**	**80.14**	**306**	P	**P**	**06 55 28.2**	**+0.1**
VSR	**Storozhevoye**	**80.19**	**320**	*e*P	**P**	**06 55 26.2**	**-1.6**
VSR				*e*S	**S**	**07 05 24.7**	**-4.3**
VSR				pmax	pmax		
	comp=Z,220nm,0.8s						
VSR				pmax	pmax		
	comp=Z,240nm,0.8s						
VSR				smax	smax		
	comp=N,120nm,7.4s						
VSR				MLR	MLR		
	comp=Z,3μm,18.0s						
PRP	**Porcupine Dome**	**80.23**	**25**	P	**P**	**06 55 27.7**	**-0.3**
	baz=273						
LPSR	**Galich'ya Gora**	**80.24**	**322**	*e*P	**P**	**06 55 27.2**	**-0.9**
LPSR				*e*S	**S**	**07 05 26.6**	**-2.9**
LPSR				pmax	pmax		
	comp=Z,400nm,0.8s						
LPSR				pmax	pmax		
	comp=Z,290nm,0.7s						
LPSR				smax	smax		
	comp=N,360nm,2.5s						
LPSR				MLR	MLR		
	comp=Z,2μm,17.0s						
KLU	**Klutina**	**80.26**	**29**	P	**P**	**06 55 28.9**	**+0.7**
	baz=273,SNR=45						
KLU				S	**S**	**07 05 30.6**	**+0.9**
	baz=273						
KLU	**Klutina**	**80.26**	**29**	P	**P**	**06 55 28.7**	**+0.5**
MAZI	**Mazidag**	**80.39**	**306**	*i* P	**P**	**06 55 29.4**	**0.0**
PAX	**Paxson**	**80.39**	**28**	P	**P**	**06 55 29.5**	**+0.6**
	baz=274,SNR=46						
PAX				S	**S**	**07 05 31.6**	**+0.7**
	baz=274						
SOC	**Sochi**	**80.40**	**313**	*c i* P	**P**	**06 55 27.4**	**-1.7**
SOC				*e**PP	**PcP**	**06 55 36.2**	**+0.1**
SOC				*e**SP	**pP**	**06 55 40.7**	**-3.1**
SOC				*e*		06 58 29.7	
SOC				*e*PPP	PPP	07 00 19.7	
SOC				*e*S	**S**	**07 05 29.2**	**-2.3**
SOC				*e**SS	**SKSac**	**07 05 43.4**	**+0.3**
SOC				*e*SS	**SS**	**07 10 39.1**	**-4.7**
SOC				*e*SSS	SSS	07 14 10.2	
SOC				pmax	pmax		
	comp=Z,133nm,0.8s						
SOC				MLR	MLR		
	comp=Z,4μm,17.0s						
EYAK	**Cordova Ski Ar**	**80.40**	**30**	P	**P**	**06 55 29.8**	**+1.0**
	baz=274,SNR=22						
EYAK				S	**S**	**07 05 30.6**	**-0.3**
	baz=274						
EYAK	**Cordova Ski Ar**	**80.40**	**30**	P	**P**	**06 55 29.7**	**+1.0**
HARP	**HAARP**	**80.57**	**28**	P	**P**	**06 55 30.8**	**+1.1**
	baz=274,SNR=20						
HARP				S	**S**	**07 05 33.3**	**+0.6**
	baz=274						
DYBB	**Diyarbakir**	**80.58**	**307**	*i* P	**P**	**06 55 30.9**	**+0.5**
KTUT	**Trabzon**	**80.59**	**310**	*i* P	**P**	**06 55 29.6**	**-0.6**
MOS	**Moscow**	**80.78**	**325**	*e*P	**P**	**06 55 27.8**	**-3.1**
MOS				*e*		06 55 34.4	
MOS				*e*S	**S**	**07 05 28.2**	**-6.8**
MOS				*e*SSS	SSS	07 14 10.5	
MOS				pmax	pmax		
	comp=Z,238nm,0.8s						
MOS				pmax	pmax		
	comp=N,106nm,0.9s						
MOS				pmax	pmax		
	comp=E,68nm,0.8s						
MOS				MLR	MLR		
	comp=Z,4μm,19.0s						
MOS				MLR	MLR		
	comp=E,3μm,18.0s						
N25K	**Chitina, Valde**	**80.89**	**29**	P	**P**	**06 55 32.6**	**+1.1**
	baz=274,SNR=43						
N25K				S	**S**	**07 05 36.4**	**+0.2**
	baz=274						
BMRM	**Bremner River**	**80.94**	**30**	P	**P**	**06 55 32.6**	**+0.9**
	baz=274,SNR=19						
BMRM				S	**S**	**07 05 36.7**	**0.0**
	baz=274						
SCRK	**Sand Creek**	**80.99**	**27**	P	**P**	**06 55 32.6**	**+0.6**
	baz=275,SNR=77						
SCRK				S	**S**	**07 05 35.8**	**-1.4**
	baz=275						
SCRK	**Sand Creek**	**80.99**	**27**	P	**P**	**06 55 32.3**	**+0.3**
SCRK				IAmb	IAmb	06 55 36.7	
	comp=Z,276nm,1.7s						
SCRK				IAMs_20	IAMs_20	07 28 56.6	
	comp=Z,3μm,22.0s						
HMT	**H

OBN	**Obninsk**	81.43	324	P		**P**	06 55 32.8 -1.6
	comp=Z,25nm,0.6s,baz=70,slow=3.0,SNR=31						
OBN	**Obninsk**	81.43	324	*c i*P		**P**	06 55 33.2 -1.2
OBN				*e*			06 58 37.5
OBN				*e*PPP	PPP		07 00 33.0
OBN				pmax	pmax		
	comp=Z,118nm,0.7s						
OBN				MLR	MLR		
	comp=Z,5μm,19.0s						
ILIC	**ilic-Erzincan**	81.66	309	*i* P		**P**	06 55 36.2 +0.1
BGLC	**Bering Glacier**	81.66	30	P		**P**	06 55 37.2 +1.7
	baz=276						
MCARA	**McCarthy VSAT**	81.66	29	P		**P**	06 55 36.7 +1.2
	baz=276,SNR=24						
MCARA				S		**S**	07 05 44.4 +0.4
	baz=276						
CRQM	**Cirque**	81.67	30	P		**P**	06 55 36.5 +0.7
CRQM				IAmb	IAmb		06 55 40.2
	comp=Z,173nm,1.0s						
URFA	**Urfa**	81.68	307	*i* P		**P**	06 55 36.6 +0.4
APA	**Apatity**	81.69	337	⇑*i*P		**P**	06 55 34.9 -0.6
APA				*i*			06 55 50.5
APA				*i*			06 58 39.0
APA				*i* S		**S**	07 05 40.0 -4.0
APA				*i* PS			07 06 42.0
APA				pmax	pmax		
	comp=Z,41nm,0.8s						
APA				MLR	MLR		
	comp=Z,8μm,19.0s						
CRQE	**Cirque**	81.69	30	P		**P**	06 55 36.9 +1.1
	baz=276,SNR=16						
CRQE				S		**S**	07 05 44.6 0.0
	baz=276						
K27K	**Chicken**	81.82	26	P		**P**	06 55 38.0 +1.7
	baz=276,SNR=304						
K27K				S		**S**	07 05 45.9 +0.4
	baz=276						
K27K	**Chicken**	81.82	26	P		**P**	06 55 38.2 +1.9
K27K				IAmb	IAmb		06 55 41.7
	comp=Z,236nm,0.9s						
TGL	**Tana Glacier**	81.82	30	P		**P**	06 55 37.9 +1.4
TGL				IAmb	IAmb		06 55 40.3
	comp=Z,116nm,0.8s						
ARPR	**Arapgir-MALATY**	81.87	308	*i* P		**P**	06 55 38.1 +0.8
MALT	**Malatya**	81.89	307	*i* P		**P**	06 55 38.2 +0.9
ANN	**Anapa**	81.92	314	*c i*P		**P**	06 55 35.2 -2.0
ANN				*e**PP		**PcP**	06 55 45.1 +2.4
ANN				*e*S		**S**	07 05 43.1 -4.1
ANN				pmax	pmax		
	comp=Z,351nm,0.9s						
ANN				pmax	pmax		
	comp=E,67nm,1.2s						
ANN				pmax	pmax		
	comp=N,78nm,0.7s						
ANN				MLR	MLR		
	comp=E,7μm,20.0s						
ANN				MLR	MLR		
	comp=N,8μm,21.0s						
ANN				MLR	MLR		
	comp=Z,8μm,20.0s						
L27K	**Beaver Creek,**	82.04	27	P		**P**	06 55 38.9 +1.3
	baz=277,SNR=126						
L27K				S		**S**	07 05 48.9 +1.0
	baz=277						
L27K	**Beaver Creek,**	82.04	27	P		**P**	06 55 38.3 +0.8
L27K				IAmb	IAmb		06 55 41.9
	comp=Z,135nm,1.1s						
BCAR	**Beaver Creek A**	82.06	27	P		**P**	06 55 38.9 +1.2
EGAK	**Eagle**	82.13	26	P		**P**	06 55 38.6 +0.7
	baz=277,SNR=60						
EGAK				S		**S**	07 05 50.1 +1.4
	baz=277						
MESA	**MESA**	82.32	30	P		**P**	06 55 40.8 +1.5
	baz=277,SNR=13						
RSDY	**Resadiye-TOKAT**	82.50	310	*i* P		**P**	06 55 40.2 -0.2
CTG	**Chitna Glacier**	82.52	29	P		**P**	06 55 41.8 +1.6
	baz=277,SNR=112						
CTG				S		**S**	07 05 54.6 +1.5
	baz=277						
DARE	**Darende-Malaty**	82.59	308	*i* P		**P**	06 55 41.7 +0.7
SVSK	**Karacayir**	82.80	309	*i* P		**P**	06 55 42.3 +0.4
ABPO	**Ambohimpanom**	82.81	249	IAms_20	IAms_20		07 28 08.6
	comp=Z,4μm,20.0s						
GAZ	**Gaziantep**	82.98	306	*i* P		**P**	06 55 43.3 +0.3
GAZ	**Gaziantep**	82.98	306	IAms_20	IAms_20		07 37 47.6
	comp=Z,4μm,20.0s						
TOKT	**Tokat**	83.10	310	*i* P		**P**	06 55 43.4 -0.1
TEND	**Ethiopian Broa**	83.11	281	*e*P		**P**	06 55 45.4 +1.4
PINM	**Pinnacle**	83.17	30	P		**P**	06 55 44.9 +1.4
	baz=278,SNR=29						
PINM				S		**S**	07 06 01.2 +1.5
	baz=278						
KVT	**Kavak**	83.37	310	*i* P		**P**	06 55 45.0 +0.1
SARI	**SarD1z-Kayseri**	83.44	308	*i* P		**P**	06 55 45.7 +0.2
KEV	**Kevo**	83.66	340	IAms_20	IAms_20		07 37 48.2
	comp=Z,4μm,20.0s						
EPYK	**Eagle Plains**	83.71	24	P		**P**	06 55 46.7 +0.6
	baz=281,SNR=118						
EPYK				S		**S**	07 06 04.3 -0.5
	baz=281						
EPYK	**Eagle Plains**	83.71	24	P		**P**	06 55 46.7 +0.6
BNN	**Bunyan**	83.83	308	*i* P		**P**	06 55 47.3 -0.1
SNOP	**Sinop**	83.87	311	*i* P		**P**	06 55 46.7 -0.7
VOI	**Vohitsoka**	83.87	247	IAms_20	IAms_20		07 31 03.5
	comp=Z,4μm,20.0s						
DIKM	**Dikmen**	83.89	311	⇓*i*P		**P**	06 55 46.8 -0.6
DIKM	**Dikmen**	83.89	311	*i* P		**P**	06 55 46.7 -0.8
YAYL	**Yayladag**	84.02	305	*i* P		**P**	06 55 48.2 -0.2
KOZT	**Kozan**	84.04	307	*i* P		**P**	06 55 48.3 0.0
YOZ	**Yozgat**	84.12	309	*i* P		**P**	06 55 48.6 -0.3
PUL	**Pulkovo**	84.16	330	*ce*P		**P**	06 55 48.7 +0.3
PUL				pmax	pmax		
	comp=Z,107nm,0.4s						
ARCES	**ARCESS Array B**	84.22	340	P		**P**	06 55 47.9 -0.7
	comp=Z,68nm,0.8s,baz=78,slow=6.3,SNR=138						
ARCES				PKiKP		**PKiKP**	07 01 01.8 -1.1
	comp=Z,2.6nm,0.8s,baz=64,slow=2.1,SNR=1.8						
ARCES				LR	LR		07 38 14.9
	comp=Z,4μm,19.0s,baz=130,slow=39						
ARCES	**ARCESS Array B**	84.22	340	P		**P**	06 55 47.9 -0.7
ARCES				IAmb	IAmb		06 55 50.0
	comp=Z,82nm,0.8s						
SIM	**Simferopol'**	84.24	314	*c i*P		**P**	06 55 47.5 -1.7
SIM				*e*			06 59 05.0
SIM				*e*S		**S**	07 06 06.3 -4.5
SIM				pmax	pmax		
	comp=Z,262nm,1.1s						
HWQ	**Hawqa**	84.40	304	*e*P		**P**	06 55 50.2 -0.2
INK	**Inuvik**	84.51	22	PKKP			07 13 50.6
	comp=Z,5.6nm,1.1s,baz=134,slow=2.9,SNR=3.4						
INK				LR	LR		07 34 32.7
	comp=Z,1μm,22.0s,baz=274,slow=36						
INK	**Inuvik**	84.51	22	P		**P**	06 55 50.6 +0.5
	baz=284,SNR=152						
KRTS	**Karatas**	84.52	306	*i* P		**P**	06 55 51.5 +0.7
DESE	**Dese**	84.54	280	*e*P		**P**	06 55 53.8 +2.1
CORM	**Corum**	84.57	310	*i* P		**P**	06 55 51.3 +0.2
KBS	**Kingsbay**	84.60	350	⇑*i*P		**P**	06 55 50.2 -0.1
KBS				IAmb	IAmb		06 55 51.5
	comp=Z,197nm,0.8s						
KBS	**Kingsbay**	84.60	350	*ce*P		**P**	06 55 51.0 +0.6
KBS				pmax	pmax		
	comp=Z,148nm,1.3s						
RCY	**Rachaya**	84.60	303	*e*P		**P**	06 55 51.7 +0.2
CMRD	**Camardi-Nigde**	84.67	307	*i* P		**P**	06 55 51.8 +0.1
KARA	**Karaisali**	84.68	307	*i* P		**P**	06 55 51.6 0.0
ANKE	**Ethiopia-Afar**	84.69	279	*i* P		**P**	06 55 54.9 +2.3
HSPB	**Hornsund (broa**	84.69	348	*e*P		**P**	06 55 50.5 -0.3
HSPB				*e*S		**S**	07 06 13.9 -0.2
BHL	**Bhannes**	84.69	303	*e*P		**P**	06 55 51.8 -0.1
SHBL	**Chebaa**	84.70	303	*e*P		**P**	06 55 52.2 +0.3
QRWL	**Qaraoun**	84.72	303	*e*P		**P**	06 55 52.6 +0.6
BZK	**Bozkurt**	84.77	312	⇓*i*P		**P**	06 55 50.8 -1.1
BZK	**Bozkurt**	84.77	312	*i* P		**P**	06 55 51.7 -0.2
BZK	**Bozkurt**	84.77	312	P		**P**	06 55 51.2 -0.7
DQRL	**Deir Qamar**	84.79	303	*e*P		**P**	06 55 53.1 +0.8
MMAI	**Mount Meron Ar**	85.03	303	P		**P**	06 55 53.1 -0.5
	comp=Z,554nm,1.2s,baz=96,slow=6.8,SNR=81						
MMLI	**Mount Malkishu**	85.11	302	*i* P		**P**	06 55 54.7 +0.8
MERS	**Mersin**	85.16	306	*i* P		**P**	06 55 53.7 -0.4
GHAJ	**Ghor Haditha**	85.16	301	IAms_20	IAms_20		07 38 43.5
	comp=Z,4μm,22.0s						
CANT	**Cankiri**	85.27	310	*i* P		**P**	06 55 54.1 -0.4
YAYX	**Yaylak**	85.39	309	*i* P		**P**	06 55 54.2 -1.0
BR131	**Keskin Array S**	85.39	309	P		**P**	06 55 54.5 -0.8
	SNR=55						
BR131	**Keskin Array S**	85.39	309	P		**P**	06 55 54.5 -0.8
	SNR=55						
BR131				P		**P**	06 55 54.5 -0.8
	SNR=55						
BRTR	**Keskin Array B**	85.39	309	P		**P**	06 55 53.9 -1.5
	comp=Z,93nm,0.8s,baz=114,slow=4.5,SNR=172						
BRTR				LR	LR		07 39 50.8
	comp=Z,3μm,20.5s,baz=84,slow=40						
BRTR	**Keskin Array B**	85.39	309	*i* P		**P**	06 55 54.3 -1.1
BRTR	**Keskin Array B**	85.39	309	*i* P		**P**	06 55 54.2 -1.1
BRTR				pmax	pmax		
	comp=Z,93nm,0.8s						
BRTR	**Keskin Array B**	85.39	309	P		**P**	06 55 54.0 -1.3
KIZK	**Mersin**	85.52	306	*i* P		**P**	06 55 55.0 -0.8
SERE	**Sereflikochisa**	85.58	309	*i* P		**P**	06 55 55.1 -1.1
EREN	**Erenkoy**	85.65	305	*i* P		**P**	06 55 56.7 +0.2
WHY	**Whitehorse**	85.69	29	P		**P**	06 55 58.0 +1.7
	baz=283,SNR=94						
WHY				S		**S**	07 06 28.2 +3.3
	baz=283						
WHY	**Whitehorse**	85.69	29	P		**P**	06 55 57.7 +1.4
SILI	**Silifke-Mersin**	85.71	306	*i* P		**P**	06 55 56.4 -0.3
KURC	**Kurucasile-Bar**	85.71	312	*i* P		**P**	06 55 54.4 -2.2
AAE	**Adis Abeba**	85.72	278	*i* P		**P**	06 55 58.5 +0.9
AAE	**Adis Abeba**	85.72	278	*i* P		**P**	06 55 59.9 +2.3
AAE				*e*S		**S**	07 06 24.5 -2.7
AAE	**Adis Abeba**	85.72	278	*i* P		**P**	06 55 59.9 +2.3
AAE				*e*S		**S**	07 06 24.5 -2.7
SULT	**Sultanhani-AKS**	85.73	308	*i* P		**P**	06 55 56.5 -0.5
SKAG	**Skagway**	85.74	30	P		**P**	06 55 57.8 +1.5
	baz=283,SNR=22						
SKAG				S		**S**	07 06 29.1 +4.1
	baz=283						
HRFI	**Mount Harif**	85.81	300	*i* P		**P**	06 55 57.7 +0.3
FURI	**Furi**	85.83	278	*i* P		**P**	06 56 00.1 +2.0
FURI	**Furi**	85.83	278	*i* P		**P**	06 56 02.3 +4.2
FURI				*e*S		**SKSac**	07 06 21.1 +0.5
FURI	**Furi**	85.83	278	*i* P		**P**	06 56 02.3 +4.2
FURI				*e*S		**SKSac**	07 06 21.1 +0.5
KEBE	**Keben-Mersin**	85.87	306	*i* P		**P**	06 55 57.5 -0.1
FINES	**FINESS Array B**	85.87	332	P		**P**	06 55 56.0 -0.9
	comp=Z,43nm,0.5s,baz=71,slow=4.0,SNR=177						
FINES				PKiKP		**PKiKP**	07 01 05.2 -0.6
	comp=Z,2.2nm,0.6s,baz=98,slow=2.8,SNR=1.9						
FINES				PKKPbc		**PKKPdf**	07 13 55.9 +3.8
	comp=Z,3.8nm,0.9s,baz=169,slow=2.8,SNR=4.0						
FINES				LR	LR		07 38 36.0
	comp=Z,5μm,18.2s,baz=78,slow=39						
FINES	**FINESS Array B**	85.87	332	P		**P**	06 55 55.9 -1.1
IKL	**Isikli**	85.92	306	*i* P		**P**	06 55 57.2 -0.6
EIL	**Elat**	85.94	299	P		**P**	06 55 57.7 -0.4
	comp=Z,167nm,1.0s,baz=130,slow=3.0,SNR=97						
KULU	**Kulu**	85.99	309	*i* P		**P**	06 55 57.7 -0.5
ANTO	**Ankara**	86.01	310	*i* P		**P**	06 55 57.3 -1.0
LOD	**Lodumlu**	86.03	310	*i* P		**P**	06 55 57.7 -0.7
AKKU	**Akkuyu-Mersin**	86.04	306	*i* P		**P**	06 55 57.9 -0.5
TEVE	**Tevekalti-Mers**	86.08	306	*i* P		**P**	06 55 58.7 0.0
CHBY	**Cihanbeyli**	86.16	308	*i* P		**P**	06 55 57.7 -1.4
BESE	**Bessie Mountai**	86.17	31	P		**P**	06 56 00.5 +1.9
LFK	**Lefkose**	86.20	305	*i* P		**P**	06 55 59.2 -0.1
VSU	**Vasula**	86.23	329	*e*P		**P**	06 55 59.4 +0.6
VSU	**Vasula**	86.23	329	*c i*P		**P**	06 55 56.9 -1.9
VSU				pmax	pmax		
	comp=Z,427nm,0.9s						
VSU				MLR	MLR		
	comp=Z,12μm,16.0s						
SIT	**Sitka**	86.27	33	P		**P**	06 55 60.0 +1.0
	baz=283						
SIT				S		**S**	07 06 34.6 +4.3
	baz=283						
BERE	**Bereket-Mersin**	86.27	306	*i* P		**P**	06 55 59.8 +0.1
TEKE	**Tekeli-Mersin**	86.39	306	*i* P		**P**	06 55 59.3 -0.8
CSS	**Mathiatis**	86.42	305	*i* P		**P**	06 55 59.9 -0.4
CSS	**Mathiatis**	86.42	305	P		**P**	06 55 59.6 -0.7
AKASG	**Malin Array Be**	86.48	321	P		**P**	06 55 58.6 -1.6
	comp=Z,82nm,0.6s,baz=61,slow=4.8,SNR=210						
AKASG				PKiKP		**PKiKP**	07 01 06.5 -0.6
	comp=Z,2.9nm,0.7s,baz=71,slow=1.9,SNR=2.4						
AKASG				LR	LR		07 38 45.6
	comp=Z,4μm,20.7s,baz=80,slow=38						
AKASG	**Malin Array Be**	86.48	321	P		**P**	06 55 58.8 -1.4
AKASG				pmax	pmax		
	comp=Z,427nm,1.4s						
AKASG	**Malin Array Be**	86.48	321	P		**P**	06 55 58.8 -1.4
AKBB	**Malin Array Si**	86.48	321	P		**P**	06 55 59.0 -1.2
AKBB				pmax	pmax		
	comp=Z,272nm,1.1s						
AKBB	**Malin Array Si**	86.48	321	P		**P**	06 55 59.0 -1.2
MNK	**Minsk**	86.49	325	*c i*P		**P**	06 55 59.0 -1.2
MNK	**Minsk**	86.49	325	*i* P		**P**	06 55 59.0 -1.1
	comp=E,19nm,1.0s						
MNK				*i* P		**P**	06 55 59.0 -1.1
	comp=N,31nm,1.0s						
MNK				*i* P		**P**	06 55 59.0 -1.1
	comp=Z,228nm,1.1s,baz=258						
MNK				*i* PcP		**PcP**	06 56 01.3 -1.3
MNK				*i* PP	PP		06 59 13.8 -8.1
MNK				*i* PPP	PPP		07 01 11.1
MNK				*i* S		**SKSac**	07 06 21.4 -1.1
MNK				*i* SS		**ScS**	07 06 44.3 +3.5
MNK				*i* SS		**SS**	07 12 10.4 -2.8
MNK				*i* SSS	SSS		07 15 41.6
MNK				*i* LQ	LQ		07 27 55.0
MNK				*i* LR	LR		07 33 05.7
MNK				*i* LRM	MLR		07 36 49.6
	comp=N,2μm,25.8s						
MNK				*i* LRM	MLR		07 38 21.8
	comp=Z,6μm,18.0s						
MNK				*i* LRM	MLR		07 38 23.2
	comp=E,477nm,18.5s						
DILA	**Dilla**	86.62	276	*e*P		**P**	06 56 02.2 +0.3
LADK	**Ladik-KONYA**	86.63	308	*i* P		**P**	06 55 59.8 -1.6
KONT	**Konya--Tatoy**	86.68	308	*i* P		**P**	06 56 00.5 -1.0
NOR	**Nord**	86.68	355	⇑*i*P		**P**	06 56 00.8 +0.1
NOR	**Nord**	86.68	355	⇑*i*P		**P**	06 56 00.8 +0.1
LEF	**Lefka**	86.75	305	⇓P		**P**	06 56 01.1 -0.8
LEF	**Lefka**	86.75	305	*i* P		**P**	06 56 01.7 -0.2
YUVA	**Yuva-Kibriscik**	86.75	310	*i* P		**P**	06 56 01.9 -0.1
KIZT	**Kizilcal**	86.88	309	*i* P		**P**	06 56 01.5 -1.1
PURM	**Purcari**	86.89	317	⇑P		**P**	06 56 01.3 -1.0
IDID	**Didziasalis**	86.95	326	*e*P		**P**	06 56 02.5 +0.1
MEF	**Metsahovi**	86.97	331	*e*P		**P**	06 56 02.1 -0.3
GAZI	**Gazipasa**	87.01	306	*i* P		**P**	06 56 01.8 -1.4
SVRH	**Sivrihisar-ESK**	87.05	309	*i* P		**P**	06 56 02.3 -1.1
IIGN	**Ignalina**	87.23	326	*e*P		**P**	06 56 03.8 0.0
ISAL	**Salakas**	87.23	326	*e*P		**P**	06 56 04.0 +0.2
CIFT	**Cifteler, Eski**	87.42	309	*i* P		**P**	06 56 04.0 -1.2
C36M	**Paulatuk**	87.46	20	P		**P**	06 56 05.1 +0.5
	baz=292,SNR=32						
C36M				S		**S**	07 06 40.6 -0.7
	baz=292						
KIS	**Kishinev**	87.51	317	⇑*i*P		**P**	06 56 03.6 -1.7
	comp=E,580nm,8.0s						
KIS	**Kishinev**	87.51	317	*e*PP	PP		06 59 32.0 +1.6
KIS	**Kishinev**	87.51	317	*e*S		**S**	07 06 40.0 -2.7
	comp=E,600nm,18.3s						
KIS	**Kishinev**	87.51	317	*e*PS	PS		07 07 57.0 +6.2
KIS				*e*LR	LR		07 36 02.0
	comp=E,1μm,20.0s						
KIS	**Kishinev**	87.51	317	*c i*P		**P**	06 56 03.6 -1.7
KIS				*e*			06 56 15.0
KIS				*e*			06 59 32.0
KIS				*e*PPP	PPP		07 01 23.0
KIS				*e*			07 06 29.0
KIS				*e*S		**S**	07 06 40.0 -2.7
KIS				pmax	pmax		
	comp=Z,580nm,8.0s						
KIS				smax	smax		
	comp=E,600nm,18.3s						
KIS				MLR	MLR		
	comp=Z,2μm,21.0s						
KIS				MLR	MLR		
	comp=N,1μm,20.0s						
KIS				MLR	MLR		
	comp=E,2μm,22.0s						
KIS	**Kishinev**	87.51	317	*e*PPP	PPP		07 01 23.0
KIS	**Kishinev**	87.51	317	*e*SKS	S		07 06 29.0 -14
SORM	**Soroca**	87.57	318	⇑P		**P**	06 56 04.4 -1.2
SRCK	**Saricakaya, Es**	87.62	310	*i* P		**P**	06 56 04.5 -1.5
GULT	**Gulveren**	87.62	310	*i* P		**P**	06 56 05.2 -0.9
MTSE	**Matsula**	87.65	329	*e*P		**P**	06 56 05.0 -0.7
SAUV	**Serdivan-Sakar**	87.70	311	*i* P		**P**	06 56 05.2 -1.2
BORA	**Eskisehir**	87.78	310	*i* P		**P**	06 56 05.5 -1.4
PPT	**Papeete**	87.80	108	LR	LR		07 27 59.8
	comp=E,4μm,21.8s,baz=268,slow=30						
PPT2	**Papeete2**	87.80	108	*e*P		**P**	06 56 09.2 +1.9
	comp=E,138nm,1.3s						
PPT2	**Papeete2**	87.80	108	*e*S		**S**	07 06 43.7 -3.0
	comp=E,5μm,28.0s						
PPT2	**Papeete2**	87.80	108	*e*LR	LR		07 24 01.6
	comp=E,8μm,22.5s,baz=287						
CRAG	**Craig**	87.84	34	P		**P**	06 56 07.7 +1.0
	baz=285						
CRAG				S		**S**	07 06 47.5 +2.1
	baz=285						
TLCR		87.89	315	⇑P		**P**	06 56 05.9 -1.2
SHUT	**Suhut-Afyon**	87.96	309	*i* P		**P**	06 56 06.8 -1.0
RAF	**Rauma**	87.99	332	*e*P		**P**	06 56 06.2 -1.1
TIAR	**Tiarei**	88.01	108	*e*P		**P**	06 56 10.0 +1.7
	comp=E,19nm,0.9s						
WRAK	**Wrangell Islan**	88.01	33	P		**P**	06 56 08.3 +0.9
	baz=285,SNR=10.0						
WRAK				S		**S**	07 06 50.5 +3.4
	baz=285						
AUBOZ	**BOZOYUK**	88.09	310	*i* P		**P**	06 56 06.9 -1.5
ISP	**Isparta**	88.13	308	*i* P		**P**	06 56 06.9 -1.7
SILT	**Siìe**	88.13	311	*i* P		**P**	06 56 07.6 -0.8
BCK	**Bucak**	88.15	308	*i* P		**P**	06 56 06.8 -1.9
CAVI	**Cavuskoy**	88.17	310	*i* P		**P**	06 56 08.1 -0.6
HRT	**Hereke**	88.18	311	*i* P		**P**	06 56 07.3 -1.4
ADVT	**Abdulvahap**	88.21	311	*i* P		**P**	06 56 06.9 -1.9
TPGR	**Topolog**	88.23	315	⇓P		**P**	06 56 08.0 -0.9
VASR	**Vaslui**	88.27	317	⇑P		**P**	06 56 08.3 -0.7
TIRR	**Tirgusor**	88.32	315	⇑P		**P**	06 56 08.2 -1.1
TIRR	**Tirgusor**	88.32	315	P		**P**	06 56 08.4 -0.8
TIRR				pmax	pmax		
	comp=Z,225nm,0.8s						
TIRR	**Tirgusor**	88.32	315	P		**P**	06 56 08.4 -0.8
MANR	**Mangalia**	88.34	314	⇑P		**P**	06 56 08.3 -1.1
CFR	**Carcaliu**	88.36	315	⇑P		**P**	06 56 08.2 -1.1
KIBK	**Kibwezi**	88.37	267	IAms_20	IAms_20		07 32 39.4
	comp=Z,3μm,22.0s						
KIBK	**Kibwezi**	88.37	267	P		**P**	06 56 10.5 +0.3
	SNR=18						
KIBK	**Kibwezi**	88.37	267	P		**P**	06 56 10.5 +0.3
	SNR=18						
EUNU	**Eureka**	88.41	5	IAms_20	IAms_20		07 40 35.0
	comp=Z,3μm,22.0s						
KORT	**Korkueli**	88.42	307	*i* P		**P**	06 56 07.7 -2.4
PABE	**Paberze**	88.44	326	*e*P		**P**	06 56 09.4 -0.1
PABE	**Paberze**	88.44	326	IAms_20	IAms_20		07 39 18.8
	comp=Z,3μm,19.0s						
YLV	**Yalova**	88.45	311	*i* P		**P**	06 56 09.0 -1.0
KLYT	**Kilyos**	88.55	312	*i* P		**P**	06 56 09.5 -0.9
TLBR	**Topalu**	88.56	315	⇓P		**P**	06 56 09.1 -1.2
KAVV	**Kandilli-Istan**	88.58	311	*i* P		**P**	06 56 10.4 -0.1
HARR	**Harsova**	88.61	315	⇓P		**P**	06 56 09.8 -0.8
TVSB	**Tavsanli**	88.61	310	*i* P		**P**	06 56 09.5 -1.4
GEMT	**Gemlik**	88.62	311	*i* P		**P**	06 56 08.9 -1.8
DLBC	**Dease Lake**	88.65	31	LR	LR		07 34 27.0
	comp=Z,861nm,19.2s,baz=293,slow=34						
SLIT	**Slitere, Latvi**	88.73	328	*e*P		**P**	06 56 09.4 -1.4
BGKT	**Bogazkoy**	88.77	311	*i* P		**P**	06 56 09.9 -1.5
H02S1	**DAWSON INLET T**	88.79	36	P		**P**	06 56 11.4 +0.2
ELL	**Elmali**	88.82	307	*i* P		**P**	06 56 10.9 -1.0
ELL	**Elmali**	88.82	307	P		**P**	06 56 10.9 -1.0
ELL				pmax	pmax		
	comp=Z,287nm,0.8s						
ELL	**Elmali**	88.82	307	P		**P**	06 56 10.9 -1.0
ARMT	**Armutlu**	88.83	311	*i* P		**P**	06 56 10.1 -1.7
MDNY	**Mudanya-Bursa**	88.86	311	*i* P		**P**	06 56 10.3 -1.5
PETR	**Petresti**	88.86	316	⇓P		**P**	06 56 13.1 +1.4
PMOR	**Pomariorio Ree**	88.90	105	*e*P		**P**	06 56 14.4 +2.0
	comp=Z,106nm,0.9s						
PMOR	**Pomariorio Ree**	88.90	105	*e*T		**T**	08 34 20.9
	comp=Z,2.4nm,0.2s						
KMBO	**Kilima Mbogo**	88.94	269	P		**P**	06 56 13.0 -0.1
	comp=Z,75nm,1.0s,baz=39,slow=7.0,SNR=58						
KMBO				LR	LR		07 36 22.8
	comp=Z,3μm,18.8s,baz=66,slow=36						
KMBO	**Kilima Mbogo**	88.94	269	*i* P		**P**

SNR=5.3
LODK Lodwar 90.01 273 P **P** **06 56 18.4 +0.5**
SNR=5.3
YER Yerkesik 90.01 308 P **P** **06 56 16.2 -1.2**
YER Yerkesik 90.01 308 *i* P **P** **06 56 16.4 -1.0**
KRBG Karabiga-Canak 90.03 311 *i* P **P** **06 56 16.3 -1.0**
DOPR Dopca 90.05 317 ⇑P **P** **06 56 16.2 -1.1**
RKY Sarkoy-Tekirda 90.06 311 *i* P **P** **06 56 16.1 -1.4**
TURN Turunc 90.12 307 *i* P **P** **06 56 17.5 -0.3**
AYDB Zeytinkoy-Aydi 90.14 308 *i* P **P** **06 56 17.4 -0.7**
UPP Uppsala 90.31 331 *eP* **P** **06 56 17.2 -1.0**
MLSB Milas 90.37 308 *i* P **P** **06 56 18.4 -0.7**
VOIR 90.41 316 ⇑P **P** **06 56 18.0 -1.1**
ARCR ARCALIA 90.45 318 ⇓P **P** **06 56 19.2 0.0**
ERIK Erikli-Kesan 90.55 311 *i* P **P** **06 56 18.7 -1.0**
COPA Copaceanca 90.63 315 ⇓P **P** **06 56 19.3 -0.7**
DKL Dikili 90.63 310 *i* P **P** **06 56 18.9 -1.3**
GELI Tayfur-Gelibol 90.64 311 *i* P **P** **06 56 19.0 -1.2**
DAT Datca 90.65 307 P **P** **06 56 18.0 -2.5**
DAT Datca 90.65 307 *i* P **P** **06 56 19.2 -1.3**
BLCB Balcova 90.69 309 P **P** **06 56 18.9 -1.6**
HUMR Humele 90.69 315 ⇓P **P** **06 56 19.6 -0.7**
GCAM G?zelcaml? 90.70 308 *i* P **P** **06 56 19.9 -0.6**
ARR Arges 90.72 316 ⇑P **P** **06 56 19.5 -1.0**
KLNR Kaliningrad 90.77 326*c i* P **P** **06 56 19.3 -1.1**
KLNR pmax pmax
comp=Z,194nm,1.2s
KLNR MLR MLR
comp=Z,4μm,22.0s
BODT Bodrum 90.79 308 *i* P **P** **06 56 19.8 -1.2**
ENEZ Enez 90.80 312 P **P** **06 56 19.5 -1.4**
ENEZ Enez 90.80 312 *i* P **P** **06 56 19.9 -1.0**
KWP Kalwaria Pacla 90.81 321 *eP* **P** **06 56 20.4 -0.4**
KWP *eS* **S** **07 07 05.4 -8.2**
KWP Kalwaria Pacla 90.81 321 P **P** **06 56 20.4 -0.4**
KWP pmax pmax
comp=Z,2μm,1.0s
KWP Kalwaria Pacla 90.81 321 P **P** **06 56 20.4 -0.4**
ALN Alexandroupoli 90.84 312 P **P** **06 56 19.1 -2.0**
ALN Alexandroupoli 90.84 312 *i* P **P** **06 56 19.8 -1.3**
DAG Danmarks Havn 90.84 352⇑*iP* **P** **06 56 19.6 -0.8**
DAG IAmb IAmb 06 56 21.1
comp=Z,105nm,0.8s
DAG Danmarks Havn 90.84 352⇑*iP* **P** **06 56 19.6 -0.8**
DAG pmax pmax
comp=Z,110nm,0.8s
BMR Baia Mare 90.85 319 ⇑P **P** **06 56 20.1 -0.9**
EZN Ezine 90.89 311 P **P** **06 56 19.3 -2.1**
EZN Ezine 90.89 311 *i* P **P** **06 56 20.1 -1.3**
SMG Samos 91.00 308 P **P** **06 56 20.6 -1.4**
URLA Izmir 91.04 309 *i* P **P** **06 56 20.8 -1.3**
CJR Cluj-Napoca 91.05 318 ⇑P **P** **06 56 21.4 -0.7**
CBBR Cluj-Babes-Bol 91.07 318 ⇑P **P** **06 56 21.3 -0.7**
BOZC Bozcaada 91.09 311 *i* P **P** **06 56 20.8 -1.5**
GADA Gvkgeada 91.12 311 *i* P **P** **06 56 21.0 -1.4**
RDO Rodhopi 91.15 312 P **P** **06 56 20.6 -1.9**
RDO Rodhopi 91.15 312 *i* P **P** **06 56 20.8 -1.7**
VLAD Vladila 91.23 315 ⇑P **P** **06 56 22.1 -0.8**
KARP Karpathos 91.25 306 P **P** **06 56 21.8 -1.4**
KARP Karpathos 91.25 306 *i* P **P** **06 56 22.3 -0.9**
KARP Karpathos 91.25 306 IAms_20 IAms_20 07 45 47.3
comp=Z,4μm,21.0s
KOLS Kolonicke sedl 91.28 320 *eP* **P** **06 56 22.7 -0.3**
KOLS Kolonicke sedl 91.28 320 *eP* **P** **06 56 22.7 -0.3**
LOT Lotru 91.28 317 ⇓P **P** **06 56 22.8 -0.5**
LOT Lotru 91.28 317 *i* P **P** **06 56 22.7 -0.5**
BEL Belsk 91.31 323 *eP* **P** **06 56 22.9 -0.1**
BEL *eS* **S** **07 07 11.0 -7.0**
SMTH Samothraki Isl 91.33 311 P **P** **06 56 21.3 -2.1**
UZH Uzhgorod 91.36 320 *eP* **P** **06 56 23.9 +0.6**
UZH *e* 06 56 37.5
UZH *e*PPP PPP 07 02 02.1
UZH *eS* **S** **07 07 15.9 -2.6**
SIGR SIGRI 91.39 310 P **P** **06 56 21.6 -2.1**
SIGR SIGRI 91.39 310 *i* P **P** **06 56 22.3 -1.4**
CHOS Chios island 91.44 309 *i* P **P** **06 56 22.9 -1.2**
PLD Plovdiv 91.51 313 *i* P **P** **06 56 23.2 -1.0**
DRGR 91.61 318 ⇓P **P** **06 56 24.2 -0.5**
BBB Bella Bella 91.63 36 IAms_20 IAms_20 07 28 32.6
comp=Z,3μm,22.0s
RES Resolute Bay 91.68 10 P **P** **06 56 25.0 +0.7**
RES pmax pmax
comp=Z,96nm,0.8s
RES Resolute Bay 91.68 10 P **P** **06 56 25.0 +0.7**
DEV Deva 91.74 317 ⇑P **P** **06 56 24.2 -1.0**
STHS Stebnicka Huta 91.78 321 *eP* **P** **06 56 24.7 -0.6**
STHS Stebnicka Huta 91.78 321 *eP* **P** **06 56 24.7 -0.6**
CRVS Cervenica-Dubn 91.80 320 *eP* **P** **06 56 25.7 +0.3**
CRVS pmax pmax
comp=Z,539nm,1.3s
CRVS Cervenica-Dubn 91.80 320 *eP* **P** **06 56 25.7 +0.3**
SRE Strehaia 91.88 316 ⇑P **P** **06 56 25.1 -0.7**
THAS Thassos island 91.89 312 P **P** **06 56 24.6 -1.4**
GZR Gura Zlata 91.97 317 ⇓P **P** **06 56 26.3 0.0**
HFS Hagfors 92.03 332 PKKPbc PKKPbc 07 13 41.3 -3.5
comp=Z,2.4nm,0.6s,baz=207,slow=3.0,SNR=6.3
ZKR Zakros 92.10 306 P **P** **06 56 26.3 -0.8**
ZKR Zakros 92.10 306 *i* P **P** **06 56 26.9 -0.2**
STIA Sitia Lasithi 92.18 306 P **P** **06 56 26.9 -0.5**
NVR Nevrokopi 92.32 313 P **P** **06 56 26.0 -2.0**
HERR Herculane 92.36 316 ⇑P **P** **06 56 27.3 -0.8**
NIE Niedzica 92.37 321 *eP* **P** **06 56 28.1 +0.1**
NIE *eS* S 07 07 12.1 -16
OJC Ojcow 92.42 322 *eP* **P** **06 56 27.5 -0.7**
OJC *eS* S 07 07 13.1 -15
VTS Vitosha 92.42 314 ⇓P **P** **06 56 28.1 -0.5**
SIRR Siria 92.46 318 ⇓P **P** **06 56 28.1 -0.4**
OUR Ouranopolis 92.50 312 P **P** **06 56 26.8 -2.0**
OUR Ouranopolis 92.50 312 *i* P **P** **06 56 27.5 -1.3**
BLEU Blekinge 92.52 328 *i* P **P** **06 56 26.8 -1.7**
KECS Kecovo 92.55 320 *eP* **P** **06 56 28.7 -0.2**
KECS pmax pmax
comp=Z,51nm,0.9s
KECS Kecovo 92.55 320 *eP* **P** **06 56 28.7 -0.2**
NPS Neapolis 92.55 306 P **P** **06 56 27.8 -1.4**
NEEM North Greenlan 92.55 359⇑*iP* **P** **06 56 29.3 +0.6**
NEEM IAmb IAmb 06 56 30.2
comp=Z,205nm,0.9s
SRS Serrai 92.58 312 P **P** **06 56 26.8 -2.4**
LAST Lasithi 92.68 306 P **P** **06 56 29.3 -0.6**
BZS Buzias 92.68 317 ⇑P **P** **06 56 28.5 -1.0**
NB2 NORSAR Subarra 92.75 334 P **P** **06 56 27.2 -2.4**
comp=Z,16nm,0.7s,baz=63,slow=4.4
NB2 NORSAR Subarra 92.75 334 P **P** **06 56 27.2 -2.4**
baz=63,slow=4.4
NOA NORSAR Array B 92.75 334 P **P** **06 56 27.4 -2.1**
comp=Z,17nm,0.8s,baz=64,slow=4.6,SNR=60
NOA PP **PP** **07 00 07.8 -3.8**
comp=Z,2.1nm,0.7s,baz=76,slow=8.5,SNR=4.1
NOA PKKPbc **PKKPdf** **07 13 40.0 -0.2**
comp=Z,2.5nm,0.8s,baz=246,slow=2.4,SNR=7.4
NOA LR LR 07 41 37.0
comp=Z,5μm,21.2s,baz=65,slow=38
SOH Sokhos 92.83 312 P **P** **06 56 27.9 -2.5**
PAIG Paliouri 92.83 311 P **P** **06 56 28.1 -2.3**
KYMI Kymi, Euboea I 92.86 310 P **P** **06 56 27.7 -2.8**
MDVR Moldovita 92.87 316 ⇓P **P** **06 56 29.6 -0.9**
PLG Polygyros 92.89 312 P **P** **06 56 28.8 -1.9**
LANS Liptovska Anna 92.97 321 *eP* **P** **06 56 31.5 +0.6**
LANS Liptovska Anna 92.97 321 *eP* **P** **06 56 31.5 +0.6**
NAO01 NORSAR Array S 92.98 334 P **P** **06 56 29.1 -1.5**
NAO01 IAmb IAmb 06 56 30.1
comp=Z,68nm,1.0s
TULEG Thule 93.04 3⇑*iP* **P** **06 56 30.9 +0.4**
TULEG IAmb IAmb 06 56 32.0
comp=Z,96nm,1.1s
TULEG Thule 93.04 3 IAms_20 IAms_20 07 36 12.1
comp=Z,3μm,22.0s
KNT Kendrikon 93.07 313 P **P** **06 56 29.3 -2.2**
HORT Hortiatis 93.08 312 P **P** **06 56 28.5 -3.1**
HORT Hortiatis 93.08 312 *i* P **P** **06 56 29.2 -2.4**
PSZ Piszkesteto 93.10 320 ⇓P **P** **06 56 30.7 -0.8**
PSZ Piszkesteto 93.10 320 P **P** **06 56 31.5 0.0**
PSZ pmax pmax
comp=Z,97nm,1.2s
PSZ Piszkesteto 93.10 320 P **P** **06 56 31.5 0.0**
PSZ IAmb IAmb 06 56 34.3
comp=Z,96nm,1.2s
IDI Anoyia 93.11 306 P **P** **06 56 30.2 -1.7**
comp=Z,106nm,1.0s,baz=24,slow=8.7,SNR=17
IDI Anoyia 93.11 306 ⇑P **P** **06 56 30.9 -0.9**
IDI Anoyia 93.11 306 P **P** **06 56 29.7 -2.2**
IDI Anoyia 93.11 306 *i* P **P** **06 56 30.3 -1.6**
IDI Anoyia 93.11 306 P **P** **06 56 30.8 -1.1**
IDI IAmb IAmb 06 56 33.8
comp=Z,93nm,0.9s
IDI IAms_20 IAms_20 07 45 38.6
comp=Z,3μm,22.0s
DBG Daneborg 93.12 351⇑*iP* **P** **06 56 30.6 -0.3**
THE Thessaloniki 93.17 312 P **P** **06 56 29.5 -2.4**
PTL Penteli 93.20 309 P **P** **06 56 29.6 -2.5**
BOVS Bovan 93.21 315 ⇓P **P** **06 56 30.7 -1.3**
SIVA Sivas 93.25 306 P **P** **06 56 31.8 -0.6**
VAY Valandovo 93.26 313 *i* P **P** **06 56 30.0 -2.3**
VLY Voula,Athens 93.30 309 P **P** **06 56 30.1 -2.5**
XOR Xorichti 93.35 311 P **P** **06 56 29.7 -3.1**
STIP Stip 93.43 313 *i* P **P** **06 56 30.7 -2.4**
DEL Delary 93.45 329 *i* P **P** **06 56 31.2 -1.6**
BSD Bornholm Skovb 93.45 328 *eP* **P** **06 56 32.5 -0.3**
BSD Bornholm Skovb 93.45 328⇑*iP* **P** **06 56 31.5 -1.3**
BSD IAmb IAmb 06 56 32.4
comp=Z,52nm,0.8s
BSD Bornholm Skovb 93.45 328⇑*iP* **P** **06 56 31.5 -1.3**
BSD pmax pmax
comp=Z,52nm,0.8s
GRG Griva 93.49 312 P **P** **06 56 31.0 -2.4**
OKC Ostrava-Krasne 93.55 322 *eP* **P** **06 56 33.4 0.0**
OKC MLR MLR
comp=Z,3μm,17.5s
OKC Ostrava-Krasne 93.55 322 *eP* **P** **06 56 33.4 0.0**
OKC AMS AMS 07 45 10.0
comp=Z,3μm,17.5s
VYHS Vyhne 93.58 320 *eP* **P** **06 56 33.6 0.0**
VYHS pmax pmax
comp=Z,72nm,1.4s
VYHS Vyhne 93.58 320 *eP* **P** **06 56 33.6 0.0**
VAM Vamos 93.63 307 P **P** **06 56 33.1 -1.0**
STRU Stroemstad 93.66 332 *i* P **P** **06 56 32.3 -1.4**
LIT Litokhoron 93.67 312 P **P** **06 56 31.6 -2.6**
LIT Litokhoron 93.67 312 P **P** **06 56 32.8 -1.4**
LIT pmax pmax
comp=Z,145nm,1.3s
LIT Litokhoron 93.67 312 P **P** **06 56 32.8 -1.4**
LKR Lokris 93.69 310 P **P** **06 56 31.6 -2.7**
IMMV Iera Moni Meta 93.79 307 P **P** **06 56 33.5 -1.4**
IMMV Iera Moni Meta 93.79 307 *i* P **P** **06 56 33.8 -1.1**
BUD Budapest 93.80 319 *eP* **P** **06 56 33.2 -1.4**
FABU Falkenberg 93.81 330 *i* P **P** **06 56 32.9 -1.6**
GVDS Gavdos 93.86 306 P **P** **06 56 33.6 -1.6**
GVDS Gavdos 93.86 306 *i* P **P** **06 56 33.8 -1.4**
GVD Gavdhos 93.86 306 P **P** **06 56 34.2 -1.0**
GVD Gavdhos 93.86 306 *i* P **P** **06 56 33.9 -1.3**
LTK Loutraki 93.89 310 P **P** **06 56 32.0 -3.3**
SKO Skopje 93.89 314 *i* P **P** **06 56 34.1 -1.0**
LOUT Loutraki 93.89 309 P **P** **06 56 31.5 -3.8**
TJOU Tjoern 93.89 331 *i* P **P** **06 56 33.5 -1.3**
KRND KRANIDI 93.92 309 P **P** **06 56 32.7 -2.7**
MORC Moravsky Berou 93.94 322 ⇑P **P** **06 56 34.6 -0.8**
MORC Moravsky Berou 93.94 322 P **P** **06 56 35.4 +0.1**
MORC pmax pmax
comp=Z,34nm,1.1s
MORC MLR MLR
comp=Z,3μm,20.0s
MORC Moravsky Berou 93.94 322 P **P** **06 56 35.4 +0.1**
MORC IAms_20 IAms_20 07 41 51.4
comp=Z,3μm,20.0s
MORC Moravsky Berou 93.94 322⇑*iP* **P** **06 56 34.5 -0.8**
YKA Yellowknife Ar 93.99 24 P **P** **06 56 35.6 +0.4**
comp=Z,49nm,0.7s,baz=299,slow=4.2,SNR=141
LUNU Lund 94.01 328 *i* P **P** **06 56 34.5 -0.8**
ONAU Onsala 94.03 330 *i* P **P** **06 56 33.6 -1.8**
FRGS Fruska Gora 94.04 317 ⇑P **P** **06 56 35.3 -0.6**
FRGS Fruska Gora 94.04 317⇑*iP* **P** **06 56 35.2 -0.6**
BJUU Bjuv 94.04 329 *i* P **P** **06 56 34.5 -1.0**
AGG Agios Georgios 94.09 311 P **P** **06 56 33.0 -3.2**
AGG Agios Georgios 94.09 311 *i* P **P** **06 56 33.4 -2.8**
AGG Agios Georgios 94.09 311 P **P** **06 56 33.6 -2.6**
AGG pmax pmax
comp=Z,101nm,1.3s
AGG Agios Georgios 94.09 311 P **P** **06 56 33.6 -2.6**
AGG IAmb IAmb 06 56 36.4
comp=Z,101nm,1.3s
KONO Kongsberg 94.10 333*ceP* **P** **06 56 34.2 -1.5**
KONO pmax pmax
comp=Z,99nm,2.5s
KONO Kongsberg 94.10 333 P **P** **06 56 35.1 -0.7**
KONO IAmb IAmb 06 56 53.5
comp=Z,42nm,1.0s
THAL Thalero 94.11 310 P **P** **06 56 33.2 -3.1**
KZN Kozani 94.13 312 P **P** **06 56 33.3 -3.2**
SRO Srobarova 94.14 320 *eP* **P** **06 56 36.6 +0.4**
SRO Srobarova 94.14 320 *eP* **P** **06 56 36.6 +0.4**
THL Klokotos Trika 94.17 311 P **P** **06 56 33.3 -3.2**
JAVC Velka Javorina 94.18 321⇑*iP* **P** **06 56 37.1 +0.6**
ANKY Antikythira Is 94.21 307 P **P** **06 56 34.8 -2.0**
MAKR Makrakomi, Fth 94.24 311 P **P** **06 56 34.5 -2.4**
DIVS Divibare 94.25 316⇑*iP* **P** **06 56 35.6 -1.3**
DIVS Divibare 94.25 316 P **P** **06 56 35.9 -1.0**
DIVS IAmb IAmb 06 56 40.2
comp=Z,65nm,1.0s
DIVS IAms_20 IAms_20 07 43 09.0
comp=Z,4μm,22.0s
VLI Veliai 94.27 308 P **P** **06 56 33.4 -3.6**
FNA Florina 94.28 313 P **P** **06 56 34.2 -2.9**
FNA Florina 94.28 313 *i* P **P** **06 56 34.7 -2.4**
KRLC Kraliky 94.29 322 *eP* **P** **06 56 36.9 0.0**
KRLC *e* 07 00 21.3
KRLC MLR MLR
comp=Z,4μm,18.3s
KRLC Kraliky 94.29 322 *eP* **P** **06 56 36.9 0.0**
KRLC *e*PP **PP** **07 00 21.3 -2.7**
KRLC *ex* x 07 07 21.1
KRLC AMS AMS 07 45 50.0
comp=Z,4μm,18.3s
KTHA Kythira Island 94.30 308 P **P** **06 56 34.8 -2.4**
KTHA Kythira Island 94.30 308 *i* P **P** **06 56 35.1 -2.1**
KSP Ksiaz 94.30 323 *eP* **P** **06 56 36.4 -0.5**
KTHR Kythira 94.34 308 P **P** **06 56 35.2 -2.2**
TEKS Tekeris 94.42 317 *eP* **P** **06 56 37.0 -0.6**
SMOL Smolenice 94.45 321 *eP* **P** **06 56 37.8 +0.2**
SMOL pmax pmax
comp=Z,25nm,1.3s
SMOL Smolenice 94.45 321 *eP* **P** **06 56 37.8 +0.2**
OSTC Ostas 94.45 323 *eP* **P** **06 56 37.8 +0.2**
OSTC AMS AMS 07 39 50.0
comp=Z,4μm,22.2s
MORH Mrgy, Hungar 94.46 318 ⇓P **P** **06 56 36.7 -1.0**
MORH Mrgy, Hungar 94.46 318⇑*iP* **P** **06 56 37.2 -0.5**
DPC Dobruska-Polom 94.47 323 *eP* **P** **06 56 37.9 +0.2**
DPC MLR MLR
comp=Z,4μm,21.9s
DPC Dobruska-Polom 94.47 323 *eP* **P** **06 56 37.9 +0.2**
DPC AMS AMS 07 39 40.0
comp=Z,4μm,21.9s
SERG Sergoula 94.47 310 P **P** **06 56 35.4 -2.6**
TRIZ Trizonia 94.47 310 P **P** **06 56 35.1 -2.8**
KLV Kalavryta, Ach 94.50 310 P **P** **06 56 35.4 -2.8**
COP Copenhagen 94.51 329⇑*iP* **P** **06 56 37.0 -0.7**
COP Copenhagen 94.51 329⇑*iP* **P** **06 56 36.9 -0.7**
EVR Evrytania 94.51 311 P **P** **06 56 35.2 -3.0**
VLX Vlachokerasia 94.52 309 P **P** **06 56 35.5 -2.8**
ANX Ano Chora 94.52 310 P **P** **06 56 35.2 -3.1**
KPRO Kipourio 94.54 312 P **P** **06 56 35.0 -3.3**
CHVC Chvalec 94.54 323 *eP* **P** **06 56 39.0 +1.0**
CHVC AMS AMS 07 45 20.0
comp=Z,4μm,20.2s
LAKA Lakka 94.57 310 P **P** **06 56 37.5 -1.0**
UPC Upice 94.59 323 *eP* **P** **06 56 38.1 -0.1**
UPC MLR MLR
comp=Z,4μm,19.3s
UPC Upice 94.59 323 *eP* **P** **06 56 38.1 -0.1**
UPC AMS AMS 07 45 40.0
comp=Z,4μm,19.3s
MODS Modra-Piesok 94.60 321 *eP* **P** **06 56 39.4 +1.1**
MODS pmax pmax
comp=Z,66nm,1.2s
MODS Modra-Piesok 94.60 321 *eP* **P** **06 56 39.4 +1.1**
MODS Modra-Piesok 94.60 321 *eS* S 07 07 24.9 -22
OHR Ohrid 94.60 313 *i* P **P** **06 56 37.1 -1.5**
VRAC Vranov 94.68 322 P **P** **06 56 38.0 -0.6**
comp=Z,68nm,1.0s,baz=80,slow=4.3,SNR=60
VRAC Vranov 94.68 322 ⇑P **P** **06 56 38.4 -0.3**
VRAC Vranov 94.68 322⇑*iP* **P** **06 56 38.4 -0.3**
PHP Peshkopia 94.68 314 P **P** **06 56 36.7 -2.2**
IVA Berane 94.70 315 *eP* **P** **06 56 37.4 -1.6**
BBLS Lazići 94.72 316⇑*iP* **P** **06 56 38.7 -0.4**
PVY Plav 94.74 315 *eP* **P** **06 56 37.6 -1.7**
KBN Korca 94.76 313 P **P** **06 56 36.8 -2.5**
ZST Bratislava 94.77 321 *eP* **P** **06 56 39.2 +0.1**
ZST pmax pmax
comp=Z,180nm,1.8s
ZST Bratislava 94.77 321 *eP* **P** **06 56 39.2 +0.1**
PVO Paravola 94.81 310 P **P** **06 56 37.4 -2.1**
RUDO Rudo 94.83 316 *eP* **P** **06 56 38.3 -1.2**
DRO Drossia 94.86 310 P **P** **06 56 38.0 -1.8**
KOVH Kovagotottos 94.86 318 *eP* **P** **06 56 39.1 -0.4**
KRUC Moravsky 94.89 322⇑*iP* **P** **06 56 39.4 -0.2**
EGYH Egyhazaskeszo 94.90 320 *eP* **P** **06 56 36.7 -3.0**
PLE Pljevlja 94.91 315 *eP* **P** **06 56 38.3 -1.7**
ITM Ithomi 94.92 309 P **P** **06 56 37.7 -2.3**
ITM Ithomi 94.92 309 *i* P **P** **06 56 37.9 -2.1**
ITM Ithomi 94.92 309 P **P** **06 56 38.1 -1.9**
HAPS Han Pijesak,Bl 94.96 316 *eP* **P** **06 56 43.5 +3.3**
KOME Kolasin 94.97 315 *eP* **P** **06 56 38.9 -1.4**
AMT Artemida-Makis 94.98 309 P **P** **06 56 38.1 -2.2**
JAN Janina 95.00 312 P **P** **06 56 38.2 -2.2**
RLS Riolos of Patr 95.01 310 P **P** **06 56 38.6 -1.8**
PYL PYLOS 95.14 309 P **P** **06 56 37.3 -3.7**
TIR Tirane 95.20 313 ⇑P **P** **06 56 40.9 -0.3**
TIR Tirane 95.20 313 P **P** **06 56 39.3 -1.9**
TIR Tirane 95.20 313 P **P** **06 56 40.6 -0.6**
TIR pmax pmax
comp=Z,105nm,0.9s
TIR Tirane 95.20 313 P **P** **06 56 40.6 -0.6**
HOMB Homborsund 95.25 332 *eP* **P** **06 56 39.5 -1.5**
UPM Unac-Piva 95.28 315 *eP* **P** **06 56 40.5 -1.3**
UPM Unac-Piva 95.28 315 *eP* **P** **06 56 40.2 -1.6**
PDG Podgorica 95.29 315 ⇓P **P** **06 56 40.5 -1.1**
PDG Podgorica 95.29 315⇑*iP* **P** **06 56 39.9 -1.7**
PDG Podgorica 95.29 315 P **P** **06 56 39.8 -1.8**
PDG IAmb IAmb 06 56 41.7
comp=Z,66nm,0.8s
PDG IAms_20 IAms_20 07 46 43.5
comp=Z,3μm,21.0s
TTG Podgorica 95.29 315 *eP* **P** **06 56 39.9 -1.7**
TAOE Nuku Hiva Isla 95.31 98 *e*LR LR 07 27 33.8
comp=Z,13μm,24.6s,baz=282
NKY Niksic 95.35 315 *eP* **P** **06 56 40.6 -1.4**
TREC Trest 95.36 322 *eP* **P** **06 56 41.6 -0.2**
TREC MLR MLR
comp=Z,4μm,18.4s
TREC Trest 95.36 322 *eP* **P** **06 56 41.6 -0.2**
TREC AMS AMS 07 45 00.0
comp=Z,4μm,18.4s
NKME Niksic 95.39 315 *eP* **P** **06 56 40.5 -1.6**
NYDR Nydri-Lefkada 95.40 311 P **P** **06 56 40.4 -1.7**
LKD2 Lefkada island 95.40 311 P **P** **06 56 39.8 -2.4**
DRME Dracevica, Mon 95.42 314⇑*iP* **P** **06 56 40.5 -1.7**
DRME Dracevica, Mon 95.42 314 *eP* **P** **06 56 40.8 -1.4**
IGT Igoumenitsa 95.42 312 P **P** **06 56 39.6 -2.7**
KULLO Kullorsuaq 95.42 1⇑*iP* **P** **06 56 41.5 -0.1**
KULLO IAmb IAmb 06 56 42.9
comp=Z,144nm,0.8s
KULLO Kullorsuaq 95.42 1⇑*iP* **P** **06 56 41.4 -0.1**
KULLO pmax pmax
comp=Z,140nm,0.8s
PVCC Panska Ves 95.44 323 *eP* **P** **06 56 42.2 +0.1**
PVCC MLR MLR
comp=Z,4μm,20.6s
PVCC Panska Ves 95.44 323 *eP* **P** **06 56 42.2 +0.1**
PVCC AMS AMS 07 46 50.0
comp=Z,4μm,20.6s
ULC Ulcinj 95.45 314 *eP* **P** **06 56 40.4 -2.0**
EVGI Lefkada island 95.46 311 P **P** **06 56 40.1 -2.3**
CEME Cevo 95.49 315 *eP* **P** **06 56 40.7 -1.9**
GOET G??ttrup 95.50 331⇑*iP* **P** **06 56 42.0 -0.2**
GOET IAmb IAmb 06 56 43.8
comp=Z,64nm,0.8s
FSK Fiskardo 95.57 310 P **P** **06 56 40.5 -2.5**
BUM Brajici-Budva 95.58 315 *eP* **P** **06 56 41.7 -1.3**
BEHE Becsehely 95.59 319 *eP* **P** **06 56 44.4 +1.6**
BRY Bratogost 95.64 315 *eP* **P** **06 56 41.4 -1.9**
BRY Bratogost 95.64 315 *eP* **P** **06 56 41.6 -1.7**
CONA Conrad Observa 95.64 321 *i* P **P** **06 56 43.4 +0.2**
comp=Z,62nm,1.3s,SNR=40
PGC Sidney 95.66 39 IAms_20 IAms_20 07 30 06.5
comp=Z,3μm,21.0s
PSDA Pessada-Kefalo 95.66 310 P **P** **06 56 41.1 -2.3**
PRU Pruhonice 95.66 323 *eP* **P** **06 56 42.9 -0.2**
PRU *e* 07 00 29.7
PRU *eS* **S** **07 07 59.4 +2.9**
PRU MLR MLR
comp=Z,4μm,21.8s
PRU Pruhonice 95.66 323 *eP* **P** **06 56 42.9 -0.2**
PRU *e*PP **PP** **07 00 29.7 -4.9**
PRU *eS* **S** **07 07 59.4 +2.9**
PRU AMS AMS 07 40 30.0
comp=Z,4μm,21.8s
BRG Berggiesshubel 95.67 324 *i* P **P** **06 56 42.3 -0.7**
BRG Amp 06 56 46.9
comp=Z,90nm,1.5s
BRG Berggiesshubel 95.67 324 P P 06 56 54.7 +12
BRG Amp 06 56 56.6
comp=Z,49nm,1.4s
BRG Berggiesshubel 95.67 324 SKS S 07 07 32.0 -24
BRG Berggiesshubel 95.67 324 SP SP 07 09 17.0 +3.0
BRG Berggiesshubel 95.67 324 *eP* **P** **06 56 42.4 -0.7**
comp=Z,90nm,1.5s,baz=64,slow=4.5
VLMS Volimes, Zakyn 95.67 310 P **P** **06 56 40.7 -2.8**
PRA Prague 95.70 323 *eP* **P** **06 56 42.8 -0.5**
PRA MLR MLR
comp=Z,4μm,18.4s
PRA Prague 95.70 323 *eP* **P** **06 56 42.8 -0.5**
PRA AMS AMS 07 46 20.0
comp=Z,4μm,18.4s
KEF5 Kardakata, Kep 95.70 310 P **P** **06 56 41.2 -2.4**
KEK Kerkira 95.76 312 P **P** **06 56 41.3 -2.5**
MUD Monsted U'grnd 95.80 330⇑*iP* **P** **06 56 42.1 -1.4**
MUD *i* 07 00 35.0
MUD Monsted U'grnd 95.80 330⇑*iP* **P** **06 56 42.1 -1.4**
MUD *i* 07 00 34.9
KEF3 Kipouria, Keph 95.81 310 P **P** **06 56 41.5 -2.5**
HCY Herceg Novi 95.82 315 *eP* **P** **06 56 41.9 -2.1**
HCY Herceg Novi 95.82 315 *eP* **P** **06 56 42.3 -1.7**
SNART Snartemo 95.82 332 *i* P **P** **06 56 42.3 -1.3**
TREB Trebinje 95.83 315 *eP* P 06 56 38.8 -5.2
BLY Banja Luka 95.93 317 *eP* **P** **06 56 44.1 -0.4**
KOGS Kog 95.94 319 *i* P **P** **06 56 43.5 -1.0**
KOGS *e* 06 56 55.1
KOGS *e*PP **PP** **07 00 34.5 -2.3**
KOGS *e*SP SP 07 09 28.6 +11
KOGS *e* 07 09 36.4
FBE Freiberg 95.99 324 *eP* **P** **06 56 44.3 -0.2**
comp=Z,116nm,1.4s,baz=64,slow=4.5
CLL Collm 96.03 324⇑*iP* **P** **06 56 44.3 -0.5**
comp=Z,42nm,1.0s
CLL *e*Pmax 06 56 49.0
CLL *e*pP **pP** **06 56 56.0 -3.6**
CLL *e* 06 57 48.0
CLL *e*PP **PP** **07 00 41.0 +3.6**
CLL *e*PPPP 07 04 24.0
CLL *e*SKKSac S 07 07 36.0 -24
CLL *e*S **ScS** **07 08 00.0 -0.2**
CLL *e*PS **PS** **07 09 25.0 +0.2**
CLL *e*PPS PPS 07 10 06.0
CLL *e*SS **SS** **07 14 36.0 +5.3**
CLL *e* 07 19 06.0
CLL *e*PKPPKPd **P'P'df** **07 21 45.0 -2.2**
CLL *e* 07 22 18.0
CLL Lm MLR 07 44 00.0
comp=N,3μm,21.5s
CLL Lm MLR 07 44 00.0
comp=E,3μm,21.3s
CLL Lm MLR 07 44 00.0
comp=Z,5μm,20.9s
CLL Lmax 07 45 00.0
CLL Collm 96.03 324⇑*iP* **P** **06 56 44.3 -0.5**
CLL *e* 06 56 56.0
CLL pmax pmax
comp=Z,42nm,1.0s
CLL Collm 96.03 324 P **P** **06 56 44.2 -0.6**
CLL IAmb IAmb 06 56 47.3
comp=Z,64nm,1.3s
CLL Collm 96.03 324 *eP* **P** **06 56 43.9 -0.8**
comp=Z,42nm,1.0s,baz=64,slow=4.5
CLL *e*L L 07 44 49.8

comp=Z,5µm,20.8s
A04D Lummi Island 96.08 38 P **P 06 56 46.0 +1.0**
baz=293
ARSA Arzberg 96.11 320 *i* P **P 06 56 45.2 0.0**
comp=Z,36nm,1.1s,SNR=14
PBCC Pribram 96.11 323 *e*P **P 06 56 45.4 +0.2**
MGRS Mrkonjic Grad 96.11 317 *e*P **P 06 56 44.4 -0.9**
STON Ston 96.23 315 *e*P **P 06 56 44.2 -1.6**
CKRC Cesky Krumlov 96.26 322 *e*P **P 06 56 46.6 +0.7**
CKRC *e*PP **PP 07 00 35.6 -3.7**
CKRC AMS AMS 07 44 30.0
comp=Z,4µm,20.5s
D03D Eldon 96.30 40 P **P 06 56 47.1 +1.1**
baz=292,SNR=20
A05A Maple Falls 96.35 38 P **P 06 56 45.5 -0.7**
E03A Lebam 96.37 41 P **P 06 56 47.1 +0.7**
E03A IAmb IAmb 06 56 50.6
comp=Z,80nm,1.2s
E03A IAMs_20 IAMs_20 07 31 16.7
comp=Z,4µm,22.0s
BSEG Bad Segeberg 96.38 328 *e*P **P 06 56 45.7 -0.5**
comp=Z,84nm,1.3s,baz=64,slow=4.5
BSEG *e*L L 07 44 16.4
comp=Z,4µm,21.1s
KHC Kasperske Hory 96.58 322 *e*P **P 06 56 47.0 -0.4**
KHC *e* 07 00 37.5
KHC *e* 07 07 20.8
KHC MLR MLR
comp=Z,4µm,20.8s
KHC Kasperske Hory 96.58 322 *e*P **P 06 56 47.0 -0.4**
KHC *e*PP **PP 07 00 37.5 -4.2**
KHC *e*SKS **SKSac 07 07 20.8 +0.7**
KHC AMS AMS 07 42 40.0
comp=Z,4µm,20.8s
KHC Kasperske Hory 96.58 322 P **P 06 56 46.8 -0.5**
KHC IAmb IAmb 06 56 49.6
comp=Z,40nm,0.9s
FLTG Flechtingen 96.59 326 *e*P **P 06 56 46.2 -1.1**
comp=Z,73nm,1.2s,baz=64,slow=4.5
GEC2 GERESS Array S 96.62 322 P **P 06 56 46.8 -0.8**
GEC2 IAmb IAmb 06 56 49.7
comp=Z,62nm,0.9s
GEC2 GERESS Array S 96.62 322 *e*P **P 06 56 46.9 -0.7**
comp=Z,77nm,1.0s,baz=64,slow=4.5
GEC2 *e*L L 07 45 03.2
comp=Z,4µm,21.4s
GERES GERESS Array B 96.62 322 P **P 06 56 46.9 -0.7**
comp=Z,56nm,1.0s,baz=69,slow=4.9,SNR=166
GERES PKiKP **PKiKP 07 01 24.1 -0.5**
comp=Z,1.7nm,0.7s,baz=90,slow=1.3,SNR=5.0
GERES PKKP **PKKPbc 07 13 30.5 -2.0**
comp=Z,0.5nm,0.5s,baz=219,slow=1.7,SNR=5.6
GERES LR LR 07 45 14.7
comp=Z,3µm,20.1s,baz=78,slow=38
GERES GERESS Array B 96.62 322 P **P 06 56 46.4 -1.2**
SOKA Soboth 96.63 320 *i* P **P 06 56 46.8 -0.9**
comp=Z,51nm,1.2s,SNR=27
B05A Bryant 96.64 39 P **P 06 56 48.2 +0.6**
baz=293,SNR=9.0
D04E Lakebay 96.64 40 P **P 06 56 49.0 +1.4**
baz=293
SCO Scoresbysund 96.64 350⇑ *i*P **P 06 56 47.1 -0.1**
SCO IAmb IAmb 06 56 48.9
comp=Z,39nm,0.9s
SCO Scoresbysund 96.64 350⇑ *i*P **P 06 56 47.0 -0.1**
SCO pmax pmax
comp=Z,39nm,0.9s
SCO Scoresbysund 96.64 350 IAMs_20 IAMs_20 07 45 40.0
comp=Z,3µm,20.0s
MOA Molln 96.67 321 *i* P **P 06 56 47.4 -0.3**
comp=Z,106nm,0.9s,SNR=87
CRES Cresnjev 96.68 319⇑ *i*P **P 06 56 46.9 -1.0**
TANN Tannenbergstha 96.71 324 *e*P **P 06 56 47.4 -0.5**
comp=Z,54nm,1.2s,baz=64,slow=4.5
NEUB Neuenburg 96.77 325 *e*P **P 06 56 47.5 -0.6**
comp=Z,101nm,1.4s,baz=64,slow=4.5
WERD Werda 96.79 324 *e*P **P 06 56 47.7 -0.5**
comp=Z,80nm,1.4s,baz=64,slow=4.5
NKC Novy Kostel 96.80 324 *e*P **P 06 56 48.1 -0.2**
NKC MLR MLR
comp=Z,4µm,17.1s
NKC Novy Kostel 96.80 324 *e*P **P 06 56 48.1 -0.2**
NKC AMS AMS 07 44 50.0
comp=Z,4µm,17.1s
GUNZ Gunzen 96.81 324 *e*P **P 06 56 48.0 -0.4**
comp=Z,75nm,1.2s,baz=64,slow=4.5
WERN Wernitzgruen 96.82 324 *e*P **P 06 56 48.0 -0.4**
comp=Z,79nm,1.4s,baz=64,slow=4.5
SUMG Summit 96.83 355⇑ *i*P **P 06 56 48.6 +0.1**
SUMG IAmb IAmb 06 56 51.0
comp=Z,132nm,1.4s
SUMG *i* 07 00 39.2
SUMG Summit 96.83 355 P **P 06 56 48.7 +0.2**
SUMG pmax pmax
comp=Z,97nm,1.3s
SUMG MLR MLR
comp=Z,2µm,22.0s
SUMG Summit 96.83 355 P **P 06 56 48.7 +0.2**
SUMG IAmb IAmb 06 56 51.2
comp=Z,97nm,1.3s
PLN Plauen 96.86 324 *e*P **P 06 56 48.1 -0.5**
comp=Z,76nm,1.4s,baz=64,slow=4.5
PDKS Podkum 96.89 319 *i* P **P 06 56 48.3 -0.6**
PDKS *e*PP **PP 07 00 42.4 -1.9**
F04D Rainier, OR 96.90 41 P **P 06 56 49.6 +0.8**
baz=292
B06A Marblemount 96.91 38 P **P 06 56 49.0 +0.2**
WET Wettzell 96.99 323 *e*P **P 06 56 48.9 -0.3**
comp=Z,83nm,1.4s,baz=64,slow=4.5
WET *e*L L 07 43 37.7
comp=Z,4µm,21.2s
E04D Cinebar 97.00 40 P Pdif 06 56 50.0 +0.6
baz=293
OBKA Obir 97.00 320 *i* P **P 06 56 49.2 -0.2**
comp=Z,35nm,0.9s,SNR=19
G03D McMinnville, O 97.06 42 P Pdif 06 56 50.2 +0.6
baz=292
I02D Swisshome 97.08 43 P Pdif 06 56 51.1 +1.4
baz=292
MANZ Manzenberg 97.10 323 *e*P **P 06 56 49.5 -0.2**
comp=Z,45nm,1.4s,baz=64,slow=4.5
MOX Moxa 97.11 324 *e*P **P 06 56 49.2 -0.5**
comp=Z,56nm,1.2s,baz=64,slow=4.5
MOX *e*L L 07 46 02.8
comp=Z,5µm,19.9s
ROTZ Rotzenmuhle 97.13 323 *e*P **P 06 56 49.6 -0.2**
comp=Z,94nm,1.4s,baz=64,slow=4.5
NRDL Niedersach Rie 97.14 326 *e*P **P 06 56 49.6 -0.1**
comp=Z,108nm,1.2s,baz=64,slow=4.5
LJU Ljubljana 97.20 319 *i* P **P 06 56 49.4 -0.8**
LJU *e*SKSac **SKSac 07 07 23.3 -0.1**
UPNV Upernavik 97.24 1 *i* P **P 06 56 49.7 -0.1**
UPNV IAmb IAmb 06 56 51.1
comp=Z,70nm,0.9s
UPNV *i* 07 00 45.1
CLZ Clausthal 97.29 326 *e*P **P 06 56 50.2 -0.3**
comp=Z,98nm,1.1s,baz=64,slow=4.5
J01E Myrtle Point 97.37 44 P Pdif 06 56 51.6 +0.6
baz=291
CEY Cerknica 97.38 319⇑ *i*P **P 06 56 49.5 -1.6**
LON Longmire 97.41 40 IAMs_20 IAMs_20 07 32 03.1
comp=Z,4µm,22.0s
C06D Leavenworth 97.51 39 P Pdif 06 56 52.2 +0.5
baz=294
MYKA Terra Mystica 97.53 320 *i* P **P 06 56 51.0 -0.8**
comp=Z,36nm,1.1s,SNR=15
KBA Koelnbreinsper 97.54 320 *i* P **P 06 56 50.7 -1.2**
comp=Z,64nm,1.1s,SNR=54
I03D Drain, OR 97.57 43 P Pdif 06 56 52.1 +0.1
baz=292
VOJS Vojsko 97.62 319 *e*P **P 06 56 50.7 -1.5**
VOJS *e* 06 57 00.4
RJOB Jochberg 97.62 321 *e*P **P 06 56 51.3 -0.8**
comp=Z,316nm,1.1s,baz=64,slow=4.5
GTTG Gottingen 97.65 326 *e*P **P 06 56 51.7 -0.4**
comp=Z,81nm,1.0s,baz=64,slow=4.5
H04D Lebanon 97.67 42 P Pdif 06 56 52.7 +0.3
baz=292
MATE Matera 97.69 314⇓ *i*P **P 06 56 51.6 -0.8**
K02D Willamette Mer 97.72 44 P Pdif 06 56 53.1 +0.3
baz=292
GRA1 Grafenberg Arr 97.75 323 IAMs_20 IAMs_20 07 44 55.0
comp=Z,4µm,22.0s
GRF Grafenberg Arr 97.75 323 *e*P **P 06 56 52.4 -0.2**
comp=Z,64nm,1.4s,baz=64,slow=4.5
GRF *e*L L 07 44 54.6
comp=Z,4µm,22.0s
GRFO Grafenberg 97.75 323 P Pdif 06 56 52.8 +0.2
GRFO pmax pmax
comp=Z,56nm,1.3s
GRFO Grafenberg 97.75 323 P Pdif 06 56 52.8 +0.2
GRFO IAmb IAmb 06 56 59.1
comp=Z,56nm,1.3s
GRFO IAMs_20 IAMs_20 07 44 55.0
comp=Z,4µm,22.0s
LTY Liberty 97.92 39 P Pdif 06 56 53.6 0.0
UBBA Unterbreizbach 97.95 325 *e*P **P 06 56 53.1 -0.2**
comp=Z,53nm,1.4s,baz=64,slow=4.5
L02E Cave Junction 97.96 45 P Pdif 06 56 54.0 +0.3
baz=291
F05D White Salmon 97.97 41 P Pdif 06 56 54.4 +0.7
baz=294
KRMB Red Mountain 97.98 45 IAMs_20 IAMs_20 07 32 11.7
comp=Z,3µm,22.0s
ZOU Zoufplan 97.99 320 P **P 06 56 52.5 -1.5**
ZOU IAmb IAmb 06 57 05.5
comp=Z,85nm,1.6s
SYO Syowa Base 98.09 201⇑ *e*X **P 06 56 52.0 -1.5**
SYO Syowa Base 98.09 201⇓ *e*pP pP 06 57 03.6 -4.8
JCC Jacoby Creek, 98.14 46 IAMs_20 IAMs_20 07 32 56.2
comp=Z,3µm,21.0s
I04A Tendick Farm, 98.16 43 P Pdif 06 56 55.0 +0.4
baz=292
ABTA Abfaltersbach 98.20 320 *i* P **P 06 56 53.1 -1.7**
comp=Z,75nm,1.2s,SNR=42
HUMO Hull Mountain 98.24 44 IAMs_20 IAMs_20 07 32 57.5
comp=Z,3µm,22.0s
B08A Colville Reser 98.28 38 P Pdif 06 56 55.2 +0.1
B08A IAmb IAmb 06 56 57.2
comp=Z,25nm,0.8s
G05D Wamic, OR 98.32 41 P Pdif 06 56 55.7 +0.4
baz=294
KHMM Horse Mountain 98.33 46 IAMs_20 IAMs_20 07 32 53.2
comp=Z,3µm,21.0s
FUR Furstenfeldbru 98.37 322 *e*L L 07 44 39.2
comp=Z,3µm,21.4s
IBBN Ibbenburen 98.50 327 *e*P **P 06 56 55.4 -0.4**
comp=Z,108nm,1.1s,baz=64,slow=4.5
WTTA Wattenberg 98.53 321 *i* P **P 06 56 55.4 -1.0**
comp=Z,134nm,1.3s,SNR=43
WATA Walderalm 98.54 321 *i* P **P 06 56 55.1 -1.2**
comp=Z,84nm,1.0s,SNR=29
J04D Umpqua Nationa 98.58 43 Pdiff Pdif 06 56 57.2 +0.5
baz=293
I05D Terrebonne, OR 98.67 42 Pdiff Pdif 06 56 57.6 +0.7
baz=293
KASTN Kahler Asten 98.67 326 *e*P **P 06 56 56.4 -0.3**
comp=Z,79nm,1.4s,baz=64,slow=4.5
YBH Yreka Blue Hor 98.73 45 IAMs_20 IAMs_20 07 32 28.8
comp=Z,3µm,22.0s
M02C Callahan 98.76 45 Pdiff Pdif 06 56 58.6 +1.2
baz=292
MILB Miltenberg 98.81 324 *e*P **P 06 56 56.7 -0.6**
comp=Z,56nm,1.4s,baz=64,slow=4.5
SQTA Sankt Quirin 98.81 321 *i* P **P 06 56 56.7 -0.9**
comp=Z,93nm,1.2s,SNR=18
MOTA Moosalm 98.82 321 *i* P **P 06 56 56.6 -1.1**
comp=Z,72nm,1.0s,SNR=33
L04D Klamath Falls 98.83 44 Pdiff Pdif 06 56 57.9 +0.1
baz=292
F07A Phinny Hill Vi 98.95 40 IAMs_20 IAMs_20 07 32 51.8
comp=Z,4µm,21.0s
RETA Reutte 98.97 322 *i* P **P 06 56 57.9 -0.3**
comp=Z,25nm,1.0s,SNR=7.2
HAWA Hanford 98.99 40 Pdif 06 56 59.1 +0.8
HAWA IAmb IAmb 06 57 02.5
comp=Z,64nm,1.8s
N02D Trinity Center 99.02 46 Pdiff **Pdif 06 56 59.4 +0.8**
baz=292
K04D Chiloquin, OR 99.06 44 Pdiff **Pdif 06 56 59.5 +0.7**
baz=293
PAOL Paolisi 99.06 315 IAMs_20 IAMs_20 07 48 06.5
comp=Z,2µm,20.0s
D08A Wollman Farm, 99.09 39 IAMs_20 IAMs_20 07 33 53.3
comp=Z,3µm,22.0s
TNS Taunus Mts 99.11 325 *e*P **Pdif 06 56 58.4 -0.3**
comp=Z,74nm,1.4s,baz=64,slow=4.5
TNS *e*L L 07 46 23.0
comp=Z,6µm,20.6s
CEL Celeste 99.11 312 **Pdif 06 56 57.5 -1.5**
CEL IAmb IAmb 06 56 60.0
comp=Z,63nm,0.8s
J05D Fort Rock, OR 99.15 43 Pdiff **Pdif 06 57 00.2 +1.0**
baz=293
C09A Chrisman Ranch 99.16 38 **Pdif 06 56 59.4 +0.4**
BUG Bochum--Univer 99.18 326 *e*P **Pdif 06 56 58.3 -0.6**
comp=Z,90nm,1.2s,baz=64,slow=4.5
FETA Feichten 99.19 321 *i* P **Pdif 06 56 58.6 -0.7**
comp=Z,94nm,1.3s,SNR=46
E08A Dider Farm, El 99.25 39 P **Pdif 06 56 59.5 +0.2**
E08A IAmb IAmb 06 57 03.5
comp=Z,76nm,1.7s
O02D Mt. Diablo Mer 99.26 46 Pdiff **Pdif 06 57 00.3 +0.6**
baz=292
WDC Whiskeytown Da 99.28 46 IAMs_20 IAMs_20 07 33 23.4
comp=Z,3µm,22.0s
UBR Ueberruh 99.29 322 *e*P **Pdif 06 56 58.8 -0.8**
comp=Z,74nm,1.1s,baz=64,slow=4.5
M04C Macdoel 99.32 45 Pdiff **Pdif 06 57 00.2 +0.2**
baz=293
DAVA Damuels 99.60 322 *i* P **Pdif 06 57 00.5 -0.6**
comp=Z,34nm,0.8s,SNR=16
MURB Monte Urbino 99.60 317 P **Pdif 06 56 60.0 -1.2**
NEW Newport 99.64 37 Pdiff **Pdif 06 57 01.6 +0.5**
baz=297
AHRW Bad Neuenahr-A 99.73 325 *e*P **Pdif 06 57 01.1 -0.2**
comp=Z,69nm,1.5s,baz=64,slow=4.5
G08A Pilot Rock 99.82 40 IAMs_20 IAMs_20 07 34 01.9
comp=Z,3µm,21.0s
DAVOX Davos/Dischmat 99.82 321 P **Pdif 06 57 01.5 -0.7**
comp=Z,42nm,0.9s,baz=76,slow=4.0,SNR=48
DAVOX PKiKP **PKiKP 07 01 29.9 -0.5**
comp=Z,5.2nm,0.6s,baz=126,slow=2.6,SNR=7.2
O03E Paynes Creek 99.91 46 Pdiff **Pdif 06 57 02.7 +0.1**
baz=292
SALO Salr 99.93 320 IAMs_20 IAMs_20 07 49 41.0
comp=Z,2µm,20.0s
MCCM Marconi Confer 99.93 48 IAMs_20 IAMs_20 07 33 26.8
comp=Z,3µm,20.0s
I07A Izee 99.97 42 IAMs_20 IAMs_20 07 36 41.2
comp=Z,3µm,21.0s
QSPA South Pole Qui 100.00 180 PKKPbc PKKPbc 07 13 20.3 -4.3
comp=Z,8.0nm,1.1s,baz=217,slow=1.3,SNR=13
QSPA South Pole Qui 100.00 180 IAMs_20 IAMs_20 07 41 51.9
comp=Z,2µm,21.0s
BFO Black Forest 100.06 323 *e*P **Pdif 06 57 02.2 -0.8**
comp=Z,39nm,1.4s,baz=64,slow=4.5
BFO *e*L L 07 47 49.0
comp=Z,4µm,20.3s
BTNL Ternell 100.23 326 *d*Pdif **Pdif 06 57 03.3 -0.4**
MEM Membach 100.29 326 *d*Pdif **Pdif 06 57 03.3 -0.6**
ICESG Greenland Ices 100.32 355⇑ *i*P **Pdif 06 57 03.9 -0.2**
ICESG IAmb IAmb 06 57 05.0
comp=Z,19nm,0.8s
ORV Oroville 100.41 47 IAMs_20 IAMs_20 07 33 49.2
comp=Z,3µm,22.0s
BHOU Houvegnez 100.42 326 *d*Pdif **Pdif 06 57 04.3 -0.2**
BHOU *d*PP **PP 07 01 12.2 +1.3**
VAE Valguarnera 100.48 311 P **Pdif 06 57 04.8 -0.4**
comp=Z,20nm,0.4s,baz=39,slow=13,SNR=7.8
BSTI Sart Tilman 100.54 326 *d*Pdif **Pdif 06 57 05.2 +0.2**
WLF Walferdange 100.68 325 *d*Pdif **Pdif 06 57 06.6 +1.0**
WLF Walferdange 100.68 325 *e*P **Pdif 06 57 05.7 +0.1**
comp=Z,106nm,1.1s,baz=64,slow=4.5
BCLA Clavier 100.77 326 *d*Pdif **Pdif 06 57 06.3 +0.2**
BCLA *d*PP **PP 07 01 11.4 -2.1**
ECH Echery 100.80 323 IAMs_20 IAMs_20 07 51 00.9
comp=Z,3µm,19.0s
ILULI Ilulissat 100.82 359⇑ *i*P **Pdif 06 57 05.5 -0.4**
ILULI Ilulissat 100.82 359⇑ *i*P **Pdif 06 57 05.4 -0.4**
BGES Gesves 100.91 326 *d*Pdif **Pdif 06 57 06.7 +0.1**
RCHB Rochefort 100.95 326 *d*Pdif **Pdif 06 57 06.5 -0.3**
J08A Circle Bar Ran 100.96 42 IAMs_20 IAMs_20 07 34 22.2
comp=Z,3µm,22.0s
BMO Blue Mountains 101.06 40 IAMs_20 IAMs_20 07 34 39.8
comp=Z,3µm,22.0s
UCC Uccle 101.09 327 *d*Pdif **Pdif 06 57 07.0 -0.5**
UCC *d*PP **PP 07 01 16.5 +0.6**
BEKR Beckworth 101.10 46 IAMs_20 IAMs_20 07 34 34.4
comp=Z,2µm,21.0s
BMRD Maredsous 101.13 326 *d*Pdif **Pdif 06 57 07.1 -0.5**
WVOR Wild Horse Val 101.24 43 IAMs_20 IAMs_20 07 34 16.8
comp=Z,3µm,22.0s
SNF Seneffe 101.28 326 *d*Pdif **Pdif 06 57 08.3 0.0**
DOU Dourbes 101.33 326 *d*Pdif **Pdif 06 57 08.7 +0.2**
DOU *d*PP **PP 07 01 15.6 -2.2**
BORG Borgarnes 101.39 346 IAMs_20 IAMs_20 07 45 43.4
comp=Z,3µm,22.0s
SAO San Andreas Ge 101.50 49 IAMs_20 IAMs_20 07 33 55.4
comp=Z,3µm,21.0s
PAHR Pah Rah Range 101.85 46 IAMs_20 IAMs_20 07 34 50.3
comp=Z,2µm,20.0s
PMPB Monarch Peak 102.19 49 IAMs_20 IAMs_20 07 34 49.7
comp=Z,3µm,22.0s
MSO Missoula 102.22 37 Pdiff **Pdif 06 57 12.7 -0.1**
baz=300
PAGB Antelope Grade 102.78 50 IAMs_20 IAMs_20 07 34 53.5
comp=Z,3µm,22.0s
MDPB Devils Postpil 102.90 48 IAMs_20 IAMs_20 07 36 34.5
comp=Z,3µm,20.0s
KVN Kaiserville 103.03 46 IAMs_20 IAMs_20 07 35 12.5
comp=Z,3µm,22.0s
SFJD Kangerlussuaq 103.03 359⇑ *i*P **Pdif 06 57 15.7 0.0**
SFJD Kangerlussuaq 103.03 359⇑ *i*P **Pdif 06 57 15.7 0.0**
SFJD Kangerlussuaq 103.03 359 IAMs_20 IAMs_20 07 51 14.9
comp=Z,2µm,20.0s
MLAC Mammoth, Mammt 103.08 48 Pdiff **Pdif 06 57 17.7 +0.7**
baz=294
SMMC Simmler 103.13 50 Pdiff **Pdif 06 57 17.7 +0.8**
baz=293
NVAR Mina Array Bea 103.14 47 Pdiff **Pdif 06 57 17.7 +0.5**
comp=Z,4.8nm,0.7s,baz=276,slow=5.7,SNR=15
NVAR PP **PKiKP 07 01 35.4 -1.3**
comp=Z,1.7nm,0.7s,baz=316,slow=6.2,SNR=4.6
NVAR PKKPbc **PKKPbc 07 13 10.1 -3.7**
comp=Z,10nm,0.8s,baz=138,slow=4.3,SNR=18
VOG Valley Oaks Go 103.20 49 Pdiff **Pdif 06 57 17.1 -0.1**
baz=293
DY2G Dye2 103.38 357⇑ *i*P **Pdif 06 57 17.8 +0.1**
PKM Mcpherson Peak 103.43 50 Pdiff **Pdif 06 57 19.4 +0.9**
baz=293
ANGG Ammassalik, Gr 103.48 353 IAMs_20 IAMs_20 07 51 59.6
comp=Z,3µm,20.0s
VES Vestal, Richgr 103.61 49 Pdiff **Pdif 06 57 18.9 -0.1**
baz=293
TIN Tinemaha, Big 103.76 48 Pdiff **Pdif 06 57 19.3 -0.5**
baz=294
EGMT Eagleton 104.04 35 Pdiff **Pdif 06 57 20.6 -0.2**
baz=303
ARVC Arvin 104.08 50 Pdiff **Pdif 06 57 21.5 +0.3**
baz=294
CWC Cottonwood Cre 104.12 48 Pdiff **Pdif 06 57 21.6 +0.1**
baz=294
BOSA Boshof 104.14 243 Pdiff **Pdif 06 57 20.0 -1.6**
comp=Z,4.6nm,1.0s,baz=79,slow=5.2,SNR=3.8
BOSA PP **PKiKP 07 01 37.5 -1.1**
comp=Z,5.8nm,0.9s,baz=88,slow=9.3,SNR=5.3
BOSA PKKPbc **PKKPbc 07 13 08.2 -2.3**
comp=Z,4.0nm,0.8s,baz=222,slow=5.8,SNR=6.5
BOZ Bozeman (W) 104.23 38 Pdiff **Pdif 06 57 22.2 +0.5**
baz=301
ELK Elko 104.27 43 IAMs_20 IAMs_20 07 36 13.1
comp=Z,3µm,21.0s
SNCC San Nicolas Is 104.28 52 IAMs_20 IAMs_20 07 38 00.5
comp=Z,3µm,21.0s
OSI Osito Audit: C 104.37 50 Pdiff **Pdif 06 57 23.1 +0.6**
baz=293
OSI Osito Audit: C 104.37 50 IAMs_20 IAMs_20 07 35 16.6
comp=Z,3µm,22.0s
GRAC Grapevine Rang 104.41 48 Pdiff **Pdif 06 57 23.0 +0.4**
baz=295
MPMC Manual Prospec 104.71 49 Pdiff **Pdif 06 57 24.8 +0.6**
baz=295
LRMC Laurel Mtn Rad 104.80 49 Pdiff **Pdif 06 57 24.8 +0.3**
baz=294
DECC Green Verdugo 104.81 51 Pdiff **Pdif 06 57 24.5 +0.1**
baz=294
EDW2 Edwards Air Fo 104.81 50 Pdiff **Pdif 06 57 24.7 +0.2**
baz=294
KEST Kesra 104.92 311 Pdiff **Pdif 06 57 24.5 -0.4**
comp=Z,8.1nm,1.1s,baz=251,slow=3.7,SNR=5.1
KEST PP **PP 07 01 49.5 +4.2**
comp=Z,9.2nm,0.9s,baz=30,slow=9.0,SNR=6.7
PASC Pasadena Art C 104.95 51 IAMs_20 IAMs_20 07 35 23.0
comp=Z,3µm,22.0s
FURC Furnace Creek, 105.00 48 Pdiff **Pdif 06 57 25.7 +0.6**
baz=295
FMP Fort Macarthur 105.05 51 Pdiff **Pdif 06 57 26.0 +0.6**
baz=294
CIS Catalina Islan 105.08 51 Pdiff **Pdif 06 57 25.7 +0.1**
baz=293
R11A Troy Canyon, C 105.11 46 Pdiff **Pdif 06 57 26.1 +0.2**
baz=296
R11A Troy Canyon, C 105.11 46 IAMs_20 IAMs_20 07 36 41.5
comp=Z,3µm,21.0s
TPNV Topopah Spring 105.24 47 Pdiff **Pdif 06 57 27.5 +1.1**
baz=296
TPNV Topopah Spring 105.24 47 IAMs_20 IAMs_20 07 38 01.3
comp=Z,2µm,21.0s
BFSC Mount Baldy Ra 105.32 50 Pdiff **Pdif 06 57 27.3 +0.5**
baz=294
H17A Grant Village 105.49 38 Pdiff **Pdif 06 57 28.9 +1.4**
baz=302
GSC Goldstone, Bar 105.53 49 Pdiff **Pdif 06 57 27.9 +0.2**
baz=295
GSC Goldstone, Bar 105.53 49 IAMs_20 IAMs_20 07 36 55.1
comp=Z,2µm,22.0s
RRX Edison Barstow 105.56 49 Pdiff **Pdif 06 57 28.2 +0.4**
baz=295
FLWY Flagg Ranch 105.58 39 IAMs_20 IAMs_20 07 41 20.0
comp=Z,3µm,21.0s
SHOC Shoshone, Teco 105.67 48 Pdiff **Pdif 06 57 28.3 +0.1**
baz=295
BBRC Big Bear Solar 105.87 50 Pdiff **Pdif 06 57 30.3 +0.9**
baz=294
RLMT Red Lodge 105.89 37 Pdiff **Pdif 06 57 28.5 -0.8**
baz=303
MURC Murrieta 105.94 51 Pdiff **Pdif 06 57 29.6 +0.2**
baz=294
AHID Auburn Hatcher 106.01 40 IAMs_20 IAMs_20 07 37 41.5
comp=Z,3µm,22.0s
HEC Hector,Ludlow 106.08 49 Pdiff **Pdif 06 57 31.5 +1.4**
baz=295
TUQ Turquoise Moun 106.13 49 Pdiff **Pdif 06 57 31.0 +0.6**
baz=296
DUG Dugway, Tooele 106.16 43 Pdiff **Pdif 06 57 30.6 +0.1**
baz=299
DUG Dugway, Tooele 106.16 43 IAMs_20 IAMs_20 07 37 02.1
comp=Z,3µm,22.0s
SHPR Sheep Range 106.22 47 IAMs_20 IAMs_20 07 39 02.3
comp=Z,2µm,20.0s
109C Camp Elliot, M 106.29 51 Pdiff **Pdif 06 57 30.7 -0.3**
baz=294
109C Camp Elliot, M 106.29 51 IAMs_20 IAMs_20 07 39 00.6
comp=Z,2µm,21.0s
TJX Tijuana 106.48 52 IAMs_20 IAMs_20 07 38 56.8
comp=Z,3µm,21.0s
PFO Pinyon Flats O 106.49 50 Pdiff **Pdif 06 57 32.5 +0.4**
baz=295
TPFO Pinon Flats 106.50 50 Pdiff **Pdif 06 57 33.1 +1.0**
baz=295
GMRC Granite Mounta 106.60 49 Pdiff **Pdif 06 57 32.5 -0.1**
baz=296
MAHO Mahon 106.64 317 P **Pdif 06 57 20.1 -12**
MAHO SKS SKSdf 07 08 25.1 -26
BELC Belle Mtn. Jos 106.68 50 Pdiff **Pdif 06 57 33.2 +0.3**
baz=295
BAR Barrett 106.71 51 IAMs_20 IAMs_20 07 39 11.7
comp=Z,3µm,21.0s
LAO LASA Array 106.77 35 Pdiff **Pdif 06 57 33.5 +0.5**
baz=306
TKX Tecate 106.80 52 IAMs_20 IAMs_20 07 39 00.2
comp=Z,2µm,21.0s
DGMT Dagmar 106.81 32 Pdiff **Pdif 06 57 33.3 +0.3**
baz=308
MONP2 Monument Peak 106.81 51 Pdiff **Pdif 06 57 34.7 +1.1**
baz=294
BW06 Boulder Array 106.98 39 Pdiff **Pdif 06 57 34.3 +0.1**
baz=302
PDAR Pinedale Array 106.98 39 Pdiff **Pdif 06 57 34.4 +0.2**
comp=Z,1.1nm,0.8s,baz=242,slow=3.2,SNR=9.9
PDAR PKiKP **PKiKP 07 01 43.1 -0.5**
comp=Z,1.7nm,0.8s,baz=270,slow=0.4,SNR=3.2
PDAR PKKPbc **PKKPbc 07 12 59.8 -2.6**
comp=Z,7.0nm,0.8s,baz=128,slow=4.6,SNR=34
CCX Cicese 107.04 52 IAMs_20 IAMs_20 07 36 36.7
comp=Z,3µm,22.0s
IKP In-Ko-Pah, Jac 107.15 51 Pdiff **Pdif 06 57 35.7 +0.7**
baz=295
RMX La Rumorosa 107.20 51 IAMs_20 IAMs_20 07 39 36.2
comp=Z,3µm,22.0s

BC3	Big Chuckawall	107.23	50	Pdiff	Pdif	06 57 36.6	+1.3	
	baz=295							
IRM	Iron Mountain	107.25	49	Pdiff	Pdif	06 57 35.9	+0.6	
	baz=296							
SWSC	Sam W. Stewart	107.27	51	Pdiff	Pdif	06 57 35.5	+0.2	
	baz=295							
PDMCI	Parker Dam,Lak	107.94	49	Pdiff	Pdif	06 57 37.1	-1.1	
	baz=296							
GLA	Glamis	107.97	50	Pdiff	Pdif	06 57 39.2	+0.7	
	baz=296							
GUVIX	Guadalupe Vict	108.09	51	IAMs_20	IAMs_20	07 39 43.3		
	comp=Z,2µm,20.0s							
SUR	Sutherland	108.13	239	IAMs_20	IAMs_20	07 42 56.5		
	comp=Z,3µm,21.0s							
U15A	North Rim	108.31	46	IAMs_20	IAMs_20	07 38 11.5		
	comp=Z,3µm,22.0s							
SPX	San Pedro Mart	108.32	53	IAMs_20	IAMs_20	07 36 22.4		
	comp=Z,3µm,21.0s							
SFX	San Felipe	108.80	52	IAMs_20	IAMs_20	07 36 46.1		
	comp=Z,2µm,21.0s							
K22A	Casper	108.91	38	Pdiff	Pdif	06 57 42.5	-0.2	
	baz=304							
K22A	Casper	108.91	38	IAMs_20	IAMs_20	07 40 14.2		
	comp=Z,3µm,21.0s							
Y14A	Wickenburg	108.94	49	IAMs_20	IAMs_20	07 39 51.4		
	comp=Z,3µm,21.0s							
O20A	White River Ci	109.21	41	Pdiff	Pdif	06 57 44.6	+0.5	
	baz=302							
O20A	White River Ci	109.21	41	IAMs_20	IAMs_20	07 38 10.5		
	comp=Z,2µm,22.0s							
WUAZ	Wupatki	109.40	47	Pdiff	Pdif	06 57 46.0	+1.0	
	baz=299							
RSSD	Black Hills	109.53	36	Pdiff	Pdif	06 57 45.6	+0.1	
	baz=307							
MDND	Maddock	109.57	31	Pdiff	Pdif	06 57 44.6	-0.6	
	baz=312							
ULM	Lac du Bonnet	109.68	27	PKiKP	PKiKP	07 01 47.9	-0.3	
	comp=Z,7.7nm,1.1s,baz=300,slow=1.7,SNR=4.6							
ULM				PKKPbc	PKKPbc	07 12 50.8	-3.1	
	comp=Z,11nm,0.7s,baz=99,slow=1.8,SNR=14							
ULM				PKKPab	PKKPab	07 13 01.4	-4.3	
	comp=Z,10nm,0.9s,baz=139,slow=3.9,SNR=5.7							
PV04	Paradox Valley	109.69	43	IAMs_20	IAMs_20	07 40 33.5		
	comp=Z,2µm,20.0s							
X16A	Lo Mia Camp, P	109.87	48	IAMs_20	IAMs_20	07 39 46.8		
	comp=Z,2µm,21.0s							
214A	Organ Pipe Nat	109.97	51	Pdiff	Pdif	06 57 48.1	+0.7	
	baz=297							
214A	Organ Pipe Nat	109.97	51	IAMs_20	IAMs_20	07 40 53.9		
	comp=Z,2µm,20.0s							
N23A	Red Feather La	110.26	40	Pdiff	Pdif	06 57 49.6	+0.7	
	baz=304							
TSUM	Tsumeb	110.53	253	IAMs_20	IAMs_20	07 43 44.7		
	comp=Z,3µm,22.0s							
MVCO	Mesa Verde	110.58	44	Pdiff	Pdif	06 57 50.2	-0.1	
	baz=301							
W18A	Petrified Fore	110.77	46	Pdiff	Pdif	06 57 52.2	+1.1	
	baz=300							
W18A	Petrified Fore	110.77	46	IAMs_20	IAMs_20	07 40 08.3		
	comp=Z,2µm,22.0s							
X18A	Snowflake	110.90	47	IAMs_20	IAMs_20	07 40 25.0		
	comp=Z,3µm,22.0s							
AGMN	Agassiz Nation	111.08	29	Pdiff	Pdif	06 57 52.4	+0.5	
	baz=315							
AGMN	Agassiz Nation	111.08	29	IAMs_20	IAMs_20	07 48 04.2		
	comp=Z,2µm,21.0s							
ISCO	Idaho Springs	111.08	40	Pdiff	Pdif	06 57 51.9	-0.7	
	baz=304							
SNAA	Sanae	111.17	195	P	Pdif	06 57 52.8	+0.9	
SNAA	Sanae	111.17	195	PKKPbc	PKKPbc	07 12 46.8	-2.9	
	comp=Z,11nm,0.7s,baz=271,slow=4.1,SNR=48							
UCM	Universidad Co	111.31	321	P	Pdif	06 57 50.9	-2.4	
D32A	Dogwood Acres,	111.34	30	IAMs_20	IAMs_20	07 46 11.3		
	comp=Z,3µm,22.0s							
TUC	Tucson	111.34	50	Pdiff	Pdif	06 57 54.3	+0.7	
	baz=298							
TUC	Tucson	111.34	50	IAMs_20	IAMs_20	07 38 49.0		
	comp=Z,3µm,22.0s							
CART	Cartagena	111.36	317	P	Pdif	06 57 53.7	+0.2	
CART	Cartagena	111.36	317	PS	PS	07 11 43.9	-21	
CART	Cartagena	111.36	317	IAMs_20	IAMs_20	07 52 45.1		
	comp=Z,2µm,22.0s							
S22A	4UR Ranch, Cre	111.42	43	Pdiff	Pdif	06 57 55.0	+0.9	
	baz=303							
Q24A	Divide	111.85	41	Pdiff	Pdif	06 57 56.2	+0.2	
	baz=304							
ES19	SONSECA Array	112.07	320	IAMs_20	IAMs_20	07 54 25.6		
	comp=Z,3µm,21.0s							
ES08	SONSECA Array	112.09	320	IAMs_20	IAMs_20	07 54 28.1		
	comp=Z,3µm,22.0s							
ES02	SONSECA Array	112.11	320	IAMs_20	IAMs_20	07 54 26.5		
	comp=Z,3µm,22.0s							
ES03	SONSECA Array	112.11	320	IAMs_20	IAMs_20	07 54 36.7		
	comp=Z,2µm,21.0s							
ES11	SONSECA Array	112.11	320	IAMs_20	IAMs_20	07 54 26.7		
	comp=Z,3µm,22.0s							
ES17	SONSECA Array	112.12	320	IAMs_20	IAMs_20	07 54 12.8		
	comp=Z,2µm,21.0s							
ES01	SONSECA Array	112.12	320	IAMs_20	IAMs_20	07 54 27.8		
	comp=Z,3µm,22.0s							
ES06	SONSECA Array	112.12	320	IAMs_20	IAMs_20	07 54 27.8		
	comp=Z,3µm,22.0s							
ES04	SONSECA Array	112.12	320	IAMs_20	IAMs_20	07 54 28.0		
	comp=Z,3µm,22.0s							
ESBB	Sonseca Array	112.12	320	IAMs_20	IAMs_20	07 54 27.0		
	comp=Z,3µm,22.0s							
ESDC	Sonseca Array	112.12	320	Pdiff	Pdif	06 57 56.8	-0.1	
	comp=Z,0.2nm,0.5s,baz=61,slow=3.0,SNR=2.0							
ESDC				PKiKP	PKiKP	07 01 52.9	-0.3	
	comp=Z,3.6nm,0.9s,baz=19,slow=2.6,SNR=12							
ESDC				PP	PP	07 02 37.3	-0.1	
	comp=Z,7.2nm,1.1s,baz=48,slow=7.8,SNR=6.3							
ESDC				PKKPbc	PKKPbc	07 12 44.5	-1.1	
	comp=Z,1.2nm,0.9s,baz=240,slow=2.8,SNR=4.1							
ES05	SONSECA Array	112.13	320	IAMs_20	IAMs_20	07 54 13.2		
	comp=Z,3µm,22.0s							
ES13	SONSECA Array	112.14	320	IAMs_20	IAMs_20	07 54 12.5		
	comp=Z,2µm,21.0s							
SUSD	Miller	112.16	33	Pdiff	Pdif	06 57 57.3	+0.4	
	baz=312							
SDCO	Great Sand Dun	112.30	42	Pdiff	Pdif	06 57 58.6	+0.6	
	baz=304							
SRIG	Santa Rosalia	112.43	55	IAMs_20	IAMs_20	07 39 56.5		
	comp=Z,2µm,20.0s							
PAB	San Pablo	112.44	320	P		07 01 54.7		
PBRG	Braganca	112.53	324	*e*PKPdf	PKiKP	07 01 54.4	+0.5	
PBRG	Braganca	112.53	324	*e*PP	PP	07 02 41.5	+1.3	
F33A	5 Mile Ranch,	112.60	31	IAMs_20	IAMs_20	07 46 47.7		
	comp=Z,3µm,22.0s							
OGNE	Ogallala	112.63	38	Pdiff	Pdif	06 57 58.4	-0.7	
	baz=308							
HSIG		112.72	53	IAMs_20	IAMs_20	07 42 41.9		
	comp=Z,2µm,20.0s							
VNA2	Neumayer--Watz	112.80	195	P	Pdif	06 58 03.3	+4.3	
	baz=123,slow=3.9							
319A	Douglas	112.91	50	IAMs_20	IAMs_20	07 39 57.6		
	comp=Z,3µm,22.0s							
MVO	Moncorvo	113.10	323	*e*PKPdf	PKiKP	07 01 55.5	+0.5	
MVO	Moncorvo	113.10	323	*e*PP	PP	07 02 45.2	+1.0	
MVO				*i* LQ	LQ	07 12 24.9		
MVO	Moncorvo	113.10	323	*e*LR	LR	07 37 11.5		
	comp=Z,2µm,22.0s							
VNA3	Neumayer Olymp	113.16	194	P	Pdif	06 58 04.9	+4.3	
ANMO	Albuquerque	113.17	45	Pdiff	Pdif	06 58 02.1	+0.3	
	baz=302							
VNA1	Neumayer--Stat	113.19	195	P	Pdif	06 58 04.9	+4.2	
PGAV	Gavieira, Arco	113.32	324	*e*PKPdf	PKiKP	07 01 55.6	+0.1	
PGAV	Gavieira, Arco	113.32	324	*e*PP	PP	07 02 44.4	-1.4	
PGAV				*i* LQ	LQ	07 12 31.7		
PGAV	Gavieira, Arco	113.32	324	*e*LR	LR	07 37 29.5		
	comp=Z,3µm,20.0s							
EYMN	Ely	113.32	26	Pdiff	Pdif	06 58 02.1	+0.1	
	baz=320							
PCAB	Cabril	113.34	324	*e*PKPdf	PKiKP	07 01 56.0	+0.6	
PCAB	Cabril	113.34	324	*e*PP	PP	07 02 43.2	-2.7	
T25A	Trinidad	113.36	42	Pdiff	Pdif	06 58 03.4	+0.8	
	baz=304							
POLO	Lamas de Olo	113.42	324	*e*PKPdf	PKiKP	07 01 56.1	+0.4	
POLO				*i* LQ	LQ	07 02 07.2		
POLO	Lamas de Olo	113.42	324	*e*PP	PP	07 02 46.2	-0.3	
PVRL	Vila Real	113.44	324	*e*PKPdf	PKiKP	07 01 56.3	+0.7	
121A	Cookes Peak, D	113.46	48	Pdiff	Pdif	06 58 04.3	+1.2	
	baz=300							
121A	Cookes Peak, D	113.46	48	IAMs_20	IAMs_20	07 43 14.8		
	comp=Z,2µm,20.0s							
TAF	Taforalt	113.81	315	P		07 01 58.0		
MTE	Manteigas	113.88	323	*e*PKP	PKiKP	07 01 57.0	+0.4	
MTE	Manteigas	113.88	323	*e*PP	PP	07 02 50.9	+1.1	
MTE				*i* LQ	LQ	07 12 29.2		
MTE	Manteigas	113.88	323	*e*LR	LR	07 39 29.6		
	comp=Z,2µm,22.0s							
MTE	Manteigas	113.88	323	IAMs_20	IAMs_20	07 59 28.4		
	comp=Z,2µm,20.0s							
ECSD	EROS Data Cent	113.89	32	Pdiff	Pdif	06 58 05.2	+0.6	
	baz=313							
PVIS	Viseu	113.89	323	*e*PKPdf	PKiKP	07 01 57.0	+0.5	
PVIS				*i* LQ	LQ	07 02 08.7		
PVIS	Viseu	113.89	323	*e*PP	PP	07 02 52.3	+2.5	
MELI	Melilla	113.91	316	P	Pdif	06 58 06.7	+1.9	
MELI	Melilla	113.91	316	PS	PS	07 12 34.5	+6.4	
EMAL	Malaga-Limoner	114.10	318	P	Pdif	06 58 04.2	-1.4	
EMAL	Malaga-Limoner	114.10	318	PS	PS	07 12 16.9	-13	
JBK	JBK	114.17	315	P		07 01 59.0		
PCBR	Castelo Branco	114.19	322	*e*PKPdf	PKPdf	07 01 58.4	+1.3	
PCBR				*i* LQ	LQ	07 02 10.3		
SCHQ	Schefferville	114.38	8	PKP	PKiKP	07 01 56.9	-0.1	
	comp=Z,5.1nm,0.7s,baz=348,slow=3.7,SNR=5.7							
SCHQ				PP	PP	07 02 53.8	+1.3	
	comp=Z,8.4nm,0.9s,baz=331,slow=9.0,SNR=3.8							
SCHQ				PKKPab	PKKPbc	07 12 41.4	+2.9	
	comp=Z,6.8nm,0.8s,baz=216,slow=1.0,SNR=4.4							
SCHQ	Schefferville	114.38	8	IAMs_20	IAMs_20	07 50 33.6		
	comp=Z,3µm,22.0s							
FIGM	Figuig	114.39	312	P		07 01 59.0		
PMRV	Marv??o	114.39	322	*e*PKPdf	PKPdf	07 01 57.9	+0.4	
PMRV				*i* LQ	LQ	07 02 09.0		
PMRV	Marv??o	114.39	322	*e*PP	PP	07 02 54.7	+1.3	
PMRV				*i* LQ	LQ	07 12 42.9		
PMRV	Marv??o	114.39	322	*e*LR	LR	07 39 29.6		
	comp=Z,3µm,22.0s							
COI	Coimbra	114.52	323	*e*PP	PP	07 02 55.3	+1.1	
BGNE	Belgrade	114.61	35	Pdiff	Pdif	06 58 07.0	-0.9	
	baz=311							
PCAS	Casmilo, Conde	114.67	323	*e*PKPdf	PKPdf	07 01 58.4	+0.4	
PCAS	Casmilo, Conde	114.67	323	*e*PP	PP	07 02 50.3	-5.0	
SPMN	Marine on St.	114.75	29	Pdiff	Pdif	06 58 07.8	-0.6	
	baz=317							
SPMN	Marine on St.	114.75	29	IAMs_20	IAMs_20	07 58 05.5		
	comp=Z,2µm,20.0s							
EPT	El Paso	114.78	48	IAMs_20	IAMs_20	07 44 32.8		
	comp=Z,2µm,21.0s							
PESTR	Estremoz	114.86	321	*e*PKPdf	PKPdf	07 01 59.0	+0.6	
PESTR	Estremoz	114.86	321	*e*PP	PP	07 02 57.8	+1.1	
PVLZ	Peæn de	114.91	316	P	Pdif	06 58 13.0	+3.7	
PVLZ	Peæn de	114.91	316	PS	PS	07 12 34.1	-3.2	
PBAR	Barrancos	114.94	321	*e*PKPdf	PKPdf	07 01 59.0	+0.4	
PBAR				*i* LQ	LQ	07 02 10.2		
PBAR	Barrancos	114.94	321	*e*PP	PP	07 02 57.8	+0.5	
PMTG	Montargil	115.12	322	*e*PKPdf	PKPdf	07 01 59.2	+0.3	
PMTG	Montargil	115.12	322	*e*PP	PP	07 02 59.4	+0.9	
PSBE	So Bento	115.19	323	*e*PKPdf	PKPdf	07 01 59.4	+0.4	
PSBE				*i* LQ	LQ	07 02 11.4		
PSBE	So Bento	115.19	323	*e*PP	PP	07 02 59.8	+0.8	
CEU	Ceuta	115.22	318	PP	PP	07 02 51.0	-8.3	
CEU	Ceuta	115.22	318	PS	PS	07 12 40.1	+0.1	
EVO	Evora	115.33	321	P	Pdif	06 58 10.7	-0.4	
EVO	Evora	115.33	321	PS	PS	07 12 38.4	-2.6	
EVO	Evora	115.33	321	*e*PKPdf	PKPdf	07 02 00.6	+1.3	
EVO	Evora	115.33	321	*e*PP	PP	07 02 59.3	-0.7	
CBKS	Cedar Bluff	115.33	38	Pdiff	Pdif	06 58 11.2	0.0	
	baz=309							
CBKS	Cedar Bluff	115.33	38	IAMs_20	IAMs_20	07 42 37.1		
	comp=Z,3µm,22.0s							
I37A	Lemond, Waseca	115.34	30	IAMs_20	IAMs_20	07 44 27.2		
	comp=Z,2µm,22.0s							
SMIR	Smir Dam	115.35	317	P		07 02 00.1		
SFS	San Fernando	115.43	319	PP	PP	07 03 05.6	+4.8	
SFS	San Fernando	115.43	319	PS	PS	07 12 47.3	+5.3	
PBEJ	Beja	115.55	321	*e*PKPdf	PKPdf	07 02 00.4	+0.7	
PBEJ				*i* LQ	LQ	07 02 11.7		
MNTX	Cornudas Mount	115.63	48	Pdiff	Pdif	06 58 13.2	+0.6	
	baz=302							
CHEFC	Chefchaouen	115.65	317	P		07 02 02.0		
COWI	Conover	115.77	26	IAMs_20	IAMs_20	07 50 37.1		
	comp=Z,2µm,22.0s							
PMAFR	Mafra	115.83	322	*e*PKPdf	PKPdf	07 02 02.3	+2.0	
PVAQ	Vaqueiros	115.84	320	*e*PKPdf	PKPdf	07 02 01.5	+1.2	
PVAQ	Vaqueiros	115.84	320	*e*PP	PP	07 03 02.8	-0.8	
PVAQ				*i* LQ	LQ	07 12 53.6		
PVAQ	Vaqueiros	115.84	320	*e*LR	LR	07 40 25.6		
	comp=Z,2µm,20.0s							
PVAQ	Vaqueiros	115.84	320	IAMs_20	IAMs_20	07 56 50.4		
	comp=Z,3µm,21.0s							
SLBS	Sierra La Lagu	115.84	58	IAMs_20	IAMs_20	07 40 07.3		
	comp=Z,3µm,22.0s							
MESJ	Messejana	115.89	321	*e*PP	PP	07 03 04.5	+0.6	
MESJ				IAMs_20	IAMs_20	07 53 39.0		
	comp=N,3µm,19.0s							
MESJ	Messejana	115.89	321	*e*PKPdf	PKPdf	07 02 00.6	+0.2	
MESJ	Messejana	115.89	321	*e*PP	PP	07 03 05.1	+1.2	
PCVE	Castro Verde	115.90	321	*e*PKPdf	PKPdf	07 02 00.9	+0.5	
PCVE				*i* LQ	LQ	07 02 12.9		
PCVE	Castro Verde	115.90	321	*e*PP	PP	07 03 03.9	-0.1	
LIS	Lisbon	115.91	322	*e*PP	PP	07 03 04.6	+0.7	
LIS				IAMs_20	IAMs_20	07 56 38.3		
	comp=N,5µm,34.7s							
PNCL	Nicolau / Gran	115.91	321	*e*PKPdf	PKPdf	07 02 00.5	+0.1	
PNCL				*i* LQ	LQ	07 02 12.2		
PNCL	Nicolau / Gran	115.91	321	*e*PP	PP	07 02 59.1	-4.9	
G40A	Rib Lake	115.94	28	IAMs_20	IAMs_20	07 53 40.7		
	comp=Z,2µm,22.0s							
PBDV	Barranco-do-Ve	116.07	320	*e*PKPdf	PKPdf	07 02 02.1	+1.3	
PBDV				*i* LQ	LQ	07 02 13.5		
PBDV	Barranco-do-Ve	116.07	320	*e*PP	PP	07 03 06.3	+1.0	
LCRM	LCR	116.12	315	P		07 02 02.0		
R32A	Long Quarter,	116.20	38	IAMs_20	IAMs_20	07 44 43.1		
	comp=Z,3µm,22.0s							
MSTX	Muleshoe	116.25	44	Pdiff	Pdif	06 58 16.3	+0.9	
	baz=305							
PTEO	Sao Teotonio	116.38	321	*e*PKPdf	PKiKP	07 02 01.9	+0.6	
PTEO				*i* LQ	LQ	07 02 13.3		
IFR	Ifrane	116.40	315	P	Pdif	06 58 15.8	-0.4	
IFR	Ifrane	116.40	315	PS	PS	07 12 38.3	-13	
MDT	Midelt	116.43	314	P		07 02 01.9		
AMTX	Amarillo	116.46	43	Pdiff	Pdif	06 58 16.3	0.0	
	baz=306							
F42A	Maple Grove Fa	116.48	26	IAMs_20	IAMs_20	07 56 35.7		
	comp=Z,2µm,22.0s							
MORF	Marmelete	116.48	321	*e*PP	PP	07 03 08.7	+0.5	
MORF				IAMs_20	IAMs_20	07 56 45.7		
	comp=E,4µm,34.6s							
MORF	Marmelete	116.48	321	*e*PKP	PKiKP	07 02 02.2	+0.6	
MORF				*i* LQ	LQ	07 02 13.9		
MORF	Marmelete	116.48	321	*e*PP	PP	07 03 08.7	+0.5	
CZD	Col de Zad	116.61	315	P		07 02 04.0		
PFVI	Vila Bisbo	116.70	321	*e*PKPdf	PKiKP	07 02 02.4	+0.4	
PFVI				*i* LQ	LQ	07 02 13.4		
PFVI	Vila Bisbo	116.70	321	*e*PP	PP	07 03 10.7	+1.1	
I40A	Norwalk	116.79	29	IAMs_20	IAMs_20	07 49 24.3		
	comp=Z,2µm,21.0s							
SCIA	State Center	116.95	32	IAMs_20	IAMs_20	07 55 09.0		
	comp=Z,2µm,21.0s							
KSU1	Kansas State U	117.01	36	IAMs_20	IAMs_20	07 49 25.3		
	comp=Z,3µm,22.0s							
U32A	Winter Ranch,	117.31	40	IAMs_20	IAMs_20	07 44 32.6		
	comp=Z,2µm,22.0s							
ZHG	ZHG	117.48	316	P		07 02 04.0		
I42A	Draeger Farm,	117.58	28	IAMs_20	IAMs_20	07 54 37.3		
	comp=Z,2µm,21.0s							
H43A	Windswept, Lux	117.65	27	IAMs_20	IAMs_20	07 54 05.8		
	comp=Z,2µm,21.0s							
KS20	Mayfield South	117.67	38	IAMs_20	IAMs_20	07 47 30.0		
	comp=Z,3µm,22.0s							
KAN09	Caldwell North	117.69	38	PKPdf	PKiKP	07 02 04.0	+0.1	
JFWS	Jewell Farm	117.70	29	IAMs_20	IAMs_20	07 46 26.5		
	comp=Z,2µm,20.0s							
N38A	Joes South For	117.73	33	IAMs_20	IAMs_20	07 52 54.9		
	comp=Z,2µm,21.0s							
AVE	Averroes	118.09	316	P	Pdif	06 58 26.0	+2.5	
AVE	Averroes	118.09	316	PS	PS	07 13 04.3	-2.0	
TXAR	Lajitas Array	118.13	49	Pdiff	Pdif	06 58 29.6	+5.8	
	comp=Z,0.4nm,0.8s,baz=312,slow=4.1,SNR=5.9							
TXAR				PKP	PKPdf	07 02 04.9	-0.2	
	comp=Z,11nm,0.9s,baz=239,slow=1.1,SNR=50							
TXAR				PKKPbc	PKKPbc	07 12 21.8	-2.9	
	comp=Z,1.8nm,0.8s,baz=136,slow=5.7,SNR=9.4							
TXAR	Lajitas Array	118.13	49	PKIKP	PKPdf	07 02 05.0	-0.1	
TZRR	Tazzarine	118.22	313	P		07 02 06.0		
T35A	Sooner Cattle	118.51	38	IAMs_20	IAMs_20	07 47 54.1		
	comp=Z,2µm,21.0s							
I45A	Fountain	118.66	26	IAMs_20	IAMs_20	08 01 09.6		
	comp=Z,2µm,19.0s							
GLMI	Grayling	118.70	24	IAMs_20	IAMs_20	07 54 44.4		
	comp=Z,2µm,22.0s							
K43A	Burlington	118.77	28	IAMs_20	IAMs_20	07 55 02.7		
	comp=Z,2µm,21.0s							
SRHM	Skhour des Reh	118.91	316	P		07 02 08.0		
ABTX	Abilene, Hawle	119.16	44	IAMs_20	IAMs_20	07 44 44.2		
	comp=Z,2µm,22.0s							
TIO	Tiouine	119.35	314	P	Pdif	06 58 28.5	-0.8	
TIO	Tiouine	119.35	314	PS	PS	07 13 14.2	-3.9	
L44A	Lake County Fo	119.38	28	IAMs_20	IAMs_20	07 46 51.7		
	comp=Z,2µm,22.0s							
OUK	Oukaimeden	119.62	315	P		07 02 09.0		
HQIL	Hanson Quary C	119.70	29	IAMs_20	IAMs_20	07 51 11.2		
	comp=Z,2µm,22.0s							
J47A	Sunmer	119.91	26	IAMs_20	IAMs_20	07 53 46.6		
	comp=Z,2µm,20.0s							
HDIL	Hopedale	119.95	31	IAMs_20	IAMs_20	07 47 16.1		
	comp=Z,2µm,22.0s							
TOC2	Torodi Ar. Sit	120.02	292	IAMs_20	IAMs_20	08 00 50.9		
	comp=Z,2µm,20.0s							
TOC3	Torodi Ar. Sit	120.03	292	IAMs_20	IAMs_20	08 00 51.1		
	comp=Z,2µm,20.0s							
TOC1	Torodi Ar. Sit	120.03	292	IAMs_20	IAMs_20	08 00 50.2		
	comp=Z,2µm,20.0s							
R40A	Maddies Statio	120.04	34	IAMs_20	IAMs_20	07 52 20.0		
	comp=Z,2µm,20.0s							
TOA2	Torodi Ar. Sit	120.04	292	IAMs_20	IAMs_20	07 58 49.5		
	comp=Z,2µm,21.0s							
TOB3	Torodi Ar. Sit	120.04	292	IAMs_20	IAMs_20	07 58 49.5		
	comp=Z,2µm,21.0s							
TOB1	Torodi Ar. Sit	120.04	292	IAMs_20	IAMs_20	07 58 50.5		
	comp=Z,2µm,21.0s							
TOA0	Torodi Ar. Sit	120.05	292	IAMs_20	IAMs_20	07 58 50.6		
	comp=Z,2µm,21.0s							
TORD	Torodi Ar. Bea	120.05	292	PKP	PKPdf	07 02 07.7	-1.3	
	comp=Z,58nm,0.8s,baz=44,slow=1.7,SNR=124							
TORD				PKKPbc	PKKPbc	07 12 15.1	-2.1	
	comp=Z,3.0nm,0.8s,baz=264,slow=3.8,SNR=5.9							
TOA3	Torodi Ar. Sit	120.05	292	IAMs_20	IAMs_20	07 58 49.7		
	comp=Z,2µm,21.0s							
TOC4	Torodi Ar. Sit	120.05	292	IAMs_20	IAMs_20	07 58 49.7		
	comp=Z,2µm,21.0s							
TOC7	Torodi Ar. Sit	120.06	292	IAMs_20	IAMs_20	07 58 50.8		
	comp=Z,2µm,21.0s							
TOB5	Torodi Ar. Sit	120.06	292	IAMs_20	IAMs_20	07 58 50.9		
	comp=Z,2µm,21.0s							
TOB4	Torodi Ar. Sit	120.06	292	IAMs_20	IAMs_20	07 58 51.0		
	comp=Z,2µm,21.0s							
TOC5	Torodi Ar. Sit	120.07	292	IAMs_20	IAMs_20	07 58 50.3		
	comp=Z,3µm,21.0s							
U38A	Gravette	120.10	37	IAMs_20	IAMs_20	07 52 23.2		
	comp=Z,2µm,22.0s							
I49A	Point Hope	120.16	24	IAMs_20	IAMs_20	07 57 38.8		
	comp=Z,2µm,21.0s							
L46A	Eue Claire	120.25	27	IAMs_20	IAMs_20	07 55 32.8		
	comp=Z,2µm,22.0s							
JCT	Junction City	120.30	46	IAMs_20	IAMs_20	07 48 20.7		
	comp=Z,2µm,20.0s							
TTIG	Tnine Tigouga,	120.40	314	P		07 02 11.0		
HHAR	Hobbs	120.47	37	IAMs_20	IAMs_20	07 47 28.0		
	comp=Z,2µm,21.0s							
P43A	Skaggs, Pawnee	120.52	31	IAMs_20	IAMs_20	07 58 57.4		

PKME Peaks-Kenny Pk 123.16 13 IAMs_20 IAMs_20 07 59 34.2
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 123.16 26 IAMs_20 IAMs_20 07 59 08.7
comp=Z,2µm,21.0s
VT1 Waterbury 123.19 16 IAMs_20 IAMs_20 07 54 22.5
comp=Z,2µm,22.0s
WCI Wyandotte Cave 123.22 30 IAMs_20 IAMs_20 08 00 45.8
comp=Z,2µm,22.0s
J58A Remsen 123.34 18 IAMs_20 IAMs_20 08 01 31.4
comp=Z,2µm,22.0s
HALT Halls 123.37 34 IAMs_20 IAMs_20 07 51 09.3
comp=Z,2µm,22.0s
CCAR Cane Creek 123.39 38 IAMs_20 IAMs_20 07 48 44.1
comp=Z,3µm,22.0s
LBNH Lisbon 123.49 15 IAMs_20 IAMs_20 08 00 54.2
comp=Z,2µm,21.0s
G65A Princeton 123.58 11 IAMs_20 IAMs_20 08 05 20.2
comp=Z,2µm,20.0s
N53A Lisbon 123.58 24 IAMs_20 IAMs_20 07 55 35.6
comp=Z,3µm,22.0s
R49A Shelbyville 123.72 29 IAMs_20 IAMs_20 07 50 30.8
comp=Z,2µm,22.0s
P51A Williamsport 123.74 27 IAMs_20 IAMs_20 07 54 58.1
comp=Z,2µm,22.0s
WVL Waterville 123.74 13 IAMs_20 IAMs_20 08 00 05.6
comp=Z,2µm,20.0s
O52A Adamsville 123.75 25 IAMs_20 IAMs_20 07 58 25.2
comp=Z,2µm,22.0s
T47A Sharon Grove 123.77 32 IAMs_20 IAMs_20 07 48 47.3
comp=Z,2µm,22.0s
N54A Moraine State 123.79 24 IAMs_20 IAMs_20 08 01 55.0
comp=Z,2µm,20.0s
GGN Saint George 123.80 11 IAMs_20 IAMs_20 08 05 04.0
comp=Z,2µm,21.0s
ACCN Adirondack Com 123.80 17 IAMs_20 IAMs_20 07 52 55.6
comp=Z,2µm,22.0s
M55A Ridgway 123.82 22 IAMs_20 IAMs_20 08 04 01.7
comp=Z,2µm,19.0s
HNH Hanover 123.89 16 IAMs_20 IAMs_20 08 06 10.9
comp=Z,2µm,19.0s
O53A New Philadelph 123.90 25 IAMs_20 IAMs_20 08 02 59.0
comp=Z,2µm,20.0s
I62A Tamworth 123.99 15 IAMs_20 IAMs_20 08 01 28.2
comp=Z,2µm,21.0s
Q51A Peebles 123.99 27 IAMs_20 IAMs_20 08 00 40.6
comp=Z,2µm,21.0s
PMPST Porto Santo, M 124.00 322 *e*PKPdf PKiKP 07 02 17.0 +0.6
PMPST *i* LQ LQ 07 02 27.5
PMPST Porto Santo, M 124.00 322 *e*PP PP 07 03 59.4 -0.2
I63A Otisfield 124.01 14 IAMs_20 IAMs_20 07 56 32.8
comp=Z,2µm,22.0s
WVT Waverly 124.03 33 IAMs_20 IAMs_20 08 05 56.6
comp=Z,2µm,20.0s
EMMW East Machias 124.07 12 IAMs_20 IAMs_20 07 56 13.2
comp=Z,2µm,21.0s
R50A Paris 124.13 29 IAMs_20 IAMs_20 08 01 20.6
comp=Z,2µm,22.0s
BINY Binghamton 124.16 20 IAMs_20 IAMs_20 08 07 29.2
comp=Z,2µm,22.0s
FFD Franklin Falls 124.28 15 IAMs_20 IAMs_20 08 01 27.1
comp=Z,2µm,22.0s
TRY Troy 124.40 17 IAMs_20 IAMs_20 07 57 48.5
comp=Z,2µm,21.0s
P53A Whipple 124.47 26 IAMs_20 IAMs_20 07 49 45.1
comp=Z,2µm,22.0s
Q52A Bidwell 124.52 27 IAMs_20 IAMs_20 07 53 37.7
comp=Z,2µm,21.0s
PMAR Madeira 124.59 322 *e*PKP PKiKP 07 02 18.6 +0.8
PMAR Madeira 124.59 322 *e*PP PP 07 04 04.1 +0.3
PMOZ Porto Moniz, M 124.70 322 *e*PKPdf PKiKP 07 02 19.0 +1.1
PMOZ Porto Moniz, M 124.70 322 *i* LQ LQ 07 15 43.1
PMOZ Porto Moniz, M 124.70 322 *e*LR LR 07 44 46.5
comp=Z,1µm,20.0s
PMOZ Porto Moniz, M 124.70 322 P 07 02 18.8
Y45A Yeager Farm, C 124.74 36 IAMs_20 IAMs_20 07 50 21.7
comp=Z,2µm,21.0s
KSPA Keystone Colle 124.80 20 IAMs_20 IAMs_20 08 02 44.4
comp=Z,2µm,20.0s
U49A Red Boiling Sp 124.81 31 IAMs_20 IAMs_20 07 48 34.9
comp=Z,2µm,22.0s
CLTN Cedars of Leba 124.85 32 IAMs_20 IAMs_20 08 06 48.1
comp=Z,2µm,20.0s
V48A Smith Brothers 124.86 32 IAMs_20 IAMs_20 08 01 22.5
comp=Z,2µm,21.0s
K62A Royalston 124.87 16 IAMs_20 IAMs_20 08 03 55.8
comp=Z,2µm,20.0s
SSPA Standing Stone 124.87 22 IAMs_20 IAMs_20 08 03 30.5
comp=Z,2µm,19.0s
T50A Nancy 124.89 30 IAMs_20 IAMs_20 07 54 08.8
comp=Z,2µm,22.0s
O56A Blue Knob Stat 124.94 23 IAMs_20 IAMs_20 08 03 01.3
comp=Z,2µm,20.0s
MCWV Mont Chateau 124.96 24 IAMs_20 IAMs_20 07 56 15.0
comp=Z,3µm,22.0s
PMSA Palmer Station 125.00 175 IAMs_20 IAMs_20 07 56 10.7
comp=Z,2µm,21.0s
K63A Dunstable 125.04 16 IAMs_20 IAMs_20 08 07 11.3
comp=Z,2µm,18.0s
Q54A Coxs Mills 125.12 25 IAMs_20 IAMs_20 07 55 24.4
comp=Z,2µm,22.0s
R53A Hurricane 125.18 27 IAMs_20 IAMs_20 08 00 54.1
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 125.20 16 IAMs_20 IAMs_20 08 05 02.5
comp=Z,2µm,20.0s
PAGU Agualva, Azore 125.29 334 *e*PKP PKiKP 07 02 19.7 +0.9
KSCT Kent School, K 125.38 18 IAMs_20 IAMs_20 07 58 18.3
comp=Z,2µm,22.0s
N59A State Game Lan 125.38 20 IAMs_20 IAMs_20 08 03 03.5
comp=Z,2µm,22.0s
WES Weston 125.38 16 IAMs_20 IAMs_20 07 58 56.2
comp=Z,2µm,21.0s
CMLA Cha da Macela 125.39 332 *e*PKP PKiKP 07 02 20.1 +1.1
PGRA Graciosa 125.40 335 *e*PKP PKiKP 07 02 18.9 -0.1
ODNJ Ogdensburg 125.61 19 IAMs_20 IAMs_20 07 55 45.7
comp=Z,2µm,22.0s
TRNY Table Rock, Ra 125.68 19 IAMs_20 IAMs_20 08 00 44.4
comp=Z,2µm,22.0s
UCCT U. Connecticut 125.68 17 IAMs_20 IAMs_20 08 07 18.2
comp=Z,2µm,20.0s
X48A Hartselle 125.71 34 IAMs_20 IAMs_20 07 57 39.2
comp=Z,2µm,22.0s
344A Westbrook Farm 125.72 39 IAMs_20 IAMs_20 07 50 05.1
comp=Z,2µm,22.0s
BRYW Bryant College 125.76 16 IAMs_20 IAMs_20 08 04 32.2
comp=Z,2µm,20.0s
PMAN Manadas 125.78 335 *e*PKP PKiKP 07 02 20.4 +0.6
L63A North Scituate 125.79 16 IAMs_20 IAMs_20 07 57 20.1
comp=Z,2µm,21.0s
PSMN Pico do Norte, 125.79 331 *e*PKP PKiKP 07 02 20.9 +1.0
LUPA Lehigh Univers 125.80 20 IAMs_20 IAMs_20 08 03 33.6
comp=Z,2µm,21.0s
PSMA Santa Maria 125.83 332 *e*PKP PKiKP 07 02 20.9 +1.0
P57A Homestead Farm 125.83 23 IAMs_20 IAMs_20 08 03 26.9
comp=Z,2µm,21.0s
TZTN Tazewell 125.89 29 IAMs_20 IAMs_20 08 02 15.3
comp=Z,2µm,20.0s
S54A Dingess, Beckl 125.90 27 IAMs_20 IAMs_20 07 59 08.2
comp=Z,2µm,22.0s
PAL Palisades 125.90 19 IAMs_20 IAMs_20 08 00 50.3
comp=Z,2µm,21.0s
YLE Yale 125.92 18 IAMs_20 IAMs_20 08 08 38.0
comp=Z,1µm,20.0s
L64A Middleborough 125.93 15 IAMs_20 IAMs_20 08 01 12.7
comp=Z,2µm,22.0s
WSPT Westport, CT 125.93 18 IAMs_20 IAMs_20 07 55 10.0
comp=Z,2µm,22.0s
PID Ribeirinha 125.96 335 *e*PKP PKiKP 07 02 20.3 +0.1
PICO Pico 126.04 335 *e*PKP PKPdf 07 02 20.1 +0.1
H07N1 FLORES T-PHASE 126.06 338 *e*PKP PKiKP 07 02 20.9 +0.6
W50A Signal Mountai 126.06 32 IAMs_20 IAMs_20 07 58 45.3
comp=Z,2µm,21.0s
Z47A Carrollton 126.07 36 IAMs_20 IAMs_20 07 51 25.8
comp=Z,2µm,21.0s
CALA Caldeira 126.08 335 *e*PKP PKiKP 07 02 20.9 +0.4
V51A Loudon 126.08 31 IAMs_20 IAMs_20 08 02 44.6
comp=Z,2µm,21.0s
M64A Tiverton 126.19 16 IAMs_20 IAMs_20 07 58 36.6
comp=Z,2µm,20.0s
M65A Busby, Falmout 126.33 15 IAMs_20 IAMs_20 08 06 30.3
comp=Z,2µm,19.0s
H07S1 FLORES T-PHASE 126.36 338 *e*PKP PKiKP 07 02 20.9 -0.1
P60A Greenville 126.41 21 IAMs_20 IAMs_20 07 57 38.9
comp=Z,2µm,21.0s
V52A Sevierville 126.43 30 IAMs_20 IAMs_20 08 02 58.6
comp=Z,2µm,21.0s
TKL Tuckaleechee C 126.49 30 IAMs_20 IAMs_20 08 03 15.2
comp=Z,2µm,20.0s

Y49A Blount Mountai 126.50 34 IAMs_20 IAMs_20 07 55 27.2
comp=Z,2µm,22.0s
U54A Nelsons Funny 126.72 28 IAMs_20 IAMs_20 08 09 43.2
comp=Z,2µm,20.0s
LRAL Lakeview Retre 126.79 35 IAMs_20 IAMs_20 08 01 40.0
comp=Z,2µm,21.0s
P61A Hammonton 126.82 20 IAMs_20 IAMs_20 08 04 21.8
comp=Z,1µm,20.0s
545A Edgard 126.83 40 IAMs_20 IAMs_20 07 54 48.8
comp=Z,2µm,21.0s
W52A Murphy 126.86 31 IAMs_20 IAMs_20 07 59 13.0
comp=Z,2µm,21.0s
V53A Saluda 126.95 29 IAMs_20 IAMs_20 08 02 23.3
comp=Z,2µm,22.0s
CBN Corbin Frederi 127.19 23 IAMs_20 IAMs_20 08 04 44.8
comp=Z,2µm,20.0s
R58B Mineral 127.20 24 IAMs_20 IAMs_20 07 58 27.2
comp=Z,2µm,22.0s
T57A Hurt 127.46 25 IAMs_20 IAMs_20 08 04 38.4
comp=Z,2µm,21.0s
U56A King 127.52 27 IAMs_20 IAMs_20 07 55 50.1
comp=Z,2µm,21.0s
V55A Taylorsville 127.55 28 IAMs_20 IAMs_20 08 04 25.1
comp=Z,2µm,20.0s
Z51A Franklin 127.58 33 IAMs_20 IAMs_20 07 54 21.7
comp=Z,2µm,22.0s
Y52A Lilburn 127.75 32 IAMs_20 IAMs_20 07 54 20.9
comp=Z,2µm,21.0s
R61A Willards 127.83 21 IAMs_20 IAMs_20 08 04 15.7
comp=Z,2µm,19.0s
KMSC Kings Mountain 128.08 29 IAMs_20 IAMs_20 08 09 47.1
comp=Z,2µm,20.0s
PAULI Pauline 128.11 29 IAMs_20 IAMs_20 08 03 14.1
comp=Z,2µm,22.0s
BRAL Brewton 128.13 36 IAMs_20 IAMs_20 07 52 55.8
comp=Z,2µm,22.0s
T59A Dole "B" Far 128.19 24 IAMs_20 IAMs_20 08 04 36.4
comp=Z,2µm,20.0s
KIC Kosan Boka 128.25 286 *e*PKIKP PKiKP 07 02 25.7 +0.3
comp=Z,214nm,1.0s
S61A Accomac 128.29 22 IAMs_20 IAMs_20 08 05 30.8
comp=Z,2µm,20.0s
152A Waverly Hall 128.33 33 IAMs_20 IAMs_20 07 59 28.4
comp=Z,1µm,21.0s
T60A Surry 128.36 23 IAMs_20 IAMs_20 07 56 10.0
comp=Z,2µm,22.0s
HODGE Hodges 128.37 30 IAMs_20 IAMs_20 08 03 18.1
comp=Z,2µm,22.0s
GOGA Godfrey 128.41 32 IAMs_20 IAMs_20 08 04 10.4
comp=Z,2µm,21.0s
TIC Toumodi 128.43 287 *e*PKIKP PKiKP 07 02 25.9 +0.2
LIC Lamto 128.57 286 *e*PKIKP PKPdf 07 02 25.2 -0.1
comp=Z,298nm,1.1s
U59A Littleton 128.62 25 IAMs_20 IAMs_20 08 04 43.0
comp=Z,2µm,20.0s
W57A Gilead 128.69 27 IAMs_20 IAMs_20 08 03 49.1
comp=Z,2µm,21.0s
BIRD Birdtown, Kers 128.90 28 IAMs_20 IAMs_20 08 10 10.6
comp=Z,2µm,20.0s
154A Montrose 129.23 32 IAMs_20 IAMs_20 08 02 04.0
comp=Z,2µm,21.0s
Y57A Sumter 129.44 29 IAMs_20 IAMs_20 08 06 08.3
comp=Z,2µm,20.0s
V61A Roper 129.60 24 IAMs_20 IAMs_20 08 06 13.8
comp=Z,2µm,20.0s
Y58A Scranton 129.87 28 IAMs_20 IAMs_20 08 06 19.6
comp=Z,2µm,21.0s
TIGA Tifton 129.88 33 IAMs_20 IAMs_20 07 53 47.6
comp=Z,2µm,22.0s
255A Hazlehurst 130.09 32 IAMs_20 IAMs_20 08 02 26.0
comp=Z,2µm,22.0s
Y59A Loris 130.17 27 IAMs_20 IAMs_20 08 06 01.2
comp=Z,2µm,20.0s
NHSC New Hope 130.29 29 IAMs_20 IAMs_20 08 07 39.8
comp=Z,2µm,21.0s
257A Skidaway Islan 130.80 31 IAMs_20 IAMs_20 08 12 41.4
comp=Z,2µm,19.0s
060A Indiantown 135.07 34 IAMs_20 IAMs_20 07 59 06.0
comp=Z,2µm,22.0s
HUEH Huehuetenango 135.07 56 IAMs_20 IAMs_20 07 49 57.8
comp=Z,2µm,22.0s
SOR Soroa 136.67 41 IAMs_20 IAMs_20 08 12 01.5
comp=Z,2µm,21.0s
TGUH Tegucigalpa,Un 139.19 54 IAMs_20 IAMs_20 07 52 34.5
comp=Z,2µm,22.0s
CRIN San Cristobal 140.12 56 IAMs_20 IAMs_20 07 56 36.4
comp=Z,2µm,21.0s
GO07 Milladeo Hill, 142.95 156 IAMs_20 IAMs_20 08 02 33.7
comp=Z,2µm,19.0s
JTS Las Juntas de 143.14 57 IAMs_20 IAMs_20 07 56 39.6
comp=Z,1µm,22.0s
JTS Las Juntas de 143.14 57 *e*P PKPab 07 02 44.6 -3.3
CAO2 Cobano, Puntar 143.33 58 IAMs_20 IAMs_20 07 56 55.9
comp=Z,2µm,22.0s
GTBY Guantanamo Bay 143.62 35 *e*P PKPab 07 02 49.4 -0.2
JACO JACO, Garabito 143.72 58 IAMs_20 IAMs_20 08 11 32.2
comp=Z,1µm,19.0s
HDC Heredia 143.99 57 *e*P PKPbc 07 02 52.0 +0.1
HDC Heredia 143.99 57 *e*P PKPbc 07 02 52.0 +0.1
LL01 San Ignacio de 144.07 157 PKPbc 07 02 51.3 +0.2
LL01 IAMs_20 IAMs_20 08 08 58.8
comp=Z,1µm,22.0s
PRVC Isla de Provid 144.19 50 *e*P PKPbc 07 02 52.8 +0.5
RIMA Rio Macho 144.33 57 PKPdf 07 02 54.3 -0.4
PEZE Perez Zeledon, 144.69 58 IAMs_20 IAMs_20 07 53 27.7
comp=Z,2µm,20.0s
DRK0 Durika 145.11 57 *e*P PKPdf 07 02 57.5 +1.5
DRK0 Durika 145.11 57 *e*P PKPdf 07 02 57.5 +1.5
LL03 Petrohue 145.12 155 IAMs_20 IAMs_20 08 06 58.1
comp=Z,2µm,20.0s
PTJ1 Puerto Jimnez 145.45 59 *e*P PKiKP 07 02 58.6 -1.7
PTJ1 Puerto Jimnez 145.45 59 *e*P PKiKP 07 02 58.6 -1.7
PIRO Carate, Puerto 145.49 59⇑*e*P PKPab 07 02 58.3 +1.6
PIRO Carate, Puerto 145.49 59⇑*e*P PKPab 07 02 58.3 +1.6
CNI2 El Empalme, Bo 145.66 56 *e*P PKPab 07 02 57.2 -0.2
CNI2 El Empalme, Bo 145.66 56 *e*P PKPab 07 02 57.2 -0.2
MLIR3 Monte Lirio, C 145.71 58 *e*P PKiKP 07 02 59.5 -1.5
MLIR3 Monte Lirio, C 145.71 58 *e*P PKiKP 07 02 59.5 -1.5
CDITO Canoas 145.79 58 *e*P PKPab 07 02 58.9 +1.0
CDITO Canoas 145.79 58 *e*P PKPab 07 02 58.9 +1.0
CDITO Canoas 145.79 58 IAMs_20 IAMs_20 07 59 17.0
comp=Z,2µm,22.0s
BRU2 Volcan 145.82 58 *e*P PKPab 07 02 58.8 +0.6
BRU2 Volcan 145.82 58 *e*P PKPab 07 02 58.8 +0.6
BC3P Paso Ancho 145.88 57 *e*P PKPab 07 02 59.3 +0.8
BC3P Paso Ancho 145.88 57 *e*P PKPab 07 02 59.3 +0.8
BCO2 Palmira 146.00 58 *e*P PKPab 07 03 00.1 +1.2
PTAR3 Potrerillos Ar 146.04 58 *e*P PKPab 07 02 58.9 -0.1
PTAR3 Potrerillos Ar 146.04 58 *e*P PKPab 07 02 58.9 -0.1
BAGA3 Bagala, Chiriq 146.13 58 *e*P PKiKP 07 03 00.9 -0.8
BAGA3 Bagala, Chiriq 146.13 58 *e*P PKiKP 07 03 00.9 -0.8
PSOM3 Paja de Sombre 146.19 57 *e*P PKPbc 07 02 58.3 -0.4
PSOM3 Paja de Sombre 146.19 57 *e*P PKPbc 07 02 58.3 -0.4
CHGR2 Aguacate 146.20 57 *e*P PKPdf 07 02 55.5 -2.2
CHGR2 Aguacate 146.20 57 *e*P PKPdf 07 02 55.5 -2.2
PLCA Paso Flores 146.20 157 PKPbc PKPbc 07 02 58.0 -0.1
comp=Z,132nm,0.8s,baz=218,slow=3.4,SNR=206
PLCA Paso Flores 146.20 157 PKP2 PKPab 07 02 58.6 -0.2
PLCA Paso Flores 146.20 157 PKPab 07 02 58.5 -0.2
PLCA Paso Flores 146.20 157 *e*P PKPbc 07 02 58.2 +0.2
DVD David 146.22 58 *e*P PKiKP 07 03 02.3 +0.4
DVD David 146.22 58 *e*P PKPdf 07 02 56.8 -0.8
PEDE3 Pedregal, Chir 146.27 58 *e*P PKPab 07 03 00.5 +0.8
PEDE3 Pedregal, Chir 146.27 58 *e*P PKPab 07 03 00.5 +0.8
GUAL3 Gualaca, Chiri 146.29 58 *e*P PKiKP 07 03 01.6 -0.5
GUAL3 Gualaca, Chiri 146.29 58 *e*P PKiKP 07 03 01.6 -0.5
SDDR Presa de Saban 146.43 31⇑*e*P PKPdf 07 02 58.3 +0.3
REME3 Remedios, Chir 146.84 58 *e*P PKPab 07 03 01.2 -0.7
REME3 Remedios, Chir 146.84 58 *e*P PKPab 07 03 01.2 -0.7
NANC3 Nancito, Chiri 146.92 57 *e*P PKPdf 07 02 58.6 -0.3
NANC3 Nancito, Chiri 146.92 57 *e*P PKPdf 07 02 58.6 -0.3
PVID3 Puerto Vidal, 147.12 58 *e*P PKPab 07 03 02.9 -0.1
PVID3 Puerto Vidal, 147.12 58 *e*P PKPab 07 03 02.9 -0.1
MESA3 La Mesa, Verag 147.42 57 *e*P PKPbc 07 03 01.2 -1.0
MESA3 La Mesa, Verag 147.42 57 *e*P PKPbc 07 03 01.2 -1.0
RSUS3 Rio de Jesus, 147.53 57 *e*P PKPbc 07 03 03.2 +0.7
SFRA3 San Francisco, 147.54 57 *e*P PKPbc 07 03 03.5 +0.9
SFRA3 San Francisco, 147.54 57 *e*P PKPbc 07 03 03.5 +0.9
GMAL Guarumal, Vera 147.59 58 *e*P PKPdf 07 03 00.3 +0.4
STIA3 Santiago, Vera 147.62 57 *e*P PKiKP 07 03 04.0 -0.8
CRIS3 El Cristo, Coc 147.83 56 *e*P PKPbc 07 03 03.8 +0.5
MARI3 Mariato, Verag 147.85 58 *e*P PKPbc 07 03 04.1 +0.7
MLIR Monte Lirio 147.88 54 *e*P PKPdf 07 03 01.8 +1.3
MLIR Monte Lirio 147.88 54 *e*P PKPdf 07 03 01.8 +1.3
PNME Penonome 147.94 56 *e*P PKPdf 07 02 59.8 -0.8

PNME Penonome 147.94 56 *e*P PKPdf 07 02 59.8 -0.8
PNME Penonome 147.94 56 *e*P PKPbc 07 03 03.2 -0.3
BCIP Isla Barro Col 147.94 54 *e*P PKPdf 07 03 01.7 +1.1
BCIP Isla Barro Col 147.94 54 *e*P PKPdf 07 03 01.7 +1.1
BCIP Isla Barro Col 147.94 54 IAMs_20 IAMs_20 08 01 15.4
comp=Z,2µm,22.0s
BCIP Isla Barro Col 147.94 54 *e*P PKPdf 07 02 57.4 -3.2
VTON El Valle, Cocl 148.04 55 *e*P PKPbc 07 03 04.1 +0.1
ZANG Zanguenga, Cho 148.04 54 *e*P PKPdf 07 03 01.8 +1.1
ZANG Zanguenga, Cho 148.04 54 *e*P PKPdf 07 03 01.8 +1.1
MIRA3 Miramar, Colon 148.10 53 *e*P PKPdf 07 03 01.2 +0.4
CACAO El Cacao, Vera 148.13 58 *e*P PKiKP 07 03 05.6 -0.3
CHOR3 La Chorrera 148.15 54 *e*P PKPbc 07 03 04.6 +0.4
ARRA3 Arraijan, Pana 148.20 54 *e*P PKPbc 07 03 04.4 +0.1
UPA Univ. de Panam 148.29 54 *e*P PKPdf 07 02 59.8 -1.3
UPA Univ. de Panam 148.29 54⇑*e*P PKPbc 07 03 04.0 -0.5
AZU Azuero 148.37 57 *e*P PKPbc 07 03 04.9 +0.2
AZU Azuero 148.37 57 *e*P PKPdf 07 02 58.9 -2.3
TABO3 Taboga, Panama 148.38 54 *e*P PKPbc 07 03 04.5 -0.2
CHPO Chepo, Panama 148.51 53 *e*P PKPbc 07 03 05.2 +0.1
PCRI3 Pocri, Los San 148.57 57 *e*P PKPbc 07 03 05.2 -0.1
CNTA3 Canitas, Panam 148.66 53 *e*P PKPbc 07 03 04.9 -0.6
MAPC Malpelo 149.14 64 *e*P PKPab 07 03 18.8 +7.6
SJG San Juan 149.48 23 IAMs_20 IAMs_20 08 16 14.3
comp=Z,2µm,22.0s
SJG San Juan 149.48 23⇑*e*P PKPdf 07 03 02.4 -0.5
CDVI St. Croix 150.32 21 *e*P PKPdf 07 02 48.4 -16
GO05 Huala 150.34 149 IAMs_20 IAMs_20 07 59 56.0
comp=Z,2µm,22.0s
PTAC Punta Ardita, 150.74 55 *e*P PKPdf 07 03 05.1 +0.1
SMRC Santa Marta, M 150.82 44 *e*P PKPdf 07 03 05.7 +0.5
LCBC Los crdobas, 150.83 50 *e*P PKiKP 07 03 11.4 -0.1
SJCC San Jacinto, C 151.03 47⇑*e*P PKPdf 07 03 06.4 +0.8
TRQA Tornquist 151.30 167 IAMs_20 IAMs_20 08 15 40.4
comp=Z,2µm,20.0s
TRQA Tornquist 151.30 167 *e*P PKPdf 07 03 05.9 +0.7
ANWB Willy Bob 151.33 16 *e*P PKPdf 07 03 02.6 -3.2
ANWB Willy Bob 151.33 16 IAMs_20 IAMs_20 08 10 02.1
comp=Z,2µm,21.0s
SKI Saint Kitts 151.38 18 *e*P PKPdf 07 03 08.7 +2.8
MOTC Monteria, Cord 151.41 50⇑*e*P PKPdf 07 03 06.0 -0.1
SOLC Bahia Solano 151.59 56 *e*P PKPdf 07 03 07.4 +1.0
URIC Uribia, Colomb 151.90 40⇑*e*P PKPdf 07 03 07.0 +0.2
BPA Boggy Peak 151.90 16 *e*P PKPdf 07 03 01.4 -5.3
ANBD Bethesda, Anti 151.92 16 *e*P PKPdf 07 03 04.2 -2.5
PTGL Punta Galera 151.94 69 *e*P PKiKP 07 03 13.7 -0.1
DBBC Dabeiba 152.09 53 *e*P PKPdf 07 03 07.7 +0.5
UREC San Jos de Ur 152.17 51⇑*e*P PKPdf 07 03 07.4 +0.1
PIZC Pizarro, Choco 152.33 58 *e*P PKPdf 07 03 09.2 +1.7
LL1C La Loma 1 Cana 152.43 45 *e*P PKPdf 07 03 08.6 +1.0
LL2C La Loma 2 Cana 152.50 45 *e*P PKPdf 07 03 08.7 +1.0
ABD La Joyeuse, An 152.55 16 *e*P PKPdf 07 03 04.6 -3.0
SMLC San Martn de 152.57 47 *e*P PKPdf 07 03 07.9 +0.1
TUMC Tumaco 152.69 66 *e*P PKPdf 07 03 11.0 +3.0
VA03 San Esteban 152.81 148 IAMs_20 IAMs_20 07 56 54.6
comp=Z,1µm,22.0s
ZARC Zaragoza, Cauc 152.85 51⇑*e*P PKPdf 07 03 08.1 -0.1
MALC Bahia Malaga 152.86 60 *e*P PKiKP 07 03 16.7 +1.1
CBE Ff, Capester 152.90 16 *e*P PKPdf 07 03 11.4 +3.2
CBOC Ciudad Bolivar 152.94 55 *e*P PKPdf 07 03 08.3 -0.3
MAGL Barre de l'ile 153.10 16 *e*P PKPdf 07 02 56.9 -12
TDBA Terre de Bas, 153.10 16 *e*P PKPdf 07 03 02.6 -5.9
HELC Santa Helena 153.13 54⇑*e*P PKPdf 07 03 09.1 0.0
PLMC San Jos del P 153.26 57 *i* P PKPdf 07 03 08.0 -0.9
PAC1 Pacto, Paraso 153.28 69⇑*e*P PKPdf 07 03 08.8 -0.3
DABV Dabajuro 153.34 39 *e*P PKPdf 07 03 06.9 -2.0
OCAC Ocana 153.50 47⇑*e*P PKPdf 07 03 09.6 +0.3
DSLB Salisbury 153.55 16 *e*P PKPdf 07 03 00.9 -8.2
OTAV Otavalo 153.60 68⇑*e*P PKPdf 07 03 10.2 +0.3
OTAV Otavalo 153.60 68 *e*P PKPdf 07 03 10.0 +0.1
CUSE Cuicocha Este 153.62 68 *e*P PKPdf 07 03 07.3 -2.6
YOTC Yotoco, Valle 153.71 59⇑*e*P PKPdf 07 03 09.0 -0.7
GUY2C Guyana, Caldas 153.83 55⇑*e*P PKPdf 07 03 10.2 -0.1
BBAC Balboa, Cauca 153.91 64 *e*P PKPdf 07 03 08.6 -1.5
TULM Tulcn-Chalpat 154.01 67⇑*e*P PKPdf 07 03 11.0 +0.4
NORC Norcasia 154.03 54⇑*i*P PKPdf 07 03 09.8 -0.2
POPC Popayan, Colom 154.16 62 *e*P PKPdf 07 03 03.5 -6.9
GCUF Volcan Galeras 154.19 65⇑*e*P PKPdf 07 03 13.2 +2.4
TOLC Tolima 154.23 56 *e*P PKPdf 07 03 11.5 +0.9
FDF Fort de France 154.30 16 *e*P PKPdf 07 03 00.4 -10
ILAM Ilet Lapin Mar 154.33 15 *e*P PKPdf 07 02 59.5 -11
CRUC La Cruz 154.38 64 *e*P PKPdf 07 03 13.5 +2.6
SOTA Rioblanco 154.42 63⇑*e*P PKPdf 07 03 11.5 +0.4
PCON Cinco Dias 154.51 62⇑*e*P PKPdf 07 03 12.5 +1.1
BIM Bigot 154.53 16 *e*P PKPdf 07 03 09.7 -0.9
PAMC Pamplona, Colo 154.56 48 *e*P PKPab 07 03 30.9 -3.3
MARP Paez Belalcaza 154.64 61⇑*e*P PKPdf 07 03 11.7 +0.5
MPOM Morne Pois Mar 154.65 16 *e*P PKPdf 07 03 12.0 +1.3
ORTC Ortega, Tolima 154.67 58⇑*e*P PKPdf 07 03 09.5 -1.4
BARC Barichara 154.69 50 *e*P PKPdf 07 03 08.6 -2.6
SDV Santo Domingo 154.89 42 PKP PKPdf 07 03 11.5 +0.2
comp=Z,21nm,0.3s,baz=122,slow=1.1,SNR=11
SDV PKPbc PKPbc 07 03 19.7 -0.4
comp=Z,83nm,0.8s,baz=278,slow=4.8,SNR=9.8
SDV Santo Domingo 154.89 42⇑*e*P PKPdf 07 03 11.3 -0.1
SDV Santo Domingo 154.89 42 *e*P PKPdf 07 03 12.2 +0.8
ROSC El Rosal 154.90 55 PKP PKPdf 07 03 11.8 +0.1
comp=Z,38nm,1.0s,baz=123,slow=1.8,SNR=18
ROSC PKPbc PKiKP 07 03 21.1 +0.7
comp=Z,28nm,0.8s,baz=333,slow=7.1,SNR=6.0
ROSC El Rosal 154.90 55⇑*e*P PKPdf 07 03 12.2 +0.5
SLBI Saint Lucia, B 155.02 16 *e*P PKPdf 07 02 56.4 -15
PRAC Prado 155.08 57⇑*i*P PKPdf 07 03 11.1 -0.4
BETC Betania 155.16 60 *e*P PKPdf 07 03 17.6 +6.0
SOCV Socops 155.19 43 *e*P PKPdf 07 03 10.6 -1.0
RUSC La Rusia 155.22 51⇑*e*P PKPdf 07 03 12.1 -0.1
MCLT Moule a Chique 155.33 16 *e*P PKPdf 07 03 14.4 +2.7
GARC Garzon, Huila 155.37 61⇑*e*P PKPdf 07 03 12.6 +0.5
CHIC Chingaza 155.49 54⇑*e*P PKPdf 07 03 12.2 -0.3
FLOC Florencia 155.52 63⇑*i*P PKPdf 07 03 12.1 +0.1
SVB Belmont 155.66 17 *e*P PKPdf 07 03 10.2 -2.0
ATAH Atahualpa 155.72 85 PKP PKPdf 07 03 13.3 +0.6
comp=Z,28nm,1.1s,baz=325,slow=4.9,SNR=9.9
VILC Villavicencio, 155.83 55⇓*e*P PKPdf 07 03 08.9 -3.7
BBGH Gun Hill 156.23 13 *e*P PKPdf 07 03 16.1 +3.3
GCMP Grenada, Carri 156.35 18 *e*P PKPdf 07 03 04.4 -8.6
BAUV El Baul 156.46 37 *e*P PKPdf 07 03 05.1 -8.1
GRGR Grenville 156.61 19 *e*P PKPdf 07 03 04.4 -9.0
GRGR Grenville 156.61 19 IAMs_20 IAMs_20 08 17 59.7
comp=Z,2µm,22.0s
MACC Macarena, Meta 156.79 59 *e*P PKPab 07 03 44.1 +0.8
MACC Macarena, Meta 156.79 59⇑*i*P PKPdf 07 03 13.3 -0.4
PTLC Puerto Leguiza 156.93 65⇑*i*P PKPdf 07 03 13.6 -0.3
PTGC Puerto Gaitan, 157.01 53⇑*e*P PKPdf 07 03 12.5 -1.4
ELOV Elorza 157.04 43 *e*P PKPdf 07 03 14.5 +0.5
PCRV Puerto La Cruz 157.22 28 PKP PKPdf 07 03 13.2 -1.0
comp=Z,21nm,1.2s,baz=274,slow=11,SNR=2.7
PCRV PKPab PKPab 07 03 44.7 -0.3
comp=Z,29nm,1.1s,baz=302,slow=13,SNR=4.7
PLCV Puerto La Cruz 157.26 28 PKPdf 07 03 13.2 -1.0
PLCV PKPab 07 03 44.7 -0.4
NNA Nana 157.53 97 PKP PKPdf 07 03 14.4 -0.2
comp=Z,55nm,1.1s,baz=265,slow=4.0,SNR=5.6
NNA PKPab PKPab 07 03 47.7 +1.1
comp=Z,46nm,0.8s,baz=277,slow=6.0,SNR=9.7
GUVC San Jose del G 157.60 57 *e*P PKPab 07 03 59.0 +12
TRN Trinidad (W) 158.08 20 *e*P PKPdf 07 03 07.8 -7.5
PLTB Pedras Altas 158.48 181 PKPdf PKPdf 07 03 15.0 -0.3
PLTB Pedras Altas 158.48 181 *e*P PKPdf 07 03 15.8 +0.5
CPSB Cacapava Do Su 159.83 181 *e*P PKPdf 07 03 17.2 +0.3
ITQB Itaqui 160.41 173 *e*P PKPdf 07 03 18.4 +0.9
NBPV Pedro Velho 161.10 280 *e*P PKPdf 07 03 18.9 +0.2
LVC Limon Verde 161.11 133 PKP PKPdf 07 03 18.4 -0.6
comp=Z,6.6nm,0.8s,baz=203,slow=1.7,SNR=5.4
LVC PP PP 07 07 46.7 +1.8
comp=Z,12nm,1.2s,baz=228,slow=4.7,SNR=4.1
LVC Limon Verde 161.11 133 *e*P PKPdf 07 03 20.3 +1.3
CZSB Cruzeiro do Su 161.39 84 *e*P PKPdf 07 03 19.1 0.0
RCBR Riachuelo 161.55 282 *e*P PKPdf 07 03 20.9 +1.6
NBAN Anadia - AL 162.51 270 *e*P PKPdf 07 03 18.5 -1.7
NBPA Parau_RN 162.70 283 *e*P PKPdf 07 03 20.2 -0.2
NBLV Livramento - P 162.87 278 *e*P PKPdf 07 03 18.8 -1.8
ITAB Concordia 162.90 186 PKPab PKPab 07 04 09.1 -0.2
ITAB Concordia 162.90 186 *e*P PKPdf 07 03 20.0 -0.2
TBTG Tabatinga, AM

CPUP PP **PP** **07 08 00.7 +4.4**
comp=Z,20nm,1.1s,baz=165,slow=5.3,SNR=6.1
CPUP Villa Florida 163.59 169 PKPdf 07 03 20.2 -0.7
CPUP Villa Florida 163.59 169 *eP* **PKPdf 07 03 21.8 +0.9**
DUB01 Friburgo-RJ 163.70 222 *eP* **PKPdf 07 03 22.4 +1.3**
RIB01 Linhares ES 163.98 234 *eP* **PKPdf 07 03 21.8 +0.4**
TIJ01 Guaruva-PR 164.16 197 *eP* **PKPdf 07 03 22.1 +0.5**
VAS01 Vassouras-RJ 164.23 219 *eP* **PKPdf 07 03 22.7 +1.1**
ESAR Angra dos Reis 164.25 214 *eP* **PKPdf 07 03 23.3 +1.8**
NAN01 Guarapari, ES 164.50 239 *eP* **PKPdf 07 03 22.7 +0.8**
NBMO Morrinhos-CE 164.55 295 *eP* **PKPdf 07 03 23.3 +1.2**
BSFB Barra de Sao F 164.60 234 *eP* **PKPdf 07 03 22.7 +0.7**
PARB Paraibuna 164.61 210 *eP* **PKPdf 07 03 23.3 +1.3**
GUA01 Guaratinga, BA 164.76 244 *eP* **PKPdf 07 03 22.1 0.0**
MDP Montagnes des 164.80 355 PKP **PKPdf 07 03 21.9 -0.4**
comp=Z,38nm,1.0s,baz=34,slow=15,SNR=4.6
MDP PKPab **PKPab** **07 04 17.1 -0.8**
comp=Z,53nm,0.9s,baz=354,slow=4.9,SNR=10
CMC01 Camacan, BA 164.93 248 *eP* **PKPdf 07 03 23.6 +1.3**
SJMB Sao Joao De Ma 164.94 234 *eP* **PKPdf 07 03 22.1 -0.2**
LPAZ La Paz 164.97 115 PKP **PKPdf 07 03 23.3 +0.2**
comp=Z,34nm,0.9s,baz=306,slow=0.7,SNR=100
LPAZ PKPab **PKPab** **07 04 20.9 +1.2**
comp=Z,22nm,0.8s,baz=293,slow=1.0,SNR=6.8
LPAZ La Paz 164.97 115⇑ *eP* **PKPdf 07 03 23.0 -0.1**
LPAZ La Paz 164.97 115 *eP* **PKPdf 07 03 24.5 +1.4**
NBIT Itapeh - BA 164.99 250 *eP* **PKPdf 07 03 21.7 -0.6**
NBPB Pedra_Branca-C 164.99 287 *eP* **PKPdf 07 03 21.8 -0.7**
GDU01 Guandu, BA 165.42 254 *eP* **PKPdf 07 03 23.0 +0.2**
VAO Valinhos 165.54 207 *eP* **PKPdf 07 03 23.9 +1.1**
BOAV Boa Vista 165.97 28 *eP* **PKPdf 07 03 23.6 +0.3**
BSCB Bom Sucesso 166.01 218 *eP* **PKPdf 07 03 24.2 +1.0**
FRTB Fartura 166.19 197 *eP* **PKPdf 07 03 24.5 +1.3**
NBPS Pedro II - PI 166.28 294 *eP* **PKPdf 07 03 25.1 +1.5**
NBPN Ponto Novo - B 166.39 266 *eP* **PKPdf 07 03 23.2 -0.4**
DIAM Diamantina, MG 167.10 230 *eP* **PKPdf 07 03 24.4 +0.3**
TRCB Terra Rica 167.34 186 *eP* **PKPdf 07 03 24.1 0.0**
ROSB Rosrio 167.82 306 *eP* **PKPdf 07 03 24.4 -0.2**
ETMB Extrema 167.99 90 *eP* **PKPdf 07 03 25.1 +0.3**
MC01 Montes Claros 168.22 235 *eP* **PKPdf 07 03 26.6 +1.7**
PCMB Pacaembu 168.29 193 *eP* **PKPdf 07 03 25.4 +0.6**
PTGA Pitinga 168.94 33 PKP **PKPdf 07 03 25.1 -0.4**
comp=Z,22nm,1.0s,baz=345,slow=2.8,SNR=18
PTGA PKPab **PKPab** **07 04 36.3 -0.1**
comp=Z,66nm,0.7s,baz=338,slow=6.1,SNR=48
JANB Januaria 169.34 242 *eP* **PKPdf 07 03 25.4 -0.3**
AQDB Aquidauana 169.60 171 *eP* **PKPdf 07 03 26.0 +0.4**
ITRB Iturama 169.85 200 *eP* **PKPdf 07 03 26.3 +0.4**
MCPB Macapa, AP 170.09 348 *eP* **PKPdf 07 03 26.6 +0.4**
TMAB Tom-Au,PA,Br 170.29 322 *eP* **PKPdf 07 03 26.0 -0.3**
IPMB Ipameri, GO 170.38 215 *eP* **PKPdf 07 03 26.3 +0.1**
MACA Manacapuru-AM 170.42 44 *eP* **PKPdf 07 03 26.3 0.0**
SDBA SAO DESIDERIO 170.78 255 *eP* **PKPdf 07 03 25.4 -1.1**
SIV San Ignacio 171.00 131 PKP **PKPdf 07 03 26.2 -0.4**
comp=Z,37nm,0.9s,baz=163,slow=1.2,SNR=67
SIV PKPab **PKPab** **07 04 45.8 +0.2**
comp=Z,4.2nm,0.8s,baz=251,slow=6.1,SNR=0.8
MALB Monte Alegre 171.76 2 *eP* **PKPdf 07 03 26.3 -0.7**
BDFB Brasilia 171.99 226 PKP **PKPdf 07 03 25.8 -1.3**
comp=Z,11nm,1.0s,baz=82,slow=0.2,SNR=11
BDFB PKPab **PKPab** **07 04 49.1 -0.9**
comp=Z,14nm,0.9s,baz=130,slow=5.2,SNR=5.8
PP1B Ponte de Pedra 172.54 174 *eP* **PKPdf 07 03 26.6 -0.6**
PTLB Pontes e Lacer 172.74 137 *eP* **PKPdf 07 03 27.2 -0.1**
VILB Vilhena 173.33 115 *eP* **PKPdf 07 03 26.9 -0.7**
SMTB Santa Maria do 173.53 281 *eP* **PKPdf 07 03 27.5 -0.3**
ITTB Itaituba 174.02 17 *eP* **PKPdf 07 03 27.5 -0.4**
SALV Santo Antonio 174.04 164 *eP* **PKPdf 07 03 27.2 -0.6**
PEXB Peixe 174.05 250 *eP* **PKPdf 07 03 27.5 -0.4**
ARAG Araguaiana, MT 174.06 201 *eP* **PKPdf 07 03 27.8 0.0**
PRPB Paraupebas 174.27 313 *eP* **PKPdf 07 03 27.5 -0.5**
NPGB Novo Progresso 176.66 23 *eP* **PKPdf 07 03 28.4 -0.2**
SNDB Serra Nova Dou 176.76 235 *eP* **PKPdf 07 03 28.7 +0.1**
CLDB Colider 178.11 113 *eP* **PKPdf 07 03 28.4 -0.4**

ROM 03 06:54:15.0±0.2, 43.441N±0.004×12.458E±0.005, h5km±1km, ML1.0/5, 2C-4D Error ellipse: s-maj=0.4km s-min=0.2km az=354.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.04**	**283**	P	Pg	06 54 16.3	0.0
ATPI				S	Sg	06 54 17.3	+0.1
ATVO	**AVT- Monte Val**	**0.07**	**213**	⇑P	Pg	06 54 16.8	+0.1
ATVO				S	Sg	06 54 18.2	+0.4
PIEI	**Pieia**	**0.11**	**30**	P	Pg	06 54 17.7	+0.4
PIEI				S	Sg	06 54 20.1	+1.1
PIEI				AML	AML		
	comp=N,184μm,0.2s						
PIEI				AML	AML		
	comp=E,262μm,0.1s						
PIEI				AML	AML		
	comp=N,184μm,0.2s						
ATFO	**Monte Foce - G**	**0.11**	**132**	⇓P	Pg	06 54 17.7	+0.3
ATFO				S	Sg	06 54 19.7	+0.7
ATFO				AML	AML		
	comp=E,103μm,0.4s						
ATFO				AML	AML		
	comp=E,103μm,0.4s						
ATFO				AML	AML		
	comp=N,80μm,1.2s						
BADI	**Badiali**	**0.17**	**294**	⇓P	Pg	06 54 18.7	+0.3
BADI				S	Sg	06 54 21.8	+1.1
BADI				AML	AML		
	comp=E,71μm,0.3s						
BADI				AML	AML		
	comp=N,73μm,0.2s						
BADI				AML	AML		
	comp=E,71μm,0.3s						
BADI				AML	AML		
	comp=N,73μm,0.2s						
MURB	**Monte Urbino**	**0.18**	**165**	P	Pg	06 54 19.1	+0.5
MURB				S	Sg	06 54 22.9	+1.8
MURB				AML	AML		
	comp=N,176μm,0.4s						
MURB				AML	AML		
	comp=E,197μm,0.2s						
FRON	**Frontone**	**0.21**	**68**	⇑P	Pg	06 54 19.4	+0.3
FRON				S	Sg	06 54 23.1	+1.2
PARC	**Parchiule**	**0.26**	**322**	⇓P	Pg	06 54 20.6	+0.5
PARC				S	Sb	06 54 25.9	-1.1
PARC				AML	AML		
	comp=E,21μm,0.1s						
PARC				AML	AML		
	comp=N,16μm,1.6s						
MPAG	**Monte Paganucc**	**0.29**	**49**	⇓P	Pg	06 54 20.9	+0.3
MPAG				S	Sg	06 54 26.1	+1.6

PRU 03 06:59:32.6±0.0, 50.37N×18.83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.64**	**103**	*e*Pg	Pg	06 59 45.0	+0.2
OJC				*e*Sg	Sg	06 59 53.2	+0.1
MORC	**Moravsky Berou**	**1.02**	**235**	*e*PG	Pg	06 59 52.0	-0.1
MORC				*e*SG	Sg	07 00 05.3	0.0
KRLC	**Kraliky**	**1.35**	**258**	*e*PG	Pg	06 59 57.0	-1.4
KRLC				*e*SG	Sg	07 00 14.9	-1.0
	comp=Z,7.5nm,0.2s						
DPC	**Dobruska-Polom**	**1.61**	**270**	*e*PG	Pn	07 00 02.7	+0.4
DPC				*e*SG	Sn	07 00 23.4	-0.3
OSTC	**Ostas**	**1.68**	**277**	*e*SG	Sb	07 00 26.1	0.0
CHVC	**Chvalec**	**1.79**	**278**	*e*SG	Sg	07 00 30.6	+0.6

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*IDC **03** 07:02:09.5±1.2, 11.41N×95.14E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/61, mbtmp3.9/10, ML3.9/1, Error ellipse: s-maj=39.8km s-min=18.0km az=57.0*

ISC 03 07:02:13.0±1.2, 11.4N±0.2×95.1E±0.2, h24km, n11, σ0.59/11, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.92**	**27**	Pn	**Pn**	**07 04 07.5**	**+0.8**
	0.4nm,0.3s,baz=216,slow=15,SNR=7.4						
MKAR	**Makanchi Array**	**36.91**	**345**	P	**P**	**07 09 20.2**	**+0.3**
	2.0nm,0.9s,baz=169,slow=8.5,SNR=6.9						
SONM	**Songino Array**	**37.52**	**12**	P	**P**	**07 09 24.8**	**-0.4**
	0.9nm,0.8s,baz=194,slow=12,SNR=5.1						
KSRS	**Korea Array**	**39.20**	**43**	P	**P**	**07 09 38.5**	**-0.7**
	0.4nm,0.3s,baz=232,slow=7.5,SNR=1.9						
KURBB	**Kurchatov Arra**	**41.41**	**344**	P	**P**	**07 09 57.9**	**+0.5**
	1.5nm,0.7s,baz=167,slow=7.7,SNR=15						
GEYT	**Alibeck**	**42.33**	**315**	P	**P**	**07 10 05.5**	**+0.3**
	144nm,1.1s,baz=151,slow=7.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**43.22**	**351**	P	**P**	**07 10 11.9**	**-0.2**
	1.2nm,0.6s,baz=168,slow=7.6,SNR=4.4						
BVAR	**Borovoye Array**	**46.02**	**339**	P	**P**	**07 10 34.8**	**+0.4**
	0.5nm,0.4s,baz=153,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**49.59**	**129**	P	**P**	**07 11 02.8**	**+0.2**
	0.5nm,0.7s,baz=306,slow=8.3,SNR=9.0						
ASAR	**Alice Springs**	**51.50**	**133**	P	**P**	**07 11 17.5**	**+0.5**
	1.0nm,0.7s,baz=312,slow=7.0,SNR=10						
SPITS	**Spitsbergen Ar**	**76.61**	**348**	P	**P**	**07 14 00.4**	**-0.8**
	4.5nm,0.7s,baz=150,slow=3.5,SNR=8.6						

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*SKHL **03** 07:07:08.9±0.4, 45.20N×148.00E, h152km±7km, mb5.0/7, msha5.7/4*
*MOS **03** 07:07:08.0±1.0, 45.27N×148.06E, h163km, mb4.3/13, Error ellipse: s-maj=8.9km s-min=7.0km az=85.4*
*NEIC **03** 07:07:09.9±1.3, 45.35N±0.10×148.0E±0.1, h154km±8km, mb4.4/27, Error ellipse: s-maj=15.4km s-min=13.0km az=142.0*
*JMA **03** 07:07:10.5±0.4, 44.72N×148.07E, h164km, M4.1*
*IDC **03** 07:07:10.2±2.0, 45.42N×147.92E, h163km±17km, mb3.8/22, mb1 3.9/26, mb1mx3.8/46, mbtmp4.2/26, Error ellipse: s-maj=19.6km s-min=10.9km az=168.0*

ISC 03 07:07:08.6±0.6, 45.05N±0.05×148.10E±0.05, h161km±5km, n167, σ1.61/181, mb4.2/44, 7C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.25**	**318**⇑	*i*PN	**Pn**	**07 07 30.1**	**-0.2**
KUR				*i* S	**Sn**	**07 07 46.4**	**-0.5**
KUR				pmax	pmax		
	comp=Z,565nm,0.4s						
KUR				pmax	pmax		
	comp=N,122nm,0.2s						
KUR				pmax	pmax		
	comp=E,56nm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,583nm,1.0s						
KUR	**Kuril'sk**	**0.25**	**318**	*i* P	**Pn**	**07 07 30.1**	**-0.2**
KUR				AMB	AMB	07 07 30.5	
	comp=E,120nm,0.4s						
KUR				AMB	AMB	07 07 30.5	
	comp=E,60nm,0.4s						
KUR				AMB	AMB	07 07 30.5	
	comp=E,570nm,0.4s						
KUR				*i* S	**Sn**	**07 07 46.4**	**-0.5**
KUR				A	A	07 07 51.0	
	comp=E,2μm,0.7s						
KUR				A	A	07 07 51.0	
	comp=E,580nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**238**	*e*PN	**Pn**	**07 07 44.5**	**+1.3**
YUK				*e*S	**Sn**	**07 08 11.0**	**+1.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,557nm,0.3s						
YUK				pmax	pmax		
	comp=E,782nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.90**	**238**	*e*P	**Pn**	**07 07 44.5**	**+1.3**
YUK				AMB	AMB	07 07 44.7	
	comp=N,560nm,0.4s						
YUK				AMB	AMB	07 07 44.7	
	comp=N,780nm,0.4s						
YUK				AMB	AMB	07 07 44.7	
	comp=N,2μm,0.4s						
YUK				*e*S	**Sn**	**07 08 11.2**	**+1.3**
YUK				A	A	07 08 11.8	
	comp=N,1μm,0.5s						
YUK				A	A	07 08 11.8	
	comp=N,1μm,0.5s						
GRPR	**Tuman**	**1.97**	**238**	*e*PN	**Pn**	**07 07 44.6**	**+0.5**
GRPR				*e*S	**Sn**	**07 08 11.0**	**-0.4**
GRPR				pmax	pmax		
	comp=Z,315nm,0.4s						
GRPR				pmax	pmax		
	comp=N,199nm,0.2s						
GRPR				pmax	pmax		
	comp=E,160nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.4s						
GRPR				smax	smax		
	comp=N,1.0nm,0.3s						
GRPR				smax	smax		
	comp=E,1.0nm,0.4s						
GRPR	**Tuman**	**1.97**	**238**	*e*P	**Pn**	**07 07 44.6**	**+0.5**
GRPR				AMB	AMB	07 07 47.0	
	comp=E,200nm,0.4s						
GRPR				AMB	AMB	07 07 47.0	
	comp=E,160nm,0.4s						
GRPR				AMB	AMB	07 07 47.0	
	comp=E,320nm,0.4s						
GRPR				*e*S	**Sn**	**07 08 11.0**	**-0.4**
GRPR				A	A	07 08 14.0	
	comp=E,1μm,0.4s						
GRPR				A	A	07 08 14.0	
	comp=E,1μm,0.4s						
RUSJ	**Misakicho**	**2.25**	**246**	*e*PN	**Pn**	**07 07 50.8**	**+3.6**
RUSJ				*e*S	**Sn**	**07 08 22.3**	**+5.3**
GLVR	**Golovnino**	**2.27**	**236**	*e*PN	**Pn**	**07 07 48.4**	**+1.0**
GLVR				*e*S	**Sn**	**07 08 17.8**	**+0.3**
GLVR				pmax	pmax		
	comp=Z,177nm,0.2s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR	**Golovnino**	**2.27**	**236**	*e*P	**Pn**	**07 07 48.4**	**+1.0**
GLVR				AMB	AMB	07 07 49.0	
	comp=E,180nm,0.3s						
GLVR				*e*S	**Sn**	**07 08 18.0**	**+0.5**
GLVR				A	A	07 08 18.0	
	comp=E,2μm,0.4s						
GLVR				A	A	07 08 18.0	
	comp=E,2μm,0.4s						
NEM2	**Nemuro 2**	**2.39**	**226**	P	**Pn**	**07 07 48.1**	**-0.8**
NEM2				*e*S	**Sn**	**07 08 17.1**	**-3.0**
NMR	**Nemuro--Hokkai**	**2.40**	**226**	*e*PN	**Pn**	**07 07 48.1**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.40**	**226**	*e*P	**Pn**	**07 07 48.3**	**-0.7**
JRA	**Rausu**	**2.41**	**243**	P	**Pn**	**07 07 49.7**	**+0.6**
JRA				*e*S	**Sn**	**07 08 20.4**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.56**	**241**	P	**Pn**	**07 07 51.9**	**+1.0**
JNK	**Nakash**	**2.84**	**240**	P	**Pn**	**07 07 54.8**	**+0.5**
JKHN	**Kushirohamanak**	**2.89**	**228**	P	**Pn**	**07 07 54.5**	**-0.5**
JKHN				*e*S	**Sn**	**07 08 28.5**	**-2.5**
JTKR	**Abashiri--Toko**	**3.19**	**252**	P	**Pn**	**07 07 59.6**	**+0.9**
JTKR				*e*S	**Sn**	**07 08 37.6**	**0.0**
JAK	**Akkeshi**	**3.20**	**231**	P	**Pn**	**07 07 58.4**	**-0.5**
JAK				*e*S	**Sn**	**07 08 35.3**	**-2.6**
JAR	**Ashorobuto**	**3.58**	**242**	P	**Pn**	**07 08 04.6**	**+1.0**
JSE	**Soyaes**	**3.92**	**271**	P	**Pn**	**07 08 09.0**	**+1.1**
JKK2	**Kamakawa 2**	**4.01**	**255**	P	**Pn**	**07 08 10.6**	**+1.4**
JKK2				*e*S	**Sn**	**07 08 57.7**	**+1.2**
JKA	**Kamikawa-asahi**	**4.04**	**259**		**Pn**	**07 08 10.5**	**+0.9**
JKA	**Kamikawa-asahi**	**4.04**	**259**	*e*P	**Pn**	**07 08 10.5**	**+0.9**
ASAJ	**Asahikawa**	**4.04**	**259**	P	**Pn**	**07 08 10.9**	**+1.3**
	comp=E,2.0nm,0.3s,baz=81,slow=14,SNR=16						
ASAJ				S	**Sn**	**07 08 55.0**	**-2.2**
	comp=E,0.5nm,0.3s,baz=346,slow=17,SNR=1.5						
ASAJ	**Asahikawa**	**4.04**	**259**	PN	**Pn**	**07 08 10.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.18**	**299**⇑	*i*PN	**Pn**	**07 08 11.6**	**+0.2**
YSS				*e*S	**Sn**	**07 09 02.2**	**+1.8**
YSS				pmax	pmax		
	comp=Z,90nm,0.5s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.18**	**299**		**Pn**	**07 08 10.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.18**	**299**	*i* P	**Pn**	**07 08 11.6**	**+0.2**
YSS				AMB	AMB	07 08 12.0	
	comp=N,90nm,0.5s						
YSS				*i* S	**Sn**	**07 09 00.0**	**-0.4**
YSS				A	A	07 09 02.3	
	comp=N,40nm,0.5s						
YSS				A	A	07 09 02.3	
	comp=N,10.0nm,0.5s						
JCH	**Churui**	**4.21**	**236**	P	**Pn**	**07 08 11.4**	**-0.3**
JCH				*e*S	**Sn**	**07 08 57.7**	**-3.3**
JFR	**Furan**	**4.39**	**246**	P	**Pn**	**07 08 14.4**	**+0.2**
JWK2	**Keihoku**	**4.39**	**276**	P	**Pn**	**07 08 16.7**	**+2.5**
ERM	**Erimo**	**4.70**	**232**	PN	**Pn**	**07 08 19.4**	**+1.2**
ERM	**Erimo**	**4.70**	**232**		**Pn**	**07 08 19.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**4.77**	**236**	P	**Pn**	**07 08 17.8**	**-1.3**
JNBK				*e*S	**Sn**	**07 09 08.3**	**-5.8**
JRBN	**Rebuntou**	**4.99**	**277**	P	**Pn**	**07 08 23.2**	**+1.3**
JKB	**Kayabe**	**6.04**	**241**	P	**Pn**	**07 08 34.6**	**-1.2**
JKB				*e*S	**Sn**	**07 09 39.1**	**-5.1**
JOT	**Ohata**	**6.32**	**237**	P	**Pn**	**07 08 37.7**	**-1.9**
JOT				*e*S	Sn	07 09 44.4	-6.6
TYV	**Tymovskoe**	**6.87**	**330**	*e*PN	**Pn**	**07 08 43.3**	**-3.4**
TYV				pmax	pmax		
	comp=Z,6.0nm,0.3s						
TYV	**Tymovskoe**	**6.87**	**330**	*i* P	**Pn**	**07 08 43.9**	**-2.8**
TYV				AMB	AMB	07 08 45.3	
	comp=Z,30nm,0.6s						
JMK	**Ichinoseki**	**7.96**	**222**	*e*S	Sn	07 10 23.1	-7.1
PEA0B	**Petropavlovsk-**	**10.22**	**34**	PN	**Pn**	**07 09 30.0**	**-1.1**
PEA0B	**Petropavlovsk-**	**10.22**	**34**	Pn	**Pn**	**07 09 30.0**	**-1.1**
PETK	**Petropavlovsk-**	**10.22**	**34**	P	**Pn**	**07 09 29.4**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=169,slow=8.8,SNR=9.1						
USRK	**Ussuriysk Ar.**	**11.52**	**271**	P	**Pn**	**07 09 47.5**	**-0.7**
	baz=95,slow=12,SNR=8.8						
USRK	**Ussuriysk Ar.**	**11.52**	**271**	PN	**Pn**	**07 09 47.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.52**	**271**	Pn	**Pn**	**07 09 47.8**	**-0.3**
KLR	**Kul'dur**	**11.89**	**296**	*i* PN	**Pn**	**07 09 52.2**	**-0.7**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KLR	**Kul'dur**	**11.89**	**296**	*i* P	**Pn**	**07 09 52.2**	**-0.7**
EKMR	**Ekimchan**	**12.75**	**314**	*e*P	**Pn**	**07 10 04.1**	**+0.1**
BMKR	**Bomnak**	**15.68**	**315**	*e*P	**Pn**	**07 10 39.1**	**-1.5**
KROS	**Kirovskiy**	**16.52**	**312**	*e*P	**Pn**	**07 10 50.0**	**-0.7**
KROS				AMB	AMB	07 10 51.7	
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**16.94**	**250**	P	**Pn**	**07 10 58.5**	**+2.6**
	baz=51,slow=13,SNR=2.0						
SEY	**Seymchan**	**18.09**	**6**	P	**P**	**07 11 06.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=159,slow=14,SNR=12						
JCJ	**Chichijima**	**18.54**	**197**	P	**P**	**07 11 17.1**	**+4.3**
YAK	**Yakutsk**	**20.10**	**334**	*ce*P	**P**	**07 11 28.7**	**-0.6**
YAK				pmax	pmax		
	comp=Z,34nm,0.8s						
YAK	**Yakutsk**	**20.10**	**334**	*e*P	**P**	**07 11 28.7**	**-0.6**
ULN	**Ulaanbaatar**	**28.18**	**291**	*ce*P	**P**	**07 12 46.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.5s						
ULN	**Ulaanbaatar**	**28.18**	**291**	*e*P	**P**	**07 12 46.1**	**+0.2**
SONM	**Songino Array**	**28.62**	**291**	P	**P**	**07 12 49.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=72,slow=9.5,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.67**	**142**	T	T	07 44 18.2	
	baz=334,slow=76						
H11N1	**WAKE ISLAND Hy**	**29.69**	**142**	T	T	07 44 20.8	
	baz=334,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.69**	**142**	T	T	07 44 19.2	
	baz=334,slow=76						
TLY	**Talaya**	**29.89**	**299**	*i* P	**P**	**07 13 01.5**	**+0.7**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**30.68**	**144**	T	T	07 45 36.0	
	baz=335,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.68**	**144**	T	T	07 45 36.6	
	baz=335,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.69**	**144**	T	T	07 45 37.5	
	baz=335,slow=76						
OHAK	**Old Harbor**	**37.56**	**50**	P	**P**	**07 14 07.0**	**+0.2**
OHAK				IAmb	IAmb	07 14 11.5	
	comp=Z,16nm,1.4s						
KDAK	**Kodiak Island**	**37.87**	**49**	P	**P**	**07 14 09.6**	**+0.3**
	comp=Z,10nm,0.8s,baz=317,slow=3.6,SNR=16						
KDAK	**Kodiak Island**	**37.87**	**49**	P	**P**	**07 14 09.8**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,13nm,0.9s						
KDAK	**Kodiak Island**	**37.87**	**49**	P	**P**	**07 14 09.8**	**+0.4**
SKT	**Skwentna**	**38.07**	**42**	P	**P**	**07 14 11.4**	**+0.3**
SKT				IAmb	IAmb	07 14 18.0	
	comp=Z,7.9nm,1.2s						
CNPM	**China Poot**	**38.38**	**46**	P	**P**	**07 14 14.3**	**+0.6**
CNPM				IAmb	IAmb	07 14 30.6	
	comp=Z,19nm,1.4s						
MDM	**Murphy Dome**	**39.46**	**37**	P	**P**	**07 14 23.6**	**+1.0**
SML	**Sawmill**	**39.59**	**42**	P	**P**	**07 14 24.9**	**+1.1**
ILAR	**Eielson Array**	**40.04**	**37**	P	**P**	**07 14 26.1**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=272,slow=9.8,SNR=6.0						
ILAR				PcP	**PcP**	**07 16 28.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=276,slow=3.2,SNR=1.7						
BCAR	**Beaver Creek A**	**42.46**	**39**	P	**P**	**07 14 48.5**	**+1.4**
EGAK	**Eagle**	**42.48**	**37**	P	**P**	**07 14 47.8**	**+0.6**
EGAK				IAmb	IAmb	07 14 53.5	
	comp=Z,7.4nm,1.1s						
EPYK	**Eagle Plains**	**44.06**	**34**	P	**P**	**07 15 01.2**	**+1.2**
EPYK				IAmb	IAmb	07 15 01.5	
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**44.60**	**297**	P	**P**	**07 15 04.3**	**-0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**44.60**	**297**	P	**P**	**07 15 04.3**	**-0.1**
MKAR	**Makanchi Array**	**44.60**	**297**	P	**P**	**07 15 03.8**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=72,slow=8.1,SNR=19						
MKAR				PcP	**PcP**	**07 16 44.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=62,slow=5.3,SNR=3.8						
MKAR	**Makanchi Array**	**44.60**	**297**	P	**P**	**07 15 04.3**	**-0.1**
MKAR	**Makanchi Array**	**44.60**	**297**	P	**P**	**07 15 04.3**	**-0.1**
MKAR	**Makanchi Array**	**44.60**	**297**	*e*P	**P**	**07 15 04.3**	**-0.1**
MAKZ	**Makanchi**	**44.79**	**297**	P	**P**	**07 15 05.8**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAKZ	**Makanchi**	**44.79**	**297**	P	**P**	**07 15 05.8**	**-0.1**
HYT	**Haines Junctio**	**44.90**	**42**		**P**	**07 15 08.1**	**+1.4**
INK	**Inuvik**	**44.94**	**31**	P	**P**	**07 15 06.8**	**0.0**
	comp=Z,4.9nm,0.4s,baz=295,slow=5.1,SNR=18						
INK	**Inuvik**	**44.94**	**31**	IAmb	IAmb	07 15 08.3	
	comp=Z,5.4nm,0.5s						
KURK	**Kurchatov**	**45.38**	**303**	P

B08A IAmb IAmb 07 16 58.7
comp=Z,4.0nm,1.1s
SUMG Summit 62.59 2 P **P 07 17 14.6 -0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 62.59 2 P **P 07 17 14.6 -0.7**
SUMG IAmb IAmb 07 17 16.3
comp=Z,6.9nm,0.8s
FINES FINESS Array B 64.03 333 P **P 07 17 23.0 -1.4**
comp=Z,5.0nm,0.5s,baz=34,slow=7.6,SNR=30
FINES FINESS Array B 64.03 333 *e*P **P 07 17 23.5 -0.9**
FINES pmax pmax
comp=Z,5.0nm,0.5s
OBN Obninsk 64.67 324 *de*P **P 07 17 25.5 -3.1**
OBN *e**PP **PcP 07 17 56.5 -4.5**
OBN *e* 07 19 48.2
OBN *e*S S 07 26 12.0 +17
OBN pmax pmax
comp=Z,6.0nm,1.0s
NVAR Mina Array Bea 66.31 59 P **P 07 17 41.0 +1.2**
comp=Z,1.1nm,0.7s,baz=302,slow=6.9,SNR=5.6
NVAR Mina Array Bea 66.31 59 P **P 07 17 41.9 +2.1**
PDAR Pinedale Array 68.55 51 P **P 07 17 54.8 +1.0**
comp=Z,1.3nm,0.6s,baz=299,slow=0.8,SNR=13
NB2 NORSAR Subarra 68.63 339 P **P 07 17 52.2 -1.5**
comp=Z,1.4nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 68.63 339 P **P 07 17 51.9 -1.8**
comp=Z,1.4nm,0.6s,baz=31,slow=6.5,SNR=11
NOA NORSAR Array B 68.63 339 *e*P **P 07 17 52.4 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 68.75 337 P **P 07 17 52.7 -1.7**
comp=Z,1.2nm,0.4s,baz=54,slow=7.5,SNR=9.2
KIV Kislovodsk 69.40 312 *e*P **P 07 17 57.2 -1.7**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV Kislovodsk 69.40 312 *e*P **P 07 17 57.2 -1.7**
KBZ Khabaz 69.45 312 P **P 07 17 59.4 +0.4**
comp=Z,6.0nm,0.8s,baz=48,slow=5.5,SNR=9.4
KBZ Khabaz 69.45 312 *i* P **P 07 17 59.8 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 69.45 312 *i* P **P 07 17 59.8 +0.8**
ASAR Alice Springs 69.60 194 P **P 07 18 02.3 +2.2**
comp=Z,0.3nm,0.7s,baz=10,slow=6.6,SNR=2.0
ULM Lac du Bonnet 70.05 38 P **P 07 18 02.4 -0.1**
comp=Z,3.1nm,0.5s,baz=313,slow=16,SNR=3.1
ULM Lac du Bonnet 70.05 38 IAmb IAmb 07 18 02.9
comp=Z,3.2nm,0.5s
AKASG Malin Array Be 70.93 324 P **P 07 18 07.0 -0.9**
comp=Z,1.4nm,0.4s,baz=35,slow=5.5,SNR=5.6
AKASG Malin Array Be 70.93 324 *e*P **P 07 18 07.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 70.93 324 IAmb IAmb 07 18 09.1
comp=Z,2.2nm,1.1s
AKBB Malin Array Si 70.93 324 *ce*P **P 07 18 04.2 -3.7**
BURAR Bucovina Array 74.99 324 P **P 07 18 32.7 +0.8**
BURAR IAmb IAmb 07 18 32.9
comp=Z,5.6nm,0.6s
SCHQ Schefferville 76.17 20 P **P 07 18 38.3 -0.1**
comp=Z,1.9nm,0.7s,baz=338,slow=11,SNR=1.7
DPC Dobruska-Polom 76.17 331 *e*P **P 07 18 39.4 +0.9**
DPC Dobruska-Polom 76.17 331 *e*P **P 07 18 39.4 +0.9**
MORC Moravsky Berou 76.22 330 *e*P **P 07 18 39.0 +0.2**
KRLC Kraliky 76.24 330 *e*P **P 07 18 39.4 +0.5**
KRLC Kraliky 76.24 330 *e*P **P 07 18 39.4 +0.5**
MLR Muntele Rosu 76.35 322 P **P 07 18 40.0 +0.3**
baz=119,slow=5.6
CLL Collm 76.47 333 ⇓*i*P **P 07 18 40.3 +0.2**
comp=Z,10.0nm,0.7s
CLL Collm 76.47 333 ⇓*i*P **P 07 18 40.3 +0.2**
CLL pmax pmax
comp=Z,10.0nm,0.7s
JAVC Velka Javorina 76.94 329 *e*P **P 07 18 44.4 +1.5**
PRU Pruhonice 77.09 331 *e*P **P 07 18 44.2 +0.6**
PRU Pruhonice 77.09 331 *e*P **P 07 18 44.2 +0.6**
KRUC Moravsky 77.23 330 *e*P **P 07 18 44.8 +0.4**
KHC Kasperske Hory 78.15 331 *e*P **P 07 18 50.4 +0.8**
KHC Kasperske Hory 78.15 331 *e*P **P 07 18 50.4 +0.8**
KHC Kasperske Hory 78.15 331 P **P 07 18 50.4 +0.8**
GEC2 GERESS Array S 78.35 331 P **P 07 18 51.0 +0.2**
GEC2 IAmb IAmb 07 18 51.3
comp=Z,3.9nm,0.5s
GERES GERESS Array B 78.35 331 P **P 07 18 50.8 0.0**
comp=Z,2.8nm,0.4s,baz=31,slow=6.2,SNR=22
GERES GERESS Array B 78.35 331 *e*P **P 07 18 51.0 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.4s
GERES GERESS Array B 78.35 331 P **P 07 18 51.2 +0.4**
TX31 Lajitas Ar. Si 81.36 57 P **P 07 19 09.1 +1.8**
TX31 IAmb IAmb 07 19 10.0
comp=Z,10nm,1.1s
TX32 Lajitas Array 81.36 57 P **P 07 19 09.0 +1.7**
TXAR Lajitas Array 81.36 57 P **P 07 19 08.6 +1.3**
comp=Z,1.7nm,0.6s,baz=289,slow=3.9,SNR=36
TXAR pP **pP 07 19 47.9 +0.7**
comp=Z,0.6nm,0.7s,baz=299,slow=3.7,SNR=3.0
TXAR Lajitas Array 81.36 57 P **P 07 19 08.9 +1.6**
TXAR Lajitas Array 81.36 57 P **P 07 19 08.9 +1.6**
DAVOX Davos/Dischmat 81.42 332 P **P 07 19 07.1 -0.3**
comp=Z,0.9nm,0.3s,baz=30,slow=21,SNR=5.9
ESDC Sonseca Array 92.00 339 P **P 07 19 58.8 -0.1**
comp=Z,0.3nm,0.6s,baz=11,slow=6.3,SNR=3.1
H03N2 Juan Fernandez 142.26 89 T T 10 05 34.3
baz=304
H03N3 Juan Fernandez 142.28 89 T T 10 05 26.2
baz=304,slow=74,SNR=4.4
H03N1 Juan Fernandez 142.28 89 T T 10 05 29.2
baz=304,slow=74,SNR=3.4
PLCA Paso Flores 151.54 95 PKPbc **PKiKP 07 26 44.8 +1.3**
comp=Z,1.6nm,0.6s,baz=123,slow=4.2,SNR=4.2

*IDC **03** 07:13:16.7±3.4, 53°.78N×88°.18E, h0km, mb1 2.9/2, mb1mx2.9/52, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=29.3km s-min=19.6km az=41.0*
*NNC **03** 07:13:18.1±3.9, 53°.41N×88°.15E, h8km±3.3km, mb3.5, mpv3.2, Error ellipse: s-maj=40.7km s-min=16.3km az=74.0, Suspected Mining explosion.*
ISC 03 07:13:16.8±3.5, 53°.6N±0°.1×88°.1E±0°.2, h0km, n7, σ2§12/10, 6C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**282**	*i*		07 25 35.3	
	baz=92,slow=308,SNR=3.4						
ZAA0	**Zalesovo Array**	**2.00**	**282**	⇑Pn		**Pb**	**07 13 52.6 -1.3**
	1.9nm,0.8s						
ZAA0				⇓Sn		**Sb**	**07 14 19.6 +0.3**
	8.9nm,0.8s						
ZALV	**Zalesovo Beam**	**2.00**	**282**	Pg		**Pn**	**07 13 52.4 +0.7**
	2.5nm,0.3s,baz=96,slow=12,SNR=15						
ZALV				Lg		Lg	07 14 20.3
	4.1nm,0.3s,baz=107,slow=20,SNR=13						
KURBB	**Kurchatov Arra**	**6.62**	**247**	Pn		**Pn**	**07 14 57.1 +1.9**
	0.2nm,0.3s,baz=62,slow=14,SNR=5.5						
KURBB				Sn		**Sn**	**07 16 13.2 +1.9**
	0.1nm,0.3s,baz=59,slow=16,SNR=2.2						
KURBB				Lg		Lg	07 16 49.2
	0.0nm,0.3s,baz=62,slow=32,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.62**	**247**	⇑Pn		**Pn**	**07 14 56.3 +1.1**
	1.0nm,0.3s,baz=63,slow=15						
KURBB				⇑Sn		**Sn**	**07 16 09.4 -1.9**
	3.5nm,0.7s						
KURBB				⇑Lg		Lg	07 16 47.7
	7.0nm,1.3s,baz=64,slow=32						
MKAR	**Makanchi Array**	**7.77**	**211**	Pn		**Pn**	**07 15 14.4 +3.3**
	0.1nm,0.3s,baz=28,slow=14,SNR=1.4						
MKAR				Lg		Lg	07 17 27.3
	0.1nm,0.3s,baz=26,slow=27,SNR=3.1						
MAKZ	**Makanchi**	**7.85**	**213**	⇓Pn		**Pn**	**07 15 10.1 -2.1**
	4.8nm,1.0s						
MAKZ				⇑Sn		**Sn**	**07 16 40.6 -1.2**
	2.0nm,0.8s						
MAKZ				⇑Lg		Lg	07 17 22.4
	1.1nm,0.8s						

*IDC **03** 07:24:59.1±3.4, 49°.12N×129°.81W, h0km, mb3.5/2, mb1 3.6/6, mb1mx3.4/49, mbtmp3.4/6, ML3.0/3, Error ellipse: s-maj=60.7km s-min=20.1km az=72.0*
ISC 03 07:25:02.3±2.0, 49°.35N±0°.10×129°.5W±0°.2, h10km, n7, σ1§02/8, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.98**	**17**	Pn		**Pn**	**07 25 49.8 +0.2**
	1.9nm,0.3s,baz=195,slow=7.5,SNR=31						
BBB				Sn		**Sn**	**07 26 23.9 -1.3**
	7.0nm,0.3s,baz=291,slow=22,SNR=10						
NVAR	**Mina Array Bea**	**13.56**	**139**	Pn		**Pn**	**07 28 13.9 -0.9**
	0.0nm,0.3s,baz=321,slow=16,SNR=3.8						
PDAR	**Pinedale Array**	**15.31**	**108**	Pn		**P**	**07 28 44.4 +1.0**
	0.0nm,0.3s,baz=315,slow=11,SNR=1.8						
YKA	**Yellowknife Ar**	**15.54**	**26**	Pn		**Pn**	**07 28 41.2 0.0**
	0.1nm,0.3s,baz=218,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**18.01**	**336**	P		**P**	**07 29 13.2 +0.3**
	baz=145,slow=9.6,SNR=1.7						
ULM	**Lac du Bonnet**	**21.63**	**75**	P		**P**	**07 29 53.6 +1.2**
	5.0nm,0.8s,baz=295,slow=8.1,SNR=5.1						
ANMO	**Albuquerque**	**22.22**	**122**	P		**P**	**07 29 58.8 -0.3**
	0.3nm,0.4s,baz=316,slow=9.0,SNR=2.4						

*NEIC **03** 07:25:45.4±2.7, 49°.18N±0°.09×129°.8W±0°.2, h10km±2km, Error ellipse: s-maj=21.8km s-min=9.6km az=229.0*
*PGC **03** 07:25:45.8±2.9, 49°.07N×129°.73W, h10km, MLSn3.2/40, Mw3.8/40, 245km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **03** 07:25:46.0±1.8, 49°.24N×129°.51W, h0km, mb3.8/3, mb1 4.0/12, mb1mx3.7/53, mbtmp3.7/12, ML3.4/9, MS4.4/1, Ms1 4.4/1, ms1mx3.7/41, Error ellipse: s-maj=29.9km s-min=11.3km az=68.0*
ISC 03 07:25:45.3±0.8, 49°.14N±0°.05×129°.67W±0°.06, h10km, n142, σ1§42/169, mb4.0/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.25**	**162**	P	Pn	07 26 03.4	-5.2
KEMF				S	Sb	07 26 17.4	-7.4
HOLB	**Holberg**	**1.80**	**33**	Pn	**Pn**	**07 26 15.7**	**-0.8**
HOLB				Sn	**Sn**	**07 26 38.3**	**-1.1**
EDB	**Eliza Dome**	**1.82**	**65**	Pn	**Pn**	**07 26 16.0**	**-0.6**
EDB				Sn	**Sn**	**07 26 38.2**	**-1.4**
FHRB	**Fair Harbour**	**1.90**	**60**	Pn	**Pn**	**07 26 17.1**	**-0.6**
PACB	**Port Alice, BC**	**1.92**	**47**	Pn	**Pn**	**07 26 17.6**	**-0.3**
PACB				Sn	**Sn**	**07 26 40.7**	**-1.4**
NC89	**ODP889**	**1.92**	**103**	Pn	**Pn**	**07 26 17.3**	**-0.5**
MAYB	**Maynard**	**2.05**	**51**	Pn	**Pn**	**07 26 19.6**	**-0.4**
ETB	**Estevan Point**	**2.06**	**82**	Pn	**Pn**	**07 26 19.3**	**-0.7**
PHC	**Port Hardy**	**2.13**	**42**	Pn	**Pn**	**07 26 21.0**	**+0.1**
PHC				Sn	**Sn**	**07 26 46.4**	**-1.1**
WOSB	**Woss**	**2.26**	**62**	Pn	**Pn**	**07 26 22.9**	**+0.2**
TLCB	**Telegraph Cove**	**2.31**	**51**	Pn	**Pn**	**07 26 23.4**	**0.0**
TLCB				Sn	**Sn**	**07 26 50.6**	**-1.3**
GDR	**Gold River**	**2.46**	**74**	Pn	**Pn**	**07 26 25.1**	**-0.3**
TOFB	**Tofino**	**2.47**	**88**	Pn	**Pn**	**07 26 24.8**	**-0.8**
TOFB				Sn	**Sn**	**07 26 53.7**	**-2.1**
NCRB	**Newcastle Ridg**	**2.66**	**60**	Pn	**Pn**	**07 26 29.2**	**+0.8**
NCRB				Sn	**Sn**	**07 27 01.4**	**+0.7**
SPLB	**Strathcona Par**	**2.72**	**72**	Pn	**Pn**	**07 26 29.7**	**+0.6**
B012	**Ucluelet**	**2.73**	**93**	Sn	**Sn**	**07 26 59.6**	**-2.4**
BTB	**Buttle Lake**	**2.73**	**82**	Pn	**Pn**	**07 26 29.1**	**-0.3**
BTB				Sn	**Sn**	**07 27 00.1**	**-2.5**
OZB	**Mount Ozzard**	**2.75**	**92**	Pn	**Pn**	**07 26 28.5**	**-1.1**
OZB				Sn	**Sn**	**07 27 00.7**	**-2.1**
CBB	**Campbell River**	**2.94**	**71**	Pn	**Pn**	**07 26 33.1**	**+1.1**
BFSB	**Bamfield**	**3.00**	**94**	Sn	**Sn**	**07 27 06.4**	**-2.4**
B928	**Bamfield**	**3.00**	**94**	Pn	**Pn**	**07 26 32.1**	**-0.7**
B928				Sn	**Sn**	**07 27 06.0**	**-2.9**
B927	**Port Alberni**	**3.19**	**87**	Pn	**Pn**	**07 26 34.9**	**-0.5**
BBB	**Bella Bella**	**3.20**	**17**	Pn	**Pn**	**07 26 35.8**	**+0.1**
	11nm,0.3s,baz=227,slow=8.5,SNR=16						
BBB				Sn	**Sn**	**07 27 11.8**	**-2.1**
	97nm,0.3s,baz=298,slow=22,SNR=19						
BBB	**Bella Bella**	**3.20**	**17**	Pn	**Pn**	**07 26 36.1**	**+0.5**
BBB				Sn	**Sn**	**07 27 11.7**	**-2.1**
BBB	**Bella Bella**	**3.20**	**17**	Pn	**Pn**	**07 26 34.8**	**-0.9**
MGB	**Mount Grey**	**3.28**	**91**	Pn	**Pn**	**07 26 36.8**	**0.0**
MGB				Sn	**Sn**	**07 27 13.7**	**-2.2**
HG4B	**Hotspring**	**3.30**	**343**	Pn	**Pn**	**07 26 37.4**	**+0.3**
OCP	**Olym-Cheeka Pk**	**3.44**	**102**	Pn	**Pn**	**07 26 38.4**	**-0.6**
TXB	**Texada**	**3.46**	**79**	Pn	**Pn**	**07 26 40.1**	**+0.9**
PFB	**Port Renfrew**	**3.50**	**97**	Pn	**Pn**	**07 26 39.2**	**-0.6**
PFB				Sn	**Sn**	**07 27 19.7**	**-1.6**
GHNB	**Nanoose**	**3.56**	**85**	Pn	**Pn**	**07 26 41.7**	**+1.0**
GHNB				Sn	**Sn**	**07 27 22.5**	**-0.3**
B926	**Mesachie Lake**	**3.66**	**93**	Pn	**Pn**	**07 26 42.2**	**+0.3**
B926				Sn	**Sn**	**07 27 24.1**	**-1.1**
NLLB	**Nanaimo Lost L**	**3.73**	**87**	Pn	**Pn**	**07 26 44.0**	**+1.1**
NLLB				Sn	**Sn**	**07 27 25.7**	**-1.1**
SHB	**Sechelt**	**3.81**	**81**	Pn	**Pn**	**07 26 45.1**	**+0.9**
BUTB	**Butedale**	**4.00**	**10**	Pn	**Pn**	**07 26 47.3**	**+0.6**
BUTB				Sn	**Sn**	**07 27 31.4**	**-2.3**
B009	**North Saanich**	**4.13**	**95**	Pn	**Pn**	**07 26 48.3**	**-0.1**
B009				Sn	**Sn**	**07 27 36.1**	**-0.7**
B010	**North Saanich**	**4.13**	**94**	Pn	**Pn**	**07 26 48.4**	**-0.1**
B010				Sn	**Sn**	**07 27 36.3**	**-0.4**
PGC	**Sidney**	**4.13**	**94**	Pn	**Pn**	**07 26 48.4**	**0.0**
PGC				Sn	**Sn**	**07 27 35.1**	**-1.6**
PGC	**Sidney**	**4.13**	**94**	Pn	**Pn**	**07 26 47.5**	**-0.9**
PA12	**PA12 Sannich**	**4.13**	**95**	Pn	**Pn**	**07 26 48.3**	**-0.1**
B011	**North Saanich**	**4.13**	**94**	Pn	**Pn**	**07 26 48.2**	**-0.2**
B011				Sn	**Sn**	**07 27 36.1**	**-0.6**
BIB	**Bowen Island**	**4.17**	**84**	Pn	**Pn**	**07 26 49.8**	**+0.8**
BNKB	**Banks Island**	**4.20**	**358**	Pn	**Pn**	**07 26 49.2**	**-0.2**
BNKB				Sn	**Sn**	**07 27 36.4**	**-2.0**
WPB	**Watts Point**	**4.25**	**81**	Pn	**Pn**	**07 26 50.8**	**+0.7**
NLWA	**Neilton Lookou**	**4.25**	**112**	Pn	**Pn**	**07 26 49.7**	**-0.4**
VGZ	**Gonzales**	**4.26**	**97**	Pn	**Pn**	**07 26 50.2**	**0.0**
VGZ				Sn	**Sn**	**07 27 38.7**	**-1.2**
SNB	**Saturna Island**	**4.30**	**92**	Pn	**Pn**	**07 26 51.5**	**+0.7**
DIB	**Dawson Inlet,**	**4.43**	**338**	Pn	**Pn**	**07 26 52.1**	**-0.5**
DIB	**Dawson Inlet,**	**4.43**	**338**	Pn	**Pn**	**07 26 52.5**	**-0.1**
HWKB	**Hawksbury Isla**	**4.47**	**4**	Pn	**Pn**	**07 26 53.3**	**+0.1**
HWKB				Sn	**Sn**	**07 27 43.9**	**-1.4**
WSLR	**Whistler**	**4.50**	**75**	Pn	**Pn**	**07 26 55.2**	**+1.7**
HNBB	**Haney**	**4.65**	**86**	Pn	**Pn**	**07 26 56.7**	**+1.1**
HNBB				Sn	**Sn**	**07 27 48.1**	**-1.6**
GRNB	**Grenville Isla**	**4.72**	**358**	Pn	**Pn**	**07 26 56.4**	**-0.1**
GRNB				Sn	**Sn**	**07 27 49.6**	**-1.6**
E03A	**Lebam**	**4.86**	**120**	Sn	**Sn**	**07 27 52.7**	**-2.1**
KITB	**Kitimat**	**4.99**	**7**	Pn	**Pn**	**07 27 00.8**	**+0.7**
KITB				Sn	**Sn**	**07 27 55.8**	**-1.9**
A05A	**Maple Falls**	**4.99**	**89**	Pn	**Pn**	**07 27 01.2**	**+1.0**
A05A	**Maple Falls**	**4.99**	**89**		**Pn**	**07 27 00.3**	**+0.1**
MBW	**Mount Baker**	**5.13**	**91**	Pn	**Pn**	**07 27 03.4**	**+1.1**
UBRB	**Upper Baezaeko**	**5.15**	**41**	Pn	**Pn**	**07 27 05.1**	**+2.5**
LLLB	**Lillooet**	**5.25**	**71**	Pn	**Pn**	**07 27 05.7**	**+2.0**
LLLB	**Lillooet**	**5.25**	**71**	Pn	**Pn**	**07 27 04.8**	**+1.0**
HOPB	**Hope**	**5.41**	**84**	Pn	**Pn**	**07 27 07.1**	**+1.2**
RPW	**Rockport**	**5.43**	**94**	Pn	**Pn**	**07 27 07.1**	**+0.7**
B06A	**Marblemount**	**5.44**	**93**	Pn	**Pn**	**07 27 07.4**	**+1.0**
B06A	**Marblemount**	**5.44**	**93**	Pn	**Pn**	**07 27 06.2**	**-0.2**
GPW	**Glacier Peak**	**5.75**	**97**	Pn	**Pn**	**07 27 13.1**	**+2.2**
LON	**Longmire**	**5.80**	**111**	Pn	**Pn**	**07 27 13.6**	**+2.2**
LON				Sn	**Sn**	**07 28 16.1**	**-1.8**
LON	**Longmire**	**5.80**	**111**		**Pn**	**07 27 11.2**	**-0.2**
FMW	**Mount Fremont**	**5.80**	**109**	Pn	**Pn**	**07 27 13.8**	**+2.2**
FSB	**Fort Saint Jam**	**6.29**	**30**	Pn	**Pn**	**07 27 20.1**	**+2.0**
LTY	**Liberty**	**6.30**	**104**	Pn	**Pn**	**07 27 20.0**	**+1.6**
LTY				Sn	**Sn**	**07 28 29.2**	**-1.3**
LTY	**Liberty**	**6.30**	**104**		**Pn**	**07 27 19.1**	**+0.7**
PNT	**Penticton**	**6.59**	**85**	Pn	**Pn**	**07 27 23.2**	**+1.0**
H04A	**Detroit Lake**	**6.79**	**128**	Pn	**Pn**	**07 27 27.5**	**+2.5**
B08A	**Colville Reser**	**6.88**	**93**	Pn	**Pn**	**07 27 27.6**	**+1.4**
SLEB	**Sale Mountain**	**7.68**	**70**	Pn	**Pn**	**07 27 39.1**	**+1.7**
C09A	**Chrisman Ranch**	**7.69**	**96**	Pn	**Pn**	**07 27 38.2**	**+0.9**
NEW	**Newport**	**8.35**	**91**	Pn	**Pn**	**07 27 47.1**	**+0.8**
	0.5nm,0.3s,baz=289,slow=12,SNR=8.5						
NBC4	**NorthernBC 4**	**8.56**	**37**	Pn	**Pn**	**07 27 52.1**	**+3.0**
F10A	**Beach Ranch, E**	**8.99**	**106**	Pn	**Pn**	**07 27 57.2**	**+2.0**
DLBC	**Dease Lake**	**9.32**	**359**	Pn	**Pn**	**07 28 00.1**	**+0.5**
	0.1nm,0.3s,baz=175,slow=5.6,SNR=5.6						
DLBC	**Dease Lake**	**9.32**	**359**	Pn	**Pn**	**07 28 02.2**	**+2.6**
NBC5	**NorthernBC 5**	**9.38**	**24**	Pn	**Pn**	**07 28 03.3**	**+2.8**
NBC5				Sn	**Sn**	**07 29 44.5**	**-1.3**
BMO	**Blue Mountains**	**9.47**	**112**		**Pn**	**07 28 03.3**	**+1.5**
JTMT	**Jette**	**10.32**	**92**	Pn	**Pn**	**07 28 14.1**	**+0.6**
MSO	**Missoula**	**10.80**	**96**	Pn	**Pn**	**07 28 21.4**	**+1.5**
EDM	**Edmonton**	**11.02**	**62**	Pn	**Pn**	**07 28 24.1**	**+1.2**
MFID	**Camas Ranch**	**11.15**	**116**	Pn	**Pn**	**07 28 25.7**	**+0.9**
VCNR	**Virginia City**	**12.18**	**140**		**Pn**	**07 28 41.0**	**+2.1**
MCMT	**McKenzie Canyo**	**12.27**	**104**	Pn	**Pn**	**07 28 42.3**	**+2.1**
YERR	**Yerington**	**12.61**	**140**		**Pn**	**07 28 45.9**	**+1.0**
RYN	**Ryan**	**13.21**	**139**	Pn	**Pn**	**07 28 55.8**	**+2.7**
YHB	**Horse Butte**	**13.36**	**102**	Pn	**Pn**	**07 28 55.6**	**+0.6**
NVAR	**Mina Array Bea**	**13.47**	**138**	Pn	**Pn**	**07 29 00.1**	**+3.4**
	0.1nm,0.3s,baz=307,slow=14,SNR=6.6						
NVAR	**Mina Array Bea**	**13.47**	**138**	Pn	**Pn**	**07 28 58.4**	**+1.7**
NV11	**Mina Array Sit**	**13.54**	**138**		**Pn**	**07 28 56.3**	**-1.2**
YHH	**Holmes Hill**	**13.56**	**102**	Pn	**Pn**	**07 28 59.6**	**+1.7**
H17A	**Grant Village**	**13.91**	**103**	Pn	**Pn**	**07 29 05.5**	**+2.9**
GCMT	**Greycliff**	**13.94**	**96**		**Pn**	**07 29 06.2**	**+3.3**
YNE	**Yellowstone No**	**14.02**	**100**	Pn	**Pn**	**07 29 05.2**	**+1.2**
BGU	**Big Grassy Mou**	**14.33**	**119**	Pn	**Pn**	**07 29 06.9**	**-1.3**
SPUT	**South Promonto**	**14.42**	**116**		**Pn**	**07 29 10.7**	**+1.2**
PMPB	**Monarch Peak**	**14.46**	**150**		**Pn**	**07 29 11.8**	**+1.9**
BW06	**Boulder Array**	**15.35**	**107**		**Pn**	**07 29 22.2**	**+0.1**
BW06				IAmb	IAmb	07 29 35.1	
	comp=Z,6.8nm,1.1s						
PDAR	**Pinedale Array**	**15.35**	**107**		**Pn**	**07 29 24.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=316,slow=14,SNR=4.7						
PDAR	**Pinedale Array**	**15.35**	**107**		**Pn**	**07 29 21.5**	**-0.6**
PSUT	**Pine Spring**	**15.54**	**127**		**Pn**	**07 29 23.3**	**-1.4**
TPNV	**Topopah Spring**	**15.61**	**136**		**Pn**	**07 29 25.2**	**-0.3**
TPNV				IAmb	IAmb	07 29 43.5	
	comp=Z,7.6nm,1.1s						
YKA	**Yellowknife Ar**	**15.77**	**26**	Pn	**Pn**	**07 29 24.0**	**-3.2**
	comp=Z,0.0nm,0.3s,baz=215,slow=10,SNR=1.8						
DAWY	**Dawson**	**15.86**	**344**	Pn	**Pn**	**07 29 29.1**	**+0.7**
DAWY				IAmb	IAmb	07 29 47.5	
	comp=Z,13nm,1.3s						
LAO	**LASA Array**	**15.90**	**90**		**Pn**	**07 29 29.1**	**0.0**
LAO				IAmb	IAmb	07 29 39.9	
	comp=Z,26nm,1.1s						
SZCU	**Shurtz Canyon**	**16.65**	**128**		**Pn**	**07 29 39.4**	**+0.6**
GSC	**Goldstone, Bar**	**16.76**	**141**	Pn	**Pn**	**07 29 38.1**	**-2.1**
DGMT	**Dagmar**	**16.78**	**83**		**Pn**	**07 29 40.8**	**+0.6**
DGMT				IAmb	IAmb	07 29 47.8	
	comp=Z,24nm,0.9s						
LCMT	**Little Creek M**	**17.01**	**129**	Pn	**Pn**	**07 29 42.8**	**-0.6**
SUA	**Susitna One**	**17.11**	**324**	P	**Pn**	**07 29 43.8**	**-0.5**
SUA				IAmb	IAmb	07 29 55.3	
	comp=Z,23nm,1.2s						
EPYK	**Eagle Plains**	**17.66**	**351**	P	**Pn**	**07 29 50.6**	**-0.6**
EPYK				IAmb	IAmb	07 30 02.8	
	comp=Z,10nm,1.1s						
FFC	**Flin Flon**	**17.90**	**61**		**Pn**	**07 29 54.5**	**+0.4**
ILAR	**Eielson Array**	**18.16**	**336**	P	**P**	**07 29 58.8**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=146,slow=10,SNR=8.9						
W13A	**Hualapai Mount**	**18.22**	**134**	P	**Pn**	**07 29 56.9**	**-1.6**
PV10	**Paradox Valley**	**18.32**	**118**	P	**Pn**	**07 29 59.3**	**-0.4**
PFO	**Pinyon Flats O**	**18.37**	**143**	P	**Pn**	**07 30 03.1**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=286,slow=5.5,SNR=6.5						
PV20	**West Nyswonger**	**18.39**	**118**	P	**P**	**07 30 00.1**	**-0.4**
PV20				IAmb	IAmb	07 30 22.9	
	comp=Z,17nm,0.9s						
PV07	**Paradox Valley**	**18.51**	**117**	P	**P**	**07 30 02.1**	**+0.3**
PV07				IAmb	IAmb	07 30 12.8	
	comp=Z,6.9nm,0.9s						
MDM	**Murphy Dome**	**18.67**	**335**	P	**Pn**	**07 30 04.0**	**+0.5**
MDM				IAmb	IAmb	07 30 16.2	
	comp=Z,24nm,1.4s						
PV15	**Paradox Valley**	**18.67**	**117**	P	**P**	**07 30 03.4**	**-0.2**
PV15				IAmb	IAmb	07 30 31.0	
	comp=Z,9.4nm,1.0s						
INK	**Inuvik**	**19.32**	**356**	P	**Pn**	**07 30 11.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=169,slow=11,SNR=6.8						
INK	**Inuvik**	**19.32**	**356**		**P**	**07 30 08.2**	**-2.0**
INK				IAmb	IAmb	07 30 25.2	
	comp=Z,10nm,1.1s						
MLY	**Manley**	**19.45**	**333**		**P**	**07 30 11.3**	**-0.4**
MLY				IAmb	IAmb	07 30 19.1	
	comp=Z,20nm,1.5s						
X16A	**Lo Mia Camp, P**	**19.95**	**131**	P	**P**	**07 30 15.9**	**-1.7**
X16A				IAmb	IAmb	07 30 31.2	
	comp=Z,9.2nm,1.4s						
ULM	**Lac du Bonnet**	**21.79**	**74**	P	**P**	**07 30 38.6**	**+1.5**
	comp=Z,31nm,0.8s,baz=282,slow=12,SNR=21						
ANMO	**Albuquerque**	**22.20**	**121**	P	**P**	**07 30 44.7**	**+2.7**
	comp=Z,2.0nm,0.9s,baz=321,slow=10,SNR=4.3						
ANMO				LR	LR	07 40 38.9	
	comp=Z,905nm,19.8s,baz=301,slow=40						
AGMN	**Agassiz Nation**	**22.22**	**79**	P	**P**	**07 30 42.7**	**+0.9**
AGMN				IAmb	IAmb	07

30nm,0.7s
WMQ Urumqi 9.62 47 *e*P Pn 07 29 44.9 +5.6
WMQ S **Sn** **07 31 26.9 0.0**
WMQ smax smax
comp=N,33nm,0.7s
WMQ smax smax
comp=E,31nm,0.9s
MKAR Makanchi Array 9.69 18 Pn **Pn** **07 29 41.2 +1.0**
1.2nm,0.3s,baz=199,slow=13,SNR=33
MKAR Sn **Sn** **07 31 25.5 -3.2**
2.5nm,0.3s,baz=192,slow=26,SNR=6.2
KURBB Kurchatov Arra 12.99 2 Pn **Pn** **07 30 25.8 +0.5**
0.0nm,0.3s,baz=180,slow=10,SNR=2.1
KURBB Lg Lg 07 34 03.8
0.0nm,0.3s,baz=192,slow=30,SNR=3.0
GEYT Alibeck 15.71 277 Pn **P** **07 31 06.4 +0.4**
0.3nm,0.3s,baz=107,slow=12,SNR=5.5
BVAR Borovoye Array 16.27 343 Pn **P** **07 31 13.3 +1.2**
0.6nm,0.3s,baz=39,slow=52,SNR=3.9
ZALV Zalesovo Beam 16.98 14 P **Pn** **07 31 18.5 +0.4**
0.4nm,0.3s,baz=202,slow=11,SNR=3.6
GTA Gaotai 17.18 77 *e*P **P** **07 31 23.6 +1.2**
GTA pP sP 07 31 30.1 0.0
GTA sP pP 07 31 33.8 +6.2
GTA pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 19.15 318 P **Pn** **07 31 45.6 +0.8**
0.1nm,0.3s,baz=115,slow=14,SNR=5.5
ARU Arti 22.84 332 P **P** **07 32 25.2 +1.5**
2.0nm,0.2s,baz=271,slow=6.8,SNR=1.3
SONM Songino Array 23.11 55 P **P** **07 32 25.7 -1.0**
0.9nm,0.6s,baz=246,slow=11,SNR=4.4
FINES FINESS Array B 39.77 324 P **P** **07 34 54.0 +0.9**
2.0nm,0.5s,baz=103,slow=12,SNR=7.4
ARCES ARCESS Array B 42.33 336 P **P** **07 35 15.1 +1.0**
1.1nm,0.7s,baz=104,slow=7.5,SNR=3.6
TIXI Tiksi 42.66 21 P **P** **07 35 16.3 -0.5**
1.1nm,0.3s,baz=253,slow=8.3,SNR=1.9
GERES GERESS Array B 46.83 305 P **P** **07 35 51.2 +0.7**
0.5nm,0.6s,baz=66,slow=6.6,SNR=4.6
NB2 NORSAR Subarra 46.87 322 P **P** **07 35 50.9 +0.3**
comp=Z,1.1nm,0.6s,baz=88,slow=7.9
NOA NORSAR Array B 46.87 322 P **P** **07 35 51.0 +0.5**
comp=Z,1.1nm,0.6s,baz=90,slow=7.7,SNR=7.4
ESDC Sonseca Array 61.80 300 P **P** **07 37 39.6 +0.1**
comp=Z,0.4nm,0.6s,baz=52,slow=6.6,SNR=2.7
TORD Torodi Ar. Bea 71.29 272 P **P** **07 38 39.8 -0.7**
comp=Z,0.5nm,0.5s,baz=44,slow=5.6,SNR=4.5
INK Inuvik 71.77 12 P **P** **07 38 41.3 -1.2**
comp=Z,0.8nm,0.6s,baz=194,slow=9.5,SNR=1.7
ILAR Eielson Array 72.05 19 P **P** **07 38 42.6 -1.6**
comp=Z,0.8nm,0.8s,baz=313,slow=4.9,SNR=7.6
WRA Warramunga Arr 78.02 127 P **P** **07 39 17.5 -1.8**
comp=Z,0.7nm,0.9s,baz=332,slow=6.1,SNR=2.5
ASAR Alice Springs 80.50 130 P **P** **07 39 31.3 -1.5**
comp=Z,0.4nm,0.7s,baz=325,slow=6.1,SNR=4.3

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*IDC **03** 07:29:55.3±6.0, 37°.18N×79°.21E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.5/39, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=129.2km s-min=41.4km az=117.0*
ISC 03 07:29:59.5±4.0, 37°.4N±0°.4×78°.8E±0°.5, h10km, n6, σ0§79/6, mb3.9/3, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**9.72**	**14**	Pn		**Pn**	**Pn**	**07 32 19.4**	**0.0**
	0.9nm,0.3s,baz=200,slow=12,SNR=1.8								
BVAR	**Borovoye Array**	**16.66**	**342**	Pn		**Pn**	**Pn**	**07 33 52.3**	**-0.7**
	0.2nm,0.3s,baz=229,slow=11,SNR=2.5								
FINES	**FINESS Array B**	**40.31**	**324**	P		**P**	**P**	**07 37 37.4**	**+0.7**
	1.5nm,0.6s,baz=119,slow=11,SNR=5.5								
NB2	**NORSAR Subarra**	**47.42**	**322**	P		**P**	**P**	**07 38 34.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=88,slow=7.9								
NOA	**NORSAR Array B**	**47.42**	**322**	P		**P**	**P**	**07 38 34.3**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=90,slow=7.7,SNR=4.8								
TORD	**Torodi Ar. Bea**	**71.92**	**273**	P		**P**	**P**	**07 41 22.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=46,slow=6.5,SNR=2.1								

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*NOU **03** 08:19:10.6, 17°.14S×167°.14E, h0km, ML4.0, Vanuatu Islands*
ISC 03 08:19:13.1±1.8, 17°.13S±0°.07×167°.2E±0°.2, h25km, n9, σ0§90/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.67**	**2**	P		**Pn**	**Pn**	**08 19 40.8**	**-0.1**
LIFNC	**LIFOU**	**3.63**	**179**	P		**Pn**	**Pn**	**08 20 06.6**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.35**	**218**	P		**Pn**	**Pn**	**08 20 17.9**	**+0.2**
MARNC	**Mare, Loyalty**	**4.41**	**169**	P		**Pn**	**Pn**	**08 20 19.7**	**+1.2**
YATNC	**Mamie plateau,**	**4.91**	**183**	P		**Pn**	**Pn**	**08 20 24.1**	**-1.3**
DZM	**Mont Dzumac**	**4.96**	**188**	P		**Pn**	**Pn**	**08 20 26.2**	**0.0**
NOUC	**Port Laguerre**	**5.01**	**189**	P		**Pn**	**Pn**	**08 20 27.2**	**+0.5**
ONTNC	**Ouen Toro**	**5.19**	**187**	P		**Pn**	**Pn**	**08 20 29.4**	**+0.1**
OUENC	**Ouen Island, N**	**5.27**	**183**	P		**Pn**	**Pn**	**08 20 30.5**	**+0.2**

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*IDC **03** 08:28:39.3±1.7, 10°.04N×125°.98E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/46, mbtmp3.9/5, MS3.6/2, Ms1 3.6/2, ms1mx3.0/57, Error ellipse: s-maj=181.0km s-min=26.0km az=70.0*
*MAN **03** 08:28:46.0, 10°.07N×126°.17E, h19km, mb4.5, ML3.4, MS3.2*
ISC 03 08:28:45.5±1.1, 10°.20N±0°.07×126°.34E±0°.10, h42km, n18, σ1§58/14, mb4.0/5, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**2.34**	**273**	⇓*i*P		**Pn**	**Pn**	**08 29 21.5**	**0.0**
LLP				*i*S		**Sn**	**Sn**	**08 29 49.3**	**+0.2**
CGP	**Cagayan de Oro**	**2.38**	**223**	⇑*e*P		**Pn**	**Pn**	**08 29 21.1**	**-0.9**
CGP				*e*S		**Sn**	**Sn**	**08 29 47.5**	**-2.6**
SNPH	**Sibulan**	**3.18**	**255**	*e*P		**Pn**	**Pn**	**08 29 33.6**	**+0.5**
SNPH				*e*S		**Sn**	**Sn**	**08 30 11.8**	**+2.0**
KCP	**Kidapawan**	**3.41**	**201**	⇑*e*P		**Pn**	**Pn**	**08 29 39.1**	**+2.9**
KCP				*e*S		**Sn**	**Sn**	**08 30 16.8**	**+1.3**
RCP	**Roxas**	**3.78**	**291**	⇑*i*P		**Pn**	**Pn**	**08 29 42.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**27.76**	**290**	LR		LR	LR	08 46 31.8	
	comp=Z,26nm,18.1s,baz=150,slow=39								
ASAR	**Alice Springs**	**34.47**	**168**	P		**P**	**P**	**08 35 28.4**	**-1.1**
	0.6nm,0.5s,baz=348,slow=6.7,SNR=7.8								
H11S3	**WAKE ISLAND Hy**	**39.87**	**73**	T		T	T	09 19 13.0	
	baz=314,slow=76,SNR=20								
H11S1	**WAKE ISLAND Hy**	**39.88**	**73**	T		T	T	09 19 14.3	
	baz=314,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**39.89**	**73**	T		T	T	09 19 14.5	
	baz=314,slow=76,SNR=13								
H11N1	**WAKE ISLAND Hy**	**40.21**	**72**	T		T	T	09 19 39.2	
	baz=265,slow=74,SNR=96								
H11N2	**WAKE ISLAND Hy**	**40.22**	**72**	T		T	T	09 19 42.5	
	baz=265,slow=74,SNR=67								
H11N3	**WAKE ISLAND Hy**	**40.23**	**72**	T		T	T	09 19 43.3	
	baz=265,slow=74,SNR=100								
SONM	**Songino Array**	**41.11**	**340**	P		**P**	**P**	**08 36 25.8**	**+0.3**
	0.9nm,0.7s,baz=161,slow=9.2,SNR=3.2								
PALK	**Pallekele**	**45.18**	**270**	LR		LR	LR	08 56 41.3	
	comp=Z,286nm,20.1s,baz=45,slow=38								
MKAR	**Makanchi Array**	**52.12**	**323**	P		**P**	**P**	**08 37 50.8**	**-0.9**
	1.1nm,0.7s,baz=127,slow=7.3,SNR=9.6								
ARCES	**ARCESS Array B**	**84.28**	**340**	P		**P**	**P**	**08 41 13.2**	**+0.6**
	1.8nm,0.8s,baz=77,slow=5.6,SNR=2.2								
FINES	**FINESS Array B**	**85.98**	**332**	P		**P**	**P**	**08 41 20.5**	**-0.7**
	0.9nm,0.6s,baz=46,slow=4.0,SNR=3.7								

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*DJA **03** 08:38:32.0±0.2, 1°.N±2°.×12°.7E±°, h101km±2km, M4.8/27, mb5.1/27, mB5.3/12, MLv4.9/19, Mw(mB)4.7/12*
*NEIC **03** 08:38:33±1.4, 1°.23N±0°.07×127°.27E±0°.08, h113km±6km, mb4.8/25, Error ellipse: s-maj=12.2km s-min=9.3km az=61.0*
*IDC **03** 08:38:33.3±0.8, 1°.22N×127°.34E, h123km±7km, mb4.0/11, mb1 4.1/16, mb1mx3.8/44, mbtmp4.5/16, MS3.5/1, Ms1 3.5/1, ms1mx2.9/47, Error ellipse: s-maj=22.6km s-min=9.7km az=75.0*
*KLM **03** 08:38:36, 1.21N×127°.04E, h79km, mb4.9*
*MAN **03** 08:39:27.8, 5°.27N×125°.81E, h32km, mb4.7, ML3.6, MS3.4*
ISC 03 08:38:31.7±0.4, 1°.24N±0°.04×127°.29E±0°.06, h100km, n86, σ1§60/94, mb4.6/28, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.48**	**170**	Pn		**Pn**	**Pn**	**08 38 50.2**	**+2.8**
TNTI	**Ternate**	**0.48**	**170**	P		**Pn**	**Pn**	**08 38 48.6**	**+1.3**
TNTI				S			**Sn**	**08 39 02.6**	**+3.6**
LBMI	**Labuha**	**1.88**	**173**	P		**Pn**	**Pn**	**08 39 04.6**	**+1.8**
LBMI				S			**Sn**	**08 39 29.8**	**+3.3**
SGSI	**Sangihe**	**2.99**	**324**	P		**Pn**	**Pn**	**08 39 16.7**	**-0.7**
KMSI	**Cibinong**	**3.37**	**259**	P		**Pn**	**Pn**	**08 39 23.4**	**+1.0**
SANI	**Sanana**	**3.52**	**202**	P		**Pn**	**Pn**	**08 39 25.1**	**+0.7**
GTOI	**Gorontalo**	**4.32**	**262**	P		**Pn**	**Pn**	**08 39 36.9**	**+1.7**
NLAI	**Namlea**	**4.46**	**182**	P		**Pn**	**Pn**	**08 39 39.0**	**+1.9**
SWI	**Sorong**	**4.49**	**118**	P		**Pn**	**Pn**	**08 39 37.3**	**-0.2**
SIJI	**Sorong**	**4.50**	**118**	P		**Pn**	**Pn**	**08 39 39.1**	**+1.4**
	5.0nm,0.3s,baz=273,slow=14,SNR=6.3								
MSAI	**Masohi**	**4.85**	**160**	P		**Pn**	**Pn**	**08 39 44.6**	**+2.2**
LUWI	**Luwuk**	**5.05**	**243**	Pn		**Pn**	**Pn**	**08 39 45.6**	**+0.5**
LUWI	**Luwuk**	**5.05**	**243**	P		**Pn**	**Pn**	**08 39 45.9**	**+0.8**
	5.6nm?μm611nm,0.6s								
MRSI	**Marisa**	**5.40**	**262**	P		**Pn**	**Pn**	**08 39 50.2**	**+0.4**
	2.4nm?μm678nm,0.5s								
APSI	**Ampana**	**6.03**	**249**	P		**Pn**	**Pn**	**08 39 58.9**	**+0.5**
	2.1nm?μm507nm,0.6s								
DAV	**Davao City (W)**	**6.03**	**344**	P		**Pn**	**Pn**	**08 40 01.3**	**+2.8**
	70nm,0.3s,baz=108,slow=20,SNR=2.3								
DAV				S			**Sn**	**08 41 06.4**	**+0.2**
	70nm,0.3s,baz=342,slow=20,SNR=1.9								
BNDI	**Bandanaira**	**6.30**	**155**	P		**Pn**	**Pn**	**08 40 03.7**	**+1.6**
	1.3nm291nm,1.0s								
FAKI	**Fak Fak**	**6.46**	**130**			**Pn**	**Pn**	**08 40 08.1**	**+3.8**
TOLI2	**Tolitoli**	**6.50**	**269**	Pn		**Pn**	**Pn**	**08 40 04.5**	**-0.4**
MPSI	**Mapaga**	**7.44**	**263**	P		**Pn**	**Pn**	**08 40 19.1**	**+1.5**
	0.4nm2μm88nm,0.6s								
CGP	**Cagayan de Oro**	**7.61**	**340**	⇓*e*P		**Pn**	**Pn**	**08 40 19.7**	**-0.2**
TTSI	**Tana Toraja**	**8.59**	**240**	P		**Pn**	**Pn**	**08 40 33.2**	**-0.1**
	2.5nm?μm601nm,0.6s								
BNSI	**Bone**	**9.10**	**232**	P		**Pn**	**Pn**	**08 40 40.6**	**+0.3**
	1μm115nm,0.9s								
BKSI	**Bulukumba**	**9.68**	**228**	P		**Pn**	**Pn**	**08 40 50.5**	**+2.4**
	3μm237nm,0.6s								
KAPI	**Kappang**	**9.76**	**230**	P		**Pn**	**Pn**	**08 40 51.4**	**+2.2**
	13nm,0.3s,baz=84,slow=3.7,SNR=28								
KAPI				S			**Sn**	**08 42 34.5**	**-2.5**
	16nm,0.3s,baz=281,slow=23,SNR=12								
KAPI	**Kappang**	**9.76**	**230**			**Pn**	**Pn**	**08 40 51.1**	**+1.9**
SOEI	**Soe**	**11.33**	**195**	P		Pn	Pn	08 41 28.0	+17
SPMM	**Sapulut**	**11.34**	**288**	P		**Pn**	**Pn**	**08 41 12.0**	**+1.3**
EDFI	**Ende, Flores**	**11.39**	**209**	P		**Pn**	**Pn**	**08 41 11.3**	**-0.1**
	459nm8.9nm,0.6s								
BATI	**Baumata**	**11.93**	**198**	P		**Pn**	**Pn**	**08 41 20.0**	**+1.4**
	3.2nm,0.3s,baz=338,slow=5.4,SNR=1.6								
MTKI	**Muara Teweh, K**	**12.58**	**260**	P		**Pn**	**Pn**	**08 41 27.4**	**+0.3**
BBKI	**Banjar Baru**	**13.29**	**249**	P		**Pn**	**Pn**	**08 41 38.4**	**+1.9**
	34nm,0.9s								
MTN	**Manton Dam**	**14.51**	**165**	Pn		**Pn**	**Pn**	**08 41 51.4**	**-0.8**
SBUM	**Sibu**	**15.11**	**275**	P		**P**	**P**	**08 42 04.0**	**+1.3**
KMMI	**Kalianget**	**15.64**	**238**	P		**P**	**P**	**08 42 11.8**	**+3.2**
KNRA	**Kununurra**	**16.88**	**175**	P		**Pn**	**Pn**	**08 42 22.0**	**+0.2**
KNRA				IAmb		IAmb	IAmb	08 42 23.1	
	comp=Z,36nm,0.6s								
PWJI	**Pagerwojo**	**17.97**	**239**	P		**Pn**	**Pn**	**08 42 37.2**	**+2.0**
	comp=Z,68nm,0.8s								
FITZ	**Fitzroy Crossi**	**19.29**	**185**	P		**P**	**P**	**08 42 48.3**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=15,slow=9.0,SNR=88								
FITZ	**Fitzroy Crossi**	**19.29**	**185**	P		**P**	**P**	**08 42 48.8**	**0.0**
FITZ				IAmb		IAmb	IAmb	08 42 52.6	
	comp=Z,26nm,1.1s								
KPJI	**Karang Pucung**	**20.20**	**245**	P		**P**	**P**	**08 43 00.1**	**+1.4**
	comp=Z,60nm,1.0s								
WB0	**Warramunga Arr**	**22.01**	**162**	P		**P**	**P**	**08 43 17.0**	**-1.1**
WRAB	**Tennant Creek**	**22.16**	**162**	P		**P**	**P**	**08 43 17.8**	**-1.7**
WRA	**Warramunga Arr**	**22.16**	**162**	P		**P**	**P**	**08 43 18.7**	**-0.9**
	comp=Z,62nm,0.6s,baz=342,slow=11,SNR=236								
WRA				pP		**pP**	**pP**	**08 43 40.4**	**+1.3**
	comp=Z,4.7nm,0.4s,baz=340,slow=11,SNR=2.2								
WRA				S		**S**	**S**	**08 47 14.9**	**-2.6**
	comp=Z,0.9nm,0.6s,baz=0.4,slow=12,SNR=2.6								
WRA				ScP		**ScP**	**ScP**	**08 50 37.4**	**-4.2**
	comp=Z,0.3nm,0.7s,baz=338,slow=2.6,SNR=1.4								
WRA				LR		LR	LR	08 53 21.8	
	comp=Z,121nm,20.9s,baz=300,slow=40								
WRA	**Warramunga Arr**	**22.16**	**162**	P		**P**	**P**	**08 43 17.4**	**-2.2**
WB2	**Warramunga Arr**	**22.17**	**162**	P		**P**	**P**	**08 43 18.8**	**-0.9**
CGJI	**Cibinong**	**22.92**	**250**	P		**P**	**P**	**08 43 26.8**	**-0.6**
	comp=Z,3μmcomp=Z,64nm,0.8s								
SSLB	**Suanglung**	**23.23**	**345**	P		**P**	**P**	**08 43 31.1**	**+0.7**
SSLB				IAmb		IAmb	IAmb	08 43 32.4	
	comp=Z,21nm,0.8s								
MDSI	**Maura Dua**	**23.78**	**256**	P		**P**	**P**	**08 43 35.8**	**+0.4**
	comp=Z,7.7nm,0.9s								
PSA00	**Pilbara Seismi**	**23.81**	**197**	P		**P**	**P**	**08 43 35.6**	**+0.1**
PSA00				IAmb		IAmb	IAmb	08 43 36.1	
	comp=Z,16nm,0.8s								
YHNB	**Yeheng**	**23.98**	**347**	P		**P**	**P**	**08 43 37.4**	**+0.3**
YHNB				IAmb		IAmb	IAmb	08 43 40.9	
	comp=Z,19nm,0.7s								
XMIS	**Christmas Isla**	**24.47**	**241**	P		**P**	**P**	**08 43 40.6**	**-1.0**
JOW	**Kunigami**	**25.46**	**2**	P		**P**	**P**	**08 43 49.9**	**-0.6**
	comp=Z,9.1nm,0.7s,baz=111,slow=18,SNR=1.3								
JOW	**Kunigami**	**25.46**	**2**	IAmb		IAmb	IAmb	08 43 56.2	
	comp=Z,61nm,1.2s								
AS31	**Alice Springs**	**25.58**	**166**	P		**P**	**P**	**08 43 50.7**	**-1.0**
AS31				IAmb		IAmb	IAmb	08 43 54.5	
	comp=Z,9.6nm,0.4s								
ASAR	**Alice Springs**	**25.58**	**166**	P		**P**	**P**	**08 43 51.0**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=350,slow=7.4,SNR=109								
ASAR				PcP		**PcP**	**PcP**	**08 47 18.3**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=355,slow=2.0,SNR=2.0								
ASAR				S		**S**	**S**	**08 48 10.0**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=320,slow=19,SNR=2.0								
ASAR				ScP		**ScP**	**ScP**	**08 50 46.9**	**-4.1**
	comp=Z,0.7nm,0.8s,baz=347,slow=2.5,SNR=4.9								
ASAR	**Alice Springs**	**25.58**	**166**	P		**P**	**P**	**08 43 50.9**	**-0.8**
GIRL	**Giralia**	**26.94**	**207**	P		**P**	**P**	**08 44 03.8**	**0.0**
CTA	**Charters Tower**	**28.20**	**140**	P		**P**	**P**	**08 44 14.1**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=305,slow=12,SNR=2.1								
NJ2	**Nanjing**	**31.66**	**346**	*e*P		**P**	**P**	**08 44 46.7**	**+1.2**
NJ2				pmax		pmax	pmax		
	comp=Z,11nm,0.7s								
FORT	**Forrest**	**31.85**	**179**	P		**P**	**P**	**08 44 46.0**	**-1.3**
MORW	**Morawa**	**32.01**	**199**	P		**P**	**P**	**08 44 47.8**	**-0.8**
MORW				IAmb		IAmb	IAmb	08 45 15.5	
	comp=Z,18nm,1.4s								
CMAR	**Chiang Mai Arr**	**32.65**	**303**	P		**P**	**P**	**08 44 54.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=172,slow=10,SNR=0.7								
BBOO	**Buckleboo**	**34.87**	**167**	P		**P**	**P**	**08 45 12.5**	**-1.0**
BBOO				IAmb		IAmb	IAmb	08 45 13.5	
	comp=Z,20nm,0.9s								
NWAO	**Narrogin (SRO)**	**35.29**	**195**	P		**P**	**P**	**08 45 16.3**	**-0.8**
NWAO				IAmb		IAmb	IAmb	08 45 30.4	
	comp=Z,17nm,1.2s								
STKA	**Stephens Creek**	**35.62**	**159**	P		**P**	**P**	**08 45 19.9**	**0.0**
	comp=Z,11nm,0.3s,baz=331,slow=9.0,SNR=59								
STKA	**Stephens Creek**	**35.62**	**159**	P		**P**	**P**	**08 45 19.8**	**-0.2**
KSRS	**Korea Array**	**36.04**	**1**	P		**P**	**P**	**08 45 22.3**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=180,slow=9.6,SNR=6.3								
XAN	**Xi'an**	**36.88**	**334**	P		**P**	**P**	**08 45 30.9**	**+0.2**
XAN				pP		pwP	pwP	08 45 56.1	+0.5
XAN				pmax		pmax	pmax		
	comp=Z,6.0nm,0.9s								
ARMA	**Armidale**	**39.11**	**146**	P		**P**	**P**	**08 45 50.6**	**+1.1**
ARMA				IAmb		IAmb	IAmb	08 46 09.1	
	comp=Z,28nm,1.2s								
LZH	**Lanzhou**	**40.92**	**331**	*e*P		**P**	**P**	**08 46 04.3**	**-0.2**
LZH				pP		pwP	pwP	08 46 31.2	+1.2
LZH				sP		sP	sP	08 46 43.4	+5.2
LZH				pmax		pmax	pmax		
	comp=Z,13nm,1.0s								
CAN	**Canberra**	**41.66**	**153**	P		**P**	**P**	**08 46 09.9**	**-0.5**
CAN				IAmb		IAmb	IAmb	08 46 12.4	
	comp=Z,26nm,0.9s								
HHC	**Hu-ho-hao-te**	**41.92**	**342**	*e*P		**P**	**P**	**08 46 12.5**	**0.0**
HHC				pmax		pmax	pmax		
	comp=Z,27nm,0.6s								
HHC				pmax		pmax	pmax		
	comp=Z,84nm,5.6s								
ASAJ	**Asahikawa**	**44.81**	**16**	P		**P**	**P**	**08 46 35.1**	**-0.4**
	comp=Z,6.1nm,0.9s,baz=60,slow=20,SNR=1.9								
SONM	**Songino Array**	**49.82**	**342**	P		**P**	**P**	**08 47 13.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=142,slow=7.3,SNR=4.0								
SONM				pP		**pwP**	**pwP**	**08 47 44.5**	**+3.9**
	comp=Z,1.8nm,0.7s,baz=149,slow=8.2,SNR=5.0								
SONM	**Songino Array**	**49.82**	**342**	IAmb		IAmb	IAmb	08 47 17.4	
	comp=Z,1.1nm,0.8s								
WMQ	**Urumqi**	**55.07**	**326**	*e*P		**P**	**P**	**08 47 55.5**	**+2.1**
WMQ				LR		LR	LR		
	comp=N,210nm,11.3s								
WMQ				LR		LR	LR		
	comp=E,200nm,19.1s								
WMQ				LR		LR	LR		
	comp=Z,260nm,28.9s								
TUWZ	**Tuamarina**	**59.88**	**141**	P		**P**	**P**	**08 48 26.0**	**-1.1**
MK31	**Makanchi Array**	**59.91**	**326**	P		**P**	**P**	**08 48 26.6**	**-0.6**
MKAR	**Makanchi Array**	**59.91**	**326**	P		**P**	**P**	**08 48 26.8**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=119,slow=7.6,SNR=21								
MKAR				pP		**pwP**	**pwP**	**08 48 55.0**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=118,slow=8.2,SNR=4.1								
MKAR	**Makanchi Array**	**59.91**	**326**	P		**P**	**P**	**08 48 26.6**	**-0.6**
CASY	**Casey**	**68.43**	**187**	P		**P**	**P**	**08 49 22.1**	**-0.4**
CASY				IAmb		IAmb	IAmb	08 49 41.0	
	comp=Z,22nm,1.4s								
RSD	**Rainshed**	**77.74**	**70**			pP		08 50 43.0	-1.3
VNDA	**Vanda**	**80.91**	**173**	P		**P**	**P**	**08 50 33.2**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=319,slow=7.0,SNR=18								
VNDA	**Vanda**	**80.91**	**173**	P		**P**	**P**	**08 50 33.8**	**-0.6**
MAW	**Mawson**	**81.63**	**200**	P		**P**	**P**	**08 50 37.4**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=62,slow=6.4,SNR=7.7								
MAW	**Mawson**	**81.63**	**200**	P		**P**	**P**	**08 50 38.1**	**-0.2**

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*IDC **03** 08:52:34.3±0.8, 40°.99S×43°.68E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/47, mbtmp3.9/7, Error ellipse: s-maj=33.9km s-min=22.1km az=51.0*
ISC 03 08:52:35.7±0.9, 41°.0S±0°.2×43°.6E±0°.2, h9km, n12, σ0§64/9, mb3.9/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**24.22**	**323**	P		**P**	**P**	**08 57 52.1**	**-0.8**
	1.8nm,0.5s,baz=156,slow=8.6,SNR=8.0								
SNAA	**Sanae**	**38.28**	**202**	P		**P**	**P**	**08 59 56.5**	**+0.5**
	0.7nm,0.6s,baz=90,slow=5.1,SNR=6.0								
QSPA	**South Pole Qui**	**49.20**	**180**	P		**P**	**P**	**09 01 23.2**	**-0.7**
	1.1nm,0.8s,baz=247,slow=3.2,SNR=2.4								
H01W2	**Cape Leeuwin H**	**54.55**	**108**	T		T	T	10 01 02.7	
	baz=242,slow=75								
H01W3	**Cape Leeuwin H**	**54.56**	**108**	T		T	T	10 00 51.7	
	baz=242,slow=75								
H01W1	**Cape Leeuwin H**	**54.57**	**108**	T		T	T	10 01 07.4	
	baz=242,slow=75								
TORD	**Torodi Ar. Bea**	**66.38**	**315**	P		**P**	**P**	**09 03 25.8**	**+0.8**
	0.8nm,0.6s,baz=145,slow=3.9,SNR=6.3								
ASAR	**Alice Springs**	**75.07**	**108**	P		**P**	**P**	**09 04 18.1**	**0.0**
	0.6nm,0.9s,baz=235,slow=5.4,SNR=4.4								
STKA	**Stephens Creek**	**75.27**	**119**	P		**P**	**P**	**09 04 19.4**	**+0.3**
	1.1nm,0.9s,baz=280,slow=6.1,SNR=1.6								
WRA	**Warramunga Arr**	**77.71**	**106**	P		**P**	**P**	**09 04 33.2**	**+0.2**
	1.4nm,0.8s,baz=224,slow=4.7,SNR=7.4								
TXAR	**Lajitas Array**	**151.01**	**257**	PKPbc		**PKiKP**	**PKiKP**	**09 12 29.2**	**-0.4**
	0.6nm,0.8s,baz=145,slow=3.3,SNR=5.6								
INK	**Inuvik**	**152.60**	**358**	PKPbc		**PKiKP**	**PKiKP**	**09 12 31.3**	**-0.2**
	1.4nm,1.0s,baz=357,slow=4.4,SNR=3.0								

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*IDC **03** 08:57:21.7±1.7, 37°.49N×77°.87E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.6/62, mbtmp3.8/9, ML3.4/5, Error ellipse: s-maj=27.1km s-min=22.7km az=83.0*
*NNC **03** 08:57:22.6±3.7, 37°.52N×77°.97E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=38.8km s-min=24.4km az=82.0*
*BJI **03** 08:57:25.8±0.0, 37°.58N×77°.92E, h10km, ML3.8/

ILAR	Eielson Array	81.77	22	P	P	09 13 48.1	+0.7
TORD	Torodi Ar. Bea	149.00	289	PKPbc	PKiKP	09 21 18.8	-0.6
	comp=Z,0.7nm,1.0s,baz=80,slow=1.8,SNR=1.7						

IDC 03 09:18:34.7±2.9, 37°.75N×77°.88E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/43, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=40.0km s-min=24.7km az=35.0
SOME 03 09:18:34.9, 37°.75N×78°.18E, h0km
BJI 03 09:18:35.0±0.0, 37°.58N×77°.87E, h10km, mB4.1/2, mb3.8/3, ML3.9/5
NNC 03 09:18:38.4±4.3, 37°.69N×77°.77E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=44.4km s-min=28.9km az=83.0
ISC 03 09:18:39.4±1.2, 37°.81N±0°.05×77°.92E±0°.06, h10km, n25, σ2°.99/34, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.26	4	eP	Pb	09 20 16.2	+4.7
	33nm,1.3s						
SATY				eS	Sg	09 21 29.4	+1.2
	65nm,1.1s						
SATY	Saty	5.26	4	Pg	Pb	09 20 16.2	+4.7
	33nm,1.3s						
SATY				Lg	Lg	09 21 29.4	
	65nm,1.1s						
TNSS	Tian-Shan	5.28	352	Pg	Pg	09 20 18.3	-2.1
	31nm,0.8s						
TNSS				Lg	Lg	09 21 32.9	
	82nm,0.6s						
MDOK	Medeo	5.39	353	eP	Pb	09 20 17.8	+4.1
	21nm,0.8s						
MDOK				eS	Sg	09 21 31.9	-0.6
	58nm,0.7s						
MDOK	Medeo	5.39	353	Pg	Pb	09 20 16.6	+2.9
	23nm,0.7s						
MDOK				Lg	Lg	09 21 30.8	
	52nm,0.6s						
MDOK	Medeo	5.39	353	Pg	Pb	09 20 18.6	+4.9
	21nm,0.8s						
MDOK				Lg	Lg	09 21 31.9	
	58nm,0.7s						
KST	Kastek	5.44	345	eP	Pg	09 20 20.0	-3.5
	7.2nm,0.8s						
KST				eS	Sg	09 21 36.0	+2.1
	47nm,1.4s						
KST	Kastek	5.44	345	Pg	Pg	09 20 20.0	-3.5
	7.2nm,0.8s						
KST				Lg	Lg	09 21 36.0	
	47nm,1.4s						
AAK	Ala-Archa	5.49	333	Pn	Pn	09 20 01.6	+0.3
	1.2nm,0.3s,baz=191,slow=5.2,SNR=5.6						
AAK				Pg	Pb	09 20 16.3	+0.9
	1.4nm,0.3s,baz=84,slow=1.4,SNR=2.7						
AAK				Sn	Sn	09 21 05.3	+0.7
	1.8nm,0.3s,baz=188,slow=17,SNR=4.3						
AAK				Lg	Lg	09 21 31.4	
	1.5nm,0.3s,baz=231,slow=19,SNR=4.5						
AAK	Ala-Archa	5.49	333	⇓Pg	Pb	09 20 19.4	+4.0
	8.6nm,0.6s						
AAK				⇑Lg	Lg	09 21 31.9	
	67nm,1.1s						
DGS	Degeres	5.67	344	eP	Pg	09 20 25.2	-2.7
	5.1nm,0.7s						
DGS				eS	Sg	09 21 44.4	+3.0
	24nm,0.7s						
KPKS	Kokpek	5.68	6	eP	Pb	09 20 23.6	+5.0
	22nm,0.7s						
KPKS				eS	Sg	09 21 41.3	-0.5
	57nm,0.9s						
KTBS	Karatobe	5.97	351	eP	Pb	09 20 27.6	+4.0
	4.2nm,1.0s						
KTBS				eS	Sg	09 21 48.3	-2.7
	35nm,0.6s						
CHKK	Chushkaly	6.08	354	eP	Pb	09 20 29.6	+4.2
	1.9nm,0.3s						
CHKK				eS	Sg	09 21 52.4	-2.2
	20nm,0.6s						
MRKS	Merke	6.10	325	eP	Pg	09 20 33.0	-3.1
	6.6nm,0.8s						
MRKS				eS	Sg	09 21 57.8	+2.8
	9.6nm,1.3s						
KRBS	Karabastau	6.12	345	eP	Pb	09 20 29.0	+2.8
	3.2nm,1.0s						
KRBS				eS	Sg	09 21 51.5	-4.3
	9.9nm,0.7s						
KUU	Kurty	6.20	349	eP	Pb	09 20 29.7	+2.4
	3.1nm,0.8s						
KUU				eS	Sg	09 21 52.5	-5.7
	13nm,1.0s						
WMQ	Urumqi	9.54	48	eP	Pn	09 20 59.7	+2.9
WMQ				S	Sn	09 22 41.5	-2.5
WMQ				smax	smax		
	comp=N,32nm,1.1s						
WMQ				smax	smax		
	comp=E,22nm,0.9s						
MKAR	Makanchi Array	9.54	18	Pn	Pn	09 20 55.6	-1.2
	1.5nm,0.3s,baz=200,slow=12,SNR=45						
MKAR				Sn	Sn	09 22 40.9	-3.2
	0.6nm,0.3s,baz=197,slow=21,SNR=6.6						
KURBB	Kurchatov Arra	12.82	2	Lg	Lg	09 25 27.3	
	0.0nm,0.3s,baz=171,slow=31,SNR=4.1						
BVAR	Borovoye Array	16.09	343	Pn	P	09 22 28.1	-0.9
	0.5nm,0.3s,baz=164,slow=23,SNR=7.7						
GTA	Gaotai	17.19	78	eP	Pn	09 22 38.0	-1.7
GTA				pP	sP	09 22 47.9	+1.9
GTA				sP	pP	09 22 51.5	+7.0
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	Songino Array	23.05	55	P	P	09 23 42.7	-2.2
	2.1nm,1.0s,baz=252,slow=9.2,SNR=7.2						
NB2	NORSAR Subarra	46.71	322	P	P	09 27 05.2	-2.9
	comp=Z,0.4nm,0.5s,baz=90,slow=7.9						
NOA	NORSAR Array B	46.71	322	P	P	09 27 04.9	-3.3
	comp=Z,0.8nm,0.6s,baz=91,slow=7.7,SNR=4.2						

IDC 03 09:22:55.3±4.5, 18°.15S×174°.18W, h0km, mb4.0/3, mb1 4.4/3, mb1mx3.7/30, mbtmp4.0/3, MS3.8/2, Ms1 3.8/2, ms1mx3.2/37, Error ellipse: s-maj=313.5km s-min=31.2km az=152.0
NEIC 03 09:22:58.5±1.7, 20°.43S±0°.06×173°.9W±0°.1, h10km±2km, mb4.6/6, Error ellipse: s-maj=18.4km s-min=6.4km az=121.0
ISC 03 09:22:59.8±1.1, 20°.4S±0°.1×173°.9W±0°.1, h27km, n18, σ1°.20/14, mb4.5/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.94	72	Pn	Pn	09 23 59.0	+0.5
AFI	Afiamalu	6.72	18	Pn	Pn	09 24 36.6	-0.3
MSVF	Nonsavu	8.06	288		Pn	09 24 56.0	+0.8
RAO	Raoul Island	9.58	202	Pn	Pn	09 25 14.6	-1.3
FUNA	Funafuti	13.53	329	Pn	Pn	09 26 09.1	-1.0
PPT	Papeete	23.15	87	LR	LR	09 34 32.1	
	comp=Z,109nm,19.5s,baz=142,slow=30						
WR0	Warramunga Arr	48.25	261	P	P	09 31 40.8	+2.0
WR0				IAmb	IAmb	09 32 06.7	
	comp=Z,9.9nm,1.2s						
AS31	Alice Springs	48.30	256	P	P	09 31 39.5	+0.4
AS31				IAmb	IAmb	09 31 43.7	
	comp=Z,1.2nm,0.6s						
ASAR	Alice Springs	48.30	256	P	P	09 31 41.0	+1.9
	comp=Z,4.1nm,0.7s,baz=88,slow=8.6,SNR=54						
ASAR	Alice Springs	48.30	256	P	P	09 31 41.0	+1.9
WB0	Warramunga Arr	48.42	261	P	P	09 31 40.5	+0.5
WB0				IAmb	IAmb	09 31 40.6	
	comp=Z,4.6nm,0.9s						
WB2	Warramunga Arr	48.43	261	P	P	09 31 39.8	-0.3
WB2				IAmb	IAmb	09 31 52.1	
	comp=Z,13nm,1.5s						
WRA	Warramunga Arr	48.44	261	P	P	09 31 40.5	+0.3
	comp=Z,0.7nm,0.4s,baz=97,slow=6.8,SNR=25						
WRA	Warramunga Arr	48.44	261	P	P	09 31 40.5	+0.3
WRA	Warramunga Arr	48.44	261	IAmb	IAmb	09 31 40.7	
	comp=Z,0.2nm,0.8s						
KNRA	Kununurra	54.52	265	P	P	09 32 25.3	-0.4
NVAR	Mina Array Bea	78.32	41	P	P	09 34 49.7	-8.2
	comp=Z,0.5nm,0.8s,baz=230,slow=9.3,SNR=4.5						
LVC	Limon Verde	95.27	116	LR	LR	10 07 31.8	
	comp=Z,89nm,21.6s,baz=202,slow=28						

TUL 03 09:35:12.2±1.0, 36°.753N±0°.010×97°.58W±0°.01, h7km±6km, ML2.7, mb_Lg2.6/32(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=137.0
NEIC 03 09:35:12.3±0.7, 36°.736N±0°.009×97°.58W±0°.01, h5km±7km, Error ellipse: s-maj=1.9km s-min=0.6km az=50.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.29	16		Pg	09 35 18.0	0.0
KAN13				Sg	Sg	09 35 21.9	+0.2
BLOK	Blackwell	0.29	85		Pg	09 35 18.2	+0.2
BLOK				Sg	Sg	09 35 22.8	+0.9
KAN17	Caldwell West	0.34	334	Pg	Pg	09 35 18.9	-0.1
KAN17				Sg	Sg	09 35 23.6	+0.1
CROK	Carrier	0.40	235		Pg	09 35 20.1	+0.1
CROK				Sg	Sg	09 35 25.8	+0.6
KAN09	Caldwell North	0.40	355	Pg	Pg	09 35 19.9	-0.2
KAN09				Sg	Sg	09 35 25.5	+0.1
KAN05	Bluff City Nor	0.44	328	Pg	Pg	09 35 20.7	-0.2
KAN05				Sg	Sg	09 35 27.4	+0.8
KS20	Mayfield South	0.49	2		Pg	09 35 21.6	-0.2
KS20				Sg	Sg	09 35 28.4	+0.1
OK032	Salt Plains WL	0.51	278	Pg	Pg	09 35 21.9	-0.2
OK032				Sg	Sg	09 35 29.1	+0.3
KAN10	Anthony SW Sta	0.57	313		Pg	09 35 23.0	-0.2
KAN10				Sg	Sg	09 35 30.6	-0.1
KAN08	Anthony NE Sta	0.58	327		Pg	09 35 23.3	-0.2
KAN08				Sg	Sg	09 35 30.7	-0.5
KAN12	Harper NE Stat	0.65	329		Pg	09 35 24.6	-0.3
KAN12				Sg	Sg	09 35 33.4	0.0
T35A	Sooner Cattle	0.87	78		Pg	09 35 28.8	-0.3
T35A				Sg	Sg	09 35 40.5	+0.1
QUOK	Quay	0.90	128		Pg	09 35 29.6	0.0
QUOK				Sg	Sg	09 35 41.3	+0.1
OK029	Liberty Lake	0.94	174		Pg	09 35 30.2	-0.2
OK029				Sg	Sg	09 35 43.1	+0.5
OK031	S. Brethren Rd	0.98	142		Pg	09 35 31.0	-0.2
OK031				Sg	Sg	09 35 44.2	+0.2
OK030	Cody Creek RV	1.03	141		Pg	09 35 31.9	-0.2
OK030				Sg	Sg	09 35 45.7	+0.2
BCOK	Bluff Creek, N	1.08	181		Pg	09 35 32.7	-0.3
OK025	Westminster Rd	1.17	170		Pg	09 35 34.4	-0.3
U32A	Winter Ranch,	1.20	253		Pg	09 35 34.6	-0.7
OKCFA	Oklahoma City	1.32	175		Pn	09 35 36.8	-0.6
OKCSW	OKLAHOMA CITY	1.33	175		Pn	09 35 37.2	-0.4
FNO	Franklin	1.48	174		Pn	09 35 39.6	0.0
R32A	Long Quarter,	1.91	332	Pn	Pb	09 35 46.8	-0.8
X34A	Smith Ranch, M	2.14	186	Pn	Pb	09 35 50.3	-1.3
WMOK	Wichita Mounta	2.22	206	Pn	Pn	09 35 50.0	+0.2
U38A	Gravette	2.59	96		Pn	09 35 54.9	+0.1
CBKS	Cedar Bluff	2.69	321	Pn	Pn	09 35 56.1	-0.2
LOOK	Love County	2.76	173	Pn	Pn	09 35 57.3	+0.2
X37A	Clayton	2.80	139	IAmb_Lg		09 36 48.5	
	comp=Z,19nm,0.8s						
HHAR	Hobbs	2.97	98		Pn	09 35 59.5	-0.6
W39A	Magazine	3.44	115	IAmb_Lg		09 37 10.5	
	comp=Z,22nm,0.9s						
AMTX	Amarillo	3.81	242	IAmb_Lg		09 37 15.0	
	comp=Z,18nm,0.8s						
MIAR	Mount Ida	3.92	123	IAmb_Lg		09 37 20.7	
	comp=Z,14nm,0.8s						
Z38A	Mt. Pleasant	4.07	148	Pn	Pn	09 36 14.2	-1.0
Z38A				IAmb_Lg		09 37 30.2	
	comp=Z,20nm,1.1s						
MGMO	Mountain Grove	4.27	83	IAmb_Lg		09 37 26.1	
	comp=Z,9.3nm,0.7s						
P38A	Dawn	4.30	47	IAmb_Lg		09 37 28.0	
	comp=Z,9.0nm,0.8s						
N35A	Tabor	4.39	20	Pn	Pn	09 36 20.2	+0.6
FCAR	Ozark Folk Cen	4.49	99	IAmb_Lg		09 37 39.9	
	comp=Z,9.6nm,0.9s						
R40A	Maddies Statio	4.50	68	IAmb_Lg		09 37 39.5	
	comp=Z,9.1nm,0.7s						
KSCO	Kaye Shedlock'	4.59	301	IAmb_Lg		09 37 38.1	
	comp=Z,10nm,0.7s						
CCM	Cathedral Cave	5.21	73	IAmb_Lg		09 38 06.0	
	comp=Z,8.5nm,0.8s						
N38A	Joes South For	5.29	39	IAmb_Lg		09 38 12.2	
	comp=Z,15nm,0.8s						
L34A	Svendsen Farm,	5.31	10	IAmb_Lg		09 38 07.4	
	comp=Z,10nm,0.7s						
OGNE	Ogallala	5.46	322	IAmb_Lg		09 38 11.5	
	comp=Z,9.1nm,0.8s						
PBMO	Poplar Bluff	5.74	87	IAmb_Lg		09 38 20.3	
	comp=Z,6.5nm,0.7s						
K31A	O'Neill	5.95	352	IAmb_Lg		09 38 23.9	
	comp=Z,8.8nm,0.7s						

DDA 03 09:38:48.7, 36°.85N×44°.39E, h4km±2km, ML2.7
ISK 03 09:38:51.4, 36°.82N×44°.17E, h5km, ML3.1/7
ISN 03 09:38:52.6±1.0, 36°.67N×44°.38E, h25km, ML3.0
ISC 03 09:38:48.0±2.0, 36°.81N±0°.05×44°.40E±0°.06, h5km±15km, n17, σ1°.05/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	Cukurca	0.77	305	iP	Pg	09 39 02.9	+0.1
CUKT				iS	Sb	09 39 14.0	-0.7
CUKT				IAML		09 39 18.0	
	comp=E,2μm,0.4s						
CUKT				IAML		09 39 20.0	
	comp=N,1μm,0.4s						
CUKT	Cukurca	0.77	305	PG	Pb	09 39 03.7	-0.2
CUKT				SG	Sb	09 39 14.2	-0.5
YOVA	Hakkari_Yksek	0.78	354	iP	Pg	09 39 03.4	+0.4
YOVA				iS	Sb	09 39 13.7	-1.6
YOVA				IAML		09 39 15.0	
	comp=E,384nm,0.4s						
YOVA				IAML		09 39 17.0	
	comp=N,465nm,0.5s						
HAKT	HAKKARI	0.93	324	iP	Pg	09 39 05.9	+0.1
HAKT				iS	Sg	09 39 17.3	-0.6
HAKT				IAML		09 39 20.0	
	comp=E,276nm,0.2s						
HAKT				IAML		09 39 22.0	
	comp=N,224nm,0.3s						
IKRK	Kirkuk	1.41	182	ePg	Pn	09 39 15.0	+0.8
	baz=1.0						
IKRK				eSg	Sn	09 39 33.0	-0.1
IKRK				AML	AML	09 39 43.8	
	comp=E,282nm,0.4s						
IKRK				AML	AML	09 39 44.5	
	comp=N,358nm,0.4s						
SIRT	Sirnak	1.71	294	PN	Pg	09 39 21.1	+0.4
SIRT				SN	Sg	09 39 42.8	-0.1
SIRN	Sırnak	1.73	294	iP	Pg	09 39 21.3	+0.2
SIRN				iS	Sg	09 39 43.4	-0.1
SIRN				IAML		09 39 46.0	
	comp=N,235nm,0.3s						
SIRN				IAML		09 39 48.0	
	comp=E,247nm,0.5s						
GEVA	Gevas	1.84	325	iP	Pg	09 39 23.1	-0.2
GEVA				iS	Sg	09 39 48.8	+1.7
GEVA				IAML		09 39 54.0	
	comp=N,39nm,0.8s						
GEVA				IAML		09 39 57.0	
	comp=E,46nm,0.3s						
TVAN	Van	1.89	336	iP	Pg	09 39 24.8	+0.7
TVAN				iS	Sg	09 39 50.1	+1.4
TVAN				IAML		09 39 58.0	
	comp=N,60nm,0.5s						
TVAN				IAML		09 39 58.0	
	comp=E,57nm,0.5s						
AKDM	Akdamar-Van	1.89	324	PN	Pg	09 39 24.4	+0.2
AKDM				SN	Sg	09 39 48.6	-0.1
VANB	Van	1.96	336	PN	Pg	09 39 24.7	-0.7
VANB				SN	Sb	09 39 48.9	0.0
SRTM	Siirt_Merkez	2.30	302	iP	Pb	09 39 30.7	+0.8
SRTM				iS	Sg	09 40 00.4	-1.3
SRTM				IAML		09 40 09.0	
	comp=E,70nm,0.5s						
SRTM				IAML		09 40 15.0	
	comp=N,87nm,0.6s						
MIDY	Mardin/Midyat-	2.47	285	iP	Pg	09 39 35.5	+0.2
MIDY				iS	Sb	09 40 05.3	+1.7
MIDY				IAML		09 40 13.0	
	comp=E,87nm,0.3s						
MIDY				IAML		09 40 15.0	
	comp=N,84nm,0.4s						
GURO	Guroymak-BITLI	2.56	314	PN	Pb	09 39 33.7	-0.7
AGRB	Hanur-Agry	2.98	339	PN	Pb	09 39 40.5	-1.1
MUSM	Mu-Merkez	2.98	311	iP	Pb	09 39 41.9	+0.3
MUSM				iS	Sb	09 40 19.9	+1.5
MUSM				IAML		09 40 26.0	
	comp=E,8.4nm,0.6s						
MUSM				IAML		09 40 38.0	
	comp=N,7.8nm,1.1s						
MAZI	Mazidag	3.22	283	PN	Pb	09 39 42.6	-3.1

JMA 03 09:55:22.5±0.1, 24°.47N×122°.91E, h96km±2km, M2.7
TAP 03 09:55:23.2, 24°.42N×122°.84E, h92km, ML3.4, B
ISC 03 09:55:22.4±1.3, 24°.43N±0°.04×122°.88E±0°.02, h96km±7km, n83, σ0°.61/154, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.06	65	P	Pn	09 55 36.0	+0.2
JYNG				S	Sn	09 55 45.8	+0.1
YOJ	Yonaguni jima	0.12	73	P	Pn	09 55 36.0	+0.2
YOJ				S	Sn	09 55 45.9	0.0
YOJ	Yonaguni jima	0.12	73	P	Pn	09 55 36.1	+0.2
	baz=72						
YOJ				S	Sn	09 55 45.8	-0.1
	baz=72						
IRIF	Iriomote-Funau	0.78	96	P	Pn	09 55 40.1	-0.1
IRIF				S	Sn	09 55 53.1	-0.4
HATJ	Hateruma jima	0.92	113	P	Pn	09 55 42.4	+0.8
HATJ				eS	Sn	09 55 56.2	+0.2
TWC	Suao	0.96	281	iP	Pn	09 55 42.4	+0.3
	baz=281						
TWC				S	Sn	09 55 55.9	-0.9
	baz=281						
EWUT	Wuta	1.01	271	eS	Sn	09 55 57.5	-0.3
	baz=271						
JKRS	Kuro-shima	1.04	100	P	Pn	09 55 43.4	+0.4
JKRS				S	Sn	09 55 58.4	-0.1
NTC	Toucheng	1.05	294	P	Pn	09 55 43.5	+0.4
	baz=295						
NTC				S	Sn	09 55 58.0	-0.6
	baz=295						
NDS	Dongshan	1.08	281	eP	Pn	09 55 43.7	+0.2
	baz=281						
NDS				eS	Sn	09 55 58.8	-0.5
	baz=281						
TIPB	Shuangxi	1.11	300	P	Pn	09 55 44.0	+0.2
	baz=300						
TIPB				S	Sn	09 55 59.1	-0.7
	baz=300						
TWE	Neicheng	1.15	285	eP	Pn	09 55 44.4	+0.2
	baz=285						
TWE				eS	Sn	09 55 59.9	-0.7
	baz=285						
JIJ	Ishigaki jima	1.15	93	P	Pn	09 55 44.0	-0.2
JIJ				S	Sn	09 55 59.2	-1.4
ETL	Fush Village	1.18	257	eP	Pn	09 55 45.1	+0.4
	baz=256						
ETL				eS	Sn	09 56 01.3	-0.1
	baz=256						
NWF	Wu-fen Shan	1.19	303	eP	Pn	09 55 45.2	+0.4
	baz=304						
NWF				eS	Sn	09 56 01.4	-0.3
	baz=304						
WFSB	Wu-fen Shan	1.19	303	eS	Sn	09 56 01.6	+0.1
	baz=303						
NACB	Ninganchiao	1.20	258	eP	Pn	09 55 45.2	+0.3
	baz=257						
NACB				eS	Sn	09 56 01.6	-0.1
	baz=257						
ENTT	Nioudou	1.22	280	eP	Pn	09 55 45.4	+0.4
	baz=280						
ENTT				eS	Sn	09 56 01.5	-0.6
	baz=280						
TWD	Chiawan	1.23	254	eP	Pn	09 55 45.6	+0.5
	baz=253						
TWD				S	Sn	09 56 01.8	-0.5
	baz=253						
HWA	Hwalien	1.25	249	eS	Sn	09 56 02.2	-0.5
	baz=248						
NDT	Datong Townshi	1.26	278	eP	Pn	09 55 46.2	+0.7
	baz=278						
NDT				eS	Sn	09 56 02.8	-0.2
	baz=278						
ETLH	Xiulin Townshi	1.30	261	eP	Pn	09 55 46.5	+0.4
	baz=260						
ETLH				eS	Sn	09 56 03.6	-0.3
	baz=260						
TEYL	Yanliau Villag	1.30	245	eP	Pn	09 55 46.2	+0.3
	baz=245						
TEYL				eS	Sn	09 56 03.2	-0.6
	baz=245						
NWLT	Wulai	1.30	286	P	Pn	09 55 46.7	+0.6
	baz=286						
NWLT				S	Sn	09 56 03.9	-0.1
	baz=286						
JISG	Ishigakijimahi	1.31	83	P	Pn	09 55 45.7	-0.4
JISG				S	Sn	09 56 02.6	-1.4
NHDH	Xindian Distri	1.35	294	eS	Sn	09 56 04.7	-0.1
	baz=294						
ETM	Tongmen	1.35	250	eP	Pn	09 55 47.0	+0.4
	baz=249						
ETM				eS	Sn	09 56 04.5	-0.4
	baz=249						
NNS	Nan Shan	1.38	271	eP	Pn	09 55 47.4	+0.4
	baz=270						
NNS				eS	Sn	09 56 05.2	-0.5
	baz=270						
YM01	YM01	1.39	301	P	Pn	09 55 47.7	+0.5
	baz=302						
YM01				S	Sn	09 56 05.8	-0.1
	baz=302						
YHNB	Yeheng	1.40	280	eP	Pn	09 55 48.0	+0.8
	baz=280						
YHNB				eS	Sn	09 56 05.9	-0.1
	baz=280						
YM08	YM08	1.40	303	eP	Pn	09 55 47.8	+0.5
	baz=303						
YM08				eS	Sn	09 56 06.0	0.0
	baz=303						
TEGC	Jichi Village	1.42	240	eP	Pn	09 55 48.4	+0.9
	baz=238						
TEGC				eS	Sn	09 56 06.5	+0.1
	baz=238						
ESL	Shilin	1.46	246	eP	Pn	09 55 48.4	+0.4
	baz=244						
ESL				eS	Sn	09 56 06.7	-0.6
	baz=244						
TWS1	Kuangyinshan	1.49	297	eS	Sn	09 56 07.9	-0.1
	baz=297						
WHF	Hehuan Shan	1.50	260	eP	Pn	09 55 49.4	+0.5
	baz=259						
WHF				eS	Sn	09 56 08.0	-0.9
	baz=259						
FUSS	Fushou	1.51	264	eP	Pn	09 55 49.1	+0.3
	baz=263						
FUSS				eS	Sn	09 56 07.9	-0.8
	baz=263						
EGFH	Guangfu	1.53	241	eP	Pn	09 55 49.3	+0.5
	baz=239						
EGFH				eS	Sn	09 56 08.7	-0.1
	baz=239						
TWT	Tachien	1.57	264	eP	Pn	09 55 50.3	+0.8
	baz=263						
TWT				eS	Sn	09 56 09.8	-0.2
	baz=263						
TDCB	Techi	1.58	264	eP	Pn	09 55 50.0	+0.4
	baz=263						
TDCB				eS	Sn	09 56 09.8	-0.5
	baz=263						
CHGB	Renai	1.60	257	eP	Pn	09 55 50.5	+0.5
	baz=256						
CHGB				eS	Sn	09 56 10.3	-0.6
	baz=256						
HGSD	Ruisui	1.63	235	eP	Pn	09 55 50.5	+0.5
	baz=234						
HGSD				eS	Sn	09 56 10.6	-0.4
	baz=234						
OWD	Renai	1.63	254	P	Pn	09 55 51.0	+0.8
	baz=252						
OWD				eS	Sn	09 56 10.8	-0.5
	baz=252						
JTJ	Tarama	1.67	82	P	Pn	09 55 50.6	0.0
JTJ				S	Sn	09 56 11.3	-0.7
EHY	Hungye	1.70	238	eP	Pn	09 55 51.3	+0.4
	baz=236						
EHY				eS	Sn	09 56 12.3	-0.4
	baz=236						
ECBN	Changbin	1.71	230	P	Pn	09 55 51.9	+0.7
	baz=229						
ECBN				eS	Sn	09 56 12.9	0.0

baz=229
LIOB Emei 1.71 278 eS Sn 09 56 12.8 -0.3
baz=277
NSTT Nanjuang 1.73 277 eP Pn 09 55 51.8 +0.5
NSTT eS Sn 09 56 12.9 -0.4
baz=277
NHW Xinwu Township 1.77 289 eS Sn 09 56 14.2 0.0
baz=289
WHP Taichung City 1.77 266 eP Pn 09 55 53.1 +1.1
baz=265
WHP eS Sn 09 56 14.4 -0.1
baz=265
YULB Yu-li 1.78 235 eP Pn 09 55 52.4 +0.4
baz=233
YULB eS Sn 09 56 14.4 -0.1
baz=233
EYUL Yuli 1.79 233 eP Pn 09 55 52.9 +0.7
baz=232
EYUL eS Sn 09 56 14.5 -0.2
baz=232
TWF1 Yuli 1.80 234 eP Pn 09 55 53.0 +0.6
baz=232
TWF1 eS Sn 09 56 14.6 -0.4
baz=232
WPL Puli Township 1.81 257 eS Sn 09 56 14.8 -0.4
baz=256
WCS Beigang Elemen 1.84 259 eP Pn 09 55 53.7 +1.0
baz=258
WCS eS Sn 09 56 15.5 -0.3
baz=258
SSLB Suanglung 1.87 251 eP Pn 09 55 53.9 +0.7
baz=249
SSLB eS Sn 09 56 16.4 -0.3
baz=249
SMLT Sun Moon Lake 1.89 254 eP Pn 09 55 54.8 +1.3
baz=253
SMLT eS Sn 09 56 16.9 -0.3
baz=253
FULB Fuli 1.90 230 eP Pn 09 55 54.1 +0.5
baz=229
FULB eS Sn 09 56 17.4 0.0
baz=229
CHKT Chengkung 1.92 227 eP Pn 09 55 53.7 -0.1
baz=225
CHKT eS Sn 09 56 17.2 -0.4
baz=225
TYC Yuchr 1.92 255 eP Pn 09 55 54.6 +0.8
baz=254
TYC eS Sn 09 56 17.5 -0.3
baz=254
EDH Donghe 2.05 225 P Pn 09 55 55.6 +0.1
baz=224
EDH eS Sn 09 56 20.2 -0.5
baz=224
WJS Zhushan 2.06 253 eP Pn 09 55 56.4 +0.8
baz=252
WJS eS Sn 09 56 20.6 -0.4
baz=252
ELDTW Lidau 2.11 235 eP Pn 09 55 56.9 +0.5
baz=233
ELDTW eS Sn 09 56 21.9 -0.4
baz=233
ALS Alishan 2.11 245 eP Pn 09 55 57.0 +0.5
baz=243
ALS eS Sn 09 56 21.6 -0.9
baz=243
JIRB Irabujima 2.12 79 S Sn 09 56 22.1 -0.3
LDUT Ludao 2.17 217 eP Pn 09 55 56.8 -0.3
baz=215
LDUT eS Sn 09 56 23.5 -0.1
baz=215
CHN5 Tsauling 2.18 248 eP Pn 09 55 58.3 +1.0
baz=247
CHN5 eS Sn 09 56 23.6 -0.3
baz=247
LONT Longtian 2.21 227 eP Pn 09 55 58.0 +0.5
baz=226
LONT eS Sn 09 56 24.5 0.0
baz=226
JMJ Miyako jima 2 2.23 79 eP Pn 09 55 59.4 +1.6
baz=79
JMJ eS Sn 09 56 25.5 +0.7
baz=79
WDLH Douliu 2.27 252 eS Sn 09 56 25.6 -0.2
baz=250
STYH Taoyuan 2.30 238 eP Pn 09 55 59.9 +1.1
baz=236
STYH eS Sn 09 56 26.4 -0.2
baz=236
TWGBT Beinan 2.30 226 eP Pn 09 55 59.3 +0.5
baz=225
TWGBT eS Sn 09 56 26.5 -0.2
baz=225
TWG Pinlang 2.31 226 eP Pn 09 55 59.3 +0.5
baz=225
TWG eS Sn 09 56 26.7 0.0
baz=225
CHN4 Tsaushan 2.35 243 eP Pn 09 56 00.5 +1.0
baz=242
CHN4 eS Sn 09 56 27.5 -0.4
baz=242
WTP Ta-pu 2.39 241 eP Pn 09 56 00.8 +0.8
baz=239
WTP eS Sn 09 56 27.9 -0.9
baz=239
TWK Hsinying 2.48 243 eP Pn 09 56 01.5 +0.3
baz=241
TWK eS Sn 09 56 29.8 -1.1
baz=241
CHN1 Nanshi 2.49 241 eP Pn 09 56 01.6 +0.4
baz=239
CHN1 eS Sn 09 56 30.1 -0.9
baz=239
SLGT Liugui 2.50 236 eP Pn 09 56 02.3 +0.9
baz=234
SLGT eS Sn 09 56 30.9 -0.5
baz=234
MASBT Mashibuluo 2.74 229 eP Pn 09 56 05.5 +0.9
baz=228
MASBT eS Sn 09 56 36.4 -0.7
baz=228
EAST Anshuo 2.76 223 eP Pn 09 56 05.5 +0.6
baz=221
EAST eS Sn 09 56 36.8 -0.9
baz=221
SLIU Shizi 2.92 221 eP Pn 09 56 07.4 +0.4
baz=220
PHUB P'eng-hu 3.16 254 eS Sn 09 56 46.0 -1.2
baz=253
VWUC VWUC 3.17 281 eP Pn 09 56 10.7 +0.3
baz=280
VWUC eS Sn 09 56 45.2 -2.3
baz=280
VCHM Qimei 3.39 250 eP Pn 09 56 13.3 +0.1
baz=248
VCHM eS Sn 09 56 51.1 -1.5
baz=248

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*IDC **03** 09:58:16.7±1.3, 37°.38S×73°.73W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.9/2, Error ellipse: s-maj=38.0km s-min=16.7km az=75.0*
*NEIC **03** 09:58:16.1±1.2, 37°.34S±0°.06×73°.96W±0°.08, h10km±1km, mb4.4/8, Error ellipse: s-maj=13.4km s-min=6.1km az=314.0*

ISC 03 09:58:16.5±0.7, **37°.32S**±0°.07×**74°.01W**±0°.07, **h10**km, **n42**, σ1§**20**/42, **mb4.1/7, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**2.85**	**37**		**Pn**	09 59 01.9	**-0.1**
BO02	**Sierra Bellavi**	**3.63**	**47**		**Pn**	09 59 12.7	**-0.1**
BO01	**Tunca**	**3.76**	**40**		**Pn**	09 59 14.8	**+0.2**
LL03	**Petrohue**	**4.01**	**162**	Pn	**Pn**	09 59 17.5	**-0.5**
LL05	**Los Muermos**	**4.10**	**174**		**Pn**	09 59 17.2	**-2.0**
MT01	**Popeta**	**4.11**	**34**		**Pn**	09 59 18.6	**-0.7**
VA05	**Santo Domingo**	**4.14**	**29**	Pn	**Pn**	09 59 18.9	**-0.8**
MT09	**Talagante**	**4.30**	**36**		**Pn**	09 59 21.8	**-0.4**
PLCA	**Paso Flores**	**4.34**	**143**	Pn	**Pn**	09 59 22.8	**+0.1**
PLCA	1.7nm,0.3s,baz=313,slow=15,SNR=12			Pg	**Pb**	09 59 34.1	**+1.1**
PLCA	6.5nm,0.3s,baz=310,slow=13,SNR=16			Lg	Lg	10 00 30.5	
PLCA	1.9nm,0.3s,baz=45,slow=23,SNR=1.8 **Paso Flores**	**4.34**	**143**		**Pn**	09 59 22.7	**0.0**
MT02	**Curacav**	**4.68**	**31**		**Pn**	09 59 26.1	**-1.0**
MT05	**Renca**	**4.74**	**35**	Pn	**Pn**	09 59 27.5	**-0.6**
MT03	**Universidad Ad**	**4.76**	**38**	Pn	**Pn**	09 59 27.6	**-0.9**
LL01	**San Ignacio de**	**5.20**	**167**		**Pn**	09 59 32.9	**-1.5**
H03S1	**Juan Fernandez**	**5.29**	**310**	Pn	**Pn**	09 59 34.9	**-0.3**
H03S1	baz=49,slow=72,SNR=7.6			T	T	10 05 04.2	
H03S3	baz=130,slow=73,SNR=1071 **Juan Fernandez**	**5.30**	**310**	Pn	**Pn**	09 59 35.1	**-0.3**
H03S3	baz=49,slow=72,SNR=11			T	T	10 05 05.2	
H03S2	baz=130,slow=73,SNR=630 **Juan Fernandez**	**5.30**	**309**	Pn	**Pn**	09 59 34.9	**-0.6**
H03S2	baz=49,slow=72,SNR=11			T	T	10 05 09.5	
VA03	baz=130,slow=73,SNR=788 **San Esteban**	**5.35**	**33**		**Pn**	09 59 36.1	**-0.4**
H03N3	**Juan Fernandez**	**5.56**	**312**	Pn	**Pn**	09 59 39.0	**-0.2**
H03N1	baz=146,slow=27,SNR=6.2 **Juan Fernandez**	**5.57**	**313**	Pn	**Pn**	09 59 38.2	**-1.0**
H03N2	baz=146,slow=27,SNR=7.9 **Juan Fernandez**	**5.58**	**312**	Pn	**Pn**	09 59 38.9	**-0.4**
GO07	baz=146,slow=27,SNR=5.8 **Milladeo Hill,**	**5.80**	**178**		**Pn**	09 59 40.6	**-1.9**
LL02	**Futaleuf**	**6.09**	**165**	Pn	**Pn**	09 59 45.6	**-1.0**
CO02	**Combarbal**	**6.58**	**23**		**Pn**	09 59 52.8	**-0.7**
CO03	**El Pedregal**	**7.02**	**24**		**Pn**	09 59 59.3	**-0.2**
GO04	**Tololo Observa**	**7.61**	**21**	Pn	**Pn**	10 00 07.1	**-0.6**
TRQA	**Tornquist**	**9.56**	**98**	Pn	**Pn**	10 00 32.9	**-1.3**
PB06	**IPOC Station P**	**15.06**	**16**	Pn	**Pn**	10 01 48.2	**-1.3**
PB06	comp=Z,23nm,1.2s			IAmb	IAmb	10 02 03.2	
CPUP	**Villa Florida**	**17.88**	**57**	P	**P**	**10 02 25.6**	**-0.4**
CPUP	comp=Z,0.1nm,0.3s,baz=236,slow=16,SNR=1.7 **Villa Florida**	**17.88**	**57**	P	**P**	**10 02 25.1**	**-0.9**
ITAB	**Concordia**	**21.01**	**68**	P	**P**	**10 02 59.5**	**-0.6**
ITAB	comp=Z,17nm,1.1s			IAmb	IAmb	10 03 05.1	
LPAZ	**La Paz**	**21.58**	**16**	P	**P**	**10 03 08.0**	**+0.9**
LPAZ	comp=Z,1.4nm,0.9s,baz=194,slow=8.3,SNR=4.4 **La Paz**	**21.58**	**16**	P	**P**	**10 03 06.1**	**-0.9**
TRCB	**Terra Rica**	**23.41**	**58**	P	**P**	**10 03 23.4**	**-2.4**
SIV	**San Ignacio**	**24.13**	**32**	P	**P**	**10 03 33.3**	**+0.6**
SNAA	comp=Z,0.5nm,0.6s,baz=204,slow=15,SNR=2.2 **Sanae**	**49.15**	**157**	P	**P**	**10 07 03.2**	**-0.9**
SNAA	comp=Z,1.4nm,0.6s,baz=286,slow=10 **Sanae**	**49.15**	**157**	IAmb	IAmb	10 07 04.9	
QSPA	comp=Z,8.8nm,1.3s **South Pole Qui**	**52.93**	**180**	P	**P**	**10 07 33.7**	**+1.0**
QSPA	comp=Z,1.5nm,1.0s,baz=144,slow=3.6,SNR=2.5 **South Pole Qui**	**52.93**	**180**	P	**P**	**10 07 33.1**	**+0.5**
QSPA	comp=Z,6.9nm,1.4s			IAmb	IAmb	10 07 50.5	
TXAR	**Lajitas Array**	**71.90**	**333**	P	**P**	**10 09 44.4**	**+4.6**
TXAR	comp=Z,0.6nm,0.9s,baz=130,slow=9.6,SNR=2.5 **Lajitas Array**	**71.90**	**333**	P	**P**	**10 09 40.7**	**+0.9**
TX31	**Lajitas Ar. Si**	**71.90**	**333**	P	**P**	**10 09 40.9**	**+1.1**
TX31	comp=Z,4.0nm,1.2s			IAmb	IAmb	10 09 48.4	

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*IDC **03** 10:03:26.3±0.6, 48°.95S×121°.34E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.3/29, mbtmp4.3/14, ML2.1/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/18, Error ellipse: s-maj=33.2km s-min=13.7km az=103.0*
*NEIC **03** 10:03:28.3±0.9, 48°.9S±0°.1×121°.3E±0°.3, h10km±1km, mb4.4/18, Error ellipse: s-maj=32.4km s-min=16.7km az=99.0*

ISC 03 10:03:28.4±0.5, **48°.95S**±0°.08×**121°.3E**±0°.2, **h13**km, **n56**, σ0§**91**/46, **mb4.4**/18, **MS4.0**/9, **1C, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.02**	**337**	T	T	10 22 25.4	
H01W2	baz=160,slow=74,SNR=121 **Cape Leeuwin H**	**15.02**	**337**	T	T	10 22 25.4	
H01W3	baz=160,slow=74,SNR=127 **Cape Leeuwin H**	**15.03**	**337**	T	T	10 22 19.9	
NWAO	baz=160,slow=74,SNR=104 **Narrogin (SRO)**	**16.30**	**348**	Pn	**Pn**	**10 07 17.2**	**+0.2**
NWAO	0.4nm,0.3s,baz=178,slow=11,SNR=4.6			LR	LR	10 11 57.0	
NWAO	comp=Z,874nm,21.5s,baz=171,slow=31 **Narrogin (SRO)**	**16.30**	**348**	Pn	**Pn**	**10 07 16.5**	**-0.5**
NWAO	comp=Z,15nm,1.1s			IAmb	IAmb	10 07 20.3	
CASY	**Casey**	**18.26**	**194**		**P**	**10 07 41.7**	**+0.5**
FORT	**Forrest**	**18.86**	**18**	P	**P**	**10 07 47.3**	**-0.8**
FORT	comp=Z,17nm,0.8s			IAmb	IAmb	10 08 00.9	
BBOO	**Buckleboo**	**19.55**	**40**	P	**Pn**	**10 07 56.6**	**-0.3**
BBOO	comp=Z,20nm,1.2s			IAmb	IAmb	10 08 06.0	
TOO	**Toolangi**	**20.86**	**66**	P	Pn	10 08 11.1	-1.4
TOO	comp=Z,15nm,0.8s			IAmb	IAmb	10 08 17.9	
STKA	**Stephens Creek**	**22.89**	**49**	P	**P**	**10 08 32.6**	**+0.9**
STKA	comp=Z,3.2nm,0.8s,baz=207,slow=12,SNR=6.8			LR	LR	10 16 22.8	
STKA	comp=Z,458nm,18.4s,baz=212,slow=34 **Stephens Creek**	**22.89**	**49**	P	**P**	**10 08 32.1**	**+0.4**
ASAR	**Alice Springs**	**27.12**	**26**	P	**P**	**10 09 10.3**	**-0.8**
ASAR	comp=Z,3.2nm,0.9s,baz=208,slow=9.6,SNR=26			PcP	**PcP**	**10 12 30.6**	**-1.1**
ASAR	comp=Z,0.5nm,0.6s,baz=196,slow=2.2,SNR=7.5			LR	LR	10 18 48.0	
ASAR	comp=Z,680nm,20.2s,baz=194,slow=34 **Alice Springs**	**27.12**	**26**	P	**P**	**10 09 10.8**	**-0.4**
AS31	**Alice Springs**	**27.12**	**26**	P	**P**	**10 09 10.6**	**-0.5**
WRA	**Warramunga Arr**	**30.78**	**24**	P	**P**	**10 09 42.8**	**-0.8**
WRA	comp=Z,2.5nm,1.1s,baz=194,slow=12,SNR=6.8			PcP	**PcP**	**10 12 39.5**	**-1.4**
WRA	comp=Z,1.1nm,0.9s,baz=222,slow=1.7,SNR=4.1			LR	LR	10 20 42.5	
WRA	comp=Z,478nm,21.8s,baz=180,slow=34 **Warramunga Arr**	**30.78**	**24**	IAmb	IAmb	10 09 49.8	
WB2	comp=Z,0.5nm,1.1s **Warramunga Arr**	**30.78**	**24**	P	**P**	**10 09 43.5**	**-0.1**
WR0	**Warramunga Arr**	**30.82**	**25**	P	**P**	**10 09 43.6**	**-0.4**
WR0	comp=Z,10nm,1.2s			IAmb	IAmb	10 09 50.1	
FITZ	**Fitzroy Crossi**	**30.98**	**8**	P	**P**	**10 09 45.7**	**+0.4**
FITZ	comp=Z,2.2nm,0.7s,baz=331,slow=20,SNR=2.1			LR	LR	10 21 04.4	
FITZ	comp=Z,302nm,21.1s,baz=192,slow=34 **Fitzroy Crossi**	**30.98**	**8**	P	**P**	**10 09 45.9**	**+0.6**
VNDA	**Vanda**	**32.55**	**165**	P	**P**	**10 09 58.9**	**+0.3**
VNDA	comp=Z,1.6nm,0.7s,baz=313,slow=8.7,SNR=11			LR	LR	10 22 11.8	
VNDA	comp=Z,316nm,18.9s,baz=318,slow=35 **Vanda**	**32.55**	**165**	P	**P**	**10 09 58.8**	**+0.2**
VNDA	comp=Z,6.3nm,0.8s			IAmb	IAmb	10 10 05.7	
SBA	**Scott Base**	**33.60**	**164**	P	**P**	**10 10 08.7**	**+0.9**
SBA	comp=Z,9.4nm,1.4s			IAmb	IAmb	10 10 15.6	
MAW	**Mawson**	**34.23**	**215**	P	**P**	**10 10 13.6**	**+0.3**
MAW	comp=Z,3.5nm,0.8s,baz=91,slow=10,SNR=9.9			LR	LR	10 20 47.2	
MAW	comp=Z,216nm,21.9s,baz=60,slow=30 **Mawson**	**34.23**	**215**	P	**P**	**10 10 14.0**	**+0.6**
MAW	comp=Z,2.5nm,1.1s			IAmb	IAmb	10 10 21.3	
QSPA	**South Pole Qui**	**41.17**	**180**	P	**P**	**10 11 12.3**	**+0.1**
QSPA	comp=Z,5.2nm,0.7s,baz=284,slow=0.6,SNR=32 **South Pole Qui**	**41.17**	**180**	P	**P**	**10 11 12.7**	**+0.4**
SNAA	**Sanae**	**53.40**	**199**	P	**P**	**10 12 47.2**	**0.0**
SNAA	**Sanae**	**53.40**	**199**	P	**P**	**10 12 46.9**	**-0.3**
SNAA	comp=Z,4.5nm,0.9s,baz=142,slow=8.5,SNR=14 **Sanae**	**53.40**	**199**	P	**P**	**10 12 47.5**	**+0.3**
VNA2	**Neumayer--Watz**	**54.92**	**198**	P	**P**	**10 12 54.6**	**-3.7**
VNA3	**Neumayer Olymp**	**55.13**	**197**	P	**P**	**10 12 59.7**	**-0.1**
VNA1	**Neumayer--Stat**	**55.32**	**198**	P	**P**	**10 12 58.7**	**-2.4**
H08S2	**Diego Garcia H**	**58.03**	**298**	T	T	11 16 08.8	
H08S1	baz=144,slow=76,SNR=6.2 **Diego Garcia H**	**58.04**	**298**	T	T	11 16 10.6	
H08S3	baz=144,slow=76,SNR=4.6 **Diego Garcia H**	**58.05**	**298**	T	T	11 16 10.6	
CMAR	baz=144,slow=76,SNR=9.6 **Chiang Mai Arr**	**70.01**	**337**	P	**P**	**10 14 39.9**	**+0.2**
CMAR	comp=Z,2.7nm,1.0s,baz=179,slow=4.5,SNR=11			LR	LR	10 47 37.1	
CMAR	comp=Z,21nm,18.2s,baz=187,slow=38 **Chiang Mai Arr**	**70.01**	**337**	P	**P**	**10 14 39.4**	**-0.2**
BOSA	**Boshof**	**72.72**	**246**	LR	LR	10 40 12.5	
	comp=Z,123nm,20.8s,baz=178,slow=30						
KMI	**Kunming**	**75.59**	**343**	⇑P	**P**	**10 15 14.7**	**+1.8**
KMI				pP	pwP	10 15 21.3	+0.4
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN	**Xi'an**	**83.36**	**350**	P	**P**	**10 15 55.1**	**+0.3**
XAN				pP	pwP	10 16 01.7	-1.2
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KSAR	**Wonju Array Be**	**86.22**	**5**	P	**P**	**10 16 09.4**	**+0.4**
KSRS	**Korea Array**	**86.23**	**5**	P	**P**	**10 16 09.5**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=191,slow=5.9,SNR=8.3						
MJAR	**Matsushiro Arr**	**86.44**	**14**	P	**P**	**10 16 10.2**	**0.0**
	comp=Z,5.3nm,1.1s,baz=182,slow=7.2,SNR=8.1						
MJAR				LR	LR	10 54 31.8	
	comp=Z,33nm,19.6s,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**86.44**	**14**	P	**P**	**10 16 10.3**	**+0.1**
MJAR				IAmb	IAmb	10 16 10.9	
	comp=Z,4.7nm,1.2s						
GTA	**Gaotai**	**90.02**	**344**	eP	P	10 16 34.0	+6.7
GTA				pP	pwP	10 16 37.5	+2.0
GTA				sP	sP	10 16 40.7	+9.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**93.24**	**8**	P	**P**	**10 16 42.8**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=174,slow=5.7,SNR=4.3						
USRK	**Ussuriysk Ar.**	**93.24**	**8**	P	**P**	**10 16 42.6**	**+0.7**
SONM	**Songino Array**	**97.27**	**350**	P	Pdif	10 17 00.2	-0.4
	comp=Z,0.3nm,0.4s,baz=215,slow=1.8,SNR=1.8						
SONM	**Songino Array**	**97.27**	**350**	P	Pdif	10 17 00.6	0.0
SONM				IAmb	IAmb	10 17 00.9	
	comp=Z,1.5nm,1.1s						
ILAR	**Eielson Array**	**133.49**	**36**	PKP	**PKPdf**	**10 22 42.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=289,slow=3.5,SNR=2.7						
NVAR	**Mina Array Bea**	**136.66**	**81**	PKP	**PKiKP**	**10 22 51.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=195,slow=2.4,SNR=4.7						
TXAR	**Lajitas Array**	**140.68**	**103**	PKP	**PKPdf**	**10 22 57.5**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=198,slow=4.6,SNR=4.9						
PDAR	**Pinedale Array**	**144.59**	**80**	PKP	**PKPab**	**10 23 02.5**	**-0.4**
	comp=Z,4.9nm,1.1s,baz=199,slow=2.7,SNR=19						
EKA	**Eskdalemuir Ar**	**146.14**	**302**	PKPbc	**PKPbc**	**10 23 06.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=84,slow=4.3,SNR=6.9						
YKA	**Yellowknife Ar**	**146.88**	**45**	PKPbc	**PKPdf**	**10 23 07.8**	**+0.6**
	comp=Z,10nm,1.2s,baz=270,slow=2.6,SNR=7.5						

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*ISK **03** 10:10:26.3, 36°.98N×28°.34E, h13km, ML3.8/35*
*DDA **03** 10:10:26.1, 36°.97N×28°.34E, h16km±1km, MW3.6*
*IDC **03** 10:10:27.3±1.0, 36°.82N×28°.40E, h0km, mb3.9/4, mb1 4.0/10, mb1mx3.7/53, mbtmp3.8/10, ML3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.5/48, Error ellipse: s-maj=20.7km s-min=15.9km az=158.0*
*THE **03** 10:10:27.2, 36°.99N×28°.35E, h1km±2km, ML3.8/5, Error ellipse: s-maj=3.1km s-min=1.1km az=91.0*
*ATH **03** 10:10:27.8, 37°.04N×28°.36E, h10km±4km, ML3.8/5, Error ellipse: s-maj=5.0km s-min=1.6km az=191.0*

ISC 03 10:10:27.5±0.9, **36°.98N**±0°.02×**28°.33E**±0°.02, **h7**km±6km, **n85**, σ1§**34**/114, **mb3.9**/4, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.16**	**346**	P	**Pg**	**10 10 30.7**	**-0.1**
YER				S	**Sg**	**10 10 33.5**	**+0.5**
YER	**Yerkesik**	**0.16**	**346**	PG	**Pg**	**10 10 30.6**	**-0.2**
YER				SG	**Sg**	**10 10 33.6**	**+0.5**
TURN	**Turunc**	**0.21**	**199**	*i* P	**Pg**	**10 10 31.5**	**-0.2**
TURN				*i* S	**Sg**	**10 10 35.3**	**+0.7**
TURN				IAML		10 10 36.0	
	comp=N,10μm,0.4s						
TURN				IAML		10 10 38.0	
	comp=E,8μm,0.6s						
TURN	**Turunc**	**0.21**	**199**	PG	**Pg**	**10 10 31.5**	**-0.2**
TURN				SG	**Sg**	**10 10 35.5**	**+1.0**
MULA	**Mugla, Merkez-**	**0.28**	**358**	*i* P	**Pg**	**10 10 32.5**	**-0.5**
MULA				*i* S	**Sg**	**10 10 37.2**	**+0.5**
MULA				IAML		10 10 38.0	
	comp=N,5μm,0.9s						
MULA				IAML		10 10 40.0	
	comp=E,12μm,0.5s						
MRSB	**Marmaris-Mugla**	**0.28**	**202**	PG	**Pg**	**10 10 32.6**	**-0.4**
MRSB				SG	**Sg**	**10 10 37.4**	**+0.7**
DALY	**Dalyan (Mula)**	**0.30**	**122**	*i* P	**Pg**	**10 10 32.4**	**-1.0**
DALY				*i* S	**Sg**	**10 10 37.4**	**-0.1**
DALY				IAML		10 10 38.0	
	comp=N,4μm,0.4s						
DALY				IAML		10 10 39.0	
	comp=E,4μm,0.3s						
DALY	**Dalyan (Mula)**	**0.30**	**122**	PG	**Pg**	**10 10 33.2**	**-0.2**
DALY				SG	**Sg**	**10 10 37.2**	**-0.3**
MLSB	**Milas**	**0.54**	**306**	PG	**Pg**	**10 10 37.8**	**-0.2**
DAT	**Datca**	**0.65**	**248**	PG	**Pg**	**10 10 39.3**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.67**	**44**	*i* P	Pg	10 10 35.6	-4.8
TAVA				*i* S	**Sg**	**10 10 48.9**	**-0.4**
TAVA				IAML		10 10 55.0	
	comp=E,1μm,0.5s						
FETY	**Fethiye**	**0.69**	**119**	PG	**Pg**	**10 10 40.5**	**-0.3**
BDRM	**Kayabasi**	**0.71**	**277**	*i* P	**Pg**	**10 10 40.7**	**-0.5**
BDRM				*i* S	**Sg**	**10 10 51.4**	**+0.9**
BDRM				IAML		10 10 54.0	
	comp=E,2μm,0.3s						
AYDN	**Tasoluk**	**0.77**	**332**	*i* P	**Pg**	**10 10 41.4**	**-0.9**
AYDN				*i* S	**Sg**	**10 10 51.5**	**-0.9**
ARG	**Arkhangelos**	**0.78**	**192**	P	**Pg**	**10 10 42.0**	**-0.4**
ARG				S	**Sb**	**10 10 54.6**	**+0.5**
	comp=E,3μm,0.5s						
ARG	**Arkhangelos**	**0.78**	**192**	P	**Pb**	**10 10 42.9**	**-0.4**
ARG				S	**Sb**	**10 10 54.8**	**+0.6**
ARG				AML	AML	10 10 58.1	
	comp=N,5949μm,0.4s						
ARG				AML	AML	10 11 01.7	
	comp=E,6814μm,0.6s						
ARG	**Arkhangelos**	**0.78**	**192**	PG	**Pg**	**10 10 41.7**	**-0.7**
CAME	**Cameli-Denizli**	**0.78**	**92**	PG	**Pg**	**10 10 41.6**	**-0.9**
BODT	**Bodrum**	**0.82**	**276**	P	**Pg**	**10 10 43.1**	**-0.2**
BODT				S	**Sb**	**10 10 55.7**	**+0.3**
BODT	**Bodrum**	**0.82**	**276**	PG	**Pg**	**10 10 43.0**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.85**	**280**	PG	**Pg**	**10 10 43.8**	**0.0**
DDIM	**Aydin, Didim**	**0.99**	**299**	*i* P	**Pn**	**10 10 47.6**	**-0.3**
DDIM				*i* S	**Sn**	**10 11 01.7**	**-0.4**
NIS1	**Nisyros Isl.**	**1.00**	**248**	P	**Pg**	**10 10 46.4**	**-0.2**
NIS1				S	**Sn**	**10 11 02.2**	**-0.1**
	comp=E,25μm,0.8s						
NIS1	**Nisyros Isl.**	**1.00**	**248**	P	**Pn**	**10 10 47.7**	**-0.3**
NIS1				S	**Sn**	**10 11 01.6**	**-0.7**
NIS1				AML	AML	10 11 05.3	
	comp=N,64350μm,0.7s						
NIS1				AML	AML	10 11 05.7	
	comp=E,39970μm,0.9s						
NIS1	**Nisyros Isl.**	**1.00**	**248**	PG	**Pg**	**10 10 46.3**	**-0.3**
GOLH	**Golhisar**	**1.02**	**75**	*i* P	**Pn**	**10 10 48.4**	**0.0**
GOLH				*i* S	**Sn**	**10 11 05.7**	**+2.8**
GOLH				IAML		10 11 14.0	
	comp=N,927nm,0.7s						
AYDB	**Zeytinkoy-Aydi**	**1.03**	**340**	PG	**Pg**	**10 10 46.1**	**-1.1**
NISR	**Nisiros**	**1.03**	**250**	P	**Pn**	**10 10 47.7**	**-0.7**
NISR				S	**Sn**	**10 11 03.2**	**+0.1**
	comp=N,7μm,0.6s						
NISR	**Nisiros**	**1.03**	**250**	P	**Pn**	**10 10 47.9**	**-0.5**
NISR				S	**Sn**	**10 11 02.8**	**-0.3**
KOSK	**Kos Island**	**1.11**	**259**	P	**Pn**	**10 10 49.2**	**-0.2**
KOSK				S	**Sn**	**10 11 03.9**	**-1.1**
	comp=N,4μm,0.5s						
KOSK	**Kos Island**	**1.11**	**259**	PN	**Pb**	**10 10 48.3**	**-0.7**
GCAM	**G?zelcaml?**	**1.13**	**310**	*i* P	**Pb**	**10 10 48.4**	**-1.0**
GCAM				*i* S	**Sb**	**10 11 03.5**	**-0.8**
GCAM	**G?zelcaml?**	**1.13**	**310**	PN	**Pb**	**10 10 48.4**	**-1.0**
AKAS	**Kas**	**1.27**	**126**	*i* P	**Pg**	**10 10 51.4**	**-0.4**
AKAS				*i* S	**Sn**	**10 11 13.6**	**+4.5**
AKAS				IAML		10 11 15.0	
	comp=E,576nm,0.3s						
AKAS				IAML		10 11 16.0	
	comp=N,1μm,0.7s						
AKAS	**Kas**	**1.27**	**126**	PN	**Pn**	**10 10 49.9**	**-1.9**
ELL	**Elmali**	**1.29**	**100**	PN	**Pb**	**10 10 51.4**	**-0.7**
KSL	**Kastellorizon**	**1.30**	**129**	P	**Pg**	**10 10 52.7**	**+0.2**
KSL				AML	AML	10 11 18.3	
	comp=E,1439μm,1.0s						
KSL				AML	AML	10 11 18.9	
	comp=N,1593μm,0.8s						
SMG	**Samos**	**1.40**	**302**	P	**Pn**	**10 10 52.5**	**-0.9**
SMG				S	**Sn**	**10 11 11.2**	**-0.9**
	comp=N,5μm,0.4s						
SMG	**Samos**	**1.40**	**302**	P	**Pn**	**10 10 52.6**	**-0.8**

SMG				S	Sn	10 11 11.3	-0.9
SMG				AML	AML	10 11 17.8	
	comp=N,11578μm,0.4s						
SMG				AML	AML	10 11 19.0	
	comp=E,7424μm,0.5s						
DEMR	**Demre-Antalya**	**1.47**	**120**	PN	**Pn**	**10 10 53.0**	**-1.4**
MANT	**Manisa**	**1.52**	**7**	*i* P	**Pn**	**10 10 54.4**	**-1.0**
MANT				*i* S	**Sg**	**10 11 17.6**	**+1.1**
MANT				IAML		10 11 24.0	
	comp=E,459nm,1.4s						
MANT				IAML		10 11 27.0	
	comp=N,451nm,1.0s						
BRDR	**BURDUR-Merkez**	**1.56**	**62**	*i* S	**Sg**	**10 11 17.5**	**0.0**
KULA	**Kula-Manisa**	**1.56**	**10**	P	**Pn**	**10 10 54.7**	**-1.0**
KULA	**Kula-Manisa**	**1.56**	**10**	PN	**Pn**	**10 10 54.6**	**-1.1**
GMLD	**Gumuldur**	**1.57**	**315**	PN	**Pn**	**10 10 55.0**	**-0.8**
DGB	**zmir**	**1.57**	**313**	*i* S	**Sn**	**10 11 13.6**	**-2.9**
KORT	**Korkueli**	**1.62**	**89**	PN	**Pn**	**10 10 55.6**	**-1.0**
PASA	**Karahalli, USA**	**1.65**	**34**	*i* P	**Pb**	**10 10 57.1**	**-1.2**
PASA				*i* S	**Sg**	**10 11 19.4**	**-1.1**
PASA				IAML		10 11 23.0	
	comp=E,216nm,0.8s						
PASA				IAML		10 11 27.0	
	comp=N,270nm,0.8s						
BASM	**Basmaki-Afyon**	**1.66**	**55**	PN	**Pn**	**10 10 56.1**	**-1.1**
KARP	**Karpathos**	**1.71**	**214**	P	**Pg**	**10 10 59.7**	**-0.6**
KARP				AML	AML	10 11 26.0	
	comp=E,2799μm,0.7s						
KARP				AML	AML	10 11 29.9	
	comp=N,4853μm,1.0s						
KARP	**Karpathos**	**1.71**	**214**	PN	**Pn**	**10 10 56.9**	**-0.9**
AKUM	**Antalya-Kumluc**	**1.75**	**111**	*i* P	**Pg**	**10 11 00.8**	**-0.2**
AKUM				IAML		10 11 34.0	
	comp=N,207nm,0.4s						
AKUM				IAML		10 11 34.0	
	comp=E,342nm,0.9s						
GOMA	**Golmarmara-Man**	**1.76**	**349**	PN	**Pn**	**10 10 56.9**	**-1.5**
BUCA	**Burdur, Bucak-**	**1.81**	**78**	*i* P	**Pb**	**10 11 00.1**	**-1.0**
BUCA				*i* S	**Sg**	**10 11 24.7**	**-1.1**
BUCA				IAML		10 11 35.0	
	comp=N,214nm,0.6s						
BUCA				IAML		10 11 38.0	
	comp=E,179nm,1.4s						
USAK	**Uak-Merkez**	**1.82**	**17**	*i* P	Pn	10 10 45.4	-14
ANTB	**Antalya**	**1.86**	**92**	PN	**Pn**	**10 10 59.1**	**-0.7**
BCK	**Bucak**	**1.87**	**74**	PN	**Pn**	**10 10 59.1**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**1.92**	**312**	*i* P	**Pn**	**10 11 00.0**	**-0.6**
ZEYE				*i* S	**Sg**	**10 11 29.6**	**+0.4**
ZEYE				IAML		10 11 42.0	
	comp=E,566nm,0.9s						
KZIL	**AFYON_Kizioren**	**1.92**	**48**	*e*P	Pn	10 10 48.9	-12
ISP	**Isparta**	**1.94**	**64**	PN	**Pn**	**10 11 00.2**	**-0.8**
URLA	**Izmir**	**1.95**	**316**	*i* P	**Pn**	**10 11 01.4**	**+0.3**
URLA				*i* S	**Sg**	**10 11 32.7**	**+2.5**
URLA				IAML		10 11 38.0	
	comp=E,607nm,0.8s						
URLA				IAML		10 11 42.0	
	comp=N,826nm,1.0s						
URLA	**Izmir**	**1.95**	**316**	PN	**Pn**	**10 10 59.8**	**-1.3**
KRBN	**Karaburun**	**2.14**	**319**	PN	**Pn**	**10 11 02.0**	**-1.7**
FOCM	**Foa**	**2.15**	**324**	PN	**Pn**	**10 11 02.9**	**-0.8**
SHAP	**Saphane-Kutahy**	**2.16**	**19**	PN	**Pn**	**10 11 02.6**	**-1.4**
GEDZ	**Gediz**	**2.23**	**22**	PN	**Pn**	**10 11 03.8**	**-1.2**
APE	**Apeiranthos**	**2.24**	**273**	PN	**Pn**	**10 11 04.7**	**-0.4**
CHOS	**Chios island**	**2.29**	**309**	PN	**Pn**	**10 11 04.6**	**-1.2**
SHUT	**Suhut-Afyon**	**2.36**	**48**	PN	**Pn**	**10 11 05.8**	**-1.0**
DKL	**Dikili**	**2.37**	**332**	PN	**Pn**	**10 11 05.4**	**-1.5**
ZKR	**Zakros**	**2.53**	**223**	PN	**Pn**	**10 11 07.9**	**-1.1**
TVSB	**Tavsanli**	**2.62**	**20**	PN	**Pn**	**10 11 09.5**	**-0.9**
BALB	**Balikesir**	**2.68**	**353**	PN	**Pn**	**10 11 10.4**	**-0.7**
IDI	**Anoyia**	**3.25**	**240**	Pn	**Pn**	**10 11 19.1**	**0.0**
	comp=N,3.3nm,0.3s,baz=63,slow=16,SNR=14						
IDI				Sn	**Sn**	**10 11 58.1**	**0.0**
	comp=N,5.2nm,0.3s,baz=298,slow=6.0,SNR=9.2						
BRTR	**Keskin Array B**	**4.99**	**55**	Pn	**Pn**	**10 11 44.5**	**+1.5**
	comp=N,1.2nm,0.3s,baz=238,slow=14,SNR=18						
BRTR				Sn	**Sn**	**10 12 45.2**	**+4.1**
	comp=N,0.3nm,0.3s,baz=230,slow=24,SNR=2.9						
MMAI	**Mount Meron Ar**	**7.02**	**122**	Pn	**Pn**	**10 12 09.1**	**-1.7**
	comp=N,5.5nm,0.3s,baz=304,slow=10,SNR=9.4						
MMAI				Sn	**Sn**	**10 13 26.4**	**-4.6**
	comp=N,6.1nm,0.3s,baz=308,slow=26,SNR=7.1						
MLR	**Muntele Rosu**	**8.69**	**349**	Pn	**Pn**	**10 12 36.6**	**+2.8**
	comp=N,0.2nm,0.3s,baz=169,slow=6.4,SNR=9.8						
EIL	**Elat**	**9.15**	**141**	Pn	**Pn**	**10 12 39.0**	**-1.0**
	comp=N,0.7nm,0.3s,baz=104,slow=1.5,SNR=9.8						
EIL				Sn	**Sn**	**10 14 17.9**	**-5.4**
	comp=N,1.0nm,0.3s,baz=100,slow=15,SNR=4.4						
VAE	**Valguarnera**	**11.11**	**277**	Pn	Pn	10 13 11.4	+4.5
	comp=N,3.1nm,0.3s,baz=83,slow=7.3,SNR=4.0						
GERES	**GERESS Array B**	**15.95**	**323**	Pn	**P**	**10 14 18.0**	**+2.0**
	comp=N,0.1nm,0.3s,baz=134,slow=15,SNR=10						
ESDC	**Sonseca Array**	**25.41**	**286**	P	**P**	**10 15 57.5**	**+1.8**
	comp=N,2.4nm,0.6s,baz=82,slow=9.7,SNR=13						
ATD	**Arta Tunnel**	**28.51**	**149**	LR	LR	10 28 40.5	
	comp=N,36nm,18.5s,baz=318,slow=39						
TORD	**Torodi Ar. Bea**	**33.63**	**232**	P	**P**	**10 17 08.6**	**-0.3**
	comp=N,1.2nm,0.8s,baz=31,slow=8.8,SNR=6.5						
USRK	**Ussuriysk Ar.**	**73.73**	**47**	P	**P**	**10 22 03.7**	**+1.5**
	comp=N,0.9nm,0.7s,baz=310,slow=5.4,SNR=2.2						
USRK				LR	LR	10 57 58.6	
	comp=N,53nm,19.5s,baz=171,slow=39						
KSRS	**Korea Array**	**75.14**	**54**	P	**P**	**10 22 12.7**	**+2.2**
	comp=N,1.0nm,0.9s,baz=324,slow=6.0,SNR=5.8						

*ISK **03** 10:14:47.6, 36.°97N×28.°35E, h5km, ML3.7/29*
*IDC **03** 10:14:48.0±1.0, 36.°76N×28.°53E, h0km, mb3.7/4, mb1 3.8/10, mb1mx3.6/57, mbtmp3.7/10, ML3.9/6, Error ellipse: s-maj=18.0km s-min=14.5km az=4.0*
*NIC **03** 10:14:48.1±0.0, 37.°01N×28.°34E, h2km, 3km, Ml3.8/4*
*DDA **03** 10:14:48.8, 36.°97N×28.°35E, h7km, 3km, MW3.7*
*THE **03** 10:14:48.8, 36.°97N×28.°33E, h0km±1km, ML3.7/2, Error ellipse: s-maj=2.0km s-min=0.9km az=106.0*
*ATH **03** 10:14:49.2, 36.°99N×28.°31E, h14km±5km, ML3.7/3, Error ellipse: s-maj=6.0km s-min=2.0km az=200.0*

ISC 03 10:14:49.3±0.9, 36.°96N±0.°02×28.°34E±0.°02, h9km±6km, n86, σ1§13/124, mb3.7/4, 6C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**346**	P	**Pg**	**10 14 52.6**	**-0.5**
YER				S	**Sg**	**10 14 55.7**	**0.0**
YER	**Yerkesik**	**0.18**	**346**	PG	**Pg**	**10 14 52.0**	**-1.1**
TURN	**Turunc**	**0.20**	**202**	*i* P	**Pg**	**10 14 53.4**	**0.0**
TURN				*i* S	**Sg**	**10 14 57.4**	**+1.3**
TURN				IAML		10 14 58.0	
	comp=N,13μm,0.2s						
TURN				IAML		10 14 58.0	
	comp=E,9μm,0.4s						
TURN	**Turunc**	**0.20**	**202**	PG	**Pg**	**10 14 52.8**	**-0.5**
TURN				SG	**Sg**	**10 14 56.6**	**+0.5**
MRSB	**Marmaris-Mugla**	**0.27**	**205**	PG	**Pg**	**10 14 53.9**	**-0.7**
MRSB				SG	**Sg**	**10 14 59.3**	**+1.1**
DALY	**Dalyan (Mula)**	**0.29**	**119**	*i* P	**Pg**	**10 14 54.8**	**-0.3**
DALY				*i* S	**Sg**	**10 14 59.5**	**+0.5**
DALY				IAML		10 15 00.0	
	comp=E,6μm,0.3s						
DALY				IAML		10 15 03.0	
	comp=N,8μm,0.4s						
DALY	**Dalyan (Mula)**	**0.29**	**119**	PG	**Pg**	**10 14 53.7**	**-1.4**
DALY				SG	**Sg**	**10 14 59.4**	**+0.4**
MULA	**Mugla, Merkez-**	**0.30**	**358**	*i* P	**Pg**	**10 14 54.5**	**-0.8**
MULA				*i* S	**Sg**	**10 14 59.2**	**-0.1**
MULA				IAML		10 15 02.0	
	comp=N,3μm,0.3s						
MULA				IAML		10 15 04.0	
	comp=E,8μm,1.0s						
MLSB	**Milas**	**0.56**	**307**	PG	**Pg**	**10 14 59.6**	**-0.5**
MLSB				SG	**Sb**	**10 15 08.6**	**-0.8**
DAT	**Datca**	**0.65**	**250**	P	**Pg**	**10 15 01.2**	**-0.7**
DAT				S	**Sb**	**10 15 11.9**	**-0.2**
DAT	**Datca**	**0.65**	**250**	PG	**Pg**	**10 15 01.4**	**-0.5**
DAT				SG	**Sb**	**10 15 11.9**	**-0.2**
FETY	**Fethiye**	**0.68**	**118**	PG	**Pg**	**10 15 01.4**	**-1.0**
TAVA	**DENIZLI_Tavas**	**0.68**	**42**	*i* P	**Pg**	**10 15 01.2**	**-1.3**
TAVA				*i* S	**Sg**	**10 15 11.9**	**+0.4**
TAVA				IAML		10 15 14.0	
	comp=N,2μm,0.5s						
TAVA				IAML		10 15 14.0	
	comp=E,1μm,0.4s						
BDRM	**Kayabasi**	**0.72**	**279**	*i* P	**Pg**	**10 15 02.9**	**-0.3**
BDRM				*i* S	**Sb**	**10 15 14.4**	**+0.4**
ARG	**Arkhangelos**	**0.76**	**193**	P	**Pg**	**10 15 03.3**	**-0.7**
ARG				S	**Sb**	**10 15 16.0**	**+0.9**
	comp=E,4μm,0.4s						
ARG	**Arkhangelos**	**0.76**	**193**	P	**Pg**	**10 15 03.6**	**-0.3**
ARG				S	**Sb**	**10 15 15.8**	**+0.6**
ARG				AML	AML	10 15 19.6	
	comp=N,7460μm,0.5s						
ARG				AML	AML	10 15 20.8	
	comp=E,6558μm,0.4s						
ARG	**Arkhangelos**	**0.76**	**193**	PG	**Pg**	**10 15 03.2**	**-0.7**
ARG				SG	**Sb**	**10 15 15.3**	**+0.2**
ARG	**Arkhangelos**	**0.76**	**193**	⇑P	**Pg**	**10 15 03.5**	**-0.4**
ARG				S	**Sn**	**10 15 17.0**	**-0.8**
CAME	**Cameli-Denizli**	**0.78**	**91**	PG	**Pg**	**10 15 03.3**	**-0.9**
CAME				SG	**Sb**	**10 15 15.2**	**-0.5**
AYDN	**Tasoluk**	**0.79**	**333**	*i* P	**Pg**	**10 15 03.8**	**-0.7**
AYDN				*i* S	**Sg**	**10 15 13.7**	**-1.1**
AYDN				IAML		10 15 19.0	
	comp=N,1μm,0.7s						
AYDN				IAML		10 15 19.0	
	comp=E,2μm,0.4s						
CAEL	**Denizli, Camel**	**0.80**	**78**	*i* P	**Pg**	**10 15 04.5**	**-0.3**
CAEL				*i* S	**Sn**	**10 15 19.5**	**+0.4**
CAEL				IAML		10 15 22.0	
	comp=E,2μm,1.0s						
CAEL				IAML		10 15 22.0	
	comp=N,2μm,1.0s						
BODT	**Bodrum**	**0.83**	**277**	P	**Pg**	**10 15 05.0**	**-0.3**
BODT				S	**Sb**	**10 15 17.6**	**+0.5**
BODT	**Bodrum**	**0.83**	**277**	PG	**Pg**	**10 15 04.9**	**-0.3**
BODT				SG	**Sb**	**10 15 17.6**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.86**	**281**	PG	**Pg**	**10 15 05.6**	**-0.2**
NIS1	**Nisyros Isl.**	**0.99**	**249**	P	**Pb**	**10 15 08.9**	**+0.2**
NIS1				S	**Sn**	**10 15 23.6**	**0.0**
	comp=N,8μm,0.6s						
NIS1	**Nisyros Isl.**	**0.99**	**249**	P	**Pg**	**10 15 08.1**	**-0.3**
NIS1				S	**Sg**	**10 15 21.2**	**-0.1**
NIS1				AML	AML	10 15 27.2	
	comp=N,17241μm,0.7s						
NIS1				AML	AML	10 15 28.6	
	comp=E,15578μm,0.6s						
NIS1	**Nisyros Isl.**	**0.99**	**249**	PG	**Pg**	**10 15 08.1**	**-0.3**
DDIM	**Aydin, Didim**	**1.00**	**300**	*i* P	**Pg**	**10 15 08.7**	**+0.1**
DDIM				*i* S	**Sn**	**10 15 23.8**	**0.0**
DDIM				IAML		10 15 37.0	
	comp=N,1μm,0.7s						
DDIM				IAML		10 15 41.0	
	comp=E,1μm,0.7s						
GOLH	**Golhisar**	**1.02**	**74**	*i* P	**Pb**	**10 15 09.2**	**0.0**
NISR	**Nisiros**	**1.03**	**251**	P	**Pg**	**10 15 08.8**	**-0.2**
NISR	**Nisiros**	**1.03**	**251**	P	**Pg**	**10 15 08.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**340**	PG	**Pg**	**10 15 08.7**	**-0.7**
KOSK	**Kos Island**	**1.11**	**260**	PN	**Pg**	**10 15 10.1**	**-0.5**
GCAM	**G?zelcaml?**	**1.15**	**310**	*i* P	**Pb**	**10 15 10.5**	**-0.8**
GCAM				*i* S	**Sb**	**10 15 26.3**	**0.0**
GCAM				IAML		10 15 29.0	
	comp=N,1μm,1.0s						
GCAM				IAML		10 15 34.0	
	comp=E,984nm,0.7s						
GCAM	**G?zelcaml?**	**1.15**	**310**	PN	**Pb**	**10 15 10.4**	**-0.9**
AKAS	**Kas**	**1.25**	**125**	*i* P	**Pn**	**10 15 13.2**	**0.0**
AKAS				*i* S	**Sn**	**10 15 33.9**	**+3.7**
AKAS				IAML		10 15 37.0	
	comp=E,1μm,0.4s						
AKAS				IAML		10 15 38.0	
	comp=N,2μm,0.9s						
AKAS	**Kas**	**1.25**	**125**	PN	**Pn**	**10 15 12.6**	**-0.5**
ELL	**Elmali**	**1.28**	**99**	PN	**Pn**	**10 15 12.9**	**-0.5**
ELL	**Elmali**	**1.28**	**99**	P	**Pn**	**10 15 13.0**	**-0.5**
KSL	**Kastellorizon**	**1.29**	**128**	P	**Pn**	**10 15 13.4**	**0.0**
KSL				S	**Sn**	**10 15 31.3**	**+0.5**
KSL	**Kastellorizon**	**1.29**	**128**	⇑P	**Pn**	**10 15 13.5**	**0.0**
SMG	**Samos**	**1.41**	**303**	P	**Pn**	**10 15 14.2**	**-1.0**
SMG	**Samos**	**1.41**	**303**	P	**Pn**	**10 15 14.2**	**-1.0**
DEMR	**Demre-Antalya**	**1.46**	**119**	PN	**Pn**	**10 15 15.9**	**+0.1**
MANT	**Manisa**	**1.54**	**7**	*i* P	**Pn**	**10 15 15.9**	**-1.3**
MANT				*i* S	**Sg**	**10 15 39.5**	**+0.6**
MANT				IAML		10 15 42.0	
	comp=E,370nm,0.6s						
MANT				IAML		10 15 49.0	
	comp=N,268nm,0.9s						
BRDR	**BURDUR-Merkez**	**1.56**	**61**	*i* P	**Pn**	**10 15 17.7**	**+0.4**
BRDR				*i* S	**Sg**	**10 15 40.0**	**+0.5**
BRDR				IAML		10 15 48.0	
	comp=E,513nm,1.0s						
BRDR				IAML		10 15 49.0	
	comp=N,463nm,0.5s						
KULA	**Kula-Manisa**	**1.57**	**9**	P	**Pn**	**10 15 16.8**	**-0.7**
KULA				S	**Sn**	**10 15 38.0**	**-0.1**
KULA	**Kula-Manisa**	**1.57**	**9**	PN	**Pn**	**10 15 17.3**	**-0.2**
DGB	**zmir**	**1.59**	**314**	*i* P	**Pn**	**10 15 16.6**	**-1.0**
DGB				*i* S	**Sg**	**10 15 40.6**	**+0.2**
DGB				IAML		10 15 46.0	
	comp=E,163nm,0.5s						
DGB				IAML		10 15 47.0	
	comp=N,422nm,1.0s						
KORT	**Korkueli**	**1.61**	**88**	PN	**Pn**	**10 15 18.3**	**+0.2**
PASA	**Karahalli, USA**	**1.66**	**33**	*i* P	**Pn**	**10 15 18.4**	**-0.4**
PASA				*i* S	**Sn**	**10 15 40.3**	**+0.1**
PASA				IAML		10 15 48.0	
	comp=E,226nm,0.6s						
PASA				IAML		10 15 50.0	
	comp=N,236nm,0.6s						
BASM	**Basmaki-Afyon**	**1.67**	**54**	PN	**Pn**	**10 15 18.8**	**0.0**
KARP	**Karpathos**	**1.70**	**214**	P	**Pn**	**10 15 19.1**	**-0.1**
KARP	**Karpathos**	**1.70**	**214**	P	**Pn**	**10 15 19.1**	**-0.1**
KARP				AML	AML	10 15 51.8	
	comp=N,2835μm,0.9s						
KARP				AML	AML	10 15 54.8	
	comp=E,2149μm,0.5s						
KARP	**Karpathos**	**1.70**	**214**	PN	**Pn**	**10 15 19.4**	**+0.2**
KARP	**Karpathos**	**1.70**	**214**	⇑P	**Pn**	**10 15 19.0**	**-0.2**
KARP				S	**Sg**	**10 15 43.5**	**-0.4**
KARP				AML	AML	10 15 49.4	
	comp=E,2.1nm,0.5s						
KARP				AML	AML	10 15 49.4	
	comp=E,2.1nm,0.5s						
KARP				AML	AML	10 15 51.9	
	comp=E,3.2nm,1.0s						
KARP				AML	AML	10 15 51.9	
	comp=E,3.2nm,1.0s						
AKUM	**Antalya-Kumluc**	**1.73**	**111**	*i* P	**Pb**	**10 15 20.7**	**-0.6**
AKUM				*i* S	**Sg**	**10 15 47.6**	**+2.6**
AKUM				IAML		10 15 49.0	
	comp=E,575nm,0.5s						
AKUM				IAML		10 15 56.0	
	comp=N,359nm,0.6s						
ANTB	**Antalya**	**1.86**	**91**	PN	**Pn**	**10 15 21.8**	**+0.5**
BCK	**Bucak**	**1.87**	**74**	PN	**Pn**	**10 15 22.3**	**+0.8**
ISP	**Isparta**	**1.94**	**63**	PN	**Pn**	**10 15 22.9**	**+0.3**
URLA	**Izmir**	**1.97**	**316**	PN	**Pn**	**10 15 23.3**	**+0.5**
KRBN	**Karaburun**	**2.16**	**320**	PN	**Pn**	**10 15 26.2**	**+0.8**
SHAP	**Saphane-Kutahy**	**2.18**	**19**	PN	**Pn**	**10 15 26.1**	**+0.3**
APE	**Apeiranthos**	**2.25**	**274**	PN	**Pn**	**10 15 27.5**	**+0.8**
APE	**Apeiranthos**	**2.25**	**274**	P	**Pn**	**10 15 26.6**	**-0.1**
GEDZ	**Gediz**	**2.25**	**22**	PN	**Pn**	**10 15 27.1**	**+0.3**
CHOS	**Chios island**	**2.30**	**309**	PN	**Pn**	**10 15 28.3**	**+0.8**
DKL	**Dikili**	**2.39**	**332**	PN	**Pn**	**10 15 29.3**	**+0.7**
ZKR	**Zakros**	**2.52**	**224**	S	**Sb**	**10 16 03.7**	**-2.1**
IDI	**Anoyia**	**3.25**	**240**	Pn	**Pn**	**10 15 40.5**	**0.0**
	comp=N,4.1nm,0.3s,baz=66,slow=18,SNR=13						
IDI				Sn	**Sn**	**10 16 20.0**	**+0.6**
	comp=N,5.9nm,0.3s,baz=136,slow=10.0,SNR=4.0						
AKMS	**Akamas**	**3.78**	**120**	P	**Pn**	**10 15 48.1**	**+0.3**
AKMS				AML	AML	10 16 32.2	
	comp=N,0.4nm,0.8s						
AKMS				AML	AML	10 16 32.6	
	comp=N,1.0nm,0.5s						
ALFC	**Alefka**	**3.90**	**116**	⇑P	**Pn**	**10 15 49.1**	**-0.2**
ALFC				AML	AML	10 16 34.2	
	comp=N,0.4nm,0.5s						
ALFC				AML	AML	10 16 34.4	
	comp=N,0.3nm,0.6s						
NATA	**Nata**	**4.07**	**121**	P	**Pn**	**10 15 52.1**	**+0.3**
SZAC	**Souni**	**4.30**	**119**	⇑P	**Pn**	**10 15 55.0**	**+0.1**
SZAC				AML	AML	10 16 46.8	
	comp=N,0.6nm,0.5s						
SZAC				AML	AML	10 16 46.8	
	comp=N,0.4nm,0.4s						
ASGA	**Asgata**	**4.54**	**117**	P	**Pn**	**10 15 58.1**	**-0.1**
MVOU	**Mavrovouni**	**4.71**	**113**	⇑P	**Pn**	**10 16 01.5**	**+0.9**
BRTR	**Keskin Array B**	**5.00**	**55**	Pn	**Pn**	**10 16 06.0**	**+1.4**
	comp=N,1.9nm,0.3s,baz=236,slow=16,SNR=18						
BRTR				Sn	**Sn**	**10 17 04.7**	**+2.0**
	comp=N,0.6nm,0.3s,baz=221,slow=24,SNR=5.2						
MMAI	**Mount Meron Ar**	**7.01**	**122**	Pn	**Pn**	**10 16 29.2**	**-2.9**
	comp=N,6.6nm,0.3s,baz=313,slow=12,SNR=11						
MMAI				Sn	**Sn**	**10 17 48.0**	**-4.1**
	comp=N,8.3nm,0.3s,baz=288,slow=28,SNR=8.8						
MMAI				Lg	Lg	10 18 22.5	
	comp=N,2.4nm,0.3s,baz=302,slow=25,SNR=2.6						
MLR	**Muntele Rosu**	**8.71**	**349**	Pn	**Pn**	**10 16 59.2**	**+3.7**
	comp=N,0.4nm,0.3s,baz=138,slow=8.8,SNR=4.2						
EIL	**Elat**	**9.13**	**141**	Pn	**Pn**	**10 16 59.7**	**-1.6**
	comp=N,1.1nm,0.3s,baz=187,slow=7.2,SNR=7.9						
EIL				Sn	**Sn**	**10 18 38.3**	**-6.0**
	comp=N,1.2nm,0.3s,baz=73,slow=14,SNR=4.2						
KEST	**Kesra**	**15.36**	**271**	Pn	**P**	**10 18 31.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=13,slow=9.7,SNR=5.0						
GERES	**GERESS Array B**	**15.97**	**323**	Pn	**P**	**10 18 39.5**	**+1.8**
	comp=N,0.2nm,0.3s,baz=131,slow=13,SNR=2.4						
ESDC	**Sonseca Array**	**25.41**	**286**	P	**P**	**10 20 19.6**	**+2.4**
	comp=N,1.1nm,0.8s,baz=72,slow=8.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**33.62**	**232**	P	**P**	**10 21 30.0**	**-0.2**
	comp=N,1.3nm,0.6s,baz=32,slow=9.0,SNR=9.1						
MKAR	**Makanchi Array**	**40.64**	**59**	P	**P**	**10 22 28.6**	**-1.0**
	comp=N,0.2nm,0.5s,baz=281,slow=7.1,SNR=2.9						
KSRS	**Korea Array**	**75.15**	**54**	P	**P**	**10 26 31.7**	**-0.2**
	comp=N,0.8nm,0.7s,baz=292,slow=3.8,SNR=3.0						

*IDC **03** 10:23:51.5±1.0, 43.°12N×136.°27E, h332km±11km, mb3.1/7, mb1 3.2/12, mb1mx2.9/45, mbtmp3.6/12, Error ellipse: s-maj=21.7km s-min=15.0km az=7.0*
*JMA **03** 10:23:52.1±0.5, 42.°92N×136.°85E, h362km, M3.5*

ISC 03 10:23:52.0±0.8, 42.°85N±0.°08×136.°73E±0.°08, h350km, n28, σ1§78/30, mb3.3/7, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**2.36**	**99**	P	**Pn**	**10 24 46.6**	**+0.7**
JSH	**Shimam**	**2.45**	**94**	P	**Pn**	**10 24 47.1**	**+0.5**
JIW	**Iwasaki**	**3.33**	**131**	P	**Pn**	**10 24 55.9**	**+1.5**
JKB	**Kayabe**	**3.33**	**105**	P	**Pn**	**10 24 55.4**	**+1.1**
JOT	**Ohata**	**3.53**	**113**	P	**Pn**	**10 24 57.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**3.70**	**293**	P	Pn	10 24 53.1	-4.8
	baz=99,slow=7.9,SNR=13						
USRK				S	S	10 25 41.4	-10
	baz=85,slow=20,SNR=5.1						
JFR	**Furan**	**4.31**	**84**	P	**Pn**	**10 25 04.9**	**+0.7**
JFR				*e*S	**S**	**10 26 01.8**	**-0.6**
JANG	**Nango**	**4.36**	**123**	P	**Pn**	**10 25 04.9**	**+0.2**
ASAJ	**Asahikawa**	**4.45**	**71**	P	**Pn**	**10 25 06.1**	**+0.5**
	0.8nm,0.3s,baz=241,slow=11,SNR=9.2						
JRG	**Rokugo**	**4.54**	**138**	P	**Pn**	**10 25 07.7**	**+1.1**
JCH	**Churui**	**4.89**	**90**	P	**Pn**	**10 25 10.0**	**-0.3**
JCH				*e*S	**S**	**10 26 11.3**	**-2.4**
JMK	**Ichinoseki**	**5.17**	**137**	P	**Pn**	**10 25 13.9**	**+0.4**
JTKR	**Abashiri--Toko**	**5.35**	**75**	P	**Pn**	**10 25 16.0**	**+0.7**
JMM	**Marumori**	**5.86**	**147**	P	**Pn**	**10 25 21.3**	**0.0**
JFT	**Otama**	**6.00**	**151**	P	**Pn**	**10 25 23.6**	**+0.8**
JFK	**Kawauchi**	**6.33**	**149**	P	**Pn**	**10 25 25.6**	**-1.1**
JFK				*e*S	**S**	**10 26 41.6**	**-1.9**
MJAR	**Matsushiro Arr**	**6.40**	**169**	P	**Pn**	**10 25 30.9**	**+3.4**
	0.1nm,0.3s,baz=2.5,slow=11,SNR=5.9						
NEM2	**Nemuro 2**	**6.62**	**82**	P	**Pn**	**10 25 28.8**	**-1.0**
NEM2				*e*S	**S**	**10 26 44.7**	**-4.6**
JRY	**Ryogami san**	**7.03**	**165**	P	**Pn**	**10 25 34.6**	**-0.2**
KLR	**Kul'dur**	**7.26**	**333**	P	Pn	10 25 32.0	-5.2
	0.3nm,0.3s,baz=132,slow=12,SNR=13						
KSRS	**Korea Array**	**8.63**	**234**	P	**Pn**	**10 25 52.3**	**-1.3**
	0.1nm,0.3s,baz=48,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**38.17**	**295**	P	**P**	**10 30 35.3**	**-3.6**
	0.5nm,0.6s,baz=75,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra**	**39.72**	**302**	P	**P**	**10 30 49.0**	**-2.4**
	0.9nm,0.3s,baz=80,slow=9.3,SNR=4.3						
KDAK	**Kodiak Island**	**45.38**	**45**	P	**P**	**10 31 37.4**	**+1.1**
	0.7nm,0.3s,baz=310,slow=19,SNR=11						
ILAR	**Eielson Array**	**46.65**	**35**	P	**P**	**10 31

σ2°62/48, mb3.8/11, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 27nm,0.8s	**5.35**	**4**	*e*P	**Pg**	**10 39 00.8**	**-0.5**
SATY	113nm,0.9s			*e*S	**Sg**	**10 40 14.0**	**+3.4**
SATY	**Saty** 27nm,0.8s	**5.35**	**4**	Pg	**Pg**	**10 38 57.9**	**-3.3**
SATY	113nm,0.9s			Lg	Lg	10 40 14.0	
MDOK	**Medeo** 19nm,0.5s	**5.49**	**353**	*e*P	**Pg**	**10 39 03.8**	**-0.1**
MDOK	50nm,0.8s			*e*S	**Sg**	**10 40 18.4**	**+3.4**
MDOK	**Medeo** 25nm,0.5s	**5.49**	**353**	Pg	**Pg**	**10 39 00.8**	**-3.1**
MDOK	107nm,1.1s			Lg	Lg	10 40 13.4	
MDOK	**Medeo** 11nm,0.5s	**5.49**	**353**	Pg	**Pg**	**10 39 00.7**	**-3.2**
MDOK	50nm,0.8s			Lg	Lg	10 40 18.4	
UZB	**Uzynbulak** 15nm,0.5s	**5.49**	**8**	*e*P	Pg	10 39 00.2	-3.7
UZB	36nm,0.7s			*e*S	**Sg**	**10 40 12.4**	**-2.7**
KST	**Kastek** 22nm,0.6s	**5.54**	**345**	*e*P	**Pg**	**10 39 06.7**	**+1.9**
KST	40nm,0.8s			*e*S	**Sg**	**10 40 23.7**	**+7.1**
KST	**Kastek** 22nm,0.6s	**5.54**	**345**	Pg	**Pg**	**10 39 04.0**	**-0.9**
KST	40nm,0.8s			Lg	Lg	10 40 23.7	
SHLS	**Shalkode** 32nm,0.3s	**5.56**	**11**	*e*P	**Pg**	**10 39 04.4**	**-0.8**
SHLS	105nm,0.7s			*e*S	**Sg**	**10 40 19.9**	**+2.7**
AAK	**Ala-Archa** 1.2nm,0.3s,baz=197,slow=7.0,SNR=2.6	**5.59**	**333**	Pn	**Pn**	**10 38 46.6**	**+4.5**
AAK	4.8nm,0.3s,baz=132,slow=7.7,SNR=7.0			Pg	**Pg**	**10 39 02.9**	**-2.9**
AAK	2.6nm,0.3s,baz=28,slow=18,SNR=2.4			Lg	Lg	10 40 18.2	
AAK	**Ala-Archa** 17nm,0.6s	**5.59**	**333**	⇓Pg	Pb	10 39 02.6	+6.2
AAK	85nm,1.1s			⇑Lg	Lg	10 40 18.5	
DGS	**Degeres** 19nm,0.4s	**5.77**	**344**	*e*P	**Pg**	**10 39 07.5**	**-1.7**
DGS	37nm,0.8s			*e*S	**Sg**	**10 40 25.0**	**+1.0**
KPKS	**Kokpek** 21nm,0.4s	**5.78**	**5**	*e*P	**Pg**	**10 39 05.8**	**-3.5**
KPKS	50nm,0.6s			*e*S	**Sg**	**10 40 21.7**	**-2.4**
KTBS	**Karatobe** 5.6nm,0.5s	**6.07**	**351**	*e*P	**Pg**	**10 39 12.1**	**-2.9**
KTBS	44nm,0.6s			*e*S	**Sg**	**10 40 33.3**	**-0.4**
MRKS	**Merke** 6.2nm,0.9s	**6.19**	**326**	*e*P	Pb	10 39 13.8	+7.1
MRKS	17nm,0.6s			*e*S	**Sg**	**10 40 35.8**	**-1.7**
KRBS	**Karabastau** 5.0nm,0.7s	**6.22**	**345**	*e*P	**Pg**	**10 39 15.8**	**-2.1**
KRBS	16nm,1.0s			*e*S	**Sg**	**10 40 39.4**	**+0.9**
KUU	**Kurty** 4.3nm,0.9s	**6.30**	**349**	*e*P	**Pg**	**10 39 17.0**	**-2.3**
KUU	20nm,0.8s			*e*S	**Sg**	**10 40 41.0**	**+0.2**
WMQ	**Urumqi**	**9.58**	**47**	*e*Pn	**Pn**	**10 39 39.3**	**+2.5**
WMQ				Sn	**Sn**	**10 41 29.3**	**+4.8**
WMQ	comp=N,25nm,0.7s			smax	smax		
WMQ	comp=E,39nm,0.9s			smax	smax		
MKAR	**Makanchi Array** comp=E,1.3nm,0.3s,baz=202,slow=13,SNR=47	**9.63**	**18**	Pn	**Pn**	**10 39 38.4**	**+1.0**
MKAR	comp=E,1.8nm,0.3s,baz=202,slow=26,SNR=6.5			Sn	**Sn**	**10 41 23.9**	**-1.7**
KURBB	**Kurchatov Arra** comp=E,0.0nm,0.3s,baz=188,slow=23,SNR=2.0	**12.92**	**2**	Pn	**Pn**	**10 40 26.2**	**+4.0**
KURBB	comp=E,0.0nm,0.3s,baz=190,slow=32,SNR=4.4			Lg	Lg	10 44 14.7	
GEYT	**Alibeck** comp=E,0.6nm,0.3s,baz=146,slow=11,SNR=4.5	**15.68**	**277**	Pn	**P**	**10 41 04.5**	**+0.6**
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=210,slow=17,SNR=5.7	**16.20**	**343**	Pn	**P**	**10 41 11.3**	**+1.9**
ZALV	**Zalesovo Beam** comp=E,0.3nm,0.3s,baz=193,slow=12,SNR=6.3	**16.92**	**14**	P	**P**	**10 41 18.9**	**+1.5**
GTA	**Gaotai**	**17.18**	**78**	*e*P	**P**	**10 41 24.4**	**+3.8**
GTA				pP	sP	10 41 28.8	+3.5
GTA				sP	pP	10 41 31.8	+8.0
GTA	comp=Z,4.0nm,0.7s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,0.2nm,0.3s,baz=109,slow=10,SNR=5.2	**19.08**	**318**	P	**P**	**10 41 42.8**	**+1.5**
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=277,slow=13,SNR=4.0	**23.08**	**55**	P	**P**	**10 42 22.0**	**-2.5**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.7s,baz=99,slow=7.6,SNR=4.2	**34.37**	**287**	P	**P**	**10 44 05.8**	**-0.2**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.4s,baz=75,slow=7.8,SNR=4.5	**36.61**	**307**	P	**P**	**10 44 24.6**	**-0.3**
FINES	**FINESS Array B** comp=Z,1.6nm,0.5s,baz=104,slow=8.0,SNR=5.1	**39.70**	**324**	P	**P**	**10 44 51.1**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.8s,baz=110,slow=8.0,SNR=2.0	**42.25**	**336**	P	**P**	**10 45 12.5**	**+0.7**
GERES	**GERESS Array B** comp=Z,0.5nm,0.6s,baz=73,slow=8.9,SNR=3.8	**46.77**	**305**	P	**P**	**10 45 48.4**	**+0.1**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.5s,baz=89,slow=7.9	**46.80**	**322**	P	**P**	**10 45 48.2**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.5s,baz=90,slow=7.9,SNR=5.4	**46.80**	**322**	P	**P**	**10 45 48.5**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.5s,baz=45,slow=5.8,SNR=7.1	**71.27**	**272**	P	**P**	**10 48 36.2**	**-2.4**
ILAR	**Eielson Array** comp=Z,0.9nm,0.9s,baz=305,slow=6.5,SNR=5.0	**71.98**	**19**	P	**P**	**10 48 40.9**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.9s,baz=327,slow=5.0,SNR=2.8	**78.08**	**127**	P	**P**	**10 49 14.5**	**-3.4**
ASAR	**Alice Springs** comp=Z,0.5nm,1.0s,baz=314,slow=4.5,SNR=3.2	**80.56**	**130**	P	**P**	**10 49 27.7**	**-3.8**

*SKHL **03** 10:38:09.2±0.7, 43.°40N×147.°80E, h65km±4km, mb4.4/2*
*JMA **03** 10:38:09.2±0.3, 43.°42N×147.°51E, h11km, M3.6*
*MOS **03** 10:38:10.0±0.9, 43.°60N×147.°62E, h61km, mb4.2/1, Error ellipse: s-maj=21.9km s-min=16.8km az=174.4*

ISC 03 10:38:07.3±2.2, 43.°60N±0.°08×147.°61E±0.°08, h4km±13km, n23, σ0°85/39, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.34**	**289**	*e*PN	**Pg**	**10 38 33.4**	**+0.5**
YUK				*e*S	**Sb**	**10 38 50.8**	**+0.4**
YUK	comp=N,1μm,0.3s			smax	smax		
YUK	comp=E,1μm,0.3s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**1.34**	**289**	*i* P	**Pg**	**10 38 33.4**	**+0.5**
YUK	comp=E,60nm,0.4s			AMB	AMB	10 38 35.9	
YUK	comp=E,180nm,0.4s			AMB	AMB	10 38 35.9	
YUK				*i* S	**Sb**	**10 38 50.8**	**+0.4**
YUK	comp=E,1μm,0.5s			A	A	10 38 54.0	
YUK	comp=E,1μm,0.5s			A	A	10 38 54.0	
NEM2	**Nemuro 2**	**1.38**	**261**	P	**Pn**	**10 38 33.0**	**-0.3**
NEM2				*e*S	**Sb**	**10 38 49.8**	**-1.8**
GRPR	**Tuman**	**1.39**	**287**	*e*PN	**Pn**	**10 38 33.4**	**0.0**
GRPR				*e*S	**Sb**	**10 38 51.2**	**-0.6**
GRPR	comp=N,1μm,0.3s			smax	smax		
GRPR	comp=E,1μm,0.3s			smax	smax		
GRPR	**Tuman**	**1.39**	**287**	*e*P	**Pn**	**10 38 33.4**	**0.0**
GRPR				*e*S	**Sb**	**10 38 51.2**	**-0.6**
GRPR	comp=E,1μm,0.5s			A	A	10 38 53.0	
GRPR	comp=E,1μm,0.5s			A	A	10 38 53.0	
NMR	**Nemuro--Hokkai**	**1.39**	**261**	⇑*i*PN	**Pn**	**10 38 33.0**	**-0.4**
NMR				*e*S	**Sb**	**10 38 51.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.39**	**261**	*i* P	**Pn**	**10 38 33.0**	**-0.4**
NMR				*e*S	**Sb**	**10 38 51.3**	**-0.6**
GLVR	**Golovnino**	**1.52**	**276**	*e*PN	**Pg**	**10 38 36.6**	**+0.1**
GLVR				*e*S	**Sn**	**10 38 56.0**	**+0.4**
GLVR	comp=N,1μm,0.3s			smax	smax		
GLVR	comp=E,931nm,0.3s			smax	smax		
GLVR	**Golovnino**	**1.52**	**276**	*e*P	**Pb**	**10 38 36.0**	**-0.1**
GLVR				*e*S	**Sn**	**10 38 56.0**	**+0.4**
GLVR	comp=E,1μm,0.5s			A	A	10 38 56.0	
GLVR	comp=E,930nm,0.5s			A	A	10 38 56.0	
KUR	**Kuril'sk**	**1.64**	**6**	*e*PN	**Pb**	**10 38 37.4**	**-0.6**
KUR				*i* S	**Sn**	**10 38 57.8**	**-0.6**
KUR	comp=Z,182nm,0.3s			pmax	pmax		
KUR	comp=E,80nm,0.2s			pmax	pmax		
KUR	comp=N,52nm,0.3s			pmax	pmax		
KUR	comp=N,292nm,0.3s			smax	smax		
KUR	comp=E,158nm,0.5s			smax	smax		
KUR	**Kuril'sk**	**1.64**	**6**	*e*P	**Pb**	**10 38 37.4**	**-0.6**
KUR	comp=E,50nm,0.5s			AMB	AMB	10 38 38.9	
KUR	comp=E,80nm,0.5s			AMB	AMB	10 38 38.9	
KUR	comp=E,180nm,0.5s			AMB	AMB	10 38 38.9	
KUR				*e*S	**Sn**	**10 38 58.7**	**+0.3**
KUR	comp=E,350nm,0.3s			A	A	10 39 02.0	
KUR	comp=E,260nm,0.3s			A	A	10 39 02.0	
RUSJ	**Misakicho**	**1.78**	**287**	*e*PN	**Pb**	**10 38 40.8**	**+0.3**
RUSJ				*e*S	**Sb**	**10 39 04.0**	**+0.8**
JRA	**Rausu**	**1.83**	**281**	P	**Pn**	**10 38 40.3**	**+0.8**
JRA				*e*S	**Sn**	**10 39 03.4**	**+0.2**
JKHN	**Kushirohamanak**	**1.86**	**255**	P	**Pn**	**10 38 40.1**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.90**	**276**	P	**Pb**	**10 38 41.5**	**-1.0**
JNSB				*e*S	**Sn**	**10 39 04.9**	**+0.1**
JNK	**Nakash**	**2.10**	**270**	P	**Pn**	**10 38 43.6**	**+0.4**
JNK				*e*S	**Sn**	**10 39 09.3**	**-0.5**
JAK	**Akkeshi**	**2.21**	**255**	P	**Pn**	**10 38 44.8**	**0.0**
JTKR	**Abashiri--Toko**	**2.71**	**279**	P	**Pb**	**10 38 53.8**	**-2.4**
JAR	**Ashorobuto**	**2.81**	**265**	P	**Pn**	**10 38 54.4**	**+1.4**
JAR				*e*S	**Sn**	**10 39 28.4**	**+1.0**
JOB	**Onbets**	**2.85**	**257**	P	**Pn**	**10 38 54.5**	**+1.0**
JCH	**Churui**	**3.27**	**254**	*e*S	**Sn**	**10 39 38.3**	**-0.2**
ERM	**Erimo**	**3.64**	**246**	*e*PN	**Pn**	**10 39 05.1**	**+0.7**
MAJO	**Matsushiro**	**10.08**	**229**	*i* PN	**Pn**	**10 40 34.9**	**+2.1**
MAJO	comp=Z,2.0nm,0.4s			pmax	pmax		

*TUL **03** 10:43:54.5±1.3, 36.°76N±0.°01×97.°57W±0.°01, h6km±7km, ML3.0, mb_Lg3.1/112(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=208.0*

NEIC 03 10:43:54.5±0.8, 36.°74N±0.°01×97.°56W±0.°01, h7km±7km, Error ellipse: s-maj=1.8km s-min=1.7km az=173.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.28**	**86**		Pg	10 44 00.2	+0.2
BLOK				Sg	Sg	10 44 03.9	+0.4
KAN13	**South Haven SW**	**0.28**	**13**		Pg	10 44 00.1	+0.1
KAN13				Sg	Sg	10 44 04.0	+0.3
KAN17	**Caldwell West**	**0.34**	**331**		Pg	10 44 01.3	0.0
KAN17				Sg	Sg	10 44 06.3	+0.5
KAN09	**Caldwell North**	**0.40**	**353**		Pg	10 44 02.2	0.0
KAN09				Sg	Sg	10 44 07.7	+0.2
CROK	**Carrier**	**0.42**	**236**		Pg	10 44 02.7	+0.2
CROK				Sg	Sg	10 44 08.7	+0.7
KAN05	**Bluff City Nor**	**0.45**	**326**		Pg	10 44 03.1	0.0
KS20	**Mayfield South**	**0.49**	**0**		Pg	10 44 03.9	0.0
KS20				Sg	Sg	10 44 10.5	+0.2
OK032	**Salt Plains WL**	**0.53**	**277**		Pg	10 44 04.6	-0.1
OK032				Sg	Sg	10 44 12.0	+0.4
KAN10	**Anthony SW Sta**	**0.57**	**312**		Pg	10 44 05.5	-0.1
KAN08	**Anthony NE Sta**	**0.59**	**326**		Pg	10 44 05.7	-0.1
KAN12	**Harper NE Stat**	**0.66**	**328**		Pg	10 44 07.0	-0.1
T35A	**Sooner Cattle**	**0.86**	**78**		Pg	10 44 10.8	-0.1
T35B	**Sooner Cattle** baz=259,SNR=72	**0.86**	**78**	P		10 44 10.7	
T35B	baz=259			S		10 44 22.3	
QUOK	**Quay**	**0.89**	**129**		Pg	10 44 11.4	-0.1
OK029	**Liberty Lake**	**0.95**	**175**	Pg	Pg	10 44 12.5	-0.1
OK031	**S. Brethren Rd**	**0.98**	**143**		Pg	10 44 13.0	-0.2
OK030	**Cody Creek RV**	**1.02**	**142**		Pg	10 44 13.9	-0.2
BCOK	**Bluff Creek, N**	**1.08**	**182**		Pg	10 44 14.6	-0.7
OK025	**Westminster Rd**	**1.17**	**171**		Pg	10 44 16.6	-0.3
U32A	**Winter Ranch,**	**1.22**	**253**		Pg	10 44 17.1	-0.8
U32A	**Winter Ranch,** baz=72,SNR=30	**1.22**	**253**	P		10 44 17.1	
U32A	baz=72			S		10 44 33.6	
OKCFA	**Oklahoma City**	**1.33**	**176**		Pn	10 44 19.3	-0.2
OKCFA	**Oklahoma City** baz=356,SNR=6.0	**1.33**	**176**	P		10 44 19.3	
OKCFA	baz=356			S		10 44 37.4	
OKCSW	**OKLAHOMA CITY**	**1.34**	**176**		Pn	10 44 19.4	-0.2
FNO	**Franklin**	**1.49**	**175**		Pn	10 44 21.9	+0.2
TUL1	**Leonard** baz=301,SNR=34	**1.65**	**120**	P		10 44 24.6	
TUL1	baz=301			S		10 44 46.9	
R32A	**Long Quarter,**	**1.91**	**332**		Pn	10 44 27.9	+0.3
R32A	**Long Quarter,** baz=151	**1.91**	**332**	P		10 44 28.5	
R32A	baz=151			S		10 44 53.8	
X34A	**Smith Ranch, M**	**2.15**	**186**	Pn	Pn	10 44 31.5	+0.7
WMOK	**Wichita Mounta**	**2.23**	**207**	Pn	Pn	10 44 32.1	+0.2
WMOK	**Wichita Mounta** baz=26,SNR=64	**2.23**	**207**	P		10 44 32.7	
WMOK	baz=26			S		10 45 01.5	
KSU1	**Kansas State U** comp=Z,64nm,0.8s	**2.47**	**17**	IAmb_Lg		10 45 17.2	
U38A	**Gravette**	**2.57**	**96**	Pn	Pn	10 44 36.0	-0.6
U38A	comp=Z,47nm,0.8s			IAmb_Lg		10 45 17.5	
CBKS	**Cedar Bluff**	**2.69**	**321**	Pn	Pn	10 44 38.5	+0.1
CBKS	**Cedar Bluff** baz=140	**2.69**	**321**	P		10 44 38.7	
CBKS	baz=140			S		10 45 17.5	
LOOK	**Love County**	**2.76**	**173**		Pn	10 44 37.6	-1.6
X37A	**Clayton**	**2.79**	**140**		Pn	10 44 38.8	-0.8
X37A	**Clayton** baz=321,SNR=22	**2.79**	**140**	P		10 44 40.9	
HHAR	**Hobbs**	**2.95**	**98**		Pn	10 44 42.7	+0.9
HHAR	comp=Z,34nm,0.8s			IAmb_Lg		10 45 32.1	
Z35A	**Perchaven, San** baz=356	**3.41**	**176**	S		10 45 30.4	
W39A	**Magazine** baz=298	**3.43**	**116**	S		10 45 30.2	
S39A	**Bolivar**	**3.51**	**73**		Pn	10 44 49.2	-0.3
U40A	**Yellville** comp=Z,78nm,0.9s	**3.81**	**94**	IAmb_Lg		10 45 59.6	
U40A	**Yellville** baz=277	**3.81**	**94**	S		10 45 38.8	
U40A	baz=277			S		10 45 38.8	
AMTX	**Amarillo**	**3.83**	**242**	Pn	Pn	10 44 54.2	+0.2
AMTX	comp=Z,60nm,0.9s			IAmb_Lg		10 46 02.3	
AMTX	**Amarillo** baz=60	**3.83**	**242**	P		10 44 54.8	
MIAR	**Mount Ida** comp=Z,52nm,0.8s	**3.91**	**123**	IAmb_Lg		10 46 01.8	
MIAR	**Mount Ida** baz=305	**3.91**	**123**	S		10 45 42.3	
N33B	**J Bar K, Exete** baz=181	**3.99**	**1**	S		10 45 43.2	
N33A	**J Bar K, Exete**	**3.99**	**1**	IAmb_Lg		10 46 10.6	
Z38A	**Mt. Pleasant** comp=Z,39nm,0.8s	**4.07**	**148**	Pn	Pn	10 44 56.1	-1.0
Z38A	comp=Z,35nm,0.7s			IAmb_Lg		10 46 11.6	
MGMO	**Mountain Grove** comp=Z,51nm,0.8s	**4.26**	**83**	Pn	Pn	10 44 58.4	-1.3
MGMO				IAmb_Lg		10 46 12.0	
P38A	**Dawn** comp=Z,27nm,0.8s	**4.28**	**47**	Pn	Pn	10 44 59.8	-0.3
X40A	**Basin Creek Fa** comp=Z,27nm,0.8s	**4.46**	**119**	IAmb_Lg		10 46 24.0	
FCAR	**Ozark Folk Cen** comp=Z,53nm,0.8s	**4.47**	**99**	IAmb_Lg		10 46 14.1	
R40A	**Maddies Statio**	**4.48**	**68**		Pn	10 45 02.4	-0.4
R40A	**Maddies Statio** baz=251,SNR=9.1	**4.48**	**68**	P		10 45 03.3	
WHAR	**Wooly Hollow** comp=Z,38nm,0.8s	**4.51**	**107**	IAmb_Lg		10 46 21.2	
KSCO	**Kaye Shedlock'** comp=Z,54nm,0.8s	**4.61**	**301**	IAmb_Lg		10 46 31.1	
BGNE	**Belgrade**	**4.68**	**355**	Pn	Pn	10 45 03.1	-2.5
WHTX	**Lake Whitney,** comp=Z,21nm,1.0s	**4.74**	**179**	IAmb_Lg		10 46 30.5	
WLAR	**White Oak Lake** comp=Z,25nm,0.8s	**4.75**	**129**	IAmb_Lg		10 46 25.6	
P40A	**Paris** comp=Z,22nm,0.8s	**5.16**	**56**	IAmb_Lg		10 46 39.4	
N38A	**Joes South For** comp=Z,49nm,0.7s	**5.27**	**39**	IAmb_Lg		10 46 48.4	
T25A	**Trinidad** comp=Z,43nm,0.8s	**5.50**	**276**	IAmb_Lg		10 46 50.0	
PBMO	**Poplar Bluff** comp=Z,26nm,0.8s	**5.72**	**88**	IAmb_Lg		10 47 02.2	
435B	**Jarrell** comp=Z,39nm,0.8s	**5.94**	**180**	IAmb_Lg		10 47 08.6	
LPAR	**Lepanto** comp=Z,45nm,0.8s	**5.98**	**99**	IAmb_Lg		10 47 11.4	
143A	**Socs Landing,** comp=Z,27nm,1.0s	**6.47**	**127**	IAmb_Lg		10 47 32.3	
JCT	**Junction City** comp=Z,38nm,1.0s	**6.52**	**197**	IAmb_Lg		10 47 36.5	
N41A	**Harden Midland** comp=Z,34nm,0.8s	**6.57**	**51**	IAmb_Lg		10 47 24.0	
P43A	**Skaggs, Pawnee** comp=Z,30nm,0.8s	**6.96**	**63**	IAmb_Lg		10 47 38.1	
ECSD	**EROS Data Cent** comp=Z,20nm,1.0s	**7.02**	**6**	IAmb_Lg		10 47 37.7	
L40A	**Anamosa** comp=Z,26nm,0.8s	**7.23**	**41**	IAmb_Lg		10 47 41.6	
PHWY	**Pilot Hill** comp=Z,12nm,0.9s	**7.65**	**309**	IAmb_Lg		10 48 10.6	
SUSD	**Miller** comp=Z,28nm,0.9s	**7.77**	**353**	IAmb_Lg		10 48 04.4	
WVT	**Waverly** comp=Z,13nm,0.8s	**7.87**	**92**	IAmb_Lg		10 48 06.4	
PLAL	**Pickwick Lake** comp=Z,12nm,0.7s	**7.90**	**100**	IAmb_Lg		10 48 05.2	
O44A	**Mansfield** comp=Z,21nm,0.8s	**7.90**	**62**	IAmb_Lg		10 48 04.6	
I37A	**Lemond, Waseca** comp=Z,20nm,0.8s	**7.93**	**22**	IAmb_Lg		10 48 17.1	
USIN	**University of** comp=Z,31nm,1.0s	**7.97**	**78**	IAmb_Lg		10 48 12.4	
L42A	**Oliver, Polo** comp=Z,18nm,0.8s	**8.06**	**47**	IAmb_Lg		10 48 16.5	
Y22D	**IRIS PASSCAL I** comp=Z,30nm,0.7s	**8.09**	**254**	IAmb_Lg		10 48 31.3	
JFWS	**Jewell Farm** comp=Z,18nm,0.8s	**8.34**	**40**	IAmb_Lg		10 48 23.1	
T47A	**Sharon Grove** comp=Z,22nm,1.0s	**8.38**	**85**	IAmb_Lg		10 48 29.5	
P46A	**Rosedale** comp=Z,23nm,0.9s	**8.64**	**67**	IAmb_Lg		10 48 24.8	
V48A	**Smith Brothers** comp=Z,14nm,0.9s	**8.73**	**93**	IAmb_Lg		10 48 36.8	
PV01	**Paradox Valley** comp=Z,12nm,1.2s	**8.87**	**282**	IAmb_Lg		10 48 42.2	
I40A	**Norwalk** comp=Z,11nm,0.8s	**8.89**	**34**	IAmb_Lg		10 48 36.7	
SFIN	**Lafayette** comp=Z,25nm,1.1s	**8.96**	**63**	IAmb_Lg		10 48 39.9	
BLO	**Bloomington** comp=Z,24nm,0.8s	**9.05**	**71**	IAmb_Lg		10 48 41.2	
PV13	**Radium Mtn., P** comp=Z,9.9nm,1.1s	**9.07**	**282**	IAmb_Lg		10 48 59.9	
CLTN	**Cedars of Leba** comp=Z,12nm,0.8s	**9.07**	**91**	IAmb_Lg		10 48 42.3	
WCI	**Wyandotte Cave** comp=Z,16nm,0.8s	**9.08**	**77**	IAmb_Lg		10 48 47.0	
K22A	**Casper** comp=Z,12nm,0.9s	**9.08**	**313**	IAmb_Lg		10 49 03.0	
PV11	**David Mesa, Pa** comp=Z,10nm,0.9s	**9.12**	**283**	IAmb_Lg		10 48 56.9	
SPMN	**Marine on St.** comp=Z,10nm,0.7s	**9.20**	**21**	IAmb_Lg		10 48 43.6	
K43A	**Burlington** comp=Z,14nm,0.7s	**9.27**	**47**	IAmb_Lg		10 49 12.0	
U49A	**Red Boiling Sp** comp=Z,21nm,1.3s	**9.47**	**88**	IAmb_Lg		10 48 54.1	
SWET	**Sewanee** comp=Z,8.3nm,0.8s	**9.54**	**96**	IAmb_Lg		10 49 02.1	
Y49A	**Blount Mountai** comp=Z,9.8nm,0.7s	**9.55**	**104**	IAmb_Lg		10 49 10.7	
F36A	**Milaca** comp=Z,11nm,1.1s	**9.60**	**17**	IAmb_Lg		10 49 05.6	
I42A	**Draeger Farm,** comp=Z,12nm,0.9s	**9.72**	**40**	IAmb_Lg		10 49 06.4	
P48A	**Milroy** comp=Z,14nm,0.8s	**9.94**	**70**	IAmb_Lg		10 49 07.5	

IDC 03 10:45:54.3±3.8, 2.°19N×31.°12W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/32, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=128.2km s-min=38.0km az=174.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR** baz=302,slow=75,SNR=76	**19.35**	**121**	T	T	11 10 49.6	
H10N2	**ASCENSION HYDR** baz=302,slow=75,SNR=93	**19.35**	**121**	T	T	11 10 54.1	
H10N1	**ASCENSION HYDR** baz=302,slow=75,SNR=107	**19.37**	**121**	T	T	11 10 52.0	
H10S3	**ASCENSION HYDR** baz=300,slow=74,SNR=52	**19.79**	**124**	T	T	11 11 24.9	
H10S2	**ASCENSION HYDR** baz=280,slow=74,SNR=16	**19.81**	**124**	T	T	11 11 34.1	
TORD	**Torodi Ar. Bea** 0.8nm,0.8s,baz=260,slow=8.0,SNR=3.0	**34.24**	**70**	P	P	10 52 42.2	-0.1
TORD	comp=Z,55nm,21.6s,baz=335,slow=34			LR	LR	11 05 30.6	
ESDC	**Sonseca Array** 0.5nm,0.7s,baz=231,slow=8.1,SNR=1.6	**44.74**	**30**	P	P	10 54 09.5	-0.1
TXAR	**Lajitas Array** 0.5nm,0.9s,baz=108,slow=8.0,SNR=4.4	**73.72**	**300**	P	P	10 57 30.8	+0.1

*IDC **03** 10:45:58.6±1.6, 6.°78S×150.°59E, h0km, mb4.1/5, mb1 4.4/6, mb1mx3.8/39, mbtmp4.2/6, ML2.5/1, MS3.6/2, Ms1 3.5/2, ms1mx2.8/37, Error ellipse: s-maj=61.7km s-min=24.7km az=129.0*
*NEIC **03** 10:46:00.6±1.3, 6.°9S±0.°1×150.°7E±0.°1, h10km±2km, mb4.4/13, Error ellipse: s-maj=29.0km s-min=8.1km az=131.0*

ISC 03 10:46:02.0±0.8, 6.°9S±0.°1×150.°7E±0.°1, h26km, n26, σ0°65/26, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.04**	**28**	Pn	**Pn**	**10 46 49.2**	**+0.7**
PMG	**Port Moresby** 19nm,0.3s,baz=51,slow=10,SNR=33	**4.33**	**235**	Pn	**Pn**	**10 47 07.3**	**+1.0**
PMG	12nm,0.3s,baz=197,slow=19,SNR=2.2			Sn	**Sn**	**10 47 56.2**	**+0.2**
PMG	**Port Moresby**	**4.33**	**235**		**Pn**	**10 47 06.8**	**+0.5**
CTAO	**Charters Tower**	**13.82**	**198**	Pn	**Pn**	**10 49 17.1**	**+0.7**
EIDS	**Eidsvold**	**18.38**	**179**	P	**P**	**10 50 13.6**	**-1.4**
EIDS	comp=Z,15nm,1.2s			IAmb	IAmb	10 50 40.7	
MTN	**Manton Dam**	**20.19**	**251**	P	**P**	**10 50 34.1**	**-0.9**
MTN	comp=Z,14nm,0.9s			IAmb	IAmb	10 50 42.5	
WB0	**Warramunga Arr**	**20.39**	**230**	P	**P**	**10 50 37.0**	**-0.1**
WB0	comp=Z,20nm,0.7s			IAmb	IAmb	10 50 37.6	
WR0	**Warramunga Arr**	**20.39**	**229**	P	**P**	**10 50 37.0**	**-0.1**
WR0				IAmb	IAmb	10 50 37.7	

comp=Z,15nm,0.9s
WRAB Tennant Creek 20.52 229 P **P** **10 50 38.0 -0.5**
WRAB IAmb IAmb 10 50 38.9
comp=Z,18nm,0.8s
WB2 Warramunga Arr 20.52 229 P **P** **10 50 38.6 +0.1**
WB2 IAmb IAmb 10 50 39.0
comp=Z,18nm,0.8s
WRA Warramunga Arr 20.53 229 P **P** **10 50 38.2 -0.4**
comp=Z,15nm,0.7s,baz=52,slow=10,SNR=116
WRA Warramunga Arr 20.53 229 P **P** **10 50 38.2 -0.4**
AS31 Alice Springs 23.23 222 P **P** **10 51 06.8 -0.6**
KNRA Kununurra 23.23 246 P **P** **10 51 06.4 -1.0**
ASAR Alice Springs 23.23 222 P **P** **10 51 06.7 -0.8**
comp=Z,5.4nm,0.9s,baz=56,slow=9.1,SNR=50
ASAR Alice Springs 23.23 222 P **P** **10 51 07.2 -0.2**
STKA Stephens Creek 26.28 198 P **P** **10 51 35.7 +0.2**
comp=Z,0.8nm,0.4s,baz=4.8,slow=12,SNR=2.0
STKA LR LR 11 01 53.9
comp=Z,102nm,18.8s,baz=29,slow=36
STKA Stephens Creek 26.28 198 P **P** **10 51 36.1 +0.6**
FITZ Fitzroy Crossi 26.87 243 P **P** **10 51 40.2 -0.7**
comp=Z,5.0nm,0.5s,baz=48,slow=9.1,SNR=27
FITZ Fitzroy Crossi 26.87 243 P **P** **10 51 40.5 -0.5**
FITZ IAmb IAmb 10 51 43.7
comp=Z,10nm,1.1s
BATI Baumata 26.97 261 LR LR 11 03 01.1
comp=Z,142nm,19.7s,baz=120,slow=38
FORT Forrest 31.88 219 P **P** **10 52 25.5 +0.2**
JWT Wachi 44.37 342 P **P** **10 54 09.9 -0.5**
ILAR Eielson Array 84.86 22 P **P** **10 58 34.2 0.0**
comp=Z,0.3nm,0.7s,baz=255,slow=5.4,SNR=2.0
ILAR Eielson Array 84.86 22 P **P** **10 58 34.5 +0.3**
TORD Torodi Ar. Bea 148.91 284 PKPbc **PKiKP** **11 05 50.4 +0.4**
comp=Z,0.8nm,0.7s,baz=62,slow=2.9,SNR=4.7

*IDC **03** 10:59:00.4±1.1,37.°44N×78.°02E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/41, mbtmp3.5/10, ML3.3/2, Error ellipse: s-maj=29.0km s-min=18.5km az=54.0*
*NNC **03** 10:59:01.2±3.8, 37.°33N×77.°67E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=37.7km s-min=25.4km az=83.0*
ISC 03 10:59:03.4±1.0, 37.°41N±0.°10×78.°0E±0.°1, h17km, n19, σ2°34/18, mb3.5/7, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 18nm,0.6s	**5.65**	**3**	Pg	Pb	11 00 47.0	+5.3
SATY	76nm,1.1s			Lg	Lg	11 02 05.5	
MDOK	**Medeo** 16nm,0.8s	**5.79**	**353**	Pg	**Pb**	**11 00 46.6**	**+2.5**
MDOK	60nm,1.0s			Lg	Lg	11 02 05.5	
MDOK	**Medeo** 9.9nm,0.5s	**5.79**	**353**	Pg	**Pb**	**11 00 47.2**	**+3.1**
MDOK	34nm,0.6s			Lg	Lg	11 02 06.0	
KST	**Kastek** 12nm,0.7s	**5.84**	**345**	Pg	**Pb**	**11 00 49.2**	**+4.3**
KST	21nm,0.8s			Lg	Lg	11 02 09.5	
AAK	**Ala-Archa** 0.9nm,0.3s,baz=103,slow=4.8,SNR=4.9	**5.88**	**334**	Pg	**Pb**	**11 00 47.8**	**+2.3**
AAK	0.5nm,0.3s,baz=41,slow=16,SNR=3.9			Lg	Lg	11 02 05.6	
AAK	**Ala-Archa** 9.1nm,0.6s	**5.88**	**334**	⇑Pg	**Pb**	**11 00 47.9**	**+2.3**
AAK	54nm,1.2s			⇓Lg	Lg	11 02 06.3	
WMQ	**Urumqi**	**9.76**	**46**	*e*P	**Pn**	**11 01 25.8**	**+2.8**
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=337,slow=30,SNR=4.1	**9.90**	**17**	Pn	**Pn**	**11 01 24.6**	**-0.4**
MKAR	0.8nm,0.3s,baz=186,slow=27,SNR=6.0			Sn	**Sn**	**11 03 10.6**	**-5.0**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=261,slow=23,SNR=4.9	**13.22**	**1**	Lg	Lg	11 05 51.4	
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=43,slow=50,SNR=2.2	**16.50**	**344**	Pn	**P**	**11 02 56.7**	**+0.2**
ZALV	**Zalesovo Beam** baz=206,slow=9.6,SNR=1.8	**17.20**	**14**	P	**Pn**	**11 03 02.2**	**-0.5**
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=106,slow=9.2,SNR=4.3	**19.34**	**319**	P	**Pn**	**11 03 27.6**	**-1.3**
SONM	**Songino Array** 0.3nm,0.3s,baz=239,slow=13,SNR=2.4	**23.22**	**54**	P	**P**	**11 04 09.2**	**-0.5**
FINES	**FINESS Array B** 1.4nm,0.7s,baz=104,slow=12,SNR=3.7	**39.97**	**324**	P	**P**	**11 06 36.7**	**+0.1**
NOA	**NORSAR Array B** 0.5nm,0.5s,baz=90,slow=7.9,SNR=3.4	**47.07**	**322**	P	**P**	**11 07 33.5**	**-0.5**
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=34,slow=5.7,SNR=2.3	**71.32**	**272**	P	**P**	**11 10 21.7**	**-0.8**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=308,slow=3.2,SNR=4.7	**72.25**	**19**	P	**P**	**11 10 26.2**	**-1.1**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=336,slow=6.1,SNR=1.4	**77.86**	**127**	P	**P**	**11 11 00.7**	**+0.4**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=305,slow=5.1,SNR=2.5	**80.33**	**130**	P	**P**	**11 11 13.6**	**-0.2**

*IDC **03** 11:11:57.6±9.0, 4.°62S×153.°41E, h139km±63km, mb3.6/4, mb1 3.7/5, mb1mx3.3/43, mbtmp4.1/5, MS3.7/2, Ms1 3.7/2, ms1mx2.8/37, Error ellipse: s-maj=74.4km s-min=55.8km az=94.0*
ISC 03 11:11:55.9±2.1, 5.°3S±0.°4×154.°0E±0.°2, h100km, n8, σ1°30/7, mb3.8/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.1nm,0.3s,baz=48,slow=12,SNR=7.7	**7.90**	**238**	P	**Pn**	**11 13 48.6**	**+0.5**
PMG	1.0nm,0.3s,baz=280,slow=18,SNR=2.1			S	**Sn**	**11 15 15.9**	**0.0**
DZM	**Mont Dzumac** comp=Z,92nm,21.2s,baz=38,slow=34	**20.61**	**145**	LR	LR	11 24 18.4	
WRA	**Warramunga Arr** 4.1nm,0.7s,baz=54,slow=10,0,SNR=43	**24.02**	**231**	P	**P**	**11 17 00.4**	**-1.4**
ASAR	**Alice Springs** 0.7nm,0.9s,baz=56,slow=8.8,SNR=7.4	**26.61**	**225**	P	**P**	**11 17 23.9**	**-1.2**
STKA	**Stephens Creek** 0.7nm,0.4s,baz=28,slow=13,SNR=3.6	**28.89**	**202**	P	**P**	**11 17 46.5**	**+1.1**
MAW	**Mawson** 1.5nm,0.9s,baz=98,slow=7.1,SNR=3.5	**85.58**	**203**	P	**P**	**11 24 21.9**	**-0.9**
GEYT	**Alibeck** comp=Z,68nm,20.9s,baz=35,slow=36	**97.83**	**307**	LR	LR	12 10 15.0	
TORD	**Torodi Ar. Bea** 0.5nm,0.7s,baz=84,slow=3.8,SNR=2.6	**151.56**	**286**	PKPbc	**PKPdf**	**11 31 34.3**	**+1.0**

*IDC **03** 11:13:42.6±1.1, 29.°80S×176.°33W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/27, mbtmp4.2/7, ML3.6/1, Error ellipse: s-maj=34.3km s-min=23.2km az=167.0*
*NEIC **03** 11:13:44.3±1.3, 30.°00S±0.°09×176.°4W±0.°1, h10km±1km, mb4.6/11, Error ellipse: s-maj=19.9km s-min=13.7km az=72.0*
ISC 03 11:13:46.2±0.8, 29.°90S±0.°09×176.°45W±0.°10, h24km, n28, σ1°11/31, mb4.6/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 91nm,0.3s,baz=90,slow=20,SNR=13	**1.43**	**296**	Pn	**Pb**	**11 14 12.4**	**+0.1**
RAO	283nm,0.3s,baz=112,slow=13,SNR=12			Sn	**Sn**	**11 14 27.3**	**-1.5**
RAO	**Raoul Island**	**1.43**	**296**		**Pb**	**11 14 12.0**	**-0.3**
URZ	**Urewera** 0.6nm,0.3s,baz=38,slow=13,SNR=1.8	**9.90**	**211**	Pn	**Pn**	**11 16 06.0**	**-1.0**
URZ	0.6nm,0.3s,baz=209,slow=17,SNR=1.3			Sn	**Sn**	**11 17 57.2**	**-0.2**
URZ	**Urewera**	**9.90**	**211**		**Pn**	**11 16 05.4**	**-1.7**
CTA	**Charters Tower** 4.8nm,0.7s,baz=94,slow=12,SNR=5.8	**35.06**	**277**	P	**P**	**11 20 39.4**	**+1.9**
CTAO	**Charters Tower** comp=Z,9.7nm,0.9s	**35.06**	**277**	P	**P**	**11 20 37.8**	**+0.3**
CTAO				IAmb	IAmb	11 20 40.3	
STKA	**Stephens Creek** comp=Z,4.5nm,0.7s,baz=82,slow=10.0,SNR=10	**35.91**	**256**	P	**P**	**11 20 46.4**	**+1.8**
STKA	**Stephens Creek** comp=Z,1.5nm,0.9s	**35.91**	**256**	P	**P**	**11 20 46.8**	**+2.1**
STKA				IAmb	IAmb	11 20 48.5	
BBOO	**Buckleboo** comp=Z,24nm,1.5s	**40.40**	**253**	P	**P**	**11 21 23.0**	**+0.5**
BBOO				IAmb	IAmb	11 21 39.9	
AS31	**Alice Springs**	**44.48**	**266**	P	**P**	**11 21 56.9**	**+1.0**
ASAR	**Alice Springs** comp=Z,1.2nm,0.7s,baz=103,slow=7.1,SNR=18	**44.48**	**266**	P	**P**	**11 21 56.1**	**+0.2**
ASAR				PcP	**PP**	**11 23 40.6**	**+0.8**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=111,slow=4.8,SNR=4.3	**44.48**	**266**	P	**P**	**11 21 55.6**	**-0.4**
WR0	**Warramunga Arr**	**45.25**	**271**	P	**P**	**11 22 01.8**	**-0.2**
WR0	comp=Z,6.6nm,1.0s			IAmb	IAmb	11 22 03.8	
WB2	**Warramunga Arr**	**45.42**	**271**	P	**P**	**11 22 02.9**	**-0.5**
WB2	comp=Z,8.5nm,0.9s			IAmb	IAmb	11 22 05.7	
WRA	**Warramunga Arr** comp=Z,5.9nm,0.8s,baz=110,slow=7.9,SNR=21	**45.43**	**271**	P	**P**	**11 22 02.6**	**-0.8**
WRA	**Warramunga Arr**	**45.43**	**271**	P	**P**	**11 22 02.9**	**-0.5**
WB0	**Warramunga Arr**	**45.45**	**271**	P	**P**	**11 22 03.1**	**-0.5**
WB0	comp=Z,11nm,0.9s			IAmb	IAmb	11 22 05.9	
KNRA	**Kununurra**	**52.02**	**273**	P	**P**	**11 22 55.9**	**+1.8**
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**11 23 51.6**	**-0.5**
QSPA	comp=Z,8.2nm,1.3s			IAmb	IAmb	11 24 10.9	
MJAR	**Matsushiro Arr** comp=Z,1.6nm,0.8s,baz=172,slow=3.8,SNR=3.4	**78.61**	**324**	P	**P**	**11 25 44.5**	**-1.4**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,baz=234,slow=4.3,SNR=4.9	**86.96**	**42**	P	**P**	**11 26 29.8**	**+0.2**
NVAR	**Mina Array Bea**	**86.96**	**42**	P	**P**	**11 26 28.7**	**-0.8**
ENH	**Enshi**	**92.44**	**304**	P	**P**	**11 26 56.4**	**+1.2**
FINES	**FINESS Array B** comp=Z,1.5nm,0.7s,baz=46,slow=4.0,SNR=2.0	**145.12**	**341**	PKPbc	**PKPbc**	**11 33 19.3**	**-1.1**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,baz=12,slow=4.4	**148.44**	**353**	PKP	**PKPbc**	**11 33 29.7**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=13,slow=4.4,SNR=3.4	**148.44**	**353**	PKPbc	**PKPbc**	**11 33 29.5**	**-0.6**
AKASG	**Malin Array Be** comp=Z,2.1nm,0.6s,baz=46,slow=2.8,SNR=7.1	**151.69**	**324**	PKPbc	**PKiKP**	**11 33 38.1**	**-0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.7s,baz=207,slow=2.6,SNR=3.5	**163.25**	**174**	PKPab	**PKPab**	**11 34 39.4**	**+1.8**

*NNC **03** 11:19:13.1±7.5, 37.°24N×77.°77E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=76.7km s-min=50.8km az=83.0*
*IDC **03** 11:19:15.5±3.5, 37.°43N×78.°11E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.3/48, mbtmp3.7/3, ML3.3/2, MS3.6/2, Ms1 3.6/2, ms1mx2.5/55, Error ellipse: s-maj=67.5km s-min=34.9km az=119.0*
*SOME **03** 11:19:24.7, 37.°83N×77.°88E, h0km*
ISC 03 11:19:22.8±1.3, 37.°73N±0.°08×77.°83E±0.°08, h10km, n18, σ3°19/21, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 40nm,0.8s	**5.34**	**5**	*e*P	**Pg**	**11 21 05.5**	**+0.5**
SATY	34nm,0.5s			*e*S	**Sg**	**11 22 18.1**	**+3.9**
SATY	**Saty** 43nm,0.9s	**5.34**	**5**	Pg	**Pb**	**11 20 59.6**	**+3.3**
SATY	34nm,0.5s			Lg	Lg	11 22 22.9	
MDOK	**Medeo** 17nm,1.1s	**5.46**	**354**	*e*P	**Pg**	**11 21 03.8**	**-3.5**
MDOK	42nm,0.9s			*e*S	**Sg**	**11 22 15.0**	**-3.0**
MDOK	**Medeo** 34nm,1.0s	**5.46**	**354**	Pg	**Pb**	**11 21 00.7**	**+2.4**
MDOK	48nm,0.8s			Lg	Lg	11 22 15.0	
MDOK	**Medeo** 18nm,0.7s	**5.46**	**354**	Pg	**Pb**	**11 21 00.2**	**+1.9**
MDOK	42nm,0.9s			Lg	Lg	11 22 23.1	
KST	**Kastek** 16nm,0.7s	**5.50**	**346**	*e*P	**Pg**	**11 21 07.0**	**-1.0**
KST	19nm,1.2s			*e*S	**Sg**	**11 22 20.1**	**+0.9**
KST	**Kastek** 16nm,0.7s	**5.50**	**346**	Pg	**Pb**	**11 21 02.3**	**+3.4**
KST	19nm,1.2s			Lg	Lg	11 22 26.6	
AAK	**Ala-Archa** 1.6nm,0.3s,baz=142,slow=7.1,SNR=13	**5.53**	**334**	Pg	**Pb**	**11 21 02.8**	**+3.4**
AAK	1.0nm,0.3s,baz=198,slow=20,SNR=4.4			Lg	Lg	11 22 17.8	
AAK	**Ala-Archa** 15nm,0.7s	**5.53**	**334**	⇑Pg	**Pb**	**11 21 02.8**	**+3.4**
AAK	42nm,0.8s			⇓Lg	Lg	11 22 19.7	
MRKS	**Merke** 8.6nm,0.6s	**6.12**	**326**	*e*P	**Pg**	**11 21 18.5**	**-1.5**
MRKS	15nm,0.7s			*e*S	**Sg**	**11 22 41.0**	**+1.8**
MKAR	**Makanchi Array** 1.1nm,0.3s,baz=197,slow=12,SNR=15	**9.64**	**19**	Pn	**Pn**	**11 21 40.3**	**-1.3**
MKAR	0.4nm,0.3s,baz=188,slow=18,SNR=3.1			Sn	**Sn**	**11 23 24.2**	**-5.7**
WMQ	**Urumqi**	**9.64**	**48**	*e*P	**Pn**	**11 21 43.8**	**+2.2**
WMQ	comp=N,15nm,0.9s			smax	smax		
WMQ	comp=E,40nm,0.9s			smax	smax		
ZALV	**Zalesovo Beam** comp=E,0.1nm,0.3s,baz=203,slow=13,SNR=2.1	**16.92**	**14**	Pn	**Pn**	**11 23 15.8**	**-3.7**
GTA	**Gaotai**	**17.28**	**78**	*e*P	**P**	**11 23 26.4**	**+0.7**
GTA				pP	sP	11 23 31.0	+0.6
GTA				sP	pP	11 23 33.5	+4.6
GTA	comp=Z,3.0nm,0.9s			pmax	pmax		
KLR	**Kul'dur** comp=Z,80nm,19.8s,baz=196,slow=39	**39.98**	**56**	LR	LR	11 45 22.5	
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=88,slow=7.9	**46.72**	**322**	P	**P**	**11 27 55.4**	**+3.7**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=42,slow=4.5,SNR=2.3	**71.16**	**272**	P	**P**	**11 30 37.8**	**-4.2**
PMG	**Port Moresby** comp=Z,39nm,20.5s,baz=18,slow=38	**79.80**	**110**	LR	LR	12 09 34.0	

*IDC **03** 11:31:54.5±1.5, 10.°12N×126.°14E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/66, mbtmp3.7/6, Error ellipse: s-maj=195.1km s-min=20.9km az=70.0*
*MAN **03** 11:32:02.2, 10.°01N×126.°09E, h15km, mb4.4, ML3.2, MS3.0*
ISC 03 11:32:01.7±1.0, 10.°07N±0.°09×126.°24E±0.°10, h54km, n12, σ0°67/13, mb3.7/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.21**	**224**	⇑*e*P	**Pn**	**11 32 36.3**	**+0.2**
CGP				*e*S	**Sn**	**11 33 01.1**	**-1.1**
LLP	**Lapu-Lapu**	**2.25**	**276**	*e*P	**Pn**	**11 32 36.7**	**+0.2**
LLP				*e*S	**Sn**	**11 33 03.8**	**+0.6**
SNPH	**Sibulan**	**3.05**	**257**	*i* P	**Pn**	**11 32 48.1**	**+0.6**
SNPH				*i* S	**Sn**	**11 33 22.7**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=345,slow=9.7,SNR=2.0	**30.87**	**165**	P	**P**	**11 38 14.5**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=350,slow=6.9,SNR=9.8	**34.36**	**167**	P	**P**	**11 38 43.5**	**-0.1**
ASAR	0.5nm,1.0s,baz=341,slow=2.9,SNR=2.0			PcP	**PcP**	**11 41 19.1**	**+0.3**
H11N1	**WAKE ISLAND Hy** baz=265,slow=74,SNR=59	**40.35**	**71**	T	T	12 22 57.9	
H11N2	**WAKE ISLAND Hy** baz=265,slow=74,SNR=50	**40.35**	**71**	T	T	12 22 58.4	
H11N3	**WAKE ISLAND Hy** baz=265,slow=74,SNR=48	**40.37**	**71**	T	T	12 22 59.3	
SONM	**Songino Array** 0.5nm,0.5s,baz=146,slow=10,SNR=1.8	**41.19**	**340**	P	**P**	**11 39 41.3**	**+0.1**
MKAR	**Makanchi Array** 1.1nm,0.8s,baz=123,slow=8.8,SNR=6.4	**52.16**	**323**	P	**P**	**11 41 06.3**	**-0.6**
ARCES	**ARCESS Array B** 0.7nm,0.7s,baz=79,slow=6.5,SNR=1.2	**84.37**	**340**	P	**P**	**11 44 27.5**	**-0.4**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=82,slow=4.0,SNR=5.5	**86.05**	**332**	P	**P**	**11 44 36.0**	**-0.4**

*IDC **03** 11:43:39.9±1.3, 37.°27N×78.°15E, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.6/47, mbtmp3.6/10, ML3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.3/40, Error ellipse: s-maj=28.3km s-min=24.3km az=35.0*
*BJI **03** 11:43:44.3±0.0, 37.°46N×78.°08E, h10km, ML3.8/4*
*NNC **03** 11:43:49.0±2.6, 37.°77N×78.°02E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=24.5km s-min=17.5km az=81.0*
ISC 03 11:43:44.3±1.1, 37.°64N±0.°10×77.°9E±0.°1, h17km, n20, σ2°28/19, mb3.5/7, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 28nm,1.0s	**5.42**	**4**	Pg	**Pg**	**11 45 25.7**	**-2.4**
SATY	50nm,0.5s			Lg	Lg	11 46 36.8	
MDOK	**Medeo** 22nm,0.7s	**5.55**	**353**	Pg	**Pg**	**11 45 26.9**	**-3.8**
MDOK	52nm,0.7s			Lg	Lg	11 46 43.5	
MDOK	**Medeo** 14nm,0.4s	**5.55**	**353**	Pg	**Pg**	**11 45 28.7**	**-2.0**
MDOK	50nm,0.7s			Lg	Lg	11 46 40.9	
KST	**Kastek** 12nm,0.5s	**5.60**	**345**	Pg	**Pg**	**11 45 29.7**	**-1.7**
KST	21nm,0.8s			Lg	Lg	11 46 43.0	
AAK	**Ala-Archa** 2.8nm,0.3s,baz=156,slow=15,SNR=6.1	**5.64**	**333**	Pg	**Pg**	**11 45 30.1**	**-2.1**
AAK	1.9nm,0.3s,baz=139,slow=19,SNR=4.3			Lg	Lg	11 46 45.1	
AAK	**Ala-Archa** 6.5nm,0.5s	**5.64**	**333**	⇑Pg	**Pg**	**11 45 30.3**	**-2.0**
AAK	64nm,1.0s			⇑Lg	Lg	11 46 45.6	
WMQ	**Urumqi**	**9.64**	**47**	*e*P	**Pn**	**11 46 05.9**	**+3.5**
WMQ	comp=N,15nm,0.9s			smax	smax		
WMQ	comp=E,40nm,0.9s			smax	smax		
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=199,slow=12,SNR=40	**9.70**	**18**	Pn	**Pn**	**11 46 04.9**	**+1.8**
MKAR	1.1nm,0.3s,baz=188,slow=26,SNR=7.7			Sn	**Sn**	**11 47 50.1**	**-1.5**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=211,slow=8.2,SNR=2.5	**16.99**	**14**	P	**P**	**11 47 44.2**	**+1.5**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=136,slow=15,SNR=2.8	**19.11**	**318**	P	**Pn**	**11 48 09.1**	**+2.0**
SONM	**Songino Array** 0.3nm,0.4s,baz=257,slow=13,SNR=1.8	**23.14**	**55**	P	**P**	**11 48 49.9**	**+0.2**
AKASG	**Malin Array Be** comp=Z,23nm,18.1s,baz=345,slow=40	**36.63**	**307**	LR	LR	12 08 08.5	
KSRS	**Korea Array** comp=Z,18nm,18.8s,baz=130,slow=41	**39.26**	**74**	LR	LR	12 10 33.2	
FINES	**FINESS Array B** 1.7nm,0.5s,baz=109,slow=9.9,SNR=13	**39.74**	**324**	P	**P**	**11 51 17.4**	**+1.8**
ARCES	**ARCESS Array B** 0.5nm,0.5s,baz=106,slow=6.7,SNR=1.2	**42.30**	**336**	P	**P**	**11 51 38.3**	**+1.6**
NB2	**NORSAR Subarra** 0.6nm,0.6s,baz=89,slow=7.9	**46.84**	**322**	P	**P**	**11 52 14.5**	**+1.5**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.5s,baz=90,slow=7.7,SNR=4.2	**46.84**	**322**	P	**P**	**11 52 14.2**	**+1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.4s,baz=42,slow=6.0,SNR=5.0	**71.24**	**272**	P	**P**	**11 55 02.5**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=322,slow=5.7,SNR=4.5	**72.05**	**19**	P	**P**	**11 55 06.3**	**-0.7**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.6s,baz=330,slow=6.6,SNR=1.0	**78.06**	**127**	P	**P**	**11 55 38.6**	**-3.7**

*NOU **03** 11:58:43.4, 38.°59S×176.°11E, h8km, ML3.9, North Island, New Zealand*
WEL 03 11:58:42.2, 38.°6S±1.°0×177.°6E±.°, h8km±1km, M3.5/103, ML3.7/103, MLv3.5/103, Error ellipse: s-maj=0.0km s-min=0.0km az=120.7, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.09**	**240**	P	Pg	11 58 45.4	+0.9
WHTZ				S	Sg	11 58 48.3	+2.2
WPRZ	**Whakapapatarin**	**0.13**	**39**	P	Pg	11 58 45.8	+0.7
KUTZ	**Kaahu Road**	**0.23**	**306**	P	Pg	11 58 47.8	+1.0
KUTZ				S	Sg	11 58 51.7	+1.8
ALRZ	**Allen Road**	**0.23**	**75**	P	Pg	11 58 47.7	+0.8
ALRZ				S	Sg	11 58 51.6	+1.6
WATZ	**Wairara**	**0.27**	**251**	P	Pb	11 58 48.5	-0.8
WATZ				S	Sb	11 58 52.8	-1.2
HATZ	**Hinemaiaia**	**0.27**	**174**	P	Pg	11 58 48.3	+0.7
HATZ				S	Sg	11 58 52.2	+1.0
GRRZ	**Galatos Road**	**0.28**	**9**	P	Pb	11 58 48.8	-0.6
PRRZ	**Plateau Road**	**0.29**	**65**	P	Pb	11 58 48.8	-0.8
PRRZ				S	Sb	11 58 53.8	-0.9
HRRZ	**Handcock Road**	**0.29**	**38**	P	Pb	11 58 49.0	-0.7
RATZ	**Rangitukua**	**0.33**	**222**	P	Pb	11 58 49.8	-0.5
HSRZ	**Hossack Road**	**0.34**	**26**	P	Pb	11 58 50.2	-0.4
HSRZ				S	Sb	11 58 56.0	-0.1
MRHZ	**Matea Rd**	**0.35**	**127**	P	Pb	11 58 50.1	-0.7
MRHZ				S	Sg	11 58 54.8	+1.0
RITZ	**Rihia Road**	**0.39**	**204**	P	Pb	11 58 51.1	-0.2
HLRZ	**Highlands Stat**	**0.44**	**32**	P	Pb	11 58 52.0	-0.1
HLRZ				S	Sg	11 58 57.3	+0.9
KATZ	**Kakaramea**	**0.45**	**219**	P	Pb	11 58 51.9	-0.6
RRRZ	**Republican Roa**	**0.46**	**52**	P	Pb	11 58 52.0	-0.5
UTU	**Utuhina**	**0.46**	**14**	P	Pb	11 58 52.7	+0.2
TLZ	**Tolley Road**	**0.50**	**305**	P	Pg	11 58 52.5	+0.6
TLZ				S	Sg	11 58 59.5	+1.0
TARZ	**Mount Tarawera**	**0.52**	**43**	P	Pb	11 58 53.8	+0.2
NGRZ	**Ngongotaha**	**0.53**	**11**	P	Pb	11 58 54.0	+0.3
NTVZ	**North Tongarir**	**0.56**	**212**	P	Pb	11 58 54.1	-0.2
TMVZ	**Te Maari**	**0.56**	**209**	P	Pb	11 58 54.2	-0.3
OMRZ	**Omania**	**0.57**	**26**	P	Pb	11 58 54.7	+0.3
KRVZ	**Karewarewa**	**0.57**	**214**	P	Pb	11 58 54.2	-0.3
MUGZ	**Murupara**	**0.58**	**76**	P	Pb	11 58 54.3	-0.2
ETVZ	**East Tongariro**	**0.58**	**208**	P	Pb	11 58 54.4	-0.3
MKRZ	**Makatiti**	**0.58**	**34**	P	Pb	11 58 55.3	+0.7
WTVZ	**West Tongariro**	**0.61**	**216**	P	Pb	11 58 54.9	-0.4
NNVZ	**North Ngauruho**	**0.61**	**214**	P	Pb	11 58 55.1	-0.2
KARZ	**Kaharoa**	**0.62**	**14**	P	Pb	11 58 55.6	+0.4
OTVZ	**Oturere**	**0.62**	**209**	P	Pb	11 58 55.3	-0.1
BKZ	**Black Stump Fm**	**0.64**	**148**	P	Pb	11 58 55.7	0.0
SNVZ	**South Ngauruho**	**0.65**	**210**	P	Pb	11 58 55.9	0.0
MTHZ	**Maungataniwha**	**0.66**	**111**	P	Pb	11 58 56.2	+0.3
NGZ	**Ngauruhoe**	**0.66**	**213**	P	Pb	11 58 56.0	0.0
TWVZ	**Taurewa**	**0.66**	**227**	P	Pb	11 58 55.5	-0.5
LIRZ	**Lichensteins R**	**0.67**	**23**	P	Pn	11 58 57.0	-0.9
TUVZ	**Tukino**	**0.72**	**206**	P	Pb	11 58 57.1	0.0
RTZ	**Ruatahuna**	**0.72**	**90**	P	Pn	11 58 59.5	+0.7
EDRZ	**Edgecumbe**	**0.74**	**46**	P	Pb	11 58 57.9	+0.5
FWVZ	**Far West T-bar**	**0.74**	**212**	P	Pb	11 58 57.4	-0.1
NMHZ	**Naumai**	**0.75**	**129**	P	Pn	11 58 58.7	-0.5
WHVZ	**Whangaehu Hut**	**0.75**	**209**	P	Pb	11 58 57.6	-0.1
DRZ	**Dome Shelter**	**0.76**	**210**	P	Pb	11 58 58.0	+0.2
KMRZ	**Kaimai**	**0.78**	**353**	P	Pb	11 58 58.0	0.0
TRVZ	**Turoa**	**0.78**	**210**	P	Pb	11 58 58.1	-0.1
WNVZ	**Wahianoa**	**0.79**	**207**	P	Pb	11 58 58.2	-0.1
MARZ	**Manawahe**	**0.80**	**38**	P	Pb	11 58 58.9	+0.5
MOVZ	**Moawhango**	**0.82**	**197**	P	Pg	11 58 58.1	+0.1
M

PXZ	**Pawanui**	**1.54**	**156**	P	Pg	11 59 13.6	+1.9
DREZ	**Durham Road**	**1.56**	**248**	P	Pg	11 59 12.4	+0.4
TWGZ	**Tauwhareparae**	**1.57**	**74**	P	Pg	11 59 12.9	+0.5
HAZ	**Te Kaha**	**1.61**	**58**	P	Pn	11 59 11.0	+0.1
PREZ	**Palmer Road**	**1.65**	**243**	P	Pg	11 59 13.8	+0.1
NEZ	**North Egmont**	**1.66**	**246**	P	Pb	11 59 13.4	+0.4
MKAZ	**Moumakai**	**1.67**	**335**	P	Pn	11 59 11.3	-0.5
DVHZ	**Dannevirke**	**1.68**	**177**	P	Pg	11 59 15.0	+0.6
CNGZ	**Carnagh Station**	**1.69**	**86**	P	Pg	11 59 15.2	+0.6
PRHZ	**Porangahau**	**1.70**	**165**	P	Pg	11 59 16.6	+1.8
PKE	**Pukeiti**	**1.71**	**250**	P	Pg	11 59 14.8	-0.2
KHEZ	**Kahui Hut**	**1.73**	**246**	P	Pb	11 59 14.4	+0.2
PKGZ	**Pakihiroa**	**1.75**	**66**	P	Pb	11 59 15.0	+0.4
POWZ	**Post Office Ro**	**1.78**	**187**	P	Pb	11 59 15.5	+0.4
PUZ	**Puketiti**	**1.81**	**73**	P	Pg	11 59 17.0	0.0
NBEZ	**Newall Road No**	**1.82**	**249**	P	Pb	11 59 16.0	+0.2
ANWZ	**Angora Road**	**1.86**	**170**	P	Pg	11 59 18.1	+0.2
NMEZ	**Namu Road**	**1.87**	**244**	P	Pb	11 59 17.3	+0.7
ETAZ	**East Tamaki Re**	**1.89**	**331**	P	Pn	11 59 15.3	+0.6
AWAZ	**Awhitu Peninsu**	**1.92**	**324**	P	Pn	11 59 14.7	-0.3
PRWZ	**Pori Road**	**1.93**	**182**	P	Pg	11 59 20.7	+1.5
WIAZ	**Waiheke Island**	**1.97**	**338**	P	Pb	11 59 18.3	+0.1
WMGZ	**Waiomatatini S**	**2.02**	**67**	P	Pb	11 59 19.5	+0.3
EPAZ	**Eden Park BICE**	**2.03**	**329**	P	Pb	11 59 20.0	+0.8
WTAZ	**Waiatarua**	**2.06**	**325**	P	Pg	11 59 21.1	-0.5
HBAZ	**Herne Bay Bore**	**2.06**	**329**	P	Pg	11 59 21.9	+0.3
BFZ	**Birch Farm**	**2.06**	**176**	P	Pn	11 59 18.2	+1.1
MBAZ	**Motutapu North**	**2.07**	**333**	P	Pb	11 59 18.9	-1.0
MRZ	**Mangatainoka R**	**2.07**	**190**	P	Pb	11 59 18.8	-1.2
TIWZ	**Tintock**	**2.16**	**183**	P	Pn	11 59 19.8	+1.4
RVAZ	**Riverhead Bore**	**2.19**	**327**	P	Pn	11 59 19.6	+0.8
ABAZ	**Army Bay**	**2.24**	**334**	P	Pn	11 59 23.0	+0.1
OGWZ	**Otaki Gorge**	**2.30**	**197**	P	Pb	11 59 22.6	-1.2
HOWZ	**Holdsworth Sta**	**2.31**	**190**	P	Pn	11 59 21.6	+1.0
KIW	**Kapiti Island**	**2.41**	**201**	P	Pg	11 59 27.5	-0.8
GRZ	**Great Barrier**	**2.42**	**348**	P	Pg	11 59 27.4	-1.0
TMWZ	**Te Maipa**	**2.48**	**183**	P	Pn	11 59 23.8	+0.9
TMWZ				P	Pb	11 59 23.9	-3.1
MTW	**Mount Morrison**	**2.57**	**189**	P	Pg	11 59 30.3	-1.1
CAW	**Cannon Point**	**2.60**	**197**	P	Pb	11 59 30.1	+1.1
DUWZ	**D'Urville Isla**	**2.73**	**216**	P	Pb	11 59 30.2	-1.0
TRWZ	**Traveller**	**2.79**	**186**	P	Pn	11 59 27.6	+0.5
TCW	**Tory Channel**	**2.93**	**207**	P	Pg	11 59 36.4	-1.8
BHW	**Baring Head**	**2.93**	**198**	P	Pb	11 59 35.7	+1.1
WCZ	**Waipu Caves**	**3.01**	**332**	P	Pn	11 59 30.6	+0.5
TUWZ	**Tuamarina**	**3.24**	**209**	P	Pb	11 59 41.3	+1.4
NNZ	**Nelson**	**3.31**	**218**	P	Pb	11 59 41.6	+0.5
QRZ	**Quartz Range**	**3.50**	**230**	P	Pb	11 59 40.9	-3.5
THZ	**Tophouse**	**3.96**	**217**	P	Pb	11 59 49.6	-2.6
DSZ	**Denniston Nort**	**4.51**	**225**	P	Pn	11 59 54.6	+3.8
LTZ	**Lake Taylor**	**5.05**	**213**	P	Pb	12 00 06.4	-4.5
RPZ	**Rata Peaks**	**6.33**	**215**	P	Pn	12 00 23.0	+7.2

NNC 03 12:09:30.9±2.0, 37°.64N×77°.89E, h0^{km}, mb4.1, mpv3.7, 1C-1D, Error ellipse: s-maj=19.6km s-min=13.8km az=82.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.42**	**4**	Pg	Pb	12 11 10.1	+3.5
	6.4nm,0.4s						
SATY				Lg	Lg	12 12 23.0	
	16nm,0.6s						
MDOK	**Medeo**	**5.55**	**354**	Pg	Pb	12 11 11.9	+3.2
	5.8nm,0.6s						
MDOK				Lg	Lg	12 12 26.5	
	29nm,0.9s						
MDOK	**Medeo**	**5.55**	**354**	Pg	Pb	12 11 11.8	+3.1
	4.5nm,0.5s						
MDOK				Lg	Lg	12 12 26.0	
	8.9nm,0.6s						
KST	**Kastek**	**5.59**	**345**	Pg	Pb	12 11 13.5	+4.2
	2.4nm,0.4s						
KST				Lg	Lg	12 12 29.1	
	7.1nm,0.6s						
AAK	**Ala-Archa**	**5.62**	**334**	⇓Pg	Pb	12 11 13.0	+3.0
	4.1nm,0.7s						
AAK				⇑Lg	Lg	12 12 30.6	
	12nm,0.8s						

*IDC **03** 12:37:33.5±1.0, 26°.65N×54°.90E, h0^{km}, mb3.8/11, mb1 3.8/13, mb1mx3.7/51, mbtmp3.8/13, ML3.8/2, MS3.0/5, Ms1 3.0/5, ms1mx2.6/59, Error ellipse: s-maj=25.1km s-min=18.1km az=36.0*

*DSN **03** 12:37:33.3±1.5, 27°.11N×54°.90E, h10^{km}, ML3.8/11, Error ellipse: s-maj=18.1km s-min=5.8km az=12.0*

*OMAN **03** 12:37:35.4±1.1, 26°.86N×54°.85E, h0^{km}±4^{km}, ml3.7/9, Error ellipse: s-maj=22.5km s-min=8.2km az=14.0*

*THR **03** 12:37:35.7±0.5, 26°.71N×54°.84E, h17^{km}±7^{km}, ML3.9*

*TEH **03** 12:37:36.3, 26°.73N×54°.86E, h11^{km}, ML4.1*

*KISR **03** 12:37:38.8±1.2, 27°.59N×54°.62E, h19^{km}±999^{km}*

*NEIC **03** 12:37:39.7±2.3, 26°.71N±0°.05×54°.89E±0°.05, h40^{km}±10^{km}, Error ellipse: s-maj=7.4km s-min=6.9km az=197.0*

ISC 03 12:37:38.5±1.1, 26°.72N±0°.03×54°.86E±0°.03, h32^{km}±9^{km}, n104, σ1°.55/110, mb3.8/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**1.04**	**336**	Pg	**Pn**	**12 37 55.7**	**-1.2**
LAR1	**LAR**	**1.04**	**336**	*e*Pg	**Pn**	**12 37 55.7**	**-1.2**
LAR1				*e*Sg	**Sb**	**12 38 12.4**	**+1.1**
LAR1				*e*		12 38 21.5	
	comp=Z,88μm,0.5s						
SHME	**Shamm**	**1.33**	**120**	*e*P	**Pn**	**12 38 01.1**	**+0.3**
	SNR=87						
SHME				S	**Sb**	**12 38 21.5**	**+1.9**
SHME	**Shamm**	**1.33**	**120**	*e*Pn	**Pn**	**12 38 01.5**	**+0.6**
SHME	**Shamm**	**1.33**	**120**	P	**Pn**	**12 38 01.2**	**+0.3**
	SNR=87						
SHME				S	**Sb**	**12 38 21.3**	**+1.7**
BNDS	**Bandar-Abbas**	**1.35**	**60**	*e*Pg	**Pn**	**12 38 01.2**	**-0.1**
BNDS				*e*Sg	**Sn**	**12 38 19.6**	**+1.3**
BNDS				IAML		12 38 24.7	
	comp=E,2μm,0.5s						
BNDS				IAML		12 38 26.6	
	comp=N,2μm,0.5s						
GENO	**Geno**	**1.35**	**60**		**Pn**	**12 38 00.9**	**-0.5**
GENO				Sg	**Sn**	**12 38 19.8**	**+1.5**
GENO	**Geno**	**1.35**	**60**	*e*Pg	**Pn**	**12 38 01.6**	**+0.2**
GENO				*e*		12 38 32.6	
	comp=Z,26μm,0.6s						
BANOM	**Banah**	**1.52**	**121**	*e*P	**Pn**	**12 38 04.2**	**+0.7**
	SNR=203						
BANOM				S	**Sb**	**12 38 27.0**	**+2.0**
BANOM	**Banah**	**1.52**	**121**	*e*Pn	**Pb**	**12 38 05.0**	**-1.1**
BANOM	**Banah**	**1.52**	**121**	P	**Pn**	**12 38 04.1**	**+0.6**
	SNR=203						
BANOM				S	**Sb**	**12 38 26.7**	**+1.7**
LMD1	**Lamerd**	**1.63**	**293**	Pn	**Pb**	**12 38 06.7**	**-1.3**
LMD1	**Lamerd**	**1.63**	**293**	*e*		12 38 40.7	
	comp=Z,41μm,0.7s						
LMD1				*e*Pg	**Pb**	**12 38 07.3**	**-0.7**
IBND	**Bandar-abas**	**1.67**	**64**	*e*		12 38 42.3	
	comp=Z,46μm,1.0s						
IBND				*e*Pn	**Pn**	**12 38 06.8**	**+1.3**
MASF	**Masafi**	**1.78**	**139**	P	**Pb**	**12 38 09.2**	**-1.4**
MSFE	**Esma-Masafi**	**1.79**	**139**	*e*P	**Pn**	**12 38 07.9**	**+0.6**
	SNR=22						
MSFE	**Esma-Masafi**	**1.79**	**139**	*e*Pn	**Pb**	**12 38 09.3**	**-1.4**
NAZ	**Nazwa, Dubai**	**1.87**	**157**	*e*P	**Pb**	**12 38 10.5**	**-1.6**
	SNR=15						
NAZ	**Nazwa, Dubai**	**1.87**	**157**	*e*Pn	**Pb**	**12 38 11.1**	**-1.0**
NAZ	**Nazwa, Dubai**	**1.87**	**157**	P	**Pb**	**12 38 10.5**	**-1.6**
MDH	**Madha**	**1.92**	**137**	P	**Pn**	**12 38 10.3**	**+1.3**
MDH	**Madha**	**1.92**	**137**	*e*Pn	**Pb**	**12 38 10.6**	**-2.3**
MDH	**Madha**	**1.92**	**137**	P	**Pn**	**12 38 10.4**	**+1.4**
FAQ	**Al Faqa, Dubai**	**2.08**	**161**	P	**Pb**	**12 38 13.3**	**-2.3**
FAQ	**Al Faqa, Dubai**	**2.08**	**161**	*e*Pn	**Pb**	**12 38 14.8**	**-0.8**
FAQ	**Al Faqa, Dubai**	**2.08**	**161**	P	**Pb**	**12 38 13.5**	**-2.1**
JHRM	**Jahrom**	**2.11**	**328**	Pn	**Pn**	**12 38 13.3**	**+1.6**
JHRM	**Jahrom**	**2.11**	**328**	*e*Pn	**Pb**	**12 38 14.1**	**-2.0**
JHRM				*e*		12 38 50.8	
	comp=Z,18μm,0.5s						
ASUD	**Al Ashush, Dub**	**2.13**	**168**	P	**Pb**	**12 38 15.5**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.13**	**168**	*e*Pn	**Pb**	**12 38 15.6**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.13**	**168**	P	**Pb**	**12 38 13.7**	**-2.7**
UOSS	**Minazif**	**2.15**	**145**	*e*P	**Pn**	**12 38 13.2**	**+1.0**
	SNR=27						
UOSS	**Minazif**	**2.15**	**145**	Pn	**Pb**	**12 38 13.9**	**-2.9**
UOSS	**Minazif**	**2.15**	**145**	*e*Pn	**Pb**	**12 38 14.0**	**-2.7**
UOSS	**Minazif**	**2.15**	**145**	P	**Pb**	**12 38 13.8**	**-2.9**
HATD	**Hatta, Dubai**	**2.21**	**148**	P	**Pn**	**12 38 14.1**	**+1.1**
HATD	**Hatta, Dubai**	**2.21**	**148**	*e*Pn	**Pb**	**12 38 15.4**	**-2.4**
HATD	**Hatta, Dubai**	**2.21**	**148**	P	**Pb**	**12 38 14.9**	**-2.9**
ASHO	**Ashiyiah**	**2.30**	**152**	*e*P	**Pn**	**12 38 15.8**	**+1.5**
	SNR=16						
ASHO	**Ashiyiah**	**2.30**	**152**	*e*Pn	**Pb**	**12 38 16.4**	**-3.0**
ASHO	**Ashiyiah**	**2.30**	**152**	P	**Pb**	**12 38 16.3**	**-3.1**
	SNR=55						
QIR1	**Qir**	**2.38**	**318**	*e*Pn	**Pn**	**12 38 16.1**	**+0.8**
QIR1				*e*		12 39 04.2	
	comp=Z,14μm,0.5s						
JRN	**Qarnain Island**	**2.53**	**226**	*e*Pn	**Pn**	**12 38 18.3**	**+0.9**
ALNE	**Al Ain**	**2.77**	**163**	*i* P	**Pn**	**12 38 22.9**	**+2.1**
	SNR=9.3						
ALNE	**Al Ain**	**2.77**	**163**	*e*Pn	**Pn**	**12 38 23.2**	**+2.4**
KHNJ	**Kahnooj**	**2.81**	**64**	Pn	**Pn**	**12 38 21.1**	**-0.2**
KHNJ	**Kahnooj**	**2.81**	**64**	*e*Pn	**Pn**	**12 38 23.1**	**+1.8**
SOHO	**SOHO**	**2.99**	**149**	*i* P	**Pn**	**12 38 24.7**	**+1.0**
	SNR=23						
SOHO	**SOHO**	**2.99**	**149**	*e*Pn	**Pn**	**12 38 25.1**	**+1.4**
NGRK	**Negar Kerman**	**3.35**	**29**	*e*Pn	**Pn**	**12 38 31.1**	**+2.1**
NGRK				*e*		12 39 15.8	
	comp=Z,1μm,0.4s						
KRBR	**Kerman**	**3.66**	**27**	*e*Pn	**Pn**	**12 38 34.5**	**+1.4**
TVBK	**TV Kerman**	**3.66**	**27**	Pn	**Pn**	**12 38 34.3**	**+1.1**
TVBK	**TV Kerman**	**3.66**	**27**	*e*Pn	**Pn**	**12 38 34.6**	**+1.4**
TVBK				*e*		12 39 21.8	
	comp=Z,2μm,0.6s						
KHGB	**Koh Gabri**	**3.91**	**21**	Pn	**Pn**	**12 38 38.2**	**+1.7**
KHGB	**Koh Gabri**	**3.91**	**21**	*e*Pn	**Pn**	**12 38 38.3**	**+1.7**
KHGB				*e*		12 39 30.6	
	comp=Z,892nm,0.5s						
CHMN	**Cheshme madani**	**3.92**	**36**	Pn	**Pn**	**12 38 38.9**	**+2.1**
CHMN	**Cheshme madani**	**3.92**	**36**	*e*Pn	**Pn**	**12 38 39.1**	**+2.3**
KBAM	**BAM**	**3.99**	**52**	*e*Pn	**Pn**	**12 38 40.0**	**+2.5**
UMZA	**Um Al Zommool**	**4.00**	**176**	*e*Pn	**Pn**	**12 38 40.2**	**+2.6**
SLWS		**4.25**	**244**	P	**Pn**	**12 38 42.7**	**+1.6**
SLWS				S	**Sn**	**12 39 31.8**	**+2.1**
IMEH	**Mehriz**	**4.66**	**357**	*e*Pn	**Pn**	**12 38 48.4**	**+1.6**
WSAR	**Wadi Sarin**	**4.87**	**135**	Pn	**Pn**	**12 38 46.1**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=352,slow=5.5,SNR=15						
WSAR				Sn	**Sn**	**12 39 44.6**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=98,slow=15,SNR=1.6						
WSAR				LR	LR	12 41 19.6	
	comp=Z,98nm,19.3s,baz=26,slow=47						
KLNJ	**Kolanjah**	**5.14**	**327**	*e*Pn	**Pn**	**12 38 55.1**	**+1.5**
ISAD	**Sadrabad**	**5.27**	**349**	*e*Pn	**Pn**	**12 38 57.1**	**+1.7**
IRAM	**Ramesheh**	**5.51**	**337**	*e*Pn	**Pn**	**12 38 59.5**	**+0.9**
NHRD	**Haradh**	**5.63**	**251**	P	**Pn**	**12 39 01.8**	**+1.7**
YZKH	**Yazd**	**5.65**	**358**	*e*Pn	**Pn**	**12 39 01.4**	**+1.0**
ZHSF	**Zahedan**	**5.96**	**60**	*e*Pn	**Pn**	**12 39 05.6**	**+0.9**
NASN	**Na'in**	**6.31**	**344**	*e*P	**Pn**	**12 39 10.6**	**+1.0**
QRN	**Al-Qurain**	**6.47**	**290**	*e*P	**Pn**	**12 39 11.8**	**+0.2**
TPRV	**Parvadeh(Tabas**	**6.48**	**14**	*e*Pn	**Pn**	**12 39 13.4**	**+1.6**
IZEF	**Zefreh**	**6.53**	**341**	*e*Pn	**Pn**	**12 39 12.4**	**-0.2**
SRVN	**Saravan**	**6.76**	**83**	*e*Pn	**Pn**	**12 39 17.2**	**+1.6**
IPIR	**Pirpir**	**6.87**	**331**	*e*Pn	**Pn**	**12 39 18.0**	**+0.7**
UMR	**Umm Al-Rimmam**	**6.91**	**296**	*e*P	**Pn**	**12 39 17.7**	**+0.2**
TKDS	**Koohdasht(Taba**	**7.14**	**15**	*e*Pn	**Pn**	**12 39 21.9**	**+1.0**
TABS	**Tabas**	**7.17**	**15**	*e*Pn	**Pn**	**12 39 22.5**	**+1.2**
QYSM	**Um Kedad**	**7.19**	**281**	P	**Pn**	**12 39 21.4**	**-0.1**
RST	**Umm Al-Ruwaisa**	**7.47**	**294**	*e*P	**Pn**	**12 39 24.9**	**-0.3**
RAYN	**Ar Rayn**	**9.05**	**251**		**Pn**	**12 39 45.6**	**-1.5**
GEYT	**Alibeck**	**11.51**	**13**	LR	LR	12 45 37.1	
	comp=Z,85nm,18.8s,baz=60,slow=42						
GNI	**Garni**	**15.81**	**330**	LR	LR	12 46 54.3	
	comp=Z,37nm,18.4s,baz=140,slow=35						
MMAI	**Mount Meron Ar**	**17.99**	**295**	P	**P**	**12 41 47.0**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=92,slow=14,SNR=2.4						
KK31	**Karatay Array**	**20.72**	**34**	P	**P**	**12 42 13.6**	**-2.7**
KKAR	**Karatay Array**	**20.72**	**34**	P	**P**	**12 42 13.5**	**-2.8**
KKAR				IAmb	IAmb	12 42 19.9	
	comp=Z,2.7nm,1.0s						
BR131	**Keskin Array S**	**21.92**	**312**	P	**P**	**12 42 29.4**	**+0.2**
BR131				IAmb	IAmb	12 42 36.5	
	comp=Z,5.3nm,0.7s						
BRTR	**Keskin Array B**	**21.92**	**312**	P	**P**	**12 42 29.6**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=129,slow=13,SNR=8.5						
BRTR				LR	LR	12 52 36.6	
	comp=Z,65nm,19.4s,baz=130,slow=41						
BRTR	**Keskin Array B**	**21.92**	**312**	P	**P**	**12 42 28.5**	**-0.8**
ABKAR	**Abkulak array**	**22.84**	**9**	P	**P**	**12 42 39.5**	**+0.7**
AKTO	**Aktyubinsk**	**23.80**	**5**	P	**P**	**12 42 49.6**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=169,slow=10,SNR=5.0						
MK31	**Makanchi Array**	**29.50**	**40**	P	**P**	**12 43 39.5**	**-0.2**
MK31				IAmb	IAmb	12 43 54.8	
	comp=Z,2.4nm,1.4s						
MKAR	**Makanchi Array**	**29.50**	**40**	P	**P**	**12 43 40.4**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=232,slow=10,SNR=2.2						
KURBB	**Kurchatov Arra**	**29.94**	**31**	P	**P**	**12 43 43.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=231,slow=8.3,SNR=2.5						
KURK	**Kurchatov**	**30.05**	**31**	P	**P**	**12 43 43.6**	**-0.9**
AKASG	**Malin Array Be**	**30.91**	**328**	P	**P**	**12 43 51.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=136,slow=8.5,SNR=4.3						
AKASG				LR	LR	12 56 51.5	
	comp=Z,23nm,19.4s,baz=90,slow=37						
ZAA0	**Zalesovo Array**	**35.04**	**31**	P	**P**	**12 44 28.5**	**+0.4**
ZALV	**Zalesovo Beam**	**35.04**	**31**	P	**P**	**12 44 28.1**	**0.0**
	comp=Z,2.4nm,0.6s,baz=243,slow=8.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**35.04**	**31**	P	**P**	**12 44 27.9**	**-0.2**
FINES	**FINESS Array B**	**39.74**	**339**	P	**P**	**12 45 07.5**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=142,slow=9.5,SNR=8.1						
NOA	**NORSAR Array B**	**45.11**	**332**	P	**P**	**12 45 51.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=119,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**51.43**	**266**	P	**P**	**12 46 41.6**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=65,slow=8.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**51.43**	**266**	IAmb	IAmb	12 46 58.6	
	comp=Z,1.8nm,1.2s						
WRA	**Warramunga Arr**	**89.89**	**112**	P	**P**	**12 50 34.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=316,slow=3.7,SNR=1.8						
ASAR	**Alice Springs**	**91.30**	**116**	P	**P**	**12 50 41.0**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=305,slow=4.4,SNR=4.0						

*TIF **03** 12:45:27.6, 41°.54N×40°.76E, h26^{km}±2^{km}*

*DDA **03** 12:45:28.9, 41°.43N×40°.76E, h7^{km}±3^{km}, ML2.6*

ISC 03 12:45:27.1±1.4, 41°.55N±0°.05×40°.76E±0°.04, h10^{km}±10^{km}, n12, σ0°.91/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.70**	**85**	P	**Pg**	**12 45 38.7**	**-2.0**
BATM				S	**Sg**	**12 45 49.0**	**-0.8**
DBOC	**Borcka**	**0.71**	**106**	*i* P	**Pn**	**12 45 42.9**	**-0.4**
DBOC				*i* S	**Sb**	**12 45 52.2**	**+0.7**
DBOC				IAML		12 45 53.0	
	comp=E,178nm,0.2s						
DBAD	**Bademkaya**	**0.88**	**127**	*i* P	**Pg**	**12 45 44.8**	**+0.8**
DBAD				*i* S	**Sg**	**12 45 56.5**	**+0.9**
DBAD				IAML		12 45 57.0	
	comp=N,322nm,0.2s						
DBAD				IAML		12 45 57.0	
	comp=E,335nm,0.3s						
MACK	**Trabzon**	**0.96**	**231**	*i* P	**Pg**	**12 45 46.1**	**+0.6**
MACK				*i* S	**Sg**	**12 45 58.5**	**+0.5**
MACK				IAML		12 46 00.0	
	comp=N,207nm,0.2s						
MACK				IAML		12 46 01.0	
	comp=E,216nm,0.1s						
DAGI	**Agillar**	**0.99**	**118**	*i* P	**Pn**	**12 45 47.0**	**-0.1**
DAGI				*i* S	**Sg**	**12 45 59.8**	**+0.8**
DDEM	**Demirkent**	**0.99**	**131**	*i* P	**Pg**	**12 45 46.9**	**+0.7**
DDEM				*i* S	**Sg**	**12 45 59.7**	**+0.6**
DDEM				IAML		12 46 01.0	
	comp=E,277nm,0.6s						
DDEM				IAML		12 46 03.0	
	comp=N,296nm,0.3s						
KRIK	**Erzurum-spir**	**1.22**	**174**	*i* P	**Pg**	**12 45 50.7**	**+0.3**
KRIK				*i* S	**Sg**	**12 46 05.8**	**-0.5**
BAYB	**BAYBURT**	**1.34**	**197**	*i* P	**Pb**	**12 45 52.1**	**-0.3**
BAYB				*i* S	**Sn**	**12 46 09.0**	**-1.2**
BAYB				IAML		12 46 11.0	
	comp=N,75nm,0.4s						
BAYB				IAML		12 46 11.0	
	comp=E,107nm,0.2s						
CHVG	**Ch'k'valeri**	**1.53**	**40**	P	**Pn**	**12 45 55.1**	**+0.5**
CHVG				S	**Sn**	**12 46 15.9**	**+1.4**
KOPT	**Kop Dagi**	**1.54**	**187**	*i* P	**Pg**	**12 45 56.6**	**-0.1**
KOPT				*i* S	**Sg**	**12 46 16.7**	**+0.1**
ABS	**Abastumani**	**1.55**	**82**	P	**Pn**	**12 45 55.4**	**+0.4**
ABS				S	**Sn**	**12 46 15.5**	**+0.2**
KELT	**Kelkit**	**1.80**	**220**	*i* P	**Pn**	**12 45 59.0**	**+0.5**
KELT				*i* S	**Sb**	**12 46 21.3**	**-1.8**

*NEIC **03** 12:47:23.2±2.3, 3°.06S×0°.07×147°.7E±0°.1, h10^{km}±1^{km}, mb4.4/13, Error ellipse: s-maj=18.9km s-min=9.5km az=69.0*

*IDC **03** 12:47:24.9±1.2, 3°.41S×147°.47E, h0^{km}, mb3.8/5, mb1 4.1/5, mb1mx3.7/35, mbtmp3.8/5, MS3.2/2, Ms1 3.2/2, ms1mx2.7/41, Error ellipse: s-maj=54.3km s-min=23.9km az=118.0*

ISC 03 12:47:25.7±0.8, 3°.03S±0°.08×147°.7E±0°.1, h32^{km}, n32, σ0°.99/23, mb4.1/10, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.03**	**342**	Pn	**Pb**	**12 47 44.7**	**-0.3**
RABL	**Rabaul**	**4.62**	**105**	Pn	**Pn**	**12 48 33.3**	**0.0**
PMG	**Port Moresby**	**6.36**	**185**	Pn	**Pn**	**12 48 57.2**	**0.0**
HNR	**Honiara**	**13.75**	**118**	LR	LR	12 56 23.5	
	comp=Z,68nm,19.1s,baz=279,slow=39						
MTN	**Manton Dam**	**19.06**	**238**	P	**P**	**12 51 43.8**	**-1.7**
MTN				IAmb	IAmb	12 51 55.1	
	comp=Z,63nm,1.5s						
ANA2	**Anatahan**	**19.34**	**354**	P	**P**	**12 51 48.0**	**-0.6**
WB0	**Warramunga Arr**	**21.10**	**217**	P	**P**	**12 52 05.8**	**-1.9**
WR0	**Warramunga Arr**	**21.16**	**216**	P	**P**	**12 52 07.4**	**-1.0**
WR0				IAmb	IAmb	12 52 11.6	
	comp=Z,31nm,1.4s						
WRAB	**Tennant Creek**	**21.25**	**217**	P	**P**	**12 52 09.7**	**+0.3**
WRAB				IAmb	IAmb	12 52 10.2	
	comp=Z,10nm,0.9s						
WB2	**Warramunga Arr**	**21.26**	**217**	P	**P**	**12 52 08.8**	**-0.7**
WB2				IAmb	IAmb	12 52 12.2	
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**21.27**	**217**	P	**P**	**12 52 08.2**	**-1.4**
	comp=Z,5.5nm,0.8s,baz=40,slow=11,SNR=20						
WRA	**Warramunga Arr**	**21.27**	**217**	P	**P**	**12 52 08.1**	**-1.4**
KNRA	**Kununurra**	**22.47**	**235**	P	**P**	**12 52 22.3**	**-0.1**
KNRA				IAmb	IAmb	12 52 42.3	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**24.46**	**212**	P	**P**	**12 52 41.7**	**-0.3**
ASAR	**Alice Springs**	**24.46**	**212**	P	**P**	**12 52 42.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=42,slow=7.6,SNR=41						
ASAR	**Alice Springs**	**24.46**	**212**	P	**P**	**12 52 41.3**	**-0.7**
LUWI	**Luwuk**	**24.97**	**274**	P	**P**	**12 52 47.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**26.29**	**234**	P	**P**	**12 52 58.6**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=56,slow=10,SNR=2.4						
FITZ				LR	LR	13 03 31.4	
	comp=Z,83nm,20.3s,baz=68,slow=37						
H11S3	**WAKE ISLAND Hy**	**28.42**	**40**	T	T	13 23 29.9	
	baz=223,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.43**	**41**	T	T	13 23 31.9	
	baz=223,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.44**	**40**	T	T	13 23 32.5	
	baz=223,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**29.44**	**39**	T	T	13 24 49.3	
	baz=222,slow=76,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**29.46**	**39**	T	T	13 24 49.3	
	baz=222,slow=76,SNR

*IPEC **03** 12:57:38.4±0.2,50.°22N×18.°70E,h2km±2km,ML2.7/4, Error ellipse: s-maj=1.8km s-min=1.0km az=172.0*
*PRU **03** 12:57:38.8±0.0,50.°24N×18.°62E,h0km*
*BGR **03** 12:57:39.2±0.3,50.°21N×18.°70E,h1km,ML2.8/3,Error ellipse: s-maj=5.6km s-min=3.3km az=179.0*
ISC 03 12:57:36.5±0.7,50.°30N±0.°03×18.°75E±0.°02,h0km,n52, σ1°25/91,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.42**	**239**	*e*PG	**Pb**	**12 57 46.5**	**-0.2**
RAC				*e*SG	**Sb**	**12 57 52.1**	**-1.5**
OKC	**Ostrava-Krasne**	**0.60**	**220**	*e*PG	**Pg**	**12 57 48.9**	**+0.9**
OKC				*e*SG	**Sg**	**12 57 55.5**	**-0.4**
	comp=Z,206nm,0.5s						
OKC	**Ostrava-Krasne**	**0.60**	**220**	*e*Pg	**Pg**	**12 57 49.1**	**+1.0**
	SNR=16						
OKC				*e*Sg	**Sg**	**12 57 56.4**	**+0.5**
	SNR=5.6						
OJC	**Ojcow**	**0.68**	**96**	*e*Pg	**Pb**	**12 57 51.8**	**+0.6**
OJC				*e*Sg	**Sb**	**12 58 01.8**	**+0.6**
OJC	**Ojcow**	**0.68**	**96**	*e*Pg	**Pb**	**12 57 51.8**	**+0.6**
	SNR=116						
OJC				*e*Sg	**Sb**	**12 58 01.7**	**+0.6**
	SNR=6.0						
ANAC	**Anensky vrch**	**0.91**	**256**	*e*Pg	**Pb**	**12 57 54.9**	**-0.3**
	baz=80						
ANAC				*e*Sg	**Sg**	**12 58 05.4**	**-0.3**
	131nm,0.1s,baz=80						
MORC	**Moravsky Berou**	**0.94**	**236**	*e*Pg	**Pg**	**12 57 54.9**	**+0.5**
	baz=59						
MORC				*e*Sg	**Sg**	**12 58 05.7**	**-0.8**
	174nm,0.5s,baz=59						
MORC	**Moravsky Berou**	**0.94**	**236**	*e*PG	**Pg**	**12 57 54.9**	**+0.5**
MORC				*e*SG	**Sg**	**12 58 05.8**	**-0.8**
MORC	**Moravsky Berou**	**0.94**	**236**	*e*Pg	**Pg**	**12 57 55.0**	**+0.5**
	SNR=45						
MORC				*e*Sg	**Sg**	**12 58 06.6**	**0.0**
	SNR=6.5						
LANS	**Liptovska Anna**	**1.24**	**158**	*e*PG	**Pn**	**12 58 01.2**	**0.0**
LANS				*e*SG	**Sn**	**12 58 18.5**	**-0.1**
LANS				*e*LG	Lg	12 58 23.8	
KRLC	**Kraliky**	**1.28**	**261**	*e*PG	**Pg**	**12 58 01.1**	**0.0**
KRLC				*e*SG	**Sg**	**12 58 17.0**	**-0.7**
	comp=Z,150nm,0.7s						
NIE	**Niedzica**	**1.34**	**131**	*e*Pg	**Pn**	**12 58 03.0**	**+0.5**
NIE				*e*Sg	**Sn**	**12 58 22.2**	**+1.2**
NIE	**Niedzica**	**1.34**	**131**	*e*Pn	**Pn**	**12 58 02.9**	**+0.4**
NIE				*e*Sg	**Sn**	**12 58 22.3**	**+1.3**
	SNR=2.7						
DPC	**Dobruska-Polom**	**1.56**	**273**	*e*PG	**Pb**	**12 58 06.5**	**+0.3**
DPC				*e*SG	**Sg**	**12 58 27.0**	**+0.6**
	comp=Z,99nm,0.7s						
DPC	**Dobruska-Polom**	**1.56**	**273**	*e*Pn	**Pb**	**12 58 06.5**	**+0.3**
DPC				*e*Sg	**Sg**	**12 58 27.4**	**+0.9**
	SNR=6.1						
JAVC	**Velka Javorina**	**1.60**	**206**	*e*Pg	**Pn**	**12 58 06.1**	**0.0**
	baz=26						
JAVC	**Velka Javorina**	**1.60**	**206**	*e*PG	**Pn**	**12 58 06.2**	**+0.1**
OSTC	**Ostas**	**1.64**	**280**	*e*PG	**Pb**	**12 58 07.8**	**+0.2**
OSTC				*e*SG	**Sg**	**12 58 29.8**	**+0.7**
	comp=Z,57nm,0.7s						
KSP	**Ksiaz**	**1.66**	**290**	*e*Pb	**Pn**	**12 58 07.8**	**+1.0**
KSP				*e*Pg	**Pg**	**12 58 09.7**	**+1.5**
KSP				*e*Sg	**Sg**	**12 58 30.7**	**+1.0**
VRAC	**Vranov**	**1.71**	**235**	Pg	**Pn**	**12 58 07.9**	**+0.3**
	5.8nm,0.3s,baz=58,slow=15,SNR=18						
VRAC				Lg	Lg	12 58 29.4	
	26nm,0.3s,baz=124,slow=23,SNR=20						
VRAC	**Vranov**	**1.71**	**235**	*e*Pn	**Pn**	**12 58 08.2**	**+0.6**
	baz=55						
VRAC				*e*Sg	**Sn**	**12 58 29.8**	**-0.4**
	53nm,0.2s,baz=55						
VRAC	**Vranov**	**1.71**	**235**	*e*PN	**Pn**	**12 58 08.2**	**+0.6**
VRAC				*e*SG	**Sn**	**12 58 29.8**	**-0.4**
VRAC	**Vranov**	**1.71**	**235**	*e*Pn	**Pn**	**12 58 08.2**	**+0.6**
VRAC				*e*Sg	**Sn**	**12 58 30.4**	**+0.2**
	SNR=4.8						
CHVC	**Chvalec**	**1.75**	**281**	*e*PG	**Pg**	**12 58 10.4**	**+0.5**
UPC	**Upice**	**1.76**	**278**	*e*PG	**Pg**	**12 58 10.7**	**+0.4**
UPC				*e*SG	**Sg**	**12 58 34.5**	**+1.4**
	comp=Z,46nm,0.5s						
VYHS	**Vyhne**	**1.81**	**178**	*e*PN	**Pn**	**12 58 08.7**	**-0.2**
VYHS				*e*SN	**Sb**	**12 58 33.4**	**-0.3**
VYHS				*e*LG	Lg	12 58 42.0	
STHS	**Stebnicka Huta**	**1.84**	**118**	*e*PN	**Pb**	**12 58 11.5**	**+0.5**
STHS				*e*SN	**Sg**	**12 58 37.0**	**+1.4**
KRUC	**Moravsky**	**1.97**	**232**	*e*Pn	**Pn**	**12 58 11.8**	**+0.7**
	baz=51						
KRUC				*e*Sg	**Sb**	**12 58 37.6**	**-0.6**
	56nm,0.5s,baz=51						
KRUC	**Moravsky**	**1.97**	**232**	*e*PN	**Pn**	**12 58 11.9**	**+0.8**
KRUC				*e*SG	**Sb**	**12 58 37.6**	**-0.6**
KRUC	**Moravsky**	**1.97**	**232**	*e*Sg	**Sb**	**12 58 38.2**	**-0.1**
	SNR=3.3						
KECS	**Kecovo**	**2.14**	**147**	*e*SN	**Sb**	**12 58 43.6**	**+0.3**
KECS				*e*LG	Lg	12 58 53.4	
CRVS	**Cervenica-Dubn**	**2.25**	**127**	*e*PN	**Pg**	**12 58 19.5**	**-0.1**
PSZ	**Piszkesteto**	**2.50**	**162**	*e*PG	**Pg**	**12 58 25.7**	**+1.4**
KOLS	**Kolonicke sedl**	**2.67**	**119**	*e*PG	**Pg**	**12 58 27.5**	**-0.1**
KOLS				*e*SN	**Sn**	**12 58 54.5**	**+0.7**
PRU	**Pruhonice**	**2.72**	**265**	*e*SG	**Sb**	**12 59 00.7**	**+0.7**
	comp=Z,30nm,0.5s						
PRU	**Pruhonice**	**2.72**	**265**	*e*SN	**Sn**	**12 58 54.8**	**-0.3**
CONA	**Conrad Observa**	**3.04**	**220**	*e*Pn	**Pn**	**12 58 25.7**	**-0.1**
	0.4nm,0.1s						
CONA				*e*Sn	**Sn**	**12 59 01.3**	**-1.7**
	9.2nm,0.3s						
BRG	**Berggiesshubel**	**3.12**	**282**	Pg	**Pg**	**12 58 36.9**	**+0.7**
BRG				Sg	**Sg**	**12 59 16.7**	**+0.2**
BRG				Amp		12 59 23.2	
	comp=Z,20nm,0.5s						
BRG	**Berggiesshubel**	**3.12**	**282**	*e*Sg	**Sg**	**12 59 17.4**	**+0.9**
	SNR=2.0						
CKRC	**Cesky Krumlov**	**3.25**	**245**	*e*SG	**Sb**	**12 59 16.4**	**+1.3**
KHC	**Kasperske Hory**	**3.55**	**253**	*e*PN	**Pn**	**12 58 32.3**	**-0.6**
KHC				*e*PG	**Pb**	**12 58 42.0**	**+1.8**
KHC				*e*SG	**Sb**	**12 59 27.0**	**+3.1**
	comp=Z,44nm,0.5s						
KHC	**Kasperske Hory**	**3.55**	**253**	*e*Pg	**Pg**	**12 58 45.3**	**+0.7**
	SNR=2.3						
GERES	**GERESS Array B**	**3.59**	**248**	Pn	**Pn**	**12 58 34.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=5.9						
GERES				Pg	**Pb**	**12 58 42.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=68,slow=16,SNR=8.8						
GERES				Sn	**Sn**	**12 59 13.4**	**-3.2**
	comp=Z,1.6nm,0.3s,baz=62,slow=27,SNR=6.3						
GERES				Lg	Lg	12 59 26.8	
	comp=Z,4.9nm,0.3s,baz=56,slow=27,SNR=8.8						
CLL	**Collm**	**3.78**	**288**	*e*Pg	**Pg**	**12 58 49.0**	**+0.1**
CLL				*e*Sg	**Sg**	**12 59 39.0**	**+1.1**
	comp=Z,16nm,0.6s						
MOA	**Molln**	**3.83**	**232**	*i* Pn	**Pn**	**12 58 37.6**	**+0.9**
	comp=Z,0.5nm,0.2s						
MOA				*i* Pg	**Pg**	**12 58 50.0**	**+0.1**
	comp=Z,1.9nm,0.3s						
MOA				*i* Sn	**Sn**	**12 59 23.6**	**+1.1**
	comp=Z,1.2nm,0.2s						
LUNU	**Lund**	**6.23**	**331**	*i* P	**Pn**	**12 59 11.0**	**+1.5**
LUNU				*e*S	**Sn**	**13 00 18.3**	**-3.0**
AKASG	**Malin Array Be**	**6.70**	**83**	Sn	**Sn**	**13 00 31.3**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=263,slow=22,SNR=4.4						
AKASG				Lg	Lg	13 01 05.3	
	comp=Z,1.7nm,0.3s,baz=268,slow=28,SNR=4.2						
DEL	**Delary**	**6.83**	**337**	*e*	**Pn**	**12 59 18.1**	**+0.3**
	baz=164,slow=11						
DEL				*i* P	**Pn**	**12 59 19.4**	**+1.6**
DEL				*e*S	**Sn**	**13 00 34.1**	**-2.1**
DAVOX	**Davos/Dischmat**	**6.86**	**243**	Lg	Lg	13 01 12.8	
	comp=Z,0.3nm,0.3s,baz=251,slow=18,SNR=2.2						
HFS	**Hagfors**	**10.27**	**346**	Sn	**Sn**	**13 01 60.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=176,slow=22,SNR=1.8						
NOA	**NORSAR Array B**	**11.56**	**341**	Pn	**Pn**	**13 00 23.1**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=155,slow=12,SNR=5.7						
FINES	**FINESS Array B**	**11.89**	**17**	Pn	**Pn**	**13 00 26.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=204,slow=13,SNR=7.4						
FINES				Sn	**Sn**	**13 02 33.3**	**-7.0**
	comp=Z,0.6nm,0.3s,baz=200,slow=20,SNR=8.5						

*IDC **03** 13:21:25.6±2.6,31.°64S×177.°69W,h0km,mb4.2/3, mb1 4.3/5,mb1mx3.9/31,mbtmp4.2/5,ML3.9/2,MS3.4/2, Ms1 3.4/2,ms1mx2.8/33,Error ellipse: s-maj=61.3km s-min=30.3km az=120.0*

*NEIC **03** 13:21:28.7±2.0,31.°50S±0.°04×177.°8W±0.°2,h10km±2km, mb4.4/7,Error ellipse: s-maj=33.9km s-min=4.0km az=99.0*
ISC 03 13:21:27.8±1.3,31.°58S±0.°08×178.°0W±0.°2,h10km,n17, σ1°65/18,mb4.4/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.32**	**2**	Pn	**Pn**	**13 22 04.6**	**-1.6**
	90nm,0.3s,baz=232,slow=22,SNR=2.0						
RAO				Sn	**Sn**	**13 22 34.0**	**-0.8**
	174nm,0.3s,baz=48,slow=22,SNR=4.1						
MXZ	**Matakaoa Point**	**6.70**	**206**	Pn	**Pn**	**13 23 06.3**	**0.0**
URZ	**Urewera**	**7.78**	**210**	Pn	**Pn**	**13 23 19.4**	**-1.7**
	0.4nm,0.3s,baz=90,slow=11,SNR=2.1						
URZ				Sn	**Sn**	**13 24 46.5**	**-2.8**
	4.3nm,0.3s,baz=17,slow=23,SNR=10						
URZ				LR	LR	13 26 57.0	
	comp=Z,133nm,18.1s,baz=17,slow=42						
DZM	**Mont Dzumac**	**16.80**	**301**	LR	LR	13 31 07.8	
	comp=Z,206nm,18.1s,baz=121,slow=34						
CTA	**Charters Tower**	**34.01**	**281**	P	**P**	**13 28 14.4**	**+2.3**
	2.4nm,0.7s,baz=96,slow=9.2,SNR=1.6						
AS31	**Alice Springs**	**43.07**	**268**	P	**P**	**13 29 25.5**	**-2.7**
AS31				IAmb	IAmb	13 29 31.6	
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**43.07**	**268**	P	**P**	**13 29 29.4**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=107,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**43.07**	**268**	P	**P**	**13 29 27.3**	**-0.9**
WR0	**Warramunga Arr**	**43.98**	**273**		**P**	**13 29 36.9**	**+1.3**
WR0				IAmb	IAmb	13 29 55.2	
	comp=Z,8.6nm,1.5s						
WB2	**Warramunga Arr**	**44.15**	**273**	P	**P**	**13 29 38.1**	**+1.1**
WB2				IAmb	IAmb	13 29 40.8	
	comp=Z,8.4nm,1.2s						
WRA	**Warramunga Arr**	**44.16**	**273**	P	**P**	**13 29 38.1**	**+1.1**
	comp=Z,3.5nm,0.6s,baz=110,slow=8.0,SNR=46						
WRA	**Warramunga Arr**	**44.16**	**273**	P	**P**	**13 29 38.5**	**+1.5**
WB0	**Warramunga Arr**	**44.19**	**274**	P	**P**	**13 29 39.0**	**+1.7**
WB0				IAmb	IAmb	13 29 39.9	
	comp=Z,4.8nm,0.8s						
FORT	**Forrest**	**45.76**	**256**	P	**P**	**13 29 50.0**	**+0.4**
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**13 31 25.8**	**+1.5**
QSPA				IAmb	IAmb	13 31 37.3	
	comp=Z,6.3nm,1.1s						
FINES	**FINESS Array B**	**146.25**	**339**	PKPbc	**PKPdf**	**13 41 07.3**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=57,slow=2.8,SNR=9.3						
AKASG	**Malin Array Be**	**152.24**	**321**	PKPab	**PKPab**	**13 41 33.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=62,slow=4.5,SNR=4.6						

*MOS **03** 13:21:39.2±1.2,56.°02N×113.°72E,h6km,mb3.7/1,Error ellipse: s-maj=13.4km s-min=8.5km az=60.9*
*IDC **03** 13:21:39.2±2.7,56.°22N×113.°80E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/65,mbtmp3.6/5,ML2.9/2,MS2.4/1, Ms1 2.4/1,ms1mx2.1/43,Error ellipse: s-maj=53.4km s-min=34.0km az=11.0*
*BYKL **03** 13:21:40.6±0.1,56.°07N×113.°70E,h4km±2km*
ISC 03 13:21:39.9±0.6,56.°06N±0.°02×113.°73E±0.°02,h10km,n57, σ2°94/112,mb3.4/3,5C-5D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.12**	**302**	⇑*i*Pg	**Pg**	**13 21 42.5**	**-0.3**
SVKR				Pmax		13 21 42.9	
	7μm,0.2s						
SVKR				*e*Sg	**Sg**	**13 21 44.7**	**-0.2**
SVKR				Smax		13 21 46.1	
	34μm,0.3s						
UKT	**Uakit**	**0.57**	**186**	⇑*i*Pg	**Pg**	**13 21 50.7**	**-0.3**
UKT				Pmax		13 21 54.0	
	99nm,0.3s						
UKT				*e*Sg	**Sg**	**13 21 58.5**	**-0.1**
UKT				Smax		13 21 59.4	
	1μm,0.9s						
UKT	**Uakit**	**0.57**	**186**	⇑*i*PG	**Pg**	**13 21 51.0**	**0.0**
UKT				*e*		13 21 58.6	
UKT				pmax	pmax		
	comp=Z,98nm,0.2s						
UKT				smax	smax		
	comp=E,893nm,0.4s						
YOA	**Uoyan**	**1.13**	**275**	*e*Pg	**Pb**	**13 22 00.5**	**-1.0**
YOA				*e*Pb	**Pn**	**13 22 03.0**	**+1.2**
YOA				max		13 22 04.0	
	comp=E,852nm,0.3s						
YOA				*e*Sg	**Sg**	**13 22 15.2**	**-1.1**
YOA				*e*Sb	**Sn**	**13 22 18.8**	**+1.4**
YOA				max		13 22 30.7	
	comp=E,3μm,0.7s						
NLYR	**Nelyaty**	**1.18**	**68**	⇓*i*Pg	**Pb**	**13 22 02.3**	**-0.2**
NLYR				*e*Pb	**Pg**	**13 22 04.2**	**+1.6**
NLYR				max		13 22 07.0	
	comp=E,380nm,0.6s						
NLYR				*e*Sg	**Sb**	**13 22 18.0**	**+0.2**
NLYR				*e*		13 22 22.2	
NLYR				max		13 22 23.5	
	comp=E,3μm,1.1s						
NLYR	**Nelyaty**	**1.18**	**68**	⇓*i*PG	**Pb**	**13 22 02.3**	**-0.2**
NLYR				*e*		13 22 18.5	
NLYR				pmax	pmax		
	comp=Z,380nm,0.6s						
NLYR				smax	smax		
	comp=E,3μm,1.1s						
KMO	**Kumora**	**1.43**	**264**	*e*Pg	**Pn**	**13 22 05.6**	**-0.4**
KMO				*e*		13 22 07.5	
KMO				max		13 22 07.7	
	comp=E,562nm,0.5s						
KMO				*e*Sg	**Sn**	**13 22 24.8**	**-0.1**
KMO				*e*		13 22 28.5	
KMO				max		13 22 31.0	
	comp=E,2μm,1.1s						
KMO	**Kumora**	**1.43**	**264**	*e*PG	**Pn**	**13 22 05.8**	**-0.2**
KMO				*e*		13 22 25.7	
KMO				pmax	pmax		
	comp=Z,570nm,0.3s						
KMO				smax	smax		
	comp=N,2μm,1.1s						
BOD	**Bodaibo**	**1.77**	**5**	*e*Pg	**Pb**	**13 22 12.2**	**-0.3**
BOD				Pmax		13 22 14.3	
	comp=N,144nm,0.3s						
BOD				*e*Sg	**Sb**	**13 22 34.9**	**+0.1**
BOD				Smax		13 22 38.3	
	comp=N,853nm,0.6s						
BOD	**Bodaibo**	**1.77**	**5**	*e*PN	**Pb**	**13 22 12.2**	**-0.3**
BOD				*e*		13 22 35.2	
BOD				pmax	pmax		
	comp=Z,144nm,0.3s						
BOD				smax	smax		
	comp=E,847nm,0.7s						
YLYR	**Ulyunkhan**	**1.88**	**232**	⇑*i*Pn	**Pb**	**13 22 13.9**	**-0.5**
	comp=E,203nm,0.7s						
YLYR				⇑*i*Pn	**Pb**	**13 22 13.9**	**-0.5**
	comp=E,310nm,0.7s						
YLYR				⇓*i*Pn	**Pb**	**13 22 13.9**	**-0.5**
	comp=E,161nm,0.7s						
YLYR				*e*Pg	**Pn**	**13 22 14.5**	**+2.3**
YLYR				Pmax		13 22 15.2	
	comp=E,397nm,0.4s						
YLYR				*e*		13 22 16.7	
YLYR				*e*Sg	**Sb**	**13 22 39.5**	**+1.6**
YLYR				Smax		13 22 41.6	
	comp=E,2μm,0.9s						
YLYR	**Ulyunkhan**	**1.88**	**232**	⇓*i*PN	**Pb**	**13 22 14.0**	**-0.5**
YLYR				*e*		13 22 39.3	
YLYR				pmax	pmax		
	comp=Z,396nm,0.3s						
YLYR				smax	smax		
	comp=E,2μm,1.1s						
NIZ	**Nizh Angarsk**	**2.38**	**265**	⇓*i*Pn	**Pn**	**13 22 20.4**	**+1.5**
NIZ				*e*Pg	**Pb**	**13 22 22.7**	**-0.1**
NIZ				Pmax		13 22 25.4	
	comp=E,117nm,0.3s						
NIZ				*e*		13 22 52.3	
NIZ				*e*Sg	**Sb**	**13 22 53.8**	**+1.6**
NIZ				Smax		13 22 55.7	
	comp=E,592nm,0.6s						
NIZ	**Nizh Angarsk**	**2.38**	**265**	*e*PN	**Pn**	**13 22 20.3**	**+1.4**
NIZ				*e*		13 22 22.7	
NIZ				*e*		13 22 54.1	
NIZ				pmax	pmax		
	comp=Z,94nm,1.0s						
NIZ				smax	smax		
	comp=N,640nm,0.8s						
CRS	**Chara**	**2.65**	**70**	*e*Pn	**Pn**	**13 22 24.7**	**+1.9**
CRS				*e*Pg	**Pb**	**13 22 29.4**	**+1.9**
CRS				Pmax		13 22 30.3	
	comp=N,289nm,1.2s						
CRS				*e*Sg	**Sg**	**13 23 04.3**	**-0.8**
CRS				Smax		13 23 07.3	
	comp=N,1μm,1.5s						
CRS	**Chara**	**2.65**	**70**	*e*PN	**Pn**	**13 22 24.9**	**+2.1**
CRS				*e*		13 22 29.2	
CRS				*e*		13 23 04.0	
CRS				pmax	pmax		
	comp=Z,290nm,1.0s						
CRS				smax	smax		
	comp=E,1μm,1.3s						
SYVR	**Suvo**	**3.23**	**223**	*e*Pn	**Pn**	**13 22 32.0**	**+1.3**
SYVR				*e*Pg	**Pb**	**13 22 38.5**	**+1.2**
SYVR				Pmax		13 22 42.2	
	comp=E,97nm,0.9s						
SYVR				*e*		13 23 00.2	
SYVR				*e*Sg	**Sb**	**13 23 20.3**	**+3.6**
SYVR				Smax		13 23 30.7	
	comp=E,888nm,1.7s						
SYVR	**Suvo**	**3.23**	**223**	*e*PN	**Pn**	**13 22 32.0**	**+1.3**
SYVR				*e*		13 22 37.5	
SYVR				*e*		13 23 20.0	
SYVR				pmax	pmax		
	comp=Z,100nm,0.8s						
SYVR				smax	smax		
	comp=E,920nm,1.7s						
VTMR	**Vitim**	**3.45**	**350**	*e*Pn	**Pn**	**13 22 35.0**	**+1.3**
VTMR				*e*Pg	**Pb**	**13 22 41.8**	**+0.7**
VTMR				*e*Sn	**Sn**	**13 23 14.6**	**0.0**
VTMR				*e*Sg	**Sb**	**13 23 25.4**	**+2.4**
TUP	**Tupik**	**3.92**	**112**	*e*Pn	**Pn**	**13 22 41.7**	**+1.6**
TUP				*e*Pg	**Pb**	**13 22 50.9**	**+1.8**
TUP				Pmax		13 22 58.8	
	comp=E,50nm,0.7s						
TUP				*e*		13 23 16.2	
TUP				*e*Sn	**Sn**	**13 23 27.1**	**+0.9**
TUP				*e*Sg	**Sg**	**13 23 43.1**	**-2.5**
TUP				*e*		13 23 48.0	
TUP				max		13 23 53.1	
	comp=E,668nm,1.4s						
TUP	**Tupik**	**3.92**	**112**	*e*PN	**Pn**	**13 22 42.0**	**+1.9**
TUP				*e*		13 22 51.6	
TUP				*e*S	**Sn**	**13 23 27.6**	**+1.4**
TUP				*e*		13 23 42.7	
TUP				pmax	pmax		
	comp=Z,50nm,0.6s						
TUP				smax	smax		
	comp=N,667nm,1.3s						
MXMB	**Maximikha**	**4.03**	**228**	*e*Pg	**Pb**	**13 22 52.8**	**+1.9**
MXMB				*e*		13 23 16.4	
MXMB				*e*Sg	**Sg**	**13 23 45.9**	**-3.3**
CIT	**Chita**	**4.04**	**182**	*e*Sg	**Sb**	**13 23 45.9**	**+5.7**
CIT				Smax		13 23 52.4	
	comp=N,353nm,0.5s						
OGRR	**Ongureny**	**4.29**	**238**	*e*Pn	**Pn**	**13 22 48.5**	**+3.3**
OGRR				*e*Pg	**Pb**	**13 22 58.3**	**+2.9**
OGRR				Pmax		13 23 00.7	
	comp=N,87nm,1.5s						
OGRR				*e*		13 23 24.9	
OGRR				*e*Sg	**Sg**	**13 23 53.9**	**-3.8**
OGRR				Smax		13 24 03.4	
	comp=N,142nm,1.0s						
OGRR	**Ongureny**	**4.29**	**238**	*e*PN	**Pn**	**13 22 48.6**	**+3.3**
OGRR				*e*		13 22 59.5	
OGRR				*e*		13 23 53.6	
OGRR				pmax	pmax		
	comp=Z,87nm,1.7s						
OGRR				smax	smax		
	comp=N,142nm,1.0s						
YKLR	**Yuktali**	**4.44**	**80**	*e*Pn	**Pn**	**13 22 49.9**	**+2.6**
YKLR				*e*Pg	**Pb**	**13 23 00.5**	**+2.5**
YKLR				*e*		13 23 26.3	
YKLR				*e*Sg	**Sg**	**13 23 58.8**	**-3.7**
KELR	**Kotokel**	**4.67**	**227**	*e*Pn	**Pn**	**13 22 51.6**	**+1.2**
KELR				*e*		13 22 58.1	
KELR				*e*Pg	**Pb**	**13 23 04.4**	**+2.5**
KELR				*e*Sn	**Sn**	**13 23 44.4**	**-0.3**
KELR				*e*Sg	**Sg**	**13 24 05.4**	**-4.3**
ZRHB	**Zarechye**	**5.21**	**230**	*e*Sg	**Sb**	**13 24 20.8**	**+7.1**
ZRHB				Smax		13 24 44.9	
	comp=N,767nm,1.4s						
TRG	**Tyrgan**	**5.43**	**236**	*e*Pn	**Pn**	**13 23 03.0**	**+2.1**
TRG				*e*		13 23 12.5	
TRG				*e*Pg	**Pb**	**13 23 17.6**	**+2.8**
TRG				Pmax		13 23 23.1	
	comp=N,23nm,1.4s						
TRG				*e*Sg	**Sg**	**13 24 28.7**	**-5.5**
TRG				Smax		13 24 43.7	
	comp=N,103nm,2.0s						
UUDB	**Ulan-Yde**	**5.52**	**223**	*e*Pn	**Pn**	**13 23 04.6**	**+2.5**
UUDB				*e*		13 23 14.1	
UUDB				*e*Pg	**Pb**	**13 23 19.6**	**+3.3**
UUDB				Pmax		13 23 25.2	
	comp=N,35nm,1.0s						
UUDB				*e*Sn	**Sn**	**13 24 05.5**	**-0.1**
UUDB				*e*Sg	**Sg**	**13 24 31.9**	**-5.0**
UUDB				Smax		13 24 36.8	
	comp=N,458nm,1.5s						
FFNB	**Fofonovo**	**5.74**	**229**	*e*Sg	**Sg**	**13 24 38.3**	**-5.8**
KAB	**Kabansk**	**5.79**	**229**	*e*Sg	**Sg**	**13 24 40.3**	**-5.2**
KAB				Smax		13 24 59.0	
	comp=N,569nm,1.3s						
HRMR	**Khuramsha**	**5.98**	**225**	Pn	**Pn**	**13 23 11.0**	**+2.5**
HRMR				*e*		13 23 22.2	
HRMR				*e*Pg	**Pb**	**13 23 27.8**	**+3.6**
HRMR				Pmax		13 23 30.3	
	comp=N,47nm,0.8s						
HRMR				*e*		13 23 54.9	
HRMR				*e*Sn	**Sn**	**13 24 17.1**	**+0.2**
HRMR				*e*Sg	**Sg**	**13 24 46.2**	**-5.5**
HRMR				Smax		13 25 10.5	
	comp=N,462nm,1.2s						
IENR	**Ienga**	**6.22**	**84**	*e*Pn	**Pn**	**13 23 13.6**	**+1.8**
IENR				*e*Pg	**Pb**	**13 23 32.6**	**+4.3**
IENR				*e*		13 23 34.6	
IENR				*e*Sn	**Sn**	**13 24 22.4**	**-0.5**
IENR				*e*Sg	**Sg**	**13 24 53.5**	**-6.0**
BGT	**Bolshoye Golou**	**6.34**	**234**	*e*Pn	**Pn**	**13 23 15.8**	**+2.5**
BGT				*e*Pg	**Pb**	**13 23 34.2**	**+3.9**
BGT	

TLY	**Talaya**	**7.40 238**	Pg	**Pb**	**13 23 45.2**	**-3.2**
	comp=E,0.0nm,0.3s,baz=41,slow=11,SNR=3.8					
TLY			Lg	Lg	13 25 26.5	
	comp=E,0.0nm,0.3s,baz=277,slow=18,SNR=2.3					
TLY			LR	LR	13 26 04.8	
	comp=E,28nm,21.1s,baz=21,slow=35					
TLY	**Talaya**	**7.40 238**	*e*Pn	**Pn**	**13 23 30.0**	**+2.1**
TLY			*e*		13 23 45.0	
TLY			*e*Pg	**Pb**	**13 23 52.9**	**+4.6**
TLY			Pmax		13 23 55.0	
	comp=E,7.0nm,1.1s					
TLY			*e*Sg	Sg	13 25 28.5	-8.7
TLY			Smax		13 25 35.6	
	comp=E,44nm,1.3s					
ARS	**Arshan**	**7.85 243**	*e*Pg	Pb	13 24 01.1	+5.1
ARS			Pmax		13 24 03.1	
	comp=E,19nm,1.0s					
ARS			*e*Sn	**Sn**	**13 25 00.7**	**-2.2**
ARS			*e*Sg	Sg	13 25 42.6	-8.9
ARS			Smax		13 25 57.1	
	comp=E,158nm,1.0s					
ZAK	**Zakamensk**	**8.46 232**	*e*Pg	Pb	13 24 13.3	+6.9
ZAK			Pmax		13 24 25.2	
	comp=E,5.0nm,0.6s					
ZAK			*e*Sn	**Sn**	**13 25 16.4**	**-1.6**
ZAK			*e*Sg	**Sg**	**13 26 02.8**	**-8.4**
ZAK			Smax		13 26 48.8	
	comp=E,57nm,1.7s					
MOY	**Mondy**	**8.71 245**	*e*Pn	**Pn**	**13 23 46.8**	**+0.8**
MOY			max		13 24 01.7	
	comp=E,20nm,1.5s					
MOY			*e*Sn	**Sn**	**13 25 21.3**	**-3.0**
MOY			*e*Sg	Sg	13 26 09.2	-10
MOY			Smax		13 26 15.2	
	comp=E,94nm,1.4s					
MOY	**Mondy**	**8.71 245**	*e*PN	**Pn**	**13 23 46.6**	**+0.6**
MOY			*e*		13 24 15.5	
MOY			*e*		13 26 09.4	
MOY			pmax	pmax		
	comp=Z,4.0nm,0.4s					
MOY			smax	smax		
	comp=N,94nm,1.4s					
ORL	**Orlik**	**8.87 252**	*e*Pn	**Pn**	**13 23 49.3**	**+1.1**
ORL			*e*		13 23 57.0	
ORL			max		13 24 11.7	
	comp=N,11nm,1.8s					
ORL			*e*Sn	**Sn**	**13 25 26.0**	**-2.1**
ORL			*e*Sg	Sg	13 26 14.8	-10
ORL			Smax		13 26 36.7	
	comp=N,48nm,1.6s					
ORL	**Orlik**	**8.87 252**	*e*PN	**Pn**	**13 23 48.6**	**+0.4**
ORL			*e*		13 24 19.0	
ORL			*e*		13 26 12.5	
ORL			pmax	pmax		
	comp=Z,8.0nm,0.7s					
ORL			smax	smax		
	comp=E,48nm,2.1s					
SONM	**Songino Array**	**9.39 212**	Pg	Pn	13 24 32.8	+37
	comp=E,0.2nm,0.3s,baz=20,slow=18,SNR=4.9					
SONM			Lg	Lg	13 26 34.4	
	comp=E,1.1nm,0.3s,baz=24,slow=27,SNR=22					
YAK	**Yakutsk**	**10.15 47**	Lg	Lg	13 26 52.6	
	baz=337,slow=23,SNR=7.7					
KLR	**Kul'dur**	**12.88 115**	Pn	**Pn**	**13 24 43.7**	**+0.9**
	comp=E,0.3nm,0.3s,baz=317,slow=19,SNR=2.3					
KLR			Lg	Lg	13 28 25.4	
	comp=E,0.2nm,0.3s,baz=223,slow=22,SNR=5.6					
ZALV	**Zalesovo Beam**	**16.67 275**	Pn	**P**	**13 25 35.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=66,slow=14,SNR=3.7					
KURK	**Kurchatov**	**21.45 270**	P	**P**	**13 26 30.1**	**+2.1**
MKAR	**Makanchi Array**	**21.51 258**	P	**P**	**13 26 30.4**	**+1.5**
	comp=E,1.1nm,0.7s,baz=55,slow=8.8,SNR=8.7					
KURBB	**Kurchatov Arra**	**21.54 270**	P	**P**	**13 26 30.1**	**+1.0**
	comp=E,4.0nm,0.9s,baz=66,slow=12,SNR=17					
BVAR	**Borovoye Array**	**25.02 281**	P	**P**	**13 27 04.2**	**+0.4**
	comp=E,0.2nm,0.3s,baz=159,slow=9.3,SNR=1.6					

*IDC **03** 13:39:09.3±1.0, 48°.84S×121°.23E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/29, mbtmp3.9/6, MS3.4/3, Ms1 3.4/3, ms1mx3.0/24, Error ellipse: s-maj=47.0km s-min=21.2km az=110.0*

ISC 03 13:39:10.8±0.9, 48°.9S±0°.2×121°.3E±0°.3, h10km, n15, σ0°71/9, mb3.9/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.91**	**337**	T	T	13 58 10.4	
	baz=159,slow=73,SNR=69						
H01W2	**Cape Leeuwin H**	**14.91**	**337**	T	T	13 58 08.9	
	baz=159,slow=73,SNR=54						
H01W3	**Cape Leeuwin H**	**14.93**	**337**	T	T	13 58 11.4	
	baz=159,slow=73,SNR=60						
NWAO	**Narrogin (SRO)**	**16.20**	**348**	LR	LR	13 47 49.6	
	comp=Z,113nm,20.4s,baz=260,slow=32						
STKA	**Stephens Creek**	**22.86**	**50**	P	**P**	**13 44 15.0**	**+0.8**
	3.1nm,0.9s,baz=208,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**27.06**	**26**	P	**P**	**13 44 53.1**	**-0.4**
	2.3nm,0.9s,baz=186,slow=8.2,SNR=17						
ASAR				PcP	**PcP**	**13 48 13.6**	**-0.9**
	0.2nm,0.6s,baz=184,slow=1.3,SNR=4.9						
WRA	**Warramunga Arr**	**30.71**	**25**	P	**P**	**13 45 25.4**	**-0.5**
	0.3nm,0.5s,baz=197,slow=8.8,SNR=5.3						
WRA				PcP	**PcP**	**13 48 22.7**	**-0.9**
	0.7nm,0.8s,baz=207,slow=2.1,SNR=3.1						
VNDA	**Vanda**	**32.65**	**165**	P	**P**	**13 45 42.3**	**-0.1**
	0.8nm,0.8s,baz=304,slow=7.5,SNR=4.5						
VNDA				LR	LR	13 57 50.1	
	comp=Z,34nm,18.2s,baz=350,slow=34						
MAW	**Mawson**	**34.28**	**215**	P	**P**	**13 45 56.8**	**+0.2**
	1.9nm,0.9s,baz=89,slow=14,SNR=3.7						
LEM	**Lembang**	**43.45**	**340**	LR	LR	14 04 22.9	
	comp=Z,77nm,18.3s,baz=191,slow=35						
H08S2	**Diego Garcia H**	**57.94**	**298**	T	T	14 51 53.3	
	baz=148						
H08S1	**Diego Garcia H**	**57.95**	**298**	T	T	14 52 01.3	
	baz=148						
H08S3	**Diego Garcia H**	**57.96**	**298**	T	T	14 52 03.1	
	baz=148						
CMAR	**Chiang Mai Arr**	**69.90**	**337**	P	**P**	**13 50 22.3**	**+0.4**
	0.4nm,0.4s,baz=190,slow=4.5,SNR=1.3						
YKA	**Yellowknife Ar**	**146.84**	**45**	PKPbc	**PKPbc**	**13 58 52.6**	**+0.6**
	0.4nm,0.5s,baz=248,slow=1.4,SNR=2.0						

*IDC **03** 13:39:23.3±3.5, 37°.41N×78°.28E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/51, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=63.1km s-min=36.4km az=108.0*
*NNC **03** 13:39:25.6±5.7, 37°.58N×78°.26E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=55.6km s-min=38.0km az=80.0*

ISC 03 13:39:25.2±2.3, 37°.5N±0°.1×78°.5E±0°.2, h10km, n10, σ2°72/10, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.55**	**359**	Pg	**Pg**	**13 41 07.0**	**-4.4**
	11nm,0.5s						
SATY				Lg	Lg	13 42 21.2	
	47nm,0.9s						
MDOK	**Medeo**	**5.76**	**349**	Pg	**Pb**	**13 41 08.4**	**+2.5**
	13nm,0.6s						
MDOK				Lg	Lg	13 42 24.5	
	56nm,0.8s						
MDOK	**Medeo**	**5.76**	**349**	Pg	**Pb**	**13 41 08.3**	**+2.5**
	7.5nm,0.6s						
MDOK				Lg	Lg	13 42 22.8	
	28nm,0.6s						
KST	**Kastek**	**5.87**	**341**	Pg	**Pb**	**13 41 09.2**	**+1.6**
	17nm,1.0s						
KST				Lg	Lg	13 42 24.8	
	29nm,0.8s						
AAK	**Ala-Archa**	**5.99**	**330**	Pn	**Pn**	**13 40 55.8**	**+1.9**
	1.0nm,0.3s,baz=111,slow=8.6,SNR=2.4						
AAK				Pg	Pg	13 41 12.2	-7.6
	3.9nm,0.3s,baz=140,slow=9.7,SNR=9.9						
AAK				Lg	Lg	13 42 28.4	
	1.3nm,0.3s,baz=180,slow=12,SNR=2.0						
AAK	**Ala-Archa**	**5.99**	**330**	⇑Pg	**Pb**	**13 41 11.5**	**+1.8**
	21nm,0.7s						
AAK				⇑Lg	Lg	13 42 35.8	
	47nm,1.2s						
WMQ	**Urumqi**	**9.39**	**45**	*e*P	Pn	13 41 48.3	+7.7
WMQ				smax	smax		
	comp=N,15nm,0.9s						
WMQ				smax	smax		
	comp=E,40nm,0.9s						
MKAR	**Makanchi Array**	**9.69**	**16**	Pn	**Pn**	**13 41 47.4**	**+2.7**
	comp=E,0.4nm,0.3s,baz=202,slow=12,SNR=15						
MKAR				Sn	**Sn**	**13 43 32.9**	**-0.6**
	comp=E,0.9nm,0.3s,baz=202,slow=25,SNR=7.8						
FINES	**FINESS Array B**	**40.13**	**324**	P	**P**	**13 47 01.1**	**+0.3**
	comp=E,2.3nm,0.8s,baz=110,slow=12,SNR=2.1						
TORD	**Torodi Ar. Bea**	**71.73**	**273**	P	**P**	**13 50 46.1**	**-1.7**
	comp=E,0.2nm,0.5s,baz=59,slow=4.7,SNR=1.4						

*NNC **03** 13:45:03.0±3.1, 37°.56N×78°.19E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=30.1km s-min=20.6km az=80.0*

ISC 03 13:45:07.9±6.3, 37°.6N±0°.4×78°.1E±0°.2, h17km, n6, σ0°68/6, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.51**	**2**	Pg	**Pb**	**13 46 43.8**	**+0.1**
	10nm,0.8s						
SATY				Lg	Lg	13 47 57.5	
	36nm,0.8s						
MDOK	**Medeo**	**5.67**	**352**	Pg	**Pb**	**13 46 45.5**	**-0.9**
	15nm,0.6s						
MDOK				Lg	Lg	13 48 03.2	
	35nm,0.6s						
MDOK	**Medeo**	**5.67**	**352**	Pg	**Pb**	**13 46 47.1**	**+0.8**
	14nm,0.5s						
MDOK				Lg	Lg	13 48 02.7	
	34nm,0.8s						
KST	**Kastek**	**5.73**	**344**	Pg	**Pb**	**13 46 47.3**	**-0.1**
	12nm,0.6s						
KST				Lg	Lg	13 48 03.3	
	28nm,0.7s						
AAK	**Ala-Archa**	**5.79**	**333**	⇑Pg	**Pb**	**13 46 48.5**	**+0.1**
	16nm,0.7s						
AAK				⇓Lg	Lg	13 48 10.1	
	39nm,1.1s						
WMQ	**Urumqi**	**9.61**	**46**	*e*P	**Pn**	**13 47 25.4**	**0.0**
WMQ				smax	smax		
	comp=N,21nm,0.5s						
WMQ				smax	smax		
	comp=E,18nm,0.5s						

IDC 03 13:48:11.1±2.4, 3°.90S×152°.27E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=205.4km s-min=30.8km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.66**	**226**	P	P	13 53 24.3	-0.2
	0.8nm,0.8s,baz=52,slow=9.8,SNR=3.4						
ASAR	**Alice Springs**	**26.47**	**220**	P	P	13 53 50.6	+0.4
	0.6nm,0.8s,baz=56,slow=9.8,SNR=5.8						
ILAR	**Eielson Array**	**81.53**	**22**	P	P	14 00 30.1	-0.2
	0.3nm,0.7s,baz=253,slow=5.0,SNR=4.2						

*BER **03** 13:50:55.3±2.1, 69°.25N×15°.03E, h17km±3km, ML1.8, ML1.9(NAO), Confirmed Earthquake*
*NAO **03** 13:50:55.0±1.8, 69°.06N×15°.55E, h11km±11km, ML1.9*
*HEL **03** 13:50:55.4±0.3, 69°.12N×15°.58E, h5km, ML1.9, ML2.4(UPP), Confirmed Earthquake*
*UPP **03** 13:50:57.1±2.4, 69°.11N×15°.97E, h5km±38km, ML2.4, Suspected explosion*

ISC 03 13:50:53.1±1.4, 69°.26N±0°.04×14°.94E±0°.04, h25km±13km, n84, σ1°66/127, 2D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
N2SO	**Sortland**	**0.57**	**162**	⇓*i*P	**Pb**	**13 51 05.3**	**+0.8**
N2SO				*e*S	**Sb**	**13 51 12.0**	**-0.3**
N2SO				IAML		13 51 12.2	
	comp=Z,210nm,0.5s						
N2LO	**L¸dingen**	**0.94**	**156**	*e*P	**Pb**	**13 51 10.7**	**+0.1**
N2LO				*e*S	**Sb**	**13 51 21.5**	**-1.0**
N2LO				IAML		13 51 23.1	
	comp=Z,96nm,0.3s						
N2DI	**Digermulen**	**0.95**	**179**	⇓*i*P	**Pn**	**13 51 11.6**	**+0.8**
N2DI				*e*S	**Sn**	**13 51 23.4**	**0.0**
N2DI				IAML		13 51 24.3	
	comp=Z,74nm,0.4s						
N2VI	**Vinje**	**0.98**	**196**	*e*P	**Pn**	**13 51 12.8**	**+1.7**
N2VI				*e*S	**Sn**	**13 51 24.7**	**+0.6**
N2VI				IAML		13 51 28.5	
	comp=Z,26nm,0.4s						
N2HS	**Hamsund**	**1.18**	**170**	*e*P	**Pb**	**13 51 14.9**	**+0.2**
N2HS				*e*S	**Sn**	**13 51 29.1**	**+0.1**
N2HS				IAML		13 51 31.4	
	comp=Z,30nm,0.3s						
LOF	**Lofoten**	**1.24**	**205**	Pg	**Pb**	**13 51 16.2**	**+0.4**
LOF				Lg	Lg	13 51 33.8	
LOF	**Lofoten**	**1.24**	**205**	*e*P	**Pb**	**13 51 16.1**	**+0.4**
LOF				*e*S	**Sb**	**13 51 32.2**	**+0.9**
LOF				IAML		13 51 35.8	
	comp=Z,22nm,0.4s						
STEI	**Steigen**	**1.34**	**175**	*e*P	**Pb**	**13 51 17.3**	**-0.2**
STEI				*e*S	**Sn**	**13 51 33.4**	**+0.4**
STEI				IAML		13 51 34.7	
	comp=Z,20nm,0.2s						
STEI	**Steigen**	**1.34**	**175**	*e*P	**Pb**	**13 51 17.2**	**-0.2**
N2IH	**Innhavet**	**1.35**	**164**	*e*P	**Pb**	**13 51 17.2**	**-0.3**
N2IH				*e*S	**Sn**	**13 51 33.0**	**-0.2**
N2IH				IAML		13 51 33.7	
	comp=Z,132nm,0.5s						
TRO	**Tromso**	**1.46**	**73**	Pg	**Pn**	**13 51 18.3**	**+0.6**
TRO				Lg	Lg	13 51 37.7	
TRO	**Tromso**	**1.46**	**73**	*e*P	**Pn**	**13 51 18.7**	**+1.0**
TRO				*e*S	**Sn**	**13 51 35.7**	**-0.2**
TRO				IAML		13 51 39.3	
	comp=Z,9.9nm,0.3s						
TRO	**Tromso**	**1.46**	**73**	*e*P	**Pn**	**13 51 18.7**	**+1.0**
TRO				*e*S	**Sn**	**13 51 34.8**	**-1.1**
N2NF	**Nordfold**	**1.51**	**176**	*e*P	**Pb**	**13 51 19.9**	**-0.4**
N2NF				*e*S	**Sn**	**13 51 38.0**	**+0.9**
N2NF				IAML		13 51 39.8	
	comp=Z,15nm,0.4s						
N2SV	**S¸rv¥gen**	**1.55**	**208**	*e*P	**Pn**	**13 51 20.4**	**+1.4**
N2SV				*e*S	**Sn**	**13 51 38.7**	**+0.6**
N2SV				IAML		13 51 50.2	
	comp=Z,10nm,0.2s						
N2TV	**T¥rnvik**	**1.70**	**178**	*e*P	**Pn**	**13 51 22.3**	**+1.3**
N2TV				*e*S	**Sn**	**13 51 43.0**	**+1.1**
N2TV				IAML		13 51 49.4	
	comp=Z,12nm,0.6s						
N2VA	**Vr¸y**	**1.80**	**208**	*e*P	**Pn**	**13 51 23.6**	**+1.1**
N2VA				*e*S	**Sn**	**13 51 43.8**	**-0.7**
N2VA				IAML		13 51 59.9	
	comp=Z,6.4nm,0.1s						
FAUS	**Fauske**	**1.89**	**176**	*e*P	**Pn**	**13 51 25.5**	**+1.8**
FAUS				*e*S	**Sn**	**13 51 48.1**	**+1.5**
FAUS				IAML		13 52 00.2	
	comp=Z,13nm,0.2s						
N2ST	**Straumen**	**1.93**	**172**	*e*P	**Pn**	**13 51 24.9**	**+0.7**
N2ST				*e*S	**Sn**	**13 51 47.7**	**0.0**
N2ST				IAML		13 51 52.8	
	comp=Z,17nm,0.2s						
JETT	**Jettan, Norway**	**1.96**	**79**	Pn	**Pn**	**13 51 26.3**	**+1.6**
JETT				Sn	**Sn**	**13 51 49.3**	**+0.9**
JETT				IAML		13 52 02.4	
	comp=Z,16nm,0.6s						
N2RO	**R¸st**	**2.04**	**212**	*e*P	**Pn**	**13 51 26.5**	**+0.8**
N2RO				*e*S	**Sn**	**13 51 49.2**	**-1.1**
N2RO				IAML		13 52 02.6	
	comp=Z,5.6nm,0.8s						
NIKU	**Nikkaluokta**	**2.05**	**131**	P	**Pn**	**13 51 27.2**	**+1.3**
NIKU				S	**Sn**	**13 51 49.6**	**-1.0**
NIKU	**Nikkaluokta**	**2.05**	**131**	*e*P	**Pn**	**13 51 27.2**	**+1.3**
NIKU				*e*S	**Sn**	**13 51 49.6**	**-1.0**
NBB28	**Valnes**	**2.08**	**185**	*e*P	**Pn**	**13 51 28.2**	**+1.8**
NBB28				*e*S	**Sn**	**13 51 52.4**	**+1.0**
NBB28				IAML		13 52 04.3	
	comp=Z,13nm,0.5s						
KIF	**Kilpisjarvi**	**2.11**	**94**	Pn	**Pn**	**13 51 28.2**	**+1.4**
KIF				Sn	**Sn**	**13 51 51.3**	**-0.8**
KIF	**Kilpisjarvi**	**2.11**	**94**	*e*P	**Pn**	**13 51 28.1**	**+1.4**
KIF				*e*S	**Sn**	**13 51 51.6**	**-0.6**
KIF	**Kilpisjarvi**	**2.11**	**94**	*e*PB	**Pn**	**13 51 28.2**	**+1.4**
KIF				MSG		13 51 56.2	
	comp=Z,9.8nm,0.1s						
NBB03	**Karbol**	**2.17**	**180**	*e*P	**Pn**	**13 51 29.5**	**+2.0**
NBB03				*e*S	**Sn**	**13 51 55.7**	**+2.3**
NBB03				IAML		13 52 06.6	
	comp=Z,22nm,0.4s						
KOVU	**Salmi**	**2.17**	**116**	P	**Pn**	**13 51 28.7**	**+1.2**
KOVU	**Salmi**	**2.17**	**116**	*e*P	**Pn**	**13 51 28.7**	**+1.2**
RATU	**Laukkuluspa**	**2.24**	**128**	P	**Pn**	**13 51 29.6**	**+1.2**
RATU				S	**Sn**	**13 51 53.9**	**-1.3**
RATU	**Laukkuluspa**	**2.24**	**128**	*e*P	**Pn**	**13 51 29.6**	**+1.2**
RATU				*e*S	**Sn**	**13 51 53.9**	**-1.3**
SALU	**Saltoluokta**	**2.31**	**143**	P	**Pn**	**13 51 31.8**	**+2.4**
SALU				S	**Sn**	**13 51 57.6**	**+0.7**
SALU	**Saltoluokta**	**2.31**	**143**	*e*P	**Pn**	**13 51 31.8**	**+2.4**
SALU				*e*S	**Sn**	**13 51 57.6**	**+0.7**
SALU	**Saltoluokta**	**2.31**	**143**	*e*P	**Pn**	**13 51 31.8**	**+2.4**
SALU				*e*S	**Sn**	**13 51 57.6**	**+0.7**
NBB30	**Finnes**	**2.34**	**192**	*e*P	**Pn**	**13 51 31.2**	**+1.4**
NBB30				*e*S	**Sn**	**13 51 58.1**	**+0.4**
NBB30				IAML		13 52 20.6	
	comp=Z,5.9nm,0.7s						
KUA	**Kurravaara**	**2.37**	**121**	P	**Pn**	**13 51 31.5**	**+1.2**
KUA	**Kurravaara**	**2.37**	**121**	*e*P	**Pn**	**13 51 31.5**	**+1.2**
NBB17	**Glomfjord B¥r**	**2.48**	**189**	*e*S	**Sn**	**13 52 02.3**	**+1.1**
NBB15	**Halsa Church**	**2.58**	**192**	*e*P	**Pn**	**13 51 35.3**	**+2.2**
NBB13	**Alf Garage**	**2.71**	**194**	*e*P	**Pn**	**13 51 36.5**	**+1.5**
NBB13	**Alf Garage**	**2.71**	**194**	*e*S	**Sn**	**13 52 07.0**	**+0.1**
NBB13				*e*S	**Sb**	**13 52 07.5**	**-6.0**
NBB13	**Alf Garage**	**2.71**	**194**	IAML		13 52 29.2	
	comp=Z,5.9nm,0.6s						
LANU	**Lannavaara**	**2.85**	**112**	*e*P	**Pn**	**13 51 37.7**	**+0.8**
LANU	**Lannavaara**	**2.85**	**112**	*e*P	**Pn**	**13 51 37.7**	**+0.8**
KONS	**Konsvik**	**2.86**	**195**	*e*P	**Pn**	**13 51 39.2**	**+2.3**
KONS				*e*S	**Sn**	**13 52 09.6**	**-0.8**
KONS				*e*S	**Sb**	**13 52 10.8**	**-6.9**
KONS				IAML		13 52 32.7	
	comp=Z,4.7nm,0.7s						
KTK1	**Kautokeino**	**2.98**	**91**	Pn	**Pn**	**13 51 40.0**	**+1.4**
KTK1				Pg	**Pb**	**13 51 47.1**	**+1.7**
KTK1				Sn	**Sn**	**13 52 11.7**	**-1.8**
KTK1				Lg	Lg	13 52 22.7	
KTK1	**Kautokeino**	**2.98**	**91**	*e*P	**Pn**	**13 51 39.4**	**+0.8**
KTK1				*e*S	**Sn**	**13 52 12.0**	**-1.5**
KTK1				IAML		13 52 25.5	
	comp=Z,3.3nm,0.4s						
DUNU	**Dundret**	**3.00**	**133**	P	**Pn**	**13 51 40.6**	**+1.6**
DUNU	**Dundret**	**3.00**	**133**	*e*P	**Pn**	**13 51 40.6**	**+1.6**
STOK	**Stokkvaagen**	**3.03**	**195**	*e*P	**Pn**	**13 51 40.8**	**+1.5**
STOK				*e*P	Pb	13 51 41.0	-5.2
STOK				*e*S	**Sn**	**13 52 14.8**	**+0.2**
NBB14	**Nordeng Farm**	**3.03**	**192**	*e*P	**Pn**	**13 51 41.6**	**+2.3**
NBB14	**Nordeng Farm**	**3.03**	**192**	*e*S	**Sn**	**13 52 14.4**	**-0.3**
NBB14	**Nordeng Farm**	**3.03**	**192**	IAML		13 52 38.2	
	comp=Z,4.1nm,0.4s						
MOR8	**Moi Rana**	**3.11**	**184**	*e*P	**Pn**	**13 51 40.1**	**-0.3**
MOR8				*e*S	**Sn**	**13 52 13.6**	**-3.0**
MOR8				IAML		13 52 29.8	
	comp=Z,8.5nm,0.8s						
HEF	**Hetta**	**3.28**	**101**	Pn	**Pn**	**13 51 43.7**	**+0.9**
HEF				Pg	**Pb**	**13 51 51.1**	**+0.7**
HEF				Sn	**Sn**	**13 52 18.8**	**-2.1**
HEF				Lg	Lg	13 52 30.5	
HEF	**Hetta**	**3.28**	**101**	*e*P	**Pn**	**13 51 43.6**	**+0.9**
HEF				*e*S	**Sn**	**13 52 19.1**	**-1.7**
HEF	**Hetta**	**3.28**	**101**	*e*P	**Pn**	**13 51 43.6**	**+0.9**
HEF				*e*S	**Sn**	**13 52 19.2**	**-1.6**
HEF				MSG		13 52 38.4	
	comp=Z,3.3nm,0.2s						
HAMF	**Hammerfest**	**3.32**	**61**	*e*P	**Pn**	**13 51 44.0**	**+0.7**
HAMF				*e*S	**Sn**	**13 52 20.4**	**-1.4**
HAMF				IAML		13 52 36.4	
	comp=Z,2.8nm,0.5s						
ARA0	**ARCESS Array S**	**3.75**	**81**	Pn	**Pn**	**13 51 49.8**	**+0.6**
	baz=269,slow=14						
ARA0				Sn	**Sn**	**13 52 30.1**	**-2.3**
	baz=265,slow=22						
ARA0				Lg	Lg	13 52 47.5	
	baz=268,slow=28						
ARA0	**ARCESS Array S**	**3.75**	**81**	Sn	**Sn**	**13 52 30.1**	**-2.3**
	baz=265,slow=22						
ARA0				Sg	**Sb**	**13 52 47.5**	**+4.3**
	baz=268,slow=28						
ARA0	**ARCESS Array S**	**3.75**	**81**	*e*P	**Pn**	**13 51 50.9**	**+1.8**
ARA0				*e*S	**Sn**	**13 52 30.2**	**-2.1**
PAJU	**Pajala**	**3.79**	**122**	P	**Pn**	**13 51 50.7**	**+0.9**
PAJU	**Pajala**	**3.79**	**122**	*e*P	**Pn**	**13 51 51.3**	**+1.5**
PAJU				*e*S	**Sn**	**13 52 31.8**	**-1.7**
PAJU	**Pajala**	**3.79**	**122**	*e*P	**Pn**	**13 51 51.3**	**+1.5**
PAJU				*e*S	**Sn**	**13 52 31.8**	**-1.7**
HARU	**Harads**	**3.87**	**141**	P	**Pn**	**13 51 51.6**	**+0.8**
HARU	**Harads**	**3.87**	**141**	*e*P	**Pn**	**13 51 51.6**	**+0.8**
KLF	**Kolari**	**3.92**	**117**	MSG		13 52 53.3	
	comp=Z,3.2nm,0.2s						
KEV	**Kevo**	**4.27**	**78**	Pn	**Pn**	**13 51 58.2**	**+1.9**
KEV				Sn	**Sn**	**13 52 41.5**	**-3.7**
KEV				Lg	Lg	13 53 03.0	
KEV	**Kevo**	**4.27**	**78**	Pn	**Pn**	**13 51 58.2**	**+1.9**
KEV				Sn	**Sn**	**13 52 41.5**	**-3.7**
KEV				MSG		13 53 12.2	
	comp=Z,1.7nm,0.2s						
LILU	**Lilltraesk**	**4.42**	**152**	P	**Pn**	**13 51 59.9**	**+1.5**
LILU	**Lilltraesk**	**4.42**	**152**	*e*P	**Pn**	**13 51 59.9**	**+1.5**
SJUU	**Sjulsmark**	**4.56**	**143**	P	**Pn**	**13 52 01.1**	**+0.7**
SJUU	**Sjulsmark**	**4.56**	**143**	*e*P	**Pn**	**13 52 01.1**	**+0.7**
SGF	**Sodankyl**	**4.66**	**108**	MSG		13 53 21.2	
	comp=Z,1.1nm,0.2s						
SGF	**Sodankyl**	**4.66**	**108**	MSG		13 53 21.2	
	comp=Z,1.1nm,0.2s						
RNF	**Rovaniemi**	**4.95**	**117**	MSG		13 53 33.3	
	comp=Z,2.3nm,0.2s						
RNF	**Rovaniemi**	**4.95**	**117**	MSG		13 53 33.3	
	comp=Z,2.3nm,0.2s						
SVAU	**Svanoeiden**	**5.12**	**157**	P	**Pn**	**13 52 09.4**	**+1.4**
SVAU	**Svanoeiden**	**5.12**	**157**	*e*P	**Pn**	**13 52 09.4**	**+1.4**
BURU	**Burvik**	**5.33**	**149**	P	**Pn**	**13 52 12.4**	**+1.5**
BURU	**Burvik**	**5.33**	**149**	*e*P	**Pn**	**13 52 12.4**	**+1.5**
ODEU	**Stanfors**	**5.38**	**152**	P	**Pn**	**13 52 12.9**	**+1.4**
ODEU	**Stanf

STIA			S	Sn	14 10 00.8	+0.1
NPS	**Neapolis**	**0.41 223**	P	Pn	14 09 52.4	+0.1
NPS			S	Sn	14 10 00.3	-0.9
16μm,0.3s						
NPS	**Neapolis**	**0.41 223**	P	Pn	14 09 52.3	+0.1
NPS			S	Sn	14 09 59.6	-1.6
NPS			AML	AML	14 10 00.7	
comp=N,28955μm,0.4s						
NPS			AML	AML	14 10 00.9	
comp=E,34942μm,0.2s						
ZKR	**Zakros**	**0.49 154**	P	Pn	14 09 54.0	+1.0
ZKR			S	Sn	14 10 03.8	+1.3
comp=E,3μm,0.5s						
ZKR	**Zakros**	**0.49 154**	P	Pn	14 09 53.8	+0.8
ZKR			S	Sn	14 10 03.3	+0.8
ZKR			AML	AML	14 10 04.3	
comp=N,4370μm,0.4s						
ZKR			AML	AML	14 10 05.9	
comp=E,9370μm,0.5s						
ZKR	**Zakros**	**0.49 154**	P	Pn	14 09 53.7	+0.6
ZKR			S	Sn	14 10 03.5	+1.0
LAST	**Lasithi**	**0.55 224**	P	Pn	14 09 54.0	+0.3
LAST			S	Sn	14 10 03.0	-0.7
comp=E,5μm,0.4s						
LAST	**Lasithi**	**0.55 224**	P	Pn	14 09 53.9	+0.2
LAST			S	Sn	14 10 03.1	-0.7
LAST			AML	AML	14 10 04.0	
comp=E,11127μm,0.5s						
LAST			AML	AML	14 10 09.7	
comp=N,7751μm,0.5s						
FRMA	**Ierapetra Chan**	**0.57 198**	P	Pn	14 09 54.8	+1.1
FRMA			S	Sn	14 10 04.7	+0.9
comp=N,2μm,0.5s						
HRKL	**Herakleio**	**0.74 251**	P	Pn	14 09 55.9	+0.4
HRKL			S	Sn	14 10 07.1	+0.2
comp=N,14μm,0.5s						
HRKL	**Herakleio**	**0.74 251**	PG	Pn	14 09 55.7	+0.2
HRKL			SG	Sn	14 10 06.9	0.0
IACM	**Heraklion**	**0.76 251**	P	Pn	14 09 56.1	+0.3
KSTL	**Kastelli Herak**	**0.76 251**	P	Pn	14 09 54.7	-1.1
KSTL			S	Sn	14 10 04.4	-3.0
SANT	**Santorini**	**0.90 334**	P	Pn	14 09 56.9	-0.6
SANT	**Santorini**	**0.90 334**	PG	Pn	14 09 56.9	-0.6
SANT			SG	Sn	14 10 09.1	-1.4
IDI	**Anoyia**	**0.91 253**	P	Pn	14 09 57.8	+0.3
comp=N,143nm,0.3s,baz=42,slow=17,SNR=422						
IDI			S	Sn	14 10 09.6	-1.0
comp=N,322nm,0.3s,baz=308,slow=19,SNR=21						
IDI	**Anoyia**	**0.91 253**	P	Pn	14 09 57.8	+0.3
IDI			S	Sn	14 10 09.8	-0.8
comp=N,4μm,0.4s						
IDI	**Anoyia**	**0.91 253**	P	Pn	14 09 57.7	+0.1
IDI			S	Sn	14 10 10.0	-0.6
IDI			AML	AML	14 10 12.3	
comp=N,7874μm,0.4s						
IDI			AML	AML	14 10 12.9	
comp=E,7980μm,0.4s						
IDI	**Anoyia**	**0.91 253**	PG	Pn	14 09 57.9	+0.3
THR8	**Santorini-Mono**	**0.93 336**	P	Pn	14 09 57.3	-0.4
THR8	**Santorini-Mono**	**0.93 336**	P	Pn	14 09 57.4	-0.4
SNT5	**Nea Kammeni, S**	**0.96 332**	P	Pn	14 09 57.9	-0.2
SNT5	**Nea Kammeni, S**	**0.96 332**	P	Pn	14 09 57.7	-0.4
THT2	**Imerovigli**	**0.97 334**	PG	Pn	14 09 58.0	-0.3
THT2			SG	Sn	14 10 10.8	-1.1
THR5	**Thira Island,**	**0.99 330**	P	Pn	14 09 58.2	-0.2
THR5	**Thira Island,**	**0.99 330**	P	Pn	14 09 58.3	-0.2
KARP	**Karpathos**	**0.99 90**	P	Pn	14 09 58.8	+0.3
KARP			S	Sn	14 10 12.1	-0.2
comp=E,8μm,0.3s						
KARP	**Karpathos**	**0.99 90**	P	Pn	14 09 58.7	+0.3
KARP			AML	AML	14 10 13.1	
comp=E,17885μm,0.2s						
KARP			AML	AML	14 10 14.0	
comp=N,14566μm,0.3s						
KARP	**Karpathos**	**0.99 90**	PG	Pn	14 09 58.7	+0.3
KARP			SG	Sn	14 10 12.6	+0.3
KARP	**Karpathos**	**0.99 90**	⇑P	Pn	14 09 58.5	0.0
KARP			S	Sn	14 10 12.4	+0.2
KARP			AML	AML	14 10 12.6	
comp=N,18nm,0.2s						
KARP			AML	AML	14 10 12.6	
comp=N,18nm,0.2s						
KARP			AML	AML	14 10 13.2	
comp=N,16nm,0.5s						
KARP			AML	AML	14 10 13.2	
comp=N,16nm,0.5s						
SIVA	**Sivas**	**1.08 240**	P	Pn	14 10 01.3	+1.7
SIVA	**Sivas**	**1.08 240**	P	Pn	14 10 01.1	+1.6
SIVA			S	Sn	14 10 16.8	+2.6
SIVA			AML	AML	14 10 22.1	
comp=N,7714μm,0.6s						
SIVA			AML	AML	14 10 23.6	
comp=E,11305μm,0.7s						
TMBK	**Timbaki Herakl**	**1.08 244**	P	Pn	14 10 01.2	+1.6
PRNS	**Prines Rethymn**	**1.20 261**	P	Pn	14 10 02.1	+1.0
PRNS			S	Sn	14 10 18.1	+1.2
NISR	**Nisiros**	**1.42 42**	P	Pn	14 10 04.2	+0.3
NISR	**Nisiros**	**1.42 42**	P	Pn	14 10 04.3	+0.3
NISR			AML	AML	14 10 24.2	
comp=N,6097μm,0.3s						
NISR			AML	AML	14 10 25.4	
comp=E,10968μm,0.2s						
VAM	**Vamos**	**1.44 264**	P	Pn	14 10 04.8	+0.6
VAM	**Vamos**	**1.44 264**	P	Pn	14 10 04.7	+0.6
VAM			AML	AML	14 10 24.6	
comp=E,4304μm,0.3s						
VAM			AML	AML	14 10 26.3	
comp=N,4456μm,0.3s						
NIS1	**Nisyros Isl.**	**1.44 43**	P	Pn	14 10 04.8	+0.5
NIS1	**Nisyros Isl.**	**1.44 43**	PN	Pn	14 10 04.5	+0.2
NIS1			SN	Sn	14 10 22.5	0.0
KOSK	**Kos Island**	**1.45 35**	P	Pn	14 10 04.6	+0.2
KOSK	**Kos Island**	**1.45 35**	PN	Pn	14 10 04.7	+0.3
KOSK			SN	Sn	14 10 22.7	0.0
APE	**Apeiranthos**	**1.54 347**	P	Pn	14 10 06.5	+0.8
APE			S	Sn	14 10 24.9	-0.1
comp=N,3μm,0.5s						
APE	**Apeiranthos**	**1.54 347**	P	Pn	14 10 06.5	+0.8
APE			AML	AML	14 10 25.6	
comp=E,5025μm,0.5s						
APE			AML	AML	14 10 27.2	
comp=N,5257μm,0.5s						
APE	**Apeiranthos**	**1.54 347**	PN	Pn	14 10 06.2	+0.5
APE			SN	Sn	14 10 24.8	-0.2
APE	**Apeiranthos**	**1.54 347**	⇑P	Pn	14 10 06.4	+0.7
IMMV	**Iera Moni Meta**	**1.61 267**	P	Pn	14 10 07.5	+1.0
IMMV	**Iera Moni Meta**	**1.61 267**	P	Pn	14 10 07.5	+1.0
IMMV			AML	AML	14 10 31.7	
comp=N,4389μm,0.3s						
IMMV			AML	AML	14 10 32.2	
comp=E,4056μm,0.7s						
IMMV	**Iera Moni Meta**	**1.61 267**	PN	Pn	14 10 07.7	+1.2
IMMV			SN	Sn	14 10 28.2	+1.7
GVDS	**Gavdos**	**1.68 245**	P	Pn	14 10 10.1	+2.6
GVDS	**Gavdos**	**1.68 245**	PN	Pn	14 10 09.6	+2.1
GVD	**Gavdhos**	**1.69 245**	P	Pn	14 10 09.7	+2.2
GVD	**Gavdhos**	**1.69 245**	P	Pn	14 10 09.7	+2.2
GVD			AML	AML	14 10 38.7	
comp=N,2380μm,0.5s						
GVD			AML	AML	14 10 41.2	
comp=E,4531μm,0.4s						
GVD	**Gavdhos**	**1.69 245**	PN	Pn	14 10 09.3	+1.8
MHLO	**Agia Marina, M**	**1.69 312**	P	Pn	14 10 08.7	+1.2
DAT	**Datca**	**1.76 48**	P	Pn	14 10 08.8	+0.2
DAT	**Datca**	**1.76 48**	PN	Pn	14 10 08.9	+0.3
DAT			SN	Sn	14 10 30.5	+0.3
BODT	**Bodrum**	**1.86 36**	P	Pn	14 10 09.9	+0.1
BODT	**Bodrum**	**1.86 36**	PN	Pn	14 10 10.4	+0.6
KNDR	**Palaiochora Ch**	**1.88 261**	P	Pn	14 10 13.0	+3.0
KNDR	**Palaiochora Ch**	**1.88 261**	PN	Pn	14 10 13.0	+3.0
ARG	**Arkhangelos**	**1.88 69**	P	Pn	14 10 11.1	+1.0
ARG			S	Sn	14 10 33.2	+0.2
comp=E,4μm,0.3s						
ARG	**Arkhangelos**	**1.88 69**	P	Pn	14 10 11.1	+1.0
ARG			AML	AML	14 10 34.5	
comp=E,9729μm,0.3s						
ARG			AML	AML	14 10 34.6	
comp=N,7926μm,0.3s						
ARG	**Arkhangelos**	**1.88 69**	PN	Pn	14 10 11.1	+1.0
ARG	**Arkhangelos**	**1.88 69**	⇑P	Pn	14 10 10.6	+0.4
ARG			S	Sn	14 10 33.4	+0.4
YKAV	**Yalikavak-Bodr**	**1.90 34**	PN	Pn	14 10 10.9	+0.6
BDRM	**Kayabasi**	**1.93 38**	*i* P	Pn	14 10 11.1	+0.4
BDRM			*i* S	Sn	14 10 33.5	-0.6
MRSB	**Marmaris-Mugla**	**2.15 57**	PN	Pn	14 10 14.4	+0.6
DDIM	**Aydin, Didim**	**2.16 28**	*i* P	Pn	14 10 13.9	0.0
DDIM			*i* S	Sn	14 10 39.1	-0.5
DDIM			IAML		14 10 43.0	
comp=N,289nm,0.7s						
MLSB	**Milas**	**2.27 40**	PN	Pn	14 10 16.2	+0.8
KTHA	**Kythira Island**	**2.45 287**	P	Pn	14 10 18.4	+0.7
KTHA	**Kythira Island**	**2.45 287**	PN	Pn	14 10 19.5	+1.8
YER	**Yerkesik**	**2.45 49**	P	Pn	14 10 19.5	+1.7
YER	**Yerkesik**	**2.45 49**	PN	Pn	14 10 19.5	+1.7
KTHR	**Kythira**	**2.49 287**	P	Pn	14 10 19.0	+0.7
DALY	**Dalyan (Mula)**	**2.52 59**	*i* P	Pn	14 10 19.8	+1.1
DALY			*i* S	Sn	14 10 48.2	-0.2
DALY			IAML		14 10 52.0	
comp=N,295nm,0.6s						
DALY	**Dalyan (Mula)**	**2.52 59**	PN	Pn	14 10 20.4	+1.7
MULA	**Mugla, Merkez-**	**2.55 48**	*i* P	Pn	14 10 20.7	+1.4
MULA			*i* S	Sn	14 10 50.5	+1.2
MULA			IAML		14 10 57.0	
comp=N,105nm,0.4s						
DGB	**zmir**	**2.60 16**	*i* P	Pn	14 10 19.6	-0.1
DGB			*i* S	Sn	14 10 48.1	-2.2
VLI	**Veliai**	**2.70 296**	P	Pn	14 10 21.6	+0.5
FETY	**Fethiye**	**2.75 66**	P	Pn	14 10 22.9	+1.0
FETY	**Fethiye**	**2.75 66**	PN	Pn	14 10 22.9	+1.0
CHOS	**Chios island**	**2.82 2**	PN	Pn	14 10 22.9	0.0
AYDB	**Zeytinkoy-Aydi**	**2.85 33**	PN	Pn	14 10 24.9	+1.6
KRND	**KRANIDI**	**2.90 310**	P	Pn	14 10 25.4	+1.6
KSL	**Kastellorizon**	**3.01 78**	P	Pn	14 10 26.1	+0.8
KSL	**Kastellorizon**	**3.01 78**	S	Sn	14 10 58.9	-1.3
CAME	**Cameli-Denizli**	**3.04 62**	PN	Pn	14 10 27.4	+1.5
TAVA	**DENIZLI_Tavas**	**3.05 51**	*i* P	Pn	14 10 27.8	+1.8
TAVA			*i* S	Sn	14 11 01.5	0.0
CAEL	**Denizli, Camel**	**3.13 59**	*i* P	Pn	14 10 28.5	+1.3
CAEL			*i* S	Sn	14 11 07.5	+3.9
CAEL			IAML		14 11 22.0	
comp=N,404nm,0.8s						
DEMR	**Demre-Antalya**	**3.28 77**	PN	Pn	14 10 31.3	+2.3
GOLH	**Golhisar**	**3.36 59**	*i* P	Pn	14 10 32.3	+2.1
ELL	**Elmali**	**3.42 69**	PN	Pn	14 10 32.7	+1.7
ITM	**Ithomi**	**3.63 298**	PN	Pn	14 10 36.3	+2.5
AKUM	**Antalya-Kumluc**	**3.64 77**	*i* P	Pn	14 10 34.6	+0.7
AKUM			*i* S	Sn	14 11 14.7	-1.0
AKUM			IAML		14 11 17.0	
comp=N,145nm,0.4s						
SIGR	**SIGRI**	**3.65 359**	PN	Pn	14 10 34.6	+0.6
KULA	**Kula-Manisa**	**3.66 36**	PN	Pn	14 10 36.1	+1.8
BRDR	**BURDUR-Merkez**	**3.93 56**	*i* P	Pn	14 10 39.5	+1.5
ANTB	**Antalya**	**4.03 69**	PN	Pn	14 10 41.9	+2.7
SLUM	**Salum**	**4.10 189**	P	Pn	14 10 39.3	-1.0
baz=193						
SLUM			S	Sn	14 11 21.6	-5.5
baz=193						
BCK	**Bucak**	**4.19 62**	PN	Pn	14 10 43.9	+2.4
KZIL	**AFYON_Kizioren**	**4.30 50**	*i* P	Pn	14 10 43.8	+0.7
OSC1	**CSNet OBS 1**	**4.85 114**	S	Sn	14 11 42.4	-3.0
SEDI	**Konya, Seydise**	**5.04 66**	*i* P	Pn	14 10 55.2	+2.0
AKMS	**Akamas**	**5.25 94**	P	Pn	14 10 54.1	-1.8
AKMS			AML	AML	14 11 50.3	
comp=N,1.1nm,0.3s						
AKMS			AML	AML	14 11 50.4	
comp=N,1.5nm,0.3s						
ALFC	**Alefka**	**5.45 92**	⇑P	Pn	14 10 57.0	-1.6
ALFC			AML	AML	14 11 54.7	
comp=N,1.1nm,0.3s						
ALFC			AML	AML	14 11 54.9	
comp=N,0.5nm,0.2s						
NATA	**Nata**	**5.48 96**	P	Pn	14 10 57.5	-1.6
SZAC	**Souni**	**5.73 96**	⇑P	Pn	14 11 00.7	-1.9
SZAC			AML	AML	14 12 03.0	
comp=N,0.6nm,0.3s						
SZAC			AML	AML	14 12 03.2	
comp=N,1.4nm,0.2s						
ASGA	**Asgata**	**6.03 95**	P	Pn	14 11 04.8	-1.7
CSS	**Mathiatis**	**6.07 94**	P	Pn	14 11 05.8	-1.3
MVOU	**Mavrovouni**	**6.30 93**	P	Pn	14 11 08.9	-1.4
SWA2		**6.31 184**	P	Pn	14 11 08.9	-1.6
baz=187						
SWA2			S	Sn	14 12 13.6	-7.6
baz=187						
BRTR	**Keskin Array B**	**7.38 53**	P	Pn	14 11 25.8	+0.6
comp=N,0.6nm,0.3s,baz=242,slow=11,SNR=6.8						
BRTR			S	Sn	14 12 46.4	-1.0
comp=N,0.2nm,0.3s,baz=232,slow=24,SNR=2.2						
BRTR			LR	LR	14 15 01.3	
comp=N,26nm,19.7s,baz=228,slow=44						
KOT	**Kottamia**	**7.49 137**	P	Pn	14 11 25.7	-0.9
baz=136						
HSAF	**As Saff**	**7.58 140**	P	Pn	14 11 25.4	-2.4
baz=139						
GLL	**Jalalah**	**7.69 139**	P	Pn	14 11 26.7	-2.6
baz=139						
MMAI	**Mount Meron Ar**	**8.22 105**	P	Pn	14 11 34.0	-2.6
comp=N,4.0nm,0.3s,baz=304,slow=12,SNR=16						
MMAI			S	Sn	14 13 01.5	-6.5
comp=N,16nm,0.3s,baz=298,slow=26,SNR=6.8						
HFRF	**Wahat Farafira**	**8.62 166**	P	Pn	14 11 40.5	-1.5
baz=166						
EIL	**Elat**	**9.59 125**	P	Pn	14 11 53.4	-1.9
comp=N,0.7nm,0.3s,baz=3.2,slow=2.7,SNR=17						
EIL			S	Sn	14 13 31.4	-10
comp=N,4.1nm,0.3s,baz=50,slow=9.3,SNR=5.5						
MLR	**Muntele Rosu**	**9.92 360**	LR	LR	14 15 47.8	
comp=N,38nm,19.4s,baz=136,slow=38						
LSTV	**Lastovo**	**10.06 318**	*e*Pn	Pn	14 11 56.5	-5.1
LSTV			Sn	Sn	14 13 39.0	-14
HDK1	**Dakhla**	**10.42 162**	P	Pn	14 12 05.7	-0.8
baz=163						
HHRG	**Al Ghardaqah**	**10.55 140**	S	Sn	14 13 58.2	-6.8
baz=140						
KIJV	**Kijevo**	**11.18 322**	*e*Pn	Pn	14 12 12.1	-4.7
KIJV			Sn	Sn	14 14 08.4	-12
ZIRJ	**Zirje**	**11.33 319**	*e*Pn	Pn	14 12 13.8	-5.1
ZIRJ			Sn	Sn	14 14 09.9	-14
MORI	**Morici**	**11.44 320**	Sn	Sn	14 14 13.8	-12
DUGI	**Dugi Otok**	**11.87 318**	*e*Pn	Pn	14 12 21.6	-4.7
DUGI			Sn	Sn	14 14 22.8	-14
AKASG	**Malin Array Be**	**15.32 8**	P	Pn	14 13 14.1	+2.2
comp=N,4.3nm,0.3s,baz=196,slow=11,SNR=18						
GEYT	**Alibeck**	**25.82 75**	P	P	14 15 05.1	+0.6
comp=N,616nm,0.8s,baz=255,slow=15,SNR=2.2						
FINES	**FINESS Array B**	**25.90 0**	P	P	14 15 03.2	-1.7
comp=N,1.1nm,0.6s,baz=170,slow=11,SNR=4.0						
EKA	**Eskdalemuir Ar**	**28.09 324**	P	P	14 15 23.7	-0.9
comp=N,1.1nm,0.4s,baz=125,slow=10,SNR=6.2						
TORD	**Torodi Ar. Bea**	**31.24 230**	P	P	14 15 53.8	+0.9
comp=N,1.0nm,0.3s,baz=34,slow=9.1,SNR=14						
ARCES	**ARCESS Array B**	**34.03 360**	P	P	14 16 14.5	-2.2
comp=N,0.6nm,0.5s,baz=182,slow=8.5,SNR=7.0						
KURBB	**Kurchatov Arra**	**40.37 51**	P	P	14 17 11.1	+0.6
comp=N,2.7nm,0.5s,baz=273,slow=8.5,SNR=19						
MKAR	**Makanchi Array**	**43.02 57**	P	P	14 17 33.1	+0.9
comp=N,2.4nm,0.5s,baz=270,slow=8.0,SNR=44						
ZALV	**Zalesovo Beam**	**44.26 46**	P	P	14 17 41.9	-0.2
comp=N,1.7nm,0.4s,baz=271,slow=8.9,SNR=6.8						
SONM	**Songino Array**	**58.73 51**	P	P	14 19 30.8	+0.5
comp=N,0.5nm,0.4s,baz=264,slow=10.0,SNR=2.1						
SCHQ	**Schefferville**	**63.30 320**	P	P	14 20 00.4	-0.6
comp=N,3.0nm,0.5s,baz=77,slow=3.8,SNR=12						
BOSA	**Boshof**	**63.83 181**	P	P	14 20 06.6	+1.8
comp=N,1.0nm,0.4s,baz=2.2,slow=5.5,SNR=4.4						
USRK	**Ussuriysk Ar.**	**76.10 45**	P	P	14 21 19.7	-0.1
comp=N,1.0nm,0.5s,baz=289,slow=5.7,SNR=4.2						
KSRS	**Korea Array**	**77.53 53**	P	P	14 21 28.0	+0.1
comp=N,1.0nm,0.7s,baz=313,slow=5.6,SNR=5.1						
ILAR	**Eielson Array**	**79.84 357**	P	P	14 21 40.5	+0.4
comp=N,0.1nm,0.4s,baz=339,slow=4.8,SNR=2.4						
WRA	**Warramunga Arr**	**115.99 97**	PKP	**PKPdf**	14 28 14.7	-0.3
comp=N,0.6nm,1.0s,baz=322,slow=1.1,SNR=1.5						
ASAR	**Alice Springs**	**117.48 101**	PKP	**PKPdf**	14 28 17.7	0.0
comp=N,0.1nm,0.3s,baz=321,slow=1.3,SNR=1.8						
QSPA	**South Pole Qui**	**125.41 180**	PKP	**PKPdf**	14 28 31.7	0.0
comp=N,0.4nm,0.5s,baz=336,slow=0.5,SNR=1.5						

TIF ***03*** *14:12:15.8, 43.°03N×45.°90E, h45km±3km*
NORS ***03*** *14:12:17.6±0.0, 42.°80N×45.°92E, h72km±2km, MPVA3.7*
MOS ***03*** *14:12:17.4±0.0, 42.°81N×45.°88E, h74km±3km, MPVA3.5*
DRS ***03*** *14:12:17.7±0.0, 43.°18N×45.°18E, h32km, ML2.5/3*
ISC 03 14:12:17.4±0.7, 42.°92N±0.°03×45.°90E±0.°02, h75km±4km,
n86, σ2.9**31**/167**, 3C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.17**	**77**	⇑*i*P	**Pn**	**14 12 29.7**	**+1.1**
DVE				*e*S	**Sn**	**14 12 38.1**	**+1.4**
DVE	**Vedeno**	**0.17**	**77**	*i* Pg	**Pn**	**14 12 29.7**	**+1.1**
DVE				*e*Sg	**Sn**	**14 12 38.1**	**+1.4**
GROC	**Groznyy**	**0.29**	**346**	*e*P	**Pn**	**14 12 31.5**	**+2.4**
GROC				*e*S	**Sn**	**14 12 41.5**	**+3.8**
GROC	**Groznyy**	**0.29**	**346**	*e*Pg	**Pn**	**14 12 31.5**	**+2.4**
GROC				*e*Sg	**Sn**	**14 12 41.5**	**+3.8**
BTLR	**Botlikh**	**0.35**	**137**	*e*P	**Pn**	**14 12 30.1**	**+0.6**
BTLR				*e*S	**Sn**	**14 12 38.7**	**+0.3**
BTLR	**Botlikh**	**0.35**	**137**	*e*Pg	**Pn**	**14 12 30.1**	**+0.6**
BTLR				*i* Sg	**Sn**	**14 12 38.7**	**+0.3**
580nm,0.5s							
DLMR	**Dylym**	**0.56**	**74**	*e*P	**Pn**	**14 12 32.1**	**+0.9**
DLMR				*e*S	**Sn**	**14 12 42.3**	**+0.9**
DLMR	**Dylym**	**0.56**	**74**	*e*Pg	**Pn**	**14 12 30.8**	**-0.4**
DLMR				*e*Sg	**Sn**	**14 12 43.0**	**+1.5**
DBC	**Dubki**	**0.69**	**81**	*e*P	**Pn**	**14 12 34.1**	**+1.5**
DBC				*e*S	**Sn**	**14 12 45.4**	**+1.4**
DBC	**Dubki**	**0.69**	**81**	*e*Pg	**Pn**	**14 12 34.1**	**+1.5**
DBC				*i* Sg	**Sn**	**14 12 45.4**	**+1.4**
168nm,0.4s							
XNZR	**Khunzakh**	**0.70**	**122**	*e*P	**Pn**	**14 12 33.6**	**+0.7**
XNZR				*e*S	**Sn**	**14 12 45.3**	**+1.0**
XNZR				pmax	pmax		
comp=Z,82nm,0.5s							
XNZR	**Khunzakh**	**0.70**	**122**	*e*Pg	**Pn**	**14 12 34.0**	**+1.1**
XNZR				*e*Sg	**Sn**	**14 12 45.3**	**+1.0**
KRNR	**Karanay**	**0.75**	**97**	*e*P	**Pn**	**14 12 34.3**	**+1.0**
KRNR				*e*S	**Sn**	**14 12 46.5**	**+1.4**
KRNR				pmax	pmax		
comp=Z,9.0nm,0.3s							
KRNR	**Karanay**	**0.75**	**97**	*i* Pg	**Pn**	**14 12 34.0**	**+0.7**
KRNR				*i* Sg	**Sn**	**14 12 45.6**	**+0.5**
comp=Z,151nm,0.3s							
KMGR	**Komgaron**	**0.77**	**281**	*e*P	**Pn**	**14 12 35.6**	**+2.1**
KMGR				*e*S	**Sn**	**14 12 49.3**	**+3.9**
KMGR	**Komgaron**	**0.77**	**281**	*e*Pg	**Pn**	**14 12 35.6**	**+2.1**
KMGR				*e*Sg	**Sn**	**14 12 49.3**	**+3.9**
ARKR	**Arakani**	**0.87**	**111**	*e*P	**Pn**	**14 12 35.7**	**+1.1**
ARKR				*e*S	**Sn**	**14 12 49.0**	**+1.6**
ARKR				*e*S		14 12 51.1	
ARKR				pmax	pmax		
comp=Z,43nm,0.4s							
BUJR	**Buynaksk**	**0.90**	**96**	*e*P	**Pn**	**14 12 36.2**	**+1.3**
BUJR				*e*S	**Sn**	**14 12 50.4**	**+2.5**
BUJR				pmax	pmax		
comp=Z,89nm,0.3s							
BUJR	**Buynaksk**	**0.90**	**96**	*e*Pg	**Pn**	**14 12 32.2**	**-2.7**
BUJR				*e*Sg	**Sn**	**14 12 49.1**	**+1.2**
VLKR	**Vladikavkaz**	**0.90**	**279**	*e*P	**Pn**	**14 12 36.6**	**+1.6**
VLKR				*e*S	**Sn**	**14 12 51.4**	**+3.3**
VLKR	**Vladikavkaz**	**0.90**	**279**	*e*Pg	**Pn**	**14 12 36.6**	**+1.6**
VLKR				*e*Sg	**Sn**	**14 12 51.4**	**+3.3**
MTEO	**Meteo**	**1.03**	**257**	P	**Pn**	**14 12 38.2**	**+1.2**
MTEO				S	**Sn**	**14 12 53.0**	**+1.4**
BTKR	**Batakoyurt**	**1.09**	**295**	*e*P	**Pn**	**14 12 39.6**	**+2.3**
BTKR				*e*S	**Sn**	**14 12 57.2**	**+5.0**
BTKR	**Batakoyurt**	**1.09**	**295**	*e*Pg	**Pn**	**14 12 39.6**	**+2.3**
BTKR				*e*Sg	**Sn**	**14 12 57.2**	**+5.0**
LGD	**Lagodekhi**	**1.11**	**167**	P	**Pn**	**14 12 38.4**	**+0.8**
LGD				S	**Sn**	**14 12 54.6**	**+2.0**
LGD	**Lagodekhi**	**1.11**	**167**	*e*P	**Pn**	**14 12 39.3**	**+1.7**
LGD				*e*S	**Sn**	**14 12 54.6**	**+2.0**
TRKR	**Terskaya**	**1.17**	**314**	*e*P	**Pn**	**14 12 40.8**	**+2.6**
TRKR				*e*S	**Sn**	**14 12 58.1**	**+4.2**
TRKR	**Terskaya**	**1.17**	**314**	*e*Pg	**Pn**	**14 12 40.8**	**+2.6**
TRKR				*e*Sg	**Sn**	**14 12 58.1**	**+4.2**
LACR	**Lac**	**1.18**	**266**	⇑*i*P	**Pn**	**14 12 39.5**	**+1.0**
LACR				*e*S	**Sn**	**14 12 55.2**	**+0.9**
LACR	**Lac**	**1.18**	**266**	*i* Pg	**Pn**	**14 12 39.5**	**+1.0**
LACR				*e*Sg	**Sn**	**14 12 55.2**	**+0.9**
MAK	**Makhachkala**	**1.18**	**87**	*e*P	**Pn**	**14 12 38.6**	**+0.2**
MAK				*e*		14 12 55.0	
MAK				pmax	pmax		
comp=Z,109nm,0.2s							
MAK				smax	smax		
comp=E,217nm,0.5s							
MAK				smax	smax		
comp=N,305nm,0.3s							
KMKR	**Kumukh**	**1.19**	**131**	*i* P	**Pn**	**14 12 40.5**	**+1.8**
KMKR				*e*S	**Sn**	**14 12 56.5**	**+1.9**
KMKR				pmax	pmax		
comp=Z,600nm,0.2s							
KANR	**Karaman**	**1.20**	**76**	*e*P	**Pn**	**14 12 41.4**	**+2.8**
KANR				*e*S	**Sn**	**14 12 58.1**	**+3.6**
KANR	**Karaman**	**1.20**	**76**	*e*Pg	**Pn**	**14 12 41.4**	**+2.8**
KANR				*e*Sg	**Sn**	**14 12 58.1**	**+3.6**
ARNR	**Ardon**	**1.21**	**283**	*e*P	**Pn**	**14 12 41.1**	**+2.3**
ARNR				*e*S	**Sn**	**14 12 58.6**	**+3.8**
**

KBZ	**Khabaz**	**2.33 291**	*e*P	**Pn**	**14 12 54.6**	**+1.0**
KBZ			*e*S	**Sn**	**14 13 20.7**	**-0.6**
KBZ	**Khabaz**	**2.33 291**	*e*Pn	**Pn**	**14 12 54.6**	**+1.0**
KBZ			*e*Sn	**Sn**	**14 13 20.7**	**-0.6**
PYA1	**Pyatigorsk**	**2.34 300**	*e*P	**Pn**	**14 12 55.1**	**+1.4**
PYA1			*e*S	**Sn**	**14 13 21.2**	**-0.3**
PYA1	**Pyatigorsk**	**2.34 300**	*e*Pn	**Pn**	**14 12 55.1**	**+1.4**
PYA1			*e*Sn	**Sn**	**14 13 21.2**	**-0.3**
NEY	**Neytrino**	**2.35 279**	*e*P	**Pn**	**14 12 55.8**	**+1.8**
NEY			*e*S	**Sn**	**14 13 22.6**	**+0.6**
NEY	**Neytrino**	**2.35 279**	*e*Pn	**Pn**	**14 12 55.8**	**+1.8**
NEY			*e*Sn	**Sn**	**14 13 22.6**	**+0.6**
BEYR	**Belyy Ugol+**	**2.50 297**	*e*P	**Pn**	**14 12 57.0**	**+1.2**
BEYR			*e*S	**Sn**	**14 13 24.8**	**-0.5**
BEYR	**Belyy Ugol+**	**2.50 297**	*e*Pn	**Pn**	**14 12 57.0**	**+1.2**
BEYR			*e*Sn	**Sn**	**14 13 24.8**	**-0.5**
SHA1	**Shidzhatmaz**	**2.50 290**	*e*P	**Pn**	**14 12 57.7**	**+1.6**
SHA1			*e*S	**Sn**	**14 13 25.1**	**-0.7**
SHA1	**Shidzhatmaz**	**2.50 290**	*e*Pn	**Pn**	**14 12 57.7**	**+1.6**
SHA1			*e*Sn	**Sn**	**14 13 25.1**	**-0.7**
KIV0	**Kislovodsk Arr**	**2.55 295**	*e*Pn	**Pn**	**14 12 58.1**	**+1.4**
KIV0			*e*Sn	**Sn**	**14 13 26.4**	**-0.4**
KIV	**Kislovodsk**	**2.56 295**	*e*P	**Pn**	**14 12 58.1**	**+1.4**
KIV			*e*S	**Sn**	**14 13 26.4**	**-0.5**
KIV	**Kislovodsk**	**2.56 295**	*e*Pn	**Pn**	**14 12 57.9**	**+1.1**
KIV			*e*Sn	**Sn**	**14 13 26.4**	**-0.5**
ABS	**Abastumani**	**2.56 244**	P	**Pn**	**14 12 58.9**	**+1.9**
ABS	**Abastumani**	**2.56 244**	*e*P	**Pn**	**14 12 58.8**	**+1.9**
GOF	**Gofitskoye**	**2.97 317**	*c*eP	Pn	14 13 12.4	+10
GOF			pmax	pmax		
comp=Z,32nm,0.6s						
MNK	**Minsk**	**16.55 321**	*i* P	**P**	**14 16 06.0**	**+0.2**
MNK			*i* S	**S**	**14 19 10.6**	**-4.3**
MNK			pmax	pmax		
comp=E,2.0nm,1.2s						
MNK			pmax	pmax		
comp=N,9.0nm,1.1s						
MNK			pmax	pmax		
comp=Z,8.0nm,0.7s						
MNK			MLR	MLR		
comp=E,17nm,18.0s						
MNK			MLR	MLR		
comp=Z,62nm,25.0s						
MNK			MLR	MLR		
comp=N,335nm,22.0s						
MNK	**Minsk**	**16.55 321**	*i* P	**P**	**14 16 06.1**	**+0.2**
comp=E,2.0nm,1.2s						
MNK			*i* P	**P**	**14 16 06.1**	**+0.2**
comp=N,9.0nm,1.1s						
MNK			*i* P	**P**	**14 16 06.1**	**+0.2**
comp=Z,8.0nm,0.7s,baz=131						
MNK			*i* pP	**pP**	**14 16 16.6**	**-4.2**
MNK			*i* sP	**sP**	**14 16 25.5**	**-4.8**
MNK			*i* S	**S**	**14 19 10.6**	**-4.3**
MNK			*i* LQ	LQ	14 21 07.2	
MNK			*i* LR	LR	14 22 47.3	
MNK			*i* LRM	MLR	14 24 11.6	
comp=E,17nm,18.4s						
MNK			*i* LRM	MLR	14 24 26.1	
comp=Z,62nm,25.3s						
MNK			*i* LRM	MLR	14 24 33.0	
comp=N,335nm,21.7s						
BRVK	**Borovoye**	**19.13 50**	*i* P	**Pn**	**14 16 37.9**	**+2.1**
BRVK			pmax	pmax		
comp=Z,3.0nm,1.4s						
SONM	**Songino Array**	**41.83 62**	P	**P**	**14 20 01.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**50.75 102**	*i* P	**P**	**14 21 09.3**	**-0.6**
CMAR			pmax	pmax		
comp=Z,1.0nm,0.4s						

IDC 03 14:24:20.9±9.4, 22°.35S×66°.60W, h279km±66km, mb3.2/1, mb1 3.2/3, mb1mx3.0/16, mbtmp3.8/3, Error ellipse: s-maj=118.2km s-min=44.8km az=27.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.20**	**346**	P	Pn	14 25 52.9	0.0
0.4nm,0.3s,baz=164,slow=6.3,SNR=6.8							
LPAZ				S	S	14 27 07.2	+0.5
0.1nm,0.3s,baz=42,slow=20,SNR=1.1							
BDFB	**Brasilia**	**18.79**	**72**	P	P	14 28 20.6	0.0
0.4nm,0.3s,baz=224,slow=12,SNR=8.3							
TORD	**Torodi Ar. Bea**	**75.64**	**69**	P	P	14 35 36.1	0.0
0.3nm,0.3s,baz=251,slow=6.5,SNR=7.9							

IDC 03 14:32:22.7±1.8, 7°.61S×130°.51E, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.3/38, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=122.8km s-min=16.3km az=70.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.81**	**164**	Pn	Pn	14 35 25.9	-0.3
0.1nm,0.3s,baz=346,slow=13,SNR=1.2							
WRA				Sn	Sn	14 37 41.8	-7.9
0.5nm,0.3s,baz=327,slow=21,SNR=10.0							
ASAR	**Alice Springs**	**16.30**	**169**	Pn	Pn	14 36 13.4	+0.3
baz=351,slow=9.0,SNR=2.1							
ASAR				Sn	Sn	14 39 08.7	-6.1
0.1nm,0.3s,baz=359,slow=25,SNR=4.5							
MKAR	**Makanchi Array**	**69.01**	**327**	P	P	14 43 30.1	0.0
0.4nm,0.4s,baz=136,slow=6.1,SNR=1.4							

*IDC **03** 14:37:00.0±3.4, 37°.33N×78°.06E, h0km, mb3.9/4, mb1 3.8/7, mb1mx3.5/47, mbtmp3.7/7, ML2.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/46, Error ellipse: s-maj=67.0km s-min=31.4km az=120.0*

*NNC **03** 14:37:03.3±5.8, 37°.56N×78°.18E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=57.5km s-min=39.3km az=80.0*

ISC 03 14:37:02.6±1.9, 37°.6N±0°.1×78°.3E±0°.2, h10km, n16, σ2§73/15, mb4.0/4, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.50**	**1**	Pg	**Pg**	**14 38 44.8**	**-3.1**
34nm,0.8s							
SATY				Lg	Lg	14 39 59.1	
33nm,0.7s							
MDOK	**Medeo**	**5.68**	**351**	Pg	**Pb**	**14 38 43.9**	**+2.1**
30nm,0.9s							
MDOK				Lg	Lg	14 39 59.7	
31nm,0.6s							
MDOK	**Medeo**	**5.68**	**351**	Pg	**Pg**	**14 38 47.6**	**-3.7**
20nm,0.6s							
MDOK				Lg	Lg	14 40 03.9	
29nm,0.8s							
KST	**Kastek**	**5.75**	**343**	Pg	**Pg**	**14 38 49.2**	**-3.6**
8.5nm,0.5s							
KST				Lg	Lg	14 40 07.0	
28nm,1.1s							
AAK	**Ala-Archa**	**5.84**	**331**	Pg	**Pb**	**14 38 48.0**	**+3.4**
2.7nm,0.3s,baz=140,slow=8.7,SNR=14							
AAK				Lg	Lg	14 40 03.2	
1.3nm,0.3s,baz=5.0,slow=16,SNR=2.1							
AAK	**Ala-Archa**	**5.84**	**331**	⇓Pg	**Pb**	**14 38 48.8**	**+4.2**
11nm,0.6s							
AAK				⇓Lg	Lg	14 40 09.0	
69nm,1.1s							
WMQ	**Urumqi**	**9.50**	**46**	*e*P	Pn	14 39 28.3	+8.7
MKAR	**Makanchi Array**	**9.70**	**17**	Pn	**Pn**	**14 39 24.6**	**+2.4**
0.8nm,0.3s,baz=199,slow=12,SNR=30							
MKAR				Sn	**Sn**	**14 41 09.6**	**-1.5**
0.6nm,0.3s,baz=198,slow=27,SNR=5.3							
KURBB	**Kurchatov Arra**	**13.06**	**1**	Pn	**Pn**	**14 40 09.9**	**+1.8**
0.0nm,0.3s,baz=186,slow=13,SNR=2.0							
ZALV	**Zalesovo Beam**	**17.00**	**13**	Pn	**P**	**14 41 04.1**	**+1.9**
0.1nm,0.3s,baz=198,slow=12,SNR=2.0							
SONM	**Songino Array**	**22.96**	**54**	LR	LR	14 53 07.2	
comp=Z,40nm,18.4s,baz=269,slow=42							
FINES	**FINESS Array B**	**39.97**	**324**	P	**P**	**14 44 36.7**	**-0.2**
2.5nm,0.8s,baz=116,slow=13,SNR=2.2							
ARCES	**ARCESS Array B**	**42.49**	**336**	P	**P**	**14 44 57.7**	**+0.1**
3.4nm,1.0s,baz=88,slow=9.1,SNR=2.7							
NB2	**NORSAR Subarra**	**47.07**	**322**	P	**P**	**14 45 33.6**	**-0.7**
comp=Z,2.0nm,0.7s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**47.07**	**322**	P	**P**	**14 45 33.5**	**-0.7**
comp=Z,0.7nm,0.7s,baz=90,slow=7.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**71.52**	**273**	P	**P**	**14 48 22.0**	**-2.0**
comp=Z,0.5nm,0.7s,baz=48,slow=5.9,SNR=2.3							

*IDC **03** 15:18:00.5±3.2, 36°.27N×71°.41E, h87km±27km, mb3.6/13, mb1 3.8/18, mb1mx3.5/55, mbtmp4.0/18, MS2.9/2, Ms1 2.9/2, ms1mx2.3/60, Error ellipse: s-maj=23.7km s-min=16.9km az=8.0*

*MOS **03** 15:18:04.4±0.9, 36°.57N×71°.46E, h125km, mb4.0/4, Error ellipse: s-maj=11.8km s-min=5.1km az=82.8*

*NEIC **03** 15:18:05.1±1.3, 36°.58N±0°.07×71°.22E±0°.09, h128km±7km, mb4.1/4, Error ellipse: s-maj=11.5km s-min=9.9km az=133.0*

ISC 03 15:18:03.5±0.5, 36°.41N±0°.05×71°.30E±0°.06, h114km, n89, σ2§48/94, mb3.9/18, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.62**	**225**	PN	**Pn**	**15 18 48.3**	**+3.5**
KBL	**Kabul**	**2.62**	**225**	Pn	**Pn**	**15 18 48.3**	**+3.5**
CEP	**Cherat**	**2.63**	**169**	P	**Pn**	**15 18 49.0**	**+4.4**
GAR	**Garm**	**2.70**	**344**		**Pn**	**15 18 46.1**	**+0.4**
CHGR	**Chuyangaron**	**2.81**	**323**	Pn	**Pn**	**15 18 47.0**	**-0.1**
DRK	**Karamyk**	**3.09**	**7**		**Pn**	**15 18 52.5**	**+1.5**
NIL	**Nilore**	**3.19**	**149**	PN	**Pn**	**15 18 56.5**	**+4.3**
NIL	**Nilore**	**3.19**	**149**	Pn	**Pn**	**15 18 56.5**	**+4.3**
THW	**Thamme Wali**	**3.63**	**174**	P	**Pn**	**15 19 01.2**	**+3.2**
BTK	**Batken**	**3.66**	**354**	PN	**Pn**	**15 18 59.7**	**+1.3**
BTK	**Batken**	**3.66**	**354**	Pn	**Pn**	**15 18 59.7**	**+1.3**
AML	**Almayashu**	**6.00**	**17**	P	**Pn**	**15 19 30.0**	**-0.2**
SNR=29							
EKS2	**Erkin-Say**	**6.53**	**16**	P	**Pn**	**15 19 37.2**	**+0.2**
SNR=23							
AAK	**Ala-Archa**	**6.69**	**21**	P	**Pn**	**15 19 39.3**	**0.0**
36nm,0.3s,baz=192,slow=6.9,SNR=104							
AAK				S	**Sn**	**15 20 52.1**	**-2.0**
5.9nm,0.3s,baz=113,slow=22,SNR=9.2							
AAK				LR	LR	15 22 33.1	
comp=Z,20nm,20.2s,baz=174,slow=40							
AAK	**Ala-Archa**	**6.69**	**21**	P	**Pn**	**15 19 39.7**	**+0.4**
SNR=13							
AAK	**Ala-Archa**	**6.69**	**21**	*i* PN	**Pn**	**15 19 39.7**	**+0.4**
AAK	**Ala-Archa**	**6.69**	**21**	Pn	**Pn**	**15 19 39.5**	**+0.2**
KK31	**Karatay Array**	**6.71**	**355**	PN	**Pn**	**15 19 38.8**	**-0.6**
KK31	**Karatay Array**	**6.71**	**355**	Pn	**Pn**	**15 19 38.8**	**-0.6**
KKAR	**Karatay Array**	**6.71**	**355**	PN	**Pn**	**15 19 38.8**	**-0.7**
KKAR	**Karatay Array**	**6.71**	**355**	Pn	**Pn**	**15 19 38.7**	**-0.7**
KKAR	**Karatay Array**	**6.71**	**355**		**Pn**	**15 19 38.8**	**-0.7**
FRU1	**Bishkek**	**6.89**	**21**	PN	**Pn**	**15 19 42.3**	**+0.4**
FRU1	**Bishkek**	**6.89**	**21**		**Pn**	**15 19 42.3**	**+0.4**
ULHL	**Ulahol**	**6.97**	**32**	P	**Pn**	**15 19 43.0**	**-0.1**
SNR=15							
BOOM	**Boomskoye usch**	**7.05**	**29**	PN	**Pn**	**15 19 44.0**	**-0.2**
BOOM	**Boomskoye usch**	**7.05**	**29**	Pn	**Pn**	**15 19 44.0**	**-0.2**
CHMS	**Chumysh**	**7.09**	**21**	P	**Pn**	**15 19 44.6**	**0.0**
SNR=13							
SMLA	**Simla**	**7.19**	**135**	*e*P	**Pn**	**15 19 49.1**	**+3.2**
SMLA				*e*S	**Sn**	**15 21 04.5**	**-1.6**
SMLA				IAML		15 21 11.0	
comp=E,198nm,0.5s							
SMLA				IAML		15 21 12.2	
comp=N,109nm,0.2s							
USP	**Ospenovka**	**7.27**	**19**	P	**Pn**	**15 19 47.6**	**+0.5**
SNR=31							
KDJ	**Kajisay**	**7.31**	**37**	PN	**Pn**	**15 19 48.1**	**+0.4**
KDJ	**Kajisay**	**7.31**	**37**	Pn	**Pn**	**15 19 48.1**	**+0.4**
TARG	**Taragay, Kyrgy**	**7.33**	**42**		**Pn**	**15 19 47.7**	**-0.6**
SGDS	**Sogindy**	**7.48**	**19**	*e*PN	**Pn**	**15 19 48.9**	**-1.0**
DDI	**Dehra Dun**	**8.30**	**135**	*e*S	**Sn**	**15 21 33.5**	**+0.4**
BTLS	**Baital**	**8.87**	**13**	*e*PN	**Pn**	**15 20 06.2**	**-2.4**
ARXS	**Arharly**	**9.25**	**31**	*e*P	**Pn**	**15 20 11.2**	**-2.6**
KUDL	**Kundal**	**9.34**	**150**	*e*P	**Pn**	**15 20 16.1**	**+1.0**
KUDL				*e*S	**Sn**	**15 21 53.5**	**-4.9**
GEYT	**Alibeck**	**10.62**	**282**	P	**Pn**	**15 20 31.1**	**-1.4**
comp=N,1.3nm,0.3s,baz=108,slow=14,SNR=11							
GEYT				S	**Sn**	**15 22 27.1**	**-2.4**
comp=N,1.8nm,0.3s,baz=112,slow=15,SNR=5.8							
GEYT	**Alibeck**	**10.62**	**282**		**Pn**	**15 20 31.8**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**10.62**	**282**	Pn	**Pn**	**15 20 30.2**	**-2.2**
MAKZ	**Makanchi**	**13.09**	**34**	P	**Pn**	**15 21 02.7**	**-2.3**
MAKZ	**Makanchi**	**13.09**	**34**	Pn	**Pn**	**15 21 02.7**	**-2.3**
MK31	**Makanchi Array**	**13.22**	**35**	P	**Pn**	**15 21 05.5**	**-1.2**
MK31	**Makanchi Array**	**13.22**	**35**	Pn	**Pn**	**15 21 05.5**	**-1.2**
MKAR	**Makanchi Array**	**13.22**	**35**	P	**Pn**	**15 21 04.9**	**-1.8**
comp=N,0.3nm,0.3s,baz=226,slow=16,SNR=11							
MKAR	**Makanchi Array**	**13.22**	**35**	*i* P	**Pn**	**15 21 05.5**	**-1.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**13.22**	**35**	Pn	**Pn**	**15 21 04.8**	**-1.9**
BHPL	**Bhopal**	**14.16**	**156**	*e*P	P	15 21 39.4	+16
BHPL				*e*S	**Sn**	**15 23 47.5**	**-7.7**
KURBB	**Kurchatov Arra**	**15.13**	**18**	P	**Pn**	**15 21 26.7**	**-4.3**
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=6.9							
KURK	**Kurchatov**	**15.24**	**18**	P	**Pn**	**15 21 26.7**	**-5.6**
KURK	**Kurchatov**	**15.24**	**18**	P	**Pn**	**15 21 26.7**	**-5.6**
ABKAR	**Abkulak array**	**15.27**	**331**		**Pn**	**15 21 30.4**	**-2.4**
ABKAR				IAmb	IAmb	15 21 32.2	
comp=Z,5.0nm,0.5s							
ABKAR	**Abkulak array**	**15.27**	**331**	Pn	**Pn**	**15 21 30.2**	**-2.6**
BVAR	**Borovoye Array**	**16.62**	**358**	P	**Pn**	**15 21 48.0**	**-1.4**
comp=Z,0.5nm,0.3s,baz=191,slow=15,SNR=6.5							
BRVK	**Borovoye**	**16.66**	**358**	*i* P	**P**	**15 21 51.2**	**+0.9**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**16.97**	**330**	P	**Pn**	**15 21 53.1**	**-0.7**
comp=Z,1.4nm,0.3s,baz=146,slow=13,SNR=15							
AKTO				S	**Sn**	**15 24 54.2**	**-8.4**
comp=Z,0.8nm,0.3s,baz=342,slow=20,SNR=5.6							
DGZ	**Jazzator, Alta**	**17.71**	**36**	*i* P	**P**	**15 22 01.3**	**-0.8**
DGZ				pmax	pmax		
comp=Z,5.0nm,0.5s							
ZAA0	**Zalesovo Array**	**19.90**	**24**	P	**P**	**15 22 24.8**	**-0.9**
ZALV	**Zalesovo Beam**	**19.90**	**24**	P	**P**	**15 22 24.9**	**-0.8**
comp=Z,1.3nm,0.3s,baz=214,slow=10,SNR=21							
ZALV	**Zalesovo Beam**	**19.90**	**24**	*e*P	**P**	**15 22 25.1**	**-0.6**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.90**	**24**	P	**P**	**15 22 24.2**	**-1.5**
ARU	**Arti**	**21.79**	**341**	*d i* P	**P**	**15 22 46.8**	**+0.8**
ARU						15 23 11.7	
ARU				S	**S**	**15 26 39.8**	**0.0**
ARU				SS	**SnSn**	**15 27 25.6**	**+10**
ARU				pmax	pmax		
comp=Z,9.0nm,2.1s							
KBZ	**Khabaz**	**22.85**	**297**	P	**P**	**15 22 58.6**	**+1.7**
comp=Z,1.4nm,0.5s,baz=124,slow=8.1,SNR=4.0							
TLY	**Talaya**	**27.53**	**46**	*i* P	**P**	**15 23 39.1**	**-0.1**
TLY				pmax	pmax		
comp=Z,2.0nm,0.9s							
ULN	**Ulaanbaatar**	**28.63**	**55**	*i* P	**P**	**15 23 48.9**	**-0.3**
ULN				pmax	pmax		
comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.18**	**309**	P	**P**	**15 24 30.5**	**+1.5**
comp=Z,1.9nm,0.6s,baz=86,slow=6.6,SNR=8.7							
FINES	**FINESS Array B**	**37.69**	**326**	P	**P**	**15 25 08.8**	**+1.4**
comp=Z,1.9nm,0.5s,baz=123,slow=8.1,SNR=14							
FINES	**FINESS Array B**	**37.69**	**326**	*e*P	**P**	**15 25 09.1**	**+1.7**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**15 25 38.6**	**+1.2**
comp=Z,0.9nm,0.4s,baz=115,slow=8.3,SNR=16							
ARCES	**ARCESS Array B**	**41.31**	**338**	*e*P	**P**	**15 25 39.3**	**+1.9**
ARCES				pmax	pmax		
comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.31**	**338**	P	**P**	**15 25 38.6**	**+1.2**
ARCES				IAmb	IAmb	15 25 58.1	
comp=Z,3.8nm,1.1s							
ZEA	**Zeya**	**41.95**	**47**	*e*P	P	15 25 56.0	+13
ZEA				pmax	pmax		
comp=E,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,10.0nm,0.7s							
BRG	**Berggiesshubel**	**42.86**	**308**	*e*P	**P**	**15 25 52.7**	**+2.5**
BRG				Amp		15 25 53.3	
comp=Z,4.2nm,0.6s							
GERES	**GERESS Array B**	**43.17**	**305**	P	**P**	**15 25 54.9**	**+2.0**
comp=Z,0.3nm,0.7s,baz=98,slow=6.0,SNR=4.2							
HFS	**Hagfors**	**43.28**	**322**	P	**P**	**15 25 54.8**	**+1.3**
comp=Z,5.9nm,0.5s,baz=97,slow=12,SNR=35							
CLL	**Collm**	**43.43**	**309**	*e*(P)	**P**	**15 25 57.0**	**+2.2**
comp=Z,3.0nm,0.7s							
CLL	**Collm**	**43.43**	**309**	*e*P	**P**	**15 25 57.0**	**+2.2**
CLL				pmax	pmax		
comp=Z,3.0nm,0.7s							
NB2	**NORSAR Subarra**	**44.59**	**323**	P	**P**	**15 26 04.8**	**+0.9**
comp=Z,4.4nm,0.6s,baz=95,slow=7.9							
NOA	**NORSAR Array B**	**44.59**	**323**	P	**P**	**15 26 04.8**	**+0.9**
comp=Z,3.0nm,0.5s,baz=96,slow=7.7,SNR=25							
NOA	**NORSAR Array B**	**44.59**	**323**	*e*P	**P**	**15 26 05.1**	**+1.1**
NOA				pmax	pmax		
comp=Z,3.0nm,0.5s							
JOW	**Kunigami**	**48.84**	**84**	LR	LR	15 49 03.1	
comp=Z,63nm,19.4s,baz=247,slow=38							
EKA	**Eskdalemuir Ar**	**52.51**	**316**	P	**P**	**15 27 05.7**	**+1.0**
comp=Z,1.4nm,0.6s,baz=84,slow=9.3,SNR=5.4							
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P	**P**	**15 28 37.0**	**-0.7**
comp=Z,0.6nm,0.4s,baz=49,slow=6.1,SNR=11							
INK	**Inuvik**	**73.95**	**9**	P	**P**	**15 29 26.8**	**+1.0**
comp=Z,1.0nm,0.5s,baz=359,slow=5.9,SNR=3.7							
ILAR	**Eielson Array**	**74.80**	**16**	P	**P**	**15 29 30.6**	**-0.2**
comp=Z,0.4nm,0.7s,baz=324,slow=4.5,SNR=4.9							
WRA	**Warramunga Arr**	**81.74**	**122**	P	**P**	**15 30 09.6**	**0.0**
comp=Z,0.3nm,0.5s,baz=326,slow=4.8,SNR=5.9							
WRA	**Warramunga Arr**	**81.74**	**122**	*e*P	**P**	**15 30 11.1**	**+1.4**
WRA				pmax	pmax		
comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**84.01**	**125**	P	**P**	**15 30 20.9**	**-0.4**
comp=Z,0.2nm,0.8s,baz=313,slow=5.5,SNR=4.3							

*IDC **03** 15:25:52.3±0.9, 6°.77N×72°.94W, h165km±14km, mb3.3/5, mb1 3.7/7, mb1mx3.2/49, mbtmp3.8/7, Error ellipse: s-maj=40.7km s-min=7.7km az=132.0*

*RSNC **03** 15:25:53.5±1.1, 6°.76N×73°.10W, h147km±4km, ML3.7, Mw4.0, Fault plane solution: NP1:φ±24.00000°, δ48.00000°, λ-62.00000°.*

ISC 03 15:25:52.2±0.8, 6°.81N±0°.03×73°.10W±0°.04, h158km±6km, n41, σ1§60/73, mb3.4/5, 1C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**202**	⇓*i* P	**Pn**	**15 26 13.5**	**-0.3**
BARC				*e*S	**Sn**	**15 26 28.3**	**-1.9**
BARC				*i*		15 26 30.9	
comp=Z,784nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**37**	⇓*e*P	**Pn**	**15 26 16.4**	**+0.5**
PAMC				*e*S	**Sn**	**15 26 33.3**	**-0.6**
PAMC				*i*		15 26 35.3	
comp=Z,664nm,0.6s							
RUSC	**La Rusia**	**0.91**	**179**	⇓*i* P	**Pn**	**15 26 17.3**	**-0.2**
RUSC				*e*S	**Sn**	**15 26 35.6**	**-1.3**
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	*e*S	**Sn**	**15 26 42.4**	**-0.9**
OCAC	**Ocana**	**1.44**	**351**	*e*P	**Pn**	**15 26 21.6**	**-0.3**
OCAC				*e*S	**Sn**	**15 26 45.7**	**+0.9**
OCAC				*i*		15 26 48.3	
comp=Z,1μm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P	**Pn**	**15 26 25.7**	**-0.6**
ZARC				*e*S	**Sn**	**15 26 52.6**	**-0.1**
ZARC				*i*		15 26 58.0	
comp=Z,444nm,0.1s							
NORC	**Norcasia**	**2.15**	**235**	*e*P	**Pn**	**15 26 29.1**	**-0.4**
NORC				*e*S	**Sn**	**15 26 57.4**	**-1.0**
NORC				*i*		15 27 00.9	
comp=Z,409nm,0.2s							
SMLC	**San Martn de**	**2.21**	**334**	*e*P	**Pn**	**15 26 29.8**	**-0.3**
SMLC				*e*S	**Sn**	**15 26 58.3**	**-1.2**
SMLC				*i*		15 27 01.4	
comp=Z,489nm,0.3s							
CHIC	**Chingaza**	**2.25**	**196**	⇓*e*P	**Pn**	**15 26 31.2**	**+0.1**
CHIC				*e*S	**Sn**	**15 27 00.5**	**-0.7**
ROSC	**El Rosal**	**2.30**	**212**	P	**Pn**	**15 26 32.9**	**+1.2**
comp=Z,99nm,0.3s,baz=90,slow=20,SNR=40							
ROSC				S	**Sn**	**15 27 04.7**	**+2.5**
comp=Z,170nm,0.3s,baz=203,slow=23,SNR=12							
ROSC	**El Rosal**	**2.30**	**212**	⇓*e*P	**Pn**	**15 26 32.9**	**+1.2**
ROSC				*e*S	**Sn**	**15 27 05.3**	**+3.1**
ROSC				*i*		15 27 10.9	
comp=Z,535nm,0.4s							
HELC	**Santa Helena**	**2.49**	**256**	*e*P	**Pn**	**15 26 34.4**	**+0.4**
HELC				*e*S	**Sn**	**15 27 06.3**	**+0.2**
HELC				*i*		15 27 12.2	
comp=Z,383nm,0.4s							
UREC	**San Jos de Ur**	**2.59**	**291**	*e*P	**Pn**	**15 26 33.3**	**-1.5**
UREC				*e*S	**Sn**	**15 27 04.7**	**-3.1**
UREC				*i*		15 27 19.5	
comp=Z,206nm,0.3s							
VILC	**Villavicencio,**	**2.74**	**193**	*e*P	**Pn**	**15 26 36.6**	**-0.2**
VILC				*e*S	**Sn**	**15 27 12.6**	**+1.2**
VILC				*i*		15 27 27.0	
comp=Z,225nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**15 26 37.7**	**+0.5**
GUY2C				*e*S	**Sn**	**15 27 14.5**	**+2.6**
GUY2C				*i*		15 27 20.2	
comp=Z,425nm,0.8s							
LL2C	**La Loma 2 Cana**	**2.75**	**353**	*e*P	**Pn**	**15 26 37.3**	**+0.5**
LL2C				*e*S	**Sn**	**15 27 12.5**	**+1.1**
LL2C				*i*		15 27 20.2	
comp=Z,460nm,0.2s							
LL1C

*IDC **03** 15:28:25.0±1.4, 42°.44N×77°.50E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/57, mbtmp3.7/6, ML3.1/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/50, Error ellipse: s-maj=39.8km s-min=20.5km az=124.0*
*MOS **03** 15:28:27.8±2.8, 42°.46N×77°.65E, h13km, mb4.6/3, Error ellipse: s-maj=7.8km s-min=5.2km az=91.2*
*KRNET **03** 15:28:29.3±0.1, 42°.64N×77°.57E, h18km, mb4.3*
*SOME **03** 15:28:29.3, 42°.60N×77°.58E, h15km, MS2.7*
*NNC **03** 15:28:29.0±0.5, 42°.63N×77°.59E, h1km±2km, mb4.6, mpv4.5, Error ellipse: s-maj=3.6km s-min=1.5km az=1.0*
*BJI **03** 15:28:30.9±0.0, 42°.78N×77°.89E, h20km, ML3.7/4*
ISC 03 15:28:30.2±1.0, 42°.59N±0°.03×77°.59E±0°.02, h27km±7km, n114, σ1§60/195, mb4.1/6, 21C-24D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.55**	**213**	⇓*i*P	**Pb**	**15 28 40.4**	**-1.1**
KDJ	baz=9.0			⇓*i*S	**Sb**	**15 28 48.5**	**-0.7**
TNSS	**Tian-Shan**	**0.65**	**313**	P	**Pb**	**15 28 41.9**	**-1.4**
TNSS	178nm,0.1s			S	**Sb**	**15 28 50.8**	**-1.2**
MDOK	**Medeo**	**0.69**	**325**	*e*P	**Pb**	**15 28 42.4**	**-1.5**
MDOK	697nm,0.3s			*e*S	**Sb**	**15 28 51.7**	**-1.4**
MDOK	**Medeo**	**0.69**	**325**	⇑P	**Pb**	**15 28 42.1**	**-1.7**
MDOK	430nm,0.4s			⇓S	**Sb**	**15 28 51.5**	**-1.6**
MDOK	**Medeo**	**0.69**	**325**	Pg	**Pb**	**15 28 42.4**	**-1.5**
MDOK	697nm,0.3s			Lg	Lg	15 28 51.7	
MDOK	**Medeo**	**0.69**	**325**	*e*PG	**Pb**	**15 28 42.4**	**-1.5**
MDOK				*e*S	**Sb**	**15 28 51.7**	**-1.4**
SATY	**Saty**	**0.76**	**52**	*e*P	**Pb**	**15 28 43.5**	**-1.4**
SATY	baz=55			*e*S	**Sb**	**15 28 54.0**	**-1.0**
SATY	**Saty**	**0.76**	**52**	*e*P	**Pb**	**15 28 43.5**	**-1.4**
SATY	369nm,0.3s			*e*S	**Sb**	**15 28 54.0**	**-1.0**
SATY	**Saty**	**0.76**	**52**	P	**Pb**	**15 28 43.5**	**-1.4**
SATY	369nm,0.3s			S	**Sb**	**15 28 54.0**	**-1.0**
SATY	**Saty**	**0.76**	**52**	*e*PG	**Pb**	**15 28 43.5**	**-1.4**
SATY				*e*S	**Sb**	**15 28 54.0**	**-1.0**
KNDC	**Almaty**	**0.77**	**324**	⇑P	**Pb**	**15 28 43.9**	**-1.2**
KNDC	238nm,0.3s			⇓S	**Sn**	**15 28 55.0**	**-1.2**
AAA	**Alma-Ata**	**0.79**	**321**	*e*P	**Pb**	**15 28 44.5**	**-0.9**
AAA	1μm,0.2s			*e*S	**Sn**	**15 28 55.2**	**-1.5**
AAA	**Alma-Ata**	**0.79**	**321**	P	**Pb**	**15 28 44.5**	**-0.9**
AAA	1μm,0.2s			S	**Sn**	**15 28 55.2**	**-1.5**
AAA	**Alma-Ata**	**0.79**	**321**	*e*PG	**Pb**	**15 28 44.5**	**-0.9**
AAA				*e*S	**Sn**	**15 28 55.2**	**-1.5**
KURS	**Kuram**	**0.99**	**25**	*e*P	**Pb**	**15 28 47.5**	**-1.3**
KURS	baz=27			*e*S	**Sb**	**15 29 00.5**	**-0.9**
KURS	**Kuram**	**0.99**	**25**	*e*P	**Pb**	**15 28 47.5**	**-1.3**
KURS	375nm,0.4s			*e*S	**Sb**	**15 29 00.6**	**-0.9**
KURS	**Kuram**	**0.99**	**25**	P	**Pb**	**15 28 47.5**	**-1.3**
KURS	375nm,0.4s			S	**Sb**	**15 29 00.6**	**-0.9**
KURS	**Kuram**	**0.99**	**25**	*e*PG	**Pb**	**15 28 47.5**	**-1.3**
KURS				*e*S	**Sb**	**15 29 00.6**	**-0.9**
ULHL	**Ulahol**	**1.06**	**251**	⇓*i*P	**Pb**	**15 28 49.0**	**-1.0**
ULHL	baz=49			⇓*i*S	**Sn**	**15 29 03.5**	**+0.1**
KPKS	**Kokpek**	**1.19**	**42**	*e*P	**Pn**	**15 28 50.9**	**-0.3**
KPKS	baz=44			*e*S	**Sb**	**15 29 06.4**	**-0.7**
KPKS	**Kokpek**	**1.19**	**42**	*e*P	**Pn**	**15 28 50.9**	**-0.3**
KPKS	1μm,0.3s			*e*S	**Sb**	**15 29 06.4**	**-0.7**
KPKS	**Kokpek**	**1.19**	**42**	*e*PG	**Pn**	**15 28 50.9**	**-0.3**
KPKS				*e*S	**Sb**	**15 29 06.4**	**-0.7**
UZB	**Uzynbulak**	**1.19**	**62**	*e*P	**Pn**	**15 28 50.8**	**-0.5**
UZB	157nm,0.3s			*e*S	**Sb**	**15 29 06.7**	**-0.6**
UZB	**Uzynbulak**	**1.19**	**62**	P	**Pn**	**15 28 50.8**	**-0.5**
UZB	157nm,0.3s			S	**Sb**	**15 29 06.7**	**-0.6**
UZB	**Uzynbulak**	**1.19**	**62**	*e*PG	**Pn**	**15 28 50.8**	**-0.5**
UZB				*e*S	**Sb**	**15 29 06.7**	**-0.6**
BOOM	**Boomskoye usch**	**1.22**	**266**	⇓*e*P	**Pb**	**15 28 51.9**	**-0.9**
BOOM	baz=64			⇓*i*S	**Sn**	**15 29 08.0**	**+0.5**
KST	**Kastek**	**1.28**	**291**	*e*P	**Pb**	**15 28 52.7**	**-1.0**
KST	207nm,0.3s			*e*S	**Sn**	**15 29 09.4**	**+0.6**
KST	**Kastek**	**1.28**	**291**	P	**Pb**	**15 28 52.7**	**-1.0**
KST	207nm,0.3s			S	**Sn**	**15 29 09.4**	**+0.6**
KST	**Kastek**	**1.28**	**291**	*e*PG	**Pb**	**15 28 52.7**	**-1.0**
KST				*e*S	**Sn**	**15 29 09.4**	**+0.6**
KTBS	**Karatobe**	**1.30**	**330**	*e*P	**Pb**	**15 28 52.8**	**-1.2**
KTBS	baz=29			*e*S	**Sn**	**15 29 09.6**	**+0.3**
KTBS	**Karatobe**	**1.30**	**330**	*e*P	**Pb**	**15 28 52.8**	**-1.2**
KTBS	248nm,0.2s			*e*S	**Sn**	**15 29 09.5**	**+0.3**
KTBS	**Karatobe**	**1.30**	**330**	P	**Pb**	**15 28 52.8**	**-1.2**
KTBS	248nm,0.2s			S	**Sn**	**15 29 09.5**	**+0.3**
KTBS	**Karatobe**	**1.30**	**330**	*e*PG	**Pb**	**15 28 52.8**	**-1.2**
CHKK	**Chushkaly**	**1.33**	**341**	*e*P	**Pb**	**15 28 53.5**	**-1.1**
CHKK	baz=41			*e*S	**Sb**	**15 29 11.1**	**-0.2**
CHKK	**Chushkaly**	**1.33**	**341**	*e*P	**Pb**	**15 28 53.5**	**-1.1**
CHKK	481nm,0.4s			*e*S	**Sb**	**15 29 11.1**	**-0.2**
CHKK	**Chushkaly**	**1.33**	**341**	P	**Pb**	**15 28 53.5**	**-1.1**
CHKK	481nm,0.4s			S	**Sb**	**15 29 11.1**	**-0.2**
CHKK	**Chushkaly**	**1.33**	**341**	*e*PG	**Pb**	**15 28 53.5**	**-1.1**
DGS	**Degeres**	**1.48**	**297**	*e*P	**Pb**	**15 28 56.2**	**-1.0**
DGS	baz=95			*e*S	**Sb**	**15 29 15.5**	**-0.1**
DGS	**Degeres**	**1.48**	**297**	*e*P	**Pb**	**15 28 56.2**	**-1.0**
DGS	87nm,0.3s			*e*S	**Sb**	**15 29 15.5**	**-0.1**
DGS	**Degeres**	**1.48**	**297**	P	**Pb**	**15 28 56.2**	**-1.0**
DGS	87nm,0.3s			S	**Sb**	**15 29 15.5**	**-0.1**
DGS	**Degeres**	**1.48**	**297**	*e*PN	**Pb**	**15 28 56.2**	**-1.0**
DGS				*e*S	**Sb**	**15 29 15.5**	**-0.1**
SHLS	**Shalkode**	**1.49**	**67**	*e*P	Pb	15 29 01.8	+4.5
SHLS	baz=72			*e*S	Sb	15 29 25.8	+10
SHLS	**Shalkode**	**1.49**	**67**	*e*P	Pb	15 29 01.8	+4.5
SHLS	379nm,0.3s			*e*S	Sb	15 29 25.8	+10
SHLS	**Shalkode**	**1.49**	**67**	*e*PN	Pb	15 29 01.8	+4.5
SHLS	4μm,0.5s			*e*S	Sb	15 29 25.8	+10
SHLS	**Shalkode**	**1.49**	**67**	P	Pb	15 29 01.8	+4.5
SHLS	379nm,0.3s			S	Sb	15 29 25.8	+10
SHLS	**Shalkode**	**1.49**	**67**	*e*PN	Pb	15 29 01.8	+4.5
SHLS	4μm,0.5s			*e*S	Sb	15 29 25.8	+10
PDGK	**Podgornoye**	**1.58**	**62**	P	**Pn**	**15 28 57.7**	**+1.1**
PDGK	192nm,0.5s			S	**Sn**	**15 29 18.3**	**+2.1**
KUU	**Kurty**	**1.59**	**325**	*e*P	**Pb**	**15 28 57.8**	**-1.1**
KUU	baz=25			*e*S	**Sb**	**15 29 18.2**	**-0.3**
KUU	**Kurty**	**1.59**	**325**	*e*P	**Pb**	**15 28 57.8**	**-1.1**
KUU	104nm,0.4s			*e*S	**Sb**	**15 29 18.2**	**-0.3**
KUU	**Kurty**	**1.59**	**325**	P	**Pb**	**15 28 57.8**	**-1.1**
KUU	104nm,0.4s			S	**Sb**	**15 29 18.2**	**-0.3**
KUU	**Kurty**	**1.59**	**325**	*e*PN	**Pb**	**15 28 57.8**	**-1.1**
KUU				*e*S	**Sb**	**15 29 18.2**	**-0.3**
ARXS	**Arharly**	**1.63**	**6**	*e*P	**Pb**	**15 28 58.4**	**-1.2**
ARXS	530nm,0.3s			*e*S	**Sb**	**15 29 19.7**	**-0.1**
ARXS	**Arharly**	**1.63**	**6**	P	**Pb**	**15 28 58.4**	**-1.2**
ARXS	530nm,0.3s			S	**Sb**	**15 29 19.7**	**-0.1**
ARXS	**Arharly**	**1.63**	**6**	*e*PN	**Pb**	**15 28 58.4**	**-1.2**
ARXS				*e*S	**Sb**	**15 29 19.7**	**-0.1**
KRBS	**Karabastau**	**1.78**	**309**	*e*P	**Pb**	**15 29 01.3**	**-0.9**
KRBS	baz=8.0			*e*S	**Sb**	**15 29 24.2**	**0.0**
KRBS	**Karabastau**	**1.78**	**309**	*e*P	**Pb**	**15 29 01.3**	**-0.9**
KRBS	93nm,0.2s			*e*S	**Sb**	**15 29 24.2**	**0.0**
KRBS	**Karabastau**	**1.78**	**309**	P	**Pb**	**15 29 01.3**	**-0.9**
KRBS	93nm,0.2s			S	**Sb**	**15 29 24.2**	**0.0**
KRBS	**Karabastau**	**1.78**	**309**	*e*PN	**Pb**	**15 29 01.3**	**-0.9**
KRBS				*e*S	**Sb**	**15 29 24.2**	**0.0**
CHMS	**Chumysh**	**2.13**	**282**	⇓*i*P	**Pb**	**15 29 06.3**	**-1.8**
CHMS	baz=81			⇓*i*S	**Sb**	**15 29 33.6**	**-0.4**
CHMS	**Chumysh**	**2.13**	**282**	P	**Pb**	**15 29 06.4**	**-1.7**
FRU1	**Bishkek**	**2.19**	**277**	⇑*i*P	**Pb**	**15 29 07.6**	**-1.6**
FRU1	baz=76			⇑*i*S	**Sb**	**15 29 35.8**	**-0.1**
KTMS	**Ketmen**	**2.20**	**66**	*e*P	**Pn**	**15 29 07.8**	**+2.7**
KTMS	257nm,0.3s			*e*S	**Sb**	**15 29 35.9**	**-0.3**
KTMS	**Ketmen**	**2.20**	**66**	Pg	**Pn**	**15 29 07.8**	**+2.7**
KTMS	257nm,0.3s			Lg	Lg	15 29 35.9	
KTMS	**Ketmen**	**2.20**	**66**	*e*PN	**Pn**	**15 29 07.8**	**+2.7**
KTMS				*e*S	**Sb**	**15 29 35.9**	**-0.3**
AAK	**Ala-Archa**	**2.28**	**272**	⇓*i*P	**Pb**	**15 29 08.8**	**-2.0**
AAK	baz=71			⇓*i*S	**Sb**	**15 29 37.6**	**-1.1**
AAK	**Ala-Archa**	**2.28**	**272**	P	**Pb**	**15 29 08.9**	**-2.0**
AAK	**Ala-Archa**	**2.28**	**272**	⇓Pn	**Pb**	**15 29 08.6**	**-2.2**
AAK	22nm,0.3s			⇑Lg	Lg	15 29 39.4	
AAK	**Ala-Archa**	**2.28**	**272**	*d*PN	**Pb**	**15 29 08.4**	**-2.4**
SGDS	**Sogindy**	**2.33**	**293**	Pg	**Pb**	**15 29 11.0**	**-0.6**
SGDS	50nm,0.3s			Lg	Lg	15 29 40.8	
DJR	**Jarkent**	**2.36**	**42**	*e*P	**Pb**	**15 29 11.1**	**-1.1**
DJR	166nm,0.3s			*e*S	**Sb**	**15 29 41.0**	**0.0**
DJR	**Jarkent**	**2.36**	**42**	Pg	**Pb**	**15 29 11.0**	**-1.1**
DJR	166nm,0.3s			Lg	Lg	15 29 40.9	
DJR	**Jarkent**	**2.36**	**42**	*e*PN	**Pb**	**15 29 11.1**	**-1.1**
DJR				*e*S	**Sb**	**15 29 41.0**	**0.0**
USP	**Ospenovka**	**2.37**	**288**	⇑*i*P	**Pb**	**15 29 09.8**	**-2.3**
USP	baz=87			⇑*i*S	**Sb**	**15 29 39.8**	**-1.1**
USP	**Ospenovka**	**2.37**	**288**	P	**Pb**	**15 29 09.6**	**-2.5**
TDK	**Taldyqorghan**	**2.48**	**14**	*e*P	**Pb**	**15 29 13.4**	**-0.7**
TDK	615nm,0.5s			*e*S	**Sb**	**15 29 44.8**	**+0.6**
TDK	**Taldyqorghan**	**2.48**	**14**	Pg	**Pb**	**15 29 13.4**	**-0.7**
TDK	615nm,0.5s			Lg	Lg	15 29 44.8	
TDK	**Taldyqorghan**	**2.48**	**14**	*e*PN	**Pb**	**15 29 13.4**	**-0.7**
TDK				*e*S	**Sb**	**15 29 44.8**	**+0.6**
ARLS	**Aral**	**2.53**	**254**	⇓*e*P	**Pb**	**15 29 12.5**	**-2.6**
ARLS	baz=53			⇓*i*S	**Sb**	**15 29 44.1**	**-1.7**
EKS2	**Erkin-Say**	**2.81**	**273**	⇓*i*P	**Pn**	**15 29 16.0**	**+2.4**
EKS2	baz=72			⇓*i*S	**Sb**	**15 29 50.4**	**-3.5**
EKS2	**Erkin-Say**	**2.81**	**273**	P	**Pb**	**15 29 19.1**	**-0.7**
AML	**Almayashu**	**2.92**	**262**	⇑*i*P	**Pn**	**15 29 17.9**	**+2.6**
AML	baz=61			⇑*i*S	**Sb**	**15 29 53.1**	**-4.2**
AML	**Almayashu**	**2.92**	**262**	P	**Pb**	**15 29 19.6**	**-2.2**
KAPS	**Kapalarasan**	**2.98**	**25**	*e*P	**Pb**	**15 29 22.1**	**-0.4**
KAPS	458nm,0.5s			*e*S	**Sb**	**15 29 59.9**	**+1.4**
KAPS	**Kapalarasan**	**2.98**	**25**	Pg	**Pb**	**15 29 22.1**	**-0.4**
KAPS	458nm,0.5s			Lg	Lg	15 29 59.9	
KAPS	**Kapalarasan**	**2.98**	**25**	*e*PN	**Pb**	**15 29 22.2**	**-0.4**
KAPS				*e*S	**Sb**	**15 29 59.9**	**+1.4**
MRKS	**Merke**	**3.22**	**274**	*e*P	**Pb**	**15 29 27.5**	**+0.8**
MRKS	53nm,0.4s			*e*S	**Sb**	**15 30 09.1**	**+3.5**
MRKS	**Merke**	**3.22**	**274**	Pg	**Pb**	**15 29 27.5**	**+0.8**
MRKS	53nm,0.4s			Lg	Lg	15 30 09.1	
MRKS	**Merke**	**3.22**	**274**	*e*PN	**Pb**	**15 29 27.5**	**+0.8**
MRKS				*e*S	**Sb**	**15 30 09.1**	**+3.5**
BTLS	**Baital**	**3.54**	**315**	*e*P	**Pb**	**15 29 33.7**	**+1.5**
BTLS	8.8nm,0.4s			*e*S	**Sb**	**15 30 18.7**	**+4.0**
BTLS	**Baital**	**3.54**	**315**	Pg	**Pb**	**15 29 33.7**	**+1.5**
BTLS	8.8nm,0.4s			Lg	Lg	15 30 18.7	
BTLS	**Baital**	**3.54**	**315**	*e*PN	**Pb**	**15 29 33.7**	**+1.5**
BTLS				*e*S	**Sb**	**15 30 18.7**	**+4.0**
MNAS	**Manas**	**3.76**	**270**	⇑*i*P	**Pn**	**15 29 29.1**	**+2.5**
MNAS	baz=69			⇑*i*S	**Sn**	**15 30 13.2**	**+3.2**
OHH	**Osh**	**4.15**	**242**	⇑*e*P	**Pn**	**15 29 35.3**	**+3.3**
OHH	baz=41			⇑*i*S	**Sn**	**15 30 23.4**	**+3.7**
TRKS	**Terek-Say**	**4.92**	**260**	⇑*i*P	**Pn**	**15 29 45.4**	**+2.9**
TRKS	baz=58			⇑*e*S	**Sn**	**15 30 41.1**	**+2.5**
MAKZ	**Makanchi**	**5.25**	**35**	⇑Pg	**Pb**	**15 30 03.2**	**+2.0**
MAKZ	13nm,0.6s			⇓Lg	Lg	15 31 14.5	
MKAR	**Makanchi Array**	**5.37**	**37**	Pn	**Pn**	**15 29 50.4**	**+1.8**
MKAR	2.0nm,0.3s,baz=216,slow=15,SNR=61			Sn	**Sn**	**15 30 51.2**	**+1.6**
MKAR	15nm,0.3s,baz=217,slow=24,SNR=20			Lg	Lg	15 31 09.8	
MKAR	7.8nm,0.3s,baz=220,slow=25,SNR=10			LR	LR	15 32 09.4	
BTK	**Batken**	**5.69**	**246**	⇑*e*P	**Pn**	**15 29 56.4**	**+3.3**
BTK	baz=45			⇑*i*S	**Sn**	**15 30 59.9**	**+2.3**
GAR	**Garm**	**6.58**	**239**	⇑*i*P	**Pn**	**15 30 08.8**	**+3.5**
GAR	baz=39			⇑*i*S	**Sn**	**15 31 20.7**	**+1.2**
OTUK	**Ortayu**	**6.75**	**329**	⇑Pn	**Pn**	**15 30 08.1**	**+0.6**
OTUK	2.8nm,0.4s			⇓Lg	Lg	15 32 02.5	
ZSN	**Zaisan**	**7.08**	**44**	*e*P	**Pb**	**15 30 36.3**	**+3.9**
ZSN	6.1nm,0.5s			*e*S	Sb	15 32 06.9	+11
ZSN	**Zaisan**	**7.08**	**44**	Pg	**Pb**	**15 30 36.3**	**+3.9**
ZSN	6.1nm,0.5s			Lg	Lg	15 32 06.9	
KURBB	**Kurchatov Arra**	**8.06**	**4**	⇓Pn	**Pn**	**15 30 28.4**	**+3.0**
KURBB	2.1nm,0.3s			⇓Lg	Lg	15 32 43.7	
DGZ	**Jazzator, Alta**	**9.85**	**40**	*d*iP	**Pn**	**15 30 52.6**	**+2.4**
BRVK	**Borovoye**	**11.56**	**337**	*i*P	**Pn**	**15 31 13.0**	**-0.3**
ZALV	**Zalesovo Beam**	**12.33**	**20**	Pn	**Pn**	**15 31 25.7**	**+1.8**
ZALV	0.2nm,0.3s,baz=215,slow=15,SNR=1.7			Sn	**Sn**	**15 33 39.3**	**-1.0**
ZALV	0.4nm,0.3s,baz=210,slow=23,SNR=5.3			Lg	Lg	15 34 58.5	
ZALV	0.3nm,0.3s,baz=213,slow=25,SNR=7.5			LR	LR	15 36 30.2	
ARU	**Arti**	**18.47**	**325**	P	**Pn**	**15 32 45.3**	**+1.4**
ARU				S	**S**	**15 36 11.1**	**-1.8**
TLY	**Talaya**	**19.83**	**54**	*i*P	**P**	**15 32 59.3**	**+0.6**
TLY	comp=Z,5.0nm,0.6s			pmax	pmax		
SONM	**Songino Array**	**20.89**	**66**	P	**P**	**15 33 10.8**	**+0.4**
GNI	comp=Z,1.4nm,0.8s,baz=258,slow=12,SNR=2.6 **Garni**	**24.69**	**276**	*i*P	**P**	**15 33 50.3**	**+1.2**
GNI	comp=Z,7.0nm,0.7s			pmax	pmax		
OBN	**Obninsk**	**29.31**	**310**	⇓*e*P	**P**	**15 34 30.2**	**+0.1**
OBN				*e*		15 35 25.1	
OBN	comp=Z,7.0nm,0.6s			pmax	pmax		
MNK	**Minsk**	**34.28**	**308**	*i*P	**P**	**15 35 11.9**	**-1.9**
MNK				*i*PPP	PPP	15 36 36.4	
MNK				*i*		15 37 48.3	
MNK				*i*S	**S**	**15 40 36.6**	**-2.5**
MNK				*i*SS	**SnSn**	**15 42 47.6**	**-1.4**
MNK	comp=N,6.0nm,0.6s			pmax	pmax		
MNK	comp=Z,4.0nm,1.0s			pmax	pmax		
MNK	comp=N,55nm,28.0s			MLR	MLR		
MNK	comp=Z,56nm,25.0s			MLR	MLR		
MNK	comp=E,7.0nm,24.0s			MLR	MLR		
MNK	**Minsk**	**34.28**	**308**	*i*P	**P**	**15 35 12.0**	**-1.9**
MNK				*i*P	**P**	**15 35 12.0**	**-1.9**
MNK	comp=N,6.0nm,0.6s			*i*P	**P**	**15 35 12.0**	**-1.9**
MNK	comp=Z,4.0nm,1.1s,baz=270			*i*PP	**PnPn**	**15 36 27.0**	**-1.3**
MNK				*i*PPP	PPP	15 36 36.5	
MNK				*i*PcP	**PcP**	**15 37 48.4**	**-1.3**
MNK				*i*S	**S**	**15 40 36.6**	**-2.5**
MNK				*i*SS	**SnSn**	**15 42 47.7**	**-1.3**
MNK				*i*LQ	LQ	15 46 25.2	
MNK				*i*LR	LR	15 47 25.7	
MNK				*i*LRM	MLR	15 50 27.0	
MNK	comp=N,55nm,27.5s			*i*LRM	MLR	15 50 57.4	
MNK	comp=Z,56nm,25.0s			*i*LRM	MLR	15 51 29.2	
TORD	comp=E,7.0nm,23.6s **Torodi Ar. Bea**	**70.87**	**270**	P	**P**	**15 39 43.6**	**-1.4**
WRA	comp=E,0.6nm,0.6s,baz=43,slow=5.1,SNR=3.1 **Warramunga Arr**	**81.24**	**127**	P	**P**	**15 40 42.7**	**-1.2**
ASAR	comp=E,0.6nm,0.7s,baz=330,slow=5.5,SNR=2.8 **Alice Springs**	**83.89**	**130**	P	**P**	**15 40 56.4**	**-1.2**
	comp=E,0.3nm,0.9s,baz=327,slow=5.9,SNR=1.3						

*IDC **03** 15:35:59.3±0.5, 50°.07S×7°.64W, h0km, mb4.4/18, mb1 4.5/18, mb1mx4.3/31, mbtmp4.4/18, MS4.1/15, Ms1 4.1/15, ms1mx4.1/18, Error ellipse: s-maj=16.1km s-min=13.1km az=150.0*
*NEIC **03** 15:36:01.2±2.0, 50°.1S±0°.1×7°.7W±0°.2, h10km±1km, mb4.9/21, Error ellipse: s-maj=18.2km s-min=18.1km az=207.0*
*GCMT **03** 15:36:04.2±0.2, 50°.01S±0°.03×7°.52W±0°.04, h18km, MW5.0/99, Moment Tensor Solution. s29,c34; s99,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.49±.27; $M_{\theta\theta}$2.49±.18; $M_{\phi\phi}$1.99±.16; $M_{r\theta}$1.31±.45; $M_{\theta\phi}$-1.86±.08; $M_{\phi r}$0.10±.37; Best double couple: $M_0$4.48700×10^{16} NP1:ϕ_s141.00000°, δ40.00000°, λ-74.00000°. NP2: ϕ_s301.00000°, δ52.00000°, λ-103.00000°. Principal axes: T 4.2170, Plg6.0000°, Azm40.0000°; N 0.5290, Plg10.0000°, Azm309.0000°; P -4.7560, Plg78.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 15:36:00.8±0.4, 50°.10S±0°.09×7°.66W±0°.09, h10km, n69, σ0§94/63, mb4.7/24, MS4.1/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**18.10**	**246**	Pn	**Pn**	**15 40 10.7**	**-1.3**
VNA1	**Neumayer--Stat**	**20.62**	**181**	P	Pn	15 40 41.2	-1.0
VNA2	**Neumayer--Watz**	**20.90**	**180**	P	**P**	**15 40 40.8**	**-2.1**
VNA3	**Neumayer Olymp**	**21.24**	**182**	P	**P**	**15 40 47.4**	**+0.9**
SNAA	**Sanae**	**21.76**	**176**	P	**P**	**15 40 53.2**	**+1.0**
SNAA	**Sanae**	**21.76**	**176**	P	**P**	**15 40 52.6**	**+0.5**
SNAA	baz=355,slow=12			LR	LR	15 47 13.1	
SNAA	**Sanae**	**21.76**	**176**	P	**P**	**15 40 52.4**	**+0.2**
SUR	**Sutherland**	**27.53**	**61**	P	**P**	**15 41 48.6**	**+0.9**
SUR	10nm,1.0s,baz=198,slow=9.6,SNR=3.7			LR	LR	15 49 52.5	
SUR	**Sutherland**	**27.53**	**61**	P	**P**	**15 41 46.8**	**-0.9**
SUR	comp=Z,890nm,21.7s,baz=216,slow=30			IAmb	IAmb	15 41 51.3	
BOSA	**Boshof**	**32.88**	**62**	P	**P**	**15 42 35.2**	**+0.3**
BOSA	comp=Z,13nm,1.1s,baz=215,slow=8.3,SNR=10			LR	LR	15 53 19.1	
BOSA	**Boshof**	**32.88**	**62**	P	**P**	**15 42 33.2**	**-1.8**
BOSA	comp=Z,904nm,19.8s,baz=216,slow=32			IAmb	IAmb	15 42 36.8	
LBTB	**Lobatse**	**35.87**	**58**	P	**P**	**15 43 00.9**	**+0.1**
LBTB	**Lobatse**	**35.87**	**58**	P	**P**	**15 43 00.1**	**-0.8**
LBTB	comp=Z,32nm,1.4s			IAmb	IAmb	15 43 03.5	
TSUM	**Tsumeb**	**36.81**	**42**	P	**P**	**15 43 08.8**	**-0.1**
TSUM	**Tsumeb**	**36.81**	**42**	P	**P**	**15 43 09.5**	**+0.5**
MAW	**Mawson**	**37.92**	**144**	P	**P**	**15 43 17.7**	**0.0**
	comp=Z,3.2nm,0.8s,baz=275,slow=10.0,SNR=6.9						

MAW LR LR 15 56 08.3
comp=Z,106nm,19.9s,baz=246,slow=32
MAW Mawson 37.92 144 P **P 15 43 17.9 +0.2**
QSPA South Pole Qui 40.16 180 P **P 15 43 37.3 +0.7**
comp=Z,3.5nm,0.6s,baz=219,slow=1.9,SNR=24
QSPA PcP **PcP 15 45 40.4 -0.3**
comp=Z,2.6nm,1.0s,baz=262,slow=1.7,SNR=2.5
QSPA South Pole Qui 40.16 180 P **P 15 43 37.1 +0.4**
QSPA IAmb IAmb 15 43 47.8
comp=Z,19nm,1.1s
MATP Matopo 41.14 57 P **P 15 43 44.4 -0.8**
comp=Z,11nm,0.8s,baz=214,slow=8.3,SNR=18
PLCA Paso Flores 43.92 257 P **P 15 44 08.9 +1.4**
comp=Z,1.3nm,0.7s,baz=130,slow=8.6,SNR=5.0
PLCA LR LR 15 59 30.4
comp=Z,172nm,21.0s,baz=128,slow=32
CPUP Villa Florida 44.64 283 P **P 15 44 12.8 -0.6**
comp=Z,3.9nm,0.9s,baz=138,slow=9.7,SNR=6.1
CPUP LR LR 16 02 12.1
comp=Z,69nm,19.4s,baz=158,slow=35
LSZ Lusaka 45.24 53 P **P 15 44 18.1 -0.2**
comp=Z,6.4nm,0.9s,baz=193,slow=9.7,SNR=7.3
BDFB Brasilia 47.33 302 P **P 15 44 35.1 +0.3**
comp=Z,2.8nm,0.5s,baz=130,slow=7.9,SNR=4.3
BDFB LR LR 16 01 10.5
comp=Z,164nm,19.0s,baz=165,slow=32
VNDA Vanda 52.49 177 P **P 15 45 14.2 +1.1**
comp=Z,1.3nm,0.8s,baz=211,slow=9.5,SNR=5.4
VNDA LR LR 16 06 00.3
comp=Z,312nm,21.4s,baz=186,slow=34
AC01 Pan de Azucar 53.23 272 P **P 15 45 20.5 +1.2**
LVC Limon Verde 54.64 277 P **P 15 45 31.0 +0.9**
comp=Z,22nm,0.7s,baz=118,slow=4.1,SNR=24
LVC Limon Verde 54.64 277 P **P 15 45 31.2 +1.1**
PB06 IPOC Station P 55.00 276 P **P 15 45 30.3 -2.1**
PB09 IPOC Station P 55.44 277 P **P 15 45 37.2 +1.6**
LIC Lamto 56.14 3 *e*P **P 15 45 40.8 +0.4**
comp=Z,48nm,0.8s
KIC Kosan Boka 56.28 3 *e*P **P 15 45 42.7 +1.3**
comp=Z,16nm,0.7s
TIC Toumodi 56.55 3 *e*P **P 15 45 44.6 +1.2**
DBIC Dimbokro 56.59 3 P **P 15 45 43.5 -0.1**
PB11 IPOC Station P 57.19 278 P **P 15 45 48.0 -0.1**
PB11 IAmb IAmb 15 45 52.1
comp=Z,16nm,0.9s
LPAZ La Paz 58.80 282 P **P 15 45 59.3 -0.7**
comp=Z,6.2nm,1.0s,baz=129,slow=4.5,SNR=14
LPAZ LR LR 16 08 53.3
comp=Z,90nm,21.9s,baz=140,slow=34
LPAZ La Paz 58.80 282 P **P 15 45 59.1 -0.8**
LPAZ IAmb IAmb 15 46 01.7
comp=Z,7.9nm,0.9s
KMBO Kilima Mbogo 61.90 53 LR LR 16 11 47.4
comp=Z,478nm,19.1s,baz=148,slow=35
TOA0 Torodi Ar. Sit 63.51 10 P **P 15 46 31.6 +0.5**
TOA0 IAmb IAmb 15 46 38.2
comp=Z,10nm,1.4s
TORD Torodi Ar. Bea 63.51 10 P **P 15 46 30.7 -0.3**
comp=Z,1.5nm,0.6s,baz=204,slow=7.7,SNR=8.2
TORD LR LR 16 08 13.4
comp=Z,183nm,21.9s,baz=260,slow=30
TORD Torodi Ar. Bea 63.51 10 P **P 15 46 31.3 +0.3**
KOWA Kowa 64.39 4 P **P 15 46 37.0 +0.1**
LODK Lodwar 64.87 49 P **P 15 46 40.7 +0.5**
LODK IAmb IAmb 15 46 45.9
comp=Z,9.1nm,1.4s
PTGA Pitinga 66.21 300 P **P 15 46 48.8 0.0**
PTGA IAmb IAmb 15 46 51.1
comp=Z,15nm,1.4s
ROSC El Rosal 79.04 291 LR LR 16 21 52.4
comp=Z,186nm,18.1s,baz=241,slow=35
H01W2 Cape Leeuwin H 80.98 135 T T 17 18 31.2
baz=216,slow=76,SNR=8.0
H01W1 Cape Leeuwin H 80.99 135 T T 17 18 30.1
baz=216,slow=76,SNR=6.7
H01W3 Cape Leeuwin H 80.99 135 T T 17 18 37.1
baz=216,slow=76,SNR=6.8
KEST Kesra 86.77 14 P **P 15 48 46.2 +1.5**
comp=Z,4.5nm,0.9s,baz=266,slow=5.9,SNR=4.7
KEST LR LR 16 24 22.9
comp=Z,85nm,19.5s,baz=252,slow=34
ESDC Sonseca Array 89.45 3 P **P 15 48 58.5 +1.2**
comp=Z,1.1nm,0.8s,baz=184,slow=5.0,SNR=5.7
ESDC LR LR 16 24 49.6
comp=Z,67nm,20.2s,baz=160,slow=33
BRTR Keskin Array B 96.53 31 LR LR 16 35 34.1
comp=Z,44nm,18.1s,baz=134,slow=37
MODS Modra-Piesok 100.41 17 *e*PDIFF **Pdif 15 49 44.9 -2.3**
TXAR Lajitas Array 115.58 286 PKP **PKPdf 15 54 42.5 -0.4**
comp=Z,0.4nm,0.8s,baz=141,slow=4.6,SNR=5.1
KURBB Kurchatov Arra 124.23 50 PKP **PKPdf 15 54 58.3 -0.3**
comp=Z,0.6nm,0.7s,baz=230,slow=3.8,SNR=3.1
KURK Kurchatov 124.33 50 PKPdf 15 54 58.3 -0.5
PDAR Pinedale Array 127.98 294 PKP **PKPdf 15 55 05.5 -0.9**
comp=Z,0.8nm,0.8s,baz=215,slow=1.1,SNR=6.4
ZALV Zalesovo Beam 129.31 50 PKP **PKPdf 15 55 08.0 -0.2**
comp=Z,0.2nm,0.3s,baz=294,slow=4.6,SNR=1.9
NVAR Mina Array Bea 130.68 284 PKP **PKiKP 15 55 12.4 -0.2**
comp=Z,0.5nm,0.7s,baz=134,slow=2.2,SNR=5.7
YKA Yellowknife Ar 139.88 316 PKP **PKPdf 15 55 26.9 -0.9**
comp=Z,1.4nm,0.8s,baz=90,slow=2.5,SNR=3.3
KSAR Wonju Array Be 146.00 95 PKPdf **PKPbc 15 55 40.0 -0.2**
KSRS Korea Array 146.03 95 PKPbc **PKPdf 15 55 39.4 0.0**
comp=Z,3.3nm,0.9s,baz=244,slow=4.5,SNR=12
INK Inuvik 148.26 325 PKPbc **PKPbc 15 55 45.2 -0.4**
comp=Z,14nm,0.9s,baz=86,slow=2.4,SNR=21
INK Inuvik 148.26 325 PKPbc 15 55 44.9 -0.6
TIXI Tiksi 150.88 27 PKPbc 15 55 50.4 -1.6
MJAR Matsushiro Arr 151.99 106 PKPbc **PKPbc 15 55 54.2 -1.4**
comp=Z,1.0nm,0.5s,baz=222,slow=1.6,SNR=5.2
BCAR Beaver Creek A 152.28 315 PKPbc **PKiKP 15 55 55.7 -0.1**
SCRK Sand Creek 153.13 318 PKPbc 15 55 57.3 -0.1
KLR Kul'dur 153.94 76 PKPbc **PKPbc 15 55 58.7 -0.8**
comp=Z,1.3nm,0.9s,baz=292,slow=5.4,SNR=4.4
ILAR Eielson Array 154.19 320 PKPbc **PKPbc 15 55 58.4 -1.2**
comp=Z,1.0nm,0.8s,baz=54,slow=2.3,SNR=10

IDC 03 15:41:11.5±7.5, 4°.69S×146°.74E, h171km±79km, mb3.1/3, mb1 3.2/5, mb1mx2.9/45, mbtmp3.5/5, Error ellipse: s-maj=108.3km s-min=29.7km az=137.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.71**	**175**	P	Pn	15 42 22.3	+0.8
	0.1nm,0.3s,baz=122,slow=21,SNR=1.9						
PMG				S	Sn	15 43 10.3	-6.1
	0.7nm,0.3s,baz=105,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**19.38**	**217**	P	P	15 45 23.9	-0.6
	0.2nm,0.3s,baz=44,slow=12,SNR=15						
ASAR	**Alice Springs**	**22.57**	**212**	P	P	15 45 57.0	-0.6
	0.7nm,0.6s,baz=42,slow=7.5,SNR=18						
FITZ	**Fitzroy Crossi**	**24.56**	**235**	P	P	15 46 16.5	+0.8
	2.6nm,1.0s,baz=74,slow=7.4,SNR=10						
ILAR	**Eielson Array**	**84.39**	**23**	P	P	15 53 24.2	-0.1
	0.2nm,0.7s,baz=260,slow=5.4,SNR=2.6						

*IDC **03** 15:43:34.0±2.7, 33°.83N×132°.67E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/54, mbtmp3.4/4, ML2.7/2, Error ellipse: s-maj=42.7km s-min=15.7km az=143.0*
*JMA **03** 15:43:36.5, 33°.61N×132°.81E, h44km, M3.7 Broadband fault plane solution: P waves. NP1:*ϕ_s*325.00000°, δ63.00000°, λ-160.00000°. NP2:*ϕ_s*225.00000°, δ72.00000°, λ-29.00000°. Principal axes: T Plg6.0000°, Azm277.0000°; N Plg56.0000°, Azm16.0000°; P Plg33.0000°, Azm183.0000°;*
JMA Felt II J1.
*NIED **03** 15:43:36.6, 33°.61N×132°.81E, h44km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-1.57; $M_{\theta\theta}$-3.12; $M_{\phi\phi}$4.69; $M_{r\theta}$1.45; $M_{\theta\phi}$1.85; $M_{\phi r}$0.63; Fault plane solution: $M_0$4.71000×10^14^ NP1: ϕ_s234.00000°, δ77.00000°, λ-25.00000°. NP2: ϕ_s330.00000°, δ65.00000°, λ-166.00000°.*

ISC 03 15:43:35.5±1.9, 33°.68N±0°.04×132°.76E±0°.03, h18km±8km, n55, σ0°71/64, **3C-5D, Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JET	**Tanbara**	**0.26**	**68**	⇓P	**Pn**	**15 43 44.5**	**0.0**
JET				S	**Sn**	**15 43 50.4**	**+0.4**
JNA	**Nagahama**	**0.27**	**243**	⇑P	**Pn**	**15 43 44.8**	**+0.2**
JNA				S	**Sn**	**15 43 50.8**	**+0.6**
JKU	**Kubokawa**	**0.45**	**146**	⇑P	**Pb**	**15 43 45.6**	**+0.7**
JKU				S	**Sb**	**15 43 52.2**	**+0.9**
UWA2	**Uwa jima 2**	**0.48**	**194**	⇓P	**Pb**	**15 43 46.3**	**+0.8**
UWA2				S	**Sb**	**15 43 53.4**	**+1.2**
JHM	**Kurahashi**	**0.50**	**337**	⇓P	**Pn**	**15 43 48.5**	**+0.8**
JHM				S	**Sn**	**15 43 57.0**	**+1.1**
JTO	**Tosashimizu**	**0.82**	**178**	⇓P	**Pb**	**15 43 50.6**	**-0.6**
JTO				S	**Sb**	**15 44 00.8**	**-1.1**
JMN	**Monobe**	**0.93**	**87**	⇑P	**Pb**	**15 43 52.4**	**-0.8**
JMN				S	**Sb**	**15 44 04.4**	**-0.8**
JHT	**Toyohira**	**1.02**	**344**	⇓P	**Pg**	**15 43 55.6**	**+0.3**
JHT				S	**Sn**	**15 44 09.6**	**+0.8**
JNU	**Nakatsue**	**1.67**	**251**	Pg	**Pb**	**15 44 04.8**	**-1.0**
	11nm,0.3s,baz=87,slow=4.6,SNR=48						
JNU				Lg	Lg	15 44 26.1	
	25nm,0.3s,baz=166,slow=12,SNR=5.3						
KSUSN	**Ulsan**	**3.61**	**305**	P	**Pn**	**15 44 30.5**	**-0.1**
	SNR=6.5						
KSUSN	**Ulsan**	**3.61**	**305**	P	**Pn**	**15 44 30.5**	**-0.1**
	SNR=6.5						
KSDAG	**Daegu**	**3.81**	**304**	P	**Pn**	**15 44 33.2**	**0.0**
	SNR=12						
KSDAG	**Daegu**	**3.81**	**304**	P	**Pn**	**15 44 33.2**	**0.0**
	SNR=12						
KSDAG	**Daegu**	**3.81**	**304**	P	**Pn**	**15 44 33.2**	**0.0**
	SNR=12						
KSADO	**Andong**	**4.15**	**312**	P	**Pn**	**15 44 39.0**	**+1.0**
	SNR=7.3						
KSADO	**Andong**	**4.15**	**312**	P	**Pn**	**15 44 39.0**	**+1.0**
	SNR=7.3						
KSADO	**Andong**	**4.15**	**312**	P	**Pn**	**15 44 39.0**	**+1.0**
	SNR=7.3						
KSTBA	**Taebaek**	**4.63**	**319**	P	**Pn**	**15 44 45.6**	**+0.9**
	SNR=9.2						
KSTBA	**Taebaek**	**4.63**	**319**	P	**Pn**	**15 44 45.6**	**+0.9**
	SNR=9.2						
KSTBA	**Taebaek**	**4.63**	**319**	P	**Pn**	**15 44 45.6**	**+0.9**
	SNR=9.2						
KOHB	**KOHEUNG**	**4.64**	**283**	P	**Pn**	**15 44 45.1**	**+0.3**
	SNR=9.7						
KOHB	**KOHEUNG**	**4.64**	**283**	P	**Pn**	**15 44 45.1**	**+0.3**
	SNR=9.7						
KOHB	**KOHEUNG**	**4.64**	**283**	P	**Pn**	**15 44 45.1**	**+0.3**
	SNR=9.7						
BOSB	**Boseong-gun**	**4.72**	**285**	P	**Pn**	**15 44 46.0**	**+0.2**
	SNR=8.8						
BOSB	**Boseong-gun**	**4.72**	**285**	P	**Pn**	**15 44 46.0**	**+0.2**
	SNR=8.8						
BOSB	**Boseong-gun**	**4.72**	**285**	P	**Pn**	**15 44 46.0**	**+0.2**
	SNR=8.8						
NAWB	**Namwon**	**4.76**	**293**	P	**Pn**	**15 44 46.5**	**+0.2**
	SNR=14						
NAWB	**Namwon**	**4.76**	**293**	P	**Pn**	**15 44 46.5**	**+0.2**
	SNR=14						
NAWB	**Namwon**	**4.76**	**293**	P	**Pn**	**15 44 46.5**	**+0.2**
	SNR=14						
KSMGY	**Mungyeong**	**4.86**	**309**	P	**Pn**	**15 44 48.1**	**+0.4**
	SNR=20						
KSMGY	**Mungyeong**	**4.86**	**309**	P	**Pn**	**15 44 48.1**	**+0.4**
	SNR=20						
KSMGY	**Mungyeong**	**4.86**	**309**	P	**Pn**	**15 44 48.1**	**+0.4**
	SNR=20						
OKCB	**Cheongsan-myeo**	**4.87**	**304**	P	**Pn**	**15 44 48.1**	**+0.3**
	SNR=9.7						
OKCB	**Cheongsan-myeo**	**4.87**	**304**	P	**Pn**	**15 44 48.1**	**+0.3**
	SNR=9.7						
OKCB	**Cheongsan-myeo**	**4.87**	**304**	P	**Pn**	**15 44 48.1**	**+0.3**
	SNR=9.7						
KSBON	**Boeun**	**4.95**	**306**	P	**Pn**	**15 44 50.0**	**+1.1**
	SNR=7.5						
KSBON	**Boeun**	**4.95**	**306**	P	**Pn**	**15 44 50.0**	**+1.1**
	SNR=7.5						
KSBON	**Boeun**	**4.95**	**306**	P	**Pn**	**15 44 50.0**	**+1.1**
	SNR=7.5						
KSKWJ	**Gwangju**	**4.99**	**289**	P	**Pn**	**15 44 49.8**	**+0.2**
	SNR=8.1						
KSKWJ	**Gwangju**	**4.99**	**289**	P	**Pn**	**15 44 49.8**	**+0.2**
	SNR=8.1						
KSKWJ	**Gwangju**	**4.99**	**289**	P	**Pn**	**15 44 49.8**	**+0.2**
	SNR=8.1						
KSJEO	**Jeonju**	**5.03**	**298**	P	**Pn**	**15 44 50.4**	**+0.3**
	SNR=17						
KSJEO	**Jeonju**	**5.03**	**298**	P	**Pn**	**15 44 50.4**	**+0.3**
	SNR=17						
KSJEO	**Jeonju**	**5.03**	**298**	P	**Pn**	**15 44 50.4**	**+0.3**
	SNR=17						
KSJEU	**Jeongeup**	**5.14**	**292**	P	**Pn**	**15 44 51.9**	**+0.3**
	SNR=33						
KSJEU	**Jeongeup**	**5.14**	**292**	P	**Pn**	**15 44 51.9**	**+0.3**
	SNR=33						
KSJEU	**Jeongeup**	**5.14**	**292**	P	**Pn**	**15 44 51.9**	**+0.3**
	SNR=33						
MJAR	**Matsushiro Arr**	**5.30**	**56**	Pn	**Pn**	**15 44 54.9**	**+1.1**
	0.3nm,0.3s,baz=237,slow=14,SNR=19						
GOCB	**Gochang-gun**	**5.36**	**290**	P	**Pn**	**15 44 54.7**	**+0.2**
	SNR=11						
GOCB	**Gochang-gun**	**5.36**	**290**	P	**Pn**	**15 44 54.7**	**+0.2**
	SNR=11						
KSRS	**Korea Array**	**5.45**	**315**	Pn	**Pn**	**15 44 56.5**	**+0.6**
	0.2nm,0.3s,baz=136,slow=15,SNR=3.8						
KSRS				Sn	**Sn**	**15 45 57.5**	**-0.6**
	0.9nm,0.3s,baz=135,slow=24,SNR=6.1						
SEHB	**SEOHWA**	**5.86**	**323**	P	**Pn**	**15 45 03.0**	**+1.5**
	SNR=9.7						
SEHB	**SEOHWA**	**5.86**	**323**	P	**Pn**	**15 45 03.0**	**+1.5**
	SNR=9.7						
SONM	**Songino Array**	**24.32**	**313**	P	**P**	**15 48 50.6**	**-1.6**
	1.0nm,0.5s,baz=129,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**40.03**	**305**	P	**P**	**15 51 09.2**	**-0.2**
	0.3nm,0.8s,baz=94,slow=9.1,SNR=1.5						

*IDC **03** 15:44:11.6±1.4, 15°.23S×179°.48W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.7/43, mbtmp3.6/6, ML4.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/24, Error ellipse: s-maj=82.4km s-min=21.3km az=142.0*

ISC 03 15:44:17.1±1.1, 15°.2S±0°.3×179°.5W±0°.3, h35km, n8, σ1°05/7, **mb3.6**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.44**	**222**	Pn	**Pn**	**15 45 07.9**	**-0.4**
	2.6nm,0.3s,baz=25,slow=17,SNR=13						
MSVF				LR	LR	15 45 44.6	
	comp=Z,359nm,19.8s,baz=9.4,slow=27						
MSVF				Sn	**Sn**	**15 45 49.0**	**+1.1**
	1.8nm,0.3s,baz=123,slow=23,SNR=1.8						
AFI	**Afiamalu**	**7.60**	**81**	LR	LR	15 48 11.5	
	comp=Z,540nm,21.1s,baz=268,slow=32						
RAO	**Raoul Island**	**14.07**	**174**	LR	LR	15 51 50.3	
	comp=Z,479nm,19.9s,baz=34,slow=33						
WRA	**Warramunga Arr**	**44.14**	**257**	P	**P**	**15 52 21.8**	**-0.9**
	1.0nm,0.8s,baz=90,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**44.57**	**252**	P	**P**	**15 52 25.6**	**-0.5**
	0.7nm,0.7s,baz=83,slow=8.1,SNR=7.4						
NVAR	**Mina Array Bea**	**78.23**	**45**	P	**P**	**15 56 13.3**	**-0.3**
	0.5nm,0.7s,baz=229,slow=8.2,SNR=4.0						
ILAR	**Eielson Array**	**83.50**	**13**	P	**P**	**15 56 42.2**	**+1.4**
	0.9nm,1.1s,baz=219,slow=5.6,SNR=1.3						
TXAR	**Lajitas Array**	**85.46**	**58**	P	**P**	**15 56 51.3**	**-0.4**
	0.2nm,0.7s,baz=199,slow=5.2,SNR=2.5						

*IDC **03** 15:44:49.8±1.1, 10°.27S×152°.07E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/43, mbtmp4.0/9, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx3.2/31, Error ellipse: s-maj=25.5km s-min=21.2km az=139.0*
*NEIC **03** 15:44:54.7±2.6, 10°.47S±0°.06×152°.2E±0°.1, h32km±5km, mb4.5/11, Error ellipse: s-maj=15.8km s-min=9.3km az=88.0*

ISC 03 15:44:55.6±0.7, 10°.54S±0°.07×151°.94E±0°.09, h35km, n35, σ1°67/33, **mb4.2**/9, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**283**	P	**Pn**	**15 46 04.9**	**-1.2**
	4.1nm,0.3s,baz=94,slow=5.5,SNR=13						
PMG				Lg	Lg	15 47 25.1	
	4.4nm,0.3s,baz=136,slow=20,SNR=1.8						
PMG				LR	LR	15 48 13.8	
	comp=Z,1μm,21.6s,baz=104,slow=42						
PMG	**Port Moresby**	**4.85**	**283**		**Pn**	**15 46 05.1**	**-1.0**
PMG	**Port Moresby**	**4.85**	**283**	P	**Pn**	**15 46 05.2**	**-0.9**
PMG	**Port Moresby**	**4.85**	**283**	P	**Pn**	**15 46 05.1**	**-1.0**
RABL	**Rabaul**	**6.31**	**2**	Pn	**Pn**	**15 46 28.5**	**+2.2**
RABL	**Rabaul**	**6.31**	**2**	P	**Pn**	**15 46 28.7**	**+2.4**
HNR	**Honiara**	**7.96**	**83**	LR	LR	15 49 48.6	
	comp=Z,260nm,18.4s,baz=244,slow=38						
CTA	**Charters Tower**	**10.96**	**209**	Pn	**Pn**	**15 47 31.9**	**+1.9**
	1.4nm,0.3s,baz=25,slow=15,SNR=18						
CTA				Sn	**Sn**	**15 49 32.1**	**+0.6**
	0.4nm,0.3s,baz=83,slow=0.7,SNR=1.9						
CTAO	**Charters Tower**	**10.96**	**209**	Pn	**Pn**	**15 47 31.5**	**+1.4**
EIDS	**Eidsvold**	**14.77**	**183**	Pn	**Pn**	**15 48 23.1**	**+1.0**
LIFNC	**LIFOU**	**17.89**	**127**	Pn	**Pn**	**15 48 57.3**	**-4.4**
WR0	**Warramunga Arr**	**19.21**	**239**	P	**P**	**15 49 18.1**	**+1.4**
WR0				IAmb	IAmb	15 49 28.9	
	comp=Z,8.0nm,1.0s						
WB0	**Warramunga Arr**	**19.25**	**239**	P	**P**	**15 49 17.4**	**+0.3**
WB0				IAmb	IAmb	15 49 31.9	
	comp=Z,21nm,1.4s						
WB2	**Warramunga Arr**	**19.36**	**239**	P	**P**	**15 49 19.3**	**+0.9**
WB2				IAmb	IAmb	15 49 41.6	
	comp=Z,33nm,1.9s						
WRA	**Warramunga Arr**	**19.37**	**239**	P	**P**	**15 49 20.6**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=62,slow=10,SNR=32						
AS31	**Alice Springs**	**21.59**	**230**	IAmb	IAmb	15 49 55.7	
	comp=Z,1.4nm,1.0s						
AS31	**Alice Springs**	**21.59**	**230**		**P**	**15 49 43.1**	**+0.6**
AS31	**Alice Springs**	**21.59**	**230**		**P**	**15 49 43.1**	**+0.6**
ASAR	**Alice Springs**	**21.59**	**230**	P	**P**	**15 49 44.9**	**+2.3**
	comp=Z,1.1nm,0.9s,baz=66,slow=10,SNR=17						
ASAR	**Alice Springs**	**21.59**	**230**	P	**P**	**15 49 44.4**	**+1.8**
KNRA	**Kununurra**	**23.14**	**255**	P	**P**	**15 49 57.3**	**-1.7**
KNRA				IAmb	IAmb	15 50 02.7	
	comp=Z,48nm,1.4s						
STKA	**Stephens Creek**	**23.29**	**203**	P	**P**	**15 50 01.4**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=23,slow=14,SNR=5.7						
STKA	**Stephens Creek**	**23.29**	**203**	P	**P**	**15 49 59.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**26.55**	**251**	P	**P**	**15 50 31.7**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=60,slow=10,SNR=1.9						
FITZ	**Fitzroy Crossi**	**26.55**	**251**	P	**P**	**15 50 31.3**	**+0.9**
FITZ				IAmb	IAmb	15 50 39.4	
	comp=Z,26nm,1.7s						
MORW	**Morawa**	**38.27**	**236**	P	**P**	**15 52 12.9**	**+0.1**
MORW				IAmb	IAmb	15 53 15.0	
	comp=Z,20nm,1.6s						
XAN	**Xi'an**	**60.28**	**319**	PKP	P	15 55 10.0	+9.1
XAN				pPKP	sP	15 55 15.8	+0.6
XAN				LR	LR		
	comp=N,90nm,18.4s						
XAN				LR	LR		
	comp=E,140nm,18.4s						
XAN				LR	LR		
	comp=Z,170nm,17.3s						
HHC	**Hu-ho-hao-te**	**63.27**	**327**	*e*P	**P**	**15 55 21.2**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,7.1s						
PETK	**Petropavlovsk-**	**63.59**	**4**	P	**P**	**15 55 21.3**	**-1.4**
	comp=Z,1.4nm,0.9s,baz=188,slow=8.7,SNR=2.0						
PETK	**Petropavlovsk-**	**63.59**	**4**	P	**P**	**15 55 21.1**	**-1.5**
VNDA	**Vanda**	**67.16**	**178**	P	**P**	**15 55 47.2**	**+1.7**
	comp=Z,1.5nm,1.0s,baz=339,slow=7.0,SNR=4.3						
VNDA	**Vanda**	**67.16**	**178**	P	**P**	**15 55 46.9**	**+1.4**
VNDA				IAmb	IAmb	15 56 34.5	
	comp=Z,11nm,1.9s						
QSPA	**South Pole Qui**	**79.46**	**180**	P	**P**	**15 56 59.2**	**+0.9**
ILAR	**Eielson Array**	**87.76**	**22**	P	**P**	**15 57 37.9**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=243,slow=4.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.78**	**278**	PKPbc	**PKPbc**	**16 04 44.7**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=72,slow=3.3,SNR=3.4						

*IDC **03** 15:53:35.2±3.2, 32°.02S×177°.98W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/30, mbtmp4.1/3, ML3.2/1, Error ellipse: s-maj=77.1km s-min=48.2km az=121.0*
*NEIC **03** 15:53:37.9±1.5, 32°.33S±0°.10×178°.0W±0°.2, h10km±2km, mb4.7/9, Error ellipse: s-maj=27.8km s-min=8.5km az=122.0*

ISC 03 15:53:37.7±1.3, 32°.30S±0°.09×177°.9W±0°.2, h20km, n17, σ1°32/18, **mb4.6**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.21**	**213**	Pn	**Pn**	**15 55 22.6**	**+0.7**
	0.4nm,0.3s,baz=324,slow=20,SNR=2.5						
URZ				Sn	**Sn**	**15 56 45.9**	**+2.7**
	0.8nm,0.3s,baz=73,slow=20,SNR=6.0						
BKZ	**Black Stump Fm**	**8.23**	**212**	Pn	**Pn**	**15 55 35.5**	**-0.5**
CMWZ	**Cape Campbell**	**11.34**	**211**	Pn	**Pn**	**15 56 16.0**	**-2.5**
MSVF	**Nonsavu**	**14.96**	**345**	Pn	**Pn**	**15 57 09.1**	**+1.0**
PINNC	**Pines Island,**	**16.18**	**303**	P	**P**	**15 57 28.1**	**+1.1**
PINNC				IAmb	IAmb	15 57 45.4	
	comp=Z,106nm,1.5s						
AFI	**Afiamalu**	**19.14**	**18**	P	**P**	**15 57 60.0**	**+0.1**
CTAO	**Charters Tower**	**34.23**	**282**	P	**P**	**16 00 22.1**	**-0.2**
BBOO	**Buckleboo**	**38.57**	**256**	P	**P**	**16 00 56.6**	**-2.6**
BBOO				IAmb	IAmb	16 01 02.1	
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**43.12**	**269**	P	**P**	**16 01 36.4**	**-0.6**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**16 01 37.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=108,slow=7.6,SNR=1.8						
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**16 01 37.0**	**+0.1**
WB2	**Warramunga Arr**	**44.27**	**274**	P	**P**	**16 01 46.6**	**+0.4**
WB2				IAmb	IAmb	16 01 50.9	
	comp=Z,22nm,1.4s						
WRAB	**Tennant Creek**	**44.28**	**274**	P	**P**	**16 01 46.7**	**+0.5**
WRAB				IAmb	IAmb	16 02 04.0	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**44.28**	**274**	P	**P**	**16 01 46.3**	**0.0**
	comp=Z,2.3nm,0.5s,baz=111,slow=8.0,SNR=11						
WB0	**Warramunga Arr**	**44.31**	**274**	P	**P**	**16 01 46.8**	**+0.3**
WB0				IAmb	IAmb	16 01 58.4	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**57.82**	**180**	P	**P**	**16 03 28.6**	**+1.0**
FINES	**FINESS Array B**	**146.95**	**339**	PKPbc	**PKPbc**	**16 13 17.3**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=29,slow=3.2,SNR=4.3						

*IDC **03** 15:54:08.2±0.6, 10°.26S×152°.02E, h0km, mb4.3/18, mb1 4.5/22, mb1mx4.5/36, mbtmp4.4/22, ML4.4/3, MS4.6/24, Ms1 4.6/24, ms1mx4.5/29, Error ellipse: s-maj=15.2km s-min=13.7km az=95.0*

HNR Honiara 7.92 84 P **Pn 15 56 06.0 -0.8**
HNR Honiara 7.92 84 **Pn 15 56 06.0 -0.8**
CTA Charters Tower 11.08 209 Pn **Pn 15 56 50.2 0.0**
5.9nm,0.3s,baz=32,slow=15,SNR=31
CTA Sn **Sn 15 58 51.0 -1.9**
1.6nm,0.3s,baz=293,slow=21,SNR=2.9
CTA LR LR 16 01 02.1
comp=Z,2μm,18.4s,baz=29,slow=37
CTAO Charters Tower 11.08 209 P **Pn 15 56 49.6 -0.6**
CTAO Charters Tower 11.08 209 **Pn 15 56 49.6 -0.6**
GENI Genyem 14.07 303 P **Pn 15 57 33.2 +2.2**
66nm,1.2s
EIDS Eidsvold 14.89 183 **Pn 15 57 43.1 +1.0**
SANVU Saraoutou 15.66 110 P **P 15 57 58.7 +2.7**
DZM Mont Dzumac 18.07 132 P **P 15 58 23.4 +0.7**
0.2nm,0.3s,baz=7.6,slow=15,SNR=4.0
DZM LR LR 16 04 29.6
comp=Z,7μm,19.2s,baz=324,slow=34
DZM Mont Dzumac 18.07 132 *e*P **P 15 58 25.2 +2.5**
156nm,1.6s
DZM *e*LQ LQ 16 01 53.6
9μm,26.6s
DZM *e*LR LR 16 02 42.2
comp=Z,7μm,22.6s
DZM Mont Dzumac 18.07 132 P **P 15 58 22.1 -0.6**
DZM Mont Dzumac 18.07 132 P **P 15 58 27.3 +4.6**
PINNC Pines Island, 19.13 131 P **P 15 58 31.8 -2.6**
PINNC IAmb IAmb 15 58 35.6
comp=Z,112nm,1.3s
WR0 Warramunga Arr 19.30 239 **Pn 15 58 37.1 -0.3**
WR0 IAmb IAmb 15 58 49.8
comp=Z,73nm,1.1s
WB0 Warramunga Arr 19.34 239 **Pn 15 58 37.9 0.0**
WB0 IAmb IAmb 15 58 50.3
comp=Z,131nm,1.4s
WRAB Tennant Creek 19.45 239 *i* P **P 15 58 38.4 +0.6**
WRAB pmax pmax
comp=Z,67nm,2.0s
WB2 Warramunga Arr 19.45 239 P **P 15 58 37.7 -0.2**
WRA Warramunga Arr 19.46 239 P **P 15 58 38.5 +0.6**
comp=Z,1.0nm,0.3s,baz=61,slow=11,SNR=41
WRA LR LR 16 05 37.8
comp=Z,2μm,18.4s,baz=30,slow=35
WRA Warramunga Arr 19.46 239 P **P 15 58 36.3 -1.7**
WRA pmax pmax
comp=Z,4.0nm,1.5s
WRA Warramunga Arr 19.46 239 P **P 15 58 36.3 -1.7**
MTN Manton Dam 20.56 261 P **P 15 58 48.9 -1.0**
FAKI Fak Fak 20.95 289 P **P 15 58 54.6 +0.4**
comp=Z,2μmcomp=Z,111nm,1.5s
AS31 Alice Springs 21.69 230 P **P 15 59 03.2 +1.1**
ASAR Alice Springs 21.69 230 P **P 15 59 02.8 +0.6**
comp=Z,4.8nm,0.5s,baz=63,slow=9.1,SNR=49
ASAR LR LR 16 06 18.1
comp=Z,1μm,18.1s,baz=58,slow=33
ASAR Alice Springs 21.69 230 P **P 15 59 02.9 +0.8**
ASAR Alice Springs 21.69 230 P **P 15 59 02.9 +0.8**
SIJI Sorong 22.67 293 P **P 15 59 11.2 -1.5**
comp=Z,16nm,0.8s,baz=79,slow=16,SNR=4.4
SIJI LR LR 16 09 53.8
comp=Z,1μm,18.4s,baz=66,slow=42
SWI Sorong 22.68 293 P **P 15 59 19.5 +6.8**
comp=Z,57nm,1.2s
KNRA Kununurra 23.20 255 P **P 15 59 16.3 -1.8**
KNRA IAmb IAmb 15 59 39.2
comp=Z,51nm,1.1s
STKA Stephens Creek 23.41 203 P **P 15 59 19.1 -0.9**
comp=Z,13nm,0.9s,baz=23,slow=11,SNR=16
STKA LR LR 16 08 49.2
comp=Z,1μm,18.3s,baz=18,slow=37
STKA Stephens Creek 23.41 203 *e*P **P 15 59 19.8 -0.2**
STKA pmax pmax
comp=Z,13nm,0.9s
STKA Stephens Creek 23.41 203 P **P 15 59 19.8 -0.2**
CAN Canberra 24.93 186 P **P 15 59 34.3 +0.1**
CAN pmax pmax
comp=Z,52nm,1.2s
CAN Canberra 24.93 186 P **P 15 59 34.3 +0.1**
CAN IAmb IAmb 15 59 36.6
comp=Z,52nm,1.2s
MSVF Nonsavu 26.29 109 P **P 15 59 46.0 -0.7**
comp=Z,15nm,1.1s,baz=231,slow=14,SNR=3.8
MSVF LR LR 16 08 53.6
comp=Z,1μm,18.2s,baz=283,slow=34
MSVF Nonsavu 26.29 109 P **P 15 59 53.3 +6.6**
FITZ Fitzroy Crossi 26.62 250 P **P 15 59 49.5 0.0**
comp=Z,6.9nm,0.8s,baz=62,slow=9.1,SNR=16
FITZ LR LR 16 10 27.2
comp=Z,1μm,18.7s,baz=79,slow=37
FITZ Fitzroy Crossi 26.62 250 P **P 15 59 49.2 -0.3**
BBOO Buckleboo 26.68 211 P **P 15 59 51.3 +1.4**
BBOO IAmb IAmb 16 00 06.5
comp=Z,53nm,1.1s
TOO Toolangi 27.66 191 P **P 15 59 56.9 -1.8**
TOO pmax pmax
comp=Z,44nm,1.5s
TOO Toolangi 27.66 191 P **P 15 59 56.9 -1.8**
TOO IAmb IAmb 16 00 14.7
comp=Z,44nm,1.5s
BATI Baumata 27.85 268 LR LR 16 12 23.5
comp=Z,4μm,18.1s,baz=118,slow=39
EDFI Ende, Flores 29.90 271 P P 16 00 30.1 +11
FORT Forrest 30.07 224 P **P 16 00 18.9 -1.2**
FORT IAmb IAmb 16 00 41.5
comp=Z,20nm,0.8s
LUWI Luwuk 30.48 286 P P 16 00 37.9 +14
URZ Urewera 35.72 145 LR LR 16 14 42.1
comp=Z,2μm,18.4s,baz=326,slow=34
NWAO Narrogin (SRO) 39.01 230 P **P 16 01 38.7 +1.3**
comp=Z,3.0nm,0.6s,baz=72,slow=6.4,SNR=1.5
NACB Ninganchiao 45.42 320 P **P 16 02 27.6 -2.1**
NACB IAmb IAmb 16 02 40.1
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 48.48 345 P **P 16 02 52.1 -1.3**
comp=Z,3.0nm,0.9s,baz=172,slow=9.7,SNR=4.6
MJAR LR LR 16 21 40.1
comp=Z,272nm,20.0s,baz=180,slow=34
MJAR Matsushiro Arr 48.48 345 P **P 16 02 53.3 -0.1**
MJAR pmax pmax
comp=Z,13nm,1.4s
MJAR Matsushiro Arr 48.48 345 P **P 16 02 53.2 -0.1**
MJAR IAmb IAmb 16 02 58.2
comp=Z,13nm,1.4s
SSE Sheshan 50.76 325 P **P 16 03 09.2 -1.7**
SSE S **S 16 10 25.6 +1.4**
SSE pmax pmax
comp=Z,10.0nm,0.9s
SSE pmax pmax
comp=Z,95nm,3.5s
SSE LR LR
comp=Z,180nm,18.7s
SSE LR LR
comp=Z,190nm,19.5s
QIZ Qiongzhong 50.81 305 P **P 16 03 11.0 -0.5**
QIZ S **S 16 10 25.4 0.0**
QIZ LR LR
comp=Z,200nm,18.0s
QIZ LR LR
comp=Z,200nm,21.4s
QIZ LR LR
comp=Z,250nm,23.9s
KSRS Korea Array 52.70 336 P **P 16 03 24.1 -1.0**
comp=Z,1.5nm,0.9s,baz=148,slow=7.7,SNR=5.7
KSRS Korea Array 52.70 336 *e*P **P 16 03 26.3 +1.1**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 52.79 324 *e*P **P 16 03 27.1 +1.1**
NJ2 pP **pP 16 03 34.6 -1.7**
NJ2 S **S 16 10 55.3 +3.1**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 LR LR
comp=Z,390nm,17.1s
NJ2 LR LR
comp=Z,310nm,19.4s
NJ2 LR LR
comp=Z,480nm,21.8s
WHN Wuhan 54.46 320 ⇓P **P 16 03 37.8 -0.5**
WHN S **S 16 11 12.5 -2.3**
WHN LR LR
comp=Z,1μm,34.4s
DL2 Dalian 56.64 332 P **P 16 03 50.3 -3.5**
DL2 S **S 16 11 43.0 -0.6**
DL2 pmax pmax
comp=Z,20nm,1.3s
DL2 pmax pmax
comp=Z,87nm,5.4s
DL2 LR LR
comp=Z,370nm,21.9s
DL2 LR LR
comp=Z,300nm,20.2s
DL2 LR LR
comp=Z,570nm,21.8s
TIA Tai'an 56.83 326 P **P 16 03 52.7 -2.5**
TIA S **S 16 11 48.4 +2.1**
TIA pmax pmax
comp=Z,4.0nm,0.5s
TIA pmax pmax
comp=Z,12nm,4.0s
TIA LR LR
comp=Z,200nm,13.5s
TIA LR LR
comp=Z,290nm,17.8s
TIA LR LR
comp=Z,400nm,21.4s
PPT2 Papeete2 56.98 104 *e*S **S 16 11 45.9 -3.2**
comp=Z,336nm,26.5s
PPT2 *e*LQ LQ 16 18 15.2
comp=Z,3μm,33.5s
PPT2 *e*LR LR 16 20 35.2
comp=Z,695nm,22.5s,baz=274
PPT Papeete 56.98 104 LR LR 16 23 32.6
comp=Z,349nm,21.4s,baz=290,slow=31
TBI Tubuai 57.16 111 *e*LQ LQ 16 18 13.1
comp=Z,1μm,33.8s
TBI *e*LR LR 16 20 39.9
comp=Z,517nm,34.5s
GYA Guiyang 57.28 311 ⇓P **P 16 04 00.8 +2.0**
GYA pmax pmax
comp=Z,1.0nm,1.1s
USRK Ussuriysk Ar. 57.31 343 P **P 16 03 57.3 -1.1**
comp=Z,1.4nm,0.7s,baz=174,slow=5.1,SNR=5.5
USRK LR LR 16 26 33.4
comp=Z,277nm,20.2s,baz=149,slow=34
YSS Yuzh-Sakhalins 57.71 353 *e*P **P 16 03 58.9 -2.2**
YSS *e*S **S 16 11 54.9 -2.5**
YSS MLR MLR
comp=Z,300nm,20.0s
YSS MLR MLR
comp=N,200nm,17.0s
MDJ Mudanjiang 58.41 341 P **P 16 04 07.3 +1.1**
MDJ pmax pmax
comp=N,6.0nm,0.9s
MDJ pmax pmax
comp=N,180nm,3.6s
KMI Kunming 59.58 307 ⇑P **P 16 04 14.6 -0.3**
KMI pP pP 16 04 26.8 +1.6
KMI sP sP 16 04 32.7 +3.6
KMI PP **PP 16 06 31.4 +4.6**
KMI S **S 16 12 26.5 +3.5**
KMI ScS **ScS 16 14 01.9 -1.3**
KMI pmax pmax
comp=N,8.0nm,1.7s
KMI pmax pmax
comp=N,110nm,3.6s
KMI LR LR
comp=N,160nm,20.0s
KMI LR LR
comp=N,310nm,20.6s
KMI LR LR
comp=N,390nm,22.0s
CMAR Chiang Mai Arr 59.67 299 P **P 16 04 13.8 -1.6**
comp=N,2.3nm,1.0s,baz=117,slow=4.7,SNR=9.2
CMMT Chiang Mai 59.81 299 P P 16 04 26.4 +10
CHTO Chiang Mai 59.82 299 P P 16 04 26.4 +10
XAN Xi'an 60.21 319 P **P 16 04 17.4 -1.5**
XAN pP pP 16 04 27.6 -1.7
XAN S **S 16 12 32.2 +1.6**
XAN pmax pmax
comp=N,18nm,1.2s
XAN LR LR
comp=N,200nm,22.8s
XAN LR LR
comp=N,270nm,21.7s
XAN LR LR
comp=N,430nm,24.0s
SKR Severo-Kuril's 60.95 3 *e*P **P 16 04 22.6 -0.9**
SKR *e*S **S 16 12 45.0 +5.8**
SKR pmax pmax
comp=Z,100nm,4.0s
SKR MLR MLR
comp=Z,300nm,19.0s
SKR MLR MLR
comp=Z,200nm,17.0s
CD2 Chengdu 61.87 313 P **P 16 04 29.3 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,450nm,23.7s
CD2 LR LR
comp=Z,380nm,23.3s
CD2 LR LR
comp=Z,460nm,18.0s
KLR Kul'dur 62.01 345 *i* P **P 16 04 32.0 +1.3**
KLR pmax pmax
comp=Z,12nm,1.5s
HHC Hu-ho-hao-te 63.19 327 *e*P **P 16 04 40.5 +1.6**
HHC S **S 16 13 10.2 +2.1**
HHC SS **SS 16 17 14.3 -0.7**
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,150nm,7.4s
HHC LR LR
comp=Z,420nm,17.9s
HHC LR LR
comp=Z,410nm,17.9s
HHC LR LR
comp=Z,770nm,18.7s
PET Petropavlovsk 63.45 5 *e*P **P 16 04 38.9 -1.3**
PET *e*S **S 16 13 08.1 -2.5**
PET *e*SS **SS 16 17 14.9 -3.5**
PET pmax pmax
comp=Z,100nm,11.2s
PEA0B Petropavlovsk- 63.47 4 *i* P **P 16 04 40.3 0.0**
PETK Petropavlovsk- 63.47 4 P **P 16 04 38.5 -1.8**
comp=Z,6.5nm,0.9s,baz=151,slow=6.6,SNR=6.3
PETK LR LR 16 27 32.2
comp=Z,276nm,22.0s,baz=179,slow=32
PETK Petropavlovsk- 63.47 4 P **P 16 04 37.8 -2.5**
PETK Petropavlovsk- 63.47 4 P **P 16 04 37.8 -2.5**
LZH Lanzhou 64.76 318 *e*P **P 16 04 50.0 +0.6**
LZH pP pP 16 05 00.9 +1.0
LZH sP sP 16 05 04.3 +0.4
LZH S **S 16 13 31.9 +4.0**
LZH sS sS 16 13 47.0 +2.0
LZH pmax pmax
comp=Z,13nm,1.1s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=Z,220nm,16.8s
LZH LR LR
comp=Z,280nm,15.7s
LZH LR LR
comp=Z,230nm,17.3s
HIA Hailar 65.84 337 *i* P **P 16 04 54.8 -1.2**
HIA pmax pmax
comp=Z,7.0nm,1.0s
TAOE Nuku Hiva Isla 66.82 95 *e*S **S 16 13 54.0 +0.3**
comp=Z,404nm,35.6s
TAOE *e*LQ LQ 16 22 18.0
comp=Z,398nm,25.0s
TAOE *e*LR LR 16 25 07.5
comp=Z,649nm,24.2s
ZEA Zeya 67.28 344 *e*P **P 16 05 03.7 -1.3**
ZEA *e* 16 14 01.7
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
VNDA Vanda 67.28 178 P **P 16 05 05.2 +0.5**
comp=Z,8.5nm,1.1s,baz=334,slow=6.5,SNR=16
VNDA LR LR 16 33 06.7
comp=Z,317nm,18.2s,baz=355,slow=35
VNDA Vanda 67.28 178 P **P 16 05 05.3 +0.5**
VNDA pmax pmax
comp=Z,19nm,1.3s
VNDA Vanda 67.28 178 P **P 16 05 05.2 +0.5**
VNDA IAmb IAmb 16 05 06.9
comp=Z,19nm,1.3s
GTA Gaotai 69.28 319 ⇑P **P 16 05 21.1 +3.1**
GTA pP pP 16 05 29.7 +1.3
GTA sP sP 16 05 33.8 +1.5
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,470nm,18.5s
GTA LR LR
comp=Z,220nm,18.9s
MA2 Magadan 69.77 359 LR LR 16 33 13.8
comp=Z,144nm,19.7s,baz=182,slow=34
ULN Ulaanbaatar 70.36 330 *i* P **P 16 05 24.0 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 70.67 329 P **P 16 05 26.0 -0.3**
comp=Z,3.2nm,0.8s,baz=135,slow=5.1,SNR=8.8
SONM Songino Array 70.67 329 P **P 16 05 24.4 -2.0**
SONM pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 70.67 329 P **P 16 05 24.4 -2.0**
SONM IAmb IAmb 16 05 33.5
comp=Z,8.1nm,1.0s
SEY Seymchan 73.13 0 *i* P **P 16 05 41.0 +0.4**
ZAK Zakamensk 73.88 330 *e*P **P 16 05 44.1 -1.4**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
TLY Talaya 74.54 331 *e*P **P 16 05 47.4 -1.8**
TLY *e*S **S 16 15 28.8 +6.8**
TLY *e* 16 16 06.4
TLY pmax pmax
comp=Z,22nm,2.0s
TLY MLR MLR
comp=Z,274nm,15.0s
MOY Mondy 75.81 330 *e*P **P 16 05 55.5 -1.1**
MOY pmax pmax
comp=Z,28nm,2.4s
WMQ Urumqi 79.34 318 *e*P **P 16 06 15.9 -0.6**
WMQ pmax pmax
comp=Z,21nm,0.6s
WMQ pmax pmax
comp=Z,95nm,3.7s
QSPA South Pole Qui 79.58 180 P **P 16 06 17.5 0.0**
MAW Mawson 80.10 203 P **P 16 06 21.0 +1.0**
comp=Z,2.3nm,0.9s,baz=97,slow=7.2,SNR=4.8
MAW LR LR 16 39 39.9
comp=Z,680nm,19.7s,baz=70,slow=34
MAW Mawson 80.10 203 P **P 16 06 19.2 -0.9**
MAW pmax pmax
comp=Z,7.0nm,1.5s
MAW Mawson 80.10 203 P **P 16 06 19.2 -0.9**
DGZ Jazzator, Alta 82.08 324 *i* P **P 16 06 32.5 +1.4**
DGZ pmax pmax
comp=Z,12nm,1.5s
CNPM China Poot 83.11 25 P **P 16 06 34.9 -1.2**
L19K White Mountain 83.23 22 P **P 16 06 35.8 -0.8**
baz=232
M20K Styx River 83.70 23 P **P 16 06 39.5 +0.3**
baz=234
MKAR Makanchi Array 84.03 320 P **P 16 06 40.6 -0.5**
comp=Z,2.8nm,0.9s,baz=107,slow=5.8,SNR=7.6
MKAR LR LR 16 44 29.4
comp=Z,166nm,19.7s,baz=124,slow=36
MKAR Makanchi Array 84.03 320 P **P 16 06 39.1 -2.0**
MKAR Makanchi Array 84.03 320 P **P 16 06 39.1 -2.0**
SEW Seward 84.18 25 P **P 16 06 40.6 -0.8**
baz=238
K20K Telida 84.23 21 P **P 16 06 40.9 -0.8**
baz=233
J20K Nowinta River 84.70 21 P **P 16 06 46.9 +2.9**
baz=233
ZALV Zalesovo Beam 85.37 327 P **P 16 06 46.2 -1.4**
comp=Z,0.8nm,0.5s,baz=104,slow=6.1,SNR=5.5
ZALV LR LR 16 45 01.9
comp=Z,318nm,20.0s,baz=121,slow=36
ZALV Zalesovo Beam 85.37 327 *e*P **P 16 06 47.2 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
KTH Kantishna Hill 85.49 22 P **P 16 06 46.0 -2.2**
KTH IAmb IAmb 16 07 02.4
comp=Z,6.9nm,1.0s
BPAW Bear Paw Mtn. 85.78 22 P **P 16 06 51.2 +1.7**
baz=236
WAT1 Susitna Watana 86.00 23 P **P 16 06 49.6 -1.1**
baz=238
H21K Melozitna Rive 86.04 20 P **P 16 06 49.8 -1.0**
baz=234
I21K Tanana 86.04 21 P **P 16 06 50.3 -0.4**
baz=235
WAT6 Susitna Watana 86.19 24 P **P 16 06 53.8 +2.1**
baz=239
MCK McKinley 86.33 22 P **P 16 06 50.7 -1.5**
baz=238
NEA2 Nenana 86.75 22 P **P 16 06 52.1 -2.1**
baz=238
BOOM Boomskoye usch 86.87 314 P **P 16 06 55.0 -0.6**
I23K Minto, Yukon-K 86.94 21 P **P 16 06 53.1 -2.0**
baz=237
WRH Wood River Hil 87.04 22 P **P 16 06 52.8 -2.8**
WRH IAmb IAmb 16 07 16.6
comp=Z,15nm,1.3s
CCB Clear Creek Bu 87.24 22 P **P 16 06 54.5 -2.0**
H23K Yukon River 87.25 21 P **P 16 06 56.0 -0.7**
baz=237
COLA College 87.34 22 *i* P **P 16 06 56.1 -0.9**
COLA pmax pmax
comp=Z,9.0nm,0.9s
HDA Harding Lake 87.44 22 P **P 16 06 56.3 -1.3**
baz=240
HDA Harding Lake 87.44 22 P **P 16 06 55.9 -1.7**
HDA IAmb IAmb 16 07 18.0
comp=Z,17nm,1.5s
ILAR Eielson Array 87.64 22 P **P 16 06 55.9 -2.7**
comp=Z,5.1nm,0.8s,baz=259,slow=3.4,SNR=24
ILAR LR LR 16 43 19.7
comp=Z,205nm,19.5s,baz=240,slow=34
COLD Coldfoot 87.80 19 P **P 16 06 59.7 +0.5**
baz=236
H24K Noodor Dome 87.83 21 P **P 16 06 58.4 -1.1**
baz=239
MENT Mentasta 87.98 24 P **P 16 06 59.4 -0.8**
MENT IAmb IAmb 16 07 20.0
comp=Z,7.4nm,1.0s
SYO Syowa Base 88.13 199 ⇑*e*P **P 16 07 01.6 +0.7**
SYO Syowa Base 88.13 199 ⇓*e*pP pP 16 07 10.8 -0.9
DOT Dot Lake 88.17 24 P **P 16 06 59.9 -1.2**
L27K Beaver Creek, 88.81 25 P **P 16 07 03.6 -0.6**
baz=244
K27K Chicken 89.13 24 P **P 16 07 06.2 +0.6**
baz=244
K27K Chicken 89.13 24 P **P 16 07 05.6 0.0**
EGAK Eagle 89.81 23 P **P 16 07 08.3 -0.5**
baz=245
EGAK Eagle 89.81 23 P **P 16 07 07.8 -1.0**
EGAK IAmb IAmb 16 07 14.6
comp=Z,9.1nm,0.9s
NRIK Noril'sk 90.99 341 LR LR 16 48 36.7
comp=Z,107nm,18.8s,baz=134,slow=36
NVAR Mina Array Bea 96.17 52 P **P 16 07 38.5 -0.5**
comp=Z,0.9nm,0.9s,baz=254,slow=6.5,SNR=5.7
NVAR LR LR 16 47 14.7
comp=Z,147nm,18.6s,baz=264,slow=33
MNK Minsk 117.88 327 *i* PKIKP **PKiKP 16 13 02.8 +6.0**
MNK *i* 16 20 06.0
MNK *i* SS SS 16 30 16.7 -4.8
MNK *i* SSS SSS 16 34 43.5
MNK pmax pmax
comp=Z,5.0nm,1.0s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=Z,321nm,23.0s
MNK MLR MLR
comp=N,150nm,22.0s
MNK MLR MLR
comp=E,18nm,19.0s
MNK Minsk 117.88 327 *i* PKP **PKiKP 16 13 02.8 +6.0**
MNK *i* PKP **PKiKP 16 13 02.8 +6.0**
MNK *i* PKP **PKiKP 16 13 02.8 +6.0**
comp=Z,5.0nm,1.1s
MNK *i* PP **PP 16 14 04.9 -5.8**
baz=247
MNK *i* PPP PPP 16 16 33.3

MNK			*i* SKS	**SKSdf**	**16 20 06.0**	**-0.1**
MNK			*i* SS	**SS**	**16 30 16.8**	**-4.7**
MNK			*i* SSS	SSS	16 34 43.5	
MNK			*i* LQ	LQ	16 56 25.1	
MNK			*i* LR	LR	16 58 26.2	
MNK			*i* LRM	MLR	17 03 56.2	
	comp=Z,321nm,22.6s					
MNK			*i* LRM	MLR	17 03 58.2	
	comp=N,150nm,22.2s					
MNK			*i* LRM	MLR	17 04 03.3	
	comp=E,18nm,18.7s					
CLL	**Collm**	**127.28 329**	*e*SS	SS	16 32 16.0	-4.9
CLL			*e*SSS	SSS	16 37 06.0	
CLL			Lm	MLR	17 11 00.0	
	comp=N,200nm,19.7s					
CLL			Lm	MLR	17 11 00.0	
	comp=E,200nm,20.6s					
CLL			Lm	MLR	17 11 00.0	
	comp=Z,300nm,20.1s					
BDFB	**Brasilia**	**147.41 142**	PKPbc	**PKPab**	**16 13 56.2**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=206,slow=3.9,SNR=3.2					
TORD	**Torodi Ar. Bea**	**150.79 278**	PKPbc	**PKPbc**	**16 14 02.5**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=58,slow=2.7,SNR=10					
TORD	**Torodi Ar. Bea**	**150.79 278**		**PKPbc**	**16 14 02.8**	**-1.1**

MAN 03 15:58:27.3, 10°.04N×126°.07E, h12km, mb4.3, ML3.1, MS2.9, Philippine Islands region

*IDC **03** 16:03:37.2±3.7, 24°.42S×179°.75W, h551km±42km, mb3.2/5, mb1 3.4/8, mb1mx3.0/28, mbtmp4.2/8, Error ellipse: s-maj=84.3km s-min=38.6km az=81.0*

ISC 03 16:03:37.9±1.9, 24°.65S±0°.1×179°.9E±0°.2, h517km, n19, σ1§60/18, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.02 345**		P	**P**	**16 05 25.3**	**+0.2**
	1.5nm,0.3s,baz=112,slow=22,SNR=11						
DZM	**Mont Dzumac**	**12.65 279**		P	**P**	**16 06 24.7**	**+1.4**
	0.6nm,0.3s,baz=118,slow=17,SNR=5.6						
MYRZ	**Mayor Island**	**13.07 193**		P	P	16 06 45.1	+18
URZ	**Urewera**	**13.87 189**		P	**P**	**16 06 36.0**	**+0.3**
	0.6nm,0.3s,baz=45,slow=5.7,SNR=1.5						
URZ				S	**S**	**16 09 02.9**	**+0.4**
	0.3nm,0.3s,baz=312,slow=16,SNR=1.8						
TKGZ	**Te Karaka**	**13.95 187**		P	P	16 06 45.2	+8.5
RTZ	**Ruatahuna**	**14.24 189**		P	**P**	**16 06 43.6**	**+3.8**
MTHZ	**Maungataniwha**	**14.49 190**		P	**P**	**16 06 38.4**	**-4.0**
BKZ	**Black Stump Fm**	**14.85 191**		P	**P**	**16 06 45.9**	**-0.3**
OTVZ	**Oturere**	**15.00 193**		P	**P**	**16 06 48.8**	**+0.9**
WNVZ	**Wahianoa**	**15.17 193**		P	**P**	**16 06 49.4**	**-0.2**
BHHZ	**Black Hill Sta**	**15.24 191**		P	**P**	**16 06 49.3**	**-0.9**
KRHZ	**Kereru**	**15.34 190**		P	**P**	**16 06 51.9**	**+0.7**
KAHZ	**Kahuranaki**	**15.41 189**		P	**P**	**16 06 52.3**	**+0.4**
PXZ	**Pawanui**	**15.64 189**		P	**P**	**16 06 54.3**	**0.0**
CTA	**Charters Tower**	**31.43 271**		P	**P**	**16 09 16.6**	**-0.1**
	5.1nm,0.4s,baz=126,slow=9.5,SNR=8.7						
STKA	**Stephens Creek**	**34.43 249**		P	**P**	**16 09 42.0**	**0.0**
	1.0nm,0.4s,baz=96,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**41.88 261**		P	**P**	**16 10 42.0**	**-0.9**
	0.7nm,0.5s,baz=95,slow=6.6,SNR=21						
WRA	**Warramunga Arr**	**42.31 267**		P	**P**	**16 10 44.9**	**-1.4**
	2.8nm,0.5s,baz=101,slow=8.3,SNR=38						
FITZ	**Fitzroy Crossi**	**50.73 266**		P	**P**	**16 11 49.1**	**-0.9**
	2.9nm,0.8s,baz=121,slow=8.6,SNR=6.9						

NNC 03 16:06:57.0±5.2, 37°.80N×78°.58E, h0km, mb4.0, mpv3.6, 1C-1D, Error ellipse: s-maj=50.5km s-min=34.9km az=77.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.25 359**		Pg	Pg	16 08 34.0	-3.7
	7.0nm,0.7s						
SATY				Lg	Lg	16 09 45.7	
	8.9nm,0.5s						
MDOK	**Medeo**	**5.48 348**		Pg	Pb	16 08 34.1	+0.4
	5.0nm,0.6s						
MDOK				Lg	Lg	16 09 50.2	
	16nm,0.7s						
MDOK	**Medeo**	**5.48 348**		Pg	Pb	16 08 37.5	+3.7
	4.7nm,0.6s						
MDOK				Lg	Lg	16 09 51.6	
	15nm,0.7s						
KST	**Kastek**	**5.61 340**		Pg	Pb	16 08 39.7	+3.8
	3.5nm,0.6s						
KST				Lg	Lg	16 09 55.6	
	6.6nm,0.8s						
AAK	**Ala-Archa**	**5.76 328**		⇓Pg	Pg	16 08 43.2	-4.2
	3.5nm,0.5s						
AAK				⇑Lg	Lg	16 09 59.3	
	17nm,1.1s						

*IDC **03** 16:09:27.9±3.1, 35°.16N×140°.01E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/33, mbtmp3.3/2, Error ellipse: s-maj=91.8km s-min=29.8km az=63.0*
*JMA **03** 16:09:27.8±0.1, 35°.36N×140°.34E, h25km±2km, M2.4*
JMA Felt I J1.

ISC 03 16:09:28.5±1.1, 35°.34N±0°.03×140°.39E±0°.06, h19km±2km, n14, σ0§94/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17 296**		P	**Pg**	**16 09 33.1**	**0.0**
JCN				S	**Sg**	**16 09 37.5**	**+1.2**
KTR	**katsuura**	**0.20 198**		P	**Pb**	**16 09 33.2**	**+0.1**
KTR				S	**Sg**	**16 09 37.2**	**+0.2**
JKUC	**kamogawauchiur**	**0.24 221**		P	**Pb**	**16 09 33.5**	**-0.5**
JKUC				*e*S	**Sb**	**16 09 37.7**	**0.0**
JSMT	**Sammumatsuo**	**0.30**	**8**	P	**Pb**	**16 09 35.2**	**-0.1**
JSMT				*e*S	**Sb**	**16 09 40.5**	**+0.6**
BSO4	**Boso 4**	**0.35 187**		P	**Pg**	**16 09 36.1**	**+0.2**
BSO3	**Boso 3**	**0.55 170**		P	**Pb**	**16 09 39.2**	**-0.1**
BSO1	**Boso 1**	**0.84 145**		P	**Pb**	**16 09 42.7**	**-1.4**
BSO1				*e*X	X	16 09 55.4	
MJAR	**Matsushiro Arr**	**2.14 305**		Pn	**Pn**	**16 10 02.6**	**-0.6**
	0.4nm,0.3s,baz=133,slow=14,SNR=16						
MAT	**Matsushiro**	**2.14 305**		P	**Pn**	**16 10 02.8**	**-0.4**
MAT				*e*S	**Sb**	**16 10 31.1**	**-1.8**
H11N2	**WAKE ISLAND Hy**	**28.06 117**		T	T	16 44 31.0	
	baz=309,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**28.07 117**		T	T	16 44 31.5	
	baz=309,slow=75,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**28.08 117**		T	T	16 44 25.5	
	baz=309,slow=75,SNR=4.9						
WRA	**Warramunga Arr**	**55.28 187**		P	**P**	**16 19 00.7**	**0.0**
	0.2nm,0.3s,baz=5.5,slow=7.4,SNR=2.5						
ASAR	**Alice Springs**	**59.01 187**		P	**P**	**16 19 28.7**	**+1.6**
	0.2nm,0.8s,baz=15,slow=7.7,SNR=1.4						

*NEIC **03** 16:18:37.6±1.0, 43°.67N±0°.05×105°.27W±0°.06, h0km±2km, ML3.2/30, Error ellipse: s-maj=8.9km s-min=7.1km az=329.0*
*IDC **03** 16:18:37.8±1.8, 43°.98N×105°.70W, h0km, mb4.1/1, mb1 4.0/3, mb1mx3.5/38, mbtmp3.8/3, ML3.3/2, Error ellipse: s-maj=56.1km s-min=9.5km az=147.0*

ISC 03 16:18:36.7±1.0, 43°.68N±0°.05×105°.26W±0°.06, h0km, n24, σ1§12/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**63**		**Pb**	**16 18 56.5**	**-0.4**
K22A	**Casper**	**1.38 222**			**Pg**	**16 19 02.0**	**-1.1**
K22A				IAML		16 19 27.7	
	comp=E,333nm,0.3s						
K22A				IAML		16 19 29.2	
	comp=N,400nm,0.3s						
PHWY	**Pilot Hill**	**2.38 184**			**Pn**	**16 19 17.9**	**+0.7**
RWWY	**Rawlins**	**2.46 216**			**Pn**	**16 19 19.6**	**+1.4**
RWWY				IAML		16 19 54.1	
	comp=N,131nm,1.3s						
RWWY				IAML		16 19 57.6	
	comp=N,127nm,1.4s						
LAO	**LASA Array**	**3.08 348**			**Pn**	**16 19 29.2**	**+2.6**
RLMT	**Red Lodge**	**3.21 298**			**Pn**	**16 19 28.7**	**+0.2**
RLMT				IAML		16 20 21.7	
	comp=N,41nm,0.3s						
PD31	**Pinedale Array**	**3.27 255**			**Pn**	**16 19 30.1**	**+0.7**
PDAR	**Pinedale Array**	**3.27 255**		Pn	**Pn**	**16 19 30.2**	**+0.8**
	comp=N,2.7nm,0.3s,baz=70,slow=16,SNR=17						
PDAR				Lg	Lg	16 20 14.4	
	comp=N,6.6nm,0.3s,baz=67,slow=33,SNR=4.0						
PDAR	**Pinedale Array**	**3.27 255**			**Pn**	**16 19 29.9**	**+0.5**
BW06	**Boulder Array**	**3.27 255**			**Pn**	**16 19 30.1**	**+0.7**
BW06				IAML		16 20 19.3	
	comp=N,38nm,0.5s						
BW06				IAML		16 20 20.7	
	comp=N,42nm,0.7s						
OGNE	**Ogallala**	**3.64 138**			**Pn**	**16 19 36.1**	**+1.8**
OGNE				IAML		16 20 54.8	
	comp=N,60nm,1.5s						
YNE	**Yellowstone No**	**3.65 293**			**Pn**	**16 19 34.9**	**+0.3**
YNE				IAML		16 20 35.0	
	comp=N,53nm,0.7s						
YNE				IAML		16 20 35.1	
	comp=E,41nm,0.3s						
YMP	**Mirror Lake Pl**	**3.67 288**			**Pn**	**16 19 35.1**	**+0.1**
YMP				IAML		16 20 32.6	
	comp=N,51nm,0.4s						
YMP				IAML		16 20 39.2	
	comp=E,59nm,0.8s						
GCMT	**Greycliff**	**3.78 305**			**Pn**	**16 19 36.8**	**+0.4**
LOHW	**Long Hollow**	**3.88 271**			**Pn**	**16 19 38.7**	**+1.0**
ISCO	**Idaho Springs**	**3.89 184**			**Pn**	**16 19 37.5**	**-0.4**
REDW	**Red Top Meadow**	**4.08 267**			**Pn**	**16 19 41.1**	**+0.6**
REDW				IAML		16 20 54.1	
	comp=E,38nm,1.4s						
O20A	**White River Ci**	**4.18 213**			**Pn**	**16 19 42.3**	**+0.4**
O20A				IAML		16 21 08.1	
	comp=E,37nm,1.3s						
RDMU	**Red Mountain**	**4.46 227**			**Pn**	**16 19 48.1**	**+2.3**
RDMU				IAML		16 20 59.4	
	comp=N,20nm,1.0s						
RDMU				IAML		16 21 04.6	
	comp=E,20nm,1.6s						
EGMT	**Eagleton**	**5.36 326**			**Pn**	**16 19 58.7**	**+0.8**
HRY	**Holter Researc**	**5.54 305**			**Pn**	**16 20 01.1**	**+0.6**
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**16 20 49.4**	**-0.8**
	comp=E,1.0nm,0.3s,baz=231,slow=11,SNR=4.6						
ULM				Lg	Lg	16 23 21.6	
	comp=E,0.3nm,0.3s,baz=322,slow=21,SNR=1.6						
I56US	**NEWPORT INFRAS**	**9.44 303**		*i*		17 14 00.0	
	baz=116,slow=316,SNR=4.0						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**16 28 54.3**	**-0.2**
	comp=E,2.5nm,1.0s,baz=332,slow=7.2,SNR=4.3						

KRSC 03 16:37:57.8±1.4, 48°.32N×157°.44E, h21km±45km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52 341**		*e*P	Pn	16 38 39.7	+2.2
SKR				*e*S	Sn	16 39 10.0	+2.5
ALID	**Alaid**	**2.83 335**		*e*P	Pn	16 38 44.2	+2.3
KDTR	**Khodutka, Kamc**	**3.52**	**7**	*e*S	Sn	16 39 36.4	+4.2
RUS	**Russkaya**	**4.18**	**9**	*e*P	Pn	16 39 04.0	+3.8
RUS				*e*S	Sn	16 39 53.2	+4.8
MTVR	**Mutnovka**	**4.20**	**6**	*e*P	Pn	16 39 04.6	+3.9
MTVR				*e*S	Sn	16 39 54.4	+5.3
GRL	**Gorelyy**	**4.26**	**5**	*e*P	Pn	16 39 06.0	+4.5
GRL				*e*S	Sn	16 39 56.7	+6.1
PET	**Petropavlovsk**	**4.77**	**9**	*e*P	Pn	16 39 13.1	+4.7
PET				*e*S	Sn	16 40 08.8	+5.7
DALK	**Dalny**	**4.79**	**10**	*e*P	Pn	16 39 12.8	+4.1
DALK				*e*S	Sn	16 40 08.4	+4.9
UGLR	**Uglovaya**	**4.97**	**10**	*e*P	Pn	16 39 16.5	+5.2
AVH	**Avacha**	**5.02**	**9**	*e*P	Pn	16 39 17.0	+5.1
KOK	**Koryaka**	**5.04**	**8**	*e*P	Pn	16 39 17.8	+5.6
KRX	**Arik**	**5.11**	**8**	*e*P	Pn	16 39 18.2	+5.1
GNL	**Ganaly**	**5.39**	**3**	*e*P	Pn	16 39 22.2	+5.1
KZV	**Kizimen**	**7.03**	**14**	*e*P	Pn	16 39 42.7	+3.1

*NEIC **03** 17:01:22.2±1.8, 23°.71N±0°.09×94°.6E±0°.1, h81km±11km, mb4.0/12, Error ellipse: s-maj=17.2km s-min=10.1km az=50.0*
*IDC **03** 17:01:23.8±2.9, 23°.59N×94°.55E, h99km±32km, mb3.9/4, mb1 3.9/6, mb1mx3.3/68, mbtmp4.1/6, Error ellipse: s-maj=30.3km s-min=16.0km az=48.0*
*NDI **03** 17:01:28.0±1.3, 23°.78N×94°.01E, h40km±23km, ML3.3, mb4.0(NEIC)*

ISC 03 17:01:22.5±0.7, 23°.63N±0°.05×94°.42E±0°.06, h99km, n31, σ2§33/41, mb4.0/9, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**2.10 352**		*e*P	**Pn**	**17 01 58.2**	**+1.7**
KOHI				*e*S	**Sn**	**17 02 20.2**	**-2.4**
KOHI				IAML		17 02 27.4	
	comp=N,295nm,0.1s						
KOHI				IAML		17 02 27.7	
	comp=E,188nm,0.4s						
MOKO	**MOKOCHONG**	**2.68**	**2**	*e*P	**Pn**	**17 02 07.2**	**+3.1**
MOKO				*e*S	**Sn**	**17 02 36.0**	**-0.1**
MOKO				IAML		17 02 45.9	
	comp=E,142nm,0.2s						
BRDH	**Bariadhala**	**2.73 250**		P	**Pn**	**17 02 06.5**	**+1.9**
	comp=E,62nm,0.3s,baz=300,slow=17,SNR=2.1						
BRDH				S	**Sn**	**17 02 41.2**	**+4.2**
	comp=E,60nm,0.3s,baz=236,slow=22,SNR=19						
AGT	**Agartala**	**2.92 276**		*e*S	**Sn**	**17 02 34.0**	**-7.5**
SHL	**Shillong**	**3.01 310**		*e*P	**Pn**	**17 02 09.0**	**+0.4**
SHL				*ex*	x	17 02 35.3	
SHL	**Shillong**	**3.01 310**		Pn	**Pn**	**17 02 09.0**	**+0.4**
SHL				Sn	**Sn**	**17 02 41.0**	**-3.1**
ITAN	**ITANAGAR**	**3.56 350**		*ex*	**Pn**	**17 02 14.9**	**-0.9**
ITAN				*e*S	**Sn**	**17 02 54.4**	**-2.6**
ITAN				IAML		17 02 56.9	
	comp=N,175nm,0.3s						
CHTO	**Chiang Mai**	**6.38 138**		Pn	**Pn**	**17 02 52.0**	**-2.0**
GTK	**Tadong**	**6.42 306**		*e*P	**Pn**	**17 02 54.8**	**+0.1**
GTK				*e*S	Sn	17 03 57.1	-9.4
CM31	**Chiang Mai Arr**	**6.65 140**		Pn	**Pn**	**17 02 55.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**6.65 140**		P	**Pn**	**17 02 58.0**	**+0.2**
	comp=N,1.0nm,0.3s,baz=315,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**6.65 140**		Pn	**Pn**	**17 02 56.9**	**-0.8**
LSA	**Lhasa**	**6.72 335**		Pn	**Pn**	**17 02 59.6**	**+0.6**
LSA				Sn	**Sn**	**17 04 12.9**	**-1.4**
BOK	**Bokaro**	**7.83 273**		*ex*	**Sn**	**17 04 38.4**	**-2.3**
TARG	**Taragay, Kyrgy**	**22.77 326**		P	**P**	**17 06 17.9**	**+0.9**
TARG				IAmb	IAmb	17 06 30.8	
	comp=Z,2.8nm,0.8s						
KDJ	**Kajisay**	**23.38 326**		P	**P**	**17 06 22.9**	**+0.3**
BOOM	**Boomskoye usch**	**24.27 325**		P	**P**	**17 06 32.0**	**+1.3**
BOOM				IAmb	IAmb	17 06 35.2	
	comp=Z,2.7nm,0.8s						
MK31	**Makanchi Array**	**25.09 340**		P	**P**	**17 06 39.6**	**+1.8**
MK31				IAmb	IAmb	17 06 41.1	
	comp=Z,7.7nm,1.1s						
MKAR	**Makanchi Array**	**25.09 340**		P	**P**	**17 06 39.9**	**+2.1**
	comp=Z,3.6nm,0.6s,baz=151,slow=9.0,SNR=30						
MKAR				pP	**pP**	**17 07 04.8**	**+4.8**
	comp=Z,0.9nm,0.6s,baz=150,slow=9.1,SNR=3.9						
MKAR	**Makanchi Array**	**25.09 340**		P	**P**	**17 06 39.7**	**+1.9**
MKAR				pP	**pP**	**17 07 03.8**	**+3.7**
GAR	**Garm**	**25.56 312**		P	**P**	**17 06 42.5**	**+0.1**
KURBB	**Kurchatov Arra**	**29.65 339**		P	**P**	**17 07 20.2**	**+1.8**
	comp=Z,1.1nm,0.2s,baz=158,slow=8.2,SNR=5.6						
KURK	**Kurchatov**	**29.70 340**		P	**P**	**17 07 20.2**	**+1.3**
JWT	**Wachi**	**37.28**	**62**	P	**P**	**17 08 22.1**	**-2.8**
KNRA	**Kununurra**	**51.50 136**		P	**P**	**17 10 18.2**	**-0.1**
WB0	**Warramunga Arr**	**58.13 135**		P	**P**	**17 11 06.0**	**-0.1**
WRA	**Warramunga Arr**	**58.22 135**		P	**P**	**17 11 06.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=323,slow=7.5,SNR=6.8						
WRA				pP	**pP**	**17 11 31.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=326,slow=7.3,SNR=1.7						
WRA	**Warramunga Arr**	**58.22 135**		P	**P**	**17 11 06.4**	**-0.3**
WRA				PcP	**PcP**	**17 11 53.2**	**-3.8**
WB2	**Warramunga Arr**	**58.23 135**		P	**P**	**17 11 07.1**	**+0.3**
WB2				IAmb	IAmb	17 11 41.6	
	comp=Z,4.4nm,1.1s						
AS31	**Alice Springs**	**60.66 138**		P	**P**	**17 11 24.5**	**+1.0**
AS31				IAmb	IAmb	17 11 25.0	
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**60.66 138**		P	**P**	**17 11 24.1**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=321,slow=7.1,SNR=13						

*DJA **03** 17:01:34.1±0.5, 8°.S±4°.×12°.0E±°, h148km±8km, M3.9/12, MLv3.9/12*

*NEIC **03** 17:01:34.4±0.9, 8°.24S±0°.08×119°.72E±0°.08, h184km±6km, mb4.2/17, Error ellipse: s-maj=12.5km s-min=9.4km az=223.0*
*IDC **03** 17:01:34.6±1.9, 8°.18S×119°.81E, h191km±16km, mb3.7/6, mb1 3.7/10, mb1mx3.3/55, mbtmp4.1/10, Error ellipse: s-maj=37.5km s-min=11.6km az=61.0*

ISC 03 17:01:32.5±0.5, 8°.42S±0°.05×119°.59E±0°.04, h170km, n51, σ1§98/61, mb4.0/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.23 189**		P	**Pn**	**17 02 02.0**	**+0.8**
WBSI				S	**Sn**	**17 02 21.3**	**-2.1**
PLAI	**Plampang**	**1.84 257**		P	**Pn**	**17 02 07.8**	**+0.6**
PLAI				S	**Sn**	**17 02 30.9**	**-3.0**
BASI	**Baing, Sumba**	**2.03 151**		P	**Pn**	**17 02 10.5**	**+1.2**
EDFI	**Ende, Flores**	**2.10**	**99**	P	**Pn**	**17 02 10.9**	**+0.8**
EDFI				S	**Sn**	**17 02 40.0**	**+0.8**
BSSI	**Bau Bau, Buton**	**2.43**	**22**	P	**Pn**	**17 02 13.4**	**-0.5**
MMRI	**Maumere**	**2.63**	**95**		**Pn**	**17 02 17.6**	**+1.4**
MMRI	**Maumere**	**2.63**	**95**	P	**Pn**	**17 02 17.5**	**+1.3**
TWSI	**Taliwang, Sumb**	**2.70 263**		P	**Pn**	**17 02 17.7**	**+0.7**
TWSI				S	**Sn**	**17 02 51.1**	**-0.5**
BKSI	**Bulukumba**	**3.12**	**10**	P	**Pn**	**17 02 22.7**	**+0.4**
KAPI	**Kappang**	**3.39**	**3**	P	**Pn**	**17 02 26.8**	**+1.2**
	8.1nm,0.3s,baz=187,slow=6.4,SNR=14						
BNSI	**Bone**	**4.03**	**7**	P	**Pn**	**17 02 35.5**	**+1.8**
DNP	**Denpasar**	**4.34 266**		P	**Pn**	**17 02 41.5**	**+3.8**
SRBI	**Singaraja**	**4.35 274**		P	**Pn**	**17 02 37.4**	**-0.4**
BATI	**Baumata**	**4.39 114**		P	**Pn**	**17 02 40.1**	**+1.7**
	8.4nm,0.3s,baz=321,slow=2.9,SNR=11						
BATI				S	**Sn**	**17 03 31.0**	**+1.1**
	20nm,0.3s,baz=10,slow=20,SNR=12						
BATI	**Baumata**	**4.39 114**		P	**Pn**	**17 02 40.3**	**+1.9**
SOEI	**Soe**	**4.80 106**			**Pn**	**17 02 44.9**	**+1.0**
SOEI					**Sn**	**17 03 39.0**	**-0.7**
SOEI	**Soe**	**4.80 106**		P	**Pn**	**17 02 45.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**5.38 269**		Pn	**Pn**	**17 02 55.6**	**+4.3**
PWJI	**Pagerwojo**	**7.72 272**		P	Pn	17 03 28.9	+6.7
UGM	**Wanagama**	**8.99 273**		Pn	**Pn**	**17 03 38.4**	**-0.6**
TOLI2	**Tolitoli**	**9.54**	**7**	Pn	**Pn**	**17 03 45.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.28 149**		P	**Pn**	**17 04 10.3**	**+1.4**
	0.2nm,0.3s,baz=328,slow=12,SNR=18						
FITZ				S	**Sn**	**17 06 06.5**	**-7.6**
	1.1nm,0.3s,baz=173,slow=16,SNR=8.8						
FITZ	**Fitzroy Crossi**	**11.28 149**			**Pn**	**17 04 10.5**	**+1.6**
KNRA	**Kununurra**	**11.51 130**		Pn	**Pn**	**17 04 11.6**	**-0.3**
MTN	**Manton Dam**	**12.16 112**			**Pn**	**17 04 20.6**	**+0.1**
PSA00	**Pilbara Seismi**	**13.08 179**		Pn	**P**	**17 04 35.8**	**-0.3**
PSA00	**Pilbara Seismi**	**13.08 179**			**P**	**17 04 36.9**	**+0.8**
FAKI	**Fak Fak**	**13.73**	**67**	Pn	**Pn**	**17 04 38.5**	**-1.8**
GIRL	**Giralia**	**15.05 199**			**P**	**17 05 00.7**	**+2.8**
MNAI	**Manna**	**17.02 283**		P	**Pn**	**17 05 22.1**	**+1.4**
WB0	**Warramunga Arr**	**18.24 130**		P	**P**	**17 05 33.7**	**+0.6**
WB0				IAmb	IAmb	17 06 03.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**18.30 130**		P	**P**	**17 05 34.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=302,slow=12,SNR=71						
WRA				S	**S**	**17 08 50.7**	**-3.6**
	comp=Z,0.2nm,0.3s,baz=302,slow=21,SNR=6.4						
WB2	**Warramunga Arr**	**18.31 130**		P	**P**	**17 05 34.4**	**+0.5**
WB2				IAmb	IAmb	17 05 44.8	
	comp=Z,19nm,1.6s						
WR0	**Warramunga Arr**	**18.46 130**		P	**P**	**17 05 36.3**	**+0.7**
WR0				IAmb	IAmb	17 05 42.1	
	comp=Z,4.4nm,0.5s						
AS31	**Alice Springs**	**20.44 140**		P	**P**	**17 05 57.7**	**+0.9**
AS31				IAmb	IAmb	17 06 00.7	
	comp=Z,7.8nm,0.3s						
AS31					**S**	**17 09 33.5**	**-3.0**
ASAR	**Alice Springs**	**20.44 140**		P	**P**	**17 05 57.6**	**+0.8**
	comp=Z,5.9nm,0.4s,baz=313,slow=8.9,SNR=110						
ASAR				S	**S**	**17 09 32.4**	**-4.1**
	comp=Z,1.6nm,0.7s,baz=316,slow=20,SNR=9.5						
ASAR				ScP	**ScP**	**17 13 19.4**	**-3.4**
	comp=Z,0.2nm,0.5s,baz=325,slow=2.0,SNR=2.5						
ASAR	**Alice Springs**	**20.44 140**		P	**P**	**17 05 57.8**	**+0.9**
MORW	**Morawa**	**20.81 189**		P	**P**	**17 06 02.3**	**+1.6**
MORW				IAmb	IAmb	17 06 17.4	
	comp=Z,17nm,1.5s						
FORT	**Forrest**	**23.61 162**		P	**P**	**17 06 29.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**24.48 185**		P	**P**	**17 06 37.6**	**+1.6**
NWAO				IAmb	IAmb	17 06 59.6	
	comp=Z,40nm,1.6s						
BBOO	**Buckleboo**	**28.66 150**		P	**P**	**17 07 14.5**	**+1.1**
STKA	**Stephens Creek**	**31.03 142**		P	**P**	**17 07 35.8**	**+1.4**
	comp=Z,8.4nm,0.5s,baz=318,slow=9.2,SNR=28						
STKA	**Stephens Creek**	**31.03 142**		P	**P**	**17 07 35.8**	**+1.4**
STKA				IAmb	IAmb	17 07 36.4	
	comp=Z,1.8nm,0.7s						
CASY	**Casey**	**58.11 184**		P	**P**	**17 11 09.2**	**+1.4**
TARG	**Taragay, Kyrgy**	**62.89 326**		P	**P**	**17 11 40.9**	**-0.3**
TARG				IAmb	IAmb	17 11 59.2	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**64.21 332**		P	**P**	**17 11 47.4**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=148,slow=6.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**68.71 339**		P	**P**	**17 12 15.9**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=153,slow=5.9,SNR=4.6						
PEA0B	**Petropavlovsk-**	**69.31**	**23**	P	**P**	**17 12 20.3**	**-1.0**
PETK	**Petropavlovsk-**

50nm,0.3s,baz=153,slow=6.7,SNR=41
KIRV **Kirov** 1.92 68 *i* P Pg 17 06 11.8 +0.3
KIRV *e*S Sb 17 06 34.3 +0.6
PRGR **Permogore** 3.73 357 *e*P Pb 17 06 37.0 -3.6
53nm,0.7s
PRGR S Sn 17 07 17.0 +0.8
69nm,0.2s
KLMR **Klimovskoe** 4.43 314 *e*P Pb 17 06 48.1 -4.5
1.6nm,0.4s
KLMR *e*S Sn 17 07 34.9 +1.4
49nm,0.2s
BELG **Belogornoye** 5.62 170 Pn Pn 17 07 04.1 +5.9
1.3nm,0.3s,baz=268,slow=10,SNR=1.9
BELG Sn Sn 17 08 05.1 +2.3
4.4nm,0.3s,baz=5.1,slow=23,SNR=1.4
BELG Lg Lg 17 08 26.6
5.8nm,0.3s,baz=84,slow=18,SNR=2.1
PR1R **Pomanovo** 5.76 73 *i* P Pn 17 07 04.7 +4.6
PR1R *i* S Sn 17 08 09.0 +2.8
89nm,0.3s
OBN **Obninsk** 5.94 246 Lg Lg 17 08 45.4
2.0nm,0.3s,baz=277,slow=20,SNR=5.1
OBN **Obninsk** 5.94 246 Pn 17 07 07.2 +4.6
LSH **Leshukonskoye** 6.98 359 *i* P Pn 17 07 20.7 +3.9
15nm,0.5s
LSH *e*S Sn 17 08 33.6 -2.6
26nm,0.7s
ARU **Arti** 6.99 97 Pn Pn 17 07 16.5 -0.5
0.0nm,0.3s,baz=0.0,slow=20,SNR=2.9
ARU Sn Sn 17 08 30.7 -5.7
0.0nm,0.3s,baz=241,slow=23,SNR=6.1
ARU Lg Lg 17 09 01.5
0.0nm,0.3s,baz=268,slow=23,SNR=3.8
ARU **Arti** 6.99 97 *i* P Pn 17 07 20.0 +3.0
baz=112
ARU *i* S Sn 17 08 28.2 -8.2
50nm,0.6s
ARU **Arti** 6.99 97 Pn 17 07 17.7 +0.7
ARU **Arti** 6.99 97 *e*P Pn 17 07 17.7 +0.7
ARU *i* S Sn 17 08 29.9 -6.5
SVUR **Severouralsk** 7.55 67 *i* P Pn 17 07 33.8 +9.1
baz=72
SVUR *i* S Sn 17 08 42.6 -7.7
baz=72
SVE **Sverdlovsk** 7.98 92 *i* P Pn 17 07 35.4 +4.7
SVE *e*S Sn 17 09 05.2 +4.3
SVE **Sverdlovsk** 7.98 92 *i* P Pn 17 07 37.9 +7.2
baz=104
SVE *i* S Sn 17 08 55.3 -5.6
43nm,0.3s
KAUR **Kamensk Uralsk** 8.55 93 *i* P Pn 17 07 34.2 -4.2
KAUR *e*S Sn 17 09 19.4 +4.6
JOF **Joensuu** 8.82 311 *e*P Pn 17 07 46.3 +4.3
JOF *e*S Sn 17 09 19.2 -2.1
AKTO **Aktyubinsk** 10.27 132 Pn Pn 17 08 03.0 +1.0
0.4nm,0.3s,baz=316,slow=7.6,SNR=6.7
AKTO Sn Sn 17 09 49.1 -8.0
0.2nm,0.3s,baz=356,slow=6.4,SNR=1.6
AKTO Lg Lg 17 10 48.2
0.6nm,0.3s,baz=57,slow=22,SNR=4.1
FIA1 **FINESS Array S** 10.66 298 Pn Pn 17 08 11.1 +3.9
FINES **FINESS Array B** 10.66 298 Pn Pn 17 08 11.2 +4.0
1.2nm,0.3s,baz=103,slow=14,SNR=33
FINES Sn Sn 17 09 59.0 -7.5
0.3nm,0.3s,baz=96,slow=22,SNR=2.0
FINES Lg Lg 17 11 17.0
1.0nm,0.3s,baz=90,slow=29,SNR=4.9
FINES **FINESS Array B** 10.66 298 Pn 17 08 11.3 +4.1
LVZ **Lovozero** 11.24 338 Pn Pn 17 08 16.9 +1.7
MSF **Maaselka** 11.28 322 *e*P Pn 17 08 18.3 +2.6
MSF *e*S Sn 17 10 16.4 -5.3
ABKAR **Abkulak array** 11.97 130 Pn 17 08 24.8 -0.5
ABKAR **Abkulak array** 11.97 130 Pn 17 08 25.0 -0.3
AKASG **Malin Array Be** 12.16 241 Pn Pn 17 08 30.8 +3.0
0.6nm,0.3s,baz=40,slow=12,SNR=3.6
AKASG Sn Sn 17 10 38.9 -4.4
0.5nm,0.3s,baz=50,slow=23,SNR=1.8
AKASG Lg Lg 17 11 57.9
baz=45,slow=29,SNR=1.5
AKASG **Malin Array Be** 12.16 241 Pn Pn 17 08 32.6 +4.8
AKBB **Malin Array Si** 12.16 241 Pn Pn 17 08 32.7 +4.9
AMDE **Amderma** 13.67 23 *e*P Pn 17 08 47.3 -1.0
3.7nm,0.7s
AMDE *e*S Sn 17 11 08.9 -11
KVAR **Kislovodsk Arr** 14.14 190 Pn Pn 17 08 58.8 +3.8
baz=118,slow=17,SNR=1.4
KVAR Sn Sn 17 11 26.1 -5.8
baz=335,slow=12,SNR=4.2
KBZ **Khabaz** 14.35 189 Pn Pn 17 09 01.1 +3.4
0.9nm,0.3s,baz=23,slow=4.5,SNR=9.6
KBZ Sn Sn 17 11 31.9 -4.8
0.2nm,0.3s,baz=326,slow=22,SNR=1.1
KEV **Kevo** 14.43 333 Pn Pn 17 09 00.5 +1.8
BVAR **Borovoye Array** 14.63 99 Pn Pn 17 09 00.7 -0.9
0.2nm,0.3s,baz=344,slow=42,SNR=2.4
BVAR Sn Sn 17 11 30.5 -13
0.4nm,0.3s,baz=267,slow=27,SNR=2.1
ARCES **ARCESS Array B** 14.65 331 Pn Pn 17 09 02.8 +1.0
baz=134,slow=13,SNR=16
ARCES Sn Sn 17 11 32.8 -11
baz=135,slow=23,SNR=1.4
ARCES Lg Lg 17 13 06.2
baz=116,slow=34,SNR=1.4
HFS **Hagfors** 16.69 291 Pn Pn 17 09 28.6 +0.3
0.2nm,0.3s,baz=76,slow=12,SNR=11
HFS Sn Sn 17 12 30.2 -3.2
0.2nm,0.3s,baz=90,slow=25,SNR=2.6
HFS Lg Lg 17 14 24.3
0.2nm,0.3s,baz=89,slow=33,SNR=1.9
NC405 **NORSAR Array S** 17.56 295 Pn Pn 17 09 39.7 +0.4
NC405 IAmb IAmb 17 09 55.1
comp=Z,33nm,1.4s
NC602 **NORSAR Array S** 17.68 294 Pn Pn 17 09 41.8 +1.1
NC602 IAmb IAmb 17 10 05.1
comp=Z,31nm,1.6s
NB201 **NORSAR Array S** 17.77 295 Pn Pn 17 09 42.2 +0.3
NB201 IAmb IAmb 17 10 00.8
comp=Z,22nm,1.2s
NOA **NORSAR Array B** 17.81 295 Pn P 17 09 43.9 +0.8
comp=Z,0.1nm,0.3s,baz=82,slow=11,SNR=7.8
NOA Lg Lg 17 14 55.2
baz=74,slow=18,SNR=1.5
NAO01 **NORSAR Array S** 17.99 294 Pn Pn 17 09 44.2 -0.4
NAO01 IAmb IAmb 17 10 16.7
comp=Z,37nm,1.6s
NBO00 **NORSAR Array S** 18.02 295 Pn Pn 17 09 44.5 -0.5
KURBB **Kurchatov Arra** 20.19 97 P P 17 10 10.2 +1.0
comp=Z,0.1nm,0.3s,baz=303,slow=12,SNR=6.4
GERES **GERESS Array B** 21.12 259 P P 17 10 28.2 +8.8
comp=Z,0.3nm,0.5s,baz=64,slow=13,SNR=1.5
ZALV **Zalesovo Beam** 21.88 84 P P 17 10 28.5 +1.1
comp=Z,1.4nm,0.5s,baz=293,slow=11,SNR=8.1
SPITS **Spitsbergen Ar** 22.60 345 P P 17 10 38.2 +3.2
comp=Z,0.8nm,0.4s,baz=132,slow=12,SNR=6.4
MK31 **Makanchi Array** 24.49 101 P P 17 10 55.4 +1.6
MKAR **Makanchi Array** 24.49 101 P P 17 10 55.6 +1.8
comp=Z,0.6nm,0.3s,baz=308,slow=8.0,SNR=13
MKAR **Makanchi Array** 24.49 101 P P 17 10 54.8 +1.0

*JMA **03** 17:06:50.6±0.3, 45°.05N×141°.90E, h283km±3km, M3.3*
*IDC **03** 17:06:51.5±0.8, 45°.01N×141°.91E, h280km±10km, mb2.9/6, mb1 3.2/7, mb1mx2.9/52, mbtmp3.6/7, Error ellipse: s-maj=29.1km s-min=19.8km az=178.0*
*SKHL **03** 17:06:51.7±0.8, 45°.10N×141°.90E, h285km±4km, mb4.1/4, msha4.0/3*
ISC 03 17:06:51.1±0.8,**44°.98N**±0°.06×**141°.96E**±0°.07,**h280**km±6km, **n30**,σ1§**03**/42,**mb3.0**/6,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.34**	**353**	P	**Pn**		**17 07 26.9**	**0.0**
JSE	**Soyaes**	**0.44**	**93**	P	**Pn**		**17 07 27.4**	**+0.2**
JSE				*e*S	**S**		**17 07 55.7**	**0.0**
JRR	**Rishiri**	**0.48**	**289**	P	**Pn**		**17 07 27.5**	**+0.3**
JSS	**Shosan**	**0.59**	**187**	P	**Pn**		**17 07 28.1**	**+0.4**
JYG	**Yagishiri**	**0.67**	**215**	P	**Pn**		**17 07 28.1**	**+0.2**
JRBN	**Rebuntou**	**0.77**	**305**	P	**Pn**		**17 07 27.6**	**-0.5**
JRBN				*e*S	**S**		**17 07 55.9**	**-1.6**
ASAJ	**Asahikawa**	**0.98**	**152**	P	**Pn**		**17 07 29.6**	**+0.4**
ASAJ				S	**S**		**17 08 00.6**	**+1.1**
	24nm,0.3s,baz=350,slow=4.6,SNR=420							
ASAJ				S				
	baz=324,slow=32,SNR=0.8							
ASAJ	**Asahikawa**	**0.98**	**152**	P	**Pn**		**17 07 29.6**	**+0.4**
JKK2	**Kamakawa 2**	**1.25**	**153**	P	**Pn**		**17 07 31.3**	**+0.6**
JHR	**Hokuryu**	**1.25**	**188**	P	**Pn**		**17 07 31.4**	**+0.7**
JMP	**Maruseppu**	**1.40**	**134**	P	**Pn**		**17 07 32.2**	**+0.6**
JMP				*e*S	**S**		**17 08 04.5**	**+0.7**
JAB	**Ashibetsu**	**1.49**	**173**	P	**Pn**		**17 07 32.6**	**+0.4**
JTKR	**Abashiri--Toko**	**1.72**	**125**	P	**Pn**		**17 07 34.8**	**+1.0**
JTKR				*e*S	**S**		**17 08 09.2**	**+1.4**
JFR	**Furan**	**1.88**	**166**	P	**Pn**		**17 07 35.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**2.05**	**15**	*e*P	**Pn**		**17 07 36.3**	**0.0**
YSS				AMB	AMB		17 07 36.7	
	20nm,0.3s							
YSS				*e*S	**S**		**17 08 10.5**	**-1.8**
YSS				A	A		17 08 13.7	
	20nm,0.7s							
YSS				A	A		17 08 13.7	
	20nm,0.7s							
JAR	**Ashorobuto**	**2.13**	**142**	P	**Pn**		**17 07 38.1**	**+0.9**
JAR				*e*S	**S**		**17 08 14.2**	**+0.4**
JEW	**Eniwo**	**2.17**	**190**	P	**Pn**		**17 07 38.3**	**+0.7**
JEW				*e*S	**S**		**17 08 14.1**	**-0.4**
JCH	**Churui**	**2.58**	**156**	P	**Pn**		**17 07 40.2**	**-1.1**
JCH				*e*S	**S**		**17 08 17.9**	**-3.3**
JNBK	**Urakawa-nobuka**	**2.76**	**168**	P	**Pn**		**17 07 42.7**	**-0.4**
JNBK				*e*S	**S**		**17 08 24.1**	**-0.4**
JAK	**Akkeshi**	**2.80**	**134**	P	**Pn**		**17 07 43.5**	**+0.1**
JAK				*e*S	**S**		**17 08 23.0**	**-2.1**
AKK	**Akkeshi**	**2.86**	**132**	*e*P	**Pn**		**17 07 44.5**	**+0.5**
JKB	**Kayabe**	**3.17**	**193**	P	**Pn**		**17 07 46.4**	**-0.8**
NEM2	**Nemuro 2**	**3.17**	**119**	P	**Pn**		**17 07 46.3**	**-0.8**
NEM2				*e*S	**S**		**17 08 29.3**	**-2.5**
USRK	**Ussuriysk Ar.**	**7.16**	**267**	P	**Pn**		**17 08 33.6**	**-0.4**
	baz=78,slow=14,SNR=14							
MKAR	**Makanchi Array**	**40.70**	**295**	P	**P**		**17 14 04.8**	**+0.1**
	0.5nm,0.6s,baz=80,slow=8.9,SNR=4.3							
KURBB	**Kurchatov Arra**	**41.81**	**301**	P	**P**		**17 14 13.0**	**-0.6**
	0.2nm,0.4s,baz=72,slow=8.6,SNR=1.8							
ILAR	**Eielson Array**	**42.71**	**37**	P	**P**		**17 14 20.5**	**-0.1**
	0.3nm,0.6s,baz=276,slow=9.0,SNR=3.4							
FINES	**FINESS Array B**	**62.03**	**331**	P	**P**		**17 16 42.3**	**+0.7**
	2.7nm,0.9s,baz=48,slow=6.2,SNR=1.9							
ASAR	**Alice Springs**	**68.71**	**188**	P	**P**		**17 17 25.2**	**+0.5**
	0.3nm,0.9s,baz=12,slow=5.0,SNR=2.7							
PDAR	**Pinedale Array**	**71.88**	**47**	P	**P**		**17 44.5**	**+0.4**
	0.4nm,0.6s,baz=309,slow=4.4,SNR=5.0							

*IDC **03** 17:16:08.0±0.8, 40°.96S×43°.71E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/33, mbtmp3.9/9, ML3.2/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/37, Error ellipse: s-maj=33.0km s-min=18.4km az=45.0*
*NEIC **03** 17:16:10.9±1.0, 41°.1S±0°.1×43°.7E±0°.2, h14km±4km, mb4.5/8, Error ellipse: s-maj=20.6km s-min=16.2km az=125.0*
ISC 03 17:16:09.4±0.8,**41°.0S**±0°.1×**43°.7E**±0°.2,**h9**km,**n24**, σ0§**80**/12,**mb4.0/8**,**MS3.3**/7,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**19.18**	**9**	P	**P**		**17 20 33.7**	**+0.1**
VOI				IAmb	IAmb		17 21 13.2	
	comp=Z,68nm,2.0s							
BOSA	**Boshof**	**19.50**	**303**	P	**P**		**17 20 38.4**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=148,slow=13,SNR=3.8							
BOSA				LR	LR		17 27 28.1	
	comp=Z,73nm,18.1s,baz=168,slow=35							
SUR	**Sutherland**	**20.24**	**288**	LR	LR		17 26 55.4	
	comp=Z,108nm,18.2s,baz=141,slow=32							
LBTB	**Lobatse**	**21.94**	**311**	P	**P**		**17 21 03.7**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=134,slow=7.6,SNR=4.0							
LBTB				LR	LR		17 28 01.0	
	comp=Z,89nm,21.0s,baz=136,slow=32							
LBTB	**Lobatse**	**21.94**	**311**	IAmb	IAmb		17 21 08.9	
	comp=Z,29nm,1.7s							
MATP	**Matopo**	**24.24**	**323**	P	**P**		**17 21 25.6**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=165,slow=10,SNR=9.2							
MATP				LR	LR		17 29 17.7	
	comp=Z,100nm,20.8s,baz=152,slow=33							
MAW	**Mawson**	**28.66**	**165**	LR	LR		17 30 22.6	
	comp=Z,80nm,21.7s,baz=254,slow=30							
LSZ	**Lusaka**	**28.94**	**328**	LR	LR		17 32 15.4	
	comp=Z,150nm,20.3s,baz=176,slow=33							
SNAA	**Sanae**	**38.34**	**202**	P	**P**		**17 23 29.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=71,slow=7.7,SNR=7.9							
SNAA	**Sanae**	**38.34**	**202**	IAmb	IAmb		17 24 17.9	
	comp=Z,17nm,1.9s							
QSPA	**South Pole Qui**	**49.23**	**180**	P	**P**		**17 24 58.4**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=272,slow=6.3,SNR=2.7							
QSPA	**South Pole Qui**	**49.23**	**180**	IAmb	IAmb		17 25 07.5	
	comp=Z,8.8nm,1.4s							
H01W2	**Cape Leeuwin H**	**54.50**	**108**	T	T		18 24 36.0	
	baz=242,slow=75,SNR=30							
H01W3	**Cape Leeuwin H**	**54.51**	**108**	T	T		18 24 36.7	
	baz=242,slow=75,SNR=29							
H01W1	**Cape Leeuwin H**	**54.51**	**108**	T	T		18 24 37.3	
	baz=242,slow=75,SNR=38							
VNDA	**Vanda**	**55.95**	**167**	LR	LR		17 49 33.3	
	comp=Z,38nm,18.4s,baz=310,slow=36							
TORD	**Torodi Ar. Bea**	**66.41**	**315**	P	**P**		**17 26 58.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=150,slow=4.2,SNR=3.8							
ASAR	**Alice Springs**	**75.01**	**108**	P	**P**		**17 27 51.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=227,slow=5.3,SNR=8.0							
STKA	**Stephens Creek**	**75.22**	**119**	P	**P**		**17 27 53.5**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=207,slow=4.5,SNR=3.7							
WRA	**Warramunga Arr**	**77.65**	**106**	P	**P**		**17 28 06.6**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=229,slow=4.5,SNR=6.1							
WRA	**Warramunga Arr**	**77.65**	**106**	IAmb	IAmb		17 28 08.4	
	comp=Z,0.7nm,1.4s							
WB0	**Warramunga Arr**	**77.80**	**106**	P	**P**		**17 28 06.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**78.20**	**53**	LR	LR		17 56 07.6	
	comp=Z,18nm,21.4s,baz=135,slow=31							
TXAR	**Lajitas Array**	**151.09**	**257**	PKPbc	**PKPbc**		**17 36 02.5**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=114,slow=4.4,SNR=5.3							

NNC 03 17:20:59.4±3.8,**37°.80N**×**77°.72E**,**h0**km,**mb4.0**,**mpv3.5**, **4C**,**Error ellipse: s-maj=36.8km s-min=25.6km az=80.0**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.28**	**5**	Pg	Pb		17 22 36.0	+3.4
	8.3nm,0.7s							
SATY				Lg	Lg		17 23 48.3	
	16nm,0.6s							
TKM2	**Tokmak 2**	**5.36**	**343**	⇑Pg	Pb		17 22 37.7	+3.6
	1.6nm,0.4s							
TKM2				⇑Lg	Lg		17 23 47.8	
	5.2nm,0.7s							
MDOK	**Medeo**	**5.38**	**355**	Pg	Pb		17 22 35.4	+1.0
	3.6nm,0.5s							
MDOK				Lg	Lg		17 23 49.6	
	11nm,0.5s							
MDOK	**Medeo**	**5.38**	**355**	Pg	Pb		17 22 37.3	+3.0
	5.3nm,0.4s							
MDOK				Lg	Lg		17 23 50.3	
	17nm,0.5s							
KST	**Kastek**	**5.40**	**346**	Pg	Pg		17 22 39.6	-3.3
	2.6nm,0.5s							
KST				Lg	Lg		17 23 54.3	
	19nm,1.4s							
AAK	**Ala-Archa**	**5.42**	**334**	⇑Pg	Pb		17 22 38.5	+3.4
	3.0nm,0.5s							
AAK				⇑Lg	Lg		17 23 50.4	
	5.7nm,0.5s							

IDC 03 17:21:47.8±16.0,**14°.37N**×**52°.10E**,**h0**km,**mb3.6**/4, **mb1 3.8**/4,**mb1mx3.4**/47,**mbtmp3.6**/4,**MS3.3**/2,**Ms1 3.3**/2, **ms1mx2.8**/40,**Error ellipse: s-maj=574.5km s-min=41.3km az=87.0**,**Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**24.07**	**12**	LR	LR		17 38 10.4	
	comp=Z,43nm,18.9s,baz=30,slow=41							
MKAR	**Makanchi Array**	**41.00**	**32**	P	P		17 29 32.8	+0.1
	0.4nm,0.6s,baz=224,slow=8.1,SNR=2.3							
ZALV	**Zalesovo Beam**	**47.09**	**26**	P	P		17 30 21.1	-0.3
	0.3nm,0.4s,baz=214,slow=6.8,SNR=1.6							
ARCES	**ARCESS Array B**	**57.61**	**349**	LR	LR		17 59 53.9	
	comp=Z,46nm,21.4s,baz=10.0,slow=40							
WRA	**Warramunga Arr**	**87.74**	**111**	P	P		17 34 38.8	-0.5
	0.4nm,0.3s,baz=299,slow=4.0,SNR=12							
ASAR	**Alice Springs**	**88.39**	**115**	P	P		17 34 42.9	+0.6
	0.2nm,0.5s,baz=300,slow=4.5,SNR=5.6							

IDC 03 17:24:08.1±3.4,**30°.55N**×**141°.15E**,**h0**km,**mb3.3**/2, **mb1 3.5**/4,**mb1mx3.3**/42,**mbtmp3.4**/4,**ML3.0**/2,**Error ellipse: s-maj=167.7km s-min=30.5km az=75.0**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.56**	**165**	Pn	Pn		17 25 03.9	-0.7
	2.5nm,0.3s,baz=310,slow=18,SNR=1.3							
JCJ				Sn	Sn		17 25 43.6	-3.9
	2.8nm,0.3s,baz=277,slow=22,SNR=1.1							
MJAR	**Matsushiro Arr**	**6.46**	**338**	Pn	Pn		17 25 44.0	-0.5
	0.2nm,0.3s,baz=159,slow=11,SNR=9.1							
WRA	**Warramunga Arr**	**50.63**	**188**	P	P		17 33 08.9	-0.2
	0.4nm,0.6s,baz=6.1,slow=7.5,SNR=7.7							
ASAR	**Alice Springs**	**54.36**	**188**	P	P		17 33 36.9	+0.2
	0.1nm,0.3s,baz=358,slow=5.0,SNR=5.8							

IDC 03 17:32:02.6±1.4,**1°.77N**×**124°.15E**,**h0**km,**mb3.7**/4, **mb1 3.9**/4,**mb1mx3.4**/42,**mbtmp3.7**/4,**Error ellipse: s-maj=179.6km s-min=20.3km az=64.0**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**156**	P	P		17 37 16.9	-0.1
	2.1nm,0.3s,baz=333,slow=10,SNR=65							
ASAR	**Alice Springs**	**27.00**	**160**	P	P		17 37 46.7	+0.2
	0.3nm,0.7s,baz=344,slow=7.7,SNR=14							
MKAR	**Makanchi Array**	**57.74**	**327**	P	P		17 41 55.9	+0.4
	0.7nm,0.6s,baz=122,slow=8.3,SNR=6.7							
KURBB	**Kurchatov Arra**	**62.04**	**329**	P	P		17 42 24.3	-0.5
	0.3nm,0.5s,baz=132,slow=6.8,SNR=7.6							

*MEX **03** 17:32:17.0±0.3, 31°.35N×115°.29W, h5km, MD3.4*
ECX 03 17:32:17.7±0.5,**31°.34N**×**115°.42W**,**h10**km±135km,**MD1.5**, **ML1.2**,**1C-3D**,**Baja California**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.30**	**187**	*i* P	Pg		17 32 23.3	-0.5
SPIG				*i* S	Sg		17 32 28.1	+0.3
SPIG	**San Pedro Mart**	**0.30**	**187**	⇓*i*P	Pg		17 32 23.3	-0.5
SPIG				*e*S	Sg		17 32 28.1	+0.3
SPX	**San Pedro Mart**	**0.30**	**187**	*i* P	Pg		17 32 23.2	-0.7
SPX				*i* S	Sg		17 32 28.2	+0.1
SPX	**San Pedro Mart**	**0.30**	**187**	⇓*i*P	Pg		17 32 23.3	-0.6
SPX				*e*S	Sg		17 32 28.1	+0.1
SPX				⇓*e*			17 32 28.9	
SPX				IAML			17 32 28.9	
	comp=N,29nm,0.1s							
SFX	**San Felipe**	**0.57**	**121**	*e*S	Sg		17 32 35.8	-0.6
SFX				⇑*e*			17 32 38.1	
SFX				IAML			17 32 38.1	
	comp=N,19nm,0.6s							
YUH2	**Yuha Desert**	**1.37**	**342**	*e*P	Pn		17 32 41.6	-1.3
YUH2				*e*S	Sb		17 32 59.5	-1.5
CBX	**Cerro Bola**	**1.44**	**313**	*e*P	Pg		17 32 45.5	+0.2
CBX				*i* S	Sn		17 32 59.9	-3.0

*JMA **03** 17:37:27.5±0.6, 45°.55N×151°.11E, h30km, M4.1*
SKHL 03 17:37:29.3±0.7,**44°.90N**×**151°.20E**,**h44**km±2km,**mb4.0**/1, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.38**	**279**	*i* P	Pn		17 38 05.5	-0.3
KUR				AMB	AMB		17 38 05.9	
	10.0nm,0.3s							
KUR				AMB	AMB		17 38 05.9	
	10.0nm,0.3s							
KUR				AMB	AMB		17 38 05.9	
	20nm,0.3s							
KUR				*e*S	Sn		17 38 32.0	-1.8
KUR				A	A		17 38 34.7	
	210nm,0.4s							
KUR				A	A		17 38 34.7	
	30nm,0.4s							
NEM2	**Nemuro 2**	**4.22**	**251**	P	Pn		17 38 31.6	+0.6
NEM2				*e*S	Sn		17 39 19.5	+0.6
NMR	**Nemuro--Hokkai**	**4.23**	**251**	*e*P	Pn		17 38 31.5	+0.4
NMR				*e*S	Sn		17 39 18.6	-0.6
JRA	**Rausu**	**4.46**	**260**	P	Pn		17 38 36.5	+2.2
JRA				*e*S	Sn		17 39 28.1	+3.2
JNK	**Nakash**	**4.84**	**257**	P	Pn		17 38 41.4	+1.9
JAK	**Akkeshi**	**5.07**	**250**	P	Pn		17 38 43.0	+0.4
JTKR	**Abashiri--Toko**	**5.30**	**262**	P	Pn		17 38 47.9	+2.0
JAR	**Ashorobuto**	**5.59**	**256**	P	Pn		17 38 51.9	+2.1
JAR				*e*S	Sn		17 39 55.5	+2.8
JMP	**Maruseppu**	**5.68**	**264**	P	Pn		17 38 53.5	+2.3
JOB	**Onbets**	**5.68**	**252**	P	Pn		17 38 52.3	+1.2
JCH	**Churui**	**6.12**	**251**	P	Pn		17 38 58.1	+1.0
JCH				*e*S	Sn		17 40 05.4	-0.3
JNBK	**Urakawa-nobuka**	**6.67**	**250**	P	Pn		17 39 05.4	+0.8
JKB	**Kayabe**	**7.99**	**251**	P	Pn		17 39 23.4	+0.6
JKB				*e*S	Sn		17 40 48.5	-3.3

*IDC **03** 17:46:34.3±1.1, 10°.17S×151°.99E, h0km, mb4.0/10, mb1 4.2/13, mb1mx4.0/33, mbtmp4.0/13, ML3.6/1, MS3.7/17, Ms1 3.7/17, ms1mx3.6/29, Error ellipse: s-maj=32.6km s-min=18.5km az=112.0*
*NEIC **03** 17:46:40.9±1.9, 10°.32S±0°.09×151°.90E±0°.08, h35km±6km, mb4.3/12, Error ellipse: s-maj=13.5km s-min=11.6km az=165.0*
ISC 03 17:46:40.0±0.6,**10°.33S**±0°.08×**151°.91E**±0°.08,**h35**km,**n43**, σ1§**22**/33,**mb3.9**/10,**MS3.7**/15,**D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.76**	**281**	Pn	**Pn**		**17 47 48.7**	**-0.6**
	2.0nm,0.3s,baz=95,slow=11,SNR=7.2							
PMG				Lg	Lg		17 49 03.6	
	3.1nm,0.3s,baz=223,slow=16,SNR=1.4							
PMG				LR	LR		17 49 57.4	
	comp=Z,2μm,20.4s,baz=106,slow=42							
PMG	**Port Moresby**	**4.76**	**281**	P	**Pn**		**17 47 49.2**	**-0.1**
PMG	**Port Moresby**	**4.76**	**281**	P	**Pn**		**17 47 49.0**	**-0.3**
HNR	**Honiara**	**7.97**	**84**	LR	LR		17 51 03.7	
	comp=Z,629nm,21.8s,baz=304,slow=34							
HNR	**Honiara**	**7.97**	**84**	Pn	**Pn**		**17 48 33.7**	**+0.3**
CTA	**Charters Tower**	**11.13**	**209**	Pn	**Pn**		**17 49 16.8**	**+0.1**
	1.6nm,0.3s,baz=31,slow=14,SNR=14							
CTA				Sn	**Sn**		**17 51 18.2**	**-1.8**
	0.3nm,0.3s,baz=89,slow=10,SNR=1.3							
CTAO	**Charters Tower**	**11.13**	**209**	Pn	**Pn**		**17 49 17.1**	**+0.3**
EIDS	**Eidsvold**	**14.98**	**183**	Pn	**Pn**		**17 50 09.0**	**-0.2**
WR0	**Warramunga Arr**	**19.29**	**238**	P	**P**		**17 51 02.8**	**+0.8**
WR0				IAmb	IAmb		17 51 18.0	
	comp=Z,39nm,1.6s							
WB0	**Warramunga Arr**	**19

comp=Z,665nm,18.3s,baz=121,slow=39
KAPI Kappang 32.28 277 LR LR 18 07 57.6
comp=Z,63nm,18.9s,baz=110,slow=40
TUWZ Tuamarina 36.55 152 P **P** **17 53 41.5 -0.9**
JCJ Chichijima 38.38 346 LR LR 18 07 39.7
comp=Z,187nm,21.8s,baz=160,slow=33
JOW Kunigami 43.48 329 LR LR 18 10 32.1
comp=Z,156nm,19.2s,baz=141,slow=33
LEM Lembang 43.90 271 LR LR 18 16 13.3
comp=Z,92nm,19.1s,baz=104,slow=40
YHNB Yeheng 45.80 320 P **P** **17 54 59.5 +0.8**
MJAR Matsushiro Arr 48.37 345 LR LR 18 14 04.9
comp=Z,40nm,19.6s,baz=180,slow=34
KSRS Korea Array 52.58 336 LR LR 18 16 29.4
comp=Z,39nm,19.1s,baz=166,slow=34
USRK Ussuriysk Ar. 57.20 343 LR LR 18 18 48.3
comp=Z,52nm,19.8s,baz=179,slow=34
CMAR Chiang Mai Arr 59.56 299 P **P** **17 56 41.0 +0.4**
comp=Z,0.3nm,0.5s,baz=129,slow=5.5,SNR=1.2
CMAR LR LR 18 25 39.0
comp=Z,19nm,18.1s,baz=176,slow=39
PEA0B Petropavlovsk- 63.38 4 P **P** **17 57 09.2 +3.6**
PETK Petropavlovsk- 63.38 4 P **P** **17 57 05.8 +0.1**
comp=Z,1.5nm,0.8s,baz=177,slow=5.8,SNR=4.2
PETK LR LR 18 18 60.0
comp=Z,60nm,21.8s,baz=150,slow=31
VNDA Vanda 67.38 178 P **P** **17 57 33.6 +2.4**
comp=Z,0.7nm,0.8s,baz=325,slow=8.7,SNR=3.1
VNDA Vanda 67.38 178 IAmb IAmb 17 59 51.9
comp=Z,5.2nm,0.7s
SONM Songino Array 70.55 329 P **P** **17 57 50.1 -1.4**
comp=Z,0.6nm,0.5s,baz=148,slow=6.8,SNR=2.0
MAW Mawson 80.16 203 LR LR 18 31 45.1
comp=Z,115nm,20.8s,baz=62,slow=34
MKAR Makanchi Array 83.91 320 P **P** **17 59 06.0 -0.4**
comp=Z,1.6nm,0.9s,baz=113,slow=3.7,SNR=1.7
ZALV Zalesovo Beam 85.25 327 P **P** **17 59 12.7 -0.2**
comp=Z,0.2nm,0.3s,baz=149,slow=3.0,SNR=1.5
ZALV LR LR 18 37 27.8
comp=Z,31nm,20.8s,baz=94,slow=36
ILAR Eielson Array 87.58 22 P **P** **17 59 21.2 -2.9**
comp=Z,0.9nm,0.9s,baz=270,slow=3.6,SNR=5.9
ILAR LR LR 18 33 27.1
comp=Z,47nm,21.1s,baz=256,slow=32
TORD Torodi Ar. Bea 150.71 278 PKPbc **PKPbc** **18 06 28.6 -1.0**
comp=Z,2.2nm,0.7s,baz=66,slow=2.3,SNR=9.8
TORD Torodi Ar. Bea 150.71 278 **PKPbc** **18 06 28.1 -1.4**

NNC 03 17:58:13.1±5.3, 37°.56N×77°.88E, h0km, mb4.1, mpv3.7, 2C, Error ellipse: s-maj=51.1km s-min=35.4km az=82.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 4.0nm,0.4s	**5.51**	**4**	Pg	Pb	17 59 53.6	+3.3
SATY	15nm,0.6s			Lg	Lg	18 01 08.2	
MDOK	**Medeo** 6.1nm,0.6s	**5.64**	**354**	Pg	Pg	17 59 57.9	-3.3
MDOK	14nm,0.6s			Lg	Lg	18 01 10.9	
MDOK	**Medeo** 3.6nm,0.5s	**5.64**	**354**	Pg	Pb	17 59 56.2	+3.7
MDOK				Lg	Lg	18 01 12.6	
KST	**Kastek** 3.7nm,0.4s	**5.67**	**346**	Pg	Pb	17 59 55.4	+2.3
KST	7.9nm,0.8s			Lg	Lg	18 01 10.7	
AAK	**Ala-Archa** 4.0nm,0.6s	**5.70**	**334**	⇑Pg	Pb	17 59 56.1	+2.5
AAK	16nm,0.7s			⇑Lg	Lg	18 01 18.7	

*IDC **03** 17:59:32.4±1.8, 11°.23S×119°.42E, h0km, mb3.8/2, mb1 3.9/6, mb1mx3.6/35, mbtmp3.9/6, ML3.8/4, Error ellipse: s-maj=51.9km s-min=23.9km az=51.0*
*NEIC **03** 17:59:35.1±3.0, 11°.12S±0°.04×119°.44E±0°.07, h21km±7km, mb4.1/7, Error ellipse: s-maj=11.5km s-min=3.5km az=118.0*
ISC 03 17:59:36.0±0.6, 11°.21S±0°.05×119°.59E±0°.06, h35km, n30, σ2s72/33, mb3.8/3, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.66**	**46**	Pn	**Pn**	**18 00 29.2**	**-0.9**
MMRI				Sn	**Sn**	**18 01 08.7**	**-3.3**
BATI	**Baumata** 11nm,0.3s,baz=252,slow=3.3,SNR=17	**4.13**	**76**	Pn	**Pn**	**18 00 38.8**	**+2.1**
BATI	5.1nm,0.3s,baz=140,slow=22,SNR=1.3			Sn	**Sn**	**18 01 24.4**	**+0.7**
SOEI	**Soe**	**4.83**	**73**	Pn	**Pn**	**18 00 47.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**6.01**	**296**	Pn	**Pn**	**18 00 58.5**	**-3.9**
KAPI	**Kappang** 2.1nm,0.3s,baz=225,slow=16,SNR=1.8	**6.16**	**2**	Pn	**Pn**	**18 01 06.6**	**+2.1**
KAPI	0.9nm,0.3s,baz=226,slow=22,SNR=1.3			Sn	**Sn**	**18 02 12.6**	**-1.1**
KAPI	**Kappang**	**6.16**	**2**	Pn	**Pn**	**18 01 04.9**	**+0.4**
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=325,slow=12,SNR=36	**9.01**	**140**	Pn	**Pn**	**18 01 45.6**	**+1.9**
FITZ	0.8nm,0.3s,baz=174,slow=19,SNR=3.2			Sn	**Sn**	**18 03 21.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**9.01**	**140**	Sn	**Sn**	**18 03 22.4**	**-1.6**
UGM	**Wanagama**	**9.52**	**289**	Sn	**Sn**	**18 03 32.8**	**-3.7**
KNRA	**Kununurra**	**9.97**	**117**	Pn	**Pn**	**18 01 58.2**	**+1.3**
PSA00	**Pilbara Seismi**	**10.31**	**179**	Pn	**Pn**	**18 02 00.6**	**-0.9**
PSA00	**Pilbara Seismi**	**10.31**	**179**	Pn	**Pn**	**18 02 02.7**	**+1.2**
LUWI	**Luwuk**	**10.58**	**18**	Pn	**Pn**	**18 02 04.2**	**-1.1**
MTN	**Manton Dam**	**11.41**	**99**	Pn	**Pn**	**18 02 16.8**	**+0.2**
GIRL	**Giralia**	**12.47**	**204**	Pn	**Pn**	**18 02 33.9**	**+2.9**
FAKI	**Fak Fak**	**15.02**	**58**	Pn	**Pn**	**18 03 07.7**	**+1.9**
WB0	**Warramunga Arr**	**16.60**	**123**	Pn	**Pn**	**18 03 26.3**	**+0.1**
WB0	comp=Z,29nm,1.8s			IAmb	IAmb	18 04 22.7	
WRA	**Warramunga Arr**	**16.64**	**123**	Pn	**Pn**	**18 03 25.6**	**-1.1**
WRA	comp=Z,0.3nm,0.3s,baz=296,slow=14,SNR=9.4			Sn	**Sn**	**18 06 21.9**	**-8.7**
WB2	**Warramunga Arr**	**16.65**	**123**	Pn	**Pn**	**18 03 26.0**	**-0.9**
WB2	comp=Z,8.6nm,1.3s			IAmb	IAmb	18 04 03.7	
WR0	**Warramunga Arr**	**16.82**	**123**	Pn	**Pn**	**18 03 29.3**	**+0.4**
WR0	comp=Z,26nm,1.9s			IAmb	IAmb	18 03 32.9	
MORW	**Morawa**	**18.08**	**190**		**P**	**18 03 47.0**	**+2.4**
MORW	comp=Z,35nm,2.0s			IAmb	IAmb	18 03 50.8	
AS31	**Alice Springs**	**18.42**	**134**	P	**Pn**	**18 03 52.1**	**+3.4**
ASAR	**Alice Springs**	**18.42**	**134**	P	**Pn**	**18 03 50.7**	**+2.0**
ASAR	comp=Z,0.3nm,0.3s,baz=314,slow=11,SNR=29			S	**Sn**	**18 07 07.7**	**-5.9**
H08S2	**Diego Garcia H** baz=97	**46.55**	**270**	T	T	18 58 46.7	
H08S3	**Diego Garcia H** baz=97	**46.57**	**270**	T	T	18 58 47.4	
H08S1	**Diego Carcia H** baz=97	**46.57**	**270**	T	T	18 58 37.1	
ULN	**Ulaanbaatar**	**59.86**	**350**	P	**P**	**18 09 39.8**	**+1.6**
ULN	comp=Z,8.5nm,1.9s			IAmb	IAmb	18 11 18.6	
MKAR	**Makanchi Array**	**66.67**	**333**	P	**P**	**18 10 25.2**	**+1.9**
ZALV	comp=Z,0.4nm,0.6s,baz=151,slow=6.6,SNR=2.4 **Zalesovo Beam**	**71.39**	**339**	P	**P**	**18 10 52.4**	**+0.6**
ABKAR	comp=Z,0.4nm,0.4s,baz=139,slow=7.1,SNR=3.7 **Akbulak array**	**79.69**	**325**	P	**P**	**18 11 39.4**	**-0.6**

*NEIC **03** 18:07:01.7±2.6, 19°.61N±0°.06×64°.33W±0°.07, h38km±54km, Error ellipse: s-maj=10.4km s-min=8.0km az=125.0*
*RSPR **03** 18:07:02.6, 19°.39N×64°.21W, h85km±10km, MD3.3/4*
ISC 03 18:07:01.7±2.9, 19°.5N±0°.1×64°.30W±0°.10, h27km, n33, σ0s67/33, 4C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.79**	**182**	Pn	**Pn**	**18 07 17.0**	**-0.1**
VGBI	**Virgin Gorda,**	**1.03**	**185**	⇑*eP*	**Pb**	**18 07 20.6**	**-0.4**
VGBI	**Virgin Gorda,**	**1.03**	**185**	*eS*	**Sb**	**18 07 34.5**	**+0.3**
VGBI	**Virgin Gorda,**	**1.03**	**185**		**Pb**	**18 07 20.6**	**-0.4**
VGBI					**Sb**	**18 07 34.5**	**+0.3**
TBVI	**Tortola**	**1.14**	**195**	⇑*eP*	**Pn**	**18 07 22.1**	**+0.1**
TBVI	**Tortola**	**1.14**	**195**	*eS*	**Sn**	**18 07 37.1**	**+0.4**
TBVI					**Sn**	**18 07 37.1**	**+0.4**
STVI	**Saint Thomas**	**1.32**	**208**	⇓*eP*	**Pn**	**18 07 24.1**	**-0.3**
STVI	**Saint Thomas**	**1.32**	**208**	*eS*	**Sn**	**18 07 41.2**	**+0.1**
STVI	**Saint Thomas**	**1.32**	**208**		**Pn**	**18 07 24.1**	**-0.3**
STVI					**Sn**	**18 07 41.2**	**+0.1**
STVI	**Saint Thomas** comp=E,114nm,0.2s	**1.32**	**208**	IAML		18 07 42.4	
STVI	comp=N,121nm,0.3s			IAML		18 07 44.5	
CUPR	**Culebra, Puert**	**1.52**	**218**	⇓*eP*	**Pn**	**18 07 27.1**	**-0.1**
CUPR	**Culebra, Puert**	**1.52**	**218**	*eS*	**Sn**	**18 07 46.8**	**+0.6**
CUPR	**Culebra, Puert**	**1.52**	**218**		**Pn**	**18 07 27.1**	**-0.1**
CUPR	**Culebra, Puert**	**1.52**	**218**		**Sn**	**18 07 46.8**	**+0.6**
CUPR	**Culebra, Puert** comp=N,51nm,0.4s	**1.52**	**218**	IAML		18 07 46.7	
CDVI	**St. Croix**	**1.82**	**194**	Pn	**Pb**	**18 07 33.4**	**-1.0**
MTP	**Monte Pirata**	**1.85**	**220**	⇑*eP*	**Pn**	**18 07 31.9**	**+0.2**
MTP	**Monte Pirata**	**1.85**	**220**	*eS*	**Sn**	**18 07 54.4**	**+0.2**
MTP	**Monte Pirata**	**1.85**	**220**		**Pn**	**18 07 31.9**	**+0.2**
MTP					**Sn**	**18 07 54.4**	**+0.2**
MTP	**Monte Pirata** comp=E,67nm,0.2s	**1.85**	**220**	IAML		18 08 00.9	
CBYP	**Canovanas**	**1.93**	**230**	⇑*eP*	**Pn**	**18 07 33.3**	**+0.5**
CBYP	**Canovanas**	**1.93**	**230**		**Pn**	**18 07 33.3**	**+0.5**
CBYP	**Canovanas** comp=E,196nm,0.2s	**1.93**	**230**	IAML		18 07 56.5	
CBYP	comp=N,156nm,0.2s			IAML		18 08 03.8	
HUMP	**Col San Antoni**	**2.01**	**227**	Pn	**Pn**	**18 07 33.5**	**-0.4**
HUMP	comp=E,45nm,0.2s			IAML		18 08 00.8	
GCPR	**Guaynabo City**	**2.07**	**235**	Pn	**Pn**	**18 07 35.0**	**+0.2**
GCPR	comp=N,55nm,4.5s			IAML		18 07 55.9	
PDPR	**Patillas Dam,**	**2.21**	**228**	Pn	**Pn**	**18 07 36.4**	**-0.3**
PDPR	comp=E,56nm,1.6s			IAML		18 07 58.3	
SJG	**San Juan**	**2.24**	**232**	Pn	**Pn**	**18 07 38.9**	**+1.8**
SJG	comp=E,62nm,0.3s			IAML		18 08 05.0	
AOPR	**Arecibo Observ**	**2.60**	**244**	Pn	**Pn**	**18 07 43.5**	**+1.4**
AOPR	comp=N,54nm,0.4s			IAML		18 08 28.2	
OBIP	**Obispado Ponce**	**2.63**	**236**	Pn	**Pn**	**18 07 40.8**	**-1.7**
OBIP	comp=N,28nm,1.2s			IAML		18 08 29.7	
ANWB	**Willy Bob**	**3.02**	**127**	Pn	**Pn**	**18 07 48.9**	**+1.1**
MLPR	**Magueyes Islan**	**3.02**	**240**	Pn	**Pn**	**18 07 47.5**	**-0.4**
MLPR	comp=E,32nm,3.0s			IAML		18 08 23.8	
MLPR	comp=N,38nm,3.5s			IAML		18 08 48.4	
SDDR	**Presa de Saban**	**6.62**	**266**	Pn	**Pn**	**18 08 37.5**	**+0.1**

*ECX **03** 18:28:32.3±0.4, 30°.74N×115°.44W, h13km±673km, MD1.8, ML2.0*
*MEX **03** 18:28:33.5±0.9, 31°.30N×115°.39W, h9km±36km, MD3.7*
ISC 03 18:28:31.2±1.5, 31°.35N±0°.05×115°.44W±0°.06, h19km±3km, n8, σ0s30/14, 1C-5D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.31**	**184**	*eP*	**Pb**	**18 28 38.3**	**+0.2**
SPIG				*eS*	**Sb**	**18 28 42.2**	**-0.7**
SPIG	**San Pedro Mart**	**0.31**	**184**	⇓*eP*	**Pb**	**18 28 38.3**	**+0.2**
SPIG				*eS*	**Sb**	**18 28 43.2**	**+0.3**
SPX	**San Pedro Mart**	**0.32**	**184**	*eP*	**Pg**	**18 28 38.1**	**-0.2**
SPX				*eS*	**Sb**	**18 28 42.9**	**-0.3**
SPX	**San Pedro Mart**	**0.32**	**184**	⇓*eP*	**Pg**	**18 28 38.3**	**0.0**
SPX				*eS*	**Sb**	**18 28 43.1**	**0.0**
SPX	comp=N,217nm,0.1s			IAML		18 28 43.9	
SFX	**San Felipe**	**0.60**	**122**	⇓*eP*	**Pb**	**18 28 43.0**	**0.0**
SFX				*eS*	**Sb**	**18 28 50.9**	**0.0**
SFX	comp=N,61nm,0.5s			IAML		18 28 53.0	
SFX				⇓*e*		18 28 53.0	
CBX	**Cerro Bola**	**1.41**	**313**	*eP*	**Pb**	**18 28 57.1**	**+0.1**
CBX				*i* S	**Sn**	**18 29 14.4**	**+0.3**
CBX	**Cerro Bola**	**1.41**	**313**	⇑*e*	Pg	18 29 15.8	+17
CBX	comp=E,21nm,0.2s			IAML		18 29 15.8	
CBX				⇓*e*		18 29 16.3	
CBX	comp=N,24nm,0.2s			IAML		18 29 16.3	
TJIG	**Tijuana**	**1.50**	**316**	*eP*	**Pb**	**18 28 58.2**	**-0.2**
TJIG				*i* S	**Sb**	**18 29 17.1**	**0.0**

*IDC **03** 18:30:53.1±6.6, 6°.80S×148°.07E, h87km±45km, mb3.5/3, mb1 3.5/5, mb1mx3.2/32, mbtmp3.7/5, Error ellipse: s-maj=59.4km s-min=50.3km az=82.0*
ISC 03 18:30:49.0±2.6, 6°.5S±0°.2×147°.9E±0°.4, h50km, n6, σ0s57/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 8.7nm,0.3s,baz=24,slow=8.8,SNR=30	**2.98**	**194**	P	**Pn**	**18 31 34.4**	**+0.6**
PMG	4.8nm,0.3s,baz=276,slow=19,SNR=2.0			S	**Sn**	**18 32 08.2**	**-0.2**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=52,slow=11,SNR=11	**18.77**	**223**	P	**P**	**18 35 03.9**	**-0.3**
ASAR	**Alice Springs** 1.1nm,0.5s,baz=54,slow=9.0,SNR=43	**21.74**	**217**	P	**P**	**18 35 36.7**	**+0.3**
FITZ	**Fitzroy Crossi** 2.4nm,0.5s,baz=50,slow=7.6,SNR=11	**24.58**	**240**	P	**P**	**18 36 04.5**	**0.0**
STKA	**Stephens Creek** 0.6nm,0.3s,baz=9.0,slow=8.9,SNR=3.4	**25.93**	**192**	P	**P**	**18 36 15.8**	**-0.8**
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=75,slow=1.6,SNR=2.6	**146.08**	**284**	PKPbc	**PKPdf**	**18 50 23.8**	**+0.2**

NNC 03 18:39:18.6±3.4, 37°.44N×77°.25E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=34.7km s-min=22.9km az=84.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 3.5nm,0.8s	**5.60**	**339**	⇓Pg	Pb	18 41 00.1	+2.8
AAK	9.3nm,0.9s			⇑Lg	Lg	18 42 18.8	
TKM2	**Tokmak 2** 2.2nm,1.0s	**5.62**	**347**	⇑Pg	Pb	18 41 01.7	+4.1
TKM2	4.1nm,0.6s			⇓Lg	Lg	18 42 16.2	
SATY	**Saty** 4.8nm,0.5s	**5.68**	**9**	Pg	Pb	18 41 02.3	+3.7
SATY	16nm,0.7s			Lg	Lg	18 42 20.0	
KST	**Kastek** 1.5nm,0.3s	**5.68**	**350**	Pg	Pb	18 41 01.6	+2.9
KST	4.9nm,0.7s			Lg	Lg	18 42 19.0	
MDOK	**Medeo** 3.1nm,0.8s	**5.71**	**359**	Pg	Pb	18 41 02.5	+3.2
MDOK	8.6nm,0.6s			Lg	Lg	18 42 16.0	
MDOK	**Medeo** 2.4nm,0.5s	**5.71**	**359**	Pg	Pb	18 41 03.7	+4.4
MDOK	9.3nm,0.7s			Lg	Lg	18 42 22.6	

DJA 03 19:03:46.2±0.3, 9°S±4°×11°8E±°, h103km±6km, MA1.1/13, mb4.1/7, mB5.1/1, MLv4.0/13, Mw(mB)4.4/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.62**	**251**	P	Pn	19 04 04.4	+1.2
PLAI				S	Sn	19 04 17.7	+1.7
WBSI	**Waikabubak, Su**	**1.42**	**135**	P	Pn	19 04 12.5	+0.7
WBSI				S	Sn	19 04 32.1	+1.0
TWSI	**Taliwang, Sumb**	**1.48**	**266**	P	Pn	19 04 13.1	+0.8
TWSI				S	Sn	19 04 33.4	+1.3
SRBI	**Singaraja**	**3.17**	**280**	P	Pn	19 04 34.4	+0.1
EDFI	**Ende, Flores**	**3.29**	**92**	P	Pn	19 04 35.9	0.0
EDFI				S	Sn	19 05 14.8	+0.5
BKSI	**Bulukumba**	**3.72**	**28**	P	Pn	19 04 41.8	+0.1
BNSI	**Bone**	**4.54**	**22**	P	Pn	19 04 52.8	0.0
BATI	**Baumata** 0.1nm23nm,0.6s	**5.45**	**107**	P	Pn	19 05 04.0	-1.1
TTSI	**Tana Toraja** 0.1nm2μm11nm,0.7s	**5.73**	**15**	P	Pn	19 05 09.4	+0.5
SOEI	**Soe** 0.2nm37nm,1.5s	**5.93**	**101**	P	Pn	19 05 11.2	-0.5
PWJI	**Pagerwojo** 0.2nm23nm,1.8s	**6.53**	**275**	P	Pn	19 05 19.3	-0.4
PCJI	**Pacitan** 0.3nm33nm,1.1s	**7.13**	**273**	P	Pn	19 05 28.3	+0.4
UGM	**Wanagama**	**7.80**	**275**	P	Pn	19 05 37.2	+0.2
RGRI	**Rengat**	**17.97**	**296**	P	P	19 07 44.2	-4.5

IDC 03 19:19:37.7±2.9, 6°.50S×129°.00E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=291.4km s-min=30.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=333,slow=14,SNR=9.6	**14.34**	**159**	Pn	Pn	19 23 00.5	-1.6
WRA	0.8nm,0.3s,baz=353,slow=24,SNR=9.3			Sn	Sn	19 25 31.3	-11
ASAR	**Alice Springs** 0.2nm,0.3s,baz=353,slow=11,SNR=11	**17.71**	**165**	P	P	19 23 46.9	0.0
ASAR	0.2nm,0.3s,baz=359,slow=28,SNR=7.8			S	Sn	19 26 59.8	-4.2
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=124,slow=7.8,SNR=8.8	**67.27**	**327**	P	P	19 30 34.2	0.0

IDC 03 19:32:15.7±4.0, 11°.08S×162°.10E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, ML3.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=78.4km s-min=42.1km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 21nm,0.3s,baz=194,slow=16,SNR=8.9	**2.68**	**307**	Pn	Pn	19 33 00.6	+0.5
HNR	36nm,0.3s,baz=48,slow=14,SNR=4.0			Sn	Sn	19 33 29.9	-3.4
HNR	comp=Z,151nm,18.9s,baz=198,slow=46			LR	LR	19 34 18.6	
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=77,slow=9.4,SNR=1.0	**28.13**	**248**	P	P	19 38 08.1	-1.7
ASAR	**Alice Springs** 0.5nm,0.8s,baz=69,slow=9.8,SNR=3.2	**29.61**	**241**	P	P	19 38 24.4	+1.5
H11S2	**WAKE ISLAND Hy** baz=189,slow=76,SNR=67	**29.73**	**9**	T	T	20 09 19.1	
H11S3	**WAKE ISLAND Hy** baz=189,slow=76,SNR=36	**29.73**	**9**	T	T	20 09 19.2	
H11S1	**WAKE ISLAND Hy** baz=189,slow=76,SNR=36	**29.75**	**9**	T	T	20 09 22.1	
H11N1	**WAKE ISLAND Hy** baz=188,slow=76,SNR=24	**30.96**	**9**	T	T	20 10 51.2	
H11N3	**WAKE ISLAND Hy** baz=188,slow=76,SNR=23	**30.96**	**9**	T	T	20 10 54.9	
H11N2	**WAKE ISLAND Hy** baz=188,slow=76,SNR=16	**30.98**	**9**	T	T	20 10 55.9	
FITZ	**Fitzroy Crossi** comp=Z,44nm,20.1s,baz=181,slow=33	**35.92**	**254**	LR	LR	19 51 45.0	
SONM	**Songino Array** 0.5nm,0.6s,baz=113,slow=3.7,SNR=3.2	**76.61**	**325**	P	P	19 44 08.4	0.0

IDC 03 19:57:58.4±4.2, 29°.69N×141°.76E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.3/73, mbtmp3.6/5, ML2.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.5/47, Error ellipse: s-maj=207.6km s-min=19.6km az=75.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 3.0nm,0.3s,baz=12,slow=20,SNR=2.0	**2.61**	**172**	Pn	Pn	19 58 42.0	+0.1
JCJ	12nm,0.3s,baz=313,slow=21,SNR=5.3			Sn	Sn	19 59 16.1	+1.7
JHJ	**Hachijo jima 2** 2.4nm,0.3s,baz=39,slow=23,SNR=2.0	**3.81**	**334**	Pn	Pn	19 58 58.2	-0.1
JHJ	2.8nm,0.3s,baz=49,slow=22,SNR=1.4			Sn	Sn	19 59 43.6	-0.3
MJAR	**Matsushiro Arr** 0.0nm,0.3s,baz=156,slow=13,SNR=1.3	**7.45**	**337**	Pn	Pn	19 59 48.6	+0.2
BATI	**Baumata** comp=Z,66nm,18.1s,baz=172,slow=36	**43.33**	**206**	LR	LR	20 23 54.4	
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=13,slow=7.9,SNR=5.9	**49.86**	**189**	P	P	20 06 53.5	-0.1
FITZ	**Fitzroy Crossi** comp=Z,33nm,18.1s,baz=153,slow=37	**49.99**	**200**	LR	LR	20 28 30.0	
ASAR	**Alice Springs** 0.4nm,0.7s,baz=0.8,slow=6.5,SNR=5.2	**53.59**	**189**	P	P	20 07 21.0	-0.3

*IDC **03** 19:58:49.8±1.7, 19°.46S×177°.64W, h576km±18km, mb2.8/5, mb1 3.1/7, mb1mx2.9/51, mbtmp3.8/7, Error ellipse: s-maj=29.4km s-min=15.7km az=151.0*
ISC 03 19:58:47.9±0.9, 19°.6S±0°.2×177°.5W±0°.2, h550km, n11, σ1s89/14, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 1.3nm,0.3s,baz=227,slow=18,SNR=7.8	**4.58**	**293**	P	**P**	**20 00 16.9**	**+2.4**
URZ	**Urewera** 0.9nm,0.3s,baz=285,slow=1.9,SNR=5.6	**19.16**	**193**	P	**P**	**20 02 37.9**	**+1.7**
STKA	**Stephens Creek** 2.9nm,1.0s,baz=54,slow=8.7,SNR=3.9	**38.57**	**243**	P	**P**	**20 05 23.8**	**-0.4**
ASAR	**Alice Springs** 1.1nm,0.8s,baz=85,slow=8.8,SNR=8.9	**45.15**	**256**	P	**P**	**20 06 15.5**	**-0.6**
ASAR	0.9nm,0.8s,baz=109,slow=3.5,SNR=5.5			PcP	**PcP**	**20 07 44.7**	**-0.1**
ASAR	0.8nm,0.8s,baz=96,slow=14,SNR=6.4			S	**S**	**20 12 13.8**	**-2.2**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=95,slow=9.0,SNR=1.9	**45.16**	**261**	P	**P**	**20 06 15.7**	**-0.5**
WRA	0.5nm,0.6s,baz=98,slow=2.7,SNR=1.9			PcP	**PcP**	**20 07 44.2**	**-0.7**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=218,slow=12,SNR=3.8	**80.08**	**43**	P	**P**	**20 10 00.7**	**-0.4**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=216,slow=8.2,SNR=6.8	**86.21**	**57**	P	**P**	**20 10 30.8**	**-0.9**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=50,slow=1.0,SNR=1.6	**110.90**	**314**	PKiKP	**PKiKP**	**20 16 16.8**	**-2.0**
ARCES	**ARCESS Array B** 1.7nm,0.8s,baz=45,slow=0.3,SNR=3.9	**128.12**	**350**	PKP	**PKPdf**	**20 16 49.0**	**-2.1**
BRTR	**Keskin Array B** 1.1nm,0.8s,baz=75,slow=1.6,SNR=3.2	**146.55**	**314**	PKPbc	**PKPdf**	**20 17 26.9**	**+1.1**
GERES	**GERESS Array B** 1.1nm,0.8s,baz=45,slow=2.1,SNR=8.9	**149.46**	**345**	PKPbc	**PKPdf**	**20 17 33.9**	**+3.7**

NEIC 03 19:59:19.0±1.4, 37°.25N±0°.04×97°.95W±0°.06, h7km±6km, mb_Lg2.9/56, Error ellipse: s-maj=8.0km s-min=4.7km az=61.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.03**	**213**		Pg	19 59 19.8	-0.6
KAN08					Sg	19 59 20.4	-1.0
KAN12	**Harper NE Stat**	**0.06**	**322**		Pg	19 59 20.9	+0.1
KAN12				Sg	Sg	19 59 22.2	+0.2
KAN05	**Bluff City Nor**	**0.15**	**156**		Pg	19 59 22.1	-0.1
KAN05				Sg	Sg	19 59 24.3	-0.1
KAN10	**Anthony SW Sta**	**0.17**	**222**		Pg	19 59 22.2	-0.3
KAN17	**Caldwell West**	**0.25**	**144**		Pg	19 59 24.0	0.0
KAN17				Sg	Sg	19 59 27.4	-0.1
KAN09	**Caldwell North**	**0.29**	**113**		Pg	19 59 24.8	+0.1
KAN09				Sg	Sg	19 59 29.0	+0.5
KS20	**Mayfield South**	**0.32**	**93**		Pg	19 59 25.4	+0.2
KS20				Sg	Sg	19 59 30.1	+0.7
KAN13	**South Haven SW**	**0.45**	**122**		Pg	19 59 27.6	-0.1
KAN13			

U32A	Winter Ranch,	1.21 224	P		19 59 41.2	
	baz=44					
R32A	Long Quarter,	1.32 333		Pn	19 59 43.7	-0.1
R32A	Long Quarter,	1.32 333	P		19 59 43.7	
	baz=153					
R32A			S		20 00 01.2	
	baz=153					
QUOK	Quay	1.47 137		Pn	19 59 45.6	-0.3
OK029	Liberty Lake	1.50 164	Pn	Pn	19 59 46.2	-0.1
OK031	S. Brethren Rd	1.57 145		Pn	19 59 47.3	0.0
BCOK	Bluff Creek, N	1.61 170		Pn	19 59 47.8	0.0
OK030	Cody Creek RV	1.62 144		Pn	19 59 48.0	+0.1
OK025	Westminster Rd	1.74 163		Pn	19 59 50.2	+0.6
OKCFA	Oklahoma City	1.88 167	Pn	Pn	19 59 51.9	+0.4
OKCFA			IAmb_Lg		20 00 22.7	
	comp=Z,53nm,0.7s					
OKCFA	Oklahoma City	1.88 167	S		20 00 17.0	
	baz=348					
OKCSW	OKLAHOMA CITY	1.89 167	Pn	Pn	19 59 52.2	+0.6
FNO	Franklin	2.04 167	Pn	Pn	19 59 53.0	-0.7
CBKS	Cedar Bluff	2.10 318	Pn	Pn	19 59 55.0	+0.4
CBKS	Cedar Bluff	2.10 318	P		19 59 55.1	
	baz=138					
CBKS			S		20 00 23.3	
	baz=138					
KSU1	Kansas State U	2.13 29	Pn	Pn	19 59 56.2	+1.2
KSU1			IAmb_Lg		20 00 27.2	
	comp=Z,53nm,0.8s					
KSU1	Kansas State U	2.13 29		Pn	19 59 56.3	+1.3
TUL1	Leonard	2.19 127	P		19 59 57.0	
	baz=308,SNR=27					
WMOK	Wichita Mounta	2.59 195	Pn	Pn	20 00 01.9	+0.6
WMOK	Wichita Mounta	2.59 195	P		20 00 01.9	
	baz=15,SNR=33					
X34A	Smith Ranch, M	2.65 178	Pn	Pn	20 00 03.2	+1.1
U38A	Gravette	2.97 105	Pn	Pn	20 00 08.1	+1.5
U38A			IAmb_Lg		20 01 01.1	
	comp=Z,24nm,0.8s					
U38A	Gravette	2.97 105	P		20 00 08.0	
	baz=287,SNR=25					
LOOK	Love County	3.31 169	Pn	Pn	20 00 12.1	+0.8
LOOK			IAmb_Lg		20 01 11.0	
	comp=Z,22nm,0.8s					
HHAR	Hobbs	3.36 105	Pn	Pn	20 00 13.3	+1.3
HHAR	Hobbs	3.36 105	P		20 00 13.6	
	baz=288					
X37A	Clayton	3.38 141	P		20 00 12.9	
	baz=322,SNR=18					
X37A			S		20 00 53.7	
	baz=322					
X37A	Clayton	3.38 141	Pn	Pn	20 00 12.9	+0.7
X37A			IAmb_Lg		20 01 07.7	
	comp=Z,41nm,0.7s					
N33B	J Bar K, Exete	3.50 6	S		20 00 56.5	
	baz=187					
N33A	J Bar K, Exete	3.51 6	Pn	Pn	20 00 14.3	+0.4
S39A	Bolivar	3.71 82	Pn	Pn	20 00 17.3	+0.6
S39A			IAmb_Lg		20 01 20.6	
	comp=Z,36nm,1.1s					
S39A	Bolivar	3.71 82	P		20 00 17.3	
	baz=264,SNR=15					
AMTX	Amarillo	3.83 233	Pn	Pn	20 00 19.8	+1.3
AMTX			IAmb_Lg		20 01 29.0	
	comp=Z,26nm,0.8s					
W39A	Magazine	3.94 120	Pn	Pn	20 00 21.0	+1.1
Z35A	Perchaven, San	3.95 171	Pn	Pn	20 00 19.5	-0.5
N35A	Tabor	4.03 26	Pn	Pn	20 00 21.6	+0.5
KSCO	Kaye Shedlock'	4.08 297	Pn	Pn	20 00 21.4	-0.6
BGNE	Belgrade	4.16 358	Pn	Pn	20 00 22.9	0.0
BGNE			IAmb_Lg		20 01 27.6	
	comp=Z,17nm,0.7s					
U40A	Yellville	4.19 101	Pn	Pn	20 00 24.5	+1.2
U40A			IAmb_Lg		20 01 31.2	
	comp=Z,36nm,0.8s					
U40A	Yellville	4.19 101	P		20 00 24.5	
	baz=284,SNR=17					
U40A			P		20 00 24.5	
	baz=284,SNR=17					
P38A	Dawn	4.20 54	Pn	Pn	20 00 23.6	+0.1
P38A	Dawn	4.20 54	P		20 00 24.1	
	baz=237					
MIAR	Mount Ida	4.46 126	Pn	Pn	20 00 26.6	-0.5
MIAR			IAmb_Lg		20 01 52.2	
	comp=Z,16nm,0.8s					
MIAR	Mount Ida	4.46 126	P		20 00 28.2	
	baz=308,SNR=7.6					
MGMO	Mountain Grove	4.54 89		Pn	20 00 27.1	-1.0
MGMO			IAmb_Lg		20 01 42.5	
	comp=Z,22nm,0.7s					
R40A	Maddies Statio	4.62 75	Pn	Pn	20 00 28.3	-0.9
R40A			IAmb_Lg		20 01 51.2	
	comp=Z,16nm,1.1s					
Z38A	Mt. Pleasant	4.66 148	Pn	Pn	20 00 30.2	+0.4
L34A	Svendsen Farm,	4.87 14	Pn	Pn	20 00 32.9	+0.3
OGNE	Ogallala	4.87 321		Pn	20 00 33.1	+0.5
OGNE			IAmb_Lg		20 01 53.4	
	comp=Z,28nm,0.7s					
FCAR	Ozark Folk Cen	4.88 104	Pn	Pn	20 00 31.6	-1.2
WHAR	Wooly Hollow	4.98 111	Pn	Pn	20 00 34.3	+0.2
X40A	Basin Creek Fa	4.99 122	Pn	Pn	20 00 35.3	+1.1
X40A			IAmb_Lg		20 01 57.0	
	comp=Z,13nm,0.8s					
N38A	Joes South For	5.10 45	Pn	Pn	20 00 35.6	-0.2
MSTX	Muleshoe	5.11 232	Pn	Pn	20 00 37.4	+1.3
T25A	Trinidad	5.16 271	Pn	Pn	20 00 35.9	-0.9
P40A	Paris	5.17 62	Pn	Pn	20 00 35.9	-0.8
CCM	Cathedral Cave	5.38 79	Pn	Pn	20 00 39.6	0.0
CCM			IAmb_Lg		20 02 17.8	
	comp=Z,15nm,0.9s					
SDCO	Great Sand Dun	6.02 277	Pn	Pn	20 00 46.8	-2.0
PBMO	Poplar Bluff	6.04 92	Pn	Pn	20 00 47.3	-1.4
PBMO			IAmb_Lg		20 02 37.3	
	comp=Z,14nm,0.7s					
435B	Jarrell	6.46 177	IAmb_Lg		20 03 01.6	
	comp=Z,12nm,0.8s					
ECSD	EROS Data Cent	6.56 9	Pn	Pn	20 00 55.5	-0.3
JCT	Junction City	6.93 193	IAmb_Lg		20 03 10.4	
	comp=Z,11nm,0.7s					
S44A	Carbondale	6.93 84	IAmb_Lg		20 03 01.2	
	comp=Z,17nm,0.8s					
P43A	Skaggs, Pawnee	7.03 68	IAmb_Lg		20 03 06.8	
	comp=Z,18nm,0.7s					
L40A	Anamosa	7.07 45	IAmb_Lg		20 03 13.2	
	comp=Z,18nm,1.0s					
OLIL	Olney	7.92 76	IAmb_Lg		20 03 27.3	
	comp=Z,15nm,1.1s					
L42A	Oliver, Polo	7.96 51	IAmb_Lg		20 03 32.6	
	comp=Z,16nm,1.1s					
JFWS	Jewell Farm	8.18 44	IAmb_Lg		20 03 46.6	
	comp=Z,12nm,0.7s					
MNTX	Cornudas Mount	8.26 230	IAmb_Lg		20 03 46.5	
	comp=Z,7.1nm,0.8s					
MNTX	Cornudas Mount	8.26 230	P		20 01 20.1	
	baz=46,SNR=5.2					
T47A	Sharon Grove	8.67 88	IAmb_Lg		20 03 54.1	
	comp=Z,8.1nm,0.7s					
P46A	Rosedale	8.76 71	IAmb_Lg		20 04 11.4	
	comp=Z,9.5nm,0.8s					
V48A	Smith Brothers	9.09 96	IAmb_Lg		20 04 16.5	
	comp=Z,8.6nm,1.1s					

IDC ***03*** *20:00:36.8±1.9, 37°.38N×78°.11E, h0km, mb3.6/3, mb1 3.6/9, mb1mx3.4/66, mbtmp3.6/9, ML3.3/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/51, Error ellipse: s-maj=28.9km s-min=25.9km az=128.0*

NNC ***03*** *20:00:40.6±2.8, 37°.65N×78°.44E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=30.9km s-min=20.3km az=89.0*

ISC 03 20:00:40.1±1.3, 37°.52N±0°.10×78°.32E±0°.08, h10km, n22, σ2ˢ11/27, mb3.5/4, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.53	1	Pg	Pb	20 02 18.5	+1.6
	14nm,0.4s						
SATY				Lg	Lg	20 03 35.1	
	32nm,0.4s						
SHLS	Shalkode	5.70	8	Pg	Pb	20 02 20.6	+0.9
	32nm,0.3s						
SHLS				Lg	Lg	20 03 40.0	
	66nm,0.6s						
MDOK	Medeo	5.72	351	Pn	Pn	20 02 06.9	+1.6
	2.2nm,0.5s						
MDOK				Pg	Pg	20 02 26.0	-3.7
	11nm,0.6s						
MDOK				Lg	Lg	20 03 43.6	
	24nm,0.6s						
TKM2	Tokmak 2	5.78	340	Pn	Pn	20 02 07.6	+1.5
	2.0nm,0.4s						
TKM2				⇓Pg	Pb	20 02 23.8	+2.6
	4.3nm,0.3s						
TKM2				⇑Lg	Lg	20 03 38.2	
	15nm,0.8s						
KNDC	Almaty	5.78	350	Pg	Pb	20 02 24.2	+3.1
	24nm,0.5s						
KNDC				Lg	Lg	20 03 40.2	
	73nm,0.5s						
KST	Kastek	5.80	343	Pg	Pb	20 02 22.5	+1.1
	12nm,0.4s						
KST				Lg	Lg	20 03 41.7	
	28nm,0.6s						
AAK	Ala-Archa	5.89	331	Pn	Pn	20 02 09.3	+1.7
	2.8nm,0.3s,baz=149,slow=6.8,SNR=6.2						
AAK				Pg	Pb	20 02 24.1	+1.1
	4.0nm,0.3s,baz=168,slow=9.4,SNR=4.2						
AAK				Sn	Sn	20 03 17.4	+2.2
	2.4nm,0.3s,baz=149,slow=18,SNR=1.8						
AAK				Lg	Lg	20 03 41.5	
	2.4nm,0.3s,baz=17,slow=20,SNR=2.5						
AAK	Ala-Archa	5.89	331	Pn	Pn	20 02 08.1	+0.5
	2.7nm,0.3s						
AAK				Pg	Pb	20 02 25.7	+2.7
	7.7nm,0.7s						
AAK				Lg	Lg	20 03 44.3	
	52nm,0.9s						
DGS	Degeres	6.04	342	Pg	Pb	20 02 28.7	+3.3
	14nm,0.3s						
DGS				Lg	Lg	20 03 53.6	
	32nm,0.3s						
KTBS	Karatobe	6.31	349	Pg	Pb	20 02 31.3	+1.3
	7.0nm,0.3s						
KTBS				Lg	Lg	20 03 55.8	
	17nm,0.6s						
WMQ	Urumqi	9.50	46	eP	Pn	20 03 02.5	+5.5
WMQ				smax	smax		
	comp=N,20nm,0.9s						
WMQ				smax	smax		
	comp=E,17nm,0.5s						
MKAR	Makanchi Array	9.72	16	Pn	Pn	20 03 01.2	+1.1
	comp=E,1.6nm,0.3s,baz=204,slow=13,SNR=108						
MKAR				Sn	Sn	20 04 48.6	-0.6
	comp=E,0.4nm,0.3s,baz=188,slow=17,SNR=2.1						
MKAR				LR	LR	20 07 08.0	
	comp=E,21nm,20.4s,baz=282,slow=40						
KURBB	Kurchatov Arra	13.10	1	Pn	Pn	20 03 45.7	-0.4
	comp=E,0.0nm,0.3s,baz=184,slow=11,SNR=2.4						
KURBB				Lg	Lg	20 07 45.5	
	comp=E,0.1nm,0.3s,baz=196,slow=33,SNR=5.7						
GEYT	Alibeck	15.99	278	Pn	Pn	20 04 26.8	+1.6
	comp=E,0.6nm,0.3s,baz=119,slow=11,SNR=6.2						
BVAR	Borovoye Array	16.46	343	Pn	Pn	20 04 29.2	-1.8
	comp=E,0.1nm,0.3s,baz=135,slow=9.2,SNR=1.7						
GTA	Gaotai	16.94	77	eP	P	20 04 43.0	+3.7
GTA				pP	sP	20 04 48.3	+4.3
GTA				sP	pP	20 04 51.0	+8.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZALV	Zalesovo Beam	17.03	13	P	P	20 04 38.8	-1.3
	comp=Z,0.3nm,0.3s,baz=197,slow=7.2,SNR=5.0						
AKTO	Aktyubinsk	19.42	318	P	P	20 05 04.5	-1.9
	comp=Z,0.1nm,0.3s,baz=99,slow=13,SNR=1.7						
SONM	Songino Array	22.95	54	P	P	20 05 44.8	+0.2
	comp=Z,1.1nm,0.8s,baz=270,slow=13,SNR=4.6						
ARU	Arti	23.08	331	P	P	20 05 47.3	+1.7
	comp=Z,0.3nm,0.3s,baz=311,slow=20,SNR=1.5						
FINES	FINESS Array B	40.02	324	P	P	20 08 13.8	-1.1
	comp=Z,1.1nm,0.8s,baz=110,slow=12,SNR=6.2						
TORD	Torodi Ar. Bea	71.56	273	P	P	20 11 58.8	-3.0
	comp=Z,0.4nm,0.4s,baz=47,slow=5.5,SNR=7.4						

MOS ***03*** *20:04:06.8±1.1, 27°.79N×84°.75E, h12km, mb4.6/12, Error ellipse: s-maj=9.4km s-min=4.9km az=117.1*

DMN ***03*** *20:04:06.8±0.1, 27°.73N×84°.99E, h20km, Ml4.6/3, Error ellipse: s-maj=3.0km s-min=1.0km az=22.0*

IDC ***03*** *20:04:06.2±0.6, 27°.68N×84°.82E, h0km, mb4.2/26, mb1 4.3/28, mb1mx4.1/59, mbtmp4.2/28, ML4.2/2, MS3.2/6, Ms1 3.3/6, ms1mx2.9/47, Error ellipse: s-maj=17.6km s-min=12.2km az=50.0*

BJI ***03*** *20:04:07.5±0.0, 27°.84N×84°.97E, h6km, mB4.6/14, mb4.4/27, Ms3.8/11, Ms7 3.7/10*

NEIC ***03*** *20:04:07.1±1.8, 27°.72N±0°.10×84°.91E±0°.05, h3km±4km, mb4.5/69, Error ellipse: s-maj=14.0km s-min=6.3km az=187.0*

NDI ***03*** *20:04:10.2±2.2, 27°.67N×84°.99E, h18km±13km, ML4.3, mb4.5(NEIC)*

ISC 03 20:04:07.2±0.8, 27°.66N±0°.04×84°.94E±0°.02, h10km±4km, n234, σ1ˢ66/253, mb4.5/62, MS3.4/7, 21C-4D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMN	Daman	0.16	109	ePg	Pb	20 04 11.7	-0.7
DMN	Daman	0.16	109	ePg	Pb	20 04 11.8	-0.7
DMN				eSg	Sg	20 04 15.2	+1.8
KKN	Kakani	0.33	67	ePg	Pg	20 04 13.2	-0.7
KKN	Kakani	0.33	67	ePg	Pg	20 04 13.4	-0.5
KKN				eSg	Sg	20 04 17.3	-1.1
PKIN	Phulchoki	0.42	101	ePg	Pg	20 04 15.5	0.0
PKI	Pulchoki	0.43	102	ePg	Pg	20 04 15.4	-0.3
PKI	Pulchoki	0.43	102	ePg	Pg	20 04 15.6	-0.1
PKI				eSg	Sb	20 04 22.3	-1.4
	6μm,0.2s						
GKN	Gorkha	0.43	322	ePg	Pg	20 04 15.5	-0.2
GKN	Gorkha	0.43	322	ePg	Pg	20 04 15.6	-0.2
GKN				eSg	Sg	20 04 21.3	-0.2
JIRN	Jiri	1.11	90	ePg	Pg	20 04 28.1	-0.5
JIRN				eSg	Sg	20 04 42.1	-1.0
KOLN	Koldanda	1.19	276	ePg	Pb	20 04 30.3	+0.3
DANN	Dangsing	1.25	304	ePg	Pg	20 04 31.0	-0.2
RAMN	Ramite	1.64	115	ePg	Pb	20 04 37.7	0.0
RAMN				eSg	Sb	20 04 58.3	-0.2
	400nm,0.3s						
PYUN	Piuthan	1.78	285	ePg	Pb	20 04 40.5	+0.5
PYUN				eSg	Sg	20 05 04.2	-0.2
	3μm,0.3s						
ODAN	Odare	2.32	109	ePg	Pb	20 04 49.6	+0.2
ODAN				eSg	Sg	20 05 20.2	-1.8
	415nm,0.3s						
GTK	Tadong	3.27	95	eP	Pn	20 05 00.8	+2.1
GTK				eS	Sn	20 05 37.8	0.0
BOK	Bokaro	3.94	167	eP	Pn	20 05 10.7	+2.9
BOK				eS	Sn	20 05 53.0	-1.2
LSA	Lhasa	5.82	68	Pn	Pn	20 05 36.4	+2.3
LSA				Sg	Sg	20 07 09.5	-4.8
LSA				LR	LR		
	comp=N,250nm,4.3s						
LSA				LR	LR		
	comp=E,230nm,5.7s						
LSA				LR	LR		
	comp=Z,560nm,4.3s						
LSA	Lhasa	5.82	68	P	Pn	20 05 36.7	+2.6
LSA	Lhasa	5.82	68	Pn	Pn	20 05 36.7	+2.6
SHL	Shillong	6.56	107	P	Pn	20 05 43.7	-0.2
SHL	Shillong	6.56	107	eP	Pn	20 05 44.1	+0.2
SHL				eS	Sn	20 06 52.5	-6.3
SHL	Shillong	6.56	107	Pn	Pn	20 05 43.7	-0.2
DDI	Dehra Dun	6.58	295	eP	Pn	20 05 46.7	+2.6
DDI				eS	Sn	20 06 57.0	-2.4
NDI	New Delhi	6.89	280	ex	x	20 05 55.0	
NDI				eS	Sn	20 07 02.0	-4.8
SMLA	Simla	7.61	299	eP	Pn	20 05 59.5	+1.4
SMLA				eS	Sn	20 07 21.5	-2.9
SMLA				IAML		20 07 25.0	
	comp=E,337nm,0.3s						
SMLA				IAML		20 07 26.7	
	comp=N,168nm,0.1s						
BHPL	Bhopal	8.09	239	eP	Pn	20 06 06.3	+1.5
BHPL				eS	Sn	20 07 32.8	-3.6
VIS	Vishakhapatnam	10.00	189	eP	Pn	20 06 32.5	+1.5
VIS				ex	x	20 08 45.9	
NIL	Nilore	11.70	304	P	Pn	20 06 52.8	-1.4
NIL	Nilore	11.70	304	Pn	Pn	20 06 52.8	-1.4
HYB	Hyderabad	11.77	211	i P	Pn	20 06 55.0	-0.3
HYB				eS	Sn	20 09 18.0	+11
THW	Thamme Wali	12.50	297	P	Pn	20 07 02.9	-2.3
CEP	Cherat	12.77	302	P	Pn	20 07 07.0	-2.1
POO	Poona	13.65	231	ex	x	20 07 15.0	
POO				ex	x	20 09 40.0	
KSH	Kashi	13.98	330	P	Pn	20 07 21.1	-4.3
KSH				sP	P	20 07 33.8	+0.3
KSH				pmax	pmax		
	comp=N,24nm,0.5s						
KSH				pmax	pmax		
	comp=N,50nm,2.6s						
TARG	Taragay, Kyrgy	15.20	339		Pn	20 07 40.4	-2.0
TARG				IAmb	IAmb	20 07 44.3	
	comp=Z,48nm,1.6s						
KBL	Kabul	15.24	301	P	Pn	20 07 39.4	-3.3
KBL				pmax	pmax		
	comp=Z,20nm,1.1s						
KBL	Kabul	15.24	301	Pn	Pn	20 07 39.4	-3.3
KBL				IAmb	IAmb	20 07 57.5	
	comp=Z,20nm,1.1s						
CHTO	Chiang Mai	15.59	121	P	P	20 07 51.7	+0.3
CHTO				pmax	pmax		
	comp=Z,16nm,1.4s						
CHTO	Chiang Mai	15.59	121	P	P	20 07 53.0	+1.6
	comp=Z,9.2nm,1.0s						
CHTO	Chiang Mai	15.59	121	P	P	20 07 51.7	+0.3
CMMT	Chiang Mai	15.59	121	P	P	20 07 53.0	+1.6
	comp=Z,9.3nm,1.0s						
CMMT	Chiang Mai	15.59	121	P	P	20 07 53.0	+1.6
	comp=Z,9.3nm,1.0s						
CM32	Chiang Mai Arr	15.61	122	P	P	20 07 53.0	+1.4
CM34	Chiang Mai Arr	15.72	121	P	P	20 07 53.0	+0.1
KDJ	Kajisay	15.77	338	P	Pn	20 07 48.5	-1.0
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KDJ	Kajisay	15.77	338	Pn	Pn	20 07 48.5	-1.0
CM15	Chiang Mai Arr	15.79	123	P	P	20 07 55.7	+2.1
	comp=Z,84nmcomp=Z,8.0nm,1.0s						
CM15	Chiang Mai Arr	15.79	123	P	P	20 07 55.0	+1.4
	comp=Z,84nmcomp=Z,8.0nm,1.0s						
CM13	Chiang Mai Arr	15.79	123	P	P	20 07 56.0	+2.3
	comp=Z,10nm,1.0s						
CM13	Chiang Mai Arr	15.79	123	P	P	20 07 56.1	+2.3
	comp=Z,10nm,1.0s						
CM31	Chiang Mai Arr	15.80	122	P	P	20 07 56.6	+2.8
	comp=Z,251nm,0.7s						
CM31	Chiang Mai Arr	15.80	122		P	20 07 52.7	-1.1
CMAR	Chiang Mai Arr	15.80	122	Pn	Pn	20 07 48.6	-1.3
	comp=Z,0.1nm,0.3s,baz=305,slow=13,SNR=6.4						
CMAR				LR	LR	20 16 14.8	
	comp=Z,42nm,19.8s,baz=348,slow=46						
CMAR	Chiang Mai Arr	15.80	122	ceP	P	20 07 54.5	+0.7
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	Chiang Mai Arr	15.80	122	P	P	20 07 53.1	-0.7
CM02	Chiang Mai Arr	15.82	123	P	P	20 07 56.5	+2.5
	comp=Z,83nmcomp=Z,9.3nm,0.9s						
CM35	Chiang Mai Arr	15.82	121	P	P	20 07 55.0	+1.0
CM05	Chiang Mai Arr	15.84	123	P	P	20 07 56.2	+2.0
	comp=Z,10nm,0.9s						
CM05	Chiang Mai Arr	15.84	123	P	P	20 07 56.0	+1.8
	comp=Z,10nm,0.9s						
CM09	Chiang Mai Arr	15.84	122	P	P	20 07 56.2	+1.9
	comp=Z,14nm,0.9s						
CM09	Chiang Mai Arr	15.84	122	P	P	20 07 56.0	+1.7
	comp=Z,14nm,0.9s						
CM04	Chiang Mai Arr	15.86	123	P	P	20 07 56.7	+2.3
	comp=Z,109nmcomp=Z,12nm,0.6s						
CM04	Chiang Mai Arr	15.86	123	P	P	20 07 56.8	+2.3
	comp=Z,109nmcomp=Z,12nm,0.6s						
CM36	Chiang Mai Arr	15.88	122	P	P	20 07 56.0	+1.4
DRK	Karamyk	16.07	321		Pn	20 07 49.8	-3.7
DRK				IAmb	IAmb	20 08 01.5	
	comp=Z,42nm,0.6s						
WMQ	Urumqi	16.28	7	eP	P	20 07 59.8	+0.8
BOOM	Boomskoye usch	16.51	336	P	Pn	20 07 57.1	-2.0
BOOM				pmax	pmax		
	comp=Z,27nm,1.5s						
BOOM	Boomskoye usch	16.51	336	Pn	Pn	20 07 57.1	-2.0
BOOM				IAmb	IAmb	20 07 59.1	
	comp=Z,27nm,1.4s						
GAR	Garm	16.62	317	Pn	Pn	20 07 56.9	-3.6
BTK	Batken	17.01	320	P	Pn	20 08 01.1	-4.2
BTK				pmax	pmax		
	comp=Z,21nm,0.8s						
BTK	Batken	17.01	320	Pn	Pn	20 08 01.1	-4.2
BTK				IAmb	IAmb	20 08 12.8	
	comp=Z,21nm,0.8s						
GTA	Gaotai	17.04	43	⇑P	P	20 08 07.0	-0.5
GTA				pP	sP	20 08 14.4	+2.2
GTA				sP	pP	20 08 18.1	+7.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,39nm,5.1s						
GTA				LR	LR		
	comp=Z,170nm,16.7s						
GTA				LR	LR		
	comp=Z,780nm,17.5s						
CHGR	Chuyangaron	17.14	314	Pn	Pn	20 08 02.3	-4.7
AAK	Ala-Archa	17.19	333	P	Pn	20 08 06.6	-1.0
	comp=Z,0.8nm,0.3s,baz=164,slow=11,SNR=5.8						
AAK				LR	LR	20 15 59.0	
	comp=Z,60nm,19.4s,baz=145,slow=42						
AAK	Ala-Archa	17.19	333	ceP	Pn	20 08 07.2	-0.4
AAK				pmax	pmax		
	comp=Z,38nm,1.3s						
AAK	Ala-Archa	17.19	333	P	Pn	20 08 04.9	-2.7
FRU1	Bishkek	17.28	334	P	Pn	20 08 07.8	-0.8
FRU1				pmax	pmax		
	comp=Z,11nm,0.7s						
FRU1	Bishkek	17.28	334	P	Pn	20 08 07.8	-0.8
UTTA	Uttaradit	17.45	121	P	P	20 08 13.6	+1.6
	comp=Z,14nm,1.0s						
UTTA	Uttaradit	17.45	121	P	P	20 08 13.7	+1.6
	comp=Z,3.4nm,1.0s						
PHIT	Phitsanulok	17.68	123	P	P	20 08 16.1	+1.5
	comp=Z,50nm,0.8s						
PHIT	Phitsanulok	17.68	123	P	P	20 08 16.2	+1.6
	comp=Z,12nm,0.8s						
LZH	Lanzhou	18.10	58	eP	P	20 08 24.9	+5.6
LZH				sP	sP	20 08 32.2	+8.2
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
MK31	Makanchi Array	19.21	354	P	Pn	20 08 30.8	-1.4
MK31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MK31	Makanchi Array	19.21	354	P	Pn	20 08 30.8	-1.4
MKAR	Makanchi Array	19.21	354	P	Pn	20 08 31.2	-1.1
	comp=Z,1.0nm,0.3s,baz=170,slow=12,SNR=27						
MKAR	Makanchi Array	19.21	354	i P	Pn	20 08 31.7	-0.5
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAKZ	Makanchi	19.26	354	P	Pn	20 08 31.5	-1.2
MAKZ				pmax	pmax		
	comp=Z,15nm,1.5s						
MAKZ	Makanchi	19.26	354		Pn	20 08 31.5	-1.2
KK31	Karatay Array	19.34	327	P	P	20 08 30.9	-1.8
KK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KK31	Karatay Array	19.34	327		P	20 08 30.9	-1.8
KKAR	Karatay Array	19.34	327	P	P	20 08 30.9	-1.8
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	Karatay Array	19.34	327	P	P	20 08 30.9	-1

ZAA0 IAmb IAmb 20 09 47.1
comp=Z,5.8nm,0.7s
ZALV Zalesovo Beam 26.26 360 P **P 20 09 42.7 +0.3**
comp=Z,6.3nm,0.7s,baz=183,slow=9.1,SNR=23
ZALV Zalesovo Beam 26.26 360 P **P 20 09 41.8 -0.7**
ULN Ulaanbaatar 26.53 35*ce*P **P 20 09 46.8 +1.7**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 26.53 35 P **P 20 09 44.8 -0.3**
ZAK Zakamensk 26.65 27 *e*P **P 20 09 46.4 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 27.55 341 P **P 20 09 53.8 -0.3**
comp=Z,0.5nm,0.5s,baz=168,slow=16,SNR=3.2
BRVK Borovoye 27.61 341 *i* P **P 20 09 53.4 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,3.2s
TLY Talaya 27.82 25 LR LR 20 21 40.2
comp=Z,39nm,18.6s,baz=216,slow=38
ABKAR Akbulak array 28.89 325 P **P 20 10 05.7 -0.3**
ABKAR IAmb IAmb 20 10 34.5
comp=Z,2.8nm,0.7s
AKTO Aktyubinsk 30.60 325 P **P 20 10 21.2 0.0**
comp=Z,1.4nm,0.7s,baz=135,slow=5.7,SNR=3.2
HIA Hailar 34.31 42 *i* P **P 20 10 55.3 +1.5**
HIA pmax pmax
comp=Z,3.0nm,0.9s
ARU Arti 34.37 334 P **P 20 10 54.5 +0.3**
comp=Z,1.7nm,0.5s,baz=122,slow=5.0,SNR=12
ARU Arti 34.37 334*c i*P **P 20 10 54.4 +0.3**
ARU 20 12 06.9
ARU S **S 20 16 22.6 +1.0**
ARU SS **SnSn 20 18 26.6 -4.7**
ARU pmax pmax
comp=Z,2.0nm,0.5s
ARU Arti 34.37 334 P **P 20 10 54.4 +0.3**
ARU IAmb IAmb 20 10 59.7
comp=Z,4.9nm,1.0s
KSRS Korea Array 37.25 64 P **P 20 11 20.1 +1.0**
comp=Z,0.7nm,0.7s,baz=260,slow=9.3,SNR=2.9
KBZ Khabaz 37.28 307 P **P 20 11 20.3 +1.0**
comp=Z,1.8nm,0.8s,baz=134,slow=6.7,SNR=3.0
KIV Kislovodsk 37.48 307 *e*P **P 20 11 20.5 -0.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s
PBKI Pangkalan Bun 39.68 135 P **P 20 11 37.5 -2.2**
KLR Kul'dur 41.70 46 P **P 20 11 57.1 +1.1**
comp=Z,0.8nm,0.5s,baz=250,slow=12,SNR=2.5
NRIK Noril'sk 41.74 1 *i* P **P 20 11 56.8 +0.7**
NRIK pmax pmax
comp=Z,5.0nm,0.9s
JWT Wachi 43.33 67 P **P 20 12 08.6 -0.9**
JWT IAmb IAmb 20 12 33.8
comp=Z,13nm,1.2s
BRTR Keskin Array B 43.81 300 P **P 20 12 13.9 +0.4**
comp=Z,0.8nm,0.5s,baz=116,slow=8.3,SNR=2.3
OBN Obninsk 44.23 322⇑*e*P **P 20 12 15.6 -0.8**
OBN *e* 20 14 01.9
OBN *e*S **S 20 18 54.2 +4.4**
OBN *e*SS **SS 20 22 08.8 +1.2**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,38nm,15.0s
ELL Elmali 46.89 296 P **P 20 12 38.7 +0.8**
ELL pmax pmax
comp=Z,83nm,0.7s
ELL Elmali 46.89 296 P **P 20 12 38.7 +0.8**
AKASG Malin Array Be 47.61 315 P **P 20 12 43.0 -0.3**
comp=Z,1.0nm,0.4s,baz=79,slow=7.2,SNR=17
AKASG Malin Array Be 47.61 315 P **P 20 12 43.8 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,1.4s
AKASG Malin Array Be 47.61 315 P **P 20 12 43.8 +0.6**
AKASG IAmb IAmb 20 12 47.9
comp=Z,3.2nm,1.4s
AKBB Malin Array Si 47.61 315*ce*P **P 20 12 43.6 +0.4**
AKBB Malin Array Si 47.61 315 P **P 20 12 42.7 -0.5**
AKBB IAmb IAmb 20 12 47.0
comp=Z,5.9nm,0.7s
SORM Soroca 47.93 311 ⇑P **P 20 12 45.3 -0.4**
SORM Soroca 47.93 311 ⇑P **P 20 12 45.3 -0.4**
VRI Vrincioaia 48.94 308 ⇑P **P 20 12 54.9 +1.3**
VRI Vrincioaia 48.94 308 ⇑P **P 20 12 54.9 +1.3**
MNK Minsk 48.97 320 *i* P **P 20 12 54.2 +0.6**
MNK *i* 20 14 13.3
MNK *i* PPP PPP 20 15 34.5
MNK *i* S **S 20 20 00.4 +2.7**
MNK *i* SSS SSS 20 24 44.3
MNK pmax pmax
comp=N,6.0nm,0.5s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,47nm,18.0s
MNK MLR MLR
comp=E,9.0nm,25.0s
MNK MLR MLR
comp=N,24nm,20.0s
MNK Minsk 48.97 320 *i* P **P 20 12 54.2 +0.6**
MNK *i* P **P 20 12 54.2 +0.6**
comp=N,6.0nm,0.5s
MNK *i* P **P 20 12 54.2 +0.6**
comp=Z,5.0nm,0.6s,baz=279
MNK *i* PcP **PcP 20 14 13.4 -4.3**
MNK *i* PP PP 20 14 37.7 -9.2
MNK *i* PPP PPP 20 15 34.6
MNK *i* S **S 20 20 00.4 +2.7**
MNK *i* SS **SS 20 23 29.9 +1.7**
MNK *i* SSS SSS 20 24 44.3
MNK *i* LQ LQ 20 30 02.7
MNK *i* LR LR 20 32 39.1
MNK *i* LRM MLR 20 36 37.8
comp=Z,47nm,18.4s
MNK *i* LRM MLR 20 36 47.0
comp=E,9.0nm,24.9s
MNK *i* LRM MLR 20 37 00.1
comp=N,24nm,20.1s
PLOR Plostina 48.99 308 ⇑P **P 20 12 55.5 +1.4**
PLOR Plostina 48.99 308 ⇑P **P 20 12 55.5 +1.4**
TESR Tescani 49.01 309 ⇓P **P 20 12 54.8 +0.8**
MLR Muntele Rosu 49.48 308 ⇑P **P 20 13 00.3 +2.4**
MLR Muntele Rosu 49.48 308 ⇑P **P 20 13 00.3 +2.4**
MLR Muntele Rosu 49.48 308 P **P 20 13 00.0 +2.1**
MLR IAmb IAmb 20 13 04.3
comp=Z,9.1nm,0.8s
DOPR Dopca 49.88 308 ⇑P **P 20 13 01.7 +0.9**
BURAR Bucovina Array 50.01 310 ⇓P **P 20 13 02.7 +0.9**
BURAR Bucovina Array 50.01 310 P **P 20 13 01.9 +0.1**
BURAR IAmb IAmb 20 13 05.8
comp=Z,3.2nm,0.8s
LVZ Lovozero 50.06 338 P **P 20 13 03.2 +1.3**
LVZ pmax pmax
comp=Z,56nm,1.5s
LVZ Lovozero 50.06 338 P **P 20 13 03.1 +1.3**
TIXI Tiksi 50.18 17 P **P 20 13 02.0 -0.6**
comp=Z,5.2nm,0.5s,baz=254,slow=3.1,SNR=18
TIXI Tiksi 50.18 17*ce*P **P 20 13 02.4 -0.2**
TIXI Tiksi 50.18 17 P **P 20 13 03.6 +1.0**
TIXI IAmb IAmb 20 13 06.0
comp=Z,5.7nm,0.6s
ARR Arges 50.41 307 ⇑P **P 20 13 05.5 +0.7**
IDI Anoyia 51.11 294 P **P 20 13 10.1 -0.2**
FIA1 FINESS Array S 51.29 328 P **P 20 13 11.4 +0.3**
FINES FINESS Array B 51.29 328 P **P 20 13 11.1 0.0**
comp=Z,3.4nm,0.6s,baz=105,slow=7.6,SNR=21
FINES FINESS Array B 51.29 328*ce*P **P 20 13 11.5 +0.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 51.29 328 P **P 20 13 11.3 +0.2**
VTS Vitosha 51.54 304 ⇓P **P 20 13 14.9 +1.4**
VTS Vitosha 51.54 304 ⇓P **P 20 13 14.9 +1.4**
VTS Vitosha 51.54 304 P **P 20 13 15.3 +1.8**
VTS IAmb IAmb 20 13 20.7
comp=Z,5.6nm,0.9s
KWP Kalwaria Pacla 51.72 313 P **P 20 13 15.9 +1.3**
KWP pmax pmax
comp=Z,100nm,1.1s
KWP Kalwaria Pacla 51.72 313 P **P 20 13 15.9 +1.3**
MDVR Moldovita 52.50 307 ⇑P **P 20 13 20.7 +0.2**
AGG Agios Georgios 52.59 299 P **P 20 13 21.1 -0.2**
AGG pmax pmax
comp=Z,5.0nm,0.9s
AGG Agios Georgios 52.59 299 P **P 20 13 21.1 -0.2**
AGG IAmb IAmb 20 13 27.2
comp=Z,5.3nm,0.9s
ITM Ithomi 53.17 297 P **P 20 13 25.0 -0.6**
ARCES ARCESS Array B 53.78 338 P **P 20 13 29.6 +0.2**
comp=Z,1.9nm,0.6s,baz=89,slow=6.2,SNR=10
ARCES ARCESS Array B 53.78 338 P **P 20 13 30.0 +0.5**
ARCES pmax pmax
comp=Z,13nm,1.3s
ARCES ARCESS Array B 53.78 338 P **P 20 13 30.0 +0.5**
ARCES IAmb IAmb 20 13 45.4
comp=Z,12nm,1.3s
PUK Puka 54.06 303 P **P 20 13 32.0 -0.1**
PUK IAmb IAmb 20 13 36.6
comp=Z,8.3nm,1.2s
MORC Moravsky Berou 55.07 313 P **P 20 13 40.2 +1.0**
MORC pmax pmax
comp=Z,1.0nm,0.7s
MORC Moravsky Berou 55.07 313 P **P 20 13 40.2 +1.0**
GERES GERESS Array B 57.65 312 P **P 20 13 56.2 -1.5**
comp=Z,0.3nm,0.4s,baz=100,slow=5.5,SNR=3.1
GERES GERESS Array B 57.65 312 P **P 20 13 56.7 -1.0**
GERES GERESS Array B 57.65 312 P **P 20 13 56.7 -1.0**
NC405 NORSAR Array S 58.13 327 P **P 20 13 59.7 -1.1**
NC303 NORSAR Array S 58.30 327 P **P 20 14 01.1 -0.8**
NC303 IAmb IAmb 20 14 03.9
comp=Z,15nm,1.4s
NB201 NORSAR Array S 58.33 327 P **P 20 14 02.0 -0.3**
NB2 NORSAR Subarra 58.37 327 P **P 20 14 01.6 -0.9**
comp=Z,0.7nm,0.5s,baz=88,slow=7.4
NOA NORSAR Array B 58.37 327 P **P 20 14 01.9 -0.6**
comp=Z,0.7nm,0.5s,baz=89,slow=7.3,SNR=6.1
NOA LR LR 20 40 44.5
comp=Z,30nm,18.5s,baz=80,slow=38
INTR Introdacqua 58.48 304 P **P 20 14 04.1 +0.4**
INTR IAmb IAmb 20 14 08.8
comp=Z,6.0nm,0.9s
NAO01 NORSAR Array S 58.53 326 P **P 20 14 03.2 -0.4**
NC204 NORSAR Array S 58.59 327 P **P 20 14 03.0 -1.0**
NRCA Norcia 58.91 305 P **P 20 14 07.6 +1.0**
NRCA IAmb IAmb 20 14 12.7
comp=Z,2.5nm,0.8s
FITZ Fitzroy Crossi 60.20 134 P **P 20 14 16.4 +0.8**
comp=Z,1.4nm,0.8s,baz=325,slow=12,SNR=1.2
FITZ Fitzroy Crossi 60.20 134 P **P 20 14 16.7 +1.1**
KNRA Kununurra 60.50 130 P **P 20 14 18.6 +0.9**
MSSA Maissana 61.20 308 P **P 20 14 22.3 0.0**
KEST Kesra 63.38 298 P **P 20 14 37.6 +0.6**
comp=Z,4.9nm,0.9s,baz=264,slow=3.1,SNR=5.4
KEST Kesra 63.38 298 P **P 20 14 38.0 +1.0**
WB0 Warramunga Arr 67.18 129 P **P 20 15 02.9 +1.1**
WB0 IAmb IAmb 20 15 03.6
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 67.27 129 P **P 20 15 03.5 +1.2**
comp=Z,4.3nm,0.6s,baz=322,slow=6.5,SNR=52
WRA Warramunga Arr 67.27 129 P **P 20 15 03.2 +1.0**
WRAB Tennant Creek 67.27 129*ce*P **P 20 15 04.4 +2.1**
WRAB pmax pmax
comp=Z,22nm,2.5s
WRAB Tennant Creek 67.27 129 P **P 20 15 03.8 +1.5**
WB2 Warramunga Arr 67.28 129 P **P 20 15 03.5 +1.2**
WR0 Warramunga Arr 67.42 129 P **P 20 15 04.4 +1.2**
WR0 IAmb IAmb 20 15 05.0
comp=Z,3.9nm,0.7s
AS31 Alice Springs 69.54 132 P **P 20 15 17.5 +1.0**
AS31 IAmb IAmb 20 15 18.2
comp=Z,2.0nm,0.6s
ASAR Alice Springs 69.54 132 P **P 20 15 17.6 +1.1**
comp=Z,4.9nm,0.6s,baz=315,slow=6.3,SNR=91
ESDC Sonseca Array 72.14 306 P **P 20 15 30.6 -1.6**
comp=Z,0.5nm,0.4s,baz=57,slow=4.7,SNR=4.0
TOLK Toolik Lake Re 76.05 18 P **P 20 15 55.5 +0.9**
TOLK IAmb IAmb 20 15 59.0
comp=Z,5.0nm,0.8s
BBOO Buckleboo 77.30 138 P **P 20 16 02.5 +0.5**
LBTB Lobatse 77.51 233 P **P 20 16 03.2 -0.3**
LBTB pmax pmax
comp=Z,6.0nm,1.2s
LBTB Lobatse 77.51 233 P **P 20 16 03.2 -0.3**
LBTB IAmb IAmb 20 16 13.0
comp=Z,6.3nm,1.1s
TORD Torodi Ar. Bea 78.11 279 P **P 20 16 06.7 -0.2**
comp=Z,1.2nm,0.8s,baz=54,slow=4.8,SNR=6.8
TORD Torodi Ar. Bea 78.11 279 P **P 20 16 06.9 0.0**
MLY Manley 78.12 21 P **P 20 16 06.0 -0.2**
MLY IAmb IAmb 20 16 14.3
comp=Z,1.8nm,0.8s
I23K Minto, Yukon-K 78.48 21 P **P 20 16 09.6 +1.5**
IL31 79.50 20 P **P 20 16 13.5 -0.2**
ILAR Eielson Array 79.50 20 P **P 20 16 14.2 +0.5**
comp=Z,1.0nm,0.8s,baz=311,slow=4.6,SNR=8.2
ILAR Eielson Array 79.50 20 P **P 20 16 14.1 +0.3**
BOSA Boshof 80.00 230 P **P 20 16 17.4 +0.3**
comp=Z,1.6nm,0.7s,baz=42,slow=5.7,SNR=5.7
BOSA Boshof 80.00 230 P **P 20 16 17.0 -0.1**
BOSA IAmb IAmb 20 16 22.4
comp=Z,11nm,1.4s
STKA Stephens Creek 80.09 134 P **P 20 16 18.1 +0.7**
comp=Z,1.4nm,0.5s,baz=345,slow=6.7,SNR=6.0
STKA Stephens Creek 80.09 134 P **P 20 16 18.1 +0.7**
INK Inuvik 80.19 14 P **P 20 16 17.8 +0.5**
comp=Z,1.8nm,0.6s,baz=291,slow=12,SNR=3.6
INK Inuvik 80.19 14 P **P 20 16 17.9 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 80.19 14 P **P 20 16 17.9 +0.5**
INK IAmb IAmb 20 16 24.8
comp=Z,4.6nm,1.1s
SCRK Sand Creek 80.95 20 P **P 20 16 22.7 +1.0**
SCRK IAmb IAmb 20 16 27.5
comp=Z,2.8nm,0.9s
DOT Dot Lake 81.17 20 P **P 20 16 23.7 +0.9**
SCM Sheep Creek Mo 81.44 22 P **P 20 16 25.7 +1.4**
SCM pmax pmax
comp=Z,7.0nm,1.0s
SCM Sheep Creek Mo 81.44 22 P **P 20 16 25.7 +1.4**
SCM IAmb IAmb 20 16 26.0
comp=Z,6.9nm,1.0s
KDAK Kodiak Island 82.25 27 P **P 20 16 29.6 +1.1**
KDAK pmax pmax
comp=Z,10.0nm,1.2s
KDAK Kodiak Island 82.25 27 P **P 20 16 29.6 +1.1**
KDAK IAmb IAmb 20 16 32.9
comp=Z,10.0nm,1.1s
BCAR Beaver Creek A 82.29 20 P **P 20 16 30.6 +1.9**
MAW Mawson 96.40 188 LR LR 20 59 34.9
comp=Z,38nm,18.2s,baz=204,slow=34
TXAR Lajitas Array 122.73 9 PKP **PKiKP 20 23 06.3 +2.1**
comp=Z,0.2nm,0.6s,baz=29,slow=2.1,SNR=1.7
CPUP Villa Florida 146.44 263 PKPbc **PKPab 20 23 50.5 +0.6**
comp=Z,4.7nm,1.1s,baz=74,slow=7.4,SNR=3.1
PLCA Paso Flores 155.99 231 PKPbc PKPdf 20 24 11.6 +10
comp=Z,1.1nm,0.8s,baz=47,slow=4.5,SNR=2.9

*IDC **03** 20:05:20.5±2.9, 2°.76N×128°.69E, h234km±27km, mb3.5/13, mb1 3.6/14, mb1mx3.3/55, mbtmp4.1/14, Error ellipse: s-maj=34.7km s-min=10.0km az=70.0*
*NEIC **03** 20:05:20.4±1.3, 2°.75N±0°.09×128°.6E±0°.1, h226km±8km, mb4.2/20, Error ellipse: s-maj=20.3km s-min=12.8km az=84.0*
ISC 03 20:05:21.9±0.6, 2°.65N±0°.07×128°.4E±0°.1, h250km, n39, σ1°33/42, mb4.0/21, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.14**	**209**	Pn	**Pn**	**20 06 04.5**	**-1.2**
TNTI				Sn	**S**	**20 06 36.0**	**-4.4**
BKB	**Balikpapan**	**12.15**	**251**	Pn	**Pn**	**20 08 07.1**	**-0.4**
BATI	**Baumata**	**13.62**	**200**	P	**P**	**20 08 27.7**	**+1.1**
	1.0nm,0.3s,baz=323,slow=21,SNR=1.8						
MTN	**Manton Dam**	**15.63**	**170**	P	**P**	**20 08 46.9**	**-1.9**
KNRA	**Kununurra**	**18.21**	**179**	P	**P**	**20 09 18.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**20.80**	**187**	P	**P**	**20 09 44.0**	**-0.6**
	2.8nm,1.0s,baz=21,slow=11,SNR=1.8						
FITZ	**Fitzroy Crossi**	**20.80**	**187**	P	**P**	**20 09 44.1**	**-0.5**
FITZ				IAmb	IAmb	20 09 45.0	
	comp=Z,7.7nm,1.2s						
YHNB	**Yeheng**	**22.92**	**343**	P	**P**	**20 10 01.7**	**-2.8**
WB0	**Warramunga Arr**	**23.04**	**165**	P	**P**	**20 10 05.0**	**-0.5**
WB0				IAmb	IAmb	20 10 21.4	
	comp=Z,16nm,1.5s						
WRAB	**Tennant Creek**	**23.19**	**166**	P	**P**	**20 10 06.7**	**-0.2**
WRAB				IAmb	IAmb	20 10 09.7	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**23.20**	**166**	P	**P**	**20 10 07.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=342,slow=10,SNR=17						
WRA	**Warramunga Arr**	**23.20**	**166**	P	**P**	**20 10 06.0**	**-1.0**
WB2	**Warramunga Arr**	**23.20**	**166**	P	**P**	**20 10 07.3**	**+0.3**
WB2				IAmb	IAmb	20 10 19.6	
	comp=Z,9.4nm,1.3s						
WR0	**Warramunga Arr**	**23.26**	**165**	P	**P**	**20 10 07.8**	**+0.2**
WR0				IAmb	IAmb	20 10 33.7	
	comp=Z,19nm,1.6s						
AS31	**Alice Springs**	**26.70**	**169**	P	**P**	**20 10 39.3**	**+0.8**
ASAR	**Alice Springs**	**26.70**	**169**	P	**P**	**20 10 39.1**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=350,slow=7.1,SNR=33						
ASAR				PcP	**PcP**	**20 13 56.4**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=3.5,slow=1.9,SNR=4.3						
ASAR				ScP	**ScP**	**20 17 13.4**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=352,slow=3.7,SNR=1.6						
ASAR	**Alice Springs**	**26.70**	**169**	P	**P**	**20 10 38.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.86**	**301**	P	**P**	**20 11 35.6**	**+2.8**
	comp=Z,1.4nm,0.7s,baz=121,slow=7.5,SNR=8.3						
CMAR	**Chiang Mai Arr**	**32.86**	**301**	P	**P**	**20 11 34.9**	**+2.1**
CHTO	**Chiang Mai**	**33.01**	**301**	P	**P**	**20 11 36.0**	**+1.9**
CHTO				IAmb	IAmb	20 11 37.1	
	comp=Z,3.3nm,0.8s						
JWT	**Wachi**	**33.11**	**10**	P	**P**	**20 11 32.4**	**-2.2**
FORT	**Forrest**	**33.25**	**181**	P	**P**	**20 11 36.6**	**+0.8**
KSRS	**Korea Array**	**34.64**	**359**	P	**P**	**20 11 47.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=176,slow=9.6,SNR=4.7						
BBOO	**Buckleboo**	**36.01**	**169**	P	**P**	**20 12 00.2**	**+0.7**
BBOO				IAmb	IAmb	20 12 14.0	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**36.55**	**161**	P	**P**	**20 12 04.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=335,slow=8.9,SNR=14						
NWAO	**Narrogin (SRO)**	**36.93**	**196**	P	**P**	**20 12 08.6**	**+1.3**
	comp=Z,3.3nm,0.7s,baz=342,slow=3.2,SNR=1.6						
MK31	**Makanchi Array**	**59.40**	**325**	P	**P**	**20 14 58.6**	**+0.3**
MK31				IAmb	IAmb	20 15 30.1	
	comp=Z,4.9nm,1.4s						
MKAR	**Makanchi Array**	**59.40**	**325**	P	**P**	**20 14 59.0**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=113,slow=8.8,SNR=12						
MAKZ	**Makanchi**	**59.58**	**325**	P	**P**	**20 15 00.3**	**+0.7**
MAKZ				IAmb	IAmb	20 15 03.7	
	comp=Z,9.1nm,1.6s						
BKZ	**Black Stump Fm**	**60.66**	**138**	P	**P**	**20 15 07.4**	**+0.3**
AAK	**Ala-Archa**	**62.28**	**318**	P	**P**	**20 15 18.5**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=174,slow=10,SNR=1.8						
ZALV	**Zalesovo Beam**	**62.31**	**333**	P	**P**	**20 15 17.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=126,slow=5.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**63.55**	**327**	P	**P**	**20 15 25.9**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=126,slow=6.0,SNR=8.8						
KURK	**Kurchatov**	**63.55**	**327**	P	**P**	**20 15 25.9**	**+0.1**
KK31	**Karatay Array**	**65.16**	**317**	P	**P**	**20 15 37.1**	**+0.6**
KK31				IAmb	IAmb	20 15 55.1	
	comp=Z,1.3nm,1.0s						
KKAR	**Karatay Array**	**65.16**	**317**	P	**P**	**20 15 37.1**	**+0.6**
KKAR	**Karatay Array**	**65.16**	**317**	P	**P**	**20 15 35.6**	**-0.9**
BVAR	**Borovoye Array**	**69.14**	**327**	P	**P**	**20 16 01.6**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=193,slow=11,SNR=4.9						
ARCES	**ARCESS Array B**	**92.03**	**340**	P	**P**	**20 18 01.9**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=88,slow=6.4,SNR=2.3						

*IDC **03** 20:24:42.7±6.8, 1°.23N×124°.24E, h216km±72km, mb3.5/10, mb1 3.6/11, mb1mx3.4/38, mbtmp4.0/11, Error ellipse: s-maj=35.2km s-min=15.2km az=77.0*
*NEIC **03** 20:24:43.5±0.9, 1°.3N±0°.1×124°.49E±0°.09, h218km±8km, mb4.4/25, Error ellipse: s-maj=16.7km s-min=11.4km az=202.0*
*DJA **03** 20:25:06.2±0.6, 2°.N±7°×12°.3E±°, h10km, M4.5/7, mb5.2/1, mB5.3/2, MLv4.2/7, Mw(mB)4.7/2*
ISC 03 20:24:44.6±0.5, 1°.31N±0°.07×124°.50E±0°.06, h235km, n43, σ1°23/45, mb4.2/21, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.64**	**246**	P	**Pn**	**20 25 21.6**	**-1.0**
GTOI				S	**S**	**20 25 50.0**	**-2.4**
MRSI	**Marisa**	**2.69**	**252**	P	**Pn**	**20 25 32.8**	**-0.1**
TNTI	**Ternate**	**2.91**	**101**	Pn	**Pn**	**20 25 33.5**	**-1.8**
TNTI				Sn	**S**	**20 26 12.1**	**-2.9**
TNTI	**Ternate**	**2.91**	**101**	P	**S**	**20 26 13.3**	**-1.7**
TOLI2	**Tolitoli**	**3.73**	**267**		**Pn**	**20 25 43.5**	**-1.1**
MTN	**Manton Dam**	**15.52**	**155**		**P**	**20 28 10.2**	**-1.1**
KNRA	**Kununurra**	**17.39**	**166**	P	**P**	**20 28 31.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.32**	**177**	P	**P**	**20 28 51.1**	**-1.4**
	0.2nm,0.3s,baz=355,slow=9.1,SNR=8.8						
FITZ	**Fitzroy Crossi**	**19.32**	**177**	IAmb	IAmb	20 29 17.0	
	comp=Z,13nm,1.4s						
YULB	**Yu-li**	**22.17**	**352**	P	**P**	**20 29 20.9**	**-0.7**
YULB				IAmb	IAmb	20 30 04.8	
	comp=Z,6.5nm,1.0s						
TPUB	**Ta-pu**	**22.18**	**351**	P	**P**	**20 29 20.9**	**-0.8**
TPUB				IAmb	IAmb	20 29 25.0	
	comp=Z,9.0nm,0.6s						
WB0	**Warramunga Arr**	**23.08**	**156**	P	**P**	**20 29 29.6**	**-0.3**
WB0				IAmb	IAmb	20 29 30.7	
	comp=Z,20nm,1.2s						
WRAB	**Tennant Creek**	**23.21**	**156**	P	**P**	**20 29 30.6**	**-0.5**
WRAB				IAmb	IAmb	20 29 31.4	
	comp=Z,7.9nm,0.7s						
WRA	**Warramunga Arr**	**23.22**	**156**	P	**P**	**20 29 30.8**	**-0.3**
	comp=Z,6.5nm,0.3s,baz=335,slow=10,SNR=163						
WRA	**Warramunga Arr**	**23.22**	**156**	P	**P**	**20 29 29.4**	**-1.7**
WB2	**Warramunga Arr**	**23.22**	**156**	P	**P**	**20 29 30.6**	**-0.6**
WB2				IAmb	IAmb	20 29 31.5	
	comp=Z,10nm,0.6s						
WR0	**Warramunga Arr**	**23.32**	**156**	P	**P**	**20 29 31.6**	**-0.4**
WR0				IAmb	IAmb	20 29 33.3	
	comp=Z,5.8nm,0.5s						
PMG	**Port Moresby**	**24.95**	**116**	P	**P**	**20 29 45.9**	**-1.0**
AS31	**Alice Springs**	**26.45**	**160**	P	**P**	**20 30 00.2**	**-0.1**
ASAR	**Alice Springs**	**26.45**	**160**	P	**P**	**20 30 00.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=340,slow=7.5,SNR=47						
ASAR	**Alice Springs**	**26.45**	**160**	P	**P**	**20 30 00.1**	**-0.2**
FORT	**Forrest**	**32.09**	**174**	P	**P**	**20 30 49.6**	**-0.3**
FORT				IAmb	IAmb	20 31 21.1	
	comp=Z,13nm,1.1s						
JMN	**Monobe**	**33.43**	**14**	P	**P**	**20 31 01.2**	**-0.3**
BBOO	**Buckleboo**	**35.65**	**163**	P	**P**	**20 31 20.0**	**-0.5**
STKA	**Stephens Creek**	**36.77**	**155**	P	**P**	**20 31 30.3**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=328,slow=9.2,SNR=8.4						
STKA	**Stephens Creek**	**36.77**	**155**	P	**P**	**20 31 30.2**	**+0.2**
MJAR	**Matsushiro Arr**	**37.28**	**18**	P	**P**	**20 31 34.6**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=195,slow=9.9,SNR=3.0						
CAN	**Canberra**	**43.04**	**150**	P	**P**	**20 32 23.2**	**+1.8**
CAN				IAmb	IAmb	20 32 41.9	
	comp=Z,26nm,1.4s						
USRK	**Ussuriysk Ar.**	**43.22**	**8**	P	**P**	**20 32 23.4**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=200,slow=8.6,SNR=5.7						
DZM	**Mont Dzumac**	**47.05**	**122**	P	**P**	**20 32 57.0**	**+3.7**
SONM	**Songino Array**	**48.93**	**344**	P	**P**	**20 33 08.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=165,slow=6.0,SNR=2.7						
SONM	**Songino Array**	**48.93**	**344**	P	**P**	**20 33 08.0**	**+0.7**
MK31	**Makanchi Array**	**58.32**	**327**	P	**P**	**20 34 15.1**	**0.0**
MK31				IAmb	IAmb	20 34 47.1	
	comp=Z,5.5nm,1.4s						
MKAR	**Makanchi Array**	**58.32**	**327**	P	**P**	**20 34 14.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=125,slow=8.0,SNR=17						
MKAR				PcP	**PcP**	**20 35 03.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=138,slow=4.2,SNR=2.5						
MAKZ	**Makanchi**	**58.50**	**327**	P	**P**	**20 34 15.1**	**-1.3**
PETK	**Petropavlovsk-**	**58.50**	**23**	P	**P**	**20 34 18.1**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=207,slow=6.0,SNR=1.6						
MA2	**Magadan**	**61.59**	**15**	P	**P**	**20 34 37.5**	**+0.5**
MA2				IAmb	IAmb	20 34 48.2	
	comp=Z,20nm,1.5s						
ZALV	**Zalesovo Beam**	**61.77**	**335**	P	**P**	**20 34 36.7**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=134,slow=6.2,SNR=5.0						
ZALV	**Zalesovo Beam**	**61.77**	**335**	P	**P**	**20 34 37.9**	**-0.4**
BKZ	**Black Stump Fm**	**62.33**	**136**	P	**P**	**20 34 44.0**	**+1.5**
TIXI	**Tiksi**	**70.29**	**1**	P	**P**	**20 35 32.4**	**+0.3**
TIXI				IAmb	IAmb	20 35 32.8	
	comp=Z,2.0nm,0.4s						
ABKAR	**Akbulak array**	**72.63**	**322**	P	**P**	**20 35 45.6**	**-0.9**
ARCES	**ARCESS Array B**	**91.94**	**340**	P	**P**	**20 37 25.1**	**-1.0**
	comp=Z,4.4nm,1.2s,baz=68,slow=5.0,SNR=1.5						

*MOS **03** 21:07:37.6±1.8, 47°.17N×142°.66E, h11km, mb3.8/1, Error ellipse: s-maj=32.8km s-min=13.5km az=98.7*
*MOS Felt (III-IV) at Sinegorsk, (III) at Bykov, Uglezavodsk, Sanatornyy, (II-III) at Yolochki, (II) at Yuzhno-Sakhalinsk, Kholmsk, P

*NIED **03** 21:07:38.5, 47.°15N×142.°96E, h0km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.50; $M_{\theta\theta}$0.19; $M_{\phi\phi}$-1.70; $M_{r\theta}$0.18; $M_{\theta\phi}$0.29; $M_{\phi r}$2.21; Fault plane solution: $M_0$2.75000×10^{14} NP1:ϕ_s2.00000°, δ72.00000°, λ98.00000°. NP2:ϕ_s158.00000°, δ19.00000°, λ67.00000°.*

*SKHL **03** 21:07:39.5±0.2, 47.°20N×142.°50E, h10km±5km, mb4.7/7*

ISC 03 21:07:39.9±1.1, 47.°22N±0.°03×142.°62E±0.°05, h14km±8km, n15, σ1°14/25, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.28**	**161**	κ *i*PN		**Pg**	**21 07 45.6**	**-0.2**
YSS				*e*			21 07 49.7	
YSS	comp=Z,530nm,0.3s			pmax		pmax		
YSS	comp=N,5μm,0.3s			smax		smax		
YSS	comp=E,6μm,0.2s			smax		smax		
YSS	**Yuzh-Sakhalins**	**0.28**	**161**	*i* Pg		**Pg**	**21 07 45.6**	**-0.2**
YSS	comp=E,530nm,0.2s			AMB		AMB	21 07 46.1	
YSS				*e*Sg		**Sg**	**21 07 50.0**	**+0.2**
YSS	comp=E,5μm,0.3s			A		A	21 07 50.8	
YSS	comp=E,6μm,0.3s			A		A	21 07 50.8	
KHLM	**Kholmsk**	**0.42**	**247**	*e*PN		**Pg**	**21 07 48.3**	**+0.1**
KHLM				*e*S		**Sg**	**21 07 54.2**	**+0.3**
KHLM	comp=Z,3μm,0.4s			pmax		pmax		
KHLM	comp=N,24μm,0.3s			smax		smax		
KHLM	comp=E,25μm,0.3s			smax		smax		
UGL	**Uglegorsk**	**1.90**	**349**	*e*PN		**Pn**	**21 08 10.6**	**-1.2**
UGL				S		**Sg**	**21 08 41.2**	**+0.4**
UGL	comp=Z,60nm,0.8s			pmax		pmax		
UGL	comp=N,351nm,0.5s			smax		smax		
UGL	**Uglegorsk**	**1.90**	**349**	*e*P		**Pn**	**21 08 11.7**	**-0.1**
UGL	comp=N,30nm,0.7s			AMB		AMB	21 08 12.3	
UGL				*e*S		**Sn**	**21 08 34.4**	**-1.0**
UGL	comp=N,350nm,0.5s			A		A	21 08 42.0	
UGL	comp=N,230nm,0.5s			A		A	21 08 42.0	
JWK2	**Keihoku**	**1.97**	**195**	P		**Pn**	**21 08 13.5**	**+0.7**
JWK2				*e*S		**Sb**	**21 08 39.6**	**-0.2**
JRBN	**Rebuntou**	**2.10**	**211**	P		**Pn**	**21 08 14.2**	**-0.3**
JRBN				*e*S		**Sn**	**21 08 40.2**	**-0.2**
JSE	**Soyaes**	**2.26**	**181**	P		**Pn**	**21 08 16.9**	**+0.1**
JSE				*e*S		**Sn**	**21 08 45.7**	**+1.2**
JKK2	**Kamakawa 2**	**3.35**	**178**	P		**Pn**	**21 08 32.7**	**+0.9**
JTKR	**Abashiri--Toko**	**3.37**	**164**	P		**Pn**	**21 08 31.3**	**-0.8**
TYV	**Tymovskoe**	**3.65**	**0**	*e*PN		**Pn**	**21 08 37.7**	**+1.9**
TYV				*e*S		**Sn**	**21 09 19.5**	**+0.9**
TYV	**Tymovskoe**	**3.65**	**0**	*e*P		**Pn**	**21 08 37.8**	**+1.9**
TYV				*e*S		**Sb**	**21 09 25.8**	**-2.3**
JAR	**Ashorobuto**	**4.01**	**168**	P		**Pn**	**21 08 41.7**	**+0.9**
JAR				*e*S		**Sn**	**21 09 28.2**	**+0.6**
ERM	**Erimo**	**5.22**	**176**	*i* PN		**Pn**	**21 08 55.0**	**-2.5**
MKAR	**Makanchi Array**	**40.23**	**292**	*i* P		**P**	**21 15 16.1**	**+0.2**
MKAR	comp=Z,1.0nm,0.9s			pmax		pmax		

*IDC **03** 21:20:19.3±6.2, 35.°89N×71.°32E, h64km±38km, mb3.3/5, mb1 3.5/6, mb1mx3.2/28, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=80.7km s-min=30.2km az=142.0*

*NEIC **03** 21:20:25.9±2.2, 36.°45N±0.°03×70.°9E±0.°1, h110km±11km, mb4.0/4, Error ellipse: s-maj=12.4km s-min=4.6km az=83.0*

ISC 03 21:20:25.2±0.8, 36.°43N±0.°06×70.°94E±0.°07, h100km, n27, σ2°04/34, mb3.9/5, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.43**	**220**		Pn	**Pn**	**21 21 05.3**	**+1.7**
GAR	**Garm**	**2.62**	**349**		Pn	**Pn**	**21 21 07.1**	**+1.2**
GAR					Sn	**Sn**	**21 21 37.6**	**+0.3**
CHGR	**Chuyangaron**	**2.64**	**328**		Pn	**Pn**	**21 21 04.3**	**-1.9**
CHGR					Sn	**Sn**	**21 21 35.3**	**-2.4**
DRK	**Karamyk**	**3.12**	**12**			**Pn**	**21 21 14.2**	**+1.3**
NIL	**Nilore**	**3.36**	**145**		Pn	**Pn**	**21 21 16.4**	**+0.7**
BTK	**Batken**	**3.63**	**359**		Pn	**Pn**	**21 21 21.6**	**+2.2**
BTK					Sn	**Sn**	**21 22 03.7**	**+2.3**
KK31	**Karatay Array**	**6.68**	**357**		Pn	**Pn**	**21 22 01.1**	**+0.5**
KK31					Sn	**Sn**	**21 23 12.0**	**-3.2**
KKAR	**Karatay Array**	**6.68**	**357**		Pn	**Pn**	**21 22 00.8**	**+0.2**
KKAR					Sn	**Sn**	**21 23 11.8**	**-3.4**
KKAR	**Karatay Array**	**6.68**	**357**			**Pn**	**21 22 01.1**	**+0.4**
KKAR					Sn	**Sn**	**21 23 11.8**	**-3.4**
AAK	**Ala-Archa**	**6.79**	**23**		P	**Pn**	**21 22 02.8**	**+0.6**
AAK	2.0nm,0.3s,baz=204,slow=6.9,SNR=5.9				S	**Sn**	**21 23 15.4**	**-2.6**
	0.7nm,0.3s,baz=339,slow=22,SNR=1.5							
AAK	**Ala-Archa**	**6.79**	**23**			**Pn**	**21 22 02.1**	**-0.1**
BOOM	**Boomskoye usch**	**7.19**	**31**		Pn	**Pn**	**21 22 06.9**	**-0.8**
SMLA	**Simla**	**7.40**	**134**		*e*P	**Pn**	**21 22 08.2**	**-2.3**
SMLA					*e*S	Sn	21 23 24.9	-8.0
SMLA	comp=E,28nm,0.4s				IAML		21 23 27.7	
SMLA	comp=N,32nm,0.4s				IAML		21 23 28.8	
GEYT	**Alibeck**	**10.34**	**282**		P	**Pn**	**21 22 49.9**	**-0.5**
GEYT	comp=N,0.3nm,0.3s,baz=79,slow=9.4,SNR=1.5				S	**Sn**	**21 24 39.6**	**-4.8**
	comp=N,0.9nm,0.3s,baz=116,slow=32,SNR=4.6							
ABKAR	**Abkulak array**	**15.12**	**331**		Pn	**Pn**	**21 23 52.9**	**-0.4**
ABKAR	**Abkulak array**	**15.12**	**331**		Pn	**Pn**	**21 23 52.2**	**-1.1**
ABKAR	comp=Z,1.2nm,0.8s				IAmb	IAmb	21 23 54.6	
BRVK	**Borovoye**	**16.64**	**359**			**Pn**	**21 24 12.4**	**+0.3**
BRVK	comp=Z,2.7nm,0.6s				IAmb	IAmb	21 24 16.7	
ZALV	**Zalesovo Beam**	**20.00**	**24**		P	**P**	**21 24 49.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=212,slow=11,SNR=3.7							
ZALV	**Zalesovo Beam**	**20.00**	**24**		P	**P**	**21 24 49.2**	**-0.4**
CSS	**Mathiatis**	**30.45**	**279**		P	P	21 26 23.8	-4.5
CSS	comp=Z,6.0nm,0.9s				IAmb	IAmb	21 26 39.6	
SUW	**Suwalki**	**37.13**	**314**		P	**P**	**21 27 27.7**	**+1.8**
FINES	**FINESS Array B**	**37.52**	**326**		P	**P**	**21 27 31.7**	**+2.7**
	comp=Z,2.6nm,1.0s,baz=120,slow=22,SNR=3.5							
ARCES	**ARCESS Array B**	**41.19**	**338**		P	**P**	**21 28 02.6**	**+3.1**
	comp=Z,1.9nm,1.0s,baz=111,slow=7.2,SNR=4.7							
MSEY	**Mahe Island**	**43.37**	**203**		P	**P**	**21 28 17.7**	**0.0**
NB2	**NORSAR Subarra**	**44.41**	**323**		P	**P**	**21 28 28.0**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.41**	**323**		P	**P**	**21 28 27.9**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=84,slow=7.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**65.66**	**269**		P	**P**	**21 30 59.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=51,slow=6.9,SNR=5.2							

*JMA **03** 21:31:15.3±0.1, 24.°58N×122.°89E, h84km±1km, M2.2*

*TAP **03** 21:31:17.6, 24.°47N×122.°83E, h63km±1km, ML3.0, C*

ISC 03 21:31:16.6±1.3, 24.°49N±0.°05×122.°91E±0.°02, h77km±8km, n55, σ0°83/95, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.05**	**141**		P	**Pn**	**21 31 27.4**	**-0.1**
JYNG					S	**Sn**	**21 31 36.3**	**+0.7**
YOJ	**Yonaguni jima**	**0.09**	**106**		P	**Pn**	**21 31 27.4**	**-0.2**
YOJ					S	**Sn**	**21 31 36.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.09**	**106**		*e*P	**Pn**	**21 31 27.6**	**+0.1**
YOJ	baz=91							
IRIF	**Iriomote-Funau**	**0.76**	**101**		P	**Pn**	**21 31 32.3**	**-0.3**
IRIF					S	**Sn**	**21 31 45.1**	**+0.6**
HATJ	**Hateruma jima**	**0.92**	**118**		P	**Pn**	**21 31 35.1**	**+0.6**
HATJ					*e*S	**Sn**	**21 31 49.3**	**+1.5**
TWC	**Suao**	**0.98**	**277**		*e*P	**Pn**	**21 31 34.0**	**-1.2**
TWC	baz=278				*e*S	**Sn**	**21 31 47.7**	**-1.2**
	baz=278							
JKRS	**Kuro-shima**	**1.03**	**104**		P	**Pn**	**21 31 35.9**	**+0.1**
JKRS					S	**Sn**	**21 31 50.9**	**+0.8**
EWUT	**Wuta**	**1.03**	**268**		P	**Pn**	**21 31 36.2**	**+0.4**
	baz=268							
EWUT					*e*S	**Sn**	**21 31 49.2**	**-1.0**
	baz=268							
NDS	**Dongshan**	**1.10**	**278**		P	**Pn**	**21 31 36.5**	**-0.2**
	baz=278							
NDS					S	**Sn**	**21 31 50.8**	**-0.9**
	baz=278							
TIPB	**Shuangxi**	**1.10**	**296**		*e*P	**Pn**	**21 31 37.6**	**+0.9**
	baz=298							
TIPB					S	**Sn**	**21 31 51.3**	**-0.5**
	baz=298							
JIJ	**Ishigaki jima**	**1.13**	**96**		P	**Pn**	**21 31 36.5**	**-0.5**
JIJ					S	**Sn**	**21 31 51.9**	**-0.4**
TWE	**Neicheng**	**1.16**	**282**		P	**Pn**	**21 31 36.8**	**-0.6**
	baz=283							
TWE					*e*S	**Sn**	**21 31 52.2**	**-0.8**
	baz=283							
ETL	**Fush Village**	**1.22**	**255**		*e*P	**Pn**	**21 31 39.5**	**+1.3**
	baz=254							
ETL					*e*S	**Sn**	**21 31 54.7**	**+0.2**
	baz=254							
ENTT	**Nioudou**	**1.24**	**277**		P	**Pn**	**21 31 38.7**	**+0.4**
	baz=278							
ENTT					*e*S	**Sn**	**21 31 54.9**	**+0.1**
	baz=278							
NACB	**Ninganchiao**	**1.24**	**256**		*e*P	**Pn**	**21 31 37.6**	**-0.9**
	baz=255							
NACB					*e*S	**Sn**	**21 31 53.9**	**-1.0**
	baz=255							
TWD	**Chiawan**	**1.27**	**252**		*e*P	**Pn**	**21 31 40.2**	**+1.4**
	baz=250							
TWD					S	**Sn**	**21 31 54.8**	**-0.6**
	baz=250							
JISG	**Ishigakijimahi**	**1.28**	**85**		P	**Pn**	**21 31 38.1**	**-0.8**
JISG					S	**Sn**	**21 31 54.9**	**-0.7**
NDT	**Datong Townshi**	**1.28**	**275**		*e*P	**Pn**	**21 31 40.1**	**+1.2**
	baz=276							
TWA	**Mucha**	**1.30**	**292**		*e*P	**Pn**	**21 31 39.1**	**-0.2**
	baz=293							
NWLT	**Wulai**	**1.31**	**283**		*e*P	**Pn**	**21 31 40.1**	**+0.7**
	baz=283							
NWLT					*e*S	**Sn**	**21 31 56.6**	**+0.1**
	baz=283							
ETLH	**Xiulin Townshi**	**1.33**	**258**		P	**Pn**	**21 31 39.2**	**-0.5**
	baz=257							
TEYL	**Yanliau Villag**	**1.35**	**243**		*e*P	**Pn**	**21 31 40.4**	**+0.6**
	baz=243							
TEYL					S	**Sn**	**21 31 57.0**	**-0.3**
	baz=243							
YM01	**YM01**	**1.39**	**299**		*e*P	**Pn**	**21 31 39.5**	**-0.8**
	baz=300							
ETM	**Tongmen**	**1.40**	**248**		*e*P	**Pn**	**21 31 40.7**	**+0.2**
	baz=247							
ETM					S	**Sn**	**21 31 57.4**	**-1.0**
	baz=247							
YHNB	**Yeheng**	**1.41**	**278**		P	**Pn**	**21 31 40.8**	**+0.1**
	baz=278							
FUSS	**Fushou**	**1.54**	**261**		*e*P	**Pn**	**21 31 43.8**	**+1.2**
	baz=261							
FUSS					S	**Sn**	**21 32 01.1**	**-1.0**
	baz=261							
WHF	**Hehuan Shan**	**1.54**	**258**		*e*P	**Pn**	**21 31 44.4**	**+1.7**
	baz=256							
WHF					S	**Sn**	**21 32 01.4**	**-1.0**
	baz=256							
EGFH	**Guangfu**	**1.58**	**239**		*e*P	**Pn**	**21 31 43.7**	**+0.8**
	baz=238							
EGFH					S	**Sn**	**21 32 01.9**	**-0.8**
	baz=238							
JTJ	**Tarama**	**1.64**	**84**		P	**Pn**	**21 31 43.1**	**-0.4**
JTJ					*e*S	**Sn**	**21 32 03.9**	**-0.1**
CHGB	**Renai**	**1.64**	**255**		P	**Pn**	**21 31 43.9**	**0.0**
	baz=254							
OWD	**Renai**	**1.67**	**252**		*e*P	**Pn**	**21 31 43.7**	**-0.4**
	baz=251							
OWD					*e*S	**Sn**	**21 32 04.3**	**-0.7**
	baz=251							
HGSD	**Ruisui**	**1.68**	**234**		*e*P	**Pn**	**21 31 43.8**	**-0.4**
	baz=232							
NSTT	**Nanjuang**	**1.75**	**275**		*e*P	**Pn**	**21 31 46.9**	**+1.9**
	baz=275							
NSTT					*e*S	**Sn**	**21 32 06.2**	**-0.4**
	baz=275							
ECBN	**Changbin**	**1.77**	**229**		P	**Pn**	**21 31 45.6**	**+0.2**
	baz=227							
ECBN					S	**Sn**	**21 32 06.5**	**-0.8**
	baz=227							
WHP	**Taichung City**	**1.81**	**264**		P	**Pn**	**21 31 46.4**	**+0.5**
	baz=263							
WHP					*e*S	**Sn**	**21 32 08.2**	**+0.1**
	baz=263							
YULB	**Yu-li**	**1.84**	**234**		*e*P	**Pn**	**21 31 45.4**	**-0.9**
	baz=232							
EYUL	**Yuli**	**1.85**	**232**		P	**Pn**	**21 31 46.7**	**+0.3**
	baz=231							
EYUL					S	**Sn**	**21 32 09.0**	**0.0**
	baz=231							
TWF1	**Yuli**	**1.86**	**233**		*e*P	**Pn**	**21 31 45.9**	**-0.6**
	baz=231							
TWF1					S	**Sn**	**21 32 08.3**	**-1.1**
	baz=231							
WCS	**Beigang Elemen**	**1.88**	**257**		P	**Pn**	**21 31 48.1**	**+1.4**
	baz=256							
WCS					*e*S	**Sn**	**21 32 09.8**	**+0.2**
	baz=256							
SSLB	**Suanglung**	**1.92**	**249**		P	**Pn**	**21 31 48.6**	**+1.3**
	baz=248							
SSLB					*e*S	**Sn**	**21 32 10.8**	**0.0**
	baz=248							
SMLT	**Sun Moon Lake**	**1.93**	**252**		P	**Pn**	**21 31 48.5**	**+0.8**
	baz=251							
SMLT					*e*S	**Sn**	**21 32 12.2**	**+0.9**
	baz=251							
YUS	**Yu-Shan**	**2.05**	**241**		P	**Pn**	**21 31 49.4**	**-0.1**
	baz=240							
YUS					S	**Sn**	**21 32 14.2**	**-0.3**
	baz=240							
JIRB	**Irabujima**	**2.08**	**80**		*e*S	**Sn**	**21 32 13.6**	**-1.0**
WJS	**Zhushan**	**2.10**	**252**		*e*P	**Pn**	**21 31 51.0**	**+1.2**
	baz=251							
EDH	**Donghe**	**2.11**	**225**		*e*P	**Pn**	**21 31 49.3**	**-0.6**
	baz=223							
EDH					*e*S	**Sn**	**21 32 13.1**	**-2.1**
	baz=223							
JIKM	**Ikemajima**	**2.17**	**78**		P	**Pn**	**21 31 50.6**	**0.0**
JIKM					*e*S	**Sn**	**21 32 17.1**	**+0.5**
JMJ2	**Miyako jima3**	**2.21**	**83**		*e*S	**Sn**	**21 32 17.9**	**+0.2**
CHN5	**Tsauling**	**2.23**	**247**		*e*P	**Pn**	**21 31 52.8**	**+1.2**
	baz=246							
CHN5					*e*S	**Sn**	**21 32 19.7**	**+1.5**
	baz=246							
LDUT	**Ludao**	**2.24**	**217**		*e*P	**Pn**	**21 31 50.6**	**-1.0**
	baz=214							
LONT	**Longtian**	**2.27**	**226**		P	**Pn**	**21 31 52.1**	**+0.1**
	baz=225							
LONT					S	**Sn**	**21 32 19.2**	**+0.1**
	baz=225							
TWGBT	**Beinan**	**2.36**	**226**		*e*P	**Pn**	**21 31 53.0**	**-0.2**
	baz=224							
TWGBT					S	**Sn**	**21 32 20.9**	**-0.5**
	baz=224							
STYT	**Tauyuan**	**2.37**	**237**		P	**Pn**	**21 31 54.4**	**+0.9**
	baz=235							
STYT					*e*S	**Sn**	**21 32 21.0**	**-0.7**
	baz=235							
TPUB	**Ta-pu**	**2.40**	**241**		P	**Pn**	**21 31 54.9**	**+1.1**
	baz=239							
TPUB					*e*S	**Sn**	**21 32 23.3**	**+1.0**
	baz=239							
CHN4	**Tsaushan**	**2.41**	**242**		*e*P	**Pn**	**21 31 55.0**	**+1.2**
	baz=241							
MASBT	**Mashibuluo**	**2.80**	**229**		P	**Pn**	**21 32 00.0**	**+0.8**
	baz=227							

*TUL **03** 21:40:09±1.1, 35.°82N±0.°01×97.°45W±0.°01, h5km±2km, ML2.0, mb_Lg2.3/3(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=127.0*

NEIC 03 21:40:08.6±0.9, 35.°835N±0.°005×97.°46W±0.°01, h4km±3km, Error ellipse: s-maj=1.7km s-min=0.7km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.04**	**180**			Pg	21 40 09.7	+0.1
OK029					Sg	Sg	21 40 10.6	+0.3
BCOK	**Bluff Creek, N**	**0.22**	**215**		Pg	Pg	21 40 13.0	+0.2
BCOK					Sg	Sg	21 40 16.2	+0.5
OK025	**Westminster Rd**	**0.27**	**159**		Pg	Pg	21 40 13.9	+0.1
OK001	**Jones High Sch**	**0.30**	**154**		Pg	Pg	21 40 14.5	0.0
OKCFA	**Oklahoma City**	**0.42**	**180**		Pg	Pg	21 40 16.4	-0.2
OKCFA					Sg	Sg	21 40 22.5	+0.4
OKCSW	**OKLAHOMA CITY**	**0.43**	**178**		Pg	Pg	21 40 16.8	0.0
OKCSW					Sg	Sg	21 40 22.9	+0.4
OK031	**S. Brethren Rd**	**0.51**	**77**		Pg	Pg	21 40 18.6	+0.2
OK031					Sg	Sg	21 40 25.6	+0.4
OK030	**Cody Creek RV**	**0.55**	**80**		Pg	Pg	21 40 19.2	0.0
OK030					Sg	Sg	21 40 26.7	+0.3
FNO	**Franklin**	**0.58**	**176**		Pg	Pg	21 40 19.5	-0.2
QUOK	**Quay**	**0.69**	**61**		Pg	Pg	21 40 21.9	0.0
CROK	**Carrier**	**0.79**	**328**		Pg	Pg	21 40 24.1	+0.3
BLOK	**Blackwell**	**0.94**	**12**		Pg	Pg	21 40 26.4	-0.3
OK032	**Salt Plains WL**	**1.14**	**328**		Pg	Pg	21 40 30.2	-0.3
KAN13	**South Haven SW**	**1.18**	**359**		Pg	Pg	21 40 31.0	-0.1
KAN17	**Caldwell West**	**1.23**	**348**		Pg	Pg	21 40 31.8	-0.4
X34A	**Smith Ranch, M**	**1.27**	**194**		Pg	Pg	21 40 32.4	-0.5
KAN09	**Caldwell North**	**1.30**	**354**		Pn	Pg	21 40 33.1	-0.5
KAN09					IAmb_Lg		21 40 53.7	
	comp=Z,18nm,0.9s							
KAN05	**Bluff City Nor**	**1.31**	**345**		Pn	Pn	21 40 33.2	-0.6
T35A	**Sooner Cattle**	**1.32**	**35**		Pn	Pn	21 40 33.2	-0.7
KAN12	**Harper NE Stat**	**1.52**	**343**		Pn	Pn	21 40 36.7	0.0
WMOK	**Wichita Mounta**	**1.54**	**225**			Pn	21 40 36.5	-0.5
WMOK					IAmb_Lg		21 41 00.5	
	comp=Z,2.4nm,0.7s							
LOOK	**Love County**	**1.85**	**173**		Pn	Pn	21 40 41.7	+0.5
X37A	**Clayton**	**2.11**	**125**		Pn	Pn	21 40 45.6	+0.8
Z47A	**Carrollton**	**8.18**	**106**		IAmb_Lg		21 44 25.6	
	comp=Z,24nm,0.7s							

*IDC **03** 22:03:53.9±1.5, 39.°08N×110.°56E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/49, mbtmp3.5/6, ML3.2/2, MS3.9/2, Ms1 3.9/2, ms1mx2.5/44, Error ellipse: s-maj=36.7km s-min=20.8km az=65.0*

ISC 03 22:03:58.6±1.0, 39.°1N±0.°1×110.°6E±0.°1, h35km, n8, σ0°50/6, mb3.4/4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.26**	**342**		Pn	**Pn**	**22 06 09.6**	**0.0**
	0.2nm,0.3s,baz=159,slow=12,SNR=5.8							
SONM					Lg	Lg	22 08 45.9	
	0.3nm,0.3s,baz=154,slow=27,SNR=5.4							
KSRS	**Korea Array**	**13.71**	**91**		Pn	**Pn**	**22 07 10.0**	**-0.3**
	0.1nm,0.3s,baz=260,slow=15,SNR=1.8							
JNU	**Nakatsue**	**17.42**	**104**		LR	LR	22 13 57.8	
	comp=Z,569nm,21.9s,baz=266,slow=35							
MKAR	**Makanchi Array**	**22.03**	**300**		P	**P**	**22 08 49.7**	**-0.2**
	1.7nm,0.8s,baz=101,slow=12,SNR=13							
CMAR	**Chiang Mai Arr**	**22.92**	**210**		P	**P**	**22 08 59.0**	**-0.5**
	2.6nm,0.9s,baz=13,slow=9.9,SNR=10							
KURBB	**Kurchatov Arra**	**25.29**	**308**		P	**P**	**22 09 21.8**	**+0.2**
	0.2nm,0.3s,baz=108,slow=11,SNR=2.1							
PALK	**Pallekele**	**41.56**	**228**		LR	LR	22 33 06.4	
	comp=Z,138nm,19.4s,baz=243,slow=42							
ASAR	**Alice Springs**	**66.13**	**157**		P	**P**	**22 14 42.9**	**+0.6**
	0.2nm,0.7s,baz=348,slow=8.5,SNR=1.7							

*IDC **03** 22:07:27.1±1.2, 48.°89S×121.°36E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/27, mbtmp3.8/6, MS3.5/1, Ms1 3.6/1, ms1mx2.9/17, Error ellipse: s-maj=49.1km s-min=22.0km az=104.0*

*NEIC **03** 22:07:28.3±1.2, 48.°9S±0.°1×121.°1E±0.°3, h10km±2km, mb4.2/10, Error ellipse: s-maj=33.4km s-min=7.4km az=298.0*

ISC 03 22:07:28.4±1.0, 48.°9S±0.°1×121.°3E±0.°2, h10km, n21, σ0°77/15, mb3.8/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.93**	**337**		T	T	22 26 26.5	
	baz=159,slow=73,SNR=92							
H01W2	**Cape Leeuwin H**	**14.93**	**336**		T	T	22 26 27.2	
	baz=159,slow=73,SNR=62							
H01W3	**Cape Leeuwin H**	**14.94**	**336**		T	T	22 26 27.5	
	baz=159,slow=73,SNR=90							
FORT	**Forrest**	**18.77**	**18**			**P**	**22 11 47.4**	**-0.1**
FORT					IAmb	IAmb	22 12 09.2	
	comp=Z,7.3nm,0.6s							
TOO	**Toolangi**	**20.82**	**66**		P	**P**	**22 12 10.0**	**0.0**
TOO					IAmb	IAmb	22 12 33.6	
	comp=Z,32nm,1.4s							
STKA	**Stephens Creek**	**22.83**	**49**		P	**P**	**22 12 31.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=214,slow=15,SNR=2.5							
ASAR	**Alice Springs**	**27.04**	**26**		P	**P**	**22 13 11.4**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=194,slow=9.2,SNR=10							
ASAR	**Alice Springs**	**27.04**	**26**		P	**P**	**22 13 10.7**	**0.0**
AS31	**Alice Springs**	**27.04**	**26**		P	**P**	**22 13 10.3**	**-0.5**
PSA00	**Pilbara Seismi**	**27.25**	**357**		P	**P**	**22 13 11.5**	**-1.2**
PSA00					IAmb	IAmb	22 13 24.9	
	comp=Z,5.8nm,1.4s							
WRA	**Warramunga Arr**	**30.69**	**25**		P	**P**	**22 13 43.3**	**0.0**
	comp=Z,1.2nm,1.0s,baz=196,slow=12,SNR=3.7							
WRA	**Warramunga Arr**	**30.69**	**25**		IAmb	IAmb	22 13 44.5	
	comp=Z,0.5nm,1.4s							
WB2	**Warramunga Arr**	**30.69**	**25**		P	**P**	**22 13 44.0**	**+0.7**
WRAB	**Tennant Creek**	**30.70**	**25**		P	**P**	**22 13 44.1**	**+0.7**
WRAB					IAmb	IAmb	22 13 59.6	
	comp=Z,7.5nm,1.1s							
WKZ	**Wanaka**	**32.45**	**101**		P	**P**	**22 13 59.6**	**+1.0**
VNDA	**Vanda**	**32.64**	**165**		P	**P**	**22 14 00.2**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=299,slow=10,SNR=4.4							
VNDA					LR	LR	22 26 40.4	
	comp=Z,74nm,18.1s,baz=322,slow=35							
VNDA	**Vanda**	**32.64**	**165**		IAmb	IAmb	22 14 10.8	
	comp=Z,3.0nm,1.2s							
TUWZ	**Tuamarina**	**37.20**	**99**		P	**P**	**22 14 38.2**	**-1.4**
SNAA	**Sanae**	**53.49**	**199**		P	**P**	**22 16 47.9**	**-0.4**
	comp=Z,1.3nm,1.0s,baz=102,slow=19,SNR=2.8							
SNAA	**Sanae**	**53.49**	**199**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I19DJ	**I19DJ**	**3.89**	**191**	*i*		22 57 10.0	
	baz=12,slow=316,SNR=0.9						
I32KE	**NAIROBI INFRAS**	**17.89**	**204**	*i*		00 20 20.0	
	baz=20,slow=320,SNR=12						
I48TN	**KESRA INFRASON**	**37.01**	**310**	*i*		02 13 56.9	
	baz=116,slow=304,SNR=1.9						
I26DE	**FREYUNG INFRAS**	**41.60**	**330**	*i*		02 49 00.0	
	baz=137,slow=311,SNR=0.9						

*IDC **03** 22:32:40.6±3.4, 37°.14N×78°.49E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.4/49, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=66.8km s-min=37.4km az=107.0*

*NNC **03** 22:32:49.4±1.5, 37°.78N×78°.00E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=14.2km s-min=9.6km az=84.0*

ISC 03 22:32:53.0±2.4, 38°.0N±0°.2×77°.88E±0°.09, h10km, n18, σ3°59/14, mb3.8/3, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.07**	**4**	Pg	**Pg**	**22 34 26.3**	**-3.8**
	15nm,0.6s						
SATY				Lg	Lg	22 35 37.6	
	30nm,0.7s						
MDOK	**Medeo**	**5.20**	**353**	Pg	**Pb**	**22 34 26.8**	**+2.7**
	11nm,0.5s						
MDOK				Lg	Lg	22 35 43.4	
	28nm,0.8s						
MDOK	**Medeo**	**5.20**	**353**	Pg	**Pb**	**22 34 28.3**	**+4.2**
	9.4nm,0.3s						
MDOK				Lg	Lg	22 35 42.2	
	24nm,0.7s						
KST	**Kastek**	**5.25**	**344**	Pg	**Pb**	**22 34 29.2**	**+4.3**
	7.6nm,0.3s						
KST				Lg	Lg	22 35 43.5	
	15nm,0.8s						
AAK	**Ala-Archa**	**5.31**	**332**	Pn	Pb	22 34 19.5	-6.5
	1.1nm,0.3s,baz=206,slow=1.7,SNR=3.6						
AAK				Pg	**Pg**	**22 34 33.3**	**-1.4**
	2.9nm,0.3s,baz=142,slow=8.3,SNR=7.5						
AAK				Lg	Lg	22 35 47.3	
	2.0nm,0.3s,baz=51,slow=15,SNR=2.4						
AAK	**Ala-Archa**	**5.31**	**332**	⇑Pg	**Pb**	**22 34 30.7**	**+4.8**
	7.2nm,0.5s						
AAK				⇓Lg	Lg	22 35 47.1	
	22nm,1.0s						
DGS	**Degeres**	**5.48**	**344**	Pg	Pb	22 34 33.8	+5.0
	13nm,0.3s						
DGS				Lg	Lg	22 35 51.5	
	12nm,0.3s						
KURS	**Kuram**	**5.49**	**2**	Pg	**Pg**	**22 34 34.9**	**-3.3**
	11nm,0.4s						
KURS				Lg	Lg	22 35 53.4	
	26nm,1.1s						
KTBS	**Karatobe**	**5.78**	**351**	Pg	Pb	22 34 38.9	+4.9
	3.7nm,0.2s						
KTBS				Lg	Lg	22 35 58.5	
	31nm,0.5s						
CHKK	**Chushkaly**	**5.89**	**354**	Pg	Pb	22 34 40.9	+5.1
	4.9nm,0.3s						
CHKK				Lg	Lg	22 36 04.0	
	12nm,0.2s						
SGDS	**Sogindy**	**5.98**	**337**	Pg	**Pg**	**22 34 43.9**	**-3.6**
	3.2nm,0.2s						
SGDS				Lg	Lg	22 36 06.5	
	6.3nm,0.6s						
KUU	**Kurty**	**6.00**	**349**	Pg	**Pb**	**22 34 41.9**	**+4.2**
	2.3nm,0.4s						
KUU				Lg	Lg	22 36 05.3	
	5.4nm,0.7s						
ARXS	**Arharly**	**6.21**	**360**	Pg	Pb	22 34 46.5	+5.2
	16nm,0.4s						
ARXS				Lg	Lg	22 36 13.0	
	13nm,0.4s						
MKAR	**Makanchi Array**	**9.37**	**19**	Pn	**Pn**	**22 35 07.1**	**-1.0**
	0.8nm,0.3s,baz=200,slow=13,SNR=69						
MKAR				Sn	**Sn**	**22 36 52.8**	**-0.8**
	0.7nm,0.3s,baz=198,slow=24,SNR=6.8						
WMQ	**Urumqi**	**9.43**	**49**	*eP*	**Pn**	**22 35 10.3**	**+1.3**
WMQ				smax	smax		
	comp=N,15nm,0.5s						
WMQ				smax	smax		
	comp=E,14nm,0.5s						
FINES	**FINESS Array B**	**39.43**	**324**	P	**P**	**22 40 19.6**	**-3.2**
	comp=E,0.9nm,0.4s,baz=112,slow=11,SNR=15						
ARCES	**ARCESS Array B**	**41.97**	**335**	P	**P**	**22 40 41.8**	**-1.9**
	comp=E,1.7nm,0.9s,baz=108,slow=8.6,SNR=2.0						
TORD	**Torodi Ar. Bea**	**71.19**	**272**	P	P	22 44 04.6	-7.8
	comp=E,0.2nm,0.6s,baz=50,slow=5.2,SNR=1.9						

FUNV 03 22:55:24.8, 9°.37N×62°.81W, h36km, MW3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**1.37**	**342**	*eP*	Pn	22 55 45.6	-1.7
CRUV				*eS*	Sn	22 56 01.2	-3.0
RIOV	**Rio Grande**	**1.62**	**143**	*eP*	Pn	22 55 49.9	-1.0
RIOV				*eS*	Sn	22 56 09.6	-1.0
PRGV	**PARIAGUAN**	**1.92**	**252**	*eP*	Pn	22 55 54.4	-0.6
PRGV				*eS*	Sn	22 56 16.1	-1.7
PCRV	**Puerto La Cruz**	**1.98**	**294**	*eP*	Pn	22 55 55.4	-0.3
PCRV				*eS*	Sn	22 56 16.4	-2.9
GRGR	**Grenville**	**2.97**	**22**	*eP*	Pn	22 56 08.4	-1.0
GRGR				*eS*	Sn	22 56 41.0	-2.9
MERV	**Las Mercedes**	**3.45**	**268**	*eP*	Pn	22 56 15.8	-0.2
MERV				*eS*	Sn	22 56 51.7	-3.9
BIRV	**Birongo**	**3.59**	**288**	*eP*	Pn	22 56 16.8	-1.1
BIRV				*eS*	Sn	22 56 54.7	-4.3
LUEV	**Luepa**	**3.75**	**159**	*eP*	Pn	22 56 18.5	-1.7
LUEV				*eS*	Sn	22 56 59.4	-3.8
CACV	**CAICARA DEL OR**	**4.11**	**244**	*eP*	Pn	22 56 18.5	-6.5
CACV				*eS*	Sn	22 56 56.4	-15
TACV	**Tcata**	**4.23**	**281**	*eP*	Pn	22 56 26.0	-0.8
TACV				*eS*	Sn	22 57 10.9	-4.2
BENV	**Beln**	**4.76**	**278**	*eP*	Pn	22 56 33.1	-1.1
BENV				*eS*	Sn	22 57 22.8	-5.4
BAUV	**El Baul**	**5.19**	**266**	*eP*	Pn	22 56 37.7	-2.2
BAUV				*eS*	Sn	22 57 31.5	-7.1
PAYV	**Puerto Ayacuch**	**6.21**	**231**	*eP*	Pn	22 56 51.4	-2.5
PAYV				*eS*	Sn	22 57 56.2	-7.5

*ARE **03** 23:06:46±2.7, 16°.48S±0°.07×73°.09W±0°.10, h34km±5km, Error ellipse: s-maj=13.4km s-min=9.2km az=71.0*

*NEIC **03** 23:06:47.2±1.6, 16°.57S±0°.07×73°.17W±0°.04, h26km±6km, mb4.1/7, ML4.1(ARE), Error ellipse: s-maj=9.7km s-min=5.1km az=175.0*

*IDC **03** 23:06:48.7±3.0, 16°.39S×72°.92W, h40km±25km, mb3.7/5, mb1 4.0/8, mb1mx3.7/35, mbtmp4.0/8, ML4.3/3, MS2.8/5, Ms1 2.8/5, ms1mx2.7/30, Error ellipse: s-maj=28.4km s-min=22.0km az=89.0*

ISC 03 23:06:49.6±0.6, 16°.64S±0°.06×73°.09W±0°.07, h57km, n57, σ1°59/49, mb4.0/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.14**	**124**		**Pn**	**23 07 37.0**	**+0.4**
PB16	**IPOC Station P**	**3.81**	**117**	Pn	**Pn**	**23 07 46.2**	**-0.2**
PSGCX	**Pisagua**	**4.08**	**137**	Pn	**Pn**	**23 07 48.8**	**-0.8**
MNMC	**Minye Minye**	**4.15**	**127**		**Pn**	**23 07 50.3**	**-0.4**
PB11	**IPOC Station P**	**4.51**	**134**		**Pn**	**23 07 55.1**	**-0.4**
TA02	**Huaiquique**	**4.58**	**143**		**Pn**	**23 07 56.0**	**-0.3**
LPAZ	**La Paz**	**4.77**	**87**	Pn	**Pn**	**23 08 01.8**	**+2.3**
	3.6nm,0.3s,baz=274,slow=9.1,SNR=76						
LPAZ				Sn	**Sn**	**23 08 55.9**	**+2.0**
	baz=244,slow=8.3,SNR=1.0						
LPAZ				LR	LR	23 10 11.7	
	comp=Z,160nm,21.8s,baz=270,slow=44						
LPAZ	**La Paz**	**4.77**	**87**	Pn	**Pn**	**23 08 01.6**	**+2.1**
TA01	**Diego Aracena**	**4.78**	**145**	Pn	**Pn**	**23 07 58.6**	**-0.5**
PB08	**IPOC Station P**	**5.11**	**134**		**Pn**	**23 08 04.5**	**+0.5**
PB01	**IPOC Station P**	**5.55**	**143**		**Pn**	**23 08 09.0**	**-0.8**
NNA	**Nana**	**5.88**	**321**	Pn	**Pn**	**23 08 11.7**	**-2.6**
	13nm,0.3s,baz=126,slow=14,SNR=13						
NNA				Sn	**Sn**	**23 09 21.6**	**+1.2**
	12nm,0.3s,baz=274,slow=22,SNR=3.7						
NNA	**Nana**	**5.88**	**321**	Pn	**Pn**	**23 08 12.5**	**-1.8**
NNA					**Sn**	**23 09 20.4**	**0.0**
PB07	**IPOC Station P**	**5.90**	**150**		**Pn**	**23 08 13.8**	**-0.8**
PB09	**IPOC Station P**	**6.29**	**145**		**Pn**	**23 08 20.5**	**+0.6**
PB04	**IPOC Station P**	**6.31**	**154**		**Pn**	**23 08 19.2**	**-1.0**
PB06	**IPOC Station P**	**6.89**	**152**		**Pn**	**23 08 27.2**	**-0.9**
LVC	**Limon Verde**	**7.13**	**147**	Pn	**Pn**	**23 08 32.3**	**+0.7**
	14nm,0.3s,baz=338,slow=8.9,SNR=35						
LVC				Sn	**Sn**	**23 09 50.3**	**-1.2**
	7.0nm,0.3s,baz=97,slow=23,SNR=11						
LVC				LR	LR	23 10 53.5	
	comp=Z,38nm,20.4s,baz=352,slow=34						
LVC	**Limon Verde**	**7.13**	**147**	Pn	**Pn**	**23 08 31.8**	**+0.1**
PB10	**IPOC Station P**	**7.24**	**161**	Pn	**Pn**	**23 08 32.2**	**-0.7**
PB15	**IPOC Station P**	**7.37**	**153**		**Pn**	**23 08 34.1**	**-0.7**
PB14	**IPOC Station P**	**8.34**	**163**	Pn	**Pn**	**23 08 46.1**	**-2.0**
GO02	**Mina Guanaco**	**9.09**	**160**		**Pn**	**23 08 58.3**	**-0.1**
AC01	**Pan de Azucar**	**9.74**	**167**	Pn	**Pn**	**23 09 06.5**	**-0.6**
ATAH	**Atahualpa**	**10.78**	**331**	Pn	**Pn**	**23 09 23.8**	**+2.1**
	0.7nm,0.3s,baz=101,slow=7.0,SNR=4.2						
ATAH				Sn	**Sn**	**23 11 24.4**	**+3.4**
	0.3nm,0.3s,baz=295,slow=23,SNR=1.5						
ATAH				LR	LR	23 13 04.3	
	comp=Z,64nm,19.1s,baz=122,slow=35						
AC02	**Maricunga**	**10.79**	**161**		**Pn**	**23 09 22.8**	**+0.9**
SIV	**San Ignacio**	**11.56**	**89**	Pn	**Pn**	**23 09 30.0**	**-2.0**
	0.7nm,0.3s,baz=286,slow=8.8,SNR=9.1						
AC04	**Llanos de Chal**	**11.66**	**171**	Pn	**Pn**	**23 09 31.6**	**-1.7**
MT01	**Popeta**	**17.23**	**175**		**P**	**23 10 47.2**	**0.0**
MT01				IAmb	IAmb	23 11 06.3	
	comp=Z,22nm,1.4s						
H03N1	**Juan Fernandez**	**17.54**	**196**	T	T	23 28 56.6	
	baz=20,slow=74,SNR=4253						
CPUP	**Villa Florida**	**17.54**	**126**	LR	LR	23 17 39.4	
	comp=Z,23nm,19.2s,baz=289,slow=37						
H03N2	**Juan Fernandez**	**17.54**	**196**	T	T	23 29 03.6	
	baz=20,slow=74,SNR=4320						
H03N3	**Juan Fernandez**	**17.55**	**196**	T	T	23 28 49.5	
	baz=20,slow=74,SNR=4329						
H03S3	**Juan Fernandez**	**17.90**	**196**	T	T	23 29 14.0	
	baz=80,slow=15,SNR=52						
H03S2	**Juan Fernandez**	**17.91**	**196**	T	T	23 29 12.8	
	baz=80,slow=15,SNR=57						
H03S1	**Juan Fernandez**	**17.91**	**196**	T	T	23 29 07.3	
	baz=80,slow=15,SNR=56						
BO02	**Sierra Bellavi**	**18.20**	**174**	P	**Pn**	**23 10 58.9**	**+0.7**
PTGA	**Pitinga**	**20.42**	**41**	P	**P**	**23 11 18.8**	**-3.5**
	comp=Z,2.9nm,0.5s,baz=213,slow=17,SNR=8.3						
PTGA	**Pitinga**	**20.42**	**41**	P	**P**	**23 11 19.7**	**-2.6**
PTGA				IAmb	IAmb	23 11 33.2	
	comp=Z,4.7nm,1.0s						
PLCA	**Paso Flores**	**24.11**	**175**	P	**P**	**23 12 03.8**	**+3.7**
	comp=Z,1.5nm,0.8s,baz=327,slow=14,SNR=3.2						
PLCA				LR	LR	23 20 21.1	
	comp=Z,27nm,18.2s,baz=298,slow=33						
PLCA	**Paso Flores**	**24.11**	**175**	P	**P**	**23 12 02.6**	**+2.5**
PLCA				IAmb	IAmb	23 12 20.5	
	comp=Z,13nm,1.5s						
PCDR	**Punta Cana, DR**	**35.24**	**8**	P	**P**	**23 13 35.6**	**-3.1**
QSPA	**South Pole Qui**	**73.52**	**180**	P	**P**	**23 18 18.1**	**+1.8**
	comp=Z,2.5nm,1.1s,baz=22,slow=0.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**79.59**	**73**	P	**P**	**23 18 50.5**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=259,slow=4.8,SNR=9.8						
TORD				pP	**PcP**	**23 19 00.0**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=259,slow=5.3,SNR=16						
ESDC	**Sonseca Array**	**85.26**	**46**	P	**P**	**23 19 20.5**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=257,slow=6.1,SNR=4.6						
ESDC	**Sonseca Array**	**85.26**	**46**	IAmb	IAmb	23 19 31.9	
	comp=Z,1.4nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**123.16**	**283**	T	T	01 41 04.0	
	baz=98,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**123.17**	**283**	T	T	01 41 09.3	
	baz=98,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**123.18**	**283**	T	T	01 41 08.7	
	baz=98,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**123.19**	**281**	T	T	01 40 46.6	
	baz=99,slow=75,SNR=82						
H11S1	**WAKE ISLAND Hy**	**123.20**	**281**	T	T	01 40 49.2	
	baz=99,slow=75,SNR=109						
H11S3	**WAKE ISLAND Hy**	**123.21**	**281**	T	T	01 40 48.0	
	baz=99,slow=75,SNR=106						
ASAR	**Alice Springs**	**132.04**	**214**	PKP	**PKiKP**	**23 25 58.3**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=143,slow=2.0,SNR=2.1						
WRA	**Warramunga Arr**	**134.75**	**218**	PKP	**PKiKP**	**23 26 04.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=146,slow=1.9,SNR=8.1						
MJAR	**Matsushiro Arr**	**145.93**	**312**	PKPbc	**PKPbc**	**23 26 23.2**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=88,slow=2.0,SNR=4.6						
SONM	**Songino Array**	**148.89**	**1**	PKPbc	**PKiKP**	**23 26 32.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=2.9,SNR=2.5						
KSRS	**Korea Array**	**152.19**	**322**	PKPbc	**PKiKP**	**23 26 40.3**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=108,slow=2.8,SNR=5.3						

*BJI **03** 23:11:28.8±0.0, 17°.10N×145°.94E, h153km, mB4.7/15, mb4.5/28*

*NEIC **03** 23:11:30.4±1.8, 16°.86N±0°.08×145°.8E±0°.1, h150km±6km, mb4.9/219, Error ellipse: s-maj=15.2km s-min=11.6km az=87.0*

*IDC **03** 23:11:31.8±2.9, 16°.95N×145°.67E, h174km±26km, mb3.8/21, mb1 4.0/21, mb1mx3.8/45, mbtmp4.3/21, Error ellipse: s-maj=15.5km s-min=9.5km az=93.0*

ISC 03 23:11:29.8±0.3, 16°.89N±0°.06×145°.77E±0°.07, h150km, n339, σ0°83/247, mb4.8/134, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.55**	**186**	Pn	**Pn**	**23 11 51.9**	**+0.4**
PATS	**Pohnpei**	**15.81**	**128**	P	**P**	**23 15 06.5**	**+1.4**
JOW	**Kunigami**	**19.00**	**304**	P	**Pn**	**23 15 42.8**	**+0.5**
	7.2nm,0.3s,baz=133,slow=10,SNR=13						
JOW	**Kunigami**	**19.00**	**304**		**Pn**	**23 15 42.6**	**+0.3**
JOW				IAmb	IAmb	23 15 44.1	
	comp=Z,64nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**19.99**	**82**	T	T	23 36 51.4	
	baz=266,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**20.00**	**82**	T	T	23 36 41.5	
	baz=266,slow=75,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**20.01**	**82**	T	T	23 36 35.4	
	baz=266,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**20.24**	**79**	T	T	23 36 54.3	
	baz=264,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**20.25**	**79**	T	T	23 36 55.0	
	baz=264,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**20.26**	**79**	T	T	23 37 01.8	
	baz=264,slow=75,SNR=12						
MJAR	**Matsushiro Arr**	**20.69**	**343**	P	**P**	**23 15 57.8**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=162,slow=10,SNR=2.4						
JHS	**Saijyo**	**21.29**	**330**	P	**P**	**23 16 05.6**	**+1.0**
JHS				IAmb	IAmb	23 16 07.9	
	comp=Z,32nm,0.5s						
SIJI	**Sorong**	**22.72**	**220**	P	**P**	**23 16 19.4**	**+0.3**
	comp=Z,21nm,0.7s,baz=99,slow=18,SNR=3.5						
FAKI	**Fak Fak**	**23.79**	**215**	P	**P**	**23 16 29.0**	**+0.1**
FAKI				IAmb	IAmb	23 16 42.5	
	comp=Z,29nm,1.1s						
YULB	**Yu-li**	**23.85**	**290**	P	**P**	**23 16 29.6**	**+0.2**
TWG	**Pinlang**	**23.95**	**288**	P	**P**	**23 16 30.6**	**+0.2**
TWG				IAmb	IAmb	23 16 35.0	
	comp=Z,55nm,1.4s						
YHNB	**Yeheng**	**24.06**	**293**	P	**P**	**23 16 31.8**	**+0.4**
YHNB				IAmb	IAmb	23 16 34.0	
	comp=Z,26nm,0.7s						
SSLB	**Suanglung**	**24.24**	**291**	P	**P**	**23 16 34.1**	**+1.1**
SSLB				IAmb	IAmb	23 16 35.8	
	comp=Z,28nm,0.8s						
KSRS	**Korea Array**	**25.83**	**326**	P	**P**	**23 16 47.8**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=149,slow=9.9,SNR=8.4						
NJ2	**Nanjing**	**28.67**	**307**	*eP*	**P**	**23 17 12.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MTN	**Manton Dam**	**32.90**	**207**	P	**P**	**23 17 52.1**	**+2.2**
MTN				IAmb	IAmb	23 18 06.0	
	comp=Z,55nm,1.5s						
KLR	**Kul'dur**	**34.21**	**344**	P	**P**	**23 17 59.4**	**-1.5**
	comp=Z,0.8nm,0.4s,baz=128,slow=7.7,SNR=6.0						
KNRA	**Kununurra**	**36.45**	**208**	P	**P**	**23 18 20.0**	**-0.4**
KNRA				IAmb	IAmb	23 18 28.2	
	comp=Z,60nm,1.5s						
XAN	**Xi'an**	**37.15**	**304**	P	**P**	**23 18 26.3**	**0.0**
XAN				pP	pP	23 18 59.8	+2.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**37.33**	**12**	P	**P**	**23 18 28.0**	**+0.5**
PEA0B				IAmb	IAmb	23 18 48.3	
	comp=Z,23nm,1.4s						
PETK	**Petropavlovsk-**	**37.33**	**12**	P	**P**	**23 18 27.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=200,slow=3.8,SNR=2.2						
PETK	**Petropavlovsk-**	**37.33**	**12**	P	**P**	**23 18 26.9**	**-0.6**
GYA	**Guiyang**	**37.45**	**292**	⇓P	**P**	**23 18 30.6**	**+1.6**
HHC	**Hu-ho-hao-te**	**37.93**	**316**	*eP*	**P**	**23 18 33.9**	**+1.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,74nm,5.4s						
WB0	**Warramunga Arr**	**38.11**	**198**	P	**P**	**23 18 33.7**	**-0.6**
WR0	**Warramunga Arr**	**38.25**	**197**	P	**P**	**23 18 34.6**	**-0.9**
WB2	**Warramunga Arr**	**38.29**	**198**	P	**P**	**23 18 35.0**	**-0.8**
WB2				IAmb	IAmb	23 18 36.5	
	comp=Z,8.1nm,0.6s						
WRA	**Warramunga Arr**	**38.29**	**198**	P	**P**	**23 18 34.7**	**-1.2**
	comp=Z,4.1nm,0.6s,baz=23,slow=9.6,SNR=55						
WRA				PcP	**PcP**	**23 20 45.6**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=16,slow=3.8,SNR=5.8						
WRA	**Warramunga Arr**	**38.29**	**198**	P	**P**	**23 18 34.3**	**-1.6**
LZH	**Lanzhou**	**41.73**	**306**	*eP*	**P**	**23 19 05.1**	**+0.8**
LZH				pP	pwP	23 19 41.6	+0.7
LZH				sP	sP	23 19 55.8	+2.9
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**41.95**	**196**	P	**P**	**23 19 06.3**	**+0.3**
ASAR	**Alice Springs**	**41.95**	**196**	P	**P**	**23 19 05.7**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=17,slow=13,SNR=43						
ASAR				PcP	**PcP**	**23 20 57.8**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=20,slow=3.0,SNR=7.0						
ASAR				ScP	**ScP**	**23 24 31.2**	**-3.8**
	comp=Z,0.7nm,0.6s,baz=17,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**41.95**	**196**	P	**P**	**23 19 05.3**	**-0.7**
AMKA	**Amchitka**	**43.51**	**30**	P	**P**	**23 19 19.7**	**+1.5**
DZM	**Mont Dzumac**	**43.70**	**152**	P	**P**	**23 19 20.5**	**+0.4**
	comp=Z,12nm,1.1s,baz=183,slow=19,SNR=1.8						
DZM	**Mont Dzumac**	**43.70**	**152**	P	**P**	**23 19 20.6**	**+0.5**
DZM				IAmb	IAmb	23 19 20.7	
	comp=Z,26nm,1.3s						
CHTO	**Chiang Mai**	**44.52**	**280**	P	**P**	**23 19 27.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.55**	**279**	P	**P**	**23 19 27.0**	**-0.1**
	comp=Z,3.4nm,0.7s,baz=70,slow=6.5,SNR=19						
CMAR	**Chiang Mai Arr**	**44.55**	**279**	P	**P**	**23 19 28.0**	**+1.0**
SONM	**Songino Array**	**44.60**	**322**	P	**P**	**23 19 26.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=124,slow=7.2,SNR=3.9						
KIWB	**Kanaga Island**	**45.55**	**32**	P	**P**	**23 19 35.4**	**+1.0**
ADK	**Adak**	**45.80**	**32**	P	**P**	**23 19 37.1**	**+0.7**
ADK				IAmb	IAmb	23 19 39.4	
	comp=Z,63nm,1.4s						
GSTR	**Great Sitkin T**	**46.24**	**32**	P	**P**	**23 19 40.8**	**+1.0**
ATKA	**Atka Island**	**47.25**	**33**	P	**P**	**23 19 48.4**	**+0.8**
MNAI	**Manna**	**47.28**	**247**	P	**P**	**23 19 47.2**	**-1.2**
ARMA	**Armidale**	**47.37**	**173**	P	**P**	**23 19 49.0**	**+0.1**
ARMA				IAmb	IAmb	23 20 03.4	
	comp=Z,29nm,1.4s						
STKA	**Stephens Creek**	**48.66**	**185**	P	**P**	**23 19 58.4**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=342,slow=7.7,SNR=4.9						
STKA	**Stephens Creek**	**48.66**	**185**	P	**P**	**23 19 58.9**	**+0.2**
GSI	**Gunungsitoli**	**49.87**	**257**	P	**P**	**23 20 08.9**	**+0.6**
BBOO	**Buckleboo**	**50.29**	**191**	P	**P**	**23 20 11.1**	**+0.1**
FORT	**Forrest**	**50.37**	**200**	P	**P**	**23 20 11.4**	**-0.2**
LSA	**Lhasa**	**51.35**	**295**	P	**P**	**23 20 21.0**	**+1.3**
AKUT	**Akutan**	**52.62**	**34**	P	**P**	**23 20 28.5**	**+0.4**
MORW	**Morawa**	**53.97**	**212**	P	**P**	**23 20 37.8**	**-0.5**
FALS	**False Pass**	**54.17**	**34**	P	**P**	**23 20 39.0**	**-0.4**
	baz=246						
GAMB	**Gambell**	**55.09**	**21**	P	**P**	**23 20 45.8**	**-0.1**
	baz=232						
WMQ	**Urumqi**	**55.55**	**312**	*eP*	**P**	**23 20 53.2**	**+3.5**
WMQ				pmax	pmax		
	comp=Z,39nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,120nm,3.6s						
WMQ				LR	LR		
	comp=Z,360nm,17.5s						
WMQ				LR	LR		
	comp=Z,150nm,15.5s						
WMQ				LR	LR		
	comp=Z,260nm,24.1s						
AIN	**Ainahou**	**55.68**	**78**	P	**P**	**23 20 51.3**	**+0.3**
SDPT	**Sand Point**	**55.92**	**34**	P	**P**	**23 20 50.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**56.56**	**209**	P	**P**	**23 20 57.2**	**+0.5**
NWAO				IAmb	IAmb	23 21 19.7	
	comp=Z,11nm,1.1s						
TNA	**Tin City**	**57.47**	**21**	P	**P**	**23 21 02.8**	**+0.2**
	baz=235						
ANM	**Nome**	**57.82**	**23**	P	**P**	**23 21 05.6**	**+0.3**
	baz=238						
ZALV	**Zalesovo Beam**	**59.49**	**323**	P	**P**	**23 21 14.7**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=90,slow=9.2,SNR=4.8						
MK31	**Makanchi Array**	**59.77**	**315**	P	**P**	**23 21 18.8**	**-0.2**
MKAR	**Makanchi Array**	**59.77**	**315**	P	**P**	**23 21 17.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=93,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**59.77**	**315**	P	**P**	**23 21 18.9**	**-0.1**
MAKZ	**Makanchi**	**59.98**	**315**	P	**P**	**23

TRF IAmb IAmb 23 21 43.7
comp=Z,12nm,0.8s
PMR Palmer 63.48 29 P P 23 21 43.0 -0.6
baz=256,SNR=7.0
PMR Palmer 63.48 29 IAmb IAmb 23 21 43.7
comp=Z,15nm,0.7s
MLY Manley 63.71 25 P **P 23 21 45.2 +0.1**
baz=253,SNR=24
MLY Manley 63.71 25 IAmb IAmb 23 21 46.0
comp=Z,12nm,0.7s
KNK Knik Glacier 63.76 29 P **P 23 21 45.3 -0.1**
baz=257,SNR=5.8
KNK Knik Glacier 63.76 29 P **P 23 21 45.7 +0.2**
BFZ Birch Farm 63.90 155 P **P 23 21 45.3 -1.2**
SML Sawmill 63.91 29 P **P 23 21 46.3 -0.1**
baz=257,SNR=21
SML Sawmill 63.91 29 P **P 23 21 46.3 -0.1**
A21K Barrow 63.98 18 P **P 23 21 46.4 -0.3**
baz=244
WAT1 Susitna Watana 64.05 28 P **P 23 21 46.6 -0.7**
baz=256
RND Reindeer 64.06 27 P **P 23 21 46.7 -0.8**
RND IAmb IAmb 23 21 48.0
comp=Z,10nm,0.8s
MCK McKinley 64.11 27 P **P 23 21 46.6 -1.0**
baz=255
PLWZ Palliser 64.25 156 P **P 23 21 47.6 -1.2**
NEA2 Nenana 64.27 26 P **P 23 21 48.9 +0.2**
baz=255,SNR=9.3
GLI Glacier Island 64.28 30 P **P 23 21 48.9 0.0**
baz=258,SNR=5.1
I23K Minto, Yukon-K 64.30 25 P **P 23 21 48.9 +0.1**
baz=254,SNR=14
I23K Minto, Yukon-K 64.30 25 IAmb IAmb 23 21 50.0
comp=Z,9.8nm,0.6s
KHZ Kahutara 64.33 157 P **P 23 21 48.0 -1.2**
WAT6 Susitna Watana 64.35 28 P **P 23 21 49.1 -0.4**
baz=257,SNR=18
H23K Yukon River 64.42 24 P **P 23 21 50.0 +0.3**
baz=254,SNR=12
HIN Hinchinbrook I 64.48 31 P **P 23 21 50.5 +0.4**
COLD Coldfoot 64.58 23 P **P 23 21 51.0 +0.3**
baz=252,SNR=12
COLD Coldfoot 64.58 23 IAmb IAmb 23 21 51.8
comp=Z,8.1nm,0.7s
WRH Wood River Hil 64.65 26 IAmb IAmb 23 21 51.0
comp=Z,9.7nm,0.7s
MDM Murphy Dome 64.72 25 IAmb IAmb 23 21 53.0
comp=Z,13nm,0.6s
CCB Clear Creek Bu 64.81 26 IAmb IAmb 23 21 52.7
comp=Z,14nm,1.4s
EYAK Cordova Ski Ar 64.87 31 P **P 23 21 53.1 +0.4**
baz=260
EYAK Cordova Ski Ar 64.87 31 P **P 23 21 53.5 +0.9**
KLU Klutina 64.96 29 P **P 23 21 53.6 +0.2**
baz=259,SNR=15
M24K Tolsona, Glenn 64.97 29 P **P 23 21 53.6 +0.2**
baz=258
H24K Noodor Dome 65.08 25 P **P 23 21 54.0 0.0**
baz=255,SNR=13
HDA Harding Lake 65.12 26 P **P 23 21 52.8 -1.4**
baz=257
HDA Harding Lake 65.12 26 IAmb IAmb 23 21 53.6
comp=Z,8.5nm,0.8s
IL31 65.23 26 IAmb IAmb 23 21 54.1
comp=Z,8.5nm,0.6s
ILAR Eielson Array 65.23 26 P **P 23 21 53.2 -1.6**
comp=Z,6.5nm,0.5s,baz=250,slow=5.8,SNR=127
TOLK Toolik Lake Re 65.24 21 P **P 23 21 55.3 +0.3**
baz=252,SNR=5.2
TOLK Toolik Lake Re 65.24 21 IAmb IAmb 23 21 56.1
comp=Z,8.0nm,0.8s
PAX Paxson 65.46 28 P **P 23 21 56.3 -0.2**
baz=259,SNR=36
PAX Paxson 65.46 28 P **P 23 21 56.6 +0.1**
HARP HAARP 65.49 29 P **P 23 21 56.9 +0.3**
baz=259,SNR=10
BMRM Bremner River 65.50 30 P **P 23 21 57.0 +0.2**
baz=260,SNR=10
N25K Chitina, Valde 65.61 29 P **P 23 21 57.9 +0.4**
baz=260,SNR=14
N25K Chitina, Valde 65.61 29 IAmb IAmb 23 21 58.8
comp=Z,14nm,0.7s
GLB Gilahina Butte 65.95 30 IAmb IAmb 23 22 01.4
comp=Z,18nm,0.8s
BGLC Bering Glacier 66.01 31 P **P 23 22 00.2 +0.3**
baz=262
VRDI Verde Repeater 66.09 30 IAmb IAmb 23 22 01.6
comp=Z,18nm,0.8s
CRQE Cirque 66.20 31 P **P 23 22 01.5 +0.2**
baz=262,SNR=11
MENT Mentasta 66.24 28 IAmb IAmb 23 22 02.9
comp=Z,6.8nm,0.6s
WAX Waxell Ridge 66.27 31 IAmb IAmb 23 22 03.2
comp=Z,18nm,0.7s
SCRK Sand Creek 66.30 27 P **P 23 22 01.4 -0.6**
baz=260,SNR=19
SCRK Sand Creek 66.30 27 IAmb IAmb 23 22 02.3
comp=Z,13nm,1.1s
MCARA McCarthy VSAT 66.32 30 P **P 23 22 02.2 +0.3**
baz=262,SNR=10
TGL Tana Glacier 66.32 31 IAmb IAmb 23 22 03.2
comp=Z,13nm,0.8s
NIL Nilore 66.48 300 P **P 23 22 04.5 +1.0**
NIL IAmb IAmb 23 22 05.0
comp=Z,10nm,0.8s
ISLE Juniper Island 66.54 31 IAmb IAmb 23 22 04.5
comp=Z,15nm,0.8s
MESA MESA 66.68 31 P **P 23 22 05.3 +0.8**
baz=263,SNR=7.2
BARN Barnard Glacie 66.93 30 IAmb IAmb 23 22 07.2
comp=Z,11nm,0.7s
CTG Chitna Glacier 67.07 30 P **P 23 22 07.0 +0.1**
baz=263,SNR=8.8
L27K Beaver Creek, 67.11 28 P **P 23 22 07.2 +0.2**
baz=262,SNR=14
L27K Beaver Creek, 67.11 28 IAmb IAmb 23 22 07.9
comp=Z,8.9nm,0.7s
BCAR Beaver Creek A 67.13 28 P **P 23 22 07.4 +0.2**
K27K Chicken 67.14 27 P **P 23 22 07.4 +0.3**
baz=262
PINM Pinnacle 67.52 31 P **P 23 22 10.1 +0.5**
baz=265,SNR=5.8
EGAK Eagle 67.64 26 P **P 23 22 09.9 -0.3**
baz=262
BRVK Borovoye 67.97 321 P **P 23 22 12.7 +0.2**
KK31 Karatay Array 67.97 310 P **P 23 22 11.9 -0.8**
KKAR Karatay Array 67.97 310 P **P 23 22 12.0 -0.7**
KKAR Karatay Array 67.97 310 IAmb IAmb 23 22 14.1
comp=Z,2.4nm,0.8s
DAWY Dawson 68.31 27 IAmb IAmb 23 22 15.6
comp=Z,9.4nm,0.8s
EPYK Eagle Plains 69.65 25 P **P 23 22 22.5 -0.2**
baz=266,SNR=7.4
EPYK Eagle Plains 69.65 25 IAmb IAmb 23 22 23.3
comp=Z,9.9nm,0.6s
SKAG Skagway 69.97 32 P **P 23 22 25.4 +0.7**
baz=269
WHY Whitehorse 70.21 31 P **P 23 22 26.9 +0.5**
baz=269,SNR=13
WHY Whitehorse 70.21 31 IAmb IAmb 23 22 27.9
comp=Z,13nm,0.8s
BESE Bessie Mountai 70.21 33 IAmb IAmb 23 22 28.0
comp=Z,12nm,0.8s
JIS Juneau Island 70.46 33 IAmb IAmb 23 22 29.4
comp=Z,17nm,0.8s
INK Inuvik 71.00 23 P **P 23 22 30.2 -0.5**
comp=Z,7.5nm,0.8s,baz=265,slow=7.3,SNR=17
INK Inuvik 71.00 23 P **P 23 22 30.0 -0.8**
baz=268
CRAG Craig 71.23 36 P **P 23 22 33.2 +0.8**
baz=273
WRAK Wrangell Islan 71.62 35 P **P 23 22 35.4 +0.6**
baz=273
DLBC Dease Lake 72.75 33 IAmb IAmb 23 22 43.3
comp=Z,21nm,0.8s
ARU Arti 74.57 325 P **P 23 22 50.8 -1.3**
ABKAR Akbulak array 74.70 317 P **P 23 22 51.1 -1.9**
ABKAR Akbulak array 74.70 317 IAmb IAmb 23 22 52.7
comp=Z,3.4nm,0.7s
NLWA Neilton Lookou 78.00 44 IAmb IAmb 23 23 14.1
comp=Z,23nm,0.8s
PGC Sidney 78.02 43 IAmb IAmb 23 23 13.4
comp=Z,22nm,0.7s
A04D Lummi Island 78.49 43 P **P 23 23 15.1 +0.9**
baz=282
D03D Eldon 78.49 44 P **P 23 23 15.8 +1.5**
baz=282,SNR=11

I02D Swisshome 78.71 47 P **P 23 23 16.8 +1.3**
baz=282
D04E Lakebay 78.78 44 P **P 23 23 17.4 +1.5**
baz=283
A05A Maple Falls 78.83 42 IAmb IAmb 23 23 17.5
comp=Z,21nm,1.0s
J01E Myrtle Point 78.86 48 P **P 23 23 17.6 +1.2**
baz=283
G03D McMinnville, O 78.88 46 P **P 23 23 17.6 +1.1**
baz=283
B05A Bryant 78.98 43 P **P 23 23 18.0 +1.0**
baz=283,SNR=11
E04D Cinebar 79.05 45 P **P 23 23 18.6 +1.2**
baz=283,SNR=5.1
K02D Willamette Mer 79.15 49 P **P 23 23 19.0 +0.9**
baz=283
I03D Drain, OR 79.15 48 P **P 23 23 19.1 +1.1**
baz=283
L02E Cave Junction 79.32 49 P **P 23 23 20.0 +1.0**
baz=283
B06A Marblemount 79.32 43 IAmb IAmb 23 23 20.1
comp=Z,16nm,0.6s
H04D Lebanon 79.40 47 P **P 23 23 20.4 +1.1**
baz=283
YKA Yellowknife Ar 79.54 28 P **P 23 23 19.0 -0.7**
comp=Z,4.6nm,0.6s,baz=287,slow=4.9,SNR=17
HUMO Hull Mountain 79.68 49 P **P 23 23 22.2 +1.3**
H04A Detroit Lake 79.74 46 IAmb IAmb 23 23 22.6
comp=Z,21nm,0.8s
I04A Tendick Farm, 79.79 47 P **P 23 23 22.2 +0.6**
baz=284
C06D Leavenworth 79.85 43 P **P 23 23 22.5 +0.8**
baz=284
F05D White Salmon 79.96 45 P **P 23 23 23.4 +1.0**
baz=284
M02C Callahan 80.04 50 P **P 23 23 24.0 +1.1**
baz=284
YBH Yreka Blue Hor 80.06 49 P **P 23 23 24.5 +1.4**
J04D Umpqua Nationa 80.14 48 P **P 23 23 24.3 +0.6**
baz=284
LTY Liberty 80.15 44 IAmb IAmb 23 23 24.6
comp=Z,17nm,0.8s
G05D Wamic, OR 80.21 46 P **P 23 23 23.9 +0.2**
baz=284
L04D Klamath Falls 80.24 49 P **P 23 23 24.8 +0.7**
baz=284
N02D Trinity Center 80.25 50 P **P 23 23 25.1 +1.0**
baz=284
O02D Mt. Diablo Mer 80.38 51 P **P 23 23 25.9 +1.1**
baz=284
I05D Terrebonne, OR 80.41 47 P **P 23 23 25.7 +0.8**
baz=284
K04D Chiloquin, OR 80.54 48 P **P 23 23 26.6 +0.9**
baz=284
M04C Macdoel 80.68 49 P **P 23 23 27.3 +0.8**
baz=284,SNR=6.7
J05D Fort Rock, OR 80.75 48 P **P 23 23 27.8 +1.0**
baz=284,SNR=26
B08A Colville Reser 80.75 42 IAmb IAmb 23 23 27.7
comp=Z,28nm,0.8s
E07A Sunnyside 80.87 44 IAmb IAmb 23 23 28.8
comp=Z,17nm,0.7s
O03E Paynes Creek 81.08 51 P **P 23 23 28.9 +0.3**
baz=284,SNR=5.8
HAWA Hanford 81.13 44 IAmb IAmb 23 23 30.0
comp=Z,15nm,0.9s
K05A Summer Lake 81.13 48 IAmb IAmb 23 23 30.8
comp=Z,31nm,0.9s
D08A Wollman Farm, 81.36 44 IAmb IAmb 23 23 31.1
comp=Z,20nm,1.0s
E08A Dider Farm, El 81.42 44 IAmb IAmb 23 23 31.5
comp=Z,28nm,1.5s
ORV Oroville 81.49 51 IAmb IAmb 23 23 31.8
comp=Z,25nm,1.4s
C09A Chrisman Ranch 81.58 43 IAmb IAmb 23 23 32.0
comp=Z,13nm,0.7s
E09A Wood Farm, Sta 82.02 44 IAmb IAmb 23 23 34.6
comp=Z,15nm,0.7s
NEW Newport 82.20 42 P **P 23 23 34.3 +0.1**
baz=286,SNR=11
NEW Newport 82.20 42 IAmb IAmb 23 23 35.3
comp=Z,15nm,1.0s
BEKR Beckworth 82.26 51 IAmb IAmb 23 23 36.1
comp=Z,16nm,0.7s
J08A Circle Bar Ran 82.67 47 IAmb IAmb 23 23 38.3
comp=Z,16nm,0.8s
F10A Beach Ranch, E 82.78 44 P **P 23 23 38.2 +0.9**
WVOR Wild Horse Val 82.81 48 IAmb IAmb 23 23 39.0
comp=Z,12nm,0.8s
PNTR Pine Nut 83.03 51 IAmb IAmb 23 23 40.6
comp=Z,16nm,0.7s
BMO Blue Mountains 83.05 45 IAmb IAmb 23 23 40.0
comp=Z,15nm,0.8s
YERR Yerington 83.33 51 IAmb IAmb 23 23 41.9
comp=Z,11nm,0.7s
PLID Pearl Lake 83.87 45 IAmb IAmb 23 23 43.5
comp=Z,12nm,0.7s
PKM Mcpherson Peak 84.04 55 P **P 23 23 45.1 +1.0**
baz=286,SNR=6.8
KVN Kaiserville 84.17 51 IAmb IAmb 23 23 46.0
comp=Z,12nm,0.7s
NVAR Mina Array Bea 84.19 52 P **P 23 23 45.5 +0.6**
comp=Z,8.9nm,0.6s,baz=267,slow=5.8,SNR=82
NVAR Mina Array Bea 84.19 52 P **P 23 23 45.7 +0.8**
ARCES ARCESS Array B 84.22 342 P **P 23 23 41.9 -2.2**
comp=Z,1.5nm,0.7s,baz=84,slow=6.6,SNR=9.6
VES Vestal, Richgr 84.34 54 P **P 23 23 45.3 0.0**
baz=287
MFID Camas Ranch 84.50 46 IAmb IAmb 23 23 47.6
comp=Z,27nm,0.9s
MSO Missoula 84.69 43 P **P 23 23 47.1 +0.1**
baz=289
MSO Missoula 84.69 43 P **P 23 23 47.1 +0.1**
ISA Isabella, Lake 84.87 54 P **P 23 23 48.3 +0.2**
baz=287
EDW2 Edwards Air Fo 85.47 55 P **P 23 23 51.3 +0.2**
baz=287
MPMC Manual Prospec 85.51 54 P **P 23 23 51.8 +0.3**
baz=288,SNR=9.0
ELK Elko 85.75 49 IAmb IAmb 23 23 54.0
comp=Z,11nm,0.7s
FURC Furnace Creek, 85.87 53 P **P 23 23 53.3 +0.4**
baz=288
LRM Limekiln Ridge 86.00 43 P **P 23 23 54.1 +0.4**
DLMT Dillon 86.06 44 IAmb IAmb 23 23 55.5
comp=Z,7.5nm,0.6s
MCMT McKenzie Canyo 86.07 44 P **P 23 23 54.5 +0.4**
TPNV Topopah Spring 86.19 53 P **P 23 23 55.1 +0.3**
baz=288,SNR=7.7
R11A Troy Canyon, C 86.25 51 P **P 23 23 55.5 +0.5**
baz=288,SNR=16
GSC Goldstone, Bar 86.27 54 P **P 23 23 55.3 +0.2**
baz=288
MURC Murrieta 86.49 56 P **P 23 23 56.7 +0.6**
baz=288
BOZ Bozeman (W) 86.61 43 P **P 23 23 56.6 0.0**
baz=291,SNR=11
TUQ Turquoise Moun 86.92 54 P **P 23 23 58.6 +0.3**
baz=288,SNR=6.4
EGMT Eagleton 86.94 41 P **P 23 23 58.6 +0.5**
baz=292
PFO Pinyon Flats O 87.07 56 P **P 23 23 59.0 0.0**
baz=288
TPFO Pinon Flats 87.07 56 P **P 23 23 59.1 +0.1**
baz=288
HVU Hansel Valley 87.16 47 IAmb IAmb 23 24 00.9
comp=Z,21nm,1.2s
BELC Belle Mtn. Jos 87.31 55 P **P 23 24 00.1 -0.1**
baz=288
MONP2 Monument Peak 87.32 57 P **P 23 24 00.0 -0.4**
baz=288
GMRC Granite Mounta 87.33 55 P **P 23 24 00.6 +0.3**
baz=289
PSUT Pine Spring 87.48 51 IAmb IAmb 23 24 02.2
comp=Z,16nm,0.7s
SPUT South Promonto 87.55 48 IAmb IAmb 23 24 02.5
comp=Z,11nm,0.9s
IKP In-Ko-Pah, Jac 87.65 57 P **P 23 24 01.5 -0.2**
baz=288
DUG Dugway, Tooele 87.68 49 P **P 23 24 02.2 +0.4**
baz=290,SNR=27
FLWY Flagg Ranch 87.77 45 IAmb IAmb 23 24 04.8
comp=Z,12nm,0.8s
SWSC Sam W. Stewart 87.80 56 P **P 23 24 02.9 +0.5**
baz=289
BC3 Big Chuckawall 87.85 56 P **P 23 24 03.0 +0.3**
baz=289,SNR=5.4
IRM Iron Mountain 87.93 55 P **P 23 24 03.2 +0.2**
baz=289

AHID Auburn Hatcher 87.98 46 IAmb IAmb 23 24 04.4
comp=Z,6.9nm,0.9s
HWUT Hardware Ranch 88.07 47 IAmb IAmb 23 24 04.8
comp=Z,22nm,1.1s
CCUT Cedar City 88.17 51 IAmb IAmb 23 24 06.1
comp=Z,5.9nm,0.8s
CTU Camp Tracy 88.26 48 IAmb IAmb 23 24 06.2
comp=Z,11nm,0.9s
NLU North Lily Min 88.29 49 IAmb IAmb 23 24 06.0
comp=Z,13nm,0.8s
RLMT Red Lodge 88.34 43 IAmb IAmb 23 24 08.8
comp=Z,5.4nm,0.5s
JLU Jordanelle 88.51 48 IAmb IAmb 23 24 07.1
comp=Z,16nm,0.8s
FINES FINESS Array B 88.55 335 P **P 23 24 02.1 -3.1**
comp=Z,3.0nm,0.9s,baz=70,slow=6.3,SNR=6.6
FFC Flin Flon 88.57 32 P **P 23 24 05.0 -0.6**
FFC IAmb IAmb 23 24 06.1
comp=Z,10.0nm,0.7s
MPU Maple Canyon 88.59 49 IAmb IAmb 23 24 07.3
comp=Z,8.9nm,0.8s
KNB Kanab 88.76 52 IAmb IAmb 23 24 09.0
comp=Z,11nm,0.9s
BW06 Boulder Array 89.03 45 P **P 23 24 08.0 -0.3**
baz=292
PDAR Pinedale Array 89.03 45 P **P 23 24 08.0 -0.4**
comp=Z,1.8nm,0.6s,baz=221,slow=1.7,SNR=23
TMUT Trail Mountain 89.15 49 IAmb IAmb 23 24 10.2
comp=Z,6.5nm,0.8s
Q16A Castle Valley 89.31 49 IAmb IAmb 23 24 10.7
comp=Z,7.9nm,0.7s
U15A North Rim 89.37 52 IAmb IAmb 23 24 11.7
comp=Z,7.0nm,0.8s
P17A Butcher Ranch, 89.42 49 IAmb IAmb 23 24 11.4
comp=Z,8.7nm,0.9s
LAO LASA Array 89.67 41 P **P 23 24 10.8 -0.1**
baz=294
LAO LASA Array 89.67 41 IAmb IAmb 23 24 11.7
comp=Z,7.8nm,0.9s
Y14A Wickenburg 89.68 55 IAmb IAmb 23 24 12.7
comp=Z,7.0nm,0.7s
WUAZ Wupatki 90.38 53 P **P 23 24 15.4 +0.8**
baz=291,SNR=5.8
WUAZ Wupatki 90.38 53 IAmb IAmb 23 24 16.4
comp=Z,7.3nm,0.8s
214A Organ Pipe Nat 90.51 56 P **P 23 24 16.0 +0.8**
baz=290,SNR=7.4
214A Organ Pipe Nat 90.51 56 IAmb IAmb 23 24 16.8
comp=Z,8.2nm,0.8s
O20A White River Ci 90.96 47 P **P 23 24 17.2 -0.1**
baz=293,SNR=13
PV10 Paradox Valley 91.06 49 IAmb IAmb 23 24 18.9
comp=Z,12nm,0.7s
PV05 Paradox Valley 91.13 50 IAmb IAmb 23 24 19.1
comp=Z,8.3nm,0.6s
PV04 Paradox Valley 91.16 49 IAmb IAmb 23 24 19.2
comp=Z,13nm,0.8s
PV22 Blue Mesa, Par 91.19 49 IAmb IAmb 23 24 36.3
comp=Z,6.4nm,0.9s
PV03 Paradox Valley 91.25 49 IAmb IAmb 23 24 19.4
comp=Z,11nm,0.7s
PV13 Radium Mtn., P 91.31 49 IAmb IAmb 23 24 19.7
comp=Z,10nm,0.7s
PV15 Paradox Valley 91.48 49 IAmb IAmb 23 24 20.5
comp=Z,6.6nm,0.9s
PV01 Paradox Valley 91.50 49 IAmb IAmb 23 24 20.6
comp=Z,10nm,0.7s
W18A Petrified Fore 91.78 53 P **P 23 24 21.7 +0.6**
baz=292
MVCO Mesa Verde 91.91 50 P **P 23 24 22.3 +0.5**
baz=293
TUC Tucson 92.00 55 P **P 23 24 22.7 +0.6**
baz=291
SMCO Snowmass 92.23 48 IAmb IAmb 23 24 24.6
comp=Z,10nm,0.8s
N23A Red Feather La 92.25 46 P **P 23 24 24.0 +0.6**
baz=295
S22A 4UR Ranch, Cre 92.92 49 P **P 23 24 27.0 +0.5**
baz=294
ISCO Idaho Springs 92.94 47 P **P 23 24 26.9 +0.3**
baz=295,SNR=5.1
SDCO Great Sand Dun 93.88 49 P **P 23 24 30.6 -0.3**
baz=295
ANMO Albuquerque 94.32 52 P **P 23 24 33.0 +0.1**
baz=294
MNTX Cornudas Mount 96.46 54 P **P 23 24 42.6 +0.1**
baz=294
TXAR Lajitas Array 98.79 56 P **P 23 24 53.5 +0.4**
comp=Z,0.1nm,0.5s,baz=262,slow=2.7,SNR=2.2
WMOK Wichita Mounta 100.08 49 P **Pdif 23 24 58.3 -0.3**
baz=299
CHGQ Chibougamau 104.64 26 P **Pdif 23 25 17.7 -0.9**
baz=320
ERPA Erie 107.69 34 P **PKiKP 23 29 39.7 +0.3**
baz=314
TORD Torodi Ar. Bea 133.63 308 PKP **PKPdf 23 30 29.1 -0.4**
comp=Z,0.5nm,0.9s,baz=336,slow=3.2,SNR=2.3
PLCA Paso Flores 140.70 135 PKP **PKPdf 23 30 41.9 -0.1**
comp=Z,0.8nm,0.4s,baz=194,slow=4.2,SNR=2.9
LPAZ La Paz 147.52 94 PKPbc **PKPbc 23 30 57.9 0.0**
comp=Z,2.8nm,0.4s,baz=8.4,slow=3.6,SNR=16
BDFB Brasilia 166.70 87 PKPab **PKPab 23 32 21.9 -0.1**
comp=Z,2.6nm,0.5s,baz=151,slow=4.2,SNR=4.7

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*IDC **03** 23:21:45.9±0.6, 27°.15S×176°.43W, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.4/24, mbtmp4.2/15, ML5.0/1, MS4.2/12, Ms1 4.2/12, ms1mx3.9/36, Error ellipse: s-maj=23.4km s-min=16.0km az=140.0*

*NEIC **03** 23:21:49.0±1.6, 27°.36S±0°.07×176°.3W±0°.1, h10km±1km, mb4.6/53, Error ellipse: s-maj=17.5km s-min=9.9km az=121.0*

*GCMT **03** 23:21:50.0±0.2, 27°.17S±0°.03×176°.05W±0°.02, h22km, MW5.0/91, Moment Tensor Solution. s50, c58; s91, c129; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.31±.18; $M_{\theta\theta}$0.03±.11; $M_{\phi\phi}$-3.34±.12; $M_{r\theta}$-0.59±.24; $M_{\theta\phi}$-0.06±.07; $M_{\phi r}$1.02±.16; Best double couple: $M_0$3.52800×10^{16} NP1:ϕ_s191.00000°, δ37.00000°, λ106.00000°. NP2: ϕ_s351.00000°, δ54.00000°, λ78.00000°. Principal axes: T 3.5630, Plg77.0000°, Azm221.0000°; N -0.0730, Plg9.0000°, Azm358.0000°; P -3.4930, Plg9.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 23:21:51.1±0.4, 27°.39S±0°.06×176°.19W±0°.08, h33km, n106, σ1§86/98, mb4.5/38, MS4.1/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.40**	**219**	Pn	**Pn**	**23 22 29.3**	**+1.2**
	358nm,0.3s,baz=85,slow=21,SNR=9.5						
RAO				Sn	**Sb**	**23 23 01.3**	**-1.6**
	264nm,0.3s,baz=91,slow=22,SNR=1.8						
RAO	**Raoul Island**	**2.40**	**219**	Pn	**Pn**	**23 22 28.1**	**0.0**
NIUE	**Niue**	**10.08**	**36**	Pn	**Pn**	**23 24 15.0**	**+1.4**
MSVF	**Nonsavu**	**10.98**	**330**	Pn	**Pn**	**23 24 28.7**	**+2.7**
	0.5nm,0.3s,baz=155,slow=17,SNR=3.2						
MSVF				LR	LR	23 27 54.9	
	comp=Z,2μm,18.7s,baz=139,slow=35						
MSVF	**Nonsavu**	**10.98**	**330**	Pn	**Pn**	**23 24 26.1**	**+0.1**
URZ	**Urewera**	**12.21**	**206**	Pn	Pn	23 24 35.0	-7.6
	0.3nm,0.3s,baz=170,slow=17,SNR=1.4						
URZ				Sn	**Sn**	**23 26 51.7**	**-5.8**
	0.6nm,0.3s,baz=198,slow=21,SNR=1.8						
AFI	**Afiamalu**	**14.03**	**18**	Pn	Pn	23 24 58.1	-10
	2.7nm,0.3s,baz=139,slow=20,SNR=1.2						
AFI				Sn	Sn	23 27 22.5	-20
	1.1nm,0.3s,baz=221,slow=18,SNR=2.0						
PLWZ	**Palliser**	**15.79**	**204**	Pn	**Pn**	**23 25 32.4**	**+1.4**
RAR	**Rarotonga**	**16.17**	**71**	Pn	**Pn**	**23 25 29.7**	**-6.2**
	3.7nm,0.3s,baz=212,slow=9.5,SNR=2.8						
RAR				LR	LR	23 29 47.6	
	comp=Z,562nm,21.3s,baz=281,slow=30						
RAR	**Rarotonga**	**16.17**	**71**	Pn	**P**	**23 25 38.0**	**-0.8**
RAR				IAmb	IAmb	23 25 53.7	
	comp=Z,77nm,0.9s						
TUWZ	**Tuamarina**	**16.18**	**208**	Pn	**Pn**	**23 25 36.1**	**+0.1**
DZM	**Mont Dzumac**	**16.64**	**285**	*e*P	**P**	**23 25 48.9**	**+4.8**
	comp=Z,14nm,0.7s						
DZM				*e*LR	LR	23 29 37.5	
	comp=Z,986nm,27.1s						
TBI	**Tubuai**	**24.47**	**87**	*e*LR	LR	23 32 41.9	
	comp=Z,643nm,32.8s						

PPT2	Papeete2	26.40	74	eLR	LR		23 33 46.3
	comp=Z,890nm,33.0s						
PPT	Papeete	26.41	74	LR	LR		23 35 50.2
	comp=Z,251nm,18.1s,baz=296,slow=32						
CTA	Charters Tower	35.04	274	P	P		23 28 40.1 -0.9
	comp=Z,3.3nm,0.4s,baz=87,slow=11,SNR=7.6						
CTAO	Charters Tower	35.04	274	P	P		23 28 40.4 -0.6
CTAO				IAmb	IAmb		23 28 49.7
	comp=Z,14nm,1.1s						
STKA	Stephens Creek	36.80	253	P	P		23 28 54.0 -2.0
	comp=Z,1.5nm,0.7s,baz=101,slow=16,SNR=1.5						
STKA				LR	LR		23 42 57.1
	comp=Z,578nm,18.7s,baz=85,slow=35						
STKA	Stephens Creek	36.80	253	P	P		23 28 56.4 +0.4
PMG	Port Moresby	38.90	290	LR	LR		23 42 59.4
	comp=Z,317nm,19.2s,baz=133,slow=33						
BBOO	Buckleboo	41.39	251	P	P		23 29 36.3 +1.9
AS31	Alice Springs	44.95	263	P	P		23 30 02.4 -0.9
ASAR	Alice Springs	44.95	263	P	P		23 30 00.2 -3.1
	comp=Z,0.6nm,0.5s,baz=93,slow=6.6,SNR=12						
ASAR				LR	LR		23 47 50.2
	comp=Z,302nm,18.4s,baz=112,slow=35						
ASAR	Alice Springs	44.95	263	P	P		23 30 02.1 -1.1
WR0	Warramunga Arr	45.49	268	P	P		23 30 05.2 -2.4
WB2	Warramunga Arr	45.66	268	P	P		23 30 07.9 -1.1
WB2				IAmb	IAmb		23 30 17.5
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	45.67	268	P	P		23 30 06.2 -2.8
	comp=Z,1.3nm,0.4s,baz=104,slow=8.2,SNR=12						
WRA	Warramunga Arr	45.67	268	P	P		23 30 06.2 -2.8
WB0	Warramunga Arr	45.68	269	P	P		23 30 06.4 -2.7
WB0				IAmb	IAmb		23 30 17.6
	comp=Z,7.3nm,1.1s						
SBA	Scott Base	51.15	185	P	P		23 30 54.0 +3.7
SBA				IAmb	IAmb		23 31 01.9
	comp=Z,8.9nm,1.1s						
VNDA	Vanda	51.24	186	P	P		23 30 55.6 +4.5
	comp=Z,0.8nm,0.7s,baz=45,slow=2.9,SNR=3.6						
VNDA	Vanda	51.24	186	P	P		23 30 55.6 +4.5
CASY	Casey	58.53	207	P	P		23 31 44.5 +0.6
CASY				IAmb	IAmb		23 31 58.0
	comp=Z,4.3nm,0.8s						
RPN	Rapa Nui	58.73	107	LR	LR		23 52 00.9
	comp=Z,81nm,20.1s,baz=221,slow=31						
GIRL	Giralia	62.49	257	P	P		23 32 09.9 -1.8
QSPA	South Pole Qui	62.71	180	P	P		23 32 14.2 +1.5
MAW	Mawson	75.67	200	P	P		23 33 33.4 +0.8
	comp=Z,2.2nm,0.6s,baz=129,slow=9.1,SNR=11						
MAW				LR	LR		00 06 02.9
	comp=Z,246nm,18.9s,baz=82,slow=35						
MAW	Mawson	75.67	200	P	P		23 33 34.8 +2.2
MJAR	Matsushiro Arr	76.72	324	P	P		23 33 36.2 -2.8
	comp=Z,3.3nm,1.0s,baz=145,slow=7.2,SNR=5.2						
MJAR	Matsushiro Arr	76.72	324	P	P		23 33 39.6 +0.6
SNAA	Sanae	81.10	178	P	P		23 34 03.4 +0.7
SNAA	Sanae	81.10	178	P	P		23 34 04.7 +2.0
SNAA				IAmb	IAmb		23 34 16.1
	comp=Z,6.0nm,1.0s						
VNA3	Neumayer Olymp	81.18	176	P	P		23 34 03.6 +0.5
VNA2	Neumayer--Watz	81.64	176	P	P		23 34 04.8 -0.7
	baz=192,slow=5.0						
VNA1	Neumayer--Stat	81.86	176	P	P		23 34 06.7 +0.2
KSRS	Korea Array	83.12	318	P	P		23 34 13.2 -0.4
	comp=Z,1.2nm,0.8s,baz=144,slow=8.2,SNR=2.2						
KSAR	Wonju Array Be	83.14	318	P	P		23 34 14.7 +1.0
PETK	Petropavlovsk-	83.32	345	P	P		23 34 12.7 -1.5
	comp=Z,2.5nm,0.8s,baz=173,slow=13,SNR=6.1						
PLCA	Paso Flores	83.38	133	P	P		23 34 16.4 +1.1
	comp=Z,1.9nm,0.9s,baz=233,slow=7.5,SNR=3.4						
PLCA				LR	LR		00 03 39.2
	comp=Z,84nm,19.5s,baz=238,slow=30						
CMB	Columbia Colle	83.46	41	P	P		23 34 16.4 +1.0
CMB				IAmb	IAmb		23 34 29.0
	comp=Z,5.5nm,1.1s						
WDC	Whiskeytown Da	83.98	38	P	P		23 34 19.7 +1.8
WAKR	Walker	84.33	41	P	P		23 34 21.6 +1.6
WAKR				IAmb	IAmb		23 34 34.0
	comp=Z,4.7nm,1.1s						
LHV	Little Huntoon	84.72	42	P	P		23 34 23.3 +1.6
LHV				IAmb	IAmb		23 34 36.4
	comp=Z,6.5nm,1.1s						
NVAR	Mina Array Bea	84.95	42	P	P		23 34 24.0 +0.8
	comp=Z,2.1nm,0.8s,baz=222,slow=7.9,SNR=15						
NVAR				LR	LR		00 06 15.7
	comp=Z,190nm,18.6s,baz=253,slow=31						
NVAR	Mina Array Bea	84.95	42	P	P		23 34 24.5 +1.3
RYN	Ryan	84.95	42	P	P		23 34 24.4 +1.2
NV11	Mina Array Sit	85.04	42	P	P		23 34 24.5 +1.0
NV11				IAmb	IAmb		23 34 29.9
	comp=Z,3.7nm,1.1s						
HUMO	Hull Mountain	85.17	36	P	P		23 34 24.6 +0.6
HUMO				IAmb	IAmb		23 34 36.2
	comp=Z,4.3nm,1.1s						
TPNV	Topopah Spring	85.24	44	P	P		23 34 26.1 +1.5
TPNV				IAmb	IAmb		23 34 39.0
	comp=Z,4.9nm,1.1s						
TPH	Tonopah	85.37	43	P	P		23 34 26.3 +1.1
Y14A	Wickenburg	85.46	48	P	P		23 34 26.8 +1.2
Y14A				IAmb	IAmb		23 34 40.2
	comp=Z,7.1nm,1.2s						
KVN	Kaiserville	85.48	42	P	P		23 34 26.2 +0.4
KVN				IAmb	IAmb		23 34 39.6
	comp=Z,7.4nm,1.1s						
SHPR	Sheep Range	85.64	45	P	P		23 34 28.2 +1.6
TUC	Tucson	85.99	51	P	P		23 34 30.3 +1.9
TUC				IAmb	IAmb		23 34 37.1
	comp=Z,5.2nm,1.1s						
319A	Douglas	86.49	52	P	P		23 34 31.9 +1.0
CCUT	Cedar City	87.42	45	P	P		23 34 37.5 +2.1
CCUT				IAmb	IAmb		23 34 50.2
	comp=Z,4.7nm,1.1s						
KNB	Kanab	87.44	46	P	P		23 34 37.1 +1.7
SZCU	Shurtz Canyon	87.62	45	IAmb	IAmb		23 34 42.7
	comp=Z,3.1nm,1.0s						
J08A	Circle Bar Ran	88.09	38	P	P		23 34 40.3 +2.0
J08A				IAmb	IAmb		23 34 51.4
	comp=Z,3.2nm,1.1s						
MTPU	Mount Pierson	88.46	45	IAmb	IAmb		23 34 43.7
	comp=Z,2.6nm,0.9s						
D05A	Enumclaw	88.85	34	P	P		23 34 43.0 +1.4
G08A	Pilot Rock	89.11	36	P	P		23 34 44.7 +1.7
G08A				IAmb	IAmb		23 34 55.2
	comp=Z,4.8nm,1.0s						
TX31	Lajitas Ar. Si	89.42	56	P	P		23 34 45.7 +0.8
TX32	Lajitas Array	89.42	56	P	P		23 34 45.4 +0.6
TXAR	Lajitas Array	89.42	56	P	P		23 34 44.5 -0.4
	comp=Z,1.0nm,0.9s,baz=208,slow=5.0,SNR=7.9						
TXAR				LR	LR		00 07 23.5
	comp=Z,57nm,20.2s,baz=0.0,slow=31						
BMO	Blue Mountains	89.70	38	P	P		23 34 48.0 +2.2
E09A	Wood Farm, Sta	90.34	36	P	P		23 34 49.5 +0.9
HVU	Hansel Valley	90.35	42	IAmb	IAmb		23 35 02.4
	comp=Z,3.0nm,1.0s						
PV05	Paradox Valley	90.45	47	P	P		23 34 51.7 +2.0
PV05				IAmb	IAmb		23 35 02.8
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	90.45	50	P	P		23 34 49.9 +0.2
	comp=Z,1.8nm,0.8s,baz=188,slow=7.0,SNR=4.8						
ANMO	Albuquerque	90.45	50	P	P		23 34 51.0 +1.3
ANMO				IAmb	IAmb		23 35 02.2
	comp=Z,2.9nm,1.0s						
ENH	Enshi	91.24	304	P	P		23 34 53.5 +0.2
BCYI	Bear Canyon	91.53	40	P	P		23 34 56.7 +2.2
MCMT	McKenzie Canyo	92.16	40	P	P		23 34 57.6 +0.1
REDW	Red Top Meadow	92.44	42	P	P		23 34 59.5 +0.8
PDAR	Pinedale Array	92.86	43	P	P		23 35 01.4 +0.6
	comp=Z,0.5nm,0.6s,baz=224,slow=4.1,SNR=6.6						
PDAR				LR	LR		00 11 58.4
	comp=Z,100nm,18.7s,baz=267,slow=32						
YHH	Holmes Hill	93.27	40	P	P		23 35 03.3 +0.6
YHH				IAmb	IAmb		23 35 06.2
	comp=Z,3.1nm,1.1s						
BOZ	Bozeman (W)	93.31	39	P	P		23 35 03.1 +0.5
BOZ				IAmb	IAmb		23 35 16.0
	comp=Z,4.1nm,1.1s						
ILAR	Eielson Array	94.65	12	P	P		23 35 06.0 -2.1
	comp=Z,0.4nm,0.8s,baz=224,slow=5.0,SNR=4.3						
ZALV	Zalesovo Beam	116.82	319	PKP	PKPdf		23 40 30.3 -1.4
	comp=Z,0.3nm,0.4s,baz=15,slow=6.0,SNR=2.1						
MKAR	Makanchi Array	117.03	311	PKP	PKPdf		23 40 31.1 -1.3
	comp=Z,0.4nm,0.7s,baz=62,slow=2.9,SNR=3.6						
ARCES	ARCESS Array B	135.97	349	PKP	PKPdf		23 41 07.4 -0.4
	comp=Z,1.1nm,0.8s,baz=46,slow=7.7,SNR=5.2						
FINES	FINESS Array B	142.81	342	PKhKP	PKPpre		23 41 14.3
	comp=Z,2.6nm,0.8s,baz=108,slow=6.2,SNR=4.5						
VSU	Vasula	145.06	339	eP	PKPdf		23 41 24.0 -0.4
AAL	Aland	145.40	346	eP	PKPbc		23 41 23.2 -1.7
MTSE	Matsula	145.73	342	eP	PKPdf		23 41 25.3 -0.2
NB2	NORSAR Subarra	145.98	354	PKP	PKPdf		23 41 25.1 -1.0
	comp=Z,80nm,3.3s,baz=6.5,slow=2.9						
NOA	NORSAR Array B	145.98	354	PKPbc	PKPdf		23 41 25.7 -0.4
	comp=Z,2.8nm,0.8s,baz=13,slow=4.4,SNR=8.9						
IDID	Didziasalis	147.52	335	eP	PKPab		23 41 32.1 -1.4
IIGN	Ignalina	147.68	336	eP	PKPbc		23 41 31.4 -0.4
PABE	Paberze	148.34	338	eP	PKPbc		23 41 33.0 -0.5
AKASG	Malin Array Be	149.75	327	PKPbc	PKPbc		23 41 36.0 -1.2
	comp=Z,2.2nm,0.6s,baz=38,slow=3.4,SNR=10						
AKASG	Malin Array Be	149.75	327		PKiKP		23 41 37.4 -0.8
BRTR	Keskin Array B	152.40	304	PKPbc	PKiKP		23 41 45.8 +1.5
	comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=1.6						
BRTR				PKPab	PKPab		23 41 53.4 -0.9
	comp=Z,1.2nm,0.6s,baz=94,slow=5.4,SNR=3.4						
TORD	Torodi Ar. Bea	165.69	172	PKPab	PKPab		23 42 52.2 +0.3
	comp=Z,2.0nm,0.7s,baz=191,slow=3.6,SNR=8.7						
ESDC	Sonseca Array	166.15	26	PKPab	PKPab		23 42 53.2 -0.3
	comp=Z,1.2nm,1.1s,baz=340,slow=6.0,SNR=4.7						

*MEX **03** 23:35:25.9±0.5, 16°.73N×99°.48W, h2km±4km, MD4.4*
*NEIC **03** 23:35:25.2±3.9, 16°.74N±0°.05×99°.39W±0°.05, h10km±1km,*
Error ellipse: s-maj=10.3km s-min=4.6km az=221.0
*IDC **03** 23:35:29.0±5.5, 16°.88N×99°.25W, h34km±34km, mb3.8/9, mb1 4.1/12, mb1mx3.8/38, mbtmp3.9/12, ML3.4/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/32, Error ellipse: s-maj=54.4km s-min=18.5km az=24.0*
ISC 03 23:35:25.1±0.9, 16°.75N±0°.03×99°.45W±0°.02, h17km±6km, n189, σ1§53/215, mb4.2/44, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	Cruz Grande	0.31	92	i P	Pb	23 35 32.1	0.0
CRIG				i S	Sb	23 35 36.8	-0.1
CRIG	Cruz Grande	0.31	92	i P	Pb	23 35 32.1	0.0
CRIG				i S	Sb	23 35 36.9	0.0
CRIG	Cruz Grande	0.31	92		Pb	23 35 32.1	0.0
CRIG					Sb	23 35 36.9	0.0
DAIG	Los Arroyos	0.33	325	i P	Pg	23 35 32.0	0.0
DAIG				eS	Sg	23 35 36.2	-0.7
DAIG	Los Arroyos	0.33	325	i P	Pg	23 35 32.1	0.0
DAIG				i S	Sg	23 35 36.7	-0.1
DAIG	Los Arroyos	0.33	325		Pg	23 35 32.1	0.0
DAIG					Sg	23 35 36.7	-0.1
ACP2	Acapulco	0.44	287	eP	Pg	23 35 33.8	-0.2
ACP2				eS	Sg	23 35 39.5	-0.4
ACP2	Acapulco	0.44	287		Pg	23 35 33.8	-0.2
ACP2					Sg	23 35 39.5	-0.4
CAIG	El Cayaco	0.84	291	i P	Pb	23 35 40.0	-1.3
CAIG				i S	Sb	23 35 51.0	-1.2
TLIG	Tlapa	1.17	46	eP	Pn	23 35 46.4	-0.5
TLIG				eS	Sb	23 36 02.0	0.0
TLIG	Tlapa	1.17	46	Pn	Pn	23 35 46.5	-0.4
TLIG				Sn	Sn	23 36 02.6	+0.1
MEIG	Mezcala	1.18	352	eP	Pn	23 35 46.2	-0.8
MEIG				eS	Sb	23 36 01.5	-0.7
MEIG	Mezcala	1.18	352		Pn	23 35 46.2	-0.8
MEIG					Sb	23 36 01.5	-0.7
PNIG	Pinotepa	1.32	105	i P	Pn	23 35 47.6	-1.2
PNIG				eS	Sn	23 36 03.3	-2.7
PNIG	Pinotepa	1.32	105	i P	Pn	23 35 47.4	-1.4
PNIG				i S	Sg	23 36 07.5	-0.2
PNIG	Pinotepa	1.32	105		Pn	23 35 47.4	-1.4
PNIG					Sn	23 36 03.3	-2.7
PLIG	Platanillo	1.64	358	i P	Pn	23 35 53.4	+0.2
PLIG				i S	Sb	23 36 15.1	-0.3
PLIG	Platanillo	1.64	358	i P	Pn	23 35 53.2	0.0
PLIG				i S	Sb	23 36 15.2	-0.1
PLIG	Platanillo	1.64	358		Pn	23 35 53.2	0.0
PLIG					Sb	23 36 15.2	-0.1
TXIG	Tlaxiaco	1.69	72	eP	Pn	23 35 53.6	-0.5
TXIG				eS	Sn	23 36 14.6	-0.9
FTIG	Fresnillo de T	1.71	47	eP	Pn	23 35 54.0	-0.3
FTIG				eS	Sb	23 36 18.0	+0.6
ARIG	Puente Sto Nin	1.75	331	eP	Pn	23 35 53.9	-0.8
ARIG				eS	Sn	23 36 15.0	-1.7
ARIG	Puente Sto Nin	1.75	331		Pn	23 35 53.9	-0.8
ARIG					Sn	23 36 15.0	-1.7
YOIG	Yosondua	1.83	86	eP	Pn	23 35 55.9	-0.2
YOIG				eS	Sg	23 36 22.5	-1.6
HLIG	Huajuapan de L	1.91	55	eP	Pn	23 35 57.0	-0.1
HLIG				eS	Sb	23 36 23.0	-0.2
ZIIG	Zihuatanejo	2.11	294	eP	Pn	23 35 59.0	-0.7
ZIIG				eS	Sn	23 36 24.2	-1.3
ZIIG	Zihuatanejo	2.11	294	i P	Pn	23 35 58.4	-1.3
ZIIG				i S	Sb	23 36 28.9	+0.2
ZIIG	Zihuatanejo	2.11	294		Pn	23 35 58.4	-1.3
ZIIG					Sn	23 36 24.2	-1.3
YAIG	Yautepec	2.13	10	eP	Pn	23 36 00.3	+0.2
YAIG				eS	Sb	23 36 29.5	-0.2
YAIG	Yautepec	2.13	10		Pn	23 36 00.3	+0.2
YAIG					Sb	23 36 29.5	-0.2
PEIG	Puerto Escondi	2.33	108	eP	Pn	23 36 02.4	-0.4
PEIG				eS	Sg	23 36 39.8	-0.4
PPM	Popocatepetl	2.44	19	eP	Pb	23 36 08.5	-0.3
PPM				eS	Sg	23 36 42.2	-1.3
MZVM		2.44	5	eP	Pb	23 36 07.8	-0.7
MZVM				eS	Sb	23 36 38.1	-0.1
MZVM		2.44	5		Pb	23 36 07.8	-0.7
MZVM					Sb	23 36 38.1	-0.1
TPIG	Tehuac#an	2.59	50	eP	Pn	23 36 06.7	+0.2
TPIG				eS	Sg	23 36 45.8	-2.8
TPIG	Tehuac#an	2.59	50		Pn	23 36 06.7	+0.2
TOIG	Toxpalan	2.64	59	eP	Pn	23 36 07.2	+0.1
PBVM	Pinon	2.70	7	eP	Pn	23 36 10.1	+2.3
PBVM				eS	Sb	23 36 45.6	-0.3
PBVM	Pinon	2.70	7		Pn	23 36 10.1	+2.3
PBVM					Sb	23 36 45.6	-0.3
MOIG	Morelia	3.35	331	eP	Pb	23 36 21.6	-2.7
MOIG				eS	Sb	23 37 03.5	-1.3
MOIG	Morelia	3.35	331	Pn	Pn	23 36 20.4	+3.5
MOIG	Morelia	3.35	331		Sb	23 37 03.5	-1.3
HUIG	Huatulco	3.35	106	eP	Pn	23 36 17.0	+0.2
HUIG				eS	Sn	23 36 51.6	-4.7
HUIG	Huatulco	3.35	106		Pn	23 36 17.0	+0.2
MMIG	Aquila	4.02	293	eP	Pn	23 36 25.8	-0.1
MMIG				eS	Sb	23 37 25.1	+1.2
MMIG	Aquila	4.02	293		Pn	23 36 25.8	-0.1
MMIG					Sb	23 37 25.1	+1.2
CMIG	Matias Romero	4.38	85	Pn	Pn	23 36 31.6	+0.6
	3.2nm,0.3s,baz=262,slow=12,SNR=13						
CMIG				Pg	Pb	23 36 44.4	+2.7
	2.6nm,0.3s,baz=284,slow=12,SNR=16						
CMIG				Sn	Sn	23 37 19.2	-2.5
	8.0nm,0.3s,baz=360,slow=18,SNR=6.3						
CMIG				Lg	Lg	23 37 43.8	
	35nm,0.3s,baz=24,slow=20,SNR=12						
CMIG				LR	LR	23 38 33.5	
	comp=Z,213nm,19.6s,baz=278,slow=44						
CMIG	Matias Romero	4.38	85	eP	Pn	23 36 31.1	+0.1
CMIG				eS	Sg	23 37 43.0	-3.0
CMIG	Matias Romero	4.38	85		Pn	23 36 31.1	+0.1
ZAIG	Zacatecas	6.67	334	Pn	Pn	23 37 08.4	+5.8
KVTX	Kingsville	10.84	7	Pn	Pn	23 38 01.7	+2.1
H06E1	SOCORRO T-PHAS	11.12	282	T	T	23 49 10.8	
	SNR=2.9						
HPIG		11.66	331	Pn	Pn	23 38 15.2	+4.1
LPIG	La Paz	12.53	307	LR	LR	23 42 44.6	
	comp=Z,199nm,18.1s,baz=179,slow=35						
TXAR	Lajitas Array	13.11	344	Pn	Pn	23 38 33.2	+2.5
	0.1nm,0.3s,baz=155,slow=16,SNR=5.0						
TXAR				Lg	Lg	23 42 24.4	
	0.1nm,0.3s,baz=160,slow=21,SNR=2.9						
TXAR				LR	LR	23 44 31.1	
	comp=Z,74nm,19.5s,baz=0.0,slow=42						
TXAR	Lajitas Array	13.11	344		Pn	23 38 32.7	+2.0
TX31	Lajitas Ar. Si	13.11	344		Pn	23 38 32.8	+2.1
TX32	Lajitas Array	13.11	344		Pn	23 38 33.8	+3.1
JCT	Junction City	13.67	359	Pn	Pn	23 38 42.1	+3.8
WHTX	Lake Whitney,	15.28	6		P	23 39 02.8	-2.1
JTS	Las Juntas de	15.48	113	LR	LR	23 43 55.4	
	comp=Z,99nm,20.4s,baz=192,slow=33						
NATX	Nacogdoches	15.56	15	Pn	Pn	23 39 05.1	+1.3
NATX				IAmb	IAmb	23 39 29.6	
	comp=Z,25nm,1.1s						
ABTX	Abilene, Hawle	15.81	359	Pn	P	23 39 10.0	-0.8
ABTX				IAmb	IAmb	23 39 21.9	
	comp=Z,13nm,0.9s						
MNTX	Cornudas Mount	15.83	341	Pn	P	23 39 09.5	-1.5
342A	Flagon Creek P	15.94	23	Pn	Pn	23 39 09.2	+0.6
342A				IAmb	IAmb	23 39 22.7	
	comp=Z,28nm,0.9s						
HSIG		16.15	321		P	23 39 16.1	+1.4
Z35A	Perchaven, San	16.63	6	Pn	Pn	23 39 18.4	+0.9
Z35A				IAmb	IAmb	23 39 29.7	
	comp=Z,27nm,1.1s						
319A	Douglas	17.09	330		P	23 39 25.9	+0.8
319A				IAmb	IAmb	23 39 35.3	
	comp=Z,39nm,1.8s						
LOOK	Love County	17.29	6	Pn	P	23 39 26.9	-0.3
MSTX	Muleshoe	17.41	351		P	23 39 29.5	+0.9
121A	Cookes Peak, D	17.43	336		P	23 39 29.1	+0.1
WLAR	White Oak Lake	17.81	18	P	Pn	23 39 31.3	-0.9
WLAR				IAmb	IAmb	23 39 40.1	
	comp=Z,33nm,1.1s						
WMOK	Wichita Mounta	17.93	2	P	P	23 39 35.5	+1.3
X37A	Clayton	18.14	11	P	Pn	23 39 35.9	-0.4
X37A				IAmb	IAmb	23 39 46.4	
	comp=Z,46nm,1.7s						
MIAR	Mount Ida	18.49	15	P	P	23 39 39.2	-1.2
BNM	Barren Site	18.49	341	P	Pn	23 39 42.1	+1.3
TUC	Tucson	18.59	329		Pn	23 39 43.6	+1.7
W39A	Magazine	19.06	14	P	P	23 39 46.8	+0.2
W39A				IAmb	IAmb	23 40 13.1	
	comp=Z,35nm,1.7s						
ANMO	Albuquerque	19.18	342	P	Pn	23 39 48.9	-0.2
	comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=5.0						
ANMO				LR	LR	23 48 16.4	
	comp=Z,207nm,18.6s,baz=159,slow=40						
ANMO	Albuquerque	19.18	342	P	Pn	23 39 49.4	+0.3
OK030	Cody Creek RV	19.25	7	P	Pn	23 39 49.7	-0.1
OK030				IAmb	IAmb	23 39 59.7	
	comp=Z,22nm,1.1s						
OK031	S. Brethren Rd	19.27	6	P	Pn	23 39 50.3	+0.3
OK031				IAmb	IAmb	23 39 59.9	
	comp=Z,18nm,0.9s						
214A	Organ Pipe Nat	19.40	324	P	Pn	23 39 54.4	+2.7
U32A	Winter Ranch,	19.56	1	P	Pn	23 39 54.6	+1.1
U32A				IAmb	IAmb	23 40 09.3	
	comp=Z,17nm,1.0s						
LRAL	Lakeview Retre	19.73	32		P	23 39 51.4	-2.7
OK032	Salt Plains WL	20.01	3	P	P	23 39 57.8	+0.8
X18A	Snowflake	20.05	334	P	Pn	23 40 01.8	+2.2
X18A				IAmb	IAmb	23 40 11.1	
	comp=Z,22nm,1.4s						
HHAR	Hobbs	20.06	13	P	P	23 39 57.8	+0.1
HHAR				IAmb	IAmb	23 40 08.5	
	comp=Z,18nm,1.0s						
U38A	Gravette	20.12	12	P	P	23 39 58.1	-0.1
U38A				IAmb	IAmb	23 40 08.5	
	comp=Z,17nm,1.1s						
FCAR	Ozark Folk Cen	20.15	17	P	P	23 39 57.8	-0.7
FCAR				IAmb	IAmb	23 40 07.9	
	comp=Z,12nm,1.2s						
T35A	Sooner Cattle	20.26	7	P	P	23 39 59.2	-0.5
U40A	Yellville	20.39	15	P	P	23 40 00.1	-1.0
U40A				IAmb	IAmb	23 40 12.0	
	comp=Z,29nm,1.6s						
W45A	Hickory Valley	20.50	25	P	P	23 40 01.1	-1.3
X16A	Lo Mia Camp, P	20.62	331	P	Pn	23 40 06.5	+0.2
T25A	Trinidad	20.78	349	P	Pn	23 40 08.3	+0.2
PLAL	Pickwick Lake	20.81	27	P	P	23 40 03.9	-1.9
PLAL				IAmb	IAmb	23 40 15.5	
	comp=Z,17nm,1.4s						
X48A	Hartselle	20.84	30	P	P	23 40 04.3	-1.8
X48A				IAmb	IAmb	23 40 16.0	
	comp=Z,12nm,0.9s						
Y14A	Wickenburg	21.01	327	P	P	23 40 09.3	+1.3
GLA	Glamis	21.36	322	P	P	23 40 13.9	+2.2
GLA				IAmb	IAmb	23 40 17.5	
	comp=Z,16nm,0.8s						
PBMO	Poplar Bluff	21.49	20	P	P	23 40 11.9	-1.2
PBMO				IAmb	IAmb	23 40 17.5	
	comp=Z,8.8nm,0.9s						
WUAZ	Wupatki	21.50	333	P	P	23 40 16.2	+2.8
WUAZ				IAmb	IAmb	23 40 19.4	
	comp=Z,14nm,0.9s						
SDCO	Great Sand Dun	21.59	347	P	P	23 40 15.5	+1.1
FPAL	Fort Paine	21.63	32	P	P	23 40 12.0	-2.6
FPAL				IAmb	IAmb	23 40 17.9	
	comp=Z,7.8nm,0.8s						
WVT	Waverly	21.89	26	P	P	23 40 15.3	-2.1
WVT				IAmb	IAmb	23 40 20.7	
	comp=Z,9.1nm,0.9s						
SWET	Sewanee	22.00	31	P	P	23 40 16.5	-2.1
SWET				IAmb	IAmb	23 40 18.0	
	comp=Z,7.2nm,0.9s						
W50A	Signal Mountai	22.30

HDIL	Hopedale	25.30	18	P	P	23 40 49.9	-0.9
NLU	North Lily Min	25.60	337	P	P	23 40 54.9	+1.1
NLU				IAmb	IAmb	23 40 56.4	
	comp=Z,7.4nm,1.2s						
SPR3	Spring Creek 3	25.70	333	P	P	23 40 55.4	+0.5
SPR3				IAmb	IAmb	23 40 56.8	
	comp=Z,5.9nm,1.1s						
SFIN	Lafayette	25.87	22	P	P	23 40 55.0	-1.0
SFIN				IAmb	IAmb	23 40 56.2	
	comp=Z,7.0nm,0.9s						
P49A	Miami Univ. Ec	26.08	27	P	P	23 40 56.0	-1.9
DUG	Dugway, Tooele	26.08	336	P	P	23 40 59.9	+1.8
Q51A	Peebles	26.28	29	P	P	23 40 57.5	-2.3
TPH	Tonopah	26.37	327	P	P	23 41 02.6	+1.8
R53A	Hurricane	26.42	32	P	P	23 40 59.3	-1.7
Q52A	Bidwell	26.75	31	P	P	23 41 02.2	-1.7
P51A	Williamsport	26.78	29	P	P	23 41 01.9	-2.3
O49A	Covington	26.79	26	P	P	23 41 03.2	-1.1
O49A				IAmb	IAmb	23 41 12.2	
	comp=Z,11nm,1.1s						
N47A	Urbana	26.83	24	P	P	23 41 02.9	-1.7
SPUT	South Promonto	26.92	338	P	P	23 41 07.4	+1.8
ECSD	EROS Data Cent	27.01	5	P	P	23 41 05.5	-0.7
ECSD				IAmb	IAmb	23 41 23.6	
	comp=Z,4.7nm,1.0s						
NV11	Mina Array Sit	27.12	326	IAmb	IAmb	23 41 19.2	
	comp=Z,12nm,1.3s						
NVAR	Mina Array Bea	27.20	326	P	P	23 41 10.8	+2.5
	comp=Z,3.3nm,0.9s,baz=153,slow=9.9,SNR=22						
BW06	Boulder Array	27.33	344	P	P	23 41 10.0	+0.6
BW06				IAmb	IAmb	23 41 11.2	
	comp=Z,6.7nm,1.1s						
PDAR	Pinedale Array	27.33	344	P	P	23 41 09.9	+0.5
	comp=Z,3.1nm,0.9s,baz=145,slow=9.0,SNR=18						
PDAR				LR	LR	23 53 16.4	
	comp=Z,312nm,18.6s,baz=172,slow=39						
ROSC	El Rosal	27.33	113	LR	LR	23 50 19.8	
	comp=Z,31nm,20.9s,baz=124,slow=33						
P52A	Corning	27.34	30	P	P	23 41 07.7	-1.5
ACSO	Alum Creek Sta	27.42	28	P	P	23 41 07.6	-2.4
HVU	Hansel Valley	27.45	338	P	P	23 41 11.9	+1.5
RYN	Ryan	27.46	326	P	P	23 41 12.7	+2.1
KVN	Kaiserville	27.55	327	P	P	23 41 13.5	+2.1
KVN				IAmb	IAmb	23 41 17.4	
	comp=Z,9.1nm,1.5s						
RSSD	Black Hills	27.56	353	P	P	23 41 12.0	+0.6
O52A	Adamsville	27.86	30	P	P	23 41 12.3	-1.6
WAKR	Walker	27.87	325	P	P	23 41 16.5	+2.2
WAKR				IAmb	IAmb	23 41 26.9	
	comp=Z,12nm,1.8s						
AAM	Ann Arbor	28.84	25	P	P	23 41 21.2	-1.4
N53A	Lisbon	28.87	30	P	P	23 41 20.4	-2.5
SADO	Sadowa	32.75	27	P	P	23 41 55.0	-2.0
	comp=Z,3.5nm,0.7s,baz=265,slow=9.6,SNR=4.8						
SADO	Sadowa	32.75	27	P	P	23 41 55.7	-1.4
J57A	Williamstown	33.21	32	P	P	23 41 59.3	-1.8
FFC	Flin Flon	37.95	358	P	P	23 42 41.2	-0.5
FFC				IAmb	IAmb	23 42 42.4	
	comp=Z,5.9nm,0.8s						
YKA	Yellowknife Ar	46.92	350	P	P	23 43 54.5	-0.1
	comp=Z,1.5nm,0.8s,baz=166,slow=8.1,SNR=4.0						
YKA	Yellowknife Ar	46.92	350	P	P	23 43 54.5	-0.1
H03N2	Juan Fernandez	53.61	159	T	T	00 42 22.5	
	baz=338,slow=77,SNR=192						
H03N1	Juan Fernandez	53.62	159	T	T	00 42 28.6	
	baz=338,slow=77,SNR=169						
H03N3	Juan Fernandez	53.63	159	T	T	00 42 23.3	
	baz=338,slow=77,SNR=214						
H03S3	Juan Fernandez	53.97	159	T	T	00 43 04.1	
	baz=338						
H03S2	Juan Fernandez	53.98	159	T	T	00 43 03.8	
	baz=338						
H03S1	Juan Fernandez	53.99	159	T	T	00 42 56.2	
	baz=338						
INK	Inuvik	55.88	345	P	P	23 45 02.4	+0.8
ILAR	Eielson Array	57.55	338	P	P	23 45 14.3	+0.8
	comp=Z,0.7nm,0.9s,baz=144,slow=5.1,SNR=7.7						
SEY	Seymchan	83.22	334	P	P	23 47 51.4	+1.0
	comp=Z,1.4nm,0.7s,baz=126,slow=19,SNR=4.1						
SEY	Seymchan	83.22	334	P	P	23 47 51.4	+1.0
ESDC	Sonseca Array	83.60	51	P	P	23 47 53.1	+0.1
	comp=Z,0.5nm,0.8s,baz=278,slow=8.9,SNR=1.9						
ESDC	Sonseca Array	83.60	51	P	P	23 47 53.0	+0.1

*NEIC **03** 23:36:53.5±1.8, 63°35S±0°06×174°5E±0°3, h10km±1km, mb4.5/8, Error ellipse: s-maj=24.4km s-min=5.7km az=70.0*

*IDC **03** 23:36:53.9±1.4, 63°43S×173°96E, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/28, mbtmp4.0/5, ML3.7/1, MS4.0/4, Ms1 4.0/4, ms1mx3.6/16, Error ellipse: s-maj=62.4km s-min=25.1km az=63.0*

ISC 03 23:36:53.8±0.7, 63°35S±0°09×174°4E±0°1, h10km, n33, σ1§09/22, mb4.1/6, MS4.0/3, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	14.77	186	Pn	Pn	23 40 21.4	-0.9
VNDA	Vanda	14.77	191	Pn	Pn	23 40 20.5	-1.9
	0.3nm,0.3s,baz=30,slow=14,SNR=21						
VNDA				LR	LR	23 44 38.2	
	comp=Z,654nm,21.6s,baz=26,slow=32						
VNDA	Vanda	14.77	191	Pn	Pn	23 40 21.0	-1.4
LBZ	Lake Benmore	19.15	351	P	P	23 41 16.6	-0.4
LBZ				IAmb	IAmb	23 41 29.7	
	comp=Z,19nm,1.2s						
FOZ	Fox Glacier	20.03	350	P	P	23 41 25.3	-1.2
FOZ				IAmb	IAmb	23 41 30.9	
	comp=Z,20nm,1.2s						
TUWZ	Tuamarina	21.96	359	P	P	23 41 45.9	-1.5
BHW	Baring Head	21.98	1	P	P	23 41 47.4	-0.2
CASY	Casey	26.27	235	P	P	23 42 27.9	-0.8
QSPA	South Pole Qui	26.74	180	P	P	23 42 34.3	+1.0
	comp=Z,3.8nm,1.0s,baz=34,slow=5.1,SNR=6.2						
QSPA				LR	LR	23 51 39.7	
	comp=Z,408nm,18.8s,baz=35,slow=33						
QSPA	South Pole Qui	26.74	180	P	P	23 42 33.1	-0.2
STKA	Stephens Creek	37.65	311	LR	LR	23 56 58.1	
	comp=Z,164nm,18.1s,baz=171,slow=32						
MAW	Mawson	40.44	213	P	P	23 44 32.8	+1.1
FORT	Forrest	43.73	296	P	P	23 44 57.9	-1.0
FORT				IAmb	IAmb	23 45 01.5	
	comp=Z,13nm,1.1s						
PMSA	Palmer Station	45.16	149	P	P	23 45 10.6	+0.7
SNAA	Sanae	45.23	181	P	P	23 45 10.7	+0.1
H01W1	Cape Leeuwin H	46.17	279	T	T	00 34 07.7	
	baz=147,slow=76,SNR=96						
H01W2	Cape Leeuwin H	46.17	279	T	T	00 34 07.9	
	baz=147,slow=76,SNR=95						
H01W3	Cape Leeuwin H	46.19	279	T	T	00 34 08.9	
	baz=147,slow=76,SNR=93						
ASAR	Alice Springs	47.86	307	P	P	23 45 32.6	+0.9
	comp=Z,1.6nm,0.9s,baz=159,slow=7.7,SNR=10						
ASAR	Alice Springs	47.86	307	P	P	23 45 32.0	+0.3
WRA	Warramunga Arr	51.13	309	P	P	23 45 56.1	-0.5
	comp=Z,1.5nm,1.0s,baz=151,slow=7.3,SNR=4.4						
PSA00	Pilbara Seismi	55.25	293	P	P	23 46 27.1	+0.2
PSA00				IAmb	IAmb	23 46 28.0	
	comp=Z,12nm,1.1s						
RPN	Rapa Nui	60.01	91	P	P	23 46 58.9	-1.5
H03S2	Juan Fernandez	67.25	120	T	T	01 02 29.6	
	baz=205,slow=74,SNR=63						
H03S1	Juan Fernandez	67.25	120	T	T	01 02 34.9	
	baz=205,slow=74,SNR=47						
H03S3	Juan Fernandez	67.27	120	T	T	01 02 28.7	
	baz=205,slow=74,SNR=67						
BOSA	Boshof	85.12	207	LR	LR	00 25 35.5	
	comp=Z,82nm,18.7s,baz=173,slow=34						
LPAZ	La Paz	87.21	121	P	P	23 49 42.5	+1.5
	comp=Z,1.3nm,0.9s,baz=180,slow=8.1,SNR=2.5						
H08S2	Diego Garcia H	88.50	256	T	T	01 27 11.3	
	baz=153,slow=76,SNR=102						
H08S1	Diego Carcia H	88.51	256	T	T	01 27 09.5	
	baz=153,slow=76,SNR=53						
H08S3	Diego Garcia H	88.52	256	T	T	01 27 03.0	
	baz=153,slow=76,SNR=115						
NRIK	Noril'sk	145.64	321	PKPbc	PKPab	23 56 32.6	+1.5
	comp=Z,5.9nm,0.8s,baz=51,slow=3.4,SNR=3.4						
BRTR	Keskin Array B	146.86	243	PKPbc	PKPab	23 56 37.2	+0.3
	comp=Z,1.3nm,0.9s,baz=153,slow=4.8,SNR=2.1						

*IDC **03** 23:43:43.0±0.6, 23°14N×143°58E, h0km, mb4.2/22, mb1 4.3/25, mb1mx4.2/53, mbtmp4.2/25, ML4.0/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/46, Error ellipse: s-maj=20.2km s-min=12.4km az=82.0*

*NEIC **03** 23:43:44.4±1.5, 23°09N±0°06×143°7E±0°1, h8km±3km, mb4.6/72, Error ellipse: s-maj=15.0km s-min=9.1km az=81.0*

ISC 03 23:43:44.1±0.4, 23°12N±0°06×143°63E±0°09, h10km, n123, σ0§96/100, mb4.6/55, MS3.2/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	4.17	342	Pn	Pn	23 44 47.6	-0.2
	23nm,0.3s,baz=181,slow=23,SNR=13						
JCJ				Sn	Sn	23 45 34.0	-2.7
	14nm,0.3s,baz=300,slow=23,SNR=2.5						
JCJ	Chichijima	4.17	342		Sn	23 45 33.6	-3.0
ANA2	Anatahan	7.02	163		Pn	23 45 24.5	-2.6
JHJ	Hachijo jima 2	10.52	342	Pn	Pn	23 46 13.7	-1.4
	3.3nm,0.3s,baz=84,slow=21,SNR=1.9						
JSG	Sagara	12.46	339	Pn	Pn	23 46 42.4	+0.9
JYT	Yasato	13.40	348	Pn	Pn	23 46 54.0	-0.3
INU	Inuyama	13.48	336	Pn	Pn	23 46 54.0	-1.5
MJAR	Matsushiro Arr	14.17	342	Pn	Pn	23 47 01.8	-3.2
	0.2nm,0.3s,baz=170,slow=10,SNR=7.2						
MAJO	Matsushiro	14.18	342		Pn	23 47 04.1	-0.9
MJB9	Matsu-Tunnel	14.18	342	Pn	Pn	23 47 03.3	-1.7
JHS	Saijyo	14.97	325	Pn	Pn	23 47 15.5	-0.4
JSD	Sado	15.56	344		Pn	23 47 24.1	+0.4
KSRS	Korea Array	19.66	320	P	P	23 48 13.5	+0.3
	0.2nm,0.3s,baz=132,slow=11,SNR=8.6						
JEW	Eniwo	19.75	355	P	P	23 48 14.9	+0.8
TWG	Pinlang	20.77	274	P	P	23 48 26.4	+0.9
TWG				IAmb	IAmb	23 48 32.1	
	comp=Z,26nm,1.1s						
SSLB	Suanglung	20.82	276	P	Pn	23 48 28.0	-0.4
SSLB				IAmb	IAmb	23 48 43.6	
	comp=Z,18nm,0.6s						
ASAJ	Asahikawa	20.96	358	P	Pn	23 48 29.6	-0.2
	comp=Z,14nm,0.9s,baz=234,slow=16,SNR=9.3						
ASAJ				LR	LR	23 56 34.2	
	comp=Z,87nm,21.7s,baz=186,slow=37						
JKA	Kamikawa-asahi	20.96	358		Pn	23 48 29.4	-0.4
JKA				IAmb	IAmb	23 48 31.4	
	comp=Z,21nm,1.0s						
H11N1	WAKE ISLAND Hy	21.91	94	T	T	00 11 15.4	
	baz=283,slow=74,SNR=6.5						
H11N2	WAKE ISLAND Hy	21.91	94	T	T	00 11 12.6	
	baz=283,slow=74,SNR=6.4						
H11N3	WAKE ISLAND Hy	21.93	94	T	T	00 11 15.4	
	baz=283,slow=74,SNR=4.8						
USA0B	Ussuriysk Arra	23.10	338	P	P	23 48 51.3	+1.2
USA0B				IAmb	IAmb	23 48 52.4	
	comp=Z,9.6nm,0.8s						
USRK	Ussuriysk Ar.	23.10	338	P	P	23 48 50.2	+0.1
	comp=Z,8.3nm,0.8s,baz=166,slow=9.7,SNR=19						
USRK	Ussuriysk Ar.	23.10	338	P	P	23 48 51.1	+1.0
YSS	Yuzh-Sakhalins	23.79	359	P	P	23 48 57.6	+0.7
YSS				IAmb	IAmb	23 49 14.7	
	comp=Z,20nm,1.1s						
MDJ	Mudanjiang	24.34	335	P	P	23 49 01.6	-0.5
MDJ				IAmb	IAmb	23 49 05.1	
	comp=Z,10nm,1.0s						
KLR	Kul'dur	27.70	343	P	P	23 49 33.2	+0.9
	comp=Z,7.1nm,0.8s,baz=141,slow=8.1,SNR=33						
KLR				LR	LR	00 01 02.4	
	comp=Z,55nm,20.1s,baz=164,slow=38						
ENH	Enshi	31.24	291	P	P	23 50 03.3	-0.8
ENH				IAmb	IAmb	23 50 05.9	
	comp=Z,5.2nm,0.8s						
PETK	Petropavlovsk-	31.80	16	P	P	23 50 08.0	-0.7
SLVN	Son La	36.74	275	P	P	23 50 52.4	+0.4
SONM	Songino Array	38.52	319	P	P	23 51 08.2	+1.3
	comp=Z,0.5nm,0.4s,baz=99,slow=9.2,SNR=2.9						
SONM	Songino Array	38.52	319	IAmb	IAmb	23 51 09.6	
	comp=Z,0.9nm,0.8s						
YAK	Yakutsk	40.04	350	P	P	23 51 18.7	-0.4
SEY	Seymchan	40.23	6	P	P	23 51 21.9	+1.2
	comp=Z,1.8nm,0.8s,baz=22,slow=22,SNR=5.0						
CHTO	Chiang Mai	41.83	273	P	P	23 51 34.6	0.0
CMAR	Chiang Mai Arr	41.92	272	P	P	23 51 35.2	0.0
	comp=Z,1.4nm,0.3s,baz=62,slow=8.5,SNR=6.9						
CMAR				LR	LR	00 07 31.2	
	comp=Z,41nm,22.0s,baz=184,slow=34						
CTA	Charters Tower	43.02	176	P	P	23 51 45.6	+1.5
	comp=Z,2.1nm,0.6s,baz=349,slow=10,SNR=1.6						
WRA	Warramunga Arr	43.75	193	P	P	23 51 49.7	-0.3
	comp=Z,0.9nm,0.4s,baz=7.7,slow=7.8,SNR=17						
LSA	Lhasa	47.13	290	P	P	23 52 17.7	+0.3
LSA				IAmb	IAmb	23 52 31.0	
	comp=Z,6.3nm,0.8s						
ASAR	Alice Springs	47.46	192	P	P	23 52 19.6	+0.3
	comp=Z,0.5nm,0.6s,baz=18,slow=12,SNR=14						
ASAR				PcP	PcP	23 53 50.3	+0.7
	comp=Z,0.5nm,0.7s,baz=23,slow=5.0,SNR=2.6						
TIXI	Tiksi	49.28	354	P	P	23 52 32.9	+0.1
MBWA	Marble Bar	49.80	210	P	P	23 52 36.0	-1.2
PINNC	Pines Island,	51.02	151	P	P	23 52 45.8	-0.8
ZAA0	Zalesovo Array	53.36	321	P	P	23 53 05.0	-0.2
ZALV	Zalesovo Beam	53.36	321	P	P	23 53 03.0	-0.6
	comp=Z,2.4nm,0.6s,baz=97,slow=8.3,SNR=11						
MAKZ	Makanchi	54.27	312	P	P	23 53 10.1	-0.3
MAKZ				IAmb	IAmb	23 53 23.1	
	comp=Z,5.8nm,0.9s						
STKA	Stephens Creek	54.72	182	P	P	23 53 13.6	-0.1
	comp=Z,1.9nm,0.6s,baz=336,slow=8.0,SNR=4.1						
KURK	Kurchatov	56.73	316	P	P	23 53 27.9	-0.1
KURBB	Kurchatov Arra	56.78	316	P	P	23 53 27.9	-0.5
	comp=Z,3.1nm,0.7s,baz=93,slow=7.7,SNR=19						
NRIK	Noril'sk	56.81	339	P	P	23 53 29.0	+0.8
	comp=Z,10nm,1.0s,baz=90,slow=6.0,SNR=5.4						
NRIK	Noril'sk	56.81	339	P	P	23 53 29.1	+0.8
PPLA	Purkeypile	57.94	29	P	P	23 53 36.0	-0.6
PPLA				IAmb	IAmb	23 53 38.9	
	comp=Z,3.4nm,0.8s						
MORW	Morawa	58.30	208	P	P	23 53 39.3	+0.1
MORW				IAmb	IAmb	23 53 40.0	
	comp=Z,10nm,1.0s						
KTH	Kantishna Hill	58.64	28	P	P	23 53 41.6	+0.3
KTH				IAmb	IAmb	23 53 43.2	
	comp=Z,5.7nm,1.2s						
BPAW	Bear Paw Mtn.	58.72	28	P	P	23 53 42.6	+0.8
BPAW				IAmb	IAmb	23 53 43.9	
	comp=Z,6.6nm,0.9s						
TRF	Thorofare Moun	58.90	29	IAmb	IAmb	23 53 44.6	
	comp=Z,8.4nm,1.0s						
MLY	Manley	59.02	27	P	P	23 53 45.1	+1.1
MLY				IAmb	IAmb	23 53 46.7	
	comp=Z,6.7nm,1.0s						
BWN	Browne	59.39	28	P	P	23 53 46.9	+0.5
PWL	Port Wells	59.40	32	P	P	23 53 46.9	+0.3
KNK	Knik Glacier	59.41	31	P	P	23 53 47.7	+1.0
RND	Reindeer	59.53	29	P	P	23 53 46.8	-0.7
RND				IAmb	IAmb	23 53 48.4	
	comp=Z,5.0nm,0.8s						
MCK	McKinley	59.54	28	IAmb	IAmb	23 53 48.7	
	comp=Z,8.7nm,1.0s						
I23K	Minto, Yukon-K	59.61	27	IAmb	IAmb	23 53 50.2	
	comp=Z,5.0nm,0.9s						
NEA2	Nenana	59.63	27	P	P	23 53 49.2	+1.1
NEA2				IAmb	IAmb	23 53 50.1	
	comp=Z,4.0nm,0.8s						
COLD	Coldfoot	59.70	24	P	P	23 53 50.0	+1.4
COLD				IAmb	IAmb	23 53 51.2	
	comp=Z,5.1nm,1.0s						
WRH	Wood River Hil	60.03	28	IAmb	IAmb	23 53 52.5	
	comp=Z,5.9nm,1.1s						
MDM	Murphy Dome	60.05	27	P	P	23 53 51.8	+0.8
CCB	Clear Creek Bu	60.18	28	P	P	23 53 53.1	+1.3
TOLK	Toolik Lake Re	60.25	23	P	P	23 53 53.0	+0.7
TOLK				IAmb	IAmb	23 53 55.6	
	comp=Z,3.8nm,0.9s						
HDA	Harding Lake	60.51	28	P	P	23 53 52.9	-1.3
HDA				IAmb	IAmb	23 53 54.8	
	comp=Z,3.2nm,0.7s						
M24K	Tolsona, Glenn	60.57	31	P	P	23 53 54.1	-0.6
M24K				IAmb	IAmb	23 54 03.2	
	comp=Z,6.8nm,0.8s						
IL31		60.59	27	IAmb	IAmb	23 53 55.2	
	comp=Z,5.8nm,0.9s						
ILAR	Eielson Array	60.59	27	P	P	23 53 54.5	-0.2
	comp=Z,4.4nm,0.9s,baz=259,slow=5.6,SNR=25						
ILAR	Eielson Array	60.59	27	P	P	23 53 53.3	-1.4
BMRM	Bremner River	61.22	32	P	P	23 53 58.3	-0.9
PRP	Porcupine Dome	61.26	27	P	P	23 53 59.6	+0.2
PRP				IAmb	IAmb	23 54 00.3	
	comp=Z,2.9nm,0.7s						
DOT	Dot Lake	61.69	29	IAmb	IAmb	23 54 04.1	
	comp=Z,6.2nm,1.1s						
SCRK	Sand Creek	61.75	29	P	P	23 54 03.4	+0.7
BVAR	Borovoye Array	61.87	319	P	P	23 54 03.6	0.0
	comp=Z,4.7nm,0.8s,baz=190,slow=7.5,SNR=12						
CRQM	Cirque	61.93	32	P	P	23 54 04.9	+0.9
BRVK	Borovoye	61.93	319	P	P	23 54 04.9	+0.9
BRVK				IAmb	IAmb	23 54 16.7	
	comp=Z,5.9nm,0.8s						
K27K	Chicken	62.59	29	P	P	23 54 08.6	+0.4
K27K				IAmb	IAmb	23 54 10.4	
	comp=Z,3.0nm,1.1s						
BCAR	Beaver Creek A	62.67	30	P	P	23 54 09.1	+0.3
TABL	Table Mountain	62.90	33	P	P	23 54 10.8	+0.1
BCPM	Bancas Point	63.66	33	P	P	23 54 16.0	+0.7
DAWY	Dawson	63.77	29	P	P	23 54 15.7	-0.4
DAWY				IAmb	IAmb	23 54 17.6	
	comp=Z,3.3nm,0.5s						
CHGR	Chuyangaron	64.16	303	P	P	23 54 20.1	+0.9
EPYK	Eagle Plains	64.91	26	IAmb	IAmb	23 54 25.6	
	comp=Z,8.2nm,1.1s						
INK	Inuvik	66.10	24	P	P	23 54 31.6	+0.6
	comp=Z,1.8nm,0.5s,baz=279,slow=4.1,SNR=4.5						
INK	Inuvik	66.10	24	IAmb	IAmb	23 54 34.1	
	comp=Z,4.3nm,1.1s						
ABKAR	Akbulak array	68.82	316	P	P	23 54 49.1	+0.4
ABKAR	Akbulak array	68.82	316	P	P	23 54 49.4	+0.7
ABKAR				IAmb	IAmb	23 54 52.5	
	comp=Z,2.5nm,0.9s						
YKA	Yellowknife Ar	75.01	28	P	P	23 55 26.1	+0.6
	comp=Z,1.6nm,0.8s,baz=316,slow=3.2,SNR=4.2						
BEKR	Beckworth	79.91	51	P	P	23 55 53.8	+0.1
CMB	Columbia Colle	80.57	53	P	P	23 55 57.2	+0.1
MFID	Camas Ranch	81.68	46	P	P	23 56 03.2	+0.1
KBZ	Khabaz	81.68	314	P	P	23 56 03.2	+0.4
	comp=Z,2.5nm,0.9s,baz=75,slow=6.3,SNR=3.2						
KVN	Kaiserville	81.84	51	P	P	23 56 03.5	-0.6
NVAR	Mina Array Bea	81.94	52	P	P	23 56 04.7	+0.1
	comp=Z,2.1nm,0.9s,baz=265,slow=5.5,SNR=11						
FINES	FINESS Array B	82.08	335	P	P	23 56 03.6	-1.0
	comp=Z,1.7nm,0.8s,baz=64,slow=4.4,SNR=6.4						
R11A	Troy Canyon, C	83.92	51	P	P	23 56 15.6	+0.7
FFC	Flin Flon	84.40	32	P	P	23 56 17.6	+0.8
FFC				IAmb	IAmb	23 56 18.3	
	comp=Z,7.2nm,1.1s						
MNK	Minsk	85.19	328	*i* PP	PP	23 59 36.7	-0.8
MNK	Minsk	85.19	328	*i* PPP	PPP	00 01 29.9	
MNK	Minsk	85.19	328	*i* S	S	00 06 40.6	-10
MNK	Minsk	85.19	328	*i* SS	SS	00 12 21.8	-1.7
MNK	Minsk	85.19	328	*i* SSS	SSS	00 15 53.0	
MNK	Minsk	85.19	328	*i* LQ	LQ	00 26 09.9	
MNK	Minsk	85.19	328	*i* LR	LR	00 30 45.4	
MNK	Minsk	85.19	328	*i* LRM	MLR	00 36 16.9	
	comp=Z,47nm,19.0s						
MNK	Minsk	85.19	328	*i* LRM	MLR	00 37 13.5	
	comp=N,30nm,19.7s						
MNK	Minsk	85.19	328	*i* LRM	MLR	00 38 28.9	
	comp=E,7.0nm,19.4s						
MNK	Minsk	85.19	328	*i* P	P	23 56 19.7	-1.0
	comp=E,1.0nm,0.9s						
MNK	Minsk	85.19	328	*i* P	P	23 56 19.7	-1.0
	comp=N,4.0nm,0.9s						
MNK	Minsk	85.19	328	*i* P	P	23 56 19.7	-1.0
	comp=Z,8.0nm,0.9s,baz=56						
PDAR	Pinedale Array	86.09	45	P	P	23 56 26.1	+0.3
	comp=Z,0.3nm,0.5s,baz=146,slow=2.9,SNR=3.6						
KNB	Kanab	86.47	51	P	P	23 56 27.4	-0.2
KNB				IAmb	IAmb	23 56 30.4	
	comp=Z,6.4nm,1.0s						
AKASG	Malin Array Be	86.59	325	P	P	23 56 28.7	+1.0
	comp=Z,0.8nm,0.5s,baz=45,slow=4.2,SNR=2.2						
Y14A	Wickenburg	87.70	54	P	P	23 56 33.4	-0.1
Y14A				IAmb	IAmb	23 56 35.4	
	comp=Z,4.4nm,1.0s						
NOA	NORSAR Array B	87.77	339	P	P	23 56 31.8	-1.5
	comp=Z,0.8nm,0.9s,baz=47,slow=5.3,SNR=3.0						
RAYN	Ar Rayn	87.97	295	P	P	23 56 34.3	-0.6
RAYN				IAmb	IAmb	23 56 47.4	
	comp=Z,5.6nm,1.1s						
PLCA	Paso Flores	146.36	130	PKPbc	PKPab	00 03 26.7	+0.4
	comp=Z,1.4nm,0.7s,baz=205,slow=9.2,SNR=3.9						
LPAZ	La Paz	149.38	83	PKPbc	PKiKP	00 03 36.0	-0.2
	comp=Z,2.9nm,0.8s,baz=273,slow=4.7,SNR=5.5						

*IDC **03** 23:48:55.8±1.4, 37°32N×78°28E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/45, mbtmp3.6/8, ML3.4/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/38, Error ellipse: s-maj=34.5km s-min=25.1km az=59.0*

*NNC **03** 23:48:55.7±3.9, 37°35N×77°47E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=40.4km s-min=25.7km az=87.0*

ISC 03 23:49:01.0±1.0, 37°65N±0°08×77°95E±0°08, h17km, n21, σ3§00/23, mb3.6/5, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.42	321	Pg	Pn	23 49 42.0	+2.1
K

AKTO Aktyubinsk 19.12 318 P Pn 23 53 24.1 +0.2
comp=Z,0.1nm,0.3s,baz=114,slow=11,SNR=3.9
GERES GERESS Array B 46.81 305 P P 23 57 30.9 +1.2
comp=Z,0.6nm,0.8s,baz=67,slow=7.6,SNR=4.6
NOA NORSAR Array B 46.85 322 P P 23 57 30.0 +0.3
comp=Z,0.4nm,0.6s,baz=71,slow=8.4,SNR=2.0
TORD Torodi Ar. Bea 71.26 272 P P 00 00 18.3 -1.3
comp=Z,0.7nm,0.7s,baz=43,slow=6.1,SNR=5.1
ILAR Eielson Array 72.04 19 P P 00 00 22.6 -1.0
comp=Z,0.4nm,0.8s,baz=316,slow=5.0,SNR=2.8
ASAR Alice Springs 80.52 130 P P 00 01 08.6 -3.7
comp=Z,0.4nm,0.8s,baz=314,slow=7.2,SNR=2.7

NNC 03 23:55:27.3±2.8, 37°.74N×77°.85E, h0^km, mb4.2, mpv3.8, 2D, Error ellipse: s-maj=28.5km s-min=18.6km az=84.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 7.6nm,0.7s	**5.33**	**4**	Pg	Pb	23 57 05.2	+3.9
SATY	12nm,0.7s			Lg	Lg	23 58 17.0	
MDOK	**Medeo** 5.5nm,0.5s	**5.45**	**354**	Pg	Pb	23 57 05.9	+2.6
MDOK	9.8nm,0.6s			Lg	Lg	23 58 20.0	
MDOK	**Medeo** 7.1nm,0.4s	**5.45**	**354**	Pg	Pb	23 57 06.4	+3.0
MDOK	9.7nm,0.4s			Lg	Lg	23 58 18.3	
AAK	**Ala-Archa** 2.6nm,0.5s	**5.52**	**333**	⇓Pg	Pb	23 57 06.2	+1.6
AAK	14nm,1.0s			⇓Lg	Lg	23 58 28.0	
DGS	**Degeres** 4.4nm,0.3s	**5.71**	**345**	Pg	Pb	23 57 12.3	+4.4
DGS	3.7nm,0.6s			Lg	Lg	23 58 28.1	
KURS	**Kuram** 6.4nm,0.4s	**5.74**	**2**	Pg	Pg	23 57 13.0	-4.3
KURS	4.7nm,0.9s			Lg	Lg	23 58 30.8	
KTBS	**Karatobe** 2.0nm,0.4s	**6.03**	**352**	Pg	Pb	23 57 16.4	+3.2
KTBS	8.8nm,0.6s			Lg	Lg	23 58 37.5	
KRBS	**Karabastau** 2.7nm,0.3s	**6.17**	**345**	Pg	Pg	23 57 20.6	-4.9
KRBS	4.9nm,0.6s			Lg	Lg	23 58 43.1	
ARXS	**Arharly** 7.9nm,0.3s	**6.46**	**360**	Pg	Pb	23 57 25.6	+5.0
ARXS	7.2nm,0.6s			Lg	Lg	23 58 50.3	

IDC 03 23:55:50.6±104.0, 51°.58S×129°.13E, h0^km, mb3.5/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=1788.0km s-min=140.2km az=172.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=153,slow=78,SNR=31	**19.86**	**321**	T	T	00 20 36.1	
H01W2	**Cape Leeuwin H** baz=153,slow=78,SNR=27	**19.86**	**321**	T	T	00 20 36.8	
H01W3	**Cape Leeuwin H** baz=153,slow=78,SNR=28	**19.88**	**321**	T	T	00 20 35.6	
STKA	**Stephens Creek** 1.3nm,0.5s,baz=197,slow=11,SNR=3.7	**21.71**	**30**	P	P	00 00 43.1	0.0
ASAR	**Alice Springs** 0.6nm,0.8s,baz=180,slow=7.4,SNR=3.8	**28.11**	**9**	P	P	00 01 43.2	-0.8
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=191,slow=8.5,SNR=1.6	**31.83**	**9**	P	P	00 02 17.8	+0.8

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*TEH **03** 23:56:49.5, 27°.31N×55°.05E, h14^km, ML3.2*
*THR **03** 23:56:50.6±0.4, 27°.35N×55°.09E, h38^km±7^km, ML3.0*
*OMAN **03** 23:56:51.5±0.5, 27°.39N×55°.16E, h10^km, ml3.0/10, Error ellipse: s-maj=12.0km s-min=6.1km az=23.0*
ISC 03 23:56:51.5±1.0, 27°.40N±0°.04×55°.08E±0°.04, h20^km, n34, σ1s00/40, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.68**	**293**	*e*Pg	**Pb**	**23 57 02.5**	**-2.2**
LAR1	comp=Z,33μm,0.3s			*e*		23 57 24.0	
BNDS	**Bandar-Abbas**	**0.97**	**90**	*e*Pg	**Pb**	**23 57 09.0**	**-0.9**
BNDS				*e*Sg	**Sn**	**23 57 22.5**	**-1.1**
BNDS	comp=N,409nm,0.3s			IAML		23 57 29.5	
GENO	**Geno** comp=Z,7μm,0.3s	**0.97**	**90**	*e*		23 57 28.8	
GENO				*e*Pg	**Pb**	**23 57 08.7**	**-1.2**
IBND	**Bandar-abas**	**1.30**	**88**	*e*Pg	**Pb**	**23 57 14.7**	**-0.6**
IBND	comp=Z,9μm,0.5s			*e*		23 57 55.9	
SHME	**Shamm**	**1.65**	**144**	P	**Pn**	**23 57 18.9**	**-0.5**
SHME				S	**Sb**	**23 57 41.7**	**+0.1**
LMD1	**Lamerd**	**1.70**	**268**	*e*Pg	**Pn**	**23 57 21.0**	**+0.9**
LMD1	comp=Z,5μm,0.4s			*e*		23 57 55.7	
JHRM	**Jahrom**	**1.72**	**310**	*e*Pn	**Pb**	**23 57 22.5**	**-0.1**
BANOM	**Banah** SNR=20	**1.83**	**143**	P	**Pn**	**23 57 22.0**	**0.0**
BANOM				S	**Sb**	**23 57 47.4**	**+0.4**
QIR1	**Qir**	**2.09**	**301**	*e*Pn	**Pn**	**23 57 25.7**	**+0.2**
MASF	**Masafi**	**2.24**	**154**	P	**Pn**	**23 57 28.2**	**+0.7**
UOSS	**Minazif**	**2.65**	**157**	P	**Pn**	**23 57 33.2**	**+0.1**
NGRK	**Negar Kerman**	**2.67**	**33**	*e*Pn	**Pn**	**23 57 33.6**	**-0.1**
NGRK	comp=Z,488nm,0.9s			*e*		23 58 30.0	
FAQ	**Al Faqa, Dubai**	**2.69**	**170**	P	**Pn**	**23 57 34.6**	**+1.0**
HATD	**Hatta, Dubai**	**2.73**	**159**	P	**Pn**	**23 57 35.5**	**+1.2**
HATD				S	**Sn**	**23 58 08.0**	**+1.2**
ASHO	**Ashiyiah** SNR=12	**2.85**	**162**	P	**Pn**	**23 57 36.3**	**+0.4**
KRBR	**Kerman**	**2.97**	**30**	*e*Pn	**Pn**	**23 57 38.1**	**+0.3**
KRBR				Sn	**Sn**	**23 58 12.6**	**-0.4**
KHGB	**Koh Gabri**	**3.21**	**22**	*e*Pn	**Pn**	**23 57 43.1**	**+2.1**
KHGB	comp=Z,315nm,0.7s			*e*		23 58 49.7	
CHMN	**Cheshme madani**	**3.27**	**41**	*e*Pn	**Pn**	**23 57 43.5**	**+1.5**
CHMN	comp=Z,279nm,0.4s			*e*		23 58 27.4	
SOHO	**SOHO**	**3.51**	**158**	P	**Pn**	**23 57 44.5**	**-0.4**
IMEH	**Mehriz**	**4.00**	**354**	*e*Pn	**Pn**	**23 57 53.2**	**+1.3**
ARQ	**Araqi** SNR=9.7	**4.25**	**162**	P	**Pn**	**23 57 56.0**	**+0.8**
HOQ	**Hoqain**	**4.31**	**152**	P	**Pn**	**23 57 56.9**	**+1.0**
ISAD	**Sadrabad**	**4.66**	**345**	*e*Pn	**Pn**	**23 58 03.2**	**+2.2**
KLNJ	**Kolanjah**	**4.71**	**321**	*e*Pn	**Pn**	**23 58 01.1**	**-0.7**
IRAM	**Ramesheh**	**4.98**	**333**	*e*Pn	**Pn**	**23 58 06.6**	**+1.2**
YZKH	**Yazd**	**4.99**	**355**	*e*Pn	**Pn**	**23 58 06.2**	**+0.8**
SMDO	**Samad**	**5.09**	**147**	P	**Pn**	**23 58 07.9**	**+1.0**
SMDO				S	**Sn**	**23 59 05.6**	**+0.5**
WSAR	**Wadi Sarin**	**5.25**	**141**	P	**Pn**	**23 58 09.0**	**+0.2**
ZHSF	**Zahedan**	**5.48**	**65**	*e*Pn	**Pn**	**23 58 12.2**	**+0.1**
BSRN	**Basiran**	**5.75**	**37**	*e*Pn	**Pn**	**23 58 15.8**	**-0.1**
TPRV	**Parvadeh(Tabas**	**5.78**	**14**	*e*Pn	**Pn**	**23 58 17.8**	**+1.6**
ANAR	**Anarak**	**5.89**	**349**	*e*Pn	**Pn**	**23 58 18.3**	**+0.6**
IZEF	**Zefreh**	**5.97**	**337**	*e*Pn	**Pn**	**23 58 18.7**	**-0.3**
SRVN	**Saravan**	**6.51**	**88**	*e*Pn	**Pn**	**23 58 27.0**	**+0.7**

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*IDC **04** 00:13:09.7±2.2, 37°.79N×78°.08E, h0^km, mb3.7/3, mb1 3.7/8, mb1mx3.4/54, mbtmp3.6/8, ML3.3/5, Error ellipse: s-maj=38.9km s-min=26.7km az=98.0*
*SOME **04** 00:13:10.0, 37°.77N×78°.10E, h0^km*
*NNC **04** 00:13:12.6±1.5, 37°.80N×78°.15E, h0^km, mb4.2, mpv3.9, Error ellipse: s-maj=11.9km s-min=10.2km az=94.0*
ISC 04 00:13:11.4±0.9, 37°.79N±0°.04×78°.13E±0°.07, h10^km, n46, σ2s34/49, mb3.6/3, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.41**	**316**	Pg	**Pn**	**00 13 50.9**	**-0.1**
KSH				Sg	**Sn**	**00 14 18.4**	**-2.3**
KSH	comp=N,510nm,0.5s			smax	smax		
KSH				smax	smax		
	comp=E,360nm,0.2s						
SATY	**Saty** comp=E,8.3nm,0.4s	**5.26**	**2**	*e*P	**Pg**	**00 14 50.1**	**-2.1**
SATY				*e*S	**Sg**	**00 16 01.9**	**+1.6**
SATY	**Saty** comp=E,17nm,0.7s	**5.26**	**2**	Pg	**Pg**	**00 14 49.7**	**-2.6**
SATY	comp=E,47nm,0.8s			Lg	Lg	00 16 02.0	
UZB	**Uzynbulak** comp=E,8.4nm,0.7s	**5.39**	**7**	*e*P	**Pb**	**00 14 50.5**	**+4.8**
UZB	comp=E,22nm,0.3s			*e*S	**Sg**	**00 16 02.9**	**-1.5**
UZB	**Uzynbulak** comp=E,8.2nm,0.7s	**5.39**	**7**	Pg	Pb	00 14 50.8	+5.1
UZB	comp=E,18nm,0.3s			Lg	Lg	00 16 03.2	
MDOK	**Medeo** comp=E,9.5nm,0.4s	**5.43**	**352**	*e*P	**Pg**	**00 14 52.4**	**-3.0**
MDOK	comp=E,35nm,0.8s			*e*S	**Sg**	**00 16 05.7**	**+0.1**
MDOK	**Medeo** comp=E,8.8nm,0.6s	**5.43**	**352**	⇑Pg	Pb	00 14 51.7	+5.4
MDOK	comp=E,49nm,0.9s			Lg	Lg	00 16 05.1	
MDOK	**Medeo** comp=E,9.5nm,0.4s	**5.43**	**352**	Pg	**Pg**	**00 14 52.4**	**-3.0**
MDOK	comp=E,35nm,0.8s			Lg	Lg	00 16 05.7	
SHLS	**Shalkode** comp=E,15nm,0.6s	**5.45**	**10**	*e*P	**Pg**	**00 14 54.3**	**-1.5**
SHLS	comp=E,60nm,0.7s			*e*S	**Sg**	**00 16 09.4**	**+3.0**
SHLS	**Shalkode** comp=E,15nm,0.6s	**5.45**	**10**	Pg	**Pg**	**00 14 54.3**	**-1.5**
SHLS	comp=E,60nm,0.7s			Lg	Lg	00 16 09.4	
KNDC	**Almaty** comp=E,21nm,0.6s	**5.49**	**351**	⇓Pg	**Pg**	**00 14 54.7**	**-1.9**
KNDC	comp=E,94nm,0.7s			⇓Lg	Lg	00 16 07.6	
KST	**Kastek** comp=E,3.4nm,0.2s	**5.50**	**343**	*e*P	Pb	00 14 53.2	+5.7
KST	comp=E,14nm,0.5s			*e*S	**Sg**	**00 16 07.8**	**-0.1**
KST	**Kastek** comp=E,11nm,0.6s	**5.50**	**343**	Pg	Pb	00 14 53.1	+5.5
KST	comp=E,14nm,0.3s			Lg	Lg	00 16 07.8	
AAK	**Ala-Archa** comp=E,1.2nm,0.3s,baz=149,slow=8.1,SNR=2.3	**5.58**	**331**	Pn	**Pn**	**00 14 36.7**	**+2.1**
AAK	comp=E,2.8nm,0.3s,baz=159,slow=9.2,SNR=5.9			Pg	**Pb**	**00 14 53.2**	**+4.2**
AAK	comp=E,1.0nm,0.3s,baz=120,slow=8.1,SNR=1.3			Sn	**Sn**	**00 15 34.7**	**-4.2**
AAK	comp=E,2.6nm,0.3s,baz=28,slow=18,SNR=3.7			Lg	Lg	00 16 07.5	
AAK	**Ala-Archa** comp=E,9.5nm,1.4s	**5.58**	**331**	⇓Pn	**Pn**	**00 14 36.8**	**+2.1**
AAK	comp=E,12nm,0.7s			⇑Pg	**Pb**	**00 14 52.8**	**+3.8**
AAK	comp=E,53nm,0.9s			⇑Lg	Lg	00 16 08.2	
PDGK	**Podgornoye** comp=E,3.8nm,0.9s	**5.62**	**10**	Pg	**Pg**	**00 14 55.7**	**-3.4**
PDGK	comp=E,12nm,0.7s			Lg	Lg	00 16 11.8	
PDGK	**Podgornoye** comp=E,6.6nm,0.4s	**5.62**	**10**	⇑Pn	**Pn**	**00 14 37.4**	**+2.2**
PDGK	comp=E,53nm,1.0s			⇓Lg	Lg	00 16 09.4	
KPKS	**Kokpek** comp=E,28nm,0.9s	**5.68**	**4**	*e*P	**Pg**	**00 14 57.1**	**-3.1**
KPKS	comp=E,56nm,0.5s			*e*S	**Sg**	**00 16 14.0**	**+0.2**
DGS	**Degeres** comp=E,8.9nm,0.4s	**5.73**	**342**	*e*P	**Pg**	**00 14 59.2**	**-2.0**
DGS	comp=E,14nm,0.5s			*e*S	**Sg**	**00 16 17.5**	**+2.1**
DGS	**Degeres**	**5.73**	**342**	Pg	**Pg**	**00 14 58.7**	**-2.5**
DGS				Lg	Lg	00 16 17.6	
KTMS	**Ketmen** comp=E,8.0nm,0.6s	**5.89**	**16**	*e*P	**Pg**	**00 15 01.4**	**-2.9**
KTMS	comp=E,22nm,0.7s			*e*S	**Sg**	**00 16 21.6**	**+1.0**
KTMS	**Ketmen** comp=E,8.0nm,0.6s	**5.89**	**16**	Pg	**Pg**	**00 15 01.4**	**-2.9**
KTMS	comp=E,22nm,0.7s			Lg	Lg	00 16 21.6	
KTBS	**Karatobe** comp=E,7.0nm,0.6s	**6.01**	**350**	*e*P	**Pg**	**00 15 03.1**	**-3.4**
KTBS	comp=E,34nm,0.4s			*e*S	**Sg**	**00 16 24.7**	**+0.3**
KTBS	**Karatobe** comp=E,7.0nm,0.6s	**6.01**	**350**	Pg	**Pg**	**00 15 03.1**	**-3.4**
KTBS	comp=E,34nm,0.4s			Lg	Lg	00 16 24.7	
CHKK	**Chushkaly** comp=E,6.4nm,0.8s	**6.12**	**352**	*e*P	Pg	00 15 04.6	-3.9
CHKK	comp=E,15nm,0.5s			*e*S	**Sg**	**00 16 27.6**	**0.0**
CHKK	**Chushkaly** comp=E,6.4nm,0.8s	**6.12**	**352**	Pg	Pg	00 15 04.6	-3.9
CHKK	comp=E,15nm,0.5s			Lg	Lg	00 16 27.6	
KUU	**Kurty** comp=E,7.6nm,0.9s	**6.24**	**348**	*e*P	Pb	00 15 06.0	+5.8
KUU	comp=E,16nm,0.5s			*e*S	**Sg**	**00 16 29.2**	**-2.5**
KUU	**Kurty** comp=E,7.6nm,0.9s	**6.24**	**348**	Pg	Pb	00 15 06.0	+5.8
KUU	comp=E,16nm,0.5s			Lg	Lg	00 16 29.2	
SGDS	**Sogindy** comp=E,2.6nm,0.3s	**6.25**	**336**	Pg	Pb	00 15 05.6	+5.3
SGDS	comp=E,6.1nm,0.6s			Lg	Lg	00 16 29.0	
ARXS	**Arharly** comp=E,8.0nm,0.6s	**6.42**	**358**	*e*P	Pb	00 15 09.2	+6.0
ARXS	comp=E,22nm,0.6s			*e*S	**Sg**	**00 16 35.2**	**-2.1**
ARXS	**Arharly** comp=E,8.0nm,0.6s	**6.42**	**358**	Pg	Pb	00 15 09.2	+6.0
ARXS	comp=E,22nm,0.6s			Lg	Lg	00 16 35.2	
DJR	**Jarkent** comp=E,0.3nm,0.3s	**6.65**	**10**	*e*P	Pb	00 15 13.4	+6.2
DJR	comp=E,1.1nm,0.3s			*e*S	**Sg**	**00 16 42.2**	**-2.6**
DJR	**Jarkent** comp=E,0.5nm,0.4s	**6.65**	**10**	Pg	Pb	00 15 13.4	+6.2
DJR	comp=E,0.9nm,0.5s			Lg	Lg	00 16 42.4	
BTLS	**Baital** comp=E,1.8nm,0.8s	**7.86**	**338**	Pg	Pb	00 15 35.1	+7.3
BTLS	comp=E,3.6nm,0.5s			Lg	Lg	00 17 19.2	
WMQ	**Urumqi**	**9.42**	**47**	*e*P	Pn	00 15 34.4	+7.2
MAKZ	**Makanchi** comp=E,3.8nm,0.7s	**9.45**	**16**	⇑Pn	**Pn**	**00 15 28.6**	**+1.1**
MAKZ	comp=E,3.8nm,1.1s			⇓Sn	**Sn**	**00 17 13.8**	**+0.1**
MKAR	**Makanchi Array** comp=E,1.6nm,0.3s,baz=200,slow=13,SNR=50	**9.51**	**18**	Pn	**Pn**	**00 15 29.2**	**+0.8**
MKAR	comp=E,0.5nm,0.3s,baz=231,slow=3.4,SNR=2.7			Sn	**Sn**	**00 17 15.2**	**-0.1**
OTUK	**Ortayu** comp=E,6.4nm,1.4s	**11.27**	**340**	⇑Lg	Lg	00 19 12.7	
KURBB	**Kurchatov Arra** comp=E,0.0nm,0.3s,baz=188,slow=10,SNR=2.6	**12.83**	**1**	Pn	**Pn**	**00 16 13.9**	**+0.2**
KURBB	comp=E,0.0nm,0.3s,baz=325,slow=24,SNR=1.9			Lg	Lg	00 19 53.7	
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=215,slow=15,SNR=7.4	**16.16**	**343**	Pn	**Pn**	**00 17 01.0**	**+2.5**
ZALV	**Zalesovo Beam** comp=E,0.3nm,0.3s,baz=213,slow=7.7,SNR=3.2	**16.80**	**14**	Pn	**Pn**	**00 17 07.3**	**+0.7**
AKTO	**Aktyubinsk** comp=E,0.2nm,0.3s,baz=143,slow=9.4,SNR=4.1	**19.11**	**318**	P	**P**	**00 17 32.8**	**-1.5**
LZH	**Lanzhou**	**20.61**	**87**	*e*P	**P**	**00 17 52.2**	**+1.3**
LZH				pP	sP	00 17 56.9	+1.3
LZH				sP	pP	00 17 59.8	+5.7
LZH	comp=Z,20nm,1.0s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.5nm,0.7s,baz=108,slow=8.9,SNR=12	**39.71**	**324**	P	**P**	**00 20 42.2**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.9s,baz=100,slow=9.3,SNR=0.9	**42.23**	**335**	P	**P**	**00 21 03.0**	**-1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=48,slow=6.1,SNR=4.6	**71.40**	**272**	P	**P**	**00 24 32.9**	**+0.8**

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*IDC **04** 00:36:32.1±1.6, 37°.29N×78°.25E, h0^km, mb3.7/11, mb1 3.9/15, mb1mx3.7/47, mbtmp3.8/15, ML3.6/5, Error ellipse: s-maj=31.3km s-min=21.7km az=158.0*
*SOME **04** 00:36:35.4, 37°.72N×78°.17E, h0^km*
*BJI **04** 00:36:35.8±0.0, 37°.49N×78°.02E, h10^km, ML3.9/7*
*NEIC **04** 00:36:38.6±2.0, 37°.66N±0°.09×78°.0E±0°.1, h10^km±2^km, mb4.3/13, ML4.1(BJI), Error ellipse: s-maj=17.7km s-min=12.7km az=125.0*
*NNC **04** 00:36:39.3±2.4, 37°.77N×78°.08E, h0^km, mb4.5, mpv4.2, Error ellipse: s-maj=16.7km s-min=15.9km az=80.0*
ISC 04 00:36:37.5±0.6, 37°.66N±0°.04×78°.06E±0°.05, h17^km, n97, σ2s78/97, mb3.9/16, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.47**	**319**	Pg	**Pn**	**00 37 18.5**	**+1.3**
KSH				Sg	**Sn**	**00 37 46.4**	**-0.6**
KSH	comp=N,1μm,0.4s			smax	smax		
KSH	comp=E,1μm,0.4s			smax	smax		
TARG	**Taragay, Kyrgy**	**4.07**	**357**		**Pn**	**00 37 43.6**	**+4.2**
KDJ	**Kajisay**	**4.51**	**352**	Pn	Pn	00 37 50.5	+5.2
BOOM	**Boomskoye usch**	**5.09**	**342**	Pn	**Pn**	**00 37 55.4**	**+2.2**
DRK	**Karamyk**	**5.23**	**292**	Pn	**Pn**	**00 37 57.2**	**+2.0**
SATY	**Saty** 44nm,1.0s	**5.40**	**3**	*e*P	**Pg**	**00 38 17.0**	**-3.9**
SATY	112nm,0.7s			*e*S	**Sg**	**00 39 29.9**	**-0.9**
SATY	**Saty** 44nm,1.0s	**5.40**	**3**	Pg	**Pg**	**00 38 16.7**	**-4.2**
SATY	112nm,0.7s			Lg	Lg	00 39 29.9	
UZB	**Uzynbulak** 8.2nm,0.4s	**5.53**	**7**	*e*P	Pb	00 38 18.5	+4.8
UZB	64nm,0.8s			*e*S	**Sg**	**00 39 32.9**	**-2.1**
UZB	**Uzynbulak** 18nm,0.9s	**5.53**	**7**	Pg	**Pb**	**00 38 18.2**	**+4.5**
UZB	64nm,0.8s			Lg	Lg	00 39 32.9	
MDOK	**Medeo** 12nm,0.4s	**5.55**	**352**	*e*P	**Pb**	**00 38 17.8**	**+3.7**
MDOK	72nm,0.9s			*e*S	**Sg**	**00 39 31.4**	**-4.2**
MDOK	**Medeo** 18nm,0.5s	**5.55**	**352**	⇓Pg	Pg	00 38 19.0	-4.8
MDOK	143nm,1.0s			⇑Lg	Lg	00 39 31.3	
MDOK	**Medeo** 24nm,0.6s	**5.55**	**352**	Pg	**Pb**	**00 38 17.8**	**+3.7**
MDOK	66nm,0.8s			Lg	Lg	00 39 31.4	
SHLS	**Shalkode** 34nm,0.4s	**5.59**	**11**	*e*P	**Pb**	**00 38 18.6**	**+3.8**
SHLS	87nm,0.7s			*e*S	**Sg**	**00 39 32.6**	**-4.4**
SHLS	**Shalkode** 34nm,0.4s	**5.59**	**11**	Pg	**Pb**	**00 38 18.6**	**+3.8**
SHLS	87nm,0.7s			Lg	Lg	00 39 32.6	
NIL	**Nilore**	**5.60**	**226**	Pn	**Pn**	**00 38 01.2**	**+1.1**
KST	**Kastek** 20nm,0.7s	**5.61**	**344**	*e*P	**Pb**	**00 38 19.4**	**+4.3**
KST	54nm,0.9s			*e*S	**Sg**	**00 39 34.3**	**-3.3**
KST	**Kastek** 20nm,0.7s	**5.61**	**344**	Pg	**Pb**	**00 38 19.4**	**+4.3**
KST	54nm,0.9s			Lg	Lg	00 39 34.3	
AAA	**Alma-Ata** 47nm,0.5s	**5.61**	**351**	*e*P	**Pg**	**00 38 20.4**	**-4.5**
AAA	97nm,0.4s			*e*S	**Sg**	**00 39 35.8**	**-1.8**
AAA	**Alma-Ata** 47nm,0.5s	**5.61**	**351**	Pg	**Pg**	**00 38 20.4**	**-4.5**
AAA	97nm,0.4s			Lg	Lg	00 39 35.8	
KNDC	**Almaty** 49nm,0.6s	**5.61**	**352**	⇑Pg	**Pg**	**00 38 21.5**	**-3.5**
KNDC	244nm,0.8s			⇑Lg	Lg	00 39 35.4	
AAK	**Ala-Archa** 1.2nm,0.3s,baz=150,slow=8.8,SNR=4.6	**5.67**	**332**	Pn	**Pn**	**00 38 05.1**	**+4.0**
AAK	3.8nm,0.3s,baz=120,slow=5.1,SNR=14			Pg	**Pg**	**00 38 23.0**	**-3.1**
AAK	3.4nm,0.3s,baz=128,slow=14,SNR=4.0			Sn	**Sn**	**00 39 06.8**	**+0.9**
AAK	7.1nm,0.3s,baz=296,slow=16,SNR=6.7			Lg	Lg	00 39 34.9	
AAK	**Ala-Archa** 10nm,0.5s	**5.67**	**332**	⇓Pg	**Pg**	**00 38 22.7**	**-3.4**
AAK	156nm,1.1s			⇑Lg	Lg	00 39 36.9	
AAK	**Ala-Archa**	**5.67**	**332**	Pn	**Pn**	**00 38 04.2**	**+3.0**
PDGK	**Podgornoye** 8.5nm,0.6s	**5.77**	**10**	Pg	**Pb**	**00 38 21.4**	**+3.7**
PDGK	27nm,0.7s			Lg	Lg	00 39 37.7	
PDGK	**Podgornoye** 6.9nm,0.3s	**5.77**	**10**	⇑Pn	**Pn**	**00 38 05.1**	**+2.7**
PDGK	29nm,0.7s			⇑Pg	Pg	00 38 22.8	-5.1
PDGK	46nm,0.7s			⇑Sn	**Sn**	**00 39 11.3**	**+3.0**
PDGK	79nm,0.8s			⇑Lg	Lg	00 39 36.9	
KPKS	**Kokpek** 32nm,0.7s	**5.82**	**4**	*e*P	Pb	00 38 23.4	+4.9
KPKS	67nm,0.4s			*e*S	**Sg**	**00 39 41.4**	**-2.8**
DGS	**Degeres** 15nm,0.4s	**5.84**	**343**	*e*P	**Pg**	**00 38 25.1**	**-4.3**
DGS	51nm,0.6s			*e*S	**Sg**	**00 39 43.9**	**-1.0**
DGS	**Degeres** 15nm,0.6s	**5.84**	**343**	Pg	**Pg**	**00 38 25.1**	**-4.3**
DGS	51nm,0.6s			Lg	Lg	00 39 44.9	
KTMS	**Ketmen** 22nm,0.8s	**6.04**	**16**	*e*P	Pb	00 38 27.3	+4.9
KTMS	30nm,0.6s			*e*S	**Sg**	**00 39 47.8**	**-3.5**
KTMS	**Ketmen** 22nm,0.8s	**6.04**	**16**	Pg	Pb	00 38 27.3	+4.9
KTMS	30nm,0.6s			Lg	Lg	00 39 47.7	
KTBS	**Karatobe** 9.3nm,0.8s	**6.13**	**351**	*e*P	Pb	00 38 29.3	+5.3
KTBS	82nm,0.5s			*e*S	**Sg**	**00 39 51.4**	**-3.0**
KTBS	**Karatobe** 9.3nm,0.8s	**6.13**	**351**	Pg	Pb	00 38 29.3	+5.3
KTBS	82nm,0.5s			Lg	Lg	00 39 51.4	
BTK	**Batken**	**6.14**	**295**	Pn	**Pn**	**00 38 09.2**	**+1.8**
GAR	**Garm**	**6.23**	**285**	Pn	**Pn**	**00 38 10.5**	**+1.6**
CHKK	**Chushkaly** 8.0nm,0.5s	**6.24**	**353**	*e*P	Pb	00 38 30.6	+4.9
CHKK	42nm,0.4s			*e*S	**Sg**	**00 39 54.0**	**-3.7**
CHKK	**Chushkaly** 8.0nm,0.5s	**6.24**	**353**	Pg	Pb	00 38 30.6	+4.9
CHKK	42nm,0.4s			Lg	Lg	00 39 54.0	
MRKS	**Merke** 6.9nm,0.6s	**6.28**	**325**	*e*P	**Pb**	**00 38 31.1**	**+4.7**
MRKS	39nm,0.6s			*e*S	**Sg**	**00 39 54.3**	**-4.8**
MRKS	**Merke** 6.9nm,0.6s	**6.28**	**325**	Pg	**Pb**	**00 38 31.1**	**+4.7**
MRKS	39nm,0.6s			Lg	Lg	00 39 54.3	
KRBS	**Karabastau** 10.0nm,0.8s	**6.29**	**344**	*e*P	Pg	00 38 32.8	-5.2
KRBS	62nm,0.8s			*e*S	**Sg**	**00 39 57.4**	**-2.1**
KRBS	**Karabastau** 10.0nm,0.8s	**6.29**	**344**	Pg	Pg	00 38 32.8	-5.2
KRBS	62nm,0.8s			Lg	Lg	00 39 57.4	
SGDS	**Sogindy** 7.7nm,0.6s	**6.35**	**337**	Pg	Pg	00 38 33.8	-5.2

SGDS Lg Lg 00 39 59.8
30nm,0.7s
KUU Kurty 6.36 349 *eP* **Pb 00 38 32.4 +4.6**
4.5nm,0.6s
KUU *eS* **Sg 00 39 56.5 -5.1**
39nm,0.8s
KUU Kurty 6.36 349 Pg **Pb 00 38 32.4 +4.6**
4.5nm,0.6s
KUU Lg Lg 00 39 56.5
39nm,0.8s
ARXS Arharly 6.55 359 *eP* Pb 00 38 36.1 +5.1
25nm,0.7s
ARXS *eS* **Sg 00 40 03.2 -4.4**
50nm,0.5s
ARXS Arharly 6.55 359 Pg Pb 00 38 36.1 +5.1
25nm,0.7s
ARXS Lg Lg 00 40 03.2
50nm,0.5s
SMLA Simla 6.56 187 *eP* **Pn 00 38 13.5 +0.3**
SMLA *eS* **Sn 00 39 22.2 -5.4**
DJR Jarkent 6.79 11 *eP* Pb 00 38 41.2 +6.1
0.5nm,0.5s
DJR *eS* **Sg 00 40 11.9 -3.5**
2.6nm,0.8s
DJR Jarkent 6.79 11 Pg Pb 00 38 40.6 +5.5
0.5nm,0.5s
DJR Lg Lg 00 40 12.0
2.6nm,0.8s
CHGR Chuyangaron 7.08 281 Pn **Pn 00 38 20.4 -0.1**
TDK Taldyqorghan 7.34 2 Pg Pg 00 38 51.5 -6.5
32nm,0.6s
TDK Lg Lg 00 40 29.5
66nm,0.9s
KK31 Karatay Array 7.92 316 Pn **Pn 00 38 32.6 +0.8**
KKAR Karatay Array 7.92 316 **Pn 00 38 32.6 +0.8**
KKAR Karatay Array 7.92 316 Pn **Pn 00 38 33.0 +1.1**
KBL Kabul 7.93 250 Pn **Pn 00 38 35.5 +3.2**
BTLS Baital 7.97 339 Pg Pb 00 39 00.7 +5.7
3.7nm,1.0s
BTLS Lg Lg 00 40 46.4
13nm,0.6s
WMQ Urumqi 9.55 47 *eP* Pn 00 39 00.5 +6.2
WMQ smax smax
comp=N,41nm,1.5s
WMQ smax smax
comp=E,40nm,1.3s
MAKZ Makanchi 9.59 16 ⇓Pn **Pn 00 38 56.6 +1.8**
3.5nm,0.6s
MAKZ ⇑Sn **Sn 00 40 44.8 +2.7**
7.2nm,1.0s
MAKZ Makanchi 9.59 16 Pn **Pn 00 38 56.8 +2.0**
MK31 Makanchi Array 9.65 18 **Pn 00 38 57.4 +1.8**
MKAR Makanchi Array 9.65 18 Pn **Pn 00 38 57.2 +1.6**
1.3nm,0.3s,baz=201,slow=13,SNR=76
MKAR Sn **Sn 00 40 41.8 -1.8**
0.7nm,0.3s,baz=198,slow=19,SNR=7.2
MKAR Makanchi Array 9.65 18 Pn **Pn 00 38 57.0 +1.5**
OTUK Ortayu 11.37 340 ⇑Lg Lg 00 42 39.4
18nm,1.2s
KURBB Kurchatov Arra 12.96 1 Lg Lg 00 43 24.4
0.2nm,0.3s,baz=351,slow=14,SNR=4.5
KURBB Kurchatov Arra 12.96 1 ⇓Lg Lg 00 43 29.6
14nm,0.8s,baz=196,slow=31
GEYT Alibeck 15.77 277 Pn **Pn 00 40 20.1 +1.2**
0.5nm,0.3s,baz=127,slow=9.2,SNR=6.8
GYA0B ALIBECK ARRAY 15.77 277 Pn **P 00 40 21.8 -0.9**
GYA0B IAmb IAmb 00 40 29.1
comp=Z,7.8nm,0.8s
BVAR Borovoye Array 16.27 343 Pn **P 00 40 27.5 -0.6**
comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=6.0
BRVK Borovoye 16.32 343 P **P 00 40 29.6 +1.0**
ZALV Zalesovo Beam 16.94 14 P **P 00 40 35.1 -0.4**
comp=Z,0.1nm,0.3s,baz=202,slow=12,SNR=2.3
ZALV Zalesovo Beam 16.94 14 Pn **P 00 40 35.2 -0.3**
ABKAR Abkulak array 17.48 317 Pn **P 00 40 41.1 -0.3**
ABKAR Abkulak array 17.48 317 Pn **Pn 00 40 40.5 +0.2**
ABKAR IAmb IAmb 00 40 57.0
comp=Z,1.8nm,1.0s
AKTO Aktyubinsk 19.18 318 P **Pn 00 41 01.3 +0.2**
comp=Z,0.2nm,0.3s,baz=104,slow=11,SNR=6.3
ARU Arti 22.86 331 P **P 00 41 41.8 +2.0**
comp=Z,0.7nm,0.5s,baz=157,slow=6.4,SNR=5.4
SONM Songino Array 23.04 55 P **P 00 41 41.2 -0.8**
comp=Z,0.6nm,0.4s,baz=278,slow=10.0,SNR=2.5
BRTR Keskin Array B 34.47 287 P **P 00 43 24.4 -0.1**
comp=Z,1.2nm,0.6s,baz=98,slow=6.0,SNR=2.7
BRTR Keskin Array B 34.47 287 P **P 00 43 25.1 +0.5**
CSS Mathiatis 35.89 280 P **P 00 43 36.5 -0.2**
ELL Elmali 38.03 284 P **P 00 43 56.3 +1.3**
ELL IAmb IAmb 00 43 58.3
comp=Z,6.8nm,0.9s
MLR Muntele Rosu 39.17 298 P **P 00 44 06.2 +1.7**
FIA1 FINESS Array S 39.78 324 P **P 00 44 09.8 +0.6**
FIA1 IAmb IAmb 00 44 26.6
comp=Z,5.8nm,0.9s
FINES FINESS Array B 39.79 324 P **P 00 44 09.7 +0.4**
comp=Z,1.7nm,0.4s,baz=109,slow=8.6,SNR=28
FINES FINESS Array B 39.79 324 P **P 00 44 09.8 +0.6**
PABE Paberze 40.08 314 P **P 00 44 12.9 +1.1**
PABE IAmb IAmb 00 44 13.2
comp=Z,6.4nm,0.8s
USA0B Ussuriysk Arra 40.64 63 P **P 00 44 19.6 +3.1**
USA0B IAmb IAmb 00 44 27.3
comp=Z,4.8nm,0.7s
ARCES ARCESS Array B 42.33 336 P **P 00 44 30.5 +0.4**
comp=Z,2.2nm,0.9s,baz=105,slow=7.0,SNR=4.4
NC405 NORSAR Array S 46.65 322 P **P 00 45 05.0 +0.3**
NC300 NORSAR Array S 46.79 322 P **P 00 45 05.5 -0.3**
NC303 NORSAR Array S 46.81 322 P **P 00 45 06.0 0.0**
NC303 IAmb IAmb 00 45 07.3
comp=Z,3.1nm,0.8s
CLL Collm 46.87 309 *eP* **P 00 45 09.0 +2.5**
GERES GERESS Array B 46.87 305 P **P 00 45 06.8 +0.1**
comp=Z,0.2nm,0.3s,baz=47,slow=7.2,SNR=4.3
NB2 NORSAR Subarra 46.89 322 P **P 00 45 06.5 -0.2**
comp=Z,1.0nm,0.6s,baz=90,slow=7.9
NOA NORSAR Array B 46.89 322 P **P 00 45 06.7 0.0**
comp=Z,0.9nm,0.6s,baz=90,slow=7.6,SNR=5.0
ESDC Sonseca Array 61.84 300 P **P 00 46 54.7 -1.0**
comp=Z,0.3nm,0.7s,baz=54,slow=6.2,SNR=1.8
TORD Torodi Ar. Bea 71.35 272 P **P 00 47 54.5 -2.2**
comp=Z,0.3nm,0.4s,baz=46,slow=5.6,SNR=6.6
ILAR Eielson Array 72.00 19 P **P 00 47 58.7 -1.2**
comp=Z,0.8nm,0.8s,baz=311,slow=3.9,SNR=8.7
YKA Yellowknife Ar 79.67 6 P **P 00 48 42.7 -1.0**
comp=Z,0.9nm,0.7s,baz=339,slow=6.0,SNR=3.0

*IDC **04** 00:43:08.9±0.8, 15°.51S×167°.11E, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/26, mbtmp4.2/10, ML4.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/35, Error ellipse: s-maj=30.5km s-min=21.0km az=96.0*
*NOU **04** 00:43:12.4, 15°.85S×167°.19E, h0km, ML4.8, Vanuatu Islands*
*NEIC **04** 00:43:18.3±1.8, 16°.0S±0°.1×166°.97E±0°.06, h30km±6km, mb4.4/10, Error ellipse: s-maj=16.5km s-min=5.2km az=152.0*
ISC 04 00:43:13.6±0.6, **15°.71S**±0°.06×**167°.2E**±0°.1, **h28**km, **n50**, σ1**69**/45, **mb4.3**/13, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.26**	**2**	P	**Pb**	**00 43 20.3**	**-0.1**
LIFNC	**LIFOU**	**5.04 179**		Pn	**Pn**	**00 44 26.0**	**-1.3**
LIFNC				Sn	**Sn**	**00 45 19.7**	**-4.9**
LIFNC	**LIFOU**	**5.04 179**		P	**Pn**	**00 44 26.2**	**-1.1**
KOUNC	**Koumac, New Ca**	**5.55 209**		P	**Pn**	**00 44 34.5**	**+0.2**
MARNC	**Mare, Loyalty**	**5.79 172**		Pn	**Pn**	**00 44 37.8**	**+0.1**
MARNC	**Mare, Loyalty**	**5.79 172**		P	**Pn**	**00 44 38.3**	**+0.6**
YATNC	**Mamie plateau,**	**6.32 183**		P	**Pn**	**00 44 44.0**	**-1.0**
DZM	**Mont Dzumac**	**6.37 186**		Pn	**Pn**	**00 44 45.4**	**-0.2**
16nm,0.3s,baz=1.0,slow=3.4,SNR=238
DZM Sn **Sn 00 45 56.1 -1.4**
9.5nm,0.3s,baz=331,slow=23,SNR=10
DZM LR LR 00 46 54.5
comp=Z,237nm,19.5s,baz=252,slow=34
DZM Mont Dzumac 6.37 186 *eP*n **Pn 00 44 45.5 -0.2**
69nm,0.3s
DZM *eS*n **Sn 00 45 52.8 -4.7**
31nm,0.2s
DZM *e*LR LR 00 46 10.7
comp=Z,278nm,25.1s
DZM Mont Dzumac 6.37 186 P **Pn 00 44 45.5 -0.2**
NOUC Port Laguerre 6.41 187 P **Pn 00 44 46.3 +0.1**
ONTNC Ouen Toro 6.60 186 Pn **Pn 00 44 49.2 +0.5**
ONTNC Ouen Toro 6.60 186 P **Pn 00 44 49.4 +0.6**
OUENC Ouen Island, N 6.68 183 Pn **Pn 00 44 49.9 0.0**
OUENC Ouen Island, N 6.68 183 P **Pn 00 44 50.3 +0.4**
PINNC Pines Island, 6.87 178 Pn **Pn 00 44 53.1 +0.6**
HNR Honiara 9.43 311 LR LR 00 48 36.8
comp=Z,224nm,19.9s,baz=170,slow=36
MSVF Nonsavu 10.60 102 Pn Pn 00 45 48.3 +4.6
0.2nm,0.3s,baz=282,slow=13,SNR=4.9
MSVF Nonsavu 10.60 102 Pn Pn 00 45 49.5 +5.8
EIDS Eidsvold 17.87 235 P **P 00 47 23.2 +2.5**
EIDS IAmb IAmb 00 47 38.6
comp=Z,16nm,1.3s
CTA Charters Tower 20.39 255 P Pn 00 47 50.8 +0.2
comp=Z,8.2nm,0.9s,baz=77,slow=12,SNR=6.8
CTAO Charters Tower 20.39 255 Pn Pn 00 47 51.3 +0.7
CTAO IAmb IAmb 00 48 00.1
comp=Z,14nm,1.1s
ARMA Armidale 20.44 222 P Pn 00 47 50.7 -0.5
ARMA IAmb IAmb 00 48 13.7
comp=Z,11nm,1.1s
PMG Port Moresby 20.52 285 LR LR 00 54 49.3
comp=Z,88nm,18.2s,baz=102,slow=34
URZ Urewera 24.10 161 P **P 00 48 29.0 +2.2**
comp=Z,6.8nm,0.7s,baz=348,slow=1.9,SNR=5.3
URZ Urewera 24.10 161 P **P 00 48 30.3 +3.4**
URZ IAmb IAmb 00 48 31.9
comp=Z,26nm,1.2s
BKZ Black Stump Fm 24.75 163 P **P 00 48 36.1 +3.3**
WB0 Warramunga Arr 31.47 258 P **P 00 49 32.1 -1.0**
WB0 IAmb IAmb 00 49 35.8
comp=Z,15nm,1.5s
WRA Warramunga Arr 31.53 257 P **P 00 49 32.6 -1.0**
comp=Z,0.5nm,0.8s,baz=86,slow=9.0,SNR=5.8
WRA Warramunga Arr 31.53 257 P **P 00 49 34.4 +0.8**
AS31 Alice Springs 32.26 251 P **P 00 49 40.9 +0.8**
ASAR Alice Springs 32.27 251 P **P 00 49 39.6 -0.5**
comp=Z,2.4nm,0.6s,baz=77,slow=9.2,SNR=44
ASAR LR LR 01 01 54.2
comp=Z,141nm,21.1s,baz=124,slow=35
ASAR Alice Springs 32.27 251 P **P 00 49 40.5 +0.4**
FORT Forrest 38.74 240 P **P 00 50 36.6 +1.0**
FORT IAmb IAmb 00 50 46.5
comp=Z,8.5nm,0.7s
MBWA Marble Bar 45.22 256 P **P 00 51 28.8 +0.1**
VNDA Vanda 61.88 181 P **P 00 53 30.7 +0.7**
comp=Z,0.7nm,0.7s,baz=354,slow=6.7,SNR=2.7
PETK Petropavlovsk- 69.02 354 P **P 00 54 15.6 -0.8**
comp=Z,2.5nm,0.9s,baz=181,slow=8.9,SNR=4.0
QSPA South Pole Qui 74.32 180 P **P 00 54 52.1 +3.7**
HHC Hu-ho-hao-te 76.28 320 *eP* P 00 55 06.9 +6.9
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,74nm,5.3s
SONM Songino Array 83.24 324 P **P 00 55 35.1 -2.5**
comp=Z,0.9nm,0.7s,baz=118,slow=5.6,SNR=2.6
GTA Gaotai 83.29 314 *eP* **P 00 55 39.4 +1.3**
GTA pP pP 00 55 48.2 +1.1
GTA sP sP 00 55 51.5 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 87.48 18 P **P 00 55 56.6 -1.6**
comp=Z,0.8nm,0.5s,baz=238,slow=5.1,SNR=21
WMQ Urumqi 93.36 315 *eP* P 00 56 31.9 +5.6
MKAR Makanchi Array 97.86 316 P **P 00 56 46.2 -0.4**
comp=Z,0.6nm,0.8s,baz=111,slow=7.1,SNR=3.3
ZALV Zalesovo Beam 98.14 324 P **P 00 56 46.7 -0.9**
comp=Z,1.6nm,0.7s,baz=128,slow=6.1,SNR=3.6
ARCES ARCESS Array B 121.18 345 PKP **PKPdf 01 02 02.2 -1.0**
comp=Z,1.4nm,0.6s,baz=64,slow=2.1,SNR=12
FINES FINESS Array B 126.60 338 PKP **PKPdf 01 02 13.1 -0.7**
comp=Z,1.2nm,0.8s,baz=52,slow=9.0,SNR=4.1
GERES GERESS Array B 140.48 332 PKP **PKPdf 01 02 40.4 +0.1**
comp=Z,0.3nm,0.5s,baz=120,slow=1.4,SNR=3.0
KEST Kesra 151.91 319 PKPbc **PKPbc 01 03 06.2 -0.3**
comp=Z,1.5nm,0.7s,baz=32,slow=3.8,SNR=2.0
TORD Torodi Ar. Bea 165.72 262 PKP **PKPdf 01 03 16.3 -0.4**
comp=Z,0.5nm,0.9s,baz=173,slow=1.9,SNR=1.7
TORD PKPab **PKPab 01 04 15.2 -0.8**
comp=Z,0.4nm,0.9s,baz=96,slow=4.0,SNR=4.5

*IDC **04** 00:44:34.2±0.5, 14°.41N×56°.53E, h0km, mb4.2/28, mb1 4.3/29, mb1mx4.2/44, mbtmp4.2/29, ML3.5/1, MS4.4/34, Ms1 4.4/34, ms1mx4.3/46, Error ellipse: s-maj=13.3km s-min=11.8km az=108.0*
*GCMT **04** 00:44:34.7±0.1, 14°.47N±0°.01×56°.25E±0°.01, h12km, MW5.2/132, Moment Tensor Solution. s85,c114; s132,c234; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-6.37±.09; Mθθ4.65±.09; Mφφ1.72±.10; Mrθ4.01±.27; Mφφ-2.72±.08; Mφr-0.49±.31; Best double couple: M07.49600×10^16 NP1:φs132.00000°, δ31.00000°, λ-70.00000°. NP2:φs289.00000°, δ61.00000°, λ-102.00000°. Principal axes: T 7.3020, Plg16.0000°, Azm27.0000°; N 0.3890, Plg10.0000°, Azm294.0000°; P -7.6900, Plg71.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*OMAN **04** 00:44:35.5±0.3, 14°.41N×56°.16E, h12km, mb5.3/2, ml4.2/6, Mwp5.2/5 Error ellipse: s-maj=7.6km s-min=5.5km az=283.0*
*BJI **04** 00:44:35.0±0.0, 14°.40N×56°.40E, h5km, mB5.0/31, mb4.7/46, Ms4.8/32, Ms7 4.6/32*
*NEIC **04** 00:44:37.7±1.7, 14°.40N±0°.08×56°.3E±0°.1, h10km±1km, mb4.7/72, Error ellipse: s-maj=18.6km s-min=11.9km az=123.0*
ISC 04 00:44:38.5±0.4, **14°.53N**±0°.05×**56°.33E**±0°.04, **h19**km, **n225**, σ1**86**/248, **mb4.6**/87, **MS4.3**/52, **16C-7D, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.26 225**		Pn	Pn	00 45 21.2	-7.5
SOCY	**Socotra**	**3.26 225**		P	Pn	00 45 20.4	-8.3
SNR=20
SOCY S Sn 00 45 53.6 -13
DMTO DMTO 3.44 337 P **Pn 00 45 27.9 -3.2**
DMTO P **Pn 00 45 27.9 -3.2**
DMTO S **Sn 00 46 07.3 -4.1**
DMTO S **Sn 00 46 07.3 -4.1**
SHAO Shalim 3.54 349 P **Pn 00 45 32.3 -0.2**
SNR=7.2
RBK Rabkut 3.60 326 P **Pn 00 45 33.0 -0.3**
RBK P **Pn 00 45 33.0 -0.3**
RBK S **Sn 00 46 14.4 -1.0**
RBK S **Sn 00 46 14.4 -1.0**
ABTO Aybut 4.05 314 P **Pn 00 45 39.4 -0.2**
ABTO P **Pn 00 45 39.4 -0.2**
ABTO S **Sn 00 46 25.3 -1.3**
ABTO S **Sn 00 46 25.3 -1.3**
WHFO Wadi Hawf 4.17 324 P **Pn 00 45 39.4 -1.8**
SNR=6.1
DOK Doka 4.58 333 P **Pn 00 45 46.9 +0.1**
DOK S **Sn 00 46 39.3 -0.3**
DQM DQM 5.49 12 P **Pn 00 45 59.2 -0.2**
DQM P **Pn 00 45 59.2 -0.2**
MHTO MHTO 6.61 13 P **Pn 00 46 15.0 +0.3**
MHTO P **Pn 00 46 15.0 +0.3**
WSAR Wadi Sarin 8.93 14 Pn **Pn 00 46 45.6 -1.0**
0.5nm,0.3s,baz=276,slow=17,SNR=5.8
WSAR Sn **Sn 00 48 19.9 -6.8**
0.2nm,0.3s,baz=124,slow=15,SNR=1.1
WSAR LR LR 00 50 03.7
comp=Z,8μm,20.3s,baz=214,slow=37
UOSS Minazif 10.36 359 Pn **Pn 00 47 05.8 -0.4**
ATD Arta Tunnel 13.47 259 LR LR 00 51 50.6
comp=Z,3μm,21.8s,baz=82,slow=32
ATD Arta Tunnel 13.47 259 *eP* **P 00 47 57.2 -0.8**
ATD *eS* **S 00 50 40.7 -1.0**
RAYN Ar Rayn 13.59 313 **Pn 00 47 46.8 -3.6**
HARA HARA 13.79 249 *eP* P 00 48 07.0 +5.2
ANKE Ethiopia-Afar 16.95 255 *eP* **P 00 48 38.4 +1.3**
AAE Adis Abeba 18.04 254 *eP* **Pn 00 48 43.1 -5.5**
AAE *eS* S 00 52 28.3 +13
AAE Adis Abeba 18.04 254 *eP* **Pn 00 48 47.8 -0.8**
FURI Furi 18.17 254 **Pn 00 48 49.0 -1.2**
FURI Furi 18.17 254 *eP* **P 00 48 53.0 +2.7**
FURI *eS* **S 00 52 20.4 +2.3**
FURI Furi 18.17 254 *eP* **P 00 48 53.1 +2.7**
DILA Dilla 19.47 247 *eP* **P 00 49 03.5 -1.1**
HRA Herat 20.48 14 P Pn 00 49 16.2 -1.5
HYB Hyderabad 21.55 79 *i*P **P 00 49 27.0 0.0**
KBL Kabul 22.99 28 P **P 00 49 43.2 +0.8**
KBL IAmb IAmb 00 49 54.5
comp=Z,34nm,1.3s
GEYT Alibeck 23.36 4 P **P 00 49 44.9 -1.0**
comp=Z,7.6nm,0.8s,baz=186,slow=6.9,SNR=11
GEYT LR LR 01 00 43.8
comp=Z,636nm,18.6s,baz=170,slow=41
GYA0B ALIBECK ARRAY 23.36 4 P **P 00 49 44.6 -1.3**
GYA0B IAmb IAmb 00 49 54.2
comp=Z,15nm,0.8s
LODK Lodwar 23.44 244 P **P 00 49 46.3 -0.7**
NIL Nilore 24.45 36 P **P 00 49 57.4 +1.2**
NIL IAmb IAmb 00 50 10.4
comp=Z,20nm,1.1s
KMBO Kilima Mbogo 24.47 232 P **P 00 49 55.7 -1.2**
comp=Z,3.8nm,0.8s,baz=41,slow=11,SNR=9.7
KMBO LR LR 00 59 59.3
comp=Z,3μm,18.0s,baz=30,slow=38
KIBK Kibwezi 24.68 229 P **P 00 49 57.4 -1.2**
KIBK IAmb IAmb 00 50 04.0
comp=Z,39nm,1.4s
EIL Elat 24.82 311 P **P 00 50 00.7 +1.0**
comp=Z,5.0nm,1.0s,baz=85,slow=10,SNR=4.1
EIL LR LR 01 00 22.7
comp=Z,1μm,18.4s,baz=110,slow=38
ASF Jabal al Asfar 24.96 318 P **P 00 50 02.2 +1.2**
comp=Z,1.0nm,0.5s,baz=165,slow=13,SNR=1.8
PALK Pallekele 24.97 104 P **P 00 49 57.8 -3.4**
comp=Z,11nm,0.8s,baz=288,slow=3.2,SNR=2.6
PALK LR LR 00 58 09.4
comp=Z,763nm,19.3s,baz=38,slow=33
GHAJ Ghor Haditha 25.32 315 P **P 00 50 04.2 +0.2**
GHAJ IAmb IAmb 00 50 20.4
comp=Z,31nm,1.1s
SIRT Sirnak 26.00 334 P **P 00 50 12.0 +1.6**
MMAI Mount Meron Ar 26.47 318 P **P 00 50 15.8 +1.1**
comp=Z,5.1nm,1.0s,baz=116,slow=11,SNR=5.9
CHGR Chuyangaron 26.57 23 P **P 00 50 15.8 +0.3**
CHGR IAmb IAmb 00 50 31.9
comp=Z,17nm,1.0s
GURO Guroymak-BITLI 27.06 335 **P 00 50 19.9 -0.1**
GURO IAmb IAmb 00 50 24.9
comp=Z,7.4nm,0.4s
GAR Garm 27.32 24 P **P 00 50 22.3 0.0**
GAR IAmb IAmb 00 50 56.3
comp=Z,13nm,1.0s
GNI Garni 27.47 340 P **P 00 50 22.6 -1.0**
comp=Z,6.6nm,0.9s,baz=67,slow=3.9,SNR=4.9
GNI LR LR 01 02 34.7
comp=Z,593nm,19.9s,baz=148,slow=39
GNI Garni 27.47 340 P **P 00 50 21.7 -1.9**
GNI IAmb IAmb 00 51 01.1
comp=Z,11nm,0.8s
GAZ Gaziantep 28.25 326 P **P 00 50 32.0 +1.4**
GAZ IAmb IAmb 00 50 47.8
comp=Z,23nm,1.4s
DRK Karamyk 28.33 26 P **P 00 50 33.3 +1.8**
DRK IAmb IAmb 00 50 44.7
comp=Z,11nm,1.0s
BTK Batken 28.42 24 P **P 00 50 34.3 +2.2**
KARS Kars 28.46 339 P **P 00 50 33.5 +1.0**
MBAR Mbarara 29.45 241 LR LR 01 01 57.7
comp=Z,639nm,19.0s,baz=40,slow=35
ONI Oni 30.09 341 P **P 00 50 48.3 +1.4**
ONI IAmb IAmb 00 50 55.8
comp=Z,15nm,1.6s
BNN Bunyan 30.22 327 P **P 00 50 48.6 +0.5**
KSH Kashi 30.29 31 P **P 00 50 44.1 -4.6**
KSH pP pP 00 50 51.4 -2.2
KSH S **S 00 55 45.4 -2.4**
KSH pmax pmax
comp=Z,6.0nm,1.9s
KSH pmax pmax
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,900nm,25.1s
KSH LR LR
comp=Z,1μm,24.2s
KSH LR LR
comp=Z,1μm,24.9s
KK31 Karatay Array 30.97 20 P **P 00 50 56.1 +1.5**
KKAR Karatay Array 30.97 20 P **P 00 50 56.3 +1.8**
KKAR Karatay Array 30.97 20 P **P 00 50 56.2 +1.6**
KKAR IAmb IAmb 00 50 57.5
comp=Z,3.1nm,0.9s
KBZ Khabaz 31.29 341 P **P 00 50 57.0 -0.3**
comp=Z,3.0nm,0.9s,baz=148,slow=6.3,SNR=5.7
KBZ LR LR 01 05 35.4
comp=Z,749nm,20.7s,baz=150,slow=40
KIV Kislovodsk 31.56 341 P **P 00 50 59.1 -0.8**
KIV IAmb IAmb 00 51 12.1
comp=Z,12nm,1.1s
BRTR Keskin Array B 32.03 326 P **P 00 51 06.3 +2.2**
comp=Z,0.7nm,0.5s,baz=143,slow=11,SNR=4.3
BRTR LR LR 01 05 47.1
comp=Z,625nm,21.7s,baz=140,slow=40
BRTR Keskin Array B 32.03 326 P **P 00 51 02.7 -1.4**
AAK Ala-Archa 32.09 26 LR LR 01 06 18.7
comp=Z,574nm,18.4s,baz=208,slow=41
AAK Ala-Archa 32.09 26 P **P 00 51 05.8 +1.2**
AAK IAmb IAmb 00 51 08.8
comp=Z,14nm,1.1s
FRU1 Bishkek 32.28 26 P **P 00 51 07.9 +1.7**
BOOM Boomskoye usch 32.59 27 P **P 00 51 10.2 +1.2**
BOOM IAmb IAmb 00 51 23.7
comp=Z,16nm,1.6s
TARG Taragay, Kyrgy 32.87 30 P **P 00 51 12.7 +0.9**
TARG IAmb IAmb 00 51 26.1
comp=Z,12nm,1.5s
KDJ Kajisay 32.88 29 P **P 00 51 12.9 +1.4**
KDJ IAmb IAmb 00 51 26.0
comp=Z,14nm,1.4s
ABKAR Abkulak array 34.76 4 P **P 00 51 28.5 +1.0**
ABKAR Abkulak array 34.76 4 P **P 00 51 28.7 +1.2**
ABKAR IAmb IAmb 00 51 36.8
comp=Z,5.5nm,0.9s
SHL Shillong 35.05 66 P **P 00 51 30.6 -0.1**
SANT Santorini 35.11 314 P **P 00 51 31.5 +0.7**
AKTO Aktyubinsk 35.84 2 P **P 00 51 37.1 +0.3**
comp=Z,3.2nm,0.8s,baz=190,slow=8.6,SNR=12
AKTO LR LR 01 08 14.2
comp=Z,788nm,21.4s,baz=176,slow=40
BELG Belogornoye 38.41 351 P **P 00 51 58.5 0.0**
comp=Z,6.3nm,0.8s,baz=34,slow=5.8,SNR=3.8
MAKZ Makanchi 38.66 28 P **P 00 52 01.8 +0.9**
MAKZ IAmb IAmb 00 52 05.9
comp=Z,26nm,1.8s
MK31 Makanchi Array 38.80 29 P **P 00 52 03.0 +1.0**
MKAR Makanchi Array 38.80 29 P **P 00 52 01.1 -0.9**
comp=Z,2.5nm,0.8s,baz=216,slow=7.3,SNR=16
MKAR LR LR 01 10 16.6
comp=Z,1μm,19.9s,baz=228,slow=40
MKAR Makanchi Array 38.80 29 P **P 00 52 02.9 +0.9**
WMQ Urumqi 39.60 36 *eP* **P 00 52 12.1 +3.3**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,12nm,3.9s
WMQ LR LR
comp=Z,940nm,18.3s
WMQ LR LR
comp=Z,840nm,14.9s
WMQ LR LR
comp=Z,1μm,22.9s
NEHR Nehoiu 39.88 327 ⇓P **P 00 52 13.1 +1.9**
VTS Vitosha 39.91 321 ⇓P **P 00 52 12.7 +1.1**
VTS Vitosha 39.91 321 P **P 00 52 11.0 -0.5**
VRI Vrincioaia 39.95 327 ⇑P **P 00 52 14.5 +2.9**
PLOR Plostina 39.98 327 ⇑P **P 00 52 14.4 +2.5**
MLR Muntele Rosu 40.11 326 LR LR 01 13 10.8
comp=Z,349nm,19.1s,baz=116,slow=43
MLR Muntele Rosu 40.11 326 ⇑P **P 00 52 16.2 +3.1**
MLR Muntele Rosu 40.11 326 P **P 00 52 14.3 +1.2**
MLR IAmb IAmb 00 52 22.0
comp=Z,18nm,1.0s
KBN Korca 40.41 317 P **P 00 52 15.9 +0.3**
KBN IAmb IAmb 00 52 46.2
comp=Z,16nm,1.1s
TESR Tescani 40.42 328 ⇑P **P 00 52 17.0 +1.5**
OZUR 40.59 327 ⇑P **P 00 52 17.7 +0.7**
LSZ Lusaka 40.64 224 P **P 00 52 17.3 -0.4**
comp=Z,10nm,1.1s,baz=47,slow=8.4,SNR=12
SORM Soroca 40.72 331 ⇑P **P 00 52 17.9 0.0**
DOPR Dopca 40.72 327 ⇑P **P 00 52 19.9 +1.9**

ARR Arges 40.74 325 ⇑P **P 00 52 19.9 +1.6**
CM31 Chiang Mai Arr 40.98 79 P **P 00 52 21.5 +1.0**
CMAR Chiang Mai Arr 40.98 79 P **P 00 52 19.2 -1.2**
comp=Z,5.4nm,0.8s,baz=275,slow=9.0,SNR=20
CMAR LR LR 01 07 49.6
comp=Z,210nm,21.8s,baz=321,slow=34
CMAR Chiang Mai Arr 40.98 79 P **P 00 52 21.3 +0.8**
CM02 Chiang Mai Arr 40.98 79 P **P 00 52 22.2 +1.7**
comp=Z,8.8nm,1.0s
CM05 Chiang Mai Arr 40.98 79 P **P 00 52 22.7 +2.2**
comp=Z,6.1nm,1.0s
CM01 Chiang Mai Arr 40.99 79 P **P 00 52 22.3 +1.7**
comp=Z,13nm,1.0s
CM04 Chiang Mai Arr 41.01 79 P **P 00 52 22.5 +1.7**
PRAR RASCÀ 41.20 329 ⇑P **P 00 52 23.2 +1.2**
LOT Lotru 41.27 325 ⇓P **P 00 52 24.1 +1.4**
HERR Herculane 41.70 323 ⇑P **P 00 52 27.3 +1.3**
GZR Gura Zlata 41.80 324 ⇑P **P 00 52 28.1 +1.2**
ARU Arti 41.85 2 P **P 00 52 27.4 +0.3**
comp=Z,0.5nm,0.6s,baz=203,slow=9.5,SNR=4.0
ARU Arti 41.85 2 P **P 00 52 28.7 +1.6**
BURAR Bucovina Array 41.88 328 ⇑P **P 00 52 29.5 +1.9**
BURAR Bucovina Array 41.88 328 P **P 00 52 28.5 +0.8**
ARCR ARCALIA 41.98 327 ⇓P **P 00 52 29.8 +1.5**
MDVR Moldovita 42.05 323 ⇑P **P 00 52 30.1 +1.1**
AKASG Malin Array Be 42.22 334 P **P 00 52 30.1 -0.1**
comp=Z,1.7nm,0.6s,baz=134,slow=7.7,SNR=10.0
AKASG PP **PP 00 54 10.9 +2.8**
comp=Z,0.2nm,0.3s,baz=135,slow=11,SNR=4.6
AKASG LR LR 01 13 21.7
comp=Z,520nm,20.7s,baz=125,slow=41
AKBB Malin Array Si 42.22 334 P **P 00 52 29.7 -0.5**
BZS Buzias 42.59 324 ⇑P **P 00 52 35.2 +1.9**
DRGR 42.68 326 ⇑P **P 00 52 35.8 +1.7**
DIVS Divibare 42.70 321 P **P 00 52 34.8 +0.4**
AMBH Ambrzfalva 43.52 324 *e*P **P 00 52 41.5 +0.7**
RAFF Raffo Rosso 43.54 309 P **P 00 52 41.3 +0.1**
RAFF IAmb IAmb 00 52 47.9
comp=Z,24nm,1.0s
MATP Matopo 44.22 219 P **P 00 52 47.1 +0.3**
comp=Z,7.9nm,0.5s,baz=35,slow=8.4,SNR=33
KOLS Kolonicke sedl 44.24 328 *e*P **P 00 52 48.8 +2.2**
CORL Corleone 44.56 310 P **P 00 52 50.6 +1.2**
CRVS Cervenica-Dubn 44.64 328 *e*P **P 00 52 53.5 +3.7**
MORH Mrgy, Hungar 44.64 323 *e*P **P 00 52 49.8 0.0**
KMI Kunming 44.72 69 ⇓P **P 00 52 51.9 +0.9**
KMI pP sP 00 52 57.1 -1.1
KMI sP pwP 00 52 59.4 -0.9
KMI S **S 00 59 28.6 +1.3**
KMI sS sS 00 59 38.5 +2.7
KMI SS **SS 01 02 38.1 -10**
KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI pmax pmax
comp=Z,130nm,4.8s
KMI LR LR
comp=Z,250nm,21.9s
KMI LR LR
comp=Z,530nm,21.0s
KMI LR LR
comp=Z,780nm,22.9s
PSZ Piszkesteto 44.89 326 *e*P **P 00 52 50.6 -1.2**
PSZ Piszkesteto 44.89 326 P **P 00 52 52.8 +0.9**
KOVH Kovagotottos 44.89 322 *e*P **P 00 52 51.4 -0.4**
ZAA0 Zalesovo Array 45.23 23 P **P 00 52 54.7 +0.3**
ZAA0 IAmb IAmb 00 52 55.9
comp=Z,7.3nm,0.9s
ZALV Zalesovo Beam 45.23 23 P **P 00 52 53.6 -0.8**
comp=Z,5.0nm,0.8s,baz=229,slow=7.9,SNR=19
ZALV LR LR 01 14 09.0
comp=Z,534nm,18.4s,baz=234,slow=39
ZALV Zalesovo Beam 45.23 23 P **P 00 52 54.8 +0.4**
NIE Niedzica 45.56 327 *e*P **P 00 52 59.8 +2.6**
MNK Minsk 45.64 337 *i*P **P 00 52 56.2 -1.5**
comp=E,2.0nm,0.9s
MNK *i*P **P 00 52 56.2 -1.5**
comp=N,7.0nm,0.9s
MNK *i*P **P 00 52 56.2 -1.5**
comp=Z,8.0nm,0.8s,baz=320
MNK *i*PcP **PcP 00 54 33.5 -2.2**
MNK *i*PP **PP 00 54 43.6 -1.0**
MNK *i*PPP PPP 00 55 23.6
MNK *i*ScP ScP 00 58 01.0 -27
MNK *i*PcS **PcS 00 58 36.1 +6.6**
MNK *i*S **S 00 59 39.5 +0.1**
MNK *i*ScS **ScS 01 02 52.4 -0.5**
MNK *i*SS **SS 01 03 06.5 +3.1**
MNK *i*SSS SSS 01 03 55.8
MNK *i*LQ LQ 01 08 49.3
MNK *i*LR LR 01 11 40.2
MNK *i*LRM MLR 01 14 37.8
comp=N,121nm,16.9s
MNK *i*LRM MLR 01 14 39.1
comp=Z,218nm,16.9s
MNK *i*LRM MLR 01 14 42.9
comp=E,11nm,16.9s
INTR Introdacqua 45.66 315 P **P 00 52 59.0 +0.9**
INTR IAmb IAmb 00 53 04.5
comp=Z,12nm,1.1s
MPLH Magyarpolny 45.80 323 *e*P **P 00 52 58.6 -0.4**
VYHS Vyhne 45.80 326 *e*P **P 00 53 01.0 +2.0**
BEHE Becsehely 45.88 322 *e*P **P 00 53 00.2 +0.6**
OJC Ojcow 46.30 328 P **P 00 53 04.4 +1.5**
OJC IAmb IAmb 00 53 16.3
comp=Z,21nm,1.7s
NRCA Norcia 46.53 316 P **P 00 53 05.8 +0.8**
NRCA IAmb IAmb 00 53 30.8
comp=Z,16nm,1.3s
MODS Modra-Piesok 46.59 325 *e*P **P 00 53 07.1 +1.8**
SOP Sopron 46.63 324 *e*P **P 00 53 05.6 0.0**
OKC Ostrava-Krasne 46.94 327 *e*S **S 00 59 54.5 -3.6**
OKC AMS AMS 01 16 20.0
comp=Z,300nm,18.8s
KEST Kesra 46.97 306 P **P 00 53 06.8 -1.7**
ARSA Arzberg 47.01 323 *e*P **P 00 53 09.7 +1.1**
comp=Z,4.7nm,1.0s
SOKA Soboth 47.02 322 *e*P **P 00 53 09.7 +1.0**
comp=Z,6.5nm,1.2s
CONA Conrad Observa 47.16 323 *i*P **P 00 53 10.8 +0.9**
comp=Z,11nm,1.6s
SUW Suwalki 47.18 334 *e*P **P 00 53 12.7 +3.0**
SUW Suwalki 47.18 334 P **P 00 53 10.2 +0.6**
MORC Moravsky Berou 47.22 326 P **P 00 53 10.6 +0.4**
MORC Moravsky Berou 47.22 326 *e*P **P 00 53 11.0 +0.8**
OBKA Obir 47.23 321 *e*P **P 00 53 11.6 +1.2**
comp=Z,6.6nm,1.1s
KRUC Moravsky 47.45 325 *e*P **P 00 53 13.3 +1.3**
LZH Lanzhou 47.47 54 *e*P **P 00 53 15.8 +3.3**
LZH pP pwP 00 53 23.8 +2.0
LZH PP **PP 00 55 04.0 +0.1**
LZH S **S 01 00 07.0 +0.6**
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.3s
LZH LR LR
comp=Z,580nm,18.4s
LZH LR LR
comp=Z,550nm,17.9s
LZH LR LR
comp=Z,380nm,19.0s
VRAC Vranov 47.48 325 LR LR 01 16 32.6
comp=Z,226nm,18.5s,baz=114,slow=40
VRAC Vranov 47.48 325 *e*P **P 00 53 13.6 +1.4**
KRLC Kraliky 47.80 326 *e*P **P 00 53 14.6 -0.1**
KRLC AMS AMS 01 17 50.0
comp=Z,200nm,16.2s
KLMR Klimovskoe 47.84 349 *e*P **P 00 53 15.5 +0.8**
KLMR AMP 00 53 27.0
comp=Z,10.0nm,1.2s
KLMR *e*S **S 01 00 15.6 +5.0**
KLMR *e*S **S 01 00 15.6 +5.0**
KLMR LQ LQ 01 10 12.9
KLMR LQ LQ 01 10 12.9
KLMR LR LR 01 13 51.7
PABE Paberze 47.90 336 P **P 00 53 15.6 +0.3**
MOA Molln 48.05 323 *e*P **P 00 53 17.3 +0.7**
comp=Z,5.3nm,0.9s
TREC Trest 48.08 325 AMS AMS 01 19 30.0
comp=Z,300nm,15.0s
DPC Dobruska-Polom 48.20 326 *e*P **P 00 53 18.5 +0.7**
DPC AMS AMS 01 18 10.0
comp=Z,300nm,18.2s
ZOU Zoufplan 48.22 321 P **P 00 53 18.0 -0.1**
ZOU IAmb IAmb 00 53 31.1
comp=Z,14nm,1.4s
STAL STALIGIAL 48.25 320 P **P 00 53 18.0 -0.3**
STAL IAmb IAmb 00 53 33.9
comp=Z,18nm,1.5s
GYA Guiyang 48.34 67 ⇓P **P 00 53 19.5 +0.1**
GYA pP sP 00 53 25.4 -1.1
GYA PP **PP 00 55 15.6 +3.6**
GYA S **S 01 00 16.2 -2.8**
GYA SS **SS 01 03 48.3 -0.4**
GYA pmax pmax
comp=Z,2.0nm,1.4s
OSTC Ostas 48.37 327 *e*P **P 00 53 20.3 +1.3**
OSTC AMS AMS 01 16 30.0
comp=Z,200nm,18.6s
UPC Upice 48.45 326 AMS AMS 01 18 20.0
comp=Z,200nm,16.3s
CHVC Chvalec 48.47 327 *e*P **P 00 53 20.9 +1.1**
KSP Ksiaz 48.48 327 *e*P **P 00 53 22.0 +2.1**
CKRC Cesky Krumlov 48.51 324 *e*P **P 00 53 21.1 +1.0**
CKRC *e*S **S 01 00 21.9 +1.4**
CKRC AMS AMS 01 15 40.0
comp=Z,200nm,22.3s
TEOL Teolo 48.52 319 P **P 00 53 21.4 +1.1**
TEOL IAmb IAmb 00 53 31.0
comp=Z,9.1nm,0.9s
ABTA Abfaltersbach 48.59 321 *e*P **P 00 53 21.4 +0.5**
comp=Z,5.8nm,1.5s
GERES GERESS Array B 48.87 324 P **P 00 53 22.3 -0.7**
comp=Z,0.7nm,0.7s,baz=120,slow=7.9,SNR=7.0
GERES LR LR 01 16 52.8
comp=Z,119nm,18.9s,baz=98,slow=40
GERES GERESS Array B 48.87 324 P **P 00 53 22.7 -0.4**
PRU Pruhonice 48.97 325 *e*P P 00 53 29.6 +5.9
PRU *e*S **S 01 00 26.5 -0.4**
PRU AMS AMS 01 16 50.0
comp=Z,200nm,16.0s
PRA Prague 49.07 325 *e*S **S 01 00 29.3 +1.0**
PRA AMS AMS 01 17 00.0
comp=Z,200nm,15.9s
KHC Kasperske Hory 49.08 324 *e*P **P 00 53 22.8 -1.8**
KHC *e*S **S 01 00 26.6 -2.0**
KHC AMS AMS 01 21 20.0
comp=Z,200nm,18.4s
WTTA Wattenberg 49.35 321 *e*P **P 00 53 26.1 -0.8**
comp=Z,12nm,1.0s
LBTB Lobatse 49.43 218 P **P 00 53 26.9 -0.7**
LBTB Lobatse 49.43 218 P **P 00 53 27.7 +0.1**
SQTA Sankt Quirin 49.60 321 *i*P **P 00 53 28.3 -0.3**
comp=Z,5.0nm,0.7s
MOTA Moosalm 49.72 321 *e*P **P 00 53 29.1 -0.6**
comp=Z,8.2nm,0.9s
BRG Berggiesshubel 49.76 326 *e*P **P 00 53 31.2 +1.6**
BRG Amp 00 53 40.4
comp=Z,3.9nm,1.0s
BRG Amp 01 19 29.0
comp=E,0.2nm,15.9s
BRG Amp 01 19 34.0
comp=Z,0.2nm,20.3s
BRG Amp 01 19 37.0
comp=N,0.1nm,20.6s
FETA Feichten 49.81 320 *i*P **P 00 53 30.4 +0.1**
comp=N,6.2nm,1.2s
RETA Reutte 49.99 321 *e*P **P 00 53 30.6 -0.9**
comp=N,4.2nm,0.8s
DAVOX Davos/Dischmat 50.24 320 LR LR 01 17 37.1
comp=N,137nm,20.9s,baz=102,slow=39
NKC Novy Kostel 50.26 325 AMS AMS 01 20 00.0
comp=N,200nm,13.8s
DAVA Damuels 50.45 320 *e*P **P 00 53 33.9 -1.3**
comp=N,19nm,1.6s
CLL Collm 50.49 326 *e*P **P 00 53 36.0 +0.8**
comp=Z,2.0nm,0.7s
CLL *i* 00 53 40.0
CLL *i* 00 53 45.6
comp=Z,11nm,1.4s
CLL *e*S **S 01 00 47.0 -1.1**
CLL *e*ScS **ScS 01 03 29.0 +3.7**
CLL *e*SS SS 01 04 36.0 +14
CLL LmV 01 21 00.0
comp=Z,200nm,18.0s
CLL Collm 50.49 326 P **P 00 53 35.6 +0.4**
CLL IAmb IAmb 00 53 48.1
comp=Z,21nm,1.8s
TSUM Tsumeb 50.78 230 P **P 00 53 37.9 -0.1**
TSUM IAmb IAmb 00 53 41.2
comp=Z,8.8nm,1.2s
XAN Xi'an 51.14 58 P **P 00 53 39.9 -0.5**
XAN pP pP 00 53 43.5 -1.9
XAN S **S 01 00 56.9 -0.8**
XAN SS **SS 01 04 35.9 +2.8**
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN pmax pmax
comp=Z,180nm,8.6s
XAN LR LR
comp=Z,280nm,17.3s
XAN LR LR
comp=Z,460nm,19.5s
XAN LR LR
comp=Z,470nm,23.9s
QIZ Qiongzhong 51.27 77 P **P 00 53 41.9 +0.3**
QIZ S **S 01 01 02.0 +2.1**
QIZ LR LR
comp=Z,200nm,17.2s
QIZ LR LR
comp=Z,120nm,11.1s
QIZ LR LR
comp=Z,240nm,21.3s
FINES FINESS Array B 51.64 342 P **P 00 53 42.6 -1.0**
comp=Z,2.2nm,0.6s,baz=151,slow=9.8,SNR=12
FINES LR LR 01 18 15.7
comp=Z,375nm,21.8s,baz=144,slow=39
FINES FINESS Array B 51.64 342 P **P 00 53 45.2 +1.6**
BOSA Boshof 52.38 215 P **P 00 53 47.8 -2.0**
comp=Z,8.9nm,0.9s,baz=45,slow=7.9,SNR=16
BOSA LR LR 01 16 11.9
comp=Z,712nm,18.6s,baz=2.0,slow=36
BOSA Boshof 52.38 215 P **P 00 53 49.2 -0.6**
BOSA IAmb IAmb 00 53 50.8
comp=Z,12nm,0.9s
SONM Songino Array 52.91 40 P **P 00 53 52.9 -0.6**
comp=Z,1.9nm,0.7s,baz=256,slow=6.0,SNR=6.0
SONM LR LR 01 18 17.4
comp=Z,646nm,21.6s,baz=264,slow=38
SONM Songino Array 52.91 40 P **P 00 53 54.3 +0.8**
TOA0 Torodi Ar. Sit 52.97 276 P **P 00 53 53.8 -0.4**
TOA0 IAmb IAmb 00 54 03.7
comp=Z,18nm,1.6s
TORD Torodi Ar. Bea 52.97 276 P **P 00 53 55.0 +0.7**
comp=Z,1.9nm,1.0s,baz=62,slow=6.0,SNR=7.0
TORD PcP **PcP 00 55 02.9 -0.2**
comp=Z,0.8nm,0.7s,baz=79,slow=4.2,SNR=1.7
TORD LR LR 01 15 48.9
comp=Z,391nm,19.4s,baz=65,slow=35
TORD Torodi Ar. Bea 52.97 276 P **P 00 53 53.9 -0.3**
TORD IAmb IAmb 00 54 03.7
comp=Z,14nm,1.6s
ULN Ulaanbaatar 53.33 41 P **P 00 53 57.9 +1.2**
ULN IAmb IAmb 00 54 08.7
comp=Z,14nm,1.6s
HHC Hu-ho-hao-te 54.45 50 *e*P **P 00 54 07.2 +2.3**
HHC S **S 01 01 44.7 +1.7**
HHC SS **SS 01 05 27.0 +1.6**
HHC pmax pmax
comp=Z,21nm,1.1s
HHC pmax pmax
comp=Z,75nm,5.3s
HHC LR LR
comp=Z,670nm,18.2s
HHC LR LR
comp=Z,1μm,21.4s
HHC LR LR
comp=Z,1μm,20.2s
LEM Lembang 55.11 109 LR LR 01 14 52.8
comp=Z,429nm,18.9s,baz=272,slow=33
NB2 NORSAR Subarra 56.61 336 P **P 00 54 24.0 +4.0**
comp=Z,9.1nm,1.7s,baz=125,slow=7.4
NOA NORSAR Array B 56.61 336 P **P 00 54 20.1 +0.1**
comp=Z,0.7nm,0.9s,baz=118,slow=7.9,SNR=3.0
NOA LR LR 01 21 40.5
comp=Z,164nm,19.1s,baz=105,slow=39
ESDC Sonseca Array 58.07 308 P **P 00 54 30.0 -0.7**
comp=Z,3.1nm,0.9s,baz=86,slow=5.9,SNR=22
ESDC LR LR 01 22 05.2
comp=Z,79nm,18.6s,baz=175,slow=39
NRIK Noril'sk 58.20 13 LR LR 01 22 28.7
comp=Z,419nm,20.8s,baz=219,slow=39
ARCES ARCESS Array B 58.28 348 P **P 00 54 30.0 -1.6**
comp=Z,2.6nm,1.0s,baz=148,slow=7.1,SNR=9.0
ARCES LR LR 01 22 27.4
comp=Z,271nm,21.6s,baz=125,slow=39
NJ2 Nanjing 59.26 61 *e*P **P 00 54 40.2 +1.1**
NJ2 pmax pmax
comp=Z,15nm,0.6s
HIA Hailar 61.81 42 P **P 00 54 57.3 +1.1**
CN2 Changchun 65.04 48 *e*P **P 00 55 16.8 -0.9**
CN2 PP **PP 00 57 41.8 +1.1**
CN2 S **S 01 03 57.4 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,340nm,20.0s
CN2 LR LR
comp=Z,220nm,20.0s
CN2 LR LR
comp=Z,270nm,22.0s
KSRS Korea Array 66.77 55 P **P 00 55 26.9 -2.1**
comp=Z,2.3nm,0.7s,baz=267,slow=6.8,SNR=10
KSRS LR LR 01 26 41.7
comp=Z,243nm,18.9s,baz=268,slow=38
USRK Ussuriysk Ar. 69.77 48 LR LR 01 29 37.9
comp=Z,307nm,19.8s,baz=259,slow=39
H01W3 Cape Leeuwin H 73.60 134 T T 02 16 19.4
baz=302,slow=75
H01W2 Cape Leeuwin H 73.61 134 T T 02 16 18.3
baz=302,slow=75
H01W1 Cape Leeuwin H 73.62 134 T T 02 16 20.7
baz=302,slow=75
SUMG Summit 77.68 342 P **P 00 56 34.0 +0.1**
SUMG IAmb IAmb 00 56 46.9
comp=Z,10nm,1.2s
WRA Warramunga Arr 83.98 112 P **P 00 57 04.6 -3.5**
comp=Z,2.4nm,0.8s,baz=300,slow=4.3,SNR=13
WRA Warramunga Arr 83.98 112 P **P 00 57 06.9 -1.3**
WB2 Warramunga Arr 83.99 112 P **P 00 57 07.2 -1.0**
WB2 IAmb IAmb 00 57 08.1
comp=Z,5.1nm,0.8s
SYO Syowa Base 84.17 186⇑*e*P **P 00 57 09.4 +1.5**
SYO Syowa Base 84.17 186⇓*e*pP pP 00 57 11.8 -1.6
ASAR Alice Springs 84.74 116 P **P 00 57 08.6 -3.4**
comp=Z,2.3nm,0.8s,baz=295,slow=4.9,SNR=17
PETK Petropavlovsk- 85.19 36 LR LR 01 40 16.2
comp=Z,210nm,19.3s,baz=281,slow=39
SCHQ Schefferville 95.92 331 LR LR 01 47 27.9
comp=Z,60nm,18.4s,baz=70,slow=39
ILAR Eielson Array 98.99 10 LR LR 01 49 04.8
comp=Z,124nm,19.9s,baz=324,slow=39
PDAR Pinedale Array 121.53 348 PKP **PKPdf 01 03 30.0 -1.5**
comp=Z,0.5nm,0.7s,baz=70,slow=4.9,SNR=5.3
NVAR Mina Array Bea 127.08 355 PKP **PKPdf 01 03 41.4 -0.8**
comp=Z,1.3nm,0.9s,baz=30,slow=2.7,SNR=9.6
TXAR Lajitas Array 132.31 336 PKP **PKiKP 01 03 52.2 -1.1**
comp=Z,0.5nm,1.0s,baz=168,slow=1.2,SNR=3.5

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*IDC **04** 00:57:34.5±2.2,20°.91S×178°.02W,h475km±22km,mb3.5/8, mb1 3.7/10,mb1mx3.3/50,mbtmp4.3/10,Error ellipse: s-maj=31.6km s-min=18.0km az=143.0*
*NEIC **04** 00:57:34.5±1.7,21°.05S±0°.1×177°.8W±0°.2,h484km±8km, mb4.2/14,Error ellipse: s-maj=23.3km s-min=14.9km az=126.0*
ISC 04 00:57:35.4±0.6,21°.03S±0°.10×177°.97W±0°.09,h495km, n41,σ1$42/41,mb4.1/15,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.99**	**310**	P	**P**	**00 58 59.1**	**-3.2**
	6.5nm,0.3s,baz=276,slow=20,SNR=44						
MSVF	**Nonsavu**	**4.99**	**310**	P	**P**	**00 58 59.5**	**-2.8**
NIUE	**Niue**	**7.80**	**77**	P	**P**	**00 59 28.6**	**-1.1**
RAO	**Raoul Island**	**8.18**	**180**	P	**P**	**00 59 33.2**	**-0.3**
MARNC	**Mare, Loyalty**	**13.07**	**266**	P	**P**	**01 00 27.4**	**+2.0**
OUENC	**Ouen Island, N**	**14.19**	**262**	P	**P**	**01 00 40.2**	**+2.9**
ONTNC	**Ouen Toro**	**14.54**	**262**	P	**P**	**01 00 41.5**	**+0.5**
DZM	**Mont Dzumac**	**14.54**	**263**	P	**P**	**01 00 37.6**	**-3.5**
URZ	**Urewera**	**17.69**	**193**	P	**P**	**01 01 13.4**	**+0.5**
	0.8nm,0.3s,baz=278,slow=3.6,SNR=1.6						
URZ				S	**S**	**01 04 07.4**	**-3.3**
	0.3nm,0.3s,baz=255,slow=20,SNR=1.7						
URZ	**Urewera**	**17.69**	**193**	P	**P**	**01 01 12.0**	**-1.0**
BKZ	**Black Stump Fm**	**18.69**	**194**	P	**P**	**01 01 22.0**	**-0.2**
BKZ				IAmb	IAmb	01 01 33.4	
	comp=Z,12nm,1.2s						
BFZ	**Birch Farm**	**20.20**	**193**	P	**P**	**01 01 34.7**	**-1.2**
PLWZ	**Palliser**	**21.26**	**194**	P	**P**	**01 01 45.6**	**0.0**
QRZ	**Quartz Range**	**21.32**	**200**	P	**P**	**01 01 48.8**	**+2.7**
TUWZ	**Tuamarina**	**21.46**	**197**	P	**P**	**01 01 48.3**	**+1.0**
FOZ	**Fox Glacier**	**24.64**	**202**	P	**P**	**01 02 16.7**	**+0.9**
ARMA	**Armidale**	**28.87**	**245**	P	**P**	**01 02 54.5**	**+1.1**
ARMA				IAmb	IAmb	01 02 56.2	
	comp=Z,6.1nm,1.1s						
STKA	**Stephens Creek**	**37.59**	**245**	P	**P**	**01 04 07.8**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=85,slow=9.5,SNR=5.0						
BBOO	**Buckleboo**	**42.34**	**244**	P	**P**	**01 04 45.0**	**-0.3**
BBOO				IAmb	IAmb	01 04 46.1	
	comp=Z,10nm,0.9s						
WR0	**Warramunga Arr**	**44.37**	**263**	P	**P**	**01 05 01.4**	**0.0**
AS31	**Alice Springs**	**44.43**	**257**	P	**P**	**01 05 02.6**	**+0.8**
ASAR	**Alice Springs**	**44.43**	**257**	P	**P**	**01 05 02.5**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=99,slow=7.8,SNR=66						
ASAR				PcP	**PcP**	**01 06 36.5**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=102,slow=3.2,SNR=4.2						
ASAR	**Alice Springs**	**44.43**	**257**	P	**P**	**01 05 02.1**	**+0.2**
WB0	**Warramunga Arr**	**44.54**	**263**	P	**P**	**01 05 02.7**	**0.0**
WB0				IAmb	IAmb	01 05 03.5	
	comp=Z,5.5nm,0.8s						
WB2	**Warramunga Arr**	**44.55**	**263**	P	**P**	**01 05 02.7**	**-0.1**
WB2				IAmb	IAmb	01 05 04.1	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**44.56**	**263**	P	**P**	**01 05 02.5**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=96,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.56**	**263**	P	**P**	**01 05 03.1**	**+0.2**
FORT	**Forrest**	**49.12**	**247**	P	**P**	**01 05 37.3**	**+0.1**
FORT				IAmb	IAmb	01 05 38.2	
	comp=Z,10nm,0.7s						
KNRA	**Kununurra**	**50.66**	**267**	P	**P**	**01 05 49.3**	**+0.6**
KNRA				IAmb	IAmb	01 05 59.6	
	comp=Z,11nm,1.1s						
SIJI	**Sorong**	**53.41**	**285**	P	**P**	**01 06 09.0**	**+0.4**
	comp=Z,30nm,0.8s,baz=120,slow=14,SNR=3.9						
PSA00	**Pilbara Seismi**	**57.58**	**257**	P	**P**	**01 06 36.8**	**-0.9**
PSA00				IAmb	IAmb	01 06 39.1	
	comp=Z,6.8nm,0.8s						
NVAR	**Mina Array Bea**	**81.39**	**43**	P	**P**	**01 09 01.4**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=234,slow=7.7,SNR=5.0						
SEY	**Seymchan**	**86.90**	**347**	P	**P**	**01 09 26.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=296,slow=8.6,SNR=3.6						
TXAR	**Lajitas Array**	**87.31**	**57**	P	**P**	**01 09 30.6**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=52,slow=18,SNR=2.0						
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**01 09 35.3**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=230,slow=4.2,SNR=3.8						
ARCES	**ARCESS Array B**	**129.45**	**350**	PKP	**PKiKP**	**01 15 48.2**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=64,slow=5.5,SNR=3.7						
HFS	**Hagfors**	**140.07**	**351**	PKhKP	PKPpre	01 16 02.8	
	comp=Z,0.8nm,0.7s,baz=46,slow=6.4,SNR=1.6						
AKASG	**Malin Array Be**	**143.49**	**331**	PKP	PKPab	01 16 11.6	+0.3
	comp=Z,2.1nm,0.6s,baz=48,slow=3.9,SNR=9.6						
MMAI	**Mount Meron Ar**	**148.10**	**299**	PKPbc	**PKPbc**	**01 16 25.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=54,slow=7.3,SNR=2.1						
CLL	**Collm**	**148.59**	**347**	*i* PKPbc	**PKiKP**	**01 16 27.4**	**+0.3**
GERES	**GERESS Array B**	**150.72**	**344**	PKPbc	**PKiKP**	**01 16 32.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=40,slow=1.7,SNR=5.8						

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*IDC **04** 01:00:42.3±10.0, 12°.89N×124°.29E,h98km±95km,mb3.7/6, mb1 3.8/6,mb1mx3.3/64,mbtmp4.0/6,Error ellipse: s-maj=189.2km s-min=16.5km az=68.0*
*MAN **04** 01:00:42.8, 13°.01N×124°.21E,h113km,mb4.6,ML3.4, MS3.3*
ISC 04 01:00:42.4±0.9,12°.97N±0°.09×124°.3E±0°.1,h100km,n16, σ0$79/14,mb4.1/6,1C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**2.05**	**297**⇑	*e*P	**Pn**	**01 01 16.0**	**+0.4**
GQP				*i* S	**Sn**	**01 01 40.4**	**-0.5**
RCP	**Roxas**	**2.08**	**228**⇓	*e*P	**Pn**	**01 01 17.2**	**+1.2**
LQP	**Lukban**	**2.93**	**293**	*e*P	**Pn**	**01 01 27.3**	**-0.1**
LQP				*e*S	**Sn**	**01 02 01.5**	**-0.6**

CVP Callao Caves 5.29 333 eP **Pn 01 01 59.8 +0.8**
WRA Warramunga Arr 34.16 163 P **P 01 07 16.8 -1.4**
1.0nm,0.3s,baz=340,slow=8.0,SNR=38
WRA PcP **PcP 01 09 52.6 -0.6**
0.5nm,0.7s,baz=338,slow=2.7,SNR=1.8
ASAR Alice Springs 37.59 166 P **P 01 07 47.4 -0.1**
3.2nm,0.3s,baz=344,slow=7.2,SNR=106
ASAR PcP **PcP 01 10 02.7 -0.7**
0.4nm,0.6s,baz=332,slow=3.4,SNR=2.5
SONM Songino Array 37.85 340 P **P 01 07 49.8 +0.3**
0.4nm,0.5s,baz=154,slow=6.5,SNR=1.7
H11S3 WAKE ISLAND Hy 41.08 77 T T 01 52 16.8
baz=274,slow=75
H11S1 WAKE ISLAND Hy 41.09 77 T T 01 52 17.7
baz=274,slow=75
H11S2 WAKE ISLAND Hy 41.10 77 T T 01 52 21.5
baz=274,slow=75
H11N1 WAKE ISLAND Hy 41.32 75 T T 01 52 29.7
baz=268,slow=74
H11N2 WAKE ISLAND Hy 41.32 75 T T 01 52 29.1
baz=268,slow=74
H11N3 WAKE ISLAND Hy 41.34 75 T T 01 52 30.2
baz=268,slow=74
STKA Stephens Creek 47.56 160 P **P 01 09 08.1 +0.1**
2.4nm,0.5s,baz=336,slow=9.0,SNR=7.3
MKAR Makanchi Array 48.74 322 P **P 01 09 17.0 0.0**
0.3nm,0.6s,baz=110,slow=9.5,SNR=2.6
ZALV Zalesovo Beam 51.36 331 P **P 01 09 37.6 +1.1**
0.6nm,0.4s,baz=111,slow=7.1,SNR=2.4

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*IDC **04** 01:05:21.8±1.1,36°.32N×96°.84W,h0km,mb3.4/1, mb1 3.8/5,mb1mx3.5/54,mbtmp3.5/5,ML3.4/4,Error ellipse: s-maj=15.3km s-min=12.2km az=122.0*
*TUL **04** 01:05:22.7±1.3,36°.29N±0°.02×96°.86W±0°.05,h4km±4km, mb_Lg3.7/144(NEIC),Mwr3.4/27(NEIC),Error ellipse: s-maj=5.4km s-min=2.6km az=78.0*
*ANF **04** 01:05:22.8±0.7,36°.26N×96°.85W,h0km±5km,ML4.5/13, Error ellipse: s-maj=2.8km s-min=2.3km az=21.0*
*NEIC **04** 01:05:22.8±1.1,36°.29N±0°.02×96°.87W±0°.05,h2km±7km, Error ellipse: s-maj=5.9km s-min=2.8km az=79.0*
*NEIC **04** 01:05:23.1,36°.29N×96°.88W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.05; $M_{\theta\theta}$1.21; $M_{\phi\phi}$-1.27; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.89; $M_{\phi r}$0.00; Fault plane solution: $M_0$1.56000×10^{14} NP1:ϕ_s333.42000°, δ78.28000°,λ6.10000°. NP2:ϕ_s242.17000°,δ84.02000°, λ168.21000°. Principal axes: T 1.5709, Plg13.0000°, Azm197.0000°; N -0.0131, Plg77.0000°, Azm36.0000°; P -1.5578, Plg4.0000°, Azm288.0000°;*
ISC 04 01:05:23.0±1.0,36°.30N±0°.02×96°.86W±0°.02,h5km±8km, n182,σ0°.94/186,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.18**	**137**		**Pg**	**01 05 26.6**	**+0.2**
QUOK				Sg	**Sg**	**01 05 29.3**	**+0.5**
OK031	**S. Brethren Rd**	**0.35**	**178**		**Pg**	**01 05 29.7**	**0.0**
OK031				Sg	**Sg**	**01 05 34.5**	**+0.2**
OK030	**Cody Creek RV**	**0.38**	**171**		**Pg**	**01 05 30.2**	**0.0**
OK030				Sg	**Sg**	**01 05 35.4**	**+0.2**
BLOK	**Blackwell**	**0.54**	**328**		**Pg**	**01 05 33.6**	**+0.2**
BLOK				Sg	**Sg**	**01 05 40.9**	**+0.4**
T35A	**Sooner Cattle**	**0.67**	**24**	Pg	**Pg**	**01 05 35.8**	**-0.1**
T35B	**Sooner Cattle**	**0.67**	**24**	P		01 05 35.8	
T35B	baz=204,SNR=1000			S		01 05 45.0	
	baz=204						
OK005	**Luther M Schoo**	**0.70**	**203**		**Pg**	**01 05 36.1**	**-0.3**
OK029	**Liberty Lake**	**0.70**	**224**	Pg	**Pg**	**01 05 36.1**	**-0.3**
OK029				Sg	**Sg**	**01 05 45.6**	**+0.2**
OK025	**Westminster Rd**	**0.82**	**209**		**Pg**	**01 05 38.1**	**-0.6**
OK011	**Prague**	**0.82**	**170**		**Pg**	**01 05 38.3**	**-0.5**
OK009	**Oakdale Elemen**	**0.85**	**213**		**Pg**	**01 05 38.9**	**-0.4**
KAN13	**South Haven SW**	**0.87**	**325**		**Pg**	**01 05 39.6**	**0.0**
BCOK	**Bluff Creek, N**	**0.89**	**224**		**Pg**	**01 05 39.4**	**-0.6**
CROK	**Carrier**	**0.93**	**283**		**Pg**	**01 05 40.5**	**-0.4**
TUL1	**Leonard**	**0.94**	**114**	P	**Pg**	**01 05 40.6**	**-0.5**
TUL1	baz=294			S	**Sg**	**01 05 52.7**	**-0.6**
	baz=294						
TUL1	**Leonard**	**0.94**	**114**	P		01 05 40.5	
TUL1	baz=294,SNR=1000			S		01 05 52.8	
	baz=294						
OKCFA	**Oklahoma City**	**1.01**	**209**		**Pg**	**01 05 41.2**	**-1.0**
OKCFA	**Oklahoma City**	**1.01**	**209**	P		01 05 41.4	
OKCFA	baz=28,SNR=63			S		01 05 55.4	
	baz=28						
OKCSW	**OKLAHOMA CITY**	**1.01**	**208**		**Pg**	**01 05 41.3**	**-1.1**
KAN09	**Caldwell North**	**1.03**	**324**		**Pg**	**01 05 42.5**	**-0.3**
KAN17	**Caldwell West**	**1.04**	**316**		**Pg**	**01 05 42.7**	**-0.3**
KS20	**Mayfield South**	**1.08**	**329**		**Pg**	**01 05 43.5**	**-0.3**
FNO	**Franklin**	**1.13**	**203**		**Pg**	**01 05 43.3**	**-1.4**
KAN05	**Bluff City Nor**	**1.15**	**315**		**Pg**	**01 05 44.5**	**-0.5**
OK032	**Salt Plains WL**	**1.20**	**295**		**Pg**	**01 05 45.3**	**-0.7**
KAN08	**Anthony NE Sta**	**1.29**	**316**		**Pg**	**01 05 47.0**	**-0.6**
KAN10	**Anthony SW Sta**	**1.29**	**310**		**Pg**	**01 05 46.9**	**-0.8**
KAN12	**Harper NE Stat**	**1.35**	**318**		**Pn**	**01 05 48.2**	**-0.3**
U32A	**Winter Ranch,**	**1.73**	**273**	Pn	**Pn**	**01 05 53.9**	**+0.2**
U32A	**Winter Ranch,**	**1.73**	**273**	P		01 05 54.0	
U32A	baz=92,SNR=63			S		01 06 17.9	
	baz=92						
X34A	**Smith Ranch, M**	**1.87**	**205**	Pn	**Pn**	**01 05 56.3**	**+0.7**
X34A				IAmb_Lg		01 06 25.1	
	comp=Z,528nm,0.7s						
U38A	**Gravette**	**2.00**	**85**		**Pn**	**01 05 58.2**	**+0.8**
U38A	**Gravette**	**2.00**	**85**	P		01 05 58.2	
U38A	baz=266,SNR=293			S		01 06 25.4	
	baz=266						
X37A	**Clayton**	**2.09**	**144**		**Pn**	**01 05 59.2**	**+0.5**
X37A				IAmb_Lg		01 06 32.3	
	comp=Z,540nm,0.8s						
X37A	**Clayton**	**2.09**	**144**	P		01 05 59.1	
X37A	baz=325,SNR=154			S		01 06 26.8	
	baz=325						
WMOK	**Wichita Mounta**	**2.21**	**226**	P	**Pn**	**01 06 00.4**	**0.0**
WMOK	baz=45			S	**Sn**	**01 06 29.3**	**+1.2**
	baz=45						
WMOK	**Wichita Mounta**	**2.21**	**226**		**Pn**	**01 06 00.3**	**0.0**
WMOK				IAmb_Lg		01 06 33.6	
	comp=Z,264nm,0.9s						
WMOK	**Wichita Mounta**	**2.21**	**226**	P		01 06 00.5	
WMOK	baz=45,SNR=89			S		01 06 29.2	
	baz=45						
LOOK	**Love County**	**2.32**	**187**	Pn	**Pn**	**01 06 02.3**	**+0.5**
HHAR	**Hobbs**	**2.36**	**90**		**Pn**	**01 06 02.9**	**+0.5**
HHAR				IAmb_Lg		01 06 38.4	
	comp=Z,571nm,0.7s						
HHAR	**Hobbs**	**2.36**	**90**	P		01 06 03.2	
	baz=271						
R32A	**Long Quarter,**	**2.58**	**326**		**Pn**	**01 06 06.0**	**+0.5**
R32A				IAmb_Lg		01 06 51.8	
	comp=Z,351nm,1.0s						
R32A	**Long Quarter,**	**2.58**	**326**	P		01 06 06.0	
R32A	baz=145			S		01 06 37.9	
	baz=145						
W39A	**Magazine**	**2.73**	**113**		**Pn**	**01 06 08.0**	**+0.5**
W39A				IAmb_Lg		01 06 55.9	
	comp=Z,183nm,0.8s						
W39A	**Magazine**	**2.73**	**113**	P		01 06 07.6	
	baz=295,SNR=267						
KSU1	**Kansas State U**	**2.80**	**4**	Pb	**Pb**	**01 06 15.1**	**+1.6**
	baz=184						
KSU1	**Kansas State U**	**2.80**	**4**		**Pn**	**01 06 08.8**	**+0.3**
KSU1				IAmb_Lg		01 06 52.3	
	comp=Z,197nm,0.9s						
KSU1	**Kansas State U**	**2.80**	**4**	P		01 06 09.0	
	baz=184,SNR=18						
KSU1				Sb		01 06 50.4	
	baz=184						
Z35A	**Perchaven, San**	**2.98**	**186**	P		01 06 11.2	
	baz=6.1,SNR=27						
Z35A				S		01 06 48.4	
	baz=6.1						
Z35A	**Perchaven, San**	**2.98**	**186**		**Pn**	**01 06 11.1**	**+0.2**
S39A	**Bolivar**	**3.15**	**63**		**Pn**	**01 06 13.7**	**+0.5**
S39A	**Bolivar**	**3.15**	**63**	P		01 06 13.7	
	baz=245,SNR=81						
MIAR	**Mount Ida**	**3.20**	**122**	P	**Pn**	**01 06 14.4**	**+0.5**
	baz=304						
MIAR	**Mount Ida**	**3.20**	**122**	Pn	**Pn**	**01 06 14.1**	**+0.2**
MIAR				IAmb_Lg		01 07 06.4	
	comp=Z,141nm,0.7s						
MIAR	**Mount Ida**	**3.20**	**122**	P		01 06 14.3	
	baz=304,SNR=106						
U40A	**Yellville**	**3.23**	**88**	P	**Pn**	**01 06 14.8**	**+0.5**
	baz=270						
U40A	**Yellville**	**3.23**	**88**	Pn	**Pn**	**01 06 14.6**	**+0.2**
U40A	**Yellville**	**3.23**	**88**	P		01 06 14.6	
	baz=270,SNR=118						
U40A				P		01 06 14.6	
	baz=270,SNR=118						
CBKS	**Cedar Bluff**	**3.40**	**318**	Pb	**Pb**	**01 06 25.2**	**+1.6**
	baz=137						
CBKS				Sb	**Sg**	**01 07 09.4**	**-2.7**
	baz=137						
CBKS	**Cedar Bluff**	**3.40**	**318**		**Pn**	**01 06 16.9**	**+0.2**
CBKS				IAmb_Lg		01 07 20.0	
	comp=Z,324nm,0.8s						
CBKS	**Cedar Bluff**	**3.40**	**318**	S		01 06 57.7	
	baz=137						
Z38A	**Mt. Pleasant**	**3.40**	**153**		**Pn**	**01 06 17.3**	**+0.7**
Z38A				IAmb_Lg		01 07 15.5	
	comp=Z,264nm,0.8s						
X40A	**Basin Creek Fa**	**3.75**	**118**	P	**Pn**	**01 06 22.3**	**+0.7**
	baz=300						
X40A	**Basin Creek Fa**	**3.75**	**118**		**Pn**	**01 06 22.2**	**+0.7**
X40A				IAmb_Lg		01 07 22.7	
	comp=Z,263nm,1.0s						
X40A	**Basin Creek Fa**	**3.75**	**118**	P		01 06 22.0	
	baz=300,SNR=45						
X40A				P		01 06 22.0	
	baz=300,SNR=45						
MGMO	**Mountain Grove**	**3.78**	**76**	Pn	**Pn**	**01 06 22.9**	**+0.9**
WHAR	**Wooly Hollow**	**3.85**	**104**		**Pn**	**01 06 22.9**	**+0.1**
WHAR				IAmb_Lg		01 07 25.7	
	comp=Z,301nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.85**	**95**		**Pn**	**01 06 22.9**	**+0.1**
W41B	**Gary Mavity, V**	**3.91**	**105**	Sb	**Sg**	**01 07 25.3**	**-3.3**
	baz=288						
W41B	**Gary Mavity, V**	**3.91**	**105**	P		01 06 24.0	
	baz=288,SNR=31						
W41B				S		01 07 10.2	
	baz=288						
WLAR	**White Oak Lake**	**4.03**	**129**		**Pn**	**01 06 25.8**	**+0.5**
WLAR				IAmb_Lg		01 07 32.4	
	comp=Z,157nm,0.9s						
R40A	**Maddies Statio**	**4.16**	**60**		**Pn**	**01 06 27.2**	**+0.1**
R40A				IAmb_Lg		01 07 39.2	
	comp=Z,128nm,0.8s						
R40A	**Maddies Statio**	**4.16**	**60**	P		01 06 27.6	
	baz=243,SNR=36						
AMTX	**Amarillo**	**4.18**	**252**	P	**Pn**	**01 06 28.5**	**+1.0**
	baz=69						
AMTX				Sb	**Sb**	**01 07 31.7**	**+3.9**
	baz=69						
AMTX	**Amarillo**	**4.18**	**252**		**Pn**	**01 06 27.4**	**0.0**
AMTX	**Amarillo**	**4.18**	**252**	P		01 06 28.5	
	baz=69						
P38A	**Dawn**	**4.23**	**37**		**Pn**	**01 06 28.2**	**+0.1**
P38A				IAmb_Lg		01 07 48.4	
	comp=Z,110nm,0.7s						
P38A	**Dawn**	**4.23**	**37**	P		01 06 28.8	
	baz=219,SNR=12						
WHTX	**Lake Whitney,**	**4.33**	**187**	P	**Pn**	**01 06 29.3**	**-0.1**
	baz=6.4						
WHTX	**Lake Whitney,**	**4.33**	**187**	Pn	**Pn**	**01 06 29.0**	**-0.4**
WHTX	**Lake Whitney,**	**4.33**	**187**	P		01 06 29.3	
	baz=6.4,SNR=14						
ABTX	**Abilene, Hawle**	**4.33**	**213**	P	**Pn**	**01 06 29.2**	**-0.2**
	baz=31						
ABTX	**Abilene, Hawle**	**4.33**	**213**	Pn	**Pn**	**01 06 29.3**	**-0.2**
ABTX	**Abilene, Hawle**	**4.33**	**213**	P		01 06 29.2	
	baz=31,SNR=7.8						
237A	**Washetta, Mont**	**4.38**	**168**		**Pn**	**01 06 29.6**	**-0.5**
237A	**Washetta, Mont**	**4.38**	**168**	P		01 06 29.9	
	baz=349,SNR=13						
N33B	**J Bar K, Exete**	**4.45**	**354**	P		01 06 31.2	
	baz=174						
N33A	**J Bar K, Exete**	**4.46**	**354**		**Pn**	**01 06 30.2**	**-1.0**
N33A				IAmb_Lg		01 07 50.1	
	comp=Z,257nm,0.9s						
Z41A	**Richland Creek**	**4.51**	**131**	P		01 06 31.4	
	baz=314						
Z41A				P		01 06 31.4	
	baz=314						
LCAR	**Lake Charles**	**4.62**	**91**		**Pn**	**01 06 33.5**	**+0.1**
LCAR				IAmb_Lg		01 07 52.0	
	comp=Z,137nm,0.7s						
N35A	**Tabor**	**4.65**	**11**		**Pn**	**01 06 33.3**	**-0.6**
N35A				IAmb_Lg		01 07 52.1	
	comp=Z,192nm,0.7s						
CCAR	**Cane Creek**	**4.80**	**118**	Pn	**Pn**	**01 06 36.1**	**+0.3**
CCAR				IAmb_Lg		01 08 06.6	
	comp=Z,102nm,0.8s						
CCAR	**Cane Creek**	**4.80**	**118**	P		01 06 36.6	
	baz=301,SNR=8.2						
CCM	**Cathedral Cave**	**4.81**	**67**	Sb	**Sb**	**01 07 50.7**	**+4.7**
	baz=250						
CCM	**Cathedral Cave**	**4.81**	**67**	Pn	**Pn**	**01 06 36.7**	**+0.6**
CCM				IAmb_Lg		01 07 55.5	
	comp=Z,232nm,0.7s						
NATX	**Nacogdoches**	**4.88**	**157**	S	**Sn**	**01 07 34.6**	**+0.7**
	baz=339						
NATX	**Nacogdoches**	**4.88**	**157**	Pn	**Pn**	**01 06 37.6**	**+0.6**
NATX				IAmb_Lg		01 08 09.3	
	comp=Z,196nm,1.0s						
P40A	**Paris**	**4.98**	**48**		**Pn**	**01 06 38.7**	**+0.3**
P40A				IAmb_Lg		01 07 57.3	
	comp=Z,227nm,0.8s						
PBMO	**Poplar Bluff**	**5.20**	**83**		**Pn**	**01 06 41.2**	**-0.2**
BGNE	**Belgrade**	**5.20**	**349**	Pn	**Pn**	**01 06 40.8**	**-0.7**
N38A	**Joes South For**	**5.31**	**31**		**Pn**	**01 06 43.5**	**+0.6**
N38A				IAmb_Lg		01 08 19.9	
	comp=Z,212nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.32**	**302**	Pn	**Pn**	**01 06 42.7**	**-0.5**
KSCO				IAmb_Lg		01 08 18.6	
	comp=Z,99nm,0.8s						
LPAR	**Lepanto**	**5.36**	**96**	Pn	**Pn**	**01 06 44.0**	**+0.4**
MSTX	**Muleshoe**	**5.38**	**246**	Pn	**Pn**	**01 06 43.4**	**-0.6**
MSTX				IAmb_Lg		01 08 24.2	
	comp=Z,130nm,1.2s						
435B	**Jarrell**	**5.54**	**187**		**Pn**	**01 06 44.1**	**-1.9**
435B				IAmb_Lg		01 08 24.1	
	comp=Z,123nm,0.8s						
GNAR	**Gosnell**	**5.54**	**91**	Pn	**Pn**	**01 06 46.7**	**+0.6**
L34A	**Svendsen Farm,**	**5.67**	**4**	Pn	**Pn**	**01 06 47.5**	**-0.3**
PARMO	**Parma**	**5.74**	**84**	Pn	**Pn**	**01 06 48.3**	**-0.4**
MET	**Memphis--Engin**	**5.75**	**100**	IAmb_Lg		01 08 28.2	
	comp=Z,186nm,0.8s						
PENMO	**Penman**	**5.83**	**86**	Pn	**Pn**	**01 06 50.2**	**+0.1**
LNXT	**Lenox**	**5.96**	**90**	Pn	**Pn**	**01 06 52.4**	**+0.6**
HALT	**Halls**	**6.10**	**91**	IAmb_Lg		01 08 43.1	
	comp=Z,178nm,0.7s						
T25A	**Trinidad**	**6.13**	**280**	P	**Pn**	**01 06 54.5**	**+0.1**
	baz=96						
T25A	**Trinidad**	**6.13**	**280**		**Pn**	**01 06 53.2**	**-1.2**
T25A				IAmb_Lg		01 08 48.8	
	comp=Z,79nm,0.9s						
HICK	**Hickman**	**6.16**	**86**	Pn	**Pn**	**01 06 55.1**	**+0.6**
OGNE	**Ogallala**	**6.16**	**320**	P	**Pn**	**01 06 55.3**	**+0.6**
	baz=137						
OGNE	**Ogallala**	**6.16**	**320**	Pn	**Pn**	**01 06 54.8**	**+0.2**
OGNE				IAmb_Lg		01 08 41.8	
	comp=Z,206nm,0.8s						
OGNE	**Ogallala**	**6.16**	**320**	P		01 06 55.2	
	baz=137,SNR=8.2						
S44A	**Carbondale**	**6.24**	**75**	Pn	**Pn**	**01 06 55.5**	**-0.2**
S44A	**Carbondale**	**6.24**	**75**	P		01 06 55.8	
	baz=259,SNR=11						
SCIA	**State Center**	**6.27**	**26**	P	**Pn**	**01 06 57.3**	**+1.2**
	baz=208						
SCIA	**State Center**	**6.27**	**26**		**Pn**	**01 06 56.2**	**+0.1**
SCIA				IAmb_Lg		01 08 45.9	
	comp=Z,154nm,0.8s						
SCIA	**State Center**	**6.27**	**26**	P		01 06 56.1	
	baz=208,SNR=21						
SIUC	**Southern Illin**	**6.27**	**75**		**Pn**	**01 06 57.4**	**+1.2**
JCT	**Junction City**	**6.31**	**204**		**Pn**	**01 06 55.7**	**-0.9**
JCT				IAmb_Lg		01 08 56.4	
	comp=Z,112nm,1.0s						
OXF	**Oxford**	**6.34**	**104**	IAmb_Lg		01 08 44.0	
	comp=Z,160nm,1.1s						
W45A	**Hickory Valley**	**6.34**	**98**	Pn	**Pn**	**01 06 57.1**	**+0.1**
W45A				IAmb_Lg		01 08 45.3	
	comp=Z,154nm,0.8s						
N41A	**Harden Midland**	**6.44**	**45**		**Pn**	**01 06 59.1**	**+0.7**
UTMT	**University of**	**6.45**	**87**	Pn	**Pn**	**01 06 59.5**	**+0.9**
Y45A	**Yeager Farm, C**	**6.47**	**110**	IAmb_Lg		01 08 53.5	
	comp=Z,61nm,0.8s						
K31A	**O'Neill**	**6.48**	**347**	Pn	**Pn**	**01 06 59.7**	**+0.7**
T45A	**Paducah**	**6.64**	**81**	Pn	**Pn**	**01 07 02.3**	**+1.2**
T45A					**Sn**	**01 08 16.6**	**-0.6**
Q44A	**Meyer Farm, Va**	**6.74**	**65**	Pn	**Pn**	**01 07 02.7**	**+0.1**
Q44A					**Sn**	**01 08 20.6**	**+0.9**
SDCO	**Great Sand Dun**	**7.07**	**284**		**Pn**	**01 07 07.1**	**-0.2**
K38A	**Parkersburg**	**7.08**	**25**		**Pn**	**01 07 06.6**	**-0.7**
K38A				IAmb_Lg		01 09 20.4	
	comp=Z,96nm,0.8s						
L40A	**Anamosa**	**7.23**	**36**		**Pn**	**01 07 08.7**	**-0.5**
L40A				IAmb_Lg		01 09 18.5	
	comp=Z,104nm,0.8s						
PLAL	**Pickwick Lake**	**7.27**	**98**		**Pn**	**01 07 09.6**	**-0.2**
PLAL				IAmb_Lg		01 09 15.6	
	comp=Z,72nm,1.0s						
HDIL	**Hopedale**	**7.30**	**52**	P	**Pn**	**01 07 09.6**	**-0.6**
	baz=237						
HDIL	**Hopedale**	**7.30**	**52**		**Pn**	**01 07 09.0**	**-1.2**
HDIL	**Hopedale**	**7.30**	**52**	P		01 07 09.6	
	baz=237,SNR=9.5						
WVT	**Waverly**	**7.30**	**89**		**Pn**	**01 07 10.0**	**-0.2**
WVT				IAmb_Lg		01 09 18.2	
	comp=Z,66nm,0.8s						
ECSD	**EROS Data Cent**	**7.43**	**1**		**Pn**	**01 07 11.9**	**-0.1**
ECSD				IAmb_Lg		01 09 17.7	
	comp=Z,59nm,0.9s						
ECSD	**EROS Data Cent**	**7.43**	**1**	P		01 07 11.1	
	baz=182,SNR=14						
735A	**Kenedy**	**7.47**	**186**		**Pn**	**01 07 12.7**	**+0.2**
735A				IAmb_Lg		01 09 36.5	
	comp=Z,56nm,1.0s						
O44A	**Mansfield**	**7.64**	**57**	Pn	**Pn**	**01 07 15.0**	**+0.1**
O44A				IAmb_Lg		01 09 32.3	
	comp=Z,144nm,0.8s						
ISCO	**Idaho Springs**	**7.74**	**299**	Pn	**Pn**	**01 07 16.3**	**-0.3**
Z47A	**Carrollton**	**7.87**	**111**	IAmb_Lg		01 09 38.0	
	comp=Z,40nm,0.9s						
T47A	**Sharon Grove**	**7.87**	**82**		**Pn**	**01 07 18.2**	**+0.1**
T47A	**Sharon Grove**	**7.87**	**82**	P		01 07 17.7	
	baz=268,SNR=6.5						
ANMO	**Albuquerque**	**7.94**	**263**	Pg	Pb	01 07 47.5	+6.4
	comp=Z,1.0nm,0.3s,baz=84,slow=15,SNR=14						
ANMO				Lg	Lg	01 09 34.5	
	comp=Z,2.1nm,0.3s,baz=336,slow=22,SNR=6.7						
ANMO	**Albuquerque**	**7.94**	**263**	Pn	**Pn**	**01 07 19.3**	**+0.1**
L42A	**Oliver, Polo**	**7.97**	**42**		**Pn**	**01 07 19.3**	**-0.2**
L42A				IAmb_Lg		01 09 50.9	
	comp=Z,94nm,0.7s						
I37A	**Lemond, Waseca**	**8.15**	**18**	IAmb_Lg		01 09 49.8	
	comp=Z,94nm,1.2s						
V48A	**Smith Brothers**	**8.15**	**91**	Pn	**Pn**	**01 07 22.5**	**+0.6**
V48A				IAmb_Lg		01 09 42.8	
	comp=Z,63nm,1.0s						
X48A	**Hartselle**	**8.22**	**100**	Pn	**Pn**	**01 07 22.9**	**0.0**
X48A				IAmb_Lg		01 09 42.8	
	comp=Z,77nm,1.1s						
BNM	**Barren Site**	**8.28**	**258**	Pn	**Pn**	**01 07 24.0**	**+0.1**
SUSD	**Miller**	**8.29**	**350**	IAmb_Lg		01 09 52.6	
	comp=Z,79nm,0.7s						
P46A	**Rosedale**	**8.31**	**64**	Pn	**Pn**	**01 07 23.4**	**-0.7**
JFWS	**Jewell Farm**	**8.34**	**36**	Pn	**Pn**	**01 07 24.2**	**-0.3**
JFWS				IAmb_Lg		01 09 56.4	
	comp=Z,59nm,0.7s						
PHWY	**Pilot Hill**	**8.37**	**309**	Pn	**Pn**	**01 07 23.8**	**-1.4**
PHWY				IAmb_Lg		01 10 07.0	
	comp=Z,43nm,0.8s						
MNTX	**Cornudas Mount**	**8.44**	**239**		**Pn**	**01 07 25.1**	**-0.8**
CLTN	**Cedars of Leba**	**8.51**	**88**	Pn	**Pn**	**01 07 26.4**	**-0.5**
CLTN				IAmb_Lg		01 09 54.6	
	comp=Z,56nm,0.9s						
SMCO	**Snowmass**	**8.51**	**293**	Pn	**Pn**	**01 07 26.5**	**-0.8**
M44A	**Midewin, Midew**	**8.55**	**51**	Pn	**Pn**	**01 07 27.7**	**+0.4**
LENM	**Lemitar**	**8.55**	**259**	Pn	**Pn**	**01 07 27.2**	**-0.4**
WCI	**Wyandotte Cave**	**8.64**	**74**	Pn	**Pn**	**01 07 29.0**	**+0.4**
WCI					**Sn**	**01 09 06.1**	**-0.3**
BLO	**Bloomington**	**8.67**	**68**	Pn	**Pn**	**01 07 30.0**	**+0.9**
SFIN	**Lafayette**	**8.68**	**59**	Pn	**Pn**	**01 07 29.3**	**+0.1**
SFIN					**Sn**	**01 09 08.1**	**+0.7**
LRAL	**Lakeview Retre**	**8.75**	**109**		**Pn**	**01 07 30.7**	**+0.6**
LRAL	**Lakeview Retre**	**8.75**	**109**	P		01 07 29.7	
	baz=295,SNR=5.9						
HQIL	**Hanson Quary C**	**8.90**	**49**	Pn	**Pn**	**01 07 32.8**	**+0.6**
Y49A	**Blount Mountai**	**8.90**	**103**	Pn	**Pn**	**01 07 32.8**	**+0.5**
Y49A				IAmb_Lg		01 10 19.2	
	comp=Z,35nm,0.8s						
U49A	**Red Boiling Sp**	**8.93**	**85**	Pn	**Pn**	**01 07 33.3**	**+0.6**
U49A				IAmb_Lg		01 10 21.5	
	comp=Z,70nm,1.0s						
SWET	**Sewanee**	**8.95**	**94**	Pn	**Pn**	**01 07 33.4**	**+0.5**
SWET				IAmb_Lg		01 10 03.1	
	comp=Z,79nm,1.0s						
I40A	**Norwalk**	**8.96**	**30**		**Pn**	**01 07 31.7**	**-1.3**
I40A				IAmb_Lg		01 10 21.8	
	comp=Z,36nm,0.7s						
I40A	**Norwalk**	**8.96**	**30**	P		01 07 32.3	
	baz=214,SNR=11						
TX31	**Lajitas Ar. Si**	**9.00**	**221**		**Pn**	**01 07 33.5**	**-0.3**
TX32	**Lajitas Array**	**9.00**	**221**		**Pn**	**01 07 32.6**	**-1.1**
TXAR	**Lajitas Array**	**9.00**	**221**	Pn	**Pn**	**01 07 31.7**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=8.3						
TXAR				Lg	Lg	01 10 01.0	
	comp=Z,1.2nm,0.3s,baz=46,slow=25,SNR=3.3						
TXAR	**Lajitas Array**	**9.00**	**221**	Pn	**Pn**	**01 07 33.9**	**+0.2**
L44A	**Lake County Fo**	**9.09**	**47**	Pn	**Pn**	**01 07 34.8**	**+0.1**
L44A				IAmb_Lg		01 10 11.4	
	comp=Z,76nm,0.7s						
K43A	**Burlington**	**9.18**	**43**	Pn	**Pn**	**01 07

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
S51A	**Beattyville**	**10.70**	**79**		**Pn**	**01 07 56.9**	**+0.1**
H43A	**Windswept, Lux**	**10.70**	**38**	Pn	**Pn**	**01 07 55.3**	**-1.5**
V52A	**Sevierville**	**10.74**	**89**	Pn	**Pn**	**01 07 57.3**	**-0.2**
N49A	**Columbus Grove**	**10.93**	**61**	Pn	**Pn**	**01 08 00.4**	**+0.4**
Q51A	**Peebles**	**11.05**	**72**	Pn	**Pn**	**01 08 01.7**	**+0.1**
L48A	**N Adams**	**11.17**	**56**	Pn	**Pn**	**01 08 02.0**	**-1.2**
P51A	**Williamsport**	**11.35**	**70**	Pn	**Pn**	**01 08 07.5**	**+1.7**
COWI	**Conover**	**11.38**	**28**		**Pn**	**01 08 04.8**	**-1.3**
J47A	**Sunmer**	**11.56**	**50**	Pn	**Pn**	**01 08 08.9**	**+0.4**
PDAR	**Pinedale Array**	**11.74**	**307**	Pn	**Pn**	**01 08 09.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=114,slow=15,SNR=4.0						
PDAR				Pg		01 08 57.4	
	comp=Z,0.4nm,0.3s,baz=108,slow=17,SNR=7.5						
PDAR				Lg	Lg	01 11 28.0	
	comp=Z,0.5nm,0.3s,baz=108,slow=35,SNR=1.9						
S54A	**Dingess, Beckl**	**12.51**	**78**		**Pn**	**01 08 20.9**	**-0.8**
S54A	**Dingess, Beckl**	**12.51**	**78**	P		01 08 20.9	
	baz=268,SNR=5.6						
S54A				P		01 08 20.9	
	baz=268,SNR=5.6						
R55A	**Marlinton**	**13.47**	**77**	P		01 08 34.3	
	baz=267,SNR=5.8						
R55A				P		01 08 34.3	
	baz=267,SNR=5.8						
ULM	**Lac du Bonnet**	**13.96**	**3**	Pn	**Pn**	**01 08 36.9**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=184,slow=12,SNR=3.0						
ULM				Sn	Sn	01 11 03.6	-13
	comp=Z,0.8nm,0.3s,baz=86,slow=22,SNR=2.3						
ULM				Lg	Lg	01 12 31.6	
	comp=Z,0.0nm,0.3s,baz=97,slow=22,SNR=1.8						
ILAR	**Eielson Array**	**40.98**	**330**	P	**P**	**01 13 06.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=101,slow=7.5,SNR=5.2						

*ISK **04** 01:26:02.8, 35°.81N×27°.16E, h17km, ML3.0/12*
*ATH **04** 01:26:02.4, 35°.73N×27°.26E, h15km±3km, ML3.3/4, Error ellipse: s-maj=4.7km s-min=1.0km az=164.0*
*THE **04** 01:26:02.7, 35°.75N×27°.26E, h3km±2km, ML3.0/7, Error ellipse: s-maj=2.8km s-min=0.7km az=113.0*
*NIC **04** 01:26:02.0±0.0, 35°.71N×27°.28E, h16km, Ml3.7/4*
*DDA **04** 01:26:04.6, 35°.82N×27°.35E, h35km±2km, ML2.8*
ISC 04 01:26:02.1±0.8, 35°.74N±0°.02×27°.29E±0°.02, h14km±7km, n65, σ0°77/92, 3C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.21**	**208**	P	**Pg**	**01 26 07.0**	**+0.1**
KARP				S	**Sg**	**01 26 10.3**	**+0.1**
	58μm,0.2s						
KARP	**Karpathos**	**0.21**	**208**	P	**Pg**	**01 26 07.0**	**+0.1**
KARP				S	**Sg**	**01 26 10.2**	**+0.1**
KARP				AML	AML	01 26 10.4	
	comp=N,60972μm,0.1s						
KARP				AML	AML	01 26 10.7	
KARP	**Karpathos**	**0.21**	**208**	P	**Pg**	**01 26 07.0**	**+0.1**
KARP				AML	AML	01 26 10.0	
	comp=N,61nm,0.1s						
KARP				AML	AML	01 26 10.0	
	comp=N,61nm,0.1s						
KARP				AML	AML	01 26 10.3	
	comp=N,151nm,0.1s						
KARP				AML	AML	01 26 10.3	
	comp=N,151nm,0.1s						
KARP				S	**Sg**	**01 26 10.3**	**+0.1**
ARG	**Arkhangelos**	**0.83**	**55**	P	**Pb**	**01 26 18.3**	**0.0**
ARG				S	**Sn**	**01 26 31.2**	**-0.2**
	comp=N,1μm,0.2s						
ARG	**Arkhangelos**	**0.83**	**55**	P	**Pb**	**01 26 18.3**	**0.0**
ARG				S	**Sb**	**01 26 30.1**	**+0.7**
ARG				AML	AML	01 26 33.0	
	comp=N,1847μm,0.2s						
ARG				AML	AML	01 26 34.6	
	comp=E,2945μm,0.2s						
ARG	**Arkhangelos**	**0.83**	**55**	P	**Pb**	**01 26 18.2**	**0.0**
ARG				S	**Sn**	**01 26 30.7**	**-0.7**
NIS1	**Nisyros Isl.**	**0.87**	**354**	P	**Pb**	**01 26 18.8**	**-0.2**
NIS1				S	**Sn**	**01 26 32.4**	**+0.1**
	comp=E,2μm,0.7s						
NIS1	**Nisyros Isl.**	**0.87**	**354**	P	**Pb**	**01 26 18.7**	**-0.2**
NIS1				AML	AML	01 26 40.7	
	comp=E,3967μm,0.3s						
NIS1				AML	AML	01 26 42.1	
	comp=N,4676μm,0.7s						
NISR	**Nisiros**	**0.88**	**352**	P	**Pn**	**01 26 19.7**	**-0.3**
NISR				S	**Sn**	**01 26 32.3**	**-0.3**
NISR	**Nisiros**	**0.88**	**352**	P	**Pn**	**01 26 19.7**	**-0.3**
DAT	**Datca**	**1.02**	**13**	P	**Pg**	**01 26 21.8**	**0.0**
DAT				S	**Sn**	**01 26 36.0**	**-0.2**
DAT	**Datca**	**1.02**	**13**	PG	**Pn**	**01 26 22.1**	**+0.1**
DAT				SG	**Sn**	**01 26 36.2**	**0.0**
KOSK	**Kos Island**	**1.04**	**346**	P	**Pg**	**01 26 22.2**	**0.0**
KOSK				S	**Sn**	**01 26 37.1**	**+0.5**
	comp=N,532nm,0.5s						
ZKR	**Zakros**	**1.07**	**235**	P	**Pb**	**01 26 22.1**	**-0.3**
ZKR				S	**Sn**	**01 26 38.4**	**+1.1**
	comp=N,720nm,0.5s						
ZKR	**Zakros**	**1.07**	**235**	P	**Pb**	**01 26 22.1**	**-0.3**
ZKR				AML	AML	01 26 40.6	
	comp=N,712μm,0.5s						
ZKR				AML	AML	01 26 46.5	
	comp=E,2039μm,0.4s						
ZKR	**Zakros**	**1.07**	**235**	P	**Pb**	**01 26 22.0**	**-0.4**
ZKR				S	**Sn**	**01 26 37.0**	**-0.3**
STIA	**Sitia Lasithi**	**1.11**	**242**	P	**Pn**	**01 26 23.0**	**-0.2**
STIA				S	**Sn**	**01 26 39.0**	**+0.8**
TURN	**Turunc**	**1.29**	**37**	*i* P	**Pb**	**01 26 26.0**	**-0.1**
TURN				*i* S	**Sg**	**01 26 43.7**	**-0.2**
TURN				IAML		01 26 49.0	
	comp=E,204nm,0.2s						
TURN	**Turunc**	**1.29**	**37**	PN	**Pb**	**01 26 26.5**	**+0.3**
TURN				SN	**Sg**	**01 26 44.2**	**+0.3**
BODT	**Bodrum**	**1.32**	**1**	PN	**Pn**	**01 26 26.2**	**+0.1**
BODT				SN	**Sb**	**01 26 43.1**	**-0.4**
BDRM	**Kayabasi**	**1.33**	**5**	IAML		01 26 26.0	
	comp=E,179nm,2.1s						
BDRM				*i* P	**Pg**	**01 26 27.9**	**+0.1**
BDRM				*i* P	**Pb**	**01 26 28.0**	**+1.2**
BDRM				*i* S	**Sb**	**01 26 40.9**	**-2.8**
BDRM				IAML		01 26 47.0	
	comp=E,141nm,0.4s						
NPS	**Neapolis**	**1.44**	**251**	P	**Pn**	**01 26 28.0**	**+0.2**
NPS				S	**Sn**	**01 26 46.4**	**-0.1**
	comp=E,590nm,0.4s						
NPS	**Neapolis**	**1.44**	**251**	P	**Pn**	**01 26 28.0**	**+0.2**
FRMA	**Ierapetra Chan**	**1.46**	**241**	P	**Pn**	**01 26 27.5**	**-0.4**
FRMA				S	**Sn**	**01 26 46.4**	**-0.4**
	comp=E,242nm,0.8s						
DALY	**Dalyan (Mula)**	**1.54**	**45**	*i* P	**Pg**	**01 26 31.6**	**-0.1**
DALY				*i* S	**Sg**	**01 26 51.3**	**-0.6**
DALY				IAML		01 27 00.0	
	comp=N,141nm,0.4s						
DALY	**Dalyan (Mula)**	**1.54**	**45**	PN	**Pb**	**01 26 30.8**	**+0.4**
LAST	**Lasithi**	**1.58**	**249**	P	**Pn**	**01 26 30.3**	**+0.6**
LAST	**Lasithi**	**1.58**	**249**	P	**Pn**	**01 26 30.1**	**+0.4**
MLSB	**Milas**	**1.61**	**14**	PN	**Pn**	**01 26 30.2**	**+0.2**
YER	**Yerkesik**	**1.61**	**30**	P	**Pb**	**01 26 31.1**	**-0.5**
YER	**Yerkesik**	**1.61**	**30**	PN	**Pb**	**01 26 31.1**	**-0.5**
FETY	**Fethiye**	**1.71**	**58**	P	**Pb**	**01 26 33.5**	**+0.2**
FETY	**Fethiye**	**1.71**	**58**	PN	**Pb**	**01 26 33.4**	**+0.2**
DDIM	**Aydin, Didim**	**1.72**	**359**	*i* P	**Pg**	**01 26 34.7**	**-0.4**
MULA	**Mugla, Merkez-**	**1.73**	**29**	*i* P	**Pn**	**01 26 32.6**	**+0.8**
MULA				*i* S	**Sb**	**01 26 55.4**	**+0.1**
MULA				IAML		01 27 01.0	
	comp=E,141nm,0.4s						
KSL	**Kastellorizon**	**1.91**	**77**	P	**Pb**	**01 26 36.1**	**-0.6**
KSL	**Kastellorizon**	**1.91**	**77**	P	**Pb**	**01 26 35.9**	**-0.7**
KSL	**Kastellorizon**	**1.91**	**77**	⇓P	**Pn**	**01 26 35.0**	**+0.8**
APE	**Apeiranthos**	**1.94**	**314**	P	**Pn**	**01 26 35.8**	**+1.1**
APE	**Apeiranthos**	**1.94**	**314**	P	**Pn**	**01 26 35.0**	**+0.4**
APE				S	**Sn**	**01 26 59.9**	**+1.0**
AKAS	**Kas**	**1.95**	**75**	*i* P	**Pb**	**01 26 36.5**	**-0.8**
AKAS	**Kas**	**1.95**	**75**	PN	**Pb**	**01 26 36.6**	**-0.8**
GCAM	**G?zelcaml?**	**1.96**	**359**	*i* P	**Pb**	**01 26 37.5**	**0.0**
GCAM	**G?zelcaml?**	**1.96**	**359**	PN	**Pn**	**01 26 35.7**	**+0.9**
AYDN	**Tasoluk**	**1.98**	**14**	*i* P	**Pn**	**01 26 35.9**	**+0.7**
CAEL	**Denizli, Camel**	**2.15**	**49**	*i* P	**Pb**	**01 26 40.6**	**-0.2**
TAVA	**DENIZLI_Tavas**	**2.17**	**37**	*i* P	**Pb**	**01 26 41.1**	**0.0**
TAVA				*i* S	**Sb**	**01 27 08.7**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.26**	**12**	PN	**Pn**	**01 26 39.2**	**+0.1**
ELL	**Elmali**	**2.35**	**64**	PN	**Pb**	**01 26 43.1**	**-1.1**
GOLH	**Golhisar**	**2.37**	**50**	*i* P	**Pb**	**01 26 43.3**	**-1.3**
GOLH				*i* S	**Sb**	**01 27 15.8**	**+2.1**
GOLH				IAML		01 27 21.0	
	comp=N,60nm,0.4s						
AKUM	**Antalya-Kumluc**	**2.55**	**76**	*i* P	**Pn**	**01 26 44.9**	**+2.0**
AKUM				*i* S	**Sb**	**01 27 16.5**	**-2.2**
KORT	**Korkueli**	**2.78**	**62**	*i* P	**Pb**	**01 26 50.2**	**-1.3**
KORT	**Korkueli**	**2.78**	**62**	PN	**Pn**	**01 26 48.7**	**+2.5**
MANT	**Manisa**	**2.93**	**20**	*i* P	**Pn**	**01 26 48.7**	**+0.3**
PASA	**Karahalli, USA**	**3.15**	**33**	*i* P	**Pn**	**01 26 52.2**	**+0.9**
DEMI	**Demirci**	**3.49**	**19**	*i* P	**Pn**	**01 26 56.1**	**+0.1**
OSC1	**CSNet OBS 1**	**3.98**	**123**	S	**Sn**	**01 27 49.9**	**+0.9**
GAZI	**Gazipasa**	**4.11**	**82**	*i* P	**Pn**	**01 27 03.7**	**-0.8**
AKMS	**Akamas**	**4.19**	**98**	⇓P	**Pn**	**01 27 05.7**	**+0.2**
AKMS				AML	AML	01 27 54.1	
	comp=N,0.3nm,0.3s						
AKMS				AML	AML	01 27 54.2	
	comp=N,0.2nm,0.2s						
ALFC	**Alefka**	**4.38**	**96**	P	**Pn**	**01 27 08.5**	**+0.3**
ALFC				AML	AML	01 27 59.0	
	comp=N,0.1nm,0.2s						
ALFC				AML	AML	01 27 59.9	
	comp=N,0.2nm,0.3s						
NATA	**Nata**	**4.43**	**101**	⇑P	**Pn**	**01 27 09.2**	**+0.4**
SZAC	**Souni**	**4.68**	**100**	P	**Pn**	**01 27 12.7**	**+0.3**
SZAC				AML	AML	01 28 05.8	
	comp=N,0.2nm,0.4s						
SZAC				AML	AML	01 28 06.6	
	comp=N,0.2nm,0.4s						
ASGA	**Asgata**	**4.97**	**99**	⇑P	**Pn**	**01 27 16.3**	**+0.1**
CSS	**Mathiatis**	**5.00**	**97**	⇑P	**Pn**	**01 27 17.5**	**+0.8**
MVOU	**Mavrovouni**	**5.24**	**96**	P	**Pn**	**01 27 20.1**	**+0.2**

*NEIC **04** 01:33:45.2±1.4, 4°.65S±0°.1×153°.70E±0°.09, h92km±6km, mb4.5/30, Error ellipse: s-maj=14.8km s-min=12.1km az=196.0*
*DJA **04** 01:33:45.1±1.3, 4°.5S±6°×15°.4E±1°.3, h113km±8km, M4.9/13, mB5.2/2, mb4.9/13, MLv4.9/1, Mw(mB)4.6/2*
*IDC **04** 01:33:46.5±3.4, 4°.63S×153°.67E, h109km±29km, mb4.1/14, mb1 4.3/15, mb1mx4.0/38, mbtmp4.5/15, MS3.2/4, Ms1 3.2/4, ms1mx2.9/29, Error ellipse: s-maj=21.6km s-min=13.1km az=89.0*
ISC 04 01:33:43.8±0.5, 4°.59S±0°.07×153°.74E±0°.09, h85km, n71, σ1°31/71, mb4.5/35, 1C-1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.62**	**284**		**Pn**	**01 34 12.3**	**+1.4**
RABL	**Rabaul**	**1.62**	**284**	P	**Pn**	**01 34 12.7**	**+1.8**
PMG	**Port Moresby**	**8.10**	**233**	P	**Pn**	**01 35 40.5**	**+1.8**
	13nm,0.3s,baz=29,slow=5.4,SNR=42						
PMG				S	**Sn**	**01 37 08.9**	**+0.2**
	3.4nm,0.3s,baz=159,slow=22,SNR=3.1						
PMG				LR	LR	01 39 01.0	
	comp=Z,172nm,20.0s,baz=41,slow=39						
PMG	**Port Moresby**	**8.10**	**233**	Pn	**Pn**	**01 35 40.8**	**+2.1**
PMG	**Port Moresby**	**8.10**	**233**	P	**Pn**	**01 35 42.6**	**+3.9**
PMG	**Port Moresby**	**8.10**	**233**	P	**Pn**	**01 35 42.6**	**+3.9**
DZM	**Mont Dzumac**	**21.30**	**146**	P	**P**	**01 38 24.9**	**+1.0**
	10nm,0.9s,baz=284,slow=3.1,SNR=5.9						
DZM	**Mont Dzumac**	**21.30**	**146**	IAmb	IAmb	01 38 52.2	
	comp=Z,52nm,1.5s						
WB0	**Warramunga Arr**	**24.14**	**230**	P	**P**	**01 38 51.8**	**-0.4**
WR0	**Warramunga Arr**	**24.15**	**229**	P	**P**	**01 38 52.3**	**+0.1**
WR0				IAmb	IAmb	01 38 53.7	
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**24.27**	**229**	P	**P**	**01 38 53.4**	**+0.1**
WB2	**Warramunga Arr**	**24.28**	**229**	P	**P**	**01 38 53.5**	**+0.1**
WB2				IAmb	IAmb	01 38 55.0	
	comp=Z,40nm,1.0s						
WRA	**Warramunga Arr**	**24.29**	**229**	P	**P**	**01 38 53.0**	**-0.5**
	comp=Z,31nm,0.8s,baz=55,slow=10,SNR=191						
ARMA	**Armidale**	**25.77**	**184**	P	**P**	**01 39 07.6**	**+0.7**
ARMA				IAmb	IAmb	01 39 08.5	
	comp=Z,15nm,0.9s						
AS31	**Alice Springs**	**26.94**	**223**	P	**P**	**01 39 16.6**	**-0.9**
ASAR	**Alice Springs**	**26.94**	**223**	P	**P**	**01 39 17.0**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=54,slow=8.7,SNR=31						
ASAR				PcP	**PcP**	**01 42 37.7**	**0.0**
	comp=Z,1.7nm,0.9s,baz=75,slow=2.7,SNR=6.3						
ASAR	**Alice Springs**	**26.94**	**223**	P	**P**	**01 39 17.2**	**-0.3**
STKA	**Stephens Creek**	**29.44**	**201**	P	**P**	**01 39 39.3**	**-0.3**
	comp=Z,4.3nm,0.5s,baz=14,slow=8.0,SNR=14						
STKA				LR	LR	01 50 55.5	
	comp=Z,73nm,18.6s,baz=29,slow=35						
STKA	**Stephens Creek**	**29.44**	**201**	P	**P**	**01 39 39.0**	**-0.6**
EDFI	**Ende, Flores**	**32.09**	**261**	P	**P**	**01 40 00.9**	**-2.4**
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**35.55**	**220**	P	**P**	**01 40 32.0**	**-0.9**
PSA00	**Pilbara Seismi**	**36.94**	**240**	P	**P**	**01 40 43.4**	**-1.6**
YULB	**Yu-li**	**42.13**	**313**	P	**P**	**01 41 27.2**	**-0.9**
YULB				IAmb	IAmb	01 41 31.0	
	comp=Z,7.2nm,0.8s						
CISI	**Cisompet, Garu**	**45.74**	**264**	P	**P**	**01 41 55.9**	**-1.3**
KSRS	**Korea Array**	**48.24**	**332**	P	**P**	**01 42 16.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=148,slow=9.3,SNR=11						
KSRS				LR	LR	02 02 45.0	
	comp=Z,14nm,18.1s,baz=40,slow=36						
KSAR	**Wonju Array Be**	**48.24**	**332**	P	**P**	**01 42 16.1**	**-0.2**
NJ2	**Nanjing**	**49.27**	**320**	*e*P	**P**	**01 42 26.6**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
ASAJ	**Asahikawa**	**49.51**	**349**	LR	LR	01 58 10.9	
	comp=Z,29nm,21.9s,baz=158,slow=30						
KLR	**Kul'dur**	**56.91**	**343**	P	**P**	**01 43 20.4**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=198,slow=2.9,SNR=5.7						
XAN	**Xi'an**	**57.11**	**316**	P	**P**	**01 43 21.6**	**-0.2**
XAN				pP	pwP	01 43 45.6	-1.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PETK	**Petropavlovsk-**	**57.58**	**3**	P	**P**	**01 43 26.1**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=184,slow=10,SNR=7.2						
KMI	**Kunming**	**57.64**	**303**	⇑P	**P**	**01 43 27.4**	**+1.5**
KMI				pmax	pmax		
	comp=Z,13nm,1.1s						
CM05	**Chiang Mai Arr**	**58.61**	**295**	P	**P**	**01 43 35.7**	**+3.2**
CMAR	**Chiang Mai Arr**	**58.63**	**295**	P	**P**	**01 43 33.5**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=90,slow=3.5,SNR=12						
CMAR	**Chiang Mai Arr**	**58.63**	**295**	P	**P**	**01 43 32.4**	**-0.3**
CD2	**Chengdu**	**59.31**	**310**	P	**P**	**01 43 37.9**	**+0.7**
CD2				pmax	pmax		
	comp=Z,40nm,0.8s						
HHC	**Hu-ho-hao-te**	**59.42**	**324**	*e*P	**P**	**01 43 40.9**	**+3.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,40nm,5.8s						
LZH	**Lanzhou**	**61.73**	**315**	*e*P	**P**	**01 43 54.5**	**+0.8**
LZH				pP	pP	01 44 09.6	-4.5
LZH				sP	pwP	01 44 16.4	-2.5
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
GTA	**Gaotai**	**66.14**	**317**	⇓P	**P**	**01 44 24.0**	**+1.5**
GTA				pP	sP	01 44 50.3	-1.8
GTA				sP	PcP	01 44 59.0	+6.7
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ULN	**Ulaanbaatar**	**66.31**	**328**	P	**P**	**01 44 23.4**	**-0.1**
SONM	**Songino Array**	**66.64**	**327**	P	**P**	**01 44 25.8**	**+0.2**
SEY	**Seymchan**	**67.34**	**359**	P	**P**	**01 44 30.3**	**+0.8**
	comp=Z,1.1nm,0.2s,baz=34,slow=22,SNR=4.4						
VNDA	**Vanda**	**73.01**	**178**	P	**P**	**01 45 04.5**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=335,slow=5.3,SNR=9.8						
VNDA	**Vanda**	**73.01**	**178**	P	**P**	**01 45 04.7**	**+0.7**
VNDA				IAmb	IAmb	01 45 05.3	
	comp=Z,3.6nm,1.1s						
WMQ	**Urumqi**	**76.22**	**317**	*e*P	**P**	**01 45 25.5**	**+2.3**
MCK	**McKinley**	**80.31**	**22**	IAmb	IAmb	01 45 46.5	
	comp=Z,7.4nm,1.0s						
MLY	**Manley**	**80.35**	**21**	P	**P**	**01 45 45.4**	**-0.1**
MK31	**Makanchi Array**	**80.78**	**319**	P	**P**	**01 45 48.1**	**-0.1**
MK31				IAmb	IAmb	01 45 49.5	
	comp=Z,4.2nm,1.1s						
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**	**01 45 48.1**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=106,slow=5.8,SNR=21						
MAKZ	**Makanchi**	**80.99**	**319**	P	**P**	**01 45 49.5**	**+0.2**
MAKZ				IAmb	IAmb	01 45 50.5	
	comp=Z,6.0nm,0.9s						
CCB	**Clear Creek Bu**	**81.21**	**22**	P	**P**	**01 45 50.0**	**0.0**
ZAA0	**Zalesovo Array**	**81.49**	**326**	P	**P**	**01 45 51.3**	**-0.4**
ZALV	**Zalesovo Beam**	**81.49**	**326**	P	**P**	**01 45 49.7**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=122,slow=7.5,SNR=4.9						
IL31		**81.61**	**22**	P	**P**	**01 45 51.3**	**-0.8**
ILAR	**Eielson Array**	**81.61**	**22**	P	**P**	**01 45 51.4**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=254,slow=5.4,SNR=14						
ILAR	**Eielson Array**	**81.61**	**22**	P	**P**	**01 45 51.6**	**-0.6**
DOT	**Dot Lake**	**82.16**	**23**	P	**P**	**01 45 55.2**	**+0.1**
DOT				IAmb	IAmb	01 45 56.5	
	comp=Z,4.4nm,0.9s						
BOOM	**Boomskoye usch**	**84.12**	**313**	P	**P**	**01 46 05.9**	**0.0**
BOOM				IAmb	IAmb	01 46 07.7	
	comp=Z,6.3nm,0.8s						
NIL	**Nilore**	**84.62**	**304**	P	**P**	**01 46 07.5**	**-0.9**
AAK	**Ala-Archa**	**85.20**	**313**	P	**P**	**01 46 11.3**	**0.0**
AAK				IAmb	IAmb	01 46 12.8	
	comp=Z,6.3nm,0.8s						
QSPA	**South Pole Qui**	**85.37**	**180**	P	**P**	**01 46 12.1**	**+0.5**
QSPA				IAmb	IAmb	01 46 13.4	
	comp=Z,14nm,1.4s						
MAW	**Mawson**	**86.13**	**203**	P	**P**	**01 46 14.5**	**-0.6**
	comp=Z,8.2nm,0.8s,baz=80,slow=6.3,SNR=16						
MAW	**Mawson**	**86.13**	**203**	P	**P**	**01 46 14.7**	**-0.5**
MAW				IAmb	IAmb	01 46 15.6	
	comp=Z,2.1nm,0.9s						
KK31	**Karatay Array**	**88.16**	**313**	P	**P**	**01 46 24.4**	**-1.2**
KK31				IAmb	IAmb	01 46 25.5	
	comp=Z,2.3nm,1.1s						
KKAR	**Karatay Array**	**88.16**	**313**	P	**P**	**01 46 25.2**	**-0.4**
BRVK	**Borovoye**	**89.70**	**323**	P	**P**	**01 46 31.7**	**-0.8**
BRVK				IAmb	IAmb	01 46 32.4	
	comp=Z,5.2nm,1.1s						
KNB	**Kanab**	**95.48**	**53**	P	**P**	**01 46 59.4**	**-0.4**
ABKAR	**Akbulak array**	**95.92**	**319**	P	**P**	**01 46 59.2**	**-2.0**
GERES	**GERESS Array B**	**124.36**	**329**	PKP	**PKPdf**	**01 52 32.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=90,slow=1.7,SNR=3.8						
BDFB	**Brasilia**	**150.55**	**133**	PKPbc	**PKPbc**	**01 53 25.9**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=159,slow=6.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.12**	**289**	PKPbc	**PKPbc**	**01 53 27.0**	**-1.3**
	comp=Z,5.6nm,0.8s,baz=54,slow=2.1,SNR=21						
TORD				PKPab	**PKPab**	**01 53 35.6**	**-0.7**
	comp=Z,4.0nm,0.6s,baz=76,slow=4.4,SNR=11						

IDC 04 01:34:28.7±5.2, 16°.62S×175°.00W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/38, mbtmp4.3/3, Error ellipse: s-maj=177.9km s-min=103.8km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.10**	**241**	P	P	01 42 23.4	+0.6
	0.8nm,0.4s,baz=82,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**48.08**	**258**	P	P	01 43 10.2	-0.3
	1.5nm,0.4s,baz=95,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**48.28**	**253**	P	P	01 43 11.6	-0.5
	3.4nm,0.4s,baz=89,slow=8.2,SNR=39						
ASAR				PcP	PcP	01 44 39.0	-0.1
	0.5nm,0.5s,baz=101,slow=4.1,SNR=4.3						

*IDC **04** 01:40:42.4±0.7, 29°.98N×143°.22E, h0km, mb4.0/11, mb1 4.2/14, mb1mx4.0/42, mbtmp4.0/14, ML3.4/3, MS3.0/2, Ms1 3.1/2, ms1mx2.6/38, Error ellipse: s-maj=25.7km s-min=16.3km az=92.0*
*NEIC **04** 01:40:43.8±1.3, 29°.98N±0°.06×143°.25E±0°.10, h9km±4km, mb4.3/13, Error ellipse: s-maj=13.1km s-min=7.8km az=115.0*
ISC 04 01:40:46.5±0.6, 29°.97N±0°.06×143°.1E±0°.1, h30km, n42, σ1°42/41, mb4.1/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.99**	**197**	Pn	**Pn**	**01 41 30.9**	**-0.9**
	12nm,0.3s,baz=87,slow=23,SNR=18						
JCJ				Sn	**Sn**	**01 42 04.4**	**-2.3**
	22nm,0.3s,baz=284,slow=23,SNR=5.1						
JSG	**Sagara**	**6.29**	**319**	Pn	**Pn**	**01 42 17.5**	**+0.3**
JYT	**Yasato**	**6.71**	**339**	Pn	**Pn**	**01 42 23.5**	**+0.5**
MJAR	**Matsushiro Arr**	**7.74**	**329**	Pn	**Pn**	**01 42 35.2**	**-2.0**
	0.2nm,0.3s,baz=154,slow=12,SNR=3.1						
MAJO	**Matsushiro**	**7.75**	**329**	Pn	**Pn**	**01 42 36.1**	**-1.2**
MAT	**Matsushiro**	**7.75**	**329**	P	**Pn**	**01 42 35.4**	**-1.8**
MAT				*e*S	**Sn**	**01 43 58.2**	**-5.7**
MJB9	**Matsu-Tunnel**	**7.75**	**329**	Pn	**Pn**	**01 42 35.7**	**-1.6**
ERM	**Erimo**	**12.02**	**0**	Pn	**Pn**	**01 43 33.8**	**-1.9**
ASAJ	**Asahikawa**	**14.13**	**358**	LR	LR	01 48 29.

HATJ	Hateruma jima	1.19	51	P	Pn	01 55 34.8	+0.5
HATJ				S	Sn	01 55 49.1	-0.7
TEGC	Jichi Village	1.22	290	eP	Pn	01 55 35.4	+0.6
TEGC	baz=289			eS	Sb	01 55 49.9	-1.0
TEYL	Yanliau Villag	1.24	297	eP	Pn	01 55 35.7	+0.7
TEYL	baz=299			eS	Sn	01 55 50.4	-0.6
ECBN	Changbin	1.24	271	eP	Pb	01 55 36.2	+0.4
ECBN	baz=268			eS	Sn	01 55 50.3	-0.7
HGSD	Ruisui	1.28	279	eP	Pn	01 55 35.5	0.0
HGSD	baz=277			eS	Sn	01 55 49.9	-2.1
EGFH	Guangfu	1.31	286	eP	Pb	01 55 37.3	+0.3
EGFH	baz=285			eS	Sn	01 55 51.8	-1.0
CHKT	Chengkung	1.33	262	eS	Sn	01 55 51.9	-1.5
IRIF	Iriomote-Funau	1.34	40	P	Pn	01 55 37.0	+0.6
IRIF				S	Sn	01 55 53.1	-0.3
TWD	Chiawan	1.35	305	eP	Pn	01 55 36.4	-0.1
TWD	baz=306			eS	Sn	01 55 51.9	-1.7
ESL	Shilin	1.35	292	eS	Sn	01 55 51.4	-2.4
ETM	Tongmen	1.37	299	eS	Sn	01 55 52.4	-1.8
EHY	Hungye	1.37	279	eP	Pn	01 55 37.2	+0.3
EHY	baz=277			eS	Sn	01 55 53.0	-1.4
LDUT	Ludao	1.38	243	eS	Sn	01 55 53.0	-1.4
TWF1	Yuli	1.38	272	P	Pn	01 55 37.4	+0.4
TWF1	baz=270			S	Sn	01 55 54.2	-0.4
YULB	Yu-li	1.38	274	eP	Pn	01 55 37.6	+0.6
YULB	baz=272			eS	Sn	01 55 54.4	-0.2
FULB	Fuli	1.39	266	eS	Sn	01 55 52.9	-1.8
NACB	Ninganchiao	1.40	308	eP	Pn	01 55 37.1	-0.2
NACB	baz=309			eS	Sn	01 55 53.1	-2.0
EDH	Donghe	1.41	257	eS	Sn	01 55 54.8	-0.6
JKRS	Kuro-shima	1.45	50	P	Pn	01 55 38.5	+0.6
JKRS				eS	Sn	01 55 55.9	-0.3
ECS	Chishang	1.47	262	eS	Sn	01 55 57.1	+0.4
EWUT	Wuta	1.47	321	eP	Pn	01 55 39.1	+0.9
EWUT	baz=322			eS	Sn	01 55 56.8	0.0
ETLH	Xiulin Townshi	1.50	307	eP	Pn	01 55 38.8	0.0
ETLH	baz=307			eS	Sn	01 55 56.4	-1.3
TWC	Suao	1.56	326	eS	Sn	01 55 57.9	-1.2
JIJ	Ishigaki jima	1.62	49	P	Pn	01 55 40.8	+0.5
JIJ				S	Sn	01 55 59.2	-1.3
WHF	Hehuan Shan	1.64	301	eP	Pn	01 55 41.4	+0.5
WHF	baz=301			eS	Sn	01 55 59.6	-1.8
ELDTW	Lidau	1.64	266	eS	Sn	01 55 59.7	-1.4
NDS	Dongshan	1.65	323	eP	Pn	01 55 42.0	+1.2
NDS	baz=325			eS	Sn	01 56 00.8	-0.5
TWGBT	Beinan	1.65	253	eS	Sn	01 56 01.6	+0.3
CHGB	Renai	1.67	297	eP	Pn	01 55 42.1	+1.0
CHGB	baz=297			eS	Sn	01 56 01.7	-0.3
FUSS	Fushou	1.71	304	eS	Sn	01 56 01.7	-1.2
NNS	Nan Shan	1.73	311	eP	Pn	01 55 42.9	+1.0
NNS	baz=312			eS	Sn	01 56 02.4	-0.9
ENTT	Nioudou	1.74	320	eP	Pn	01 55 42.9	+0.9
ENTT	baz=321			eS	Sn	01 56 03.5	0.0
NDT	Datong Townshi	1.75	318	eS	Sn	01 56 03.5	-0.1
SSLB	Suanglung	1.76	286	eP	Pn	01 55 42.8	+0.6
SSLB	baz=285			eS	Sn	01 56 03.5	-0.5
TWT	Tachien	1.76	303	eS	Sn	01 56 04.5	+0.3
TDCB	Techi	1.77	303	eS	Sn	01 56 04.5	0.0
ALS	Alishan	1.84	277	eP	Pn	01 55 44.8	+1.2
ALS	baz=275			eS	Sn	01 56 06.6	+0.2
TYC	Yuchr	1.88	289	eS	Sn	01 56 07.0	+0.2
YHNB	Yeheng	1.88	317	eP	Pn	01 55 45.3	+1.3
YHNB	baz=317			eS	Sn	01 56 06.7	-0.4
JISG	Ishigakijimahi	1.88	47	P	Pn	01 55 44.2	+0.3
JISG				eS	Sn	01 56 06.3	-0.7
TIPB	Shuangxi	1.88	332	eP	Pn	01 55 45.9	+2.0
TIPB	baz=333			eS	Sn	01 56 07.6	+0.6
WCS	Beigang Elemen	1.89	294	eP	Pn	01 55 45.7	+1.8
WCS	baz=293			eS	Sn	01 56 07.2	+0.2
WHP	Taichung City	1.95	300	eP	Pn	01 55 46.7	+1.7
WHP	baz=300			eS	Sn	01 56 09.2	+0.4
TPUB	Ta-pu	1.99	270	eP	Pb	01 55 48.7	0.0
TPUB	baz=268			eS	Sn	01 56 09.0	-0.7
EAST	Anshuo	2.02	243	eP	Pn	01 55 46.9	+1.1
CHN4	Tsaushan	2.03	272	eP	Pb	01 55 48.5	-0.7
NSTT	Nanjuang	2.11	309	eS	Sn	01 56 13.1	+0.6
MASBT	Mashibuluo	2.11	251	eP	Pn	01 55 49.0	+2.0
MASBT	baz=249			eS	Sn	01 56 12.7	+0.1
JTJ	Tarama	2.19	52	P	Pn	01 55 48.8	+0.7
JTJ				eS	Sn	01 56 14.0	-0.6

*TUL **04** 01:58:58.2±1.3, 36°.07N±0°.02×97°.45W±0°.05, h5km±7km, ML2.8, mb_Lg2.8/65(NEIC), Error ellipse: s-maj=6.6km s-min=1.8km az=69.0*

NEIC 04 01:58:57.8±1.1, 36°.07N±0°.01×97°.473W±0°.007, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=95.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.28	177		Pg	01 59 03.7	+0.5
BCOK	Bluff Creek, N	0.43	195	Pg	Pg	01 59 06.2	+0.1
OK025	Westminster Rd	0.50	167	Pg	Pg	01 59 07.5	0.0
OK031	S. Brethren Rd	0.53	103	Pg	Pg	01 59 07.6	-0.4
OK031				Sg	Sg	01 59 14.7	-0.1
OK030	Cody Creek RV	0.58	104	Pg	Pg	01 59 08.8	-0.1
CROK	Carrier	0.59	316		Pg	01 59 08.4	-0.9
CROK				Sg	Sb	01 59 18.5	-1.0
QUOK	Quay	0.63	81	Pg	Pg	01 59 09.4	-0.5
OKCFA	Oklahoma City	0.66	178		Pg	01 59 10.9	+0.4
OKCSW	OKLAHOMA CITY	0.67	178	Pg	Pg	01 59 10.1	-0.6
BLOK	Blackwell	0.72	17		Pg	01 59 11.5	-0.1
BLOK				Sg	Sg	01 59 21.0	+0.1
FNO	Franklin	0.82	176	Pg	Pg	01 59 13.2	-0.3
FNO				Sg	Sg	01 59 24.7	+0.6
KAN13	South Haven SW	0.94	360	Pg	Pg	01 59 15.3	-0.5
OK032	Salt Plains WL	0.94	321		Pg	01 59 15.5	-0.4
KAN17	Caldwell West	1.00	346	Pg	Pg	01 59 17.2	+0.2
KAN09	Caldwell North	1.07	354	Pg	Pg	01 59 18.0	-0.3
KAN05	Bluff City Nor	1.08	343		Pb	01 59 18.9	-0.2
T35A	Sooner Cattle	1.14	42		Pg	01 59 19.4	-0.4
KS20	Mayfield South	1.16	357	Pg	Pg	01 59 19.0	-1.0
KAN10	Anthony SW Sta	1.16	335		Pg	01 59 19.8	-0.3
KAN08	Anthony NE Sta	1.22	341		Pg	01 59 20.9	-0.3
U32A	Winter Ranch,	1.27	284		Pg	01 59 21.6	-0.6
KAN12	Harper NE Stat	1.29	341		Pn	01 59 22.0	-0.6
X34A	Smith Ranch, M	1.50	191		Pn	01 59 25.6	+0.2
WMOK	Wichita Mounta	1.71	219	Pn	Pn	01 59 28.8	+0.5
LOOK	Love County	2.09	173		Pn	01 59 34.5	+1.0
LOOK	comp=Z,31nm,0.7s			IAmb_Lg		02 00 08.1	
X37A	Clayton	2.27	130		Pn	01 59 36.4	+0.4
U38A	Gravette	2.52	81	Pn	Pn	01 59 39.9	+0.4
R32A	Long Quarter,	2.54	338	Pn	Pn	01 59 41.4	+1.6
Z35A	Perchaven, San	2.74	176	Pn	Pn	01 59 44.0	+1.5
HHAR	Hobbs	2.87	85		Pn	01 59 44.1	-0.1
W39A	Magazine	3.13	105		Pn	01 59 47.7	-0.1
W39A	comp=Z,19nm,0.9s			IAmb_Lg		02 00 38.0	
CBKS	Cedar Bluff	3.27	327	IAmb_Lg		02 00 49.3	
Z38A	comp=Z,19nm,0.8s Mt. Pleasant	3.48	143	IAmb_Lg		02 00 54.9	
MIAR	comp=Z,34nm,0.9s Mount Ida	3.53	114		Pn	01 59 53.2	-0.1
MIAR	comp=Z,28nm,1.0s			IAmb_Lg		02 00 54.2	
AMTX	Amarillo	3.63	252	Pn	Pn	01 59 55.4	+0.5
S39A	Bolivar	3.70	63	Pn	Pn	01 59 55.5	-0.1
S39A	comp=Z,27nm,0.7s			IAmb_Lg		02 01 00.8	
U40A	Yellville	3.75	84	Pn	Pn	01 59 56.1	-0.2
U40A	comp=Z,22nm,0.8s			IAmb_Lg		02 01 01.4	
ABTX	Abilene, Hawle	3.88	208	Pn	Pn	01 59 58.4	+0.2
X40A	Basin Creek Fa	4.11	111		Pn	02 00 00.9	-0.4
X40A	comp=Z,17nm,0.9s			IAmb_Lg		02 01 08.4	
WHAR	Wooly Hollow	4.29	99	Pn	Pn	02 00 04.2	+0.4
WHAR	comp=Z,14nm,0.7s			IAmb_Lg		02 01 13.7	
WLAR	White Oak Lake	4.30	122	IAmb_Lg		02 01 19.4	
MGMO	comp=Z,16nm,0.9s Mountain Grove	4.32	74	Pn	Pn	02 00 04.1	-0.2
MGMO					Sn	02 00 58.3	+3.2
MGMO	comp=Z,22nm,0.8s			IAmb_Lg		02 01 13.0	
FCAR	Ozark Folk Cen	4.34	91	Pn	Pn	02 00 04.6	+0.1
FCAR	comp=Z,14nm,0.9s			IAmb_Lg		02 01 17.8	
R40A	Maddies Statio	4.71	60	Pn	Pn	02 00 10.2	+0.7
R40A					Sn	02 01 04.0	-0.4
P38A	Dawn	4.72	40	Pn	Pn	02 00 10.4	+0.8
P38A					LR	02 01 25.0	
P38A	comp=Z,16nm,0.7s			IAmb_Lg		02 01 32.1	
MSTX	Muleshoe	4.83	246	Pn	Pn	02 00 11.5	+0.2
MSTX					LR	02 01 29.5	
LCAR	Lake Charles	5.12	88	Pn	Pn	02 00 14.2	-0.9
CCAR	Cane Creek	5.15	113	IAmb_Lg		02 01 51.8	
BGNE	comp=Z,19nm,0.9s Belgrade	5.35	355	IAmb_Lg		02 02 02.8	
CCM	comp=Z,20nm,0.7s Cathedral Cave	5.36	66	Pn	Pn	02 00 18.9	+0.4
CCM				IAmb_Lg		02 01 47.9	
T25A	comp=Z,12nm,0.9s Trinidad	5.68	283	Pn	Pn	02 00 22.7	-0.4
T25A				IAmb_Lg		02 02 10.7	
PBMO	comp=Z,11nm,0.9s Poplar Bluff	5.72	81	IAmb_Lg		02 02 04.8	
JCT	comp=Z,21nm,0.9s Junction City	5.91	200		Lg	02 02 07.6	
L34A	Svendsen Farm,	5.95	8	IAmb_Lg		02 02 21.0	
SLM	comp=Z,25nm,0.7s Saint Louis	6.31	64	IAmb_Lg		02 02 16.4	
HENM	comp=Z,21nm,0.8s Henderson Moun	6.49	82	IAmb_Lg		02 02 28.7	
K31A	comp=Z,24nm,0.8s O'Neill	6.62	352	IAmb_Lg		02 02 43.0	
SDCO	comp=Z,16nm,0.8s Great Sand Dun	6.64	287		Lg	02 02 26.1	
SCIA	State Center	6.70	28	IAmb_Lg		02 02 41.7	
S44A	comp=Z,19nm,0.8s Carbondale	6.78	74	IAmb_Lg		02 02 33.2	
SIUC	comp=Z,18nm,0.8s Southern Illin	6.81	74	IAmb_Lg		02 02 39.1	
ANMO	comp=Z,16nm,0.8s Albuquerque	7.41	264		Lg	02 02 51.1	
ISCO	Idaho Springs	7.43	302	IAmb_Lg		02 03 05.6	
K38A	comp=Z,6.7nm,1.1s Parkersburg	7.51	28	IAmb_Lg		02 03 03.7	
L40A	comp=Z,17nm,0.8s Anamosa	7.71	37	IAmb_Lg		02 03 03.1	
MNTX	comp=Z,15nm,0.9s Copuudas Mount	7.89	239		LR	02 03 05.2	
USIN	University of	8.07	74	IAmb_Lg		02 03 15.6	
T47A	comp=Z,17nm,0.9s Sharon Grove	8.40	81	IAmb_Lg		02 03 37.7	
L42A	comp=Z,10nm,1.1s Oliver, Polo	8.48	43	IAmb_Lg		02 03 33.1	
JFWS	comp=Z,13nm,0.9s Jewell Farm	8.82	37	IAmb_Lg		02 03 45.8	
M44A	comp=Z,9.3nm,0.7s Midewin, Midew	9.08	51	IAmb_Lg		02 03 53.8	
121A	comp=Z,18nm,0.9s Cookes Peak, D	9.23	250	Pn	Pn	02 01 08.7	-3.1

*IDC **04** 02:01:06.8±0.8, 14°.40N×56°.34E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.7/49, mbtmp3.9/10, MS3.1/12, Ms1 3.1/12, ms1mx3.0/35, Error ellipse: s-maj=25.5km s-min=20.7km az=144.0*

*NEIC **04** 02:01:09.6±1.4, 14°.5N±0°.1×56°.3E±0°.1, h10km±1km, mb4.2/9, Error ellipse: s-maj=23.1km s-min=13.0km az=128.0*

ISC 04 02:01:09.8±0.8, 14°.5N±0°.1×56°.2E±0°.1, h19km, n34, σ1§07/19, mb4.0/13, MS3.0/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.97	14	LR	LR	02 06 34.8	
	comp=Z,408nm,19.9s,baz=188,slow=36						
ATD	Arta Tunnel	13.38	259	LR	LR	02 07 36.3	
	comp=Z,34nm,19.0s,baz=214,slow=29						
RAYN	Ar Rayn	13.53	313	Pn	Pn	02 04 19.2	-1.7
HRA	Herat	20.52	14	P	P	02 05 46.0	-1.2
HRA				IAmb	IAmb	02 06 01.5	
	comp=Z,12nm,1.4s						
KBL	Kabul	23.05	28	P	P	02 06 14.6	+0.3
KBL				IAmb	IAmb	02 06 33.2	
	comp=Z,13nm,1.4s						
EIL	Elat	24.77	311	LR	LR	02 17 49.0	
	comp=Z,29nm,19.9s,baz=285,slow=40						
PALK	Pallekele	25.06	104	LR	LR	02 14 28.6	
	comp=Z,37nm,21.1s,baz=244,slow=32						
MMAI	Mount Meron Ar	26.42	318	LR	LR	02 17 40.7	
	comp=Z,22nm,19.2s,baz=75,slow=37						
GNI	Garni	27.45	341	LR	LR	02 19 03.9	
	comp=Z,33nm,18.2s,baz=154,slow=39						
MBAR	Mbarara	29.36	241	LR	LR	02 18 53.1	
	comp=Z,49nm,20.3s,baz=40,slow=36						
KK31	Karatay Array	31.02	21	P	P	02 07 26.4	+0.2
KK31				IAmb	IAmb	02 08 24.0	
	comp=Z,7.1nm,1.8s						
KKAR	Karatay Array	31.02	21	P	P	02 07 27.0	+0.7
KBZ	Khabaz	31.28	341	LR	LR	02 22 37.3	
	comp=Z,42nm,18.4s,baz=152,slow=41						
BRTR	Keskin Array B	32.00	326	LR	LR	02 22 18.2	
	comp=Z,28nm,19.7s,baz=162,slow=40						
AAK	Ala-Archa	32.14	26	P	P	02 07 37.3	+1.0
AAK				IAmb	IAmb	02 07 45.3	
	comp=Z,6.0nm,1.1s						
MK31	Makanchi Array	38.86	29	P	P	02 08 33.7	-0.1
MKAR	Makanchi Array	38.86	29	P	P	02 08 34.5	+0.7
	comp=Z,0.5nm,0.8s,baz=203,slow=4.7,SNR=3.6						
MKAR				LR	LR	02 26 47.7	
	comp=Z,63nm,19.7s,baz=220,slow=40						
CMAR	Chiang Mai Arr	41.07	78	P	P	02 08 53.4	+0.8
	comp=Z,2.1nm,0.3s,baz=280,slow=9.3,SNR=5.8						
AKASG	Malin Array Be	42.20	335	P	P	02 09 02.9	+1.7
	comp=Z,1.0nm,0.6s,baz=143,slow=7.9,SNR=1.6						
AKASG	Malin Array Be	42.20	335	IAmb	IAmb	02 09 14.0	
	comp=Z,5.1nm,1.8s						
MATP	Matopo	44.14	219	P	P	02 09 18.0	+0.4
	comp=Z,3.9nm,1.0s,baz=17,slow=8.6,SNR=5.3						
ZALV	Zalesovo Beam	45.29	23	P	P	02 09 26.2	+0.1
	comp=Z,1.4nm,0.7s,baz=224,slow=8.3,SNR=6.1						
ZALV				LR	LR	02 30 49.0	
	comp=Z,31nm,18.0s,baz=76,slow=39						
BOSA	Boshof	52.31	215	P	P	02 10 21.0	+0.5
	comp=Z,3.1nm,1.0s,baz=53,slow=5.1,SNR=3.3						
TORD	Torodi Ar. Bea	52.87	276	P	P	02 10 25.6	+0.8
	comp=Z,0.5nm,0.9s,baz=87,slow=8.2,SNR=3.8						
TORD	Torodi Ar. Bea	52.87	276	IAmb	IAmb	02 10 31.9	
	comp=Z,9.1nm,1.6s						
NOA	NORSAR Array B	56.59	336	LR	LR	02 38 10.1	
	comp=Z,13nm,18.3s,baz=30,slow=39						
ESDC	Sonseca Array	58.01	308	P	P	02 11 01.5	0.0
	comp=Z,0.8nm,0.7s,baz=81,slow=7.9,SNR=5.3						
H01W3	Cape Leeuwin H	73.66	133	T	T	03 32 51.8	
	baz=302,slow=75,SNR=19						
H01W2	Cape Leeuwin H	73.67	133	T	T	03 32 48.4	
	baz=302,slow=75,SNR=18						
H01W1	Cape Leeuwin H	73.68	133	T	T	03 32 48.8	
	baz=302,slow=75,SNR=21						
WRA	Warramunga Arr	84.06	112	P	P	02 13 38.2	-1.7
	comp=Z,0.6nm,1.0s,baz=297,slow=4.4,SNR=1.8						
ASAR	Alice Springs	84.82	116	P	P	02 13 41.6	-2.1
	comp=Z,0.5nm,0.8s,baz=293,slow=4.8,SNR=3.8						
NVAR	Mina Array Bea	127.09	355	PKP	PKiKP	02 20 14.6	+0.6
	comp=Z,0.3nm,0.7s,baz=356,slow=1.2,SNR=4.3						
NVAR	Mina Array Bea	127.09	355		PKPdf	02 20 13.1	-0.4

IDC 04 02:03:40.4±2.1, 2°.07S×139°.62E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/25, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=228.2km s-min=31.2km az=108.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.50	196	P	Pn	02 07 58.7	+0.3
	0.1nm,0.3s,baz=17,slow=13,SNR=5.4						
ASAR	Alice Springs	22.17	194	P	P	02 08 38.8	+0.5
	0.3nm,0.7s,baz=18,slow=9.3,SNR=2.1						
ILAR	Eielson Array	84.88	24	P	P	02 16 16.4	-0.5
	0.3nm,0.7s,baz=256,slow=5.8,SNR=4.2						

*DDA **04** 02:03:59.2, 37°.12N×28°.77E, h7km±3km, ML2.6*
*ISK **04** 02:03:59.8, 37°.13N×28°.74E, h9km, ML2.9/12*

ISC 04 02:04:00.1±1.0, 37°.14N±0°.03×28°.74E±0°.02, h9km±10km, n26, σ1§16/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.33	192	*i* P	Pg	02 04 06.1	-0.6
DALY				*i* S	Sb	02 04 11.4	-2.1
DALY				IAML		02 04 14.0	
	comp=E,896nm,0.6s						
DALY	Dalyan (Mula)	0.33	192	PG	Pg	02 04 06.4	-0.3
DALY				SG	Sb	02 04 11.8	-1.8
TAVA	DENIZLI_Tavas	0.35	23	*i* P	Pg	02 04 05.7	-1.4
TAVA				*i* S	Sg	02 04 12.0	+0.3
TAVA				IAML		02 04 15.0	
	comp=E,623nm,0.3s						
TAVA				IAML		02 04 16.0	
	comp=N,748nm,0.5s						
MULA	Mugla, Merkez-	0.35	289	*i* P	Pg	02 04 07.5	+0.4
MULA				*i* S	Sg	02 04 12.9	+1.0
MULA				IAML		02 04 15.0	
	comp=N,529nm,0.8s						
YER	Yerkesik	0.37	269	PG	Pg	02 04 07.3	-0.1
YER				SG	Sg	02 04 13.2	+1.0
CAEL	Denizli, Camel	0.46	92	*i* P	Pg	02 04 08.3	-0.9
TURN	Turunc	0.54	227	PG	Pg	02 04 09.9	-0.7
MLSB	Milas	0.79	281	PG	Pb	02 04 15.4	-0.5
AYDN	Tasoluk	0.86	307	*i* P	Pg	02 04 16.5	-0.2
ELL	Elmali	1.01	113	PG	Pn	02 04 19.7	-0.9
DAT	Datca	1.02	246	PG	Pb	02 04 19.7	-0.3
AYDB	Zeytinkoy-Aydi	1.05	320	PG	Pb	02 04 20.5	0.0
AKAS	Kas	1.14	142	*i* P	Pn	02 04 22.9	+0.6
AKAS	Kas	1.14	142	PN	Pn	02 04 21.7	-0.7
BODT	Bodrum	1.15	266	PN	Pn	02 04 22.3	0.0
BRDR	BURDUR-Merkez	1.19	62	*i* P	Pn	02 04 22.6	-0.4
BRDR				*i* S	Sn	02 04 41.6	+2.4
BRDR				IAML		02 04 44.0	
	comp=N,115nm,0.8s						
BRDR				IAML		02 04 44.0	
	comp=E,99nm,1.0s						
KORT	Korkueli	1.29	96	*i* P	Pb	02 04 24.0	-0.7
KORT	Korkueli	1.29	96	PN	Pg	02 04 24.7	-0.3
GCAM	G?zelcaml?	1.32	295	PN	Pg	02 04 25.1	-0.4
MANT	Manisa	1.35	354	*i* P	Pb	02 04 25.4	-0.3
MANT				*i* S	Sb	02 04 42.6	-0.6
KULA	Kula-Manisa	1.37	357	PN	Pn	02 04 25.3	-0.1
AKUM	Antalya-Kumluc	1.52	122	*i* P	Pg	02 04 30.1	+0.7
AKUM				*i* S	Sg	02 04 53.0	+3.9
ANTB	Antalya	1.55	98	PN	Pg	02 04 28.6	-1.2
KZIL	AFYON_Kizioren	1.57	45	*i* P	Pg	02 04 29.7	-0.5
USAK	Uak-Merkez	1.58	8	*i* P	Pn	02 04 28.7	+0.3
DGB	zmir	1.73	302	*i* P	Pb	02 04 31.5	-0.5

*KRNET **04** 02:29:13.0±0.1, 40°.48N×72°.17E, h20km, mb3.5*
*ISU **04** 02:29:13, 40°.30N×72°.20E, h5km*
*SOME **04** 02:29:13.2, 40°.58N×72°.23E, h5km*
*NNC **04** 02:29:14.4±1.9, 40°.64N×72°.22E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=22.7km s-min=12.3km az=132.0*

ISC 04 02:29:13.6±1.0, 40°.44N±0°.03×72°.14E±0°.02, h9km±8km, n41, σ1§76/73, 26C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	Andizhan	0.36	27	*e*P	Pg	02 29 21.0	+0.3
ANR				*e*S	Sg	02 29 27.0	+1.5
FRG	Fergana	0.41	318	*e*P	Pg	02 29 21.0	-0.6
FRG				*e*S	Sg	02 29 27.0	+0.1
OHH	Osh	0.50	80	⇓*i*P	Pg	02 29 22.3	-1.0
OHH	baz=85			⇓*i*S	Sg	02 29 29.4	-0.4
OHH	Osh	0.50	80	*e*P	Pg	02 29 22.0	-1.3
OHH				*e*S	Sg	02 29 29.0	-0.8
DRK	Karamyk	0.99	196	⇓*i*P	Pg	02 29 32.4	-0.3
DRK	baz=96			⇓*i*S	Sb	02 29 46.4	+0.1
BTK	Batken	1.08	250	⇑*i*P	Pg	02 29 33.6	-0.8
BTK	baz=48			⇑*i*S	Sg	02 29 48.7	+0.2
BTK	Batken	1.08	250	*e*P	Pg	02 29 34.0	-0.4
BTK				*e*S	Sb	02 29 50.0	+1.2
SFK	Sufi-Kurgan	1.12	112	⇑*i*P	Pg	02 29 33.6	-1.6
SFK	baz=14			⇑*i*S	Sg	02 29 48.7	-1.1
TRKS	Terek-Say	1.33	326	⇓*i*P	Pn	02 29 36.0	-2.5
TRKS	baz=23			⇓*i*S	Sb	02 29 52.4	-3.7
GAR	Garm	2.01	225	⇑*i*P	Pn	02 29 48.4	+0.6
GAR	baz=25			⇑*i*S	Sn	02 30 14.1	+1.0
AML	Almayashu	2.06	34	⇑*i*P	Pn	02 29 48.5	-0.2
AML	baz=34			⇑*i*S	Sn	02 30 13.3	-1.4
MNAS	Manas	2.07	7	⇓*i*P	Pn	02 29 47.5	-1.1
MNAS	baz=7.0			⇓*i*S	Sn	02 30 13.0	-1.6
ARLS	Aral	2.18	48	⇑*i*P	Pn	02 29 49.1	-1.0
ARLS	baz=49			⇑*i*S	Sn	02 30 15.8	-1.5

	baz=49							
TAS	**Tashkent**	**2.34**	**293**	⇑*i*P		**Pn**	**02 29 52.2**	**0.0**
TAS	baz=92			⇑*i*S		**Sn**	**02 30 20.4**	**-0.6**
	baz=92							
MRKS	**Merke**	**2.45**	**19**	*e*P		**Pn**	**02 29 55.9**	**+2.1**
MRKS	9.7nm,0.3s			*e*S		**Sn**	**02 30 26.8**	**+3.0**
	53nm,0.3s							
DZA	**Taraz**	**2.53**	**346**	*e*P		**Pb**	**02 29 57.9**	**-1.3**
DZA	149nm,0.1s			*e*S		**Sb**	**02 30 29.9**	**-0.5**
	318nm,0.2s							
EKS2	**Erkin-Say**	**2.54**	**28**	⇓*i*P		**Pn**	**02 29 54.3**	**-0.8**
EKS2	baz=28			⇓*i*S		**Sn**	**02 30 24.4**	**-1.8**
	baz=28							
CHM	**Chimkent**	**2.68**	**315**	*e*P		**Pb**	**02 30 03.3**	**+1.5**
CHM	5.7nm,0.1s			*e*S		**Sg**	**02 30 39.2**	**-0.5**
	539nm,0.3s							
AAK	**Ala-Archa**	**2.82**	**38**	⇑*i*P		**Pn**	**02 29 58.2**	**-0.8**
AAK	baz=38			⇑*i*S		**Sn**	**02 30 31.0**	**-2.1**
	baz=38							
AAK	**Ala-Archa**	**2.82**	**38**	⇑Pg		**Pn**	**02 30 01.5**	**+2.5**
AAK	4.7nm,0.5s			⇑Lg		Lg	02 30 38.2	
	32nm,0.8s							
CHGR	**Chuyangaron**	**2.91**	**233**	⇓*e*P		**Pn**	**02 30 00.6**	**+0.4**
CHGR	baz=33			⇓*e*S		**Sn**	**02 30 35.5**	**+0.2**
	baz=33							
FRU1	**Bishkek**	**3.02**	**37**	⇑*i*P		**Pn**	**02 30 00.9**	**-0.7**
FRU1	baz=37			⇑*i*S		**Sn**	**02 30 36.1**	**-1.8**
	baz=37							
CHMS	**Chumysh**	**3.22**	**36**	⇓*i*P		**Pn**	**02 30 04.0**	**-0.3**
CHMS	baz=37			⇓*i*S		**Sn**	**02 30 40.3**	**-2.5**
	baz=37							
USP	**Ospenovka**	**3.33**	**31**	⇓*e*P		**Pn**	**02 30 05.0**	**-0.9**
USP	baz=31			⇓*i*S		**Sn**	**02 30 43.4**	**-2.2**
	baz=31							
BOOM	**Boomskoye usch**	**3.51**	**53**	⇑*e*P		**Pn**	**02 30 07.9**	**-0.6**
BOOM	baz=53			⇑*i*S		**Sn**	**02 30 48.0**	**-2.3**
	baz=53							
SGDS	**Sogindy**	**3.54**	**31**	Pg		**Pb**	**02 30 15.3**	**-1.1**
SGDS	5.1nm,0.5s			Lg		Lg	02 31 00.1	
	39nm,0.4s							
ULHL	**Ulahol**	**3.58**	**58**	⇑*e*P		**Pn**	**02 30 09.0**	**-0.4**
ULHL	baz=59			⇑*i*S		**Sn**	**02 30 49.5**	**-2.4**
	baz=59							
TKM2	**Tokmak 2**	**3.58**	**45**	⇑*i*P		**Pn**	**02 30 09.1**	**-0.4**
TKM2	baz=45			⇑*i*S		**Sn**	**02 30 49.7**	**-2.4**
	baz=45							
TKM2	**Tokmak 2**	**3.58**	**45**	⇑Pg		**Pb**	**02 30 15.0**	**-2.2**
TKM2	2.4nm,0.3s			⇑Lg		Lg	02 31 01.5	
	15nm,0.7s							
KST	**Kastek**	**3.87**	**46**	*e*P		**Pb**	**02 30 23.1**	**+1.1**
KST	4.4nm,0.2s			*e*S		**Sb**	**02 31 13.1**	**+4.1**
	21nm,0.4s							
KST	**Kastek**	**3.87**	**46**	Pg		**Pb**	**02 30 23.1**	**+1.1**
KST	4.4nm,0.2s			Lg		Lg	02 31 13.1	
	21nm,0.4s							
DGS	**Degeres**	**3.90**	**43**	*e*P		**Pb**	**02 30 23.6**	**+1.1**
DGS	4.4nm,0.7s			*e*S		**Sb**	**02 31 13.6**	**+3.7**
	16nm,0.5s							
DGS	**Degeres**	**3.90**	**43**	Pg		**Pb**	**02 30 23.0**	**+0.4**
DGS	4.4nm,0.7s			Lg		Lg	02 31 13.6	
	16nm,0.5s							
KRBS	**Karabastau**	**4.19**	**38**	*e*P		**Pb**	**02 30 27.4**	**0.0**
KRBS	2.9nm,0.4s			*e*S		**Sb**	**02 31 20.3**	**+2.3**
	7.4nm,0.7s							
KRBS	**Karabastau**	**4.19**	**38**	Pg		**Pb**	**02 30 27.4**	**0.0**
KRBS	2.9nm,0.4s			Lg		Lg	02 31 20.3	
	7.4nm,0.7s							
KUU	**Kurty**	**4.65**	**41**	*e*P		**Pb**	**02 30 36.1**	**+0.7**
KUU	1.2nm,0.2s			*e*S		**Sb**	**02 31 35.2**	**+3.8**
	12nm,0.6s							
KUU	**Kurty**	**4.65**	**41**	Pg		**Pb**	**02 30 36.1**	**+0.7**
KUU	1.2nm,0.2s			Lg		Lg	02 31 35.2	
	12nm,0.6s							
KTBS	**Karatobe**	**4.70**	**44**	*e*P		**Pb**	**02 30 37.5**	**+1.2**
KTBS	1.3nm,0.3s			*e*S		**Sb**	**02 31 37.5**	**+4.6**
	20nm,0.5s							
KTBS	**Karatobe**	**4.70**	**44**	Pg		**Pb**	**02 30 37.4**	**+1.2**
KTBS	1.3nm,0.3s			Lg		Lg	02 31 37.5	
	20nm,0.5s							
BTLS	**Baital**	**4.81**	**16**	*e*P		**Pb**	**02 30 38.8**	**+0.8**
BTLS	2.1nm,0.3s			*e*S		**Sb**	**02 31 40.4**	**+4.4**
	6.5nm,0.3s							
BTLS	**Baital**	**4.81**	**16**	Pg		**Pb**	**02 30 38.8**	**+0.8**
BTLS	2.1nm,0.3s			Lg		Lg	02 31 40.4	
	6.5nm,0.3s							

MAN 04 02:41:18.2, 9°.99N×126°.28E, h20km, mb4.4, ML3.3, MS3.1, Mindanao

*IDC **04** 02:49:40.6±1.4, 37°.38N×78°.07E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/39, Error ellipse: s-maj=39.2km s-min=27.0km az=67.0*
*NEIC **04** 02:49:40.8±1.5, 37°.23N±0°.07×78°.4E±0°.1, h10km±1km, mb4.2/11, Error ellipse: s-maj=15.6km s-min=10.7km az=120.0*
*SOME **04** 02:49:41.7, 37°.62N×78°.08E, h0km*
*NNC **04** 02:49:44.4±1.5, 37°.67N×78°.20E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=10.2km s-min=9.7km az=109.0*
ISC 04 02:49:41.3±0.6, 37°.27N±0°.04×78°.34E±0°.06, h10km, n66, σ3§00/80, mb4.0/9, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.47**	**355**		**Pn**	**02 50 50.4**	**+0.9**
NIL	**Nilore**	**5.51**	**230**	Pn	**Pn**	**02 51 01.9**	**-1.5**
BOOM	**Boomskoye usch**	**5.53**	**341**		**Pn**	**02 51 03.1**	**-0.7**
DRK	**Karamyk**	**5.59**	**295**	Pn	**Pn**	**02 51 04.7**	**-0.1**
SATY	**Saty**	**5.78**	**0**	*e*P	**Pb**	**02 51 24.0**	**+1.7**
SATY	8.8nm,0.7s			*e*S	**Sb**	**02 52 37.8**	**+6.2**
	24nm,1.0s						
SATY	**Saty**	**5.78**	**0**	Pg	**Pb**	**02 51 23.7**	**+1.4**
SATY	15nm,0.3s			Lg	Lg	02 52 37.8	
	24nm,1.0s						
UZB	**Uzynbulak**	**5.89**	**5**	*e*P	**Pb**	**02 51 25.5**	**+1.3**
UZB	7.7nm,0.4s			*e*S	**Sb**	**02 52 40.0**	**+5.2**
	18nm,0.9s						
UZB	**Uzynbulak**	**5.89**	**5**	Pg	**Pb**	**02 51 25.2**	**+1.0**
UZB	13nm,0.6s			Lg	Lg	02 52 40.0	
	18nm,0.9s						
SHLS	**Shalkode**	**5.94**	**8**	*e*P	**Pb**	**02 51 29.1**	**+4.1**
SHLS	24nm,0.3s			*e*S	**Sg**	**02 52 46.4**	**-5.6**
	49nm,0.8s						
SHLS	**Shalkode**	**5.94**	**8**	Pg	**Pb**	**02 51 29.1**	**+4.1**
SHLS	24nm,0.3s			Lg	Lg	02 52 46.4	
	49nm,0.8s						
MDOK	**Medeo**	**5.97**	**351**	*e*P	**Pb**	**02 51 25.8**	**+0.3**
MDOK	9.4nm,0.2s			*e*S	**Sb**	**02 52 40.8**	**+3.8**
	32nm,0.6s						
MDOK	**Medeo**	**5.97**	**351**	Pg	**Pb**	**02 51 25.6**	**+0.1**
MDOK	8.1nm,0.5s			Lg	Lg	02 52 39.4	
	29nm,0.6s						
MDOK	**Medeo**	**5.97**	**351**	Pg	**Pb**	**02 51 25.7**	**+0.3**
MDOK	11nm,0.5s			Lg	Lg	02 52 40.6	
	32nm,0.6s						
KST	**Kastek**	**6.04**	**343**	*e*P	**Pb**	**02 51 27.4**	**+0.6**
KST	7.0nm,0.7s			*e*S	**Sb**	**02 52 43.6**	**+4.3**
	15nm,0.6s						
KST	**Kastek**	**6.04**	**343**	Pg	**Pb**	**02 51 27.4**	**+0.6**
KST	7.0nm,0.7s			Lg	Lg	02 52 43.6	
	15nm,0.6s						
PDGK	**Podgornoye**	**6.11**	**8**	Pg	**Pb**	**02 51 29.5**	**+1.6**
PDGK	4.9nm,0.5s			Lg	Lg	02 52 46.7	
	9.4nm,0.6s						
PDGK	**Podgornoye**	**6.11**	**8**	⇑Pn	**Pn**	**02 51 09.5**	**-2.3**
PDGK	2.8nm,0.3s			⇑Pg	**Pb**	**02 51 29.5**	**+1.6**
	6.5nm,0.5s						
PDGK	12nm,0.6s			⇓Sn	**Sn**	**02 52 17.2**	**-4.7**
PDGK	13nm,0.6s			⇓Lg	Lg	02 52 43.9	
AAK	**Ala-Archa**	**6.12**	**332**	Pg	**Pb**	**02 51 28.4**	**+0.4**
AAK	2.7nm,0.3s,baz=136,slow=7.6,SNR=5.9			Lg	Lg	02 52 43.3	
	0.3nm,0.3s,baz=350,slow=23,SNR=1.5						
AAK	**Ala-Archa**	**6.12**	**332**	⇑Pg	**Pb**	**02 51 28.9**	**+0.8**
AAK	4.6nm,0.5s			⇓Lg	Lg	02 52 48.3	
	34nm,1.1s						
AAK	**Ala-Archa**	**6.12**	**332**	Pn	**Pn**	**02 51 12.1**	**+0.2**
KPKS	**Kokpek**	**6.19**	**2**	*e*P	**Pb**	**02 51 30.4**	**+1.1**
KPKS	17nm,0.3s			*e*S	**Sb**	**02 52 48.7**	**+5.3**
	26nm,0.5s						
SMLA	**Simla**	**6.21**	**189**	*e*P	Pn	02 51 19.9	+7.0
SMLA				*e*S	**Sn**	**02 52 30.8**	**+6.8**
DGS	**Degeres**	**6.28**	**343**	*e*P	**Pb**	**02 51 31.5**	**+0.8**
DGS	14nm,0.4s			*e*S	**Sb**	**02 52 50.6**	**+4.7**
	14nm,0.8s						
DGS	**Degeres**	**6.28**	**343**	Pg	**Pb**	**02 51 31.2**	**+0.5**
DGS	13nm,0.5s			Lg	Lg	02 52 50.6	
	14nm,0.8s						
KTMS	**Ketmen**	**6.36**	**13**	*e*P	**Pb**	**02 51 34.8**	**+2.7**
KTMS	7.6nm,0.3s			*e*S	**Sb**	**02 52 56.2**	**+8.0**
	9.4nm,0.7s						
KTMS	**Ketmen**	**6.36**	**13**	Pg	**Pb**	**02 51 34.8**	**+2.7**
KTMS	7.6nm,0.3s			Lg	Lg	02 52 56.2	
	9.4nm,0.7s						
KTBS	**Karatobe**	**6.56**	**349**	*e*P	**Pb**	**02 51 37.3**	**+1.8**
KTBS	7.2nm,0.4s			*e*S	**Sb**	**02 53 00.2**	**+6.3**
	27nm,0.7s						
KTBS	**Karatobe**	**6.56**	**349**	Pg	**Pb**	**02 51 37.3**	**+1.8**
KTBS	7.2nm,0.4s			Lg	Lg	02 53 00.2	
	27nm,0.7s						
GAR	**Garm**	**6.56**	**288**	Pn	**Pn**	**02 51 17.4**	**-0.5**
CHKK	**Chushkaly**	**6.66**	**352**	*e*P	**Pb**	**02 51 38.9**	**+1.8**
CHKK	4.6nm,0.3s			*e*S	**Sb**	**02 53 03.6**	**+6.9**
	14nm,0.5s						
CHKK	**Chushkaly**	**6.66**	**352**	Pg	**Pb**	**02 51 38.9**	**+1.8**
CHKK	4.6nm,0.3s			Lg	Lg	02 53 03.6	
	14nm,0.5s						
MRKS	**Merke**	**6.73**	**326**	*e*P	**Pb**	**02 51 39.5**	**+1.0**
MRKS	4.3nm,0.5s			*e*S	**Sb**	**02 53 04.3**	**+5.4**
	7.8nm,0.5s						
MRKS	**Merke**	**6.73**	**326**	Pg	**Pb**	**02 51 39.5**	**+1.0**
MRKS	4.3nm,0.5s			Lg	Lg	02 53 04.3	
	7.8nm,0.5s						
KRBS	**Karabastau**	**6.73**	**343**	*e*P	**Pb**	**02 51 38.8**	**+0.4**
KRBS	2.5nm,0.4s			*e*S	**Sb**	**02 53 03.4**	**+4.5**
	15nm,0.9s						
KRBS	**Karabastau**	**6.73**	**343**	Pg	**Pb**	**02 51 38.5**	**+0.1**
KRBS	6.8nm,0.6s			Lg	Lg	02 53 03.4	
	15nm,0.9s						
KUU	**Kurty**	**6.79**	**348**	*e*P	**Pb**	**02 51 41.2**	**+1.8**
KUU	4.0nm,0.3s			*e*S	**Sb**	**02 53 06.8**	**+6.3**
	16nm,0.6s						
KUU	**Kurty**	**6.79**	**348**	Pg	**Pb**	**02 51 41.2**	**+1.8**
KUU	4.0nm,0.3s			Lg	Lg	02 53 06.8	
	16nm,0.6s						
SGDS	**Sogindy**	**6.79**	**337**	Pg	**Pb**	**02 51 40.9**	**+1.4**
SGDS	3.6nm,0.5s			Lg	Lg	02 53 06.7	
	4.9nm,0.7s						
ARXS	**Arharly**	**6.95**	**357**	*e*P	**Pb**	**02 51 43.3**	**+1.2**
ARXS	7.2nm,0.6s			*e*S	**Sb**	**02 53 10.7**	**+5.6**
	9.2nm,0.7s						
ARXS	**Arharly**	**6.95**	**357**	Pg	**Pb**	**02 51 42.9**	**+0.8**
ARXS	13nm,0.5s			Lg	Lg	02 53 10.7	
	9.2nm,0.7s						
CHGR	**Chuyangaron**	**7.39**	**284**	Pn	**Pn**	**02 51 28.7**	**-0.6**
KBL	**Kabul**	**8.02**	**253**	Pn	**Pn**	**02 51 36.6**	**-1.5**
KK31	**Karatay Array**	**8.35**	**317**	Pn	**Pn**	**02 51 42.4**	**-0.1**
KKAR	**Karatay Array**	**8.35**	**317**	Pn	**Pn**	**02 51 42.9**	**+0.4**
BTLS	**Baital**	**8.41**	**339**	Pg	**Pb**	**02 52 09.6**	**+2.6**
	1.7nm,0.5s						
WMQ	**Urumqi**	**9.66**	**44**	*e*P	Pn	02 52 07.2	+6.8
MAKZ	**Makanchi**	**9.90**	**15**	Pn	**Pn**	**02 52 03.6**	**-0.1**
MK31	**Makanchi Array**	**9.96**	**16**		**Pn**	**02 52 03.2**	**-1.2**
MKAR	**Makanchi Array**	**9.96**	**16**	Pn	**Pn**	**02 52 04.5**	**+0.1**
	1.1nm,0.3s,baz=197,slow=13,SNR=68						
MKAR				Sn	**Sn**	**02 53 49.8**	**-6.3**
	1.1nm,0.3s,baz=190,slow=25,SNR=5.6						
MKAR	**Makanchi Array**	**9.96**	**16**		**Pn**	**02 52 04.2**	**-0.2**
BRVK	**Borovoye**	**16.76**	**343**	Pn	**Pn**	**02 53 34.7**	**-1.3**
ZALV	**Zalesovo Beam**	**17.27**	**13**	Pn	**Pn**	**02 53 41.5**	**-0.9**
SLVN	**Son La**	**27.25**	**119**	P	**P**	**02 55 23.3**	**-2.5**
SLVN				IAmb	IAmb	02 55 25.9	
	comp=Z,3.9nm,0.9s						
FIA1	**FINESS Array S**	**40.23**	**324**	P	**P**	**02 57 18.3**	**+0.5**
FIA1				IAmb	IAmb	02 57 21.3	
	comp=Z,12nm,1.2s						
FINES	**FINESS Array B**	**40.23**	**324**	P	**P**	**02 57 17.2**	**-0.6**
	comp=Z,4.1nm,1.1s,baz=121,slow=10,SNR=12						
USA0B	**Ussuriysk Arra**	**40.62**	**63**	P	**P**	**02 57 21.1**	**-0.2**
USA0B				IAmb	IAmb	02 57 24.4	
	comp=Z,3.8nm,0.9s						
ARCES	**ARCESS Array B**	**42.78**	**336**	P	**P**	**02 57 38.7**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=108,slow=8.7,SNR=1.4						
ARCES				LR	LR	03 15 45.8	
	comp=Z,36nm,19.5s,baz=45,slow=37						
ARCES	**ARCESS Array B**	**42.78**	**336**	IAmb	IAmb	02 57 51.1	
	comp=Z,2.0nm,1.1s						
OJC	**Ojcow**	**43.15**	**307**	P	**P**	**02 57 41.6**	**-0.3**
OJC				IAmb	IAmb	02 57 54.2	
	comp=Z,2.6nm,1.0s						
MJB9	**Matsu-Tunnel**	**47.15**	**72**	P	**P**	**02 58 13.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**71.59**	**273**	P	**P**	**03 01 02.0**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=48,slow=5.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**71.59**	**273**	IAmb	IAmb	03 01 22.5	
	comp=Z,3.4nm,1.5s						
KTH	**Kantishna Hill**	**72.18**	**21**	P	**P**	**03 01 06.0**	**0.0**
KTH				IAmb	IAmb	03 01 30.9	
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**77.57**	**127**	P	**P**	**03 01 40.3**	**+2.6**
	comp=Z,0.5nm,1.0s,baz=322,slow=5.2,SNR=2.1						
WRA	**Warramunga Arr**	**77.57**	**127**	P	**P**	**03 01 36.8**	**-0.9**
LBTB	**Lobatse**	**79.36**	**227**	P	**P**	**03 01 45.7**	**-1.8**

KMA 04 03:03:23.1±0.2, 37°.55N×128°.96E, h0km, Error ellipse: s-maj=3.3km s-min=1.9km az=81.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKEB	**Okgye-meyeon**	**0.07**	**13**	P	Pg	03 03 24.5	0.0
OKEB	**Okgye-meyeon**	**0.07**	**13**	P	Pg	03 03 24.5	0.0
OKEB				S	Sg	03 03 25.6	+0.3
KSTOH	**DONGHAE**	**0.14**	**111**	P	Pg	03 03 26.1	+0.3
KAW	**Gangneung Acc**	**0.27**	**342**	P	Pg	03 03 28.4	+0.2
KSDGY	**Daegwallyong**	**0.27**	**301**	P	Pg	03 03 28.2	0.0
KSDGY	**Daegwallyong**	**0.27**	**301**	P	Pg	03 03 28.2	0.0
KSJES	**JEONGSEON**	**0.27**	**242**	P	Pg	03 03 28.2	0.0
KSGWL	**Sabuk** SNR=6.6	**0.36**	**198**	P	Pg	03 03 30.2	+0.1
KSGWL	**Sabuk** SNR=6.6	**0.36**	**198**	P	Pg	03 03 30.2	+0.1
KSGWL	**Sabuk** SNR=6.6	**0.36**	**198**	P	Pg	03 03 30.2	+0.1
KSJMJ	**Jumunjin** SNR=13	**0.37**	**334**	P	Pg	03 03 30.2	+0.1
KSJMJ	**Jumunjin** SNR=13	**0.37**	**334**	P	Pg	03 03 30.2	+0.1
KSJMJ	**Jumunjin** SNR=13	**0.37**	**334**	P	Pg	03 03 30.2	+0.1
KSTBA	**Taebaek**	**0.43**	**181**	P	Pg	03 03 31.4	+0.1
IMWB	**Imwonan-gil**	**0.44**	**136**	P	Pg	03 03 31.5	0.0
IMWB	**Imwonan-gil**	**0.44**	**136**	P	Pg	03 03 31.5	0.0
KSYOW	**Yeongwol**	**0.55**	**227**	P	Pg	03 03 33.6	-0.1
KSWJU	**Wonju**	**0.74**	**259**	P	Pg	03 03 37.2	-0.1
KSSKC	**Sokcho** SNR=7.6	**0.81**	**335**	P	Pg	03 03 38.9	+0.2
KSSKC	**Sokcho** SNR=7.6	**0.81**	**335**	P	Pg	03 03 38.9	+0.2
SEHB	**SEOHWA** SNR=25	**0.91**	**322**	P	Pg	03 03 40.7	+0.1
SEHB	**SEOHWA** SNR=25	**0.91**	**322**	P	Pg	03 03 40.7	+0.1
KSCHC	**Chuncheon** SNR=11	**0.94**	**284**	P	Pg	03 03 41.0	0.0
KSCHC	**Chuncheon** SNR=11	**0.94**	**284**	P	Pg	03 03 41.0	0.0
KSBON	**Boeun** SNR=6.7	**1.40**	**222**	P	Pn	03 03 49.0	-1.0

*IDC **04** 03:08:44.6±2.0, 37°.32N×78°.06E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/50, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=38.9km s-min=26.9km az=145.0*
*SOME **04** 03:08:50.0, 37°.80N×77°.80E, h10km*
*NNC **04** 03:08:51.8±1.6, 37°.80N×78°.00E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=10.5km s-min=10.3km az=157.0*
ISC 04 03:08:50.0±1.1, 37°.76N±0°.07×77°.76E±0°.06, h17km, n43, σ2§67/55, mb3.6/5, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo** 14nm,0.5s	**5.42**	**354**	*e*P	**Pg**	**03 10 31.5**	**-2.3**
MDOK	46nm,0.5s			*e*S	**Sg**	**03 11 45.0**	**+0.9**
MDOK	**Medeo** 8.6nm,0.4s	**5.42**	**354**	⇓Pg	**Pg**	**03 10 30.6**	**-3.2**
MDOK	43nm,0.6s			⇓Lg	Lg	03 11 45.1	
MDOK	**Medeo** 14nm,0.5s	**5.42**	**354**	Pg	**Pg**	**03 10 31.5**	**-2.3**
MDOK	46nm,0.5s			Lg	Lg	03 11 45.0	
KST	**Kastek** 10nm,0.4s	**5.45**	**346**	*e*P	**Pg**	**03 10 31.7**	**-2.7**
KST	21nm,0.6s			*e*S	**Sg**	**03 11 45.4**	**+0.4**
KST	**Kastek** 10nm,0.4s	**5.45**	**346**	Pg	**Pg**	**03 10 31.8**	**-2.5**
KST	21nm,0.6s			Lg	Lg	03 11 46.3	
UZB	**Uzynbulak** 11nm,0.3s	**5.46**	**10**	*e*P	**Pg**	**03 10 30.7**	**-4.0**
UZB	23nm,0.4s			*e*S	**Sg**	**03 11 43.8**	**-1.6**
UZB	**Uzynbulak** 13nm,0.4s	**5.46**	**10**	Pg	**Pg**	**03 10 31.0**	**-3.7**
UZB	18nm,0.6s			Lg	Lg	03 11 44.6	
AAK	**Ala-Archa** 3.0nm,0.3s,baz=175,slow=13,SNR=6.6	**5.47**	**334**	Pg	**Pg**	**03 10 33.3**	**-1.5**
AAK	0.6nm,0.3s,baz=177,slow=23,SNR=1.7			Lg	Lg	03 11 48.8	
AAK	**Ala-Archa** 7.5nm,0.6s	**5.47**	**334**	⇓Pg	**Pg**	**03 10 32.8**	**-2.0**
AAK	46nm,0.8s			⇑Lg	Lg	03 11 50.8	
SHLS	**Shalkode** 40nm,0.4s	**5.54**	**13**	*e*P	**Pg**	**03 10 34.0**	**-2.2**
SHLS	52nm,0.7s			*e*S	**Sg**	**03 11 49.5**	**+1.5**
SHLS	**Shalkode** 37nm,0.3s	**5.54**	**13**	Pg	**Pg**	**03 10 33.8**	**-2.3**
SHLS	52nm,0.7s			Lg	Lg	03 11 49.5	
DGS	**Degeres** 14nm,0.4s	**5.68**	**345**	*e*P	**Pg**	**03 10 36.5**	**-2.2**
DGS	24nm,0.9s			*e*S	**Sg**	**03 11 53.9**	**+1.6**
DGS	**Degeres** 14nm,0.4s	**5.68**	**345**	Pg	**Pg**	**03 10 36.1**	**-2.7**
DGS	24nm,0.9s			Lg	Lg	03 11 53.5	
PDGK	**Podgornoye** 8.3nm,0.4s	**5.71**	**13**	Pg	**Pg**	**03 10 35.5**	**-3.9**
PDGK	9.4nm,0.5s			Lg	Lg	03 11 51.8	
PDGK	**Podgornoye** 5.0nm,0.6s	**5.71**	**13**	⇓Pn	**Pn**	**03 10 16.5**	**+2.3**
PDGK	5.4nm,0.3s			⇑Pg	**Pb**	**03 10 33.2**	**+3.9**
PDGK	23nm,0.7s			⇑Sn	**Sn**	**03 11 22.0**	**+2.5**
PDGK	46nm,1.0s			⇑Lg	Lg	03 11 48.6	
KPKS	**Kokpek** 28nm,0.4s	**5.74**	**7**	*e*P	**Pg**	**03 10 35.4**	**-4.6**
KPKS	37nm,0.5s			*e*S	**Sg**	**03 11 51.6**	**-2.7**
KTBS	**Karatobe** 7.6nm,0.4s	**6.00**	**353**	*e*P	**Pg**	**03 10 41.7**	**-3.2**
KTBS	26nm,0.4s			*e*S	**Sg**	**03 12 02.8**	**+0.2**
KTBS	**Karatobe** 7.6nm,0.4s	**6.00**	**353**	Pg	**Pg**	**03 10 41.5**	**-3.3**
KTBS	26nm,0.4s			Lg	Lg	03 12 03.1	
KTMS	**Ketmen** 12nm,0.3s	**6.01**	**18**	*e*P	**Pg**	**03 10 41.9**	**-3.2**
KTMS	18nm,0.6s			*e*S	**Sg**	**03 12 03.3**	**+0.4**
KTMS	**Ketmen** 12nm,0.3s	**6.01**	**18**	Pg	**Pg**	**03 10 41.9**	**-3.2**
KTMS	18nm,0.6s			Lg	Lg	03 12 03.3	
MRKS	**Merke** 4.2nm,0.5s	**6.07**	**327**	*e*P	**Pg**	**03 10 42.0**	**-4.1**
MRKS	12nm,0.3s			*e*S	**Sg**	**03 12 03.0**	**-1.7**
MRKS	**Merke** 4.2nm,0.5s	**6.07**	**327**	Pg	**Pg**	**03 10 42.1**	**-4.1**
MRKS	12nm,0.3s			Lg	Lg	03 12 03.0	
CHKK	**Chushkaly** 8.2nm,0.3s	**6.11**	**355**	*e*P	**Pg**	**03 10 43.4**	**-3.7**
CHKK	26nm,0.6s			*e*S	**Sg**	**03 12 05.2**	**-1.0**
CHKK	**Chushkaly** 8.2nm,0.3s	**6.11**	**355**	Pg	**Pg**	**03 10 42.8**	**-4.2**
CHKK	26nm,0.6s			Lg	Lg	03 12 05.2	
KRBS	**Karabastau** 7.8nm,0.7s	**6.13**	**346**	*e*P	**Pg**	**03 10 43.6**	**-3.8**
KRBS	20nm,0.7s			*e*S	**Sg**	**03 12 06.0**	**-0.9**
KRBS	**Karabastau** 7.8nm,0.7s	**6.13**	**346**	Pg	**Pg**	**03 10 43.6**	**-3.8**
KRBS	20nm,0.7s			Lg	Lg	03 12 06.0	
SGDS	**Sogindy** 2.7nm,0.3s	**6.16**	**338**	Pg	**Pg**	**03 10 44.3**	**-3.7**
SGDS	6.4nm,0.4s			Lg	Lg	03 12 07.1	
KUU	**Kurty** 7.2nm,0.8s	**6.22**	**350**	*e*P	**Pg**	**03 10 46.7**	**-2.3**
KUU				*e*S	**Sg**	**03 12 11.0**	**+1.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	24nm,0.9s						
KUU	**Kurty**	**6.22**	**350**	Pg	**Pg**	**03 10 46.7**	**-2.3**
	7.2nm,0.8s						
KUU				Lg	Lg	03 12 11.0	
	24nm,0.9s						
ARXS	**Arharly**	**6.45**	**0**	*e*P	Pg	03 10 48.4	-5.0
	8.4nm,0.3s						
ARXS				*e*S	**Sg**	**03 12 14.3**	**-2.5**
	16nm,0.5s						
ARXS	**Arharly**	**6.45**	**0**	Pg	Pg	03 10 48.2	-5.2
	26nm,0.5s						
ARXS				Lg	Lg	03 12 14.3	
	16nm,0.5s						
BTLS	**Baital**	**7.79**	**340**	Pg	Pb	03 11 15.1	+11
	1.3nm,0.4s						
BTLS				Lg	Lg	03 13 00.6	
	4.0nm,0.6s						
MKAR	**Makanchi Array**	**9.63**	**19**	Pn	**Pn**	**03 11 08.7**	**+0.9**
	2.1nm,0.3s,baz=199,slow=13,SNR=96						
MKAR				Sn	**Sn**	**03 12 53.5**	**-2.1**
	1.2nm,0.3s,baz=204,slow=27,SNR=5.2						
WMQ	**Urumqi**	**9.66**	**48**	*e*P	**Pn**	**03 11 10.1**	**+1.8**
KURBB	**Kurchatov Arra**	**12.87**	**2**	Lg	Lg	03 15 43.4	
	baz=192,slow=31,SNR=2.2						
ZALV	**Zalesovo Beam**	**16.90**	**14**	P	**P**	**03 12 47.6**	**0.0**
	0.3nm,0.3s,baz=211,slow=10,SNR=2.4						
GTA	**Gaotai**	**17.32**	**78**	*e*P	**Pn**	**03 12 49.4**	**-1.7**
GTA				pP	pP	03 12 53.5	-4.1
GTA				sP	sP	03 12 56.0	-4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKTO	**Aktyubinsk**	**18.94**	**318**	P	**Pn**	**03 13 13.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=2.5						
SONM	**Songino Array**	**23.18**	**55**	P	**P**	**03 13 54.3**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=258,slow=10,SNR=1.4						
FINES	**FINESS Array B**	**39.56**	**324**	P	**P**	**03 16 21.6**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=113,slow=9.3,SNR=16						
NOA	**NORSAR Array B**	**46.67**	**322**	P	**P**	**03 17 18.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=90,slow=7.7,SNR=2.6						
ESDC	**Sonseca Array**	**61.59**	**300**	P	**P**	**03 19 06.6**	**0.0**
	comp=Z,0.2nm,0.4s,baz=48,slow=7.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**71.11**	**272**	P	**P**	**03 20 06.2**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=46,slow=5.1,SNR=7.9						

*JMA **04** 03:10:19.9,23.89N×121.53E,h11km±2km,M3.1*
*TAP **04** 03:10:21.0,23.95N×121.48E,h19km,ML3.9,B*
*ASIES **04** 03:10:20.7,23.93N×121.50E,h20km,MW3.5*
*IASPEI **04** 03:10:21.1±0.8,23.93N±0.01×121.50E±0.02,h20km±4km,*
Error ellipse: s-maj=3.0km s-min=1.8km az=109.5,GT5
selection from ISC bulletin GT5 identified by Bondr and
McLaughlin (2009) selection criteria Bondr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009

ISC 04 03:10:21.1±0.9,23.93N±0.01×121.51E±0.02,h19km±2km,
n134,σ0.71/201,7C-22D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.04**	**332**	⇑*i*P	**Pg**	**03 10 24.5**	**-0.1**
	baz=38						
ETM				*i* S	**Sg**	**03 10 26.7**	**-0.2**
	baz=38						
HWA	**Hwalien**	**0.10**	**62**	⇓*i*P	**Pg**	**03 10 25.6**	**+0.7**
	baz=78						
HWA				*i* S	**Sg**	**03 10 28.9**	**+1.5**
	baz=78						
TEYL	**Yanliau Villag**	**0.10**	**129**	⇓*i*P	**Pg**	**03 10 25.4**	**+0.5**
	baz=112						
TEYL				*i* S	**Sg**	**03 10 28.7**	**+1.2**
	baz=112						
ESL	**Shilin**	**0.14**	**212**	⇑*i*P	**Pg**	**03 10 25.2**	**-0.2**
	baz=194						
ESL				S	**Sg**	**03 10 27.8**	**-0.4**
	baz=194						
TWD	**Chiawan**	**0.17**	**27**	⇓*i*P	**Pg**	**03 10 25.8**	**+0.1**
	baz=41						
TWD				*i* S	**Sg**	**03 10 28.9**	**0.0**
	baz=41						
TEGC	**Jichi Village**	**0.22**	**173**	*i* P	**Pg**	**03 10 27.2**	**+0.7**
	baz=170						
TEGC				S	**Sg**	**03 10 32.0**	**+1.8**
	baz=170						
ETL	**Fush Village**	**0.25**	**24**	P	**Pg**	**03 10 26.8**	**-0.2**
	baz=32						
ETL				S	**Sb**	**03 10 30.4**	**-0.2**
	baz=32						
NACB	**Ninganchiao**	**0.25**	**17**	⇑*i*P	**Pg**	**03 10 26.7**	**-0.3**
	baz=25						
NACB				*i* S	**Sb**	**03 10 30.3**	**-0.4**
	baz=25						
EGFH	**Guangfu**	**0.27**	**197**	*i* P	**Pg**	**03 10 27.1**	**-0.3**
	baz=190						
EGFH				*i* S	**Sg**	**03 10 31.5**	**-0.1**
	baz=190						
ETLH	**Xiulin Townshi**	**0.28**	**354**	⇓*i*P	**Pg**	**03 10 27.1**	**-0.4**
	baz=1.0						
ETLH				*i* S	**Sg**	**03 10 30.9**	**-0.9**
	baz=1.0						
OWD	**Renai**	**0.31**	**274**	P	**Pg**	**03 10 27.5**	**-0.5**
	baz=276						
OWD				*e*S	**Sg**	**03 10 31.5**	**-1.2**
	baz=276						
WHF	**Hehuan Shan**	**0.31**	**313**	⇓*i*P	**Pg**	**03 10 27.6**	**-0.6**
	baz=311						
WHF				*i* S	**Sg**	**03 10 31.9**	**-1.2**
	baz=311						
CHGB	**Renai**	**0.34**	**293**	⇓P	**Pg**	**03 10 28.1**	**-0.4**
	baz=296						
CHGB				S	**Sg**	**03 10 32.5**	**-1.0**
	baz=296						
FUSS	**Fushou**	**0.40**	**322**	⇓*i*P	**Pg**	**03 10 29.3**	**-0.3**
	baz=324						
FUSS				S	**Sg**	**03 10 34.7**	**-0.7**
	baz=324						
EHP	**Heping Village**	**0.43**	**29**	P	**Pg**	**03 10 29.9**	**-0.2**
	baz=35						
EHP				S	**Sg**	**03 10 36.0**	**0.0**
	baz=35						
TWT	**Tachien**	**0.44**	**316**	⇓*i*P	**Pg**	**03 10 30.2**	**-0.2**
	baz=310						
TWT				S	**Sg**	**03 10 35.8**	**-0.8**
	baz=310						
HGSD	**Ruisui**	**0.45**	**191**	⇓P	**Pg**	**03 10 30.0**	**-0.3**
	baz=192						
HGSD				*e*S	**Sb**	**03 10 37.2**	**+0.5**
	baz=192						
TDCB	**Techi**	**0.46**	**315**	⇓*i*P	**Pg**	**03 10 30.2**	**-0.3**
	baz=310						
TDCB				S	**Sg**	**03 10 35.8**	**-1.1**
	baz=310						
EHY	**Hungye**	**0.46**	**202**	⇓P	**Pg**	**03 10 29.4**	**-1.2**
	baz=191						
EHY				S	**Sg**	**03 10 36.7**	**-0.2**
	baz=191						
WPL	**Puli Township**	**0.51**	**279**	*e*P	**Pg**	**03 10 31.0**	**-0.6**
	baz=278						
NNS	**Nan Shan**	**0.52**	**346**	⇓*i*P	**Pg**	**03 10 31.5**	**-0.3**
	baz=350						
NNS				S	**Sg**	**03 10 38.2**	**-0.7**
	baz=350						
SSLB	**Suanglung**	**0.53**	**254**	⇑P	**Pg**	**03 10 31.2**	**-0.6**
	baz=257						
SSLB				S	**Sg**	**03 10 37.4**	**-1.7**
	baz=257						
DPDB	**Guoxing**	**0.55**	**281**	⇓*i*P	**Pg**	**03 10 31.6**	**-0.5**
	baz=280						
SMLT	**Sun Moon Lake**	**0.56**	**265**	⇑*i*P	**Pb**	**03 10 31.9**	**-0.4**
	baz=263						
SMLT				*i* S	**Sg**	**03 10 39.2**	**-0.9**
	baz=263						
WCS	**Beigang Elemen**	**0.56**	**283**	⇓P	**Pb**	**03 10 31.9**	**-0.4**
	baz=282						
WCS				*e*S	**Sg**	**03 10 39.2**	**-0.9**
	baz=282						
EWUT	**Wuta**	**0.57**	**25**	*e*P	**Pb**	**03 10 32.0**	**-0.4**
	baz=29						
EWUT				*e*S	**Sg**	**03 10 39.9**	**-0.2**
	baz=29						
YULB	**Yu-li**	**0.57**	**200**	⇓*i*P	**Pb**	**03 10 30.9**	**-1.5**
	baz=191						
YULB				*e*S	**Sg**	**03 10 39.9**	**-0.4**
	baz=191						
TYC	**Yuchr**	**0.60**	**267**	⇑P	**Pb**	**03 10 32.4**	**-0.5**
	baz=266						
TYC				*i* S	**Sb**	**03 10 39.9**	**-1.0**
	baz=266						
EYUL	**Yuli**	**0.61**	**197**	*e*P	**Pb**	**03 10 32.8**	**-0.2**
	baz=198						
EYUL				S	**Sg**	**03 10 41.9**	**+0.4**
	baz=198						
TWF1	**Yuli**	**0.61**	**199**	⇓*i*P	**Pb**	**03 10 31.5**	**-1.6**
	baz=195						
TWF1				S	**Sb**	**03 10 41.5**	**+0.2**
	baz=195						
ECBN	**Changbin**	**0.61**	**185**	P	**Pb**	**03 10 33.2**	**0.0**
	baz=181						
WHP	**Taichung City**	**0.62**	**304**	⇓*i*P	**Pb**	**03 10 33.1**	**-0.2**
	baz=299						
WHP				*i* S	**Sb**	**03 10 41.2**	**-0.5**
	baz=299						
WHYT	**Xinyi Township**	**0.65**	**249**	*e*P	**Pb**	**03 10 34.0**	**+0.2**
	baz=246						
NDT	**Datong Townshi**	**0.67**	**0**	⇓*i*P	**Pb**	**03 10 34.2**	**0.0**
	baz=13						
ENTT	**Nioudou**	**0.71**	**4**	⇓P	**Pb**	**03 10 34.5**	**-0.3**
	baz=7.0						
ENTT				S	**Sb**	**03 10 44.0**	**-0.2**
	baz=7.0						
NDS	**Dongshan**	**0.72**	**15**	*e*P	**Pb**	**03 10 34.6**	**-0.5**
	baz=26						
NDS				S	**Sb**	**03 10 44.4**	**-0.2**
	baz=26						
WJS	**Zhushan**	**0.73**	**261**	P	**Pg**	**03 10 36.0**	**+0.5**
	baz=262						
WJS				S	**Sg**	**03 10 46.4**	**+1.2**
	baz=262						
TWC	**Suao**	**0.74**	**24**	*e*P	**Pb**	**03 10 34.8**	**-0.7**
	baz=28						
TWC				*e*S	**Sb**	**03 10 45.0**	**-0.2**
	baz=28						
YHNB	**Yeheng**	**0.74**	**350**	⇓P	**Pb**	**03 10 35.2**	**-0.3**
	baz=346						
YHNB				S	**Sb**	**03 10 44.5**	**-0.8**
	baz=346						
WWF	**Wufeng**	**0.75**	**279**	P	**Pg**	**03 10 36.5**	**+0.6**
	baz=280						
FULB	**Fuli**	**0.76**	**195**	*e*P	**Pb**	**03 10 35.6**	**-0.1**
	baz=191						
WNT	**Mingjian**	**0.76**	**266**	P	**Pg**	**03 10 36.4**	**+0.4**
	baz=264						
WNT				*i* S	**Sg**	**03 10 47.3**	**+1.1**
	baz=264						
WNT1	**Nantou City**	**0.76**	**268**	P	**Pg**	**03 10 36.7**	**+0.6**
	baz=267						
WNT1				S	**Sn**	**03 10 47.8**	**-0.1**
	baz=267						
ALS	**Alishan**	**0.77**	**237**	⇑*i*P	**Pb**	**03 10 36.1**	**0.0**
	baz=226						
ALS				S	**Sb**	**03 10 46.5**	**+0.1**
	baz=226						
TCU	**Taichung**	**0.79**	**286**	*e*P	**Pn**	**03 10 37.9**	**+0.6**
	baz=285						
TWE	**Neicheng**	**0.80**	**10**	*e*P	**Pb**	**03 10 35.8**	**-0.6**
	baz=26						
CHN5	**Tsauling**	**0.83**	**247**	*i* P	**Pg**	**03 10 37.8**	**+0.3**
	baz=245						
CHN5				*i* S	**Sg**	**03 10 49.4**	**+0.8**
	baz=245						
NSTT	**Nanjuang**	**0.84**	**326**	⇓*i*P	**Pb**	**03 10 37.1**	**0.0**
	baz=329						
NSY	**Sanyi**	**0.84**	**305**	P	**Pg**	**03 10 37.9**	**+0.3**
	baz=315						
NSY				*e*S	**Sn**	**03 10 50.2**	**+0.5**
	baz=315						
CHKT	**Chengkung**	**0.84**	**189**	*e*P	**Pb**	**03 10 36.0**	**-1.1**
	baz=186						
CHKT				S	**Sb**	**03 10 48.1**	**+0.1**
	baz=186						
NWLT	**Wulai**	**0.84**	**359**	*e*P	**Pb**	**03 10 37.1**	**-0.1**
	baz=1.0						
NWLT				*e*S	**Sb**	**03 10 47.6**	**-0.5**
	baz=1.0						
ELDTW	**Lidau**	**0.87**	**212**	*e*P	**Pb**	**03 10 36.1**	**-1.5**
	baz=215						
ELDTW				S	**Sb**	**03 10 48.5**	**-0.4**
	baz=215						
ECS	**Chishang**	**0.88**	**198**	*e*P	**Pb**	**03 10 37.7**	**0.0**
	baz=194						
WCHH	**Zhanghua**	**0.89**	**280**	*e*P	**Pb**	**03 10 38.4**	**+0.6**
	baz=279						
NJD	**Zhudong**	**0.89**	**334**	*e*P	**Pb**	**03 10 38.6**	**+0.6**
	baz=337						
NMLH	**Miaoli**	**0.89**	**313**	*e*P	**Pg**	**03 10 38.8**	**+0.2**
	baz=314						
WDJ	**Dajia District**	**0.90**	**298**	*e*P	**Pb**	**03 10 38.8**	**+0.7**
	baz=298						
WDJ				*e*S	**Sg**	**03 10 51.1**	**+0.5**
	baz=298						
WGK	**Gukeng**	**0.90**	**254**	*e*P	**Pb**	**03 10 38.7**	**+0.5**
	baz=252						
WDLH	**Douliu**	**0.93**	**255**	*e*P	**Pb**	**03 10 39.0**	**+0.5**
	baz=252						
HSN1	**Hsinchu**	**0.95**	**332**	*e*P	**Pb**	**03 10 39.8**	**+0.7**
	baz=334						
NTC	**Toucheng**	**0.96**	**17**	*e*P	**Pb**	**03 10 39.2**	**0.0**
	baz=21						
EDH	**Donghe**	**0.97**	**191**	*e*P	**Pb**	**03 10 37.7**	**-1.7**
	baz=187						
SBCB	**Hsinchu**	**0.98**	**331**	⇓P	**Pn**	**03 10 40.5**	**+0.6**
	baz=333						
HSN	**Hsinchu**	**1.00**	**330**	P	**Pg**	**03 10 41.1**	**+0.5**
	baz=341						
HSN				*e*S	**Sn**	**03 10 55.5**	**+1.9**
	baz=341						
STYH	**Taoyuan**	**1.02**	**222**	*e*P	**Pb**	**03 10 40.3**	**+0.2**
	baz=216						
STYH				*e*S	**Sb**	**03 10 53.6**	**+0.5**
	baz=216						
CHN4	**Tsaushan**	**1.02**	**236**	P	**Pb**	**03 10 40.7**	**+0.5**
	baz=223						
CHN4				S	**Sg**	**03 10 55.7**	**+1.2**
	baz=223						
TPUB	**Ta-pu**	**1.02**	**232**	*e*P	**Pb**	**03 10 40.7**	**+0.4**
	baz=220						
TPUB				*e*S	**Sg**	**03 10 55.1**	**+0.5**
	baz=220						
NHDH	**Xindian Distri**	**1.03**	**1**	*e*P	**Pb**	**03 10 40.6**	**+0.3**
	baz=11						
CHN2	**Minshiung**	**1.03**	**247**	*e*P	**Pb**	**03 10 39.5**	**-0.8**
	baz=245						
STYT	**Tauyuan**	**1.03**	**222**	*e*P	**Pb**	**03 10 40.1**	**-0.3**
	baz=211						
STYT				*e*S	**Sb**	**03 10 53.9**	**+0.3**
	baz=211						
TATO	**Taipei**	**1.04**	**359**	*e*P	**Pb**	**03 10 40.3**	**-0.2**
	baz=6.0						
TATO				*e*S	**Sb**	**03 10 53.4**	**-0.4**
	baz=6.0						
WRL	**Guolierlin Hig**	**1.04**	**269**	*e*P	**Pg**	**03 10 41.8**	**+0.4**
	baz=267						
TWA	**Mucha**	**1.05**	**4**	*e*P	**Pb**	**03 10 40.4**	**-0.3**
	baz=16						
WTK	**Tuku**	**1.06**	**257**	*e*P	**Pg**	**03 10 42.0**	**+0.4**
	baz=254						
WTP	**Ta-pu**	**1.07**	**231**	*e*P	**Pb**	**03 10 41.5**	**+0.4**
	baz=218						
WTP				*e*S	**Sg**	**03 10 56.5**	**+0.5**
	baz=218						
NCUH	**Zhongli**	**1.07**	**344**	*e*P	**Pn**	**03 10 42.1**	**+0.9**
	baz=2.0						
TIPB	**Shuangxi**	**1.07**	**15**	*e*P	**Pb**	**03 10 41.2**	**+0.1**
	baz=17						
TIPB				*e*S	**Sb**	**03 10 54.5**	**-0.3**
	baz=17						
LONT	**Longtian**	**1.08**	**199**	*e*P	**Pb**	**03 10 41.3**	**+0.1**
	baz=182						
NTY	**Taoyuan**	**1.08**	**350**	*e*P	**Pn**	**03 10 42.2**	**+0.9**
	baz=353						
CHY	**Chiayi**	**1.09**	**247**	*e*P	**Pb**	**03 10 41.4**	**+0.1**
	baz=243						
TAP1	**Taipei**	**1.10**	**1**	*e*P	**Pb**	**03 10 42.4**	**+0.9**
	baz=17						
TWK	**Hsinying**	**1.15**	**235**	*e*P	**Pb**	**03 10 43.2**	**+0.8**
	baz=233						
TWK				S	**Sg**	**03 10 58.7**	**+0.1**
	baz=233						
TWB1	**Santiao Chiao**	**1.16**	**22**	*e*P	**Pn**	**03 10 42.9**	**+0.6**
	baz=17						
NWF	**Wu-fen Shan**	**1.16**	**12**	*e*P	**Pb**	**03 10 43.3**	**+0.7**
	baz=14						
NWF				*e*S	**Sn**	**03 10 58.4**	**+0.6**
	baz=14						
WFSB	**Wu-fen Shan**	**1.16**	**12**	*e*P	**Pn**	**03 10 42.5**	**+0.2**
	baz=26						
TWS1	**Kuangyinshan**	**1.17**	**356**	*e*P	**Pb**	**03 10 43.4**	**+0.7**
	baz=13						
CHN1	**Nanshi**	**1.17**	**231**	*e*P	**Pb**	**03 10 43.1**	**+0.4**
	baz=219						
CHN1				S	**Sg**	**03 11 00.3**	**+1.1**
	baz=219						
SNST	**Tainan City**	**1.17**	**233**	*e*P	**Pb**	**03 10 43.5**	**+0.8**
	baz=231						
SNST				*e*S	**Sg**	**03 10 59.1**	**-0.1**
	baz=231						
TWGBT	**Beinan**	**1.18**	**200**	*e*P	**Pn**	**03 10 40.1**	**-2.5**
	baz=185						
SGST	**Jiashian**	**1.20**	**225**	*e*P	**Pn**	**03 10 43.1**	**+0.2**
	baz=213						
YM01	**YM01**	**1.21**	**2**	*e*P	**Pn**	**03 10 43.2**	**+0.1**
	baz=6.0						
SLGT	**Liugui**	**1.23**	**221**	*e*P	**Pn**	**03 10 43.5**	**+0.3**
	baz=217						
NTST	**Danshui**	**1.23**	**357**	*e*P	**Pb**	**03 10 44.5**	**+0.8**
	baz=14						
TNOU	**National Taiwa**	**1.24**	**11**	*e*P	**Pb**	**03 10 44.2**	**+0.4**
	baz=23						
ANP	**Anpu**	**1.25**	**0**	*e*P	**Pn**	**03 10 43.8**	**+0.2**
	baz=23						
YM08	**YM08**	**1.25**	**3**	*e*P	**Pn**	**03 10 43.1**	**-0.5**
	baz=7.0						
LDUT	**Ludao**	**1.25**	**182**	*e*P	**Pn**	**03 10 41.1**	**-2.5**
	baz=178						
ICHU	**Yijhu**	**1.27**	**244**	*e*P	**Pb**	**03 10 44.7**	**+0.3**
	baz=240						
CHN8	**Yiju**	**1.33**	**244**	*e*P	**Pn**	**03 10 45.1**	**+0.4**
	baz=240						
TWY	**Chenhua**	**1.34**	**3**	*e*P	**Pg**	**03 10 46.9**	**-0.1**
	baz=7.0						
SCST	**Cishan**	**1.40**	**222**	*e*P	**Pb**	**03 10 47.5**	**+0.9**
	baz=218						
JYNG	**Yonagunijimaku**	**1.41**	**68**	P	**Pn**	**03 10 45.5**	**-0.2**
JYNG				S	**Sn**	**03 11 04.1**	**+0.4**
SSD	**Sandimen**	**1.43**	**215**	*e*P	**Pb**	**03 10 47.1**	**-0.1**
	baz=211						
TSMG	**Majia**	**1.46**	**213**	*e*P	**Pb**	**03 10 47.5**	**-0.1**
	baz=221						
YOJ	**Yonaguni jima**	**1.47**	**69**	P	**Pn**	**03 10 46.3**	**-0.2**
YOJ				*e*S	**Sn**	**03 11 05.4**	**+0.2**
YOJ	**Yonaguni jima**	**1.47**	**69**	*e*P	**Pn**	**03 10 46.1**	**-0.4**
	baz=83						
YOJ				*e*S	**Sn**	**03 11 05.4**	**+0.2**
	baz=83						
TWM1	**Shoushan**	**1.49**	**222**	*e*P	**Pg**	**03 10 50.4**	**+0.5**
	baz=218						
MASBT	**Mashibuluo**	**1.54**	**212**	*e*P	**Pn**	**03 10 47.5**	**-0.1**
	baz=219						
EAST	**Anshuo**	**1.66**	**202**	*e*P	**Pb**	**03 10 51.1**	**0.0**
	baz=186						
SCZT	**Fangliau**	**1.76**	**208**	*e*P	**Pn**	**03 10 51.9**	**+1.4**
	baz=198						
PCYT	**Pengchaiyu**	**1.77**	**17**	*e*P	**Pn**	**03 10 50.6**	**-0.1**
	baz=21						
PHUB	**P'eng-hu**	**1.83**	**257**	*e*P	**Pn**	**03 10 51.8**	**+0.3**
	baz=255						
PHUB				*e*S	**Sn**	**03 11 14.3**	**+0.3**
	baz=255						
WDGT	**Dungji**	**1.83**	**249**	*e*P	**Pn**	**03 10 51.8**	**+0.3**
	baz=243						
PNG	**Penghu**	**1.83**	**259**	*e*P	**Pn**	**03 10 51.7**	**+0.2**
	baz=257						
PNG				*e*S	**Sn**	**03 11 14.9**	**+0.7**
	baz=257						
SLIU	**Shizi**	**1.83**	**201**	*e*P	**Pb**	**03 10 53.4**	**-0.6**
	baz=185						
LAY	**Lan-yu**	**1.89**	**179**	*e*P	**Pn**	**03 10 50.1**	**-2.2**
	baz=164						
VCHM	**Qimei**	**2.04**	**250**	*e*P	**Pn**	**03 10 54.9**	**+0.4**
	baz=231						
VCHM				*e*S	**Sn**	**03 11 20.1**	**+0.7**
	baz=231						
IRIF	**Iriomote-Funau**	**2.06**	**78**	P	**Pn**	**03 10 54.9**	**+0.1**
IRIF				*e*S	**Sn**	**03 11 20.4**	**+0.4**
HATJ	**Hateruma jima**	**2.10**	**86**	*e*S	**Sn**	**03 11 21.0**	**+0.1**
VWUC	**VWUC**	**2.16**	**300**	*e*P	**Pn**	**03 10 55.6**	**-0.4**
	baz=302						
JKRS	**Kuro-shima**	**2.30**	**82**	P	**Pn**	**03 10 58.6**	**+0.6**
JKRS				*e*S	**Sn**	**03 11 27.2**	**+1.4**
JIJ	**Ishigaki jima**	**2.44**	**79**	P	**Pn**	**03 10 59.8**	**-0.1**
JIJ				S	**Sn**	**03 11 28.5**	**-0.8**
PTMZ	**Houxiangcun**	**2.44**	**297**	*e*P	**Pn**	**03 10 59.8**	**-0.1**
	baz=299						
MATB	**Ma-tsu**	**2.63**	**328**	*e*P	**Pn**	**03 11 02.1**	**-0.5**
	baz=330						
MATB				*e*S	**Sn**	**03 11 32.4**	**-1.5**
	baz=330						
JISG	**Ishigakijimahi**	**2.64**	**75**	P	**Pn**	**03 11 02.4**	**-0.2**
JISG				*e*S	**Sn**	**03 11 33.9**	**-0.2**
MSUT	**Lienchiang**	**2.65**	**327**	*e*P	**Pn**	**03 11 02.8**	**0.0**
	baz=335						
QZH	**Quanzhou**	**2.85**	**291**	Pn	**Pn**	**03 11 05.3**	**-0.2**
QZH				Sn	**Sn**	**03 11 37.4**	**-1.9**
QZH				smax	smax		
	comp=N,56nm,0.6s						
QZH				smax	smax		
	comp=E,34nm,0.3s						
KNMB	**Chin-men Tao**	**2.90**	**281**	*e*P	**Pn**	**03 11 05.8**	**-0.4**
	baz=279						
JTJ	**Tarama**	**3.00**	**76**	P	**Pn**	**03 11 08.4**	**+0.8**
LYJJ	**Jianjiangzhen**	**3.05**	**329**	*e*P	**Pn**	**03 11 08.1**	**-0.2**
	baz=323						
MHZQ	**Yeshan**	**3.12**	**314**	*e*P	**Pn**	**03 11 08.9**	**-0.4**
	baz=319						
XPSS	**Dashiqiu**	**3.22**	**338**	*e*P	**Pn**	**03 11 10.1**	**-0.5**
	baz=348						
AXDP	**Jialang**	**3.37**	**287**	*e*P	**Pn**	**03 11 13.3**	**+0.6**
	baz=286						
ZPLA	**Ao Xicun**	**3.44**	**271**	*e*P	**Pn**	**03 11 13.7**	**0.0**
	baz=266						

ZUR 04 03:12:38.9,46.33N×7.36E,h4km±1km,MLh0.7/9,6C,
Error ellipse: s-maj=3.0km s-min=1.0km az=322.0,
Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin/Sane**	**0.06**	**308**	⇑Pg	Pg	03 12 40.6	+0.2
SENIN				⇑Pg	Pg	03 12 40.6	+0.2
	0.1nm,SNR=4.4						
SENIN				Sg	Sg	03 12 41.8	+0.4
SIOO	**Sion-Ophtalmol**	**0.10**	**172**	Sg	Sg	03 12 43.0	+0.7
GRYON	**Gryon**	**0.19**	**246**	Sg	Sg	03 12 45.5	+0.4
LKBD	**Leukerbad**	**0.19**	**72**	⇑Pg	Pg	03 12 43.1	+0.4
	SNR=0.8						
LKBD				⇑Pg	Pg	03 12 43.1	+0.4
DIX	**Grande Dixence**	**0.25**	**173**	⇑Pg	Pg	03 12 43.9	+0.1
	SNR=0.6						
DIX				⇑Pg	Pg	03 12 43.9	+0.1
LAUCH	**Lauchernalp**	**0.30**	**73**	Sg	Sg	03 12 49.1	+0.5

VIE 04 03:13:15.2±0.3,47.39N×11.43E,h8km±2km,mb0.7/2,
ml1.5/8,Error ellipse: s-maj=2.0km s-min=0.9km az=3.0
14 km NNW of Hall in Tirol,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WATA	**Walderalm**	**0.12**	**119**	*i* Pg	Pg	03 13 18.1	+0.2
	14nm,0.1s						
WATA				*i* Sg	Sg	03 13 20.0	+0.2
	61nm,0.1s						
WTTA	**Wattenberg**	**0.19**	**132**	*i* Pg	Pg	03 13 19.4	+0.3
	12nm,0.1s						
WTTA				*i* Sg

DAVA	**Damuels**	**1.06 265**	*e*Pg	Pn	03 13 37.1	+0.7
	1.0nm,0.1s					
DAVA			*e*Sg	Sb	03 13 50.0	+0.1
	4.7nm,0.3s					

IDC 04 03:13:39.0±3.1, 5°.39S×146°.92E, h219km±31km, mb2.8/2, mb1 3.2/4, mb1mx2.9/31, mbtmp3.5/4, Error ellipse: s-maj=71.8km s-min=21.6km az=115.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.00**	**177**	P	Pn	03 14 42.3	+0.8
	2.4nm,0.3s,baz=315,slow=5.7,SNR=2.1						
PMG				S	S	03 15 31.1	+0.4
	2.9nm,0.3s,baz=333,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**18.95**	**219**	P	P	03 17 43.7	-0.3
	0.4nm,0.3s,baz=39,slow=12,SNR=21						
WRA				S	S	03 21 04.4	-3.3
	0.1nm,0.3s,baz=32,slow=20,SNR=1.7						
ASAR	**Alice Springs**	**22.08**	**213**	P	P	03 18 16.9	+0.3
	0.5nm,0.7s,baz=48,slow=8.4,SNR=6.5						
ASAR				S	S	03 22 04.9	+0.9
	0.3nm,0.7s,baz=37,slow=23,SNR=1.7						
ILAR	**Eielson Array**	**84.95**	**23**	P	P	03 25 49.1	-0.2
	0.2nm,0.7s,baz=248,slow=4.8,SNR=3.1						

*CNRM **04** 03:14:53.7, 35°.51N×7°.20W, h59km, Hypocentre not reviewed by the ISC*
*MDD **04** 03:14:56.3±0.8, 35°.69N×7°.04W, h53km±30km, mb4.2/25, Error ellipse: s-maj=8.2km s-min=3.7km az=21.0, PRXIMO*
*LDG **04** 03:14:56.7±0.2, 35°.77N×6°.99W, h15km, Ml3.3/3, Error ellipse: s-maj=4.4km s-min=2.1km az=17.0*
*IGIL **04** 03:14:56.0, 35°.59N×7°.09W, h31km, ML2.8*
*SFS **04** 03:14:56.0, 35°.60N×7°.00W, h57km, ML4.1, GOLFO DE CADIZ*
*INMG **04** 03:14:56.6±1.6, 35°.67N×7°.03W, h31km±8km, MD2.7, ML2.7, Error ellipse: s-maj=3.2km s-min=2.9km az=40.0*
ISC 04 03:14:57.9±1.5, 35°.93N±0°.07×6°.90W±0°.04, h35km, n112, σ1§35/208, 4C-18D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPS	**Cap Spartel**	**0.82**	**100**	P		03 15 13.5	
CPS				S		03 15 27.7	
ECEU	**Ceuta**	**1.24**	**91**	P	**Pn**	**03 15 18.5**	**-0.2**
	8.7nm,0.2s,SNR=9.0						
CEU	**Ceuta**	**1.24**	**91**	P	**Pn**	**03 15 19.6**	**+0.9**
CEU				S	**Sn**	**03 15 37.6**	**+3.4**
CEU	**Ceuta**	**1.24**	**91**	P	**Pn**	**03 15 19.6**	**+0.9**
CEU				S	**Sn**	**03 15 37.6**	**+3.4**
SMIR	**Smir Dam**	**1.26**	**101**	P		03 15 18.3	
SMIR				S		03 15 37.5	
ESPR	**Espera**	**1.26**	**42**	⇑P	**Pn**	**03 15 20.5**	**+1.5**
	3.1nm,0.1s,SNR=18						
ESPR				S	**Sn**	**03 15 38.2**	**+3.4**
	15nm,0.2s,SNR=10						
EJIF	**Jimena Fronter**	**1.27**	**65**	P	**Pn**	**03 15 20.8**	**+1.6**
	SNR=7.9						
EJIF				S	**Sn**	**03 15 37.1**	**+2.0**
	SNR=7.9						
CHEFC	**Chefchaouen**	**1.51**	**122**	P		03 15 19.2	
CHEFC				S		03 15 38.0	
LIJA	**Lijar**	**1.55**	**51**	P	**Pn**	**03 15 24.0**	**+0.9**
LIJA				S	**Sn**	**03 15 40.8**	**-1.4**
LIJA	**Lijar**	**1.55**	**51**	P	**Pn**	**03 15 24.0**	**+0.9**
LIJA				S	**Sn**	**03 15 40.8**	**-1.4**
PBDV	**Barranco-do-Ve**	**1.55**	**328**	P	**Pn**	**03 15 22.8**	**-0.3**
PBDV				S	**Sn**	**03 15 42.5**	**+0.5**
	16nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.55**	**328**	⇓*e*Pn	**Pn**	**03 15 22.8**	**-0.3**
PBDV				*e*Sn	**Sn**	**03 15 42.5**	**+0.5**
PBDV				A	A	03 15 43.1	
	16nm,0.1s						
PVAQ	**Vaqueiros**	**1.61**	**336**	P	**Pn**	**03 15 24.1**	**+0.2**
PVAQ				S	**Sn**	**03 15 44.5**	**+1.0**
	41nm,0.3s						
PVAQ	**Vaqueiros**	**1.61**	**336**	⇓*i*Pn	**Pn**	**03 15 24.1**	**+0.2**
PVAQ				*e*Sn	**Sn**	**03 15 44.5**	**+1.0**
PVAQ				A	A	03 15 45.5	
	41nm,0.3s						
PVAQ	**Vaqueiros**	**1.61**	**336**	P		03 15 24.2	
PVAQ				S		03 15 47.9	
EGRO	**El Granado**	**1.67**	**344**	⇓P	**Pn**	**03 15 25.3**	**+0.7**
	4.6nm,0.0s,SNR=18						
EGRO				S	**Sn**	**03 15 46.9**	**+2.0**
	35nm,0.1s						
EMIJ	**Mijas**	**1.83**	**69**	⇑P	**Pn**	**03 15 27.0**	**+0.1**
	15nm,0.3s,SNR=18						
EMIJ				S	**Sn**	**03 15 50.1**	**+1.2**
	11nm,0.4s						
EMIN	**Mina Concepcio**	**1.85**	**6**	⇓P	**Pn**	**03 15 28.2**	**+1.1**
	1.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	**03 15 51.2**	**+2.0**
	40nm,0.2s						
PCVE	**Castro Verde**	**1.93**	**332**	P	**Pn**	**03 15 28.3**	**0.0**
PCVE				S	**Sn**	**03 15 52.1**	**+0.8**
	24nm,0.4s						
PCVE	**Castro Verde**	**1.93**	**332**	*e*Pn	**Pn**	**03 15 28.3**	**0.0**
PCVE				*e*Sn	**Sn**	**03 15 52.1**	**+0.8**
PCVE				A	A	03 15 53.2	
	24nm,0.4s						
PFVI	**Vila Bisbo**	**1.96**	**308**	P	**Pn**	**03 15 26.9**	**-1.8**
	4.7nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**03 15 51.5**	**-0.6**
	46nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.96**	**308**	⇓*e*Pn	**Pn**	**03 15 26.9**	**-1.8**
PFVI				*e*Sn	**Sn**	**03 15 50.1**	**-2.0**
PFVI				A	A	03 15 56.3	
	36nm,0.1s						
PFVI	**Vila Bisbo**	**1.96**	**308**	P		03 15 27.1	
PFVI				S		03 15 50.5	
MORF	**Marmelete**	**1.97**	**315**	*e*P	**Pn**	**03 15 27.3**	**-1.5**
MORF				*e*S	**Sn**	**03 15 50.5**	**-1.8**
MORF				IAML		03 15 55.9	
	comp=N,84nm,0.2s						
MORF	**Marmelete**	**1.97**	**315**	P	**Pn**	**03 15 27.3**	**-1.5**
MORF				S	**Sn**	**03 15 51.8**	**-0.5**
	comp=N,57nm,0.1s						
MORF	**Marmelete**	**1.97**	**315**	⇓*e*Pn	**Pn**	**03 15 27.4**	**-1.5**
MORF				*e*Sn	**Sn**	**03 15 51.8**	**-0.5**
MORF				A	A	03 15 57.1	
	comp=N,57nm,0.1s						
EMAL	**Malaga-Limoner**	**2.16**	**67**	P	**Pn**	**03 15 31.8**	**+0.4**
EMAL				S	**Sn**	**03 15 58.0**	**+1.0**
EMAL	**Malaga-Limoner**	**2.16**	**67**	P	**Pn**	**03 15 31.8**	**+0.4**
EMAL				S	**Sn**	**03 15 58.0**	**+1.0**
PTEO	**Sao Teotonio**	**2.18**	**318**	P	**Pn**	**03 15 30.7**	**-1.0**
PTEO				S	**Sn**	**03 15 56.8**	**-0.6**
	comp=N,9.1nm,0.2s						
PTEO	**Sao Teotonio**	**2.18**	**318**	⇓*i*Pn	**Pn**	**03 15 30.7**	**-1.0**
PTEO				*e*Sn	**Sn**	**03 15 56.8**	**-0.6**
PTEO				A	A	03 16 01.5	
	comp=N,18nm,0.2s						
MESJ	**Messejana**	**2.18**	**331**	*e*P	**Pn**	**03 15 31.6**	**-0.1**
MESJ				*e*S	**Sn**	**03 15 57.3**	**-0.2**
MESJ				IAML		03 16 00.7	
	comp=N,33nm,0.1s						
MESJ	**Messejana**	**2.18**	**331**	P	**Pn**	**03 15 31.6**	**-0.1**
MESJ				S	**Sn**	**03 15 57.3**	**-0.2**
MESJ	**Messejana**	**2.18**	**331**	⇓*e*Pn	**Pn**	**03 15 31.6**	**-0.1**
MESJ				*e*Sn	**Sn**	**03 15 58.0**	**+0.5**
MESJ				A	A	03 16 01.4	
	comp=N,16nm,0.2s						
PBEJ	**Beja**	**2.23**	**340**	P	**Pn**	**03 15 32.8**	**+0.4**
PBEJ				S	**Sn**	**03 15 59.4**	**+0.6**
	comp=N,12nm,0.2s						
PBEJ	**Beja**	**2.23**	**340**	⇓*e*Pn	**Pn**	**03 15 32.8**	**+0.4**
PBEJ				*e*Sn	**Sn**	**03 15 59.4**	**+0.6**
PBEJ				A	A	03 16 00.7	
	comp=N,24nm,0.2s						
PBAR	**Barrancos**	**2.25**	**357**	P	**Pn**	**03 15 33.7**	**+1.1**
PBAR				S	**Sn**	**03 16 01.0**	**+1.9**
	comp=N,26nm,0.3s						
PBAR	**Barrancos**	**2.25**	**357**	⇓*i*Pn	**Pn**	**03 15 33.7**	**+1.1**
PBAR				*e*Sn	**Sn**	**03 16 01.0**	**+1.9**
PBAR				A	A	03 16 02.8	
	comp=N,26nm,0.3s						
ECAB	**El Cabril**	**2.45**	**29**	P	**Pn**	**03 15 36.9**	**+1.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**03 16 05.6**	**+1.4**
	comp=N,16nm,0.2s,SNR=7.9						
ZHG	**ZHG**	**2.48**	**175**	P		03 15 28.7	
ZHG				S		03 15 56.3	
PALE	**Palemas**	**2.52**	**105**	P		03 15 34.3	
PALE				S		03 16 04.8	
EGOR	**Sierra Gorda,**	**2.54**	**61**	⇑P	**Pn**	**03 15 38.1**	**+1.4**
	comp=N,4.1nm,0.2s,SNR=18						
EGOR				S	**Sn**	**03 16 08.2**	**+1.6**
	comp=N,13nm,0.4s,SNR=7.9						
PNCL	**Nicolau / Gran**	**2.54**	**330**	P	**Pn**	**03 15 36.2**	**-0.4**
PNCL				S	**Sn**	**03 16 06.3**	**0.0**
	comp=N,13nm,0.1s						
PNCL	**Nicolau / Gran**	**2.54**	**330**	⇓*i*Pn	**Pn**	**03 15 36.2**	**-0.4**
PNCL				*e*Sn	**Sn**	**03 16 06.3**	**0.0**
PNCL				A	A	03 16 12.2	
	comp=N,13nm,0.1s						
EVO	**Evora**	**2.75**	**341**	P	**Pn**	**03 15 40.9**	**+1.5**
EVO				S	**Sn**	**03 16 12.5**	**+1.1**
EVO	**Evora**	**2.75**	**341**	P	**Pn**	**03 15 40.9**	**+1.5**
EVO				S	**Sn**	**03 16 12.5**	**+1.1**
EVO	**Evora**	**2.75**	**341**	⇓*e*Pn	**Pn**	**03 15 41.0**	**+1.5**
EVO				*e*Sn	**Sn**	**03 16 12.1**	**+0.7**
EVO				A	A	03 16 14.0	
	comp=N,29nm,0.1s						
LCRM	**LCR**	**2.80**	**142**	P		03 15 34.4	
LCRM				S		03 16 06.2	
ELGU	**Los Guajares,**	**2.80**	**69**	P	**Pn**	**03 15 39.4**	**-0.9**
	comp=N,7.8nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**03 16 13.2**	**+0.2**
	comp=N,5.7nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**2.81**	**148**	P	Pn	03 15 34.2	-6.4
IFR				S	Sn	03 15 59.6	-14
EBAD	**Badajoz**	**2.83**	**358**	⇓P	**Pn**	**03 15 41.5**	**+1.0**
	comp=N,2.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**03 16 14.7**	**+1.4**
	comp=N,32nm,0.2s,SNR=9.0						
EADA	**Adamuz**	**2.91**	**39**	P	**Pn**	**03 15 43.0**	**+1.3**
	comp=N,6.6nm,0.2s,SNR=18						
EADA				S	**Sn**	**03 16 16.0**	**+0.6**
	comp=N,8.6nm,0.1s,SNR=6.7						
PESTR	**Estremoz**	**2.99**	**350**	*e*Pn	**Pn**	**03 15 43.4**	**+0.6**
PESTR				*e*Sn	**Sn**	**03 16 18.6**	**+1.2**
PESTR				A	A	03 16 21.4	
	comp=N,8.9nm,0.4s						
PESTR	**Estremoz**	**2.99**	**350**	P		03 15 43.6	
PESTR				S		03 16 21.1	
EQUE	**Quentar**	**3.06**	**64**	P	**Pn**	**03 15 45.0**	**+1.1**
	comp=N,1.4nm,0.1s,SNR=9.5						
EQUE				S	**Sn**	**03 16 21.0**	**+1.6**
	comp=N,4.5nm,0.3s,SNR=7.8						
GOG	**Mont Gurugu**	**3.26**	**101**	P		03 15 44.0	
GOG				S		03 16 23.7	
CZD	**Col de Zad**	**3.27**	**151**	P		03 15 41.0	
CZD				S		03 16 15.7	
PMTG	**Montargil**	**3.31**	**342**	P	**Pn**	**03 15 47.5**	**+0.3**
PMTG				S	**Sn**	**03 16 26.4**	**+1.1**
	comp=N,10nm,0.5s						
PMTG	**Montargil**	**3.31**	**342**	⇓*e*Pn	**Pn**	**03 15 47.5**	**+0.3**
PMTG				*e*Sn	**Sn**	**03 16 26.4**	**+1.1**
PMTG				A	A	03 16 28.2	
	comp=N,10nm,0.5s						
PMST	**Lisbon--Monsan**	**3.34**	**328**	*e*Pn	**Pn**	**03 15 47.5**	**-0.1**
PMST				*e*Sn	**Sn**	**03 16 27.1**	**+1.0**
EBER	**Berja**	**3.38**	**72**	P	**Pn**	**03 15 47.5**	**-0.8**
	comp=N,1.8nm,0.2s,SNR=9.2						
EBER				S	**Sn**	**03 16 26.7**	**-0.6**
	comp=N,3.9nm,0.5s						
GORA	**Gorafe**	**3.47**	**62**	S	**Sn**	**03 16 30.2**	**+0.9**
	comp=N,7.3nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**3.52**	**354**	P	**Pn**	**03 15 51.0**	**+0.9**
PMRV				S	**Sn**	**03 16 31.5**	**+1.1**
	comp=N,15nm,0.2s						
PMRV	**Marv??o**	**3.52**	**354**	⇓*e*Pn	**Pn**	**03 15 51.0**	**+0.9**
PMRV				*e*Sn	**Sn**	**03 16 31.5**	**+1.1**
PMRV				A	A	03 16 33.4	
	comp=N,15nm,0.2s						
MD31	**MD31**	**3.53**	**149**	P		03 15 44.1	
MD31				S		03 16 21.1	
SRHM	**Skhour des Reh**	**3.54**	**194**	P		03 15 45.6	
SRHM				S		03 16 19.0	
PMAFR	**Mafra**	**3.57**	**329**	⇓P	**Pn**	**03 15 50.6**	**-0.2**
	comp=N,12nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**03 16 31.4**	**-0.3**
	comp=N,20nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.57**	**329**	⇓*e*Pn	**Pn**	**03 15 50.6**	**-0.2**
PMAFR				*e*Sn	**Sn**	**03 16 32.4**	**+0.7**
PMAFR				A	A	03 16 37.1	
	comp=N,21nm,0.2s						
EQES	**Quesada**	**3.60**	**58**	P	**Pn**	**03 15 51.9**	**+0.6**
	comp=N,1.8nm,0.2s,SNR=20						
EQES				S	**Sn**	**03 16 33.5**	**+0.9**
	comp=N,7.7nm,0.3s,SNR=9.2						
PSBE	**So Bento**	**3.88**	**338**	*e*Pn	**Pn**	**03 15 55.6**	**+0.5**
PSBE				*e*Sn	**Sn**	**03 16 39.5**	**0.0**
PSBE				A	A	03 16 41.7	
	comp=N,6.8nm,0.4s						
JBK	**JBK**	**3.89**	**113**	P		03 15 52.6	
JBK				S		03 16 36.5	
PCBR	**Castelo Branco**	**3.93**	**354**	P	**Pn**	**03 15 57.7**	**+1.9**
PCBR				S	**Sn**	**03 16 41.3**	**+0.6**
	comp=N,8.4nm,0.5s						
PCBR	**Castelo Branco**	**3.93**	**354**	⇓*e*Pn	**Pn**	**03 15 57.7**	**+1.9**
PCBR				*e*Sn	**Sn**	**03 16 41.3**	**+0.6**
PCBR				A	A	03 16 44.3	
	comp=N,17nm,0.5s						
SESP	**Santiago Espad**	**4.12**	**57**	P	**Pn**	**03 15 58.9**	**+0.4**
	comp=N,2.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**03 16 44.4**	**-1.0**
	comp=N,15nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**4.14**	**28**	P	**Pn**	**03 15 59.9**	**+1.2**
	comp=N,0.3nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**03 16 46.0**	**+0.1**
	comp=N,21nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**4.18**	**9**	P	**Pn**	**03 16 01.0**	**+1.8**
	comp=N,8.9nm,0.1s,SNR=64						
EPLA				S	**Sn**	**03 16 47.9**	**+1.1**
	comp=N,11nm,0.2s,SNR=21						
PCAS	**Casmilo, Conde**	**4.31**	**343**	P	**Pn**	**03 16 01.5**	**+0.6**
PCAS				S	**Sn**	**03 16 50.9**	**+1.0**
	comp=N,4.8nm,0.6s						
PCAS	**Casmilo, Conde**	**4.31**	**343**	*e*Pn	**Pn**	**03 16 01.5**	**+0.6**
PCAS				*e*Sn	**Sn**	**03 16 50.9**	**+1.0**
PCAS				A	A	03 17 16.8	
	comp=N,4.8nm,0.6s						
ESDC	**Sonseca Array**	**4.41**	**31**	P	**Pn**	**03 16 04.3**	**+1.9**
	comp=N,0.7nm,0.2s,baz=214,slow=12,SNR=22						
ESDC				S	**Sn**	**03 16 52.3**	**-0.1**
	comp=N,10.0nm,0.3s,baz=215,slow=23,SNR=17						
COI	**Coimbra**	**4.44**	**345**	P	**Pn**	**03 16 03.2**	**+0.5**
COI	**Coimbra**	**4.44**	**345**	*e*Pn	**Pn**	**03 16 03.2**	**+0.5**
MTE	**Manteigas**	**4.49**	**354**	P	**Pn**	**03 16 04.3**	**+0.8**
MTE				S	**Sn**	**03 16 54.9**	**+0.3**
	comp=N,6.1nm,0.6s						
MTE	**Manteigas**	**4.49**	**354**	*e*Pn	**Pn**	**03 16 04.3**	**+0.8**
MTE				*e*Sn	**Sn**	**03 16 54.9**	**+0.3**
MTE				A	A	03 16 59.3	
	comp=N,12nm,0.6s						
OUK	**Oukaimeden**	**4.78**	**190**	P		03 16 00.1	
OUK				S		03 16 48.1	
EAH	**EAH**	**4.82**	**208**	P		03 16 00.6	
EAH				S		03 16 48.3	
PVIS	**Viseu**	**4.84**	**351**	P	**Pn**	**03 16 08.9**	**+0.6**
PVIS				S	**Sn**	**03 17 03.4**	**+0.2**
	comp=N,3.6nm,0.3s						
PVIS	**Viseu**	**4.84**	**351**	*e*Pn	**Pn**	**03 16 08.9**	**+0.6**
PVIS				*e*Sn	**Sn**	**03 17 03.4**	**+0.2**
PVIS				A	A	03 17 05.4	
	comp=N,7.2nm,0.3s						
TDRA	**Tendrara**	**4.95**	**124**	P		03 16 05.7	
TDRA				S		03 17 00.2	
TIO	**Tiouine**	**5.00**	**184**	P	Pn	03 16 03.0	-7.6
TIO				S	Sn	03 16 52.4	-15
ETOB	**Tobarra**	**5.06**	**56**	⇑P	**Pn**	**03 16 11.4**	**+0.1**
	comp=N,9.9nm,0.1s,SNR=18						
ETOB				S	**Sn**	**03 17 07.0**	**-1.5**
	comp=N,3.7nm,0.1s,SNR=27						
GUD	**Guadarrama**	**5.18**	**24**	S	**Sn**	**03 17 11.6**	**0.0**
	comp=N,3.5nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**5.23**	**359**	P	**Pn**	**03 16 14.7**	**+1.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**03 17 12.4**	**-0.4**
	comp=N,13nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.23**	**359**	*e*Pn	**Pn**	**03 16 14.8**	**+1.1**
MVO				*e*Sn	**Sn**	**03 17 12.8**	**0.0**
MVO				A	A	03 17 14.5	
	comp=N,10.0nm,0.7s						
TZRR	**Tazzarine**	**5.25**	**167**	P		03 16 07.8	
TZRR				S		03 17 01.0	
PVRL	**Vila Real**	**5.38**	**353**	P	**Pn**	**03 16 16.4**	**+0.7**
PVRL				S	**Sn**	**03 17 16.5**	**+0.1**
	comp=N,4.0nm,0.4s						
PVRL	**Vila Real**	**5.38**	**353**	*e*Pn	**Pn**	**03 16 16.4**	**+0.7**
PVRL				*e*Sn	**Sn**	**03 17 16.5**	**+0.1**
PVRL				A	A	03 17 19.1	
	comp=N,8.0nm,0.4s						
POLO	**Lamas de Olo**	**5.48**	**353**	P	**Pn**	**03 16 17.9**	**+0.7**
POLO				S	**Sn**	**03 17 17.4**	**-1.6**
	comp=N,4.3nm,0.4s						
POLO	**Lamas de Olo**	**5.48**	**353**	*e*Pn	**Pn**	**03 16 17.9**	**+0.7**
POLO				*e*Sn	**Sn**	**03 17 17.4**	**-1.6**
POLO				A	A	03 17 21.2	
	comp=N,4.3nm,0.4s						
TTIG	**Tnine Tigouga,**	**5.52**	**194**	P		03 16 07.0	
TTIG				S		03 16 59.9	
AFON	**Font Roja**	**5.76**	**60**	P	**Pn**	**03 16 20.8**	**-0.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
AFON				S	**Sn**	**03 17 23.6**	**-2.3**
	comp=N,3.1nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**5.84**	**352**	P	**Pn**	**03 16 22.7**	**+0.7**
PCAB				S	**Sn**	**03 17 26.2**	**-1.5**
	comp=N,1.3nm,0.2s						
PCAB	**Cabril**	**5.84**	**352**	*e*Pn	**Pn**	**03 16 22.7**	**+0.7**
PCAB				*e*Sn	**Sn**	**03 17 26.2**	**-1.5**
PCAB				A	A	03 17 28.9	
	comp=N,2.6nm,0.2s						
PBRG	**Braganca**	**5.87**	**1**	P	**Pn**	**03 16 23.6**	**+1.2**
PBRG				S	**Sn**	**03 17 27.4**	**-1.1**
	comp=N,3.3nm,0.2s						
PBRG	**Braganca**	**5.87**	**1**	*e*Pn	**Pn**	**03 16 23.6**	**+1.2**
PBRG				*e*Sn	**Sn**	**03 17 27.4**	**-1.1**
PBRG				A	A	03 17 30.2	
	comp=N,6.7nm,0.2s						
ECHE	**Chera**	**5.96**	**50**	P	**Pn**	**03 16 23.8**	**+0.2**
	comp=N,2.2nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**03 17 27.7**	**-2.8**
	comp=N,2.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.00**	**352**	P	**Pn**	**03 16 24.8**	**+0.6**
	comp=N,1.5nm,0.2s,SNR=5.5						
ELOB				S	**Sn**	**03 17 30.3**	**-1.4**
	comp=N,3.0nm,0.1s,SNR=9.4						
ECAL	**Calabor**	**6.01**	**1**	P	**Pn**	**03 16 25.6**	**+1.3**
	comp=N,4.8nm,0.2s,SNR=11						
ECAL				S	**Sn**	**03 17 31.2**	**-0.7**
	comp=N,6.6nm,0.2s,SNR=10						
EBEN2	**Beniarda presa**	**6.01**	**61**	P	**Pn**	**03 16 23.8**	**-0.5**
	comp=N,1.8nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**03 17 28.7**	**-3.2**
	comp=N,1.5nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.12**	**350**	P	**Pn**	**03 16 26.6**	**+0.7**
PGAV				S	**Sn**	**03 17 33.6**	**-1.2**
	comp=N,2.6nm,0.5s						
PGAV	**Gavieira, Arco**	**6.12**	**350**	*e*Pn	**Pn**	**03 16 26.6**	**+0.7**
PGAV				*e*Sn	**Sn**	**03 17 33.6**	**-1.2**
PGAV				A	A	03 17 36.4	
	comp=N,2.6nm,0.5s						
ETOR	**Torete**	**6.19**	**36**	P	**Pn**	**03 16 28.3**	**+1.5**
	comp=N,9.5nm,0.2s,SNR=17						
ETOR				S	**Sn**	**03 17 35.0**	**-1.5**
	comp=N,20nm,0.3s,SNR=10.0						
EMOS	**Mosqueruela**	**6.73**	**47**	P	**Pn**	**03 16 35.5**	**+1.2**
	comp=N,1.1nm,0.2s,SNR=9.4						
EMOS				S	**Sn**	**03 17 46.9**	**-2.9**
	comp=N,2.1nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.93**	**353**	P	**Pn**	**03 16 37.6**	**+0.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**03 17 52.0**	**-2.5**
	comp=N,1.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.19**	**348**	P	**Pn**	**03 16 41.0**	**+0.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	**03 17 58.9**	**-2.1**
	comp=N,1.2nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.39**	**359**	S	**Sn**	**03 18 04.1**	**-1.9**
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.48**	**10**	P	**Pn**	**03 16 46.0**	**+1.5**
	comp=N,0.5nm,0.2s,SNR=7.5						
EARI				S	**Sn**	**03 18 06.5**	**-1.5**
	comp=N,1.8nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**7.77**	**19**	P	**Pn**	**03 16 50.0**	**+1.5**
	comp=N,0.3nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**03 18 11.9**	**-3.3**
	comp=N,1.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**8.39**	**28**	P	**Pn**	**03 16 59.2**	**+2.2**
	comp=N,0.4nm,0.2s,SNR=7.9						
EALK				S	**Sn**	**03 18 28.4**	**-2.0**
	comp=N,12nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**8.41**	**30**	P	**Pn**	**03 16 59.4**	**+2.2**
SJPF				S	**Sn**	**03 18 28.7**	**-2.2**
	comp=N,0.9nm,0.3s						
SJPF	**Ste Jean**	**8.41**	**30**	*e*Pn	**Pn**	**03 16 59.4**	**+2.2**
SJPF				*e*Sn	**Sn**	**03 18 28.7**	**-2.2**
	comp=N,1.9nm,0.3s						
ETSF	**Etsaut**	**8.52**	**33**	P	**Pn**	**03 17 00.4**	**+1.7**
ETSF				S	**Sn**	**03 18 31.2**	**-2.4**
	comp=N,1.4nm,0.5s						
ETSF	**Etsaut**	**8.52**	**33**	*e*Pn	**Pn**	**03 17 00.4**	**+1.7**
ETSF				*e*Sn	**Sn**	**03 18 31.2**	**-2.4**
	comp=N,2.7nm,0.5s						
ATE	**Arette**	**8.60**	**32**	P	**Pn**	**03 17 01.9**	**+1.9**
	comp=N,0.4nm,0.2s,SNR=7.9						
ATE				S	**Sn**	**03 18 32.

KST	**Kastek**	**5.27 345**	Pg	Pg	03 21 52.2	-3.9
	2.6nm,0.5s					
KST			Lg	Lg	03 23 04.8	
	3.9nm,0.5s					
AAK	**Ala-Archa**	**5.32 332**	⇓Pg	Pb	03 21 51.6	+2.4
	2.2nm,0.5s					
AAK			⇑Lg	Lg	03 23 00.3	
	8.1nm,0.8s					
DGS	**Degeres**	**5.50 344**	Pg	Pb	03 21 56.1	+3.9
	3.4nm,0.6s					
DGS			Lg	Lg	03 23 11.8	
	8.0nm,0.5s					
PDGK	**Podgornoye**	**5.50 13**	Pg	Pb	03 21 54.7	+2.4
	1.3nm,0.5s					
PDGK			Lg	Lg	03 23 08.9	
	1.7nm,0.5s					
KTBS	**Karatobe**	**5.80 352**	Pg	Pb	03 22 01.6	+4.2
	0.9nm,0.4s					
KTBS			Lg	Lg	03 23 20.4	
	8.1nm,0.5s					
KRBS	**Karabastau**	**5.95 345**	Pg	Pb	03 22 04.5	+4.7
	1.8nm,0.6s					
KRBS			Lg	Lg	03 23 26.0	
	6.2nm,0.7s					
SGDS	**Sogindy**	**6.00 337**	Pg	Pb	03 22 05.1	+4.5
	1.5nm,0.5s					
SGDS			Lg	Lg	03 23 26.9	
	2.7nm,0.6s					
ARXS	**Arharly**	**6.24 360**	Pg	Pb	03 22 07.9	+3.2
	6.5nm,0.5s					
ARXS			Lg	Lg	03 23 32.3	
	4.0nm,0.5s					
BTLS	**Baital**	**7.62 339**	Pg	Pg	03 22 34.9	-6.3
	1.0nm,0.5s					
BTLS			Lg	Lg	03 24 17.9	
	1.6nm,0.6s					

NNC 04 03:49:50.6±1.9, 37°.88N×78°.24E, h0km, mb3.9, mpv3.5, 2C-3D, Error ellipse: s-maj=13.3km s-min=11.6km az=152.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.17**	**1**	Pg	Pb	03 51 25.6	+3.7
	3.3nm,0.6s						
SATY				Lg	Lg	03 52 36.8	
	8.3nm,0.3s						
UZB	**Uzynbulak**	**5.29**	**6**	Pg	Pb	03 51 27.2	+3.2
	3.3nm,0.5s						
UZB				Lg	Lg	03 52 39.1	
	4.6nm,0.9s						
SHLS	**Shalkode**	**5.35**	**10**	Pg	Pb	03 51 28.3	+3.3
	6.3nm,0.3s						
SHLS				Lg	Lg	03 52 41.1	
	10nm,0.6s						
MDOK	**Medeo**	**5.35 351**		⇑Pg	Pb	03 51 28.4	+3.4
	3.8nm,0.5s						
MDOK				Lg	Lg	03 52 36.9	
	7.7nm,0.7s						
MDOK	**Medeo**	**5.35 351**		Pg	Pb	03 51 28.2	+3.1
	4.0nm,0.5s						
MDOK				Lg	Lg	03 52 40.6	
	7.8nm,0.5s						
PDGK	**Podgornoye**	**5.52**	**10**	Pg	Pb	03 51 31.0	+3.0
	1.5nm,0.5s						
PDGK				Lg	Lg	03 52 45.4	
	3.4nm,0.6s						
PDGK	**Podgornoye**	**5.52**	**10**	⇑Pg	Pb	03 51 30.8	+2.9
	1.6nm,0.4s						
PDGK				⇓Lg	Lg	03 52 45.5	
	6.7nm,0.7s						
AAK	**Ala-Archa**	**5.55 330**		⇓Pg	Pb	03 51 30.8	+2.5
	1.7nm,0.4s						
AAK				⇓Lg	Lg	03 52 47.0	
	14nm,1.2s						
KTMS	**Ketmen**	**5.78**	**15**	Pg	Pb	03 51 36.5	+4.1
	1.5nm,0.3s						
KTMS				Lg	Lg	03 52 55.6	
	5.0nm,0.6s						
KTBS	**Karatobe**	**5.94 349**		Pg	Pg	03 51 40.1	-4.3
	1.8nm,0.5s						
KTBS				Lg	Lg	03 53 00.9	
	6.6nm,0.6s						
KRBS	**Karabastau**	**6.12 342**		Pg	Pg	03 51 43.8	-4.1
	1.8nm,1.0s						
KRBS				Lg	Lg	03 53 07.2	
	4.5nm,0.9s						
MRKS	**Merke**	**6.19 323**		Pg	Pb	03 51 42.7	+3.5
	2.1nm,0.4s						
MRKS				Lg	Lg	03 53 06.2	
	2.3nm,0.3s						
ARXS	**Arharly**	**6.33 357**		Pg	Pb	03 51 45.8	+4.1
ARXS				Lg	Lg	03 53 11.5	

NEIC ***04*** *03:51:47.9±1.2, 10°.2S±0°.1×161°.3E±0°.1, h99km±6km, mb4.4/13, Error ellipse: s-maj=19.0km s-min=11.3km az=47.0*
IDC ***04*** *03:51:48.8±2.0, 10°.22S×161°.19E, h112km±16km, mb3.8/12, mb1 4.0/13, mb1mx3.8/42, mbtmp4.2/13, Error ellipse: s-maj=24.6km s-min=15.4km az=105.0*
ISC 04 03:51:47.5±0.6, 10°.27S±0°.07×161°.34E±0°.09, h100km, n35, σ1§26/35, mb4.1/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.61 301**		P	**Pn**	**03 52 14.6**	**-0.5**
	114nm,0.3s,baz=183,slow=2.8,SNR=12						
HNR				LR	LR	03 52 29.1	
	comp=Z,96nm,18.3s,baz=72,slow=28						
HNR				S	**Sn**	**03 52 35.6**	**-0.4**
	119nm,0.3s,baz=142,slow=22,SNR=3.7						
HNR	**Honiara**	**1.61 301**			**Pn**	**03 52 14.3**	**-0.8**
HNR	**Honiara**	**1.61 301**		P	**Pn**	**03 52 15.0**	**-0.1**
SANVU	**Saraoutou**	**7.69 133**		P	**Pn**	**03 53 38.2**	**+1.4**
LIFNC	**LIFOU**	**11.89 152**		Pn	**Pn**	**03 54 33.5**	**-0.2**
DZM	**Mont Dzumac**	**12.71 158**		P	**Pn**	**03 54 47.4**	**+2.7**
	2.0nm,0.3s,baz=25,slow=6.8,SNR=85						
DZM				S	**Sn**	**03 57 01.2**	**-3.4**
	0.4nm,0.3s,baz=249,slow=20,SNR=1.3						
MARNC	**Mare, Loyalty**	**12.87 151**		Pn	**Pn**	**03 54 47.5**	**+0.8**
ONTNC	**Ouen Toro**	**12.93 158**		Pn	**Pn**	**03 54 48.9**	**+1.4**
CTA	**Charters Tower**	**17.52 234**		P	**Pn**	**03 55 48.2**	**+2.7**
	0.4nm,0.3s,baz=50,slow=14,SNR=2.3						
WR0	**Warramunga Arr**	**27.57 246**		P	**P**	**03 57 24.2**	**-1.1**
WR0				IAmb	IAmb	03 57 25.6	
	comp=Z,3.5nm,0.6s						
WB0	**Warramunga Arr**	**27.65 247**		P	**P**	**03 57 25.2**	**-0.9**
WB0				IAmb	IAmb	03 57 26.3	
	comp=Z,10nm,0.7s						
WB2	**Warramunga Arr**	**27.74 247**		P	**P**	**03 57 26.0**	**-0.9**
WB2				IAmb	IAmb	03 57 27.0	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**27.75 247**		P	**P**	**03 57 26.6**	**-0.4**
	comp=Z,4.0nm,0.5s,baz=73,slow=9.4,SNR=54						
WRA				PcP	**PcP**	**04 00 40.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=72,slow=3.3,SNR=2.7						
WRA	**Warramunga Arr**	**27.75 247**		IAmb	IAmb	03 57 27.8	
	comp=Z,0.6nm,1.4s						
STKA	**Stephens Creek**	**28.22 217**		P	**P**	**03 57 32.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=45,slow=14,SNR=1.9						
ASAR	**Alice Springs**	**29.36 240**		P	**P**	**03 57 39.8**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=62,slow=10,SNR=33						
ASAR				pP	**pP**	**03 58 04.2**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=61,slow=9.6,SNR=1.9						
BBOO	**Buckleboo**	**32.33 222**		P	**P**	**03 58 07.5**	**+0.1**
PSA00	**Pilbara Seismi**	**41.33 249**		P	**P**	**03 59 22.8**	**-1.0**
PSA00				IAmb	IAmb	03 59 36.7	
	comp=Z,9.2nm,0.9s						
MORW	**Morawa**	**46.24 239**		P	**P**	**04 00 02.7**	**-0.3**
MORW				IAmb	IAmb	04 00 20.7	
	comp=Z,14nm,1.4s						
JKA	**Kamikawa-asahi**	**56.74 344**		P	**P**	**04 01 21.6**	**+0.7**
JKA	**Kamikawa-asahi**	**56.74 344**		IAmb	IAmb	04 01 26.4	
	comp=Z,9.4nm,1.2s						
ASAJ	**Asahikawa**	**56.74 344**		P	**P**	**04 01 21.6**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=216,slow=15,SNR=4.2						
PETK	**Petropavlovsk-**	**63.20 358**		P	**P**	**04 02 05.4**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=170,slow=8.6,SNR=2.2						
VNDA	**Vanda**	**67.23 180**		P	**P**	**04 02 31.1**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=354,slow=7.5,SNR=7.6						
ULN	**Ulaanbaatar**	**75.17 326**		P	**P**	**04 03 19.3**	**+0.1**
ULN				IAmb	IAmb	04 03 42.4	
	comp=Z,6.1nm,1.3s						
SONM	**Songino Array**	**75.53 325**		P	**P**	**04 03 20.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=146,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**75.53 325**		P	**P**	**04 03 20.8**	**-0.3**
M24K	**Tolsona, Glenn**	**82.79 22**		P	**P**	**04 04 00.4**	**+0.1**
MAW	**Mawson**	**83.80 202**		P	**P**	**04 04 04.8**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=109,slow=11,SNR=2.0						
ILAR	**Eielson Array**	**84.20 20**		P	**P**	**04 04 06.5**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=242,slow=4.8,SNR=22						
NVAR	**Mina Array Bea**	**88.86 51**		P	**P**	**04 04 31.8**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=232,slow=6.2,SNR=4.9						
MKAR	**Makanchi Array**	**90.02 318**		P	**P**	**04 04 34.5**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=96,slow=6.4,SNR=7.3						
ELK	**Elko**	**91.69 49**		P	**P**	**04 04 44.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=225,slow=2.9,SNR=3.0						
ELK	**Elko**	**91.69 49**		IAmb	IAmb	04 04 46.2	
	comp=Z,2.8nm,1.4s						
ARCES	**ARCESS Array B**	**114.46 344**		PKP	PKPdf	04 10 13.1	-2.1
	comp=Z,1.6nm,0.9s,baz=66,slow=4.2,SNR=3.9						

IDC ***04*** *03:55:17.4±1.3, 31°.75S×177°.89W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/32, mbtmp4.2/6, ML3.6/1, Error ellipse: s-maj=40.7km s-min=29.5km az=148.0*
NEIC ***04*** *03:55:19.4±1.7, 31°.67S±0°.07×177°.8W±0°.2, h10km±1km, mb4.5/7, Error ellipse: s-maj=24.1km s-min=11.9km az=93.0*
ISC 04 03:55:21.4±0.8, 31°.83S±0°.09×178°.1W±0°.2, h24km, n31, σ1§25/28, mb4.4/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.57**	**3**	Pn	Pn	03 55 55.5	-6.1
URZ	**Urewera**	**7.54 210**		Pn	**Pn**	**03 57 09.6**	**-0.2**
	1.0nm,0.3s,baz=347,slow=1.4,SNR=6.0						
URZ				Sn	**Sn**	**03 58 31.6**	**-2.9**
	5.0nm,0.3s,baz=272,slow=7.3,SNR=12						
MSVF	**Nonsavu**	**14.47 345**		Pn	**Pn**	**03 58 42.6**	**-2.2**
EIDS	**Eidsvold**	**27.79 276**		P	**P**	**04 01 09.8**	**+1.2**
CTA	**Charters Tower**	**34.01 281**		P	**P**	**04 02 05.7**	**+2.2**
	5.3nm,0.7s,baz=95,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**34.13 259**		P	**P**	**04 02 06.5**	**+2.0**
	1.5nm,0.7s,baz=105,slow=10,SNR=4.1						
BBOO	**Buckleboo**	**38.56 256**		P	**P**	**04 02 41.4**	**-0.9**
BBOO				IAmb	IAmb	04 02 42.5	
	comp=Z,15nm,1.2s						
ASAR	**Alice Sprngs**	**43.00 268**		P	**P**	**04 03 18.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=107,slow=7.5,SNR=34						
ASAR	**Alice Springs**	**43.00 268**		P	**P**	**04 03 20.6**	**+1.5**
WR0	**Warramunga Arr**	**43.94 274**		P	**P**	**04 03 26.4**	**-0.3**
WR0				IAmb	IAmb	04 03 47.0	
	comp=Z,7.3nm,1.2s						
WB2	**Warramunga Arr**	**44.11 274**		P	**P**	**04 03 28.9**	**+0.9**
WB2				IAmb	IAmb	04 03 38.1	
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**44.12 274**		P	**P**	**04 03 28.3**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=112,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**44.12 274**		IAmb	IAmb	04 03 36.7	
	comp=Z,0.4nm,1.1s						
CASY	**Casey**	**53.86 208**		P	**P**	**04 04 41.8**	**-0.3**
CASY				IAmb	IAmb	04 04 43.7	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**58.28 180**		P	**P**	**04 05 14.7**	**+0.8**
QSPA				IAmb	IAmb	04 05 25.8	
	comp=Z,4.8nm,0.8s						
SNAA	**Sanae**	**76.73 178**		P	**P**	**04 07 11.1**	**+0.8**
VNA3	**Neumayer Olymp**	**76.89 176**		P	**P**	**04 07 10.7**	**-0.4**
VNA2	**Neumayer--Watz**	**77.32 177**		P	**P**	**04 07 14.3**	**+0.8**
H03S2	**Juan Fernandez**	**79.72 123**		T	T	05 36 44.2	
	baz=234						
H03S1	**Juan Fernandez**	**79.73 123**		T	T	05 36 34.8	
	baz=234						
H03S3	**Juan Fernandez**	**79.74 123**		T	T	05 36 32.7	
	baz=234						
PETK	**Petropavlovsk-**	**87.18 346**		P	**P**	**04 08 05.4**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=150,slow=6.7,SNR=3.0						
MKAR	**Makanchi Array**	**118.65 309**		PKP	**PKPdf**	**04 14 06.6**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=165,slow=1.1,SNR=2.4						
MKAR	**Makanchi Array**	**118.65 309**			**PKPdf**	**04 14 05.9**	**-1.1**
OBN	**Obninsk**	**146.31 324**		PKPbc	**PKPab**	**04 15 00.1**	**-0.1**
FINES	**FINESS Array B**	**146.46 339**		PKPbc	**PKPdf**	**04 14 59.1**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=59,slow=3.6,SNR=18						
AKASG	**Malin Array Be**	**152.39 321**		PKPbc	**PKPbc**	**04 15 14.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=48,slow=3.3,SNR=4.5						
AKASG				PKPab	**sPKPbc**	**04 15 23.8**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=48,slow=4.8,SNR=6.1						
AKASG	**Malin Array Be**	**152.39 321**		PKPbc	**PKPbc**	**04 15 13.5**	**-1.4**
BRTR	**Keskin Array B**	**153.21 296**		PKPbc	**PKPbc**	**04 15 17.3**	**0.0**
	comp=Z,0.9nm,0.5s,baz=145,slow=6.4,SNR=6.2						
BRTR	**Keskin Array B**	**153.21 296**			**PKPbc**	**04 15 15.3**	**-2.1**
TORD	**Torodi Ar. Bea**	**161.41 179**		PKPab	**PKPab**	**04 16 05.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=189,slow=2.8,SNR=1.4						

MAN 04 03:56:47.7, 9°.05N×124°.84E, h84km, mb3.7, ML2.4, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.61 194**		*e*P	Pn	03 57 11.8	+9.0
CGP				*e*S	Sn	03 57 25.6	+12

INET ***04*** *04:00:02.7, 11°.89N×86°.67W, h67km, MW4.5*
IDC ***04*** *04:00:03.9±0.8, 12°.13N×86°.31W, h88km±6km, mb3.9/16, mb1 4.1/17, mb1mx3.9/38, mbtmp4.2/17, MS3.3/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=25.4km s-min=10.2km az=61.0*
UCR ***04*** *04:00:05.2±1.4, 11°.89N×86°.69W, h35km±8km, ML4.5, MW4.8, mb4.5(NEIC)*
NEIC ***04*** *04:00:05.1±1.8, 11°.93N±0°.05×86°.63W±0°.07, h90km±5km, mb4.5/147, Error ellipse: s-maj=11.4km s-min=5.9km az=60.0*
SNET ***04*** *04:00:06.4±0.5, 11°.89N×86°.82W, h35km±999km, ML4.8*
GCG ***04*** *04:01:03.0±0.4, 14°.33N×90°.21W, h48km, MD2.7*
ISC 04 04:00:03.6±0.6, 11°.93N±0°.04×86°.62W±0°.05, h88km±5km, n382, σ1§34/344, mb4.5/80, 1C-39D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.46**	**83**		**Pn**	**04 00 18.6**	**+0.7**
CNGN	**Cerro Negro**	**0.57**	**352**		**Pn**	**04 00 20.4**	**+1.5**
CRIN	**San Cristobal**	**0.87**	**331**		**Pn**	**04 00 22.7**	**+0.8**
ACON	**Acoyapa**	**1.42**	**88**	*e*P	**Pn**	**04 00 29.6**	**+1.3**
ACON	**Acoyapa**	**1.42**	**88**		**Pn**	**04 00 29.3**	**+1.1**
HZTE	**Horizontes, Gu**	**1.57**	**140**	*e*P	**Pn**	**04 00 31.3**	**+1.0**
HZTE	**Horizontes, Gu**	**1.57**	**140**		**Pn**	**04 00 31.5**	**+1.2**
GBS3	**Finca Las Img**	**1.62**	**135**	⇓*i*P	**Pn**	**04 00 31.7**	**+0.8**
GB1A	**Borinquen Arri**	**1.63**	**133**	*i* P	**Pn**	**04 00 32.0**	**+0.9**
GB1A				*i* S	**Sn**	**04 00 51.4**	**-0.5**
BUEV	**Buena Vista**	**1.64**	**133**	*e*P	**Pn**	**04 00 32.2**	**+1.0**
BUEV				*i* S	**Sn**	**04 00 51.6**	**-0.5**
BUAI	**Buenos Aires**	**1.64**	**130**	*i* P	**Pn**	**04 00 32.4**	**+1.2**
LAPC	**Finca la Perla**	**1.64**	**135**	⇓*i*P	**Pn**	**04 00 31.9**	**+0.7**
GPS2	**Hotel Rincn d**	**1.71**	**133**	*e*P	**Pn**	**04 00 33.2**	**+1.1**
CNCH	**Conchagua**	**1.79**	**319**	⇓*i*P	**Pn**	**04 00 33.7**	**+0.6**
CNCH				*e*S	**Sn**	**04 00 55.9**	**+0.4**
CNCH	**Conchagua**	**1.79**	**319**	⇓*i*P	**Pn**	**04 00 33.7**	**+0.6**
CNCH				*e*S	**Sn**	**04 00 55.9**	**+0.4**
LIM1	**Limonal**	**1.82**	**132**	⇓*i*P	**Pn**	**04 00 34.9**	**+1.4**
GUAB	**Guayabo de Bag**	**1.83**	**132**	*i* P	**Pn**	**04 00 35.1**	**+1.5**
LCND	**La Caada**	**1.85**	**318**	⇓*i*P	**Pn**	**04 00 34.3**	**+0.6**
LCND				*e*S	**Sn**	**04 00 56.6**	**-0.1**
LCND				IAML		04 01 02.9	
	comp=Z,10μm,0.4s						
LCND	**La Caada**	**1.85**	**318**	⇓*i*P	**Pn**	**04 00 34.3**	**+0.6**
LCND				*e*S	**Sn**	**04 00 56.6**	**-0.1**
LCND				IAML		04 01 02.9	
	comp=Z,10μm,0.4s						
HORNC	**Hornillas**	**1.86**	**130**	⇓*i*P	**Pn**	**04 00 35.4**	**+1.3**
COLC	**Colonia**	**1.88**	**132**	⇓*i*P	**Pn**	**04 00 35.7**	**+1.5**
CUI	**Cuipilapa**	**1.91**	**131**	*i* P	**Pn**	**04 00 36.2**	**+1.5**
GUAI	**GUAI**	**1.98**	**146**	*i* P	**Pn**	**04 00 37.4**	**+1.9**
GUAI				*i* S	**Sn**	**04 00 58.7**	**-1.1**
PLVR	**Palo Verde**	**2.01**	**141**	*e*P	**Pn**	**04 00 37.8**	**+1.8**
PTEN	**Parque Tenorio**	**2.01**	**127**	⇓*i*P	**Pn**	**04 00 37.3**	**+1.4**
ACAL	**Aguas Claras**	**2.02**	**129**	*i* P	**Pn**	**04 00 37.2**	**+1.1**
SAJU	**San Juanillo,**	**2.06**	**154**	*e*P	**Pn**	**04 00 37.6**	**+1.1**
SAJU				*e*S	**Sn**	**04 01 01.0**	**-0.6**
DUNO	**Dulce Nombre,**	**2.15**	**149**	*e*P	**Pn**	**04 00 39.1**	**+1.4**
DUNO	**Dulce Nombre,**	**2.15**	**149**		**Pn**	**04 00 39.1**	**+1.4**
LCY	**Lacayo**	**2.21**	**312**	⇓*i*P	**Pn**	**04 00 39.8**	**+1.1**
LCY	**Lacayo**	**2.21**	**312**	⇓*i*P	**Pn**	**04 00 39.8**	**+1.1**
TGUH	**Tegucigalpa,Un**	**2.21**	**343**	Pn	**Pn**	**04 00 40.3**	**+1.7**
GRZA	**Playa Garza**	**2.23**	**154**	*e*P	**Pn**	**04 00 39.8**	**+1.0**
GRZA				*e*S	**Sn**	**04 01 04.5**	**-1.1**
PACA	**Pacayal**	**2.26**	**313**	*e*P	**Pn**	**04 00 40.8**	**+1.5**
PACA				*e*S	**Sn**	**04 01 06.6**	**+0.1**
PACA	**Pacayal**	**2.26**	**313**	*e*P	**Pn**	**04 00 40.8**	**+1.5**
PACA				*e*S	**Sn**	**04 01 06.6**	**+0.1**
ESPN	**Las Esperanzas**	**2.29**	**83**	*e*P	**Pn**	**04 00 41.7**	**+2.2**
ESPN	**Las Esperanzas**	**2.29**	**83**		**Pn**	**04 00 41.7**	**+2.2**
JTS	**Las Juntas de**	**2.31**	**135**	P	**Pn**	**04 00 40.9**	**+1.0**
	comp=Z,240nm,0.3s,baz=173,slow=16,SNR=306						
JTS				LR	LR	04 01 30.1	
	comp=Z,629nm,18.2s,baz=308,slow=38						
JTS	**Las Juntas de**	**2.31**	**135**	*e*P	**Pn**	**04 00 40.9**	**+1.0**
CEDE	**Laguna Cedeo**	**2.37**	**127**	*e*P	**Pn**	**04 00 42.4**	**+1.6**
CASO	**Castillo**	**2.38**	**129**	⇓*i*P	**Pn**	**04 00 42.2**	**+1.4**
TECA	**Tecapa**	**2.40**	**310**	⇓*i*P	**Pn**	**04 00 42.5**	**+1.1**
TECA	**Tecapa**	**2.40**	**310**	⇓*i*P	**Pn**	**04 00 42.5**	**+1.1**
FORC	**Fortuna**	**2.41**	**127**	⇓*i*P	**Pn**	**04 00 42.6**	**+1.4**
COEB	**Comit de Eme**	**2.43**	**310**	⇓*e*P	**Pn**	**04 00 42.7**	**+1.1**
COEB				IAML		04 00 43.8	
	comp=Z,4μm,0.5s						
COEB				*e*S	**Sn**	**04 01 10.9**	**+0.3**
COEB	**Comit de Eme**	**2.43**	**310**	⇓*e*P	**Pn**	**04 00 42.7**	**+1.1**
COEB				IAML		04 00 43.8	
	comp=Z,4μm,0.5s						
COEB				*e*S	**Sn**	**04 01 10.9**	**+0.3**
COVE	**Coope Vega, Sa**	**2.49**	**119**	*e*P	**Pn**	**04 00 43.4**	**+1.2**
COVE	**Coope Vega, Sa**	**2.49**	**119**		**Pn**	**04 00 43.4**	**+1.2**
PQSS	**Presa 15 de Se**	**2.53**	**312**	⇑*i*P	**Pn**	**04 00 43.9**	**+1.1**
TECO	**Alcaldia de Te**	**2.64**	**307**	⇓*i*P	**Pn**	**04 00 45.1**	**+0.8**
CAO2	**Cobano, Puntar**	**2.68**	**146**		**Pn**	**04 00 46.2**	**+1.3**
COEG	**Centro de Oper**	**2.77**	**308**	⇓*i*P	**Pn**	**04 00 47.1**	**+1.0**
COEG				IAML		04 00 48.7	
	comp=Z,4μm,0.5s						
COEG	**Centro de Oper**	**2.77**	**308**	⇓*i*P	**Pn**	**04 00 47.1**	**+1.0**
COEG				IAML		04 00 48.7	
	comp=Z,4μm,0.5s						
SRA1	**San Ramn**	**2.79**	**131**	*e*P	**Pn**	**04 00 48.1**	**+1.7**
SJTE	**Alcalda de S**	**2.87**	**306**	⇓*i*P	**Pn**	**04 00 48.4**	**+1.0**
SJTE	**Alcalda de S**	**2.87**	**306**	⇓*i*P	**Pn**	**04 00 48.4**	**+1.0**
PAVA	**Las Pavas**	**2.87**	**308**	⇓*i*P	**Pn**	**04 00 48.7**	**+1.2**
PAVA	**Las Pavas**	**2.87**	**308**	⇓*i*P	**Pn**	**04 00 48.7**	**+1.2**
LFRS	**El Faro**	**2.91**	**306**	⇓*i*P	**Pn**	**04 00 49.2**	**+1.1**
LFRS	**El Faro**	**2.91**	**306**	⇓*i*P	**Pn**	**04 00 49.2**	**+1.1**
JACO	**JACO, Garabito**	**2.97**	**139**	*e*P	**Pn**	**04 00 50.6**	**+1.9**
JACO	**JACO, Garabito**	**2.97**	**139**		**Pn**	**04 00 50.5**	**+1.8**
LBRS	**Las Brisas**	**2.97**	**308**	⇓*e*P	**Pn**	**04 00 50.0**	**+1.2**
LBRS	**Las Brisas**	**2.97**	**308**	⇓*e*P	**Pn**	**04 00 50.0**	**+1.2**
LFU	**La Fuente**	**3.03**	**307**	*e*P	**Pn**	**04 00 51.0**	**+1.4**
LFU	**La Fuente**	**3.03**	**307**	*e*P	**Pn**	**04 00 51.0**	**+1.4**
SNET	**Serv Nac Est T**	**3.09**	**305**	⇓*i*P	**Pn**	**04 00 51.5**	**+1.1**
SNET				IAML		04 00 52.4	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**3.09**	**305**	⇓*i*P	**Pn**	**04 00 51.5**	**+1.1**
SNET				IAML		04 00 52.4	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**3.09**	**305**		**Pn**	**04 00 51.1**	**+0.7**
RIFO	**Rio Frio, Sara**	**3.10**	**121**	*e*P	**Pn**	**04 00 51.9**	**+1.4**
HDC	**Heredia**	**3.12**	**128**	*e*P	**Pn**	**04 00 52.7**	**+1.8**
HDC3	**Heredia 3**	**3.12**	**128**	*e*P	**Pn**	**04 00 52.6**	**+1.7**
BOQS	**Boqueron**	**3.15**	**305**	*i* P	**Pn**	**04 00 52.8**	**+1.5**
BOQS	**Boqueron**	**3.15**	**305**	*i* P	**Pn**	**04 00 52.8**	**+1.5**
JAYA	**Jayaque - finc**	**3.25**	**302**	⇓*e*P	**Pn**	**04 00 53.2**	**+0.6**
JAYA	**Jayaque - finc**	**3.25**	**302**	⇓*e*P	**Pn**	**04 00 53.2**	**+0.6**
CEDA	**San Andres**	**3.28**	**305**	*i* P	**Pn**	**04 00 54.1**	**+1.1**
CEDA	**San Andres**	**3.28**	**305**	*i* P	**Pn**	**04 00 54.1**	**+1.1**
OCM	**Ochomogo**	**3.31**	**127**	*e*P	**Pn**	**04 00 55.1**	**+1.7**
TACO	**Tacachico**	**3.35**	**308**	⇓*i*P	**Pn**	**04 00 54.9**	**+1.0**
TACO	**Tacachico**	**3.35**	**308**	⇓*i*P	**Pn**	**04 00 54.9**	**+1.0**
LCR2	**La Lucha 2**	**3.37**	**130**	*e*P	**Pn**	**04 00 56.0**	**+1.7**
RAFA	**San Farael, Vo**	**3.39**	**125**	*e*P	**Pn**	**04 00 56.4**	**+1.8**
CVTR	**Volcan Turrial**	**3.39**	**124**	*e*P	**P

X40A	Basin Creek Fa	23.16	347	P	P	04 05 04.0	+1.4
	baz=164						
SWET	Sewanee	23.19	1	IAmb	IAmb	04 05 26.9	
	comp=Z,15nm,1.1s						
PAULI	Pauline	23.20	10	IAmb	IAmb	04 05 05.4	
	comp=Z,8.6nm,0.6s						
HPIG		23.30	313	P	P	04 05 05.6	+1.3
HPIG				IAmb	IAmb	04 05 07.2	
	comp=Z,18nm,0.7s						
MIAR	Mount Ida	23.39	345	P	P	04 05 05.3	+0.6
	baz=163						
TX32	Lajitas Array	23.49	320	IAmb	IAmb	04 05 07.9	
	comp=Z,17nm,0.7s						
TXAR	Lajitas Array	23.49	320	P	P	04 05 06.3	+0.5
	comp=Z,17nm,0.7s,baz=138,slow=9.9,SNR=176						
TXAR				PcP	PcP	04 08 50.1	+0.8
	comp=Z,1.0nm,0.9s,baz=145,slow=4.6,SNR=4.3						
TXAR				ScP	ScP	04 12 21.5	+1.8
	comp=Z,0.4nm,0.6s,baz=134,slow=5.4,SNR=6.0						
CPCT	Cooper Cave	23.49	4	IAmb	IAmb	04 05 08.9	
	comp=Z,11nm,0.8s						
KMSC	Kings Mountain	23.60	11	P	P	04 05 08.0	+1.4
	baz=193						
KMSC	Kings Mountain	23.60	11	IAmb	IAmb	04 05 10.7	
	comp=Z,16nm,1.1s						
W41B	Gary Mavity, V	23.70	348	P	P	04 05 08.2	+0.8
	baz=166						
TKL	Tuckaleechee C	23.76	6	P	P	04 05 07.9	-0.2
	comp=Z,13nm,1.0s,baz=176,slow=12,SNR=7.2						
TKL	Tuckaleechee C	23.76	6	IAmb	IAmb	04 05 32.9	
	comp=Z,17nm,0.9s						
ABTX	Abilene, Hawle	23.82	332	P	P	04 05 09.2	+0.6
	baz=147						
V53A	Saluda	23.88	8	IAmb	IAmb	04 05 13.1	
	comp=Z,11nm,0.9s						
CZSB	Cruzeiro do Su	23.94	144	eP	P	04 05 12.3	+2.5
LOOK	Love County	23.98	338	IAmb	IAmb	04 05 41.1	
	comp=Z,18nm,0.9s						
CLTN	Cedars of Leba	24.06	1	IAmb	IAmb	04 05 13.8	
	comp=Z,8.2nm,0.7s						
W39A	Magazine	24.06	345	P	P	04 05 12.1	+1.4
	baz=163						
U49A	Red Boiling Sp	24.49	2	P	P	04 05 14.9	+0.3
U49A				IAmb	IAmb	04 05 38.9	
	comp=Z,11nm,0.8s						
U56A	King	24.95	12	IAmb	IAmb	04 05 24.3	
	comp=Z,19nm,1.1s						
U40A	Yellville	24.96	348	P	P	04 05 18.8	-0.1
	baz=166,SNR=5.7						
FNO	Franklin	25.20	339	P	P	04 05 20.7	-0.4
WMOK	Wichita Mounta	25.25	336	P	P	04 05 23.5	+1.9
	baz=151,SNR=8.5						
TUL1	Leonard	25.27	342	P	P	04 05 21.4	-0.3
	baz=159						
OK030	Cody Creek RV	25.60	341	IAmb	IAmb	04 05 24.9	
	comp=Z,11nm,0.7s						
OK031	S. Brethren Rd	25.64	341	IAmb	IAmb	04 05 25.3	
	comp=Z,14nm,0.6s						
BLA	Blacksburg	25.78	11	P	P	04 05 28.7	+2.3
	baz=194						
WCI	Wyandotte Cave	26.19	1	P	P	04 05 30.7	+0.7
	baz=181						
MNTX	Cornudas Mount	26.19	322	P	P	04 05 30.2	0.0
	baz=135,SNR=7.3						
MNTX	Cornudas Mount	26.19	322	P	P	04 05 30.6	+0.5
CCM	Cathedral Cave	26.34	352	P	P	04 05 31.6	+0.2
	baz=170						
CCM	Cathedral Cave	26.34	352	P	P	04 05 31.4	0.0
MSTX	Muleshoe	26.43	329	P	P	04 05 32.7	+0.4
	baz=142						
AMTX	Amarillo	26.63	332	P	P	04 05 36.7	+2.5
	baz=146						
AMTX	Amarillo	26.63	332	IAmb	IAmb	04 05 40.0	
	comp=Z,7.9nm,0.6s						
Q51A	Peebles	27.14	6	P	P	04 05 39.7	+1.2
Q52A	Bidwell	27.20	7	IAmb	IAmb	04 05 41.6	
	comp=Z,26nm,1.2s						
Q54A	Coxs Mills	27.43	10	IAmb	IAmb	04 06 05.6	
	comp=Z,29nm,1.5s						
CBN	Corbin Frederi	27.44	16	P	P	04 05 42.0	+0.8
	baz=200						
P48A	Milroy	27.44	2	IAmb	IAmb	04 05 42.5	
	comp=Z,5.9nm,0.7s						
P49A	Miami Univ. Ec	27.54	3	P	P	04 05 42.2	+0.1
	baz=184						
Q56A	Snyder Ridge,	27.80	12	IAmb	IAmb	04 05 48.0	
	comp=Z,9.6nm,0.7s						
P52A	Corning	27.88	7	P	P	04 05 45.6	+0.5
	baz=189						
P52A	Corning	27.88	7	IAmb	IAmb	04 06 08.8	
	comp=Z,13nm,0.8s						
121A	Cookes Peak, D	28.25	320	P	P	04 05 50.5	+1.7
	baz=132						
121A	Cookes Peak, D	28.25	320	P	P	04 05 50.0	+1.2
P38A	Dawn	28.25	349	IAmb	IAmb	04 05 48.5	
	comp=Z,6.8nm,0.7s						
MCWV	Mont Chateau	28.26	11	P	P	04 05 50.8	+2.3
	baz=194						
SFIN	Lafayette	28.34	359	P	P	04 05 49.3	+0.1
	baz=179						
ACSO	Alum Creek Sta	28.37	6	P	P	04 05 49.5	0.0
	baz=188						
P57A	Homestead Farm	28.48	14	IAmb	IAmb	04 05 53.6	
	comp=Z,9.4nm,0.8s						
319A	Douglas	28.49	316	IAmb	IAmb	04 05 58.1	
	comp=Z,5.3nm,0.6s						
O53A	New Philadelph	28.61	9	P	P	04 05 52.4	+0.8
	baz=191,SNR=6.8						
HDIL	Hopedale	28.61	356	P	P	04 05 51.8	+0.1
	baz=175						
O56A	Blue Knob Stat	29.11	13	P	P	04 05 57.4	+1.3
	baz=196						
ANMO	Albuquerque	29.14	325	P	P	04 05 57.8	+1.1
	comp=Z,1.6nm,0.7s,baz=147,slow=5.1,SNR=7.9						
ANMO	Albuquerque	29.14	325	P	P	04 05 58.1	+1.5
	baz=137						
ANMO	Albuquerque	29.14	325	P	P	04 05 57.9	+1.3
N53A	Lisbon	29.21	9	IAmb	IAmb	04 05 58.6	
	comp=Z,8.2nm,0.6s						
P60A	Greenville	29.42	17	P	P	04 05 59.4	+0.5
	baz=202						
SSPA	Standing Stone	29.61	14	P	P	04 06 02.1	+1.6
	baz=197						
SSPA	Standing Stone	29.61	14	P	P	04 06 01.4	+0.9
SSPA				IAmb	IAmb	04 06 03.2	
	comp=Z,12nm,0.8s						
ETMB	Extrema	29.64	136	eP	P	04 06 01.1	+0.2
T25A	Trinidad	29.75	331	P	P	04 06 02.9	+0.8
	baz=143						
M53A	Wi Miller and	29.85	9	P	P	04 06 03.5	+0.9
	baz=192						
L42A	Oliver, Polo	30.08	355	IAmb	IAmb	04 06 05.4	
	comp=Z,16nm,1.1s						
N58A	Sunbury	30.09	15	IAmb	IAmb	04 06 07.5	
	comp=Z,10nm,0.8s						
M54A	Oil Creek Stat	30.09	10	P	P	04 06 05.9	+1.2
	baz=194						
N59A	State Game Lan	30.41	16	P	P	04 06 09.1	+1.5
	baz=201,SNR=6.6						
ERPA	Erie	30.62	10	P	P	04 06 09.9	+0.4
	baz=193,SNR=6.1						
SDCO	Great Sand Dun	30.76	330	P	P	04 06 11.7	+0.6
	baz=142						
KSPA	Keystone Colle	31.01	16	IAmb	IAmb	04 06 15.6	
	comp=Z,8.1nm,0.8s						
W18A	Petrified Fore	31.18	322	P	P	04 06 16.2	+1.5
	baz=132						
S22A	4UR Ranch, Cre	31.43	328	P	P	04 06 18.2	+1.3
	baz=140						
L58A	Harry Jones Me	31.44	15	P	P	04 06 17.7	+1.0
	baz=200,SNR=8.3						
BINY	Binghamton	31.55	15	P	P	04 06 18.6	+1.0
	baz=200,SNR=7.9						
BINY	Binghamton	31.55	15	P	P	04 06 18.2	+0.6
K56A	Middlesex	31.70	13	P	P	04 06 19.4	+0.4
	baz=198,SNR=7.1						
I42A	Draeger Farm,	31.91	357	IAmb	IAmb	04 06 42.2	
	comp=Z,14nm,1.1s						
MVCO	Mesa Verde	31.92	326	P	P	04 06 21.8	+0.6
	baz=136						
I40A	Norwalk	32.03	355	IAmb	IAmb	04 06 21.7	
	comp=Z,6.7nm,0.8s						
I37A	Lemond, Waseca	32.50	351	IAmb	IAmb	04 06 26.3	
	comp=Z,13nm,1.1s						
J57A	Williamstown	32.69	14	P	P	04 06 27.3	-0.2
L61B	Northampton	32.74	19	P	P	04 06 28.6	+0.6
	baz=206						
K61A	Williamstown	32.75	18	P	P	04 06 29.7	+1.6
	baz=205						
PV13	Radium Mtn., P	32.79	327	IAmb	IAmb	04 06 59.1	
	comp=Z,8.4nm,1.5s						
J58A	Remsen	32.82	15	P	P	04 06 29.2	+0.5
	baz=201,SNR=8.4						
GLMI	Grayling	32.82	3	P	P	04 06 28.4	-0.4
	baz=184						
ECSD	EROS Data Cent	32.84	347	P	P	04 06 27.5	-1.4
	baz=162,SNR=8.2						
ECSD	EROS Data Cent	32.84	347	IAmb	IAmb	04 06 28.5	
	comp=Z,4.1nm,0.8s						
K62A	Royalston	33.08	20	P	P	04 06 31.7	+0.8
	baz=206						
K62A	Royalston	33.08	20	IAmb	IAmb	04 06 32.7	
	comp=Z,13nm,1.1s						
J59A	Piesco	33.12	16	IAmb	IAmb	04 06 32.9	
	comp=Z,10nm,0.9s						
I58A	Old Forge	33.21	16	P	P	04 06 32.7	+0.6
	baz=201,SNR=6.9						
J60A	Lant Hill Farm	33.23	18	P	P	04 06 32.9	+0.6
	baz=204,SNR=5.6						
I57A	Carthage	33.26	15	P	P	04 06 33.3	+0.8
	baz=200						
K63A	Dunstable	33.34	20	P	P	04 06 34.0	+0.8
	baz=208						
SADO	Sadowa	33.35	10	IAmb	IAmb	04 06 34.1	
	comp=Z,8.9nm,0.8s						
G40A	Rib Lake	33.36	355	IAmb	IAmb	04 06 34.4	
	comp=Z,7.7nm,1.1s						
LPAZ	La Paz	33.48	146	P	P	04 06 35.6	+0.2
	comp=Z,0.6nm,0.3s,baz=325,slow=9.5,SNR=6.1						
LPAZ				ScP	ScP	04 12 52.9	+1.3
	comp=Z,0.5nm,0.7s,baz=260,slow=6.1,SNR=3.6						
LPAZ				LR	LR	04 21 19.1	
	comp=Z,36nm,20.4s,baz=310,slow=38						
LPAZ	La Paz	33.48	146	IAmb	IAmb	04 06 36.9	
	comp=Z,1.7nm,1.1s						
LPAZ	La Paz	33.48	146	eP	P	04 06 36.7	+1.3
PDMCI	Parker Dam,Lak	33.52	316	P	P	04 06 36.4	+1.5
	baz=125						
J61A	Chester	33.59	19	P	P	04 06 36.7	+1.3
	baz=205,SNR=6.6						
SPMN	Marine on St.	33.60	352	P	P	04 06 34.4	-1.0
	baz=169						
J62A	Hennikер	33.72	20	P	P	04 06 38.1	+1.6
	baz=207						
I60A	Shoreham	33.82	17	P	P	04 06 38.5	+1.2
	baz=204						
H57A	Richville	33.82	15	P	P	04 06 38.6	+1.2
	baz=200						
PLVO	Plevna	33.99	12	IAmb	IAmb	04 06 39.8	
	comp=Z,9.5nm,0.9s						
J63A	Strafford	34.01	20	P	P	04 06 40.2	+1.1
	baz=208						
SUSD	Miller	34.09	344	P	P	04 06 38.1	-1.6
	baz=158						
H58A	Gabriels	34.09	16	P	P	04 06 39.8	0.0
	baz=202,SNR=7.4						
COWI	Conover	34.12	357	IAmb	IAmb	04 06 40.2	
	comp=Z,8.4nm,1.1s						
LONY	Lake Ozonia	34.17	15	P	P	04 06 40.7	+0.3
	baz=201,SNR=8.8						
I61A	Oroboro, Fairl	34.22	19	P	P	04 06 41.8	+0.9
	baz=206						
PKCU	Pink Cliffs	34.28	322	IAmb	IAmb	04 07 06.8	
	comp=Z,9.4nm,0.9s						
KNB	Kanab	34.31	321	IAmb	IAmb	04 07 06.6	
	comp=Z,6.0nm,1.2s						
F36A	Milaca	34.32	351	IAmb	IAmb	04 06 41.1	
	comp=Z,4.7nm,0.8s						
E43A	Lone Tree Farm	34.33	360	P	P	04 06 40.5	-1.3
SRU	San Rafael Swe	34.40	326	IAmb	IAmb	04 06 44.3	
	comp=Z,3.1nm,0.8s						
H59A	Cadyville	34.44	16	P	P	04 06 43.1	+0.4
	baz=203						
I62A	Tamworth	34.45	20	P	P	04 06 43.6	+0.8
	baz=207						
G57A	Newington	34.52	15	P	P	04 06 44.0	+0.6
	baz=200						
LBNH	Lisbon	34.59	19	P	P	04 06 45.5	+1.5
	baz=206						
MTPU	Mount Pierson	34.60	323	IAmb	IAmb	04 07 09.9	
	comp=Z,3.3nm,0.8s						
H60A	Morristown	34.64	18	P	P	04 06 44.9	+0.3
	baz=204						
ALGO	Algonquin Park	34.68	11	P	P	04 06 44.5	-0.3
	baz=195,SNR=8.9						
ITTB	Itaituba	34.72	116	eP	P	04 06 44.0	-1.5
TPFO	Pinon Flats	34.74	313	P	P	04 06 47.0	+1.3
	baz=122						
P17A	Butcher Ranch,	34.77	326	IAmb	IAmb	04 07 10.5	
	comp=Z,4.7nm,0.9s						
G58A	Ornstown	34.80	16	P	P	04 06 46.5	+0.7
	baz=202						
E38A	The Farm, Brul	34.81	354	IAmb	IAmb	04 06 46.2	
	comp=Z,6.8nm,0.7s						
H61A	Lyndonville	34.85	19	P	P	04 06 47.0	+0.7
	baz=206						
I63A	Otisfield	34.86	20	P	P	04 06 47.7	+1.3
	baz=208						
G60A	Masonville	35.24	18	P	P	04 06 50.0	+0.3
	baz=205						
F58A	St-Lin Laurent	35.53	15	P	P	04 06 52.4	+0.3
	baz=202						
E55A	Montcerf-Lytto	35.55	13	P	P	04 06 52.5	+0.2
	baz=198						
MPU	Maple Canyon	35.64	326	IAmb	IAmb	04 07 17.5	
	comp=Z,3.8nm,0.9s						
G61A	St-Isidore-de-	35.65	18	P	P	04 06 53.9	+0.8
	baz=206						
F59A	Saint Guilaume	35.80	17	P	P	04 06 56.3	+2.0
	baz=204						
G62A	West of Eustis	35.91	20	P	P	04 06 56.6	+1.2
	baz=208,SNR=6.0						
PSUT	Pine Spring	35.91	322	P	P	04 06 56.3	+0.6
VILB	Vilhena	36.03	132	eP	P	04 06 56.5	-0.3
G63A	Kingsbury	36.12	21	P	P	04 06 58.3	+1.1
	baz=209						
EYMN	Ely	36.13	354	P	P	04 06 56.0	-1.2
	baz=172						
EYMN	Ely	36.13	354	IAmb	IAmb	04 06 56.6	
	comp=Z,6.9nm,1.1s						
E58A	La Victoria	36.14	16	P	P	04 06 57.6	+0.3
	baz=202						
H65A	Eastbrook	36.26	22	P	P	04 06 59.6	+1.3
	baz=211						
PKME	Peaks-Kenny Pk	36.37	21	P	P	04 07 00.2	+1.0
	baz=209						
DUG	Dugway, Tooele	36.42	325	P	P	04 07 01.3	+1.4
	baz=133						
SPR3	Spring Creek 3	36.50	322	IAmb	IAmb	04 07 24.7	
	comp=Z,3.7nm,1.0s						
FURC	Furnace Creek,	36.57	317	P	P	04 07 02.8	+1.7
	baz=124						
PDAR	Pinedale Array	36.61	331	P	P	04 07 01.3	-0.4
	comp=Z,0.5nm,0.6s,baz=128,slow=10,SNR=6.1						
PDAR				LR	LR	04 24 21.3	
	comp=Z,40nm,18.9s,baz=190,slow=40						
E60A	Ste Agathe de	36.66	18	P	P	04 07 01.9	+0.2
	baz=205						
F62A	Pittston Farm,	36.70	20	P	P	04 07 02.3	+0.3
	baz=208						
D58A	Chemin du LacG	36.92	16	P	P	04 07 03.8	-0.1
	baz=203,SNR=5.7						
G65A	Princeton	36.94	23	P	P	04 07 05.3	+1.2
	baz=212						
AGMN	Agassiz Nation	37.07	350	P	P	04 07 04.0	-1.2
	baz=165,SNR=6.5						
AGMN	Agassiz Nation	37.07	350	IAmb	IAmb	04 07 04.9	
	comp=Z,12nm,1.2s						
LATQ	La Tuque	37.21	16	P	P	04 07 07.0	+0.6
	baz=203						
LATQ	La Tuque	37.21	16	IAmb	IAmb	04 07 07.4	
	comp=Z,5.8nm,0.8s						
F64A	Sherman	37.22	21	P	P	04 07 07.3	+0.8
	baz=210						
D60A	Saint Jean D'O	37.30	18	P	P	04 07 07.5	+0.4
	baz=206						
MDND	Maddock	37.42	346	P	P	04 07 07.3	-0.9
	baz=159,SNR=5.1						
E62A	Clayton Lake	37.48	19	P	P	04 07 09.2	+0.5
	baz=208						
E63A	Oxbow	37.68	21	P	P	04 07 10.7	+0.4
	baz=210						
REDW	Red Top Meadow	37.68	331	IAmb	IAmb	04 07 35.5	
	comp=Z,4.7nm,0.7s						
LSQQ	Lebel-sur-Quev	37.87	10	P	P	04 07 10.9	-1.0
	baz=195						
E64A	Bridgewater	37.88	21	P	P	04 07 12.5	+0.5
	baz=211						
D62A	Allapoint, All	38.04	20	P	P	04 07 13.5	+0.2
	baz=209,SNR=5.5						
CLDB	Colider	38.09	125	eP	P	04 07 13.8	-0.4
ELK	Elko	38.16	324	P	P	04 07 15.7	+0.9
	comp=Z,0.8nm,0.4s,baz=127,slow=6.6,SNR=6.0						
D63A	Stockholm	38.32	21	P	P	04 07 16.4	+0.7
	baz=210						
MATQ	Matagami	38.44	9	P	P	04 07 16.0	-0.7
	baz=194,SNR=5.7						
LVC	Limon Verde	38.47	153	eP	P	04 07 18.7	+1.0
PTLB	Pontes e Lacer	38.48	134	eP	P	04 07 17.2	-0.2
NVAR	Mina Array Bea	38.62	319	P	P	04 07 20.1	+1.4
	comp=Z,0.6nm,0.5s,baz=130,slow=8.0,SNR=5.2						
NVAR				PcP	PcP	04 09 30.2	+0.8
	comp=Z,2.3nm,0.7s,baz=134,slow=4.8,SNR=9.8						
NVAR				LR	LR	04 26 17.3	
	comp=Z,66nm,18.4s,baz=262,slow=41						
NVAR	Mina Array Bea	38.62	319	P	P	04 07 19.5	+0.8
KVN	Kaiserville	38.85	320	P	P	04 07 21.3	+0.8
ULM	Lac du Bonnet	38.96	351	P	P	04 07 19.2	-1.8
	comp=Z,5.2nm,0.7s,baz=171,slow=8.5,SNR=7.0						
ULM	Lac du Bonnet	38.96	351	IAmb	IAmb	04 07 20.1	
	comp=Z,6.0nm,0.8s						
CHGQ	Chibougamau	39.19	13	P	P	04 07 22.0	-1.0
	baz=199						
BOZ	Bozeman (W)	39.74	332	P	P	04 07 27.6	-0.2
	baz=140						
EGMT	Eagleton	40.85	336	P	P	04 07 36.8	-0.1
	baz=144						
MSO	Missoula	41.72	332	P	P	04 07 44.0	-0.1
	baz=138						
AC02	Maricunga	42.12	156	P	P	04 07 49.0	+1.2
AC02				IAmb	IAmb	04 07 51.4	
	comp=Z,9.8nm,0.9s						
SNDB	Serra Nova Dou	42.36	123	eP	P	04 07 48.4	-1.1
ARAG	Araguaiana, MT	44.06	128	eP	P	04 08 01.3	-1.9
FFC	Flin Flon	44.38	347	P	P	04 08 04.7	-0.5
FFC				IAmb	IAmb	04 08 05.4	
	comp=Z,3.8nm,0.8s						
ROSB	Rosrio	44.73	107	eP	P	04 08 05.0	-3.6
I03D	Drain, OR	44.74	322	P	P	04 08 09.2	+1.0
	baz=124						
SCHQ	Schefferville	45.55	16	P	P	04 08 13.3	-1.2
	comp=Z,5.2nm,0.5s,baz=205,slow=6.0,SNR=15						
BDFB	Brasilia	47.02	125	P	P	04 08 24.5	-2.1
	comp=Z,1.7nm,0.4s,baz=316,slow=5.6,SNR=5.2						
VA03	San Esteban	47.02	161	P	P	04 08 27.2	+0.8
CPUP	Villa Florida	47.52	143	P	P	04 08 28.8	-1.4
	comp=Z,2.4nm,0.9s,baz=324,slow=6.9,SNR=4.6						
CPUP				LR	LR	04 31 20.5	
	comp=Z,27nm,18.0s,baz=244,slow=40						
CPUP	Villa Florida	47.52	143	IAmb	IAmb	04 08 53.6	
	comp=Z,7.5nm,1.5s						
CPUP	Villa Florida	47.52	143	eP	P	04 08 30.6	+0.4
BO01	Tunca	48.38	163	P	P	04 08 37.9	+1.2
BO02	Sierra Bellavi	48.84	163	P	P	04 08 40.9	+0.6
BO02				IAmb	IAmb	04 08 42.2	
	comp=Z,7.3nm,0.8s						
ITAB	Concordia	51.34	140	eP	P	04 08 59.3	0.0
TER01	Tubaro-SC	54.15	139	eP	P	04 09 19.6	-0.5
YKA	Yellowknife Ar	54.32	344	P	P	04 09 19.1	-1.7
	comp=Z,1.4nm,0.8s,baz=164,slow=5.8,SNR=5.3						
YKA				pP	pP	04 09 41.7	-0.8
	comp=Z,2.7nm,0.9s,baz=138,slow=8.2,SNR=4.9						
YKA				LR	LR	04 34 27.0	
	comp=Z,32nm,18.2s,baz=0.0,slow=38						
PLCA	Paso Flores	54.47	165	P	P	04 09 23.4	+1.3
	comp=Z,10nm,0.8s,baz=343,slow=8.0,SNR=24						
PLCA				PcP	PcP	04 10 25.2	+0.5
	comp=Z,4.2nm,0.7s,baz=336,slow=4.8,SNR=6.0						
PLCA	Paso Flores	54.47	165	P	P	04 09 22.6	+0.4
PLCA	Paso Flores	54.47	165	eP	P	04 09 22.3	+0.1
TRQA	Tornquist	54.82	156	eP	P	04 09 25.1	+0.4
RIB01	Linhares ES	55.12	124	eP	P	04 09 25.3	-1.9
LL02	Futaleuf	56.49	167	IAmb	IAmb	04 09 38.4	
	comp=Z,3.2nm,0.8s						
DLBC	Dease Lake	56.72	334	P	P	04 09 38.2	+0.1
	comp=Z,1.7nm,0.6s,baz=135,slow=11,SNR=3.2						
INK	Inuvik	63.94	342	pP	pP	04 10 51.4	+2.1
	comp=Z,3.7nm,1.0s,baz=152,slow=10,SNR=4.2						
BCAR	Beaver Creek A	64.06	335	P	P	04 10 28.0	0.0
L27K	Beaver Creek,	64.07	335	P	P	04 10 27.5	-0.6
	baz=117						
ILAR	Eielson Array	66.82	336	P	P	04 10 44.0	-1.7
	comp=Z,0.8nm,0.6s,baz=136,slow=4.4,SNR=15						
ILAR				pP	pP	04 11 07.3	-0.9
	comp=Z,1.7nm,1.0s,baz=111,slow=4.9,SNR=5.0						
SUMG	Summit	66.89	14	P	P	04 10 46.7	+0.2
SUMG				IAmb	IAmb	04 11 09.9	
	comp=Z,8.0nm,1.2s						
RND	Reindeer	67.13	334	IAmb	IAmb	04 10 47.8	
	comp=Z,3.1nm,0.7s						
NEA2	Nenana	67.63	336	P	P	04 10 49.5	-1.4
	baz=110						
SKT	Skwentna	67.85	332	P	P	04 10 50.9	-1.4
	baz=107						
BPAW	Bear Paw Mtn.	68.25	335	P	P	04 10 53.0	-1.8
	baz=108						
BPAW	Bear Paw Mtn.	68.25	335	P	P	04 10 55.5	+0.7
MLY	Manley	68.45	336	P	P	04 10 54.4	-1.6
	baz=109,SNR=6.1						
MLY	Manley	68.45	336	P	P	04 10 54.9	-1.1
COLD	Coldfoot	68.98	338	P	P	04 10 58.2	-1.0
	baz=110						
I21K	Tanana	69.00	336	P	P	04 10 58.4	-0.9
	baz=108						
H21K	Melozitna Rive	69.47	336	P	P	04 11 02.1	-0.2
	baz=107						
ESDC	Sonseca Array	76.87	52	P	P	04 11 44.2	-2.3
	comp=Z,1.0nm,0.6s,baz=290,slow=6.2,SNR=10						
ESDC				pP	pP	04 12 09.1	-0.4
	comp=Z,1.3nm,1.0s,baz=288,slow=6.6,SNR=4.4						
KSRS	Korea Array	121.14	328	PKP	PKPdf	04 18 45.5	-1.2
	comp=Z,0.8nm,0.6s,baz=346,slow=1.2,SNR=5.2						
STKA	Stephens Creek	131.51	238	PKP	PKiKP	04 19 07.2	-0.4
	comp=Z,3.8nm,0.5s,baz=108,slow=3.4,SNR=16						
ASAR	Alice Springs	139.82	247	PKhKP	PKPpre	04 19 14.2	
	comp=Z,2.0nm,0.7s,baz=107,slow=2.9,SNR=14						
ASAR				PKP	PKPdf	04 19 22.0	-0.3
	comp=Z,3.4nm,0.7s,baz=100,slow=1.9,SNR=20						
ASAR				SKPbc	SKPbc	04 22 51.0	+0.5
	comp=Z,1.0nm,0.9s,baz=131,slow=2.6,SNR=2.5						
ASAR	Alice Springs	139.82	247	PKPdf	PKPdf	04 19 21.4	-1.0
WB0	Warramunga Arr	139.87	254	PKPdf	PKPdf	04 19 22.1	-0.3
WRA	Warramunga Arr	139.90	253	PKhKP	PKPpre	04 19 14.8

JIO	**Ouri**	**0.76 247**	P	**Pn**	**04 24 04.8 -0.6**	
JIO			S	**Sn**	**04 24 14.6 -1.0**	
JMK	**Ichinoseki**	**0.81 284**	P	**Pn**	**04 24 06.4 +0.2**	
JMK			S	**Sn**	**04 24 17.5 +0.4**	
JOM	**Ohasama**	**1.02 315**	P	**Pn**	**04 24 09.6 +0.5**	
JOM			S	**Sb**	**04 24 23.2 -0.5**	
JTH	**Tanohata**	**1.21 346**	P	**Pn**	**04 24 11.8 +0.1**	
JTH			*e*S	**Sn**	**04 24 27.3 +0.4**	
JOU	**Okura**	**1.29 253**	P	**Pn**	**04 24 12.9 +0.1**	
JOU			S	**Sn**	**04 24 29.6 +0.7**	
JRG	**Rokugo**	**1.40 298**	P	**Pn**	**04 24 14.9 +0.6**	
JMM	**Marumori**	**1.44 232**	P	**Pn**	**04 24 14.1 -0.7**	
JMM	**Marumori**	**1.44 232**	Pn	**Pn**	**04 24 13.9 -0.9**	
JYK	**Kaneyama**	**1.47 277**	P	**Pn**	**04 24 15.8 +0.5**	
JTM	**Tenmabayashi**	**2.22 336**	Pn	**Pn**	**04 24 27.1 +1.6**	
JYT	**Yasato**	**3.00 213**	Pn	**Pn**	**04 24 36.2 -0.1**	
JSD	**Sado**	**3.20 258**	Pn	**Pn**	**04 24 37.6 -1.5**	
ERM	**Erimo**	**3.33 12**	*ce*P	**Pn**	**04 24 41.0 +0.2**	
ERM			pmax	pmax		
comp=Z,86nm,1.0s						
ERM	**Erimo**	**3.33 12**	Pn	**Pn**	**04 24 41.8 +1.0**	
MJAR	**Matsushiro Arr**	**3.88 237**	P	**Pn**	**04 24 49.3 +0.8**	
comp=Z,10nm,0.3s,baz=21,slow=13,SNR=118						
MJAR			LR	LR	04 26 39.7	
comp=Z,2μm,18.4s,baz=55,slow=45						
MJAR	**Matsushiro Arr**	**3.88 237**	P	**Pn**	**04 24 48.2 -0.3**	
MJAR	**Matsushiro Arr**	**3.88 237**	Pn	**Pn**	**04 24 48.2 -0.3**	
MAJO	**Matsushiro**	**3.89 237**	*d i*P	**Pn**	**04 24 49.9 +1.4**	
MAJO	**Matsushiro**	**3.89 237**	Pn	**Pn**	**04 24 49.5 +1.0**	
MAT	**Matsushiro**	**3.89 237**	P	**Pn**	**04 24 49.9 +1.4**	
MAT			*e*S	**Sn**	**04 25 35.4 +2.5**	
MJB9	**Matsu-Tunnel**	**3.89 237**		**Pn**	**04 24 49.8 +1.3**	
JEW	**Eniwo**	**4.12 352**	Pn	**Pn**	**04 24 53.1 +1.5**	
JGF	**Kuroka**	**5.01 233**		**Pn**	**04 25 06.2 +2.3**	
JSG	**Sagara**	**5.21 220**		**Pn**	**04 25 07.0 +0.3**	
NMR	**Nemuro--Hokkai**	**5.31 29**	*e*P	**Pn**	**04 25 06.2 -1.8**	
NMR			*e*S	**Sn**	**04 26 02.7 -5.2**	
ASAJ	**Asahikawa**	**5.36 3**	P	**Pn**	**04 25 09.8 +1.1**	
comp=Z,6.6nm,0.3s,baz=205,slow=3.4,SNR=9.0						
ASAJ	**Asahikawa**	**5.36 3**	P	**Pn**	**04 25 10.1 +1.4**	
JKA	**Kamikawa-asahi**	**5.36 3**	Pn	**Pn**	**04 25 10.1 +1.4**	
INU	**Inuyama**	**5.38 232**	Pn	**Pn**	**04 25 09.5 +0.5**	
GLVR	**Golovnino**	**5.56 25**	*e*P	**Pn**	**04 25 09.4 -2.0**	
GLVR			*e*S	**Sn**	**04 26 10.6 -3.4**	
GLVR			pmax	pmax		
comp=Z,226nm,0.3s						
GLVR			pmax	pmax		
comp=N,68nm,0.1s						
GLVR			pmax	pmax		
comp=E,54nm,0.1s						
GLVR			smax	smax		
comp=N,2μm,0.3s						
GLVR			smax	smax		
comp=E,2μm,0.4s						
RUSJ	**Misakicho**	**5.80 22**	*e*P	**Pn**	**04 25 14.0 -0.7**	
RUSJ			*e*S	**Sn**	**04 26 17.9 -2.1**	
GRPR	**Tuman**	**5.87 26**	*e*P	**Pn**	**04 25 13.7 -2.0**	
GRPR			*e*S	**Sn**	**04 26 16.0 -5.7**	
GRPR			pmax	pmax		
comp=Z,282nm,0.3s						
GRPR			pmax	pmax		
comp=N,69nm,0.1s						
GRPR			pmax	pmax		
comp=E,65nm,0.2s						
GRPR			smax	smax		
comp=E,814nm,0.4s						
GRPR			smax	smax		
comp=N,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.94 26**	*e*P	**Pn**	**04 25 15.8 -0.8**	
YUK			*e*S	**Sn**	**04 26 19.3 -4.0**	
YUK			pmax	pmax		
comp=Z,393nm,0.3s						
YUK			pmax	pmax		
comp=N,110nm,0.4s						
YUK			smax	smax		
comp=N,1μm,0.4s						
YUK			smax	smax		
comp=E,458nm,0.4s						
YUK			MLR	MLR		
comp=Z,182nm,11.0s						
JHJ	**Hachijo jima 2**	**5.97 200**	P	**Pn**	**04 25 15.2 -1.9**	
comp=Z,60nm,0.3s,baz=92,slow=23,SNR=41						
JHJ			S	**Sn**	**04 26 19.9 -4.3**	
comp=Z,82nm,0.3s,baz=52,slow=20,SNR=6.5						
JWT	**Wachi**	**6.47 240**	Pn	**Pn**	**04 25 26.1 +2.1**	
KUR	**Kuril'sk**	**7.71 31**	*e*P	**Pn**	**04 25 38.8 -2.1**	
KUR			*e*S	**Sn**	**04 27 00.8 -6.1**	
KUR			pmax	pmax		
comp=Z,100nm,0.6s						
KUR			pmax	pmax		
comp=N,32nm,0.3s						
KUR			MLR	MLR		
comp=Z,409nm,3.0s						
YSS	**Yuzh-Sakhalins**	**8.20 3**	*e*P	**Pn**	**04 25 46.3 -1.3**	
YSS			*e*S	**Sn**	**04 27 17.7 -1.3**	
YSS			pmax	pmax		
comp=Z,20nm,0.6s						
YSS			MLR	MLR		
comp=Z,300nm,15.0s						
YSS			MLR	MLR		
comp=N,200nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.20 3**	Pn	**Pn**	**04 25 48.7 +1.1**	
JHS	**Saijyo**	**8.21 246**	Pn	**Pn**	**04 25 46.0 -1.9**	
JMN	**Monobe**	**8.41 236**	Pn	**Pn**	**04 25 50.8 +0.1**	
USRK	**Ussuriysk Ar.**	**9.41 309**	P	**Pn**	**04 26 05.0 +0.7**	
baz=112,slow=14,SNR=8.2						
USRK			LR	LR	04 29 34.0	
comp=N,670nm,19.1s,baz=116,slow=36						
JNU	**Nakatsue**	**10.78 242**	P	**Pn**	**04 26 25.8 +2.6**	
comp=N,2.4nm,0.3s,baz=56,slow=6.0,SNR=8.0						
JNU	**Nakatsue**	**10.78 242**		**Pn**	**04 26 21.8 -1.4**	
MDJ	**Mudanjiang**	**11.11 306**	P	Pn	04 26 32.9 +5.3	
MDJ			S	Sn	04 28 48.0 +17	
MDJ			pmax	pmax		
comp=Z,15nm,0.6s						
MDJ			pmax	pmax		
comp=Z,96nm,2.3s						
MDJ			LR	LR		
comp=N,250nm,19.5s						
MDJ			LR	LR		
comp=E,580nm,16.4s						
MDJ			LR	LR		
comp=Z,870nm,16.8s						
KSRS	**Korea Array**	**11.35 268**	P	**Pn**	**04 26 34.3 +3.4**	
comp=Z,1.5nm,0.3s,baz=81,slow=14,SNR=52						
KSRS			LR	LR	04 30 31.7	
comp=Z,572nm,20.2s,baz=74,slow=35						
JCJ	**Chichijima**	**11.63 180**	LR	LR	04 32 04.7	
comp=Z,67nm,20.9s,baz=168,slow=43						
JSU	**Suzuyama**	**12.05 237**	Pn	**Pn**	**04 26 38.7 -1.8**	
KLR	**Kul'dur**	**12.89 328**	P	**Pn**	**04 26 52.2 +0.4**	
comp=Z,0.3nm,0.3s,baz=143,slow=13,SNR=5.6						
KLR			LR	LR	04 31 47.0	
comp=Z,491nm,19.5s,baz=143,slow=37						
KLR	**Kul'dur**	**12.89 328**	*i* P	**Pn**	**04 26 52.0 +0.2**	
KLR			pmax	pmax		
comp=Z,8.0nm,1.3s						
DL2	**Dalian**	**16.06 277**	P	**Pn**	**04 27 34.4 +0.1**	
DL2			*e*S	**Sn**	**04 30 33.4 +2.2**	
DL2			pmax	pmax		
comp=Z,38nm,1.0s						
DL2			LR	LR		
comp=Z,240nm,14.0s						
DL2			LR	LR		
comp=Z,380nm,13.5s						
DL2			LR	LR		
comp=Z,590nm,16.4s						
PETK	**Petropavlovsk-**	**17.88 32**	P	**Pn**	**04 27 52.4 -4.6**	
comp=Z,0.1nm,0.3s,baz=204,slow=14,SNR=5.3						
PETK			LR	LR	04 34 27.9	
comp=Z,155nm,21.9s,baz=211,slow=35						
ZEA	**Zeya**	**18.16 330**	*e*P	**Pn**	**04 27 58.8 -1.6**	
ZEA			pmax	pmax		
comp=Z,30nm,0.9s						
ZEA			MLR	MLR		
comp=Z,200nm,13.0s						
SSE	**Sheshan**	**18.85 252**	P	**Pn**	**04 28 08.9 -0.1**	
SSE			S	**Sn**	**04 31 36.0 -2.9**	
SSE			pmax	pmax		
comp=Z,42nm,0.7s						
SSE			pmax	pmax		
comp=Z,59nm,3.7s						
SSE			LR	LR		
comp=Z,100nm,17.2s						
SSE			LR	LR		
comp=Z,170nm,15.9s						
TIA	**Tai'an**	**20.07 271**	⇓P	**P**	**04 28 20.2 -1.4**	
TIA			pmax	pmax		
comp=Z,24nm,1.0s						
TIA			LR	LR		
comp=Z,130nm,16.1s						
TIA			LR	LR		
comp=Z,170nm,18.9s						
TIA			LR	LR		
comp=Z,250nm,23.5s						
BJI	**Beijing**	**20.16 282**	P	**P**	**04 28 22.6 +0.1**	
BJI			S	**S**	**04 31 59.8 -7.0**	
BJI			pmax	pmax		
comp=Z,12nm,1.3s						
BJI			pmax	pmax		
comp=Z,82nm,4.4s						
BJI			LR	LR		
comp=Z,180nm,13.3s						
BJI			LR	LR		
comp=Z,420nm,13.5s						
BJI			LR	LR		
comp=Z,470nm,17.2s						
BJT	**Baijiatuau**	**20.17 282**	P	**P**	**04 28 20.0 -2.6**	
BJT			pmax	pmax		
comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**20.17 282**	P	**P**	**04 28 20.0 -2.6**	
NJ2	**Nanjing**	**20.17 258**	*e*P	**P**	**04 28 22.5 -0.1**	
NJ2			pmax	pmax		
comp=Z,11nm,0.5s						
NJ2			LR	LR		
comp=Z,310nm,18.8s						
NJ2			LR	LR		
comp=Z,420nm,17.1s						
NJ2			LR	LR		
comp=Z,420nm,19.0s						
MA2	**Magadan**	**21.54 12**	P	**P**	**04 28 39.5 +2.4**	
comp=Z,5.6nm,0.7s,baz=149,slow=7.3,SNR=4.4						
MA2			LR	LR	04 38 31.2	
comp=Z,44nm,19.7s,baz=187,slow=41						
MA2	**Magadan**	**21.54 12**	P	**P**	**04 28 38.3 +1.2**	
MA2			pmax	pmax		
comp=Z,14nm,0.9s						
MA2	**Magadan**	**21.54 12**	P	**P**	**04 28 38.3 +1.2**	
SSLB	**Suanglung**	**23.45 237**	P	**P**	**04 28 54.6 -2.8**	
SSLB			IAmb	IAmb	04 28 59.2	
comp=Z,61nm,1.4s						
YULB	**Yu-li**	**23.50 235**	P	**P**	**04 28 56.5 -1.5**	
HHC	**Hu-ho-hao-te**	**23.60 285**	*e*P	**P**	**04 28 58.2 -0.7**	
HHC			pmax	pmax		
comp=Z,23nm,1.2s						
HHC			pmax	pmax		
comp=Z,74nm,5.3s						
HHC			LR	LR		
comp=Z,150nm,13.6s						
HHC			LR	LR		
comp=Z,580nm,14.0s						
HHC			LR	LR		
comp=Z,610nm,16.1s						
TWG	**Pinlang**	**24.05 235**	P	**P**	**04 29 02.1 -1.1**	
TWG			IAmb	IAmb	04 29 10.7	
comp=Z,28nm,0.8s						
YAK	**Yakutsk**	**24.55 346**	LR	LR	04 39 21.1	
comp=Z,105nm,20.9s,baz=267,slow=38						
YAK	**Yakutsk**	**24.55 346**	*e*P	**P**	**04 29 06.4 -0.9**	
YAK			*e**PP	**pP**	**04 29 17.3 +0.2**	
YAK			*e*		04 29 48.8	
YAK			*e*S	**S**	**04 33 25.4 -0.1**	
YAK			pmax	pmax		
comp=Z,21nm,1.4s						
YAK			pmax	pmax		
comp=N,12nm,1.4s						
YAK			pmax	pmax		
comp=E,5.0nm,1.3s						
YAK			pmax	pmax		
comp=Z,207nm,4.9s						
YAK			pmax	pmax		
comp=N,110nm,4.6s						
YAK			pmax	pmax		
comp=E,33nm,2.2s						
YAK			smax	smax		
comp=N,98nm,2.5s						
YAK			smax	smax		
comp=E,29nm,1.3s						
SEY	**Seymchan**	**24.98 11**	P	**P**	**04 29 11.8 +0.6**	
comp=E,10.0nm,1.0s,baz=197,slow=6.9,SNR=15						
SEY	**Seymchan**	**24.98 11**	*i* P	**P**	**04 29 12.4 +1.2**	
BOD	**Bodaibo**	**26.45 325**	*e*P	**P**	**04 29 23.7 -0.9**	
BOD			pmax	pmax		
comp=Z,19nm,1.5s						
ULN	**Ulaanbaatar**	**26.97 301**	*ce*P	**P**	**04 29 29.6 0.0**	
ULN			pmax	pmax		
comp=Z,15nm,1.7s						
ULN	**Ulaanbaatar**	**26.97 301**	P	**P**	**04 29 28.6 -1.0**	
XAN	**Xi'an**	**27.13 270**	P	**P**	**04 29 29.3 -1.8**	
XAN			S	**S**	**04 34 02.9 -4.3**	
XAN			pmax	pmax		
comp=Z,20nm,0.7s						
XAN			pmax	pmax		
comp=Z,110nm,6.8s						
XAN			LR	LR		
comp=Z,230nm,16.3s						
XAN			LR	LR		
comp=Z,260nm,18.4s						
XAN			LR	LR		
comp=Z,300nm,19.5s						
XAN	**Xi'an**	**27.13 270**	P	**P**	**04 29 30.6 -0.5**	
XAN	**Xi'an**	**27.13 270**	P	**P**	**04 29 30.6 -0.5**	
SONM	**Songino Array**	**27.41 301**	P	**P**	**04 29 33.6 0.0**	
comp=Z,3.9nm,0.7s,baz=92,slow=8.0,SNR=13						
SONM			LR	LR	04 40 54.1	
comp=Z,221nm,19.9s,baz=92,slow=37						
SONM	**Songino Array**	**27.41 301**	P	**P**	**04 29 33.3 -0.2**	
ENH	**Enshi**	**28.16 263**	P	**P**	**04 29 38.7 -1.6**	
H11N2	**WAKE ISLAND Hy**	**28.53 125**	T	T	05 00 08.2	
baz=317,slow=75,SNR=4844						
H11N1	**WAKE ISLAND Hy**	**28.54 125**	T	T	05 00 08.8	
baz=317,slow=75,SNR=3540						
H11N3	**WAKE ISLAND Hy**	**28.55 125**	T	T	05 00 09.5	
baz=317,slow=75,SNR=4805						
H11S1	**WAKE ISLAND Hy**	**29.31 127**	T	T	05 01 01.6	
baz=318,slow=76,SNR=274						
H11S3	**WAKE ISLAND Hy**	**29.31 127**	T	T	05 01 01.8	
baz=318,slow=76,SNR=366						
H11S2	**WAKE ISLAND Hy**	**29.32 127**	T	T	05 01 02.7	
baz=318,slow=76,SNR=338						
TLY	**Talaya**	**29.73 308**	P	**P**	**04 29 54.4 +0.3**	
comp=Z,4.1nm,0.5s,baz=118,slow=8.3,SNR=9.5						
TLY			LR	LR	04 42 29.5	
comp=Z,271nm,18.4s,baz=102,slow=38						
TLY	**Talaya**	**29.73 308**	*i* P	**P**	**04 29 53.8 -0.2**	
TLY			pmax	pmax		
comp=Z,11nm,1.1s						
TLY	**Talaya**	**29.73 308**	P	**P**	**04 29 53.8 -0.2**	
TLY			IAmb	IAmb	04 29 55.0	
comp=Z,10nm,0.9s						
ZAK	**Zakamensk**	**29.75 306**	*e*P	**P**	**04 29 53.3 -1.0**	
ZAK			pmax	pmax		
comp=Z,14nm,1.2s						
LZH	**Lanzhou**	**30.46 277**	*e*P	**P**	**04 30 05.2 +4.4**	
LZH			pP	pP	04 30 07.8 -2.9	
LZH			sP	sP	04 30 11.3 -3.3	
LZH			pmax	pmax		
comp=Z,24nm,1.0s						
LZH			pmax	pmax		
comp=Z,100nm,4.9s						
LZH			LR	LR		
comp=Z,210nm,15.2s						
LZH			LR	LR		
comp=Z,310nm,16.1s						
LZH			LR	LR		
comp=Z,250nm,15.1s						
GYA	**Guiyang**	**32.18 258**	⇓P	**P**	**04 30 14.9 -1.1**	
GYA			pmax	pmax		
comp=Z,3.0nm,1.5s						
CD2	**Chengdu**	**32.35 268**	⇓*i* P	**P**	**04 30 16.3 -1.1**	
CD2			S	**S**	**04 35 29.9 +0.7**	
CD2			pmax	pmax		
comp=Z,30nm,0.9s						
CD2			pmax	pmax		
comp=Z,130nm,8.0s						
CD2			LR	LR		
comp=Z,270nm,11.2s						
CD2			LR	LR		
comp=Z,370nm,17.3s						
CD2			LR	LR		
comp=Z,380nm,15.7s						
GTA	**Gaotai**	**32.71 285**	⇓P	**P**	**04 30 19.6 -1.0**	
GTA			pP	pP	04 30 24.9 -5.6	
GTA			sP	sP	04 30 28.3 -6.1	
GTA			pmax	pmax		
comp=Z,4.0nm,1.3s						
GTA			pmax	pmax		
comp=Z,33nm,6.2s						
GTA			LR	LR		
comp=Z,170nm,18.2s						
GTA			LR	LR		
comp=Z,380nm,17.1s						
GTA			LR	LR		
comp=Z,470nm,18.5s						
TIXI	**Tiksi**	**33.66 352**	*ce*P	**P**	**04 30 30.7 +2.4**	
QIZ	**Qiongzhong**	**34.25 244**	P	**P**	**04 30 34.4 +0.5**	
QIZ			S	**S**	**04 36 00.2 +1.6**	
QIZ			LR	LR		
comp=Z,140nm,19.6s						
QIZ			LR	LR		
comp=Z,79nm,8.0s						
QIZ			LR	LR		
comp=Z,180nm,14.4s						
KMI	**Kunming**	**35.89 260**	⇑P	**P**	**04 30 47.0 -1.3**	
KMI			pP	pP	04 30 52.9 -5.3	
KMI			sP	sP	04 30 56.4 -5.8	
KMI			pmax	pmax		
comp=Z,13nm,1.1s						
KMI			pmax	pmax		
comp=Z,62nm,4.0s						
KMI			LR	LR		
comp=Z,190nm,17.2s						
KMI			LR	LR		
comp=Z,220nm,26.1s						
KMI			LR	LR		
comp=Z,260nm,12.2s						
NIKH	**Nikolski High**	**36.17 51**	P	**P**	**04 30 53.7 +3.6**	
baz=267						
GAMB	**Gambell**	**36.91 32**	P	**P**	**04 30 59.6 +3.3**	
baz=250						
FALS	**False Pass**	**39.45 48**	P	**P**	**04 31 21.4 +3.6**	
baz=269						
NONG	**Nongkai**	**39.70 250**	P	**P**	**04 31 21.7 +1.5**	
comp=Z,4μmcomp=Z,30nm,0.8s						
DGZ	**Jazzator, Alta**	**39.93 304**	*i* P	**P**	**04 31 22.8 +0.7**	
DGZ			pmax	pmax		
comp=Z,21nm,0.7s						
WMQ	**Urumqi**	**40.67 295**	*e*P	**P**	**04 31 28.9 +0.8**	
WMQ			pmax	pmax		
comp=Z,36nm,1.3s						
WMQ			pmax	pmax		
comp=Z,120nm,3.8s						
SDPT	**Sand Point**	**41.14 47**	P	**P**	**04 31 34.7 +3.0**	
baz=271						
ZAA0	**Zalesovo Array**	**41.25 311**	P	**P**	**04 31 32.6 -0.1**	
ZAA0			IAmb	IAmb	04 31 33.1	
comp=Z,12nm,0.8s						
ZALV	**Zalesovo Beam**	**41.25 311**	P	**P**	**04 31 32.4 -0.3**	
comp=Z,14nm,0.6s,baz=86,slow=8.0,SNR=37						
ZALV			PcP	**PcP**	**04 33 30.0 -1.0**	
comp=Z,2.4nm,0.5s,baz=93,slow=2.7,SNR=3.4						
ZALV			LR	LR	04 49 24.5	
comp=Z,214nm,18.4s,baz=116,slow=37						
CHAI	**Chaiyaphum**	**41.93 248**	P	**P**	**04 31 39.4 +0.7**	
comp=Z,14nm,0.6s						
NRIK	**Noril'sk**	**41.98 334**	P	**P**	**04 31 37.7 -0.8**	
comp=Z,3.5nm,0.4s,baz=94,slow=7.4,SNR=3.8						
NRIK			LR	LR	04 50 01.0	
comp=Z,213nm,19.2s,baz=110,slow=37						
CMMT	**Chiang Mai**	**42.36 255**	P	P	04 31 49.5 +7.3	
CHTO	**Chiang Mai**	**42.36 255**	P	**P**	**04 31 41.9 -0.3**	
CHTO			pmax	pmax		
comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**42.36 255**	P	P	04 31 49.5 +7.3	
CHTO	**Chiang Mai**	**42.36 255**	P	**P**	**04 31 41.9 -0.3**	
CHTO			IAmb	IAmb	04 31 53.2	
comp=Z,11nm,0.6s						
CMAR	**Chiang Mai Arr**	**42.58 254**	P	**P**	**04 31 43.3 -0.7**	
comp=Z,0.9nm,0.4s,baz=40,slow=7.1,SNR=1.3						
CMAR			pP	**pP**	**04 31 54.4 +0.4**	
comp=Z,2.9nm,0.5s,baz=44,slow=8.1,SNR=3.2						
CMAR			LR	LR	04 50 23.1	
comp=Z,60nm,18.2s,baz=98,slow=38						
CMAR	**Chiang Mai Arr**	**42.58 254**	P	**P**	**04 31 43.5 -0.5**	
LSA	**Lhasa**	**42.72 274**	P	**P**	**04 31 45.2 -0.4**	
LSA			pmax	pmax		
comp=Z,8.0nm,0.6s						
LSA	**Lhasa**	**42.72 274**	P	**P**	**04 31 45.2 -0.4**	
LSA			IAmb	IAmb	04 31 50.2	
comp=Z,8.0nm,0.6s						
N18K	**Kilae Creek**	**43.60 39**	P	**P**	**04 31 55.1 +3.3**	
baz=269						
TTA	**Tatalina**	**43.64 36**	P	**P**	**04 31 55.7 +3.6**	
baz=266						
MK31	**Makanchi Array**	**43.77 301**	IAmb	IAmb	04 32 09.1	
comp=Z,17nm,1.2s						
MKAR	**Makanchi Array**	**43.77 301**	P	**P**	**04 31 53.0 -0.4**	
comp=Z,8.7nm,0.7s,baz=85,slow=9.8,SNR=52						
MKAR			LR	LR	04 50 51.8	
comp=Z,101nm,19.4s,baz=68,slow=37						
MKAR	**Makanchi Array**	**43.77 301**	P	**P**	**04 31 52.8 -0.5**	
MAKZ	**Makanchi**	**43.98 301**	P	**P**	**04 31 54.8 -0.2**	
MAKZ			pmax	pmax		
comp=Z,19nm,1.2s						
MAKZ	**Makanchi**	**43.98 301**	P	**P**	**04 31 54.8 -0.2**	
MAKZ			IAmb	IAmb	04 32 11.0	
comp=Z,19nm,1.2s						
SHL	**Shillong**	**44.09 268**	P	**P**	**04 31 56.1 -0.3**	
SHL			pmax	pmax		
comp=Z,12nm,0.6s						
SHL	**Shillong**	**44.09 268**	P	**P**	**04 31 56.1 -0.3**	
SHL			IAmb	IAmb	04 31 58.1	
comp=Z,12nm,0.6s						
L19K	**White Mountain**	**44.14 37**	P	**P**	**04 31 59.5 +3.4**	
baz=268,SNR=5.1						
M19K	**Big River Lodg**	**44.35 37**	P	**P**	**04 32 01.0 +3.2**	
baz=269						
A21K	**Barrow**	**44.62 24**	P	**P**	**04 32 01.5 +1.8**	
baz=257						
M20K	**Styx River**	**44.95 37**	P	**P**	**04 32 05.3 +2.7**	
baz=270						
H21K	**Melozitna Rive**	**45.21 32**	P	**P**	**04 32 06.5 +2.0**	
baz=267						
O20K	**Slope Mountain**	**45.23 40**	P	**P**	**04 32 06.8 +1.9**	
baz=272						
PPLA	**Purkeypile**	**45.39 36**	P	**P**	**04 32 07.9 +1.8**	
baz=270						
KDAK	**Kodiak Island**	**45.39 43**	P	**P**	**04 32 06.0 0.0**	
comp=Z,5.4nm,0.7s,baz=309,slow=6.5,SNR=2.2						
I21K	**Tanana**	**45.53 33**	P	**P**	**04 32 09.4 +2.4**	
baz=268,SNR=6.0						
BPAW	**Bear Paw Mtn.**	**45.93 34**	P	**P**	**04 32 11.6 +1.3**	
baz=270						
BPAW	**Bear Paw Mtn.**	**45.93 34**	P	**P**	**04 32 12.2 +1.9**	
BPAW			IAmb	IAmb	04 32 25.9	
comp=Z,11nm,1.3s						
MLY	**Manley**	**46.05 33**	P	**P**	**04 32 12.8 +1.6**	
baz=269,SNR=6.7						
SUA	**Susitna One**	**46.09 38**	P	**P**	**04 32 13.7 +2.0**	
baz=273						
SUA	**Susitna One**	**46.09 38**	P	**P**	**04 32 12.2 +0.6**	
SUA			IAmb	IAmb	04 32 30.1	
comp=Z,8.3nm,1.0s						
TRF	**Thorofare Moun**	**46.25 35**	P	**P**	**04 32 14.7 +1.8**	
baz=271						
COLD	**Coldfoot**	**46.33 30**	P	**P**	**04 32 15.2 +1.8**	
baz=268						
H23K	**Yukon River**	**46.56 32**	P	**P**	**04 32 17.1 +1.9**	
baz=270,SNR=8.6						
BWN	**Browne**	**46.60 34**	P	**P**	**04 32 17.6 +2.1**	
I23K	**Minto, Yukon-K**	**46.63 33**	P	**P**	**04 32 18.8 +3.2**	
baz=270,SNR=7.2						
TOLK	**Toolik Lake Re**	**46.64 28**	P	**P**	**04 32 16.8 +1.0**	
baz=267						
TOLK	**Toolik Lake Re**	**46.64 28**	P	**P**	**04 32 20.1 +4.3**	
TOLK			IAmb	IAmb	04 32 30.2	
comp=Z,12nm,1.1s						
NEA2	**Nenana**	**46.76 33**	P	**P**	**04 32 16.8 +0.1**	
baz=271,SNR=6.6						
SEW	**Seward**	**46.82 40**	P	**P**	**04 32 20.2 +3.0**	
baz=275						
PMR	**Palmer**	**46.86 38**	P	**P**	**04 32 17.9 +0.4**	
baz=274						
RND	**Reindeer**	**46.89 35**	P	**P**	**04 32 19.0 +1.1**	
RND			pmax	pmax		
comp=Z,22nm,1.2s						
RND	**Reindeer**	**46.89 35**	P	**P**	**04 32 19.0 +1.1**	
MDM	**Murphy Dome**	**47.12 33**	P	**P**	**04 32 21.8 +2.3**	

SML Sawmill 47.23 37 P **P 04 32 22.5 +2.0**
baz=274
H24K Noodor Dome 47.24 32 P **P 04 32 22.3 +1.7**
baz=271,SNR=6.9
COLA College 47.28 33 *i* P **P 04 32 21.6 +0.9**
COLA pmax pmax
comp=Z,6.0nm,0.8s
CCB Clear Creek Bu 47.31 33 P **P 04 32 25.4 +4.4**
WAT6 Susitna Watana 47.45 36 P **P 04 32 24.2 +1.9**
baz=274
POKR Poker Plat Res 47.45 33 P **P 04 32 24.0 +1.9**
baz=272
JIRN Jiri 47.52 274 *eP* **P 04 32 24.9 +1.3**
comp=Z,29nm,0.5s
RAMN Ramite 47.55 273 *eP* **P 04 32 23.5 -0.2**
comp=Z,28nm,0.5s
GUN Gumba 47.65 275 *eP* **P 04 32 25.6 +1.0**
comp=Z,52nm,0.5s
HDA Harding Lake 47.69 34 P **P 04 32 25.1 +1.2**
baz=273,SNR=6.3
HDA Harding Lake 47.69 34 P P 04 32 30.8 +6.8
HDA IAmb IAmb 04 32 37.6
comp=Z,9.5nm,0.9s
IL31 47.70 33 P **P 04 32 28.1 +4.1**
IL31 IAmb IAmb 04 32 37.3
comp=Z,9.9nm,0.8s
ILAR Eielson Array 47.70 33 P **P 04 32 24.3 +0.3**
comp=Z,1.2nm,0.6s,baz=264,slow=6.1,SNR=13
ILAR pP **sP 04 32 36.5 -1.7**
comp=Z,7.7nm,0.8s,baz=266,slow=5.7,SNR=28
ILAR Eielson Array 47.70 33 P **P 04 32 25.8 +1.8**
SCM Sheep Creek Mo 47.70 37 P P 04 32 29.7 +5.5
SCM pmax pmax
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 47.70 37 P P 04 32 29.7 +5.5
GLI Glacier Island 47.90 38 P **P 04 32 28.0 +2.3**
baz=276
KKN Kakani 48.17 275 *eP* **P 04 32 28.5 0.0**
comp=Z,42nm,0.6s
PKI Pulchoki 48.18 274 *eP* **P 04 32 29.6 +1.0**
comp=Z,16nm,0.6s
PKIN Phulchoki 48.18 274 *eP* **P 04 32 29.4 +0.8**
M24K Tolsona, Glenn 48.21 37 P **P 04 32 30.5 +2.4**
baz=276
PRP Porcupine Dome 48.23 32 P **P 04 32 29.4 +1.1**
baz=273,SNR=7.7
PRP Porcupine Dome 48.23 32 P P 04 32 33.2 +4.9
PRP IAmb IAmb 04 32 42.9
comp=Z,8.2nm,0.8s
KLU Klutina 48.40 38 P **P 04 32 31.6 +2.0**
baz=277
KLU Klutina 48.40 38 P **P 04 32 33.8 +4.2**
KLU IAmb IAmb 04 32 44.6
comp=Z,12nm,1.0s
PAX Paxson 48.45 36 P **P 04 32 31.0 +1.0**
baz=276
GKN Gorkha 48.57 275 *eP* **P 04 32 31.3 -0.2**
EYAK Cordova Ski Ar 48.60 39 P **P 04 32 32.5 +1.4**
baz=278
SCRK Sand Creek 49.01 34 P **P 04 32 34.9 +0.6**
baz=276,SNR=9.9
N25K Chitina, Valde 49.02 37 P **P 04 32 35.9 +1.6**
baz=278
DOT Dot Lake 49.02 35 P **P 04 32 37.6 +3.4**
DOT IAmb IAmb 04 32 48.7
comp=Z,5.3nm,0.9s
DANN Dangsing 49.09 276 *eP* **P 04 32 35.8 +0.2**
comp=Z,86nm,0.6s
BOOM Boomskoye usch 49.30 297 P **P 04 32 37.0 +0.1**
BOOM pmax pmax
comp=Z,9.0nm,1.3s
BOOM Boomskoye usch 49.30 297 P **P 04 32 37.0 +0.1**
BOOM IAmb IAmb 04 32 37.9
comp=Z,9.2nm,1.2s
KOLN Koldanda 49.49 276 *eP* **P 04 32 39.0 +0.4**
MCARA McCarthy VSAT 49.80 37 P **P 04 32 41.5 +1.3**
baz=279
PYUN Piuthan 49.81 276 *eP* **P 04 32 41.0 0.0**
K27K Chicken 49.84 34 P **P 04 32 42.9 +2.4**
baz=278
CRQE Cirque 49.86 38 P **P 04 32 43.9 +3.0**
baz=280
BRVK Borovoye 49.96 311 *ceP* **P 04 32 41.3 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 49.96 311 P **P 04 32 41.3 -0.2**
BRVK IAmb IAmb 04 32 42.2
comp=Z,11nm,1.1s
L27K Beaver Creek, 50.09 35 P **P 04 32 44.5 +2.1**
baz=279,SNR=7.2
L27K Beaver Creek, 50.09 35 P **P 04 32 44.5 +2.1**
L27K IAmb IAmb 04 32 57.6
comp=Z,8.2nm,1.0s
EGAK Eagle 50.14 33 P **P 04 32 44.5 +1.8**
baz=278
EGAK Eagle 50.14 33 P **P 04 32 44.9 +2.1**
AAK Ala-Archa 50.26 297 *ceP* **P 04 32 44.4 +0.2**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 50.26 297 P **P 04 32 44.1 -0.1**
CTG Chitna Glacier 50.67 38 P **P 04 32 49.1 +2.2**
baz=281
PINM Pinnacle 51.37 39 P **P 04 32 54.4 +2.3**
baz=282
EPYK Eagle Plains 51.71 30 P **P 04 32 56.3 +1.7**
baz=280,SNR=8.7
HYT Haines Junctio 52.53 37 P **P 04 33 03.2 +2.3**
HYT IAmb IAmb 04 33 17.2
comp=Z,17nm,1.0s
INK Inuvik 52.56 28 P **P 04 33 01.5 +0.7**
comp=Z,1.3nm,0.7s,baz=273,slow=4.8,SNR=4.6
INK pP **sP 04 33 13.8 -1.2**
comp=Z,5.0nm,0.5s,baz=304,slow=6.6,SNR=9.2
INK Inuvik 52.56 28 P **P 04 33 01.8 +1.1**
baz=282
INK Inuvik 52.56 28 IAmb IAmb 04 33 14.7
comp=Z,5.8nm,0.6s
KK31 Karatay Array 52.84 299 P **P 04 33 02.7 -0.6**
KK31 pmax pmax
comp=Z,19nm,1.5s
KK31 Karatay Array 52.84 299 P **P 04 33 02.7 -0.6**
KK31 IAmb IAmb 04 33 03.6
comp=Z,19nm,1.5s
KKAR Karatay Array 52.84 299 P **P 04 33 02.4 -0.9**
KKAR Karatay Array 52.84 299 P **P 04 33 02.4 -0.9**
BTK Batken 53.78 296 P **P 04 33 09.5 -0.8**
BTK pmax pmax
comp=Z,4.0nm,1.0s
BTK Batken 53.78 296 P **P 04 33 09.5 -0.8**
SVE Sverdlovsk 54.29 318 *eP* P 04 33 29.2 +16
SVE pmax pmax
comp=Z,24nm,1.0s
NIL Nilore 54.70 287 P **P 04 33 16.7 -0.4**
NIL pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 54.70 287 P **P 04 33 16.7 -0.4**
ARU Arti 55.51 318 *c i* P **P 04 33 21.9 -0.6**
ARU S **S 04 41 05.6 +0.5**
ARU SS **SS 04 44 44.3 -5.3**
ARU pmax pmax
comp=Z,16nm,1.1s
ARU MLR MLR
comp=Z,221nm,17.0s
ARU Arti 55.51 318 P **P 04 33 22.0 -0.4**
C36M Paulatuk 55.59 25 P **P 04 33 25.8 +3.0**
baz=289
ABKAR Akbulak array 57.34 310 P **P 04 33 34.9 -0.7**
KBL Kabul 57.41 290 P **P 04 33 35.2 -1.5**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KBL Kabul 57.41 290 P **P 04 33 35.1 -1.5**
KBL IAmb IAmb 04 33 36.6
comp=Z,9.7nm,1.0s
WB0 Warramunga Arr 58.68 189 P **P 04 33 44.6 -0.6**
WB0 IAmb IAmb 04 33 44.8
comp=Z,9.2nm,0.8s
WRAB Tennant Creek 58.85 189 P **P 04 33 45.0 -1.4**
WRAB pmax pmax
comp=Z,14nm,1.0s
WRAB Tennant Creek 58.85 189 P **P 04 33 45.0 -1.4**
WB2 Warramunga Arr 58.86 189 P **P 04 33 44.8 -1.7**
WRA Warramunga Arr 58.86 189 P **P 04 33 44.9 -1.6**
comp=Z,9.7nm,0.7s,baz=6.1,slow=6.9,SNR=56
SPA0 Spitsbergen Ar 58.96 349 *eP* **P 04 33 47.6 +1.0**
KIRV Kirov 59.27 323 *ceP* **P 04 33 48.9 0.0**
PRGR Permogore 59.68 327 *eP* **P 04 33 49.4 -2.3**
PRGR pmax pmax
comp=Z,35nm,1.2s
HAMF Hammerfest 62.41 341 *eP* **P 04 34 09.4 -0.7**
HRA Herat 62.42 293 P **P 04 34 10.2 -0.9**
HRA IAmb IAmb 04 34 12.0
comp=Z,6.0nm,0.9s
AS31 Alice Springs 62.58 189 P **P 04 34 11.0 -0.8**
ASAR Alice Springs 62.59 189 P **P 04 34 10.6 -1.3**
comp=Z,4.2nm,0.7s,baz=10,slow=5.3,SNR=58
ASAR Alice Springs 62.59 189 P **P 04 34 10.7 -1.1**
ASAR Alice Springs 62.59 189 P **P 04 34 10.7 -1.1**
ARA0 ARCESS Array S 62.61 339 *eP* **P 04 34 11.4 -0.1**
ARCES ARCESS Array B 62.61 339 P **P 04 34 11.0 -0.5**
comp=Z,0.9nm,0.4s,baz=47,slow=7.3,SNR=24
ARCES LR LR 05 05 59.4
comp=Z,50nm,18.8s,baz=30,slow=40
KLMR Klimovskoe 62.65 327 *eP* **P 04 34 08.7 -3.1**
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 62.65 327 *eP* **P 04 34 08.8 -3.1**
KLMR AMP 04 34 13.0
comp=Z,16nm,1.5s
KTK1 Kautokeino 63.57 339 *eP* **P 04 34 19.5 +1.6**
GEYT Alibeck 63.58 299 P **P 04 34 17.9 -0.5**
comp=Z,19nm,0.4s,baz=222,slow=4.0,SNR=6.2
GYA0B ALIBECK ARRAY 63.58 299 P **P 04 34 17.4 -1.1**
GYA0B IAmb IAmb 04 34 18.8
comp=Z,8.2nm,0.8s
JETT Jettan, Norway 63.97 341 *eP* **P 04 34 21.1 +0.6**
TRO Tromso 64.30 341 *eP* **P 04 34 24.2 +1.6**
MOS Moscow 66.25 323 *eP* **P 04 34 34.4 -1.1**
MOS *e* 04 35 03.4
STEI Steigen 66.45 341 *eP* **P 04 34 36.4 -0.2**
B08A Colville Reser 67.17 46 P **P 04 34 43.3 +1.8**
B08A IAmb IAmb 04 34 56.0
comp=Z,8.5nm,1.4s
FINES FINESS Array B 67.59 332 P **P 04 34 43.2 -0.7**
comp=Z,8.8nm,0.9s,baz=46,slow=8.2,SNR=16
FINES LR LR 05 06 06.4
comp=Z,78nm,21.9s,baz=68,slow=38
FINES FINESS Array B 67.59 332 P **P 04 34 43.4 -0.5**
FINES FINESS Array B 67.59 332 P **P 04 34 43.4 -0.5**
MAK Makhachkala 67.91 308 *eP* P 04 34 37.9 -8.3
MAK *e* 04 37 11.3
MAK *e*SS SS 04 47 59.9 -3.9
MAK pmax pmax
comp=Z,199nm,1.5s
MAK MLR MLR
comp=Z,193nm,18.0s
MOR8 Moi Rana 67.97 340 *eP* **P 04 34 46.3 0.0**
I05D Terrebonne, OR 68.19 50 P **P 04 34 51.7 +3.7**
baz=303
NEW Newport 68.45 45 P **P 04 34 52.0 +2.4**
NEW pmax pmax
comp=Z,3.0nm,1.0s
NEW Newport 68.45 45 P **P 04 34 52.0 +2.4**
SUMG Summit 68.96 0 *i* P **P 04 34 53.0 +0.2**
SUMG Summit 68.96 0 *i* P **P 04 34 53.0 +0.2**
SUMG Summit 68.96 0 P **P 04 34 52.9 +0.1**
SUMG IAmb IAmb 04 34 53.5
comp=Z,5.5nm,0.9s
NSS Namsos 69.90 339 *eP* **P 04 34 57.9 -0.3**
O03E Paynes Creek 70.15 54 P **P 04 35 04.5 +4.1**
baz=304
KIV Kislovodsk 70.27 311 ⇓P **P 04 35 00.7 -0.3**
KIV Kislovodsk 70.27 311 *eP* **P 04 35 00.9 -0.1**
KIV pmax pmax
comp=Z,84nm,1.1s
KIV MLR MLR
comp=Z,122nm,18.0s
KIV Kislovodsk 70.27 311 P **P 04 35 01.2 +0.2**
KBZ Khabaz 70.27 311 P **P 04 35 00.7 -0.1**
comp=Z,10.0nm,0.9s,baz=67,slow=4.3,SNR=14
KBZ LR LR 05 11 06.2
comp=Z,56nm,18.6s,baz=28,slow=40
KBZ Khabaz 70.27 311 *ceP* **P 04 35 00.5 -0.3**
KBZ pmax pmax
comp=Z,14nm,1.0s
STKA Stephens Creek 70.28 181 P **P 04 34 59.3 -1.5**
comp=Z,1.6nm,0.6s,baz=350,slow=9.0,SNR=4.6
STKA Stephens Creek 70.28 181 P **P 04 35 00.4 -0.4**
STKA pmax pmax
comp=Z,2.0nm,1.5s
STKA Stephens Creek 70.28 181 P **P 04 35 00.4 -0.4**
SHA1 Shidzhatmaz 70.41 311 *i* P **P 04 35 02.0 0.0**
FORT Forrest 70.43 193 P **P 04 35 01.1 -0.6**
ONI Oni 70.59 309 P **P 04 35 02.1 -0.8**
ONI pmax pmax
comp=Z,7.0nm,0.9s
ONI Oni 70.59 309 P **P 04 35 02.1 -0.8**
ONI IAmb IAmb 04 35 05.2
comp=Z,6.5nm,0.9s
BEKR Beckworth 71.31 54 P **P 04 35 09.7 +2.2**
BATM Batumi 72.23 309 ⇑P **P 04 35 12.0 -0.8**
PABE Paberze 72.42 328 P **P 04 35 13.3 -0.2**
YERR Yerington 72.52 54 P **P 04 35 16.2 +1.4**
NB2 NORSAR Subarra 72.85 337 P **P 04 35 14.7 -1.4**
comp=Z,1.8nm,0.6s,baz=31,slow=6.5
NB2 NORSAR Subarra 72.85 337 P **P 04 35 14.7 -1.4**
baz=31,slow=6.5
NOA NORSAR Array B 72.85 337 P **P 04 35 15.4 -0.7**
comp=Z,1.9nm,0.6s,baz=38,slow=6.0,SNR=18
NOA LR LR 05 09 53.3
comp=Z,104nm,21.8s,baz=35,slow=38
NC602 NORSAR Array S 72.99 337 *eP* **P 04 35 18.3 +1.4**
BOZ Bozeman (W) 73.06 45 P **P 04 35 19.6 +1.8**
baz=308
AKASG Malin Array Be 73.33 322 P **P 04 35 18.1 -1.0**
comp=Z,4.2nm,0.5s,baz=42,slow=5.8,SNR=24
AKASG LR LR 05 10 28.2
comp=Z,121nm,18.3s,baz=25,slow=38
AKBB Malin Array Si 73.33 322 *ceP* **P 04 35 18.3 -0.8**
AKBB Malin Array Si 73.33 322 P **P 04 35 18.3 -0.8**
AKBB IAmb IAmb 04 35 19.2
comp=Z,13nm,1.0s
LHV Little Huntoon 73.42 54 P **P 04 35 22.3 +2.5**
LHV IAmb IAmb 04 35 35.8
comp=Z,12nm,1.3s
NVAR Mina Array Bea 73.44 54 P **P 04 35 21.0 +0.7**
comp=Z,0.3nm,0.3s,baz=282,slow=7.4,SNR=4.4
NVAR LR LR 05 06 41.8
comp=Z,27nm,18.9s,baz=272,slow=35
SUW Suwalki 73.79 328 *eP* **P 04 35 21.2 -0.5**
GURO Guroymak-BITLI 73.84 307 P **P 04 35 23.7 +1.2**
GURO IAmb IAmb 04 35 24.6
comp=Z,17nm,1.3s
SKAR Skarslia 73.99 338 *eP* **P 04 35 24.5 +1.6**
VOG Valley Oaks Go 74.00 56 P **P 04 35 26.8 +3.5**
baz=307
TPH Tonopah 74.34 54 P **P 04 35 28.5 +3.0**
TPH pmax pmax
comp=Z,19nm,1.1s
TPH Tonopah 74.34 54 P **P 04 35 28.5 +3.0**
KONO Kongsberg 74.44 337 *eP* **P 04 35 25.5 +0.1**
PKM Mcpherson Peak 74.57 58 P **P 04 35 29.6 +2.7**
baz=307
R11A Troy Canyon, C 75.19 53 P **P 04 35 34.0 +3.5**
baz=308
SORM Soroca 75.47 321 ⇑P **P 04 35 30.6 -1.0**
FURC Furnace Creek, 75.54 55 P **P 04 35 36.4 +4.3**
baz=308
HWUT Hardware Ranch 75.59 48 P **P 04 35 35.1 +2.4**
HWUT IAmb IAmb 04 35 36.4
comp=Z,8.6nm,1.4s
SNCC San Nicolas Is 75.74 59 P **P 04 35 37.8 +4.4**
baz=307
DUG Dugway, Tooele 75.74 50 P **P 04 35 37.3 +3.8**
baz=309
PDAR Pinedale Array 76.00 46 P **P 04 35 34.7 -0.3**
comp=Z,0.6nm,0.5s,baz=3.2,slow=0.6,SNR=7.5
PDAR pP **PcP 04 35 46.4 -0.9**
comp=Z,0.6nm,0.6s,baz=272,slow=2.9,SNR=4.6
PDAR Pinedale Array 76.00 46 P **P 04 35 36.1 +1.0**
BSD Bornholm Skovb 76.23 332 *i* P **P 04 35 35.0 -0.8**
BSD IAmb IAmb 04 35 35.8
comp=Z,7.3nm,0.8s
BSD Bornholm Skovb 76.23 332 *i* P **P 04 35 35.0 -0.8**
BSD pmax pmax
comp=Z,7.0nm,0.8s
KWP Kalwaria Pacla 77.11 325 *eP* **P 04 35 41.1 +0.2**
BURAR Bucovina Array 77.36 322 ⇑P **P 04 35 42.4 -0.1**
BURAR Bucovina Array 77.36 322 P **P 04 35 41.7 -0.8**
BURAR IAmb IAmb 04 35 43.0
comp=Z,4.2nm,0.7s
TESR Tescani 77.42 320 ⇓P **P 04 35 42.6 -0.1**
BNN Bunyan 77.45 310 P **P 04 35 43.3 +0.2**
CFR Carcaliu 77.59 319 ⇓P **P 04 35 42.8 -0.8**
TPGR Topolog 77.66 318 ⇑P **P 04 35 43.2 -0.8**
KNB Kanab 77.74 52 P **P 04 35 46.2 +1.3**
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB Kanab 77.74 52 P **P 04 35 46.2 +1.3**
KOLS Kolonicke sedl 77.81 324 *eP* **P 04 35 44.5 -0.3**
KOLS Kolonicke sedl 77.81 324 *eP* **P 04 35 44.5 -0.3**
VRI Vrincioaia 77.83 320 ⇑P **P 04 35 43.6 -1.4**
PLOR Plostina 77.88 320 ⇓P **P 04 35 44.2 -1.1**
OJC Ojcow 77.97 326 *eP* **P 04 35 45.6 0.0**
OJC Ojcow 77.97 326 P **P 04 35 44.6 -1.1**
OJC pmax pmax
comp=Z,7.0nm,0.7s
OJC Ojcow 77.97 326 P **P 04 35 44.6 -1.1**
OJC IAmb IAmb 04 35 46.7
comp=Z,7.3nm,0.7s
BRTR Keskin Array B 78.19 312 P **P 04 35 46.7 -0.6**
comp=Z,2.7nm,0.4s,baz=122,slow=3.1,SNR=22
BRTR LR LR 05 14 44.2
comp=Z,45nm,18.3s,baz=35,slow=39
BRTR Keskin Array B 78.19 312 *ceP* **P 04 35 46.9 -0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.4s
NIE Niedzica 78.34 326 *eP* **P 04 35 48.1 +0.3**
SWSC Sam W. Stewart 78.39 57 P **P 04 35 52.6 +4.3**
baz=309
DOPR Dopca 78.43 321 ⇓P **P 04 35 47.8 -0.5**
MLR Muntele Rosu 78.49 320 ⇓P **P 04 35 48.4 -0.4**
BSEG Bad Segeberg 78.81 333 *eP* **P 04 35 49.8 -0.4**
comp=Z,16nm,1.3s,baz=38,slow=4.4
BSEG *e*L L 05 12 53.7
comp=Z,107nm,20.2s
LANS Liptovska Anna 78.91 326 *eP* **P 04 35 51.5 +0.6**
LANS Liptovska Anna 78.91 326 *eP* **P 04 35 51.5 +0.6**
VOIR 78.97 320 ⇓P **P 04 35 51.6 +0.2**
KSP Ksiaz 78.98 328 *eP* **P 04 35 51.2 0.0**
DRGR 79.15 322 ⇓P **P 04 35 51.6 -0.7**
OSTC Ostas 79.23 328 AMS AMS 05 13 30.0
comp=Z,100nm,20.7s
ARR Arges 79.23 321 ⇑P **P 04 35 53.1 +0.3**
N23A Red Feather La 79.26 46 P **P 04 35 56.0 +2.7**
baz=312
MORC Moravsky Berou 79.27 327 ⇓P **P 04 35 52.9 +0.1**
MORC Moravsky Berou 79.27 327 P **P 04 35 53.0 +0.1**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 79.27 327 P **P 04 35 53.0 +0.1**
MORC IAmb IAmb 04 35 53.9
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 79.27 327 *eP* **P 04 35 52.7 -0.2**
CHVC Chvalec 79.27 328 *eP* **P 04 35 53.9 +1.0**
CHVC AMS AMS 05 13 30.0
comp=Z,100nm,18.8s
PV16 Nyswonger Mesa 79.27 49 P **P 04 35 55.1 +1.8**
DPC Dobruska-Polom 79.34 328 *eP* **P 04 35 53.7 +0.4**
DPC Dobruska-Polom 79.34 328 *eP* **P 04 35 53.7 +0.4**
UPC Upice 79.35 328 AMS AMS 05 13 30.0
comp=Z,100nm,15.9s
KRLC Kraliky 79.36 328 *eP* **P 04 35 53.1 -0.3**
KRLC Kraliky 79.36 328 *eP* **P 04 35 53.1 -0.3**
VYHS Vyhne 79.67 326 *eP* **P 04 35 55.4 +0.3**
VYHS Vyhne 79.67 326 *eP* **P 04 35 55.4 +0.3**
FLTG Flechtingen 79.77 332 *eP* **P 04 35 54.9 -0.6**
comp=Z,8.2nm,0.6s,baz=38,slow=4.4
BRG Berggiesshubel 79.90 330 *eP* **P 04 35 55.9 -0.3**
BRG Amp 04 35 56.9
comp=Z,5.5nm,0.8s
BRG Berggiesshubel 79.90 330 P P 04 36 09.1 +13
BRG Amp 04 36 10.1
comp=Z,2.5nm,0.8s
BRG Berggiesshubel 79.90 330 *eP* **P 04 35 56.0 -0.3**
comp=Z,5.5nm,0.8s,baz=38,slow=4.4
JAVC Velka Javorina 79.91 326 *eP* **P 04 35 57.2 +0.8**
PVCC Panska Ves 79.92 329 *eP* **P 04 35 56.7 +0.4**
PVCC MLR MLR
comp=Z,100nm,16.5s
PVCC Panska Ves 79.92 329 *eP* **P 04 35 56.7 +0.4**
PVCC AMS AMS 05 14 00.0
comp=Z,100nm,16.5s
CLL Collm 79.92 330 ⇑ *i P* **P 04 35 55.7 -0.6**
comp=Z,9.0nm,0.8s
CLL *ep*P **PcP 04 36 05.0 +1.2**
CLL *es*P **pP 04 36 08.0 +1.0**
CLL Lm MLR 07 57 00.0
comp=Z,100nm,20.0s
CLL Collm 79.92 330 ⇑ *i P* **P 04 35 55.7 -0.6**
CLL *e**PP **PcP 04 36 05.0 +1.2**
CLL *e**SP **pP 04 36 08.0 +1.0**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 79.92 330 IAmb IAmb 04 35 56.7
comp=Z,10.0nm,1.0s
CLL Collm 79.92 330 *eP* **P 04 35 55.8 -0.5**
comp=Z,9.4nm,0.8s,baz=38,slow=4.4
CLL *e*L L 05 12 28.8
comp=Z,49nm,20.5s
VRAC Vranov 80.03 327 ⇑P **P 04 35 57.3 +0.3**
VRAC Vranov 80.03 327 *eP* **P 04 35 57.1 +0.1**
FBE Freiberg 80.09 330 *eP* **P 04 35 57.3 0.0**
comp=Z,8.9nm,0.7s,baz=38,slow=4.4
ISCO Idaho Springs 80.19 46 P **P 04 36 00.8 +2.3**
baz=313
MVCO Mesa Verde 80.24 50 P **P 04 36 01.6 +2.9**
baz=312
KRUC Moravsky 80.30 327 *eP* **P 04 35 58.3 -0.1**
PRU Pruhonice 80.35 329 *eP* **P 04 35 58.8 +0.1**
PRU MLR MLR
comp=Z,100nm,16.7s
PRU Pruhonice 80.35 329 *eP* **P 04 35 58.8 +0.1**
PRU AMS AMS 05 14 10.0
comp=Z,100nm,16.7s
MODS Modra-Piesok 80.45 326 *eP* **P 04 36 01.3 +2.0**
MODS Modra-Piesok 80.45 326 *eP* **P 04 36 01.2 +2.0**
CLZ Clausthal 80.49 332 *eP* **P 04 35 59.4 0.0**
comp=Z,14nm,1.3s,baz=38,slow=4.4
RAYN Ar Rayn 80.60 292 P **P 04 36 00.1 -0.5**
RAYN pmax pmax
comp=Z,14nm,1.5s
RAYN Ar Rayn 80.60 292 P **P 04 36 00.1 -0.5**
RAYN IAmb IAmb 04 36 00.8
comp=Z,14nm,1.4s
HERR Herculane 80.67 321 ⇑P **P 04 35 59.1 -1.4**
MOX Moxa 80.98 331 *eP* **P 04 36 01.7 -0.4**
comp=Z,7.1nm,1.2s,baz=38,slow=4.4
MOX *e*L L 05 14 10.3
comp=Z,40nm,20.6s
MDVR Moldovita 81.09 322 ⇑P **P 04 36 02.0 -0.8**
EYMN Ely 81.34 33 P **P 04 36 06.5 +2.5**
baz=321
CKRC Cesky Krumlov 81.36 328 *eP* **P 04 36 04.8 +0.7**
CKRC AMS AMS 05 16 20.0
comp=Z,100nm,16.8s
CONA Conrad Observa 81.40 327 *eP* **P 04 36 04.8 +0.4**
comp=Z,4.8nm,0.9s
KHC Kasperske Hory 81.41 329 *eP* **P 04 36 03.2 -1.2**
KHC *e* 04 36 14.5
KHC MLR MLR
comp=Z,100nm,16.2s
KHC Kasperske Hory 81.41 329 *eP* **P 04 36 03.2 -1.2**
KHC *ep*P **pP 04 36 14.5 -0.6**
KHC AMS AMS 05 14 50.0
comp=Z,100nm,16.2s
KHC Kasperske Hory 81.41 329 IAmb IAmb 04 36 05.4
comp=Z,4.9nm,0.8s
GEC2 GERESS Array S 81.59 329 P **P 04 36 05.4 -0.1**
GEC2 GERESS Array S 81.59 329 *eL* L 05 14 48.3
comp=Z,88nm,20.1s
GERES GERESS Array B 81.59 329 P **P 04 36 04.7 -0.7**
comp=Z,1.6nm,0.6s,baz=46,slow=5.6,SNR=9.8
SDCO Great Sand Dun 81.65 48 P **P 04 36 09.0 +2.7**
baz=313
WET Wettzell 81.68 329 *eL* L 05 15 20.7
comp=Z,158nm,18.5s
FRGS Fruska Gora 81.72 323 ⇓P **P 04 36 05.7 -0.4**
GRF Grafenberg Arr 81.90 330 *eP* **P 04 36 06.9 -0.1**
comp=Z,17nm,1.3s,baz=38,slow=4.4
GRF *e*L L 05 14 14.6
comp=Z,48nm,21.4s
VTS Vitosha 81.90 319 ⇓P **P 04 36 07.5 +0.2**
VTS Vitosha 81.90 319 IAmb IAmb 04 36 08.4
comp=Z,8.4nm,1.0s
BOVS Bovan 81.93 321 ⇑P **P 04 36 05.7 -1.5**
TUC Tucson 82.05 55 P **P 04 36 10.8 +2.6**

baz=311
MOA Molln 82.13 328 *i* P **P 04 36 09.2 +0.9**
comp=Z,4.7nm,1.4s
ECSD EROS Data Cent 82.17 39 P **P 04 36 11.0 +2.5**
baz=318
TNS Taunus Mts 82.51 332 *e*L L 05 13 06.5
comp=Z,53nm,21.1s
GROS Grobnik 82.69 326 *i* P **P 04 36 10.4 -0.8**
T25A Trinidad 82.70 48 P **P 04 36 13.7 +2.0**
baz=314
PERS Pernice 82.72 326 *i* P **P 04 36 10.9 -0.4**
SOKA Soboth 82.72 326 *e*P **P 04 36 11.1 -0.3**
comp=Z,9.5nm,1.0s,SNR=6.1
ANMO Albuquerque 82.99 50 P **P 04 36 15.1 +2.0**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO Albuquerque 82.99 50 P **P 04 36 15.4 +2.3**
baz=313
ANMO Albuquerque 82.99 50 P **P 04 36 15.1 +2.0**
OBKA Obir 83.06 327 *i* P **P 04 36 12.4 -0.7**
comp=Z,4.1nm,0.8s
FUR Furstenfeldbru 83.11 329 *e*L L 05 16 13.4
comp=Z,88nm,18.4s
KBA Koelnbreinsper 83.13 328 *i* P **P 04 36 14.2 +0.6**
comp=Z,5.7nm,0.8s
MYKA Terra Mystica 83.36 327 *e*P **P 04 36 13.6 -1.1**
comp=Z,6.9nm,0.9s
GBAS Gorenja Brezov 83.56 326 *e*P **P 04 36 14.1 -1.5**
WATA Walderalm 83.65 329 *e*P **P 04 36 15.8 -0.5**
comp=Z,5.1nm,1.1s
ABTA Abfaltersbach 83.74 328 *e*P **P 04 36 16.0 -0.6**
comp=Z,4.9nm,1.3s
121A Cookes Peak, D 83.80 53 P **P 04 36 20.3 +3.0**
baz=312
MOTA Moosalm 83.83 329 *i* P **P 04 36 16.7 -0.5**
comp=Z,7.8nm,1.2s
RETA Reutte 83.86 329 *i* P **P 04 36 16.7 -0.6**
comp=Z,13nm,1.2s
SQTA Sankt Quirin 83.89 329 *i* P **P 04 36 17.1 -0.4**
comp=Z,6.8nm,1.4s
PDG Podgorica 84.03 321 ⇑P **P 04 36 17.7 -0.4**
BFO Black Forest 84.11 331 *e*L L 05 17 18.2
comp=Z,51nm,21.4s
FETA Feichten 84.25 329 *i* P **P 04 36 18.9 -0.4**
comp=Z,6.3nm,1.1s
DAVA Damuels 84.37 330 *i* P **P 04 36 19.2 -0.8**
comp=Z,7.3nm,0.7s
MATQ Matagami 85.10 25 P **P 04 36 25.5 +2.2**
baz=330
NRCA Norcia 86.59 325 P **P 04 36 30.9 -0.1**
NRCA IAmb IAmb 04 36 44.6
comp=Z,12nm,1.5s
TX31 Lajitas Ar. Si 88.56 53 P **P 04 36 40.9 +0.1**
TXAR Lajitas Array 88.56 53 P **P 04 36 40.2 -0.5**
comp=Z,0.3nm,0.6s,baz=299,slow=2.9,SNR=5.0
TXAR pP **sP 04 36 53.7 -1.8**
comp=Z,1.1nm,0.5s,baz=287,slow=2.4,SNR=13
TXAR LR LR 05 11 43.7
comp=Z,23nm,21.0s,baz=0.0,slow=32
TXAR Lajitas Array 88.56 53 P **P 04 36 40.8 +0.1**
CCM Cathedral Cave 89.12 39 P **P 04 36 45.4 +2.3**
baz=321
U40A Yellville 89.61 41 P **P 04 36 45.1 -0.3**
U40A IAmb IAmb 04 36 58.7
comp=Z,3.1nm,0.8s
F62A Pittston Farm, 90.90 22 P **P 04 36 53.6 +2.3**
baz=336
ESDC Sonseca Array 96.02 334 LR LR 05 25 20.7
comp=Z,55nm,18.4s,baz=320,slow=38
SNAA Sanae 142.59 197 *i* PKIKP **PKPdf 04 43 17.0 -2.4**
SNAA pmax pmax
comp=Z,9.0nm,2.5s
LPAZ La Paz 145.25 58 PKPbc **PKPbc 04 43 25.0 -1.1**
comp=Z,1.0nm,0.5s,baz=344,slow=3.2,SNR=7.2
LPAZ La Paz 145.25 58 PKIKP **PKPdf 04 43 27.8 +1.4**
LPAZ La Paz 145.25 58 PKPbc **PKPdf 04 43 27.8 +1.4**
MNMC Minye Minye 146.22 64 PKPbc **PKPab 04 43 29.8 +0.4**
H03N2 Juan Fernandez 146.52 94 T T 07 28 03.5
baz=292,slow=76,SNR=10
H03N3 Juan Fernandez 146.54 94 T T 07 28 03.3
baz=292,slow=76,SNR=11
H03N1 Juan Fernandez 146.54 94 T T 07 28 08.8
baz=292,slow=76,SNR=13

MEX 04 04:33:42.9±0.3, 14°.40N×92°.33W, h59km±36km, MD3.5, Near coast of Chiapas

*NIED **04** 04:45:44.8, 39°.76N×143°.50E, h30km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}2.25; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$-1.26; $M_{r\theta}$0.75; $M_{\theta\phi}$-1.09; $M_{\phi r}$1.59; Fault plane solution: $M_0$2.85000×10^14 NP1:ϕ_s32.00000°, δ64.00000°, λ82.00000°. NP2:ϕ_s231.00000°, δ27.00000°, λ107.00000°.*

JMA 04 04:45:44.8±0.2, 39°.76N×143°.50E, h30km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.27**	**279**	P	Pn	04 46 06.7	+0.2
MIYJ	**Miyakonagasawa**	**1.31**	**262**	P	Pn	04 46 07.6	+0.6
JKEN	**Kujiedanarisaw**	**1.45**	**289**	P	Pn	04 46 09.2	+0.3
JANG	**Nango**	**1.64**	**293**	P	Pn	04 46 12.0	+0.4
JOM	**Ohasama**	**1.73**	**261**	P	Pn	04 46 14.2	+1.4
JMK	**Ichinoseki**	**1.94**	**246**	P	Pn	04 46 16.7	+1.0
JMK				*e*S	Sn	04 46 40.3	+1.2
JIO	**Ouri**	**2.12**	**233**	P	Pn	04 46 18.7	+0.5
JTM	**Tenmabayashi**	**2.12**	**300**	P	Pn	04 46 19.7	+1.5
JYK	**Kaneyama**	**2.58**	**252**	P	Pn	04 46 26.5	+2.0
JNBK	**Urakawa-nobuka**	**2.58**	**348**	P	Pn	04 46 27.4	+2.9
JNBK				*e*S	Sb	04 46 58.4	-3.2
JCH	**Churui**	**2.85**	**358**	P	Pn	04 46 30.0	+1.7
JCH				*e*S	Sn	04 47 02.3	+0.7

*IDC **04** 04:53:25.2±17.0, 23°.41S×179°.51E, h562km±118km, mb2.5/2, mb1 2.8/3, mb1mx2.6/26, mbtmp3.5/3, Error ellipse: s-maj=365.6km s-min=33.5km az=148.0*

ISC 04 04:53:24.9±2.3, 23°.5S±0°.3×179°.5E±0°.4, h550km, n7, σ1§24/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.90**	**347**	P	**P**	**04 55 02.8**	**+0.1**
0.7nm,0.3s,baz=144,slow=16,SNR=4.8							
ASAR	**Alice Springs**	**41.60**	**260**	P	**P**	**05 00 25.4**	**0.0**
0.6nm,1.0s,baz=94,slow=9.4,SNR=2.6							
WRA	**Warramunga Arr**	**41.93**	**266**	P	**P**	**05 00 27.8**	**-0.2**
0.4nm,0.4s,baz=100,slow=8.5,SNR=13							
ARCES	**ARCESS Array B**	**131.40**	**348**	PKP	**PKPdf**	**05 11 32.6**	**-1.6**
2.1nm,0.9s,baz=35,slow=3.3,SNR=4.8							
FINES	**FINESS Array B**	**137.92**	**341**	PKP	**PKPdf**	**05 11 46.3**	**-0.2**
3.2nm,0.9s,baz=52,slow=2.3,SNR=3.1							
AKASG	**Malin Array Be**	**144.37**	**327**	PKP	PKPbc	05 11 56.5	-1.8
0.5nm,0.4s,baz=45,slow=4.5,SNR=6.8							
BRTR	**Keskin Array B**	**146.94**	**307**	PKPbc	**PKPdf**	**05 12 04.7**	**+1.4**
0.4nm,0.6s,baz=99,slow=3.7,SNR=3.6							

*TUL **04** 05:01:15±0.9, 35°.745N±0°.007×97°.39W±0°.01, h6km±3km, ML2.6, mb_Lg2.3/20(NEIC), Error ellipse: s-maj=1.7km s-min=0.7km az=116.0*

NEIC 04 05:01:15.1±0.5, 35°.76N±0°.01×97°.397W±0°.009, h8km±3km, Error ellipse: s-maj=1.6km s-min=1.0km az=189.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**308**		Pg	05 01 17.1	+0.1
OK029				Sg	Sg	05 01 18.5	+0.2
OK025	**Westminster Rd**	**0.18**	**165**		Pg	05 01 18.9	0.0
BCOK	**Bluff Creek, N**	**0.20**	**239**		Pg	05 01 19.3	+0.1
BCOK				Sg	Sg	05 01 22.4	+0.4
OKCFA	**Oklahoma City**	**0.35**	**187**		Pg	05 01 21.7	-0.2
OKCFA				Sg	Sg	05 01 26.8	+0.3
OKCSW	**OKLAHOMA CITY**	**0.35**	**185**		Pg	05 01 21.9	-0.2
OK031	**S. Brethren Rd**	**0.49**	**67**		Pg	05 01 24.7	0.0
FNO	**Franklin**	**0.50**	**180**		Pg	05 01 24.6	-0.3
FNO				Sg	Sg	05 01 31.6	+0.3
OK030	**Cody Creek RV**	**0.53**	**71**		Pg	05 01 25.3	0.0
QUOK	**Quay**	**0.69**	**53**		Pg	05 01 28.3	-0.2
CROK	**Carrier**	**0.88**	**328**		Pg	05 01 32.1	0.0
BLOK	**Blackwell**	**1.01**	**8**		Pg	05 01 34.2	-0.3
X34A	**Smith Ranch, M**	**1.21**	**197**		Pb	05 01 37.9	-0.4
OK032	**Salt Plains WL**	**1.23**	**328**		Pn	05 01 38.2	-0.4
KAN13	**South Haven SW**	**1.25**	**357**		Pn	05 01 38.6	-0.3
KAN17	**Caldwell West**	**1.32**	**347**		Pn	05 01 39.7	-0.1
T35A	**Sooner Cattle**	**1.36**	**32**		Pn	05 01 40.1	-0.2
KAN09	**Caldwell North**	**1.39**	**353**		Pn	05 01 40.8	0.0
KAN05	**Bluff City Nor**	**1.40**	**344**		Pb	05 01 41.3	-0.2
KS20	**Mayfield South**	**1.47**	**355**		Pb	05 01 42.4	-0.4
KS20				IAmb_Lg		05 02 06.3	
comp=Z,16nm,0.7s							
WMOK	**Wichita Mounta**	**1.52**	**228**		Pn	05 01 42.5	-0.1
MIAR	**Mount Ida**	**3.36**	**110**	IAmb_Lg		05 03 09.1	
comp=Z,7.7nm,0.9s							
CBKS	**Cedar Bluff**	**3.57**	**329**	IAmb_Lg		05 03 13.6	
comp=Z,6.3nm,0.8s							
S39A	**Bolivar**	**3.80**	**58**	IAmb_Lg		05 03 16.8	
comp=Z,6.0nm,0.9s							
X40A	**Basin Creek Fa**	**3.95**	**107**	IAmb_Lg		05 03 22.5	
comp=Z,10nm,0.8s							
P38A	**Dawn**	**4.93**	**37**	IAmb_Lg		05 03 55.1	
comp=Z,5.7nm,0.9s							
JCT	**Junction City**	**5.64**	**202**	IAmb_Lg		05 04 27.3	
comp=Z,8.8nm,1.0s							
P40A	**Paris**	**5.67**	**47**	IAmb_Lg		05 04 19.5	
comp=Z,7.8nm,0.8s							
PBMO	**Poplar Bluff**	**5.72**	**78**	IAmb_Lg		05 04 23.5	
comp=Z,4.5nm,0.7s							
JFWS	**Jewell Farm**	**9.04**	**36**	IAmb_Lg		05 06 07.2	

NNC 04 05:03:03.2±1.4, 37°.73N×78°.25E, h0km, mb4.1, mpv3.7, 4C-2D, Error ellipse: s-maj=10.1km s-min=9.0km az=88.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**5.45**	**6**	Pg	Pb	05 04 42.2	+2.9
UZB				Lg	Lg	05 05 57.0	
12nm,0.8s							
SHLS	**Shalkode**	**5.50**	**9**	Pg	Pb	05 04 43.8	+3.5
SHLS				Lg	Lg	05 05 58.3	
39nm,0.7s							
MDOK	**Medeo**	**5.51**	**351**	Pg	Pb	05 04 43.8	+3.5
MDOK				Lg	Lg	05 05 58.5	
31nm,0.9s							
MDOK	**Medeo**	**5.51**	**351**	Pg	Pb	05 04 43.6	+3.3
MDOK				Lg	Lg	05 05 58.2	
14nm,0.7s							
KST	**Kastek**	**5.59**	**342**	Pg	Pb	05 04 45.9	+4.1
KST				Lg	Lg	05 06 02.2	
9.8nm,0.9s							
PDGK	**Podgornoye**	**5.67**	**9**	Pg	Pb	05 04 47.1	+4.0
2.5nm,0.4s							
PDGK				Lg	Lg	05 06 04.8	
9.2nm,0.6s							
PDGK	**Podgornoye**	**5.67**	**9**	⇓Pn	Pn	05 04 29.2	+0.3
2.0nm,0.5s							
PDGK				⇑Pg	Pb	05 04 46.2	+3.0
5.5nm,0.6s							
PDGK				⇓Sn	Sn	05 05 35.8	+0.9
16nm,1.1s							
PDGK				⇑Lg	Lg	05 06 03.2	
25nm,0.7s							
AAK	**Ala-Archa**	**5.69**	**331**	⇑Pg	Pb	05 04 46.5	+3.1
7.3nm,0.8s							
AAK				⇑Lg	Lg	05 06 02.6	
16nm,0.7s							
KTBS	**Karatobe**	**6.10**	**349**	Pg	Pb	05 04 53.6	+3.3
3.4nm,0.6s							
KTBS				Lg	Lg	05 06 15.9	
14nm,0.8s							
CHKK	**Chushkaly**	**6.20**	**351**	Pg	Pg	05 04 58.0	-4.0
3.1nm,0.5s							
CHKK				Lg	Lg	05 06 23.4	
9.1nm,0.6s							
KRBS	**Karabastau**	**6.28**	**343**	Pg	Pb	05 04 56.7	+3.3
5.3nm,0.6s							
KRBS				Lg	Lg	05 06 21.7	
5.7nm,0.8s							
SGDS	**Sogindy**	**6.35**	**335**	Pg	Pb	05 04 58.8	+4.2
2.0nm,0.5s							
SGDS				Lg	Lg	05 06 24.1	
4.5nm,0.7s							
ARXS	**Arharly**	**6.49**	**357**	Pg	Pb	05 05 00.5	+3.5
5.8nm,0.5s							
ARXS				Lg	Lg	05 06 27.8	
9.8nm,0.6s							
BTLS	**Baital**	**7.96**	**338**	Pg	Pb	05 05 28.8	+6.8
0.9nm,0.6s							
BTLS				Lg	Lg	05 07 16.3	
1.7nm,0.6s							

*IDC **04** 05:05:03.7±3.0, 35°.26S×179°.62W, h0km, mb4.3/2, mb1 4.6/3, mb1mx3.9/29, mbtmp4.3/3, ML4.1/1, Error ellipse: s-maj=70.8km s-min=35.7km az=124.0*
*WEL **04** 05:05:05.3±1.0, 35°.S±12°×17°.9W±1°.7, h33km, M4.2/28, mB4.3/2, ML4.4/28, MLv4.2/28, Mw(mB)3.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=123.0*

ISC 04 05:05:05.5±2.0, 35°.4S±0°.1×179°.1W±0°.2, h47km, n43, σ0§88/53, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**3.39**	**222**	P	**Pn**	**05 05 56.0**	**+0.1**
PKGZ				S	**Sn**	**05 06 35.0**	**+0.2**
PUZ	**Puketiti**	**3.43**	**218**	P	**Pn**	**05 05 55.7**	**-0.7**
PUZ				S	**Sn**	**05 06 35.8**	**0.0**
HAZ	**Te Kaha**	**3.46**	**226**	P	**Pn**	**05 05 56.5**	**-0.3**
HAZ				S	**Sn**	**05 06 37.7**	**+1.1**
TWGZ	**Tauwhareparae**	**3.65**	**219**	P	**Pn**	**05 05 59.7**	**+0.2**
RUGZ	**Raukumara Rang**	**3.67**	**224**	P	**Pn**	**05 05 60.0**	**+0.3**
CNGZ	**Carnagh Statio**	**3.78**	**214**	P	**Pn**	**05 06 01.5**	**+0.3**
CNGZ				S	**Sn**	**05 06 46.5**	**+2.1**
TKGZ	**Te Karaka**	**3.92**	**218**	P	**Pn**	**05 06 02.9**	**-0.2**
TKGZ				S	**Sn**	**05 06 48.3**	**+0.5**
MWZ	**Matawai**	**4.01**	**222**	P	**Pn**	**05 06 04.0**	**-0.4**
MWZ				S	**Sn**	**05 06 50.2**	**+0.1**
RIGZ	**Rimuhau**	**4.17**	**216**	P	**Pn**	**05 06 05.1**	**-1.5**
RIGZ				S	**Sn**	**05 06 54.2**	**+0.1**
RAGZ	**Rawiri**	**4.19**	**221**	P	**Pn**	**05 06 06.2**	**-0.6**
RAGZ				S	**Sn**	**05 06 53.8**	**-0.7**
URZ	**Urewera**	**4.19**	**226**	Pn	**Pn**	**05 06 05.9**	**-0.9**
14nm,0.3s,baz=288,slow=2.1,SNR=49							
URZ				Sn	**Sn**	**05 06 53.6**	**-0.9**
8.9nm,0.3s,baz=146,slow=23,SNR=7.9							
URZ	**Urewera**	**4.19**	**226**	P	**Pn**	**05 06 06.3**	**-0.6**
URZ				S	**Sn**	**05 06 53.4**	**-1.1**
OPRZ	**Ohinepanea**	**4.28**	**234**	P	**Pn**	**05 06 07.6**	**-0.5**
PRGZ	**Paritu Road**	**4.29**	**214**	P	**Pn**	**05 06 07.7**	**-0.5**
EDRZ	**Edgecumbe**	**4.32**	**230**	P	**Pn**	**05 06 09.2**	**+0.6**
TGRZ	**Tauranga**	**4.42**	**237**	P	**Pn**	**05 06 09.5**	**-0.5**
SNGZ	**Shannon Statio**	**4.44**	**219**	P	**Pn**	**05 06 11.3**	**+1.1**
KNZ	**Kokohu**	**4.46**	**215**	P	**Pn**	**05 06 08.9**	**-1.6**
MHGZ	**Mahia Peninsul**	**4.46**	**212**	P	**Pn**	**05 06 11.7**	**+1.1**
KARZ	**Kaharoa**	**4.59**	**234**	P	**Pn**	**05 06 11.9**	**-0.4**
RAHZ	**Arahi**	**4.67**	**220**	P	**Pn**	**05 06 13.5**	**+0.1**
MTHZ	**Maungataniwha**	**4.75**	**222**	P	**Pn**	**05 06 15.3**	**+0.7**
NMHZ	**Naumai**	**4.95**	**220**	P	**Pn**	**05 06 17.6**	**+0.3**
BKZ	**Black Stump Fm**	**5.17**	**222**	P	**Pn**	**05 06 19.7**	**-0.6**
MCHZ	**McNeill Hill**	**5.26**	**218**	P	**Pn**	**05 06 21.6**	**0.0**
KAHZ	**Kahuranaki**	**5.45**	**215**	P	**Pn**	**05 06 22.0**	**-2.1**
KRHZ	**Kereru**	**5.58**	**219**	P	**Pn**	**05 06 24.6**	**-1.3**
TMVZ	**Te Maari**	**5.58**	**227**	P	**Pn**	**05 06 25.3**	**-0.7**
NTVZ	**North Tongarir**	**5.59**	**227**	P	**Pn**	**05 06 25.7**	**-0.4**
ETVZ	**East Tongariro**	**5.59**	**226**	P	**Pn**	**05 06 25.3**	**-0.9**
BHHZ	**Black Hill Sta**	**5.63**	**222**	P	**Pn**	**05 06 25.7**	**-1.0**
OTVZ	**Oturere**	**5.64**	**226**	P	**Pn**	**05 06 25.8**	**-1.1**
NNVZ	**North Ngauruho**	**5.65**	**227**	P	**Pn**	**05 06 26.7**	**-0.3**
WTVZ	**West Tongariro**	**5.65**	**227**	P	**Pn**	**05 06 26.7**	**-0.2**
SNVZ	**South Ngauruho**	**5.67**	**226**	P	**Pn**	**05 06 26.7**	**-0.5**
NGZ	**Ngauruhoe**	**5.68**	**227**	P	**Pn**	**05 06 26.8**	**-0.6**
TUVZ	**Tukino**	**5.71**	**226**	P	**Pn**	**05 06 26.8**	**-1.0**
MOVZ	**Moawhango**	**5.75**	**224**	P	**Pn**	**05 06 26.7**	**-1.5**
FWVZ	**Far West T-bar**	**5.76**	**226**	P	**Pn**	**05 06 27.8**	**-0.9**
WNVZ	**Wahianoa**	**5.78**	**226**	P	**Pn**	**05 06 27.5**	**-1.3**
ASAR	**Alice Springs**	**42.19**	**273**	P	**P**	**05 12 55.0**	**+1.1**
4.7nm,0.5s,baz=116,slow=7.8,SNR=78							
WRA	**Warramunga Arr**	**43.63**	**278**	P	**P**	**05 13 06.1**	**+0.6**
2.2nm,0.8s,baz=119,slow=7.6,SNR=17							
FINES	**FINESS Array B**	**149.42**	**336**	PKPbc	**PKPab**	**05 24 52.6**	**-0.8**
0.9nm,0.4s,baz=35,slow=5.1,SNR=6.9							

IDC 04 05:23:13.6±4.7, 35°.21S×179°.98W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/33, mbtmp3.9/4, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=99.6km s-min=34.9km az=110.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.84**	**217**	Pn	Pn	05 24 13.7	-0.2
2.5nm,0.3s,baz=250,slow=1.3,SNR=20							
URZ				Sn	Sn	05 25 01.2	+1.5
4.8nm,0.3s,baz=162,slow=22,SNR=11							
RAO	**Raoul Island**	**6.19**	**17**	LR	LR	05 26 42.4	
comp=Z,366nm,21.7s,baz=355,slow=34							
ASAR	**Alice Springs**	**41.45**	**273**	P	P	05 31 02.4	+0.2
1.6nm,0.5s,baz=115,slow=7.9,SNR=37							
WRA	**Warramunga Arr**	**42.88**	**278**	P	P	05 31 13.5	-0.5
0.6nm,0.4s,baz=120,slow=7.6,SNR=12							
KSRS	**Korea Array**	**86.97**	**321**	P	P	05 36 00.6	+0.1
0.8nm,0.4s,baz=146,slow=7.9,SNR=4.3							

*IDC **04** 05:30:57.6±1.1, 29°.70N×143°.54E, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.7/45, mbtmp3.8/7, ML3.2/2, MS3.0/2, Ms1 3.1/2, ms1mx2.3/42, Error ellipse: s-maj=38.9km s-min=22.3km az=97.0*

ISC 04 05:31:02.8±1.0, 29°.68N±0°.09×143°.4E±0°.2, h35km, n9, σ0§42/8, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.79**	**203**	Pn	**Pn**	**05 31 44.5**	**-0.5**
7.8nm,0.3s,baz=293,slow=23,SNR=6.2							
JCJ				Sn	**Sn**	**05 32 17.7**	**+0.2**
33nm,0.3s,baz=286,slow=23,SNR=7.6							
MJAR	**Matsushiro Arr**	**8.11**	**329**	Pn	**Pn**	**05 32 58.2**	**+0.1**
0.2nm,0.3s,baz=145,slow=12,SNR=5.4							
ASAJ	**Asahikawa**	**14.42**	**358**	LR	LR	05 41 04.5	
comp=Z,32nm,18.9s,baz=150,slow=42							
MKAR	**Makanchi Array**	**49.70**	**308**	P	**P**	**05 39 51.2**	**-0.1**
0.4nm,0.7s,baz=95,slow=10,SNR=2.8							
WRA	**Warramunga Arr**	**50.10**	**191**	P	**P**	**05 39 54.9**	**+0.4**
3.2nm,0.7s,baz=13,slow=8.0,SNR=22							
ASAR	**Alice Springs**	**53.82**	**191**	P	**P**	**05 40 22.5**	**+0.3**
0.8nm,0.6s,baz=12,slow=8.3,SNR=13							
YKA	**Yellowknife Ar**	**69.36**	**29**	LR	LR	06 10 02.2	
comp=Z,24nm,21.6s,baz=0.0,slow=34							
NVAR	**Mina Array Bea**	**78.09**	**53**	P	**P**	**05 42 58.0**	**-0.5**
0.5nm,0.7s,baz=302,slow=7.0,SNR=3.7							
TXAR	**Lajitas Array**	**93.20**	**54**	P	**P**	**05 44 14.3**	**+0.4**
0.3nm,0.8s,baz=289,slow=2.8,SNR=2.7							

*DJA **04** 05:38:40.6±1.1, 8°.S±4°×10°.7E±°, h17km±10km, M4.8/13, mb5.0/3, mB5.7/2, MLv4.7/13, Mw(mB)5.2/2*
*NEIC **04** 05:38:42.4±1.3, 8°.16S±0°.03×107°.28E±0°.06, h31km±2km, mb4.2/13, Error ellipse: s-maj=8.4km s-min=4.4km az=107.0*
*IDC **04** 05:38:45.3±2.3, 7°.98S×107°.52E, h63km±20km, mb3.8/11, mb1 3.9/11, mb1mx3.7/35, mbtmp4.1/11, MS3.3/5, Ms1 3.4/5, ms1mx3.0/25, Error ellipse: s-maj=34.0km s-min=15.4km az=64.0*

ISC 04 05:38:45.2±0.6, 8°.10S±0°.07×107°.46E±0°.06, h62km, n53, σ1§39/42, mb4.1/15, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.65**	**33**	Pn	**Pn**	**05 38 56.6**	**-2.4**
CISI	**Cisompet, Garu**	**0.65**	**33**	P	**Pn**	**05 38 56.5**	**-2.5**
LEM	**Lembang**	**1.28**	**7**	P	**Pn**	**05 39 05.3**	**-1.8**
390nm,0.3s,baz=197,slow=10,SNR=28							
LEM				S	**Sn**	**05 39 25.1**	**+1.6**
540nm,0.3s,baz=122,slow=23,SNR=21							
LEM				LR	LR	05 39 45.0	
comp=Z,1μm,21.7s,baz=126,slow=52							
LEM	**Lembang**	**1.28**	**7**	P	**Pn**	**05 39 06.7**	**-0.4**
KPJI	**Karang Pucung**	**1.65**	**62**	P	**Pn**	**05 39 11.7**	**-0.2**
DBJI	**Dramaga**	**1.69**	**335**	P	**Pn**	**05 39 11.8**	**-0.7**
CGJI	**Cibinong**	**2.29**	**310**	P	**Pn**	**05 39 17.7**	**-3.0**
XMIS	**Christmas Isla**	**2.96**	**217**		Pn	05 39 24.2	-5.6
UGM	**Wanagama**	**3.04**	**87**		**Pn**	**05 39 30.4**	**-0.5**
UGM	**Wanagama**	**3.04**	**87**	P	**Pn**	**05 39 29.0**	**-1.9**
SMRI	**Semarang**	**3.13**	**71**	Pn	**Pn**	**05 39 32.4**	**+0.3**
SMRI	**Semarang**	**3.13**	**71**	P	**Pn**	**05 39 32.3**	**+0.1**
PCJI	**Pacitan**	**3.68**	**92**	P	**Pn**	**05 39 38.4**	**-1.2**
PCJI				S	**Sn**	**05 40 18.1**	**-3.7**
PWJI	**Pagerwojo**	**4.30**	**89**	P	**Pn**	**05 39 45.8**	**-2.3**
TPI	**Tanjungpandan**	**5.32**	**2**	P	**Pn**	**05 40 03.0**	**+1.0**
0.1nm28nm,1.1s							
MNAI	**Manna**	**5.82**	**309**	Pn	**Pn**	**05 40 09.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**6.63**	**94**	Pn	**Pn**	**05 40 22.3**	**+2.2**
KAPI	**Kappang**	**12.59**	**77**	P	**Pn**	**05 41 43.5**	**+1.9**
0.4nm,0.3s,baz=248,slow=14,SNR=5.2							
KAPI				LR	LR	05 47 22.5	
comp=Z,167nm,19.6s,baz=280,slow=41							
SOEI	**Soe**	**16.68**	**97**		**Pn**	**05 42 35.1**	**-0.1**
PSA00	**Pilbara Seismi**	**17.94**	**140**		**P**	**05 42 49.3**	**-1.0**
PSA00				IAmb	IAmb	05 43 18.9	
comp=Z,14nm,0.8s							
PSA00	**Pilbara Seismi**	**17.94**	**140**	P	**P**	**05 42 50.2**	**-0.2**
PSA00				IAmb	IAmb	05 43 19.6	
comp=Z,5.7nm,1.0s							
H01W3	**Cape Leeuwin H**	**27.35**	**168**	T	T	06 14 08.9	
baz=348,slow=76,SNR=5.6							
H01W1	**Cape Leeuwin H**	**27.36**	**168**	T	T	06 14 12.6	
baz=348,slow=76,SNR=5.7							
H01W2	**Cape Leeuwin H**	**27.36**	**168**	T	T	06 14 08.7	
baz=348,slow=76,SNR=6.5							
CMAR	**Chiang Mai Arr**	**27.70**	**342**	LR	LR	05 56 19.6	
comp=Z,46nm,19.0s,baz=191,slow=38							
WRA	**Warramunga Arr**	**28.56**	**117**	P	**P**	**05 44 35.1**	**-0.3**
comp=Z,0.9nm,0.6s,baz=288,slow=11,SNR=3.0							
WB2	**Warramunga Arr**	**28.57**	**117**	P	**P**	**05 44 36.9**	**+1.3**
WB2				IAmb	IAmb	05 44 49.8	
comp=Z,10nm,1.2s							
WR0	**Warramunga Arr**	**28.74**	**117**	P	**P**	**05 44 37.5**	**+0.4**
WR0				IAmb	IAmb	05 44 51.8	
comp=Z,4.7nm,0.8s							
ASAR	**Alice Springs**	**29.68**	**124**	P	**P

comp=Z,3.5nm,1.0s
FIA1 FINESS Array S 92.95 332 P P 05 51 51.6 +0.3
FINES FINESS Array B 92.95 332 P P 05 51 50.9 -0.5
ARCES ARCESS Array B 94.72 340 P P 05 51 58.5 -0.8
comp=Z,3.2nm,1.0s,baz=98,slow=6.5,SNR=4.0
ARCES LR LR 06 38 38.0
comp=Z,25nm,21.3s,baz=60,slow=38
TXAR Lajitas Array 143.94 50 PKP PKPbc 05 58 13.2 +0.9
comp=Z,0.4nm,0.6s,baz=218,slow=1.4,SNR=7.3

NNC 04 05:41:14.4±2.3, 44°.99N×82°.16E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=27.9km s-min=5.8km az=116.0
SOME 04 05:41:18.8, 44°.68N×82°.20E, h15km
ISC 04 05:41:12.8±2.8, 44°.87N±0°.06×82°.6E±0°.1, h9km±15km, n17, σ1956/27, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	Makanchi	1.99	347	⇑Pn	Pn	05 41 46.0	-0.7
MAKZ	6.5nm,0.5s			⇑Sn	Sn	05 42 11.8	0.0
DJR	0.7nm,0.4s Jarkent	2.09	256	eP	Pb	05 41 52.4	+1.4
DJR	8.9nm,0.1s			eS	Sb	05 42 16.3	-0.7
KTMS	10.0nm,0.1s Ketmen	2.16	230	eP	Pb	05 41 53.0	+0.7
KTMS	2.8nm,0.1s			eS	Sn	05 42 16.9	+0.8
KAPS	22nm,0.4s Kapalarasan	2.35	281	eP	Pg	05 41 58.1	+0.3
KAPS	3.0nm,0.1s			eS	Sg	05 42 26.4	-1.9
PDGK	13nm,0.1s Podgornoye	2.73	237	Pg	Pb	05 42 01.4	-0.5
PDGK	3.0nm,0.2s			Lg	Lg	05 42 32.3	
PDGK	7.2nm,0.3s Podgornoye	2.73	237	⇓Pg	Pb	05 42 00.2	-1.7
PDGK	1.0nm,0.2s			⇑Lg	Lg	05 42 31.9	
SHLS	9.9nm,0.8s Shalkode	2.85	234	eP	Pn	05 42 00.7	+2.2
SHLS	7.5nm,0.2s			eS	Sn	05 42 30.9	-2.1
SHLS	35nm,0.3s Shalkode	2.85	234	Pg	Pn	05 42 00.7	+2.2
SHLS	13nm,0.1s			Lg	Lg	05 42 30.9	
UZB	35nm,0.3s Uzynbulak	3.11	238	eP	Pb	05 42 08.6	+0.2
UZB	4.4nm,0.1s			eS	Sb	05 42 44.3	-2.2
UZB	6.5nm,0.3s Uzynbulak	3.11	238	Pg	Pb	05 42 08.6	+0.2
UZB	3.8nm,0.2s			Lg	Lg	05 42 44.2	
KPKS	4.8nm,0.2s Kokpek	3.16	245	eP	Pb	05 42 09.3	+0.1
KPKS	15nm,0.2s			eS	Sb	05 42 44.7	-3.1
ARXS	18nm,0.2s Arharly	3.49	261	eP	Pb	05 42 16.0	+1.2
ARXS	5.3nm,0.3s			eS	Sb	05 42 56.6	-0.6
ARXS	6.8nm,0.3s Arharly	3.49	261	Pg	Pb	05 42 16.0	+1.2
ARXS	5.3nm,0.3s			Lg	Lg	05 42 56.6	
SATY	6.8nm,0.3s Saty	3.54	241	eP	Pb	05 42 15.9	+0.2
SATY	5.4nm,0.2s			eS	Sb	05 42 56.9	-1.9
SATY	10.0nm,0.1s Saty	3.54	241	Pg	Pb	05 42 15.8	+0.1
SATY	4.7nm,0.3s			Lg	Lg	05 42 56.9	
KTBS	9.8nm,0.2s Karatobe	4.42	257	eP	Pb	05 42 32.5	+2.0
KTBS	0.8nm,0.3s			eS	Sb	05 43 25.2	+1.3
KTBS	3.5nm,0.4s Karatobe	4.42	257	Pg	Pb	05 42 32.5	+2.0
KTBS	0.8nm,0.3s			Lg	Lg	05 43 25.2	
	3.5nm,0.4s						

IDC 04 05:46:36.6±11.0, 6°.91S×129°.60E, h75km±119km, mb3.1/1, mb1 3.5/4, mb1mx3.2/26, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=119.5km s-min=37.6km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.72	240	P	Pn	05 48 13.4	+0.7
BATI	12nm,0.3s,baz=70,slow=8.2,SNR=4.3			S	Sn	05 49 20.8	-7.1
WRA	10nm,0.3s,baz=64,slow=20,SNR=2.0 Warramunga Arr	13.75	161	P	Pn	05 49 47.0	-1.3
WRA	0.3nm,0.3s,baz=338,slow=13,SNR=12			S	Sn	05 52 08.6	-11
ASAR	0.7nm,0.3s,baz=332,slow=23,SNR=8.7 Alice Springs	17.17	167	P	P	05 50 32.5	+0.2
MKAR	0.1nm,0.3s,baz=344,slow=9.7,SNR=5.6 Makanchi Array	67.93	327	P	P	05 57 27.3	-0.1
	0.3nm,0.6s,baz=128,slow=9.3,SNR=2.2						

TUL 04 05:47:04±1.3, 36°.87N±0°.01×98°.15W±0°.01, h6km±4km, ML2.5, mb_Lg2.3/20(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=162.0
NEIC 04 05:47:04±0.3, 36°.85N±0°.01×98°.16W±0°.02, h10km±3km, Error ellipse: s-maj=2.1km s-min=1.8km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.06	222		Pg	05 47 06.1	0.0
OK032				Sg	Sg	05 47 07.7	0.0
KAN10	Anthony SW Sta	0.28	11		Pg	05 47 09.6	-0.1
KAN05	Bluff City Nor	0.34	42		Pg	05 47 10.8	-0.1
KAN05				Sg	Sg	05 47 15.5	0.0
KAN17	Caldwell West	0.37	58		Pg	05 47 11.3	0.0
KAN17				Sg	Sg	05 47 16.3	0.0
CROK	Carrier	0.37	158		Pg	05 47 11.6	+0.2
KAN08	Anthony NE Sta	0.40	22		Pg	05 47 11.8	-0.1
KAN08				Sg	Sg	05 47 17.3	0.0
KAN09	Caldwell North	0.52	56		Pg	05 47 14.0	-0.1
KAN13	South Haven SW	0.57	73		Pg	05 47 14.8	-0.3
KS20	Mayfield South	0.61	52		Pg	05 47 15.6	-0.3
BLOK	Blackwell	0.76	96	Pg	Pg	05 47 18.4	-0.3
U32A	Winter Ranch,	0.82	236	Pg	Pg	05 47 19.8	-0.1
OK029	Liberty Lake	1.20	151		Pb	05 47 26.4	-0.4
T35A	Sooner Cattle	1.32	87		Pn	05 47 28.6	0.0
QUOK	Quay	1.35	120		Pb	05 47 29.2	-0.2
OK031	S. Brethren Rd	1.39	130		Pn	05 47 29.6	+0.1
OK025	Westminster Rd	1.43	152		Pb	05 47 30.5	-0.3
OK030	Cody Creek RV	1.44	129		Pn	05 47 30.3	+0.1
R32A	Long Quarter,	1.63	345		Pb	05 47 33.7	-0.5
U38A	Gravette	3.06	97	IAmb_Lg		05 48 45.7	
	comp=Z,6.9nm,0.9s						
AMTX	Amarillo	3.47	237	IAmb_Lg		05 48 52.5	
	comp=Z,5.8nm,0.8s						
W39A	Magazine	3.91	114	IAmb_Lg		05 49 17.8	
	comp=Z,10nm,0.8s						
U40A	Yellville	4.30	95	IAmb_Lg		05 49 25.1	
	comp=Z,4.3nm,0.7s						
ABTX	Abilene, Hawle	4.39	197	IAmb_Lg		05 49 26.1	
	comp=Z,7.3nm,1.2s						
MGMO	Mountain Grove	4.72	85	IAmb_Lg		05 49 34.7	
	comp=Z,8.9nm,1.2s						
FCAR	Ozark Folk Cen	4.96	99	IAmb_Lg		05 49 37.5	
	comp=Z,7.7nm,1.2s						
T25A	Trinidad	5.01	275	IAmb_Lg		05 49 47.7	
	comp=Z,7.1nm,1.0s						
PBMO	Poplar Bluff	6.20	88	IAmb_Lg		05 50 19.8	
	comp=Z,3.9nm,0.7s						
S44A	Carbondale	7.15	81	IAmb_Lg		05 50 58.7	
	comp=Z,4.8nm,0.8s						

WEL 04 05:49:23.8±1.0, 35°S±17°×177°9E±2°4, h209km±18km, M3.8/16, ML3.9/15, MLv3.8/16, Error ellipse:
s-maj=0.0km s-min=0.0km az=120.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.60	199	P	Pn	05 50 08.9	-0.3
MXZ				S	S	05 50 43.3	-1.2
WMGZ	Waiomatatini S	2.81	196	P	Pn	05 50 12.4	+0.8
HAZ	Te Kaha	2.94	206	P	Pn	05 50 12.9	-0.2
HAZ				S	S	05 50 54.4	+3.0
PKGZ	Pakihiroa	2.96	201	P	Pn	05 50 13.7	+0.2
PUZ	Puketiti	3.09	197	P	Pn	05 50 15.0	+0.1
PUZ				S	S	05 50 54.2	-0.5
RUGZ	Raukumara Rang	3.16	205	P	Pn	05 50 15.6	-0.2
RUGZ				S	S	05 50 57.0	+0.7
TWGZ	Tauwhareparae	3.26	200	P	Pn	05 50 17.4	+0.5
TWGZ				S	S	05 51 00.5	+2.2
CNGZ	Carnagh Statio	3.50	195	P	Pn	05 50 20.4	+0.7
TKGZ	Te Karaka	3.54	200	P	Pn	05 50 20.4	+0.2
TKGZ				S	S	05 51 04.5	+0.3
MWZ	Matawai	3.55	204	P	Pn	05 50 20.5	+0.2
MWZ				S	S	05 51 05.5	+1.1
URZ	Urewera	3.64	210	P	Pn	05 50 21.2	-0.1
URZ				S	S	05 51 06.0	-0.3
RAGZ	Rawiri	3.73	205	P	Pn	05 50 22.8	+0.2
RAGZ				S	S	05 51 09.7	+1.2
RIGZ	Rimuhau	3.82	200	P	Pn	05 50 23.5	-0.1
RIGZ				S	S	05 51 11.2	+0.9
MHGZ	Mahia Peninsul	4.20	196	P	Pn	05 50 28.4	+0.1
RAHZ	Arahi	4.22	205	P	Pn	05 50 28.2	-0.4
NMHZ	Naumai	4.48	207	P	Pn	05 50 31.7	-0.1
ARHZ	Aropaoanui	4.56	204	P	Pn	05 50 32.1	-0.6
ARHZ				S	S	05 51 27.9	+0.9
TMVZ	Te Maari	4.96	215	P	Pn	05 50 37.7	-0.3
OTVZ	Oturere	5.02	215	P	Pn	05 50 38.5	-0.3
KAHZ	Kahuranaki	5.08	202	P	Pn	05 50 38.5	-0.9
KAHZ				S	S	05 51 39.8	+0.8

NEIC 04 06:10:10.5±0.5, 37°.23N±0°.01×97°.967W±0°.009, h4km±2km, Error ellipse: s-maj=2.1km s-min=0.8km az=160.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	Anthony NE Sta	0.00	223		Sg	06 10 11.7	0.0
KAN08	Anthony NE Sta	0.00	223	Pg	Pg	06 10 11.0	-0.2
KAN12	Harper NE Stat	0.07	340		Sg	06 10 13.6	+0.5
KAN12	Harper NE Stat	0.07	340	Pg	Pg	06 10 12.1	+0.1
KAN06	Argonia West S	0.09	78		Pg	06 10 13.8	+1.5
KAN05	Bluff City Nor	0.14	148	Pg	Pg	06 10 13.3	0.0
KAN10	Anthony SW Sta	0.15	224		Pg	06 10 13.5	+0.2
KAN10					Sg	06 10 15.8	+0.5
KAN17	Caldwell West	0.25	139		Pg	06 10 15.2	0.0
KAN17					Sg	06 10 18.7	+0.3
KS21	Milan North St	0.25	77		Sg	06 10 18.9	+0.3
KAN09	Caldwell North	0.29	108		Pg	06 10 16.1	-0.1
KAN09					Sg	06 10 20.3	+0.3
KS20	Mayfield South	0.33	90		Sg	06 10 21.4	+0.3
KS20	Mayfield South	0.33	90	Pg	Pg	06 10 16.9	+0.1
KAN13	South Haven SW	0.45	119		Pg	06 10 18.7	-0.3
KAN13	South Haven SW	0.45	119		Sg	06 10 25.0	+0.1
OK032	Salt Plains WL	0.47	205		Pg	06 10 19.4	0.0
OK032					Sg	06 10 26.0	+0.5
CROK	Carrier	0.72	181		Pg	06 10 23.7	-0.7
BLOK	Blackwell	0.76	128		Pg	06 10 24.5	-0.6
U32A	Winter Ranch,	1.19	225	Pg	Pg	06 10 32.7	-0.5
T35A	Sooner Cattle	1.21	105		Pg	06 10 32.8	-0.8
R32A	Long Quarter,	1.33	334		Pn	06 10 35.3	-0.6
QUOK	Quay	1.46	136		Pn	06 10 37.4	-0.3
OK029	Liberty Lake	1.49	164		Pn	06 10 38.0	-0.1
OK031	S. Brethren Rd	1.56	144		Pn	06 10 38.9	-0.2
BCOK	Bluff Creek, N	1.60	169		Pn	06 10 39.4	-0.1
OK030	Cody Creek RV	1.61	143		Pn	06 10 39.7	0.0
OK025	Westminster Rd	1.72	163		Pn	06 10 41.5	+0.2
KSU1	Kansas State U	2.15	29	IAmb_Lg		06 11 22.0	
	comp=Z,34nm,0.8s						
N33A	J Bar K, Exete	3.53	6	IAmb_Lg		06 12 09.7	
	comp=Z,18nm,0.9s						
S39A	Bolivar	3.72	81	IAmb_Lg		06 12 12.4	
	comp=Z,16nm,0.9s						
AMTX	Amarillo	3.81	233	IAmb_Lg		06 12 20.3	
	comp=Z,17nm,0.8s						
Z35A	Perchaven, San	3.93	171	IAmb_Lg		06 12 21.6	
	comp=Z,10nm,0.9s						
KSCO	Kaye Shedlock'	4.08	297	IAmb_Lg		06 12 30.9	
	comp=Z,16nm,0.8s						
U40A	Yellville	4.20	100	IAmb_Lg		06 12 21.1	
	comp=Z,16nm,0.8s						
P38A	Dawn	4.22	54	IAmb_Lg		06 12 24.6	
	comp=Z,9.4nm,0.8s						
MIAR	Mount Ida	4.46	126	IAmb_Lg		06 12 32.3	
	comp=Z,8.5nm,0.8s						
MGMO	Mountain Grove	4.55	89	IAmb_Lg		06 12 32.9	
	comp=Z,12nm,0.9s						
WHAR	Wooly Hollow	4.98	111	IAmb_Lg		06 12 59.0	
	comp=Z,11nm,0.8s						
N38A	Joes South For	5.12	45	IAmb_Lg		06 13 02.8	
	comp=Z,16nm,0.9s						
T25A	Trinidad	5.15	271	IAmb_Lg		06 12 57.6	
	comp=Z,10nm,0.7s						
CCM	Cathedral Cave	5.40	79	IAmb_Lg		06 13 08.2	
	comp=Z,6.8nm,0.7s						
LCAR	Lake Charles	5.60	100	IAmb_Lg		06 13 17.6	
	comp=Z,7.0nm,1.0s						
SCIA	State Center	5.94	37	IAmb_Lg		06 13 22.1	
	comp=Z,12nm,0.8s						
PBMO	Poplar Bluff	6.05	92	IAmb_Lg		06 13 31.9	
	comp=Z,7.2nm,0.7s						
435B	Jarrell	6.44	177	IAmb_Lg		06 13 37.4	
	comp=Z,6.9nm,0.8s						
ISCO	Idaho Springs	6.52	296	IAmb_Lg		06 13 42.7	
	comp=Z,5.5nm,0.8s						
JCT	Junction City	6.90	193	IAmb_Lg		06 13 54.7	
	comp=Z,8.8nm,1.1s						
S44A	Carbondale	6.95	84	IAmb_Lg		06 13 47.5	
	comp=Z,9.8nm,0.7s						
SIUC	Southern Illin	6.98	83	IAmb_Lg		06 13 50.2	
	comp=Z,8.2nm,0.8s						
P43A	Skaggs, Pawnee	7.05	67	IAmb_Lg		06 13 57.3	
	comp=Z,11nm,0.8s						

IDC 04 06:13:37.9±1.1, 21°.27S×68°.51W, h112km±16km, mb3.7/3, mb1 3.8/5, mb1mx3.4/27, mbtmp4.2/5, Error ellipse: s-maj=36.8km s-min=17.4km az=108.0
NEIC 04 06:13:37.8±1.5, 21°.30S±0°.05×68°.76W±0°.09, h121km±7km, Error ellipse: s-maj=12.4km s-min=7.6km az=84.0
VAO 04 06:13:37.6±0.4, 21°.20S×68°.59W, h107km, mb4.3
GUC 04 06:13:38.0±0.4, 21°.28S×68°.80W, h121km±2km, ML4.2
ISC 04 06:13:37.1±0.6, 21°.27S±0°.03×68°.79W±0°.06, h122km±7km, n66, σ0982/82, mb4.1/4, 5C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.67	219		Pn	06 13 57.1	+0.4
PB01	IPOC Station P	0.69	289	eP	Pn	06 13 56.6	-0.1
PB01				i S	Sn	06 14 11.4	-0.1
PB01				IAML		06 14 12.3	
	comp=E,9μm,0.1s						
PB01	IPOC Station P	0.69	289		Pn	06 13 57.0	+0.2
PB07	IPOC Station P	1.12	246	i P	Pn	06 14 00.9	+0.2
PB07				i S	Sn	06 14 18.2	-0.3
PB07				IAML		06 14 18.7	
	comp=N,6μm,0.2s						
PB07	IPOC Station P	1.12	246		Pn	06 14 01.2	+0.5
PB08	IPOC Station P	1.18	343	⇑iP	Pn	06 14 02.2	+0.7
PB08				i S	Sn	06 14 21.1	+1.0
PB08				IAML		06 14 21.9	
	comp=E,4μm,0.2s						
PB08	IPOC Station P	1.18	343		Pn	06 14 02.4	+0.8
PB03	IPOC Station P	1.18	229	⇑iP	Pn	06 14 01.6	+0.2
PB03				i S	Sn	06 14 19.4	-0.3
PB03				IAML		06 14 20.2	
	comp=E,8μm,0.2s						
LVC	Limon Verde	1.34	185	P	Pn	06 14 03.7	+0.5
	comp=E,117nm,0.3s,baz=11,slow=9.8,SNR=1048						
LVC				S	Sn	06 14 23.4	+0.4
	comp=E,50nm,0.3s,baz=11,slow=5.3,SNR=6.2						
LVC				LR	LR	06 14 52.7	
	comp=E,82nm,19.2s,baz=330,slow=54						
LVC	Limon Verde	1.34	185	eP	Pn	06 14 03.8	+0.5
LVC				i S	Sn	06 14 23.8	+0.7
LVC	Limon Verde	1.34	185		Pn	06 14 03.9	+0.5
LVC	Limon Verde	1.34	185	eP	Pn	06 14 03.7	+0.5
LVC				eS	Sn	06 14 23.8	+0.7
TA01	Diego Aracena	1.48	298	⇓iP	Pn	06 14 04.4	0.0
TA01				i S	Sn	06 14 24.7	-0.5
TA01				IAML		06 14 26.3	
	comp=E,4μm,0.3s						
TA01	Diego Aracena	1.48	298		Pn	06 14 04.7	+0.2
PB06	IPOC Station P	1.60	207	⇑iP	Pn	06 14 06.5	+0.4
PB06				i S	Sn	06 14 28.2	+0.1
PB06				IAML		06 14 30.1	
	comp=E,2μm,0.2s						
PB06	IPOC Station P	1.60	207		Pn	06 14 06.6	+0.6
TA02	Huaiquique	1.60	308	eP	Pn	06 14 05.7	-0.1
TA02				i S	Sn	06 14 27.2	-0.6
TA02	Huaiquique	1.60	308		Pn	06 14 05.8	-0.1
PB04	IPOC Station P	1.65	230	⇑iP	Pn	06 14 06.6	0.0
PB04				i S	Sn	06 14 28.7	-0.4
PB04				IAML		06 14 31.0	
	comp=E,2μm,0.6s						
PB04	IPOC Station P	1.65	230		Pn	06 14 07.2	+0.6
PB11	IPOC Station P	1.71	331	⇑iP	Pn	06 14 07.5	+0.1
PB11				i S	Sn	06 14 30.4	+0.1
PB11				IAML		06 14 31.5	
	comp=N,4μm,0.2s						
PB11	IPOC Station P	1.71	331		Pn	06 14 07.7	+0.4
PB15	IPOC Station P	2.03	198	eP	Pn	06 14 11.7	+0.4
PB15				i S	Sn	06 14 38.0	+0.6
PB15	IPOC Station P	2.03	198		Pn	06 14 11.5	+0.3
PB05	IPOC Station P	2.05	220	eP	Pn	06 14 11.3	-0.1
PB05				i S	Sn	06 14 37.0	-0.7
PB05				IAML		06 14 39.5	
	comp=E,1μm,0.4s						
PSGC	Pisagua	2.08	323	eP	Pn	06 14 11.4	-0.5
PSGC				⇓iS	Sn	06 14 37.5	-0.9
PSGC				IAML		06 14 38.8	
	comp=N,1μm,0.3s						
PSGCX	Pisagua	2.08	323		Pn	06 14 11.2	-0.6
MNMC	Minye Minye	2.26	340	eP	Pn	06 14 14.5	+0.3
MNMC				i S	Sn	06 14 43.5	+0.8
MNMC	Minye Minye	2.26	340		Pn	06 14 14.2	0.0
PB10	IPOC Station P	2.77	216	Pn	Pn	06 14 20.3	-0.1
GO02	Mina Guanaco	3.94	191		Pn	06 14 35.4	-0.8
LPAZ	La Paz	5.00	7	P	Pn	06 14 52.5	+1.9
	baz=191,slow=6.5						
AC02	Maricunga	5.55	183	Pn	Pn	06 14 57.5	-0.5
GO03	Copiap	6.43	192	Pn	Pn	06 15 07.0	-2.4
SIV	San Ignacio	9.00	56	P	Pn	06 15 41.2	-3.1
	comp=N,8.5nm,0.3s,baz=259,slow=13,SNR=166						
PTLB	Pontes e Lacer	10.84	59	eP	Pn	06 16 07.0	-1.8
ETMB	Extrema	11.66	13	eP	Pn	06 16 19.2	-0.6
BO02	Sierra Bellavi	13.58	187	Pn	Pn	06 16 45.1	+0.3
TRCB	Terra Rica	15.06	99	P	P	06 17 06.2	+0.1
H03N1	Juan Fernandez	15.08	214	P	P	06 17 05.5	-0.4
	baz=285,slow=74,SNR=4.7						
H03N2	Juan Fernandez	15.09	214	P	P	06 17 05.4	-0.5
H03N3	Juan Fernandez	15.10	214	P	P	06 17 05.3	-0.7
	baz=104,slow=74,SNR=4.6						
H03S3	Juan Fernandez	15.38	213	P	Pn	06 17 08.5	+1.3
	baz=172,slow=71,SNR=5.8						
H03S1	Juan Fernandez	15.39	213	P	Pn	06 17 07.9	+0.6
	baz=172,slow=71,SNR=4.1						
H03S2	Juan Fernandez	15.40	213	P	Pn	06 17 08.5	+1.0
	baz=172,slow=71,SNR=4.9						
ITAB	Concordia	16.30	115	P	P	06 17 19.6	-0.1
FRTB	Fartura	17.91	100	eP	P	06 17 37.7	+0.2
BB19B	Bebedouro	18.90	93	eP	P	06 17 47.7	-0.6
SNDB	Serra Nova Dou	19.13	64	eP	P	06 17 49.7	-1.1
IPMB	Ipameri, GO	19.65	84	eP	P	06 17 56.4	-0.2
MACA	Manacapuru-AM	19.65	25	eP	P	06 17 57.9	+1.4
BDFB	Brasilia	20.48	78	P	P	06 18 05.3	-0.2
	comp=N,5.0nm,0.4s,baz=255,slow=10.0,SNR=21						
BDFB	Brasilia	20.48	78	P	P	06 18 05.6	+0.1
BDFB				IAmb	IAmb	06 18 08.7	
	comp=Z,6.5nm,0.5s						
ITTB	Itaituba	21.05	39	eP	P	06 18 10.2	-1.4
PTGA	Pitinga	22.16	24	P	P	06 18 22.3	-1.0
	comp=Z,2.5nm,0.3s,baz=195,slow=3.4,SNR=8.0						
FLOC	Florencia	23.69	343	P	P	06 18 39.2	+1.4
FLOC				IAmb	IAmb	06 18 40.5	
	comp=Z,7.7nm,1.0s						
SMTB	Santa Maria do	23.86	62	eP	P	06 18 39.9	+0.5
JANB	Januaria	24.05	79	eP	P	06 18 40.4	-0.8
BOAV	Boa Vista	24.88	20	eP	P	06 18 49.4	+0.8
NAN01	Guarapari, ES	27.21	88	eP	P	06 19 10.2	+0.6
RUSC	La Rusia	27.32	351	P	P	06 19 12.0	+0.9
RUSC				IAmb	IAmb	06 19 36.2	
	comp=Z,9.7nm,1.3s						
GUA01	Guaratinga, BA	27.79	85	eP	P	06 19 15.2	+0.4
GDU01	Guandu, BA	28.82	80	eP	P	06 19 23.5	-0.5
NBPS	Pedro II - PI	31.40	62	eP	P	06 19 47.8	+0.9
TORD	Torodi Ar. Bea	77.17	70	P	P	06 25 18.0	0.0
	comp=Z,0.6nm,0.6s,baz=253,slow=5.5,SNR=7.0						
MKAR	Makanchi Array	145.38	36	PKPbc	PKPab	06 33 02.4	+1.4
	comp=Z,1.0nm,0.7s,baz=330,slow=4.6,SNR=5.9						

NNC 04 06:20:31.8±2.6, 37°.89N×78°.13E, h0km, mb3.8, mpv3.4, 3C-2D, Error ellipse: s-maj=18.1km s-min=17.1km az=90.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	Medeo	5.34	351	Pg	Pb	06 22 09.2	+3.1
MDOK	4.2nm,0.8s			⇑Lg	Lg	06 23 17.5	
MDOK	7.4nm,0.6s Medeo	5.34	351	Pg	Pg	06 22 10.5	-3.6
MDOK	3.2nm,0.3s			Lg	Lg	06 23 24.5	
KST	9.5nm,0.5s Kastek	5.41	343	Pg	Pg	06 22 11.9	-3.6
KST	2.6nm,0.5s			Lg	Lg	06 23 27.0	
AAK	4.5nm,0.7s Ala-Archa	5.50	331	⇓Pg	Pb	06 22 11.9	+3.1
AAK	1.8nm,0.5s			⇓Lg	Lg	06 23 24.3	
PDGK	9.4nm,0.8s Podgornoye	5.54	10	Pg	Pb	06 22 11.6	+2.2
PDGK	1.1nm,0.3s			Lg	Lg	06 23 26.5	
PDGK	4.1nm,0.6s Podgornoye	5.54	10	⇑Pg	Pb	06 22 11.7	+2.3
PDGK	1.8nm,0.6s			⇑Lg	Lg	06 23 29.0	
KTBS	12nm,1.1s Karatobe	5.92	350	Pg	Pb	06 22 19.9	+4.0
KTBS	1.4nm,0.7s			Lg	Lg	06 23 40.3	
MRKS	8.7nm,0.5s Merke	6.13	324	Pg	Pb	06 22 23.7	+4.2
MRKS	3.0nm,0.6s			Lg	Lg	06 23 47.6	
KUU	5.0nm,0.6s Kurty	6.15	348	Pg	Pb	06 22 23.6	+3.7
KUU	0.7nm,0.4s			Lg	Lg	06 23 46.9	
ARXS	5.3nm,0.7s Arharly	6.33	358	Pg	Pb	06 22 26.8	+3.9
ARXS	4.9nm,0.5s			Lg	Lg	06 23 52.8	
	6.3nm,0.6s						

IDC 04 06:26:36.8±2.4, 2°.31S×128°.14E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/44, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=172.1km s-min=28.9km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.55	161	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 11nm,0.6s	**5.26**	**359**	Pg	Pb	06 38 28.0	+3.6
SATY	17nm,0.6s			Lg	Lg	06 39 40.6	
MDOK	**Medeo** 5.7nm,0.5s	**5.49**	**348**	Pg	Pb	06 38 29.7	+1.4
MDOK	9.9nm,0.7s			Lg	Lg	06 39 43.5	
MDOK	**Medeo** 6.5nm,0.6s	**5.49**	**348**	Pg	Pb	06 38 32.3	+4.0
MDOK	8.8nm,0.5s			Lg	Lg	06 39 47.9	
PDGK	**Podgornoye** 2.4nm,0.3s	**5.57**	**7**	Pg	Pb	06 38 32.3	+2.6
PDGK	4.8nm,1.2s			Lg	Lg	06 39 48.2	
PDGK	**Podgornoye** 1.9nm,0.6s	**5.57**	**7**	⇓Pn	Pn	06 38 16.9	+1.1
PDGK	3.1nm,0.5s			⇑Pg	Pb	06 38 33.4	+3.7
PDGK	18nm,1.2s			⇑Lg	Lg	06 39 45.3	
KST	**Kastek** 4.3nm,0.4s	**5.61**	**340**	Pg	Pg	06 38 35.5	-3.5
KST	4.6nm,0.6s			Lg	Lg	06 39 54.0	
AAK	**Ala-Archa** 4.8nm,0.7s	**5.76**	**328**	⇓Pg	Pb	06 38 33.9	+1.0
AAK	13nm,0.8s			⇑Lg	Lg	06 39 56.8	
DGS	**Degeres** 8.7nm,0.5s	**5.85**	**339**	Pg	Pb	06 38 37.8	+3.4
DGS	4.8nm,0.4s			Lg	Lg	06 39 57.6	
KTBS	**Karatobe** 3.6nm,0.6s	**6.09**	**347**	Pg	Pb	06 38 42.5	+4.2
KTBS	5.5nm,0.7s			Lg	Lg	06 40 05.7	
KRBS	**Karabastau** 2.6nm,0.6s	**6.30**	**340**	Pg	Pb	06 38 45.6	+3.7
KRBS	2.0nm,0.4s			Lg	Lg	06 40 11.1	
MRKS	**Merke** 6.0nm,0.4s	**6.42**	**322**	Pg	Pb	06 38 49.1	+5.0
MRKS	4.9nm,0.3s			Lg	Lg	06 40 17.1	
ARXS	**Arharly** 7.7nm,0.4s	**6.44**	**355**	Pg	Pb	06 38 49.3	+4.9
ARXS	5.3nm,0.7s			Lg	Lg	06 40 17.7	

*IDC **04** 06:40:14.7±0.8, 32°.27S×177°.93W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/22, mbtmp4.2/9, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=26.5km s-min=21.8km az=94.0*

ISC 04 06:40:17.8±0.7, 32°.40S±0°.10×177°.9W±0°.2, h20km, n34, σ1§40/34, mb4.3/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.4nm,0.3s,baz=324,slow=9.0,SNR=1.8	**7.11**	**213**	Pn	**Pn**	**06 41 59.8**	**-0.8**
URZ	4.8nm,0.3s,baz=242,slow=20,SNR=12			Sn	**Sn**	**06 43 20.4**	**-0.4**
MCHZ	**McNeill Hill**	**8.27**	**210**	P	**Sn**	**06 43 50.7**	**+1.4**
KWHZ	**Kaweka Forest**	**8.37**	**212**	P	**Sn**	**06 43 52.2**	**+0.3**
TMVZ	**Te Maari**	**8.46**	**216**	P	**Sn**	**06 43 56.1**	**+1.9**
ETVZ	**East Tongariro**	**8.47**	**216**	P	**Sn**	**06 43 54.9**	**+0.3**
OTVZ	**Oturere**	**8.52**	**216**	P	**Sn**	**06 43 57.5**	**+1.8**
TWVZ	**Taurewa**	**8.56**	**217**	P	**Sn**	**06 43 54.1**	**-2.6**
KRHZ	**Kereru**	**8.57**	**211**	P	**Sn**	**06 43 56.2**	**-0.6**
BHHZ	**Black Hill Sta**	**8.58**	**213**	P	**Sn**	**06 43 57.2**	**0.0**
FWVZ	**Far West T-bar**	**8.64**	**216**	P	**Sn**	**06 43 58.7**	**-0.2**
WHVZ	**Whangaehu Hut**	**8.65**	**216**	P	**Sn**	**06 43 59.1**	**+0.2**
WNVZ	**Wahianoa**	**8.68**	**215**	P	**Sn**	**06 43 59.7**	**+0.1**
PNHZ	**Pukenui**	**8.87**	**211**	P	**Sn**	**06 44 01.6**	**-2.6**
WPHZ	**Waipukurau**	**8.89**	**209**	P	**Sn**	**06 44 03.9**	**-0.9**
DVHZ	**Dannevirke**	**9.20**	**209**	P	**Sn**	**06 44 07.9**	**-4.5**
ANWZ	**Angora Road**	**9.22**	**208**	P	**Sn**	**06 44 11.5**	**-1.2**
RAR	**Rarotonga** comp=Z,155nm,20.0s,baz=285,slow=33	**19.64**	**60**	LR	LR	06 50 58.9	
STKA	**Stephens Creek** 2.8nm,0.6s,baz=91,slow=10,SNR=8.5	**34.13**	**260**	P	**P**	**06 47 02.9**	**+1.5**
ASAR	**Alice Springs** 3.2nm,0.5s,baz=106,slow=7.7,SNR=77	**43.09**	**269**	P	**P**	**06 48 16.2**	**-0.5**
WRA	**Warramunga Arr** 6.0nm,0.4s,baz=113,slow=7.8,SNR=120	**44.26**	**274**	P	**P**	**06 48 25.5**	**-0.7**
VNDA	**Vanda** 0.4nm,0.4s,baz=27,slow=2.8,SNR=5.4	**46.12**	**186**	P	**P**	**06 48 40.4**	**+0.2**
QSPA	**South Pole Qui** 3.0nm,0.7s,baz=74,slow=3.3,SNR=20	**57.72**	**180**	P	**P**	**06 50 08.5**	**+1.6**
MAW	**Mawson** 1.5nm,0.9s,baz=145,slow=9.6,SNR=3.0	**70.46**	**201**	P	**P**	**06 51 31.5**	**+1.1**
SNAA	**Sanae**	**76.16**	**178**	P	**P**	**06 52 04.1**	**+0.1**
VNA3	**Neumayer Olymp**	**76.31**	**176**	P	**P**	**06 52 04.8**	**-0.1**
PETK	**Petropavlovsk-** 0.9nm,0.5s,baz=131,slow=5.9,SNR=6.3	**87.75**	**346**	P	**P**	**06 53 04.1**	**-0.7**
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=236,slow=6.4,SNR=3.7	**89.67**	**43**	P	**P**	**06 53 13.9**	**-0.6**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=46,slow=2.0,SNR=4.0	**119.08**	**309**	PKP	**PKiKP**	**06 59 06.0**	**+1.0**
KBZ	**Khabaz** 1.3nm,0.5s,baz=126,slow=2.9,SNR=5.5	**146.23**	**301**	PKPbc	**PKPbc**	**06 59 56.8**	**+0.2**
FINES	**FINESS Array B** 3.2nm,0.5s,baz=50,slow=3.7,SNR=53	**147.03**	**339**	PKPbc	**PKPbc**	**06 59 58.3**	**0.0**
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.4s,baz=14,slow=4.3	**150.73**	**351**	PKP	**PKPbc**	**07 00 06.0**	**-1.9**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.5s,baz=14,slow=4.1,SNR=4.7	**150.73**	**351**	PKPbc	**PKPbc**	**07 00 06.2**	**-1.7**
AKASG	**Malin Array Be** comp=Z,0.8nm,0.5s,baz=48,slow=2.8,SNR=4.8	**152.89**	**320**	PKPbc	**PKPbc**	**07 00 12.6**	**-0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.6s,baz=199,slow=3.1,SNR=3.5	**160.84**	**179**	PKPab	**PKPab**	**07 00 59.4**	**+0.2**

TRN 04 06:59:20.3, 10°.15N×61°.96W, h0km, MD3.8, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.53**	**72**	*e*P	Pg	06 59 30.8	+0.3
TPP	**Pointe-a-Pierr**	**0.53**	**72**	*e*P	Pb	06 59 31.7	-0.7
TRN	**Trinidad (W)**	**0.74**	**48**	*e*P	Pg	06 59 34.8	+0.3
TPR	**Prospect**	**1.55**	**49**	*e*P	Pn	06 59 49.5	+0.3
TPR				*e*S	Sg	07 00 10.7	+0.5
BOT	**Bacolet**	**1.58**	**50**	*e*P	Pn	06 59 49.9	+0.3
BOT				*e*S	Sg	07 00 11.8	+0.6
TOSP	**Speyside**	**1.81**	**51**	*e*P	Pn	06 59 53.1	+0.4
GRGR	**Grenville**	**1.99**	**9**	*e*P	Pn	06 59 55.4	+0.2
GRGR				*e*S	Sn	07 00 21.6	+0.8
GCMP	**Grenada, Carri**	**2.38**	**13**	*e*P	Pn	07 00 01.7	+1.2
GCMP				*e*S	Sn	07 00 30.0	-0.3
SVOC	**Richmond Hill,**	**3.07**	**14**	*e*S	Sn	07 00 47.6	+0.2
SVB	**Belmont**	**3.18**	**13**	*e*P	Pn	07 00 11.3	-0.2
SVB				*e*S	Sn	07 00 50.4	+0.2
MCLT	**Moule a Chique**	**3.67**	**16**	*e*P	Pn	07 00 18.8	+0.4
MCLT				*e*S	Sn	07 01 02.0	-0.4
SLCP	**Castries, St.**	**3.95**	**14**	*e*P	Pb	07 00 29.6	-1.2
SLCP				*e*S	Sn	07 01 11.3	+2.1
SLBI	**Saint Lucia, B**	**3.96**	**14**	*e*P	Pn	07 00 23.7	+1.3
SLBI	**Saint Lucia, B**	**3.96**	**14**	*e*S	Sn	07 01 09.9	+0.4
BAUV	**El Baul**	**6.11**	**259**	*e*P	Pn	07 00 53.1	+1.2

*IDC **04** 07:01:54.0±1.2, 5°.20N×94°.29E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/45, mbtmp4.1/8, ML4.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/45, Error ellipse: s-maj=49.0km s-min=19.4km az=51.0*

ISC 04 07:01:58.8±1.1, 5°.0N±0°.2×94°.2E±0°.1, h34km, n16, σ1§15/9, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 0.8nm,0.3s,baz=211,slow=14,SNR=2.1	**13.59**	**280**	Pn	**Pn**	**07 05 09.9**	**+0.6**
PALK	0.9nm,0.3s,baz=225,slow=23,SNR=1.2			Sn	Sn	07 07 28.1	-11
PALK	comp=Z,88nm,18.1s,baz=204,slow=37			LR	LR	07 10 20.2	
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=212,slow=13,SNR=8.8	**14.14**	**19**	Pn	**Pn**	**07 05 18.4**	**+1.6**
CMAR	comp=Z,31nm,20.6s,baz=195,slow=36			LR	LR	07 10 15.8	
H08S3	**Diego Garcia H** baz=59,slow=75,SNR=106	**25.03**	**240**	T	T	07 33 18.1	
H08S2	**Diego Garcia H** baz=59,slow=75,SNR=118	**25.03**	**240**	T	T	07 33 21.3	
H08S1	**Diego Carcia H** baz=59,slow=75,SNR=26	**25.05**	**240**	T	T	07 33 19.5	
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=160,slow=9.2,SNR=5.5	**42.86**	**348**	P	**P**	**07 09 53.0**	**-0.8**
SONM	**Songino Array** 1.2nm,0.6s,baz=187,slow=7.5,SNR=4.8	**43.92**	**12**	P	**P**	**07 10 00.9**	**-1.5**
H01W3	**Cape Leeuwin H** baz=329,slow=74,SNR=2.7	**43.92**	**156**	T	T	07 57 40.6	
H01W2	**Cape Leeuwin H** baz=329,slow=74,SNR=2.7	**43.94**	**156**	T	T	07 57 40.7	
H01W1	**Cape Leeuwin H** baz=329	**43.94**	**156**	T	T	07 57 42.7	
KSRS	**Korea Array** comp=Z,18nm,19.5s,baz=158,slow=38	**44.61**	**39**	LR	LR	07 30 08.2	
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=302,slow=9.2,SNR=30	**46.63**	**123**	P	**P**	**07 10 24.5**	**+0.3**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=298,slow=7.6,SNR=13	**48.10**	**128**	P	**P**	**07 10 35.9**	**+0.2**
ZALV	**Zalesovo Beam** 1.8nm,0.5s,baz=188,slow=9.1,SNR=7.0	**49.37**	**353**	P	**P**	**07 10 44.2**	**-0.6**
FINES	**FINESS Array B** 1.6nm,0.5s,baz=99,slow=7.4,SNR=10	**75.23**	**333**	P	**P**	**07 13 37.0**	**-0.9**
GERES	**GERESS Array B** 0.3nm,0.5s,baz=90,slow=7.2,SNR=3.6	**79.97**	**319**	P	**P**	**07 14 05.5**	**+0.8**

NNC 04 07:04:40.2±2.0, 37°.89N×78°.07E, h0km, mb4.0, mpv3.6, 6C, Error ellipse: s-maj=16.9km s-min=13.1km az=86.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 6.0nm,0.8s	**5.17**	**3**	Pg	Pg	07 06 15.8	-3.6
SATY	19nm,0.7s			Lg	Lg	07 07 26.3	
UZB	**Uzynbulak** 1.9nm,0.2s	**5.31**	**8**	Pg	Pb	07 06 16.5	+2.6
UZB	6.5nm,0.8s			Lg	Lg	07 07 27.9	
MDOK	**Medeo** 5.1nm,0.6s	**5.33**	**352**	⇑Pg	Pb	07 06 15.1	+0.9
MDOK	15nm,0.6s			⇑Lg	Lg	07 07 27.8	
MDOK	**Medeo** 3.7nm,0.6s	**5.33**	**352**	Pg	Pb	07 06 17.6	+3.3
MDOK	9.6nm,1.0s			Lg	Lg	07 07 29.5	
KST	**Kastek** 3.8nm,0.5s	**5.40**	**343**	Pg	Pg	07 06 19.6	-4.0
KST	9.2nm,0.5s			Lg	Lg	07 07 32.8	
AAK	**Ala-Archa** 2.4nm,0.5s	**5.48**	**331**	⇑Pg	Pb	07 06 19.5	+2.7
AAK	9.7nm,0.7s			⇑Lg	Lg	07 07 31.5	
PDGK	**Podgornoye** 2.8nm,0.5s	**5.54**	**11**	⇑Pg	Pb	07 06 20.4	+2.4
PDGK	9.1nm,0.8s			⇑Lg	Lg	07 07 38.2	
DGS	**Degeres** 2.8nm,0.7s	**5.63**	**343**	Pg	Pg	07 06 23.7	-4.3
DGS	6.2nm,0.8s			Lg	Lg	07 07 40.3	
KTBS	**Karatobe** 2.3nm,0.6s	**5.92**	**350**	Pg	Pb	07 06 28.3	+4.1
KTBS	8.7nm,0.7s			Lg	Lg	07 07 48.1	
CHKK	**Chushkaly** 2.4nm,0.1s	**6.02**	**353**	Pg	Pb	07 06 29.8	+3.8
CHKK	7.1nm,0.3s			Lg	Lg	07 07 50.4	
KRBS	**Karabastau** 2.5nm,0.5s	**6.08**	**343**	Pg	Pg	07 06 33.2	-3.5
KRBS	2.1nm,0.8s			Lg	Lg	07 07 56.6	
KUU	**Kurty** 0.5nm,0.2s	**6.14**	**348**	Pg	Pb	07 06 32.0	+4.0
KUU	3.6nm,0.8s			Lg	Lg	07 07 54.4	
ARXS	**Arharly** 3.6nm,0.8s	**6.32**	**358**	Pg	Pb	07 06 35.0	+3.8
ARXS	5.2nm,0.4s			Lg	Lg	07 07 59.5	

*NNC **04** 07:07:33.0±4.8, 37°.95N×78°.56E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=39.1km s-min=32.6km az=58.0*

ISC 04 07:07:40.0±4.2, 38°.5N±0°.3×78°.6E±0°.1, h10km, n13, σ2§00/13, 4C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 4.5nm,0.4s	**4.70**	**4**	Pg	**Pg**	**07 09 10.4**	**+0.5**
UZB	16nm,0.6s			Lg	Lg	07 10 17.6	
SHLS	**Shalkode** 21nm,0.3s	**4.74**	**7**	Pg	**Pg**	**07 09 12.4**	**+1.7**
SHLS	49nm,0.6s			Lg	Lg	07 10 21.6	
MDOK	**Medeo** 25nm,1.1s	**4.85**	**346**	⇓Pg	**Pb**	**07 09 07.1**	**+1.9**
MDOK	32nm,0.7s			Lg	Lg	07 10 20.7	
MDOK	**Medeo** 6.7nm,0.5s	**4.85**	**346**	Pg	**Pg**	**07 09 11.3**	**-1.6**
MDOK	28nm,0.6s			Lg	Lg	07 10 19.3	
PDGK	**Podgornoye** 2.8nm,0.5s	**4.91**	**7**	Pg	**Pg**	**07 09 13.5**	**-0.5**
PDGK	12nm,0.7s			Lg	Lg	07 10 23.2	
PDGK	**Podgornoye** 3.7nm,0.7s	**4.91**	**7**	⇑Pn	**Pn**	**07 08 51.2**	**-2.8**
PDGK	7.9nm,0.6s			⇑Pg	**Pg**	**07 09 15.0**	**+0.9**
PDGK	36nm,0.9s			⇓Lg	Lg	07 10 24.5	
KST	**Kastek** 14nm,0.4s	**5.01**	**337**	Pg	**Pg**	**07 09 16.2**	**+0.3**
KST	14nm,1.1s			Lg	Lg	07 10 28.2	
AAK	**Ala-Archa** 6.4nm,0.7s	**5.23**	**324**	⇑Pg	**Pb**	**07 09 15.1**	**+3.5**
AAK	51nm,1.4s			⇑Lg	Lg	07 10 30.7	
CHKK	**Chushkaly** 3.8nm,0.4s	**5.53**	**348**	Pg	**Pg**	**07 09 24.3**	**-1.6**
CHKK	16nm,0.9s			Lg	Lg	07 10 42.0	
KRBS	**Karabastau** 3.0nm,0.6s	**5.69**	**338**	Pg	**Pg**	**07 09 27.1**	**-1.8**
KRBS	9.7nm,1.0s			Lg	Lg	07 10 46.8	
ARXS	**Arharly** 7.6nm,0.5s	**5.78**	**354**	Pg	**Pg**	**07 09 29.6**	**-1.1**
ARXS	5.9nm,0.4s			Lg	Lg	07 10 51.0	
BTLS	**Baital** 1.8nm,1.0s	**7.42**	**334**	Pg	Pg	07 09 56.9	-5.1
BTLS	5.0nm,0.8s			Lg	Lg	07 11 38.1	
WMQ	**Urumqi**	**8.69**	**49**	*e*P	**Pn**	**07 09 44.4**	**-1.4**

*NAO **04** 07:42:25.0±0.7, 76°.90N×15°.31E, ML4.5*
*IEPN **04** 07:42:25.4, 76°.91N×16°.02E, h10km*
*DNK **04** 07:42:25.7±4.7, 77°.06N×15°.56E, h0km±292km, mb4.6, ML4.4*
*IDC **04** 07:42:25.9±0.5, 77°.04N×16°.01E, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.1/43, mbtmp4.1/24, ML3.2/4, MS3.3/21, Ms1 3.3/21, ms1mx3.1/43, Error ellipse: s-maj=14.6km s-min=6.8km az=84.0*
*MOS **04** 07:42:25.1±1.1, 77°.00N×15°.44E, h10km, mb4.7/31, Error ellipse: s-maj=27.9km s-min=4.9km az=92.8*
*NEIC **04** 07:42:27.0±1.4, 77°.01N±0°.03×15°.7E±0°.3, h10km±1km, mb4.5/49, Error ellipse: s-maj=12.4km s-min=3.3km az=104.0*
*BER **04** 07:42:27.1±2.4, 76°.95N×15°.76E, h2km±10km, ML3.7, ML4.5(NAO), Confirmed Earthquake*

ISC 04 07:42:25.8±0.8, 76°.96N±0°.03×15°.54E±0°.04, h5km±5km, n242, σ2§20/271, mb4.5/72, MS3.3/22, 19C-13D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.04**	**357**	*e*P	**Pg**	**07 42 27.3**	**+0.4**
HSPB	**Hornsund (broa**	**0.04**	**357**	Pg	**Pg**	**07 42 27.3**	**+0.4**
HSPB	**Hornsund (broa**	**0.04**	**357**	⇑*i*P	**Pg**	**07 42 27.3**	**+0.4**
HSPB				*e*S	**Sg**	**07 42 28.4**	**+0.6**
HSPB	comp=Z,31μm,0.6s			IAML		07 42 29.1	
BRBA	**Barentsburg A**	**1.14**	**346**	Pg	**Pg**	**07 42 47.3**	**-0.4**
BRBA				Lg	Lg	07 43 04.0	
BRBA	**Barentsburg A**	**1.14**	**346**	*e*P	**Pg**	**07 42 47.1**	**-0.6**
BRBA				*e*Pg	**Pb**	**07 42 48.2**	**+0.2**
BRBA				*e*Sg	**Sb**	**07 43 03.7**	**+0.6**
BRBB	**Barentsburg B**	**1.18**	**346**	Pg	**Pg**	**07 42 47.8**	**-0.6**
BRBB				Lg	Lg	07 43 05.4	
BRBB	**Barentsburg B**	**1.18**	**346**	*e*P	**Pg**	**07 42 47.7**	**-0.6**
BRBB				*e*S	**Sb**	**07 43 04.4**	**+0.3**
SPA0	**Spitsbergen Ar** baz=173,slow=16	**1.24**	**8**	Pg	**Pb**	**07 42 49.6**	**0.0**
SPA0	baz=176,slow=28			Lg	Lg	07 43 06.8	
SPA0	**Spitsbergen Ar** baz=173,slow=16	**1.24**	**8**	Pg	**Pb**	**07 42 49.6**	**0.0**
SPA0	baz=176,slow=28			Sg	**Sn**	**07 43 06.8**	**0.0**
SPA0	**Spitsbergen Ar**	**1.24**	**8**	*e*P	**Pg**	**07 42 48.6**	**-0.9**
SPA0				*e*S	**Sg**	**07 43 05.3**	**-0.2**
SPITS	**Spitsbergen Ar** baz=173,slow=16,SNR=3202	**1.24**	**8**	Pn	**Pg**	**07 42 48.6**	**-0.9**
SPITS	baz=169,slow=23,SNR=8.4			Sn	**Sb**	**07 43 06.3**	**+0.4**
KBS	**Kingsbay**	**2.12**	**341**	*i* P	**Pn**	**07 43 01.1**	**-0.8**
KBS	comp=Z,2μm,0.3s			IAML		07 43 36.1	
KBS	**Kingsbay**	**2.12**	**341**	*c i*P	**Pn**	**07 43 00.9**	**-0.9**
KBS	comp=Z,299nm,0.6s			pmax	pmax		
KBS	**Kingsbay**	**2.12**	**341**	Pn	**Pn**	**07 43 01.1**	**-0.8**
KBS				Pg	**Pb**	**07 43 04.5**	**-0.1**
KBS				Lg	Lg	07 43 32.2	
KBS	**Kingsbay**	**2.12**	**341**	*e*P	**Pn**	**07 43 00.9**	**-0.9**
KBS				*e*Pg	**Pb**	**07 43 04.9**	**+0.3**
KBS				*e*Sg	**Sg**	**07 43 32.8**	**-0.9**
KBS	comp=Z,1μm,0.5s			IAML		07 43 38.5	
KBS	**Kingsbay**	**2.12**	**341**		**Pn**	**07 43 01.3**	**-0.5**
KBS	**Kingsbay**	**2.12**	**341**	⇑*i*P	**Pn**	**07 43 01.0**	**-0.8**
KBS				*i* S	**Sn**	**07 43 27.2**	**-1.2**
HOPEN	**Hopen**	**2.23**	**97**	Pn	**Pn**	**07 43 02.7**	**-0.6**
HOPEN				Sn	**Sn**	**07 43 29.2**	**-2.0**
HOPEN				Lg	Lg	07 43 36.1	
HOPEN	**Hopen**	**2.23**	**97**	⇓*i*P	**Pn**	**07 43 02.6**	**-0.7**
HOPEN				*e*Pg	**Pb**	**07 43 06.9**	**+0.4**
HOPEN				*e*S	**Sn**	**07 43 29.1**	**-2.1**
HOPEN				*e*Sg	**Sb**	**07 43 35.4**	**+1.1**
HOPEN	comp=Z,4μm,0.5s			IAML		07 43 39.4	
HOPEN	**Hopen**	**2.23**	**97**	⇓*i*P	**Pn**	**07 43 02.6**	**-0.7**
HOPEN				*i* S	**Sn**	**07 43 28.7**	**-2.5**
BJO1	**Bjornoya**	**2.62**	**159**	Pn	**Pn**	**07 43 06.7**	**-1.9**
BJO1				Sn	**Sn**	**07 43 36.6**	**-4.0**
BJO1	**Bjornoya**	**2.62**	**159**	*e*P	**Pn**	**07 43 07.2**	**-1.4**
BJO1				*e*S	**Sn**	**07 43 37.2**	**-3.5**
BJO1	comp=Z,804nm,0.6s			IAML		07 43 59.0	
BJO1	**Bjornoya**	**2.62**	**159**	*e*P	**Pn**	**07 43 06.6**	**-1.9**
BJO1				*e*S	**Sn**	**07 43 36.4**	**-4.3**
HAMF	**Hammerfest**	**6.74**	**156**	Pn	**Pn**	**07 44 03.6**	**-1.5**
HAMF				Sn	**Sn**	**07 45 14.1**	**-8.1**
HAMF	**Hammerfest**	**6.74**	**156**	*e*P	**Pn**	**07 44 03.3**	**-1.8**
HAMF				*e*S	**Sn**	**07 45 14.1**	**-8.1**
HAMF	comp=Z,82nm,0.6s			IAML		07 45 40.6	
ZFI2	**Zemlya Franca-**	**7.19**	**43**	*e*P	**Pn**	**07 44 10.2**	**-1.2**
ZFI2	comp=Z,114nm,0.7s			*e*S	**Sn**	**07 45 26.9**	**-6.4**
TRO	**Tromso**	**7.43**	**171**	*e*P	**Pn**	**07 44 13.3**	**-1.3**
TRO				*e*S	**Sn**	**07 45 31.7**	**-7.5**
NOR	**Nord**	**7.46**	**323**	*i* P	**Pn**	**07 44 15.3**	**+0.2**
NOR	comp=Z,10nm,0.9s			IAmb	IAmb	07 44 18.9	
NOR	**Nord**	**7.46**	**323**	*i* P	**Pn**	**07 44 15.2**	**+0.2**
NOR	comp=Z,11nm,0.9s			pmax	pmax		
NOR	**Nord**	**7.46**	**323**	Pn	**Pn**	**07 44 14.8**	**-0.2**
NOR				Sn	**Sn**	**07 45 36.6**	**-3.2**
NOR	**Nord**	**7.46**	**323**	*e*P	**Pn**	**07 44 14.9**	**-0.1**
JETT	**Jettan, Norway**	**7.57**	**167**	Pn	**Pn**	**07 44 15.8**	**-0.9**
JETT				Sn	**Sn**	**07 45 36.8**	**-5.9**
KEV	**Kevo**	**7.93**	**150**	P	**Pn**	**07 44 22.3**	**+0.8**
KEV	**Kevo**	**7.93**	**150**	*e*P	**Pn**	**07 44 21.0**	**-0.5**
KEV	**Kevo**	**7.93**	**150**		**Pn**	**07 44 22.2**	**+0.8**
ARA0	**ARCESS Array S** baz=349,slow=12	**7.98**	**154**	Pn	**Pn**	**07 44 20.8**	**-1.4**
ARA0	baz=347,slow=28			Sn	**Sn**	**07 45 44.4**	**-8.3**
ARA0	**ARCESS Array S** baz=349,slow=12	**7.98**	**154**	Pn	**Pn**	**07 44 20.8**	**-1.4**
ARA0	baz=347,slow=28			Sn	**Sn**	**07 45 44.4**	**-8.3**
ARA0	comp=Z,55nm,0.7s			IAML		07 46 02.2	
ARCES	**ARCESS Array B** baz=341,slow=12,SNR=48	**7.98**	**154**	Pn	**Pn**	**07 44 20.7**	**-1.5**
ARCES	baz=348,slow=16,SNR=6.5			Sn	**Sn**	**07 45 44.0**	**-8.7**
ARCES	**ARCESS Array B**	**7.98**	**154**	P	**Pn**	**07 44 22.2**	**0.0**
ARCES	**ARCESS Array B**	**7.98**	**154**	Pn	**Pn**	**07 44 22.2**	**0.0**
KIF	**Kilpisjarvi**	**8.14**	**167**	Pn	**Pn**	**07 44 24.1**	**-0.2**
KIF				Sn	**Sn**	**07 45 49.7**	**-6.9**
KIF	**Kilpisjarvi**	**8.14**	**167**	*e*P	**Pn**	**07 44 23.7**	**-0.7**
KTK1	**Kautokeino**	**8.29**	**160**	*e*P	**Pn**	**07 44 25.6**	**-0.9**
KTK1	comp=Z,29nm,0.4s			IAML		07 46 01.6	
JNW	**Jan Mayen West**	**8.82**	**240**	*e*P	**Pn**	**07 44 33.6**	**0.0**
JNE	**Jan Mayen East**	**8.82**	**240**	*e*P	**Pn**	**07 44 33.6**	**-0.1**
JMIC	**Jan Mayen** baz=53,slow=5.1,SNR=5.1	**8.87**	**240**	Pn	**Pn**	**07 44 34.0**	**-0.3**
JMIC	comp=Z,187nm,21.9s,baz=59,slow=32			LR	LR	07 47 14.3	
JMIC	**Jan Mayen**	**8.87**	**240**	Pn	**Pn**	**07 44 34.5**	**+0.1**
JMIC	**Jan Mayen**	**8.87**	**240**	*e*P	**Pn**	**07 44 33.9**	**-0.5**
LOF	**Lofoten**	**8.90**	**185**	Pn	**Pn**	**07 44 33.3**	**-1.4**
LOF				Sn	**Sn**	**07 46 06.9**	**-8.3**
LOF	**Lofoten**	**8.90**	**185**	*e*P	**Pn**	**07 44 31.2**	**-3.6**
HEF	**Hetta**	**8.92**	**160**	*e*P	**Pn**	**07 44 34.2**	**-0.8**
JMI	**Jan Mayen**	**8.96**	**240**	*e*P	**Pn**	**07 44 35.2**	**-0.4**
STEI	**Steigen**	**9.08**	**181**	*e*P	**Pn**	**07 44 35.9**	**-1.3**
DBG	**Daneborg**	**9.15**	**271**	*i* P	**Pn**	**07 44 38.4**	**+0.2**
DBG	comp=Z,5.2nm,0.4s			IAmb	IAmb	07 44 40.4	
DBG	**Daneborg**	**9.15**	**271**	Pn	**Pn**	**07 44 39.0**	**+0.7**
DBG	**Daneborg**	**9.15**	**271**	*e*P	**Pn**	**07 44 38.0**	**-0.3**
FAUS	**Fauske**	**9.63**	**181**	*e*P	**Pn**	**07 44 43.3**	**-1.5**
LVZ	**Lovozero**	**10.69**	**138**	*ce*P	**Pn**	**07 44 58.9**	**-0.4**
LVZ	comp=Z,52nm,1.9s			pmax	pmax		
LVZ	**Lovozero**	**10.69**	**138**	Pn	**Pn**	**07 44 57.6**	**-1.7**
APA0	**Apatity Array** baz=341,slow=12	**10.72**	**142**	Pn	**Pn**	**07 44 57.2**	**-2.4**
APA0	baz=355,slow=22			Sn	Sn	07

SUMG Summit 14.34 280 Pn **Pn 07 45 48.2 -1.2**
AMDE Amderma 14.59 95 *e*P Pn 07 45 47.6 -4.9
comp=Z,14nm,1.0s
AMDE *e*S Sn 07 48 20.5 -14
LSH Leshukonskoye 15.32 126 *e*P **Pn 07 45 56.4 -5.9**
comp=Z,19nm,0.6s
LSH *e*S Sn 07 48 37.1 -15
NC303 NORSAR Array S 15.87 187 Pn **Pn 07 46 09.4 -0.2**
NC405 NORSAR Array S 15.98 187 Pn 07 46 11.2 +0.3
FIA0 FINESS Array S 15.98 161 P **Pn 07 46 08.4 -2.5**
baz=2.0,slow=14
FIA0 FINESS Array S 15.98 161 P **Pn 07 46 08.4 -2.5**
baz=2.0,slow=14
FIA1 FINESS Array S 15.98 161 Pn 07 46 11.6 +0.7
FINES FINESS Array B 15.98 161 Pn **Pn 07 46 08.4 -2.5**
comp=Z,0.7nm,0.3s,baz=1.4,slow=13,SNR=18
FINES Sn **Sn 07 48 58.2 -10**
comp=Z,0.9nm,0.3s,baz=358,slow=20,SNR=4.8
FINES LR LR 07 52 02.5
comp=Z,40nm,19.0s,baz=266,slow=36
FINES FINESS Array B 15.98 161 P **Pn 07 46 10.3 -0.6**
FINES FINESS Array B 15.98 161 Pn **Pn 07 46 10.3 -0.6**
NB2 NORSAR Subarra 16.06 188 P **Pn 07 46 12.2 +0.1**
NB2 NORSAR Subarra 16.06 188 P **Pn 07 46 12.2 +0.1**
NOA NORSAR Array B 16.06 188 Pn **Pn 07 46 12.3 +0.2**
comp=Z,0.0nm,0.3s,baz=5.0,slow=12,SNR=10
NBO00 NORSAR Array S 16.09 188 Pn **Pn 07 46 12.5 +0.1**
NRA0 NORESS Array S 16.36 187 P **Pn 07 46 16.4 +0.5**
baz=352,slow=14
NRA0 NORESS Array S 16.36 187 P **Pn 07 46 16.4 +0.5**
baz=352,slow=14
BORG Borgarnes 16.73 243 LR LR 07 51 16.3
comp=Z,81nm,18.6s,baz=18,slow=31
HFS Hagfors 16.92 183 Pn **Pn 07 46 22.9 -0.1**
comp=Z,0.2nm,0.3s,baz=9.9,slow=12,SNR=7.7
HFS LR LR 07 52 32.7
comp=Z,108nm,20.4s,baz=356,slow=36
KONO Kongsberg 17.51 190⇑*e*P **Pn 07 46 30.0 -0.3**
KONO pmax pmax
comp=Z,16nm,1.3s
KLMR Klimovskoe 18.05 140 *e*P **Pn 07 46 35.3 -1.7**
KLMR pmax pmax
comp=Z,37nm,1.3s
KLMR Klimovskoe 18.05 140 *e*P **Pn 07 46 33.9 -3.0**
comp=Z,16nm,0.8s
KLMR *e*S Sn 07 49 40.5 -18
KLMR Klimovskoe 18.05 140 *e*Pn **Pn 07 46 35.3 -1.7**
KLMR AMP 07 46 43.6
comp=Z,37nm,1.3s
KLMR *e*Sn Sn 07 49 45.1 -13
KLMR *e*Sn Sn 07 49 45.1 -13
PRGR Permogore 18.29 130 *e*P **Pn 07 46 35.1 -4.8**
PRGR Permogore 18.29 130 *e*P **Pn 07 46 34.9 -4.9**
comp=Z,73nm,0.4s
PRGR *e*S Sn 07 49 46.2 -18
VSU Vasula 18.99 162 *e*P **Pn 07 46 49.3 +0.9**
VSU Vasula 18.99 162⇓*e*P **Pn 07 46 49.5 +1.1**
VSU pmax pmax
comp=Z,49nm,1.2s
SLIT Slitere, Latvi 19.57 169 IAmb IAmb 07 47 30.1
comp=Z,71nm,0.8s
NRIK Noril'sk 20.71 73 LR LR 07 57 47.1
comp=Z,145nm,18.6s,baz=340,slow=45
NRIK Noril'sk 20.71 73*c i*P **P 07 47 07.3 +0.8**
NRIK pmax pmax
comp=Z,34nm,1.1s
NRIK Noril'sk 20.71 73 P 07 47 05.8 -0.6
NRIK IAmb IAmb 07 47 10.9
comp=Z,30nm,1.1s
MUD Monsted U'grnd 20.72 190 *e*P Pn 07 47 07.9 -1.1
MUD Monsted U'grnd 20.72 190 *e*P Pn 07 47 07.8 -1.2
DY2G Dye2 20.77 274 *i* P Pn 07 47 11.7 +2.0
DY2G IAmb IAmb 07 47 16.6
comp=Z,56nm,1.4s
SFJD Kangerlussuaq 21.32 279 LR LR 07 54 47.6
comp=Z,81nm,21.6s,baz=8.0,slow=35
PABE Paberze 21.77 167 *e*P **P 07 47 19.6 +1.7**
PABE IAmb IAmb 07 47 24.6
comp=Z,70nm,1.0s
PABE Paberze 21.77 167 P **P 07 47 19.5 +1.7**
KIRV Kirov 21.82 128 P **P 07 47 17.4 -1.0**
comp=Z,32nm,0.7s,baz=356,slow=7.3,SNR=13
KIRV LR LR 07 56 07.3
comp=Z,55nm,18.0s,baz=342,slow=38
ISAL Salakas 21.82 164 *e*P **P 07 47 20.0 +1.5**
BSD Bornholm Skovb 21.94 181 *e*P **P 07 47 21.1 +1.4**
BSD Bornholm Skovb 21.94 181 *i* P **P 07 47 21.1 +1.4**
BSD IAmb IAmb 07 47 24.0
comp=Z,15nm,0.9s
BSD Bornholm Skovb 21.94 181 *i* P **P 07 47 21.1 +1.4**
BSD pmax pmax
comp=Z,15nm,0.9s
IIGN Ignalina 22.05 164 *e*P **P 07 47 22.3 +1.4**
IIGN IAmb IAmb 07 47 23.9
comp=Z,10nm,0.8s
KLNR Kaliningrad 22.52 173⇑*e*P **P 07 47 27.8 +1.9**
KLNR pmax pmax
comp=Z,56nm,1.0s
MOS Moscow 22.75 147 *e*P **P 07 47 30.2 +1.8**
MOS *e*S **S 07 51 41.3 +4.0**
MOS pmax pmax
comp=Z,37nm,0.8s
MNK Minsk 23.01 161 *i* P **P 07 47 31.9 +0.8**
MNK *i* PPP PPP 07 48 04.8
MNK *i* 07 51 20.6
MNK *i* S **S 07 51 46.4 +4.6**
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=Z,32nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK MLR MLR
comp=E,18nm,19.0s
MNK MLR MLR
comp=N,329nm,19.0s
MNK MLR MLR
comp=Z,20nm,19.0s
MNK Minsk 23.01 161 *i* P **P 07 47 31.9 +0.8**
comp=E,1.0nm,1.0s
MNK *i* P **P 07 47 31.9 +0.8**
comp=N,28nm,1.0s
MNK *i* P **P 07 47 31.9 +0.8**
comp=Z,32nm,1.0s,baz=173
MNK *i* PP **PnPn 07 47 56.9 +1.4**
MNK *i* PPP PPP 07 48 04.8
MNK *i* PcP **PcP 07 51 20.7 +0.4**
MNK *i* S **S 07 51 46.5 +4.7**
MNK *i* SS Sn 07 52 02.5 +5.0
MNK *i* SSS SSS 07 52 45.8
MNK *i* LQ LQ 07 54 30.4
MNK *i* LR LR 07 56 24.4
MNK *i* LRM MLR 07 57 06.5
comp=E,18nm,19.4s
MNK *i* LRM MLR 07 57 10.4
comp=N,329nm,19.4s
MNK *i* LRM MLR 07 57 12.1
comp=Z,20nm,19.4s
ARU Arti 25.58 119 P **P 07 47 55.9 +0.6**
comp=Z,0.8nm,0.5s,baz=349,slow=10,SNR=6.4
ARU LR LR 08 01 03.4
comp=Z,29nm,20.0s,baz=264,slow=44
ARU Arti 25.58 119*c i*P **P 07 47 56.0 +0.8**
ARU 07 48 32.2
ARU PPP PPP 07 48 42.4
ARU S **S 07 52 26.7 +3.6**
ARU SS **SnSn 07 53 19.8 +4.0**
ARU pmax pmax
comp=Z,11nm,1.5s
ARU MLR MLR
comp=Z,54nm,12.0s
ARU Arti 25.58 119 P **P 07 47 54.3 -0.9**
ARU IAmb IAmb 07 48 17.9
comp=Z,12nm,0.9s
SVE Sverdlovsk 25.63 116 *e*P **P 07 47 56.6 +0.9**
SVE pmax pmax
comp=Z,14nm,1.1s
LPSR Galich'ya Gora 25.99 146 *e*P **P 07 47 59.3 +0.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
BRG Berggiesshubel 26.20 182 *e*P **P 07 48 03.3 +2.4**
BRG Amp 07 48 05.8
comp=Z,9.7nm,1.5s
TIXI Tiksi 26.46 41 P **P 07 48 03.8 +0.8**
comp=Z,8.2nm,0.9s,baz=340,slow=7.1,SNR=9.1
TIXI LR LR 07 59 42.7
comp=Z,47nm,20.2s,baz=352,slow=39
TIXI Tiksi 26.46 41 P **P 07 48 03.0 0.0**
AKASG Malin Array Be 26.89 161 P **P 07 48 08.9 +1.8**
comp=Z,0.2nm,0.3s,baz=349,slow=9.5,SNR=4.5
AKASG Malin Array Be 26.89 161*ce*P **P 07 48 11.1 +4.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 26.89 161⇑*e*P **P 07 48 10.3 +3.2**
AKBB Malin Array Si 26.89 161 P **P 07 48 07.8 +0.7**
AKBB IAmb IAmb 07 48 26.5
comp=Z,8.4nm,0.7s
OJC Ojcow 26.90 174 P **P 07 48 08.4 +1.2**
OJC pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 26.90 174 P **P 07 48 08.4 +1.2**
OJC IAmb IAmb 07 48 10.3
comp=Z,13nm,1.2s
MORC Moravsky Berou 27.30 177 P **P 07 48 11.8 +0.9**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 27.30 177 P **P 07 48 11.8 +0.9**
MORC Moravsky Berou 27.30 177 *e*P **P 07 48 13.0 +2.1**
VSR Storozhevoye 27.38 147 *e*P **P 07 48 11.6 +0.1**
VSR pmax pmax
comp=Z,4.0nm,0.4s
VRAC Vranov 27.76 179 LR LR 07 59 22.7
comp=Z,58nm,20.1s,baz=342,slow=36
VRAC Vranov 27.76 179 *e*P **P 07 48 17.7 +2.7**
KRUC Moravsky 28.00 179 *e*P **P 07 48 19.4 +2.2**
FRB Frobisher Bay 28.03 290 LR LR 07 59 06.7
comp=Z,80nm,20.0s,baz=315,slow=36
GERES GERESS Array B 28.23 183 P **P 07 48 22.5 +3.2**
comp=Z,1.3nm,0.8s,baz=34,slow=8.1,SNR=7.0
GERES LR LR 07 59 19.5
comp=Z,65nm,19.9s,baz=3.0,slow=36
KOLS Kolonicke sedl 28.26 171 *e*P **P 07 48 22.0 +2.6**
KOLS Kolonicke sedl 28.26 171 *e*P **P 07 48 22.0 +2.6**
CRVS Cervenica-Dubn 28.26 172 *e*P **P 07 48 22.1 +2.6**
CRVS Cervenica-Dubn 28.26 172 *e*P **P 07 48 22.1 +2.6**
BURAR Bucovina Array 29.70 167 P **P 07 48 32.0 -0.4**
DAVOX Davos/Dischmat 30.37 188 LR LR 08 01 50.3
comp=Z,44nm,18.7s,baz=69,slow=38
ZOU Zoufplan 30.53 183 P **P 07 48 39.1 -0.7**
BRVK Borovoye 31.18 108⇑*e*P **P 07 48 47.8 +2.6**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
ABKAR Abkulak array 32.65 122 P **P 07 48 58.4 +0.3**
ABKAR IAmb IAmb 07 48 59.4
comp=Z,4.1nm,1.0s
ABKAR Abkulak array 32.65 122 P **P 07 48 57.5 -0.7**
ZALV Zalesovo Beam 33.59 92 P **P 07 49 06.4 +0.1**
comp=Z,1.8nm,0.8s,baz=334,slow=9.9,SNR=4.5
ZALV LR LR 08 04 27.5
comp=Z,22nm,21.7s,baz=44,slow=40
PYA1 Pyatigorsk 34.91 144⇓*e*P **P 07 49 17.7 -0.2**
SOC Sochi 34.96 149 *e*P **P 07 49 18.7 +0.4**
SOC *e*PPP PPP 07 50 43.9
SOC *e*S **S 07 54 51.9 +1.9**
SOC *e*SS **SnSn 07 57 07.0 +2.7**
SOC *e*SSS SSS 07 57 25.3
SOC MLR MLR
comp=Z,108nm,18.0s
KIV Kislovodsk 34.96 145 *e*P **P 07 49 21.2 +2.8**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,61nm,16.0s
SHA1 Shidzhatmaz 35.17 145⇑*e*P **P 07 49 20.0 -0.4**
KBZ Khabaz 35.21 145 P **P 07 49 22.8 +2.4**
comp=Z,3.7nm,0.8s,baz=321,slow=4.9,SNR=5.9
KBZ Khabaz 35.21 145⇑*e*P **P 07 49 22.1 +1.7**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 35.41 48⇑*e*P **P 07 49 22.2 +0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
FNA Florina 36.37 173 P **P 07 49 31.3 +0.8**
FNA pmax pmax
comp=Z,6.0nm,0.8s
FNA Florina 36.37 173 P **P 07 49 31.3 +0.8**
FNA IAmb IAmb 07 49 36.2
comp=Z,6.1nm,0.8s
BOD Bodaibo 36.41 63 *e*P **P 07 49 29.2 -1.4**
BOD pmax pmax
comp=Z,11nm,1.4s
YKA Yellowknife Ar 37.39 324*ce*P **P 07 49 37.0 -1.8**
YKA pmax pmax
comp=Z,1.0nm,0.8s
SEY Seymchan 37.79 31⇑*e*P **P 07 49 43.1 +0.8**
ILAR Eielson Array 38.08 348 P **P 07 49 44.6 -0.1**
comp=Z,0.5nm,0.8s,baz=357,slow=6.4,SNR=7.2
DGZ Jazzator, Alta 38.14 92⇓*e*P **P 07 49 46.2 +0.6**
DGZ pmax pmax
comp=Z,5.0nm,1.7s
ESDC Sonseca Array 38.33 205 LR LR 08 05 23.2
comp=Z,32nm,19.5s,baz=135,slow=36
CORL Corleone 39.18 183 P **P 07 49 55.8 +1.5**
MOY Mondy 39.36 78 *e*P **P 07 49 57.6 +1.9**
MOY pmax pmax
comp=Z,53nm,1.6s
GAMB Gambell 39.43 5 P **P 07 49 56.7 +0.7**
GAMB IAmb IAmb 07 50 16.8
comp=Z,15nm,1.0s
BCAR Beaver Creek A 39.50 344 P **P 07 49 56.5 -0.2**
MK31 Makanchi Array 39.72 99 P **P 07 49 58.7 0.0**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 39.72 99 P **P 07 49 58.7 0.0**
MKAR Makanchi Array 39.72 99 P **P 07 49 58.7 0.0**
comp=Z,2.7nm,0.8s,baz=341,slow=6.9,SNR=18
MKAR LR LR 08 08 51.6
comp=Z,80nm,19.3s,baz=334,slow=40
MKAR Makanchi Array 39.72 99*ce*P **P 07 49 59.0 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 39.72 99 P **P 07 49 58.2 -0.4**
KK31 Karatay Array 40.66 113 P **P 07 50 06.4 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,1.1s
KK31 Karatay Array 40.66 113 P **P 07 50 06.4 -0.1**
KKAR Karatay Array 40.66 113 P **P 07 50 06.7 +0.2**
KKAR Karatay Array 40.66 113 P **P 07 50 06.7 +0.2**
SKT Skwentna 41.07 351 P **P 07 50 10.1 +0.4**
SKT IAmb IAmb 07 50 16.4
comp=Z,7.2nm,1.2s
KEST Kesra 41.42 188 P **P 07 50 16.2 +3.4**
comp=Z,5.8nm,0.9s,baz=357,slow=2.2,SNR=8.2
KEST Kesra 41.42 188 P **P 07 50 13.2 +0.4**
KEST IAmb IAmb 07 50 17.4
comp=Z,7.1nm,0.9s
AAK Ala-Archa 41.95 109⇓*e*P **P 07 50 19.6 +2.3**
AAK pmax pmax
comp=Z,7.0nm,0.7s
ZEA Zeya 42.82 54 *e*P **P 07 50 25.3 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
GEYT Alibeck 43.25 129 P **P 07 50 28.8 +1.0**
comp=Z,268nm,1.0s,baz=1.4,slow=12,SNR=4.9
BTK Batken 43.65 114 P **P 07 50 31.7 +0.7**
BTK pmax pmax
comp=Z,6.0nm,1.0s
BTK Batken 43.65 114 P **P 07 50 31.7 +0.7**
BTK IAmb IAmb 07 50 33.1
comp=Z,5.9nm,0.9s
WMQ Urumqi 43.75 95 *e*P **P 07 50 33.9 +2.2**
SONM Songino Array 44.16 75 P **P 07 50 35.4 +0.4**
comp=Z,1.8nm,0.7s,baz=327,slow=7.8,SNR=9.8
SONM Songino Array 44.16 75 P **P 07 50 35.1 0.0**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 44.16 75 P **P 07 50 35.1 0.0**
SONM IAmb IAmb 07 50 38.3
comp=Z,6.9nm,1.2s
ULN Ulaanbaatar 44.28 75⇓*e*P **P 07 50 37.0 +1.0**
ULN pmax pmax
comp=Z,12nm,1.3s
ULN Ulaanbaatar 44.28 75 P **P 07 50 36.5 +0.5**
ULN IAmb IAmb 07 50 38.1
comp=Z,8.0nm,0.9s
GAR Garm 44.56 115 P **P 07 50 37.6 -0.7**
GAR IAmb IAmb 07 50 40.6
comp=Z,8.0nm,0.8s
E46A Sault Ste Mari 47.49 292 P **P 07 51 01.4 +0.2**
KLR Kul'dur 47.96 52⇓*e*P **P 07 51 04.9 +0.2**
KLR pmax pmax
comp=Z,2.0nm,1.1s
PEA0B Petropavlovsk- 48.02 30⇓*e*P **P 07 51 04.2 -1.0**
PETK Petropavlovsk- 48.02 30 P **P 07 51 05.0 -0.2**
comp=Z,1.8nm,0.9s,baz=54,slow=2.6,SNR=4.3
GTA Gaotai 50.70 85 ⇑P **P 07 51 27.1 +1.1**
GTA pP sP 07 51 31.3 +3.2
GTA sP pP 07 51 34.4 +6.9
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,79nm,5.5s
GTA LR LR
comp=N,93nm,16.7s
GTA LR LR
comp=E,79nm,16.0s
GTA LR LR
comp=Z,130nm,18.2s
NEW Newport 51.56 321 P **P 07 51 33.0 +0.8**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 51.56 321 P **P 07 51 33.0 +0.8**
NEW IAmb IAmb 07 51 34.3
comp=Z,4.1nm,0.9s
JTMT Jette 51.65 319 P **P 07 51 32.8 -0.2**
JTMT IAmb IAmb 07 51 34.8
comp=Z,5.2nm,1.1s
HHC Hu-ho-hao-te 51.94 73 *e*P **P 07 51 35.4 +0.1**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,66nm,5.4s
CN2 Changchun 51.99 60 *e*P **P 07 51 34.9 -0.6**
CN2 *e*pP sP 07 51 39.4 +1.8
CN2 pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 52.02 44⇓*e*P **P 07 51 36.8 +1.2**
YSS pmax pmax
comp=Z,18nm,1.3s
YSS Yuzh-Sakhalins 52.02 44 P **P 07 51 36.0 +0.4**
HRY Holter Researc 52.28 316 P **P 07 51 37.7 0.0**
MSO Missoula 52.49 318 P **P 07 51 40.0 +0.7**
ECSD EROS Data Cent 52.50 302 P **P 07 51 40.1 +0.8**
ECSD IAmb IAmb 07 51 41.0
comp=Z,6.8nm,0.9s
USRK Ussuriysk Ar. 52.85 54 P **P 07 51 41.1 -0.7**
comp=Z,1.8nm,0.7s,baz=338,slow=8.2,SNR=5.4
HAWA Hanford 53.73 323 P **P 07 51 48.6 +0.4**
HAWA IAmb IAmb 07 51 50.3
comp=Z,5.2nm,1.0s
MCMT McKenzie Canyo 54.28 317 P **P 07 51 53.1 +0.5**
H17A Grant Village 54.34 315 P **P 07 51 54.2 +1.2**
H17A IAmb IAmb 07 51 56.4
comp=Z,4.0nm,0.9s
LZH Lanzhou 54.79 82 *e*P **P 07 51 58.0 +1.7**
LZH pP sP 07 52 04.4 +5.9
LZH sP pP 07 52 09.4 +12
LZH pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 54.92 320 P **P 07 51 57.1 0.0**
BMO pmax pmax
comp=Z,5.0nm,1.1s
BMO Blue Mountains 54.92 320 P **P 07 51 57.1 0.0**
BMO IAmb IAmb 07 51 58.8
comp=Z,5.1nm,1.1s
MOOW Moose Ponds 54.99 315 P **P 07 51 58.7 +0.9**
MOOW IAmb IAmb 07 52 00.2
comp=Z,4.3nm,1.2s
K22A Casper 55.35 311 P **P 07 52 00.2 -0.1**
K22A IAmb IAmb 07 52 01.9
comp=Z,7.1nm,1.1s
PDAR Pinedale Array 55.76 313 P **P 07 52 03.9 +0.6**
comp=Z,0.2nm,0.3s,baz=23,slow=4.8,SNR=6.3
ERM Erimo 56.90 45*de*P **P 07 52 11.5 +0.4**
ERM pmax pmax
comp=Z,29nm,1.4s
XAN Xi'an 57.89 78 P **P 07 52 18.9 +0.6**
XAN pP sP 07 52 22.7 +2.2
XAN pmax pmax
comp=Z,8.0nm,0.8s
PBMO Poplar Bluff 57.97 294 P **P 07 52 19.3 +0.5**
PBMO IAmb IAmb 07 52 21.8
comp=Z,5.3nm,0.9s
MGMO Mountain Grove 57.98 296 P **P 07 52 19.2 +0.3**
MGMO IAmb IAmb 07 52 25.2
comp=Z,8.5nm,1.4s
O20A White River Ci 58.10 311 P **P 07 52 21.1 +1.2**
KSRS Korea Array 58.61 60 P **P 07 52 22.7 -0.5**
comp=Z,1.1nm,0.7s,baz=347,slow=6.2,SNR=6.8
KSRS LR LR 08 19 49.9
comp=Z,28nm,19.5s,baz=3.5,slow=38
ELK Elko 58.63 318 P **P 07 52 24.3 +0.6**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 58.63 318 P **P 07 52 24.3 +0.6**
MSU Marysvale 60.34 314 P **P 07 52 36.6 +1.2**
MSU Marysvale 60.34 314 P **P 07 52 36.6 +1.2**
PSUT Pine Spring 60.58 316 P **P 07 52 37.3 +0.2**
PNTR Pine Nut 60.90 321 P **P 07 52 39.7 +0.4**
NVAR Mina Array Bea 61.36 320 P **P 07 52 43.5 +1.2**
comp=Z,1.8nm,1.0s,baz=22,slow=4.8,SNR=7.8
NVAR LR LR 08 19 29.9
comp=Z,60nm,18.3s,baz=240,slow=36
NVAR Mina Array Bea 61.36 320 P **P 07 52 42.8 +0.4**
MAJO Matsushiro 61.40 51*de*P **P 07 52 44.4 +2.0**
MAJO pmax pmax
comp=Z,6.0nm,1.1s
MAT Matsushiro 61.40 51 P **P 07 52 41.3 -1.1**
MJAR Matsushiro Arr 61.40 51 P **P 07 52 42.3 -0.2**
comp=Z,3.6nm,0.8s,baz=356,slow=6.4,SNR=11
MJAR LR LR 08 20 44.8
comp=Z,25nm,20.3s,baz=320,slow=38
MJAR Matsushiro Arr 61.40 51 P **P 07 52 42.7 +0.2**
NJ2 Nanjing 61.97 69 *e*P **P 07 52 44.8 -1.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
ANMO Albuquerque 62.84 308⇑*e*P **P 07 52 52.4 +0.1**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
TOA0 Torodi Ar. Sit 64.22 195 P **P 07 53 02.3 +1.0**
TORD Torodi Ar. Bea 64.22 195 P **P 07 53 02.2 +0.8**
comp=Z,3.3nm,0.9s,baz=359,slow=6.7,SNR=13
TORD LR LR 08 20 29.6
comp=Z,28nm,21.9s,baz=150,slow=36
TORD Torodi Ar. Bea 64.22 195 P **P 07 53 02.6 +1.3**
TORD IAmb IAmb 07 53 04.2
comp=Z,3.5nm,0.9s
TX32 Lajitas Array 67.80 305 P **P 07 53 24.2 -0.1**
TX32 IAmb IAmb 07 53 26.2
comp=Z,6.5nm,1.4s
TXAR Lajitas Array 67.80 305 P **P 07 53 24.3 -0.1**
comp=Z,2.7nm,1.1s,baz=46,slow=4.8,SNR=16
TXAR Lajitas Array 67.80 305 P **P 07 53 24.2 -0.2**
CMAR Chiang Mai Arr 70.66 92 P **P 07 53 41.8 -0.2**
comp=Z,1.0nm,0.3s,baz=338,slow=8.0,SNR=4.8
CMAR LR LR 08 29 40.8
comp=Z,21nm,20.1s,baz=220,slow=40
ASAR Alice Springs 119.19 68 PKP **PKPdf 08 01 13.5 -1.7**
comp=Z,0.2nm,0.3s,baz=355,slow=1.6,SNR=6.3

NAO ***04*** *07:44:45.7±1.6, 76°.88N×15°.63E, ML4.0*
BER ***04*** *07:44:48.0±2.2, 76°.95N×15°.61E, h1km±15km, ML3.4, ML4.0(NAO), Confirmed Earthquake*
IEPN ***04*** *07:44:49.0, 76°.94N×15°.36E, h10km*
ISC 04 07:44:46.5±0.9, 76°.93N±0°.04×15°.61E±0°.06, h13km±5km, n23, σ1°.22/40, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.07**	**347**	Pg	**Pg**	**07 44 48.5**	**-0.7**
HSPB				Lg	Lg	07 44 49.4	
HSPB	**Hornsund (broa**	**0.07**	**347**	*e*P	**Pg**	**07 44 48.4**	**-0.7**
HSPB				*e*S	**Pg**	**07 44 49.3**	**+0.2**
HSPB				IAML		07 44 49.4	
	comp=Z,32μm,0.1s						
HSPB	**Hornsund (broa**	**0.07**	**347**	*e*P	**Pg**	**07 44 49.3**	**+0.2**
HSPB				*e*S	**Sg**	**07 44 51.1**	**+0.1**
BRBA	**Barentsburg A**	**1.18**	**346**	Pg	**Pg**	**07 45 09.2**	**+0.1**
BRBA				Lg	Lg	07 45 26.0	
BRBA	**Barentsburg A**	**1.18**	**346**	*e*Pg	**Pg**	**07 45 09.2**	**+0.1**
BRBA				*e*Sg	**Sg**	**07 45 24.1**	**-0.2**
BRBA				IAML		07 45 29.7	
	comp=Z,1μm,0.6s						
BRBB	**Barentsburg B**	**1.21**	**346**	Pg	**Pg**	**07 45 10.0**	**+0.3**

BRBB			Lg	Lg	07 45 26.6	
BRBB	**Barentsburg B**	**1.21 346**	*e*Pg	**Pg**	**07 45 10.1**	**+0.4**
BRBB			*e*S	**Sg**	**07 45 25.6**	**+0.2**
SPA0	**Spitsbergen Ar**	**1.27 7**	Pg	**Pb**	**07 45 10.6**	**+0.5**
	baz=180,slow=16					
SPA0			Lg	Lg	07 45 27.4	
	baz=176,slow=28					
SPA0	**Spitsbergen Ar**	**1.27 7**	Pg	**Pb**	**07 45 10.6**	**+0.5**
	baz=180,slow=16					
SPA0			Sg	**Sn**	**07 45 27.4**	**+0.7**
	baz=176,slow=28					
SPA0	**Spitsbergen Ar**	**1.27 7**	⇓*i*P	**Pg**	**07 45 10.8**	**0.0**
SPA0			*i*S	**Sn**	**07 45 27.2**	**+0.5**
KBS	**Kingsbay**	**2.15 341**	Pn	**Pn**	**07 45 22.6**	**+0.6**
KBS			Pg	**Pg**	**07 45 26.5**	**-1.1**
KBS			Sn	**Sb**	**07 45 53.2**	**+1.5**
KBS			Lg	Lg	07 45 57.5	
KBS	**Kingsbay**	**2.15 341**	*e*P	**Pn**	**07 45 22.4**	**+0.5**
KBS			*e*Pg	**Pb**	**07 45 25.9**	**+0.7**
KBS			*e*Sg	**Sg**	**07 45 53.8**	**-1.7**
KBS			IAML		07 46 01.4	
	comp=Z,634nm,0.5s					
KBS	**Kingsbay**	**2.15 341**	*e*P	**Pn**	**07 45 22.4**	**+0.5**
KBS			*e*S	**Sn**	**07 45 47.6**	**-0.8**
HOPEN	**Hopen**	**2.21 96**	Pn	**Pn**	**07 45 23.8**	**+1.1**
HOPEN			Sn	**Sn**	**07 45 50.6**	**+0.7**
HOPEN			Lg	Lg	07 45 56.6	
HOPEN	**Hopen**	**2.21 96**	*e*P	**Pn**	**07 45 23.8**	**+1.1**
HOPEN			*e*S	**Sn**	**07 45 50.6**	**+0.7**
HOPEN			IAML		07 45 58.7	
	comp=Z,426nm,0.3s					
HOPEN	**Hopen**	**2.21 96**	*e*P	**Pn**	**07 45 23.8**	**+1.1**
HOPEN			*e*S	**Sn**	**07 45 50.1**	**+0.2**
BJO1	**Bjornoya**	**2.58 159**	*e*P	**Pn**	**07 45 29.5**	**+1.7**
BJO1			*e*S	**Sn**	**07 45 58.2**	**-0.8**
BJO1			IAML		07 46 15.0	
	comp=Z,96nm,0.5s					
BJO1	**Bjornoya**	**2.58 159**	*e*P	**Pn**	**07 45 27.5**	**-0.3**
BJO1			*e*S	**Sn**	**07 45 58.1**	**-1.0**
ZFI2	**Zemlya Franca-**	**7.20 43**	*e*P	**Pn**	**07 46 31.6**	**+0.4**
ZFI2			*e*S	**Sn**	**07 47 47.4**	**-5.3**
	comp=Z,57nm,1.2s					
DBG	**Daneborg**	**9.17 271**	Pn	**Pn**	**07 46 59.8**	**+1.6**
DBG	**Daneborg**	**9.17 271**	*e*P	**Pn**	**07 46 56.7**	**-1.5**
SLVR	**Solovky**	**13.49 141**	*e*P	**Pn**	**07 47 56.5**	**-0.7**
	comp=Z,31nm,0.5s					
SLVR	**Solovky**	**13.49 141**	P	**Pn**	**07 47 56.5**	**-0.7**

*NAO **04** 07:55:55.6±1.4, 76.°87N×15.°54E, ML2.9*
*IEPN **04** 07:55:57.0, 76.°89N×15.°49E, h10km*
*BER **04** 07:55:58.1±2.4, 76.°93N×15.°66E, h1km±27km, ML2.5, ML2.9(NAO), Confirmed Earthquake*

ISC 04 07:55:53.8±1.3, 76.°83N±0.°05×15.°47E±0.°06, h16km±8km, n18, σ1°43/32, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.18**	**5**	Pg	**Pb**	**07 55 58.8**	**+0.1**
HSPB				Lg	Lg	07 55 59.6	
HSPB	**Hornsund (broa**	**0.18**	**5**	⇑*i*P	**Pb**	**07 55 58.8**	**+0.1**
HSPB				*e*S	**Sg**	**07 55 59.7**	**-1.4**
HSPB				IAML		07 55 59.8	
	comp=Z,3μm,0.1s						
BRBA	**Barentsburg A**	**1.27 348**		Pg	**Pg**	**07 56 19.7**	**+1.5**
BRBA				Lg	Lg	07 56 34.5	
BRBA	**Barentsburg A**	**1.27 348**		*e*P	**Pg**	**07 56 19.7**	**+1.5**
BRBA				*e*Sg	**Sg**	**07 56 34.8**	**+0.1**
BRBA				IAML		07 56 39.9	
	comp=Z,160nm,0.5s						
BRBB	**Barentsburg B**	**1.30 348**		*e*P	**Pg**	**07 56 20.0**	**+1.1**
BRBB				*e*Sg	**Sg**	**07 56 36.2**	**+0.4**
SPA0	**Spitsbergen Ar**	**1.38 8**		Pg	**Pg**	**07 56 21.7**	**+1.5**
	baz=177,slow=16						
SPA0				Lg	Lg	07 56 37.5	
	baz=177,slow=37						
SPA0	**Spitsbergen Ar**	**1.38 8**		Pg	**Pg**	**07 56 21.7**	**+1.5**
	baz=177,slow=16						
SPA0				Sg	**Sg**	**07 56 37.5**	**-0.6**
	baz=177,slow=37						
SPA0	**Spitsbergen Ar**	**1.38 8**		*e*P	**Pn**	**07 56 18.1**	**-0.2**
SPA0				*i*S	**Sn**	**07 56 34.6**	**-1.5**
HOPEN	**Hopen**	**2.23 93**		Pn	**Pb**	**07 56 34.2**	**+0.5**
HOPEN				Sn	**Sb**	**07 57 00.6**	**-0.5**
HOPEN				Lg	Lg	07 57 06.5	
HOPEN	**Hopen**	**2.23 93**		*e*P	**Pb**	**07 56 33.8**	**0.0**
HOPEN				*e*S	**Sb**	**07 57 00.7**	**-0.4**
HOPEN				IAML		07 57 10.6	
	comp=Z,31nm,0.4s						
HOPEN	**Hopen**	**2.23 93**		*e*P	**Pb**	**07 56 33.7**	**0.0**
HOPEN				*e*S	**Sb**	**07 57 00.9**	**-0.2**
KBS	**Kingsbay**	**2.24 342**		Pn	**Pb**	**07 56 33.0**	**-0.8**
KBS				Pg	**Pg**	**07 56 36.4**	**-0.2**
KBS				Sn	**Sn**	**07 56 58.9**	**+1.5**
KBS				Lg	Lg	07 57 05.8	
KBS	**Kingsbay**	**2.24 342**		*e*Pg	**Pg**	**07 56 36.1**	**-0.6**
KBS				*e*Sg	**Sg**	**07 57 04.4**	**-1.3**
KBS				IAML		07 57 10.7	
	comp=Z,75nm,0.5s						
KBS	**Kingsbay**	**2.24 342**		*e*P	**Pb**	**07 56 32.4**	**-1.4**
KBS				*i*S	**Sn**	**07 56 58.5**	**+1.0**
BJO1	**Bjornoya**	**2.50 158**		P	**Pb**	**07 56 36.7**	**-1.5**
BJO1				*e*S	**Sn**	**07 57 06.4**	**+2.6**
ZFI2	**Zemlya Franca-**	**7.30 42**		*e*P	**Pn**	**07 57 41.3**	**+1.7**
ZFI2				*e*S	**Sn**	**07 58 57.3**	**-4.7**
	comp=Z,4.4nm,0.5s						
ARA0	**ARCESS Array S**	**7.87 153**		Sn	**Sn**	**07 59 15.9**	**-0.1**
	baz=339,slow=18						
ARA0	**ARCESS Array S**	**7.87 153**		Sn	**Sn**	**07 59 15.9**	**-0.1**
	baz=339,slow=18						

*ATH **04** 07:56:24.9, 36.°74N×28.°51E, h8km±4km, ML2.1/1, Error ellipse: s-maj=11.5km s-min=2.5km az=100.0*
*DDA **04** 07:56:25.4, 36.°71N×28.°50E, h5km±3km, ML2.3*
*ISK **04** 07:56:25.3, 36.°69N×28.°50E, h7km, ML2.5/12*

ISC 04 07:56:25.3±0.9, 36.°70N±0.°03×28.°50E±0.°02, h12km±7km, n26, σ0°61/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.17**	**45**	*i*P	**Pg**	**07 56 29.0**	**-0.2**
DALY				*i*S	**Sg**	**07 56 31.6**	**-0.2**
DALY				IAML		07 56 33.0	
	comp=N,1μm,0.2s						
DALY				IAML		07 56 33.0	
	comp=E,842nm,0.2s						
DALY	**Dalyan (Mula)**	**0.17**	**45**	PG	**Pg**	**07 56 29.1**	**-0.1**
DALY				SG	**Sg**	**07 56 32.3**	**+0.4**
TURN	**Turunc**	**0.22 291**		*i*P	**Pg**	**07 56 29.9**	**-0.1**
TURN				*i*S	**Sg**	**07 56 32.6**	**-0.7**
TURN				IAML		07 56 35.0	
	comp=E,474nm,0.3s						
TURN				IAML		07 56 36.0	
	comp=N,571nm,0.4s						
TURN	**Turunc**	**0.22 291**		PG	**Pg**	**07 56 30.0**	**-0.1**
TURN				SG	**Sg**	**07 56 34.1**	**+0.8**
FETY	**Fethiye**	**0.47 97**		*i*P	**Pg**	**07 56 34.0**	**-0.6**
FETY				*i*S	**Sg**	**07 56 39.1**	**-1.7**
FETY	**Fethiye**	**0.47 97**		PG	**Pg**	**07 56 34.3**	**-0.3**
FETY				SG	**Sb**	**07 56 42.6**	**+0.1**
YER	**Yerkesik**	**0.47 338**		PG	**Pb**	**07 56 35.1**	**-0.6**
YER				SG	**Sb**	**07 56 42.2**	**-0.5**
ARG	**Arkhangelos**	**0.57 213**		P	**Pg**	**07 56 35.9**	**-0.5**
ARG				S	**Sb**	**07 56 45.1**	**-0.1**
ARG				AML	AML	07 56 48.6	
	comp=E,644μm,0.3s						
ARG				AML	AML	07 56 53.1	
	comp=N,288μm,0.3s						
MULA	**Mugla, Merkez-**	**0.58 345**		*i*P	**Pb**	**07 56 37.4**	**-0.1**
MULA				*i*S	**Sg**	**07 56 44.1**	**-0.3**
DAT	**Datca**	**0.74 273**		*i*P	**Pb**	**07 56 40.8**	**+0.4**
DAT				*i*S	**Sb**	**07 56 50.8**	**+0.3**
DAT	**Datca**	**0.74 273**		PG	**Pb**	**07 56 40.7**	**+0.4**
MLSB	**Milas**	**0.83 316**		PG	**Pb**	**07 56 41.9**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.84 23**		*i*P	**Pb**	**07 56 42.4**	**+0.5**
TAVA				*i*S	**Sg**	**07 56 52.6**	**+0.1**
BDRM	**Kayabasi**	**0.93 294**		*i*P	**Pb**	**07 56 43.9**	**+0.5**
BDRM				*i*S	**Sb**	**07 56 56.4**	**+0.7**
BDRM				IAML		07 57 01.0	
	comp=E,73nm,0.4s						
BDRM				IAML		07 57 02.0	
	comp=N,88nm,0.5s						
AKAS	**Kas**	**1.00 117**	*i*P	**Pg**	**07 56 44.5**	**-0.1**
AKAS			*i*S	**Sb**	**07 56 59.5**	**+1.6**
AKAS	**Kas**	**1.00 117**	PG	**Pb**	**07 56 45.1**	**+0.4**
GOLH	**Golhisar**	**1.00 57**	*i*P	**Pb**	**07 56 44.9**	**+0.1**
GOLH			*i*S	**Sb**	**07 56 59.0**	**+0.9**
GOLH			IAML		07 56 59.0	
	comp=E,154nm,0.8s					
BODT	**Bodrum**	**1.02 291**	PG	**Pb**	**07 56 45.1**	**0.0**
AYDN	**Tasoluk**	**1.09 333**	*i*P	**Pb**	**07 56 46.3**	**+0.1**
AYDN			*i*S	**Sg**	**07 56 59.0**	**-1.4**
ELL	**Elmali**	**1.13 87**	PN	**Pb**	**07 56 47.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.34 339**	PN	**Pg**	**07 56 51.2**	**+0.1**
GCAM	**G?zelcaml?**	**1.43 315**	PN	**Pb**	**07 56 52.2**	**+0.3**
KORT	**Korkueli**	**1.51 78**	*i*P	**Pg**	**07 56 54.8**	**+0.4**
KORT			*i*S	**Sn**	**07 57 11.4**	**-0.8**
KORT			IAML		07 57 28.0	
	comp=E,35nm,0.5s					
KORT	**Korkueli**	**1.51 78**	PN	**Pb**	**07 56 53.6**	**+0.1**
KARP	**Karpathos**	**1.58 224**	P	**Pb**	**07 56 54.5**	**0.0**
KARP			S	**Sb**	**07 57 15.2**	**+0.7**
SMG	**Samos**	**1.67 308**	P	**Pn**	**07 56 54.7**	**+0.2**

*MEX **04** 07:59:03.3±0.6, 32.°46N×115.°18W, h13km±378km, MD3.7*

ECX 04 07:59:00.1±0.5, 32.°54N×115.°28W, h17km±2km, MD1.9, ML2.0, 11C, Fault plane solution: NP1:φ90.00000°, δ74.00000°, λ18.00000°., California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZC06	**Zona comercial**	**0.11 303**		⇑*i*P	Pb	07 59 05.1	+1.3
ZC06				*e*S	Sb	07 59 08.2	+2.0
CPBX	**Cerro Prieto**	**0.12 189**		⇑*e*P	Pb	07 59 05.2	+1.2
CPBX				IAML		07 59 11.7	
	comp=E,881nm,0.2s						
CPBX				*e*		07 59 11.7	
CPBX				IAML		07 59 12.0	
	comp=N,913nm,0.2s						
CPBX				⇑*e*		07 59 12.0	
POT2	**Potabilizadora**	**0.12 316**		⇑*i*P	Pb	07 59 05.2	+1.2
POT2				*e*S	Sb	07 59 08.3	+1.7
CTLX	**Tlaxcala, TLX**	**0.13 120**		⇑*e*P	Pb	07 59 06.2	+2.0
CTLX				*e*S	Sb	07 59 10.8	+3.9
MBIG	**Mexicali**	**0.15 152**		*i*P	Pb	07 59 04.9	+0.4
MBIG				*e*P	Pb	07 59 05.9	+1.4
MBIG				*i*S	Sb	07 59 10.2	+2.8
MBIG				*i*S	Sg	07 59 15.7	+8.8
MBIG				*i*S		07 59 16.0	
GUVIX	**Guadalupe Vict**	**0.29 143**		*e*P	Pn	07 59 08.3	-1.3
GUVIX				*e*S	Sn	07 59 13.9	-1.7
DREC	**Desert Rsrch C**	**0.30 332**		⇑*e*P	Pb	07 59 08.4	+1.4
DREC				*i*S	Sn	07 59 14.3	-1.5
EMSC	**East Mesa**	**0.32 52**		*e*P	Pb	07 59 08.4	+1.0
COA	**Coachella**	**0.35 23**		*e*P	Pb	07 59 08.8	+0.9
SGL	**Mount Signal**	**0.39 286**		*e*P	Pb	07 59 09.1	+0.5
WESC	**Westside Schoo**	**0.44 300**		⇑*i*P	Pb	07 59 10.2	+0.8
YUH2	**Yuha Desert**	**0.55 281**		⇑*i*P	Pb	07 59 11.7	+0.4
YMD	**Yuma Desert**	**0.62 88**		*e*P	Pb	07 59 12.9	+0.4
RMX	**La Rumorosa**	**0.68 276**		⇑*e*P	Pg	07 59 13.5	+0.1
RMX				*e*S	Sg	07 59 21.9	-0.5
IKP	**In-Ko-Pah, Jac**	**0.71 279**		⇑*i*P	Pb	07 59 14.5	+0.5
TJIG	**Tijuana**	**1.18 265**		*e*P	Pg	07 59 22.6	-0.3
TJIG				*e*S	Sn	07 59 37.5	-0.1
CBX	**Cerro Bola**	**1.19 259**		*i*P	Pg	07 59 23.1	0.0
CBX				*i*S	Sg	07 59 38.4	-0.3
EML	**El Monte Cty P**	**1.36 285**		⇑*e*P	Pn	07 59 24.1	-0.2
SPIG	**San Pedro Mart**	**1.50 186**		*e*P	Pg	07 59 30.3	+1.3
SPIG				*e*S	Sg	07 59 48.7	+0.1
SPX	**San Pedro Mart**	**1.51 186**		*e*P	Pg	07 59 29.9	+0.8
SPX				*e*S	Sg	07 59 50.4	+1.6

IDC 04 08:23:22.6±2.2, 6.°14S×151.°93E, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/28, mbtmp3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/26, Error ellipse: s-maj=147.0km s-min=29.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.73 235**		LR	LR	08 27 06.8	
	comp=Z,94nm,20.7s,baz=150,slow=39						
WRA	**Warramunga Arr**	**21.92 230**		P	P	08 28 18.1	+0.3
	1.0nm,1.0s,baz=56,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**24.58 223**		P	P	08 28 44.5	-0.1
	1.4nm,0.9s,baz=56,slow=9.1,SNR=11						
ILAR	**Eielson Array**	**83.72 22**		P	P	08 35 53.2	+0.1
	0.6nm,0.7s,baz=253,slow=5.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.86 286**		PKPbc	PKPbc	08 43 15.3	-0.6
	0.3nm,0.5s,baz=68,slow=3.6,SNR=1.8						

*IDC **04** 08:37:41.9±5.6, 12.°10S×166.°92E, h324km±62km, mb3.4/8, mb1 3.6/9, mb1mx3.3/43, mbtmp4.1/9, Error ellipse: s-maj=48.3km s-min=20.1km az=156.0*

ISC 04 08:37:31.5±0.8, 11.°9S±0.°2×167.°1E±0.°2, h220km, n10, σ0°78/10, mb3.9/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.11 183**		P	**P**	**08 39 59.3**	**+0.3**
	0.3nm,0.3s,baz=120,slow=23,SNR=6.3						
CTA	**Charters Tower**	**21.59 245**		P	**P**	**08 42 05.4**	**+1.2**
	2.0nm,0.4s,baz=72,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**30.74 226**		P	**P**	**08 43 26.0**	**-0.3**
	2.0nm,0.6s,baz=61,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**32.44 252**		P	**P**	**08 43 40.9**	**-0.3**
	0.4nm,0.3s,baz=82,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**33.60 245**		P	**P**	**08 43 50.4**	**-0.9**
	1.1nm,0.5s,baz=72,slow=9.7,SNR=20						
SEY	**Seymchan**	**75.49 353**		P	**P**	**08 48 51.9**	**+0.8**
	2.4nm,0.5s,baz=175,slow=11,SNR=7.4						
ILAR	**Eielson Array**	**83.93 18**		P	**P**	**08 49 36.0**	**-0.4**
	3.3nm,0.6s,baz=246,slow=5.1,SNR=47						
NVAR	**Mina Array Bea**	**85.59 49**		P	**P**	**08 49 45.8**	**+0.3**
	0.9nm,0.8s,baz=223,slow=9.3,SNR=6.5						
TXAR	**Lajitas Array**	**95.09 61**		P	**P**	**08 50 29.8**	**-0.2**
	0.2nm,0.7s,baz=235,slow=4.4,SNR=3.5						
ARCES	**ARCESS Array B 117.51 346**			PKP	**PKPdf**	**08 55 49.7**	**-0.7**
	2.4nm,0.9s,baz=5.7,slow=3.7,SNR=4.3						

NNC 04 08:45:55.4±2.5, 37.°74N×77.°90E, h0km, mb4.2, mpv3.8, 2C-2D, Error ellipse: s-maj=17.4km s-min=16.4km az=111.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.33**	**4**	Pg	Pb	08 47 32.1	+2.7
	6.0nm,0.4s						
SATY				Lg	Lg	08 48 44.7	
	14nm,0.3s						
MDOK	**Medeo**	**5.46 353**		⇑Pg	Pb	08 47 34.8	+3.2
	8.6nm,0.8s						
MDOK				⇑Lg	Lg	08 48 47.5	
	14nm,0.7s						
MDOK	**Medeo**	**5.46 353**		Pg	Pb	08 47 35.0	+3.4
	5.8nm,0.5s						
MDOK				Lg	Lg	08 48 49.7	
	13nm,0.7s						
KST	**Kastek**	**5.50 345**		Pg	Pg	08 47 36.8	-4.0
	2.5nm,0.5s						
KST				Lg	Lg	08 48 52.7	
	5.0nm,0.7s						
SHLS	**Shalkode**	**5.54**	**12**	Pg	Pg	08 47 38.2	-3.4
	7.9nm,0.3s						
SHLS				Lg	Lg	08 48 55.1	
	15nm,0.3s						
AAK	**Ala-Archa**	**5.54 333**		⇓Pg	Pb	08 47 36.3	+3.2
	3.8nm,0.6s						
AAK				⇓Lg	Lg	08 48 49.8	
	9.0nm,0.8s						

NNC 04 08:53:32.1±7.7, 48.°57N×75.°29E, h0km, mb4.2, mpv3.8, 1C-6D, Error ellipse: s-maj=73.5km s-min=54.5km az=108.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**5.54 167**		⇑Pg	Pg	08 55 16.1	-2.1
	6.7nm,0.6s						
MDOK				⇓Lg	Lg	08 56 26.5	
	12nm,0.6s						
AAK	**Ala-Archa**	**5.96 186**		⇓Pg	Pb	08 55 19.2	+2.4
	7.5nm,0.7s						
AAK				⇓Lg	Lg	08 56 42.4	
	34nm,1.0s						
PDGK	**Podgornoye**	**6.00 149**		⇓Pn	Pn	08 55 01.6	-0.6
	3.4nm,0.5s						
PDGK				⇓Pg	Pb	08 55 21.5	+4.0
	5.8nm,0.5s						
PDGK				⇓Lg	Lg	08 56 41.8	
	23nm,0.8s						

MAN 04 08:55:11.0, 16.°50N×120.°32E, h87km, mb3.8, ML2.5, MS2.0, Luzon

*JMA **04** 09:02:53.0±0.1, 23.°70N×121.°54E, h30km±2km, M2.9*
*TAP **04** 09:02:53.5, 23.°76N×121.°55E, h35km, ML3.5, B*

ISC 04 09:02:54.1±0.9, 23.°74N±0.°02×121.°54E±0.°02, h34km±1km, n101, σ0°98/195, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.03 178**		P	**Pb**	**09 02 59.9**	**+0.3**
	baz=178						
TEGC				S	**Sb**	**09 03 06.1**	**+2.6**
	baz=178						
ESL	**Shilin**	**0.12 306**		P	Pn	09 02 59.8	+2.8
	baz=298						
ESL				S	**Sb**	**09 03 04.2**	**0.0**
	baz=298						
EGFH	**Guangfu**	**0.13 234**		P	Pn	09 02 59.9	+2.7
	baz=230						
EGFH				*e*S	**Sb**	**09 03 04.9**	**+0.7**
	baz=230						
TEYL	**Yanliau Villag**	**0.14 23**		P	**Pb**	**09 03 01.1**	**+0.9**
	baz=19						
TEYL				*e*S	**Sb**	**09 03 07.0**	**+2.6**
	baz=19						
ETM	**Tongmen**	**0.23 349**		P	**Pn**	**09 03 00.8**	**+0.4**
	baz=346						
ETM				S	**Sb**	**09 03 05.7**	**-0.1**
	baz=346						
HWA	**Hwalien**	**0.24 15**		*e*P	**Pn**	**09 03 01.7**	**+1.0**
	baz=16						
HWA				S	**Sb**	**09 03 07.6**	**+1.6**
	baz=16						
HGSD	**Ruisui**	**0.27 203**		P	**Pn**	**09 03 01.6**	**+0.2**
	baz=202						
HGSD				S	**Sb**	**09 03 07.8**	**+1.2**
	baz=202						
EHY	**Hungye**	**0.31 220**		P	**Pb**	**09 03 00.8**	**-1.2**
	baz=217						
EHY				*e*S	**Sn**	**09 03 05.8**	**-1.1**
	baz=217						
TWD	**Chiawan**	**0.34 9**		P	**Pb**	**09 03 02.1**	**-0.3**
	baz=9.0						
TWD				S	**Sn**	**09 03 08.0**	**0.0**
	baz=9.0						
OWD	**Renai**	**0.39 302**		P	**Pb**	**09 03 03.1**	**-0.2**
	baz=299						
OWD				S	**Sb**	**09 03 09.3**	**-0.3**
	baz=299						
YULB	**Yu-li**	**0.41 213**		P	**Pb**	**09 03 01.8**	**-1.6**
	baz=211						
YULB				*e*S	**Sb**	**09 03 07.9**	**-1.9**
	baz=211						
ETL	**Fush Village**	**0.42 10**		*e*P	**Pb**	**09 03 04.2**	**+0.7**
	baz=10.0						
ETL				*e*S	**Sb**	**09 03 10.1**	**0.0**
	baz=10.0						
ECBN	**Changbin**	**0.43 191**		P	**Pb**	**09 03 03.2**	**-0.5**
	baz=191						
ECBN				*e*S	**Sb**	**09 03 10.7**	**+0.4**
	baz=191						
NACB	**Ninganchiao**	**0.43 7**		P	**Pb**	**09 03 03.0**	**-0.8**
	baz=6.0						
NACB				*e*S	**Sb**	**09 03 09.6**	**-0.7**
	baz=6.0						
EYUL	**Yuli**	**0.44 207**		*e*P	**Pb**	**09 03 04.5**	**+0.6**
	baz=206						
EYUL				*e*S	**Sn**	**09 03 12.7**	**+1.8**
	baz=206						
CHGB	**Renai**	**0.46 314**		P	**Pb**	**09 03 04.2**	**0.0**
	baz=311						
CHGB				S	**Sb**	**09 03 11.4**	**+0.1**
	baz=311						
ETLH	**Xiulin Townshi**	**0.47 354**		*e*P	**Pb**	**09 03 03.6**	**-0.6**
	baz=352						
ETLH				*e*S	**Sb**	**09 03 10.3**	**-1.0**
	baz=352						
WHF	**Hehuan Shan**	**0.47 328**		*i*P	**Pb**	**09 03 04.3**	**-0.3**
	baz=326						
WHF				S	**Sb**	**09 03 11.7**	**-0.3**
	baz=326						
SSLB	**Suanglung**	**0.54 275**		*e*P	**Pb**	**09 03 05.0**	**-0.4**
	baz=272						
SSLB				*e*S	**Sb**	**09 03 12.5**	**-0.6**
	baz=272						
FUSS	**Fushou**	**0.57 332**		P	**Pn**	**09 03 06.0**	**0.0**
	baz=330						
FUSS				*e*S	**Sb**	**09 03 14.0**	**-0.3**
	baz=330						
FULB	**Fuli**	**0.59 203**		P	**Pn**	**09 03 05.2**	**-0.8**
	baz=202						
FULB				*e*S	**Sb**	**09 03 14.2**	**-0.1**
	baz=202						
WPL	**Puli Township**	**0.60 297**		P	**Pn**	**09 03 05.9**	**-0.2**
	baz=294						
WPL				*e*S	**Sb**	**09 03 14.3**	**-0.3**
	baz=294						
SMLT	**Sun Moon Lake**	**0.60 284**		P	**Pn**	**09 03 06.2**	**-0.1**
	baz=281						
SMLT				S	**Sb**	**09 03 15.5**	**+0.6**
	baz=281						
TDCB	**Techi**	**0.62 326**		P	**Pn**	**09 03 06.5**	**-0.1**
	baz=324						
TDCB				S	**Sb**	**09 03 15.0**	**-0.3**
	baz=324						
WHYT	**Xinyi Township**	**0.63 266**		*e*P	**Pn**	**09 03 06.9**	**+0.3**
	baz=264						
WHYT				*e*S	**Sn**	**09 03 16.9**	**+1.3**
	baz=264						
DPDB	**Guoxing**	**0.63 297**		P	**Pn**	**09 03 06.5**	**-0.1**
	baz=295						
DPDB				S	**Sn**	**09 03 16.1**	**+0.5**
	baz=295						
TYC	**Yuchr**	**0.65 285**		P	**Pn**	**09 03 06.6**	**-0.2**
	baz=283						
TYC				S	**Sn**	**09 03 16.0**	**+0.2**
	baz=283						
WCS	**Beigang Elemen**	**0.65 299**		P	**Pn**	**09 03 06.9**	**-0.1**
	baz=296						
WCS				*e*S	**Sn**	**09 03 15.9**	**-0.2**
	baz=296						
NNS	**Nan Shan**	**0.71 348**		P	**Pn**	**09 03 07.8**	**-0.1**
	baz=347						
NNS				S	**Sn**	**09 03 17.2**	**-0.6**
	baz=347						
ALS	**Alishan**	**0.71 251**		*e*P	**Pn**	**09 03 07.7**	**-0.4**
	baz=249						
ALS				*e*S	**Sn**	**09 03 18.1**	**+0.2**
	baz=249						

	baz=258							
CHN5				S		Sn	09 03 20.7	+0.8
	baz=258							
WNT1	**Nantou City**	**0.80**	**282**	*e*P		**Pn**	**09 03 09.6**	**+0.6**
	baz=280							
WNT1				*e*S		**Sn**	**09 03 21.1**	**+1.3**
	baz=280							
WWF	**Wufeng**	**0.82**	**291**	*e*P		**Pn**	**09 03 10.3**	**+1.0**
	baz=289							
WWF				*e*S		**Sb**	**09 03 22.5**	**+1.6**
	baz=289							
NDT	**Datong Townshi**	**0.86**	**358**	P		**Pn**	**09 03 09.6**	**-0.2**
	baz=357							
NDT				*e*S		**Sn**	**09 03 20.9**	**-0.3**
	baz=357							
TCU	**Taichung**	**0.89**	**297**	*e*P		**Pn**	**09 03 11.0**	**+0.8**
	baz=295							
TCU				*e*S		**Sn**	**09 03 22.7**	**+0.9**
	baz=295							
ENTT	**Nioudou**	**0.89**	**2**	P		**Pn**	**09 03 09.8**	**-0.5**
	baz=1.0							
ENTT				*e*S		**Sn**	**09 03 21.9**	**-0.1**
	baz=1.0							
WGK	**Gukeng**	**0.90**	**267**	*e*P		**Pn**	**09 03 11.1**	**+0.8**
	baz=265							
WGK				*e*S		**Sn**	**09 03 23.3**	**+1.2**
	baz=265							
NDS	**Dongshan**	**0.90**	**10**	*e*P		**Pn**	**09 03 10.7**	**+0.3**
	baz=10.0							
NDS				*e*S		**Sn**	**09 03 21.7**	**-0.6**
	baz=10.0							
STYH	**Taoyuan**	**0.90**	**231**	*e*P		**Pn**	**09 03 10.1**	**-0.3**
	baz=230							
STYH				*e*S		**Sn**	**09 03 21.6**	**-0.6**
	baz=230							
TWC	**Suao**	**0.91**	**18**	*e*P		**Pn**	**09 03 10.3**	**-0.1**
	baz=18							
TWC				*e*S		**Sn**	**09 03 23.7**	**+1.3**
	baz=18							
LONT	**Longtian**	**0.91**	**204**	*e*P		**Pn**	**09 03 08.2**	**-2.3**
	baz=204							
LONT				*e*S		**Sn**	**09 03 19.1**	**-3.4**
	baz=204							
WDLH	**Douliu**	**0.92**	**267**	*e*P		**Pn**	**09 03 11.4**	**+0.8**
	baz=265							
WDLH				*e*S		**Sn**	**09 03 24.0**	**+1.4**
	baz=265							
YHNB	**Yeheng**	**0.94**	**351**	P		**Pn**	**09 03 11.0**	**+0.1**
	baz=350							
YHNB				S		**Sn**	**09 03 22.9**	**-0.3**
	baz=350							
TPUB	**Ta-pu**	**0.94**	**242**	*e*P		**Pn**	**09 03 10.9**	**-0.1**
	baz=241							
TPUB				*e*S		**Sn**	**09 03 23.7**	**+0.4**
	baz=241							
CHN4	**Tsaushan**	**0.95**	**246**	*e*P		**Pn**	**09 03 11.7**	**+0.6**
	baz=245							
CHN4				*e*S		**Sn**	**09 03 24.9**	**+1.4**
	baz=245							
WCHH	**Zhanghua**	**0.96**	**291**	*e*P		**Pn**	**09 03 12.2**	**+1.1**
	baz=289							
WCHH				*e*S		**Sn**	**09 03 25.3**	**+1.7**
	baz=289							
NSY	**Sanyi**	**0.98**	**313**	*e*P		**Pn**	**09 03 12.3**	**+0.8**
	baz=312							
NSY				*e*S		**Sn**	**09 03 26.1**	**+2.0**
	baz=312							
TWE	**Neicheng**	**0.98**	**7**	*e*P		**Pn**	**09 03 11.8**	**+0.3**
	baz=7.0							
TWE				*e*S		**Sn**	**09 03 23.9**	**-0.3**
	baz=7.0							
WTP	**Ta-pu**	**0.98**	**240**	*e*P		**Pn**	**09 03 11.9**	**+0.4**
	baz=238							
WTP				*e*S		**Sn**	**09 03 25.6**	**+1.3**
	baz=238							
NSTT	**Nanjuang**	**1.01**	**331**	*e*P		**Pn**	**09 03 12.7**	**+0.8**
	baz=330							
NSTT				*e*S		**Sn**	**09 03 26.0**	**+1.0**
	baz=330							
WDJ	**Dajia District**	**1.02**	**306**	*e*P		**Pn**	**09 03 12.5**	**+0.5**
	baz=305							
WDJ				*e*S		**Sn**	**09 03 26.6**	**+1.5**
	baz=305							
NWLT	**Wulai**	**1.03**	**358**	*e*P		**Pn**	**09 03 12.2**	**0.0**
	baz=357							
NWLT				*e*S		**Sn**	**09 03 25.4**	**-0.2**
	baz=357							
NMLH	**Miaoli**	**1.04**	**319**	*e*P		**Pn**	**09 03 12.9**	**+0.5**
	baz=318							
NMLH				*e*S		**Sn**	**09 03 27.1**	**+1.2**
	baz=318							
TWK	**Hsinying**	**1.07**	**244**	*e*P		**Pn**	**09 03 13.1**	**+0.3**
	baz=242							
TWK				*e*S		**Sn**	**09 03 27.9**	**+1.2**
	baz=242							
WRL	**Guolierlin Hig**	**1.08**	**279**	*e*P		**Pn**	**09 03 13.4**	**+0.6**
	baz=277							
WRL				*e*S		**Sn**	**09 03 27.6**	**+1.0**
	baz=277							
CHN1	**Nanshi**	**1.08**	**239**	*e*P		**Pn**	**09 03 13.2**	**+0.3**
	baz=238							
CHN1				*e*S		**Sn**	**09 03 28.1**	**+1.4**
	baz=238							
SNST	**Tainan City**	**1.09**	**242**	*e*P		**Pn**	**09 03 13.3**	**+0.4**
	baz=240							
SNST				*e*S		**Sn**	**09 03 28.7**	**+1.9**
	baz=240							
SGST	**Jiashian**	**1.10**	**233**	*e*P		**Pn**	**09 03 12.6**	**-0.5**
	baz=232							
SGST				*e*S		**Sn**	**09 03 27.7**	**+0.6**
	baz=232							
SLGT	**Liugui**	**1.11**	**228**	*e*P		**Pn**	**09 03 14.0**	**+0.8**
	baz=227							
SLGT				*e*S		**Sn**	**09 03 29.5**	**+2.2**
	baz=227							
NHDH	**Xindian Distri**	**1.22**	**359**	*e*P		**Pn**	**09 03 15.2**	**+0.4**
	baz=359							
NHDH				*e*S		**Sn**	**09 03 30.3**	**+0.3**
	baz=359							
ICHU	**Yijhu**	**1.22**	**252**	*e*P		**Pn**	**09 03 14.9**	**+0.2**
	baz=251							
ICHU				*e*S		**Sn**	**09 03 31.4**	**+1.4**
	baz=251							
TATO	**Taipei**	**1.23**	**358**	*e*P		**Pn**	**09 03 14.9**	**+0.1**
	baz=357							
TATO				*e*S		**Sn**	**09 03 30.7**	**+0.4**
	baz=357							
TWA	**Mucha**	**1.23**	**2**	*e*P		**Pn**	**09 03 15.2**	**+0.3**
	baz=1.0							
TWA				*e*S		**Sn**	**09 03 30.3**	**-0.1**
	baz=1.0							
TIPB	**Shuangxi**	**1.25**	**12**	*e*P		**Pn**	**09 03 15.9**	**+0.6**
	baz=11							
TIPB				*e*S		**Sn**	**09 03 30.8**	**-0.1**
	baz=11							
SCST	**Cishan**	**1.28**	**229**	*e*P		**Pn**	**09 03 17.1**	**+1.4**
	baz=228							
SCST				*e*S		**Sn**	**09 03 33.7**	**+2.0**
	baz=228							
SSD	**Sandimen**	**1.30**	**220**	*e*P		**Pn**	**09 03 16.6**	**+0.8**
	baz=219							
SSD				*e*S		**Sn**	**09 03 32.9**	**+1.0**
	baz=219							
TSMG	**Majia**	**1.32**	**219**	*e*P		**Pn**	**09 03 17.1**	**+0.9**
	baz=218							
TSMG				*e*S		**Sn**	**09 03 33.6**	**+1.0**
	baz=218							
TWB1	**Santiao Chiao**	**1.32**	**18**	*e*P		**Pn**	**09 03 16.9**	**+0.7**
	baz=18							
TWB1				*e*S		**Sn**	**09 03 33.3**	**+0.6**
	baz=18							
NWF	**Wu-fen Shan**	**1.34**	**9**	*e*P		**Pn**	**09 03 16.7**	**+0.2**
	baz=9.0							
NWF				*e*S		**Sn**	**09 03 34.6**	**+1.4**
	baz=9.0							
WFSB	**Wu-fen Shan**	**1.34**	**9**	*e*P		**Pn**	**09 03 16.7**	**+0.2**
	baz=9.0							
WFSB				*e*S		**Sn**	**09 03 33.6**	**+0.5**
	baz=9.0							
YM01	**YM01**	**1.40**	**1**	*e*P		**Pn**	**09 03 17.5**	**+0.2**
YM01				*e*S		**Sn**	**09 03 34.3**	**-0.3**
MASBT	**Mashibuluo**	**1.40**	**217**	*e*P		**Pn**	**09 03 18.1**	**+0.8**
	baz=216							
MASBT				*e*S		**Sn**	**09 03 35.6**	**+1.0**
	baz=216							
JYNG	**Yonagunijimaku**	**1.47**	**61**	P		**Pn**	**09 03 18.0**	**-0.1**
JYNG				S		**Sn**	**09 03 36.9**	**+0.7**
EAST	**Anshuo**	**1.50**	**205**	*e*P		**Pn**	**09 03 20.4**	**+1.8**
	baz=204							
YOJ	**Yonaguni jima**	**1.52**	**62**	P		**Pn**	**09 03 19.1**	**+0.2**
YOJ				*e*S		**Sn**	**09 03 37.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.52**	**62**	*e*P		**Pn**	**09 03 19.3**	**+0.4**
	baz=62							
SCZT	**Fangliau**	**1.60**	**212**	*e*P		**Pn**	**09 03 21.9**	**+1.9**
	baz=211							
SCZT				*e*S		**Sn**	**09 03 41.5**	**+1.9**
	baz=211							
SLIU	**Shizi**	**1.67**	**204**	*e*P		**Pn**	**09 03 22.5**	**+1.6**
	baz=204							
PHUB	**P'eng-hu**	**1.82**	**263**	*e*P		**Pn**	**09 03 22.5**	**-0.5**
	baz=262							
PHUB				*e*S		**Sn**	**09 03 43.7**	**-1.1**
	baz=262							
PNG	**Penghu**	**1.83**	**265**	*e*P		**Pn**	**09 03 22.5**	**-0.6**
	baz=263							
PNG				*e*S		**Sn**	**09 03 44.2**	**-0.8**
	baz=263							
PCYT	**Pengchaiyu**	**1.94**	**14**	*e*P		**Pn**	**09 03 26.0**	**+1.3**
	baz=14							
IRIF	**Iriomote-Funau**	**2.09**	**73**	P		**Pn**	**09 03 26.8**	**+0.1**
IRIF				S		**Sn**	**09 03 51.6**	**+0.1**
HATJ	**Hateruma jima**	**2.10**	**81**	P		**Pn**	**09 03 26.4**	**-0.4**
HATJ				S		**Sn**	**09 03 51.8**	**0.0**
VWUC	**VWUC**	**2.27**	**304**	*e*P		**Pn**	**09 03 28.3**	**-0.9**
	baz=302							
VWUC				*e*S		**Sn**	**09 03 54.0**	**-2.2**
	baz=302							
JKRS	**Kuro-shima**	**2.31**	**77**	P		**Pn**	**09 03 30.3**	**+0.5**
JKRS				*e*S		**Sn**	**09 03 58.3**	**+1.2**
JIJ	**Ishigaki jima**	**2.46**	**75**	P		**Pn**	**09 03 31.4**	**-0.4**
JIJ				S		**Sn**	**09 04 00.0**	**-0.7**
PTMZ	**Houxiangcun**	**2.56**	**301**	*e*P		**Pn**	**09 03 33.3**	**+0.1**
	baz=299							
PTMZ				*e*S		**Sn**	**09 04 01.9**	**-1.2**
	baz=299							
JISG	**Ishigakijimahi**	**2.67**	**71**	P		**Pn**	**09 03 34.2**	**-0.5**
JISG				S		**Sn**	**09 04 04.4**	**-1.4**
MATB	**Ma-tsu**	**2.80**	**329**	*e*P		**Pn**	**09 03 35.4**	**-1.1**
	baz=328							
MATB				*e*S		**Sn**	**09 04 07.8**	**-1.3**
	baz=328							
KNMB	**Chin-men Tao**	**2.97**	**285**	*e*P		**Pn**	**09 03 38.2**	**-0.6**
	baz=283							
KNMB				*e*S		**Sn**	**09 04 11.4**	**-1.8**
	baz=283							
JTJ	**Tarama**	**3.02**	**72**	P		**Pn**	**09 03 39.5**	**-0.1**
JTJ				S		**Sn**	**09 04 14.2**	**-0.4**
LYJJ	**Jianjiangzhen**	**3.23**	**330**	*e*P		**Pn**	**09 03 41.6**	**-0.8**
	baz=329							
LYJJ				*e*S		**Sn**	**09 04 18.0**	**-1.7**
	baz=329							
MHZQ	**Yeshan**	**3.27**	**316**	*e*P		**Pn**	**09 03 42.3**	**-0.7**
	baz=315							
MHZQ				*e*S		**Sn**	**09 04 19.9**	**-0.8**
	baz=315							
XPSS	**Dashiqiu**	**3.40**	**339**	*e*P		**Pn**	**09 03 44.0**	**-0.8**
	baz=338							
AXDP	**Jialang**	**3.45**	**290**	*e*P		**Pn**	**09 03 46.2**	**+0.7**
	baz=289							
AXDP				*e*S		**Sn**	**09 04 23.6**	**-1.6**
	baz=289							

*IDC **04** 09:07:03.4±1.2, 48°.86S×121°.37E, h0^{km}, mb4.1/7, mb1 4.2/7, mb1mx4.0/36, mbtmp4.1/7, MS3.9/9, Ms1 3.9/9, ms1mx3.6/25, Error ellipse: s-maj=58.0km s-min=18.6km az=114.0*

*NEIC **04** 09:07:04.7±0.4, 48°.86S±0°.05×121°.4E±0°.3, h10^{km}±1km, mb4.4/11, Error ellipse: s-maj=33.4km s-min=8.9km az=94.0*

ISC 04 09:07:04.9±0.7, 48°.8S±0°.1×121°.4E±0°.2, h13^{km}, n36, σ0^{s}.54/24, mb4.3/12, MS3.9/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**14.92**	**336**	T	T	09 26 02.4	
	baz=160,slow=74,SNR=153						
H01W2	**Cape Leeuwin H**	**14.92**	**336**	T	T	09 26 08.9	
	baz=160,slow=74,SNR=130						
H01W3	**Cape Leeuwin H**	**14.93**	**336**	T	T	09 26 03.9	
	baz=160,slow=74,SNR=132						
NWAO	**Narrogin (SRO)**	**16.19**	**347**	LR	LR	09 15 34.1	
	comp=Z,621nm,20.4s,baz=148,slow=32						
STKA	**Stephens Creek**	**22.78**	**49**	P	**P**	**09 12 07.6**	**+0.6**
	2.8nm,1.0s,baz=222,slow=15,SNR=3.0						
STKA				LR	LR	09 19 23.9	
	comp=Z,350nm,21.1s,baz=209,slow=32						
GIRL	**Giralia**	**26.74**	**345**	P	**P**	**09 12 44.0**	**0.0**
ASAR	**Alice Springs**	**26.99**	**26**	P	**P**	**09 12 47.1**	**+0.7**
	1.7nm,1.0s,baz=204,slow=9.7,SNR=10						
ASAR				LR	LR	09 22 15.5	
	comp=Z,566nm,21.7s,baz=200,slow=34						
ASAR	**Alice Springs**	**26.99**	**26**	P	**P**	**09 12 46.1**	**-0.3**
AS31	**Alice Springs**	**26.99**	**26**	P	**P**	**09 12 46.4**	**0.0**
PSA00	**Pilbara Seismi**	**27.22**	**357**	P	**P**	**09 12 48.1**	**-0.3**
PSA00				IAmb	IAmb	09 12 59.8	
	comp=Z,9.0nm,1.4s						
ARMA	**Armidale**	**29.40**	**62**	P	**P**	**09 13 07.5**	**-0.5**
ARMA				IAmb	IAmb	09 13 28.1	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**30.65**	**24**	LR	LR	09 24 30.2	
	comp=Z,342nm,20.8s,baz=200,slow=34						
WB2	**Warramunga Arr**	**30.65**	**24**	P	**P**	**09 13 18.9**	**0.0**
WB2				IAmb	IAmb	09 13 28.9	
	comp=Z,6.5nm,1.2s						
WR0	**Warramunga Arr**	**30.68**	**25**	P	**P**	**09 13 19.6**	**+0.4**
WR0				IAmb	IAmb	09 13 22.3	
	comp=Z,6.6nm,1.3s						
VNDA	**Vanda**	**32.66**	**165**	P	**P**	**09 13 36.5**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=299,slow=10,SNR=6.9						
VNDA				LR	LR	09 25 40.4	
	comp=Z,241nm,20.3s,baz=322,slow=34						
VNDA	**Vanda**	**32.66**	**165**	P	**P**	**09 13 35.8**	**-0.3**
VNDA				IAmb	IAmb	09 13 43.3	
	comp=Z,3.2nm,0.8s						
SBA	**Scott Base**	**33.71**	**164**	P	**P**	**09 13 43.8**	**-1.5**
SBA				IAmb	IAmb	09 13 58.5	
	comp=Z,10.0nm,1.4s						
MAW	**Mawson**	**34.36**	**215**	P	**P**	**09 13 51.5**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=74,slow=15,SNR=6.5						
MAW	**Mawson**	**34.36**	**215**	P	**P**	**09 13 50.9**	**0.0**
BATI	**Baumata**	**38.54**	**4**	LR	LR	09 30 06.7	
	comp=Z,254nm,19.0s,baz=197,slow=36						
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**09 14 49.7**	**0.0**
	comp=Z,5.7nm,0.8s,baz=328,slow=1.0,SNR=20						
QSPA	**South Pole Qui**	**41.30**	**180**	P	**P**	**09 14 49.8**	**0.0**
SNAA	**Sanae**	**53.53**	**199**	P	**P**	**09 16 24.5**	**-0.1**
SNAA	**Sanae**	**53.53**	**199**	P	**P**	**09 16 24.4**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=141,slow=10,SNR=14						
SNAA	**Sanae**	**53.53**	**199**	P	**P**	**09 16 24.8**	**+0.1**
VNA3	**Neumayer Olymp**	**55.27**	**197**	P	**P**	**09 16 36.9**	**-0.4**
VNA1	**Neumayer--Stat**	**55.45**	**198**	P	**P**	**09 16 38.6**	**+0.1**
H08S2	**Diego Garcia H**	**58.00**	**298**	T	T	10 19 45.9	
	baz=144,slow=76,SNR=4.4						
H08S1	**Diego Garcia H**	**58.01**	**298**	T	T	10 19 41.4	
	baz=144,slow=76,SNR=4.6						
H08S3	**Diego Garcia H**	**58.02**	**298**	T	T	10 19 42.9	
	baz=144,slow=76,SNR=4.7						
CMAR	**Chiang Mai Arr**	**69.90**	**337**	LR	LR	09 50 28.5	
	comp=Z,23nm,18.0s,baz=160,slow=37						
CMAR	**Chiang Mai Arr**	**69.90**	**337**	P	**P**	**09 18 14.9**	**-0.6**
BOSA	**Boshof**	**72.81**	**246**	LR	LR	09 43 59.7	
	comp=Z,77nm,19.4s,baz=181,slow=30						
PLCA	**Paso Flores**	**90.20**	**171**	P	**P**	**09 20 05.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=203,slow=7.7,SNR=4.2						
PLCA				LR	LR	09 58 55.2	
	comp=Z,27nm,18.9s,baz=175,slow=34						
PDAR	**Pinedale Array**	**144.53**	**80**	PKP	PKPbc	09 26 39.6	+0.3
	comp=Z,0.8nm,0.8s,baz=188,slow=3.0,SNR=6.4						
YKA	**Yellowknife Ar**	**146.76**	**45**	PKPbc	**PKPbc**	**09 26 45.9**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=289,slow=1.1,SNR=3.9						

*IDC **04** 09:07:29.2±0.7, 20°.21N×120°.34E, h0^{km}, mb4.1/12, mb1 4.2/13, mb1mx4.0/49, mbtmp4.1/13, ML3.8/1, MS3.3/9, Ms1 3.4/9, ms1mx3.1/38, Error ellipse: s-maj=24.0km s-min=14.1km az=79.0*

*BJI **04** 09:07:29.5±0.0, 20°.27N×120°.30E, h11^{km}, mB4.6/15, mb4.3/21, ML3.9/1, Ms4.0/12, Ms7 3.6/13*

*NEIC **04** 09:07:31.0±1.1, 20°.26N±0°.05×120°.3E±0°.1, h10^{km}±1km, mb4.4/33, Error ellipse: s-maj=16.8km s-min=9.1km az=278.0*

*MAN **04** 09:07:32.5, 20°.16N×120°.32E, h22^{km}, mb4.7, ML3.6, MS3.5*

ISC 04 09:07:33.0±0.5, 20°.26N±0°.05×120°.32E±0°.07, h26^{km}, n78, σ1^{s}.25/76, mb4.4/28, MS3.4/11, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**2.65**	**15**		**Pn**	**09 08 13.0**	**-1.0**
SZP	**Santa**	**2.69**	**177**	Pn	**Pn**	**09 08 13.8**	**-0.9**
TPUB	**Ta-pu**	**3.04**	**5**		**Pn**	**09 08 17.6**	**-1.9**
YULB	**Yu-li**	**3.25**	**16**	Pn	**Pn**	**09 08 22.0**	**-0.3**
SSLB	**Suanglung**	**3.56**	**9**	Pn	**Pn**	**09 08 25.1**	**-1.5**
NACB	**Ninganchiao**	**4.07**	**17**		**Pn**	**09 08 32.8**	**-0.8**
YHNB	**Yeheng**	**4.50**	**12**	Pn	**Pn**	**09 08 39.1**	**-0.5**
YOJ	**Yonaguni jima**	**4.87**	**30**	Pn	**Pn**	**09 08 43.8**	**-0.8**
QIZ	**Qiongzhong**	**9.95**	**265**	P	**Pn**	**09 09 53.2**	**-1.1**
QIZ				S	**Sn**	**09 11 45.6**	**+0.5**
QIZ				LR	LR		
	comp=N,230nm,9.2s						
QIZ				LR	LR		
	comp=E,400nm,11.0s						
QIZ				LR	LR		
	comp=Z,390nm,12.7s						
JNU	**Nakatsue**	**15.90**	**34**		**Pn**	**09 11 14.7**	**-0.3**
JNU				IAmb	IAmb	09 11 20.5	
	comp=Z,32nm,0.8s						
KMI	**Kunming**	**16.93**	**290**	⇑P	**P**	**09 11 30.4**	**+0.3**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
XAN	**Xi'an**	**17.05**	**326**	P	**Pn**	**09 11 29.4**	**-0.2**
XAN				pP	P	09 11 32.6	+1.4
XAN				S	**Sn**	**09 14 40.6**	**+2.1**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
XAN				LR	LR		
	comp=Z,280nm,10.6s						
XAN				LR	LR		
	comp=Z,170nm,11.9s						
XAN				LR	LR		
	comp=Z,240nm,14.1s						
CD2	**Chengdu**	**18.30**	**309**	P	**P**	**09 11 44.1**	**-1.0**
CD2				LR	LR		
	comp=Z,460nm,14.9s						
CD2				LR	LR		
	comp=Z,580nm,12.6s						
CD2				LR	LR		
	comp=Z,280nm,12.2s						
KSAR	**Wonju Array Be**	**18.35**	**19**	P	**P**	**09 11 42.7**	**-2.8**
KSRS	**Korea Array**	**18.37**	**20**	P	**Pn**	**09 11 45.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=196,slow=11,SNR=15						
KSRS				LR	LR	09 20 12.3	
	comp=Z,90nm,18.9s,baz=198,slow=42						
KS19	**Wonju Array Si**	**18.40**	**19**	P	**Pn**	**09 11 45.8**	**-0.4**
BJT	**Baijiatuau**	**20.02**	**351**	P	**P**	**09 12 03.0**	**-0.8**
BJT				IAmb	IAmb	09 12 05.8	
	comp=Z,14nm,0.9s						
JWT	**Wachi**	**20.02**	**38**	P	**P**	**09 12 03.1**	**-0.7**
JWT				IAmb	IAmb	09 12 18.6	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.25**	**269**	P	**P**	**09 12 05.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=76,slow=11,SNR=1.9						
CMAR				LR	LR	09 19 54.6	
	comp=Z,115nm,18.3s,baz=144,slow=37						
INU	**Inuyama**	**21.03**	**41**	P	**P**	**09 12 14.3**	**-0.4**
INU				IAmb	IAmb	09 12 17.0	
	comp=Z,26nm,1.0s						
LZH	**Lanzhou**	**21.39**	**321**	*e*P	**P**	**09 12 19.5**	**+0.7**
LZH				pP	pP	09 12 23.7	-1.2
LZH				sP	sP	09 12 27.9	+0.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
JGF	**Kuroka**	**21.40**	**41**	P	**P**	**09 12 18.5**	**-0.3**
JGF				IAmb	IAmb	09 12 25.2	
	comp=Z,14nm,1.0s						
JHJ	**Hachijo jima 2**	**21.55**	**50**	LR	LR	09 19 53.2	
	comp=Z,68nm,20.0s,baz=244,slow=34						
HHC	**Hu-ho-hao-te**	**21.84**	**342**	*e*P	**P**	**09 12 24.4**	**+0.8**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,77nm,5.5s						
HHC				LR	LR		
	comp=Z,220nm,11.1s						
HHC				LR	LR		
	comp=Z,120nm,10.5s						
HHC				LR	LR		
	comp=Z,160nm,14.1s						
MAJO	**Matsushiro**	**22.54**	**40**	P	**P**	**09 12 29.6**	**-1.5**
MAJO				IAmb	IAmb	09 12 39.5	
	comp=Z,20nm,1.0s						
MAT	**Matsushiro**	**22.54**	**40**	P	**P**	**09 12 30.7**	**-0.3**
MJAR	**Matsushiro Arr**	**22.54**	**40**	P	**P**	**09 12 30.6**	**-0.4**
	comp=Z,8.4nm,0.9s,baz=211,slow=8.3,SNR=14						
MJAR	**Matsushiro Arr**	**22.54**	**40**	P	**P**	**09 12 30.8**	**-0.2**
MJAR				IAmb	IAmb	09 12 39.6	
	comp=Z,10.0nm,0.9s						
MJB9	**Matsu-Tunnel**	**22.54**	**40**	P	**P**	**09 12 29.7**	**-1.3**
MJB9				IAmb	IAmb	09 12 39.5	
	comp=Z,23nm,1.0s						
USA0B	**Ussuriysk Arra**	**25.78**	**20**	P	**P**	**09 12 59.1**	**-2.5**
USRK	**Ussuriysk Ar.**	**25.78**	**20**	LR	LR	09 22 21.2	
	comp=Z,64nm,21.6s,baz=221,slow=34						
USRK	**Ussuriysk Ar.**	**25.78**	**20**	P	**P**	**09 12 59.4**	**-2.3**
GTA	**Gaotai**	**25.98**	**322**	⇑P	**P**	**09 13 10.3**	**+6.5**
GTA				pP	pwP	09 13 13.8	-1.5
GTA				sP	sP	09 13 16.7	+3.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,48nm,4.4s						
GTA				LR	LR		
	comp=N,99nm,15.6s						
GTA				LR	LR		
	comp=E,95nm,16.0s						
GTA				LR	LR		
	comp=Z,100nm,14.9s						
LSA	**Lhasa**	**28.00**	**295**	P	**P**	**09 13 21.9**	**-0.5**
SONM	**Songino Array**	**29.73**	**341**	P	**P**	**09 13 38.0**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=176,slow=6.9,SNR=2.8						
SONM	**Songino Array**	**29.73**	**341**	P	**P**	**09 13 36.6**	**-0.6**
ASAJ	**Asahikawa**	**30.17**	**33**	P	**P**	**09 13 42.5**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=176,slow=6.6,SNR=5.0						
JKA	**Kamikawa-asahi**	**30.17**	**33**	P	**P**	**09 13 41.0**	**+0.1**
JKA				IAmb	IAmb	09 13 49.9	
	comp=Z,8.4nm,1.1s						
KLR	**Kul'dur**	**30.32**	**15**	P	**P**	**09 13 43.4**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=231,slow=3.5,SNR=5.5						
WMQ	**Urumqi**	**35.92**	**318**	*e*P	**P**	**09 14 30.8**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,30nm,0.7s						
WMQ				pmax	pmax	

AS31	**Alice Springs**	**45.62**	**162**	P	**P**	**09 15 51.2**	**-0.1**
ASAR	**Alice Springs**	**45.62**	**162**	P	**P**	**09 15 51.1**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=330,slow=6.9,SNR=29						
ASAR				PcP	**PcP**	**09 17 29.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=335,slow=2.7,SNR=4.2						
ASAR	**Alice Springs**	**45.62**	**162**	P	**P**	**09 15 51.7**	**+0.3**
GAR	**Garm**	**46.69**	**305**	P	**P**	**09 15 59.1**	**-0.6**
KKAR	**Karatay Array**	**47.30**	**310**	P	**P**	**09 16 03.9**	**-0.5**
NRIK	**Noril'sk**	**52.99**	**346**	LR	LR	09 42 27.0	
	comp=Z,54nm,19.9s,baz=166,slow=40						
BBOO	**Buckleboo**	**54.87**	**164**	P	**P**	**09 17 01.4**	**+0.2**
AMKA	**Amchitka**	**55.15**	**41**	P	**P**	**09 17 03.8**	**+0.7**
STKA	**Stephens Creek**	**55.70**	**158**	P	**P**	**09 17 07.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=345,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**55.70**	**158**	P	**P**	**09 17 08.0**	**+0.7**
TOO	**Toolangi**	**62.21**	**158**	P	**P**	**09 17 54.4**	**+2.0**
RAYN	**Ar Rayn**	**68.76**	**288**	P	**P**	**09 18 34.2**	**-0.9**
MLY	**Manley**	**71.40**	**27**	P	**P**	**09 18 52.0**	**+1.4**
MLY				IAmb	IAmb	09 18 56.1	
	comp=Z,4.8nm,1.2s						
MDM	**Murphy Dome**	**72.46**	**27**	P	**P**	**09 18 58.5**	**+1.5**
MDM				IAmb	IAmb	09 19 08.1	
	comp=Z,6.4nm,1.1s						
RND	**Reindeer**	**72.47**	**28**	P	**P**	**09 18 57.8**	**+0.7**
ILAR	**Eielson Array**	**73.06**	**27**	P	**P**	**09 18 59.9**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=269,slow=5.2,SNR=9.0						
SCM	**Sheep Creek Mo**	**73.46**	**30**	P	**P**	**09 19 03.9**	**+0.9**
SCRK	**Sand Creek**	**74.47**	**27**	P	**P**	**09 19 09.7**	**+0.8**
DOT	**Dot Lake**	**74.52**	**27**	P	**P**	**09 19 09.7**	**+0.6**
DOT				IAmb	IAmb	09 19 17.0	
	comp=Z,2.4nm,0.9s						
L27K	**Beaver Creek,**	**75.64**	**28**	P	**P**	**09 19 16.6**	**+1.0**
L27K				IAmb	IAmb	09 19 27.2	
	comp=Z,3.9nm,0.9s						
BCAR	**Beaver Creek A**	**75.66**	**28**	P	**P**	**09 19 17.0**	**+1.3**
DAWY	**Dawson**	**76.39**	**26**	P	**P**	**09 19 20.9**	**+1.0**
DAWY				IAmb	IAmb	09 19 34.7	
	comp=Z,3.5nm,1.2s						
NOA	**NORSAR Array B**	**81.31**	**332**	LR	LR	09 58 07.3	
	comp=Z,24nm,20.0s,baz=295,slow=37						
TXAR	**Lajitas Array**	**114.97**	**42**	PKP	PKPdf	09 26 12.8	+0.5
	comp=Z,0.3nm,0.9s,baz=300,slow=1.8,SNR=3.1						
TXAR	**Lajitas Array**	**114.97**	**42**		**PKiKP**	**09 26 11.2**	**-1.1**

*IDC **04** 09:10:04.4±0.9, 20°.24N×120°.34E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/49, mbtmp4.0/7, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/40, Error ellipse: s-maj=38.8km s-min=18.7km az=76.0*

*NEIC **04** 09:10:05.4±2.4, 20°.16N±0°.05×120°.3E±0°.1, h10km±1km, mb4.1/9, Error ellipse: s-maj=17.7km s-min=5.3km az=67.0*

ISC 04 09:10:07.7±0.7, 20°.15N±0°.06×120°.3E±0°.2, h28km, n27, σ1§03/27, mb4.1/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	**Santa**	**2.59**	**177**	Pn	**Pn**	**09 10 46.0**	**-1.8**
TWG	**Pinlang**	**2.75**	**15**		**Pn**	**09 10 48.5**	**-1.5**
TPUB	**Ta-pu**	**3.15**	**5**	Pn	**Pn**	**09 10 55.3**	**-0.2**
YULB	**Yu-li**	**3.35**	**16**		**Pn**	**09 10 57.7**	**-0.7**
SSLB	**Suanglung**	**3.67**	**9**	Pn	**Pn**	**09 11 00.8**	**-1.8**
NACB	**Ninganchiao**	**4.18**	**16**		**Pn**	**09 11 09.4**	**-0.2**
YHNB	**Yeheng**	**4.60**	**12**	Pn	**Pn**	**09 11 15.2**	**-0.4**
JNU	**Nakatsue**	**15.99**	**34**	LR	LR	09 19 47.0	
	comp=Z,220nm,21.4s,baz=324,slow=37						
KSRS	**Korea Array**	**18.47**	**19**	P	**P**	**09 14 20.7**	**-0.7**
	0.1nm,0.3s,baz=192,slow=12,SNR=12						
JWT	**Wachi**	**20.10**	**38**	P	**P**	**09 14 39.4**	**+0.1**
JWT				IAmb	IAmb	09 14 53.3	
	comp=Z,13nm,1.0s						
MAT	**Matsushiro**	**22.63**	**40**	P	**P**	**09 15 05.9**	**-0.6**
MJAR	**Matsushiro Arr**	**22.63**	**40**	P	**P**	**09 15 05.9**	**-0.6**
	comp=Z,5.3nm,1.0s,baz=224,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**40.77**	**320**	P	**P**	**09 17 46.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=119,slow=12,SNR=2.7						
WB0	**Warramunga Arr**	**42.00**	**160**	P	**P**	**09 17 58.0**	**+1.3**
WRA	**Warramunga Arr**	**42.15**	**160**	P	**P**	**09 17 58.7**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=342,slow=9.1,SNR=7.2						
WRA				PcP	**PcP**	**09 19 53.7**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=341,slow=3.6,SNR=5.3						
WRA	**Warramunga Arr**	**42.15**	**160**	IAmb	IAmb	09 18 00.5	
	comp=Z,0.7nm,1.5s						
WB2	**Warramunga Arr**	**42.15**	**160**	P	**P**	**09 17 58.2**	**+0.2**
WB2				IAmb	IAmb	09 18 18.4	
	comp=Z,6.7nm,1.1s						
WR0	**Warramunga Arr**	**42.23**	**160**	P	**P**	**09 18 00.2**	**+1.6**
WR0				IAmb	IAmb	09 18 13.2	
	comp=Z,3.5nm,0.9s						
KURBB	**Kurchatov Arra**	**44.74**	**323**	P	**P**	**09 18 18.9**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=122,slow=7.9,SNR=6.0						
ASAR	**Alice Springs**	**45.52**	**162**	P	**P**	**09 18 26.4**	**+1.3**
	comp=Z,3.0nm,0.9s,baz=331,slow=7.2,SNR=10.0						
ASAR				PcP	**PcP**	**09 20 04.4**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=323,slow=4.0,SNR=2.8						
ASAR	**Alice Springs**	**45.52**	**162**	P	**P**	**09 18 24.6**	**-0.5**
EIDS	**Eidsvold**	**54.24**	**145**	P	**P**	**09 19 31.3**	**0.0**
BBOO	**Buckleboo**	**54.77**	**164**	P	**P**	**09 19 34.7**	**-0.3**
STKA	**Stephens Creek**	**55.61**	**158**	P	**P**	**09 19 43.2**	**+2.1**
	comp=Z,3.8nm,1.0s,baz=342,slow=8.9,SNR=4.8						
STKA	**Stephens Creek**	**55.61**	**158**	P	**P**	**09 19 40.8**	**-0.3**
STKA				IAmb	IAmb	09 19 43.5	
	comp=Z,0.8nm,0.9s						
ABKAR	**Akbulak array**	**55.73**	**316**	P	**P**	**09 19 41.6**	**-0.2**
PWL	**Port Wells**	**73.28**	**31**	P	**P**	**09 21 35.6**	**-0.8**

*IDC **04** 09:39:28.7±2.1, 6°.11S×149°.05E, h56km±17km, mb3.9/10, mb1 4.1/12, mb1mx4.0/34, mbtmp4.2/12, ML4.7/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/37, Error ellipse: s-maj=22.8km s-min=11.1km az=111.0*

*DJA **04** 09:39:29.0±0.8, 6°S±8°×14°9E±°, h68km±10km, M5.0/7, mb4.5/7, MLv5.3/2*

*NEIC **04** 09:39:30.1±0.8, 6°.14S±0°.03×149°.10E±0°.10, h60km±7km, mb4.5/28, Error ellipse: s-maj=13.8km s-min=3.3km az=96.0*

ISC 04 09:39:29.1±0.5, 6°.09S±0°.07×149°.05E±0°.08, h60km, n57, σ0§85/57, mb4.2/19, MS3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.63**	**59**		**Pn**	**09 40 23.5**	**+0.6**
RABL	**Rabaul**	**3.63**	**59**	P	**Pn**	**09 40 23.9**	**+1.0**
PMG	**Port Moresby**	**3.79**	**210**	P	**Pn**	**09 40 25.2**	**+0.2**
	36nm,0.3s,baz=28,slow=6.3,SNR=65						
PMG				S	**Sn**	**09 41 07.5**	**-0.9**
	32nm,0.3s,baz=261,slow=19,SNR=13						
PMG				LR	LR	09 41 48.8	
	comp=Z,358nm,18.4s,baz=48,slow=37						
PMG	**Port Moresby**	**3.79**	**210**		**Pn**	**09 40 25.8**	**+0.7**
PMG	**Port Moresby**	**3.79**	**210**	P	**Pn**	**09 40 26.2**	**+1.2**
PMG	**Port Moresby**	**3.79**	**210**	P	**Pn**	**09 40 26.2**	**+1.2**
HNR	**Honiara**	**11.29**	**108**	LR	LR	09 45 04.4	
	comp=Z,78nm,20.7s,baz=142,slow=30						
CTAO	**Charters Tower**	**14.17**	**191**	Pn	**Pn**	**09 42 47.0**	**+0.1**
SIJI	**Sorong**	**18.49**	**286**	LR	LR	09 52 11.8	
	comp=Z,115nm,18.2s,baz=48,slow=41						
MTN	**Manton Dam**	**18.90**	**248**	P	**P**	**09 43 44.5**	**-0.4**
MTN				IAmb	IAmb	09 43 55.0	
	comp=Z,31nm,1.4s						
EIDS	**Eidsvold**	**19.27**	**174**	P	**P**	**09 43 48.5**	**-0.4**
WB0	**Warramunga Arr**	**19.69**	**225**	P	**P**	**09 43 54.0**	**+0.3**
WB0				IAmb	IAmb	09 43 55.3	
	comp=Z,23nm,0.7s						
WR0	**Warramunga Arr**	**19.72**	**224**	P	**P**	**09 43 54.3**	**+0.4**
WR0				IAmb	IAmb	09 43 55.2	
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**19.84**	**225**	P	**P**	**09 43 55.6**	**+0.5**
WRAB				IAmb	IAmb	09 43 56.4	
	comp=Z,29nm,0.7s						
WB2	**Warramunga Arr**	**19.84**	**225**	P	**P**	**09 43 55.8**	**+0.6**
WRA	**Warramunga Arr**	**19.85**	**225**	P	**P**	**09 43 55.8**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=51,slow=11,SNR=218						
WRA				PcP	**PcP**	**09 48 11.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=38,slow=1.9,SNR=12						
WRA	**Warramunga Arr**	**19.85**	**225**	P	**P**	**09 43 55.2**	**-0.1**
KNRA	**Kununurra**	**22.06**	**243**	P	**P**	**09 44 19.0**	**-0.2**
KNRA				IAmb	IAmb	09 44 20.4	
	comp=Z,14nm,0.9s						
AS31	**Alice Springs**	**22.75**	**218**	P	**P**	**09 44 27.1**	**+0.5**
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**09 44 26.6**	**0.0**
	comp=Z,7.7nm,0.7s,baz=49,slow=9.3,SNR=105						
ASAR				PcP	**PcP**	**09 48 17.2**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=62,slow=2.5,SNR=9.2						
ASAR				S	**S**	**09 48 31.4**	**+0.3**
	comp=Z,6.7nm,1.1s,baz=30,slow=23,SNR=17						
ASAR	**Alice Springs**	**22.75**	**218**	P	**P**	**09 44 27.1**	**+0.6**
DZM	**Mont Dzumac**	**23.12**	**135**	P	**P**	**09 44 29.9**	**-0.5**
	comp=Z,8.5nm,0.6s,baz=173,slow=17,SNR=7.1						
DZM	**Mont Dzumac**	**23.12**	**135**	P	**P**	**09 44 29.9**	**-0.5**
DZM				IAmb	IAmb	09 44 42.2	
	comp=Z,22nm,0.8s						
ARMA	**Armidale**	**24.32**	**175**	P	**P**	**09 44 39.6**	**-1.7**
ARMA				IAmb	IAmb	09 44 43.2	
	comp=Z,8.2nm,0.9s						
STKA	**Stephens Creek**	**26.58**	**194**	P	**P**	**09 45 02.9**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=14,slow=9.6,SNR=7.7						
STKA				LR	LR	09 55 44.0	
	comp=Z,127nm,20.4s,baz=36,slow=37						
STKA	**Stephens Creek**	**26.58**	**194**	P	**P**	**09 45 01.5**	**-0.2**
EDFI	**Ende, Flores**	**27.26**	**263**	P	**P**	**09 45 05.5**	**-2.6**
	comp=Z,11nm,0.8s						
BBOO	**Buckleboo**	**29.21**	**203**	P	**P**	**09 45 25.0**	**-0.2**
BBOO				IAmb	IAmb	09 45 49.8	
	comp=Z,14nm,1.4s						
FORT	**Forrest**	**31.49**	**216**	P	**P**	**09 45 45.4**	**+0.1**
TOO	**Toolangi**	**31.50**	**185**	P	**P**	**09 45 44.9**	**-0.5**
TOO				IAmb	IAmb	09 45 47.1	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**32.17**	**239**	P	**P**	**09 45 51.8**	**+0.3**
GIRL	**Giralia**	**37.39**	**240**	P	**P**	**09 46 39.1**	**+2.6**
MORW	**Morawa**	**38.65**	**230**	P	**P**	**09 46 47.4**	**+0.3**
KNTN	**Kanton**	**39.24**	**87**	P	**P**	**09 46 51.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**39.85**	**224**	LR	LR	10 02 38.3	
	comp=Z,123nm,20.5s,baz=12,slow=35						
NWAO	**Narrogin (SRO)**	**39.85**	**224**	P	**P**	**09 46 56.9**	**-0.1**
JMN	**Monobe**	**42.13**	**341**	P	**P**	**09 47 17.1**	**+1.3**
JMN				IAmb	IAmb	09 47 34.8	
	comp=Z,18nm,1.2s						
MJAR	**Matsushiro Arr**	**43.61**	**347**	P	**P**	**09 47 27.5**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=165,slow=7.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**43.61**	**347**	P	**P**	**09 47 28.1**	**+0.5**
MAJO	**Matsushiro**	**43.61**	**347**	P	**P**	**09 47 28.4**	**+0.8**
MAJO				IAmb	IAmb	09 47 28.6	
	comp=Z,4.1nm,0.6s						
JSD	**Sado**	**45.04**	**348**	P	**P**	**09 47 39.8**	**+0.9**
KSRS	**Korea Array**	**47.60**	**337**	P	**P**	**09 47 59.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=157,slow=10.0,SNR=4.7						
CASY	**Casey**	**65.72**	**196**	P	**P**	**09 50 07.2**	**0.0**
CASY				IAmb	IAmb	09 50 07.8	
	comp=Z,5.3nm,0.8s						
TLY	**Talaya**	**69.38**	**332**	LR	LR	10 22 13.2	
	comp=Z,454nm,19.5s,baz=56,slow=37						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**09 50 44.8**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=340,slow=7.0,SNR=8.6						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**09 50 44.9**	**+0.7**
VNDA				IAmb	IAmb	09 50 45.3	
	comp=Z,2.4nm,0.7s						
SBA	**Scott Base**	**72.32**	**176**	P	**P**	**09 50 49.7**	**+1.8**
SBA				IAmb	IAmb	09 51 00.7	
	comp=Z,4.7nm,1.4s						
MKAR	**Makanchi Array**	**78.88**	**320**	P	**P**	**09 51 26.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=101,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**78.88**	**320**	P	**P**	**09 51 25.6**	**-0.4**
ZALV	**Zalesovo Beam**	**80.19**	**327**	P	**P**	**09 51 32.8**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=108,slow=4.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**80.19**	**327**	P	**P**	**09 51 32.0**	**-0.9**
MAW	**Mawson**	**82.95**	**203**	P	**P**	**09 51 47.1**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=105,slow=8.7,SNR=9.0						
MAW	**Mawson**	**82.95**	**203**	P	**P**	**09 51 46.9**	**-0.4**
ILAR	**Eielson Array**	**84.77**	**23**	P	**P**	**09 51 55.0**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=251,slow=5.2,SNR=19						
TORD	**Torodi Ar. Bea**	**147.09**	**285**	PKPbc	**PKPbc**	**09 59 06.0**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=64,slow=3.7,SNR=16						
TORD	**Torodi Ar. Bea**	**147.09**	**285**		**PKPbc**	**09 59 06.3**	**-0.1**
BDFB	**Brasilia**	**152.57**	**142**	PKPbc	**PKPbc**	**09 59 20.1**	**0.0**
	comp=Z,9.1nm,0.6s,baz=268,slow=1.2,SNR=12						

IDC 04 09:46:13.4±20.0, 10°.21S×112°.32E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/45, mbtmp3.4/3, Error ellipse: s-maj=347.0km s-min=170.5km az=154.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**117**	P	P	09 51 23.3	-0.2
	0.8nm,0.9s,baz=286,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**24.56**	**126**	P	P	09 51 34.7	-0.5
	0.5nm,0.6s,baz=300,slow=8.4,SNR=6.6						
STKA	**Stephens Creek**	**34.61**	**133**	P	P	09 53 05.1	+0.8
	0.7nm,0.5s,baz=322,slow=11,SNR=3.0						
H08S2	**Diego Garcia H**	**39.41**	**270**	T	T	10 37 04.4	
	baz=96,slow=75,SNR=6.3						
H08S3	**Diego Garcia H**	**39.42**	**270**	T	T	10 37 05.2	
	baz=96,slow=75,SNR=6.5						
H08S1	**Diego Garcia H**	**39.43**	**270**	T	T	10 36 52.5	
	baz=96,slow=75,SNR=3.2						

*OSPL **04** 09:49:39.7±0.6, 19°.35N×73°.50W, h0km±9km, ML2.1*

*SSNC **04** 09:49:40.4±1.7, 19°.02N×73°.71W, h2km, MD2.8, ML2.6, MW2.9*

ISC 04 09:49:39.5±1.4, 19°.1N±0°.1×73°.70W±0°.08, h23km±17km, n9, σ0§76/17, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.18**	**335**	*e*P	**Pb**	**09 50 00.7**	**-0.6**
MASC				*e*S	**Sb**	**09 50 17.5**	**+1.4**
MASC				IAML		09 50 19.5	
	comp=E,30nm,0.2s						
MASC				IAML		09 50 19.5	
	comp=N,14nm,0.2s						
LGNH	**Logne**	**1.19**	**119**	*e*P	**Pb**	**09 50 00.7**	**-0.6**
LGNH				*e*S	**Sn**	**09 50 16.1**	**-0.1**
LGNH	**Logne**	**1.19**	**119**	*i*P	**Pb**	**09 50 00.8**	**-0.6**
LGNH				*e*S	**Sn**	**09 50 16.5**	**+0.3**
LGNH				IAML		09 50 18.0	
	comp=Z,20nm,1.1s						
JAKH	**Jacmel**	**1.41**	**127**	*i*P	**Pb**	**09 50 05.4**	**+0.3**
GTBY	**Guantanamo Bay**	**1.57**	**302**	*e*P	**Pn**	**09 50 06.5**	**+0.5**
GTBY				*e*S	**Sb**	**09 50 27.4**	**+0.2**
GTBY	**Guantanamo Bay**	**1.57**	**302**	*i*P	**Pb**	**09 50 07.4**	**-0.4**
GTBY				*e*S	**Sb**	**09 50 28.3**	**+1.0**
GTBY				IAML		09 50 32.8	
	comp=Z,52nm,1.8s						
GTMO	**Guantanamo**	**1.68**	**306**	*e*P	**Pn**	**09 50 06.9**	**-0.6**
GTMO				*e*S	**Sn**	**09 50 27.6**	**-0.6**
GTMO				IAML		09 50 30.7	
	comp=N,1μm,0.2s						
GTMO				IAML		09 50 31.2	
	comp=E,2μm,0.5s						
MOAC	**Moa**	**1.96**	**323**	*e*P	**Pb**	**09 50 13.4**	**-1.1**
MOAC				*e*S	**Sb**	**09 50 37.8**	**-0.6**
RCC	**Rio Carpintero**	**2.09**	**296**	*e*P	**Pn**	**09 50 12.9**	**-0.2**
RCC				*e*S	**Sn**	**09 50 39.3**	**+0.9**
RCC				IAML		09 50 42.9	
	comp=N,24nm,0.2s						
RCC				IAML		09 50 44.0	
	comp=E,22nm,0.4s						

*DMN **04** 09:52:31.8±0.5, 30°.50N×78°.64E, h10km, Ml4.5/11, Error ellipse: s-maj=40.6km s-min=8.1km az=24.0*

*IDC **04** 09:52:36.8±10.0, 30°.03N×81°.26E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.3/59, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=445.6km s-min=29.6km az=75.0*

ISC 04 09:52:34.3±1.1, 29°.8N±0°.1×78°.63E±0°.07, h35km, n16, σ1§60/27, mb3.7/3, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**1.66**	**228**	*e*P	**Pn**	**09 53 00.0**	**-0.9**
NDI				*e*S	**Sn**	**09 53 20.0**	**-1.1**
DANN	**Dangsing**	**4.72**	**107**	*e*Pn	**Pn**	**09 53 44.4**	**+1.1**
DANN				*e*Sn	**Sn**	**09 54 37.7**	**+0.8**
	48nm,0.3s						
KOLN	**Koldanda**	**4.81**	**114**	*e*Pn	**Pn**	**09 53 46.6**	**+2.2**
KOLN				*e*Sn	**Sn**	**09 54 42.8**	**+3.7**
	53nm,0.2s						
GKN	**Gorkha**	**5.56**	**107**	*e*Pn	**Pn**	**09 53 55.7**	**+0.9**
GKN				*e*Sn	**Sn**	**09 54 58.5**	**+0.9**
	146nm,0.3s						
KKN	**Kakani**	**6.17**	**107**	*e*Pn	**Pn**	**09 54 04.4**	**+1.2**
KKN				*e*Sn	**Sn**	**09 55 12.8**	**+0.2**
	72nm,0.2s						
PKIN	**Phulchoki**	**6.34**	**109**	*e*Pn	**Pn**	**09 54 06.6**	**+1.0**
PKIN				*e*Sn	**Sn**	**09 55 17.9**	**+0.9**
	57nm,0.2s						
PKI	**Pulchoki**	**6.36**	**109**	*e*Pn	**Pn**	**09 54 06.3**	**+0.5**
PKI				*e*Sn	**Sn**	**09 55 17.9**	**+0.5**
	47nm,0.3s						
GUN	**Gumba**	**6.63**	**105**	*e*Pn	**Pn**	**09 54 10.4**	**+0.8**
GUN				*e*Sn	**Sn**	**09 55 23.3**	**-0.9**
	125nm,0.4s						
JIRN	**Jiri**	**6.97**	**106**	*e*Pn	**Pn**	**09 54 15.7**	**+1.4**
JIRN				*e*Sn	**Sn**	**09 55 32.2**	**-0.4**
	51nm,0.3s						
RAMN	**Ramite**	**7.58**	**110**	*e*Pn	**Pn**	**09 54 22.9**	**+0.4**
RAMN				*e*Sn	**Sn**	**09 55 45.4**	**-1.8**
	64nm,0.3s						
ODAN	**Odare**	**8.26**	**109**	*e*Sn	**Sn**	**09 56 02.7**	**-1.3**
	83nm,0.4s						
TAPN	**Taplejung**	**8.35**	**105**	*e*Pn	**Pn**	**09 54 32.6**	**-0.5**
TAPN				*e*Sn	**Sn**	**09 56 03.6**	**-2.8**
	42nm,0.4s						
MKAR	**Makanchi Array**	**17.20**	**9**	Pn	**Pn**	**09 56 30.5**	**-1.3**
	0.1nm,0.3s,baz=190,slow=12,SNR=2.1						
ZALV	**Zalesovo Beam**	**24.55**	**9**	P	**P**	**09 57 53.3**	**+2.8**
	1.2nm,0.5s,baz=191,slow=6.6,SNR=4.8						
WRA	**Warramunga Arr**	**72.96**	**126**	P	**P**	**10 03 58.8**	**-1.7**
	0.6nm,0.6s,baz=322,slow=6.1,SNR=6.1						
ASAR	**Alice Springs**	**75.13**	**129**	P	**P**	**10 04 11.2**	**-1.9**
	0.2nm,0.4s,baz=312,slow=6.3,SNR=6.5						

*BJI **04** 09:56:35.1±0.0, 53°.19N×172°.57E, h9km, mB4.9/22, mb4.7/39, Ms4.8/28, Ms7 4.3/28*

*IDC **04** 09:56:37.8±0.6, 53°.18N×172°.29E, h0km, mb4.4/33, mb1 4.5/34, mb1mx4.4/57, mbtmp4.4/34, ML3.5/1, MS3.9/26, Ms1 3.9/26, ms1mx3.8/49, Error ellipse: s-maj=18.0km s-min=10.1km az=172.0*

*AEIC **04** 09:56:37±1.7, 53°.36N±0°.08×172°.50E±0°.09, h11km±3km, Error ellipse: s-maj=12.9km s-min=6.3km az=200.0*

*KRSC **04** 09:56:38.7±1.9, 52°.83N×172°.15E, h57km±46km, ML5.1*

*NEIC **04** 09:56:41.2±1.3, 53°.04N±0°.10×172°.29E±0°.08, h25km±5km, mb5.0/372, ML4.7(AEIC), Error ellipse: s-maj=14.3km s-min=6.3km az=191.0*

*MOS **04** 09:56:41.1±0.9, 53°.01N×172°.22E, h44km, mb5.1/67, MS4.1/10, Error ellipse: s-maj=5.6km s-min=4.1km az=33.3*

*GCMT **04** 09:56:42.2±0.2, 53°.16N±0°.01×172°.29E±0°.02, h17km±1km, MW5.0/125, Moment Tensor Solution. s47,c63; s125,c192; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.39±.09; Mθθ-2.14±.10; Mφφ1.74±.08; Mrθ-1.14±.23; Mθφ-2.61±.07; Mφr-0.38±.20; Best double couple: M0:3.42700×10^16 NP1:φs17.00000°, δ76.00000°, λ-9.00000°. NP2:φs109.00000°, δ82.00000°, λ-166.00000°. Principal axes: T 3.0640, Plg4.0000°, Azm243.0000°; N 0.7200, Plg74.0000°, Azm139.0000°; P -3.7900, Plg16.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 09:56:41.1±0.3, 52°.91N±0°.05×172°.29E±0°.03, h28km, n924, σ1§27/973, mb5.0/257, MS4.1/37, 12C-18D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.11**	**98**	P	**Pn**	**09 56 59.8**	**-1.0**
SMY				S	**Sn**	**09 57 15.0**	**-0.1**
SMY	**Shemya**	**1.11**	**98**	*e*P	**Pn**	**09 56 59.7**	**-1.0**
SMY				*e*S	**Sn**	**09 57 14.7**	**-0.4**
SMY	**Shemya**	**1.11**	**98**		**Pn**	**09 56 59.5**	**-1.2**
SMY				Sn	**Sn**	**09 57 14.8**	**-0.2**
LSNW	**Little Sitkin**	**3.92**	**101**		**Pn**	**09 57 40.2**	**+0.8**
LSNW					**Sn**	**09 58 24.8**	**+0.4**
LSSA	**Little Sitkin**	**3.93**	**102**		**Pn**	**09 57 40.5**	**+1.0**
LSPA	**Little Sitkin**	**3.96**	**101**		**Pn**	**09 57 40.5**	**+0.6**
LSPA					**Sn**	**09 58 28.0**	**+2.6**
BKI	**Bering**	**4.38**	**304**	P	**Pn**	**09 57 44.6**	**-1.0**
BKI				S	**Sn**	**09 58 33.7**	**-1.9**
BKI	**Bering**	**4.38**	**304**	*e*P	**Pn**	**09 57 44.7**	**-0.9**
BKI				*e*S	**Sn**	**09 58 33.9**	**-1.7**
CEAP	**Semis' Anvil P**	**4.55**	**99**		**Pn**	**09 57 48.3**	**+0.4**
CESW	**Semis' Southwe**	**4.56**	**100**		**Pn**	**09 57 48.4**	**+0.2**
AMKA	**Amchitka**	**4.58**	**107**	Pn	**Pn**	**09 57 48.5**	**+0.1**
CERAA	**Semis' Rag'd T**	**4.63**	**100**		**Pn**	**09 57 49.6**	**+0.4**
TASE	**Tanaga Southea**	**6.02**	**96**		**Pn**	**09 58 07.8**	**-0.5**
TAFP	**Tanaga Falls P**	**6.04**	**96**		**Pn**	**09 58 07.8**	**-0.6**
**KBTR

DALK	**Dalny**	**8.18**	**276**	*e*P	**Pn**	**09 58 38.4**	**+0.6**
DALK				*e*S	**Sn**	**10 00 03.3**	**-5.8**
OSSR	**Ossora**	**8.19**	**325**	P	**Pn**	**09 58 38.4**	**+0.6**
OSSR	**Ossora**	**8.19**	**325**	*e*P	**Pn**	**09 58 38.1**	**+0.3**
KRX	**Arik**	**8.22**	**279**	P	**Pn**	**09 58 38.4**	**-0.1**
KRX	**Arik**	**8.22**	**279**	*e*P	**Pn**	**09 58 38.8**	**+0.3**
KRX				*e*S	**Sn**	**10 00 05.4**	**-5.0**
KOK	**Koryaka**	**8.23**	**278**	P	**Pn**	**09 58 38.7**	**+0.1**
KOK	**Koryaka**	**8.23**	**278**	*e*P	**Pn**	**09 58 38.7**	**+0.1**
KOK				*e*S	**Sn**	**10 00 09.4**	**-1.2**
PET	**Petropavlovsk**	**8.24**	**276**	*ce*P	**Pn**	**09 58 39.7**	**+1.1**
PET	**Petropavlovsk**	**8.24**	**276**	*e*P	**Pn**	**09 58 39.5**	**+0.9**
PET				*e*S	**Sn**	**10 00 05.8**	**-4.8**
PET	**Petropavlovsk**	**8.24**	**276**		**Pn**	**09 58 38.0**	**-0.6**
KOKL	**Mount Kliuchef**	**8.24**	**89**		**Pn**	**09 58 37.8**	**-1.0**
ATKA	**Atka Island**	**8.27**	**90**	Pn	**Pn**	**09 58 38.2**	**-0.7**
KOFP	**Korovin Flat P**	**8.31**	**89**		**Pn**	**09 58 39.0**	**-0.7**
KOSE	**Korovin Southe**	**8.33**	**88**		**Pn**	**09 58 39.5**	**-0.5**
RUS	**Russkaya**	**8.39**	**272**	P	**Pn**	**09 58 41.0**	**+0.3**
RUS	**Russkaya**	**8.39**	**272**	*e*P	**Pn**	**09 58 41.2**	**+0.5**
RUS				*e*S	**Sn**	**10 00 08.7**	**-5.7**
ESO	**Esso**	**8.48**	**296**	P	**Pn**	**09 58 43.5**	**+1.6**
ESO	**Esso**	**8.48**	**296**	*e*P	**Pn**	**09 58 43.6**	**+1.6**
KRMR	**Karymshinskiy**	**8.57**	**275**	*e*S	**Sn**	**10 00 18.0**	**-0.8**
MTVR	**Mutnovka**	**8.59**	**273**	P	**Pn**	**09 58 44.2**	**+0.7**
MTVR				S	**Sn**	**10 00 15.9**	**-3.5**
MTVR	**Mutnovka**	**8.59**	**273**	*e*P	**Pn**	**09 58 44.1**	**+0.6**
MTVR				*e*S	**Sn**	**10 00 14.5**	**-4.9**
GNL	**Ganaly**	**8.63**	**281**	P	**Pn**	**09 58 46.1**	**+1.9**
GNL	**Ganaly**	**8.63**	**281**	*e*P	**Pn**	**09 58 44.6**	**+0.4**
GNL				*e*S	**Sn**	**10 00 17.3**	**-3.3**
GRL	**Gorelyy**	**8.64**	**273**	P	**Pn**	**09 58 45.6**	**+1.3**
GRL	**Gorelyy**	**8.64**	**273**	*e*P	**Pn**	**09 58 45.7**	**+1.4**
GRL				*e*S	**Sn**	**10 00 18.7**	**-2.0**
KDTR	**Khodutka, Kamc**	**8.77**	**268**	P	**Pn**	**09 58 46.2**	**+0.3**
KDTR				S	**Sn**	**10 00 17.5**	**-6.3**
KDTR	**Khodutka, Kamc**	**8.77**	**268**	*e*P	**Pn**	**09 58 46.2**	**+0.3**
KDTR				*e*S	**Sn**	**10 00 17.2**	**-6.6**
PEA0B	**Petropavlovsk-**	**8.81**	**277**	*de*P	**Pn**	**09 58 48.2**	**+1.8**
PEA0B	**Petropavlovsk-**	**8.81**	**277**	Pn	**Pn**	**09 58 47.3**	**+0.9**
PETK	**Petropavlovsk-**	**8.81**	**277**	Pn	**Pn**	**09 58 46.8**	**+0.4**
	2.6nm,0.3s,baz=78,slow=27,SNR=19						
PETK				Sn	**Sn**	**10 00 23.3**	**-1.3**
	11nm,0.3s,baz=28,slow=23,SNR=10						
PETK				LR	LR	10 02 35.0	
	comp=Z,650nm,18.4s,baz=95,slow=41						
PETK	**Petropavlovsk-**	**8.81**	**277**	Pn	**Pn**	**09 58 46.6**	**+0.2**
APC	**Apacha**	**9.15**	**276**	P	**Pn**	**09 58 53.0**	**+2.0**
APC				S	**Sn**	**10 00 29.7**	**-3.3**
APC	**Apacha**	**9.15**	**276**	*e*P	**Pn**	**09 58 53.1**	**+2.0**
APC				*e*S	**Sn**	**10 00 29.7**	**-3.3**
MIPR	**Malaya Ipel'ka**	**9.48**	**272**	P	**Pn**	**09 58 58.0**	**+2.4**
SKR	**Severo-Kuril's**	**10.27**	**264**	*e*P	**Pn**	**09 59 08.0**	**+1.6**
SKR				*e*S	**Sn**	**10 00 53.4**	**-7.0**
SKR				pmax	pmax		
	comp=Z,48nm,0.7s						
SKR				pmax	pmax		
	comp=Z,200nm,4.3s						
SKR				MLR	MLR		
	comp=Z,400nm,12.0s						
SKR				MLR	MLR		
	comp=Z,500nm,14.0s						
ALID	**Alaid**	**10.55**	**266**	P	**Pn**	**09 59 10.8**	**+0.4**
ALID	**Alaid**	**10.55**	**266**	*e*P	**Pn**	**09 59 11.1**	**+0.7**
ALID				*e*S	**Sn**	**10 01 03.3**	**-4.3**
SPIA	**Saint Paul Isl**	**10.88**	**60**	P	**Pn**	**09 59 14.1**	**-0.6**
	baz=254						
SPIA	**Saint Paul Isl**	**10.88**	**60**		**Pn**	**09 59 11.6**	**-3.2**
NIKH	**Nikolski High**	**11.38**	**82**	P	**Pn**	**09 59 19.9**	**-1.6**
	baz=278,SNR=6.1						
NIKH	**Nikolski High**	**11.38**	**82**	Pn	**Pn**	**09 59 20.7**	**-0.8**
AKUT	**Akutan**	**13.10**	**76**	Pn	**Pn**	**09 59 44.7**	**-0.3**
MA2	**Magadan**	**13.66**	**308**	LR	LR	10 05 26.8	
	comp=Z,364nm,18.6s,baz=110,slow=39						
MA2	**Magadan**	**13.66**	**308**‖	*e*P	**Pn**	**09 59 52.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GAMB	**Gambell**	**13.71**	**31**	P	**Pn**	**09 59 54.0**	**+0.7**
	baz=225						
FALS	**False Pass**	**14.44**	**73**	P	**Pn**	**10 00 00.4**	**-2.9**
	baz=272						
SEY	**Seymchan**	**14.52**	**322**	Pn	**Pn**	**10 00 04.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=118,slow=12,SNR=13						
SEY	**Seymchan**	**14.52**	**322**	*de*P	**Pn**	**10 00 03.7**	**-0.6**
TNA	**Tin City**	**16.12**	**30**	P	**Pn**	**10 00 26.2**	**+0.9**
	baz=228						
TNA	**Tin City**	**16.12**	**30**		**Pn**	**10 00 25.1**	**-0.2**
ANM	**Nome**	**16.34**	**36**	P	**P**	**10 00 29.3**	**-1.6**
ANM				pmax	pmax		
	comp=Z,144nm,1.4s						
ANM	**Nome**	**16.34**	**36**	P	**P**	**10 00 29.3**	**-1.6**
	baz=235,SNR=7.9						
ANM	**Nome**	**16.34**	**36**	P	**P**	**10 00 29.3**	**-1.6**
ANM				IAmb	IAmb	10 00 30.9	
	comp=Z,144nm,1.4s						
CHNA	**Chernabura Isl**	**16.65**	**72**	P	**Pn**	**10 00 30.7**	**-1.5**
	baz=275						
CNBA	**Chernabura Isl**	**16.65**	**72**	Pn	**Pn**	**10 00 32.2**	**+0.1**
CNBA				IAmb	IAmb	10 00 47.9	
	comp=Z,287nm,2.0s						
OKH	**Okha**	**17.54**	**284**	*de*P	**P**	**10 00 50.3**	**+6.1**
OKH				*e*S	**S**	**10 04 01.0**	**-3.8**
OKH				pmax	pmax		
	comp=Z,100nm,15.3s						
OKH				smax	smax		
	comp=N,500nm,24.1s						
OKH				smax	smax		
	comp=E,300nm,18.1s						
OKH				MLR	MLR		
	comp=N,700nm,13.0s						
OKH				MLR	MLR		
	comp=E,800nm,13.0s						
OKH				MLR	MLR		
	comp=Z,400nm,13.0s						
KUR	**Kuril'sk**	**17.69**	**254**⇑	*e*P	**Pn**	**10 00 45.3**	**+0.1**
KUR				pmax	pmax		
	comp=Z,24nm,1.1s						
TYV	**Tymovskoe**	**18.35**	**276**	*e*P	**Pn**	**10 00 56.7**	**+3.4**
TYV				pmax	pmax		
	comp=Z,300nm,3.0s						
TYV				pmax	pmax		
	comp=Z,15nm,1.3s						
N18K	**Kilae Creek**	**18.92**	**53**	P	**Pn**	**10 01 00.1**	**-0.1**
	baz=260,SNR=8.0						
NKL	**Nikolayevsk**	**18.94**	**283**	*e*P	**P**	**10 00 59.0**	**-0.6**
NKL				*e*S	**Sn**	**10 04 29.5**	**-1.9**
NKL				pmax	pmax		
	comp=N,1.0nm,0.5s						
NKL				pmax	pmax		
	comp=Z,44nm,1.4s						
NKL				pmax	pmax		
	comp=E,101nm,0.8s						
NKL				smax	smax		
	comp=E,180nm,1.1s						
NKL				smax	smax		
	comp=N,1.0nm,1.2s						
NKL				MLR	MLR		
	comp=E,2μm,13.0s						
NKL				MLR	MLR		
	comp=N,26nm,11.0s						
NKL				MLR	MLR		
	comp=Z,453nm,14.0s						
O18K	**Koktuh Hills**	**19.14**	**56**	P	**Pn**	**10 01 02.3**	**-0.5**
	baz=263						
SVW2	**Sparrevohn**	**19.15**	**52**	P	**Pn**	**10 01 02.1**	**-0.7**
RDOG	**Red Dog Mine**	**19.26**	**29**	P	**Pn**	**10 01 04.7**	**+0.6**
	baz=230						
RDOG	**Red Dog Mine**	**19.26**	**29**	P	**Pn**	**10 01 04.6**	**+0.4**
UGL	**Uglegorsk**	**19.33**	**271**	P	**Pn**	**10 01 06.4**	**+1.3**
UGL				*e*S	**S**	**10 04 33.6**	**-7.2**
UGL				pmax	pmax		
	comp=Z,17nm,0.5s						
UGL				smax	smax		
	comp=E,900nm,5.5s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,400nm,9.0s						
UGL				MLR	MLR		
	comp=E,300nm,9.0s						
YUK	**Yuzh-Kuril'sk**	**19.55**	**254**	*c i*P	**P**	**10 01 06.0**	**-0.3**
YUK				*e*S	**Sn**	**10 04 47.0**	**+0.8**
O19K	**Port Alsworth**	**19.62**	**55**	P	**Pn**	**10 01 07.9**	**-0.5**
	baz=263						
N19K	**Bonanza Creek**	**19.62**	**53**	P	**Pn**	**10 01 07.9**	**-0.8**
	baz=261,SNR=18						
L19K	**White Mountain**	**19.71**	**49**	P	**Pn**	**10 01 09.1**	**-0.5**
	baz=257,SNR=13						
YSS	**Yuzh-Sakhalins**	**19.84**	**264**	*e*P	**Pn**	**10 01 12.4**	**+1.3**
YSS				*e*S	**S**	**10 04 50.9**	**-0.3**
YSS				pmax	pmax		
	comp=Z,200nm,3.7s						
YSS				pmax	pmax		
	comp=Z,10.0nm,1.8s						
YSS				MLR	MLR		
	comp=N,200nm,13.0s						
YSS				MLR	MLR		
	comp=E,300nm,13.0s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
YSS	**Yuzh-Sakhalins**	**19.84**	**264**	P	**P**	**10 01 08.2**	**-1.2**
M19K	**Big River Lodg**	**19.86**	**50**	P	**P**	**10 01 10.1**	**+0.4**
	baz=258,SNR=18						
OHAK	**Old Harbor**	**20.04**	**64**	P	**P**	**10 01 10.5**	**-1.0**
	baz=272,SNR=6.1						
OHAK	**Old Harbor**	**20.04**	**64**	P	**P**	**10 01 11.1**	**-0.5**
OHAK				IAmb	IAmb	10 01 13.8	
	comp=Z,96nm,0.9s						
P19K	**Oil Pt**	**20.11**	**57**	P	Pn	10 01 13.1	-1.3
	baz=266,SNR=10						
KDAK	**Kodiak Island**	**20.40**	**62**	P	**P**	**10 01 14.1**	**-1.3**
	comp=Z,14nm,0.4s,baz=247,slow=0.5,SNR=35						
KDAK	**Kodiak Island**	**20.40**	**62**	P	**P**	**10 01 14.7**	**-0.8**
	baz=271						
KDAK	**Kodiak Island**	**20.40**	**62**	P	**P**	**10 01 14.8**	**-0.7**
KDAK				IAmb	IAmb	10 01 19.2	
	comp=Z,72nm,1.2s						
RSO	**Redoubt South**	**20.42**	**54**	P	Pn	10 01 17.1	-1.1
M20K	**Styx River**	**20.45**	**50**	P	Pn	10 01 17.0	-1.3
	baz=260						
O20K	**Slope Mountain**	**20.45**	**56**	P	**P**	**10 01 16.7**	**+0.6**
	baz=265,SNR=11						
SPCR	**Spurr Chakacha**	**20.78**	**52**	P	Pn	10 01 20.7	-1.4
	baz=263						
SPU	**Mount Spurr**	**20.85**	**53**	P	Pn	10 01 21.9	-1.0
HOM	**Homer**	**20.92**	**57**	P	**P**	**10 01 20.9**	**-0.1**
	baz=267,SNR=5.9						
HOM	**Homer**	**20.92**	**57**	P	Pn	10 01 22.1	-1.5
PPLA	**Purkeypile**	**21.07**	**48**	P	**P**	**10 01 22.5**	**-0.3**
	baz=258,SNR=21						
PPLA	**Purkeypile**	**21.07**	**48**	P	**P**	**10 01 22.8**	**-0.1**
CNPM	**China Poot**	**21.12**	**57**	P	**P**	**10 01 23.1**	**-0.1**
SKT	**Skwentna**	**21.21**	**50**	P	**P**	**10 01 24.0**	**-0.2**
	baz=261,SNR=20						
SKT	**Skwentna**	**21.21**	**50**	P	**P**	**10 01 24.1**	**-0.1**
SKT				IAmb	IAmb	10 01 36.5	
	comp=Z,69nm,1.2s						
CHUM	**Lake Minchumin**	**21.24**	**45**	P	**P**	**10 01 24.8**	**+0.3**
	baz=256,SNR=14						
BRLK	**Bradley Lake**	**21.30**	**57**	P	**P**	**10 01 24.5**	**-0.8**
BRSE	**Bradley Lake S**	**21.38**	**57**	P	**P**	**10 01 25.2**	**-0.8**
	baz=268						
JKA	**Kamikawa-asahi**	**21.42**	**258**	P	**P**	**10 01 27.6**	**+1.0**
ASAJ	**Asahikawa**	**21.42**	**258**	P	**P**	**10 01 28.8**	**+2.2**
	comp=Z,9.9nm,0.7s,baz=59,slow=5.5,SNR=16						
ASAJ				LR	LR	10 08 34.2	
	comp=Z,261nm,22.0s,baz=93,slow=33						
ASAJ	**Asahikawa**	**21.42**	**258**	P	**P**	**10 01 27.6**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,31nm,1.3s						
SUA	**Susitna One**	**21.51**	**52**	P	**P**	**10 01 27.2**	**-0.3**
	baz=263						
SUA	**Susitna One**	**21.51**	**52**	P	**P**	**10 01 27.7**	**+0.1**
SUA				IAmb	IAmb	10 01 40.9	
	comp=Z,87nm,1.4s						
H21K	**Melozitna Rive**	**21.56**	**40**	P	**P**	**10 01 27.3**	**-0.7**
	baz=251,SNR=34						
I21K	**Tanana**	**21.74**	**42**	P	**P**	**10 01 30.1**	**+0.3**
	baz=253,SNR=7.5						
KTH	**Kantishna Hill**	**21.77**	**46**	P	**P**	**10 01 30.4**	**+0.1**
KTH				IAmb	IAmb	10 01 42.1	
	comp=Z,60nm,1.2s						
CUT	**Chulitna**	**21.86**	**49**	P	**P**	**10 01 30.3**	**-0.8**
	baz=262						
CUT	**Chulitna**	**21.86**	**49**	P	**P**	**10 01 31.5**	**+0.4**
CUT				IAmb	IAmb	10 01 39.8	
	comp=Z,92nm,1.4s						
BPAW	**Bear Paw Mtn.**	**21.86**	**45**	P	**P**	**10 01 30.8**	**-0.4**
	baz=257,SNR=19						
BPAW	**Bear Paw Mtn.**	**21.86**	**45**	P	**P**	**10 01 30.5**	**-0.7**
RC01	**Rabbit Creek A**	**21.96**	**53**	P	**P**	**10 01 31.3**	**-1.0**
	baz=265						
TRF	**Thorofare Moun**	**22.03**	**47**	P	**P**	**10 01 32.3**	**-0.8**
	baz=259,SNR=29						
TRF	**Thorofare Moun**	**22.03**	**47**	P	**P**	**10 01 31.8**	**-1.4**
TRF				IAmb	IAmb	10 01 38.1	
	comp=Z,80nm,1.1s						
SEW	**Seward**	**22.04**	**56**	P	**P**	**10 01 31.6**	**-1.5**
	baz=268						
SEW	**Seward**	**22.04**	**56**	P	**P**	**10 01 31.8**	**-1.3**
SEW				IAmb	IAmb	10 01 51.3	
	comp=Z,58nm,1.2s						
GRNR	**Gornyy**	**22.13**	**279**	*e*P	**P**	**10 01 36.7**	**+2.6**
GRNR				MLR	MLR		
	comp=E,300nm,14.0s						
GRNR				MLR	MLR		
	comp=N,470nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,320nm,14.0s						
MLY	**Manley**	**22.20**	**42**	P	**P**	**10 01 34.4**	**-0.5**
	baz=255,SNR=23						
MLY	**Manley**	**22.20**	**42**	P	**P**	**10 01 34.1**	**-0.8**
PMR	**Palmer**	**22.29**	**52**	P	**P**	**10 01 35.6**	**-0.2**
PMR				pmax	pmax		
	comp=Z,13nm,1.0s						
PMR	**Palmer**	**22.29**	**52**	P	**P**	**10 01 34.2**	**-1.6**
	baz=265						
PMR	**Palmer**	**22.29**	**52**	P	**P**	**10 01 35.6**	**-0.2**
ERM	**Erimo**	**22.35**	**253**⇑	*e*P	**P**	**10 01 38.4**	**+1.8**
ERM				pmax	pmax		
	comp=Z,27nm,1.6s						
GHO	**Glory Hole Cre**	**22.41**	**51**	P	**P**	**10 01 36.9**	**-0.3**
BWN	**Browne**	**22.53**	**45**	P	**P**	**10 01 38.7**	**+0.4**
KNK	**Knik Glacier**	**22.60**	**52**	P	**P**	**10 01 37.9**	**-1.2**
	baz=266						
KNK	**Knik Glacier**	**22.60**	**52**	P	**P**	**10 01 39.2**	**+0.1**
KNK				IAmb	IAmb	10 01 52.4	
	comp=Z,36nm,0.9s						
PWL	**Port Wells**	**22.62**	**54**	P	**P**	**10 01 38.4**	**-1.0**
PWL				IAmb	IAmb	10 01 52.2	
	comp=Z,40nm,0.9s						
RND	**Reindeer**	**22.66**	**47**	P	**P**	**10 01 38.4**	**-1.3**
RND				pmax	pmax		
	comp=Z,33nm,1.0s						
RND	**Reindeer**	**22.66**	**47**	P	**P**	**10 01 38.4**	**-1.3**
MCK	**McKinley**	**22.68**	**46**	P	**P**	**10 01 38.7**	**-1.2**
MCK				pmax	pmax		
	comp=Z,48nm,1.0s						
MCK	**McKinley**	**22.68**	**46**	P	**P**	**10 01 38.8**	**-1.2**
	baz=260,SNR=23						
MCK	**McKinley**	**22.68**	**46**	P	**P**	**10 01 38.7**	**-1.2**
MCK				IAmb	IAmb	10 01 43.8	
	comp=Z,48nm,1.0s						
SML	**Sawmill**	**22.69**	**51**	P	**P**	**10 01 39.5**	**-0.7**
	baz=265,SNR=14						
SML	**Sawmill**	**22.69**	**51**	P	**P**	**10 01 40.1**	**0.0**
SML				IAmb	IAmb	10 01 41.7	
	comp=Z,33nm,0.7s						
WAT1	**Susitna Watana**	**22.70**	**49**	P	**P**	**10 01 38.7**	**-1.5**
	baz=262						
NEA2	**Nenana**	**22.79**	**44**	P	**P**	**10 01 40.5**	**-0.6**
	baz=258,SNR=16						
NEA2	**Nenana**	**22.79**	**44**	P	**P**	**10 01 41.6**	**+0.6**
I23K	**Minto, Yukon-K**	**22.79**	**43**	P	**P**	**10 01 39.9**	**-1.2**
	baz=256,SNR=22						
I23K	**Minto, Yukon-K**	**22.79**	**43**	P	**P**	**10 01 39.9**	**-1.2**
JEW	**Eniwo**	**22.84**	**256**	P	**P**	**10 01 42.8**	**+1.0**
JEW				IAmb	IAmb	10 02 10.5	
	comp=Z,64nm,1.1s						
H23K	**Yukon River**	**22.90**	**41**	P	**P**	**10 01 41.4**	**-0.8**
	baz=254,SNR=9.4						
A21K	**Barrow**	**23.02**	**25**	P	**P**	**10 01 42.6**	**-0.7**
	baz=233						
A21K	**Barrow**	**23.02**	**25**	P	**P**	**10 01 42.9**	**-0.4**
A21K				IAmb	IAmb	10 01 51.1	
	comp=Z,80nm,1.5s						
WAT6	**Susitna Watana**	**23.04**	**49**	P	**P**	**10 01 42.7**	**-1.2**
	baz=264,SNR=14						
COLD	**Coldfoot**	**23.08**	**37**	P	**P**	**10 01 42.7**	**-1.3**
	baz=250,SNR=5.5						
COLD	**Coldfoot**	**23.08**	**37**	P	**P**	**10 01 42.7**	**-1.3**
SCM	**Sheep Creek Mo**	**23.17**	**51**	P	**P**	**10 01 44.0**	**-1.1**
SCM				pmax	pmax		
	comp=Z,52nm,1.1s						
SCM	**Sheep Creek Mo**	**23.17**	**51**	P	**P**	**10 01 44.0**	**-1.1**
SCM				IAmb	IAmb	10 02 35.5	
	comp=Z,52nm,1.1s						
WRH	**Wood River Hil**	**23.18**	**45**	P	**P**	**10 01 44.0**	**-1.1**
WRH				IAmb	IAmb	10 01 49.4	
	comp=Z,97nm,1.7s						
MDM	**Murphy Dome**	**23.22**	**43**	P	**P**	**10 01 44.5**	**-1.0**
GLI	**Glacier Island**	**23.23**	**54**	P	**P**	**10 01 43.7**	**-1.9**
	baz=268						
GLI	**Glacier Island**	**23.23**	**54**	P	**P**	**10 01 43.3**	**-2.3**
GLI				IAmb	IAmb	10 01 45.5	
	comp=Z,56nm,1.4s						
CCB	**Clear Creek Bu**	**23.33**	**44**	P	**P**	**10 01 45.7**	**-0.8**
TCOL	**CIGO, UAF Yank**	**23.35**	**44**	P	**P**	**10 01 46.4**	**-0.3**
	baz=258,SNR=20						
TCOL	**CIGO, UAF Yank**	**23.35**	**44**	P	**P**	**10 01 46.2**	**-0.6**
TCOL				IAmb	IAmb	10 01 55.5	
	comp=Z,54nm,0.8s						
COLA	**College**	**23.36**	**44**	*d i*P	**P**	**10 01 46.7**	**-0.1**
COLA				pmax	pmax		
	comp=Z,27nm,1.0s						
COLA	**College**	**23.36**	**44**	P	**P**	**10 01 45.9**	**-0.9**
	baz=258						
COLA	**College**	**23.36**	**44**	P	**P**	**10 01 46.2**	**-0.6**
COLA				IAmb	IAmb	10 01 55.5	
	comp=Z,53nm,0.8s						
FID	**Port Fidalgo**	**23.53**	**54**	P	**P**	**10 01 46.2**	**-2.3**
H24K	**Noodor Dome**	**23.56**	**41**	P	**P**	**10 01 48.0**	**-0.9**
	baz=256,SNR=18						
POKR	**Poker Plat Res**	**23.58**	**43**	P	**P**	**10 01 48.5**	**-0.6**
	baz=258						
POKR	**Poker Plat Res**	**23.58**	**43**	P	**P**	**10 01 48.9**	**-0.2**
POKR				IAmb	IAmb	10 02 02.8	
	comp=Z,30nm,0.7s						
HDA	**Harding Lake**	**23.65**	**45**	P	**P**	**10 01 48.1**	**-1.6**
	baz=260,SNR=14						
HDA	**Harding Lake**	**23.65**	**45**	P	**P**	**10 01 47.2**	**-2.5**
M24K	**Tolsona, Glenn**	**23.73**	**51**	P	**P**	**10 01 49.7**	**-0.8**
	baz=266,SNR=7.6						
M24K	**Tolsona, Glenn**	**23.73**	**51**	P	**P**	**10 01 50.1**	**-0.4**
IL31		**23.74**	**44**	P	**P**	**10 01 49.4**	**-1.1**
ILAR	**Eielson Array**	**23.74**	**44**	P	**P**	**10 01 49.5**	**-1.1**
	comp=Z,9.3nm,0.8s,baz=250,slow=7.7,SNR=71						
ILAR				LR	LR	10 12 10.9	
	comp=Z,313nm,20.1s,baz=264,slow=40						
ILAR	**Eielson Array**	**23.74**	**44**	P	**P**	**10 01 49.4**	**-1.2**
ILAR	**Eielson Array**	**23.74**	**44**	P	**P**	**10 01 49.4**	**-1.2**
TOLK	**Toolik Lake Re**	**23.81**	**34**	P	**P**	**10 01 50.8**	**-0.4**
	baz=248,SNR=18						
TOLK	**Toolik Lake Re**	**23.81**	**34**	P	**P**	**10 01 51.1**	**-0.1**
KLU	**Klutina**	**23.82**	**52**	P	**P**	**10 01 49.7**	**-1.7**
	baz=268,SNR=13						
KLU	**Klutina**	**23.82**	**52**	P	**P**	**10 01 50.6**	**-0.8**
EYAK	**Cordova Ski Ar**	**23.89**	**55**	P	**P**	**10 01 50.7**	**-1.3**
	baz=270						
EYAK	**Cordova Ski Ar**	**23.89**	**55**	P	**P**	**10 01 51.0**	**-1.0**
PAX	**Paxson**	**24.12**	**49**	P	**P**	**10 01 54.1**	**-0.1**
PAX				pmax	pmax		
	comp=Z,40nm,1.0s						
PAX	**Paxson**	**24.12**	**49**	P	**P**	**10 01 53.0**	**-1.3**
	baz=265,SNR=24						
PAX	**Paxson**	**24.12**	**49**	P	**P**	**10 01 54.1**	**-0.1**
PAX				IAmb	IAmb	10 02 04.2	
	comp=Z,40nm,1.0s						
HARP	**HAARP**	**24.22**	**50**	P	**P**	**10 01 54.8**	**-0.3**
	baz=267						
YAK	**Yakutsk**	**24.23**	**309**	P	**P**	**10 01 53.8**	**-1.3**
	comp=Z,21nm,0.6s,baz=46,slow=1.7,SNR=8.1						
YAK				LR	LR	10 11 17.3	
	comp=Z,454nm,19.2s,baz=95,slow=37						
YAK	**Yakutsk**	**24.23**	**309**	*d i*P	**P**	**10 01 53.6**	**-1.5**
YAK				*e**PP	**pP**	**10 02 03.9**	**+0.7**
YAK				*e*S	**S**	**10 06 09.5**	**-2.1**
YAK				*e**SS	**sS**	**10 06 30.7**	**+6.3**
YAK				*e*SS	**SnSn**	**10 06 56.9**	**+2.2**
YAK				pmax	pmax		
	comp=Z,85nm,1.9s						
YAK				pmax	pmax		
	comp=E,44nm,1.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,2.2s						
YAK				pmax	pmax		
	comp=Z,139nm,2.4s						
YAK				pmax	pmax		
	comp=N,23nm,2.3s						
YAK				pmax	pmax		
	comp=E,35nm,1.2s						
YAK				smax	smax		
	comp=N,273nm,6.2s						
YAK				smax	smax		
	comp=E,375nm,7.8s						
YAK				MLR	MLR		
	comp=Z,550nm,22.0s						
YAK				MLR	MLR		
	comp=N,1μm,22.0s						
YAK				MLR	MLR		
	comp=E,554nm,18.0s						
YAK	**Yakutsk**	**24.23**	**309**	P	**P**	**10 01 54.1**	**-1.0**
YAK				IAmb	IAmb	10 01 55.9	
	comp=Z,50nm,0.7s						
PRP	**Porcupine Dome**	**24.45**	**43**	P	**P**	**10 01 54.9**	**-2.3**
	baz=259,SNR=16						
PRP	**Porcupine Dome**	**24.45**	**43**	P	**P**	**10 01 56.9**	**-0.4**
BMRM	**Bremner River**	**24.45**	**54**	P	**P**	**10 01 56.5**	**-0.7**
	baz=270,SNR=12						
BMRM	**Bremner River**	**24.45**	**54**	P	**P**	**10 01 57.3**	**+0.1**
BMRM				IAmb	IAmb	10 02 11.0	
	comp=Z,70nm,1.1s						
N25K	**Chitina, Valde**	**24.46**	**52**	P	**P**	**10 01 56.6**	**-0.7**
	baz=269,SNR=9.0						
N25K	**Chitina, Valde**	**24.46**	**52**	P	**P**	**10 01 57.1**	**-0.2**
HMT	**Hamilton**	**24.63**	**55**	P	**P**	**10 01 57.7**	**-1.1**
HMT				IAmb	IAmb	10 02 10.7	
	comp=Z,53nm,1.

YAH	**Yahtse**	**25.88**	**55**	P	**P**	**10 02 10.0**	**-0.3**
YAH				IAmb	IAmb	10 02 27.9	
	comp=Z,98nm,1.7s						
BARN	**Barnard Glacie**	**25.88**	**53**	P	**P**	**10 02 09.7**	**-0.6**
BARN				IAmb	IAmb	10 02 26.8	
	comp=Z,60nm,1.2s						
CTG	**Chitna Glacier**	**26.04**	**54**	P	**P**	**10 02 11.2**	**-0.5**
	baz=273						
CTGM	**Chitina Glacie**	**26.04**	**54**	P	**P**	**10 02 11.5**	**-0.3**
CTGM				IAmb	IAmb	10 02 24.6	
	comp=Z,32nm,1.1s						
EGAK	**Eagle**	**26.18**	**45**	P	**P**	**10 02 10.4**	**-2.3**
	baz=265,SNR=27						
EGAK	**Eagle**	**26.18**	**45**	P	**P**	**10 02 10.6**	**-2.2**
EGAK				IAmb	IAmb	10 02 21.2	
	comp=Z,42nm,1.2s						
LOGN	**Logan Glacier**	**26.21**	**54**	P	**P**	**10 02 13.3**	**0.0**
LOGN				IAmb	IAmb	10 02 26.1	
	comp=Z,30nm,1.0s						
ZEA	**Zeya**	**26.58**	**290**	*e*P	**P**	**10 02 16.6**	**+0.1**
ZEA				*e*S	**S**	**10 06 44.2**	**-4.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZEA				smax	smax		
	comp=E,200nm,14.4s						
ZEA				MLR	MLR		
	comp=E,200nm,13.0s						
ZEA				MLR	MLR		
	comp=N,200nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
TIXI	**Tiksi**	**26.61**	**331**	P	**P**	**10 02 15.5**	**-1.0**
	comp=Z,10nm,0.7s,baz=109,slow=11,SNR=24						
TIXI				LR	LR	10 14 09.0	
	comp=Z,323nm,18.8s,baz=144,slow=40						
TIXI	**Tiksi**	**26.61**	**331**	P	**P**	**10 02 15.6**	**-1.0**
PCA	**Pinnacle**	**26.64**	**55**	P	**P**	**10 02 17.1**	**0.0**
PCA				IAmb	IAmb	10 03 00.4	
	comp=Z,25nm,0.7s						
PINM	**Pinnacle**	**26.64**	**55**	P	**P**	**10 02 15.5**	**-1.5**
	baz=276						
DAWY	**Dawson**	**26.90**	**47**	P	**P**	**10 02 19.2**	**-0.2**
DAWY				IAmb	IAmb	10 02 29.8	
	comp=Z,26nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.74**	**268**	LR	LR	10 16 10.8	
	comp=Z,132nm,18.0s,baz=50,slow=42						
HYT	**Haines Junctio**	**27.92**	**54**	P	**P**	**10 02 28.8**	**+0.2**
EPYK	**Eagle Plains**	**28.13**	**42**	P	**P**	**10 02 29.7**	**-0.6**
	baz=267						
EPYK	**Eagle Plains**	**28.13**	**42**	P	**P**	**10 02 30.1**	**-0.2**
MAJO	**Matsushiro**	**28.87**	**249**	⇓*e*P	**P**	**10 02 37.7**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAT	**Matsushiro**	**28.87**	**249**	P	**P**	**10 02 38.1**	**+0.9**
WHY	**Whitehorse**	**29.22**	**54**	P	**P**	**10 02 39.0**	**-1.1**
INK	**Inuvik**	**29.49**	**38**	P	**P**	**10 02 42.2**	**0.0**
	comp=Z,1.5nm,0.3s,baz=237,slow=5.4,SNR=15						
INK	**Inuvik**	**29.49**	**38**	P	**P**	**10 02 41.6**	**-0.6**
INK				pmax	pmax		
	comp=Z,38nm,1.9s						
INK	**Inuvik**	**29.49**	**38**	P	**P**	**10 02 40.9**	**-1.4**
	baz=266						
INK	**Inuvik**	**29.49**	**38**	P	**P**	**10 02 41.6**	**-0.6**
SIT	**Sitka**	**29.72**	**61**	P	**P**	**10 02 43.0**	**-1.5**
	baz=285						
JIS	**Juneau Island**	**29.92**	**58**	P	**P**	**10 02 46.2**	**+0.1**
JHJ	**Hachijo jima 2**	**30.53**	**243**	LR	LR	10 11 50.1	
	comp=Z,159nm,21.6s,baz=78,slow=30						
CRAG	**Craig**	**31.35**	**63**	P	**P**	**10 02 57.3**	**-1.5**
	baz=289						
WRAK	**Wrangell Islan**	**31.48**	**61**	P	**P**	**10 02 58.4**	**-1.6**
	baz=286						
DLBC	**Dease Lake**	**32.11**	**57**	P	**P**	**10 03 07.4**	**+1.8**
	comp=Z,2.1nm,0.8s,baz=311,slow=5.0,SNR=5.7						
DLBC	**Dease Lake**	**32.11**	**57**	P	**P**	**10 03 03.4**	**-2.1**
DLBC				IAmb	IAmb	10 03 17.3	
	comp=Z,34nm,1.7s						
DIB	**Dawson Inlet,**	**32.50**	**67**	P	**P**	**10 03 09.4**	**+0.5**
DIB				IAmb	IAmb	10 04 21.9	
	comp=Z,33nm,1.4s						
BOD	**Bodaibo**	**32.59**	**302**	*e*P	**P**	**10 03 08.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,35nm,1.8s						
C36M	**Paulatuk**	**32.93**	**36**	P	**P**	**10 03 11.8**	**-0.6**
	baz=273						
H11N2	**WAKE ISLAND Hy**	**33.38**	**189**	T	T	10 38 37.8	
	baz=5.6,slow=76,SNR=1945						
H11N3	**WAKE ISLAND Hy**	**33.39**	**189**	T	T	10 38 37.7	
	baz=5.6,slow=76,SNR=2500						
H11N1	**WAKE ISLAND Hy**	**33.39**	**189**	T	T	10 38 37.6	
	baz=5.6,slow=76,SNR=2279						
KSRS	**Korea Array**	**34.27**	**261**	P	**P**	**10 03 26.8**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=48,slow=8.2,SNR=6.2						
KSRS				LR	LR	10 17 31.9	
	comp=Z,84nm,19.3s,baz=57,slow=36						
H11S1	**WAKE ISLAND Hy**	**34.60**	**189**	T	T	10 40 07.6	
	baz=5.6,slow=76,SNR=2086						
H11S3	**WAKE ISLAND Hy**	**34.62**	**189**	T	T	10 40 08.8	
	baz=5.6,slow=76,SNR=2628						
H11S2	**WAKE ISLAND Hy**	**34.62**	**189**	T	T	10 40 09.0	
	baz=5.6,slow=76,SNR=915						
YKA	**Yellowknife Ar**	**38.14**	**46**	P	**P**	**10 03 57.4**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=292,slow=13,SNR=11						
LLLB	**Lillooet**	**39.53**	**66**	P	**P**	**10 04 09.6**	**+0.4**
A04D	**Lummi Island**	**40.03**	**69**	P	**P**	**10 04 14.0**	**+0.8**
	baz=302						
NRIK	**Noril'sk**	**40.22**	**327**	P	**P**	**10 04 14.2**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=64,slow=6.8,SNR=6.7						
NRIK				LR	LR	10 21 46.5	
	comp=Z,249nm,18.4s,baz=71,slow=38						
NRIK	**Noril'sk**	**40.22**	**327**	*ce*P	**P**	**10 04 14.1**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,22nm,1.7s						
NRIK	**Noril'sk**	**40.22**	**327**	P	**P**	**10 04 13.7**	**-0.8**
NRIK				IAmb	IAmb	10 04 16.1	
	comp=Z,40nm,1.8s						
A05A	**Maple Falls**	**40.23**	**68**	P	**P**	**10 04 14.6**	**-0.4**
TLY	**Talaya**	**40.54**	**297**	P	**P**	**10 04 16.8**	**-0.7**
B05A	**Bryant**	**40.61**	**69**	P	**P**	**10 04 18.9**	**+0.8**
	baz=302,SNR=6.0						
ULN	**Ulaanbaatar**	**40.62**	**290**	*de*P	**P**	**10 04 18.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
E03A	**Lebam**	**40.70**	**72**	P	**P**	**10 04 18.5**	**-0.3**
E03A				IAmb	IAmb	10 04 33.0	
	comp=Z,39nm,1.2s						
SONM	**Songino Array**	**41.01**	**290**	P	**P**	**10 04 22.2**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=62,slow=8.4,SNR=10						
SONM				LR	LR	10 22 17.6	
	comp=Z,264nm,19.1s,baz=76,slow=38						
SONM	**Songino Array**	**41.01**	**290**	P	**P**	**10 04 21.1**	**-0.5**
SONM				pmax	pmax		
	comp=Z,18nm,1.7s						
SONM	**Songino Array**	**41.01**	**290**	P	**P**	**10 04 21.1**	**-0.5**
D05A	**Enumclaw**	**41.26**	**71**	P	**P**	**10 04 23.7**	**+0.3**
E04D	**Cinebar**	**41.27**	**72**	P	**P**	**10 04 24.2**	**+0.7**
	baz=304,SNR=5.4						
LON	**Longmire**	**41.60**	**71**	P	**P**	**10 04 25.9**	**-0.4**
LON				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LON	**Longmire**	**41.60**	**71**	P	**P**	**10 04 25.9**	**-0.4**
G03D	**McMinnville, O**	**41.62**	**74**	P	**P**	**10 04 26.9**	**+0.5**
	baz=305						
JOW	**Kunigami**	**41.72**	**249**	LR	LR	10 22 10.2	
	comp=Z,72nm,19.3s,baz=352,slow=37						
I02D	**Swisshome**	**41.92**	**75**	P	**P**	**10 04 29.4**	**+0.6**
	baz=306						
COR	**Corvallis**	**41.96**	**75**	P	**P**	**10 04 30.1**	**+0.9**
COR				pmax	pmax		
	comp=Z,44nm,1.0s						
COR	**Corvallis**	**41.96**	**75**	P	**P**	**10 04 30.1**	**+0.9**
COR				IAmb	IAmb	10 04 31.4	
	comp=Z,44nm,1.0s						
LTY	**Liberty**	**41.97**	**70**	P	**P**	**10 04 29.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**42.00**	**279**	*e*P	**P**	**10 04 29.0**	**-0.8**
HHC				ScS	ScS	10 14 28.9	-1.2
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
HHC				LR	LR		
	comp=Z,540nm,16.2s						
HHC				LR	LR		
	comp=Z,380nm,17.7s						
HHC				LR	LR		
	comp=Z,280nm,22.0s						
B08A	**Colville Reser**	**42.12**	**68**	P	**P**	**10 04 30.9**	**+0.4**
H04D	**Lebanon**	**42.32**	**74**	P	**P**	**10 04 32.9**	**+0.7**
	baz=306						
KEBM	**Edson Butte**	**42.35**	**77**	P	**P**	**10 04 33.7**	**+1.2**
J01E	**Myrtle Point**	**42.42**	**77**	P	**P**	**10 04 33.6**	**+0.7**
	baz=306						
I03D	**Drain, OR**	**42.45**	**76**	P	**P**	**10 04 33.9**	**+0.8**
	baz=306,SNR=7.3						
H04A	**Detroit Lake**	**42.55**	**74**	P	**P**	**10 04 34.6**	**+0.5**
H04A				IAmb	IAmb	10 04 36.2	
	comp=Z,40nm,1.3s						
G05D	**Wamic, OR**	**42.73**	**73**	P	**P**	**10 04 36.1**	**+0.6**
	baz=305						
EDM	**Edmonton**	**42.78**	**58**	P	**P**	**10 04 36.2**	**+0.4**
EDM				pmax	pmax		
	comp=Z,31nm,1.0s						
EDM	**Edmonton**	**42.78**	**58**	P	**P**	**10 04 36.2**	**+0.4**
EDM				IAmb	IAmb	10 04 37.1	
	comp=Z,31nm,1.0s						
KBO	**Bosley Butte**	**42.81**	**78**	P	**P**	**10 04 37.3**	**+1.0**
E07A	**Sunnyside**	**42.82**	**70**	P	**P**	**10 04 36.8**	**+0.6**
K02D	**Willamette Mer**	**42.86**	**77**	P	**P**	**10 04 37.0**	**+0.4**
	baz=307						
I04A	**Tendick Farm,**	**42.94**	**75**	P	**P**	**10 04 37.2**	**0.0**
	baz=306,SNR=8.6						
C09A	**Chrisman Ranch**	**43.02**	**68**	P	**P**	**10 04 37.7**	**-0.1**
C09A				IAmb	IAmb	10 04 38.7	
	comp=Z,55nm,1.6s						
D08A	**Wollman Farm,**	**43.07**	**69**	P	**P**	**10 04 38.4**	**+0.2**
HAWA	**Hanford**	**43.10**	**70**	P	**P**	**10 04 38.8**	**+0.3**
HAWA				IAmb	IAmb	10 04 39.7	
	comp=Z,22nm,0.6s						
F07A	**Phinny Hill Vi**	**43.16**	**71**	P	**P**	**10 04 39.5**	**+0.6**
F07A				IAmb	IAmb	10 04 40.4	
	comp=Z,17nm,0.6s						
I05D	**Terrebonne, OR**	**43.24**	**74**	P	**P**	**10 04 40.1**	**+0.3**
	baz=306,SNR=5.3						
E08A	**Dider Farm, El**	**43.31**	**70**	P	**P**	**10 04 39.9**	**-0.2**
HUMO	**Hull Mountain**	**43.33**	**77**	P	**P**	**10 04 41.3**	**+0.9**
NJ2	**Nanjing**	**43.40**	**263**	*e*P	**P**	**10 04 42.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NEW	**Newport**	**43.40**	**67**	P	**P**	**10 04 41.0**	**+0.1**
	comp=Z,8.3nm,0.7s,baz=294,slow=6.6,SNR=24						
NEW	**Newport**	**43.40**	**67**	P	**P**	**10 04 40.6**	**-0.4**
NEW				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NEW	**Newport**	**43.40**	**67**	P	**P**	**10 04 40.6**	**-0.4**
	baz=304,SNR=15						
NEW	**Newport**	**43.40**	**67**	P	**P**	**10 04 40.6**	**-0.4**
KRMB	**Red Mountain**	**43.42**	**79**	P	**P**	**10 04 42.0**	**+0.7**
KRMB				IAmb	IAmb	10 05 02.0	
	comp=Z,53nm,1.5s						
J04D	**Umpqua Nationa**	**43.45**	**75**	P	**P**	**10 04 42.0**	**+0.5**
	baz=307,SNR=7.1						
PINE	**Pine Mountain**	**43.80**	**74**	P	**P**	**10 04 44.9**	**+0.6**
E09A	**Wood Farm, Sta**	**43.82**	**69**	P	**P**	**10 04 44.1**	**-0.1**
KHMM	**Horse Mountain**	**43.93**	**79**	P	**P**	**10 04 45.5**	**+0.1**
KHMM				IAmb	IAmb	10 04 47.7	
	comp=Z,28nm,1.2s						
J05D	**Fort Rock, OR**	**43.93**	**75**	P	**P**	**10 04 45.8**	**+0.4**
	baz=307,SNR=24						
L04D	**Klamath Falls**	**43.95**	**77**	P	**P**	**10 04 45.7**	**+0.2**
	baz=308,SNR=13						
YBH	**Yreka Blue Hor**	**44.00**	**78**	P	**P**	**10 04 46.4**	**+0.5**
YBH				pmax	pmax		
	comp=Z,19nm,0.9s						
YBH	**Yreka Blue Hor**	**44.00**	**78**	P	**P**	**10 04 46.4**	**+0.5**
YBH				IAmb	IAmb	10 04 48.2	
	comp=Z,19nm,0.8s						
K04D	**Chiloquin, OR**	**44.02**	**76**	P	**P**	**10 04 45.6**	**-0.5**
	baz=307,SNR=5.6						
G08A	**Pilot Rock**	**44.06**	**71**	P	**P**	**10 04 46.6**	**+0.2**
M02C	**Callahan**	**44.13**	**78**	P	**P**	**10 04 47.5**	**+0.6**
	baz=308,SNR=6.5						
I07A	**Izee**	**44.46**	**73**	P	**P**	**10 04 49.9**	**+0.4**
K05A	**Summer Lake**	**44.47**	**75**	P	**P**	**10 04 50.2**	**+0.4**
K05A				IAmb	IAmb	10 04 51.9	
	comp=Z,38nm,1.2s						
N02D	**Trinity Center**	**44.47**	**78**	P	**P**	**10 04 50.6**	**+1.0**
	baz=309,SNR=9.5						
M04C	**Macdoel**	**44.49**	**77**	P	**P**	**10 04 50.4**	**+0.6**
	baz=308,SNR=9.8						
F10A	**Beach Ranch, E**	**44.65**	**69**	P	**P**	**10 04 50.5**	**-0.5**
WALA	**Waterton Lakes**	**44.72**	**64**	P	**P**	**10 04 51.6**	**-0.1**
WALA				IAmb	IAmb	10 04 52.9	
	comp=Z,28nm,0.9s						
WDC	**Whiskeytown Da**	**44.82**	**79**	P	**P**	**10 04 52.9**	**+0.6**
WDC				pmax	pmax		
	comp=Z,17nm,1.2s						
WDC	**Whiskeytown Da**	**44.82**	**79**	P	**P**	**10 04 52.9**	**+0.6**
WDC				IAmb	IAmb	10 04 54.2	
	comp=Z,17nm,1.1s						
O02D	**Mt. Diablo Mer**	**44.92**	**79**	P	**P**	**10 04 54.2**	**+0.9**
	baz=309						
BMO	**Blue Mountains**	**45.27**	**71**	P	**P**	**10 04 56.0**	**+0.1**
BMO				pmax	pmax		
	comp=Z,36nm,1.8s						
BMO	**Blue Mountains**	**45.27**	**71**	P	**P**	**10 04 56.0**	**+0.1**
BMO				IAmb	IAmb	10 04 57.2	
	comp=Z,36nm,1.8s						
JTMT	**Jette**	**45.27**	**66**	P	**P**	**10 04 55.9**	**0.0**
JTMT				IAmb	IAmb	10 04 57.2	
	comp=Z,48nm,1.8s						
MOD	**Modoc Plateau**	**45.32**	**76**	P	**P**	**10 04 57.1**	**+0.6**
MOD				IAmb	IAmb	10 04 58.1	
	comp=Z,36nm,1.2s						
O03E	**Paynes Creek**	**45.44**	**79**	P	**P**	**10 04 57.7**	**+0.4**
	baz=309,SNR=20						
J08A	**Circle Bar Ran**	**45.49**	**73**	P	**P**	**10 04 58.0**	**+0.2**
HOPS	**Hopland Field**	**45.51**	**81**	P	**P**	**10 04 58.2**	**+0.4**
HOPS				IAmb	IAmb	10 04 59.4	
	comp=Z,34nm,1.3s						
PLID	**Pearl Lake**	**45.87**	**70**	P	**P**	**10 05 00.8**	**-0.1**
WVOR	**Wild Horse Val**	**45.96**	**74**	P	**P**	**10 05 01.6**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WVOR	**Wild Horse Val**	**45.96**	**74**	P	**P**	**10 05 01.6**	**+0.1**
MSO	**Missoula**	**45.99**	**66**	P	**P**	**10 05 00.5**	**-1.2**
	baz=306,SNR=13						
MSO	**Missoula**	**45.99**	**66**	P	**P**	**10 05 01.4**	**-0.3**
ORV	**Oroville**	**46.08**	**79**	P	**P**	**10 05 01.7**	**-0.6**
ORV				pmax	pmax		
	comp=Z,11nm,1.1s						
ORV	**Oroville**	**46.08**	**79**	P	**P**	**10 05 01.7**	**-0.6**
BEKR	**Beckworth**	**46.56**	**78**	P	**P**	**10 05 06.3**	**0.0**
BEKR				IAmb	IAmb	10 05 07.6	
	comp=Z,16nm,1.2s						
AFDM	**Forest Hills D**	**46.79**	**79**	P	**P**	**10 05 07.3**	**-0.6**
MFID	**Camas Ranch**	**46.98**	**71**	P	**P**	**10 05 09.3**	**-0.2**
NEEM	**North Greenlan**	**47.15**	**12**	*i* P	**P**	**10 05 09.0**	**-1.6**
HRY	**Holter Researc**	**47.23**	**65**	P	**P**	**10 05 11.1**	**-0.3**
PAHR	**Pah Rah Range**	**47.24**	**78**	P	**P**	**10 05 11.6**	**0.0**
PAHR				IAmb	IAmb	10 05 13.1	
	comp=Z,24nm,1.1s						
VCNR	**Virginia City**	**47.35**	**78**	P	**P**	**10 05 13.0**	**+0.5**
VCNR				IAmb	IAmb	10 05 14.2	
	comp=Z,18nm,1.0s						
LRM	**Limekiln Ridge**	**47.42**	**67**	P	**P**	**10 05 12.6**	**-0.4**
PNTR	**Pine Nut**	**47.51**	**78**	P	**P**	**10 05 14.3**	**+0.5**
EGMT	**Eagleton**	**47.57**	**63**	P	**P**	**10 05 13.5**	**-0.5**
	baz=307,SNR=8.7						
EGMT	**Eagleton**	**47.57**	**63**	P	**P**	**10 05 13.9**	**-0.1**
EGMT				IAmb	IAmb	10 05 23.2	
	comp=Z,20nm,1.4s						
DLMT	**Dillon**	**47.62**	**67**	P	**P**	**10 05 13.6**	**-0.8**
CMB	**Columbia Colle**	**47.73**	**80**	P	**P**	**10 05 15.5**	**+0.2**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CMB	**Columbia Colle**	**47.73**	**80**	P	**P**	**10 05 15.4**	**+0.2**
YERR	**Yerington**	**47.79**	**78**	P	**P**	**10 05 15.8**	**-0.2**
YERR				IAmb	IAmb	10 05 17.5	
	comp=Z,28nm,1.2s						
MCMT	**McKenzie Canyo**	**47.81**	**68**	P	**P**	**10 05 15.4**	**-0.7**
BCYI	**Bear Canyon**	**47.81**	**69**	P	**P**	**10 05 15.8**	**-0.2**
WAKR	**Walker**	**47.99**	**79**	P	**P**	**10 05 17.7**	**+0.2**
WAKR				IAmb	IAmb	10 05 19.3	
	comp=Z,21nm,1.2s						
BOZ	**Bozeman (W)**	**48.02**	**66**	P	**P**	**10 05 17.2**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,56nm,1.8s						
BOZ	**Bozeman (W)**	**48.02**	**66**	P	**P**	**10 05 17.2**	**-0.3**
	baz=308,SNR=29						
BOZ	**Bozeman (W)**	**48.02**	**66**	P	**P**	**10 05 17.2**	**-0.3**
XAN	**Xi'an**	**48.03**	**273**	P	**P**	**10 05 18.4**	**+0.8**
XAN				pP	pP	10 05 22.8	-3.1
XAN				S	**S**	**10 12 16.1**	**+2.2**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
XAN				LR	LR		
	comp=Z,350nm,16.7s						
XAN				LR	LR		
	comp=Z,380nm,15.2s						
XAN				LR	LR		
	comp=Z,460nm,14.9s						
SPITS	**Spitsbergen Ar**	**48.35**	**354**	P	**P**	**10 05 18.4**	**-1.2**
	comp=Z,9.7nm,0.8s,baz=56,slow=9.2,SNR=8.9						
KVN	**Kaiserville**	**48.42**	**77**	P	**P**	**10 05 21.1**	**+0.3**
KVN				pmax	pmax		
	comp=Z,23nm,1.3s						
KVN	**Kaiserville**	**48.42**	**77**	P	**P**	**10 05 21.1**	**+0.3**
KVN				IAmb	IAmb	10 05 22.4	
	comp=Z,23nm,1.3s						
RYN	**Ryan**	**48.45**	**78**	P	**P**	**10 05 20.9**	**-0.1**
RYN				IAmb	IAmb	10 05 22.5	
	comp=Z,18nm,1.1s						
QLMT	**Earthquake Lak**	**48.60**	**67**	P	**P**	**10 05 21.6**	**-0.5**
PMPB	**Monarch Peak**	**48.69**	**82**	P	**P**	**10 05 22.6**	**-0.1**
LHV	**Little Huntoon**	**48.71**	**78**	P	**P**	**10 05 23.4**	**+0.7**
NVAR	**Mina Array Bea**	**48.71**	**78**	P	**P**	**10 05 23.2**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=294,slow=7.9,SNR=45						
NVAR				LR	LR	10 25 27.4	
	comp=Z,79nm,18.0s,baz=298,slow=36						
MDPB	**Devils Postpil**	**48.77**	**79**	P	**P**	**10 05 24.1**	**+0.4**
MDPB				IAmb	IAmb	10 05 25.4	
	comp=Z,16nm,1.0s						
YHB	**Horse Butte**	**48.78**	**67**	P	**P**	**10 05 23.4**	**-0.1**
YHB				IAmb	IAmb	10 05 26.6	
	comp=Z,16nm,0.7s						
NV11	**Mina Array Sit**	**48.80**	**78**	P	**P**	**10 05 23.2**	**-0.4**
NV11				IAmb	IAmb	10 05 25.2	
	comp=Z,15nm,1.2s						
ZALV	**Zalesovo Beam**	**48.88**	**308**	P	**P**	**10 05 22.7**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=6.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**48.88**	**308**	P	**P**	**10 05 22.2**	**-1.7**
ZALV	**Zalesovo Beam**	**48.88**	**308**	P	**P**	**10 05 22.2**	**-1.7**
MLAC	**Mammoth, Mammo**	**48.92**	**79**	P	**P**	**10 05 25.5**	**+0.8**
	baz=312						
YHH	**Holmes Hill**	**48.95**	**67**	P	**P**	**10 05 24.8**	**-0.1**
YHH				IAmb	IAmb	10 05 25.8	
	comp=Z,12nm,1.1s						
YMR	**Madison River**	**48.96**	**67**	P	**P**	**10 05 25.2**	**+0.3**
YMR				IAmb	IAmb	10 05 26.1	
	comp=Z,24nm,1.3s						
ELK	**Elko**	**49.01**	**74**	P	**P**	**10 05 25.7**	**+0.4**
ELK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ELK	**Elko**	**49.01**	**74**	P	**P**	**10 05 25.7**	**+0.4**
YNE	**Yellowstone No**	**49.28**	**66**	P	**P**	**10 05 26.3**	**-1.1**
YPP	**Pitchstone Pla**	**49.30**	**67**	P	**P**	**10 05 27.7**	**+0.1**
LKWY	**Lake**	**49.34**	**67**	P	**P**	**10 05 28.3**	**+0.4**
LKWY				pmax	pmax		
	comp=Z,16nm,1.5s						
LKWY	**Lake**	**49.34**	**67**	P	**P**	**10 05 28.2**	**+0.4**
LKWY				IAmb	IAmb	10 05 30.2	
	comp=Z,16nm,1.4s						
PAGB	**Antelope Grade**	**49.34**	**82**	P	**P**	**10 05 27.2**	**-0.4**
PAGB				IAmb	IAmb	10 05 29.1	
	comp=Z,12nm,1.1s						
H17A	**Grant Village**	**49.35**	**67**	P	**P**	**10 05 28.8**	**+0.8**
	baz=309,SNR=16						
H17A	**Grant Village**	**49.35**	**67**	P	**P**	**10 05 28.9**	**+0.9**
H17A				IAmb	IAmb	10 05 30.4	
	comp=Z,30nm,1.4s						
YMP	**Mirror Lake Pl**	**49.37**	**66**	P	**P**	**10 05 28.0**	**-0.1**
YMP				IAmb	IAmb	10 05 29.5	
	comp=Z,21nm,1.4s						
FLWY	**Flagg Ranch**	**49.48**	**67**	P	**P**	**10 05 28.6**	**-0.3**
RLMT	**Red Lodge**	**49.62**	**66**	P	**P**	**10 05 30.1**	**+0.2**
	baz=309,SNR=13						
RLMT	**Red Lodge**	**49.62**	**66**	P	**P**	**10 05 29.5**	**-0.4**
RLMT				IAmb	IAmb	10 05 31.5	
	comp=Z,23nm,1.3s						
MOOW	**Moose Ponds**	**49.66**	**68**	P	**P**	**10 05 30.5**	**+0.3**
TIN	**Tinemaha, Big**	**49.66**	**79**	P	**P**	**10 05 30.5**	**+0.2**
	baz=312,SNR=10						
LZH	**Lanzhou**	**49.70**	**279**	*e*P	**P**	**10 05 34.7**	**+4.1**
LZH				pP	pP	10 05 37.7	-1.2
LZH				sS	sS	10 12 53.0	+1.7
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,6.5s						
LZH				LR	LR		
	comp=Z,520nm,17.5s						
LZH				LR	LR		
	comp=Z,600nm,17.9s						
LZH				LR	LR		
	comp=Z,300nm,18.4s						
SMMC	**Simmler**	**49.78**	**82**	P	**P**	**10 05 31.2**	**+0.2**
	baz=313						
LOHW	**Long Hollow**	**49.83**	**68**	P	**P**	**10 05 31.4**	**-0.2**
SNOW	**Snow King Moun**	**49.84**	**68**	P	**P**	**10 05 31.5**	**-0.2**
GTA	**Gaotai**	**49.88**	**285**	*e*P	**P**	**10 05 32.8**	**+0.9**
GTA				pP	pP	10 05 40.3	+0.1
GTA				sP	sP	10 05 44.7	+1.1
GTA				S	**S**	**10 12 45.0**	**+5.0**
GTA				sS	sS	10 12 52.2	-1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,95nm,5.8s						
GTA				LR	LR		
	comp=Z,680nm,17.8s						
GTA				LR	LR		
	comp=Z,660nm,18.2s						
GTA				LR	LR		
	comp=Z,380nm,17.4s						
VES	**Vestal, Richgr**	**49.97**

PDAR Pinedale Array 50.95 68 P **P 10 05 39.7 -0.3**
comp=Z,5.2nm,0.5s,baz=316,slow=2.7,SNR=119
PDAR LR LR 10 27 16.6
comp=Z,139nm,19.6s,baz=342,slow=36
PDAR Pinedale Array 50.95 68 P **P 10 05 39.9 -0.2**
OSI Osito Audit: C 51.02 82 P **P 10 05 40.4 0.0**
baz=314
LRMC Laurel Mtn Rad 51.05 81 P **P 10 05 40.2 -0.5**
baz=313,SNR=12
CTU Camp Tracy 51.06 72 P **P 10 05 39.9 -0.9**
PSUT Pine Spring 51.26 75 P **P 10 05 42.0 -0.4**
PSUT IAmb IAmb 10 05 43.7
comp=Z,22nm,1.2s
EDW2 Edwards Air Fo 51.27 81 P **P 10 05 42.1 -0.2**
baz=314
JLU Jordanelle 51.29 71 P **P 10 05 42.5 -0.2**
PRN Pahroc Range 51.31 77 P **P 10 05 42.9 +0.2**
NLU North Lily Min 51.35 72 P **P 10 05 43.1 0.0**
DECC Green Verdugo 51.50 82 P **P 10 05 43.8 -0.2**
baz=314
SHOC Shoshone, Teco 51.60 79 P **P 10 05 44.8 0.0**
baz=313,SNR=14
PASC Pasadena Art C 51.64 82 P **P 10 05 44.8 -0.3**
PASC IAmb IAmb 10 05 46.0
comp=Z,18nm,1.1s
GSC Goldstone, Bar 51.69 80 P **P 10 05 45.8 +0.3**
GSC pmax pmax
comp=Z,23nm,1.1s
GSC Goldstone, Bar 51.69 80 P **P 10 05 45.5 -0.1**
baz=313,SNR=15
GSC Goldstone, Bar 51.69 80 P **P 10 05 45.8 +0.3**
GSC IAmb IAmb 10 05 46.8
comp=Z,23nm,1.1s
SHPR Sheep Range 51.85 78 P **P 10 05 47.0 +0.2**
BFSC Mount Baldy Ra 51.91 82 P **P 10 05 46.9 -0.3**
baz=314
TCRU Three Creeks R 52.03 74 P **P 10 05 49.0 +0.8**
TCRU IAmb IAmb 10 05 50.1
comp=Z,13nm,0.9s
TUQ Turquoise Moun 52.13 79 P **P 10 05 48.8 0.0**
baz=313
CCUT Cedar City 52.21 76 P **P 10 05 49.4 -0.1**
SCI2 San Clemente I 52.25 83 P **P 10 05 49.8 +0.2**
baz=314
MSU Marysvale 52.25 74 P **P 10 05 51.1 +1.3**
MSU Marysvale 52.25 74 P **P 10 05 51.1 +1.3**
TMUT Trail Mountain 52.29 72 P **P 10 05 50.4 +0.2**
HEC Hector,Ludlow 52.30 80 P **P 10 05 50.2 +0.1**
baz=314,SNR=5.8
BBRC Big Bear Solar 52.34 81 P **P 10 05 50.6 +0.1**
baz=314
SZCU Shurtz Canyon 52.34 75 P **P 10 05 50.4 -0.1**
SZCU IAmb IAmb 10 05 51.9
comp=Z,22nm,1.4s
RDMU Red Mountain 52.38 70 P **P 10 05 51.0 +0.3**
P17A Butcher Ranch, 52.44 72 P **P 10 05 51.1 -0.1**
P17A IAmb IAmb 10 05 52.9
comp=Z,9.5nm,0.6s
MTPU Mount Pierson 52.57 74 P **P 10 05 52.7 +0.4**
MTPU IAmb IAmb 10 05 54.4
comp=Z,22nm,1.4s
Q16A Castle Valley 52.57 73 P **P 10 05 52.7 +0.6**
Q16A IAmb IAmb 10 05 53.8
comp=Z,14nm,0.6s
MURC Murrieta 52.63 82 P **P 10 05 52.3 -0.1**
baz=314
LCMT Little Creek M 52.64 76 P **P 10 05 53.3 +0.7**
LCMT IAmb IAmb 10 05 54.6
comp=Z,28nm,1.2s
K22A Casper 52.73 66 P **P 10 05 53.1 -0.1**
baz=311
K22A Casper 52.73 66 P **P 10 05 52.4 -0.8**
GMRC Granite Mounta 52.73 80 P **P 10 05 53.2 -0.1**
baz=314,SNR=10
SRU San Rafael Swe 52.81 72 P **P 10 05 54.1 +0.2**
SRU pmax pmax
comp=Z,29nm,1.0s
SRU San Rafael Swe 52.81 72 P **P 10 05 54.1 +0.2**
SRU IAmb IAmb 10 05 55.6
comp=Z,29nm,1.0s
KNB Kanab 52.88 76 P **P 10 05 55.1 +0.6**
KNB pmax pmax
comp=Z,39nm,1.2s
KNB Kanab 52.88 76 P **P 10 05 55.1 +0.6**
PKCU Pink Cliffs 52.90 75 P **P 10 05 55.2 +0.5**
PKCU IAmb IAmb 10 05 56.8
comp=Z,25nm,1.1s
RWWY Rawlins 52.98 68 P **P 10 05 55.0 -0.2**
RWWY IAmb IAmb 10 05 56.2
comp=Z,19nm,1.4s
SUMG Summit 52.99 11 *i* P **P 10 05 55.0 0.0**
SUMG Summit 52.99 11 P **P 10 05 54.2 -0.8**
SUMG pmax pmax
comp=Z,26nm,1.4s
SUMG Summit 52.99 11 P **P 10 05 54.1 -0.8**
SUMG IAmb IAmb 10 06 04.9
comp=Z,26nm,1.4s
MDND Maddock 53.01 57 P **P 10 05 55.4 +0.3**
baz=311,SNR=11
MDND Maddock 53.01 57 P **P 10 05 54.7 -0.4**
PFO Pinyon Flats O 53.06 81 P **P 10 05 55.4 -0.4**
baz=314
BELC Belle Mtn. Jos 53.07 81 P **P 10 05 55.0 -0.9**
baz=314,SNR=8.3
TPFO Pinon Flats 53.07 81 P **P 10 05 55.7 -0.1**
baz=314
RSSD Black Hills 53.12 63 P **P 10 05 56.3 +0.1**
RSSD pmax pmax
comp=Z,16nm,1.2s
RSSD Black Hills 53.12 63 P **P 10 05 56.1 -0.1**
baz=311
RSSD Black Hills 53.12 63 P **P 10 05 56.2 +0.1**
RSSD IAmb IAmb 10 05 58.0
comp=Z,16nm,1.1s
109C Camp Elliot, M 53.18 82 P **P 10 05 56.1 -0.3**
baz=315
E28A Huff 53.29 59 P **P 10 05 57.4 +0.3**
E28A IAmb IAmb 10 06 07.9
comp=Z,25nm,1.2s
ULM Lac du Bonnet 53.30 53 P **P 10 05 56.3 -0.8**
comp=Z,5.0nm,0.4s,baz=285,slow=5.8,SNR=7.1
ULM LR LR 10 29 29.4
comp=Z,254nm,19.2s,baz=315,slow=37
ULM Lac du Bonnet 53.30 53 P **P 10 05 56.5 -0.6**
CD2 Chengdu 53.33 274 P **P 10 05 57.8 +0.2**
CD2 S **S 10 13 28.3 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,180nm,6.9s
CD2 LR LR
comp=Z,400nm,19.0s
CD2 LR LR
comp=Z,360nm,18.0s
CD2 LR LR
comp=Z,410nm,15.1s
O20A White River Ci 53.43 70 P **P 10 05 57.7 -0.8**
baz=312,SNR=13
O20A White River Ci 53.43 70 P **P 10 05 58.4 -0.1**
IRM Iron Mountain 53.47 80 P **P 10 05 58.5 -0.1**
baz=314,SNR=12
W13A Hualapai Mount 53.57 78 P **P 10 05 59.9 +0.3**
MONP2 Monument Peak 53.59 82 P **P 10 05 59.3 -0.5**
baz=315
U15A North Rim 53.60 76 P **P 10 06 00.3 +0.5**
BC3 Big Chuckawall 53.64 81 P **P 10 05 59.5 -0.4**
baz=314,SNR=6.6
WMQ Urumqi 53.82 297 *e*P **P 10 06 01.5 +0.4**
WMQ pmax pmax
comp=Z,28nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.3s
WMQ LR LR
comp=Z,1μm,16.7s
WMQ LR LR
comp=Z,1μm,19.9s
WMQ LR LR
comp=Z,730nm,19.1s
CBX Cerro Bola 53.85 83 P **P 10 06 01.9 +0.4**
KURK Kurchatov 53.88 308 P **P 10 06 00.1 -1.2**
KURK Kurchatov 53.88 308 P **P 10 06 00.1 -1.2**
IKP In-Ko-Pah, Jac 53.95 82 P **P 10 06 02.0 -0.2**
baz=315
PDMCI Parker Dam,Lak 53.97 79 P **P 10 06 02.5 +0.3**
baz=314
KURBB Kurchatov Arra 53.98 308 P **P 10 06 00.1 -2.0**
comp=Z,10nm,0.7s,baz=49,slow=7.2,SNR=5.8
PV10 Paradox Valley 54.16 72 P **P 10 06 04.0 +0.1**
PV14 Lion Creek, Pa 54.17 72 P **P 10 06 03.7 -0.3**
PV22 Blue Mesa, Par 54.20 72 P **P 10 06 04.0 -0.1**
PV22 IAmb IAmb 10 06 06.6
comp=Z,19nm,1.0s
N23A Red Feather La 54.22 68 P **P 10 06 05.0 +0.7**
baz=312,SNR=11
PV20 West Nyswonger 54.23 72 P **P 10 06 04.2 -0.1**
PV04 Paradox Valley 54.23 72 P **P 10 06 04.2 -0.1**
PV04 IAmb IAmb 10 06 05.7
comp=Z,23nm,1.1s
PV19 Morning Glory 54.24 72 P **P 10 06 03.9 -0.5**
PV17 East Wray Mesa 54.27 72 P **P 10 06 04.8 +0.2**
PV16 Nyswonger Mesa 54.28 72 P **P 10 06 04.8 +0.1**
PV11 David Mesa, Pa 54.31 72 P **P 10 06 05.0 0.0**
PV18 Skein Mesa, Pa 54.33 72 P **P 10 06 04.9 -0.1**
PV05 Paradox Valley 54.33 72 P **P 10 06 05.4 +0.3**
PV12 Saucer Basin, 54.34 72 P **P 10 06 05.0 -0.1**
PV07 Paradox Valley 54.35 72 P **P 10 06 05.6 +0.4**
PV07 IAmb IAmb 10 06 07.4
comp=Z,12nm,0.9s
PV03 Paradox Valley 54.35 72 P **P 10 06 05.3 0.0**
GLA Glamis 54.43 81 P **P 10 06 06.1 +0.4**
GLA pmax pmax
comp=Z,19nm,1.1s
GLA Glamis 54.43 81 P **P 10 06 05.6 -0.1**
baz=315
GLA Glamis 54.43 81 P **P 10 06 06.1 +0.4**
GLA IAmb IAmb 10 06 06.9
comp=Z,19nm,1.1s
PV13 Radium Mtn., P 54.44 72 P **P 10 06 06.1 +0.3**
PV02 Paradox Valley 54.45 72 P **P 10 06 06.4 +0.4**
PV02 IAmb IAmb 10 06 07.5
comp=Z,22nm,0.9s
PV15 Paradox Valley 54.51 72 P **P 10 06 06.1 -0.3**
PV15 IAmb IAmb 10 06 08.3
comp=Z,15nm,0.7s
PV01 Paradox Valley 54.60 72 P **P 10 06 07.0 0.0**
AGMN Agassiz Nation 54.60 55 P **P 10 06 06.3 -0.4**
baz=312,SNR=7.1
AGMN Agassiz Nation 54.60 55 P **P 10 06 06.5 -0.1**
AGMN IAmb IAmb 10 06 07.3
comp=Z,9.8nm,0.8s
MK31 Makanchi Array 54.68 303 P **P 10 06 06.2 -1.1**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 54.68 303 P **P 10 06 06.2 -1.1**
MKAR Makanchi Array 54.68 303 P **P 10 06 05.9 -1.4**
comp=Z,0.8nm,0.4s,baz=44,slow=6.3,SNR=14
MKAR Makanchi Array 54.68 303 P **P 10 06 06.2 -1.1**
WUAZ Wupatki 54.76 76 P **P 10 06 08.2 0.0**
baz=314,SNR=11
WUAZ Wupatki 54.76 76 P **P 10 06 07.5 -0.7**
GYA Guiyang 54.78 268 ||P P 10 06 17.1 +8.7
GYA pmax pmax
comp=Z,7.0nm,1.2s
SMCO Snowmass 54.80 70 P **P 10 06 07.9 -0.8**
MAKZ Makanchi 54.83 303 P **P 10 06 07.8 -0.6**
MAKZ pmax pmax
comp=Z,8.0nm,0.5s
MAKZ Makanchi 54.83 303 P **P 10 06 07.8 -0.6**
MAKZ IAmb IAmb 10 07 46.8
comp=Z,8.4nm,0.5s
Y14A Wickenburg 54.90 79 P **P 10 06 09.0 0.0**
Y14A IAmb IAmb 10 06 10.6
comp=Z,15nm,1.3s
ISCO Idaho Springs 55.15 68 P **P 10 06 11.2 +0.1**
ISCO pmax pmax
comp=Z,16nm,1.2s
ISCO Idaho Springs 55.15 68 P **P 10 06 11.9 +0.8**
baz=313,SNR=15
ISCO Idaho Springs 55.15 68 P **P 10 06 11.2 +0.1**
ISCO IAmb IAmb 10 06 13.3
comp=Z,16nm,1.1s
MVCO Mesa Verde 55.27 73 P **P 10 06 11.1 -0.8**
baz=314,SNR=24
MVCO Mesa Verde 55.27 73 P **P 10 06 11.6 -0.4**
ARCES ARCESS Array B 55.48 346 P **P 10 06 11.3 -1.4**
comp=Z,2.5nm,0.9s,baz=24,slow=6.9,SNR=1.8
ARCES LR LR 10 31 36.0
comp=Z,127nm,19.4s,baz=50,slow=38
ARCES ARCESS Array B 55.48 346 P **P 10 06 11.8 -0.9**
X16A Lo Mia Camp, P 55.49 77 P **P 10 06 14.1 +0.6**
X16A IAmb IAmb 10 06 15.7
comp=Z,12nm,1.0s
B35A Bob, Littlefor 55.61 54 P **P 10 06 13.6 -0.3**
B35A IAmb IAmb 10 06 24.5
comp=Z,21nm,1.5s
SUSD Miller 55.62 60 P **P 10 06 13.5 -0.5**
SUSD IAmb IAmb 10 06 18.7
comp=Z,13nm,1.0s
S22A 4UR Ranch, Cre 55.86 71 P **P 10 06 16.7 +0.4**
baz=314,SNR=42
Q24A Divide 55.98 69 P **P 10 06 17.9 +0.8**
baz=314
W18A Petrified Fore 56.00 75 P **P 10 06 17.9 +0.7**
baz=315,SNR=8.3
W18A Petrified Fore 56.00 75 P **P 10 06 18.0 +0.9**
W18A IAmb IAmb 10 06 19.3
comp=Z,19nm,1.1s
BVAR Borovoye Array 56.04 315 P **P 10 06 15.6 -1.3**
comp=Z,2.9nm,0.7s,baz=208,slow=6.0,SNR=17
BRVK Borovoye 56.06 315 *de*P **P 10 06 16.3 -0.8**
BRVK pmax pmax
comp=Z,24nm,2.5s
BRVK Borovoye 56.06 315 P **P 10 06 16.5 -0.6**
BRVK IAmb IAmb 10 06 17.8
comp=Z,15nm,1.3s
ICESG Greenland Ices 56.07 13 *i* P P 10 06 24.0 +6.7
ICESG IAmb IAmb 10 06 26.4
comp=Z,9.2nm,1.1s
X18A Snowflake 56.29 76 P **P 10 06 20.1 +0.9**
X18A IAmb IAmb 10 06 21.3
comp=Z,17nm,1.1s
OGNE Ogallala 56.35 65 P **P 10 06 20.5 +1.0**
baz=314,SNR=6.7
OGNE Ogallala 56.35 65 P **P 10 06 18.5 -1.0**
214A Organ Pipe Nat 56.41 80 P **P 10 06 20.2 +0.3**
baz=316,SNR=6.8
214A Organ Pipe Nat 56.41 80 P **P 10 06 18.8 -1.1**
214A IAmb IAmb 10 06 21.5
comp=Z,20nm,1.2s
SDCO Great Sand Dun 56.62 70 P **P 10 06 22.7 +1.0**
baz=314,SNR=38
SDCO Great Sand Dun 56.62 70 P **P 10 06 22.4 +0.7**
SDCO IAmb IAmb 10 06 23.8
comp=Z,27nm,1.2s
EYMN Ely 56.98 53 P **P 10 06 23.9 +0.2**
baz=314,SNR=15
EYMN Ely 56.98 53 P **P 10 06 23.1 -0.6**
EYMN IAmb IAmb 10 06 24.6
comp=Z,11nm,0.7s
KNTN Kanton 57.09 161 P **P 10 06 25.6 +0.8**
ECSD EROS Data Cent 57.33 59 P **P 10 06 26.5 +0.2**
baz=314
ECSD EROS Data Cent 57.33 59 P **P 10 06 25.2 -1.1**
KSCO Kaye Shedlock' 57.36 67 P **P 10 06 27.6 +0.9**
baz=314,SNR=12
KSCO Kaye Shedlock' 57.36 67 P **P 10 06 27.0 +0.3**
TUC Tucson 57.36 78 P **P 10 06 26.4 -0.3**
TUC pmax pmax
comp=Z,18nm,1.3s
TUC Tucson 57.36 78 P **P 10 06 27.6 +0.9**
baz=316
TUC Tucson 57.36 78 P **P 10 06 26.4 -0.3**
TUC IAmb IAmb 10 06 28.6
comp=Z,18nm,1.2s
F36A Milaca 57.43 56 P **P 10 06 26.3 -0.6**
T25A Trinidad 57.67 70 P **P 10 06 29.4 +0.4**
baz=315,SNR=18
T25A Trinidad 57.67 70 P **P 10 06 28.4 -0.6**
E38A The Farm, Brul 57.89 54 P **P 10 06 29.2 -0.9**
E38A IAmb IAmb 10 06 30.7
comp=Z,16nm,0.8s
ANMO Albuquerque 58.03 73 *c i* P **P 10 06 32.2 +0.7**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 58.03 73 P **P 10 06 32.3 +0.8**
baz=315
ANMO Albuquerque 58.03 73 P **P 10 06 31.3 -0.3**
BGNE Belgrade 58.14 62 P **P 10 06 31.3 -0.7**
baz=315,SNR=5.0
BGNE Belgrade 58.14 62 P **P 10 06 32.1 +0.1**
PRGR Permogore 58.24 333 *e*P **P 10 06 29.7 -2.6**
PRGR pmax pmax
comp=Z,33nm,0.9s
SPMN Marine on St. 58.24 56 P **P 10 06 32.6 0.0**
baz=315,SNR=7.4
SPMN Marine on St. 58.24 56 P **P 10 06 32.5 -0.1**
SPMN IAmb IAmb 10 06 33.8
comp=Z,15nm,1.1s
ARU Arti 58.25 323 *c i* P **P 10 06 31.8 -0.7**
ARU 10 07 21.3
ARU 10 08 36.0
ARU S **S 10 14 34.4 +2.1**
ARU SS **SS 10 18 22.7 -0.7**
ARU pmax pmax
comp=Z,19nm,1.8s
ARU MLR MLR
comp=Z,259nm,16.0s
ARU Arti 58.25 323 P **P 10 06 31.6 -0.9**
Y22D IRIS PASSCAL I 58.38 74 P **P 10 06 35.1 +1.2**
baz=316
Y22D IRIS PASSCAL I 58.38 74 P **P 10 06 34.4 +0.5**
QIZ Qiongzhong 58.47 260 P **P 10 06 34.9 +0.4**
QIZ S **S 10 14 38.7 +2.6**
QIZ LR LR
comp=Z,64nm,8.2s
QIZ LR LR
comp=Z,220nm,14.6s
QIZ LR LR
comp=Z,140nm,12.4s
BNM Barren Site 58.50 74 P **P 10 06 35.5 +0.7**
L34A Svendsen Farm, 58.69 61 P **P 10 06 34.2 -1.6**
I37A Lemond, Waseca 58.79 57 P **P 10 06 36.5 0.0**
319A Douglas 58.92 78 P **P 10 06 37.8 +0.2**
121A Cookes Peak, D 58.98 76 P **P 10 06 38.8 +0.7**
baz=316
N33A J Bar K, Exete 58.99 62 P **P 10 06 36.8 -1.1**
D41A Chassel 59.01 52 P **P 10 06 37.9 0.0**
CBKS Cedar Bluff 59.10 65 P **P 10 06 37.7 -1.1**
CBKS pmax pmax
comp=Z,14nm,0.9s
CBKS Cedar Bluff 59.10 65 P **P 10 06 38.2 -0.6**
baz=315,SNR=5.9
CBKS Cedar Bluff 59.10 65 P **P 10 06 37.7 -1.1**
CBKS IAmb IAmb 10 06 40.0
comp=Z,14nm,0.9s
COWI Conover 59.42 53 P **P 10 06 39.9 -1.0**
G40A Rib Lake 59.50 54 P **P 10 06 41.1 -0.3**
KIRV Kirov 59.63 329 *de*P **P 10 06 42.4 +0.4**
HSIG 59.63 81 P **P 10 06 42.7 +0.2**
N35A Tabor 59.87 61 P **P 10 06 43.4 -0.5**
R32A Long Quarter, 59.95 65 P **P 10 06 43.8 -0.8**
R32A IAmb IAmb 10 06 45.1
comp=Z,12nm,1.0s
F42A Maple Grove Fa 60.15 53 P **P 10 06 46.0 +0.2**
F42A IAmb IAmb 10 06 47.2
comp=Z,18nm,1.2s
E43A Lone Tree Farm 60.25 52 P **P 10 06 46.4 -0.1**
E43A IAmb IAmb 10 06 47.4
comp=Z,22nm,1.2s
I40A Norwalk 60.28 56 P **P 10 06 46.6 -0.1**
SCIA State Center 60.39 59 P **P 10 06 47.4 -0.1**
baz=316
SCIA State Center 60.39 59 P **P 10 06 47.3 -0.2**
KLMR Klimovskoe 60.50 336 *e*P **P 10 06 45.4 -2.4**
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 60.50 336 *e*P **P 10 06 45.5 -2.4**
KLMR AMP 10 06 57.8
comp=Z,29nm,1.3s
KLMR LQ LQ 10 27 57.7
KLMR LQ LQ 10 27 57.7
KLMR LR LR 10 32 51.2
KDJ Kajisay 60.55 302 P **P 10 06 48.6 -0.3**
KDJ pmax pmax
comp=Z,6.0nm,0.8s
KDJ Kajisay 60.55 302 P **P 10 06 48.5 -0.3**
AMTX Amarillo 60.82 70 P **P 10 06 50.9 +0.2**
baz=316
AMTX Amarillo 60.82 70 P **P 10 06 50.6 0.0**
AMTX IAmb IAmb 10 06 52.3
comp=Z,10nm,0.9s
MSTX Muleshoe 60.86 71 P **P 10 06 51.2 +0.2**
baz=316,SNR=9.3
MSTX Muleshoe 60.86 71 P **P 10 06 51.0 +0.1**
BOOM Boomskoye usch 60.93 303 P **P 10 06 51.0 -0.4**
BOOM pmax pmax
comp=Z,24nm,1.7s
BOOM Boomskoye usch 60.93 303 P **P 10 06 51.0 -0.4**
BOOM IAmb IAmb 10 07 05.6
comp=Z,24nm,1.6s
MNTX Cornudas Mount 60.99 75 P **P 10 06 52.6 +0.8**
baz=317,SNR=24
MNTX Cornudas Mount 60.99 75 P **P 10 06 52.5 +0.8**
MNTX IAmb IAmb 10 06 53.8
comp=Z,17nm,0.9s
I42A Draeger Farm, 61.13 55 P **P 10 06 51.5 -1.1**
I42A IAmb IAmb 10 06 53.2
comp=Z,17nm,1.2s
JFWS Jewell Farm 61.18 56 P **P 10 06 51.8 -1.1**
JFWS pmax pmax
comp=Z,9.0nm,0.6s
JFWS Jewell Farm 61.18 56 P **P 10 06 51.8 -1.1**
baz=317,SNR=7.0
JFWS Jewell Farm 61.18 56 P **P 10 06 51.8 -1.1**
JFWS IAmb IAmb 10 06 53.0
comp=Z,9.0nm,0.6s
N38A Joes South For 61.18 60 P **P 10 06 51.7 -1.2**
N38A IAmb IAmb 10 06 53.9
comp=Z,14nm,1.0s
L40A Anamosa 61.30 58 P **P 10 06 52.9 -0.8**
L40A IAmb IAmb 10 06 54.0
comp=Z,11nm,0.9s
KAN05 Bluff City Nor 61.35 66 P **P 10 06 53.9 -0.2**
KAN05 IAmb IAmb 10 06 55.0
comp=Z,16nm,1.0s
KS20 Mayfield South 61.44 65 P **P 10 06 54.1 -0.6**
KAN17 Caldwell West 61.46 66 P **P 10 06 54.1 -0.8**
KAN17 IAmb IAmb 10 06 55.1
comp=Z,16nm,0.9s
AAK Ala-Archa 61.55 304 ||*e*P **P 10 06 55.8 +0.2**
AAK pmax pmax
comp=Z,36nm,1.7s
AAK Ala-Archa 61.55 304 P **P 10 06 55.6 0.0**
KAN13 South Haven SW 61.64 65 P **P 10 06 55.3 -0.8**
KAN13 IAmb IAmb 10 07 11.9
comp=Z,14nm,1.0s
CROK Carrier 61.73 66 P **P 10 06 56.2 -0.5**
P38A Dawn 61.88 61 P **P 10 06 56.8 -0.8**
P38A IAmb IAmb 10 06 57.8
comp=Z,17nm,1.2s
MATQ Matagami 61.91 44 P **P 10 06 56.1 -1.5**
baz=320
SCHQ Schefferville 62.02 34 P **P 10 06 58.2 -0.2**
comp=Z,7.0nm,0.9s,baz=324,slow=9.9,SNR=5.6
SCHQ Schefferville 62.02 34 P **P 10 06 57.6 -0.8**
SCHQ IAmb IAmb 10 07 06.7
comp=Z,13nm,0.8s
N41A Harden Midland 62.48 58 P **P 10 07 00.2 -1.4**
GLMI Grayling 62.52 51 P **P 10 07 02.1 +0.2**
baz=318
GLMI Grayling 62.52 51 P **P 10 07 01.1 -0.8**
WMOK Wichita Mounta 62.57 68 P **P 10 07 02.4 +0.1**
WMOK pmax pmax
comp=Z,10.0nm,1.0s
WMOK Wichita Mounta 62.57 68 P **P 10 07 02.6 +0.2**
baz=317,SNR=13
WMOK Wichita Mounta 62.57 68 P **P 10 07 02.4 +0.1**
WMOK IAmb IAmb 10 07 03.7
comp=Z,9.8nm,0.9s
LSQQ Lebel-sur-Quev 62.72 44 P **P 10 07 01.7 -1.4**
baz=320
P40A Paris 62.73 60 P **P 10 07 02.9 -0.3**
OK031 S. Brethren Rd 62.76 66 P **P 10 07 01.9 -1.7**
OK031 IAmb IAmb 10 07 04.2
comp=Z,28nm,1.5s
FINES FINESS Array B 62.88 343 P **P 10 07 02.6 -1.3**
comp=Z,3.1nm,0.8s,baz=10,slow=12,SNR=8.4
FINES LR LR 10 38 39.9
comp=Z,84nm,18.3s,baz=64,slow=40
AKTO Aktyubinsk 63.10 319 P **P 10 07 05.2 -0.3**
comp=Z,4.7nm,0.8s,baz=58,slow=8.5,SNR=13
CHGQ Chibougamau 63.13 42 P **P 10 07 04.5 -1.4**
baz=322
KK31 Karatay Array 63.18 307 P **P 10 07 05.7 -0.6**
KK31 pmax pmax
comp=Z,20nm,1.4s

KK31	Karatay Array	63.18	307	P	P	10 07 05.7	-0.6
KK31				IAmb	IAmb	10 07 07.1	
	comp=Z,20nm,1.4s						
KKAR	Karatay Array	63.18	307	P	P	10 07 05.9	-0.4
KKAR				pmax	pmax		
	comp=Z,20nm,1.4s						
KKAR	Karatay Array	63.18	307	P	P	10 07 05.9	-0.4
KKAR				IAmb	IAmb	10 07 07.1	
	comp=Z,20nm,1.4s						
KKAR	Karatay Array	63.18	307	P	P	10 07 06.2	-0.1
ABKAR	Akbulak array	63.24	317	P	P	10 07 06.0	-0.5
ABKAR				IAmb	IAmb	10 07 07.5	
	comp=Z,21nm,1.7s						
TUL1	Leonard	63.37	65	P	P	10 07 07.1	-0.5
	baz=318						
HDIL	Hopedale	63.40	57	P	P	10 07 07.1	-0.6
	baz=318						
HDIL	Hopedale	63.40	57	P	P	10 07 07.1	-0.6
M44A	Midewin, Midew	63.41	56	P	P	10 07 07.2	-0.6
M44A				IAmb	IAmb	10 07 08.4	
	comp=Z,25nm,1.4s						
R40A	Maddies Statio	63.52	61	P	P	10 07 07.3	-1.3
R40A				IAmb	IAmb	10 07 08.3	
	comp=Z,9.9nm,0.6s						
ABTX	Abilene, Hawle	63.63	70	P	P	10 07 09.6	+0.2
	baz=318,SNR=6.9						
ABTX	Abilene, Hawle	63.63	70	P	P	10 07 09.4	0.0
ABTX				IAmb	IAmb	10 07 11.7	
	comp=Z,17nm,0.9s						
TX31	Lajitas Ar. Si	63.72	76	P	P	10 07 10.4	+0.2
TX32	Lajitas Array	63.72	76	P	P	10 07 10.4	+0.3
TXAR	Lajitas Array	63.72	76	P	P	10 07 10.6	+0.4
	comp=Z,4.2nm,0.4s,baz=306,slow=5.4,SNR=126						
TXAR				LR	LR	10 32 48.3	
	comp=Z,116nm,20.6s,baz=0.0,slow=34						
TXAR	Lajitas Array	63.72	76	P	P	10 07 10.3	+0.1
TXAR	Lajitas Array	63.72	76	P	P	10 07 10.3	+0.1
U38A	Gravette	63.75	64	P	P	10 07 09.2	-0.9
U38A				IAmb	IAmb	10 07 25.4	
	comp=Z,16nm,1.6s						
LOOK	Love County	64.01	68	P	P	10 07 11.9	+0.1
HHAR	Hobbs	64.11	64	P	P	10 07 11.2	-1.3
O44A	Mansfield	64.12	57	P	P	10 07 11.6	-0.9
CCM	Cathedral Cave	64.24	61	P	P	10 07 12.4	-0.9
	baz=318						
HPIG		64.32	79	P	P	10 07 14.1	-0.1
HPIG				IAmb	IAmb	10 07 15.8	
	comp=Z,10.0nm,1.1s						
MGMO	Mountain Grove	64.36	62	P	P	10 07 12.6	-1.6
SHL	Shillong	64.36	279	P	P	10 07 14.4	-0.1
SHL				pmax	pmax		
	comp=Z,35nm,1.6s						
SHL	Shillong	64.36	279	P	P	10 07 14.4	-0.1
Z35A	Perchaven, San	64.46	68	P	P	10 07 14.6	-0.2
Z35A				IAmb	IAmb	10 07 31.1	
	comp=Z,12nm,0.9s						
SFIN	Lafayette	64.64	56	P	P	10 07 14.9	-1.0
	baz=319,SNR=5.5						
SFIN	Lafayette	64.64	56	P	P	10 07 15.5	-0.3
SFIN				IAmb	IAmb	10 07 16.5	
	comp=Z,13nm,1.1s						
U40A	Yellville	64.64	63	P	P	10 07 14.1	-1.9
	baz=318,SNR=6.1						
U40A	Yellville	64.64	63	P	P	10 07 14.7	-1.3
Q44A	Meyer Farm, Va	64.77	59	P	P	10 07 16.5	-0.2
AAM	Ann Arbor	64.88	53	P	P	10 07 17.2	-0.2
AAM				pmax	pmax		
	comp=Z,28nm,1.5s						
AAM	Ann Arbor	64.88	53	P	P	10 07 16.8	-0.6
	baz=320						
AAM	Ann Arbor	64.88	53	P	P	10 07 17.2	-0.2
N47A	Urbana	64.96	55	P	P	10 07 16.5	-1.5
N47A				IAmb	IAmb	10 07 53.1	
	comp=Z,15nm,1.2s						
W39A	Magazine	65.00	64	P	P	10 07 17.7	-0.6
	baz=318						
W39A	Magazine	65.00	64	P	P	10 07 17.8	-0.6
W39A				IAmb	IAmb	10 07 34.2	
	comp=Z,17nm,1.4s						
SADO	Sadowa	65.09	48	P	P	10 07 17.7	-1.1
SADO				IAmb	IAmb	10 07 35.8	
	comp=Z,35nm,1.9s						
JCT	Junction City	65.12	72	P	P	10 07 18.8	-0.4
JCT				pmax	pmax		
	comp=Z,41nm,1.5s						
JCT	Junction City	65.12	72	P	P	10 07 18.9	-0.3
	baz=318,SNR=11						
JCT	Junction City	65.12	72	P	P	10 07 18.8	-0.4
NC405	NORSAR Array S	65.28	350	P	P	10 07 17.7	-2.0
BTK	Batken	65.32	304	P	P	10 07 19.7	-0.7
BTK				pmax	pmax		
	comp=Z,11nm,0.9s						
BTK	Batken	65.32	304	P	P	10 07 19.7	-0.7
BTK				IAmb	IAmb	10 07 35.7	
	comp=Z,11nm,0.9s						
WHTX	Lake Whitney,	65.34	69	P	P	10 07 19.8	-0.8
	baz=318						
FCAR	Ozark Folk Cen	65.38	63	P	P	10 07 19.6	-1.2
FCAR				IAmb	IAmb	10 07 20.6	
	comp=Z,12nm,0.8s						
NB201	NORSAR Array S	65.39	350	P	P	10 07 19.5	-0.9
NB2	NORSAR Subarra	65.40	350	P	P	10 07 19.5	-1.1
	comp=Z,3.2nm,0.8s,baz=12,slow=6.5						
NOA	NORSAR Array B	65.40	350	P	P	10 07 19.1	-1.4
	comp=Z,2.2nm,0.7s,baz=13,slow=6.5,SNR=8.9						
NOA				LR	LR	10 37 32.0	
	comp=Z,26nm,19.3s,baz=355,slow=38						
CMAR	Chiang Mai Arr	65.47	268	P	P	10 07 22.8	+1.2
	comp=Z,0.6nm,0.4s,baz=27,slow=6.2,SNR=1.8						
CMAR				LR	LR	10 40 18.8	
	comp=Z,89nm,18.3s,baz=59,slow=40						
S44A	Carbondale	65.55	60	P	P	10 07 21.0	-0.8
MIAR	Mount Ida	65.60	65	P	P	10 07 22.1	-0.1
MIAR				pmax	pmax		
	comp=Z,18nm,1.4s						
MIAR	Mount Ida	65.60	65	P	P	10 07 21.8	-0.3
	baz=319,SNR=5.3						
MIAR	Mount Ida	65.60	65	P	P	10 07 22.1	-0.1
MIAR				IAmb	IAmb	10 07 23.1	
	comp=Z,18nm,1.4s						
PBMO	Poplar Bluff	65.62	61	P	P	10 07 21.6	-0.7
LATQ	La Tuque	65.78	43	P	P	10 07 22.5	-0.6
	baz=323						
BLO	Bloomington	65.84	57	P	P	10 07 22.8	-0.9
BLO				pmax	pmax		
	comp=Z,14nm,1.2s						
BLO	Bloomington	65.84	57	P	P	10 07 22.8	-0.9
BLO				IAmb	IAmb	10 07 24.7	
	comp=Z,14nm,1.2s						
W41B	Gary Mavity, V	65.85	63	P	P	10 07 22.9	-0.9
	baz=319						
D58A	Chemin du LacG	65.97	43	P	P	10 07 23.6	-0.8
	baz=323						
X40A	Basin Creek Fa	66.05	64	P	P	10 07 25.0	-0.1
	baz=319						
435B	Jarrell	66.17	70	P	P	10 07 26.2	+0.3
	baz=319						
435B	Jarrell	66.17	70	P	P	10 07 25.8	-0.1
435B				IAmb	IAmb	10 07 42.9	
	comp=Z,9.5nm,0.8s						
HICK	Hickman	66.44	60	P	P	10 07 27.0	-0.5
P49A	Miami Univ. Ec	66.47	55	P	P	10 07 27.1	-0.7
	baz=320						
WCI	Wyandotte Cave	66.67	57	P	P	10 07 28.2	-0.8
WCI				pmax	pmax		
	comp=Z,16nm,1.1s						
WCI	Wyandotte Cave	66.67	57	P	P	10 07 28.7	-0.4
	baz=320						
WCI	Wyandotte Cave	66.67	57	P	P	10 07 28.2	-0.8
WCI				IAmb	IAmb	10 07 29.8	
	comp=Z,16nm,1.1s						
D60A	Saint Jean D'O	66.91	42	P	P	10 07 30.9	+0.5
	baz=324						
833A	Chaparral WMA,	66.97	73	P	P	10 07 30.3	-0.7
	baz=319						
M53A	WI Miller and	66.97	51	P	P	10 07 30.4	-0.5
	baz=321,SNR=7.4						
M53A	WI Miller and	66.97	51	P	P	10 07 30.5	-0.5
H57A	Richville	67.00	46	P	P	10 07 29.5	-1.5
	baz=323						
F59A	Saint Guilaume	67.00	44	P	P	10 07 30.0	-1.0
	baz=324						
G58A	Ormstown	67.03	45	P	P	10 07 30.6	-0.6
	baz=323						
ALLY	Alegheny Colle	67.06	51	P	P	10 07 31.1	-0.3
E60A	Ste Agathe de	67.14	42	P	P	10 07 30.6	-1.2
	baz=324						
T47A	Sharon Grove	67.20	59	P	P	10 07 32.2	-0.3
LONY	Lake Ozonia	67.22	45	P	P	10 07 30.8	-1.7
	baz=323						
M54A	Oil Creek Stat	67.39	51	P	P	10 07 33.2	-0.4
	baz=322						
M54A	Oil Creek Stat	67.39	51	P	P	10 07 32.9	-0.7
O52A	Adamsville	67.44	53	P	P	10 07 33.0	-0.8
WVT	Waverly	67.48	60	P	P	10 07 33.9	-0.3
WVT				pmax	pmax		
	comp=Z,16nm,1.4s						
WVT	Waverly	67.48	60	P	P	10 07 33.6	-0.6
	baz=320						
WVT	Waverly	67.48	60	P	P	10 07 33.9	-0.3
WVT				IAmb	IAmb	10 07 35.1	
	comp=Z,16nm,1.4s						
W45A	Hickory Valley	67.51	61	P	P	10 07 34.2	-0.1
K56A	Middlesex	67.53	48	P	P	10 07 33.8	-0.7
	baz=322						
H58A	Gabriels	67.56	45	P	P	10 07 33.3	-1.3
	baz=323						
O53A	New Philadelph	67.64	53	P	P	10 07 34.5	-0.6
	baz=321						
F61A	St Evariste	67.64	42	P	P	10 07 34.6	-0.4
	baz=324						
MOQ	Mont Orford	67.66	44	P	P	10 07 34.5	-0.8
N54A	Moraine State	67.67	51	P	P	10 07 34.8	-0.5
	baz=322,SNR=5.4						
N54A	Moraine State	67.67	51	P	P	10 07 35.0	-0.3
E62A	Clayton Lake	67.71	41	P	P	10 07 35.1	-0.4
	baz=325						
M55A	Ridgway	67.84	50	P	P	10 07 36.2	-0.2
LPSR	Galich'ya Gora	67.86	331	*e*P	P	10 07 35.2	-1.1
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
L56A	Greenwood	67.87	49	P	P	10 07 35.6	-1.0
L56A				IAmb	IAmb	10 07 46.7	
	comp=Z,15nm,1.1s						
J58A	Remsen	67.92	47	P	P	10 07 35.8	-1.1
	baz=323						
H60A	Morristown	68.08	44	P	P	10 07 36.8	-1.1
	baz=324						
F62A	Pittston Farm,	68.12	42	P	P	10 07 37.2	-0.9
	baz=325						
PLAL	Pickwick Lake	68.23	61	P	P	10 07 38.1	-0.8
PLAL				IAmb	IAmb	10 07 39.2	
	comp=Z,19nm,1.4s						
VRH	Novokhopyorsk	68.24	329	*e*P	P	10 07 36.1	-2.6
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
U49A	Red Boiling Sp	68.25	58	P	P	10 07 38.1	-1.0
U49A				IAmb	IAmb	10 07 39.3	
	comp=Z,13nm,1.3s						
CLTN	Cedars of Leba	68.29	59	P	P	10 07 39.1	-0.1
CLTN				IAmb	IAmb	10 07 40.4	
	comp=Z,16nm,1.0s						
V48A	Smith Brothers	68.31	59	P	P	10 07 38.7	-0.7
V48A				IAmb	IAmb	10 07 40.0	
	comp=Z,15nm,1.2s						
T50A	Nancy	68.34	57	P	P	10 07 39.3	-0.3
T50A				IAmb	IAmb	10 07 40.5	
	comp=Z,16nm,1.2s						
H61A	Lyndonville	68.42	44	P	P	10 07 39.2	-0.8
	baz=324						
G62A	West of Eustis	68.45	43	P	P	10 07 39.5	-0.7
	baz=325						
BINY	Binghamton	68.53	48	P	P	10 07 39.6	-1.1
	baz=323						
E64A	Bridgewater	68.54	40	P	P	10 07 39.9	-0.8
	baz=326						
F63A	Nahmakanta, Br	68.63	41	P	P	10 07 40.2	-1.1
	baz=325						
LBNH	Lisbon	68.66	44	P	P	10 07 40.0	-1.5
	baz=324						
H62A	Milan	68.71	43	P	P	10 07 41.0	-0.8
	baz=325						
H62A	Milan	68.71	43	P	P	10 07 41.0	-0.8
H62A				IAmb	IAmb	10 07 51.6	
	comp=Z,17nm,1.1s						
L58A	Harry Jones Me	68.72	48	P	P	10 07 40.4	-1.5
	baz=323						
MCWV	Mont Chateau	68.75	52	P	P	10 07 41.5	-0.6
	baz=322						
F64A	Sherman	68.80	41	P	P	10 07 40.9	-1.4
	baz=326						
J60A	Lant Hill Farm	68.83	46	P	P	10 07 41.5	-1.0
	baz=324						
PABE	Paberze	68.83	341	P	P	10 07 41.9	-0.4
O56A	Blue Knob Stat	68.88	51	P	P	10 07 42.3	-0.6
	baz=322						
G63A	Kingsbury	68.90	42	P	P	10 07 42.2	-0.8
	baz=325						
SSPA	Standing Stone	68.91	50	P	P	10 07 42.4	-0.7
	baz=322						
SSPA	Standing Stone	68.91	50	P	P	10 07 42.2	-0.8
SSPA				IAmb	IAmb	10 07 43.2	
	comp=Z,14nm,1.1s						
PKME	Peaks-Kenny Pk	68.91	42	P	P	10 07 42.2	-0.8
	baz=325						
NIL	Nilore	68.93	298	P	P	10 07 43.8	+0.4
NIL				pmax	pmax		
	comp=Z,54nm,1.6s						
NIL	Nilore	68.93	298	P	P	10 07 43.8	+0.4
MNK	Minsk	68.96	339	*i* P	P	10 07 42.9	-0.2
MNK				*i*		10 10 14.6	
MNK				*i* PPP	PPP	10 11 54.1	
MNK				*i* S	S	10 16 46.2	+0.7
MNK				*i*		10 17 43.1	
MNK				*i* SS	SS	10 21 13.3	+3.3
MNK				pmax	pmax		
	comp=N,9.0nm,1.0s						
MNK				pmax	pmax		
	comp=E,1.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,11nm,1.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,20.0s						
MNK				MLR	MLR		
	comp=N,83nm,20.0s						
MNK				MLR	MLR		
	comp=Z,138nm,20.0s						
MNK	Minsk	68.96	339	*i* P	P	10 07 43.0	-0.2
	comp=E,1.0nm,1.0s						
MNK				*i* P	P	10 07 43.0	-0.2
	comp=N,9.0nm,1.0s						
MNK				*i* P	P	10 07 43.0	-0.2
	comp=Z,11nm,1.0s,baz=202						
MNK				*i* PP	PP	10 10 14.7	-0.2
MNK				*i* PPP	PPP	10 11 54.2	
MNK				*i* S	S	10 16 46.2	+0.8
MNK				*i* ScS	ScS	10 17 43.1	+1.9
MNK				*i* SS	SS	10 21 13.4	+3.4
MNK				*i* SSS	SSS	10 24 30.0	
MNK				*i* LQ	LQ	10 32 14.2	
MNK				*i* LR	LR	10 34 45.0	
MNK				*i* LRM	MLR	10 42 44.8	
	comp=E,7.0nm,19.8s						
MNK				*i* LRM	MLR	10 42 48.9	
	comp=N,83nm,19.8s						
MNK				*i* LRM	MLR	10 43 00.4	
	comp=Z,138nm,19.8s						
VSR	Storozhevoye	69.01	331	*e*P	P	10 07 41.1	-2.4
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
J61A	Chester	69.12	45	P	P	10 07 43.2	-1.1
	baz=324						
SWET	Sewanee	69.17	59	P	P	10 07 44.0	-0.9
SWET				IAmb	IAmb	10 07 45.0	
	comp=Z,22nm,1.4s						
X48A	Hartselle	69.18	60	P	P	10 07 43.5	-1.4
X48A				IAmb	IAmb	10 07 47.0	
	comp=Z,26nm,1.8s						
ZAIG	Zacatecas	69.30	79	P	P	10 07 46.2	+0.1
ZAIG				IAmb	IAmb	10 07 48.0	
	comp=Z,15nm,1.4s						
TZTN	Tazewell	69.36	57	P	P	10 07 45.3	-0.7
	baz=321						
146A	Union	69.50	63	P	P	10 07 47.0	+0.1
146A				IAmb	IAmb	10 07 48.1	
	comp=Z,9.4nm,1.0s						
W50A	Signal Mountai	69.50	59	P	P	10 07 46.3	-0.6
W50A				IAmb	IAmb	10 08 03.0	
	comp=Z,7.4nm,0.7s						
J62A	Henniker	69.53	45	P	P	10 07 46.3	-0.6
	baz=325						
Z47A	Carrollton	69.60	62	P	P	10 07 46.5	-0.9
N59A	State Game Lan	69.66	49	P	P	10 07 46.8	-0.9
	baz=323						
CPCT	Cooper Cave	69.72	58	P	P	10 07 47.9	-0.3
CPCT				IAmb	IAmb	10 07 49.5	
	comp=Z,12nm,1.3s						
H65A	Eastbrook	69.80	41	P	P	10 07 48.5	0.0
	baz=326						
J63A	Strafford	69.80	44	P	P	10 07 48.5	-0.1
	baz=325						
K63A	Dunstable	70.09	45	P	P	10 07 49.9	-0.4
	baz=325						
MVL	Millersville	70.12	50	P	P	10 07 49.9	-0.6
MVL				IAmb	IAmb	10 08 01.1	
	comp=Z,13nm,1.2s						
LRAL	Lakeview Retre	70.30	61	P	P	10 07 51.1	-0.7
	baz=321						
BRNJ	Basking Ridge	70.39	48	P	P	10 07 50.2	-2.0
BLA	Blacksburg	70.40	54	P	P	10 07 51.8	-0.5
	baz=322						
PAL	Palisades	70.42	47	P	P	10 07 51.7	-0.7
	baz=324						
KBL	Kabul	70.46	302	P	P	10 07 52.0	-1.0
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBL	Kabul	70.46	302	P	P	10 07 52.0	-1.0
KBL				IAmb	IAmb	10 07 53.0	
	comp=Z,7.9nm,0.8s						
Y52A	Lilburn	71.19	59	P	P	10 07 57.2	0.0
Y52A				IAmb	IAmb	10 07 57.8	
	comp=Z,14nm,1.2s						
250A	Grady	71.50	61	P	P	10 07 58.6	-0.5
KMSC	Kings Mountain	71.58	56	P	P	10 07 58.8	-0.7
	baz=322						
KMSC	Kings Mountain	71.58	56	P	P	10 07 59.3	-0.2
KMSC				IAmb	IAmb	10 08 16.7	
	comp=Z,25nm,1.6s						
GOGA	Godfrey	71.85	59	P	P	10 08 01.1	0.0
	baz=322						
AKASG	Malin Array Be	72.17	336	P	P	10 08 02.2	-0.5
	comp=Z,2.0nm,0.4s,baz=27,slow=6.1,SNR=8.5						
AKASG				LR	LR	10 45 16.0	
	comp=Z,87nm,18.4s,baz=10.0,slow=41						
AKBB	Malin Array Si	72.17	336	*de*P	P	10 08 02.1	-0.7
AKBB	Malin Array Si	72.17	336	P	P	10 08 02.4	-0.3
W57A	Gilead	72.24	55	P	P	10 08 03.6	+0.2
GOF	Gofitskoye	73.16	325	⇑*e*P	P	10 08 09.0	+0.2
GOF				pmax	pmax		
	comp=Z,18nm,1.0s						
KIV	Kislovodsk	74.25	325	*e*P	P	10 08 15.7	+0.4
KIV				pmax	pmax		
	comp=Z,22nm,1.0s						
KIV				MLR	MLR		
	comp=Z,262nm,18.0s						
KBZ	Khabaz	74.37	324	P	P	10 08 17.3	+1.4
	comp=Z,3.5nm,0.8s,baz=82,slow=2.3,SNR=8.2						
KBZ				LR	LR	10 45 46.7	
	comp=Z,217nm,18.5s,baz=26,slow=40						
KBZ	Khabaz	74.37	324	*de*P	P	10 08 16.9	+1.0
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KWP	Kalwaria Pacla	74.64	340	P	P	10 08 17.3	-0.1
KWP				pmax	pmax		
	comp=Z,153nm,0.9s						
KWP	Kalwaria Pacla	74.64	340	P	P	10 08 17.3	-0.1
SORM	Soroca	74.77	336	⇓P	P	10 08 18.4	+0.3
DZM	Mont Dzumac	74.83	186	LR	LR	10 36 35.7	
	comp=Z,142nm,19.5s,baz=20,slow=32						
ZEI	Tsey	74.83	323	*e*P	P	10 08 18.2	-0.7
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
DPC	Dobruska-Polom	75.13	344	*e*P	P	10 08 20.0	-0.3
DPC	Dobruska-Polom	75.13	344	*e*P	P	10 08 20.0	-0.3
KRLC	Kraliky	75.32	344	*e*P	P	10 08 21.8	+0.4
KRLC	Kraliky	75.32	344	*e*P	P	10 08 21.8	+0.4
MORC	Moravsky Berou	75.48	343	P	P	10 08 21.4	-0.9
MORC				pmax	pmax		
	comp=Z,14nm,1.6s						
MORC	Moravsky Berou	75.48	343	P	P	10 08 21.4	-0.9
MORC	Moravsky Berou	75.48	343	*e*P	P	10 08 22.4	+0.1
CRVS	Cervenica-Dubn	75.59	341	*e*P	P	10 08 20.9	-2.0
CRVS	Cervenica-Dubn	75.59	341	*e*P	P	10 08 20.9	-2.0
BURAR	Bucovina Array	76.00	338	⇑P	P	10 08 25.9	+0.6
VRAC	Vranov	76.10	344	*e*P	P	10 08 25.9	+0.1
JAVC	Velka Javorina	76.34	343	*e*P	P	10 08 28.6	+1.4
KRUC	Moravsky	76.37	344	*e*P	P	10 08 26.7	-0.6
KHC	Kasperske Hory	76.75	346	*e*P	P	10 08 30.2	+0.7
KHC				*e*		10 08 46.0	
KHC	Kasperske Hory	76.75	346	*e*P	P	10 08 30.2	+0.7
KHC				*ex*	x	10 08 46.0	
GERES	GERESS Array B	77.01	346	P	P	10 08 30.7	-0.3
	comp=Z,0.7nm,0.4s,baz=32,slow=6.3,SNR=9.5						
DRGR		77.34	339	⇑P	P	10 08 33.0	+0.2
PPT	Papeete	77.54	143	LR	LR	10 35 47.0	
	comp=Z,138nm,19.6s,baz=330,slow=30						
CONA	Conrad Observa	77.56	344	*i* P	P	10 08 35.1	+1.0
	comp=Z,7.2nm,1.4s						
MLR	Muntele Rosu	77.83	336	⇑P	P	10 08 37.8	+2.2
GZR	Gura Zlata	78.65	339	⇑P	P	10 08 40.5	+0.4
KBA	Koelnbreinsper	78.78	346	*e*P	P	10 08 42.2	+1.2
	comp=Z,4.4nm,0.6s						
WATA	Walderalm	78.79	347	*e*P	P	10 08 42.6	+1.6
	comp=Z,3.4nm,0.6s						
MOTA	Moosalm	78.84	347	*i* P	P	10 08 42.7	+1.4
	comp=Z,5.6nm,1.2s						
WTTA	Wattenberg	78.85	347	*i* P	P	10 08 43.2	+1.8
	comp=Z,2.4nm,0.7s						
SOKA	Soboth	78.91	344	*i* P	P	10 08 42.5	+1.0
	comp=Z,2.5nm,0.5s						
SQTA	Sankt Quirin	78.95	347	*e*P	P	10 08 42.6	+0.7
	comp=Z,5.4nm,1.1s						
OBKA	Obir	79.15	345	*i* P	P	10 08 44.0	+1.0
	comp=Z,4.2nm,0.5s						
FETA	Feichten	79.21	347	*i* P	P	10 08 44.0	+0.6
	comp=Z,3.2nm,1.2s						
ABTA	Abfaltersbach	79.23	346	*i* P	P	10 08 43.7	+0.3
	comp=Z,3.9nm,0.9s						
WRA	Warramunga Arr	79.66	216	P	P	10 08 47.5	+1.8
	comp=Z,2.7nm,0.8s,baz=28,slow=5.8,SNR=6.1						
WRA	Warramunga Arr	79.66	216	*i* P	P	10 08 47.2	+1.4
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	Keskin Array B	81.04	329	P	P	10 08 53.5	+0.2
	comp=Z,2.0nm,0.8s,baz=42,slow=2.0,SNR=5.7						
BRTR				LR	LR	10 47 50.6	
	comp=Z,123nm,20.9s,baz=26,slow=38						
BRTR	Keskin Array B	81.04	329	P	P	10 08 53.0	-0.3
BRTR	Keskin Array B	81.04	329	P	P	10 08 53.0	-0.3
ZCCA	Zocca	81.80	347	P	P	10 08 57.3	+0.2
ZCCA				IAmb	IAmb	10 09 18.3	
	comp=Z,14nm,0.9s						
GAZ	Gaziantep	82.18	325	P	P	10 08 58.7	-0.5
MURB	Monte Urbino	82.63	345	P	P	10 09 01.2	-0.4
MURB				IAmb	IAmb	10 09 23.6	
	comp=Z,15nm,0.8s						
NRCA	Norcia	82.96	345	P	P	10 09 03.6	+0.3
NRCA				IAmb	IAmb	10 09 15.7	
	comp=Z,15nm,0.9s						
ASAR	Alice Springs	83.24	215	P	P	10 09 07.1	+2.4
	comp=Z,1.8nm,0.8s,baz=21,slow=4.8,SNR=10						
SANT	Santorini	86.53	334	P	P	10 09 20.0	-1.3
KEST	Kesra	90.49	346	LR	LR	10 54 36.4	
	comp=Z,51nm,18.4s,baz=242,slow=39						
QSPA	South Pole Qui	142.66	180	PKhKP	PKPpre	10 16 07.1	
	comp=Z,1.0nm,0.6s,baz=277,slow=1.5,SNR=9.2						
MAW	Mawson	144.31	218	PKP	PKPdf	10 16 13.0	+0.2
	comp=Z,3.2nm,0.7s,baz=87,

KLR Kul'dur 31.03 343 P P 10 04 01.3 -0.2
1.8nm,0.3s,baz=170,slow=14,SNR=4.3
WRA Warramunga Arr 41.19 196 P P 10 05 28.2 +0.4
0.5nm,0.4s,baz=19,slow=8.0,SNR=17
ASAR Alice Springs 44.87 195 P P 10 05 57.2 -0.1
0.2nm,0.3s,baz=16,slow=7.1,SNR=7.8
MKAR Makanchi Array 57.22 313 P P 10 07 29.2 +0.2
1.7nm,0.6s,baz=93,slow=7.1,SNR=6.0
ILAR Eielson Array 62.59 27 P P 10 08 05.2 0.0
0.4nm,0.6s,baz=260,slow=5.2,SNR=5.2
BVAR Borovoye Array 65.16 320 P P 10 08 22.0 -0.1
1.0nm,0.4s,baz=86,slow=12,SNR=5.7
ARCES ARCESS Array B 81.06 342 P P 10 09 55.1 +0.2
1.2nm,0.8s,baz=72,slow=7.8,SNR=4.7
FINES FINESS Array B 85.47 335 P P 10 10 16.8 -0.7
1.8nm,0.3s,baz=66,slow=5.0,SNR=22

*WEL **04** 10:09:46.5±0.6,34°S±6°×18°0E±1°2,h223km±13km, M4.6/27,mB5.0/4,ML4.9/15,MLv4.7/27,Mw(mB)4.3/4, Error ellipse: s-maj=0.0km s-min=0.0km az=113.3*
*IDC **04** 10:09:46.6±2.5,34°45S×179°20E,h264km±20km,mb3.8/3, mb1 4.0/5,mb1mx3.4/40,mbtmp4.6/5,Error ellipse: s-maj=42.7km s-min=26.0km az=104.0*
ISC 04 10:09:44.1±0.9,34°31S±0°06×179°4E±0°1,h250km,n62, σ2°35/74,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.37	195	P	Pn	10 10 43.3	+2.9
MXZ				S	S	10 11 25.4	+0.2
WMGZ	Waiomatatini S	3.59	192	P	Pn	10 10 46.8	+3.8
WMGZ				S	S	10 11 32.0	+2.1
HAZ	Te Kaha	3.68	200	P	Pn	10 10 47.5	+3.5
HAZ				S	S	10 11 32.9	+1.2
PKGZ	Pakihiroa	3.73	196	P	Pn	10 10 47.7	+3.1
PKGZ				S	S	10 11 29.1	-3.8
GRZ	Great Barrier	3.75	238	P	Pn	10 10 46.1	+1.3
PUZ	Puketiti	3.87	193	P	Pn	10 10 48.3	+2.1
PUZ				S	S	10 11 36.1	+0.4
RUGZ	Raukumara Rang	3.90	200	P	Pn	10 10 48.7	+1.9
RUGZ				S	S	10 11 37.7	+1.0
TWGZ	Tauwhareparae	4.03	196	P	Pn	10 10 51.1	+3.0
TWGZ				P	Pn	10 10 51.2	+3.0
TWGZ				S	S	10 11 41.0	+1.9
OPRZ	Ohinepanea	4.21	212	P	Pn	10 10 52.9	+2.7
WIAZ	Waiheke Island	4.26	233	P	Pn	10 10 53.4	+2.5
MARZ	Manawahe	4.28	210	P	Pn	10 10 54.0	+2.9
CNGZ	Carnagh Statio	4.28	192	P	Pn	10 10 54.0	+3.0
TKGZ	Te Karaka	4.31	196	P	Pn	10 10 53.6	+2.3
TKGZ				S	S	10 11 46.0	+1.0
URZ	Urewera	4.35	204	P	Pn	10 10 53.5	+1.6
URZ	41nm,0.3s,baz=277,slow=3.9,SNR=197			S	S	10 11 45.7	-0.3
	78nm,0.3s,baz=63,slow=22,SNR=19						
URZ	Urewera	4.35	204	P	Pn	10 10 53.5	+1.6
URZ				S	S	10 11 45.9	0.0
EDRZ	Edgecumbe	4.35	209	P	Pn	10 10 55.1	+3.0
RAGZ	Rawiri	4.47	200	P	Pn	10 10 55.6	+2.2
ETAZ	East Tamaki Re	4.49	233	P	Pn	10 10 56.6	+3.0
KARZ	Kaharoa	4.49	214	P	Pn	10 10 57.4	+3.7
OMRZ	Omania	4.51	212	P	Pn	10 10 58.0	+4.1
RIGZ	Rimuhau	4.58	196	P	Pn	10 10 56.6	+1.9
HLRZ	Highlands Stat	4.64	211	P	Pn	10 10 58.4	+3.1
RRRZ	Republican Roa	4.64	209	P	Pn	10 10 58.8	+3.3
UTU	Utuhina	4.64	213	P	Pn	10 11 01.8	+6.4
HSRZ	Hossack Road	4.73	211	P	Pn	10 11 00.4	+3.9
SNGZ	Shannon Statio	4.76	200	P	Pn	10 10 58.9	+2.1
PRGZ	Paritu Road	4.76	194	P	Pn	10 10 58.6	+1.7
HRRZ	Handcock Road	4.78	211	P	Pn	10 10 59.9	+2.8
KNZ	Kokohu	4.90	196	P	Pn	10 10 59.9	+1.4
GLKZ	Green Lake	5.53	25	P	Pn	10 11 07.5	+1.1
GLKZ				S	S	10 12 10.8	-1.3
HIZ	Hauiti	5.56	220	P	Pn	10 11 10.4	+3.8
KWHZ	Kaweka Forest	5.63	204	P	Pn	10 11 08.1	+0.5
CKHZ	Cape Kidnapper	5.65	198	P	Pn	10 11 08.5	+0.8
MOVZ	Moawhango	5.86	209	P	Pn	10 11 10.2	-0.3
VRZ	Vera Road	6.08	216	P	Pn	10 11 15.6	+2.6
TSZ	Takapari Road	6.36	204	P	Pn	10 11 16.3	-0.3
WAZ	Wanganui	6.48	212	P	Pn	10 11 18.5	+0.4
DUWZ	D'Urville Isla	7.80	212	P	Pn	10 11 32.8	-2.0
TCW	Tory Channel	7.99	209	P	Pn	10 11 35.0	-2.1
TUWZ	Tuamarina	8.31	210	P	Pn	10 11 38.8	-2.3
NNZ	Nelson	8.38	213	P	Pn	10 11 39.3	-2.7
QRZ	Quartz Range	8.48	218	P	Pn	10 11 40.9	-2.4
BSWZ	Blackbirch Sta	8.58	209	P	Pn	10 11 42.5	-2.0
THZ	Tophouse	9.03	213	P	Pn	10 11 48.4	-1.9
KHZ	Kahutara	9.30	208	P	Pn	10 11 51.4	-2.2
DSZ	Denniston Nort	9.53	217	P	Pn	10 11 55.0	-1.6
GVZ	Greta Valley S	9.97	208	P	Pn	10 11 59.9	-2.2
LTZ	Lake Taylor	10.13	211	P	Pn	10 12 01.7	-2.4
AMCZ	Amberley	10.29	209	P	Pn	10 12 04.2	-2.0
INZ	Inchbonnie	10.45	214	P	Pn	10 12 05.7	-2.5
OXZ	Oxford	10.67	210	P	Pn	10 12 07.8	-3.1
MQZ	McQueen's Vall	10.74	207	P	Pn	10 12 08.7	-3.1
RACZ	Rakaia	10.96	209	P	Pn	10 12 11.3	-3.2
WVZ	Waitaha Valley	11.05	215	P	Pn	10 12 13.6	-2.1
WACZ	Wakanui South	11.26	209	P	Pn	10 12 16.2	-2.1
RPZ	Rata Peaks	11.40	212	P	Pn	10 12 17.9	-2.3
ARCZ	Arundel	11.54	211	P	Pn	10 12 19.5	-2.2
MSVF	Nonsavu	16.55	356	P	Pn	10 13 23.2	+0.4
	2.1nm,0.3s,baz=212,slow=13,SNR=18						
CTA	Charters Tower	32.53	287	P	P	10 15 53.0	+1.1
	1.7nm,0.5s,baz=105,slow=11,SNR=6.2						
ASAR	Alice Springs	40.88	273	P	P	10 17 02.1	0.0
	5.0nm,0.8s,baz=117,slow=7.6,SNR=6.4						
ASAR				ScP	ScP	10 22 20.9	-2.2
	0.2nm,0.7s,baz=102,slow=3.6,SNR=4.0						
WRA	Warramunga Arr	42.23	278	P	P	10 17 12.9	-0.1
	5.1nm,0.6s,baz=118,slow=7.9,SNR=63						
FINES	FINESS Array B	147.93	336	PKPbc	PKiKP	10 28 59.7	-0.8
	1.6nm,0.7s,baz=66,slow=3.5,SNR=2.2						

*IDC **04** 10:10:08.3±4.0,19°86S×168°85E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.6/44,mbtmp3.7/3,ML3.4/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/25,Error ellipse: s-maj=103.4km s-min=52.4km az=131.0*
*NOU **04** 10:10:16.5,20°38S×168°46E,h0km,ML3.6,Loyalty Islands*
ISC 04 10:10:10.7±2.1,20°1S±0°1×168°8E±0°2,h10km,n14, σ1°20/14,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.56	208	P	Pn	10 10 38.4	0.0
LIFNC	LIFOU	1.63	246	P	Pn	10 10 39.0	-0.4
YATNC	Mamie plateau,	2.65	223	P	Pn	10 10 52.9	-0.6
PINNC	Pines Island,	2.81	207	P	Pn	10 10 57.3	+1.7
OUENC	Ouen Island, N	2.95	218	P	Pn	10 10 58.8	+1.2
DZM	Mont Dzumac	2.96	228	Pn	Pn	10 10 58.3	+0.5
	5.0nm,0.3s,baz=66,slow=20,SNR=70						
DZM				Sn	Sn	10 11 32.5	-1.0
	16nm,0.3s,baz=126,slow=22,SNR=14						
DZM	Mont Dzumac	2.96	228	P	Pn	10 10 58.6	+0.8
NOUC	Port Laguerre	3.08	229	P	Pn	10 11 01.0	+1.6
ONTNC	Ouen Toro	3.11	225	P	Pn	10 11 01.4	+1.6
KOUNC	Koumac, New Ca	4.28	263	P	Pn	10 11 17.7	+1.7
MSVF	Nonsavu	9.04	76	LR	LR	10 15 11.0	
	comp=Z,164nm,20.5s,baz=225,slow=34						
WRA	Warramunga Arr	32.37	264	P	P	10 16 40.1	-0.5
	0.9nm,1.1s,baz=90,slow=8.2,SNR=4.7						
ASAR	Alice Springs	32.55	257	P	P	10 16 42.4	+0.2
	1.1nm,0.5s,baz=86,slow=8.8,SNR=28						
GERES	GERESS Array B	145.06	331	PKP	PKPbc	10 29 46.8	-1.0
	0.2nm,0.4s,baz=15,slow=4.1,SNR=4.0						

NOU 04 10:10:35.9,37°78S×176°08E,h17km,ML4.0,North Island, New Zealand,North Island

*IDC **04** 10:15:01.2±0.7,25°52N×142°73E,h0km,mb4.0/14, mb1 4.2/16,mb1mx4.0/51,mbtmp4.0/16,ML3.1/2,MS3.2/3, Ms1 3.2/3,ms1mx2.9/38,Error ellipse: s-maj=31.2km s-min=13.9km az=81.0*
*NEIC **04** 10:15:06.8±1.2,25°49N±0°10×142°5E±0°2,h33km±7km, mb4.5/14,Error ellipse: s-maj=29.5km s-min=13.6km az=85.0*
ISC 04 10:15:06.8±0.7,25°49N±0°08×142°6E±0°2,h38km,n46, σ0°98/46,mb4.3/20,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.64	348	Pn	Pn	10 15 32.8	-0.3
	440nm,0.3s,baz=280,slow=22,SNR=186						
JCJ				Sn	Sn	10 15 55.6	+2.8
	289nm,0.3s,baz=143,slow=19,SNR=25						
JCJ	Chichijima	1.64	348		Pn	10 15 32.9	-0.1
JYT	Yasato	10.89	350	Pn	Pn	10 17 39.9	-0.2
MJAR	Matsushiro Arr	11.63	342	Pn	Pn	10 17 50.1	-0.2
	0.1nm,0.3s,baz=161,slow=11,SNR=2.3						
MJAR				LR	LR	10 21 59.6	
	comp=Z,100nm,19.5s,baz=145,slow=36						
JMM	Marumori	12.43	353		Pn	10 17 58.1	-3.1
JSD	Sado	13.03	345	Pn	Pn	10 18 07.3	-2.0
KSRS	Korea Array	17.24	317	P	P	10 19 05.6	-0.2
	0.2nm,0.3s,baz=129,slow=12,SNR=4.5						
ASAJ	Asahikawa	18.59	0	P	Pn	10 19 22.7	+1.6
	0.3nm,0.3s,baz=192,slow=16,SNR=4.5						
USRK	Ussuriysk Ar.	20.55	338	P	P	10 19 42.6	+0.5
	2.3nm,0.7s,baz=150,slow=11,SNR=7.5						
USRK	Ussuriysk Ar.	20.55	338	P	P	10 19 41.8	-0.3
KLR	Kul'dur	25.16	343	P	P	10 20 28.7	+0.3
	4.9nm,0.6s,baz=164,slow=8.7,SNR=13						
PETK	Petropavlovsk-	29.84	18	LR	LR	10 34 54.7	
	comp=Z,27nm,19.3s,baz=195,slow=40						
ULN	Ulaanbaatar	35.73	318	P	P	10 22 01.0	-1.0
ULN				IAmb	IAmb	10 22 26.6	
	comp=Z,1.9nm,0.7s						
HNR	Honiara	38.62	152	LR	LR	10 37 37.2	
	comp=Z,64nm,19.3s,baz=339,slow=35						
WB0	Warramunga Arr	45.68	191	P	P	10 23 24.0	0.0
WR0	Warramunga Arr	45.84	191	P	P	10 23 25.3	0.0
WR0				IAmb	IAmb	10 23 35.0	
	comp=Z,13nm,1.4s						
WRAB	Tennant Creek	45.85	191	P	P	10 23 25.4	0.0
WRAB				IAmb	IAmb	10 23 31.5	
	comp=Z,7.9nm,0.9s						
WB2	Warramunga Arr	45.86	191	P	P	10 23 26.1	+0.7
WRA	Warramunga Arr	45.86	191	P	P	10 23 26.3	+0.8
	comp=Z,3.0nm,0.3s,baz=9.4,slow=8.5,SNR=30						
WRA	Warramunga Arr	45.86	191	P	P	10 23 26.0	+0.5
TIXI	Tiksi	46.84	354	P	P	10 23 33.5	+0.9
TIXI				IAmb	IAmb	10 23 47.2	
	comp=Z,3.7nm,0.8s						
ASAR	Alice Springs	49.58	190	P	P	10 23 54.8	+0.4
	comp=Z,0.5nm,0.5s,baz=14,slow=7.4,SNR=11						
ASAR	Alice Springs	49.58	190	P	P	10 23 53.7	-0.6
ZALV	Zalesovo Beam	50.92	320	P	P	10 24 03.8	-0.4
	comp=Z,0.8nm,0.5s,baz=88,slow=9.3,SNR=2.0						
ZALV				PcP	PcP	10 25 19.9	-0.2
	comp=Z,1.2nm,0.6s,baz=116,slow=3.4,SNR=4.0						
ZALV	Zalesovo Beam	50.92	320	P	P	10 24 03.6	-0.6
MK31	Makanchi Array	51.76	311	P	P	10 24 11.1	+0.5
MKAR	Makanchi Array	51.76	311	P	P	10 24 10.5	-0.1
	comp=Z,0.5nm,0.4s,baz=87,slow=8.5,SNR=4.1						
STKA	Stephens Creek	57.05	181	P	P	10 24 49.7	+0.6
	comp=Z,1.3nm,0.7s,baz=346,slow=10,SNR=3.6						
STKA	Stephens Creek	57.05	181	P	P	10 24 48.8	-0.2
CUT	Chulitna	57.18	31	P	P	10 24 50.1	+0.5
ILAR	Eielson Array	58.96	28	P	P	10 24 59.9	-2.2
	comp=Z,0.3nm,0.8s,baz=256,slow=7.3,SNR=2.4						
BRVK	Borovoye	59.52	318	P	P	10 25 06.0	-0.1
BRVK				IAmb	IAmb	10 25 19.9	
	comp=Z,3.3nm,0.9s						
KK31	Karatay Array	60.30	307	P	P	10 25 10.8	-0.9
KK31				IAmb	IAmb	10 25 21.7	
	comp=Z,2.5nm,0.8s						
KKAR	Karatay Array	60.30	307	P	P	10 25 11.2	-0.5
ABKAR	Akbulak array	66.46	315	P	P	10 25 51.9	-0.4
ARCES	ARCESS Array B	75.16	341	P	P	10 26 45.2	+0.3
	comp=Z,0.7nm,0.6s,baz=57,slow=7.8,SNR=4.9						
NEW	Newport	77.86	42	P	P	10 27 01.0	+0.4
	comp=Z,1.0nm,0.7s,baz=229,slow=3.3,SNR=3.7						
KBZ	Khabaz	79.35	313	P	P	10 27 09.7	+1.0
	comp=Z,3.2nm,0.8s,baz=109,slow=6.2,SNR=7.6						
FINES	FINESS Array B	79.53	334	P	P	10 27 09.2	-0.2
	comp=Z,2.9nm,0.4s,baz=65,slow=5.2,SNR=25						
FINES	FINESS Array B	79.53	334	P	P	10 27 09.3	-0.1
NVAR	Mina Array Bea	81.25	52	P	P	10 27 19.4	0.0
	comp=Z,0.4nm,0.7s,baz=279,slow=7.2,SNR=2.2						
NC405	NORSAR Array S	85.00	338	P	P	10 27 36.9	-1.2
NB201	NORSAR Array S	85.19	338	P	P	10 27 38.5	-0.5
NB2	NORSAR Subarra	85.22	338	P	P	10 27 38.6	-0.6
	comp=Z,1.4nm,0.7s,baz=42,slow=4.6						
NOA	NORSAR Array B	85.22	338	P	P	10 27 38.7	-0.6
	comp=Z,1.0nm,0.5s,baz=44,slow=5.0,SNR=8.0						
RAYN	Ar Rayn	86.11	294	P	P	10 27 45.8	+1.4
RAYN				IAmb	IAmb	10 28 10.9	
	comp=Z,2.7nm,1.1s						

*AEIC **04** 10:19:57±1.4,55°13N±0°09×160°97W±0°04,h2km±6km, ML3.7,ML3.7/10(NEIC),Error ellipse: s-maj=13.5km s-min=3.6km az=177.0*
*NEIC **04** 10:19:58.6±0.9,55°09N±0°09×160°95W±0°09,h8km±9km, Error ellipse: s-maj=12.6km s-min=7.2km az=171.0*
*IDC **04** 10:20:06.0±4.1,55°54N×160°96W,h58km±34km,mb3.5/7, mb1 3.7/10,mb1mx3.4/45,mbtmp3.7/10,ML3.3/3,Error ellipse: s-maj=32.6km s-min=20.7km az=14.0*
ISC 04 10:19:58.7±1.4,55°12N±0°05×160°97W±0°02, h11km±10km,n82,σ0°87/92,mb3.7/7,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	Sand Point	0.36	51	P	Pb	10 20 07.3	+0.2
	baz=233						
SDPT				S	Sb	10 20 13.3	+0.5
	baz=233						
SDPT	Sand Point	0.36	51		Pb	10 20 07.3	+0.2
SDPT					Sb	10 20 13.0	+0.2
SDPT				IAML		10 20 13.4	
	comp=N,8μm,0.3s						
PVV	Pavlof Volcano	0.53	299		Pg	10 20 09.2	+0.2
PS4A	Pavlof South-4	0.56	294		Pg	10 20 09.6	+0.2
HAG	Hague Volcano	0.57	290		Pg	10 20 10.0	+0.3
PN7A	Pavlof North-7	0.67	298		Pb	10 20 11.9	-0.4
DT1	Dutton Round H	0.75	269		Pg	10 20 12.3	-0.9
CHNA	Chernabura Isl	0.85	110	P	Pg	10 20 14.6	-0.4
	baz=291						
CHNA				S	Sb	10 20 26.9	+0.2
	baz=291						
CNBA	Chernabura Isl	0.85	110		Pg	10 20 14.6	-0.5
BALA	Baldy Mountain	1.04	275		Pg	10 20 18.4	-0.4
FALS	False Pass	1.44	260	P	Pn	10 20 23.7	-0.9
	baz=78						
FALS				S	Sn	10 20 43.8	+0.4
	baz=78						
FALS	False Pass	1.44	260		Pn	10 20 23.7	-0.9
FALS	False Pass	1.44	260		Sn	10 20 43.8	+0.4
ISLZ	Isanotski Laza	1.63	257		Pn	10 20 27.0	-0.4
ISLZ					Sn	10 20 48.6	+0.3
BRPK	Brown Peak	1.67	254		Pn	10 20 27.7	-0.2
BRPK					Sn	10 20 49.8	+0.5
SSLN	Shishaldin Nor	1.77	261		Pn	10 20 29.8	+0.5
SSLN					Sb	10 20 53.8	+0.4
SSLS	Shishaldin Sou	1.80	258		Pn	10 20 30.0	+0.4
SSLS					Sb	10 20 54.5	+0.4
SSBA	Shishaldin	1.85	260		Pn	10 20 30.6	+0.2
SSBA					Sb	10 20 55.7	0.0
WESE	West Dahl East	2.19	254		Pn	10 20 35.4	+0.3
WESP	Westdahl Peak	2.26	255		Pn	10 20 36.4	+0.3
WECS	Westdahl Cape	2.28	256		Pn	10 20 36.8	+0.5
AKSA	Akutan Strait	2.92	252		Pn	10 20 45.5	+0.5
AKSA	Akutan Strait	2.92	252		Pn	10 20 46.0	+1.0
AKUT	Akutan	2.96	252		Pn	10 20 45.7	+0.2
AKUT				IAML		10 21 32.5	
	comp=N,315nm,0.7s						
AKBBA	Akutan Broad B	3.06	252		Pn	10 20 47.1	+0.2
AKMO	Akutan Morgan	3.11	253		Pn	10 20 47.9	+0.3
AKRB	Akutan Reef Bi	3.13	254		Pn	10 20 48.3	+0.4
MTBL	Makushin Table	3.52	253		Pn	10 20 53.5	+0.2
MNAT	Makushin Natee	3.56	252		Pn	10 20 53.6	-0.2
MSW	Makushin Switc	3.60	253		Pn	10 20 54.1	-0.2
MREP	Makushin Rep't	3.62	251		Pn	10 20 54.5	-0.2
MGOD	Makushin Gods	3.69	251		Pn	10 20 55.5	-0.2
MAPS	Pakushin South	3.73	252		Pn	10 20 56.1	+0.1
OKFG	Magazine Ridge	4.42	250		Pn	10 21 05.7	+0.2
OKTU	Okmok Mt. Tuli	4.50	250		Pn	10 21 06.7	-0.1
OKRE	Okmok R'deer P	4.51	252		Pn	10 21 06.9	+0.1
OHAK	Old Harbor	4.78	61	P	Pn	10 21 10.8	+0.3
	baz=247						
OHAK	Old Harbor	4.78	61		Pn	10 21 10.7	+0.1
OHAK				IAML		10 23 34.6	
	comp=E,55nm,3.2s						
OHAK				IAML		10 23 44.9	
	comp=N,69nm,3.1s						
KDAK	Kodiak Island	5.36	57	P	Pn	10 21 19.5	+1.0
	comp=N,1.6nm,0.3s,baz=203,slow=4.2,SNR=27						
KDAK				S	Sn	10 22 19.4	-0.8
	comp=N,2.9nm,0.3s,baz=135,slow=23,SNR=10						
KDAK	Kodiak Island	5.36	57	P	Pn	10 21 18.9	+0.4
	baz=244						
KDAK	Kodiak Island	5.36	57	Pn	Pn	10 21 18.1	-0.4
KDAK				IAML		10 22 43.3	
	comp=N,38nm,2.9s						
KDAK				IAML		10 23 00.0	
	comp=N,42nm,2.2s						
SPIA	Saint Paul Isl	5.58	295	P	Pn	10 21 22.2	+0.7
	baz=108						
SPIA	Saint Paul Isl	5.58	295		Pn	10 21 20.6	-0.9
O18K	Koktuh Hills	5.67	31	P	Pn	10 21 24.2	+1.5
	baz=216						
O18K	Koktuh Hills	5.67	31		Pn	10 21 24.2	+1.5
N18K	Kilae Creek	6.19	24	P	Pn	10 21 30.4	+0.4
	baz=208						
N18K	Kilae Creek	6.19	24		Pn	10 21 30.4	+0.4
O19K	Port Alsworth	6.21	32	P	Pn	10 21 31.7	+1.6
	baz=218						
O19K	Port Alsworth	6.21	32		Pn	10 21 31.7	+1.6
SVW2	Sparrevohn	6.63	23		Pn	10 21 36.9	+0.9
N19K	Bonanza Creek	6.67	28	P	Pn	10 21 37.3	+0.8
	baz=214						
N19K	Bonanza Creek	6.67	28		Pn	10 21 37.3	+0.8
CNPM	China Poot	6.87	46		Pn	10 21 38.1	-1.2
M19K	Big River Lodg	7.62	24	P	Pn	10 21 50.6	+1.1
	baz=210						
M19K	Big River Lodg	7.62	24		Pn	10 21 50.5	+1.1
L19K	White Mountain	7.76	22	P	Pn	10 21 52.1	+0.7
	baz=207						
L19K	White Mountain	7.76	22		Pn	10 21 52.1	+0.7
M20K	Styx River	7.92	28	P	Pn	10 21 55.2	+1.5
	baz=215						
M20K	Styx River	7.92	28		Pn	10 21 55.2	+1.5
PWL	Port Wells	8.83	44		Pn	10 22 06.7	+0.7
PPLA	Purkeypile	9.01	27	P	Pn	10 22 10.8	+2.2
	baz=214						
PPLA	Purkeypile	9.01	27		Pn	10 22 09.6	+1.0
HIN	Hinchinbrook I	9.36	50		Pn	10 22 13.6	+0.3
EYAK	Cordova Ski Ar	9.76	50	Pn	Pn	10 22 18.5	-0.2
KTH	Kantishna Hill	9.88	27	Pn	Pn	10 22 20.0	-0.5
KLU	Klutina	10.15	45		Pn	10 22 24.8	+0.5
M24K	Tolsona, Glenn	10.40	42	Pn	Pn	10 22 27.1	-0.5
BMRM	Bremner River	10.45	49	Pn	Pn	10 22 27.6	-0.7
N25K	Chitina, Valde	10.76	46	Pn	Pn	10 22 31.2	-1.3
GLB	Gilahina Butte	11.01	48	Pn	Pn	10 22 36.2	+0.2
VRDI	Verde Repeater	11.07	49	Pn	Pn	10 22 37.0	+0.1
MLY	Manley	11.15	23		Pn	10 22 37.9	0.0
PAX	Paxson	11.18	39	Pn	Pn	10 22 37.5	-0.7
ILAR	Eielson Array	11.94	30	P	Pn	10 22 48.0	-0.6
	comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=2.9						
INK	Inuvik	18.30	33	P	Pn	10 24 11.3	-0.8
	comp=N,0.2nm,0.3s,baz=225,slow=13,SNR=5.8						
PETK	Petropavlovsk-	24.06	282	P	P	10 25 15.2	+1.6
	comp=N,0.4nm,0.4s,baz=79,slow=15,SNR=8.8						
NVAR	Mina Array Bea	33.03	102	P	P	10 26 36.4	+2.4
	comp=N,0.4nm,0.6s,baz=300,slow=8.2,SNR=4.3						
TXAR	Lajitas Array	47.94	98	P	P	10 28 38.6	+1.4
	comp=N,0.6nm,0.8s,baz=307,slow=7.1,SNR=9.3						
ARCES	ARCESS Array B	55.56	357	P	P	10 29 31.2	-2.2
	comp=N,1.9nm,0.9s,baz=10,slow=5.5,SNR=2.1						
FINES	FINESS Array B	63.64	356	P	P	10 30 27.0	-2.1
	comp=N,0.9nm,0.7s,baz=19,slow=6.5,SNR=4.5						
AKASG	Malin Array Be	74.20	353	P	P	10 31 32.9	-2.0
	comp=N,0.3nm,0.4s,baz=5.9,slow=5.8,SNR=2.5						
ESDC	Sonseca Array	83.55	18	P	P	10 32 26.5	0.0
	comp=N,1.1nm,0.7s,baz=335,slow=5.1,SNR=8.6						

IDC 04 10:35:52.3±8.1,6°33S×149°55E,h57km±64km,mb3.1/2, mb1 3.6/3,mb1mx3.2/24,mbtmp3.6/3,ML1.7/1,Error ellipse: s-maj=124.2km s-min=53.1km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.86	218	P	Pn	10 36 49.1	-0.2
	4.2nm,0.3s,baz=38,slow=6.7,SNR=7.3						
PMG				S	Sn	10 37 34.5	+1.1
	3.8nm,0.3s,baz=121,slow=19,SNR=2.6						
WRA	Warramunga Arr	20.03	226	P	P	10 40 20.6	-0.2
	1.9nm,0.7s,baz=52,slow=11,SNR=12						
ASAR	Alice Springs	22.88	219	P	P	10 40 50.8	-0.5
	0.5nm,0.7s,baz=52,slow=9.0,SNR=6.1						
TORD	Torodi Ar. Bea	147.63	285	PKPbc	PKPbc	10 55 31.1	-0.3
	0.4nm,0.5s,baz=67,slow=3.0,SNR=2.0						

*IGQ **04** 11:29:24±0.3,3°S±2°×8°0W±°,h41km*
*IDC **04** 11:29:25.1±3.9,3°03S×79°57W,h75km±46km,mb3.5/7, mb1 3.9/9,mb1mx3.6/31,mbtmp4

GGPC Guagua Pichinc 3.09 22 P **Pn 11 30 12.0 +1.4**
TERV Terraza Guagua 3.09 22 P **Pn 11 30 12.0 +1.4**
PINO Pino 3.11 21 P **Pn 11 30 12.0 +1.2**
YANA Yana 3.16 22 P **Pn 11 30 13.0 +1.6**
APR2 Miler 3.22 14 P **Pn 11 30 12.0 +0.1**
BV15 Puerto Quito-O 3.25 9 P **Pn 11 30 11.0 -1.2**
PULU Pululahua 3.31 22 P **Pn 11 30 14.0 +0.6**
PAC1 Pacto, Paraso 3.45 16⇑*eP* **Pn 11 30 15.8 +0.8**
PAC1 Pacto, Paraso 3.45 16 P **Pn 11 30 15.0 -0.1**
CAYR Refugio Cayamb 3.52 30 P **Pn 11 30 19.0 +2.5**
OTAV Otavalo 3.53 21 Pn **Pn 11 30 17.9 +1.4**
OTAV Otavalo 3.53 21 *eP* **Pn 11 30 18.1 +1.6**
CUSE Cuicocha Este 3.61 22 *eP* **Pn 11 30 18.6 +1.0**
CUSE Cuicocha Este 3.61 22 P **Pn 11 30 19.0 +1.4**
CUSW Cuicocha Oeste 3.61 23 P **Pn 11 30 20.0 +2.5**
CUIC Cuicocha-Domo 3.63 22 P **Pn 11 30 19.0 +1.3**
REVS Reventador Sur 3.63 36 P **Pn 11 30 19.0 +1.4**
LAV4 Lava4-Reventad 3.64 36 P **Pn 11 30 19.0 +1.3**
CONE Cono NE Rev Vo 3.65 35 P **Pn 11 30 19.0 +1.1**
REVN San Rafael 3.65 35 P **Pn 11 30 19.0 +1.0**
COTA Cotacachi 3.66 23 P **Pn 11 30 20.0 +1.7**
IMBA Imbabura, San 3.67 25 P **Pn 11 30 20.0 +1.7**
URCU Urcuqui 3.79 23 P **Pn 11 30 21.0 +1.0**
YAHU Yahuarcocha 3.81 26 P **Pn 11 30 23.0 +2.8**
PTGL Punta Galera 3.84 356 P **Pn 11 30 22.0 +1.7**
CASC Dorado de Casc 3.99 37 P **Pn 11 30 23.0 +0.5**
TULM Tulcn-Chalpat 4.24 28 P **Pn 11 30 27.0 +0.8**
ECEN Cerro Negro 4.25 25 P **Pn 11 30 28.0 +1.5**
ATAH Atahualpa 4.26 162 P **Pn 11 30 28.1 +1.7**
12nm,0.3s,baz=8.4,slow=10,SNR=47
ATAH LR LR 11 31 55.2
comp=Z,90nm,22.0s,baz=328,slow=35
CHL2 Volc¡n Chiles 4.26 25 P **Pn 11 30 28.0 +1.5**
GCUF Volcan Galeras 4.90 29 *eP* **Pn 11 30 37.8 +2.6**
CTUM2 Tumaco 4.97 12 *eP* Pn 11 30 30.6 -5.2
TUMC Tumaco 4.97 12 **Pn 11 30 37.5 +1.7**
TUMC Tumaco 4.97 12 *eP* **Pn 11 30 36.3 +0.6**
CRUC La Cruz 5.39 31 *eP* **Pn 11 30 44.2 +2.4**
BBAC Balboa, Cauca 5.64 26 *eP* **Pn 11 30 46.2 +1.0**
SOTA Rioblanco 6.05 31 *eP* **Pn 11 30 51.2 +0.2**
CFLOR Florencia 6.17 42 *eP* **Pn 11 30 51.2 -1.1**
FLOC Florencia 6.17 42 **Pn 11 30 51.5 -0.8**
FLOC Florencia 6.17 42⇑*iP* **Pn 11 30 50.9 -1.3**
PCON Cinco Dias 6.32 32 *eP* **Pn 11 30 56.2 +1.4**
POPC Popayan, Colom 6.36 29 *eP* Pn 11 30 49.5 -5.6
GARC Garzon, Huila 6.73 39 *eP* **Pn 11 30 58.5 -1.6**
BETC Betania 7.15 37 *eP* **Pn 11 31 05.1 -0.6**
YOTC Yotoco, Valle 7.79 26 *eP* **Pn 11 31 12.5 -2.0**
MACC Macarena, Meta 7.85 49 *eP* **Pn 11 31 14.2 -1.0**
ORTC Ortega, Tolima 8.26 33 *eP* **Pn 11 31 18.3 -2.6**
PRAC Prado 8.31 36 *eP* **Pn 11 31 19.9 -1.6**
CZSB Cruzeiro do Su 8.40 124 *eP* **Pn 11 31 20.4 -2.3**
PLMC San Jos del P 8.64 24 *eP* **Pn 11 31 22.1 -4.1**
NNA Nana 9.31 162 P **Pn 11 31 35.2 -0.1**
4.7nm,0.3s,baz=346,slow=10,SNR=4.4
NNA S Sn 11 33 08.9 -10
4.1nm,0.3s,baz=233,slow=16,SNR=2.0
NNA Nana 9.31 162 Pn **Pn 11 31 36.0 +0.7**
ROSC El Rosal 9.54 35 LR LR 11 35 55.8
comp=Z,216nm,20.4s,baz=226,slow=42
ROSC El Rosal 9.54 35 Pn **Pn 11 31 37.8 -1.0**
CHIC Chingaza 9.73 38 *eP* **Pn 11 31 42.1 +0.9**
DBBC Dabeiba 10.62 19 *eP* **Pn 11 31 54.5 +1.2**
PAYG Puerto Ayora 10.80 283 Pn **Pn 11 31 57.4 +1.7**
RUSC La Rusia 11.11 37 Pn **Pn 11 32 00.1 -0.2**
ESPN Las Esperanzas 15.83 343 P **Pn 11 33 02.2 -0.6**
ESPN IAmb IAmb 11 33 12.9
comp=Z,31nm,1.2s
MNMC Minye Minye 18.80 149 P **P 11 33 38.4 -0.3**
PSGCX Pisagua 18.93 151 P **P 11 33 39.7 -0.2**
PSGCX IAmb IAmb 11 34 00.5
comp=Z,30nm,1.5s
MTO3 Montecristo 19.80 331 P **Pn 11 33 51.8 +0.2**
PB08 IPOC Station P 19.87 149 P **P 11 33 50.4 -0.1**
PTGA Pitinga 19.90 84 P **P 11 33 48.9 -1.7**
BOAV Boa Vista 19.97 74 *eP* **Pn 11 33 54.2 +0.8**
PB01 IPOC Station P 20.47 152 P **P 11 33 56.9 +0.2**
PB07 IPOC Station P 20.87 153 P **P 11 34 00.4 -0.8**
PB07 IAmb IAmb 11 34 22.1
comp=Z,32nm,1.5s
VILB Vilhena 21.68 118 *eP* **P 11 34 07.9 -1.8**
LVC Limon Verde 22.08 152 P **P 11 34 15.8 +1.5**
comp=Z,5.5nm,0.9s,baz=309,slow=11,SNR=2.6
LVC Limon Verde 22.08 152 P **P 11 34 14.0 -0.3**
LVC IAmb IAmb 11 34 36.3
comp=Z,11nm,0.8s
LVC Limon Verde 22.08 152 *eP* P 11 34 32.5 +18
SIV San Ignacio 22.41 126 P **P 11 34 15.7 -1.9**
comp=Z,5.9nm,0.7s,baz=306,slow=11,SNR=20
PTLB Pontes e Lacer 23.73 123 *eP* **P 11 34 30.4 -0.2**
TOSP Speyside 23.85 53 P **P 11 34 30.5 -1.2**
ITTB Itaituba 23.99 94 *eP* **P 11 34 31.6 -1.4**
PCDR Punta Cana, DR 24.19 27 P **P 11 34 34.1 -0.6**
MLPR Magueyes Islan 24.37 30 P **P 11 34 34.1 -2.2**
MPR Mayaguez 24.52 30 P **P 11 34 36.8 -0.9**
NPGB Novo Progresso 24.61 100 *eP* **P 11 34 36.8 -1.8**
OBIP Obispado Ponce 24.66 31 P **P 11 34 38.1 -0.8**
OBIP IAmb IAmb 11 34 38.9
comp=Z,41nm,1.1s
AOPR Arecibo Observ 24.83 31 P **P 11 34 40.5 -0.1**
SJG San Juan 24.95 32 P **P 11 34 41.0 -0.6**
comp=Z,62nm,0.8s,baz=201,slow=5.1,SNR=14
SJG San Juan 24.95 32 P **P 11 34 40.6 -1.0**
CLDB Colider 24.98 109 *eP* **P 11 34 40.7 -1.4**
HUMP Col San Antoni 25.14 33 P **P 11 34 42.5 -0.8**
CBYP Canovanas 25.24 32 P **P 11 34 43.3 -1.1**
MTP Monte Pirata 25.26 33 P **P 11 34 43.4 -1.0**
MALB Monte Alegre 25.48 88 *eP* **P 11 34 49.0 +2.4**
CUPR Culebra, Puert 25.58 33 P **P 11 34 45.7 -1.7**
SALV Santo Antonio 26.88 120 *eP* **P 11 35 04.5 +5.3**
MCPB Macapa, AP 27.80 85 *eP* **P 11 35 11.4 +3.9**
MDP Montagnes des 28.27 73 P **P 11 35 10.1 -1.5**
comp=Z,7.3nm,0.7s,baz=245,slow=7.5,SNR=6.6
PLCA Paso Flores 38.40 169 P **P 11 36 38.9 -0.5**
JCT Junction City 38.47 332 P **P 11 36 41.3 +1.3**
JCT IAmb IAmb 11 36 42.2
comp=Z,3.6nm,0.8s
CPCT Cooper Cave 38.58 354 P **P 11 36 41.7 +0.8**
CPCT IAmb IAmb 11 36 59.0
comp=Z,4.9nm,1.0s
V58A Windy Hill, Pi 38.67 1 P **P 11 36 40.4 -1.1**
TX32 Lajitas Array 39.55 326 P **P 11 36 50.1 +0.9**
TXAR Lajitas Array 39.55 326 P **P 11 36 50.0 +0.9**
comp=Z,0.4nm,0.8s,baz=152,slow=8.5,SNR=6.1
TXAR Lajitas Array 39.55 326 P **P 11 36 49.9 +0.7**
TZTN Tazewell 39.57 355 P **P 11 36 49.8 +0.7**
TZTN IAmb IAmb 11 36 52.7
comp=Z,7.5nm,0.9s
SLBS Sierra La Lagu 39.65 314 P **P 11 36 51.2 +1.1**
SLBS IAmb IAmb 11 37 08.3
comp=Z,6.8nm,1.2s
GO07 Milladeo Hill, 40.24 173 P **P 11 36 54.9 +0.3**
W39A Magazine 40.28 342 P **P 11 36 55.3 +0.3**
W39A IAmb IAmb 11 37 21.6
comp=Z,7.2nm,1.4s
HHAR Hobbs 41.33 343 P **P 11 37 05.7 +2.0**
MNTX Cornudas Mount 42.31 327 P **P 11 37 12.0 +0.2**
MSTX Muleshoe 42.76 331 P **P 11 37 16.2 +0.7**
MSTX IAmb IAmb 11 37 17.8
comp=Z,12nm,1.4s
N59A State Game Lan 43.93 4 P **P 11 37 22.8 -1.9**
N59A IAmb IAmb 11 37 35.1
comp=Z,8.2nm,1.3s
ANMO Albuquerque 45.38 329 P **P 11 37 37.1 +0.6**
ANMO IAmb IAmb 11 37 38.7
comp=Z,3.3nm,0.8s
N33A J Bar K, Exete 46.51 341 P **P 11 37 45.5 +0.4**
SDCO Great Sand Dun 47.12 332 P **P 11 37 51.4 +1.1**
X16A Lo Mia Camp, P 47.74 324 P **P 11 37 55.3 +0.2**
WUAZ Wupatki 48.48 325 P **P 11 38 00.7 -0.1**
WUAZ IAmb IAmb 11 38 24.5
comp=Z,9.4nm,1.4s
PV15 Paradox Valley 49.03 330 P **P 11 38 05.5 +0.5**
PV15 IAmb IAmb 11 38 07.6
comp=Z,7.2nm,1.3s
PV13 Radium Mtn., P 49.06 330 P **P 11 38 05.9 +0.6**
PV13 IAmb IAmb 11 38 06.9
comp=Z,3.9nm,0.8s
PV03 Paradox Valley 49.15 330 P **P 11 38 06.1 +0.2**
PV03 IAmb IAmb 11 38 34.0
comp=Z,4.9nm,1.2s
PV12 Saucer Basin, 49.17 330 P **P 11 38 06.6 +0.5**
PV12 IAmb IAmb 11 38 25.8
comp=Z,5.1nm,1.0s
E43A Lone Tree Farm 49.65 353 P **P 11 38 09.6 +0.3**
E43A IAmb IAmb 11 38 11.4
comp=Z,4.5nm,1.1s
E62A Clayton Lake 50.30 9 P **P 11 38 14.0 -0.2**
EYMN Ely 51.84 350 P **P 11 38 26.3 +0.6**
EYMN IAmb IAmb 11 38 28.2
comp=Z,5.1nm,1.2s
PDAR Pinedale Array 52.98 333 P **P 11 38 34.2 -0.4**
comp=Z,0.3nm,0.7s,baz=124,slow=8.1,SNR=2.9
HWUT Hardware Ranch 53.05 330 P **P 11 38 34.6 -0.5**
HWUT IAmb IAmb 11 38 55.2
comp=Z,4.6nm,1.2s
NVAR Mina Array Bea 54.52 323 P **P 11 38 46.1 +0.2**
comp=Z,0.5nm,0.8s,baz=158,slow=7.5,SNR=5.7
NVAR Mina Array Bea 54.52 323 P **P 11 38 45.6 -0.3**
MFID Camas Ranch 56.52 329 P **P 11 39 00.3 +0.2**
MFID IAmb IAmb 11 39 24.7
comp=Z,5.0nm,1.3s
WVOR Wild Horse Val 57.34 326 P **P 11 39 06.3 +0.4**
WVOR IAmb IAmb 11 39 27.9
comp=Z,3.2nm,1.1s
PINE Pine Mountain 59.51 326 P **P 11 39 22.5 +1.4**
PINE IAmb IAmb 11 39 38.5
comp=Z,5.6nm,1.2s
NEW Newport 60.62 332 LR LR 12 07 33.1
comp=Z,42nm,18.1s,baz=244,slow=38
GLB Gilahina Butte 80.61 334 P **P 11 41 29.2 -0.5**
GLB IAmb IAmb 11 41 46.7
comp=Z,5.9nm,1.4s
EGAK Eagle 80.99 338 P **P 11 41 31.0 -0.6**
ILAR Eielson Array 83.21 337 P **P 11 41 42.5 -0.8**
comp=Z,0.7nm,1.0s,baz=115,slow=3.4,SNR=4.8
ILAR Eielson Array 83.21 337 P **P 11 41 43.7 +0.4**
PPLA Purkeypile 84.80 334 P **P 11 41 50.0 -1.5**
QSPA South Pole Qui 87.00 180 P **P 11 42 01.9 -0.5**

TUL ***04*** *11:57:56.6±1.0, 36°.28N±0°.01×97°.52W±0°.02, h6km±7km, ML3.4, mb_Lg3.5/139(NEIC), Mwr3.3/40(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=67.0*
ANF ***04*** *11:57:56.7±0.8, 36°.27N×97°.46W, h6km±5km, ML4.4/17, Error ellipse: s-maj=2.8km s-min=1.8km az=32.0*
NEIC ***04*** *11:57:56.6, 36°.28N×97°.51W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}=0.21; $M_{\theta\theta}$=1.09; $M_{\phi\phi}$-0.88; $M_{r\theta}$-0.20; $M_{r\phi}$-0.11; $M_{\theta r}$-0.14; Fault plane solution: M_0=1.04000×10^14^ NP1:φ=318.01000°, δ=75.16000°, λ=-3.10000°. NP2:φ=48.81000°, δ=87.00000°, λ=-165.14000°. Principal axes: T 1.1287, Plg8.0000°, Azm182.0000°; N -0.2066, Plg75.0000°, Azm60.0000°; P -0.9221, Plg13.0000°, Azm274.0000°;*
NEIC ***04*** *11:57:56.4±1.1, 36°.28N±0°.01×97°.52W±0°.02, h2km±8km Error ellipse: s-maj=2.6km s-min=1.6km az=67.0*
IDC ***04*** *11:57:56.5±1.8, 36°.25N×97°.53W, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/44, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=25.9km s-min=13.4km az=104.0*

ISC 04 11:57:57.0±0.6, 36°.29N±0°.02×97°.52W±0°.02, h10km, n197, σ1=08/207, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**300**		**Pg**	**11 58 05.2**	**-0.3**
CROK				Sg	**Sg**	**11 58 11.4**	**+0.1**
OK029	**Liberty Lake**	**0.49**	**174**		**Pg**	**11 58 06.0**	**-0.6**
OK029				Sg	**Sg**	**11 58 12.8**	**-0.3**
BLOK	**Blackwell**	**0.53**	**27**		**Pg**	**11 58 07.2**	**-0.3**
BLOK				IAmb_Lg		11 58 13.8	
BLOK	comp=Z,383nm,0.7s			Sg	**Sg**	**11 58 14.6**	**+0.2**
BCOK	**Bluff Creek, N**	**0.63**	**187**		**Pg**	**11 58 08.7**	**-0.6**
BCOK				Sg	**Sg**	**11 58 17.3**	**-0.3**
OK031	**S. Brethren Rd**	**0.64**	**121**		**Pg**	**11 58 08.8**	**-0.7**
OK031				Sg	**Sg**	**11 58 17.6**	**-0.4**
QUOK	**Quay**	**0.67**	**100**		**Pg**	**11 58 09.3**	**-0.6**
QUOK				Sg	**Sg**	**11 58 18.3**	**-0.3**
OK005	**Luther M Schoo**	**0.69**	**157**	Pg	**Pg**	**11 58 09.9**	**-0.3**
OK030	**Cody Creek RV**	**0.69**	**121**		**Pg**	**11 58 09.8**	**-0.6**
OK030				Sg	**Sg**	**11 58 19.1**	**-0.5**
OK009	**Oakdale Elemen**	**0.71**	**174**		**Pg**	**11 58 10.0**	**-0.8**
OK009				Sg	**Sg**	**11 58 19.1**	**-0.9**
OK025	**Westminster Rd**	**0.72**	**168**		**Pg**	**11 58 10.3**	**-0.7**
OK025				Sg	**Sg**	**11 58 19.5**	**-0.8**
KAN13	**South Haven SW**	**0.72**	**3**		**Pg**	**11 58 10.6**	**-0.5**
KAN13				Sg	**Sg**	**11 58 19.4**	**-1.2**
OK001	**Jones High Sch**	**0.75**	**166**	Pg	**Pg**	**11 58 10.5**	**-1.0**
OK001				Sg	**Sg**	**11 58 20.2**	**-1.0**
OK032	**Salt Plains WL**	**0.76**	**313**		**Pg**	**11 58 11.2**	**-0.5**
OK032				Sg	**Sg**	**11 58 21.6**	**0.0**
KAN17	**Caldwell West**	**0.78**	**345**		**Pg**	**11 58 11.6**	**-0.5**
KAN17				Sg	**Sb**	**11 58 22.4**	**-1.0**
KAN09	**Caldwell North**	**0.85**	**355**		**Pg**	**11 58 12.9**	**-0.5**
KAN09				Sg	**Sg**	**11 58 23.7**	**-0.9**
KAN05	**Bluff City Nor**	**0.87**	**341**		**Pg**	**11 58 13.2**	**-0.5**
KAN05				Sg	**Sg**	**11 58 24.2**	**-0.9**
OKCFA	**Oklahoma City**	**0.87**	**176**		**Pg**	**11 58 12.9**	**-0.9**
OKCFA				Sg	**Sg**	**11 58 24.4**	**-0.8**
OKCFA	**Oklahoma City**	**0.87**	**176**	P		11 58 13.0	
	baz=357,SNR=55						
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		**Pg**	**11 58 13.2**	**-0.9**
OKCSW				Sg	**Sg**	**11 58 24.8**	**-0.7**
KS20	**Mayfield South**	**0.94**	**358**		**Pg**	**11 58 14.5**	**-0.7**
KS20				Sg	**Sg**	**11 58 26.7**	**-0.7**
KAN10	**Anthony SW Sta**	**0.95**	**331**		**Pg**	**11 58 14.7**	**-0.7**
KAN10				Sg	**Sg**	**11 58 27.4**	**-0.5**
KAN08	**Anthony NE Sta**	**1.00**	**339**		**Pg**	**11 58 15.7**	**-0.7**
KAN08				Sg	**Sg**	**11 58 29.0**	**-0.5**
T35A	**Sooner Cattle**	**1.02**	**52**		**Pg**	**11 58 16.1**	**-0.6**
T35A				Sg	**Sg**	**11 58 29.4**	**-0.7**
T35B	**Sooner Cattle**	**1.02**	**52**	P		11 58 16.0	
	baz=232						
T35B				S		11 58 29.5	
	baz=232						
FNO	**Franklin**	**1.03**	**175**		**Pg**	**11 58 15.8**	**-1.1**
FNO				IAmb_Lg		11 58 29.7	
FNO	comp=Z,614nm,0.9s			Sg	**Sb**	**11 58 29.8**	**-0.8**
OK011	**Prague**	**1.05**	**140**	Pg	**Pg**	**11 58 16.3**	**-0.9**
KAN12	**Harper NE Stat**	**1.08**	**339**	Pg	**Pg**	**11 58 17.1**	**-0.7**
KAN12				Sg	**Sg**	**11 58 31.2**	**-0.6**
U32A	**Winter Ranch,**	**1.20**	**275**	Pg	**Pb**	**11 58 18.9**	**-1.0**
U32A				Sg	**Sg**	**11 58 35.1**	**-0.6**
U32A	**Winter Ranch,**	**1.20**	**275**	P		11 58 18.9	
	baz=94,SNR=120						
U32A				S		11 58 36.2	
	baz=94						
TUL1	**Leonard**	**1.45**	**105**	P	**Pn**	**11 58 22.6**	**-0.7**
	baz=285,SNR=162						
TUL1				S	**Sb**	**11 58 42.1**	**-0.5**
	baz=285						
TUL1	**Leonard**	**1.45**	**105**	P		11 58 22.6	
	baz=285						
TUL1				S		11 58 42.4	
	baz=285						
X34A	**Smith Ranch, M**	**1.70**	**189**		**Pb**	**11 58 27.8**	**-0.7**
WMOK	**Wichita Mounta**	**1.86**	**214**	P	**Pn**	**11 58 29.3**	**+0.3**
	baz=33						
WMOK				S	**Sb**	**11 58 54.1**	**-0.2**
	baz=33						
WMOK	**Wichita Mounta**	**1.86**	**214**		**Pn**	**11 58 29.3**	**+0.3**
WMOK	**Wichita Mounta**	**1.86**	**214**	P		11 58 29.3	
	baz=33,SNR=242						
WMOK				S		11 58 54.2	
	baz=33						
LOOK	**Love County**	**2.31**	**173**		**Pn**	**11 58 35.6**	**+0.5**
LOOK				IAmb_Lg		11 59 14.3	
LOOK	comp=Z,121nm,0.8s						
R32A	**Long Quarter,**	**2.33**	**336**		**Pn**	**11 58 36.0**	**+0.5**
R32A	**Long Quarter,**	**2.33**	**336**	P		11 58 36.1	
	baz=156,SNR=53						
R32A				S		11 59 05.6	
	baz=156						
X37A	**Clayton**	**2.44**	**133**		**Pn**	**11 58 37.9**	**+1.0**
X37A				IAmb_Lg		11 59 19.7	
	comp=Z,207nm,0.8s						
X37A	**Clayton**	**2.44**	**133**	P		11 58 37.8	
	baz=315,SNR=48						
X37A				S		11 59 12.4	
	baz=315						
U38A	**Gravette**	**2.53**	**86**	Pn	**Pn**	**11 58 39.5**	**+1.2**
U38A	**Gravette**	**2.53**	**86**	P		11 58 39.8	
	baz=267,SNR=10.0						
HHAR	**Hobbs**	**2.89**	**89**		**Pn**	**11 58 43.6**	**+0.4**
HHAR				IAmb_Lg		11 59 29.8	
	comp=Z,75nm,0.7s						
HHAR	**Hobbs**	**2.89**	**89**	P		11 58 43.6	
	baz=271						
KSU1	**Kansas State U**	**2.90**	**14**	S	**Sn**	**11 59 20.5**	**+2.3**
	baz=195						
KSU1	**Kansas State U**	**2.90**	**14**		**Pn**	**11 58 43.4**	**+0.1**
KSU1	**Kansas State U**	**2.90**	**14**	IAmb_Lg		11 59 30.6	
	comp=Z,80nm,0.9s						
Z35A	**Perchaven, San**	**2.96**	**176**		**Pn**	**11 58 44.5**	**+0.4**
Z35A	**Perchaven, San**	**2.96**	**176**	P		11 58 44.8	
	baz=356,SNR=34						
CBKS	**Cedar Bluff**	**3.08**	**326**	P	**Pn**	**11 58 46.7**	**+0.9**
	baz=144						
CBKS				Sb	**Sg**	**11 59 32.9**	**-3.0**
	baz=144						
CBKS	**Cedar Bluff**	**3.08**	**326**		**Pn**	**11 58 46.5**	**+0.7**
W39A	**Magazine**	**3.23**	**109**	P	**Pn**	**11 58 47.3**	**-0.5**
	baz=291						
W39A				Sb	**Sb**	**11 59 36.4**	**+2.6**
	baz=291						
W39A	**Magazine**	**3.23**	**109**		**Pn**	**11 58 48.0**	**+0.2**
W39A				IAmb_Lg		11 59 42.9	
	comp=Z,138nm,0.8s						
W39A	**Magazine**	**3.23**	**109**	P		11 58 48.3	
	baz=291,SNR=14						
S39A	**Bolivar**	**3.64**	**66**		**Pn**	**11 58 54.3**	**+0.8**
S39A				IAmb_Lg		11 59 54.7	
	comp=Z,164nm,0.8s						
S39A	**Bolivar**	**3.64**	**66**	P		11 58 54.0	
	baz=248,SNR=25						
MIAR	**Mount Ida**	**3.66**	**117**	P	**Pn**	**11 58 54.2**	**+0.5**
	baz=300,SNR=22						
MIAR				S	**Sn**	**11 59 36.9**	**0.0**
	baz=300						
MIAR	**Mount Ida**	**3.66**	**117**		**Pn**	**11 58 54.1**	**+0.4**
MIAR				IAmb_Lg		12 00 02.6	
	comp=Z,82nm,0.8s						
MIAR	**Mount Ida**	**3.66**	**117**	P		11 58 54.4	
	baz=300,SNR=35						
AMTX	**Amarillo**	**3.67**	**249**	P	**Pn**	**11 58 54.8**	**+0.8**
	baz=66						
AMTX				Sb	**Sg**	**11 59 51.1**	**-3.8**
	baz=66						
AMTX	**Amarillo**	**3.67**	**249**		**Pn**	**11 58 54.6**	**+0.7**
AMTX	**Amarillo**	**3.67**	**249**	P		11 58 54.8	
	baz=66						
Z38A	**Mt. Pleasant**	**3.67**	**145**		**Pn**	**11 58 54.7**	**+0.9**
U40A	**Yellville**	**3.77**	**88**	P	**Pn**	**11 58 54.5**	**-0.7**
	baz=270						
U40A	**Yellville**	**3.77**	**88**	Pn	**Pn**	**11 58 55.6**	**+0.4**
U40A				IAmb_Lg		11 59 54.9	
	comp=Z,154nm,1.1s						
U40A	**Yellville**	**3.77**	**88**	P		11 58 56.1	
	baz=270,SNR=51						
U40A				P		11 58 56.1	
	baz=270,SNR=51						
ABTX	**Abilene, Hawle**	**4.05**	**206**	P	**Pn**	**11 58 60.0**	**+0.8**
	baz=25						
ABTX				Sb	**Sb**	**12 00 00.5**	**+2.9**
	baz=25						
ABTX	**Abilene, Hawle**	**4.05**	**206**		**Pn**	**11 58 59.1**	**-0.1**
ABTX				IAmb_Lg		12 00 05.7	
	comp=Z,93nm,0.9s						
X40A	**Basin Creek Fa**	**4.23**	**114**	P	**Pn**	**11 59 02.0**	**+0.4**
	baz=296						
X40A				S	**Sn**	**11 59 52.8**	**+1.9**
	baz=296						
X40A	**Basin Creek Fa**	**4.23**	**114**		**Pn**	**11 59 02.2**	**+0.6**
X40A				IAmb_Lg		12 00 12.1	
	comp=Z,132nm,0.8s						
WHTX	**Lake Whitney,**	**4.29**	**179**	P	**Pn**	**11 59 02.5**	**+0.1**
	baz=359						
WHTX				Sb	**Sb**	**12 00 08.0**	**+3.8**
	baz=359						
WHTX	**Lake Whitney,**	**4.29**	**179**	Pn	**Pn**	**11 59 02.1**	**-0.2**
MGMO	**Mountain Grove**	**4.31**	**77**		**Pn**	**11 59 03.0**	**+0.4**
MGMO				IAmb_Lg		12 00 16.1	
	comp=Z,122nm,0.7s						
WHAR	**Wooly Hollow**	**4.37**	**102**		**Pn**	**11 59 03.9**	**+0.4**
WHAR				IAmb_Lg		12 00 19.5	
	comp=Z,109nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.39**	**94**		**Pn**	**11 59 03.5**	**-0.2**
FCAR				IAmb_Lg		12 00 16.2	
	comp=Z,49nm,0.8s						
W41B	**Gary Mavity, V**	**4.43**	**103**	P	**Pn**	**11 59 03.5**	**-0.8**
	baz=286						
W41B				Sb	**Sb**	**12 00 13.0**	**+4.6**
	baz=286						
N33A	**J Bar K, Exete**	**4.45**	**1**	P	**Pn**	**11 59 04.2**	**-0.3**
N33A				IAmb_Lg		12 00 19.0	
	comp=Z,42nm,0.9s						
WLAR	**White Oak Lake**	**4.45**	**124**	Pn	**Pn**	**11 59 04.2**	**-0.4**
WLAR				IAmb_Lg		12 00 26.2	
	comp=Z,95nm,0.7s						
237A	**Washetta, Mont**	**4.50**	**161**		**Pn**	**11 59 05.1**	**-0.2**
237A				IAmb_Lg		12 00 30.7	
	comp=Z,54nm,0.8s						
P38A	**Dawn**	**4.58**	**42**		**Pn**	**11 59 06.5**	**+0.1**
P38A				IAmb_Lg		12 00 26.0	
	comp=Z,118nm,0.7s						
R40A	**Maddies Statio**	**4.64**	**63**		**Pn**	**11 59 07.7**	**+0.5**
N35A	**Tabor**	**4.80**	**17**		**Pn**	**11 59 09.9**	**+0.6**
KSCO	**Kaye Shedlock'**	**4.88**	**305**	P	**Pn**	**11 59 11.6**	**+0.9**
	baz=122						
KSCO				S	**Sn**	**12 00 10.0**	**+2.8**
	baz=122						
KSCO	**Kaye Shedlock'**	**4.88**	**305**		**Pn**	**11 59 11.0**	**+0.4**
KSCO				IAmb_Lg		12 00 45.4	
	comp=Z,105nm,0.7s						
MSTX	**Muleshoe**	**4.89**	**243**	Sb	**Sb**	**12 00 26.6**	**+5.0**
	baz=60						
MSTX	**Muleshoe**	**4.89**	**243**		**Pn**	**11 59 10.9**	**+0.3**
MSTX				IAmb_Lg		12 00 35.8	
	comp=Z,48nm,0.8s						
Z41A	**Richland Creek**	**4.92**	**127**	S	**Sn**	**12 00 07.4**	**-0.6**
	baz=309						
NATX	**Nacogdoches**	**5.10**	**151**		**Pn**	**11 59 13.0**	**-0.5**
NATX				IAmb_Lg		12 00 49.0	
	comp=Z,66nm,1.0s						
BGNE	**Belgrade**	**5.14**	**355**	P	**Pn**	**11 59 13.8**	**-0.2**
	baz=174,SNR=5.2						
BGNE	**Belgrade**	**5.14**	**355**		**Pn**	**11 59 13.1**	**-1.0**
BGNE				IAmb_Lg		12 00 49.4	
	comp=Z,108nm,0.8s						
LCAR	**Lake Charles**	**5.15**	**91**	IAmb_Lg		12 00 45.2	
	comp=Z,50nm,1.1s						
CCAR	**Cane Creek**	**5.27**	**115**	Pn	**Pn**	**11 59 15.6**	**-0.2**
CCAR				IAmb_Lg		12 00 50.2	
	comp=Z,90nm,0.8s						
CCM	**Cathedral Cave**	**5.31**	**69**	P	**Pn**	**11 59 15.9**	**-0.5**
	baz=252						
CCM				S	**Sn**	**12 00 17.4**	**-0.3**
	baz=252						
CCM	**Cathedral Cave**	**5.31**	**69**		**Pn**	**11 59 16.2**	**-0.2**
CCM				IAmb_Lg		12 00 53.4	
	comp=Z,105nm,0.8s						
P40A	**Paris**	**5.40**	**52**		**Pn**	**11 59 18.5**	**+0.8**
P40A				IAmb_Lg		12 00 50.1	
	comp=Z,112nm,0.7s						
435B	**Jarrell**	**5.49**	**181**	S	**Sn**

comp=Z,114nm,1.1s
GNAR Gosnell 6.08 91 IAmb_Lg 12 01 18.5
comp=Z,91nm,0.8s
JCT Junction City 6.10 199 P **Pn** **11 59 26.9 -0.4**
baz=18
JCT Junction City 6.10 199 **Pn** **11 59 26.8 -0.5**
143A Socs Landing, 6.19 124 Pn **Pn** **11 59 28.2 -0.3**
143A IAmb_Lg 12 01 16.2
comp=Z,69nm,0.8s
PEBM Pemiscott Bayo 6.19 89 IAmb_Lg 12 01 16.9
comp=Z,79nm,0.8s
SLM Saint Louis 6.25 66 Pn **Pn** **11 59 28.7 -0.6**
PARMO Parma 6.27 84 Pn **Pn** **11 59 28.6 -1.0**
PARMO IAmb_Lg 12 01 32.0
comp=Z,102nm,0.9s
PENMO Penman 6.37 86 IAmb_Lg 12 01 26.6
comp=Z,86nm,0.8s
K31A O'Neill 6.40 352 **Pn** **11 59 30.7 -0.7**
LNXT Lenox 6.50 89 Pn **Pn** **11 59 32.7 +0.1**
LNXT IAmb_Lg 12 01 28.0
comp=Z,80nm,0.8s
HENM Henderson Moun 6.50 84 Pn **Pn** **11 59 33.4 +0.7**
342A Flagon Creek P 6.53 137 IAmb_Lg 12 01 28.1
comp=Z,30nm,1.1s
SCIA State Center 6.53 29 P **Pn** **11 59 33.9 +0.8**
baz=212
SCIA State Center 6.53 29 Pn **Pn** **11 59 33.3 +0.1**
SCIA IAmb_Lg 12 01 38.0
comp=Z,94nm,0.8s
SDCO Great Sand Dun 6.55 285 P **Pn** **11 59 34.7 +1.0**
baz=100
SDCO Great Sand Dun 6.55 285 Pn **Pn** **11 59 34.5 +0.8**
Q24A Divide 6.62 296 P **Pn** **11 59 35.4 +0.7**
baz=112
HALT Halls 6.63 91 Pn **Pn** **11 59 33.8 -0.8**
HALT IAmb_Lg 12 01 29.4
comp=Z,55nm,1.0s
HICK Hickman 6.69 85 Pn **Pn** **11 59 35.5 +0.2**
S44A Carbondale 6.76 76 Pn **Pn** **11 59 36.2 -0.1**
N41A Harden Midland 6.84 48 Pn **Pn** **11 59 37.0 -0.3**
W45A Hickory Valley 6.87 97 Pn **Pn** **11 59 38.7 +0.9**
W45A IAmb_Lg 12 01 38.0
comp=Z,48nm,0.8s
Y45A Yeager Farm, C 6.97 108 Pn **Pn** **11 59 39.0 -0.2**
Y45A IAmb_Lg 12 01 40.6
comp=Z,34nm,0.8s
UTMT University of 6.99 87 IAmb_Lg 12 01 46.5
comp=Z,85nm,0.9s
VBMS Vicksburg 7.08 123 IAmb_Lg 12 01 52.8
comp=Z,24nm,0.8s
P43A Skaggs, Pawnee 7.15 60 Pn **Pn** **11 59 40.9 -0.8**
Q44A Meyer Farm, Va 7.24 66 Pn **Pn** **11 59 42.5 -0.3**
ISCO Idaho Springs 7.29 301 Pn **Pn** **11 59 43.1 -0.7**
ISCO IAmb_Lg 12 01 59.3
comp=Z,34nm,0.8s
K38A Parkersburg 7.33 29 Pn **Pn** **11 59 44.7 +0.5**
ANMO Albuquerque 7.40 262 Pg Pg 12 00 11.7 -7.0
comp=Z,0.8nm,0.3s,baz=83,slow=17,SNR=18
ANMO Lg Lg 12 01 49.2
comp=Z,2.5nm,0.3s,baz=339,slow=18,SNR=8.9
344A Westbrook Farm 7.42 129 IAmb_Lg 12 02 05.9
comp=Z,27nm,1.2s
ECSD EROS Data Cent 7.47 5 P **Pn** **11 59 44.9 -1.1**
baz=186
ECSD EROS Data Cent 7.47 5 Pn **Pn** **11 59 45.0 -1.1**
L40A Anamosa 7.56 38 Pn **Pn** **11 59 47.0 -0.3**
L40A IAmb_Lg 12 02 05.5
comp=Z,57nm,0.9s
HDIL Hopedale 7.73 54 P **Pn** **11 59 49.5 -0.2**
baz=239
HDIL Hopedale 7.73 54 **Pn** **11 59 49.8 +0.1**
BNM Barren Site 7.75 257 Pn **Pn** **11 59 49.7 -0.5**
PLAL Pickwick Lake 7.80 97 Pn **Pn** **11 59 50.3 -0.2**
PLAL IAmb_Lg 12 02 11.3
comp=Z,26nm,1.0s
WVT Waverly 7.83 88 Pn **Pn** **11 59 50.2 -0.9**
PHWY Pilot Hill 7.97 311 Pn **Pn** **11 59 53.4 +0.2**
PHWY IAmb_Lg 12 02 20.8
comp=Z,64nm,0.9s
MNTX Cornudas Mount 7.97 237 P **Pn** **11 59 53.5 +0.5**
baz=53
MNTX Cornudas Mount 7.97 237 Pn **Pn** **11 59 54.2 +1.2**
SUSD Miller 8.22 353 IAmb_Lg 12 02 30.4
comp=Z,37nm,0.8s
I37A Lemond, Waseca 8.34 21 IAmb_Lg 12 02 28.8
comp=Z,50nm,0.7s
L42A Oliver, Polo 8.35 45 Pn **Pn** **11 59 57.5 -0.6**
T47A Sharon Grove 8.40 82 Pn **Pn** **11 59 59.5 +0.7**
TX31 Lajitas Ar. Si 8.65 218 Pn **Pn** **12 00 02.2 -0.2**
TX32 Lajitas Array 8.65 218 Pn **Pn** **12 00 03.3 +0.9**
TXAR Lajitas Array 8.65 218 Pn **Pn** **12 00 00.4 -1.9**
comp=Z,0.2nm,0.3s,baz=43,slow=11,SNR=11
TXAR Lg Lg 12 02 25.9
comp=Z,1.0nm,0.3s,baz=45,slow=14,SNR=5.1
TXAR Lajitas Array 8.65 218 Pn **Pn** **12 00 03.0 +0.7**
JFWS Jewell Farm 8.67 38 P **Pn** **12 00 02.3 -0.3**
baz=223
JFWS Jewell Farm 8.67 38 Pn **Pn** **12 00 02.2 -0.3**
JFWS IAmb_Lg 12 02 30.0
comp=Z,66nm,0.7s
P46A Rosedale 8.80 65 Pn **Pn** **12 00 05.4 +1.2**
MVCO Mesa Verde 8.86 279 IAmb_Lg 12 02 43.8
comp=Z,20nm,1.2s
M44A Midewin, Midew 8.97 53 IAmb_Lg 12 02 51.0
comp=Z,53nm,0.9s
SFIN Lafayette 9.15 60 Pn **Pn** **12 00 09.8 +0.7**
SFIN IAmb_Lg 12 02 44.3
comp=Z,61nm,0.8s
WCI Wyandotte Cave 9.16 74 P **Pn** **12 00 09.0 -0.1**
baz=261
WCI Wyandotte Cave 9.16 74 Pn **Pn** **12 00 09.3 +0.1**
WCI IAmb_Lg 12 02 54.5
comp=Z,49nm,1.0s
BLO Bloomington 9.18 68 Pn **Pn** **12 00 10.6 +1.1**
I40A Norwalk 9.25 33 Pn **Pn** **12 00 09.3 -1.2**
LRAL Lakeview Retre 9.25 107 Pn **Pn** **12 00 09.7 -0.8**
PV11 David Mesa, Pa 9.27 286 IAmb_Lg 12 03 16.2
comp=Z,38nm,1.2s
121A Cookes Peak, D 9.27 249 IAmb_Lg 12 03 07.8
comp=Z,32nm,1.1s
RWWY Rawlins 9.27 309 IAmb_Lg 12 02 58.5
comp=Z,46nm,0.9s
RSSD Black Hills 9.27 330 IAmb_Lg 12 02 56.9
comp=Z,36nm,1.1s
PV16 Nyswonger Mesa 9.30 286 IAmb_Lg 12 03 02.6
comp=Z,20nm,1.3s
PV04 Paradox Valley 9.31 286 IAmb_Lg 12 03 05.0
comp=Z,26nm,1.1s
PV17 East Wray Mesa 9.33 286 IAmb_Lg 12 03 11.9
comp=Z,18nm,1.3s
PV14 Lion Creek, Pa 9.40 286 IAmb_Lg 12 02 56.6
comp=Z,34nm,1.0s
Y49A Blount Mountai 9.42 102 Pn **Pn** **12 00 13.5 +0.6**
U49A Red Boiling Sp 9.47 85 IAmb_Lg 12 03 06.8
comp=Z,24nm,1.2s
K43A Burlington 9.56 45 Pn **Pn** **12 00 15.4 +0.7**
F33A 5 Mile Ranch, 9.59 5 Pn **Pn** **12 00 14.1 -1.0**
F33A IAmb_Lg 12 03 15.0
comp=Z,16nm,0.8s
SPMN Marine on St. 9.62 20 Pn **Pn** **12 00 14.8 -0.6**
SPMN IAmb_Lg 12 03 09.7
comp=Z,38nm,1.2s
W50A Signal Mountai 9.98 93 IAmb_Lg 12 03 20.8
comp=Z,22nm,0.8s
F36A Milaca 10.03 16 Pn **Pn** **12 00 20.5 -0.6**
T50A Nancy 10.22 82 Pn **Pn** **12 00 23.3 -0.5**
X51A Calhoun 10.47 96 Pn **Pn** **12 00 26.6 -0.6**
V51A Loudon 10.67 89 Pn **Pn** **12 00 29.9 0.0**
R50A Paris 10.70 75 Pn **Pn** **12 00 29.1 -1.2**
H43A Windswept, Lux 11.04 39 Pn **Pn** **12 00 33.8 -1.2**
O49A Covington 11.07 65 Pn **Pn** **12 00 35.7 +0.3**
TKL Tuckaleechee C 11.16 89 Lg Lg 12 03 43.2
comp=Z,0.6nm,0.3s,baz=175,slow=16,SNR=8.0
S51A Beattyville 11.22 79 Pn **Pn** **12 00 36.2 -1.3**
TZTN Tazewell 11.26 85 Pn **Pn** **12 00 36.7 -1.3**
V52A Sevierville 11.28 88 Pn **Pn** **12 00 38.1 -0.2**
PDAR Pinedale Array 11.32 309 Pn **Pn** **12 00 40.0 +1.0**
comp=Z,0.2nm,0.3s,baz=114,slow=15,SNR=3.1
PDAR Lg Lg 12 03 51.2
comp=Z,0.5nm,0.3s,baz=108,slow=33,SNR=7.5
Q51A Peebles 11.56 72 Pn **Pn** **12 00 41.9 -0.2**
COWI Conover 11.65 30 Pn **Pn** **12 00 43.6 +0.2**
AGMN Agassiz Nation 12.06 5 Pn **Pn** **12 00 47.7 -1.2**
B35A Bob, Littlefor 12.38 12 Pn **Pn** **12 00 53.4 +0.1**
Q52A Bidwell 12.38 73 Pn **Pn** **12 00 53.6 +0.3**
EYMN Ely 12.47 19 Pn **Pn** **12 00 55.0 +0.4**
P52A Corning 12.60 70 Pn **Pn** **12 00 56.2 0.0**
N51A Ashland 12.71 64 Pn **Pn** **12 00 57.9 +0.1**
E43A Lone Tree Farm 12.80 35 Pn **Pn** **12 00 57.5 -1.4**
S54A Dingess, Beckl 13.04 79 Pn **Pn** **12 01 02.1 -0.3**
P53A Whipple 13.14 71 Pn **Pn** **12 01 02.5 -1.1**
O53A New Philadelph 13.41 68 Pn **Pn** **12 01 05.8 -1.6**
Q54A Coxs Mills 13.50 73 Pn **Pn** **12 01 07.3 -1.2**
BLA Blacksburg 13.75 81 Pn **Pn** **12 01 10.7 -1.3**
R55A Marlinton 14.00 77 Pn **Pn** **12 01 15.2 -0.3**
ULM Lac du Bonnet 14.01 4 Pn **Pn** **12 01 10.8 -4.7**
comp=Z,0.3nm,0.3s,baz=188,slow=7.1,SNR=1.7
ULM Lg Lg 12 05 10.0
comp=Z,0.4nm,0.3s,baz=114,slow=22,SNR=2.1
E46A Sault Ste Mari 14.12 40 Pn **Pn** **12 01 16.5 -0.5**
T57A Hurt 14.69 82 Pn **Pn** **12 01 24.2 -0.6**
SADO Sadowa 16.31 53 Lg Lg 12 06 22.6
comp=Z,0.4nm,0.3s,baz=129,slow=20,SNR=5.5
ILAR Eielson Array 40.72 330 P **P** **12 05 40.3 +2.7**
comp=Z,0.3nm,0.7s,baz=108,slow=8.1,SNR=4.3

*NAO **04** 12:12:02.8±1.1, 67°.72N×33°.90E, ML2.3*
*HEL **04** 12:12:02.0±0.1, 67°.68N×33°.94E, h0km, ML2.0, Explosion*
*UPP **04** 12:12:02.4±3.0, 67°.61N×33°.88E, h0km, ML1.7, Suspected explosion*
*IDC **04** 12:12:06.3±2.2, 67°.57N×33°.15E, h0km, mb1 2.9/2, mb1mx2.7/35, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=21.5km s-min=8.7km az=87.0*
ISC 04 12:12:00.9±1.0, 67°.61N±0°.04×34°.08E±0°.04, h0km, n39, σ1§12/64, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.36**	**36**	*e*P	**Pg**	**12 12 08.2**	**+0.4**
LVZ				*e*S	**Sg**	**12 12 13.3**	**+0.8**
APA0	**Apatity Array**	**0.42**	**270**	Pg	**Pg**	**12 12 09.4**	**+0.5**
baz=71,slow=18							
APA0				Lg	Lg	12 12 14.9	
baz=83,slow=56							
APA0				Rg	Rg	12 12 17.5	
baz=93,slow=37							
APA0	**Apatity Array**	**0.42**	**270**	Pg	**Pg**	**12 12 09.4**	**+0.5**
baz=71,slow=18							
APA0				Sg	**Sg**	**12 12 14.9**	**+0.7**
baz=83,slow=56							
OLKF	**Oulanka, Finla**	**2.25**	**237**	*e*PG	**Pb**	**12 12 42.2**	**-0.1**
OLKF				*e*SG	**Sb**	**12 13 11.3**	**+0.6**
OLKF				MSG		12 13 14.1	
comp=Z,5.0nm,0.1s							
KU6	**Riekki**	**2.30**	**228**	*e*P	**Pn**	**12 12 41.0**	**+1.0**
KU6				*e*SG	**Sb**	**12 13 12.8**	**+0.7**
KU6				MSG		12 13 14.7	
comp=Z,4.1nm,0.2s							
MSF	**Maaselka**	**2.63**	**232**	*e*P	**Pn**	**12 12 46.1**	**+1.6**
MSF				*e*SG	**Sb**	**12 13 22.5**	**+1.0**
SGF	**Sodankyl**	**2.91**	**270**	*e*P	**Pn**	**12 12 48.6**	**+0.2**
SGF				*e*SG	**Sb**	**12 13 29.4**	**-0.1**
SGF				MSG		12 13 32.4	
comp=Z,4.0nm,0.2s							
RNF	**Rovaniemi**	**3.31**	**256**	*e*P	**Pn**	**12 12 54.5**	**+0.7**
KEV	**Kevo**	**3.37**	**313**	Pn	**Pn**	**12 12 55.8**	**+1.2**
KEV				Sn	**Sn**	**12 13 35.6**	**+0.4**
KEV				Lg	Lg	12 13 42.5	
KEV	**Kevo**	**3.37**	**313**	Pn	**Pn**	**12 12 55.8**	**+1.2**
KEV				Sg	**Sb**	**12 13 42.5**	**-0.2**
KEV	**Kevo**	**3.37**	**313**	*e*SG	**Sb**	**12 13 42.2**	**-0.5**
KEV				MSG		12 13 45.4	
comp=Z,8.4nm,0.2s							
ARA0	**ARCESS Array S**	**3.69**	**306**	Pn	**Pn**	**12 12 59.7**	**+0.6**
baz=122,slow=16							
ARA0				Sn	**Sn**	**12 13 41.9**	**-1.5**
baz=120,slow=37							
ARA0				Lg	Lg	12 13 52.4	
baz=116,slow=28							
ARA0	**ARCESS Array S**	**3.69**	**306**	Pn	**Pn**	**12 12 59.7**	**+0.6**
baz=122,slow=16							
ARA0				Sn	**Sn**	**12 13 41.9**	**-1.5**
baz=120,slow=37							
ARA0	**ARCESS Array S**	**3.69**	**306**	*e*P	**Pn**	**12 12 59.4**	**+0.3**
ARA0				*e*S	**Sn**	**12 13 41.8**	**-1.5**
ARCES	**ARCESS Array B**	**3.69**	**306**	Pn	**Pn**	**12 12 59.7**	**+0.6**
baz=121,slow=15,SNR=50							
ARCES				Pg	**Pb**	**12 13 08.1**	**+1.1**
baz=120,slow=14,SNR=10							
ARCES				Sn	**Sn**	**12 13 41.5**	**-1.9**
baz=118,slow=32,SNR=9.9							
ARCES				Lg	Lg	12 13 53.0	
baz=107,slow=33,SNR=12							
KLF	**Kolari**	**3.92**	**269**	*e*P	**Pn**	**12 13 02.2**	**0.0**
KLF				*e*S	**Sn**	**12 13 47.9**	**-1.0**
KLF				*e*SG	**Sb**	**12 14 01.1**	**+2.4**
KLF				MSG		12 14 04.5	
comp=Z,2.6nm,0.2s							
HEF	**Hetta**	**4.00**	**286**	Pn	**Pn**	**12 13 04.1**	**+0.7**
HEF				Pg	**Pb**	**12 13 13.1**	**+0.9**
HEF				Sn	**Sn**	**12 13 50.0**	**-0.9**
HEF				Lg	Lg	12 14 02.3	
HEF	**Hetta**	**4.00**	**286**	Pn	**Pn**	**12 13 04.1**	**+0.7**
HEF				Pg	**Pb**	**12 13 13.1**	**+0.9**
HEF	**Hetta**	**4.00**	**286**	*e*P	**Pn**	**12 13 03.8**	**+0.4**
HEF				*e*S	**Sn**	**12 13 49.6**	**-1.3**
HEF				MSG		12 14 09.5	
comp=Z,2.4nm,0.1s							
TOF	**Tornio**	**4.15**	**253**	*e*SG	**Sb**	**12 14 06.6**	**+1.4**
KTK1	**Kautokeino**	**4.26**	**294**	Pn	**Pn**	**12 13 07.4**	**+0.5**
KTK1				Pg	**Pb**	**12 13 17.8**	**+1.1**
KTK1				Sn	**Sn**	**12 13 55.2**	**-2.2**
KTK1				Lg	Lg	12 14 12.4	
PAJU	**Pajala**	**4.29**	**267**	P	**Pn**	**12 13 07.1**	**-0.3**
PAJU				S	**Sn**	**12 13 57.2**	**-0.8**
PAJU	**Pajala**	**4.29**	**267**	*e*P	**Pn**	**12 13 07.0**	**-0.3**
LANU	**Lannavaara**	**4.60**	**281**	P	**Pn**	**12 13 11.4**	**-0.3**
LANU	**Lannavaara**	**4.60**	**281**	*e*P	**Pn**	**12 13 11.4**	**-0.3**
KIF	**Kilpisjarvi**	**5.12**	**292**	Pn	**Pn**	**12 13 18.8**	**+0.1**
KIF				Sn	**Sn**	**12 14 16.7**	**-1.7**
KIF	**Kilpisjarvi**	**5.12**	**292**	Pn	**Pn**	**12 13 18.8**	**+0.1**
KIF				Sn	**Sn**	**12 14 16.7**	**-1.7**
KUA	**Kurravaara**	**5.23**	**280**	P	**Pn**	**12 13 19.6**	**-0.6**
KOVU	**Salmi**	**5.29**	**283**	P	**Pn**	**12 13 21.1**	**+0.1**
HARU	**Harads**	**5.36**	**260**	P	**Pn**	**12 13 21.6**	**-0.4**
SJUU	**Sjulsmark**	**5.41**	**253**	P	**Pn**	**12 13 22.3**	**-0.4**
SJUU				S	**Sn**	**12 14 22.8**	**-2.7**
RATU	**Laukkuluspa**	**5.52**	**279**	P	**Pn**	**12 13 23.6**	**-0.6**
NIKU	**Nikkaluokta**	**5.73**	**280**	P	**Pn**	**12 13 26.2**	**-0.8**
I37NO	**I37NO**	**5.91**	**291**	*i*		12 45 50.0	
baz=99,slow=319,SNR=4.4							
FIA0	**FINESS Array S**	**7.08**	**213**	Pn	**Pn**	**12 13 46.1**	**+0.5**
baz=19,slow=16							
FIA0	**FINESS Array S**	**7.08**	**213**	Pn	**Pn**	**12 13 46.1**	**+0.5**
baz=19,slow=16							
FINES	**FINESS Array B**	**7.08**	**213**	Pn	**Pn**	**12 13 45.5**	**-0.1**
comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=1.0							
FINES				Sn	**Sn**	**12 15 03.8**	**-2.9**
comp=Z,0.1nm,0.3s,baz=45,slow=24,SNR=1.5							
FINES				Lg	Lg	12 15 40.4	
comp=Z,0.2nm,0.3s,baz=38,slow=23,SNR=2.0							
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	**Pn**	**12 14 47.2**	**-2.1**
baz=144,slow=18							
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	**Pn**	**12 14 47.2**	**-2.1**
baz=144,slow=18							

*TUL **04** 12:33:51.5±1.6, 36°.76N±0°.01×97°.56W±0°.03, h5km±7km, ML3.1, mb_Lg3.0/105(NEIC), Error ellipse: s-maj=3.5km s-min=1.9km az=84.0*
NEIC 04 12:33:51.5±1.3, 36°.74N±0°.01×97°.55W±0°.01, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=6.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.27**	**85**		Pg	12 33 57.2	+0.5
BLOK				Sg	Sg	12 34 01.2	+1.0
KAN13	**South Haven SW**	**0.28**	**11**		Pg	12 33 57.3	+0.4
KAN13				Sg	Sg	12 34 01.1	+0.4
KAN17	**Caldwell West**	**0.35**	**330**		Pg	12 33 58.5	+0.2
KAN09	**Caldwell North**	**0.40**	**352**		Pg	12 33 59.4	+0.2
KAN09				Sg	Sg	12 34 04.8	+0.3
CROK	**Carrier**	**0.42**	**237**		Pg	12 34 00.1	+0.5
KAN05	**Bluff City Nor**	**0.45**	**325**		Pg	12 34 00.3	+0.1
KS20	**Mayfield South**	**0.49**	**359**		Pg	12 34 01.0	0.0
KS20				Sg	Sg	12 34 07.7	+0.3
OK032	**Salt Plains WL**	**0.54**	**277**		Pg	12 34 01.8	0.0
OK032				Sg	Sg	12 34 09.0	+0.2
KAN10	**Anthony SW Sta**	**0.58**	**311**		Pg	12 34 02.6	-0.1
KAN08	**Anthony NE Sta**	**0.59**	**325**		Pg	12 34 02.9	0.0
KAN12	**Harper NE Stat**	**0.67**	**327**	Pg	Pg	12 34 03.5	-0.7
T35A	**Sooner Cattle**	**0.85**	**78**	Pg	Pg	12 34 08.0	+0.2
QUOK	**Quay**	**0.88**	**130**		Pg	12 34 08.5	+0.2
OK029	**Liberty Lake**	**0.94**	**175**	Pg	Pg	12 34 09.7	+0.2
OK031	**S. Brethren Rd**	**0.97**	**144**		Pg	12 34 10.2	+0.2
OK030	**Cody Creek RV**	**1.02**	**142**		Pg	12 34 11.1	+0.1
BCOK	**Bluff Creek, N**	**1.08**	**183**		Pg	12 34 12.0	-0.1
OK005	**Luther M Schoo**	**1.12**	**165**	Pg	Pg	12 34 11.9	-1.0
OK009	**Oakdale Elemen**	**1.16**	**175**	Pn	Pn	12 34 14.9	+0.6
OK025	**Westminster Rd**	**1.17**	**172**		Pg	12 34 13.7	-0.1
U32A	**Winter Ranch,**	**1.22**	**253**		Pg	12 34 14.3	-0.6
OKCFA	**Oklahoma City**	**1.32**	**177**	Pn	Pn	12 34 16.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.33**	**176**	Pn	Pn	12 34 16.6	-0.1
OK011	**Prague**	**1.43**	**151**	Pn	Pn	12 34 18.2	+0.1
FNO	**Franklin**	**1.48**	**175**		Pn	12 34 19.1	+0.3
R32A	**Long Quarter,**	**1.92**	**332**		Pn	12 34 22.2	-2.6
X34A	**Smith Ranch, M**	**2.14**	**186**	Pn	Pn	12 34 27.4	-0.5
WMOK	**Wichita Mounta**	**2.23**	**207**		Pn	12 34 29.9	+0.7
KSU1	**Kansas State U**	**2.47**	**17**	Pn	Pn	12 34 31.9	-0.6
U38A	**Gravette**	**2.56**	**96**		Pn	12 34 33.5	-0.1
CBKS	**Cedar Bluff**	**2.70**	**321**		Pn	12 34 34.5	-1.1
LOOK	**Love County**	**2.75**	**174**		Pn	12 34 35.5	-0.9
X37A	**Clayton**	**2.78**	**140**		Pn	12 34 37.1	+0.4
HHAR	**Hobbs**	**2.94**	**98**		Pn	12 34 39.8	+0.9
Z35A	**Perchaven, San**	**3.41**	**176**	Pn	Pn	12 34 45.9	+0.6
W39A	**Magazine**	**3.42**	**116**		Pn	12 34 44.9	-0.5
S39A	**Bolivar**	**3.50**	**73**		Pn	12 34 45.6	-1.0
U40A	**Yellville**	**3.80**	**94**	Pn	Pn	12 34 50.9	+0.2
U40A				IAmb_Lg		12 35 59.4	
comp=Z,29nm,0.7s							
AMTX	**Amarillo**	**3.83**	**242**		Pn	12 34 51.5	+0.3
AMTX				IAmb_Lg		12 35 59.4	
comp=Z,34nm,0.8s							
MIAR	**Mount Ida**	**3.90**	**123**		Pn	12 34 53.0	+0.8
MIAR				IAmb_Lg		12 35 58.9	
comp=Z,49nm,0.9s							
N33A	**J Bar K, Exete**	**4.00**	**1**	Pn	Pn	12 34 52.9	-0.5
Z38A	**Mt. Pleasant**	**4.06**	**148**		Pn	12 34 54.5	+0.3
Z38A				IAmb_Lg		12 36 03.5	
comp=Z,33nm,0.7s							
MGMO	**Mountain Grove**	**4.25**	**83**	Pn	Pn	12 34 57.0	+0.2
MGMO				IAmb_Lg		12 36 08.0	
comp=Z,43nm,0.8s							
P38A	**Dawn**	**4.28**	**46**		Pn	12 34 55.5	-1.7
P38A				IAmb_Lg		12 36 06.0	
comp=Z,40nm,0.8s							
N35A	**Tabor**	**4.38**	**19**		Pn	12 34 58.0	-0.6
X40A	**Basin Creek Fa**	**4.45**	**119**		Pn	12 34 58.7	-0.9
X40A				IAmb_Lg		12 36 16.5	
comp=Z,26nm,0.7s							
ABTX	**Abilene, Hawle**	**4.45**	**203**	Pn	Pn	12 34 59.6	0.0
FCAR	**Ozark Folk Cen**	**4.46**	**99**		Pn	12 34 59.2	-0.6
FCAR				IAmb_Lg		12 36 10.7	
comp=Z,38nm,0.8s							
R40A	**Maddies Statio**	**4.47**	**68**		Pn	12 34 59.4	-0.5
R40A				IAmb_Lg		12 36 18.2	
comp=Z,25nm,0.8s							
WHAR	**Wooly Hollow**	**4.50**	**107**		Pn	12 34 59.5	-0.8
WHAR				IAmb_Lg		12 36 18.8	
comp=Z,36nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.62**	**301**	Pn	Pn	12 35 01.6	-0.5
KSCO				IAmb_Lg		12 36 30.9	
comp=Z,39nm,0.8s							
BGNE	**Belgrade**	**4.69**	**354**	Pn	Pn	12 35 02.7	-0.2
WHTX	**Lake Whitney,**	**4.74**	**179**	Pn	Pn	12 35 02.5	-1.0
WLAR	**White Oak Lake**	**4.74**	**129**	Pn	Pn	12 35 02.5	-1.1
WLAR				IAmb_Lg		12 36 28.4	
comp=Z,33nm,0.9s							
MSTX	**Muleshoe**	**5.08**	**239**	Pn	Pn	12 35 08.3	-0.1
P40A	**Paris**	**5.15**	**56**	IAmb_Lg		12 36 43.8	
comp=Z,20nm,0.7s							
CCM	**Cathedral Cave**	**5.19**	**73**		Pn	12 35 09.9	+0.2
CCM				IAmb_Lg		12 36 41.3	
comp=Z,48nm,1.0s							
LCAR	**Lake Charles**	**5.20**	**95**	Pn	Pn	12 35 10.0	+0.1
LCAR				IAmb_Lg		12 36 40.1	
comp=Z,32nm,1.1s							
N38A	**Joes South For**	**5.27**	**38**		Pn	12 35 10.6	-0.3
N38A				IAmb_Lg		12 36 52.3	
comp=Z,35nm,0.7s							
L34A	**Svendsen Farm,**	**5.30**	**10**	Pn	Pn	12 35 11.1	-0.2
OGNE	**Ogallala**	**5.47**	**322**	Pn	Pn	12 35 12.9	-0.8
OGNE				IAmb_Lg		12 36 49.5	
comp=Z,20nm,0.8s							
CCAR	**Cane Creek**	**5.50**	**119**	IAmb_Lg		12 36 52.0	
comp=Z,41nm,0.9s							
T25A	**Trinidad**	**5.51**	**276**		Pn	12 35 14.2	-0.2
T25A				IAmb_Lg		12 36 55.8	
comp=Z,27nm,1.0s							
PBMO	**Poplar Bluff**	**5.71**	**87**	Pn	Pn	12 35 16.8	-0.2
PBMO				IAmb_Lg		12 36 51.9	
comp=Z,24nm,0.7s							
435B	**Jarrell**	**5.94**	**180**		Pn	12 35 19.6	-0.5
435B				IAmb_Lg		12 37 10.2	
comp=Z,29nm,0.7s							
SLM	**Saint Louis**	**6.10**	**70**	IAmb_Lg		12 37 03.7	
comp=Z,34nm,1.0s							
SCIA	**State Center**	**6.16**	**32**	Pn	Pn	12 35 23.0	-0.1
PARMO	**Parma**	**6.26**	**88**	Pn	Pn	12 35 23.1	-1.5
SDCO	**Great Sand Dun**	**6.42**	**281**	Pn	Pn	12 35 27.1	+0.1
JCT	**Junction City**	**6.52**	**197**	Pn	Pn	12 35 28.0	-0.1
JCT				IAmb_Lg		12 37 31.4	
comp=Z,26nm,1.0s							
N41A	**Harden Midland**	**6.56**	**51**	IAmb_Lg		12 37 20.4	
comp=Z,30nm,0.8s							
S44A	**Carbondale**	**6.69**	**79**	Pn	Pn	12 35 30.4	+0.1
HICK	**Hickman**	**6.69**	**89**	Pn	Pn	12 35 30.4	0.0
SIUC	**Southern Illin**	**6.72**	**79**	Pn	Pn	12 35 31.3	+0.6
P43A	**Skaggs, Pawnee**	**6.95**	**63**	IAmb_Lg		12 37 33.9	
comp=Z,27nm,0.8s							
K38A	**Parkersburg**	**6.96**	**30**	IAmb_Lg		12 37 43.1	
comp=Z,32nm,0.7s							
ECSD	**EROS Data Cent**	**7.03**	**6**	Pn	Pn	12 35 32.9	-2.1
ISCO	**Idaho Springs**	**7.04**	**298**	Pn	Pn	12 35 34.5	-1.0
Y45A	**Yeager Farm, C**	**7.14**	**111**	IAmb_Lg		12 37 56.9	
comp=Z,27nm,0.8s							
L40A	**Anamosa**	**7.23**	**41**	Pn	Pn	12 35 36.2	-1.5
L40A				IAmb_Lg		12 37 39.4	
comp=Z,20nm,0.8s							
ANMO	**Albuquerque**	**7.45**	**259**	Pn	Pn	12 35 41.0

TXAR	Lajitas Array	8.99	217	Pn	Pn	12 36 01.7	-0.4
BLO	Bloomington	9.04	71	IAmb_Lg		12 38 38.0	
	comp=Z,21nm,0.8s						
CLTN	Cedars of Leba	9.06	91	IAmb_Lg		12 38 40.1	
	comp=Z,9.7nm,0.8s						
WCI	Wyandotte Cave	9.07	77	Pn	Pn	12 36 01.1	-2.0
WCI				IAmb_Lg		12 38 34.4	
	comp=Z,15nm,1.0s						
PV13	Radium Mtn., P	9.08	282	IAmb_Lg		12 38 57.1	
	comp=Z,8.6nm,1.2s						
K22A	Casper	9.09	313	Pn	Pn	12 36 03.6	+0.1
K22A				IAmb_Lg		12 38 56.2	
	comp=Z,13nm,1.0s						
F33A	5 Mile Ranch,	9.14	6	IAmb_Lg		12 38 50.1	
	comp=Z,11nm,1.0s						
L44A	Lake County Fo	9.22	51	IAmb_Lg		12 38 48.2	
	comp=Z,20nm,1.1s						
K43A	Burlington	9.27	47	Pn	Pn	12 36 05.4	-0.3
K43A				IAmb_Lg		12 38 55.0	
	comp=Z,13nm,0.8s						
LRAL	Lakeview Retre	9.42	110	Pn	Pn	12 36 08.0	+0.1
U49A	Red Boiling Sp	9.46	88	Pn	Pn	12 36 08.0	-0.5
SWET	Sewanee	9.54	96	Pn	Pn	12 36 10.1	+0.7
F36A	Milaca	9.60	17	Pn	Pn	12 36 09.1	-1.3
I42A	Draeger Farm,	9.72	40	Pn	Pn	12 36 11.0	-0.9
I42A				IAmb_Lg		12 39 03.5	
	comp=Z,8.2nm,0.8s						
P48A	Milroy	9.93	70	Pn	Pn	12 36 14.5	-0.4
P48A				IAmb_Lg		12 39 21.0	
	comp=Z,12nm,0.8s						
R49A	Shelbyville	9.96	77	Pn	Pn	12 36 15.5	+0.4
FPAL	Fort Paine	9.96	99	IAmb_Lg		12 39 14.6	
	comp=Z,8.2nm,0.8s						
Z51A	Franklin	10.70	105	Pn	Pn	12 36 24.6	-0.8
O49A	Covington	10.92	68	Pn	Pn	12 36 26.4	-1.9
V52A	Sevierville	11.30	90	Pn	Pn	12 36 32.5	-1.1
E43A	Lone Tree Farm	12.45	36	Pn	Pn	12 36 47.0	-2.3
JSC	Jenkinsville	13.49	96	Pn	Pn	12 37 03.9	+0.3
O54A	Avella	13.89	70	Pn	Pn	12 37 09.5	+0.6

*IDC **04** 12:35:14.2±1.0, 30.°14N×143.°26E, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.6/54, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=35.6km s-min=21.9km az=89.0*
*JMA **04** 12:35:14.6±0.2, 30.°47N×143.°36E, h0km, M4.2*

ISC 04 12:35:19.4±1.0, 30.°2N±0.°1×143.°2E±0.°1, h35km, n15, σ1§09/20, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	4.06	316	P	Pn	12 36 18.9	-0.1
JHJ2				eS	Sn	12 37 06.8	+1.5
JHJ	Hachijo jima 2	4.08	316	Pn	Pn	12 36 18.8	-0.6
	3.1nm,0.3s,baz=22,slow=20,SNR=1.5						
JHJ				Sn	Sn	12 37 03.6	-2.3
	20nm,0.3s,baz=87,slow=19,SNR=7.8						
BSO1	Boso 1	4.80	338	P	Pn	12 36 27.9	-0.7
BSO1				eS	Sn	12 37 22.8	+0.1
BSO3	Boso 3	5.09	335	P	Pn	12 36 32.4	-0.6
BSO3				S	Sn	12 37 30.0	-0.4
JHU	Hanno	6.50	331	P	Pn	12 36 52.7	+0.2
JHU				S	Sn	12 38 06.3	+0.9
JHO	Hitachi	6.74	342	P	Pn	12 36 54.9	-0.9
JRY	Ryogami san	6.80	329	P	Pn	12 36 57.0	+0.3
MJAR	Matsushiro Arr	7.55	328	Pn	Pn	12 37 06.9	0.0
	0.2nm,0.3s,baz=149,slow=12,SNR=9.2						
ASAJ	Asahikawa	13.88	358	Pn	Pn	12 38 31.3	-2.3
	0.6nm,0.3s,baz=222,slow=10,SNR=12						
WRA	Warramunga Arr	50.59	191	P	P	12 44 14.4	-0.4
	1.2nm,0.8s,baz=14,slow=8.1,SNR=5.2						
ASAR	Alice Springs	54.30	190	P	P	12 44 41.2	-1.2
	0.3nm,0.7s,baz=7.0,slow=8.4,SNR=3.0						
ILAR	Eielson Array	54.58	30	P	P	12 44 43.6	-0.2
	0.5nm,0.7s,baz=248,slow=6.0,SNR=5.8						
FINES	FINESS Array B	75.54	334	P	P	12 47 01.4	+1.5
	1.3nm,0.8s,baz=12,slow=8.9,SNR=4.6						
NVAR	Mina Array Bea	77.93	53	P	P	12 47 14.6	+0.3
	0.4nm,0.7s,baz=295,slow=5.3,SNR=4.7						
TXAR	Lajitas Array	93.06	54	P	P	12 48 30.6	+0.6
	0.3nm,0.8s,baz=318,slow=1.7,SNR=4.5						

*IDC **04** 12:58:25.4±2.7, 32.°42S×178.°01W, h0km, mb4.2/3, mb1 4.4/4, mb1mx3.8/33, mbtmp4.2/4, ML3.4/1, Error ellipse: s-maj=59.7km s-min=35.7km az=120.0*
*NEIC **04** 12:58:26.9±0.9, 32.°5S±0.°1×178.°0W±0.°2, h10km±2km, mb4.5/10, Error ellipse: s-maj=32.0km s-min=20.7km az=123.0*

ISC 04 12:58:27.9±1.2, 32.°5S±0.°1×177.°9W±0.°2, h20km, n24, σ1§16/25, mb4.5/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.10	214	Pn	Pn	13 00 09.5	-1.1
	0.6nm,0.3s,baz=61,slow=19,SNR=2.8						
URZ				Sn	Sn	13 01 31.7	+1.0
	2.8nm,0.3s,baz=35,slow=23,SNR=14						
URZ	Urewera	7.10	214		Pn	13 00 09.7	-0.9
BKZ	Black Stump Fm	8.12	213	Pn	Pn	13 00 23.9	-0.8
BFZ	Birch Farm	9.48	208	Pn	Pn	13 00 41.9	-1.3
TUWZ	Tuamarina	11.10	214	Pn	Pn	13 01 05.1	-0.3
KHZ	Kahutara	12.06	212	Pn	Pn	13 01 17.9	-0.7
OXZ	Oxford	13.46	213	Pn	Pn	13 01 36.3	-1.3
STKA	Stephens Creek	34.18	260	P	P	13 05 14.2	+2.2
	1.1nm,0.5s,baz=128,slow=9.5,SNR=4.2						
CTA	Charters Tower	34.30	282	P	P	13 05 14.1	+1.1
	5.5nm,0.6s,baz=112,slow=9.5,SNR=6.5						
CTAO	Charters Tower	34.30	282	P	P	13 05 12.3	-0.7
CTAO				IAmb	IAmb	13 05 16.1	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	43.16	269	P	P	13 06 26.4	-1.0
ASAR	Alice Springs	43.16	269	P	P	13 06 26.5	-0.9
	comp=Z,0.8nm,0.5s,baz=106,slow=7.6,SNR=34						
ASAR	Alice Springs	43.16	269	P	P	13 06 25.8	-1.6
WR0	Warramunga Arr	44.15	274	P	P	13 06 34.3	-1.1
WR0				IAmb	IAmb	13 06 41.8	
	comp=Z,15nm,1.4s						
WB2	Warramunga Arr	44.32	274	P	P	13 06 35.6	-1.2
WB2				IAmb	IAmb	13 06 45.5	
	comp=Z,5.2nm,1.2s						
WRAB	Tennant Creek	44.33	274	P	P	13 06 35.1	-1.6
WRAB				IAmb	IAmb	13 06 39.9	
	comp=Z,10nm,1.3s						
WRA	Warramunga Arr	44.33	274	P	P	13 06 35.8	-1.1
	comp=Z,1.5nm,0.4s,baz=113,slow=7.7,SNR=46						
WRA	Warramunga Arr	44.33	274	P	P	13 06 35.3	-1.6
WB0	Warramunga Arr	44.36	274	P	P	13 06 36.2	-0.9
WB0				IAmb	IAmb	13 06 50.6	
	comp=Z,10nm,1.4s						
FORT	Forrest	45.67	257	P	P	13 06 46.7	-0.7
QSPA	South Pole Qui	57.66	180	P	P	13 08 17.4	+0.8
QSPA				IAmb	IAmb	13 08 31.9	
	comp=Z,5.3nm,1.0s						
LTY	Liberty	94.53	35	P	P	13 11 46.6	-0.1
FINES	FINESS Array B	147.10	339	PKPbc	PKPbc	13 18 08.6	0.0
	comp=Z,1.0nm,0.4s,baz=64,slow=4.6,SNR=16						
FINES	FINESS Array B	147.10	339		PKPbc	13 18 08.9	+0.3

*NEIC **04** 13:05:17.5±1.5, 12.°59S±0.°04×167.°0E±0.°1, h193km±8km, mb4.3/49, Error ellipse: s-maj=17.3km s-min=4.2km az=105.0*
*IDC **04** 13:05:18.7±0.8, 12.°67S×166.°97E, h206km±6km, mb3.9/18, mb1 4.0/19, mb1mx3.9/40, mbtmp4.4/19, Error ellipse: s-maj=17.7km s-min=10.7km az=129.0*

ISC 04 13:05:19.9±0.4, 12.°74S±0.°07×166.°97E±0.°08, h220km, n193, σ0§88/195, mb4.3/41, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	8.00	178	Pn	Pn	13 07 11.8	-1.3
MARNC	Mare, Loyalty	8.75	173	Pn	Pn	13 07 22.7	-0.1
EIDS	Eidsvold	19.55	228	P	Pn	13 09 33.3	-2.0
PMG	Port Moresby	19.72	278	P	P	13 09 33.7	+0.6
	1.1nm,0.3s,baz=66,slow=8.6,SNR=3.8						
PMG	Port Moresby	19.72	278	P	P	13 09 33.4	+0.3
AFI	Afiamalu	20.72	96	P	P	13 09 41.8	-2.0
CTA	Charters Tower	21.16	247	P	P	13 09 48.7	+0.4
	13nm,0.7s,baz=74,slow=13,SNR=12						
CTAO	Charters Tower	21.16	247	P	P	13 09 47.5	-0.8
MANU	Manus Island	22.13	297	P	P	13 09 55.1	-2.7
MANU				IAmb	IAmb	13 10 12.2	
	comp=Z,11nm,1.1s						
ARMA	Armidale	22.60	216	P	P	13 10 04.2	+2.1
ARMA				IAmb	IAmb	13 10 04.7	
	comp=Z,5.3nm,0.7s						
OUZ	Omahuta	23.17	166	P	P	13 10 07.1	+0.1
OUZ				IAmb	IAmb	13 10 15.7	
	comp=Z,7.4nm,1.1s						
BKZ	Black Stump Fm	27.64	164	P	P	13 10 48.4	+1.1
BKZ				IAmb	IAmb	13 10 51.2	
	comp=Z,4.4nm,0.4s						
STKA	Stephens Creek	30.10	227	P	P	13 11 09.9	+0.9
	comp=Z,1.2nm,0.3s,baz=42,slow=11,SNR=6.2						
STKA				pP	pP	13 11 50.2	-2.7
	comp=Z,3.1nm,0.9s,baz=48,slow=12,SNR=3.5						
WR0	Warramunga Arr	31.89	253	P	P	13 11 24.4	-0.5
WB0	Warramunga Arr	32.00	253	P	P	13 11 25.4	-0.5
WB0				IAmb	IAmb	13 11 25.8	
	comp=Z,4.2nm,0.5s						
WB2	Warramunga Arr	32.06	253	P	P	13 11 25.7	-0.8
WRAB	Tennant Creek	32.06	253	P	P	13 11 25.7	-0.7
WRA	Warramunga Arr	32.08	253	P	P	13 11 25.9	-0.7
	comp=Z,1.5nm,0.4s,baz=84,slow=8.7,SNR=36						
WRA				ScP	ScP	13 17 36.4	+3.1
	comp=Z,1.7nm,0.9s,baz=85,slow=3.5,SNR=7.5						
WRA	Warramunga Arr	32.08	253	P	P	13 11 24.1	-2.4
AS31	Alice Springs	33.15	246	P	P	13 11 35.2	-0.7
ASAR	Alice Springs	33.16	246	P	P	13 11 35.4	-0.5
	comp=Z,2.0nm,0.3s,baz=71,slow=9.8,SNR=35						
ASAR				pP	pP	13 12 18.0	-2.1
	comp=Z,2.9nm,0.8s,baz=73,slow=9.3,SNR=6.9						
ASAR				ScP	ScP	13 17 40.1	+3.1
	comp=Z,2.5nm,1.0s,baz=81,slow=3.4,SNR=12						
ASAR	Alice Springs	33.16	246	P	P	13 11 35.0	-0.9
BBOO	Buckleboo	34.60	230	P	P	13 11 48.8	+0.6
KNRA	Kununurra	37.12	261	P	P	13 12 09.6	-0.1
FORT	Forrest	40.09	237	P	P	13 12 35.0	+0.7
MJAR	Matsushiro Arr	56.02	332	P	P	13 14 34.5	-1.4
	comp=Z,5.0nm,0.8s,baz=167,slow=8.0,SNR=17						
MJAR	Matsushiro Arr	56.02	332	P	P	13 14 32.8	-3.1
MJAR				IAmb	IAmb	13 14 36.2	
	comp=Z,3.9nm,0.9s						
MAT	Matsushiro	56.02	332	P	P	13 14 34.8	-1.1
JNU	Nakatsue	57.15	324	P	P	13 14 44.6	+0.7
	comp=Z,13nm,0.8s,baz=154,slow=5.8,SNR=4.3						
JNU	Nakatsue	57.15	324	IAmb	IAmb	13 14 44.7	
	comp=Z,19nm,0.9s						
JKA	Kamikawa-asahi	60.78	340	P	P	13 15 08.4	-0.2
KSRS	Korea Array	61.94	325	P	P	13 15 16.1	-0.4
	comp=Z,2.1nm,0.9s,baz=141,slow=6.5,SNR=9.9						
VNDA	Vanda	64.83	181	P	P	13 15 36.0	+1.2
	comp=Z,2.3nm,0.8s,baz=334,slow=7.1,SNR=6.3						
VNDA	Vanda	64.83	181	IAmb	IAmb	13 15 37.9	
	comp=Z,3.9nm,1.1s						
USRK	Ussuriysk Ar.	64.99	333	P	P	13 15 36.9	+0.6
	comp=Z,6.3nm,1.0s,baz=128,slow=5.1,SNR=13						
SBA	Scott Base	65.11	180	P	P	13 15 38.4	+1.8
SBA				IAmb	IAmb	13 15 39.5	
	comp=Z,6.8nm,0.9s						
PETK	Petropavlovsk-	66.06	354	P	P	13 15 42.8	-0.2
	comp=Z,5.2nm,0.8s,baz=157,slow=9.2,SNR=16						
PETK	Petropavlovsk-	66.06	354	P	P	13 15 42.2	-0.7
NIKH	Nikolski High	68.66	15	P	P	13 15 59.4	+0.2
	baz=205						
FALS	False Pass	71.84	18	P	P	13 16 19.5	+1.1
	baz=210						
SPIA	Saint Paul Isl	72.17	13	P	P	13 16 21.9	+1.5
	baz=203						
CHNA	Chernabura Isl	73.00	19	P	P	13 16 26.5	+1.2
	baz=214						
SDPT	Sand Point	73.15	19	P	P	13 16 26.9	+0.7
	baz=213						
CMAR	Chiang Mai Arr	73.88	294	P	P	13 16 32.6	+1.4
	comp=Z,1.9nm,0.8s,baz=115,slow=4.7,SNR=8.0						
OHAK	Old Harbor	77.04	21	P	P	13 16 48.9	+0.6
	baz=220						
QSPA	South Pole Qui	77.28	180	P	P	13 16 50.2	+0.4
GAMB	Gambell	78.02	10	P	P	13 16 55.1	+1.5
	baz=201						
O18K	Koktuh Hills	78.47	18	P	P	13 16 56.6	+0.3
	baz=218						
N18K	Kilae Creek	78.93	18	P	P	13 16 58.9	+0.2
	baz=217						
M19K	Big River Lodg	80.34	17	P	P	13 17 07.3	+1.0
	baz=218						
L19K	White Mountain	80.43	17	P	P	13 17 07.4	+0.7
	baz=218						
CAPN	Captain Cook N	80.46	19	P	P	13 17 06.2	-0.6
	baz=221						
SEW	Seward	80.53	20	P	P	13 17 07.2	-0.1
	baz=223						
SONM	Songino Array	80.73	324	P	P	13 17 08.9	+0.1
	comp=Z,1.3nm,0.8s,baz=141,slow=5.7,SNR=7.7						
GTA	Gaotai	81.09	314	‖P	P	13 17 12.2	+1.3
GTA				pP	PcP	13 17 17.3	+0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
RC01	Rabbit Creek A	81.17	20	P	P	13 17 10.4	-0.2
	baz=223						
PWL	Port Wells	81.47	20	P	P	13 17 11.9	-0.3
PMR	Palmer	81.73	20	P	P	13 17 13.2	-0.3
	baz=223						
PMR	Palmer	81.73	20	P	P	13 17 13.0	-0.5
PMR				IAmb	IAmb	13 17 15.8	
	comp=Z,5.0nm,0.7s						
PPLA	Purkeypile	81.76	18	P	P	13 17 14.0	+0.2
	baz=220						
KNK	Knik Glacier	81.83	20	P	P	13 17 13.9	-0.2
	baz=224						
GLI	Glacier Island	81.91	21	P	P	13 17 13.9	-0.6
	baz=225						
CUT	Chulitna	81.97	19	P	P	13 17 13.7	-1.1
	baz=222						
EYAK	Cordova Ski Ar	82.15	22	P	P	13 17 15.0	-0.7
	baz=226						
SML	Sawmill	82.15	20	P	P	13 17 15.3	-0.6
	baz=224						
SCM	Sheep Creek Mo	82.50	20	P	P	13 17 17.9	+0.2
KLU	Klutina	82.74	21	P	P	13 17 18.5	-0.4
	baz=226						
TRF	Thorofare Moun	82.75	18	P	P	13 17 18.1	-0.9
	baz=222						
TRF	Thorofare Moun	82.75	18	P	P	13 17 18.3	-0.7
TRF				IAmb	IAmb	13 17 18.8	
	comp=Z,5.8nm,0.9s						
WAT1	Susitna Watana	82.82	19	P	P	13 17 18.9	-0.3
	baz=224						
BMRM	Bremner River	82.84	22	P	P	13 17 19.0	-0.4
	baz=227						
WAT6	Susitna Watana	82.90	19	P	P	13 17 19.6	-0.3
	baz=224,SNR=6.7						
BPAW	Bear Paw Mtn.	83.03	17	P	P	13 17 19.9	-0.4
	baz=221						
M24K	Tolsona, Glenn	83.08	20	P	P	13 17 21.0	+0.3
	baz=226,SNR=5.2						
M24K	Tolsona, Glenn	83.08	20	P	P	13 17 21.1	+0.5
RND	Reindeer	83.15	18	P	P	13 17 20.9	-0.1
RND				IAmb	IAmb	13 17 21.0	
	comp=Z,7.3nm,0.7s						
CRQE	Cirque	83.25	22	P	P	13 17 21.4	-0.1
	baz=229						
N25K	Chitina, Valde	83.28	21	P	P	13 17 21.5	-0.1
	baz=227,SNR=8.4						
MESA	MESA	83.31	23	P	P	13 17 21.6	-0.4
	baz=230						
MCK	McKinley	83.36	18	P	P	13 17 21.5	-0.5
	baz=223						
VRDI	Verde Repeater	83.44	22	P	P	13 17 22.3	-0.3
VRDI				IAmb	IAmb	13 17 24.1	
	comp=Z,5.9nm,0.9s						
GLB	Gilahina Butte	83.45	21	P	P	13 17 22.5	0.0
GLB				IAmb	IAmb	13 17 24.0	
	comp=Z,7.6nm,0.9s						
I21K	Tanana	83.57	16	P	P	13 17 23.1	+0.1
	baz=220,SNR=7.5						
O02D	Mt. Diablo Mer	83.58	47	P	P	13 17 24.4	+0.8
	baz=248						
HARP	HAARP	83.63	20	P	P	13 17 23.5	+0.1
	baz=227						
MCARA	McCarthy VSAT	83.69	22	P	P	13 17 23.2	-0.4
	baz=229						
H21K	Melozitna Rive	83.72	16	P	P	13 17 24.2	+0.5
	baz=219						
MLY	Manley	83.80	17	P	P	13 17 23.9	-0.3
	baz=221						
MLY	Manley	83.80	17	P	P	13 17 23.4	-0.8
PINM	Pinnacle	83.91	24	P	P	13 17 24.6	-0.2
	baz=231						
PAX	Paxson	83.92	20	P	P	13 17 24.1	-0.8
	baz=226						
NEA2	Nenana	83.95	18	P	P	13 17 23.9	-1.0
	baz=223						
BARN	Barnard Glacie	83.98	22	P	P	13 17 24.7	-0.7
BARN				IAmb	IAmb	13 17 27.2	
	comp=Z,8.7nm,0.9s						
M02C	Callahan	84.00	45	P	P	13 17 25.7	-0.1
	baz=247						
CTG	Chitna Glacier	84.04	23	P	P	13 17 25.5	-0.1
	baz=230,SNR=5.6						
CTGM	Chitina Glacie	84.05	23	P	P	13 17 25.2	-0.4
CTGM				IAmb	IAmb	13 17 26.6	
	comp=Z,9.4nm,0.8s						
LOGN	Logan Glacier	84.08	23	P	P	13 17 25.1	-0.8
LOGN				IAmb	IAmb	13 17 27.5	
	comp=Z,6.2nm,0.8s						
SIT	Sitka	84.19	28	P	P	13 17 25.9	-0.3
	baz=236						
SCI2	San Clemente I	84.22	54	P	P	13 17 25.9	-1.1
	baz=251						
I23K	Minto, Yukon-K	84.28	17	P	P	13 17 25.5	-1.0
	baz=223						
O03E	Paynes Creek	84.32	47	P	P	13 17 26.6	-0.8
	baz=248						
CRAG	Craig	84.35	30	P	P	13 17 27.1	0.0
	baz=238						
I02D	Swisshome	84.39	43	P	P	13 17 27.5	0.0
	baz=246						
HDA	Harding Lake	84.46	18	P	P	13 17 27.0	-0.5
	baz=225,SNR=26						
HDA	Harding Lake	84.46	18	P	P	13 17 26.3	-1.2
CIS	Catalina Islan	84.47	54	P	P	13 17 28.4	+0.2
	baz=251						
TCOL	CIGO, UAF Yank	84.52	18	P	P	13 17 26.8	-0.9
	baz=224,SNR=7.6						
COLA	College	84.52	18	P	P	13 17 26.8	-0.9
	baz=224						
H23K	Yukon River	84.73	17	P	P	13 17 28.7	-0.1
	baz=222,SNR=7.2						
ILAR	Eielson Array	84.73	18	P	P	13 17 27.8	-1.1
	comp=Z,7.2nm,0.7s,baz=249,slow=5.0,SNR=89						
ILAR				pP	pP	13 18 19.2	-2.5
	comp=Z,2.3nm,0.9s,baz=225,slow=6.0,SNR=5.8						
ILAR	Eielson Array	84.73	18	P	P	13 17 28.1	-0.7
DOT	Dot Lake	84.85	20	P	P	13 17 29.5	0.0
DOT				IAmb	IAmb	13 17 30.4	
	comp=Z,6.6nm,0.8s						
SCRK	Sand Creek	85.10	20	P	P	13 17 30.7	-0.1
	baz=228,SNR=13						
SCRK	Sand Creek	85.10	20	IAmb	IAmb	13 17 32.7	
	comp=Z,6.5nm,0.8s						
BEKR	Beckworth	85.19	48	P	P	13 17 31.4	-0.6
H24K	Noodor Dome	85.21	17	P	P	13 17 31.0	-0.2
	baz=224						
G03D	McMinnville, O	85.21	42	P	P	13 17 31.6	0.0
	baz=247						
J04D	Umpqua Nationa	85.21	44	P	P	13 17 31.6	-0.3
	baz=248						
L27K	Beaver Creek,	85.22	21	P	P	13 17 31.3	-0.1
	baz=230,SNR=6.2						
I04A	Tendick Farm,	85.22	43	P	P	13 17 31.5	-0.2
	baz=247						
EDW2	Edwards Air Fo	85.28	53	P	P	13 17 31.8	-0.5
	baz=251						
H04D	Lebanon	85.28	43	P	P	13 17 32.1	+0.1
	baz=247						
BFSC	Mount Baldy Ra	85.33	54	P	P	13 17 32.4	-0.3
	baz=251						
HYT	Haines Junctio	85.44	24	IAmb	IAmb	13 17 33.4	
	comp=Z,3.8nm,1.0s						
COLD	Coldfoot	85.60	15	P	P	13 17 33.7	+0.7
	baz=222,SNR=10.0						
PRP	Porcupine Dome	85.67	18	P	P	13 17 33.3	-0.3
	baz=226						
LRMC	Laurel Mtn Rad	85.71	52	P	P	13 17 34.4	-0.1
	baz=251						
CWC	Cottonwood Cre	85.72	51	P	P	13 17 34.4	-0.1
	baz=251						
K27K	Chicken	85.76	20	P	P	13 17 35.7	+1.7
	baz=229						
J05D	Fort Rock, OR	85.82	44	P	P	13 17 35.4	+0.5
	baz=248						
MONP2	Monument Peak	85.89	55	P	P	13 17 35.8	+0.3
	baz=252						
MPMC	Manual Prospec	86.05	52	P	P	13 17 35.6	-0.7
	baz=251						
PFO	Pinyon Flats O	86.08	54	P	P	13 17 36.1	-0.3
	baz=252						
TPFO	Pinon Flats	86.08	54	P	P	13 17 36.3	-0.1
	baz=252						
I05D	Terrebonne, OR	86.14	43	P	P	13 17 36.6	+0.3
	baz=248						
NVAR	Mina Array Bea	86.20	49	P	P	13 17 36.9	-0.1
	comp=Z,1.4nm,0.8s,baz=232,slow=7.9,SNR=12						
NVAR				pP	pP	13 18 29.4	-0.4
	comp=Z,1.2nm,0.9s,baz=232,slow=8.3,SNR=5.3						
GSC	Goldstone, Bar	86.33	53	P	P	13 17 37.7	+0.1
	baz=252						
G05D	Wamic, OR	86.49	42	P	P	13 17 37.8	-0.2
	baz=248						
EGAK	Eagle	86.55	20	P	P	13 17 37.1	-0.7
	baz=230,SNR=12						
EGAK	Eagle	86.55	20	P	P	13 17 37.6	-0.1
EGAK				IAmb	IAmb	13 17 39.1	
	comp=Z,6.2nm,0.8s						
KVN	Kaiserville	86.56	49	P	P	13 17 38.0	-0.7
BELC	Belle Mtn. Jos	86.57	54	P	P	13 17 38.4	-0.3
	baz=252						
FURC	Furnace Creek,	86.66	52	P	P	13 17 38.9	0.0
	baz=252						
DAWY	Dawson	86.70	21	IAmb	IAmb	13 17 40.6	
	comp=Z,4.0nm,1.1s						
TOLK	Toolik Lake Re	86.81	15	P	P	13 17 39.3	+0.2
	baz=222,SNR=6.2						
TOLK	Toolik Lake Re	86.81	15	P	P	13 17 39.4	+0.4
TOLK				IAmb	IAmb	13 17 40.2	
	comp=Z,2.9nm,0.7s						
BC3	Big Chuckawall	86.89	55	P	P	13 17 40.1	-0.2
	baz=253						
TUQ	Turquoise Moun	87.06	53	P	P	13 17 41.1	+0.1
	baz=252						
GMRC	Granite Mounta	87.07	54	P	P	13 17 41.2	+0.1
	baz=252						
B05A	Bryant	87.14	39	P	P	13 17 41.3	+0.4
	baz=247						
GLA	Glamis	87.22	55	P	P	13 17 42.2	+0.5
	baz=253						
TPN

MKAR	Makanchi Array	95.57	317	P		P	13 18 19.9 -0.2
	comp=Z,2.6nm,0.8s,baz=92,slow=6.5,SNR=17						
TXAR	Lajitas Array	95.59	61	P		P	13 18 20.2 -0.5
	comp=Z,0.3nm,0.8s,baz=222,slow=4.9,SNR=5.6						
ZALV	Zalesovo Beam	95.62	324	P		P	13 18 18.7 -1.4
	comp=Z,1.3nm,0.7s,baz=104,slow=3.1,SNR=5.2						
SDCO	Great Sand Dun	95.75	53	P		P	13 18 21.3 -0.2
	baz=258						
ARCES	ARCESS Array B	118.26	346	PKP		PKPdf	13 23 40.1 -0.2
	comp=Z,1.9nm,0.6s,baz=353,slow=3.1,SNR=8.2						
F62A	Pittston Farm,	121.91	44	P		PKPdf	13 23 47.6 -0.5
	baz=286						
E63A	Oxbow	122.79	43	P		PKPdf	13 23 49.1 -0.6
	baz=287						
E64A	Bridgewater	123.19	42	P		PKPdf	13 23 50.2 -0.2
	baz=288						
G65A	Princeton	123.73	44	P		PKPdf	13 23 51.6 +0.1
	baz=287						
KEST	Kesra	149.48	322	PKPbc		PKPbc	13 24 42.1 -1.5
	comp=Z,4.9nm,0.9s,baz=332,slow=4.8,SNR=5.7						
POLO	Lamas de Olo	151.11	352	ePKPbc		PKiKP	13 24 48.1 +0.3
PVRL	Vila Real	151.19	352	ePKPbc		PKiKP	13 24 48.5 +0.6
MVO	Moncorvo	151.20	351	ePKPbc		PKiKP	13 24 48.2 +0.3
PVIS	Viseu	151.77	352	ePKPbc		PKiKP	13 24 49.3 +0.2
ESDC	Sonseca Array	152.00	345	PKPbc		PKiKP	13 24 49.7 +0.1
	comp=Z,2.0nm,0.8s,baz=0.4,slow=2.4,SNR=14						
ESDC				PKPab		PKPab	13 25 00.2 +0.8
	comp=Z,2.9nm,0.7s,baz=6.7,slow=3.9,SNR=16						
MTE	Manteigas	152.03	351	ePKPbc		PKiKP	13 24 50.1 +0.4
PCBR	Castelo Branco	152.56	351	ePKPbc		PKiKP	13 24 51.8 +1.1
PMRV	Marv??o	152.95	350	ePKPbc		PKiKP	13 24 52.0 +0.5
PMTG	Montargil	153.43	352	ePKPbc		PKiKP	13 24 52.7 +0.2
PBAR	Barrancos	154.11	349	ePKPab		PKPab	13 25 09.5 +1.2
PBEJ	Beja	154.40	351	ePKPab		PKPab	13 25 11.0 +1.5
PCVE	Castro Verde	154.81	351	ePKPab		PKPab	13 25 12.8 +1.5
TORD	Torodi Ar. Bea	165.64	273	PKPab		PKPab	13 25 59.6 +0.3
	comp=Z,1.4nm,0.9s,baz=83,slow=6.1,SNR=4.7						

GCG ***04*** *13:17:46.5±0.4, 13°.62N×91°.53W, h6km, MD4.2*
IDC ***04*** *13:17:50.4±3.2, 14°.11N×91°.25W, h62km±27km, mb3.7/8, mb1 4.0/10, mb1mx3.6/57, mbtmp4.0/10, ML4.3/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/37, Error ellipse: s-maj=32.6km s-min=18.3km az=46.0*
SNET ***04*** *13:17:52.1±1.2, 14°.11N×91°.24W, h19km±10km, ML4.3*
UCR ***04*** *13:17:52.2±1.3, 14°.11N×91°.24W, h17km±12km, ML4.2*
NEIC ***04*** *13:17:53.2±2.2, 14°.13N±0°.10×91°.33W±0°.08, h60km±12km, mb4.3/22, Md4.3(SNET), Error ellipse: s-maj=16.6km s-min=8.1km az=214.0*

ISC 04 13:17:51.2±0.8, 14°.00N±0°.07×91°.42W±0°.05, h70km±7km, n101, σ1°33/114, mb4.3/17, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.59	333	eP	Pn	13 18 03.6	-1.2
RTAL				eS	Sn	13 18 12.2	-2.7
RTAL	Retalhuleu	0.59	333		Pn	13 18 03.7	-1.2
FUG	Fuego 3	0.72	51⇑	eP	Pn	13 18 06.5	0.0
PCG	Pacaya	0.88	64	eP	Pn	13 18 08.9	+0.4
NBG	Las Nubes	1.20	61⇓	eP	Pn	13 18 13.9	+1.4
NBG				eS	Sn	13 18 30.6	+2.3
HUEH	Huehuetenango	1.31	357	eP	Pn	13 18 14.2	+0.3
HUEH				eS	Sn	13 18 32.5	+1.5
HUEH	Huehuetenango	1.31	357	Pn	Pn	13 18 14.3	+0.3
SLOZ	Alcaldia de Sa	1.59	89	eP	Pn	13 18 17.2	-0.3
SLOZ				eS	Sn	13 18 36.5	-0.7
SLOZ				IAML		13 18 40.5	
	comp=Z,2μm,0.3s						
RTR	El Retiro	1.73	93	eP	Pn	13 18 19.7	+0.3
RTR				eS	Sn	13 18 41.1	+0.4
RTR	El Retiro	1.73	93	eP	Pn	13 18 19.7	+0.3
RTR				eS	Sn	13 18 41.1	+0.4
CEVE	Cerro Verde	1.75	95	eP	Pn	13 18 19.9	+0.1
CEVE				eS	Sn	13 18 40.8	-0.6
CEVE				IAML		13 18 50.1	
	comp=Z,12μm,0.5s						
CEVE	Cerro Verde	1.75	95	eP	Pn	13 18 19.9	+0.1
CEVE				eS	Sn	13 18 40.8	-0.6
CEVE				IAML		13 18 50.1	
	comp=Z,12μm,0.5s						
SBLS	San Blas	1.75	95	eP	Pn	13 18 20.0	+0.2
SBLS				eS	Sn	13 18 41.1	-0.3
SBLS	San Blas	1.75	95	eP	Pn	13 18 20.0	+0.2
SBLS				eS	Sn	13 18 41.1	-0.3
SNJE	San Jose	1.77	94	eP	Pn	13 18 20.1	+0.2
SNJE	San Jose	1.77	94	eP	Pn	13 18 20.1	+0.2
JAYA	Jayaque - finc	1.95	100	eP	Pn	13 18 21.8	-0.5
JAYA				eS	Sn	13 18 44.7	-1.2
JAYA				IAML		13 18 47.5	
	comp=Z,7μm,0.4s						
JAYA	Jayaque - finc	1.95	100	eP	Pn	13 18 21.8	-0.5
JAYA				eS	Sn	13 18 44.7	-1.2
JAYA				IAML		13 18 47.5	
	comp=Z,7μm,0.4s						
CEDA	San Andres	1.98	95	eP	Pn	13 18 23.2	+0.6
CEDA				IAML		13 19 00.2	
	comp=Z,4μm,0.3s						
CEDA	San Andres	1.98	95	eP	Pn	13 18 23.2	+0.6
CEDA				IAML		13 19 00.2	
	comp=Z,4μm,0.3s						
TACO	Tacachico	2.01	91	eP	Pn	13 18 21.3	-1.7
TACO				IAML		13 18 53.4	
	comp=Z,985nm,0.4s						
TACO	Tacachico	2.01	91	eP	Pn	13 18 21.3	-1.7
TACO				IAML		13 18 53.4	
	comp=Z,985nm,0.4s						
MTO3	Montecristo	2.04	78	eP	Pn	13 18 22.9	-0.7
MTO3				eS	Sn	13 18 47.8	-0.4
MTO3	Montecristo	2.04	78	eP	Pn	13 18 22.9	-0.7
MTO3				eS	Sn	13 18 47.8	-0.4
MTO3	Montecristo	2.04	78	Pn	Pn	13 18 23.1	-0.5
PMON	Piamonte	2.07	98	eP	Pn	13 18 23.6	-0.2
PMON	Piamonte	2.07	98	eP	Pn	13 18 23.6	-0.2
ESQI	Esquipulas	2.09	74	eP	Pn	13 18 23.9	-0.3
ESQI	Esquipulas	2.09	74	Pn	Pn	13 18 24.1	-0.2
BOQS	Boqueron	2.10	97	eP	Pn	13 18 24.8	+0.4
BOQS				eS	Sn	13 18 50.0	+0.4
BOQS	Boqueron	2.10	97	eP	Pn	13 18 24.8	+0.4
BOQS				eS	Sn	13 18 50.0	+0.4
LFRS	El Faro	2.32	99	eP	Pn	13 18 27.8	+0.4
LFRS	El Faro	2.32	99	eP	Pn	13 18 27.8	+0.4
LBRS	Las Brisas	2.33	96	eP	Pn	13 18 27.6	+0.3
LBRS	Las Brisas	2.33	96	eP	Pn	13 18 27.6	+0.3
CCIG	Comitan	2.37	343		Pn	13 18 29.3	+1.2
SJTE	Alcalda de S	2.38	99	eP	Pn	13 18 28.9	+0.8
SJTE	Alcalda de S	2.38	99	eP	Pn	13 18 28.9	+0.8
PAVA	Las Pavas	2.43	96	eP	Pn	13 18 29.1	+0.3
PAVA				IAML		13 19 13.0	
	comp=Z,1μm,0.5s						
PAVA	Las Pavas	2.43	96	eP	Pn	13 18 29.1	+0.3
PAVA				IAML		13 19 13.0	
	comp=Z,1μm,0.5s						
TECO	Alcaldia de Te	2.61	100	eP	Pn	13 18 31.3	+0.2
PQSS	Presa 15 de Se	2.81	97	eP	Pn	13 18 34.1	+0.3
TECA	Tecapa	2.88	100	eP	Pn	13 18 35.5	+0.5
TECA	Tecapa	2.88	100	eP	Pn	13 18 35.5	+0.5
PETF	Flores	3.27	27	Pn	Pn	13 18 40.4	+0.3
LCND	La Caada	3.50	101	eP	Pn	13 18 43.5	+0.2
LCND	La Caada	3.50	101	eP	Pn	13 18 43.5	+0.2
TGUH	Tegucigalpa,Un	4.03	89	Pn	Pn	13 18 50.4	-0.2
CRIN	San Cristobal	4.45	106	Pn	Pn	13 18 57.4	+1.1
CMIG	Matias Romero	4.54	313	P	Pn	13 18 57.2	-0.2
	comp=Z,10nm,0.3s,baz=145,slow=10,SNR=64						
CMIG				S	Sn	13 19 48.3	-0.7
	comp=Z,17nm,0.3s,baz=269,slow=23,SNR=6.7						
HZTE	Horizontes, Gu	6.56	119	Pn	Pn	13 19 26.2	+1.0
TLIG	Tlapa	7.74	298		Pn	13 19 42.5	+1.1
RIMA	Rio Macho	8.51	119	Pn	Pn	13 19 54.5	+2.6
RGM0	Gandoca	9.68	116	Pn	Pn	13 20 07.4	-0.4
MOIG	Morelia	10.92	302		Pn	13 20 28.8	+3.9
553A	Crawfordville	17.36	21	P	P	13 21 51.4	+2.2
344A	Westbrook Farm	17.39	2	P	P	13 21 54.5	+4.9
346A	Big Creek Wild	17.40	6	P	P	13 21 52.6	+2.9
TXAR	Lajitas Array	19.01	325	P	P	13 22 09.0	+1.4
	comp=Z,0.3nm,0.3s,baz=152,slow=12,SNR=41						
TXAR				PcP	PcP	13 26 30.8	+0.4
	comp=Z,0.0nm,0.3s,baz=159,slow=3.9,SNR=3.5						
TXAR				LR	LR	13 30 02.5	
	comp=Z,45nm,18.6s,baz=0.0,slow=38						
TXAR	Lajitas Array	19.01	325		P	13 22 09.4	+1.9
TX31	Lajitas Ar. Si	19.01	325	P	P	13 22 09.2	+1.6
TX32	Lajitas Array	19.01	325	P	P	13 22 09.2	+1.6
ABTX	Abilene, Hawle	20.00	339	P	P	13 22 18.1	-0.2
ABTX				IAmb	IAmb	13 22 20.5	
	comp=Z,9.3nm,0.7s						
Y49A	Blount Mountai	20.29	12	P	P	13 22 21.8	+0.4
Y49A				IAmb	IAmb	13 22 24.5	
	comp=Z,7.5nm,0.7s						
Y52A	Lilburn	20.88	17	P	P	13 22 27.9	+0.3
Y52A				IAmb	IAmb	13 22 48.4	
	comp=Z,9.6nm,0.8s						
MNTX	Cornudas Mount	21.77	326	P	P	13 22 37.4	+0.1
MNTX				IAmb	IAmb	13 22 39.8	
	comp=Z,10nm,0.8s						
LCAR	Lake Charles	21.98	1	P	P	13 22 37.7	-1.7
LCAR				IAmb	IAmb	13 22 39.3	
	comp=Z,8.4nm,0.8s						
U40A	Yellville	22.30	357	P	P	13 22 40.6	-2.4
U40A				IAmb	IAmb	13 23 06.4	
	comp=Z,16nm,1.7s						
TKL	Tuckaleechee C	22.64	16	P	P	13 22 45.9	-0.7
	comp=Z,3.4nm,0.6s,baz=185,slow=10,SNR=12						
TKL				LR	LR	13 32 27.3	
	comp=Z,67nm,20.3s,baz=170,slow=39						
TKL	Tuckaleechee C	22.64	16	P	P	13 22 45.5	-1.0
S39A	Bolivar	23.66	356	P	P	13 22 54.2	-2.2
S39A				IAmb	IAmb	13 22 55.8	
	comp=Z,7.5nm,0.7s						
T50A	Nancy	23.67	13	P	P	13 22 54.6	-1.9
CCM	Cathedral Cave	23.96	0	P	P	13 22 57.2	-1.9
CCM				IAmb	IAmb	13 22 57.9	
	comp=Z,10nm,0.7s						
BNM	Barren Site	24.34	328	P	P	13 23 04.5	+1.6
SJG	San Juan	24.62	77	LR	LR	13 33 41.6	
	comp=Z,17nm,20.3s,baz=116,slow=39						
ANMO	Albuquerque	24.88	330	P	P	13 23 08.6	+0.9
	comp=Z,1.3nm,0.6s,baz=145,slow=11,SNR=9.7						
ANMO	Albuquerque	24.88	330	P	P	13 23 08.7	+0.9
PV03	Paradox Valley	28.68	331	P	P	13 23 44.7	+2.9
PV03				IAmb	IAmb	13 23 47.9	
	comp=Z,14nm,1.9s						
KNB	Kanab	29.84	324	P	P	13 23 54.2	+2.1
KNB				IAmb	IAmb	13 23 54.6	
	comp=Z,6.7nm,0.9s						
MTPU	Mount Pierson	30.21	326	IAmb	IAmb	13 23 58.8	
	comp=Z,5.2nm,0.8s						
PDAR	Pinedale Array	32.66	335	P	P	13 24 16.5	-0.5
	comp=Z,1.1nm,1.1s,baz=135,slow=9.0,SNR=3.6						
PDAR				PcP	PcP	13 27 00.5	-1.0
	comp=Z,0.5nm,0.8s,baz=126,slow=3.8,SNR=4.3						
ELK	Elko	33.80	327	LR	LR	13 41 30.3	
	comp=Z,92nm,18.3s,baz=188,slow=42						
NVAR	Mina Array Bea	34.03	321	P	P	13 24 30.6	+1.7
	comp=Z,3.7nm,0.9s,baz=140,slow=8.4,SNR=25						
NVAR				PcP	PcP	13 27 06.0	+0.6
	comp=Z,1.2nm,0.7s,baz=136,slow=3.5,SNR=9.2						
NVAR				LR	LR	13 37 54.1	
	comp=Z,72nm,19.8s,baz=189,slow=36						
NVAR	Mina Array Bea	34.03	321	P	P	13 24 31.2	+2.3
LHV	Little Huntoon	34.04	320	P	P	13 24 31.1	+2.4
YERR	Yerington	34.95	321	P	P	13 24 39.6	+2.8
YERR				IAmb	IAmb	13 24 40.6	
	comp=Z,2.7nm,0.7s						
ULM	Lac du Bonnet	36.33	355	LR	LR	13 41 43.8	
	comp=Z,75nm,19.8s,baz=150,slow=40						
LPAZ	La Paz	37.88	142	LR	LR	13 41 05.3	
	comp=Z,59nm,19.2s,baz=273,slow=37						
F10A	Beach Ranch, E	38.58	331	P	P	13 25 07.9	+0.4
NEW	Newport	40.25	333	P	P	13 25 21.0	-0.3
	comp=Z,1.0nm,0.6s,baz=162,slow=5.7,SNR=4.5						
NEW				PcP	PcP	13 27 23.1	-0.8
	comp=Z,0.3nm,0.3s,baz=63,slow=2.3,SNR=3.7						
SIV	San Ignacio	42.28	134	P	P	13 25 37.8	-0.5
	comp=Z,4.9nm,0.8s,baz=316,slow=8.6,SNR=20						
LVC	Lion Verde	42.55	148	LR	LR	13 41 50.6	
	comp=Z,39nm,20.2s,baz=248,slow=34						
SCHQ	Schefferville	45.03	20	P	P	13 25 56.8	-3.1
	comp=Z,4.1nm,0.9s,baz=273,slow=8.5,SNR=3.5						
PLCA	Paso Flores	57.79	161	LR	LR	13 46 35.2	
	comp=Z,28nm,19.4s,baz=196,slow=30						
ILAR	Eielson Array	63.06	337	P	P	13 28 09.1	-1.9
	comp=Z,0.5nm,0.9s,baz=123,slow=6.1,SNR=8.0						
NOA	NORSAR Array B	83.88	29	LR	LR	14 08 20.6	
	comp=Z,7.8nm,19.7s,baz=325,slow=36						
ARCES	ARCESS Array B	85.96	18	LR	LR	14 09 57.4	
	comp=Z,30nm,18.3s,baz=20,slow=36						
MKAR	Makanchi Array	119.23	5	PKP	PKPdf	13 36 30.4	-2.2
	comp=Z,0.3nm,0.6s,baz=57,slow=5.3,SNR=2.8						
WRA	Warramunga Arr	135.94	256	PKP	PKPdf	13 37 05.3	+0.2
	comp=Z,0.7nm,0.7s,baz=90,slow=2.5,SNR=6.2						
ASAR	Alice Springs	136.19	250	PKP	PKPdf	13 37 05.5	-0.1
	comp=Z,0.6nm,0.7s,baz=102,slow=2.1,SNR=7.3						
CMAR	Chiang Mai Arr	146.17	342	PKPbc	PKPdf	13 37 23.6	0.0
	comp=Z,4.6nm,0.6s,baz=337,slow=3.5,SNR=25						
CMAR				pPKPbc	pPKPdf	13 37 43.0	-0.5
	comp=Z,2.5nm,0.7s,baz=326,slow=2.9,SNR=6.1						

IDC 04 13:52:13.8±3.1, 31°.90S×177°.98W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=71.4km s-min=37.2km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.51	211	Pn	Pn	13 54 04.1	-0.4
	0.3nm,0.3s,baz=171,slow=24,SNR=2.1						
URZ				Sn	Sn	13 55 29.5	-1.0
	1.2nm,0.3s,baz=212,slow=22,SNR=6.5						
ASAR	Alice Springs	43.06	269	P	P	14 00 15.7	0.0
	0.4nm,0.4s,baz=106,slow=7.1,SNR=17						
WRA	Warramunga Arr	44.19	274	P	P	14 00 24.8	0.0
	0.7nm,0.5s,baz=112,slow=8.0,SNR=12						
FINES	FINESS Array B	146.55	339	PKPbc	PKPdf	14 11 55.4	+0.5
	1.4nm,0.7s,baz=66,slow=4.7,SNR=5.5						

JMA ***04*** *13:55:27.5±0.2, 23°.95N×122°.44E, h19km±4km, M2.9*
TAP ***04*** *13:55:28.2, 24°.03N×122°.44E, h28km, ML3.4, D*

ISC 04 13:55:26.4±1.1, 23°.97N±0°.02×122°.49E±0°.01, h20km±3km, n112, σ0°79/217, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.63	41	P	Pn	13 55 40.4	+0.1
JYNG				eS	Sn	13 55 48.7	-1.2
YOJ	Yonaguni jima	0.68	44	P	Pn	13 55 41.3	+0.3
YOJ				S	Sn	13 55 52.1	+1.0
YOJ	Yonaguni jima	0.68	44	i P	Pn	13 55 41.4	+0.4
	baz=57						
YOJ				S	Sn	13 55 52.1	+1.0
	baz=57						
EWUT	Wuta	0.80	306	P	Pg	13 55 42.1	-0.1
	baz=304						
EWUT				eS	Sg	13 55 52.8	0.0
	baz=304						
ETL	Fush Village	0.81	283	eP	Pn	13 55 42.9	+0.1
	baz=264						
ETL				eS	Sg	13 55 53.6	+0.4
	baz=264						
TWD	Chiawan	0.82	278	eP	Pg	13 55 42.8	+0.3
	baz=273						
TWD				eS	Sb	13 55 53.0	+0.3
	baz=273						
NACB	Ninganchiao	0.84	284	eP	Pg	13 55 42.9	0.0
	baz=267						
NACB				eS	Sb	13 55 53.5	+0.2
	baz=267						
TWC	Suao	0.86	318	P	Pb	13 55 42.7	0.0
	baz=317						
TWC				S	Sb	13 55 53.6	-0.3
	baz=317						
TEGC	Jichi Village	0.91	253	eP	Pb	13 55 43.9	+0.4
	baz=248						
TEGC				eS	Sg	13 55 56.3	+0.2
	baz=248						
ETM	Tongmen	0.91	270	eP	Pb	13 55 43.8	+0.2
	baz=255						
ETM				eS	Sb	13 55 55.4	+0.1
	baz=255						
ETLH	Xiulin Townshi	0.95	284	P	Pn	13 55 44.9	+0.1
	baz=269						
ETLH				S	Sb	13 55 57.1	+0.6
	baz=269						
NDS	Dongshan	0.96	313	eP	Pg	13 55 45.2	0.0
	baz=312						
NDS				eS	Sg	13 55 57.6	-0.4
	baz=312						
ESL	Shilin	0.98	261	eP	Pb	13 55 42.7	-2.0
	baz=248						
ESL				eS	Sb	13 55 56.1	-1.2
	baz=248						
EGFH	Guangfu	1.02	253	eP	Pb	13 55 45.4	0.0
	baz=248						
EGFH				eS	Sn	13 55 59.2	-0.1
	baz=248						
ILA	Ilan	1.04	320	eP	Pb	13 55 45.4	-0.4
	baz=312						
ILA				eS	Sn	13 55 59.9	0.0
	baz=312						
TWE	Neicheng	1.06	315	P	Pg	13 55 46.7	-0.3
	baz=315						
TWE				S	Sn	13 56 00.1	-0.2
	baz=315						
NTC	Toucheng	1.06	326	P	Pg	13 55 47.1	0.0
	baz=326						
NTC				eS	Sb	13 55 60.0	+0.3
	baz=326						
ENTT	Nioudou	1.07	309	eP	Pn	13 55 46.9	+0.5
	baz=294						
ENTT				eS	Sn	13 56 01.0	+0.2
	baz=294						
HGSD	Ruisui	1.08	244	eP	Pn	13 55 46.5	-0.1
	baz=240						
HGSD				eS	Sb	13 56 00.2	-0.1
	baz=240						
NDT	Datong Townshi	1.09	305	eP	Pg	13 55 47.2	-0.3
	baz=304						
NDT				eS	Sn	13 56 01.2	+0.1
	baz=304						
NNS	Nan Shan	1.12	295	P	Pb	13 55 47.5	+0.3
	baz=293						
NNS				eS	Sb	13 56 01.1	-0.3
	baz=293						
TWB1	Santiao Chiao	1.13	336	eP	Pb	13 55 47.4	+0.1
	baz=354						
TWB1				eS	Sb	13 56 01.5	-0.1
	baz=354						
WHF	Hehuan Shan	1.13	279	eP	Pb	13 55 48.0	+0.4
	baz=276						
WHF				eS	Sb	13 56 00.6	-1.4
	baz=276						
ECBN	Changbin	1.15	236	eP	Pn	13 55 47.8	+0.3
	baz=231						
ECBN				eS	Sb	13 56 02.0	-0.2
	baz=231						
EHY	Hungye	1.16	247	P	Pn	13 55 47.9	+0.2
	baz=257						
EHY				eS	Sb	13 56 02.4	-0.2
	baz=257						
TIPB	Shuangxi	1.16	329	eP	Pb	13 55 48.4	+0.5
	baz=329						
TIPB				eS	Sb	13 56 02.5	-0.1
	baz=329						
FUSS	Fushou	1.17	284	eP	Pg	13 55 48.8	-0.4
	baz=281						
FUSS				eS	Sn	13 56 03.5	+0.1
	baz=281						
IRIF	Iriomote-Funau	1.19	72	P	Pg	13 55 49.8	+0.3
IRIF				eS	Sg	13 56 06.2	+1.0
OWD	Renai	1.20	269	eP	Pn	13 55 48.4	+0.1
	baz=266						
OWD				eS	Sb	13 56 04.0	+0.2
	baz=266						
CHGB	Renai	1.20	274	P	Pb	13 55 48.9	+0.2
	baz=271						
CHGB				S	Sb	13 56 03.9	0.0
	baz=271						
NWLT	Wulai	1.20	312	eP	Pb	13 55 49.1	+0.5
	baz=311						
NWLT				eS	Sn	13 56 04.5	+0.5
	baz=311						
HATJ	Hateruma jima	1.21	86	P	Pg	13 55 50.6	+0.8
HATJ				eS	Sg	13 56 07.2	+1.5
YHNB	Yeheng	1.23	305	eP	Pb	13 55 49.2	+0.1
	baz=291						
YHNB				eS	Sb	13 56 04.0	-0.6
	baz=291						
TWT	Tachien	1.23	283	eP	Pb	13 55 49.8	+0.7
	baz=268						
TWT				eS	Sn	13 56 05.1	+0.2
	baz=268						
YULB	Yu-li	1.23	242	eP	Pb	13 55 49.1	0.0
	baz=226						
YULB				eS	Sb	13 56 04.0	-0.7
	baz=226						
EYUL	Yuli	1.24	240	eP	Pn	13 55 49.0	+0.4
	baz=236						
EYUL				eS	Sb	13 56 04.7	0.0
	baz=236						
TDCB	Techi	1.25	283	eP	Pb	13 55 50.0	+0.6
	baz=270						
TWF1	Yuli	1.25	241	P	Pb	13 55 49.6	+0.2
	baz=236						
TWF1				eS	Sn	13 56 05.2	-0.1
	baz=236						
NWF	Wu-fen Shan	1.27	330	eP	Pb	13 55 49.5	-0.2
	baz=330						
NWF				eS	Sg	13 56 06.8	-0.9
	baz=330						
WFSB	Wu-fen Shan	1.27	330	eP	Pb	13 55 49.6	-0.1
	baz=330						
WFSB				eS	Sg	13 56 07.0	-0.7
	baz=330						
NHDH	Xindian Distri	1.32	319	eP	Pg	13 55 51.4	-0.6
	baz=318						
NHDH				eS	Sg	13 56 08.6	-0.7
	baz=318						
FULB	Fuli	1.34	235	eP	Pn	13 55 50.2	+0.2
	baz=219						
FULB				eS	Sb	13 56 07.8	+0.2
	baz=219						
TNOU	National Taiwa	1.34	331	eP	Pn	13 55 50.2	+0.1
	baz=331						
TNOU				eS	Sn	13 56 06.7	-0.7
	baz=331						
CHKT	Chengkung	1.35	230	eP	Pn	13 55 50.2	+0.1
	baz=226						
CHKT				eS	Sn	13 56 05.9	-1.6
	baz=226						
TATO	Taipei	1.35	318	eP	Pg	13 55 52.0	-0.6
	baz=317						
TATO				eS	Sb	13 56 08.4	+0.5
	baz=317						
WPL	Puli Township	1.40	272	eP	Pb	13 55 52.1	+0.2
	baz=269						
JKRS	Kuro-shima	1.42	79	P	Pg	13 55 53.9	+0.1
JKRS				eS	Sg	13 56 12.0	-0.3
SSLB	Suanglung	1.42	263	P	Pb	13 55 52.0	-0.2
	baz=259						
SSLB				eS	Sn	13 56 09.3	0.0
	baz=259						
DPDB	Guoxing	1.43	273	eP	Pb	13 55 52.3	-0.1

TWS1				eS	Sb	13 56 12.6	+0.7
	baz=336						
YUS	**Yu-Shan**	**1.49**	**251**	eP	Pn	13 55 53.2	+0.6
	baz=248						
YUS				eS	Sn	13 56 10.7	-0.9
	baz=248						
TYC	**Yuchr**	**1.49**	**268**	eP	Pb	13 55 53.1	-0.4
	baz=264						
TYC				eS	Sn	13 56 11.3	+0.3
	baz=264						
NSTT	**Nanjuang**	**1.51**	**296**	eP	Pb	13 55 53.9	+0.2
	baz=294						
NSTT				eS	Sb	13 56 12.4	-0.1
	baz=294						
WHYT	**Xinyi Township**	**1.52**	**260**	eP	Pb	13 55 53.9	-0.1
	baz=245						
WHYT				eS	Sb	13 56 14.1	+1.2
	baz=245						
TWY	**Chenhua**	**1.53**	**328**	eP	Pb	13 55 54.3	+0.2
	baz=328						
TWY				eS	Sg	13 56 14.5	-1.4
	baz=328						
ELDTW	**Lidau**	**1.56**	**240**	eP	Pn	13 55 53.7	+0.6
	baz=236						
ELDTW				eS	Sn	13 56 10.2	-2.6
	baz=236						
JIJ	**Ishigaki jima**	**1.56**	**75**	P	Pb	13 55 55.0	+0.3
JIJ				eS	Sb	13 56 14.8	+0.8
LDUT	**Ludao**	**1.60**	**216**	P	Pn	13 55 53.9	+0.3
	baz=213						
LDUT				S	Sn	13 56 12.3	-1.4
	baz=213						
ALS	**Alishan**	**1.61**	**254**	eP	Pb	13 55 55.6	-0.1
	baz=250						
ALS				eS	Sn	13 56 14.8	+0.5
	baz=250						
TWQ1	**Liyutan**	**1.61**	**284**	eP	Pb	13 55 55.8	+0.3
	baz=281						
TWQ1				eS	Sb	13 56 16.1	+0.7
	baz=281						
WJS	**Zhushan**	**1.62**	**265**	eP	Pg	13 55 57.4	-0.2
	baz=262						
WJS				eS	Sg	13 56 17.9	-0.8
	baz=262						
LONT	**Longtian**	**1.64**	**230**	eP	Pn	13 55 54.6	+0.4
	baz=239						
LONT				eS	Sn	13 56 13.4	-1.3
	baz=239						
WWF	**Wufeng**	**1.64**	**273**	eP	Pb	13 55 57.0	+1.0
	baz=270						
WWF				eS	Sb	13 56 17.8	+1.5
	baz=270						
WNT	**Mingjian**	**1.65**	**267**	eP	Pb	13 55 57.3	+1.0
	baz=264						
WNT				eS	Sb	13 56 17.6	+0.9
	baz=264						
PCYT	**Pengchaiyu**	**1.69**	**347**	P	Pn	13 55 55.7	+0.7
	baz=348						
CHN5	**Tsauling**	**1.70**	**258**	eP	Pb	13 55 57.2	+0.1
	baz=244						
CHN5				eS	Sb	13 56 19.1	+1.0
	baz=244						
TWGBT	**Beinan**	**1.73**	**229**	eP	Pn	13 55 55.8	+0.3
	baz=238						
TWGBT				eS	Sn	13 56 15.2	-1.8
	baz=238						
TWG	**Pinlang**	**1.73**	**229**	eP	Pn	13 55 56.1	+0.6
	baz=238						
TWG				eS	Sn	13 56 15.9	-1.1
	baz=238						
STYH	**Taoyuan**	**1.76**	**243**	eP	Pb	13 55 57.6	-0.5
	baz=231						
STYH				eS	Sb	13 56 19.3	-0.5
	baz=231						
WCHH	**Zhanghua**	**1.77**	**274**	eP	Pb	13 55 58.8	+0.6
	baz=271						
WCHH				eS	Sb	13 56 20.4	+0.5
	baz=271						
JISG	**Ishigakijimahi**	**1.77**	**69**	P	Pb	13 55 57.6	-0.7
JISG				S	Sb	13 56 20.2	+0.1
STYT	**Tauyuan**	**1.78**	**243**	eP	Pb	13 55 57.8	-0.7
	baz=230						
STYT				eS	Sn	13 56 19.5	+1.2
	baz=230						
WGK	**Gukeng**	**1.79**	**261**	eP	Pb	13 55 58.1	-0.4
	baz=258						
WGK				eS	Sb	13 56 21.4	+0.9
	baz=258						
TPUB	**Ta-pu**	**1.83**	**249**	P	Pb	13 55 59.1	-0.2
	baz=245						
TPUB				eS	Sb	13 56 21.7	-0.1
	baz=245						
WTP	**Ta-pu**	**1.86**	**248**	eP	Pb	13 55 59.7	-0.2
	baz=244						
WTP				eS	Sb	13 56 22.7	-0.1
	baz=244						
CHN2	**Minshiung**	**1.90**	**257**	eP	Pn	13 55 58.0	+0.4
	baz=254						
CHN2				eS	Sb	13 56 24.8	+1.2
	baz=254						
WRL	**Guolierlin Hig**	**1.93**	**268**	eP	Pb	13 56 00.3	-0.7
	baz=279						
WRL				eS	Sb	13 56 23.5	-1.2
	baz=279						
WTK	**Tuku**	**1.94**	**262**	eP	Pb	13 56 00.9	-0.2
	baz=259						
WTK				eS	Sb	13 56 25.0	0.0
	baz=259						
SLGT	**Liugui**	**1.95**	**240**	eP	Pb	13 56 01.0	-0.3
	baz=229						
SLGT				eS	Sb	13 56 25.8	+0.5
	baz=229						
SGST	**Jiashian**	**1.96**	**243**	eP	Pb	13 56 00.9	-0.6
	baz=231						
SGST				eS	Sb	13 56 25.8	+0.3
	baz=231						
CHN1	**Nanshi**	**1.96**	**247**	eP	Pb	13 56 01.6	+0.1
	baz=244						
CHN1				eS	Sb	13 56 25.3	-0.3
	baz=244						
TWK	**Hsinying**	**1.96**	**249**	eP	Pb	13 56 01.4	-0.2
	baz=246						
TWK				eS	Sb	13 56 26.2	+0.5
	baz=246						
ECL	**Taimali**	**1.96**	**226**	eP	Pn	13 55 59.0	+0.3
	baz=223						
ECL				eS	Sn	13 56 22.3	-0.5
	baz=223						
SNST	**Tainan City**	**1.97**	**248**	eP	Pb	13 56 01.6	-0.1
	baz=245						
SNST				eS	Sb	13 56 26.5	+0.6
	baz=245						
SSD	**Sandimen**	**2.10**	**235**	eP	Pn	13 56 02.3	+1.8
	baz=225						
SSD				eS	Sn	13 56 27.9	+1.9
	baz=225						
WSF	**Szhu**	**2.10**	**261**	eP	Pn	13 56 01.2	+0.7
	baz=258						
WSF				eS	Sb	13 56 29.7	+0.1
	baz=258						
LAY	**Lan-yu**	**2.11**	**204**	eP	Pn	13 56 01.2	+0.5
	baz=202						
LAY				eS	Sn	13 56 24.9	-1.5
	baz=202						
TSMG	**Majia**	**2.11**	**234**	eP	Pb	13 56 03.1	-1.0
	baz=225						
TSMG				eS	Sb	13 56 29.1	-0.8
	baz=225						
JTJ	**Tarama**	**2.13**	**71**	P	Pb	13 56 04.0	-0.3
JTJ				S	Sb	13 56 31.1	+0.8
SCST	**Cishan**	**2.13**	**240**	eP	Pb	13 56 04.6	+0.3
	baz=224						
SCST				eS	Sb	13 56 32.1	+1.8
	baz=224						
MASBT	**Mashibuluo**	**2.18**	**232**	eP	Pn	13 56 02.9	+1.3
	baz=224						
MASBT				eS	Sn	13 56 30.1	+2.1
	baz=224						
EAST	**Anshuo**	**2.19**	**224**	eP	Pn	13 56 02.5	+0.8
	baz=221						
EAST				eS	Sn	13 56 28.8	+0.5
	baz=221						
TWM1	**Shoushan**	**2.21**	**239**	eP	Pb	13 56 06.7	+0.8
	baz=237						
TWM1				eS	Sb	13 56 34.2	+1.4
	baz=237						
SSPT	**Xinbi**	**2.31**	**230**	eP	Pb	13 56 06.6	-0.8
	baz=222						
SSPT				eS	Sb	13 56 33.8	-1.7
	baz=222						
SCZT	**Fangliau**	**2.34**	**228**	eP	Pb	13 56 06.7	-1.3
	baz=218						
SCZT				eS	Sn	13 56 33.3	+1.2
	baz=218						
JIRB	**Irabujima**	**2.59**	**70**	P	Pb	13 56 10.7	-1.6
JIKM	**Ikemajima**	**2.69**	**69**	P	Pb	13 56 11.9	-2.0
JIKM				eS	Sb	13 56 44.7	-1.8
WDGT	**Dungji**	**2.69**	**255**	eP	Pn	13 56 10.4	+1.8
	baz=241						
WDGT				eS	Sn	13 56 40.8	+0.2
	baz=241						
PHUB	**P'eng-hu**	**2.71**	**261**	eP	Pn	13 56 10.6	+1.7
	baz=273						
PHUB				eS	Sn	13 56 41.7	+0.6
	baz=273						
PNG	**Penghu**	**2.72**	**262**	eP	Pn	13 56 10.9	+1.9
	baz=259						
PNG				eS	Sn	13 56 41.9	+0.6
	baz=259						
VWUC	**VWUC**	**2.95**	**291**	eP	Pn	13 56 12.2	0.0
	baz=288						
VWUC				eS	Sn	13 56 45.0	-2.0
	baz=288						
PTMZ	**Houxiangcun**	**3.25**	**290**	eP	Pn	13 56 17.5	+1.2
	baz=287						
PTMZ				eS	Sn	13 56 52.5	-1.9
	baz=287						
LYJJ	**Jianjiangzhen**	**3.56**	**317**	eP	Pn	13 56 20.9	+0.3
	baz=302						
XPSS	**Dashiqiu**	**3.60**	**325**	eP	Pn	13 56 21.6	+0.4
	baz=323						
ZPLA	**Ao Xicun**	**4.33**	**270**	eP	Pn	13 56 31.9	+0.7
	baz=269						

NNC 04 13:59:30.9±4.1, 37°.70N×77°.59E, h0km, mb3.9, mpv3.5, 4C-1D, Error ellipse: s-maj=30.9km s-min=27.0km az=104.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.39**	**6**	Pg	Pb	14 01 08.9	+2.8
	1.4nm,0.1s						
SATY				Lg	Lg	14 02 21.4	
	9.7nm,0.1s						
AAK	**Ala-Archa**	**5.47**	**335**	⇑Pg	Pb	14 01 10.5	+3.0
	1.5nm,0.3s						
AAK				⇑Lg	Lg	14 02 23.2	
	8.2nm,0.8s						
MDOK	**Medeo**	**5.47**	**356**	Pg	Pb	14 01 10.9	+3.4
	3.3nm,0.6s						
MDOK				⇓Lg	Lg	14 02 23.9	
	4.7nm,0.7s						
MDOK	**Medeo**	**5.47**	**356**	Pg	Pb	14 01 10.2	+2.8
	1.5nm,0.2s						
MDOK				Lg	Lg	14 02 24.0	
	9.8nm,0.8s						
PDGK	**Podgornoye**	**5.80**	**14**	Pg	Pb	14 01 17.5	+4.3
	1.4nm,0.4s						
PDGK				Lg	Lg	14 02 36.7	
	2.5nm,0.6s						
PDGK	**Podgornoye**	**5.80**	**14**	⇑Pg	Pb	14 01 14.1	+1.0
	1.8nm,0.5s						
PDGK				⇑Lg	Lg	14 02 33.0	
	6.8nm,0.8s						
KRBS	**Karabastau**	**6.16**	**347**	Pg	Pb	14 01 23.9	+4.7
	1.1nm,0.4s						
KRBS				Lg	Lg	14 02 47.5	
	4.1nm,0.7s						

*THE **04** 14:09:17.3, 37°.13N×19°.50E, h4km±1km, ML2.9/12, Error ellipse: s-maj=2.4km s-min=1.4km az=144.0*

ISC 04 14:09:12.6±2.0, 37°.13N±0°.08×19°.10E±0°.05, h14km±10km, n41, σ2°28/66, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	**Volimes, Zakyn**	**1.45**	**59**	P	**Pg**	**14 09 39.7**	**-0.8**
VLMS				S	**Sb**	**14 09 56.8**	**-0.8**
	228nm,0.2s						
KEF3	**Kipouria, Keph**	**1.46**	**42**	P	**Pg**	**14 09 41.0**	**+0.4**
KEF3				S	**Sg**	**14 09 59.9**	**+0.3**
	1μm,0.2s						
DMLN	**Damoulianata-K**	**1.50**	**42**	P	**Pg**	**14 09 41.2**	**-0.2**
DMLN				S	**Sg**	**14 10 00.6**	**-0.2**
	500nm,0.3s						
PSDA	**Pessada-Kefalo**	**1.53**	**50**	P	**Pg**	**14 09 41.4**	**-0.7**
PSDA				S	**Sb**	**14 09 59.6**	**-0.4**
	28nm,0.3s						
KEF4	**Livadi, Kephal**	**1.54**	**43**	P	**Pg**	**14 09 41.8**	**-0.4**
KEF4				S	**Sg**	**14 10 02.0**	**-0.2**
	2μm,0.2s						
KEF5	**Kardakata, Kep**	**1.58**	**43**	P	**Pg**	**14 09 42.2**	**-0.7**
KEF5				S	**Sg**	**14 10 02.9**	**-0.5**
	785nm,0.5s						
VLS	**Valsamata**	**1.58**	**48**	P	**Pg**	**14 09 42.0**	**-0.9**
VLS				S	**Sb**	**14 10 01.0**	**-0.3**
	178nm,0.1s						
VLS	**Valsamata**	**1.58**	**48**	P	**Pg**	**14 09 42.0**	**-0.9**
VLS				S	**Sg**	**14 10 02.4**	**-1.0**
FSK	**Fiskardo**	**1.76**	**41**	P	**Pb**	**14 09 45.1**	**+0.5**
FSK				S	**Sb**	**14 10 06.8**	**+0.2**
	112nm,0.2s						
EVGI	**Lefkada island**	**1.93**	**39**	P	**Pb**	**14 09 48.2**	**+0.7**
EVGI				S	**Sb**	**14 10 11.7**	**+0.2**
	398nm,0.1s						
DRAG	**Dragano-Lefkad**	**1.94**	**37**	P	**Pb**	**14 09 47.9**	**+0.2**
DRAG				S	**Sb**	**14 10 11.2**	**-0.5**
	588nm,0.3s						
NYDR	**Nydri-Lefkada**	**2.02**	**38**	P	**Pb**	**14 09 49.3**	**+0.2**
NYDR				S	**Sb**	**14 10 13.9**	**-0.2**
	88nm,0.2s						
LKD2	**Lefkada island**	**2.06**	**36**	P	**Pb**	**14 09 50.2**	**+0.4**
LKD2				S	**Sn**	**14 10 14.1**	**+1.8**
	88nm,0.2s						
ITM	**Ithomi**	**2.26**	**88**	P	**Pb**	**14 09 50.8**	**-2.4**
ITM				S	**Sn**	**14 10 16.0**	**-1.2**
IGT	**Igoumenitsa**	**2.58**	**22**	P	**Pn**	**14 09 56.6**	**+2.6**
KEK	**Kerkira**	**2.63**	**12**	P	**Pn**	**14 09 57.4**	**+2.7**
KEK				S	**Sn**	**14 10 28.8**	**+2.3**
KEK				AML	AML		
	comp=N,10μm,0.7s						
KEK				AML	AML		
	comp=E,15μm,0.7s						
SRN	**Sarande**	**2.83**	**14**	P	**Pn**	**14 10 00.2**	**+2.8**
SRN				S	**Sn**	**14 10 33.7**	**+2.5**
SRN				AML	AML		
	comp=E,42μm,0.5s						
SRN				AML	AML		
	comp=N,44μm,1.5s						
SALB	**San Lorenzo Be**	**3.49**	**323**	P	**Pn**	**14 10 09.8**	**+3.2**
SALB				AML	AML		
	comp=E,34μm,0.9s						
SALB				AML	AML		
	comp=N,26μm,0.2s						
T0702	**Acquaformosa (**	**3.50**	**318**	P	**Pn**	**14 10 10.3**	**+3.6**
CRAC	**Craco**	**3.84**	**328**	P	**Pn**	**14 10 15.3**	**+4.0**
CRAC				AML	AML		
	comp=E,268μm,1.2s						
CRAC				AML	AML		
	comp=N,258μm,0.1s						
LTRZ	**Laterza**	**3.90**	**334**	P	**Pn**	**14 10 14.8**	**+2.8**
LTRZ				AML	AML		
	comp=N,550μm,1.6s						
LTRZ				AML	AML		
	comp=E,50μm,1.4s						
SIRI	**Monte Sirino -**	**3.96**	**321**	P	**Pn**	**14 10 16.3**	**+3.3**
SIRI				AML	AML		
	comp=N,29μm,0.8s						
SIRI				AML	AML		
	comp=E,34μm,0.4s						
MATE	**Matera**	**3.98**	**333**	P	**Pn**	**14 10 15.9**	**+2.8**
MATE				AML	AML		
	comp=N,81μm,0.7s						
MATE				AML	AML		
	comp=E,70μm,1.3s						
NOCI	**Noci**	**3.98**	**337**	P	**Pn**	**14 10 15.6**	**+2.4**
NOCI				AML	AML		
	comp=N,119μm,1.5s						
NOCI				AML	AML		
	comp=E,107μm,0.1s						
MIGL	**Miglionico**	**4.04**	**330**	P	**Pn**	**14 10 17.3**	**+3.3**
MTSN	**Montesano sull**	**4.08**	**321**	P	**Pn**	**14 10 18.6**	**+4.0**
MTSN				AML	AML		
	comp=N,25μm,0.2s						
MTSN				AML	AML		
	comp=E,26μm,0.8s						
MGR	**Morigerati**	**4.09**	**318**	P	**Pn**	**14 10 17.5**	**+2.9**
MGR				AML	AML		
	comp=E,34μm,0.4s						
MGR				AML	AML		
	comp=N,32μm,0.7s						
MCEL	**Monticello**	**4.10**	**322**	P	**Pn**	**14 10 18.7**	**+3.8**
BULG	**Bulgheria - Ca**	**4.14**	**316**	P	**Pn**	**14 10 18.7**	**+3.3**
BULG				AML	AML		
	comp=N,85μm,0.4s						
BULG				AML	AML		
	comp=E,35μm,1.4s						
AMUR	**Altamura**	**4.24**	**333**	P	**Pn**	**14 10 19.3**	**+2.5**
AMUR				AML	AML		
	comp=N,78μm,0.2s						
AMUR				AML	AML		
	comp=E,64μm,0.8s						
MRVN	**Minervino Murg**	**4.53**	**331**	P	**Pn**	**14 10 23.4**	**+2.7**
MRVN				AML	AML		
	comp=E,51μm,0.5s						
MRVN				AML	AML		
	comp=N,50μm,1.1s						
STON	**Ston**	**5.83**	**350**	ePn	**Pn**	**14 10 39.7**	**+1.2**
STON				Sn	**Sn**	**14 11 42.7**	**-2.5**
LSTV	**Lastovo**	**5.88**	**344**	ePn	**Pn**	**14 10 40.8**	**+1.6**
LSTV				Sn	**Sn**	**14 11 42.8**	**-3.6**
HVAR	**Hvar**	**6.37**	**342**	ePn	**Pn**	**14 10 47.3**	**+1.3**
HVAR				Sn	**Sn**	**14 11 55.1**	**-3.4**
ZIRJ	**Zirje**	**7.03**	**339**	ePn	**Pn**	**14 10 56.7**	**+1.7**
ZIRJ				Sn	**Sn**	**14 12 11.1**	**-3.5**
KIJV	**Kijevo**	**7.16**	**344**	ePn	**Pn**	**14 10 59.2**	**+2.3**
KIJV				Sn	**Sn**	**14 12 15.4**	**-2.6**
MORI	**Morici**	**7.20**	**340**	ePn	**Pn**	**14 10 59.3**	**+1.9**
MORI				Sn	**Sn**	**14 12 16.3**	**-2.7**
DUGI	**Dugi Otok**	**7.51**	**337**	ePn	**Pn**	**14 11 03.3**	**+1.7**
DUGI				Sn	**Sn**	**14 12 23.1**	**-3.5**
UDBI	**Udbina**	**7.81**	**342**	ePn	**Pn**	**14 11 08.2**	**+2.4**
NVLJ	**Novalja**	**8.08**	**338**	ePn	**Pn**	**14 11 11.6**	**+2.1**
NVLJ				Sn	**Sn**	**14 12 37.8**	**-2.8**
MOSL	**Moslavina**	**8.65**	**349**	ePn	**Pn**	**14 11 18.5**	**+1.2**
MOSL				Sn	**Sn**	**14 12 50.6**	**-4.1**

*IDC **04** 14:26:12.2±3.0, 37°.68N×78°.31E, h0km, mb3.9/2, mb1 3.8/3, mb1mx3.3/45, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=36.6km s-min=30.2km az=9.0*

*NNC **04** 14:26:21.6±2.2, 38°.05N×77°.96E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=14.8km s-min=13.7km az=173.0*

ISC 04 14:26:18.9±2.5, 38°.0N±0°.2×77°.9E±0°.1, h10km, n15, σ2°56/14, 3C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**5.17**	**353**	⇓Pg	Pb	14 27 55.5	+6.0
	8.2nm,0.6s						
MDOK				Lg	Lg	14 29 05.2	
	44nm,1.0s						
MDOK	**Medeo**	**5.17**	**353**	Pg	**Pg**	**14 27 56.1**	**-1.8**
	5.2nm,0.5s						
MDOK				Lg	Lg	14 29 03.7	
KST	**Kastek**	**5.22**	**345**	Pg	**Pg**	**14 27 57.4**	**-1.4**
	4.5nm,0.4s						
KST				Lg	Lg	14 29 05.9	
	13nm,0.7s						
AAK	**Ala-Archa**	**5.27**	**332**	Pg	**Pb**	**14 27 56.0**	**+4.7**
	0.7nm,0.3s,baz=176,slow=15,SNR=1.9						
AAK				Lg	Lg	14 29 14.7	
	0.7nm,0.3s,baz=5.9,slow=22,SNR=4.1						
AAK	**Ala-Archa**	**5.27**	**332**	⇓Pg	**Pg**	**14 27 58.7**	**-1.2**
AAK				⇑Lg	Lg	14 29 10.8	
	35nm,0.8s						
PDGK	**Podgornoye**	**5.45**	**13**	⇑Pn	**Pn**	**14 27 41.4**	**+1.2**
	2.1nm,0.6s						
PDGK				⇓Pg	**Pg**	**14 28 00.6**	**-2.6**
PDGK				⇓Sn	**Sn**	**14 28 47.9**	**+4.9**
	19nm,0.9s						
PDGK				⇑Lg	Lg	14 29 15.1	
	30nm,1.1s						
KTBS	**Karatobe**	**5.75**	**352**	Pg	Pb	14 28 06.3	+7.0
	3.1nm,0.4s						
KTBS				Lg	Lg	14 29 21.4	
	17nm,0.7s						
CHKK	**Chushkaly**	**5.86**	**354**	Pg	**Pg**	**14 28 09.5**	**-1.6**
	2.6nm,0.3s						
CHKK				Lg	Lg	14 29 26.5	
	11nm,0.6s						
MRKS	**Merke**	**5.89**	**325**	Pg	**Pg**	**14 28 10.2**	**-1.5**
	1.9nm,0.3s						
MRKS				Lg	Lg	14 29 27.6	
	7.8nm,0.5s						
SGDS	**Sogindy**	**5.95**	**337**	Pg	Pb	14 28 10.1	+7.4
	1.9nm,0.3s						
SGDS				Lg	Lg	14 29 27.7	
	5.6nm,1.1s						
ARXS	**Arharly**	**6.18**	**360**	Pg	**Pg**	**14 28 15.6**	**-1.7**
	5.3nm,0.4s						
ARXS				Lg	Lg	14 29 37.2	
	9.0nm,0.5s						
MKAR	**Makanchi Array**	**9.36**	**19**	Pn	**Pn**	**14 28 34.2**	**+0.4**
	0.4nm,0.3s,baz=199,slow=13,SNR=13						
MKAR				Sn	**Sn**	**14 30 19.5**	**+0.4**
	0.6nm,0.3s,baz=202,slow=23,SNR=5.4						
GEYT	**Alibeck**	**15.56**	**276**	Pn	**Pn**	**14 29 59.5**	**+1.1**
	0.2nm,0.3s,baz=140,slow=7.2,SNR=4.6						
TLY	**Talaya**	**22.67**	**45**	P	P	14 31 14.0	-6.3
	6.4nm,0.8s,baz=269,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**39.40**	**324**	P	**P**	**14 33 47.1**	**-1.4**
	1.4nm,0.8s,baz=99,slow=8.6,SNR=1.3						

*NEIC **04** 14:33:52.7±1.7, 33°.1S±0°.1×179°.4W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=31.4km s-min=24.0km az=108.0*

*WEL **04** 14:33:55.2±0.6, 34°S±6°×17°9W±1°4, h112km±25km, M4.2/49, mB4.8/27, ML5.2/45, MLv4.9/49, Mw(mB)4.0/27, Error ellipse: s-maj=0.0km s-min=0.0km az=113.2*

*IDC **04** 14:33:56.5±5.5, 33°.24S×179°.25W, h43km±47km, mb4.0/5, mb1 4.2/6, mb1mx3.8/32, mbtmp4.2/6, ML4.3/1, MS3.5/3, Ms1 3.5/3, ms1mx3.1/24, Error ellipse: s-maj=35.2km s-min=29.3km az=70.0*

ISC 04 14:33:55.7±0.7, 33°.38S±0°.06×178°.9W±0°.1, h48km, n123, σ2°38/139, mb4.3/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.19**	**12**	P	**Pn**	**14 34 53.9**	**-3.2**
GLKZ				S	**Sn**	**14 35 41.6**	**-3.1**
MXZ	**Matakaoa Point**	**4.75**	**208**	Pn	**Pn**	**14 35 04.2**	**-0.5**
MXZ	**Matakaoa Point**	**4.75**	**208**	P	**Pn**	**14 35 06.2**	**+1.5**
WMGZ	**Waiomatatini S**	**4.94**	**205**	P	**Pn**	**14 35 08.7**	**+1.4**
WMGZ				S	**Sn**	**14 36 07.6**	**+4.6**
PKGZ	**Pakihiroa**	**5.12**	**208**	P	**Pn**	**14 35 10.2**	**+0.2**
PKGZ				S	**Sn**	**14 36 07.2**	**-0.6**
HAZ	**Te Kaha**	**5.13**	**211**	P	**Pn**	**14 35 11.2**	**+1.3**
HAZ				S	**Sn**	**14 36 08.9**	**+1.0**
PUZ	**Puketiti**	**5.22**	**205**	P	**Pn**	**14 35 13.1**	**+2.0**
PUZ				S	**Sn**	**14 36 07.6**	**-2.5**
RUGZ	**Raukumara Rang**	**5.35**	**210**	P	**Pn**	**14 35 13.8**	**+0.7**
RUGZ				S	**Sn**	**14 36 16.6**	**+3.1**
TWGZ	**Tauwhareparae**	**5.41**	**207**	P	**Pn**	**14 35 15.1**	**+1.3**
TWGZ				S	**Sn**	**14 36 14.7**	**-0.1**
CNGZ	**Carnagh Statio**	**5.60**	**204**	P	**Pn**	**14 35 17.1**	**+0.7**
TKGZ	**Te Karaka**	**5.69**	**207**	P	**Pn**	**14 35 18.9**	**+1.3**
TKGZ				S	**Sn**	**14 36 24.6**	**+2.9**
MWZ	**Matawai**	**5.73**	**209**	P	**Pn**	**14 35 18.2**	**0.0**
MWZ				S	**Sn**	**14 36 24.0**	**+1.5**
OPRZ	**Ohinepanea**	**5.79**	**218**	P	**Pn**	**14 35 22.0**	**+3.1**
MARZ	**Manawahe**	**5.83**	**217**	P	**Pn**	**14 35 22.2**	**+2.6**
URZ	**Urewera**	**5.84**	**212**	P	**Pn**	**14 35 19.5**	**-0.2**
	8.9nm,0.3s,baz=48,slow=1.5,SNR=46						
URZ				S	**Sn**	**14 36 25.6**	**+0.2**
	14nm,0.3s,baz=53,slow=23,SNR=9.9						
URZ	**Urewera**	**5.84**	**212**	Pn	**Pn**	**14 35 20.3**	**+0.6**
URZ	**Urewera**	**5.84**	**212**	P	**Pn**	**14 35 20.3**	**+0.6**
URZ				S	**Sn**	**14 36 25.7**	**+0.3**
TGRZ	**Tauranga**	**5.86**	**221**	P	**Pn**	**14 35 23.3**	**+3.4**
RAGZ	**Rawiri**	**5.91**	**209**	P	**Pn**	**14 35 21.6**	**+0.9**
RAGZ				S	**Sn**	**14 36 28.8**	**+1.6**
RIGZ	**Rimuhau**	**5.96**	**206**	P	**Pn**	**14 35 21.5**	**+0.2**
RIGZ				S	**Sn**	**14 36 26.7**	**-1.6**

OMRZ	Omania	6.08 218	P	Pn	14 35 30.6	+7.6	
PRGZ	Paritu Road	6.11 204	P	Pn	14 35 22.8	-0.6	
PRGZ			S	Sn	14 36 30.0	-2.0	
MUGZ	Murupara	6.17 213	P	Pn	14 35 24.7	+0.4	
MUGZ			S	Sn	14 36 31.0	-2.5	
KNZ	Kokohu	6.27 205	P	Pn	14 35 24.9	-0.7	
KNZ			S	Sn	14 36 29.7	-6.2	
MHGZ	Mahia Peninsul	6.31 203	P	Pn	14 35 26.6	+0.5	
MHGZ			S	Sn	14 36 35.0	-1.8	
MTHZ	Maungataniwha	6.45 211	P	Pn	14 35 29.7	+1.6	
MTHZ			S	Sn	14 36 40.3	-0.1	
OUZ	Omahuta	6.46 251	Pn	Pn	14 35 30.6	+2.4	
WHHZ	Waihua	6.48 208	P	Pn	14 35 29.6	+1.1	
BKZ	Black Stump Fm	6.86 211	Pn	Pn	14 35 33.6	-0.1	
MCHZ	McNeill Hill	7.01 209	P	Pn	14 35 36.2	+0.4	
MCHZ			S	Sn	14 36 54.1	0.0	
MCHZ	McNeill Hill	7.01 209	P	Sn	14 36 56.5	+2.4	
KWHZ	Kaweka Forest	7.11 211	P	Pn	14 35 37.3	+0.1	
KWHZ			S	Sn	14 36 55.2	-1.3	
KWHZ	Kaweka Forest	7.11 211	P	Sn	14 36 57.2	+0.6	
NTVZ	North Tongarir	7.19 216	P	Pn	14 35 39.3	+1.0	
TMVZ	Te Maari	7.19 216	P	Pn	14 35 39.1	+0.8	
HIZ	Hauiti	7.19 223	P	Pn	14 35 41.4	+3.2	
ETVZ	East Tongariro	7.20 216	P	Pn	14 35 39.4	+0.9	
KRVZ	Karewarewa	7.20 216	P	Pn	14 35 40.1	+1.7	
NNVZ	North Ngauruho	7.24 216	P	Pn	14 35 40.3	+1.2	
OTVZ	Oturere	7.24 216	P	Pn	14 35 39.8	+0.7	
OTVZ			S	Sn	14 36 59.9	-0.1	
WTVZ	West Tongariro	7.24 216	P	Pn	14 35 40.1	+1.1	
SNVZ	South Ngauruho	7.27 216	P	Pn	14 35 40.2	+0.7	
NGZ	Ngauruhoe	7.29 216	P	Pn	14 35 40.7	+1.1	
TWVZ	Taurewa	7.29 217	P	Pn	14 35 39.8	+0.2	
KRHZ	Kereru	7.31 210	P	Pn	14 35 39.2	-0.8	
KRHZ	Kereru	7.31 210	P	Sn	14 37 00.0	-1.6	
KRHZ	Kereru	7.31 210	S	Sn	14 36 59.9	-1.6	
BHHZ	Black Hill Sta	7.32 212	P	Pn	14 35 39.3	-0.8	
BHHZ			S	Sn	14 37 00.5	-1.3	
TUVZ	Tukino	7.33 215	P	Pn	14 35 42.1	+1.8	
FWVZ	Far West T-bar	7.37 216	P	Pn	14 35 42.0	+1.1	
WHVZ	Whangaehu Hut	7.37 215	P	Pn	14 35 41.7	+0.8	
MOVZ	Moawhango	7.39 214	P	Pn	14 35 38.1	-2.9	
MOVZ			S	Sn	14 36 60.0	-3.6	
WNVZ	Wahianoa	7.40 215	P	Pn	14 35 42.1	+0.8	
WNVZ	Wahianoa	7.40 215	P	Sn	14 37 08.0	+4.0	
TRVZ	Turoa	7.41 216	P	Pn	14 35 43.8	+2.4	
PXZ	Pawanui	7.46 206	P	Pn	14 35 39.9	-1.9	
PXZ			S	Sn	14 37 00.7	-4.3	
PKVZ	Pokaka	7.50 216	P	Pn	14 35 43.8	+1.4	
PNHZ	Pukenui	7.61 210	P	Pn	14 35 42.5	-1.5	
PNHZ			S	Sn	14 37 05.0	-3.9	
PNHZ	Pukenui	7.61 210	P	Sn	14 37 03.5	-5.4	
WPHZ	Waipukurau	7.64 208	P	Pn	14 35 43.3	-1.1	
WPHZ			S	Sn	14 37 07.1	-2.5	
WPHZ	Waipukurau	7.64 208	P	Sn	14 37 06.4	-3.2	
VRZ	Vera Road	7.68 220	P	Pn	14 35 47.6	+2.8	
PRHZ	Porangahau	7.75 206	P	Pn	14 35 46.1	+0.3	
TSZ	Takapari Road	7.83 210	P	Pn	14 35 46.1	-0.9	
DVHZ	Dannevirke	7.95 208	P	Pn	14 35 46.7	-1.9	
DVHZ	Dannevirke	7.95 208	P	Sn	14 37 12.4	-4.9	
ANWZ	Angora Road	7.97 206	P	Pn	14 35 48.6	-0.3	
ANWZ	Angora Road	7.97 206	P	Sn	14 37 16.3	-1.4	
WAZ	Wanganui	8.03 216	P	Pn	14 35 50.5	+0.7	
NEZ	North Egmont	8.15 222	P	Pn	14 35 52.1	+0.8	
POWZ	Post Office Ro	8.19 210	P	Sn	14 37 18.4	-4.7	
PRWZ	Pori Road	8.25 208	P	Pn	14 35 52.3	-0.4	
PRWZ	Pori Road	8.25 208	P	Sn	14 37 19.1	-5.4	
BFZ	Birch Farm	8.25 207	Pn	Pn	14 35 51.0	-1.7	
BFZ	Birch Farm	8.25 207	P	Sn	14 35 50.4	-2.3	
BFZ	Birch Farm	8.25 207	P	Sn	14 37 19.1	-5.4	
CPWZ	Castlepoint	8.47 206	P	Sn	14 37 26.9	-2.9	
TIWZ	Tintock	8.47 208	P	Pn	14 35 55.0	-0.7	
TIWZ	Tintock	8.47 208	P	Sn	14 37 26.5	-3.5	
MRZ	Mangatainoka R	8.50 210	P	Pn	14 35 53.2	-2.9	
HOWZ	Holdsworth Sta	8.72 209	P	Sn	14 37 29.4	-6.7	
TMWZ	Te Maipa	8.75 207	P	Pn	14 35 57.2	-2.4	
TMWZ	Te Maipa	8.75 207	P	Sn	14 37 29.9	-7.0	
OGWZ	Otaki Gorge	8.80 211	P	Pn	14 35 57.5	-2.7	
MTW	Mount Morrison	8.95 208	P	Pn	14 35 59.2	-3.0	
TRWZ	Traveller	9.08 207	P	Pn	14 36 01.9	-2.2	
MSWZ	Moikau Station	9.27 208	P	Pn	14 36 04.2	-2.4	
KHZ	Kahutara	10.81 211	Pn	Pn	14 36 23.5	-4.2	
MSVF	Nonsavu	15.82 349	LR	LR	14 41 52.3		
	comp=Z,176nm,19.6s,baz=221,slow=30						
AFI	Afiamalu	20.44 20	LR	LR	14 44 46.2		
	comp=Z,92nm,21.3s,baz=127,slow=32						
STKA	Stephens Creek	33.16 262	LR	LR	14 51 35.7		
	comp=Z,123nm,20.4s,baz=56,slow=32						
CTAO	Charters Tower	33.64 284	P	P	14 40 28.2	-3.7	
BBOO	Buckleboo	37.50 258	P	P	14 41 02.6	-2.3	
BBOO			IAmb	IAmb	14 41 06.1		
	comp=Z,10nm,1.1s						
AS31	Alice Springs	42.27 271	P	P	14 41 42.2	-2.4	
ASAR	Alice Springs	42.27 271	P	P	14 41 43.8	-0.8	
	comp=Z,2.7nm,0.6s,baz=108,slow=7.4,SNR=56						
ASAR	Alice Springs	42.27 271	P	P	14 41 43.1	-1.5	
WR0	Warramunga Arr	43.35 276	P	P	14 41 52.3	-1.1	
WR0			IAmb	IAmb	14 41 54.0		
	comp=Z,4.5nm,0.9s						
WB2	Warramunga Arr	43.52 276	P	P	14 41 53.1	-1.7	
WB2			IAmb	IAmb	14 41 55.3		
	comp=Z,5.1nm,0.8s						
WRAB	Tennant Creek	43.52 276	P	P	14 41 51.8	-3.0	
WRAB			IAmb	IAmb	14 41 55.2		
	comp=Z,6.5nm,0.9s						
WRA	Warramunga Arr	43.52 276	P	P	14 41 53.9	-0.9	
	comp=Z,4.0nm,0.8s,baz=116,slow=7.4,SNR=22						
WRA	Warramunga Arr	43.52 276	P	P	14 41 52.1	-2.7	
WB0	Warramunga Arr	43.56 276	P	P	14 41 53.9	-1.3	
WB0			IAmb	IAmb	14 41 55.1		
	comp=Z,10nm,1.0s						
KNRA	Kununurra	50.23 277	P	P	14 42 46.3	-0.8	
QSPA	South Pole Qui	56.74 180	P	P	14 43 38.9	+4.5	
QSPA			IAmb	IAmb	14 43 44.7		
	comp=Z,4.7nm,0.7s						
MAW	Mawson	69.26 201	P	P	14 44 59.5	+2.3	
	comp=Z,2.1nm,0.9s,baz=140,slow=10.0,SNR=6.5						
SNAA	Sanae	75.21 179	P	P	14 45 35.3	+2.5	
VNA3	Neumayer Olymp	75.39 176	P	P	14 45 36.2	+2.4	
VNA1	Neumayer--Stat	76.05 177	P	P	14 45 40.4	+2.9	
H03S2	Juan Fernandez	79.47 124	T	T	16 14 20.0		
	baz=235,slow=74,SNR=99						
H03S1	Juan Fernandez	79.48 124	T	T	16 14 21.1		
	baz=235,slow=74,SNR=75						
H03S3	Juan Fernandez	79.49 124	T	T	16 14 20.1		
	baz=235,slow=74,SNR=81						
H03N3	Juan Fernandez	79.68 123	T	T	16 14 36.9		
	baz=239,slow=72,SNR=50						
H03N2	Juan Fernandez	79.69 123	T	T	16 14 31.1		
	baz=239,slow=72,SNR=45						
H03N1	Juan Fernandez	79.70 123	T	T	16 14 31.2		
	baz=239,slow=72,SNR=54						
PETK	Petropavlovsk-	88.50 346	P	P	14 46 44.0	+1.5	
	comp=Z,1.6nm,0.8s,baz=110,slow=6.6,SNR=4.9						
NVAR	Mina Array Bea	90.94 43	P	P	14 46 57.4	+2.8	
	comp=Z,0.6nm,0.9s,baz=223,slow=5.9,SNR=4.5						
KURBB	Kurchatov Arra	122.55 312	PKP	PKPdf	14 52 44.8	-0.5	
	comp=Z,0.7nm,0.7s,baz=113,slow=1.9,SNR=5.5						
FINES	FINESS Array B	147.63 338	PKPbc	PKPbc	14 53 33.7	-0.3	
	comp=Z,6.2nm,0.7s,baz=39,slow=3.8,SNR=30						
FINES	FINESS Array B	147.63 338		PKPbc	14 53 33.9	-0.1	
NB2	NORSAR Subarra	151.55 350	PKP	PKPbc	14 53 43.5	-0.3	
	comp=Z,1.6nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	151.55 350	PKPbc	PKPbc	14 53 43.6	-0.2	
	comp=Z,2.2nm,0.7s,baz=13,slow=4.1,SNR=16						
AKASG	Malin Array Be	153.10 318	PKPbc	PKPbc	14 53 47.0	-0.5	
	comp=Z,0.2nm,0.3s,baz=57,slow=2.3,SNR=4.6						
TORD	Torodi Ar. Bea	159.85 182	PKPab	PKPab	14 54 30.8	+1.8	
	comp=Z,2.7nm,0.8s,baz=168,slow=3.5,SNR=9.5						

NOU 04 14:34:45.7, 36°86S×178°87E, h159km, ML4.1, Off E. Coast of N. Island, N.Z., Off east coast of North Island

*IDC **04** 14:37:41.4±2.2, 37°58N×78°10E, h0km, mb3.7/4, mb1 3.8/9, mb1mx3.5/49, mbtmp3.7/9, ML3.2/5, Error ellipse: s-maj=37.8km s-min=24.2km az=28.0*

ISC 04 14:37:45.0±1.8, 37°8N±0°1×78°26E±0°10, h10km, n14, σ2°31/18, mb3.6/4, 7C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	Medeo	5.42	351	Pg	Pg	14 39 25.3	-3.4
MDOK				Lg	Lg	14 40 40.5	
KNDC	Almaty	5.48	350	⇑Pg	Pb	14 39 23.5	+2.6
KNDC				⇓Lg	Lg	14 40 40.0	
PDGK	Podgornoye	5.58	9	⇑Pn	Pn	14 39 11.7	+3.4
PDGK				⇑Pg	Pg	14 39 30.9	-1.1
PDGK				⇑Lg	Lg	14 40 55.4	
AAK	Ala-Archa	5.61	330	Pn	Pn	14 39 12.0	+3.4
AAK				Pg	Pb	14 39 24.7	+1.6
AAK				Lg	Lg	14 40 45.1	
AAK	Ala-Archa	5.61	330	⇑Pn	Pn	14 39 11.5	+2.9
AAK				⇑Pg	Pg	14 39 31.4	-1.0
AAK				⇑Lg	Lg	14 40 52.5	
MKAR	Makanchi Array	9.45	17	Pn	Pn	14 40 03.7	+2.4
MKAR				Sn	Sn	14 41 45.4	-2.1
KURBB	Kurchatov Arra	12.80	1	Pn	Pn	14 40 49.1	+2.1
ZALV	Zalesovo Beam	16.75	14	Pn	Pn	14 41 38.6	-1.0
AKTO	Aktyubinsk	19.16	318	P	P	14 42 07.2	-1.2
SONM	Songino Array	22.82	55	P	P	14 42 49.3	+1.1
FINES	FINESS Array B	39.75	324	P	P	14 45 16.8	-0.7
NB2	NORSAR Subarra	46.86	322	P	P	14 46 13.0	-2.0
NOA	NORSAR Array B	46.86	322	P	P	14 46 14.0	-1.1
ILAR	Eielson Array	71.80	19	P	P	14 49 06.2	-1.1

*IDC **04** 14:50:01.0±0.8, 30°46N×142°72E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.6/53, mbtmp3.8/10, ML3.2/3, Error ellipse: s-maj=29.6km s-min=17.9km az=89.0*
*JMA **04** 14:50:01.1±0.3, 30°50N×143°02E, h45km, M4.1*
*NEIC **04** 14:50:03.2±2.8, 30°46N±0°08×142°8E±0°2, h31km±10km, mb4.4/2, Error ellipse: s-maj=30.1km s-min=10.7km az=78.0*

ISC 04 14:50:03.5±0.7, 30°44N±0°06×142°64E±0°10, h24km, n35, σ1°40/37, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.36	187	P	Pn	14 50 54.3	-0.2
JCJ	Chichijima	3.36	187	Pn	Pn	14 50 54.6	+0.1
JCJ				Sn	Sn	14 51 32.7	-0.9
JCJ	Chichijima	3.36	187	Pn	Pn	14 50 54.8	+0.3
JHJ2	Mitsune	3.59	319	P	Pn	14 50 58.5	+0.9
JHJ2	Mitsune	3.59	319	Pn	Pn	14 50 57.8	+0.2
JHJ	Hachijo jima 2	3.61	318	Pn	Pn	14 50 56.8	-1.2
JHJ				Sn	Sn	14 51 38.0	-1.8
JMKN	Mikurajimanish	4.30	324	P	Pn	14 51 08.6	+1.2
BSO1	Boso 1	4.43	342	P	Pn	14 51 08.1	-0.5
BSO3	Boso 3	4.70	338	P	Pn	14 51 13.1	+0.4
BSO4	Boso 4	4.93	337	P	Pn	14 51 17.1	+1.1
JHU	Hanno	6.08	333	P	Pn	14 51 32.8	+0.9
JYT	Yasato	6.12	341	Pn	Pn	14 51 32.5	+0.1
JRY	Ryogami san	6.38	332	P	Pn	14 51 36.9	+0.9
JHO	Hitachi	6.39	345	P	Pn	14 51 35.0	-1.1
JAG	Ashikaga	6.53	337	P	Pn	14 51 38.2	+0.1
MJAR	Matsushiro Arr	7.12	330	Pn	Pn	14 51 46.3	+0.1
MJAR				Sn	Sn	14 53 05.5	-0.8
MJAR	Matsushiro Arr	7.12	330		Pn	14 51 47.0	+0.8
MAJO	Matsushiro	7.12	330		Pn	14 51 47.5	+1.3
JMM	Marumori	7.56	349	Pn	Pn	14 51 50.2	-2.0
JSD	Sado	8.40	336	Pn	Pn	14 52 02.8	-0.9
JTM	Tenmabayashi	10.40	353	Pn	Pn	14 52 30.1	-0.9
JEM	Erimo	11.56	2	Pn	Pn	14 53 13.3	+26
ASAJ	Asahikawa	13.65	360	Pn	Pn	14 53 12.4	-3.1
KSRS	Korea Array	14.07	304	Pn	P	14 53 28.6	-0.1
YHNB	Yeheng	19.70	258	P	P	14 54 27.5	-3.7
YHNB				IAmb	IAmb	14 54 40.9	
YULB	Yu-li	20.27	255	P	P	14 54 35.6	-1.8
YULB				IAmb	IAmb	14 54 51.9	
MKAR	Makanchi Array	48.71	307	P	P	14 58 48.7	+2.7
WRA	Warramunga Arr	50.73	190	P	P	14 59 02.5	+1.1
ASAR	Alice Springs	54.45	190	P	P	14 59 30.2	+1.2
ILAR	Eielson Array	54.60	30	P	P	14 59 29.5	-0.1
FINES	FINESS Array B	75.13	334	P	P	15 01 44.9	+1.5
FINES	FINESS Array B	75.13	334	P	P	15 01 43.5	+0.2
NVAR	Mina Array Bea	78.15	52	P	P	15 02 02.4	+1.2
TXAR	Lajitas Array	93.28	53	P	P	15 03 18.0	+1.3
LPAZ	La Paz	148.55	70	PKPbc	PKPab	15 09 51.4	-1.8

*IDC **04** 14:50:42.8±9.9, 37°39N×78°54E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.2/48, mbtmp3.6/3, ML3.3/1, MS3.6/4, Ms1 3.6/4, ms1mx2.6/47, Error ellipse: s-maj=181.3km s-min=42.7km az=133.0*
*NNC **04** 14:50:46.2±1.8, 37°45N×77°66E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=14.0km s-min=12.2km az=58.0*

ISC 04 14:50:48.9±3.0, 37°6N±0°2×78°0E±0°1, h17km, n20, σ3°32/15, MS3.5/4, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	5.62	8	Pg	Pb	14 52 31.1	+4.5
UZB				Lg	Lg	14 53 48.2	
MDOK	Medeo	5.62	353	Pg	Pb	14 52 30.6	+3.9
MDOK				Lg	Lg	14 53 47.3	
KST	Kastek	5.68	345	Pg	Pb	14 52 32.1	+4.6
KST				Lg	Lg	14 53 49.4	
SHLS	Shalkode	5.68	11	Pg	Pg	14 52 35.1	-2.5
SHLS				Lg	Lg	14 53 54.7	
AAK	Ala-Archa	5.72	333	Pg	Pg	14 52 36.7	-1.8
AAK				Lg	Lg	14 53 49.0	
AAK	Ala-Archa	5.72	333	⇑Pg	Pb	14 52 31.4	+3.0
AAK				⇓Lg	Lg	14 53 49.5	
PDGK	Podgornoye	5.85	11	⇑Pn	Pn	14 52 15.3	+0.3
PDGK				⇑Pg	Pg	14 52 35.9	-5.0
PDGK				⇓Lg	Lg	14 53 56.4	
DGS	Degeres	5.91	344	Pg	Pb	14 52 35.2	+3.7
DGS				Lg	Lg	14 53 55.2	
MRKS	Merke	6.33	326	Pg	Pb	14 52 39.2	+0.6
MRKS				Lg	Lg	14 54 02.2	
KRBS	Karabastau	6.36	345	Pg	Pb	14 52 42.8	+3.6
KRBS				Lg	Lg	14 54 08.0	
SGDS	Sogindy	6.41	337	Pg	Pb	14 52 43.7	+3.8
SGDS				Lg	Lg	14 54 09.5	
KUU	Kurty	6.43	349	Pg	Pb	14 52 46.2	+5.8
KUU				Lg	Lg	14 54 14.4	
ARXS	Arharly	6.63	359	Pg	Pg	14 52 50.0	-5.7
ARXS				Lg	Lg	14 54 20.9	
BTLS	Baital	8.03	339	Pg	Pb	14 53 12.8	+5.3
BTLS				Lg	Lg	14 54 59.6	
MKAR	Makanchi Array	9.74	18	Pn	Pn	14 53 07.3	-0.9
MKAR				Sn	Sn	14 54 53.5	-3.7
FINES	FINESS Array B	39.83	324	P	P	14 58 20.9	0.0
FINES				LR	LR	15 17 13.9	
NOA	NORSAR Array B	46.93	322	P	P	14 59 17.5	-0.8
LEM	Lembang	52.11	142	LR	LR	15 24 02.5	
KAPI	Kappang	57.47	128	LR	LR	15 31 12.4	
BATI	Baumata	63.91	128	LR	LR	15 34 13.5	

*IDC **04** 15:03:24.8±1.1, 14°42N×56°42E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.5/42, mbtmp3.7/9, MS3.1/3, Ms1 3.2/3, ms1mx2.7/37, Error ellipse: s-maj=28.6km s-min=24.9km az=111.0*

ISC 04 15:03:27.8±0.9, 14°5N±0°2×56°4E±0°2, h19km, n14, σ0°85/10, mb3.8/10, MS3.2/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	23.43	3	P	P	15 08 35.6	-0.3
MBAR	Mbarara	29.49	242	LR	LR	15 19 46.5	
MKAR	Makanchi Array	38.82	29	P	P	15 10 52.6	+1.1
MKAR				LR	LR	15 28 05.1	
KURBB	Kurchatov Arra	40.28	22	P	P	15 11 04.7	+1.2
CMAR	Chiang Mai Arr	40.91	78	P	P	15 11 09.9	+0.7
CMAR				LR	LR	15 29 28.1	
MATP	Matopo	44.21	219	P	P	15 11 36.7	+0.5
ZALV	Zalesovo Beam	45.27	23	P	P	15 11 43.6	-0.4
FINES	FINESS Array B	51.74	342	P	P	15 12 33.3	-0.4
ESDC	Sonseca Array	58.18	308	P	P	15 13 20.8	0.0
KSRS	Korea Array	66.75	55	P	P	15 14 17.3	-0.7
H01W3	Cape Leeuwin H	73.49	134	T	T	16 35 06.7	
	baz=302,slow=75,SNR=22						
H01W2	Cape Leeuwin H	73.50	134	T	T	16 35 08.3	
	baz=302,slow=75,SNR=20						
H01W1	Cape Leeuwin H	73.51	134	T	T	16 35 05.1	
	baz=302,slow=75,SNR=22						
ASAR	Alice Springs	84.64	116	P	P	15 15 59.8	-0.9
	0.5nm,0.7s,baz=279,slow=4.2,SNR=7.6						

NNC 04 15:11:12.9±1.8, 37°68N×77°85E, h0km, mb4.1, mpv3.7, 6C-2D, Error ellipse: s-maj=15.4km s-min=12.2km az=67.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.39	4	Pg	Pb	15 12 52.1	+4.1
SATY				Lg	Lg	15 14 06.1	
MDOK	Medeo	5.51	354	⇓Pg	Pb	15 12 52.9	+2.8
MDOK				Lg	Lg	15 14 05.8	
MDOK	Medeo	5.51	354	Pg	Pb	15 12 52.7	+2.6
MDOK				Lg	Lg	15 14 07.1	
TKM2	Tokmak 2	5.51	343	⇑Pg	Pb	15 12 51.6	+1.6
TKM2				⇑Lg	Lg	15 14 06.8	
KST	Kastek	5.55	346	Pg	Pb	15 12 53.7	+3.0
KST				Lg	Lg	15 14 09.1	
AAK	Ala-Archa	5.58	334	⇑Pg	Pg	15 12 57.4	-2.4
AAK				⇓Lg	Lg	15 14 09.9	
SHLS	Shalkode	5.61	12	Pg	Pg	15 12 56.8	-3.6
SHLS				Lg	Lg	15 14 14.4	
DGS	Degeres	5.78	345	Pg	Pb	15 12 58.7	+4.1
DGS				Lg	Lg	15 14 17.2	
PDGK	Podgornoye	5.78	12	⇑Pn	Pn	15 12 39.1	-0.9
PDGK				⇑Pg	Pg	15 12 59.3	-4.4
PDGK				⇑Lg	Lg	15 14 16.8	
KTBS	Karatobe	6.09	352	Pg	Pb	15 13 04.4	+4.5
KTBS				Lg	Lg	15 14 27.2	
KRBS	Karabastau	6.23	345	Pg	Pb	15 13 05.9	+3.6
KRBS				Lg	Lg	15 14 29.6	

*IDC **04** 15:13:11.3±2.8, 22°01S×178°01W, h390km±24km, mb3.5/6, mb1 3.7/8, mb1mx3.3/29, mbtmp4.3/8, Error ellipse: s-maj=36.9km s-min=18.4km az=137.0*

ISC 04 15:13:09.4±1.0, 22°1S±0°2×177°9W±0°2, h373km, n11, σ1°28/11, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.78	318	P	Pn	15 14 39.8	+1.0
	7.0nm,0.3s,baz=255,slow=22,SNR=54						
URZ	Urewera	16.69	194	P	P	15 16 41.8	+0.7
	1.3nm,0.3s,baz=279,slow=5.0,SNR=15						
STKA	Stephens Creek	37.23	246	P	P	15 19 47.4	+0.5
	3.3nm,0.5s,baz=97,slow=10,SNR=21						
ASAR	Alice Springs	44.30	258	P	P	15 20 43.5	-0.6
	11nm,0.8s,baz=92,slow=8.9,SNR=152						
WRA	Warramunga Arr	44.52	264	P	P	15 20 44.4	-1.5
	2.4nm,0.3s,baz=90,slow=6.2,SNR=201						
NVAR	Mina Array Bea	82.09	43	P	P	15 24 50.9	+1.5
	0.5nm,0.9s,baz=226,slow=9.8,SNR=4.6						
ILAR	Eielson Array	89.82	13	P	P	15 25 25.0	-1.1
	0.3nm,0.4s,baz=219,slow=5.2,SNR=9.0						
CMAR	Chiang Mai Arr	90.75	290	P	P	15 25 32.6	+1.2
	1.1nm,0.8s,baz=154,slow=3.1,SNR=6.1						
ARCES	ARCESS Array B	130.49	349	PKP	PKPdf	15 31 34.6	-0.9
	0.7nm,0.4s,baz=341,slow=2.6,SNR=7.4						
AKASG	Malin Array Be	144.44	330	PKP	PKPab	15 31 59.4	-1.7
	0.7nm,0.3s,baz=43,slow=4.0,SNR=6.9						
GERES	GERESS Array B	151.75	344	PKPbc	PKPbc	15 32 19.6	-0.8
	0.2nm,0.4s,baz=0.0,slow=1.3,SNR=3.9						

*IDC **04** 15:34:11.9±19.0, 19°.25S×178°.03W, h479km±38km, mb2.9/3, mb1 3.0/4, mb1mx2.7/29, mbtmp3.6/4, Error ellipse: s-maj=347.2km s-min=98.5km az=94.0*
ISC 04 15:34:20.4±3.5, 19°.9S±0°.2×179°.4W±0°.5, h450km, n18, σ4°43/14, mb3.3/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**311**	P	**P**	**15 35 29.1**	**-0.1**
	0.4nm,0.3s,baz=112,slow=22,SNR=5.7						
WAZ	**Wanganui**	**20.42**	**193**	P	**P**	**15 38 31.8**	**+6.3**
POWZ	**Post Office Ro**	**20.89**	**190**	P	**P**	**15 38 34.5**	**+4.7**
PRWZ	**Pori Road**	**21.02**	**190**	P	**P**	**15 38 37.1**	**+6.2**
MRZ	**Mangatainoka R**	**21.19**	**191**	P	**P**	**15 38 32.4**	**-0.1**
OGWZ	**Otaki Gorge**	**21.41**	**191**	P	**P**	**15 38 28.6**	**-5.8**
HOWZ	**Holdsworth Sta**	**21.43**	**191**	P	**P**	**15 38 33.3**	**-1.4**
KIW	**Kapiti Island**	**21.50**	**192**	P	P	15 38 27.3	-8.0
DUWZ	**D'Urville Isla**	**21.65**	**194**	P	P	15 38 27.5	-9.2
MTW	**Mount Morrison**	**21.68**	**190**	P	**P**	**15 38 35.1**	**-1.8**
CAW	**Cannon Point**	**21.71**	**191**	P	**P**	**15 38 31.0**	**-6.2**
TCW	**Tory Channel**	**21.97**	**193**	P	P	15 38 30.1	-9.4
QRZ	**Quartz Range**	**22.02**	**197**	P	**P**	**15 38 39.9**	**0.0**
NNZ	**Nelson**	**22.18**	**195**	P	**P**	**15 38 35.4**	**-6.0**
TUWZ	**Tuamarina**	**22.25**	**193**	P	P	15 38 33.9	-8.1
STKA	**Stephens Creek**	**36.91**	**243**	P	**P**	**15 40 50.3**	**+0.8**
	1.0nm,0.8s,baz=90,slow=9.1,SNR=1.6						
ASAR	**Alice Springs**	**43.40**	**256**	P	**P**	**15 41 42.3**	**+0.2**
	1.4nm,0.6s,baz=95,slow=8.1,SNR=32						
WRA	**Warramunga Arr**	**43.40**	**262**	P	**P**	**15 41 41.7**	**-0.4**
	0.3nm,0.3s,baz=96,slow=7.5,SNR=11						

*ATH **04** 15:36:35.6, 39°.85N×25°.84E, h38km±5km, ML1.7/2, Error ellipse: s-maj=5.8km s-min=1.2km az=253.0*
*ISK **04** 15:36:35.9, 39°.88N×25°.94E, h9km, ML2.5/16*
*DDA **04** 15:36:35.7, 39°.83N×25°.96E, h14km±1km, ML2.2*
ISC 04 15:36:35.5±0.9, 39°.85N±0°.02×25°.92E±0°.02, h15km±5km, n41, σ0°39/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.10**	**95**	*i* P	**Pg**	**15 36 38.9**	**0.0**
BOZC				*i* S	**Sg**	**15 36 40.7**	**-0.4**
BOZC				IAML		15 36 41.0	
	comp=N,633nm,0.3s						
BOZC	**Bozcaada**	**0.10**	**95**	PG	**Pg**	**15 36 38.8**	**-0.1**
BOZC				SG	**Sg**	**15 36 40.9**	**-0.2**
ECEA	**Canakkale, Ece**	**0.27**	**45**	*i* P	**Pg**	**15 36 41.7**	**+0.2**
ECEA				*i* S	**Sb**	**15 36 46.0**	**-0.5**
EZN	**Ezine**	**0.31**	**94**	PG	**Pg**	**15 36 42.2**	**+0.1**
EZN				SG	**Sb**	**15 36 46.9**	**-0.7**
GADA	**Gvkgeada**	**0.34**	**357**	PG	**Pg**	**15 36 42.7**	**+0.1**
GADA				SG	**Sg**	**15 36 47.8**	**+0.4**
GOKA	**anakkale-Gk**	**0.34**	**358**	*i* P	**Pg**	**15 36 42.5**	**-0.1**
GOKA				IAML		15 36 48.0	
	comp=E,344nm,0.2s						
GOKC	**Gokceada-Canak**	**0.35**	**360**	PG	**Pg**	**15 36 43.1**	**+0.4**
GOKC				SG	**Sg**	**15 36 47.9**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.39**	**154**	*i* P	**Pg**	**15 36 43.5**	**+0.1**
KOCA				*i* S	**Sg**	**15 36 48.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.49**	**103**	*i* P	**Pg**	**15 36 45.4**	**0.0**
BAYC				*i* S	**Sg**	**15 36 51.3**	**-0.7**
LIA	**Limnos Island**	**0.57**	**275**	P	**Pg**	**15 36 46.7**	**-0.1**
LIA				S	**Sg**	**15 36 54.5**	**+0.1**
PRK	**Paraskevi**	**0.66**	**156**	P	**Pn**	**15 36 49.7**	**-0.6**
PRK				S	**Sb**	**15 36 58.8**	**+1.1**
SMTH	**Samothraki Isl**	**0.69**	**334**	P	**Pg**	**15 36 49.0**	**0.0**
SMTH				S	**Sg**	**15 36 58.1**	**0.0**
SMTH				AML	AML	15 37 00.8	
	comp=N,174μm,0.2s						
SMTH				AML	AML	15 37 01.5	
	comp=E,127μm,0.1s						
AYVA	**Ayvalik**	**0.80**	**132**	*i* P	**Pb**	**15 36 51.6**	**+0.5**
AYVA				*i* S	**Sg**	**15 37 01.5**	**-0.2**
AYVA				IAML		15 37 05.0	
	comp=N,87nm,0.6s						
CAVK	**Edirne/Enez-Ca**	**0.86**	**13**	*i* P	**Pb**	**15 36 51.9**	**-0.3**
ENEZ	**Enez**	**0.90**	**11**	PG	**Pb**	**15 36 52.8**	**-0.1**
ERIK	**Erikli-Kesan**	**0.94**	**29**	PG	**Pb**	**15 36 53.3**	**-0.1**
BUHA	**Balikesir, Bur**	**0.96**	**111**	*i* P	**Pn**	**15 36 54.3**	**-0.1**
BUHA				*i* S	**Sg**	**15 37 06.4**	**-0.2**
ALN	**Alexandroupoli**	**1.05**	**5**	P	**Pb**	**15 36 55.3**	**-0.1**
ALN				S	**Sb**	**15 37 09.1**	**+0.2**
ALN				AML	AML	15 37 10.2	
	comp=E,66μm,0.3s						
ALN				AML	AML	15 37 11.4	
	comp=N,79μm,0.5s						
ALN	**Alexandroupoli**	**1.05**	**5**	PG	**Pb**	**15 36 55.6**	**+0.2**
DKL	**Dikili**	**1.09**	**135**	PN	**Pg**	**15 36 56.7**	**+0.1**
KESN	**Edirne-Kesan**	**1.13**	**30**	*i* P	**Pg**	**15 36 57.5**	**0.0**
KESN				*i* S	**Sn**	**15 37 12.7**	**0.0**
KESN				IAML		15 37 14.0	
	comp=E,81nm,0.3s						
KRBG	**Karabiga-Canak**	**1.19**	**62**	PN	**Pn**	**15 36 57.6**	**+0.1**
THAS	**Thassos island**	**1.19**	**310**	P	**Pn**	**15 36 56.4**	**-1.2**
ZEDA	**zmir-Bergama**	**1.26**	**134**	*i* P	**Pn**	**15 36 58.6**	**+0.1**
ZEDA				*i* S	**Sg**	**15 37 16.1**	**-0.1**
ZEDA				IAML		15 37 18.0	
	comp=E,41nm,0.3s						
ZEDA				IAML		15 37 18.0	
	comp=N,84nm,0.4s						
RKY	**Sarkoy-Tekirda**	**1.27**	**49**	PN	**Pg**	**15 36 59.7**	**-0.4**
SART	**Tekirdag**	**1.28**	**49**	*i* P	**Pn**	**15 36 59.1**	**+0.3**
SART				IAML		15 37 17.0	
	comp=E,39nm,0.9s						
SART				*i* S	**Sg**	**15 37 17.7**	**+1.0**
KNL	**Balıkesir**	**1.30**	**71**	*i* P	**Pb**	**15 36 59.9**	**+0.2**
KNL				*i* S	**Sg**	**15 37 17.5**	**-0.1**
KNL				IAML		15 37 22.0	
	comp=E,60nm,0.6s						
BALY	**Balya**	**1.31**	**94**	*i* P	**Pg**	**15 37 00.4**	**-0.4**
BALY				IAML		15 37 19.0	
	comp=N,42nm,0.6s						
RDO	**Rodhopi**	**1.33**	**347**	P	**Pn**	**15 36 59.6**	**+0.1**
RDO	**Rodhopi**	**1.33**	**347**	PN	**Pb**	**15 37 00.2**	**+0.1**
MAR6	**Marsite Statio**	**1.33**	**50**	PN	**Pb**	**15 37 00.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.37**	**81**	PN	**Pb**	**15 37 01.3**	**+0.5**
MAR3	**Marsite Statio**	**1.38**	**49**	PN	**Pg**	**15 37 01.7**	**-0.4**
GZKV	**Gazikoy-Tekird**	**1.40**	**50**	PN	**Pb**	**15 37 01.8**	**+0.5**
CHOS	**Chios island**	**1.47**	**176**	P	**Pn**	**15 37 01.5**	**0.0**
CHOS	**Chios island**	**1.47**	**176**	PN	**Pg**	**15 37 03.4**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.47**	**108**	*i* P	**Pb**	**15 37 02.4**	**-0.1**
STEP				IAML		15 37 25.0	
	comp=N,31nm,0.4s						
MRMT	**Marmara Adasi**	**1.49**	**59**	PN	**Pb**	**15 37 02.8**	**-0.1**
EDC	**Edincik**	**1.57**	**71**	PN	**Pb**	**15 37 04.6**	**+0.4**
KAVA	**Kavala**	**1.57**	**317**	P	**Pn**	**15 37 03.0**	**+0.2**
URLA	**Izmir**	**1.58**	**160**	PN	**Pb**	**15 37 04.8**	**+0.4**

*IDC **04** 15:42:17.7±0.9, 44°.18N×122°.87W, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.8/36, mbtmp3.7/12, ML3.3/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/48, Error ellipse: s-maj=16.6km s-min=11.5km az=63.0*
*ANF **04** 15:42:17.7±0.2, 44°.09N×122°.84W, h2km±2km, ML4.2/25, Error ellipse: s-maj=1.6km s-min=1.4km az=102.0*
*NEIC **04** 15:42:18.1±2.1, 44°.09N±0°.01×122°.85W±0°.01, h3km±4km, Error ellipse: s-maj=1.8km s-min=1.6km az=160.0*
*SEA **04** 15:42:18.1±2.2, 44°.08N±0°.02×122°.84W±0°.01, h10km±3km, ML4.2/118, mb4.1/18(NEIC), ML3.8/78(NEIC), Mwr3.8/64(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=177.0*
*NEIC **04** 15:42:18.3, 44°.07N×122°.85W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr5.46; Mθθ-4.74; Mφφ-0.72; Mrθ1.26; Mrφ2.73; Mθφ-0.63; Fault plane solution: M0 5.98000×10^14^ NP1:φs116.76000°, δ51.82000°, λ89.94000°. NP2:φs296.84000°, δ38.18000°, λ90.07000°. Principal axes: T 5.6252, Plg83.0000°, Azm26.0000°; N 0.6632, Plg0.0000°, Azm117.0000°; P -6.2884, Plg7.0000°, Azm207.0000°;*
ISC 04 15:42:18.5±0.9, 44°.09N±0°.02×122°.83W±0°.02, h10km±6km, n242, σ1°21/260, mb4.0/11, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUCK	**Buck Mountain**	**0.15**	**314**		**Pg**	**15 42 21.6**	**-0.3**
ALVY	**Alvey**	**0.16**	**235**		**Pg**	**15 42 21.8**	**-0.1**
LANE	**Lane BPA Site-**	**0.29**	**263**		**Pg**	**15 42 24.2**	**-0.1**
LANE					**Sg**	**15 42 29.0**	**+0.8**
BROR	**Big Rock Looko**	**0.33**	**57**		**Pg**	**15 42 24.5**	**-0.5**
I04A	**Tendick Farm,**	**0.42**	**134**	P	**Pg**	**15 42 26.2**	**-0.6**
	baz=313,SNR=1000						
I04A				S	**Sg**	**15 42 32.4**	**0.0**
	baz=313						
I04A	**Tendick Farm,**	**0.42**	**134**		**Pg**	**15 42 26.4**	**-0.4**
I04A					**Sg**	**15 42 32.6**	**+0.2**
H04D	**Lebanon**	**0.44**	**9**	P	**Pg**	**15 42 26.6**	**-0.5**
	baz=189,SNR=1000						
H04D				S	**Sg**	**15 42 32.8**	**-0.1**
	baz=189						
H04D	**Lebanon**	**0.44**	**9**		**Pg**	**15 42 26.6**	**-0.5**
H04D					**Sg**	**15 42 33.2**	**+0.3**
I03D	**Drain, OR**	**0.54**	**224**	P	**Pg**	**15 42 28.2**	**-0.7**
	baz=44,SNR=1000						
I03D				S	**Sg**	**15 42 36.0**	**-0.1**
	baz=44						
I03D	**Drain, OR**	**0.54**	**224**		**Pg**	**15 42 28.3**	**-0.7**
I03D					**Sg**	**15 42 36.1**	**0.0**
FRIS	**Frissel Point**	**0.54**	**77**		**Pg**	**15 42 28.9**	**-0.2**
HSO	**Harness Mounta**	**0.59**	**198**		**Pg**	**15 42 29.4**	**-0.6**
COR	**Corvallis**	**0.60**	**326**	Pg	**Pg**	**15 42 29.2**	**-0.9**
COR				IAML		15 42 42.5	
	10μm,0.7s						
COR				IAML		15 42 47.9	
	6μm,0.7s						
COR	**Corvallis**	**0.60**	**326**		**Sg**	**15 42 38.3**	**+0.3**
PRLK	**Prince Lake**	**0.64**	**79**		**Pg**	**15 42 30.5**	**-0.4**
PRLK					**Sg**	**15 42 40.0**	**+0.7**
MPOR	**Mary's Peak**	**0.66**	**309**		**Pg**	**15 42 30.9**	**-0.5**
MPOR					**Sg**	**15 42 40.6**	**+0.6**
RNO	**Roman Nose**	**0.68**	**255**		**Pg**	**15 42 31.1**	**-0.5**
MRIN	**Marion BPA Sit**	**0.72**	**8**		**Pg**	**15 42 31.8**	**-0.6**
I02D	**Swisshome**	**0.73**	**272**	P	**Pg**	**15 42 32.1**	**-0.5**
	baz=92,SNR=1000						
I02D				Sb	**Sb**	**15 42 43.6**	**+0.2**
	baz=92						
I02D	**Swisshome**	**0.73**	**272**		**Pg**	**15 42 32.1**	**-0.5**
WIFE	**Three Sisters-**	**0.73**	**92**		**Pg**	**15 42 32.3**	**-0.4**
H04A	**Detroit Lake**	**0.75**	**38**	Pg	**Pg**	**15 42 31.5**	**-1.5**
H04A				IAML		15 42 49.7	
	comp=E,6μm,0.7s						
H04A				IAML		15 42 55.1	
	comp=N,5μm,0.5s						
MOON	**Moon Mountain**	**0.84**	**92**		**Pg**	**15 42 34.3**	**-0.4**
UMPQ	**Umpqua Communi**	**0.88**	**205**		**Pg**	**15 42 33.9**	**-1.4**
TOLO	**Toledo BPA CRE**	**0.94**	**305**		**Pg**	**15 42 35.1**	**-1.6**
J04D	**Umpqua Nationa**	**1.00**	**148**	P	**Pg**	**15 42 37.0**	**-0.7**
	baz=328,SNR=839						
J04D				S	**Sg**	**15 42 51.0**	**+0.3**
	baz=328						
J04D	**Umpqua Nationa**	**1.00**	**148**		**Pg**	**15 42 37.2**	**-0.5**
DBO	**Dodson Butte**	**1.01**	**197**		**Pg**	**15 42 36.4**	**-1.6**
BEND	**Bend**	**1.09**	**91**		**Pg**	**15 42 38.7**	**-0.7**
ASBU	**Astronaut Butt**	**1.09**	**104**		**Pg**	**15 42 38.0**	**-1.4**
I05D	**Terrebonne, OR**	**1.10**	**76**	P	**Pg**	**15 42 38.5**	**-1.1**
	baz=257,SNR=797						
I05D				S	**Sg**	**15 42 53.7**	**-0.3**
	baz=257						
I05D	**Terrebonne, OR**	**1.10**	**76**		**Pg**	**15 42 38.6**	**-1.1**
G04A	**Mulino**	**1.15**	**13**		**Pg**	**15 42 38.3**	**-2.2**
KWBU	**Kawak Butte, N**	**1.15**	**107**		**Pg**	**15 42 40.0**	**-0.6**
G03D	**McMinnville, O**	**1.16**	**345**	P	**Pg**	**15 42 38.9**	**-2.0**
	baz=165,SNR=251						
G03D				S	**Sg**	**15 42 55.4**	**-0.5**
	baz=165						
G03D	**McMinnville, O**	**1.16**	**345**		**Pg**	**15 42 38.9**	**-2.0**
J01E	**Myrtle Point**	**1.22**	**221**	P	**Pg**	**15 42 40.3**	**-1.7**
	baz=40,SNR=1000						
J01E				S	**Sb**	**15 42 58.0**	**+0.4**
	baz=40						
SVIC	**Surveyors Ice**	**1.23**	**111**		**Pg**	**15 42 41.1**	**-1.0**
NCOR	**Newberry Crate**	**1.28**	**107**		**Pg**	**15 42 42.3**	**-0.9**
HEBO	**Mount Hebo**	**1.30**	**330**		**Pn**	**15 42 43.7**	**+0.9**
PINE	**Pine Mountain**	**1.40**	**102**		**Pn**	**15 42 43.7**	**-0.6**
PINE				IAML		15 43 09.6	
	comp=N,2μm,0.8s						
PINE				IAML		15 43 09.9	
	comp=E,2μm,0.5s						
PGO	**Gresham**	**1.40**	**11**		**Pn**	**15 42 42.7**	**-1.5**
J05D	**Fort Rock, OR**	**1.41**	**124**	P	**Pn**	**15 42 44.1**	**-0.4**
	baz=305,SNR=840						
J05D				S	**Sn**	**15 43 04.3**	**+1.1**
	baz=305						
J05D	**Fort Rock, OR**	**1.41**	**124**		**Pn**	**15 42 44.2**	**-0.2**
TDH	**Tom, Dick, Har**	**1.41**	**31**		**Pn**	**15 42 43.1**	**-1.4**
TIMB	**Timberline**	**1.48**	**32**		**Pn**	**15 42 45.0**	**-0.5**
HUMO	**Hull Mountain**	**1.48**	**184**		**Pn**	**15 42 44.4**	**-0.9**
HUMO				IAML		15 43 06.2	
	comp=N,1μm,0.5s						
HUMO				IAML		15 43 12.7	
	comp=E,1μm,0.6s						
HOOD	**Mount Hood Mea**	**1.49**	**34**		**Pn**	**15 42 44.7**	**-0.9**
K02D	**Willamette Mer**	**1.52**	**204**	P	**Pn**	**15 42 44.9**	**-1.0**
	baz=23,SNR=1000						
K02D	**Willamette Mer**	**1.52**	**204**		**Pn**	**15 42 45.0**	**-0.8**
HIYU	**Hiyu Mountain**	**1.53**	**28**		**Pn**	**15 42 45.2**	**-0.9**
VFP	**Flag Point**	**1.57**	**38**		**Pn**	**15 42 46.2**	**-0.4**
G05D	**Wamic, OR**	**1.58**	**43**	P	**Pn**	**15 42 46.7**	**0.0**
	baz=224,SNR=336						
G05D				S	**Sn**	**15 43 08.2**	**+1.0**
	baz=224						
G05D	**Wamic, OR**	**1.58**	**43**		**Pn**	**15 42 46.7**	**0.0**
CROR	**Criterion Rdg**	**1.59**	**55**		**Pn**	**15 42 46.5**	**-0.4**
VLL	**Laurance Lake**	**1.60**	**30**		**Pn**	**15 42 46.6**	**-0.4**
KMOR	**Kings Mountain**	**1.61**	**343**		**Pn**	**15 42 46.2**	**-1.0**
KEBM	**Edson Butte**	**1.64**	**222**	Pn	**Pn**	**15 42 47.4**	**0.0**
VIPM	**Ingram Point**	**1.64**	**74**		**Pn**	**15 42 47.4**	**-0.2**
K04D	**Chiloquin, OR**	**1.66**	**151**	P	**Pn**	**15 42 48.0**	**+0.2**
	baz=332,SNR=154						
K04D				Sb	**Sg**	**15 43 11.5**	**-0.4**
	baz=332						
K04D	**Chiloquin, OR**	**1.66**	**151**		**Pn**	**15 42 48.1**	**+0.2**
L04D	**Klamath Falls**	**1.91**	**168**	P	**Pn**	**15 42 51.7**	**+0.5**
	baz=348,SNR=1000						
L04D				S	**Sn**	**15 43 16.7**	**+1.3**
	baz=348						
L04D	**Klamath Falls**	**1.91**	**168**		**Pn**	**15 42 51.8**	**+0.5**
K05A	**Summer Lake**	**1.96**	**133**		**Pn**	**15 42 51.9**	**-0.2**
MTMW	**Mount Mitchell**	**1.98**	**13**		**Pn**	**15 42 51.9**	**-0.4**
F04D	**Rainier, OR**	**2.00**	**356**	P	**Pn**	**15 42 52.2**	**-0.2**
	baz=176,SNR=45						
F04D				S	**Sn**	**15 43 18.1**	**+0.7**
	baz=176						
F04D	**Rainier, OR**	**2.00**	**356**		**Pn**	**15 42 52.6**	**+0.2**
LVP	**Lakeview Peak**	**2.00**	**9**		**Pn**	**15 42 52.3**	**-0.2**
L02E	**Cave Junction**	**2.01**	**197**	P	**Pn**	**15 42 52.5**	**0.0**
	baz=16,SNR=731						
L02E				Sb	**Sg**	**15 43 22.4**	**-0.7**
	baz=16						
L02E	**Cave Junction**	**2.01**	**197**		**Pn**	**15 42 53.1**	**+0.6**
B022	**Seaside**	**2.02**	**338**		**Pn**	**15 42 52.6**	**0.0**
B023	**Clatskanie**	**2.03**	**355**		**Pn**	**15 42 52.6**	**-0.2**
GULW	**Guler Mountain**	**2.03**	**25**		**Pn**	**15 42 53.1**	**+0.1**
F05D	**White Salmon**	**2.04**	**28**	P	**Pn**	**15 42 53.4**	**+0.4**
	baz=209,SNR=116						
F05D				Sb	**Sg**	**15 43 22.9**	**-1.3**
	baz=209						
F05D	**White Salmon**	**2.04**	**28**		**Pn**	**15 42 53.7**	**+0.7**
VGB	**Gordon Butte**	**2.04**	**45**		**Pn**	**15 42 53.6**	**+0.6**
NLO	**Nicolai Mounta**	**2.05**	**348**		**Pn**	**15 42 53.6**	**+0.6**
RVW	**Rose Valley**	**2.06**	**2**		**Pn**	**15 42 53.0**	**-0.2**
CDFW	**Cedar Flats**	**2.10**	**15**		**Pn**	**15 42 54.4**	**+0.6**
B203	**Quarry, Mount**	**2.11**	**9**		**Pn**	**15 42 53.8**	**-0.1**
JLK	**June Lake**	**2.11**	**13**		**Pn**	**15 42 55.4**	**+1.3**
HSR	**South Ridge**	**2.13**	**12**		**Pn**	**15 42 55.0**	**+0.6**
FL2	**Flat Top 2**	**2.13**	**9**		**Pn**	**15 42 54.4**	**0.0**
KBO	**Bosley Butte**	**2.13**	**209**		**Pn**	**15 42 55.0**	**+0.7**
SHW	**Mount Saint He**	**2.15**	**11**		**Pn**	**15 42 55.0**	**+0.5**
SEPW	**September Lobe**	**2.16**	**12**		**Pn**	**15 42 55.4**	**+0.6**
ESD	**East Dome**	**2.16**	**13**		**Pn**	**15 42 55.4**	**+0.6**
STD	**Studebaker Rid**	**2.19**	**11**		**Pn**	**15 42 55.4**	**+0.3**
STD	**Studebaker Rid**	**2.19**	**11**		**Pn**	**15 42 56.4**	**+1.3**
SOSW	**Source of Smit**	**2.21**	**13**		**Pn**	**15 42 56.9**	**+1.5**
B202	**Windy Ridge, M**	**2.21**	**13**		**Pn**	**15 42 55.3**	**-0.1**
KTRM	**Thompson Ridge**	**2.22**	**191**		**Pb**	**15 42 58.1**	**-0.6**
JRO	**Jston Ridge Ob**	**2.23**	**11**		**Pn**	**15 42 55.9**	**+0.3**
ASR	**Mount Adams--S**	**2.24**	**23**		**Pn**	**15 42 56.5**	**+0.7**
ERK	**Elk Rock**	**2.24**	**9**		**Pn**	**15 42 55.9**	**0.0**
B201	**Coldwater, Mou**	**2.25**	**10**		**Pn**	**15 42 55.9**	**+0.1**
B040	**Montague**	**2.28**	**172**		**Pn**	**15 42 56.9**	**+0.6**
TDL	**Tradedollar La**	**2.30**	**11**		**Pn**	**15 42 57.0**	**+0.3**
YBH	**Yreka Blue Hor**	**2.36**	**178**		**Pn**	**15 42 57.9**	**+0.5**
YBH				IAML		15 43 40.7	
	comp=E,334nm,1.0s						
I07A	**Izee**	**2.40**	**89**	Pn	**Pn**	**15 42 57.5**	**-0.5**
M04C	**Macdoel**	**2.42**	**162**	P	**Pn**	**15 42 59.1**	**+0.8**
	baz=343,SNR=187						
M04C				Sb	**Sb**	**15 43 34.0**	**+1.9**
	baz=343						
M04C	**Macdoel**	**2.42**	**162**		**Pn**	**15 42 59.2**	**+0.9**
RADR	**Rader Ridge**	**2.43**	**344**		**Pn**	**15 42 59.9**	**+1.6**
E04D	**Cinebar**	**2.47**	**4**	P	**Pn**	**15 42 59.2**	**+0.4**
	baz=184,SNR=225						
E04D				S	**Sn**	**15 43 31.0**	**+1.8**
	baz=184						
E04D	**Cinebar**	**2.47**	**4**		**Pn**	**15 42 59.8**	**+0.9**
LHEM	**Herd Peak**	**2.50**	**169**		**Pn**	**15 43 00.8**	**+1.3**
E03A	**Lebam**	**2.51**	**348**	Pn	**Pn**	**15 43 00.2**	**+0.8**
JBO	**Jordan Butte**	**2.54**	**56**		**Pn**	**15 43 00.7**	**+0.9**
LCW	**Lucas Creek**	**2.58**	**2**		**Pn**	**15 43 01.5**	**+1.1**
GLK	**Glacier Lake**	**2.62**	**19**		**Pn**	**15 43 02.6**	**+1.6**
BLTW	**Bickleton**	**2.62**	**45**		**Pn**	**15 43 01.9**	**+0.9**
B019	**Raymond**	**2.63**	**348**		**Pn**	**15 43 02.3**	**+1.4**
LASM	**Arnica Sink**	**2.66**	**159**		**Pn**	**15 43 02.6**	**+1.0**
KRMB	**Red Mountain**	**2.68**	**198**	Pn	**Pn**	**15 43 03.2**	**+1.3**
KRMB				IAML		15 43 52.9	
	comp=E,355nm,1.2s						
KRMB				IAML		15 43 58.1	
	comp=N,411nm,1.2s						
M02C	**Callahan**	**2.70**	**180**	P	**Pn**	**15 43 03.8**	**+1.8**
	baz=0.3,SNR=218						
M02C	**Callahan**	**2.70**	**180**		**Pb**	**15 43 05.3**	**-1.6**
F07A	**Phinny Hill Vi**	**2.74**	**48**		**Pn**	**15 43 03.1**	**+0.6**
LON	**Longmire**	**2.76**	**15**		**Pn**	**15 43 03.6**	**+0.7**
LON				IAML		15 43 44.5	
	comp=N,406nm,0.7s						
LON				IAML		15 43 52.0	
	comp=E,332nm,1.0s						
LON	**Longmire**	**2.76**	**15**		**Pn**	**15 43 04.7**	**+1.8**
WPW	**White Pass**	**2.76**	**19**		**Pn**	**15 43 04.2**	**+1.3**
REMR	**Mount Rainier-**	**2.82**	**14**		**Pn**	**15 43 06.1**	**+2.3**
RCM	**Mount Rainier-**	**2.85**	**15**		**Pn**	**15 43 06.7**	**+2.3**
M03C	**McCloud**	**2.86**	**169**		**Pn**	**15 43 06.3**	**+2.0**
MOD	**Modoc Plateau**	**2.87**	**139**	Pn	**Pn**	**15 43 04.4**	**0.0**
MOD				IAML		15 43 58.6	
	comp=N,228nm,1.2s						
B017	**Montesano**	**2.95**	**350**		**Pn**	**15 43 07.9**	**+2.5**
FMW	**Mount Fremont**	**2.96**	**16**		**Pn**	**15 43 07.5**	**+1.7**
NAC	**Naches**	**3.00**	**27**		**Pn**	**15 43 07.8**	**+1.7**
G08A	**Pilot Rock**	**3.01**	**65**	Pn	**Pn**	**15 43 07.0**	**+0.5**
G08A				IAML		15 43 56.9	
	comp=E,450nm,0.7s						
MXC	**Moxie City**	**3.07**	**35**		**Pn**	**15 43 08.6**	**+1.5**
LTIM	**Timbered Crate**	**3.08**	**161**		**Pn**	**15 43 09.1**	**+1.8**
D04E	**Lakebay**	**3.09**	**1**	P	**Pn**	**15 43 08.4**	**+1.1**
	baz=181,SNR=33						
D04E	**Lakebay**	**3.09**	**1**		**Pb**	**15 43 11.5**	**-2.0**
N02D	**Trinity Center**	**3.12**	**178**	P	**Pn**	**15 43 09.4**	**+1.6**
	baz=358,SNR=146						
N02D	**Trinity Center**	**3.12**	**178**		**Pb**	**15 43 11.5**	**-2.5**
D05A	**Enumclaw**	**3.15**	**11**		**Pn**	**15 43 10.2**	**+1.9**
D05A				IAML		15 44 02.4	
	comp=N,291nm,1.2s						
D05A				IAML		15 44 12.6	
	comp=E,327nm,1.1s						
GSM	**Grass Mountain**	**3.20**	**13**		**Pn**	**15 43 11.7**	**+2.7**
EBG	**Ellensburg**	**3.24**	**29**		**Pn**	**15 43 11.4**	**+1.9**
E07A	**Sunnyside**	**3.24**	**39**		**Pn**	**15 43 09.6**	**+0.1**
J08A	**Circle Bar Ran**	**3.24**	**102**		**Pn**	**15 43 09.3**	**-0.3**
J08A				IAML		15 44 11.1	
	comp=N,177nm,1.3s						
J08A				IAML		15 44 17.2	
	comp=E,197nm,0.8s						
RSW	**Rattlesnake Hi**	**3.25**	**44**		**Pn**	**15 43 10.5**	**+0.8**
REDWA	**Red Mountain**	**3.26**	**46**		**Pn**	**15 43 10.8**	**+1.1**
SNIWA	**Snively Ranch**	**3.26**	**42**		**Pn**	**15 43 12.5**	**+2.8**
HAWA	**Hanford**	**3.28**	**44**	Pn	**Pn**	**15 43 10.4**	**+0.4**
KHMM	**Horse Mountain**	**3.28**	**192**		**Pn**	**15 43 11.9**	**+1.8

NEW	Newport	5.76	42	Pn	Pn	15 43 45.3	+1.2
	comp=N,0.4nm,0.3s,baz=200,slow=14,SNR=2.9						
NEW				Lg	Lg	15 45 17.2	
	comp=N,1.3nm,0.3s,baz=273,slow=22,SNR=3.5						
NEW				LR	LR	15 46 02.6	
	comp=N,182nm,20.2s,baz=218,slow=39						
NEW	Newport	5.76	42	P	Pn	15 43 45.4	+1.3
	baz=226						
NEW	Newport	5.76	42	Pn	Pn	15 43 44.2	+0.2
MKMT	Mink Peak	6.20	58		Pn	15 43 52.5	+2.2
ELK	Elko	6.54	118	Pn	Pn	15 43 59.8	+4.8
	comp=N,0.1nm,0.3s,baz=316,slow=11,SNR=9.1						
ELK				Lg	Lg	15 45 49.4	
	comp=N,0.2nm,0.3s,baz=235,slow=20,SNR=2.6						
ELK	Elko	6.54	118	Pn	Pn	15 43 54.1	-0.9
NVAR	Mina Array Bea	6.60	147	Pn	Pn	15 43 59.6	+3.8
	comp=N,4.1nm,0.3s,baz=325,slow=13,SNR=56						
NVAR				LR	LR	15 46 36.0	
	comp=N,110nm,19.9s,baz=248,slow=38						
NV11	Mina Array Sit	6.66	146	Pn	Pn	15 43 56.3	-0.3
MSO	Missoula	6.83	63	P	Pn	15 43 59.7	+0.9
	baz=250						
MSO	Missoula	6.83	63		Pn	15 43 58.3	-0.5
JTMT	Jette	7.00	55		Pn	15 44 01.7	+0.6
MCMT	McKenzie Canyo	7.18	81	Pn	Pn	15 44 03.7	-0.1
DLMT	Dillon	7.40	77	Pn	Pn	15 44 06.4	-0.3
LRM	Limekiln Ridge	7.57	73	Pn	Pn	15 44 09.3	+0.3
BGU	Big Grassy Mou	7.90	110	Pn	Pn	15 44 12.2	-1.4
WALA	Waterton Lakes	7.90	48		Pn	15 44 12.6	-0.9
R11A	Troy Canyon, C	7.92	134	P	Pn	15 44 17.3	+3.4
	baz=319						
BOZ	Bozeman (W)	8.11	75	P	Pn	15 44 17.8	+1.4
	baz=263						
HRY	Holter Researc	8.18	67	Pn	Pn	15 44 16.6	-0.7
DUG	Dugway, Tooele	8.40	114	P	Pn	15 44 22.7	+2.2
	baz=301						
DUG	Dugway, Tooele	8.40	114	Pn	Pn	15 44 19.3	-1.1
YHH	Holmes Hill	8.60	81	Pn	Pn	15 44 23.2	-0.2
TPNV	Topopah Spring	8.71	143	P	Pn	15 44 25.8	+1.0
	baz=327						
BBB	Bella Bella	8.83	338	Pn	Pn	15 44 29.9	+3.8
	comp=N,0.2nm,0.3s,baz=209,slow=3.4,SNR=7.1						
BBB				LR	LR	15 47 38.0	
	comp=N,71nm,18.3s,baz=176,slow=37						
GCMT	Greycliff	9.49	75	Pn	Pn	15 44 34.4	-1.0
RLMT	Red Lodge	9.73	79	Pn	Pn	15 44 38.5	-0.2
PDAR	Pinedale Array	9.75	93	Pn	Pn	15 44 44.4	+5.3
	comp=N,0.1nm,0.3s,baz=289,slow=13,SNR=12						
RMX	La Rumorosa	12.63	153		Pn	15 45 18.6	+0.3
T25A	Trinidad	15.60	110	P	P	15 46 01.8	-1.2
T25A				IAmb	IAmb	15 46 05.9	
	comp=Z,14nm,1.1s						
E28A	Huff	15.76	73	P	P	15 46 04.1	-0.3
E28A				IAmb	IAmb	15 46 05.1	
	comp=Z,19nm,0.9s						
F33A	5 Mile Ranch,	18.84	75	P	P	15 46 38.8	+0.4
F33A				IAmb	IAmb	15 46 41.8	
	comp=Z,7.1nm,0.8s						
ECSD	EROS Data Cent	18.87	82	P	P	15 46 38.5	-0.4
ECSD				IAmb	IAmb	15 46 43.2	
	comp=Z,11nm,1.1s						
AGMN	Agassiz Nation	19.10	68	P	P	15 46 40.9	-0.4
PCA	Pinnacle	19.17	333	P	P	15 46 41.1	-0.9
PCA				IAmb	IAmb	15 46 45.2	
	comp=Z,9.7nm,1.0s						
ULM	Lac du Bonnet	19.27	62	P	P	15 46 43.4	+0.2
	comp=Z,0.4nm,0.3s,baz=260,slow=10,SNR=4.1						
ULM	Lac du Bonnet	19.27	62	IAmb	IAmb	15 46 46.8	
	comp=Z,5.0nm,0.8s						
F36A	Milaca	20.76	75	P	P	15 46 59.0	-0.4
I37A	Lemond, Waseca	21.11	80	P	P	15 47 02.8	-0.4
TXAR	Lajitas Array	21.21	128	P	P	15 47 06.1	+1.6
	comp=Z,0.1nm,0.4s,baz=287,slow=9.9,SNR=3.6						
SPMN	Marine on St.	21.34	76	P	P	15 47 05.1	-0.5
SPMN				IAmb	IAmb	15 47 12.2	
	comp=Z,10.0nm,0.8s						
N25K	Chitina, Valde	21.73	331	P	P	15 47 10.1	+0.3
EYMN	Ely	22.02	69	P	P	15 47 11.9	-1.1
EYMN				IAmb	IAmb	15 47 24.0	
	comp=Z,7.3nm,1.2s						
LPIG	La Paz	22.42	149	LR	LR	15 56 55.6	
	comp=Z,96nm,19.8s,baz=210,slow=39						
ILAR	Eielson Array	24.70	335	P	P	15 47 41.1	+1.6
	comp=Z,0.5nm,0.8s,baz=147,slow=6.9,SNR=4.8						
ILAR				PcP	PcP	15 51 16.4	+0.3
	comp=Z,0.4nm,0.8s,baz=183,slow=3.5,SNR=4.5						
WCI	Wyandotte Cave	27.96	89	P	P	15 48 08.6	-0.6
WCI				IAmb	IAmb	15 48 09.4	
	comp=Z,2.8nm,0.8s						
OBL	Observatory Le	36.58	238	P	P	15 49 24.2	-0.6
NPH	North Pit	36.58	238	P	P	15 49 22.2	-2.6
NOA	NORSAR Array B	68.78	22	LR	LR	16 24 15.1	
	comp=Z,11nm,18.8s,baz=315,slow=37						
FINES	FINESS Array B	71.85	15	P	P	15 53 41.6	+0.5
	comp=Z,2.1nm,0.8s,baz=0.0,slow=1.9,SNR=7.4						
LPAZ	La Paz	78.08	127	P	P	15 54 19.6	+1.3
	comp=Z,1.0nm,0.5s,baz=326,slow=3.6,SNR=3.9						
LPAZ	La Paz	78.08	127	IAmb	IAmb	15 54 22.1	
	comp=Z,1.6nm,1.0s						
ZALV	Zalesovo Beam	79.52	344	P	P	15 54 26.1	+1.0
	comp=Z,0.8nm,0.7s,baz=319,slow=5.9,SNR=4.0						
HHC	Hu-ho-hao-te	82.33	322	*e*P	P	15 54 38.9	-1.6
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
AKASG	Malin Array Be	82.51	17	P	P	15 54 41.0	-0.2
	comp=Z,0.7nm,0.7s,baz=335,slow=5.3,SNR=4.1						
AKASG	Malin Array Be	82.51	17	IAmb	IAmb	15 55 01.2	
	comp=Z,1.4nm,1.3s						
MKAR	Makanchi Array	86.82	343	P	P	15 55 02.3	-0.8
	comp=Z,0.3nm,0.6s,baz=17,slow=4.6,SNR=6.7						
WMQ	Urumqi	88.33	338	*e*P	P	15 55 11.0	+0.6

IDC ***04*** *16:00:03.0±0.6, 37°.77N×112°.42W, h0km, mb4.1/7, mb1 4.1/14, mb1mx3.8/56, mbtmp3.9/14, ML3.2/6, MS3.4/6, Ms1 3.4/6, ms1mx3.0/41, Error ellipse: s-maj=9.2km s-min=8.0km az=55.0*

UUSS ***04*** *16:00:04.0±2.1, 37°.85N±0°.03×112°.47W±0°.02, h3km±5km, ML3.9/25, mb4.0/7(NEIC), ML4.0/90(NEIC), Mwr4.0/86(NEIC), Error ellipse: s-maj=5.1km s-min=0.9km az=151.0*

NEIC ***04*** *16:00:04.2, 37°.81N×112°.43W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=1.04; Mθθ=0.19; Mφφ=0.85; Mrθ=-0.01; Mφφ=0.32; Mφr=0.67; Fault plane solution: Mo=1.21000×1015 NP1:φ=190.51000°, δ=61.66000°, λ=-100.52000°. NP2:φ=31.87000°, δ=30.07000°, λ=-71.30000°. Principal axes: T 1.1574, Plg=16.0000°, Azm=288.0000°; N 0.1007, Plg=9.0000°, Azm=196.0000°; P -1.2580, Plg=71.0000°, Azm=77.0000°;*

NEIC ***04*** *16:00:04.6±2.0, 37°.83N±0°.03×112°.45W±0°.04, h5km±1km Error ellipse: s-maj=6.0km s-min=2.9km az=133.0*

ANF ***04*** *16:00:05.7±0.1, 37°.80N×112°.49W, h10km, ML4.4/26, Error ellipse: s-maj=2.8km s-min=1.7km az=156.0*

ISC 04 16:00:05.1±0.5, 37°.83N±0°.03×112°.43W±0°.03, h9km, n172, σ1.9 05/179, mb4.0/9, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	Mount Pierson	0.29	44		Pg	16 00 09.8	-1.2
MTPU				IAML		16 00 14.8	
	comp=E,18μm,0.8s						
MTPU				IAML		16 00 15.2	
	comp=N,15μm,0.8s						
PKCU	Pink Cliffs	0.40	166	Pg	Pg	16 00 11.7	-1.4
PKCU				IAML		16 00 23.0	
	comp=N,16μm,0.4s						
BHU	Blowhard Mount	0.41	234		Pg	16 00 12.8	-0.5
BTU	Barney Top	0.45	100		Pg	16 00 13.3	-0.6
DWU	Dry Willow Pea	0.52	301		Pb	16 00 16.0	-0.6
IAE	Cedar City, Ir	0.53	252		Pg	16 00 14.0	-1.4
SZCU	Shurtz Canyon	0.57	246		Pg	16 00 14.6	-1.6
SZCU					Sg	16 00 23.0	-0.8
SZCU				IAML		16 00 25.9	
	comp=E,12μm,0.3s						
SZCU				IAML		16 00 27.2	
	comp=N,9μm,0.3s						
MSU	Marysvale	0.71	17		Pg	16 00 18.4	-0.4
NMUT	North Mineral	0.76	334		Pb	16 00 20.1	-0.4
EKU	East Kanab	0.76	184		Pg	16 00 18.7	-1.1
TCRU	Three Creeks R	0.77	359		Pg	16 00 18.9	-1.1
TCRU				IAML		16 00 30.8	
	comp=E,6μm,0.5s						
TCRU				IAML		16 00 32.6	
	comp=N,7μm,0.7s						
CCUT	Cedar City	0.79	249		Pg	16 00 18.7	-1.6
CCUT	Cedar City	0.79	249		Sg	16 00 29.9	-0.7
ARUT	Antelope Range	0.80	267		Pb	16 00 21.0	-0.2
KNB	Kanab	0.87	201		Pg	16 00 19.9	-2.0
HHS	Hurricane	0.95	226		Pg	16 00 22.2	-1.1
MMU	Miners Mountai	0.97	68		Pg	16 00 22.4	-1.4
IMU	Iron Mountain	0.98	325		Pn	16 00 24.4	-0.8
WCU	Willow Creek	1.16	13		Pg	16 00 25.9	-1.6
PGAZ	Page	1.21	140		Pn	16 00 25.1	-3.2
OWUT	Old Woman Plat	1.23	40		Pn	16 00 28.1	-0.7
PSUT	Pine Spring	1.32	302		Pn	16 00 29.2	-0.8
PSUT					Sn	16 00 48.9	+1.1
HMU	Henry Mountain	1.34	85		Pn	16 00 29.5	-0.8
ICU	Indian Springs	1.37	240		Pn	16 00 28.7	-1.9
U15A	North Rim	1.41	175		Pn	16 00 29.6	-1.6
U15A				IAML		16 00 49.1	
	comp=N,2μm,0.7s						
U15A				IAML		16 00 51.3	
	comp=E,2μm,0.7s						
FLU	Fool Peak	1.56	8		Pn	16 00 32.5	-0.7
TMUT	Trail Mountain	1.75	33		Pn	16 00 36.0	0.0
TMUT				IAML		16 01 02.8	
	comp=N,2μm,0.5s						
TMUT				IAML		16 01 03.1	
	comp=E,2μm,0.4s						
SPR3	Spring Creek 3	1.89	309		Pn	16 00 36.6	-1.3
SPR3				IAML		16 01 09.7	
	comp=E,1μm,0.8s						
SPR3				IAML		16 01 10.1	
	comp=N,2μm,0.9s						
SRU	San Rafael Swe	1.97	49		Pn	16 00 39.5	+0.6
SRU				IAML		16 01 10.0	
	comp=E,2μm,0.5s						
SRU				IAML		16 01 10.6	
	comp=N,1μm,0.9s						
P17A	Butcher Ranch,	2.11	38		Pn	16 00 41.4	+0.7
P17A				IAML		16 01 15.7	
	comp=E,680nm,0.5s						
P17A				IAML		16 01 16.8	
	comp=N,802nm,0.8s						
PRN	Pahroc Range	2.12	259		Pn	16 00 40.6	-0.3
NLU	North Lily Min	2.14	7		Pn	16 00 40.9	-0.3
MPU	Maple Canyon	2.27	16		Pn	16 00 43.2	+0.2
DUG	Dugway, Tooele	2.38	353	P	Pn	16 00 43.6	-0.8
	baz=173,SNR=134						
DUG	Dugway, Tooele	2.38	353		Pn	16 00 43.6	-0.8
DUG				IAML		16 01 22.6	
	comp=N,482nm,1.1s						
DUG				IAML		16 01 23.4	
	comp=N,505nm,0.8s						
WUAZ	Wupatki	2.46	159	P	Pn	16 00 46.0	+0.4
	baz=340,SNR=806						
WUAZ				Sb	Sb	16 01 19.4	-0.8
	baz=340						
WUAZ	Wupatki	2.46	159		Pn	16 00 46.4	+0.7
R11A	Troy Canyon, C	2.54	283	P	Pn	16 00 46.0	-0.7
	baz=100,SNR=926						
R11A				Sb	Sg	16 01 24.3	-2.4
	baz=100						
R11A	Troy Canyon, C	2.54	283		Pn	16 00 45.8	-0.9
R11A				IAML		16 01 25.6	
	comp=N,612nm,0.8s						
R11A				IAML		16 01 35.8	
	comp=E,548nm,0.9s						
SHPR	Sheep Range	2.55	239	Pn	Pn	16 00 46.7	-0.1
SHPR				IAML		16 01 24.7	
	comp=E,416nm,1.4s						
PV10	Paradox Valley	2.73	78		Pn	16 00 50.4	+1.0
CTU	Camp Tracy	2.90	10		Pn	16 00 51.9	+0.3
W13A	Hualapai Mount	2.97	204		Pn	16 00 53.0	+0.4
W13A				IAML		16 01 37.9	
	comp=E,344nm,0.8s						
W13A				IAML		16 01 40.8	
	comp=N,314nm,0.8s						
BGU	Big Grassy Mou	3.12	352		Pn	16 00 54.2	-0.5
TPNV	Topopah Spring	3.17	255	P	Pn	16 00 55.0	-0.2
	baz=72,SNR=193						
TPNV	Topopah Spring	3.17	255		Pn	16 00 54.8	-0.5
TPNV				IAML		16 01 49.1	
	comp=N,427nm,0.6s						
TPNV				IAML		16 01 56.4	
	comp=N,556nm,0.9s						
MVCO	Mesa Verde	3.19	100	P	Pn	16 00 56.3	+0.7
	baz=283,SNR=250						
MVCO	Mesa Verde	3.19	100		Pn	16 00 56.5	+0.8
SPUT	South Promonto	3.47	360		Pn	16 00 59.7	+0.3
W18A	Petrified Fore	3.48	140	P	Pn	16 01 00.4	+0.9
	baz=322,SNR=50						
W18A				Sb	Sb	16 01 49.4	+0.1
	baz=322						
W18A	Petrified Fore	3.48	140		Pn	16 00 60.0	+0.4
X16A	Lo Mia Camp, P	3.50	166		Pn	16 00 58.7	-1.2
X16A				IAML		16 01 57.4	
	comp=N,329nm,0.7s						
X16A				IAML		16 02 04.6	
	comp=E,437nm,0.9s						
RDMU	Red Mountain	3.52	38		Pn	16 01 00.9	+0.7
RDMU				IAML		16 01 59.3	
	comp=N,201nm,0.6s						
RDMU				IAML		16 02 04.3	
	comp=E,236nm,0.8s						
ELK	Elko	3.63	324	Pn	Pn	16 01 01.1	-0.6
	comp=E,1.3nm,0.3s,baz=140,slow=8.2,SNR=22						
ELK				Pg	Pb	16 01 09.5	-0.1
	comp=E,4.4nm,0.3s,baz=161,slow=19,SNR=20						
ELK				Lg	Lg	16 01 58.0	
	comp=E,10nm,0.3s,baz=38,slow=15,SNR=7.3						
ELK				LR	LR	16 02 54.2	
	comp=E,246nm,18.8s,baz=158,slow=46						
ELK	Elko	3.63	324		Pn	16 01 01.2	-0.6
SHOC	Shoshone, Teco	3.63	239	P	Pn	16 01 02.1	+0.5
	baz=56,SNR=47						
TUQ	Turquoise Moun	3.69	231	P	Pn	16 01 02.1	-0.3
	baz=48,SNR=18						
PDMCI	Parker Dam,Lak	3.79	202	Sb	Sb	16 02 00.3	+2.3
	baz=20						
FURC	Furnace Creek,	3.79	250	P	Pn	16 01 03.6	-0.1
	baz=67,SNR=14						
TPH	Tonopah	3.79	275		Pn	16 01 03.2	-0.7
TPH	Tonopah	3.79	275	IAML		16 02 08.3	
	comp=N,310nm,1.2s						
TPH				IAML		16 02 12.3	
	comp=E,379nm,0.8s						
HWUT	Hardware Ranch	3.83	10		Pn	16 01 05.2	+0.9
X18A	Snowflake	3.86	148		Pn	16 01 05.9	+1.1
Y14A	Wickenburg	3.92	187		Pn	16 01 05.8	+0.4
Y14A				IAML		16 02 10.1	
	comp=N,327nm,0.8s						
Y14A				IAML		16 02 13.3	
	comp=E,378nm,0.9s						
HVU	Hansel Valley	3.95	356		Pn	16 01 05.8	-0.2
HVU				IAML		16 02 22.9	
	comp=E,153nm,0.8s						
HVU				IAML		16 02 25.9	
	comp=N,139nm,0.9s						
O20A	White River Ci	3.99	54	P	Pn	16 01 08.8	+2.1
	baz=236,SNR=56						
O20A				Sb	Sb	16 02 06.3	+2.0
	baz=236						
O20A	White River Ci	3.99	54		Pn	16 01 08.8	+2.1
GMRC	Granite Mounta	4.01	222	P	Pn	16 01 06.0	-0.8
	baz=39,SNR=16						
GRAC	Grapevine Rang	4.01	259	P	Pn	16 01 06.6	-0.2
	baz=76,SNR=13						
IRM	Iron Mountain	4.28	212	P	Pn	16 01 10.4	-0.1
	baz=30,SNR=17						
IRM				Sb	Sb	16 02 15.2	+3.0
	baz=30						
GSC	Goldstone, Bar	4.33	236	P	Pn	16 01 11.3	+0.1
	baz=52,SNR=18						
GSC				Sb	Sb	16 02 16.9	+3.0
	baz=52						
GSC	Goldstone, Bar	4.33	236	Pn	Pn	16 01 11.5	+0.3
GSC				IAML		16 02 25.9	
	comp=E,196nm,1.4s						
GSC				IAML		16 02 35.7	
	comp=N,122nm,1.0s						
HEC	Hector,Ludlow	4.35	228	P	Pn	16 01 10.8	-0.6
	baz=45						
MPMC	Manual Prospec	4.42	248	P	Pn	16 01 12.5	-0.1
	baz=64,SNR=19						
S22A	4UR Ranch, Cre	4.44	89	P	Pn	16 01 14.7	+1.8
	baz=273						
KVN	Kaiserville	4.61	287	Pn	Pn	16 01 15.3	+0.1
KVN				IAML		16 02 35.5	
	comp=N,202nm,0.7s						
KVN				IAML		16 02 35.8	
	comp=E,257nm,0.9s						
NVAR	Mina Array Bea	4.67	279	Pn	Pn	16 01 14.9	-1.0
	comp=E,1.9nm,0.3s,baz=154,slow=31,SNR=30						
NVAR				Pg	Pb	16 01 28.6	+1.3
	comp=E,28nm,0.3s,baz=100,slow=16,SNR=59						
NVAR				Lg	Lg	16 02 31.8	
	comp=E,20nm,0.3s,baz=329,slow=14,SNR=7.7						
NVAR				LR	LR	16 03 26.0	
	comp=E,451nm,18.9s,baz=64,slow=44						
NVAR	Mina Array Bea	4.67	279		Pn	16 01 15.2	-0.7
CWC	Cottonwood Cre	4.72	255	P	Pn	16 01 16.4	-0.3
	baz=71						
BELC	Belle Mtn. Jos	4.79	218	P	Pn	16 01 17.4	-0.2
	baz=36,SNR=11						
LHV	Little Huntoon	4.81	277		Pn	16 01 17.8	+0.1
LRMC	Laurel Mtn Rad	4.83	242	P	Pn	16 01 17.8	-0.3
	baz=59,SNR=9.3						
BC3	Big Chuckawall	4.84	211	P	Pn	16 01 18.0	-0.2
	baz=29,SNR=12						
RYN	Ryan	4.86	281		Pn	16 01 18.1	-0.5
RYN				IAML		16 02 40.1	
	comp=E,167nm,0.8s						
RYN				IAML		16 02 43.3	
	comp=N,153nm,1.1s						
GLA	Glamis	5.16	203	P	Pn	16 01 22.6	+0.1
	baz=21						
GLA	Glamis	5.16	203	Pn	Pn	16 01 22.0	-0.5
GLA				IAML		16 02 49.0	
	comp=N,130nm,1.1s						
MDPB	Devils Postpil	5.27	270		Pn	16 01 24.5	+0.2
MDPB				IAML		16 02 57.6	
	comp=N,53nm,0.8s						
PFO	Pinyon Flats O	5.33	219	Pn	Pn	16 01 25.4	+0.3
	comp=N,0.3nm,0.3s,baz=235,slow=3.4,SNR=3.8						
PFO				Pg	Pb	16 01 32.7	-5.9
	comp=N,1.3nm,0.3s,baz=65,slow=8.3,SNR=15						
PFO				Lg	Lg	16 02 51.5	
	comp=N,1.9nm,0.3s,baz=300,slow=16,SNR=5.8						
PFO				LR	LR	16 03 49.4	
	comp=N,183nm,19.4s,baz=15,slow=43						
PFO	Pinyon Flats O	5.33	219	P	Pn	16 01 24.5	-0.6
	baz=36						
TPFO	Pinon Flats	5.34	219	P	Pn	16 01 24.3	-0.8
	baz=36						
EDW2	Edwards Air Fo	5.37	238	P	Pn	16 01 25.0	-0.5
	baz=55,SNR=8.6						
BW06	Boulder Array	5.39	23	P	Pn	16 01 26.9	+0.9
	baz=205,SNR=24						
BW06	Boulder Array	5.39	23		Pn	16 01 26.7	+0.7
BW06				IAML		16 03 15.4	
	comp=N,47nm,1.8s						
PD31	Pinedale Array	5.39	23		Pn	16 01 26.6	+0.7
PDAR	Pinedale Array	5.39	23	Pn	Pn	16 01 26.8	+0.8
	comp=N,1.9nm,0.3s,baz=186,slow=12,SNR=51						
PDAR				Lg	Lg	16 02 50.3	
	comp=N,3.8nm,0.3s,baz=183,slow=25,SNR=3.8						
PDAR	Pinedale Array	5.39	23		Pn	16 01 26.6	+0.7
SDCO	Great Sand Dun	5.49	89	P	Pn	16 01 29.0	+1.6
	baz=273,SNR=29						
SDCO	Great Sand Dun	5.49	89	Pn	Pn	16 01 29.0	+1.6
RWWY	Rawlins	5.57	45		Pn	16 01 25.9	-2.4
ANMO	Albuquerque	5.62	119	Pn	Pn	16 01 29.0	0.0
	comp=N,5.7nm,0.3s,baz=310,slow=12,SNR=50						
ANMO				Lg	Lg	16 02 54.9	
	comp=N,9.5nm,0.3s,baz=208,slow=14,SNR=3.6						
ANMO	Albuquerque	5.62	119	P	Pn	16 01 28.7	-0.3
	baz=303						
ANMO	Albuquerque	5.62	119		Pn	16 01 29.2	+0.2
TUC	Tucson	5.67	166	P	Pn	16 01 29.6	-0.1
	baz=346						
ISCO	Idaho Springs	5.68	68	P	Pn	16 01 31.3	+1.4
	baz=252,SNR=13						
ISCO	Idaho Springs	5.68	68	Pn	Pn	16 01 31.6	+1.7
VES	Vestal, Richgr	5.69	252	P	Pn	16 01 30.0	+0.2
	baz=67						
LENM	Lemitar	5.74	128		Pn	16 01 31.2	+0.5
PAHR	Pah Rah Range	5.74	291		Pn	16 01 31.2	+0.5
TPAW	Teton Pass	5.76	11		Pn	16 01 32.2	+1.2
PNTR	Pine Nut	5.76	285		Pn	16 01 31.2	+0.2
N23A	Red Feather La	5.88	57	P	Pn	16 01 33.9	+1.2
	baz=241,SNR=12						
MONP2	Monument Peak	5.91	215	P	Pn	16 01 32.7	-0.4
	baz=32						
LOHW	Long Hollow	5.94	13		Pn	16 01 34.3	+0.9
BNM	Barren Site	5.97	126		Pn	16 01 33.8	-0.1
IKP	In-Ko-Pah, Jac	5.98	211	P	Pn	16 01 34.1	+0.2
	baz=29						
BAR	Barrett	6.20	215		Pn	16 01 35.0	-1.9
T25A	Trinidad	6.42	94	P	Pn	16 01 40.8	+0.8
	baz=279,SNR=9.4						
BEKR	Beckworth	6.51	291	Pn	Pn	16 01 41.8	+0.6
121A	Cookes Peak, D	6.52	143	P	Pn	16 01 41.4	+0.1
	baz=326						
K22A	Casper	6.60	41	P	Pn	16 01 42.7	+0.2
	baz=225,SNR=13						
K22A	Casper	6.60	41	Pn	Pn	16 01 42.3	-0.2
YHH	Holmes Hill	7.05	9		Pn	16 01 47.2	-1.6
ORV	Oroville	7.30	286		Pn	16 01 51.7	-0.2
RLMT	Red Lodge	7.66	17	P	Pn	16 01 58.5	+1.5
	baz=199						
O03E	Paynes Creek	7.69	292	P	Pn	16 01 58.4	+1.0
	baz=106						
BOZ	Bozeman (W)	7.78	4	P	Pn	16 01 59.1	+0.5
	baz=185						
KSCO	Kaye Shedlock'	7.79	78	P	Pn	16 02 00.4	+1.7
	baz=264						
M04C	Macdoel	8.24	302	P	Pn	16 02 04.2	-0.8
	baz=116						
O02D	Mt. Diablo Mer	8.39	289	P	Pn	16 02 05.5	-1.5
	baz=103						
MNTX	Cornudas Mount	8.43	134	P	Pn	16 02 07.6	+0.1
	baz=319						
N02D	Trinity Center	8.55	295	P	Pn	16 02 08.0	-1.1
	baz=108						
K04D	Chiloquin, OR	8.58	307	P	Pn	16 02 09.3	-0.3
	baz=121						
J05D	Fort Rock, OR	8.63	312	P	Pn	16 02 10.5	+0.3
	baz=126						
OGNE	Ogallala	8.63	66	P	Pn	16 02 10.9	+0.7
	baz=252						
M02C	Callahan	8.79	297	P	Pn	16 02 12.0	-0.4
	baz=110						
RSSD	Black Hills	8.93	43	P	Pn	16 02 13.7	-0.8
	baz=228						
RSSD	Black Hills	8

COWI				IAmb	IAmb	16 04 33.3	
	comp=Z,5.3nm,0.8s						
WVT	**Waverly**	**19.72**	**87**	P	**P**	**16 04 35.2**	**+0.3**
	baz=282						
WVT	**Waverly**	**19.72**	**87**	P	**P**	**16 04 32.8**	**-2.0**
WVT				IAmb	IAmb	16 04 38.4	
	comp=Z,8.2nm,1.1s						
SFIN	**Lafayette**	**19.81**	**75**	P	**P**	**16 04 36.3**	**+0.5**
	baz=271						
LRAL	**Lakeview Retre**	**21.25**	**95**	P	**P**	**16 04 52.8**	**+1.4**
	baz=290						
P49A	**Miami Univ. Ec**	**21.67**	**77**	P	**P**	**16 04 57.0**	**+1.0**
	baz=274						
E46A	**Sault Ste Mari**	**22.45**	**59**	P	**P**	**16 05 04.0**	**-0.3**
E46A				IAmb	IAmb	16 05 09.3	
	comp=Z,11nm,0.8s						
TKL	**Tuckaleechee C**	**23.03**	**87**	P	**P**	**16 05 12.0**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=328,slow=7.0,SNR=4.7						
YKA	**Yellowknife Ar**	**24.72**	**358**	P	**P**	**16 05 26.9**	**+0.5**
	comp=Z,6.3nm,0.9s,baz=175,slow=9.3,SNR=7.3						
ILAR	**Eielson Array**	**33.73**	**334**	P	**P**	**16 06 47.5**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=130,slow=8.4,SNR=7.7						
SUMG	**Summit**	**49.59**	**22**	P	**P**	**16 08 54.1**	**-2.5**
FINES	**FINESS Array B**	**75.48**	**19**	P	**P**	**16 11 49.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=324,slow=9.4,SNR=8.4						
FINES	**FINESS Array B**	**75.48**	**19**	P	**P**	**16 11 48.3**	**-0.9**
ESDC	**Sonseca Array**	**78.77**	**48**	P	**P**	**16 12 07.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=303,slow=5.2,SNR=6.1						
USRK	**Ussuriysk Ar.**	**79.72**	**319**	P	**P**	**16 12 13.8**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=23,slow=10,SNR=4.0						
AKASG	**Malin Array Be**	**85.61**	**23**	P	**P**	**16 12 43.2**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=328,slow=4.1,SNR=11						
SONM	**Songino Array**	**87.95**	**335**	P	**P**	**16 12 56.7**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=23,slow=8.0,SNR=3.8						
RAO	**Raoul Island**	**90.56**	**233**	LR	LR	16 43 41.6	
	comp=Z,136nm,20.3s,baz=182,slow=29						
BOSA	**Boshof**	**143.69**	**88**	PKP	**PKPdf**	**16 19 40.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=292,slow=3.3,SNR=3.4						

*PRU **04** 16:02:27.8±0.0, 51°.48N×16°.09E, h0km*
*VIE **04** 16:02:29.3±0.8, 51°.30N×16°.03E, h0km, mb2.1/4, ml2.5/5,*
Error ellipse: s-maj=7.0km s-min=4.9km az=64.0 72 km
WNW of Wroclaw Suspected Mining induced.

ISC 04 16:02:27.0±1.2, 51°.47N±0°.05×16°.07E±0°.03, h0km, n24, σ0°91/54, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**167**	*i* Pg		**Pg**	**16 02 39.6**	**+0.3**
KSP				*i* Sg		**Sg**	**16 02 48.1**	**+0.4**
CHVC	**Chvalec**	**0.89**	**181**	*e*PG		**Pb**	**16 02 45.1**	**-0.2**
CHVC				*e*SG		**Sb**	**16 02 57.3**	**-0.3**
OSTC	**Ostas**	**0.92**	**174**	*e*PG		**Pg**	**16 02 45.0**	**+0.3**
OSTC				*e*SG		**Sg**	**16 02 57.5**	**+0.9**
	comp=Z,33nm,0.6s							
UPC	**Upice**	**0.97**	**182**	*e*PG		**Pb**	**16 02 46.5**	**-0.1**
UPC				*e*SG		**Sg**	**16 02 58.7**	**+0.7**
DPC	**Dobruska-Polom**	**1.13**	**172**	*e*PG		**Pg**	**16 02 48.6**	**-0.1**
DPC				*e*SG		**Sg**	**16 03 02.8**	**-0.6**
	comp=Z,24nm,0.6s							
PVCC	**Panska Ves**	**1.34**	**226**	*e*PG		**Pn**	**16 02 52.9**	**-0.1**
PVCC				*e*SG		**Sn**	**16 03 11.6**	**+0.1**
	comp=Z,66nm,0.3s							
BRG	**Berggiesshubel**	**1.47**	**247**	Pn		**Pn**	**16 02 52.8**	**-2.0**
BRG				Pg		**Pg**	**16 02 55.3**	**+0.2**
BRG				Sg		**Sn**	**16 03 15.3**	**+0.6**
BRG				Amp			16 03 17.0	
	comp=Z,23nm,0.4s							
KRLC	**Kraliky**	**1.47**	**162**	*e*PG		**Pg**	**16 02 54.7**	**-0.5**
KRLC				*e*SG		**Sg**	**16 03 12.1**	**-2.1**
	comp=Z,28nm,0.4s							
PRU	**Pruhonice**	**1.78**	**214**	*e*PN		**Pn**	**16 02 58.4**	**-0.6**
PRU				*e*PG		**Pb**	**16 03 00.2**	**-0.2**
PRU				*e*SG		**Sb**	**16 03 24.1**	**+0.9**
	comp=Z,14nm,0.4s							
CLL	**Collm**	**1.93**	**266**	*e*Pn		**Pn**	**16 03 01.0**	**-0.1**
CLL				*e*Pg		**Pb**	**16 03 03.0**	**-0.1**
CLL				*i*			16 03 06.4	
CLL				*e*			16 03 18.0	
CLL				*e*Sg		**Sg**	**16 03 29.0**	**0.0**
	comp=Z,10.0nm,0.6s							
MORC	**Moravsky Berou**	**1.94**	**151**	*e*PN		**Pn**	**16 03 00.4**	**-0.9**
MORC				*e*SG		**Sn**	**16 03 26.1**	**-0.2**
VRAC	**Vranov**	**2.19**	**171**	*e*PN		**Pn**	**16 03 04.8**	**+0.1**
VRAC				*e*SG		**Sb**	**16 03 35.3**	**+0.1**
PBCC	**Pribram**	**2.23**	**217**	*e*PN		**Pn**	**16 03 04.5**	**-0.7**
KRUC	**Moravsky**	**2.42**	**175**	*e*PN		**Pn**	**16 03 08.3**	**+0.4**
KRUC				*e*SG		**Sb**	**16 03 43.1**	**+1.3**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN		**Pn**	**16 03 10.5**	**0.0**
NKC				*e*PG		**Pg**	**16 03 16.9**	**-0.1**
NKC				*e*SG		**Sg**	**16 03 52.2**	**+1.4**
	comp=Z,14nm,0.3s							
OJC	**Ojcow**	**2.67**	**117**	*e*Pn		**Pn**	**16 03 10.5**	**-0.8**
OJC				*e*Pg		**Pg**	**16 03 18.7**	**+0.5**
OJC				*e*Sg		**Sg**	**16 03 53.4**	**+0.5**
JAVC	**Velka Javorina**	**2.81**	**158**	*e*PN		**Pn**	**16 03 12.0**	**-1.3**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN		**Pn**	**16 03 13.5**	**-0.1**
KHC				*e*PG		**Pb**	**16 03 19.4**	**+0.8**
KHC				*e*SN		**Sn**	**16 03 47.7**	**-0.8**
KHC				*e*SG		**Sg**	**16 03 58.6**	**+0.5**
	comp=Z,8.3nm,0.3s							
CKRC	**Cesky Krumlov**	**2.89**	**204**	*e*PN		**Pn**	**16 03 15.8**	**+1.5**
CKRC				*e*PG		**Pg**	**16 03 21.1**	**-1.2**
CKRC				*e*SG		**Sg**	**16 03 58.5**	**-1.2**
	comp=Z,10nm,0.6s							
LANS	**Liptovska Anna**	**3.18**	**136**	*e*SG		**Sg**	**16 04 08.6**	**-0.7**
MODS	**Modra-Piesok**	**3.20**	**165**	*e*PG		**Pg**	**16 03 30.2**	**+1.9**
MODS				*e*SG		**Sg**	**16 04 12.4**	**+2.7**
CONA	**Conrad Observa**	**3.55**	**182**	*i* Pn		**Pn**	**16 03 23.7**	**+0.2**
	comp=Z,0.3nm,0.1s							
CONA				*e*Pg		**Pg**	**16 03 34.0**	**-1.0**
	comp=Z,1.3nm,0.2s							
CONA				*e*Sg		**Sg**	**16 04 20.3**	**-0.7**
	comp=Z,7.1nm,0.4s							
MOA	**Molln**	**3.81**	**199**	*i* Pn		**Pn**	**16 03 27.0**	**+0.1**
	comp=Z,0.8nm,0.2s							
MOA				*e*Pg		**Pg**	**16 03 39.6**	**-0.5**
	comp=Z,1.7nm,0.3s							
MOA				*e*Sg		**Sg**	**16 04 29.2**	**-0.2**
	comp=Z,4.4nm,0.5s							
ARSA	**Arzberg**	**4.24**	**185**	Sg		**Sg**	**16 04 41.8**	**-1.4**
	comp=Z,3.9nm,0.4s							

*IDC **04** 16:06:04.6±13.0, 34°.12N×68°.08E, h0km, mb3.7/2,*
mb1 3.8/5, mb1mx3.3/46, mbtmp3.6/5, ML3.5/4, Error
ellipse: s-maj=221.6km s-min=29.1km az=164.0

ISC 04 16:06:09.8±9.4, 34°N±1°×68°.1E±0°.3, h35km, n6, σ0°41/6, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**8.87**	**298**	Pn		**Pn**	**16 08 15.8**	**+0.3**
	1.0nm,0.3s,baz=111,slow=8.1,SNR=8.5							
AAK	**Ala-Archa**	**9.83**	**29**	Pn		**Pn**	**16 08 28.9**	**+0.1**
	1.6nm,0.3s,baz=221,slow=8.0,SNR=3.3							
MKAR	**Makanchi Array**	**16.57**	**36**	Pn		**Pn**	**16 09 59.7**	**+0.2**
	0.1nm,0.3s,baz=226,slow=12,SNR=3.5							
KURBB	**Kurchatov Arra**	**18.12**	**22**	P		**Pn**	**16 10 18.2**	**-0.3**
	0.0nm,0.3s,baz=214,slow=10,SNR=4.3							
KBZ	**Khabaz**	**21.69**	**303**	P		**P**	**16 10 57.0**	**-0.5**
	1.2nm,0.3s,baz=117,slow=4.5,SNR=3.0							
ZALV	**Zalesovo Beam**	**23.03**	**26**	P		**P**	**16 11 11.6**	**0.0**
	0.9nm,0.3s,baz=224,slow=11,SNR=5.2							

*WEL **04** 16:08:30.1±0.8, 35°S±7°×17°9W±1°4, h33km, M5.0/13,*
ML5.3/13, MLv5.0/13, Error ellipse: s-maj=0.0km
s-min=0.0km az=115.2
*NOU **04** 16:08:32.1, 35°.58S×179°.06W, h48km, MLv5.1, East of*
North Island, N.Z.
*NEIC **04** 16:08:33.0±1.9, 35°.3S±0°.1×179°.5W±0°.1, h29km±5km,*
mb4.9/20, Error ellipse: s-maj=16.9km s-min=15.0km
az=77.0
*GCMT **04** 16:08:33.0±0.2, 35°.28S±0°.02×179°.05W±0°.02, h21km,*
MW5.0/100, Moment Tensor Solution. s49,c69;
s100,c153; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr3.91±.18; Mθθ-0.88±.11; Mφφ-3.03±.11; Mrθ0.56±.21;
Mrφ-1.06±.07; Mθφ3.03±.19; Best double couple:
Mo4.80100×10^16 NP1:φs208.00000°, δ26.00000°,
λ101.00000°. NP2:φs15.00000°, δ65.00000°, λ85.00000°.

Principal axes: T 5.0510, Plg70.0000°, Azm274.0000°; N
-0.4970, Plg5.0000°, Azm17.0000°; P -4.5510,
Plg20.0000°, Azm109.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*IDC **04** 16:08:34.1±2.4, 35°.20S×179°.57W, h41km±19km, mb4.4/10,*
mb1 4.6/11, mb1mx4.2/28, mbtmp4.6/11, ML4.5/1, MS4.2/12,
Ms1 4.2/12, ms1mx4.0/23 Error ellipse: s-maj=21.0km
s-min=15.3km az=150.0

ISC 04 16:08:33.6±0.5, 35°.37S±0°.06×179°.36W±0°.07, h41km, n164, σ1°61/178, mb5.0/23, MS4.3/12, 2C, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.88**	**220**	Pn		**Pn**	**16 09 16.3**	**-0.7**
WMGZ	**Waiomatatini S**	**3.03**	**216**	P		**Pn**	**16 09 19.3**	**+0.3**
WMGZ				S		**Sn**	**16 09 56.1**	**+2.1**
PKGZ	**Pakihiroa**	**3.25**	**219**	P		**Pn**	**16 09 21.7**	**-0.4**
PKGZ				S		**Sn**	**16 10 00.9**	**+1.3**
PUZ	**Puketiti**	**3.31**	**215**	P		**Pn**	**16 09 22.3**	**-0.5**
PUZ				S		**Sn**	**16 10 01.3**	**+0.4**
HAZ	**Te Kaha**	**3.31**	**223**	P		**Pn**	**16 09 22.6**	**-0.2**
HAZ				S		**Sn**	**16 10 05.1**	**+4.1**
RUGZ	**Raukumara Rang**	**3.52**	**222**	P		**Pn**	**16 09 25.9**	**+0.1**
TWGZ	**Tauwhareparae**	**3.52**	**217**	P		**Pn**	**16 09 25.5**	**-0.3**
TWGZ				S		**Sn**	**16 10 08.3**	**+2.1**
CNGZ	**Carnagh Statio**	**3.67**	**211**	P		**Pn**	**16 09 27.6**	**-0.2**
CNGZ				S		**Sn**	**16 10 12.4**	**+2.6**
TKGZ	**Te Karaka**	**3.79**	**215**	P		**Pn**	**16 09 30.1**	**+0.6**
TKGZ				S		**Sn**	**16 10 12.9**	**+0.1**
MYRZ	**Mayor Island**	**4.03**	**241**	P		**Pn**	**16 09 36.0**	**+3.2**
URZ	**Urewera**	**4.04**	**224**	P		**Pn**	**16 09 31.6**	**-1.3**
	30nm,0.3s,baz=291,slow=1.7,SNR=94							
URZ				S		**Sn**	**16 10 20.0**	**+1.0**
	49nm,0.3s,baz=204,slow=22,SNR=7.9							
URZ	**Urewera**	**4.04**	**224**	Pn		**Pn**	**16 09 31.4**	**-1.5**
URZ	**Urewera**	**4.04**	**224**	P		**Pn**	**16 09 32.6**	**-0.3**
URZ				S		**Sn**	**16 10 20.2**	**+1.2**
RIGZ	**Rimuhau**	**4.05**	**214**	P		**Pn**	**16 09 33.0**	**0.0**
RIGZ				S		**Sn**	**16 10 20.3**	**+1.1**
RAGZ	**Rawiri**	**4.05**	**219**	P		**Pn**	**16 09 33.3**	**+0.2**
OPRZ	**Ohinepanea**	**4.11**	**232**	P		**Pn**	**16 09 33.4**	**-0.5**
OPRZ				S		**Sn**	**16 10 21.1**	**+0.4**
MARZ	**Manawahe**	**4.12**	**230**	P		**Pn**	**16 09 36.5**	**+2.5**
EDRZ	**Edgecumbe**	**4.16**	**228**	P		**Pn**	**16 09 36.9**	**+2.4**
EDRZ				S		**Sn**	**16 10 23.2**	**+1.3**
PRGZ	**Paritu Road**	**4.17**	**211**	P		**Pn**	**16 09 34.1**	**-0.7**
PRGZ				S		**Sn**	**16 10 22.4**	**+0.1**
TGRZ	**Tauranga**	**4.24**	**235**	P		**Pn**	**16 09 35.3**	**-0.4**
KNZ	**Kokohu**	**4.34**	**212**	P		**Pn**	**16 09 36.0**	**-1.0**
KNZ				S		**Sn**	**16 10 25.4**	**-1.0**
MHGZ	**Mahia Peninsul**	**4.36**	**209**	P		**Pn**	**16 09 36.9**	**-0.3**
MHGZ				S		**Sn**	**16 10 28.4**	**+1.6**
RTZ	**Ruatahuna**	**4.37**	**221**	P		**Pn**	**16 09 37.5**	**0.0**
TARZ	**Mount Tarawera**	**4.38**	**228**	P		**Pn**	**16 09 40.0**	**+2.4**
OMRZ	**Omania**	**4.38**	**230**	P		**Pn**	**16 09 37.6**	**-0.1**
MUGZ	**Murupara**	**4.38**	**224**	P		**Pn**	**16 09 37.2**	**-0.5**
MUGZ				S		**Sn**	**16 10 27.8**	**+0.3**
KARZ	**Kaharoa**	**4.41**	**232**	P		**Pn**	**16 09 37.7**	**-0.4**
RRRZ	**Republican Roa**	**4.44**	**227**	P		**Pn**	**16 09 38.1**	**-0.3**
HLRZ	**Highlands Stat**	**4.48**	**229**	P		**Pn**	**16 09 39.6**	**+0.6**
KMRZ	**Kaimai**	**4.51**	**236**	P		**Pn**	**16 09 39.6**	**+0.1**
UTU	**Utuhina**	**4.54**	**231**	P		**Pn**	**16 09 41.3**	**+1.5**
HSRZ	**Hossack Road**	**4.59**	**229**	P		**Pn**	**16 09 40.9**	**+0.4**
WHHZ	**Waihua**	**4.59**	**215**	P		**Pn**	**16 09 40.8**	**+0.4**
HRRZ	**Handcock Road**	**4.61**	**228**	P		**Pn**	**16 09 41.2**	**+0.4**
MTHZ	**Maungataniwha**	**4.61**	**220**	P		**Pn**	**16 09 41.2**	**+0.3**
PRRZ	**Plateau Road**	**4.62**	**226**	P		**Pn**	**16 09 40.6**	**-0.3**
WIAZ	**Waiheke Island**	**4.68**	**251**	P		**Pn**	**16 09 42.3**	**+0.6**
ALRZ	**Allen Road**	**4.69**	**226**	P		**Pn**	**16 09 41.2**	**-0.6**
GRRZ	**Galatos Road**	**4.69**	**229**	P		**Pn**	**16 09 42.6**	**+0.7**
TOZ	**Tahuroa Road**	**4.76**	**239**	P		**Pn**	**16 09 42.7**	**0.0**
WPRZ	**Whakapapatarin**	**4.77**	**227**	P		**Pn**	**16 09 43.9**	**+1.0**
NMHZ	**Naumai**	**4.81**	**218**	P		**Pn**	**16 09 43.3**	**-0.3**
NMHZ				S		**Sn**	**16 10 38.5**	**+0.3**
MRHZ	**Matea Rd**	**4.83**	**223**	P		**Pn**	**16 09 43.2**	**-0.6**
ARHZ	**Aropaoanui**	**4.85**	**216**	P		**Pn**	**16 09 43.7**	**-0.3**
ARHZ				S		**Sn**	**16 10 39.1**	**+0.2**
MBAZ	**Motutapu North**	**4.86**	**252**	P		**Pn**	**16 09 44.3**	**+0.1**
ETAZ	**East Tamaki Re**	**4.88**	**250**	P		**Pn**	**16 09 45.6**	**+1.1**
KUTZ	**Kaahu Road**	**4.96**	**230**	P		**Pn**	**16 09 45.6**	**+0.1**
EPAZ	**Eden Park BICE**	**5.00**	**251**	P		**Pn**	**16 09 47.8**	**+1.7**
BKZ	**Black Stump Fm**	**5.03**	**220**			**Pn**	**16 09 45.4**	**-1.2**
BKZ	**Black Stump Fm**	**5.03**	**220**	P		**Pn**	**16 09 45.5**	**-1.1**
RVAZ	**Riverhead Bore**	**5.11**	**252**	P		**Pn**	**16 09 49.7**	**+2.1**
CKHZ	**Cape Kidnapper**	**5.13**	**212**	P		**Pn**	**16 09 45.9**	**-1.9**
MCHZ	**McNeill Hill**	**5.14**	**217**	P		**Pn**	**16 09 46.9**	**-1.0**
RATZ	**Rangitukua**	**5.22**	**227**	P		**Pn**	**16 09 49.4**	**+0.2**
KAHZ	**Kahuranaki**	**5.33**	**213**	P		**Pn**	**16 09 48.2**	**-2.4**
TMVZ	**Te Maari**	**5.43**	**225**	P		**Pn**	**16 09 51.2**	**-0.9**
HIZ	**Hauiti**	**5.59**	**234**			**Pn**	**16 09 54.4**	**+0.2**
MOVZ	**Moawhango**	**5.60**	**223**	P		**Pn**	**16 09 52.8**	**-1.6**
OUZ	**Omahuta**	**5.76**	**269**			**Pn**	**16 09 57.1**	**+0.6**
GLKZ	**Green Lake**	**6.21**	**12**	S		Sn	16 11 01.7	-11
RAO	**Raoul Island**	**6.22**	**12**	LR		LR	16 12 16.1	
	comp=Z,2μm,18.3s,baz=212,slow=36							
BFZ	**Birch Farm**	**6.33**	**212**			**Pn**	**16 10 00.5**	**-3.9**
TUWZ	**Tuamarina**	**8.01**	**219**			**Pn**	**16 10 25.9**	**-1.5**
MSVF	**Nonsavu**	**17.72**	**352**	P		**Pn**	**16 12 37.3**	**-0.1**
MSVF	**Nonsavu**	**17.72**	**352**	P		**P**	**16 12 38.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**20.61**	**311**	P		Pn	16 13 11.1	-0.8
ARMA	**Armidale**	**24.81**	**273**	P		**P**	**16 13 52.9**	**+0.8**
	baz=24,SNR=4.7							
ARMA	**Armidale**	**24.81**	**273**	P		**P**	**16 13 50.1**	**-1.9**
ARMA					IAmb	IAmb	16 14 05.4	
	comp=Z,25nm,1.1s							
EIDS	**Eidsvold**	**27.30**	**283**	P		**P**	**16 14 12.6**	**-1.8**
RMQ	**Roma**	**28.65**	**279**	P		**P**	**16 14 27.5**	**+1.1**
	baz=28,SNR=5.9							
CMSA	**Cobar Meteorol**	**29.32**	**267**	P		**P**	**16 14 32.6**	**+0.2**
	baz=29,SNR=20							
PPT	**Papeete**	**31.84**	**64**	LR		LR	16 28 11.5	
	comp=Z,259nm,18.3s,baz=232,slow=37							
QLP	**Quilpie**	**32.28**	**276**	P		**P**	**16 14 58.7**	**+0.2**
	baz=32,SNR=7.9							
STKA	**Stephens Creek**	**32.56**	**265**	P		**P**	**16 15 01.0**	**+0.1**
	comp=Z,8.8nm,0.9s,baz=96,slow=10,SNR=14							
STKA				LR		LR	16 27 27.7	
	comp=Z,633nm,19.0s,baz=102,slow=35							
STKA	**Stephens Creek**	**32.56**	**265**	P		**P**	**16 15 00.6**	**-0.3**
	baz=32,SNR=11							
STKA	**Stephens Creek**	**32.56**	**265**	P		**P**	**16 15 00.9**	**+0.1**
CTA	**Charters Tower**	**33.84**	**288**	P		**P**	**16 15 12.2**	**+0.1**
	comp=Z,19nm,0.9s,baz=123,slow=9.1,SNR=19							
CTAO	**Charters Tower**	**33.84**	**288**	P		**P**	**16 15 12.6**	**+0.5**
MTSU	**Mount Surprise**	**36.45**	**289**	P		**P**	**16 15 35.2**	**+0.5**
	baz=36,SNR=5.3							
BBOO	**Buckleboo**	**36.78**	**261**	P		**P**	**16 15 36.8**	**-0.6**
BBOO					IAmb	IAmb	16 15 41.7	
	comp=Z,10nm,0.8s							
QIS	**Mount Isa**	**38.85**	**281**	P		**P**	**16 15 54.6**	**-0.4**
	baz=38,SNR=6.4							
AS31	**Alice Springs**	**41.97**	**273**	P		**P**	**16 16 19.8**	**-0.9**
ASAR	**Alice Springs**	**41.97**	**273**	P		**P**	**16 16 19.4**	**-1.3**
	comp=Z,33nm,0.8s,baz=116,slow=7.7,SNR=495							
ASAR				ScP		**ScP**	**16 22 02.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=131,slow=3.6,SNR=4.4							
ASAR				S		**S**	**16 22 34.8**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=115,slow=14,SNR=7.7							
ASAR				LR		LR	16 33 54.5	
	comp=Z,1μm,18.8s,baz=125,slow=36							
ASAR	**Alice Springs**	**41.97**	**273**	P		**P**	**16 16 19.8**	**-0.9**
VNDA	**Vanda**	**43.05**	**186**	LR		LR	16 31 39.7	
	comp=Z,93nm,20.9s,baz=30,slow=32							
WRAB	**Tennant Creek**	**43.40**	**278**	P		**P**	**16 16 31.1**	**-1.2**
WRA	**Warramunga Arr**	**43.40**	**278**	P		**P**	**16 16 30.9**	**-1.6**
	comp=Z,21nm,0.7s,baz=120,slow=7.6,SNR=132							
WRA				LR		LR	16 35 04.9	
	comp=Z,714nm,18.1s,baz=115,slow=37							
FORT	**Forrest**	**43.88**	**260**	P		**P**	**16 16 35.0**	**-1.1**
	baz=43,SNR=10.0							
FORT	**Forrest**	**43.88**	**260**	P		**P**	**16 16 35.0**	**-1.1**
FORT					IAmb	IAmb	16 16 46.2	
	comp=Z,25nm,0.8s							
WRKA	**Warakurna**	**45.94**	**268**	P		**P**	**16 16 49.9**	**-2.8**
	baz=45,SNR=5.2							
MTN	**Manton Dam**	**49.85**	**284**	P		**P**	**16 17 24.7**	**+1.8**
	baz=50,SNR=3.4							
MTN	**Manton Dam**	**49.85**	**284**	P		**P**	**16 17 20.8**	**-2.1**
KNRA	**Kununurra**	**50.16**	**279**	P		**P**	**16 17 24.7**	**-0.5**
	baz=50,SNR=4.5							
KNRA	**Kununurra**	**50.16**	**279**	P		**P**	**16 17 24.0**	**-1.2**
KNRA					IAmb	IAmb	16 17 35.8	
	comp=Z,19nm,0.9s							
NWAO	**Narrogin (SRO)**	**51.73**	**253**	P		**P**	**16 17 35.5**	**-1.4**
	baz=51,SNR=5.0							
NWAO	**Narrogin (SRO)**	**51.73**	**253**	P		**P**	**16 17 35.4**	**-1.4**
NWAO					IAmb	IAmb	16 17 48.9	
	comp=Z,35nm,1.4s							
KLBR	**Kellerberrin**	**51.81**	**255**	P		**P**	**16 17 36.4**	**-1.2**
	baz=51,SNR=7.9							
MUN	**Mundaring**	**52.88**	**254**	P		**P**	**16 17 44.4**	**-1.1**
	baz=52,SNR=5.0							
MEEK	**Meekatharra**	**53.12**	**261**	P		**P**	**16 17 45.6**	**-1.8**
	baz=52,SNR=5.1							
MORW	**Morawa**	**54.17**	**257**	P		**P**	**16 17 53.8**	**-1.1**
	baz=54,SNR=5.2							
MORW	**Morawa**	**54.17**	**257**	P		**P**	**16 17 53.4**	**-1.6**
MORW					IAmb	IAmb	16 18 04.7	
	comp=Z,12nm,0.9s							
PSA00	**Pilbara Seismi**	**54.42**	**267**	P		**P**	**16 17 54.5**	**-2.4**
PSA00					IAmb	IAmb	16 17 55.8	
	comp=Z,9.2nm,0.9s							
QSPA	**South Pole Qui**	**54.75**	**180**	P		**P**	**16 18 01.8**	**+3.0**
	comp=Z,7.5nm,1.0s,baz=40,slow=1.9,SNR=16							
QSPA	**South Pole Qui**	**54.75**	**180**	P		**P**	**16 18 01.7**	**+3.0**
QSPA					IAmb	IAmb	16 18 21.0	
	comp=Z,8.8nm,0.8s							
MAW	**Mawson**	**67.27**	**202**	P		**P**	**16 19 22.8**	**-0.6**
	baz=66,SNR=9.4							
MAW	**Mawson**	**67.27**	**202**	P		**P**	**16 19 24.7**	**+1.2**
SYO	**Syowa Base**	**72.03**	**194**	⇑*e*X		**P**	**16 19 50.7**	**-2.0**
SNAA	**Sanae**	**73.22**	**179**	P		**P**	**16 20 01.9**	**+2.0**
SNAA	**Sanae**	**73.22**	**179**	P		**P**	**16 19 59.9**	**-0.1**
SNAA					IAmb	IAmb	16 20 13.2	
	comp=Z,9.4nm,1.2s							
VNA3	**Neumayer Olymp**	**73.43**	**177**	P		**P**	**16 20 02.6**	**+1.5**
VNA1	**Neumayer--Stat**	**74.08**	**177**	P		**P**	**16 20 07.2**	**+2.4**
PLCA	**Paso Flores**	**79.95**	**133**	LR		LR	16 48 13.8	
	comp=Z,72nm,21.7s,baz=236,slow=30							
GSI	**Gunungsitoli**	**85.09**	**275**	P		**P**	**16 21 05.5**	**-0.1**
ASAJ	**Asahikawa**	**86.34**	**334**	LR		LR	16 56 33.2	
	comp=Z,112nm,18.1s,baz=162,slow=33							
KSRS	**Korea Array**	**87.42**	**321**	P		**P**	**16 21 15.4**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=152,slow=6.8,SNR=7.0							
KS19	**Wonju Array Si**	**87.49**	**321**	P		**P**	**16 21 16.4**	**-0.3**
KS19					IAmb	IAmb	16 21 32.9	
	comp=Z,12nm,1.4s							
NJ2	**Nanjing**	**88.64**	**312**	*e*P		**P**	**16 21 24.3**	**+2.0**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
PEA0B	**Petropavlovsk-**	**90.35**	**346**	P		**P**	**16 21 30.0**	**+0.2**
PETK	**Petropavlovsk-**	**90.35**	**346**	P		**P**	**16 21 29.6**	**-0.2**
	comp=Z,10nm,0.8s,baz=169,slow=8.8,SNR=32							
PETK	**Petropavlovsk-**	**90.35**	**346**	P		**P**	**16 21 29.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**90.69**	**327**	P		**P**	**16 21 31.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=129,slow=5.6,SNR=7.9							
NVAR	**Mina Array Bea**	**92.64**	**43**	P		**P**	**16 21 43.2**	**+2.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**5.03**	**3**	Pg	Pb	16 19 52.0	+3.2
	2.4nm,0.3s						
UZB				Lg	Lg	16 20 59.5	
	3.6nm,0.8s						
SHLS	**Shalkode**	**5.07**	**7**	Pg	Pg	16 19 54.5	-2.5
	3.1nm,0.2s						
SHLS				Lg	Lg	16 21 03.7	
	8.5nm,0.7s						
MDOK	**Medeo**	**5.19**	**347**	⇓Pg	Pb	16 19 52.6	+1.1
	2.0nm,0.4s						
MDOK				Lg	Lg	16 21 06.2	
	20nm,1.0s						
MDOK	**Medeo**	**5.19**	**347**	Pg	Pg	16 19 55.9	-3.3
	3.8nm,0.3s						
MDOK				Lg	Lg	16 21 06.2	
	7.0nm,0.8s						
PDGK	**Podgornoye**	**5.25**	**7**	Pg	Pb	16 19 55.4	+2.9
	1.1nm,0.5s						
PDGK				Lg	Lg	16 21 05.0	
	3.0nm,0.8s						
PDGK	**Podgornoye**	**5.25**	**7**	⇓Pg	Pb	16 19 54.2	+1.8
	2.1nm,0.7s						
PDGK				⇑Lg	Lg	16 21 05.2	
	6.9nm,0.9s						
KST	**Kastek**	**5.33**	**338**	Pg	Pg	16 19 58.0	-4.0
	3.1nm,0.6s						
KST				Lg	Lg	16 21 09.5	
	5.6nm,0.7s						
KTBS	**Karatobe**	**5.79**	**346**	Pg	Pb	16 20 05.6	+4.0
	1.6nm,0.7s						
KTBS				Lg	Lg	16 21 23.0	
	9.2nm,0.6s						
ARXS	**Arharly**	**6.12**	**354**	Pg	Pg	16 20 12.3	-4.8
	3.6nm,0.6s						
ARXS				Lg	Lg	16 21 34.3	
	5.8nm,0.6s						

IDC 04 16:28:31.4±9.7, 7°.15S×129°.46E, h75km±95km, mb3.5/2, mb1 3.8/4, mb1mx3.3/28, mbtmp3.9/4, ML4.1/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/18, Error ellipse: s-maj=138.4km s-min=40.9km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.57 160**		P	Pn	16 31 39.2	-1.5
	1.0nm,0.3s,baz=342,slow=13,SNR=56						
WRA				S	Sn	16 33 58.0	-12
	0.7nm,0.3s,baz=352,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**16.96 166**		P	P	16 32 25.7	+0.8
	0.6nm,0.3s,baz=345,slow=9.9,SNR=35						
ASAR				S	Sn	16 35 23.8	-8.4
	0.4nm,0.3s,baz=346,slow=27,SNR=9.5						
STKA	**Stephens Creek**	**27.08 157**		P	P	16 34 07.0	-0.1
	1.1nm,0.4s,baz=332,slow=6.9,SNR=4.0						
SONM	**Songino Array**	**58.42 342**		LR	LR	17 08 11.2	
	comp=Z,45nm,18.4s,baz=112,slow=41						
MKAR	**Makanchi Array**	**68.06 327**		P	P	16 39 23.1	0.0
	0.2nm,0.4s,baz=122,slow=9.9,SNR=4.9						

*NEIC **04** 16:34:60.0±1.2, 14°.2S±0°.1×167°.4E±0°.1, h164km±12km, mb4.3/16, Error ellipse: s-maj=21.0km s-min=18.8km az=104.0*

*IDC **04** 16:35:12.2±14.0, 14°.19S×166°.76E, h254km±128km, mb3.8/5, mb1 3.9/5, ms1mx3.3/29, mbtmp4.3/5, Error ellipse: s-maj=86.3km s-min=39.2km az=108.0*

ISC 04 16:35:04.9±1.0, 14°.4S±0°.1×167°.1E±0°.2, h200km, n26, σ1$29/26, mb4.2/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**7.11 173**		Pn	**Pn**	**16 36 47.0**	**+0.5**
DZM	**Mont Dzumac**	**7.66 184**		Pn	**Pn**	**16 36 51.5**	**-2.3**
ONTNC	**Ouen Toro**	**7.89 184**		Pn	**Pn**	**16 36 54.6**	**-2.1**
RABL	**Rabaul**	**17.85 303**		P	**P**	**16 38 56.7**	**-2.6**
ARMA	**Armidale**	**21.36 219**		P	**P**	**16 39 37.7**	**+0.8**
CAN	**Canberra**	**26.42 215**		P	**P**	**16 40 25.1**	**+1.8**
CAN				IAmb	IAmb	16 40 31.6	
	comp=Z,8.4nm,1.1s						
STKA	**Stephens Creek**	**29.06 229**		P	**P**	**16 40 49.0**	**+2.2**
	comp=Z,7.2nm,0.4s,baz=53,slow=9.0,SNR=36						
STKA	**Stephens Creek**	**29.06 229**		P	**P**	**16 40 48.9**	**+2.2**
STKA				IAmb	IAmb	16 40 49.7	
	comp=Z,1.9nm,0.5s						
TOO	**Toolangi**	**30.00 216**		P	**P**	**16 40 55.5**	**+0.5**
TOO				IAmb	IAmb	16 41 04.7	
	comp=Z,9.9nm,1.1s						
WR0	**Warramunga Arr**	**31.53 255**		P	**P**	**16 41 07.7**	**-0.9**
WR0				IAmb	IAmb	16 41 10.7	
	comp=Z,4.7nm,1.1s						
WB0	**Warramunga Arr**	**31.65 256**		P	**P**	**16 41 10.2**	**+0.5**
WB2	**Warramunga Arr**	**31.70 255**		P	**P**	**16 41 10.8**	**+0.7**
WB2				IAmb	IAmb	16 41 10.9	
	comp=Z,5.6nm,1.0s						
WRAB	**Tennant Creek**	**31.70 255**		P	**P**	**16 41 10.1**	**-0.1**
WRAB				IAmb	IAmb	16 41 16.9	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**31.71 255**		P	**P**	**16 41 10.5**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=86,slow=9.4,SNR=23						
AS31	**Alice Springs**	**32.61 249**		P	**P**	**16 41 18.4**	**+0.4**
ASAR	**Alice Springs**	**32.61 249**		P	**P**	**16 41 18.2**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=76,slow=9.4,SNR=83						
BBOO	**Buckleboo**	**33.63 232**		P	**P**	**16 41 28.1**	**+1.4**
BBOO				IAmb	IAmb	16 41 34.2	
	comp=Z,10nm,1.1s						
KNRA	**Kununurra**	**36.98 263**		P	**P**	**16 41 54.4**	**-1.1**
MORW	**Morawa**	**49.23 244**		P	**P**	**16 43 34.1**	**+0.6**
MORW				IAmb	IAmb	16 43 34.8	
	comp=Z,5.7nm,0.8s						
MJAR	**Matsushiro Arr**	**57.52 333**		P	**P**	**16 44 34.0**	**+0.5**
PETK	**Petropavlovsk-**	**67.71 354**		P	**P**	**16 45 40.7**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=166,slow=14,SNR=3.7						
QSPA	**South Pole Qui**	**75.63 180**		P	**P**	**16 46 27.3**	**-0.5**
MAW	**Mawson**	**82.12 202**		P	**P**	**16 47 02.5**	**-0.3**
MKAR	**Makanchi Array**	**96.83 316**		P	**P**	**16 48 13.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=98,slow=6.9,SNR=5.9						
ARCES	**ARCESS Array B**	**119.88 345**		PKP	**PKPdf**	**16 53 29.9**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=82,slow=2.7,SNR=6.9						
KEST	**Kesra**	**150.83 321**		PKPbc	**PKPbc**	**16 54 34.5**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=64,slow=4.8,SNR=5.3						

*IDC **04** 17:06:26.8±1.8, 5°.88S×153°.41E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/36, mbtmp3.8/8, ML2.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=63.0km s-min=20.3km az=125.0*

*NEIC **04** 17:06:27.7±1.8, 5°.83S±0°.06×153°.44E±0°.09, h8km±4km, mb4.5/9, Error ellipse: s-maj=13.7km s-min=8.3km az=97.0*

ISC 04 17:06:30.4±0.7, 5°.86S±0°.06×153°.44E±0°.09, h32km, n27, σ1$54/28, mb4.0/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.08 322**			**Pn**	**17 07 01.8**	**-1.4**
RABL				Sn	**Sn**	**17 07 25.3**	**-2.8**
MANU	**Manus Island**	**7.14 302**		Pn	**Pn**	**17 08 11.5**	**-1.2**
PMG	**Port Moresby**	**7.15 240**		Pn	**Pn**	**17 08 13.2**	**+0.4**
	3.6nm,0.3s,baz=79,slow=7.4,SNR=12						
PMG				Sn	**Sn**	**17 09 34.3**	**+1.3**
	1.5nm,0.3s,baz=321,slow=23,SNR=1.4						
PMG	**Port Moresby**	**7.15 240**			**Pn**	**17 08 12.1**	**-0.8**
CTAO	**Charters Tower**	**15.78 206**		Pn	**Pn**	**17 10 06.0**	**-4.4**
SIJI	**Sorong**	**22.67 282**		LR	LR	17 22 36.8	
	comp=Z,64nm,18.2s,baz=163,slow=43						
MTN	**Manton Dam**	**23.06 251**		P	**P**	**17 11 35.0**	**+1.6**
MTN				IAmb	IAmb	17 11 39.3	
	comp=Z,45nm,1.5s						
WR0	**Warramunga Arr**	**23.11 231**		P	**P**	**17 11 33.7**	**-0.1**
WR0				IAmb	IAmb	17 12 15.5	
	comp=Z,14nm,1.6s						
WB0	**Warramunga Arr**	**23.11 232**			**P**	**17 11 32.8**	**-1.1**
WB0				IAmb	IAmb	17 11 36.4	
	comp=Z,13nm,1.3s						
WB2	**Warramunga Arr**	**23.24 231**		P	**P**	**17 11 35.3**	**+0.1**
WB2				IAmb	IAmb	17 11 38.6	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**23.25 231**		P	**P**	**17 11 35.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=54,slow=10,SNR=11						
AS31	**Alice Springs**	**25.82 225**		P	**P**	**17 11 59.7**	**+0.7**
ASAR	**Alice Springs**	**25.82 225**		P	**P**	**17 11 59.9**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=56,slow=9.2,SNR=26						
LHI	**Lord Howe Isla**	**26.07 169**		P	**P**	**17 12 01.5**	**+0.3**
KNRA	**Kununurra**	**26.10 246**		P	**P**	**17 12 01.4**	**-0.1**
MSVF	**Nonsavu**	**26.79 118**		P	**P**	**17 12 06.6**	**-1.2**
MSVF				IAmb	IAmb	17 12 40.7	
	comp=Z,27nm,1.4s						
TUWZ	**Tuamarina**	**39.87 156**		P	**P**	**17 14 00.1**	**-1.1**
BHW	**Baring Head**	**40.24 155**		P	**P**	**17 14 02.5**	**-1.7**
PETK	**Petropavlovsk-**	**58.85 3**		P	**P**	**17 16 28.0**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=181,slow=7.4,SNR=5.2						
PETK	**Petropavlovsk-**	**58.85 3**		P	**P**	**17 16 27.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**58.90 296**		P	**P**	**17 16 28.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=124,slow=3.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**58.90 296**		P	**P**	**17 16 26.5**	**-0.4**
MKAR	**Makanchi Array**	**81.53 319**		P	**P**	**17 18 46.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=135,slow=5.3,SNR=3.1						
MKAR	**Makanchi Array**	**81.53 319**		P	**P**	**17 18 45.4**	**+0.5**
ZALV	**Zalesovo Beam**	**82.38 326**		P	**P**	**17 18 50.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=106,slow=4.2,SNR=4.7						
ILAR	**Eielson Array**	**82.89 22**		P	**P**	**17 18 52.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**151.22 287**		PKPbc	**PKiKP**	**17 26 23.6**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=52,slow=2.0,SNR=6.6						

*IDC **04** 17:07:23.8±1.0, 20°.25N×120°.37E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/38, mbtmp3.8/8, ML3.4/1, MS3.5/8, Ms1 3.6/8, ms1mx3.2/40, Error ellipse: s-maj=30.2km s-min=18.4km az=74.0*

*NEIC **04** 17:07:24.9±2.0, 20°.26N±0°.05×120°.2E±0°.1, h6km±5km, mb4.2/19, Error ellipse: s-maj=17.0km s-min=7.8km az=90.0*

ISC 04 17:07:24.9±0.6, 20°.26N±0°.05×120°.3E±0°.1, h10km, n46, σ1$18/41, mb4.2/11, MS3.4/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**2.33**	**176**	⇓*e*P	**Pb**	**17 08 06.2**	**-0.8**
TWG	**Pinlang**	**2.66**	**16**		**Pn**	**17 08 07.8**	**0.0**
SZP	**Santa**	**2.70**	**176**	Pn	**Pn**	**17 08 08.1**	**-0.2**
TPUB	**Ta-pu**	**3.05**	**6**		**Pn**	**17 08 12.3**	**-0.9**
YULB	**Yu-li**	**3.26**	**17**		**Pn**	**17 08 16.4**	**+0.3**
SSLB	**Suanglung**	**3.57**	**10**		**Pn**	**17 08 19.9**	**-0.4**
NACB	**Ninganchiao**	**4.08**	**17**		**Pn**	**17 08 28.7**	**+1.2**
YHNB	**Yeheng**	**4.51**	**13**		**Pn**	**17 08 32.7**	**-0.6**
KNMB	**Chin-men Tao**	**4.54**	**338**	Pn	**Pn**	**17 08 33.2**	**-0.5**
KSAR	**Wonju Array Be**	**18.36**	**20**	P	**Pn**	**17 11 36.0**	**-3.7**
KSRS	**Korea Array**	**18.38**	**20**	P	**Pn**	**17 11 37.6**	**-2.3**
	0.1nm,0.3s,baz=122,slow=31,SNR=11						
KSRS				LR	LR	17 19 43.2	
	comp=Z,112nm,18.5s,baz=202,slow=40						
KS19	**Wonju Array Si**	**18.41**	**19**	P	**P**	**17 11 39.4**	**-0.9**
KS19				IAmb	IAmb	17 11 40.2	
	comp=Z,13nm,1.1s						
BJT	**Baijiatuau**	**20.01**	**351**	P	**P**	**17 11 57.2**	**-0.5**
BJT				IAmb	IAmb	17 12 11.4	
	comp=Z,9.6nm,0.9s						
JWT	**Wachi**	**20.04**	**39**	P	Pn	17 11 59.6	-0.3
JWT				IAmb	IAmb	17 12 10.7	
	comp=Z,8.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.21**	**269**	P	**P**	**17 12 00.6**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=70,slow=8.0,SNR=2.9						
CMAR				LR	LR	17 19 49.4	
	comp=Z,192nm,19.4s,baz=130,slow=37						
INU	**Inuyama**	**21.05**	**41**	P	**P**	**17 12 10.4**	**+1.3**
INU				IAmb	IAmb	17 12 20.7	
	comp=Z,13nm,0.8s						
JCJ	**Chichijima**	**21.17**	**67**	LR	LR	17 17 56.0	
	comp=Z,83nm,20.4s,baz=188,slow=30						
LUWI	**Luwuk**	**21.31**	**173**	P	**P**	**17 12 13.6**	**+1.7**
BKB	**Balikpapan**	**21.64**	**189**	P	**P**	**17 12 14.0**	**-1.5**
MAJO	**Matsushiro**	**22.56**	**40**	P	**P**	**17 12 27.0**	**+1.6**
MAJO				IAmb	IAmb	17 12 34.5	
	comp=Z,9.4nm,0.9s						
MAT	**Matsushiro**	**22.56**	**40**	P	**P**	**17 12 24.4**	**-1.0**
MJAR	**Matsushiro Arr**	**22.56**	**40**	P	**P**	**17 12 25.7**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=226,slow=7.5,SNR=8.7						
MJAR	**Matsushiro Arr**	**22.56**	**40**	P	**P**	**17 12 27.7**	**+2.3**
MJAR				IAmb	IAmb	17 12 53.8	
	comp=Z,16nm,1.5s						
MJB9	**Matsu-Tunnel**	**22.56**	**40**	P	**P**	**17 12 25.2**	**-0.1**
MJB9				IAmb	IAmb	17 12 34.5	
	comp=Z,10nm,0.8s						
MDJ	**Mudanjiang**	**25.49**	**16**	P	**P**	**17 12 54.0**	**+0.6**
MDJ				IAmb	IAmb	17 13 06.8	
	comp=Z,7.3nm,1.0s						
USRK	**Ussuriysk Ar.**	**25.79**	**20**	LR	LR	17 23 16.9	
	comp=Z,11nm,20.8s,baz=194,slow=37						
SONM	**Songino Array**	**29.72**	**341**	P	**P**	**17 13 33.5**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=157,slow=6.9,SNR=4.4						
SONM				LR	LR	17 24 48.6	
	comp=Z,52nm,20.5s,baz=174,slow=35						
SONM	**Songino Array**	**29.72**	**341**	P	**P**	**17 13 32.3**	**+1.0**
MK31	**Makanchi Array**	**40.67**	**320**	P	**P**	**17 15 06.8**	**+1.4**
MKAR	**Makanchi Array**	**40.67**	**320**	P	**P**	**17 15 06.2**	**+0.8**
	comp=Z,1.1nm,1.0s,baz=113,slow=9.5,SNR=6.0						
WB0	**Warramunga Arr**	**42.11**	**160**	P	**P**	**17 15 17.5**	**0.0**
WRAB	**Tennant Creek**	**42.25**	**160**	P	**P**	**17 15 18.4**	**-0.2**
WRA	**Warramunga Arr**	**42.26**	**160**	P	**P**	**17 15 18.5**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=342,slow=9.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**43.14**	**330**	P	**P**	**17 15 26.0**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=124,slow=7.8,SNR=2.4						
PETK	**Petropavlovsk-**	**43.60**	**32**	LR	LR	17 34 08.5	
	comp=Z,43nm,19.2s,baz=215,slow=37						
AS31	**Alice Springs**	**45.63**	**162**	P	**P**	**17 15 45.8**	**0.0**
ASAR	**Alice Springs**	**45.63**	**162**	P	**P**	**17 15 46.1**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=345,slow=6.8,SNR=27						
ASAR	**Alice Springs**	**45.63**	**162**	P	**P**	**17 15 46.3**	**+0.6**
ASAR				PcP	**PcP**	**17 17 24.8**	**+0.8**
KBL	**Kabul**	**47.19**	**299**	P	**P**	**17 15 57.2**	**-1.0**
KK31	**Karatay Array**	**47.27**	**310**	P	**P**	**17 15 57.9**	**-0.6**
KKAR	**Karatay Array**	**47.27**	**310**	P	**P**	**17 15 58.0**	**-0.5**
KKAR				IAmb	IAmb	17 16 10.5	
	comp=Z,4.2nm,1.4s						
NRIK	**Noril'sk**	**52.98**	**346**	LR	LR	17 41 05.7	
	comp=Z,72nm,18.7s,baz=90,slow=38						
ABKAR	**Akbulak array**	**55.63**	**316**	P	**P**	**17 17 02.0**	**+1.0**
ABKAR	**Akbulak array**	**55.63**	**316**	P	**P**	**17 17 01.5**	**+0.5**
ABKAR				IAmb	IAmb	17 17 02.6	
	comp=Z,1.2nm,0.8s						
KDAK	**Kodiak Island**	**71.59**	**34**	P	**P**	**17 18 45.3**	**-1.0**
FINES	**FINESS Array B**	**74.41**	**330**	LR	LR	17 54 42.1	
	comp=Z,86nm,19.4s,baz=80,slow=38						

*NEIC **04** 17:16:15.0±2.3, 5°.50N±0°.07×126°.52E±0°.09, h52km±10km, mb4.3/13, Error ellipse: s-maj=14.2km s-min=7.3km az=56.0*

*DJA **04** 17:16:14.5±1.6, 6°N±6°×12°7E±°, h27km±19km, M4.4/6, mb4.4/4, MLv4.4/6*

*MAN **04** 17:16:15.3, 5°.72N×126°.82E, h4km, mb4.7, ML3.6, MS3.5*

*IDC **04** 17:16:19.3±2.2, 5°.52N×126°.47E, h98km±19km, mb3.7/11, mb1 3.8/11, mb1mx3.6/34, mbtmp4.0/11, MS3.2/3, Ms1 3.2/3, ms1mx2.9/37, Error ellipse: s-maj=40.9km s-min=13.1km az=68.0*

ISC 04 17:16:16.6±0.6, 5°.56N±0°.05×126°.88E±0°.10, h84km, n43, σ1$79/43, mb4.2/16, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.98 319**		P	**Pn**	**17 16 48.9**	**+0.5**
	98nm,0.3s,baz=190,slow=7.5,SNR=6.1						
DAV				S	**Sn**	**17 17 14.4**	**+1.8**
	130nm,0.3s,baz=114,slow=21,SNR=13						
DAV	**Davao City (W)**	**1.98 319**			**Pn**	**17 16 46.9**	**-1.5**
KCP	**Kidapawan**	**2.29 309**		⇓*i*P	**Pn**	**17 16 51.0**	**-1.6**
KCP				*i*S	**Sn**	**17 17 19.6**	**-0.5**
SGSI	**Sangihe**	**2.29 216**		P	**Pn**	**17 16 51.9**	**-0.7**
SGSI				S	**Sn**	**17 17 21.1**	**+1.0**
CGP	**Cagayan de Oro**	**3.60 323**		⇓*e*P	**Pn**	**17 17 11.4**	**+1.2**
CGP				*e*S	**Sn**	**17 17 56.0**	**+4.3**
TNTI	**Ternate**	**4.78 174**		Pn	**Pn**	**17 17 24.1**	**-2.2**
GTOI	**Gorontalo**	**6.23 218**		P	**Pn**	**17 17 46.6**	**+0.6**
	0.1nm16nm,1.4s						
MRSI	**Marisa**	**7.05 224**		P	**Pn**	**17 17 57.9**	**+0.6**
	0.2nm52nm,0.7s						
TOLI2	**Tolitoli**	**7.52 234**		Pn	Pn	17 17 56.0	-7.6
LUWI	**Luwuk**	**7.73 212**		Pn	Pn	17 18 01.4	-5.2
SWI	**Sorong**	**7.73 145**		P	**Pn**	**17 18 03.9**	**-2.7**
FAKI	**Fak Fak**	**9.98 147**		Pn	**Pn**	**17 18 35.5**	**-1.7**
SAUI	**Saumlaki**	**14.15 162**		Pn	**Pn**	**17 19 34.3**	**+1.0**
TPUB	**Ta-pu**	**18.64 342**		P	**P**	**17 20 24.2**	**-3.7**
MTN	**Manton Dam**	**18.76 167**			**P**	**17 20 28.1**	**-1.1**
MTN				IAmb	IAmb	17 21 08.0	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**21.18 175**		P	**P**	**17 20 56.5**	**+1.2**
KNRA				IAmb	IAmb	17 21 37.9	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**26.23 164**		P	**P**	**17 21 44.2**	**+0.3**
WB0				IAmb	IAmb	17 22 25.2	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**26.38 164**		P	**P**	**17 21 48.3**	**+3.0**
	comp=Z,3.6nm,0.7s,baz=342,slow=10,SNR=15						
WB2	**Warramunga Arr**	**26.38 164**		P	**P**	**17 21 48.0**	**+2.7**
WR0	**Warramunga Arr**	**26.45 164**		P	**P**	**17 21 48.4**	**+2.5**
WR0				IAmb	IAmb	17 22 39.6	
	comp=Z,11nm,1.3s						
ASAR	**Alice Springs**	**29.84 167**		P	**P**	**17 22 17.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=343,slow=7.1,SNR=13						
ASAR				PcP	**PcP**	**17 25 18.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=355,slow=2.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.12 298**		P	**P**	**17 22 15.9**	**-2.8**
	comp=Z,0.5nm,0.8s,baz=129,slow=7.2,SNR=5.7						
CMAR				LR	LR	17 34 10.8	
	comp=Z,19nm,21.5s,baz=115,slow=36						
CMAR	**Chiang Mai Arr**	**30.12 298**		P	**P**	**17 22 14.6**	**-4.1**
JWT	**Wachi**	**30.61 14**		P	**P**	**17 22 21.3**	**-1.4**
KSRS	**Korea Array**	**31.76 2**		LR	LR	17 34 01.8	
	comp=Z,28nm,21.6s,baz=179,slow=33						
STKA	**Stephens Creek**	**39.78 160**		P	**P**	**17 23 43.5**	**+2.0**
	comp=Z,1.3nm,0.4s,baz=337,slow=15,SNR=3.0						
SONM	**Songino Array**	**45.63 341**		P	**P**	**17 24 29.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=161,slow=6.9,SNR=5.1						
SONM	**Songino Array**	**45.63 341**		IAmb	IAmb	17 24 31.9	
	comp=Z,4.9nm,1.6s						
PETK	**Petropavlovsk-**	**53.70 23**		P	**P**	**17 25 31.7**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=190,slow=6.9,SNR=4.4						
MK31	**Makanchi Array**	**56.16 324**		P	**P**	**17 25 47.9**	**+0.2**
MKAR	**Makanchi Array**	**56.16 324**		P	**P**	**17 25 47.6**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=117,slow=7.3,SNR=28						
MKAR				PcP	**PcP**	**17 26 46.1**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=152,slow=3.7,SNR=4.4						
MKAR	**Makanchi Array**	**56.16 324**		P	**P**	**17 25 47.4**	**-0.3**
ZALV	**Zalesovo Beam**	**59.04 332**		P	**P**	**17 26 09.1**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=121,slow=8.6,SNR=6.6						
KK31	**Karatay Array**	**62.01 316**		P	**P**	**17 26 28.2**	**0.0**
KK31				IAmb	IAmb	17 26 37.1	
	comp=Z,2.1nm,1.0s						
KKAR	**Karatay Array**	**62.01 316**		P	**P**	**17 26 28.5**	**+0.2**
KKAR	**Karatay Array**	**62.01 316**		P	**P**	**17 26 28.6**	**+0.4**
KKAR				IAmb	IAmb	17 26 37.1	
	comp=Z,2.1nm,1.0s						
ABKAR	**Akbulak array**	**70.84 320**		P	**P**	**17 27 23.8**	**-0.7**
ABKAR	**Akbulak array**	**70.84 320**		P	**P**	**17 27 24.0**	**-0.4**
ARCES	**ARCESS Array B**	**88.80 340**		P	**P**	**17 29 00.5**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=88,slow=6.2,SNR=7.0						
FINES	**FINESS Array B**	**90.30 332**		P	**P**	**17 29 07.0**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=58,slow=4.7,SNR=7.4						
AKASG	**Malin Array Be**	**90.58 321**		P	**P**	**17 29 10.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=66,slow=3.9,SNR=4.6						
AKASG	**Malin Array Be**	**90.58 321**		IAmb	IAmb	17 29 31.6	
	comp=Z,3.0nm,1.6s						
LSZ	**Lusaka**	**99.81 256**		LR	LR	18 16 29.0	
	comp=Z,33nm,18.5s,baz=31,slow=36						

*NOU **04** 17:28:18.5, 32°.31S×176°.50W, h40km, MLv5.9, South of Kermadec Islands*

*BJI **04** 17:28:20.0±0.0, 32°.20S×177°.80W, h5km, mB5.8/17, mb5.4/34, Ms5.0/17, Ms7 4.8/18*

*NEIC **04** 17:28:23.4±2.2, 32°.09S±0°.06×178°.0W±0°.1, h10km±1km, mb5.3/145, Error ellipse: s-maj=15.2km s-min=9.6km az=99.0*

*MOS **04** 17:28:26.2±1.1, 31°.91S×178°.03W, h34km, mb5.5/23, MS4.8/8, Error ellipse: s-maj=10.4km s-min=7.8km az=92.7*

*IDC **04** 17:28:27.6±2.2, 31°.92S×178°.13W, h36km±16km, mb4.6/18, mb1 4.8/21, mb1mx4.8/31, mbtmp4.9/21, ML5.4/3, MS4.6/20, Ms1 4.6/20, ms1mx4.5/27, Error ellipse: s-maj=17.1km s-min=14.3km az=97.0*

*GCMT **04** 17:28:28.4±0.2, 31°.99S±0°.02×177°.75W±0°.01, h20km, MW5.2/100, Moment Tensor Solution. s81,c120; s100,c168; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}4.96±.18; $M_{\theta\theta}$-0.21±.12; $M_{\phi\phi}$-4.74±.12; $M_{r\theta}$0.18±.26; $M_{\theta\phi}$-1.31±.09; $M_{\phi r}$5.67±.29; Best double couple: $M_0$7.58000×10^{16} NP1:ϕ_s205.00000°, δ22.00000°, λ108.00000°. NP2:ϕ_s5.00000°, δ69.00000°, λ83.00000°. Principal axes: T 7.5900, Plg65.0000°, Azm263.0000°; N -0.0160,

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TUWZ Tuamarina          11.36 213  P      Pn     17 31 02.3 -3.6
THZ  Tophouse           12.11 215         Pn     17 31 09.6 -6.5
THZ  Tophouse           12.11 215  P      Pn     17 31 13.0 -3.1
KHZ  Kahutara           12.33 211  Pn     Pn     17 31 14.4 -4.7
KHZ  Kahutara           12.33 211  P      Pn     17 31 14.2 -4.8
NFK  Norfolk Island     12.54 280  P      P      17 31 32.7 -0.8
DSZ  Denniston Nort     12.64 217  P      Pn     17 31 22.1 -1.3
GVZ  Greta Valley S     12.99 211  P      Pn     17 31 23.8 -4.4
LTZ  Lake Taylor        13.19 213  P      Pn     17 31 31.0 +0.1
INZ  Inchbonnie         13.54 215  P      Pn     17 31 33.3 -2.4
OXZ  Oxford             13.72 212  P      Pn     17 31 36.5 -1.6
MQZ  McQueen's Vall     13.76 210  P      Pn     17 31 33.4 -5.1
MHCZ Mount Hutt         14.10 213  P      Pn     17 31 40.9 -2.4
WVZ  Waitaha Valley     14.15 216  P      Pn     17 31 43.6 -0.3
RPZ  Rata Peaks         14.48 214  Pn     Pn     17 31 43.8 -4.7
RPZ  Rata Peaks         14.48 214  P      Pn     17 31 45.3 -3.2
GCSZ Gaunt Creek Bo     14.53 216  P      Pn     17 31 49.1 -0.1
ARCZ Arundel            14.60 213  P      Pn     17 31 50.0 -0.1
MSVF Nonsavu            14.75 345  Pn     Pn     17 31 51.8 -0.5
     0.8nm,0.3s,baz=146,slow=12,SNR=20
MSVF                               LR     LR     17 36 36.9
     comp=Z,4µm,18.2s,baz=172,slow=34
MSVF Nonsavu            14.75 345  Pn     Pn     17 31 50.6 -1.8
MSVF Nonsavu            14.75 345  P      Pn     17 31 52.1 -0.3
FOZ  Fox Glacier        14.95 217  P      Pn     17 31 51.7 -3.0
PINNC Pines Island,     16.04 302  P      P      17 32 12.7 +0.3
PINNC                              IAmb   IAmb   17 32 16.9
     comp=Z,204nm,0.9s
PINNC Pines Island,     16.04 302  P      P      17 32 16.8 +4.4
MARNC Mare, Loyalty     16.37 307         Pn     17 32 13.8 +0.4
MARNC Mare, Loyalty     16.37 307  P      P      17 32 20.1 +4.0
OUENC Ouen Island, N    16.60 302  P      P      17 32 17.9 -0.7
OUENC                              IAmb   IAmb   17 32 23.6
     comp=Z,267nm,1.2s
OUENC Ouen Island, N    16.60 302  P      P      17 32 22.6 +4.0
YATNC Mamie plateau,    16.79 303  P      P      17 32 24.7 +4.0
ONTNC Ouen Toro         16.95 301  Pn     Pn     17 32 17.4 -3.3
ONTNC                              IAmb   IAmb   17 32 56.3
     comp=Z,500nm,1.6s
ONTNC Ouen Toro         16.95 301  P      P      17 32 27.7 +5.3
MLZ  Mavora Lakes       17.11 215  Pn     Pn     17 32 19.0 -3.6
NOUC Port Laguerre      17.18 302  P      P      17 32 27.6 +2.5
LIFNC LIFOU             17.39 307  P      Pn     17 32 26.2  0.0
LIFNC                              IAmb   IAmb   17 32 37.1
     comp=Z,276nm,1.1s
AFI  Afiamalu           18.96  19  P      P      17 32 44.3 -0.4
     comp=Z,9.0nm,0.3s,baz=109,slow=1.8,SNR=10
AFI  Afiamalu           18.96  19  P      P      17 32 44.6 -0.2
AFI                                pmax   pmax
     comp=Z,353nm,1.5s
AFI  Afiamalu           18.96  19  P      P      17 32 44.6 -0.2
AFI                                IAmb   IAmb   17 32 58.4
     comp=Z,353nm,1.5s
RAR  Rarotonga          19.49  61  LR     LR     17 41 37.3
     comp=Z,447nm,18.3s,baz=234,slow=40
RAR  Rarotonga          19.49  61  P      P      17 32 49.3 -1.2
RAR                                pmax   pmax
     comp=Z,201nm,1.6s
RAR  Rarotonga          19.49  61  P      P      17 32 49.3 -1.2
RAR                                IAmb   IAmb   17 32 56.2
     comp=Z,201nm,1.6s
KOUNC Koumac, New Ca    19.62 302  P      Pn     17 32 55.6 +2.3
ARMA Armidale           26.03 266  P      P      17 33 56.7 +0.1
     baz=26,SNR=9.7
ARMA Armidale           26.03 266  P      P      17 33 56.5 -0.1
ARMA                               IAmb   IAmb   17 34 03.6
     comp=Z,69nm,1.0s
MGCD Mangrove Creek     26.04 259  P      P      17 33 57.3 +0.8
     baz=26,SNR=35
TBI  Tubuai             26.61  78  eLQ    LQ     17 39 25.0
     comp=Z,1µm,22.7s
TBI                                eLR    LR     17 40 53.3
     comp=Z,2µm,26.0s,baz=246
TBI  Tubuai             26.61  78  eT     T      18 01 19.7
     comp=Z,16nm,0.3s
CNB  Canberra Magne     27.32 254  P      P      17 34 09.5 +1.3
     baz=27,SNR=5.5
CAN  Canberra           27.62 254  P      P      17 34 12.6 +1.8
CAN                                pmax   pmax
     comp=Z,63nm,1.1s
CAN  Canberra           27.62 254  P      P      17 34 12.6 +1.8
CAN                                IAmb   IAmb   17 34 26.2
     comp=Z,62nm,1.1s
EIDS Eidsvold           27.92 276  P      P      17 34 14.1 +0.6
     baz=28,SNR=14
EIDS Eidsvold           27.92 276  P      P      17 34 13.3 -0.2
EIDS                               IAmb   IAmb   17 34 28.3
     comp=Z,34nm,0.9s
YNG  Young              28.19 256  P      P      17 34 16.4 +0.6
     baz=28,SNR=4.6
PPT2 Papeete2           29.40  67  eLR    LR     17 42 06.8
     comp=Z,1µm,25.0s,baz=234
TAU  Tasmania Unive     29.41 238  P      P      17 34 25.8 -0.7
TAU                                pmax   pmax
     comp=Z,283nm,2.0s
TAU  Tasmania Unive     29.41 238  P      P      17 34 25.8 -0.7
PPT  Papeete            29.41  67  LR     LR     17 45 37.9
     comp=Z,539nm,18.2s,baz=289,slow=35
KNTN Kanton             29.75  13  P      P      17 34 29.4 -0.4
TOO  Toolangi           30.38 249  P      P      17 34 37.1 +1.8
     baz=30,SNR=7.4
TOO  Toolangi           30.38 249  P      P      17 34 36.3 +1.0
TOO                                pmax   pmax
     comp=Z,46nm,1.2s
TOO  Toolangi           30.38 249  P      P      17 34 36.2 +1.0
TOO                                IAmb   IAmb   17 34 39.3
     comp=Z,46nm,1.2s
HNR  Honiara            30.47 313  LR     LR     17 45 39.9
     comp=Z,2µm,19.0s,baz=169,slow=34
CMSA Cobar Meteorol     30.82 261  P      P      17 34 40.7 +1.5
     baz=31,SNR=120
PMOR Pomariorio Ree     32.22  65  eT     T      18 08 22.6
     comp=Z,2.9nm,0.3s
QLP  Quilpie            33.31 270  P      P      17 35 02.5 +1.4
     baz=33,SNR=13
ARPS Mount Arapiles     33.33 251  P      P      17 35 02.6 +1.4
     baz=33,SNR=21
CTA  Charters Tower     34.16 282  P      P      17 35 10.1 +1.6
     comp=Z,85nm,1.1s,baz=105,slow=12
CTAO Charters Tower     34.16 282  P      P      17 35 09.9 +1.4
CTAO                               pmax   pmax
     comp=Z,141nm,1.2s
CTAO Charters Tower     34.16 282  P      P      17 35 09.9 +1.4
STKA Stephens Creek     34.18 259  P      P      17 35 09.8 +1.2
     comp=Z,31nm,0.9s,baz=96,slow=10.0,SNR=42
STKA                               LR     LR     17 48 09.6
     comp=Z,2µm,19.0s,baz=105,slow=35
STKA Stephens Creek     34.18 259  P      P      17 35 10.2 +1.6
     baz=34,SNR=19
STKA Stephens Creek     34.18 259  P      P      17 35 09.5 +0.8
MTSU Mount Surprise     36.70 283  P      P      17 35 32.2 +1.8
     baz=37,SNR=31
BBOO Buckleboo          38.59 256  P      P      17 35 46.1 -0.1
     baz=39,SNR=42
BBOO Buckleboo          38.59 256  P      P      17 35 45.9 -0.4
BBOO                               IAmb   IAmb   17 35 47.3
     comp=Z,68nm,0.8s
XMAS Kiritimati         39.12  34  P      P      17 35 51.4 +0.6
XMAS                               IAmb   IAmb   17 36 34.7
     comp=Z,183nm,1.6s
PMG  Port Moresby       39.40 297⇑ eP     P      17 35 54.1 +0.9
PMG                                pmax   pmax
     comp=Z,34nm,1.3s
QIS  Mount Isa          39.52 276  P      P      17 35 54.7 +0.6
     baz=40,SNR=14
TAOE Nuku Hiva Isla     41.95  65  eLR    LR     17 47 41.6
     comp=Z,846nm,26.6s
AS31 Alice Springs      43.10 269  P      P      17 36 23.2 -0.4
ASAR Alice Springs      43.10 269  P      P      17 36 23.1 -0.5
     comp=Z,21nm,0.5s,baz=106,slow=7.3,SNR=260
ASAR                               LR     LR     17 54 24.0
     comp=Z,1µm,18.8s,baz=115,slow=36
ASAR Alice Springs      43.10 269  P      P      17 36 22.8 -0.8
WR0  Warramunga Arr     44.06 274  P      P      17 36 30.4 -0.9
WB2  Warramunga Arr     44.23 274  P      P      17 36 32.0 -0.6
WRAB Tennant Creek      44.23 274  P      P      17 36 32.2 -0.5
WRAB                               pmax   pmax
     comp=Z,102nm,1.0s
WRAB Tennant Creek      44.23 274  P      P      17 36 32.2 -0.5
WRA  Warramunga Arr     44.24 274  P      P      17 36 32.0 -0.8
     comp=Z,39nm,0.5s,baz=115,slow=7.5,SNR=234
WRA                                LR     LR     17 54 15.4
     comp=Z,2µm,18.6s,baz=105,slow=35
WRA  Warramunga Arr     44.24 274  P      P      17 36 31.1 -1.6
WB0  Warramunga Arr     44.27 274  P      P      17 36 32.4 -0.6
FORT Forrest            45.69 257  P      P      17 36 43.4 -0.7
     baz=46,SNR=53
FORT Forrest            45.69 257  P      P      17 36 42.7 -1.4
SBA  Scott Base         46.36 184  P      P      17 36 50.8 +2.0
SBA                                pmax   pmax
     comp=Z,50nm,1.1s
SBA  Scott Base         46.36 184  P      P      17 36 50.8 +2.0
SBA                                IAmb   IAmb   17 37 14.0
     comp=Z,50nm,1.1s
VNDA Vanda              46.42 186  P      P      17 36 51.9 +2.6
VNDA                               LR     LR     17 52 54.3
     comp=Z,3.9nm,0.8s,baz=6.5,slow=7.0,SNR=16
VNDA Vanda              46.42 186  P      P      17 36 49.6 +0.3
VNDA                               IAmb   IAmb   17 37 01.1
     comp=Z,31nm,1.5s
WRKA Warakurna          47.34 264  P      P      17 36 55.9 -1.4
     baz=47,SNR=45
GENI Genyem             49.09 298  P      P      17 37 10.1 -0.7
     comp=Z,3µmcomp=Z,124nm,0.9s
KDU  Kakadu             49.28 281  P      P      17 37 13.4 +1.2
     baz=49,SNR=9.6
MTN  Manton Dam         50.32 280  P      P      17 37 19.6 -0.5
     baz=50,SNR=8.7
MTN  Manton Dam         50.32 280  P      P      17 37 18.4 -1.7
KNRA Kununurra          50.90 276  P      P      17 37 24.4 -0.1
     baz=51,SNR=12
KNRA Kununurra          50.90 276  P      P      17 37 24.0 -0.6
KNRA                               IAmb   IAmb   17 37 25.3
     comp=Z,45nm,0.9s
CASY Casey              53.67 208  P      P      17 37 45.2 +0.8
KLBR Kellerberrin       53.87 252  P      P      17 37 44.9 -1.6
     baz=54,SNR=16
MEEK Meekatharra        54.87 258  P      P      17 37 52.1 -1.7
     baz=55,SNR=7.7
FAKI Fak Fak            54.99 291  P      P      17 37 54.1 -0.7
BYL  Byron's Ledge      55.63  26  P      P      17 37 58.3 -1.0
UWB  Uwekahuna B        55.64  26  P      P      17 37 59.0 -0.3
PSA00 Pilbara Seismi    55.84 264  P      P      17 37 58.9 -1.9
PSA00                              IAmb   IAmb   17 38 13.1
     comp=Z,42nm,1.5s
PSA00 Pilbara Seismi    55.84 264  P      P      17 37 58.2 -2.6
PSA00                              IAmb   IAmb   17 38 15.9
     comp=Z,13nm,1.1s
MORW Morawa             56.11 254  P      P      17 38 01.1 -1.6
     baz=56,SNR=5.5
MORW Morawa             56.11 254  P      P      17 38 01.0 -1.7
MORW                               IAmb   IAmb   17 38 21.4
     comp=Z,30nm,1.1s
KIP  Kipapa             56.53  22⇑ eP     P      17 38 04.4 -1.1
KIP                                pmax   pmax
     comp=Z,281nm,2.8s
SOEI Soe                57.66 279  P      P      17 38 14.2 +0.2
SOEI Soe                57.66 279  P      P      17 38 13.5 -0.5
     comp=Z,68nm,0.9s
QSPA South Pole Qui     58.02 180  P      P      17 38 17.2 +1.4
NLAI Namlea             58.92 287  P      P      17 38 21.6 -1.0
     comp=Z,44nm,1.6s
MMRI Maumere            59.95 279  P      P      17 38 27.9 -1.8
MIDW Midway             59.98   1  P      P      17 38 29.4 -0.1
SANI Sanana             60.51 288  P      P      17 38 32.4 -1.2
     comp=Z,62nm,1.3s
TNTI Ternate            61.09 291  P      P      17 38 34.8 -2.7
LUWI Luwuk              63.71 287  P      P      17 38 53.5 -1.5
KAPI Kappang            63.97 281  P      P      17 38 55.6 -1.2
     comp=Z,3.0nm,0.3s,baz=237,slow=3.1,SNR=6.2
KAPI Kappang            63.97 281  P      P      17 38 54.8 -1.9
KAPI                               IAmb   IAmb   17 39 23.6
     comp=Z,24nm,1.1s
BNSI Bone               64.01 282  P      P      17 38 55.9 -1.1
     comp=Z,28nm,1.4s
TWSI Taliwang, Sumb     64.40 276  P      P      17 38 57.3 -2.3
TTSI Tana Toraja        65.00 283  P      P      17 39 00.7 -2.8
TOLI2 Tolitoli          66.57 287  P      P      17 39 11.3 -2.3
TOLI2                              IAmb   IAmb   17 39 14.3
     comp=Z,23nm,0.8s
PMSA Palmer Station     70.70 155  P      P      17 39 39.7 +1.1
PMSA                               IAmb   IAmb   17 39 45.1
     comp=Z,29nm,1.2s
MAW  Mawson             70.75 201  P      P      17 39 39.8 +1.0
     comp=Z,3.9nm,0.5s,baz=136,slow=7.7,SNR=12
MAW                                LR     LR     18 12 24.2
     comp=Z,797nm,18.1s,baz=104,slow=37
MAW  Mawson             70.75 201  P      P      17 39 40.6 +1.8
     baz=71,SNR=27
MAW  Mawson             70.75 201  P      P      17 39 38.6 -0.2
LEM  Lembang            73.23 272  P      P      17 39 54.9  0.0
     comp=Z,13nm,0.7s,baz=101,slow=19,SNR=3.7
SYO  Syowa Base         75.48 193⇑ eP     P      17 40 06.8  0.0
SYO  Syowa Base         75.48 193⇓ ipP    P      17 40 08.4 +1.6
SNAA Sanae              76.47 178  P      P      17 40 13.9 +1.4
SNAA Sanae              76.47 178  P      P      17 40 13.4 +0.9
     comp=Z,19nm,1.0s,baz=192,slow=4.6,SNR=27
SNAA Sanae              76.47 178  P      P      17 40 12.6 +0.2
VNA3 Neumayer Olymp     76.62 176  P      P      17 40 14.5 +1.2
VNA1 Neumayer-Stat      77.28 176  P      P      17 40 18.5 +1.5
GO07 Milladeo Hill,     78.06 134  P      P      17 40 21.4 -0.5
JYT  Yasato             78.47 327  P      P      17 40 22.5 -1.4
JYT                                IAmb   IAmb   17 40 42.3
     comp=Z,25nm,0.9s
LL02 Futaleuf           79.13 134  P      P      17 40 29.2 +1.4
LL01 San Ignacio de     79.24 133  P      P      17 40 28.0 -0.3
LL01                               IAmb   IAmb   17 43 10.8
     comp=Z,44nm,1.5s
INU  Inuyama            79.30 324  P      P      17 40 26.5 -2.1
JGF  Kuroka             79.33 324  P      P      17 40 27.4 -1.4
H03S2 Juan Fernandez    79.49 123  T      T      19 09 20.9
     baz=236,slow=74,SNR=18
H03S1 Juan Fernandez    79.50 123  T      T      19 09 22.4
     baz=236,slow=74,SNR=18
H03S3 Juan Fernandez    79.51 123  T      T      19 09 12.1
     baz=236,slow=74,SNR=12
MJAR Matsushiro Arr     79.66 325  P      P      17 40 29.3 -1.2
     comp=Z,6.4nm,1.1s,baz=163,slow=5.5,SNR=13
MJAR                               LR     LR     18 10 41.8
     comp=Z,146nm,21.3s,baz=220,slow=32
MJAR Matsushiro Arr     79.66 325  P      P      17 40 29.1 -1.4
MAJO Matsushiro         79.66 325⇓ eP     P      17 40 29.5 -1.0
MAJO                               pmax   pmax
     comp=Z,16nm,1.3s
MAJO Matsushiro         79.66 325  P      P      17 40 28.9 -1.6
MAT  Matsushiro         79.66 325  P      P      17 40 29.0 -1.5
MAT                                S      S      17 50 34.2 +2.9
MJB9 Matsu-Tunnel       79.67 325  P      P      17 40 28.3 -2.3
H03N3 Juan Fernandez    79.69 123  T      T      19 09 22.4
     baz=240,slow=72,SNR=20
H03N2 Juan Fernandez    79.69 123  T      T      19 09 21.1
     baz=240,slow=72,SNR=12
H03N1 Juan Fernandez    79.71 123  T      T      19 09 30.4
     baz=240,slow=72,SNR=17
JWT  Wachi              80.06 323  P      P      17 40 31.5 -1.2
TPUB Ta-pu              80.49 305  P      P      17 40 34.8 -0.5
JSD  Sado               80.83 326  P      P      17 40 35.9 -0.9
JSD                                IAmb   IAmb   17 40 37.3
     comp=Z,49nm,1.6s
JNU  Nakatsue           80.86 319  P      P      17 40 36.4 -0.6
JNU                                IAmb   IAmb   17 41 27.8
     comp=Z,21nm,0.8s
JHS  Saijyo             81.04 321  P      P      17 40 36.5 -1.4
PLCA Paso Flores        81.32 133  P      P      17 40 42.6 +2.9
     comp=Z,7.2nm,1.0s,baz=225,slow=7.6,SNR=9.7
PLCA                               LR     LR     18 10 39.4
     comp=Z,456nm,18.8s,baz=238,slow=31
PLCA Paso Flores        81.32 133  P      P      17 40 38.8 -0.9
PLCA                               IAmb   IAmb   17 40 46.6
     comp=Z,51nm,1.5s
JTM  Tenmabayashi       81.81 330  P      P      17 40 41.6 -0.3
ERM  Erimo              81.97 332⇑ eP     P      17 40 44.8 +2.1
ERM                                pmax   pmax
     comp=Z,25nm,1.3s
ERM  Erimo              81.97 332  P      P      17 40 41.7 -1.0
ERM                                IAmb   IAmb   17 40 45.7
     comp=Z,29nm,1.2s
AMKA Amchitka           83.15 358  P      P      17 40 48.1 -0.4
JEW  Eniwo              83.36 331  P      P      17 40 49.4 -0.5
KIWB Kanaga Island      83.59   0  P      P      17 40 51.4 +0.5
ADK  Adak               83.62   1  P      P      17 40 51.1 +0.1
ADK                                pmax   pmax
     comp=Z,116nm,1.5s
ADK  Adak               83.62   1  P      P      17 40 51.1 +0.1
GO05 Huala              83.69 127  P      P      17 40 52.6 +0.4
JKA  Kamikawa-asahi     83.96 333  P      P      17 40 53.6 +0.7
JKA                                IAmb   IAmb   17 40 55.2
     comp=Z,26nm,1.0s
ASAJ Asahikawa          83.96 333  P      P      17 40 53.6 +0.7
ASAJ                               pmax   pmax
     comp=Z,26nm,1.0s
ATKA Atka Island        84.00   2  P      P      17 40 52.2 -0.7
BO02 Sierra Bellavi     84.59 128  P      P      17 40 57.5 +0.8
BO01 Tunca              84.62 127  P      P      17 40 57.3 +0.5
BO01                               IAmb   IAmb   17 41 03.6
     comp=Z,36nm,1.5s
MT01 Popeta             84.81 127  P      P      17 40 57.5 -0.3
NIKH Nikolski High      85.08   5  P      P      17 41 00.4 +2.1
     baz=188
SNCC San Nicolas Is     85.18  46  P      P      17 41 00.8 +1.4
     baz=226
TJN  Taejon             85.20 319⇓ eP     P      17 40 59.5 +0.1
SKR  Severo-Kuril's     85.55 344  eP     P      17 40 56.0 -4.7
SKR                                eS     SKSac  17 51 24.2 +0.1
SKR                                pmax   pmax
     comp=Z,100nm,8.1s
SKR                                pmax   pmax
     comp=Z,28nm,1.5s
SKR                                MLR    MLR
     comp=Z,300nm,14.0s
SKR                                MLR    MLR
     comp=Z,200nm,14.0s
KSRS Korea Array        85.67 320  P      P      17 41 01.5 -0.1
     comp=Z,4.3nm,0.8s,baz=140,slow=5.9,SNR=19
KSRS                               LR     LR     18 14 28.1
     comp=Z,159nm,21.7s,baz=126,slow=32
KSAR Wonju Array Be     85.68 320  P      P      17 41 00.6 -1.2
KSAR Wonju Array Be     85.68 320  P      P      17 41 00.6 -1.2
KS19 Wonju Array Si     85.73 320  P      P      17 41 01.0 -1.1
CIS  Catalina Islan     85.96  46  P      P      17 41 05.4 +2.1
     baz=227
GSI  Gunungsitoli       86.01 274  P      P      17 41 02.3 -1.8
GSI                                IAmb   IAmb   17 41 11.9
     comp=Z,27nm,0.8s
PKM  Mcpherson Peak     86.14  44  P      P      17 41 06.1 +1.7
     baz=226
YSS  Yuzh-Sakhalins     86.29 334  eP     P      17 41 05.5 +1.0
YSS                                e      17 41 13.0
YSS                                eS     S      17 51 40.4 +2.3
YSS                                eSS    SS     17 57 14.9 -3.8
YSS                                pmax   pmax
     comp=Z,40nm,0.8s
YSS                                pmax   pmax
     comp=Z,300nm,4.0s
YSS                                MLR    MLR
     comp=Z,400nm,20.0s
YSS                                MLR    MLR
     comp=N,300nm,18.0s
YSS                                MLR    MLR
     comp=E,200nm,16.0s
YSS  Yuzh-Sakhalins     86.29 334  P      P      17 41 04.3 -0.2
SMMC Simmler            86.32  44  P      P      17 41 06.7 +1.6
     baz=226
109C Camp Elliot, M     86.43  47  P      P      17 41 06.7 +1.1
     baz=228
PAGB Antelope Grade     86.46  44  P      P      17 41 06.3 +0.6
PMPB Monarch Peak       86.48  43  P      P      17 41 07.2 +1.4
PMPB                               IAmb   IAmb   17 41 44.5
     comp=Z,50nm,1.5s
SAO  San Andreas Ge     86.49  42  P      P      17 41 06.1 +0.3
SAO                                pmax   pmax
     comp=Z,13nm,1.1s
SAO  San Andreas Ge     86.49  42  P      P      17 41 06.1 +0.3
SAO                                IAmb   IAmb   17 41 22.9
     comp=Z,13nm,1.1s
OSI  Osito Audit: C     86.60  45  P      P      17 41 07.7 +1.2
     baz=227
MURC Murrieta           86.85  47  P      P      17 41 09.1 +1.4
     baz=228
ARVC Arvin              86.89  45  P      P      17 41 08.4 +0.6
     baz=227
IKP  In-Ko-Pah, Jac     86.90  48  P      P      17 41 08.5 +0.5
     baz=228
CO03 El Pedregal        86.95 125  P      P      17 41 09.0 +0.4
CO03                               IAmb   IAmb   17 41 15.2
     comp=Z,34nm,1.4s
BFSC Mount Baldy Ra     86.99  46  P      P      17 41 09.3 +0.8
     baz=227
HOPS Hopland Field      87.17  40  P      P      17 41 10.5 +1.4
HOPS                               IAmb   IAmb   17 41 24.5
     comp=Z,34nm,1.2s
PET  Petropavlovsk      87.18 346  deP    P      17 41 08.9 +0.2
PET                                pmax   pmax
     comp=Z,63nm,2.5s
PET  Petropavlovsk      87.18 346  P      P      17 41 08.0 -0.7
PET                                IAmb   IAmb   17 41 09.7
     comp=Z,17nm,0.8s
GDXM Geysers            87.19  40  P      P      17 41 10.3 +1.0
GDXM                               IAmb   IAmb   17 41 25.9
     comp=Z,42nm,1.8s
EDW2 Edwards Air Fo     87.22  45  P      P      17 41 10.8 +1.3
     baz=227
VES  Vestal, Richgr     87.22  44  P      P      17 41 10.5 +1.1
     baz=226
SWSC Sam W. Stewart     87.29  48  P      P      17 41 11.3 +1.5
     baz=229
TPFO Pinon Flats        87.31  47  P      P      17 41 11.3 +1.2
     baz=228
PFO  Pinyon Flats O     87.31  47  P      P      17 41 10.3 +0.3
PFO                                pmax   pmax
     comp=Z,23nm,1.4s
PFO  Pinyon Flats O     87.31  47  P      P      17 41 11.3 +1.2
     baz=228
PFO  Pinyon Flats O     87.31  47  P      P      17 41 10.3 +0.3
PFO                                IAmb   IAmb   17 41 25.0
     comp=Z,23nm,1.4s
NJ2  Nanjing            87.38 311  eP     P      17 41 11.9 +1.7
NJ2                                pmax   pmax
     comp=Z,14nm,0.5s
PEA0B Petropavlovsk-    87.46 346  cP     P      17 41 10.2 +0.1
PEA0B Petropavlovsk-    87.46 346  P      P      17 41 09.9 -0.2
PETK  Petropavlovsk-    87.46 346  P      P      17 41 10.2  0.0
     comp=Z,15nm,0.7s,baz=168,slow=8.8,SNR=50
PETK                               LR     LR     18 13 54.0
     comp=Z,215nm,21.7s,baz=171,slow=31
PETK  Petropavlovsk-    87.46 346  P      P      17 41 09.4 -0.7
FALS  False Pass        87.50   8  P      P      17 41 12.6 +2.5
     baz=192
MSHR  Mys Shultsa       87.77 325⇓ eP     P      17 41 12.7 +0.9
MSHR                               pmax   pmax
     comp=Z,30nm,1.3s
LRMC  Laurel Mtn Rad    87.81  45  P      P      17 41 14.0 +1.6
     baz=227,SNR=10
RRX  Edison Barstow     87.82  46  P      P      17 41 13.5 +1.2
     baz=228
VLA  Vladivostok        87.83 326⇓ eP     P      17 41 13.0 +0.9
VLA                                pmax   pmax
     comp=Z,19nm,0.7s
BELC  Belle Mtn. Jos    87.86  47  P      P      17 41 14.4 +1.7
     baz=228,SNR=9.7
BC3  Big Chuckawall     87.97  48  P      P      17 41 15.1 +1.9
     baz=229,SNR=9.9
GLA  Glamis             87.97  49  P      P      17 41 13.5 +0.4
GLA                                pmax   pmax
     comp=Z,46nm,1.5s
GLA  Glamis             87.97  49  P      P      17 41 15.1 +1.9
     baz=229
GLA  Glamis             87.97  49  P      P      17 41 13.5 +0.4
CMB  Columbia Colle     87.98  42  P      P      17 41 13.3 +0.2
CMB                                pmax   pmax
     comp=Z,17nm,1.2s
CMB  Columbia Colle     87.98  42  P      P      17 41 13.3 +0.2
CMB                                IAmb   IAmb   17 41 29.6
     comp=Z,17nm,1.1s
O02D  Mt. Diablo Mer    88.18  39  P      P      17 41 15.9 +1.9
     baz=224,SNR=8.7
HEC  Hector,Ludlow      88.20  46  P      P      17 41 15.5 +1.3
     baz=228,SNR=11
CWC  Cottonwood Cre     88.22  44  P      P      17 41 15.6 +1.2
     baz=227
GSC  Goldstone, Bar     88.22  46  P      P      17 41 14.3  0.0
GSC                                pmax   pmax
     comp=Z,34nm,1.4s
GSC  Goldstone, Bar     88.22  46  P      P      17 41 15.8 +1.4
     baz=228,SNR=7.8
GSC  Goldstone, Bar     88.22  46  P      P      17 41 14.3  0.0
GSC                                IAmb   IAmb   17 41 31.5
     comp=Z,34nm,1.4s
AFDM  Forest Hills D    88.30  41  P      P      17 41 14.7 +0.2
AFDM                               IAmb   IAmb   17 41 30.4
     comp=Z,10nm,1.1s
MPMC  Manual Prospec    88.32  45  P      P      17 41 16.3 +1.4
     baz=228,SNR=12
SDPT  Sand Point        88.37  10  P      P      17 41 17.0 +2.6
     baz=195
```

ORV Oroville 88.43 40 P **P** **17 41 14.0 -1.1**
ORV pmax pmax
comp=Z,45nm,2.0s
ORV Oroville 88.43 40 P **P** **17 41 14.0 -1.1**
ORV IAmb IAmb 17 41 31.6
comp=Z,44nm,1.9s
113A Mohawk Valley, 88.47 49 P **P** **17 41 16.1 +0.7**
113A IAmb IAmb 17 41 30.5
comp=Z,32nm,1.5s
IRM Iron Mountain 88.49 48 P **P** **17 41 17.5 +2.0**
baz=229,SNR=23
TIN Tinemaha, Big 88.55 44 P **P** **17 41 17.2 +1.4**
baz=227
214A Organ Pipe Nat 88.57 50 P **P** **17 41 17.2 +1.2**
baz=230
214A Organ Pipe Nat 88.57 50 P **P** **17 41 15.9 0.0**
GMRC Granite Mounta 88.58 47 P **P** **17 41 17.6 +1.5**
baz=229,SNR=8.4
WDC Whiskeytown Da 88.60 39 P **P** **17 41 14.7 -1.2**
WDC pmax pmax
comp=Z,12nm,1.1s
WDC Whiskeytown Da 88.60 39 P **P** **17 41 14.7 -1.2**
WDC IAmb IAmb 17 41 32.6
comp=Z,12nm,1.1s
USA0B Ussuriysk Arra 88.60 327 P **P** **17 41 15.7 0.0**
USA0B pmax pmax
comp=Z,38nm,1.1s
USA0B Ussuriysk Arra 88.60 327 P **P** **17 41 15.7 0.0**
USRK Ussuriysk Ar. 88.60 327 P **P** **17 41 15.9 +0.1**
comp=Z,14nm,0.8s,baz=136,slow=3.4,SNR=37
USRK LR LR 18 21 23.5
comp=Z,167nm,18.0s,baz=130,slow=36
USRK Ussuriysk Ar. 88.60 327 P **P** **17 41 15.6 -0.2**
O03E Paynes Creek 88.79 39 P **P** **17 41 17.6 +0.8**
baz=225
N02D Trinity Center 88.79 38 P **P** **17 41 17.9 +1.0**
baz=224
WAKR Walker 88.85 42 P **P** **17 41 18.3 +1.0**
TUQ Turquoise Moun 88.85 46 P **P** **17 41 18.9 +1.5**
baz=228,SNR=6.2
SHOC Shoshone, Teco 88.94 46 P **P** **17 41 19.5 +1.9**
baz=229
FURC Furnace Creek, 88.97 45 P **P** **17 41 19.8 +2.2**
baz=228
M02C Callahan 89.01 38 P **P** **17 41 19.8 +2.0**
baz=224
GRAC Grapevine Rang 89.02 44 P **P** **17 41 19.5 +1.5**
baz=228
PNTR Pine Nut 89.16 41 IAmb IAmb 17 41 38.4
comp=Z,14nm,0.9s
SPIA Saint Paul Isl 89.16 4 P **P** **17 41 21.0 +3.0**
baz=186
L02E Cave Junction 89.18 37 P **P** **17 41 21.0 +2.4**
baz=224
LHV Little Huntoon 89.21 43 P **P** **17 41 19.9 +1.2**
LHV IAmb IAmb 17 41 40.0
comp=Z,17nm,1.1s
PDMCI Parker Dam,Lak 89.22 48 P **P** **17 41 20.8 +1.9**
baz=230
YBH Yreka Blue Hor 89.33 38 IAmb IAmb 17 41 21.9
comp=Z,21nm,1.6s
NVAR Mina Array Bea 89.44 43 P **P** **17 41 21.2 +1.0**
comp=Z,5.3nm,1.0s,baz=221,slow=8.3,SNR=28
NVAR LR LR 18 16 24.3
comp=Z,592nm,18.8s,baz=246,slow=32
RYN Ryan 89.45 42 P **P** **17 41 20.4 +0.3**
K02D Willamette Mer 89.53 37 P **P** **17 41 22.5 +2.2**
baz=223
TYV Tymovskoe 89.62 336 *e*P **P** **17 41 21.4 +1.1**
TYV pmax pmax
comp=Z,200nm,3.9s
TYV pmax pmax
comp=Z,47nm,0.9s
TPNV Topopah Spring 89.66 45 P **P** **17 41 22.6 +1.5**
baz=228,SNR=11
TPNV Topopah Spring 89.66 45 IAmb IAmb 17 41 38.3
comp=Z,15nm,1.1s
PAHR Pah Rah Range 89.71 41 P **P** **17 41 20.4 -0.8**
Y14A Wickenburg 89.71 49 P **P** **17 41 21.1 -0.2**
Y14A IAmb IAmb 17 41 37.0
comp=Z,21nm,1.2s
J01E Myrtle Point 89.74 36 P **P** **17 41 23.5 +2.4**
baz=223
M04C Macdoel 89.82 38 P **P** **17 41 23.1 +1.3**
baz=225
L04D Klamath Falls 89.89 38 P **P** **17 41 23.6 +1.6**
baz=224
W13A Hualapai Mount 89.89 48 IAmb IAmb 17 41 38.1
comp=Z,17nm,1.1s
KVN Kaiserville 89.98 42 P **P** **17 41 22.1 -0.5**
KVN pmax pmax
comp=Z,13nm,1.2s
KVN Kaiserville 89.98 42 P **P** **17 41 22.1 -0.5**
MDJ Mudanjiang 90.05 326 P **P** **17 41 23.3 +0.8**
MDJ pmax pmax
comp=Z,38nm,1.1s
MDJ pmax pmax
comp=Z,250nm,4.6s
MDJ Mudanjiang 90.05 326 IAmb IAmb 17 41 24.2
comp=Z,33nm,1.0s
TUC Tucson 90.13 51 P **P** **17 41 24.0 +0.7**
TUC pmax pmax
comp=Z,17nm,1.2s
TUC Tucson 90.13 51 P **P** **17 41 25.2 +1.9**
baz=231
TUC Tucson 90.13 51 P **P** **17 41 24.0 +0.7**
TUC IAmb IAmb 17 41 39.5
comp=Z,17nm,1.1s
CHAI Chaiyaphum 90.18 289 P **P** **17 41 24.7 +0.9**
comp=Z,14nm,0.9s
AC02 Maricunga 90.41 122 IAmb IAmb 17 41 32.5
comp=Z,14nm,1.4s
I03D Drain, OR 90.42 36 P **P** **17 41 25.7 +1.5**
baz=224
NONG Nongkai 90.44 291 P **P** **17 41 25.8 +0.8**
comp=Z,90nm,0.8s
319A Douglas 90.56 53 P **P** **17 41 25.6 +0.2**
PRN Pahroc Range 90.68 45 P **P** **17 41 27.0 +1.2**
PRN IAmb IAmb 17 41 41.7
comp=Z,14nm,1.1s
J04D Umpqua Nationa 90.72 37 P **P** **17 41 27.5 +1.5**
baz=224
MOD Modoc Plateau 90.72 39 P **P** **17 41 25.9 -0.1**
MOD IAmb IAmb 17 41 42.4
comp=Z,13nm,1.2s
I04A Tendick Farm, 90.96 37 P **P** **17 41 28.7 +1.8**
baz=224
R11A Troy Canyon, C 90.98 44 P **P** **17 41 28.5 +1.2**
baz=229
K05A Summer Lake 90.99 38 P **P** **17 41 27.9 +0.6**
K05A IAmb IAmb 17 41 42.6
comp=Z,30nm,1.3s
X16A Lo Mia Camp, P 91.01 49 IAmb IAmb 17 41 43.6
comp=Z,17nm,1.0s
J05D Fort Rock, OR 91.20 38 P **P** **17 41 29.8 +1.6**
baz=225
H04D Lebanon 91.32 36 P **P** **17 41 30.5 +2.0**
baz=224
CN2 Changchun 91.52 323 *e*P **P** **17 41 28.0 -1.4**
CN2 *e*PP **PP** **17 45 09.4 +1.3**
CN2 SKS **SKSac** **17 52 00.2 0.0**
CN2 *e*SS **SS** **17 58 38.2 +3.3**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 LR LR
comp=Z,160nm,17.0s
CN2 LR LR
comp=Z,230nm,17.0s
CN2 LR LR
comp=Z,220nm,17.0s
LCMT Little Creek M 91.52 46 IAmb IAmb 17 41 47.1
comp=Z,10nm,0.9s
G03D McMinnville, O 91.55 35 P **P** **17 41 31.1 +1.6**
baz=224
H04A Detroit Lake 91.71 36 P **P** **17 41 29.8 -0.5**
H04A IAmb IAmb 17 41 44.3
comp=Z,22nm,1.2s
PINE Pine Mountain 91.71 37 IAmb IAmb 17 41 47.4
comp=Z,23nm,1.3s
U15A North Rim 91.74 47 IAmb IAmb 17 41 48.4
comp=Z,14nm,1.0s
WUAZ Wupatki 91.74 48 P **P** **17 41 32.5 +1.7**
baz=231
WUAZ Wupatki 91.74 48 IAmb IAmb 17 41 48.2
comp=Z,15nm,1.1s
KNB Kanab 91.78 47 P **P** **17 41 32.0 +1.0**
KNB pmax pmax
comp=Z,17nm,1.0s
KNB Kanab 91.78 47 P **P** **17 41 32.0 +1.0**
KNB IAmb IAmb 17 41 48.5
comp=Z,17nm,1.0s
GRNR Gornyy 91.81 333⇑*i*P **P** **17 41 31.2 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,140nm,13.0s
I05D Terrebonne, OR 91.89 37 P **P** **17 41 32.6 +1.5**
baz=225
WVOR Wild Horse Val 91.99 40 P **P** **17 41 31.7 -0.1**
WVOR pmax pmax
comp=Z,13nm,1.4s
WVOR Wild Horse Val 91.99 40 P **P** **17 41 31.7 -0.1**
WVOR IAmb IAmb 17 41 38.0
comp=Z,13nm,1.4s
SZCU Shurtz Canyon 91.99 46 IAmb IAmb 17 41 46.3
comp=Z,14nm,1.5s
X18A Snowflake 92.05 50 IAmb IAmb 17 41 49.8
comp=Z,10.0nm,1.1s
PSUT Pine Spring 92.13 45 P **P** **17 41 33.2 +0.5**
121A Cookes Peak, D 92.27 53 P **P** **17 41 34.4 +1.0**
baz=233
PKCU Pink Cliffs 92.37 47 IAmb IAmb 17 41 52.4
comp=Z,14nm,1.0s
GYA Guiyang 92.44 300⇓P **P** **17 41 35.2 +1.0**
KLR Kul'dur 92.52 330*c i*P **P** **17 41 33.9 0.0**
KLR pmax pmax
comp=Z,18nm,0.9s
G05D Wamic, OR 92.54 36 P **P** **17 41 36.2 +2.1**
baz=225
W18A Petrified Fore 92.55 50 P **P** **17 41 36.2 +1.6**
baz=232
W18A Petrified Fore 92.55 50 IAmb IAmb 17 41 50.2
comp=Z,16nm,1.1s
ENH Enshi 92.60 304 P **P** **17 41 34.8 0.0**
J08A Circle Bar Ran 92.70 39 P **P** **17 41 35.3 +0.2**
J08A IAmb IAmb 17 41 51.6
comp=Z,11nm,1.1s
MTPU Mount Pierson 92.82 46 IAmb IAmb 17 41 53.9
comp=Z,10nm,1.0s
E04D Cinebar 92.86 35 P **P** **17 41 37.0 +1.5**
baz=224
MSU Marysvale 93.13 46 P **P** **17 41 38.0 +0.7**
MSU Marysvale 93.13 46 P **P** **17 41 38.0 +0.7**
D04E Lakebay 93.20 34 P **P** **17 41 39.1 +2.0**
baz=224
TX32 Lajitas Array 93.26 57 P **P** **17 41 38.2 +0.2**
TX32 IAmb IAmb 17 41 52.3
comp=Z,10nm,1.4s
TXAR Lajitas Array 93.26 57 P **P** **17 41 38.9 +1.0**
comp=Z,2.6nm,1.2s,baz=205,slow=5.5,SNR=11
TXAR PKKPbc **PKKPbc** **17 58 47.3 +1.6**
comp=Z,1.0nm,1.0s,baz=98,slow=6.4,SNR=4.2
TXAR LR LR 18 16 48.3
comp=Z,196nm,19.3s,baz=0.0,slow=31
TXAR Lajitas Array 93.26 57 P **P** **17 41 39.1 +1.2**
TXAR Lajitas Array 93.26 57 P **P** **17 41 39.1 +1.2**
MNTX Cornudas Mount 93.42 55 P **P** **17 41 38.5 0.0**
baz=234
G08A Pilot Rock 93.77 37 P **P** **17 41 40.0 +0.1**
G08A IAmb IAmb 17 41 58.6
comp=Z,11nm,1.1s
DUG Dugway, Tooele 93.81 44 P **P** **17 41 42.2 +1.9**
baz=230
CMAR Chiang Mai Arr 94.01 289 P **P** **17 41 40.7 -0.8**
comp=Z,1.2nm,0.8s,baz=148,slow=3.4,SNR=8.2
CMAR PP **PP** **17 45 29.2 +1.2**
comp=Z,2.0nm,1.0s,baz=121,slow=5.9,SNR=6.4
CMAR Chiang Mai Arr 94.01 289*ce*P **P** **17 41 41.2 -0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
SRU San Rafael Swe 94.51 46 P **P** **17 41 43.7 +0.1**
SRU pmax pmax
comp=Z,7.0nm,1.0s
SRU San Rafael Swe 94.51 46 P **P** **17 41 43.7 +0.1**
ANMO Albuquerque 94.59 51⇑*e*P **P** **17 41 45.9 +1.8**
ANMO pmax pmax
comp=Z,5.0nm,1.4s
ANMO Albuquerque 94.59 51 P **P** **17 41 44.7 +0.7**
baz=234
ANMO Albuquerque 94.59 51 P **P** **17 41 43.5 -0.5**
KMI Kunming 94.63 297⇓P **P** **17 41 45.8 +1.3**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KMI LR LR
comp=Z,200nm,44.4s
HVU Hansel Valley 94.84 43 IAmb IAmb 17 42 01.4
comp=Z,8.5nm,1.1s
XAN Xi'an 95.17 307 P **P** **17 41 48.8 +2.2**
XAN pP pP 17 41 52.2 -0.5
XAN SKS **SKSac** **17 52 26.1 +5.2**
XAN pmax pmax
comp=Z,6.0nm,1.4s
XAN LR LR
comp=Z,140nm,18.4s
XAN LR LR
comp=Z,230nm,16.3s
XAN LR LR
comp=Z,260nm,18.4s
RC01 Rabbit Creek A 95.66 13 P **P** **17 41 50.7 +2.6**
baz=204
SUA Susitna One 95.81 13 P **P** **17 41 51.1 +2.2**
baz=203
PMR Palmer 96.24 13 P **P** **17 41 51.8 +1.2**
baz=204
TTA Tatalina 96.31 10 P **P** **17 41 53.4 +2.3**
baz=199
CD2 Chengdu 97.03 302 P Pdif 17 41 55.7 +0.5
CD2 LR LR
comp=Z,250nm,19.0s
CD2 LR LR
comp=Z,320nm,17.5s
CD2 LR LR
comp=Z,280nm,20.0s
PDAR Pinedale Array 97.32 44 P Pdif 17 41 56.9 +0.5
comp=Z,0.9nm,1.0s,baz=202,slow=2.4,SNR=5.9
PDAR PKKPbc **PKKPbc** **17 58 32.5 -3.1**
comp=Z,0.8nm,0.7s,baz=85,slow=5.5,SNR=9.0
PDAR LR LR 18 21 36.4
comp=Z,335nm,18.7s,baz=236,slow=33
PDAR Pinedale Array 97.32 44 PKKPdf PKKPdf 17 58 31.9 -6.3
LPAZ La Paz 97.40 114 LR LR 18 19 42.4
comp=Z,164nm,18.9s,baz=298,slow=32
HHC Hu-ho-hao-te 97.44 314 *e*P Pdif 17 41 58.1 +1.2
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,94nm,5.4s
SEY Seymchan 97.63 347*de*P Pdif 17 41 57.0 0.0
ZEA Zeya 97.75 331 *e*P Pdif 17 41 57.5 -0.2
ZEA *e* 17 54 54.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
YHH Holmes Hill 97.81 41 P Pdif 17 41 59.4 +0.8
BOZ Bozeman (W) 97.88 40 P Pdif 17 41 58.6 -0.1
BOZ pmax pmax
comp=Z,8.0nm,1.6s
BOZ Bozeman (W) 97.88 40 P Pdif 17 41 59.5 +0.8
baz=232
BOZ Bozeman (W) 97.88 40 P Pdif 17 41 58.6 -0.1
BOZ IAmb IAmb 17 42 01.4
comp=Z,8.3nm,1.6s
CPUP Villa Florida 98.89 129 LR LR 18 24 29.7
comp=Z,208nm,18.1s,baz=220,slow=34
L27K Beaver Creek, 99.11 16 P **Pdif** **17 42 06.5 +2.8**
baz=210
SCRK Sand Creek 99.44 14 P **Pdif** **17 42 06.8 +1.6**
baz=209
COLA College 99.47 13⇑*e*P **Pdif** **17 42 05.5 +0.4**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 99.56 13 P **Pdif** **17 42 05.2 -0.3**
comp=Z,0.9nm,1.0s,baz=235,slow=5.3,SNR=5.4
ILAR PP **PP** **17 46 06.5 -3.5**
comp=Z,1.0nm,1.0s,baz=212,slow=7.6,SNR=4.6
EGAK Eagle 100.75 15 P **Pdif** **17 42 12.6 +1.8**
baz=211
MIAR Mount Ida 103.28 58 P **Pdif** **17 42 24.3 +1.4**
baz=240
WMQ Urumqi 114.31 308 *e*PKP **PKiKP** **17 47 03.1 +0.5**
DGZ Jazzator, Alta 116.53 314⇑*i*PKIKP **PKiKP** **17 47 07.1 +0.3**
MKAR Makanchi Array 118.89 309 PKP **PKPdf** **17 47 10.5 -0.8**
comp=Z,3.6nm,0.9s,baz=64,slow=2.8,SNR=21
MKAR PKKPbc **PKKPab** **17 57 29.7 +2.8**
comp=Z,0.5nm,0.7s,baz=336,slow=2.7,SNR=4.0
MKAR Makanchi Array 118.89 309*c i*PKIKP **PKPdf** **17 47 10.8 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 118.89 309 PKPdf **PKPdf** **17 47 10.1 -1.1**
ZALV Zalesovo Beam 119.32 318 PKP **PKPdf** **17 47 10.7 -1.0**
comp=Z,2.2nm,0.6s,baz=318,slow=0.5,SNR=7.3
ZALV Zalesovo Beam 119.32 318 PKPdf **PKPdf** **17 47 10.4 -1.4**
NRIK Noril'sk 121.20 336⇑*i*PKIKP **PKiKP** **17 47 16.2 +1.1**
NRIK Noril'sk 121.20 336 **PKiKP** **17 47 15.9 +0.8**
G60A Masonville 122.34 54 P **PKiKP** **17 47 18.6 +0.5**
baz=255
D58A Chemin du LacG 122.46 51 P **PKiKP** **17 47 19.2 +0.9**
baz=256
J63A Strafford 122.75 56 P **PKiKP** **17 47 19.6 +0.7**
baz=255
AAK Ala-Archa 123.08 303 PKP **PKiKP** **17 47 20.1 +0.3**
comp=Z,3.1nm,0.5s,baz=153,slow=1.4,SNR=4.9
AAK Ala-Archa 123.08 303*d i*PKIKP **PKiKP** **17 47 19.9 +0.1**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 123.08 303 **PKPdf** **17 47 17.9 -1.7**
I63A Otisfield 123.30 55 P **PKiKP** **17 47 20.8 +0.8**
baz=256
E62A Clayton Lake 124.60 53 P **PKiKP** **17 47 22.9 +0.4**
baz=258
F63A Nahmakanta, Br 124.70 54 P **PKiKP** **17 47 22.9 +0.1**
baz=258
G64A Maxfield 124.84 54 P **PKPdf** **17 47 22.6 -0.1**
baz=258
KBL Kabul 124.92 292 PKIKP **PKPdf** **17 47 23.2 -0.3**
KBL Kabul 124.92 292 **PKPdf** **17 47 23.2 -0.3**
D62A Allapoint, All 125.02 52 P **PKPdf** **17 47 22.8 -0.1**
baz=259
H65A Eastbrook 125.07 55 P **PKiKP** **17 47 23.6 +0.1**
baz=258
F64A Sherman 125.25 54 P **PKPdf** **17 47 23.2 -0.2**
baz=258
E63A Oxbow 125.31 53 P **PKiKP** **17 47 23.8 -0.1**
baz=258
D63A Stockholm 125.64 52 P **PKiKP** **17 47 24.4 -0.1**
baz=259
G65A Princeton 125.65 55 P **PKiKP** **17 47 24.8 +0.2**
baz=258
KK31 Karatay Array 126.04 303 PKIKP **PKPdf** **17 47 24.1 -1.0**
KK31 Karatay Array 126.04 303 **PKPdf** **17 47 24.1 -1.0**
KKAR Karatay Array 126.04 303 PKIKP **PKPdf** **17 47 24.3 -0.8**
KKAR Karatay Array 126.04 303 **PKPdf** **17 47 24.3 -0.8**
BRVK Borovoye 127.71 315*d i*PKIKP **PKiKP** **17 47 28.1 -0.4**
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 127.71 315 **PKPdf** **17 47 27.6 -0.3**
KBS Kingsbay 132.88 357 *e*PKPdf **PKPdf** **17 47 37.4 +0.3**
KMBO Kilima Mbogo 133.09 232 SKP 17 51 10.9
comp=Z,8.4nm,0.8s,baz=81,slow=3.3,SNR=20
KMBO Kilima Mbogo 133.09 232 *i* PKIKP **PKiKP** **17 47 41.9 +1.0**
KMBO pmax pmax
comp=Z,4.0nm,0.2s
SVE Sverdlovsk 133.23 320 *e*PKIKP **PKiKP** **17 47 38.7 -0.8**
HOPEN Hopen 134.22 353 *ep*PKPdf **PKiKP** **17 47 40.6 -0.3**
GEYT Alibeck 134.30 294 PKP **PKPdf** **17 47 40.8 -0.1**
comp=Z,58nm,0.5s,baz=117,slow=24,SNR=2.9
GEYT SKP 17 51 12.9
comp=Z,6.5nm,0.9s,baz=234,slow=8.9,SNR=7.2
ARU Arti 134.42 320 *i* PKIKP **PKiKP** **17 47 41.2 -0.7**
ARU 17 50 10.4
ARU Arti 134.42 320 **PKPdf** **17 47 40.2 -0.2**
MBAR Mbarara 137.66 225⇑*i*PKIKP **PKiKP** **17 47 51.5 +1.4**
KIRV Kirov 138.73 324⇑*i*PKIKP **PKiKP** **17 47 52.1 +1.6**
PRGR Permogore 139.31 330 *e*PKIKP **PKPdf** **17 47 47.7 -1.7**
PRGR pmax pmax
comp=Z,20nm,0.9s
HAMF Hammerfest 139.60 349 *ep*PKPdf **PKPdf** **17 47 50.5 +0.9**
ARCES ARCESS Array B 140.25 347 PKhKP PKPpre 17 47 45.0
comp=Z,7.7nm,0.9s,baz=63,slow=2.5,SNR=15
RAYN Ar Rayn 140.85 269 PKIKP **PKPdf** **17 47 52.9 -0.6**
RAYN Ar Rayn 140.85 269 **PKPdf** **17 47 52.9 -0.6**
KLMR Klimovskoe 142.27 331 *e*PKHKP PKPpre 17 47 47.4
KLMR pmax pmax
comp=Z,21nm,1.1s
KLMR Klimovskoe 142.27 331 *e*PKPdf **PKPdf** **17 47 47.4 -7.3**
KLMR AMP 17 48 02.2
comp=Z,21nm,1.1s
KLMR *e*SKP 17 51 32.7
KLMR *e* 17 53 21.0
STEI Steigen 143.31 352 *e*PKPdf **PKPdf** **17 47 56.5 +0.1**
LOF Lofoten 143.31 353 *e*PKPdf **PKPdf** **17 47 56.5 +0.1**
FAUS Fauske 143.82 351 *e*PKPdf **PKPdf** **17 47 57.0 -0.3**
GROC Groznyy 144.01 301 *e*PKIKP PKPbc 17 47 56.2 -0.1
GROC *e* 17 55 06.4
GROC pmax pmax
comp=Z,29nm,0.7s
NBB30 Finnes 144.40 352 *e*PKPdf **PKPdf** **17 47 58.3 0.0**
NBB15 Halsa Church 144.64 352 *e*PKPdf **PKPdf** **17 47 58.7 -0.1**
NBB13 Alf Garage 144.78 352 *e*PKPab PKPbc 17 47 58.0 0.0
GNI Garni 144.87 295⇑*e*PKIKP **PKPdf** **17 48 00.2 0.0**
GNI pmax pmax
comp=Z,42nm,1.3s
KONS Konsvik 144.93 352 *e*PKPbc PKPbc 17 47 58.3 -0.2
MOR8 Moi Rana 145.08 351 *e*PKPab **PKPbc** **17 47 58.5 -0.5**
STOK Stokkvaagen 145.10 352 *e*PKPbc **PKPbc** **17 47 58.5 -0.6**
VRH Novokhopyorsk 145.29 315 *e*PKIKP **PKPbc** **17 47 59.5 -0.6**
VRH pmax pmax
comp=Z,30nm,0.7s
ZEI Tsey 145.42 300 *i* PKP2 **PKPbc** **17 48 00.0 -1.1**
ZEI pmax pmax
comp=Z,53nm,1.3s
MOS Moscow 145.75 324 *i* PKP2 **PKPdf** **17 48 00.5 -0.5**
MOS *e* 17 51 20.0
MOS pmax pmax
comp=Z,301nm,0.9s
ONI Oni 145.77 300 PKP2 **PKPbc** **17 48 02.0 -0.1**
ONI Oni 145.77 300 **PKPbc** **17 48 02.0 -0.1**
GOF Gofitskoye 145.81 304⇑*i*PKP2 **PKPab** **17 48 02.3 -0.1**
GOF pmax pmax
comp=Z,190nm,1.3s
KBZ Khabaz 146.07 302 PKPbc **PKPbc** **17 48 02.9 +0.1**
comp=Z,38nm,1.0s,baz=84,slow=2.3,SNR=49
KBZ Khabaz 146.07 302*ce*PKP2 **PKPbc** **17 48 02.5 -0.3**
KARS Kars 146.14 296 PKIKP **PKPdf** **17 48 01.9 -0.5**
KARS Kars 146.14 296 **PKPdf** **17 48 01.9 -0.5**
KIV Kislovodsk 146.20 302 ⇑P **PKPbc** **17 48 03.1 -0.3**
KIV Kislovodsk 146.20 302 *i* PKP2 **PKPbc** **17 48 03.1 -0.3**
KIV pmax pmax
comp=Z,133nm,1.1s
KIV Kislovodsk 146.20 302 **PKPdf** **17 48 02.2 0.0**
LPSR Galich'ya Gora 146.43 319 *e*PKP2 **PKPbc** **17 48 03.6 0.0**
LPSR pmax pmax
comp=Z,300nm,0.8s
PUL Pulkovo 146.55 334*de*PKP2 **PKPab** **17 48 04.1 -0.6**
PUL pmax pmax
comp=Z,451nm,1.3s
OBN Obninsk 146.58 324 ⇑P **PKPbc** **17 48 04.0 +0.1**
OBN Obninsk 146.58 324 ⇑PKP2 **PKPbc** **17 48 04.0 +0.1**
OBN Obninsk 146.58 324 **PKPdf** **17 48 02.6 +0.3**
VORR Voronezh 146.62 317 *e*PKIKP **PKPdf** **17 48 02.0 -0.6**
VORR pmax pmax
comp=Z,350nm,1.2s
FINES FINESS Array B 146.75 339 PKP **PKPdf** **17 48 02.5 +0.1**
comp=Z,48nm,0.7s,baz=54,slow=2.4,SNR=57
FINES PKPbc **PKPbc** **17 48 04.2 0.0**
comp=Z,48nm,0.7s,baz=59,slow=2.9,SNR=138
CHVG Ch'k'valeri 146.76 300 ⇑P **PKPbc** **17 48 05.3 +0.3**
CHVG Ch'k'valeri 146.76 300 ⇑PKP2 **PKPbc** **17 48 05.3 +0.3**
VSR Storozhevoye 146.81 316 *e*PKP2 **PKPbc** **17 48 04.7 0.0**
VSR pmax pmax
comp=Z,230nm,1.0s
VORD Divnogorie 146.82 316 *e*PKP2 **PKPbc** **17 48 04.7 -0.1**
VORD pmax pmax
comp=Z,150nm,0.9s
MEF Metsahovi 148.22 339 *e*P **PKiKP** **17 48 09.1 -0.9**
RAF Rauma 148.31 342 *e*P **PKPbc** **17 48 06.8 -1.7**
SOC Sochi 148.38 302*ce*PKHKP PKPpre 17 48 02.6
SOC *i* 17 48 09.0
SOC *e* 17 51 35.0
SOC *e*PPP PPP 17 54 55.7
SOC MLR MLR
comp=Z,119nm,22.0s
KTUT Trabzon 148.63 297 ⇑P **PKPbc** **17 48 10.3 +0.3**
VSU Vasula 148.78 335 *e*P **PKiKP** **17 48 10.3 -0.8**
VSU Vasula 148.78 335*ce*PKP2 **PKPbc** **17 48 09.8 0.0**
AAL Aland 149.50 342 *e*P **PKiKP** **17 48 11.9 -0.7**
MTSE Matsula 149.59 338 *e*P **PKiKP** **17 48 12.3 -0.5**
DOMB Dombas 149.70 353 *e*PKPdf **PKPdf** **17 48 06.9 -0.5**

AKN Aaknes 149.73 355 *e*PKPdf **PKPdf 17 48 06.9 -0.5**
UPP Uppsala 150.36 344 *e*P **PKiKP 17 48 15.3 +0.9**
NB2 NORSAR Subarra150.43 351 PKP **PKiKP 17 48 14.2 -0.4**
comp=Z,42nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra150.43 351 PKPab **PKiKP 17 48 14.2 -0.4**
baz=17,slow=2.6
NOA NORSAR Array B150.43 351 PKP **PKPdf 17 48 07.9 -0.6**
comp=Z,0.7nm,0.9s,baz=132,slow=4.2,SNR=3.0
NOA PKPbc **PKPbc 17 48 13.6 -0.3**
comp=Z,8.4nm,0.7s,baz=14,slow=4.1,SNR=39
NAO01 NORSAR Array S 150.66 351 *e*PKPbc **PKPbc 17 48 14.5 +0.1**
NC602 NORSAR Array S 150.68 350 *e*PKPbc **PKPbc 17 48 14.3 -0.1**
NC602 NORSAR Array S 150.68 350 **PKPbc 17 48 13.5 -0.9**
SLIT Slitere, Latvi 150.95 337 *e*P **PKPab 17 48 21.0 -1.5**
IDID Didziasalis 151.01 330 *e*P **PKiKP 17 48 16.7 +0.8**
MNK Minsk 151.06 328 *i*PKIKP **PKPdf 17 48 10.1 +0.4**
MNK *i* 17 55 18.0
MNK *i*SS SS 18 11 12.7 -1.4
MNK *i*SSS SSS 18 17 00.2
MNK pmax pmax
comp=Z,41nm,1.0s
MNK pmax pmax
comp=N,17nm,1.0s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK Minsk 151.06 328 *i*PKP **PKPdf 17 48 10.2 +0.5**
comp=E,3.0nm,1.0s
MNK *i*PKP **PKPdf 17 48 10.2 +0.5**
comp=N,17nm,1.0s
MNK *i*PKP **PKPdf 17 48 10.2 +0.5**
comp=Z,41nm,1.0s,baz=230
MNK *i*SKP 17 51 06.3
MNK *i*PKS PKSdf 17 51 22.0 -22
MNK *i*PP PP 17 51 40.4 -13
MNK *i*PPP PPP 17 54 55.2
MNK *i*SKS **SKSdf 17 55 18.0 +2.5**
MNK *i*SKKS 18 02 16.2
MNK *i*SS **SS 18 11 12.8 -1.3**
MNK *i*SSS SSS 18 17 00.2
MNK *i*LQ LQ 18 46 06.4
MNK *i*LR LR 18 59 49.8
ISAL Salakas 151.09 331 *e*P **PKiKP 17 48 16.7 +0.6**
SKAR Skarslia 151.11 354 *e*PKPbc **PKPbc 17 48 15.5 0.0**
IIGN Ignalina 151.20 331 *e*P **PKiKP 17 48 16.9 +0.6**
GHAJ Ghor Haditha 151.54 277 **PKPbc 17 48 17.2 -0.1**
OSL Oslo 151.56 351 *e*pPKPbc **PKiKP 17 48 17.1 +0.2**
BER Bergen 151.62 357 *e*PKPdf **PKPdf 17 48 10.0 -0.3**
DIKM Dikmen 151.93 299 ⇓P **PKiKP 17 48 18.6 +0.3**
KONO Kongsberg 151.98 352 PKIKP **PKiKP 17 48 17.5 -0.3**
KONO Kongsberg 151.98 352 *e*PKPbc **PKiKP 17 48 17.7 -0.1**
KONO Kongsberg 151.98 352 **PKiKP 17 48 17.5 -0.3**
PABE Paberze 151.99 333 *e*P **PKiKP 17 48 18.5 +0.6**
PABE Paberze 151.99 333 PKPdf **PKPdf 17 48 09.4 -1.6**
PABE **PKPbc 17 48 17.4 -0.1**
SIM Simferopol' 152.02 307 *c i*PKIKP **PKiKP 17 48 18.2 -0.2**
SIM *e* 17 48 35.0
SIM pmax pmax
comp=Z,27nm,0.6s
PBUR Paburge 152.34 336 *e*P **PKiKP 17 48 19.2 +0.6**
STRU Stroemstad 152.36 350 *i*P **PKiKP 17 48 18.5 -0.1**
AKASG Malin Array Be 152.66 321 PKPbc **PKPbc 17 48 19.0 -0.2**
comp=Z,26nm,0.9s,baz=53,slow=2.7,SNR=29
AKASG PKPab **PKPab 17 48 29.3 -0.7**
comp=Z,15nm,0.7s,baz=46,slow=4.8,SNR=10
SUW Suwalki 153.40 332 *e*PKPbc **PKiKP 17 48 20.8 -0.1**
SUW *e*PKPab **PKPab 17 48 32.3 -0.7**
SUW Suwalki 153.40 332 *e*P **PKiKP 17 48 21.6 +0.7**
BRTR Keskin Array B 153.41 296 PKP **PKPdf 17 48 12.7 -1.2**
comp=Z,0.5nm,0.8s,baz=144,slow=5.4,SNR=4.4
BRTR PKPbc **PKPbc 17 48 20.7 -0.8**
comp=Z,12nm,1.0s,baz=132,slow=3.5,SNR=41
BRTR PKPab **PKPab 17 48 33.4 -0.4**
comp=Z,14nm,0.8s,baz=132,slow=3.7,SNR=15
BRTR Keskin Array B 153.41 296 **PKPdf 17 48 12.4 -1.5**
BRTR **pPKPdf 17 48 20.6 +0.5**
BRTR PKPab **PKPab 17 48 33.4 -0.4**
LIC Lamto 153.42 164 *e*P **PKPab 17 48 33.3 -0.8**
comp=Z,68nm,1.1s
HOMB Homborsund 153.46 352 *i*P **PKiKP 17 48 21.9 +1.1**
HOMB IAmb IAmb 17 48 23.9
comp=Z,34nm,1.0s
KIC Kosan Boka 153.62 165 *e*P **PKPab 17 48 34.7 -0.2**
comp=Z,16nm,0.7s
ONAU Onsala 153.81 348 *i*P **PKiKP 17 48 22.4 +0.8**
TIC Toumodi 153.83 164 *e*P **PKPab 17 48 35.2 -0.6**
BLEU Blekinge 153.96 342 *i*P **PKiKP 17 48 21.8 -0.2**
BLEU *i* 17 48 34.2
FABU Falkenberg 154.03 347 *i*P **PKiKP 17 48 22.8 +0.7**
FABU *i* 17 48 34.6
ANTO Ankara 154.04 296 PKIKP **PKPbc 17 48 22.6 -0.2**
ANTO Ankara 154.04 296 PKPdf **PKPdf 17 48 13.5 -1.1**
ANTO **PKPbc 17 48 22.6 -0.2**
DEL Delary 154.28 345 *i*P **PKiKP 17 48 24.0 +1.3**
SORM Soroca 154.47 316 ⇓P **PKiKP 17 48 23.3 0.0**
SORM Soroca 154.47 316 ⇓PKIKP **PKiKP 17 48 23.3 0.0**
BJUU Bjuv 154.83 345 *i*P **PKiKP 17 48 25.5 +1.7**
BSD Bornholm Skovb 155.26 342 *e*P **PKPab 17 48 40.1 -0.7**
BSD Bornholm Skovb 155.26 342 *e*PKP **PKPdf 17 48 21.1 +5.4**
BSD Bornholm Skovb 155.26 342 *e*PKIKP **PKPdf 17 48 21.1 +5.4**
LVV L'vov 155.88 324 *e*PKP2 **PKPab 17 48 42.7 -1.0**
CFR Carcaliu 155.93 310 ⇑P **PKPab 17 48 43.7 -0.3**
CFR Carcaliu 155.93 310 ⇑PKP2 **PKPab 17 48 43.7 -0.3**
BEL Belsk 155.98 331 *e*PKPab **PKPab 17 48 44.0 0.0**
GKP Gorka Klasztor 156.17 337 *e*PKPab **PKPab 17 48 44.7 -0.1**
HARR Harsova 156.25 309 ⇑P **PKPab 17 48 45.9 +0.4**
HARR Harsova 156.25 309 ⇑PKP2 **PKPab 17 48 45.9 +0.4**
TESR Tescani 156.27 314 ⇑P **PKPab 17 48 38.2 -7.4**
VRI Vrincioaia 156.52 313 ⇓P **PKPab 17 48 47.7 +1.1**
VRI Vrincioaia 156.52 313 ⇓PKP2 **PKPab 17 48 47.7 +1.1**
BURAR Bucovina Array 156.54 318 ⇓P **PKPab 17 48 47.1 +0.3**
PLOR Plostina 156.58 313 ⇓P **PKPab 17 48 44.3 -2.6**
PLOR Plostina 156.58 313 ⇓PKP2 **PKPab 17 48 44.3 -2.6**
KWP Kalwaria Pacla 156.66 325 *e*PKPab **PKPab 17 48 47.1 +0.1**
MLR Muntele Rosu 157.18 313 ⇓P **PKPab 17 48 46.1 -3.5**
MLR Muntele Rosu 157.18 313 ⇓PKP2 **PKPab 17 48 46.1 -3.5**
DOPR Dopca 157.30 314 ⇑P **PKPab 17 48 50.4 +0.4**
KOLS Kolonicke sedl 157.33 324 *e*PKP2 **PKPab 17 48 49.5 -0.5**
BSEG Bad Segeberg 157.38 347 *e*PKPab **PKPab 17 48 50.2 +0.2**
baz=25,slow=4.4
UZH Uzhgorod 157.52 323 *c i*PKP2 **PKPab 17 48 49.9 -0.9**
OJC Ojcow 157.60 329 *e*PKPab **PKPab 17 48 50.9 -0.2**
OJC Ojcow 157.60 329 PKP2 **PKPab 17 48 49.1 -2.0**
OJC 18 48 17.5
OJC Ojcow 157.60 329 PKPdf **PKPdf 17 48 17.5 -1.5**
OJC PKPab **PKPab 17 48 49.1 -2.0**
CRVS Cervenica-Dubn 157.75 325 *e*PKP2 **PKPab 17 48 52.3 +0.5**
VOIR 157.76 313 ⇓P **PKPab 17 48 49.8 -2.3**
VOIR 157.76 313 ⇓PKP2 **PKPab 17 48 49.8 -2.3**
RUE Ruedersdorf 157.91 341 *e*PKPab **PKPab 17 48 52.1 -0.2**
baz=25,slow=4.4
NIE Niedzica 157.95 327 *e*PKPab **PKPab 17 48 53.1 +0.4**
CBBR Cluj-Babes-Bol 157.96 318 ⇓P PKPab 17 48 39.1 -14
CJR Cluj-Napoca 157.96 318 ⇓P **PKPab 17 48 53.2 +0.3**
CJR Cluj-Napoca 157.96 318 ⇓PKP2 **PKPab 17 48 53.2 +0.3**
ARR Arges 158.05 314 ⇑P **PKPab 17 48 53.5 +0.1**
HUMR Humele 158.23 311 ⇑P **PKPab 17 48 53.9 -0.2**
DRGR 158.42 319 ⇓P **PKPab 17 48 54.2 -0.6**
DRGR 158.42 319 ⇓PKP2 **PKPab 17 48 54.2 -0.6**
KSP Ksiaz 158.51 335 *e*PKPab **PKPab 17 48 55.4 +0.4**
LANS Liptovska Anna 158.53 328 *e*PKP2 **PKPab 17 48 56.1 +0.9**
OKC Ostrava-Krasne 158.59 331 AMS AMS 19 02 00.0
comp=Z,300nm,24.1s
FLTG Flechtingen 158.70 344 *e*PKPab **PKPab 17 48 55.4 -0.3**
baz=25,slow=4.4
OSTC Ostas 158.78 334 *e*PKPAB **PKPab 17 48 56.6 +0.4**
OSTC AMS AMS 19 05 30.0
comp=Z,200nm,16.0s
NRDL Niedersach Rie 158.79 346 *e*PKPab **PKPab 17 48 55.3 -0.7**
baz=25,slow=4.4
CHVC Chvalec 158.81 335 AMS AMS 19 05 40.0
comp=Z,200nm,19.4s
UPC Upice 158.89 335 *e*PKP2 **PKPab 17 48 56.6 -0.1**
UPC MLR MLR
comp=Z,200nm,20.6s
UPC Upice 158.89 335 *e*PKPAB **PKPab 17 48 56.6 -0.1**
UPC AMS AMS 19 05 40.0
comp=Z,200nm,20.6s
DPC Dobruska-Polom 158.91 334 *e*PKP2 **PKPab 17 48 57.2 +0.4**
DPC MLR MLR
comp=Z,200nm,23.4s
DPC Dobruska-Polom 158.91 334 *e*PKPAB **PKPab 17 48 57.2 +0.4**
DPC AMS AMS 19 00 40.0
comp=Z,200nm,23.4s
KRLC Kraliky 158.96 333 *e*PKP2 **PKPab 17 48 57.0 0.0**
KRLC MLR MLR
comp=Z,200nm,17.5s
KRLC Kraliky 158.96 333 *e*PKPAB **PKPab 17 48 57.0 0.0**
KRLC AMS AMS 19 06 40.0
comp=Z,200nm,17.5s
GZR Gura Zlata 159.16 316 ⇓P **PKPab 17 48 57.4 -0.7**
GZR Gura Zlata 159.16 316 ⇓PKP2 **PKPab 17 48 57.4 -0.7**
CLL Collm 159.18 340 *e*PKPdiff PKPab 17 48 42.0 -16
CLL *i*PKPab **PKPab 17 48 57.4 -0.4**
comp=Z,32nm,0.8s
CLL *e* 17 49 10.0
CLL *e*SSS SSS 18 18 54.0
CLL Lm MLR 19 09 00.0
comp=Z,200nm,19.9s
CLL Collm 159.18 340 *i*PKP2 **PKPab 17 48 57.4 -0.4**
CLL pmax pmax
comp=Z,32nm,0.8s
PSZ Piszkesteto 159.19 325 *e*PKP **PKPdf 17 48 22.4 +1.3**
PSZ Piszkesteto 159.19 325 PKIKP **PKPdf 17 48 18.8 -2.3**
PSZ 17 48 57.3
PSZ Piszkesteto 159.19 325 PKPdf **PKPdf 17 48 18.8 -2.3**
PSZ PKPab **PKPab 17 48 57.3 -0.9**
BRG Berggiesshubel 159.28 338 ⇓*e*PKPf 17 48 26.7
BRG Amp 17 48 28.0
comp=Z,2.9nm,1.2s
BRG Berggiesshubel 159.28 338 P PKPdf 17 48 35.5 +15
BRG Amp 17 48 36.3
comp=Z,1.4nm,0.7s
BRG *i*PKPab **PKPab 17 48 58.3 0.0**
BRG Amp 17 48 59.3
comp=Z,31nm,1.0s
BRG Berggiesshubel 159.28 338 P **PKPab 17 49 05.6 +7.3**
BRG Amp 17 49 10.4
comp=Z,14nm,1.2s
VYHS Vyhne 159.29 327 *e*PKP2 **PKPab 17 48 58.9 +0.4**
SIRR Siria 159.31 319 ⇓P **PKPab 17 48 59.0 +0.3**
CLZ Clausthal 159.35 345 *e*PKPab **PKPab 17 48 58.5 -0.1**
baz=25,slow=4.4
IBBN Ibbenburen 159.38 350 *e*PKPab **PKPab 17 48 58.4 -0.2**
baz=25,slow=4.4
FBE Freiberg 159.42 339 *e*PKPab **PKPab 17 48 58.9 +0.1**
baz=25,slow=4.4
NEUB Neuenburg 159.60 342 *e*PKPab **PKPab 17 48 59.8 +0.2**
baz=25,slow=4.4
VRAC Vranov 159.64 332 ⇓P **PKPab 17 49 00.3 +0.3**
VRAC Vranov 159.64 332 ⇓PKP2 **PKPab 17 49 00.3 +0.3**
HERR Herculane 159.65 315 ⇑P **PKPab 17 48 59.9 -0.3**
GTTG Gottingen 159.72 346 *e*PKPab **PKPab 17 49 00.4 +0.2**
baz=25,slow=4.4
BZS Buzias 159.72 317 ⇓P **PKPab 17 49 00.1 -0.4**
BZS Buzias 159.72 317 ⇓PKP2 **PKPab 17 49 00.1 -0.4**
PRA Prague 159.81 336 AMS AMS 19 09 50.0
comp=Z,300nm,22.4s
PRU Pruhonice 159.85 336 *e*PKP2 **PKPab 17 49 00.9 +0.1**
PRU MLR MLR
comp=Z,300nm,22.6s
PRU Pruhonice 159.85 336 *e*PKPAB **PKPab 17 49 00.9 +0.1**
PRU AMS AMS 19 04 30.0
comp=Z,300nm,22.6s
MODS Modra-Piesok 160.08 329 *e*PKIKP **PKPdf 17 48 25.5 +3.5**
MODS Modra-Piesok 160.08 329 *e*PKP **PKPdf 17 48 25.5 +3.5**
MODS *e* 17 49 03.5
TREC Trest 160.08 334 AMS AMS 19 06 20.0
comp=Z,200nm,16.5s
PLN Plauen 160.16 341 *e*PKPab **PKPab 17 49 02.4 +0.3**
baz=25,slow=4.4
MOX Moxa 160.16 342 *e*PKPab **PKPab 17 49 01.9 -0.2**
baz=25,slow=4.4
MOX *e*L L 19 03 56.7
comp=Z,262nm,21.0s
VTS Vitosha 160.21 308 ⇑P **PKPab 17 49 05.2 +2.2**
VTS Vitosha 160.21 308 PKIKP **PKPdf 17 48 20.9 -1.6**
VTS 17 49 02.6
VTS Vitosha 160.21 308 PKPdf **PKPdf 17 48 20.9 -1.6**
VTS **PKPab 17 49 02.6 -0.3**
GUNZ Gunzen 160.22 340 *e*PKPab **PKPab 17 49 02.7 +0.2**
baz=25,slow=4.4
WERN Wernitzgruen 160.27 340 *e*PKPab **PKPab 17 49 03.2 +0.5**
baz=25,slow=4.4
PBCC Pribram 160.29 337 *e*PKPAB **PKPab 17 49 02.5 -0.3**
BUG Bochum--Univer 160.29 350 *e*PKPab **PKPab 17 49 02.0 -0.6**
baz=25,slow=4.4
NKC Novy Kostel 160.30 340 *e*PKP2 **PKPab 17 49 03.0 +0.2**
NKC MLR MLR
comp=Z,200nm,18.6s
NKC Novy Kostel 160.30 340 *e*PKPAB **PKPab 17 49 03.0 +0.2**
NKC AMS AMS 19 07 20.0
comp=Z,200nm,18.6s
KASTN Kahler Asten 160.34 348 *e*PKPab **PKPab 17 49 01.5 -1.4**
baz=25,slow=4.4
UBBA Unterbreizbach 160.39 345 *e*PKPab **PKPab 17 49 02.5 -0.5**
baz=25,slow=4.4
MANZ Manzenberg 160.62 340 *e*PKPab **PKPab 17 49 04.2 0.0**
baz=25,slow=4.4
ROTZ Rotzenmuhle 160.78 340 *e*PKPab **PKPab 17 49 05.6 +0.7**
baz=25,slow=4.4
KHC Kasperske Hory 160.91 336 PKIKP **PKPdf 17 48 22.4 -0.5**
KHC 17 49 04.9
KHC Kasperske Hory 160.91 336 *e*PKPDF **PKPdf 17 48 25.5 +2.6**
KHC *e*PKPAB **PKPab 17 49 04.5 -1.0**
KHC AMS AMS 19 08 50.0
comp=Z,200nm,16.8s
KHC Kasperske Hory 160.91 336 PKPdf **PKPdf 17 48 22.4 -0.5**
KHC PKPab **PKPab 17 49 04.9 -0.6**
CKRC Cesky Krumlov 160.91 335 *e*PKPDF **PKPdf 17 48 28.3 +5.4**
CKRC *e*PKPAB **PKPab 17 49 06.5 +1.0**
CKRC AMS AMS 19 02 20.0
comp=Z,200nm,22.1s
FRGS Fruska Gora 161.02 318 ⇓P **PKPab 17 49 06.1 -0.1**
CONA Conrad Observa 161.03 330 *i*P **PKPab 17 49 06.4 +0.3**
comp=Z,18nm,0.8s,SNR=9.2
GEC2 GERESS Array S 161.11 336 *e*PKPab **PKPab 17 49 06.1 -0.4**
baz=25,slow=4.4
GERES GERESS Array B 161.11 336 PKPab **PKPab 17 49 06.0 -0.4**
comp=Z,5.1nm,0.8s,baz=35,slow=4.9,SNR=22
GERES GERESS Array B 161.11 336 PKIKP **PKPdf 17 48 22.6 -0.6**
GERES 17 49 05.8
GERES GERESS Array B 161.11 336 PKPdf **PKPdf 17 48 22.6 -0.6**
GERES PKPab **PKPab 17 49 05.8 -0.7**
WET Wettzell 161.13 338 *e*PKPab **PKPab 17 49 06.5 0.0**
baz=25,slow=4.4
GRF Grafenberg Arr 161.13 341 *e*PKPab **PKPab 17 49 06.7 +0.3**
baz=25,slow=4.4
GRF *e*L L 19 04 15.6
comp=Z,246nm,20.8s
GRFO Grafenberg 161.13 341 PKP2 **PKPab 17 49 05.6 -0.8**
GRFO Grafenberg 161.13 341 **PKPab 17 49 05.6 -0.8**
TOA0 Torodi Ar. Sit 161.14 179 PKPab **PKPab 17 49 07.2 0.0**
TORD Torodi Ar. Bea 161.14 179 PKP **PKPdf 17 48 24.3 +0.1**
comp=Z,1.9nm,1.1s,baz=161,slow=0.6,SNR=4.3
TORD PKPab **PKPab 17 49 08.5 +1.3**
comp=Z,12nm,0.9s,baz=183,slow=2.6,SNR=9.8
TORD PP **PP 17 52 50.2 +1.3**
comp=Z,1.9nm,1.1s,baz=198,slow=9.0,SNR=3.6
TORD Torodi Ar. Bea 161.14 179 **PKPdf 17 48 23.3 -0.8**
TORD PKPab **PKPab 17 49 07.4 +0.2**
MEM Membach 161.27 352 *d*PKPab **PKPab 17 49 06.8 -0.1**
TNS Taunus Mts 161.28 347 *e*PKPab **PKPab 17 49 06.6 -0.5**
baz=25,slow=4.4
BTNL Ternell 161.28 352 *d*PKPab **PKPab 17 49 07.0 0.0**
MILB Miltenberg 161.48 345 *e*PKPab **PKPab 17 49 07.5 -0.4**
baz=25,slow=4.4
DIVS Divibare 161.53 316 PKPdf **PKPdf 17 48 22.4 -1.4**
DIVS **PKPab 17 49 07.9 -0.7**
BMRD Maredsous 161.70 354 *d*PKPab **PKPab 17 49 08.4 -0.4**
ARSA Arzberg 161.70 330 *i*P **PKPab 17 49 09.0 0.0**
comp=Z,17nm,1.4s
MOA Molln 161.73 333 *e*P **PKPab 17 49 09.3 +0.2**
comp=Z,28nm,1.9s,SNR=8.7
DOU Dourbes 161.92 355 *d*PKPab **PKPab 17 49 08.0 -1.7**
WLF Walferdange 162.18 351 *d*PKPab **PKPab 17 49 10.7 -0.2**
WLF Walferdange 162.18 351 *e*PKPab **PKPab 17 49 11.3 +0.3**
baz=25,slow=4.4
SOKA Soboth 162.35 329 *i*P **PKPab 17 49 11.6 -0.3**
comp=Z,23nm,1.5s,SNR=6.4
RJOB Jochberg 162.37 335 *e*PKPab **PKPab 17 49 12.1 +0.2**
baz=25,slow=4.4
FUR Furstenfeldbru 162.49 339 *e*PKPab **PKPab 17 49 13.0 +0.6**
baz=25,slow=4.4
OBKA Obir 162.69 330 *i*P **PKPab 17 49 12.7 -0.8**
comp=Z,8.1nm,0.9s
KBA Koelnbreinsper 162.72 333 *i*P **PKPab 17 49 13.2 -0.5**
comp=Z,7.8nm,0.8s
PDG Podgorica 162.89 312 ⇓P **PKPab 17 49 14.2 -0.2**
MYKA Terra Mystica 162.97 332 *e*P **PKPab 17 49 13.8 -0.9**
comp=Z,6.5nm,0.6s
BFO Black Forest 163.10 345 PKP2 **PKPab 17 49 13.8 -1.3**
BFO Black Forest 163.10 345 **PKPab 17 49 13.8 -1.3**
BFO Black Forest 163.10 345 *e*PKPab **PKPab 17 49 15.0 -0.1**
baz=25,slow=4.4
WATA Walderalm 163.13 337 *i*P **PKPab 17 49 15.5 +0.1**
comp=Z,23nm,1.3s,SNR=6.5
WTTA Wattenberg 163.17 337 *i*P **PKPab 17 49 15.9 +0.2**
comp=Z,19nm,1.2s
RETA Reutte 163.25 339 *i*P **PKPab 17 49 16.2 +0.4**
comp=Z,31nm,1.1s,SNR=9.5
UBR Ueberruh 163.27 341 *e*PKPab **PKPab 17 49 15.9 0.0**
baz=25,slow=4.4
MOTA Moosalm 163.28 338 *i*P **PKPab 17 49 16.3 +0.2**
comp=Z,27nm,1.0s,SNR=8.9
ABTA Abfaltersbach 163.31 334 *e*P **PKPab 17 49 15.2 -1.0**
comp=Z,21nm,1.1s,SNR=6.5
SQTA Sankt Quirin 163.35 338 *i*P **PKPab 17 49 16.5 +0.2**
comp=Z,10nm,0.8s,SNR=5.9
FETA Feichten 163.68 338 *i*P **PKPab 17 49 18.1 +0.3**
comp=Z,19nm,1.0s,SNR=5.5
DAVA Damuels 163.69 341 *i*P **PKPab 17 49 18.1 +0.3**
comp=Z,23nm,0.9s,SNR=7.9
TUE Stuetta 164.59 341 PKPdf **PKPdf 17 48 27.1 +0.3**
TUE PKPab **PKPab 17 49 20.9 -1.0**
SENIN Lac Senin/Sane 165.19 346 PKPdf **PKPdf 17 48 27.7 +0.4**
SENIN PKPab **PKPab 17 49 24.0 -0.5**
PGAV Gavieira, Arco 167.16 37 *e*PKP PKPdf 17 48 53.2 +24
PCBR Castelo Branco 169.08 42 *e*PKP PKPdf 17 48 43.5 +13
PMRV Marv??o 169.40 44 *e*PKP PKPdf 17 48 47.8 +17
EVO Evora 169.56 49 *e*PKP PKPdf 17 48 43.4 +13
PFVI Vila Bisbo 169.72 58 *e*PKP PKPdf 17 48 44.9 +14
MORF Marmelete 169.77 57 *e*PKP PKPdf 17 48 49.1 +18
PBDV Barranco-do-Ve 170.30 55 *e*PKP PKPdf 17 48 43.5 +13
PBAR Barrancos 170.39 48 *e*PKP PKPdf 17 48 45.0 +14
ESDC Sonseca Array 171.00 31 PKP **PKPdf 17 48 32.2 +0.9**
comp=Z,0.5nm,0.4s,baz=330,slow=5.1,SNR=5.5
ESDC Sonseca Array 171.00 31 **PKPdf 17 48 30.6 -0.7**

NEIC ***04*** *17:34:00.3±2.0, 32°.02S±0°.07×178°.0W±0°.1, h12km±4km, mb5.0/52 Error ellipse: s-maj=17.2km s-min=8.8km az=107.0*

IDC ***04*** *17:34:03.1±4.6, 31°.92S×178°.13W, h27km±31km, mb4.3/13, mb1 4.5/13, mb1mx4.3/35, mbtmp4.4/13, Error ellipse: s-maj=21.7km s-min=18.8km az=177.0*

GCMT ***04*** *17:34:03.3±0.4, 32°.11S±0°.03×177°.60W±0°.04, h31km±1km, MW5.0/70, Moment Tensor Solution. s32,c36; s70,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.81±.28; Mθθ-0.82±.18; Mφφ-2.99±.17; Mrθ0.72±.21; Mrφ-0.88±.11; Mθφ2.37±.15; Best double couple: M0=4.33400×10^16 NP1:φs201.00000°, δ28.00000°, λ92.00000°. NP2: φs18.00000°, δ62.00000°, λ89.00000°. Principal axes: T 4.5890, Plg73.0000°, Azm286.0000°; N -0.5100, Plg1.0000°, Azm19.0000°; P -4.0790, Plg17.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 17:34:01.5±0.4, 32°.04S±0°.05×178°.14W±0°.09, h24km, n141, σ1°68/149, mb4.9/36, 1C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.78**	**4**	P	**Pn**	**17 34 42.3**	**-2.3**
GLKZ				S	**Sn**	**17 35 14.4**	**-2.9**
RAO	**Raoul Island**	**2.79**	**4**	Pn	**Pn**	**17 34 43.0**	**-1.6**
MXZ	**Matakaoa Point**	**6.23**	**207**	Pn	**Pn**	**17 35 33.7**	**+1.7**
URZ	**Urewera**	**7.32**	**211**	Pn	**Pn**	**17 35 44.4**	**-2.5**
2.5nm,0.3s,baz=349,slow=18,SNR=2.0							
URZ				Sn	**Sn**	**17 37 08.4**	**-0.8**
25nm,0.3s,baz=206,slow=16,SNR=13							
URZ	**Urewera**	**7.32**	**211**		**Pn**	**17 35 44.6**	**-2.3**
URZ					**Sn**	**17 37 06.8**	**-2.4**
WHHZ	**Waihua**	**7.96**	**207**	P	**Pn**	**17 35 56.4**	**+0.6**
WHHZ				S	**Sn**	**17 37 23.5**	**-1.6**
NMHZ	**Naumai**	**8.15**	**209**	P	**Pn**	**17 35 58.1**	**-0.3**
NMHZ				S	**Sn**	**17 37 29.5**	**-0.4**
ARHZ	**Aropaoanui**	**8.22**	**207**	P	**Pn**	**17 35 54.8**	**-4.4**
ARHZ				S	**Sn**	**17 37 29.5**	**-1.9**
BKZ	**Black Stump Fm**	**8.34**	**210**	Pn	**Pn**	**17 35 58.6**	**-2.3**
MCHZ	**McNeill Hill**	**8.49**	**208**	P	**Pn**	**17 36 02.4**	**-0.6**
MCHZ				S	**Sn**	**17 37 36.5**	**-1.6**
CKHZ	**Cape Kidnapper**	**8.53**	**206**	P	**Pn**	**17 35 59.6**	**-3.9**
CKHZ				S	**Sn**	**17 37 34.1**	**-5.0**
KWHZ	**Kaweka Forest**	**8.59**	**209**	P	**Pn**	**17 36 04.8**	**+0.4**
KWHZ				S	**Sn**	**17 37 37.0**	**-3.5**
HIZ	**Hauiti**	**8.63**	**220**	Pn	**Pn**	**17 36 05.6**	**+0.7**
KAHZ	**Kahuranaki**	**8.73**	**206**	P	**Pn**	**17 36 03.0**	**-3.2**
KAHZ				S	**Sn**	**17 37 41.0**	**-2.9**
KRHZ	**Kereru**	**8.79**	**209**	P	**Pn**	**17 36 04.5**	**-2.6**
KRHZ				S	**Sn**	**17 37 40.9**	**-4.7**
WHVZ	**Whangaehu Hut**	**8.84**	**213**	S	**Sn**	**17 37 45.3**	**-1.6**
PXZ	**Pawanui**	**8.94**	**206**	P	**Pn**	**17 36 07.7**	**-1.4**
PXZ				S	**Sn**	**17 37 44.4**	**-4.6**
PNHZ	**Pukenui**	**9.09**	**209**	P	**Pn**	**17 36 08.6**	**-2.6**
BFZ	**Birch Farm**	**9.73**	**206**	Pn	**Pn**	**17 36 17.6**	**-2.4**
SNZO	**South Karori**	**10.88**	**210**	Pn	**Pn**	**17 36 33.8**	**-2.0**
BHW	**Baring Head**	**10.90**	**209**	Pn	**Pn**	**17 36 34.3**	**-1.6**
THZ	**Tophouse**	**12.05**	**214**	Pn	**Pn**	**17 36 51.9**	**+0.1**
KHZ	**Kahutara**	**12.29**	**210**	Pn	**Pn**	**17 36 50.7**	**-4.2**
RPZ	**Rata Peaks**	**14.43**	**213**	Pn	**Pn**	**17 37 20.9**	**-3.3**
WKZ	**Wanaka**	**16.23**	**214**	Pn	**Pn**	**17 37 41.5**	**-6.4**
WKZ				IAmb	IAmb	17 38 04.5	
comp=Z,379nm,1.9s							
ARMA	**Armidale**	**25.87**	**266**	P	**P**	**17 39 31.1**	**-0.5**
EIDS	**Eidsvold**	**27.74**	**276**	P	**P**	**17 39 49.2**	**+0.9**
EIDS				IAmb	IAmb	17 40 05.9	
comp=Z,45nm,1.6s							
TOO	**Toolangi**	**30.24**	**249**	P	**P**	**17 40 11.6**	**+1.1**
CTA	**Charters Tower**	**33.98**	**282**	P	**P**	**17 40 46.6**	**+3.2**
comp=Z,23nm,0.9s,baz=101,slow=16,SNR=9.0							
CTAO	**Charters Tower**	**33.98**	**282**	P	**P**	**17 40 44.3**	**+0.9**
CTAO				IAmb	IAmb	17 40 49.7	
comp=Z,32nm,0.9s							
STKA	**Stephens Creek**	**34.03**	**259**	P	**P**	**17 40 46.3**	**+2.6**
comp=Z,4.3nm,0.7s,baz=102,slow=11,SNR=4.7							
STKA	**Stephens Creek**	**34.03**	**259**	P	**P**	**17 40 44.4**	**+0.7**
BBOO	**Buckleboo**	**38.44**	**256**	P	**P**	**17 41 21.9**	**+0.5**
BBOO				IAmb	IAmb	17 41 47.2	
comp=Z,83nm,1.9s							
KWAJ	**Kwajalein Atol**	**42.84**	**339**	P	**P**	**17 41 56.5**	**-1.3**
AS31	**Alice Springs**	**42.93**	**269**	P	**P**	**17 41 59.2**	**+0.6**
ASAR	**Alice Springs**	**42.93**	**269**	P	**P**	**17 41 59.0**	**+0.4**
comp=Z,6.2nm,0.8s,baz=108,slow=7.2,SNR=22							
ASAR				S	**S**	**17 48 24.1**	**+1.6**
comp=Z,0.7nm,1.1s,baz=109,slow=17,SNR=4.3							
ASAR	**Alice Springs**	**42.93**	**269**	P	**P**	**17 41 58.7**	**0.0**
WR0	**Warramunga Arr**	**43.89**	**274**	P	**P**	**17 42 06.8**	**+0.4**
WR0				IAmb	IAmb	17 42 12.7	
comp=Z,11nm,0.6s							
WB2	**Warramunga Arr**	**44.06**	**274**	P	**P**	**17 42 07.5**	**-0.2**
WRAB	**Tennant Creek**	**44.06**	**274**	P	**P**	**17 42 07.6**	**-0.2**
WRAB				IAmb	IAmb	17 42 10.2	
comp=Z,34nm,1.4s							
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**17 42 08.5**	**+0.7**
comp=Z,5.0nm,0.3s,baz=112,slow=8.0,SNR=53							
WB0	**Warramunga Arr**	**44.10**	**274**	P	**P**	**17 42 08.4**	**+0.3**
WB0				IAmb	IAmb	17 42 10.4	
comp=Z,35nm,1.2s							
FORT	**Forrest**	**45.53**	**257**	P	**P**	**17 42 19.4**	**0.0**
SBA	**Scott Base**	**46.39**	**184**	P	**P**	**17 42 27.9**	**+2.5**
SBA				IAmb	IAmb	17 42 59.7	
comp

comp=Z,3.8nm,1.0s,baz=164,slow=3.6,SNR=4.2
SNAA Sanae 76.52 178 P P 17 45 49.6 +0.4
SNAA IAmb IAmb 17 46 12.7
comp=Z,24nm,1.2s
VNA3 Neumayer Olymp 76.68 176 PKiKP P 17 45 51.0 +0.9
VNA1 Neumayer--Stat 77.34 177 PKiKP P 17 45 55.2 +1.5
MJAR Matsushiro Arr 79.53 326 P P 17 46 06.9 +0.7
comp=Z,2.0nm,1.1s,baz=160,slow=5.9,SNR=5.3
H03S2 Juan Fernandez 79.66 123 T T 19 15 03.6
baz=238
H03S1 Juan Fernandez 79.67 123 T T 19 15 00.9
baz=238
H03S3 Juan Fernandez 79.68 123 T T 19 15 02.1
baz=238
H03N3 Juan Fernandez 79.86 123 T T 19 15 12.6
baz=241
H03N2 Juan Fernandez 79.86 123 T T 19 15 06.1
baz=241
H03N1 Juan Fernandez 79.88 123 T T 19 15 10.6
baz=241
PLCA Paso Flores 81.47 133 P P 17 46 19.4 +2.5
comp=Z,3.1nm,0.9s,baz=228,slow=7.8,SNR=4.0
PLCA Paso Flores 81.47 133 P P 17 46 18.3 +1.3
PLCA IAmb IAmb 17 46 23.6
comp=Z,36nm,1.9s
JKA Kamikawa-asahi 83.84 333 P P 17 46 30.1 +1.4
JKA IAmb IAmb 17 46 31.5
comp=Z,8.9nm,1.1s
MT09 Talagante 85.20 127 P P 17 46 36.3 -0.1
KSRS Korea Array 85.52 320 P P 17 46 37.8 +0.4
comp=Z,0.8nm,0.8s,baz=130,slow=6.7,SNR=4.9
YSS Yuzh-Sakhalins 86.17 334 P P 17 46 40.3 0.0
YSS IAmb IAmb 17 46 53.0
comp=Z,9.2nm,0.9s
PEA0B Petropavlovsk- 87.37 346 P P 17 46 46.7 +0.6
PETK Petropavlovsk- 87.37 346 P P 17 46 46.5 +0.5
comp=Z,4.1nm,0.8s,baz=125,slow=7.4,SNR=9.3
PETK Petropavlovsk- 87.37 346 P P 17 46 46.1 +0.1
CMB Columbia Colle 88.06 42 P P 17 46 50.3 +0.4
CMB IAmb IAmb 17 47 07.0
comp=Z,18nm,1.7s
GLA Glamis 88.07 49 P P 17 46 51.0 +1.1
GLA IAmb IAmb 17 46 53.4
comp=Z,18nm,1.4s
GSC Goldstone, Bar 88.31 46 P P 17 46 52.0 +0.9
GSC IAmb IAmb 17 47 08.0
comp=Z,11nm,1.2s
AFDM Forest Hills D 88.37 41 P P 17 46 51.3 +0.1
AFDM IAmb IAmb 17 46 53.5
comp=Z,14nm,1.7s
USA0B Ussuriysk Arra 88.46 327 P P 17 46 52.3 +0.8
USA0B IAmb IAmb 17 46 53.8
comp=Z,11nm,1.1s
USRK Ussuriysk Ar. 88.46 327 P P 17 46 52.1 +0.6
comp=Z,4.8nm,0.9s,baz=126,slow=3.3,SNR=10.0
WAKR Walker 88.92 42 P P 17 46 54.6 +0.5
WAKR IAmb IAmb 17 46 56.9
comp=Z,12nm,1.3s
NVAR Mina Array Bea 89.52 43 P P 17 46 57.8 +0.9
comp=Z,3.4nm,1.1s,baz=220,slow=7.4,SNR=14
NVAR Mina Array Bea 89.52 43 P P 17 46 57.2 +0.2
RYN Ryan 89.53 43 P P 17 46 57.1 +0.2
NV11 Mina Array Sit 89.61 43 P P 17 46 57.4 +0.2
TPNV Topopah Spring 89.74 45 P P 17 46 58.9 +0.9
TPNV IAmb IAmb 17 47 14.8
comp=Z,9.7nm,1.2s
PAHR Pah Rah Range 89.78 41 P P 17 46 58.9 +0.9
Y14A Wickenburg 89.80 49 P P 17 46 59.1 +0.9
TPH Tonopah 89.91 44 P P 17 46 59.7 +0.9
W13A Hualapai Mount 89.98 48 P P 17 47 00.2 +1.0
KVN Kaiserville 90.06 42 P P 17 46 59.9 +0.5
SHPR Sheep Range 90.11 46 P P 17 47 00.5 +0.8
TUC Tucson 90.23 51 P P 17 47 01.4 +1.2
TUC IAmb IAmb 17 47 03.6
comp=Z,11nm,1.3s
PRN Pahroc Range 90.76 45 P P 17 47 03.2 +0.6
PRN IAmb IAmb 17 47 05.9
comp=Z,8.6nm,1.1s
X16A Lo Mia Camp, P 91.11 49 P P 17 47 04.3 0.0
X16A IAmb IAmb 17 47 07.7
comp=Z,8.2nm,1.1s
LCMT Little Creek M 91.61 46 P P 17 47 05.7 -0.9
U15A North Rim 91.83 47 P P 17 47 07.7 -0.1
U15A IAmb IAmb 17 47 10.9
comp=Z,5.7nm,1.0s
KNB Kanab 91.87 47 P P 17 47 07.8 0.0
KNB IAmb IAmb 17 47 24.3
comp=Z,9.1nm,1.2s
KLR Kul'dur 92.39 330 P P 17 47 10.7 +1.0
comp=Z,3.0nm,0.8s,baz=98,slow=3.5,SNR=8.1
PKCU Pink Cliffs 92.46 47 P P 17 47 11.1 +0.4
PKCU IAmb IAmb 17 47 32.1
comp=Z,7.3nm,1.2s
TX31 Lajitas Ar. Si 93.37 57 P P 17 47 13.6 -1.3
TXAR Lajitas Array 93.37 57 P P 17 47 15.4 +0.5
comp=Z,1.1nm,1.1s,baz=198,slow=7.9,SNR=6.5
HVU Hansel Valley 94.92 43 P P 17 47 21.1 -0.6
MKAR Makanchi Array 118.73 309 PKP PKPdf 17 52 47.0 -0.3
comp=Z,0.6nm,0.8s,baz=248,slow=26,SNR=4.8
MKAR Makanchi Array 118.73 309 PKPdf 17 52 46.0 -1.4
KBZ Khabaz 145.90 302 PKPbc PKPab 17 53 39.6 +0.4
comp=Z,11nm,1.0s,baz=110,slow=0.5,SNR=11
FINES FINESS Array B 146.64 339 PKPbc PKPbc 17 53 40.2 -0.2
comp=Z,13nm,0.7s,baz=45,slow=3.4,SNR=26
FINES FINESS Array B 146.64 339 PKPbc 17 53 39.6 -0.8
MEF Metsahovi 148.12 339 *e*P **PKPbc 17 53 45.0 +0.6**
RAF Rauma 148.21 342 *e*P **PKPab 17 53 47.3 -0.4**
AAL Aland 149.40 342 *e*P **PKPab 17 53 51.7 -0.8**
MTSE Matsula 149.48 337 *e*P **PKPbc 17 53 48.0 +0.1**
NB2 NORSAR Subarra 150.35 351 PKP **PKPbc 17 53 49.8 -0.3**
comp=Z,1.6nm,0.8s,baz=13,slow=2.6
NOA NORSAR Array B 150.35 351 PKP **PKPdf 17 53 44.7 -0.2**
comp=Z,0.7nm,1.0s,baz=52,slow=14,SNR=2.3
NOA PKPbc **PKPbc 17 53 49.8 -0.3**
comp=Z,1.9nm,0.9s,baz=20,slow=4.7,SNR=7.2
PABE Paberze 151.87 333 *e*P **PKiKP 17 53 58.0 +3.9**
AKASG Malin Array Be 152.51 321 PKPbc **PKiKP 17 53 56.2 +0.6**
comp=Z,6.5nm,0.9s,baz=55,slow=2.4,SNR=9.5
BRTR Keskin Array B 153.24 296 PKPbc **PKiKP 17 53 57.6 -0.1**
comp=Z,3.8nm,1.0s,baz=129,slow=3.3,SNR=13
OSTC Ostas 158.66 334 *e*PKPAB **PKPab 17 54 33.1 +1.0**
CHVC Chvalec 158.69 335 *e*PKPAB **PKPab 17 54 34.4 +2.2**
DPC Dobruska-Polom 158.79 334 *e*PKPAB **PKPab 17 54 33.4 +0.7**
KRLC Kraliky 158.83 333 *e*PKPAB **PKPab 17 54 33.9 +1.0**
CLL Collm 159.08 340 ⇓*i*PKPab **PKPab 17 54 33.8 0.0**
CLL *e*pPKPab **pPKPab 17 54 39.0 -1.1**
CLL *i* 17 54 46.9
BRG Berggiesshubel 159.17 338 *e*P **PKPab 17 54 35.1 +0.9**
BRG Amp 17 54 36.1
comp=Z,25nm,1.7s
KHC Kasperske Hory 160.79 336 *e*PKPAB **PKPab 17 54 41.9 +0.5**
CKRC Cesky Krumlov 160.79 334 *e*PKPAB **PKPab 17 54 43.0 +1.6**
CONA Conrad Observa 160.90 330 *i* P **PKPab 17 54 43.1 +1.1**
comp=Z,5.8nm,1.1s
GERES GERESS Array B 160.99 335 PKPab **PKPab 17 54 42.8 +0.4**
comp=Z,1.2nm,0.8s,baz=49,slow=4.1,SNR=7.5
TORD Torodi Ar. Bea 161.19 179 PKPab **PKPab 17 54 44.7 +0.9**
comp=Z,1.6nm,0.6s,baz=197,slow=2.2,SNR=4.0
ARSA Arzberg 161.57 329 *i* P **PKPab 17 54 45.6 +0.8**
comp=Z,5.9nm,1.2s
MOA Molln 161.61 333 *i* P **PKPab 17 54 46.1 +1.1**
comp=Z,6.7nm,1.5s
SOKA Soboth 162.23 329 *e*P **PKPab 17 54 48.2 +0.3**
comp=Z,7.9nm,1.4s
MYKA Terra Mystica 162.85 332 *i* P **PKPab 17 54 50.6 +0.1**
comp=Z,2.2nm,0.9s
WATA Walderalm 163.02 337 *i* P **PKPab 17 54 52.1 +0.8**
comp=Z,7.2nm,1.4s
WTTA Wattenberg 163.06 337 *e*P **PKPab 17 54 52.5 +0.9**
comp=Z,7.3nm,1.2s
RETA Reutte 163.15 339 *i* P **PKPab 17 54 52.8 +1.0**
comp=Z,15nm,1.4s
MOTA Moosalm 163.17 338 *i* P **PKPab 17 54 52.9 +0.9**
comp=Z,16nm,1.4s
ABTA Abfaltersbach 163.19 334 *i* P **PKPab 17 54 51.8 -0.2**
comp=Z,9.0nm,1.2s
SQTA Sankt Quirin 163.24 337 *i* P **PKPab 17 54 53.1 +0.8**
comp=Z,9.5nm,1.3s
FETA Feichten 163.57 338 *i* P **PKPab 17 54 54.7 +1.0**
comp=Z,4.8nm,1.1s
DAVA Damuels 163.59 340 *i* P **PKPab 17 54 54.7 +0.9**
comp=Z,9.1nm,1.1s

NNC 04 17:34:20.6±2.5, 37°.83N×78°.16E, h0km, mb4.1, mpv3.6, 5C-4D, Error ellipse: s-maj=16.9km s-min=16.0km az=163.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 7.7nm,0.5s	**5.23**	**2**	Pg	Pg	17 35 57.7	-3.0
SATY				Lg	Lg	17 37 07.9	
UZB	**Uzynbulak** 4.3nm,0.6s	**5.35**	**7**	Pg	Pg	17 35 59.4	-3.7
UZB				Lg	Lg	17 37 11.2	
MDOK	**Medeo** 6.6nm,0.6s	**5.39**	**351**	⇑Pg	Pb	17 35 57.7	+1.9
MDOK				Lg	Lg	17 37 11.3	
MDOK	**Medeo** 5.8nm,0.8s	**5.39**	**351**	Pg	Pg	17 36 00.1	-3.9
MDOK				Lg	Lg	17 37 12.0	
SHLS	**Shalkode** 9.1nm,0.5s	**5.41**	**10**	Pg	Pg	17 36 02.3	-2.0
SHLS				Lg	Lg	17 37 16.3	
TKM2	**Tokmak 2** 2.0nm,0.5s	**5.45**	**340**	⇓Pg	Pb	17 35 58.0	+1.3
TKM2				⇑Lg	Lg	17 37 14.9	
KST	**Kastek** 3.4nm,0.5s	**5.47**	**343**	Pg	Pg	17 36 01.7	-3.6
KST				Lg	Lg	17 37 14.7	
AAK	**Ala-Archa** 2.8nm,0.5s	**5.56**	**331**	⇑Pg	Pb	17 36 02.5	+3.9
AAK				⇓Lg	Lg	17 37 14.7	
PDGK	**Podgornoye** 2.4nm,0.6s	**5.58**	**10**	⇓Pn	Pn	17 35 44.4	-0.6
PDGK				⇑Pg	Pb	17 35 58.7	-0.3
PDGK				⇓Sn	Sn	17 36 50.7	+0.8
PDGK				⇑Lg	Lg	17 37 18.0	
DGS	**Degeres** 4.2nm,0.4s	**5.70**	**342**	Pg	Pg	17 36 06.9	-3.0
DGS				Lg	Lg	17 37 23.7	
KRBS	**Karabastau** 1.9nm,0.4s	**6.16**	**343**	Pg	Pg	17 36 14.0	-4.5
KRBS				Lg	Lg	17 37 35.9	
MRKS	**Merke** 2.7nm,0.2s	**6.19**	**324**	Pg	Pb	17 36 13.4	+4.1
MRKS				Lg	Lg	17 37 35.0	
ARXS	**Arharly** 5.7nm,0.5s	**6.38**	**358**	Pg	Pb	17 36 17.3	+4.8
ARXS				Lg	Lg	17 37 41.4	
	7.8nm,0.6s						

*NEIC **04** 17:49:35.1±2.8, 30°.29S±0°.06×177°.1W±0°.2, h5km±6km, mb4.5/9, Error ellipse: s-maj=21.5km s-min=8.6km az=80.0*
*IDC **04** 17:49:38.4±1.9, 28°.36S×177°.62W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=35.1km s-min=27.1km az=54.0*
ISC 04 17:49:39.1±1.2, 30°.34S±0°.08×177°.2W±0°.2, h35km, n20, σ1§71/20, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 599nm,0.3s,baz=13,slow=22,SNR=7.0	**1.27**	**329**	Pn	**Pn**	**17 49 58.6**	**-1.7**
RAO				Sn	**Sn**	**17 50 17.7**	**+1.7**
	490nm,0.3s,baz=98,slow=20,SNR=2.6						
URZ	**Urewera**	**9.21**	**209**	Pn	**Pn**	**17 51 48.1**	**-1.3**
BKZ	**Black Stump Fm**	**10.23**	**209**	Pn	**Pn**	**17 52 02.0**	**-1.4**
TUWZ	**Tuamarina**	**13.20**	**211**		**Pn**	**17 52 40.5**	**-3.5**
THZ	**Tophouse**	**13.94**	**212**	Pn	**Pn**	**17 52 53.3**	**-0.7**
ODZ	**Otahua Downs**	**17.54**	**210**		**P**	**17 53 41.5**	**-0.1**
ODZ				IAmb	IAmb	17 54 21.6	
	comp=Z,50nm,1.4s						
KNTN	**Kanton**	**27.89**	**12**	P	**P**	**17 55 24.4**	**-1.5**
STKA	**Stephens Creek**	**35.20**	**257**	P	P	17 56 34.8	+4.9
	comp=Z,1.5nm,0.8s,baz=86,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**35.20**	**257**	P	**P**	**17 56 29.1**	**-0.8**
BBOO	**Buckleboo**	**39.68**	**254**	P	**P**	**17 57 08.9**	**+1.0**
BBOO				IAmb	IAmb	17 57 12.8	
	comp=Z,17nm,1.3s						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**17 57 44.8**	**+2.8**
	comp=Z,1.0nm,0.8s,baz=109,slow=7.8,SNR=7.5						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**17 57 42.4**	**+0.4**
WR0	**Warramunga Arr**	**44.64**	**272**	P	**P**	**17 57 50.0**	**+1.6**
WB2	**Warramunga Arr**	**44.81**	**272**	P	**P**	**17 57 49.9**	**0.0**
WB2				IAmb	IAmb	17 57 57.5	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**44.82**	**272**	P	**P**	**17 57 51.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=110,slow=7.8,SNR=12						
WB0	**Warramunga Arr**	**44.84**	**272**	P	**P**	**17 57 50.5**	**+0.4**
FORT	**Forrest**	**46.76**	**255**	P	**P**	**17 58 06.7**	**+1.6**
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**17 59 43.2**	**+2.8**
QSPA				IAmb	IAmb	17 59 58.7	
	comp=Z,5.7nm,1.3s						
FINES	**FINESS Array B**	**145.33**	**341**	PKP	**PKPbc**	**18 09 11.7**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=48,slow=4.3,SNR=32						
AKASG	**Malin Array Be**	**151.69**	**323**	PKPbc	**PKiKP**	**18 09 29.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=47,slow=2.6,SNR=2.1						

*IDC **04** 18:05:24.8±2.1, 14°.28N×56°.92E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.4/50, mbtmp3.7/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/47, Error ellipse: s-maj=58.2km s-min=32.7km az=58.0*
ISC 04 18:05:26.2±2.1, 14°.2N±0°.3×56°.6E±0°.3, h10km, n11, σ1§84/7, mb3.5/7, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**13.71**	**260**	LR	LR	18 12 38.8	
	comp=Z,100nm,20.4s,baz=104,slow=31						
MKAR	**Makanchi Array**	**38.91**	**28**	P	**P**	**18 12 51.6**	**-0.5**
	0.7nm,0.8s,baz=239,slow=7.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**40.40**	**21**	P	**P**	**18 13 03.2**	**-1.2**
	0.9nm,0.8s,baz=223,slow=8.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**40.75**	**78**	P	**P**	**18 13 09.2**	**+1.5**
	0.9nm,1.0s,baz=280,slow=11,SNR=4.4						
AKASG	**Malin Array Be**	**42.61**	**334**	P	**P**	**18 13 21.8**	**-0.7**
	0.1nm,0.2s,baz=146,slow=7.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**45.38**	**23**	P	**P**	**18 13 42.7**	**-2.0**
	1.0nm,0.8s,baz=211,slow=7.8,SNR=4.9						
FINES	**FINESS Array B**	**52.01**	**342**	P	**P**	**18 14 37.6**	**+2.1**
	1.1nm,0.6s,baz=132,slow=7.7,SNR=5.5						
H01W3	**Cape Leeuwin H**	**73.19**	**134**	T	T	19 37 05.5	
	baz=302,slow=75,SNR=20						
H01W2	**Cape Leeuwin H**	**73.20**	**134**	T	T	19 37 08.6	
	baz=302,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**73.21**	**134**	T	T	19 37 06.2	
	baz=302,slow=75,SNR=22						
ASAR	**Alice Springs**	**84.35**	**116**	P	**P**	**18 17 58.3**	**-0.9**
	0.6nm,0.8s,baz=297,slow=4.9,SNR=9.8						

*IDC **04** 18:14:44.4±1.5, 29°.84N×142°.33E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.3/51, mbtmp3.7/4, ML2.9/2, Error ellipse: s-maj=75.2km s-min=27.6km az=89.0*
*NEIC **04** 18:14:44.9±1.4, 30°.33N±0°.10×143°.7E±0°.2, h38km±8km, mb4.4/4, Error ellipse: s-maj=24.1km s-min=12.9km az=103.0*
ISC 04 18:14:45.8±1.3, 30°.10N±0°.10×143°.1E±0°.3, h30km, n17, σ1§49/16, mb4.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 6.1nm,0.3s,baz=275,slow=19,SNR=2.0	**3.09**	**195**	Pn	**Pn**	**18 15 30.1**	**-2.5**
JCJ	**Chichijima**	**3.09**	**195**		**Pn**	**18 15 30.7**	**-1.9**
JHJ2	**Mitsune**	**4.09**	**318**	Pn	**Pn**	**18 15 46.5**	**+0.3**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=150,slow=12,SNR=8.2	**7.60**	**329**	Pn	**Pn**	**18 16 34.5**	**0.0**
MJAR	**Matsushiro Arr**	**7.60**	**329**		**Pn**	**18 16 34.3**	**-0.2**
MAJO	**Matsushiro**	**7.60**	**329**		**Pn**	**18 16 35.6**	**+1.0**
MJB9	**Matsu-Tunnel**	**7.61**	**329**	Pn	**Pn**	**18 16 36.8**	**+2.1**
JMM	**Marumori**	**7.97**	**347**	Pn	**Pn**	**18 16 37.1**	**-2.5**
JSD	**Sado**	**8.86**	**335**	Pn	**Pn**	**18 16 50.2**	**-1.6**
ERM	**Erimo**	**11.89**	**0**	Pn	Pn	18 17 27.8	-5.5
WB0	**Warramunga Arr**	**50.28**	**191**	P	**P**	**18 23 39.1**	**-0.4**
WB0				IAmb	IAmb	18 23 41.8	
	comp=Z,5.2nm,1.1s						
WR0	**Warramunga Arr**	**50.44**	**190**	P	**P**	**18 23 41.0**	**+0.2**
WB2	**Warramunga Arr**	**50.45**	**191**	P	**P**	**18 23 41.4**	**+0.5**
WB2				IAmb	IAmb	18 24 05.3	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**50.46**	**191**	P	**P**	**18 23 41.1**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=13,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**54.18**	**190**	P	**P**	**18 24 08.7**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=15,slow=11,SNR=10						
FORT	**Forrest**	**62.20**	**195**	P	**P**	**18 25 05.0**	**+0.6**
LPAZ	**La Paz**	**148.32**	**71**	PKPbc	**PKPab**	**18 34 35.7**	**+2.0**
	comp=Z,1.6nm,0.4s,baz=329,slow=7.9,SNR=7.3						

*IDC **04** 18:16:22.6±3.2, 37°.89N×78°.58E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.2/48, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=42.8km s-min=37.9km az=81.0*
*NNC **04** 18:16:24.1±1.9, 37°.89N×78°.69E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=15.5km s-min=12.2km az=76.0*
ISC 04 18:16:26.5±2.9, 38°.1N±0°.2×78°.4E±0°.1, h10km, n18, σ3§28/17, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty** 9.5nm,0.5s	**4.99**	**0**	Pg	**Pg**	**18 17 58.9**	**-3.2**
SATY				Lg	Lg	18 19 10.0	
UZB	**Uzynbulak** 4.4nm,0.6s	**5.10**	**5**	Pg	**Pb**	**18 17 58.6**	**+2.8**
UZB				Lg	Lg	18 19 09.5	
MDOK	**Medeo** 6.0nm,0.5s	**5.20**	**349**	Pg	**Pg**	**18 18 02.1**	**-3.9**
MDOK				⇓Lg	Lg	18 19 14.4	
MDOK	**Medeo** 8.5nm,0.5s	**5.20**	**349**	Pg	**Pg**	**18 18 03.2**	**-2.8**
MDOK				Lg	Lg	18 19 17.0	
KST	**Kastek** 4.8nm,0.7s	**5.31**	**340**	Pg	**Pg**	**18 18 04.5**	**-3.7**
KST				Lg	Lg	18 19 19.6	
PDGK	**Podgornoye** 2.9nm,0.4s	**5.32**	**9**	⇓Pg	**Pg**	**18 18 06.0**	**-2.4**
PDGK				⇓Lg	Lg	18 19 17.8	
AAK	**Ala-Archa** 0.7nm,0.3s,baz=174,slow=14,SNR=1.7	**5.46**	**328**	Pg	**Pb**	**18 18 06.7**	**+4.7**
AAK				Lg	Lg	18 19 22.6	
	0.7nm,0.3s,baz=10,slow=20,SNR=2.0						
AAK	**Ala-Archa** 5.4nm,0.6s	**5.46**	**328**	⇑Pg	**Pg**	**18 18 08.1**	**-2.9**
AAK				⇑Lg	Lg	18 19 27.9	
	19nm,0.9s						
DGS	**Degeres** 9.5nm,0.5s	**5.54**	**340**	Pg	**Pg**	**18 18 10.1**	**-2.6**
DGS				Lg	Lg	18 19 29.3	
	5.8nm,0.6s						
KTBS	**Karatobe** 3.1nm,0.5s	**5.79**	**348**	Pg	Pg	18 18 12.6	-4.8
KTBS				Lg	Lg	18 19 33.3	
	11nm,0.8s						
CHKK	**Chushkaly** 3.4nm,0.5s	**5.88**	**350**	Pg	**Pg**	**18 18 16.0**	**-3.1**
CHKK				Lg	Lg	18 19 39.5	
	7.9nm,0.9s						
KRBS	**Karabastau** 2.8nm,0.5s	**5.99**	**341**	Pg	**Pg**	**18 18 17.9**	**-3.3**
KRBS				Lg	Lg	18 19 42.6	
	3.8nm,0.8s						
KUU	**Kurty** 1.3nm,0.1s	**6.03**	**346**	Pg	**Pg**	**18 18 17.9**	**-4.0**
KUU				Lg	Lg	18 19 42.4	
	6.8nm,0.6s						
SGDS	**Sogindy** 1.5nm,0.5s	**6.09**	**333**	Pg	**Pg**	**18 18 20.6**	**-2.7**
SGDS				Lg	Lg	18 19 47.6	
	5.7nm,1.0s						
ARXS	**Arharly** 5.8nm,0.6s	**6.16**	**356**	Pg	Pg	18 18 19.3	-5.1
ARXS				Lg	Lg	18 19 45.5	
	5.3nm,0.7s						
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=200,slow=12,SNR=16	**9.18**	**17**	Pn	**Pn**	**18 18 38.5**	**-0.5**
MKAR				Sn	**Sn**	**18 20 25.2**	**+2.8**
	0.6nm,0.3s,baz=200,slow=26,SNR=6.7						
FINES	**FINESS Array B** 2.4nm,1.0s,baz=115,slow=6.6,SNR=4.0	**39.62**	**323**	P	**P**	**18 23 58.1**	**+0.1**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=90,slow=7.6,SNR=2.5	**46.74**	**322**	P	**P**	**18 24 54.4**	**-1.1**

*IDC **04** 18:17:54.8±2.5, 16°.92N×146°.73E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.6/49, mbtmp3.8/8, Error ellipse: s-maj=112.3km s-min=19.2km az=87.0*
*NEIC **04** 18:17:58.3±2.4, 16°.9N±0°.1×147°.2E±0°.1, h28km±6km, mb4.3/18, Error ellipse: s-maj=20.7km s-min=15.3km az=62.0*
ISC 04 18:17:58.5±0.7, 16°.8N±0°.1×147°.2E±0°.1, h35km, n30, σ1§48/30, mb4.1/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**14.71**	**131**	Pn	**Pn**	**18 21 21.7**	**-2.5**
PATS				Sn	Sn	18 23 51.0	-15
JWT	**Wachi**	**21.21**	**333**	P	**P**	**18 22 41.3**	**+0.1**
JWT				IAmb	IAmb	18 23 04.6	
	comp=Z,14nm,1.5s						
MJAR	**Matsushiro Arr**	**21.23**	**340**	P	**P**	**18 22 40.1**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=166,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**21.23**	**340**	P	**P**	**18 22 39.9**	**-1.5**
MAJO	**Matsushiro**	**21.23**	**340**	P	**P**	**18 22 39.4**	**-2.1**
MJB9	**Matsu-Tunnel**	**21.24**	**340**	P	**P**	**18 22 39.1**	**-2.4**
MJB9				IAmb	IAmb	18 22 43.9	
	comp=Z,4.4nm,0.7s						
JMM	**Marumori**	**21.75**	**346**	P	**P**	**18 22 47.9**	**+0.9**
JMM				IAmb	IAmb	18 22 49.0	
	comp=Z,16nm,1.1s						
JNU	**Nakatsue**	**21.92**	**321**	P	**P**	**18 22 47.8**	**-1.2**
JSD	**Sado**	**22.59**	**341**	P	**P**	**18 22 53.8**	**-2.1**
JSD				IAmb	IAmb	18 22 56.0	
	comp=Z,20nm,1.3s						
KSRS	**Korea Array**	**26.68**	**324**	P	**P**	**18 23 32.0**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=146,slow=9.2,SNR=4.5						
KLR	**Kul'dur**	**34.72**	**342**	P	**P**	**18 24 44.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=166,slow=5.6,SNR=5.7						
WB0	**Warramunga Arr**	**38.41**	**200**	P	**P**	**18 25 18.1**	**+1.2**
WB0				IAmb	IAmb	18 25 50.6	
	comp=Z,8.2nm,1.4s						
WR0	**Warramunga Arr**	**38.54**	**199**	P	**P**	**18 25 19.2**	**+1.3**
WR0				IAmb	IAmb	18 25 36.4	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**38.59**	**200**	P	**P**	**18 25 19.1**	**+0.8**
WB2				IAmb	IAmb	18 25 27.7	
	comp=Z,15nm,1.6s						
WRA	**Warramunga Arr**	**38.59**	**200**	P	**P**	**18 25 20.0**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=34,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**38.59**	**200**	P	**P**	**18 25 19.3**	**+0.9**
ASAR	**Alice Springs**	**42.22**	**198**	P	**P**	**18 25 49.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=15,slow=9.8,SNR=5.3						
GSI	**Gunungsitoli**	**51.13**	**258**	P	**P**	**18 26 58.7**	**+0.3**
TIXI	**Tiksi**	**55.94**	**353**	P	**P**	**18 27 33.4**	**+0.7**
TIXI				IAmb	IAmb	18 27 50.5	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**60.79**	**315**	P	**P**	**18 28 06.6**	**-0.5**
MAKZ	**Makanchi**	**61.01**	**315**	P	**P**	**18 28 08.3**	**-0.2**
MAKZ				IAmb	IAmb	18 28 23.1	
	comp=Z,5.0nm,1.4s						
BPAW	**Bear Paw Mtn.**	**62.87**	**26**	P	**P**	**18 28 22.3**	**+1.5**
KURK	**Kurchatov**	**63.62**	**319**	P	**P**	**18 28 25.5**	**-0.4**
KURBB	**Kurchatov Arra**	**63.67**	**319**	P	**P**	**18 28 25.5**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=99,slow=6.8,SNR=10.0						
ABKAR	**Akbulak array**	**75.69**	**318**	P	**P**	**18 29 38.7**	**-1.7**
ABKAR	**Akbulak array**	**75.69**	**318**	P	**P**	**18 29 39.0**	**-1.3**
ABKAR				IAmb	IAmb	18 30 13.5	
	comp=Z,1.8nm,1.2s						
PINE	**

ARCES ARCESS Array B 84.74 343 P **P 18 30 29.3 +0.6**
comp=Z,2.1nm,0.8s,baz=62,slow=7.6,SNR=4.4
ARCES ARCESS Array B 84.74 343 P **P 18 30 28.9 +0.2**
FINES FINESS Array B 89.21 336 P **P 18 30 49.9 -0.6**
comp=Z,0.8nm,0.8s,baz=104,slow=6.5,SNR=4.7

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*SOME **04** 18:18:38.9, 37°.68N×77°.98E, h0km*
*NNC **04** 18:18:41.1±2.0, 37°.67N×77°.83E, h0km, mb4.5, mpv4.0, Error ellipse: s-maj=15.0km s-min=13.5km az=86.0*
*IDC **04** 18:18:44.4±2.9, 37°.96N×78°.27E, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.3/50, mbtmp3.6/5, ML2.9/3, Error ellipse: s-maj=38.6km s-min=33.3km az=114.0*
*NEIC **04** 18:18:50.2±2.8, 38°.17N±0°.03×77°.1E±0°.1, h15km±6km, mb4.1/5, Error ellipse: s-maj=14.6km s-min=4.0km az=83.0*

ISC 04 18:18:46.1±0.9, 37°.97N±0°.04×77°.41E±0°.06, h10km, n60, σ2958/66, mb4.0/3, 4C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.92**	**324**	Pg	**Pg**	**18 19 21.4**	**-1.5**
KSH				Sg	**Sg**	**18 19 46.4**	**-1.3**
KSH				smax	smax		
	comp=N,350nm,0.4s						
KSH				smax	smax		
	comp=E,280nm,0.4s						
TARG	**Taragay, Kyrgy**	**3.77**	**4**		**Pn**	**18 19 46.2**	**+1.5**
KDJ	**Kajisay**	**4.16**	**358**		**Pn**	**18 19 52.0**	**+2.1**
DRK	**Karamyk**	**4.64**	**291**	Pn	**Pn**	**18 19 57.1**	**+0.5**
BOOM	**Boomskoye usch**	**4.66**	**346**		**Pn**	**18 19 58.2**	**+1.5**
SATY	**Saty**	**5.14**	**8**	*eP*	**Pb**	**18 20 20.3**	**+4.0**
	comp=E,28nm,0.7s						
SATY				*eS*	**Sg**	**18 21 33.5**	**+2.1**
	comp=E,28nm,0.8s						
SATY	**Saty**	**5.14**	**8**	Pg	**Pb**	**18 20 20.3**	**+4.0**
	comp=E,28nm,0.7s						
SATY				Lg	Lg	18 21 33.5	
	comp=E,28nm,0.8s						
AAK	**Ala-Archa**	**5.17**	**335**	Pg	**Pg**	**18 20 24.5**	**-0.7**
	comp=E,2.3nm,0.3s,baz=156,slow=9.4,SNR=5.7						
AAK				Lg	Lg	18 21 38.7	
	comp=E,1.7nm,0.3s,baz=354,slow=19,SNR=2.2						
AAK	**Ala-Archa**	**5.17**	**335**	⇓Pg	**Pg**	**18 20 22.1**	**-3.1**
	comp=E,9.3nm,0.6s						
AAK				⇑Lg	Lg	18 21 39.0	
	comp=E,20nm,1.1s						
AAK	**Ala-Archa**	**5.17**	**335**		**Pn**	**18 20 04.0**	**+0.3**
KST	**Kastek**	**5.19**	**348**	*eP*	**Pg**	**18 20 23.9**	**-1.7**
	comp=E,11nm,0.6s						
KST				*eS*	Sg	18 21 39.2	+6.4
	comp=E,22nm,1.1s						
KST	**Kastek**	**5.19**	**348**	Pg	**Pg**	**18 20 23.9**	**-1.7**
	comp=E,11nm,0.6s						
KST				Lg	Lg	18 21 39.3	
	comp=E,22nm,1.1s						
MDOK	**Medeo**	**5.20**	**357**	*eP*	**Pg**	**18 20 21.8**	**-4.0**
	comp=E,14nm,0.7s						
MDOK				*eS*	**Sg**	**18 21 35.9**	**+2.8**
	comp=E,33nm,0.8s						
MDOK	**Medeo**	**5.20**	**357**	Pg	**Pb**	**18 20 20.5**	**+3.2**
	comp=E,16nm,0.6s						
MDOK				⇑Lg	Lg	18 21 35.4	
	comp=E,55nm,1.0s						
MDOK	**Medeo**	**5.20**	**357**	Pg	**Pg**	**18 20 21.8**	**-4.0**
	comp=E,14nm,0.7s						
MDOK				Lg	Lg	18 21 35.9	
	comp=E,33nm,0.8s						
FRU1	**Bishkek**	**5.29**	**337**	Pn	**Pn**	**18 20 04.2**	**-1.0**
UZB	**Uzynbulak**	**5.32**	**13**	*eP*	**Pb**	**18 20 21.6**	**+2.3**
	comp=E,5.8nm,0.5s						
UZB				*eS*	**Sg**	**18 21 35.6**	**-1.3**
	comp=E,11nm,0.8s						
UZB	**Uzynbulak**	**5.32**	**13**	Pg	**Pb**	**18 20 21.6**	**+2.3**
	comp=E,5.8nm,0.5s						
UZB				Lg	Lg	18 21 35.6	
	comp=E,15nm,0.6s						
SHLS	**Shalkode**	**5.42**	**16**	*eP*	**Pb**	**18 20 25.4**	**+4.5**
	comp=E,24nm,0.5s						
SHLS				*eS*	**Sg**	**18 21 42.3**	**+2.3**
	comp=E,33nm,1.0s						
SHLS	**Shalkode**	**5.42**	**16**	Pg	**Pb**	**18 20 25.4**	**+4.5**
	comp=E,24nm,0.5s						
SHLS				Lg	Lg	18 21 42.3	
	comp=E,33nm,1.0s						
DGS	**Degeres**	**5.42**	**347**	*eP*	**Pg**	**18 20 26.8**	**-3.1**
	comp=E,15nm,0.6s						
DGS				*eS*	**Sg**	**18 21 44.0**	**+3.9**
	comp=E,15nm,0.7s						
DGS	**Degeres**	**5.42**	**347**	Pg	**Pg**	**18 20 26.8**	**-3.1**
	comp=E,15nm,0.6s						
DGS				Lg	Lg	18 21 44.0	
	comp=E,15nm,0.7s						
NIL	**Nilore**	**5.47**	**219**	Pn	**Pn**	**18 20 10.5**	**+2.7**
BTK	**Batken**	**5.54**	**294**	Pn	**Pn**	**18 20 07.6**	**-1.2**
KPKS	**Kokpek**	**5.58**	**10**	*eP*	**Pb**	**18 20 28.2**	**+4.6**
	comp=E,23nm,0.5s						
KPKS				*eS*	**Sg**	**18 21 47.0**	**+1.8**
	comp=E,18nm,0.9s						
PDGK	**Podgornoye**	**5.59**	**16**	Pg	**Pb**	**18 20 25.9**	**+2.1**
	comp=E,3.1nm,0.5s						
PDGK				Lg	Lg	18 21 42.9	
	comp=E,7.4nm,0.8s						
PDGK	**Podgornoye**	**5.59**	**16**	⇑Pg	**Pb**	**18 20 25.4**	**+1.6**
	comp=E,8.7nm,0.8s						
PDGK				⇑Lg	Lg	18 21 45.9	
	comp=E,9.8nm,0.7s						
GAR	**Garm**	**5.66**	**283**	Pn	**Pn**	**18 20 09.9**	**-0.6**
MRKS	**Merke**	**5.75**	**328**	*eP*	**Pg**	**18 20 37.0**	**+0.8**
	comp=E,9.3nm,0.7s						
MRKS				*eS*	Sg	18 22 02.1	+11
	comp=E,14nm,0.8s						
KTBS	**Karatobe**	**5.77**	**355**	*eP*	**Pb**	**18 20 31.3**	**+4.5**
	comp=E,5.8nm,0.5s						
KTBS				*eS*	**Sg**	**18 21 52.2**	**+0.9**
	comp=E,27nm,1.3s						
KRBS	**Karabastau**	**5.88**	**348**	*eP*	Pg	18 20 34.1	-4.6
	comp=E,8.7nm,0.5s						
KRBS				*eS*	**Sg**	**18 21 57.1**	**+2.4**
	comp=E,16nm,0.8s						
KRBS	**Karabastau**	**5.88**	**348**	Pg	Pg	18 20 34.1	-4.6
	comp=E,8.7nm,0.5s						
KRBS				Lg	Lg	18 21 57.1	
	comp=E,16nm,0.8s						
SGDS	**Sogindy**	**5.88**	**340**	Pg	**Pg**	**18 20 35.1**	**-3.6**
	comp=E,4.5nm,0.6s						
SGDS				Lg	Lg	18 21 59.0	
	comp=E,10nm,1.0s						
CHKK	**Chushkaly**	**5.89**	**357**	*eP*	Pg	18 20 34.2	-4.7
	comp=E,8.4nm,0.6s						
CHKK				*eS*	**Sg**	**18 21 57.0**	**+1.8**
	comp=E,12nm,0.7s						
CHKK	**Chushkaly**	**5.89**	**357**	Pg	Pg	18 20 34.2	-4.7
	comp=E,8.4nm,0.6s						
CHKK				Lg	Lg	18 21 57.0	
	comp=E,12nm,0.7s						
KTMS	**Ketmen**	**5.91**	**21**	*eP*	**Pb**	**18 20 33.1**	**+3.7**
	comp=E,4.0nm,0.3s						
KTMS				*eS*	**Sg**	**18 21 55.4**	**-0.5**
	comp=E,7.3nm,0.4s						
KUU	**Kurty**	**5.98**	**353**	*eP*	**Pg**	**18 20 38.9**	**-1.7**
	comp=E,3.7nm,0.2s						
KUU				*eS*	Sg	18 22 05.3	+7.3
	comp=E,16nm,0.5s						
KUU	**Kurty**	**5.98**	**353**	Pg	**Pg**	**18 20 38.9**	**-1.7**
	comp=E,3.7nm,0.2s						
KUU				Lg	Lg	18 22 05.3	
	comp=E,16nm,0.5s						
ARXS	**Arharly**	**6.25**	**3**	*eP*	**Pb**	**18 20 39.2**	**+4.2**
	comp=E,14nm,0.6s						
ARXS				*eS*	**Sg**	**18 22 06.1**	**-0.6**
	comp=E,13nm,0.6s						
CHGR	**Chuyangaron**	**6.53**	**279**	Pn	**Pn**	**18 20 23.0**	**+0.6**
KK31	**Karatay Array**	**7.34**	**316**	Pn	**Pn**	**18 20 33.6**	**+0.1**
KKAR	**Karatay Array**	**7.34**	**316**	Pn	**Pn**	**18 20 32.0**	**-1.4**
KKAR	**Karatay Array**	**7.34**	**316**	Pn	**Pn**	**18 20 32.5**	**-1.0**
MAKZ	**Makanchi**	**9.46**	**19**	Pn	**Pn**	**18 21 00.5**	**-1.9**
MK31	**Makanchi Array**	**9.53**	**21**	Pn	Pn	18 21 00.3	-3.1
MKAR	**Makanchi Array**	**9.53**	**21**	Pn	Pn	18 21 00.6	-2.8
	comp=E,0.9nm,0.3s,baz=199,slow=12,SNR=10.0						
MKAR				Sn	**Sn**	**18 22 45.8**	**-4.7**
	comp=E,0.2nm,0.3s,baz=199,slow=26,SNR=3.0						
WMQ	**Urumqi**	**9.73**	**50**	*eP*	Pn	18 21 04.0	-2.2
KURBB	**Kurchatov Arra**	**12.68**	**3**	Pn	**Pn**	**18 21 45.6**	**-0.9**
	comp=E,0.0nm,0.3s,baz=189,slow=13,SNR=4.7						
KURK	**Kurchatov**	**12.78**	**3**		**Pn**	**18 21 45.6**	**-2.2**

BVAR Borovoye Array 15.83 344 Pn **P 18 22 33.7 +0.9**
comp=E,0.2nm,0.3s,baz=208,slow=18,SNR=5.6
BRVK Borovoye 15.89 344 Pn **Pn 18 22 27.9 -1.8**
BRVK IAmb IAmb 18 22 35.4
comp=Z,9.4nm,1.9s
ZALV Zalesovo Beam 16.78 15 Pn **Pn 18 22 37.7 -3.4**
comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=2.3
FIA1 FINESS Array S 39.24 324 P **P 18 26 13.8 -0.6**
FIA1 IAmb IAmb 18 26 31.8
comp=Z,23nm,1.8s
FINES FINESS Array B 39.24 324 P **P 18 26 17.4 +3.1**
comp=Z,1.7nm,0.6s,baz=101,slow=9.9,SNR=10
FINES FINESS Array B 39.24 324 P **P 18 26 13.8 -0.5**
NC405 NORSAR Array S 46.09 322 P **P 18 27 09.7 -0.3**
NC303 NORSAR Array S 46.26 322 P **P 18 27 12.7 +1.3**
NB2 NORSAR Subarra 46.34 322 P **P 18 27 14.7 +2.7**
comp=Z,0.9nm,0.5s,baz=89,slow=7.9
NOA NORSAR Array B 46.34 322 P **P 18 27 15.2 +3.2**
comp=Z,1.0nm,0.6s,baz=90,slow=7.7,SNR=9.2
NAO01 NORSAR Array S 46.51 322 P **P 18 27 16.0 +2.7**

IDC 04 18:24:07.4±2.0, 27°.98N×84°.60E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.3/49, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=93.2km s-min=30.1km az=60.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.87**	**355**	P	Pn	18 28 29.6	0.0
	0.1nm,0.3s,baz=172,slow=12,SNR=3.9						
ZALV	**Zalesovo Beam**	**25.94**	**0**	P	P	18 29 41.5	+0.2
	0.3nm,0.4s,baz=168,slow=7.4,SNR=2.0						
FINES	**FINESS Array B**	**50.86**	**328**	P	P	18 33 09.4	-0.3
	0.5nm,0.5s,baz=108,slow=6.2,SNR=6.4						
ARCES	**ARCESS Array B**	**53.37**	**338**	P	P	18 33 28.1	-0.2
	0.7nm,0.5s,baz=101,slow=8.4,SNR=1.2						
WRA	**Warramunga Arr**	**67.70**	**129**	P	P	18 35 06.8	0.0
	0.6nm,0.9s,baz=326,slow=6.1,SNR=1.8						

IDC 04 18:31:23.4±1.7, 1°.16N×126°.63E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=163.2km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.29**	**161**	P	P	18 36 21.9	-0.6
	0.9nm,0.6s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.67**	**164**	P	P	18 36 55.3	+0.1
	0.4nm,0.3s,baz=344,slow=11,SNR=23						
ASAR				PcP	PcP	18 40 26.7	+0.6
	0.2nm,0.5s,baz=348,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**59.61**	**326**	P	P	18 41 28.9	-0.3
	0.4nm,0.5s,baz=130,slow=7.2,SNR=7.5						

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*IDC **04** 18:41:29.1±1.2, 12°.79N×93°.18E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/33, mbtmp3.6/9, ML3.8/1, Error ellipse: s-maj=37.8km s-min=20.5km az=54.0*
*NDI **04** 18:41:33.0±2.7, 13°.25N×93°.17E, h33km, ML3.6, mb4.5(NEIC)*
*NEIC **04** 18:41:36.4±1.3, 12°.94N±0°.08×93°.2E±0°.1, h48km±10km, mb4.5/8, Error ellipse: s-maj=18.5km s-min=5.2km az=127.0*

ISC 04 18:41:33.6±1.0, 13°.0N±0°.1×93°.11E±0°.09, h32km, n28, σ1953/22, mb3.8/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.28**	**320**	*eP*	**Pb**	**18 41 38.6**	**-2.3**
DGPR				*eS*	**Sb**	**18 41 43.8**	**-2.2**
DGPR				IAML		18 41 45.1	
	comp=N,5μm,0.5s						
DGPR				IAML		18 41 46.7	
	comp=E,10μm,0.5s						
PBA	**Port Blair**	**1.35**	**196**	*eP*	Pb	18 41 59.6	+1.3
PBA				*eS*	Sb	18 42 21.0	+5.8
PBA				IAML		18 42 26.0	
	comp=E,518nm,0.3s						
PBA				IAML		18 42 26.1	
	comp=N,702nm,0.5s						
PBA	**Port Blair**	**1.35**	**196**		Pb	18 41 58.5	+0.3
CMAR	**Chiang Mai Arr**	**7.83**	**45**	Pn	**Pn**	**18 43 27.3**	**+1.9**
	comp=N,0.4nm,0.3s,baz=237,slow=15,SNR=15						
CMAR				Sn	**Sn**	**18 44 52.9**	**-0.1**
	comp=N,0.2nm,0.3s,baz=230,slow=18,SNR=4.8						
CMAR	**Chiang Mai Arr**	**7.83**	**45**		**Pn**	**18 43 23.2**	**-2.2**
CHTO	**Chiang Mai**	**8.08**	**43**		**Pn**	**18 43 29.9**	**+1.2**
PBKT	**Sadao Pong**	**8.40**	**64**	Pn	Pn	18 43 35.7	+2.5
VIS	**Vishakhapatnam**	**10.55**	**298**	*eS*	Sn	18 45 49.1	-11
H08S3	**Diego Garcia H**	**28.96**	**226**	T	T	19 17 19.6	
	baz=44,slow=76,SNR=4.8						
H08S2	**Diego Garcia H**	**28.96**	**226**	T	T	19 17 18.7	
	baz=44,slow=76,SNR=4.0						
H08S1	**Diego Carcia H**	**28.98**	**226**	T	T	19 17 16.5	
	baz=44,slow=76,SNR=4.2						
NACB	**Ninganchiao**	**29.15**	**63**	P	**P**	**18 47 30.4**	**-1.6**
NACB				IAmb	IAmb	18 47 58.0	
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**34.93**	**347**	P	**P**	**18 48 23.5**	**+1.0**
MK31				IAmb	IAmb	18 48 55.7	
	comp=Z,3.7nm,1.4s						
MKAR	**Makanchi Array**	**34.93**	**347**	P	**P**	**18 48 23.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=160,slow=8.7,SNR=4.1						
KSRS	**Korea Array**	**39.47**	**46**	P	**P**	**18 49 00.8**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=237,slow=8.6,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.41**	**353**	P	**P**	**18 49 18.7**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=184,slow=9.4,SNR=2.4						
ABKAR	**Akbulak array**	**45.33**	**330**	P	**P**	**18 49 49.4**	**+0.8**
WB0	**Warramunga Arr**	**52.05**	**128**	P	**P**	**18 50 39.4**	**-1.3**
WB0				IAmb	IAmb	18 50 47.4	
	comp=Z,8.9nm,1.4s						
WRA	**Warramunga Arr**	**52.11**	**128**	P	**P**	**18 50 39.7**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=306,slow=9.4,SNR=6.5						
WRA	**Warramunga Arr**	**52.11**	**128**	IAmb	IAmb	18 50 41.3	
	comp=Z,0.3nm,1.5s						
WB2	**Warramunga Arr**	**52.12**	**128**	P	**P**	**18 50 40.7**	**-0.4**
WR0	**Warramunga Arr**	**52.27**	**128**	P	**P**	**18 50 41.4**	**-0.9**
WR0				IAmb	IAmb	18 51 07.6	
	comp=Z,8.2nm,1.4s						
ASAR	**Alice Springs**	**54.00**	**132**	P	**P**	**18 50 54.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=311,slow=7.5,SNR=9.8						
FIA1	**FINESS Array S**	**67.78**	**331**	P	**P**	**18 52 28.0**	**-0.1**
FINES	**FINESS Array B**	**67.78**	**331**	P	**P**	**18 52 30.5**	**+2.4**
	comp=Z,1.1nm,0.8s,baz=104,slow=14,SNR=3.5						
FINES	**FINESS Array B**	**67.78**	**331**	P	**P**	**18 52 28.5**	**+0.5**
ARCES	**ARCESS Array B**	**70.17**	**340**	P	**P**	**18 52 44.5**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=77,slow=5.5,SNR=3.9						
GERES	**GERESS Array B**	**73.40**	**317**	P	**P**	**18 53 04.1**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=93,slow=6.3,SNR=3.2						

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*IDC **04** 18:55:17.8±2.2, 38°.37N×141°.95E, h42km±23km, mb3.3/5, mb1 3.5/9, mb1mx3.3/48, mbtmp3.5/9, ML3.0/4, MS2.2/1, Ms1 2.2/1, ms1mx2.0/32, Error ellipse: s-maj=35.1km s-min=11.7km az=102.0*
*JMA **04** 18:55:19.4, 38°.43N×141°.83E, h54km, M3.9*
JMA Felt I J1.
*NIED **04** 18:55:19.5, 38°.43N×141°.83E, h54km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.93; $M_{\theta\theta}$-0.96; $M_{\phi\phi}$-1.98; $M_{r\theta}$1.04; $M_{\theta\phi}$-0.96; $M_{\phi r}$2.06; Fault plane solution: $M_0$3.58000×10^{14} NP1:ϕ_s28.00000°, δ65.00000°, λ88.00000°. NP2:ϕ_s213.00000°, δ25.00000°, λ94.00000°.*

ISC 04 18:55:18.9±1.3, 38°.39N±0°.05×142°.0E±0°.1, h46km±11km, n31, σ1923/38, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.41**	**259**	P	**Pn**	**18 55 29.0**	**+0.3**
JIKH				S	**Sn**	**18 55 35.8**	**0.0**
JIO	**Ouri**	**0.49**	**278**	P	**Pn**	**18 55 29.7**	**-0.1**
JIO				S	**Sn**	**18 55 37.0**	**-0.6**
JKMT	**Kesennumamotoy**	**0.57**	**317**	P	**Pn**	**18 55 30.7**	**-0.1**
JKMT				S	**Sn**	**18 55 38.8**	**-0.6**
OFUJ	**Ofunato**	**0.73**	**341**	P	**Pn**	**18 55 32.8**	**-0.1**
OFUJ				S	**Sn**	**18 55 42.6**	**-0.4**
JMK	**Ichinoseki**	**0.81**	**314**	P	**Pn**	**18 55 33.7**	**-0.3**
JMK				S	**Sn**	**18 55 44.1**	**-0.9**
JOU	**Okura**	**1.03**	**269**	P	**Pn**	**18 55 36.3**	**-0.6**
JOU				*eS*	**Sn**	**18 55 49.0**	**-1.2**
JMM	**Marumori**	**1.07**	**241**	P	**Pn**	**18 55 36.8**	**-0.6**
JMM				*eS*	**Sn**	**18 55 49.7**	**-1.4**
JOM	**Ohasama**	**1.21**	**334**	P	**Pn**	**18 55 39.2**	**-0.1**
JFK	**Kawauchi**	**1.34**	**221**	P	**Pn**	**18 55 41.0**	**-0.2**
JFK				*eS*	**Sn**	**18 55 57.2**	**-0.6**
JYK	**Kaneyama**	**1.37**	**293**	P	**Pn**	**18 55 41.0**	**-0.5**
JYK				*eS*	**Sn**	**18 55 57.5**	**-1.0**
JRG	**Rokugo**	**1.45**	**314**	P	**Pn**	**18 55 42.2**	**-0.4**
JYS	**Shiratake**	**1.51**	**264**	P	**Pn**	**18 55 43.1**	**-0.3**
JFT	**Otama**	**1.56**	**237**	P	**Pn**	**18 55 44.3**	**+0.2**
JFT				S	**Sn**	**18 56 02.3**	**-0.8**
MAT	**Matsushiro**	**3.52**	**240**	P	**Pn**	**18 56 12.6**	**+1.6**
MAT				*eS*	**Sn**	**18 56 54.3**	**+2.9**
MJAR	**Matsushiro Arr**	**3.52**	**240**	P	**Pn**	**18 56 09.9**	**-1.1**
	0.2nm,0.3s,baz=217,slow=5.8,SNR=15						
MJAR				LR	LR	18 57 23.9	
	comp=Z,37nm,19.6s,baz=320,slow=36						
JHJ	**Hachijo jima 2**	**5.55**	**199**	P	**Pn**	**18 56 39.1**	**+0.2**
	6.6nm,0.3s,baz=226,slow=15,SNR=1.9						
JHJ				S	**Sn**	**18 57 38.9**	**-2.5**
	6.6nm,0.3s,baz=60,slow=23,SNR=2.4						
ASAJ	**Asahikawa**	**5.74**	**4**	P	**Pn**	**18 56 40.9**	**-0.6**
	1.0nm,0.3s,baz=204,slow=11,SNR=23						
ASAJ				S	**Sn**	**18 57 44.9**	**-1.1**
	1.1nm,0.3s,baz=325,slow=25,SNR=2.3						
USRK	**Ussuriysk Ar.**	**9.49**	**311**	P	**Pn**	**18 57 33.1**	**+0.3**
	baz=121,slow=14,SNR=4.8						
KSRS	**Korea Array**	**11.14**	**270**	P	**Pn**	**18 57 59.0**	**+3.6**
	0.1nm,0.3s,baz=84,slow=14,SNR=2.3						
H11N2	**WAKE ISLAND Hy 28.49**	**124**		T	T	19 31 31.1	
	baz=316,slow=75,SNR=233						
H11N1	**WAKE ISLAND Hy 28.50**	**124**		T	T	19 31 26.7	
	baz=316,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy 28.51**	**124**		T	T	19 31 32.5	
	baz=316,slow=75,SNR=232						
H11S1	**WAKE ISLAND Hy 29.25**	**126**		T	T	19 32 23.8	
	baz=318,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy 29.26**	**126**		T	T	19 32 23.9	
	baz=318,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy 29.27**	**126**		T	T	19 32 25.4	
	baz=318,slow=76,SNR=59						
ZALV	**Zalesovo Beam**	**41.34**	**311**	P	**P**	**19 02 58.7**	**-1.2**
	0.8nm,0.4s,baz=71,slow=10,SNR=4.9						
NRIK	**Noril'sk**	**42.23**	**335**	P	**P**	**19 03 09.3**	**+2.4**
	3.6nm,0.6s,baz=106,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**48.12**	**33**	P	**P**	**19 03 52.6**	**-1.1**
	0.2nm,0.7s,baz=277,slow=7.2,SNR=2.6						
WRA	**Warramunga Arr**	**58.46**	**188**	P	**P**	**19 05 09.0**	**-1.1**
	0.4nm,0.5s,baz=6.2,slow=7.3,SNR=9.0						
ASAR	**Alice Springs**	**62.19**	**188**	P	**P**	**19 05 34.9**	**-0.6**
	0.3nm,0.9s,baz=30,slow=6.7,SNR=4.9						
PDAR	**Pinedale Array**	**76.40**	**46**	P	**P**	**19 07 03.9**	**+0.2**
	0.3nm,0.5s,baz=169,slow=0.8,SNR=5.1						

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*IDC **04** 19:05:15.4±4.4, 6°.83N×81°.96W, h0km, mb3.4/4, mb1 4.0/5, mb1mx3.7/26, mbtmp3.6/5, ML4.8/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=215.3km s-min=55.9km az=41.0*
*UPA **04** 19:05:15.1±1.0, 6°.22N×82°.60W, h10km±16km, MW4.0*
*NEIC **04** 19:05:17.2±1.6, 6°.4N±0°.1×82°.52W±0°.09, h10km±2km, mb4.2/5, Error ellipse: s-maj=20.4km s-min=10.2km az=215.0*

ISC 04 19:05:15.6±1.1, 6°.27N±0°.07×82°.59W±0°.05, h10km, n63, σ0981/83, mb3.6/7, 2C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**2.01**	**42**	*eP*	**Pn**	**19 05 49.1**	**-0.5**
GMAL				*eS*	**Sn**	**19 06 14.9**	**+0.1**
GMAL	**Guarumal, Vera**	**2.01**	**42**	*eP*	**Pn**	**19 05 49.1**	**-0.5**
GMAL				*eS*	**Sn**	**19 06 14.9**	**+0.1**
CACAO	**El Cacao, Vera**	**2.02**	**58**	*eP*	**Pn**	**19 05 49.3**	**-0.6**
CACAO				*eS*	**Sn**	**19 06 15.0**	**-0.2**
CACAO	**El Cacao, Vera**	**2.02**	**58**	*eP*	**Pn**	**19 05 49.3**	**-0.6**
CACAO				*eS*	**Sn**	**19 06 15.0**	**-0.2**
DVD	**David**	**2.16**	**4**	*eP*	**Pn**	**19 05 51.6**	**-0.1**
DVD				*eS*	**Sn**	**19 06 17.5**	**-1.1**
DVD	**David**	**2.16**	**4**	*eP*	**Pn**	**19 05 51.6**	**-0.1**
DVD				*eS*	**Sn**	**19 06 17.5**	**-1.1**
PIRO	**Carate, Puerto**	**2.25**	**341**	*eP*	**Pn**	**19 05 51.9**	**-1.1**
PIRO				*eS*	**Sn**	**19 06 21.9**	**+1.0**
PIRO	**Carate, Puerto**	**2.25**	**341**	*eP*	**Pn**	**19 05 51.9**	**-1.1**
PIRO				*eS*	**Sn**	**19 06 21.9**	**+1.0**
CDITO	**Canoas**	**2.31**	**353**	*eP*	**Pn**	**19 05 52.9**	**-0.9**
CDITO				*eS*	**Sn**	**19 06 23.1**	**+0.8**
CDITO	**Canoas**	**2.31**	**353**	*eP*	**Pn**	**19 05 52.9**	**-0.9**
CDITO				*eS*	**Sn**	**19 06 23.1**	**+0.8**
CDITO	**Canoas**	**2.31**	**353**		**Pn**	**19 05 52.7**	**-1.1**
PTJ1	**Puerto Jimnez**	**2.37**	**343**	*eP*	**Pn**	**19 05 54.0**	**-0.5**
PTJ1				*eS*	**Sn**	**19 06 23.5**	**-0.1**
PTJ1	**Puerto Jimnez**	**2.37**	**343**	*eP*	**Pn**	**19 05 54.0**	**-0.5**
PTJ1				*eS*	**Sn**	**19 06 23.5**	**-0.1**
PTAR3	**Potrerillos Ar**	**2.41**	**2**	*eP*	**Pn**	**19 05 55.8**	**+0.4**
PTAR3	**Potrerillos Ar**	**2.41**	**2**	*eP*	**Pn**	**19 05 55.8**	**+0.4**
PSOM3	**Paja de Sombre**	**2.42**	**6**	*eP*	**Pn**	**19 05 54.9**	**-0.4**
PSOM3	**Paja de Sombre**	**2.42**	**6**	*eP*	**Pn**	**19 05 54.9**

comp=Z,8.1nm,1.4s
SRU San Rafael Swe 41.29 326 P P 19 13 01.9 +0.4
PDAR Pinedale Array 43.47 331 P P 19 13 20.0 +0.7
comp=Z,0.4nm,0.8s,baz=145,slow=9.9,SNR=2.8
NVAR Mina Array Bea 45.49 320 P P 19 13 36.3 +0.8
comp=Z,0.3nm,0.5s,baz=138,slow=6.9,SNR=4.6
NVAR Mina Array Bea 45.49 320 P P 19 13 34.6 -0.9
MDPB Devils Postpil 45.54 319 P P 19 13 36.3 +0.3
MDPB IAmb IAmb 19 13 38.4
comp=Z,2.8nm,1.0s
BOZ Bozeman (W) 46.58 332 P P 19 13 44.8 +0.9
BCAR Beaver Creek A 70.83 336 P P 19 16 33.4 +0.9
ILAR Eielson Array 73.58 336 P P 19 16 48.3 -0.5
comp=Z,0.5nm,0.9s,baz=120,slow=4.0,SNR=4.5

NNC 04 19:19:29.2±3.0, 37°.63N×77°.70E, h0km, mb3.9, mpv3.6, 2C-4D, Error ellipse: s-maj=20.0km s-min=19.7km az=116.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.52**	**344**	⇓Pg	Pb	19 21 10.2	+3.6
TKM2	1.5nm,0.5s			⇓Lg	Lg	19 22 21.8	
MDOK	**Medeo**	**5.55**	**355**	Pg	Pb	19 21 10.8	+3.8
MDOK	2.3nm,0.5s 5.5nm,0.6s			Lg	Lg	19 22 22.4	
MDOK	**Medeo**	**5.55**	**355**	Pg	Pg	19 21 12.0	-3.5
MDOK	11nm,0.9s 3.8nm,0.5s			Lg	Lg	19 22 30.4	
KST	**Kastek**	**5.56**	**347**	Pg	Pg	19 21 11.6	-4.2
KST	9.5nm,0.9s 1.1nm,0.4s			Lg	Lg	19 22 29.4	
AAK	**Ala-Archa**	**5.57**	**335**	⇑Pg	Pb	19 21 10.6	+3.2
AAK	6.9nm,1.1s 2.0nm,0.5s			⇓Lg	Lg	19 22 22.4	
UZB	**Uzynbulak**	**5.60**	**10**	Pg	Pb	19 21 09.0	+1.0
UZB	5.8nm,0.8s 1.3nm,0.2s			Lg	Lg	19 22 24.9	
SHLS	**Shalkode**	**5.68**	**13**	Pg	Pb	19 21 13.5	+4.2
SHLS	9.3nm,0.9s 4.1nm,0.5s			Lg	Lg	19 22 32.9	
PDGK	**Podgornoye**	**5.85**	**13**	⇑Pg	Pb	19 21 15.6	+3.3
PDGK	25nm,1.0s 3.3nm,0.6s			⇓Lg	Lg	19 22 34.0	
KTMS	**Ketmen**	**6.15**	**18**	Pg	Pb	19 21 22.2	+4.8
KTMS	17nm,0.8s 1.8nm,0.1s			Lg	Lg	19 22 47.6	
CHKK	**Chushkaly**	**6.24**	**355**	Pg	Pg	19 21 24.3	-4.4
CHKK	8.8nm,0.6s 0.9nm,0.1s			Lg	Lg	19 22 51.3	
KRBS	**Karabastau**	**6.25**	**346**	Pg	Pb	19 21 23.3	+4.4
KRBS	7.0nm,0.7s 5.9nm,0.9s			Lg	Lg	19 22 49.9	

IDC 04 19:20:17.0±3.4, 35°.19S×179°.58W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=76.6km s-min=37.5km az=120.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.05**	**220**	Pn	Pn	19 21 20.6	+0.4
URZ	2.0nm,0.3s,baz=285,slow=3.6,SNR=14			Sn	Sn	19 22 07.4	-1.0
ASAR	**Alice Springs**	**41.77**	**273**	P	P	19 28 08.6	+0.3
WRA	**Warramunga Arr**	**43.20**	**278**	P	P	19 28 19.3	-0.5
FINES	**FINESS Array B**	**149.08**	**336**	PKPbc	PKPbc	19 40 05.7	-0.6

*IDC **04** 19:22:59.9±2.5, 37°.58N×78°.14E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/47, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=44.4km s-min=27.7km az=100.0*
*NNC **04** 19:23:03.3±1.5, 37°.71N×78°.06E, h0km, mb4.1, mpv3.6, Error ellipse: s-maj=10.5km s-min=10.0km az=76.0*
ISC 04 19:23:01.7±2.0, 37°.4N±0°.1×78°.2E±0°.1, h17km, n22, σ1°.79/25, mb3.7/3, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.65**	**1**	Pg	Pb	19 24 41.2	+1.3
SATY	11nm,1.0s			Lg	Lg	19 25 54.7	
UZB	**Uzynbulak**	**5.77**	**6**	Pg	Pb	19 24 41.3	-0.6
UZB	5.1nm,0.3s			Lg	Lg	19 25 54.9	
MDOK	**Medeo**	**5.83**	**351**	⇓Pg	Pb	19 24 44.0	+1.2
MDOK	7.8nm,0.6s 37nm,0.8s			Lg	Lg	19 25 58.5	
MDOK	**Medeo**	**5.83**	**351**	Pg	Pb	19 24 44.1	+1.2
MDOK	5.2nm,0.5s 30nm,0.9s			Lg	Lg	19 25 59.4	
SHLS	**Shalkode**	**5.83**	**9**	Pg	Pb	19 24 45.1	+2.2
SHLS	9.6nm,0.5s 31nm,0.8s			Lg	Lg	19 26 01.2	
TKM2	**Tokmak 2**	**5.87**	**341**	⇑Pg	Pb	19 24 43.8	+0.2
TKM2	3.9nm,0.7s 14nm,0.9s			⇑Lg	Lg	19 25 59.4	
KST	**Kastek**	**5.89**	**344**	Pg	Pb	19 24 43.6	-0.5
KST	3.8nm,0.8s 9.8nm,0.7s			Lg	Lg	19 25 58.6	
AAK	**Ala-Archa**	**5.96**	**332**	Pg	Pb	19 24 46.0	+0.8
AAK	1.0nm,0.3s,baz=158,slow=11,SNR=2.2 0.8nm,0.3s,baz=26,slow=22,SNR=1.9			Lg	Lg	19 26 02.1	
AAK	**Ala-Archa**	**5.96**	**332**	⇓Pg	Pb	19 24 45.5	+0.3
AAK	2.6nm,0.5s 19nm,0.8s			⇓Lg	Lg	19 25 60.0	
PDGK	**Podgornoye**	**6.00**	**9**	Pg	Pb	19 24 47.4	+1.6
PDGK	2.2nm,0.5s 7.5nm,0.7s			Lg	Lg	19 26 04.9	
PDGK	**Podgornoye**	**6.00**	**9**	⇓Pn	Pn	19 24 30.0	+0.2
PDGK	2.2nm,0.4s 4.6nm,0.5s			⇑Pg	Pb	19 24 47.4	+1.6
PDGK	18nm,0.8s			⇑Sn	Sn	19 25 36.7	-1.4
PDGK	21nm,0.8s			⇑Lg	Lg	19 26 04.6	
DGS	**Degeres**	**6.13**	**343**	Pg	Pb	19 24 50.5	+2.5
DGS	6.2nm,0.4s 14nm,0.7s			Lg	Lg	19 26 10.3	
CHKK	**Chushkaly**	**6.51**	**352**	Pg	Pb	19 24 56.7	+2.2
CHKK	1.4nm,0.1s 15nm,0.7s			Lg	Lg	19 26 20.8	
KRBS	**Karabastau**	**6.58**	**344**	Pg	Pb	19 24 57.1	+1.4
KRBS	2.1nm,0.6s 3.9nm,0.6s			Lg	Lg	19 26 21.6	
SGDS	**Sogindy**	**6.64**	**337**	Pg	Pb	19 24 58.8	+2.1
SGDS	1.9nm,0.5s 5.6nm,1.0s			Lg	Lg	19 26 24.1	
DJR	**Jarkent**	**7.02**	**9**	Pg	Pb	19 25 05.0	+1.7
DJR	0.3nm,0.2s 0.8nm,0.7s			Lg	Lg	19 26 35.0	
WMQ	**Urumqi**	**9.64**	**45**	*e*P	Pn	19 25 24.6	+5.0
MAKZ	**Makanchi**	**9.80**	**15**	⇑Pn	Pn	19 25 21.7	-0.1
MAKZ	3.7nm,0.8s 1.9nm,0.7s			⇓Sn	Sn	19 27 13.5	+2.1
MKAR	**Makanchi Array**	**9.86**	**17**	Pn	Pn	19 25 22.4	-0.2
MKAR	0.5nm,0.3s,baz=199,slow=12,SNR=14 0.7nm,0.3s,baz=202,slow=24,SNR=6.8			Sn	Sn	19 27 07.5	-5.3
FINES	**FINESS Array B**	**40.07**	**324**	P	P	19 30 35.9	+0.1
NOA	**NORSAR Array B**	**47.18**	**322**	P	P	19 31 33.0	-0.1
TORD	**Torodi Ar. Bea**	**71.50**	**273**	P	P	19 34 21.2	-0.6
	0.5nm,0.7s,baz=90,slow=7.6,SNR=3.4 0.4nm,0.6s,baz=41,slow=5.7,SNR=2.0						

*SOME **04** 19:30:52.8, 43°.98N×85°.28E, h5km*
*NNC **04** 19:30:53.4±1.8, 43°.93N×85°.26E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=14.2km s-min=6.5km az=129.0*
ISC 04 19:30:54.5±2.1, 43°.93N±0°.07×85°.07E±0°.08, h10km, n37, σ2°.72/46, 4C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.45**	**264**	*e*P	Pb	19 31 59.1	+3.2
KTMS	6.3nm,0.3s 26nm,0.3s			*e*S	Sg	19 32 46.0	+0.6
KTMS	**Ketmen**	**3.45**	**264**	Pg	Pb	19 31 59.1	+3.2
KTMS	6.3nm,0.3s 26nm,0.3s			Lg	Lg	19 32 46.0	
ZSN	**Zaisan**	**3.53**	**358**	*e*P	Pb	19 31 58.5	+1.4
ZSN	3.4nm,0.2s 37nm,0.6s			*e*S	Sg	19 32 45.1	-2.6
ZSN	**Zaisan**	**3.53**	**358**	Pg	Pb	19 31 58.5	+1.4
ZSN	3.4nm,0.2s 37nm,0.6s			Lg	Lg	19 32 45.1	
MAKZ	**Makanchi**	**3.61**	**324**	⇑Pn	Pn	19 31 52.0	+1.4
MAKZ	1.3nm,0.6s 5.4nm,0.5s			⇑Pg	Pg	19 32 01.8	-1.9
MAKZ	14nm,0.6s			⇓Lg	Lg	19 32 52.8	
DJR	**Jarkent**	**3.82**	**278**	*e*P	Pg	19 32 06.3	-1.4
DJR	0.8nm,0.4s 4.6nm,0.4s			*e*S	Sg	19 32 57.8	+0.6
DJR	**Jarkent**	**3.82**	**278**	Pg	Pg	19 32 06.3	-1.4
DJR	0.8nm,0.4s 4.6nm,0.4s			Lg	Lg	19 32 57.8	
PDGK	**Podgornoye**	**4.09**	**264**	Pg	Pb	19 32 10.1	+3.4
PDGK	1.4nm,0.4s 9.8nm,0.5s			Lg	Lg	19 33 04.7	
PDGK	**Podgornoye**	**4.09**	**264**	⇑Pg	Pb	19 32 09.2	+2.5
PDGK	2.3nm,0.5s 13nm,0.5s			⇓Lg	Lg	19 33 11.3	
SHLS	**Shalkode**	**4.15**	**261**	*e*P	Pb	19 32 06.3	-1.3
SHLS	6.6nm,0.4s 53nm,0.5s			*e*S	Sb	19 32 58.6	+0.7
SHLS	**Shalkode**	**4.15**	**261**	Pg	Pb	19 32 06.3	-1.3
SHLS	6.6nm,0.4s 53nm,0.5s			Lg	Lg	19 32 58.6	
KAPS	**Kapalarasan**	**4.30**	**290**	*e*P	Pg	19 32 17.9	+1.1
KAPS	0.7nm,0.3s 2.9nm,0.6s			*e*S	Sg	19 33 17.9	+5.4
KAPS	**Kapalarasan**	**4.30**	**290**	Pg	Pg	19 32 16.5	-0.4
KAPS	0.7nm,0.3s 2.9nm,0.6s			Lg	Lg	19 33 15.2	
UZB	**Uzynbulak**	**4.46**	**262**	*e*P	Pg	19 32 18.5	-1.5
UZB	2.8nm,0.2s 15nm,0.5s			*e*S	Sg	19 33 19.0	+1.1
UZB	**Uzynbulak**	**4.46**	**262**	Pg	Pg	19 32 18.5	-1.5
UZB	2.8nm,0.2s 15nm,0.5s			Lg	Lg	19 33 19.0	
KPKS	**Kokpek**	**4.65**	**267**	*e*P	Pb	19 32 18.9	+2.7
KPKS	3.4nm,0.2s 20nm,0.2s			*e*S	Sb	19 33 19.7	+7.3
TDK	**Taldyqorghan**	**4.89**	**285**	*e*P	Pg	19 32 26.8	-1.3
TDK	28nm,0.4s 86nm,0.6s			*e*S	Sg	19 33 33.0	+1.6
TDK	**Taldyqorghan**	**4.89**	**285**	Pg	Pg	19 32 26.8	-1.3
TDK	28nm,0.4s 86nm,0.6s			Lg	Lg	19 33 33.0	
SATY	**Saty**	**4.92**	**262**	*e*P	Pb	19 32 25.3	+4.4
SATY	1.9nm,0.2s 13nm,0.4s			*e*S	Sg	19 33 30.8	-1.8
SATY	**Saty**	**4.92**	**262**	Pg	Pb	19 32 25.3	+4.4
SATY	1.9nm,0.2s 13nm,0.4s			Lg	Lg	19 33 30.8	
ARXS	**Arharly**	**5.22**	**276**	*e*P	Pb	19 32 30.7	+4.7
ARXS	3.5nm,0.2s 23nm,0.4s			*e*S	Sg	19 33 40.0	-2.2
CHKK	**Chushkaly**	**5.84**	**272**	*e*P	Pb	19 32 42.4	+6.0
CHKK	0.6nm,0.1s 8.0nm,0.2s			*e*S	Sg	19 34 00.1	-1.8
CHKK	**Chushkaly**	**5.84**	**272**	Pg	Pb	19 32 42.4	+6.0
CHKK	0.6nm,0.1s 8.0nm,0.2s			Lg	Lg	19 34 00.1	
MDOK	**Medeo**	**5.88**	**265**	*e*P	Pg	19 32 45.5	-1.6
MDOK	1.6nm,0.4s 7.1nm,0.8s			*e*S	Sg	19 34 05.5	+2.3
MDOK	**Medeo**	**5.88**	**265**	Pg	Pb	19 32 41.5	+4.4
MDOK	1.8nm,0.6s 7.2nm,0.6s			Lg	Lg	19 34 07.7	
MDOK	**Medeo**	**5.88**	**265**	Pg	Pg	19 32 45.5	-1.6
MDOK	1.6nm,0.4s 7.1nm,0.8s			Lg	Lg	19 34 05.5	
KTBS	**Karatobe**	**6.07**	**271**	*e*P	Pg	19 32 47.7	-3.1
KTBS	0.9nm,0.3s 17nm,0.6s			*e*S	Sg	19 34 09.4	+0.1
KTBS	**Karatobe**	**6.07**	**271**	Pg	Pg	19 32 47.7	-3.1
KTBS	0.9nm,0.3s 17nm,0.6s			Lg	Lg	19 34 09.4	
KUU	**Kurty**	**6.31**	**273**	*e*P	Pb	19 32 50.2	+5.8
KUU	1.3nm,0.5s 10.0nm,0.4s			*e*S	Sg	19 34 13.5	-3.4
KST	**Kastek**	**6.68**	**266**	*e*P	Pb	19 32 57.5	+6.6
KST	0.9nm,0.1s 3.0nm,0.7s			*e*S	Sg	19 34 26.0	-3.0
KST	**Kastek**	**6.68**	**266**	Pg	Pb	19 32 57.5	+6.6
KST	0.9nm,0.1s 3.0nm,0.7s			Lg	Lg	19 34 26.0	
DGS	**Degeres**	**6.79**	**267**	*e*P	Pg	19 33 00.1	-4.3
DGS	1.8nm,0.4s 6.0nm,0.6s			*e*S	Sg	19 34 31.1	-1.1
DGS	**Degeres**	**6.79**	**267**	Pg	Pg	19 33 00.1	-4.3
DGS	1.8nm,0.4s 6.0nm,0.6s			Lg	Lg	19 34 31.1	
KRBS	**Karabastau**	**6.80**	**271**	*e*P	Pg	19 33 00.5	-4.2
KRBS	1.2nm,0.5s 2.2nm,0.2s			*e*S	Sg	19 34 31.1	-1.6
KRBS	**Karabastau**	**6.80**	**271**	Pg	Pg	19 33 00.4	-4.2
KRBS	1.2nm,0.5s 2.2nm,0.2s			Lg	Lg	19 34 31.1	
TKM2	**Tokmak 2**	**6.97**	**265**	⇓Lg	Lg	19 34 41.0	
KURBB	**Kurchatov Arra**	**8.04**	**329**	⇓Pn	Pn	19 32 50.7	-0.5
KURBB	2.1nm,0.4s 3.0nm,1.2s,baz=139,slow=13 3.0nm,0.5s			⇓Sn	Sn	19 34 24.8	+2.7
KURBB	16nm,0.6s,baz=139,slow=31			⇑Lg	Lg	19 35 12.1	

*JMA **04** 19:36:12.5±0.1, 24°.15N×121°.72E, h8km±2km, M2.4*
*TAP **04** 19:36:12.8, 24°.17N×121°.68E, h16km, ML3.2, B*
ISC 04 19:36:13.0±0.8, 24°.16N±0°.01×121°.70E±0°.02, h17km±4km, n128, σ0°.67/180, 3C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.07**	**272**	⇑*i*P	Pg	19 36 16.0	-0.2
ETL	baz=257			S	Sg	19 36 18.1	-0.3
NACB	**Ninganchiao**	**0.10**	**280**	⇓*i*P	Pg	19 36 16.2	-0.3
NACB	baz=273			*i* S	Sg	19 36 18.1	-0.7
TWD	**Chiawan**	**0.12**	**232**	⇑*i*P	Pb	19 36 16.5	-0.4
TWD	baz=218			*i* S	Sg	19 36 19.1	-0.1
EHP	**Heping Village**	**0.16**	**13**	*i* P	Pb	19 36 17.0	-0.5
EHP	baz=23			*i* S	Sg	19 36 20.1	+0.1
HWA	**Hwalien**	**0.20**	**207**	P	Pb	19 36 18.4	+0.2
HWA	baz=200			*e*S	Sg	19 36 22.3	+1.4
ETLH	**Xiulin Townshi**	**0.21**	**284**	⇓*i*P	Pg	19 36 17.6	-0.3
ETLH	baz=282			S	Sg	19 36 20.7	-0.6
ETM	**Tongmen**	**0.27**	**225**	*i* P	Pg	19 36 18.7	-0.2
EWUT	**Wuta**	**0.30**	**13**	*i* P	Pg	19 36 19.2	-0.1
EWUT	baz=17			S	Sg	19 36 23.6	-0.1
TEYL	**Yanliau Villag**	**0.30**	**198**	*e*P	Pg	19 36 19.5	0.0
TEYL	baz=197			*e*S	Sb	19 36 25.7	+1.0
WHF	**Hehuan Shan**	**0.40**	**269**	⇓*i*P	Pg	19 36 21.1	-0.3
WHF	baz=267			*i* S	Sg	19 36 26.3	-0.8
NNS	**Nan Shan**	**0.41**	**313**	⇓*i*P	Pg	19 36 21.1	-0.4
NNS	baz=314			S	Sg	19 36 26.3	-0.9
ESL	**Shilin**	**0.42**	**216**	⇑*i*P	Pg	19 36 21.3	-0.2
ESL	baz=217			*e*S	Sg	19 36 27.1	-0.2
FUSS	**Fushou**	**0.43**	**282**	⇓*i*P	Pg	19 36 21.6	-0.1
FUSS	baz=281			*e*S	Sg	19 36 27.8	0.0
TEGC	**Jichi Village**	**0.47**	**199**	*e*P	Pb	19 36 22.8	-0.1
TWC	**Suao**	**0.47**	**16**	P	Pg	19 36 22.3	-0.2
TWC	baz=13			S	Sg	19 36 28.8	-0.1
NDS	**Dongshan**	**0.48**	**1**	⇓*i*P	Pb	19 36 22.5	-0.4
NDS	baz=2.0			S	Sg	19 36 28.8	-0.2
NDT	**Datong Townshi**	**0.48**	**339**	⇓*i*P	Pg	19 36 22.4	-0.2
NDT	baz=339			S	Sb	19 36 29.5	-0.3
TWT	**Tachien**	**0.49**	**281**	⇓*i*P	Pb	19 36 23.0	-0.3
TWT	baz=280			S	Sg	19 36 29.6	+0.1
CHGB	**Renai**	**0.49**	**259**	⇓*i*P	Pb	19 36 22.9	-0.5
CHGB	baz=253			*i* S	Sg	19 36 29.3	-0.3
TDCB	**Techi**	**0.51**	**281**	⇓*i*P	Pb	19 36 23.2	-0.4
TDCB	baz=280			S	Sg	19 36 29.8	-0.2
OWD	**Renai**	**0.52**	**247**	⇓P	Pg	19 36 23.1	-0.3
OWD	baz=247			*e*S	Sb	19 36 31.0	-0.1
EGFH	**Guangfu**	**0.55**	**207**	*e*P	Pb	19 36 23.9	-0.2
TWE	**Neicheng**	**0.56**	**357**	P	Pg	19 36 24.0	-0.2
TWE	baz=358			S	Sg	19 36 31.5	-0.2
YHNB	**Yeheng**	**0.59**	**330**	⇓P	Pg	19 36 24.4	-0.4
YHNB	baz=330			S	Sg	19 36 31.5	-1.2
NSK	**Sanguang**	**0.60**	**329**	P	Pg	19 36 24.4	-0.6
NSK	baz=329			S	Sg	19 36 32.2	-0.9
ILA	**Ilan**	**0.61**	**4**	*e*P	Pg	19 36 24.0	-1.0
NWLT	**Wulai**	**0.65**	**344**	*e*P	Pg	19 36 25.2	-0.5
NWLT	baz=335			*e*S	Sg	19 36 33.5	-0.8
WPL	**Puli Township**	**0.70**	**258**	*e*P	Pg	19 36 26.3	-0.4
WHP	**Taichung City**	**0.70**	**280**	*e*P	Pg	19 36 26.3	-0.4
WHP	baz=280			*e*S	Sb	19 36 36.3	0.0
NTC	**Toucheng**	**0.70**	**9**	*e*P	Pg	19 36 26.4	-0.4
HGSD	**Ruisui**	**0.71**	**201**	*e*P	Pb	19 36 27.0	+0.1
HGSD	baz=214			*e*S	Sn	19 36 38.9	+0.1
DPDB	**Guoxing**	**0.72**	**260**	*e*P	Pg	19 36 26.8	-0.3
WCS	**Beigang Elemen**	**0.73**	**262**	*e*P	Pg	19 36 26.7	-0.5
SSLB	**Suanglung**	**0.78**	**242**	P	Pg	19 36 27.6	-0.5
SSLB	baz=250			S	Sg	19 36 37.0	-1.4
SMLT	**Sun Moon Lake**	**0.78**	**250**	P	Pg	19 36 27.9	-0.4
SMLT	baz=242			S	Sg	19 36 37.6	-1.1
NSTT	**Nanjuang**	**0.80**	**307**	P	Pb	19 36 28.2	-0.2
NSTT	baz=306			*e*S	Sg	19 36 37.0	-2.0
NJD	**Zhudong**	**0.80**	**316**	*e*P	Pb	19 36 29.1	+0.5
TYC	**Yuchr**	**0.81**	**252**	*e*P	Pg	19 36 28.3	-0.5
TYC	baz=245			S	Sg	19 36 38.9	-0.7
NHDH	**Xindian Distri**	**0.82**	**349**	*e*P	Pb	19 36 29.1	+0.3
TIPB	**Shuangxi**	**0.82**	**8**	*e*P	Pb	19 36 29.0	+0.1
TWA	**Mucha**	**0.83**	**353**	*e*P	Pb	19 36 28.9	-0.1
TWA	baz=352			*e*S	Sg	19 36 39.6	-0.5
TATO	**Taipei**	**0.84**	**347**	P	Pg	19 36 28.5	-0.8
TATO	baz=339			S	Sb	19 36 40.0	-0.1
YULB	**Yu-li**	**0.85**	**206**	*e*P	Pg	19 36 27.9	-1.6
ECBN	**Changbin**	**0.87**	**195**	*e*P	Pg	19 36 29.2	-0.6
TWQ1	**Liyutan**	**0.87**	**283**	*e*P	Pn	19 36 30.8	+0.3
TWQ1	baz=291			*e*S	Sn	19 36 43.1	+0.3
BACT	**New Taipei Cit**	**0.87**	**344**	*e*P	Pn	19 36 30.3	-0.2

EYUL	Yuli	0.88	204	eP	Pb	19 36 30.2 +0.4
	baz=215					
TWF1	Yuli	0.88	205	eP	Pg	19 36 27.9 -2.2
	baz=215					
TWB1	Santiao Chiao	0.89	17	eP	Pn	19 36 31.9 +1.1
	baz=10.0					
TWB1				eS	Sb	19 36 42.2 +0.6
	baz=10.0					
NSY	Sanyi	0.90	287	eP	Pn	19 36 31.0 +0.1
	baz=286					
TAP	Taipei	0.90	349	eP	Pn	19 36 30.6 -0.3
	baz=341					
TAP				eS	Sn	19 36 43.0 -0.5
	baz=341					
SBCB	Hsinchu	0.91	314	P	Pn	19 36 31.3 +0.2
	baz=314					
NMLH	Miaoli	0.91	295	eP	Pn	19 36 31.8 +0.6
	baz=294					
NWF	Wu-fen Shan	0.91	4	eP	Pn	19 36 30.9 -0.3
	baz=4.0					
WFSB	Wu-fen Shan	0.91	4	eP	Pb	19 36 30.6 +0.2
	baz=4.0					
NTY	Taoyuan	0.92	336	eP	Pn	19 36 30.9 -0.3
	baz=337					
NJN	Zhunan	0.92	305	eP	Pn	19 36 32.0 +0.7
	baz=304					
WWF	Wufeng	0.93	263	eP	Pn	19 36 31.8 +0.5
	baz=260					
WWF				eS	Sn	19 36 46.0 +1.8
	baz=260					
HSN	Hsinchu	0.93	314	eP	Pn	19 36 31.3 0.0
	baz=316					
NCU	National Centr	0.94	330	eP	Pn	19 36 31.2 -0.2
	baz=329					
NCU				S	Sn	19 36 45.4 +0.9
	baz=329					
NCUH	Zhongli	0.94	330	eP	Pn	19 36 31.5 +0.1
	baz=329					
TCU	Taichung	0.94	270	eP	Pn	19 36 32.2 +0.8
	baz=269					
WJS	Zhushan	0.95	250	eP	Pn	19 36 31.6 0.0
	baz=243					
WNT1	Nantou City	0.97	255	eP	Pn	19 36 32.1 +0.3
	baz=246					
WNT	Mingjian	0.97	254	eP	Pn	19 36 32.2 +0.3
	baz=252					
WNT				eS	Sn	19 36 47.2 +1.9
	baz=252					
TWS1	Kuangyinshan	0.98	345	eP	Pn	19 36 32.0 0.0
	baz=350					
TWS1				eS	Sn	19 36 46.1 +0.7
	baz=350					
WDJ	Dajia District	0.99	281	eP	Pn	19 36 32.9 +0.7
	baz=281					
TNOU	National Taiwa	0.99	4	eP	Pn	19 36 32.8 +0.6
	baz=3.0					
YM01	YM01	0.99	353	eP	Pb	19 36 31.9 +0.1
	baz=351					
YM01				eS	Sn	19 36 45.9 -0.1
	baz=351					
FULB	Fuli	1.02	202	eP	Pb	19 36 30.9 -1.4
	baz=214					
NTST	Danshui	1.03	347	eP	Pn	19 36 32.9 +0.2
	baz=346					
YM08	YM08	1.03	354	eP	Pb	19 36 32.2 -0.3
	baz=341					
ANP	Anpu	1.04	351	eP	Pn	19 36 33.0 +0.1
	baz=350					
ALS	Alishan	1.04	232	P	Pg	19 36 32.5 -0.7
	baz=221					
ALS				eS	Sn	19 36 48.8 +1.3
	baz=221					
WCHH	Zhanghua	1.05	266	eP	Pn	19 36 33.9 +0.9
	baz=285					
CHN5	Tsauling	1.09	240	eP	Pn	19 36 34.1 +0.5
	baz=242					
CHN5				S	Sn	19 36 49.6 +1.2
	baz=242					
CHKT	Chengkung	1.10	196	eP	Pb	19 36 32.6 -1.0
	baz=212					
TWY	Chenhua	1.12	355	eP	Pg	19 36 36.0 +1.3
	baz=343					
WGK	Gukeng	1.14	246	eP	Pg	19 36 34.8 -0.3
	baz=248					
WGK				eS	Sn	19 36 50.2 +0.7
	baz=248					
ECS	Chishang	1.15	203	eP	Pg	19 36 34.8 -0.3
	baz=205					
ELDTW	Lidau	1.15	213	eP	Pb	19 36 32.9 -1.7
	baz=204					
WDLH	Douliu	1.16	247	eP	Pg	19 36 35.2 -0.3
	baz=247					
YOJ	Yonaguni jima	1.23	75	P	Pn	19 36 35.3 -0.2
YOJ				eS	Sb	19 36 52.0 +0.5
YOJ	Yonaguni jima	1.23	75	eP	Pn	19 36 34.5 -1.0
	baz=75					
EDH	Donghe	1.23	197	eP	Pn	19 36 35.4 -0.1
	baz=213					
WRL	Guolierlin Hig	1.24	258	eP	Pn	19 36 35.8 +0.3
	baz=258					
CHN2	Minshiung	1.28	241	eP	Pg	19 36 38.3 +0.5
	baz=228					
WTK	Tuku	1.29	249	eP	Pg	19 36 37.1 -0.7
	baz=237					
CHN4	Tsaushan	1.29	232	eP	Pg	19 36 37.6 -0.4
	baz=236					
CHN4				S	Sg	19 36 56.5 +1.6
	baz=236					
STYH	Taoyuan	1.30	221	eP	Pn	19 36 36.1 -0.3
	baz=223					
TPUB	Ta-pu	1.30	229	eP	Pb	19 36 37.0 -0.1
	baz=217					
STYT	Tauyuan	1.31	221	eP	Pn	19 36 36.7 0.0
	baz=223					
CHY	Chiayi	1.34	241	eP	Pn	19 36 37.4 +0.4
	baz=242					
WTP	Ta-pu	1.35	228	eP	Pb	19 36 38.0 +0.1
	baz=216					
LONT	Longtian	1.35	203	eP	Pb	19 36 37.8 -0.1
	baz=205					
TWK	Hsinying	1.42	232	∥iP	Pb	19 36 39.4 +0.2
	baz=236					
TWK				S	Sg	19 36 58.2 -0.7
	baz=236					
CHN1	Nanshi	1.45	228	eP	Pb	19 36 39.4 -0.1
	baz=233					
CHN1				eS	Sg	19 36 59.6 -0.1
	baz=233					
TWG	Pinlang	1.45	204	eP	Pn	19 36 38.6 +0.1
	baz=191					
TWGBT	Beinan	1.45	203	eP	Pn	19 36 37.8 -0.7
	baz=190					
WSF	Szhu	1.45	249	eP	Pb	19 36 39.2 -0.3
	baz=250					
SGST	Jiashian	1.48	224	eP	Pn	19 36 39.5 +0.5
	baz=228					
SGST				eS	Sg	19 36 59.9 -0.9
	baz=228					
LDUT	Ludao	1.49	188	eP	Pn	19 36 38.0 -1.1
	baz=191					
SLGT	Liugui	1.51	220	eP	Pb	19 36 40.4 -0.2
	baz=223					
ICHU	Yijhu	1.53	239	eP	Pb	19 36 41.0 +0.2
	baz=241					
CHN8	Yiju	1.59	240	eP	Pn	19 36 40.7 +0.4
	baz=226					
SCST	Cishan	1.68	222	eP	Pb	19 36 43.1 -0.4
	baz=225					
ECL	Taimali	1.70	204	eP	Pn	19 36 42.3 +0.5
	baz=193					
SSD	Sandimen	1.71	215	eP	Pb	19 36 43.5 -0.5
	baz=218					
TSMG	Majia	1.74	214	eP	Pb	19 36 43.8 -0.8
	baz=228					
MASBT	Mashibuluo	1.82	213	eP	Pn	19 36 44.8 +1.1
	baz=217					
IRIF	Iriomote-Funau	1.86	84	P	Pn	19 36 43.7 -0.4
IRIF				S	Sn	19 37 08.0 +0.8
EAST	Anshuo	1.93	204	eP	Pb	19 36 47.1 -0.7
	baz=196					
SCZT	Fangliau	2.04	209	eP	Pb	19 36 48.7 -0.9
	baz=214					
PNG	Penghu	2.05	254	eP	Pn	19 36 46.8 +0.1
	baz=254					
PHUB	P'eng-hu	2.05	252	eP	Pn	19 36 46.8 +0.1
	baz=253					
SLIU	Shizi	2.10	203	eP	Pn	19 36 48.7 +1.3
	baz=195					
JKRS	Kuro-shima	2.11	87	P	Pn	19 36 48.3 +0.8
JKRS				eS	Sn	19 37 14.4 +1.0
VWUC	VWUC	2.21	293	eP	Pn	19 36 48.3 -0.6
	baz=291					
JIJ	Ishigaki jima	2.24	84	P	Pn	19 36 49.1 -0.2
JIJ				S	Sn	19 37 16.5 -0.1
JISG	Ishigakijimahi	2.42	79	P	Pn	19 36 51.7 -0.1
JISG				S	Sn	19 37 20.5 -0.5
PTMZ	Houxiangcun	2.51	291	eP	Pn	19 36 53.4 +0.3
	baz=289					
MATB	Ma-tsu	2.55	322	eP	Pn	19 36 53.5 -0.1
	baz=319					
JTJ	Tarama	2.78	79	P	Pn	19 36 57.9 +1.2
JTJ				eS	Sn	19 37 31.3 +1.4
LYJJ	Jianjiangzhen	2.96	324	eP	Pn	19 36 59.2 -0.1
	baz=322					
KNMB	Chin-men Tao	3.04	276	eP	Pn	19 36 59.9 -0.4
	baz=275					
XPSS	Dashiqiu	3.08	334	eP	Pn	19 37 01.0 +0.1
	baz=332					
MHZQ	Yeshan	3.10	309	eP	Pn	19 37 01.2 0.0
	baz=307					
AXDP	Jialang	3.48	283	eP	Pn	19 37 06.8 +0.4
	baz=281					

TIR 04 19:36:47.7, 41°.70N×19°.93E, h1km±1km, Md2.0, Ml1.9, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.34	355	P	Pg	19 36 55.3	+1.0
	baz=356						
PUK				S	Sb	19 37 01.6	-1.1
	baz=356						
PUK				AMP			
	comp=E,0.4nm,0.1s,baz=356						
TIR	Tirane	0.35	188	P	Pb	19 36 55.7	-1.1
	baz=189						
TIR				S	Sb	19 37 01.8	-1.1
	baz=189						
PHP	Peshkopia	0.38	92	P	Pb	19 36 56.2	-1.1
	baz=91						
PHP				S	Sb	19 37 02.6	-1.1
	baz=91						
PHP				AMP			
	comp=N,0.3nm,0.1s,baz=91						

ROM 04 19:38:40.6±0.1, 43°.052N±0°.004×12°.986E±0°.006, h16km±1km, ML1.2/8, 1D, Error ellipse: s-maj=0.5km s-min=0.1km az=273.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	CESI - Serrava	0.08	232	P	Pg	19 38 44.0	+0.1
CESI				S	Sg	19 38 46.3	+0.3
CESI				AML	AML		
	comp=E,199μm,0.1s						
CESI				AML	AML		
	comp=N,126μm,0.2s						
CESI				AML	AML		
	comp=E,198μm,0.1s						
SNTG	Esanatoglia	0.21	351	P	Pg	19 38 45.5	0.0
SNTG				S	Sg	19 38 49.1	+0.3
SNTG				AML	AML		
	comp=E,70μm,0.1s						
SNTG				AML	AML		
	comp=N,53μm,0.3s						
NRCA	Norcia	0.24	157	P	Pg	19 38 46.1	+0.1
NRCA				S	Sb	19 38 50.3	-0.3
ASSB	Assisi San Ben	0.24	268	P	Pg	19 38 46.1	+0.1
ASSB				S	Sb	19 38 50.5	-0.2
ASSB				AML	AML		
	comp=E,63μm,0.1s						
ASSB				AML	AML		
	comp=N,67μm,0.1s						
ATCC	AVT- Casa Cast	0.29	298	∥P	Pg	19 38 47.0	+0.2
ATCC				S	Sb	19 38 51.9	-0.1
ATCC				AML	AML		
	comp=E,93μm,0.3s						
ATCC				AML	AML		
	comp=N,56μm,0.2s						
FOSV	Fossato di Vic	0.29	326	P	Pg	19 38 47.0	+0.1
FOSV				S	Sb	19 38 51.9	-0.4
FOSV				AML	AML		
	comp=E,164μm,0.1s						
FOSV				AML	AML		
	comp=N,122μm,0.3s						
CING	Cingoli	0.36	25	P	Pg	19 38 48.1	+0.1
CING				S	Sb	19 38 54.2	+0.1
CING				AML	AML		
	comp=E,27μm,0.7s						
CING				AML	AML		
	comp=N,40μm,0.2s						
MOMA	Monte Martano	0.39	231	P	Pb	19 38 49.0	-0.3
MOMA				S	Sb	19 38 55.4	+0.2
ARVD	Arcevia	0.45	356	P	Pg	19 38 49.6	0.0
ARVD				S	Sb	19 38 56.9	+0.2
ARVD				AML	AML		
	comp=N,39μm,0.8s						
ARVD				AML	AML		
	comp=E,49μm,0.4s						

*IDC **04** 19:42:22.5±1.3, 27°.68N×85°.76E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.6/44, mbtmp3.9/10, ML3.9/1, MS3.8/3, Ms1 3.8/3, ms1mx2.9/34, Error ellipse: s-maj=47.4km s-min=16.7km az=63.0*

ISC 04 19:42:22.8±1.4, 27°.5N±0°.2×85°.6E±0°.2, h10km, n15, σ1§66/12, mb3.9/8, MS3.8/3, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.23	123	Pn	P	19 46 00.7	-2.3
	baz=306,slow=12,SNR=2.9						
WMQ	Urumqi	16.38	5	eP	P	19 46 17.2	+1.4
GTA	Gaotai	16.78	41	eP	P	19 46 22.7	+2.4
GTA				pP	sP	19 46 26.2	+1.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	Makanchi Array	19.44	353	P	Pn	19 46 48.4	-2.2
	comp=Z,0.4nm,0.3s,baz=180,slow=11,SNR=13						
KURBB	Kurchatov Arra	23.72	349	P	P	19 47 35.3	+0.5
	comp=Z,0.7nm,0.4s,baz=170,slow=9.7,SNR=8.5						
SONM	Songino Array	26.00	33	P	P	19 47 55.0	-0.9
	comp=Z,1.6nm,0.7s,baz=216,slow=11,SNR=11						
ZALV	Zalesovo Beam	26.44	359	P	P	19 47 58.9	-0.8
	comp=Z,1.2nm,0.5s,baz=178,slow=8.5,SNR=4.8						
JOW	Kunigami	37.85	81	LR	LR	20 07 03.9	
	comp=Z,62nm,18.2s,baz=36,slow=39						
JNU	Nakatsue	39.27	70	LR	LR	20 07 33.7	
	comp=Z,296nm,21.6s,baz=354,slow=39						
TIXI	Tiksi	50.18	16	P	P	19 51 17.0	-1.2
	comp=Z,0.6nm,0.4s,baz=230,slow=3.5,SNR=4.6						
FINES	FINESS Array B	51.73	328	P	P	19 51 30.4	+0.3
	comp=Z,0.9nm,0.7s,baz=127,slow=12,SNR=6.5						
ARCES	ARCESS Array B	54.15	338	P	P	19 51 48.5	+0.7
	comp=Z,0.6nm,0.4s,baz=107,slow=8.1,SNR=8.4						
MBAR	Mbarara	59.56	251	LR	LR	20 16 05.4	
	comp=Z,61nm,18.1s,baz=190,slow=34						
WRA	Warramunga Arr	66.72	130	P	P	19 53 15.7	+1.3
	comp=Z,1.8nm,0.7s,baz=324,slow=6.6,SNR=22						
ASAR	Alice Springs	69.00	133	P	P	19 53 29.9	+1.2
	comp=Z,0.9nm,0.6s,baz=313,slow=6.2,SNR=18						

IDC 04 19:56:37.8±3.2, 31°.91S×178°.23W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, ML3.2/1, MS3.9/1, Ms1 3.9/1, ms1mx2.9/15, Error ellipse: s-maj=73.9km s-min=48.6km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.40	210	Pn	Pn	19 58 26.6	-0.4
	0.4nm,0.3s,baz=46,slow=13,SNR=1.5						
URZ				Sn	Sn	19 59 47.2	-4.3
	1.7nm,0.3s,baz=191,slow=18,SNR=7.8						
ASAR	Alice Springs	42.86	269	P	P	20 04 37.7	-0.3
	0.5nm,0.6s,baz=105,slow=7.3,SNR=8.1						
WRA	Warramunga Arr	43.98	274	P	P	20 04 47.1	0.0
	0.4nm,0.3s,baz=111,slow=8.0,SNR=19						
WRA				LR	LR	20 23 16.0	
	comp=Z,150nm,18.8s,baz=185,slow=36						
FINES	FINESS Array B	146.49	339	PKPbc	PKPdf	20 16 19.4	+0.6
	1.3nm,0.8s,baz=76,slow=5.9,SNR=4.2						

*NIED **04** 19:59:41.8, 46°.74N×153°.21E, h30km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.58; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$-1.02; $M_{r\theta}$3.01; $M_{\theta\phi}$-1.02; $M_{\phi r}$1.52; Fault plane solution: $M_0$3.79000×10^15^ NP1:ϕ_s60.00000°, δ78.00000°, λ101.00000°. NP2:ϕ_s198.00000°, δ17.00000°, λ49.00000°.*

*JMA **04** 19:59:41.8±0.7, 46°.74N×153°.20E, h30km, M4.6*

*MOS **04** 19:59:42.1±1.0, 46°.63N×153°.22E, h37km, mb4.3/9, Error ellipse: s-maj=8.5km s-min=6.7km az=65.0*

*SKHL **04** 19:59:42.7±0.7, 46°.50N×153°.40E, h50km±5km, mb5.1/12*

*NEIC **04** 19:59:44.5±2.1, 46°.8N±0°.1×153°.1E±0°.1, h35km±2km, mb4.2/20, Error ellipse: s-maj=20.7km s-min=12.2km az=138.0*

*IDC **04** 19:59:47.2±2.8, 46°.89N×152°.94E, h56km±23km, mb3.5/12, mb1 3.8/16, mb1mx3.6/43, mbtmp3.9/16, ML3.5/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=29.3km s-min=16.8km az=137.0*

ISC 04 19:59:43.5±0.6, 46°.53N±0°.07×153°.22E±0°.07, h40km, n166, σ1§69/173, mb4.1/25, 10C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.96	253	ePN	Pn	20 00 41.5	-0.2
KUR				pmax	pmax		
	comp=Z,236nm,0.3s						
KUR				pmax	pmax		
	comp=N,77nm,0.2s						
KUR	Kuril'sk	3.96	253	iP	Pn	20 00 42.6	+0.9
KUR				AMB	AMB	20 00 44.0	
	comp=N,80nm,0.3s						
KUR				AMB	AMB	20 00 44.0	
	comp=N,240nm,0.3s						
KUR				eS	Sn	20 01 27.0	+0.2
KUR				A	A	20 01 32.0	
	comp=N,530nm,0.5s						
KUR				A	A	20 01 32.0	
	comp=N,220nm,0.5s						
SKR	Severo-Kuril's	4.58	24	ePN	Pn	20 00 49.1	-1.1
SKR				pmax	pmax		
	comp=Z,600nm,1.4s						
SKR				pmax	pmax		
	comp=Z,426nm,0.7s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SKR				MLR	MLR		
	comp=Z,900nm,19.0s						
SKR	Severo-Kuril's	4.58	24	iP	Pn	20 00 49.7	-0.5
SKR				AMB	AMB	20 00 50.1	
	comp=Z,600nm,1.4s						
SKR				AMB	AMB	20 00 50.3	
	comp=Z,430nm,0.7s						
SKR				eS	Sn	20 01 40.4	-1.6
SKR				A	A	20 01 49.5	
	comp=Z,410nm,0.6s						
SKR				A	A	20 01 49.5	
	comp=Z,450nm,0.6s						
SKR				AMS	AMS	20 02 53.8	
	comp=Z,900nm,19.0s						
PAU	Pauzhetka	5.48	24	iP	Pn	20 01 01.6	-0.9
PAU				AMB	AMB	20 01 02.8	
	comp=Z,70nm,0.5s						
PAU				eS	Sn	20 02 00.8	-3.3
PAU				A	A	20 02 03.6	
	comp=Z,200nm,0.3s						
PAU				A	A	20 02 03.6	
	comp=Z,300nm,0.3s						
YUK	Yuzh-Kuril'sk	5.76	247	ePN	Pn	20 01 08.4	+2.0
YUK				pmax	pmax		
	comp=N,83nm,0.2s						
YUK				pmax	pmax		
	comp=Z,246nm,0.2s						
YUK				pmax	pmax		
	comp=E,47nm,0.1s						
YUK	Yuzh-Kuril'sk	5.76	247	eP	Pn	20 01 08.4	+2.0
YUK				AMB	AMB	20 01 09.0	
	comp=E,80nm,0.2s						
YUK				AMB	AMB	20 01 09.0	
	comp=E,50nm,0.2s						
YUK				AMB	AMB	20 01 09.0	
	comp=E,250nm,0.2s						
YUK				eS	Sn	20 02 12.0	+0.8
GRPR	Tuman	5.84	247	ePN	Pn	20 01 08.4	+0.9
GRPR				pmax	pmax		
	comp=Z,219nm,0.2s						
GRPR				pmax	pmax		
	comp=N,215nm,0.5s						
GRPR	Tuman	5.84	247	eP	Pn	20 01 09.0	+1.5
GRPR				AMB	AMB	20 01 14.2	
	comp=N,220nm,0.4s						
GRPR				AMB	AMB	20 01 14.2	
	comp=N,220nm,0.4s						
GRPR				eS	Sn	20 02 12.6	-0.5
GRPR				A	A	20 02 22.0	
	comp=N,220nm,0.5s						
GRPR				A	A	20 02 22.0	
	comp=N,150nm,0.5s						
GLVR	Golovnino	6.12	246	ePN	Pn	20 01 12.3	+0.9
GLVR				pmax	pmax		
	comp=Z,134nm,0.4s						
GLVR	Golovnino	6.12	246	eP	Pn	20 01 13.0	+1.6
GLVR				AMB	AMB	20 01 18.0	
	comp=Z,130nm,0.4s						
GLVR				eS	Sn	20 02 19.2	-0.8
GLVR				A	A	20 02 28.0	
	comp=Z,280nm,0.5s						
GLVR				A	A	20 02 28.0	
	comp=Z,140nm,0.5s						
RUSJ	Misakicho	6.12	250	ePN	Pn	20 01 14.5	+3.1
NEM2	Nemuro 2	6.18	242	P	Pn	20 01 11.3	-0.8
NEM2				eS	Sn	20 02 17.3	-4.2
NMR	Nemuro--Hokkai	6.18	242	ePN	Pn	20 01 11.0	-1.2
NMR	Nemuro--Hokkai	6.18	242	eP	Pn	20 01 11.4	-0.8
JRA	Rausu	6.28	249	P	Pn	20 01 15.2	+1.7
JRA				eS	Sn	20 02 25.8	+1.9
JNK	Nakash	6.70	247	P	Pn	20 01 20.4	+1.0
JNK				eS	Sn	20 02 34.1	-0.3
JAK	Akkeshi	7.02	243	P	Pn	20 01 23.0	-0.7
JAK				eS	Sn	20 02 38.2	-4.0
JTKR	Abashiri--Toko	7.05	252	P	Pn	20 01 25.6	+1.4
PEA0B	Petropavlovsk-	7.19	22	dePN	Pn	20 01 25.9	-0.2
PEA0B	Petropavlovsk-	7.19	22	Pn	Pn	20 01 25.8	-0.3
PETK	Petropavlovsk-	7.19	22	P	Pn	20 01 25.1	-1.0
	comp=Z,2.8nm,0.3s,baz=193,slow=17,SNR=75						
PETK	Petropavlovsk-	7.19	22	PN	Pn	20 01 25.2	-0.8
PETK	Petropavlovsk-	7.19	22	Pn	Pn	20 01 25.2	-0.8
YSS	Yuzh-Sakhalins	7.20	277	∥ePN	Pn	20 01 28.5	+2.3
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YSS	Yuzh-Sakhalins	7.20	277		Pn	20 01 26.0	-0.2
YSS	Yuzh-Sakhalins	7.20	277	eP	Pn	20 01 28.5	+2.3
YSS				AMB	AMB	20 01 31.3	
	comp=Z,20nm,1.0s						
YSS				AMS	AMS	20 04 00.0	
	comp=Z,200nm,16.0s						
PET	Petropavlovsk	7.39	26↑	ePN	Pn	20 01 29.0	+0.3
PET	Petropavlovsk	7.39	26	Pn	Pn	20 01 27.9	-0.9
PET	Petropavlovsk	7.39	26	iP	Pn	20 01 29.0	+0.3
PET				AMB	AMB	20 01 30.3	
	comp=Z,380nm,0.7s						
PET				eS	Sn	20 02 47.8	-3.3
JMP	Maruseppu	7.40	254	P	Pn	20 01 31.1	+2.1
JAR	Ashorobuto	7.45	248	P	Pn	20 01 30.7	+1.1
JAR				eS	Sn	20 02 53.1	+0.4
JOB	Onbets	7.60	245	P	Pn	20 01 31.9	+0.2
JOB				eS	Sn	20 02 53.8	-2.7
JKK2	Kamakawa 2	7.86	254	P	Pn	20 01 37.5	+2.3
JKA	Kamikawa-asahi	7.86	256		Pn	20 01 38.1	+2.8
JKA	Kamikawa-asahi	7.86	256	eP	Pn	20 01 38.0	+2.7
ASAJ	Asahikawa	7.87	256	P	Pn	20 01 38.1	+2.8
	comp=Z,1.7nm,0.3s,baz=24,slow=10,SNR=31						
ASAJ				LR	LR	20 04 31.4	
	comp=Z,59nm,20.8s,baz=88,slow=36						
ASAJ	Asahikawa	7.87	256	P	Pn	20 01 38.4	+3.1
JCH	Churui	8.05	244	P	Pn	20 01 37.4	-0.5
JCH				eS	Sn	20 03 02.5	-5.1
TYV	Tymovskoe	8.22	306	ePN	Pn	20 01 41.9	+1.8
TYV				pmax	pmax		
	comp=Z,7.0nm,0.2s						
TYV	Tymovskoe	8.22	306	eP	Pn	20 01 42.4	+2.3
TYV				AMB	AMB	20 01 42.9	

comp=Z,20nm,0.7s
JFR Furan 8.27 250 P **Pn 20 01 42.2 +1.4**
JAB Ashibetsu 8.36 253 P **Pn 20 01 44.8 +2.8**
ERM Erimo 8.51 242 *de*PN **Pn 20 01 45.0 +0.8**
ERM pmax pmax
comp=Z,8.0nm,0.7s
ERM Erimo 8.51 242 Pn 20 01 44.3 +0.2
JBT2 Biratori 2 8.60 248 P **Pn 20 01 45.4 0.0**
JNBK Urakawa-nobuka 8.61 244 P **Pn 20 01 44.5 -1.0**
JEW Eniwo 9.16 250 P **Pn 20 01 54.9 +1.9**
JEW Eniwo 9.16 250 Pn 20 01 54.2 +1.2
JNB Noboribetsu 9.60 249 P **Pn 20 01 58.9 -0.2**
JNB *e*S **Sn 20 03 42.8 -2.8**
JKB Kayabe 9.90 246 P **Pn 20 02 02.0 -1.2**
JKB *e*S **Sn 20 03 46.0 -7.0**
JANG Nango 10.50 238 P **Pn 20 02 08.1 -3.3**
JANG *e*S Sn 20 03 57.2 -10
JTM Tenmabayashi 10.51 241 P **Pn 20 02 09.8 -1.7**
JTM *e*S Sn 20 03 58.3 -9.5
JTH Tanohata 10.58 236 P Pn 20 02 08.7 -3.8
JTH *e*S Sn 20 03 58.5 -11
JOSM Okushiri--Mats 10.80 251 P **Pn 20 02 15.1 -0.4**
OFUJ Ofunato 11.28 233 P **Pn 20 02 18.9 -3.2**
JRG Rokugo 11.65 237 P **Pn 20 02 24.2 -2.9**
JIO Ouri 11.90 232 P **Pn 20 02 27.3 -3.3**
MA2 Magadan 13.15 355 P **Pn 20 02 47.2 -0.3**
comp=Z,0.9nm,0.3s,baz=209,slow=5.6,SNR=7.1
MA2 Magadan 13.15 355 Pn 20 02 45.8 -1.7
JSD Sado 13.94 238 Pn **Pn 20 02 55.1 -3.2**
EKMR Ekimchan 14.61 304 *e*P **Pn 20 03 06.2 -1.1**
EKMR AMB AMB 20 03 12.3
comp=Z,10.0nm,0.6s
KLR Kul'dur 14.65 288⇑ *e*P **Pn 20 03 09.4 +1.5**
KLR pmax pmax
comp=Z,6.0nm,1.4s
KLR Kul'dur 14.65 288 *e*P **Pn 20 03 06.1 -1.8**
MJA0 Matsu Arr-Jizo 14.98 234 *e*P **P 20 03 17.0 -0.4**
MAJO Matsushiro 15.01 234 *de*P **P 20 03 19.3 +1.7**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 15.01 234 Pn **Pn 20 03 09.9 -2.8**
MAJO IAmb IAmb 20 03 20.3
comp=Z,7.8nm,0.6s
MJAR Matsushiro Arr 15.01 234 P **Pn 20 03 10.5 -2.3**
comp=Z,0.0nm,0.3s,baz=26,slow=14,SNR=9.1
MJAR Matsushiro Arr 15.01 234 P **Pn 20 03 10.9 -1.9**
MJAR pmax pmax
comp=Z,3.0nm,1.4s
MJAR Matsushiro Arr 15.01 234 Pn **Pn 20 03 10.8 -1.9**
USRK Ussuriysk Ar. 15.10 269 P **Pn 20 03 14.6 +0.7**
baz=69,slow=9.5,SNR=4.8
VLA Vladivostok 15.51 265⇓ *e*P **Pn 20 03 19.2 0.0**
VLA Vladivostok 15.51 265 *e*P **Pn 20 03 19.2 0.0**
BMKR Bomnak 17.43 307 *e*P **Pn 20 03 41.5 -1.9**
JWT Wachi 17.50 236 P 20 03 46.5 +1.4
KROS Kirovskiy 18.40 305 *e*P **Pn 20 03 57.1 +1.8**
KROS AMB AMB 20 03 58.3
comp=Z,4.0nm,0.5s
YAK Yakutsk 20.55 328 *ce*P **P 20 04 17.9 -0.4**
YAK pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 20.55 328 P **P 20 04 16.3 -2.0**
YAK Yakutsk 20.55 328 *e*P **P 20 04 17.9 -0.4**
KSRS Korea Array 20.80 253 P **P 20 04 22.9 +1.6**
comp=Z,1.5nm,0.8s,baz=57,slow=9.4,SNR=10.0
KSRS LR LR 20 12 03.4
comp=Z,60nm,18.5s,baz=32,slow=36
KSRS Korea Array 20.80 253 *e*P Pn 20 04 25.9 +2.0
KSRS pmax pmax
comp=Z,2.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.99 153 T T 20 37 20.5
baz=340,slow=76,SNR=410
H11N1 WAKE ISLAND Hy 29.01 153 T T 20 37 23.3
baz=340,slow=76,SNR=316
H11N3 WAKE ISLAND Hy 29.01 153 T T 20 37 23.5
baz=340,slow=76,SNR=296
H11S1 WAKE ISLAND Hy 30.08 154 T T 20 38 28.3
baz=340,slow=76,SNR=145
H11S3 WAKE ISLAND Hy 30.09 154 T T 20 38 30.3
baz=340,slow=76,SNR=169
H11S2 WAKE ISLAND Hy 30.10 154 T T 20 38 28.5
baz=340,slow=76,SNR=196
ULN Ulaanbaatar 31.04 290⇑ *e*P **P 20 06 00.6 +3.1**
ULN pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 31.04 290 *e*P **P 20 06 00.6 +3.1**
XAN Xi'an 35.57 266 P **P 20 06 37.4 +0.4**
XAN pP pP 20 06 41.8 -5.4
XAN pmax pmax
comp=Z,8.0nm,1.0s
COLA College 36.26 38⇓ *e*P **P 20 06 44.0 +1.6**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 36.67 38 P **P 20 06 47.5 +1.5**
comp=Z,0.4nm,0.7s,baz=257,slow=5.2,SNR=2.5
L27K Beaver Creek, 39.00 41 P **P 20 07 08.1 +2.4**
BCAR Beaver Creek A 39.02 41 P **P 20 07 07.3 +1.4**
HYT Haines Junctio 41.38 44 P **P 20 07 26.6 +1.1**
DGZ Jazzator, Alta 42.77 299⇑ *e*P **P 20 07 37.0 -0.1**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 47.11 298 P **P 20 08 09.7 -1.7**
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MK31 Makanchi Array 47.11 298 P **P 20 08 09.7 -1.7**
MK31 IAmb IAmb 20 08 11.9
comp=Z,1.5nm,0.9s
MKAR Makanchi Array 47.11 298 P **P 20 08 10.0 -1.4**
comp=Z,0.6nm,0.5s,baz=63,slow=7.1,SNR=14
MKAR Makanchi Array 47.11 298 P **P 20 08 10.0 -1.4**
MKAR Makanchi Array 47.11 298 P **P 20 08 10.0 -1.4**
LSA Lhasa 50.36 273 P **P 20 08 38.3 +1.2**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 50.36 273 P **P 20 08 38.3 +1.2**
LSA Lhasa 50.36 273 *e*P **P 20 08 38.3 +1.2**
BRVK Borovoye 51.09 310⇑ *e*P **P 20 08 41.2 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 51.09 310 *e*P **P 20 08 41.2 -0.5**
CMAR Chiang Mai Arr 52.39 257 P **P 20 08 53.6 +1.8**
comp=Z,1.0nm,0.7s,baz=36,slow=6.6,SNR=6.4
AAK Ala-Archa 54.00 297⇓ *e*P **P 20 09 05.0 +1.4**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 54.00 297 *e*P **P 20 09 05.0 +1.4**
ARU Arti 55.22 318 *c i*P **P 20 09 12.4 +0.4**
ARU 20 11 13.0
ARU S **S 20 16 52.2 -0.1**
ARU SS **SS 20 20 33.4 -2.7**
ARU pmax pmax
comp=Z,4.0nm,1.5s
ARU Arti 55.22 318 P **P 20 09 11.2 -0.8**
ARU IAmb IAmb 20 09 12.8
comp=Z,6.0nm,1.5s
ARU Arti 55.22 318 *i*P **P 20 09 12.4 +0.4**
KKAR Karatay Array 56.17 299 P **P 20 09 18.8 -0.3**
KKAR Karatay Array 56.17 299 P **P 20 09 18.8 -0.3**
ARCES ARCESS Array B 58.08 341 P **P 20 09 31.5 -0.7**
comp=Z,3.0nm,1.0s,baz=30,slow=7.4,SNR=1.2
ABKAR Akbulak array 58.62 310 P **P 20 09 35.0 -1.2**
ABKAR Akbulak array 58.62 310 P **P 20 09 35.1 -1.2**
ABKAR IAmb IAmb 20 09 35.4
comp=Z,2.1nm,1.3s
SUMG Summit 60.91 4 P **P 20 09 52.0 -0.1**
SUMG pmax pmax
comp=Z,5.0nm,1.1s
SUMG Summit 60.91 4 P **P 20 09 52.0 -0.1**
FIA1 FINESS Array S 64.27 335 P **P 20 10 13.1 -1.0**
FINES FINESS Array B 64.27 335 P **P 20 10 13.2 -1.0**
comp=Z,1.0nm,0.4s,baz=32,slow=6.6,SNR=20
FINES FINESS Array B 64.27 335 P **P 20 10 13.0 -1.1**
NC303 NORSAR Array S 68.26 341 P **P 20 10 38.3 -1.4**
NB2 NORSAR Subarra 68.46 341 P **P 20 10 40.3 -0.7**
comp=Z,0.7nm,0.5s,baz=28,slow=6.2
NOA NORSAR Array B 68.46 341 P **P 20 10 40.6 -0.4**
comp=Z,2.4nm,0.9s,baz=29,slow=6.5,SNR=8.1
NOA NORSAR Array B 68.46 341 *e*P **P 20 10 40.8 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.9s
F36A Milaca 70.91 43 P **P 20 10 56.0 -0.3**
F36A IAmb IAmb 20 11 24.9
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 71.77 326 P **P 20 11 00.6 -0.8**
comp=Z,1.3nm,0.4s,baz=36,slow=6.1,SNR=7.7
AKASG Malin Array Be 71.77 326 P **P 20 11 00.4 -0.9**
AKASG IAmb IAmb 20 11 01.7
comp=Z,2.3nm,1.2s
AKBB Malin Array Si 71.77 326 P **P 20 11 01.3 -0.1**
AKBB pmax pmax
comp=Z,4.0nm,1.3s
AKBB Malin Array Si 71.77 326 P **P 20 11 01.3 -0.1**
AKBB IAmb IAmb 20 11 22.3
comp=Z,3.9nm,1.2s
ASAR Alice Springs 72.02 199 P **P 20 11 06.5 +3.4**
comp=Z,0.2nm,0.9s,baz=19,slow=5.6,SNR=1.2
ASAR Alice Springs 72.02 199 P **P 20 11 05.4 +2.3**
ASAR Alice Springs 72.02 199 P **P 20 11 05.4 +2.3**
BURAR Bucovina Array 75.81 327⇑ P **P 20 11 25.3 +0.1**
BURAR Bucovina Array 75.81 327 P **P 20 11 25.0 -0.3**
BURAR IAmb IAmb 20 11 26.0
comp=Z,2.9nm,0.9s
MORC Moravsky Berou 76.67 332⇓ P **P 20 11 30.6 +0.6**
MORC Moravsky Berou 76.67 332⇓ P **P 20 11 30.6 +0.6**
MORC Moravsky Berou 76.67 332 *e*P **P 20 11 29.8 -0.2**
CLL Collm 76.69 336 *i*P **P 20 11 29.8 -0.2**
comp=Z,4.0nm,1.0s
CLL Collm 76.69 336 *i*P **P 20 11 29.8 -0.2**
CLL pmax pmax
comp=Z,4.0nm,1.0s
UOSS Minazif 76.89 292 P **P 20 11 32.0 +0.4**
VRAC Vranov 77.38 333 *e*P **P 20 11 34.3 +0.3**
JAVC Velka Javorina 77.42 332 *e*P **P 20 11 35.1 +0.8**
TXAR Lajitas Array 77.54 61 P **P 20 11 36.8 +1.5**
comp=Z,0.5nm,0.5s,baz=297,slow=4.7,SNR=4.6
TXAR Lajitas Array 77.54 61 P **P 20 11 35.8 +0.5**
TXAR Lajitas Array 77.54 61 P **P 20 11 35.8 +0.5**
KRUC Moravsky 77.66 333 *e*P **P 20 11 35.5 0.0**
VOIR 77.68 325⇓ P **P 20 11 36.5 +0.7**
VOIR 77.68 325⇓ P **P 20 11 36.5 +0.7**
ARR Arges 77.90 326⇓ P **P 20 11 38.6 +1.5**
GZR Gura Zlata 78.59 327⇑ P **P 20 11 40.6 -0.3**
GZR Gura Zlata 78.59 327⇑ P **P 20 11 40.6 -0.3**
BR131 Keskin Array S 78.60 317 P **P 20 11 40.9 -0.1**
BR131 pmax pmax
comp=Z,2.0nm,1.0s
BR131 Keskin Array S 78.60 317 P **P 20 11 40.9 -0.1**
BR131 IAmb IAmb 20 11 42.6
comp=Z,2.4nm,1.0s
BRTR Keskin Array B 78.60 317 P **P 20 11 41.2 +0.1**
comp=Z,1.2nm,0.9s,baz=59,slow=4.0,SNR=7.7
BRTR Keskin Array B 78.60 317 P **P 20 11 41.0 -0.1**
BRTR Keskin Array B 78.60 317 P **P 20 11 41.0 -0.1**
GERES GERESS Array B 78.68 334 P **P 20 11 41.1 -0.3**
comp=Z,0.2nm,0.5s,baz=30,slow=6.3,SNR=5.1
GERES GERESS Array B 78.68 334 *e*P **P 20 11 42.5 +1.2**
GERES GERESS Array B 78.68 334 P **P 20 11 40.9 -0.5**
BZS Buzias 78.84 328⇓ P **P 20 11 42.6 +0.5**
BZS Buzias 78.84 328⇓ P **P 20 11 42.6 +0.5**
H03N2 Juan Fernandez 138.68 91 T T 22 54 41.2
baz=308,slow=77,SNR=16
H03N3 Juan Fernandez 138.69 91 T T 22 54 40.4
baz=308,slow=77,SNR=16
H03N1 Juan Fernandez 138.69 91 T T 22 54 36.9
baz=308,slow=77,SNR=17

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*IDC **04** 20:09:36.6±0.6,2°.73S×68°.41E,h0km,mb4.1/17, mb1 4.2/18,mb1mx4.0/39,mbtmp4.1/18,ML4.9/1,MS3.8/20, Ms1 3.8/20,ms1mx3.6/33,Error ellipse: s-maj=20.2km s-min=13.4km az=157.0*
*NEIC **04** 20:09:38.9±2.3,2°.79S±0°.09×68°.45E±0°.09,h10km±1km, mb4.6/36,Error ellipse: s-maj=15.7km s-min=14.2km az=206.0*
*GCMT **04** 20:09:40.9±0.3,2°.74S±0°.02×68°.47E±0°.02,h20km±1km, MW4.8/84,Moment Tensor Solution. s13,c13; s84,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.11; $M_{\theta\theta}$1.99±.09; $M_{\phi\phi}$-1.61±.08; $M_{r\theta}$-0.22±.16; $M_{\theta\phi}$0.72±.07; $M_{\phi r}$-0.41±.17; Best double couple: $M_0$2.00300×10^{16} NP1:ϕ_s304.00000°,δ75.00000°,λ-5.00000°. NP2: ϕ_s35.00000°,δ85.00000°,λ-165.00000°. Principal axes: T 2.1650, Plg7.0000°, Azm168.0000°; N -0.3220, Plg74.0000°, Azm54.0000°; P -1.8420, Plg14.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 20:09:38.0±0.4,2°.76S±0°.06×68°.45E±0°.06,h10km,n92, σ1^{9}03/71,mb4.4/41,MS3.9/19,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**6.10**	**139**	Pn	**Pn**	**20 11 08.6**	**+0.3**
DGAR				Sn	**Sn**	**20 12 15.3**	**-2.9**
H08S3	**Diego Garcia H**	**6.28**	**140**	Pn	**Pn**	**20 11 11.2**	**+0.6**
H08S3	baz=330,slow=19,SNR=88			T	T	20 17 41.6	
H08S1	**Diego Garcia H**	**6.29**	**141**	Pn	**Pn**	**20 11 11.4**	**+0.7**
H08S1	baz=330,slow=19,SNR=68			T	T	20 17 42.8	
H08S2	**Diego Garcia H**	**6.30**	**140**	Pn	**Pn**	**20 11 11.7**	**+0.9**
H08S2	baz=330,slow=19,SNR=95			T	T	20 17 40.6	
MSEY	**Mahe Island**	**13.09**	**261**	Pn	**Pn**	**20 12 44.3**	**+0.1**
PALK	**Pallekele**	**15.77**	**51**	Pn	**Pn**	**20 13 18.5**	**-2.0**
PALK	4.5nm,0.3s,baz=340,slow=12,SNR=68			Sn	Sn	20 16 01.6	-14
PALK	0.5nm,0.3s,baz=345,slow=22,SNR=1.8			LR	LR	20 17 50.0	
PALK	**Pallekele**	**15.77**	**51**	Pn	**Pn**	**20 13 18.7**	**-1.8**
PALK				IAmb	IAmb	20 13 40.0	
WSAR	**Wadi Sarin**	**27.56**	**340**	LR	LR	20 23 56.0	
	comp=Z,323nm,21.8s,baz=173,slow=31						
ATD	**Arta Tunnel**	**29.16**	**300**	LR	LR	20 25 04.8	
	comp=Z,75nm,21.0s,baz=78,slow=32						
KMBO	**Kilima Mbogo**	**31.23**	**272**	P	**P**	**20 15 58.8**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=50,slow=14,SNR=6.5						
LODK	**Lodwar**	**33.64**	**280**	P	**P**	**20 16 19.1**	**-0.3**
LODK				IAmb	IAmb	20 16 21.6	
	comp=Z,9.3nm,1.1s						
NIL	**Nilore**	**36.50**	**7**	P	**P**	**20 16 43.9**	**+0.2**
NIL				IAmb	IAmb	20 16 50.8	
	comp=Z,8.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.68**	**54**	P	**P**	**20 16 47.0**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=245,slow=12,SNR=9.4						
CHTO	**Chiang Mai**	**36.87**	**53**	P	**P**	**20 16 48.5**	**+1.4**
CHTO				IAmb	IAmb	20 16 55.8	
	comp=Z,7.7nm,0.9s						
KBL	**Kabul**	**37.11**	**1**	P	**P**	**20 16 49.5**	**+0.4**
KBL				IAmb	IAmb	20 16 57.5	
	comp=Z,19nm,1.7s						
MBAR	**Mbarara**	**37.76**	**273**	P	**P**	**20 16 56.2**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=96,slow=9.2,SNR=5.4						
MBAR	**Mbarara**	**37.76**	**273**	P	**P**	**20 16 54.6**	**-0.3**
MBAR				IAmb	IAmb	20 16 57.0	
	comp=Z,26nm,1.8s						
LSA	**Lhasa**	**38.91**	**32**	P	**P**	**20 17 05.5**	**+0.9**
LSZ	**Lusaka**	**41.57**	**250**	P	**P**	**20 17 26.2**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=64,slow=6.8,SNR=12						
GAR	**Garm**	**41.59**	**2**	P	**P**	**20 17 25.4**	**-1.0**
GEYT	**Alibeck**	**41.61**	**348**	LR	LR	20 33 31.0	
	comp=Z,180nm,21.6s,baz=105,slow=34						
BTK	**Batken**	**42.67**	**3**	P	**P**	**20 17 36.0**	**+0.9**
MATP	**Matopo**	**42.72**	**243**	P	**P**	**20 17 35.4**	**-0.5**
	comp=Z,6.4nm,0.9s,baz=62,slow=8.9,SNR=13						
AAK	**Ala-Archa**	**45.52**	**6**	P	**P**	**20 17 59.0**	**+1.0**
KKAR	**Karatay Array**	**45.69**	**2**	P	**P**	**20 18 00.8**	**+1.6**
KKAR	**Karatay Array**	**45.69**	**2**	P	**P**	**20 18 01.4**	**+2.2**
KKAR				IAmb	IAmb	20 18 30.1	
	comp=Z,4.9nm,1.6s						
FRU1	**Bishkek**	**45.70**	**6**	P	**P**	**20 18 00.5**	**+1.2**
FRU1				IAmb	IAmb	20 18 16.6	
	comp=Z,7.3nm,0.8s						
BOSA	**Boshof**	**48.47**	**234**	P	**P**	**20 18 20.7**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=68,slow=8.0,SNR=8.9						
BOSA				LR	LR	20 34 58.6	
	comp=Z,72nm,20.4s,baz=73,slow=31						
BOSA	**Boshof**	**48.47**	**234**	P	**P**	**20 18 20.1**	**-1.2**
MK31	**Makanchi Array**	**50.83**	**12**	P	**P**	**20 18 39.3**	**+0.4**
MKAR	**Makanchi Array**	**50.83**	**12**	P	**P**	**20 18 39.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=196,slow=8.0,SNR=7.7						
MKAR				LR	LR	20 40 04.8	
	comp=Z,49nm,18.1s,baz=184,slow=36						
MKAR	**Makanchi Array**	**50.83**	**12**	P	**P**	**20 18 39.7**	**+0.8**
KBZ	**Khabaz**	**51.66**	**337**	P	**P**	**20 18 45.4**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=157,slow=5.6,SNR=11						
KBZ				LR	LR	20 40 14.0	
	comp=Z,67nm,19.5s,baz=153,slow=36						
ABKAR	**Akbulak array**	**52.33**	**353**	P	**P**	**20 18 48.9**	**-1.1**
ABKAR	**Akbulak array**	**52.33**	**353**	P	**P**	**20 18 49.0**	**-0.9**
BR131	**Keskin Array S**	**52.99**	**327**	P	**P**	**20 18 54.1**	**-1.0**
BR131				IAmb	IAmb	20 19 02.2	
	comp=Z,10.0nm,1.4s						
BRTR	**Keskin Array B**	**52.99**	**327**	P	**P**	**20 18 54.3**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=171,slow=10.0,SNR=6.6						
BRTR				LR	LR	20 40 59.3	
	comp=Z,97nm,19.7s,baz=146,slow=36						
BRTR	**Keskin Array B**	**52.99**	**327**	P	**P**	**20 18 54.2**	**-1.0**
H01W3	**Cape Leeuwin H**	**53.06**	**133**	T	T	21 16 27.8	
	baz=299,slow=75,SNR=3.6						
H01W2	**Cape Leeuwin H**	**53.07**	**133**	T	T	21 16 19.0	
	baz=299,slow=75,SNR=3.3						
H01W1	**Cape Leeuwin H**	**53.08**	**133**	T	T	21 16 31.3	
	baz=299,slow=75,SNR=3.2						
ZAA0	**Zalesovo Array**	**58.14**	**11**	P	**P**	**20 19 32.2**	**+0.4**
ZALV	**Zalesovo Beam**	**58.14**	**11**	P	**P**	**20 19 29.8**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=198,slow=7.7,SNR=7.3						
ZALV				LR	LR	20 44 00.6	
	comp=Z,93nm,21.5s,baz=208,slow=36						
ZALV	**Zalesovo Beam**	**58.14**	**11**	P	**P**	**20 19 30.6**	**-1.1**
ARU	**Arti**	**59.55**	**354**	P	**P**	**20 19 41.8**	**+0.3**
SONM	**Songino Array**	**60.31**	**28**	P	**P**	**20 19 46.8**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=215,slow=10.0,SNR=15						
SONM				LR	LR	20 46 06.4	
	comp=Z,94nm,18.6s,baz=250,slow=36						
SONM	**Songino Array**	**60.31**	**28**	P	**P**	**20 19 46.4**	**-0.7**
SONM				IAmb	IAmb	20 19 49.9	
	comp=Z,3.6nm,0.8s						
ULN	**Ulaanbaatar**	**60.64**	**29**	P	**P**	**20 19 49.1**	**-0.4**
ULN				IAmb	IAmb	20 19 58.4	
	comp=Z,9.9nm,1.7s						
MLR	**Muntele Rosu**	**61.06**	**327**	P	**P**	**20 19 53.5**	**+1.2**
BURAR	**Bucovina Array**	**62.80**	**329**	P	**P**	**20 20 05.3**	**+1.4**
AKASG	**Malin Array Be**	**62.93**	**333**	P	**P**	**20 20 04.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=115,slow=6.4,SNR=4.8						
AKASG				LR	LR	20 48 36.1	
	comp=Z,35nm,20.0s,baz=115,slow=37						
DIVS	**Divibare**	**63.64**	**323**	P	**P**	**20 20 10.0**	**+0.4**
MAW	**Mawson**	**64.84**	**182**	LR	LR	20 41 32.0	
	comp=Z,149nm,20.7s,baz=48,slow=30						
WRA	**Warramunga Arr**	**66.41**	**110**	P	**P**	**20 20 28.4**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=286,slow=6.1,SNR=7.0						
WRA	**Warramunga Arr**	**66.41**	**110**	P	**P**	**20 20 28.1**	**+0.1**
WB2	**Warramunga Arr**	**66.42**	**110**	P	**P**	**20 20 29.4**	**+1.3**
ASAR	**Alice Springs**	**66.44**	**115**	P	**P**	**20 20 28.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=278,slow=6.0,SNR=8.7						
KLMR	**Klimovskoe**	**67.28**	**345**	*e*P	**P**	**20 20 31.9**	**-0.8**
KLMR				AMP		20 20 41.4	
	comp=Z,9.0nm,1.0s						
NRCA	**Norcia**	**67.33**	**319**	P	**P**	**20 20 32.7**	**-0.7**
NRCA				IAmb	IAmb	20 20 53.1	
	comp=Z,7.0nm,1.3s						
KSAR	**Wonju Array Be**	**67.95**	**48**	P	**P**	**20 20 37.7**	**+0.3**
ARSA	**Arzberg**	**67.97**	**324**	*i*P	P	20 20 44.9	+7.5
	comp=Z,2.7nm,1.0s						
SOKA	**Soboth**	**67.97**	**323**	*e*P	P	20 20 43.4	+5.9
	comp=Z,3.9nm,1.4s						
KSRS	**Korea Array**	**67.99**	**48**	P	**P**	**20 20 38.2**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=251,slow=7.6,SNR=7.9						
KSRS				LR	LR	20 51 41.9	
	comp=Z,68nm,18.9s,baz=206,slow=37						
TORD	**Torodi Ar. Bea**	**68.09**	**285**	LR	LR	20 50 16.6	
	comp=Z,52nm,18.8s,baz=145,slow=36						
TORD	**Torodi Ar. Bea**	**68.09**	**285**	P	**P**	**20 20 38.4**	**-0.3**
TORD				IAmb	IAmb	20 20 39.4	
	comp=Z,9.8nm,1.6s						
CONA	**Conrad Observa**	**68.12**	**325**	*i*P	P	20 20 44.2	+5.8
	comp=Z,4.9nm,1.3s						
MORC	**Moravsky Berou**	**68.17**	**327**	P	**P**	**20 20 39.4**	**+0.8**
MORC				IAmb	IAmb	20 20 44.7	
	comp=Z,2.9nm,1.0s						
MOA	**Molln**	**69.01**	**324**	*e*P	P	20 20 49.5	+5.7
	comp=Z,4.0nm,1.5s						
KBA	**Koelnbreinsper**	**69.17**	**323**	*e*P	P	20 20 50.8	+5.7
	comp=Z,3.2nm,1.3s						
ABTA	**Abfaltersbach**	**69.52**	**323**	*e*P	P	20 20 53.3	+6.2
	comp=Z,3.8nm,1.3s						
WTTA	**Wattenberg**	**70.29**	**323**	*e*P	P	20 20 57.1	+5.1
	comp=Z,3.2nm,0.8s						
SQTA	**Sankt Quirin**	**70.53**	**323**	*i*P	P	20 20 59.1	+5.7
	comp=Z,2.1nm,0.8s						
MOTA	**Moosalm**	**70.65**	**323**	*i*P	P	20 20 59.8	+5.7
	comp=Z,5.9nm,1.5s						
RETA	**Reutte**	**70.92**	**323**	*e*P	P	20 21 01.4	+5.7
	comp=Z,3.0nm,1.2s						
CLL	**Collm**	**71.44**	**327**	P	**P**	**20 21 00.7**	**+2.1**
CLL				IAmb	IAmb	20 21 12.4	
	comp=Z,3.4nm,0.9s						
FINES	**FINESS Array B**	**71.79**	**340**	LR	LR	20 55 49.2	
	comp=Z,43nm,18.8s,baz=80,slow=39						
SENIN	**Lac Senin/Sane**	**72.59**	**321**	P	**P**	**20 21 06.0**	**0.0**
SENIN				IAmb	IAmb	20 21 35.9	
	comp=Z,6.9nm,1.2s						
JWT	**Wachi**	**72.99**	**52**	P	**P**	**20 21 09.6**	**+1.4**
NRIK	**Noril'sk**	**73.13**	**7**	LR	LR	20 56 04.1	
	comp=Z,57nm,18.4s,baz=206,slow=38						
MJAR	**Matsushiro Arr**	**75.52**	**51**	P	**P**	**20 21 24.9**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=247,slow=5.5,SNR=6.8						
MJAR				LR	LR	20 55 38.6	
	comp=Z,33nm,18.5s,baz=210,slow=37						
NOA	**NORSAR Array B**	**77.22**	**335**	LR	LR	20 56 09.3	
	comp=Z,39nm,20.8s,baz=125,slow=36						
ARCES	**ARCESS Array B**	**77.74**	**346**	LR	LR	20 56 52.5	
	comp=Z,55nm,20.7s,baz=60,slow=36						
ESDC	**Sonseca Array**	**78.32**	**311**	P	**P**	**20 21 38.4**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=98,slow=4.8,SNR=7.5						
ESDC	**Sonseca Array**	**78.32**	**311**	P	**P**	**20 21 38.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**81.36**	**42**	P	**P**	**20 21 55.1**	**+0.1**
SNAA	**Sanae**	**81.56**	**198**	P	**P**	**20 21 56.0**	**+0.3**
SNAA				IAmb	IAmb	20 22 00.1	
	comp=Z,13nm,1.8s						
TIXI	**Tiksi**	**83.64**	**16**	P	**P**	**20 22 05.6**	**-0.7**
TIXI				IAmb	IAmb	20 22 12.7	
	comp=Z,6.0nm,1.0s						
QSPA	**South Pole Qui**	**87.24**	**180**	P	**P**	**20 22 24.0**	**-0.6**
QSPA				IAmb	IAmb	20 22 40.1	
	comp=Z,5.4nm,1.4s						
VNDA	**Vanda**	**88.06**	**167**	LR	LR	20 56 18.6	
	comp=Z,117nm,20.2s,baz=354,slow=32						
PDAR	**Pinedale Array**	**140.13**	**358**	PKP	**PKPdf**	**20 29 06.7**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=288,slow=0.3,SNR=2.4						
TXAR	**Lajitas Array**	**152.53**	**345**	PKPbc	**PKPbc**	**20 29 35.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=46,slow=3.6,SNR=6.2						
TXAR	**Lajitas Array**	**152.53**	**345**		**PKPdf**	**20 29 27.6**	**-1.1**
TXAR				PKPbc	**PKPbc**	**20 29 35.2**	**-0.4**

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*CRAAG **04** 20:09:55.6,36°.77N×3°.47E,Ml3.3*
*MDD **04** 20:09:58.3±1.2,36°.91N×3°.36E,h4km±18km,mb4.0/11, Error ellipse: s-maj=28.9km s-min=7.6km az=148.0, PRXIMO*
*LDG **04** 20:10:01.3±0.3,36°.89N×3°.46E,h30km,Ml2.6/9,Error ellipse: s-maj=5.1km s-min=3.4km az=161.0*

ISC 04 20:09:55.3±1.0,36°.91N±0°.05×3°.45E±0°.05,h12km,n51, σ2^{9}50/79,Northern Algeria

| Code | Station

EMUR	**La Murta**	**3.85**	**285**	P	**Pn**	**20 10 55.2**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**20 11 38.5**	**-1.1**
	2.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.32**	**295**	P	**Pn**	**20 11 02.9**	**+2.1**
	1.6nm,0.2s,SNR=19						
ETOB				S	**Sn**	**20 11 51.0**	**-0.2**
	4.4nm,0.3s						
ECHE	**Chera**	**4.39**	**309**	P	**Pn**	**20 11 04.8**	**+3.0**
	7.4nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**20 11 51.3**	**-1.5**
	2.3nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.62**	**320**	P	**Pn**	**20 11 07.6**	**+2.6**
	1.6nm,0.2s,SNR=17						
EMOS				S	**Sn**	**20 11 57.8**	**-0.8**
	5.5nm,0.8s						
ERTA	**Horta de San J**	**4.71**	**330**	S	**Sn**	**20 11 58.2**	**-2.6**
	1.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.80**	**338**	P	**Pn**	**20 11 09.5**	**+2.0**
	0.9nm,0.1s,SNR=7.2						
EPOB				S	**Sn**	**20 12 02.1**	**-1.0**
	3.8nm,0.9s						
CFON	**Fontmartina**	**4.91**	**351**	P	**Pn**	**20 11 10.9**	**+2.0**
	2.0nm,0.2s,SNR=7.0						
CFON				S	**Sn**	**20 12 04.1**	**-1.6**
	1.3nm,0.2s						
SESP	**Santiago Espad**	**4.92**	**286**	P	**Pn**	**20 11 11.7**	**+2.6**
	0.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**20 12 05.9**	**-0.1**
	2.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.08**	**272**	S	**Sn**	**20 12 08.7**	**-1.4**
	0.5nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.55**	**356**	P	**Pn**	**20 11 21.1**	**+3.4**
	2.2nm,0.2s,SNR=8.4						
EJON				S	**Sn**	**20 12 21.0**	**-0.4**
	2.5nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**5.58**	**356**	P	**Pn**	**20 11 21.2**	**+3.1**
	1.8nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**20 12 22.0**	**-0.2**
	0.3nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**5.67**	**272**	P	**Pn**	**20 11 21.1**	**+1.7**
	0.4nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**20 12 21.7**	**-2.8**
	0.9nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**5.68**	**349**	P	**Pn**	**20 11 23.2**	**+3.6**
	0.3nm,0.2s,SNR=7.9						
CSOR	**Sort**	**5.74**	**343**	P	**Pn**	**20 11 24.1**	**+3.6**
	1.2nm,0.2s,SNR=7.0						
CSOR				S	**Sn**	**20 12 25.0**	**-1.3**
	0.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.80**	**314**	P	**Pn**	**20 11 25.0**	**+3.7**
	4.6nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**6.49**	**352**	P	**Pn**	**20 11 34.4**	**+3.8**
MTLF				S	**Sn**	**20 12 42.1**	**-2.5**
	0.2nm,0.2s						
MTLF	**Montolieu**	**6.49**	**352**	*e*Pn	**Pn**	**20 11 34.4**	**+3.8**
MTLF				*e*Sn	**Sn**	**20 12 42.1**	**-2.5**
	0.4nm,0.2s						
EPF	**Esparros**	**6.56**	**340**	P	**Pn**	**20 11 35.4**	**+3.8**
EPF				S	**Sn**	**20 12 43.7**	**-2.7**
	0.4nm,0.2s						
EPF	**Esparros**	**6.56**	**340**	*e*Pn	**Pn**	**20 11 35.4**	**+3.8**
EPF				*e*Sn	**Sn**	**20 12 43.7**	**-2.7**
	0.9nm,0.2s						
ETSF	**Etsaut**	**6.73**	**334**	S	**Sn**	**20 12 46.9**	**-3.6**
	0.2nm,0.2s						
ETSF	**Etsaut**	**6.73**	**334**	*e*Sn	**Sn**	**20 12 46.9**	**-3.6**
	0.3nm,0.2s						
LMR	**La Mourre**	**6.83**	**19**	P	**Pn**	**20 11 37.5**	**+2.3**
LMR				S	**Sn**	**20 12 50.3**	**-2.6**
	0.4nm,0.2s						
LMR	**La Mourre**	**6.83**	**19**	*e*Pn	**Pn**	**20 11 37.5**	**+2.3**
LMR				*e*Sn	**Sn**	**20 12 50.3**	**-2.6**
	0.8nm,0.2s						
ATE	**Arette**	**6.94**	**334**	P	**Pn**	**20 11 39.3**	**+2.5**
	0.3nm,0.2s,SNR=4.0						
ATE				S	**Sn**	**20 12 54.0**	**-1.6**
	0.5nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.01**	**304**	P	**Pn**	**20 11 40.3**	**+2.4**
	0.2nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**7.08**	**19**	P	**Pn**	**20 11 40.6**	**+2.0**
FRF				S	**Sn**	**20 12 55.7**	**-3.3**
	0.3nm,0.2s						
FRF	**La Foret Royal**	**7.08**	**19**	*e*Pn	**Pn**	**20 11 40.6**	**+2.0**
FRF				*e*Sn	**Sn**	**20 12 55.7**	**-3.3**
	0.6nm,0.2s						
SJPF	**Ste Jean**	**7.16**	**331**	P	**Pn**	**20 11 42.2**	**+2.4**
SJPF				S	**Sn**	**20 12 58.4**	**-2.6**
	0.2nm,0.1s						
SJPF	**Ste Jean**	**7.16**	**331**	*e*Pn	**Pn**	**20 11 42.2**	**+2.4**
SJPF				*e*Sn	**Sn**	**20 12 58.4**	**-2.6**
	0.3nm,0.1s						
LASF	**Ste Croix**	**7.17**	**2**	P	**Pn**	**20 11 42.8**	**+3.0**
LASF				S	**Sn**	**20 12 57.9**	**-3.3**
	0.2nm,0.2s						
LASF	**Ste Croix**	**7.17**	**2**	*e*Pn	**Pn**	**20 11 42.8**	**+3.0**
LASF				*e*Sn	**Sn**	**20 12 57.9**	**-3.3**
	0.4nm,0.2s						
SMRF	**Simiane la Rot**	**7.24**	**12**	P	**Pn**	**20 11 44.0**	**+3.1**
SMRF				S	**Sn**	**20 13 00.1**	**-3.0**
	0.2nm,0.1s						
SMRF	**Simiane la Rot**	**7.24**	**12**	*e*Pn	**Pn**	**20 11 44.0**	**+3.1**
SMRF				*e*Sn	**Sn**	**20 13 00.1**	**-3.0**
	0.2nm,0.1s						
SBF	**Sospel**	**7.58**	**22**	P	Pn	20 11 52.6	+7.0
SBF	**Sospel**	**7.58**	**22**	*e*P	Pn	20 11 52.6	+7.0
VIVF	**Saint-Julien-l**	**7.99**	**6**	P	**Pn**	**20 11 53.7**	**+2.5**
VIVF				S	**Sn**	**20 13 17.9**	**-3.6**
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**7.99**	**6**	*e*Pn	**Pn**	**20 11 53.7**	**+2.5**
VIVF				*e*Sn	**Sn**	**20 13 17.9**	**-3.6**
	0.3nm,0.2s						
CAF	**Calviac**	**8.08**	**353**	P	**Pn**	**20 11 54.7**	**+2.3**
CAF	**Calviac**	**8.08**	**353**	*e*Pn	**Pn**	**20 11 54.7**	**+2.3**
CAF	**Calviac**	**8.08**	**353**	*e*P	Pn	20 11 59.4	+7.0

TAP ***04*** *20:25:48.0,24.18N×121.81E,h5km,ML3.1,C*
JMA ***04*** *20:25:47.7±0.1,24.12N×121.80E,h8km±2km,M2.6*
ISC 04 20:25:48.2±1.0,24.16N±0.01×121.84E±0.02,h7km±7km,
n126,σ1§01/245,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**331**	*e*P	**Pg**	**20 25 51.6**	**-0.2**
	baz=337						
EHP				*e*S	**Sg**	**20 25 54.4**	**+0.1**
	baz=337						
ETL	**Fush Village**	**0.19**	**271**	P	**Pg**	**20 25 52.0**	**-0.1**
	baz=266						
ETL				S	**Sg**	**20 25 55.1**	**+0.3**
	baz=266						
NACB	**Ninganchiao**	**0.22**	**274**	P	**Pg**	**20 25 52.4**	**-0.2**
	baz=273						
NACB				S	**Sg**	**20 25 55.9**	**+0.3**
	baz=273						
TWD	**Chiawan**	**0.23**	**251**	*i* P	**Pg**	**20 25 52.8**	**0.0**
	baz=258						
TWD				*i* S	**Sg**	**20 25 56.5**	**+0.6**
	baz=258						
HWA	**Hwalien**	**0.28**	**230**	P	**Pg**	**20 25 55.1**	**+1.4**
	baz=242						
HWA				*e*S	**Sg**	**20 25 59.7**	**+2.4**
	baz=242						
EWUT	**Wuta**	**0.29**	**350**	*i* P	**Pg**	**20 25 53.8**	**-0.1**
	baz=348						
EWUT				*i* S	**Sg**	**20 25 57.8**	**0.0**
	baz=348						
ETLH	**Xiulin Townshi**	**0.33**	**279**	P	**Pg**	**20 25 54.4**	**-0.3**
	baz=277						
ETLH				S	**Sb**	**20 25 59.5**	**-2.3**
	baz=277						
TEYL	**Yanliau Villag**	**0.36**	**217**	P	**Pb**	**20 25 56.8**	**-0.1**
	baz=236						
TEYL				S	**Sb**	**20 26 02.6**	**-0.1**
	baz=236						
ETM	**Tongmen**	**0.37**	**239**	P	**Pb**	**20 25 55.5**	**-1.5**
	baz=239						
ETM				S	**Sb**	**20 26 01.6**	**-1.3**
	baz=239						
TWC	**Suao**	**0.45**	**2**	P	**Pg**	**20 25 56.9**	**-0.1**
	baz=354						
TWC				S	**Sg**	**20 26 03.4**	**+0.5**
	baz=354						
NDS	**Dongshan**	**0.49**	**347**	P	**Pg**	**20 25 57.7**	**0.0**
	baz=345						
NDS				S	**Sg**	**20 26 04.3**	**+0.3**
	baz=345						
ESL	**Shilin**	**0.50**	**227**	P	**Pb**	**20 25 58.1**	**-1.2**
	baz=241						
ESL				S	**Sb**	**20 26 06.1**	**-0.7**
	baz=241						
NNS	**Nan Shan**	**0.51**	**304**	P	**Pg**	**20 25 58.0**	**-0.1**
	baz=305						
NNS				S	**Sg**	**20 26 04.7**	**0.0**
	baz=305						
WHF	**Hehuan Shan**	**0.52**	**269**	P	**Pg**	**20 25 58.2**	**-0.1**
	baz=271						
WHF				S	**Sg**	**20 26 05.1**	**-0.2**
	baz=271						
TEGC	**Jichi Village**	**0.52**	**211**	P	**Pb**	**20 25 59.9**	**+0.2**
	baz=215						
TEGC				S	**Sb**	**20 26 08.7**	**+1.4**
	baz=215						
NDT	**Datong Townshi**	**0.53**	**327**	P	**Pg**	**20 25 58.6**	**+0.1**
	baz=326						
NDT				S	**Sb**	**20 26 06.3**	**-1.4**
	baz=326						
FUSS	**Fushou**	**0.55**	**280**	P	**Pb**	**20 25 59.0**	**-1.3**
	baz=282						
FUSS				S	**Sb**	**20 26 06.1**	**-2.3**
	baz=282						
TWE	**Neicheng**	**0.58**	**345**	P	**Pg**	**20 25 59.5**	**0.0**
	baz=343						
TWE				S	**Sg**	**20 26 07.6**	**+0.5**
	baz=343						
ILA	**Ilan**	**0.61**	**353**	*e*P	**Pg**	**20 26 00.1**	**+0.1**
	baz=345						
ILA				*e*S	**Sg**	**20 26 08.5**	**+0.5**
	baz=345						
CHGB	**Renai**	**0.61**	**261**	P	**Pb**	**20 26 00.2**	**-1.1**
	baz=262						
CHGB				S	**Sb**	**20 26 08.8**	**-1.4**
	baz=262						
EGFH	**Guangfu**	**0.61**	**218**	P	**Pb**	**20 26 00.9**	**-0.3**
	baz=231						
EGFH				*e*S	**Sb**	**20 26 10.7**	**+0.7**
	baz=231						
TDCB	**Techi**	**0.63**	**279**	P	**Pb**	**20 26 00.8**	**-0.7**
	baz=280						
TDCB				S	**Sb**	**20 26 08.7**	**-1.9**
	baz=280						
OWD	**Renai**	**0.64**	**252**	P	**Pb**	**20 26 00.6**	**-1.1**
	baz=253						
OWD				*e*S	**Sb**	**20 26 10.4**	**-0.4**
	baz=253						
YHNB	**Yeheng**	**0.66**	**321**	P	**Pb**	**20 26 01.1**	**-1.0**
	baz=320						
YHNB				S	**Sg**	**20 26 09.7**	**+0.1**
	baz=320						
NWLT	**Wulai**	**0.69**	**334**	P	**Pg**	**20 26 01.5**	**+0.1**
	baz=333						
NWLT				S	**Sg**	**20 26 09.5**	**-0.9**
	baz=333						
NTC	**Toucheng**	**0.69**	**360**	P	**Pg**	**20 26 01.8**	**+0.2**
	baz=357						
NTC				*e*S	**Sg**	**20 26 11.2**	**+0.6**
	baz=357						
HGSD	**Ruisui**	**0.76**	**210**	P	**Pn**	**20 26 04.5**	**-0.8**
	baz=213						
HGSD				*e*S	**Sn**	**20 26 16.7**	**-0.4**
	baz=213						
EHY	**Hungye**	**0.80**	**216**	P	**Pb**	**20 26 03.8**	**-0.6**
	baz=233						
EHY				S	**Sb**	**20 26 15.8**	**+0.3**
	baz=233						
TIPB	**Shuangxi**	**0.81**	**359**	P	**Pg**	**20 26 03.8**	**0.0**
	baz=356						
TIPB				S	**Sg**	**20 26 14.7**	**+0.3**
	baz=356						
WPL	**Puli Township**	**0.82**	**260**	P	**Pb**	**20 26 04.4**	**-0.3**
	baz=263						
WPL				S	**Sb**	**20 26 15.0**	**-0.9**
	baz=263						
WHP	**Taichung City**	**0.82**	**279**	P	**Pb**	**20 26 04.6**	**-0.2**
	baz=281						
WHP				S	**Sb**	**20 26 15.3**	**-0.8**
	baz=281						
DPDB	**Guoxing**	**0.84**	**262**	P	**Pb**	**20 26 04.9**	**-0.2**
	baz=265						
DPDB				*e*S	**Sb**	**20 26 16.7**	**+0.1**
	baz=265						
WCS	**Beigang Elemen**	**0.85**	**263**	P	**Pb**	**20 26 05.0**	**-0.2**
	baz=266						
WCS				S	**Sb**	**20 26 15.6**	**-1.3**
	baz=266						
NHDH	**Xindian Distri**	**0.85**	**341**	P	**Pb**	**20 26 05.0**	**-0.2**
	baz=338						
NHDH				*e*S	**Sb**	**20 26 16.2**	**-0.7**
	baz=338						
TWA	**Mucha**	**0.85**	**344**	P	**Pb**	**20 26 04.7**	**-0.6**
	baz=342						
TWA				*e*S	**Sb**	**20 26 16.9**	**0.0**
	baz=342						
TWB1	**Santiao Chiao**	**0.86**	**9**	P	**Pg**	**20 26 04.6**	**-0.1**
	baz=357						
TWB1				*e*S	**Sb**	**20 26 16.6**	**-0.5**
	baz=357						
TATO	**Taipei**	**0.87**	**339**	P	**Pb**	**20 26 05.4**	**-0.3**
	baz=337						
TATO				*e*S	**Sb**	**20 26 17.4**	**-0.2**
	baz=337						
SSLB	**Suanglung**	**0.89**	**246**	P	**Pb**	**20 26 05.3**	**-0.6**
	baz=261						
SSLB				S	**Sb**	**20 26 17.2**	**-0.7**
	baz=261						
NJD	**Zhudong**	**0.89**	**310**	P	**Pb**	**20 26 05.4**	**-0.6**
	baz=311						
NJD				S	**Sb**	**20 26 17.6**	**-0.5**
	baz=311						
NSTT	**Nanjuang**	**0.90**	**302**	P	**Pb**	**20 26 06.0**	**0.0**
	baz=303						
NSTT				S	**Sb**	**20 26 17.2**	**-0.9**
	baz=303						
SMLT	**Sun Moon Lake**	**0.90**	**252**	P	**Pb**	**20 26 05.8**	**-0.4**
	baz=256						
SMLT				S	**Sb**	**20 26 17.9**	**-0.5**
	baz=256						
YULB	**Yu-li**	**0.91**	**213**	P	**Pb**	**20 26 05.5**	**-0.7**
	baz=231						
YULB				S	**Sn**	**20 26 19.6**	**-1.0**
	baz=231						
ECBN	**Changbin**	**0.91**	**203**	*e*P	**Pn**	**20 26 06.7**	**-0.6**
	baz=207						
ECBN				*e*S	**Sn**	**20 26 19.8**	**-0.8**
	baz=207						
NWF	**Wu-fen Shan**	**0.91**	**357**	P	**Pb**	**20 26 06.3**	**-0.1**
	baz=344						
NWF				*e*S	**Sb**	**20 26 18.2**	**-0.6**
	baz=344						
WFSB	**Wu-fen Shan**	**0.91**	**357**	P	**Pb**	**20 26 06.3**	**0.0**
	baz=345						
WFSB				*e*S	**Sg**	**20 26 17.1**	**-0.5**
	baz=345						
TYC	**Yuchr**	**0.93**	**254**	P	**Pn**	**20 26 06.4**	**-1.2**
	baz=258						
TYC				*e*S	**Sn**	**20 26 19.8**	**-1.3**
	baz=258						
EYUL	**Yuli**	**0.94**	**210**	P	**Pb**	**20 26 06.3**	**-0.3**
	baz=235						
EYUL				*e*S	**Sn**	**20 26 21.5**	**+0.2**
	baz=235						
TWF1	**Yuli**	**0.94**	**212**	*e*P	**Pg**	**20 26 05.5**	**-0.7**
	baz=231						
TWF1				S	**Sn**	**20 26 21.3**	**-0.2**
	baz=231						
HSN1	**Hsinchu**	**0.97**	**310**	*e*P	**Pn**	**20 26 07.6**	**-0.5**
	baz=311						
HSN1				*e*S	**Sb**	**20 26 20.3**	**0.0**
	baz=311						
TWQ1	**Liyutan**	**0.99**	**281**	*e*P	**Pn**	**20 26 08.8**	**+0.3**
	baz=284						
TWQ1				*e*S	**Sn**	**20 26 20.9**	**-1.8**
	baz=284						
TNOU	**National Taiwa**	**0.99**	**357**	P	**Pb**	**20 26 07.5**	**-0.1**
	baz=345						
TNOU				S	**Sg**	**20 26 19.2**	**-0.9**
	baz=345						
SBCB	**Hsinchu**	**1.00**	**309**	*e*P	**Pn**	**20 26 09.4**	**+0.8**
	baz=310						
SBCB				*e*S	**Sn**	**20 26 22.5**	**-0.4**
	baz=310						
NCUH	**Zhongli**	**1.00**	**324**	P	**Pn**	**20 26 08.5**	**-0.1**
	baz=323						
NCUH				S	**Sn**	**20 26 23.3**	**+0.3**
	baz=323						
WHYT	**Xinyi Township**	**1.01**	**243**	P	**Pn**	**20 26 08.3**	**-0.5**
	baz=257						
WHYT				*e*S	**Sn**	**20 26 21.5**	**-1.7**
	baz=257						
TWS1	**Kuangyinshan**	**1.01**	**338**	*e*P	**Pn**	**20 26 08.5**	**-0.3**
	baz=336						
TWS1				*e*S	**Sb**	**20 26 21.9**	**+0.3**
	baz=336						
NSY	**Sanyi**	**1.01**	**285**	P	**Pn**	**20 26 08.9**	**+0.1**
	baz=288						
NSY				*e*S	**Sn**	**20 26 22.5**	**-0.8**
	baz=288						
YM01	**YM01**	**1.01**	**346**	P	**Pn**	**20 26 08.3**	**-0.6**
	baz=343						
YM01				*e*S	**Sb**	**20 26 21.6**	**0.0**
	baz=343						
NMLH	**Miaoli**	**1.02**	**292**	P	**Pn**	**20 26 09.1**	**+0.2**
	baz=294						
NMLH				*e*S	**Sn**	**20 26 22.7**	**-0.9**
	baz=294						
WWF	**Wufeng**	**1.04**	**264**	P	**Pn**	**20 26 09.1**	**-0.2**
	baz=262						
WWF				*e*S	**Sn**	**20 26 24.0**	**0.0**
	baz=262						
YUS	**Yu-Shan**	**1.05**	**231**	P	**Pn**	**20 26 09.1**	**-0.6**
	baz=236						
YUS				S	**Sn**	**20 26 24.2**	**-0.6**
	baz=236						
YM08	**YM08**	**1.05**	**348**	P	**Pb**	**20 26 08.6**	**-0.1**
	baz=344						
YM08				*e*S	**Sb**	**20 26 23.0**	**+0.3**
	baz=344						
TCU	**Taichung**	**1.06**	**270**	*e*P	**Pn**	**20 26 09.7**	**+0.3**
	baz=273						
TCU				*e*S	**Sn**	**20 26 24.5**	**+0.1**
	baz=273						
NTST	**Danshui**	**1.06**	**341**	*e*P	**Pn**	**20 26 09.4**	**-0.1**
	baz=338						
NTST				*e*S	**Sn**	**20 26 23.7**	**-0.7**
	baz=338						
ANP	**Anpu**	**1.06**	**344**	P	**Pb**	**20 26 09.0**	**0.0**
	baz=341						
ANP				S	**Sg**	**20 26 22.4**	**-0.1**
	baz=341						
WJS	**Zhushan**	**1.07**	**252**	P	**Pn**	**20 26 10.1**	**+0.6**
	baz=256						
WJS				S	**Sn**	**20 26 23.6**	**-1.0**
	baz=256						
FULB	**Fuli**	**1.08**	**208**	P	**Pn**	**20 26 08.9**	**-0.8**
	baz=232						
FULB				*e*S	**Sn**	**20 26 24.8**	**0.0**
	baz=232						
WNT1	**Nantou City**	**1.09**	**257**	*e*P	**Pn**	**20 26 11.2**	**+1.4**
	baz=255						
WNT1				S	**Sn**	**20 26 25.7**	**+0.7**
	baz=255						
WNT	**Mingjian**	**1.09**	**255**	*e*P	**Pn**	**20 26 09.7**	**-0.1**
	baz=254						
WNT				S	**Sn**	**20 26 25.5**	**+0.4**
	baz=254						
WDJ	**Dajia District**	**1.11**	**280**	*e*P	**Pn**	**20 26 12.0**	**+1.9**
	baz=285						
WDJ				*e*S	**Sn**	**20 26 27.3**	**+1.7**
	baz=285						
YOJ	**Yonaguni jima**	**1.11**	**74**	P	**Pg**	**20 26 09.1**	**-0.5**
YOJ	**Yonaguni jima**	**1.11**	**74**	*e*P	**Pn**	**20 26 11.1**	**+0.9**
	baz=58						
YOJ				*e*S	**Sn**	**20 26 27.1**	**+1.3**
	baz=58						
TWY	**Chenhua**	**1.13**	**349**	*e*P	**Pn**	**20 26 11.1**	**+0.7**
	baz=337						
TWY				*e*S	**Sn**	**20 26 26.0**	**-0.2**
	baz=337						
CHKT	**Chengkung**	**1.14**	**202**	*e*P	**Pb**	**20 26 09.6**	**-0.6**
	baz=227						
CHKT				*e*S	**Sn**	**20 26 27.4**	**+1.0**
	baz=227						
ALS	**Alishan**	**1.14**	**236**	*e*P	**Pn**	**20 26 10.8**	**-0.1**
	baz=241						
ALS				*e*S	**Sn**	**20 26 26.6**	**-0.3**
	baz=241						
WCHH	**Zhanghua**	**1.17**	**266**	*e*P	**Pn**	**20 26 12.8**	**+1.9**
	baz=271						
WCHH				*e*S	**Sn**	**20 26 28.4**	**+1.3**
	baz=271						
CHN5	**Tsauling**	**1.20**	**242**	P	**Pn**	**20 26 12.0**	**+0.6**
	baz=249						
CHN5				S	**Sn**	**20 26 30.0**	**+2.1**
	baz=249						
ECS	**Chishang**	**1.20**	**208**	*e*P	**Pn**	**20 26 12.5**	**+1.2**
	baz=232						
ECS				*e*S	**Sn**	**20 26 29.6**	**+1.8**
	baz=232						
ELDTW	**Lidau**	**1.22**	**218**	*e*P	**Pg**	**20 26 09.9**	**-1.8**
	baz=211						
ELDTW				S	**Sn**	**20 26 27.8**	**-0.8**
	baz=211						
WGK	**Gukeng**	**1.26**	**248**	*e*P	**Pn**	**20 26 12.1**	**0.0**
	baz=255						
WGK				*e*S	**Sn**	**20 26 32.0**	**+2.8**
	baz=255						
WDLH	**Douliu**	**1.27**	**249**	P	**Pn**	**20 26 13.9**	**+1.6**
	baz=255						
WDLH				S	**Sn**	**20 26 32.1**	**+2.4**
	baz=255						
EDH	**Donghe**	**1.28**	**203**	*e*P	**Pn**	**20 26 11.7**	**-0.7**
	baz=193						
EDH				*e*S	**Sn**	**20 26 30.1**	**+0.3**
	baz=193						
WRL	**Guolierlin Hig**	**1.36**	**259**	P	**Pg**	**20 26 14.8**	**+0.5**
	baz=281						
WRL				S	**Sn**	**20 26 34.2**	**+2.4**
	baz=281						
STYH	**Taoyuan**	**1.38**	**225**	P	**Pg**	**20 26 14.0**	**-0.7**
	baz=232						
STYH				S	**Sn**	**20 26 33.3**	**+1.0**
	baz=232						
CHN2	**Minshiung**	**1.39**	**244**	*e*P	**Pg**	**20 26 15.3**	**+0.4**
	baz=251						
CHN2				*e*S	**Sn**	**20 26 35.3**	**+2.7**
	baz=251						
CHN4	**Tsaushan**	**1.39**	**235**	P	**Pg**	**20 26 15.1**	**+0.2**
	baz=244						
CHN4				*e*S	**Sn**	**20 26 35.6**	**+3.0**
	baz=244						
TPUB	**Ta-pu**	**1.40**	**233**	P	**Pg**	**20 26 14.9**	**0.0**
	baz=241						
TPUB				S	**Sn**	**20 26 34.3**	**+1.5**
	baz=241						
STYT	**Tauyuan**	**1.40**	**225**	*e*P	**Pn**	**20 26 13.6**	**-0.5**
	baz=232						
STYT				*e*S	**Sn**	**20 26 34.4**	**+1.6**
	baz=232						
LONT	**Longtian**	**1.40**	**208**	*e*P	**Pg**	**20 26 15.2**	**0.0**
	baz=216						
LONT				*e*S	**Sg**	**20 26 34.1**	**+0.8**
	baz=216						
WTK	**Tuku**	**1.40**	**251**	*e*P	**Pg**	**20 26 16.1**	**+1.0**
	baz=258						
WTK				*e*S	**Sg**	**20 26 35.2**	**+1.8**
	baz=258						
WTP	**Ta-pu**	**1.44**	**231**	*e*P	**Pg**	**20 26 16.3**	**+0.4**
	baz=241						
WTP				*e*S	**Sg**	**20 26 36.2**	**+1.7**
	baz=241						
CHY	**Chiayi**	**1.45**	**243**	*e*P	**Pg**	**20 26 16.9**	**+0.9**
	baz=251						
CHY				*e*S	**Sg**	**20 26 37.1**	**+2.3**
	baz=251						
TWGBT	**Beinan**	**1.50**	**208**	*e*P	**Pn**	**20 26 13.9**	**-1.6**
	baz=217						
TWGBT				*e*S	**Sg**	**20 26 36.8**	**+0.3**
	baz=217						
TWG	**Pinlang**	**1.50**	**208**	*e*P	**Pn**	**20 26 15.1**	**-0.5**
	baz=217						
TWG				*e*S	**Sg**	**20 26 37.3**	**+0.7**
	baz=217						
LDUT	**Ludao**	**1.52**	**193**	*e*P	**Pn**	**20 26 13.5**	**-2.2**
	baz=187						
LDUT				*e*S	**Sn**	**20 26 33.2**	**-2.4**
	baz=187						
TWK	**Hsinying**	**1.52**	**235**	P	**Pg**	**20 26 17.2**	**-0.2**
	baz=245						
TWK				*e*S	**Sg**	**20 26 38.2**	**+1.1**
	baz=245						
CHN1	**Nanshi**	**1.54**	**231**	P	**Pg**	**20 26 17.6**	**-0.1**
	baz=241						
CHN1				*e*S	**Sg**	**20 26 38.8**	**+1.0**

	baz=241								
SNST	**Tainan City**	**1.54**	**233**	*e*P		**Pg**	**20 26 17.0**	**-0.8**
	baz=243								
SNST				*e*S		**Sg**	**20 26 39.7**	**+1.9**
	baz=243								
WSF	**Szhu**	**1.56**	**251**	*e*P		**Pg**	**20 26 18.5**	**+0.3**
	baz=271								
WSF				*e*S		**Sg**	**20 26 40.5**	**+2.0**
	baz=271								
SGST	**Jiashian**	**1.57**	**227**	*e*P		**Pb**	**20 26 17.0**	**-0.5**
	baz=237								
SGST				*e*S		**Sg**	**20 26 40.3**	**+1.6**
	baz=237								
SLGT	**Liugui**	**1.59**	**224**	*e*P		**Pg**	**20 26 19.0**	**+0.3**
	baz=234								
SLGT				*e*S		**Sg**	**20 26 41.6**	**+2.3**
	baz=234								
ICHU	**Yijhu**	**1.63**	**241**	P		**Pg**	**20 26 18.3**	**-1.2**
	baz=252								
ICHU				S		**Sg**	**20 26 43.4**	**+2.7**
	baz=252								
CHN8	**Yiju**	**1.69**	**242**	*e*P		**Pb**	**20 26 18.5**	**-1.2**
	baz=252								
CHN8				*e*S		**Sg**	**20 26 44.1**	**+1.4**
	baz=252								
IRIF	**Iriomote-Funau**	**1.74**	**84**	P		**Pn**	**20 26 19.3**	**+0.6**
ECL	**Taimali**	**1.75**	**208**	*e*P		**Pn**	**20 26 18.5**	**-0.5**
	baz=217								
ECL				*e*S		**Sb**	**20 26 41.6**	**-1.1**
	baz=217								
SCST	**Cishan**	**1.77**	**224**	*e*P		**Pb**	**20 26 20.4**	**-0.4**
	baz=238								
SCST				*e*S		**Sg**	**20 26 45.4**	**+0.4**
	baz=238								
SSD	**Sandimen**	**1.79**	**218**	*e*P		**Pb**	**20 26 20.9**	**-0.3**
	baz=232								
SSD				*e*S		**Sg**	**20 26 46.4**	**+0.8**
	baz=232								
HATJ	**Hateruma jima**	**1.80**	**93**	P		**Pn**	**20 26 20.6**	**+1.0**
TSMG	**Majia**	**1.81**	**217**	P		**Pb**	**20 26 21.1**	**-0.5**
	baz=231								
TSMG				S		**Sg**	**20 26 46.5**	**+0.1**
	baz=231								
MASBT	**Mashibuluo**	**1.89**	**216**	*e*P		**Pb**	**20 26 21.7**	**-1.4**
	baz=230								
MASBT				S		**Sg**	**20 26 49.3**	**+0.2**
	baz=230								
EAST	**Anshuo**	**1.99**	**207**	*e*P		**Pn**	**20 26 22.2**	**0.0**
	baz=217								
EAST				*e*S		**Sb**	**20 26 48.4**	**-1.2**
	baz=217								
JKRS	**Kuro-shima**	**1.99**	**87**	P		**Pn**	**20 26 23.4**	**+1.2**
SCZT	**Fangliau**	**2.10**	**212**	*e*P		**Pb**	**20 26 24.6**	**-1.9**
	baz=226								
SCZT				*e*S		**Sg**	**20 26 54.6**	**-1.1**
	baz=226								
JIJ	**Ishigaki jima**	**2.12**	**84**	P		**Pn**	**20 26 24.4**	**+0.5**
SLIU	**Shizi**	**2.15**	**206**	*e*P		**Pb**	**20 26 26.4**	**-1.1**
	baz=213								
PHUB	**P'eng-hu**	**2.17**	**253**	*e*P		**Pb**	**20 26 26.1**	**-1.7**
	baz=264								
PHUB				S		**Sb**	**20 26 53.1**	**-1.7**
	baz=264								
PNG	**Penghu**	**2.17**	**255**	P		**Pb**	**20 26 26.0**	**-1.7**
	baz=265								
PNG				S		**Sb**	**20 26 54.5**	**-0.4**
	baz=265								
JISG	**Ishigakijimahi**	**2.30**	**79**	P		**Pn**	**20 26 27.1**	**+0.7**
VWUC	**VWUC**	**2.33**	**291**	*e*P		**Pn**	**20 26 27.0**	**+0.1**
	baz=296								
VWUC				*e*S		**Sn**	**20 26 55.8**	**+0.2**
	baz=296								
VCHM	**Qimei**	**2.40**	**247**	*e*P		**Pn**	**20 26 28.2**	**+0.4**
	baz=244								
VCHM				*e*S		**Sb**	**20 27 00.5**	**-1.0**
	baz=244								
MATB	**Ma-tsu**	**2.62**	**320**	*e*P		**Pn**	**20 26 31.6**	**+0.6**
	baz=320								
MATB				*e*S		**Sn**	**20 27 04.8**	**+1.9**
	baz=320								
PTMZ	**Houxiangcun**	**2.62**	**290**	*e*P		**Pn**	**20 26 32.2**	**+1.2**
	baz=295								
PTMZ				*e*S		**Sn**	**20 27 03.5**	**+0.5**
	baz=295								
LYJJ	**Jianjiangzhen**	**3.03**	**322**	*e*P		**Pn**	**20 26 37.4**	**+0.9**
	baz=322								
LYJJ				*e*S		**Sn**	**20 27 14.0**	**+0.9**
	baz=322								
XPSS	**Dashiqiu**	**3.14**	**332**	*e*P		**Pn**	**20 26 37.7**	**-0.2**
	baz=329								
XPSS				*e*S		**Sn**	**20 27 16.1**	**+0.5**
	baz=329								
KNMB	**Chin-men Tao**	**3.16**	**276**	*e*P		**Pn**	**20 26 38.9**	**+0.6**
	baz=283								
KNMB				*e*S		**Sn**	**20 27 16.7**	**+0.5**
	baz=283								
MHZQ	**Yeshan**	**3.19**	**308**	*e*P		**Pn**	**20 26 40.0**	**+1.2**
	baz=312								
MHZQ				*e*S		**Sn**	**20 27 18.1**	**+1.0**
	baz=312								
AXDP	**Jialang**	**3.60**	**283**	*e*P		**Pn**	**20 26 45.0**	**+0.6**
	baz=288								
AXDP				*e*S		**Sn**	**20 27 27.7**	**+0.7**
	baz=288								

BEO ***04*** *20:34:06.0±0.6, 41°.01N×20°.04E, h0km, ML2.1/10*
TIR 04 20:34:05.9, 41°.14N×20°.12E, h1km±1km, Md2.4, Ml2.4, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.28**	**318**	*e*Pg	Pg	20 34 12.3	+1.0
TIR				*e*Sg	Sg	20 34 16.3	+1.3
TIR	**Tirane**	**0.28**	**318**	P	Pg	20 34 12.3	+1.0
	baz=318						
TIR				S	Sb	20 34 17.2	-1.8
	baz=318						
TIR				AMP			
	comp=E,1.6nm,0.4s,baz=318						
PHP	**Peshkopia**	**0.60**	**24**	P	Pb	20 34 18.4	-0.7
	baz=24						
PHP				S	Sb	20 34 27.8	-0.3
	baz=24						
PHP				AMP			
	comp=N,0.9nm,0.2s,baz=24						
KBN	**Korca**	**0.72**	**135**	P	Pb	20 34 21.2	-0.1
	baz=135						
KBN				S	Sb	20 34 32.1	+0.4
	baz=135						
PUK	**Puka**	**0.92**	**350**	P	Pb	20 34 24.4	-0.2
	baz=350						
PUK				S	Sn	20 34 38.9	-0.9
	baz=350						
PUK				AMP			
	comp=N,0.5nm,0.4s,baz=350						
BCI	**Bajram Curri**	**1.23**	**358**	P	Pn	20 34 30.4	+0.2
	baz=359						
BCI				S	Sn	20 34 49.1	+1.7
	baz=359						
SRN	**Sarande**	**1.26**	**184**	P	Pn	20 34 31.4	+0.8
	baz=185						
SRN				S	Sn	20 34 49.9	+1.8
	baz=185						
PDG	**Podgorica**	**1.44**	**334**	*e*Pg	Pn	20 34 33.1	0.0
PDG				*e*Sg	Sn	20 34 55.7	+3.1
PRVS	**Prvonek**	**2.00**	**46**	*e*Pn	Pb	20 34 42.0	-1.1
PRVS				*e*Sn	Sg	20 35 09.5	-0.8
TREB	**Trebinje**	**2.06**	**321**	*e*Pn	Pn	20 34 41.8	+0.3
TREB				*e*Sn	Sb	20 35 09.2	-0.8
BARS	**Barje**	**2.10**	**37**	*e*Pn	Pb	20 34 45.0	+0.2
BARS				*e*Sn	Sb	20 35 11.4	+0.1
SJES	**Sjenica**	**2.12**	**357**	*e*Pn	Pb	20 34 45.0	-0.2
SJES				*e*Sn	Sb	20 35 12.3	+0.2
SELS	**Selova**	**2.21**	**19**	*e*Pn	Pb	20 34 45.6	-1.0
SELS				*e*Sn	Sb	20 35 14.9	+0.5
BOSS	**Bosilegrad**	**2.23**	**52**	*e*Pn	Pb	20 34 47.1	+0.2
STON	**Ston**	**2.50**	**315**	*e*Pn	Pn	20 34 47.9	+0.3
STON				*e*Sn	Sb	20 35 22.1	-0.6
STON	**Ston**	**2.50**	**315**	*e*Pn	Pn	20 34 47.6	0.0
STON				Sn	Sn	20 35 19.3	+0.7
VTS	**Vitosha**	**2.76**	**57**	*e*Pn	Pn	20 34 52.0	+0.7
VTS				*e*Sn	Sn	20 35 27.7	+2.4
BBLS	**Lazići**	**2.77**	**349**	*e*Pn	Pn	20 34 53.2	+1.7
BBLS				*e*Sn	Sb	20 35 29.8	-1.0
ZAPS	**Zavoj**	**2.84**	**40**	*e*Pn	Pn	20 34 53.1	+0.8
LSTV	**Lastovo**	**2.90**	**305**	*e*Pn	Pn	20 34 52.7	-0.4
LSTV				Sn	Sn	20 35 26.8	-1.9
KIJV	**Kijevo**	**3.96**	**317**	*e*Pn	Pn	20 35 08.5	+0.8
KIJV				Sn	Sn	20 35 55.0	+0.2
MORI	**Morici**	**4.25**	**311**	*e*Pn	Pn	20 35 12.4	+0.8
MORI				Sn	Sn	20 36 01.3	-0.5
UDBI	**Udbina**	**4.66**	**318**	*e*Pn	Pn	20 35 18.9	+1.5
UDBI				Sn	Sn	20 36 12.1	0.0
DUGI	**Dugi Otok**	**4.70**	**309**	*e*Pn	Pn	20 35 18.0	+0.2
DUGI				Sn	Sn	20 36 11.6	-1.4

ATH 04 20:34:38.2, 36°.69N×22°.06E, h15km±4km, ML1.5/1, Error ellipse: s-maj=7.0km s-min=3.0km az=265.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.33**	**309**	P	Pg	20 34 44.9	-0.1
PYL				S	Sg	20 34 49.6	0.0
PYL				AML	AML	20 34 49.9	
	comp=E,222μm,0.1s						
PYL				AML	AML	20 34 50.1	
	comp=N,256μm,0.2s						
ITM	**Ithomi**	**0.50**	**348**	P	Pb	20 34 48.8	+0.1
ITM				S	Sg	20 34 54.5	-0.4
AMT	**Artemida-Makis**	**0.89**	**342**	P	Pb	20 34 54.2	-1.1
AMT				S	Sg	20 35 07.5	+0.4

NNC 04 20:36:40.9±2.0, 37°.75N×78°.35E, h0km, mb4.0, mpv3.7, 3C-3D, Error ellipse: s-maj=14.4km s-min=13.4km az=100.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.30**	**0**	Pg	Pb	20 38 18.4	+3.9
	4.8nm,0.6s						
SATY				Lg	Lg	20 39 30.7	
	11nm,0.6s						
UZB	**Uzynbulak**	**5.42**	**5**	Pg	Pg	20 38 20.8	-3.9
	2.6nm,0.4s						
UZB				Lg	Lg	20 39 34.6	
	5.5nm,0.9s						
SHLS	**Shalkode**	**5.47**	**9**	Pg	Pg	20 38 21.9	-3.7
	4.7nm,0.4s						
SHLS				Lg	Lg	20 39 36.5	
MDOK	**Medeo**	**5.50**	**350**	⇑Pg	Pb	20 38 21.0	+3.1
	2.7nm,0.4s						
MDOK				⇓Lg	Lg	20 39 31.9	
	6.7nm,0.5s						
MDOK	**Medeo**	**5.50**	**350**	Pg	Pb	20 38 20.9	+3.1
	5.0nm,0.4s						
MDOK				Lg	Lg	20 39 35.0	
	5.5nm,0.6s						
KST	**Kastek**	**5.59**	**342**	Pg	Pg	20 38 23.7	-4.3
	3.3nm,0.4s						
KST				Lg	Lg	20 39 39.7	
	3.9nm,0.9s						
PDGK	**Podgornoye**	**5.64**	**8**	Pg	Pg	20 38 25.1	-3.8
	2.1nm,0.4s						
PDGK				Lg	Lg	20 39 41.8	
	2.7nm,0.6s						
PDGK	**Podgornoye**	**5.64**	**8**	⇓Pg	Pb	20 38 20.4	+0.1
	3.0nm,0.6s						
PDGK				⇓Lg	Lg	20 39 39.0	
	5.3nm,0.8s						
AAK	**Ala-Archa**	**5.71**	**330**	⇑Pg	Pb	20 38 24.2	+2.9
	1.6nm,0.5s						
AAK				⇑Lg	Lg	20 39 43.0	
	5.2nm,0.8s						
DGS	**Degeres**	**5.83**	**341**	Pg	Pb	20 38 26.9	+3.5
	2.8nm,0.5s						
DGS				Lg	Lg	20 39 45.6	
	3.2nm,0.7s						
KTBS	**Karatobe**	**6.09**	**349**	Pg	Pb	20 38 32.0	+4.2
	1.4nm,0.3s						
KTBS				Lg	Lg	20 39 53.9	
	7.7nm,0.9s						
CHKK	**Chushkaly**	**6.18**	**351**	Pg	Pb	20 38 33.0	+3.6
	1.1nm,0.1s						
CHKK				Lg	Lg	20 39 55.0	
	4.3nm,0.4s						
KRBS	**Karabastau**	**6.28**	**342**	Pg	Pg	20 38 36.4	-4.7
	1.5nm,0.3s						
KRBS				Lg	Lg	20 40 01.2	
	2.4nm,1.1s						
MRKS	**Merke**	**6.34**	**323**	Pg	Pb	20 38 36.5	+4.3
	1.6nm,0.2s						
MRKS				Lg	Lg	20 40 02.0	
	5.1nm,0.6s						
ARXS	**Arharly**	**6.47**	**357**	Pg	Pb	20 38 39.0	+4.7
	5.7nm,0.4s						
ARXS				Lg	Lg	20 40 06.0	
	3.7nm,0.8s						

TEH ***04*** *20:36:47.7, 39°.71N×48°.50E, h16km, ML3.1*
THR ***04*** *20:36:48.9±0.3, 39°.68N×48°.66E, h18km±11km, ML3.5*
ISC 04 20:36:48.5±2.1, 39°.7N±0°.1×48°.49E±0°.06, h10km, n13, σ0s81/14, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.00**	**208**	*e*Pg	**Pn**	**20 37 08.6**	**-0.1**
GRMI				*e*Sg	**Sn**	**20 37 23.1**	**+0.1**
IHRS	**Heris**	**1.78**	**220**	*e*Pg	**Pb**	**20 37 21.2**	**-0.1**
IHRS				*e*		20 37 22.1	
	comp=Z,3μm,0.2s						
ISRB	**Sarab**	**1.97**	**199**	*e*Pn	**Pb**	**20 37 23.4**	**-1.3**
ITBZ	**Tabriz**	**2.34**	**232**	*e*Pn	**Pn**	**20 37 27.0**	**-0.2**
IMRD	**Marand**	**2.38**	**247**	*e*Pn	**Pn**	**20 37 28.7**	**+1.0**
IMRD				*e*		20 38 03.1	
	comp=Z,911nm,0.2s						
IHSH	**Hashtrud**	**2.57**	**202**	*e*Pn	**Pn**	**20 37 31.6**	**+1.0**
IHSH				*e*		20 37 32.9	
	comp=Z,666nm,0.2s						
ZNJK	**Zanjan**	**3.02**	**177**	*e*Pn	**Pn**	**20 37 37.8**	**+1.1**
QALM	**Alamut, Qazvin**	**3.68**	**152**	*e*Pn	**Pn**	**20 37 45.6**	**-0.1**
QABG	**Abgarm-Qazvin**	**4.07**	**167**	*e*Pn	**Pn**	**20 37 51.7**	**+0.6**
IPRN	**Peran**	**4.60**	**137**	*e*Pn	**Pn**	**20 37 58.7**	**+0.5**
IGLO	**Ghaloghah**	**5.28**	**125**	*e*Pn	**Pn**	**20 38 08.7**	**+1.0**
ISHM	**Shahmirzad**	**5.44**	**134**	*e*Pn	**Pn**	**20 38 10.7**	**+0.8**
MRVT	**Maraveh tapeh**	**6.29**	**106**	*e*Pn	**Pn**	**20 38 21.2**	**-0.1**
MRVT				IAML		20 39 31.5	
	comp=N,7.6nm,0.1s						
MRVT				IAML		20 39 32.1	
	comp=E,11nm,0.1s						

TUL ***04*** *20:41:22.2±0.9, 36°.73N±0°.02×98°.45W±0°.05, h5km±7km, ML2.6, mb_Lg2.4/20(NEIC), Error ellipse: s-maj=5.3km s-min=2.3km az=89.0*
NEIC 04 20:41:22.7±1.1, 36°.720N±0°.005×98°.44W±0°.05, h6km±7km, Error ellipse: s-maj=5.9km s-min=0.8km az=87.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.20**	**66**		Pg	20 41 26.6	-0.1
OK032				Sg	Sg	20 41 29.8	+0.3
CROK	**Carrier**	**0.43**	**120**		Pg	20 41 30.9	0.0
CROK				Sg	Sg	20 41 37.1	+0.6
KAN10	**Anthony SW Sta**	**0.49**	**34**		Pg	20 41 31.9	-0.3
U32A	**Winter Ranch,**	**0.56**	**233**		Pg	20 41 33.4	-0.2
KAN05	**Bluff City Nor**	**0.60**	**49**		Pg	20 41 34.0	-0.2
KAN08	**Anthony NE Sta**	**0.63**	**36**		Pg	20 41 34.5	-0.4
KAN17	**Caldwell West**	**0.63**	**59**		Pg	20 41 34.6	-0.2
KAN17				Sg	Sg	20 41 43.2	+0.2
KAN12	**Harper NE Stat**	**0.68**	**31**		Pg	20 41 35.3	-0.5
KAN09	**Caldwell North**	**0.78**	**58**	Pg	Pg	20 41 37.2	-0.4
KAN09				Sg	Sg	20 41 47.9	0.0
KAN13	**South Haven SW**	**0.82**	**69**		Pg	20 41 38.2	-0.4
KS20	**Mayfield South**	**0.87**	**54**	Pg	Pg	20 41 38.9	-0.6
KS20				Sg	Sg	20 41 50.7	-0.1
BLOK	**Blackwell**	**0.98**	**87**		Pg	20 41 40.9	-0.7
BLOK				Sg	Sg	20 41 54.6	+0.2
OK029	**Liberty Lake**	**1.22**	**139**	Pg	Pg	20 41 45.6	-0.4
OK029				Sg	Sg	20 42 01.9	0.0
BCOK	**Bluff Creek, N**	**1.26**	**147**	Pg	Pn	20 41 45.9	-0.9
OK025	**Westminster Rd**	**1.45**	**142**		Pn	20 41 49.0	-0.4
QUOK	**Quay**	**1.50**	**111**		Pn	20 41 50.1	0.0
OK031	**S. Brethren Rd**	**1.50**	**120**		Pn	20 41 50.1	0.0
OKCFA	**Oklahoma City**	**1.53**	**148**	Pn	Pn	20 41 50.4	-0.1
OKCSW	**OKLAHOMA CITY**	**1.54**	**148**	Pn	Pn	20 41 51.0	+0.3
T35A	**Sooner Cattle**	**1.56**	**82**		Pn	20 41 50.5	-0.4
FNO	**Franklin**	**1.69**	**150**		Pn	20 41 53.0	+0.4
R32A	**Long Quarter,**	**1.71**	**353**		Pn	20 41 53.6	+0.6
WMOK	**Wichita Mounta**	**2.00**	**188**		Pn	20 41 57.3	+0.4
KSU1	**Kansas State U**	**2.78**	**31**	Pn	Pn	20 42 08.4	+0.6
LOOK	**Love County**	**2.91**	**159**	Pn	Pn	20 42 10.2	+0.7
AMTX	**Amarillo**	**3.21**	**236**	IAmb_Lg		20 43 09.1	
	comp=Z,13nm,0.9s						
U38A	**Gravette**	**3.28**	**94**		Pn	20 42 13.9	-0.7
X37A	**Clayton**	**3.28**	**129**	Pn	Pn	20 42 15.7	+1.1
HHAR	**Hobbs**	**3.65**	**96**	IAmb_Lg		20 43 23.7	
	comp=Z,7.8nm,0.8s						
W39A	**Magazine**	**4.07**	**111**		Pn	20 42 25.9	+0.5
W39A				IAmb_Lg		20 43 33.0	
	comp=Z,8.9nm,0.9s						
N33A	**J Bar K, Exete**	**4.09**	**11**	Pn	Pn	20 42 25.0	-0.7
S39A	**Bolivar**	**4.20**	**75**	Pn	Pn	20 42 27.2	0.0
U40A	**Yellville**	**4.51**	**93**	Pn	Pn	20 42 32.4	+0.9
U40A				IAmb_Lg		20 43 54.7	
	comp=Z,6.4nm,0.7s						
MIAR	**Mount Ida**	**4.52**	**117**	Pn	Pn	20 42 32.1	+0.5
T25A	**Trinidad**	**4.80**	**277**	IAmb_Lg		20 43 55.0	
	comp=Z,5.2nm,0.8s						
P38A	**Dawn**	**4.83**	**52**	IAmb_Lg		20 44 07.1	
	comp=Z,5.1nm,0.8s						
MGMO	**Mountain Grove**	**4.96**	**83**	IAmb_Lg		20 44 07.4	
	comp=Z,7.6nm,0.8s						
X40A	**Basin Creek Fa**	**5.08**	**114**	Pn	Pn	20 42 40.0	+0.6
L34A	**Svendsen Farm,**	**5.48**	**16**	IAmb_Lg		20 44 12.1	
	comp=Z,4.9nm,0.8s						
P40A	**Paris**	**5.77**	**59**	IAmb_Lg		20 44 33.2	
	comp=Z,4.9nm,0.8s						
CCM	**Cathedral Cave**	**5.88**	**75**	IAmb_Lg		20 44 32.1	
	comp=Z,7.7nm,0.8s						

TAP ***04*** *20:42:28.0, 24°.80N×121°.99E, h10km, ML2.8, B*
JMA ***04*** *20:42:28.5±0.2, 24°.83N×121°.92E, h46km±4km, M2.4*
ISC 04 20:42:27.7±0.9, 24°.85N±0°.02×122°.03E±0°.02, h14km±6km, n59, σ0s56/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.16**	**345**	P	**Pb**	**20 42 32.6**	**0.0**
	baz=1.0						
TWB1				*e*S	**Sb**	**20 42 35.5**	**-0.4**
	baz=1.0						
NTC	**Toucheng**	**0.19**	**272**	*i* P	**Pg**	**20 42 32.4**	**+0.4**
	baz=289						
NTC				S	**Sg**	**20 42 35.4**	**+0.5**
	baz=289						
TIPB	**Shuangxi**	**0.23**	**303**	*i* P	**Pb**	**20 42 33.5**	**-0.1**
	baz=318						
TIPB				*e*S	**Sb**	**20 42 36.6**	**-1.0**
	baz=318						
ILA	**Ilan**	**0.27**	**252**	P	**Pg**	**20 42 33.9**	**+0.4**
	baz=259						
ILA				S	**Sg**	**20 42 37.9**	**+0.6**
	baz=259						
TWC	**Suao**	**0.29**	**215**	*i* P	**Pg**	**20 42 33.5**	**-0.3**
	baz=211						
TWC				S	**Sg**	**20 42 36.7**	**-1.2**
	baz=211						
NWF	**Wu-fen Shan**	**0.32**	**314**	P	**Pb**	**20 42 35.6**	**+0.4**
	baz=324						
NWF				S	**Sb**	**20 42 40.6**	**+0.2**
	baz=324						
WFSB	**Wu-fen Shan**	**0.32**	**314**	P	**Pb**	**20 42 35.6**	**+0.4**
	baz=324						
WFSB				S	**Sb**	**20 42 40.7**	**+0.5**
	baz=324						
TWE	**Neicheng**	**0.36**	**249**	*i* P	**Pg**	**20 42 35.0**	**0.0**
	baz=253						
TWE				S	**Sg**	**20 42 39.5**	**-0.3**
	baz=253						
NDS	**Dongshan**	**0.36**	**234**	P	**Pg**	**20 42 34.9**	**-0.1**
	baz=236						
NDS				*e*S	**Sg**	**20 42 39.0**	**-0.9**
	baz=236						
TNOU	**National Taiwa**	**0.38**	**322**	P	**Pb**	**20 42 36.8**	**+0.5**
	baz=329						
TNOU				S	**Sb**	**20 42 42.3**	**+0.2**
	baz=329						
TWA	**Mucha**	**0.43**	**288**	P	**Pb**	**20 42 37.2**	**+0.1**
	baz=295						
TWA				S	**Sb**	**20 42 43.5**	**0.0**
	baz=295						
EWUT	**Wuta**	**0.46**	**210**	P	**Pg**	**20 42 36.7**	**-0.2**
	baz=208						
EWUT				S	**Sg**	**20 42 42.6**	**-0.5**
	baz=208						
NHDH	**Xindian Distri**	**0.48**	**284**	*e*P	**Pb**	**20 42 38.3**	**+0.4**
	baz=290						
NHDH				S	**Sb**	**20 42 44.4**	**-0.4**
	baz=290						
NWLT	**Wulai**	**0.49**	**262**	P	**Pg**	**20 42 37.5**	**+0.2**
	baz=266						
NWLT				S	**Sg**	**20 42 43.5**	**-0.4**
	baz=266						
TATO	**Taipei**	**0.51**	**284**	P	**Pb**	**20 42 38.8**	**+0.3**
	baz=290						
TATO				*e*S	**Sb**	**20 42 45.3**	**-0.5**
	baz=290						
YM01	**YM01**	**0.52**	**305**	P	**Pn**	**20 42 39.5**	**-1.2**
	baz=311						
YM01				*e*S	**Sb**	**20 42 46.3**	**+0.4**
	baz=311						
TAP	**Taipei**	**0.52**	**292**	S	**Sb**	**20 42 46.6**	**+0.7**
	baz=298						
YM08	**YM08**	**0.53**	**310**	P	**Pn**	**20 42 39.5**	**-1.4**
	baz=316						
YM08				*e*S	**Sb**	**20 42 46.3**	**0.0**
	baz=316						
NDT	**Datong Townshi**	**0.53**	**243**	P	**Pg**	**20 42 38.5**	**+0.4**
	baz=245						
NDT				*e*S	**Sg**	**20 42 45.6**	**+0.3**
	baz=245						
ANP	**Anpu**	**0.57**	**306**	*e*P	**Pn**	**20 42 40.3**	**-1.3**
	baz=312						
TWS1	**Kuangyinshan**	**0.61**	**294**	*e*P	**Pn**	**20 42 41.6**	**-0.5**
	baz=300						
TWS1				*e*S	**Sb**	**20 42 49.5**	**+0.7**
	baz=300						
NTST	**Danshui**	**0.62**	**301**	*e*P	**Pn**	**20 42 41.7**	**-0.4**
	baz=306						
NTST				*e*S	**Sn**	**20 42 49.8**	**-2.0**
	baz=306						
YHNB	**Yeheng**	**0.62**	**254**	P	**Pg**	**20 42 39.8**	**-0.2**
	baz=256						
YHNB				*e*S	**Sb**	**20 42 48.8**	**-0.4**
	baz=256						
NNS	**Nan Shan**	**0.73**	**236**	*e*P	**Pg**	**20 42 41.7**	**-0.1**
	baz=236						
NNS				*e*S	**Sg**	**20 42 51.5**	**+0.1**
	baz=236						
PCYT	**Pengchaiyu**	**0.78**	**2**	*e*S	**Sn**	**20 42 56.5**	**+0.6**
	baz=5.0						
NCUH	**Zhongli**	**0.78**	**279**	*e*P	**Pn**	**20 42 43.6**	**-0.8**
	baz=282						
ETL	**Fush Village**	**0.78**	**209**	P	**Pb**	**20 42 42.9**	**-0.3**
	baz=207						
ETL				S	**Sb**	**20 42 53.5**	**-0.2**
	baz=207						
NACB	**Ninganchiao**	**0.78**	**211**	P	**Pb**	**20 42 42.7**	**-0.4**
	baz=209						
NACB				S	**Sb**	**20 42 53.4**	**-0.2**
	baz=209						
ETLH	**Xiulin Townshi**	**0.81**	**218**	*e*P	**Pb**	**20 42 43.2**	**-0.5**
	baz

NSTT				eS	Sn	20 43 01.0	+0.6
	baz=259						
YOJ	**Yonaguni jima**	**0.97 113**	P		**Pn**	**20 42 47.3**	**+0.4**
YOJ			S		**Sn**	**20 43 00.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.97 113**	eP		**Pn**	**20 42 47.1**	**+0.2**
	baz=109						
YOJ			eS		Sn	20 43 00.4	-0.1
	baz=109						
WHF	**Hehuan Shan**	**0.99 225**	eP		**Pb**	**20 42 46.3**	**-0.6**
	baz=224						
WHF			eS		Sb	20 42 59.8	-0.3
	baz=224						
TDCB	**Techi**	**0.99 234**	eP		**Pn**	**20 42 47.7**	**+0.3**
	baz=234						
TDCB			eS		Sb	20 42 59.4	-0.5
	baz=234						
ETM	**Tongmen**	**1.01 209**	eP		**Pb**	**20 42 46.8**	**-0.2**
	baz=208						
ETM			eS		Sb	20 43 00.2	+0.1
	baz=208						
CHGB	**Renai**	**1.11 225**	eP		**Pb**	**20 42 48.9**	**+0.1**
	baz=225						
CHGB			eS		Sb	20 43 03.2	0.0
	baz=225						
WHP	**Taichung City**	**1.14 240**	eP		**Pg**	**20 42 49.7**	**0.0**
	baz=241						
WHP			eS		Sn	20 43 04.7	-0.3
	baz=241						
ESL	**Shilin**	**1.17 208**	eP		**Pb**	**20 42 49.7**	**+0.1**
	baz=206						
ESL			eS		Sb	20 43 04.8	+0.2
	baz=206						
NMLH	**Miaoli**	**1.17 255**	eP		**Pb**	**20 42 50.0**	**+0.2**
	baz=256						
NMLH			eS		Sg	20 43 06.2	+0.6
	baz=256						
OWD	**Renai**	**1.19 222**	eP		**Pn**	**20 42 50.0**	**0.0**
	baz=221						
OWD			eS		Sb	20 43 05.4	0.0
	baz=221						
TWQ1	**Liyutan**	**1.25 247**	eP		**Pg**	**20 42 52.9**	**+1.1**
	baz=247						
TWQ1			eS		Sg	20 43 08.5	+0.4
	baz=247						
WPL	**Puli Township**	**1.29 230**	eS		**Sb**	**20 43 08.2**	**0.0**
	baz=230						
DPDB	**Guoxing**	**1.30 231**	eP		**Pb**	**20 42 52.3**	**+0.4**
	baz=231						
EGFH	**Guangfu**	**1.30 205**	eS		**Sg**	**20 43 10.4**	**+0.8**
	baz=204						
SSLB	**Suanglung**	**1.45 223**	eP		**Pb**	**20 42 54.5**	**0.0**
	baz=223						
YULB	**Yu-li**	**1.60 205**	eP		**Pn**	**20 42 56.0**	**+0.4**
	baz=204						
YULB			eS		Sb	20 43 17.2	+0.1
	baz=204						
IRIF	**Iriomote-Funau**	**1.63 108**	P		**Pn**	**20 42 56.2**	**+0.2**
IRIF			S		**Sn**	**20 43 17.1**	**+0.4**
FULB	**Fuli**	**1.78 203**	eP		**Pb**	**20 42 59.5**	**-0.6**
	baz=201						
HATJ	**Hateruma jima**	**1.80 116**	S		**Sn**	**20 43 21.5**	**+0.6**
ELDTW	**Lidau**	**1.90 210**	eP		**Pn**	**20 43 00.8**	**+1.0**
	baz=208						
JKRS	**Kuro-shima**	**1.90 108**	P		**Pn**	**20 43 00.7**	**+1.0**
JKRS			S		**Sn**	**20 43 24.1**	**+0.6**
JIJ	**Ishigaki jima**	**1.98 104**	P		**Pn**	**20 43 01.5**	**+0.7**
JIJ			S		**Sn**	**20 43 25.7**	**+0.2**
EDH	**Donghe**	**1.98 200**	eP		**Pn**	**20 43 01.4**	**+0.5**
	baz=199						
JISG	**Ishigakijimahi**	**2.09 97**	P		**Pb**	**20 43 03.7**	**-1.6**
JISG			eS		**Sb**	**20 43 30.7**	**-0.5**

*JMA **04** 20:43:25.5±0.1, 24°.10N×121°.68E, h13km±1km, M2.9*
*TAP **04** 20:43:26.0, 24°.17N×121°.67E, h16km, ML3.6, B*
ISC 04 20:43:25.9±0.8, **24°.14N**±0°.02×**121°.69E**±0°.02, **h16**km±4km, **n133**, σ0°59/176, **1C-13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.07**	**285**	⇑iP		**Pg**	**20 43 29.1**	**0.0**
	baz=253							
ETL				i S		Sg	20 43 31.1	-0.1
	baz=253							
NACB	**Ninganchiao**	**0.10**	**290**	⇓iP		**Pg**	**20 43 29.2**	**-0.1**
	baz=273							
NACB				i S		Sg	20 43 31.1	-0.5
	baz=273							
TWD	**Chiawan**	**0.11**	**235**	i P		**Pg**	**20 43 29.5**	**+0.1**
	baz=213							
TWD				i S		Sg	20 43 32.3	+0.6
	baz=213							
EHP	**Heping Village**	**0.17**	**15**	P		**Pg**	**20 43 30.1**	**-0.3**
	baz=26							
EHP				i S		Sg	20 43 33.5	+0.2
	baz=26							
HWA	**Hwalien**	**0.18**	**206**	eP		**Pb**	**20 43 31.3**	**+0.4**
	baz=195							
ETLH	**Xiulin Townshi**	**0.20**	**289**	⇓iP		**Pb**	**20 43 30.7**	**-0.6**
	baz=282							
ETLH				i S		Sg	20 43 33.8	-0.3
	baz=282							
ETM	**Tongmen**	**0.25**	**226**	⇓P		**Pb**	**20 43 31.8**	**-0.3**
	baz=220							
ETM				S		Sb	20 43 35.9	-0.3
	baz=220							
TEYL	**Yanliau Villag**	**0.29**	**198**	eP		**Pb**	**20 43 33.0**	**+0.4**
	baz=194							
EWUT	**Wuta**	**0.31**	**15**	P		**Pg**	**20 43 32.3**	**-0.2**
	baz=19							
EWUT				S		Sg	20 43 36.7	-0.3
	baz=19							
WHF	**Hehuan Shan**	**0.39**	**271**	⇓iP		**Pb**	**20 43 34.1**	**-0.6**
	baz=266							
WHF				i S		Sg	20 43 39.4	-0.3
	baz=266							
ESL	**Shilin**	**0.40**	**216**	P		**Pb**	**20 43 34.4**	**-0.3**
	baz=213							
ESL				eS		Sb	20 43 41.2	+0.7
	baz=213							
NNS	**Nan Shan**	**0.42**	**316**	i P		**Pg**	**20 43 34.0**	**-0.4**
	baz=315							
NNS				S		Sg	20 43 39.5	-0.7
	baz=315							
FUSS	**Fushou**	**0.42**	**285**	⇓iP		**Pb**	**20 43 34.7**	**-0.4**
	baz=281							
FUSS				S		Sb	20 43 41.3	-0.1
	baz=281							
TEGC	**Jichi Village**	**0.45**	**198**	P		**Pb**	**20 43 36.0**	**+0.5**
	baz=191							
TEGC				S		Sn	20 43 44.4	-1.1
	baz=191							
CHGB	**Renai**	**0.48**	**260**	⇓iP		**Pb**	**20 43 35.9**	**-0.2**
	baz=252							
CHGB				i S		Sb	20 43 42.2	-0.8
	baz=252							
NDT	**Datong Townshi**	**0.49**	**340**	⇓iP		**Pg**	**20 43 35.4**	**-0.3**
	baz=341							
TWC	**Suao**	**0.49**	**17**	P		**Pg**	**20 43 35.4**	**-0.3**
	baz=14							
TWC				eS		Sg	20 43 41.8	-0.5
	baz=14							
NDS	**Dongshan**	**0.49**	**3**	⇓iP		**Pg**	**20 43 35.6**	**-0.2**
	baz=3.0							
NDS				S		Sg	20 43 41.8	-0.6
	baz=3.0							
TDCB	**Techi**	**0.50**	**283**	⇓iP		**Pb**	**20 43 36.2**	**-0.2**
	baz=280							
TDCB				S		Sb	20 43 42.6	-0.9
	baz=280							
OWD	**Renai**	**0.51**	**249**	⇓iP		**Pb**	**20 43 36.3**	**-0.3**
	baz=247							
OWD				eS		Sb	20 43 42.9	-0.8
	baz=247							
EGFH	**Guangfu**	**0.53**	**207**	eP		**Pb**	**20 43 36.9**	**+0.1**
	baz=218							
TWE	**Neicheng**	**0.58**	**358**	⇓iP		**Pg**	**20 43 37.1**	**-0.2**
	baz=360							
YHNB	**Yeheng**	**0.60**	**331**	⇓iP		**Pg**	**20 43 37.4**	**-0.4**
	baz=331							
YHNB				i S		Sg	20 43 45.1	-0.8
	baz=331							
ILA	**Ilan**	**0.62**	**5**	eP		**Pg**	**20 43 38.1**	**-0.1**
	baz=359							
NWLT	**Wulai**	**0.66**	**345**	eP		**Pg**	**20 43 38.5**	**-0.3**
	baz=345							
WPL	**Puli Township**	**0.68**	**259**	P		**Pb**	**20 43 39.5**	**0.0**
	baz=251							
WPL				S		**Sb**	**20 43 48.8**	**+0.1**
	baz=251							
HGSD	**Ruisui**	**0.69**	**201**	eP		**Pn**	**20 43 40.5**	**-0.5**
	baz=215							
WHP	**Taichung City**	**0.69**	**281**	P		**Pb**	**20 43 39.7**	**0.0**
	baz=279							
WHP				eS		**Sb**	**20 43 49.0**	**0.0**
	baz=279							
DPDB	**Guoxing**	**0.71**	**261**	eP		**Pb**	**20 43 39.8**	**-0.1**
	baz=259							
EHY	**Hungye**	**0.72**	**208**	eP		**Pg**	**20 43 38.9**	**-1.1**
	baz=207							
WCS	**Beigang Elemen**	**0.72**	**263**	eP		**Pb**	**20 43 40.1**	**+0.1**
	baz=261							
NTC	**Toucheng**	**0.72**	**10**	eP		**Pg**	**20 43 39.4**	**-0.6**
	baz=11							
SSLB	**Suanglung**	**0.76**	**243**	P		**Pb**	**20 43 40.7**	**-0.1**
	baz=249							
SSLB				S		**Sg**	**20 43 49.7**	**-1.2**
	baz=249							
SMLT	**Sun Moon Lake**	**0.77**	**251**	P		**Pb**	**20 43 41.0**	**+0.1**
	baz=241							
SMLT				S		**Sb**	**20 43 50.5**	**-0.7**
	baz=241							
NSTT	**Nanjuang**	**0.80**	**308**	P		**Pb**	**20 43 41.2**	**-0.1**
	baz=306							
NSTT				S		**Sb**	**20 43 51.6**	**-0.3**
	baz=306							
NJD	**Zhudong**	**0.81**	**317**	eP		**Pn**	**20 43 42.1**	**-0.5**
	baz=316							
YULB	**Yu-li**	**0.83**	**206**	eP		**Pg**	**20 43 41.0**	**-1.0**
	baz=204							
NHDH	**Xindian Distri**	**0.83**	**349**	eP		**Pb**	**20 43 42.1**	**+0.1**
	baz=350							
TIPB	**Shuangxi**	**0.84**	**8**	eP		**Pg**	**20 43 41.8**	**-0.4**
	baz=356							
TWA	**Mucha**	**0.84**	**353**	eP		**Pg**	**20 43 42.2**	**-0.1**
	baz=353							
TWA				eS		**Sg**	**20 43 52.8**	**-0.7**
	baz=353							
ECBN	**Changbin**	**0.85**	**195**	eP		**Pg**	**20 43 41.9**	**-0.6**
	baz=211							
TATO	**Taipei**	**0.85**	**347**	eP		**Pg**	**20 43 42.1**	**-0.4**
	baz=347							
EYUL	**Yuli**	**0.86**	**203**	eP		**Pn**	**20 43 43.1**	**-0.3**
	baz=215							
TWQ1	**Liyutan**	**0.86**	**284**	eP		**Pn**	**20 43 43.2**	**-0.2**
	baz=291							
TWQ1				eS		**Sn**	**20 43 55.3**	**-0.4**
	baz=291							
TWF1	**Yuli**	**0.86**	**205**	eP		**Pb**	**20 43 42.7**	**+0.2**
	baz=214							
BACT	**New Taipei Cit**	**0.88**	**345**	eP		**Pn**	**20 43 43.5**	**-0.1**
	baz=345							
TWB1	**Santiao Chiao**	**0.90**	**17**	eP		**Pb**	**20 43 43.1**	**-0.1**
	baz=11							
TWB1				eS		**Sb**	**20 43 55.1**	**+0.1**
	baz=11							
TAP	**Taipei**	**0.91**	**349**	eP		**Pn**	**20 43 43.9**	**-0.1**
	baz=341							
NMLH	**Miaoli**	**0.91**	**296**	eP		**Pn**	**20 43 44.9**	**+0.9**
	baz=294							
SBCB	**Hsinchu**	**0.91**	**315**	eP		**Pn**	**20 43 44.5**	**+0.4**
	baz=314							
WWF	**Wufeng**	**0.91**	**264**	eP		**Pn**	**20 43 45.0**	**+0.9**
	baz=257							
NJN	**Zhunan**	**0.92**	**306**	eP		**Pn**	**20 43 44.8**	**+0.6**
	baz=304							
NTY	**Taoyuan**	**0.93**	**337**	eP		**Pn**	**20 43 44.3**	**0.0**
	baz=337							
TCU	**Taichung**	**0.93**	**271**	eP		**Pn**	**20 43 45.3**	**+1.0**
	baz=269							
NWF	**Wu-fen Shan**	**0.93**	**5**	eP		**Pg**	**20 43 44.0**	**0.0**
	baz=5.0							
WFSB	**Wu-fen Shan**	**0.93**	**5**	eP		**Pg**	**20 43 44.0**	**0.0**
	baz=5.0							
HSN	**Hsinchu**	**0.93**	**315**	eP		**Pn**	**20 43 44.6**	**+0.3**
	baz=316							
HSN				eS		**Sn**	**20 43 57.7**	**+0.4**
	baz=316							
WJS	**Zhushan**	**0.94**	**250**	eP		**Pn**	**20 43 44.8**	**+0.4**
	baz=243							
YUS	**Yu-Shan**	**0.94**	**226**	eP		**Pg**	**20 43 43.6**	**-0.6**
	baz=235							
NCUH	**Zhongli**	**0.94**	**331**	eP		**Pn**	**20 43 44.7**	**+0.2**
	baz=329							
WNT1	**Nantou City**	**0.95**	**256**	eP		**Pn**	**20 43 45.5**	**+0.9**
	baz=252							
WNT1				eS		**Sn**	**20 44 00.7**	**+2.8**
	baz=252							
WNT	**Mingjian**	**0.96**	**254**	eP		**Pn**	**20 43 45.3**	**+0.6**
	baz=245							
WDJ	**Dajia District**	**0.98**	**282**	eP		**Pn**	**20 43 46.1**	**+1.1**
	baz=280							
TWS1	**Kuangyinshan**	**0.99**	**345**	eP		**Pn**	**20 43 45.1**	**0.0**
	baz=344							
TWS1				eS		**Sn**	**20 43 59.6**	**+0.9**
	baz=344							
FULB	**Fuli**	**1.01**	**201**	eP		**Pn**	**20 43 45.5**	**+0.1**
	baz=213							
TNOU	**National Taiwa**	**1.01**	**4**	eP		**Pn**	**20 43 45.5**	**+0.1**
	baz=4.0							
YM01	**YM01**	**1.01**	**354**	eP		**Pg**	**20 43 45.4**	**-0.1**
	baz=340							
ALS	**Alishan**	**1.03**	**232**	eP		**Pn**	**20 43 45.7**	**-0.2**
	baz=218							
WCHH	**Zhanghua**	**1.04**	**267**	eP		**Pn**	**20 43 46.6**	**+0.8**
	baz=265							
NTST	**Danshui**	**1.04**	**348**	eP		**Pg**	**20 43 46.2**	**+0.1**
	baz=347							
YM08	**YM08**	**1.05**	**355**	eP		**Pb**	**20 43 45.3**	**-0.4**
	baz=341							
ANP	**Anpu**	**1.05**	**351**	eP		**Pb**	**20 43 45.9**	**+0.1**
	baz=351							
CHN5	**Tsauling**	**1.07**	**240**	P		**Pg**	**20 43 47.2**	**+0.4**
	baz=242							
CHN5				eS		**Sn**	**20 44 02.3**	**+1.3**
	baz=242							
CHKT	**Chengkung**	**1.08**	**196**	eP		**Pb**	**20 43 46.1**	**-0.1**
	baz=212							
ECS	**Chishang**	**1.13**	**203**	eP		**Pg**	**20 43 48.4**	**+0.7**
	baz=214							
WGK	**Gukeng**	**1.13**	**247**	eP		**Pg**	**20 43 48.0**	**+0.3**
	baz=246							
ELDTW	**Lidau**	**1.13**	**213**	eP		**Pb**	**20 43 46.6**	**-0.6**
	baz=203							
WDLH	**Douliu**	**1.15**	**247**	eP		**Pg**	**20 43 48.0**	**-0.2**
	baz=247							
JYNG	**Yonagunijimaku**	**1.18**	**75**	P		**Pn**	**20 43 47.8**	**0.0**
JYNG				S		**Sb**	**20 44 03.5**	**+0.4**
EDH	**Donghe**	**1.22**	**197**	eP		**Pb**	**20 43 48.5**	**-0.1**
	baz=213							
WRL	**Guolierlin Hig**	**1.23**	**259**	eP		**Pg**	**20 43 49.1**	**-0.4**
	baz=258							
YOJ	**Yonaguni jima**	**1.25**	**75**	P		**Pn**	**20 43 48.6**	**0.0**
YOJ				S		**Sb**	**20 44 05.5**	**+0.7**
YOJ	**Yonaguni jima**	**1.25**	**75**	eP		**Pn**	**20 43 48.7**	**0.0**
	baz=73							
YOJ				eS		**Sn**	**20 44 06.0**	**+1.0**
	baz=73							
WTK	**Tuku**	**1.28**	**250**	eP		**Pg**	**20 43 50.6**	**+0.1**
	baz=237							
CHN4	**Tsaushan**	**1.28**	**232**	eP		**Pg**	**20 43 50.6**	**0.0**
	baz=233							
STYH	**Taoyuan**	**1.28**	**221**	eP		**Pb**	**20 43 49.3**	**-0.3**
	baz=222							
TPUB	**Ta-pu**	**1.28**	**230**	⇓P		**Pg**	**20 43 50.4**	**-0.3**
	baz=222							
TPUB				eS		**Sg**	**20 44 07.9**	**+0.4**
	baz=222							
STYT	**Tauyuan**	**1.30**	**222**	eP		**Pg**	**20 43 50.1**	**-0.9**
	baz=222							
CHY	**Chiayi**	**1.33**	**241**	eP		**Pg**	**20 43 51.7**	**+0.2**
	baz=241							
WTP	**Ta-pu**	**1.33**	**228**	eP		**Pg**	**20 43 51.6**	**0.0**
	baz=216							
LONT	**Longtian**	**1.33**	**203**	eP		**Pb**	**20 43 50.5**	**-0.1**
	baz=204							
TWK	**Hsinying**	**1.41**	**232**	eP		**Pg**	**20 43 52.3**	**-0.8**
	baz=236							
TWK				S		**Sg**	**20 44 11.7**	**+0.3**
	baz=236							
SNST	**Tainan City**	**1.43**	**230**	eP		**Pg**	**20 43 52.8**	**-0.6**
	baz=232							
CHN1	**Nanshi**	**1.43**	**228**	eP		**Pg**	**20 43 52.8**	**-0.7**
	baz=233							
CHN1				eS		**Sg**	**20 44 12.2**	**0.0**
	baz=233							
TWG	**Pinlang**	**1.43**	**204**	eP		**Pn**	**20 43 51.1**	**-0.2**
	baz=190							
TWGBT	**Beinan**	**1.43**	**203**	eP		**Pn**	**20 43 50.4**	**-0.9**
	baz=190							
WSF	**Szhu**	**1.44**	**250**	eP		**Pg**	**20 43 52.6**	**-1.0**
	baz=242							
WSF				eS		**Sg**	**20 44 13.3**	**+1.0**
	baz=242							
SGST	**Jiashian**	**1.47**	**224**	eP		**Pb**	**20 43 52.1**	**-0.7**
	baz=219							
SGST				eS		**Sg**	**20 44 13.5**	**+0.2**
	baz=219							
LDUT	**Ludao**	**1.48**	**188**	eP		**Pg**	**20 43 53.4**	**-0.9**
	baz=191							
SLGT	**Liugui**	**1.49**	**220**	eP		**Pb**	**20 43 53.0**	**-0.2**
	baz=222							
ICHU	**Yijhu**	**1.51**	**239**	eP		**Pb**	**20 43 53.7**	**+0.1**
	baz=240							
CHN8	**Yiju**	**1.57**	**240**	eP		**Pb**	**20 43 54.5**	**-0.1**
	baz=226							
SCST	**Cishan**	**1.67**	**222**	eP		**Pb**	**20 43 56.4**	**+0.2**
	baz=224							
ECL	**Taimali**	**1.68**	**204**	eP		**Pb**	**20 43 55.7**	**-0.8**
	baz=193							
SSD	**Sandimen**	**1.70**	**215**	eP		**Pb**	**20 43 56.5**	**-0.2**
	baz=217							
TSMG	**Majia**	**1.72**	**214**	eP		**Pb**	**20 43 57.1**	**-0.1**
	baz=228							
TWM1	**Shoushan**	**1.75**	**222**	eP		**Pg**	**20 43 58.9**	**-0.7**
	baz=224							
MASBT	**Mashibuluo**	**1.81**	**213**	eP		**Pb**	**20 43 58.1**	**-0.5**
	baz=217							
IRIF	**Iriomote-Funau**	**1.87**	**84**	P		**Pn**	**20 43 57.0**	**-0.2**
IRIF				S		**Sn**	**20 44 21.1**	**+0.6**
EAST	**Anshuo**	**1.92**	**204**	eP		**Pb**	**20 43 59.8**	**-0.7**
	baz=196							
HATJ	**Hateruma jima**	**1.93**	**92**	P		**Pn**	**20 43 58.8**	**+0.7**
HATJ				eS		**Sn**	**20 44 23.0**	**+1.0**
SSPT	**Xinbi**	**1.95**	**212**	eP		**Pb**	**20 44 00.8**	**-0.2**
	baz=218							
SCZT	**Fangliau**	**2.02**	**209**	eP		**Pb**	**20 44 01.1**	**-1.1**
	baz=214							
PNG	**Penghu**	**2.04**	**254**	eP		**Pn**	**20 44 00.1**	**+0.5**
	baz=253							
PHUB	**P'eng-hu**	**2.04**	**253**	eP		**Pn**	**20 43 59.9**	**+0.4**
	baz=253							
WDGT	**Dungji**	**2.06**	**245**	eP		**Pn**	**20 44 00.4**	**+0.6**
	baz=246							
SLIU	**Shizi**	**2.08**	**203**	eP		**Pb**	**20 44 02.5**	**-0.9**
	baz=195							
JKRS	**Kuro-shima**	**2.12**	**87**	P		**Pn**	**20 44 01.3**	**+0.7**
JKRS				eS		**Sn**	**20 44 27.9**	**+1.3**
VWUC	**VWUC**	**2.21**	**293**	eP		**Pn**	**20 44 01.5**	**-0.4**
	baz=291							
JIJ	**Ishigaki jima**	**2.25**	**84**	P		**Pn**	**20 44 02.2**	**-0.2**
JIJ				S		**Sn**	**20 44 29.3**	**-0.5**
VCHM	**Qimei**	**2.27**	**246**	eP		**Pn**	**20 44 03.3**	**+0.5**
	baz=234							
JISG	**Ishigakijimahi**	**2.43**	**79**	P		**Pn**	**20 44 04.8**	**-0.1**
JISG				S		**Sn**	**20 44 34.2**	**-0.1**
PTMZ	**Houxiangcun**	**2.51**	**291**	eP		**Pn**	**20 44 06.6**	**+0.6**
	baz=289							
MATB	**Ma-tsu**	**2.55**	**322**	eP		**Pn**	**20 44 06.3**	**-0.3**
	baz=319							
JTJ	**Tarama**	**2.79**	**79**	eS		**Sn**	**20 44 43.7**	**+0.5**
LYJJ	**Jianjiangzhen**	**2.97**	**324**	eP		**Pn**	**20 44 12.3**	**0.0**
	baz=321							
KNM	**Kinmen**	**2.99**	**276**	eP		**Pn**	**20 44 14.7**	**+2.1**
	baz=272							
KNMB	**Chin-men Tao**	**3.03**	**277**	eP		**Pn**	**20 44 13.2**	**0.0**
	baz=274							
XPSS	**Dashiqiu**	**3.09**	**334**	eP		**Pn**	**20 44 13.6**	**-0.4**
	baz=331							
MHZQ	**Yeshan**	**3.10**	**309**	eP		**Pn**	**20 44 14.6**	**+0.5**
	baz=307							
JMJ	**Miyako jima 2**	**3.35**	**78**	eP		**Pn**	**20 44 18.2**	**+0.6**
	baz=78							
AXDP	**Jialang**	**3.47**	**283**	eP		**Pn**	**20 44 20.3**	**+1.0**
	baz=281							
ZPLA	**Ao Xicun**	**3.61**	**267**	eP		**Pn**	**20 44 21.4**	**+0.3**
	baz=264							

TAP 04 20:54:04.6, 24°.16N×121°.64E, h15km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.02**	**261**		P	Pg	20 54 07.6	+0.3
	baz=259							
ETL					S	Sg	20 54 09.8	+0.8
	baz=259							
NACB	**Ninganchiao**	**0.05**	**285**		P	Pg	20 54 07.7	+0.3
	baz=285							
NACB					S	Sg	20 54 09.9	+0.8
	baz=285							
TWD	**Chiawan**	**0.09**	**208**		eP	Pg	20 54 08.2	+0.4
	baz=203							
TWD					eS	Sg	20 54 10.7	+0.9
	baz=203							
ETLH	**Xiulin Townshi**	**0.15**	**287**		i P	Pb	20 54 09.1	-0.2
	baz=286							
ETLH					S	Sb	20 54 12.4	0.0
	baz=286							

JMA 04 20:54:33.2±0.2, **25°.04N**×**123°.19E, h132**km±3km, **M1.8, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**196**		P	Pn	20 54 53.2	+0.1
YOJ					eS	Sn	20 55 08.5	+0.4
IRIF	**Iriomote-Funau**	**0.86**	**145**		P	Pn	20 54 55.1	+0.1
IRIF					S	Sn	20 55 11.3	-0.2
JKRS	**Kuro-shima**	**1.09**	**137**		P	Pn	20 54 57.7	+0.5
JKRS					S	Sn	20 55 15.7	+0.4
JIJ	**Ishigaki jima**	**1.10**	**128**		P	Pn	20 54 57.3	+0.1
JIJ					S	Sn	20 55 14.8	-0.6
JISG	**Ishigakijimahi**	**1.11**	**114**		P	Pn	20 54 57.3	0.0
JISG					S	Sn	20 55 15.7	0.0
JTJ	**Tarama**	**1.43**	**106**		P	Pn	20 55 01.0	+0.4
JTJ					S	Sn	20 55 22.1	+0.6
JIRB	**Irabujima**	**1.81**	**96**		eS	Sn	20 55 29.9	+0.6

*IDC **04** 20:55:43.4±1.2, 37°.65N×140°.15E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/52, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=29.7km s-min=14.7km az=135.0*
*NIED **04** 20:55:44.2, 37°.81N×139°.99E, h8km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.40; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-2.08; $M_{r\theta}$-0.01; $M_{\theta\phi}$-0.45; $M_{\phi r}$-0.49; Fault plane solution: $M_0$2.34000×10^{14} NP1: ϕ_s191.00000°, δ51.00000°, λ87.00000°. NP2: ϕ_s16.00000°, δ39.00000°, λ93.00000°.*
*JMA **04** 20:55:44.2, 37°.81N×139°.99E, h8km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s349.00000°, δ41.00000°, λ56.00000°. NP2: ϕ_s210.00000°, δ57.00000°, λ115.00000°. Principal axes: T Plg67.0000°, Azm171.0000°; N Plg21.0000°, Azm16.0000°; P Plg9.0000°, Azm282.0000°;*
JMA Felt II J1.

ISC 04 20:55:44.6±1.1, **37°.80N**±0°.03×**140°.00E**±0°.03, **h6**km±9km, **n24**, σ0°94/27, **mb3.6**/3, **2C-8D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYAR	**Yonezawaarcadi**	**0.16**	**45**	⇓P		**Pg**	**20 55 47.6**	**-0.2**
JYAR				eS		**Sg**	**20 55 50.2**	**+0.1**
**J

MAT	**Matsushiro**	**1.90**	**229**	P	**Pn**	**20 56 17.6**	**0.0**
MAT				S	**Sb**	**20 56 43.1**	**-0.6**
MJAR	**Matsushiro Arr**	**1.90**	**229**	Pn	**Pn**	**20 56 16.9**	**-0.7**
	1.6nm,0.3s,baz=66,slow=14,SNR=80						
MJAR				Lg	Lg	20 56 43.4	
	2.5nm,0.3s,baz=136,slow=31,SNR=13						
ASAJ	**Asahikawa**	**6.61**	**16**	Pn	**Pn**	**20 57 24.9**	**+2.6**
	0.2nm,0.3s,baz=113,slow=5.7,SNR=5.4						
USRK	**Ussuriysk Ar.**	**8.80**	**319**	Pn	**Pn**	**20 57 53.9**	**+1.6**
	baz=140,slow=17,SNR=1.8						
KSRS	**Korea Array**	**9.59**	**272**	Pn	**Pn**	**20 58 05.3**	**+2.3**
	0.8nm,0.3s,baz=80,slow=14,SNR=16						
H11N2	**WAKE ISLAND Hy**	**29.51**	**120**	T	T	21 32 09.8	
	baz=315,slow=75,SNR=8.5						
H11N1	**WAKE ISLAND Hy**	**29.51**	**120**	T	T	21 32 18.6	
	baz=315,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**29.52**	**120**	T	T	21 32 10.9	
	baz=315,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**30.22**	**122**	T	T	21 32 55.7	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**30.22**	**122**	T	T	21 33 10.0	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**30.24**	**122**	T	T	21 33 12.1	
	baz=316						
ILAR	**Eielson Array**	**49.46**	**33**	P	**P**	**21 04 34.7**	**-0.4**
	0.4nm,0.7s,baz=282,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**57.68**	**186**	P	**P**	**21 05 34.5**	**-1.3**
	0.5nm,0.8s,baz=3.0,slow=7.4,SNR=7.0						
ASAR	**Alice Springs**	**61.41**	**186**	P	**P**	**21 06 00.9**	**-0.6**
	0.4nm,0.8s,baz=13,slow=5.3,SNR=3.2						

*TUL **04** 21:00:27.7±1.2, 36°.52N±0°.02×98°.48W±0°.04, h3km±7km, ML3.6, mb_Lg3.3/127(NEIC), Error ellipse: s-maj=5.4km s-min=2.7km az=105.0*
*IDC **04** 21:00:28.0±1.1, 36°.57N×98°.49W, h0km, mb1 3.8/4, mb1mx3.4/43, mbtmp3.5/4, ML3.4/4, Error ellipse: s-maj=14.4km s-min=12.1km az=151.0*
*NEIC **04** 21:00:28.4±1.2, 36°.50N±0°.02×98°.42W±0°.04, h5km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=293.0*
*ANF **04** 21:00:29.5±1.6, 36°.55N×98°.48W, h19km±12km, ML4.3/11, Error ellipse: s-maj=4.8km s-min=3.9km az=104.0*

ISC 04 21:00:28.2±1.0, 36°.54N±0°.03×98°.45W±0°.03, h13km±8km, n126, σ1§08/101, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.32**	**36**		**Pg**	**21 00 35.1**	**+0.3**
OK032				Sg	**Sg**	**21 00 40.1**	**+0.8**
CROK	**Carrier**	**0.38**	**96**		**Pg**	**21 00 35.9**	**+0.1**
CROK				Sg	**Sg**	**21 00 41.6**	**+0.7**
U32A	**Winter Ranch,**	**0.47**	**250**	Pg	**Pg**	**21 00 37.0**	**-0.6**
U32A					**Sg**	**21 00 43.6**	**-0.3**
U32A	**Winter Ranch,**	**0.47**	**250**	P		21 00 36.9	
	baz=72,SNR=270						
U32A				S		21 00 43.6	
	baz=72						
KAN10	**Anthony SW Sta**	**0.65**	**26**		**Pg**	**21 00 40.9**	**+0.1**
KAN10				Sg	**Sb**	**21 00 50.3**	**-0.1**
KAN05	**Bluff City Nor**	**0.73**	**39**		**Pg**	**21 00 42.5**	**+0.1**
KAN05				Sg	**Sb**	**21 00 52.8**	**0.0**
KAN17	**Caldwell West**	**0.74**	**47**		**Pg**	**21 00 42.7**	**+0.1**
KAN17				Sg	**Sb**	**21 00 53.2**	**+0.1**
KAN08	**Anthony NE Sta**	**0.78**	**29**		**Pg**	**21 00 43.5**	**+0.1**
KAN12	**Harper NE Stat**	**0.84**	**25**		**Pg**	**21 00 44.3**	**-0.1**
KAN12				Sg	**Sb**	**21 00 56.2**	**+0.4**
KAN09	**Caldwell North**	**0.89**	**48**		**Pg**	**21 00 45.4**	**-0.1**
KAN09				Sg	**Sb**	**21 00 57.6**	**+0.2**
KAN13	**South Haven SW**	**0.91**	**59**		**Pg**	**21 00 45.6**	**-0.3**
KAN13				Sg	**Sb**	**21 00 58.3**	**+0.3**
KS20	**Mayfield South**	**0.99**	**46**		**Pb**	**21 00 47.2**	**-0.2**
BLOK	**Blackwell**	**1.02**	**77**		**Pb**	**21 00 47.4**	**-0.3**
OK029	**Liberty Lake**	**1.10**	**132**		**Pb**	**21 00 48.4**	**-0.6**
BCOK	**Bluff Creek, N**	**1.11**	**142**		**Pb**	**21 00 48.6**	**-0.8**
OK009	**Oakdale Elemen**	**1.27**	**139**	Pg	**Pn**	**21 00 51.5**	**-0.2**
OK025	**Westminster Rd**	**1.31**	**136**		**Pn**	**21 00 52.1**	**-0.2**
OK005	**Luther M Schoo**	**1.35**	**131**	Pn	**Pn**	**21 00 53.1**	**+0.3**
OK001	**Jones High Sch**	**1.36**	**136**	Pn	**Pn**	**21 00 53.0**	**+0.1**
OKCFA	**Oklahoma City**	**1.39**	**144**		**Pn**	**21 00 53.2**	**-0.1**
OKCFA	**Oklahoma City**	**1.39**	**144**	P		21 00 53.3	
	baz=323,SNR=59						
OKCFA				S		21 01 12.1	
	baz=323						
OKCSW	**OKLAHOMA CITY**	**1.40**	**144**		**Pn**	**21 00 53.5**	**0.0**
OK031	**S. Brethren Rd**	**1.43**	**114**		**Pn**	**21 00 54.5**	**+0.6**
QUOK	**Quay**	**1.45**	**104**		**Pn**	**21 00 54.9**	**+0.6**
FNO	**Franklin**	**1.54**	**146**		**Pn**	**21 00 55.8**	**+0.4**
T35A	**Sooner Cattle**	**1.60**	**76**	Pn	**Pb**	**21 00 57.5**	**-0.2**
T35B	**Sooner Cattle**	**1.60**	**76**	P		21 00 57.5	
	baz=256,SNR=174						
T35B				S		21 01 19.2	
	baz=256						
WMOK	**Wichita Mounta**	**1.82**	**189**	P	**Pn**	**21 00 59.6**	**+0.3**
	baz=7.8						
WMOK				S	**Sn**	**21 01 23.9**	**+1.7**
	baz=7.8						
WMOK	**Wichita Mounta**	**1.82**	**189**		**Pn**	**21 00 59.6**	**+0.3**
WMOK	**Wichita Mounta**	**1.82**	**189**	P		21 00 59.7	
	baz=7.8,SNR=561						
WMOK				S		21 01 23.9	
	baz=7.8						
R32A	**Long Quarter,**	**1.89**	**354**		**Pb**	**21 01 02.1**	**-0.5**
R32A				IAmb_Lg		21 01 33.7	
	comp=Z,142nm,0.9s						
R32A	**Long Quarter,**	**1.89**	**354**	P		21 01 02.1	
	baz=174,SNR=557						
R32A				S		21 01 27.9	
	baz=174						
X34A	**Smith Ranch, M**	**2.00**	**165**		**Pn**	**21 01 03.2**	**+1.5**
X34A				IAmb_Lg		21 01 31.7	
	comp=Z,125nm,0.7s						
TUL1	**Leonard**	**2.24**	**106**	P	**Pn**	**21 01 06.3**	**+1.3**
	baz=286						
TUL1				Sb	**Sb**	**21 01 37.8**	**+1.6**
	baz=286						
TUL1	**Leonard**	**2.24**	**106**	P		21 01 06.3	
	baz=286,SNR=67						
TUL1				S		21 01 34.8	
	baz=286						
CBKS	**Cedar Bluff**	**2.49**	**336**	Pb	**Pb**	**21 01 12.0**	**-0.8**
	baz=156						
CBKS				Sb	**Sb**	**21 01 45.3**	**+1.9**
	baz=156						
CBKS	**Cedar Bluff**	**2.49**	**336**		**Pn**	**21 01 10.6**	**+2.1**
CBKS	**Cedar Bluff**	**2.49**	**336**	P		21 01 11.3	
	baz=156						
CBKS				S		21 01 45.1	
	baz=156						
LOOK	**Love County**	**2.75**	**157**		**Pn**	**21 01 13.2**	**+1.2**
LOOK				IAmb_Lg		21 01 59.3	
	comp=Z,100nm,0.8s						
KSU1	**Kansas State U**	**2.94**	**29**	Sb	**Sg**	**21 02 01.4**	**-1.3**
	baz=210						
KSU1	**Kansas State U**	**2.94**	**29**		**Pn**	**21 01 16.3**	**+1.6**
KSU1				IAmb_Lg		21 02 00.3	
	comp=Z,62nm,0.7s						
KSU1	**Kansas State U**	**2.94**	**29**	S		21 01 53.1	
	baz=210						
AMTX	**Amarillo**	**3.11**	**239**	Pb	**Pb**	**21 01 24.2**	**+0.8**
	baz=57						
AMTX	**Amarillo**	**3.11**	**239**		**Pn**	**21 01 18.9**	**+1.9**
AMTX				IAmb_Lg		21 02 13.2	
	comp=Z,126nm,0.8s						
AMTX	**Amarillo**	**3.11**	**239**	S		21 01 55.4	
	baz=57						
X37A	**Clayton**	**3.18**	**127**		**Pn**	**21 01 19.0**	**+1.1**
X37A				IAmb_Lg		21 02 15.6	
	comp=Z,151nm,0.8s						
X37A	**Clayton**	**3.18**	**127**	P		21 01 18.6	
	baz=308,SNR=31						
U38A	**Gravette**	**3.28**	**91**		**Pn**	**21 01 20.6**	**+1.3**
U38A				IAmb_Lg		21 02 16.3	
	comp=Z,82nm,0.9s						
U38A	**Gravette**	**3.28**	**91**	P		21 01 20.6	
	baz=273,SNR=26						
HHAR	**Hobbs**	**3.65**	**93**		**Pn**	**21 01 25.3**	**+0.9**
W39A	**Magazine**	**4.02**	**108**		**Pn**	**21 01 30.6**	**+1.1**
W39A				IAmb_Lg		21 02 36.9	
	comp=Z,108nm,0.7s						
W39A	**Magazine**	**4.02**	**108**	P		21 01 30.2	
	baz=291,SNR=27						
ABTX	**Abilene, Hawle**	**4.03**	**194**	P	**Pn**	**21 01 30.4**	**+0.7**
	baz=14						
ABTX	**Abilene, Hawle**	**4.03**	**194**		**Pn**	**21 01 30.4**	**+0.7**
	baz=14,SNR=13						
KSCO	**Kaye Shedlock'**	**4.13**	**308**	P		21 01 30.2	
KSCO				IAmb_Lg	**Pn**	**21 01 31.7**	**+0.6**
	comp=Z,102nm,0.7s					21 02 40.8	
KSCO	**Kaye Shedlock'**	**4.13**	**308**	P		21 01 32.0	
	baz=126						
S39A	**Bolivar**	**4.25**	**73**		**Pn**	**21 01 33.5**	**+0.7**
S39A				IAmb_Lg		21 02 47.6	
	comp=Z,89nm,0.8s						
S39A	**Bolivar**	**4.25**	**73**	P		21 01 33.5	
	baz=256,SNR=36						
N33B	**J Bar K, Exete**	**4.26**	**10**	P		21 01 33.5	
	baz=191						
N33A	**J Bar K, Exete**	**4.26**	**10**		**Pn**	**21 01 33.8**	**+0.9**
N33A				IAmb_Lg		21 02 56.5	
	comp=Z,93nm,0.8s						
Z38A	**Mt. Pleasant**	**4.34**	**138**		**Pn**	**21 01 34.4**	**+0.5**
Z38A				IAmb_Lg		21 02 48.8	
	comp=Z,96nm,0.9s						
MSTX	**Muleshoe**	**4.37**	**235**		**Pn**	**21 01 36.0**	**+1.6**
MSTX				IAmb_Lg		21 02 50.8	
	comp=Z,79nm,0.9s						
MIAR	**Mount Ida**	**4.44**	**115**	P	**Pn**	**21 01 37.0**	**+1.6**
	baz=298						
MIAR				S	**Sn**	**21 02 27.4**	**+0.4**
	baz=298						
MIAR	**Mount Ida**	**4.44**	**115**	Pn	**Pn**	**21 01 36.5**	**+1.2**
MIAR				IAmb_Lg		21 02 58.8	
	comp=Z,65nm,0.8s						
MIAR	**Mount Ida**	**4.44**	**115**	P		21 01 36.0	
	baz=298,SNR=22						
U40A	**Yellville**	**4.51**	**91**	P	**Pn**	**21 01 37.9**	**+1.6**
	baz=274						
U40A	**Yellville**	**4.51**	**91**	Pn	**Pn**	**21 01 36.8**	**+0.5**
U40A				IAmb_Lg		21 02 49.5	
	comp=Z,38nm,0.7s						
U40A	**Yellville**	**4.51**	**91**	P		21 01 37.0	
	baz=274,SNR=29						
U40A				P		21 01 37.0	
	baz=274,SNR=29						
WHTX	**Lake Whitney,**	**4.61**	**169**	P	**Pn**	**21 01 38.4**	**+0.8**
	baz=350						
WHTX	**Lake Whitney,**	**4.61**	**169**		**Pn**	**21 01 38.4**	**+0.8**
WHTX	**Lake Whitney,**	**4.61**	**169**	P		21 01 38.3	
	baz=350,SNR=14						
T25A	**Trinidad**	**4.82**	**279**		**Pn**	**21 01 41.8**	**+1.1**
T25A				IAmb_Lg		21 03 02.5	
	comp=Z,78nm,0.8s						
N35A	**Tabor**	**4.84**	**26**		**Pn**	**21 01 41.8**	**+1.0**
N35A	**Tabor**	**4.84**	**26**	P		21 01 42.0	
	baz=208						
P38A	**Dawn**	**4.95**	**50**		**Pn**	**21 01 44.2**	**+1.9**
P38A				IAmb_Lg		21 03 11.7	
	comp=Z,51nm,0.7s						
MGMO	**Mountain Grove**	**4.99**	**81**	Pn	**Pn**	**21 01 44.2**	**+1.3**
X40A	**Basin Creek Fa**	**5.02**	**112**	P	**Pn**	**21 01 44.8**	**+1.6**
	baz=296						
X40A	**Basin Creek Fa**	**5.02**	**112**		**Pn**	**21 01 44.4**	**+1.2**
X40A				IAmb_Lg		21 03 14.9	
	comp=Z,74nm,0.7s						
X40A	**Basin Creek Fa**	**5.02**	**112**	P		21 01 44.4	
	baz=296,SNR=22						
X40A				P		21 01 44.4	
	baz=296,SNR=22						
237A	**Washetta, Mont**	**5.03**	**153**	Pn	**Pn**	**21 01 43.8**	**+0.4**
237A				IAmb_Lg		21 03 17.5	
	comp=Z,49nm,0.8s						
WHAR	**Wooly Hollow**	**5.15**	**102**		**Pn**	**21 01 45.4**	**+0.3**
WHAR				IAmb_Lg		21 03 12.9	
	comp=Z,48nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.16**	**95**		**Pn**	**21 01 46.1**	**+1.0**
FCAR				IAmb_Lg		21 03 13.8	
	comp=Z,49nm,0.8s						
OGNE	**Ogallala**	**5.21**	**329**		**Pn**	**21 01 48.0**	**+2.0**
W41B	**Gary Mavity, V**	**5.22**	**103**	S	**Sn**	**21 02 46.0**	**0.0**
	baz=287						
W41B	**Gary Mavity, V**	**5.22**	**103**	P		21 01 46.6	
	baz=287,SNR=14						
WLAR	**White Oak Lake**	**5.22**	**122**	Pn	**Pn**	**21 01 47.8**	**+1.8**
WLAR				IAmb_Lg		21 03 19.2	
	comp=Z,43nm,0.8s						
R40A	**Maddies Statio**	**5.22**	**69**		**Pn**	**21 01 46.9**	**+0.9**
R40A				IAmb_Lg		21 03 16.3	
	comp=Z,52nm,0.9s						
R40A	**Maddies Statio**	**5.22**	**69**	P		21 01 46.7	
	baz=252,SNR=19						
L34A	**Svendsen Farm,**	**5.65**	**16**	Pn	**Pn**	**21 01 51.8**	**-0.1**
NATX	**Nacogdoches**	**5.71**	**146**	IAmb_Lg		21 03 38.0	
	comp=Z,29nm,0.8s						
SDCO	**Great Sand Dun**	**5.76**	**284**		**Pn**	**21 01 54.6**	**+0.9**
435B	**Jarrell**	**5.79**	**173**		**Pn**	**21 01 53.6**	**-0.2**
435B				IAmb_Lg		21 03 36.1	
	comp=Z,48nm,0.8s						
P40A	**Paris**	**5.87**	**58**		**Pn**	**21 01 56.6**	**+1.8**
N38A	**Joes South For**	**5.89**	**42**	Pn	**Pn**	**21 01 58.1**	**+3.0**
LCAR	**Lake Charles**	**5.91**	**92**		**Pn**	**21 01 57.0**	**+1.6**
CCM	**Cathedral Cave**	**5.94**	**73**		**Pn**	**21 01 57.8**	**+1.9**
CCM				IAmb_Lg		21 03 54.6	
	comp=Z,47nm,0.8s						
CCAR	**Cane Creek**	**6.06**	**114**	IAmb_Lg		21 03 54.0	
	comp=Z,79nm,1.0s						
JCT	**Junction City**	**6.15**	**191**	Pn	**Pn**	**21 01 58.9**	**+0.1**
PBMO	**Poplar Bluff**	**6.45**	**86**	IAmb_Lg		21 04 03.9	
	comp=Z,44nm,0.8s						
ISCO	**Idaho Springs**	**6.51**	**302**	Pn	**Pn**	**21 02 03.4**	**-0.7**
ISCO				IAmb_Lg		21 04 04.7	
	comp=Z,48nm,0.9s						
LPAR	**Lepanto**	**6.67**	**96**	IAmb_Lg		21 04 17.8	
	comp=Z,61nm,0.8s						
ANMO	**Albuquerque**	**6.70**	**259**	Pg	Pg	21 02 31.4	-5.2
	comp=Z,0.9nm,0.3s,baz=78,slow=18,SNR=14						
ANMO				Lg	Lg	21 03 57.8	
	comp=Z,1.9nm,0.3s,baz=352,slow=24,SNR=11						
ANMO	**Albuquerque**	**6.70**	**259**		**Pn**	**21 02 07.7**	**+1.1**
143A	**Socs Landing,**	**6.96**	**121**	IAmb_Lg		21 04 17.2	
	comp=Z,35nm,0.9s						
PHWY	**Pilot Hill**	**7.24**	**313**	IAmb_Lg		21 04 35.1	
	comp=Z,30nm,0.8s						
LNXT	**Lenox**	**7.25**	**91**	IAmb_Lg		21 04 25.5	
	comp=Z,59nm,0.7s						
ECSD	**EROS Data Cent**	**7.32**	**10**	P	**Pn**	**21 02 14.4**	**-0.5**
	baz=192						
ECSD	**EROS Data Cent**	**7.32**	**10**	Pn	**Pn**	**21 02 14.6**	**-0.2**
ECSD				IAmb_Lg		21 04 21.2	
	comp=Z,41nm,1.1s						
ECSD	**EROS Data Cent**	**7.32**	**10**	P		21 02 14.3	
	baz=192,SNR=14						
HALT	**Halls**	**7.39**	**92**	IAmb_Lg		21 04 36.9	
	comp=Z,47nm,0.8s						
S44A	**Carbondale**	**7.43**	**78**	IAmb_Lg		21 04 31.7	
	comp=Z,53nm,0.8s						
SIUC	**Southern Illin**	**7.47**	**78**	IAmb_Lg		21 04 30.6	
	comp=Z,59nm,0.8s						
MNTX	**Cornudas Mount**	**7.51**	**232**	IAmb_Lg		21 04 34.8	
	comp=Z,27nm,0.9s						
OXF	**Oxford**	**7.64**	**103**		**Pn**	**21 02 19.9**	**+0.7**
OXF				IAmb_Lg		21 04 46.5	
	comp=Z,24nm,0.7s						
W45A	**Hickory Valley**	**7.65**	**98**	IAmb_Lg		21 04 39.5	
	comp=Z,42nm,0.8s						
UTMT	**University of**	**7.73**	**89**	IAmb_Lg		21 04 48.3	
	comp=Z,52nm,0.8s						
Y45A	**Yeager Farm, C**	**7.76**	**108**	IAmb_Lg		21 04 35.9	
	comp=Z,29nm,0.8s						
L40A	**Anamosa**	**7.86**	**43**	IAmb_Lg		21 04 38.9	
	comp=Z,54nm,1.0s						
T45A	**Paducah**	**7.88**	**84**	IAmb_Lg		21 04 41.3	
	comp=Z,51nm,0.7s						
SUSD	**Miller**	**7.90**	**357**	IAmb_Lg		21 04 56.0	
	comp=Z,32nm,0.8s						
PV02	**Paradox Valley**	**8.36**	**285**	IAmb_Lg		21 05 04.7	
	comp=Z,19nm,1.2s						
I37A	**Lemond, Waseca**	**8.40**	**26**	IAmb_Lg		21 05 13.1	
	comp=Z,35nm,0.9s						
TXAR	**Lajitas Array**	**8.42**	**213**		**Pn**	**21 02 30.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=36,slow=11,SNR=15						
TXAR				Lg	Lg	21 04 48.2	
	comp=Z,1.4nm,0.3s,baz=38,slow=21,SNR=3.7						
TXAR	**Lajitas Array**	**8.42**	**213**		**Pn**	**21 02 30.2**	**+0.2**
PV11	**David Mesa, Pa**	**8.48**	**285**	IAmb_Lg		21 05 04.7	
	comp=Z,24nm,1.1s						
RWWY	**Rawlins**	**8.53**	**310**	IAmb_Lg		21 05 11.8	
	comp=Z,18nm,0.8s						
PV19	**Morning Glory**	**8.56**	**285**	IAmb_Lg		21 05 10.3	
	comp=Z,17nm,1.2s						
PV14	**Lion Creek, Pa**	**8.61**	**285**	IAmb_Lg		21 05 08.9	
	comp=Z,16nm,1.1s						
RSSD	**Black Hills**	**8.69**	**332**	IAmb_Lg		21 05 20.5	
	comp=Z,22nm,0.8s						
USIN	**University of**	**8.71**	**77**	IAmb_Lg		21 05 24.6	
	comp=Z,27nm,0.9s						
K22A	**Casper**	**8.72**	**317**	IAmb_Lg		21 05 20.8	
	comp=Z,29nm,0.9s						
JFWS	**Jewell Farm**	**8.96**	**42**	IAmb_Lg		21 05 30.7	
	comp=Z,41nm,0.7s						
T47A	**Sharon Grove**	**9.12**	**84**	IAmb_Lg		21 05 30.1	
	comp=Z,33nm,1.0s						
Z47A	**Carrollton**	**9.16**	**108**	IAmb_Lg		21 05 27.7	
	comp=Z,17nm,1.1s						
F33A	**5 Mile Ranch,**	**9.43**	**9**	IAmb_Lg		21 05 34.1	
	comp=Z,21nm,1.1s						
I40A	**Norwalk**	**9.47**	**37**	IAmb_Lg		21 05 36.4	
	comp=Z,19nm,0.8s						
SPMN	**Marine on St.**	**9.67**	**24**	IAmb_Lg		21 05 42.0	
	comp=Z,21nm,0.9s						
SFIN	**Lafayette**	**9.69**	**63**	IAmb_Lg		21 05 34.2	
	comp=Z,33nm,0.8s						
HQIL	**Hanson Quary C**	**9.76**	**54**	IAmb_Lg		21 05 45.7	
	comp=Z,36nm,0.7s						
BLO	**Bloomington**	**9.79**	**71**	IAmb_Lg		21 05 56.1	
	comp=Z,37nm,0.8s						
CLTN	**Cedars of Leba**	**9.79**	**89**	IAmb_Lg		21 05 57.6	
	comp=Z,14nm,1.1s						
WCI	**Wyandotte Cave**	**9.82**	**76**	IAmb_Lg		21 05 53.0	
	comp=Z,23nm,0.9s						
PD31	**Pinedale Array**	**10.58**	**309**	Pn	**Pn**	**21 03 00.8**	**+1.1**
PDAR	**Pinedale Array**	**10.58**	**309**	Pn	**Pn**	**21 03 00.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=2.6						
PDAR				Lg	Lg	21 05 59.5	
	comp=Z,0.5nm,0.3s,baz=114,slow=28,SNR=6.5						
PDAR	**Pinedale Array**	**10.58**	**309**		**Pn**	**21 03 00.5**	**+0.8**
V51A	**Loudon**	**11.42**	**90**	P		21 03 11.3	
	baz=278,SNR=7.6						
TKL	**Tuckaleechee C**	**11.91**	**90**	Pn	**Pn**	**21 03 18.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=224,slow=7.7,SNR=6.1						
TKL				Lg	Lg	21 06 38.1	
	comp=Z,0.5nm,0.3s,baz=197,slow=23,SNR=3.0						
TKL	**Tuckaleechee C**	**11.91**	**90**		**Pn**	**21 03 18.2**	**+0.5**
S51A	**Beattyville**	**11.92**	**80**	Pn	**Pn**	**21 03 17.8**	**0.0**
ULM	**Lac du Bonnet**	**13.83**	**7**	Pn	**Pn**	**21 03 39.8**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=186,slow=9.6,SNR=1.8						

KMA 04 21:03:38.5±1.7, 36°.56N×127°.80E, h8km±8km, Error ellipse: s-maj=15.7km s-min=2.4km az=133.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSBON	**Boeun**	**0.06**	**181**	P	Pg	21 03 40.0	-0.3
	SNR=119						
KSBON	**Boeun**	**0.06**	**181**	P	Pg	21 03 40.0	-0.3
	SNR=119						
KSMGY	**Mungyeong**	**0.23**	**66**	P	Pg	21 03 43.1	0.0
	SNR=18						
KSMGY	**Mungyeong**	**0.23**	**66**	P	Pg	21 03 43.1	0.0
	SNR=18						
KSMGY				S	Sg	21 03 46.4	+0.2
KSCHJ	**Chungju**	**0.34**	**24**	P	Pg	21 03 44.8	-0.3
	SNR=8.2						
KSMUS	**Musan**	**1.56**	**328**	P	Pg	21 04 08.7	+0.2
	SNR=8.5						

PRU 04 21:05:20.3±0.0, 49°.85N×18°.52E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**267**	*e*PG	Pg	21 05 24.5	-0.4
OKC				*e*SG	Sg	21 05 28.3	+0.3
	comp=Z,3.7nm,0.4s						
MORC	**Moravsky Berou**	**0.64**	**264**	*e*PG	Pg	21 05 32.1	-0.4
MORC				*e*SG	Sg	21 05 39.9	-0.9
KRLC	**Kraliky**	**1.15**	**282**	*e*PG	Pg	21 05 40.3	-1.9
KRLC				*e*SG	Sg	21 05 55.8	-1.3
VRAC	**Vranov**	**1.37**	**247**	*e*PG	Pg	21 05 45.2	-1.3
VRAC				*e*SG	Sg	21 06 03.3	-0.9
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*PG	Pn	21 05 47.1	-1.4
DPC				*e*SG	Sg	21 06 07.6	-0.9
OSTC	**Ostas**	**1.64**	**296**	*e*PG	Pn	21 05 49.9	-0.5
OSTC				*e*SG	Sg	21 06 13.3	+0.3

*IDC **04** 21:05:38.8±1.6, 14°.89S×176°.96W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/27, mbtmp3.9/7, MS3.7/20, Ms1 3.7/20, ms1mx3.6/38, Error ellipse: s-maj=62.5km s-min=27.7km az=155.0*

ISC 04 21:05:43.9±1.5, 15°.0S±0°.4×177°.0W±0°.2, h35km, n23, σ1§41/8, mb3.9/7, MS3.8/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.15**	**79**	LR	LR	21 08 37.0	
	comp=Z,391nm,19.0s,baz=233,slow=35						
MSVF	**Nonsavu**	**5.51**	**239**	LR	LR	21 09 06.8	
	comp=Z,1μm,18.6s,baz=27,slow=37						
RAR	**Rarotonga**	**17.48**	**113**	LR	LR	21 15 11.2	
	comp=Z,196nm,20.2s,baz=324,slow=33						
HNR	**Honiara**	**23.21**	**281**	LR	LR	21 18 12.5	
	comp=Z,258nm,21.4s,baz=103,slow=32						
URZ	**Urewera**	**23.77**	**192**	LR	LR	21 19 18.6	
	comp=Z,366nm,19.8s,baz=36,slow=34						
STKA	**Stephens Creek**	**41.28**	**239**	LR	LR	21 29 00.1	
	comp=Z,133nm,19.5s,baz=59,slow=34						
ASAR	**Alice Springs**	**46.97**	**252**	P	**P**	**21 14 12.1**	**+0.3**
	2.7nm,0.8s,baz=83,slow=8.4,SNR=39						
JCJ	**Chichijima**	**57.62**	**316**	LR	LR	21 34 04.3	
	comp=

TREM			S	Sb	21 07 20.1	-0.2
TREM			AML	AML		
	comp=E,20950μm,0.3s					
TREM			AML	AML		
	comp=N,13500μm,0.5s					
TREM			AML	AML		
	comp=E,20950μm,0.3s					
SGRT	**San Giovanni R**	**0.40 148**	P	**Pb**	**21 07 21.7**	**-0.6**
SGRT			S	**Sb**	**21 07 28.0**	**+0.1**
SGRT			AML	AML		
	comp=N,1840μm,0.5s					
SGRT			AML	AML		
	comp=E,1940μm,0.2s					
MELA	**Melanico ??? S**	**0.46 213**	P	**Pb**	**21 07 22.6**	**-0.7**
MELA			S	**Sb**	**21 07 30.1**	**+0.4**
MELA			AML	AML		
	comp=E,1870μm,0.4s					
MELA			AML	AML		
	comp=N,1610μm,0.3s					
MELA			AML	AML		
	comp=E,2015μm,0.4s					
MELA			AML	AML		
	comp=N,1700μm,0.3s					
MELA			AML	AML		
	comp=E,1865μm,0.4s					
MELA			AML	AML		
	comp=N,1615μm,0.3s					
MSAG	**Monte S. Angel**	**0.51 139**	P	**Pb**	**21 07 23.7**	**-0.5**
MSAG			S	**Sb**	**21 07 31.7**	**+0.6**
MSAG			AML	AML		
	comp=E,1184μm,1.0s					
MSAG			AML	AML		
	comp=E,1305μm,1.0s					
MSAG			AML	AML		
	comp=E,1187μm,1.0s					
MSAG			AML	AML		
	comp=N,2645μm,0.3s					
MSAG			AML	AML		
	comp=N,2640μm,0.3s					
MSAG			AML	AML		
	comp=N,2765μm,0.3s					
MSAG			AML	AML		
	comp=E,1185μm,1.0s					
FRES	**Fresagrandinar**	**0.60 259**	P	**Pb**	**21 07 24.9**	**-1.0**
FRES			AML	AML		
	comp=N,268μm,0.5s					
FRES			AML	AML		
	comp=E,380μm,1.0s					
CIGN	**Sant'Elia a Pi**	**0.61 224**	P	**Pb**	**21 07 25.3**	**-0.6**
CIGN			S	**Sn**	**21 07 35.3**	**-1.1**
CIGN			AML	AML		
	comp=E,324μm,0.5s					
CIGN			AML	AML		
	comp=N,306μm,0.5s					
CIGN			AML	AML		
	comp=N,306μm,0.5s					
CIGN			AML	AML		
	comp=E,324μm,0.5s					
GATE	**Gambatesa**	**0.71 216**	P	**Pb**	**21 07 28.1**	**+0.5**
GATE			S	**Sn**	**21 07 38.4**	**-0.6**
TRIV	**Trivento**	**0.76 245**	P	**Pb**	**21 07 28.8**	**+0.4**
TRIV			S	**Sn**	**21 07 39.6**	**-0.5**
TRIV			AML	AML		
	comp=N,505μm,0.8s					
TRIV			AML	AML		
	comp=E,422μm,0.4s					
TRIV			AML	AML		
	comp=N,504μm,0.8s					
MOCO	**Biccari - m.te**	**0.76 198**	P	**Pb**	**21 07 28.5**	**0.0**
MOCO			S	**Sn**	**21 07 39.9**	**-0.4**
BSSO	**Busso**	**0.85 230**	P	**Pb**	**21 07 29.5**	**-0.5**
BSSO			S	**Sn**	**21 07 42.8**	**+0.3**
SACR	**S. Croce Del S**	**0.90 219**	P	**Pb**	**21 07 30.6**	**-0.3**
SACR			S	**Sn**	**21 07 44.1**	**+0.4**
SACR			AML	AML		
	comp=E,310μm,0.3s					
SACR			AML	AML		
	comp=N,257μm,0.3s					
LPEL	**Lama dei Pelig**	**0.95 268**	P	**Pb**	**21 07 31.6**	**-0.2**
LPEL			S	**Sn**	**21 07 45.2**	**+0.1**
LPEL			AML	AML		
	comp=N,746μm,0.2s					
LPEL			AML	AML		
	comp=N,746μm,0.2s					
LPEL			AML	AML		
	comp=E,986μm,0.2s					
CAPA	**Cerignola FG**	**0.97 164**	P	**Pb**	**21 07 32.0**	**-0.1**
CAPA			S	**Sn**	**21 07 45.6**	**+0.2**
CAPA			AML	AML		
	comp=N,504μm,1.2s					
CAPA			AML	AML		
	comp=E,484μm,0.9s					
MIDA	**Miranda**	**1.01 244**	P	**Pb**	**21 07 32.4**	**-0.4**
MIDA			S	**Sn**	**21 07 47.3**	**+0.8**
MIDA			AML	AML		
	comp=E,297μm,0.5s					
MIDA			AML	AML		
	comp=N,481μm,1.4s					
MIDA			AML	AML		
	comp=E,296μm,0.5s					
MIDA			AML	AML		
	comp=N,400μm,0.6s					
RNI2	**Rionero Sannit**	**1.05 249**	P	**Pb**	**21 07 33.1**	**-0.4**
RNI2			S	**Sn**	**21 07 48.9**	**+1.3**
RNI2			AML	AML		
	comp=N,430μm,0.3s					
RNI2			AML	AML		
	comp=E,508μm,1.2s					
RNI2			AML	AML		
	comp=N,454μm,1.2s					
RNI2			AML	AML		
	comp=E,500μm,1.2s					
SGG	**Gregorio Mates**	**1.08 229**	P	**Pb**	**21 07 34.3**	**+0.4**
SGG			S	**Sn**	**21 07 49.0**	**+0.9**
SGG			AML	AML		
	comp=E,279μm,0.4s					
SGG			AML	AML		
	comp=N,235μm,0.5s					
SGG			AML	AML		
	comp=N,1.0nm,1.4s					
SGG			AML	AML		
	comp=E,1.0nm,0.7s					
CAFE	**Carife**	**1.08 189**	P	**Pn**	**21 07 33.6**	**-0.2**
CAFE			S	**Sn**	**21 07 49.4**	**+1.2**
CAFE			AML	AML		
	comp=N,316μm,0.3s					
CAFE			AML	AML		
	comp=E,530μm,0.9s					
VITU	**Vitulano (BN)**	**1.10 215**	P	**Pb**	**21 07 34.5**	**+0.1**
VITU			S	**Sn**	**21 07 49.6**	**+0.8**
VITU			AML	AML		
	comp=N,454μm,0.3s					
VITU			AML	AML		
	comp=E,372μm,0.5s					
VITU			AML	AML		
	comp=N,454μm,0.3s					
VULT	**Monte Vulture**	**1.14 174**	P	**Pn**	**21 07 34.7**	**-0.1**
VULT			S	**Sn**	**21 07 50.7**	**+0.9**
VULT			AML	AML		
	comp=E,774μm,0.3s					
VULT			AML	AML		
	comp=N,708μm,1.3s					
VULT			AML	AML		
	comp=E,842μm,0.3s					
VULT			AML	AML		
	comp=N,707μm,1.0s					
VULT			AML	AML		
	comp=N,708μm,1.0s					
INTR	**Introdacqua**	**1.17 266**	P	**Pn**	**21 07 34.8**	**-0.2**
INTR			S	**Sn**	**21 07 51.7**	**+1.4**
INTR			AML	AML		
	comp=E,648μm,0.9s					
INTR			AML	AML		
	comp=N,825μm,0.5s					
MRVN	**Minervino Murg**	**1.17 152**	P	**Pn**	**21 07 34.6**	**-0.4**
MRVN			S	**Sn**	**21 07 50.3**	**0.0**
MRVN			AML	AML		
	comp=E,270μm,1.5s					
MRVN			AML	AML		
	comp=N,250μm,0.8s					
SNAL	**S. Angelo Dei**	**1.18 189**	P	**Pn**	**21 07 34.9**	**-0.4**
SNAL			S	**Sn**	**21 07 52.6**	**+1.9**
SNAL			AML	AML		
	comp=E,511μm,0.4s					
SNAL			AML	AML		
	comp=N,496μm,1.0s					
SNAL			AML	AML		
	comp=E,583μm,0.4s					
SNAL			AML	AML		
	comp=E,584μm,0.4s					
SNAL			AML	AML		
	comp=N,484μm,1.0s					
CERA	**Filignano**	**1.19 246**	P	**Pn**	**21 07 35.5**	**+0.2**
CERA			AML	AML		
	comp=N,291μm,1.0s					
CERA			AML	AML		
	comp=E,252μm,0.7s					
PALZ	**Palazzo San Ge**	**1.21 162**	P	**Pn**	**21 07 35.4**	**-0.2**
PALZ			AML	AML		
	comp=E,482μm,0.6s					
PALZ			AML	AML		
	comp=E,483μm,0.6s					
PALZ			AML	AML		
	comp=N,469μm,0.6s					
VCEL	**Villa Celiera**	**1.24 285**	P	**Pb**	**21 07 37.0**	**+0.3**
VCEL			AML	AML		
	comp=E,757μm,1.0s					
VCEL			AML	AML		
	comp=N,858μm,1.1s					
VCEL			AML	AML		
	comp=E,758μm,1.0s					
VCEL			AML	AML		
	comp=N,863μm,1.1s					
LSTV	**Lastovo**	**1.25 57**	Sg	**Sb**	**21 07 54.2**	**+1.7**
LSTV	**Lastovo**	**1.25 57**	*e*Pg	**Pb**	**21 07 37.2**	**+0.4**
T0110	**Collepietro**	**1.26 277**	P	**Pb**	**21 07 36.9**	**-0.1**
T0110			AML	AML		
	comp=E,572μm,0.3s					
T0110			AML	AML		
	comp=N,441μm,1.4s					
T0110			AML	AML		
	comp=N,442μm,1.4s					
HVAR	**Hvar**	**1.30 34**	*e*Pg	**Pn**	**21 07 36.8**	**-0.1**
HVAR			Sg	**Sb**	**21 07 54.1**	**+0.1**
PIGN	**Pignataro Magg**	**1.31 228**	P	**Pb**	**21 07 38.0**	**+0.1**
PIGN			AML	AML		
	comp=E,114μm,0.7s					
PIGN			AML	AML		
	comp=E,115μm,0.7s					
PIGN			AML	AML		
	comp=N,102μm,0.4s					
MRLC	**Muro Lucano**	**1.34 179**	P	**Pn**	**21 07 37.1**	**-0.3**
MRLC			AML	AML		
	comp=N,242μm,0.3s					
MRLC			AML	AML		
	comp=E,192μm,0.4s					
TRTR	**Tortoreto Alta**	**1.35 302**	P	**Pn**	**21 07 37.6**	**+0.1**
ACER	**Acerenza**	**1.35 164**	‖P	**Pn**	**21 07 37.5**	**-0.1**
ACER			AML	AML		
	comp=E,633μm,0.6s					
ACER			AML	AML		
	comp=N,608μm,1.3s					
ACER			AML	AML		
	comp=E,620μm,0.6s					
ACER			AML	AML		
	comp=N,630μm,0.5s					
ACER			AML	AML		
	comp=N,630μm,0.5s					
ACER			AML	AML		
	comp=E,620μm,0.6s					
POFI	**Posta Fibreno**	**1.36 255**	P	**Pn**	**21 07 37.7**	**0.0**
POFI			S	**Sb**	**21 07 57.3**	**+1.6**
POFI			AML	AML		
	comp=E,141μm,0.5s					
POFI			AML	AML		
	comp=N,96μm,0.4s					
VVLD	**Villa Vallelon**	**1.39 261**	P	**Pn**	**21 07 38.5**	**+0.4**
VVLD			AML	AML		
	comp=N,72μm,1.4s					
VVLD			AML	AML		
	comp=E,91μm,1.0s					
FAGN	**Fagnano**	**1.41 278**	P	**Pn**	**21 07 38.9**	**+0.5**
FAGN			AML	AML		
	comp=E,882μm,0.3s					
FAGN			AML	AML		
	comp=N,638μm,0.3s					
FAGN			AML	AML		
	comp=E,882μm,0.3s					
AMUR	**Altamura**	**1.46 144**	P	**Pn**	**21 07 38.9**	**-0.1**
AMUR			AML	AML		
	comp=N,296μm,0.3s					
AMUR			AML	AML		
	comp=E,271μm,0.3s					
TERO	**Teramo**	**1.48 292**	P	**Pn**	**21 07 40.0**	**+0.8**
PTQR	**Pietraquaria**	**1.54 268**	P	**Pn**	**21 07 40.8**	**+0.7**
PTQR			AML	AML		
	comp=E,72μm,0.6s					
PTQR			AML	AML		
	comp=N,104μm,1.6s					
OFFI	**Offida**	**1.56 303**	P	**Pb**	**21 07 43.8**	**+1.7**
ZIRJ	**Zirje**	**1.56 5**	*e*Pn	**Pn**	**21 07 40.4**	**0.0**
ZIRJ			Sn	**Sn**	**21 08 00.8**	**+0.8**
CAMP	**Campotosto**	**1.59 287**	P	**Pb**	**21 07 41.9**	**-0.7**
CAMP			AML	AML		
	comp=E,127μm,0.4s					
CAMP			AML	AML		
	comp=N,176μm,0.4s					
CDRU	**Civita di Ruta**	**1.61 184**	P	**Pn**	**21 07 40.8**	**-0.3**
CDRU			AML	AML		
	comp=E,120μm,0.6s					
CDRU			AML	AML		
	comp=N,115μm,0.4s					
MIGL	**Miglionico**	**1.66 153**	P	**Pn**	**21 07 41.8**	**+0.1**
MIGL			AML	AML		
	comp=E,645μm,1.3s					
MIGL			AML	AML		
	comp=N,748μm,0.4s					
RM33	**Pellescritta (**	**1.72 285**	P	**Pn**	**21 07 43.6**	**+1.0**
RM33			AML	AML		
	comp=E,187μm,0.4s					
RM33			AML	AML		
	comp=N,151μm,0.4s					
GIUL	**Giuliano Di Ro**	**1.74 253**	P	**Pn**	**21 07 43.1**	**+0.3**
GIUL			AML	AML		
	comp=E,38μm,1.2s					
GIUL			AML	AML		
	comp=N,49μm,0.4s					
FIAM	**Fiamignano**	**1.75 276**	P	**Pb**	**21 07 44.4**	**-1.1**
FIAM			AML	AML		
	comp=N,91μm,0.9s					
FIAM			AML	AML		
	comp=E,103μm,1.5s					
NOCI	**Noci**	**1.77 137**	P	**Pn**	**21 07 43.3**	**-0.1**
NOCI			S	**Sn**	**21 08 04.2**	**-1.0**
NOCI			AML	AML		
	comp=E,329μm,0.2s					
NOCI			AML	AML		
	comp=N,404μm,0.4s					
MORI	**Morici**	**1.78 6**	*e*Pn	**Pn**	**21 07 43.5**	**+0.1**
MORI			Sn	**Sn**	**21 08 05.9**	**+0.6**
MCEL	**Monticello**	**1.79 172**	P	**Pn**	**21 07 43.0**	**-0.6**
MCEL			AML	AML		
	comp=E,117μm,0.6s					
MCEL			AML	AML		
	comp=N,99μm,0.7s					
LTRZ	**Laterza**	**1.81 145**	P	**Pn**	**21 07 43.8**	**0.0**
STON	**Ston**	**1.83 64**	*e*Pn	**Pn**	**21 07 44.7**	**+0.7**
STON	**Ston**	**1.83 64**	P	**Pn**	**21 07 43.5**	**-0.5**
STON			AML	AML		
	comp=E,58μm,0.4s					
STON			AML	AML		
	comp=N,69μm,0.7s					
MTSN	**Montesano sull**	**1.84 173**	P	**Pn**	**21 07 44.0**	**-0.3**
MTSN			AML	AML		
	comp=N,79μm,0.7s					
MTSN			AML	AML		
	comp=E,94μm,0.5s					
CERT	**Cerreto**	**1.85 266**	P	**Pn**	**21 07 44.9**	**+0.4**
CERT			AML	AML		
	comp=N,58μm,0.5s					
CERT			AML	AML		
	comp=E,100μm,1.1s					
RICI	**Ricice**	**1.86 41**	*e*Pn	**Pn**	**21 07 45.8**	**+1.3**
RICI			Sn	**Sb**	**21 08 09.2**	**-0.8**
LNSS	**Leonessa**	**1.87 287**	P	**Pn**	**21 07 45.7**	**+1.0**
LNSS			AML	AML		
	comp=E,220μm,0.4s					
LNSS			AML	AML		
	comp=N,186μm,0.3s					
DUGI	**Dugi Otok**	**1.92 351**	*e*Pn	**Pn**	**21 07 45.0**	**-0.3**
DUGI			Sn	**Sn**	**21 08 09.2**	**+0.3**
SIRI	**Monte Sirino -**	**1.94 171**	P	**Pn**	**21 07 45.2**	**-0.4**
SIRI			AML	AML		
	comp=N,130μm,0.3s					
SIRI			AML	AML		
	comp=E,176μm,0.3s					
SCHR	**S. Chirico Rap**	**1.95 166**	P	**Pn**	**21 07 45.7**	**-0.1**
BULG	**Bulgheria - Ca**	**2.02 182**	AML	AML		
	comp=N,140μm,1.1s					
BULG			AML	AML		
	comp=E,102μm,1.5s					
KIJV	**Kijevo**	**2.03 20**	*e*Pn	**Pn**	**21 07 48.1**	**+1.3**
KIJV			Sn	**Sn**	**21 08 13.1**	**+1.5**
CUC	**Castrocucco**	**2.12 173**	AML	AML		
	comp=E,62μm,0.9s					
CUC			AML	AML		
	comp=N,47μm,0.4s					
SALB	**San Lorenzo Be**	**2.31 163**	AML	AML		
	comp=N,44μm,1.2s					
SALB			AML	AML		
	comp=E,52μm,0.2s					
UDBI	**Udbina**	**2.44 5**	*e*Pn	**Pn**	**21 07 53.8**	**+1.2**
UDBI			Sn	**Sn**	**21 08 23.1**	**+1.3**
NVLJ	**Novalja**	**2.51 350**	*e*Pn	**Pn**	**21 07 53.6**	**+0.3**
NVLJ			Sn	**Sn**	**21 08 23.6**	**+0.3**
FSSB	**Fossombrone**	**2.54 310**	AML	AML		
	comp=E,103μm,0.4s					
FSSB			AML	AML		
	comp=N,150μm,0.3s					
PIEI	**Pieia**	**2.59 305**	AML	AML		
	comp=N,34μm,1.0s					
PIEI			AML	AML		
	comp=E,36μm,1.0s					
PE3	**Peglio**	**2.71 307**	AML	AML		
	comp=N,110μm,0.5s					
PE3			AML	AML		
	comp=E,142μm,1.5s					
SACS	**San Casciano d**	**2.74 287**	AML	AML		
	comp=N,21μm,1.6s					
SACS			AML	AML		
	comp=E,27μm,1.0s					
PIPA	**Pietrapaola**	**2.80 158**	AML	AML		
	comp=E,33μm,0.3s					
PIPA			AML	AML		
	comp=N,27μm,1.4s					
CAFI	**Castiglion Fio**	**2.86 297**	AML	AML		
	comp=E,16μm,1.2s					
CAFI			AML	AML		
	comp=N,20μm,0.8s					
BOJS	**Bojanci**	**3.41 357**	AML	AML		
	comp=N,64μm,0.5s					
BOJS			AML	AML		
	comp=E,87μm,0.7s					
MOSL	**Moslavina**	**3.64 14**	*e*Pn	**Pn**	**21 08 09.7**	**+0.7**
MOSL			Sn	**Sn**	**21 08 51.4**	**+0.2**
OBKA	**Obir**	**4.46 352**	*i* Pn	**Pn**	**21 08 21.1**	**+0.7**
	comp=E,0.4nm,0.1s					
OBKA			*i* Sn	**Sn**	**21 09 10.9**	**-0.7**
	comp=E,2.5nm,0.3s					
SOKA	**Soboth**	**4.59 356**	*i* Pn	**Pn**	**21 08 22.9**	**+0.8**
	comp=E,0.3nm,0.3s					
SOKA			*e*Sn	**Sn**	**21 09 12.4**	**-2.5**
	comp=E,0.6nm,0.4s					
MYKA	**Terra Mystica**	**4.72 345**	*i* Sn	**Sn**	**21 09 17.4**	**-0.6**
	comp=E,2.1nm,0.4s					
ABTA	**Abfaltersbach**	**5.11 337**	*i* Pn	**Pn**	**21 08 29.7**	**+0.5**
	comp=E,0.1nm,0.1s					
ABTA			*i* Sn	**Sn**	**21 09 26.0**	**-1.6**
	comp=E,0.8nm,0.2s					
MOA	**Molln**	**5.82 352**	*i* Pn	**Pn**	**21 08 39.8**	**+1.0**
	comp=E,0.2nm,0.2s					
MOA			*e*Sn	**Sn**	**21 09 39.1**	**-5.8**
	comp=E,2.2nm,0.4s					
WTTA	**Wattenberg**	**5.84 333**	*i* Pn	**Pn**	**21 08 41.3**	**+1.9**
	comp=E,0.3nm,0.2s					
WTTA			*i* Sn	**Sn**	**21 09 45.6**	**-0.2**
	comp=E,2.4nm,0.3s					
WATA	**Walderalm**	**5.93 333**	*e*Pn	**Pn**	**21 08 41.4**	**+0.9**
	comp=E,0.5nm,0.2s					
WATA			*e*Sn	**Sn**	**21 09 45.1**	**-2.6**
	comp=E,1.2nm,0.4s					
FETA	**Feichten**	**5.97 327**	*i* Sn	**Sn**	**21 09 48.8**	**-0.2**
	comp=E,0.9nm,0.4s					
MOTA	**Moosalm**	**6.10 331**	*e*Sn	**Sn**	**21 09 50.0**	**-2.1**
	comp=E,1.7nm,0.3s					
RETA	**Reutte**	**6.34 330**	*i* Sn	**Sn**	**21 09 57.7**	**-0.3**
	comp=E,1.3nm,0.3s					
DAVA	**Damuels**	**6.54 324**	*i* Sn	**Sn**	**21 10 00.8**	**-2.1**
	comp=E,3.0nm,0.3s					
FRF	**La Foret Royal**	**6.65 286**	*e*P	**Pn**	**21 08 54.8**	**+4.5**
LMR	**La Mourre**	**6.71 284**	*e*Pn	**Pn**	**21 08 50.5**	**-0.6**
MBDF	**Montbardon**	**6.86 295**	*e*Pn	**Pn**	**21 08 53.1**	**-0.2**
MBDF	**Montbardon**	**6.86 295**	*e*P	Pn	21 08 58.3	+5.0
LPG	**La Plagne**	**7.16 301**	*e*Pn	**Pn**	**21 08 57.7**	**+0.1**
LPG			*e*Sn	**Sn**	**21 10 13.9**	**-4.5**
	comp=E,1.3nm,0.3s					
LPL	**La Plagne**	**7.18 301**	*e*Pn	**Pn**	**21 08 57.6**	**-0.2**
LPL			*e*Sn	**Sn**	**21 10 14.4**	**-4.4**
	comp=E,1.3nm,0.3s					

IDC ***04*** *21:30:38.6±4.9, 0°.54S×101°.97E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/40, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=266.4km s-min=30.0km az=54.0*

DJA ***04*** *21:30:57.5±0.4, 1°.S±3°×10°1E±°, h177km±5km, M3.9/12, mb4.0/2, mB4.6/1, MLv3.9/12, Mw(mB)3.8/1*

ISC 04 21:30:57.6±1.2, 1°.2S±0°.3×101°.2E±0°.3, h200km, n16, σ0§43/8, mb3.6/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.53**	**352**	P	Pn	21 31 29.4	-2.2
BKNI				S	Sn	21 31 52.4	-5.7
JMBI	**JAMBI**	**2.44**	**100**	P	Pn	21 31 39.5	-1.2
MNSI	**Mandailing Nat**	**2.59**	**320**	P	Pn	21 31 41.2	-1.3
KSI	**Kapahiang**	**2.78**	**151**	P	**Pn**	**21 31 44.5**	**-0.3**
LHSI	**Lahat**	**3.46**	**139**	P	**Pn**	**21 31 53.0**	**+0.2**
MNAI	**Manna**	**3.57**	**151**	P	**Pn**	**21 31 54.2**	**+0.1**
MDSI	**Maura Dua**	**4.39**	**138**	P	**Pn**	**21 32 03.4**	**-0.8**
GSI	**Gunungsitoli**	**4.43**	**304**	P	**Pn**	**21 32 04.6**	**-0.2**
KASI	**Kota Agung**	**5.38**	**143**	P	Pn	21 32 14.3	-2.6
	0.2nm16nm,1.1s						
TPTI		**6.01**	**318**	P	Pn	21 32 24.2	-0.8
H08S2	**Diego Garcia H**	**29.35**	**257**	T	T	22 05 34.0	
	baz=78,slow=75,SNR=3.4						
H08S3	**Diego Garcia H**	**29.36**	**257**	T	T	22 05 40.4	
	baz=78,slow=75,SNR=3.1						
H08S1	**Diego Carcia H**	**29.37**	**257**	T	T	22 05 39.5	
	baz=78,slow=75,SNR=3.6						
WRA	**Warramunga Arr**	**37.34**	**122**	P	**P**	**21 37 51.2**	**+0.1**
	0.7nm,0.4s,baz=303,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**38.73**	**128**	P	**P**	**21 38 03.0**	**+0.3**
	0.9nm,0.5s,baz=303,slow=8.0,SNR=18						
MKAR	**Makanchi Array**	**50.62**	**343**	P	**P**	**21 39 36.2**	**+0.1**
	0.3nm,0.7s,baz=148,slow=10.0,SNR=1.5						
MKAR				LR	LR	22 03 56.2	
	comp=Z,34nm,20.2s,baz=46,slow=40						

MOS ***04*** *21:47:18.7±0.9, 51°.73N×96°.06E, h4km, mb4.3/1, Error ellipse: s-maj=13.8km s-min=10.0km az=178.9*

IDC ***04*** *21:47:20.5±1.0, 51°.96N×96°.10E, h0km, mb3.8/8, mb1 3.7/12, mb1mx3.5/44, mbtmp3.7/12, ML2.9/4, MS2.6/2, Ms1 2.6/2, ms1mx2.3/48, Error ellipse: s-maj=26.4km s-min=11.1km az=170.0*

ASRS ***04*** *21:47:20.2±0.3, 52°.N±2°×9°.6E±°, h5km, MLh4.5/15, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

NEIC ***04*** *21:47:21.2±1.3, 51°.8N±0°.1×96°.2E±0°.1, h10km±2km, mb4.2/14, Error ellipse: s-maj=23.0km s-min=4.2km az=140.0*

NNC ***04*** *21:47:26.5±11.0, 52°.59N×95°.79E, h0km, mb3.8, mpv2.7, Error ellipse: s-maj=117.3km s-min=91.9km az=66.0*

ISC 04 21:47:23.6±1.1, 51°.74N±0°.04×96°.11E±0°.03, h31km±9km, n75, σ1§83/105, mb4.0/11, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**1.03**	**269**	Pg	**Pn**	**21 47 38.5**	**-3.5**
KZLR				Sg	**Sn**	**21 47 51.2**	**-4.2**
KZLR	**Kyzyl**	**1.03**	**269**	*e*PG	**Pn**	**21 47 37.7**	**-4.3**
KZLR				*e*S	**Sn**	**21 47 51.8**	**-3.6**
KNGR	**Kungurtug, Tuv**	**1.44**	**141**	Pg	**Pn**	**21 47 45.8**	**-1.8**
KNGR				Sg	**Sn**	**21 48 04.8**	**-0.8**

KNGR	Kungurtug, Tuv	1.44	141	ePG	Pn	21 47 45.9 -1.8
KNGR				eS	Sn	21 48 04.7 -0.8
ERNS	Erzin	1.59	203	Pg	Pn	21 47 46.8 -3.0
ERNS				Sg	Sn	21 48 07.8 -1.5
ARDR	Aradan	1.86	298	Pg	Pn	21 47 53.7 +0.3
ARDR				Sg	Sb	21 48 19.2 -0.5
ORL	Orlik	2.42	69	ePN	Pn	21 48 01.4 +0.3
ORL				e		21 48 32.9
ORL				pmax	pmax	
	comp=Z,263nm,0.4s					
ORL				smax	smax	
	comp=N,681nm,0.7s					
MOY	Mondy	3.04	89	Pg	Pb	21 48 12.9 -4.1
MOY				Sg	Sb	21 48 53.0 -0.7
MOY	Mondy	3.04	89	ePN	Pb	21 48 13.5 -3.5
MOY				e		21 48 51.3
MOY				pmax	pmax	
	comp=Z,115nm,1.1s					
MOY				smax	smax	
	comp=N,649nm,0.8s					
DJOS	Djoyskaya Sosn	3.08	292	Pn	Pn	21 48 10.2 -0.1
DJOS				Pg	Pb	21 48 16.1 -1.7
DJOS				Sg	Sb	21 48 53.7 -1.2
CERR	Cheremushki	3.09	293	Pn	Pn	21 48 11.9 +1.5
CERR				Pg	Pb	21 48 16.8 -1.2
CERR				Sg	Sb	21 48 55.2 0.0
DJO	Djoy, Khakassi	3.19	291	Pn	Pn	21 48 13.3 +1.7
DJO				Pg	Pb	21 48 18.1 -1.4
DJO				Sg	Sb	21 48 58.2 +0.4
ABNR	Abakan	3.47	307	Pn	Pn	21 48 15.5 0.0
ABNR				Pg	Pb	21 48 24.3 0.0
ABNR				Sg	Sb	21 49 06.8 +0.8
TEL	Teeli	3.77	261	Pn	Pn	21 48 19.7 -0.1
TEL				Pg	Pb	21 48 28.6 -0.9
TEL				Sg	Sb	21 49 13.0 -1.8
ARS	Arshan	3.92	85	ePN	Pn	21 48 21.9 +0.2
ARS				e		21 48 28.9
ARS				e		21 49 20.4
ARS				pmax	pmax	
	comp=Z,171nm,0.4s					
ARS				smax	smax	
	comp=E,1μm,1.1s					
TLY	Talaya	4.68	88	Pg	Pb	21 48 43.1 -1.8
	comp=E,0.1nm,0.3s,baz=264,slow=12,SNR=21					
TLY				Lg	Lg	21 49 42.7
	comp=E,0.1nm,0.3s,baz=36,slow=16,SNR=11					
TLY	Talaya	4.68	88	ePN	Pb	21 48 42.6 -2.4
TLY				e		21 49 42.7
TLY				pmax	pmax	
	comp=Z,42nm,0.5s					
ZAK	Zakamensk	4.72	104	Pg	Pb	21 48 43.2 -2.4
ZAK				Sg	Sb	21 49 44.8 +2.8
LUZB	Luzhba, Kemero	4.79	297	Pn	Pn	21 48 33.8 +0.2
LUZB				Pg	Pb	21 48 49.4 +2.6
LUZB				Sg	Sb	21 49 46.7 +2.8
CUR	Chagan-Uzun	5.18	255	Pn	Pn	21 48 41.9 +2.8
CUR				Pg	Pb	21 48 55.9 +2.4
CUR				Sg	Sb	21 49 57.2 +2.1
ULGR	Ulagan, Altay	5.25	261	Pn	Pn	21 48 41.2 +1.1
ULGR				Pg	Pb	21 48 58.3 +3.7
ULGR				Sg	Sb	21 49 58.8 +1.6
ARTR	Artybash	5.49	274	Pn	Pn	21 48 44.2 +1.0
ARTR				Pg	Pb	21 48 59.2 +0.6
ARTR				Sg	Sb	21 50 06.6 +2.7
CHBI	Chibit, Altay	5.62	259	Pn	Pn	21 48 47.1 +2.0
CHBI				Pg	Pb	21 49 04.3 +3.4
CHBI				Sg	Sb	21 50 12.5 +4.7
DGZ	Jazzator, Alta	5.88	253	Pn	Pn	21 48 50.2 +1.5
DGZ				Pg	Pb	21 49 07.5 +2.2
DGZ				Sg	Sb	21 50 19.6 +4.2
BRCR	Berchikul'	6.06	313	Pn	Pn	21 48 50.2 -0.8
BRCR				Sg	Sb	21 50 29.8 +9.4
TRG	Tyrgan	6.37	77	ePN	Pn	21 48 52.1 -3.2
TRG				e		21 49 12.2
TRG				e		21 50 33.6
TRG				pmax	pmax	
	comp=Z,19nm,0.7s					
TRG				smax	smax	
	comp=N,235nm,1.8s					
ZAA0	Zalesovo Array	7.19	292	⇓Pn	Pn	21 49 07.2 +0.7
	comp=N,0.5nm,0.8s					
ZAA0				⇑Lg	Lg	21 51 01.5
	comp=N,14nm,0.8s					
ZAA0	Zalesovo Array	7.19	292		Pn	21 49 06.9 +0.4
ZALV	Zalesovo Beam	7.19	292	Pn	Pn	21 49 06.9 +0.4
	comp=N,0.6nm,0.3s,baz=107,slow=12,SNR=12					
ZALV				Lg	Lg	21 50 57.7
	comp=N,2.7nm,0.3s,baz=107,slow=24,SNR=11					
ZALV				LR	LR	21 51 54.7
	comp=N,41nm,19.1s,baz=57,slow=39					
ZALV	Zalesovo Beam	7.19	292	PN	Pn	21 49 07.4 +0.9
ZALV	Zalesovo Beam	7.19	292		Pn	21 49 07.4 +0.9
OGRR	Ongureny	7.24	70	eP	Pn	21 49 08.4 +1.2
OGRR				pmax	pmax	
	comp=Z,12nm,0.6s					
SONM	Songino Array	7.71	116	Pg	Pb	21 49 36.5 -0.1
	comp=Z,0.7nm,0.3s,baz=302,slow=18,SNR=17					
SONM				Sn	Sn	21 50 44.3 +4.1
	comp=Z,0.9nm,0.3s,baz=308,slow=19,SNR=5.0					
SONM				Lg	Lg	21 51 21.1
	comp=Z,2.8nm,0.3s,baz=294,slow=29,SNR=19					
MK31	Makanchi Array	10.29	247	P	Pn	21 49 48.9 -0.2
MK31	Makanchi Array	10.29	247	Pn	Pn	21 49 48.9 -0.2
MKAR	Makanchi Array	10.29	247	Pn	Pn	21 49 50.6 +1.4
	comp=Z,0.1nm,0.3s,baz=77,slow=13,SNR=7.8					
MKAR				Pg		21 50 32.2
	comp=Z,0.4nm,0.3s,baz=64,slow=18,SNR=5.8					
MKAR				Lg	Lg	21 52 42.3
	comp=Z,0.3nm,0.3s,baz=55,slow=30,SNR=3.6					
MKAR				LR	LR	21 53 51.1
	comp=Z,37nm,21.1s,baz=46,slow=38					
MKAR	Makanchi Array	10.29	247		Pn	21 49 49.5 +0.4
MAKZ	Makanchi	10.47	247	⇓Pn	Pn	21 49 58.8 +7.3
	comp=Z,4.8nm,1.3s					
MAKZ				⇓Lg	Lg	21 53 00.9
	comp=Z,35nm,1.4s					
MAKZ	Makanchi	10.47	247	P	Pn	21 49 52.3 +0.8
MAKZ	Makanchi	10.47	247	Pn	Pn	21 49 52.3 +0.8
KURK	Kurchatov	11.02	272	P	Pn	21 50 00.3 +1.3
KURK	Kurchatov	11.02	272		Pn	21 50 00.3 +1.3
KURBB	Kurchatov Arra	11.10	271	Pn	Pn	21 50 00.3 +0.3
	comp=Z,0.0nm,0.3s,baz=75,slow=15,SNR=8.1					
KURBB				Lg	Lg	21 53 04.2
	comp=Z,0.1nm,0.3s,baz=75,slow=33,SNR=7.5					
KURBB	Kurchatov Arra	11.10	271	⇓Pn	Pn	21 50 03.7 +3.7
	comp=Z,2.3nm,0.6s,baz=73,slow=15					
KURBB				⇑Lg	Lg	21 53 12.6
	comp=Z,38nm,0.8s,baz=65,slow=30					
BVAR	Borovoye Array	15.74	285	Pn	Pn	21 51 00.6 -2.2
	comp=Z,0.1nm,0.3s,baz=102,slow=21,SNR=2.2					
BRVK	Borovoye	15.80	285	P	Pn	21 51 04.4 +0.8
BRVK				pmax	pmax	
	comp=Z,3.0nm,0.7s					
BRVK	Borovoye	15.80	285	Pn	Pn	21 51 04.4 +0.8
KKAR	Karatay Array	19.27	253	P	Pn	21 51 46.8 0.0
KKAR	Karatay Array	19.27	253	P	Pn	21 51 46.8 0.0
GAR	Garm	22.01	245	P	P	21 52 15.4 0.0
GAR				IAmb	IAmb	21 52 22.1
	comp=Z,7.1nm,0.8s					
ARU	Arti	22.32	297	P	P	21 52 19.1 +0.7
	comp=Z,0.4nm,0.3s,baz=83,slow=16,SNR=4.1					
ARU	Arti	22.32	297	P	P	21 52 18.3 -0.2
ARU				IAmb	IAmb	21 52 27.8
	comp=Z,2.3nm,0.7s					
CHGR	Chuyangaron	22.90	246	P	P	21 52 25.1 +0.3
CHGR				IAmb	IAmb	21 52 28.7
	comp=Z,9.6nm,1.0s					
ABKAR	Abkulak array	23.00	278	P	P	21 52 25.3 -0.3
ABKAR	Abkulak array	23.00	278	P	P	21 52 25.4 -0.1
ABKAR				IAmb	IAmb	21 52 36.6
	comp=Z,2.3nm,1.1s					
AKTO	Aktyubinsk	23.79	282	P	P	21 52 33.5 +0.1
	comp=Z,2.5nm,0.6s,baz=82,slow=12,SNR=8.8					
TIXI	Tiksi	24.71	24	P	P	21 52 41.1 -0.4
	comp=Z,14nm,0.8s,baz=235,slow=6.4,SNR=26					
TIXI	Tiksi	24.71	24	P	P	21 52 40.6 -0.9
TIXI				IAmb	IAmb	21 52 45.9
	comp=Z,12nm,0.8s					
HRA	Herat	29.86	248	P	P	21 53 29.3 +1.0
FINES	FINESS Array B	37.92	313	P	P	21 54 37.1 -0.6
	comp=Z,3.5nm,1.0s,baz=116,slow=4.4,SNR=5.6					
FINES	FINESS Array B	37.92	313	P	P	21 54 37.5 -0.2
FINES	FINESS Array B	37.92	313	P	P	21 54 37.5 -0.2
AKASG	Malin Array Be	40.57	296	P	P	21 54 59.6 -0.3
	comp=Z,0.3nm,0.3s,baz=228,slow=28,SNR=1.3					
BR131	Keskin Array S	43.93	280	P	P	21 55 28.3 +0.7
BR131				pmax	pmax	
	comp=Z,3.0nm,1.2s					
BR131	Keskin Array S	43.93	280	P	P	21 55 28.3 +0.7
BR131				IAmb	IAmb	21 55 32.1
	comp=Z,3.2nm,1.1s					
BRTR	Keskin Array B	43.93	280	P	P	21 55 28.4 +0.7
	comp=Z,1.6nm,1.1s,baz=112,slow=9.5,SNR=5.9					
BRTR	Keskin Array B	43.93	280	P	P	21 55 27.8 +0.2
BURAR	Bucovina Array	44.41	294	P	P	21 55 31.2 -0.1
NC405	NORSAR Array S	44.43	316	P	P	21 55 30.4 -0.8
NB2	NORSAR Subarra	44.68	316	P	P	21 55 33.1 -0.1
	comp=Z,0.7nm,0.5s,baz=61,slow=7.9					
NOA	NORSAR Array B	44.68	316	P	P	21 55 32.7 -0.5
	comp=Z,1.1nm,0.6s,baz=62,slow=7.9,SNR=6.4					
COLD	Coldfoot	51.38	27	P	P	21 56 26.5 +1.6
COLD				IAmb	IAmb	21 56 28.7
	comp=Z,1.5nm,0.8s					
ILAR	Eielson Array	54.09	28	P	P	21 56 45.0 +0.1
	comp=Z,0.4nm,0.9s,baz=328,slow=4.7,SNR=4.5					
ILAR	Eielson Array	54.09	28	P	P	21 56 45.0 +0.1
ILAR	Eielson Array	54.09	28	P	P	21 56 44.5 -0.4

*JMA **04** 22:03:36.4±0.1, 23°.99N×122°.56E, h30km, M2.0*
*TAP **04** 22:03:36.5, 23°.99N×122°.59E, h36km±1km, ML2.6, D*
ISC 04 22:03:37.4±5.8, 23°.96N±0°.03×122°.60E±0°.03, h38km±7km, n60, σ1§50/99, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.58	33	P	Pn	22 03 47.7	-1.6
JYNG				eS	Sn	22 03 55.4	-2.2
YOJ	Yonaguni jima	0.63	37	P	Pn	22 03 48.7	-1.2
YOJ				eS	Sn	22 03 56.8	-1.8
YOJ	Yonaguni jima	0.63	37	P	Pn	22 03 48.6	-1.2
YOJ	baz=38			eS	Sn	22 03 58.0	-0.6
ETL	Fush Village	0.91	283	eS	Sn	22 04 05.5	-0.2
TWD	baz=268 Chiawan	0.92	278	eS	Sn	22 04 04.1	-1.7
TWC	baz=276 Suao	0.94	314	eP	Pn	22 03 52.9	-1.1
TWC	baz=302			eS	Sn	22 04 04.6	-1.6
NACB	baz=302 Ninganchiao	0.94	283	eP	Pn	22 03 53.0	-1.0
NACB	baz=270			eS	Sn	22 04 04.7	-1.6
ETM	baz=270 Tongmen	1.01	271	eS	Sn	22 04 06.0	-2.0
NDS	baz=260 Dongshan	1.05	310	eP	Pn	22 03 55.8	+0.3
NDS	baz=309			eS	Sn	22 04 09.1	+0.3
ETLH	baz=309 Xiulin Townshi	1.05	284	eP	Pn	22 03 54.5	-1.1
ETLH	baz=271			eS	Sn	22 04 07.6	-1.4
ESL	baz=271 Shilin	1.07	262	eS	Sn	22 04 08.3	-1.2
IRIF	baz=252 Iriomote-Funau	1.10	70	P	Pn	22 03 56.2	0.0
IRIF				S	Sn	22 04 11.0	+0.8
EGFH	Guangfu	1.11	255	eS	Sn	22 04 09.7	-0.7
NTC	baz=253 Toucheng	1.13	322	eS	Sn	22 04 13.1	+2.2
TWE	baz=322 Neicheng	1.14	312	eP	Pn	22 03 57.2	+0.5
TWE	baz=312			eS	Sn	22 04 12.3	+1.3
HGSD	baz=312 Ruisui	1.17	247	eP	Pn	22 03 55.9	-1.3
HGSD	baz=245			eS	Sn	22 04 10.4	-1.6
NDT	baz=245 Datong Townshi	1.18	303	eP	Pn	22 03 58.1	+0.8
NNS	baz=290 Nan Shan	1.22	293	eS	Sn	22 04 12.3	-0.9
TIPB	baz=282 Shuangxi	1.23	325	eP	Pn	22 03 57.7	-0.3
TIPB	baz=325			eS	Sn	22 04 13.6	+0.3
WHF	baz=325 Hehuan Shan	1.23	279	P	Pn	22 03 57.5	-0.9
WHF	baz=277			eS	Sn	22 04 11.1	-2.9
EHY	baz=277 Hungye	1.25	249	P	Pn	22 03 57.4	-0.9
EHY	baz=247			eS	Sn	22 04 12.9	-1.0
FUSS	baz=247 Fushou	1.27	283	eP	Pn	22 03 58.8	0.0
FUSS	baz=282			eS	Sn	22 04 13.7	-1.0
NWLT	baz=282 Wulai	1.29	309	eP	Pn	22 03 59.6	+0.8
NWLT	baz=309			eS	Sn	22 04 15.7	+0.8
OWD	baz=309 Renai	1.30	270	P	Pn	22 03 58.3	-0.8
OWD	baz=268			S	Sn	22 04 13.9	-1.4
CHGB	baz=268 Renai	1.30	275	eS	Sn	22 04 14.5	-1.0
YHNB	baz=273 Yeheng	1.32	303	eP	Pn	22 03 58.8	-0.5
YHNB	baz=302			eS	Sn	22 04 15.3	-0.4
YULB	baz=302 Yu-li	1.32	245	iP	Pn	22 03 58.4	-0.9
YULB	baz=233			S	Sn	22 04 14.3	-1.2
JKRS	baz=233 Kuro-shima	1.32	78	P	Pn	22 04 00.9	+1.7
JKRS				eS	Sn	22 04 18.5	+2.9
EYUL	Yuli	1.32	243	eP	Pn	22 03 58.6	-0.6
EYUL	baz=241			eS	Sn	22 04 14.8	-0.8
TWF1	baz=241 Yuli	1.34	243	⇓iP	Pn	22 03 58.8	-0.7
TWF1	baz=241			S	Sn	22 04 15.2	-0.9
FULB	baz=241 Fuli	1.42	238	eP	Pn	22 04 00.8	+0.2
FULB	baz=227			eS	Sn	22 04 17.2	-0.8
CHKT	baz=227 Chengkung	1.42	233	eS	Sn	22 04 15.9	-2.1
JIJ	baz=222 Ishigaki jima	1.47	74	P	Pn	22 04 01.4	+0.1
JIJ				S	Sn	22 04 19.4	+0.2
SSLB	Suanglung	1.51	264	eS	Sn	22 04 19.9	-0.6
EDH	baz=262 Donghe	1.54	231	eP	Pn	22 04 01.4	-0.9
EDH	baz=221			eS	Sn	22 04 18.7	-2.4
WHP	baz=221 Taichung City	1.54	282	eP	Pn	22 04 03.8	+1.4
WHP	baz=271			eS	Sn	22 04 22.5	+1.3
WCS	baz=271 Beigang Elemen	1.54	274	eP	Pn	22 04 05.0	+2.7
WCS	baz=266			eS	Sn	22 04 23.6	+2.4
SMLT	baz=266 Sun Moon Lake	1.56	267	eP	Pn	22 04 03.4	+0.8
SMLT	baz=266			eS	Sn	22 04 21.5	-0.1
NSTT	baz=266 Nanjuang	1.60	295	eS	Sn	22 04 23.1	+0.6
ELDTW	baz=294 Lidau	1.64	242	eP	Pn	22 04 02.8	-0.9
ELDTW	baz=240			eS	Sn	22 04 21.6	-2.0
LDUT	baz=240 Ludao	1.65	219	eP	Pn	22 04 02.4	-1.3
LDUT	baz=217			eS	Sn	22 04 21.3	-2.4
JISG	baz=217 Ishigakijimahi	1.68	68	P	Pn	22 04 03.8	-0.4
JISG				eS	Sn	22 04 24.6	0.0
LONT	Longtian	1.71	232	eS	Sn	22 04 24.5	-0.6
CHN5	baz=224 Tsauling	1.79	259	eP	Pn	22 04 07.4	+1.5
CHN5	baz=248			eS	Sn	22 04 29.2	+1.7
TWG	baz=248 Pinlang	1.80	231	eS	Sn	22 04 26.2	-1.3
STYH	baz=221 Taoyuan	1.85	245	eP	Pn	22 04 06.6	+0.1
STYH	baz=236			eS	Sn	22 04 28.2	-0.4
STYT	baz=236 Tauyuan	1.86	245	eP	Pn	22 04 07.3	+0.5
STYT	baz=236			eS	Sn	22 04 28.8	-0.3
WDLH	baz=236 Douliu	1.90	262	eS	Sn	22 04 33.1	+3.1
TPUB	baz=260 Ta-pu	1.92	250	eP	Pn	22 04 09.2	+1.6
TPUB	baz=241			eS	Sn	22 04 33.0	+2.6
CHN4	baz=241 Tsaushan	1.94	252	eP	Pn	22 04 09.1	+1.4
CHN4	baz=250			eS	Sn	22 04 33.8	+3.0
WTP	baz=250 Ta-pu	1.95	249	eP	Pn	22 04 09.6	+1.6
WTP	baz=240			eS	Sn	22 04 32.9	+1.6
WRL	baz=240 Guolierlin Hig	2.03	269	eS	Sn	22 04 34.9	+1.8
SLGT	baz=280 Liugui	2.03	242	eP	Pn	22 04 09.5	+0.4
SLGT	baz=234			eS	Sn	22 04 35.9	+2.7
CHN1	baz=234 Nanshi	2.05	248	eP	Pn	22 04 11.3	+2.0
CHN1	baz=246			eS	Sn	22 04 37.0	+3.3
TWK	baz=246 Hsinying	2.05	251	eP	Pn	22 04 11.2	+1.8
TWK	baz=249			eS	Sn	22 04 36.1	+2.3
MASBT	baz=249 Mashibuluo	2.25	234	eP	Pn	22 04 12.6	+0.6
SLIU	baz=227 Shizi	2.40	224	eP	Pn	22 04 13.7	-0.4
PHUB	baz=230 P'eng-hu	2.81	261	eS	Sn	22 04 52.7	+0.4
VWUC	baz=275 VWUC	3.05	290	eS	Sn	22 04 55.1	-3.1
PTMZ	baz=289 Houxiangcun	3.34	289	eS	Sn	22 05 03.4	-2.1
	baz=288					

IDC 04 22:16:30.5±6.5, 30°.69S×178°.74W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/21, mbtmp3.5/2, Error ellipse: s-maj=264.5km s-min=58.2km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.46	268	P	P	22 24 27.3	-0.1
	0.3nm,0.5s,baz=105,slow=7.4,SNR=5.9						
WRA	Warramunga Arr	43.47	273	P	P	22 24 35.5	-0.2
	0.5nm,0.6s,baz=113,slow=7.6,SNR=6.8						
FINES	FINESS Array B	145.19	339	PKPbc	PKPbc	22 36 08.1	-0.8
	1.2nm,0.7s,baz=86,slow=4.3,SNR=6.3						

*IDC **04** 22:18:40.4±1.4, 32°.07N×69°.90E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.4/55, mbtmp3.6/9, ML3.5/3, MS3.2/8, Ms1 3.2/8, ms1mx2.8/43, Error ellipse: s-maj=39.9km s-min=22.0km az=68.0*

ISC 04 22:18:44.2±1.4, 32°.0N±0°.1×69°.8E±0°.2, h29km, n16, σ1§34/10, mb3.7/4, MS3.2/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	11.23	18	Pn	Pn	22 21 21.5	-1.4
	1.1nm,0.3s,baz=210,slow=6.4,SNR=5.2						
AAK				Sn	Sn	22 23 29.5	+2.0
	0.4nm,0.3s,baz=213,slow=13,SNR=1.6						
GEYT	Alibeck	11.26	305	LR	LR	22 26 21.7	
	comp=Z,93nm,18.1s,baz=20,slow=41						
MKAR	Makanchi Array	17.59	29	P	P	22 22 46.6	-1.4
	0.1nm,0.3s,baz=212,slow=12,SNR=6.4						
MKAR				LR	LR	22 30 43.9	
	comp=Z,52nm,20.8s,baz=200,slow=41						
KURBB	Kurchatov Arra	19.68	17	P	P	22 23 10.3	-0.6
	0.0nm,0.3s,baz=205,slow=10,SNR=3.4						
AKTO	Aktyubinsk	20.38	338	P	P	22 23 20.0	+1.5
	2.9nm,0.7s,baz=156,slow=13,SNR=8.9						
BVAR	Borovoye Array	21.00	1	P	P	22 23 25.4	+0.3
	0.6nm,0.5s,baz=182,slow=18,SNR=4.3						
ZALV	Zalesovo Beam	24.41	22	P	P	22 23 59.3	-0.7
	0.3nm,0.2s,baz=213,slow=10,SNR=1.6						
PALK	Pallekele	26.63	155	LR	LR	22 35 23.7	
	comp=Z,66nm,20.1s,baz=90,slow=38						
TLY	Talaya	31.54	41	LR	LR	22 39 21.1	
	comp=Z,55nm,18.7s,baz=224,slow=39						
SONM	Songino Array	31.84	50	LR	LR	22 39 47.1	
	comp=Z,58nm,19.3s,baz=278,slow=40						
AKASG	Malin Array Be	35.17	314	P	P	22 25 34.9	-0.5
	0.5nm,0.4s,baz=101,slow=8.3,SNR=4.4						
ARCES	ARCESS Array B	44.95	340	LR	LR	22 48 08.7	
	comp=Z,35nm,18.3s,baz=335,slow=39						
KSRS	Korea Array	47.41	67	LR	LR	22 49 56.8	
	comp=Z,18nm,18.1s,baz=55,slow=40						
NOA	NORSAR Array B	47.44	326	LR	LR	22 50 48.1	
	comp=Z,26nm,18.4s,baz=315,slow=41						
WRA	Warramunga Arr	80.51	121	P	P	22 30 54.5	+0.7
	0.7nm,0.7s,baz=323,slow=5.1,SNR=9.0						
ASAR	Alice Springs	82.55	124	P	P	22 31 05.5	+0.8
	0.4nm,0.8s,baz=313,slow=6.0,SNR=5.0						

*IDC **04** 22:30:06.5±1.2, 47°.30N×92°.88E, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.2/51, mbtmp3.3/6, ML2.5/3, Error ellipse: s-maj=39.3km s-min=15.6km az=21.0*
*ASRS **04** 22:30:14.9±0.4, 48°N±2°×9°3E±°, h10km, MLh4.2/14, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*

ISC 04 22:30:10.6±1.3, 47°.62N±0°.07×92°.98E±0°.04, h10km, n29, σ2§67/51, mb3.4/3, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	Erzin	3.01	28	Pg	Pb	22 31 03.8	-0.5
ERNS				Sg	Sg	22 31 44.6	-2.7
TEL	Teeli	3.86	333	Pn	Pn	22 31 12.1	+2.0
TEL				Pg	Pb	22 31 20.4	+1.6
TEL				Sg	Sg	22 32 13.6	-0.9
CUR	Chagan-Uzun	3.94	311	Pg	Pg	22 31 27.1	+1.1
CUR				Sg	Sg	22 32 13.6	-3.4
KZLR	Kyzyl	4.21	13	Pn	Pn	22 31 16.7	+1.9
KZLR				Pg	Pb	22 31 27.2	+2.6
KZLR				Sg	Sg	22 32 24.4	-1.1
KNGR	Kungurtug, Tuv	4.22	43	Pn	Pn	22 31 17.6	+2.5
KNGR				Pg	Pb	22 31 26.5	+1.5
KNGR				Sg	Sg	22 32 23.2	-2.9
DGZ	Jazzator, Alta	4.22	302	Pn	Pn	22 31 17.1	+2.0
DGZ				Pg	Pb	22 31 26.4	+1.3
DGZ				Sg	Sg	22 32 23.7	-2.5
ULGR	Ulagan, Altay	4.46	314	Pn	Pn	22 31 21.3	+2.9
ULGR				Pg	Pb	22 31 31.4	+2.4
ULGR				Sg	Sg	22 32 32.2	-1.5
CHBI	Chibit, Altay	4.50	309	Pn	Pn	22 31 21.8	+2.9
CHBI				Pg	Pb	22 31 30.4	+0.7
CHBI				Sg	Sg	22 32 31.5	-3.6
ARDR	Aradan	4.98	3	Pn	Pn	22 31 28.2	+2.8
ARDR				Pg	Pb	22 31 41.1	+3.3
ARDR				Sg	Sg	22 32 47.1	-3.2
DJOS	Djoyskaya Sosn	5.28	350	Pg	Pb	22 31 46.6	+3.6
DJOS				Sg	Sg	22 32 55.6	-4.5
DJO	Djoy, Khakassi	5.29	348	Pg	Pb	22 31 45.2	+2.1
DJO				Sg	Sg	22 32 57.2	-3.2
CERR	Cheremushki	5.34	350	Pg	Pb	22 31 46.7	+2.8
CERR				Sg	Sg	22 32 56.8	-5.1
ARTR	Artybash	5.58	321	Pn	Pn	22 31 36.2	+2.6
ARTR				Pg	Pg	22 31 56.7	-0.7
ARTR				Sg	Sg	22 33 07.4	-2.3
ABNR	Abakan	6.20	351	Pg	Pg	22 32 05.0	-4.1
ABNR				Sg	Sg	22 33 29.4	+0.1
GALT	Gorno-Altaysk,	6.29	316	Pn	Pn	22 31 45.9	+2.6
GALT				Pg	Pg	22 32 10.5	-0.5
GALT				Sg	Sg	22 33 30.4	-2.1

UKR	**Ust'-Kan**	**6.31 305**	Pg	**Pg**	**22 32 10.5**	**-0.9**
UKR			Sg	**Sg**	**22 33 30.0**	**-3.1**
LUZB	**Luzhba, Kemero**	**6.58 338**	Pg	**Pb**	**22 32 09.5**	**+4.4**
LUZB			Sg	**Sg**	**22 33 42.1**	**+0.4**
ELT	**Eltsovka**	**7.10 325**	Pn	**Pn**	**22 31 55.6**	**+1.1**
ELT			Pg	Pb	22 32 19.6	+5.7
ELT			Sg	**Sg**	**22 33 56.9**	**-1.4**
MKAR	**Makanchi Array**	**7.33 267**	Pn	Pn	22 31 55.8	-1.8
	0.1nm,0.3s,baz=88,slow=16,SNR=6.5					
MKAR			Pg	Pb	22 32 11.2	-6.6
	0.3nm,0.3s,baz=89,slow=17,SNR=8.1					
MKAR			Sn	**Sn**	**22 33 17.3**	**-3.4**
	0.4nm,0.3s,baz=86,slow=22,SNR=2.0					
MKAR			Lg	Lg	22 33 54.4	
	1.2nm,0.3s,baz=82,slow=28,SNR=8.0					
MKAR	**Makanchi Array**	**7.33 267**	Pn	**Pn**	**22 32 01.2**	**+3.6**
TLY	**Talaya**	**8.03 56**	Lg	Lg	22 34 20.7	
	0.0nm,0.3s,baz=49,slow=18,SNR=6.0					
ZALV	**Zalesovo Beam**	**8.18 324**	Pn	**Pn**	**22 32 09.6**	**+0.4**
	0.3nm,0.3s,baz=140,slow=12,SNR=5.0					
ZALV			Pg	Pb	22 32 38.9	+6.8
	0.3nm,0.3s,baz=138,slow=16,SNR=6.1					
ZALV			Lg	Lg	22 34 26.5	
	0.2nm,0.3s,baz=128,slow=22,SNR=2.1					
SALR	**Pechorkino, Sa**	**8.21 329**	Sg	**Sg**	**22 34 29.5**	**-4.2**
BRCR	**Berchikul'**	**8.54 342**	Pn	**Pn**	**22 32 16.4**	**+2.2**
BRCR			Pg		22 32 44.6	
BRCR			Sg	**Sg**	**22 34 40.3**	**-4.0**
SONM	**Songino Array**	**9.05 84**	Pg	Pn	22 32 58.0	+37
	0.3nm,0.3s,baz=275,slow=17,SNR=3.9					
SONM			Lg	Lg	22 34 52.1	
	1.0nm,0.3s,baz=269,slow=30,SNR=6.3					
KURBB	**Kurchatov Arra**	**9.94 293**	Pn	Pn	22 32 30.6	-2.7
	0.1nm,0.3s,baz=99,slow=14,SNR=4.5					
KURBB			Lg	Lg	22 35 20.4	
	0.1nm,0.3s,baz=100,slow=31,SNR=4.3					
KSRS	**Korea Array**	**27.47 99**	P	**P**	**22 35 54.8**	**-1.9**
	0.4nm,0.5s,baz=291,slow=8.0,SNR=3.0					
WRA	**Warramunga Arr**	**76.82 140**	P	P	22 41 58.8	-3.7
	0.8nm,1.1s,baz=342,slow=7.2,SNR=2.0					
ASAR	**Alice Springs**	**79.94 142**	P	P	22 42 15.8	-3.8
	0.1nm,0.5s,baz=338,slow=5.8,SNR=4.3					

ROM 04 22:40:38.5±0.1, 43°.432N±0°.005×12°.452E±0°.009, h9km, ML0.1/1, Error ellipse: s-maj=0.8km s-min=0.3km az=124.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.06**	**214**	P	Pg	22 40 40.7	+0.2
ATVO				S	Sg	22 40 42.4	+0.5
ATVO				AML	AML		
	comp=E,20μm,1.1s						
ATVO				AML	AML		
	comp=N,18μm,0.9s						
PIEI	**Pieia**	**0.12**	**30**	P	Pg	22 40 41.7	+0.4
PIEI				S	Sg	22 40 44.2	+0.9
PIEI				AML	AML		
	comp=E,14μm,1.2s						
PIEI				AML	AML		
	comp=N,12μm,0.1s						
APEC	**Apecchio**	**0.13**	**349**	P	Pg	22 40 41.8	+0.3
APEC				S	Sg	22 40 44.2	+0.7
ATMI	**Monte Miggiano**	**0.17**	**234**	P	Pg	22 40 42.2	+0.1
ATMI				S	Sg	22 40 45.8	+1.4
BADI	**Badiali**	**0.17**	**297**	P	Pg	22 40 42.5	+0.4
BADI				S	Sg	22 40 45.8	+1.2
NARO	**Abbazia di Nar**	**0.20**	**28**	P	Pg	22 40 42.0	-0.7
PARC	**Parchiule**	**0.27**	**324**	P	Pb	22 40 45.0	-0.5
PARC				S	Sb	22 40 49.3	-0.9

ATH 04 22:40:41.2, 38°.25N×23°.49E, h10km±4km, ML1.8/6, Error ellipse: s-maj=4.3km s-min=0.8km az=172.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.18**	**258**	P	Pg	22 40 44.7	-0.3
VIL2				S	Sg	22 40 47.3	-0.4
VIL2				AML	AML	22 40 48.0	
	comp=N,1565μm,0.4s						
VIL2				AML	AML	22 40 48.6	
	comp=E,1370μm,0.3s						
ATH	**Athens Observa**	**0.33**	**147**	P	Pg	22 40 47.9	+0.3
ATH				S	Sg	22 40 52.1	+0.1
ATH				AML	AML	22 40 53.5	
	comp=N,346μm,0.2s						
ATH				AML	AML	22 40 54.4	
	comp=E,384μm,0.2s						
PTL	**Penteli**	**0.35**	**124**	P	Pg	22 40 48.1	-0.1
PTL				S	Sg	22 40 53.1	+0.2
ATHU	**Athens Univers**	**0.36**	**141**	P	Pg	22 40 48.3	0.0
ATHU				S	Sg	22 40 53.0	-0.2
EREA	**Eretria**	**0.39**	**63**	P	Pg	22 40 48.7	-0.1
EREA				S	Sg	22 40 54.2	+0.4
DION	**Dionisos Attik**	**0.39**	**116**	P	Pg	22 40 48.7	-0.1
DION				S	Sg	22 40 54.0	+0.1
DION				AML	AML	22 40 54.7	
	comp=E,379μm,0.3s						
DION				AML	AML	22 40 54.9	
	comp=N,226μm,0.2s						
VLY	**Voula,Athens**	**0.46**	**149**	P	Pg	22 40 50.0	-0.1
VLY				S	Sg	22 40 55.7	-0.5
VLY				AML	AML	22 40 56.5	
	comp=E,210μm,0.2s						
VLY				AML	AML	22 40 57.2	
	comp=N,154μm,0.1s						
LTK	**Loutraki**	**0.47**	**242**	P	Pg	22 40 50.3	-0.1
LOUT	**Loutraki**	**0.48**	**238**	P	Pg	22 40 50.5	-0.1
LKR	**Lokris**	**0.56**	**316**	P	Pg	22 40 51.1	-0.9
LKR				S	Sg	22 40 59.8	+0.5
LKR				AML	AML	22 41 01.1	
	comp=N,623μm,0.2s						
LKR				AML	AML	22 41 01.2	
	comp=E,500μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.61**	**51**	P	Pg	22 40 52.5	-0.5
KYMI				S	Sg	22 41 01.1	0.0
SMIA	**Simia**	**0.67**	**341**	P	Pg	22 40 54.2	+0.1
SMIA				S	Sg	22 41 02.7	-0.2
SMIA				AML	AML	22 41 06.0	
	comp=E,196μm,0.2s						
SMIA				AML	AML	22 41 07.1	
	comp=N,236μm,0.3s						
KLV	**Kalavryta, Ach**	**1.08**	**259**	P	Pg	22 41 01.3	-0.6

BUC 04 22:42:52.3±0.3, 45°.56N×27°.91E, h9km±1km, ml1.1/4, 15C-19D, Error ellipse: s-maj=2.8km s-min=1.2km az=53.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHL	**Schela**	**0.08**	**225**	⇑P	Pg	22 42 54.6	+0.1
SCHL				⇑S	Sg	22 42 56.4	+0.3
SCHL	**Schela**	**0.08**	**225**	⇑P	Pg	22 42 54.6	+0.1
TUDR		**0.17**	**282**	⇓P	Pg	22 42 55.6	-0.4
TUDR				⇑S	Sg	22 42 58.7	+0.2
TUDR		**0.17**	**282**	⇓P	Pg	22 42 55.6	-0.4
CFR	**Carcaliu**	**0.41**	**157**	⇓P	Pg	22 43 01.0	+0.6
CFR				⇑S	Sg	22 43 06.8	+1.1
CFR	**Carcaliu**	**0.41**	**157**	⇓P	Pg	22 43 01.0	+0.6
PETR	**Petresti**	**0.51**	**289**	⇓P	Pg	22 42 58.9	-3.2
PETR				⇓S	Sb	22 43 09.9	-0.8
PETR	**Petresti**	**0.51**	**289**	⇓P	Pg	22 42 58.9	-3.2
GHRR		**0.61**	**325**	⇓S	Sg	22 43 12.7	+0.4
GHRR		**0.61**	**325**	⇓S	Sg	22 43 12.7	+0.4
TPGR	**Topolog**	**0.79**	**153**	⇑P	Pg	22 43 05.9	-1.6
TPGR	**Topolog**	**0.79**	**153**	⇑P	Pg	22 43 05.9	-1.6
HARR	**Harsova**	**0.87**	**179**	⇓P	Pg	22 43 08.8	-0.2
HARR	**Harsova**	**0.87**	**179**	⇓P	Pg	22 43 08.8	-0.2
VRI	**Vrincioaia**	**0.89**	**291**	⇓P	Pg	22 43 08.7	-0.6
VRI				⇓S	Sb	22 43 21.9	+0.2
VRI	**Vrincioaia**	**0.89**	**291**	⇓P	Pg	22 43 08.7	-0.6
PLOR	**Plostina**	**0.93**	**289**	⇑P	Pg	22 43 09.6	-0.7
PLOR				⇓S	Sb	22 43 23.6	+0.6
PLOR	**Plostina**	**0.93**	**289**	⇑P	Pg	22 43 09.6	-0.7
VASR	**Vaslui**	**1.09**	**356**	⇑S	Sn	22 43 29.0	+0.1
VASR	**Vaslui**	**1.09**	**356**	⇑S	Sn	22 43 29.0	+0.1
TIRR	**Tirgusor**	**1.16**	**162**	⇓P	Pb	22 43 13.9	-0.5
TIRR				⇑S	Sn	22 43 30.4	-0.1
TIRR	**Tirgusor**	**1.16**	**162**	⇓P	Pb	22 43 13.9	-0.5
TESR	**Tescani**	**1.30**	**318**	⇑S	Sn	22 43 34.3	+0.3
TESR	**Tescani**	**1.30**	**318**	⇑S	Sn	22 43 34.3	+0.3
MLR	**Muntele Rosu**	**1.38**	**268**	⇓P	Pn	22 43 17.7	-0.2
MLR				⇑S	Sg	22 43 37.8	+1.0
MLR	**Muntele Rosu**	**1.38**	**268**	⇓P	Pn	22 43 17.7	-0.2

*IDC **04** 22:45:51.3±2.0, 14°.46S×177°.19W, h0km, mb3.7/5, mb1 4.2/5, mb1mx3.8/36, mbtmp3.7/5, Error ellipse: s-maj=136.8km s-min=28.7km az=150.0*

ISC 04 22:45:53.4±1.9, 14°.5S±0°.7×177°.2W±0°.5, h12km, n15, σ0°65/5, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**36.36**	**334**	T	T	23 31 52.2	
	baz=160						
H11S3	**WAKE ISLAND Hy**	**36.37**	**334**	T	T	23 31 52.8	
	baz=160						
H11S1	**WAKE ISLAND Hy**	**36.38**	**334**	T	T	23 31 59.1	
	baz=160						
H11N3	**WAKE ISLAND Hy**	**37.37**	**335**	T	T	23 33 23.4	
	baz=157						
H11N1	**WAKE ISLAND Hy**	**37.37**	**335**	T	T	23 33 16.2	
	baz=157						
H11N2	**WAKE ISLAND Hy**	**37.38**	**335**	T	T	23 33 09.3	
	baz=157						
ASAR	**Alice Springs**	**46.91**	**251**	P	**P**	**22 54 24.1**	**-0.1**
	0.9nm,0.6s,baz=84,slow=8.3,SNR=15						
NVAR	**Mina Array Bea**	**76.15**	**44**	P	**P**	**22 57 41.0**	**-0.8**
	0.7nm,0.8s,baz=233,slow=9.1,SNR=4.3						
ILAR	**Eielson Array**	**82.28**	**13**	P	**P**	**22 58 14.6**	**+0.2**
	0.6nm,1.0s,baz=219,slow=6.6,SNR=4.4						
TXAR	**Lajitas Array**	**83.19**	**58**	P	**P**	**22 58 20.4**	**+0.3**
	1.3nm,1.1s,baz=224,slow=6.3,SNR=2.8						
PDAR	**Pinedale Array**	**84.07**	**43**	P	**P**	**22 58 24.6**	**+0.1**
	0.5nm,0.8s,baz=238,slow=5.1,SNR=3.9						
H03S2	**Juan Fernandez**	**88.80**	**125**	T	T	00 37 42.3	
	baz=249						
H03S1	**Juan Fernandez**	**88.81**	**125**	T	T	00 37 45.5	
	baz=249						
H03S3	**Juan Fernandez**	**88.81**	**125**	T	T	00 37 49.0	
	baz=249						
BRTR	**Keskin Array B**	**143.05**	**319**	PKP	PKPbc	23 05 24.9	+0.4
	0.2nm,0.7s,baz=5.2,slow=3.2,SNR=4.3						

*IDC **04** 22:49:26.4±3.1, 60°.66N×43°.56W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.3/43, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=88.2km s-min=30.2km az=158.0*
*DNK **04** 22:49:27.0±5.2, 60°.34N×44°.44W, h17km±25km, ML2.6*

ISC 04 22:49:28.6±1.4, 60°.76N±0°.10×44°.12W±0°.09, h10km, n10, σ2°19/16, mb3.4/3, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**0.75**	**303**	*e*	**Pg**	**22 49 43.4**	**+0.4**
	baz=138,slow=22						
NRS				*i* P	**Pn**	**22 49 44.6**	**-0.6**
NRS				*i* S	**Sn**	**22 49 56.9**	**+0.3**
NRS				IAML		22 50 01.0	
	comp=Z,616nm,0.3s						
ISOG	**Isortoq, Green**	**5.34**	**24**	*e* P	**Pn**	**22 50 49.9**	**+1.7**
ISOG				IAML		22 52 18.4	
	comp=Z,28nm,0.4s						
DY2G	**Dye2**	**5.81**	**351**	*i* P	**Pn**	**22 50 56.8**	**+1.8**
DY2G				*i* S	**Sn**	**22 52 01.7**	**0.0**
DY2G				IAML		22 52 07.8	
	comp=Z,29nm,0.3s						
SFJD	**Kangerlussuaq**	**6.88**	**338**	*i* P	**Pn**	**22 51 11.8**	**+2.5**
SFJD				*i* S	**Sn**	**22 52 25.6**	**-2.0**
SFJD				IAML		22 53 09.8	
	comp=Z,15nm,0.4s						
ICESG	**Greenland Ices**	**8.57**	**11**	*e* P	**Pn**	**22 51 33.6**	**+0.8**
ICESG				IAML		22 53 48.1	
	comp=Z,7.9nm,0.4s						
SUMG	**Summit**	**12.07**	**8**	*i* P	**Pn**	**22 52 18.9**	**-1.8**
SUMG				*i* Sn	**Sn**	**22 54 32.5**	**-2.8**
SUMG				IAML		22 54 49.3	
	comp=Z,2.2nm,0.4s						
SCHQ	**Schefferville**	**13.44**	**254**	Pn	**Pn**	**22 52 40.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=61,slow=7.6,SNR=5.7						
SCHQ				Sn	**Sn**	**22 55 03.2**	**-5.2**
	comp=Z,0.9nm,0.3s,baz=334,slow=14,SNR=7.0						
ILAR	**Eielson Array**	**42.22**	**322**	P	**P**	**22 57 22.8**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=40,slow=7.3,SNR=6.3						
PDAR	**Pinedale Array**	**42.29**	**276**	P	**P**	**22 57 22.5**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=54,slow=9.1,SNR=1.9						
MKAR	**Makanchi Array**	**64.36**	**58**	P	**P**	**23 00 03.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=346,slow=7.8,SNR=6.2						

*ECX **04** 22:50:38.3±0.7, 27°.94N×111°.93W, h2km±9km, MD4.0*
*IDC **04** 22:50:38.9±4.6, 27°.75N×111°.74W, h0km, mb1 3.6/3, mb1mx3.4/37, mbtmp3.2/3, ML3.8/2, Error ellipse: s-maj=62.3km s-min=16.9km az=18.0*
*MEX **04** 22:50:41.5±1.2, 27°.74N×111°.76W, h15km, MD4.3*

ISC 04 22:50:37.7±0.9, 27°.82N±0°.06×111°.81W±0°.08, h10km, n12, σ1°15/16, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.63**	**218**	*i* P	**Pb**	**22 50 50.6**	**-0.1**
SRIG				*i* S	**Sb**	**22 50 59.7**	**+0.1**
SRIG	**Santa Rosalia**	**0.63**	**218**	⇓*e*P	**Pb**	**22 50 50.7**	**-0.1**
SRIG				*e*S	**Sb**	**22 50 59.8**	**+0.1**
GUYB	**Guaymas**	**0.83**	**84**	*i* P	**Pn**	**22 50 54.4**	**-1.0**
GUYB				*i* S	**Sn**	**22 51 06.3**	**-1.4**
GUYB	**Guaymas**	**0.83**	**84**	⇑*e*P	**Pn**	**22 50 54.5**	**-1.0**
HSIG		**1.42**	**32**	*i* P	**Pb**	**22 51 03.9**	**-0.3**
HSIG				*i* S	**Sn**	**22 51 22.1**	**-0.2**
HSIG		**1.42**	**32**	⇑*e*P	**Pn**	**22 51 02.8**	**-0.8**
HSIG				*e*S	**Sn**	**22 51 21.3**	**-1.0**
NZIG	**Nacozari, Sono**	**3.22**	**37**	*e*P	**Pg**	**22 51 38.4**	**-1.0**
NZIG				*i* S	**Sb**	**22 52 15.7**	**+1.2**
PFO	**Pinyon Flats O**	**7.03**	**326**	Lg	Lg	22 54 29.6	
	0.1nm,0.3s,baz=323,slow=4.0,SNR=4.2						
TXAR	**Lajitas Array**	**7.32**	**76**	Pn	**Pn**	**22 52 27.1**	**+2.4**
	0.4nm,0.3s,baz=262,slow=15,SNR=18						
TXAR				Sn	**Sn**	**22 53 48.7**	**+0.8**
	0.2nm,0.3s,baz=260,slow=22,SNR=3.9						
TXAR				Lg	Lg	22 54 30.6	
	1.2nm,0.3s,baz=254,slow=27,SNR=8.6						
ANMO	**Albuquerque**	**8.45**	**31**	Pn	Pn	22 52 47.5	+7.1
	0.1nm,0.3s,baz=180,slow=16,SNR=1.5						
ANMO				Lg	Lg	22 54 58.7	
	0.1nm,0.3s,baz=215,slow=16,SNR=3.6						
NVAR	**Mina Array Bea**	**11.90**	**334**	Pn	Pn	22 53 33.7	+6.1
	0.0nm,0.3s,baz=156,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**15.03**	**6**	Pn	**P**	**22 54 17.4**	**+1.6**
	0.1nm,0.3s,baz=171,slow=10,SNR=6.0						

*IDC **04** 23:08:19.7±1.9, 24°.76N×95°.39E, h131km±19km, mb3.5/15, mb1 3.7/17, mb1mx3.4/56, mbtmp3.9/17, MS3.0/1, Ms1 3.0/1, ms1mx2.3/40, Error ellipse: s-maj=16.3km s-min=11.8km az=39.0*
*NEIC **04** 23:08:20.4±1.7, 24°.79N±0°.09×95°.33E±0°.09, h132km±7km, mb4.4/26, Error ellipse: s-maj=13.8km s-min=10.3km az=215.0*
*NDI **04** 23:08:22.6±2.3, 24°.70N×95°.24E, h90km, ML4.2, mb4.4/(NEIC)*

ISC 04 23:08:19.6±0.5, 24°.78N±0°.05×95°.30E±0°.06, h125km, n86, σ1°68/74, mb4.1/26, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOKO	**MOKOCHONG**	**1.69**	**336**	*e*P	**Pn**	**23 08 52.0**	**+2.2**
MOKO				*e*S	**Sn**	**23 09 13.5**	**+0.8**
MOKO				IAML		23 09 16.0	
	comp=N,4μm,0.3s						
MOKO				IAML		23 09 16.6	
	comp=E,9μm,0.6s						
JORH	**JORHAT**	**2.17**	**334**	*e*P	**Pn**	**23 08 57.1**	**+1.7**
JORH				*e*S	**Sn**	**23 09 23.7**	**+0.9**
JORH				IAML		23 09 33.8	
	comp=N,5μm,0.3s						
JORH				IAML		23 09 35.5	
	comp=E,4μm,0.5s						
SHL	**Shillong**	**3.19**	**285**	*e*P	**Pn**	**23 09 09.9**	**+1.2**
SHL				*e*S	**Sn**	**23 09 43.8**	**-2.8**
SHL				IAML		23 09 48.1	
	comp=E,794nm,0.6s						
SHL				IAML		23 09 48.6	
	comp=N,639nm,0.3s						
SHL	**Shillong**	**3.19**	**285**		**Pn**	**23 09 09.6**	**+0.9**
SHL				Sn	**Sn**	**23 09 46.6**	**0.0**
AGT	**Agartala**	**3.80**	**257**	*e*P	**Pn**	**23 09 18.4**	**+1.9**
AGT				*ex*	**Sn**	**23 10 03.4**	**+2.7**
BRDH	**Bariadhala**	**3.95**	**239**	P	**Pn**	**23 09 20.4**	**+1.9**
	comp=N,23nm,0.3s,baz=90,slow=12,SNR=8.5						
BRDH				S	**Sn**	**23 10 06.1**	**+1.8**
	comp=N,102nm,0.3s,baz=221,slow=20,SNR=28						
LSA	**Lhasa**	**6.13**	**324**		**Pn**	**23 09 50.4**	**+2.0**
CM33	**Chiang Mai Arr**	**6.83**	**150**	P	**Pn**	**23 10 01.0**	**+3.6**
CHTO	**Chiang Mai**	**6.84**	**150**	P	**Pn**	**23 10 01.6**	**+4.1**
CHTO	**Chiang Mai**	**6.84**	**150**	Pn	**Pn**	**23 09 58.2**	**+0.8**
CMMT	**Chiang Mai**	**6.84**	**150**	P	**Pn**	**23 10 01.6**	**+4.1**
CMMT	**Chiang Mai**	**6.84**	**150**	P	**Pn**	**23 10 01.6**	**+4.1**
CM32	**Chiang Mai Arr**	**6.93**	**151**	P	Pn	23 10 10.0	+11
CM35	**Chiang Mai Arr**	**7.05**	**149**	P	**Pn**	**23 10 04.7**	**+4.3**
CM15	**Chiang Mai Arr**	**7.14**	**151**	P	Pn	23 10 15.0	+13
	comp=N,55nm,0.9s						
CM31	**Chiang Mai Arr**	**7.15**	**151**	P	Pn	23 10 15.3	+14
CMAR	**Chiang Mai Arr**	**7.15**	**151**	P	**Pn**	**23 10 01.5**	**-0.2**
	comp=N,1.4nm,0.3s,baz=330,slow=13,SNR=5.6						
CMAR	**Chiang Mai Arr**	**7.15**	**151**		**Pn**	**23 10 03.8**	**+2.1**
CM36	**Chiang Mai Arr**	**7.16**	**150**	P	Pn	23 10 08.0	+6.1
CM13	**Chiang Mai Arr**	**7.17**	**151**	P	Pn	23 10 13.8	+12
	comp=N,416nmcomp=N,53nm,0.8s						
CM13	**Chiang Mai Arr**	**7.17**	**151**	P	Pn	23 10 13.9	+12
CM02	**Chiang Mai Arr**	**7.17**	**151**	P	Pn	23 10 13.6	+12
	comp=N,677nmcomp=N,78nm,0.8s						
CM02	**Chiang Mai Arr**	**7.17**	**151**	P	Pn	23 10 13.7	+12
CM09	**Chiang Mai Arr**	**7.18**	**151**	P	Pn	23 10 13.3	+11
	comp=N,653nmcomp=N,78nm,0.9s						
CM09	**Chiang Mai Arr**	**7.18**	**151**	P	Pn	23 10 13.4	+11
CM01	**Chiang Mai Arr**	**7.19**	**151**	P	Pn	23 10 11.5	+9.3
	comp=N,715nmcomp=N,97nm,1.1s						
CM01	**Chiang Mai Arr**	**7.19**	**151**	P	Pn	23 10 11.6	+9.3
CM05	**Chiang Mai Arr**	**7.20**	**151**	P	Pn	23 10 14.5	+12
	comp=N,499nmcomp=N,71nm,1.1s						
CM05	**Chiang Mai Arr**	**7.20**	**151**	P	Pn	23 10 14.0	+12
CM04	**Chiang Mai Arr**	**7.21**	**151**	P	Pn	23 10 14.8	+12
	comp=N,638nmcomp=N,87nm,0.9s						
CM04	**Chiang Mai Arr**	**7.21**	**151**	P	Pn	23 10 14.8	+12
LAMP	**Lampang**	**7.42**	**146**	P	**Pn**	**23 10 05.9**	**+0.6**
LAMP	**Lampang**	**7.42**	**146**	P	**Pn**	**23 10 06.0**	**+0.6**
BOK	**Bokaro**	**8.64**	**265**	*e*P	**Pn**	**23 10 23.3**	**+1.5**
BOK				*e*S	**Sn**	**23 11 53.4**	**-4.2**
BOK				IAML		23 11 60.0	
	comp=N,69nm,0.5s						
BOK				IAML		23 12 01.8	
	comp=E,62nm,1.5s						
NONG	**Nongkai**	**9.90**	**131**	P	Pn	23 10 48.7	+10
NONG	**Nongkai**	**9.90**	**131**	P	Pn	23 10 48.7	+10
BHPL	**Bhopal**	**16.40**	**268**	*ex*	x	23 14 56.9	
KDJ	**Kajisay**	**22.89**	**324**	P	**P**	**23 13 14.4**	**+1.6**
KDJ				IAmb	IAmb	23 13 17.0	
	comp=Z,7.5nm,1.1s						
MK31	**Makanchi Array**	**24.30**	**338**	P	**P**	**23 13 26.7**	**+1.3**
MKAR	**Makanchi Array**	**24.30**	**338**	P	**P**	**23 13 26.6**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=147,slow=9.8,SNR=21						
MKAR	**Makanchi Array**	**24.30**	**338**	P	**P**	**23 13 26.4**	**+1.0**
SONM	**Songino Array**	**24.63**	**18**	P	**P**	**23 13 28.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=206,slow=9.9,SNR=3.6						
AAK	**Ala-Archa**	**24.72**	**321**	LR	LR	23 25 04.9	
	comp=Z,37nm,19.2s,baz=236,slow=40						
BTK	**Batken**	**25.56**	**313**	P	**P**	**23 13 38.0**	**+1.1**
BTK				IAmb	IAmb	23 14 03.7	
	comp=Z,2.7nm,0.7s						
KKAR	**Karatay Array**	**27.35**	**318**	P	**P**	**23 13 53.5**	**+0.6**
JOW	**Kunigami**	**29.72**	**79**	P	**P**	**23 14 13.1**	**-1.0**
ZALV	**Zalesovo Beam**	**30.17**	**348**	P	**P**	**23 14 17.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=161,slow=9.2,SNR=2.6						
KSRS	**Korea Array**	**30.50**	**58**	P	**P**	**23 14 17.8**	**-3.0**
	comp=Z,0.3nm,0.3s,baz=249,slow=8.7,SNR=2.1						
ABKAR	**Akbulak array**	**36.81**	**321**	P	**P**	**23 15 16.0**	**+0.7**
ABKAR				IAmb	IAmb	23 15 16.8	
	comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	**36.81**	**321**	P	**P**	**23 15 16.2**	**+0.9**
MJAR	**Matsushiro Arr**	**38.44**	**62**	P	**P**	**23 15 28.4**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=265,slow=7.2,SNR=7.8						
MJAR	**Matsushiro Arr**	**38.44**	**62**	IAmb	IAmb	23 15 54.9	
	comp=Z,3.1nm,1.2s						
JSD	**Sado**	**38.65**	**60**	P	**P**	**23 15 29.4**	**-1.5**
JSD				IAmb	IAmb	23 15 48.1	
	comp=Z,15nm,1.4s						
JMM	**Marumori**	**40.62**	**60**	P	**P**	**23 15 47.4**	**+0.1**
JMM				IAmb	IAmb	23 15 49.8	
	comp=Z,13nm,1.1s						
ARU	**Arti**	**41.30**	**330**	P	**P**	**23 15 52.6**	**0.0**
KNRA	**Kununurra**	**51.79**	**137**	P	**P**	**23 17 13.8**	**-1.1**
PSA00	**Pilbara Seismi**	**51.89**	**151**	P	**P**	**23 17 14.6**	**-0.9**
PSA00				IAmb	IAmb	23 17 27.8	
	comp=Z,16nm,1.2s						
BR131	**Keskin Array S**	**53.26**	**302**	P	**P**	**23 17 25.2**	**-0.5**
BR131				IAmb	IAmb	23 17 41.8	
	comp=Z,3.1nm,1.2s						
BRTR	**Keskin Array B**	**53.26**	**302**	P	**P**	**23 17 25.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=123,slow=8.1,SNR=6.7						
BRTR	**Keskin Array B**	**53.26**	**302**	P	**P**	**23 17 25.7**	**0.0**
AKASG	**Malin Array Be**	**56.21**

KOSE	Korovin Southe	1.17 311		Pb	23 17 34.0	+0.4
KOKL	Mount Kliuchef	1.23 308		Pb	23 17 34.7	+0.1
KONE	Korovin Northe	1.23 312		Pb	23 17 35.1	+0.5
GSTR	Great Sitkin T	2.19 285		Pn	23 17 46.4	-0.4
GSTD	Great Sitkin T	2.23 284		Pn	23 17 47.5	+0.1
ADK	Adak	2.54 278	Pn	Pn	23 17 50.8	-0.7
NIKH	Nikolski High	2.70 58	Pn	Pn	23 17 52.5	-1.2
KIWB	Kanaga Island	2.83 277		Pn	23 17 53.4	-2.1
KICM	Kanaga Island	2.86 279		Pn	23 17 55.9	0.0
TAPA	Tanaga Point A	3.24 276		Pn	23 18 01.2	+0.1
TAFP	Tanaga Falls P	3.35 278		Pn	23 18 02.3	-0.3
OKER	Okmok East Rim	3.36 54		Pn	23 18 02.8	-0.1
TASE	Tanaga Southea	3.38 276		Pn	23 18 03.1	0.0
MAPS	Pakushin South	4.11 55		Pn	23 18 12.8	-0.3
MSW	Makushin Switc	4.25 54		Pn	23 18 14.6	-0.4
ILAR	Eielson Array	18.75 35	P	Pn	23 21 28.5	-0.6
	0.4nm,0.3s,baz=226,slow=8.6,SNR=20					
DLBC	Dease Lake	25.01 57	P	P	23 22 34.8	+1.3
	1.4nm,0.6s,baz=242,slow=15,SNR=4.2					
INK	Inuvik	25.11 34	P	P	23 22 33.9	-0.3
	1.6nm,0.4s,baz=262,slow=3.8,SNR=6.3					
H11N2	WAKE ISLAND Hy	35.62 214	T	T	00 02 23.5	
	baz=24					
H11N3	WAKE ISLAND Hy	35.63 214	T	T	00 02 23.9	
	baz=24,SNR=2.6					
H11N1	WAKE ISLAND Hy	35.64 214	T	T	00 02 23.9	
	baz=24					
PDAR	Pinedale Array	42.54 76	P	P	23 25 05.5	0.0
	0.4nm,0.7s,baz=285,slow=3.5,SNR=4.0					
TXAR	Lajitas Array	54.80 86	P	P	23 26 40.1	+0.5
	0.3nm,0.9s,baz=305,slow=9.8,SNR=2.6					

IDC 04 23:20:13.8±2.3, 7°.41S×130°.93E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/26, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=128.0km s-min=32.6km az=71.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.89	165	Pn	Pn	23 23 18.4	-0.1
	0.2nm,0.3s,baz=349,slow=13,SNR=6.4						
WRA				Sn	Sn	23 25 35.0	-7.8
	0.2nm,0.3s,baz=336,slow=21,SNR=2.5						
ASAR	Alice Springs	16.41	170	Pn	Pn	23 24 05.8	+0.1
	0.2nm,0.3s,baz=342,slow=8.9,SNR=6.4						
MKAR	Makanchi Array	69.08	326	P	P	23 31 21.7	0.0
	0.5nm,0.7s,baz=120,slow=7.6,SNR=6.0						

*SOF **04** 23:23:17.6, 41°.29N×24°.48E, h12km, MD2.7*
*ISK **04** 23:23:18.3, 41°.27N×24°.47E, h9km, ML2.7/11*
*THE **04** 23:23:18.2, 41°.30N×24°.46E, h8km, ML2.5/11, Error ellipse: s-maj=1.0km s-min=0.5km az=201.0*
*ATH **04** 23:23:18.6, 41°.29N×24°.44E, h8km±2km, ML2.6/6, Error ellipse: s-maj=2.9km s-min=1.1km az=190.0*
*BEO **04** 23:23:19.8±0.7, 41°.26N×24°.35E, h5km±2km, ML2.6/7*
*DDA **04** 23:23:22.4, 41°.01N×24°.37E, h23km±1km, ML2.2*
ISC 04 23:23:18.5±1.0, 41°.28N±0°.02×24°.45E±0°.01, h6km±9km, n79, σ0°76/113, 5C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	Kavala	0.29	171	P	Pg	23 23 24.5	+0.4
KAVA				S	Sg	23 23 29.1	+1.1
	755nm,0.4s						
KAVA	Kavala	0.29	171	P	Pg	23 23 24.5	+0.4
KAVA				S	Sg	23 23 28.9	+0.9
KAVA				AML	AML	23 23 29.4	
	comp=E,1950μm,0.2s						
KAVA				AML	AML	23 23 32.7	
	comp=N,1903μm,0.1s						
RZN	Rozhen	0.45	26	P	Pg	23 23 26.9	-0.3
NVR	Nevrokopi	0.45	279	P	Pg	23 23 26.9	-0.3
NVR				S	Sg	23 23 33.2	+0.1
	comp=N,525nm,0.2s						
NVR	Nevrokopi	0.45	279	P	Pg	23 23 26.9	-0.3
NVR				S	Sg	23 23 32.8	-0.3
NVR				AML	AML	23 23 33.4	
	comp=N,722μm,0.2s						
NVR				AML	AML	23 23 34.2	
	comp=E,1359μm,0.2s						
MMB	Musomiste	0.62	299	P	Pg	23 23 29.9	-0.6
SRS	Serrai	0.67	256	*e*Pg	Pg	23 23 30.7	-0.6
SRS				*e*Sg	Sg	23 23 39.6	-0.5
SRS	Serrai	0.67	256	P	Pg	23 23 30.8	-0.6
SRS				S	Sg	23 23 40.8	+0.7
	comp=E,362nm,0.2s						
SRS	Serrai	0.67	256	P	Pg	23 23 30.8	-0.6
SRS				S	Sg	23 23 40.4	+0.3
THAS	Thassos island	0.71	163	P	Pg	23 23 32.1	+0.1
THAS				S	Sg	23 23 42.0	+0.8
	comp=E,1μm,0.3s						
THAS	Thassos island	0.71	163	P	Pg	23 23 32.1	+0.1
THAS				S	Sg	23 23 42.1	+0.8
THAS				AML	AML	23 23 45.4	
	comp=E,1946μm,0.4s						
THAS				AML	AML	23 23 45.8	
	comp=N,2299μm,0.2s						
KDZ	Kurdzhali	0.81	63	P	Pg	23 23 32.2	-1.8
RDO	Rodhopi	0.83	99	P	Pg	23 23 33.8	-0.6
RDO				S	Sg	23 23 45.1	0.0
	comp=N,895nm,0.2s						
RDO	Rodhopi	0.83	99	P	Pg	23 23 33.8	-0.6
RDO	Rodhopi	0.83	99	PG	Pg	23 23 34.4	0.0
RDO				SG	Sb	23 23 45.7	-0.9
PLD	Plovdiv	0.84	13	*e*Pg	Pg	23 23 34.6	0.0
PLD				*e*Sg	Sn	23 23 49.4	0.0
PLD	Plovdiv	0.84	13	PG	Pg	23 23 34.8	+0.1
PLD				SG	Sb	23 23 47.4	+0.4
PLD	Plovdiv	0.84	13	P	Pg	23 23 34.7	+0.1
SOH	Sokhos	0.95	241	P	Pg	23 23 36.3	-0.4
SOH				S	Sb	23 23 50.4	+0.2
	comp=N,428nm,0.3s						
SOH	Sokhos	0.95	241	P	Pg	23 23 36.4	-0.4
OUR	Ouranopolis	1.01	201	P	Pg	23 23 37.9	0.0
OUR				S	Sb	23 23 52.3	+0.4
	comp=N,412nm,0.4s						
OUR	Ouranopolis	1.01	201	P	Pg	23 23 38.0	+0.1
OUR				S	Sg	23 23 50.7	-0.4
OUR				AML	AML	23 23 53.9	
	comp=E,669μm,0.2s						
OUR				AML	AML	23 23 53.9	
	comp=N,851μm,0.3s						
OUR	Ouranopolis	1.01	201	PG	Pb	23 23 38.3	-0.1
OUR				SG	Sb	23 23 52.5	+0.6
DIM	Dimitrovgrad	1.11	46	P	Pg	23 23 39.5	-0.3
SMTH	Samothraki Isl	1.15	135	P	Pb	23 23 40.2	-0.5
SMTH				S	Sb	23 23 56.1	+0.2
	comp=N,78nm,0.5s						
SMTH	Samothraki Isl	1.15	135	P	Pb	23 23 40.3	-0.4
KNT	Kendrikon	1.18	265	P	Pb	23 23 40.0	-1.2
KNT	Kendrikon	1.18	265	P	Pb	23 23 40.7	-0.5
KKB	Krupnik	1.18	300	P	Pb	23 23 39.8	-1.5
PLG	Polygyros	1.19	220	P	Pb	23 23 40.6	-0.8
PLG	Polygyros	1.19	220	P	Pb	23 23 40.9	-0.5
PLG				S	Sb	23 23 56.5	-0.5
PLG				AML	AML	23 23 58.8	
	comp=E,543μm,0.3s						
PLG				AML	AML	23 24 00.6	
	comp=N,537μm,0.4s						
HORT	Hortiatis	1.23	237	P	Pn	23 23 41.5	-0.8
HORT				S	Sg	23 23 58.5	+0.4
	comp=N,238nm,0.5s						
HORT	Hortiatis	1.23	237	PN	Pn	23 23 41.8	-0.5
HORT				SN	Sn	23 23 59.3	0.0
ALN	Alexandroupoli	1.26	107	P	Pn	23 23 41.9	-0.7
ALN				S	Sb	23 23 58.9	-0.2
	comp=N,105nm,0.7s						
ALN	Alexandroupoli	1.26	107	P	Pn	23 23 42.2	-0.4
ALN	Alexandroupoli	1.26	107	PN	Pb	23 23 42.4	-0.2
PGB	Panagyurishte	1.28	350	P	Pn	23 23 41.3	-1.6
THE	Thessaloniki	1.30	240	P	Pb	23 23 43.4	+0.1
THE				AML	AML	23 24 03.4	
	comp=E,520μm,0.8s						
THE				AML	AML	23 24 03.6	
	comp=N,500μm,0.5s						
ENEZ	Enez	1.40	113	PN	Pb	23 23 44.5	-0.4
CAVK	Edirne/Enez-Ca	1.43	114	*i* P	Pb	23 23 45.1	-0.3
CAVK				*i* S	Sg	23 24 04.8	+0.5
CAVK				IAML		23 24 08.0	
	comp=E,88nm,0.6s						
CAVK				IAML		23 24 09.0	
	comp=N,53nm,0.6s						
PAIG	Paliouri	1.48	204	P	Pn	23 23 44.6	-1.0
PAIG	Paliouri	1.48	204	P	Pn	23 23 44.5	-1.0
LIA	Limnos Island	1.49	158	P	Pn	23 23 45.0	-0.7
LIA				S	Sn	23 24 05.0	-0.5
	comp=N,135nm,0.5s						
GADA	Gvkgeada	1.55	134	PN	Pn	23 23 46.3	-0.2
GOKA	anakkale-Gk	1.55	134	*i* P	Pb	23 23 47.8	+0.2
GOKA				*i* S	Sn	23 24 06.1	-0.9
GOKA				IAML		23 24 12.0	
	comp=E,137nm,0.3s						
GRG	Griva	1.58	259	P	Pn	23 23 46.6	-0.5
VTS	Vitosha	1.61	326	*e*Pg	Pb	23 23 48.1	-0.6
VTS				*e*Sg	Sb	23 24 09.4	0.0
VTS	Vitosha	1.61	326	⇓P	Pb	23 23 48.5	-0.2
VTS	Vitosha	1.61	326	P	Pn	23 23 47.9	+0.3
UKOP	Uzunkopru-Edir	1.65	95	PN	Pn	23 23 48.1	+0.2
ERIK	Erikli-Kesan	1.68	111	PN	Pn	23 23 48.2	0.0
KESN	Edirne-Kesan	1.75	104	*i* P	Pb	23 23 51.1	+0.1
KESN				IAML		23 24 18.0	
	comp=E,85nm,0.3s						
KESN				IAML		23 24 19.0	
	comp=N,73nm,0.3s						
GELI	Tayfur-Gelibol	1.77	119	PN	Pn	23 23 48.9	-0.6
BOZC	Bozcaada	1.89	139	*i* P	Pn	23 23 51.5	+0.3
BOZC				IAML		23 24 21.0	
	comp=N,17nm,0.5s						
BOZC				IAML		23 24 22.0	
	comp=E,34nm,1.1s						
LIT	Litokhoron	1.91	232	P	Pn	23 23 51.9	+0.5
BOSS	Bosilegrad	1.91	310	*e*Pn	Pb	23 23 52.6	-1.0
BOSS				*e*Sn	Sn	23 24 16.5	+0.7
KIRK	Kırklareli	2.05	75	*i* P	Pn	23 23 52.8	-0.6
RKY	Sarkoy-Tekirda	2.15	105	PN	Pn	23 23 54.9	+0.1
PRVS	Prvonek	2.15	305	*e*Pn	Pn	23 23 54.3	-0.6
PRVS				*e*Sn	Sn	23 24 22.8	+0.9
KOCA	Canakkale, Ayv	2.20	144	*i* P	Pb	23 23 57.9	-0.7
KOCA				IAML		23 24 26.0	
	comp=E,14nm,0.6s						
KOCA				IAML		23 24 29.0	
	comp=N,24nm,1.7s						
MAR6	Marsite Statio	2.21	104	PN	Pn	23 23 55.9	+0.3
MAR3	Marsite Statio	2.22	103	PN	Pn	23 23 55.9	+0.2
BAYC	CANAKKALE_Bayr	2.22	133	*i* P	Pn	23 23 56.0	+0.3
BAYC				*i* S	Sn	23 24 21.6	-1.9
BAYC				IAML		23 24 24.0	
	comp=N,9.0nm,0.2s						
BAYC				IAML		23 24 28.0	
	comp=E,8.7nm,0.5s						
ARMN	Kirklareli, Me	2.31	74	*i* P	Pn	23 23 56.6	-0.4
ARMN				*i* S	Sn	23 24 26.7	+1.1
ZAPS	Zavoj	2.40	326	*e*Pn	Pb	23 24 00.1	-2.0
ZAPS				*e*Sn	Sn	23 24 29.1	+1.0
ZIMR		2.46	16	⇓P	Pn	23 23 59.9	+0.8
BARS	Barje	2.49	309	*e*Pn	Pn	23 23 59.8	+0.3
BARS				*e*Sn	Sn	23 24 31.1	+0.9
VIZE	Kirklareli, Vi	2.56	82	*i* P	Pb	23 24 04.8	0.0
VIZE				*i* S	Sb	23 24 35.9	-0.6
VIZE				IAML		23 24 45.0	
	comp=E,16nm,0.6s						
VIZE				IAML		23 24 45.0	
	comp=N,14nm,0.4s						
AYVA	Ayvalik	2.61	138	*i* P	Pn	23 24 02.6	+1.5
AYVA				IAML		23 24 34.0	
	comp=E,8.3nm,0.6s						
AYVA				IAML		23 24 39.0	
	comp=N,17nm,0.8s						
BUHA	Balikesir, Bur	2.68	131	*i* P	Pn	23 24 02.0	-0.1
BUHA				IAML		23 24 36.0	
	comp=E,8.6nm,1.1s						
BUHA				IAML		23 24 37.0	
	comp=N,8.7nm,0.4s						
BLKB	Belogradchik	2.68	331	⇑S	Sg	23 24 44.6	0.0
VLAD	Vladila	2.71	359	⇑P	Pn	23 24 03.8	+1.2
VLAD	Vladila	2.71	359	⇓S	Sg	23 24 44.9	-0.7
ZAGS	Zajecar	3.01	328	*e*Pn	Pn	23 24 07.2	+0.6
ZAGS				*e*Sn	Sn	23 24 44.2	+1.2
BOVS	Bovan	3.11	320	⇑P	Pn	23 24 10.2	+2.3
BOVS	Bovan	3.11	320	⇑S	Sb	23 24 54.2	+2.0
SELS	Selova	3.14	309	*e*Pn	Pn	23 24 09.3	+0.8
PLOR	Plostina	4.84	19	⇓P	Pn	23 24 32.9	+1.1
VRI	Vrincioaia	4.87	19	⇑P	Pn	23 24 33.6	+1.4

*MOS **04** 23:35:50.8±1.0, 51°.52N×173°.80W, h20km, mb5.5/55, MS4.6/16, Error ellipse: s-maj=6.2km s-min=4.2km az=104.5*
*BJI **04** 23:35:51.5±0.0, 51°.82N×174°.15W, h20km, mB5.3/50, mb5.2/71, Ms5.0/52, Ms7 4.7/50*
*AEIC **04** 23:35:51±1.9, 51°.23N±0°.07×173°.76W±0°.08, h29km±4km, Error ellipse: s-maj=10.3km s-min=6.7km az=167.0*
*NEIC **04** 23:35:52.2±1.4, 51°.43N±0°.07×173°.82W±0°.07, h19km±4km, mb5.2/322, ML4.5/48(AEIC), Error ellipse: s-maj=10.2km s-min=6.6km az=173.0*
*IDC **04** 23:35:52.3±2.8, 51°.47N×173°.78W, h21km±16km, mb4.6/33, mb1 4.8/35, mb1mx4.7/48, mbtmp4.8/35, ML4.2/2, MS4.4/22, Ms1 4.4/22, ms1mx4.3/37, Error ellipse: s-maj=15.9km s-min=9.5km az=171.0*
*GCMT **04** 23:35:54.2±0.2, 51°.26N±0°.01×173°.76W±0°.03, h17km, MW5.1/102, Moment Tensor Solution. s64,c90; s102,c158; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.63±.16; Mθθ-3.20±.11; Mφφ-0.43±.09; Mrθ3.63±.32; Mrφ-0.92±.07; Mθφ1.28±.27; Best double couple: M0 5.24000×10^16 NP1φs255.00000°, δ21.00000°, λ93.00000°. NP2φs71.00000°, δ69.00000°, λ89.00000°. Principal axes: T 5.3160, Plg66.0000°, Azm339.0000°; N -0.1550, Plg1.0000°, Azm72.0000°; P -5.1630, Plg24.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 23:36:02.9±0.0, 52°.59N×175°.06W, h33km, mb5.5, Ms4.5*
ISC 04 23:35:53.7±0.5, 51°.53N±0°.05×173°.84W±0°.03, h29km±2km, h29km:pP-P, n1228, σ1930/1271, mb5.2/344, MS4.6/62, 92C-59D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.71	342	Pg	Pn	23 36 09.6	+1.9
KOFP	Korovin Flat P	0.77	348		Pn	23 36 10.7	+2.2
KOKL	Mount Kliuchef	0.83	345		Pb	23 36 11.7	+2.1
GSMY	Great Sitkin M	1.47	292		Pn	23 36 18.6	+0.4
GSTR	Great Sitkin T	1.49	293		Pn	23 36 19.3	+0.8
GSTD	Great Sitkin T	1.53	291		Pn	23 36 19.8	+0.8
GSSP	Great Sitkin S	1.56	292		Pn	23 36 20.4	+1.1
ADK	Adak	1.81	283	P	Pn	23 36 22.8	0.0
ADK						23 36 46.3	
ADK	Adak	1.81	283		Pn	23 36 22.8	0.0
KIWB	Kanaga Island	2.09	280		Pn	23 36 26.7	+0.1
KIKV	Kanaga Island	2.10	281		Pn	23 36 27.5	+0.6
KICM	Kanaga Island	2.12	282		Pn	23 36 28.0	+0.9
KIMD	Kanaga Island	2.13	278		Pn	23 36 27.2	0.0
TAFP	Tanaga Falls P	2.60	280		Pn	23 36 34.5	+0.7
TAFP					Sn	23 37 06.2	+1.8
TASE	Tanaga Southea	2.63	278		Pn	23 36 34.9	+0.7
GAEA	Gareloi East	3.07	277		Pn	23 36 41.0	+0.9
GALAA	Gareloi Lava P	3.08	276		Pn	23 36 41.7	+1.4
NIKH	Nikolski High	3.39	63	P	Pn	23 36 44.6	+0.1
	baz=242,SNR=19						
NIKH	Nikolski High	3.39	63	Pn	Pn	23 36 45.1	+0.6
OKSP	Okmok Steeple	3.81	61		Pn	23 36 51.7	+1.3
OKTU	Okmok Mt. Tuli	4.01	60		Pn	23 36 54.9	+1.8
CERAA	Semis' Rag'd T	4.04	278		Pn	23 36 54.6	+1.0
OKFG	Magazine Ridge	4.09	60		Pn	23 36 55.5	+1.3
OKFG					Sn	23 37 44.8	+3.8
CEAP	Semis' Anvil P	4.12	279		Pn	23 36 55.7	+1.2
CESW	Semis' Southwe	4.12	278		Pn	23 36 55.3	+0.8
AMKA	Amchitka	4.29	271	Pn	Pn	23 36 56.6	-0.3
LSPA	Little Sitkin	4.73	278		Pn	23 37 04.3	+1.3
LSNW	Little Sitkin	4.77	278		Pn	23 37 04.8	+1.3
LSSA	Little Sitkin	4.77	278		Pn	23 37 04.5	+0.9
MAPS	Pakushin South	4.78	59		Pn	23 37 05.0	+1.3
MGOD	Makushin Gods	4.81	59		Pn	23 37 05.0	+0.9
MSW	Makushin Switc	4.91	58		Pn	23 37 06.2	+0.7
MSW					Sn	23 38 05.1	+3.8
MNAT	Makushin Natee	4.95	59		Pn	23 37 07.2	+1.2
MNAT					Sn	23 38 04.2	+2.0
AKBBA	Akutan Broad B	5.45	59		Pn	23 37 14.5	+1.7
AKGG	Akutan Green G	5.46	58		Pn	23 37 15.1	+2.1
AKUT	Akutan	5.55	59		Pn	23 37 16.3	+2.2
AKSA	Akutan Strait	5.59	59		Pn	23 37 16.4	+1.7
SPIA	Saint Paul Isl	6.04	19	P	Pn	23 37 21.9	+1.0
	baz=200						
SPIA	Saint Paul Isl	6.04	19	Pn	Pn	23 37 24.1	+3.2
WESE	West Dahl East	6.32	59		Pn	23 37 26.1	+1.3
ISLZ	Isanotski Laza	6.89	58		Pn	23 37 34.0	+1.4
FALS	False Pass	7.09	58	P	Pn	23 37 36.3	+0.9
	baz=244						
FALS	False Pass	7.09	58	Pn	Pn	23 37 38.4	+3.0
SMY	Shemya	7.52	284	P	Pn	23 37 43.7	+2.5
SMY	Shemya	7.52	284		Pn	23 37 43.7	+2.5
SDPT	Sand Point	8.85	59	P	Pn	23 38 00.8	+1.4
	baz=248						
SDPT	Sand Point	8.85	59	Pn	Pn	23 37 59.3	-0.1
GAMB	Gambell	12.34	4	P	Pn	23 38 49.7	+2.6
	baz=186						
GAMB	Gambell	12.34	4	Pn	Pn	23 38 50.1	+3.1
OHAK	Old Harbor	13.24	56	P	Pn	23 39 01.1	+1.7
	baz=252						
OHAK	Old Harbor	13.24	56	Pn	Pn	23 38 57.3	-2.2
O18K	Koktuh Hills	13.38	44	P	Pn	23 39 03.4	+2.1
	baz=239						
N18K	Kilae Creek	13.54	40	P	Pn	23 39 04.9	+1.4
	baz=234						
KDAK	Kodiak Island	13.77	55	Pn	Pn	23 39 05.3	-1.4
	1.4nm,0.3s,baz=270,slow=7.8,SNR=15						
KDAK				Sn	S	23 41 55.8	-4.5
	0.2nm,0.3s,baz=2.7,slow=14,SNR=2.0						
KDAK	Kodiak Island	13.77	55	P	Pn	23 39 04.9	-1.8
KDAK	Kodiak Island	13.77	55	P	Pn	23 39 07.7	+1.0
	baz=251						
KDAK	Kodiak Island	13.77	55		Pn	23 39 04.9	-1.8
ANM	Nome	13.80	15	P	Pn	23 39 10.4	+3.3
ANM	Nome	13.80	15	P	Pn	23 39 08.5	+1.4
	baz=202						
ANM	Nome	13.80	15	Pn	Pn	23 39 10.4	+3.3
SVW2	Sparrevohn	13.90	39	Pn	Pn	23 39 10.4	+2.0
P19K	Oil Pt	14.16	47	P	Pn	23 39 13.9	+1.9
	baz=243						
N19K	Bonanza Creek	14.18	42	P	Pn	23 39 13.3	+0.9
	baz=237,SNR=9.5						
TNA	Tin City	14.40	10	P	Pn	23 39 15.9	+0.7
	baz=195						
TNA	Tin City	14.40	10	Pn	Pn	23 39 16.7	+1.5
O20K	Slope Mountain	14.63	46	P	Pn	23 39 19.7	+1.3
	baz=242						
RSO	Redoubt South	14.74	44		Pn	23 39 21.1	+1.0
L19K	White Mountain	14.82	37	P	Pn	23 39 23.7	+2.7
	baz=232,SNR=6.5						
M19K	Big River Lodg	14.83	38	P	Pn	23 39 22.5	+1.4
	baz=233						
HOM	Homer	14.90	48	P	Pn	23 39 22.9	+1.0
	baz=246						
CNPM	China Poot	15.04	49	Pn	Pn	23 39 24.4	+0.5
M20K	Styx River	15.31	39	P	P	23 39 29.9	-2.1
	baz=236,SNR=12						
SPCR	Spurr Chakacha	15.34	42	P	Pn	23 39 29.1	+1.2
	baz=240						
BRSE	Bradley Lake S	15.35	49	P	Pn	23 39 29.8	+1.8
	baz=247						
CAPN	Captain Cook N	15.59	45	P	Pn	23 39 32.1	+1.1
	baz=243						
SKT	Skwentna	16.01	41	P	Pn	23 39 37.7	+1.3
	baz=238						
SKT	Skwentna	16.01	41	Pn	Pn	23 39 33.3	-3.1
SUA	Susitna One	16.08	43	P	Pn	23 39 38.8	+1.3
	baz=241						
SEW	Seward	16.09	48	P	Pn	23 39 39.0	+1.5
	baz=248						
SEW	Seward	16.09	48	Pn	Pn	23 39 36.0	-1.4
O22K	Cooper Landing	16.11	47	P	Pn	23 39 39.1	+1.4
	baz=246						
O22K	Cooper Landing	16.11	47		Pn	23 39 37.8	+0.1
O22K				IAmb	IAmb	23 40 26.6	
	comp=Z,128nm,0.8s						
PPLA	Purkeypile	16.25	37	P	P	23 39 41.2	-1.2
	baz=235,SNR=12						
PPLA	Purkeypile	16.25	37	P	P	23 39 42.4	-0.1
PPLA				IAmb	IAmb	23 40 41.0	
	comp=Z,141nm,1.4s						
RC01	Rabbit Creek A	16.35	45	P	Pn	23 39 41.7	+0.9
	baz=244						
RC01	Rabbit Creek A	16.35	45	Pn	Pn	23 39 40.6	-0.2
CUT	Chulitna	16.73	40	P	P	23 39 46.7	-0.9
	baz=239						
CHUM	Lake Minchumin	16.78	34	P	P	23 39 48.2	0.0
	baz=232,SNR=19						
PMR	Palmer	16.83	44	P	Pn	23 39 46.9	+0.1
PMR	Palmer	16.83	44	P	Pn	23 39 47.4	+0.6
	baz=244						
PMR	Palmer	16.83	44		Pn	23 39 46.9	+0.1
PET	Petropavlovsk	16.86	286	*c i* P	P	23 39 49.8	+0.7
PET				*e*S	Sn	23 42 54.2	+0.6
PET				pmax	pmax		
	comp=Z,75nm,1.0s						
PET				pmax	pmax		
	comp=Z,500nm,13.0s						
PET				pmax	pmax		
	comp=Z,400nm,14.7s						
PET				MLR	MLR		
	comp=Z,900nm,15.0s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET	Petropavlovsk	16.86	286	P	P	23 39 48.3	-0.8
PWL	Port Wells	16.89	47		Pn	23 39 46.0	-1.6
GHO	Glory Hole Cre	17.00	43		Pn	23 39 48.2	-0.9
KNK	Knik Glacier	17.05	45	P	Pn	23 39 49.5	-0.1
	baz=245						
KNK	Knik Glacier	17.05	45		Pn	23 39 48.5	-1.1
KTH	Kantishna Hill	17.09	36	P	P	23 39 52.0	+0.3
SML	Sawmill	17.27	44	P	Pn	23 39 52.4	+0.1
	baz=244						
SML	Sawmill	17.27	44		Pn	23 39 51.9	-0.5
TRF	Thorofare Moun	17.27	37	P	Pn	23 39 52.1	-0.5
	baz=236						
TRF	Thorofare Moun	17.27	37	P	P	23 39 53.6	-0.2
BPAW	Bear Paw Mtn.	17.38	35	P	P	23 39 55.1	+0.3
	baz=234,SNR=39						
BPAW	Bear Paw Mtn.	17.38	35	P	P	23 39 55.7	+0.9
BPAW				IAmb	IAmb	23 39 58.8	
	comp=Z,159nm,1.4s						
RDOG	Red Dog Mine	17.42	14	P	P	23 39 55.1	-0.1
	baz=203			

comp=Z,96nm,1.0s
KLU Klutina 18.20 46 P **Pn 23 40 02.9 -1.1**
baz=249
KLU Klutina 18.20 46 P **Pn 23 40 02.6 -1.4**
M24K Tolsona, Glenn 18.32 44 P **P 23 40 04.3 -1.0**
baz=246
M24K Tolsona, Glenn 18.32 44 P 23 40 04.8 -0.5
NEA2 Nenana 18.35 35 P **P 23 40 04.9 -0.7**
baz=236,SNR=20
NEA2 Nenana 18.35 35 P **P 23 40 04.7 -0.8**
I23K Minto, Yukon-K 18.57 33 P **Pn 23 40 08.5 +0.3**
baz=234,SNR=92
I23K Minto, Yukon-K 18.57 33 P **Pn 23 40 08.3 +0.1**
I23K IAmb IAmb 23 40 11.8
comp=Z,221nm,1.5s
HMT Hamilton 18.62 50 P **P 23 40 08.6 0.0**
BMRM Bremner River 18.64 48 P **P 23 40 08.7 0.0**
baz=252
BMRM Bremner River 18.64 48 P **P 23 40 08.7 0.0**
WRH Wood River Hil 18.64 36 P **P 23 40 07.6 -1.1**
SUCK Suckling Hills 18.79 51 P **Pn 23 40 11.3 +0.3**
SUCK IAmb IAmb 23 40 39.0
comp=Z,90nm,1.0s
SKR Severo-Kuril's 18.83 279 *e*P **P 23 40 10.6 -0.2**
SKR *e*S **S 23 43 45.6 +2.6**
SKR pmax pmax
comp=Z,500nm,5.5s
SKR pmax pmax
comp=Z,200nm,6.4s
SKR pmax pmax
comp=Z,177nm,0.8s
SKR MLR MLR
comp=Z,800nm,15.0s
SKR MLR MLR
comp=Z,800nm,21.0s
CCB Clear Creek Bu 18.84 36 P **P 23 40 10.1 -0.8**
N25K Chitina, Valde 18.84 46 P **P 23 40 10.3 -0.7**
baz=250,SNR=8.2
MDM Murphy Dome 18.85 35 P **P 23 40 10.6 -0.5**
HARP HAARP 18.87 44 P **P 23 40 10.7 -0.6**
baz=247
H23K Yukon River 18.91 32 P **Pn 23 40 12.7 +0.3**
baz=232,SNR=77
TCOL CIGO, UAF Yank 18.94 35 P **Pn 23 40 13.2 +0.5**
baz=237,SNR=5.0
TCOL CIGO, UAF Yank 18.94 35 P **P 23 40 12.3 +0.4**
COLA College 18.94 35 *de*P **P 23 40 10.8 -1.1**
COLA pmax pmax
comp=Z,38nm,1.0s
COLA College 18.94 35 P **P 23 40 12.1 +0.1**
baz=237
COLA College 18.94 35 P **Pn 23 40 12.6 -0.1**
HDA Harding Lake 19.03 37 P **P 23 40 12.9 -0.1**
baz=239,SNR=29
HDA Harding Lake 19.03 37 P **P 23 40 12.8 -0.1**
HDA IAmb IAmb 23 40 14.9
comp=Z,161nm,1.3s
BGLC Bering Glacier 19.04 51 P **P 23 40 13.1 0.0**
baz=256
POKR Poker Flat Res 19.22 35 P **P 23 40 14.8 -0.2**
baz=237
POKR Poker Flat Res 19.22 35 P **P 23 40 15.0 -0.1**
IL31 19.24 36 P **P 23 40 14.2 -1.0**
ILAR Eielson Array 19.24 36 P **P 23 40 14.2 -1.0**
comp=Z,2.3nm,0.3s,baz=244,slow=7.3,SNR=129
ILAR S **Sn 23 43 47.8 -3.1**
baz=223,slow=6.1,SNR=2.1
ILAR ScP **ScP 23 48 08.8 -1.7**
comp=Z,0.0nm,0.3s,baz=270,slow=3.3,SNR=7.3
ILAR Eielson Array 19.24 36 P **P 23 40 13.6 -1.6**
VRDI Verde Repeater 19.25 48 P **P 23 40 15.6 0.0**
CRQE Cirque 19.29 49 P **P 23 40 15.6 -0.3**
baz=254,SNR=12
WAX Waxell Ridge 19.33 50 P **P 23 40 16.3 -0.1**
WAX IAmb IAmb 23 40 47.9
comp=Z,68nm,1.0s
H24K Noodor Dome 19.47 33 P **P 23 40 18.6 +0.7**
baz=234,SNR=119
MCARA McCarthy VSAT 19.49 48 P **P 23 40 17.5 -0.5**
baz=253
MCARA McCarthy VSAT 19.49 48 P **P 23 40 18.7 +0.6**
COLD Coldfoot 19.60 28 P **Pn 23 40 20.8 +0.1**
baz=228,SNR=58
COLD Coldfoot 19.60 28 Pn 23 40 20.6 -0.1
MENT Mentasta 19.69 43 P **P 23 40 20.6 +0.4**
MESA MESA 19.71 52 P **P 23 40 20.8 +0.2**
baz=257,SNR=7.7
MESA MESA 19.71 52 P **P 23 40 20.6 0.0**
DOT Dot Lake 19.82 41 P **P 23 40 21.1 -0.6**
YAH Yahtse 19.85 51 P **P 23 40 22.3 +0.1**
SCRK Sand Creek 19.99 40 P **P 23 40 22.7 -0.9**
baz=245,SNR=40
SCRK Sand Creek 19.99 40 P **P 23 40 22.8 -0.7**
BARN Barnard Glacie 20.04 49 P **P 23 40 23.9 -0.3**
PRP Porcupine Dome 20.12 35 P **P 23 40 24.3 -0.6**
baz=239,SNR=18
TABL Table Mountain 20.15 51 P **P 23 40 25.5 0.0**
TABL IAmb IAmb 23 40 55.3
comp=Z,71nm,1.0s
CTG Chitna Glacier 20.17 49 P **P 23 40 24.5 -1.1**
baz=256,SNR=9.9
PCA Pinnacle 20.52 52 P **P 23 40 29.6 +0.2**
PCA IAmb IAmb 23 40 35.0
comp=Z,70nm,0.6s
PINM Pinnacle 20.53 52 P **P 23 40 29.7 +0.3**
baz=260,SNR=20
L27K Beaver Creek, 20.54 43 P Pn 23 40 30.8 -1.0
baz=250,SNR=22
L27K Beaver Creek, 20.54 43 P **P 23 40 30.6 +1.1**
BCAR Beaver Creek A 20.56 43 P **P 23 40 29.7 0.0**
TOLK Toolik Lake Re 20.74 25 P **P 23 40 32.7 +1.1**
baz=226,SNR=100
TOLK Toolik Lake Re 20.74 25 P 23 40 32.7 +1.1
TOLK Toolik Lake Re 20.74 25 P **P 23 40 32.6 +1.1**
TOLK IAmb IAmb 23 40 34.7
comp=Z,98nm,0.9s
FYU Fort Yukon 20.77 33 P **P 23 40 32.9 +1.1**
FYU IAmb IAmb 23 41 31.8
comp=Z,194nm,1.4s
K27K Chicken 20.78 41 P **P 23 40 31.0 -1.0**
baz=247
K27K Chicken 20.78 41 P **P 23 40 32.0 0.0**
BCPM Bancas Point 20.81 53 P **P 23 40 32.8 +0.4**
BCPM IAmb IAmb 23 40 50.3
comp=Z,42nm,0.8s
SEY Seymchan 21.27 315 P **P 23 40 37.6 +0.4**
comp=Z,15nm,1.0s,baz=105,slow=12,SNR=17
SEY PcP **PcP 23 44 41.6 +0.8**
comp=Z,3.5nm,0.8s,baz=107,slow=11,SNR=3.0
SEY Seymchan 21.27 315 *ce*P **P 23 40 38.1 +0.9**
A21K Barrow 21.34 15 P **P 23 40 37.8 -0.1**
baz=210,SNR=6.1
A21K Barrow 21.34 15 P **P 23 40 38.1 +0.2**
MA2 Magadan 21.35 306 P **P 23 40 37.9 -0.3**
comp=Z,12nm,0.9s,baz=103,slow=8.7,SNR=6.1
MA2 LR LR 23 48 58.9
comp=Z,1μm,18.9s,baz=109,slow=37
MA2 Magadan 21.35 306 *de*P **P 23 40 39.6 +1.4**
MA2 pmax pmax
comp=Z,27nm,1.3s
MA2 Magadan 21.35 306 P **P 23 40 39.1 +0.9**
EGAK Eagle 21.43 39 P **P 23 40 38.7 -0.2**
baz=247,SNR=226
EGAK Eagle 21.43 39 P **P 23 40 38.8 -0.2**
DAWY Dawson 21.90 42 P **P 23 40 43.9 -0.2**
HYT Haines Junctio 21.99 51 P **P 23 40 45.8 +0.6**
SIT Sitka 22.92 61 P **P 23 40 54.9 0.0**
SIT pmax pmax
comp=Z,77nm,1.3s
SIT Sitka 22.92 61 P **P 23 40 54.5 -0.4**
baz=272
SIT Sitka 22.92 61 P **P 23 40 54.9 0.0**
SIT IAmb IAmb 23 41 23.6
comp=Z,77nm,1.3s
SKAG Skagway 22.93 55 P **P 23 40 55.1 +0.1**
baz=266
SKAG Skagway 22.93 55 P **P 23 40 54.9 -0.1**
SKAG IAmb IAmb 23 41 28.9
comp=Z,86nm,1.3s
BESE Bessie Mountai 23.15 57 P **P 23 40 57.0 -0.2**
BESE IAmb IAmb 23 41 49.5
comp=Z,42nm,1.0s
WHY Whitehorse 23.25 52 P **P 23 41 00.7 +2.4**
JIS Juneau Island 23.39 58 P **P 23 40 59.3 -0.3**
JIS IAmb IAmb 23 41 42.2
comp=Z,35nm,1.0s

EPYK Eagle Plains 23.74 37 P **P 23 41 01.9 -1.1**
baz=249,SNR=26
CRAG Craig 24.29 65 P **P 23 41 08.9 +0.9**
baz=277,SNR=5.1
CRAG Craig 24.29 65 P **P 23 41 09.2 +1.1**
CRAG IAmb IAmb 23 41 40.1
comp=Z,127nm,1.6s
WRAK Wrangell Islan 24.60 62 P **P 23 41 12.4 +1.4**
baz=276,SNR=9.1
WRAK Wrangell Islan 24.60 62 P **P 23 41 12.3 +1.3**
WRAK IAmb IAmb 23 41 54.4
comp=Z,86nm,1.4s
DIB Dawson Inlet, 25.07 70 P **P 23 41 16.7 +1.5**
DIB IAmb IAmb 23 41 37.1
comp=Z,46nm,1.2s
MOBC Moresby Island 25.38 70 P **P 23 41 19.7 +1.6**
MOBC IAmb IAmb 23 41 36.1
comp=Z,84nm,1.4s
INK Inuvik 25.58 34 P **P 23 41 19.4 -0.2**
comp=Z,41nm,1.1s,baz=226,slow=8.9,SNR=28
INK Inuvik 25.58 34 P **P 23 41 19.7 0.0**
INK pmax pmax
comp=Z,76nm,1.3s
INK Inuvik 25.58 34 P **P 23 41 19.5 -0.2**
baz=249,SNR=27
INK Inuvik 25.58 34 P **P 23 41 19.7 0.0**
INK IAmb IAmb 23 41 21.8
comp=Z,76nm,1.2s
DLBC Dease Lake 25.68 57 P **P 23 41 21.3 +0.5**
comp=Z,62nm,1.0s,baz=278,slow=9.3,SNR=69
DLBC LR LR 23 51 45.0
comp=Z,1μm,18.6s,baz=290,slow=37
DLBC Dease Lake 25.68 57 P **P 23 41 22.7 +1.9**
DLBC IAmb IAmb 23 41 25.7
comp=Z,67nm,1.1s
KUR Kuril'sk 25.97 271|| *e*P **P 23 41 27.4 +3.9**
KUR pmax pmax
comp=Z,230nm,1.0s
YUK Yuzh-Kuril'sk 27.81 270 *i*P **P 23 41 39.0 -1.0**
YUK *i*S **S 23 46 20.3 -0.6**
YUK pmax pmax
comp=Z,127nm,1.4s
BBB Bella Bella 27.90 70 P **P 23 41 40.2 -0.5**
comp=Z,10nm,0.9s,baz=182,slow=7.2,SNR=1.6
UGL Uglegorsk 27.95 283 *e*P **P 23 41 42.4 +1.2**
UGL *e* 23 42 43.0
UGL *e*S **S 23 46 16.3 -6.8**
UGL pmax pmax
comp=Z,150nm,1.1s
UGL MLR MLR
comp=N,1μm,16.0s
UGL MLR MLR
comp=E,900nm,16.0s
UGL MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 28.39 278 *e*P **P 23 41 45.9 +0.8**
YSS *e*S **S 23 46 29.5 -0.4**
YSS *e*SS **SS 23 48 18.8 -11**
YSS pmax pmax
comp=Z,30nm,1.4s
YSS pmax pmax
comp=Z,300nm,3.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=N,400nm,14.0s
YSS MLR MLR
comp=E,800nm,16.0s
YSS Yuzh-Sakhalins 28.39 278 P **P 23 41 45.6 +0.5**
C36M Paulatuk 29.17 34 P **P 23 41 50.7 -1.1**
baz=258
JKA Kamikawa-asahi 29.80 273 P **P 23 41 58.2 +0.5**
JKA IAmb IAmb 23 42 15.7
comp=Z,30nm,0.9s
ASAJ Asahikawa 29.80 273 P **P 23 41 58.3 +0.6**
comp=Z,19nm,0.9s,baz=351,slow=4.3,SNR=16
ASAJ LR LR 23 54 55.2
comp=Z,684nm,19.1s,baz=30,slow=38
ASAJ Asahikawa 29.80 273 P **P 23 41 58.2 +0.5**
ASAJ pmax pmax
comp=Z,30nm,0.9s
ERM Erimo 30.55 269 *de*P **P 23 42 05.2 +0.8**
ERM pmax pmax
comp=Z,9.0nm,0.8s
ERM Erimo 30.55 269 P **P 23 42 05.1 +0.8**
ERM IAmb IAmb 23 42 17.3
comp=Z,15nm,0.8s
GRNR Gornyy 30.73 289|| *i*P **P 23 42 06.2 +0.3**
GRNR pmax pmax
comp=E,20nm,0.7s
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR MLR MLR
comp=E,320nm,14.0s
GRNR MLR MLR
comp=N,230nm,16.0s
GRNR MLR MLR
comp=Z,460nm,15.0s
YAK Yakutsk 31.65 311 *e*P **P 23 42 12.2 -1.6**
YAK *e**PP **pP 23 42 18.3 -3.0**
YAK *e* 23 43 16.8
YAK *e* 23 45 07.1
YAK *e*S **S 23 47 22.5 +1.7**
YAK *e**SS **pS 23 47 29.0 -0.3**
YAK *e*SS **SnSn 23 49 16.2 +8.4**
YAK *e* 23 52 42.2
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,33nm,1.6s
YAK pmax pmax
comp=E,30nm,1.5s
YAK smax smax
comp=N,25nm,2.1s
YAK smax smax
comp=E,13nm,1.9s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,521nm,19.0s
YAK MLR MLR
comp=E,2μm,20.0s
YAK Yakutsk 31.65 311 P **P 23 42 13.0 -0.8**
YAK IAmb IAmb 23 42 15.5
comp=Z,26nm,0.8s
TIXI Tiksi 32.05 330 P **P 23 42 16.9 -0.3**
comp=Z,5.2nm,0.8s,baz=107,slow=10,SNR=12
TIXI PcP **PcP 23 45 06.4 +0.4**
comp=Z,6.8nm,0.9s,baz=85,slow=1.0,SNR=6.8
TIXI Tiksi 32.05 330 *c i*P **P 23 42 17.4 +0.2**
TIXI Tiksi 32.05 330 P **P 23 42 17.3 0.0**
LLLB Lilloet 32.10 71 P **P 23 42 17.4 -0.6**
JTM Tenmabayashi 32.54 269 P **P 23 42 22.0 +0.1**
JTM IAmb IAmb 23 42 59.8
comp=Z,30nm,1.1s
YKA Yellowknife Ar 32.87 47 P **P 23 42 23.6 -0.9**
comp=Z,6.9nm,0.9s,baz=272,slow=9.8,SNR=25
YKA PcP **PcP 23 45 09.1 +0.7**
comp=Z,2.7nm,0.9s,baz=276,slow=2.2,SNR=5.5
YKA LR LR 23 57 36.6
comp=Z,1μm,19.4s,baz=0.0,slow=40
KLR Kul'dur 34.10 288 *c i*P **P 23 42 34.4 -1.0**
KLR pmax pmax
comp=Z,39nm,1.3s
JMM Marumori 34.45 265 P **P 23 42 38.0 -0.4**
B08A Colville Reser 34.54 73 P **P 23 42 38.9 -0.4**
B08A IAmb IAmb 23 43 00.5
comp=Z,15nm,0.9s
K02D Willamette Mer 34.66 85 P **P 23 42 38.7 -1.7**
baz=302
I04A Tendick Farm, 34.86 82 P **P 23 42 40.4 -1.7**
baz=301
ZEA Zeya 34.94 297 *e*P **P 23 42 42.1 -0.5**
ZEA *e*S **S 23 48 05.1 -6.9**
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA smax smax
comp=N,200nm,10.9s
ZEA MLR MLR
comp=E,500nm,14.0s

ZEA MLR MLR
comp=Z,500nm,18.0s
L02E Cave Junction 34.99 85 P **P 23 42 44.1 +0.9**
baz=303
HUMO Hull Mountain 35.15 84 P **P 23 42 44.8 +0.2**
H11N2 WAKE ISLAND Hy 35.15 213 T T 00 20 41.2
baz=21,slow=75,SNR=71
H11N3 WAKE ISLAND Hy 35.16 213 T T 00 20 40.1
baz=21,slow=75,SNR=82
H11N1 WAKE ISLAND Hy 35.17 213 T T 00 20 42.6
baz=21,slow=75,SNR=73
F07A Phinny Hill Vi 35.33 77 P **P 23 42 46.2 +0.2**
HAWA Hanford 35.33 76 P **P 23 42 45.4 -0.6**
HAWA IAmb IAmb 23 43 07.9
comp=Z,14nm,0.9s
L04D Klamath Falls 35.77 84 P **P 23 42 48.5 -1.5**
baz=303
PINE Pine Mountain 35.77 81 P **P 23 42 50.4 +0.4**
PINE IAmb IAmb 23 43 23.3
comp=Z,24nm,1.1s
JYT Yasato 35.85 263 P **P 23 42 50.4 -0.1**
JYT IAmb IAmb 23 42 51.8
comp=Z,53nm,1.0s
M02C Callahan 35.88 86 P **P 23 42 48.9 -2.0**
baz=304
NEW Newport 35.90 72 P **P 23 42 51.7 +0.7**
NEW pmax pmax
comp=Z,13nm,0.9s
NEW Newport 35.90 72 P **P 23 42 50.8 -0.2**
baz=297
NEW Newport 35.90 72 P **P 23 42 51.7 +0.7**
NEW IAmb IAmb 23 43 47.7
comp=Z,13nm,0.8s
JSD Sado 35.92 267 P **P 23 42 51.1 -0.1**
JSD IAmb IAmb 23 42 58.1
comp=Z,24nm,0.9s
EDM Edmonton 36.01 63 P **P 23 42 52.4 +0.6**
EDM pmax pmax
comp=Z,40nm,0.8s
EDM Edmonton 36.01 63 P **P 23 42 52.4 +0.6**
EDM IAmb IAmb 23 42 53.9
comp=Z,40nm,0.8s
N02D Trinity Center 36.21 86 P **P 23 42 51.7 -2.0**
baz=304
USA0B Ussuriysk Arra 36.34 280 P **P 23 42 54.5 -0.2**
USA0B pmax pmax
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 36.34 280 P **P 23 42 54.5 -0.2**
USA0B IAmb IAmb 23 42 55.6
comp=Z,25nm,0.8s
USRK Ussuriysk Ar. 36.34 280 P **P 23 42 53.5 -1.2**
comp=Z,44nm,1.0s,baz=54,slow=7.3,SNR=32
USRK LR LR 23 58 32.5
comp=Z,640nm,20.5s,baz=53,slow=37
USRK Ussuriysk Ar. 36.34 280 P **P 23 42 54.3 -0.4**
USRK Ussuriysk Ar. 36.34 280 P **P 23 42 54.3 -0.4**
H11S1 WAKE ISLAND Hy 36.36 212 T T 00 22 13.3
baz=20,slow=75,SNR=45
K05A Summer Lake 36.37 83 P **P 23 42 56.5 +1.3**
K05A IAmb IAmb 23 43 33.7
comp=Z,27nm,0.9s
H11S2 WAKE ISLAND Hy 36.37 212 T T 00 22 20.2
baz=20,slow=75,SNR=55
H11S3 WAKE ISLAND Hy 36.37 212 T T 00 22 12.8
baz=20,slow=75,SNR=26
WDC Whiskeytown Da 36.54 87 P **P 23 42 56.8 +0.4**
WDC pmax pmax
comp=Z,14nm,1.1s
WDC Whiskeytown Da 36.54 87 P **P 23 42 56.8 +0.4**
O02D Mt. Diablo Mer 36.61 88 P **P 23 42 56.9 -0.3**
baz=305
MAJO Matsushiro 36.88 265 *c i*P **P 23 42 59.1 -0.3**
MAJO pmax pmax
comp=Z,30nm,1.0s
MAJO Matsushiro 36.88 265 P **P 23 42 59.5 +0.1**
MAJO IAmb IAmb 23 43 01.0
comp=Z,42nm,1.1s
MAT Matsushiro 36.88 265 P **P 23 42 59.3 -0.1**
MAT S **S 23 48 43.8 +1.7**
MJAR Matsushiro Arr 36.88 265 P **P 23 42 58.5 -1.0**
comp=Z,8.1nm,0.8s,baz=49,slow=7.5,SNR=38
MJAR PcP **PcP 23 45 20.8 +0.2**
comp=Z,4.1nm,0.9s,baz=100,slow=1.4,SNR=7.1
MJAR Matsushiro Arr 36.88 265 P **P 23 42 59.3 -0.1**
MJAR pmax pmax
comp=Z,11nm,1.2s
MJAR Matsushiro Arr 36.88 265 P **P 23 42 59.3 -0.1**
MJB9 Matsu-Tunnel 36.88 265 P **P 23 42 59.6 +0.2**
MJB9 IAmb IAmb 23 43 01.0
comp=Z,46nm,1.1s
VLA Vladivostok 36.97 279 *d i*P **P 23 43 01.1 +1.0**
VLA pmax pmax
comp=Z,133nm,1.1s
O03E Paynes Creek 37.16 87 P **P 23 43 01.2 -0.7**
baz=305,SNR=8.7
MOD Modoc Plateau 37.18 83 P **P 23 43 01.6 -0.5**
WALA Waterton Lakes 37.44 69 P **P 23 43 03.4 -0.7**
WALA IAmb IAmb 23 43 27.7
comp=Z,26nm,1.2s
MDJ Mudanjiang 37.59 282 P **P 23 43 05.2 -0.1**
MDJ pmax pmax
comp=Z,40nm,0.9s
MDJ pmax pmax
comp=Z,150nm,5.9s
MDJ Mudanjiang 37.59 282 P **P 23 43 04.6 -0.8**
MDJ IAmb IAmb 23 43 06.4
comp=Z,32nm,0.9s
MSHR Mys Shultsa 37.72 278 *de*P **P 23 43 07.6 +1.2**
MSHR pmax pmax
comp=Z,114nm,1.3s
WVOR Wild Horse Val 37.92 82 P **P 23 43 07.5 -0.8**
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 37.92 82 P **P 23 43 07.5 -0.8**
JGF Kuroka 38.01 265 P **P 23 43 09.1 +0.1**
JGF IAmb IAmb 23 43 10.9
comp=Z,48nm,1.3s
BEKR Beckworth 38.31 86 P **P 23 43 11.5 -0.1**
RES Resolute Bay 38.32 25 P **P 23 43 08.7 -2.4**
comp=Z,12nm,0.9s,baz=325,slow=2.4,SNR=2.3
INU Inuyama 38.39 265 P **P 23 43 11.7 -0.5**
MSO Missoula 38.48 73 P **P 23 43 13.5 +0.5**
baz=299
MSO Missoula 38.48 73 P **P 23 43 13.4 +0.5**
MSO IAmb IAmb 23 43 34.8
comp=Z,32nm,1.2s
PAHR Pah Rah Range 39.01 86 P **P 23 43 17.8 +0.3**
MFID Camas Ranch 39.11 78 P **P 23 43 18.5 +0.2**
CMB Columbia Colle 39.39 89 P **P 23 43 21.3 +0.7**
CMB pmax pmax
comp=Z,13nm,1.2s
CMB Columbia Colle 39.39 89 P **P 23 43 21.3 +0.7**
JWT Wachi 39.44 266 P **P 23 43 21.3 +0.4**
JWT IAmb IAmb 23 43 22.7
comp=Z,40nm,1.1s
SAO San Andreas Ge 39.51 91 P **P 23 43 22.0 +0.4**
SAO pmax pmax
comp=Z,17nm,1.2s
SAO San Andreas Ge 39.51 91 P **P 23 43 22.0 +0.4**
LRM Limekiln Ridge 39.88 73 P **P 23 43 25.4 +0.5**
BCYI Bear Canyon 40.10 76 P **P 23 43 26.5 -0.2**
MCMT McKenzie Canyo 40.16 75 P **P 23 43 27.5 +0.3**
BOD Bodaibo 40.35 308 *e*P **P 23 43 28.3 0.0**
BOD pmax pmax
comp=Z,38nm,1.4s
EGMT Eagleton 40.36 69 P **P 23 43 28.0 -0.5**
baz=299
EGMT Eagleton 40.36 69 P **P 23 43 29.2 +0.6**
EGMT IAmb IAmb 23 44 09.1
comp=Z,46nm,1.4s
NVAR Mina Array Bea 40.45 86 P **P 23 43 27.5 -2.0**
comp=Z,2.5nm,0.9s,baz=291,slow=7.9,SNR=12
NVAR PcP **PcP 23 45 32.9 +0.9**
comp=Z,0.8nm,0.7s,baz=299,slow=0.9,SNR=2.5
NVAR ScP **ScP 23 49 18.9 -0.1**
comp=Z,1.5nm,0.9s,baz=264,slow=5.6,SNR=6.1
NVAR LR LR 23 56 57.2
comp=Z,246nm,20.7s,baz=306,slow=31
NVAR Mina Array Bea 40.45 86 P **P 23 43 30.2 +0.7**
BOZ Bozeman (W) 40.49 73 P **P 23 43 29.4 -0.3**
BOZ pmax pmax
comp=Z,14nm,1.0s
BOZ Bozeman (W) 40.49 73 P **P 23 43 28.8 -0.9**
baz=301,SNR=10
BOZ Bozeman (W) 40.49 73 P **P 23 43 29.4 -0.3**

NV11	Mina Array Sit	40.54	86	P	P	23 43 30.1	-0.1
CN2	Changchun	40.55	284	eP	P	23 43 28.7	-1.3
CN2				ePP	PnPn	23 45 05.8	-1.7
CN2				eS	S	23 49 36.1	-1.1
CN2				esS	pS	23 49 43.7	-2.2
CN2				eSS	SS	23 52 29.5	-7.6
CN2				pmax	pmax		
	comp=Z,50nm,1.2s						
CN2				LR	LR		
	comp=Z,890nm,18.0s						
CN2				LR	LR		
	comp=Z,730nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,20.0s						
PAGB	Antelope Grade	40.92	91	P	P	23 43 32.6	-0.7
ELK	Elko	40.98	81	P	P	23 43 34.0	+0.1
ELK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ELK	Elko	40.98	81	P	P	23 43 34.0	+0.1
JHS	Saijyo	41.05	267	P	P	23 43 33.9	-0.4
JHS				IAmb	IAmb	23 44 08.1	
	comp=Z,79nm,1.9s						
HIA	Hailar	41.09	294	d iP	P	23 43 34.4	-0.1
HIA				pmax	pmax		
	comp=Z,46nm,0.9s						
HIA	Hailar	41.09	294	P	P	23 43 33.8	-0.7
HIA				IAmb	IAmb	23 43 35.7	
	comp=Z,42nm,0.9s						
TPH	Tonopah	41.34	86	P	P	23 43 36.2	-0.7
TPH				pmax	pmax		
	comp=Z,51nm,1.1s						
TPH	Tonopah	41.34	86	P	P	23 43 36.2	-0.7
TPH				IAmb	IAmb	23 44 11.7	
	comp=Z,51nm,1.1s						
YHH	Holmes Hill	41.39	74	P	P	23 43 37.1	-0.2
JMN	Monobe	41.40	265	P	P	23 43 37.6	+0.4
JMN				IAmb	IAmb	23 43 39.3	
	comp=Z,49nm,1.2s						
FFC	Flin Flon	41.51	56	P	P	23 43 37.9	+0.1
FFC				pmax	pmax		
	comp=Z,33nm,1.1s						
FFC	Flin Flon	41.51	56	P	P	23 43 37.9	+0.1
FFC				IAmb	IAmb	23 43 39.5	
	comp=Z,33nm,1.1s						
VES	Vestal, Richgr	41.57	90	P	P	23 43 38.9	+0.3
	baz=309						
PKM	Mcpherson Peak	41.73	92	P	P	23 43 41.3	+1.2
	baz=310						
H17A	Grant Village	41.77	74	P	P	23 43 41.3	+1.0
	baz=303						
H17A	Grant Village	41.77	74	P	P	23 43 41.4	+1.0
H17A				IAmb	IAmb	23 44 21.8	
	comp=Z,37nm,1.3s						
CWC	Cottonwood Cre	41.82	89	P	P	23 43 41.7	+0.9
	baz=309						
TPAW	Teton Pass	42.04	75	P	P	23 43 43.5	+0.9
RLMT	Red Lodge	42.15	72	P	P	23 43 42.8	-0.7
	baz=302,SNR=8.6						
RLMT	Red Lodge	42.15	72	P	P	23 43 44.1	+0.6
RLMT				IAmb	IAmb	23 44 05.1	
	comp=Z,54nm,1.2s						
R11A	Troy Canyon, C	42.19	85	P	P	23 43 42.0	-1.8
	baz=307,SNR=10.0						
R11A	Troy Canyon, C	42.19	85	P	P	23 43 43.2	-0.6
BGU	Big Grassy Mou	42.23	80	P	P	23 43 44.7	+0.6
AHID	Auburn Hatcher	42.35	76	P	P	23 43 45.2	0.0
MPMC	Manual Prospec	42.43	89	P	P	23 43 46.1	+0.3
	baz=309						
FURC	Furnace Creek,	42.56	88	P	P	23 43 48.0	+1.4
	baz=309						
OSI	Osito Audit: C	42.59	91	P	P	23 43 47.2	+0.2
	baz=310						
TPNV	Topopah Spring	42.64	87	P	P	23 43 47.8	+0.3
TPNV				pmax	pmax		
	comp=Z,16nm,0.9s						
TPNV	Topopah Spring	42.64	87	P	P	23 43 47.1	-0.4
	baz=309,SNR=11						
TPNV	Topopah Spring	42.64	87	P	P	23 43 47.8	+0.3
KSRS	Korea Array	42.73	274	P	P	23 43 48.2	+0.3
	comp=Z,11nm,0.5s,baz=58,slow=7.3,SNR=42						
KSRS				PcP	PcP	23 45 40.2	+1.1
	comp=Z,0.5nm,0.4s,baz=56,slow=3.7,SNR=2.6						
KSRS				LR	LR	00 01 01.2	
	comp=Z,303nm,21.0s,baz=58,slow=35						
KS19	Wonju Array Si	42.74	274	P	P	23 43 48.5	+0.5
KS19				IAmb	IAmb	23 43 52.3	
	comp=Z,36nm,1.2s						
KSAR	Wonju Array Be	42.76	274	P	P	23 43 48.0	-0.2
KSAR	Wonju Array Be	42.76	274	P	P	23 43 48.0	-0.2
SNY	Shenyang	42.79	282	⇓P	P	23 43 49.5	+1.1
SNY				sP	pwP	23 44 03.2	+1.4
SNY				S	S	23 50 14.7	+4.3
SNY				pmax	pmax		
	comp=Z,74nm,1.3s						
SNY				pmax	pmax		
	comp=Z,3μm,6.9s						
SNY				LR	LR		
	comp=Z,650nm,19.4s						
SNY				LR	LR		
	comp=Z,530nm,16.1s						
SNY				LR	LR		
	comp=Z,820nm,19.9s						
DUG	Dugway, Tooele	42.80	81	P	P	23 43 48.7	0.0
DUG				pmax	pmax		
	comp=Z,19nm,1.1s						
DUG	Dugway, Tooele	42.80	81	P	P	23 43 48.7	0.0
	baz=306,SNR=8.6						
DUG	Dugway, Tooele	42.80	81	P	P	23 43 48.6	0.0
CIT	Chita	43.17	300	eP	P	23 43 50.9	-0.6
CIT				e		23 44 03.8	
CIT				pmax	pmax		
	comp=Z,105nm,1.3s						
BW06	Boulder Array	43.29	75	P	P	23 43 52.0	-0.7
	baz=304						
PD31	Pinedale Array	43.29	75	P	P	23 43 52.4	-0.4
PD31				IAmb	IAmb	23 44 32.8	
	comp=Z,23nm,1.1s						
PDAR	Pinedale Array	43.29	75	P	P	23 43 52.1	-0.6
	comp=Z,5.3nm,0.9s,baz=305,slow=5.2,SNR=30						
PDAR				LR	LR	00 00 13.7	
	comp=Z,279nm,19.2s,baz=303,slow=34						
SHOC	Shoshone, Teco	43.29	88	P	P	23 43 53.4	+0.8
	baz=309						
DGMT	Dagmar	43.33	65	P	P	23 43 52.8	0.0
	baz=301						
GSC	Goldstone, Bar	43.34	89	P	P	23 43 52.8	-0.3
GSC				pmax	pmax		
	comp=Z,24nm,1.1s						
GSC	Goldstone, Bar	43.34	89	P	P	23 43 52.7	-0.4
	baz=310,SNR=9.9						
GSC	Goldstone, Bar	43.34	89	P	P	23 43 52.8	-0.3
GSC				IAmb	IAmb	23 44 27.7	
	comp=Z,24nm,1.1s						
BFSC	Mount Baldy Ra	43.50	91	P	P	23 43 54.0	-0.4
	baz=311						
INCN	Inchon	43.52	275	P	P	23 43 54.8	+0.4
INCN				pmax	pmax		
	comp=Z,54nm,1.1s						
INCN	Inchon	43.52	275	P	P	23 43 54.8	+0.4
INCN				IAmb	IAmb	23 43 58.1	
	comp=Z,54nm,1.1s						
JNU	Nakatsue	43.68	267	P	P	23 43 55.3	-0.4
TJN	Taejon	43.76	274	deP	P	23 43 56.9	+0.7
TUQ	Turquoise Moun	43.81	88	P	P	23 43 57.0	+0.1
	baz=310						
HEC	Hector,Ludlow	43.94	89	P	P	23 43 58.3	+0.4
	baz=310						
GMRC	Granite Mounta	44.39	89	P	P	23 44 01.1	-0.5
	baz=310						
PFO	Pinyon Flats O	44.66	91	P	P	23 44 03.2	-0.5
PFO				pmax	pmax		
	comp=Z,21nm,1.4s						
PFO	Pinyon Flats O	44.66	91	P	P	23 44 03.0	-0.7
	baz=311						
PFO	Pinyon Flats O	44.66	91	P	P	23 44 03.2	-0.5
PFO				IAmb	IAmb	23 44 25.2	
	comp=Z,21nm,1.4s						
TPFO	Pinon Flats	44.67	91	P	P	23 44 02.8	-1.0
	baz=311						
BELC	Belle Mtn. Jos	44.69	90	P	P	23 44 04.1	+0.1
	baz=311						
109C	Camp Elliot, M	44.74	92	P	P	23 44 05.3	+1.2
	baz=312						
JSU	Suzuyama	45.03	266	P	P	23 44 06.2	-0.4
JSU				IAmb	IAmb	23 44 12.0	
	comp=Z,53nm,1.2s						
IRM	Iron Mountain	45.12	89	P	P	23 44 07.0	-0.3
	baz=311						
MONP2	Monument Peak	45.16	91	P	P	23 44 07.9	0.0
	baz=312						
K22A	Casper	45.18	74	P	P	23 44 06.6	-1.2
	baz=305						
K22A	Casper	45.18	74	P	P	23 44 07.5	-0.4
K22A				IAmb	IAmb	23 44 47.2	
	comp=Z,45nm,1.5s						
BC3	Big Chuckawall	45.26	90	P	P	23 44 08.9	+0.4
	baz=311						
W13A	Hualapai Mount	45.30	87	P	P	23 44 08.3	-0.5
O20A	White River Ci	45.64	78	P	P	23 44 10.8	-0.7
	baz=307,SNR=8.8						
O20A	White River Ci	45.64	78	P	P	23 44 11.1	-0.4
O20A				IAmb	IAmb	23 45 06.2	
	comp=Z,51nm,1.4s						
PDMCI	Parker Dam,Lak	45.66	88	P	P	23 44 10.0	-1.4
	baz=311						
DL2	Dalian	45.73	280	P	P	23 44 12.2	+0.2
DL2				sP	pwP	23 44 24.5	-0.9
DL2				S	S	23 50 55.3	+2.1
DL2				pmax	pmax		
	comp=Z,21nm,0.7s						
DL2				pmax	pmax		
	comp=Z,210nm,8.0s						
DL2				LR	LR		
	comp=Z,420nm,16.4s						
DL2				LR	LR		
	comp=Z,350nm,15.5s						
DL2				LR	LR		
	comp=Z,390nm,19.0s						
RSSD	Black Hills	45.81	71	P	P	23 44 12.8	-0.1
RSSD				pmax	pmax		
	comp=Z,23nm,1.4s						
RSSD	Black Hills	45.81	71	P	P	23 44 12.6	-0.2
	baz=305						
RSSD	Black Hills	45.81	71	P	P	23 44 12.8	-0.1
RSSD				IAmb	IAmb	23 44 34.2	
	comp=Z,23nm,1.4s						
NRIK	Noril'sk	45.83	331	P	P	23 44 12.5	+0.2
	comp=Z,14nm,0.9s,baz=73,slow=9.2,SNR=14						
NRIK				LR	LR	00 06 46.0	
	comp=Z,604nm,18.0s,baz=65,slow=40						
NRIK	Noril'sk	45.83	331	P	P	23 44 12.6	+0.2
NRIK				IAmb	IAmb	23 44 14.0	
	comp=Z,18nm,0.9s						
PV14	Lion Creek, Pa	46.24	80	P	P	23 44 15.6	-0.8
PV14				IAmb	IAmb	23 44 40.9	
	comp=Z,12nm,0.9s						
NEEM	North Greenlan	46.53	15	⇑iP	P	23 44 18.2	+0.1
NEEM				IAmb	IAmb	23 44 19.2	
	comp=Z,26nm,0.7s						
NOR	Nord	46.55	5	i P	P	23 44 17.7	-0.2
NOR				IAmb	IAmb	23 44 18.5	
	comp=Z,4.8nm,1.1s						
NOR	Nord	46.55	5	i P	P	23 44 17.7	-0.2
NOR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
N23A	Red Feather La	46.57	75	P	P	23 44 18.1	-0.8
	baz=307						
WUAZ	Wupatki	46.59	85	P	P	23 44 19.0	0.0
	baz=310						
WUAZ	Wupatki	46.59	85	P	P	23 44 18.8	-0.2
WUAZ				IAmb	IAmb	23 44 49.9	
	comp=Z,26nm,1.1s						
Y14A	Wickenburg	46.60	88	P	P	23 44 18.3	-0.7
PHWY	Pilot Hill	46.62	75	P	P	23 44 19.0	-0.4
PHWY				IAmb	IAmb	23 45 00.3	
	comp=Z,22nm,1.7s						
ULM	Lac du Bonnet	46.98	59	P	P	23 44 21.2	-0.4
	comp=Z,7.7nm,0.6s,baz=298,slow=8.6,SNR=6.5						
ULM	Lac du Bonnet	46.98	59	P	P	23 44 21.5	-0.1
ULM				pmax	pmax		
	comp=Z,55nm,1.6s						
ULM	Lac du Bonnet	46.98	59	P	P	23 44 21.5	-0.1
ULM				IAmb	IAmb	23 44 47.8	
	comp=Z,55nm,1.6s						
SMCO	Snowmass	47.00	78	P	P	23 44 21.9	-0.5
MVCO	Mesa Verde	47.29	81	P	P	23 44 24.1	-0.4
	baz=309						
MVCO	Mesa Verde	47.29	81	P	P	23 44 24.6	+0.1
MVCO				IAmb	IAmb	23 45 25.3	
	comp=Z,14nm,1.1s						
ISCO	Idaho Springs	47.44	76	P	P	23 44 25.6	-0.2
ISCO				pmax	pmax		
	comp=Z,13nm,1.2s						
ISCO	Idaho Springs	47.44	76	P	P	23 44 24.4	-1.4
	baz=308						
ISCO	Idaho Springs	47.44	76	P	P	23 44 25.6	-0.2
ISCO				IAmb	IAmb	23 45 06.2	
	comp=Z,12nm,1.2s						
W18A	Petrified Fore	47.87	84	P	P	23 44 28.4	-0.6
	baz=310						
W18A	Petrified Fore	47.87	84	P	P	23 44 28.3	-0.7
W18A				IAmb	IAmb	23 45 19.1	
	comp=Z,21nm,1.1s						
IRK	Irkutsk	47.93	305	eP	P	23 44 28.6	-0.5
IRK				pmax	pmax		
	comp=Z,82nm,2.3s						
S22A	4UR Ranch, Cre	47.98	79	P	P	23 44 30.6	+0.6
	baz=309						
AGMN	Agassiz Nation	48.08	61	P	P	23 44 29.4	-0.8
	baz=304,SNR=6.3						
AGMN	Agassiz Nation	48.08	61	P	P	23 44 29.9	-0.3
AGMN				IAmb	IAmb	23 44 56.4	
	comp=Z,19nm,0.9s						
BJI	Beijing	48.35	285	P	P	23 44 32.9	+0.5
BJI				S	S	23 51 32.7	+2.1
BJI				pmax	pmax		
	comp=Z,32nm,1.1s						
BJI				pmax	pmax		
	comp=Z,210nm,8.3s						
BJI				LR	LR		
	comp=Z,750nm,21.2s						
BJI				LR	LR		
	comp=Z,520nm,17.4s						
BJI				LR	LR		
	comp=Z,1μm,20.5s						
BJT	Baijiatuau	48.37	285	P	P	23 44 32.6	0.0
BJT				pmax	pmax		
	comp=Z,23nm,0.9s						
BJT	Baijiatuau	48.37	285	P	P	23 44 32.6	0.0
BJT				IAmb	IAmb	23 44 34.4	
	comp=Z,23nm,0.9s						
TLY	Talaya	48.57	305	eP	P	23 44 34.0	+0.1
TLY				eS	S	23 51 43.6	+10
TLY				pmax	pmax		
	comp=Z,115nm,1.1s						
TLY				MLR	MLR		
	comp=Z,2μm,16.0s						
TLY	Talaya	48.57	305	P	P	23 44 34.1	+0.1
TLY				IAmb	IAmb	23 44 35.9	
	comp=Z,28nm,0.7s						
UPNV	Upernavik	48.78	21	i P	P	23 44 35.8	+0.5
UPNV				IAmb	IAmb	23 44 36.8	
	comp=Z,21nm,0.9s						
SDCO	Great Sand Dun	48.79	78	P	P	23 44 36.5	+0.3
	baz=309						
ULN	Ulaanbaatar	48.94	299	c iP	P	23 44 37.0	-0.1
ULN				pmax	pmax		
	comp=Z,41nm,1.0s						
ULN	Ulaanbaatar	48.94	299	P	P	23 44 37.1	+0.1
ULN				IAmb	IAmb	23 44 39.1	
	comp=Z,41nm,1.0s						
TUC	Tucson	49.08	88	P	P	23 44 38.1	-0.1
TUC				pmax	pmax		
	comp=Z,12nm,1.2s						
TUC	Tucson	49.08	88	P	P	23 44 38.3	+0.2
	baz=312						
TUC	Tucson	49.08	88	P	P	23 44 38.1	-0.1
SONM	Songino Array	49.32	299	P	P	23 44 40.0	0.0
	comp=Z,24nm,0.8s,baz=52,slow=8.6,SNR=120						
SONM				LR	LR	00 06 59.8	
	comp=Z,1μm,19.5s,baz=60,slow=38						
SONM	Songino Array	49.32	299	P	P	23 44 40.2	+0.2
SONM				pmax	pmax		
	comp=Z,47nm,1.1s						
SONM	Songino Array	49.32	299	P	P	23 44 40.2	+0.2
ZAK	Zakamensk	49.50	303	eP	P	23 44 41.2	0.0
ZAK				pmax	pmax		
	comp=Z,64nm,1.2s						
KBS	Kingsbay	49.76	359	eP	P	23 44 43.1	+0.4
T25A	Trinidad	49.85	78	P	P	23 44 43.5	-0.7
	baz=310,SNR=5.8						
MOY	Mondy	49.93	306	eP	P	23 44 45.3	+0.8
MOY				pmax	pmax		
	comp=Z,52nm,1.4s						
ANMO	Albuquerque	50.01	82	⇓eP	P	23 44 45.2	-0.3
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ANMO	Albuquerque	50.01	82	P	P	23 44 45.1	-0.3
	baz=311						
ANMO	Albuquerque	50.01	82	P	P	23 44 45.3	-0.1
TIA	Tai'an	50.20	281	⇑P	P	23 44 46.7	+0.1
TIA				S	S	23 51 57.0	+0.3
TIA				pmax	pmax		
	comp=Z,15nm,1.7s						
TIA				pmax	pmax		
	comp=Z,210nm,6.5s						
TIA				LR	LR		
	comp=Z,450nm,21.1s						
TIA				LR	LR		
	comp=Z,390nm,19.2s						
ECSD	EROS Data Cent	50.35	67	P	P	23 44 46.5	-1.2
	baz=307,SNR=6.3						
SPA0	Spitsbergen Ar	50.41	357	eP	P	23 44 48.5	+0.9
HHC	Hu-ho-hao-te	50.61	289	⇓iP	P	23 44 51.0	+1.3
HHC				sS	sS	23 52 14.1	-0.9
HHC				pmax	pmax		
	comp=Z,42nm,1.3s						
HHC				pmax	pmax		
	comp=Z,160nm,5.8s						
HHC				LR	LR		
	comp=Z,410nm,16.6s						
HHC				LR	LR		
	comp=Z,700nm,16.1s						
HHC				LR	LR		
	comp=Z,680nm,19.4s						
EYMN	Ely	50.66	59	P	P	23 44 49.0	-0.9
	baz=306,SNR=7.3						
EYMN	Ely	50.66	59	P	P	23 44 49.3	-0.6
EYMN				IAmb	IAmb	23 45 16.1	
	comp=Z,28nm,1.2s						
121A	Cookes Peak, D	50.80	85	P	P	23 44 51.6	+0.3
	baz=312						
121A	Cookes Peak, D	50.80	85	P	P	23 44 50.7	-0.7
F36A	Milaca	50.80	63	P	P	23 44 50.8	-0.2
DAG	Danmarks Havn	51.01	7	⇑iP	P	23 44 51.5	-0.7
DAG				IAmb	IAmb	23 44 54.8	
	comp=Z,6.1nm,0.9s						
DAG	Danmarks Havn	51.01	7	⇑iP	P	23 44 51.4	-0.7
DAG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SPMN	Marine on St.	51.59	63	P	P	23 44 57.2	+0.3
	baz=308						
CBKS	Cedar Bluff	51.60	73	P	P	23 44 57.5	+0.3
	baz=310						
HOPEN	Hopen	51.67	354	eP	P	23 44 57.3	+0.3
BTO	Baotou	51.67	290	eP	P	23 44 57.9	+0.2
BTO				S	S	23 52 15.2	-1.8
BTO				pmax	pmax		
	comp=Z,180nm,1.3s						
BTO				LR	LR		
	comp=Z,1μm,17.5s						
BTO				LR	LR		
	comp=Z,1μm,21.4s						
NJ2	Nanjing	51.90	275	eP	P	23 44 59.2	-0.2
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
TIY	Taiyuan	52.09	285	eP	P	23 45 02.5	+1.7
TIY				pmax	pmax		
	comp=Z,94nm,1.3s						
TIY				LR	LR		
	comp=Z,140nm,6.9s						
TIY				LR	LR		
	comp=Z,190nm,8.7s						
TIY				LR	LR		
	comp=Z,570nm,21.7s						
SUMG	Summit	52.37	15	i P	P	23 45 03.2	+0.4
SUMG				IAmb	IAmb	23 45 05.3	
	comp=Z,13nm,1.0s						
SUMG	Summit	52.37	15	i P	P	23 45 03.2	+0.4
SUMG				pmax	pmax		
	comp=Z,13nm,1.0s						
SUMG	Summit	52.37	15	P	P	23 45 02.5	-0.3
SUMG				IAmb	IAmb	23 45 04.5	
	comp=Z,39nm,1.4s						
MNTX	Cornudas Mount	52.86	84	P	P	23 45 06.7	+0.2
	baz=313						
MNTX	Cornudas Mount	52.86	84	P	P	23 45 06.1	-0.5
MSTX	Muleshoe	52.94	80	P	P	23 45 05.9	-1.4
	baz=312						
MSTX	Muleshoe	52.94	80	P	P	23 45 06.1	-1.1
MSTX				IAmb	IAmb	23 45 28.0	
	comp=Z,31nm,1.1s						
AMTX	Amarillo	52.99	79	P	P	23 45 07.4	-0.2
	baz=312						
DBG	Daneborg	53.20	9	⇑iP	P	23 45 07.5	-0.9
DBG				IAmb	IAmb	23 45 09.8	
	comp=Z,4.2nm,0.8s						
I40A	Norwalk	53.65	63	P	P	23 45 11.6	-0.6
I40A				IAmb	IAmb	23 46 10.2	
	comp=Z,18nm,1.1s						
F42A	Maple Grove Fa	53.82	60	P	P	23 45 12.9	-0.5
F42A				IAmb	IAmb	23 45 48.4	
	comp=Z,32nm,1.3s						
E43A	Lone Tree Farm	54.04	59	P	P	23 45 14.9	-0.1
E43A				IAmb	IAmb	23 45 41.2	
	comp=Z,22nm,0.9s						
SFJD	Kangerlussuaq	54.30	24	P	P	23 45 16.5	-0.1
SFJD				pmax	pmax		
	comp=Z,17nm,1.1s						
SFJD	Kangerlussuaq	54.30	24	P	P	23 45 16.5	-0.1
SFJD				IAmb	IAmb	23 45 17.7	
	comp=Z,16nm,1.1s						
JFWS	Jewell Farm	54.48	64	P	P	23 45 17.4	-0.9
JFWS				pmax	pmax		
	comp=Z,14nm,0.9s						
JFWS	Jewell Farm	54.48	64	P	P	23 45 16.9	-1.4
	baz=310						
JFWS	Jewell Farm	54.48	64	P	P	23 45 17.4	-0.9
JFWS				IAmb	IAmb	23 45 40.6	
	comp=Z,14nm,0.9s						
WMOK	Wichita Mounta	54.86	77	P	P	23 45 20.2	-1.0
	baz=312						
ICESG	Greenland Ices	55.08	18	i P	P	23 45 22.1	-0.5
ICESG				IAmb	IAmb	23 45 23.1	
	comp=Z,21nm,0.9s						
E46A	Sault Ste Mari	55.47	57	P	P	23 45 25.0	-0.3
E46A				IAmb	IAmb	23 45 51.8	
	comp=Z,54nm,1.4s						
TX32	Lajitas Array	55.56	85	P	P	23 45 25.8	-0.5
TX32				IAmb	IAmb	23 45 57.3	
	comp=Z,18nm,1.1s						
TXAR	Lajitas Array	55.56	85	P	P	23 45 25.8	-0.5
	comp=Z,2.7nm,0.9s,baz=294,slow=5.2,SNR=26						
TXAR				ScP	ScP	23 50 22.5	+0.1
	comp=Z,1.7nm,1.1s,baz=241,slow=2.6,SNR=5.5						
TXAR	Lajitas Array	55.56	85	P	P	23 45 25.6	-0.8
WHN	Wuhan	55.73	277	P	P	23 45 39.9	+12
DY2G	Dye2	55.79	23	i P	P	23 45 26.8	-0.9
DY2G				IAmb	IAmb	23 45 29.6	
	comp=Z,6.2nm,0.7s						
ZAA0	Zalesovo Array	56.14	316	P	P	23 45 29.4	-0.6
ZAA0				PcP	PcP	23 46 28.4	+0.8
ZALV	Zalesovo Beam	56.14	316	P	P	23 45 30.2	+0.2
	comp=Z,1.1nm,0.4s,baz=51,slow=6.5,SNR=6.6						
ZALV				PcP	PcP	23 46 28.5	+0.9
	comp=Z,4.8nm,0.8s,baz=56,slow=2.6,SNR=7.0						
ZALV				LR	LR	00 12 15.9	
	comp=Z,836nm,18.2s,baz=55,slow=39						
ZALV	Zalesovo Beam	56.14	316	P	P	23 45 30.1	+0.1
ZALV				PcP	PcP	23 46 28.3	+0.7
L44A	Lake County Fo	56.27	63	P	P	23 45 30.6	-0.6
	baz=311						
GLMI	Grayling	56.32	59	P	P	23 45 30.5	-0.9
	baz=311						
SSLB	Suanglung	56.41	267	P	P	23 45 32.1	-0.3
HDIL	Hopedale	56.57	65	P	P	23 45 32.5	-0.8
	baz=312						
HDIL	Hopedale	56.57	65	P	P	23 45 32.6	-0.7
HDIL				IAmb	IAmb	23 46 07.8	
	comp=Z,29nm,1.1s						
MATQ	Matagami	56.59	51	P	P	23 45 32.9	-0.4
	baz=312						
XAN	Xi'an	56.66	284	P	P	23 45 34.3	+0.2
XAN				pP	pP	23 45 38.8	-2.8
XAN				PP	PP	23 47 39.5	-0.5
XAN				S	S	23 53 24.2	-0.2
XAN				pmax	pmax		
	comp=Z,38nm,1.4s						

XAN pmax pmax
comp=Z,190nm,3.6s
XAN LR LR
comp=Z,340nm,19.5s
XAN LR LR
comp=Z,700nm,20.6s
XAN LR LR
comp=Z,670nm,19.0s
HHAR Hobbs 56.73 72 P P 23 45 33.0 -1.5
HHAR IAmb IAmb 23 46 03.0
comp=Z,21nm,1.3s
CCM Cathedral Cave 57.12 69 P P 23 45 35.9 -1.3
baz=312
MGMO Mountain Grove 57.13 70 P P 23 45 35.5 -1.9
MGMO IAmb IAmb 23 45 57.0
comp=Z,20nm,1.1s
U40A Yellville 57.33 71 P P 23 45 36.9 -1.9
baz=313,SNR=6.1
LSQQ Lebel-sur-Quev 57.38 51 P P 23 45 38.8 -0.1
baz=312
HAMF Hammerfest 57.49 353 *e*P **P 23 45 40.2 +0.9**
W39A Magazine 57.56 73 P P 23 45 39.1 -1.3
baz=313
W39A Magazine 57.56 73 P P 23 45 39.4 -1.0
W39A IAmb IAmb 23 46 01.1
comp=Z,44nm,1.3s
VLDQ Val d'Or 57.79 52 P P 23 45 40.3 -1.5
DGZ Jazzator, Alta 57.84 311 *de*P **P 23 45 43.2 +0.9**
DGZ pmax pmax
comp=Z,13nm,1.2s
SCHQ Schefferville 57.92 41 P P 23 45 42.2 -0.4
comp=Z,8.3nm,0.9s,baz=317,slow=8.6,SNR=9.8
SCHQ LR LR 00 12 54.9
comp=Z,714nm,19.1s,baz=322,slow=38
SFIN Lafayette 57.93 64 P P 23 45 42.3 -0.5
baz=312
CHGQ Chibougamau 58.04 49 P P 23 45 42.4 -1.2
baz=313,SNR=21
KEV Kevo 58.08 352 P P 23 45 44.2 +0.7
KEV pmax pmax
comp=Z,23nm,0.9s
KEV Kevo 58.08 352 P P 23 45 44.2 +0.7
KEV IAmb IAmb 23 45 45.1
comp=Z,23nm,0.9s
MIAR Mount Ida 58.13 73 P P 23 45 43.7 -0.7
MIAR pmax pmax
comp=Z,56nm,1.2s
MIAR Mount Ida 58.13 73 P P 23 45 43.4 -1.0
baz=313
MIAR Mount Ida 58.13 73 P P 23 45 43.7 -0.7
LZH Lanzhou 58.29 289 ⇓P **P 23 45 47.1 +1.4**
LZH sP pwP 23 45 58.8 -0.6
LZH S **S 23 53 52.0 +6.0**
LZH pmax pmax
comp=Z,100nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=Z,720nm,16.8s
LZH LR LR
comp=Z,620nm,16.8s
LZH LR LR
comp=Z,520nm,16.3s
GTA Gaotai 58.36 295 ⇑P **P 23 45 46.2 +0.1**
GTA pP sP 23 45 54.7 -1.9
GTA sP pwP 23 45 58.5 -1.3
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,170nm,5.5s
GTA LR LR
comp=Z,510nm,18.5s
GTA LR LR
comp=Z,690nm,18.2s
GTA LR LR
comp=Z,890nm,18.2s
ARA0 ARCESS Array S 58.42 352 *e*P **P 23 45 46.8 +0.9**
ARCES ARCESS Array B 58.42 352 P **P 23 45 46.3 +0.4**
comp=Z,11nm,0.8s,baz=18,slow=6.8,SNR=20
ARCES LR LR 00 11 52.5
comp=Z,320nm,20.7s,baz=20,slow=37
ARCES ARCESS Array B 58.42 352 P **P 23 45 46.4 +0.4**
ARCES pmax pmax
comp=Z,56nm,1.7s
ARCES ARCESS Array B 58.42 352 P **P 23 45 46.4 +0.4**
ARCES IAmb IAmb 23 46 01.3
comp=Z,56nm,1.6s
ANGG Ammassalik, Gr 58.46 20 P **P 23 45 45.6 -0.5**
ANGG IAmb IAmb 23 45 46.2
comp=Z,14nm,0.9s
W41B Gary Mavity, V 58.49 72 P **P 23 45 45.3 -1.6**
baz=313,SNR=6.3
X40A Basin Creek Fa 58.62 73 P **P 23 45 46.2 -1.5**
baz=314
JETT Jettan, Norway 58.78 354 *e*P **P 23 45 50.3 +1.8**
TRO Tromso 58.80 355 *e*P **P 23 45 49.1 +0.7**
ENH Enshi 58.92 281 P **P 23 45 49.5 -0.5**
ENH IAmb IAmb 23 46 09.0
comp=Z,15nm,0.8s
ALGO Algonquin Park 58.97 54 P **P 23 45 49.8 -0.3**
baz=313,SNR=15
LVZ Lovozero 59.00 348 *ce*P **P 23 45 49.3 -0.7**
LVZ pmax pmax
comp=Z,80nm,1.0s
LVZ Lovozero 59.00 348 P **P 23 45 50.1 0.0**
KTK1 Kautokeino 59.12 353 *e*P **P 23 45 51.7 +1.0**
SADO Sadowa 59.23 56 P **P 23 45 51.2 -0.7**
SADO IAmb IAmb 23 45 53.7
comp=Z,14nm,0.8s
NATX Nacogdoches 59.41 76 P **P 23 45 51.3 -2.0**
baz=314
APA Apatity 59.48 348 ⇑*i*P **P 23 45 51.4 -1.8**
APA *i* S **S 23 53 53.0 -7.1**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,400nm,14.0s
P48A Milroy 59.49 64 P **P 23 45 52.9 -0.9**
P48A IAmb IAmb 23 46 28.1
comp=Z,41nm,1.4s
P49A Miami Univ. Ec 59.84 63 P **P 23 45 55.9 -0.3**
baz=314
WCI Wyandotte Cave 59.85 65 P **P 23 45 55.7 -0.6**
WCI pmax pmax
comp=Z,16nm,1.0s
WCI Wyandotte Cave 59.85 65 P **P 23 45 56.0 -0.2**
baz=314
WCI Wyandotte Cave 59.85 65 P **P 23 45 55.7 -0.6**
WCI IAmb IAmb 23 46 16.6
comp=Z,16nm,1.0s
PLVO Plevna 60.10 54 P **P 23 45 58.0 +0.1**
ACSO Alum Creek Sta 60.32 62 P **P 23 45 58.3 -1.1**
baz=314
WVT Waverly 60.42 68 P **P 23 45 59.5 -0.7**
WVT pmax pmax
comp=Z,29nm,1.4s
WVT Waverly 60.42 68 P **P 23 45 59.5 -0.7**
baz=314
WVT Waverly 60.42 68 P **P 23 45 59.5 -0.7**
WVT IAmb IAmb 23 46 21.7
comp=Z,29nm,1.4s
LOF Lofoten 60.54 357 *e*P **P 23 46 01.1 +0.6**
LATQ La Tuque 60.57 50 P **P 23 46 00.4 -0.7**
baz=315,SNR=18
ERPA Erie 60.63 58 P **P 23 46 01.2 -0.3**
baz=314
SEM Semipalatinsk 60.63 315 *e*P **P 23 46 00.2 -1.5**
baz=315
SEM Semipalatinsk 60.63 315 *e*P **P 23 46 00.2 -1.5**
OXF Oxford 60.63 71 P **P 23 46 00.7 -1.0**
baz=314
STEI Steigen 60.67 356 *e*P **P 23 46 02.5 +1.1**
D58A Chemin du LacG 60.72 50 P **P 23 46 01.4 -0.7**
baz=315,SNR=23
M53A Wt Miller and 60.73 59 P **P 23 46 01.9 -0.3**
baz=314
ALLY Alegheny Colle 60.87 59 P **P 23 46 02.6 -0.6**
R50A Paris 60.93 64 P **P 23 46 03.4 -0.2**
R50A IAmb IAmb 23 46 31.5
comp=Z,20nm,1.3s
E58A La Victoria 61.05 51 P **P 23 46 03.2 -1.1**
baz=315,SNR=11
PLAL Pickwick Lake 61.08 69 P **P 23 46 03.8 -0.9**
PLAL IAmb IAmb 23 46 25.0
comp=Z,16nm,0.8s
N53A Lisbon 61.09 60 P **P 23 46 04.3 -0.4**
N53A IAmb IAmb 23 46 39.8
comp=Z,38nm,1.4s
G57A Newington 61.11 53 P **P 23 46 04.1 -0.6**
baz=315,SNR=8.1
WVNY West Valley, N 61.16 57 P **P 23 46 05.2 +0.1**
WVNY IAmb IAmb 23 46 27.1
comp=Z,20nm,0.9s
P52A Corning 61.20 62 P **P 23 46 05.7 +0.3**
baz=314
FAUS Fauske 61.22 356 *e*P **P 23 46 05.5 +0.4**
M54A Oil Creek Stat 61.23 59 P **P 23 46 04.4 -1.2**
baz=314
O53A New Philadelph 61.27 61 P **P 23 46 05.4 -0.6**
baz=314
CLTN Cedars of Leba 61.32 67 P **P 23 46 06.1 -0.2**
CLTN IAmb IAmb 23 46 25.5
comp=Z,13nm,0.9s
H57A Richville 61.36 54 P **P 23 46 06.6 +0.2**
baz=315,SNR=17
N54A Moraine State 61.44 59 P **P 23 46 06.7 -0.3**
baz=315
G58A Ormstown 61.54 52 P **P 23 46 06.9 -0.7**
baz=315,SNR=18
I57A Carthage 61.60 54 P **P 23 46 07.8 -0.3**
baz=315,SNR=9.7
K56A Middlesex 61.62 56 P **P 23 46 08.8 +0.5**
baz=315,SNR=7.8
LONY Lake Ozonia 61.65 53 P **P 23 46 08.1 -0.3**
baz=315,SNR=11
LONY Lake Ozonia 61.65 53 P **P 23 46 07.9 -0.6**
LONY IAmb IAmb 23 46 09.2
comp=Z,34nm,1.2s
F59A Saint Guilaume 61.66 51 P **P 23 46 07.3 -1.1**
baz=316,SNR=14
D60A Saint Jean D'O 61.79 49 P **P 23 46 09.0 -0.3**
baz=316,SNR=13
WMQ Urumqi 61.82 306 *e*P **P 23 46 10.4 +0.7**
WMQ pP pP 23 46 15.5 -2.2
WMQ sP pwP 23 46 21.8 -0.5
WMQ pmax pmax
comp=Z,42nm,1.1s
WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,1μm,18.5s
WMQ LR LR
comp=Z,980nm,15.9s
WMQ LR LR
comp=Z,1μm,19.5s
WMQ Urumqi 61.82 306 IAmb IAmb 23 46 11.6
comp=Z,28nm,0.9s
D61A St Aubert, Com 61.93 49 P **P 23 46 10.0 -0.2**
baz=316,SNR=6.5
E60A Ste Agathe de 61.93 50 P **P 23 46 10.0 -0.3**
baz=316,SNR=14
CD2 Chengdu 61.96 285 P **P 23 46 10.8 +0.1**
CD2 pP sP 23 46 20.0 -1.3
CD2 sP pwP 23 46 22.8 -1.6
CD2 S **S 23 54 32.5 -0.5**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,230nm,4.9s
CD2 LR LR
comp=Z,420nm,16.7s
CD2 LR LR
comp=Z,740nm,20.0s
CD2 LR LR
comp=Z,590nm,19.8s
F60A Warwick 61.98 51 P **P 23 46 09.8 -0.8**
baz=316,SNR=10.0
H58A Gabriels 62.00 53 P **P 23 46 10.4 -0.5**
baz=316,SNR=6.2
H59A Cadyville 62.08 53 P **P 23 46 10.5 -0.8**
baz=316,SNR=12
I58A Old Forge 62.12 54 P **P 23 46 11.8 +0.1**
baz=316,SNR=9.8
J58A Remsen 62.20 55 P **P 23 46 12.3 +0.1**
baz=316,SNR=12
MOQ Mont Orford 62.31 51 P **P 23 46 12.8 -0.1**
MK31 Makanchi Array 62.32 311 P **P 23 46 13.0 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 62.32 311 P **P 23 46 12.9 0.0**
MK31 IAmb IAmb 23 46 13.8
comp=Z,6.3nm,0.7s
MKAR Makanchi Array 62.32 311 P **P 23 46 12.8 -0.2**
comp=Z,6.3nm,0.4s,baz=48,slow=5.7,SNR=138
MKAR LR LR 00 14 41.5
comp=Z,451nm,18.2s,baz=38,slow=37
MKAR Makanchi Array 62.32 311 P **P 23 46 12.5 -0.5**
E61A Lac Etchemin 62.34 49 P **P 23 46 13.5 +0.4**
baz=316
Q54A Coxs Mills 62.38 61 P **P 23 46 13.1 -0.2**
Q54A IAmb IAmb 23 46 33.2
comp=Z,41nm,1.4s
G60A Masonville 62.42 52 P **P 23 46 13.5 -0.1**
baz=316
MCWV Mont Chateau 62.44 60 P **P 23 46 14.0 +0.3**
baz=315
F61A St Evariste 62.44 50 P **P 23 46 13.7 0.0**
baz=316,SNR=16
MAKZ Makanchi 62.46 311 P **P 23 46 13.3 -0.6**
MAKZ pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 62.46 311 P **P 23 46 13.3 -0.6**
MAKZ IAmb IAmb 23 46 14.8
comp=Z,11nm,0.7s
MOR8 Moi Rana 62.46 356 *e*P **P 23 46 13.5 -0.1**
D62A Allapoint, All 62.55 48 P **P 23 46 14.4 0.0**
baz=317,SNR=25
TZTN Tazewell 62.59 65 P **P 23 46 15.7 +0.8**
baz=315
H60A Morristown 62.63 52 P **P 23 46 14.1 -0.9**
baz=316,SNR=6.0
E62A Clayton Lake 62.66 49 P **P 23 46 14.9 -0.2**
baz=317,SNR=12
E62A Clayton Lake 62.66 49 P **P 23 46 15.1 -0.1**
E62A IAmb IAmb 23 46 16.2
comp=Z,27nm,0.9s
BINY Binghamton 62.67 56 P **P 23 46 15.7 +0.4**
baz=316,SNR=8.7
G61A St-Isidore-de- 62.68 51 P **P 23 46 15.2 -0.1**
baz=316,SNR=12
O56A Blue Knob Stat 62.69 59 P **P 23 46 14.6 -0.9**
baz=315
BRVK Borovoye 62.74 322 *ce*P **P 23 46 16.0 +0.4**
BRVK pmax pmax
comp=Z,17nm,1.3s
BRVK Borovoye 62.74 322 P **P 23 46 15.6 0.0**
BRVK IAmb IAmb 23 46 55.7
comp=Z,24nm,1.4s
SSPA Standing Stone 62.79 58 P **P 23 46 15.3 -0.9**
baz=316
SSPA Standing Stone 62.79 58 P **P 23 46 15.9 -0.2**
SSPA IAmb IAmb 23 46 42.9
comp=Z,23nm,1.1s
FPAL Fort Paine 62.83 68 P **P 23 46 15.2 -1.3**
FPAL IAmb IAmb 23 46 36.9
comp=Z,28nm,1.0s
L58A Harry Jones Me 62.85 56 P **P 23 46 16.6 0.0**
baz=316,SNR=12
I60A Shoreham 62.86 53 P **P 23 46 16.1 -0.3**
baz=316
PRGR Permogore 62.89 340 *e*P **P 23 46 13.0 -3.4**
PRGR pmax pmax
comp=Z,115nm,1.0s
S54A Dingess, Beckl 62.95 63 P **P 23 46 16.9 -0.5**
F62A Pittston Farm, 62.98 50 P **P 23 46 17.2 -0.1**
baz=317,SNR=13
D63A Stockholm 63.02 48 P **P 23 46 17.2 -0.3**
baz=317,SNR=13
H61A Lyndonville 63.03 52 P **P 23 46 17.5 -0.2**
baz=316,SNR=6.1
SVE Sverdlovsk 63.08 330 *de*P **P 23 46 18.4 +0.6**
SVE pmax pmax
comp=Z,29nm,1.3s
LRAL Lakeview Retre 63.09 70 P **P 23 46 16.4 -1.8**
baz=315
L59A Walton 63.16 55 P **P 23 46 19.3 +0.7**
G62A West of Eustis 63.21 50 P **P 23 46 18.6 -0.2**
baz=317,SNR=18
J60A Lant Hill Farm 63.23 54 P **P 23 46 19.0 +0.1**
baz=316,SNR=16
LBNH Lisbon 63.24 52 P **P 23 46 19.1 0.0**
baz=317,SNR=6.3
E63A Oxbow 63.32 48 P **P 23 46 18.9 -0.7**
baz=317,SNR=17
PQI Presque Isle 63.33 48 P **P 23 46 19.2 -0.4**
PQI IAmb IAmb 23 46 20.3
comp=Z,20nm,0.8s
I61A Oroboro, Fairl 63.33 52 P **P 23 46 19.9 +0.3**
baz=317,SNR=7.4
GYA Guiyang 63.38 280 ⇓P **P 23 46 22.5 +2.2**
H62A Milan 63.38 51 P **P 23 46 19.8 -0.2**
baz=317,SNR=25
F63A Nahmakanta, Br 63.53 49 P **P 23 46 20.4 -0.6**
baz=317,SNR=16
F63A Nahmakanta, Br 63.53 49 P **P 23 46 21.1 +0.1**
J61A Chester 63.59 53 P **P 23 46 21.3 -0.1**
baz=317,SNR=8.3
E64A Bridgewater 63.60 48 P **P 23 46 19.9 -1.5**
baz=318,SNR=25
N59A State Game Lan 63.70 57 P **P 23 46 20.2 -2.0**
baz=316
K61A Williamstown 63.72 54 P **P 23 46 21.6 -0.6**
baz=317,SNR=5.2
G63A Kingsbury 63.72 50 P **P 23 46 21.8 -0.4**
baz=317,SNR=6.9
PKME Peaks-Kenny Pk 63.77 50 P **P 23 46 22.1 -0.5**
baz=317,SNR=8.9
PKME Peaks-Kenny Pk 63.77 50 P **P 23 46 22.0 -0.5**
PKME IAmb IAmb 23 46 23.8
comp=Z,26nm,0.9s
F64A Sherman 63.77 49 P **P 23 46 21.2 -1.3**
baz=318,SNR=17
I62A Tamworth 63.80 52 P **P 23 46 22.1 -0.7**
baz=317
H63A New Sharon 63.86 51 P **P 23 46 22.1 -1.0**
baz=317,SNR=6.0
BLA Blacksburg 63.87 63 P **P 23 46 23.0 -0.3**
baz=316
G64A Maxfield 64.03 49 P **P 23 46 22.8 -1.4**
baz=318,SNR=7.1
J62A Henniker 64.04 53 P **P 23 46 23.1 -1.2**
baz=317,SNR=7.3
I63A Otisfield 64.04 51 P **P 23 46 23.8 -0.5**
baz=317,SNR=8.8
ARU Arti 64.06 331 *c i*P **P 23 46 24.2 0.0**
ARU 23 47 02.5
ARU 23 48 45.9
ARU S **S 23 54 58.0 -0.4**
ARU 23 56 17.1
ARU SS **SS 23 59 11.9 +5.5**
ARU pmax pmax
comp=Z,41nm,1.4s
ARU MLR MLR
comp=Z,678nm,18.0s
ARU Arti 64.06 331 P **P 23 46 24.5 +0.3**
ARU IAmb IAmb 23 46 25.7
comp=Z,28nm,1.1s
L61B Northampton 64.18 54 P **P 23 46 25.2 -0.1**
baz=317
NSS Namsos 64.19 357 *e*P **P 23 46 25.6 +0.6**
K62A Royalston 64.24 53 P **P 23 46 25.3 -0.4**
baz=317
H64A Troy 64.26 50 P **P 23 46 25.4 -0.4**
baz=318
J63A Strafford 64.37 52 P **P 23 46 25.8 -0.6**
baz=317
K63A Dunstable 64.58 53 P **P 23 46 28.1 +0.2**
baz=317
I64A Boothbay 64.60 51 P **P 23 46 28.7 +0.8**
baz=318
PAL Palisades 64.61 56 P **P 23 46 27.7 -0.3**
baz=317,SNR=5.3
G65A Princeton 64.63 49 P **P 23 46 27.2 -1.0**
baz=318,SNR=8.8
H65A Eastbrook 64.69 49 P **P 23 46 28.5 -0.1**
baz=318,SNR=10
HRV Adam Dziewonsk 64.70 53 P **P 23 46 28.9 +0.3**
HRV pmax pmax
comp=Z,28nm,1.2s
HRV Adam Dziewonsk 64.70 53 P **P 23 46 27.7 -0.9**
baz=317
HRV Adam Dziewonsk 64.70 53 P **P 23 46 28.9 +0.3**
HRV IAmb IAmb 23 46 29.6
comp=Z,28nm,1.1s
KIRV Kirov 64.73 337 *c i*P **P 23 46 28.8 +0.2**
KLMR Klimovskoe 64.82 343 *e*P **P 23 46 27.8 -1.3**
KLMR *e* 23 47 01.5
KLMR *e*S **S 23 55 05.4 -2.3**
KLMR pmax pmax
comp=Z,58nm,1.2s
KLMR Klimovskoe 64.82 343 *e*P **P 23 46 27.8 -1.3**
KLMR AMP 23 46 30.6
comp=Z,58nm,1.2s
KLMR *e*PcP **PcP 23 47 01.5 -0.8**
KLMR *e*S **S 23 55 05.4 -2.3**
KLMR *e*S **S 23 55 05.4 -2.3**
KLMR LQ LQ 00 12 02.3
KLMR LQ LQ 00 12 02.3
KLMR LR LR 00 15 41.0
KLMR AMP 00 22 30.9
comp=Z,583nm,16.5s
KMSC Kings Mountain 64.85 65 P **P 23 46 29.8 +0.1**
baz=316
GOGA Godfrey 64.88 67 P **P 23 46 28.5 -1.4**
baz=316,SNR=5.7
GGN Saint George 65.03 48 P **P 23 46 30.9 +0.2**
GGN IAmb IAmb 23 46 31.9
comp=Z,22nm,0.9s
H66A Whiting 65.06 49 P **P 23 46 30.4 -0.5**
baz=318,SNR=10
L63A North Scituate 65.15 54 P **P 23 46 29.9 -1.7**
baz=318
TDK Taldyqorghan 65.47 312 *e*P **P 23 46 33.2 -0.5**
comp=Z,9.8nm,0.4s,baz=312
TDK Taldyqorghan 65.47 312 *e*P **P 23 46 33.2 -0.5**
TDK pmax pmax
comp=Z,10.0nm,0.4s
L64A Middleborough 65.48 53 P **P 23 46 32.3 -1.4**
baz=318
M64A Tiverton 65.58 54 P **P 23 46 33.5 -0.9**
baz=318
DRLN Deer Lake 65.90 40 P **P 23 46 36.2 -0.1**
FIA1 FINESS Array S 66.26 350 P **P 23 46 38.4 0.0**
FINES FINESS Array B 66.26 350 P **P 23 46 38.1 -0.3**
comp=Z,22nm,0.9s,baz=35,slow=7.0,SNR=32
FINES FINESS Array B 66.26 350 P **P 23 46 38.0 -0.4**
ARXS Arharly 66.34 312 *e*P **P 23 46 39.9 +0.6**
SHLS Shalkode 66.37 310 ⇑*i*P **P 23 46 38.8 -0.8**
comp=Z,37nm,1.0s,baz=310
SHLS Shalkode 66.37 310 *c i*P **P 23 46 38.8 -0.8**
SHLS pmax pmax
comp=Z,37nm,1.0s
KPKS Kokpek 66.50 311 *e*P **P 23 46 39.6 -0.8**
baz=311
KPKS Kokpek 66.50 311 *e*P **P 23 46 39.6 -0.8**
UZB Uzynbulak 66.59 310 ⇑*i*P **P 23 46 40.4 -0.7**
comp=Z,18nm,1.3s,baz=310
UZB Uzynbulak 66.59 310 *c i*P **P 23 46 40.3 -0.7**
UZB pmax pmax
comp=Z,18nm,1.3s
DOMB Dombas 66.76 359 *e*P **P 23 46 42.1 +0.4**
KMI Kunming 66.76 281 ⇑P **P 23 46 41.9 -0.6**
KMI pP sP 23 46 51.5 -1.6
KMI sP pwP 23 46 55.5 -0.7
KMI S **S 23 55 35.4 +2.6**
KMI sS sS 23 55 48.2 +2.7
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI pmax pmax
comp=Z,140nm,4.6s
KMI LR LR
comp=Z,360nm,17.9s
KMI LR LR
comp=Z,78nm,16.4s
KMI LR LR
comp=Z,290nm,16.4s
QIZ Qiongzhong 66.87 272 P **P 23 46 42.6 -0.3**
QIZ S **S 23 55 34.2 +0.5**
QIZ LR LR
comp=Z,240nm,18.9s
QIZ LR LR
comp=Z,190nm,24.2s
SATY Saty 66.95 311 ⇑*i*P **P 23 46 43.3 0.0**
comp=Z,23nm,1.3s,baz=311
SATY Saty 66.95 311 *c i*P **P 23 46 43.3 0.0**
SATY pmax pmax
comp=Z,23nm,1.3s
CHKK Chushkaly 67.00 312 *e*P **P 23 46 42.2 -1.3**
baz=312

CHKK	Chushkaly	67.00 312	eP	P	23 46 42.1	-1.4
RAF	Rauma	67.11 352	eP	P	23 46 42.9	-0.9
GBN	Guysborough	67.23 45	P	P	23 46 45.6	+0.8
KUU	Kurty	67.27 312⇑	iP	P	23 46 43.6	-1.6
	comp=Z,67nm,3.0s,baz=312					
KUU	Kurty	67.27 312	c iP	P	23 46 43.6	-1.6
KUU			pmax	pmax		
	comp=Z,67nm,3.0s					
PUL	Pulkovo	67.35 347⇓	eP	P	23 46 46.1	+0.7
PUL			pmax	pmax		
	comp=Z,41nm,0.7s					
BTLS	Baital	67.42 315⇑	iP	P	23 46 46.0	-0.2
	comp=Z,20nm,1.3s,baz=315					
BTLS	Baital	67.42 315	c iP	P	23 46 45.9	-0.2
BTLS			pmax	pmax		
	comp=Z,20nm,1.3s					
NC204	NORSAR Array S	67.49 358	P	P	23 46 46.9	+0.5
NC204			IAmb	IAmb	23 46 47.9	
	comp=Z,24nm,0.9s					
MDOK	Medeo	67.51 312	i P	P	23 46 46.3	-0.7
	baz=312					
MDOK	Medeo	67.51 312	i P	P	23 46 46.2	-0.7
AAA	Alma-Ata	67.53 312	eP	P	23 46 47.0	0.0
	baz=312					
AAA	Alma-Ata	67.53 312	eP	P	23 46 46.9	0.0
MEF	Metsahovi	67.64 350	eP	P	23 46 47.2	0.0
NB2	NORSAR Subarra	67.71 357	P	P	23 46 47.6	-0.1
	comp=Z,32nm,1.4s,baz=4.0,slow=6.5					
NB2	NORSAR Subarra	67.71 357	P	P	23 46 47.6	-0.1
	baz=4.0,slow=6.5					
NOA	NORSAR Array B	67.71 357	P	P	23 46 47.8	0.0
	comp=Z,11nm,1.0s,baz=2.3,slow=6.3,SNR=20					
NOA			LR	LR	00 17 47.2	
	comp=Z,153nm,18.6s,baz=335,slow=37					
NC602	NORSAR Array S	68.01 357	eP	P	23 46 50.3	+0.8
NC602	NORSAR Array S	68.01 357	P	P	23 46 49.7	+0.2
AAL	Aland	68.09 353	eP	P	23 46 50.1	+0.1
SKAR	Skarslia	68.13 359	eP	P	23 46 50.8	+0.4
KDJ	Kajisay	68.24 311	P	P	23 46 52.6	+1.0
KDJ			pmax	pmax		
	comp=Z,43nm,1.2s					
KDJ	Kajisay	68.24 311	P	P	23 46 52.5	+1.0
TARG	Taragay, Kyrgy	68.25 310	P	P	23 46 52.7	+0.8
TARG			IAmb	IAmb	23 47 10.9	
	comp=Z,15nm,1.0s					
TKM2	Tokmak 2	68.37 312	P	P	23 46 53.2	+0.9
	SNR=21					
SGDS	Sogindy	68.40 313⇑	iP	P	23 46 52.4	0.0
	comp=Z,20nm,1.3s,baz=313					
SGDS	Sogindy	68.40 313	c iP	P	23 46 52.4	0.0
SGDS			pmax	pmax		
	comp=Z,20nm,1.3s					
BOOM	Boomskoye usch	68.54 312	P	P	23 46 54.4	+1.0
BOOM			pmax	pmax		
	comp=Z,24nm,0.9s					
BOOM	Boomskoye usch	68.54 312	P	P	23 46 54.4	+1.0
BOOM			IAmb	IAmb	23 46 55.8	
	comp=Z,24nm,0.8s					
UPP	Uppsala	68.58 354	eP	P	23 46 53.8	+0.7
USP	Ospenovka	68.60 313	P	P	23 46 54.8	+1.1
	SNR=28					
CHMS	Chumysh	68.70 313	P	P	23 46 55.7	+1.5
	SNR=17					
SLVN	Son La	68.84 278	P	P	23 46 55.2	-0.3
SLVN			IAmb	IAmb	23 47 17.0	
	comp=Z,35nm,1.5s					
FRU1	Bishkek	68.90 313	P	P	23 46 56.6	+1.1
FRU1			pmax	pmax		
	comp=Z,85nm,1.1s					
FRU1	Bishkek	68.90 313	P	P	23 46 56.5	+1.1
VSU	Vasula	69.09 349	eP	P	23 46 57.1	+0.8
VSU	Vasula	69.09 349	c iP	P	23 46 56.1	-0.2
VSU			pmax	pmax		
	comp=Z,268nm,1.0s					
AAK	Ala-Archa	69.10 313	P	P	23 46 58.2	+1.3
	SNR=18					
AAK	Ala-Archa	69.10 313	i P	P	23 46 58.4	+1.5
	SNR=18					
AAK	Ala-Archa	69.10 313	c iP	P	23 46 57.7	+0.8
AAK			pmax	pmax		
	comp=Z,202nm,1.3s					
AAK	Ala-Archa	69.10 313	P	P	23 46 57.9	+1.1
KONO	Kongsberg	69.15 358	ceP	P	23 46 56.9	+0.3
KONO			pmax	pmax		
	comp=Z,29nm,1.3s					
KONO	Kongsberg	69.15 358	eP	P	23 46 57.6	+1.0
KONO	Kongsberg	69.15 358	P	P	23 46 57.4	+0.8
KONO			IAmb	IAmb	23 46 59.0	
	comp=Z,23nm,1.1s					
MTSE	Matsula	69.18 350	eP	P	23 46 55.4	-1.5
EKS2	Erkin-Say	69.41 313	P	P	23 47 00.5	+1.8
	SNR=5.5					
ABKAR	Akbulak array	69.63 326	P	P	23 47 00.6	+0.7
ABKAR			IAmb	IAmb	23 47 01.8	
	comp=Z,39nm,1.2s					
ABKAR	Akbulak array	69.63 326	P	P	23 47 00.5	+0.7
AML	Almayashu	69.86 313	i P	P	23 47 03.4	+1.6
	SNR=6.5					
MOS	Moscow	69.97 342	eP	P	23 47 01.1	-0.6
MOS			e		23 47 22.2	
MOS			pmax	pmax		
	comp=Z,62nm,0.7s					
LSA	Lhasa	70.28 293	P	P	23 47 06.0	+1.3
LSA			pmax	pmax		
	comp=Z,47nm,0.9s					
LSA	Lhasa	70.28 293	P	P	23 47 06.0	+1.3
DZA	Taraz	70.32 315	eP	P	23 47 03.2	-1.0
	baz=315					
DZA	Taraz	70.32 315	eP	P	23 47 03.2	-1.0
SLIT	Slitere, Latvi	70.41 351	eP	P	23 47 04.9	+0.5
KK31	Karatay Array	70.51 316	P	P	23 47 05.6	+0.2
KK31			pmax	pmax		
	comp=Z,24nm,0.8s					
KK31	Karatay Array	70.51 316	P	P	23 47 05.6	+0.2
KK31			IAmb	IAmb	23 47 07.1	
	comp=Z,24nm,0.8s					
KKAR	Karatay Array	70.51 316	P	P	23 47 05.6	+0.2
KKAR			pmax	pmax		
	comp=Z,24nm,0.8s					
KKAR	Karatay Array	70.51 316	P	P	23 47 05.6	+0.2
KKAR	Karatay Array	70.51 316	P	P	23 47 05.7	+0.3
KKAR			IAmb	IAmb	23 47 07.1	
	comp=Z,24nm,0.8s					
OBN	Obninsk	70.76 342	P	P	23 47 06.4	-0.1
KSH	Kashi	70.85 310	P	P	23 47 11.6	+4.0
KSH			sP	pwP	23 47 23.7	+3.5
KSH			pmax	pmax		
	comp=Z,57nm,0.6s					
KSH			pmax	pmax		
	comp=Z,160nm,3.5s					
KSH			LR	LR		
	comp=Z,620nm,20.8s					
KSH			LR	LR		
	comp=Z,660nm,19.6s					
KSH			LR	LR		
	comp=Z,630nm,17.7s					
ONAU	Onsala	71.34 357⇑	iP	P	23 47 09.9	-0.2
NONG	Nongkai	71.76 276	P	P	23 47 16.6	+3.4
	comp=Z,35nm,1.0s					
ISAL	Salakas	71.99 348	eP	P	23 47 14.7	+0.7
PPT	Papeete	72.00 156	LR	LR	00 13 28.9	
	comp=Z,266nm,21.1s,baz=323,slow=31					
PPT2	Papeete2	72.02 156	eS	S	23 56 41.0	+6.8
	comp=Z,201nm,24.2s					
PPT2	Papeete2	72.02 156	eLR	LR	00 09 14.4	
	comp=Z,262nm,20.5s					
PBUR	Paburge	72.02 351	eP	P	23 47 14.8	+0.6
IDID	Didziasalis	72.16 348	eP	P	23 47 16.2	+1.1
IIGN	Ignalina	72.19 348	eP	P	23 47 16.1	+0.8
PABE	Paberze	72.32 349	eP	P	23 47 16.4	+0.5
PABE	Paberze	72.32 349	P	P	23 47 16.3	+0.3
MUD	Monsted U'grnd	72.36 358	i P	P	23 47 17.2	+1.0
MUD			IAmb	IAmb	23 47 18.1	
	comp=Z,23nm,0.9s					
MUD	Monsted U'grnd	72.36 358	i P	P	23 47 17.1	+1.0
MUD			pmax	pmax		
	comp=Z,23nm,0.9s					
TAS	Tashkent	72.48 315	P	P	23 47 17.9	+0.6
TAS			pmax	pmax		
	comp=Z,60nm,1.0s					
TAS	Tashkent	72.48 315	P	P	23 47 17.9	+0.6
LPSR	Galich'ya Gora	72.64 340	eP	P	23 47 17.8	-0.2
LPSR			pmax	pmax		
	comp=Z,70nm,1.0s					
LPSR			MLR	MLR		
	comp=Z,480nm,18.0s					
MNK	Minsk	72.80 347	i P	P	23 47 17.1	-1.8
MNK			i		23 47 31.6	
MNK			i		23 49 58.8	
MNK			i PPP	PPP	23 51 43.4	
MNK			i S	S	23 56 37.7	-4.6
MNK			i		23 57 21.6	
MNK			i SSS	SSS	00 04 42.4	
MNK			pmax	pmax		
	comp=E,2.0nm,0.9s					
MNK			pmax	pmax		
	comp=N,27nm,0.9s					
MNK			pmax	pmax		
	comp=Z,62nm,0.9s					
MNK	Minsk	72.80 347	i P	P	23 47 17.1	-1.7
	comp=E,2.0nm,0.9s					
MNK			i P	P	23 47 17.1	-1.7
	comp=N,27nm,0.9s					
MNK			i P	P	23 47 17.1	-1.7
	comp=Z,62nm,0.9s,baz=194					
MNK			i PcP	pwP	23 47 31.6	-0.3
MNK			i PP	PP	23 49 58.9	-1.4
MNK			i PPP	PPP	23 51 43.5	
MNK			i S	S	23 56 37.8	-4.6
MNK			i SS	SS	00 01 33.7	+13
MNK			i SSS	SSS	00 04 42.5	
MNK			i LQ	LQ	00 12 24.3	
MNK			i LR	LR	00 19 52.9	
MNK			i LRM	MLR	00 25 47.4	
	comp=E,16nm,19.0s					
MNK			i LRM	MLR	00 25 53.2	
	comp=Z,547nm,19.0s					
MNK			i LRM	MLR	00 25 55.2	
	comp=N,417nm,19.0s					
BTK	Batken	72.82 313	P	P	23 47 20.0	+0.6
BTK			pmax	pmax		
	comp=Z,69nm,1.0s					
BTK	Batken	72.82 313	P	P	23 47 20.0	+0.6
DRK	Karamyk	72.84 312	P	P	23 47 20.4	+0.6
SHL	Shillong	72.96 290	P	P	23 47 20.5	0.0
SHL			pmax	pmax		
	comp=Z,55nm,1.1s					
SHL	Shillong	72.96 290	P	P	23 47 20.5	0.0
COP	Copenhagen	73.03 356	i P	P	23 47 20.7	+0.5
COP			IAmb	IAmb	23 47 21.9	
	comp=Z,24nm,0.9s					
COP	Copenhagen	73.03 356	i P	P	23 47 20.7	+0.5
COP			pmax	pmax		
	comp=Z,24nm,0.9s					
VRH	Novokhopyorsk	73.31 338	eP	P	23 47 21.6	-0.3
VRH			pmax	pmax		
	comp=Z,90nm,0.8s					
BSD	Bornholm Skovb	73.48 355	eP	P	23 47 22.9	+0.1
BSD	Bornholm Skovb	73.48 355	i P	P	23 47 23.0	+0.1
BSD			IAmb	IAmb	23 47 24.0	
	comp=Z,14nm,0.8s					
BSD	Bornholm Skovb	73.48 355	i P	P	23 47 22.9	+0.1
BSD			pmax	pmax		
	comp=Z,14nm,0.8s					
KLNR	Kaliningrad	73.59 352	c iP	P	23 47 23.5	0.0
KLNR			pmax	pmax		
	comp=Z,73nm,1.0s					
UTTA	Uttaradit	73.61 278	P	P	23 47 26.1	+1.9
	comp=Z,346nmcomp=Z,35nm,0.7s					
UTTA	Uttaradit	73.61 278	P	P	23 47 26.1	+1.9
	comp=Z,86nmcomp=Z,8.7nm,0.7s					
CM35	Chiang Mai Arr	73.77 280	P	P	23 47 28.0	+2.8
CM33	Chiang Mai Arr	73.79 280	P	P	23 47 28.0	+2.7
CMMT	Chiang Mai	73.80 280	P	P	23 47 28.8	+3.5
	comp=Z,11nm,1.5s					
CMMT	Chiang Mai	73.80 280	P	P	23 47 28.8	+3.5
	comp=Z,11nm,1.5s					
CHTO	Chiang Mai	73.80 280	P	P	23 47 25.7	+0.4
CHTO			pmax	pmax		
	comp=Z,44nm,1.8s					
CHTO	Chiang Mai	73.80 280	P	P	23 47 28.8	+3.5
	comp=Z,11nm,1.1s					
CHTO	Chiang Mai	73.80 280	P	P	23 47 25.7	+0.4
CHTO			IAmb	IAmb	23 47 42.3	
	comp=Z,44nm,1.8s					
SUW	Suwalki	73.87 350	eP	P	23 47 25.1	-0.1
SUW	Suwalki	73.87 350	P	P	23 47 24.6	-0.6
SUW			pmax	pmax		
	comp=Z,94nm,0.9s					
SUW	Suwalki	73.87 350	P	P	23 47 24.6	-0.6
VSR	Storozhevoye	73.89 339	eP	P	23 47 25.6	+0.3
VSR			pmax	pmax		
	comp=Z,100nm,0.7s					
VSR			MLR	MLR		
	comp=Z,310nm,20.0s					
GAR	Garm	73.91 313	P	P	23 47 26.4	+0.5
CM31	Chiang Mai Arr	74.07 280	P	P	23 47 25.7	-1.2
CM31			IAmb	IAmb	23 47 44.4	
	comp=Z,49nm,1.5s					
CMAR	Chiang Mai Arr	74.07 280	P	P	23 47 27.6	+0.7
	comp=Z,5.6nm,0.9s,baz=26,slow=7.2,SNR=15					
CMAR			LR	LR	00 22 46.9	
	comp=Z,183nm,19.8s,baz=74,slow=38					
CMAR	Chiang Mai Arr	74.07 280	P	P	23 47 27.2	+0.3
CMAR	Chiang Mai Arr	74.07 280	P	P	23 47 27.2	+0.3
CM02	Chiang Mai Arr	74.08 280	P	P	23 47 31.2	+4.3
	comp=Z,13nm,0.8s					
CM02	Chiang Mai Arr	74.08 280	P	P	23 47 31.3	+4.3
	comp=Z,13nm,0.8s					
CM01	Chiang Mai Arr	74.08 280	P	P	23 47 38.5	+11
CM01	Chiang Mai Arr	74.08 280	P	P	23 47 38.6	+12
CM04	Chiang Mai Arr	74.09 280	P	P	23 47 31.3	+4.3
	comp=Z,185nmcomp=Z,16nm,0.9s					
CM04	Chiang Mai Arr	74.09 280	P	P	23 47 31.4	+4.4
	comp=Z,185nmcomp=Z,16nm,0.9s					
CM05	Chiang Mai Arr	74.11 280	P	P	23 47 31.4	+4.3
	comp=Z,150nmcomp=Z,13nm,0.9s					
CM05	Chiang Mai Arr	74.11 280	P	P	23 47 31.4	+4.3
	comp=Z,150nmcomp=Z,13nm,0.9s					
CM13	Chiang Mai Arr	74.12 280	P	P	23 47 31.4	+4.2
	comp=Z,12nm,1.0s					
CM13	Chiang Mai Arr	74.12 280	P	P	23 47 31.0	+3.8
	comp=Z,12nm,1.0s					
PHIT	Phitsanulok	74.12 278	P	P	23 47 31.5	+4.4
	comp=Z,1μmcomp=Z,49nm,1.1s					
PHIT	Phitsanulok	74.12 278	P	P	23 47 31.6	+4.4
	comp=Z,293nmcomp=Z,12nm,1.1s					
CHAI	Chaiyaphum	74.12 276	P	P	23 47 31.2	+4.0
	comp=Z,427nmcomp=Z,19nm,1.1s					
CHAI	Chaiyaphum	74.12 276	P	P	23 47 31.3	+4.0
	comp=Z,106nmcomp=Z,4.7nm,1.1s					
RGN	Rugen	74.13 356	P	P	23 47 27.5	+0.9
CHGR	Chuyangaron	74.71 314	P	P	23 47 31.1	+0.6
BSEG	Bad Segeberg	74.85 357	eP	P	23 47 32.1	+1.2
	comp=Z,51nm,1.0s,baz=3.9,slow=5.6					
BSEG			eL	L	00 32 13.9	
	comp=Z,220nm,18.9s					
MHMT	Maesarieng	74.90 280	P	P	23 47 49.7	+18
MHMT	Maesarieng	74.90 280	P	P	23 47 49.7	+18
LNIZ	Loecknitz	75.14 355	eP	P	23 47 33.5	+1.0
	comp=Z,63nm,1.1s,baz=3.9,slow=5.6					
GKP	Gorka Klasztor	75.16 353	eP	P	23 47 33.5	+0.9
GKP	Gorka Klasztor	75.16 353	eP	P	23 47 34.0	+1.3
SRAK	Srakaew	75.52 274	P	P	23 47 37.2	+1.9
	comp=Z,3μmcomp=Z,338nm,1.1s					
UTHA	Uthaitani	75.96 277	P	P	23 47 42.4	+4.6
RUE	Ruedersdorf	76.17 355	eP	P	23 47 39.5	+1.0
	baz=3.9,slow=5.6					
BEL	Belsk	76.27 351	eP	P	23 47 39.9	+0.8
AKASG	Malin Array Be	76.28 345	P	P	23 47 38.5	-0.7
	comp=Z,14nm,0.5s,baz=18,slow=6.0,SNR=74					
AKASG	Malin Array Be	76.28 345	ceP	P	23 47 39.0	-0.2
AKASG			pmax	pmax		
	comp=Z,14nm,0.5s					
AKASG	Malin Array Be	76.28 345	P	P	23 47 38.9	-0.2
AKBB	Malin Array Si	76.28 345	ceP	P	23 47 38.4	-0.8
AKBB	Malin Array Si	76.28 345	P	P	23 47 39.2	+0.1
AKBB			IAmb	IAmb	23 47 39.9	
	comp=Z,27nm,0.8s					
NRDL	Niedersach Rie	76.30 358	eP	P	23 47 40.2	+1.0
	comp=Z,27nm,1.0s,baz=3.9,slow=5.6					
FLTG	Flechtingen	76.43 357	eP	P	23 47 40.5	+0.5
	comp=Z,36nm,0.9s,baz=3.9,slow=5.6					
IBBN	Ibbenburen	76.53 359	eP	P	23 47 41.7	+1.2
	comp=Z,65nm,1.0s,baz=3.9,slow=5.6					
NIL	Nilore	76.83 308	P	P	23 47 43.4	+0.8
NIL			pmax	pmax		
	comp=Z,106nm,0.9s					
NIL	Nilore	76.83 308	P	P	23 47 43.4	+0.8
CLZ	Clausthal	76.95 357	eP	P	23 47 44.3	+1.3
	comp=Z,61nm,0.9s,baz=3.9,slow=5.6					
GTTG	Gottingen	77.25 358	eP	P	23 47 45.9	+1.3
	comp=Z,62nm,1.0s,baz=3.9,slow=5.6					
CLL	Collm	77.38 356⇑	iP	P	23 47 45.7	+0.4
	comp=Z,34nm,0.8s					
CLL			i pP	pP	23 47 52.5	-0.9
CLL			ePP	PP	23 50 48.0	+9.0
CLL			eS	S	23 57 32.0	-1.4
CLL			ePS	PnS	23 58 18.0	+3.4
CLL			Lm	MLR	00 30 00.0	
	comp=N,200nm,18.6s					
CLL			Lm	MLR	00 30 00.0	
	comp=E,100nm,18.8s					
CLL			Lm	MLR	00 30 00.0	
	comp=Z,300nm,18.3s					
CLL	Collm	77.38 356⇑	iP	P	23 47 45.7	+0.4
CLL			i		23 47 52.5	
CLL			eS	S	23 57 32.0	-1.4
CLL			pmax	pmax		
	comp=Z,34nm,0.8s					
CLL	Collm	77.38 356	P	P	23 47 45.4	0.0
CLL			IAmb	IAmb	23 47 46.9	
	comp=Z,31nm,0.8s					
CLL	Collm	77.38 356	eP	P	23 47 45.8	+0.5
	comp=Z,34nm,0.8s,baz=3.9,slow=5.6					
CLL			eL	L	00 30 31.6	
	comp=Z,260nm,18.2s					
BUG	Bochum--Univer	77.41 359	eP	P	23 47 46.3	+0.8
	baz=3.9,slow=5.6					
NEUB	Neuenburg	77.53 356	eP	P	23 47 47.2	+1.0
	comp=Z,100nm,1.0s,baz=3.9,slow=5.6					
TBI	Tubuai	77.57 157	eLR	LR	00 11 51.5	
	comp=Z,296nm,24.0s					
KASTN	Kahler Asten	77.63 359	eP	P	23 47 47.9	+1.1
	comp=Z,24nm,1.1s,baz=3.9,slow=5.6					
KSP	Ksiaz	77.65 353	eP	P	23 47 47.5	+0.7
KSP			ePcP	sP	23 47 58.5	+0.6
FBE	Freiberg	77.75 355	eP	P	23 47 48.5	+1.1
	comp=Z,83nm,1.1s,baz=3.9,slow=5.6					
BRG	Berggiesshubel	77.76 355	eP	P	23 47 48.0	+0.5
BRG			Amp		23 47 49.4	
	comp=Z,47nm,0.9s					
BRG	Berggiesshubel	77.76 355	P	P	23 47 54.8	+7.3
BRG			Amp		23 47 55.6	
	comp=Z,23nm,1.3s					
BRG	Berggiesshubel	77.76 355	P	P	23 48 00.3	+13
BRG			Amp		23 48 01.2	
	comp=Z,13nm,0.9s					
BRG			Amp		00 08 32.0	
	comp=E,0.3nm,17.3s					
BRG	Berggiesshubel	77.76 355	eP	P	23 47 48.2	+0.7
	comp=E,47nm,0.9s,baz=3.9,slow=5.6					
LVV	L'vov	77.89 348	eP	P	23 47 47.7	-0.5
CHVC	Chvalec	77.92 354	eP	P	23 47 50.2	+1.8
CHVC			ex	x	23 48 02.3	
OSTC	Ostas	77.94 353	eP	P	23 47 49.4	+0.9
OSTC			AMS	AMS	00 10 20.0	
	comp=E,400nm,14.7s					
OJC	Ojcow	77.97 351	eP	P	23 47 48.9	+0.3
OJC	Ojcow	77.97 351	P	P	23 47 49.1	+0.4
OJC			pmax	pmax		
	comp=Z,21nm,1.0s					
OJC	Ojcow	77.97 351	P	P	23 47 49.1	+0.4
OJC			IAmb	IAmb	23 47 50.3	
	comp=Z,21nm,1.0s					
UBBA	Unterbreizbach	77.98 358	eP	P	23 47 49.8	+1.2
	comp=Z,47nm,1.6s,baz=3.9,slow=5.6					
UPC	Upice	78.00 354	eP	P	23 47 49.7	+0.9
UPC			MLR	MLR		
	comp=Z,400nm,15.3s					
UPC	Upice	78.00 354	eP	P	23 47 49.7	+0.9
UPC			AMS	AMS	00 09 20.0	
	comp=Z,400nm,15.3s					
UCC	Uccle	78.04 1	dP	P	23 47 49.8	+0.8
BEBN	Eben Emael	78.05 0	dP	P	23 47 50.0	+0.9
PVCC	Panska Ves	78.07 355	eP	P	23 47 50.2	+1.0
PVCC			MLR	MLR		
	comp=Z,400nm,15.9s					
PVCC	Panska Ves	78.07 355	eP	P	23 47 50.2	+1.0
PVCC			AMS	AMS	00 09 10.0	
	comp=Z,400nm,15.9s					
MOX	Moxa	78.10 356	eP	P	23 47 50.4	+1.0
	comp=Z,43nm,1.0s,baz=3.9,slow=5.6					
MOX			eL	L	00 30 59.7	
	comp=Z,214nm,18.8s					
KBL	Kabul	78.13 311	P	P	23 47 49.7	-0.4
KBL			pmax	pmax		
	comp=Z,83nm,1.1s					
KBL	Kabul	78.13 311	P	P	23 47 49.7	-0.4
DPC	Dobruska-Polom	78.13 353	eP	P	23 47 50.8	+1.2
DPC			MLR	MLR		
	comp=Z,300nm,15.8s					
DPC	Dobruska-Polom	78.13 353	eP	P	23 47 50.8	+1.2
DPC			AMS	AMS	00 09 10.0	
	comp=Z,300nm,15.8s					
KWP	Kalwaria Pacla	78.24 349	eP	P	23 47 50.8	+0.6
KWP	Kalwaria Pacla	78.24 349	P	P	23 47 50.8	+0.6
KWP			pmax	pmax		
	comp=Z,421nm,0.9s					
KWP	Kalwaria Pacla	78.24 349	P	P	23 47 50.8	+0.6
PLN	Plauen	78.24 356	eP	P	23 47 51.0	+0.9
	comp=Z,27nm,1.1s,baz=3.9,slow=5.6					
MEM	Membach	78.24 0	dP	P	23 47 51.1	+1.0
	comp=Z,22nm,1.3s					
BTNL	Ternell	78.27 0	dP	P	23 47 51.2	+0.9
	comp=Z,20nm,1.1s					
BTNL			dpP	pP	23 47 57.8	-0.6
BSTI	Sart Tilman	78.27 0	dP	P	23 47 51.0	+0.7
AHRW	Bad Neuenahr-A	78.31 359	eP	P	23 47 51.8	+1.3
	comp=Z,50nm,1.2s,baz=3.9,slow=5.6					
SNF	Seneffe	78.33 1	dP	P	23 47 51.2	+0.6
GUNZ	Gunzen	78.35 356	eP	P	23 47 51.9	+1.1
	comp=Z,37nm,1.1s,baz=3.9,slow=5.6					
KRLC	Kraliky	78.37 353	eP	P	23 47 51.8	+0.8
KRLC			MLR	MLR		
	comp=Z,200nm,18.4s					
KRLC	Kraliky	78.37 353	eP	P	23 47 51.8	+0.8
KRLC			AMS	AMS	00 09 20.0	
	comp=Z,200nm,18.4s					
WERN	Wernitzgruen	78.43 356	eP	P	23 47 52.4	+1.2
	comp=Z,62nm,1.0s,baz=3.9,slow=5.6					
BCLA	Clavier	78.43 1	bP	P	23 47 50.7	-0.5
	comp=Z,18nm,1.4s					
BGES	Gesves	78.46 1	dP	P	23 47 52.2	+0.8
	comp=Z,17nm,1.4s					
NKC	Novy Kostel	78.48 356	eP	P	23 47 52.7	+1.2
NKC			e		23 48 04.4	
NKC			MLR	MLR		
	comp=Z,400nm,15.9s					
NKC	Novy Kostel	78.48 356	eP	P	23 47 52.7	+1.2
NKC			ex	x	23 48 04.4	
NKC			AMS	AMS	00 07 30.0	
	comp=Z,400nm,15.9s					
OKC	Ostrava-Krasne	78.50 352	eP	P	23 47 52.2	+0.6
OKC	Ostrava-Krasne	78.50 352	eP	P	23 47 52.2	+0.6
PRA	Prague	78.54 355	AMS	AMS	00 09 40.0	
	comp=Z,300nm,15.6s					
BMRD	Maredsous	78.54 1	dP	P	23 47 51.9	+0.1
	comp=Z,28nm,1.3s					
MORC	Moravsky Berou	78.61 352	⇓P	P	23 47 53.3	+1.0
MORC	Moravsky Berou	78.61 352	P	P	23 47 52.8	+0.5
MORC			pmax	pmax		
	comp=Z,18nm,1.0s					
MORC	Moravsky Berou	78.61 352	P	P	23 47 52.8	+0.5
MORC			IAmb	IAmb	23 47 54.0	
	comp=Z,18nm,0.9s					
MORC	Moravsky Berou	78.61 352	eP	P	23 47 52.7	+0.5
TNS	Taunus Mts	78.61 359	eP	P	23 47 53.3	+1.0
	comp=Z,40nm,0.9s,baz=3.9,slow=5.6					
TNS			eL	L	00 30 13.7	
	comp=Z,172nm,21.4s					
PRU	Pruhonice	78.61 354	eP	P	23 47 52.9	+0.7
PRU			MLR	MLR		
	comp=Z,300nm,16.0s					
PRU	Pruhonice	78.61 354	eP	P	23 47 52.9	+0.7
PRU			AMS	AMS	00 08 30.0	
	comp=Z,300nm,16.0s					
GOF	Gofitskoye	78.66 334⇑	iP	P	23 47 53.4	+0.9
GOF			pmax	pmax		
	comp=Z,188nm,1.1s					
NIE	Niedzica	78.71 351	eP	P	23 47 53.7	+0.9
NIE			ePcP	PcP	23 48 01.4	-0.3

SORM Soroca 78.92 345 ⇓P **P 23 47 54.4 +0.5**
PBCC Pribram 78.95 355 *e*P **P 23 47 55.0 +0.9**
PBCC *ex* x 23 48 07.2
ROTZ Rotzenmuhle 78.95 356 *e*P **P 23 47 55.3 +1.2**
comp=Z,35nm,1.1s,baz=3.9,slow=5.6
KOLS Kolonicke sedl 78.98 349 *e*P **P 23 47 55.5 +1.2**
KOLS Kolonicke sedl 78.98 349 *e*P **P 23 47 55.5 +1.2**
MILB Miltenberg 78.99 358 *e*P **P 23 47 55.3 +1.0**
comp=Z,57nm,0.9s,baz=3.9,slow=5.6
LANS Liptovska Anna 79.06 351 *e*P **P 23 47 56.9 +2.1**
LANS pmax pmax
comp=Z,24nm,1.3s
LANS Liptovska Anna 79.06 351 *e*P **P 23 47 56.9 +2.1**
GRA1 Grafenberg Arr 79.07 357 P **P 23 47 55.8 +1.1**
GRF Grafenberg Arr 79.07 357 P **P 23 47 55.8 +1.1**
GRF pmax pmax
comp=Z,75nm,0.9s
GRF Grafenberg Arr 79.07 357 *e*P **P 23 47 56.1 +1.4**
comp=Z,90nm,1.0s,baz=3.9,slow=5.6
GRF *e*L L 00 32 24.0
comp=Z,152nm,20.0s
GRFO Grafenberg 79.07 357 P **P 23 47 56.2 +1.4**
GRFO pmax pmax
comp=Z,67nm,0.9s
GRFO Grafenberg 79.07 357 P **P 23 47 56.2 +1.4**
CRVS Cervenica-Dubn 79.10 350 *e*P **P 23 47 55.8 +0.9**
CRVS pmax pmax
comp=Z,35nm,1.5s
CRVS Cervenica-Dubn 79.10 350 *e*P **P 23 47 55.8 +0.9**
VRAC Vranov 79.15 353 ⇑P **P 23 47 56.0 +0.7**
VRAC Vranov 79.15 353 *e*P **P 23 47 55.9 +0.7**
WLF Walferdange 79.19 0 *d*P **P 23 47 56.5 +1.2**
WLF Walferdange 79.19 0 P **P 23 47 56.6 +1.2**
WLF pmax pmax
comp=Z,23nm,1.0s
WLF Walferdange 79.19 0 P **P 23 47 56.6 +1.2**
WLF IAmb IAmb 23 47 57.9
comp=Z,23nm,1.0s
WLF Walferdange 79.19 0 *e*P **P 23 47 56.7 +1.4**
comp=Z,28nm,1.1s,baz=3.9,slow=5.6
TREC Trest 79.24 354 *e*P **P 23 47 56.5 +0.8**
TREC *e* 23 48 07.6
TREC MLR MLR
comp=Z,200nm,16.3s
TREC Trest 79.24 354 *e*P **P 23 47 56.5 +0.8**
TREC *ex* x 23 48 07.6
TREC AMS AMS 00 12 50.0
comp=Z,200nm,16.3s
UZH Uzhgorod 79.27 349 *e*P **P 23 47 53.7 -2.1**
UZH *e* 23 48 01.3
MAK Makhachkala 79.28 330 *e*P **P 23 47 56.5 +0.5**
MAK *e* 23 50 52.1
MAK *e*PPP PPP 23 52 43.9
MAK *e*S **S 23 57 54.2 +0.1**
MAK *e*SS **SS 00 03 02.4 +2.7**
MAK *e*SSS SSS 00 06 24.8
MAK pmax pmax
comp=Z,264nm,1.7s
KRUC Moravsky 79.41 353 *e*P **P 23 47 57.1 +0.5**
JAVC Velka Javorina 79.51 352 *e*P **P 23 47 59.0 +1.8**
KHC Kasperske Hory 79.52 355 P **P 23 47 58.0 +0.8**
KHC pmax pmax
comp=Z,40nm,1.0s
KHC Kasperske Hory 79.52 355 *e*P **P 23 47 58.6 +1.3**
KHC AMS AMS 00 07 10.0
comp=Z,200nm,21.9s
KHC Kasperske Hory 79.52 355 P **P 23 47 58.0 +0.8**
KHC IAmb IAmb 23 47 59.6
comp=Z,40nm,1.0s
WET Wettzell 79.55 356 *e*P **P 23 47 58.5 +1.1**
comp=Z,35nm,1.4s,baz=3.9,slow=5.6
WET *e*L L 00 34 16.2
comp=Z,215nm,18.0s
GROC Groznyy 79.58 332 *e*P **P 23 47 58.9 +1.3**
GROC *e* 23 48 08.4
GROC *e* 23 50 55.3
GROC pmax pmax
comp=Z,11nm,0.4s
KECS Kecovo 79.62 350 *e*P **P 23 47 58.5 +0.8**
KECS Kecovo 79.62 350 *e*P **P 23 47 58.5 +0.8**
VYHS Vyhne 79.77 351 *e*P **P 23 47 59.3 +0.7**
VYHS pmax pmax
comp=Z,28nm,1.2s
VYHS Vyhne 79.77 351 *e*P **P 23 47 59.3 +0.7**
KIV Kislovodsk 79.77 334 ⇓P **P 23 47 59.9 +1.1**
KIV Kislovodsk 79.77 334 *i*P **P 23 48 00.0 +1.2**
SNR=19
KIV Kislovodsk 79.77 334 *e*P **P 23 47 58.9 +0.1**
KIV pmax pmax
comp=Z,97nm,1.1s
KIV Kislovodsk 79.77 334 P **P 23 47 59.5 +0.7**
KIV IAmb IAmb 23 48 01.2
comp=Z,29nm,1.0s
CKRC Cesky Krumlov 79.79 355 *e*P **P 23 48 00.5 +1.8**
CKRC AMS AMS 00 07 40.0
comp=Z,200nm,21.4s
GEC2 GERESS Array S 79.80 355 P **P 23 47 59.5 +0.6**
GEC2 IAmb IAmb 23 48 00.7
comp=Z,25nm,0.9s
GEC2 GERESS Array S 79.80 355 *e*P **P 23 47 59.6 +0.7**
comp=Z,33nm,1.1s,baz=3.9,slow=5.6
GEC2 *e*L L 00 33 08.9
comp=Z,310nm,18.7s
GERES GERESS Array B 79.80 355 P **P 23 47 59.0 +0.1**
comp=Z,15nm,0.9s,baz=20,slow=4.4,SNR=110
GERES GERESS Array B 79.80 355 P **P 23 47 59.0 +0.1**
GERES GERESS Array B 79.80 355 P **P 23 47 59.5 +0.6**
MTN Manton Dam 79.82 234 P **P 23 47 58.5 -0.7**
MTN IAmb IAmb 23 48 11.2
comp=Z,31nm,0.9s
SMOL Smolenice 79.87 352 *e*P **P 23 48 00.8 +1.7**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 79.87 352 *e*P **P 23 48 00.8 +1.7**
BURAR Bucovina Array 79.89 347 ⇑P **P 23 48 00.2 +0.8**
BURAR Bucovina Array 79.89 347 P **P 23 47 59.8 +0.4**
BURAR IAmb IAmb 23 48 01.4
comp=Z,21nm,0.8s
KBZ Khabaz 79.93 334 P **P 23 48 00.9 +1.5**
comp=Z,14nm,0.9s,baz=30,slow=1.9,SNR=32
KBZ LR LR 00 27 50.6
comp=Z,174nm,19.9s,baz=32,slow=39
KBZ Khabaz 79.93 334 *ce*P **P 23 48 00.3 +0.9**
NCK Nalchik 79.95 333 *de*P **P 23 48 01.0 +1.3**
NCK pmax pmax
comp=Z,57nm,1.0s
IAS Iasi 79.96 345 ⇑P **P 23 48 00.1 +0.5**
GEYT Alibeck 80.01 321 P **P 23 48 00.9 +0.9**
comp=Z,27nm,1.0s,baz=0.0,slow=3.0,SNR=36
GEYT LR LR 00 28 30.2
comp=Z,510nm,18.1s,baz=235,slow=39
GYA0B ALIBECK ARRAY 80.01 321 P **P 23 48 00.9 +0.8**
MODS Modra-Piesok 80.03 352 *e*P **P 23 48 02.0 +2.0**
MODS pmax pmax
comp=Z,43nm,1.2s
MODS Modra-Piesok 80.03 352 *e*P **P 23 48 02.0 +2.0**
STU Stuttgart 80.05 358 P **P 23 48 01.0 +0.9**
STU pmax pmax
comp=Z,40nm,0.9s
STU Stuttgart 80.05 358 P **P 23 48 01.0 +0.9**
STU Stuttgart 80.05 358 *e*P **P 23 48 01.0 +0.9**
comp=Z,51nm,1.0s,baz=3.9,slow=5.6
PURM Purcari 80.22 344 ⇓P **P 23 48 01.8 +0.8**
ZST Bratislava 80.22 353 *e*P **P 23 48 02.5 +1.5**
ZST pmax pmax
comp=Z,77nm,1.0s
ZST Bratislava 80.22 353 *e*P **P 23 48 02.5 +1.5**
PSZ Piszkesteto 80.24 351 ⇓P **P 23 48 02.7 +1.5**
PSZ Piszkesteto 80.24 351 P **P 23 48 02.2 +1.0**
PSZ pmax pmax
comp=Z,24nm,1.1s
PSZ Piszkesteto 80.24 351 P **P 23 48 02.1 +1.0**
PSZ IAmb IAmb 23 48 03.5
comp=Z,24nm,1.1s
VASR Vaslui 80.46 345 ⇑P **P 23 48 03.0 +0.7**
SRO Srobarova 80.49 352 *e*P **P 23 48 04.2 +1.8**
SRO pmax pmax
comp=Z,23nm,1.2s
SRO Srobarova 80.49 352 *e*P **P 23 48 04.2 +1.8**
BFO Black Forest 80.51 359 P **P 23 48 03.3 +0.7**
BFO Black Forest 80.51 359 P **P 23 48 03.3 +0.7**
BFO IAmb IAmb 23 48 04.6
comp=Z,28nm,0.9s
BFO Black Forest 80.51 359 *e*P **P 23 48 03.5 +0.9**
comp=Z,41nm,1.1s,baz=3.9,slow=5.6
BFO *e*L L 00 26 00.2
comp=Z,202nm,19.5s
ZEI Tsey 80.51 333 *e*P **P 23 47 58.4 -4.5**
ZEI pmax pmax
comp=Z,23nm,1.0s
ARCR ARCALIA 80.53 348 ⇓P **P 23 48 04.1 +1.4**
SRO2 Moca 80.54 352 *e*P **P 23 48 03.5 +0.8**
SRO2 Moca 80.54 352 *e*P **P 23 48 03.5 +0.8**
LTVH Ltavrtes, Hu 80.55 349 ⇓P **P 23 48 04.3 +1.6**
LTVH Ltavrtes, Hu 80.55 349 *e*P **P 23 48 04.6 +1.8**
CONA Conrad Observa 80.58 353 *i*P **P 23 48 04.1 +1.1**
comp=Z,45nm,1.3s,SNR=26
FUR Furstenfeldbru 80.59 357 *e*P **P 23 48 04.0 +0.9**
comp=Z,43nm,1.0s,baz=3.9,slow=5.6
FUR *e*L L 00 32 24.0
comp=Z,246nm,18.1s
ECH Echery 80.64 359 P **P 23 48 03.9 +0.6**
ECH pmax pmax
comp=Z,52nm,1.0s
ECH Echery 80.64 359 P **P 23 48 03.9 +0.6**
MESR Meseseni 80.65 348 ⇓P **P 23 48 04.8 +1.4**
BUD Budapest 80.75 351 *e*P **P 23 48 06.1 +2.2**
MOA Molln 80.76 354 *i*P **P 23 48 04.2 +0.2**
comp=Z,6.8nm,0.9s,SNR=8.4
TESR Tescani 80.76 346 ⇓P **P 23 48 04.5 +0.5**
SOP Sopron 80.77 353 *e*P **P 23 48 05.7 +1.7**
CLF Chambon-Foret 80.77 3 P **P 23 48 05.2 +1.3**
BSZH Besenyszg 80.81 350 *e*P **P 23 48 07.1 +3.0**
ONI Oni 80.82 333 P **P 23 48 05.7 +1.3**
ONI pmax pmax
comp=Z,13nm,1.1s
ONI Oni 80.82 333 P **P 23 48 05.7 +1.3**
ONI IAmb IAmb 23 48 21.2
comp=Z,13nm,1.1s
SOC Sochi 80.90 336 *e*P **P 23 48 03.3 -1.4**
SOC *e* 23 51 05.9
SOC *e*PPP PPP 23 53 00.1
SOC *e*S **S 23 58 09.0 -2.1**
SOC *e*SS **SS 00 03 25.2 +1.4**
SOC *e*SSS SSS 00 06 54.7
SOC pmax pmax
comp=Z,25nm,1.0s
CSKK Cskako 80.94 352 *e*P **P 23 48 06.7 +1.8**
RJOB Jochberg 80.95 355 *e*P **P 23 48 05.9 +0.9**
comp=Z,74nm,0.9s,baz=3.9,slow=5.6
EGYH Egyhazaskeszo 80.97 352 *e*P **P 23 48 03.0 -2.0**
CJR Cluj-Napoca 81.00 348 ⇑P **P 23 48 06.3 +1.1**
DRGR 81.03 349 ⇓P **P 23 48 06.1 +0.6**
GHRR 81.08 345 ⇓P **P 23 48 07.5 +1.8**
UBR Ueberruh 81.12 357 *e*P **P 23 48 06.8 +0.9**
comp=Z,42nm,1.3s,baz=3.9,slow=5.6
VARL Varlezi 81.17 345 ⇑P **P 23 48 07.9 +1.8**
MPLH Magyarpolny 81.20 352 *e*P **P 23 48 07.6 +1.3**
ARSA Arzberg 81.28 354 *i*P **P 23 48 07.5 +0.8**
comp=Z,16nm,0.8s,SNR=16
RETA Reutte 81.29 357 *i*P **P 23 48 07.6 +0.8**
comp=Z,15nm,0.9s,SNR=9.8
OZUR 81.30 346 ⇓P **P 23 48 07.9 +1.0**
HRA Herat 81.33 316 P **P 23 48 08.2 +0.7**
VRI Vrincioaia 81.38 346 ⇓P **P 23 48 08.6 +1.4**
VRI ⇑P **P 23 48 08.7 +1.4**
PLOR Plostina 81.41 346 ⇑P **P 23 48 09.0 +1.6**
WATA Walderalm 81.41 356 *i*P **P 23 48 08.3 +0.7**
comp=Z,47nm,1.2s,SNR=28
MOTA Moosalm 81.42 357 *i*P **P 23 48 08.1 +0.5**
comp=Z,53nm,1.3s,SNR=25
ODBI Odobesti 81.43 345 ⇓P **P 23 48 09.9 +2.4**
TIH Tihany 81.44 352 *e*P **P 23 48 09.6 +2.1**
PETR Petresti 81.44 345 ⇓P **P 23 48 09.7 +2.2**
WTTA Wattenberg 81.48 356 *i*P **P 23 48 08.9 +0.9**
comp=Z,28nm,0.9s,SNR=24
DOPR Dopca 81.48 347 ⇑P **P 23 48 09.3 +1.5**
TUDR 81.50 345 ⇑P **P 23 48 09.6 +1.8**
DAVA Damuels 81.52 357 *i*P **P 23 48 08.9 +0.8**
comp=Z,22nm,1.1s,SNR=8.3
SQTA Sankt Quirin 81.54 357 *i*P **P 23 48 09.2 +1.0**
comp=Z,42nm,1.2s,SNR=17
SCHL Schela 81.56 345 ⇑P **P 23 48 09.8 +1.7**
KBA Koelnbreinsper 81.58 355 *i*P **P 23 48 09.8 +1.3**
comp=Z,79nm,1.1s,SNR=62
SIRR Siria 81.68 349 ⇓P **P 23 48 09.8 +0.9**
TLCR 81.70 344 ⇑P **P 23 48 10.7 +1.8**
FETA Feichten 81.75 357 *i*P **P 23 48 10.4 +1.0**
comp=Z,44nm,1.0s,SNR=24
GRER 81.81 345 ⇑P **P 23 48 11.7 +2.2**
CFR Carcaliu 81.82 344 ⇑P **P 23 48 10.3 +0.8**
MLR Muntele Rosu 81.86 346 ⇑P **P 23 48 12.1 +2.2**
MLR Muntele Rosu 81.86 346 P **P 23 48 11.4 +1.4**
MLR pmax pmax
comp=Z,27nm,1.0s
MLR Muntele Rosu 81.86 346 P **P 23 48 11.4 +1.4**
MLR IAmb IAmb 23 48 13.1
comp=Z,27nm,1.0s
NEHR Nehoiu 81.88 346 ⇓P **P 23 48 11.2 +1.3**
SOKA Soboth 81.88 354 *i*P **P 23 48 10.7 +0.8**
comp=Z,56nm,1.1s,SNR=42
PERS Pernice 81.92 354 *e*P **P 23 48 10.9 +0.8**
ABTA Abfaltersbach 81.95 356 *i*P **P 23 48 11.0 +0.7**
comp=Z,32nm,1.2s,SNR=20
BEHE Becsehely 81.96 353 *e*P **P 23 48 13.0 +2.8**
BEHE Becsehely 81.96 353 ⇑*i*P P 23 48 21.4 +11
MYKA Terra Mystica 82.01 355 *i*P **P 23 48 11.0 +0.3**
comp=Z,16nm,1.1s,SNR=8.0
KOGS Kog 82.02 353 *i*P **P 23 48 11.1 +0.5**
MORH Mrgy, Hungar 82.05 351 ⇑P **P 23 48 10.8 0.0**
MORH Mrgy, Hungar 82.05 351 ⇑*i*P **P 23 48 10.4 -0.3**
VOIR 82.05 347 ⇓P **P 23 48 12.5 +1.6**
GROS Grobnik 82.06 353 *i*P **P 23 48 11.3 +0.4**
OBKA Obir 82.08 354 *i*P **P 23 48 11.5 +0.5**
comp=Z,16nm,0.8s,SNR=11
TPGR Topolog 82.09 344 ⇓P **P 23 48 12.5 +1.5**
JURR Jurilovca 82.10 344 ⇓P **P 23 48 12.1 +1.1**
ZOU Zoufplan 82.12 355 P **P 23 48 11.8 +0.4**
ZOU IAmb IAmb 23 48 13.8
comp=Z,16nm,1.1s
ARR Arges 82.18 347 ⇑P **P 23 48 12.6 +1.0**
LOT Lotru 82.22 348 ⇑P **P 23 48 12.2 +0.4**
KOVH Kovagotottos 82.22 352 *e*P **P 23 48 12.1 +0.4**
SECR 82.29 346 ⇑P **P 23 48 13.1 +1.1**
BZS Buzias 82.32 349 ⇑P **P 23 48 12.6 +0.4**
HARR Harsova 82.33 345 ⇑P **P 23 48 13.2 +1.0**
TUE Stuetta 82.34 358 P **P 23 48 13.7 +1.1**
GZR Gura Zlata 82.40 348 ⇓P **P 23 48 13.4 +0.7**
STAL STALIGIAL 82.43 355 P **P 23 48 13.3 +0.4**
STAL IAmb IAmb 23 48 13.9
comp=Z,18nm,1.3s
TLBR Topalu 82.45 344 ⇑P **P 23 48 14.7 +1.8**
TIRR Tirgusor 82.47 344 ⇓P **P 23 48 14.0 +1.0**
TIRR Tirgusor 82.47 344 P **P 23 48 14.1 +1.1**
TIRR pmax pmax
comp=Z,211nm,1.1s
TIRR Tirgusor 82.47 344 P **P 23 48 14.1 +1.1**
SENIN Lac Senin/Sane 82.49 359 P **P 23 48 14.3 +0.9**
SENIN IAmb IAmb 23 48 17.7
comp=Z,13nm,0.9s
LJU Ljubljana 82.54 354 *i*P **P 23 48 13.5 +0.1**
SULR 82.61 346 ⇑P **P 23 48 15.2 +1.5**
GNI Garni 82.69 331 *de*P **P 23 48 16.3 +1.8**
GNI pmax pmax
comp=Z,11nm,1.1s
GNI Garni 82.69 331 P **P 23 48 14.9 +0.5**
GNI IAmb IAmb 23 48 38.0
comp=Z,25nm,1.1s
CRES Cresnjev 82.70 353 ⇑*i*P **P 23 48 13.9 -0.3**
KARS Kars 82.74 333 P **P 23 48 15.9 +1.2**
KARS pmax pmax
comp=Z,99nm,1.5s
KARS Kars 82.74 333 P **P 23 48 15.9 +1.2**
CEY Cerknica 82.85 354 ⇑*i*P **P 23 48 14.5 -0.5**
ICOR Ion Corvin 82.91 344 ⇑P **P 23 48 16.7 +1.5**
HERR Herculane 82.95 348 ⇑P **P 23 48 15.6 +0.1**
HUMR Humele 82.95 347 ⇓P **P 23 48 15.5 0.0**
FRGS Fruska Gora 82.98 350 ⇑P **P 23 48 16.1 +0.5**
FRGS Fruska Gora 82.98 350 ⇑*i*P **P 23 48 15.9 +0.2**
SGRR Singureni 83.10 346 ⇑P **P 23 48 17.2 +1.0**
MDVR Moldovita 83.13 349 ⇓P **P 23 48 17.1 +0.6**
SALO Salr 83.16 357 P **P 23 48 17.2 +0.6**
KTUT Trabzon 83.32 335 ⇑P **P 23 48 18.1 +0.7**
TEOL Teolo 83.38 356 P **P 23 48 18.3 +0.6**
BLY Banja Luka 83.63 352 ⇑*i*P **P 23 48 17.4 -1.6**
ZIMR 83.75 346 ⇓P **P 23 48 21.1 +1.5**
BNI Bardonecchia 83.80 360 P **P 23 48 22.0 +1.9**
BNI pmax pmax
comp=Z,46nm,1.0s
BNI Bardonecchia 83.80 360 P **P 23 48 22.0 +1.9**
DIKM Dikmen 83.81 338 ⇑P **P 23 48 21.3 +1.4**
DIVS Divibare 84.00 350 ⇑*i*P **P 23 48 21.2 +0.2**
DIVS Divibare 84.00 350 P **P 23 48 21.3 +0.3**
DIVS IAmb IAmb 23 48 22.6
comp=Z,16nm,1.0s
PRMA PARMA 84.02 357 P **P 23 48 22.5 +1.5**
BOVS Bovan 84.27 349 ⇑P **P 23 48 22.0 -0.2**
BBLS Lazići 84.30 350 ⇑*i*P **P 23 48 23.3 +0.8**
WB2 Warramunga Arr 84.34 228 P **P 23 48 22.4 -0.4**
WB2 IAmb IAmb 23 49 20.1
comp=Z,14nm,1.2s
WRA Warramunga Arr 84.34 228 P **P 23 48 21.0 -1.8**
comp=Z,1.0nm,0.8s,baz=34,slow=5.8,SNR=7.2
WRA LR LR 00 26 01.0
comp=Z,69nm,18.8s,baz=45,slow=36
WRA Warramunga Arr 84.34 228 *i*P **P 23 48 22.1 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 84.34 228 P **P 23 48 22.0 -0.8**
ZCCA Zocca 84.41 357 P **P 23 48 24.9 +1.9**
MSSA Maissana 84.50 358 P **P 23 48 24.2 +0.7**
RUDO Rudo 84.55 350 *e*P **P 23 48 23.9 +0.2**
VLC Villacollemand 84.62 357 P **P 23 48 25.4 +1.3**
GURO Guroymak-BITLI 84.97 333 P **P 23 48 28.0 +1.9**
GURO IAmb IAmb 23 48 29.7
comp=Z,37nm,1.5s
UPM Unac-Piva 85.00 351 ⇑*i*P **P 23 48 26.9 +0.7**
VTS Vitosha 85.07 347 ⇑P **P 23 48 26.8 +0.3**
VTS Vitosha 85.07 347 P **P 23 48 26.9 +0.3**
VTS pmax pmax
comp=Z,29nm,0.9s
VTS Vitosha 85.07 347 P **P 23 48 26.9 +0.4**
BRY Bratogost 85.34 351 *e*P **P 23 48 27.9 0.0**
MURB Monte Urbino 85.43 355 P **P 23 48 29.4 +1.2**
STON Ston 85.45 352 ⇑*i*P **P 23 48 27.4 -0.8**
TREB Trebinje 85.54 351 ⇑*i*P **P 23 48 28.9 +0.2**
PDG Podgorica 85.73 350 ⇑*i*P **P 23 48 29.7 +0.1**
PDG Podgorica 85.73 350 P **P 23 48 29.8 +0.2**
HCY Herceg Novi 85.79 351 ⇑*i*P **P 23 48 30.3 +0.4**
MDUB Mudurnu 85.81 341 P **P 23 48 31.3 +1.1**
NRCA Norcia 85.83 355 P **P 23 48 30.6 +0.4**
SKO Skopje 85.94 349 *i*P **P 23 48 31.6 +0.9**
CASP Castiglione de 85.97 357 P **P 23 48 31.1 +0.3**
CASP IAmb IAmb 23 48 32.2
comp=Z,16nm,0.9s
DRME Dracevica, Mon 85.98 350 ⇑*i*P **P 23 48 30.1 -0.8**
BR131 Keskin Array S 86.01 339 P **P 23 48 31.6 +0.3**
BR131 pmax pmax
comp=Z,20nm,1.1s
BR131 Keskin Array S 86.01 339 P **P 23 48 31.6 +0.3**
BR131 IAmb IAmb 23 48 33.1
comp=Z,20nm,1.1s
BRTR Keskin Array B 86.01 339 P **P 23 48 31.3 0.0**
comp=Z,6.3nm,0.9s,baz=50,slow=1.9,SNR=35
BRTR PP **PP 23 51 52.4 +1.9**
comp=Z,1.9nm,0.9s,baz=19,slow=7.9,SNR=4.7
BRTR Keskin Array B 86.01 339 *ce*P **P 23 48 32.0 +0.8**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 86.01 339 P **P 23 48 31.8 +0.6**
PGAV Gavieira, Arco 86.05 11 *e*LR LR 23 57 51.3
comp=Z,590nm,20.0s
PUK Puka 86.05 350 P **P 23 48 31.6 +0.3**
PUK IAmb IAmb 23 48 43.1
comp=Z,28nm,1.1s
ANTO Ankara 86.06 340 P **P 23 48 32.2 +0.8**
ANTO pmax pmax
comp=Z,50nm,1.5s
ANTO Ankara 86.06 340 P **P 23 48 32.2 +0.8**
BR231 Keskin MP Arra 86.09 340 P **P 23 48 32.2 +0.6**
STIP Stip 86.12 348 *i*P **P 23 48 31.8 +0.2**
RDO Rodhopi 86.17 345 P **P 23 48 33.0 +1.2**
AQU L'Aquila 86.29 355 P **P 23 48 33.0 +0.5**
AQU pmax pmax
comp=Z,39nm,0.9s
AQU L'Aquila 86.29 355 ⇑*i*P **P 23 48 32.9 +0.5**
AQU L'Aquila 86.29 355 P **P 23 48 33.0 +0.5**
PCAB Cabril 86.33 11 *e*P **P 23 48 33.6 +1.0**
comp=Z,31nm,2.0s
BNN Bunyan 86.33 337 P **P 23 48 33.3 +0.4**
ALN Alexandroupoli 86.34 345 P **P 23 48 33.6 +1.0**
ALN pmax pmax
comp=Z,30nm,1.2s
ALN Alexandroupoli 86.34 345 P **P 23 48 33.6 +1.0**
ALN IAmb IAmb 23 48 36.8
comp=Z,30nm,1.2s
PHP Peshkopia 86.34 349 P **P 23 48 33.0 +0.3**
PBRG Braganca 86.37 10 *e*P **P 23 48 33.6 +0.7**
comp=Z,26nm,1.8s
PBRG *i*LQ LQ 23 48 45.8
KNT Kendrikon 86.55 347 P **P 23 48 34.8 +1.1**
INTR Introdacqua 86.60 354 P **P 23 48 34.6 +0.6**
POLO Lamas de Olo 86.68 10 *e*P **P 23 48 35.5 +1.0**
POLO *i*LQ LQ 23 48 47.4
SGRT San Giovanni R 86.72 353 P **P 23 48 35.1 +0.5**
TIR Tirane 86.74 350 P **P 23 48 35.6 +1.0**
TIR pmax pmax
comp=Z,56nm,1.0s
TIR Tirane 86.74 350 P **P 23 48 35.6 +1.0**
PVRL Vila Real 86.79 10 *e*P **P 23 48 36.0 +1.1**
comp=Z,31nm,1.7s
OHR Ohrid 86.86 349 *i*P **P 23 48 35.6 +0.3**
MVO Moncorvo 86.98 10 *e*P **P 23 48 36.8 +0.9**
comp=Z,21nm,1.1s
MVO *i*LQ LQ 23 48 48.0
MVO *e*LR LR 23 58 11.7
comp=Z,585nm,20.0s
HYB Hyderabad 87.03 294 *i*P **P 23 48 35.0 -1.4**
HYB *ep*P **sP 23 48 45.0 -2.2**
FNA Florina 87.11 348 P **P 23 48 36.5 0.0**
FNA Florina 87.11 348 P **P 23 48 36.9 +0.4**
FNA pmax pmax
comp=Z,36nm,1.0s
FNA Florina 87.11 348 P **P 23 48 36.9 +0.4**
OUR Ouranopolis 87.20 346 P **P 23 48 37.1 +0.2**
PVIS Viseu 87.32 11 *e*P **P 23 48 38.3 +0.8**
KBN Korca 87.34 349 P **P 23 48 38.2 +0.5**
KBN pmax pmax
comp=Z,37nm,1.1s
KBN Korca 87.34 349 P **P 23 48 38.2 +0.5**
NEST Nestorio 87.52 349 P **P 23 48 38.8 +0.3**
PAOL Paolisi 87.53 354 P **P 23 48 38.6 +0.1**
PAOL IAmb IAmb 23 48 39.7
comp=Z,22nm,1.2s
GAZ Gaziantep 87.58 336 P **P 23 48 39.9 +1.1**
GAZ IAmb IAmb 23 48 43.4
comp=Z,22nm,1.1s
LIT Litokhoron 87.64 348 P **P 23 48 39.2 +0.2**
LIT pmax pmax
comp=Z,37nm,1.5s
LIT Litokhoron 87.64 348 P **P 23 48 39.2 +0.2**
VLO Vlora 87.65 350 P **P 23 48 39.3 +0.3**
VLO pmax pmax
comp=Z,70nm,1.0s
VLO Vlora 87.65 350 P **P 23 48 39.3 +0.3**
MTE Manteigas 87.67 10 *e*P **P 23 48 39.5 +0.3**
MTE *e*LR LR 23 58 06.4
comp=Z,576nm,20.0s
MTE Manteigas 87.67 10 P **P 23 48 38.6 -0.7**
MTE IAmb IAmb 23 48 41.1
comp=Z,21nm,1.1s
AS31 Alice Springs 87.77 227 P **P 23 48 38.5 -1.2**
ASAR Alice Springs 87.77 227 P **P 23 48 38.2 -1.4**
comp=Z,3.4nm,0.8s,baz=30,slow=4.4,SNR=26
LSK Leskovik 87.83 349 P **P 23 48 41.0 +1.0**
PCAS Casmilo, Conde 87.91 11 *e*P **P 23 48 40.8 +0.5**
comp=Z,56nm,1.4s
PCAS *i*LQ LQ 23 48 52.7
KPRO Kipourio 87.93 348 P **P 23 48 40.1 -0.4**
SCTE Santa Cesarea 88.15 351 P **P 23 48 41.4 0.0**
SRN Sarande 88.17 349 P **P 23 48 41.7 +0.2**
PCBR Castelo Branco 88.23 10 *e*P **P 23 48 43.0 +1.2**
comp=Z,28nm,1.2s
PCBR *i*LQ LQ 23 48 53.6
XOR Xorichti 88.27 347 P **P 23 48 41.5 -0.5**
PSBE So Bento 88.40 12 *e*P **P 23 48 43.3 +0.6**
comp=Z,53nm,2.1s
IGT Igoumenitsa 88.48 349 P **P 23 48 43.1 +0.1**
PMRV Marv??o 88.65 10 *e*P **P 23 48 44.3 +0.5**
comp=Z,16nm,1.7s

PMRV *e*LR LR 23 58 25.6
comp=Z,514nm,18.0s
AGG Agios Georgios 88.72 347 P **P 23 48 43.9 -0.3**
AGG pmax pmax
comp=Z,26nm,1.6s
AGG Agios Georgios 88.72 347 P **P 23 48 43.9 -0.3**
AGG IAmb IAmb 23 49 22.3
comp=Z,26nm,1.6s
ESBB Sonseca Array 88.75 8 P **P 23 48 44.7 +0.4**
ESBB IAmb IAmb 23 48 45.7
comp=Z,12nm,1.1s
ESDC Sonseca Array 88.75 8 P **P 23 48 44.2 -0.2**
comp=Z,8.4nm,1.0s,baz=346,slow=4.6,SNR=42
ESDC Sonseca Array 88.75 8 P **P 23 48 44.6 +0.3**
ESDC IAmb IAmb 23 48 45.7
comp=Z,12nm,1.1s
POO Poona 88.76 299 *e*P **P 23 48 40.0 -4.7**
PMAFR Mafra 88.89 12 *e*P **P 23 48 45.5 +0.6**
PMTG Montargil 88.91 11 *e*P **P 23 48 47.0 +2.0**
TSLK Tsoukalades, L 89.14 349 P **P 23 48 46.0 -0.1**
LKD2 Lefkada island 89.17 349 P **P 23 48 46.2 -0.1**
PESTR Estremoz 89.18 11 *e*P **P 23 48 46.5 +0.2**
ANX Ano Chora 89.20 348 P **P 23 48 46.6 +0.1**
VSL Villasalto 89.31 358 P **P 23 48 47.1 +0.2**
VSL IAmb IAmb 23 48 48.4
comp=Z,16nm,1.2s
EFP Efpalio 89.37 348 P **P 23 48 47.5 +0.3**
KLV Kalavryta, Ach 89.71 347 P **P 23 48 48.7 -0.2**
VLS Valsamata 89.78 349 P **P 23 48 49.0 -0.2**
PBAR Barrancos 89.93 10 *e*P **P 23 48 50.1 +0.3**
PBAR *i*LQ LQ 23 49 02.7
PBEJ Beja 89.98 11 *e*P **P 23 48 51.3 +1.2**
PCVE Castro Verde 90.35 11 *e*P **P 23 48 53.5 +1.7**
ITM Ithomi 90.59 347 P **P 23 48 53.2 +0.2**
PVAQ Vaqueiros 90.61 11 *e*LR LR 23 58 22.4
comp=Z,500nm,20.0s
CSS Mathiatis 90.63 338 P **P 23 48 53.5 +0.3**
CSS IAmb IAmb 23 48 55.0
comp=Z,16nm,1.0s
CORL Corleone 90.73 354 P **P 23 48 54.2 +0.5**
CLTB Caltabellotta 91.06 354 P **P 23 48 54.7 -0.5**
SHME Shamm 91.17 316 P **P 23 48 55.8 0.0**
BANOM Banah 91.21 316 P **P 23 48 56.1 +0.1**
RAFF Raffo Rosso 91.33 353 P **P 23 48 56.8 +0.5**
MSFE Esma-Masafi 91.76 316 P **P 23 48 58.0 -0.6**
STKA Stephens Creek 91.81 217 P **P 23 48 58.0 -0.3**
comp=Z,2.3nm,0.7s,baz=15,slow=5.8,SNR=5.0
STKA LR LR 00 31 59.5
comp=Z,168nm,18.5s,baz=28,slow=37
UOSS Minazif 92.10 316 P **P 23 48 59.2 -0.9**
UOSS Minazif 92.10 316 P **P 23 48 58.8 -1.4**
UOSS IAmb IAmb 23 49 00.3
comp=Z,15nm,1.1s
ASHO Ashiyiah 92.39 316 P **P 23 49 01.3 -0.2**
FAQ Al Faqa, Dubai 92.54 316 P **P 23 49 01.8 -0.4**
SOHO SOHO 92.67 315 *i*P **P 23 49 01.9 -0.9**
SNR=6.1
ASUD Al Ashush, Dub 92.76 316 *i*P **P 23 49 03.3 +0.2**
SNR=9.2
KEST Kesra 93.07 357 P **P 23 49 05.4 +0.9**
comp=Z,7.3nm,1.1s,baz=244,slow=1.0,SNR=7.2
KEST Kesra 93.07 357 P **P 23 49 04.2 -0.3**
KEST IAmb IAmb 23 49 06.1
comp=Z,11nm,1.1s
PMOZ Porto Moniz, M 93.54 20 *e*LR LR 23 56 05.9
comp=Z,642nm,20.0s
RAYN Ar Rayn 97.68 324 *i*P **P 23 49 25.2 -0.5**
SNR=10
RAYN Ar Rayn 97.68 324 P **P 23 49 25.2 -0.5**
RAYN pmax pmax
comp=Z,12nm,1.1s
RAYN Ar Rayn 97.68 324 P **P 23 49 25.2 -0.5**
RAYN IAmb IAmb 23 49 26.8
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 115.48 5 PKKPab PKKPab 00 05 11.2 -3.0
comp=Z,0.4nm,0.6s,baz=180,slow=1.4,SNR=2.2
H03N2 Juan Fernandez 118.23 109 T T 02 04 51.8
baz=317,slow=77,SNR=6.2
H03N1 Juan Fernandez 118.24 109 T T 02 04 48.4
baz=317,slow=77,SNR=6.7
H03N3 Juan Fernandez 118.24 109 T T 02 04 47.7
baz=317,slow=77,SNR=5.8
KMBO Kilima Mbogo 123.38 322 PKP **PKiKP 23 54 49.4 +0.8**
comp=Z,1.6nm,0.8s,baz=351,slow=5.5,SNR=5.4
KMBO Kilima Mbogo 123.38 322*c i*PKIKP **PKPdf 23 54 48.2 -0.1**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 128.07 110 PKP **PKiKP 23 54 56.2 -0.7**
comp=Z,3.5nm,1.0s,baz=342,slow=5.5,SNR=2.9
MAW Mawson 148.50 218 PKPbc **PKPbc 23 55 36.1 +0.1**
comp=Z,18nm,0.9s,baz=332,slow=2.3,SNR=37
MAW Mawson 148.50 218 **PKPbc 23 55 35.5 -0.4**
LBTB Lobatse 149.64 323 PKHKP PKPpre 23 55 36.3
LBTB 23 55 40.8
LBTB Lobatse 149.64 323 PKPdf **PKPdf 23 55 36.3 +0.6**
LBTB **PKiKP 23 55 40.8 -0.5**
BOSA Boshof 153.01 321 PKPbc **PKiKP 23 55 48.2 0.0**
comp=Z,3.0nm,0.6s,baz=356,slow=1.8,SNR=9.9
BOSA Boshof 153.01 321 PKIKP **PKiKP 23 55 47.9 -0.3**
BOSA Boshof 153.01 321 **PKiKP 23 55 47.9 -0.3**
SYO Syowa Base 156.38 210 *e*PKPdf **PKPdf 23 55 44.0 +0.1**
SYO Syowa Base 156.38 210 *e*pPKPdf pPKPdf 23 55 51.4 -0.7
SYO Syowa Base 156.38 210 *e*sPKPdf sPKPdf 23 55 54.0 -0.9

*IDC **04** 23:39:11.7±3.3, 14°.13S×170°.37E, h611km±54km, mb3.0/5, mb1 3.3/6, mb1mx2.9/34, mbtmp4.1/6, Error ellipse: s-maj=79.9km s-min=18.0km az=160.0*
*NEIC **04** 23:39:13.5±1.3, 14°.57S±0°.07×170°.6E±0°.2, h633km±11km, mb4.2/11, Error ellipse: s-maj=23.5km s-min=2.5km az=115.0*
ISC 04 23:39:13.7±0.7, **14°.6S**±0°.1×**170°.6E**±0°.1, **h650**km, **n27**, σ0**80/27**, **mb4.1**/12, **Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.90**	**207**	P	**P**	**23 41 03.5**	**-1.6**
MARNC	**Mare, Loyalty**	**7.25**	**199**	P	**P**	**23 41 06.6**	**-1.4**
MSVF	**Nonsavu**	**7.84**	**114**	P	**P**	**23 41 13.2**	**-0.3**
	2.3nm,0.3s,baz=276,slow=11,SNR=14						
MSVF	**Nonsavu**	**7.84**	**114**	P	**P**	**23 41 12.8**	**-0.7**
OUENC	**Ouen Island, N**	**8.53**	**204**	P	**P**	**23 41 19.6**	**0.0**
BKZ	**Black Stump Fm**	**25.02**	**169**	P	**P**	**23 43 49.0**	**-0.7**
BKZ				IAmb	IAmb	23 44 11.9	
	comp=Z,7.8nm,1.1s						
THZ	**Tophouse**	**27.14**	**176**	P	**P**	**23 44 08.8**	**+0.7**
LTZ	**Lake Taylor**	**28.12**	**177**	P	**P**	**23 44 17.3**	**+0.7**
LTZ				IAmb	IAmb	23 44 26.7	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**31.53**	**232**	P	**P**	**23 44 47.2**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=65,slow=9.1,SNR=7.7						
STKA	**Stephens Creek**	**31.53**	**232**	P	**P**	**23 44 46.9**	**+1.0**
WB0	**Warramunga Arr**	**34.88**	**256**	P	**P**	**23 45 13.9**	**-0.2**
WB0				IAmb	IAmb	23 45 14.1	
	comp=Z,3.6nm,0.6s						
WRA	**Warramunga Arr**	**34.94**	**256**	P	**P**	**23 45 14.2**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=85,slow=9.1,SNR=18						
WRA	**Warramunga Arr**	**34.94**	**256**	P	**P**	**23 45 13.4**	**-1.2**
AS31	**Alice Springs**	**35.69**	**250**	P	**P**	**23 45 20.7**	**0.0**
AS31				IAmb	IAmb	23 45 21.3	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**35.69**	**250**	P	**P**	**23 45 20.9**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=77,slow=9.4,SNR=67						
ASAR	**Alice Springs**	**35.69**	**250**	P	**P**	**23 45 20.3**	**-0.4**
BBOO	**Buckleboo**	**36.19**	**234**	P	**P**	**23 45 25.4**	**+0.8**
BBOO				IAmb	IAmb	23 45 31.4	
	comp=Z,17nm,1.3s						
FAKI	**Fak Fak**	**39.52**	**283**	P	**P**	**23 45 51.5**	**-0.2**
KNRA	**Kununurra**	**40.31**	**263**	P	**P**	**23 45 57.8**	**-0.1**
KNRA				IAmb	IAmb	23 46 07.1	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**75.42**	**180**	P	**P**	**23 49 53.5**	**+0.6**
QSPA				IAmb	IAmb	23 49 57.9	
	comp=Z,5.3nm,1.4s						
NVAR	**Mina Array Bea**	**84.80**	**48**	P	**P**	**23 50 43.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=230,slow=8.1,SNR=2.0						
ILAR	**Eielson Array**	**85.46**	**17**	P	**P**	**23 50 43.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=238,slow=5.1,SNR=4.5						
ARCES	**ARCESS Array B**	**120.91**	**346**	PKP	**PKiKP**	**23 56 53.5**	**0.0**
	comp=Z,3.5nm,0.9s,baz=60,slow=1.9,SNR=9.7						
ARCES	**ARCESS Array B**	**120.91**	**346**		**PKiKP**	**23 56 53.4**	**-0.1**
PSZ	**Piszkesteto**	**138.86**	**330**	PKPdf	**PKPdf**	**23 57 28.1**	**+0.1**
BFO	**Black Forest**	**143.31**	**340**	PKPdf	**PKPdf**	**23 57 35.4**	**-0.4**
ITM	**Ithomi**	**144.19**	**315**	**PKPab**	**23 57 38.2**	**-0.1**

*GCMT **04** 23:50:19.0±0.3, 40°.38N±0°.03×29°.76W±0°.03, h18km±1km, MW4.9/85, Moment Tensor Solution. s11,c11; s85,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.34±.17; $M_{\theta\theta}$-0.53±.11; $M_{\phi\phi}$1.86±.12; $M_{r\theta}$2.70±.47; $M_{\theta\phi}$0.01±.07; $M_{r\phi}$0.76±.21; Best double couple: $M_0$3.04200×10^{16} NP1:ϕ_s232.00000°, δ79.00000°, λ-64.00000°. NP2: ϕ_s232.00000°, δ29.00000°, λ-156.00000°. Principal axes: T 2.3610, Plg29.0000°, Azm301.0000°; N 1.3560, Plg26.0000°, Azm47.0000°; P -3.7240, Plg49.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
*IDC **04** 23:50:19.6±1.0, 40°.48N×29°.98W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/37, mbtmp3.5/5, ML4.3/1, MS4.0/14, Ms1 4.0/14, ms1mx3.8/30 Error ellipse: s-maj=35.2km s-min=17.0km az=151.0*
ISC 04 23:50:18.8±0.8, **39°.79N**±0°.07×**29°.52W**±0°.04, **h10**km, **n41**, σ1**96/49**, **mb3.6**/4, **MS3.9**/13, **Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.24 266**		Pn	**Pn**	**23 50 43.0**	**+0.8**
H07N1				T	T	23 51 57.0	
	SNR=218						
H07N1	**FLORES T-PHASE**	**1.24 266**		*e*P	**Pn**	**23 50 39.2**	**-3.0**
PCAPE	**Capelo, Faial**	**1.31 156**		*e*S	**Sn**	**23 50 59.6**	**-1.0**
PCAPE				A	A	23 51 02.4	
	259nm,0.2s						
PCED	**Cedros**	**1.32 151**		*e*P	**Pn**	**23 50 42.9**	**-0.4**
PCED				*e*S	**Sn**	**23 50 59.6**	**-1.4**
PCED				A	A	23 51 02.5	
	194nm,0.3s						
CALA	**Caldeira**	**1.37 152**		*e*P	**Pn**	**23 50 43.8**	**-0.2**
CALA				*e*S	**Sn**	**23 51 01.0**	**-1.2**
CALA				A	A	23 51 06.3	
	396nm,0.3s						
H07S1	**FLORES T-PHASE**	**1.37 253**		Pn	**Pg**	**23 50 47.1**	**+2.0**
H07S1				T	T	23 51 48.6	
	SNR=152						
H07S1	**FLORES T-PHASE**	**1.37 253**		*e*P	**Pn**	**23 50 41.0**	**-3.0**
SRBC	**Serra Branca**	**1.37 123**		*e*P	**Pn**	**23 50 42.7**	**-1.3**
SRBC				*e*S	**Sn**	**23 51 00.1**	**-2.1**
SRBC				A	A	23 51 03.2	
	427nm,0.3s						
PGRA	**Graciosa**	**1.41 122**		*e*P	**Pn**	**23 50 43.2**	**-1.3**
PGRA				*e*S	**Sn**	**23 51 00.4**	**-2.8**
PGRA				A	A	23 51 04.6	
	103nm,0.2s						
PFCBR	**Castelo Branco**	**1.41 154**		*e*P	**Pn**	**23 50 44.4**	**-0.1**
PFCBR				*e*S	**Sn**	**23 51 01.8**	**-1.4**
PFCBR				A	A	23 51 03.6	
	87nm,0.2s						
HOR	**Horta**	**1.44 151**		*e*P	**Pn**	**23 50 44.5**	**-0.4**
HOR				*e*S	**Sn**	**23 51 02.6**	**-1.2**
HOR				A	A	23 51 04.6	
	372nm,0.3s						
ROSA	**Rosais**	**1.46 137**		*e*P	**Pn**	**23 50 44.1**	**-1.1**
ROSA				*e*S	**Sn**	**23 51 02.7**	**-1.7**
ROSA				A	A	23 51 05.0	
	87nm,0.3s						
PICO	**Pico**	**1.54 146**		*e*P	**Pn**	**23 50 45.9**	**-0.5**
PICO				*e*S	**Sn**	**23 51 05.0**	**-1.5**
PICO				A	A	23 51 08.1	
	253nm,0.2s						
PCAN	**Candelaria**	**1.55 149**		*e*P	**Pn**	**23 50 46.0**	**-0.5**
PCAN				*e*S	**Sn**	**23 51 05.2**	**-1.4**
PCAN				A	A	23 51 07.2	
	360nm,0.3s						
PMAN	**Manadas**	**1.60 136**		*e*P	**Pn**	**23 50 46.2**	**-1.0**
PMAN				*e*S	**Sn**	**23 51 05.9**	**-2.0**
PMAN				A	A	23 51 09.4	
	100nm,0.2s						
PPNO	**Prainha do Nor**	**1.64 143**		*e*P	**Pn**	**23 50 47.5**	**-0.2**
PPNO				*e*S	**Sn**	**23 51 07.4**	**-1.5**
PPNO				A	A	23 51 09.6	
	84nm,0.4s						
PID	**Ribeirinha**	**1.73 141**		*e*P	**Pn**	**23 50 48.7**	**-0.3**
PID				*e*S	**Sn**	**23 51 09.4**	**-1.7**
PID				A	A	23 51 13.0	
	86nm,0.4s						
PAGU	**Agualva, Azore**	**2.08 119**		*e*P	**Pn**	**23 50 52.5**	**-1.2**
PAGU				*e*S	**Sn**	**23 51 16.7**	**-3.0**
PAGU				A	A	23 51 20.1	
	119nm,0.1s						
PSCM	**Serra do Cume**	**2.16 120**		*e*P	**Pn**	**23 50 53.4**	**-1.4**
PSCM				*e*S	**Sn**	**23 51 19.0**	**-2.6**
PSCM				A	A	23 51 24.3	
	80nm,0.3s						
PSET	**Sete Cidades**	**3.56 122**		*e*P	**Pn**	**23 51 13.5**	**-0.6**
PSET				*e*S	**Sn**	**23 51 53.3**	**-2.9**
PSET				A	A	23 52 01.0	
	38nm,0.4s						
PDA	**Ponta Delgada**	**3.64 123**		*e*P	**Pn**	**23 51 14.7**	**-0.4**
CMLA	**Cha da Macela**	**3.72 122**		*e*P	**Pn**	**23 51 15.7**	**-0.6**
CMLA				*e*S	**Sn**	**23 51 57.2**	**-3.0**
CMLA				A	A	23 52 03.4	
	71nm,0.2s						
BART	**Pico Bartolome**	**3.95 119**		*e*P	**Pn**	**23 51 18.6**	**-0.9**
BART				*e*S	**Sn**	**23 52 02.2**	**-3.7**
BART				A	A	23 52 09.5	
	13nm,0.4s						
PSMA	**Santa Maria**	**4.44 128**		*e*P	**Pn**	**23 51 25.3**	**-0.8**
PSMA				*e*S	**Sn**	**23 52 14.7**	**-3.1**
PSMA				A	A	23 52 20.5	
	12nm,0.3s						
PSMN	**Pico do Norte,**	**4.47 127**		*e*P	**Pn**	**23 51 25.9**	**-0.7**
PSMN				*e*S	**Sn**	**23 52 15.6**	**-3.0**
PSMN				A	A	23 52 16.4	
	6.1nm,0.3s						
ESDC	**Sonseca Array**	**19.64 82**		P	**Pn**	**23 54 52.5**	**+3.6**
	0.2nm,0.3s,baz=282,slow=12,SNR=12						
ESDC				LR	LR	00 01 17.1	
	comp=Z,593nm,18.5s,baz=280,slow=33						
MDT	**Midelt**	**21.21 101**		LR	LR	00 01 54.4	
	comp=Z,260nm,18.4s,baz=321,slow=32						
BORG	**Borgarnes**	**25.45 8**		LR	LR	00 02 54.0	
	comp=Z,221nm,20.6s,baz=200,slow=30						
DAVOX	**Davos/Dischmat**	**29.28 63**		LR	LR	00 06 23.0	
	comp=Z,163nm,19.8s,baz=265,slow=33						
KEST	**Kesra**	**30.82 85**		LR	LR	00 08 07.3	
	comp=Z,265nm,19.6s,baz=300,slow=34						
GERES	**GERESS Array B**	**31.84 59**		LR	LR	00 09 16.6	
	comp=Z,111nm,18.9s,baz=274,slow=36						
NOA	**NORSAR Array B**	**32.75 36**		LR	LR	00 07 54.3	
	comp=Z,114nm,21.8s,baz=340,slow=32						
TORD	**Torodi Ar. Bea**	**38.19 125**		LR	LR	00 12 53.4	
	comp=Z,212nm,18.4s,baz=330,slow=35						
AKASG	**Malin Array Be**	**41.73 55**		P	**P**	**23 58 07.3**	**-0.5**
	0.1nm,0.2s,baz=276,slow=8.3,SNR=1.4						
BRTR	**Keskin Array B**	**47.61 69**		P	**P**	**23 58 59.7**	**+4.6**
	0.4nm,0.7s,baz=298,slow=6.1,SNR=4.1						
ROSC	**El Rosal**	**53.26 241**		LR	LR	00 18 54.7	
	comp=Z,209nm,21.0s,baz=56,slow=32						
BDFB	**Brasilia**	**57.78 201**		LR	LR	00 21 34.1	
	comp=Z,161nm,21.6s,baz=313,slow=32						
PDAR	**Pinedale Array**	**58.03 301**		P	**P**	**00 00 10.5**	**-1.6**
	0.4nm,0.6s,baz=94,slow=6.5,SNR=6.2						
PDAR				LR	LR	00 24 15.3	
	comp=Z,236nm,18.4s,baz=22,slow=36						
TXAR	**Lajitas Array**	**60.37 285**		P	**P**	**00 00 26.7**	**-1.6**
	0.6nm,0.8s,baz=72,slow=6.7,SNR=9.0						
TXAR				LR	LR	00 26 53.9	
	comp=Z,167nm,18.4s,baz=0.0,slow=37						
NVAR	**Mina Array Bea**	**65.96 301**		LR	LR	00 29 48.4	
	comp=Z,274nm,18.6s,baz=74,slow=36						
LPAZ	**La Paz**	**66.39 221**		LR	LR	00 28 04.6	
	comp=Z,65nm,19.7s,baz=324,slow=34						

*IDC **04** 23:55:00.9±1.2, 40°.65N×30°.10W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=33.7km s-min=20.4km az=145.0*
ISC 04 23:55:01.8±2.3, **39°.74N**±0°.09×**29°.41W**±0°.05, **h13**km±14km, **n24**, σ1**40/29**, **mb3.5**/3, **Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.24 153**		*e*S	**Sg**	**23 55 41.7**	**-0.1**
PCED				A	A	23 55 44.7	
	31nm,0.3s						
SRBC	**Serra Branca**	**1.27 123**		*e*P	**Pn**	**23 55 25.3**	**0.0**
SRBC				*e*S	**Sn**	**23 55 42.2**	**-0.1**
SRBC				A	A	23 55 44.7	
	137nm,0.2s						
CALA	**Caldeira**	**1.28 154**		*e*S	**Sg**	**23 55 43.5**	**+0.3**
CALA				A	A	23 55 50.4	
	84nm,0.4s						
PGRA	**Graciosa**	**1.32 122**		*e*P	**Pb**	**23 55 25.8**	**-0.6**
PGRA				*e*S	**Sb**	**23 55 42.9**	**-0.3**
PGRA				A	A	23 55 45.5	
	62nm,0.3s						
H07N1	**FLORES T-PHASE**	**1.32 268**		Pn	**Pn**	**23 55 26.5**	**+0.5**
H07N1				T	T	23 56 36.1	
	SNR=7.0						
H07N1	**FLORES T-PHASE**	**1.32 268**		*e*P	Pn	23 55 21.8	-4.2
PFCBR	**Castelo Branco**	**1.33 156**		*e*S	**Sg**	**23 55 44.4**	**-0.4**
PFCBR				A	A	23 55 46.7	
	9.3nm,0.1s						
ROSA	**Rosais**	**1.37 138**		*e*P	**Pn**	**23 55 26.7**	**+0.1**
ROSA				*e*S	**Sg**	**23 55 45.0**	**-0.8**
ROSA				A	A	23 55 46.9	
	20nm,0.3s						
H07S1	**FLORES T-PHASE**	**1.44 256**		Pn	**Pn**	**23 55 28.6**	**+1.0**
H07S1				T	T	23 56 48.3	
H07S1	**FLORES T-PHASE**	**1.44 256**		*e*P	Pn	23 55 24.0	-3.6
PICO	**Pico**	**1.46 148**		*e*P	**Pn**	**23 55 28.3**	**+0.4**
PICO				*e*S	**Sn**	**23 55 47.5**	**+0.6**
PICO				A	A	23 55 50.0	
	67nm,0.4s						
PCAN	**Candelaria**	**1.47 150**		*e*P	**Pn**	**23 55 28.3**	**+0.3**
PCAN				*e*S	**Sn**	**23 55 47.7**	**+0.7**
PCAN				A	A	23 55 50.5	
	63nm,0.2s						
PMAN	**Manadas**	**1.51 137**		*e*S	**Sn**	**23 55 48.1**	**0.0**
PMAN				A	A	23 55 50.6	
	17nm,0.2s						
PPNO	**Prainha do Nor**	**1.55 145**		*e*S	**Sn**	**23 55 49.5**	**+0.3**
PPNO				A	A	23 55 52.1	
	22nm,0.3s						
PID	**Ribeirinha**	**1.64 142**		*e*S	**Sn**	**23 55 51.8**	**+0.4**
PID				A	A	23 55 53.1	
	12nm,0.2s						
PAGU	**Agualva, Azore**	**1.98 119**		*e*P	**Pn**	**23 55 35.0**	**-0.1**
PAGU				*e*S	**Sn**	**23 55 59.1**	**-0.7**
PAGU				A	A	23 56 03.4	
	45nm,0.2s						
PSCM	**Serra do Cume**	**2.06 120**		*e*P	**Pn**	**23 55 35.9**	**-0.3**
PSCM				*e*S	**Sn**	**23 56 01.0**	**-0.8**
PSCM				A	A	23 56 04.2	
	15nm,0.4s						
CMLA	**Cha da Macela**	**3.62 122**		*e*P	**Pn**	**23 55 57.9**	**+0.2**
CMLA				*e*S	**Sn**	**23 56 39.1**	**-1.2**
CMLA				A	A	23 56 45.9	
	20nm,0.3s						
PSMA	**Santa Maria**	**4.34 128**		*e*P	**Pn**	**23 56 07.6**	**+0.1**
PSMN	**Pico do Norte,**	**4.37 127**		*e*P	**Pn**	**23 56 08.3**	**+0.3**
ESDC	**Sonseca Array**	**19.56 82**		P	**Pn**	**23 59 35.1**	**+4.4**
	0.0nm,0.3s,baz=286,slow=8.7,SNR=4.7						
BRTR	**Keskin Array B**	**47.56 69**		P	**P**	**00 03 39.2**	**+2.1**
	0.3nm,0.7s,baz=266,slow=5.8,SNR=3.1						
PDAR	**Pinedale Array**	**58.13 301**		P	**P**	**00 04 51.1**	**-4.3**
	0.3nm,0.8s,baz=74,slow=10,SNR=3.5						
TXAR	**Lajitas Array**	**60.46 285**		P	P	00 05 06.6	-4.9
	0.5nm,0.8s,baz=74,slow=6.4,SNR=6.4						

*IDC **05** 00:20:10.0±1.7, 36°.60N×141°.06E, h48km±18km, mb3.3/5, mb1 3.4/8, mb1mx3.2/37, mbtmp3.5/8, ML3.1/3, Error ellipse: s-maj=18.2km s-min=11.2km az=87.0*
*JMA **05** 00:20:09.7±0.1, 36°.64N×140°.93E, h49km±1km, M3.5*
JMA Felt I J1.
ISC 05 00:20:08.3±1.5, **36°.63N**±0°.04×**141°.06E**±0°.07, **h29**km±10km, **n29**, σ0**91/32**, **mb3.6**/5, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.39 268**		P	**Pn**	**00 20 18.8**	**+0.7**
JHO				S	**Sn**	**00 20 24.8**	**+0.2**
JHYU	**Hitachinakayam**	**0.48 233**		P	**Pn**	**00 20 20.0**	**+0.8**
JHYU				S	**Sn**	**00 20 26.9**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.52 336**		P	**Pn**	**00 20 20.4**	**+0.6**
ONAJ				S	**Sn**	**00 20 27.7**	**0.0**
JFFD	**Fukushimafurud**	**0.61 319**		P	**Pn**	**00 20 21.4**	**+0.3**
JFFD				S	**Sb**	**00 20 29.0**	**+0.1**
JFK	**Kawauchi**	**0.75 349**		P	**Pb**	**00 20 23.3**	**+0.4**
JFK				S	**Sb**	**00 20 32.8**	**-0.1**
JYT	**Yasato**	**0.80 240**		P	**Pb**	**00 20 23.6**	**-0.2**
JYT				S	**Sb**	**00 20 33.4**	**-0.9**
JFT	**Otama**	**1.06 327**		P	**Pb**	**00 20 28.1**	**0.0**
JFT				S	**Sb**	**00 20 40.9**	**-0.7**
JMM	**Marumori**	**1.25 350**		P	**Pn**	**00 20 30.4**	**+0.5**
JMM				S	**Sn**	**00 20 45.4**	**-0.4**
JAG	**Ashikaga**	**1.31 262**		P	**Pn**	**00 20 30.4**	**-0.2**
JFY	**Yanaizu**	**1.33 306**		P	**Pn**	**00 20 31.4**	**+0.4**
JKT	**Katashina**	**1.46 276**		P	**Pn**	**00 20 33.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.29 269**		P	**Pn**	**00 20 43.9**	**-0.3**
	2.1nm,0.3s,baz=89,slow=14,SNR=102						
MJAR				S	**Sn**	**00 21 12.7**	**+1.2**
	1.2nm,0.3s,baz=73,slow=22,SNR=3.0						
MAT	**Matsushiro**	**2.30 269**		P	**Pn**	**00 20 45.2**	**+1.0**
MAT				S	**Sn**	**00 21 13.3**	**+1.8**
JHJ	**Hachijo jima 2**	**3.65 197**		P	**Pn**	**00 21 05.1**	**+2.2**
	4.6nm,0.3s,baz=21,slow=17,SNR=2.2						
JHJ				S	**Sn**	**00 21 45.6**	**+0.6**
	21nm,0.3s,baz=41,slow=19,SNR=8.9						
ASAJ	**Asahikawa**	**7.57 8**		P	**Pn**	**00 21 56.8**	**+0.1**
	0.4nm,0.3s,baz=210,slow=16,SNR=1.8						
ASAJ				S	**Sn**	**00 23 22.9**	**+1.4**
	0.2nm,0.3s,baz=324,slow=19,SNR=1.8						
SONM	**Songino Array**	**27.78 305**		P	**P**	**00 25 55.3**	**+0.6**
	0.3nm,0.3s,baz=90,slow=7.2,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**28.19 120**		T	T	00 55 57.7	
	baz=313,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.20 120**		T	T	00 55 58.3	
	baz=313,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.21 120**		T	T	00 55 58.5	
	baz=313,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.88 122**		T	T	00 56 49.0	
	baz=314,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**28.88 122**		T	T	00 56 48.0	
	baz=314,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.90 122**		T	T	00 56 49.4	
	baz=314,slow=76,SNR=24						
ZALV	**Zalesovo Beam**	**41.98 313**		P	**P**	**00 27 55.5**	**-1.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.21**	**3**	Pg	Pg	00 26 05.4	-2.9
	6.0nm,0.5s						
SATY				Lg	Lg	00 27 16.5	
	15nm,0.7s						
MDOK	**Medeo**	**5.36**	**352**	Pg	Pb	00 26 05.9	+4.0
	4.5nm,0.8s						
MDOK				Lg	Lg	00 27 17.9	
	11nm,0.8s						
MDOK	**Medeo**	**5.36**	**352**	Pg	Pg	00 26 06.9	-4.2
	2.9nm,0.4s						
MDOK				Lg	Lg	00 27 19.2	
	8.1nm,0.3s						
AAK	**Ala-Archa**	**5.49**	**332**	⇓Pg	Pb	00 26 08.7	+4.6
	1.6nm,0.5s						
AAK				⇑Lg	Lg	00 27 22.6	
	13nm,0.9s						
PDGK	**Podgornoye**	**5.59**	**11**	Pg	Pg	00 26 10.9	-4.6
	1.8nm,0.6s						
PDGK				Lg	Lg	00 27 25.9	
	2.9nm,0.9s						
PDGK	**Podgornoye**	**5.59**	**11**	⇑Pg	Pb	00 26 07.2	+1.3
	4.6nm,0.8s						
PDGK				⇑Sn	Sn	00 26 56.2	+0.9
	5.1nm,0.6s						
PDGK				⇓Lg	Lg	00 27 26.4	
	11nm,0.8s						
DGS	**Degeres**	**5.65**	**343**	Pg	Pb	00 26 11.6	+4.8
	3.8nm,0.4s						
DGS				Lg	Lg	00 27 27.1	
	7.8nm,0.7s						
MRKS	**Merke**	**6.10**	**325**	Pg	Pg	00 26 20.1	-5.3
	1.4nm,0.1s						
MRKS				Lg	Lg	00 27 41.7	
	3.8nm,0.2s						
SGDS	**Sogindy**	**6.16**	**336**	Pg	Pg	00 26 21.2	-5.1
	1.6nm,0.5s						
SGDS				Lg	Lg	00 27 43.6	
	3.5nm,0.6s						

*IDC **05** 00:35:22.5±7.2,37.°17N×78.°62E,h0km,mb3.4/2, mb1 3.4/3,mb1mx3.1/26,mbtmp3.4/3,ML3.6/1,MS3.3/2, Ms1 3.4/2,ms1mx2.8/29,Error ellipse: s-maj=165.5km s-min=41.9km az=125.0*
*NNC **05** 00:35:32.1±1.5,37.°83N×78.°01E,h2km±8km,mb4.1, mpv3.7,Error ellipse: s-maj=10.2km s-min=8.9km az=0.0*
ISC 05 00:35:28.8±2.1,37.°6N±0.°1×78.°1E±0.°1,h10km,n14, σ3°99/14,5C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.42**	**3**	Pg	**Pg**	**00 37 07.9**	**-4.8**
	6.6nm,0.4s						
SATY				Lg	Lg	00 38 19.0	
	26nm,0.1s						
MDOK	**Medeo**	**5.57**	**352**	Pg	**Pb**	**00 37 10.5**	**+4.2**
	6.1nm,0.6s						
MDOK				⇑Lg	Lg	00 38 24.4	
	24nm,0.8s						
MDOK	**Medeo**	**5.57**	**352**	Pg	**Pb**	**00 37 09.7**	**+3.4**
	6.3nm,0.5s						
MDOK				Lg	Lg	00 38 22.1	
	14nm,0.6s						
AAK	**Ala-Archa**	**5.69**	**333**	⇑Pg	**Pg**	**00 37 13.0**	**-4.7**
	5.6nm,0.7s						
AAK				⇑Lg	Lg	00 38 28.9	
	17nm,0.9s						
PDGK	**Podgornoye**	**5.79**	**10**	Pg	**Pb**	**00 37 14.1**	**+4.1**
	2.1nm,0.3s						
PDGK				Lg	Lg	00 38 29.7	
	4.4nm,0.5s						
PDGK	**Podgornoye**	**5.79**	**10**	⇑Pn	**Pn**	**00 36 56.5**	**+1.6**
	1.5nm,0.3s						
PDGK				⇑Pg	**Pb**	**00 37 13.8**	**+3.9**
	4.2nm,0.7s						
PDGK				⇓Lg	Lg	00 38 29.5	
	15nm,0.8s						
DGS	**Degeres**	**5.86**	**343**	Pg	**Pb**	**00 37 15.6**	**+4.4**
	5.2nm,0.4s						
DGS				Lg	Lg	00 38 32.5	
	11nm,0.7s						
MRKS	**Merke**	**6.30**	**326**	Pg	**Pb**	**00 37 23.0**	**+4.4**
	2.6nm,0.3s						
MRKS				Lg	Lg	00 38 44.9	
	8.8nm,0.3s						
SGDS	**Sogindy**	**6.37**	**337**	Pg	**Pb**	**00 37 24.3**	**+4.6**
	1.6nm,0.2s						
SGDS				Lg	Lg	00 38 47.3	
	3.3nm,0.3s						
MKAR	**Makanchi Array**	**9.68**	**18**	Pn	**Pn**	**00 37 49.0**	**+0.9**
	0.5nm,0.3s,baz=193,slow=12,SNR=22						
MKAR				Sn	**Sn**	**00 39 35.1**	**-1.6**
	0.5nm,0.3s,baz=194,slow=25,SNR=5.5						
FINES	**FINESS Array B**	**39.80**	**324**	P	**P**	**00 43 02.0**	**+0.3**
	0.8nm,0.9s,baz=106,slow=10,SNR=4.0						
ARCES	**ARCESS Array B**	**42.35**	**336**	LR	LR	01 04 09.3	
	comp=Z,40nm,18.3s,baz=75,slow=40						
TIXI	**Tiksi**	**42.64**	**21**	LR	LR	01 00 26.5	
	comp=Z,38nm,18.9s,baz=232,slow=35						
TORD	**Torodi Ar. Bea**	**71.35**	**272**	P	**P**	**00 46 47.4**	**-1.8**
	0.3nm,0.8s,baz=41,slow=5.6,SNR=1.8						

*IDC **05** 00:50:42.9±11.0,51.°89N×179.°56E,h92km±108km, mb3.1/6,mb1 3.7/7,mb1mx3.2/39,mbtmp3.7/7,ML4.2/1, Error ellipse: s-maj=75.8km s-min=37.6km az=156.0*
*AEIC **05** 00:50:50.4±3.8,52.°0N±0.°1×179.°7E±0.°1,h181km±4km, Error ellipse: s-maj=19.5km s-min=9.4km az=184.0*
*NEIC **05** 00:50:51.0±1.3,52.°1N±0.°2×179.°66E±0.°10,h169km±7km, mb4.1/38,ML3.1/29(AEIC),Error ellipse: s-maj=30.5km s-min=8.7km az=180.0*
ISC 05 00:50:51.0±0.8,52.°0N±0.°1×179.°73E±0.°06,h167km±6km, n76,σ0°74/83,mb3.9/19,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEAP	**Semis' Anvil P**	**0.10**	**245**		**Pn**	**00 51 13.5**	**+0.3**
CEAP					**Sn**	**00 51 30.9**	**+0.7**
CERAA	**Semis' Rag'd T**	**0.14**	**190**		**Pn**	**00 51 13.2**	**-0.1**
CESW	**Semis' Southwe**	**0.17**	**215**		**Pn**	**00 51 13.2**	**-0.1**
CESW					**Sn**	**00 51 30.6**	**+0.2**
AMKA	**Amchitka**	**0.72**	**202**		**Pn**	**00 51 15.3**	**-0.1**
AMKA					**Sn**	**00 51 32.7**	**-1.4**
LSPA	**Little Sitkin**	**0.72**	**263**		**Pn**	**00 51 15.7**	**+0.2**
LSNW	**Little Sitkin**	**0.75**	**265**		**Pn**	**00 51 15.5**	**-0.1**
LSSA	**Little Sitkin**	**0.76**	**263**		**Pn**	**00 51 15.8**	**+0.1**
GALAA	**Gareloi Lava P**	**0.97**	**106**		**Pn**	**00 51 17.5**	**+0.3**
GALAA					**Sn**	**00 51 39.1**	**+1.8**
GAEA	**Gareloi East**	**0.98**	**105**		**Pn**	**00 51 17.4**	**+0.1**
TASE	**Tanaga Southea**	**1.40**	**98**		**Pn**	**00 51 21.0**	**+0.1**
TAFP	**Tanaga Falls P**	**1.43**	**95**		**Pn**	**00 51 21.1**	**-0.1**
TAFP					**Sn**	**00 51 44.0**	**-0.4**
KIMD	**Kanaga Island**	**1.91**	**97**		**Pn**	**00 51 25.9**	**-0.2**
KICM	**Kanaga Island**	**1.91**	**93**		**Pn**	**00 51 26.1**	**0.0**
KIKV	**Kanaga Island**	**1.93**	**94**		**Pn**	**00 51 26.4**	**+0.1**
KIWB	**Kanaga Island**	**1.94**	**94**		**Pn**	**00 51 26.3**	**-0.2**
ADK	**Adak**	**2.23**	**93**		**Pn**	**00 51 29.6**	**-0.1**
ADK					**Sn**	**00 51 59.1**	**-0.6**
GSTD	**Great Sitkin T**	**2.55**	**88**		**Sn**	**00 52 05.8**	**-0.8**
GSTR	**Great Sitkin T**	**2.60**	**87**		**Pn**	**00 51 34.2**	**0.0**
GSTR	**Great Sitkin T**	**2.60**	**87**	Sn	**Sn**	**00 52 07.1**	**-0.6**
SMY	**Shemya**	**3.51**	**283**		**Pn**	**00 51 43.5**	**-1.9**
ATKA	**Atka Island**	**3.75**	**85**		**Pn**	**00 51 47.9**	**-0.6**
ATKA					**Sn**	**00 52 32.5**	**-0.7**
KOFP	**Korovin Flat P**	**3.81**	**84**		**Pn**	**00 51 49.4**	**+0.1**
NIKH	**Nikolski High**	**7.03**	**78**		**Pn**	**00 52 31.3**	**-0.1**
MNAT	**Makushin Natee**	**8.41**	**72**		**Pn**	**00 52 50.0**	**+0.4**
SVW2	**Sparrevohn**	**16.25**	**46**	P	**Pn**	**00 54 30.0**	**+0.3**
SVW2				IAmb	IAmb	00 54 58.4	
	comp=Z,13nm,1.2s						
OHAK	**Old Harbor**	**16.40**	**61**		**P**	**00 54 29.2**	**-1.9**
KDAK	**Kodiak Island**	**16.85**	**59**	P	**P**	**00 54 34.5**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=285,slow=7.6,SNR=14						
KDAK	**Kodiak Island**	**16.85**	**59**	P	**P**	**00 54 35.3**	**-0.9**
CNPM	**China Poot**	**17.85**	**54**	P	**P**	**00 54 47.3**	**+0.2**
BRLK	**Bradley Lake**	**18.07**	**53**	P	**P**	**00 54 49.5**	**-0.1**
SKT	**Skwentna**	**18.38**	**46**	P	**Pn**	**00 54 54.8**	**-0.2**
SKT				IAmb	IAmb	00 54 58.7	
	comp=Z,15nm,1.1s						
SEW	**Seward**	**18.85**	**53**	P	**P**	**00 54 58.7**	**+0.8**
RC01	**Rabbit Creek A**	**18.94**	**50**	P	**P**	**00 54 59.6**	**+0.7**
KTH	**Kantishna Hill**	**19.22**	**42**	P	**Pn**	**00 55 03.5**	**-1.3**
KTH				IAmb	IAmb	00 55 04.1	
	comp=Z,6.4nm,1.0s						
PMR	**Palmer**	**19.35**	**48**	P	**P**	**00 55 03.5**	**+0.2**
PMR				IAmb	IAmb	00 55 17.8	
	comp=Z,12nm,1.2s						
GHO	**Glory Hole Cre**	**19.50**	**48**	P	**P**	**00 55 04.3**	**-0.7**
GHO				IAmb	IAmb	00 55 24.4	
	comp=Z,15nm,1.3s						
PWL	**Port Wells**	**19.55**	**51**	P	**P**	**00 55 05.4**	**-0.1**
PWL				IAmb	IAmb	00 55 28.9	
	comp=Z,21nm,1.2s						
GLI	**Glacier Island**	**20.15**	**51**	P	**P**	**00 55 11.8**	**-0.2**
SCM	**Sheep Creek Mo**	**20.24**	**48**	P	**P**	**00 55 12.9**	**-0.1**
FID	**Port Fidalgo**	**20.42**	**52**	P	**P**	**00 55 13.7**	**-1.1**
FID				IAmb	IAmb	00 55 16.1	
	comp=Z,12nm,0.8s						
WRH	**Wood River Hil**	**20.72**	**41**	P	**P**	**00 55 17.4**	**-0.6**
MDM	**Murphy Dome**	**20.85**	**39**	P	**P**	**00 55 19.1**	**-0.3**
ILAR	**Eielson Array**	**21.31**	**40**	P	**P**	**00 55 24.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=232,slow=9.5,SNR=6.8						
ILAR	**Eielson Array**	**21.31**	**40**	P	**P**	**00 55 24.3**	**-0.1**
HMT	**Hamilton**	**21.44**	**53**	P	**P**	**00 55 25.5**	**-0.3**
HMT				IAmb	IAmb	00 55 54.2	
	comp=Z,21nm,1.4s						
N25K	**Chitina, Valde**	**21.47**	**50**	P	**P**	**00 55 26.3**	**+0.3**
N25K				IAmb	IAmb	00 55 29.6	
	comp=Z,13nm,1.5s						
GLB	**Gilahina Butte**	**21.81**	**50**	P	**P**	**00 55 29.7**	**+0.1**
GLB				IAmb	IAmb	00 55 31.4	
	comp=Z,11nm,1.5s						
VRDI	**Verde Repeater**	**21.95**	**51**	P	**P**	**00 55 30.9**	**-0.3**
VRDI				IAmb	IAmb	00 55 36.2	
	comp=Z,5.6nm,1.0s						
DOT	**Dot Lake**	**22.15**	**44**	P	**P**	**00 55 32.0**	**-0.9**
SCRK	**Sand Creek**	**22.27**	**44**	P	**P**	**00 55 33.0**	**-1.2**
TABL	**Table Mountain**	**23.00**	**53**	P	**P**	**00 55 40.9**	**-0.1**
TABL				IAmb	IAmb	00 55 42.4	
	comp=Z,7.3nm,0.8s						
L27K	**Beaver Creek,**	**23.00**	**46**	P	**P**	**00 55 42.2**	**+1.3**
L27K				IAmb	IAmb	00 55 42.9	
	comp=Z,4.3nm,0.7s						
BCAR	**Beaver Creek A**	**23.02**	**46**	P	**P**	**00 55 41.9**	**+0.8**
K27K	**Chicken**	**23.10**	**44**	P	**P**	**00 55 42.9**	**+1.3**
K27K				IAmb	IAmb	00 55 44.1	
	comp=Z,2.8nm,0.8s						
PCA	**Pinnacle**	**23.42**	**54**	P	**P**	**00 55 44.8**	**+0.1**
PCA				IAmb	IAmb	00 55 45.9	
	comp=Z,7.3nm,0.8s						
EGAK	**Eagle**	**23.66**	**42**	P	**P**	**00 55 46.9**	**+0.1**
EGAK				IAmb	IAmb	00 55 48.0	
	comp=Z,3.2nm,0.7s						
DAWY	**Dawson**	**24.26**	**44**	P	**P**	**00 55 54.1**	**+1.8**
DAWY				IAmb	IAmb	00 55 55.8	
	comp=Z,3.4nm,0.8s						
HYT	**Haines Junctio**	**24.80**	**52**	P	**P**	**00 55 59.2**	**+1.8**
HYT				IAmb	IAmb	00 56 00.5	
	comp=Z,2.3nm,0.7s						
YKA	**Yellowknife Ar**	**35.44**	**47**	P	**P**	**00 57 31.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=283,slow=7.7,SNR=5.3						
EDM	**Edmonton**	**39.29**	**61**	P	**P**	**00 58 03.3**	**+0.1**
WAKR	**Walker**	**43.63**	**83**	P	**P**	**00 58 39.4**	**+0.4**
BCYI	**Bear Canyon**	**43.81**	**72**	P	**P**	**00 58 39.7**	**-0.6**
MCMT	**McKenzie Canyo**	**43.84**	**72**	P	**P**	**00 58 40.2**	**-0.4**
BOZ	**Bozeman (W)**	**44.12**	**70**	P	**P**	**00 58 42.2**	**-0.4**
RYN	**Ryan**	**44.12**	**82**	P	**P**	**00 58 43.2**	**+0.5**
RYN				IAmb	IAmb	00 58 50.9	
	comp=Z,4.4nm,1.3s						
NVAR	**Mina Array Bea**	**44.38**	**82**	P	**P**	**00 58 46.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=300,slow=7.2,SNR=7.1						
NVAR	**Mina Array Bea**	**44.38**	**82**	P	**P**	**00 58 45.8**	**+0.9**
DUG	**Dugway, Tooele**	**46.61**	**77**	P	**P**	**00 59 02.1**	**-0.1**
DUG				IAmb	IAmb	00 59 03.4	
	comp=Z,4.3nm,1.4s						
PD31	**Pinedale Array**	**46.98**	**72**	P	**P**	**00 59 05.2**	**0.0**
PDAR	**Pinedale Array**	**46.98**	**72**	P	**P**	**00 59 04.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=323,slow=4.1,SNR=11						
PDAR	**Pinedale Array**	**46.98**	**72**	P	**P**	**00 59 05.0**	**-0.2**
PSUT	**Pine Spring**	**47.02**	**79**	P	**P**	**00 59 06.1**	**+0.5**
GSC	**Goldstone, Bar**	**47.30**	**85**	P	**P**	**00 59 08.6**	**+1.0**
TXAR	**Lajitas Array**	**59.45**	**81**	P	**P**	**01 00 36.7**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=301,slow=5.9,SNR=5.1						
TXAR	**Lajitas Array**	**59.45**	**81**	P	**P**	**01 00 36.5**	**+0.2**
WRA	**Warramunga Arr**	**81.87**	**223**	P	**P**	**01 02 51.0**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=32,slow=6.2,SNR=2.2						

*KRNET **05** 00:54:43.0±0.1,39.°10N×72.°68E,h13km,mb3.2*
*SOME **05** 00:54:51.3,39.°58N×72.°30E,h5km*
*NNC **05** 00:55:00.1±2.3,39.°91N×72.°72E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=16.5km s-min=9.4km az=178.0*
ISC 05 00:54:48.0±1.5,39.°41N±0.°08×72.°61E±0.°04,h10km,n25, σ2°17/41,23C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.63**	**277**	⇑*iP*	**Pg**	**00 54 58.1**	**-2.2**
	baz=0.0						
DRK				⇑*iS*	**Sb**	**00 55 09.4**	**-1.0**
	baz=0.0						
SFK	**Sufi-Kurgan**	**0.92**	**48**	⇑*iP*	**Pg**	**00 55 04.7**	**-1.0**
	baz=34						
SFK				⇑*iS*	**Sn**	**00 55 19.4**	**-1.2**
	baz=34						
OHH	**Osh**	**1.12**	**7**	⇑*iP*	**Pn**	**00 55 10.3**	**+0.4**
	baz=3.0						
OHH				⇑*iS*	**Sn**	**00 55 30.2**	**+4.7**
	baz=3.0						
BTK	**Batken**	**1.53**	**296**	⇑*iP*	**Pb**	**00 55 15.7**	**-0.8**
	baz=4.0						
BTK				⇑*iS*	**Sg**	**00 55 39.1**	**+1.9**
	baz=4.0						
TRKS	**Terek-Say**	**2.40**	**333**	⇓*iP*	**Pn**	**00 55 29.0**	**+1.5**
	baz=34						
TRKS				⇓*iS*	**Sb**	**00 56 02.3**	**+1.2**
	baz=34						
ARLS	**Aral**	**2.78**	**27**	⇑*iP*	**Pn**	**00 55 34.2**	**+1.5**
	baz=24						
ARLS				⇑*iS*	**Sb**	**00 56 11.7**	**-0.3**
	baz=24						
AML	**Almayashu**	**2.84**	**16**	⇑*iP*	**Pn**	**00 55 36.0**	**+2.2**
	baz=14						
AML				⇑*iS*	**Sb**	**00 56 15.2**	**+1.1**
	baz=14						
MNAS	**Manas**	**3.08**	**359**	⇑*iP*	**Pb**	**00 55 39.6**	**-3.4**
	baz=58						
MNAS				⇑*iS*	**Sb**	**00 56 21.0**	**+0.3**
	baz=58						
MRKS	**Merke**	**3.37**	**8**	*eP*	**Pg**	**00 55 51.3**	**-1.3**
	24nm,0.3s						
MRKS				*eS*	**Sb**	**00 56 30.6**	**+1.6**
	12nm,0.3s						
MRKS	**Merke**	**3.37**	**8**	Pg	**Pg**	**00 55 51.3**	**-1.3**
	24nm,0.3s						
MRKS				Lg	Lg	00 56 30.6	
	12nm,0.3s						
EKS2	**Erkin-Say**	**3.37**	**15**	⇓*iP*	**Pn**	**00 55 43.2**	**+2.4**
	baz=13						
EKS2				⇓*iS*	**Sb**	**00 56 27.5**	**-1.5**
	baz=13						
AAK	**Ala-Archa**	**3.53**	**23**	⇑*iP*	**Pn**	**00 55 45.4**	**+2.4**
	baz=21						
AAK				⇑*iS*	**Sb**	**00 56 30.9**	**-2.7**
	baz=21						
AAK	**Ala-Archa**	**3.53**	**23**	⇑Pn	**Pb**	**00 55 48.0**	**-2.6**
	6.9nm,0.5s						
AAK				⇑Lg	Lg	00 56 35.5	
	15nm,0.7s						
DZA	**Taraz**	**3.62**	**345**	*eP*	**Pg**	**00 55 55.0**	**-2.3**
	31nm,0.1s						
DZA				*eS*	**Sb**	**00 56 37.0**	**+1.0**
	63nm,0.1s						
DZA	**Taraz**	**3.62**	**345**	Pg	**Pg**	**00 55 55.0**	**-2.3**
	31nm,0.1s						
DZA				Lg	Lg	00 56 37.0	
	63nm,0.1s						
CHMS	**Chumysh**	**3.94**	**24**	⇓*iP*	**Pn**	**00 55 50.8**	**+2.3**
	baz=21						
CHMS				⇓*iS*	**Sb**	**00 56 40.4**	**-4.8**
	baz=21						
ULHL	**Ulahol**	**3.95**	**43**	⇑*iP*	**Pn**	**00 55 50.4**	**+1.5**
	baz=40						
ULHL				⇑*iS*	**Sn**	**00 56 39.4**	**+3.9**
	baz=40						
BOOM	**Boomskoye usch**	**3.98**	**38**	⇑*iP*	**Pn**	**00 55 50.8**	**+1.5**
	baz=35						
BOOM				⇑*iS*	**Sn**	**00 56 40.3**	**+4.2**
	baz=35						
SGDS	**Sogindy**	**4.32**	**20**	Pg	**Pg**	**00 56 09.1**	**-1.6**
	3.6nm,0.4s						
SGDS				Lg	Lg	00 57 01.6	
	5.1nm,0.7s						
MDOK	**Medeo**	**5.03**	**40**	*eP*	**Pg**	**00 56 25.1**	**+0.9**
	3.5nm,0.2s						
MDOK				*eS*	**Sg**	**00 57 29.1**	**-0.3**
	6.9nm,0.5s						
MDOK	**Medeo**	**5.03**	**40**	Pg	**Pg**	**00 56 23.3**	**-0.9**
	3.9nm,0.7s						
MDOK				⇑Lg	Lg	00 57 25.0	
	9.6nm,0.7s						
MDOK	**Medeo**	**5.03**	**40**	Pg	**Pg**	**00 56 25.1**	**+0.9**
	3.5nm,0.2s						
MDOK				Lg	Lg	00 57 29.1	
	6.9nm,0.5s						
KUU	**Kurty**	**5.28**	**31**	*eP*	**Pg**	**00 56 28.8**	**-0.3**
	2.3nm,0.6s						
KUU				*eS*	**Sg**	**00 57 35.5**	**-2.1**
	8.0nm,0.4s						
KUU	**Kurty**	**5.28**	**31**	Pg	**Pg**	**00 56 28.8**	**-0.3**
	2.3nm,0.6s						
KUU				Lg	Lg	00 57 35.4	
	8.0nm,0.4s						
PDGK	**Podgornoye**	**6.49**	**51**	Lg	Lg	00 58 14.4	
	4.4nm,0.8s						

*TUL **05** 01:01:28.1±1.4,36.°29N±0.°02×96.°87W±0.°02,h4km±5km, ML2.8,mb_Lg2.3/16(NEIC),Error ellipse: s-maj=3.1km s-min=2.7km az=202.0*
NEIC 05 01:01:28.3±1.4,36.°30N±0.°02×96.°89W±0.°03,h8km±5km, Error ellipse: s-maj=3.7km s-min=2.8km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.20**	**132**		Pg	01 01 32.1	-0.2
OK031	**S. Brethren Rd**	**0.35**	**173**		Pg	01 01 35.1	-0.1
BLOK	**Blackwell**	**0.53**	**330**		Sg	01 01 46.3	+0.8
OK029	**Liberty Lake**	**0.68**	**222**		Pg	01 01 41.1	-0.4
T35A	**Sooner Cattle**	**0.68**	**26**		Pg	01 01 41.1	-0.4
OK025	**Westminster Rd**	**0.81**	**207**		Pg	01 01 43.4	-0.5
KAN13	**South Haven SW**	**0.85**	**327**	Pg	Pg	01 01 44.4	-0.3
BCOK	**Bluff Creek, N**	**0.87**	**222**		Pb	01 01 45.5	-0.2
CROK	**Carrier**	**0.91**	**283**		Pg	01 01 45.7	0.0
OKCFA	**Oklahoma City**	**1.00**	**207**		Pg	01 01 47.2	-0.2
OKCSW	**OKLAHOMA CITY**	**1.00**	**207**		Pg	01 01 46.7	-0.8
KAN17	**Caldwell West**	**1.02**	**317**	Pg	Pb	01 01 48.2	-0.1
FNO	**Franklin**	**1.12**	**202**		Pg	01 01 49.5	-0.4
KAN05	**Bluff City Nor**	**1.13**	**316**	Pg	Pg	01 01 49.7	-0.3
OK032	**Salt Plains WL**	**1.18**	**296**		Pg	01 01 50.1	-0.8
KAN08	**Anthony NE Sta**	**1.27**	**317**	Pg	Pn	01 01 51.6	-0.8
U32A	**Winter Ranch,**	**1.71**	**273**	Pn	Pb	01 01 59.2	-0.8
U32A					Sb	01 02 22.1	+0.4
X34A	**Smith Ranch, M**	**1.86**	**205**		Pn	01 02 01.1	+0.5
U38A	**Gravette**	**2.03**	**85**		Pn	01 02 03.1	+0.3
X37A	**Clayton**	**2.11**	**144**	Pn	Pn	01 02 04.2	+0.2
X37A				IAmb_Lg		01 02 39.6	
	comp=Z,18nm,0.9s						
WMOK	**Wichita Mounta**	**2.19**	**225**	Pn	Pn	01 02 05.8	+0.6
HHAR	**Hobbs**	**2.38**	**90**		Pn	01 02 08.3	+0.5
R32A	**Long Quarter,**	**2.57**	**326**	Pn	Pn	01 02 11.3	+1.1
W39A	**Magazine**	**2.76**	**113**	Pn	Pn	01 02 13.4	+0.5
S39A	**Bolivar**	**3.17**	**63**	Pn	Pn	01 02 19.3	+0.6
S39A				IAmb_Lg		01 03 12.5	
	comp=Z,7.2nm,0.8s						
MIAR	**Mount Ida**	**3.22**	**122**	Pn	Pn	01 02 19.2	-0.1
MIAR					Lg	01 03 13.0	
U40A	**Yellville**	**3.26**	**88**	Pn	Pn	01 02 19.0	-0.8
CBKS	**Cedar Bluff**	**3.38**	**319**	IAmb_Lg		01 03 16.2	
	comp=Z,5.8nm,0.8s						
X40A	**Basin Creek Fa**	**3.78**	**117**	Pn	Pn	01 02 26.6	-0.3
X40A					LR	01 03 26.4	
MGMO	**Mountain Grove**	**3.81**	**76**	IAmb_Lg		01 03 39.1	
	comp=Z,6.3nm,0.8s						
WHAR	**Wooly Hollow**	**3.88**	**104**	Pn	Pn	01 02 28.5	+0.2
WHAR					LR	01 03 29.8	
FCAR	**Ozark Folk Cen**	**3.88**	**95**	Pn	Pn	01 02 28.9	+0.5
AMTX	**Amarillo**	**4.15**	**251**	IAmb_Lg		01 03 40.2	
	comp=Z,5.3nm,1.0s						
N33A	**J Bar K, Exete**	**4.45**	**355**	IAmb_Lg		01 03 46.1	
	comp=Z,8.4nm,0.8s						
P40A	**Paris**	**5.00**	**48**	IAmb_Lg		01 04 03.7	
	comp=Z,15nm,1.2s						
PBMO	**Poplar Bluff**	**5.22**	**83**	IAmb_Lg		01 04 21.5	
	comp=Z,7.0nm,0.7s						

*IDC **05** 01:05:52.8±1.5,37.°22N×71.°98E,h0km,mb3.5/5, mb1 3.7/10,mb1mx3.4/39,mbtmp3.6/10,ML3.3/6,MS2.4/1, Ms1 2.4/1,ms1mx2.1/39,Error ellipse: s-maj=28.5km s-min=21.5km az=145.0*
ISC 05 01:05:53.9±0.7,37.°28N±0.°06×71.°9E±0.°1,h10km,n13, σ1°40/13,mb3.6/5,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.45**	**180**	P	**Pg**	**01 06 59.5**	**-0.5**
THW	**Thamme Wali**	**4.48**	**182**	P	**Pb**	**01 07 11.7**	**-1.0**
AAK	**Ala-Archa**	**5.70**	**19**	Pn	Pn	01 07 25.5	+6.8
	1.4nm,0.3s,baz=191,slow=6.6,SNR=2.5						
AAK				Sn	**Sn**	**01 08 22.7**	**-1.6**
	0.5nm,0.3s,baz=17,slow=23,SNR=1.2						
AAK				LR	LR	01 09 12.9	
	comp=Z,40nm,21.4s,baz=207,slow=35						
GEYT	**Alibeck**	**10.97**	**278**	Pn	**Pn**	**01 08 30.5**	**-0.4**
	1.1nm,0.3s,baz=96,slow=13,SNR=9.8						
MKAR	**Makanchi

CHOS	**Chios island**	**0.70**	**145**	PG	**Pb**	**01 12 17.2**	**-0.4**
CHOS				SG	**Sg**	**01 12 27.5**	**+0.1**
KOCA	**Canakkale, Ayv**	**0.71**	**40**	*i* P	**Pb**	**01 12 17.0**	**-0.8**
KOCA				*i* S	**Sg**	**01 12 27.4**	**-0.3**
KOCA				IAML		01 12 30.0	
	comp=E,254nm,0.2s						
KOCA				IAML		01 12 31.0	
	comp=N,260nm,0.2s						
EFSA	**Agios Efstrati**	**0.72**	**323**	P	**Pb**	**01 12 18.2**	**+0.3**
AYVA	**Ayvalik**	**0.96**	**68**	*i* P	**Pn**	**01 12 22.3**	**-0.1**
AYVA				*i* S	**Sn**	**01 12 35.5**	**0.0**
AYVA				IAML		01 12 39.0	
	comp=N,116nm,0.2s						
BOZC	**Bozcaada**	**0.96**	**24**	*i* P	**Pb**	**01 12 21.3**	**-0.8**
BOZC				*i* S	**Sb**	**01 12 34.8**	**+0.3**
BOZC				IAML		01 12 37.0	
	comp=N,126nm,0.3s						
BOZC				IAML		01 12 38.0	
	comp=E,119nm,0.4s						
BOZC	**Bozcaada**	**0.96**	**24**	PG	**Pb**	**01 12 21.6**	**-0.5**
BOZC				SG	**Sn**	**01 12 35.8**	**+0.2**
LIA	**Limnos Island**	**0.97**	**344**	P	**Pb**	**01 12 21.8**	**-0.5**
LIA				S	**Sn**	**01 12 36.2**	**+0.3**
	comp=E,105nm,0.4s						
LIA	**Limnos Island**	**0.97**	**344**	P	**Pb**	**01 12 22.0**	**-0.3**
LIA				S	**Sb**	**01 12 35.2**	**+0.5**
LIA				AML	AML	01 12 37.0	
	comp=N,222μm,0.3s						
LIA				AML	AML	01 12 40.6	
	comp=E,185μm,0.8s						
URLA	**Izmir**	**1.02**	**126**	*i* P	**Pb**	**01 12 22.6**	**-0.5**
URLA				*i* S	**Sb**	**01 12 36.0**	**0.0**
URLA	**Izmir**	**1.02**	**126**	PG	**Pn**	**01 12 23.3**	**0.0**
URLA				SG	**Sg**	**01 12 38.4**	**+1.0**
ZEYE	**Izmir, Urla-Ze**	**1.04**	**134**	*i* P	**Pb**	**01 12 23.4**	**0.0**
ZEYE				*i* S	**Sb**	**01 12 36.0**	**-0.7**
ZEYE				IAML		01 12 40.0	
	comp=E,80nm,0.5s						
ZEYE				IAML		01 12 40.0	
	comp=N,76nm,0.4s						
EZN	**Ezine**	**1.05**	**35**	P	**Pb**	**01 12 23.0**	**-0.6**
EZN				S	**Sn**	**01 12 37.5**	**-0.3**
	comp=N,220nm,0.6s						
EZN	**Ezine**	**1.05**	**35**	PG	**Pb**	**01 12 23.6**	**0.0**
EZN				SG	**Sg**	**01 12 38.7**	**+0.3**
DKL	**Dikili**	**1.07**	**84**	PN	**Pg**	**01 12 24.3**	**-0.5**
DKL				SN	**Sg**	**01 12 40.2**	**+1.4**
BAYC	**CANAKKALE_Bayr**	**1.10**	**45**	*i* P	**Pb**	**01 12 23.8**	**-0.6**
BAYC				*i* S	**Sn**	**01 12 39.0**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.17**	**254**	P	**Pn**	**01 12 25.2**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.17**	**254**	P	**Pn**	**01 12 25.1**	**-0.2**
ECEA	**Canakkale, Ece**	**1.19**	**24**	*i* P	**Pn**	**01 12 25.5**	**0.0**
ECEA				*i* S	**Sn**	**01 12 41.8**	**+0.7**
ZEDA	**zmir-Bergama**	**1.20**	**89**	*i* P	**Pn**	**01 12 25.0**	**-0.7**
ZEDA				*i* S	**Sb**	**01 12 41.0**	**-0.1**
GADA	**Gvkgeada**	**1.26**	**13**	PN	**Pb**	**01 12 27.1**	**0.0**
GADA				SN	**Sg**	**01 12 45.1**	**+0.2**
GOKA	**anakkale-Gk**	**1.26**	**13**	*i* P	**Pb**	**01 12 27.1**	**0.0**
GOKA				*i* S	**Sb**	**01 12 42.3**	**-0.6**
KARY	**Karystos**	**1.27**	**223**	P	**Pn**	**01 12 26.9**	**+0.2**
BUHA	**Balikesir, Bur**	**1.31**	**65**	*i* P	**Pn**	**01 12 27.2**	**0.0**
BUHA				*i* S	**Sb**	**01 12 45.2**	**+0.9**
BUHA				IAML		01 12 49.0	
	comp=E,82nm,0.5s						
BUHA				IAML		01 12 49.0	
	comp=N,71nm,0.4s						
EREA	**Eretria**	**1.37**	**247**	P	**Pn**	**01 12 27.4**	**-0.7**
TNSA	**Tinos**	**1.45**	**192**	P	**Pb**	**01 12 30.2**	**-0.2**
SMTH	**Samothraki Isl**	**1.51**	**360**	P	**Pb**	**01 12 31.2**	**-0.2**
DION	**Dionisos Attik**	**1.54**	**236**	P	**Pn**	**01 12 30.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.60**	**26**	PN	**Pb**	**01 12 32.5**	**-0.5**
SMG	**Samos**	**1.61**	**140**	P	**Pn**	**01 12 31.7**	**+0.3**
SMG				S	**Sn**	**01 12 52.1**	**+0.5**
SMG	**Samos**	**1.61**	**140**	P	**Pn**	**01 12 32.2**	**+0.8**
STEP	**BALIKESIR_Sava**	**1.74**	**76**	*i* P	**Pb**	**01 12 35.1**	**-0.2**
STEP				IAML		01 13 01.0	
	comp=N,52nm,0.9s						
STEP				IAML		01 13 03.0	
	comp=E,64nm,0.5s						
BALY	**Balya**	**1.79**	**64**	*i* P	**Pb**	**01 12 36.6**	**+0.4**
BALY				*i* S	**Sg**	**01 13 01.3**	**-0.5**
BALY				IAML		01 13 03.0	
	comp=E,48nm,0.4s						
BALY				IAML		01 13 05.0	
	comp=N,54nm,0.7s						
CAVK	**Edirne/Enez-Ca**	**1.79**	**15**	*i* P	**Pb**	**01 12 35.4**	**-0.9**
CAVK				*i* S	**Sn**	**01 12 56.4**	**+0.3**
OUR	**Ouranopolis**	**1.82**	**319**	PN	**Pn**	**01 12 34.9**	**+0.6**
ALN	**Alexandroupoli**	**1.97**	**11**	P	**Pn**	**01 12 35.7**	**-0.6**
ALN				S	**Sn**	**01 13 00.7**	**+0.3**
	comp=N,22nm,0.6s						

NNC 05 01:14:44.6±1.6, 37°.78N×78°.09E, h0^{km}, mb3.9, mpv3.5, 2C-3D, Error ellipse: s-maj=11.2km s-min=10.8km az=83.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.28**	**3**	Pg	Pb	01 16 21.6	+3.9
	3.4nm,0.5s						
SATY				Lg	Lg	01 17 33.9	
	6.9nm,0.3s						
UZB	**Uzynbulak**	**5.40**	**7**	Pg	Pb	01 16 23.4	+3.4
	2.8nm,0.2s						
UZB				Lg	Lg	01 17 36.7	
	4.1nm,0.3s						
MDOK	**Medeo**	**5.43**	**352**	Pg	Pb	01 16 22.1	+1.7
	3.5nm,0.7s						
MDOK				⇓Lg	Lg	01 17 37.1	
	5.6nm,0.5s						
MDOK	**Medeo**	**5.43**	**352**	Pg	Pb	01 16 23.6	+3.2
	3.1nm,0.2s						
MDOK				Lg	Lg	01 17 37.1	
	7.1nm,0.3s						
AAK	**Ala-Archa**	**5.57**	**332**	⇑Pg	Pb	01 16 26.3	+3.4
	1.9nm,0.5s						
AAK				⇑Lg	Lg	01 17 40.1	
	9.6nm,1.1s						
PDGK	**Podgornoye**	**5.64**	**10**	Pg	Pb	01 16 27.3	+3.3
	1.0nm,0.3s						
PDGK				Lg	Lg	01 17 43.3	
	2.2nm,0.2s						
PDGK	**Podgornoye**	**5.64**	**10**	⇓Pg	Pb	01 16 27.0	+3.0
	2.5nm,0.9s						
PDGK				⇓Lg	Lg	01 17 42.3	
	10nm,1.1s						
DGS	**Degeres**	**5.73**	**343**	Pg	Pg	01 16 30.0	-4.4
	2.0nm,0.3s						
DGS				Lg	Lg	01 17 48.1	
	3.8nm,0.3s						
MRKS	**Merke**	**6.19**	**325**	Pg	Pb	01 16 37.7	+4.4
	1.2nm,0.1s						
MRKS				Lg	Lg	01 18 01.3	
	3.4nm,0.2s						
KUU	**Kurty**	**6.25**	**348**	Pg	Pb	01 16 38.8	+4.6
	1.6nm,0.4s						
KUU				Lg	Lg	01 18 03.1	
	4.5nm,0.4s						

BJI ***05*** *01:35:59.6±0.0, 2°.63N×126°.51E, h70^{km}, mB4.9/17, mb4.9/23, Ms4.2/3, Ms7 3.8/3*
DJA ***05*** *01:36:03.2±0.4, 3°.N±3°×12°.6E±°, h10^{km}, M4.7/10, mb4.9/6, mB5.2/4, MLv4.7/10, Mw(mB)4.5/4*
IDC ***05*** *01:36:05.2±2.4, 3°.35N×125°.75E, h54^{km}±20^{km}, mb4.1/14, mb1 4.2/15, mb1mx4.0/33, mbtmp4.3/15, ML4.6/1, MS3.3/11, Ms1 3.3/11, ms1mx3.0/41, Error ellipse: s-maj=38.7km s-min=11.2km az=80.0*
NEIC ***05*** *01:36:08.5±1.9, 3°.28N±0°.06×125°.95E±0°.06, h77^{km}±8^{km}, mb4.7/40, Error ellipse: s-maj=10.7km s-min=6.7km az=221.0*

ISC 05 01:36:05.5±0.4, 3°.31N±0°.05×125°.98E±0°.09, h50^{km}, n96, σ1§24/90, mb4.7/40, MS3.4/11, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.58**	**310**	P	Pn	01 36 14.5	-3.3
SGSI				S	Sn	01 36 20.4	-6.3
TNTI	**Ternate**	**2.88**	**151**		**Pn**	**01 36 51.3**	**+2.3**
TNTI	**Ternate**	**2.88**	**151**		**Pn**	**01 36 50.2**	**+1.2**
DAV	**Davao City (W)**	**3.76**	**354**		**Pn**	**01 37 00.6**	**-0.4**
	46nm,0.3s,baz=132,slow=1.8,SNR=2.3						
DAV				S	**Sn**	**01 37 43.7**	**-0.3**
	61nm,0.3s,baz=100,slow=21,SNR=2.5						
DAV	**Davao City (W)**	**3.76**	**354**	Pn	**Pn**	**01 37 03.6**	**+2.6**
KCP	**Kidapawan**	**3.78**	**347**	⇓*i* P	**Pn**	**01 37 01.8**	**+0.4**
KCP				*i* S	**Sn**	**01 37 45.5**	**+0.9**
GTOI	**Gorontalo**	**3.98**	**228**	P	**Pn**	**01 37 04.1**	**0.0**
MRSI	**Marisa**	**4.92**	**235**	P	**Pn**	**01 37 17.1**	**+0.1**
SANI	**Sanana**	**5.32**	**180**	P	**Pn**	**01 37 21.7**	**-0.8**
	0.8nm5μm138nm,0.7s						
LUWI	**Luwuk**	**5.38**	**217**	Pn	**Pn**	**01 37 25.4**	**+2.1**
APSI	**Ampana**	**6.02**	**226**	P	**Pn**	**01 37 34.9**	**+2.8**
	0.5nm2μm97nm,0.5s						
NLAI	**Namlea**	**6.60**	**170**	P	**Pn**	**01 37 40.3**	**+0.2**
	0.8nm164nm,0.6s						
MPSI	**Mapaga**	**6.75**	**244**	P	**Pn**	**01 37 42.1**	**-0.1**
	0.2nm988nm18nm,0.9s						
BNDI	**Bandanaira**	**8.71**	**153**	P	**Pn**	**01 38 10.2**	**+1.2**
	137nm,1.8s						
FAKI	**Fak Fak**	**8.81**	**135**	Pn	**Pn**	**01 38 12.6**	**+2.2**
FAKI	**Fak Fak**	**8.81**	**135**	P	**Pn**	**01 38 12.2**	**+1.8**
TTSI	**Tana Toraja**	**8.82**	**224**	P	**Pn**	**01 38 11.0**	**+0.6**
	56nm,0.9s						
KAPI	**Kappang**	**10.35**	**217**	P	**Pn**	**01 38 34.2**	**+2.8**
	1.5nm,0.3s,baz=11,slow=9.4,SNR=5.4						
KAPI				LR	LR	01 43 07.8	
	comp=Z,304nm,18.6s,baz=64,slow=41						
BATI	**Baumata**	**13.62**	**190**	P	Pn	01 39 21.4	+5.2
	14nm,0.3s,baz=310,slow=2.8,SNR=12						
MTN	**Manton Dam**	**16.85**	**162**	Pn	**Pn**	**01 39 56.1**	**-1.9**
MTN				IAmb	IAmb	01 39 57.4	
	56nm,0.9s						
KNRA	**Kununurra**	**19.07**	**172**		**P**	**01 40 24.2**	**+0.3**
JOW	**Kunigami**	**23.49**	**5**	LR	LR	01 49 24.5	
	comp=Z,91nm,21.0s,baz=130,slow=34						
WB0	**Warramunga Arr**	**24.38**	**160**	P	**P**	**01 41 18.8**	**-0.5**
WB0				IAmb	IAmb	01 41 20.6	
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**24.52**	**161**	P	**P**	**01 41 19.3**	**-1.2**
WRAB				IAmb	IAmb	01 41 22.1	
	comp=Z,40nm,0.8s						
WRA	**Warramunga Arr**	**24.52**	**161**	P	**P**	**01 41 20.1**	**-0.5**
	comp=Z,41nm,0.8s,baz=340,slow=11,SNR=113						
WRA	**Warramunga Arr**	**24.52**	**161**	P	**P**	**01 41 19.3**	**-1.3**
WB2	**Warramunga Arr**	**24.53**	**161**	P	**P**	**01 41 20.3**	**-0.3**
WR0	**Warramunga Arr**	**24.61**	**160**	P	**P**	**01 41 20.9**	**-0.5**
WR0				IAmb	IAmb	01 41 23.0	
	comp=Z,38nm,1.1s						
PSA00	**Pilbara Seismi**	**25.45**	**193**	P	**P**	**01 41 28.7**	**-0.2**
PSA00				IAmb	IAmb	01 41 39.6	
	comp=Z,16nm,0.8s						
AS31	**Alice Springs**	**27.90**	**164**	P	**P**	**01 41 49.7**	**-1.3**
ASAR	**Alice Springs**	**27.90**	**164**	P	**P**	**01 41 51.0**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=344,slow=7.5,SNR=52						
ASAR				PcP	**PcP**	**01 45 06.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=2.2,SNR=2.2						
ASAR				ScP	**ScP**	**01 48 43.2**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=352,slow=1.9,SNR=2.7						
ASAR	**Alice Springs**	**27.90**	**164**	P	**P**	**01 41 51.1**	**0.0**
JCJ	**Chichijima**	**28.28**	**32**	LR	LR	01 51 36.0	
	comp=Z,47nm,21.6s,baz=120,slow=33						
NJ2	**Nanjing**	**29.36**	**348**	*e*P	**P**	**01 42 06.2**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.44**	**302**	LR	LR	01 55 43.6	
	comp=Z,36nm,18.1s,baz=190,slow=39						
JMN	**Monobe**	**31.15**	**13**	P	**P**	**01 42 19.7**	**0.0**
JMN				IAmb	IAmb	01 42 20.2	
	comp=Z,11nm,0.8s						
KMI	**Kunming**	**31.15**	**316**	⇓P	P	01 42 14.0	-6.1
KMI				pmax	pmax		
	comp=Z,13nm,1.0s						
JHS	**Saijyo**	**32.22**	**11**	P	**P**	**01 42 29.6**	**+0.4**
JWT	**Wachi**	**32.99**	**14**	P	**P**	**01 42 35.2**	**-0.6**
JWT				IAmb	IAmb	01 42 37.1	
	comp=Z,7.4nm,0.6s						
INU	**Inuyama**	**33.48**	**16**	P	**P**	**01 42 39.2**	**-0.9**
INU				IAmb	IAmb	01 42 40.1	
	comp=Z,8.4nm,0.8s						
MORW	**Morawa**	**33.58**	**196**	P	**P**	**01 42 40.6**	**-0.4**
MORW				IAmb	IAmb	01 43 01.0	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**33.96**	**177**	P	**P**	**01 42 44.2**	**-0.1**
KSAR	**Wonju Array Be**	**34.01**	**3**	P	**P**	**01 42 44.0**	**-0.7**
KSRS	**Korea Array**	**34.03**	**3**	P	**P**	**01 42 43.7**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=179,slow=9.9,SNR=16						
KSRS				LR	LR	01 57 58.6	
	comp=Z,21nm,20.0s,baz=204,slow=39						
XAN	**Xi'an**	**34.46**	**335**	P	**P**	**01 42 49.0**	**+0.3**
XAN				pP	pP	01 43 07.6	+6.3
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
CD2	**Chengdu**	**34.55**	**325**	*e*P	**P**	**01 42 51.0**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**34.94**	**17**	P	P	01 42 50.8	-1.9
	comp=Z,0.7nm,0.3s,baz=182,slow=9.4,SNR=7.7						
MJAR				LR	LR	01 55 19.9	
	comp=Z,37nm,21.0s,baz=190,slow=33						
MJAR	**Matsushiro Arr**	**34.94**	**17**	P	**P**	**01 42 53.1**	**+0.3**
MAT	**Matsushiro**	**34.94**	**17**	P	P	01 42 50.7	-2.1
JSD	**Sado**	**36.34**	**16**	P	**P**	**01 43 03.3**	**-1.4**
JSD				IAmb	IAmb	01 43 03.6	
	comp=Z,8.6nm,0.7s						
JMM	**Marumori**	**36.97**	**20**	P	**P**	**01 43 10.1**	**0.0**
BBOO	**Buckleboo**	**37.17**	**166**	P	**P**	**01 43 12.1**	**+0.3**
EIDS	**Eidsvold**	**37.49**	**141**	P	**P**	**01 43 14.8**	**+0.1**
EIDS				IAmb	IAmb	01 43 15.9	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**38.01**	**158**	P	**P**	**01 43 19.6**	**+0.6**
	comp=Z,14nm,0.8s,baz=334,slow=6.7,SNR=23						
STKA	**Stephens Creek**	**38.01**	**158**	P	**P**	**01 43 19.6**	**+0.6**
HHC	**Hu-ho-hao-te**	**39.57**	**343**	*e*P	**P**	**01 43 33.6**	**+1.6**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,90nm,5.8s						
JTM	**Tenmabayashi**	**39.72**	**18**	P	**P**	**01 43 32.9**	**-0.2**
USA0B	**Ussuriysk Arra**	**41.06**	**7**	P	**P**	**01 43 43.0**	**-1.2**
USA0B				IAmb	IAmb	01 43 44.6	
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**41.06**	**7**	P	**P**	**01 43 43.7**	**-0.5**
	comp=Z,8.5nm,0.6s,baz=190,slow=5.5,SNR=24						
USRK	**Ussuriysk Ar.**	**41.06**	**7**	P	**P**	**01 43 43.3**	**-0.9**
MDJ	**Mudanjiang**	**41.26**	**4**	P	**P**	**01 43 45.6**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,18nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,38nm,3.5s						
MDJ	**Mudanjiang**	**41.26**	**4**	P	**P**	**01 43 44.9**	**-0.9**
MDJ				IAmb	IAmb	01 43 46.2	
	comp=Z,11nm,0.7s						
ARMA	**Armidale**	**41.54**	**146**	P	**P**	**01 43 48.1**	**-0.4**
ARMA				IAmb	IAmb	01 43 50.8	
	comp=Z,14nm,0.7s						
GTA	**Gaotai**	**43.08**	**330**	*e*P	P	01 44 11.0	+10
GTA				pP	sP	01 44 20.8	+1.4
GTA				sP	pP	01 44 25.2	+11
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**47.46**	**342**	P	**P**	**01 44 35.4**	**0.0**
	comp=Z,0.5nm,0.4s,baz=163,slow=10,SNR=3.1						
SONM				LR	LR	02 07 10.5	
	comp=Z,35nm,18.3s,baz=104,slow=39						
WMQ	**Urumqi**	**52.64**	**326**	*e*P	**P**	**01 45 16.7**	**+1.9**
PEA0B	**Petropavlovsk-**	**56.10**	**22**	P	**P**	**01 45 39.6**	**-0.1**
PETK	**Petropavlovsk-**	**56.10**	**22**	P	**P**	**01 45 39.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=130,slow=2.3,SNR=11						
PETK	**Petropavlovsk-**	**56.10**	**22**	P	**P**	**01 45 39.6**	**-0.1**
MKAR	**Makanchi Array**	**57.47**	**326**	P	P	01 45 47.2	-2.3
	comp=Z,0.7nm,0.4s,baz=121,slow=7.4,SNR=17						
MKAR	**Makanchi Array**	**57.47**	**326**	P	P	01 45 47.0	-2.5
ZALV	**Zalesovo Beam**	**60.62**	**333**	LR	LR	02 14 21.2	
	comp=Z,24nm,18.9s,baz=72,slow=38						
AMKA	**Amchitka**	**65.27**	**34**	P	**P**	**01 46 42.5**	**+0.5**
KIWB	**Kanaga Island**	**67.46**	**34**	P	**P**	**01 46 55.8**	**-0.3**
ADK	**Adak**	**67.73**	**34**	P	**P**	**01 46 58.1**	**+0.3**
TIXI	**Tiksi**	**68.27**	**1**	P	**P**	**01 46 59.3**	**-1.5**
TIXI				IAmb	IAmb	01 46 59.9	
	comp=Z,6.4nm,0.8s						
ATKA	**Atka Island**	**69.27**	**35**	P	**P**	**01 47 06.7**	**-0.6**
NRIK	**Noril'sk**	**70.66**	**346**	P	**P**	**01 47 14.2**	**-1.4**
	comp=Z,3.4nm,0.7s,baz=144,slow=6.0,SNR=7.8						
NRIK				LR	LR	02 22 06.5	
	comp=Z,33nm,18.1s,baz=217,slow=39						
NRIK	**Noril'sk**	**70.66**	**346**	IAmb	IAmb	01 47 14.7	
	comp=Z,3.5nm,0.7s						
VNDA	**Vanda**	**83.11**	**173**	P	**P**	**01 48 25.9**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=305,slow=6.4,SNR=3.6						
VNDA	**Vanda**	**83.11**	**173**	P	**P**	**01 48 26.1**	**+0.6**
SKT	**Skwentna**	**83.56**	**28**	P	**P**	**01 48 28.0**	**-0.2**
SKT				IAmb	IAmb	01 48 28.7	
	comp=Z,7.7nm,1.1s						
BPAW	**Bear Paw Mtn.**	**83.99**	**26**	P	**P**	**01 48 31.4**	**+1.0**
MLY	**Manley**	**84.17**	**25**	P	**P**	**01 48 32.1**	**+0.8**
MLY				IAmb	IAmb	01 48 33.0	
	comp=Z,4.4nm,0.8s						
RC01	**Rabbit Creek A**	**84.35**	**29**	P	**P**	**01 48 32.2**	**0.0**
COLD	**Coldfoot**	**84.57**	**23**	P	**P**	**01 48 32.9**	**-0.3**
COLD				IAmb	IAmb	01 48 35.0	
	comp=Z,5.4nm,0.8s						
PMR	**Palmer**	**84.67**	**29**	P	**P**	**01 48 33.5**	**-0.2**
PMR				IAmb	IAmb	01 48 34.3	
	comp=Z,12nm,1.2s						
TOLK	**Toolik Lake Re**	**84.91**	**21**	IAmb	IAmb	01 48 36.7	
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**85.80**	**25**	P	**P**	**01 48 38.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=246,slow=4.9,SNR=10						
ARCES	**ARCESS Array B**	**90.58**	**340**	P	P	01 48 59.6	-2.5
	comp=Z,2.7nm,0.8s,baz=67,slow=6.9,SNR=5.2						
FINES	**FINESS Array B**	**91.84**	**332**	P	P	01 49 05.0	-3.1
	comp=Z,1.5nm,0.9s,baz=75,slow=5.9,SNR=4.6						
MNK	**Minsk**	**92.03**	**325**	*i* P	**P**	**01 49 07.5**	**-1.6**
	comp=E,1.0nm,0.7s						
MNK				*i* P	**P**	**01 49 07.5**	**-1.6**
	comp=N,7.0nm,0.8s						
MNK				*i* P	**P**	**01 49 07.5**	**-1.6**
	comp=Z,3.0nm,0.7s,baz=261						
MNK				*i* pP	**pP**	**01 49 26.9**	**+3.4**
MNK				*i* PP	**PP**	**01 52 47.9**	**-1.2**
MNK				*i* PPP	PPP	01 54 47.0	
MNK				*i* S	**SKSac**	**01 59 33.8**	**-4.2**
MNK				*i* sS	**S**	**02 00 08.6**	**+1.3**
MNK				*i* PS	**PS**	**02 01 23.9**	**+0.3**
MNK				*i* SS	**SS**	**02 06 15.7**	**-0.9**
MNK				*i* SSS	SSS	02 09 54.8	
MNK				*i* LR	LR	02 27 19.0	
MNK				*i* LRM	MLR	02 31 28.6	
	comp=N,8.0nm,15.9s						
MNK				*i* LRM	MLR	02 31 42.4	
	comp=E,6.0nm,18.1s						
MNK				*i* LRM	MLR	02 31 42.4	
	comp=Z,35nm,17.4s						
HFS	**Hagfors**	**98.04**	**332**	LR	LR	02 37 15.2	
	comp=Z,20nm,19.2s,baz=39,slow=38						
NOA	**NORSAR Array B**	**98.83**	**333**	LR	LR	02 37 24.1	
	comp=Z,17nm,21.6s,baz=250,slow=37						
TORD	**Torodi Ar. Bea**	**122.33**	**288**	PKP	**PKPdf**	**01 54 54.4**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=43,slow=2.7,SNR=1.7						
TXAR	**Lajitas Array**	**122.45**	**52**	PKP	**PKPdf**	**01 54 56.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=217,slow=0.6,SNR=5.1						

IDC ***05*** *01:48:29.8±3.3, 7°.72S×129°.04E, h42^{km}±31^{km}, mb4.1/12, mb1 4.2/13, mb1mx4.1/25, mbtmp4.3/13, ML4.6/1, MS3.2/9, Ms1 3.2/9, ms1mx3.0/31, Error ellipse: s-maj=21.6km s-min=14.1km az=79.0*
DJA ***05*** *01:48:30.2±0.3, 8°.S±2°.×12°.9E±°, h51^{km}±7^{km}, M4.6/14, mB5.1/9, mb4.7/14, MLv4.7/13, Mw(mB)4.5/9*
NEIC ***05*** *01:48:31.6±2.8, 7°.87S±0°.06×128°.96E±0°.07, h54^{km}±5^{km}, mb4.5/13, Error ellipse: s-maj=10.6km s-min=9.1km az=106.0*

ISC 05 01:48:30.5±0.4, 7°.92S±0°.05×129°.06E±0°.07, h50^{km}, n70, σ1§64/65, mb4.3/16, MS3.2/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.22**	**92**		**Pn**	**01 49 06.8**	**+1.9**
SAUI	**Saumlaki**	**2.22**	**92**	P	Pn	01 49 02.6	-2.3
BNDI	**Bandanaira**	**3.48**	**14**	P	**Pn**	**01 49 23.6**	**+1.5**
BNDI				S	**Sn**	**01 50 03.1**	**+1.1**
MSAI	**Masohi**	**4.54**	**358**	P	**Pn**	**01 49 39.2**	**+2.5**
NLAI	**Namlea**	**5.04**	**337**	P	**Pn**	**01 49 45.9**	**+2.3**
	0.4nm3μm93nm,0.7s						
SOEI	**Soe**	**5.08**	**249**	Pn	**Pn**	**01 49 44.0**	**-0.2**
SOEI	**Soe**	**5.08**	**249**	P	**Pn**	**01 49 46.3**	**+2.1**
	1.2nm151nm,0.6s						
MTN	**Manton Dam**	**5.30**	**158**	Pn	**Pn**	**01 49 48.1**	**+0.9**
BATI	**Baumata**	**5.79**	**246**	P	**Pn**	**01 49 55.7**	**+1.7**
	15nm,0.3s,baz=120,slow=2.7,SNR=13						
BATI				S	**Sn**	**01 51 00.3**	**+1.2**
	6.4nm,0.3s,baz=269,slow=21,SNR=1.3						
BATI	**Baumata**	**5.79**	**246**	P	**Pn**	**01 49 55.5**	**+1.6**
	0.3nm1μm57nm,0.6s						
FAKI	**Fak Fak**	**5.89**	**33**	Pn	**Pn**	**01 49 55.9**	**+0.6**
FAKI	**Fak Fak**	**5.89**	**33**	P	**Pn**	**01 49 55.3**	**0.0**
	0.4nm1μm95nm,0.5s						
SANI	**Sanana**	**6.58**	**332**	P	**Pn**	**01 50 07.2**	**+2.5**
	0.2nm652nm45nm,0.8s						
**MMRI

comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 39.62 312 P P 01 55 56.9 -0.7
comp=Z,1.3nm,0.4s,baz=132,slow=6.2,SNR=2.6
CMAR LR LR 02 13 01.4
comp=Z,12nm,20.9s,baz=210,slow=37
MJAR Matsushiro Arr 45.05 10 P P 01 56 38.5 -3.0
comp=Z,1.7nm,0.7s,baz=181,slow=8.9,SNR=6.6
KSRS Korea Array 45.15 359 P P 01 56 40.9 -1.2
comp=Z,1.5nm,0.6s,baz=173,slow=10.0,SNR=9.3
KSRS LR LR 02 13 08.8
comp=Z,16nm,21.4s,baz=136,slow=33
BKZ Black Stump Fm 52.63 134 P P 01 57 41.7 +2.0
SONM Songino Array 59.02 342 P P 01 58 26.3 +1.0
comp=Z,1.1nm,0.8s,baz=152,slow=6.5,SNR=4.8
PETK Petropavlovsk- 65.48 19 P P 01 59 07.5 -0.8
comp=Z,1.5nm,0.8s,baz=198,slow=8.4,SNR=3.6
MK31 Makanchi Array 68.48 327 P P 01 59 28.1 +0.6
MK31 IAmb IAmb 01 59 30.2
comp=Z,4.4nm,0.7s
MKAR Makanchi Array 68.48 327 P P 01 59 26.2 -1.3
comp=Z,5.1nm,0.5s,baz=121,slow=8.0,SNR=48
MKAR Makanchi Array 68.48 327 P P 01 59 28.1 +0.6
VNDA Vanda 71.66 173 P P 01 59 47.4 +0.9
comp=Z,1.3nm,0.8s,baz=310,slow=8.8,SNR=4.8
ZALV Zalesovo Beam 71.99 334 P P 01 59 47.5 -1.3
comp=Z,2.0nm,0.6s,baz=127,slow=6.1,SNR=7.7
ZALV Zalesovo Beam 71.99 334 P P 01 59 47.7 -1.1
KKAR Karatay Array 73.42 319 P P 01 59 56.1 -1.5
MAW Mawson 73.76 201 P P 02 00 00.7 +1.7
comp=Z,3.4nm,0.7s,baz=82,slow=5.4,SNR=12
MAW Mawson 73.76 201 P P 02 00 00.7 +1.7
QSPA South Pole Qui 82.07 180 P P 02 00 45.8 +0.3
QSPA IAmb IAmb 02 00 46.3
comp=Z,3.8nm,0.9s
ABKAR Akbulak array 82.64 322 P P 02 00 47.7 -0.8
AKTO Aktyubinsk 84.23 323 LR LR 02 41 20.9
comp=Z,11nm,20.3s,baz=83,slow=38
ILAR Eielson Array 94.57 25 P P 02 01 44.1 -1.3
comp=Z,0.4nm,0.7s,baz=290,slow=4.6,SNR=2.8
PDAR Pinedale Array 118.19 46 PKP PKPdf 02 07 12.8 +0.1
comp=Z,0.4nm,0.8s,baz=212,slow=3.2,SNR=3.0
TXAR Lajitas Array 126.20 59 PKP PKPdf 02 07 29.2 +0.9
comp=Z,0.4nm,0.7s,baz=336,slow=2.7,SNR=4.0
TXAR Lajitas Array 126.20 59 PKPdf 02 07 27.9 -0.3
TORD Torodi Ar. Bea 128.06 280 PKP PKPdf 02 07 31.8 -0.3
comp=Z,0.9nm,0.6s,baz=61,slow=2.1,SNR=3.1
S39A Bolivar 131.59 46 PKPdf 02 07 37.7 -0.4
CPUP Villa Florida 145.40 170 PKPbc PKPbc 02 08 04.2 +0.6
comp=Z,1.1nm,0.5s,baz=318,slow=3.1,SNR=4.5
CPUP Villa Florida 145.40 170 PKPbc 02 08 02.1 -1.5
LPAZ La Paz 150.54 145 PKPbc PKPbc 02 08 20.0 +1.4
comp=Z,0.8nm,0.5s,baz=187,slow=11,SNR=2.7

*IDC **05** 02:24:01.5±1.1, 40°.39N×34°.28E, h0km, mb3.4/6, mb1 3.4/10, mb1mx3.3/39, mbtmp3.4/10, ML3.4/3, Error ellipse: s-maj=20.4km s-min=8.4km az=117.0*
*DDA **05** 02:24:01.5, 40°.35N×34°.38E, h8km±3km, MW3.7*
*ISK **05** 02:24:01.6, 40°.40N×34°.39E, h2km, ML3.6/17*
ISC 05 02:24:01.3±1.1, 40°.39N±0°.02×34°.37E±0°.02, h1km±8km, n82, σ1§13/117, mb3.3/5, 8C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORM	**Corum**	**0.29**	**136**	PG	**Pb**	**02 24 08.3**	**-1.0**
CORM				SG	**Sb**	**02 24 13.4**	**-1.3**
CTAK	**Corum_Osmancik**	**0.41**	**50**	*i* P	**Pg**	**02 24 10.4**	**+1.2**
CTAK				*i* S	**Sg**	**02 24 15.9**	**+1.3**
COAL	**Corum-Alaca**	**0.49**	**105**	*i* P	**Pg**	**02 24 11.1**	**+0.5**
COAL				*i* S	**Sg**	**02 24 17.1**	**+0.1**
DELI	**KIRIKKALE**	**0.52**	**222**	*i* P	**Pg**	**02 24 12.0**	**+0.7**
DELI				*i* S	**Sg**	**02 24 19.2**	**+1.1**
CANT	**Cankiri**	**0.61**	**291**	PG	**Pb**	**02 24 14.6**	**-0.3**
CANT				SG	**Sb**	**02 24 24.1**	**0.0**
KAGI	**orum-Kargı**	**0.76**	**6**	*i* P	**Pb**	**02 24 16.9**	**-0.4**
CDAG	**Cicekdag**	**0.76**	**180**	*i* P	**Pg**	**02 24 16.6**	**+0.7**
CDAG				*i* S	**Sg**	**02 24 26.1**	**+0.3**
ILGA	**Ilgaz**	**0.83**	**323**	*i* P	**Pb**	**02 24 18.4**	**-0.4**
ILGA				*i* S	**Sg**	**02 24 28.0**	**-0.1**
BRTR	**Keskin Array B**	**0.87**	**221**	Pg	**Pg**	**02 24 18.1**	**+0.2**
	22nm,0.3s,baz=53,slow=15,SNR=836						
BRTR				Lg	Lg	02 24 29.8	
	97nm,0.3s,baz=32,slow=27,SNR=12						
CKRK	**Yozgat, Cekere**	**0.92**	**110**	*i* P	**Pg**	**02 24 18.9**	**0.0**
CKRK				*i* S	**Sg**	**02 24 29.5**	**-1.3**
YOZ	**Yozgat**	**1.04**	**135**	PG	**Pb**	**02 24 22.5**	**+0.3**
YOZ				SG	**Sn**	**02 24 37.8**	**-0.7**
AMSY	**Amasya-Merkez**	**1.14**	**77**	*i* P	**Pg**	**02 24 23.0**	**-0.3**
KAST	**KASTAMONU**	**1.15**	**343**	*i* P	**Pb**	**02 24 24.2**	**+0.1**
KAST				*i* S	**Sb**	**02 24 40.2**	**+0.6**
BOYA	**Sinop/Boyabat-**	**1.17**	**11**	*i* P	**Pg**	**02 24 24.0**	**+0.2**
BOYA				*i* S	**Sg**	**02 24 37.8**	**-1.2**
SIRC	**Yozgat**	**1.21**	**150**	*i* P	**Pg**	**02 24 23.9**	**-0.5**
SIRC				*i* S	**Sg**	**02 24 38.3**	**-1.8**
HAVZ	**Havza**	**1.23**	**56**	*i* P	**Pg**	**02 24 24.6**	**-0.4**
HAVZ				*i* S	**Sb**	**02 24 42.1**	**+0.2**
HACI	**Hacifakili, Ak**	**1.25**	**123**	*i* P	**Pg**	**02 24 25.3**	**+0.1**
HACI				*i* S	**Sg**	**02 24 41.9**	**+0.5**
BBAL	**Bala**	**1.28**	**229**	*i* P	**Pg**	**02 24 25.9**	**+0.1**
BBAL				*i* S	**Sg**	**02 24 40.8**	**-1.6**
KIRS	**Kırehir-Merke**	**1.30**	**196**	*i* P	**Pg**	**02 24 25.7**	**-0.5**
KIRS				*i* S	**Sg**	**02 24 41.4**	**-1.7**
LOD	**Lodumlu**	**1.33**	**249**	PN	**Pb**	**02 24 28.1**	**+1.0**
LOD				SN	**Sn**	**02 24 47.6**	**+2.1**
DIKM	**Dikmen**	**1.43**	**28**	⇑P	**Pb**	**02 24 28.9**	**+0.1**
DIKM				⇓S	**Sn**	**02 24 49.2**	**+1.3**
DIKM	**Dikmen**	**1.43**	**28**	PN	**Pb**	**02 24 29.4**	**+0.6**
KVT	**Kavak**	**1.45**	**61**	PN	**Pn**	**02 24 28.6**	**-0.1**
KVT				SN	**Sn**	**02 24 49.9**	**+1.5**
CMDR	**Camlidere-ANKA**	**1.45**	**275**	*i* P	**Pb**	**02 24 29.6**	**+0.3**
CMDR				*i* S	**Sn**	**02 24 49.0**	**+0.4**
YAYX	**Yaylak**	**1.51**	**197**	PN	**Pn**	**02 24 29.9**	**+0.3**
SERE	**Sereflikochisa**	**1.57**	**204**	PN	**Pg**	**02 24 31.7**	**+0.3**
KBUK	**KARABUK-Merkez**	**1.57**	**303**	*i* P	**Pn**	**02 24 30.3**	**-0.1**
KBUK				*i* S	**Sn**	**02 24 48.5**	**-3.0**
TOKA	**Tokat**	**1.61**	**92**	*i* P	**Pn**	**02 24 31.5**	**+0.5**
TOKA				*i* S	**Sn**	**02 24 51.6**	**-0.8**
AVNS	**Nevsehir-Avano**	**1.62**	**167**	*i* P	**Pn**	**02 24 31.5**	**+0.4**
AVNS				*i* S	**Sb**	**02 24 53.2**	**+0.2**
KKUL	**Konya-Kulu**	**1.65**	**223**	*i* P	**Pn**	**02 24 31.7**	**+0.1**
KKUL				*i* S	**Sg**	**02 24 55.6**	**+1.2**
TOKT	**Tokat**	**1.66**	**92**	PN	**Pb**	**02 24 32.6**	**-0.2**
SAMS	**Samsun-Alacam**	**1.69**	**54**	*i* P	**Pn**	**02 24 32.5**	**+0.6**
SAMS				*i* S	**Sg**	**02 24 55.2**	**-0.3**
KULU	**Kulu**	**1.71**	**219**	PN	**Pb**	**02 24 33.8**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.73**	**123**	*i* P	**Pb**	**02 24 33.5**	**-0.5**
CUSAR				*i* S	**Sb**	**02 24 56.1**	**-0.3**
SINO	**SINOP_Merkez**	**1.75**	**21**	*i* P	**Pn**	**02 24 33.5**	**+0.7**
SINO				*i* S	**Sn**	**02 24 54.8**	**-0.9**
SNOP	**Sinop**	**1.75**	**21**	PN	**Pb**	**02 24 33.9**	**-0.3**
GUNE	**Kayseri**	**1.77**	**146**	*i* P	**Pb**	**02 24 34.8**	**+0.2**
GUNE				*i* S	**Sg**	**02 24 59.1**	**+0.9**
AKSY	**AKSARAY - Alti**	**1.80**	**195**	*i* P	**Pb**	**02 24 35.4**	**+0.3**
AKSY				*i* S	**Sb**	**02 24 58.7**	**+0.6**
BCAM	**Yenicaga**	**1.81**	**284**	*i* P	**Pn**	**02 24 34.0**	**+0.3**
BCAM				*i* S	**Sb**	**02 24 59.0**	**+0.5**
CIDE	**Kastamonu/Cide**	**1.84**	**325**	*i* P	**Pg**	**02 24 36.5**	**-0.1**
BNN	**Bunyan**	**1.91**	**143**	PN	**Pb**	**02 24 36.3**	**-0.7**
KURC	**Kurucasile-Bar**	**1.91**	**320**	PN	**Pb**	**02 24 36.4**	**-0.5**
KIBS	**BOLU**	**1.93**	**272**	*i* P	**Pn**	**02 24 36.4**	**+1.1**
KIBS				*i* S	**Sg**	**02 25 03.7**	**+0.5**
DEVR	**Zonguldak/Devr**	**1.97**	**293**	*i* P	**Pn**	**02 24 37.0**	**+1.0**
DEVR				*i* S	**Sn**	**02 25 01.4**	**+0.1**
SVSK	**Karacayir**	**2.07**	**102**	PN	**Pn**	**02 24 38.2**	**+1.1**
CHBY	**Cihanbeyli**	**2.13**	**213**	PN	**Pb**	**02 24 39.8**	**-1.1**
CUAYA	**Sivas-Altinyay**	**2.14**	**121**	*i* P	**Pb**	**02 24 41.9**	**+0.8**
CUAYA				*i* S	**Sb**	**02 25 09.2**	**+1.1**
RSDY	**Resadiye-TOKAT**	**2.26**	**89**	PN	**Pn**	**02 24 40.9**	**+1.1**
SULT	**Sultanhani-AKS**	**2.28**	**197**	PN	**Pn**	**02 24 41.9**	**+1.7**
YIGI	**Dzce**	**2.30**	**285**	*i* P	**Pn**	**02 24 40.9**	**+0.6**
ALIN	**Konya, Altinte**	**2.38**	**210**	*i* P	**Pn**	**02 24 41.2**	**-0.5**
NIDE	**Nigde/Merkez-G**	**2.40**	**172**	*i* P	**Pb**	**02 24 44.9**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**2.41**	**161**	*i* P	**Pn**	**02 24 42.8**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.53**	**141**	PN	**Pn**	**02 24 45.2**	**+1.4**
CUKAN	**kangal_SIVAS**	**2.61**	**113**	*i* P	**Pn**	**02 24 47.0**	**+2.2**
CUKAN				*i* S	**Sn**	**02 25 18.0**	**+0.8**
CUZAR	**Zara_SIVAS**	**2.65**	**100**	*i* P	**Pn**	**02 24 46.7**	**+1.3**
CUZAR				*i* S	**Sb**	**02 25 24.8**	**+1.9**
CUGUR	**Gurin_SVAS**	**2.79**	**126**	*i* P	**Pb**	**02 24 50.1**	**-1.9**
SUSE	**Susehri**	**2.93**	**92**	*i* P	**Pn**	**02 24 50.2**	**+1.0**
TIRR	**Tirgusor**	**6.00**	**315**	⇓P	**Pn**	**02 25 29.2**	**-2.0**
TLCR		**6.30**	**321**	⇑P	**Pn**	**02 25 34.0**	**-1.4**
HARR	**Harsova**	**6.41**	**314**	⇓P	**Pn**	**02 25 35.3**	**-1.6**
CFR	**Carcaliu**	**6.63**	**318**	⇓P	**Pn**	**02 25 38.3**	**-1.5**
MMAI	**Mount Meron Ar**	**7.40**	**173**	Pn	**Pn**	**02 25 52.6**	**+2.0**
	baz=357,slow=15,SNR=0.9						
ISR	**Istrita**	**7.45**	**312**	⇑P	**Pn**	**02 25 49.5**	**-1.8**
NEHR	**Nehoiu**	**7.78**	**313**	⇑P	**Pn**	**02 25 53.7**	**-2.0**
VRI	**Vrincioaia**	**7.83**	**317**	⇓P	**Pn**	**02 25 54.1**	**-2.2**
PLOR	**Plostina**	**7.86**	**317**	⇓P	**Pn**	**02 25 55.2**	**-1.6**
MLR	**Muntele Rosu**	**8.01**	**312**	**Pn**	**Pn**	**02 25 59.8**	**+0.9**
	0.2nm,0.3s,baz=133,slow=18,SNR=1.6						
MLR	**Muntele Rosu**	**8.01**	**312**	⇑P	**Pn**	**02 25 56.4**	**-2.6**
TESR	**Tescani**	**8.31**	**320**	⇓P	**Pn**	**02 26 01.6**	**-1.3**
VOIR		**8.50**	**309**	⇑P	**Pn**	**02 26 03.4**	**-2.2**
SORM	**Soroca**	**8.87**	**333**	⇑P	**Pn**	**02 26 08.7**	**-1.8**
BURAR	**Bucovina Array**	**9.78**	**321**	⇓P	**Pn**	**02 26 21.7**	**-1.4**
GZR	**Gura Zlata**	**9.87**	**304**	⇑P	**Pn**	**02 26 21.5**	**-2.8**
AKASG	**Malin Array Be**	**10.93**	**342**	Pn	**Pn**	**02 26 36.6**	**-2.1**
	0.6nm,0.3s,baz=154,slow=13,SNR=3.0						
AKTO	**Aktyubinsk**	**19.33**	**51**	P	**Pn**	**02 28 29.7**	**+0.9**
	0.1nm,0.3s,baz=259,slow=16,SNR=5.2						
KEST	**Kesra**	**20.22**	**265**	P	**P**	**02 28 37.6**	**-0.2**
	2.3nm,0.8s,baz=51,slow=17,SNR=1.9						
ARU	**Arti**	**22.52**	**36**	P	**P**	**02 29 03.8**	**+1.5**
	0.5nm,0.3s,baz=251,slow=9.6,SNR=3.8						
HFS	**Hagfors**	**23.59**	**334**	**P**	**P**	**02 29 13.6**	**+0.3**
	0.8nm,0.9s,baz=143,slow=14,SNR=1.3						
ESDC	**Sonseca Array**	**29.21**	**281**	P	**P**	**02 30 04.7**	**+0.2**
	0.3nm,0.7s,baz=69,slow=9.0,SNR=2.0						
MKAR	**Makanchi Array**	**34.85**	**63**	P	**P**	**02 30 53.9**	**0.0**
	0.8nm,0.9s,baz=274,slow=8.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**39.45**	**236**	P	**P**	**02 31 31.8**	**-1.4**
	0.6nm,0.9s,baz=29,slow=9.5,SNR=2.3						

*SOME **05** 02:40:37.6, 50°.17N×86°.78E, h5km*
*IDC **05** 02:40:38.3±1.0, 50°.19N×88°.13E, h0km, mb3.5/8, mb1 3.7/13, mb1mx3.6/39, mbtmp3.6/13, ML3.5/5, Error ellipse: s-maj=13.1km s-min=12.3km az=174.0*
*ASRS **05** 02:40:39.2±0.3, 50°.N±2°×8°.8E±°, h10km, MLh4.0/12, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **05** 02:40:44.0±1.3, 50°.19N×87°.53E, h8km±5km, mb4.4, mpv4.0, Error ellipse: s-maj=10.9km s-min=4.4km az=103.0*
ISC 05 02:40:40.3±1.0, 50°.15N±0°.03×87°.92E±0°.02, h9km±7km, n42, σ1§90/68, mb3.5/8, 12C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**0.28**	**101**	Pg	**Pg**	**02 40 45.6**	**-0.5**
CUR				Sg	**Sg**	**02 40 50.0**	**+0.1**
CHBI	**Chibit, Altay**	**0.31**	**301**	Pg	**Pg**	**02 40 47.2**	**+0.6**
CHBI				Sg	**Sg**	**02 40 51.6**	**+0.8**
ULGR	**Ulagan, Altay**	**0.47**	**3**	Pg	**Pb**	**02 40 50.4**	**-0.5**
ULGR				Sg	**Sb**	**02 40 57.7**	**-0.3**
DGZ	**Jazzator, Alta**	**0.55**	**215**	Pg	**Pg**	**02 40 49.0**	**-2.0**
DGZ				Sg	**Sg**	**02 40 55.4**	**-2.9**
TEL	**Teeli**	**1.69**	**58**	Pg	**Pg**	**02 41 11.9**	**-0.9**
TEL				Sg	**Sg**	**02 41 37.0**	**+2.3**
ARTR	**Artybash**	**1.70**	**346**	Pn	**Pb**	**02 41 11.0**	**-0.7**
ARTR				Pg	**Pg**	**02 41 13.6**	**+0.8**
ARTR				Sg	**Sg**	**02 41 37.0**	**+2.1**
UKR	**Ust'-Kan**	**2.15**	**293**	Pg	**Pg**	**02 41 21.7**	**+0.1**
UKR				Sg	**Sg**	**02 41 49.5**	**-0.1**
GALT	**Gorno-Altaysk,**	**2.20**	**326**	Pg	**Pg**	**02 41 22.5**	**+0.1**
GALT				Sg	**Sg**	**02 41 52.5**	**+1.6**
ELT	**Eltsovka**	**3.28**	**342**	Pn	**Pn**	**02 41 34.7**	**+2.7**
ELT				Pg	**Pg**	**02 41 42.0**	**-1.2**
ELT				Sg	**Sg**	**02 42 23.1**	**-2.6**
DJO	**Djoy, Khakassi**	**3.34**	**37**	Pg	**Pg**	**02 41 43.6**	**-0.7**
DJO				Sg	**Sg**	**02 42 27.7**	**0.0**
ZSN	**Zaisan**	**3.37**	**218**	*e*P	**Pn**	**02 41 36.2**	**+3.0**
	53nm,0.3s						
ZSN				*e*S	**Sn**	**02 42 17.8**	**+4.5**
	89nm,0.4s						
DJOS	**Djoyskaya Sosn**	**3.42**	**38**	Pg	**Pg**	**02 41 44.8**	**-1.1**
DJOS				Sg	**Sg**	**02 42 31.8**	**+1.6**
CERR	**Cheremushki**	**3.48**	**38**	Pg	**Pg**	**02 41 45.8**	**-1.1**
CERR				Sg	**Sg**	**02 42 35.1**	**+3.1**
ARDR	**Aradan**	**4.22**	**53**	Pg	**Pg**	**02 41 57.7**	**-3.4**
ARDR				Sg	**Sg**	**02 42 59.0**	**+3.2**
ZAA0	**Zalesovo Array**	**4.25**	**334**	⇑Pn	**Pn**	**02 41 46.7**	**+1.5**
	0.7nm,0.3s,baz=155,slow=13						
ZAA0				⇑Pg	**Pg**	**02 41 58.9**	**-2.9**
	1.8nm,0.6s,baz=161,slow=14						
ZAA0				⇑Sn	**Sn**	**02 42 36.5**	**+1.5**
	2.8nm,0.4s,baz=158,slow=22						
ZAA0				⇓Lg	Lg	02 42 54.2	
	16nm,0.8s,baz=152,slow=26						
ZALV	**Zalesovo Beam**	**4.25**	**334**	Pn	**Pn**	**02 41 46.6**	**+1.3**
	3.6nm,0.3s,baz=155,slow=13,SNR=28						
ZALV				Sn	**Sn**	**02 42 36.4**	**+1.4**
	6.3nm,0.3s,baz=148,slow=19,SNR=4.0						
ZALV				Lg	Lg	02 42 55.6	
	9.8nm,0.3s,baz=150,slow=26,SNR=4.6						
SALR	**Pechorkino, Sa**	**4.48**	**343**	Pn	**Pb**	**02 41 55.6**	**-3.5**
SALR				Pg	**Pg**	**02 42 06.6**	**+0.5**
SALR				Sg	**Sg**	**02 43 06.2**	**+2.1**
SEM	**Semipalatinsk**	**4.92**	**276**	*e*P	**Pn**	**02 41 57.3**	**+2.6**
	21nm,0.5s						
SEM				*e*S	**Sn**	**02 42 53.1**	**+1.3**
	92nm,0.3s						
SEM	**Semipalatinsk**	**4.92**	**276**	Pg	**Pg**	**02 42 12.0**	**-2.6**
	18nm,0.2s						
SEM				Lg	Lg	02 43 10.8	
	218nm,0.3s						
MKAR	**Makanchi Array**	**5.03**	**230**	Pn	**Pn**	**02 41 58.6**	**+2.7**
	8.1nm,0.3s,baz=52,slow=13,SNR=269						
MKAR				Sn	**Sn**	**02 42 57.4**	**+3.2**
	12nm,0.3s,baz=53,slow=24,SNR=12						
MKAR				Lg	Lg	02 43 17.6	
	9.3nm,0.3s,baz=58,slow=30,SNR=6.9						
MAKZ	**Makanchi**	**5.18**	**232**	⇑Pn	**Pn**	**02 42 00.0**	**+2.0**
	9.4nm,0.5s						
MAKZ				⇑Pg	**Pb**	**02 42 14.6**	**+3.5**
	34nm,0.9s						
MAKZ				⇓Sn	**Sn**	**02 42 58.6**	**+0.8**
	53nm,0.6s						
MAKZ				⇑Lg	Lg	02 43 21.7	
	64nm,0.8s						
KURBB	**Kurchatov Arra**	**6.02**	**278**	Pn	**Pn**	**02 42 10.8**	**+1.3**
	0.9nm,0.3s,baz=92,slow=15,SNR=49						
KURBB				Sn	**Sn**	**02 43 19.2**	**+0.6**
	1.6nm,0.3s,baz=90,slow=27,SNR=7.7						
KURBB				Lg	Lg	02 43 46.0	
	1.4nm,0.3s,baz=88,slow=37,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.02**	**278**	⇑Pn	**Pn**	**02 42 10.1**	**+0.6**
	18nm,0.5s						
KURBB				⇓Sn	**Sn**	**02 43 17.1**	**-1.4**
	57nm,0.6s						
KURBB				⇑Lg	Lg	02 43 46.2	
	143nm,0.8s						
DJR	**Jarkent**	**8.03**	**227**	Pg	**Pn**	**02 42 39.6**	**+2.4**
	7.6nm,0.3s						
DJR				Lg	Lg	02 44 06.4	
	18nm,0.4s						
PDGK	**Podgornoye**	**8.94**	**223**	Pg	**Pn**	**02 42 49.9**	**+0.1**
	2.0nm,0.4s						
PDGK				Lg	Lg	02 44 24.6	
	4.2nm,0.4s						
PDGK	**Podgornoye**	**8.94**	**223**	⇑Pn	**Pn**	**02 42 50.7**	**+1.0**
	3.4nm,0.4s						
PDGK				⇑Lg	Lg	02 45 22.8	
	16nm,0.8s						
ARXS	**Arharly**	**9.08**	**233**	Pg	Pn	02 43 04.7	+13
	8.4nm,0.5s						
ARXS				Lg	Lg	02 44 49.9	
	11nm,0.4s						
UZB	**Uzynbulak**	**9.30**	**224**	Pg	**Pn**	**02 42 56.3**	**+1.7**
	2.8nm,0.1s						
UZB				Lg	Lg	02 44 35.4	
	15nm,0.5s						
SATY	**Saty**	**9.65**	**226**	Pg	Pn	02 43 05.9	+6.5
	8.0nm,0.2s						
SATY				Lg	Lg	02 44 52.3	
	18nm,0.2s						
KUU	**Kurty**	**10.08**	**236**	Pg	Pn	02 43 25.4	+20
	1.2nm,0.1s						
KUU				Lg	Lg	02 45 25.2	
	6.2nm,0.3s						
BVAR	**Borovoye Array**	**11.28**	**291**	Pn	**Pn**	**02 43 21.0**	**-0.5**
	0.5nm,0.3s,baz=110,slow=8.1,SNR=3.0						
BVAR				Sn	**Sn**	**02 45 24.0**	**-3.6**
	0.9nm,0.3s,baz=357,slow=21,SNR=9.2						
BRVK	**Borovoye**	**11.34**	**292**	⇑Pn	**Pn**	**02 43 22.6**	**+0.2**
	2.7nm,0.9s						
BRVK				⇑Sn	**Sn**	**02 45 27.8**	**-1.4**
	3.0nm,0.5s						
AKTO	**Aktyubinsk**	**19.05**	**282**	P	**P**	**02 45 03.0**	**+0.4**
	0.1nm,0.3s,baz=87,slow=12,SNR=7.7						
FINES	**FINESS Array B**	**35.18**	**313**	P	**P**	**02 47 34.0**	**-0.1**
	1.9nm,0.9s,baz=52,slow=9.1,SNR=7.0						
BRTR	**Keskin Array B**	**39.01**	**276**	P	**P**	**02 48 07.7**	**+0.6**
	0.5nm,0.7s,baz=84,slow=9.5,SNR=4.6						
NB2	**NORSAR Subarra**	**42.20**	**315**	P	**P**	**02 48 32.1**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=66,slow=7.9						
NOA	**NORSAR Array B**	**42.20**	**315**	P	**P**	**02 48 32.3**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=83,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**57.80**	**24**	P	**P**	**02 50 30.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=316,slow=5.7,SNR=2.8						
ESDC	**Sonseca Array**	**61.93**	**299**	P	**P**	**02 51 00.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**77.62**	**276**	P	**P**	**02 52 37.4**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=42,slow=4.2,SNR=0.9						
WRA	**Warramunga Arr**	**80.93**	**136**	P	**P**	**02 52 53.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=341,slow=6.1,SNR=2.4						
ASAR	**Alice Springs**	**84.02**	**138**	P	**P**	**02 53 09.6**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=329,slow=4.9,SNR=4.1						

KMA 05 02:58:05.7±1.6, 39°.10N×126°.06E, h0km, Error ellipse: s-maj=20.1km s-min=5.5km az=10.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNCB	**YEONCHEON**	**1.26**	**147**	P	Pg	02 58 29.7	-0.1
	SNR=18						
YNCB	**YEONCHEON**	**1.26**	**147**	P	Pg	02 58 29.7	-0.1
	SNR=18						
KSGAH	**Ganghwa**	**1.43**	**168**	P	Pb	02 58 33.7	+0.7
	SNR=7.2						
KSGAH	**Ganghwa**	**1.43**	**168**	P	Pb	02 58 33.1	0.0
KSCWO	**Cheorwon**	**1.53**	**131**	P	Pn	02 58 33.4	-0.9
KSBAR	**Backryungdo**	**1.54**	**224**	P	Pn	02 58 34.0	-0.3
	SNR=12						
KSBAR	**Backryungdo**	**1.54**	**224**	P	Pn	02 58 34.0	-0.3
DACB	**Daecheong-do R**	**1.65**	**220**	P	Pn	02 58 36.0	+0.1
	SNR=8.3						
DACB	**Daecheong-do R**	**1.65**	**220**	P	Pn	02 58 36.0	+0.1
	SNR=8.3						
KSCHC	**Chuncheon**	**1.91**	**133**	P	Pn	02 58 40.3	+0.8
	SNR=9.0						
KSCHC	**Chuncheon**	**1.91**	**133**	P	Pn	02 58 40.3	+0.8
	SNR=9.0						

IDC 05 03:06:42.2±2.2, 6°.33S×129°.41E, h0km, mb4.0/1, mb1 3.6/3, mb1mx3.4/34, mbtmp3.5/3, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=140.4km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.35**	**161**	Pn	Pn	03 10 07.1	+0.2
	0.2nm,0.3s,baz=340,slow=12,SNR=10						
WRA				Sn	Sn	03 12 31.6	-15
	0.7nm,0.3s,baz=337,slow=23,SNR=8.1						
ASAR	**Alice Springs**	**17.77**	**166**	P	Pn	03 10 50.9	-0.3
	0.1nm,0.3s,baz=351,slow=11,SNR=2.7						
ASAR				S	Sn	03 13 57.7	-12
	0.2nm,0.3s,baz=3.8,slow=32,SNR=3.4						
PMG	**Port Moresby**	**17.85**	**101**	LR	LR	03 18 13.6	
	comp=Z,63nm,18.1s,baz=163,slow=39						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	03 17 39.2	0.0
	0.9nm,0.6s,baz=119,slow=7

MJAR	Matsushiro Arr	8.89	351	P		P	03 32 27.7 +1.2
	0.0nm,0.3s,baz=171,slow=11,SNR=1.4						
JAMN	Amaminishikomi	9.58	275	P		P	03 32 37.5 +3.4
JMM	Marumori	10.11	4	P		P	03 32 41.1 +1.5
JOW	Kunigami	10.47	268	P		P	03 32 46.3 +2.5
	9.7nm,0.3s,baz=103,slow=28,SNR=12						
KSRS	Korea Array	14.03	317	P		P	03 33 28.8 +6.6
	0.2nm,0.3s,baz=123,slow=9.0,SNR=5.1						
USRK	Ussuriysk Ar.	17.63	341	P		P	03 34 02.0 +1.7
	baz=147,slow=8.6,SNR=5.4						
KLR	Kul'dur	22.37	346	P		P	03 34 45.3 +1.1
	0.6nm,0.4s,baz=193,slow=13,SNR=2.5						
ZALV	Zalesovo Beam	47.72	319	P		P	03 38 15.6 -0.3
	1.4nm,0.3s,baz=106,slow=8.3,SNR=4.2						
ZALV	Zalesovo Beam	47.72	319	P		P	03 38 15.0 -0.9
WRA	Warramunga Arr	47.73	187	P		P	03 38 14.8 -1.6
	1.1nm,0.3s,baz=7.0,slow=7.8,SNR=18						
WRA				PcP		PcP	03 39 36.5 -0.7
	0.4nm,0.6s,baz=0.8,slow=4.1,SNR=2.3						
MKAR	Makanchi Array	48.56	309	P		P	03 38 22.3 0.0
	0.5nm,0.4s,baz=89,slow=9.7,SNR=8.2						
ASAR	Alice Springs	51.45	187	P		P	03 38 42.6 -1.3
	0.5nm,0.5s,baz=357,slow=4.5,SNR=5.7						
BRVK	Borovoye	56.31	317	P		P	03 39 18.0 0.0
BRVK				IAmb		IAmb	03 39 18.8
	comp=Z,5.3nm,0.6s						
KK31	Karatay Array	57.12	305	P		P	03 39 23.3 -0.7
KK31				IAmb		IAmb	03 39 24.3
	comp=Z,3.6nm,0.5s						
KKAR	Karatay Array	57.12	305	P		P	03 39 23.3 -0.7
KKAR				IAmb		IAmb	03 39 24.3
	comp=Z,3.6nm,0.5s						
ABKAR	Akbulak array	63.24	314	P		P	03 40 03.5 -1.0
ABKAR				IAmb		IAmb	03 40 04.7
	comp=Z,2.2nm,0.7s						
ARCES	ARCESS Array B	72.28	340	P		P	03 40 59.5 -0.3
	comp=Z,1.1nm,0.8s,baz=60,slow=5.3,SNR=6.3						
KBZ	Khabaz	76.14	312	P		P	03 41 21.9 -0.2
	comp=Z,1.3nm,0.7s,baz=83,slow=8.1,SNR=2.7						
FINES	FINESS Array B	76.50	333	P		P	03 41 23.0 -0.7
	comp=Z,2.2nm,0.3s,baz=72,slow=5.0,SNR=43						
HFS	Hagfors	82.05	336	P		P	03 41 51.7 -1.6
	comp=Z,0.6nm,0.4s,baz=92,slow=4.3,SNR=2.7						
NOA	NORSAR Array B	82.27	337	P		P	03 41 53.0 -1.5
	comp=Z,0.3nm,0.5s,baz=45,slow=5.0,SNR=2.4						
RAYN	Ar Rayn	83.10	293	P		P	03 41 57.9 -1.6
RAYN				IAmb		IAmb	03 42 00.1
	comp=Z,4.0nm,0.8s						
BRTR	Keskin Array B	84.13	312	P		P	03 42 02.1 -2.3
	comp=Z,0.3nm,0.6s,baz=90,slow=4.3,SNR=2.5						

IDC 05 03:36:32.9±7.4, 7°.07S×148°.51E, h80km±56km, mb3.5/1, mb1 3.6/3, mb1mx3.1/27, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=129.7km s-min=55.7km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.68	210	P	Pn	03 37 13.2	-0.8
	2.9nm,0.3s,baz=31,slow=18,SNR=5.8						
PMG				S	Sn	03 37 46.6	+1.1
	17nm,0.3s,baz=70,slow=21,SNR=10						
WRA	Warramunga Arr	18.78	226	P	P	03 40 44.7	-1.3
	0.2nm,0.3s,baz=51,slow=10,SNR=8.0						
ASAR	Alice Springs	21.66	219	P	P	03 41 16.9	-0.2
	2.0nm,0.5s,baz=54,slow=9.1,SNR=44						
TORD	Torodi Ar. Bea	146.80	283	PKPbc	PKPbc	03 56 07.1	+0.1
	0.4nm,0.4s,baz=63,slow=3.1,SNR=1.9						

*BEO **05** 04:20:22.9±0.7, 41°.04N×25°.09E, h0km, ML3.2/9*
*SOF **05** 04:20:25.9, 41°.19N×24°.89E, h12km, MD3.3*
*THE **05** 04:20:26.6, 41°.15N×24°.87E, h14km±1km, ML3.1/11, Error ellipse: s-maj=1.5km s-min=0.7km az=5.0*
*ISK **05** 04:20:26.6, 41°.08N×24°.89E, h5km, ML3.1/17*
*ATH **05** 04:20:26.3, 41°.20N×24°.87E, h16km±1km, ML3.1/4, Error ellipse: s-maj=3.2km s-min=1.0km az=178.0*
*DDA **05** 04:20:29.0, 41°.13N×25°.07E, h19km±1km, ML2.9*
ISC 05 04:20:26.4±0.9, 41°.17N±0°.02×24°.87E±0°.01, h14km±7km, n12, σ1§32/153, 18C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	Kavala	0.32	238	P	Pg	04 20 33.2	+0.3
KAVA				S	Sg	04 20 37.7	+0.4
	5μm,0.2s						
KAVA	Kavala	0.32	238	P	Pg	04 20 33.2	+0.3
KAVA				S	Sg	04 20 37.8	+0.4
KAVA				AML	AML	04 20 38.2	
	comp=N,13564μm,0.1s						
KAVA				AML	AML	04 20 38.4	
	comp=E,13125μm,0.1s						
KVLA	Kavala	0.43	238	P	Pb	04 20 36.1	+0.3
KVLA				S	Sb	04 20 42.1	-0.1
KVLA				AML	AML	04 20 42.4	
	comp=N,7210μm,0.1s						
KVLA				AML	AML	04 20 42.7	
	comp=E,9827μm,0.1s						
RDO	Rodhopi	0.50	92	P	Pg	04 20 36.1	-0.2
RDO				S	Sg	04 20 42.9	-0.1
	comp=E,2μm,0.2s						
RDO	Rodhopi	0.50	92	P	Pg	04 20 36.0	-0.3
RDO				S	Sg	04 20 42.9	-0.1
RDO				AML	AML	04 20 43.4	
	comp=N,4372μm,0.2s						
RDO				AML	AML	04 20 45.2	
	comp=E,3001μm,0.2s						
RZN	Rozhen	0.53	347	P	Pg	04 20 36.5	-0.4
THAS	Thassos island	0.57	192	P	Pg	04 20 37.7	+0.1
THAS				S	Sg	04 20 45.3	+0.2
	comp=E,3μm,0.3s						
THAS	Thassos island	0.57	192	P	Pg	04 20 37.7	+0.1
KDZ	Kurdzhali	0.63	40	P	Pg	04 20 37.1	-1.7
NVR	Nevrokopi	0.78	284	P	Pg	04 20 40.5	-1.1
NVR				S	Sb	04 20 53.4	+1.1
	comp=E,2μm,0.1s						
NVR	Nevrokopi	0.78	284	P	Pg	04 20 40.6	-1.0
NVR				S	Sg	04 20 51.7	-0.2
SMTH	Samothraki Isl	0.86	144	P	Pb	04 20 42.9	-0.1
SMTH				S	Sb	04 20 54.6	+0.2
	comp=E,785nm,0.3s						
SMTH	Samothraki Isl	0.86	144	P	Pb	04 20 42.9	-0.1
ALN	Alexandroupoli	0.93	106	P	Pg	04 20 44.2	-0.1
ALN				S	Sg	04 20 56.9	+0.5
	comp=E,882nm,0.5s						
ALN	Alexandroupoli	0.93	106	P	Pg	04 20 44.3	-0.1
ALN				S	Sg	04 20 56.7	+0.3
ALN				AML	AML	04 21 00.1	
	comp=N,1027μm,0.3s						
ALN				AML	AML	04 21 00.2	
	comp=E,2161μm,0.3s						
PLD	Plovdiv	0.95	352	ePg	Pb	04 20 44.4	-0.2
PLD				eSg	Sb	04 20 57.3	+0.3
PLD	Plovdiv	0.95	352	P	Pb	04 20 44.6	0.0
MMB	Musomiste	0.96	297	P	Pb	04 20 44.0	-0.8
SRS	Serrai	0.97	268	P	Pb	04 20 44.1	-0.8
SRS				S	Sb	04 20 57.4	-0.2
	comp=E,2μm,0.5s						
SRS	Serrai	0.97	268	P	Pb	04 20 44.4	-0.5
ENEZ	Enez	1.06	113	P	Pn	04 20 47.1	+0.3
ENEZ	Enez	1.06	113	PG	Pg	04 20 46.6	-0.2
ENEZ				SG	Sn	04 21 02.4	+1.0
OUR	Ouranopolis	1.07	219	P	Pb	04 20 46.1	-0.5
OUR				S	Sg	04 21 01.0	0.0
	comp=E,2μm,0.3s						
OUR	Ouranopolis	1.07	219	P	Pb	04 20 46.2	-0.5
CAVK	Edirne/Enez-Ca	1.09	115	iP	Pn	04 20 47.1	-0.1
CAVK				iS	Sn	04 21 02.1	0.0
CAVK				IAML		04 21 05.0	
	comp=N,412nm,0.2s						
CAVK				IAML		04 21 11.0	
	comp=E,420nm,0.7s						
SOH	Sokhos	1.20	254	P	Pn	04 20 48.3	-0.5
SOH				S	Sb	04 21 04.3	0.0
	comp=E,552nm,0.5s						
SOH	Sokhos	1.20	254	P	Pn	04 20 48.0	-0.8
GADA	Gvkgeada	1.25	141	P	Pb	04 20 49.6	-0.1
GADA	Gvkgeada	1.25	141	PN	Pb	04 20 49.9	+0.2
GADA				SN	Sg	04 21 07.6	+1.0
GOKA	anakkale-Gk	1.25	141	iP	Pb	04 20 49.6	-0.2
GOKA				iS	Sn	04 21 05.8	-0.3
LIA	Limnos Island	1.29	169	P	Pn	04 20 49.8	-0.2
LIA				S	Sb	04 21 05.7	-1.1
	comp=E,902nm,0.6s						
ERIK	Erikli-Kesan	1.34	111	PN	Pg	04 20 51.9	-0.2
ERIK				SN	Sg	04 21 12.0	+2.5
PLG	Polygyros	1.34	234	P	Pn	04 20 50.2	-0.5
KESN	Edirne-Kesan	1.41	103	iP	Pn	04 20 51.8	-0.2
KESN				iS	Sn	04 21 08.5	-2.1
KESN				IAML		04 21 18.0	
	comp=E,245nm,0.3s						
KESN				IAML		04 21 18.0	
	comp=N,231nm,0.7s						
GELI	Tayfur-Gelibol	1.44	122	PN	Pg	04 20 53.4	-0.6
HORT	Hortiatis	1.46	248	P	Pn	04 20 51.9	-0.5
HORT				S	Sn	04 21 10.9	-0.5
	comp=N,332nm,0.6s						
HORT	Hortiatis	1.46	248	P	Pn	04 20 52.0	-0.5
PGB	Panagyurishte	1.48	339	P	Pn	04 20 52.7	0.0
ECEA	Canakkale, Ece	1.50	138	iP	Pb	04 20 53.5	-0.4
ECEA				iS	Sn	04 21 12.0	-0.1
ECEA				IAML		04 21 16.0	
	comp=N,194nm,0.7s						
ECEA				IAML		04 21 17.0	
	comp=E,150nm,0.3s						
KKB	Krupnik	1.51	298	P	Pn	04 20 53.6	+0.5
PAIG	Paliouri	1.54	217	P	Pn	04 20 52.6	-0.8
PAIG	Paliouri	1.54	217	P	Pn	04 20 52.6	-0.8
THE	Thessaloniki	1.54	250	P	Pb	04 20 55.6	+0.9
BOZC	Bozcaada	1.60	145	iP	Pn	04 20 54.5	+0.3
BOZC				iS	Sn	04 21 13.8	-0.9
BOZC				IAML		04 21 19.0	
	comp=E,145nm,0.3s						
BOZC	Bozcaada	1.60	145	PN	Pb	04 20 55.9	+0.2
EZN	Ezine	1.74	140	PN	Pb	04 20 57.8	-0.3
KIRK	Kırklareli	1.78	69	iP	Pn	04 20 56.6	-0.1
KIRK				iS	Sn	04 21 17.7	-1.5
RKY	Sarkoy-Tekirda	1.81	105	PN	Pb	04 20 59.7	+0.3
VTS	Vitosha	1.90	320	ePn	Pn	04 20 59.7	+1.2
VTS				eSn	Sb	04 21 25.9	+1.4
VTS	Vitosha	1.90	320	⇑P	Pn	04 20 59.8	+1.2
VTS	Vitosha	1.90	320	⇑S	Sg	04 21 27.2	-0.2
VTS	Vitosha	1.90	320	P	Pn	04 20 59.5	+1.0
BAYC	CANAKKALE_Bayr	1.91	138	iP	Pn	04 20 59.4	+0.8
BAYC				iS	Sn	04 21 21.0	-1.5
KOCA	Canakkale, Ayv	1.92	149	iP	Pn	04 20 58.1	-0.6
KOCA				iS	Sn	04 21 21.0	-1.7
KRBG	Karabiga-Canak	2.00	112	PN	Pb	04 21 01.8	-0.7
ARMN	Kirklareli, Me	2.04	69	iP	Pn	04 21 00.7	+0.3
ARMN				IAML		04 21 37.0	
	comp=E,96nm,0.4s						
PVL	Pavlikeni	2.08	9	P	Pb	04 21 03.3	-0.5
STIP	Stip	2.09	286	iPn	Pn	04 20 59.1	-1.8
STIP				eSn	Sn	04 21 24.6	-2.2
MRMT	Marmara Adasi	2.14	104	PN	Pb	04 21 03.9	-1.1
BOSS	Bosilegrad	2.23	307	ePn	Pn	04 21 03.9	+1.0
BOSS				eSn	Sb	04 21 35.3	+1.4
SZH	Strazhica	2.24	20	P	Pn	04 21 05.0	+1.9
VIZE	Kirklareli, Vi	2.27	79	iP	Pn	04 21 03.4	-0.1
VIZE				IAML		04 21 39.0	
	comp=N,92nm,0.3s						
VIZE				IAML		04 21 43.0	
	comp=E,71nm,0.3s						
AYVA	Ayvalik	2.32	143	iP	Pn	04 21 05.2	+1.1
AYVA				iS	Sn	04 21 30.3	-2.2
AYVA				IAML		04 21 45.0	
	comp=N,81nm,0.5s						
BUHA	Balikesir, Bur	2.37	134	iP	Pn	04 21 05.6	+0.8
BUHA				iS	Sn	04 21 33.2	-0.5
EDC	Edincik	2.42	109	PN	Pb	04 21 07.9	-1.7
PRVS	Prvonek	2.48	304	ePn	Pn	04 21 06.5	+0.1
PRVS				eSn	Sb	04 21 41.1	-0.1
BALY	Balya	2.54	123	iP	Pn	04 21 08.8	+1.7
BALY				iS	Sn	04 21 38.1	+0.2
CTYL	Yalikoy Yolu	2.59	82	PN	Pb	04 21 11.7	-0.9
DKL	Dikili	2.61	143	PN	Pn	04 21 10.3	+2.2
ZAPS	Zavoj	2.68	322	ePn	Pn	04 21 11.1	+1.9
ZAPS				eSn	Sb	04 21 46.2	-0.8
CTKS	Kestanelik-??a	2.74	87	PN	Pb	04 21 13.5	-1.7
BALB	Balikesir	2.76	123	PN	Pn	04 21 12.1	+1.9
PRD	Provadia	2.77	42	P	Pn	04 21 10.9	+0.6
ZEDA	zmir-Bergama	2.77	142	iP	Pn	04 21 10.4	0.0
ZEDA				iS	Sn	04 21 42.7	-1.0
KCTX	Karacabey (Bur	2.80	108	PN	Pn	04 21 13.1	+2.3
BARS	Barje	2.81	307	ePn	Pn	04 21 11.6	+0.7
BARS				eSn	Sb	04 21 49.1	-1.6
STEP	BALIKESIR_Sava	2.82	128	iP	Pn	04 21 11.2	+0.2
BGKT	Bogazkoy	2.94	88	PN	Pb	04 21 16.2	-2.4
BLKB	Belogradchik	2.94	327	⇓S	Sb	04 21 54.0	-0.6
ARMT	Armutlu	3.08	100	PN	Pn	04 21 17.7	+3.0
URLA	Izmir	3.10	154	PN	Pn	04 21 17.6	+2.7
KLYT	Kilyos	3.15	87	PN	Pb	04 21 19.2	-2.9
SGRR	Singureni	3.16	15	⇑P	Pb	04 21 21.7	-0.6
BUY	Buyukada	3.23	94	iP	Pn	04 21 17.0	+0.3
BLCB	Balcova	3.24	148	PN	Pn	04 21 19.4	+2.6
ZAGS	Zajecar	3.29	324	ePn	Pn	04 21 17.1	-0.3
ZAGS				eSn	Sn	04 21 59.3	+3.0
BOVS	Bovan	3.40	318	ePn	Pn	04 21 19.1	+0.1
BOVS				eSn	Sn	04 22 01.3	+2.1
BOVS	Bovan	3.40	318	⇑P	Pn	04 21 17.3	-1.7
IGD	Bursa	3.41	104	iP	Pb	04 21 28.4	+1.8
SELS	Selova	3.46	308	ePn	Pn	04 21 20.1	+0.2
SELS				eSn	Sn	04 22 04.9	+4.2
YLV	Yalova	3.47	98	PN	Pn	04 21 23.2	+3.2
SULR		3.65	16	⇑P	Pb	04 21 28.3	-2.4
ICOR	Ion Corvin	3.66	35	⇑P	Pb	04 21 29.4	-1.4
KUBS	Kucevo	4.01	325	ePn	Pn	04 21 27.4	0.0
GRUS	Gruza	4.10	313	ePn	Pn	04 21 28.7	0.0
HERR	Herculane	4.13	335	⇑P	Pn	04 21 30.5	+1.5
KAYN	Sakarya, Kayna	4.14	91	iP	Pn	04 21 29.9	+0.7
TIRR	Tirgusor	4.20	37	⇑P	Pb	04 21 39.0	-1.0
SJES	Sjenica	4.20	302	ePn	Pn	04 21 31.0	+0.9
ARR	Arges	4.20	358	⇓P	Pn	04 21 31.2	+1.1
VOIR		4.27	2	⇑P	Pn	04 21 32.5	+1.5
LOT	Lotru	4.36	350	⇑P	Pn	04 21 32.8	+0.6
NEHR	Nehoiu	4.38	13	⇓P	Pn	04 21 35.6	+3.0
MLR	Muntele Rosu	4.39	10	⇑P	Pn	04 21 35.1	+2.3
GZR	Gura Zlata	4.49	341	⇑P	Pn	04 21 34.8	+0.7
TPGR	Topolog	4.51	34	⇑P	Pb	04 21 43.3	-2.1
BISRR	Bisoca	4.58	16	⇓P	Pn	04 21 38.8	+3.5
CFR	Carcaliu	4.67	30	⇑P	Pb	04 21 44.7	-3.2
DOPR	Dopca	4.81	4	⇑P	Pn	04 21 40.1	+1.6
PLOR	Plostina	4.86	15	⇑P	Pn	04 21 41.6	+2.5
VRI	Vrincioaia	4.89	15	⇑P	Pn	04 21 42.0	+2.5
BZS	Buzias	5.04	333	⇑P	Pn	04 21 41.4	-0.2

*GCG **05** 04:24:18.7±0.3, 14°.19N×90°.42W, h6km, MD3.1*
*SNET **05** 04:24:21.6±1.3, 14°.31N×90°.44W, h13km±91km, ML2.5*
ISC 05 04:24:20.8±1.0, 14°.29N±0°.07×90.44W±0°.06, h16km±11km, n11, σ0§49/17, 4C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.19	302	eP	Pg	04 24 25.4	-0.3
NBG	Las Nubes	0.31	17	⇓eP	Pb	04 24 27.9	-0.3
NBG				eS	Sg	04 24 32.7	+0.5
FUG	Fuego 3	0.42	292	⇑eP	Pg	04 24 29.1	-0.3
FUG				eS	Sg	04 24 35.9	+0.7
SLOZ	Alcaldia de Sa	0.69	112	⇑iP	Pb	04 24 34.3	-0.2
SLOZ				IAML		04 24 51.0	
	comp=Z,92nm,0.4s						
RTR	El Retiro	0.87	117	eP	Pn	04 24 37.8	-0.7
RTR				eS	Sn	04 24 51.6	+0.7
SNJE	San Jose	0.91	117	eP	Pn	04 24 38.8	-0.4
SNJE				eS	Sn	04 24 51.8	-0.3
UNIC	Universidad Ca	0.92	109	⇓iP	Pb	04 24 38.3	-0.2
UNIC				IAML		04 24 38.5	
	comp=Z,155nm,0.1s						
UNIC				eS	Sb	04 24 50.9	+0.4
MTO3	Montecristo	1.05	84	⇓eP	Pb	04 24 40.8	0.0
TACO	Tacachico	1.10	107	⇑iP	Pn	04 24 41.3	-0.3
JAYA	Jayaque - finc	1.15	123	iP	Pn	04 24 42.7	+0.2
JAYA				eS	Sn	04 24 58.5	+0.6
JAYA				IAML		04 25 00.3	
	comp=Z,295nm,0.2s						
PMON	Piamonte	1.24	118	eP	Pg	04 24 44.4	-0.3

*IASPEI **05** 04:45:11.5±0.8, 43°.53N±0°.02×12°.27E±0°.02, h13km±4km, Error ellipse: s-maj=2.5km s-min=2.1km az=33.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*LDG **05** 04:45:11.6±0.2, 43°.43N×12°.30E, h10km, Ml2.7/10, Error ellipse: s-maj=5.1km s-min=3.5km az=29.0*
*ROM **05** 04:45:11.4±0.1, 43°.531N±0°.003×12°.284E±0°.004, h10km, ML2.9/49, Error ellipse: s-maj=0.3km s-min=0.2km az=215.0*
*PRU **05** 04:45:12.8±0.0, 43°.54N×12°.65E, h0km*
ISC 05 04:45:11.6±0.7, 43°.52N±0°.02×12°.25E±0°.01, h14km±4km, n135, σ1§39/213, 19C-23D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BADI	Badiali	0.01	209	P	Pg	04 45 13.8	-0.3
BADI				S	Sg	04 45 15.5	-0.3
BADI				AML	AML		
	comp=N,65400μm,0.2s						
BADI				AML	AML		
	comp=E,53150μm,1.3s						
BADI				AML	AML		
	comp=E,53100μm,1.3s						
BADI				AML	AML		
	comp=N,65400μm,0.2s						
BADI				AML	AML		
	comp=E,53150μm,1.3s						
CDCA	Citt' di Caste	0.06	192	P	Pg	04 45 14.3	-0.1
CDCA				S	Sg	04 45 16.6	+0.4
CDCA				AML	AML		
	comp=E,37800μm,0.1s						
CDCA				AML	AML		
	comp=N,81150μm,0.1s						
CDCA				AML	AML		
	comp=E,37800μm,0.1s						
CDCA				AML	AML		
	comp=N,81150μm,0.1s						
SSP9	Sansepolcro	0.10	302	P	Pg	04 45 14.7	-0.1
SSP9				S	Sg	04 45 17.1	+0.1
SSP9				AML	AML		
	comp=E,10925μm,0.3s						
SSP9				AML	AML		
	comp=N,6285μm,0.2s						
SSP9				AML	AML		
	comp=E,10915μm,0.3s						
APEC	Apecchio	0.13	72	P	Pg	04 45 14.6	-0.6
APEC				S	Sg	04 45 17.0	-0.5
ATPI	Pietralunga -	0.13	122	P	Pg	04 45 14.8	-0.3
ATPI				S	Sg	04 45 17.4	-0.2
ATPI				AML	AML		
	comp=N,8895μm,0.9s						
ATPI				AML	AML		
	comp=N,8910μm,0.9s						
ATPI				AML	AML		
	comp=E,11900μm,0.4s						
PARC	Parchiule	0.13	356	P	Pg	04 45 14.7	-0.5
PARC				S	Sg	04 45 17.0	-0.6
PARC				AML	AML		
	comp=N,55600μm,0.2s						
PARC				AML	AML		
	comp=E,47650μm,0.5s						
PARC				AML	AML		
	comp=N,55600μm,0.2s						
PARC				AML	AML		
	comp=E,47650μm,0.5s						
ATPC	Poggio Castell	0.15	105	⇑eP	Pg	04 45 15.1	-0.3
ATPC				S	Sg	04 45 18.1	-0.1
ATMI	Monte Miggiano	0.19	176	P	Pg	04 45 16.1	+0.2
ATMI				S	Sg	04 45 19.6	+0.7
ATMI				AML	AML		
	comp=E,42200μm,0.2s						
ATMI				AML	AML		
	comp=N,29750μm,0.2s						
ATMI				AML	AML		
	comp=E,42200μm,0.2s						
PIEI	Pieia	0.21	85	P	Pg	04 45 15.6	-0.7
PIEI				S	Sg	04 45 18.7	-0.8
PIEI				AML	AML		
	comp=E,5690μm,0.4s						
PIEI				AML	AML		
	comp=N,4670μm,0.3s						
ATBU	Serra di Buran	0.22	102	⇑eP	Pg	04 45 16.2	-0.3
ATBU				S	Sg	04 45 20.2	+0.3
ATLO	AVT- Montelove	0.23	151	⇓eP	Pg	04 45 16.6	-0.1
ATLO				S	Sg	04 45 20.7	+0.5
CRE	Caprese Michel	0.24	295	⇓iP	Pg	04 45 16.9	0.0
CRE				S	Sg	04 45 20.9	+0.4
CRE				AML	AML		
	comp=N,4680μm,0.2s						
CRE				AML	AML		
	comp=E,3565μm,1.4s						
ATVA	AVT- Monte Val	0.24	174	⇑eP	Pg	04 45 16.8	-0.1
ATVA				S	Sg	04 45 21.0	+0.6
PE3	Peglio	0.25	45	P	Pg	04 45 16.4	-0.6
PE3				S	Sg	04 45 20.9	+0.2
PE3				AML	AML		
	comp=N,6940μm,0.3s						
PE3				AML	AML		
	comp=E,8500μm,0.4s						
PE3				AML	AML		
	comp=N,6935μm,0.3s						
NARO	Abbazia di Nar	0.26	69	⇑eP	Pg	04 45 16.2	-0.8
NARO				S	Sg	04 45 20.1	-0.7
NARO				AML	AML		
	comp=E,2470μm,0.3s						
NARO				AML	AML		
	comp=N,3275μm,0.9s						
ATFO	Monte Foce - G	0.28	123	⇓iP	Pg	04 45 17.1	-0.4
ATFO				S	Sg	04 45 21.6	+0.1
ATFO				AML	AML		
	comp=N,4600μm,1.4s						
ATFO				AML	AML		
	comp=E,4165μm,1.4s						
CAFI	Castiglion Fio	0.28	228	P	Pg	04 45 18.0	+0.4
CAFI				S	Sb	04 45 22.9	-0.2
CAFI				AML	AML		
	comp=E,4305μm,0.6s						
CAFI				AML	AML		
	comp=N,4525μm,0.6s						
CAFI				AML	AML		
	comp=N,4235μm,0.6s						
CAFI				AML	AML		
	comp=N,4240μm,0.6s						
CAFI				AML	AML		
	comp=E,4660μm,0.6s						
CAFI				AML	AML		
	comp=E,4310μm,0.6s						
CPGN	Carpegna, Ital	0.28	10	P	Pb	04 45 17.7	-0.9
CPGN				S	Sb	04 45 22.9	-0.4
CPGN				AML	AML		
	comp=E,6625μm,0.6s						
CPGN				AML	AML		
	comp=N,5485μm,0.9s						
CPGN				AML	AML		
	comp=E,6880μm,0.9s						
CPGN				AML	AML		
	comp=E,6630μm,0.6s						
CPGN				AML	AML		
	comp=E,6895μm,0.9s						
CPGN				AML	AML		
	comp=N,5790μm,0.6s						
CPGN				AML	AML		
	comp=N,5485μm,0.9s						
MURB	Monte Urbino	0.33	142	P	Pg	04 45 18.2	-0.1
MURB				S	Sb

FRON				S	Sg	04 45 23.1	-0.3
FRON				AML	AML		
	comp=E,2005μm,0.5s						
FRON				AML	AML		
	comp=E,2010μm,0.5s						
FRON				AML	AML		
	comp=N,4735μm,0.3s						
MPAG	**Monte Paganucc**	**0.39**	**73**⇑	*i* P	**Pg**	**04 45 18.6**	**-0.7**
MPAG				S	**Sg**	**04 45 24.1**	**-0.6**
MPAG				AML	AML		
	comp=E,2160μm,0.3s						
MPAG				AML	AML		
	comp=N,5330μm,0.4s						
MPAG				AML	AML		
	comp=E,2175μm,0.3s						
MPAG				AML	AML		
	comp=N,5345μm,0.4s						
SSFR	**Montelago di S**	**0.40**	**102**⇓	*e*P	**Pg**	**04 45 18.9**	**-0.7**
SSFR				S	**Sg**	**04 45 24.6**	**-0.4**
SSFR				AML	AML		
	comp=E,5660μm,0.2s						
SSFR				AML	AML		
	comp=N,8680μm,0.3s						
SSFR				AML	AML		
	comp=N,5045μm,0.3s						
SSFR				AML	AML		
	comp=E,4685μm,0.3s						
FSSB	**Fossombrone**	**0.42**	**66**	P	**Pg**	**04 45 19.3**	**-0.7**
FSSB				S	**Sb**	**04 45 25.7**	**-1.3**
FSSB				AML	AML		
	comp=E,4850μm,0.3s						
FSSB				AML	AML		
	comp=N,8375μm,1.5s						
FOSV	**Fossato di Vic**	**0.43**	**121**	⇓P	**Pg**	**04 45 19.8**	**-0.5**
FOSV				S	**Sb**	**04 45 26.5**	**-1.0**
FOSV				AML	AML		
	comp=N,1014μm,0.5s						
FOSV				AML	AML		
	comp=E,840μm,0.4s						
FOSV				AML	AML		
	comp=N,1016μm,0.5s						
ASQU	**Asqua**	**0.43**	**310**	⇓P	**Pg**	**04 45 20.0**	**-0.3**
ASQU				S	**Sb**	**04 45 27.4**	**-0.2**
ASQU				AML	AML		
	comp=E,1004μm,1.1s						
ASQU				AML	AML		
	comp=N,1140μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.44**	**140**	P	**Pg**	**04 45 20.1**	**-0.2**
ATCC				S	**Sb**	**04 45 27.2**	**-0.4**
ATCC				AML	AML		
	comp=N,3225μm,1.5s						
ATCC				AML	AML		
	comp=E,5685μm,0.5s						
ATCC				AML	AML		
	comp=N,3230μm,1.5s						
SFI	**Santa Sofia**	**0.48**	**323**	P	**Pg**	**04 45 20.7**	**-0.5**
SFI				S	**Sb**	**04 45 28.6**	**-0.3**
SFI				AML	AML		
	comp=E,1620μm,0.4s						
SFI				AML	AML		
	comp=N,812μm,0.5s						
SFI				AML	AML		
	comp=N,896μm,0.6s						
SFI				AML	AML		
	comp=E,1515μm,0.4s						
SFI				AML	AML		
	comp=N,900μm,0.6s						
ARVD	**Arcevia**	**0.50**	**92**	⇓P	**Pg**	**04 45 20.9**	**-0.6**
ARVD				S	**Sb**	**04 45 28.5**	**-0.9**
ARVD				AML	AML		
	comp=N,1260μm,0.8s						
ARVD				AML	AML		
	comp=E,1375μm,1.6s						
MMUR	**Monte Murano**	**0.55**	**98**	*e*P	**Pg**	**04 45 21.9**	**-0.6**
MMUR				S	**Sb**	**04 45 30.0**	**-0.8**
COR1	**Corinaldo**	**0.56**	**78**	P	**Pg**	**04 45 22.2**	**-0.3**
COR1				S	**Sb**	**04 45 31.1**	**+0.2**
COR1				AML	AML		
	comp=E,3140μm,0.8s						
COR1				AML	AML		
	comp=N,3235μm,0.6s						
COR1				AML	AML		
	comp=E,1720μm,0.4s						
COR1				AML	AML		
	comp=N,2505μm,0.5s						
ASSB	**Assisi San Ben**	**0.56**	**148**	⇓P	**Pg**	**04 45 22.2**	**-0.4**
ASSB				S	**Sb**	**04 45 30.6**	**-0.6**
ASSB				AML	AML		
	comp=E,1242μm,1.0s						
ASSB				AML	AML		
	comp=N,1435μm,0.3s						
SNTG	**Esanatoglia**	**0.57**	**118**	⇓P	**Pg**	**04 45 22.1**	**-0.6**
SNTG				S	**Sb**	**04 45 30.9**	**-0.4**
SNTG				AML	AML		
	comp=E,682μm,0.9s						
SNTG				AML	AML		
	comp=N,719μm,0.7s						
SNTG				AML	AML		
	comp=E,682μm,0.9s						
PESA	**Pesaro**	**0.60**	**45**	⇑P	**Pg**	**04 45 22.7**	**-0.6**
PESA				AML	AML		
	comp=E,1605μm,0.3s						
PESA				AML	AML		
	comp=N,1230μm,0.6s						
MGAB	**Montegabbione**	**0.62**	**190**⇑	*e*P	**Pg**	**04 45 23.7**	**0.0**
MGAB				S	**Sb**	**04 45 33.5**	**+0.8**
MGAB				AML	AML		
	comp=N,3770μm,0.4s						
MGAB				AML	AML		
	comp=N,3975μm,0.4s						
MGAB				AML	AML		
	comp=E,3535μm,1.2s						
MGAB				AML	AML		
	comp=E,3945μm,0.9s						
RUFI	**Rufina**	**0.63**	**301**⇓	*i* P	**Pg**	**04 45 23.6**	**-0.3**
RUFI				S	**Sg**	**04 45 32.8**	**+0.6**
RUFI				AML	AML		
	comp=E,1375μm,0.5s						
RUFI				AML	AML		
	comp=N,1173μm,0.5s						
EL6	**Elcito**	**0.65**	**107**	P	**Pg**	**04 45 23.5**	**-0.8**
EL6				AML	AML		
	comp=E,982μm,0.5s						
EL6				AML	AML		
	comp=N,1500μm,0.5s						
LMD	**Lutirano**	**0.68**	**325**⇓	*e*P	**Pg**	**04 45 24.2**	**-0.7**
LMD				S	**Sb**	**04 45 34.5**	**-0.1**
LMD				AML	AML		
	comp=E,1033μm,0.3s						
LMD				AML	AML		
	comp=N,948μm,1.3s						
CESI	**CESI - Serrava**	**0.70**	**137**⇓	*e*P	**Pg**	**04 45 24.6**	**-0.7**
CESI				S	**Sb**	**04 45 35.0**	**-0.2**
CESI				AML	AML		
	comp=E,470μm,0.8s						
CESI				AML	AML		
	comp=N,357μm,0.5s						
CESI				AML	AML		
	comp=E,469μm,0.8s						
CING	**Cingoli**	**0.70**	**102**⇓	*e*P	**Pg**	**04 45 24.5**	**-0.8**
CING				S	**Sb**	**04 45 35.0**	**-0.2**
CING				AML	AML		
	comp=N,830μm,0.8s						
CING				AML	AML		
	comp=E,498μm,0.4s						
SACS	**San Casciano d**	**0.72**	**201**⇑	*e*P	**Pg**	**04 45 25.4**	**-0.2**
SACS				S	**Sb**	**04 45 36.9**	**+1.3**
SACS				AML	AML		
	comp=N,1014μm,1.2s						
SACS				AML	AML		
	comp=E,610μm,0.6s						
SACS				AML	AML		
	comp=N,1012μm,1.2s						
SACS				AML	AML		
	comp=E,568μm,0.6s						
SACS				AML	AML		
	comp=N,1012μm,1.2s						
SACS				AML	AML		
	comp=N,1016μm,1.2s						
SACS				AML	AML		
	comp=E,610μm,0.6s						
SENI	**Senigallia**	**0.74**	**75**	⇓P	**Pb**	**04 45 26.1**	**-0.1**
SENI				AML	AML		
	comp=E,9080μm,0.4s						
SENI				AML	AML		
	comp=E,1375μm,1.0s						
SENI				AML	AML		
	comp=N,2060μm,0.4s						
SENI				AML	AML		
	comp=N,2065μm,0.4s						
SENI				AML	AML		
	comp=E,9085μm,0.4s						
SENI				AML	AML		
	comp=N,7420μm,0.4s						
SENI				AML	AML		
	comp=E,1372μm,1.0s						
MOMA	**Monte Martano**	**0.75**	**162**	P	**Pg**	**04 45 25.9**	**-0.4**
MOMA				S	**Sb**	**04 45 37.0**	**+0.3**
MOMA				AML	AML		
	comp=N,1825μm,0.3s						
MOMA				AML	AML		
	comp=E,2025μm,1.5s						
MOMA				AML	AML		
	comp=N,1950μm,0.3s						
MOMA				AML	AML		
	comp=N,1820μm,0.3s						
MOMA				AML	AML		
	comp=E,1940μm,1.5s						
FDMO	**Fiordimonte**	**0.78**	**128**⇓	*e*P	**Pg**	**04 45 25.9**	**-0.9**
SEI	**Scarperia**	**0.84**	**310**	P	**Pg**	**04 45 27.5**	**-0.4**
SEI				S	**Sb**	**04 45 40.5**	**+1.3**
SEI				AML	AML		
	comp=E,1175μm,0.4s						
SEI				AML	AML		
	comp=N,1470μm,0.5s						
MCIV	**Monte Civitell**	**0.85**	**210**	P	**Pg**	**04 45 27.9**	**-0.2**
MCIV				AML	AML		
	comp=E,209μm,0.6s						
MCIV				AML	AML		
	comp=N,185μm,0.4s						
ARCI	**Arcidosso**	**0.88**	**221**	P	**Pg**	**04 45 28.1**	**-0.5**
ARCI				AML	AML		
	comp=E,184μm,1.4s						
ARCI				AML	AML		
	comp=N,440μm,0.8s						
IMOL	**Imola, Italy**	**0.92**	**336**	*e*P	**Pn**	**04 45 30.6**	**+0.5**
IMOL				S	**Sn**	**04 45 45.0**	**+2.0**
NRCA	**Norcia**	**0.93**	**137**	P	**Pg**	**04 45 28.7**	**-1.0**
NRCA				AML	AML		
	comp=E,480μm,0.5s						
NRCA				AML	AML		
	comp=N,424μm,0.6s						
CESX	**Cesi**	**0.94**	**165**	P	**Pg**	**04 45 29.2**	**-0.6**
CESX				S	**Sb**	**04 45 42.3**	**+0.3**
CESX				AML	AML		
	comp=E,1170μm,0.4s						
CESX				AML	AML		
	comp=N,1126μm,1.4s						
CRMI	**Carmignano**	**0.97**	**287**	P	**Pg**	**04 45 30.1**	**-0.2**
CRMI				S	**Sg**	**04 45 43.2**	**+0.2**
CRMI				AML	AML		
	comp=N,206μm,0.8s						
CRMI				AML	AML		
	comp=E,146μm,0.5s						
AOI	**Ancona**	**0.98**	**88**	*e*P	**Pb**	**04 45 30.1**	**-0.3**
AOI				S	**Sn**	**04 45 45.1**	**+0.4**
PP3	**Marolino**	**1.00**	**98**	*e*P	**Pn**	**04 45 33.5**	**+2.3**
PP3				S	**Sn**	**04 45 47.1**	**+2.1**
MTRZ	**Monterenzio**	**1.03**	**327**	*e*P	**Pb**	**04 45 31.3**	**+0.1**
TRIF	**Trifonti**	**1.06**	**248**	⇑P	**Pb**	**04 45 31.6**	**-0.2**
TRIF				AML	AML		
	comp=E,218μm,0.7s						
TRIF				AML	AML		
	comp=N,244μm,0.6s						
AQT1	**Arquata del Tr**	**1.07**	**134**	*e*P	**Pg**	**04 45 31.2**	**-1.0**
SMA1	**SAN MARTINO**	**1.19**	**138**	⇓P	**Pg**	**04 45 35.7**	**+1.1**
POPM	**Popiglio**	**1.20**	**296**	⇑P	**Pn**	**04 45 33.7**	**-0.3**
POPM				AML	AML		
	comp=E,216μm,0.7s						
POPM				AML	AML		
	comp=N,198μm,0.8s						
ZCCA	**Zocca**	**1.24**	**312**	⇑P	**Pg**	**04 45 37.1**	**+1.6**
CASP	**Castiglione de**	**1.25**	**235**	⇑P	**Pn**	**04 45 33.5**	**-1.2**
CASP				AML	AML		
	comp=E,89μm,0.6s						
CASP				AML	AML		
	comp=N,71μm,0.8s						
PII	**Pisa**	**1.27**	**280**	⇓P	**Pg**	**04 45 36.0**	**0.0**
PII				AML	AML		
	comp=E,413μm,0.3s						
PII				AML	AML		
	comp=N,424μm,0.4s						
GUMA	**Gualdo di Mace**	**1.31**	**110**	P	Pn	04 45 29.6	-6.0
MAIM	**Mastiano**	**1.34**	**288**	⇑P	**Pn**	**04 45 35.5**	**-0.3**
MAIM				AML	AML		
	comp=N,178μm,0.5s						
MAIM				AML	AML		
	comp=E,204μm,0.5s						
AQU	**L'Aquila**	**1.44**	**144**	⇓P	**Pb**	**04 45 37.8**	**-0.4**
AQU				AML	AML		
	comp=N,260μm,0.9s						
AQU				AML	AML		
	comp=E,232μm,1.1s						
AQU				AML	AML		
	comp=N,206μm,1.5s						
AQU				AML	AML		
	comp=E,252μm,0.9s						
T0110	**Collepietro**	**1.71**	**139**	P	**Pg**	**04 45 45.5**	**+1.0**
DUGI	**Dugi Otok**	**2.09**	**76**	*e*Pn	**Pn**	**04 45 46.5**	**+0.3**
DUGI				Sn	**Sn**	**04 46 12.0**	**0.0**
MSSA	**Maissana**	**2.13**	**293**	⇑P	**Pn**	**04 45 46.7**	**-0.2**
MSSA				S	**Sn**	**04 46 14.0**	**+0.8**
MSSA				AML	AML		
	comp=E,56μm,0.3s						
MSSA				AML	AML		
	comp=N,56μm,0.5s						
NVLJ	**Novalja**	**2.16**	**60**	*e*Pn	**Pn**	**04 45 47.3**	**+0.2**
SKDS	**Skadanscina**	**2.39**	**31**	*i* Pn	**Pn**	**04 45 49.8**	**-0.5**
SALO	**Salr**	**2.43**	**330**	⇓P	**Pb**	**04 45 53.5**	**-1.7**
ZIRJ	**Zirje**	**2.47**	**86**	*e*Pn	**Pn**	**04 45 52.0**	**+0.6**
ZIRJ				Sn	**Sn**	**04 46 22.1**	**+0.8**
KNDS	**Knezji Dol**	**2.52**	**36**	*i* Pn	**Pn**	**04 45 52.1**	**-0.1**
KNDS				*e*Sn	**Sn**	**04 46 24.6**	**+1.9**
MORI	**Morici**	**2.53**	**81**	*e*Pn	**Pn**	**04 45 53.7**	**+1.5**
MORI				Sn	**Sn**	**04 46 23.3**	**+0.4**
SABO	**M.te Sabotino**	**2.64**	**21**	⇑P	**Pn**	**04 45 53.8**	**0.0**
SABO				AML	AML		
	comp=N,116μm,0.7s						
SABO				AML	AML		
	comp=E,102μm,0.4s						
JAVS	**Javornik**	**2.70**	**28**	*i* Pn	**Pn**	**04 45 54.3**	**-0.4**
JAVS				*e*Sn	**Sn**	**04 46 28.1**	**+0.8**
CEY	**Cerknica**	**2.71**	**34**	*i* Pn	**Pn**	**04 45 54.5**	**-0.3**
CEY				*i* Sn	**Sn**	**04 46 29.1**	**+1.8**
UDBI	**Udbina**	**2.73**	**67**	*e*Pn	**Pn**	**04 45 56.5**	**+1.4**
UDBI				Sn	**Sn**	**04 46 28.5**	**+0.7**
STAL	**STALIGIAL**	**2.76**	**7**	⇓P	**Pn**	**04 45 55.9**	**+0.4**
STAL				AML	AML		
	comp=N,76μm,0.8s						
STAL				AML	AML		
	comp=E,101μm,1.0s						
MABI	**Malga Bissina**	**2.82**	**335**	⇓P	**Pn**	**04 45 58.5**	**+2.0**
CADS	**Cadrg**	**2.91**	**21**	*i* Pn	**Pn**	**04 45 57.4**	**-0.1**
LJU	**Ljubljana**	**3.00**	**32**	⇑P	**Pn**	**04 45 59.1**	**+0.4**
LJU				AML	AML		
	comp=E,257μm,0.4s						
LJU				AML	AML		
	comp=N,331μm,0.6s						
KIJV	**Kijevo**	**3.05**	**79**	*e*Pn	**Pn**	**04 46 00.5**	**+1.1**
KIJV				Sn	**Sn**	**04 46 36.5**	**+0.8**
HVAR	**Hvar**	**3.08**	**95**	*e*Pn	**Pn**	**04 46 00.7**	**+0.9**
HVAR				Sn	**Sn**	**04 46 36.7**	**+0.2**
ROTM	**Rocchetta Tana**	**3.10**	**297**	S	**Sg**	**04 46 49.0**	**-2.3**
ABTA	**Abfaltersbach**	**3.23**	**3**	*e*Pn	**Pn**	**04 46 02.8**	**+0.8**
	comp=N,0.6nm,0.2s,SNR=6.7						
ABTA				*e*Sn	**Sn**	**04 46 40.9**	**+0.6**
	comp=N,13nm,0.7s						
MYKA	**Terra Mystica**	**3.26**	**17**	*i* Pn	**Pn**	**04 46 02.6**	**+0.2**
	comp=N,0.5nm,0.2s						
ABSI	**Aberstueckl**	**3.28**	**349**	⇑P	**Pn**	**04 46 04.6**	**+1.9**
MUGIO	**Muggio**	**3.32**	**317**	⇓P	**Pn**	**04 46 04.4**	**+1.2**
MUGIO				AML	AML		
	comp=E,20μm,0.4s						
MUGIO				AML	AML		
	comp=N,18μm,1.2s						
OBKA	**Obir**	**3.40**	**28**	*e*Pn	**Pn**	**04 46 03.9**	**-0.5**
	comp=N,1.5nm,0.2s						
LSTV	**Lastovo**	**3.48**	**101**	*e*Pn	**Pn**	**04 46 05.9**	**+0.6**
LSTV				Sn	**Sn**	**04 46 46.1**	**-0.1**
SBF	**Sospel**	**3.51**	**277**	*e*Pn	**Pn**	**04 46 05.5**	**-0.3**
SBF	**Sospel**	**3.51**	**277**	*e*P	**Pn**	**04 46 07.5**	**+1.7**
SBF				*e*Sn	**Sn**	**04 46 46.6**	**-0.6**
	comp=N,5.3nm,0.3s						
TUE	**Stuetta**	**3.60**	**326**	⇑P	**Pn**	**04 46 09.5**	**+2.3**
KBA	**Koelnbreinsper**	**3.64**	**12**	*e*Pn	**Pn**	**04 46 08.6**	**+0.9**
	comp=N,1.1nm,0.2s,SNR=5.6						
FETA	**Feichten**	**3.66**	**343**	*e*Pn	**Pn**	**04 46 10.2**	**+2.3**
	comp=N,1.9nm,0.3s,SNR=7.6						
SOKA	**Soboth**	**3.72**	**31**	*e*Pn	**Pn**	**04 46 09.0**	**+0.2**
	comp=N,0.3nm,0.2s						
WTTA	**Wattenberg**	**3.77**	**354**	*e*Pn	**Pn**	**04 46 12.2**	**+2.7**
	comp=N,1.2nm,0.2s						
WTTA				*e*Sn	**Sn**	**04 46 56.4**	**+2.7**
	comp=N,3.9nm,0.5s						
WTTA	**Wattenberg**	**3.77**	**354**	⇑P	**Pn**	**04 46 13.1**	**+3.7**
SQTA	**Sankt Quirin**	**3.77**	**349**	*e*Pn	**Pn**	**04 46 12.4**	**+2.9**
	comp=N,5.5nm,0.2s,SNR=6.8						
WATA	**Walderalm**	**3.85**	**353**	*i* Pn	**Pn**	**04 46 13.5**	**+3.0**
	comp=N,2.0nm,0.2s,SNR=6.8						
WATA				*e*Sn	**Sn**	**04 46 59.7**	**+4.2**
	comp=N,1.6nm,0.3s						
MOTA	**Moosalm**	**3.91**	**348**	*e*Pn	**Pn**	**04 46 14.2**	**+2.9**
	comp=N,3.0nm,0.4s,SNR=12						
MOTA				*e*Sn	**Sn**	**04 47 01.5**	**+4.3**
	comp=N,3.1nm,0.5s						
STON	**Ston**	**4.04**	**97**	*e*Pn	**Pn**	**04 46 14.5**	**+1.6**
STON				Sn	**Sn**	**04 47 00.1**	**+0.2**
FRF	**La Foret Royal**	**4.08**	**272**	*e*Pn	**Pn**	**04 46 13.5**	**0.0**
FRF				*e*Sn	**Sn**	**04 47 00.4**	**-0.6**
	comp=N,1.5nm,0.2s						
DAVA	**Damuels**	**4.12**	**337**	*e*Pn	**Pn**	**04 46 17.5**	**+3.3**
	comp=N,2.2nm,0.3s,SNR=4.9						
DAVA				*e*Sn	**Sn**	**04 47 05.9**	**+3.6**
	comp=N,3.4nm,0.3s						
MBDF	**Montbardon**	**4.13**	**289**	*e*Pn	**Pn**	**04 46 13.5**	**-0.8**
MBDF	**Montbardon**	**4.13**	**289**	*e*P	**Pn**	**04 46 17.5**	**+3.1**
LMR	**La Mourre**	**4.19**	**269**	*e*Pn	**Pn**	**04 46 15.0**	**0.0**
LMR				*e*Sn	**Sn**	**04 47 01.6**	**-2.1**
	comp=N,0.8nm,0.2s						
ARSA	**Arzberg**	**4.38**	**31**	*e*Pn	**Pn**	**04 46 17.2**	**-0.6**
	comp=N,0.7nm,0.3s						
ARSA				*e*Sn	**Sn**	**04 47 09.6**	**+1.0**
	comp=N,1.0nm,0.3s						
LPG	**La Plagne**	**4.40**	**299**	*e*Pn	**Pn**	**04 46 18.5**	**+0.2**
LPL	**La Plagne**	**4.42**	**299**	*e*Pn	**Pn**	**04 46 18.7**	**+0.2**
LPL	**La Plagne**	**4.42**	**299**	*e*P	**Pn**	**04 46 21.3**	**+2.8**
LPL				*e*Sn	**Sn**	**04 47 06.2**	**-3.7**
	comp=N,1.5nm,0.3s						
MOA	**Molln**	**4.55**	**17**	*i* Pn	**Pn**	**04 46 21.1**	**+1.0**
	comp=N,2.3nm,0.2s,SNR=12						
MOA				*e*Sn	**Sn**	**04 47 13.5**	**+0.7**
	comp=N,4.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.79**	**289**	*e*Pn	**Pn**	**04 46 22.9**	**-0.5**
ORIF	**Oris-en-Rattie**	**4.79**	**289**	*e*P	**Pn**	**04 46 25.0**	**+1.6**
ORIF				*e*Sn	**Sn**	**04 47 14.9**	**-3.8**
	comp=N,2.8nm,0.5s						
SMRF	**Simiane la Rot**	**4.86**	**278**	*e*Pn	**Pn**	**04 46 24.9**	**+0.6**
SMRF	**Simiane la Rot**	**4.86**	**278**	*e*P	**Pn**	**04 46 27.2**	**+2.9**
SMRF				*e*Sn	**Sn**	**04 47 17.5**	**-2.9**
	comp=N,1.7nm,0.4s						
CONA	**Conrad Observa**	**5.08**	**29**	*e*Pn	**Pn**	**04 46 26.9**	**-0.5**
	comp=N,0.8nm,0.3s						
CONA				*e*Sn	**Sn**	**04 47 25.0**	**-0.9**
	comp=N,1.1nm,0.3s						
CABF	**La Chapelle**	**5.35**	**307**	*e*Pn	**Pn**	**04 46 30.6**	**-0.5**
CABF	**La Chapelle**	**5.35**	**307**	*e*P	**Pn**	**04 46 34.0**	**+2.9**
CABF				*e*Sn	**Sn**	**04 47 31.0**	**-1.5**
	comp=N,2.7nm,0.7s						
CKRC	**Cesky Krumlov**	**5.49**	**14**	*e*PN	**Pn**	**04 46 34.1**	**+1.1**
CKRC				*e*SN	**Sn**	**04 47 36.3**	**+0.4**
VIVF	**Saint-Julien-l**	**5.61**	**286**	*e*Pn	**Pn**	**04 46 32.6**	**-2.0**
VIVF	**Saint-Julien-l**	**5.61**	**286**	*e*P	**Pn**	**04 46 37.4**	**+2.8**
KHC	**Kasperske Hory**	**5.69**	**9**	*e*PN	**Pn**	**04 46 35.5**	**-0.2**
KHC				*e*SN	**Sn**	**04 47 40.5**	**-0.2**
HINF	**Hinteralfeld**	**5.72**	**321**	*e*Pn	**Pn**	**04 46 35.5**	**-0.7**
HINF	**Hinteralfeld**	**5.72**	**321**	*e*P	**Pn**	**04 46 38.6**	**+2.4**
HINF				*e*Sn	**Sn**	**04 47 38.2**	**-3.5**
	comp=N,4.8nm,0.5s						
CDF	**Champ du Feu**	**6.00**	**326**	*e*Pn	**Pn**	**04 46 40.9**	**+0.9**
CDF	**Champ du Feu**	**6.00**	**326**	*e*P	**Pn**	**04 46 42.7**	**+2.7**
CDF				*e*Sn	**Sn**	**04 47 45.5**	**-2.9**
	comp=N,3.2nm,0.6s						
HAU	**Haudompre**	**6.10**	**319**	*e*Pn	**Pn**	**04 46 40.4**	**-0.9**
HAU	**Haudompre**	**6.10**	**319**	*e*P	**Pn**	**04 46 44.9**	**+3.6**
HAU				*e*Sn	**Sn**	**04 47 49.7**	**-1.1**
	comp=N,5.4nm,0.5s						
LASF	**Ste Croix**	**6.10**	**278**	*e*Pn	**Pn**	**04 46 40.1**	**-1.3**
SMF	**Signal de Mont**	**6.72**	**301**	*e*Pn	**Pn**	**04 46 47.8**	**-2.1**
SMF	**Signal de Mont**	**6.72**	**301**	*e*P	**Pn**	**04 46 53.3**	**+3.4**
SFTF	**Sexfontaines**	**6.88**	**315**	*e*Pn	**Pn**	**04 46 51.0**	**-1.0**
SFTF	**Sexfontaines**	**6.88**	**315**	*e*P	**Pn**	**04 46 56.1**	**+4.1**
	baz=142						

JMA ***05*** *04:50:24.1±0.1,24°.62N×122°.81E,h106km±1km,M1.9*
TAP ***05*** *04:50:24.6,24°.61N×122°.95E,h54km±1km,ML2.8,D*
ISC 05 04:50:26.7±1.4,**24°.63N**±0°.06×**122°.82E**±0°.03,**h75**km±9km,
n42,σ1°**47**/63,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.22**	**147**	P	**Pn**	**04 50 39.2**	**+1.2**
JYNG				S	**Sn**	**04 50 50.4**	**+4.2**
YOJ	**Yonaguni jima**	**0.25**	**134**	P	**Pn**	**04 50 39.2**	**+1.1**
YOJ				*e*S	**Sn**	**04 50 50.4**	**+3.9**
YOJ	**Yonaguni jima**	**0.25**	**134**	*e*P	**Pn**	**04 50 33.5**	**-4.6**
	baz=162						
YOJ				*e*S	**Sn**	**04 50 39.8**	**-6.8**
	baz=162						
TWC	**Suao**	**0.88**	**269**	*e*P	**Pn**	**04 50 43.7**	**-0.3**
	baz=269						
TWC				*e*S	**Sn**	**04 50 57.3**	**+0.4**
	baz=269						
IRIF	**Iriomote-Funau**	**0.88**	**109**	P	**Pn**	**04 50 43.8**	**-0.2**
IRIF				*e*S	**Sn**	**04 50 58.9**	**+1.9**
NTC	**Toucheng**	**0.92**	**284**	*e*S	**Sn**	**04 50 58.4**	**+0.6**
	baz=283						
TIPB	**Shuangxi**	**0.96**	**291**	*e*P	**Pn**	**04 50 44.4**	**-0.6**
	baz=289						
TIPB				*e*S	**Sn**	**04 50 58.8**	**+0.1**
	baz=289						
NDS	**Dongshan**	**1.00**	**270**	*e*S	**Sn**	**04 50 60.0**	**+0.5**
	baz=271						
JKRS	**Kuro-shima**	**1.16**	**110**	P	**Pn**	**04 50 47.2**	**-0.2**
JKRS				*e*S	**Sn**	**04 51 04.8**	**+1.9**
NDT	**Datong Townshi**	**1.19**	**269**	*e*P	**Pn**	**04 50 47.4**	**-0.4**
	baz=269						
NDT				*e*S	**Sn**	**04 51 04.4**	**+0.8**
	baz=269						
NWLT	**Wulai**	**1.20**	**277**	*e*P	**Pn**	**04 50 47.9**	**-0.1**
	baz=277						
NACB	**Ninganchiao**	**1.20**	**248**	*e*P	**Pn**	**04 50 47.0**	**-0.9**
	baz=250						
NACB				*e*S	**Sn**	**04 51 04.0**	**0.0**
	baz=250						
JIJ	**Ishigaki jima**	**1.24**	**102**	P	**Pn**	**04 50 47.7**	**-0.7**
JIJ				*e*S	**Sn**	**04 51 05.9**	**+1.2**
TWD	**Chiawan**	**1.24**	**244**	*e*S	**Sn**	**04 51 05.1**	**+0.3**
	baz=246						
ETLH	**Xiulin Townshi**	**1.29**	**251**	*e*S	**Sn**	**04 51 06.3**	**+0.3**
	baz=253						
YHNB	**Yeheng**	**1.31**	**272**	*e*P	**Pn**	**04 50 49.0**	**-0.4**
	baz=272						
YHNB				*e*S	**Sn**	**04 51 06.7**	**+0.2**
	baz=272						
JISG	**Ishigakijimahi**	**1.36**	**92**	*e*S	**Sn**	**04 51 06.7**	**-0.8**
FUSS	**Fushou**	**1.48**	**255**	*e*P	**Pn**	**04 50 51.6**	**-0.2**
	baz=257						
FUSS				*e*S	**Sn**	**04 51 11.3**	**+0.5**
	baz=257						
WHF	**Hehuan Shan**	**1.50**	**251**	*e*P	**Pn**	**04 50 51.5**	**-0.7**
	baz=253						
WHF				*e*S	**Sn**	**04 51 10

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
	baz=248							
NSTT	Nanjuang	1.65	270	*e*S		Sn	04 51 14.1	-0.3
	baz=270							
HGSD	Ruisui	1.71	229	*e*P		Pn	04 50 54.5	0.0
	baz=231							
HGSD				*e*S		Sn	04 51 15.7	+0.1
	baz=231							
JTJ	Tarama	1.72	89	P		Pn	04 50 53.8	-0.8
JTJ				S		Sn	04 51 15.9	0.0
WHP	Taichung City	1.74	259	*e*P		Pn	04 50 55.8	+0.7
	baz=259							
WHP				*e*S		Sn	04 51 17.2	+0.6
	baz=259							
WCS	Beigang Elemen	1.83	252	*e*P		Pn	04 50 56.3	+0.2
	baz=253							
WCS				*e*S		Sn	04 51 19.5	+0.9
	baz=253							
YULB	Yu-li	1.86	229	*e*P		Pn	04 50 55.3	-1.3
	baz=231							
EYUL	Yuli	1.87	227	*e*P		Pn	04 50 56.5	-0.3
	baz=229							
EYUL				*e*S		Sn	04 51 19.9	+0.3
	baz=229							
TWF1	Yuli	1.89	228	*e*P		Pn	04 50 56.5	-0.5
	baz=230							
SMLT	Sun Moon Lake	1.90	247	*e*P		Pn	04 50 57.5	+0.3
	baz=248							
TYC	Yuchr	1.93	248	*e*P		Pn	04 50 57.6	+0.1
	baz=249							
TYC				*e*S		Sn	04 51 21.7	+0.8
	baz=249							
FULB	Fuli	2.00	225	*e*S		Sn	04 51 22.2	-0.4
	baz=227							
ALS	Alishan	2.15	239	*e*P		Pn	04 51 00.8	0.0
	baz=240							
EDH	Donghe	2.16	220	*e*S		Sn	04 51 25.1	-1.3
	baz=222							
CHN5	Tsauling	2.21	243	*e*S		Sn	04 51 29.2	+1.4
	baz=244							
STYH	Taoyuan	2.37	232	*e*S		Sn	04 51 31.7	+0.2
	baz=234							
CHN4	Tsaushan	2.40	238	*e*P		Pn	04 51 04.0	+0.2
	baz=239							
TPUB	Ta-pu	2.40	237	*e*P		Pn	04 51 04.0	+0.1
	baz=238							
WTP	Ta-pu	2.44	236	*e*P		Pn	04 51 04.7	+0.2
	baz=237							

BJI ***05*** *05:07:46.0±0.0, 22°.30S×171°.70E, h111km, mB5.1/32, mb5.4/64*
NEIC ***05*** *05:07:47.3±1.9, 22°.38S±0°.07×171°.75E±0°.07, h99km±4km, mb5.3/242, Error ellipse: s-maj=10.8km s-min=9.8km az=154.0*
NOU ***05*** *05:07:48.9, 22°.26S×171°.69E, h112km, mB5.7, Southeast of Loyalty Islands*
MOS ***05*** *05:07:49.0±1.2, 22°.27S×171°.65E, h128km, mb5.2/45, Error ellipse: s-maj=7.9km s-min=7.2km az=90.7*
GCMT ***05*** *05:07:49.3±0.2, 22°.39S±0°.01×171°.66E±0°.01, h117km±1km, MW5.2/120, Moment Tensor Solution. s84,c115; s120,c190; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}3.71±.13; $M_{\theta\theta}$-5.29±.16; $M_{\phi\phi}$1.58±.16; $M_{r\theta}$3.65±.11; $M_{\theta\phi}$4.09±.17; $M_{\phi r}$2.61±.09; Best double couple: $M_0$7.68000×10^{16} NP1:ϕ_s330.00000°, δ48.00000°, λ151.00000°. NP2:ϕ_s80.00000°, δ69.00000°, λ46.00000°. Principal axes: T 7.6790, Plg47.0000°, Azm304.0000°; N 0.0030, Plg41.0000°, Azm100.0000°; P -7.6810, Plg12.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***05*** *05:07:50.6±1.9, 22°.31S×171°.68E, h133km±16km, mb4.8/29, mb1 4.8/32, mb1mx4.8/37, mbtmp5.1/32, MS3.7/14, Ms1 3.7/14, ms1mx3.6/18 Error ellipse: s-maj=11.3km s-min=9.8km az=132.0*

ISC 05 05:07:46.5±0.2, 22°.37S±0°.04×171°.75E±0°.05, h100km, n997, σ1°10/1031, mb5.3/225, 173C-71D, Fault plane solution: NP1:ϕ_s67.16238°, δ47.25014°, λ37.02481°. NP2:ϕ_s310.05118°, δ63.75686°, λ130.81656°. Principal axes: T Plg52.4341°, Azm269.3481°; N Plg35.8925°, Azm109.1491°; P Plg9.6317°, Azm12.0947°; **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MARNC	Mare, Loyalty	3.57	284			Pn	05 08 40.9	+1.0
MARNC	Mare, Loyalty	3.57	284	P		Pn	05 08 41.1	+1.2
PINNC	Pines Island,	3.99	266			Pn	05 08 46.9	+1.3
PINNC	Pines Island,	3.99	266	P		Pn	05 08 47.2	+1.6
LIFNC	LIFOU	4.49	290	Pn		Pn	05 08 52.3	0.0
LIFNC	LIFOU	4.49	290	P		Pn	05 08 52.8	+0.5
YATNC	Mamie plateau,	4.52	273	P		Pn	05 08 53.1	+0.4
OUENC	Ouen Island, N	4.55	268			Pn	05 08 54.4	+1.3
OUENC	Ouen Island, N	4.55	268	P		Pn	05 08 54.4	+1.3
ONTNC	Ouen Toro	4.91	270	Pn		Pn	05 08 59.4	+1.4
ONTNC	Ouen Toro	4.91	270	P		Pn	05 08 59.6	+1.6
NOUC	Port Laguerre	5.06	272	P		Pn	05 09 01.2	+1.2
KOUNC	Koumac, New Ca	7.19	283	P		Pn	05 09 31.0	+2.0
NFK	Norfolk Island	7.49	207	P		Pn	05 09 34.8	+1.9
	baz=7.6,SNR=48							
NFK	Norfolk Island	7.49	207	P		Pn	05 09 35.0	+2.0
MSVF	Nonsavu	7.50	53	P		Pn	05 09 37.0	+3.7
	2.2nm,0.3s,baz=196,slow=9.7,SNR=39							
MSVF	Nonsavu	7.50	53	Pn		Pn	05 09 36.5	+3.2
MSVF	Nonsavu	7.50	53	P		Pn	05 09 37.1	+3.7
SANVU	Saraoutou	8.12	327			Pn	05 09 43.0	+1.4
OUZ	Omahuta	12.91	173	Pn		Pn	05 10 46.9	+0.7
LHI	Lord Howe Isla	14.52	228			Pn	05 11 07.6	+0.4
WIAZ	Waiheke Island	14.67	169	P		P	05 11 13.0	+0.5
FUNA	Funafuti	15.51	29	Pn		Pn	05 11 20.3	+0.5
FUNA				IAmb		IAmb	05 11 25.2	
	comp=Z,248nm,1.5s							
HAZ	Te Kaha	16.19	163	P		P	05 11 32.0	+2.6
HIZ	Hauiti	16.31	171	P		P	05 11 30.1	-0.6
HIZ				IAmb		IAmb	05 11 35.8	
	comp=Z,195nm,1.1s							
RUGZ	Raukumara Rang	16.36	163	P		P	05 11 34.3	+2.9
PKGZ	Pakihiroa	16.40	162	P		P	05 11 35.0	+3.3
WMGZ	Waiomatatini S	16.43	161	P		P	05 11 35.4	+3.3
URZ	Urewera	16.50	165	P		P	05 11 34.8	+2.1
	comp=Z,5.8nm,0.3s,baz=339,slow=3.7,SNR=51							
URZ	Urewera	16.50	165			P	05 11 32.8	+0.1
URZ				IAmb		IAmb	05 11 36.6	
	comp=Z,123nm,0.8s							
URZ	Urewera	16.50	165	P		P	05 11 35.9	+3.2
TWGZ	Tauwhareparae	16.64	163	P		P	05 11 38.0	+3.6
MWZ	Matawai	16.67	164	P		P	05 11 37.3	+2.6
TKGZ	Te Karaka	16.85	163	P		P	05 11 39.5	+2.9
CNGZ	Carnagh Statio	16.99	162	P		P	05 11 40.9	+2.7
RAHZ	Arahi	17.11	166	P		P	05 11 43.1	+3.5
HNR	Honiara	17.14	317	P		P	05 11 41.6	+1.6
	comp=Z,25nm,0.3s,baz=233,slow=4.6,SNR=9.6							
HNR	Honiara	17.14	317			P	05 11 39.8	-0.3
BKZ	Black Stump Fm	17.23	167	P		P	05 11 41.3	+0.4
BKZ				IAmb		IAmb	05 11 45.6	
	comp=Z,153nm,1.0s							
NIUE	Niue	17.45	83	P		P	05 11 41.8	-1.6
NIUE				IAmb		IAmb	05 11 58.5	
	comp=Z,288nm,1.4s							
MCHZ	McNeill Hill	17.54	167	P		Pn	05 11 45.3	+0.7
QRZ	Quartz Range	18.41	178	P		Pn	05 11 54.5	-0.6
QRZ				IAmb		IAmb	05 11 59.6	
	comp=Z,252nm,1.3s							
BFZ	Birch Farm	18.65	169	P		P	05 11 57.0	+0.5
NNZ	Nelson	18.84	176	P		Pn	05 11 59.9	-0.3
SNZO	South Karori	19.05	173	P		Pn	05 12 02.0	-0.6
SNZO				IAmb		IAmb	05 12 30.4	
	comp=Z,213nm,1.2s							
TUWZ	Tuamarina	19.10	175	P		Pn	05 12 03.1	0.0
EIDS	Eidsvold	19.14	257	P		Pn	05 12 03.6	-0.3
	baz=19,SNR=54							
EIDS	Eidsvold	19.14	257	P		Pn	05 12 04.2	+0.4
EIDS				IAmb		IAmb	05 12 09.0	
	comp=Z,183nm,0.8s							
BHW	Baring Head	19.17	173	P		Pn	05 12 03.0	-1.0
MSWZ	Moikau Station	19.22	172	P		P	05 12 02.6	-0.1
THZ	Tophouse	19.36	177	P		Pn	05 12 06.5	+0.1
THZ				IAmb		IAmb	05 12 07.6	
	comp=Z,100nm,0.7s							
PLWZ	Palliser	19.37	172	P		P	05 12 04.9	+0.5
BSWZ	Blackbirch Sta	19.37	175	P		Pn	05 12 05.6	-0.8
ARMA	Armidale	19.71	242	P		Pn	05 12 09.8	-0.8
	baz=20,SNR=33							
ARMA	Armidale	19.71	242	P		Pn	05 12 09.5	-1.1
KHZ	Kahutara	20.05	176	P		P	05 12 12.4	+0.8
KHZ				IAmb		IAmb	05 12 14.8	
	comp=Z,140nm,0.7s							
LTZ	Lake Taylor	20.36	179	P		Pn	05 12 16.8	-1.2
OXZ	Oxford	20.90	179	P		P	05 12 21.8	+1.0
OXZ				IAmb		IAmb	05 12 33.3	
	comp=Z,133nm,0.8s							
FOZ	Fox Glacier	21.17	184	P		P	05 12 25.1	+1.5
FOZ				IAmb		IAmb	05 12 27.4	
	comp=Z,246nm,1.2s							
MGCD	Mangrove Creek	21.18	235	P		P	05 12 25.3	+1.4
	baz=21,SNR=17							
MQZ	McQueen's Vall	21.30	178	P		P	05 12 25.1	+0.2
RPZ	Rata Peaks	21.30	181	P		P	05 12 26.7	+1.6
RPZ				IAmb		IAmb	05 12 28.5	
	comp=Z,241nm,1.1s							
RMQ	Roma	21.33	254	P		P	05 12 28.2	+2.6
	baz=21,SNR=53							
RIV	Riverview	21.42	233	P		P	05 12 28.2	+1.8
	baz=22,SNR=5.0							
CNB	Canberra Magne	23.41	232	P		P	05 12 47.4	+0.6
	baz=24,SNR=22							
WHZ	Wether Hill Ro	23.67	187	P		P	05 12 50.4	+1.5
CAN	Canberra	23.68	232	P		P	05 12 49.8	+0.6
CAN				pmax		pmax		
	comp=Z,29nm,0.8s							
CAN	Canberra	23.68	232	P		P	05 12 49.8	+0.6
YNG	Young	23.69	235	P		P	05 12 51.1	+1.9
	baz=24,SNR=10							
CTA	Charters Tower	23.87	271	P		P	05 12 51.8	+0.8
	comp=Z,34nm,0.5s,baz=93,slow=11,SNR=55							
CTAO	Charters Tower	23.87	271	P		P	05 12 51.1	+0.1
CTAO				pmax		pmax		
	comp=Z,46nm,1.1s							
CTAO	Charters Tower	23.87	271	P		P	05 12 51.0	+0.1
MILA	Mila	24.40	228	P		P	05 12 57.6	+2.0
	baz=24,SNR=4.7							
CMSA	Cobar Meteorol	24.91	243	P		P	05 13 01.3	+1.0
	baz=25,SNR=59							
KNTN	Kanton	25.23	42	P		P	05 13 03.5	+0.2
KNTN				IAmb		IAmb	05 13 06.4	
	comp=Z,204nm,1.3s							
KNTN	Kanton	25.23	42	P		P	05 13 04.6	+1.3
QLP	Quilpie	25.37	255	P		P	05 13 05.4	+0.9
	baz=25,SNR=4.7							
MTSU	Mount Surprise	26.07	274	P		P	05 13 12.0	+1.1
	baz=26,SNR=267							
PMG	Port Moresby	26.88	295	P		P	05 13 18.5	+0.3
	comp=Z,77nm,0.8s,baz=108,slow=8.4,SNR=14							
PMG	Port Moresby	26.88	295	P		P	05 13 18.1	-0.1
PMG				IAmb		IAmb	05 13 19.2	
	comp=Z,91nm,1.0s							
PMG	Port Moresby	26.88	295	P		P	05 13 18.8	+0.6
PMG	Port Moresby	26.88	295	P		P	05 13 18.8	+0.6
TOO	Toolangi	27.21	230	P		P	05 13 23.2	+2.1
	baz=27,SNR=4.0							
TOO	Toolangi	27.21	230	P		P	05 13 21.5	+0.5
TOO				pmax		pmax		
	comp=Z,34nm,1.4s							
TOO	Toolangi	27.21	230	P		P	05 13 21.5	+0.5
STKA	Stephens Creek	28.39	244	P		P	05 13 32.4	+0.9
	comp=Z,30nm,0.7s,baz=85,slow=10,SNR=53							
STKA				PcP		PcP	05 16 42.2	+0.5
	comp=Z,4.9nm,0.7s,baz=161,slow=4.6,SNR=4.4							
STKA				LR		LR	05 23 12.2	
	comp=Z,157nm,20.9s,baz=68,slow=32							
STKA	Stephens Creek	28.39	244	P		P	05 13 31.9	+0.4
ARPS	Mount Arapiles	29.57	234	P		P	05 13 42.8	+0.9
	baz=30,SNR=7.4							
QIS	Mount Isa	29.95	267	P		P	05 13 45.2	-0.2
	baz=30,SNR=14							
MANU	Manus Island	31.14	307	P		P	05 13 55.9	-0.1
MANU				IAmb		IAmb	05 13 57.2	
	comp=Z,41nm,0.7s							
PATS	Pohnpei	31.87	334	P		P	05 14 02.5	+0.2
BBOO	Buckleboo	33.16	244	P		P	05 14 13.9	+0.3
	baz=33,SNR=23							
BBOO	Buckleboo	33.16	244	P		P	05 14 13.2	-0.3
WR0	Warramunga Arr	34.73	267	P		P	05 14 26.2	-1.0
WR0				IAmb		IAmb	05 14 27.1	
	comp=Z,40nm,0.8s							
AS31	Alice Springs	34.80	260	P		P	05 14 27.8	0.0
AS31				IAmb		IAmb	05 14 28.8	
	comp=Z,48nm,0.8s							
ASAR	Alice Springs	34.80	260	P		P	05 14 27.8	-0.1
	comp=Z,117nm,0.8s,baz=86,slow=9.1,SNR=822							
ASAR				PcP		PcP	05 16 59.1	-0.1
	comp=Z,6.1nm,0.9s,baz=105,slow=3.3,SNR=4.7							
ASAR				S		S	05 19 49.9	-1.5
	comp=Z,2.0nm,1.0s,baz=83,slow=16,SNR=3.2							
ASAR				ScP		ScP	05 20 32.1	-3.5
	comp=Z,1.0nm,0.9s,baz=100,slow=4.1,SNR=1.8							
ASAR	Alice Springs	34.80	260	P		P	05 14 27.4	-0.4
WB0	Warramunga Arr	34.90	267	P		P	05 14 27.8	-1.0
WB2	Warramunga Arr	34.91	267	P		P	05 14 27.7	-1.1
WB2				IAmb		IAmb	05 14 28.2	
	comp=Z,39nm,0.6s							
WRAB	Tennant Creek	34.91	267	*c iP*		P	05 14 27.3	-1.5
WRAB				pmax		pmax		
	comp=Z,84nm,1.7s							
WRAB	Tennant Creek	34.91	267	P		P	05 14 27.7	-1.2
WRAB				IAmb		IAmb	05 14 30.2	
	comp=Z,34nm,0.6s							
WRA	Warramunga Arr	34.92	267	P		P	05 14 27.9	-1.0
	comp=Z,25nm,0.4s,baz=96,slow=8.5,SNR=437							
WRA				PcP		PcP	05 16 59.3	-0.3
	comp=Z,5.2nm,0.8s,baz=93,slow=3.0,SNR=4.2							
WRA				S		S	05 19 49.7	-3.6
	comp=Z,1.6nm,0.8s,baz=96,slow=14,SNR=3.3							
WRA	Warramunga Arr	34.92	267	P		P	05 14 27.0	-2.0
GENI	Geneyem	36.42	298	P		P	05 14 42.2	+0.5
	comp=Z,4μmcomp=Z,273nm,1.s							
PPT	Papeete	36.59	90	LR		LR	05 26 05.5	
	comp=Z,138nm,20.8s,baz=284,slow=30							
KDU	Kakadu	38.57	278	P		P	05 14 59.3	-0.6
	baz=39,SNR=16							
MTN	Manton Dam	39.75	277	P		P	05 15 09.0	-0.7
	baz=40,SNR=38							
MTN	Manton Dam	39.75	277	P		P	05 15 09.0	-0.7
WRKA	Warakurna	39.76	257	P		P	05 15 09.7	0.0
	baz=40,SNR=105							
FORT	Forrest	39.77	248	P		P	05 15 09.7	0.0
	baz=40,SNR=61							
FORT	Forrest	39.77	248	P		P	05 15 09.6	0.0
BAKI	Biak	40.55	296	P		P	05 15 17.9	+1.6
	comp=Z,2μmcomp=Z,277nm,0.9s							
KNRA	Kununurra	41.08	272	P		P	05 15 20.2	-0.4
	baz=41,SNR=36							
KNRA	Kununurra	41.08	272	P		P	05 15 20.2	-0.4
FAKI	Fak Fak	42.91	291	P		P	05 15 35.3	-0.3
FAKI	Fak Fak	42.91	291	P		P	05 15 36.8	+1.2
	comp=Z,2μmcomp=Z,108nm,1.4s							
SWI	Sorong	44.80	293	P		P	05 15 50.6	-0.1
	comp=Z,2μmcomp=Z,264nm,1.0s							
SOEI	Soe	47.13	278	P		P	05 16 09.2	0.0
SOEI	Soe	47.13	278	P		P	05 16 10.5	+1.3
	comp=Z,110nm,0.9s							
NLAI	Namlea	47.26	287	P		P	05 16 11.1	+1.1
	comp=Z,2μmcomp=Z,101nm,1.3s							
BATI	Baumata	47.53	277	P		P	05 16 14.2	+2.0
	comp=Z,82nm,0.9s							
PSA00	Pilbara Seismi	47.95	261	P		P	05 16 15.2	-0.1
PSA00	Pilbara Seismi	47.95	261	P		P	05 16 14.5	-0.8
PSA00				IAmb		IAmb	05 16 16.2	
	comp=Z,87nm,1.4s							
MEEK	Meekatharra	48.26	254	P		P	05 16 17.3	-0.4
	baz=48,SNR=89							
KLBR	Kellerberrin	48.58	247	P		P	05 16 19.6	-0.4
	baz=49,SNR=91							
SANI	Sanana	48.79	288	P		P	05 16 22.3	+0.4
	comp=Z,2μmcomp=Z,280nm,0.8s							
NWAO	Narrogin (SRO)	48.96	245	P		P	05 16 22.7	-0.2
	baz=49,SNR=33							
NWAO	Narrogin (SRO)	48.96	245	P		P	05 16 23.0	0.0
NWAO				pmax		pmax		
	comp=Z,91nm,0.8s							
NWAO	Narrogin (SRO)	48.96	245	P		P	05 16 23.0	0.0
MMRI	Maumere	49.41	278	P		P	05 16 25.2	-1.4
MMRI	Maumere	49.41	278	P		P	05 16 27.2	+0.6
	comp=Z,198nm,0.8s							
BLDU	Ballidu	49.54	248	P		P	05 16 26.8	-0.5
	baz=50,SNR=80							
EDFI	Ende, Flores	49.87	278	P		P	05 16 30.2	0.0
	comp=Z,440nmcomp=Z,43nm,0.9s							
MUN	Mundaring	49.88	246	P		P	05 16 29.7	-0.2
	baz=50,SNR=19							
MORW	Morawa	50.26	250	P		P	05 16 32.5	-0.3
	baz=50,SNR=53							
MORW	Morawa	50.26	250	P		P	05 16 32.5	-0.3
BASI	Baing, Sumba	50.36	275	P		P	05 16 35.8	+2.0
	comp=Z,3μmcomp=Z,241nm,1.0s							
WBSI	Waikabubak, Su	51.66	275	P		P	05 16 43.9	+0.3
	comp=Z,1μmcomp=Z,129nm,1.1s							
LUWI	Luwuk	52.10	287	P		P	05 16 47.4	+0.6
MLH	Mauna Loa	52.55	40	P		P	05 16 50.7	+0.4
HMH	Humu'ula Sheep	52.58	40	P		P	05 16 51.5	+1.0
BKSI	Bulukumba	52.63	281	P		P	05 16 50.7	0.0
	comp=Z,771nmcomp=Z,78nm,0.9s							
GTOI	Gorontalo	52.69	289	P		P	05 16 52.5	+1.4
	comp=Z,836nmcomp=Z,79nm,0.9s							
GIRL	Giralia	52.84	258	P		P	05 16 53.3	+1.1
	baz=53,SNR=9.6							
GIRL	Giralia	52.84	258	P		P	05 16 53.0	+0.9
PTCN	Pitcairn Islan	52.96	105	P		P	05 16 53.5	+0.5
BNSI	Bone	53.02	282	P		P	05 16 54.4	+0.8
	comp=Z,71nm,1.4s							
KAPI	Kappang	53.09	281	P		P	05 16 54.5	+0.4
KAPI				pmax		pmax		
	comp=Z,118nm,1.3s							
KAPI	Kappang	53.09	281	P		P	05 16 54.5	+0.4
APSI	Ampana	53.16	287	P		P	05 16 57.0	+2.4
	comp=Z,1μmcomp=Z,102nm,1.3s							
PLAI	Plampang	53.44	276	P		P	05 16 57.0	+0.4
	comp=Z,1μmcomp=Z,96nm,1.1s							
TTSI	Tana Toraja	53.85	283	P		P	05 17 00.8	+1.2
	comp=Z,806nmcomp=Z,36nm,0.9s							
TWSI	Taliwang, Sumb	54.29	275	P		P	05 17 03.2	+0.3
	comp=Z,579nmcomp=Z,59nm,0.9s							
TOLI2	Tolitoli	54.87	288	P		P	05 17 06.5	-0.6
MPSI	Mapaga	55.28	287	P		P	05 17 10.1	+0.1
	comp=Z,2μmcomp=Z,89nm,1.1s							
VNDA	Vanda	55.41	183	P		P	05 17 11.3	+1.3
	comp=Z,3.0nm,0.6s,baz=355,slow=7.7,SNR=11							
VNDA				PcP		PcP	05 18 09.3	+0.2
	comp=Z,2.4nm,0.7s,baz=21,slow=5.6,SNR=4.4							
VNDA				LR		LR	05 37 06.8	
	comp=Z,82nm,21.5s,baz=22,slow=32							
VNDA	Vanda	55.41	183	P		P	05 17 10.6	+0.6
SBA	Scott Base	55.59	181	P		P	05 17 12.5	+1.2
SBA				pmax		pmax		
	comp=Z,28nm,1.0s							
SBA	Scott Base	55.59	181	P		P	05 17 12.5	+1.2
SBA				IAmb		IAmb	05 17 14.7	
	comp=Z,28nm,0.9s							
JCJ	Chichijima	56.88	328	P		P	05 17 20.4	-0.7
BBKI	Banjar Baru	58.19	280	P		P	05 17 31.5	+0.9
	comp=Z,3μmcomp=Z,66nm,0.8s							
CASY	Casey	58.24	205	P		P	05 17 30.1	-0.1
CASY				IAmb		IAmb	05 17 30.6	
	comp=Z,23nm,0.6s							
RCP	Roxas	58.69	300	‖*e*P		P	05 17 34.4	+0.4
PWJI	Pagerwojo	59.24	274	P		P	05 17 38.1	+0.3
	comp=Z,83nm,0.7s							
PCJI	Pacitan	59.75	274	P		P	05 17 42.2	+0.8
	comp=Z,215nm,0.9s							
UGM	Wanagama	60.46	274	P		P	05 17 44.8	-1.5
UGM	Wanagama	60.46	274	P		P	05 17 46.7	+0.4
	comp=Z,210nm,0.8s							
SMRI	Semarang	60.85	274	P		P	05 17 47.7	-1.2
SMRI	Semarang	60.85	274	P		P	05 17 50.6	+1.7
	comp=Z,117nm,0.9s							
PBKI	Pangkalan Bun	61.39	280	P		P	05 17 54.7	+2.2
	comp=Z,176nm,1.0s							
KPJI	Karang Pucung	62.14	274	P		P	05 17 57.9	+0.4
	comp=Z,71nm,0.7s							
STKI	Sintang	62.71	282	P		P	05 18 02.4	+1.0
	comp=Z,101nm,1.2s							
CISI	Cisompet, Garu	63.09	273	P		P	05 18 03.1	-0.9
CISI				IAmb		IAmb	05 18 04.4	
	comp=Z,56nm,1.1s							
CISI	Cisompet, Garu	63.09	273	P		P	05 18 03.7	-0.3
	comp=Z,51nm,1.0s							
CBJI	Citeko	64.39	274	P		P	05 18 12.0	-0.4
	comp=Z,6μmcomp=Z,113nm,0.9s							
DBJI	Dramaga	64.44	273	P		P	05 18 12.9	+0.1
	comp=Z,7μmcomp=Z,246nm,1.0s							
JOW	Kunigami	64.51	317	P		P	05 18 12.8	-0.1
JOW				IAmb		IAmb	05 18 14.2	
	comp=Z,50nm,1.0s							
JSG	Sagara	65.08	330	P		P	05 18 16.8	+0.4
CGJI	Cibinong	65.39	273	P		P	05 18 18.3	-0.6
	comp=Z,2μmcomp=Z,194nm,0.9s							
JYT	Yasato	65.47	332	P		P	05 18 18.7	-0.2
INU	Inuyama	66.18	329	P		P	05 18 23.3	-0.2
INU				IAmb		IAmb	05 18 24.7	
	comp=Z,41nm,1.0s							
JGF	Kuroka	66.22	330	P		P	05 18 23.2	-0.6
BLSI	Bandar Lampung	66.26	274	P		P	05 18 24.1	-0.4
	comp=Z,119nm,0.4s							
JMN	Monobe	66.43	326	P		P	05 18 25.5	+0.3
JSU	Suzuyama	66.59	322	P		P	05 18 25.9	-0.4
MJAR	Matsushiro Arr	66.61	331	P		P	05 18 25.6	-0.6
	comp=Z,14nm,0.6s,baz=161,slow=7.8,SNR=68							
MJAR	Matsushiro Arr	66.61	331	P		P	05 18 25.6	-0.6
MJAR				IAmb		IAmb	05 18 27.0	
	comp=Z,21nm,0.7s							
MAJO	Matsushiro	66.61	331	*c iP*		P	05 18 25.5	-0.8
MAJO				pmax		pmax		
	comp=Z,32nm,1.1s							
MAJO	Matsushiro	66.61	331	P		P	05 18 25.4	-0.8
MAJO				IAmb		IAmb	05 18 27.0	
	comp=

comp=Z,17nm,0.9s
TJN Taejon 71.92 324 *c iP* **P 05 18 58.6 -0.3**
KSRS Korea Array 72.41 325 P **P 05 19 02.2 +0.4**
comp=Z,40nm,0.8s,baz=144,slow=6.0,SNR=194
KSAR Wonju Array Be 72.42 325 P **P 05 19 02.5 +0.6**
KSAR Wonju Array Be 72.42 325 P **P 05 19 02.5 +0.6**
KS19 Wonju Array Si 72.47 325 P **P 05 19 02.6 +0.4**
KS19 IAmb IAmb 05 19 03.3
comp=Z,58nm,0.9s
INCN Inchon 73.12 324 P **P 05 19 08.0 +1.9**
INCN pmax pmax
comp=Z,88nm,0.8s
INCN Inchon 73.12 324 P **P 05 19 08.0 +1.9**
QIZ Qiongzhong 73.16 299 P **P 05 19 07.6 +0.9**
AMKA Amchitka 73.72 5 P **P 05 19 09.8 +0.5**
YSS Yuzh-Sakhalins 73.80 340⇑ *iP* **P 05 19 11.0 +1.2**
YSS pmax pmax
comp=Z,90nm,0.9s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS Yuzh-Sakhalins 73.80 340 P **P 05 19 11.3 +1.4**
MNSI Mandailing Nat 73.85 278 P **P 05 19 09.7 -1.2**
comp=Z,910nmcomp=Z,82nm,0.7s
NJ2 Nanjing 74.08 315⇑P **P 05 19 12.2 +0.4**
NJ2 pmax pmax
comp=Z,82nm,0.9s
KIWB Kanaga Island 74.54 7 P **P 05 19 14.6 +0.6**
MSHR Mys Shultsa 74.69 330⇑ *eP* **P 05 19 15.3 +0.2**
MSHR pmax pmax
comp=Z,21nm,0.8s
SMY Shemya 74.80 1 P **P 05 19 15.9 +0.4**
SMY pmax pmax
comp=Z,115nm,1.2s
SMY Shemya 74.80 1 P **P 05 19 15.9 +0.4**
GSTR Great Sitkin T 74.91 8 P **P 05 19 16.3 +0.1**
ATKA Atka Island 75.26 9 P **P 05 19 17.8 -0.3**
SKLT Songkhla 75.52 284 P **P 05 19 22.7 +2.2**
comp=Z,106nm,1.0s
USA0B Ussuriysk Arra 75.59 332 P **P 05 19 20.3 +0.1**
USA0B pmax pmax
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 75.59 332 P **P 05 19 20.2 +0.1**
USRK Ussuriysk Ar. 75.59 332 P **P 05 19 20.4 +0.2**
comp=Z,6.5nm,0.7s,baz=116,slow=4.4,SNR=18
USRK LR LR 05 48 20.2
comp=Z,39nm,21.4s,baz=120,slow=32
USRK Ussuriysk Ar. 75.59 332 P **P 05 19 20.2 0.0**
GSI Gunungsitoli 75.89 277 P **P 05 19 22.2 -0.5**
GSI IAmb IAmb 05 19 25.2
comp=Z,40nm,0.8s
GSI Gunungsitoli 75.89 277 P **P 05 19 23.4 +0.7**
comp=Z,54nm,0.8s
PET Petropavlovsk 75.93 352 *e*P **P 05 19 20.5 -1.4**
PET *e**PP **pwP 05 19 48.6 -1.7**
PET *e**SP **sP 05 20 02.6 +5.4**
PET *e*S **S 05 28 53.9 -2.5**
PET *e*PS **PnS 05 29 50.5 +3.5**
PET *e*SS **SS 05 33 51.8 +0.2**
PET pmax pmax
comp=Z,67nm,1.2s
PEA0B Petropavlovsk- 76.14 351 *c iP* **P 05 19 23.1 -0.1**
PEA0B Petropavlovsk- 76.14 351 P **P 05 19 23.6 +0.5**
PEA0B IAmb IAmb 05 19 24.6
comp=Z,60nm,1.0s
PETK Petropavlovsk- 76.14 351 P **P 05 19 22.6 -0.5**
comp=Z,34nm,0.8s,baz=170,slow=9.8,SNR=81
PETK LR LR 05 47 05.2
comp=Z,65nm,21.5s,baz=143,slow=31
PETK Petropavlovsk- 76.14 351 P **P 05 19 23.1 -0.1**
PETK Petropavlovsk- 76.14 351 P **P 05 19 23.1 -0.1**
WHN Wuhan 76.18 312⇑P **P 05 19 23.7 -0.2**
WHN pmax pmax
comp=Z,88nm,0.7s
MAW Mawson 76.43 202 P **P 05 19 25.4 +0.6**
comp=Z,15nm,0.7s,baz=121,slow=6.0,SNR=55
MAW LR LR 05 47 40.6
comp=Z,36nm,20.8s,baz=58,slow=31
MAW Mawson 76.43 202 P **P 05 19 25.2 +0.5**
baz=76,SNR=39
MAW Mawson 76.43 202 P **P 05 19 25.4 +0.6**
NIKH Nikolski High 76.89 12 P **P 05 19 27.4 0.0**
baz=198,SNR=32
NIKH Nikolski High 76.89 12 P **P 05 19 27.5 +0.1**
DL2 Dalian 76.92 322 P **P 05 19 28.2 +0.3**
DL2 pmax pmax
comp=Z,110nm,1.0s
MDJ Mudanjiang 76.99 331 P **P 05 19 28.3 +0.2**
MDJ S **S 05 29 12.5 +4.2**
MDJ pmax pmax
comp=Z,22nm,1.3s
MDJ pmax pmax
comp=Z,140nm,4.3s
MDJ LR LR
comp=Z,230nm,34.5s
MDJ Mudanjiang 76.99 331 P **P 05 19 28.0 -0.1**
TYV Tymovskoe 77.30 342 *eP* **P 05 19 30.3 +0.6**
TYV pmax pmax
comp=Z,23nm,1.6s
TIA Tai'an 77.83 318⇑P **P 05 19 33.1 0.0**
TIA pmax pmax
comp=Z,220nm,0.7s
SURT Suratani 77.91 285 P **P 05 19 36.4 +2.4**
comp=Z,3.3nm,1.1s
NONG Nongkai 78.19 295 P **P 05 19 35.9 +0.4**
comp=Z,2μmcomp=Z,58nm,1.1s
AKUT Akutan 78.61 13 P **P 05 19 36.3 -0.6**
AKUT IAmb IAmb 05 19 38.0
comp=Z,49nm,0.8s
PHET Kaeng Krachan 78.87 289 P **P 05 19 41.4 +2.2**
comp=Z,997nmcomp=Z,101nm,1.0s
SLVN Son La 79.13 298 P **P 05 19 41.3 +0.6**
GRNR Gornyy 79.21 338⇑ *iP* **P 05 19 41.3 +1.0**
GRNR pmax pmax
comp=Z,20nm,0.8s
ENH Enshi 79.46 309 P **P 05 19 41.6 -0.6**
GYA Guiyang 79.52 304⇓P **P 05 19 43.2 +0.5**
KLR Kul'dur 79.68 335 P **P 05 19 43.3 +0.4**
comp=Z,5.0nm,0.5s,baz=178,slow=4.0,SNR=18
KLR Kul'dur 79.68 335 *c iP* **P 05 19 43.0 +0.1**
KLR pmax pmax
comp=Z,21nm,1.6s
FALS False Pass 79.80 14 P **P 05 19 43.7 +0.4**
baz=203
PHIT Phitsanulok 80.10 293 P **P 05 19 47.5 +1.7**
comp=Z,79nm,1.1s
UTHA Uthaitani 80.20 291 P **P 05 19 47.9 +1.5**
comp=Z,997nmcomp=Z,123nm,0.9s
UTTA Uttaradit 80.23 294 P **P 05 19 48.1 +1.6**
comp=Z,20nm,0.9s
SPIA Saint Paul Isl 80.67 10 P **P 05 19 48.3 +0.4**
baz=197
BJT Baijiatuau 80.83 320 P **P 05 19 49.5 +0.3**
BJT pmax pmax
comp=Z,50nm,1.0s
BJT Baijiatuau 80.83 320 P **P 05 19 49.5 +0.3**
BJT IAmb IAmb 05 19 50.6
comp=Z,50nm,1.0s
BJI Beijing 80.84 320 P **P 05 19 49.6 +0.3**
BJI S **S 05 29 52.1 +2.7**
BJI pmax pmax
comp=Z,62nm,0.9s
BJI pmax pmax
comp=Z,210nm,4.0s
SDPT Sand Point 80.95 16 P **P 05 19 48.5 -1.1**
baz=206
SDPT Sand Point 80.95 16 P **P 05 19 49.3 -0.2**
UMPA Umpang Tak 80.99 292 P **P 05 19 52.3 +1.6**
comp=Z,72nm,1.0s
LAMP Lampang 81.36 294 P **P 05 19 54.3 +1.7**
comp=Z,529nmcomp=Z,53nm,0.8s
TIY Taiyuan 81.72 316 *eP* **P 05 19 55.0 +0.9**
TIY pmax pmax
comp=Z,120nm,0.8s
KMI Kunming 81.91 301⇑P **P 05 19 56.7 +1.1**
KMI pmax pmax
comp=Z,41nm,1.2s
KMI Kunming 81.91 301 P **P 05 19 57.6 +2.0**
KMI Kunming 81.91 301 P **P 05 19 57.6 +2.0**
CMAR Chiang Mai Arr 81.92 294 P **P 05 19 56.3 +0.8**
comp=Z,16nm,0.9s,baz=135,slow=4.1,SNR=47
CMAR LR LR 05 58 16.8
comp=Z,12nm,18.6s,baz=189,slow=37
CMAR Chiang Mai Arr 81.92 294 *ceP* **P 05 19 57.0 +1.5**
CMAR pmax pmax
comp=Z,17nm,0.9s
CMAR Chiang Mai Arr 81.92 294 P **P 05 19 56.6 +1.1**
XAN Xi'an 81.94 312 P **P 05 19 55.8 +0.4**
XAN sP sP 05 20 36.5 +5.6
XAN pmax pmax
comp=Z,96nm,1.0s
XAN pmax pmax
comp=Z,290nm,3.6s
XAN Xi'an 81.94 312 P **P 05 19 55.8 +0.4**
XAN Xi'an 81.94 312 P **P 05 19 55.8 +0.4**
CMMT Chiang Mai 82.07 294 P **P 05 19 57.5 +1.2**
comp=Z,41nm,1.2s
CHTO Chiang Mai 82.08 294 P **P 05 19 56.9 +0.5**
CHTO pmax pmax
comp=Z,65nm,1.3s
CHTO Chiang Mai 82.08 294 P **P 05 19 57.5 +1.2**
comp=Z,41nm,1.2s
CHTO Chiang Mai 82.08 294 P **P 05 19 56.9 +0.5**
CHTO IAmb IAmb 05 19 58.7
comp=Z,65nm,1.3s
SYO Syowa Base 82.58 196⇑ *eP* **P 05 19 57.4 -0.7**
SYO Syowa Base 82.58 196⇓ *ePcP* **PcP 05 20 02.5 -0.4**
MHMT Maesarieng 82.65 293 P **P 05 20 02.2 +2.9**
comp=Z,1μmcomp=Z,47nm,1.1s
PMSA Palmer Station 83.17 159 P **P 05 20 01.1 -0.1**
PMSA IAmb IAmb 05 20 02.2
comp=Z,30nm,0.8s
PMSA Palmer Station 83.17 159 *eP* **P 05 20 01.3 +0.1**
MA2 Magadan 83.44 349 *ceP* **P 05 20 01.1 -1.4**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MA2 Magadan 83.44 349 P **P 05 20 00.9 -1.5**
CD2 Chengdu 83.99 307 P **P 05 20 06.9 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.4s
HHC Hu-ho-hao-te 84.11 319⇑ *iP* **P 05 20 07.2 +0.7**
HHC pmax pmax
comp=Z,82nm,0.9s
HHC pmax pmax
comp=Z,84nm,5.7s
OHAK Old Harbor 84.54 18 P **P 05 20 08.7 +0.7**
baz=212
OHAK Old Harbor 84.54 18 P **P 05 20 08.2 +0.2**
BTO Baotou 84.92 318 *eP* **P 05 20 10.9 +0.3**
BTO pmax pmax
comp=Z,81nm,0.8s
ZEA Zeya 84.96 335⇑ *eP* **P 05 20 10.5 +0.2**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.6s
HIA Hailar 84.99 329 P **P 05 20 09.8 -0.8**
HIA pmax pmax
comp=Z,15nm,1.2s
HIA Hailar 84.99 329 P **P 05 20 09.8 -0.8**
KDAK Kodiak Island 85.22 18 P **P 05 20 12.2 +0.7**
comp=Z,18nm,0.9s,baz=162,slow=6.0,SNR=9.6
KDAK Kodiak Island 85.22 18 IAmb IAmb 05 20 12.5
comp=Z,24nm,1.1s
SNCC San Nicolas Is 85.70 52 P **P 05 20 14.8 +0.3**
baz=240
SAO San Andreas Ge 86.14 48 P **P 05 20 17.1 +0.6**
SAO pmax pmax
comp=Z,20nm,1.1s
SAO San Andreas Ge 86.14 48 P **P 05 20 17.1 +0.6**
SNAA Sanae 86.14 182 P **P 05 20 15.0 -1.1**
SNAA Sanae 86.14 182 P **P 05 20 15.1 -1.1**
SNAA pmax pmax
comp=Z,27nm,1.0s
SNAA Sanae 86.14 182 P **P 05 20 15.1 -1.1**
SNAA IAmb IAmb 05 20 16.0
comp=Z,27nm,1.0s
HOPS Hopland Field 86.23 45 P **P 05 20 17.3 +0.4**
HOPS IAmb IAmb 05 20 19.3
comp=Z,39nm,1.2s
O18K Koktuh Hills 86.27 16 P **P 05 20 17.2 +0.5**
baz=210
KCPM Cahto Peak 86.27 44 P **P 05 20 17.5 +0.2**
KCPM IAmb IAmb 05 20 19.8
comp=Z,35nm,0.8s
SCI2 San Clemente I 86.28 52 P **P 05 20 18.6 +1.3**
baz=240
PMPB Monarch Peak 86.30 48 P **P 05 20 17.7 +0.2**
PMPB IAmb IAmb 05 20 19.9
comp=Z,33nm,1.1s
GDXM Geysers 86.31 45 P **P 05 20 18.0 +0.5**
PKM Mcpherson Peak 86.31 50 P **P 05 20 18.8 +1.1**
baz=240,SNR=5.6
SEY Seymchan 86.39 351 P **P 05 20 16.5 -0.6**
comp=Z,34nm,0.7s,baz=156,slow=4.5,SNR=126
SMMC Simmler 86.40 50 P **P 05 20 19.0 +1.1**
baz=239
PAGB Antelope Grade 86.43 49 P **P 05 20 18.5 +0.4**
PAGB IAmb IAmb 05 20 20.4
comp=Z,29nm,1.3s
LZH Lanzhou 86.56 311 *eP* **P 05 20 19.9 +1.1**
LZH pP pwP 05 20 47.0 -0.6
LZH sP sP 05 20 58.8 +4.3
LZH pmax pmax
comp=Z,130nm,1.1s
P19K Oil Pt 86.62 17 P **P 05 20 19.4 +1.1**
baz=212
VNA3 Neumayer Olymp 86.64 180 P **P 05 20 17.2 -1.3**
O19K Port Alsworth 86.79 16 P **P 05 20 19.4 +0.3**
baz=211
N18K Kilae Creek 86.82 15 P **P 05 20 19.4 +0.1**
baz=210
KHMM Horse Mountain 86.83 43 P **P 05 20 20.6 +0.6**
KHMM IAmb IAmb 05 20 22.6
comp=Z,25nm,0.8s
OSI Osito Audit: C 86.95 51 P **P 05 20 21.7 +1.0**
baz=240
O02D Mt. Diablo Mer 87.05 44 P **P 05 20 22.6 +1.6**
baz=237,SNR=20
KRMB Red Mountain 87.07 43 P **P 05 20 21.1 0.0**
KRMB IAmb IAmb 05 20 23.7
comp=Z,43nm,1.3s
ARVC Arvin 87.13 50 P **P 05 20 22.3 +0.8**
baz=240
O20K Slope Mountain 87.14 17 P **P 05 20 21.8 +0.8**
baz=213
VNA1 Neumayer--Stat 87.24 180 P **P 05 20 20.4 -1.0**
N19K Bonanza Creek 87.28 16 P **P 05 20 22.3 +0.7**
baz=211
VES Vestal, Richgr 87.31 49 P **P 05 20 22.8 +0.6**
baz=240
VOG Valley Oaks Go 87.34 49 P **P 05 20 22.3 -0.1**
baz=240
BRSE Bradley Lake S 87.39 18 P **P 05 20 23.3 +1.2**
baz=214
WDC Whiskeytown Da 87.43 44 P **P 05 20 23.4 +0.7**
WDC pmax pmax
comp=Z,46nm,1.5s
WDC Whiskeytown Da 87.43 44 P **P 05 20 23.4 +0.7**
WDC IAmb IAmb 05 20 25.0
comp=Z,46nm,1.5s
CMB Columbia Colle 87.52 47 P **P 05 20 23.7 +0.4**
CMB pmax pmax
comp=Z,22nm,1.2s
CMB Columbia Colle 87.52 47 P **P 05 20 23.7 +0.4**
N02D Trinity Center 87.53 44 P **P 05 20 24.7 +1.4**
baz=237,SNR=21
ORV Oroville 87.56 45 P **P 05 20 23.9 +0.5**
ORV pmax pmax
comp=Z,32nm,1.4s
ORV Oroville 87.56 45 P **P 05 20 23.9 +0.5**
ORV IAmb IAmb 05 20 25.4
comp=Z,32nm,1.4s
MURC Murrieta 87.56 52 P **P 05 20 23.8 +0.2**
baz=241
AFDM Forest Hills D 87.59 46 P **P 05 20 23.8 +0.2**
AFDM IAmb IAmb 05 20 25.5
comp=Z,26nm,1.2s
EDW2 Edwards Air Fo 87.61 51 P **P 05 20 24.2 +0.4**
baz=241,SNR=7.3
L02E Cave Junction 87.61 42 P **P 05 20 24.7 +1.2**
baz=237,SNR=5.5
M02C Callahan 87.66 43 P **P 05 20 25.2 +1.3**
baz=237,SNR=20
O03E Paynes Creek 87.75 45 P **P 05 20 24.9 +0.5**
baz=238,SNR=22
MONP2 Monument Peak 87.80 53 P **P 05 20 25.3 +0.3**
baz=242
K02D Willamette Mer 87.86 42 P **P 05 20 25.9 +1.1**
baz=237,SNR=5.3
IKP In-Ko-Pah, Jac 87.92 53 P **P 05 20 26.2 +0.9**
baz=242
YBH Yreka Blue Hor 87.94 43 P **P 05 20 25.7 +0.4**
YBH pmax pmax
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 87.94 43 P **P 05 20 25.7 +0.4**
J01E Myrtle Point 87.95 41 P **P 05 20 26.4 +1.2**
baz=236
SEW Seward 88.05 18 P **P 05 20 26.4 +1.3**
baz=216
PFO Pinyon Flats O 88.11 52 P **P 05 20 26.9 +0.6**
comp=Z,3.6nm,1.1s,baz=250,slow=1.3,SNR=6.0
PFO Pinyon Flats O 88.11 52 P **P 05 20 26.4 +0.1**
baz=242
PFO Pinyon Flats O 88.11 52 P **P 05 20 26.4 +0.1**
TPFO Pinon Flats 88.11 52 P **P 05 20 26.9 +0.5**
baz=242
LRMC Laurel Mtn Rad 88.12 50 P **P 05 20 26.9 +0.6**
baz=241,SNR=7.8
MDPB Devils Postpil 88.20 48 P **P 05 20 27.4 +0.5**
MDPB IAmb IAmb 05 20 28.9
comp=Z,25nm,1.2s
M19K Big River Lodg 88.24 15 P **P 05 20 27.5 +1.4**
baz=211
HUMO Hull Mountain 88.25 42 P **P 05 20 27.6 +0.9**
HUMO IAmb IAmb 05 20 29.1
comp=Z,29nm,1.1s
SWSC Sam W. Stewart 88.28 53 P **P 05 20 27.4 +0.4**
baz=242
O22K Cooper Landing 88.28 18 P **P 05 20 28.1 +1.8**
baz=215
CWC Cottonwood Cre 88.31 49 P **P 05 20 27.6 +0.4**
baz=240
L19K White Mountain 88.37 15 P **P 05 20 28.8 +2.1**
baz=211,SNR=7.1
MLAC Mammoth, Mammo 88.37 48 P **P 05 20 28.0 +0.5**
baz=240
WAKR Walker 88.40 47 P **P 05 20 28.3 +0.6**
WAKR IAmb IAmb 05 20 30.0
comp=Z,42nm,1.2s
L04D Klamath Falls 88.45 43 P **P 05 20 28.5 +0.8**
baz=238,SNR=14
BEKR Beckworth 88.47 46 P **P 05 20 28.6 +0.6**
BEKR IAmb IAmb 05 20 29.9
comp=Z,40nm,1.4s
TIN Tinemaha, Big 88.51 49 P **P 05 20 28.8 +0.7**
baz=240,SNR=7.5
M04C Macdoel 88.51 43 P **P 05 20 29.0 +0.9**
baz=238,SNR=13
I02D Swisshome 88.53 41 P **P 05 20 28.9 +1.1**
baz=237
M20K Styx River 88.54 16 P **P 05 20 29.1 +1.5**
baz=212
PNTR Pine Nut 88.58 46 P **P 05 20 28.5 0.0**
PNTR IAmb IAmb 05 20 30.6
comp=Z,36nm,1.0s
I03D Drain, OR 88.60 41 P **P 05 20 29.0 +0.8**
baz=237
BELC Belle Mtn. Jos 88.63 52 P **P 05 20 29.3 +0.5**
baz=242
VCNR Virginia City 88.66 46 P **P 05 20 29.5 +0.6**
GSC Goldstone, Bar 88.66 51 P **P 05 20 28.7 -0.1**
GSC pmax pmax
comp=Z,17nm,1.4s
GSC Goldstone, Bar 88.66 51 P **P 05 20 29.5 +0.6**
baz=241
GSC Goldstone, Bar 88.66 51 P **P 05 20 28.7 -0.1**
YERR Yerington 88.77 47 P **P 05 20 29.8 +0.4**
YERR IAmb IAmb 05 20 31.3
comp=Z,32nm,1.2s
HEC Hector,Ludlow 88.78 51 P **P 05 20 29.9 +0.5**
baz=242
BC3 Big Chuckawall 88.87 53 P **P 05 20 30.0 +0.1**
baz=242
LHV Little Huntoon 88.91 48 P **P 05 20 30.9 +1.2**
LHV IAmb IAmb 05 20 32.1
comp=Z,33nm,1.1s
PWL Port Wells 88.99 18 P **P 05 20 28.4 -1.2**
PWL IAmb IAmb 05 20 30.3
comp=Z,27nm,1.1s
K04D Chiloquin, OR 89.01 43 P **P 05 20 31.0 +0.7**
baz=238
TNA Tin City 89.02 8 P **P 05 20 31.0 +1.4**
baz=199
SKT Skwentna 89.03 16 P **P 05 20 31.4 +1.6**
baz=214
PAHR Pah Rah Range 89.04 46 P **P 05 20 31.3 +0.8**
PAHR IAmb IAmb 05 20 32.5
comp=Z,32nm,1.0s
GLA Glamis 89.06 54 P **P 05 20 31.5 +0.8**
GLA pmax pmax
comp=Z,26nm,1.3s
GLA Glamis 89.06 54 P **P 05 20 31.4 +0.7**
baz=242
GLA Glamis 89.06 54 P **P 05 20 31.5 +0.8**
GLA IAmb IAmb 05 20 33.0
comp=Z,26nm,1.2s
GRAC Grapevine Rang 89.08 49 P **P 05 20 31.7 +1.0**
baz=241,SNR=7.7
RYN Ryan 89.08 47 P **P 05 20 31.2 +0.4**
RYN IAmb IAmb 05 20 32.7
comp=Z,18nm,1.0s
J04D Umpqua Nationa 89.12 42 P **P 05 20 31.6 +0.7**
baz=238,SNR=6.1
NVAR Mina Array Bea 89.13 48 P **P 05 20 31.9 +0.8**
comp=Z,12nm,0.8s,baz=225,slow=8.5,SNR=103
NVAR PKPPKP **P'P'df 05 46 15.0 -1.3**
comp=Z,0.4nm,0.8s,baz=101,slow=1.8,SNR=4.0
NVAR LR LR 05 54 54.6
comp=Z,46nm,19.4s,baz=248,slow=32
NVAR Mina Array Bea 89.13 48 P **P 05 20 31.6 +0.5**
FURC Furnace Creek, 89.18 50 P **P 05 20 31.9 +0.8**
baz=241
I04A Tendick Farm, 89.23 41 P **P 05 20 31.4 +0.2**
baz=238,SNR=10.0
NV11 Mina Array Sit 89.23 48 P **P 05 20 32.5 +1.0**
NV11 IAmb IAmb 05 20 33.4
comp=Z,26nm,1.1s
GMRC Granite Mounta 89.25 52 P **P 05 20 32.1 +0.4**
baz=242
SHOC Shoshone, Teco 89.33 51 P **P 05 20 32.3 +0.4**
baz=242,SNR=5.3
IRM Iron Mountain 89.33 53 P **P 05 20 32.9 +0.9**
baz=242
PMR Palmer 89.36 18 P **P 05 20 30.4 -0.9**
baz=216
TUQ Turquoise Moun 89.36 51 P **P 05 20 32.2 +0.1**
baz=242
DIB Dawson Inlet, 89.37 30 P **P 05 20 32.5 +1.0**
GLI Glacier Island 89.37 19 P **P 05 20 30.4 -1.0**
baz=218
KNK Knik Glacier 89.40 18 P **P 05 20 31.8 +0.3**
baz=216
H04D Lebanon 89.42 41 P **P 05 20 32.9 +0.9**
baz=237,SNR=7.4
FID Port Fidalgo 89.46 19 P **P 05 20 30.9 -0.9**
FID IAmb IAmb 05 20 31.8
comp=Z,21nm,1.0s
G03D McMinnville, O 89.48 40 P **P 05 20 32.5 +0.3**
baz=237
EYAK Cordova Ski Ar 89.52 20 P **P 05 20 31.6 -0.5**
baz=219
EYAK Cordova Ski Ar 89.52 20 P **P 05 20 31.6 -0.5**
EYAK IAmb IAmb 05 20 32.3
comp=Z,14nm,0.8s
MOD Modoc Plateau 89.56 44 P **P 05 20 33.4 +0.5**
MOD IAmb IAmb 05 20 34.8
comp=Z,27nm,1.1s
MOBC Moresby Island 89.57 30 P **P 05 20 33.5 +0.9**
MOBC IAmb IAmb 05 20 34.8
comp=Z,23nm,1.0s
KVN Kaiserville 89.58 47 P **P 05 20 34.1 +0.9**
KVN pmax pmax
comp=Z,28nm,1.0s
KVN Kaiserville 89.58 47 P **P 05 20 34.1 +0.9**
KVN IAmb IAmb 05 20 34.9
comp=Z,28nm,1.0s
K05A Summer Lake 89.61 43 P **P 05 20 34.5 +1.3**
K05A IAmb IAmb 05 20 35.4
comp=Z,39nm,1.1s
J05D Fort Rock, OR 89.68 42 P **P 05 20 34.4 +0.9**
baz=238,SNR=33
TPH Tonopah 89.70 48 P **P 05 20 34.1 +0.3**
TPH pmax pmax
comp=Z,147nm,1.2s
TPH Tonopah 89.70 48 P **P 05 20 34.1 +0.3**
CUT Chulitna 89.72 17 P **P 05 20 32.0 -0.9**
baz=215
113A Mohawk Valley, 89.72 54 P **P 05 20 34.2 +0.5**

HMT	Hamilton	89.82	20	P	P	05 20 32.7	-0.8
H04A	Detroit Lake	89.84	41	P	P	05 20 33.9	-0.1
TPNV	Topopah Spring	89.84	50	P	P	05 20 34.8	+0.4
TPNV				pmax	pmax		
	comp=Z,20nm,1.1s						
TPNV	Topopah Spring	89.84	50	P	P	05 20 34.9	+0.4
	baz=242,SNR=14						
TPNV	Topopah Spring	89.84	50	P	P	05 20 34.8	+0.4
TPNV				IAmb	IAmb	05 20 36.3	
	comp=Z,20nm,1.1s						
E03A	Lebam	90.03	39	P	P	05 20 35.5	+0.7
SCM	Sheep Creek Mo	90.07	18	P	P	05 20 34.3	-0.4
SCM	Sheep Creek Mo	90.07	18	P	P	05 20 34.3	-0.4
SCM				IAmb	IAmb	05 20 35.2	
	comp=Z,23nm,1.1s						
214A	Organ Pipe Nat	90.08	55	P	P	05 20 35.8	+0.3
	baz=244						
F04D	Rainier, OR	90.10	39	P	P	05 20 36.2	+1.1
	baz=237						
PINE	Pine Mountain	90.13	42	P	P	05 20 36.2	+0.6
PDMCI	Parker Dam,Lak	90.14	53	P	P	05 20 36.2	+0.6
	baz=243						
I05D	Terrebonne, OR	90.17	41	P	P	05 20 36.3	+0.7
	baz=238,SNR=13						
BMRM	Bremner River	90.20	20	P	P	05 20 34.6	-0.7
	baz=220,SNR=7.9						
KLU	Klutina	90.21	19	P	P	05 20 34.6	-0.8
	baz=219,SNR=6.4						
KLU	Klutina	90.21	19	P	P	05 20 35.2	-0.2
KLU				IAmb	IAmb	05 20 35.7	
	comp=Z,14nm,0.9s						
NLWA	Neilton Lookou	90.32	38	P	P	05 20 37.3	+1.1
NLWA				IAmb	IAmb	05 20 38.3	
	comp=Z,19nm,0.9s						
WAX	Waxell Ridge	90.37	21	P	P	05 20 36.2	+0.1
MESA	MESA	90.46	21	P	P	05 20 36.6	-0.1
	baz=222,SNR=7.0						
MESA	MESA	90.46	21	P	P	05 20 36.8	+0.1
KTH	Kantishna Hill	90.50	16	P	P	05 20 35.0	-1.6
WAT1	Susitna Watana	90.53	17	P	P	05 20 36.2	-0.6
	baz=216						
WAT6	Susitna Watana	90.55	18	P	P	05 20 36.2	-0.8
	baz=217,SNR=8.0						
CRAG	Craig	90.55	28	P	P	05 20 36.5	-0.4
	baz=229						
YAK	Yakutsk	90.56	342	P	P	05 20 35.6	-1.2
	comp=Z,10nm,0.5s,baz=43,slow=1.8,SNR=7.3						
YAK	Yakutsk	90.56	342	*de*P	P	05 20 36.2	-0.7
YAK				pmax	pmax		
	comp=Z,33nm,0.7s						
TRF	Thorofare Moun	90.57	16	P	P	05 20 35.8	-1.4
	baz=215						
E04D	Cinebar	90.62	39	P	P	05 20 38.2	+0.7
	baz=238,SNR=6.6						
M24K	Tolsona, Glenn	90.62	18	P	P	05 20 37.3	0.0
	baz=218						
ISLE	Juniper Island	90.65	21	P	P	05 20 37.3	-0.3
ISLE				IAmb	IAmb	05 20 38.0	
	comp=Z,24nm,0.9s						
G05D	Wamic, OR	90.66	41	P	P	05 20 37.5	-0.3
	baz=238						
YAH	Yahtse	90.67	21	P	P	05 20 37.5	-0.3
YAH				IAmb	IAmb	05 20 38.6	
	comp=Z,24nm,0.8s						
SIT	Sitka	90.69	26	P	P	05 20 37.8	+0.3
	baz=228						
W13A	Hualapai Mount	90.69	52	P	P	05 20 39.0	+0.5
N25K	Chitina, Valde	90.70	19	P	P	05 20 37.1	-0.6
	baz=220,SNR=17						
N25K	Chitina, Valde	90.70	19	P	P	05 20 37.2	-0.5
N25K				IAmb	IAmb	05 20 38.1	
	comp=Z,22nm,0.8s						
VRDI	Verde Repeater	90.76	20	P	P	05 20 37.5	-0.6
VRDI				IAmb	IAmb	05 20 37.9	
	comp=Z,12nm,0.7s						
ULN	Ulaanbaatar	90.77	322	*c i*P	P	05 20 37.9	-0.5
ULN				pmax	pmax		
	comp=Z,32nm,0.9s						
ULN	Ulaanbaatar	90.77	322	P	P	05 20 38.2	-0.2
ULN				IAmb	IAmb	05 20 41.0	
	comp=Z,26nm,0.9s						
GLB	Gilahina Butte	90.81	20	P	P	05 20 37.5	-0.7
GLB				IAmb	IAmb	05 20 38.5	
	comp=Z,20nm,0.8s						
Y14A	Wickenburg	90.81	54	P	P	05 20 39.0	+0.1
BBB	Bella Bella	90.82	32	P	P	05 20 37.7	-0.6
	comp=Z,16nm,0.8s,baz=259,slow=5.2,SNR=4.6						
D04E	Lakebay	90.83	38	P	P	05 20 38.8	+0.3
	baz=237						
D03D	Eldon	90.84	38	P	P	05 20 39.4	+0.8
	baz=237,SNR=7.9						
SHL	Shillong	90.88	297	P	P	05 20 39.2	-0.3
SHL				pmax	pmax		
	comp=Z,30nm,0.9s						
SHL	Shillong	90.88	297	P	P	05 20 39.2	-0.3
WVOR	Wild Horse Val	90.89	44	P	P	05 20 39.9	+0.8
WVOR				pmax	pmax		
	comp=Z,30nm,1.3s						
WVOR	Wild Horse Val	90.89	44	P	P	05 20 39.9	+0.8
WVOR				IAmb	IAmb	05 20 41.0	
	comp=Z,30nm,1.2s						
PRN	Pahroc Range	90.90	50	P	P	05 20 40.0	+0.7
PRN				IAmb	IAmb	05 20 41.5	
	comp=Z,20nm,1.0s						
F05D	White Salmon	90.91	40	P	P	05 20 38.9	-0.1
	baz=238						
RND	Reindeer	90.91	17	P	P	05 20 37.1	-1.5
RND				pmax	pmax		
	comp=Z,10.0nm,0.7s						
RND	Reindeer	90.91	17	P	P	05 20 37.1	-1.5
RND				IAmb	IAmb	05 21 01.0	
	comp=Z,9.9nm,0.7s						
TABL	Table Mountain	90.93	21	P	P	05 20 38.9	0.0
TABL				IAmb	IAmb	05 20 39.5	
	comp=Z,28nm,0.9s						
BPAW	Bear Paw Mtn.	90.94	15	P	P	05 20 37.3	-1.4
	baz=214						
R11A	Troy Canyon, C	90.97	49	P	P	05 20 39.8	+0.2
	baz=242,SNR=12						
R11A	Troy Canyon, C	90.97	49	P	P	05 20 39.9	+0.2
GTA	Gaotai	90.97	313	⇑P	P	05 20 39.6	0.0
GTA				pmax	pmax		
	comp=Z,20nm,1.4s						
MCARA	McCarthy VSAT	91.02	20	P	P	05 20 38.5	-0.6
	baz=221						
MCARA	McCarthy VSAT	91.02	20	P	P	05 20 38.7	-0.4
MCARA				IAmb	IAmb	05 20 39.7	
	comp=Z,30nm,1.2s						
SONM	Songino Array	91.12	322	P	P	05 20 39.5	-0.6
	comp=Z,18nm,0.9s,baz=142,slow=4.1,SNR=60						
SONM				LR	LR	06 02 18.4	
	comp=Z,10nm,19.2s,baz=74,slow=36						
SONM	Songino Array	91.12	322	P	P	05 20 39.9	-0.2
SONM				pmax	pmax		
	comp=Z,46nm,1.3s						
SONM	Songino Array	91.12	322	P	P	05 20 39.9	-0.2
HARP	HAARP	91.14	19	P	P	05 20 39.2	-0.5
	baz=219						
MCK	McKinley	91.16	16	P	P	05 20 42.1	+2.4
	baz=216						
LON	Longmire	91.16	39	P	P	05 20 39.8	-0.4
LON				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LON	Longmire	91.16	39	P	P	05 20 39.8	-0.4
I07A	Izee	91.17	42	P	P	05 20 40.7	+0.3
I07A				IAmb	IAmb	05 20 42.2	
	comp=Z,16nm,0.9s						
BARN	Barnard Glacie	91.21	21	P	P	05 20 39.7	-0.5
CTG	Chitna Glacier	91.25	21	P	P	05 20 39.8	-0.6
	baz=223,SNR=7.8						
PGC	Sidney	91.25	37	P	P	05 20 41.1	+0.8
PGC				IAmb	IAmb	05 20 42.1	
	comp=Z,24nm,1.1s						
CTGM	Chitina Glacie	91.25	21	P	P	05 20 40.0	-0.3
CTGM				IAmb	IAmb	05 20 41.0	
	comp=Z,24nm,1.0s						
LOGN	Logan Glacier	91.25	21	P	P	05 20 40.2	-0.2
LOGN				IAmb	IAmb	05 20 41.0	
	comp=Z,16nm,1.0s						
D05A	Enumclaw	91.29	39	P	P	05 20 41.3	+0.7
J08A	Circle Bar Ran	91.45	43	P	P	05 20 41.9	+0.2
J08A				IAmb	IAmb	05 20 43.4	
	comp=Z,16nm,0.9s						
PAX	Paxson	91.50	18	P	P	05 20 40.2	-1.1
	baz=219						
WRAK	Wrangell Islan	91.50	27	P	P	05 20 41.4	0.0
	baz=230						
WRAK	Wrangell Islan	91.50	27	P	P	05 20 41.8	+0.4
WRAK				IAmb	IAmb	05 20 42.4	
	comp=Z,9.4nm,0.8s						
I21K	Tanana	91.60	14	P	P	05 20 41.0	-0.6
	baz=213,SNR=14						
A04D	Lummi Island	91.70	37	P	P	05 20 43.2	+0.7
	baz=237,SNR=6.9						
MLY	Manley	91.77	15	P	P	05 20 41.1	-1.4
	baz=214,SNR=8.0						
MLY	Manley	91.77	15	P	P	05 20 41.5	-1.1
TUC	Tucson	91.78	56	P	P	05 20 44.1	+0.7
TUC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TUC	Tucson	91.78	56	P	P	05 20 43.6	+0.1
	baz=245						
TUC	Tucson	91.78	56	P	P	05 20 44.1	+0.7
B05A	Bryant	91.80	38	P	P	05 20 43.4	+0.4
	baz=238,SNR=5.3						
H21K	Melozitna Rive	91.82	14	P	P	05 20 42.4	-0.3
	baz=212						
NEA2	Nenana	91.82	16	P	P	05 20 42.2	-0.5
	baz=216						
F07A	Phinny Hill Vi	91.83	40	P	P	05 20 43.5	+0.3
F07A				IAmb	IAmb	05 20 44.7	
	comp=Z,12nm,0.6s						
JIS	Juneau Island	91.88	25	P	P	05 20 43.5	+0.5
BESE	Bessie Mountai	91.90	25	P	P	05 20 43.3	0.0
BESE				IAmb	IAmb	05 20 44.8	
	comp=Z,21nm,1.1s						
WRH	Wood River Hil	91.97	16	P	P	05 20 42.3	-1.1
WRH				IAmb	IAmb	05 20 43.1	
	comp=Z,32nm,1.5s						
LCMT	Little Creek M	92.01	51	P	P	05 20 45.1	+0.6
LCMT				IAmb	IAmb	05 20 46.3	
	comp=Z,14nm,1.1s						
LTY	Liberty	92.09	39	P	P	05 20 44.4	-0.1
G08A	Pilot Rock	92.11	41	P	P	05 20 45.0	+0.3
G08A				IAmb	IAmb	05 20 46.1	
	comp=Z,13nm,0.7s						
SPR3	Spring Creek 3	92.14	49	P	P	05 20 45.3	+0.1
SPR3				IAmb	IAmb	05 20 47.4	
	comp=Z,17nm,1.4s						
CCUT	Cedar City	92.16	50	P	P	05 20 45.7	+0.4
CCUT				IAmb	IAmb	05 20 47.5	
	comp=Z,13nm,1.2s						
CCB	Clear Creek Bu	92.19	16	P	P	05 20 43.1	-1.2
CCB				IAmb	IAmb	05 20 43.8	
	comp=Z,9.9nm,0.9s						
X16A	Lo Mia Camp, P	92.19	54	P	P	05 20 45.8	+0.4
X16A				IAmb	IAmb	05 20 47.5	
	comp=Z,12nm,1.1s						
I23K	Minto, Yukon-K	92.20	15	P	P	05 20 43.2	-1.2
	baz=216						
E07A	Sunnyside	92.21	40	P	P	05 20 45.6	+0.6
E07A				IAmb	IAmb	05 20 46.6	
	comp=Z,16nm,0.8s						
HDA	Harding Lake	92.22	17	P	P	05 20 43.2	-1.4
	baz=218,SNR=9.3						
HDA	Harding Lake	92.22	17	P	P	05 20 43.6	-1.0
HDA				IAmb	IAmb	05 20 44.6	
	comp=Z,24nm,1.2s						
PSUT	Pine Spring	92.26	49	P	P	05 20 45.7	0.0
SKAG	Skagway	92.31	24	P	P	05 20 44.5	-0.5
	baz=228						
SKAG	Skagway	92.31	24	P	P	05 20 44.8	-0.2
KNB	Kanab	92.31	51	P	P	05 20 46.2	+0.3
KNB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KNB	Kanab	92.31	51	P	P	05 20 46.2	+0.3
ELK	Elko	92.32	47	P	P	05 20 46.0	+0.1
ELK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELK	Elko	92.32	47	P	P	05 20 46.0	+0.1
HAWA	Hanford	92.32	40	P	P	05 20 46.0	+0.6
HAWA				IAmb	IAmb	05 20 47.0	
	comp=Z,14nm,0.8s						
MDM	Murphy Dome	92.33	16	P	P	05 20 43.5	-1.6
MDM				IAmb	IAmb	05 20 44.5	
	comp=Z,18nm,1.0s						
TCOL	CIGO, UAF Yank	92.36	16	P	P	05 20 43.5	-1.6
	baz=217,SNR=6.2						
TCOL	CIGO, UAF Yank	92.36	16	P	P	05 20 43.5	-1.6
COLA	College	92.36	16	P	P	05 20 43.2	-1.9
COLA				pmax	pmax		
	comp=Z,31nm,1.2s						
COLA	College	92.36	16	P	P	05 20 43.2	-1.9
SZCU	Shurtz Canyon	92.38	50	P	P	05 20 46.7	+0.4
DOT	Dot Lake	92.43	18	P	P	05 20 44.2	-1.3
DOT				IAmb	IAmb	05 20 45.3	
	comp=Z,13nm,0.6s						
U15A	North Rim	92.44	52	P	P	05 20 47.4	+0.8
U15A				IAmb	IAmb	05 20 48.7	
	comp=Z,21nm,1.1s						
HYT	Haines Junctio	92.45	22	P	P	05 20 45.8	-0.1
LL02	Futaleuf	92.46	139	P	P	05 20 46.5	+0.1
LL02				IAmb	IAmb	05 20 47.7	
	comp=Z,9.9nm,0.8s						
IL31		92.53	16	P	P	05 20 43.9	-2.0
IL31				IAmb	IAmb	05 20 45.5	
	comp=Z,9.2nm,0.8s						
ILAR	Eielson Array	92.53	16	P	P	05 20 44.4	-1.5
	comp=Z,7.3nm,0.8s,baz=232,slow=5.4,SNR=61						
ILAR				PKKP	PKKPdf	05 37 57.8	-1.8
	comp=Z,1.1nm,0.8s,baz=357,slow=1.3,SNR=9.1						
ILAR				LR	LR	05 55 04.4	
	comp=Z,69nm,21.1s,baz=208,slow=31						
ILAR	Eielson Array	92.53	16	P	P	05 20 44.3	-1.7
L27K	Beaver Creek,	92.65	19	P	P	05 20 46.0	-0.6
	baz=222,SNR=8.7						
L27K	Beaver Creek,	92.65	19	P	P	05 20 46.0	-0.6
E08A	Dider Farm, El	92.65	40	P	P	05 20 47.0	0.0
E08A				IAmb	IAmb	05 20 48.0	
	comp=Z,10nm,0.8s						
POKR	Poker Plat Res	92.66	16	P	P	05 20 44.7	-1.9
	baz=217						
POKR	Poker Plat Res	92.66	16	P	P	05 20 45.3	-1.3
POKR				IAmb	IAmb	05 20 55.6	
	comp=Z,10nm,0.8s						
BCAR	Beaver Creek A	92.66	19	P	P	05 20 45.9	-0.8
SCRK	Sand Creek	92.70	18	P	P	05 20 46.3	-0.7
	baz=220,SNR=15						
SCRK	Sand Creek	92.70	18	P	P	05 20 46.3	-0.7
SCRK				IAmb	IAmb	05 20 46.8	
	comp=Z,10nm,0.6s						
H23K	Yukon River	92.71	15	P	P	05 20 45.7	-1.1
	baz=215						
WUAZ	Wupatki	92.71	53	P	P	05 20 48.6	+0.8
	baz=244						
WUAZ	Wupatki	92.71	53	P	P	05 20 48.2	+0.4
PKCU	Pink Cliffs	92.87	51	P	P	05 20 49.0	+0.4
PKCU				IAmb	IAmb	05 20 51.3	
	comp=Z,16nm,1.0s						
BMO	Blue Mountains	92.92	42	P	P	05 20 47.9	-0.5
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BMO	Blue Mountains	92.92	42	P	P	05 20 47.9	-0.5
D08A	Wollman Farm,	93.02	40	P	P	05 20 48.8	+0.1
MFID	Camas Ranch	93.17	44	P	P	05 20 50.2	+0.6
E09A	Wood Farm, Sta	93.21	41	P	P	05 20 49.3	-0.3
MTPU	Mount Pierson	93.22	50	P	P	05 20 51.3	+1.0
WHY	Whitehorse	93.28	23	P	P	05 20 49.4	-0.3
	baz=228						
K27K	Chicken	93.29	19	P	P	05 20 49.3	-0.2
	baz=222						
K27K	Chicken	93.29	19	P	P	05 20 49.5	0.0
K27K				IAmb	IAmb	05 20 50.7	
	comp=Z,17nm,1.2s						
LL04	Puerto Octay	93.38	137	P	P	05 20 50.5	-0.2
LL04				IAmb	IAmb	05 20 51.7	
	comp=Z,18nm,0.9s						
MSU	Marysvale	93.43	50	P	P	05 20 52.3	+1.2
MSU	Marysvale	93.43	50	P	P	05 20 52.3	+1.2
F10A	Beach Ranch, E	93.51	41	P	P	05 20 50.8	-0.3
COLD	Coldfoot	93.71	14	P	P	05 20 51.4	0.0
	baz=215						
COLD	Coldfoot	93.71	14	P	P	05 20 51.2	-0.1
COLD				IAmb	IAmb	05 20 52.4	
	comp=Z,12nm,0.8s						
DUG	Dugway, Tooele	93.72	48	P	P	05 20 52.0	-0.3
	baz=244						
DLBC	Dease Lake	93.75	27	P	P	05 20 52.2	+0.4
	comp=Z,2.1nm,0.7s,baz=211,slow=5.6,SNR=6.3						
PLID	Pearl Lake	93.85	43	P	P	05 20 51.9	-0.9
EGAK	Eagle	94.12	18	P	P	05 20 52.5	-0.8
	baz=223,SNR=9.4						
EGAK	Eagle	94.12	18	P	P	05 20 52.9	-0.4
EGAK				IAmb	IAmb	05 21 20.8	
	comp=Z,12nm,0.9s						
DAWY	Dawson	94.13	19	P	P	05 20 52.6	-0.8
121A	Cookes Peak, D	94.18	57	P	P	05 20 54.9	+0.3
	baz=246						
ZAK	Zakamensk	94.20	323	*e*P	P	05 20 53.2	-0.9
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s						
Q16A	Castle Valley	94.31	50	P	P	05 20 55.1	+0.1
HVU	Hansel Valley	94.44	47	P	P	05 20 55.2	-0.4
HVU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HVU	Hansel Valley	94.44	47	P	P	05 20 55.2	-0.4
TMUT	Trail Mountain	94.45	49	P	P	05 20 55.6	-0.2
PLCA	Paso Flores	94.65	138	P	P	05 20 57.0	+0.4
	comp=Z,9.2nm,0.9s,baz=231,slow=4.9,SNR=11						
PLCA				LR	LR	06 01 30.0	
	comp=Z,26nm,18.2s,baz=200,slow=34						
PLCA	Paso Flores	94.65	138	P	P	05 20 57.4	+0.7
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PLCA	Paso Flores	94.65	138	P	P	05 20 57.4	+0.7
PLCA				IAmb	IAmb	05 20 58.0	
	comp=Z,7.9nm,0.8s						
PLCA	Paso Flores	94.65	138	*e*P	P	05 20 57.3	+0.7
TLY	Talaya	94.66	325	*e*P	P	05 20 55.3	-0.8
TLY				pmax	pmax		
	comp=Z,14nm,0.6s						
NEW	Newport	94.67	39	P	P	05 20 55.7	-0.5
	comp=Z,2.0nm,0.7s,baz=251,slow=4.7,SNR=4.1						
NEW	Newport	94.67	39	P	P	05 20 55.3	-1.0
	baz=242						
SRU	San Rafael Swe	94.85	50	P	P	05 20 57.5	-0.1
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SRU	San Rafael Swe	94.85	50	P	P	05 20 57.5	-0.1
TOLK	Toolik Lake Re	95.01	13	P	P	05 20 56.9	-0.5
	baz=216						
MVCO	Mesa Verde	95.53	52	P	P	05 21 00.8	+0.1
	baz=246						
MNTX	Cornudas Mount	95.73	58	P	P	05 21 01.7	+0.2
	baz=247						
ANMO	Albuquerque	96.15	55	⇑*e*P	P	05 21 01.5	-2.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANMO	Albuquerque	96.15	55	P	P	05 21 03.6	0.0
	baz=247						
TX31	Lajitas Ar. Si	96.20	61	P	P	05 21 03.2	-0.6
TX31				IAmb	IAmb	05 21 04.9	
	comp=Z,10nm,1.3s						
TX32	Lajitas Array	96.20	61	P	P	05 21 03.5	-0.3
TXAR	Lajitas Array	96.20	61	P	P	05 21 04.3	+0.5
	comp=Z,0.9nm,1.0s,baz=218,slow=5.6,SNR=8.4						
TXAR				PKKPbc	PKKPbc	05 37 50.3	-0.1
	comp=Z,0.6nm,0.5s,baz=110,slow=4.0,SNR=14						
TXAR				LR	LR	05 57 36.1	
	comp=Z,36nm,18.9s,baz=0.0,slow=31						
EPYK	Eagle Plains	96.55	19	P	P	05 21 04.7	+0.3
EPYK				IAmb	IAmb	05 21 24.4	
	comp=Z,12nm,1.4s						
BOZ	Bozeman (W)	96.83	43	P	P	05 21 06.0	-0.4
	baz=245						
S22A	4UR Ranch, Cre	96.96	52	P	P	05 21 07.7	+0.4
	baz=247						
PDAR	Pinedale Array	97.02	47	P	P	05 21 06.6	-0.8
	comp=Z,0.5nm,0.8s,baz=238,slow=5.1,SNR=3.5						
PDAR				PP	PP	05 25 02.9	-1.8
	comp=Z,0.6nm,0.9s,baz=246,slow=7.4,SNR=5.0						
PDAR				PKKPbc	PKKPbc	05 37 47.5	-1.5
	comp=Z,0.3nm,0.6s,baz=76,slow=7.8,SNR=4.3						
PDAR				LR	LR	06 01 06.9	
	comp=Z,36nm,18.6s,baz=259,slow=33						
SDCO	Great Sand Dun	97.93	53	P	Pdif	05 21 11.5	-0.2
	baz=248						
TIXI	Tiksi	98.28	347	P	P	05 21 10.4	-1.6
	comp=Z,1.4nm,0.5s,baz=53,slow=2.4,SNR=3.8						
TIXI	Tiksi	98.28	347	*e*P	P	05 21 10.7	-1.3
INK	Inuvik	98.77	18	P	Pdif	05 21 15.6	+1.3
	baz=230						
WMQ	Urumqi	101.05	313	*e*P	Pdif	05 21 26.4	+1.2
WMQ				pmax	pmax		
	comp=Z,26nm,0.8s						
YKA	Yellowknife Ar	102.36	27	P	Pdif	05 21 29.9	-0.5
	comp=Z,0.6nm,0.7s,baz=247,slow=4.6,SNR=4.4						
YKA				PP	PP	05 25 41.4	-3.0
	comp=Z,0.6nm,0.9s,baz=255,slow=7.4,SNR=3.9						
MKAR	Makanchi Array	105.60	314	Pdiff	Pdif	05 21 45.1	-0.2
	comp=Z,3.1nm,0.7s,baz=97,slow=4.2,SNR=14						
MKAR				PKKPbc	PKKPbc	05 37 21.9	-1.9
	comp=Z,0.3nm,0.4s,baz=277,slow=1.9,SNR=5.7						
ZALV	Zalesovo Beam	106.02	322	Pdiff	Pdif	05 21 47.2	+0.3
	comp=Z,2.0nm,0.6s,baz=106,slow=5.1,SNR=12						
KMSC	Kings Mountain	115.94	61	P	PKiKP	05 26 18.0	+0.1
	baz=260						
NHSC	New Hope	116.53	63	P	PKiKP	05 26 20.1	+1.1
	baz=260						
BLA	Blacksburg	117.00	59	P	PKiKP	05 26 19.9	0.0
	baz=262						
BOSA	Boshof	119.89	214	PKP	PKiKP	05 26 25.9	-0.2
	comp=Z,7.1nm,0.6s,baz=142,slow=2.1,SNR=47						
BOSA	Boshof	119.89	214	PKPdf	PKPdf	05 26 25.4	-0.6
ARU	Arti	121.14	323	*i* PKIKP	PKPdf	05 26 25.6	-1.6
ARU						05 27 56.4	
ARU				PPP	PPP	05 30 32.7	
ARU						05 33 26.0	
GEYT	Alibeck	121.67	302	PKP	PKPdf	05 26 27.4	-1.4
	comp=Z,164nm,0.8s,baz=174,slow=3.0,SNR=5.3						
CHGQ	Chibougamau	122.06	44	P	PKiKP	05 26 30.7	+1.4
	baz=273						
LBTB	Lobatse	122.58	217	PKIKP	PKPdf	05 26 30.9	-0.3
LBTB	Lobatse	122.58	217		PKPdf	05 26 30.9	-0.3
H59A	Cadyville	122.65	50	P	PKiKP	05 26 31.8	+1.1
	baz=270						
SPITS	Spitsbergen Ar	122.94	354	PKP	PKPdf	05 26 28.4	-1.7
	comp=Z,4.9nm,0.8s,baz=44,slow=4.4,SNR=8.3						
G61A	St-Isidore-de-	124.18	50	P	PKiKP	05 26 34.4	+0.7
	baz=272						
L64A	Middleborough	124.74	54	P	PKiKP	05 26 35.8	+1.0
	baz=270						
D61A	St Aubert, Com	125.00	47	P	PKPdf	05 26 34.3	-0.6
	baz=274						
I64A	Boothbay	125.58	51	P	PKiKP	05 26 36.4	-0.1
	baz=272						
ARCES	ARCESS Array B	128.67	346	PKP	PKPdf	05 26 39.7	-1.6
	comp=Z,2.4nm,0.7s,baz=64,slow=2.8,SNR=8.3						
KLMR	Klimovskoe	129.38	332	*e*PKIKP	PKPdf	05 26 40.1	-2.7
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KLMR	Klimovskoe	129.38	332	*e*PKPdf	PKPdf	05 26 40.2	-2.6
KLMR				AMP		05 26 42.2	
	comp=Z,6.0nm,0.9s						
MAK	Makhachkala	129.74	308	*i* P

comp=N,29nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=N,114nm,25.0s
MNK MLR MLR
comp=Z,55nm,21.0s
MNK MLR MLR
comp=E,5.0nm,21.0s
MNK Minsk 138.02 329 *i* PKP **PKiKP 05 27 00.8 -0.5**
comp=E,2.0nm,0.8s
MNK *i* PKP **PKiKP 05 27 00.8 -0.5**
comp=N,29nm,0.8s
MNK *i* PKP **PKiKP 05 27 00.8 -0.5**
comp=Z,7.0nm,0.9s,baz=236
MNK *i* pPKP **sPKPdf 05 27 33.2 -3.4**
MNK *i* sPKP 05 27 45.8
MNK *i* PP **PP 05 29 50.7 +2.4**
MNK *i* SKP 05 30 18.1
MNK *i* PPP PPP 05 32 52.0
MNK *i* SKS **SKSdf 05 34 00.0 -0.6**
MNK *i* SKKS **SKKSdf 05 43 43.4 +6.5**
MNK *i* PPS PPS 05 45 46.6
MNK *i* SPP SPP 05 45 46.6
MNK *i* SS **SS 05 47 53.5 +2.5**
MNK *i* SSS SSS 05 53 02.8
MNK *i* LRM MLR 06 27 26.7
comp=N,114nm,24.8s
MNK *i* LRM MLR 06 27 35.2
comp=Z,55nm,21.0s
MNK *i* LRM MLR 06 27 45.8
comp=E,5.0nm,21.0s
NOA NORSAR Array B 139.05 346 PKhKP PKPpre 05 26 50.0
comp=E,0.5nm,0.6s,baz=32,slow=2.1,SNR=4.5
AKASG Malin Array Be 139.39 324 PKhKP PKPpre 05 26 51.5
comp=E,1.9nm,0.6s,baz=59,slow=3.4,SNR=8.7
AKASG PP **PP 05 29 52.3 -4.7**
comp=E,3.4nm,1.0s,baz=53,slow=6.2,SNR=5.2
AKASG SKPbc **SKPbc 05 30 24.4 -3.9**
comp=E,2.2nm,0.8s,baz=44,slow=3.4,SNR=5.8
AKBB Malin Array Si 139.39 324⇑PKiKP **PKPdf 05 27 00.7 -1.2**
BR131 Keskin Array S 140.56 306 PKIKP **PKPdf 05 27 01.4 -3.2**
BR131 Keskin Array S 140.56 306 PKPdf 05 27 01.4 -3.2
BRTR Keskin Array B 140.56 306 PKhKP PKPpre 05 26 56.6
comp=E,3.3nm,0.8s,baz=160,slow=2.6,SNR=9.1
BRTR PP **PP 05 30 04.4 -0.6**
comp=E,2.4nm,1.0s,baz=93,slow=5.2,SNR=6.1
LVV L'vov 142.67 325 *e*PKHKP PKPpre 05 27 03.1
TESR Tescani 142.94 319⇑P **PKPdf 05 27 04.8 -3.6**
ODBI Odobesti 143.04 318⇓P PKPbc 05 27 06.6 +0.9
VRI Vrincioaia 143.19 318⇓P PKPbc 05 27 05.7 -0.4
VRI Vrincioaia 143.19 318⇓PKIKP PKPbc 05 27 05.7 -0.4
BURAR Bucovina Array 143.23 321⇑P PKPbc 05 27 06.2 -0.1
BURAR Bucovina Array 143.23 321 PKPdf PKPbc 05 27 07.2 +0.9
PLOR Plostina 143.25 318⇑P PKPbc 05 27 05.9 -0.5
PLOR Plostina 143.25 318⇑PKIKP PKPbc 05 27 05.9 -0.4
ICOR Ion Corvin 143.28 315⇑P PKPbc 05 27 06.1 -0.3
BISRR Bisoca 143.35 318⇑P PKPbc 05 27 07.3 +0.6
PGOR Pogoanele 143.47 316⇓P PKPbc 05 27 06.3 -0.6
ISR Istrita 143.65 317⇑P PKPbc 05 27 07.5 -0.1
ISR Istrita 143.65 317⇑PKIKP PKPbc 05 27 07.5 0.0
OZUR 143.66 319⇑P PKPbc 05 27 07.2 -0.3
NEHR Nehoiu 143.67 318⇑P PKPbc 05 27 07.4 -0.1
LEHL Lehliu 143.76 316⇑P PKPbc 05 27 07.6 -0.2
MLR Muntele Rosu 143.85 318⇓P PKPbc 05 27 07.9 -0.2
MLR Muntele Rosu 143.85 318⇓PKIKP PKPbc 05 27 07.9 -0.3
MLR Muntele Rosu 143.85 318 PKPdf PKPbc 05 27 08.1 -0.1
DOPR Dopca 143.97 319⇑P PKPbc 05 27 08.5 +0.2
SECR 143.99 317⇓P PKPbc 05 27 08.9 +0.5
ARCR ARCALIA 144.01 321⇓P PKPbc 05 27 08.7 +0.3
SULR 144.03 317⇑P PKPbc 05 27 08.8 +0.2
PLAR PLOIESTI 144.07 317⇑P **PKPab 05 27 07.9 -0.2**
ELL Elmali 144.10 302 PKIKP **PKPab 05 27 08.7 0.0**
ELL Elmali 144.10 302 PKPdf **PKPab 05 27 08.7 0.0**
KOLS Kolonicke sedl 144.12 325 *e*PKIKP PKPbc 05 27 08.8 +0.1
KOLS Kolonicke sedl 144.12 325 *e*PKP PKPbc 05 27 08.8 +0.1
BMR Baia Mare 144.18 323⇑P PKPbc 05 27 08.9 0.0
BMR Baia Mare 144.18 323⇑PKIKP PKPbc 05 27 08.9 0.0
LINV Loch Inver, As 144.19 357 *e*P **PKPab 05 27 06.8 -1.4**
LEWI Lewis, Hebride 144.25 359 *e*P **PKPab 05 27 07.2 -1.2**
LEWI IAmb IAmb 05 27 08.7
comp=Z,32nm,0.7s
UZH Uzhgorod 144.29 325 *e*PKIKP **PKPab 05 27 08.6 -0.3**
STHS Stebnicka Huta 144.36 327 *e*PKIKP PKPbc 05 27 09.6 +0.1
STHS Stebnicka Huta 144.36 327 *e*PKP PKPbc 05 27 09.6 +0.1
SGRR Singureni 144.42 316⇓P **PKPab 05 27 08.0 -1.4**
VOIR 144.43 318⇑P PKPbc 05 27 09.7 -0.2
VOIR 144.43 318⇑PKIKP PKPbc 05 27 09.7 -0.2
TRPA Tarpa 144.45 324⇑P **PKPab 05 27 09.3 -0.2**
TRPA Tarpa 144.45 324 *e*PKP PKPbc 05 27 09.7 0.0
KSL Kastellorizon 144.48 301 P **PKPab 05 27 09.3 -0.7**
MDB Medias 144.49 320⇑P **PKPdf 05 27 10.6 -0.5**
MDB Medias 144.49 320⇑PKIKP **PKPdf 05 27 10.6 -0.5**
OJC Ojcow 144.56 329 *e*PKP **PKPab 05 27 09.2 -0.6**
OJC Ojcow 144.56 329 PKIKP **PKPab 05 27 09.3 -0.6**
OJC Ojcow 144.56 329 PKPdf **PKPab 05 27 09.3 -0.6**
CRVS Cervenica-Dubn 144.57 326 *e*PKIKP PKPbc 05 27 09.9 -0.2
CRVS Cervenica-Dubn 144.57 326 *e*PKP PKPbc 05 27 09.9 -0.2
MCD Coleburn Disti 144.64 355 *e*P **PKPab 05 27 08.2 -1.6**
CBBR Cluj-Babes-Bol 144.65 321⇑P PKPbc 05 27 10.4 0.0
CJR Cluj-Napoca 144.65 321⇑P PKPbc 05 27 10.4 -0.1
CJR Cluj-Napoca 144.65 321⇑PKIKP PKPbc 05 27 10.4 -0.1
ARR Arges 144.72 318⇑P **PKPdf 05 27 11.2 -0.5**
FETY Fethiye 144.77 302 P **PKPab 05 27 10.4 -0.7**
MESR Meseseni 144.78 322⇑P **PKPdf 05 27 11.1 -0.5**
NIE Niedzica 144.84 327 *e*PKP PKPbc 05 27 11.0 0.0
MDO Dochfour 144.85 356 *e*P **PKPab 05 27 08.9 -1.8**
BALB Balikesir 144.86 308 PKPab 05 27 10.3 -0.9
HUMR Humele 144.91 317⇑P PKPbc 05 27 10.8 -0.5
KPL Plockton 145.02 358 *e*P **PKPbc 05 27 09.8 -1.4**
KPL IAmb IAmb 05 27 10.8
comp=Z,64nm,0.7s
ZIMR 145.06 315⇑P **PKPab 05 27 11.7 -0.2**
ZIMR 145.06 315⇑PKIKP **PKPab 05 27 11.7 -0.2**
DRGR 145.12 322⇑P **PKPbc 05 27 11.7 -0.3**
DRGR 145.12 322⇑PKIKP **PKPbc 05 27 11.7 -0.3**
LOT Lotru 145.21 319⇓P **PKPbc 05 27 11.7 -0.7**
YER Yerkesik 145.27 303 P **PKPdf 05 27 12.7 -0.2**
KECS Kecovo 145.34 326 *e*PKIKP **PKPab 05 27 12.8 0.0**
KECS Kecovo 145.34 326 *e*PKP **PKPab 05 27 12.8 0.0**
LANS Liptovska Anna 145.43 327 *e*PKP2 **PKPab 05 27 13.4 +0.2**
LANS Liptovska Anna 145.43 327 *e*PKP **PKPab 05 27 13.4 +0.2**
VLAD Vladila 145.53 317⇓P **PKPab 05 27 13.5 -0.1**
OKC Ostrava-Krasne 145.61 329 *e*PKP2 **PKPdf 05 27 12.9 0.0**
OKC Ostrava-Krasne 145.61 329 *e*PKP **PKPdf 05 27 12.9 0.0**
EDU Dundee 145.64 355 *e*P **PKPdf 05 27 11.9 -0.8**
KSP Ksiaz 145.74 332 *e*PKP **PKPbc 05 27 13.4 -0.3**
ALN Alexandroupoli 145.74 311 P **PKPdf 05 27 13.0 -0.4**
ALN Alexandroupoli 145.74 311 PKP2 **PKPdf 05 27 13.5 +0.1**
ALN Alexandroupoli 145.74 311 PKPdf 05 27 13.5 +0.1
GZR Gura Zlata 145.84 320⇑P **PKPdf 05 27 13.5 -0.1**
GZR Gura Zlata 145.84 320⇑PKIKP **PKPdf 05 27 13.5 -0.1**
INVG Invergeldie, C 145.84 356 *e*P **PKPdf 05 27 12.3 -0.8**
INVG IAmb IAmb 05 27 13.2
comp=Z,24nm,0.7s
DAT Datca 145.92 303 P **PKPdf 05 27 13.8 -0.2**
MORC Moravsky Berou 145.94 330⇑P **PKPdf 05 27 13.1 -0.5**
MORC Moravsky Berou 145.94 330⇑PKP2 **PKPdf 05 27 13.1 -0.5**
MORC Moravsky Berou 145.94 330 PKPbc 05 27 14.2 -0.2
MORC Moravsky Berou 145.94 330 *e*PKP **PKPbc 05 27 13.9 -0.5**
SRE Strehaia 145.95 318⇓P **PKPab 05 27 15.2 0.0**
SRE Strehaia 145.95 318⇓PKP2 **PKPab 05 27 15.2 0.0**
OSTC Ostas 145.98 332 *e*PKP **PKPbc 05 27 14.3 -0.2**
PSZ Piszkesteto 146.00 325⇑P **PKPdf 05 27 14.1 +0.3**
PSZ Piszkesteto 146.00 325 *e*PKP **PKPbc 05 27 14.6 -0.1**
PSZ Piszkesteto 146.00 325⇑PKP2 **PKPdf 05 27 14.1 +0.3**
PSZ Piszkesteto 146.00 325 PKPbc 05 27 14.3 -0.4
RDO Rodhopi 146.00 311 P **PKPdf 05 27 13.9 0.0**
SIRR Siria 146.01 322⇓P **PKPbc 05 27 14.4 -0.3**
CHVC Chvalec 146.03 332 *e*PKP **PKPab 05 27 15.2 -0.1**
KRLC Kraliky 146.07 331 *e*PKP2 **PKPbc 05 27 14.4 -0.4**
KRLC Kraliky 146.07 331 *e*PKP **PKPbc 05 27 14.4 -0.4**
DPC Dobruska-Polom 146.08 331 *e*PKP2 **PKPbc 05 27 14.6 -0.2**
DPC Dobruska-Polom 146.08 331 *e*PKP **PKPbc 05 27 14.6 -0.2**
EAB Aberfoyle 146.16 356 *e*P **PKPdf 05 27 13.3 -0.3**
UPC Upice 146.10 332 *e*PKP2 **PKPbc 05 27 14.5 -0.4**
UPC Upice 146.10 332 *e*PKP **PKPbc 05 27 14.5 -0.4**
VYHS Vyhne 146.18 327 *e*PKP2 **PKPbc 05 27 14.6 -0.5**
VYHS Vyhne 146.18 327 *e*PKP **PKPbc 05 27 14.6 -0.5**
ESY Stoneypath 146.23 354 *e*P **PKPdf 05 27 13.5 -0.3**
HERR Herculane 146.32 319⇑P **PKPbc 05 27 15.1 -0.6**
BZS Buzias 146.40 321⇑P **PKPbc 05 27 15.0 -0.9**
BZS Buzias 146.40 321⇑PKP2 **PKPbc 05 27 15.0 -0.9**
EBL Broad Law 146.41 355 *e*P **PKPdf 05 27 14.2 +0.1**
PGBU Glenifferbraes 146.48 356 *e*P **PKPdf 05 27 14.3 +0.1**
JAVC Velka Javorina 146.51 328 *e*PKP **PKPab 05 27 16.8 -0.5**
KARP Karpathos 146.54 301 PKPbc 05 27 16.3 -0.3
BRG Berggiesshubel 146.70 334 Amp 05 27 17.0
comp=Z,26nm,0.8s
BRG Berggiesshubel 146.70 334 Amp 05 27 18.4
comp=Z,35nm,0.7s
BRG Berggiesshubel 146.70 334 Amp 05 27 22.8
comp=Z,10nm,0.8s
BRG Berggiesshubel 146.70 334 *i* PKP **PKPbc 05 27 15.8 -0.7**
BRG Berggiesshubel 146.70 334 P **PKPab 05 27 17.8 -0.1**
BRG Berggiesshubel 146.70 334 P **PKiKP 05 27 22.0 +2.8**
PVCC Panska Ves 146.70 333 *e*PKP2 **PKPbc 05 27 16.3 -0.3**
PVCC Panska Ves 146.70 333 *e*PKP **PKPbc 05 27 16.3 -0.3**
VRAC Vranov 146.71 330⇑P **PKPbc 05 27 16.4 -0.3**
VRAC Vranov 146.71 330⇑PKP2 **PKPbc 05 27 16.4 -0.3**
VRAC Vranov 146.71 330 *e*PKP **PKPbc 05 27 16.2 -0.5**
CLL Collm 146.73 336 *i* PKPab **PKPab 05 27 17.6 -0.4**
comp=Z,45nm,0.6s
CLL Collm 146.73 336 PKP2 **PKPbc 05 27 15.9 -0.7**
CLL Collm 146.73 336 PKPbc 05 27 15.9 -0.7
CLL Collm 146.73 336 *i* PKPbc **PKPbc 05 27 15.7 -0.9**
comp=Z,32nm,0.7s
KAVA Kavala 146.77 312 P **PKPbc 05 27 16.2 -0.9**
MDVR Moldovita 146.80 319⇑P **PKPbc 05 27 17.3 +0.2**
SMOL Smolenice 146.86 328 *e*PKP2 **PKPbc 05 27 17.6 +0.5**
SMOL Smolenice 146.86 328 *e*PKP **PKPbc 05 27 17.6 +0.5**
ESK Eskdalemuir 146.88 355 PKP2 **PKPdf 05 27 15.5 +0.6**
ESK Eskdalemuir 146.88 355 PKPdf 05 27 15.5 +0.6
VTS Vitosha 146.93 315⇓P **PKiKP 05 27 19.8 -0.4**
VTS Vitosha 146.93 315 PKIKP **PKPdf 05 27 15.5 -0.1**
VTS 05 27 17.6
VTS Vitosha 146.93 315 PKPdf **PKPdf 05 27 15.5 -0.1**
VTS PKPbc **PKPbc 05 27 17.6 -0.1**
KRUC Moravsky 146.97 330 *e*PKP **PKPbc 05 27 16.7 -0.7**
MODS Modra-Piesok 147.03 328 *e*PKP2 **PKPbc 05 27 18.0 +0.4**
MODS Modra-Piesok 147.03 328 *e*PKP **PKPbc 05 27 18.0 +0.4**
NVR Nevrokopi 147.07 313 P **PKPbc 05 27 17.0 -1.0**
PRA Prague 147.11 333 *e*PKP2 **PKPbc 05 27 17.2 -0.5**
PRA Prague 147.11 333 *e*PKP **PKPbc 05 27 17.2 -0.5**
PRU Pruhonice 147.12 333 *e*PKP2 **PKPbc 05 27 17.0 -0.8**
PRU Pruhonice 147.12 333 *e*PKP **PKPbc 05 27 17.0 -0.8**
BOVS Bovan 147.41 318⇑P **PKPdf 05 27 17.0 +0.8**
GAL1 Galloway 147.44 356 *e*P **PKPbc 05 27 17.0 -1.4**
GAL1 IAmb IAmb 05 27 17.7
comp=Z,125nm,1.6s
PBCC Pribram 147.58 333 *e*PKP **PKPbc 05 27 18.2 -0.9**
KESW Keswick, Cumbr 147.59 354 *e*P **PKPbc 05 27 17.6 -1.4**
EGYH Egyhazaskeszo 147.65 327 *e*PKP **PKPdf 05 27 15.5 -0.9**
SANT Santorini 147.66 303 PKPdf 05 27 17.0 +0.1
TIH Tihany 147.69 326 *e*PKP **PKPbc 05 27 19.2 -0.2**
MPLH Magyarpolny 147.70 326 *e*PKP **PKPbc 05 27 18.5 -0.9**
FRGS Fruska Gora 147.71 321⇑P **PKPbc 05 27 18.4 -1.2**
FRGS Fruska Gora 147.71 321⇑*i*P **PKPbc 05 27 18.8 -0.8**
MORH Mrgy, Hungar 147.73 324⇑P **PKPbc 05 27 18.8 -0.7**
MORH Mrgy, Hungar 147.73 324 *e*PKP **PKPdf 05 27 17.0 +0.5**
MORH Mrgy, Hungar 147.73 324⇑*i*P **PKPbc 05 27 18.7 -0.8**
PLG Polygyros 147.76 311 P **PKPab 05 27 22.1 -0.4**
PAIG Paliouri 147.78 310 P **PKPab 05 27 22.1 -0.4**
NKC Novy Kostel 147.79 335 *e*PKP2 **PKPbc 05 27 18.9 -0.7**
NKC Novy Kostel 147.79 335 *e*PKP **PKPbc 05 27 18.9 -0.7**
NKC *ex* **PKPab 05 27 22.1 -0.2**
KNT Kendrikon 147.81 313 P **PKiKP 05 27 22.0 +0.2**
SOP Sopron 147.85 328 *e*PKP **PKPbc 05 27 19.1 -0.7**
LAST Lasithi 147.96 301 P **PKPbc 05 27 20.4 -0.3**
CONA Conrad Observa 148.02 329 *e*P **PKPbc 05 27 19.8 -0.6**
comp=Z,12nm,0.7s,SNR=19
IOMK Kirk Michael 148.03 356 *e*P **PKPbc 05 27 18.5 -1.6**
STIP Stip 148.04 314 *i* P **PKPdf 05 27 18.4 +1.1**
CKRC Cesky Krumlov 148.10 331 *e*PKP **PKPdf 05 27 20.9 +0.4**
KOVH Kovagotottos 148.10 324 *e*PKP **PKPbc 05 27 19.5 -1.0**
WIM Isle of Man 148.15 356 *e*P **PKPbc 05 27 18.9 -1.5**
KHC Kasperske Hory 148.18 332 *e*PKP2 **PKPbc 05 27 20.2 -0.5**
KHC MLR MLR
comp=Z,100nm,21.5s
KHC Kasperske Hory 148.18 332 *e*PKP **PKPbc 05 27 20.2 -0.5**
KHC *ex* **PKPab 05 27 23.9 0.0**
KHC *e*pPKP **pPKPab 05 27 52.0 +2.3**
KHC AMS AMS 06 24 20.0
comp=Z,100nm,21.5s
KHC Kasperske Hory 148.18 332 PKPbc 05 27 20.2 -0.5
KHC PKPab **PKPab 05 27 23.9 0.0**
DIVS Divibare 148.20 320⇑*i*P **PKPbc 05 27 20.2 -0.8**
DIVS Divibare 148.20 320 PKPbc 05 27 20.5 -0.5
DIVS PKPab **PKPab 05 27 24.7 +0.5**
GEC2 GERESS Array S 148.34 332 PKPbc 05 27 20.4 -0.8
GEC2 PKPab **PKPab 05 27 24.2 -0.5**
GERES GERESS Array B 148.34 332 PKPbc **PKPbc 05 27 20.4 -0.8**
comp=Z,14nm,0.7s,baz=60,slow=3.2,SNR=101
GERES PP **PP 05 30 49.5 -0.9**
comp=Z,0.4nm,0.8s,baz=92,slow=7.0,SNR=2.0
GERES GERESS Array B 148.34 332 PKPbc 05 27 20.5 -0.8
GERES PKPab **PKPab 05 27 24.4 -0.2**
PTL Penteli 148.34 307 P **PKPbc 05 27 20.1 -1.4**
XOR Xorichti 148.35 310 P **PKPbc 05 27 19.6 -1.9**
IDI Anoyia 148.40 301⇓P **PKPbc 05 27 21.5 -0.3**
SKO Skopje 148.40 315⇑*i*P **PKPbc 05 27 20.8 -0.7**
ATHU Athens Univers 148.43 307 P **PKPbc 05 27 20.1 -1.6**
LIT Litokhoron 148.54 311 P **PKPbc 05 27 20.4 -1.5**
LIT Litokhoron 148.54 311 PKP2 **PKPab 05 27 25.3 -0.4**
LIT Litokhoron 148.54 311 PKPbc 05 27 20.6 -1.3
LIT PKPab **PKPab 05 27 25.3 -0.4**
LBWR Ladybower, Pea 148.62 352 *e*P **PKPbc 05 27 19.7 -2.0**
LBWR IAmb IAmb 05 27 21.1
comp=Z,33nm,0.9s
ARSA Arzberg 148.66 328 *e*P **PKPbc 05 27 20.6 -1.4**
comp=Z,3.7nm,0.6s
BBLS Lazići 148.69 320⇑*i*P **PKPbc 05 27 21.6 -0.6**
GRA1 Grafenberg Arr 148.70 335 PKPbc 05 27 21.7 -0.3
GRF Grafenberg Arr 148.70 335 PKP2 **PKPbc 05 27 21.7 -0.3**
GRFO Grafenberg 148.71 335 PKP2 **PKPab 05 27 26.1 +0.2**
GRFO Grafenberg 148.71 335 PKPab 05 27 21.3 -0.7
GRFO PKPab **PKPab 05 27 26.1 +0.2**
MOA Molln 148.83 330 *e*P **PKPbc 05 27 21.2 -1.2**
comp=Z,6.1nm,0.7s,SNR=10
RUDO Rudo 148.84 319 *e*P **PKPbc 05 27 21.3 -1.3**
WME Myndd Eilian 148.87 355 *e*P **PKPbc 05 27 20.7 -1.6**
WACR West Acre 148.94 350 *e*P **PKPbc 05 27 21.0 -1.5**
WACR IAmb IAmb 05 27 22.2
comp=Z,63nm,0.8s
WLF1 Llynfaes 148.99 356 *e*P **PKPbc 05 27 20.9 -1.6**
FNA Florina 149.01 313 P **PKPbc 05 27 21.7 -1.4**
FNA Florina 149.01 313 PKIKP **PKPdf 05 27 18.2 -0.8**
FNA Florina 149.01 313 PKPdf **PKPdf 05 27 18.2 -0.8**
FNA PKPbc **PKPbc 05 27 22.1 -1.1**
LTK Loutraki 149.02 307 P **PKPbc 05 27 21.2 -2.0**
YRC Rhoscolyn 149.04 356 *e*P **PKPbc 05 27 21.3 -1.4**
AGG Agios Georgios 149.10 310 P **PKPbc 05 27 21.7 -1.7**
AGG Agios Georgios 149.10 310 PKP2 **PKPab 05 27 27.1 -0.8**
AGG Agios Georgios 149.10 310 PKPbc 05 27 22.1 -1.3
AGG PKPab **PKPab 05 27 27.1 -0.8**
YLL Llanberis 149.12 355 *e*P **PKPbc 05 27 21.2 -1.7**
PHP Peshkopia 149.19 315 P **PKPbc 05 27 22.5 -1.1**
GROS Grobnik 149.22 327 *i* PKPbc **PKPbc 05 27 21.8 -1.7**
OHR Ohrid 149.24 314 *i* P **PKPbc 05 27 22.2 -1.5**
MAKR Makrakomi, Fth 149.24 310 P **PKPbc 05 27 22.7 -1.0**
FOEL Foel Wylfa 149.28 354 *e*P **PKPbc 05 27 22.0 -1.3**
FOEL IAmb IAmb 05 27 22.9
comp=Z,34nm,0.7s
SOKA Soboth 149.30 328 *e*P **PKPbc 05 27 22.4 -1.3**
comp=Z,7.4nm,0.7s,SNR=12
UPM Unac-Piva 149.36 319 *e*P **PKPbc 05 27 22.5 -1.6**
LLW Llanuwychllyn 149.37 355 *e*P **PKPbc 05 27 21.9 -1.7**
PUK Puka 149.37 316 PKPbc 05 27 23.5 -0.5
PUK PKPab **PKPab 05 27 29.1 +0.1**
KPRO Kipourio 149.39 312 P **PKPbc 05 27 22.7 -1.4**
BLY Banja Luka 149.44 323⇑*i*P **PKPbc 05 27 23.2 -0.8**
KBN Korca 149.48 313 PKP2 **PKPbc 05 27 23.8 -0.5**
KBN Korca 149.48 313 PKPbc 05 27 23.8 -0.5
KBN PKPab **PKPab 05 27 29.7 +0.2**
EVR Evrytania 149.51 310 P **PKPbc 05 27 23.8 -0.7**
TRIZ Trizonia 149.54 308 P **PKPbc 05 27 23.6 -0.8**
GCIS Gornji Cirnik 149.56 326 *i* PKPbc **PKPbc 05 27 23.5 -0.8**
ANX Ano Chora 149.56 309 P **PKPbc 05 27 24.4 -0.2**
PDG Podgorica 149.57 318⇓P **PKPbc 05 27 23.4 -1.0**
PDG Podgorica 149.57 318⇑*i*P **PKPbc 05 27 23.2 -1.2**
PDG Podgorica 149.57 318 PKPbc 05 27 23.4 -1.0
PDG PKPab **PKPab 05 27 29.5 -0.1**
KLV Kalavryta, Ach 149.61 308 P **PKPbc 05 27 23.8 -0.9**
BEBN Eben Emael 149.61 342 *d*PKPab **PKPab 05 27 28.8 -0.8**
HLM1 Long Mynd 149.62 354 *e*P **PKPbc 05 27 22.8 -1.4**
HLM1 IAmb IAmb 05 27 23.5
comp=Z,15nm,0.9s
OBKA Obir 149.66 328 *e*P **PKPbc 05 27 23.0 -1.6**
comp=Z,4.0nm,0.8s,SNR=7.2
LAKA Lakka 149.66 308 P **PKiKP 05 27 25.8 0.0**
BTNL Ternell 149.67 342 *d*PKPbc **PKPbc 05 27 23.1 -1.2**
BTNL *d*PKPab **PKPab 05 27 28.4 -1.4**
CRES Cresnjev 149.67 326⇑*i*P **PKPbc 05 27 23.6 -0.9**
CRES Cresnjev 149.67 326 *i* PKPbc **PKPbc 05 27 23.6 -0.9**
MEM Membach 149.68 342 *d*PKPbc **PKPbc 05 27 22.9 -1.5**
MEM *d*PKPab **PKPab 05 27 29.0 -0.8**
VLX Vlachokerasia 149.69 306 P **PKPbc 05 27 24.1 -0.9**
MGRS Mrkonjic Grad 149.71 323⇑*i*P **PKPab 05 27 29.2 -1.0**
TIR Tirane 149.74 315 PKP2 **PKPbc 05 27 24.2 -0.7**
TIR Tirane 149.74 315 PKPbc 05 27 24.2 -0.7
DRME Dracevica, Mon 149.74 317⇑*i*P **PKPbc 05 27 23.8 -1.0**
BRY Bratogost 149.75 319 *e*P **PKPbc 05 27 23.6 -1.4**
KBA Koelnbreinsper 149.82 330 *e*P **PKPbc 05 27 23.2 -1.9**
comp=Z,13nm,0.9s,SNR=11
BSTI Sart Tilman 149.83 342 *d*PKPbc **PKPbc 05 27 23.7 -1.1**
BSTI *d*PKPab **PKPab 05 27 29.7 -0.8**
BHOU Houvegnez 149.91 342 *d*PKPbc **PKPbc 05 27 24.2 -0.8**
BHOU *d*PKPab **PKPab 05 27 30.3 -0.5**
UCC Uccle 149.96 344 *d*PKPbc **PKPbc 05 27 23.9 -1.2**
DRO Drossia 149.96 308 P **PKPbc 05 27 25.1 -0.4**
TREB Trebinje 149.97 319 *e*P **PKPbc 05 27 23.4 -2.0**
LJU Ljubljana 149.99 327 *i* PKPbc **PKPbc 05 27 24.5 -0.8**
MYKA Terra Mystica 150.01 329 *e*P **PKPbc 05 27 23.6 -1.8**
comp=Z,7.5nm,0.6s,SNR=7.2
HCY Herceg Novi 150.03 318 *e*P **PKPbc 05 27 24.0 -1.5**
BCLA Clavier 150.05 343 *d*PKPab **PKPab 05 27 30.3 -1.0**
ITM Ithomi 150.09 306 PKPbc 05 27 25.0 -0.8
BGES Gesves 150.14 343 *d*PKP **PKPbc 05 27 24.3 -1.2**
BGES *d*PKPab **PKPab 05 27 30.4 -1.3**
MCH1 Michaelchurch 150.14 353 *e*P **PKPbc 05 27 23.8 -1.6**
MCH1 IAmb IAmb 05 27 24.7
comp=Z,31nm,0.9s
STU Stuttgart 150.22 336 PKIKP **PKPbc 05 27 25.1 -0.7**
STU Stuttgart 150.22 336 PKPbc 05 27 25.1 -0.7
SNF Seneffe 150.25 344 *d*PKPbc **PKPbc 05 27 24.6 -1.1**
SNF *d*PKPab **PKPab 05 27 31.1 -1.0**
CEY Cerknica 150.26 327⇑*i*P **PKPab 05 27 24.7 -1.3**
STON Ston 150.27 320⇑*i*P **PKPbc 05 27 24.5 -1.5**
MONM Monmouth 150.28 353 *e*P **PKPbc 05 27 23.9 -1.9**
MONM IAmb IAmb 05 27 25.5
comp=Z,34nm,0.9s
IGT Igoumenitsa 150.29 312 P **PKPbc 05 27 25.3 -0.9**
BMRD Maredsous 150.31 343 *d*PKPbc **PKPbc 05 27 24.6 -1.3**
BMRD *d*PKPab **PKPab 05 27 31.5 -0.9**
PYL PYLOS 150.33 306 P **PKPbc 05 27 24.9 -1.5**
RSBS Rosebush, Pemb 150.34 356 *e*P **PKPbc 05 27 23.6 -2.3**
RSBS IAmb IAmb 05 27 25.0
comp=Z,127nm,1.7s
ELSH Elham, Standar 150.36 348 *e*P **PKPab 05 27 32.1 -0.5**
ELSH IAmb IAmb 05 27 32.6
comp=Z,99nm,0.8s
TSLK Tsoukalades, L 150.37 310 P **PKPbc 05 27 25.9 -0.5**
ZOU Zoufplan 150.38 330 PKPbc 05 27 24.9 -1.5
LKD2 Lefkada island 150.38 310 P **PKPbc 05 27 25.8 -0.7**
NYDR Nydri-Lefkada 150.39 310 P **PKPbc 05 27 25.7 -0.7**
WATA Walderalm 150.42 332 *e*P **PKPbc 05 27 25.0 -1.5**
comp=Z,18nm,1.0s,SNR=7.7
WATA *e*P **PKPab 05 27 33.7 +0.4**
comp=Z,6.5nm,0.5s
WTTA Wattenberg 150.45 332 *e*P **PKPbc 05 27 25.4 -1.2**
comp=Z,9.3nm,0.6s,SNR=11
ABTA Abfaltersbach 150.45 330 *i* P **PKPbc 05 27 24.6 -1.9**
comp=Z,10nm,0.7s,SNR=12
ABTA *i* P **PKPab 05 27 32.0 -1.3**
comp=Z,18nm,1.0s
WLF Walferdange 150.48 341 *d*PKPbc **PKPbc 05 27 25.9 -0.4**
WLF *d*PKPab **PKPab 05 27 33.1 -0.1**
WLF Walferdange 150.48 341 PKIKP **PKPab 05 27 33.7 +0.5**
WLF Walferdange 150.48 341 PKPbc 05 27 26.2 -0.1
WLF PKPab **PKPab 05 27 33.7 +0.5**
DOU Dourbes 150.54 343 *d*PKP **PKPbc 05 27 25.3 -1.1**
DOU *d*PKPab **PKPab 05 27 32.0 -1.4**
FSK Fiskardo 150.59 310 P **PKPbc 05 27 26.0 -1.0**
MOTA Moosalm 150.61 333 *e*P **PKPbc 05 27 25.4 -1.5**
comp=Z,8.2nm,0.7s,SNR=8.6
MOTA *e*P **PKPab 05 27 33.1 -1.0**
comp=Z,8.4nm,0.7s
RETA Reutte 150.65 333 *e*P **PKPbc 05 27 25.7 -1.2**
comp=Z,8.4nm,1.1s
RETA *e*P **PKPab 05 27 33.3 -0.7**
comp=Z,14nm,0.6s
SQTA Sankt Quirin 150.67 332 *e*P **PKPbc 05 27 25.7 -1.3**
comp=Z,7.2nm,0.5s,SNR=8.5
SQTA *e*P **PKPab 05 27 33.3 -0.9**
comp=Z,17nm,0.7s
STAL STALIGIAL 150.72 330 PKPdf 05 27 19.6 -1.9
STAL PKPbc **PKPbc 05 27 25.7 -1.3**
VLMS Volimes, Zakyn 150.76 308 P **PKPbc 05 27 26.3 -1.1**
BFO Black Forest 150.91 337 PKIKP **PKPbc 05 27 26.6 -0.8**
BFO 05 27 34.5
BFO Black Forest 150.91 337 PKPbc 05 27 26.6 -0.8
BFO PKPab **PKPab 05 27 34.5 -0.5**
FETA Feichten 151.03 333 *e*P **PKPbc 05 27 26.7 -1.3**
comp=Z,14nm,1.0s,SNR=9.1
FETA *i* P **PKPab 05 27 35.0 -0.8**
comp=Z,29nm,0.7s
DAVA Damuels 151.17 334 *i* P **PKPbc 05 27 27.0 -1.2**
comp=Z,3.1nm,0.5s
DAVA *i* P **PKPab 05 27 35.7 -0.6**
comp=Z,24nm,0.8s
ECH Echery 151.42 338 PKIKP **PKPab 05 27 36.5 -0.6**
ECH Echery 151.42 338 PKPdf **PKPdf 05 27 22.2 -0.3**
ECH PKPab **PKPab 05 27 36.5 -0.6**
DYA Yadsworthy 151.78 354 *e*P **PKPab 05 27 36.6 -1.9**
TEOL Teolo 151.87 329 PKPdf **PKPdf 05 27 22.0 -1.2**
TEOL **PKPbc 05 27 28.7 -1.0**
TEOL PKPab **PKPab 05 27 38.7 -0.4**
TUE Stuetta 152.04 334 PKPbc 05 27 29.4 -0.9
TUE PKPab **PKPab 05 27 39.9 -0.1**
SGRT San Giovanni R 152.10 319 PKPbc 05 27 29.6 -0.9
SGRT PKPab **PKPab 05 27 40.3 -0.1**
SALO Salr 152.21 331 PKPbc **PKPbc 05 27 29.2 -1.3**
SALO **PKPab 05 27 39.8 -0.8**
NRCA Norcia 152.93 324 PKPbc 05 27 30.8 -1.4
NRCA PKPab **PKPab 05 27 44.2 +0.5**
SENIN Lac Senin/Sane 152.94 336 PKPbc 05 27 31.4 -1.0
SENIN PKPab **PKPab 05 27 43.2 -0.

PSBE	So Bento	162.90	1	*e*PKPab	PKPab	05 28 26.4	-0.3
PMRV	Marv??o	162.98	358	*e*PKPab	PKPab	05 28 26.3	-0.8
PESTR	Estremoz	163.54	358	*e*PKPab	PKPab	05 28 28.8	-0.8
LIC	Lamto	163.65	191	*e*P	PKPab	05 28 29.3	-1.3
	comp=Z,88nm,1.8s						
KIC	Kosan Boka	163.73	193	*e*P	PKPab	05 28 31.8	+0.9
	comp=Z,9.9nm,0.7s						
TIC	Toumodi	164.06	192	*e*P	PKPab	05 28 33.3	+0.9
PBAR	Barrancos	164.21	357	*e*PKPab	PKPab	05 28 32.0	-0.5
PBEJ	Beja	164.39	359	*e*PKPab	PKPab	05 28 33.4	+0.1
PCVE	Castro Verde	164.78	359	*e*PKPab	PKPab	05 28 35.8	+0.8
PVAQ	Vaqueiros	165.01	358	*e*PKPab	PKPab	05 28 36.0	0.0
TORD	Torodi Ar. Bea	166.83	228	PKP	PKPdf	05 27 40.2	-1.0
	comp=Z,5.9nm,1.2s,baz=201,slow=2.8,SNR=8.0						
TORD				PKPab	PKPab	05 28 44.4	-0.3
	comp=Z,12nm,0.9s,baz=110,slow=4.2,SNR=24						
TORD	Torodi Ar. Bea	166.83	228		PKPdf	05 27 39.7	-1.5
TORD				PKPab	PKPab	05 28 44.6	-0.1
KOWA	Kowa	171.20	208		PKPab	05 29 04.0	0.0

KRSC 05 05:13:35.8±1.6, 50°.53N×157°.57E, h46km±20km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.94	280	*i*	P	Pn	05 13 53.1	+0.6
SKR					*e*S	Sn	05 14 04.9	+0.1
PAU	Pauzhetka	1.05	333	*e*	P	Pn	05 13 56.1	+2.0
PAU					*e*S	Sn	05 14 10.4	+2.8
KDTR	Khodutka, Kamc	1.32	14	*e*	P	Pn	05 13 59.6	+1.8
KDTR					*e*S	Sn	05 14 16.5	+2.3
ALID	Alaid	1.32	286	*e*	P	Pn	05 13 59.4	+1.4
ALID					*e*S	Sn	05 14 15.9	+1.3
MIPR	Malaya Ipel'ka	1.82	344	*e*	P	Pn	05 14 07.6	+3.0
MTVR	Mutnovka	1.99	11	*e*	P	Pn	05 14 09.9	+2.8
MTVR					*e*S	Sn	05 14 34.0	+3.1
RUS	Russkaya	1.99	17	*e*	P	Pn	05 14 08.7	+1.7
RUS					*e*S	Sn	05 14 32.6	+1.9
GRL	Gorelyy	2.05	9	*e*	P	Pn	05 14 10.7	+2.8
KRMR	Karymshinskiy	2.33	8	*e*	P	Pn	05 14 13.8	+2.2
KRMR					*e*S	Sn	05 14 41.3	+2.3
APC	Apacha	2.41	354	*e*	P	Pn	05 14 16.0	+3.3
PET	Petropavlovsk	2.59	15	*e*	P	Pn	05 14 18.2	+3.1
PET					*e*S	Sn	05 14 48.4	+3.1
DALK	Dalny	2.61	16	*e*	P	Pn	05 14 18.2	+2.8
DALK					*e*S	Sn	05 14 48.5	+2.6
UGLR	Uglovaya	2.79	16	*e*	P	Pn	05 14 21.9	+3.8
UGLR					*e*S	Sn	05 14 55.1	+4.5
AVH	Avacha	2.83	14	*e*	P	Pn	05 14 22.8	+4.2
AVH					*e*S	Sn	05 14 56.6	+5.1
SMAR	Somma	2.84	15	*e*	P	Pn	05 14 21.8	+3.0
KOK	Koryaka	2.84	13	*e*	P	Pn	05 14 22.9	+4.1
NLC	Nalytchevo	2.87	22	*e*	S	Sn	05 14 54.7	+2.6
KRER	Koryakskii	2.87	14	*e*	P	Pn	05 14 23.1	+3.9
KRX	Arik	2.91	13	*e*	P	Pn	05 14 23.0	+3.3
KRX					*e*S	Sn	05 14 57.2	+3.7
SPN	Mys Shipunski	2.99	30	*e*	P	Pn	05 14 23.2	+2.5
SPN					*e*S	Sn	05 14 58.1	+2.9
GNL	Ganaly	3.18	4	*e*	P	Pn	05 14 27.5	+4.1
MKZ	Mys Kozlova	4.76	31	*e*	P	Pn	05 14 47.9	+2.9
MKZ					*e*S	Sn	05 15 41.4	+2.5
KZV	Kizimen	4.88	19	*e*	P	Pn	05 14 52.1	+5.4
TUMD	Tumrok D	4.98	19	*e*	S	Sn	05 15 50.4	+6.1
TUMR	Tumrok	5.01	17	*e*	P	Pn	05 14 53.4	+4.9
KMNR	Kamenistaya	5.47	16	*e*	P	Pn	05 14 59.8	+5.0
KBTR	Krutoberegovo	6.50	27	*e*	P	Pn	05 15 12.5	+3.8

MAN 05 05:16:03.8, 17°.32N×120°.58E, h25km, mb3.8, ML2.5, MS2.0, Luzon

ROM 05 05:24:54.3±0.1, 43°.542N±0°.004×12°.288E±0°.005, h10km, ML1.6/20, 4C-5D, Error ellipse: s-maj=0.4km s-min=0.3km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BADI	Badiali	0.04	224	⇑*i*	P	Pg	05 24 56.8	+0.5
BADI					S	Sg	05 24 58.5	+0.7
BADI					AML	AML		
	comp=E,3695μm,0.1s							
BADI					AML	AML		
	comp=N,4185μm,0.2s							
BADI					AML	AML		
	comp=E,3700μm,0.1s							
CDCA	Citt' di Caste	0.09	205		P	Pg	05 24 57.0	+0.2
CDCA					S	Sg	05 24 59.6	+1.0
APEC	Apecchio	0.10	80	*i*	P	Pg	05 24 57.6	+0.6
APEC					S	Sg	05 25 00.0	+1.2
APEC					AML	AML		
	comp=E,1610μm,0.1s							
APEC					AML	AML		
	comp=N,1264μm,0.1s							
PARC	Parchiule	0.11	342	⇓*i*	P	Pg	05 24 57.7	+0.5
PARC					S	Sg	05 25 00.0	+0.8
PARC					AML	AML		
	comp=N,1375μm,0.2s							
PARC					AML	AML		
	comp=E,1340μm,0.1s							
SSP9	Sansepolcro	0.12	286	⇓*i*	P	Pg	05 24 57.6	+0.4
ATPI	Pietralunga -	0.12	138	*e*	P	Pg	05 24 57.8	+0.5
ATPI					S	Sg	05 25 00.5	+1.1
ATPI					AML	AML		
	comp=E,432μm,0.4s							
ATPI					AML	AML		
	comp=N,367μm,0.1s							
ATPI					AML	AML		
	comp=E,432μm,0.4s							
PIEI	Pieia	0.18	92	*e*	P	Pg	05 24 58.6	+0.4
PIEI					S	Sg	05 25 02.0	+1.1
PIEI					AML	AML		
	comp=E,353μm,0.1s							
PIEI					AML	AML		
	comp=N,213μm,0.7s							
ATVO	AVT- Monte Val	0.18	152	*e*	P	Pg	05 24 58.8	+0.5
ATVO					S	Sg	05 25 01.9	+1.0
ATVO					AML	AML		
	comp=N,574μm,0.3s							
ATVO					AML	AML		
	comp=E,455μm,0.7s							
ATMI	Monte Miggiano	0.21	184	⇑	P	Pg	05 24 59.1	+0.4
ATMI					S	Sg	05 25 02.6	+0.9
ATMI					AML	AML		
	comp=E,1050μm,0.9s							
ATMI					AML	AML		
	comp=N,790μm,0.3s							
ATMI					AML	AML		
	comp=E,1050μm,0.9s							
PE3	Peglio	0.22	44	*e*	P	Pg	05 24 59.5	+0.6
PE3					AML	AML		
	comp=E,285μm,0.3s							
PE3					AML	AML		
	comp=N,294μm,0.5s							
NARO	Abbazia di Nar	0.22	72	*e*	P	Pg	05 24 59.3	+0.3
NARO					S	Sg	05 25 03.2	+1.1
NARO					AML	AML		
	comp=E,156μm,0.7s							
NARO					AML	AML		
	comp=N,185μm,0.2s							
CRE	Caprese Michel	0.26	288	⇓*e*	P	Pg	05 24 59.8	+0.2
CRE					S	Sg	05 25 03.8	+0.6
CRE					AML	AML		
	comp=E,127μm,1.4s							
CRE					AML	AML		
	comp=N,143μm,0.2s							
CPGN	Carpegna, Ital	0.26	5	P		Pb	05 25 00.7	-0.6
CPGN						Sb	05 25 05.9	+0.1
ATFO	Monte Foce - G	0.27	130	P		Pg	05 25 00.9	+0.2
ATFO						Sb	05 25 04.9	-1.1
ATFO					AML	AML		
	comp=N,142μm,0.4s							
ATFO					AML	AML		
	comp=E,144μm,0.4s							
CAFI	Castiglion Fio	0.32	228	⇑*i*	P	Pg	05 25 00.9	+0.2
CAFI					AML	AML		
	comp=N,100μm,0.2s							
CAFI					AML	AML		
	comp=E,90μm,1.4s							
CAFI					AML	AML		
	comp=N,100μm,0.2s							
FRON	Frontone	0.32	94	*e*	P	Pg	05 25 01.0	+0.3
FRON					AML	AML		
	comp=N,290μm,0.1s							
FRON					AML	AML		
	comp=E,109μm,0.1s							
MURB	Monte Urbino	0.33	148		P	Pg	05 25 01.4	+0.5
MURB					S	Sb	05 25 07.0	-0.7
ATTE	AVT- Monte Tez	0.35	172	⇓*e*	P	Pg	05 25 01.5	+0.2
ATTE					AML	AML		
	comp=N,236μm,1.1s							
ATTE					AML	AML		
	comp=E,162μm,0.2s							
MPAG	Monte Paganucc	0.35	76		P	Pg	05 25 01.6	+0.2
MPAG					S	Sb	05 25 07.5	-0.9
SSFR	Montelago di S	0.38	106		P	Pg	05 25 02.2	+0.5
SSFR					S	Sb	05 25 08.1	-0.9
FSSB	Fossombrone	0.39	67	⇑*i*	P	Pg	05 25 02.3	+0.3
FSSB					AML	AML		
	comp=E,190μm,1.4s							
FSSB					AML	AML		
	comp=N,240μm,0.4s							
FOSV	Fossato di Vic	0.42	125	*e*	P	Pg	05 25 02.3	-0.3
ATCC	AVT- Casa Cast	0.44	144	*e*	P	Pb	05 25 03.6	-0.5
ATCC					AML	AML		
	comp=N,86μm,0.2s							
ATCC					AML	AML		
	comp=E,136μm,0.6s							
ASQU	Asqua	0.44	305	⇓*e*	P	Pg	05 25 03.2	+0.2
ASQU					AML	AML		
	comp=E,31μm,0.6s							
ASQU					AML	AML		
	comp=N,37μm,0.9s							
ARVD	Arcevia	0.48	95	*e*	P	Pg	05 25 04.2	+0.5
ARVD					AML	AML		
	comp=E,51μm,1.6s							
ARVD					AML	AML		
	comp=N,41μm,0.2s							
SFI	Santa Sofia	0.48	319		P	Pg	05 25 04.0	+0.2
SFI					S	Sb	05 25 11.6	-0.6
ASSB	Assisi San Ben	0.57	151		AML	AML		
	comp=E,41μm,0.2s							
ASSB					AML	AML		
	comp=N,42μm,0.1s							
RUFI	Rufina	0.64	298		P	Pg	05 25 06.6	-0.1
RUFI					S	Sb	05 25 16.1	-0.4
MGAB	Montegabbione	0.64	192		P	Pg	05 25 06.8	0.0
MGAB					S	Sb	05 25 16.6	-0.1
MGAB					AML	AML		
	comp=E,117μm,0.9s							
MGAB					AML	AML		
	comp=N,110μm,1.2s							
LMD	Lutirano	0.68	322		P	Pg	05 25 07.3	-0.2
LMD					S	Sb	05 25 17.9	+0.1
SACS	San Casciano d	0.75	202		P	Pg	05 25 08.5	-0.2
SACS					S	Sb	05 25 20.1	+0.4
MOMA	Monte Martano	0.77	164		P	Pb	05 25 09.7	-0.1
MOMA					S	Sb	05 25 20.7	+0.4
ARCI	Arcidosso	0.91	221		P	Pg	05 25 11.4	-0.4
CESX	Cesi	0.96	167		S	Sn	05 25 26.8	-0.7

KRSC 05 05:40:49.0±1.4, 49°.96N×159°.83E, h61km±36km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDTR	Khodutka, Kamc	2.15	330	*e*	P	Pn	05 41 25.1	+2.5
KDTR					*e*S	Sn	05 41 50.9	+2.8
PAU	Pauzhetka	2.44	309	*e*	P	Pn	05 41 29.6	+3.2
PAU					*e*S	Sn	05 41 58.5	+3.4
SKR	Severo-Kuril's	2.49	288	*e*	P	Pn	05 41 29.1	+2.0
SKR					*e*S	Sn	05 41 57.7	+1.5
RUS	Russkaya	2.61	342	*e*	P	Pn	05 41 31.2	+2.5
RUS					*e*S	Sn	05 42 01.6	+2.4
MTVR	Mutnovka	2.73	338	*e*	P	Pn	05 41 32.9	+2.4
MTVR					*e*S	Sn	05 42 04.7	+2.3
GRL	Gorelyy	2.82	338	*e*	P	Pn	05 41 35.1	+3.4
GRL					*e*S	Sn	05 42 08.7	+4.2
ALID	Alaid	2.88	290	*e*	P	Pn	05 41 35.5	+2.9
KRMR	Karymshinskiy	3.06	340	*e*S		Sn	05 42 14.0	+3.7
SPN	Mys Shipunski	3.14	2	*e*	P	Pn	05 41 38.4	+2.4
SPN					*e*S	Sn	05 42 15.2	+2.9
UGLR	Uglovaya	3.31	349	*e*	P	Pn	05 41 41.5	+3.1
SDLR	Sedlovina	3.37	350	*e*	P	Pn	05 41 41.9	+2.6
AVH	Avacha	3.38	349	*e*	P	Pn	05 41 42.9	+3.6
KRER	Koryakskii	3.41	349	*e*	P	Pn	05 41 43.6	+3.7
KOK	Koryaka	3.42	348	*e*	P	Pn	05 41 43.8	+3.9
KRX	Arik	3.48	348	*e*	P	Pn	05 41 44.7	+3.9
GNL	Ganaly	3.92	343	*e*	P	Pn	05 41 50.2	+3.5
MKZ	Mys Kozlova	4.75	14	*e*	P	Pn	05 41 59.7	+1.8
KZV	Kizimen	5.17	3	*e*	P	Pn	05 42 07.2	+3.3
TUMR	Tumrok	5.33	2	*e*	P	Pn	05 42 10.1	+4.0

VAO ***05*** *05:42:44.2±1.3, 18°.85S×69°.28W, h95km±11km, mb4.2*
NEIC ***05*** *05:42:44.9±1.3, 19°.02S±0°.05×69°.41W±0°.07, h102km±5km, Error ellipse: s-maj=10.2km s-min=6.7km az=80.0*
GUC ***05*** *05:42:45.2±0.7, 19°.03S×69°.41W, h101km±3km, ML4.3*
IDC ***05*** *05:42:46.8±1.1, 18°.99S×69°.14W, h123km±10km, mb3.4/7, mb1 3.8/11, mb1mx3.6/23, mbtmp3.9/11, Error ellipse: s-maj=25.1km s-min=8.3km az=96.0*

ISC 05 05:42:43.4±0.6, 18°.98S±0°.04×69°.38W±0°.05, h94km±5km, n96, σ1°.39/102, mb4.3/17, 6C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.26	234	⇓*i*	P	Pn	05 42 59.3	+1.8
MNMC				*i*	S	Sn	05 43 11.0	+3.0
MNMC					IAML		05 43 11.6	
	comp=N,15μm,0.2s							
MNMC	Minye Minye	0.26	234			Pn	05 42 59.4	+1.8
PB16	IPOC Station P	0.65	349			Pn	05 43 02.6	+2.1
PSGC	Pisagua	0.94	229	⇓*i*	P	Pn	05 43 03.8	+0.9
PSGC				*i*	S	Sn	05 43 18.2	+0.8
PSGCX	Pisagua	0.94	229			Pn	05 43 03.7	+0.9
AP01	Chacalluta	1.10	303	⇑*i*	P	Pn	05 43 06.1	+1.7
AP01				*i*	S	Sn	05 43 22.8	+2.4
AP01					IAML		05 43 26.6	
	comp=N,15μm,0.3s							
AP01	Chacalluta	1.10	303			Pn	05 43 06.2	+1.7
PB08	IPOC Station P	1.18	170	⇑*i*	P	Pn	05 43 07.7	+1.8
PB08				*i*	S	Sn	05 43 24.8	+2.1
PB08					IAML		05 43 25.8	
	comp=E,4μm,0.4s							
PB08	IPOC Station P	1.18	170			Pn	05 43 07.7	+1.8
TA02	Huaiquique	1.47	209	*e*	P	Pn	05 43 09.3	+0.3
TA02				*e*S		Sn	05 43 28.6	+0.2
TA02	Huaiquique	1.47	209			Pn	05 43 09.7	+0.6
TA01	Diego Aracena	1.75	206	⇑*e*	P	Pn	05 43 12.8	+0.2
TA01				*i*	S	Sn	05 43 34.6	-0.2
TA01	Diego Aracena	1.75	206			Pn	05 43 12.8	+0.2
PB01	IPOC Station P	2.06	183	⇑*i*	P	Pn	05 43 17.6	+1.0
PB01				*i*	S	Sn	05 43 42.0	+1.0
PB01					IAML		05 43 48.1	
	comp=N,2μm,0.3s							
PB01	IPOC Station P	2.06	183			Pn	05 43 17.6	+1.0
PB07	IPOC Station P	2.78	190	⇑*e*	P	Pn	05 43 26.8	+0.5
PB07				*i*	S	Sn	05 44 00.7	+1.6
PB07					IAML		05 44 07.1	
	comp=E,2μm,0.3s							
PB07	IPOC Station P	2.78	190			Pn	05 43 27.4	+1.2
PB09	IPOC Station P	2.81	177			Pn	05 43 27.5	+0.9
LPAZ	La Paz	2.93	24	P		Pn	05 43 33.0	+4.3
	comp=E,4.7nm,0.3s,baz=206,slow=6.8,SNR=104							
LPAZ					S	Sn	05 44 07.1	+3.7
	comp=E,3.2nm,0.3s,baz=208,slow=13,SNR=5.9							
LPAZ	La Paz	2.93	24			Pn	05 43 32.8	+4.1
PB03	IPOC Station P	3.08	187	⇑*e*	P	Pn	05 43 29.7	-0.5
PB04	IPOC Station P	3.42	192	*e*	P	Pn	05 43 35.0	+0.2
PB04					IAML		05 44 41.5	
	comp=E,650nm,0.4s							
PB04	IPOC Station P	3.42	192			Pn	05 43 35.0	+0.2
LVC	Limon Verde	3.64	173	P		Pn	05 43 41.0	+3.0
	comp=E,24nm,0.3s,baz=345,slow=8.6,SNR=124							
LVC					S	Sn	05 44 24.4	+4.3
	comp=E,37nm,0.3s,baz=150,slow=20,SNR=20							
LVC	Limon Verde	3.64	173	*e*	P	Pn	05 43 39.5	+1.5
LVC				*e*S		Sn	05 44 19.7	-0.5
LVC	Limon Verde	3.64	173			Pn	05 43 39.2	+1.2
LVC	Limon Verde	3.64	173	*e*	P	Pn	05 43 40.1	+2.1
PB06	IPOC Station P	3.71	183	*e*	P	Pn	05 43 39.9	+1.1
PB06				*e*S		Sn	05 44 22.4	+0.7
PB06	IPOC Station P	3.71	183			Pn	05 43 39.6	+0.8
PB05	IPOC Station P	3.93	191	*e*P		Pn	05 43 41.7	0.0
PB15	IPOC Station P	4.21	181	*e*P		Pn	05 43 45.9	+0.3
PB15	IPOC Station P	4.21	181			Pn	05 43 45.7	+0.1
PB10	IPOC Station P	4.64	193	*e*P		Pn	05 43 50.2	-1.1
PB10	IPOC Station P	4.64	193			Pn	05 43 50.2	-1.1
GO02	Mina Guanaco	6.16	182			Pn	05 44 11.0	-1.1
AC02	Maricunga	7.82	178			Pn	05 44 34.1	-0.9
SIV	San Ignacio	8.46	71	P		Pn	05 44 43.1	-0.2
	comp=E,2.4nm,0.3s,baz=266,slow=10,SNR=32							
SIV					S	Sn	05 46 14.4	-2.8
	baz=284,slow=18,SNR=1.6							
NNA	Nana	10.00	313	P		Pn	05 45 03.9	-0.4
	comp=E,1.9nm,0.3s,baz=215,slow=7.6,SNR=2.6							
NNA					S	Sn	05 46 49.9	-4.9
	comp=E,0.9nm,0.3s,baz=54,slow=19,SNR=2.1							
NNA	Nana	10.00	313			Pn	05 45 03.7	-0.6
LCO	Las Campanas	10.06	187			Pn	05 45 08.8	+3.5
PTLB	Pontes e Lacer	10.39	72	*e*P		Pn	05 45 08.8	-0.8
CPUP	Villa Florida	13.31	126	P		Pn	05 45 47.6	-1.0
	comp=E,0.1nm,0.3s,baz=305,slow=11,SNR=7.0							
TRCB	Terra Rica	16.10	107			P	05 46 26.4	+0.5
TRCB					IAmb	IAmb	05 46 27.3	
	comp=Z,26nm,0.9s							
TRCB	Terra Rica	16.10	107	*e*P		P	05 46 24.0	-1.9
ITAB	Concordia	17.85	121	P		Pn	05 46 45.8	0.0
ITAB					IAmb	IAmb	05 46 47.5	
	comp=Z,24nm,0.6s							
ITAB	Concordia	17.85	121	*e*P		Pn	05 46 46.4	+0.6
CPSB	Cacapava Do Su	18.39	131	*e*P		Pn	05 46 51.9	-0.3
SNDB	Serra Nova Dou	18.76	71	*e*P		Pn	05 46 55.2	-1.5
FRTB	Fartura	18.98	107	*e*P		Pn	05 46 58.1	-1.2
BB19B	Bebedouro	19.70	100	*e*P		P	05 47 04.3	-1.2
ITTB	Itaituba	19.71	44	*e*P		P	05 47 04.3	-1.2
TRQA	Tornquist	20.07	163	P		P	05 47 09.2	-0.2
BDFB	Brasilia	20.66	84	P		Pn	05 47 17.8	-1.3
	comp=Z,1.9nm,0.5s,baz=273,slow=9.1,SNR=7.7							
BDFB	Brasilia	20.66	84	P		Pn	05 47 17.9	-1.2
PLCA	Paso Flores	21.71	182	P		P	05 47 28.4	+1.6
	comp=Z,2.5nm,0.8s,baz=356,slow=11,SNR=3.6							
PLCA	Paso Flores	21.71	182	P		P	05 47 27.2	+0.3
RUSC	La Rusia	24.98	351	P		P	05 47 59.7	+0.7
RUSC					IAmb	IAmb	05 48 11.1	
	comp=Z,16nm,1.4s							
553A	Crawfordville	50.99	343	P		P	05 51 36.1	+0.5
BIRD	Birdtown, Kers	54.36	349	P		P	05 52 00.7	+0.3
BIRD					IAmb	IAmb	05 52 06.5	
	comp=Z,12nm,1.4s							
TXAR	Lajitas Array	58.32	325	P		P	05 52 29.4	+0.5
	comp=Z,0.1nm,0.5s,baz=156,slow=7.8,SNR=3.9							
Q56A	Snyder Ridge,	58.44	351	P		P	05 52 29.9	+0.6
P53A	Whipple	59.23	349	P		P	05 52 35.3	+0.4
P52A	Corning	59.51	349	P		P	05 52 36.6	-0.1
O53A	New Philadelph	59.95	350	P		P	05 52 40.0	+0.3
N53A	Lisbon	60.42	350	P		P	05 52 43.3	+0.3
M53A	WI Miller and	61.02	350	P		P	05 52 47.5	+0.5
M53A					IAmb	IAmb	05 53 08.9	
	comp=Z,14nm,1.4s							
ALLY	Alegheny Colle	61.14	351	P		P	05 52 48.0	+0.2
ALLY					IAmb	IAmb	05 53 09.1	
	comp=Z,8.2nm,1.1s							
G65A	Princeton	63.89	1	P		P	05 53 06.5	+0.5
G65A					IAmb	IAmb	05 53 35.7	
	comp=Z,14nm,1.4s							
F64A	Sherman	64.54	1	P		P	05 53 10.4	+0.2
F64A					IAmb	IAmb	05 53 38.7	
	comp=Z,3.9nm,1.1s							
SNAA	Sanae	64.80	161	P		P	05 53 12.5	+0.7
SNAA					IAmb	IAmb	05 53 20.2	
	comp=Z,3.5nm,1.4s							
E62A	Clayton Lake	65.29	360	P		P	05 53 15.8	+0.7
E62A					IAmb	IAmb	05 53 20.8	
	comp=Z,10nm,1.5s							
SDCO	Great Sand Dun	65.87	329	P		P	05 53 20.8	+1.3
QSPA	South Pole Qui	71.20	180	P		P	05 53 52.8	+0.7
QSPA					IAmb	IAmb	05 54 10.1	
	comp=Z,6.6nm,1.5s							
PMOZ	Porto Moniz, M	71.69	44	P		P	05 53 54.3	-1.1
PDAR	Pinedale Array	71.72	330	P		P	05 53 56.1	+0.6
	comp=Z,0.7nm,1.0s,baz=138,slow=8.3,SNR=3.8							
NVAR	Mina Array Bea	73.25	322	P		P	05 54 05.7	+0.9
	comp=Z,0.7nm,0.9s,baz=169,slow=7.1,SNR=3.7							
YNE	Yellowstone No	73.64	331	P		P	05 54 08.3	+1.4
YNE					IAmb	IAmb	05 54 08.9	
	comp=Z,4.5nm,0.7s							
GCMT	Greycliff	74.09	332	P		P	05 54 10.7	+1.2
TORD	Torodi Ar. Bea	76.94	71	P		P	05 54 24.7	-1.5
	comp=Z,0.5nm,0.5s,baz=254,slow=5.4,SNR=6.1							
TORD	Torodi Ar. Bea	76.94	71	P		P	05 54 24.8	-1.3
RTC	Rabat Centre	79.46	49			pP	05 55 08.0	+2.4
ESDC	Sonseca Array	84.36	45	P		P	05 55 05.9	+0.6
	comp=Z,0.6nm,0.9s,baz=213,slow=4.8,SNR=2.5							
YKA	Yellowknife Ar	88.67	341	P		P	05 55 26.0	+0.2
	comp=Z,2.8nm,0.8s,baz=110,slow=1.7,SNR=25							
H11S2	WAKE ISLAND Hyl	27.09	279	T		T	08 21 00.7	
	baz=101,slow=74,SNR=8.1							
H11S1	WAKE ISLAND Hyl	27.10	279	T		T	08 20 58.9	
	baz=101,slow=74,SNR=8.8							
H11S3	WAKE ISLAND Hyl	27.11	279	T		T	08 21 01.8	
	baz=101,slow=74,SNR=7.0							
ASAR	Alice Springs	131.91	209	PKP		PKPdf	06 01 45.9	-0.8
	comp=Z,0.3nm,0.5s,baz=146,slow=1.9,SNR=7.2							
ASAR	Alice Springs	131.91	209			PKPdf	06 01 46.2	-0.5
WRA	Warramunga Arr	134.87	212	PKP		PKPdf	06 01 51.9	-0.3
	comp=Z,0.8nm,0.5s,baz=146,slow=1.6,SNR=15							
ZALV	Zalesovo Beam	139.85	24	PKP		PKPdf	06 02 00.7	+0.4
	comp=Z,0.9nm,0.6s,baz=102,slow=2.1,SNR=3.6							
ZALV	Zalesovo Beam	139.85	24	PKPdf		PKPdf	06 02 01.2	+0.8
MKAR	Makanchi Array	143.82	34	PKP		PKPbc	06 02 06.5	+0.9
	comp=Z,0.9nm,0.9s,baz=250,slow=

2.8nm,1.1s,baz=17,slow=7.9,SNR=7.1
ASAR Alice Springs 47.22 190 P P 07 23 35.9 -0.1
0.5nm,0.6s,baz=15,slow=10,SNR=3.2
FINES FINESS Array B 81.44 334 P P 07 27 19.6 -0.2
1.3nm,0.8s,baz=58,slow=5.4,SNR=4.8
NVAR Mina Array Bea 83.03 51 P P 07 27 29.2 +0.3
0.5nm,0.8s,baz=260,slow=5.4,SNR=5.7

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*AEIC **05** 07:21:54.2±2.1,54°.18N±0°.05×162°.38W±0°.06,h9km±5km, ML3.5/38, Error ellipse: s-maj=7.6km s-min=4.7km az=168.0*
*NEIC **05** 07:21:56.4±2.0,54°.22N±0°.07×162°.38W±0°.07, h39km±10km, Error ellipse: s-maj=11.2km s-min=4.0km az=154.0*
*IDC **05** 07:21:57.8±5.1,54°.51N×162°.53W,h39km±33km,mb3.5/7, mb1 3.6/10,mb1mx3.4/56,mbtmp3.7/10,ML3.4/3,MS3.0/2, Ms1 3.0/2,ms1mx2.6/30, Error ellipse: s-maj=83.2km s-min=22.8km az=160.0*

ISC 05 07:21:55.8±1.1,54°.18N±0°.10×162°.29W±0°.05, h40km±10km,n79,σ1§38/78,mb3.8/7,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	**Dutton Round H**	**0.93**	**0**		**Pn**	**07 22 11.2**	**-1.3**
FALS	**False Pass**	**0.94**	**317**	P	**Pn**	**07 22 11.5**	**-1.0**
	baz=138						
FALS				S	**Sn**	**07 22 23.8**	**-1.0**
	baz=138						
FALS	**False Pass**	**0.94**	**317**		**Pn**	**07 22 11.7**	**-0.9**
FALS	**False Pass**	**0.94**	**317**		**Sn**	**07 22 23.8**	**-1.0**
BRPK	**Brown Peak**	**0.97**	**300**		**Pn**	**07 22 11.9**	**-1.0**
ISLZ	**Isanotski Laza**	**0.99**	**304**		**Pn**	**07 22 12.4**	**-0.9**
ISLZ					**Sn**	**07 22 25.5**	**-0.6**
ISNN	**Isanotski Nort**	**1.09**	**308**		**Pn**	**07 22 14.5**	**-0.1**
SSLS	**Shishaldin Sou**	**1.13**	**299**		**Pn**	**07 22 15.0**	**-0.2**
HAG	**Hague Volcano**	**1.17**	**11**		**Pn**	**07 22 15.7**	**+0.1**
SSLN	**Shishaldin Nor**	**1.18**	**303**		**Pn**	**07 22 16.1**	**+0.3**
SSLN					**Sn**	**07 22 32.7**	**+2.0**
PS4A	**Pavlof South-4**	**1.20**	**12**		**Pn**	**07 22 16.1**	**0.0**
SSBA	**Shishaldin**	**1.22**	**300**		**Pn**	**07 22 16.2**	**-0.2**
SSBA					**Sn**	**07 22 32.3**	**+0.5**
PVV	**Pavlof Volcano**	**1.23**	**13**		**Pn**	**07 22 16.9**	**+0.3**
PS1A	**Pavlof South-1**	**1.29**	**14**		**Pn**	**07 22 18.2**	**+0.9**
PS1A					**Sn**	**07 22 36.3**	**+3.0**
WESN	**West Dahl Nort**	**1.40**	**287**		**Pn**	**07 22 18.7**	**-0.1**
WECS	**Westdahl Cape**	**1.50**	**285**		**Pn**	**07 22 20.0**	**-0.2**
SDPT	**Sand Point**	**1.58**	**41**	P	**Pn**	**07 22 21.6**	**+0.4**
	baz=224						
SDPT				S	**Sn**	**07 22 42.4**	**+2.0**
	baz=224						
SDPT	**Sand Point**	**1.58**	**41**		**Pn**	**07 22 21.9**	**+0.7**
SDPT					**Sn**	**07 22 42.8**	**+2.4**
AKSA	**Akutan Strait**	**2.00**	**270**		**Pn**	**07 22 26.9**	**-0.2**
AKUT	**Akutan**	**2.04**	**270**		**Pn**	**07 22 27.8**	**+0.1**
AKBBA	**Akutan Broad B**	**2.14**	**269**		**Pn**	**07 22 29.2**	**+0.2**
AKGG	**Akutan Green G**	**2.17**	**272**		**Pn**	**07 22 29.0**	**-0.4**
AKMO	**Akutan Morgan**	**2.19**	**269**		**Pn**	**07 22 29.6**	**-0.1**
AKRB	**Akutan Reef Bi**	**2.22**	**270**		**Pn**	**07 22 30.9**	**+0.8**
MTBL	**Makushin Table**	**2.59**	**267**		**Pn**	**07 22 35.5**	**+0.3**
MNAT	**Makushin Natee**	**2.60**	**265**		**Pn**	**07 22 35.3**	**-0.1**
VNFG	**Fog Glacier, M**	**2.63**	**36**	P	**Pn**	**07 22 37.3**	**+1.4**
	baz=219						
VNFG	**Fog Glacier, M**	**2.63**	**36**		**Pn**	**07 22 37.3**	**+1.4**
MSW	**Makushin Switc**	**2.66**	**266**		**Pn**	**07 22 35.9**	**-0.2**
VNSG	**Veniaminof 6**	**2.68**	**42**		**Pn**	**07 22 37.5**	**+1.0**
MGOD	**Makushin Gods**	**2.73**	**264**		**Pn**	**07 22 36.9**	**-0.3**
MAPS	**Pakushin South**	**2.77**	**264**		**Pn**	**07 22 37.8**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**3.50**	**259**		**Pn**	**07 22 49.5**	**+1.8**
NIKH	**Nikolski High**	**4.09**	**255**	P	**Pn**	**07 22 56.8**	**+1.0**
	baz=70						
NIKH	**Nikolski High**	**4.09**	**255**		**Pn**	**07 22 56.4**	**+0.6**
SPIA	**Saint Paul Isl**	**5.41**	**307**	Pn	**Pn**	**07 23 15.1**	**+1.2**
KABR	**Katmai Barrier**	**5.70**	**43**		**Pn**	**07 23 17.9**	**+0.1**
OHAK	**Old Harbor**	**5.94**	**55**	Pn	**Pn**	**07 23 19.6**	**-1.5**
KDAK	**Kodiak Island**	**6.54**	**53**	Pn	**Pn**	**07 23 27.8**	**-1.5**
	1.0nm,0.3s,baz=215,slow=6.2,SNR=16						
KDAK					**Sn**	**07 24 36.8**	**-5.7**
	baz=36,slow=19,SNR=1.0						
KDAK				Lg	Lg	07 25 10.6	
	1.4nm,0.3s,baz=129,slow=20,SNR=7.8						
KDAK	**Kodiak Island**	**6.54**	**53**	Pn	**Pn**	**07 23 30.6**	**+1.3**
SVW2	**Sparrevohn**	**7.81**	**25**	Pn	**Pn**	**07 23 47.3**	**+0.5**
CNPM	**China Poot**	**8.09**	**44**	Pn	**Pn**	**07 23 51.4**	**+0.8**
ADK	**Adak**	**8.97**	**261**	Pn	**Pn**	**07 24 04.3**	**+1.6**
KIWB	**Kanaga Island**	**9.25**	**261**	Pn	**Pn**	**07 24 05.7**	**-0.9**
RC01	**Rabbit Creek A**	**9.65**	**39**	Pn	**Pn**	**07 24 12.1**	**+0.2**
SKT	**Skwentna**	**9.67**	**32**	Pn	**Pn**	**07 24 13.6**	**+1.5**
PWL	**Port Wells**	**10.04**	**43**	Pn	**Pn**	**07 24 16.4**	**-1.0**
GHO	**Glory Hole Cre**	**10.39**	**38**	Pn	**Pn**	**07 24 20.3**	**-1.8**
HIN	**Hinchinbrook I**	**10.56**	**48**	Pn	**Pn**	**07 24 23.3**	**-1.1**
FID	**Port Fidalgo**	**10.75**	**46**	Pn	**Pn**	**07 24 25.1**	**-1.8**
SCM	**Sheep Creek Mo**	**11.02**	**40**	Pn	**Pn**	**07 24 28.3**	**-2.4**
KLU	**Klutina**	**11.37**	**43**		**Pn**	**07 24 34.4**	**-1.1**
AMKA	**Amchitka**	**11.49**	**263**	Pn	**Pn**	**07 24 37.7**	**+0.5**
HMT	**Hamilton**	**11.53**	**50**	Pn	**Pn**	**07 24 37.6**	**0.0**
M24K	**Tolsona, Glenn**	**11.62**	**40**	Pn	**Pn**	**07 24 37.8**	**-1.1**
N25K	**Chitina, Valde**	**11.97**	**44**	Pn	**Pn**	**07 24 42.5**	**-1.2**
VRDI	**Verde Repeater**	**12.27**	**47**	Pn	**Pn**	**07 24 47.1**	**-0.8**
ILAR	**Eielson Array**	**13.15**	**30**	Pn	**Pn**	**07 24 55.6**	**-4.1**
	0.1nm,0.3s,baz=226,slow=13,SNR=1.9						
ILAR				LR	LR	07 30 16.1	
	comp=Z,45nm,21.3s,baz=197,slow=38						
SCRK	**Sand Creek**	**13.54**	**36**	Pn	**Pn**	**07 25 03.2**	**-2.0**
BCPM	**Bancas Point**	**13.58**	**56**	Pn	**Pn**	**07 25 05.1**	**-0.5**
L27K	**Beaver Creek,**	**13.83**	**42**	Pn	**Pn**	**07 25 08.1**	**-0.9**
BCAR	**Beaver Creek A**	**13.84**	**42**	Pn	**Pn**	**07 25 07.3**	**-1.9**
INK	**Inuvik**	**19.52**	**32**	P	**P**	**07 26 19.2**	**0.0**
	0.2nm,0.3s,baz=223,slow=12,SNR=1.6						
PETK	**Petropavlovsk-**	**23.53**	**284**	P	**P**	**07 27 02.2**	**+0.2**
	1.5nm,0.5s,baz=97,slow=12,SNR=5.6						
YKA	**Yellowknife Ar**	**25.81**	**52**	P	**P**	**07 27 24.8**	**+2.0**
	0.2nm,0.4s,baz=266,slow=9.4,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**41.66**	**227**	T	T	08 14 14.6	
	baz=27,slow=76,SNR=177						
H11N3	**WAKE ISLAND Hy**	**41.66**	**227**	T	T	08 14 15.1	
	baz=27,slow=76,SNR=186						
H11N1	**WAKE ISLAND Hy**	**41.68**	**227**	T	T	08 14 14.6	
	baz=27,slow=76,SNR=126						
H11S1	**WAKE ISLAND Hy**	**42.83**	**226**	T	T	08 15 40.7	
	baz=26,slow=76,SNR=270						
H11S2	**WAKE ISLAND Hy**	**42.84**	**226**	T	T	08 15 43.6	
	baz=26,slow=76,SNR=103						
H11S3	**WAKE ISLAND Hy**	**42.85**	**226**	T	T	08 15 43.1	
	baz=26,slow=76,SNR=124						
KSRS	**Korea Array**	**49.34**	**280**	P	**P**	**07 30 41.7**	**+0.9**
	0.8nm,0.6s,baz=53,slow=6.5,SNR=6.2						
NOA	**NORSAR Array B**	**65.01**	**3**	P	**P**	**07 32 30.7**	**-0.5**
	0.6nm,0.7s,baz=356,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**65.52**	**317**	P	**P**	**07 32 34.0**	**-0.7**
	0.5nm,0.7s,baz=38,slow=5.0,SNR=2.0						
MKAR				LR	LR	08 01 48.7	
	comp=Z,16nm,19.9s,baz=356,slow=37						
AKASG	**Malin Array Be**	**75.05**	**352**	P	**P**	**07 33 32.1**	**-0.7**
	0.8nm,0.4s,baz=11,slow=6.1,SNR=4.1						
GERES	**GERESS Array B**	**77.30**	**3**	P	**P**	**07 33 46.2**	**+0.4**
	0.5nm,0.6s,baz=0.0,slow=5.1,SNR=5.9						
H03N2	**Juan Fernandez**	**112.76**	**116**	T	T	09 43 05.7	
	baz=323,slow=77,SNR=13						
H03N1	**Juan Fernandez**	**112.77**	**116**	T	T	09 43 04.9	
	baz=323,slow=77,SNR=12						
H03N3	**Juan Fernandez**	**112.78**	**116**	T	T	09 43 02.9	
	baz=323,slow=77,SNR=9.9						

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*IDC **05** 07:22:01.7±2.5,26°.14N×125°.29E,h133km±24km, mb3.3/10,mb1 3.5/11,mb1mx3.3/49,mbtmp3.7/11, Error ellipse: s-maj=25.8km s-min=16.6km az=64.0*
*JMA **05** 07:22:02.3±0.2,26°.09N×125°.15E,h129km, M3.6*

ISC 05 07:22:02.4±0.7,26°.00N±0°.08×125°.24E±0°.06,h142km±9km, n32,σ1§03/45,mb3.5/10,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.08**	**179**	P	**Pn**	**07 22 27.2**	**+0.1**
JIKM				S	**Sn**	**07 22 45.6**	**-0.2**
JIRB	**Irabujima**	**1.17**	**183**	P	**Pn**	**07 22 27.9**	**-0.1**
JIRB				S	**Sn**	**07 22 46.3**	**-1.2**
JOGS	**Gusukube**	**1.25**	**173**	P	**Pn**	**07 22 29.2**	**+0.5**
JOGS				*e*S	**Sn**	**07 22 49.3**	**+0.5**
JMJ2	**Miyako jima3**	**1.26**	**176**	P	**Pn**	**07 22 29.2**	**+0.3**
JMJ2				S	**Sn**	**07 22 48.8**	**-0.2**
JKE	**Kume jima 2**	**1.43**	**77**	P	**Pn**	**07 22 30.7**	**+0.2**
JKE				*e*S	**Sn**	**07 22 51.7**	**-0.4**
JTJ	**Tarama**	**1.44**	**200**	P	**Pn**	**07 22 30.6**	**-0.1**
JTJ				S	**Sn**	**07 22 50.9**	**-1.4**
JISG	**Ishigakijimahi**	**1.64**	**211**	P	**Pn**	**07 22 32.7**	**-0.2**
JISG				S	**Sn**	**07 22 54.4**	**-1.8**
JAGN	**Aguni-jima**	**1.89**	**72**	*e*S	**Sn**	**07 23 00.5**	**-0.8**
JIJ	**Ishigaki jima**	**1.91**	**211**	P	**Pn**	**07 22 35.4**	**-0.6**
JIJ				S	**Sn**	**07 22 58.9**	**-2.8**
JKRS	**Kuro-shima**	**2.08**	**213**	P	**Pn**	**07 22 37.6**	**-0.4**
JKRS				S	**Sn**	**07 23 04.0**	**-1.3**
IRIF	**Iriomote-Funau**	**2.15**	**220**	P	**Pn**	**07 22 38.3**	**-0.5**
IRIF				S	**Sn**	**07 23 05.4**	**-1.4**
JJT3	**Tamagusuku3**	**2.30**	**86**	P	**Pn**	**07 22 40.9**	**+0.3**
JJT3				S	**Sn**	**07 23 09.5**	**-0.4**
HATJ	**Hateruma jima**	**2.33**	**214**	S	**Sn**	**07 23 10.1**	**-0.7**
YOJ	**Yonaguni jima**	**2.53**	**233**	P	**Pn**	**07 22 44.3**	**+0.8**
YOJ				*e*S	**Sn**	**07 23 15.7**	**+0.5**
JNTH	**Nagotoyohara**	**2.55**	**78**	P	**Pn**	**07 22 43.8**	**+0.1**
JYNG	**Yonaguni jima**	**2.59**	**234**	P	**Pn**	**07 22 44.2**	**0.0**
JOW	**Kunigami**	**2.85**	**72**	P	**Pn**	**07 22 47.1**	**-0.4**
	3.9nm,0.3s,baz=115,slow=23,SNR=2.1						
JOW				S	**Sn**	**07 23 19.2**	**-3.0**
	26nm,0.3s,baz=133,slow=26,SNR=13						
JOW	**Kunigami**	**2.85**	**72**	P	**Pn**	**07 22 48.1**	**+0.6**
JYRO	**Yoronjima**	**3.06**	**70**	P	**Pn**	**07 22 49.4**	**-0.7**
JOKE	**Okinoerabujima**	**3.28**	**65**	P	**Pn**	**07 22 52.3**	**-0.7**
JTK	**Tokunoshima**	**3.76**	**61**	P	**Pn**	**07 22 58.3**	**-1.0**
KSRS	**Korea Array**	**11.64**	**11**	P	**Pn**	**07 24 46.5**	**+2.5**
	0.1nm,0.3s,baz=195,slow=14,SNR=4.3						
MKAR	**Makanchi Array**	**39.70**	**313**	P	**P**	**07 29 20.8**	**+0.1**
	0.8nm,0.4s,baz=99,slow=9.6,SNR=13						
ZALV	**Zalesovo Beam**	**40.82**	**324**	P	**P**	**07 29 29.1**	**-0.7**
	1.3nm,0.4s,baz=108,slow=9.3,SNR=6.7						
KURBB	**Kurchatov Arra**	**43.18**	**317**	P	**P**	**07 29 48.7**	**-0.3**
	0.3nm,0.5s,baz=108,slow=8.8,SNR=4.6						
WRA	**Warramunga Arr**	**46.52**	**168**	P	**P**	**07 30 16.4**	**+0.7**
	0.5nm,0.7s,baz=349,slow=8.6,SNR=2.4						
ASAR	**Alice Springs**	**50.09**	**170**	P	**P**	**07 30 44.3**	**+1.3**
	0.3nm,0.6s,baz=357,slow=13,SNR=9.5						
ILAR	**Eielson Array**	**65.90**	**28**	P	**P**	**07 32 32.4**	**-0.3**
	0.4nm,0.6s,baz=266,slow=5.6,SNR=7.7						
FINES	**FINESS Array B**	**71.72**	**330**	P	**P**	**07 33 08.1**	**-0.6**
	0.5nm,0.4s,baz=65,slow=6.0,SNR=9.8						
AKASG	**Malin Array Be**	**73.94**	**319**	P	**P**	**07 33 21.1**	**-0.8**
	1.1nm,0.6s,baz=66,slow=5.8,SNR=2.2						
NOA	**NORSAR Array B**	**78.31**	**333**	P	**P**	**07 33 46.0**	**-0.6**
	0.3nm,0.5s,baz=54,slow=5.9,SNR=2.6						
YKA	**Yellowknife Ar**	**79.85**	**24**	P	**P**	**07 33 55.1**	**+0.3**
	0.6nm,0.6s,baz=304,slow=4.9,SNR=5.2						

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*ISN **05** 07:26:14.5±1.2,35°.48N×45°.13E,h5km±57km, ML3.4*
*TEH **05** 07:26:19.9,35°.34N×45°.22E,h6km, ML3.4*

ISC 05 07:26:18.7±0.9,35°.27N±0°.04×45°.01E±0°.05,h10km,n22, σ1§38/25,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.56**	**284**	*e*Pg	**Pg**	**07 26 29.2**	**-0.5**
IKRK				*e*Sg	**Sg**	**07 26 38.7**	**+1.5**
IKRK				AML	AML	07 26 41.6	
	comp=E,1μm,0.4s						
IKRK				AML	AML	07 26 49.9	
	comp=N,1μm,0.6s						
IDHR	**Dehrash**	**1.26**	**116**	*e*Pg	**Pb**	**07 26 41.3**	**-1.5**
IDHR				*e*		07 27 06.8	
	comp=Z,9μm,0.3s						
IGHG	**Ghaleghazi**	**1.59**	**126**	*e*Pg	**Pb**	**07 26 47.9**	**-0.4**
MAHB	**Mahabad**	**1.60**	**20**	*e*Pg	**Pb**	**07 26 47.3**	**-1.2**
MAHB				*e*Sg	**Sg**	**07 27 10.7**	**+0.4**
ILIN	**Lien**	**1.64**	**102**	*e*Pg	**Pb**	**07 26 47.9**	**-1.3**
ILIN				*e*		07 27 16.2	
	comp=Z,4μm,0.3s						
KCHF	**Cheshme Sefid,**	**1.94**	**120**	*e*Pn	**Pb**	**07 26 53.3**	**-1.0**
KCHF				*e*		07 27 25.5	
	comp=Z,6μm,0.4s						
KER	**Kermanshah**	**1.95**	**116**	*e*Pn	**Pb**	**07 26 53.4**	**-1.1**
KER				*e*		07 27 27.4	
	comp=Z,5μm,0.6s						
BHD	**Baghdad**	**2.06**	**195**	*e*Pn	**Pn**	**07 26 53.0**	**-0.4**
BHD				*e*Sn	**Sn**	**07 27 21.0**	**+1.9**
BHD				AML	AML	07 27 25.8	
	comp=E,921nm,0.4s						
IBDR	**Badra**	**2.28**	**160**	*e*Pn	**Pn**	**07 26 55.9**	**-0.5**
IBDR				*e*Sn	**Sn**	**07 27 26.0**	**+1.4**
IBDR				AML	AML	07 27 29.7	
	comp=E,266nm,0.5s						
IBDR				AML	AML	07 27 30.5	
	comp=N,171nm,0.3s						
IALM	**Almabolaq**	**2.62**	**98**	*e*Pn	**Pn**	**07 27 02.4**	**+1.0**
IHSH	**Hashtrud**	**2.73**	**41**	*e*Pn	**Pb**	**07 27 04.1**	**-3.8**
IHSH				*e*		07 27 56.9	
	comp=Z,855nm,0.8s						
IDOB	**Doab**	**3.00**	**119**	*e*Pn	**Pn**	**07 27 07.2**	**+0.6**
ITBZ	**Tabriz**	**3.10**	**17**	*e*Pn	**Pn**	**07 27 09.8**	**+1.9**
HSAM	**Samen**	**3.14**	**109**	*e*Pn	**Pn**	**07 27 09.6**	**+1.1**
HAGD	**Aghdareh**	**3.42**	**96**	*e*Pn	**Pn**	**07 27 12.3**	**0.0**
HAGD				*e*		07 27 20.1	
	comp=Z,552nm,0.7s						
IHRS	**Heris**	**3.46**	**28**	*e*Pn	**Pn**	**07 27 13.7**	**+0.9**
IHRS				*e*		07 27 22.9	
	comp=Z,864nm,0.4s						
BMDN	**Meydan**	**3.53**	**116**	*e*Pn	**Pn**	**07 27 14.7**	**+0.9**
QSDN	**Sirdan**	**3.60**	**69**	*e*Pn	**Pn**	**07 27 15.9**	**+1.1**
IRAZ	**Razeghan**	**4.02**	**87**	*e*	Pg	07 27 38.9	+3.0
	comp=Z,627nm,0.6s						
MIB	**Mutribah**	**5.79**	**160**	*e*P	**Pn**	**07 27 44.3**	**-0.4**
RST	**Umm Al-Ruwaisa**	**5.99**	**163**	*e*P	**Pn**	**07 27 46.8**	**-0.7**
IZEF	**Zefreh**	**6.52**	**109**	*e*Pn	**Pn**	**07 27 56.1**	**+1.2**

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*DJA **05** 07:34:43.7±0.3,9°.5±7°.×11°.4E±°,h166km±3km, M4.7/19, mb4.8/8,mB5.1/4,MLv4.6/19,Mw(mB)4.5/4*
*NEIC **05** 07:34:44.2±1.9,8°.24S±0°.06×113°.99E±0°.07,h166km±4km, mb4.4/15, Error ellipse: s-maj=11.0km s-min=8.7km az=116.0*
*IDC **05** 07:34:45.4±1.4,8°.13S×114°.03E,h186km±14km,mb3.6/10, mb1 3.7/12,mb1mx3.5/27,mbtmp4.1/12, Error ellipse: s-maj=17.0km s-min=10.8km az=40.0*

ISC 05 07:34:44.1±0.6,8°.33S±0°.06×114°.00E±0°.04,h171km±5km, n77,σ1§48/94,mb4.2/20,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.21**	**133**		**Pn**	**07 35 07.1**	**+0.1**
JAGI				Sn	**Sn**	**07 35 23.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**0.21**	**133**	P	**Pn**	**07 35 07.2**	**+0.2**
JAGI				S	**Sn**	**07 35 23.4**	**-1.1**
SRBI	**Singaraja**	**1.23**	**79**	P	**Pn**	**07 35 14.0**	**+1.2**
SRBI				S	**Sn**	**07 35 36.5**	**+1.7**
DNP	**Denpasar**	**1.25**	**106**	P	**Pn**	**07 35 13.3**	**+0.3**
DNP				S	**Sn**	**07 35 35.6**	**+0.4**
KMMI	**Kalianget**	**1.27**	**359**	P	**Pn**	**07 35 13.6**	**+0.4**
PWJI	**Pagerwojo**	**2.19**	**278**	P	**Pn**	**07 35 22.4**	**-0.3**
PWJI				S	**Sn**	**07 35 51.6**	**-1.0**
TBJI	**Tambak Boyo**	**2.61**	**305**	P	**Pn**	**07 35 27.5**	**-0.1**
PCJI	**Pacitan**	**2.79**	**273**	P	**Pn**	**07 35 29.8**	**-0.1**
PCJI				S	**Sn**	**07 36 02.9**	**-2.5**
TWSI	**Taliwang, Sumb**	**2.88**	**98**	P	**Pn**	**07 35 30.9**	**0.0**
TWSI				S	**Sn**	**07 36 06.6**	**-0.7**
UGM	**Wanagama**	**3.46**	**277**		**Pn**	**07 35 38.0**	**-0.2**
UGM	**Wanagama**	**3.46**	**277**	P	**Pn**	**07 35 38.0**	**-0.2**
UGM				S	**Sn**	**07 36 17.6**	**-2.7**
YOGI	**Yogyakarta**	**3.70**	**278**	P	**Pn**	**07 35 41.7**	**+0.5**
YOGI				S	**Sn**	**07 36 23.1**	**-2.6**
SMRI	**Semarang**	**3.75**	**290**		**Pn**	**07 35 42.3**	**+0.5**
SMRI	**Semarang**	**3.75**	**290**	P	**Pn**	**07 35 41.3**	**-0.5**
SMRI				S	**Sn**	**07 36 28.4**	**+1.7**
PLAI	**Plampang**	**3.77**	**98**	P	**Pn**	**07 35 42.4**	**+0.4**
PLAI				S	**Sn**	**07 36 27.0**	**-0.2**
KPJI	**Karang Pucung**	**5.12**	**281**	P	**Pn**	**07 35 59.3**	**-0.2**
	1.0nm109nm,0.6s						
KPJI				S	**Sn**	**07 36 59.1**	**+0.6**
	1.0nm109nm,0.6s						
WBSI	**Waikabubak, Su**	**5.49**	**104**	P	**Pn**	**07 36 02.4**	**-1.9**
	1.1nm2μm105nm,0.8s						
CISI	**Cisompet, Garu**	**6.17**	**277**		**Pn**	**07 36 12.4**	**-1.0**
CISI	**Cisompet, Garu**	**6.17**	**277**	P	**Pn**	**07 36 12.4**	**-1.0**
	1.1nm71nm,0.5s						
LEM	**Lembang**	**6.50**	**283**	P	**Pn**	**07 36 18.9**	**+1.0**
	6.6nm,0.3s,baz=69,slow=13,SNR=30						
LEM				S	**Sn**	**07 37 33.7**	**+2.2**
	7.5nm,0.3s,baz=338,slow=19,SNR=1.7						
LEM	**Lembang**	**6.50**	**283**	P	**Pn**	**07 36 18.2**	**+0.4**
	0.3nm106nm,0.7s						
KAPI	**Kappang**	**6.59**	**60**	P	**Pn**	**07 36 20.2**	**+1.2**
	1.8nm,0.3s,baz=241,slow=10,SNR=7.6						
KAPI	**Kappang**	**6.59**	**60**	Pn	**Pn**	**07 36 20.6**	**+1.7**
BASI	**Baing, Sumba**	**6.76**	**107**	P	**Pn**	**07 36 20.5**	**-0.6**
	1.0nm2μm130nm,0.5s						
CNJI	**Cibinong**	**6.88**	**278**	P	**Pn**	**07 36 22.1**	**-0.6**
	0.9nm76nm,0.5s						
CBJI	**Citeko**	**7.34**	**284**	P	**Pn**	**07 36 24.7**	**-4.1**
EDFI	**Ende, Flores**	**7.62**	**94**	P	**Pn**	**07 36 30.8**	**-1.8**
	0.2nm1μm28nm,0.5s						
MMRI	**Maumere**	**8.16**	**93**		**Pn**	**07 36 38.6**	**-1.0**
MMRI	**Maumere**	**8.16**	**93**	P	**Pn**	**07 36 40.4**	**+0.8**
	78nm,0.4s						
XMI	**Christmas Isla**	**8.46**	**255**	P	**Pn**	**07 36 43.6**	**-0.1**
	80nm,1.0s						
XMIS	**Christmas Isla**	**8.51**	**255**	Pn	**Pn**	**07 36 42.7**	**-1.5**
XMIS	**Christmas Isla**	**8.51**	**255**	P	**Pn**	**07 36 43.5**	**-0.7**
	54nm,1.6s						
BATI	**Baumata**	**9.72**	**102**	P	**Pn**	**07 36 59.6**	**-0.6**
	17nm,0.3s,baz=274,slow=8.7,SNR=5.8						
BATI				S	**Sn**	**07 38 42.5**	**-5.9**
	6.8nm,0.3s,baz=266,slow=19,SNR=2.7						
KASI	**Kota Agung**	**9.84**	**286**	P	**Pn**	**07 37 02.1**	**+0.4**
SOEI	**Soe**	**10.24**	**99**		**Pn**	**07 37 06.6**	**-0.6**
MNAI	**Manna**	**11.66**	**289**	Pn	**Pn**	**07 37 24.4**	**-1.1**
GIRL	**Giralia**	**14.24**	**179**		**P**	**07 38 00.6**	**+0.2**
PSA00	**Pilbara Seismi**	**14.32**	**157**	Pn	**Pn**	**07 37 59.7**	**+0.4**
PSA00	**Pilbara Seismi**	**14.32**	**157**	Pn	**Pn**	**07 37 59.3**	**0.0**
KNRA	**Kununurra**	**16.18**	**118**	P	**Pn**	**07 38 22.3**	**+0.2**
MTN	**Manton Dam**	**17.43**	**106**		**Pn**	**07 38 36.5**	**-0.6**
MTN				IAmb	IAmb	07 38 54.7	
	comp=Z,16nm,0.7s						
WB0	**Warramunga Arr**	**22.79**	**122**	P	**P**	**07 39 32.0**	**-0.2**
WB0				IAmb	IAmb	07 40 20.4	
	comp=Z,46nm,1.9s						
WRA	**Warramunga Arr**	**22.82**	**123**	P	**P**	**07 39 32.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=298,slow=12,SNR=42						
WRA	**Warramunga Arr**	**22.82**	**123**	P	**P**	**07 39 32.2**	**-0.4**
WRAB	**Tennant Creek**	**22.83**	**123**	P	**P**	**07 39 32.7**	**+0.1**
WRAB				IAmb	IAmb	07 39 57.3	
	comp=Z,7.8nm,0.5s						
WB2	**Warramunga Arr**	**22.83**	**123**	P	**P**	**07 39 33.0**	**+0.3**
WB2				IAmb	IAmb	07 39 57.5	
	comp=Z,8.0nm,0.5s						
WR0	**Warramunga Arr**	**23.00**	**122**	P	**P**	**07 39 34.5**	**+0.3**
WR0				IAmb	IAmb	07 40 08.4	
	comp=Z,25nm,1.8s						
ASAR	**Alice Springs**	**24.42**	**131**	P	**P**	**07 39 48.1**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=306,slow=9.2,SNR=32						
ASAR				PcP	**PcP**	**07 43 20.0**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=321,slow=2.2,SNR=3.5						
ASAR				ScP	**ScP**	**07 46 42.1**	**-2.3**
	comp=Z,0.5nm,0.5s,baz=318,slow=1.2,SNR=2.6						
CM31	**Chiang Mai Arr**	**30.48**	**331**	P	**P**	**07 40 41.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.48**	**331**	P	**P**	**07 40 40.2**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=161,slow=8.8,SNR=13						
CMAR	**Chiang Mai Arr**	**30.48**

B05A			S		Sg	07 45 24.4	+0.4
	baz=356						
B05A	Bryant	0.74 173			Pg	07 45 14.0	-0.3
BIB	Bowen Island	0.81 300	P		Pg	07 45 15.4	-0.2
BIB			S		Sg	07 45 26.2	0.0
JCW	Jim Creek	0.83 166	P		Pg	07 45 15.6	-0.5
JCW			S		Sg	07 45 26.1	-0.8
JCW	Jim Creek	0.83 166			Pg	07 45 15.5	-0.5
GOBB	Galiano Island	0.84 267	P		Pg	07 45 16.2	0.0
GOBB			S		Sg	07 45 27.5	+0.4
PA01	PA01 North	0.87 247	P		Pg	07 45 16.4	-0.4
PA01			S		Sg	07 45 28.2	0.0
PA02	PA02 Ocean	0.88 247	P		Pg	07 45 16.5	-0.3
PA02			S		Sg	07 45 28.5	-0.2
B011	North Saanich	0.88 247	P		Pg	07 45 16.4	-0.4
B011			S		Sg	07 45 28.2	0.0
B011	North Saanich	0.88 247			Pg	07 45 16.4	-0.4
B011					Sg	07 45 28.2	0.0
B010	North Saanich	0.88 247	P		Pg	07 45 16.5	-0.4
B010			S		Sg	07 45 28.3	0.0
PA12	PA12 Sannich	0.88 247	P		Pg	07 45 16.5	-0.4
PA12			S		Sg	07 45 28.3	0.0
PGC	Sidney	0.88 247	P		Pg	07 45 16.5	-0.3
PGC			S		Sg	07 45 28.3	0.0
PGC	Sidney	0.88 247	Pn		Pg	07 45 16.4	-0.5
PGC					Sg	07 45 28.4	+0.1
PGC			IAML			07 45 28.6	
	comp=N,321nm,0.4s						
PGC			IAML			07 45 28.9	
	comp=E,240nm,0.3s						
B009	North Saanich	0.88 247	P		Pg	07 45 16.5	-0.4
B009			S		Sg	07 45 28.2	-0.1
WPB	Watts Point	0.91 316	P		Pg	07 45 16.9	-0.7
WPB			S		Sg	07 45 28.6	-0.9
VGZ	Gonzales	0.93 231	P		Pg	07 45 17.4	-0.5
VGZ			S		Sg	07 45 29.8	-0.2
VGZ	Gonzales	0.93 231			Pg	07 45 17.4	-0.5
SQM	Sequim	1.07 210			Pb	07 45 20.5	-0.2
BLN	Blyn Mountain	1.11 206	P		Pb	07 45 20.7	-0.6
BLN			S		Sb	07 45 35.9	0.0
GPW	Glacier Peak	1.15 140	P		Pb	07 45 20.4	-1.8
GPW			S		Sb	07 45 35.0	-2.1
GPW	Glacier Peak	1.15 140			Pb	07 45 20.4	-1.8
NLLB	Nanaimo Lost L	1.17 282	P		Pn	07 45 21.5	-1.1
NLLB			S		Sb	07 45 36.5	-1.2
NLLB	Nanaimo Lost L	1.17 282			Pn	07 45 21.4	-1.1
BLH	Bald Hill	1.18 173			Pb	07 45 22.1	-0.4
WSLR	Whistler	1.21 339	P		Pn	07 45 21.8	-1.3
WSLR			S		Sb	07 45 36.9	-2.0
WSLR	Whistler	1.21 339			Pn	07 45 21.9	-1.3
SHB	Sechelt	1.23 300	P		Pn	07 45 22.3	-1.1
SHB			S		Sb	07 45 38.5	-0.9
SHB	Sechelt	1.23 300			Pn	07 45 22.0	-1.4
B926	Mesachie Lake	1.26 262	P		Pn	07 45 22.6	-1.1
B926			S		Sb	07 45 38.7	-1.5
B926	Mesachie Lake	1.26 262			Pn	07 45 22.7	-1.1
B04A	Port Angeles	1.27 222			Pn	07 45 22.9	-1.0
B013	Quilcene	1.27 201			Pn	07 45 22.9	-1.0
B013	Quilcene	1.27 201			Pn	07 45 22.9	-1.0
B013					Sb	07 45 40.1	-0.4
STW	Striped Peak	1.28 229	P		Pn	07 45 23.2	-0.8
STW			S		Sb	07 45 39.8	-0.9
STW	Striped Peak	1.28 229			Pn	07 45 23.2	-0.8
GHNB	Nanoose	1.35 284	P		Pn	07 45 24.3	-0.6
GHNB			S		Sb	07 45 41.9	-0.8
C04A	Brinnon	1.38 201			Pn	07 45 24.7	-0.6
C06D	Leavenworth	1.40 140	P		Pn	07 45 24.6	-1.1
	baz=323,SNR=10.0						
C06D			S		Sn	07 45 43.6	-0.7
	baz=323						
SP2	Seward Park 2	1.45 180			Pn	07 45 26.9	+0.6
WRW	Wenatchee Ridg	1.46 141			Pn	07 45 25.6	-0.9
HDW	Hoodsport	1.46 202	P		Pn	07 45 26.0	-0.6
HDW			S		Sn	07 45 45.1	-0.7
HDW	Hoodsport	1.46 202			Pn	07 45 25.9	-0.6
GNW	Green Mountain	1.49 196	P		Pn	07 45 26.4	-0.5
GNW			S		Sn	07 45 45.8	-0.7
GNW	Green Mountain	1.49 196			Pn	07 45 26.4	-0.5
GMW	Gold Mountain	1.50 194			Pn	07 45 26.5	-0.6
PFB	Port Renfrew	1.52 254	P		Pn	07 45 27.1	-0.2
PFB			S		Sn	07 45 46.7	-0.6
PFB	Port Renfrew	1.52 254			Pn	07 45 27.1	-0.2
OSD	Olympics--Snow	1.53 220	P		Pn	07 45 27.7	0.0
OSD	Olympics--Snow	1.53 220			Pn	07 45 27.9	+0.2
OBC	Olympics--Boni	1.56 232	P		Pn	07 45 27.8	-0.1
OBC	Olympics--Boni	1.56 232			Pn	07 45 27.8	-0.1
NLW	Nelson Butte	1.56 126			Pn	07 45 28.3	+0.2
D03D	Eldon	1.58 202	P		Pn	07 45 27.6	-0.5
	baz=22,SNR=441						
D03D			S		Sn	07 45 48.3	-0.3
	baz=22						
D03D	Eldon	1.58 202			Pn	07 45 27.6	-0.5
P403	Sandy Floe Qua	1.58 234			Pn	07 45 27.9	-0.3
TXB	Texada	1.60 297	P		Pn	07 45 28.0	-0.4
TXB			S		Sn	07 45 49.0	-0.1
RATT	Rattlesnake La	1.60 169			Pn	07 45 28.5	0.0
MGB	Mount Grey	1.62 271	P		Pn	07 45 28.4	-0.3
MGB			S		Sn	07 45 49.2	-0.6
MGB	Mount Grey	1.62 271			Pn	07 45 28.4	-0.3
LLLB	Lillooet	1.62 8	P		Pn	07 45 28.7	-0.1
LLLB			S		Sn	07 45 49.0	-0.8
LLLB	Lillooet	1.62 8	Pn		Pn	07 45 29.1	+0.3
LLLB			IAML			07 45 52.5	
	comp=E,179nm,0.7s						
SLFW	Sugar Loaf	1.69 137			Pn	07 45 30.1	+0.3
B927	Port Alberni	1.71 278	P		Pn	07 45 29.8	-0.1
B927			S		Sn	07 45 51.4	-0.3
B927	Port Alberni	1.71 278			Pn	07 45 29.7	-0.1
OCP	Olym-Cheeka Pk	1.73 247	P		Pn	07 45 30.4	+0.1
OCP			S		Sn	07 45 52.4	-0.1
PNT	Penticton	1.75 79	P		Pn	07 45 31.0	+0.6
PNT			S		Sn	07 45 52.5	-0.3
PNT	Penticton	1.75 79			Pn	07 45 31.3	+0.8
OLQ	Olympics--Lake	1.82 216			Pn	07 45 32.7	+1.3
D05A	Enumclaw	1.82 175	P		Pn	07 45 32.3	+0.7
D05A			S		Sb	07 45 56.2	-0.1
D05A	Enumclaw	1.82 175			Pn	07 45 32.2	+0.7
D05A			IAML			07 46 02.5	
	comp=E,101nm,0.9s						
GSM	Grass Mountain	1.82 170			Pn	07 45 32.0	+0.4
D04E	Lakebay	1.86 191	P		Pn	07 45 32.7	+0.8
	baz=12,SNR=8.8						
D04E			Sb		Sb	07 45 58.4	+1.0
	baz=12						
D04E	Lakebay	1.86 191			Pn	07 45 33.1	+1.1
ETW	Entiat	1.89 137			Pb	07 45 34.1	-0.6
B928	Bamfield	1.92 266	P		Pn	07 45 32.9	+0.1
B928			S		Sn	07 45 57.7	+0.8
B928	Bamfield	1.92 266			Pn	07 45 33.5	+0.7
BFSB	Bamfield	1.92 266	P		Pn	07 45 33.1	+0.4
BFSB			S		Sn	07 45 57.4	+0.4
NLWA	Neilton Lookou	1.95 215	Pn		Pn	07 45 34.2	+0.9
NLWA			IAML			07 46 10.8	
	comp=E,56nm,0.7s						
WTV	Waterville	2.00 130			Pb	07 45 36.1	-0.5
B08A	Colville Reser	2.03 107	P		Pb	07 45 36.1	-1.0
B08A			S		Sb	07 46 02.1	-0.2
B08A	Colville Reser	2.03 107	Pn		Pn	07 45 35.8	+1.4
B08A			IAML			07 46 03.2	
	comp=N,74nm,0.5s						
LTY	Liberty	2.04 148	P		Pb	07 45 36.3	-0.9
LTY			S		Sb	07 46 02.8	+0.2
LTY	Liberty	2.04 148			Pn	07 45 35.8	+1.3
LTY			IAML			07 46 05.8	
	comp=E,52nm,0.6s						
FMW	Mount Fremont	2.11 169	P		Pn	07 45 36.3	+0.7
FMW			S		Sn	07 46 02.6	+0.7
FMW	Mount Fremont	2.11 169			Pn	07 45 36.3	+0.7
OBSR	Observation Ro	2.12 172			Pn	07 45 37.0	+1.1
MWAB	Mount Washingt	2.14 291	P		Pn	07 45 35.3	-0.6
MWAB			S		Sn	07 46 03.8	+1.2
OZB	Mount Ozzard	2.15 270	P		Pn	07 45 36.6	+0.6
OZB			S		Sn	07 46 02.9	+0.1
WISH	Wishkah	2.15 209	P		Pn	07 45 37.1	+1.2
B012	Ucluelet	2.18 269	P		Pn	07 45 37.7	+1.4
B012			S		Sn	07 46 05.1	+1.7
RCM	Mount Rainier-	2.19 171			Pn	07 45 37.1	+0.1
B017	Montesano	2.19 204			Pn	07 45 38.2	+1.7
REMR	Mount Rainier-	2.20 173			Pn	07 45 38.2	+1.4
BTB	Buttle Lake	2.20 283	P		Pn	07 45 37.5	+0.6
BTB			S		Sn	07 46 06.0	+1.7
BTB	Buttle Lake	2.20 283			Pn	07 45 37.5	+0.6
LON	Longmire	2.27 173	P		Pn	07 45 38.5	+0.8
LON			S		Sn	07 46 07.4	+1.6
LON	Longmire	2.27 173			Pn	07 45 39.0	+1.3
LON	Longmire	2.27 173			Pn	07 45 38.3	+0.6
LON			IAML			07 46 09.0	
	comp=N,34nm,0.3s						
LON			IAML			07 46 11.0	
	comp=E,39nm,0.3s						
CBB	Campbell River	2.29 298	P		Pn	07 45 38.0	+0.2
CBB			S		Sn	07 46 07.8	+1.7
WPW	White Pass	2.35 168			Pn	07 45 40.4	+1.5
LCW	Lucas Creek	2.35 188			Pn	07 45 40.3	+1.5
EBG	Ellensburg	2.38 151			Pb	07 45 42.2	-0.7
SPLB	Strathcona Par	2.40 293	P		Pn	07 45 40.1	+0.7
SPLB			S		Sn	07 46 11.4	+2.5
TOFB	Tofino	2.42 275	P		Pn	07 45 40.8	+1.2
TOFB			S		Sb	07 46 12.1	-1.5
E04D	Cinebar	2.46 185	P		Pn	07 45 41.4	+1.2
	baz=6.0,SNR=7.5						
E04D			Sb		Sb	07 46 13.7	-1.0
	baz=6.0						
E04D	Cinebar	2.46 185			Pn	07 45 41.9	+1.7
NAC	Naches	2.46 157			Pb	07 45 44.0	-0.4
GLK	Glacier Lake	2.48 170			Pb	07 45 42.9	-1.8
B019	Raymond	2.54 203			Pn	07 45 43.0	+1.7
GDR	Gold River	2.60 289	P		Pn	07 45 43.6	+1.4
GDR			S		Sb	07 46 18.0	-0.7
E03A	Lebam	2.62 201	P		Pn	07 45 43.4	+1.0
E03A			S		Sn	07 46 15.4	+1.2
E03A	Lebam	2.62 201	Pn		Pn	07 45 43.3	+0.9
E03A			IAML			07 46 23.4	
	comp=N,40nm,0.7s						
E03A			IAML			07 46 24.4	
	comp=E,42nm,0.9s						
TDL	Tradedollar La	2.65 180			Pn	07 45 44.9	+1.9
ERK	Elk Rock	2.70 182			Pn	07 45 45.7	+2.0
B201	Coldwater, Mou	2.70 180			Pn	07 45 45.6	+2.0
JRO	Jston Ridge Ob	2.73 180			Pn	07 45 46.7	+2.7
MXC	Moxie City	2.76 151			Pb	07 45 49.2	-0.2
B202	Windy Ridge, M	2.76 179			Pn	07 45 47.0	+2.5
SOSW	Source of Smit	2.76 179			Pb	07 45 47.3	-2.2
STD	Studebaker Rid	2.77 180			Pb	07 45 47.4	-2.3
SEPW	September Lobe	2.80 179			Pn	07 45 47.6	+2.4
FL2	Flat Top 2	2.81 182			Pn	07 45 47.5	+2.4
NCRB	Newcastle Ridg	2.85 301	P		Pn	07 45 46.8	+1.1
NCRB			S		Sb	07 46 25.3	-0.7
OD2	Odessa Site #2	2.86 123			Pb	07 45 51.3	+0.2
CDFW	Cedar Flats	2.89 177			Pn	07 45 49.0	+2.8
C09A	Chrisman Ranch	2.90 113	Pn		Pn	07 45 48.6	+2.3
E07A	Sunnyside	2.92 146			Pn	07 45 46.9	+0.3
E07A			IAML			07 46 40.1	
	comp=E,38nm,0.8s						
E07A			IAML			07 46 40.3	
	comp=N,35nm,0.6s						
LVP	Lakeview Peak	2.94 182			Pn	07 45 50.0	+3.1
D08A	Wollman Farm,	2.96 130	Pn		Pb	07 45 53.1	+0.3
MTMW	Mount Mitchell	2.98 180			Pb	07 45 50.9	-2.3
WOSB	Woss	3.05 294	P		Pn	07 45 49.8	+1.3
WOSB			S		Sb	07 46 31.0	-0.8
MJ2	May Junction 2	3.12 141			Pn	07 45 52.1	+2.8
HAWA	Hanford	3.19 144	Pn		Pn	07 45 51.2	+0.9
TLCB	Telegraph Cove	3.36 299	P		Pn	07 45 53.7	+1.2
TLCB			S		Sb	07 46 39.8	-0.7
SLEB	Sale Mountain	3.42 49	S		Sb	07 46 43.7	+1.3
NEW	Newport	3.47 100	Pb		Pb	07 46 01.9	+0.3
	baz=285						
NEW			Sb		Sb	07 46 45.4	+1.5
	baz=285						
NEW	Newport	3.47 100	Pn		Pn	07 45 53.8	-0.4
NEW			IAML			07 46 49.6	
	comp=N,18nm,0.6s						
MAYB	Maynard	3.50 295	P		Pn	07 45 56.1	+1.5
MAYB			S		Sb	07 46 41.6	-3.1
BLBC	Blue River	3.59 31	S		Sb	07 46 48.1	+0.5
PACB	Port Alice, BC	3.70 295	P		Pn	07 45 59.3	+2.0
PACB			S		Sb	07 46 48.7	-1.6
E09A	Wood Farm, Sta	3.72 131			Pn	07 45 56.8	-0.7
E09A			IAML			07 47 11.1	
	comp=N,12nm,0.9s						
E09A			IAML			07 47 11.5	
	comp=E,14nm,0.8s						
TDH	Tom, Dick, Har	3.73 175			Pb	07 46 05.9	-0.1
PHC	Port Hardy	3.77 299	S		Sb	07 46 51.6	-0.8
G05D	Wamic, OR	3.81 170	Pb		Pb	07 46 06.5	-0.9
	baz=352						
MNB	Mounoet Dainar	4.03 36	S		Sb	07 47 04.5	+4.3
UBRB	Upper Baezaeko	4.07 344	P		Pn	07 46 02.5	+0.1
UBRB			S		Sb	07 47 05.7	+4.7
H04A	Detroit Lake	4.32 180	Pn		Pn	07 46 08.2	+2.3
H04A			IAML			07 46 52.3	
	comp=N,11nm,2.8s						
H04A			IAML			07 47 16.5	
	comp=E,12nm,3.1s						
F10A	Beach Ranch, E	4.55 130			Pn	07 46 08.0	-1.1
BEND	Bend	4.98 172			Pn	07 46 19.0	+4.1
BHMT	Big Hole Peak	5.01 104	S		Sg	07 47 35.4	-5.4
BSMT	Bassoo Peak	5.09 100	S		Sb	07 47 36.6	+6.0
I07A	Izee	5.27 158	Pn		Pn	07 46 20.0	+1.0
I07A			IAML			07 49 22.5	
	comp=E,7.2nm,4.6s						
I07A			IAML			07 49 34.3	
	comp=N,8.0nm,4.1s						
BMO	Blue Mountains	5.35 139			Pn	07 46 19.9	-0.1
BMO			IAML			07 47 52.1	
	comp=N,3.9nm,5.0s						
BMO			IAML			07 48 16.2	
	comp=N,4.3nm,4.7s						
JTMT	Jette	5.45 100	S		Sb	07 47 47.0	+6.2
JTMT	Jette	5.45 100	Pn		Pn	07 46 21.2	-0.2
PRDA	Priddis	5.46 67	S		Sg	07 47 49.5	-5.7
FBMT	Ferry Basin	5.46 104	S		Sb	07 47 47.8	+6.5
FSB	Fort Saint Jam	5.63 347	S		Sb	07 47 52.2	+6.2
HOG	Hogback Mounta	6.77 177			Pn	07 46 39.1	-0.6

*IDC **05** 07:49:32.2±2.1, 20.°68N×94.°86E, h116km±23km, mb3.2/4, mb1 3.3/5, mb1mx3.0/33, mbtmp3.5/5, MS2.7/1, Ms1 2.7/1, ms1mx2.1/21, Error ellipse: s-maj=56.7km s-min=17.6km az=51.0*

ISC 05 07:49:32.3±1.2, 20.°7N±0.°3×94.°8E±0.°2, h126km, n7, σ1§61/7, mb3.5/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	3.57 305		P	Pn	07 50 26.6	+0.4
	100nm,0.3s,baz=168,slow=1.4,SNR=16						
BRDH				S	Sn	07 51 05.4	-2.5
	171nm,0.3s,baz=345,slow=22,SNR=16						
CMAR	Chiang Mai Arr	4.47 119		P	Pn	07 50 37.2	-1.1
	0.9nm,0.3s,baz=294,slow=14,SNR=9.1						
PALK	Pallekele	19.07 228		LR	LR	08 02 01.7	
	comp=Z,23nm,20.0s,baz=6.7,slow=39						
KURBB	Kurchatov Arra	32.55 341		P	P	07 55 51.2	-0.1
	0.2nm,0.3s,baz=151,slow=8.6,SNR=2.0						
ZALV	Zalesovo Beam	34.10 349		P	P	07 56 05.6	+0.9
	0.7nm,0.4s,baz=161,slow=9.2,SNR=2.1						
WRA	Warramunga Arr	55.90 134		P	P	07 58 58.0	+0.6
	0.3nm,0.5s,baz=320,slow=7.7,SNR=5.1						
ASAR	Alice Springs	58.24 137		P	P	07 59 14.9	+1.2
	0.3nm,0.6s,baz=322,slow=7.5,SNR=5.8						

TRN 05 08:05:45.4, 11.°22N×62.°29W, h98km, MD3.6, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	1.04 123		⇑iP	Pn	08 06 06.5	+0.4
TRN				eS	Sn	08 06 21.9	+0.2
GRGR	Grenville	1.10 34		eP	Pn	08 06 07.2	+0.4
GRGR				eS	Sn	08 06 21.8	-1.2
GCMP	Grenada, Carri	1.52 34		eP	Pn	08 06 11.4	-0.4
GCMP				eS	Sn	08 06 31.8	0.0
TOSP	Speyside	1.72 87		eP	Pn	08 06 14.3	0.0
TOSP				eS	Sn	08 06 35.4	-0.9
SVB	Belmont	2.28 26		eS	Sn	08 06 49.2	-0.1
BAUV	El Baul	6.10 249		eP	Pn	08 07 12.5	-0.5
BAUV	El Baul	6.10 249		eS	Sn	08 08 17.9	-3.6

DJA 05 08:09:57.4±1.7, 2.°S±3.°×13.°3E±.°, h17km±15km, M3.9/7, mb4.2/2, mB5.2/1, MLv3.7/7, Mw(mB)4.6/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	Ransiki, Papua	1.11 76		P	Pb	08 10 15.5	-2.7
RKPI				S	Sb	08 10 32.6	+0.2
FAKI	Fak Fak	1.41 217		P	Pn	08 10 21.2	-1.1
FAKI				S	Sb	08 10 41.2	+0.3
KMPI	Kaimana, Papua	1.96 162		P	Pn	08 10 30.1	+0.3
SWI	Sorong	2.06 297		P	Pn	08 10 32.6	+1.4
SWI				S	Sb	08 11 00.4	+0.8
NLAI	Namlea	6.17 256		P	Pn	08 11 27.1	-0.6

*UPA **05** 08:54:19.2±4.0, 6.°96N×73.°21W, h0km±86km, MW4.2*
*IDC **05** 08:54:21.5±0.5, 6.°81N×72.°93W, h164km±5km, mb3.6/15, mb1 3.9/21, mb1mx3.7/35, mbtmp4.2/21, Error ellipse: s-maj=10.5km s-min=7.1km az=130.0*
*RSNC **05** 08:54:21.4±1.0, 6.°81N×73.°12W, h156km±3km, ML4.2, Mw4.4, Fault plane solution: NP1:φ±24.00000°, δ40.00000°, λ-42.00000°.*
*VAO **05** 08:54:22.4±0.2, 6.°67N×72.°98W, h159km, mb4.2*
*NEIC **05** 08:54:22.5±2.1, 6.°81N±0.°06×73.°01W±0.°06, h157km±6km, mb4.5/98, Error ellipse: s-maj=9.6km s-min=6.7km az=48.0*

ISC 05 08:54:21.1±0.5, 6.°84N±0.°03×73.°05W±0.°04, h157km±4km, n355, σ1§55/414, mb4.4/63, 13C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28 208		⇓iP	Pn	08 54 42.5	-0.2
BARC				eS	Sn	08 54 58.1	-1.2
BARC				i		08 55 00.3	
	comp=Z,4μm,0.3s						
PAMC	Pamplona, Colo	0.60 35		⇑iP	Pn	08 54 45.4	+1.0
PAMC				eS	Sn	08 55 02.6	+0.5
PAMC				i		08 55 06.7	
	comp=Z,2μm,0.3s						
RUSC	La Rusia	0.94 182			Pn	08 54 46.4	-0.4
RUSC	La Rusia	0.94 182		⇓iP	Pn	08 54 46.4	-0.4
RUSC				eS	Sn	08 55 05.5	-0.8
RUSC				i		08 55 08.1	
	comp=Z,2μm,0.4s						
OCAC	Ocana	1.41 349		eP	Pn	08 54 50.6	+0.1
OCAC				eS	Sn	08 55 13.3	+0.2
PTBC	PUERTO BERRIO,	1.43 258		eS	Sn	08 55 11.1	-1.9
ZARC	Zaragoza, Cauc	1.91 290		⇑iP	Pn	08 54 54.6	-1.0
ZARC				eS	Sn	08 55 21.0	-1.1
ZARC				i		08 55 27.2	
	comp=Z,3μm,0.5s						
SMLC	San Martn de	2.19 333		⇑eP	Pn	08 54 58.6	-0.3
SMLC				eS	Sn	08 55 27.6	-0.6
SMLC				i		08 55 30.7	
	comp=Z,2μm,0.3s						
NORC	Norcasia	2.21 235		⇓eP	Pn	08 54 58.2	-1.0
NORC				eS	Sn	08 55 26.3	-2.2
NORC				i		08 55 30.4	
	comp=Z,2μm,0.2s						
CHIC	Chingaza	2.30 197		⇓eP	Pn	08 55 00.2	-0.5
CHIC				eS	Sn	08 55 29.8	-1.3
CHIC				i		08 55 35.7	
	comp=Z,794nm,0.7s						
ROSC	El Rosal	2.36 212		P	Pn	08 55 02.1	+0.9
	comp=Z,574nm,0.3s,baz=320,slow=16,SNR=430						
ROSC				S	Sn	08 55 34.8	+2.5
	comp=Z,673nm,0.3s,baz=270,slow=20,SNR=6.7						
ROSC	El Rosal	2.36 212			Pn	08 55 02.0	+0.7
ROSC	El Rosal	2.36 212		⇓iP	Pn	08 55 01.8	+0.5
ROSC				eS	Sn	08 55 31.4	-0.8
ROSC				i		08 55 40.3	
	comp=Z,2μm,0.5s						
REAC	Reactor, Bogot	2.42 205		eP	Pn	08 55 00.8	-1.2
REAC				eS	Sn	08 55 31.6	-1.9
HELC	Santa Helena	2.55 255		eP	Pn	08 55 02.2	-1.3
HELC				eS	Sn	08 55 33.6	-2.6
HELC	Santa Helena	2.55 255		eP	Pn	08 55 02.0	-1.6
HELC				eS	Sn	08 55 35.5	-0.7
HELC				i		08 55 41.8	
	comp=Z,2μm,0.4s						
SOCV	Socops	2.60 57		eP	Pn	08 55 03.9	-0.1
SOCV				eS	Sn	08 55 35.9	-1.1
UREC	San Jos de Ur	2.62 290		⇑eP	Pn	08 55 02.2	-1.9
UREC				eS	Sn	08 55 33.9	-3.4
UREC				i		08 55 43.5	
	comp=Z,1μm,0.3s						
LL2C	La Loma 2 Cana	2.72 352		eP	Pn	08 55 05.6	+0.3
LL2C				eS	Sn	08 55 40.2	+0.7
LL1C	La Loma 1 Cana	2.73 349		eP	Pn	08 55 07.0	+1.6
LL1C				eS	Sn	08 55 41.4	+1.7
PTGC	Puerto Gaitan,	2.78 161		⇓iP	Pn	08 55 05.3	-0.8
PTGC				eS	Sn	08 55 38.7	-2.2
PTGC				i		08 55 47.0	
	comp=Z,606nm,0.4s						
VILC	Villavicencio,	2.79 193		⇓iP	Pn	08 55 05.4	-0.9
VILC				i		08 55 49.8	
	comp=Z,1μm,0.4s						
GUY2C	Guyana, Caldas	2.81 235		eP	Pn	08 55 06.4	-0.5
GUY2C				eS	Sn	08 55 41.1	-1.1
GUY2C				i		08 55 49.5	
	comp=Z,2μm,0.8s						
CBOC	Ciudad Bolivar	3.10 252		⇑iP	Pn	08 55 09.8	-0.4
CBOC				eS	Sn	08 55 46.6	-1.6
CBOC				i		08 55 52.0	
	comp=Z,478nm,0.4s						
SDV	Santo Domingo	3.14 50		P	Pn	08 55 11.9	+1.2
	comp=Z,218nm,0.3s,baz=212,slow=3.7,SNR=47						
SDV				S	Sn	08 55 48.4	-0.8
	comp=Z,188nm,0.3s,baz=263,slow=18,SNR=32						
SDV	Santo Domingo	3.14 50		⇑eP	Pn	08 55 11.7	+0.9
SDV				eS	Sn	08 55 49.4	+0.2
SDV				i		08 55 51.2	
	comp=Z,465nm,0.4s						
SDV	Santo Domingo	3.14 50		eP	Pn	08 55 11.7	+0.9
DBBC	Dabeiba	3.14 273		⇑iP	Pn	08 55 10.0	-0.7
DBBC				eS	Sn	08 55 46.4	-2.6
TOLC	Tolima	3.18 225		eP	Pn	08 55 10.9	-0.5
TOLC				eS	Sn	08 55 48.4	-2.0
MONA	Monteria	3.22 307		eP	Pn	08 55 09.3	-2.2
MONA				eS	Sn	08 55 48.8	-1.9
MOTC	Monteria, Cord	3.23 307		⇑eP	Pn	08 55 09.6	-2.0
MOTC				eS	Sn	08 55 48.7	-2.1
MOTC				i		08

PTAC eS Sn 08 56 22.4 -3.4
PTAC i 08 56 24.4
comp=Z,74nm,0.2s
MACC Macarena, Meta 4.73 190⇓ eP Pn 08 55 29.1 -2.2
MACC eS Sn 08 56 20.9 -5.0
MACC i 08 56 25.1
comp=Z,151nm,0.5s
BETC Betania 4.77 210 eP Pn 08 55 30.1 -1.6
BETC eS Sn 08 56 24.9 -2.0
BETC i 08 56 28.1
comp=Z,119nm,0.3s
MARP Paez Belalcaza 4.92 216 eP Pn 08 55 32.8 -1.1
MARP eS Sn 08 56 28.4 -2.2
URIC Uribia, Colomb 4.94 12 Pn Pn 08 55 32.7 -1.2
URIC Uribia, Colomb 4.94 12 eP Pn 08 55 33.0 -0.9
URIC eS Sn 08 56 27.6 -3.1
URIC i 08 56 35.0
comp=Z,98nm,0.5s
MALC Bahia Malaga 5.11 237 eP Pn 08 55 37.0 +0.9
MALC eS Sn 08 56 32.7 -2.1
MALC i 08 56 40.9
comp=Z,76nm,0.7s
UPD2 Meteti 5.20 289 eP Pn 08 55 35.4 -2.0
UPD2 eS Sn 08 56 31.8 -5.1
UPD2 Meteti 5.20 289 eP Pn 08 55 35.2 -2.2
UPD2 eS Sn 08 56 33.5 -3.4
GARC Garzon, Huila 5.23 208 eP Pn 08 55 36.3 -1.7
GARC eS Sn 08 56 32.7 -5.3
GARC i 08 56 37.3
comp=Z,174nm,0.3s
PCON Cinco Dias 5.59 217 eP Pn 08 55 42.9 -0.2
POPC Popayan, Colom 5.60 220 eP Pn 08 55 35.2 -7.6
POPC eS Sn 08 56 35.8 -11
POPC i 08 56 44.6
comp=Z,42nm,0.5s
FLOC Florencia 5.83 207 Pn 08 55 44.5 -1.3
FLOC Florencia 5.83 207⇓ eP Pn 08 55 44.4 -1.3
FLOC eS Sn 08 56 50.0 -2.1
FLOC i 08 57 00.6
comp=Z,66nm,0.4s
SOTA Rioblanco 5.87 217 eP Pn 08 55 46.6 -0.1
SOTA eS Sn 08 56 55.9 +2.3
SOTA i 08 57 01.8
comp=Z,90nm,0.6s
BBAC Balboa, Cauca 6.36 221 eP Pn 08 55 51.8 -1.2
BBAC eS Sn 08 57 01.6 -3.3
BBAC i 08 57 07.0
comp=Z,55nm,0.5s
CHPO Chepo, Panama 6.43 291 eP Pn 08 55 50.8 -2.9
CHPO eS Sn 08 57 02.2 -4.1
CRUC La Cruz 6.53 217 eP Pn 08 55 56.8 +1.5
UPA Univ. de Panam 6.76 289 eP Pn 08 55 55.5 -2.6
UPA eS Sn 08 57 11.5 -2.7
PTLC Puerto Leguiza 6.85 195 eP Pn 08 56 02.2 +2.8
GCUF Volcan Galeras 7.03 218 eP Pn 08 56 03.4 +1.3
GCUF eS Sn 08 57 20.4 -1.0
ZANG Zanguenga, Cho 7.07 288 eP Pn 08 56 00.1 -2.1
BCIP Isla Barro Col 7.11 289 Pn Pn 08 56 00.4 -2.3
BCIP Isla Barro Col 7.11 289 eP Pn 08 56 00.3 -2.3
BCIP eS Sn 08 57 22.9 +0.5
VTON El Valle, Cocl 7.21 285 eP Pn 08 56 02.6 -1.6
VTON eS Sn 08 57 22.3 -2.8
AZU Azuero 7.23 278⇓ eP Pn 08 56 02.9 -1.4
OTAV Otavalo 8.49 220 Pn Pn 08 56 20.5 -1.0
OTAV Otavalo 8.49 220 eP Pn 08 56 21.5 0.0
OTAV eS Sn 08 57 55.0 -1.3
PCRV Puerto La Cruz 8.96 68 P Pn 08 56 26.8 -0.6
comp=Z,4.7nm,0.3s,baz=264,slow=4.1,SNR=22
PCRV S Sn 08 58 04.9 -2.1
comp=Z,1.2nm,0.3s,baz=292,slow=19,SNR=1.4
CDITO Canoas 9.88 281 Pn Pn 08 56 39.8 +0.2
DRK0 Durika 10.38 284 Pn 08 56 46.1 -0.1
SRBA San Rafael, Bu 10.48 284 Pn 08 56 47.8 +0.2
PEZE Perez Zeledon, 10.82 284 Pn Pn 08 56 52.4 +0.4
RIMA Rio Macho 11.09 286 Pn Pn 08 56 55.9 +0.3
HOJ Hope 11.67 342⇑ iP Pn 08 57 06.1 +3.2
GWJ Greenwich 11.72 343⇓ iP Pn 08 57 05.7 +1.8
COVE Coope Vega, Sa 11.86 290 Pn Pn 08 57 06.2 +0.7
MCJ Malvern 11.91 338⇓ iP Pn 08 57 08.7 +2.6
MCJ i S Sn 08 59 09.7 -8.3
MTDJ Mount Denham 12.13 339 Pn Pn 08 57 11.8 +2.8
BBJ Bamboo Saint A 12.18 341⇓ iP Pn 08 57 13.1 +3.4
BBJ ⇑i S Sn 08 59 17.5 -7.1
SDDR Presa de Saban 12.19 8 Pn Pn 08 57 11.1 +1.4
JTS Las Juntas de 12.26 287 P Pn 08 57 12.2 +1.6
comp=Z,2.2nm,0.3s,baz=118,slow=12,SNR=8.0
JTS Las Juntas de 12.26 287 Pn Pn 08 57 12.5 +1.8
ESPN Las Esperanzas 12.30 296 Pn Pn 08 57 11.0 -0.1
ACON Acoyapa 13.00 294 Pn Pn 08 57 21.5 +1.4
SJG San Juan 13.07 30 P Pn 08 57 20.8 -0.2
comp=Z,4.7nm,0.3s,baz=202,slow=19,SNR=19
GTBY Guantanamo Bay 13.16 351 P 08 57 25.9 -0.6
BOAV Boa Vista 13.24 109 eP Pn 08 57 22.6 -0.8
GCPR Guaynabo City 13.27 30 Pn Pn 08 57 23.2 -0.4
CDVI St. Croix 13.52 36 Pn Pn 08 57 26.8 -0.3
CZSB Cruzeiro do Su 14.48 179 eP Pn 08 57 38.0 -0.9
ATAH Atahualpa 14.87 201 P P 08 57 47.6 +1.6
comp=Z,0.5nm,0.3s,baz=25,slow=17,SNR=2.3
PTGA Pitinga 15.07 119 P Pn 08 57 45.0 -1.2
comp=Z,0.5nm,0.3s,baz=323,slow=12,SNR=4.1
MACA Manacapuru-AM 15.85 128 eP Pn 08 57 55.6 -0.2
ETMB Extrema 17.90 158 eP P 08 58 18.3 -0.6
MDP Montagnes des 20.37 94 P P 08 58 45.0 -0.8
comp=Z,17nm,1.0s,baz=275,slow=9.4,SNR=4.3
MDP pP pP 08 59 12.1 -1.1
comp=Z,6.9nm,0.7s,baz=285,slow=15,SNR=1.6
ITTB Itaituba 20.56 122 eP P 08 58 48.0 +0.2
MALB Monte Alegre 20.64 114 eP P 08 58 48.5 -0.2
MCPB Macapa, AP 22.14 108 eP P 08 59 04.5 +0.1
NPGB Novo Progresso 22.40 128 eP P 08 59 06.3 -0.6
DWPF Disney Wildern 22.59 340 P P 08 59 10.9 +2.3
baz=158
LPAZ La Paz 23.49 168 P P 08 59 16.9 -0.7
comp=Z,0.6nm,0.4s,baz=316,slow=14,SNR=2.3
LPAZ pP pP 08 59 48.1 +0.1
comp=Z,5.1nm,0.7s,baz=343,slow=13,SNR=11
LPAZ La Paz 23.49 168 P P 08 59 16.9 -0.7
LPAZ La Paz 23.49 168 eP P 08 59 16.6 -1.0
656A Willston 24.13 339 P P 08 59 24.0 +1.5
656A IAmb IAmb 08 59 30.9
comp=Z,18nm,1.1s
CLDB Colider 24.59 136 eP P 08 59 25.9 -1.1
SIV San Ignacio 25.60 152 P P 08 59 34.1 -2.0
comp=Z,1.4nm,0.8s,baz=344,slow=8.3,SNR=4.8
SIV pP pP 09 00 09.0 -0.6
comp=Z,1.7nm,0.6s,baz=335,slow=9.9,SNR=6.4
PTLB Pontes e Lacer 26.09 148 eP P 08 59 39.5 -0.9
TIGA Tifton 26.38 339 P P 08 59 44.9 +2.0
baz=156
TMAB Tom-Au,PA,Br 26.54 109 eP P 08 59 44.6 0.0
152A Waverly Hall 27.90 339 P P 08 59 58.5 +2.0
152A IAmb IAmb 08 59 59.0
comp=Z,6.9nm,0.8s
GOGA Godfrey 28.15 341 P P 09 00 00.2 +1.6
baz=158
GOGA Godfrey 28.15 341 P P 09 00 00.5 +1.9
HODGE Hodges 28.55 344 P P 09 00 04.1 +1.9
HODGE IAmb IAmb 09 00 19.7
comp=Z,9.7nm,1.5s
Z51A Franklin 28.64 338 P P 09 00 05.1 +2.0
Y52A Lilburn 28.76 341 P P 09 00 05.9 +1.8
Y52A IAmb IAmb 09 00 06.2
comp=Z,4.1nm,0.6s
346A Big Creek Wild 28.84 330 P P 09 00 07.0 +2.1
LRAL Lakeview Retre 29.11 335 P P 09 00 08.9 +1.8
baz=151
LRAL Lakeview Retre 29.11 335 P P 09 00 09.2 +2.0
LRAL IAmb IAmb 09 00 12.4
comp=Z,11nm,1.5s
KMSC Kings Mountain 29.18 346 P P 09 00 09.5 +1.8
baz=163
Y49A Blount Mountai 29.59 337 P P 09 00 13.0 +1.6
Y49A IAmb IAmb 09 00 14.2
comp=Z,7.2nm,0.9s
SMTB Santa Maria do 29.79 121 eP P 09 00 13.5 +0.1
V55A Taylorsville 29.83 347 P P 09 00 15.3 +1.8
FPAL Fort Paine 29.90 339 P P 09 00 15.9 +1.7
VBMS Vicksburg 30.04 329 P P 09 00 17.2 +1.8
baz=144
V53A Saluda 30.06 344 P P 09 00 17.6 +2.0
PP1B Ponte de Pedra 30.20 144 eP P 09 00 16.6 -0.4
CPCT Cooper Cave 30.36 341 P P 09 00 20.1 +1.8
T57A Hurt 30.55 350 P P 09 00 21.1 +1.3

T57A IAmb IAmb 09 00 31.4
comp=Z,8.8nm,1.1s
ARAG Araguaiana, MT 30.73 137 eP P 09 00 20.5 -1.2
BLA Blacksburg 30.97 349 P P 09 00 25.5 +2.0
baz=166
PEXB Peixe 30.98 127 eP P 09 00 23.3 -0.7
TZTN Tazewell 31.08 343 P P 09 00 26.2 +1.6
baz=160
TZTN Tazewell 31.08 343 P P 09 00 26.7 +2.1
TZTN IAmb IAmb 09 00 34.3
comp=Z,16nm,1.4s
S57A Dark Hollow, R 31.24 351 P P 09 00 27.5 +1.6
S57A IAmb IAmb 09 00 28.0
comp=Z,6.8nm,1.1s
R58B Mineral 31.29 353 P P 09 00 27.8 +1.4
R58B IAmb IAmb 09 00 38.5
comp=Z,12nm,1.4s
S54A Dingess, Beckl 31.72 347 P P 09 00 32.2 +2.1
R55A Marlinton 31.95 349 P P 09 00 34.1 +1.9
AQDB Aquidauana 32.06 148 eP P 09 00 31.8 -1.5
WVT Waverly 32.14 337 P P 09 00 35.1 +1.3
baz=152
WVT Waverly 32.14 337 P P 09 00 35.1 +1.3
WVT IAmb IAmb 09 00 36.1
comp=Z,9.4nm,1.0s
T47A Sharon Grove 32.63 339 P P 09 00 39.7 +1.6
T47A IAmb IAmb 09 00 40.1
comp=Z,9.5nm,0.8s
R50A Paris 32.92 344 P P 09 00 42.1 +1.5
R50A IAmb IAmb 09 00 43.3
comp=Z,8.9nm,0.8s
X40A Basin Creek Fa 33.02 329 P P 09 00 42.5 +1.0
MCWV Mont Chateau 33.24 350 P P 09 00 45.3 +2.0
baz=168
W41B Gary Mavity, V 33.27 331 P P 09 00 44.5 +0.8
baz=144
P53A Whipple 33.36 348 P P 09 00 46.5 +2.1
P53A IAmb IAmb 09 00 47.5
comp=Z,11nm,1.1s
BDFB Brasilia 33.38 132 P P 09 00 44.5 -0.5
comp=Z,3.0nm,0.7s,baz=288,slow=10,SNR=6.0
BDFB Brasilia 33.38 132 P P 09 00 44.9 -0.1
BDFB IAmb IAmb 09 01 03.6
comp=Z,13nm,1.5s
WHAR Wooly Hollow 33.38 331 P P 09 00 45.4 +0.7
WHAR IAmb IAmb 09 00 46.6
comp=Z,6.1nm,0.9s
MIAR Mount Ida 33.44 328 P P 09 00 45.5 +0.3
baz=141
WCI Wyandotte Cave 33.47 341 P P 09 00 46.6 +1.2
baz=156
WCI Wyandotte Cave 33.47 341 P P 09 00 46.6 +1.2
WCI IAmb IAmb 09 00 47.4
comp=Z,7.2nm,0.7s
O56A Blue Knob Stat 33.65 352 P P 09 00 48.6 +1.7
baz=170
O56A Blue Knob Stat 33.65 352 P P 09 00 49.0 +2.1
O56A IAmb IAmb 09 00 49.9
comp=Z,6.0nm,0.9s
P52A Corning 33.65 347 P P 09 00 48.6 +1.6
baz=164
P52A Corning 33.65 347 P P 09 00 48.7 +1.8
PBMO Poplar Bluff 33.76 334 P P 09 00 49.2 +1.4
FCAR Ozark Folk Cen 33.79 332 P P 09 00 48.5 +0.4
FCAR IAmb IAmb 09 00 49.2
comp=Z,8.0nm,1.0s
SDBA SAO DESIDERIO 33.89 124 eP P 09 00 49.0 -0.4
SSPA Standing Stone 33.92 353 P P 09 00 51.1 +1.8
baz=171
SSPA Standing Stone 33.92 353 P P 09 00 50.5 +1.2
SSPA IAmb IAmb 09 01 04.8
comp=Z,9.6nm,1.4s
N59A State Game Lan 34.02 356 P P 09 00 51.9 +1.9
baz=175
PAL Palisades 34.03 359 P P 09 00 51.3 +1.2
baz=178
O52A Adamsville 34.05 348 P P 09 00 52.4 +2.0
O52A IAmb IAmb 09 00 53.4
comp=Z,15nm,1.2s
W39A Magazine 34.06 329 P P 09 00 51.5 +1.0
baz=141
W39A Magazine 34.06 329 P P 09 00 51.5 +1.0
O53A New Philadelph 34.06 349 P P 09 00 52.1 +1.6
baz=165
O53A New Philadelph 34.06 349 P P 09 00 52.6 +2.1
O53A IAmb IAmb 09 00 57.3
comp=Z,12nm,1.2s
S44A Carbondale 34.06 337 P P 09 00 51.7 +1.2
S44A IAmb IAmb 09 00 52.0
comp=Z,8.7nm,0.7s
BLO Bloomington 34.40 341 P P 09 00 55.2 +1.8
U40A Yellville 34.51 331 P P 09 00 54.8 +0.4
baz=144,SNR=15
U40A Yellville 34.51 331 P P 09 00 55.2 +0.8
N54A Moraine State 34.53 351 P P 09 00 56.5 +2.0
baz=168
N54A Moraine State 34.53 351 P P 09 00 56.5 +2.0
N54A IAmb IAmb 09 00 57.5
comp=Z,8.2nm,1.1s
OLIL Olney 34.54 339 P P 09 00 55.8 +1.2
OLIL IAmb IAmb 09 00 56.1
comp=Z,12nm,0.8s
M64A Tiverton 34.60 2 P P 09 00 57.1 +2.0
baz=183
KSPA Keystone Colle 34.65 356 P P 09 00 57.4 +1.9
KSPA IAmb IAmb 09 00 57.6
comp=Z,8.0nm,0.6s
IPMB Ipameri, GO 34.78 136 eP P 09 00 56.0 -1.1
MGMO Mountain Grove 34.88 333 P P 09 00 57.1 -0.5
L63A North Scituate 34.90 2 P P 09 00 59.5 +1.9
baz=182
L63A North Scituate 34.90 2 P P 09 00 58.2 +0.6
HHAR Hobbs 34.98 330 P P 09 00 58.8 +0.4
M54A Oil Creek Stat 35.02 351 P P 09 01 00.2 +1.5
baz=168
M54A Oil Creek Stat 35.02 351 P P 09 01 00.5 +1.9
P46A Rosedale 35.03 341 P P 09 01 00.1 +1.4
L65A Cape Cod Natio 35.14 4 P P 09 01 01.6 +1.9
baz=185
L58A Harry Jones Me 35.14 356 P P 09 01 01.5 +1.8
baz=175
CCM Cathedral Cave 35.18 335 P P 09 01 01.2 +1.1
baz=148
BINY Binghamton 35.31 356 P P 09 01 02.4 +1.3
baz=175
BINY Binghamton 35.31 356 P P 09 01 03.0 +1.8
L56A Greenwood 35.37 354 P P 09 01 03.3 +1.5
L56A IAmb IAmb 09 01 04.2
comp=Z,4.7nm,0.6s
PCMB Pacaembu 35.44 143 eP P 09 01 01.5 -1.1
L61B Northampton 35.46 0 P P 09 01 04.3 +1.9
baz=181
HRV Adam Dziewonsk 35.54 2 P P 09 01 05.4 +2.3
baz=182
ABTX Abilene, Hawle 35.63 320 P P 09 01 04.8 +0.7
baz=130
TUL1 Leonard 35.66 327 P P 09 01 04.2 0.0
baz=139
K62A Royalston 35.68 1 P P 09 01 06.4 +2.1
baz=181
SFIN Lafayette 35.68 341 P P 09 01 05.4 +1.0
baz=156
SFIN Lafayette 35.68 341 P P 09 01 05.0 +0.7
K63A Dunstable 35.73 2 P P 09 01 06.8 +2.1
baz=182
S39A Bolivar 35.81 332 P P 09 01 06.1 +0.7
R40A Maddies Statio 35.82 334 P P 09 01 05.7 +0.1
R40A IAmb IAmb 09 01 06.1
comp=Z,4.7nm,0.6s
JANB Januaria 35.85 128 eP P 09 01 05.3 -0.8
P43A Skaggs, Pawnee 35.86 338 P P 09 01 06.5 +0.7
K56A Middlesex 35.91 355 P P 09 01 07.9 +1.6
baz=173
J60A Lant Hill Farm 36.26 360 P P 09 01 11.2 +2.0
baz=179
J58A Remsen 36.42 357 P P 09 01 11.8 +1.2
baz=176
J58A Remsen 36.42 357 P P 09 01 12.4 +1.8
J58A IAmb IAmb 09 01 32.5
comp=Z,13nm,1.5s
J56A Wolcott 36.44 355 P P 09 01 12.3 +1.6
J56A IAmb IAmb 09 01 12.7
comp=Z,8.2nm,0.8s
MEDO Medina 36.49 353 P P 09 01 12.0 +0.9
MEDO IAmb IAmb 09 01 15.8
comp=Z,8.7nm,0.8s

TXAR Lajitas Array 36.50 312 P P 09 01 11.8 +0.2
comp=Z,0.3nm,0.5s,baz=123,slow=9.0,SNR=14
TXAR pP pP 09 01 47.2 +1.9
comp=Z,0.2nm,0.5s,baz=108,slow=8.6,SNR=2.2
TXAR PcP PcP 09 03 33.1 +1.0
comp=Z,0.5nm,0.9s,baz=139,slow=6.3,SNR=4.1
TXAR Lajitas Array 36.50 312 P P 09 01 12.5 +0.9
TX32 Lajitas Array 36.50 312 P P 09 01 11.9 +0.3
HDIL Hopedale 36.58 339 P P 09 01 11.6 -0.3
baz=152,SNR=5.0
HDIL Hopedale 36.58 339 P P 09 01 12.0 +0.1
I58A Old Forge 36.74 358 P P 09 01 15.1 +1.7
baz=177
P40A Paris 36.76 335 P P 09 01 13.8 +0.3
P40A IAmb IAmb 09 01 14.3
comp=Z,9.3nm,0.7s
I60A Shoreham 36.85 360 P P 09 01 15.0 +0.8
baz=180
L46A Eue Claire 36.94 343 P P 09 01 16.2 +1.2
I61A Oroboro, Fairl 36.95 1 P P 09 01 17.5 +2.4
baz=181
I64A Boothbay 37.05 4 P P 09 01 17.8 +1.9
baz=186
I63A Otisfield 37.12 3 P P 09 01 18.3 +1.8
baz=184
P38A Dawn 37.48 334 P P 09 01 19.6 0.0
P38A IAmb IAmb 09 01 20.4
comp=Z,8.1nm,0.7s
H61A Lyndonville 37.56 1 P P 09 01 21.7 +1.5
baz=182
H60A Morristown 37.57 0 P P 09 01 21.9 +1.6
baz=180
H59A Cadyville 37.66 359 P P 09 01 22.8 +1.8
baz=179
DELO Deloro Mine 37.74 355 P P 09 01 22.6 +0.9
H63A New Sharon 37.76 4 P P 09 01 23.9 +2.0
baz=185
H64A Troy 37.80 4 P P 09 01 23.7 +1.5
baz=186
I49A Point Hope 37.93 348 P P 09 01 24.5 +1.2
H65A Eastbrook 37.94 6 P P 09 01 25.3 +2.0
baz=188
EMMW East Machias 38.03 6 P P 09 01 25.7 +1.6
G60A Masonville 38.11 1 P P 09 01 26.6 +1.7
baz=181
H66A Whiting 38.13 7 P P 09 01 25.9 +1.1
baz=189
G57A Newington 38.15 358 P P 09 01 26.8 +1.7
baz=177
SADO Sadowa 38.15 353 P P 09 01 26.3 +1.2
G58A Ormstown 38.17 359 P P 09 01 27.1 +1.8
baz=178
PLVO Plevna 38.21 355 P P 09 01 27.1 +1.4
PLVO IAmb IAmb 09 01 27.9
comp=Z,5.1nm,0.8s
G63A Kingsbury 38.24 4 P P 09 01 27.6 +1.7
baz=185
G62A West of Eustis 38.29 3 P P 09 01 28.2 +1.8
baz=184
G62A West of Eustis 38.29 3 P P 09 01 28.5 +2.2
G62A IAmb IAmb 09 01 28.8
comp=Z,6.4nm,0.7s
G61A St-Isidore-de- 38.32 2 P P 09 01 28.5 +2.0
baz=182
AMTX Amarillo 38.38 321 P P 09 01 28.2 +0.8
baz=130
PKME Peaks-Kenny Pk 38.41 4 P P 09 01 28.6 +1.3
baz=186
G64A Maxfield 38.45 5 P P 09 01 29.3 +1.7
baz=187
G65A Princeton 38.51 6 P P 09 01 29.7 +1.6
baz=189
G65A Princeton 38.51 6 P P 09 01 29.9 +1.8
G65A IAmb IAmb 09 01 30.7
comp=Z,7.7nm,0.7s
GGN Saint George 38.51 7 P P 09 01 29.8 +1.7
F59A Saint Guilaume 38.86 0 P P 09 01 33.0 +2.0
baz=180
F63A Nahmakanta, Br 38.86 4 P P 09 01 32.8 +1.7
baz=186
F60A Warwick 38.99 1 P P 09 01 33.9 +1.8
baz=182
JFWS Jewell Farm 39.00 340 P P 09 01 32.0 -0.2
baz=152,SNR=9.9
JFWS Jewell Farm 39.00 340 P P 09 01 32.6 +0.3
F62A Pittston Farm, 39.00 3 P P 09 01 33.8 +1.6
baz=185
MNTX Cornudas Mount 39.01 314 P P 09 01 32.6 +0.1
baz=123,SNR=5.7
MNTX Cornudas Mount 39.01 314 P P 09 01 33.5 +1.0
F64A Sherman 39.09 5 P P 09 01 34.2 +1.3
baz=187
F64A Sherman 39.09 5 P P 09 01 34.2 +1.3
F64A IAmb IAmb 09 01 34.4
comp=Z,5.1nm,0.8s
VAO Valinhos 39.12 140 eP P 09 01 32.7 -0.9
ALGO Algonquin Park 39.20 354 P P 09 01 34.7 +0.9
baz=172,SNR=5.5
I42A Draeger Farm, 39.44 342 P P 09 01 36.6 +0.8
I42A IAmb IAmb 09 01 36.9
comp=Z,6.1nm,0.7s
LMN Caledonia Moun 39.51 9 P P 09 01 37.6 +1.1
LMN IAmb IAmb 09 01 38.1
comp=Z,14nm,0.9s
E55A Montcerf-Lytto 39.55 357 P P 09 01 38.4 +1.7
baz=175
E63A Oxbow 39.63 5 P P 09 01 38.9 +1.5
baz=187
E64A Bridgewater 39.69 6 P P 09 01 39.1 +1.3
baz=188
E62A Clayton Lake 39.75 4 P P 09 01 39.8 +1.4
baz=185
PQI Presque Isle 39.92 5 P P 09 01 41.2 +1.4
PQI IAmb IAmb 09 01 41.7
comp=Z,7.2nm,0.7s
D60A Saint Jean D'O 39.97 2 P P 09 01 41.7 +1.6
baz=183
D58A Chemin du LacG 40.11 0 P P 09 01 43.0 +1.6
baz=180
D62A Allapoint, All 40.24 4 P P 09 01 43.8 +1.4
baz=186,SNR=5.8
D62A Allapoint, All 40.24 4 P P 09 01 44.0 +1.6
D62A IAmb IAmb 09 01 44.5
comp=Z,11nm,0.8s
D63A Stockholm 40.27 5 P P 09 01 44.2 +1.5
baz=188
D61A St Aubert, Com 40.29 3 P P 09 01 44.9 +2.1
baz=184
LATQ La Tuque 40.40 0 P P 09 01 45.8 +2.1
baz=180
E46A Sault Ste Mari 40.56 348 P P 09 01 46.1 +1.1
E46A IAmb IAmb 09 01 46.7
comp=Z,9.4nm,0.6s
COWI Conover 41.51 343 P P 09 01 53.7 +0.9
T25A Trinidad 41.52 321 P P 09 01 54.5 +1.1
baz=129
ANMO Albuquerque 41.54 317 P P 09 01 55.0 +1.5
baz=125
SPMN Marine on St. 41.91 339 P P 09 01 56.9 +0.8
baz=150
ECSD EROS Data Cent 42.16 334 P P 09 01 57.2 -0.9
baz=144,SNR=5.7
LSQQ Lebel-sur-Quev 42.20 356 P P 09 01 59.4 +1.0
baz=174
D41A Chassel 42.23 344 P P 09 01 59.4 +0.8
D41A IAmb IAmb 09 02 23.1
comp=Z,21nm,1.4s
SDCO Great Sand Dun 42.58 321 P P 09 02 03.1 +1.1
baz=128,SNR=5.2
CHGQ Chibougamau 42.94 359 P P 09 02 05.4 +1.1
baz=178
MATQ Matagami 42.95 356 P P 09 02 05.9 +1.5
baz=173
S22A 4UR Ranch, Cre 43.41 320 P P 09 02 09.3 +0.5
baz=127
SUSD Miller 43.75 333 P P 09 02 11.3 +0.3
baz=141
SUSD Miller 43.75 333 P P 09 02 10.8 -0.1
EYMN Ely 43.87 342 P P 09 02 11.7 -0.1
baz=153,SNR=7.0
EYMN Ely 43.87 342 P P 09 02 12.1 +0.2
ISCO Idaho Springs 43.93 323 P P 09 02 14.1 +1.3
baz=130
ISCO Idaho Springs 43.93 323 P P 09 02 14.1 +1.3
MVCO Mesa Verde 44.19 318 P P 09 02 15.5 +0.6
baz=124
PV01 Paradox Valley 44.76 319 P P 09 02 20.1 +0.7

N23A	Red Feather La	44.82	324	P	P	09 02 21.2	+1.3
	baz=130						
PV13	Radium Mtn., P	44.93	319	P	P	09 02 22.2	+1.4
PV12	Saucer Basin,	45.01	319	P	P	09 02 22.4	+1.0
WUAZ	Wupatki	45.25	315	P	P	09 02 24.5	+1.3
	baz=120						
AGMN	Agassiz Nation	45.63	339	P	P	09 02 25.7	0.0
	baz=148						
AGMN	Agassiz Nation	45.63	339	P	P	09 02 26.1	+0.4
AGMN				IAmb	IAmb	09 02 26.4	
	comp=Z,4.9nm,0.6s						
MDND	Maddock	46.70	336	P	P	09 02 34.3	+0.1
	baz=142						
MDND	Maddock	46.70	336	P	P	09 02 34.7	+0.5
MDND				IAmb	IAmb	09 02 35.2	
	comp=Z,16nm,0.8s						
ULM	Lac du Bonnet	47.29	340	P	P	09 02 38.3	-0.3
	comp=Z,6.4nm,0.4s,baz=150,slow=6.2,SNR=8.1						
ULM	Lac du Bonnet	47.29	340	P	P	09 02 38.5	-0.1
ULM				IAmb	IAmb	09 02 39.4	
	comp=Z,8.5nm,0.8s						
BW06	Boulder Array	48.10	324	P	P	09 02 45.7	+0.3
	baz=128						
PDAR	Pinedale Array	48.10	324	P	P	09 02 45.4	0.0
	comp=Z,0.8nm,0.5s,baz=126,slow=9.5,SNR=10						
PDAR	Pinedale Array	48.10	324	P	P	09 02 46.0	+0.7
SCHQ	Schefferville	48.11	5	P	P	09 02 45.3	+0.4
	comp=Z,7.2nm,0.5s,baz=188,slow=7.5,SNR=20						
SCHQ	Schefferville	48.11	5	P	P	09 02 45.8	+0.8
SCHQ				IAmb	IAmb	09 02 46.3	
	comp=Z,9.7nm,0.7s						
DUG	Dugway, Tooele	48.64	319	P	P	09 02 50.8	+1.4
	baz=122						
DGMT	Dagmar	49.16	333	P	P	09 02 54.1	+1.0
	baz=137						
REDW	Red Top Meadow	49.22	324	P	P	09 02 54.5	+0.7
REDW				IAmb	IAmb	09 02 55.8	
	comp=Z,9.3nm,1.4s						
RLMT	Red Lodge	49.40	327	P	P	09 02 56.2	+1.0
	baz=130						
TPNV	Topopah Spring	49.40	314	P	P	09 02 56.2	+0.9
	baz=117						
R11A	Troy Canyon, C	49.58	316	P	P	09 02 57.6	+1.0
	baz=118						
FURC	Furnace Creek,	49.63	313	P	P	09 02 58.3	+1.4
	baz=116						
GCMT	Greycliff	50.04	327	P	P	09 03 01.0	+1.1
BOZ	Bozeman (W)	51.00	326	P	P	09 03 07.8	+0.7
	baz=127						
BOZ	Bozeman (W)	51.00	326	P	P	09 03 08.0	+0.8
MCMT	McKenzie Canyo	51.24	324	P	P	09 03 10.6	+1.5
NVAR	Mina Array Bea	51.52	315	P	P	09 03 11.7	+0.5
	comp=Z,0.5nm,0.7s,baz=118,slow=6.3,SNR=5.5						
MFID	Camas Ranch	52.25	321	P	P	09 03 16.8	+0.4
F10A	Beach Ranch, E	54.45	323	P	P	09 03 32.5	+0.2
I07A	Izee	54.90	320	P	P	09 03 36.6	+0.9
I07A				IAmb	IAmb	09 03 55.2	
	comp=Z,7.0nm,1.5s						
G08A	Pilot Rock	55.14	322	P	P	09 03 38.2	+0.8
G08A				IAmb	IAmb	09 03 38.6	
	comp=Z,6.4nm,1.2s						
M04C	Macdoel	55.40	317	P	P	09 03 39.8	+0.5
	baz=115						
J05D	Fort Rock, OR	55.64	319	P	P	09 03 41.8	+0.7
	baz=116						
H04D	Lebanon	57.16	320	P	P	09 03 53.5	+1.9
	baz=116						
I03D	Drain, OR	57.21	318	P	P	09 03 54.0	+2.1
	baz=115						
YKA	Yellowknife Ar	63.27	340	P	P	09 04 32.6	-0.2
	comp=Z,3.5nm,0.7s,baz=102,slow=8.7,SNR=24						
DLBC	Dease Lake	67.34	331	P	P	09 05 00.0	+0.9
	comp=Z,0.9nm,0.4s,baz=148,slow=17,SNR=3.4						
SUMG	Summit	68.95	11	*i* P	P	09 05 09.5	+0.1
SUMG				IAmb	IAmb	09 05 10.1	
	comp=Z,10nm,0.8s						
SUMG	Summit	68.95	11	P	P	09 05 09.8	+0.4
NEEM	North Greenlan	71.52	5	*i* P	P	09 05 25.2	+0.4
NEEM				IAmb	IAmb	09 05 25.6	
	comp=Z,6.3nm,0.7s						
INK	Inuvik	73.03	340	P	P	09 05 33.6	+0.2
	comp=Z,2.8nm,1.0s,baz=136,slow=1.2,SNR=2.2						
TORD	Torodi Ar. Bea	73.67	78	P	P	09 05 36.5	-1.8
	comp=Z,0.5nm,0.8s,baz=286,slow=6.4,SNR=1.8						
SKT	Skwentna	78.58	332	P	P	09 06 05.6	+0.4
	baz=97						
BPAW	Bear Paw Mtn.	78.61	334	P	P	09 06 05.8	+0.5
	baz=98						
PPLA	Purkeypile	78.99	333	P	P	09 06 08.1	+0.5
	baz=96						
CHUM	Lake Minchumin	79.16	334	P	P	09 06 08.9	+0.6
	baz=97						
P19K	Oil Pt	79.17	329	P	P	09 06 08.5	+0.1
	baz=95						
GERES	GERESS Array B	82.76	42	P	P	09 06 27.2	-0.6
	comp=Z,0.1nm,0.3s,baz=265,slow=4.8,SNR=1.8						
ARCES	ARCESS Array B	86.63	20	P	P	09 06 46.2	-0.4
	comp=Z,1.3nm,0.8s,baz=270,slow=3.3,SNR=1.5						
MKAR	Makanchi Array	122.28	20	PKP	PKPdf	09 12 56.8	-1.0
	comp=Z,0.3nm,0.4s,baz=344,slow=2.4,SNR=6.8						
MKAR	Makanchi Array	122.28	20	PKPdf	PKPdf	09 12 57.1	-0.6
ASAR	Alice Springs	149.18	234	PKPbc	PKPbc	09 13 50.9	-1.1
	comp=Z,0.5nm,0.5s,baz=113,slow=3.8,SNR=12						
ASAR	Alice Springs	149.18	234		PKPdf	09 13 48.3	+0.7
WRA	Warramunga Arr	150.41	241	PKPbc	PKPbc	09 13 53.9	-1.1
	comp=Z,1.0nm,0.6s,baz=109,slow=2.7,SNR=13						
WRA	Warramunga Arr	150.41	241		PKPbc	09 13 54.2	-0.8

*IDC **05** 09:01:42.1±1.8, 53.°90N×165.°91W, h0km, mb3.6/10, mb1 3.9/12, mb1mx3.7/50, mbtmp3.7/12, ML3.9/2, Error ellipse: s-maj=38.1km s-min=25.8km az=15.0*
*NEIC **05** 09:01:54.0±2.0, 53.°95N±0.°09×165.°06W±0.°09, h79km±7km, mb3.7/17, ML3.9/55(AEIC), Error ellipse: s-maj=14.0km s-min=4.7km az=154.0*
*AEIC **05** 09:01:54.9±2.6, 54.°08N±0.°09×165.°15W±0.°08, h76km±5km, Error ellipse: s-maj=15.0km s-min=1.5km az=153.0*
*ANF **05** 09:01:54.1±0.8, 53.°78N×164.°72W, h105km±6km, ML4.8/3, Error ellipse: s-maj=12.2km s-min=7.0km az=157.0*

ISC 05 09:01:54.1±0.8, 53.°98N±0.°09×165.°03W±0.°05, h84km±7km, n190, σ1°16/201, mb3.3/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.43	292		Pn	09 02 07.6	-0.1
AKSA					Sn	09 02 16.8	-0.9
AKUT	Akutan	0.47	290		Pn	09 02 07.8	-0.1
AKUT	Akutan	0.47	290		Sn	09 02 17.2	-1.0
AKBBA	Akutan Broad B	0.55	283		Pn	09 02 08.5	-0.1
AKBBA					Sn	09 02 18.3	-1.1
WESP	Westdahl Peak	0.55	19		Pn	09 02 08.9	+0.1
WECS	Westdahl Cape	0.57	15		Pn	09 02 09.0	0.0
AKLV	Akutan Long Va	0.58	289		Pn	09 02 08.6	-0.3
AKLV					Sn	09 02 18.7	-1.3
AKMO	Akutan Morgan	0.59	282		Pn	09 02 09.0	0.0
AKMO					Sn	09 02 19.3	-0.9
AKGG	Akutan Green G	0.61	292		Pn	09 02 09.1	-0.1
AKGG					Sn	09 02 19.8	-0.7
AKRB	Akutan Reef Bi	0.63	285		Pn	09 02 09.3	-0.2
AKRB					Sn	09 02 20.1	-0.7
SSLS	Shishaldin Sou	0.95	39		Pn	09 02 13.3	+0.4
SSLS					Sn	09 02 27.4	+0.4
SSBA	Shishaldin	0.96	33		Pn	09 02 13.0	0.0
MTBL	Makushin Table	0.97	270		Pn	09 02 13.3	+0.1
MNAT	Makushin Natee	0.98	265		Pn	09 02 13.2	0.0
MNAT					Sn	09 02 26.8	-0.7
BRPK	Brown Peak	1.01	48		Pn	09 02 14.3	+0.7
SSLN	Shishaldin Nor	1.03	35		Pn	09 02 14.6	+0.8
MSW	Makushin Switc	1.04	267		Pn	09 02 13.7	-0.1
MSW					Sn	09 02 28.0	-0.7
ISLZ	Isanotski Laza	1.08	45		Pn	09 02 15.0	+0.7
ISLZ					Sn	09 02 29.8	+0.3
MAPS	Pakushin South	1.15	262		Pn	09 02 15.4	+0.2
MAPS					Sn	09 02 30.3	-0.6
FALS	False Pass	1.29	46	P	Pn	09 02 17.7	+0.9
	baz=233,SNR=21						
FALS				S	Sn	09 02 35.2	+1.1
	baz=233						
FALS	False Pass	1.29	46	Pn	Pn	09 02 17.8	+0.9
FALS	False Pass	1.29	46		Sn	09 02 34.8	+0.8
OKTU	Okmok Mt. Tuli	1.89	253		Pn	09 02 25.5	+0.8
DT1	Dutton Round H	1.96	54		Pn	09 02 26.7	+1.2
OKSP	Okmok Steeple	2.07	251		Pn	09 02 27.5	+0.4
HAG	Hague Volcano	2.26	52		Pn	09 02 31.3	+1.7
PS4A	Pavlof South-4	2.30	52		Pn	09 02 31.7	+1.7
NIKH	Nikolski High	2.50	248	P	Pn	09 02 33.7	+1.0
	baz=62,SNR=14						
NIKH				S	Sn	09 03 02.8	+0.5
	baz=62						
NIKH	Nikolski High	2.50	248	Pn	Pn	09 02 33.1	+0.4
SDPT	Sand Point	2.98	61	P	Pn	09 02 40.6	+1.4
	baz=247						
SDPT				S	Sn	09 03 13.7	-0.2
	baz=247						
SDPT	Sand Point	2.98	61	Pn	Pn	09 02 39.1	0.0
VNFG	Fog Glacier, M	3.90	51		Pn	09 02 54.2	+2.5
VNSG	Veniaminof 6	4.04	55		Pn	09 02 55.6	+2.1
SPIA	Saint Paul Isl	4.37	319	Pn	Pn	09 02 58.5	+0.5
KOFP	Korovin Flat P	5.72	256		Pn	09 03 18.8	+2.4
ATKA	Atka Island	5.80	256	Pn	Pn	09 03 17.2	-0.3
ANCK	Angle Creek	6.81	48		Pn	09 03 33.1	+1.9
KABR	Katmai Barrier	7.00	49		Pn	09 03 35.5	+1.6
ADK	Adak	7.35	258	Pn	Pn	09 03 38.7	+0.1
OHAK	Old Harbor	7.40	59	P	Pn	09 03 38.8	-0.5
	baz=250						
OHAK				S	Sn	09 04 58.1	-3.5
	baz=250						
OHAK	Old Harbor	7.40	59	Pn	Pn	09 03 39.4	+0.1
KIWB	Kanaga Island	7.63	259		Pn	09 03 42.1	-0.4
KDAK	Kodiak Island	7.97	56	Pn	Pn	09 03 44.9	-2.0
	6.9nm,0.3s,baz=280,slow=6.1,SNR=51						
KDAK				Sn	Sn	09 05 10.1	-5.3
	2.0nm,0.3s,baz=191,slow=23,SNR=6.0						
KDAK	Kodiak Island	7.97	56	S	Sn	09 05 10.9	-4.5
	baz=248						
KDAK	Kodiak Island	7.97	56		Pn	09 03 46.2	-0.8
O18K	Koktuh Hills	7.97	38	P	Pn	09 03 47.9	+0.9
	baz=227						
O18K				S	Sn	09 05 15.5	+0.1
	baz=227						
O18K	Koktuh Hills	7.97	38		Pn	09 03 49.6	+2.6
N18K	Kilae Creek	8.34	33	P	Pn	09 03 52.8	+0.8
	baz=221						
N18K	Kilae Creek	8.34	33		Pn	09 03 53.1	+1.1
SVW2	Sparrevohn	8.75	32	Pn	Pn	09 03 58.4	+0.7
N19K	Bonanza Creek	8.90	35	P	Pn	09 04 00.8	+1.0
	baz=225,SNR=5.6						
N19K				S	Sn	09 05 37.5	-0.8
	baz=225						
N19K	Bonanza Creek	8.90	35		Pn	09 04 01.6	+1.9
O20K	Slope Mountain	9.11	43	P	Pn	09 04 04.2	+1.6
	baz=234						
O20K	Slope Mountain	9.11	43		Pn	09 04 05.1	+2.5
HOM	Homer	9.28	47	Pn	Pn	09 04 05.4	+0.5
RSO	Redoubt South	9.29	41		Pn	09 04 05.5	+0.3
CNPM	China Poot	9.39	48	Pn	Pn	09 04 06.4	+0.1
BRLK	Bradley Lake	9.66	47	Pn	Pn	09 04 10.0	-0.1
BRSE	Bradley Lake S	9.71	48	P	Pn	09 04 10.6	-0.2
	baz=240						
BRSE				S	Sn	09 05 55.9	-2.1
	baz=240						
M19K	Big River Lodg	9.74	31	P	Pn	09 04 12.0	+0.9
	baz=221						
L19K	White Mountain	9.82	29	P	Pn	09 04 13.4	+1.1
	baz=218,SNR=10						
L19K	White Mountain	9.82	29		Pn	09 04 13.1	+0.9
AMKA	Amchitka	9.87	261	Pn	Pn	09 04 12.2	-0.7
SPU	Mount Spurr	10.02	39		Pn	09 04 16.0	+1.0
TT01	Tatalina	10.11	24		Pn	09 04 16.9	+0.7
M20K	Styx River	10.12	34	P	Pn	09 04 17.3	+0.8
	baz=224						
GAMB	Gambell	10.41	343	Pn	Pn	09 04 20.4	+0.2
SEW	Seward	10.46	48	P	Pn	09 04 20.1	-0.8
	baz=242						
SEW	Seward	10.46	48	Pn	Pn	09 04 20.4	-0.4
O22K	Cooper Landing	10.53	46	P	Pn	09 04 21.4	-0.5
	baz=239						
O22K	Cooper Landing	10.53	46		Pn	09 04 21.5	-0.4
SUA	Susitna One	10.69	40	P	Pn	09 04 24.3	+0.2
	baz=232						
SUA	Susitna One	10.69	40	Pn	Pn	09 04 24.0	-0.1
SKT	Skwentna	10.73	36	P	Pn	09 04 26.3	+1.6
	baz=225						
SKT	Skwentna	10.73	36		Pn	09 04 24.8	+0.1
RC01	Rabbit Creek A	10.86	43	P	Pn	09 04 25.8	-0.6
	baz=236						
RC01	Rabbit Creek A	10.86	43	Pn	Pn	09 04 26.2	-0.1
PPLA	Purkeypile	11.17	32	Pn	Pn	09 04 31.0	+0.3
PWL	Port Wells	11.31	46		Pn	09 04 31.5	-1.0
PMR	Palmer	11.38	42	P	Pn	09 04 32.8	-0.6
	baz=236						
PMR	Palmer	11.38	42	Pn	Pn	09 04 33.4	0.0
CUT	Chulitna	11.46	37		Pn	09 04 35.4	+0.9
KNK	Knik Glacier	11.55	43	P	Pn	09 04 34.7	-1.1
	baz=238						
KNK	Knik Glacier	11.55	43		Pn	09 04 36.3	+0.5
GHO	Glory Hole Cre	11.57	41		Pn	09 04 35.5	-0.6
MID	Middleton Isla	11.61	54	Pn	Pn	09 04 35.7	-0.9
SML	Sawmill	11.82	42	P	Pn	09 04 38.4	-1.0
	baz=236						
SML	Sawmill	11.82	42	Pn	Pn	09 04 39.1	-0.3
GLI	Glacier Island	11.85	47	P	Pn	09 04 37.7	-2.2
	baz=243						
GLI	Glacier Island	11.85	47	Pn	Pn	09 04 38.9	-1.0
HIN	Hinchinbrook I	11.90	50	Pn	Pn	09 04 39.4	-1.2
KTH	Kantishna Hill	12.04	32	Pn	Pn	09 04 42.1	-0.3
FID	Fort Fidalgo	12.06	48		Pn	09 04 40.9	-1.8
TRF	Thorofare Moun	12.17	33	Pn	Pn	09 04 44.4	+0.2
SCM	Sheep Creek Mo	12.23	43		Pn	09 04 44.1	-1.0
EYAK	Cordova Ski Ar	12.31	50		Pn	09 04 45.1	-0.8
WAT1	Susitna Watana	12.35	38	P	Pn	09 04 45.8	-0.7
	baz=232						
BPAW	Bear Paw Mtn.	12.42	30	Pn	Pn	09 04 48.0	+0.5
WAT6	Susitna Watana	12.49	39	P	Pn	09 04 46.8	-1.8
	baz=235,SNR=6.1						
RND	Reindeer	12.61	35	Pn	Pn	09 04 49.4	-0.7
KLU	Klutina	12.64	46	P	Pn	09 04 48.5	-2.0
	baz=243,SNR=30						
KLU	Klutina	12.64	46		Pn	09 04 49.4	-1.2
M24K	Tolsona, Glenn	12.84	43	P	Pn	09 04 51.8	-1.4
	baz=240,SNR=9.6						
M24K	Tolsona, Glenn	12.84	43		Pn	09 04 52.6	-0.6
HMT	Hamilton	12.91	52		Pn	09 04 53.7	-0.4
BMRM	Bremner River	12.99	49	P	Pn	09 04 53.5	-1.7
	baz=247						
BMRM	Bremner River	12.99	49		Pn	09 04 54.4	-0.8
I21K	Tanana	13.00	25	P	Pn	09 04 55.2	0.0
	baz=217						
SUCK	Suckling Hills	13.05	54	Pn	Pn	09 04 55.5	-0.5
H21K	Melozitna Rive	13.19	23	P	Pn	09 04 58.6	+0.8
	baz=214						
MLY	Manley	13.20	27	P	Pn	09 04 58.4	+0.4
	baz=220						
MLY	Manley	13.20	27		Pn	09 04 59.4	+1.5
N25K	Chitina, Valde	13.26	47	P	Pn	09 04 57.3	-1.5
	baz=244,SNR=18						
N25K	Chitina, Valde	13.26	47		Pn	09 04 57.6	-1.2
NEA2	Nenana	13.36	31	Pn	Pn	09 05 00.5	+0.5
HARP	HAARP	13.40	43	P	Pn	09 04 59.2	-1.3
	baz=240						
GLB	Gilahina Butte	13.53	48		Pn	09 05 01.6	-0.7
PAX	Paxson	13.58	41	P	Pn	09 05 01.8	-1.1
	baz=238,SNR=7.5						
PAX	Paxson	13.58	41		Pn	09 05 02.6	-0.3
WRH	Wood River Hil	13.58	33	Pn	Pn	09 05 03.0	+0.3
CRQM	Cirque	13.58	51		Pn	09 05 02.4	-0.6
CRQE	Cirque	13.60	51	P	Pn	09 05 01.7	-1.5
	baz=250,SNR=7.1						
VRDI	Verde Repeater	13.61	49		Pn	09 05 02.1	-1.3
WAX	Waxell Ridge	13.61	53		Pn	09 05 02.6	-0.7
TGL	Tana Glacier	13.72	51	Pn	Pn	09 05 04.3	-0.5
CCB	Clear Creek Bu	13.79	32		Pn	09 05 05.0	-0.5
MCARA	McCarthy VSAT	13.86	49	P	Pn	09 05 05.7	-0.8
	baz=248						
MCARA	McCarthy VSAT	13.86	49	Pn	Pn	09 05 06.8	+0.3
MDM	Murphy Dome	13.87	31	Pn	Pn	09 05 07.5	+0.8
ISLE	Juniper Island	13.90	52		Pn	09 05 06.9	-0.3
HDA	Harding Lake	13.90	34		Pn	09 05 06.9	-0.2
MESA	MESA	13.96	54	P	Pn	09 05 06.6	-1.4
	baz=254						
MESA	MESA	13.96	54	Pn	Pn	09 05 07.5	-0.5
YAH	Yahtse	14.11	54		Pn	09 05 09.7	-0.2
H23K	Yukon River	14.14	27	P	Pn	09 05 10.5	+0.4
	baz=221						
IL31		14.16	33		Pn	09 05 11.3	+0.9
ILAR	Eielson Array	14.16	33	Pn	Pn	09 05 08.0	-2.4
	0.1nm,0.3s,baz=223,slow=12,SNR=4.1						
ILAR	Eielson Array	14.16	33	Pn	Pn	09 05 10.6	+0.2
MENT	Mentasta	14.25	42	Pn	Pn	09 05 10.6	-0.9
BARN	Barnard Glacie	14.36	51		Pn	09 05 12.9	-0.3
TABL	Table Mountain	14.41	54		Pn	09 05 14.1	+0.2
CTG	Chitna Glacier	14.48	52	P	Pn	09 05 13.3	-1.3
	baz=252						
DOT	Dot Lake	14.48	40		Pn	09 05 15.0	+0.4
CTGM	Chitina Glacie	14.48	52		Pn	09 05 14.6	-0.1
LOGN	Logan Glacier	14.59	52		Pn	09 05 16.7	+0.6
SCRK	Sand Creek	14.69	39	P	Pn	09 05 15.9	-1.4
	baz=237						
SCRK	Sand Creek	14.69	39		Pn	09 05 16.6	-0.7
PCA	Pinnacle	14.75	56		Pn	09 05 19.1	+1.0
PINM	Pinnacle	14.75	56	P	Pn	09 05 15.5	-2.7
	baz=257						
L27K	Beaver Creek,	15.07	44	P	Pn	09 05 20.5	-1.6
	baz=244						
L27K	Beaver Creek,	15.07	44		Pn	09 05 21.4	-0.7
BCAR	Beaver Creek A	15.09	44		Pn	09 05 21.8	-0.6
COLD	Coldfoot	15.09	23	P	Pn	09 05 23.0	+0.7
	baz=216						
COLD	Coldfoot	15.09	23		Pn	09 05 23.3	+1.0
COLD				IAmb	IAmb	09 05 29.7	
	comp=Z,2.8nm,0.7s						
PRP	Porcupine Dome	15.09	32	Pn	Pn	09 05 23.1	+0.6
K27K	Chicken	15.43	40	Pn	Pn	09 05 26.0	-0.6
FYU	Fort Yukon	15.88	30		Pn	09 05 33.7	+1.4
FYU				IAmb	IAmb	09 05 49.1	
	comp=Z,11nm,1.4s						
EGAK	Eagle	16.15	39	P	Pn	09 05 36.9	+1.1
HYT	Haines Junctio	16.25	54	P	P	09 05 38.5	-0.1
TOLK	Toolik Lake Re	16.39	20	P	Pn	09 05 39.6	+1.0
	baz=214						
TOLK	Toolik Lake Re	16.39	20	Pn	Pn	09 05 39.1	+0.4
TOLK				P	P	09 05 40.6	+0.5
TOLK				IAmb	IAmb	09 05 57.0	
	comp=Z,6.0nm,1.1s						
DAWY	Dawson	16.49	42	P	Pn	09 05 40.4	+0.5
DAWY				IAmb	IAmb	09 05 44.0	
	comp=Z,4.1nm,0.9s						
SIT	Sitka	17.03	68		Pn	09 05 46.0	-0.6
SKAG	Skagway	17.10	59	P	Pn	09 05 47.7	+0.3
BESE	Bessie Mountai	17.29	62	P	Pn	09 05 49.8	0.0
BESE				IAmb	IAmb	09 06 08.4	
	comp=Z,4.3nm,0.8s						
WHY	Whitehorse	17.48	55	P	Pn	09 05 52.6	+0.4
WHY				IAmb	IAmb	09 05 57.7	
	comp=Z,4.0nm,0.7s						
JIS	Juneau Island	17.53	63	P	Pn	09 05 51.8	-0.8
JIS				IAmb	IAmb	09 06 02.9	
	comp=Z,4.2nm,0.9s						
EPYK	Eagle Plains	18.55	37	P	P	09 06 04.0	+0.2
EPYK				IAmb	IAmb	09 06 05.7	
	comp=Z,4.3nm,0.5s						
DLBC	Dease Lake	19.82	63	P	Pn	09 06 21.9	+1.9
	comp=Z,2.0nm,0.6s,baz=277,slow=14,SNR=5.6						
INK	Inuvik	20.56	34	P	P	09 06 24.1	-1.5
	comp=Z,3.2nm,0.6s,baz=236,slow=12,SNR=16						
INK	Inuvik	20.56	34	P	P	09 06 24.8	-0.8
INK				IAmb	IAmb	09 06 25.2	
	comp=Z,3.6nm,0.7s						
YKA	Yellowknife Ar	27.20	52	P	P	09 07 30.9	+1.5
	comp=Z,0.5nm,0.4s,baz=279,slow=9.0,SNR=7.6						
SAO	San Andreas Ge	34.46	102	P	P	09 08 32.1	-1.5
PDAR	Pinedale Array	37.58	84	P	P	09 09 03.0	+2.6
	comp=Z,0.2nm,0.6s,baz=311,slow=4.2,SNR=3.4						
H11N2	WAKE ISLAND Hy	40.38	223	T	T	09 52 24.1	
	baz=23,slow=74,SNR=13						
H11N3	WAKE ISLAND Hy	40.39	223	T	T	09 52 24.1	
	baz=23,slow=74,SNR=10						
H11N1	WAKE ISLAND Hy	40.40	223	T	T	09 52 22.9	
	baz=23,SNR=8.2						
H11S1	WAKE ISLAND Hy	41.56	223	T	T	09 53 48.6	
	baz=24,slow=74,SNR=10						
H11S2	WAKE ISLAND Hy	41.57	223	T	T	09 53 49.1	
	baz=24,slow=74,SNR=8.7						
H11S3	WAKE ISLAND Hy	41.58	223	T	T	09 53 51.8	
	baz=24,SNR=4.0						
TXAR	Lajitas Array	50.17	94	P	P	09 10 43.8	+2.7
	comp=Z,0.2nm,0.7s,baz=290,slow=5.2,SNR=6.4						
ARCES	ARCESS Array B	56.56	356	P	P	09 11 26.2	-0.9
	comp=Z,2.0nm,0.8s,baz=2.9,slow=7.2,SNR=2.1						
FINES	FINESS Array B	64.59	354	P	P	09 12 20.8	-1.0
	comp=Z,0.8nm,0.6s,baz=46,slow=8.2,SNR=5.2						
NOA	NORSAR Array B	65.29	2	P	P	09 12 25.9	-0.6
	comp=Z,0.2nm,0.5s,baz=352,slow=7.2,SNR=1.9						
AKASG	Malin Array Be	75.01	351	P	P	09 13 24.8	-1.1
	comp=Z,0.7nm,0.5s,baz=14,slow=6.1,SNR=4.0						
GERES	GERESS Array B	77.55	1	P	P	09 13 39.5	-0.9
	comp=Z,0.2nm,0.4s,baz=358,slow=7.0,SNR=2.1						
ESDC	Sonseca Array	85.31	15	P	P	09 14 21.9	+0.4
	comp=Z,0.2nm,0.5s,baz=347,slow=5.3,SNR=1.6						
H03N2	Juan Fernandez	114.14	114	T	T	11 25 21.6	
	baz=321,slow=77,SNR=8.8						
H03N1	Juan Fernandez	114.15	114	T	T	11 25 22.1	
	baz=321,slow=77,SNR=8.0						
H03N3	Juan Fernandez	114.15	114	T	T	11 25 21.5	
	baz=321,slow=77,SNR=6.2	

MT09	**Talagante**	**0.44**	**208**	⇓*i*P	**Pn**	**09 39 33.8**	**0.0**
MT09				*i* S	**Sn**	**09 39 44.0**	**0.0**
MT09				IAML		09 39 44.6	
	comp=E,12μm,0.1s						
MT09	**Talagante**	**0.44**	**208**		**Pn**	**09 39 33.8**	**0.0**
MT09				Sn	**Sn**	**09 39 43.6**	**-0.3**
ROCH	**El Roble**	**0.47**	**331**	⇑*i*P	**Pn**	**09 39 34.0**	**-0.1**
ROCH				*i* S	**Sn**	**09 39 44.8**	**+0.2**
LMEL	**Las Melosas**	**0.64**	**136**	*e*P	**Pn**	**09 39 36.0**	**+0.6**
LMEL				*i* S	**Sn**	**09 39 48.5**	**+1.5**
LMEL				IAML		09 39 50.1	
	comp=N,9μm,0.2s						
MT01	**Popeta**	**0.64**	**222**	⇓*i*P	**Pn**	**09 39 35.4**	**0.0**
MT01				*i* S	**Sn**	**09 39 46.4**	**-0.3**
MT01				IAML		09 39 46.8	
	comp=N,9μm,0.2s						
MT01	**Popeta**	**0.64**	**222**		**Pn**	**09 39 35.3**	**0.0**
MT01				Sn	**Sn**	**09 39 46.3**	**-0.4**
VA03	**San Esteban**	**0.64**	**14**	⇑*i*P	**Pn**	**09 39 35.6**	**+0.2**
VA03				*i* S	**Sn**	**09 39 47.3**	**+0.4**
VA03				IAML		09 39 50.9	
	comp=E,4μm,0.1s						
VA03	**San Esteban**	**0.64**	**14**		**Pn**	**09 39 35.6**	**+0.2**
VA03				Sn	**Sn**	**09 39 46.9**	**-0.1**
VA05	**Santo Domingo**	**0.78**	**250**	⇓*i*P	**Pn**	**09 39 37.0**	**+0.3**
VA05				*i* S	**Sn**	**09 39 49.7**	**+0.5**
VA05				IAML		09 39 52.0	
	comp=N,8μm,0.3s						
VA05	**Santo Domingo**	**0.78**	**250**		**Pn**	**09 39 37.0**	**+0.3**
VA05				Sn	**Sn**	**09 39 49.0**	**-0.1**
VA01	**Torpederas**	**0.85**	**295**	*e*P	**Pn**	**09 39 37.9**	**+0.5**
VA01				*i* S	**Sn**	**09 39 51.9**	**+1.5**
VA01				IAML		09 39 53.2	
	comp=E,3μm,0.2s						
VA01	**Torpederas**	**0.85**	**295**		**Pn**	**09 39 38.0**	**+0.5**
BO01	**Tunca**	**1.04**	**196**	⇓*i*P	**Pn**	**09 39 40.2**	**+0.5**
BO01				*i* S	**Sn**	**09 39 54.9**	**+0.4**
BO01	**Tunca**	**1.04**	**196**		**Pn**	**09 39 40.1**	**+0.4**
BO01				Sn	**Sn**	**09 39 54.9**	**+0.4**
BO02	**Sierra Bellavi**	**1.40**	**181**	*e*P	**Pn**	**09 39 45.0**	**+0.8**
BO02				*i* S	**Sn**	**09 40 03.6**	**+1.2**
BO02				IAML		09 40 06.1	
	comp=N,3μm,0.3s						
BO02	**Sierra Bellavi**	**1.40**	**181**		**Pn**	**09 39 45.0**	**+0.8**
BO03	**Pichilemu**	**1.50**	**222**	*e*P	**Pn**	**09 39 45.2**	**-0.2**
GO05	**Huala**	**1.90**	**211**	*e*P	**Pn**	**09 39 50.3**	**-0.2**
GO05	**Huala**	**1.90**	**211**	Pn	**Pn**	**09 39 50.6**	**0.0**
CO02	**Combarbal**	**2.19**	**354**		**Pn**	**09 39 55.2**	**+0.6**
CO02				Sn	**Sn**	**09 40 21.4**	**+0.4**
ZON	**Zonda**	**2.53**	**44**	Pn	**Pn**	**09 39 58.5**	**-0.5**
CO03	**El Pedregal**	**2.54**	**1**		**Pn**	**09 40 00.3**	**+1.1**
GO04	**Tololo Observa**	**3.21**	**359**		**Pn**	**09 40 08.7**	**+0.3**
AC04	**Llanos de Chal**	**5.18**	**357**	Pn	**Pn**	**09 40 34.5**	**-0.4**
GO03	**Copiap**	**5.79**	**4**	Pn	**Pn**	**09 40 42.9**	**-0.5**
AC02	**Maricunga**	**6.68**	**12**	Pn	**Pn**	**09 40 55.0**	**-0.8**
LL04	**Puerto Octay**	**7.62**	**190**	Pn	**Pn**	**09 41 07.0**	**-1.2**
GO02	**Mina Guanaco**	**8.26**	**7**	Pn	**Pn**	**09 41 18.3**	**+1.0**
TRQA	**Tornquist**	**8.51**	**126**	Pn	**Pn**	**09 41 19.2**	**-1.1**
CPUP	**Villa Florida**	**13.59**	**62**	P	**P**	**09 42 35.1**	**-0.1**
MNMC	**Minye Minye**	**14.24**	**4**	P	**P**	**09 42 43.6**	**+0.9**
PLTB	**Pedras Altas**	**14.54**	**88**	P	**P**	**09 42 44.5**	**-1.2**
PB16	**IPOC Station P**	**15.03**	**5**	P	**P**	**09 42 51.3**	**-0.6**
PB16				IAmb	IAmb	09 43 01.4	
	comp=Z,4.1nm,1.2s						
LPAZ	**La Paz**	**17.19**	**8**	P	**Pn**	**09 43 15.4**	**0.0**
LPAZ				IAmb	IAmb	09 43 18.4	
	comp=Z,1.2nm,0.9s						

*IDC **05** 09:51:24.2±1.4, 6°.20S×152°.75E, h0km, mb4.0/6, mb1 4.3/7, mb1mx3.8/37, mbtmp4.0/7, ML2.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=61.8km s-min=21.4km az=129.0*

*NEIC **05** 09:51:26.1±1.0, 5°.97S±0°.04×152°.7E±0°.1, h10km±1km, mb4.6/30, Error ellipse: s-maj=23.1km s-min=5.9km az=95.0*

ISC 05 09:51:30.1±0.8, 5°.90S±0°.09×152°.6E±0°.1, h38km, n49, σ1§01/50, mb4.4/22, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.74**	**347**	Pn	**Pn**	**09 51 56.0**	**-1.8**
RABL	**Rabaul**	**1.74**	**347**	P	**Pn**	**09 51 56.1**	**-1.7**
PMG	**Port Moresby**	**6.38**	**237**	Pn	**Pn**	**09 53 01.1**	**-0.5**
	4.8nm,0.3s,baz=58,slow=8.4,SNR=12						
PMG				Sn	**Sn**	**09 54 10.7**	**-2.6**
	6.6nm,0.3s,baz=350,slow=24,SNR=4.1						
PMG				LR	LR	09 55 40.3	
	comp=Z,65nm,18.3s,baz=132,slow=40						
PMG	**Port Moresby**	**6.38**	**237**	P	**Pn**	**09 53 02.1**	**+0.4**
PMG	**Port Moresby**	**6.38**	**237**	P	**Pn**	**09 53 02.0**	**+0.4**
MANU	**Manus Island**	**6.44**	**306**	Pn	**Pn**	**09 53 02.9**	**+0.4**
MTN	**Manton Dam**	**22.22**	**250**	P	**P**	**09 56 23.1**	**-0.5**
MTN				IAmb	IAmb	09 56 36.2	
	comp=Z,33nm,1.4s						
WB0	**Warramunga Arr**	**22.40**	**230**	P	**P**	**09 56 25.2**	**-0.3**
WR0	**Warramunga Arr**	**22.40**	**230**	P	**P**	**09 56 24.7**	**-0.8**
WRAB	**Tennant Creek**	**22.53**	**230**	P	**P**	**09 56 26.7**	**-0.3**
WB2	**Warramunga Arr**	**22.54**	**230**	P	**P**	**09 56 26.3**	**-0.7**
WRA	**Warramunga Arr**	**22.55**	**230**	P	**P**	**09 56 25.3**	**-1.8**
	comp=Z,3.5nm,0.6s,baz=56,slow=10,SNR=38						
WRA	**Warramunga Arr**	**22.55**	**230**	P	**P**	**09 56 26.2**	**-0.9**
AS31	**Alice Springs**	**25.18**	**224**	P	**P**	**09 56 52.0**	**-0.3**
ASAR	**Alice Springs**	**25.18**	**224**	P	**P**	**09 56 51.0**	**-1.3**
	comp=Z,4.9nm,0.7s,baz=52,slow=9.5,SNR=64						
ASAR	**Alice Springs**	**25.18**	**224**	P	**P**	**09 56 52.2**	**0.0**
KNRA	**Kununurra**	**25.28**	**245**	P	**P**	**09 56 52.2**	**-1.0**
SONM	**Songino Array**	**67.12**	**328**	P	**P**	**10 02 21.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=118,slow=5.3,SNR=1.9						
SONM	**Songino Array**	**67.12**	**328**	P	**P**	**10 02 20.8**	**+0.8**
OHAK	**Old Harbor**	**76.63**	**27**	P	**P**	**10 03 16.4**	**-0.3**
CNPM	**China Poot**	**78.81**	**26**	P	**P**	**10 03 29.3**	**+0.5**
PWL	**Port Wells**	**80.74**	**25**	P	**P**	**10 03 39.4**	**+0.1**
PMR	**Palmer**	**80.78**	**24**	P	**P**	**10 03 39.2**	**-0.2**
PMR				IAmb	IAmb	10 03 45.7	
	comp=Z,7.1nm,1.3s						
GHO	**Glory Hole Cre**	**80.96**	**24**	P	**P**	**10 03 41.0**	**+0.5**
SML	**Sawmill**	**81.22**	**24**	P	**P**	**10 03 41.4**	**-0.5**
SML				IAmb	IAmb	10 03 45.0	
	comp=Z,9.3nm,0.8s						
GLI	**Glacier Island**	**81.28**	**25**	P	**P**	**10 03 42.4**	**+0.3**
GLI				IAmb	IAmb	10 03 55.4	
	comp=Z,6.2nm,0.8s						
TRF	**Thorofare Moun**	**81.30**	**22**	P	**P**	**10 03 42.7**	**+0.3**
TRF				IAmb	IAmb	10 03 48.0	
	comp=Z,4.9nm,1.0s						
ZALV	**Zalesovo Beam**	**81.93**	**326**	P	**P**	**10 03 48.8**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=99,slow=6.4,SNR=2.6						
MLY	**Manley**	**81.99**	**21**	P	**P**	**10 03 46.3**	**+0.4**
MLY				IAmb	IAmb	10 03 59.7	
	comp=Z,3.7nm,0.9s						
M24K	**Tolsona, Glenn**	**82.25**	**25**		**P**	**10 03 47.2**	**-0.1**
HMT	**Hamilton**	**82.26**	**27**	P	**P**	**10 03 47.2**	**-0.2**
CCB	**Clear Creek Bu**	**82.86**	**22**	P	**P**	**10 03 50.2**	**-0.1**
CCB				IAmb	IAmb	10 04 02.7	
	comp=Z,3.7nm,1.1s						
VRDI	**Verde Repeater**	**83.01**	**26**	P	**P**	**10 03 51.1**	**-0.4**
VRDI				IAmb	IAmb	10 04 08.8	
	comp=Z,9.4nm,1.4s						
IL31		**83.26**	**22**	P	**P**	**10 03 52.7**	**+0.4**
IL31				IAmb	IAmb	10 04 05.5	
	comp=Z,3.4nm,1.1s						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**10 03 53.2**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=244,slow=5.3,SNR=18						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**10 03 52.9**	**+0.5**
DOT	**Dot Lake**	**83.83**	**24**	P	**P**	**10 03 56.0**	**+0.6**
DOT				IAmb	IAmb	10 04 09.5	
	comp=Z,4.5nm,1.1s						
LOGN	**Logan Glacier**	**83.93**	**27**	P	**P**	**10 03 56.0**	**-0.1**
LOGN				IAmb	IAmb	10 04 13.1	
	comp=Z,6.2nm,1.1s						
QSPA	**South Pole Qui**	**84.07**	**180**	P	**P**	**10 03 56.4**	**-0.3**
QSPA				IAmb	IAmb	10 04 03.3	
	comp=Z,3.5nm,1.1s						
TOLK	**Toolik Lake Re**	**84.33**	**18**	P	**P**	**10 03 58.0**	**+0.2**
TOLK				IAmb	IAmb	10 04 12.1	
	comp=Z,3.4nm,1.1s						
BCAR	**Beaver Creek A**	**84.50**	**25**	P	**P**	**10 03 59.0**	**+0.2**
EGAK	**Eagle**	**85.46**	**23**	P	**P**	**10 04 04.3**	**+0.7**
EGAK				IAmb	IAmb	10 04 19.9	
	comp=Z,2.4nm,0.9s						
HYT	**Haines Junctio**	**85.52**	**27**	P	**P**	**10 04 03.1**	**-1.0**
HYT				IAmb	IAmb	10 04 10.6	
	comp=Z,3.5nm,1.0s						
DAWY	**Dawson**	**85.88**	**24**	P	**P**	**10 04 05.3**	**-0.4**
DAWY				IAmb	IAmb	10 04 20.7	
	comp=Z,4.8nm,1.4s						
KKAR	**Karatay Array**	**88.20**	**313**	P	**P**	**10 04 18.1**	**+0.6**
NVAR	**Mina Array Bea**	**92.95**	**52**	P	**P**	**10 04 41.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=246,slow=4.4,SNR=3.8						
NVAR	**Mina Array Bea**	**92.95**	**52**	P	**P**	**10 04 37.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**150.40**	**286**	PKPbc	**PKPbc**	**10 11 17.8**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=59,slow=2.7,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.40**	**286**		**PKPbc**	**10 11 17.2**	**-1.4**

IDC 05 10:31:13.1±3.5, 31°.44S×178°.40W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/35, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=76.4km s-min=45.1km az=54.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.74**	**207**	Pn	Pn	10 33 06.4	-0.6
	0.6nm,0.3s,baz=330,slow=20,SNR=6.8						
URZ				Sn	Sn	10 34 30.5	-4.9
	0.5nm,0.3s,baz=236,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**42.72**	**268**	P	P	10 39 12.1	-0.2
	0.2nm,0.7s,baz=109,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**43.80**	**273**	P	P	10 39 21.0	0.0
	0.3nm,0.3s,baz=114,slow=8.2,SNR=13						
TORD	**Torodi Ar. Bea**	**161.80**	**180**	PKPab	PKPab	10 52 01.7	-0.4
	0.3nm,0.6s,baz=189,slow=3.3,SNR=2.1						

*MOS **05** 10:41:51.5±0.9, 38°.78N×142°.16E, h26km, mb5.0/46, MS4.1/7, Error ellipse: s-maj=6.7km s-min=4.2km az=99.9*

*BJI **05** 10:41:54.4±0.0, 38°.74N×142°.14E, h58km, mB4.9/30, mb4.7/56, Ms4.0/19, Ms7 3.7/19*

*JMA **05** 10:41:54.7±0.1, 38°.76N×142°.18E, h42km±2km, M4.5*

JMA Felt II J1.

*NEIC **05** 10:41:54.6±1.8, 38°.74N±0°.05×142°.15E±0°.09, h33km±3km, mb4.7/119, Error ellipse: s-maj=10.0km s-min=6.2km az=106.0*

*NIED **05** 10:41:54.7, 38°.76N×142°.18E, h42km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.54; Mθθ-0.11; Mφφ-3.43; Mrθ1.48; Mθφ-0.81; Mφr3.81; Fault plane solution: M0 5.44000×10^15 NP1:φs19.00000°, δ69.00000°, λ94.00000°. NP2:φs187.00000°, δ21.00000°, λ78.00000°.*

*IDC **05** 10:41:56.7±0.6, 38°.76N×142°.13E, h56km±4km, mb4.2/30, mb1 4.3/37, mb1mx4.2/61, mbtmp4.5/37, MS3.6/20, Ms1 3.6/20, ms1mx3.4/48 Error ellipse: s-maj=11.4km s-min=8.3km az=132.0*

*BGR **05** 10:41:58.1±0.0, 39°.89N×143°.61E, h33km, mb4.7, Ms3.9*

ISC 05 10:41:54.2±0.5, 38°.75N±0°.03×142°.24E±0°.04, h41km±3km, h41km:pP-P, n426, σ1§51/448, mb4.7/163, MS3.9/28, 53C-23D, Fault plane solution: NP1:φs138.30510°, δ28.35732°, λ53.14281°. NP2:φs358.73200°, δ67.66395°, λ107.93913°. Principal axes: T Plg62.9971°, Azm297.3967°; N Plg16.5527°, Azm171.7178°; P Plg20.7033°, Azm75.2683°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**306**	P	**Pn**	**10 42 05.8**	**+0.1**
OFUJ				S	**Sn**	**10 42 13.2**	**-0.7**
JKMT	**Kesennumamotoy**	**0.60**	**276**	P	**Pn**	**10 42 06.2**	**-0.2**
JKMT				S	**Sn**	**10 42 14.1**	**-0.9**
JIKH	**Ishinomakikobu**	**0.75**	**234**	P	**Pn**	**10 42 08.2**	**-0.2**
JIKH				S	**Sn**	**10 42 17.5**	**-1.1**
JIO	**Ouri**	**0.76**	**247**	P	**Pn**	**10 42 08.3**	**-0.2**
JIO				S	**Sn**	**10 42 17.4**	**-1.4**
JMK	**Ichinoseki**	**0.82**	**284**	P	**Pn**	**10 42 09.4**	**+0.1**
JMK				S	**Sn**	**10 42 19.6**	**-0.7**
JOM	**Ohasama**	**1.03**	**315**	P	**Pn**	**10 42 12.6**	**+0.4**
JOM				S	**Sn**	**10 42 25.2**	**-0.3**
JTH	**Tanohata**	**1.22**	**346**	P	**Pn**	**10 42 14.8**	**0.0**
JOU	**Okura**	**1.29**	**253**	P	**Pn**	**10 42 16.1**	**+0.2**
JRG	**Rokugo**	**1.41**	**298**	P	**Pn**	**10 42 17.7**	**+0.3**
JMM	**Marumori**	**1.44**	**233**	P	**Pn**	**10 42 17.7**	**-0.1**
JMM	**Marumori**	**1.44**	**233**		**Pn**	**10 42 17.5**	**-0.3**
JYK	**Kaneyama**	**1.48**	**277**	P	**Pn**	**10 42 18.7**	**+0.3**
JTM	**Tenmabayashi**	**2.22**	**336**	Pn	**Pn**	**10 42 29.9**	**+1.4**
JYT	**Yasato**	**3.00**	**213**	Pn	**Pn**	**10 42 39.9**	**+0.7**
JSD	**Sado**	**3.21**	**258**	Pn	**Pn**	**10 42 41.8**	**-0.3**
ERM	**Erimo**	**3.33**	**12**	P	**Pn**	**10 42 44.8**	**+1.0**
ERM	**Erimo**	**3.33**	**12**	Pn	**Pn**	**10 42 44.8**	**+1.0**
MAJO	**Matsushiro**	**3.89**	**237**	*e*P	**Pn**	**10 42 53.7**	**+2.2**
MAJO	**Matsushiro**	**3.89**	**237**	Pn	**Pn**	**10 42 53.4**	**+1.9**
MAT	**Matsushiro**	**3.89**	**237**	P	**Pn**	**10 42 53.4**	**+1.9**
MAT				S	**Sn**	**10 43 35.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.89**	**237**	P	**Pn**	**10 42 52.2**	**+0.7**
	6.5nm,0.3s,baz=325,slow=23,SNR=138						
MJAR				S	**Sn**	**10 43 37.4**	**+1.6**
	1.6nm,0.3s,baz=34,slow=14,SNR=4.4						
MJAR				LR	LR	10 44 42.5	
	comp=Z,726nm,18.6s,baz=50,slow=44						
MJAR	**Matsushiro Arr**	**3.89**	**237**	Pn	**Pn**	**10 42 51.5**	**0.0**
MJB9	**Matsu-Tunnel**	**3.89**	**237**		**Pn**	**10 42 53.7**	**+2.2**
JEW	**Eniwo**	**4.13**	**352**	Pn	**Pn**	**10 42 56.0**	**+1.3**
JGF	**Kuroka**	**5.01**	**233**		**Pn**	**10 43 09.3**	**+2.4**
JSG	**Sagara**	**5.21**	**220**		**Pn**	**10 43 12.9**	**+3.3**
NMR	**Nemuro--Hokkai**	**5.31**	**29**	⇓*i*P	**Pn**	**10 43 10.3**	**-0.7**
NMR				*i* S	**Sn**	**10 44 06.7**	**-4.2**
JKA	**Kamikawa-asahi**	**5.37**	**3**	Pn	**Pn**	**10 43 12.6**	**+0.8**
JKA	**Kamikawa-asahi**	**5.37**	**3**		**Sn**	**10 44 15.2**	**+3.0**
ASAJ	**Asahikawa**	**5.37**	**3**	P	**Pn**	**10 43 13.2**	**+1.4**
	9.3nm,0.3s,baz=217,slow=11,SNR=63						
ASAJ				S	**Sn**	**10 44 15.2**	**+3.0**
	9.9nm,0.3s,baz=183,slow=13,SNR=3.6						
INU	**Inuyama**	**5.38**	**232**		**Pn**	**10 43 14.3**	**+2.3**
GLVR	**Golovnino**	**5.56**	**25**	*e*P	**Pn**	**10 43 15.1**	**+0.7**
GLVR				*e*S	**Sn**	**10 44 14.3**	**-2.7**
GLVR				pmax	pmax		
	comp=Z,344nm,0.6s						
GLVR				smax	smax		
	comp=N,1μm,0.3s						
GLVR				smax	smax		
	comp=E,543nm,0.2s						
RUSJ	**Misakicho**	**5.80**	**22**	*e*P	**Pn**	**10 43 18.3**	**+0.6**
RUSJ				*e*S	**Sn**	**10 44 21.8**	**-1.2**
GRPR	**Tuman**	**5.87**	**26**	*e*P	**Pn**	**10 43 17.8**	**-0.8**
GRPR				*e*S	**Sn**	**10 44 19.9**	**-4.7**
GRPR				pmax	pmax		
	comp=Z,174nm,0.3s						
GRPR				smax	smax		
	comp=E,734nm,0.4s						
GRPR				smax	smax		
	comp=N,983nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.94**	**26**	*e*P	**Pn**	**10 43 19.4**	**-0.2**
YUK				*e*S	**Sn**	**10 44 23.4**	**-2.9**
YUK				pmax	pmax		
	comp=Z,269nm,0.2s						
YUK				smax	smax		
	comp=E,435nm,0.3s						
YUK				smax	smax		
	comp=N,886nm,0.6s						
JHJ2	**Mitsune**	**5.96**	**200**	Pn	**Pn**	**10 43 21.4**	**+1.4**
JHJ	**Hachijo jima 2**	**5.96**	**200**	P	**Pn**	**10 43 20.9**	**+0.9**
	comp=N,26nm,0.3s,baz=330,slow=20,SNR=23						
JHJ				S	**Sn**	**10 44 25.1**	**-1.9**
	comp=N,43nm,0.3s,baz=257,slow=23,SNR=6.0						
JWT	**Wachi**	**6.47**	**240**		**Pn**	**10 43 29.7**	**+2.7**
KUR	**Kuril'sk**	**7.71**	**31**	⇓*i*P	**Pn**	**10 43 44.2**	**+0.3**
KUR				*i* S	**Sn**	**10 45 05.5**	**-4.4**
KUR				pmax	pmax		
	comp=Z,67nm,0.4s						
KUR				pmax	pmax		
	comp=N,13nm,0.2s						
KUR				smax	smax		
	comp=E,258nm,0.4s						
KUR				smax	smax		
	comp=N,104nm,0.2s						
YSS	**Yuzh-Sakhalins**	**8.21**	**2**	⇑*i*P	**Pn**	**10 43 52.1**	**+1.4**
YSS				*e*S	**Sn**	**10 45 22.6**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				smax	smax		
	comp=N,30nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=N,200nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.21**	**2**	Pn	**Pn**	**10 43 52.0**	**+1.3**
JHS	**Saijyo**	**8.21**	**246**		**Pn**	**10 43 52.5**	**+1.6**
JMN	**Monobe**	**8.41**	**236**		**Pn**	**10 43 54.6**	**+1.0**
VLA	**Vladivostok**	**8.97**	**302**	*i* P	**Pn**	**10 44 01.3**	**+0.2**
MSHR	**Mys Shultsa**	**9.25**	**298**	*ce*P	**Pn**	**10 44 05.5**	**+0.5**
MSHR				pmax	pmax		
	comp=Z,17nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.42**	**309**	P	**Pn**	**10 44 08.9**	**+1.6**
	baz=118,slow=17,SNR=106						
USRK				LR	LR	10 47 36.2	
	comp=Z,450nm,19.7s,baz=117,slow=36						
USA0B	**Ussuriysk Arra**	**9.42**	**309**	P	**Pn**	**10 44 09.1**	**+1.8**
USA0B	**Ussuriysk Arra**	**9.42**	**309**		**Pn**	**10 44 09.1**	**+1.8**
JNU	**Nakatsue**	**10.79**	**242**	P	**Pn**	**10 44 29.0**	**+2.9**
	comp=Z,0.9nm,0.3s,baz=138,slow=1.7,SNR=9.4						
JNU	**Nakatsue**	**10.79**	**242**		**Pn**	**10 44 28.3**	**+2.2**
MDJ	**Mudanjiang**	**11.12**	**306**	P	**Pn**	**10 44 33.5**	**+2.9**
MDJ				sP		10 44 45.8	
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.5s						
MDJ	**Mudanjiang**	**11.12**	**306**	Pn	Pn	10 44 35.1	+4.5
KSRS	**Korea Array**	**11.36**	**268**	P	**Pn**	**10 44 37.2**	**+3.3**
	comp=Z,1.2nm,0.3s,baz=81,slow=14,SNR=65						
KSRS				LR	LR	10 48 33.8	
	comp=Z,304nm,20.0s,baz=81,slow=35						
KSAR	**Wonju Array Be**	**11.39**	**268**	P	**Pn**	**10 44 34.5**	**+0.2**
KSAR	**Wonju Array Be**	**11.39**	**268**		**Pn**	**10 44 34.5**	**+0.2**
KS19	**Wonju Array Si**	**11.39**	**268**		**Pn**	**10 44 35.4**	**+1.0**
JCJ	**Chichijima**	**11.62**	**180**	P	**Pn**	**10 44 37.8**	**+0.3**
	comp=Z,6.6nm,0.3s,baz=45,slow=19,SNR=1.5						
JCJ				S	**Sn**	**10 46 38.7**	**-7.4**
	comp=Z,6.7nm,0.3s,baz=270,slow=20,SNR=2.1						
JSU	**Suzuyama**	**12.05**	**237**		**Pn**	**10 44 43.9**	**+0.5**
GRNR	**Gornyy**	**12.70**	**343**	⇓*i*P	**Pn**	**10 44 52.8**	**+0.7**
GRNR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GRNR				MLR	MLR		
	comp=E,150nm,15.0s						
GRNR				MLR	MLR		
	comp=N,80nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,100nm,18.0s						
KLR	**Kul'dur**	**12.90**	**328**	P	**Pn**	**10 44 55.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=132,slow=12,SNR=14						
KLR				LR	LR	10 49 49.1	
	comp=Z,356nm,19.2s,baz=144,slow=37						
KLR	**Kul'dur**	**12.90**	**328**	*ce*P	**Pn**	**10 44 55.3**	**+0.5**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CN2	**Changchun**	**13.60**	**297**	*e*P	**Pn**	**10 45 05.9**	**+1.5**
CN2				*e*S	**Sn**	**10 47 34.5**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,100nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
DL2	**Dalian**	**16.07**	**277**	P	**Pn**	**10 45 38.0**	**+0.9**
DL2				pmax	pmax		
	comp=Z,27nm,0.9s						
DL2				LR	LR		
	comp=Z,210nm,11.6s						
DL2				LR	LR		
	comp=Z,230nm,15.4s						
DL2				LR	LR		
	comp=Z,300nm,17.1s						
PEA0B	**Petropavlovsk-**	**17.88**	**32**	P	**Pn**	**10 46 00.1**	**+0.5**
PEA0B				pmax	pmax		
	comp=Z,16nm,1.3s						
PEA0B	**Petropavlovsk-**	**17.88**	**32**		**Pn**	**10 46 00.1**	**+0.5**
PETK	**Petropavlovsk-**	**17.88**	**32**	P	**Pn**	**10 45 58.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=204,slow=9.5,SNR=2.9						
PETK				LR	LR	10 53 36.1	
	comp=Z,46nm,19.2s,baz=215,slow=39						
ZEA	**Zeya**	**18.16**	**330**	*e*P	**P**	**10 46 01.7**	**-1.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=N,20nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
TIA	**Tai'an**	**20.08**	**271**	⇓P	**P**	**10 46 23.2**	**-0.9**
TIA				pmax	pmax		
	comp=Z,12nm,1.1s						
BJI	**Beijing**	**20.17**	**282**	P	**P**	**10 46 25.7**	**+0.7**
BJI				pP	**pP**	**10 46 34.0**	**-1.1**
BJI				pmax	pmax		
	comp=Z,14nm,0.7s						
BJI				LR	LR		
	comp=Z,110nm,4.5s						
BJI				LR	LR		
	comp=Z,260nm,14.2s						
BJI				LR	LR		
	comp=Z,270nm,16.1s						

SONM LR LR 10 58 44.0
comp=Z,93nm,20.0s,baz=80,slow=37
SONM Songino Array 27.42 301 P **P** **10 47 36.8 +0.8**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 27.42 301 P **P** **10 47 36.8 +0.8**
ENH Enshi 28.17 263 P **P** **10 47 42.5 -0.2**
H11N2 WAKE ISLAND Hy 28.52 125 T T 11 18 10.8
baz=317,slow=75,SNR=3470
H11N1 WAKE ISLAND Hy 28.53 125 T T 11 18 12.1
baz=317,slow=75,SNR=5187
H11N3 WAKE ISLAND Hy 28.54 125 T T 11 18 12.8
baz=317,slow=75,SNR=4781
H11S1 WAKE ISLAND Hy 29.30 127 T T 11 19 11.5
baz=318,slow=76,SNR=217
H11S3 WAKE ISLAND Hy 29.30 127 T T 11 19 16.1
baz=318,slow=76,SNR=336
H11S2 WAKE ISLAND Hy 29.32 127 T T 11 19 09.3
baz=318,slow=76,SNR=301
TLY Talaya 29.74 308 P **P** **10 47 57.2 +0.7**
comp=Z,7.4nm,0.8s,baz=164,slow=2.2,SNR=11
TLY Talaya 29.74 308 *e*P **P** **10 47 56.7 +0.2**
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,381nm,13.0s
TLY Talaya 29.74 308 P **P** **10 47 56.8 +0.3**
TLY IAmb IAmb 10 47 57.9
comp=Z,8.8nm,0.8s
ZAK Zakamensk 29.76 306 *e*P **P** **10 47 56.5 -0.3**
ZAK pmax pmax
comp=Z,13nm,1.0s
LZH Lanzhou 30.46 277 *e*P **P** **10 48 07.2 +3.9**
LZH pP pP 10 48 16.1 +1.7
LZH sP sP 10 48 19.5 +0.2
LZH pmax pmax
comp=Z,22nm,1.1s
MOY Mondy 31.36 308 *e*P **P** **10 48 11.4 +0.4**
GYA Guiyang 32.18 258 *e*P **P** **10 48 20.9 +2.5**
GYA pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 32.20 17 *i* P **P** **10 48 18.0 +0.1**
BILL *i* 10 51 07.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
CD2 Chengdu 32.36 268 *e*P **P** **10 48 20.0 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 32.72 285 ⇓P **P** **10 48 23.1 +0.1**
GTA pP pP 10 48 33.7 -0.5
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,22nm,6.2s
GTA LR LR
comp=Z,97nm,16.0s
GTA LR LR
comp=Z,260nm,17.5s
GTA LR LR
comp=Z,250nm,17.4s
ATKA Atka Island 32.85 51 P **P** **10 48 24.6 +0.8**
TIXI Tiksi 33.67 352 P **P** **10 48 30.3 -0.4**
comp=Z,2.6nm,0.5s,baz=140,slow=5.8,SNR=6.2
TIXI Tiksi 33.67 352 P **P** **10 48 30.3 -0.4**
KMI Kunming 35.89 260 ⇓P **P** **10 48 51.0 +0.3**
KMI pmax pmax
comp=Z,13nm,1.1s
NONG Nongkai 39.70 250 P P 10 49 30.3 +7.7
DGZ Jazzator, Alta 39.94 304 *i* P **P** **10 49 25.5 +1.0**
DGZ pmax pmax
comp=Z,22nm,0.9s
WMQ Urumqi 40.67 295 *e*P **P** **10 49 32.8 +2.2**
WMQ pP pP 10 49 43.5 +1.6
WMQ pmax pmax
comp=Z,31nm,0.9s
WMQ pmax pmax
comp=Z,160nm,4.3s
ZAA0 Zalesovo Array 41.26 311 P **P** **10 49 36.1 +1.0**
ZALV Zalesovo Beam 41.26 311 P **P** **10 49 35.5 +0.4**
comp=Z,17nm,0.5s,baz=91,slow=8.4,SNR=64
ZALV PcP **PcP** **10 51 33.6 +0.4**
comp=Z,1.8nm,0.4s,baz=96,slow=4.1,SNR=3.5
ZALV LR LR 11 07 26.4
comp=Z,131nm,18.8s,baz=72,slow=37
ZALV Zalesovo Beam 41.26 311 P **P** **10 49 35.4 +0.2**
NRIK Noril'sk 41.99 334 P **P** **10 49 41.2 +0.3**
comp=Z,3.5nm,0.4s,baz=138,slow=6.2,SNR=4.8
NRIK LR LR 11 08 03.2
comp=Z,169nm,19.1s,baz=120,slow=37
NRIK Noril'sk 41.99 334 P **P** **10 49 40.1 -0.9**
NRIK IAmb IAmb 10 49 41.7
comp=Z,16nm,1.4s
CMMT Chiang Mai 42.36 255 P P 10 49 55.0 +10
CHTO Chiang Mai 42.36 255 P **P** **10 49 44.3 -0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 42.36 255 P P 10 49 55.0 +10
CHTO Chiang Mai 42.36 255 P **P** **10 49 44.3 -0.3**
CHTO IAmb IAmb 10 49 55.9
comp=Z,7.8nm,0.7s
CMAR Chiang Mai Arr 42.58 254 P **P** **10 49 46.5 +0.2**
comp=Z,1.0nm,0.6s,baz=44,slow=7.6,SNR=5.5
CMAR LR LR 11 08 45.8
comp=Z,26nm,18.1s,baz=55,slow=38
SVW2 Sparrevohn 43.77 38 P **P** **10 49 57.9 +2.4**
SVW2 IAmb IAmb 10 50 16.1
comp=Z,7.2nm,0.8s
MK31 Makanchi Array 43.78 301 P **P** **10 49 55.9 +0.1**
MK31 pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 43.78 301 P **P** **10 49 55.9 +0.1**
MK31 IAmb IAmb 10 50 13.0
comp=Z,11nm,0.8s
MKAR Makanchi Array 43.78 301 P **P** **10 49 56.1 +0.3**
comp=Z,7.1nm,0.6s,baz=87,slow=12,SNR=29
MKAR LR LR 11 08 53.6
comp=Z,58nm,19.3s,baz=71,slow=37
MKAR Makanchi Array 43.78 301 P **P** **10 49 56.3 +0.5**
MKAR Makanchi Array 43.78 301 P **P** **10 49 56.3 +0.5**
MAKZ Makanchi 43.99 301 P **P** **10 49 57.6 +0.2**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MAKZ Makanchi 43.99 301 P **P** **10 49 57.6 +0.2**
MAKZ IAmb IAmb 10 50 14.3
comp=Z,12nm,0.9s
SHL Shillong 44.10 268 P **P** **10 49 58.6 -0.2**
SHL pmax pmax
comp=Z,9.0nm,0.4s
SHL Shillong 44.10 268 P **P** **10 49 58.6 -0.2**
SHL IAmb IAmb 10 50 03.1
comp=Z,8.6nm,0.4s
KDAK Kodiak Island 45.39 43 P **P** **10 50 09.7 +1.4**
comp=Z,2.5nm,0.7s,baz=305,slow=10,SNR=6.8
KDAK Kodiak Island 45.39 43 P **P** **10 50 10.0 +1.6**
KDAK pmax pmax
comp=Z,45nm,1.5s
KDAK Kodiak Island 45.39 43 P **P** **10 50 10.0 +1.6**
KURK Kurchatov 45.41 307 P **P** **10 50 09.4 +0.8**
KURK *PP **sP** **10 50 24.7 -0.2**
KURK Kurchatov 45.41 307 P **P** **10 50 09.4 +0.8**
KURBB Kurchatov Arra 45.48 307 P **P** **10 50 09.4 +0.2**
comp=Z,41nm,0.8s,baz=82,slow=8.3,SNR=152
KURBB pP **sP** **10 50 24.7 -0.8**
comp=Z,18nm,0.6s,baz=81,slow=8.2,SNR=7.1
MLY Manley 46.05 33 P **P** **10 50 15.8 +2.2**
COLD Coldfoot 46.34 30 P **P** **10 50 17.7 +2.0**
TAPN Taplejung 46.49 273 *e*P **P** **10 50 18.9 +1.0**
comp=Z,16nm,0.5s
TOLK Toolik Lake Re 46.65 28 P **P** **10 50 21.1 +2.9**
TOLK IAmb IAmb 10 50 37.8
comp=Z,5.5nm,0.8s
GHO Glory Hole Cre 46.95 37 P **P** **10 50 22.2 +1.5**
GHO IAmb IAmb 10 50 40.1
comp=Z,8.5nm,0.7s
ODAN Odare 46.98 272 *e*P **P** **10 50 22.4 +0.8**
comp=Z,28nm,0.6s
MDM Murphy Dome 47.12 33 P **P** **10 50 23.6 +1.6**
MDM IAmb IAmb 10 50 41.6
comp=Z,9.7nm,1.0s
WRH Wood River Hil 47.19 34 P **P** **10 50 23.7 +1.3**
CCB Clear Creek Bu 47.31 33 P **P** **10 50 24.8 +1.5**
POKR Poker Plat Res 47.45 33 P **P** **10 50 27.0 +2.5**
JIRN Jiri 47.53 274 *e*P **P** **10 50 26.4 +0.4**
comp=Z,15nm,0.5s
RAMN Ramite 47.55 273 *e*P **P** **10 50 26.5 +0.4**
comp=Z,31nm,0.5s
HDA Harding Lake 47.69 34 P **P** **10 50 27.2 +0.8**
HDA IAmb IAmb 10 50 41.9
comp=Z,6.6nm,0.8s
IL31 47.70 33 P **P** **10 50 27.6 +1.3**
IL31 IAmb IAmb 10 50 45.5
comp=Z,6.8nm,0.8s
ILAR Eielson Array 47.70 33 P **P** **10 50 28.0 +1.6**
comp=Z,3.4nm,0.7s,baz=270,slow=6.5,SNR=42
ILAR pP **sP** **10 50 41.5 -1.0**
comp=Z,5.7nm,0.7s,baz=264,slow=6.0,SNR=19
ILAR Eielson Array 47.70 33 P **P** **10 50 28.5 +2.1**
ILAR Eielson Array 47.70 33 P **P** **10 50 28.5 +2.1**
KKN Kakani 48.18 275 *e*P **P** **10 50 30.8 -0.1**
comp=Z,23nm,0.6s
PKI Pulchoki 48.18 274 *e*P **P** **10 50 30.9 -0.1**
comp=Z,7.9nm,0.6s
PKIN Phulchoki 48.19 274 *e*P **P** **10 50 32.1 +1.1**
comp=Z,16nm,0.5s
PRP Porcupine Dome 48.23 32 P **P** **10 50 31.9 +1.2**
PRP IAmb IAmb 10 50 50.7
comp=Z,6.8nm,0.8s
FYU Fort Yukon 48.30 31 P **P** **10 50 33.1 +2.2**
FYU IAmb IAmb 10 50 47.9
comp=Z,6.7nm,0.8s
GKN Gorkha 48.58 275 *e*P **P** **10 50 34.4 +0.5**
comp=Z,25nm,0.6s
SCRK Sand Creek 49.02 34 P **P** **10 50 38.7 +2.0**
SCRK IAmb IAmb 10 50 52.1
comp=Z,6.4nm,0.7s
DOT Dot Lake 49.02 35 P **P** **10 50 38.2 +1.6**
DOT IAmb IAmb 10 50 55.2
comp=Z,4.3nm,0.8s
DANN Dangsing 49.10 276 *e*P **P** **10 50 38.4 +0.4**
comp=Z,102nm,0.7s
BOOM Boomskoye usch 49.31 297 P **P** **10 50 39.9 +0.6**
BOOM pmax pmax
comp=Z,41nm,1.5s
BOOM Boomskoye usch 49.31 297 P **P** **10 50 39.9 +0.6**
KOLN Koldanda 49.50 276 *e*P **P** **10 50 41.1 +0.1**
comp=Z,10nm,0.3s
PYUN Piuthan 49.81 276 *e*P **P** **10 50 43.9 +0.5**
comp=Z,53nm,0.7s
K27K Chicken 49.85 34 P **P** **10 50 45.0 +2.2**
K27K IAmb IAmb 10 51 03.7
comp=Z,6.2nm,0.8s
BVAR Borovoye Array 49.91 311 P **P** **10 50 43.7 +0.2**
comp=Z,5.2nm,0.5s,baz=181,slow=5.8,SNR=27
BVAR pP **sP** **10 50 59.0 -0.9**
comp=Z,2.1nm,0.6s,baz=38,slow=15,SNR=3.5
BRVK Borovoye 49.97 311 *ce*P **P** **10 50 44.2 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 49.97 311 P **P** **10 50 44.6 +0.7**
L27K Beaver Creek, 50.09 35 P **P** **10 50 47.4 +2.6**
L27K IAmb IAmb 10 51 01.4
comp=Z,5.2nm,1.0s
BCAR Beaver Creek A 50.11 35 P **P** **10 50 47.3 +2.3**
EGAK Eagle 50.14 33 P **P** **10 50 46.8 +1.7**
AAK Ala-Archa 50.27 297 LR LR 11 13 30.3
comp=Z,59nm,20.2s,baz=72,slow=38
AAK Ala-Archa 50.27 297 *i* P **P** **10 50 46.8 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.5s
KSH Kashi 50.32 293 P **P** **10 50 51.6 +4.6**
KSH pmax pmax
comp=Z,6.0nm,2.3s
KSH pmax pmax
comp=Z,96nm,4.3s
EPYK Eagle Plains 51.71 30 P **P** **10 50 59.0 +2.1**
EPYK IAmb IAmb 10 51 13.8
comp=Z,12nm,0.8s
HYT Haines Junctio 52.53 37 P **P** **10 51 06.9 +3.7**
HYT IAmb IAmb 10 51 20.9
comp=Z,8.9nm,0.9s
INK Inuvik 52.56 28 P **P** **10 51 05.0 +1.9**
comp=Z,2.1nm,0.4s,baz=278,slow=5.2,SNR=9.5
INK Inuvik 52.56 28 P **P** **10 51 05.0 +1.9**
INK Inuvik 52.56 28 P **P** **10 51 04.5 +1.4**
INK IAmb IAmb 10 51 19.0
comp=Z,4.0nm,0.7s
KK31 Karatay Array 52.84 299 P **P** **10 51 05.3 -0.4**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KK31 Karatay Array 52.84 299 P **P** **10 51 05.3 -0.4**
KK31 IAmb IAmb 10 51 06.7
comp=Z,5.9nm,0.9s
KKAR Karatay Array 52.84 299 P **P** **10 51 06.0 +0.3**
KKAR Karatay Array 52.84 299 P **P** **10 51 05.2 -0.4**
KKAR IAmb IAmb 10 51 06.7
comp=Z,5.9nm,0.9s
KKAR Karatay Array 52.84 299 P **P** **10 51 06.0 +0.3**
SVE Sverdlovsk 54.30 318 *e*P **P** **10 51 16.9 +0.8**
SVE pmax pmax
comp=Z,27nm,1.0s
NIL Nilore 54.71 287 P **P** **10 51 20.1 +0.6**
NIL pmax pmax
comp=Z,19nm,0.8s
NIL Nilore 54.71 287 P **P** **10 51 20.1 +0.6**
ARU Arti 55.52 318 P **P** **10 51 25.2 +0.4**
comp=Z,3.6nm,0.6s,baz=71,slow=3.9,SNR=18
ARU pP **sP** **10 51 40.6 -0.6**
comp=Z,3.9nm,0.5s,baz=339,slow=0.9,SNR=5.8
ARU Arti 55.52 318 *c* *i*P **P** **10 51 25.0 +0.1**
ARU *PP **sP** **10 51 39.7 -1.5**
ARU 10 53 24.7
ARU S **S** **10 59 08.8 +1.8**
ARU SS **SS** **11 02 44.9 -6.7**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU MLR MLR
comp=Z,158nm,18.0s
ARU Arti 55.52 318 P **P** **10 51 24.1 -0.8**
CHGR Chuyangaron 55.53 295 P **P** **10 51 26.2 +0.9**
KNRA Kununurra 55.59 196 P **P** **10 51 26.2 +0.4**
DLBC Dease Lake 56.88 39 P **P** **10 51 35.9 +1.3**
comp=Z,0.6nm,0.6s,baz=270,slow=6.1,SNR=1.9
ABKAR Akbulak array 57.34 310 P **P** **10 51 37.9 -0.1**
ABKAR Akbulak array 57.34 310 P **P** **10 51 38.0 0.0**
ABKAR IAmb IAmb 10 51 38.7
comp=Z,8.9nm,0.6s
KBL Kabul 57.42 290 P **P** **10 51 39.5 +0.5**
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 57.42 290 P **P** **10 51 39.5 +0.5**
KBL IAmb IAmb 10 51 40.9
comp=Z,6.4nm,0.7s
AKTO Aktyubinsk 58.02 311 P **P** **10 51 42.9 +0.1**
comp=Z,5.7nm,0.7s,baz=74,slow=13,SNR=13
AKTO LR LR 11 18 01.9
comp=Z,73nm,18.0s,baz=52,slow=37
CTAO Charters Tower 58.65 176 P **P** **10 51 47.9 +0.6**
CTAO pmax pmax
comp=Z,19nm,1.4s
CTAO Charters Tower 58.65 176 P **P** **10 51 47.9 +0.6**
WB0 Warramunga Arr 58.67 189 P **P** **10 51 47.9 +0.4**
WB0 IAmb IAmb 10 52 02.4
comp=Z,6.1nm,0.6s
WRAB Tennant Creek 58.84 189 P **P** **10 51 49.0 +0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB Tennant Creek 58.84 189 P **P** **10 51 49.0 +0.3**
WRAB IAmb IAmb 10 52 14.8
comp=Z,6.3nm,0.8s
WR0 Warramunga Arr 58.85 188 P **P** **10 51 49.1 +0.4**
WR0 IAmb IAmb 10 52 13.3
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 58.85 189 P **P** **10 51 49.0 +0.3**
WB2 IAmb IAmb 10 51 50.2
comp=Z,15nm,1.4s
WRA Warramunga Arr 58.85 189 P **P** **10 51 48.9 +0.1**
comp=Z,3.8nm,0.7s,baz=6.2,slow=7.0,SNR=63
WRA Warramunga Arr 58.85 189 P **P** **10 51 48.6 -0.1**
KIRV Kirov 59.28 323 *ce*P **P** **10 51 49.4 -1.9**
YKA Yellowknife Ar 62.00 31 P **P** **10 52 10.9 +1.2**
comp=Z,0.8nm,0.8s,baz=292,slow=8.0,SNR=4.1
AS31 Alice Springs 62.58 189 P **P** **10 52 14.8 +0.7**
ASAR Alice Springs 62.58 189 P **P** **10 52 14.6 +0.5**
comp=Z,1.8nm,0.7s,baz=356,slow=5.0,SNR=38
ASAR Alice Springs 62.58 189 P **P** **10 52 15.1 +1.0**
ASAR Alice Springs 62.58 189 P **P** **10 52 15.1 +1.0**
ARCES ARCESS Array B 62.62 339 P **P** **10 52 14.4 +0.6**
comp=Z,1.5nm,0.5s,baz=58,slow=7.5,SNR=10
ARCES LR LR 11 22 19.8
comp=Z,30nm,19.9s,baz=185,slow=39
ARCES ARCESS Array B 62.62 339 P **P** **10 52 14.1 +0.2**
ARCES IAmb IAmb 10 52 34.9
comp=Z,11nm,1.2s
KLMR Klimovskoe 62.66 327 *e*P **P** **10 52 12.0 -2.1**
KLMR *e*S **S** **11 00 38.8 -0.5**
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 62.66 327 *e*P **P** **10 52 12.1 -2.1**
KLMR AMP 10 52 20.6
comp=Z,8.0nm,1.0s
KLMR *e*S **S** **11 00 38.9 -0.4**
KLMR *e*S **S** **11 00 38.9 -0.4**
KLMR LR LR 11 19 48.5
GEYT Alibeck 63.58 299 P **P** **10 52 21.1 +0.2**
comp=Z,85nm,0.7s,baz=354,slow=3.0,SNR=5.1
GEYT LR LR 11 21 07.0
comp=Z,55nm,20.6s,baz=115,slow=37
NEEM North Greenlan 63.78 3 *i* P **P** **10 52 22.5 +0.7**
NEEM IAmb IAmb 10 52 23.1
comp=Z,5.3nm,0.7s
DAG Danmarks Havn 64.12 355 ⇑ *i* P **P** **10 52 23.9 +0.3**
DAG IAmb IAmb 10 52 24.5
comp=Z,5.0nm,0.6s
DAG *i* 10 52 40.0
DAG Danmarks Havn 64.12 355 ⇑ *i* P **P** **10 52 23.9 +0.3**
DAG *i* 10 52 39.9
VRH Novokhopyorsk 66.75 318 *e*P **P** **10 52 39.6 -1.4**
VRH pmax pmax
comp=Z,8.0nm,0.4s
OBN Obninsk 67.11 323 *i* P **P** **10 52 42.3 -0.9**
OBN *i* 10 53 10.8
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,53nm,15.0s
LPSR Galich'ya Gora 67.41 320 *e*P **P** **10 52 44.1 -1.1**
LPSR pmax pmax
comp=Z,8.0nm,0.9s
FIA1 FINESS Array S 67.60 332 P **P** **10 52 46.4 +0.1**
FINES FINESS Array B 67.60 332 P **P** **10 52 46.5 +0.3**
comp=Z,8.2nm,0.7s,baz=60,slow=7.7,SNR=22
FINES LR LR 11 23 57.5
comp=Z,61nm,21.7s,baz=74,slow=37
FINES FINESS Array B 67.60 332 P **P** **10 52 46.7 +0.5**
FINES FINESS Array B 67.60 332 P **P** **10 52 46.7 +0.5**
VSR Storozhevoye 68.07 319 *e*P **P** **10 52 48.6 -0.8**
VSR pmax pmax
comp=Z,7.0nm,0.5s
VORD Divnogorie 68.15 318 *e*P **P** **10 52 48.6 -1.3**
VORD pmax pmax
comp=Z,20nm,1.0s
SUMG Summit 68.97 0 ⇑ *i* P **P** **10 52 56.3 +1.2**
SUMG IAmb IAmb 10 52 56.8
comp=Z,5.6nm,0.6s
SUMG *i* 10 53 12.3
SUMG Summit 68.97 0 P **P** **10 52 56.4 +1.2**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 68.97 0 P **P** **10 52 56.4 +1.2**
SUMG IAmb IAmb 10 52 57.3
comp=Z,8.9nm,1.1s
VSU Vasula 69.31 330 *e*P **P** **10 52 57.7 +0.8**
RAF Rauma 69.43 333 *e*P **P** **10 52 56.7 -0.9**
MTSE Matsula 70.27 331 *e*P **P** **10 53 00.8 -2.0**
KIV Kislovodsk 70.28 311 ⇑P **P** **10 53 04.5 +1.2**
KIV Kislovodsk 70.28 311 *e*P **P** **10 53 04.4 +1.1**
KIV pmax pmax
comp=Z,74nm,1.1s
KIV Kislovodsk 70.28 311 P **P** **10 53 05.1 +1.8**
KBZ Khabaz 70.28 311 P **P** **10 53 04.2 +1.0**
comp=Z,8.7nm,0.8s,baz=41,slow=3.7,SNR=17
KBZ LR LR 11 25 22.2
comp=Z,40nm,20.2s,baz=124,slow=37
KBZ Khabaz 70.28 311 *ce*P **P** **10 53 03.6 +0.4**
KBZ pmax pmax
comp=Z,6.0nm,0.6s
FORT Forrest 70.43 193 P **P** **10 53 05.0 +1.0**
ONI Oni 70.60 309 P **P** **10 53 06.4 +1.1**
ONI pmax pmax
comp=Z,7.0nm,0.9s
ONI Oni 70.60 309 P **P** **10 53 06.4 +1.1**
ONI IAmb IAmb 10 53 08.3
comp=Z,6.6nm,0.9s
BEKR Beckworth 71.31 54 P **P** **10 53 11.6 +1.8**
BBOO Buckleboo 71.43 185 P **P** **10 53 11.4 +1.3**
MNK Minsk 71.44 326 *i* P P 10 53 03.3 -6.8
MNK *i* *PP pP 10 53 15.3 -6.8
MNK *i* S **S** **11 02 17.5 -7.7**
MNK *i* 11 03 00.0
MNK *i* SSS SSS 11 10 13.2
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,97nm,20.0s
MNK MLR MLR
comp=E,9.0nm,20.0s
MNK MLR MLR
comp=N,489nm,23.0s
MNK Minsk 71.44 326 *i* P P 10 53 03.4 -6.7
comp=E,2.0nm,0.8s
MNK *i* P P 10 53 03.4 -6.7
comp=N,14nm,0.9s
MNK *i* P P 10 53 03.4 -6.7
comp=Z,13nm,0.9s,baz=50
MNK *i* pP pP 10 53 15.4 -6.7
MNK *i* PcP sP 10 53 22.9 -3.9
MNK *i* PP **PP** **10 55 41.5 -6.8**
MNK *i* PPP PPP 10 57 24.9
MNK *i* S **S** **11 02 17.5 -7.7**
MNK *i* sS pS 11 02 38.8 -1.4
MNK *i* SS **SS** **11 06 53.7 -5.7**
MNK *i* SSS SSS 11 10 13.3
MNK *i* LQ LQ 11 19 31.7
MNK *i* LR LR 11 24 26.4
MNK *i* LRM MLR 11 26 57.8
comp=Z,97nm,19.6s
MNK *i* LRM MLR 11 27 19.0
comp=E,9.0nm,19.6s
MNK *i* LRM MLR 11 27 34.2
comp=N,489nm,22.8s
MORW Morawa 71.77 204 P **P** **10 53 13.0 +0.8**
MORW IAmb IAmb 10 53 20.9
comp=Z,12nm,1.3s
SOC Sochi 72.24 312 *e*P **P** **10 53 14.8 -0.3**
SOC *e* 10 55 52.0
SOC *e*PPP PPP 10 57 39.0
SOC *e*S **S** **11 02 36.2 +1.4**
SOC *e*SS **SS** **11 07 11.2 -1.0**
SOC MLR MLR
comp=Z,88nm,17.0s
PABE Paberze 72.42 328 *e*P **P** **10 53 16.9 +1.0**
PABE Paberze 72.42 328 P **P** **10 53 16.8 +1.0**
ICESG Greenland Ices 72.47 1 *i* P **P** **10 53 17.1 +0.8**
ICESG IAmb IAmb 10 53 17.8
comp=Z,6.8nm,0.7s
ICESG *e* 10 53 34.1
LRM Limekiln Ridge 72.47 45 P **P** **10 53 18.6 +1.9**
NC405 NORSAR Array S 72.65 337 P **P** **10 53 16.5 -0.7**
NC405 IAmb IAmb 10 53 33.2
comp=Z,11nm,1.0s
NC204 NORSAR Array S 72.80 338 P **P** **10 53 18.9 +0.7**
NC204 IAmb IAmb 10 53 19.2
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 72.86 337 P **P** **10 53 17.8 -0.7**
comp=Z,1.3nm,0.6s,baz=37,slow=6.2
NOA NORSAR Array B 72.86 337 P **P** **10 53 18.7 +0.3**
comp=Z,1.9nm,0.6s,baz=38,slow=6.0,SNR=13
NOA LR LR 11 27 55.6
comp=Z,63nm,21.6s,baz=35,slow=38
BOZ Bozeman (W) 73.06 45 P **P** **10 53 23.0 +2.9**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 73.06 45 P **P** **10 53 22.9 +2.9**
KVN Kaiserville 73.20 53 P **P** **10 53 23.9 +2.8**
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 73.20 53 P **P** **10 53 23.9 +2.8**
AKASG Malin Array Be 73.34 322 P **P** **10 53 21.3 -0.1**
comp=Z,4.8nm,0.6s,baz=45,slow=6.1,SNR=25
AKASG pP **PcP** **10 53 37.4 -0.2**

comp=Z,1.9nm,0.5s,baz=45,slow=5.8,SNR=4.3
AKASG LR LR 11 28 30.0

AKASG Malin Array Be 73.34 322 P **P 10 53 21.4 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,1.1s

AKASG Malin Array Be 73.34 322 P **P 10 53 21.4 -0.1**
AKBB Malin Array Si 73.34 322 P **P 10 53 21.3 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.9s

AKBB Malin Array Si 73.34 322 P **P 10 53 21.3 -0.1**
AKBB IAmb IAmb 10 53 22.4
comp=Z,8.5nm,0.9s

LHV Little Huntoon 73.42 54 P **P 10 53 23.3 +1.2**
LHV IAmb IAmb 10 53 39.2
comp=Z,7.7nm,1.4s

NVAR Mina Array Bea 73.44 54 P **P 10 53 24.4 +1.8**
comp=Z,0.7nm,0.7s,baz=272,slow=6.1,SNR=8.8

NVAR Mina Array Bea 73.44 54 P **P 10 53 24.2 +1.7**
KONO Kongsberg 74.45 337 *c*eP **P 10 53 28.4 +0.6**
KONO pmax pmax
comp=Z,8.0nm,1.3s

PD31 Pinedale Array 76.00 46 P **P 10 53 39.0 +1.6**
PDAR Pinedale Array 76.00 46 P **P 10 53 38.8 +1.5**
comp=Z,1.1nm,0.6s,baz=261,slow=1.4,SNR=15

PDAR Pinedale Array 76.00 46 P **P 10 53 38.6 +1.3**
BEL Belsk 76.37 327 *e*P **P 10 53 39.6 +0.7**
KWP Kalwaria Pacla 77.11 325 P **P 10 53 44.2 +1.0**
KWP pmax pmax
comp=Z,197nm,1.2s

KWP Kalwaria Pacla 77.11 325 P **P 10 53 44.2 +1.0**
BURAR Bucovina Array 77.37 322 ⇑P **P 10 53 45.3 +0.5**
BURAR Bucovina Array 77.37 322 P **P 10 53 45.3 +0.5**
BURAR IAmb IAmb 10 53 46.3
comp=Z,4.5nm,0.7s

RDMU Red Mountain 77.41 48 P **P 10 53 47.5 +2.2**
P17A Butcher Ranch, 77.43 49 P **P 10 53 47.2 +1.8**
TESR Tescani 77.43 320 ⇓P **P 10 53 45.8 +0.8**
CFR Carcaliu 77.59 319 ⇑P **P 10 53 46.0 +0.1**
TPGR Topolog 77.67 318 ⇓P **P 10 53 46.6 +0.2**
SRU San Rafael Swe 77.80 49 P **P 10 53 49.4 +1.9**
SRU pmax pmax
comp=Z,3.0nm,0.8s

SRU San Rafael Swe 77.80 49 P **P 10 53 49.4 +1.9**
KOLS Kolonicke sedl 77.81 324 *e*P **P 10 53 47.7 +0.6**
KOLS Kolonicke sedl 77.81 324 *e*P **P 10 53 47.6 +0.5**
VRI Vrincioaia 77.84 320 ⇓P **P 10 53 48.6 +1.3**
OJC Ojcow 77.98 326 *e*P **P 10 53 48.9 +0.9**
OJC Ojcow 77.98 326 P **P 10 53 48.5 +0.5**
OJC pmax pmax
comp=Z,15nm,1.1s

OJC Ojcow 77.98 326 P **P 10 53 48.5 +0.5**
OJC IAmb IAmb 10 53 49.9
comp=Z,15nm,1.1s

BR131 Keskin Array S 78.20 312 P **P 10 53 50.3 +0.7**
BR131 pmax pmax
comp=Z,9.0nm,1.3s

BR131 Keskin Array S 78.20 312 P **P 10 53 50.3 +0.7**
BR131 IAmb IAmb 10 53 51.1
comp=Z,9.5nm,1.2s

BRTR Keskin Array B 78.20 312 P **P 10 53 50.1 +0.4**
comp=Z,2.4nm,0.4s,baz=108,slow=2.9,SNR=21

BRTR PP **PP 10 56 46.4 +0.3**
comp=Z,0.4nm,0.5s,baz=69,slow=7.9,SNR=3.9
BRTR LR LR 11 32 43.4
comp=Z,24nm,18.7s,baz=88,slow=39

BRTR Keskin Array B 78.20 312 *i* P **P 10 53 50.0 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.4s

BRTR Keskin Array B 78.20 312 P **P 10 53 49.1 -0.5**
NIE Niedzica 78.35 326 *e*P **P 10 53 51.6 +1.5**
DOPR Dopca 78.44 321 ⇑P **P 10 53 50.9 +0.2**
ISR Istrita 78.45 319 ⇓P **P 10 53 52.3 +1.5**
BSEG Bad Segeberg 78.82 333 *e*L L 11 30 23.0
comp=Z,64nm,21.2s

LANS Liptovska Anna 78.91 326 *e*P **P 10 53 54.6 +1.4**
LANS Liptovska Anna 78.91 326 *e*P **P 10 53 54.6 +1.4**
VOIR 78.98 320 ⇓P **P 10 53 54.6 +0.9**
KSP Ksiaz 78.98 328 *e*P **P 10 53 54.6 +1.1**
PV14 Lion Creek, Pa 79.17 49 P **P 10 53 56.8 +1.7**
PV14 IAmb IAmb 10 54 11.4
comp=Z,7.8nm,1.3s

ARR Arges 79.24 321 ⇓P **P 10 53 56.4 +1.2**
PV17 East Wray Mesa 79.26 49 P **P 10 53 57.9 +2.3**
PV17 IAmb IAmb 10 54 12.7
comp=Z,5.4nm,0.8s

MORC Moravsky Berou 79.28 327 ⇑P **P 10 53 56.3 +1.1**
MORC Moravsky Berou 79.28 327 P **P 10 53 55.9 +0.7**
MORC pmax pmax
comp=Z,8.0nm,1.1s

MORC Moravsky Berou 79.28 327 P **P 10 53 55.9 +0.7**
MORC IAmb IAmb 10 53 57.1
comp=Z,7.6nm,1.1s

MORC Moravsky Berou 79.28 327 *e*P **P 10 53 56.0 +0.7**
CHVC Chvalec 79.28 328 *e*P **P 10 53 57.2 +2.0**
DPC Dobruska-Polom 79.35 328 *e*P **P 10 53 56.8 +1.2**
DPC Dobruska-Polom 79.35 328 *e*P **P 10 53 56.8 +1.2**
KRLC Kraliky 79.37 328 *e*P **P 10 53 56.6 +0.9**
KRLC Kraliky 79.37 328 *e*P **P 10 53 56.6 +0.9**
VYHS Vyhne 79.68 326 *e*P **P 10 53 58.1 +0.7**
VYHS Vyhne 79.68 326 *e*P **P 10 53 58.1 +0.7**
FLTG Flechtingen 79.78 332 *e*P **P 10 53 58.1 +0.3**
comp=Z,8.4nm,0.7s,baz=35,slow=5.3

BRG Berggiesshubel 79.91 330 *e*P **P 10 53 59.2 +0.7**
comp=Z,6.6nm,1.1s,baz=35,slow=5.3

JAVC Velka Javorina 79.92 326 *e*P **P 10 54 00.6 +1.9**
PVCC Panska Ves 79.93 329 AMS AMS 11 32 10.0
comp=Z,100nm,17.7s

CLL Collm 79.93 330 ⇑*i*P **P 10 53 58.9 +0.2**
comp=Z,11nm,0.9s
CLL *es*P **pP 10 54 13.0 +2.1**
CLL *e* 10 54 16.0

CLL Collm 79.93 330 ⇑*i*P **P 10 53 58.9 +0.2**
CLL pmax pmax
comp=Z,11nm,0.9s

CLL Collm 79.93 330 P **P 10 53 58.5 -0.2**
CLL IAmb IAmb 10 53 59.9
comp=Z,8.7nm,0.8s

CLL Collm 79.93 330 *e*P **P 10 53 59.1 +0.4**
comp=Z,11nm,0.9s,baz=35,slow=5.3

CLL *e*L L 11 33 58.1
comp=Z,35nm,20.5s

VRAC Vranov 80.03 327 ⇑P **P 10 53 58.9 -0.4**
VRAC Vranov 80.03 327 *e*P **P 10 54 00.4 +1.1**
NRDL Niedersach Rie 80.06 333 *e*P **P 10 53 59.9 +0.7**
comp=Z,10nm,1.2s,baz=35,slow=5.3

FBE Freiberg 80.10 330 *e*P **P 10 54 00.6 +1.0**
comp=Z,37nm,2.0s,baz=35,slow=5.3

GZR Gura Zlata 80.13 321 ⇑P **P 10 54 00.6 +0.6**
SMOL Smolenice 80.28 326 *e*P **P 10 54 01.9 +1.3**
SMOL Smolenice 80.28 326 *e*P **P 10 54 01.9 +1.3**
KRUC Moravsky 80.31 327 *e*P **P 10 54 01.6 +0.9**
PRU Pruhonice 80.36 329 *e*P **P 10 54 02.2 +1.2**
PRU MLR MLR
comp=Z,100nm,14.9s

PRU Pruhonice 80.36 329 *e*P **P 10 54 02.2 +1.2**
PRU AMS AMS 11 32 20.0
comp=Z,100nm,14.9s

MODS Modra-Piesok 80.45 326 *e*P **P 10 54 04.2 +2.6**
MODS Modra-Piesok 80.45 326 *e*P **P 10 54 04.1 +2.5**
NEUB Neuenburg 80.48 331 *e*P **P 10 54 02.4 +0.7**
baz=35,slow=5.3

CLZ Clausthal 80.49 332 *e*P **P 10 54 02.7 +0.9**
comp=Z,11nm,1.1s,baz=35,slow=5.3

RAYN Ar Rayn 80.61 292 P **P 10 54 02.3 -0.6**
RAYN pmax pmax
comp=Z,3.0nm,0.7s

RAYN Ar Rayn 80.61 292 P **P 10 54 02.3 -0.6**
PBCC Pribram 80.81 329 *e*P **P 10 54 04.0 +0.5**
PLN Plauen 80.91 330 *e*P **P 10 54 04.6 +0.6**
baz=35,slow=5.3

GUNZ Gunzen 80.94 330 *e*P **P 10 54 04.8 +0.7**
comp=Z,3.9nm,0.9s,baz=35,slow=5.3

WERN Wernitzgruen 80.98 330 *e*P **P 10 54 05.3 +0.9**
comp=Z,5.1nm,0.9s,baz=35,slow=5.3

MDVR Moldovita 81.10 322 ⇓P **P 10 54 05.2 +0.1**
MANZ Manzenberg 81.33 330 *e*P **P 10 54 07.0 +0.7**
comp=Z,4.8nm,1.1s,baz=35,slow=5.3

CKRC Cesky Krumlov 81.36 328 *e*P **P 10 54 08.3 +1.9**
CONA Conrad Observa 81.41 327 *e*P **P 10 54 08.0 +1.3**
comp=Z,6.3nm,1.0s,SNR=6.2

KHC Kasperske Hory 81.42 329 *e*P **P 10 54 07.5 +0.8**
KHC MLR MLR
comp=Z,100nm,14.0s

KHC Kasperske Hory 81.42 329 *e*P **P 10 54 07.5 +0.8**
KHC AMS AMS 11 32 40.0
comp=Z,100nm,14.0s

KHC Kasperske Hory 81.42 329 P **P 10 54 07.1 +0.4**
KHC IAmb IAmb 10 54 08.6
comp=Z,5.0nm,0.7s

ROTZ Rotzenmuhle 81.46 330 *e*P **P 10 54 07.9 +1.0**
comp=Z,11nm,1.6s,baz=35,slow=5.3

GEC2 GERESS Array S 81.59 329 P **P 10 54 08.2 +0.4**
GEC2 GERESS Array S 81.59 329 *e*P **P 10 54 08.3 +0.4**
comp=Z,4.7nm,1.3s,baz=35,slow=5.3

GERES GERESS Array B 81.59 329 P **P 10 54 08.2 +0.4**
comp=Z,1.6nm,0.7s,baz=45,slow=5.8,SNR=17

GERES GERESS Array B 81.59 329 P **P 10 54 07.9 +0.1**
WET Wettzell 81.69 329 *e*P **P 10 54 09.2 +1.0**
comp=Z,5.7nm,1.2s,baz=35,slow=5.3

WET *e*L L 11 33 13.1
comp=Z,96nm,19.5s

FRGS Fruska Gora 81.73 323 ⇑P **P 10 54 09.1 +0.7**
GRF Grafenberg Arr 81.91 330 *e*P **P 10 54 10.5 +1.2**
comp=Z,13nm,1.0s,baz=35,slow=5.3

GRF *e*L L 11 32 40.6
comp=Z,51nm,18.5s

VTS Vitosha 81.91 319 ⇑P **P 10 54 10.8 +1.2**
VTS Vitosha 81.91 319 P **P 10 54 11.0 +1.4**
VTS pmax pmax
comp=Z,8.0nm,0.8s

VTS Vitosha 81.91 319 P **P 10 54 11.0 +1.4**
VTS IAmb IAmb 10 54 11.6
comp=Z,7.7nm,0.8s

ARSA Arzberg 82.08 327 *e*P **P 10 54 11.0 +0.8**
comp=Z,3.1nm,1.0s

MOA Molln 82.14 328 *e*P **P 10 54 12.3 +1.8**
comp=Z,4.3nm,1.2s

ECSD EROS Data Cent 82.17 39 P **P 10 54 11.6 +0.9**
DIVS Divibare 82.43 322 P **P 10 54 12.3 +0.1**
TNS Taunus Mts 82.52 332 *e*L L 11 37 32.8
comp=Z,57nm,18.7s

T25A Trinidad 82.70 48 P **P 10 54 14.8 +0.9**
SOKA Soboth 82.73 326 *e*P **P 10 54 14.1 +0.4**
comp=Z,10.0nm,1.0s

RJOB Jochberg 82.84 328 *e*P **P 10 54 15.4 +1.1**
comp=Z,35nm,0.9s,baz=35,slow=5.3

ANMO Albuquerque 82.98 50 *i* P **P 10 54 16.2 +0.8**
ANMO pmax pmax
comp=Z,1.0nm,0.9s

OBKA Obir 83.07 327 *i* P **P 10 54 16.0 +0.5**
comp=Z,3.1nm,0.7s

FUR Furstenfeldbru 83.11 329 *e*L L 11 34 06.5
comp=Z,62nm,19.6s

KBA Koelnbreinsper 83.14 328 *e*P **P 10 54 17.5 +1.6**
comp=Z,6.3nm,0.8s

MYKA Terra Mystica 83.36 327 *e*P **P 10 54 16.8 -0.2**
comp=Z,4.8nm,0.8s

WATA Walderalm 83.66 329 *e*P **P 10 54 18.8 +0.2**
comp=Z,2.2nm,0.9s

WTTA Wattenberg 83.69 329 *e*P **P 10 54 19.2 +0.4**
comp=Z,2.5nm,0.7s

ZOU Zoufplan 83.70 327 P **P 10 54 18.8 -0.1**
ZOU IAmb IAmb 10 54 19.1
comp=Z,7.4nm,1.4s

ABTA Abfaltersbach 83.75 328 *e*P **P 10 54 18.3 -0.6**
comp=Z,4.0nm,1.0s

MOTA Moosalm 83.84 329 *e*P **P 10 54 19.7 +0.2**
comp=Z,8.9nm,1.1s,SNR=5.1

RETA Reutte 83.87 329 *e*P **P 10 54 20.2 +0.6**
comp=Z,10nm,1.1s,SNR=5.2

PUK Puka 84.01 321 P **P 10 54 20.7 +0.3**
PUK IAmb IAmb 10 54 30.5
comp=Z,4.3nm,0.7s

PDG Podgorica 84.04 321 ⇑P **P 10 54 20.2 -0.2**
PDG Podgorica 84.04 321 P **P 10 54 19.7 -0.6**
STAL STALIGIAL 84.05 327 P **P 10 54 19.3 -1.2**
BFO Black Forest 84.12 331 P **P 10 54 20.6 -0.2**
BFO pmax pmax
comp=Z,6.0nm,0.8s

BFO Black Forest 84.12 331 P **P 10 54 20.6 -0.2**
BFO IAmb IAmb 10 54 22.4
comp=Z,6.2nm,0.8s

BFO Black Forest 84.12 331 *e*P **P 10 54 21.2 +0.4**
comp=Z,7.9nm,0.9s,baz=35,slow=5.3

BFO *e*L L 11 37 27.4
comp=Z,41nm,18.3s

LIT Litokhoron 84.13 318 P **P 10 54 20.8 -0.1**
LIT pmax pmax
comp=Z,10.0nm,0.9s

LIT Litokhoron 84.13 318 P **P 10 54 20.8 -0.1**
FNA Florina 84.20 319 P **P 10 54 21.1 -0.2**
FNA pmax pmax
comp=Z,4.0nm,0.9s

FNA Florina 84.20 319 P **P 10 54 21.1 -0.2**
FNA IAmb IAmb 10 54 22.8
comp=Z,4.4nm,0.9s

FETA Feichten 84.26 329 *e*P **P 10 54 22.0 +0.3**
comp=Z,4.8nm,0.9s

DAVA Damuels 84.38 330 *e*P **P 10 54 22.6 +0.3**
comp=Z,5.9nm,0.7s

TUE Stuetta 85.25 329 P **P 10 54 26.7 -0.1**
TUE IAmb IAmb 10 54 28.1
comp=Z,5.7nm,0.8s

SENIN Lac Senin/Sane 86.14 331 P **P 10 54 31.1 0.0**
SENIN IAmb IAmb 10 54 32.2
comp=Z,3.3nm,0.8s

IDI Anoyia 86.30 313 P **P 10 54 31.2 -0.7**
ITM Ithomi 86.57 316 P **P 10 54 32.2 -1.0**
ITM IAmb IAmb 10 54 39.0
comp=Z,6.6nm,0.8s

NRCA Norcia 86.60 325 P **P 10 54 33.3 0.0**
NRCA IAmb IAmb 10 54 34.8
comp=Z,6.2nm,1.1s

R40A Maddies Statio 88.43 40 P **P 10 54 42.1 0.0**
R40A IAmb IAmb 10 54 43.5
comp=Z,3.2nm,0.8s

TX31 Lajitas Ar. Si 88.56 53 P **P 10 54 44.1 +1.2**
TX31 IAmb IAmb 10 54 45.1
comp=Z,3.4nm,0.8s

TX32 Lajitas Array 88.56 53 P **P 10 54 44.4 +1.4**
TXAR Lajitas Array 88.56 53 P **P 10 54 44.4 +1.4**
comp=Z,0.8nm,0.7s,baz=298,slow=3.2,SNR=17

TXAR Lajitas Array 88.56 53 P **P 10 54 43.6 +0.7**
L48A N Adams 89.15 33 P **P 10 54 47.0 +1.6**
U40A Yellville 89.61 41 P **P 10 54 48.5 +0.8**
U40A IAmb IAmb 10 55 06.4
comp=Z,6.6nm,1.1s

FCAR Ozark Folk Cen 90.35 41 P **P 10 54 51.3 +0.2**
FCAR IAmb IAmb 10 54 53.1
comp=Z,4.6nm,1.2s

MIAR Mount Ida 90.61 43 P **P 10 54 53.2 +0.8**
MIAR pmax pmax
comp=Z,3.0nm,0.7s

MIAR Mount Ida 90.61 43 P **P 10 54 53.2 +0.8**
MIAR IAmb IAmb 10 54 54.1
comp=Z,2.6nm,0.7s

ESDC Sonseca Array 96.03 334 LR LR 11 43 33.9
comp=Z,35nm,18.3s,baz=215,slow=38

TORD Torodi Ar. Bea 116.57 316 PKP **PKPdf 11 00 33.9 -0.3**
comp=Z,0.2nm,0.4s,baz=350,slow=1.2,SNR=1.5

SNAA Sanae 142.58 197 PKPdf **PKPdf 11 01 17.1 -4.5**
VNA3 Neumayer Olymp 144.39 195 PKPdf **PKPab 11 01 23.1 +0.1**
VNA1 Neumayer--Stat 144.55 196 PKPdf **PKPab 11 01 22.8 -0.7**
LPAZ La Paz 145.25 58 PKPbc **PKPdf 11 01 29.2 +0.6**
comp=Z,0.9nm,0.5s,baz=304,slow=3.6,SNR=7.1

LPAZ pPKPbc sPKPab 11 01 44.1 -1.2
comp=Z,1.5nm,0.6s,baz=16,slow=1.8,SNR=4.9

*IDC **05** 10:43:11.9±3.5, 37°.29N×78°.36E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/52, mbtmp3.6/4, ML3.4/1, MS2.3/2, Ms1 2.3/2, ms1mx2.1/47 Error ellipse: s-maj=69.2km s-min=34.4km az=117.0*

ISC 05 10:43:12.4±2.4, 37°.2N±0°.2×78°.6E±0°.2, h10km, n7, σ1§96/6, mb3.6/3, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.27**	**331**	Pg	**Pb**	**10 45 02.7**	**+0.9**
	1.9nm,0.3s,baz=168,slow=9.3,SNR=4.3						
AAK				Lg	Lg	10 46 15.6	
	1.1nm,0.3s,baz=216,slow=16,SNR=1.5						
AAK				LR	LR	10 46 37.7	
	comp=Z,11nm,20.2s,baz=138,slow=34						
WMQ	**Urumqi**	**9.57**	**44**	*e*P	Pn	10 45 38.8	+8.5
MKAR	**Makanchi Array**	**9.96**	**15**	Pn	**Pn**	**10 45 37.4**	**+1.7**
	0.3nm,0.3s,baz=194,slow=12,SNR=12						
MKAR				Sn	**Sn**	**10 47 24.9**	**-2.5**
	0.4nm,0.3s,baz=180,slow=27,SNR=2.6						

AKTO Aktyubinsk 19.80 318 LR LR 10 55 54.9
comp=Z,22nm,21.3s,baz=132,slow=39

BRTR Keskin Array B 35.01 288 P **P 10 50 04.2 -1.1**
0.6nm,0.7s,baz=61,slow=6.8,SNR=3.7

FINES FINESS Array B 40.40 324 P **P 10 50 50.2 -0.2**
0.5nm,0.3s,baz=107,slow=10,SNR=4.6

TORD Torodi Ar. Bea 71.80 273 P **P 10 54 35.5 0.0**
0.4nm,0.4s,baz=48,slow=5.2,SNR=7.0

*SLM **05** 11:03:08.5±0.8, 36°.135N±0°.009×89°.72W±0°.01, h5km±4km, Md2.5/17, mb_Lg2.0/5(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=169.0*

NEIC 05 11:03:08.9±0.8, 36°.144N±0°.007×89°.722W±0°.008, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.4km az=149.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEBM	**Pemiscott Bayo**	**0.12**	**255**		Pg	11 03 11.3	+0.1
PEBM					Sg	11 03 13.8	+0.8
BRGM	**Braggadocio**	**0.13**	**299**		Pg	11 03 11.6	+0.2
BRGM					Sg	11 03 14.1	+0.9
CWPT	**Cottonwood Poi**	**0.16**	**150**		Pg	11 03 11.8	-0.2
CWPT					Sg	11 03 14.6	+0.5
MIST	**Miston**	**0.18**	**81**		Pg	11 03 12.4	0.0
MIST					Sg	11 03 15.6	+0.8
LNXT	**Lenox**	**0.19**	**103**		Pg	11 03 12.6	0.0
CHNM	**Channel**	**0.20**	**239**		Pg	11 03 12.7	0.0
CHNM					Sg	11 03 16.1	+0.8
WADM	**Wardell**	**0.23**	**345**		Pg	11 03 13.6	+0.3
POBM	**Portage Bay**	**0.27**	**10**		Pg	11 03 14.3	+0.2
WYBT	**Wynnburg**	**0.27**	**42**		Pg	11 03 14.3	+0.2
FPST	**Four Points**	**0.27**	**127**		Pg	11 03 14.1	0.0
FPST					Sg	11 03 18.4	+0.7
PPLM	**Point Pleasant**	**0.28**	**23**		Pg	11 03 14.6	+0.2
GNAR	**Gosnell**	**0.30**	**233**		Pg	11 03 14.7	0.0
EDIT	**Edith**	**0.31**	**154**		Pg	11 03 14.7	-0.2
PENMO	**Penman**	**0.32**	**14**		Pg	11 03 15.1	+0.1
PGVM	**Portageville**	**0.32**	**359**		Pg	11 03 15.2	+0.2
GLAT	**Glass**	**0.37**	**70**	Pg	Pg	11 03 16.0	-0.1
GLAT				Sg	Sg	11 03 20.2	-0.8
HALT	**Halls**	**0.39**	**127**		Pg	11 03 16.1	-0.3
TOPM	**Tallapoosa**	**0.40**	**341**		Pg	11 03 16.7	0.0
DLAR	**Dell**	**0.41**	**215**		Pg	11 03 16.6	-0.1
FLPT	**Flippin**	**0.42**	**51**		Pg	11 03 16.9	-0.1
CATM	**Catron**	**0.47**	**7**		Pg	11 03 18.0	0.0
PARMO	**Parma**	**0.52**	**357**		Pg	11 03 18.8	-0.1
BETM	**Bethany**	**0.54**	**330**		Pg	11 03 19.2	-0.1
HICK	**Hickman**	**0.56**	**45**	Pg	Pg	11 03 19.4	-0.3
HICK				Sg	Sg	11 03 27.0	0.0
HENM	**Henderson Moun**	**0.60**	**19**	Pg	Pg	11 03 20.7	+0.2
HENM				Sg	Sg	11 03 28.6	+0.2
LPAR	**Lepanto**	**0.72**	**221**		Pg	11 03 22.1	-0.6
PBMO	**Poplar Bluff**	**0.85**	**318**		Pg	11 03 24.4	-0.9
PBMO				Sg	Sg	11 03 35.0	-1.3
HBAR	**Harrisburg**	**0.96**	**233**	Pg	Pg	11 03 26.5	-0.8
HBAR				Sg	Sg	11 03 39.8	+0.1
W45A	**Hickory Valley**	**1.08**	**156**	Pg	Pg	11 03 28.1	-1.4
W45A				Sg	Sg	11 03 43.7	+0.2
LCAR	**Lake Charles**	**1.16**	**267**	Pg	Pg	11 03 29.9	-1.3
LCAR				Sg	Sg	11 03 45.7	-0.5
T45A	**Paducah**	**1.23**	**44**	Pg	Pg	11 03 31.9	-0.6
T45A				Sg	Sg	11 03 47.9	-0.6
WVT	**Waverly**	**1.53**	**90**	Pn	Pn	11 03 36.0	-0.9
S44A	**Carbondale**	**1.59**	**13**	Pn	Pn	11 03 37.3	-0.4
SIUC	**Southern Illin**	**1.62**	**14**	Pn	Pn	11 03 37.6	-0.5
OXF	**Oxford**	**1.65**	**171**	Pn	Pn	11 03 38.2	-0.3
PLAL	**Pickwick Lake**	**1.77**	**130**	Pn	Pn	11 03 39.3	-0.9
FCAR	**Ozark Folk Cen**	**1.96**	**263**	Pn	Pn	11 03 42.8	-0.1
WHAR	**Wooly Hollow**	**2.25**	**249**	Pn	Pn	11 03 46.8	-0.1
CCM	**Cathedral Cave**	**2.26**	**328**	Pn	Pn	11 03 47.0	0.0
CCM				IAmb_Lg		11 04 19.4	
	comp=Z,2.6nm,0.8s						
T47A	**Sharon Grove**	**2.27**	**67**	Pn	Pn	11 03 45.9	-1.1
MGMO	**Mountain Grove**	**2.28**	**297**	Pn	Pn	11 03 46.6	-0.7
V48A	**Smith Brothers**	**2.39**	**99**	Pn	Pn	11 03 49.6	+1.0
U40A	**Yellville**	**2.54**	**276**	Pn	Pn	11 03 49.9	-0.9
X48A	**Hartselle**	**2.77**	**127**	Pn	Pn	11 03 53.5	-0.4
X40A	**Basin Creek Fa**	**3.04**	**238**	Pn	Pn	11 03 55.5	-2.0
MIAR	**Mount Ida**	**3.53**	**244**	Pn	Pn	11 04 03.0	-1.4
Y49A	**Blount Mountai**	**3.55**	**129**	Pn	Pn	11 04 02.5	-2.1
X51A	**Calhoun**	**4.28**	**110**	Pn	Pn	11 04 16.0	+1.4
V51A	**Loudon**	**4.37**	**93**	IAmb_Lg		11 05 33.7	
	comp=Z,1.7nm,1.1s						
Z51A	**Franklin**	**4.69**	**126**	Pn	Pn	11 04 18.6	-1.7
TKL	**Tuckaleechee C**	**4.85**	**94**	Pn	Pn	11 04 23.5	+0.9
V52A	**Sevierville**	**4.98**	**92**	Pn	Pn	11 04 24.4	+0.1
J47A	**Sunmer**	**8.03**	**27**	IAmb_Lg		11 07 24.0	
	comp=Z,7.1nm,0.8s						

*NNC **05** 11:04:16.4±2.1, 42°.94N×84°.73E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=41.8km s-min=14.1km az=11.0*

SOME 05 11:04:13.7, 42°.77N×84°.87E, h10km, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.38**	**283**	*e*P	Pg	11 05 16.3	-2.0
	1.8nm,0.1s						
KTMS				*e*S	Sg	11 06 01.7	-0.4
	8.0nm,0.3s						
KTMS	**Ketmen**	**3.38**	**283**	Pg	Pg	11 05 16.3	-2.0
	1.8nm,0.1s						
KTMS				Lg	Lg	11 06 01.7	
	8.0nm,0.3s						
PDGK	**Podgornoye**	**3.98**	**280**	Pg	Pb	11 05 25.5	+1.5
	0.8nm,0.3s						
PDGK				Lg	Lg	11 06 17.3	
	6.3nm,0.5s						
PDGK	**Podgornoye**	**3.98**	**280**	⇓Pn	Pn	11 05 17.7	+2.8
	8.1nm,1.2s						
PDGK				⇑Lg	Lg	11 06 19.3	
	13nm,0.8s						
SHLS	**Shalkode**	**3.99**	**277**	*e*P	Pb	11 05 21.5	-2.6
	5.5nm,0.2s						
SHLS				*e*S	Sb	11 06 10.3	-2.1
	20nm,0.4s						
SHLS	**Shalkode**	**3.99**	**277**	Pg	Pb	11 05 21.5	-2.6
	5.5nm,0.2s						
SHLS				Lg	Lg	11 06 10.3	
	20nm,0.4s						
DJR	**Jarkent**	**4.01**	**295**	*e*P	Pb	11 05 26.6	+2.1
	0.2nm,0.3s						
DJR				*e*S	Sg	11 06 19.2	-3.1
	0.6nm,0.4s						
DJR	**Jarkent**	**4.01**	**295**	Pg	Pb	11 05 26.6	+2.1
	0.2nm,0.3s						
DJR				Lg	Lg	11 06 19.8	
	0.6nm,0.4s						
KPKS	**Kokpek**	**4.58**	**281**	*e*P	Pb	11 05 37.7	+3.5
	6.8nm,0.3s						
KPKS				*e*S	Sg	11 06 37.8	-3.0
	13nm,0.5s						
ARXS	**Arharly**	**5.32**	**288**	*e*P	Pb	11 05 50.7	+3.9
	3.9nm,0.7s						
ARXS				*e*S	Sg	11 07 00.3	-4.2
	3.4nm,0.9s						
ARXS	**Arharly**	**5.32**	**288**	Pg	Pb	11 05 50.7	+3.9
	3.9nm,0.7s						
ARXS				Lg	Lg	11 07 00.3	
	3.4nm,0.9s						

*JMA **05** 11:13:12.5±0.8, 34°.28N×141°.73E, h26km, M2.9*
*IDC **05** 11:13:12.2±1.9, 34°.48N×141°.74E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.3/43, mbtmp3.4/5, ML3.1/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/26, Error ellipse: s-maj=40.7km s-min=24.3km az=73.0*

ISC 05 11:13:15.0±1.3, 34°.46N±0°.06×141°.69E±0°.10, h27km, n14, σ1§39/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.62**	**289**	P	**Pb**	**11 13 26.2**	**-0.7**
BSO3	**Boso 3**	**1.03**	**290**	P	**Pn**	**11 13 33.0**	**-0.5**
BSO4	**Boso 4**	**1.23**	**296**	P	**Pb**	**11 13 37.0**	**-0.6**
JKUC	**kamogawauchiur**	**1.41**	**300**	P	**Pn**	**11 13 39.1**	**+0.1**
CHOJ	**Chosi**	**1.42**	**332**	P	**Pn**	**11 13 39.5**	**+0.5**
JSMT	**Sammumatsuo**	**1.56**	**320**	P	**Pb**	**11 13 42.2**	**-1.0**
JMKN	**Mikurajimanish**	**1.83**	**253**	*e*S	**Sn**	**11 14 05.1**	**-1.8**
JIM2	**Oshima 3**	**1.88**	**279**	P	**Pn**	**11 13 44.8**	**-0.6**

JHJ	**Hachijo jima 2**	**2.07 230**	Pn	**Pn**	**11 13 48.0**	**0.0**
	12nm,0.3s,baz=52,slow=19,SNR=10					
JHJ			Sn	**Sn**	**11 14 11.4**	**-1.5**
	40nm,0.3s,baz=136,slow=23,SNR=14					
MJAR	**Matsushiro Arr**	**3.52 307**	Pn	**Pn**	**11 14 08.6**	**+0.7**
	0.5nm,0.3s,baz=120,slow=14,SNR=30					
MJAR			Sn	**Sn**	**11 14 51.0**	**+2.3**
	0.3nm,0.3s,baz=162,slow=30,SNR=6.6					
MJAR			LR	LR	11 15 48.9	
	comp=Z,48nm,19.0s,baz=150,slow=45					
MAT	**Matsushiro**	**3.52 307**	P	**Pn**	**11 14 09.4**	**+1.4**
MAT			S	**Sn**	**11 14 49.9**	**+1.1**
ASAJ	**Asahikawa**	**9.67 4**	Pn	**Pn**	**11 15 31.6**	**-0.8**
	0.4nm,0.3s,baz=198,slow=10,SNR=6.2					
ASAJ			Sn	**Sn**	**11 17 18.1**	**-2.0**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.3					
WRA	**Warramunga Arr**	**54.55 188**	P	**P**	**11 22 41.7**	**+0.9**
	0.2nm,0.4s,baz=5.0,slow=7.6,SNR=8.1					
ASAR	**Alice Springs**	**58.27 188**	P	**P**	**11 23 09.8**	**+2.5**
	0.3nm,0.8s,baz=0.9,slow=5.9,SNR=2.5					

IDC 05 11:19:05.5±2.9, 10.°48S×151.°99E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/31, mbtmp3.6/4, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=48.1km s-min=32.2km az=25.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.88 282**		Pn	Pn	11 20 20.5	+0.4
	0.9nm,0.3s,baz=127,slow=15,SNR=2.0						
PMG				Lg	Lg	11 21 40.9	
	0.5nm,0.3s,baz=207,slow=13,SNR=2.1						
PMG				LR	LR	11 22 26.7	
	comp=Z,134nm,18.3s,baz=64,slow=41						
CTA	**Charters Tower**	**11.04 209**		Pn	Pn	11 21 46.8	+2.1
	0.8nm,0.3s,baz=36,slow=15,SNR=7.2						
WRA	**Warramunga Arr**	**19.44 239**		P	P	11 23 32.9	-0.8
	0.1nm,0.3s,baz=63,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**21.66 230**		P	P	11 23 57.2	-0.7
	1.1nm,0.6s,baz=62,slow=9.0,SNR=18						
TORD	**Torodi Ar. Bea**	**150.81 278**		PKPbc	PKPbc	11 39 00.9	-0.1
	0.5nm,0.7s,baz=87,slow=2.5,SNR=1.9						

*IDC **05** 11:21:04.1±0.8, 41.°02S×43.°64E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/28, mbtmp3.9/7, MS3.4/10, Ms1 3.4/10, ms1mx3.2/39, Error ellipse: s-maj=33.0km s-min=21.9km az=49.0*

*NEIC **05** 11:21:06.6±0.5, 41.°1S±0.°1×43.°63E±0.°07, h10km±1km, mb4.3/10, Error ellipse: s-maj=25.4km s-min=9.2km az=5.0*

ISC 05 11:21:05.3±0.7, 41.°0S±0.°1×43.°6E±0.°2, h9km, n30, σ0.44/21, mb4.2/9, MS3.6/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**19.21**	**9**	P	**P**	**11 25 29.7**	**-0.1**
VOI				IAmb	IAmb	11 25 33.1	
	comp=Z,13nm,1.1s						
BOSA	**Boshof**	**19.43 304**		LR	LR	11 32 01.7	
	comp=Z,41nm,18.6s,baz=173,slow=34						
SUR	**Sutherland**	**20.16 288**		LR	LR	11 32 01.9	
	comp=Z,53nm,20.2s,baz=154,slow=33						
MATP	**Matopo**	**24.20 323**		P	**P**	**11 26 22.6**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=150,slow=9.6,SNR=8.8						
MATP				LR	LR	11 33 51.5	
	comp=Z,91nm,19.1s,baz=133,slow=32						
MAW	**Mawson**	**28.68 165**		LR	LR	11 36 10.0	
	comp=Z,49nm,18.3s,baz=30,slow=32						
LSZ	**Lusaka**	**28.91 328**		LR	LR	11 37 42.5	
	comp=Z,143nm,18.3s,baz=130,slow=34						
SNAA	**Sanae**	**38.29 202**		P	**P**	**11 28 26.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=78,slow=9.3,SNR=5.4						
SNAA	**Sanae**	**38.29 202**		P	**P**	**11 28 26.1**	**+0.4**
SNAA				IAmb	IAmb	11 28 41.9	
	comp=Z,3.4nm,1.3s						
QSPA	**South Pole Qui**	**49.22 180**		P	**P**	**11 29 53.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=256,slow=6.8,SNR=5.3						
QSPA	**South Pole Qui**	**49.22 180**		P	**P**	**11 29 54.4**	**+0.6**
QSPA				IAmb	IAmb	11 29 56.2	
	comp=Z,8.0nm,1.4s						
H01W2	**Cape Leeuwin H**	**54.58 108**		T	T	12 29 27.8	
	baz=242,slow=75,SNR=32						
H01W3	**Cape Leeuwin H**	**54.59 108**		T	T	12 29 28.4	
	baz=242,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**54.60 108**		T	T	12 29 29.1	
	baz=242,slow=75,SNR=33						
WSAR	**Wadi Sarin**	**65.41**	**15**	LR	LR	11 55 49.5	
	comp=Z,88nm,18.6s,baz=109,slow=32						
TORD	**Torodi Ar. Bea**	**66.35 315**		P	**P**	**11 31 55.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=140,slow=5.2,SNR=6.7						
TORD				LR	LR	12 01 36.4	
	comp=Z,35nm,19.0s,baz=155,slow=37						
TORD	**Torodi Ar. Bea**	**66.35 315**		P	**P**	**11 31 54.3**	**-0.2**
MMAI	**Mount Meron Ar**	**74.02 353**		LR	LR	12 05 56.6	
	comp=Z,30nm,18.4s,baz=335,slow=36						
ASAR	**Alice Springs**	**75.10 108**		P	**P**	**11 32 47.7**	**-0.2**
	comp=Z,1.2nm,1.1s,baz=224,slow=5.3,SNR=2.9						
STKA	**Stephens Creek**	**75.29 119**		P	**P**	**11 32 49.1**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=255,slow=6.9,SNR=1.8						
STKA	**Stephens Creek**	**75.29 119**		P	**P**	**11 32 48.6**	**-0.3**
STKA				IAmb	IAmb	11 33 13.2	
	comp=Z,3.4nm,1.5s						
WRA	**Warramunga Arr**	**77.73 106**		P	**P**	**11 33 03.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=224,slow=4.5,SNR=7.7						
WRA	**Warramunga Arr**	**77.73 106**		P	**P**	**11 33 03.3**	**+0.4**
WB2	**Warramunga Arr**	**77.74 106**		P	**P**	**11 33 03.5**	**+0.6**
WRAB	**Tennant Creek**	**77.75 106**		P	**P**	**11 33 03.4**	**+0.4**
WRAB				IAmb	IAmb	11 33 20.9	
	comp=Z,6.0nm,1.4s						
WR0	**Warramunga Arr**	**77.87 106**		P	**P**	**11 33 03.4**	**-0.2**
WB0	**Warramunga Arr**	**77.89 106**		P	**P**	**11 33 03.9**	**+0.2**
WB0				IAmb	IAmb	11 33 17.8	
	comp=Z,9.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**78.28**	**53**	LR	LR	12 01 16.5	
	comp=Z,19nm,19.0s,baz=188,slow=31						
ESDC	**Sonseca Array**	**91.22 325**		LR	LR	12 17 11.4	
	comp=Z,29nm,19.1s,baz=125,slow=37						
TXAR	**Lajitas Array**	**150.99 257**		PKPbc	**PKiKP**	**11 40 59.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=145,slow=4.6,SNR=4.6						
TXAR				PKPab	**PKPab**	**11 41 05.7**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=141,slow=4.6,SNR=8.2						
TXAR	**Lajitas Array**	**150.99 257**			**PKPbc**	**11 40 58.3**	**-0.4**
TXAR				PKPab	**PKPab**	**11 41 05.6**	**-0.6**

IDC 05 11:26:31.4±17.0, 37.°38N×78.°15E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.1/34, mbtmp3.3/3, ML2.7/2, MS2.5/2, Ms1 2.5/2, ms1mx2.2/39, Error ellipse: s-maj=518.3km s-min=37.3km az=128.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**9.89**	**17**	Pn	Pn	11 28 55.5	+0.7
	0.1nm,0.3s,baz=201,slow=15,SNR=4.7						
MKAR				Sn	Sn	11 30 40.2	-6.4
	0.1nm,0.3s,baz=198,slow=27,SNR=3.6						
MKAR				LR	LR	11 32 53.8	
	comp=Z,18nm,21.3s,baz=54,slow=39						
GEYT	**Alibeck**	**15.88 278**		LR	LR	11 37 57.3	
	comp=Z,24nm,19.8s,baz=125,slow=43						
ZALV	**Zalesovo Beam**	**17.20**	**13**	Pn	P	11 30 34.6	0.0
	0.1nm,0.3s,baz=198,slow=16,SNR=1.2						
TORD	**Torodi Ar. Bea**	**71.43 273**		P	P	11 37 54.0	0.0
	0.4nm,0.6s,baz=51,slow=7.7,SNR=2.5						

*JMA **05** 11:26:39.9±0.1, 23.°33N×121.°43E, h36km±2km, M3.9*

*TAP **05** 11:26:41.5, 23.°36N×121.°42E, h33km, ML4.2, C*

ISC 05 11:26:41.8±0.9, 23.°34N±0.°02×121.°49E±0.°02, h32km±5km, n137, σ1.15/215, 21C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.04 235**		⇓*iP*	**Pb**	**11 26 47.5**	**+0.3**
	baz=146						
ECBN				S	**Sb**	**11 26 51.9**	**+1.1**
	baz=146						
EYUL	**Yuli**	**0.16 272**		P	**Pn**	**11 26 47.5**	**-0.4**
	baz=280						
EYUL				S	**Sb**	**11 26 52.1**	**0.0**
	baz=280						
HGSD	**Ruisui**	**0.16 338**		P	**Pn**	**11 26 47.8**	**-0.2**
	baz=7.0						
HGSD				S	**Sb**	**11 26 53.2**	**+1.1**
	baz=7.0						
TWF1	**Yuli**	**0.18 274**		⇓*iP*	**Pn**	**11 26 47.3**	**-0.9**
	baz=282						
TWF1				*i* S	**Sn**	**11 26 51.2**	**-1.0**
	baz=282						
YULB	**Yu-li**	**0.18 286**		⇓*iP*	**Pn**	**11 26 47.3**	**-1.0**
	baz=301						
YULB				S	**Sn**	**11 26 51.3**	**-1.1**
	baz=301						
EHY	**Hungye**	**0.23 317**		⇓*iP*	**Pn**	**11 26 47.7**	**-1.2**
	baz=318						
EHY				*i* S	**Sn**	**11 26 51.8**	**-1.6**
	baz=318						
FULB	**Fuli**	**0.23 232**		P	**Pn**	**11 26 48.5**	**-0.4**
	baz=230						
FULB				S	**Sb**	**11 26 53.9**	**+0.6**
	baz=230						
CHKT	**Chengkung**	**0.27 205**		⇑*iP*	**Pn**	**11 26 48.9**	**-0.6**
	baz=182						
CHKT				*i* S	**Sn**	**11 26 54.3**	**-0.1**
	baz=182						
EGFH	**Guangfu**	**0.33 350**		P	**Pb**	**11 26 49.1**	**-0.7**
	baz=352						
EGFH				S	**Sn**	**11 26 54.2**	**-1.9**
	baz=352						
ECS	**Chishang**	**0.35 225**		⇑*iP*	**Pb**	**11 26 49.5**	**-0.6**
	baz=216						
ECS				S	**Sn**	**11 26 55.6**	**-0.9**
	baz=216						
TEGC	**Jichi Village**	**0.37**	**7**	P	**Pb**	**11 26 50.6**	**+0.2**
	baz=8.0						
TEGC				S	**Sb**	**11 26 57.7**	**+1.4**
	baz=8.0						
EDH	**Donghe**	**0.40 205**		⇑*iP*	**Pb**	**11 26 50.4**	**-0.5**
	baz=204						
EDH				S	**Sb**	**11 26 57.1**	**0.0**
	baz=204						
ESL	**Shilin**	**0.47 354**		⇑*iP*	**Pb**	**11 26 50.6**	**-1.3**
	baz=2.0						
ESL				*i* S	**Sb**	**11 26 56.8**	**-2.1**
	baz=2.0						
YUS	**Yu-Shan**	**0.52 287**		⇓*iP*	**Pb**	**11 26 52.0**	**-0.9**
	baz=287						
YUS				S	**Sb**	**11 26 59.2**	**-1.4**
	baz=287						
TEYL	**Yanliau Villag**	**0.53**	**11**	*eP*	**Pn**	**11 26 53.1**	**0.0**
	baz=7.0						
TEYL				*eS*	**Sn**	**11 27 02.0**	**+1.0**
	baz=7.0						
LONT	**Longtian**	**0.54 217**		⇑*iP*	**Pn**	**11 26 51.6**	**-1.7**
	baz=211						
LONT				S	**Sb**	**11 26 58.8**	**-2.0**
	baz=211						
ETM	**Tongmen**	**0.62**	**0**	P	**Pn**	**11 26 52.7**	**-1.6**
	baz=359						
HWA	**Hwalien**	**0.64**	**10**	*eP*	**Pn**	**11 26 52.9**	**-1.7**
	baz=6.0						
TWGBT	**Beinan**	**0.64 216**		⇑*iP*	**Pn**	**11 26 52.6**	**-2.0**
	baz=210						
TWGBT				S	**Sn**	**11 27 00.8**	**-2.9**
	baz=210						
TWG	**Pinlang**	**0.65 217**		⇑*iP*	**Pn**	**11 26 52.6**	**-2.0**
	baz=210						
TWG				*i* S	**Sn**	**11 27 00.7**	**-3.0**
	baz=210						
ALS	**Alishan**	**0.65 285**		⇓*iP*	**Pn**	**11 26 54.3**	**-0.7**
	baz=285						
ALS				*i* S	**Sn**	**11 27 03.0**	**-1.3**
	baz=285						
SSLB	**Suanglung**	**0.66 312**		⇓*iP*	**Pn**	**11 26 53.8**	**-1.1**
	baz=317						
SSLB				S	**Sn**	**11 27 01.3**	**-3.0**
	baz=317						
TTN	**Taitung**	**0.66 208**		⇑*iP*	**Pn**	**11 26 54.0**	**-0.9**
	baz=202						
TTN				*eS*	**Sn**	**11 27 03.5**	**-0.7**
	baz=202						
LDUT	**Ludao**	**0.67 182**		*eP*	**Pn**	**11 26 53.4**	**-1.5**
	baz=176						
LDUT				*eS*	**Sn**	**11 27 03.0**	**-1.2**
	baz=176						
OWD	**Renai**	**0.68 335**		⇑*iP*	**Pn**	**11 26 53.9**	**-1.3**
	baz=345						
OWD				S	**Sn**	**11 27 02.1**	**-2.7**
	baz=345						
STYH	**Taoyuan**	**0.68 256**		P	**Pn**	**11 26 54.2**	**-0.8**
	baz=250						
STYH				*eS*	**Sn**	**11 27 02.9**	**-1.7**
	baz=250						
WHYT	**Xinyi Township**	**0.68 301**		P	**Pn**	**11 26 54.8**	**-0.4**
	baz=305						
WHYT				*eS*	**Sn**	**11 27 03.2**	**-1.6**
	baz=305						
STYT	**Tauyuan**	**0.70 255**		⇓*iP*	**Pn**	**11 26 54.5**	**-0.9**
	baz=250						
STYT				*i* S	**Sn**	**11 27 03.4**	**-1.7**
	baz=250						
TWD	**Chiawan**	**0.74**	**8**	⇑*iP*	**Pn**	**11 26 54.7**	**-1.3**
	baz=4.0						
SMLT	**Sun Moon Lake**	**0.76 315**		⇑*iP*	**Pn**	**11 26 56.0**	**-0.4**
	baz=320						
SMLT				S	**Sn**	**11 27 05.5**	**-1.3**
	baz=320						
CHGB	**Renai**	**0.77 338**		⇑*iP*	**Pn**	**11 26 55.8**	**-0.9**
	baz=349						
CHGB				S	**Sn**	**11 27 04.7**	**-2.5**
	baz=349						
CHN5	**Tsauling**	**0.79 289**		⇓*iP*	**Pn**	**11 26 56.6**	**0.0**
	baz=289						
CHN5				*i* S	**Sn**	**11 27 07.5**	**+0.1**
	baz=289						
TPUB	**Ta-pu**	**0.79 267**		⇓*iP*	**Pn**	**11 26 56.4**	**-0.3**
	baz=272						
TPUB				*i* S	**Sn**	**11 27 07.0**	**-0.4**
	baz=272						
TYC	**Yuchr**	**0.81 314**		⇑*iP*	**Pn**	**11 26 56.6**	**-0.3**
	baz=324						
TYC				S	**Sn**	**11 27 06.9**	**-0.8**
	baz=324						
WTP	**Ta-pu**	**0.81 263**		⇓*iP*	**Pn**	**11 26 56.7**	**-0.3**
	baz=261						
WTP				S	**Sn**	**11 27 07.4**	**-0.5**
	baz=261						
ETL	**Fush Village**	**0.82**	**9**	*eP*	**Pn**	**11 26 55.5**	**-1.6**
	baz=3.0						
WHF	**Hehuan Shan**	**0.83 346**		⇑*iP*	**Pn**	**11 26 56.2**	**-1.3**
	baz=357						
WHF				S	**Sn**	**11 27 05.7**	**-3.2**
	baz=357						
WPL	**Puli Township**	**0.83 324**		P	**Pn**	**11 26 56.5**	**-0.6**
	baz=335						
NACB	**Ninganchiao**	**0.83**	**7**	⇑*iP*	**Pn**	**11 26 55.6**	**-1.6**
	baz=3.0						
WJS	**Zhushan**	**0.85 305**		P	**Pn**	**11 26 57.8**	**+0.3**
	baz=306						
WJS				S	**Sn**	**11 27 08.6**	**-0.2**
	baz=306						
SLGT	**Liugui**	**0.85 246**		P	**Pn**	**11 26 57.3**	**-0.1**
	baz=239						
SLGT				S	**Sn**	**11 27 08.0**	**-0.8**
	baz=239						
DPDB	**Guoxing**	**0.86 323**		*eP*	**Pn**	**11 26 57.4**	**-0.3**
	baz=333						
DPDB				*eS*	**Sn**	**11 27 06.6**	**-2.6**
	baz=333						
ETLH	**Xiulin Townshi**	**0.86 360**		P	**Pn**	**11 26 56.1**	**-1.6**
	baz=4.0						
SGST	**Jiashian**	**0.87 253**		⇑*iP*	**Pn**	**11 26 57.0**	**-0.8**
	baz=250						
SGST				S	**Sn**	**11 27 08.7**	**-0.7**
	baz=250						
WCS	**Beigang Elemen**	**0.89 324**		P	**Pn**	**11 26 57.9**	**-0.1**
	baz=333						
WCS				*eS*	**Sn**	**11 27 08.5**	**-1.2**
	baz=333						
ECL	**Taimali**	**0.89 214**		P	**Pn**	**11 26 55.8**	**-2.2**
	baz=200						
ECL				S	**Sn**	**11 27 06.1**	**-3.7**
	baz=200						
CHN1	**Nanshi**	**0.90 260**		⇓*iP*	**Pn**	**11 26 58.4**	**+0.2**
	baz=258						
CHN1				*i* S	**Sn**	**11 27 10.8**	**+0.7**
	baz=258						
WNT	**Mingjian**	**0.91 306**		*eP*	**Pn**	**11 26 58.8**	**+0.5**
	baz=308						
WNT				*eS*	**Sn**	**11 27 10.9**	**+0.6**
	baz=308						
WGK	**Gukeng**	**0.92 292**		P	**Pn**	**11 26 58.8**	**+0.4**
	baz=293						
WGK				S	**Sn**	**11 27 10.9**	**+0.4**
	baz=293						
SNST	**Tainan City**	**0.92 263**		P	**Pn**	**11 26 58.5**	**+0.1**
	baz=261						
SNST				*eS*	**Sn**	**11 27 11.2**	**+0.7**
	baz=261						
TWK	**Hsinying**	**0.92 266**		⇓*iP*	**Pn**	**11 26 58.6**	**0.0**
	baz=264						
TWK				S	**Sn**	**11 27 11.1**	**+0.4**
	baz=264						
FUSS	**Fushou**	**0.93 346**		P	**Pn**	**11 26 58.2**	**-0.6**
	baz=357						
FUSS				*eS*	**Sn**	**11 27 09.0**	**-2.2**
	baz=357						
WNT1	**Nantou City**	**0.93 307**		*eP*	**Pn**	**11 26 59.3**	**+0.7**
	baz=297						
WNT1				*eS*	**Sn**	**11 27 11.7**	**+0.9**
	baz=297						
WDLH	**Douliu**	**0.94 292**		P	**Pn**	**11 26 59.6**	**+0.9**
	baz=292						
WDLH				S	**Sn**	**11 27 12.0**	**+0.9**
	baz=292						
CHN2	**Minshiung**	**0.95 282**		P	**Pn**	**11 26 59.8**	**+1.0**
	baz=292						
CHN2				S	**Sn**	**11 27 12.8**	**+1.5**
	baz=292						
TDCB	**Techi**	**0.96 342**		*eP*	**Pn**	**11 26 58.8**	**-0.3**
	baz=344						
TDCB				*eS*	**Sn**	**11 27 09.6**	**-2.1**
	baz=344						
SSD	**Sandimen**	**0.99 233**		P	**Pn**	**11 26 58.4**	**-0.9**
	baz=227						
CHY	**Chiayi**	**0.99 279**		*eP*	**Pn**	**11 27 00.0**	**+0.6**
	baz=279						
CHY				*eS*	**Sn**	**11 27 12.8**	**+0.6**
	baz=279						
TSMG	**Majia**	**1.00 231**		*eP*	**Pn**	**11 26 58.9**	**-0.7**
	baz=227						
TSMG				*eS*	**Sn**	**11 27 11.7**	**-0.9**
	baz=227						
WWF	**Wufeng**	**1.01 314**		*eP*	**Pn**	**11 27 00.4**	**+0.8**
	baz=303						
WWF				*eS*	**Sn**	**11 27 14.0**	**+1.3**
	baz=303						
SCST	**Cishan**	**1.02 244**		*eP*	**Pn**	**11 27 00.9**	**+1.1**
	baz=240						
SCST				*eS*	**Sb**	**11 27 15.1**	**+1.0**
	baz=240						
WHP	**Taichung City**	**1.06 332**		*eP*	**Pn**	**11 27 01.0**	**+0.6**
	baz=341						
CHN3	**Shinhua**	**1.07 256**		*eP*	**Pb**	**11 27 02.3**	**+0.6**
	baz=266						
CHN3				S	**Sb**	**11 27 17.4**	**+2.1**
	baz=266						
WTK	**Tuku**	**1.07 289**		*eP*	**Pn**	**11 27 00.8**	**+0.4**
	baz=289						
WTK				*eS*	**Sn**	**11 27 14.4**	**+0.3**
	baz=289						
MASBT	**Mashibuluo**	**1.07 228**		P	**Pn**	**11 26 59.7**	**-0.8**
	baz=217						
TCU	**Taichung**	**1.09 317**		*eP*	**Pn**	**11 27 01.7**	**+0.9**
	baz=306						
TCU				*eS*	**Sn**	**11 27 16.0**	**+1.1**
	baz=306						
NNS	**Nan Shan**	**1.10 354**		*eP*	**Pn**	**11 27 00.4**	**-0.7**
	baz=9.0						
SGLT	**Jiouru**	**1.10 236**		*eP*	**Pn**	**11 27 02.1**	**+1.2**
	baz=222						
SGLT				*eS*	**Sb**	**11 27 18.4**	**+2.0**
	baz=222						
TWM1	**Shoushan**	**1.11 243**		P	**Pb**	**11 27 02.8**	**+0.4**
	baz=239						
TWM1				*eS*	**Sb**	**11 27 19.2**	**+2.6**
	baz=239						
ICHU	**Yijhu**	**1.11 271**		*eP*	**Pn**	**11 27 01.7**	**+0.6**
	baz=270						
ICHU				*eS*	**Sn**	**11 27 15.8**	**+0.5**
	baz=270						
TAW	**Tawu**	**1.12 209**		P	**Pn**	**11 26 59.4**	**-1.8**
	baz=195						
EAST	**Anshuo**	**1.12 212**		⇑*iP*	**Pn**	**11 26 59.5**	**-1.8**
	baz=201						
WCHH	**Zhanghua**	**1.13 311**		*eP*	**Pn**	**11 27 02.0**	**+0.7**
	baz=312						
WCHH				*eS*	**Sn**	**11 27 16.7**	**+1.1**
	baz=312						
TSPT	**Pingtung City**	**1.13 234**		*eP*	**Pn**	**11 27 02.6**	**+1.3**
	baz=230						
EWUT	**Wuta**	**1.13**	**13**	*eP*	**Pn**	**11 27 00.7**	**-0.6**
	baz=6.0						
WRL	**Guolierlin Hig**	**1.16 299**		*eP*	**Pn**	**11 27 02.4**	**+0.6**
	baz=300						
WRL				*eS*	**Sn**	**11 27 17.2**	**+0.7**
	baz=300						
CHN8	**Yiju**	**1.17 271**		*eP*	**Pn**	**11 27 02.6**	**+0.7**
	baz=269						
CHN8				S	**Sn**	**11 27 17.8**	**+1.0**
	baz=269						
TWQ1	**Liyutan**	**1.20 327**		⇑*iP*	**Pn**	**11 27 03.5**	**+1.3**
	baz=329						
TWQ1				S	**Sn**	**11 27 18.8**	**+1.4**
	baz=329						
WSF	**Szhu**	**1.20 285**		*eP*	**Pn**	**11 27 02.7**	**+0.5**
	baz=284						
WSF				*eS*	**Sn**	**11 27 17.4**	**-0.1**
	baz=284						
SSPT	**Xinbi**	**1.20 225**		*eP*	**Pn**	**11 27 02.6**	**+0.2**
	baz=215						
SSPT				*eS*	**Sn**	**11 27 18.1**	**+0.5**
	baz=215						
SNJT	**Kaohsiung City**	**1.21 241**		*eP*	**Pn**	**11 27 04.1**	**+1.7**
	baz=238						
SNJT				*eS*	**Sb**	**11 27 20.6**	**+1.1**
	baz=238						
SCZT	**Fangliau**	**1.25 220**		⇑*iP*	**Pn**	**11 27 02.4**	**-0.6**
	baz=218						
SCZT				S	**Sn**	**11 27 20.1**	**+1.3**
	baz=218						
NSY	**Sanyi**	**1.26 328**		⇑*iP*	**Pn**	**11 27 04.5**	**+1.3**
	baz=330						
NSY				*i* S	**Sb**	**11 27 21.3**	**+0.4**
	baz=330						
WDJ	**Dajia District**	**1.27 322**		*eP*	**Pn**	**11 27 04.5**	**+1.2**
	baz=324						
WDJ				*eS*	**Sn**	**11 27 20.5**	**+1.3**
	baz=324						
SLIU	**Shizi**	**1.29 210**		*eP*	**Pn**	**11 27 02.1**	**-1.4**
	baz=195						
LAY	**Lan-yu**	**1.30 177**		P	**Pn**	**11 27 02.4**	**-1.2**
	baz=173						
NDS	**Dongshan**	**1.30**	**9**	*eP*	**Pn**	**11 27 02.9**	**-0.8**
	baz=13						
TWC	**Suao**	**1.30**	**15**	P	**Pn**	**11 27 03.4**	**-0.3**
	baz=8.0						
YHNB	**Yeheng**	**1.33 356**		*eP*	**Pn**	**11 27 04.2**	**+0.1**
	baz=9.0						
YHNB				*eS*	**Sn**	**11 27 19.9**	**-0.8**
	baz=9.0						
NMLH	**Miaoli**	**1.35 332**		*eP*	**Pn**	**11 27 05.3**	**+1.0**
	baz=333						
NMLH				*eS*	**Sb**	**11 27 23.5**	**0.0**
	baz=333						
NSTT	**Nanjuang**	**1.36 341**		⇑*iP*	**Pn**	**11 27 05.5**	**+1.0**
	baz=343						
NSTT				S	**Sn**	**11 27 21.9**	**+0.5**
	baz=343						
TWE	**Neicheng**	**1.38**	**7**	*eP*	**Pn**	**11 27 04.2**	**-0.6**
	baz=11						
WLCH	**Liuqiu**	**1.42 226**		*eP*	**Pb**	**11 27 08.

NHDH	Xindian Distri	1.61	1	eP		Pn	11 27 08.1 +0.1
	baz=14						
TATO	Taipei	1.63	360	eP		Pn	11 27 08.3 +0.1
	baz=18						
TWA	Mucha	1.63	3	eP		Pn	11 27 08.4 +0.1
	baz=16						
NCUH	Zhongli	1.64	350	eP		Pn	11 27 09.1 +0.6
	baz=353						
NCU	National Centr	1.65	350	eP		Pn	11 27 09.6 +1.2
	baz=354						
TIPB	Shuangxi	1.65	11	eP		Pn	11 27 08.8 +0.2
	baz=14						
WDGT	Dungji	1.68	268	eP		Pn	11 27 08.8 -0.1
	baz=266						
TWB1	Santiao Chiao	1.72	15	eP		Pn	11 27 10.0 +0.6
	baz=9.0						
JYNG	Yonagunijimaku	1.73	50	P		Pn	11 27 10.2 +0.6
JYNG				S		Sn	11 27 31.2 +0.6
NWF	Wu-fen Shan	1.74	9	eP		Pn	11 27 09.9 +0.1
	baz=12						
WFSB	Wu-fen Shan	1.74	9	eP		Pn	11 27 07.7 -2.1
	baz=12						
TWS1	Kuangyinshan	1.75	358	eP		Pn	11 27 10.0 +0.1
	baz=17						
PHUB	P'eng-hu	1.77	276	eP		Pn	11 27 09.8 -0.3
	baz=276						
YOJ	Yonaguni jima	1.79	51	P		Pn	11 27 11.0 +0.7
YOJ				S		Sn	11 27 32.9 +1.0
YOJ	Yonaguni jima	1.79	51	eP		Pn	11 27 11.0 +0.7
	baz=53						
PNG	Penghu	1.79	278	eP		Pn	11 27 10.4 0.0
	baz=277						
YM01	YM01	1.80	2	eP		Pn	11 27 10.3 -0.3
	baz=20						
NTST	Danshui	1.82	359	eP		Pn	11 27 10.3 -0.4
	baz=17						
YM08	YM08	1.84	3	eP		Pn	11 27 10.4 -0.7
	baz=6.0						
VCHM	Qimei	1.90	266	eP		Pn	11 27 10.6 -1.3
	baz=265						
HATJ	Hateruma jima	2.24	71	S		Sn	11 27 43.4 +0.3
IRIF	Iriomote-Funau	2.28	64	P		Pn	11 27 18.0 +0.9
JKRS	Kuro-shima	2.48	68	P		Pn	11 27 20.8 +1.0
JKRS				eS		Sn	11 27 50.3 +1.4
VWUC	VWUC	2.48	312	eP		Pn	11 27 19.2 -0.7
	baz=315						
JIJ	Ishigaki jima	2.63	67	P		Pn	11 27 22.5 +0.5
JIJ				S		Sn	11 27 52.1 -0.8
PTMZ	Houxiangcun	2.75	309	eP		Pn	11 27 24.2 +0.7
	baz=312						
JISG	Ishigakijimahi	2.86	64	P		Pn	11 27 25.4 +0.2
JISG				S		Sn	11 27 57.7 -0.8
MATB	Ma-tsu	3.13	334	eP		Pn	11 27 27.9 -0.9
	baz=337						
JTJ	Tarama	3.21	66	P		Pn	11 27 30.8 +0.9
JTJ				S		Sn	11 28 07.4 +0.3
MHZQ	Yeshan	3.54	321	eP		Pn	11 27 34.4 -0.1
	baz=326						
LYJJ	Jianjiangzhen	3.56	334	eP		Pn	11 27 33.7 -1.0
	baz=338						
AXDP	Jialang	3.57	296	eP		Pn	11 27 35.2 +0.4
	baz=298						
JIRB	Irabujima	3.68	66	eS		Sn	11 28 18.9 +0.3
JMJ2	Miyako jima3	3.78	68	S		Sn	11 28 22.6 +1.5
JIKM	Ikemajima	3.78	65	eS		Sn	11 28 21.2 +0.1

*IDC **05** 11:46:03.4±1.8,39°.19N×106°.25E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.5/65,mbtmp3.5/9,ML3.2/2,Error ellipse: s-maj=37.5km s-min=23.8km az=96.0*

ISC 05 11:46:08.6±1.1,39°.2N±0°.1×106°.2E±0°.1,h35km,n10, σ0.46/10,mb3.5/6,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	8.64	1	Pn		Pn	11 48 11.7 +0.5
	0.3nm,0.3s,baz=179,slow=16,SNR=3.8						
SONM				Lg		Lg	11 50 38.7
	0.5nm,0.3s,baz=181,slow=29,SNR=3.8						
KSRS	Korea Array	17.16	89	P		P	11 50 07.0 +0.1
	0.1nm,0.3s,baz=288,slow=11,SNR=5.0						
MKAR	Makanchi Array	19.00	301	P		P	11 50 27.5 +0.4
	0.1nm,0.3s,baz=98,slow=8.9,SNR=2.4						
ZALV	Zalesovo Beam	20.70	322	P		P	11 50 45.9 +0.4
	0.9nm,0.4s,baz=118,slow=11,SNR=7.0						
CMAR	Chiang Mai Arr	21.59	199	P		P	11 50 55.9 +0.5
	0.8nm,0.7s,baz=7.2,slow=8.5,SNR=4.2						
KURBB	Kurchatov Arra	22.53	310	P		P	11 51 05.0 -0.3
	0.6nm,0.4s,baz=109,slow=9.8,SNR=3.3						
BVAR	Borovoye Array	28.07	311	P		P	11 51 56.9 +0.3
	0.9nm,0.5s,baz=191,slow=6.9,SNR=6.8						
BRTR	Keskin Array B	54.51	295	P		P	11 55 32.6 -0.5
	0.8nm,0.7s,baz=104,slow=3.7,SNR=4.6						
NOA	NORSAR Array B	58.86	325	P		P	11 56 03.4 -0.1
	0.4nm,0.5s,baz=64,slow=7.0,SNR=2.7						
ILAR	Eielson Array	61.86	28	P		P	11 56 23.3 -0.6
	0.3nm,0.9s,baz=297,slow=6.0,SNR=2.6						

*IDC **05** 11:51:54.1±1.7,25°.00N×62°.17E,h0km,mb3.8/12, mb1 3.8/13,mb1mx3.6/54,mbtmp3.8/13,ML3.4/1,MS3.0/3, Ms1 3.0/3,ms1mx2.5/49,Error ellipse: s-maj=38.3km s-min=19.5km az=162.0*

*OMAN **05** 11:52:04.7±0.6,24°.74N×61°.65E,h8km±17km,mb5.3/2, ml3.5/13,Error ellipse: s-maj=32.0km s-min=6.5km az=241.0*

*DSN **05** 11:52:04.8±1.9,25°.11N×61°.49E,h10km,ML3.1/6,Error ellipse: s-maj=38.1km s-min=17.2km az=5.0*

ISC 05 11:51:55.6±0.8,25°.00N±0°.07×62°.10E±0°.07,h10km,n36, σ2.10/47,mb3.6/12,MS3.0/3,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	3.62	242	Pn		Pn	11 52 53.0 +1.2
	3.0nm,0.3s,baz=62,slow=8.5,SNR=18						
WSAR				Sn		Sn	11 53 31.4 -3.1
	7.5nm,0.3s,baz=84,slow=15,SNR=8.5						
WSAR	Wadi Sarin	3.62	242	P		Pn	11 52 53.0 +1.2
WSAR				S		Sn	11 53 31.5 -3.1
WBK	Wadi Bani Khal	3.72	231	P		Pn	11 52 54.5 +1.4
WBK				S		Sn	11 53 35.0 -2.1
JLN	Jalan Bani Buh	3.75	222	P		Pn	11 52 54.6 +1.0
	SNR=9.4						
JLN				S		Sn	11 53 36.6 -1.3
BIDO	Bidbid	3.91	249	P		Pn	11 52 59.3 +3.5
BIDO				S		Sn	11 53 39.9 -1.8
SMDO	Samad	4.17	243	P		Pn	11 53 01.4 +2.0
	SNR=7.8						
JMDO	Jabal Madar	4.50	235	P		Pn	11 53 05.8 +1.9
	SNR=9.4						
JMDO				S		Sn	11 53 54.6 -1.6
HOQ	Hoqain	4.59	253	P		Pn	11 53 07.0 +1.9
BSY	Bisya	5.01	244	P		Pn	11 53 13.7 +2.8
MDH	Madha	5.26	275	P		Pn	11 53 15.2 +0.8
MDH	Madha	5.26	275	P		Pn	11 53 15.9 +1.5
BANOM	Banah	5.32	281	P		Pn	11 53 16.0 +0.8
BANOM	Banah	5.32	281	P		Pn	11 53 16.4 +1.3
UOSS	Minazif	5.35	271	P		Pn	11 53 15.2 -0.3
UOSS	Minazif	5.35	271	P		Pn	11 53 16.5 +0.9
ARQ	Araqi	5.35	253	P		Pn	11 53 20.0 +4.4
	SNR=9.2						
ARQ				S		Sn	11 54 17.1 -0.3
MSFE	Esma-Masafi	5.39	275	P		Pn	11 53 18.8 +2.7
HATD	Hatta, Dubai	5.42	269	P		Pn	11 53 20.3 +3.8
SHME	Shamm	5.48	282	P		Pn	11 53 18.6 +1.3
SHME				S		Sn	11 54 17.2 -3.3
SHME	Shamm	5.48	282	P		Pn	11 53 20.4 +3.1
	SNR=8.0						
ASHO	Ashiyiah	5.50	268	P		Pn	11 53 19.4 +1.8
ASHO				S		Sn	11 54 17.3 -3.6
ASHO	Ashiyiah	5.50	268	P		Pn	11 53 20.1 +2.6
	SNR=12						
FAQ	Al Faqa, Dubai	5.91	269	P		Pn	11 53 27.1 +3.8
FAQ				S		Sn	11 54 30.8 -0.3
UMZA	Um Al Zommool	6.74	252	P		Pn	11 53 37.5 +2.8
UMZA				S		Sn	11 54 50.0 -1.6
KBZ	Khabaz	24.40	325	P		P	11 57 16.0 +1.9
	1.9nm,0.7s,baz=148,slow=11,SNR=5.5						
AKTO	Aktyubinsk	25.59	354	P		P	11 57 25.2 +0.4
	0.8nm,0.5s,baz=140,slow=7.9,SNR=2.1						
AKTO				LR		LR	12 08 55.1
	comp=Z,22nm,21.0s,baz=230,slow=40						
MKAR	Makanchi Array	27.07	31	P		P	11 57 38.7 +0.5
	0.5nm,0.6s,baz=210,slow=9.4,SNR=4.8						
BRTR	Keskin Array B	28.02	309	P		P	11 57 47.8 +0.8
	0.4nm,0.5s,baz=107,slow=7.7,SNR=1.7						
KURBB	Kurchatov Arra	28.56	22	P		P	11 57 51.2 -0.3
	0.7nm,0.6s,baz=216,slow=8.3,SNR=3.2						
ZALV	Zalesovo Beam	33.52	24	P		P	11 58 34.5 -0.7
	1.9nm,0.6s,baz=226,slow=9.4,SNR=10						
ZALV				LR		LR	12 13 43.2
	comp=Z,26nm,18.6s,baz=3.0,slow=39						
AKASG	Malin Array Be	36.01	324	P		P	11 58 56.5 -0.1
	0.8nm,0.4s,baz=129,slow=7.5,SNR=7.2						
SONM	Songino Array	41.57	45	P		P	11 59 44.1 +0.5
	0.6nm,0.6s,baz=248,slow=7.6,SNR=2.4						
SONM				LR		LR	12 20 11.1
	comp=Z,36nm,18.7s,baz=252,slow=41						
FINES	FINESS Array B	43.85	336	P		P	12 00 00.5 -1.2
	2.3nm,0.9s,baz=142,slow=7.0,SNR=2.3						
KSRS	Korea Array	56.62	60	P		P	12 01 38.1 -0.8
	0.3nm,0.4s,baz=274,slow=8.4,SNR=3.1						
TORD	Torodi Ar. Bea	57.89	270	P		P	12 01 48.4 +0.2
	0.5nm,0.7s,baz=71,slow=6.2,SNR=2.6						
KLR	Kul'dur	58.39	46	P		P	12 01 50.5 -0.7
	0.5nm,0.4s,baz=315,slow=10.0,SNR=2.1						

IDC 05 11:52:47.9±5.5,5°.44S×133°.82E,h0km,mb3.5/1, mb1 3.9/4,mb1mx3.5/52,mbtmp3.7/4,ML3.6/3,Error ellipse: s-maj=281.6km s-min=27.8km az=76.0,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.21	331	Pn		Pn	11 54 05.9 -1.2
	3.3nm,0.3s,baz=126,slow=19,SNR=9.6						
SIJI				Sn		Sn	11 54 59.2 -8.7
	4.3nm,0.3s,baz=244,slow=23,SNR=11						
WRA	Warramunga Arr	14.43	178	Pn		Pn	11 56 11.9 -1.6
	0.2nm,0.3s,baz=356,slow=12,SNR=15						
WRA				Sn		Sn	11 58 45.5 -8.9
	0.1nm,0.3s,baz=13,slow=22,SNR=1.8						
ASAR	Alice Springs	18.12	180	P		P	11 57 01.6 -0.1
	0.2nm,0.3s,baz=11,slow=12,SNR=30						
MKAR	Makanchi Array	69.08	325	P		P	12 03 56.4 +0.6
	0.3nm,0.6s,baz=116,slow=7.9,SNR=2.2						

*CNRM **05** 11:52:58.0,35°.67N×4°.78W,h107km,ml2.4,Hypocentre not reviewed by the ISC*
*IGIL **05** 11:52:58.7,35°.79N×4°.68W,h15km,ML2.4*
*MDD **05** 11:52:60.0±0.7,35°.73N×4°.69W,h83km±6km,mb2.8/13, Error ellipse: s-maj=5.8km s-min=4.1km az=5.0,PRXIMO*
*INMG **05** 11:53:00.4±1.7,35°.80N×4°.77W,h85km±4km,ML2.3,Error ellipse: s-maj=5.9km s-min=3.0km az=164.0*
*SFS **05** 11:53:00.0,35°.79N×4°.68W,h83km,ML2.8,ALBORAN W.*

ISC 05 11:52:56.9±1.3,35°.69N±0°.04×4°.71W±0°.03,h101km±7km, n56,σ1.74/107,6C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	Smir Dam	0.55	269	P		11 53 16.1	
SMIR				S		11 53 28.6	
CEU	Ceuta	0.58	291	P		Pn	11 53 14.9 +1.6
CEU				S		Sn	11 53 23.2 -2.4
CEU	Ceuta	0.58	291	P		Pn	11 53 14.9 +1.6
CEU				S		Sn	11 53 23.2 -2.4
ECEU	Ceuta	0.58	291	P		Pn	11 53 15.7 +2.3
	14nm,0.1s,SNR=19						
ECEU				S		Sn	11 53 25.1 -0.6
	3.1nm,0.1s,SNR=7.9						
PVLZ	Peæn de	0.62	147	P		Pn	11 53 14.4 +0.8
PVLZ				S		Sn	11 53 24.1 -2.1
PVLZ	Peæn de	0.62	147	P		Pn	11 53 14.4 +0.8
PVLZ				S		Sn	11 53 24.1 -2.1
PALE	Palemas	0.79	127	P			11 53 17.2
PALE				S			11 53 29.7
EMIJ	Mijas	0.87	357	⇑P		Pn	11 53 16.4 +0.3
	2.1nm,0.1s,SNR=18						
EMIJ				S		Sn	11 53 28.5 -1.9
	9.6nm,0.1s,SNR=40						
EJIF	Jimena Fronter	0.97	321	⇑P		Pn	11 53 19.9 +2.9
	SNR=18						
EJIF				S		Sn	11 53 32.7 +0.4
	SNR=7.9						
EMAL	Malaga-Limoner	1.09	12	P		Pn	11 53 19.3 +1.0
EMAL				S		Sn	11 53 33.7 -0.8
EMAL	Malaga-Limoner	1.09	12	P		Pn	11 53 19.3 +1.0
EMAL				S		Sn	11 53 33.7 -0.8
RSA	Sarsar	1.22	229	P			11 53 22.0
RSA				S			11 53 39.6
EALB	Alboran	1.38	79	P		Pn	11 53 23.0 +1.2
	4.3nm,0.1s,SNR=7.9						
EALB				S		Sn	11 53 40.0 -0.6
	7.3nm,0.2s,SNR=7.9						
ELGU	Los Guajares,	1.46	36	⇑P		Pn	11 53 23.5 +0.7
	8.0nm,0.2s,SNR=18						
ELGU				S		Sn	11 53 40.6 -1.8
	2.5nm,0.1s,SNR=7.9						
GOG	Mont Gurugu	1.48	108	P			11 53 24.0
GOG				S			11 53 45.8
EGOR	Sierra Gorda,	1.49	19	P		Pn	11 53 24.7 +1.5
	1.2nm,0.2s,SNR=7.9						
EGOR				S		Sn	11 53 42.4 -0.8
	0.6nm,0.1s,SNR=7.9						
ESPR	Espera	1.49	322	⇓P		Pn	11 53 25.3 +2.3
	1.8nm,0.1s,SNR=18						
ESPR				S		Sn	11 53 42.6 -0.4
	1.3nm,0.1s,SNR=9.6						
EQUE	Quentar	1.82	34	P		Pn	11 53 29.1 +1.8
	0.7nm,0.1s,SNR=5.7						
EQUE				S		Sn	11 53 49.3 -1.2
	0.2nm,0.1s						
EBER	Berja	1.90	50	P		Pn	11 53 29.7 +1.4
	1.7nm,0.3s,SNR=7.5						
EBER				S		Sn	11 53 52.6 +0.3
	0.4nm,0.1s,SNR=7.2						
LCRM	LCR	2.01	184	P			11 53 33.9
LCRM				S			11 54 01.4
TAF	Taforalt	2.07	114	P			11 53 32.2
TAF				S			11 53 60.0
IFR	Ifrane	2.20	189	P		Pn	11 53 33.4 +1.2
IFR				S		Sn	11 53 58.2 -1.1
JBK	JBK	2.22	127	P			11 53 33.9
JBK				S			11 54 01.1
ECAB	El Cabril	2.44	347	P		Pn	11 53 36.6 +1.3
	0.1nm,0.1s,SNR=6.7						
ECAB				S		Sn	11 54 03.5 -1.3
	4.4nm,0.1s,SNR=26						
EADA	Adamuz	2.47	2	⇓P		Pn	11 53 37.5 +1.9
	7.7nm,0.0s,SNR=18						
EADA				S		Sn	11 54 04.1 -1.3
	1.8nm,0.1s,SNR=23						
EQES	Quesada	2.48	32	P		Pn	11 53 38.3 +2.5
	1.0nm,0.1s,SNR=14						
EQES				S		Sn	11 54 06.1 +0.3
	0.0nm,0.1s						
EMIN	Mina Concepcio	2.60	323	⇑P		Pn	11 53 38.8 +1.4
	1.5nm,0.0s,SNR=18						
EMIN				S		Sn	11 54 06.9 -1.5
	6.3nm,0.1s,SNR=40						
CZD	Col de Zad	2.67	186	P			11 53 40.4
CZD				S			11 54 10.7
ZHG	ZHG	2.75	216	P			11 53 41.3
ZHG				S			11 54 13.6
MD31	MD31	2.82	181	P			11 53 42.4
MD31				S			11 54 13.8
MDT	Midelt	2.87	178	P			11 53 42.7
MDT				S			11 54 15.0
EGRO	El Granado	2.89	310	⇑P		Pn	11 53 42.5 +1.4
	6.7nm,0.1s,SNR=18						
EGRO				S		Sn	11 54 14.2 -1.1
	9.6nm,0.1s,SNR=12						
PVAQ	Vaqueiros	2.96	306	P		Pn	11 53 43.3 +1.2
PVAQ				S		Sn	11 54 15.5 -1.5
	12nm,0.1s						
PVAQ	Vaqueiros	2.96	306	eP		Pn	11 53 43.3 +1.2
PVAQ				eS		Sn	11 54 15.5 -1.5
PVAQ				A		A	11 54 17.0
	12nm,0.1s						
PVAQ	Vaqueiros	2.96	306	P			11 53 43.8
PVAQ				S			11 54 16.1
PBDV	Barranco-do-Ve	3.02	302	P		Pn	11 53 44.3 +1.4
PBDV				S		Sn	11 54 17.3 -1.1
	6.2nm,1.2s						
PBDV	Barranco-do-Ve	3.02	302	⇑iP		Pn	11 53 44.3 +1.4
PBDV				eS		Sn	11 54 17.3 -1.1
PBDV				A		A	11 54 20.4
	6.2nm,1.2s						
PBAR	Barrancos	3.10	324	P		Pn	11 53 45.4 +1.5
PBAR				S		Sn	11 54 18.7 -1.6
	12nm,0.2s						
PBAR	Barrancos	3.10	324	eP		Pn	11 53 45.4 +1.5
PBAR				eS		Sn	11 54 18.7 -1.6
PBAR				A		A	11 54 20.4
	12nm,0.2s						
PCVE	Castro Verde	3.30	307	P		Pn	11 53 48.0 +1.4
PCVE				S		Sn	11 54 23.6 -1.5
	5.6nm,0.4s						
PCVE	Castro Verde	3.30	307	eP		Pn	11 53 48.0 +1.4
PCVE				eS		Sn	11 54 23.6 -1.5
PCVE				A		A	11 54 25.6
	5.6nm,0.4s						
MESJ	Messejana	3.54	308	eP		Pn	11 53 51.2 +1.4
MESJ				eS		Sn	11 54 29.1 -1.6
MESJ				IAML			11 54 31.9
	comp=N,10nm,0.2s						
MESJ	Messejana	3.54	308	P		Pn	11 53 51.2 +1.4
MESJ				S		Sn	11 54 29.1 -1.6
MESJ	Messejana	3.54	308	eP		Pn	11 53 51.4 +1.6
MESJ				eS		Sn	11 54 29.1 -1.6
MESJ				A		A	11 54 31.9
	comp=N,5.0nm,0.2s						
MORF	Marmelete	3.56	298	eP		Pn	11 53 51.3 +1.2
MORF				eS		Sn	11 54 30.1 -1.2
MORF				IAML			11 54 31.0
	comp=N,12nm,0.2s						
MORF	Marmelete	3.56	298	P		Pn	11 53 51.3 +1.2
MORF				S		Sn	11 54 30.1 -1.2
MORF	Marmelete	3.56	298	eP		Pn	11 53 51.3 +1.2
MORF				eS		Sn	11 54 30.3 -1.1
MORF				A		A	11 54 32.8
	comp=N,7.5nm,0.1s						
PFVI	Vila Bisbo	3.62	295	P		Pn	11 53 52.4 +1.5
	comp=N,2.2nm,0.1s,SNR=7.9						
PFVI				S		Sn	11 54 31.3 -1.4
	comp=N,2.6nm,0.1s,SNR=7.9						
PFVI	Vila Bisbo	3.62	295	eP		Pn	11 53 52.3 +1.5
PFVI				eS		Sn	11 54 32.0 -0.7
PFVI				A		A	11 54 32.4
	comp=N,5.7nm,0.4s						
PFVI	Vila Bisbo	3.62	295	P			11 53 53.2
PFVI				S			11 54 32.5
PAB	San Pablo	3.86	4	⇓P		Pn	11 53 55.6 +1.5
	comp=N,0.4nm,0.1s,SNR=18						
PAB				S		Sn	11 54 36.2 -2.4
	comp=N,0.7nm,0.1s,SNR=7.9						
ETOB	Tobarra	3.88	40	P		Pn	11 53 56.8 +2.3
	comp=N,1.0nm,0.2s,SNR=7.6						
PNCL	Nicolau / Gran	3.90	309	P		Pn	11 53 56.2 +1.6
PNCL				S		Sn	11 54 37.3 -2.1
	comp=N,4.4nm,0.1s						
PNCL	Nicolau / Gran	3.90	309	⇓iP		Pn	11 53 56.2 +1.6
PNCL				eS		Sn	11 54 37.3 -2.1
PNCL				A		A	11 54 40.2
	comp=N,4.4nm,0.1s						
PESTR	Estremoz	3.91	325	eP		Pn	11 53 56.9 +2.0
PESTR				eS		Sn	11 54 38.2 -1.6
PESTR				A		A	11 54 52.2
	comp=N,3.7nm,0.4s						
PESTR	Estremoz	3.91	325	P			11 53 57.4
PESTR				S			11 54 39.3
ESDC	Sonseca Array	4.02	8	P		Pn	11 53 58.0 +1.7
	comp=N,0.6nm,0.2s,baz=192,slow=13,SNR=7.6						
ESDC				S		Sn	11 54 40.1 -2.3
	comp=N,0.8nm,0.1s,baz=188,slow=22,SNR=5.9						
PMRV	Marv??o	4.29	331	P		Pn	11 54 02.0 +2.0
PMRV				S		Sn	11 54 46.9 -2.1
	comp=N,5.2nm,0.3s						
PMRV	Marv??o	4.29	331	eP		Pn	11 54 02.0 +2.0
PMRV				eS		Sn	11 54 46.9 -2.1
PMRV				A		A	11 55 02.0
	comp=N,5.2nm,0.3s						
PMTG	Montargil	4.38	321	P		Pn	11 54 03.0 +1.9
PMTG				S		Sn	11 54 49.3 -1.8
	comp=N,3.1nm,0.3s						
PMTG	Montargil	4.38	321	eP		Pn	11 54 03.0 +1.9
PMTG				eS		Sn	11 54 49.3 -1.8
PMTG				A		A	11 55 03.7
	comp=N,3.1nm,0.3s						
EPLA	Plasencia	4.50	346	P		Pn	11 54 04.7 +2.0
	comp=N,1.0nm,0.1s,SNR=6.2						
EPLA				S		Sn	11 54 51.2 -2.7
	comp=N,0.9nm,0.1s,SNR=6.8						
PMAFR	Mafra	4.89	313	S		Sn	11 55 01.7 -1.7
	comp=N,0.4nm,0.1s,SNR=7.9						
GUD	Guadarrama	4.96	5	P		Pn	11 54 10.7 +1.5
	comp=N,0.4nm,0.2s,SNR=7.9						
GUD				S		Sn	11 55 02.3 -3.0
	comp=N,0.2nm,0.1s,SNR=7.9						
PSBE	So Bento	5.01	321	eS		Sn	11 55 04.9 -1.4
OUZM	OUZ	5.07	200	P			11 54 14.7
OUZM				S			11 55 12.4
ETOR	Torete	5.53	21	P		Pn	11 54 18.7 +2.0
	comp=N,10nm,0.2s,SNR=12						
ETOR				S		Sn	11 55 15.5 -3.5
	comp=N,1.7nm,0.1s						
MVO	Moncorvo	5.76	342	P		Pn	11 54 21.9 +2.0
	comp=N,0.6nm,0.1s,SNR=7.9						
MVO				S		Sn	11 55 21.3 -3.3
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO	Moncorvo	5.76	342	eP		Pn	11 54 22.2 +2.3
MVO				eS		Sn	11 55 21.7 -2.9
MVO				A		A	11 55 26.5
	comp=N,2.2nm,0.6s						
POLO	Lamas de Olo	6.16	338	S		Sn	11 55 31.9 -2.6
	comp=N,0.9nm,0.7s						
POLO	Lamas de Olo	6.16	338	eS		Sn	11 55 31.9 -2.6
POLO				A		A	11 55 45.1
	comp=N,0.9nm,0.7s						

IDC 05 12:01:28.0±3.9,5°.09S×151°.91E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.4/23,mbtmp3.5/2,MS3.3/1,Ms1 3.3/1, ms1mx2.6/19,Error ellipse: s-maj=146.8km s-min=52.6km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.59	228	P		P	12 06 30.3 0.0
	0.9nm,0.5s,baz=52,slow=10.0,SNR=13						
WRA				LR		LR	12 15 54.2
	comp=Z,70nm,19.3s,baz=200,slow=38						
ASAR	Alice Springs	25.34	221	P		P	12 06 56.9 0.0
	0.6nm,0.6s,baz=58,slow=8.7,SNR=10						
TORD	Torodi Ar. Bea	149.54	287	PKPbc		PKPbc	12 21 20.0 -0.5
	0.4nm,0.9s,baz=78,slow=1.7,SNR=2.3						

*TUL **05** 12:24:23.2±1.1,35°.54N±0°.02×97°.225W±0°.010,h6km±4km, ML2.8,mb_Lg2.5/26(NEIC),Error ellipse: s-maj=2.4km s-min=1.1km az=177.0*

NEIC 05 12:24:23.4±0.9,35°.56N±0°.02×97°.23W±0°.02,h9km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=147.0, Oklahoma

| Code | Station Name | Δ°

QUOK	**Quay**	**0.75**	**34**		Pg	12 24 37.2	-0.7
QUOK				Sg	Sg	12 24 47.7	+0.1
X34A	**Smith Ranch, M**	**1.07**	**208**		Pg	12 24 43.8	-0.3
X34A				Sg	Sb	12 24 58.3	+0.1
CROK	**Carrier**	**1.13**	**327**		Pg	12 24 44.5	-0.6
CROK				Sg	Sg	12 24 59.7	-0.1
BLOK	**Blackwell**	**1.20**	**1**		Pb	12 24 45.5	-0.8
BLOK				Sg	Sb	12 25 02.0	-0.1
TUL1	**Leonard**	**1.22**	**73**	P		12 24 45.2	
	baz=253						
TUL1				S		12 25 02.0	
	baz=253						
KAN13	**South Haven SW**	**1.47**	**352**		Pn	12 24 50.3	+0.2
OK032	**Salt Plains WL**	**1.48**	**328**		Pn	12 24 50.5	+0.4
T35A	**Sooner Cattle**	**1.48**	**23**		Pn	12 24 49.9	-0.3
T35B	**Sooner Cattle**	**1.48**	**23**	P		12 24 49.8	
	baz=203						
T35B				S		12 25 10.3	
	baz=203						
WMOK	**Wichita Mounta**	**1.51**	**238**		Pn	12 24 50.5	-0.1
WMOK	**Wichita Mounta**	**1.51**	**238**	P		12 24 50.4	
	baz=57						
WMOK				S		12 25 10.6	
	baz=57						
KAN17	**Caldwell West**	**1.55**	**344**		Pn	12 24 51.4	+0.2
LOOK	**Love County**	**1.56**	**178**		Pn	12 24 51.2	-0.1
KAN09	**Caldwell North**	**1.61**	**349**	Pn	Pn	12 24 52.2	+0.2
KAN05	**Bluff City Nor**	**1.64**	**342**	Pn	Pn	12 24 52.3	0.0
U32A	**Winter Ranch,**	**1.66**	**300**		Pn	12 24 52.8	+0.1
U32A	**Winter Ranch,**	**1.66**	**300**	P		12 24 53.5	
	baz=120						
U32A				S		12 25 16.2	
	baz=120						
KS20	**Mayfield South**	**1.69**	**351**	Pn	Pn	12 24 52.9	-0.2
KAN10	**Anthony SW Sta**	**1.71**	**336**	Pn	Pn	12 24 54.1	+0.6
KAN08	**Anthony NE Sta**	**1.77**	**341**	Pn	Pn	12 24 55.1	+0.8
X37A	**Clayton**	**1.80**	**122**		Pn	12 24 54.8	+0.2
X37A	**Clayton**	**1.80**	**122**	P		12 24 55.2	
	baz=303						
X37A				S		12 25 20.0	
	baz=303						
U38A	**Gravette**	**2.47**	**68**	Pn	Pn	12 25 04.2	+0.4
HHAR	**Hobbs**	**2.77**	**74**		Pn	12 25 08.4	+0.5
W39A	**Magazine**	**2.84**	**96**		Pn	12 25 08.4	-0.5
W39A				IAmb_Lg		12 26 01.0	
	comp=Z,19nm,0.8s						
W39A	**Magazine**	**2.84**	**96**	P		12 25 09.1	
	baz=278						
Z38A	**Mt. Pleasant**	**2.95**	**140**	Pn	Pn	12 25 09.8	-0.6
R32A	**Long Quarter,**	**3.10**	**338**	Pn	Pn	12 25 13.3	+0.8
MIAR	**Mount Ida**	**3.16**	**108**		Pn	12 25 13.2	-0.1
ABTX	**Abilene, Hawle**	**3.54**	**215**	Pn	Pn	12 25 18.7	+0.1
U40A	**Yellville**	**3.64**	**76**		Pn	12 25 20.1	+0.2
AMTX	**Amarillo**	**3.71**	**261**	Pn	Pn	12 25 21.1	+0.2
AMTX				IAmb_Lg		12 26 27.9	
	comp=Z,10.0nm,0.7s						
X40A	**Basin Creek Fa**	**3.76**	**105**		Pn	12 25 20.7	-0.9
X40A				IAmb_Lg		12 26 31.0	
	comp=Z,6.9nm,0.8s						
S39A	**Bolivar**	**3.80**	**55**		Pn	12 25 21.7	-0.4
S39A				IAmb_Lg		12 26 27.5	
	comp=Z,10nm,0.7s						
CBKS	**Cedar Bluff**	**3.82**	**329**		Pn	12 25 23.0	+0.6
WHAR	**Wooly Hollow**	**4.04**	**92**	Pn	Pn	12 25 25.7	+0.2
FCAR	**Ozark Folk Cen**	**4.17**	**84**	Pn	Pn	12 25 27.6	+0.5
FCAR				IAmb_Lg		12 26 33.9	
	comp=Z,7.2nm,0.7s						
MGMO	**Mountain Grove**	**4.31**	**67**	Pn	Pn	12 25 29.6	+0.5
MGMO				IAmb_Lg		12 26 45.8	
	comp=Z,12nm,1.0s						
NATX	**Nacogdoches**	**4.35**	**150**	Pn	Pn	12 25 29.8	+0.1
R40A	**Maddies Statio**	**4.82**	**54**	Pn	Pn	12 25 35.5	-0.6
R40A				IAmb_Lg		12 26 52.9	
	comp=Z,6.3nm,0.9s						
MSTX	**Muleshoe**	**4.83**	**252**	Pn	Pn	12 25 35.2	-1.1
LCAR	**Lake Charles**	**4.96**	**82**	Pn	Pn	12 25 38.3	+0.2
P38A	**Dawn**	**5.01**	**35**		Pn	12 25 38.0	-0.8
CCM	**Cathedral Cave**	**5.41**	**61**	Pn	Pn	12 25 43.3	-1.0
CCM	**Cathedral Cave**	**5.41**	**61**	IAmb_Lg		12 27 20.1	
	comp=Z,11nm,0.8s						
N35A	**Tabor**	**5.44**	**13**	Pn	Pn	12 25 44.2	-0.4
N35A				IAmb_Lg		12 27 23.6	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**5.50**	**204**	Pn	Pn	12 25 44.2	-1.4
JCT				IAmb_Lg		12 27 23.9	
	comp=Z,5.2nm,0.8s						
HDBT	**Hernando Brdge**	**5.88**	**92**	Pn	Pn	12 25 50.2	-0.4
MET	**Memphis--Engin**	**5.98**	**92**	Pn	Pn	12 25 51.6	-0.5
T25A	**Trinidad**	**6.01**	**287**	Pn	Pn	12 25 51.7	-1.0
T25A				IAmb_Lg		12 27 41.7	
	comp=Z,4.0nm,0.7s						
PENMO	**Penman**	**6.23**	**80**	Pn	Pn	12 25 55.1	-0.4
L34A	**Svendsen Farm,**	**6.44**	**6**	IAmb_Lg		12 28 04.8	
	comp=Z,8.8nm,0.8s						
SIUC	**Southern Illin**	**6.79**	**69**	IAmb_Lg		12 28 09.3	
	comp=Z,7.6nm,0.7s						
SDCO	**Great Sand Dun**	**7.00**	**291**	Pn	Pn	12 26 05.3	-1.0
WVT	**Waverly**	**7.66**	**83**	Pn	Pn	12 26 14.2	-0.8

*IDC **05** 12:30:44.6±1.0, 32°.23S×178°.08W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/22, mbtmp4.1/6, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=39.1km s-min=22.7km az=140.0*

*NEIC **05** 12:30:49.1±0.8, 32°.21S±0°.09×178°.1W±0°.2, h26km±7km, mb4.6/14, Error ellipse: s-maj=27.3km s-min=10.8km az=103.0*

ISC 05 12:30:48.3±0.7, **32°.16S**±0°.07×**178°.1W**±0°.1, **h24**km, **n44**, σ**0**s**79**/45, **mb4.5**/13, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.90**	**3**	Sn	**Sn**	**12 32 04.4**	**-2.8**
	59nm,0.3s,baz=96,slow=23,SNR=1.2						
RAO	**Raoul Island**	**2.90**	**3**	Pn	**Pn**	**12 31 34.2**	**+1.2**
URZ	**Urewera**	**7.23**	**211**	Pn	**Pn**	**12 32 31.8**	**-0.6**
	1.5nm,0.3s,baz=45,slow=8.6,SNR=10.0						
URZ				Sn	**Sn**	**12 33 53.0**	**-0.7**
	6.9nm,0.3s,baz=185,slow=20,SNR=11						
URZ	**Urewera**	**7.23**	**211**		**Pn**	**12 32 32.0**	**-0.4**
OUZ	**Omahuta**	**7.55**	**244**	Pn	**Pn**	**12 32 37.7**	**+0.9**
BKZ	**Black Stump Fm**	**8.25**	**211**	Pn	**Pn**	**12 32 47.1**	**+0.6**
BFZ	**Birch Farm**	**9.64**	**206**	Pn	**Pn**	**12 33 06.1**	**+0.7**
MSWZ	**Moikau Station**	**10.65**	**208**	Pn	**Pn**	**12 33 18.3**	**-1.1**
TUWZ	**Tuamarina**	**11.22**	**212**	Pn	**Pn**	**12 33 26.9**	**-0.2**
THZ	**Tophouse**	**11.97**	**214**	Pn	**Pn**	**12 33 36.8**	**-0.6**
KHZ	**Kahutara**	**12.20**	**211**	Pn	**Pn**	**12 33 40.0**	**-0.5**
PPT	**Papeete**	**29.58**	**67**	LR	LR	12 49 47.0	
	comp=Z,107nm,18.1s,baz=146,slow=39						
CTAO	**Charters Tower**	**34.02**	**282**	P	**P**	**12 37 30.8**	**+0.2**
STKA	**Stephens Creek**	**34.02**	**260**	P	**P**	**12 37 30.3**	**-0.1**
	3.2nm,0.8s,baz=104,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**34.02**	**260**	P	**P**	**12 37 30.3**	**-0.1**
BBOO	**Buckleboo**	**38.42**	**256**	P	**P**	**12 38 07.6**	**-0.5**
AS31	**Alice Springs**	**42.94**	**269**	P	**P**	**12 38 44.8**	**-0.7**
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**12 38 46.0**	**+0.5**
	1.6nm,0.7s,baz=104,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**12 38 45.5**	**0.0**
WR0	**Warramunga Arr**	**43.91**	**274**	P	**P**	**12 38 53.3**	**0.0**
WR0				IAmb	IAmb	12 38 56.1	
	comp=Z,5.8nm,0.9s						
WB2	**Warramunga Arr**	**44.08**	**274**	P	**P**	**12 38 54.9**	**+0.2**
WB2				IAmb	IAmb	12 38 57.4	
	comp=Z,5.8nm,0.6s						
WRAB	**Tennant Creek**	**44.08**	**274**	P	**P**	**12 38 55.1**	**+0.3**
WRAB				IAmb	IAmb	12 39 04.8	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**12 38 54.7**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=114,slow=7.6,SNR=28						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**12 38 54.4**	**-0.4**
WB0	**Warramunga Arr**	**44.12**	**274**	P	**P**	**12 38 55.2**	**+0.2**
WB0				IAmb	IAmb	12 39 17.7	
	comp=Z,15nm,1.4s						
FORT	**Forrest**	**45.52**	**257**	P	**P**	**12 39 06.1**	**0.0**
KNRA	**Kununurra**	**50.76**	**276**	P	**P**	**12 39 46.1**	**-0.5**
KNRA				IAmb	IAmb	12 39 58.0	
	comp=Z,11nm,1.1s						
CASY	**Casey**	**53.54**	**208**	P	**P**	**12 40 07.0**	**+0.3**
CASY				IAmb	IAmb	12 40 11.2	
	comp=Z,16nm,1.3s						
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**12 40 38.9**	**+0.4**
QSPA				IAmb	IAmb	12 41 03.4	
	comp=Z,6.2nm,0.9s						

SNAA	**Sanae**	**76.40**	**178**	P	**P**	**12 42 35.6**	**+0.3**
SNAA				IAmb	IAmb	12 42 59.8	
	comp=Z,7.0nm,1.4s						
PETK	**Petropavlovsk-**	**87.49**	**346**	P	**P**	**12 43 33.6**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=137,slow=8.7,SNR=4.9						
PETK	**Petropavlovsk-**	**87.49**	**346**	P	**P**	**12 43 34.3**	**+0.9**
NVAR	**Mina Array Bea**	**89.60**	**43**	P	**P**	**12 43 45.2**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=210,slow=6.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**122.21**	**313**	PKP	**PKPdf**	**12 49 39.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=114,slow=1.4,SNR=2.6						
KBZ	**Khabaz**	**145.98**	**302**	PKPbc	**PKPab**	**12 50 26.1**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=129,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**146.75**	**339**	PKPbc	**PKPbc**	**12 50 26.7**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=71,slow=2.9,SNR=15						
FINES	**FINESS Array B**	**146.75**	**339**		**PKPdf**	**12 50 25.5**	**-0.2**
NOA	**NORSAR Array B**	**150.47**	**351**	PKPbc	**PKPbc**	**12 50 36.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=17,slow=4.2,SNR=1.3						
HFS	**Hagfors**	**150.94**	**348**	PKPbc	**PKPbc**	**12 50 38.1**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=343,slow=4.6,SNR=6.2						
AKASG	**Malin Array Be**	**152.61**	**321**	PKPbc	**PKiKP**	**12 50 43.3**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=61,slow=2.1,SNR=5.0						
AKASG	**Malin Array Be**	**152.61**	**321**		**PKPdf**	**12 50 33.8**	**-1.5**
BRTR	**Keskin Array B**	**153.30**	**295**	PKPbc	**PKPbc**	**12 50 43.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=75,slow=1.6,SNR=2.3						
BRTR				PKPab	**PKPab**	**12 50 57.9**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=138,slow=4.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**161.07**	**179**	PKPab	**PKPab**	**12 51 29.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=183,slow=3.6,SNR=3.5						
GERES	**GERESS Array B**	**161.10**	**335**	PKPab	**PKPab**	**12 51 30.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=3.4,slow=5.0,SNR=2.2						

*IDC **05** 12:56:46.7±1.4, 0°.04S×16°.85W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/40, mbtmp4.0/4, ML4.1/1, MS3.7/3, Ms1 3.8/3, ms1mx3.0/50, Error ellipse: s-maj=44.4km s-min=29.6km az=146.0*

ISC 05 12:56:48.3±1.1, **0°.0S**±0°.2×**16°.8W**±0°.2, **h13**km, **n15**, σ**2**s**15**/8, **mb3.9**/3, **North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.08**	**163**	T	T	13 07 53.0	
	baz=342,slow=74,SNR=35						
H10N3	**ASCENSION HYDR**	**8.09**	**163**	T	T	13 07 53.9	
	baz=342,slow=74,SNR=24						
H10N1	**ASCENSION HYDR**	**8.10**	**163**	T	T	13 07 58.1	
	baz=342,slow=74,SNR=109						
H10S3	**ASCENSION HYDR**	**9.11**	**166**	T	T	13 09 06.4	
	baz=235,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**9.12**	**166**	T	T	13 09 07.9	
	baz=345,slow=74,SNR=5.1						
LIC	**Lamto**	**13.34**	**62**	*e*PKP1	**P**	**13 00 03.5**	**-3.6**
	23nm,1.1s						
TIC	**Toumodi**	**13.54**	**60**	*e*PKP1	**Pn**	**13 00 02.4**	**+2.2**
KIC	**Kosan Boka**	**13.65**	**62**	*e*PKP1	**Pn**	**13 00 03.6**	**+1.8**
	3.6nm,0.4s						
RCBR	**Riachuelo**	**19.87**	**253**	P	**P**	**13 01 19.4**	**-0.2**
	0.6nm,0.3s,baz=147,slow=5.7,SNR=6.2						
RCBR				LR	LR	13 06 39.0	
	comp=Z,66nm,18.7s,baz=137,slow=30						
TORD	**Torodi Ar. Bea**	**22.57**	**54**	P	**P**	**13 01 48.0**	**-0.6**
	3.8nm,0.9s,baz=238,slow=10,SNR=10						
TORD				LR	LR	13 09 26.1	
	comp=Z,69nm,20.4s,baz=135,slow=34						
BOSA	**Boshof**	**49.25**	**129**	P	**P**	**13 05 37.8**	**+0.7**
	3.8nm,1.1s,baz=326,slow=11,SNR=2.7						
GERES	**GERESS Array B**	**55.36**	**24**	P	**P**	**13 06 23.2**	**+1.1**
	0.3nm,0.6s,baz=203,slow=7.3,SNR=2.9						
NVAR	**Mina Array Bea**	**99.00**	**309**	LR	LR	13 49 01.5	
	comp=Z,273nm,22.0s,baz=306,slow=32						
ASAR	**Alice Springs**	**143.10**	**132**	PKhKP	PKPpre	13 16 18.9	
	0.7nm,0.9s,baz=226,slow=2.7,SNR=6.3						
WRA	**Warramunga Arr**	**145.49**	**127**	PKPbc	**PKPdf**	**13 16 26.8**	**-0.5**
	0.9nm,0.9s,baz=239,slow=1.9,SNR=4.3						

*MAN **05** 12:56:45.5, 18°.00N×122°.58E, h1km, mb5.9, ML4.9, MS5.3*

*NEIC **05** 12:56:47.6±1.7, 17°.97N±0°.07×120°.68E±0°.04, h13km±2km, mb5.4/259, Mww5.2, Error ellipse: s-maj=10.8km s-min=5.4km az=166.0*

*GCMT **05** 12:56:48.6±0.1, 18°.05N±0°.01×120°.62E±0°.01, h28km, MW5.3/124, Moment Tensor Solution. s90, c147; s124, c228; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.14±.02; $M_{\theta\theta}$0.14±.01; $M_{\phi\phi}$-0.28±.01; $M_{r\theta}$-0.16±.02; $M_{r\phi}$-0.77±.01; $M_{\theta\phi}$-0.97±.04; Best double couple: $M_0$1.24700×10^{17} NP1:ϕ_s85.00000°, δ38.00000°, λ174.00000°. NP2:ϕ_s180.00000°, δ86.00000°, λ52.00000°. Principal axes: T 1.0970, Plg37.0000°, Azm57.0000°; N 0.3000, Plg37.0000°, Azm182.0000°; P -1.3970, Plg31.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **05** 12:56:48.4±1.0, 17°.94N×120°.77E, h34km, mb5.4/105, MS4.8/26 Error ellipse: s-maj=6.1km s-min=3.7km az=106.2*

*IDC **05** 12:56:49.2±2.4, 17°.91N×120°.81E, h28km±16km, mb4.8/32, mb1 4.9/34, mb1mx4.8/39, mbtmp5.0/34, ML4.8/2, MS4.6/41, Ms1 4.6/41, ms1mx4.4/62, Error ellipse: s-maj=13.4km s-min=11.0km az=91.0*

*KLM **05** 12:56:51, 18°.00N×120°.72E, h38km, mb5.3*

*BJI **05** 12:56:51.6±0.0, 18°.21N×120°.67E, h40km, mB5.3/55, mb5.1/75, ML5.1/4, Ms5.1/90, Ms7 4.9/83*

*NEIC **05** 12:56:52, 18°.01N×120°.72E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.68; $M_{\theta\theta}$1.14; $M_{\phi\phi}$-2.82; $M_{r\theta}$-0.14; $M_{r\phi}$-8.04; $M_{\theta\phi}$0.21; Fault plane solution: $M_0$8.41000×10^{16} NP1:ϕ_s263.00000°, δ88.00000°, λ179.00000°. NP2:ϕ_s353.00000°, δ89.00000°, λ2.00000°. Principal axes: T 7.4504, Plg2.0000°, Azm218.0000°; N 1.6725, Plg88.0000°, Azm28.0000°; P -9.1230, Plg0.0000°, Azm128.0000°;*

ISC 05 12:56:50.8±0.2, **17°.96N**±0°.03×**120°.79E**±0°.04, **h40**km±2km, **h40**km:**pP-P**, **n1064**, σ**1**s**57**/1109, **mb5.3**/298, **MS4.8**/88, **140C-91D**, **Fault plane solution: NP1**:ϕ_s191.95882°, δ71.63375°, λ36.47762°. **NP2**:ϕ_s88.84487°, δ55.65148°, λ157.56468°. **Principal axes:** T Plg38.4455°, Azm55.4095°; N Plg49.7409°, Azm215.0410°; P Plg10.1465°, Azm317.2415°; **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**2.40**	**173**	⇑*e*P	**Pn**	**12 57 26.9**	**-0.7**
PCPH				*e*S	**Sn**	**12 58 02.0**	**+6.3**
JCNP	**Jose Panganiba**	**4.08**	**153**	⇓*e*P	Pn	12 58 02.2	+12
PGP	**Puerto Galera**	**4.43**	**178**	⇓*e*P	**Pn**	**12 57 56.1**	**+0.5**
TWG	**Pinlang**	**4.85**	**3**		**Pn**	**12 58 00.6**	**-0.6**
TPUB	**Ta-pu**	**5.32**	**358**		**Pn**	**12 58 06.3**	**-1.5**
YULB	**Yu-li**	**5.43**	**5**	Pn	**Pn**	**12 58 08.3**	**-1.0**
SSLB	**Suanglung**	**5.80**	**1**	Pn	**Pn**	**12 58 13.9**	**-0.5**
NACB	**Ninganchiao**	**6.23**	**7**		**Pn**	**12 58 19.8**	**-0.5**
RCP	**Roxas**	**6.63**	**163**	⇑*e*P	Pn	12 58 33.2	+7.4
YHNB	**Yeheng**	**6.70**	**5**	Pn	**Pn**	**12 58 26.5**	**-0.3**
YOJ	**Yonaguni jima**	**6.80**	**17**	P	**Pn**	**12 58 27.7**	**-0.3**
YOJ	**Yonaguni jima**	**6.80**	**17**		**Pn**	**12 58 27.7**	**-0.3**
KNMB	**Chin-men Tao**	**6.85**	**341**		**Pn**	**12 58 26.1**	**-2.7**
TATO	**Taipei**	**7.01**	**5**		**Pn**	**12 58 29.2**	**-1.8**
QZH	**Quanzhou**	**7.25**	**344**	P	**Pn**	**12 58 32.2**	**-2.0**
QZH				S	**Sn**	**12 59 49.9**	**-5.4**
QZH				smax	smax		
	comp=N,71nm,0.6s						
QZH				smax	smax		
	comp=E,120nm,0.9s						
QZH				LR	LR		
	comp=N,4μm,16.6s						
QZH				LR	LR		
	comp=E,6μm,17.1s						
QZH				LR	LR		
	comp=Z,4μm,17.5s						
MCO	**Taipa Grande**	**7.96**	**303**	P	**Pn**	**12 58 41.0**	**-3.0**
QIZ	**Qiongzhong**	**10.45**	**278**	P	**Pn**	**12 59 14.2**	**-3.9**
QIZ				S	**Sn**	**13 01 10.1**	**-3.8**
QIZ				pmax	pmax		
	comp=Z,61nm,0.8s						
QIZ				pmax	pmax		
	comp=Z,110nm,1.7s						
QIZ				LR	LR		
	comp=N,4μm,19.0s						
QIZ				LR	LR		
	comp=E,6μm,16.3s						
QIZ				LR	LR		
	comp=Z,6μm,16.2s						

QIZ	**Qiongzhong**	**10.45**	**278**	Pn	**Pn**	**12 59 13.9**	**-4.2**
JOW	**Kunigami**	**11.22**	**37**	Pn	**Pn**	**12 59 27.6**	**-1.1**
	comp=Z,15nm,0.3s,baz=220,slow=14,SNR=31						
JOW				Sn	**Sn**	**13 01 30.5**	**-2.2**
	comp=Z,2.2nm,0.3s,baz=291,slow=24,SNR=1.6						
JOW	**Kunigami**	**11.22**	**37**	Pn	**Pn**	**12 59 27.1**	**-1.5**
KCP	**Kidapawan**	**11.66**	**158**	⇓*e*P	Pn	12 59 42.1	+7.4
SSE	**Sheshan**	**13.09**	**1**	P	**Pn**	**12 59 55.1**	**+1.0**
SSE				S	**Sn**	**13 02 20.3**	**+1.9**
SSE				pmax	pmax		
	comp=Z,12nm,0.7s						
SSE				pmax	pmax		
	comp=Z,180nm,6.9s						
SSE				LR	LR		
	comp=Z,710nm,17.7s						
SSE				LR	LR		
	comp=Z,2μm,14.5s						
SPMM	**Sapulut**	**13.83**	**198**	P	**P**	**13 00 14.0**	**+2.0**
WHN	**Wuhan**	**13.84**	**336**	⇑P	Pn	12 59 59.3	-5.1
WHN				S	**Sn**	**13 02 41.3**	**+4.6**
WHN				LR	LR		
	comp=Z,4μm,12.8s						
WHN				LR	LR		
	comp=Z,6μm,13.1s						
WHN				LR	LR		
	comp=Z,9μm,14.7s						
NJ2	**Nanjing**	**14.14**	**353**	*e*P	**Pn**	**13 00 09.6**	**+1.1**
NJ2				pP	**P**	**13 00 16.9**	**+1.5**
NJ2				sP		13 00 23.2	
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,500nm,3.7s						
NJ2				LR	LR		
	comp=Z,3μm,15.6s						
NJ2				LR	LR		
	comp=Z,5μm,16.1s						
NJ2				LR	LR		
	comp=Z,4μm,19.9s						
GYA	**Guiyang**	**15.57**	**305**	⇓P	**Pn**	**13 00 26.3**	**-1.4**
GYA				sP	sP	13 00 45.8	-0.5
GYA				S	**Sn**	**13 03 22.9**	**+3.7**
GYA				pmax	pmax		
	comp=Z,150nm,6.8s						
GYA				LR	LR		
	comp=Z,820nm,12.6s						
GYA				LR	LR		
	comp=Z,720nm,15.5s						
GYA				LR	LR		
	comp=Z,890nm,16.2s						
ENH	**Enshi**	**16.01**	**322**	Pn	**Pn**	**13 00 32.2**	**-0.9**
ENH				IAmb	IAmb	13 00 34.5	
	comp=Z,314nm,1.3s						
JSU	**Suzuyama**	**16.08**	**31**	Pn	**Pn**	**13 00 32.9**	**-1.1**
JSU				IAmb	IAmb	13 00 39.2	
	comp=Z,328nm,1.3s						
SLVN	**Son La**	**16.26**	**285**		**Pn**	**13 00 33.7**	**-2.7**
TOLI2	**Tolitoli**	**16.74**	**180**		**P**	**13 00 43.1**	**-1.2**
NONG	**Nongkai**	**16.79**	**273**	P	**Pn**	**13 00 43.6**	**+0.5**
	comp=Z,156nm,1.6s						
NONG	**Nongkai**	**16.79**	**273**	P	**Pn**	**13 00 43.6**	**+0.5**
	comp=Z,154nm,1.6s						
KSJDO	**Jindo**	**17.17**	**16**	P	**P**	**13 00 49.4**	**+0.4**
	SNR=33						
HUK2	**Heuksan-myeon**	**17.17**	**13**	P	**P**	**13 00 51.0**	**+2.0**
	SNR=20						
GTOI	**Gorontalo**	**17.35**	**173**	P	**P**	**13 00 54.4**	**+3.4**
	comp=Z,40nm,1.1s						
MRSI	**Marisa**	**17.41**	**176**	P	**P**	**13 00 58.4**	**+6.8**
MPSI	**Mapaga**	**17.53**	**183**	P	**P**	**13 00 57.4**	**+4.4**
	comp=Z,658nmcomp=Z,28nm,1.2s						
SBUM	**Sibu**	**17.56**	**210**	P	**P**	**13 00 54.0**	**+0.7**
KOHB	**KOHEUNG**	**17.57**	**18**	P	**P**	**13 00 54.2**	**+0.8**
	SNR=18						
JNU	**Nakatsue**	**17.61**	**29**	P	**P**	**13 00 54.4**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=200,slow=9.7,SNR=26						
JNU				LR	LR	13 08 06.4	
	comp=Z,2μm,19.6s,baz=221,slow=38						
JNU	**Nakatsue**	**17.61**	**29**	P	**Pn**	**13 00 52.4**	**-0.8**
JNU				IAmb	IAmb	13 00 58.7	
	comp=Z,195nm,0.9s						
BOSB	**Boseong-gun**	**17.69**	**18**	P	**P**	**13 00 56.0**	**+1.3**
	SNR=21						
KSNAH	**Namhae**	**17.96**	**19**	P	**P**	**13 00 59.1**	**+1.6**
	SNR=15						
KSSCH	**SUNCHEON**	**17.98**	**17**	P	**P**	**13 00 58.9**	**+1.0**
	SNR=26						
GWYB	**Gwangyang**	**18.00**	**19**	P	**P**	**13 01 00.0**	**+2.0**
	SNR=18						
KSKWJ	**Gwangju**	**18.00**	**17**	P	**P**	**13 01 00.1**	**+2.0**
	SNR=56						
GOCB	**Gochang-gun**	**18.08**	**15**	P	**P**	**13 01 01.1**	**+2.2**
	SNR=35						
CHAI	**Chaiyaphum**	**18.11**	**266**	P	**P**	**13 00 59.4**	**-0.1**
	comp=Z,712nmcomp=Z,52nm,1.0s						
CHAI	**Chaiyaphum**	**18.11**	**266**	P	**P**	**13 00 59.4**	**-0.1**
	comp=Z,178nmcomp=Z,13nm,1.0s						
JTU	**Tsushima**	**18.20**	**23**	P	**P

XAN				pP	pP	13 01 22.7	+1.2
XAN				PP	**PnPn**	**13 01 31.2**	**+4.8**
XAN				pmax	pmax		
	comp=Z,110nm,1.3s						
XAN				pmax	pmax		
	comp=Z,2μm,4.3s						
XAN				LR	LR		
	comp=Z,4μm,18.8s						
XAN				LR	LR		
	comp=Z,4μm,16.7s						
XAN				LR	LR		
	comp=Z,4μm,14.1s						
TJN	**Taejon**	**19.25**	**16** *ce*	P	**P**	**13 01 11.6**	**-0.2**
UTTA	**Uttaradit**	**19.27**	**272**	P	**Pn**	**13 01 12.8**	**-0.6**
	comp=Z,855nmcomp=Z,56nm,0.9s						
UTTA	**Uttaradit**	**19.27**	**272**	P	**Pn**	**13 01 12.9**	**-0.6**
	comp=Z,213nmcomp=Z,14nm,0.9s						
KSCPR	**CHUPUNGNYEONG**	**19.27**	**18**	P	**Pn**	**13 01 13.7**	**+0.4**
	SNR=26						
KOJ2	**Gongju-si**	**19.28**	**16**	P	**Pn**	**13 01 13.0**	**-0.4**
	SNR=21						
OKCB	**Cheongsan-myeo**	**19.34**	**17**	P	**Pn**	**13 01 14.0**	**-0.1**
	SNR=74						
KSYOC	**YEONGCHEON**	**19.35**	**20**	P	**Pn**	**13 01 14.4**	**+0.2**
	SNR=19						
KSM	**Kuching**	**19.35**	**213**	P	**Pn**	**13 01 14.0**	**-0.4**
KSSES	**Seosan**	**19.41**	**14**	P	**P**	**13 01 14.0**	**+0.4**
	SNR=16						
PHIT	**Phitsanulok**	**19.44**	**271**	P	**P**	**13 01 14.4**	**+0.4**
	comp=Z,2μmcomp=Z,295nm,1.0s						
PHIT	**Phitsanulok**	**19.44**	**271**	P	**P**	**13 01 14.5**	**+0.4**
	comp=Z,560nmcomp=Z,73nm,1.0s						
KSBON	**Boeun**	**19.48**	**17**	P	**Pn**	**13 01 15.9**	**+0.1**
	SNR=52						
KSSAJ	**Sangju**	**19.50**	**18**	P	**Pn**	**13 01 16.0**	**0.0**
	SNR=13						
JMN	**Monobe**	**19.60**	**34**		**P**	**13 01 16.4**	**+0.7**
JMN				IAmb	IAmb	13 01 20.7	
	comp=Z,165nm,1.0s						
KSEUS	**ULSEONG**	**19.61**	**19**	P	**Pn**	**13 01 18.4**	**+1.1**
	SNR=13						
KSCEA	**Cheonan**	**19.64**	**16**	P	**P**	**13 01 16.6**	**+0.5**
	SNR=40						
MTKI	**Muara Teweh, K**	**19.66**	**198**	P	**Pn**	**13 01 21.0**	**+3.0**
	comp=Z,87nm,1.3s						
KSADO	**Andong**	**19.75**	**20**	P	**Pn**	**13 01 19.0**	**+0.1**
	SNR=18						
PYTK	**Pyeongtaek**	**19.76**	**15**	P	**Pn**	**13 01 18.5**	**-0.5**
	SNR=7.4						
HAWB	**Hwaseong-si**	**19.77**	**14**	P	**Pn**	**13 01 19.0**	**-0.3**
	SNR=24						
KSDEI	**Deokjeokdo**	**19.79**	**13**	P	**Pn**	**13 01 18.7**	**-0.7**
	SNR=33						
KSCHJ	**Chungju**	**19.88**	**17**	P	**Pn**	**13 01 20.2**	**-0.3**
	SNR=11						
KSCHJ	**Chungju**	**19.88**	**17**	P	**P**	**13 01 19.1**	**+0.4**
	SNR=51						
KSSWO	**Suwon**	**19.99**	**15**	P	**Pn**	**13 01 21.4**	**-0.4**
	SNR=32						
KSSWO	**Suwon**	**19.99**	**15**	P	**P**	**13 01 20.0**	**+0.1**
	SNR=51						
STKI	**Sintang**	**20.00**	**208**	P	**Pn**	**13 01 21.5**	**-0.6**
	comp=Z,113nm,1.5s						
SHHB	**Siheung-si**	**20.01**	**14**	P	Pn	13 01 21.0	-1.0
	SNR=54						
SHHB	**Siheung-si**	**20.01**	**14**	P	Pn	13 01 21.0	-1.0
	SNR=54						
DACB	**Daecheong-do R**	**20.10**	**9**	P	Pn	13 01 22.1	-1.0
	SNR=26						
DACB	**Daecheong-do R**	**20.10**	**9**	P	Pn	13 01 22.1	-1.0
	SNR=26						
LAMP	**Lampang**	**20.11**	**275**	P	Pn	13 01 22.4	-1.0
	comp=Z,672nmcomp=Z,58nm,0.9s						
LAMP	**Lampang**	**20.11**	**275**	P	Pn	13 01 22.5	-0.9
	comp=Z,168nmcomp=Z,14nm,0.9s						
INCN	**Inchon**	**20.12**	**14**	P	**P**	**13 01 21.3**	**0.0**
INCN				pmax	pmax		
	comp=Z,206nm,1.1s						
INCN	**Inchon**	**20.12**	**14**	P	**P**	**13 01 21.3**	**0.0**
INCN				IAmb	IAmb	13 01 22.8	
	comp=Z,206nm,1.1s						
KSICN	**Icheon**	**20.12**	**16**	P	**P**	**13 01 21.9**	**+0.6**
	SNR=17						
CD2	**Chengdu**	**20.14**	**313**	P	**P**	**13 01 22.1**	**+0.5**
CD2				pP	pP	13 01 32.4	+0.8
CD2				sP	sP	13 01 38.5	+1.9
CD2				S	**S**	**13 05 05.9**	**+0.2**
CD2				pmax	pmax		
	comp=Z,130nm,1.0s						
CD2				pmax	pmax		
	comp=Z,1μm,4.9s						
CD2				LR	LR		
	comp=Z,6μm,13.5s						
CD2				LR	LR		
	comp=Z,7μm,14.9s						
CD2				LR	LR		
	comp=Z,9μm,16.3s						
KSULJ	**Uljin**	**20.16**	**20**	P	Pn	13 01 23.0	-0.9
	SNR=39						
KSULJ	**Uljin**	**20.16**	**20**	P	Pn	13 01 24.0	+0.1
	SNR=18						
KSSEO	**Seoul**	**20.19**	**14**	P	**P**	**13 01 23.0**	**+0.9**
	SNR=32						
KSSEO	**Seoul**	**20.19**	**14**	P	**P**	**13 01 22.5**	**+0.5**
	SNR=20						
KSSEO	**Seoul**	**20.19**	**14**	P	**P**	**13 01 23.0**	**+0.9**
	SNR=32						
JHS	**Saijyo**	**20.21**	**30**	P	**P**	**13 01 23.0**	**+0.7**
KSBAR	**Backryungdo**	**20.24**	**9**	P	Pn	13 01 23.8	-1.0
	SNR=28						
KSBAR	**Backryungdo**	**20.24**	**9**	P	**P**	**13 01 22.8**	**+0.3**
	SNR=8.7						
KSSOD	**Songwoldong**	**20.28**	**14**	P	**P**	**13 01 23.7**	**+0.7**
	SNR=14						
KSGAH	**Ganghwa**	**20.29**	**13**	P	**P**	**13 01 23.3**	**+0.1**
	SNR=56						
KSYOW	**Yeongwol**	**20.30**	**18**	P	**P**	**13 01 23.4**	**+0.2**
	SNR=101						
KSAR	**Wonju Array Be**	**20.39**	**16**	P	**P**	**13 01 23.7**	**-0.5**
KSAR	**Wonju Array Be**	**20.39**	**16**	P	**P**	**13 01 23.7**	**-0.5**
KSWJU	**Wonju**	**20.40**	**17**	P	**P**	**13 01 25.0**	**+0.6**
	SNR=44						
KSTBA	**Taebaek**	**20.40**	**19**	P	**P**	**13 01 24.5**	**+0.1**
	SNR=30						
KSRS	**Korea Array**	**20.41**	**16**	P	**P**	**13 01 24.4**	**-0.1**
	comp=Z,70nm,0.9s,baz=200,slow=11,SNR=188						
KSRS				LR	LR	13 09 51.2	
	comp=Z,1μm,18.9s,baz=196,slow=38						
UJN	**ULJIN**	**20.43**	**20**	P	**P**	**13 01 25.4**	**+0.8**
	SNR=14						
KSGWL	**Sabuk**	**20.44**	**19**	P	Pn	13 01 26.4	-0.7
	SNR=5.6						
KS19	**Wonju Array Si**	**20.44**	**16**	P	**P**	**13 01 24.0**	**-0.8**
KSMUS	**Musan**	**20.54**	**14**	P	**P**	**13 01 25.8**	**+0.1**
	SNR=21						
CM34	**Chiang Mai Arr**	**20.56**	**276**	P	**P**	**13 01 26.0**	**-0.2**
CM35	**Chiang Mai Arr**	**20.56**	**275**	P	**P**	**13 01 26.0**	**-0.2**
UTHA	**Uthaitani**	**20.58**	**267**	P	Pn	13 01 27.6	-1.3
	comp=Z,430nmcomp=Z,55nm,1.0s						
CM36	**Chiang Mai Arr**	**20.62**	**275**	P	**P**	**13 01 27.0**	**+0.1**
IMWB	**Imwonan-gil**	**20.63**	**20**	P	Pn	13 01 28.0	-1.3
	SNR=16						
KSCHC	**Chuncheon**	**20.69**	**16**	P	**P**	**13 01 28.0**	**+0.5**
	SNR=41						
KSCHC	**Chuncheon**	**20.69**	**16**	P	Pn	13 01 30.0	0.0
	SNR=15						
YNCB	**YEONCHEON**	**20.72**	**14**	P	**P**	**13 01 27.7**	**0.0**
	SNR=51						
CM09	**Chiang Mai Arr**	**20.72**	**275**	P	**P**	**13 01 28.7**	**+0.7**
	comp=Z,663nmcomp=Z,91nm,1.0s						
CM09	**Chiang Mai Arr**	**20.72**	**275**	P	**P**	**13 01 28.8**	**+0.7**
	comp=Z,663nmcomp=Z,91nm,1.0s						
CM04	**Chiang Mai Arr**	**20.73**	**275**	P	**P**	**13 01 28.7**	**+0.6**
	comp=Z,737nmcomp=Z,112nm,0.9s						
CM04	**Chiang Mai Arr**	**20.73**	**275**	P	**P**	**13 01 28.8**	**+0.6**
	comp=Z,737nmcomp=Z,112nm,0.9s						
CMMT	**Chiang Mai**	**20.75**	**276**	P	**P**	**13 01 28.4**	**+0.1**
	comp=Z,2μmcomp=Z,122nm,1.2s						
CMMT	**Chiang Mai**	**20.75**	**276**	P	**P**	**13 01 28.4**	**+0.1**
	comp=Z,2μmcomp=Z,122nm,1.2s						
CM01	**Chiang Mai Arr**	**20.75**	**275**	P	**P**	**13 01 29.1**	**+0.8**
	comp=Z,621nmcomp=Z,92nm,1.0s						
CM01	**Chiang Mai Arr**	**20.75**	**275**	P	**P**	**13 01 29.1**	**+0.8**
	comp=Z,621nmcomp=Z,92nm,1.0s						
CM33	**Chiang Mai Arr**	**20.75**	**276**	P	**P**	**13 01 28.0**	**-0.3**
CHTO	**Chiang Mai**	**20.75**	**276**	P	**P**	**13 01 27.4**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,110nm,1.1s						
CHTO	**Chiang Mai**	**20.75**	**276**	P	**P**	**13 01 28.4**	**0.0**
	comp=Z,2μmcomp=Z,124nm,1.2s						
CHTO	**Chiang Mai**	**20.75**	**276**	P	**P**	**13 01 27.4**	**-0.9**
CHTO				IAmb	IAmb	13 01 29.8	
	comp=Z,110nm,1.1s						
CM02	**Chiang Mai Arr**	**20.76**	**275**	P	**P**	**13 01 28.9**	**+0.5**
	comp=Z,537nmcomp=Z,87nm,1.0s						
CM02	**Chiang Mai Arr**	**20.76**	**275**	P	**P**	**13 01 29.0**	**+0.5**
	comp=Z,537nmcomp=Z,87nm,1.0s						
CM05	**Chiang Mai Arr**	**20.77**	**275**	P	**P**	**13 01 29.0**	**+0.5**
	comp=Z,590nmcomp=Z,64nm,0.9s						
CM05	**Chiang Mai Arr**	**20.77**	**275**	P	**P**	**13 01 29.1**	**+0.5**
	comp=Z,590nmcomp=Z,64nm,0.9s						
CM31	**Chiang Mai Arr**	**20.77**	**275**	P	**P**	**13 01 28.9**	**+0.4**
	comp=Z,14μmcomp=Z,2μm,1.0s						
CM31	**Chiang Mai Arr**	**20.77**	**275**	P	**P**	**13 01 25.9**	**-2.5**
CMAR	**Chiang Mai Arr**	**20.77**	**275**	P	**P**	**13 01 28.9**	**+0.4**
	comp=Z,61nm,0.9s,baz=92,slow=8.7,SNR=193						
CMAR				PcP	**PcP**	**13 05 37.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=2.9,slow=1.8,SNR=5.3						
CMAR				LR	LR	13 09 41.4	
	comp=Z,1μm,19.4s,baz=124,slow=37						
CMAR	**Chiang Mai Arr**	**20.77**	**275**		**P**	**13 01 28.1**	**-0.4**
CM15	**Chiang Mai Arr**	**20.78**	**275**	P	**P**	**13 01 29.0**	**+0.4**
	comp=Z,580nmcomp=Z,83nm,1.0s						
CM15	**Chiang Mai Arr**	**20.78**	**275**	P	**P**	**13 01 29.1**	**+0.4**
	comp=Z,580nmcomp=Z,83nm,1.0s						
CM13	**Chiang Mai Arr**	**20.80**	**275**	P	**P**	**13 01 29.3**	**+0.4**
	comp=Z,609nmcomp=Z,68nm,0.9s						
CM13	**Chiang Mai Arr**	**20.80**	**275**	P	**P**	**13 01 29.0**	**+0.1**
	comp=Z,609nmcomp=Z,68nm,0.9s						
KSDGY	**Daegwallycong**	**20.84**	**18**	P	**P**	**13 01 30.0**	**+0.8**
	SNR=17						
CM32	**Chiang Mai Arr**	**20.85**	**275**	P	**P**	**13 01 29.0**	**-0.4**
OKEB	**Okgye-meyeon**	**20.87**	**19**	P	Pn	13 01 31.0	-1.1
	SNR=9.0						
DL2	**Dalian**	**20.89**	**2**	P	Pn	13 01 31.4	-0.9
DL2				sP	sP	13 01 49.8	+5.0
DL2				S	**S**	**13 05 22.2**	**+1.9**
DL2				pmax	pmax		
	comp=Z,57nm,1.1s						
DL2				pmax	pmax		
	comp=Z,140nm,4.4s						
DL2				LR	LR		
	comp=Z,1μm,20.8s						
DL2				LR	LR		
	comp=Z,2μm,16.1s						
DL2				LR	LR		
	comp=Z,1μm,18.1s						
TTSI	**Tana Toraja**	**20.89**	**183**	P	Pn	13 01 35.4	+2.9
	comp=Z,1μmcomp=Z,48nm,0.9s						
KSCWO	**Cheorwon**	**20.90**	**15**	P	**P**	**13 01 30.2**	**+0.4**
	SNR=56						
KSIJA	**INJE**	**20.96**	**16**	P	**P**	**13 01 31.0**	**+0.6**
	SNR=23						
PHET	**Kaeng Krachan**	**21.00**	**259**	P		13 01 32.7	
	comp=Z,1μmcomp=Z,142nm,0.9s						
PHET	**Kaeng Krachan**	**21.00**	**259**	P		13 01 32.8	
	comp=Z,320nmcomp=Z,37nm,0.9s						
TIY	**Taiyuan**	**21.01**	**341**	*e*P	**P**	**13 01 32.0**	**+1.0**
TIY				sP	**sP**	**13 01 48.5**	**+2.4**
TIY				S	**S**	**13 05 21.5**	**-1.3**
TIY				sS	Sn	13 05 33.7	+3.4
TIY				LR	LR		
	comp=Z,4μm,17.7s						
TIY				LR	LR		
	comp=Z,3μm,19.6s						
TIY				LR	LR		
	comp=Z,2μm,16.9s						
UMPA	**Umpang Tak**	**21.04**	**269**	P	**P**	**13 01 33.0**	**+1.6**
	comp=Z,3μmcomp=Z,194nm,1.1s						
UMPA	**Umpang Tak**	**21.04**	**269**	P	**P**	**13 01 33.1**	**+1.6**
	comp=Z,636nmcomp=Z,48nm,1.1s						
KSJMJ	**Jumunjin**	**21.04**	**18**	P	**P**	**13 01 32.1**	**+0.9**
	SNR=15						
HWCB	**Hwacheon**	**21.07**	**15**	P	**P**	**13 01 33.0**	**+1.4**
	SNR=18						
SEHB	**SEOHWA**	**21.26**	**16**	P	**P**	**13 01 35.1**	**+1.5**
	SNR=15						
SIJI	**Sorong**	**21.36**	**150**	P	**P**	**13 01 33.4**	**-1.5**
	comp=Z,13nm,0.7s,baz=341,slow=16,SNR=2.0						
SIJI				LR	LR	13 10 34.9	
	comp=Z,1μm,21.7s,baz=282,slow=39						
KHLT	**Khaolaem Dam**	**21.53**	**265**	P	**P**	**13 01 38.7**	**+2.0**
	comp=Z,1μmcomp=Z,33nm,1.0s						
KHLT	**Khaolaem Dam**	**21.53**	**265**	P	**P**	**13 01 38.8**	**+2.0**
	comp=Z,1μmcomp=Z,33nm,1.0s						
JWT	**Wachi**	**21.60**	**34**	P	**P**	**13 01 38.0**	**+0.8**
JCJ	**Chichijima**	**21.73**	**61**	P	**P**	**13 01 38.3**	**-0.4**
	comp=Z,88nm,0.7s,baz=258,slow=16,SNR=2.3						
JCJ				LR	LR	13 08 26.9	
	comp=Z,2μm,21.4s,baz=250,slow=32						
MHMT	**Maesarieng**	**21.74**	**274**	P	**P**	**13 01 39.9**	**+1.0**
	comp=Z,2μmcomp=Z,100nm,1.2s						
MHMT	**Maesarieng**	**21.74**	**274**	P	**P**	**13 01 39.9**	**+1.0**
	comp=Z,2μmcomp=Z,100nm,1.2s						
NLAI	**Namlea**	**21.96**	**163**	P	**P**	**13 01 43.9**	**+2.7**
	comp=Z,62nm,0.9s						
BBKI	**Banjar Baru**	**22.08**	**196**	P	**P**	**13 01 42.6**	**+0.1**
	comp=Z,3μmcomp=Z,270nm,1.1s						
BNSI	**Bone**	**22.22**	**182**	P	**P**	**13 01 48.0**	**+3.9**
	comp=Z,52nm,1.5s						
BJT	**Baijiatuau**	**22.35**	**351**	P	**P**	**13 01 45.3**	**+0.1**
BJT				pmax	pmax		
	comp=Z,145nm,1.2s						
BJT	**Baijiatuau**	**22.35**	**351**	P	**P**	**13 01 45.3**	**+0.1**
BJT				IAmb	IAmb	13 01 52.4	
	comp=Z,145nm,1.2s						
BJI	**Beijing**	**22.37**	**351**	P	**P**	**13 01 46.8**	**+1.3**
BJI				pP	**pP**	**13 01 56.7**	**+1.2**
BJI				sP	**sP**	**13 02 01.3**	**+0.7**
BJI				pmax	pmax		
	comp=Z,100nm,1.2s						
BJI				pmax	pmax		
	comp=Z,450nm,3.5s						
BJI				LR	LR		
	comp=Z,2μm,18.1s						
BJI				LR	LR		
	comp=Z,3μm,17.7s						
BJI				LR	LR		
	comp=Z,3μm,21.0s						
SKLT	**Songkhla**	**22.39**	**244**	P	**P**	**13 01 51.7**	**+5.7**
	comp=Z,64nm,1.2s						
SKLT	**Songkhla**	**22.39**	**244**	P	**P**	**13 01 51.0**	**+5.0**
	comp=Z,64nm,1.2s						
PBKI	**Pangkalan Bun**	**22.41**	**205**	P	**P**	**13 01 47.6**	**+1.4**
	comp=Z,10μmcomp=Z,164nm,1.2s						
INU	**Inuyama**	**22.53**	**37**	P	**P**	**13 01 46.5**	**-0.8**
JHJ	**Hachijo jima 2**	**22.78**	**45**	LR	LR	13 10 16.3	
	comp=Z,1μm,19.8s,baz=240,slow=35						
KAPI	**Kappang**	**22.85**	**183**	P	**P**	**13 01 50.5**	**-0.2**
	comp=Z,17nm,0.9s,baz=328,slow=6.0,SNR=5.8						
KAPI				LR	LR	13 10 58.4	
	comp=Z,2μm,20.6s,baz=358,slow=37						
KAPI	**Kappang**	**22.85**	**183**	P	**P**	**13 01 49.6**	**-1.1**
KAPI				IAmb	IAmb	13 02 18.4	
	comp=Z,160nm,1.5s						
JGF	**Kuroka**	**22.91**	**37**	P	**P**	**13 01 49.9**	**-1.4**
KRAB	**Krabi**	**23.13**	**248**	P	**P**	**13 01 56.3**	**+2.7**
	comp=Z,103μmcomp=Z,1μm,0.6s						
KRAB	**Krabi**	**23.13**	**248**	P	**P**	**13 01 56.3**	**+2.7**
BKSI	**Bulukumba**	**23.14**	**182**	P	**P**	**13 02 00.4**	**+6.7**
	comp=Z,481nmcomp=Z,34nm,0.9s						
KULM	**Kulim**	**23.37**	**240**	P	**P**	**13 01 56.0**	**0.0**
LZH	**Lanzhou**	**23.48**	**324**	*e*P	**P**	**13 01 57.9**	**+0.8**
LZH				pP	pP	13 02 06.1	-1.5
LZH				sP	sP	13 02 10.4	-2.1
LZH				*e*S	**S**	**13 06 07.5**	**-0.5**
LZH				pmax	pmax		
	comp=Z,110nm,1.0s						
LZH				pmax	pmax		
	comp=Z,910nm,4.3s						
LZH				LR	LR		
	comp=Z,4μm,16.3s						
LZH				LR	LR		
	comp=Z,4μm,16.0s						
LZH				LR	LR		
	comp=Z,3μm,17.1s						
IPM	**Ipoh**	**23.53**	**238**	P	**P**	**13 01 56.0**	**-1.6**
FAKI	**Fak Fak**	**23.62**	**150**	P	**P**	**13 01 56.9**	**-1.5**
FAKI	**Fak Fak**	**23.62**	**150**	P	P	13 02 07.2	+8.8
	comp=Z,58nm,1.0s						
SNY	**Shenyang**	**23.91**	**5**	⇑P	**P**	**13 02 00.6**	**-0.3**
SNY				S	**S**	**13 06 18.4**	**+3.9**
SNY				pmax	pmax		
	comp=Z,160nm,1.3s						
SNY				LR	LR		
	comp=Z,1μm,17.3s						
SNY				LR	LR		
	comp=Z,1μm,14.7s						
SNY				LR	LR		
	comp=Z,1μm,13.9s						
MAJO	**Matsushiro**	**24.06**	**36**	P	**P**	**13 02 01.3**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,94nm,1.5s						
MAJO	**Matsushiro**	**24.06**	**36**	P	**P**	**13 02 01.3**	**-1.1**
MAJO				IAmb	IAmb	13 02 16.4	
	comp=Z,94nm,1.4s						
MAT	**Matsushiro**	**24.06**	**36**	P	**P**	**13 02 00.2**	**-2.2**
MAT				S	**S**	**13 06 19.4**	**+2.2**
MJAR	**Matsushiro Arr**	**24.06**	**36**	P	**P**	**13 02 02.9**	**+0.5**
	comp=Z,20nm,0.9s,baz=230,slow=10,SNR=19						
MJAR				LR	LR	13 12 22.0	
	comp=Z,405nm,19.0s,baz=230,slow=39						
MJAR	**Matsushiro Arr**	**24.06**	**36**	P	**P**	**13 02 01.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**24.06**	**36**	P	**P**	**13 02 01.6**	**-0.8**
MJB9				IAmb	IAmb	13 02 16.4	
	comp=Z,103nm,1.4s						
BNDI	**Bandanaira**	**24.08**	**157**	P	**P**	**13 02 08.5**	**+5.9**
	comp=Z,284nm,1.0s						
HHC	**Hu-ho-hao-te**	**24.16**	**343** ⇓*i*P		**P**	**13 02 04.7**	**+1.3**
HHC				sP	sP	13 02 16.2	-3.0
HHC				S	**S**	**13 06 17.0**	**-1.8**
HHC				sS	sS	13 06 36.3	-0.9
HHC				pmax	pmax		
	comp=Z,46nm,1.2s						
HHC				pmax	pmax		
	comp=Z,720nm,5.3s						
HHC				LR	LR		
	comp=Z,2μm,18.1s						
HHC				LR	LR		
	comp=Z,2μm,18.5s						
HHC				LR	LR		
	comp=Z,2μm,16.8s						
TPI	**Tanjungpandan**	**24.32**	**213**	P	**P**	**13 02 07.5**	**+2.6**
	comp=Z,2μmcomp=Z,73nm,1.7s						
BTO	**Baotou**	**24.41**	**340**	*e*P	**P**	**13 02 07.0**	**+1.4**
BTO				S	**S**	**13 06 24.3**	**+1.5**
BTO				pmax	pmax		
	comp=Z,160nm,1.9s						
BTO				LR	LR		
	comp=Z,8μm,15.5s						
BTO				LR	LR		
	comp=Z,13μm,16.5s						
PPBI	**Pangkal Pinang**	**24.66**	**217**	P	**P**	**13 02 12.6**	**+4.6**
	comp=Z,4μmcomp=Z,96nm,1.5s						
JSD	**Sado**	**25.18**	**34**	P	**P**	**13 02 12.7**	**+0.2**
KMMI	**Kalianget**	**25.75**	**196**	P	**P**	**13 02 21.2**	**+3.4**
	comp=Z,2μmcomp=Z,166nm,1.1s						
CN2	**Changchun**	**26.06**	**8**	*e*P	**P**	**13 02 19.7**	**-0.8**
CN2				*e*S	**S**	**13 06 44.5**	**-4.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,300nm,6.2s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
MSHR	**Mys Shultsa**	**26.08**	**18** *ce*P		**P**	**13 02 20.6**	**0.0**
MSHR				pmax	pmax		
	comp=Z,161nm,1.7s						
TSI	**Tuntungan**	**26.09**	**239**	P	**P**	**13 02 24.6**	**+3.6**
	comp=Z,5μmcomp=Z,67nm,1.2s						
BKNI	**Bangkinang**	**26.16**	**230**	P	**P**	**13 02 20.6**	**-1.0**
BKNI				IAmb	IAmb	13 02 27.1	
	comp=Z,182nm,1.2s						
BKNI	**Bangkinang**	**26.16**	**230**	P	**P**	**13 02 22.9**	**+1.3**
	comp=Z,7μmcomp=Z,123nm,1.2s						
PSI	**Prapat**	**26.20**	**237**	P	**P**	**13 02 20.3**	**-1.9**
PSI				pmax	pmax		
	comp=Z,38nm,1.0s						
RPSI	**Rantau Prapat**	**26.27**	**237**	P	**P**	**13 02 20.3**	**-2.3**
JMM	**Marumori**	**26.46**	**37**	P	**P**	**13 02 23.3**	**-0.8**
JMM				IAmb	IAmb	13 02 24.4	
	comp=Z,51nm,0.9s						
EDFI	**Ende, Flores**	**26.55**	**178**	P	**P**	**13 02 28.8**	**+3.6**
	comp=Z,421nmcomp=Z,25nm,1.1s						
PLAI	**Plampang**	**26.78**	**187**	P	**P**	**13 02 32.4**	**+5.3**
	comp=Z,86nm,1.1s						
VLA	**Vladivostok**	**26.79**	**18** *c i*P		**P**	**13 02 27.1**	**+0.1**
MNSI	**Mandailing Nat**	**26.93**	**233**	P	**P**	**13 02 29.3**	**+0.7**
	comp=Z,1μmcomp=Z,49nm,1.0s						
PWJI	**Pagerwojo**	**27.30**	**200**	P	**P**	**13 02 38.7**	**+6.9**
	comp=Z,90nm,1.1s						
LHSI	**Lahat**	**27.54**	**220**	P	P	13 02 42.4	+8.4
MDJ	**Mudanjiang**	**27.59**	**14**	P	**P**	**13 02 34.2**	**0.0**
MDJ				pP	pP	13 02 45.3	-0.2
MDJ				sP	sP	13 02 49.8	-0.5
MDJ				S	**S**	**13 07 14.8**	**+1.9**
MDJ				sS	sS	13 07 28.0	-3.5
MDJ				pmax	pmax		
	comp=Z,40nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.3s						
MDJ				LR	LR		
	comp=Z,2μm,16.8s						
MDJ				LR	LR		
	comp=Z,2μm,15.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.4s						
MDJ	**Mudanjiang**	**27.59**	**14**	P	**P**	**13 02 33.5**	**-0.6**
MDJ				IAmb	IAmb	13 02 40.3	
	comp=Z,42nm,0.9s						
UGM	**Wanagama**	**27.63**	**202**	P	**P**	**13 02 41.4**	**+6.6**
	comp=Z,184nm,1.6s						
PCJI	**Pacitan**	**27.66**	**201**	P	P	13 02 46.1	+11
BRDH	**Bariadhala**	**27.71**	**285**	P	**P**	**13 02 36.0**	**+0.4**
	comp=Z,128nm,0.4s,baz=70,slow=12,SNR=4.3						
BRDH				LR	LR	13 14 59.1	
	comp=Z,1μm,18.3s,baz=118,slow=39						
USA0B	**Ussuriysk Arra**	**27.81**	**17**	P	**P**	**13 02 36.7**	**+0.6**
USA0B				pmax	pmax		
	comp=Z,60nm,1.1s						
USA0B	**Ussuriysk Arra**	**27.81**	**17**	P	**P**	**13 02 36.7**	**+0.6**
USA0B				IAmb	IAmb	13 02 41.3	
	comp=Z,60nm,1.1s						
USRK	**Ussuriysk Ar.**	**27.81**	**17**	P	**P**	**13 02 36.

LSA				LR	LR		
	comp=Z,3μm,14.6s						
LSA				LR	LR		
	comp=Z,4μm,11.4s						
LSA				LR	LR		
	comp=Z,6μm,12.8s						
LSA	**Lhasa**	**29.44**	**299**	P	**P**	**13 02 52.8**	**+1.3**
LSA	**Lhasa**	**29.44**	**299**	P	**P**	**13 02 51.4**	**0.0**
LSA				pmax	pmax		
	comp=Z,97nm,0.9s						
LSA	**Lhasa**	**29.44**	**299**	P	**P**	**13 02 51.4**	**0.0**
LSA				IAmb	IAmb	13 02 53.9	
	comp=Z,97nm,0.9s						
JEW	**Eniwo**	**30.38**	**31**	P	**P**	**13 02 60.0**	**+1.0**
HIA	**Hailar**	**31.25**	**359**	P	**P**	**13 03 06.2**	**-0.4**
HIA				pmax	pmax		
	comp=Z,17nm,1.1s						
HIA	**Hailar**	**31.25**	**359**	P	**P**	**13 03 06.2**	**-0.4**
TAPN	**Taplejung**	**31.85**	**293**	*e*P	**P**	**13 03 12.6**	**+0.1**
	comp=Z,162nm,1.1s						
ULN	**Ulaanbaatar**	**31.88**	**342**	*ce*P	**P**	**13 03 13.8**	**+1.4**
ULN				pmax	pmax		
	comp=Z,37nm,2.3s						
ULN	**Ulaanbaatar**	**31.88**	**342**	P	**P**	**13 03 12.5**	**+0.1**
ASAJ	**Asahikawa**	**31.88**	**30**	LR	LR	13 15 36.3	
	comp=Z,921nm,21.7s,baz=232,slow=35						
ASAJ	**Asahikawa**	**31.88**	**30**	P	**P**	**13 03 12.4**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.9s						
JKA	**Kamikawa-asahi**	**31.88**	**30**	P	**P**	**13 03 12.4**	**+0.2**
SONM	**Songino Array**	**32.05**	**342**	P	**P**	**13 03 14.4**	**+0.7**
	comp=Z,7.8nm,0.7s,baz=163,slow=9.2,SNR=26						
SONM				PcP	**PcP**	**13 06 03.7**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=148,slow=3.7,SNR=5.2						
SONM				ScP	**ScP**	**13 09 44.3**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=156,slow=4.7,SNR=6.9						
SONM				LR	LR	13 16 42.7	
	comp=Z,2μm,21.6s,baz=156,slow=37						
SONM	**Songino Array**	**32.05**	**342**	P	**P**	**13 03 14.1**	**+0.3**
ODAN	**Odare**	**32.05**	**292**	*e*P	**P**	**13 03 14.1**	**-0.1**
	comp=Z,293nm,1.1s						
KLR	**Kul'dur**	**32.43**	**13**	LR	LR	13 18 03.5	
	comp=Z,1μm,19.6s,baz=196,slow=39						
KLR	**Kul'dur**	**32.43**	**13**	*ce*P	**P**	**13 03 17.2**	**+0.2**
KLR				pmax	pmax		
	comp=Z,221nm,1.3s						
RAMN	**Ramite**	**32.76**	**292**	*e*P	**P**	**13 03 20.7**	**+0.2**
	comp=Z,152nm,0.9s						
JIRN	**Jiri**	**33.23**	**293**	*e*P	**P**	**13 03 24.6**	**-0.1**
	comp=Z,214nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**33.47**	**34**	*c i*P	P	13 03 17.7	-8.4
YUK				*e*		13 04 39.2	
YUK				*e*S	**S**	**13 08 39.5**	**-5.6**
YUK				*e*SS	**SS**	**13 11 08.3**	**-2.3**
YUK				*e*		13 13 47.6	
YUK				MLR	MLR		
	comp=N,569nm,20.0s						
YUK				MLR	MLR		
	comp=E,676nm,20.0s						
YUK				MLR	MLR		
	comp=Z,853nm,20.0s						
PKI	**Pulchoki**	**33.90**	**293**	*e*P	**P**	**13 03 29.8**	**-0.7**
	comp=Z,158nm,1.1s						
PKIN	**Phulchoki**	**33.91**	**293**	*e*P	**P**	**13 03 30.0**	**-0.5**
	comp=Z,91nm,0.9s						
KKN	**Kakani**	**34.05**	**293**	*e*P	**P**	**13 03 31.2**	**-0.4**
	comp=Z,178nm,1.0s						
YSS	**Yuzh-Sakhalins**	**34.11**	**27**	*ce*P	**P**	**13 03 31.6**	**0.0**
YSS				*e**PP	**pP**	**13 03 38.8**	**-4.0**
YSS				*e**SP	**sP**	**13 03 46.0**	**-1.7**
YSS				*e*		13 04 48.0	
YSS				*e*		13 06 08.9	
YSS				*e*S	**S**	**13 08 53.4**	**-1.4**
YSS				*e*SS	**SS**	**13 11 31.2**	**+7.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS				MLR	MLR		
	comp=E,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**34.11**	**27**	P	**P**	**13 03 31.8**	**+0.3**
YSS				IAmb	IAmb	13 03 39.5	
	comp=Z,48nm,0.9s						
DMN	**Daman**	**34.17**	**293**	*e*P	**P**	**13 03 32.7**	**-0.1**
GKN	**Gorkha**	**34.65**	**293**	*e*P	**P**	**13 03 36.0**	**-0.7**
	comp=Z,303nm,1.0s						
GRNR	**Gornyy**	**35.03**	**17**	⇓*i*P	**P**	**13 03 40.5**	**+0.9**
GRNR				pmax	pmax		
	comp=N,10.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				MLR	MLR		
	comp=E,270nm,14.0s						
GRNR				MLR	MLR		
	comp=N,330nm,18.0s						
GRNR				MLR	MLR		
	comp=Z,460nm,17.0s						
ZAK	**Zakamensk**	**35.26**	**341**	*e*P	**P**	**13 03 41.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,12nm,1.2s						
KUR	**Kuril'sk**	**35.34**	**34**	*i* P	**P**	**13 03 41.4**	**-0.8**
DANN	**Dangsing**	**35.46**	**294**	*e*P	**P**	**13 03 43.4**	**-0.5**
	comp=Z,308nm,1.1s						
UGL	**Uglegorsk**	**35.50**	**24**	*e*P	**P**	**13 03 43.9**	**+0.3**
UGL				*e*S	**S**	**13 09 11.8**	**-4.3**
UGL				pmax	pmax		
	comp=Z,70nm,1.1s						
UGL				MLR	MLR		
	comp=E,700nm,16.0s						
UGL				MLR	MLR		
	comp=N,700nm,15.0s						
UGL				MLR	MLR		
	comp=Z,2μm,18.0s						
KOLN	**Koldanda**	**35.52**	**293**	*e*P	**P**	**13 03 43.9**	**-0.4**
	comp=Z,229nm,1.1s						
ZEA	**Zeya**	**36.06**	**7**	*ce*P	**P**	**13 03 49.1**	**+0.8**
ZEA				*e*		13 05 10.7	
ZEA				*e*S	**S**	**13 09 22.5**	**-2.2**
ZEA				pmax	pmax		
	comp=N,40nm,1.1s						
ZEA				pmax	pmax		
	comp=E,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,80nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,100nm,3.3s						
ZEA				pmax	pmax		
	comp=N,100nm,4.4s						
ZEA				pmax	pmax		
	comp=Z,100nm,5.7s						
ZEA				smax	smax		
	comp=E,200nm,9.0s						
ZEA				MLR	MLR		
	comp=N,600nm,17.0s						
ZEA				MLR	MLR		
	comp=E,600nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,17.0s						
PYUN	**Piuthan**	**36.10**	**293**	*e*P	**P**	**13 03 48.8**	**-0.5**
	comp=Z,362nm,1.1s						
TLY	**Talaya**	**36.28**	**342**	LR	LR	13 19 30.3	
	comp=Z,1μm,20.4s,baz=142,slow=38						
TLY	**Talaya**	**36.28**	**342**	*d i*P	**P**	**13 03 51.2**	**+0.9**
TLY				*e*		13 05 10.8	
TLY				*e*S	**S**	**13 09 29.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,48nm,1.3s						
TLY				MLR	MLR		
	comp=Z,2μm,14.0s						
IRK	**Irkutsk**	**36.60**	**343**	*e*P	**P**	**13 03 54.0**	**+1.0**
IRK				*e*S	**S**	**13 09 39.2**	**+6.1**
IRK				pmax	pmax		
	comp=Z,90nm,2.0s						
MOY	**Mondy**	**37.11**	**340**	*e*P	**P**	**13 03 59.3**	**+1.9**
MOY				pmax	pmax		
	comp=Z,90nm,2.5s						
TYV	**Tymovskoe**	**37.17**	**23**	*e*P	**P**	**13 03 58.9**	**+1.1**
TYV				*e*S	**S**	**13 09 46.8**	**+5.2**
TYV				pmax	pmax		
	comp=Z,400nm,2.4s						
TYV				pmax	pmax		
	comp=Z,42nm,1.7s						
TYV				smax	smax		
	comp=N,300nm,4.4s						
TYV				MLR	MLR		
	comp=Z,800nm,16.0s						
WMQ	**Urumqi**	**37.94**	**320**	P	**P**	**13 04 06.7**	**+2.1**
WMQ				pP	sP	13 04 17.1	-3.4
WMQ				sP	pP	13 04 21.4	+5.6
WMQ				PP	**PnPn**	**13 05 36.4**	**+3.1**
WMQ				S	**S**	**13 09 58.6**	**+4.8**
WMQ				pmax	pmax		
	comp=Z,50nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,550nm,3.9s						
WMQ				LR	LR		
	comp=Z,3μm,14.7s						
WMQ				LR	LR		
	comp=Z,2μm,15.3s						
WMQ				LR	LR		
	comp=Z,3μm,17.1s						
PSA00	**Pilbara Seismi**	**39.30**	**181**	P	**P**	**13 04 14.6**	**-1.3**
PSA00	**Pilbara Seismi**	**39.30**	**181**	P	**P**	**13 04 14.7**	**-1.3**
PSA00				IAmb	IAmb	13 04 31.0	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**39.79**	**160**	P	**P**	**13 04 18.2**	**-2.0**
WRAB	**Tennant Creek**	**39.94**	**160**	*ce*P	**P**	**13 04 18.9**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,22nm,1.3s						
WRAB	**Tennant Creek**	**39.94**	**160**	P	**P**	**13 04 19.2**	**-2.2**
WRA	**Warramunga Arr**	**39.94**	**160**	P	**P**	**13 04 16.8**	**-4.6**
	comp=Z,9.3nm,1.0s,baz=343,slow=9.0,SNR=39						
WRA				PcP	**PcP**	**13 06 24.6**	**-1.9**
	comp=Z,4.0nm,0.8s,baz=348,slow=3.6,SNR=3.2						
WRA				ScP	**ScP**	**13 10 15.5**	**+3.1**
	comp=Z,1.0nm,0.8s,baz=335,slow=3.0,SNR=3.5						
WRA				LR	LR	13 23 10.0	
	comp=Z,342nm,18.1s,baz=20,slow=40						
WRA	**Warramunga Arr**	**39.94**	**160**	P	**P**	**13 04 19.6**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**39.94**	**160**	P	**P**	**13 04 19.6**	**-1.8**
WB2	**Warramunga Arr**	**39.94**	**160**	P	**P**	**13 04 19.5**	**-2.0**
WR0	**Warramunga Arr**	**40.02**	**160**	P	**P**	**13 04 20.1**	**-2.0**
BOD	**Bodaibo**	**40.12**	**354**	*e*P	**P**	**13 04 23.5**	**+1.0**
BOD				pmax	pmax		
	comp=Z,77nm,1.3s						
HYB	**Hyderabad**	**40.19**	**276**	*i* P	**P**	**13 04 22.0**	**-1.6**
PALK	**Pallekele**	**40.45**	**260**	LR	LR	13 20 34.7	
	comp=Z,1μm,19.7s,baz=173,slow=35						
DGZ	**Jazzator, Alta**	**41.47**	**327**	*d i*P	**P**	**13 04 35.4**	**+1.4**
DGZ				pmax	pmax		
	comp=Z,52nm,0.9s						
ZSN	**Zaisan**	**41.57**	**323**	⇓*i*P	**P**	**13 04 34.7**	**0.0**
	comp=Z,33nm,1.4s,baz=323						
ZSN				*e*S	**S**	**13 10 49.9**	**+2.0**
	baz=323						
ZSN	**Zaisan**	**41.57**	**323**	*d i*P	**P**	**13 04 34.6**	**0.0**
ZSN				*e*S	**S**	**13 10 49.9**	**+2.0**
ZSN				pmax	pmax		
	comp=Z,33nm,1.4s						
MK31	**Makanchi Array**	**42.74**	**321**	P	**P**	**13 04 44.0**	**-0.2**
MK31				pmax	pmax		
	comp=Z,73nm,1.0s						
MK31	**Makanchi Array**	**42.74**	**321**	P	**P**	**13 04 44.0**	**-0.2**
MK31				IAmb	IAmb	13 04 46.6	
	comp=Z,73nm,1.0s						
MKAR	**Makanchi Array**	**42.74**	**321**	P	**P**	**13 04 45.3**	**+1.1**
	comp=Z,60nm,0.9s,baz=115,slow=8.7,SNR=202						
MKAR				PcP	**PcP**	**13 06 36.0**	**+0.8**
	comp=Z,11nm,0.9s,baz=125,slow=4.1,SNR=5.3						
MKAR	**Makanchi Array**	**42.74**	**321**	P	**P**	**13 04 44.6**	**+0.5**
MAKZ	**Makanchi**	**42.94**	**321**	P	**P**	**13 04 46.0**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,79nm,1.1s						
MAKZ	**Makanchi**	**42.94**	**321**	P	**P**	**13 04 46.0**	**+0.2**
MAKZ				IAmb	IAmb	13 04 48.2	
	comp=Z,79nm,1.1s						
SHLS	**Shalkode**	**42.96**	**315**	⇓*i*P	**P**	**13 04 45.2**	**-1.0**
	comp=Z,31nm,0.7s,baz=315						
SHLS				*e*S	**S**	**13 11 07.8**	**-1.0**
	baz=315						
SHLS	**Shalkode**	**42.96**	**315**	*d i*P	**P**	**13 04 45.1**	**-1.0**
SHLS				*e*S	**S**	**13 11 07.7**	**-1.0**
SHLS				pmax	pmax		
	comp=Z,31nm,0.7s						
SKR	**Severo-Kuril's**	**43.07**	**33**	*e*P	**P**	**13 04 49.8**	**+3.1**
SKR				*e*S	**S**	**13 11 18.3**	**+8.5**
SKR				pmax	pmax		
	comp=Z,300nm,2.6s						
SKR				MLR	MLR		
	comp=Z,300nm,17.0s						
SKR				MLR	MLR		
	comp=Z,200nm,17.0s						
UZB	**Uzynbulak**	**43.25**	**315**	⇓*i*P	**P**	**13 04 49.5**	**+0.9**
	comp=Z,34nm,1.0s,baz=315						
UZB				*e*S	**S**	**13 11 15.5**	**+2.4**
	comp=Z,33nm,4.2s,baz=315						
UZB	**Uzynbulak**	**43.25**	**315**	*d i*P	**P**	**13 04 49.4**	**+0.9**
UZB				*e*S	**S**	**13 11 15.4**	**+2.4**
UZB				pmax	pmax		
	comp=Z,34nm,1.0s						
UZB				smax	smax		
	comp=E,33nm,4.2s						
AS31	**Alice Springs**	**43.30**	**162**	P	**P**	**13 04 47.0**	**-1.9**
ASAR	**Alice Springs**	**43.30**	**162**	P	**P**	**13 04 45.3**	**-3.6**
	comp=E,7.3nm,0.4s,baz=337,slow=7.1,SNR=74						
ASAR				PcP	**PcP**	**13 06 36.3**	**-1.1**
	comp=E,2.3nm,0.9s,baz=344,slow=4.6,SNR=1.3						
ASAR				ScP	**ScP**	**13 10 28.4**	**+2.7**
	comp=E,0.7nm,0.8s,baz=14,slow=4.3,SNR=4.1						
ASAR				S	**S**	**13 11 09.1**	**-4.7**
	comp=E,0.5nm,0.7s,baz=339,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**43.30**	**162**	P	**P**	**13 04 46.8**	**-2.1**
ASAR	**Alice Springs**	**43.30**	**162**	P	**P**	**13 04 46.8**	**-2.1**
TARG	**Taragay, Kyrgy**	**43.58**	**312**	P	**P**	**13 04 51.8**	**+0.2**
KPKS	**Kokpek**	**43.60**	**315**	⇓*i*P	**P**	**13 04 51.9**	**+0.6**
	comp=E,36nm,0.9s,baz=315						
KPKS				*e*S	**S**	**13 11 22.9**	**+4.8**
	baz=315						
KPKS	**Kokpek**	**43.60**	**315**	*d i*P	**P**	**13 04 51.8**	**+0.6**
KPKS				*e*S	**S**	**13 11 22.8**	**+4.8**
KPKS				pmax	pmax		
	comp=Z,35nm,0.9s						
SATY	**Saty**	**43.63**	**314**	*e*P	**P**	**13 04 49.1**	**-2.5**
	baz=314						
SATY				*e*S	**S**	**13 11 21.4**	**+2.7**
	baz=314						
SATY	**Saty**	**43.63**	**314**	*e*P	**P**	**13 04 49.1**	**-2.5**
SATY				*e*S	**S**	**13 11 21.4**	**+2.7**
KSH	**Kashi**	**44.24**	**309**	P	**P**	**13 04 59.0**	**+2.5**
KSH				sP	sP	13 05 16.1	+3.5
KSH				pmax	pmax		
	comp=Z,27nm,0.8s						
KSH				LR	LR		
	comp=Z,3μm,18.7s						
KSH				LR	LR		
	comp=Z,3μm,16.5s						
KSH				LR	LR		
	comp=Z,3μm,15.1s						
TDK	**Taldyqorghan**	**44.38**	**317**	*e*P	**P**	**13 04 56.6**	**-0.8**
	baz=317						
TDK				*e*S	**S**	**13 11 29.4**	**+0.1**
	baz=317						
TDK	**Taldyqorghan**	**44.38**	**317**	*e*P	**P**	**13 04 56.6**	**-0.8**
TDK				*e*S	**S**	**13 11 29.3**	**+0.1**
YAK	**Yakutsk**	**44.47**	**6**	*ce*P	**P**	**13 04 57.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,250nm,1.3s						
MDOK	**Medeo**	**44.60**	**314**	*i* P	**P**	**13 05 00.4**	**+1.0**
	baz=314						
MDOK				*i* S	**S**	**13 11 36.2**	**+3.5**
	baz=314						
MDOK	**Medeo**	**44.60**	**314**	*i* P	**P**	**13 05 00.3**	**+1.0**
MDOK				*i* S	**S**	**13 11 36.2**	**+3.5**
AAA	**Alma-Ata**	**44.71**	**314**	*e*P	**P**	**13 05 01.1**	**+1.0**
	baz=314						
AAA	**Alma-Ata**	**44.71**	**314**	*e*P	**P**	**13 05 01.1**	**+1.0**
CHKK	**Chushkaly**	**44.89**	**315**	*e*P	**P**	**13 05 01.1**	**-0.4**
	baz=315						
CHKK	**Chushkaly**	**44.89**	**315**	*e*P	**P**	**13 05 01.0**	**-0.4**
NIL	**Nilore**	**45.17**	**300**	P	**P**	**13 05 03.0**	**-0.9**
NIL				pmax	pmax		
	comp=Z,60nm,0.9s						
NIL	**Nilore**	**45.17**	**300**	P	**P**	**13 05 03.0**	**-0.9**
NIL				IAmb	IAmb	13 05 04.7	
	comp=Z,60nm,0.8s						
PEA0B	**Petropavlovsk-**	**45.30**	**31**	P	**P**	**13 05 04.7**	**+0.1**
PEA0B				pmax	pmax		
	comp=Z,64nm,1.3s						
PEA0B	**Petropavlovsk-**	**45.30**	**31**	P	**P**	**13 05 04.7**	**+0.1**
PEA0B				IAmb	IAmb	13 05 05.6	
	comp=Z,64nm,1.2s						
PETK	**Petropavlovsk-**	**45.30**	**31**	P	**P**	**13 05 04.2**	**-0.3**
	comp=Z,12nm,0.9s,baz=207,slow=6.3,SNR=32						
PETK				PcP	**PcP**	**13 06 43.4**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=207,slow=2.9,SNR=1.6						
PETK				LR	LR	13 23 30.1	
	comp=Z,450nm,21.2s,baz=224,slow=35						
PETK	**Petropavlovsk-**	**45.30**	**31**	P	**P**	**13 05 04.1**	**-0.5**
CTAO	**Charters Tower**	**45.32**	**145**	P	**P**	**13 05 05.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,33nm,1.3s						
CTAO	**Charters Tower**	**45.32**	**145**	P	**P**	**13 05 05.5**	**+0.4**
CTAO				IAmb	IAmb	13 05 10.9	
	comp=Z,34nm,1.2s						
KUU	**Kurty**	**45.34**	**315**	⇓*i*P	**P**	**13 05 06.0**	**+0.9**
	comp=Z,113nm,1.4s,baz=315						
KUU				*e*S	**S**	**13 11 47.5**	**+4.4**
	baz=315						
KUU	**Kurty**	**45.34**	**315**	*d i*P	**P**	**13 05 05.9**	**+0.9**
KUU				*e*S	**S**	**13 11 47.5**	**+4.4**
KUU				pmax	pmax		
	comp=Z,113nm,1.4s						
ZAA0	**Zalesovo Array**	**45.37**	**331**	P	**P**	**13 05 05.7**	**+0.6**
ZALV	**Zalesovo Beam**	**45.37**	**331**	P	**P**	**13 05 05.1**	**0.0**
	comp=Z,16nm,0.9s,baz=121,slow=7.6,SNR=26						
ZALV				PcP	**PcP**	**13 06 43.0**	**-1.0**
	comp=Z,4.2nm,0.7s,baz=108,slow=4.4,SNR=2.6						
ZALV				ScP	**ScP**	**13 10 33.4**	**-0.3**
	comp=Z,4.4nm,1.1s,baz=106,slow=3.1,SNR=3.8						
ZALV				LR	LR	13 24 56.8	
	comp=Z,449nm,20.1s,baz=126,slow=37						
SEM	**Semipalatinsk**	**45.71**	**324**	*e*P	**P**	**13 05 06.4**	**-1.7**
	baz=324						
SEM	**Semipalatinsk**	**45.71**	**324**	*e*P	**P**	**13 05 06.4**	**-1.7**
PET	**Petropavlovsk**	**45.72**	**31**	⇓*i*P	**P**	**13 05 07.8**	**0.0**
PET				*e*		13 06 50.8	
PET				*e*S	**S**	**13 11 48.6**	**+0.4**
PET				*e*SS	**ScS**	**13 15 05.5**	**+5.0**
PET				pmax	pmax		
	comp=Z,200nm,8.0s						
PET				pmax	pmax		
	comp=Z,53nm,1.2s						
PET				pmax	pmax		
	comp=Z,200nm,11.9s						
PET				MLR	MLR		
	comp=Z,400nm,20.0s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PET	**Petropavlovsk**	**45.72**	**31**	P	**P**	**13 05 07.9**	**0.0**
PET				IAmb	IAmb	13 05 10.1	
	comp=Z,69nm,1.3s						
AAK	**Ala-Archa**	**46.20**	**312**	LR	LR	13 26 05.2	
	comp=Z,2μm,19.2s,baz=94,slow=38						
AAK	**Ala-Archa**	**46.20**	**312**	*i* P	**P**	**13 05 14.3**	**+2.2**
	SNR=7.0						
AAK	**Ala-Archa**	**46.20**	**312**	*ce*P	**P**	**13 05 13.3**	**+1.2**
AAK				pmax	pmax		
	comp=Z,101nm,2.5s						
AAK	**Ala-Archa**	**46.20**	**312**	P	**P**	**13 05 11.8**	**-0.3**
SGDS	**Sogindy**	**46.36**	**313**	*e*P	**P**	**13 05 12.0**	**-1.2**
	baz=314						
SGDS	**Sogindy**	**46.36**	**313**	*e*P	**P**	**13 05 12.0**	**-1.2**
AML	**Almayashu**	**46.62**	**311**	*i* P	**P**	**13 05 17.1**	**+1.5**
	SNR=17						
MA2	**Magadan**	**46.89**	**20**	*ce*P	**P**	**13 05 16.5**	**-0.5**
MA2				pmax	pmax		
	comp=Z,78nm,1.3s						
MA2	**Magadan**	**46.89**	**20**	P	**P**	**13 05 17.4**	**+0.5**
MORW	**Morawa**	**46.97**	**186**	P	**P**	**13 05 17.1**	**-0.8**
BTLS	**Baital**	**47.27**	**315**	⇓*i*P	**P**	**13 05 20.2**	**-0.1**
	baz=315						
BTLS	**Baital**	**47.27**	**315**	*d i*P	**P**	**13 05 20.1**	**-0.1**
DRK	**Karamyk**	**47.36**	**307**	P	**P**	**13 05 20.8**	**-0.5**
DRK				IAmb	IAmb	13 05 24.1	
	comp=Z,20nm,0.6s						
BTK	**Batken**	**48.22**	**308**	P	**P**	**13 05 27.5**	**-0.3**
BTK				pmax	pmax		
	comp=Z,15nm,1.1s						
BTK	**Batken**	**48.22**	**308**	P	**P**	**13 05 27.5**	**-0.3**
DZA	**Taraz**	**48.51**	**312**	*e*P	**P**	**13 05 29.4**	**-0.5**
	baz=312						
DZA	**Taraz**	**48.51**	**312**	*e*P	**P**	**13 05 29.4**	**-0.5**
KBL	**Kabul**	**48.75**	**300**	P	**P**	**13 05 31.5**	**-0.5**
KBL				pmax	pmax		
	comp=Z,51nm,1.2s						
KBL	**Kabul**	**48.75**	**300**	P	**P**	**13 05 31.5**	**-0.5**
KBL				IAmb	IAmb	13 05 33.3	
	comp=Z,51nm,1.1s						
FORT	**Forrest**	**48.95**	**172**	P	**P**	**13 05 33.4**	**+0.2**
FORT				IAmb	IAmb	13 05 37.7	
	comp=Z,50nm,0.8s						
KK31	**Karatay Array**	**49.15**	**312**	P	**P**	**13 05 34.6**	**-0.1**
KK31				pmax	pmax		
	comp=Z,19nm,0.9s						
KK31	**Karatay Array**	**49.15**	**312**	P	**P**	**13 05 34.6**	**-0.1**
KK31				IAmb	IAmb	13 05 36.2	
	comp=Z,19nm,0.8s						
KKAR	**Karatay Array**	**49.15**	**312**	P	**P**	**13 05 34.8**	**+0.1**
KKAR	**Karatay Array**	**49.15**	**312**	P	**P**	**13 05 34.8**	**+0.1**
KKAR	**Karatay Array**	**49.15**	**312**	P	**P**	**13 05 34.6**	**-0.1**
KKAR				IAmb	IAmb	13 05 36.2	
	comp=Z,19nm,0.8s						
SEY	**Seymchan**	**49.95**	**18**	*c i*P	**P**	**13 05 41.2**	**+0.7**
BRVK	**Borovoye**	**52.44**	**324**	*ce*P	**P**	**13 05 59.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,24nm,1.3s						
BRVK	**Borovoye**	**52.44**	**324**	P	**P**	**13 05 59.3**	**0.0**
BBOO	**Buckleboo**	**52.55**	**164**	P	**P**	**13 06 00.2**	**-0.1**
BBOO				IAmb	IAmb	13 06 08.3	
	comp=Z,33nm,1.1s						
STKA	**Stephens Creek**	**53.41**	**158**	P	**P**	**13 06 05.3**	**-1.4**
	comp=Z,9.9nm,0.8s,baz=349,slow=7.0,SNR=13						
STKA				LR	LR	13 31 18.2	
	comp=Z,373nm,19.0s,baz=336,slow=39						
STKA	**Stephens Creek**	**53.41**	**158**	P	**P**	**13 06 06.6**	**-0.1**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**53.41**	**158**	P	**P**	**13 06 06.6**	**-0.1**
TIXI	**Tiksi**	**53.90**	**3**	LR	LR	13 30 59.5	
	comp=Z,394nm,18.2s,baz=210,slow=38						
TIXI	**Tiksi**	**53.90**	**3**	P	**P**	**13 06 08.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,49nm,1.1s						
TIXI	**Tiksi**	**53.90**	**3**	P	**P**	**13 06 08.9**	**-0.9**
TIXI				IAmb	IAmb	13 06 10.3	
	comp=Z,49nm,1.1s						
HRA	**Herat**	**54.34**	**300**	P	**P**	**13 06 13.2**	**-0.6**
HRA				IAmb	IAmb	13 06 14.8	
	comp=Z,27nm,1.2s						
NRIK	**Noril'sk**	**55.32**	**346**	P	**P**	**13 06 20.6**	**+0.5**
	comp=Z,93nm,1.0s,baz=131,slow=6.7,SNR=61						
NRIK				ScP	**ScP**	**13 11 18.4**	**+2.4**
	comp=Z,6.4nm,0.9s,baz=102,slow=5.4,SNR=5.3						
NRIK				LR	LR	13 31 39.8	
	comp=Z,947nm,19.0s,baz=150,slow=38						
NRIK	**Noril'sk**	**55.32**	**346**	*ce*P	**P**	**13 06 20.4**	**+0.3**
NRIK				pmax	pmax

comp=Z,45nm,1.0s
SVE Sverdlovsk 58.91 326 *e*P P 13 06 45.8 +0.1
SVE *e*S **S 13 14 51.1 +2.3**
SVE pmax pmax
comp=Z,22nm,0.9s
SVE MLR MLR
comp=Z,489nm,14.0s
AKTO Aktyubinsk 59.07 318 LR LR 13 33 29.8
comp=Z,728nm,19.8s,baz=109,slow=37
ADK Adak 59.16 40 P **P 13 06 47.2 -0.2**
ADK pmax pmax
comp=Z,47nm,1.2s
ADK Adak 59.16 40 P **P 13 06 47.2 -0.2**
ADK IAmb IAmb 13 06 48.2
comp=Z,47nm,1.2s
BANOM Banah 59.84 290 *i* P **P 13 06 53.2 +0.4**
SNR=6.2
SOHO SOHO 59.85 288 P **P 13 06 51.9 -0.8**
ARU Arti 59.92 325 *d i*P **P 13 06 52.1 -0.6**
ARU 13 07 34.6
ARU 13 09 01.1
ARU S **S 13 15 03.7 +1.8**
ARU SS **SS 13 18 55.9 -2.5**
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU MLR MLR
comp=Z,640nm,16.0s
ARU Arti 59.92 325 P **P 13 06 52.3 -0.4**
ASHO Ashiyiah 60.21 289 *i* P **P 13 06 54.7 -0.6**
SNR=7.2
ALNE Al Ain 60.57 288 *i* P **P 13 06 57.2 -0.5**
SNR=6.5
FAQ Al Faqa, Dubai 60.62 289 P **P 13 06 57.4 -0.6**
ATKA Atka Island 60.73 40 P **P 13 06 57.7 -0.5**
ATKA IAmb IAmb 13 07 05.3
comp=Z,44nm,0.8s
ASUD Al Ashush, Dub 60.88 289 *i* P **P 13 06 59.2 -0.5**
SNR=6.6
SPIA Saint Paul Isl 63.70 35 P **P 13 07 18.9 +0.9**
baz=262
NIKH Nikolski High 64.05 39 P **P 13 07 18.8 -1.7**
baz=266
NIKH Nikolski High 64.05 39 P **P 13 07 21.1 +0.7**
GAMB Gambell 64.13 27 P **P 13 07 21.5 +0.7**
baz=258
KIRV Kirov 65.15 327 *ce*P **P 13 07 26.9 -0.6**
AKT Akhty 65.76 308 *e*P **P 13 07 31.8 -0.2**
AKT *e* 13 08 02.4
AKT *e* 13 09 59.1
AKT pmax pmax
comp=Z,45nm,1.0s
MAK Makhachkala 65.86 310 *e*P **P 13 07 28.1 -4.3**
MAK *e*S **S 13 16 08.8 -7.8**
MAK *e*SS **SS 13 20 33.5 +1.9**
MAK pmax pmax
comp=Z,208nm,1.2s
MAK MLR MLR
comp=Z,480nm,16.0s
TNA Tin City 66.06 26 P **P 13 07 34.5 +1.3**
baz=261
QRN Al-Qurain 66.88 294 *e*P **P 13 07 37.8 -1.4**
ANM Nome 66.99 27 P **P 13 07 40.6 +1.4**
ANM pmax pmax
comp=Z,77nm,1.2s
ANM Nome 66.99 27 P **P 13 07 40.4 +1.1**
baz=263
ANM Nome 66.99 27 P **P 13 07 40.6 +1.4**
MIB Mutribah 67.22 295 *e*P **P 13 07 40.4 -1.0**
PRGR Permogore 67.32 330 *e*P **P 13 07 39.0 -2.3**
PRGR pmax pmax
comp=Z,16nm,0.8s
RST Umm Al-Ruwaisa 67.56 295 *e*P **P 13 07 41.9 -1.6**
GNI Garni 68.12 307 P **P 13 07 47.7 +0.6**
GNI Garni 68.12 307 *ce*P **P 13 07 47.2 +0.1**
GNI pmax pmax
comp=Z,43nm,1.3s
GNI Garni 68.12 307 P **P 13 07 47.9 +0.9**
GNI IAmb IAmb 13 07 51.9
comp=Z,57nm,1.4s
RDOG Red Dog Mine 68.36 23 P **P 13 07 50.5 +2.7**
baz=264
RDOG Red Dog Mine 68.36 23 P **P 13 07 49.7 +1.8**
ZEI Tsey 68.51 310 *e*P **P 13 07 48.8 -0.7**
ZEI pmax pmax
comp=Z,24nm,0.9s
NCK Nalchik 68.68 310 *i* P **P 13 07 50.6 +0.3**
NCK pmax pmax
comp=Z,17nm,1.3s
ONI Oni 68.86 309 P **P 13 07 52.7 +1.2**
ONI pmax pmax
comp=Z,28nm,0.9s
ONI Oni 68.86 309 P **P 13 07 52.7 +1.2**
ONI IAmb IAmb 13 08 01.2
comp=Z,28nm,0.9s
SDPT Sand Point 69.04 37 P **P 13 07 53.1 +0.9**
baz=272
KBZ Khabaz 69.16 311 P **P 13 07 53.2 0.0**
comp=Z,16nm,1.0s,baz=87,slow=4.8,SNR=26
KBZ LR LR 13 43 26.8
comp=Z,617nm,18.2s,baz=80,slow=40
KBZ Khabaz 69.16 311 *ce*P **P 13 07 53.0 -0.2**
KBZ pmax pmax
comp=Z,29nm,1.1s
KIV Kislovodsk 69.29 311 *i* P **P 13 07 54.6 +0.4**
SNR=7.0
KIV Kislovodsk 69.29 311 *e*P **P 13 07 54.2 0.0**
KIV *e*S **S 13 16 59.8 +1.8**
KIV pmax pmax
comp=Z,38nm,1.1s
KIV MLR MLR
comp=Z,577nm,17.0s
KIV Kislovodsk 69.29 311 P **P 13 07 54.5 +0.3**
KIV IAmb IAmb 13 07 55.5
comp=Z,32nm,1.0s
VRH Novokhopyorsk 69.41 319 *e*P **P 13 07 52.8 -1.8**
VRH pmax pmax
comp=Z,20nm,1.0s
RAYN Ar Rayn 69.91 289 *i* P **P 13 07 57.9 -0.5**
SNR=25
RAYN Ar Rayn 69.91 289 P **P 13 07 57.8 -0.5**
RAYN pmax pmax
comp=Z,34nm,1.0s
RAYN Ar Rayn 69.91 289 P **P 13 07 57.8 -0.5**
RAYN IAmb IAmb 13 07 59.1
comp=Z,34nm,1.0s
KLMR Klimovskoe 70.25 329 *e*P **P 13 07 58.0 -1.6**
KLMR *e* 13 10 31.7
KLMR pmax pmax
comp=Z,27nm,1.1s
KLMR MLR MLR
comp=Z,697nm,15.0s
KLMR Klimovskoe 70.25 329 *e*P **P 13 07 58.1 -1.6**
KLMR AMP 13 08 00.6
comp=Z,27nm,1.1s
KLMR *e*PP **PP 13 10 31.8 -3.4**
KLMR LQ LQ 13 32 57.0
KLMR LQ LQ 13 32 57.0
KLMR LR LR 13 36 29.9
KLMR AMP 13 41 02.8
comp=Z,697nm,15.3s
GURO Guroymak-BITLI 70.39 305 P **P 13 08 01.8 +0.7**
GURO IAmb IAmb 13 08 04.0
comp=Z,35nm,0.9s
A21K Barrow 70.75 20 P **P 13 08 03.4 +0.9**
baz=269
VORD Divnogorie 70.95 319 *e*P **P 13 08 04.5 +0.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 71.01 319 *e*P **P 13 08 02.9 -1.5**
VSR pmax pmax
comp=Z,30nm,1.4s
LPSR Galich'ya Gora 71.04 320 *e*P **P 13 08 04.0 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
N18K Kilae Creek 71.26 31 P **P 13 08 06.8 +1.0**
baz=273,SNR=14
SVW2 Sparrevohn 71.39 31 P **P 13 08 08.3 +1.7**
SOC Sochi 71.47 311 *e*P **P 13 08 07.1 -0.3**
SOC *e* 13 10 44.4
SOC *e*PPP PPP 13 12 27.6
SOC *e*S **S 13 17 26.7 +3.5**
SOC *e*SS **SS 13 21 56.0 -2.3**
SOC pmax pmax
comp=Z,12nm,0.5s
SOC MLR MLR

comp=Z,690nm,18.0s
MOS Moscow 71.53 324 *e*P **P 13 08 05.0 -2.5**
MOS *e* 13 10 48.9
MOS *e*S **S 13 17 21.7 -1.8**
MOS *e* 13 18 05.9
MOS pmax pmax
comp=Z,34nm,0.9s
MOS MLR MLR
comp=Z,900nm,23.0s
L19K White Mountain 71.67 29 P **P 13 08 09.5 +1.3**
baz=274,SNR=37
M19K Big River Lodg 71.90 30 P **P 13 08 11.0 +1.4**
baz=274
N19K Bonanza Creek 71.94 31 P **P 13 08 11.1 +1.1**
baz=275,SNR=19
O19K Port Alsworth 72.07 32 P **P 13 08 11.4 +0.8**
baz=275,SNR=17
OBN Obninsk 72.19 323 LR LR 13 43 57.2
comp=Z,58nm,18.2s,baz=38,slow=39
OBN Obninsk 72.19 323 *i* P **P 13 08 10.9 -0.5**
OBN *i* 13 08 27.9
OBN *i* 13 10 52.3
OBN *i* S S 13 17 22.1 -8.9
OBN *i* SS **SS 13 22 14.7 +6.0**
OBN pmax pmax
comp=Z,18nm,1.1s
OBN MLR MLR
comp=Z,691nm,17.0s
H21K Melozitna Rive 72.33 26 P **P 13 08 13.4 +1.3**
baz=274
M20K Styx River 72.50 30 P **P 13 08 14.5 +1.2**
baz=275,SNR=26
APA Apatity 72.57 336 ⇓ *i*P **P 13 08 12.5 -1.0**
APA *i* 13 08 25.5
APA *i* S **S 13 17 31.0 -4.0**
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,900nm,13.0s
CHUM Lake Minchumin 72.69 28 P **P 13 08 15.4 +1.1**
baz=276,SNR=15
I21K Tanana 72.71 26 P **P 13 08 15.8 +1.4**
baz=275,SNR=37
RSO Redoubt South 72.82 31 P **P 13 08 15.9 +0.5**
PPLA Purkeypile 72.84 29 P **P 13 08 16.2 +0.8**
baz=276,SNR=16
PPLA Purkeypile 72.84 29 P **P 13 08 16.7 +1.3**
OHAK Old Harbor 72.90 35 P **P 13 08 15.8 +0.1**
baz=277,SNR=6.8
OHAK Old Harbor 72.90 35 P **P 13 08 16.1 +0.5**
O20K Slope Mountain 72.93 32 P **P 13 08 16.1 +0.3**
baz=276
ANN Anapa 72.93 312 *e*P **P 13 08 14.3 -1.8**
ANN *e*S **S 13 17 39.9 0.0**
ANN pmax pmax
comp=Z,35nm,0.9s
ANN MLR MLR
comp=Z,545nm,17.0s
SPCR Spurr Chakacha 73.01 30 P **P 13 08 16.8 +0.5**
baz=276,SNR=8.6
SPU Mount Spurr 73.08 30 P **P 13 08 17.1 +0.3**
KDAK Kodiak Island 73.22 34 P **P 13 08 17.7 +0.2**
KDAK pmax pmax
comp=Z,156nm,1.5s
KDAK Kodiak Island 73.22 34 P **P 13 08 18.0 +0.5**
baz=277
KDAK Kodiak Island 73.22 34 P **P 13 08 17.7 +0.2**
COLD Coldfoot 73.22 24 P **P 13 08 18.4 +1.0**
baz=276,SNR=51
COLD Coldfoot 73.22 24 P **P 13 08 18.5 +1.0**
COLD IAmb IAmb 13 08 19.9
comp=Z,61nm,1.2s
SKT Skwentna 73.24 30 P **P 13 08 17.4 -0.2**
baz=277,SNR=37
SKT Skwentna 73.24 30 P **P 13 08 17.6 -0.1**
BPAW Bear Paw Mtn. 73.25 27 P **P 13 08 18.4 +0.8**
baz=277,SNR=93
BPAW Bear Paw Mtn. 73.25 27 P **P 13 08 18.5 +0.9**
MLY Manley 73.25 26 P **P 13 08 18.8 +1.1**
baz=276,SNR=79
MLY Manley 73.25 26 P **P 13 08 18.7 +1.1**
TOLK Toolik Lake Re 73.30 22 P **P 13 08 18.7 +0.8**
baz=276,SNR=40
TOLK Toolik Lake Re 73.30 22 **P 13 08 18.8 +0.8**
TOLK Toolik Lake Re 73.30 22 P **P 13 08 18.5 +0.6**
TOLK IAmb IAmb 13 08 20.2
comp=Z,56nm,1.1s
KTH Kantishna Hill 73.34 28 P **P 13 08 18.6 +0.3**
KTH IAmb IAmb 13 08 21.7
comp=Z,90nm,1.3s
TRF Thorofare Moun 73.63 28 P **P 13 08 20.0 -0.1**
baz=277,SNR=17
TRF Thorofare Moun 73.63 28 P **P 13 08 20.7 +0.6**
TRF IAmb IAmb 13 08 21.9
comp=Z,90nm,1.5s
H23K Yukon River 73.65 25 P **P 13 08 21.6 +1.7**
baz=277,SNR=96
SUA Susitna One 73.68 30 P **P 13 08 20.2 -0.1**
baz=278,SNR=26
SUA Susitna One 73.68 30 P **P 13 08 20.4 0.0**
CNPM China Poot 73.69 32 P **P 13 08 20.2 -0.1**
CNPM IAmb IAmb 13 08 22.0
comp=Z,82nm,1.4s
CUT Chulitna 73.78 29 P **P 13 08 20.6 0.0**
baz=278,SNR=7.1
CUT Chulitna 73.78 29 P **P 13 08 20.7 0.0**
I23K Minto, Yukon-K 73.81 26 P **P 13 08 21.8 +0.9**
baz=278,SNR=53
I23K Minto, Yukon-K 73.81 26 P **P 13 08 21.8 +0.9**
BRLK Bradley Lake 73.83 32 P **P 13 08 20.8 -0.4**
BRLK IAmb IAmb 13 08 23.8
comp=Z,67nm,1.0s
BWN Browne 73.90 27 P **P 13 08 22.7 +1.3**
BRSE Bradley Lake S 73.91 32 P **P 13 08 20.9 -0.7**
baz=278
NEA2 Nenana 74.01 27 P **P 13 08 22.6 +0.5**
baz=278,SNR=50
NEA2 Nenana 74.01 27 P **P 13 08 22.6 +0.5**
MCK McKinley 74.19 28 P **P 13 08 23.3 +0.1**
MCK pmax pmax
comp=Z,163nm,1.2s
MCK McKinley 74.19 28 P **P 13 08 23.3 +0.1**
baz=278,SNR=59
MCK McKinley 74.19 28 P **P 13 08 23.3 +0.1**
RC01 Rabbit Creek A 74.21 30 P **P 13 08 23.0 -0.3**
baz=279,SNR=6.3
RC01 Rabbit Creek A 74.21 30 P **P 13 08 23.4 +0.1**
RC01 IAmb IAmb 13 08 24.3
comp=Z,38nm,1.1s
RND Reindeer 74.28 28 P **P 13 08 23.7 0.0**
RND Reindeer 74.28 28 P **P 13 08 23.7 0.0**
O22K Cooper Landing 74.31 31 P **P 13 08 23.5 -0.3**
baz=279
O22K Cooper Landing 74.31 31 P **P 13 08 23.9 +0.1**
MDM Murphy Dome 74.31 26 P **P 13 08 24.3 +0.4**
H24K Noodor Dome 74.33 25 P **P 13 08 25.2 +1.3**
baz=279,SNR=52
GAZ Gaziantep 74.38 304 P **P 13 08 24.6 -0.2**
GAZ IAmb IAmb 13 08 26.1
comp=Z,22nm,0.9s
PMR Palmer 74.42 30 P **P 13 08 23.7 -0.8**
PMR pmax pmax
comp=Z,77nm,1.1s
PMR Palmer 74.42 30 P **P 13 08 24.2 -0.3**
baz=279,SNR=27
PMR Palmer 74.42 30 P **P 13 08 23.7 -0.8**
PMR IAmb IAmb 13 08 25.5
comp=Z,77nm,1.1s
WRH Wood River Hil 74.45 27 P **P 13 08 24.8 +0.2**
WRH IAmb IAmb 13 08 27.0
comp=Z,46nm,1.0s
TCOL CIGO, UAF Yank 74.48 26 P **P 13 08 24.7 -0.1**
baz=279,SNR=21
TCOL CIGO, UAF Yank 74.48 26 P **P 13 08 24.6 -0.2**
TCOL IAmb IAmb 13 08 27.8
comp=Z,92nm,1.4s
COLA College 74.49 26 *c i*P **P 13 08 24.5 -0.3**
COLA pmax pmax
comp=Z,70nm,1.3s
COLA College 74.49 26 P **P 13 08 24.7 -0.1**
baz=279
COLA College 74.49 26 P **P 13 08 25.1 +0.3**
COLA IAmb IAmb 13 08 27.8
comp=Z,92nm,1.4s
GHO Glory Hole Cre 74.49 30 P **P 13 08 25.1 0.0**
GHO IAmb IAmb 13 08 26.4

comp=Z,64nm,1.1s
SEW Seward 74.50 31 P **P 13 08 24.9 -0.1**
baz=279,SNR=10
SEW Seward 74.50 31 P **P 13 08 25.1 +0.1**
WAT1 Susitna Watana 74.50 28 P **P 13 08 24.4 -0.6**
baz=279
CCB Clear Creek Bu 74.54 27 P **P 13 08 24.8 -0.3**
CCB IAmb IAmb 13 08 27.4
comp=Z,31nm,1.1s
POKR Poker Plat Res 74.62 26 P **P 13 08 25.9 +0.3**
baz=279,SNR=10
POKR Poker Plat Res 74.62 26 P **P 13 08 26.8 +1.2**
POKR IAmb IAmb 13 08 28.5
comp=Z,60nm,1.1s
SML Sawmill 74.77 29 P **P 13 08 26.7 +0.1**
baz=280,SNR=42
SML Sawmill 74.77 29 P **P 13 08 27.2 +0.6**
KNK Knik Glacier 74.77 30 P **P 13 08 26.9 +0.3**
baz=280,SNR=32
KNK Knik Glacier 74.77 30 P **P 13 08 26.2 -0.4**
IL31 74.91 26 P **P 13 08 26.6 -0.6**
ILAR Eielson Array 74.91 26 P **P 13 08 26.2 -1.1**
comp=Z,12nm,0.9s,baz=292,slow=4.3,SNR=42
ILAR LR LR 13 42 49.5
comp=Z,162nm,20.5s,baz=288,slow=37
ILAR Eielson Array 74.91 26 P **P 13 08 26.6 -0.7**
ILAR Eielson Array 74.91 26 P **P 13 08 26.6 -0.7**
WAT6 Susitna Watana 74.91 29 P **P 13 08 27.6 +0.1**
baz=280,SNR=78
PWL Port Wells 74.92 30 P **P 13 08 27.5 0.0**
HDA Harding Lake 74.95 27 P **P 13 08 26.8 -0.7**
baz=280,SNR=32
HDA Harding Lake 74.95 27 P **P 13 08 26.9 -0.7**
HDA IAmb IAmb 13 08 28.2
comp=Z,51nm,1.1s
BNN Bunyan 75.11 306 P **P 13 08 29.1 0.0**
BNN IAmb IAmb 13 08 33.8
comp=Z,36nm,1.0s
ARA0 ARCESS Array S 75.17 339 *e*P **P 13 08 28.7 0.0**
ARCES ARCESS Array B 75.17 339 P **P 13 08 28.8 0.0**
comp=Z,3.4nm,0.5s,baz=74,slow=8.1,SNR=27
ARCES ARCESS Array B 75.17 339 P **P 13 08 28.7 0.0**
ATD Arta Tunnel 75.19 278 LR LR 13 39 00.4
comp=Z,109nm,21.5s,baz=86,slow=34
SCM Sheep Creek Mo 75.23 29 P **P 13 08 29.2 -0.1**
SCM pmax pmax
comp=Z,270nm,1.3s
SCM Sheep Creek Mo 75.23 29 P **P 13 08 29.2 -0.1**
SIM Simferopol' 75.23 313 *e*P **P 13 08 28.8 -0.7**
SIM *e* 13 11 20.2
SIM pmax pmax
comp=Z,29nm,0.8s
FYU Fort Yukon 75.26 24 P **P 13 08 29.9 +0.7**
PRP Porcupine Dome 75.34 25 P **P 13 08 29.6 -0.4**
baz=281,SNR=26
PRP Porcupine Dome 75.34 25 P **P 13 08 30.1 +0.1**
PRP IAmb IAmb 13 08 49.4
comp=Z,32nm,1.2s
SPA0 Spitsbergen Ar 75.47 348 *e*P **P 13 08 31.3 +1.0**
GLI Glacier Island 75.52 30 P **P 13 08 31.1 +0.2**
baz=281,SNR=17
GLI Glacier Island 75.52 30 P **P 13 08 30.6 -0.3**
HAMF Hammerfest 75.55 340 *e*P **P 13 08 31.4 +0.6**
M24K Tolsona, Glenn 75.72 29 P **P 13 08 33.1 +1.1**
baz=281,SNR=32
M24K Tolsona, Glenn 75.72 29 P **P 13 08 33.0 +1.0**
FID Port Fidalgo 75.84 30 P **P 13 08 32.8 +0.1**
PAX Paxson 75.86 28 P **P 13 08 33.3 +0.4**
PAX pmax pmax
comp=Z,68nm,1.2s
PAX Paxson 75.86 28 P **P 13 08 33.3 +0.4**
baz=282,SNR=31
PAX Paxson 75.86 28 P **P 13 08 33.3 +0.4**
PAX IAmb IAmb 13 08 34.8
comp=Z,68nm,1.2s
HIN Hinchinbrook I 75.90 31 P **P 13 08 34.0 +0.9**
KLU Klutina 75.95 30 P **P 13 08 34.0 +0.5**
baz=282,SNR=31
KLU Klutina 75.95 30 P **P 13 08 33.1 -0.3**
KLU IAmb IAmb 13 08 39.1
comp=Z,56nm,1.0s
HSPB Hornsund (broa 76.01 347 *e*P **P 13 08 33.8 +0.4**
HSPB Hornsund (broa 76.01 347 *e*P **P 13 08 33.2 -0.1**
KBS Kingsbay 76.05 349 *i* P **P 13 08 34.0 +0.4**
KBS IAmb IAmb 13 08 35.2
comp=Z,34nm,0.9s
KBS Kingsbay 76.05 349 *ce*P **P 13 08 33.6 0.0**
KBS pmax pmax
comp=Z,18nm,1.3s
KBS Kingsbay 76.05 349 P **P 13 08 34.0 +0.4**
KTK1 Kautokeino 76.07 338 *e*P **P 13 08 33.6 -0.2**
HARP HAARP 76.12 29 P **P 13 08 35.1 +0.8**
baz=282,SNR=17
EYAK Cordova Ski Ar 76.23 31 P **P 13 08 35.8 +0.9**
baz=282,SNR=18
EYAK Cordova Ski Ar 76.23 31 P **P 13 08 35.7 +0.9**
SCRK Sand Creek 76.30 27 P **P 13 08 35.6 +0.2**
baz=283,SNR=42
SCRK Sand Creek 76.30 27 P **P 13 08 35.4 -0.1**
SCRK IAmb IAmb 13 08 36.9
comp=Z,62nm,1.2s
DOT Dot Lake 76.34 27 P **P 13 08 35.5 -0.1**
DOT IAmb IAmb 13 08 36.9
comp=Z,69nm,1.1s
N25K Chitina, Valde 76.55 29 P **P 13 08 37.7 +0.9**
baz=283,SNR=43
N25K Chitina, Valde 76.55 29 P **P 13 08 37.7 +0.9**
BR131 Keskin Array S 76.62 308 P **P 13 08 37.9 +0.2**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BR131 Keskin Array S 76.62 308 P **P 13 08 37.9 +0.2**
BRTR Keskin Array B 76.62 308 P **P 13 08 37.0 -0.7**
comp=Z,1.7nm,0.5s,baz=142,slow=6.3,SNR=10
BRTR PP **PP 13 11 29.8 -0.3**
comp=Z,2.4nm,1.1s,baz=77,slow=7.6,SNR=3.0
BRTR LR LR 13 46 35.5
comp=Z,446nm,21.9s,baz=84,slow=39
BRTR Keskin Array B 76.62 308 P **P 13 08 37.0 -0.7**
BRTR Keskin Array B 76.62 308 P **P 13 08 36.6 -1.1**
FIA1 FINESS Array S 76.64 331 P **P 13 08 37.4 +0.2**
FINES FINESS Array B 76.64 331 P **P 13 08 36.6 -0.6**
comp=Z,27nm,1.1s,baz=78,slow=4.5,SNR=37
FINES LR LR 13 45 01.2
comp=Z,562nm,20.0s,baz=76,slow=38
FINES FINESS Array B 76.64 331 *i* P **P 13 08 37.2 0.0**
FINES pmax pmax
comp=Z,27nm,1.1s
FINES FINESS Array B 76.64 331 P **P 13 08 36.7 -0.5**
MENT Mentasta 76.65 28 P **P 13 08 37.9 +0.6**
BMRM Bremner River 76.69 30 P **P 13 08 38.0 +0.4**
baz=283,SNR=25
BMRM Bremner River 76.69 30 P **P 13 08 37.7 +0.1**
JETT Jettan, Norway 76.90 339 *e*P **P 13 08 40.5 +1.9**
GLB Gilahina Butte 76.96 29 P **P 13 08 39.3 +0.2**
VSU Vasula 76.98 327 *e*P **P 13 08 39.6 +0.4**
VSU Vasula 76.98 327 *i* P **P 13 08 39.1 -0.1**
VSU pmax pmax
comp=Z,116nm,1.1s
HMT Hamilton 77.00 31 P **P 13 08 39.9 +0.6**
BKZ Black Stump Fm 77.04 139 P **P 13 08 40.6 +0.8**
BKZ IAmb IAmb 13 08 54.3
comp=Z,26nm,1.0s
K27K Chicken 77.11 27 P **P 13 08 41.0 +1.1**
baz=284,SNR=76
K27K Chicken 77.11 27 P **P 13 08 40.5 +0.6**
VRDI Verde Repeater 77.17 30 P **P 13 08 40.4 -0.1**
VRDI IAmb IAmb 13 08 42.4
comp=Z,87nm,1.3s
MNK Minsk 77.25 323 *i* P **P 13 08 39.4 -1.4**
MNK *i* 13 08 49.6
MNK *i* 13 11 33.6
MNK *i* PPP PPP 13 13 21.2
MNK *i* S **S 13 18 28.1 +0.5**
MNK *i* SS **SS 13 23 27.6 +2.1**
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK pmax pmax
comp=Z,31nm,0.9s
MNK MLR MLR
comp=N,304nm,17.0s
MNK MLR MLR
comp=Z,355nm,14.0s
MNK MLR MLR

comp=E,46nm,15.0s
MNK Minsk 77.25 323 *i* P **P 13 08 39.4 -1.3**
comp=E,3.0nm,0.9s
MNK *i* P **P 13 08 39.4 -1.3**
comp=N,12nm,0.7s
MNK *i* P **P 13 08 39.4 -1.3**
comp=Z,31nm,0.9s,baz=258
MNK *i* PcP **PcP 13 08 49.6 -1.7**
MNK *i* PP **PP 13 11 33.7 -1.1**
MNK *i* PPP PPP 13 13 21.3
MNK *i* S **S 13 18 28.1 +0.6**
MNK *i* SS **SS 13 23 27.6 +2.1**
MNK *i* SSS SSS 13 26 52.1
MNK *i* LQ LQ 13 37 17.8
MNK *i* LR LR 13 42 35.2
MNK *i* LRM MLR 13 44 50.5
comp=N,304nm,17.4s
MNK *i* LRM MLR 13 44 57.9
comp=E,46nm,15.2s
MNK *i* LRM MLR 13 44 57.9
comp=Z,355nm,14.5s
SUCK Suckling Hills 77.29 31 P **P 13 08 40.8 -0.1**
SUCK IAmb IAmb 13 08 43.4
comp=Z,80nm,1.2s
AKASG Malin Array Be 77.30 319 P **P 13 08 40.0 -1.1**
comp=Z,13nm,0.9s,baz=63,slow=5.4,SNR=25
AKASG Malin Array Be 77.30 319 P **P 13 08 39.9 -1.1**
AKBB Malin Array Si 77.30 319 *ce*P **P 13 08 40.2 -0.9**
AKBB Malin Array Si 77.30 319 P **P 13 08 39.7 -1.4**
EGAK Eagle 77.31 26 P **P 13 08 41.2 +0.3**
baz=285,SNR=49
EGAK Eagle 77.31 26 P **P 13 08 41.2 +0.3**
EGAK IAmb IAmb 13 08 42.5
comp=Z,45nm,1.0s
MCARA McCarthy VSAT 77.34 29 P **P 13 08 42.0 +0.8**
baz=284,SNR=18
TRO Tromso 77.38 339 *e*P **P 13 08 41.7 +0.5**
CRQM Cirque 77.44 30 P **P 13 08 42.2 +0.3**
CRQE Cirque 77.46 30 P **P 13 08 42.6 +0.6**
baz=284,SNR=23
L27K Beaver Creek, 77.46 28 P **P 13 08 43.3 +1.4**
baz=285,SNR=98
L27K Beaver Creek, 77.46 28 P **P 13 08 42.6 +0.8**
BCAR Beaver Creek A 77.48 28 P **P 13 08 42.8 +0.8**
BGLC Bering Glacier 77.52 31 P **P 13 08 43.0 +0.9**
baz=284
TGL Tana Glacier 77.58 30 P **P 13 08 43.0 +0.3**
WAX Waxell Ridge 77.65 30 P **P 13 08 43.5 +0.5**
IDID Didziasalis 77.71 324 *e*P **P 13 08 44.1 +0.8**
MEF Metsahovi 77.73 329 *e*P **P 13 08 43.7 +0.4**
ISLE Juniper Island 77.86 30 P **P 13 08 44.7 +0.4**
CSS Mathiatis 77.91 303 P **P 13 08 44.7 -0.2**
CSS IAmb IAmb 13 08 47.4
comp=Z,51nm,0.8s
IIGN Ignalina 77.98 324 *e*P **P 13 08 45.7 +0.9**
ISAL Salakas 77.98 325 *e*P **P 13 08 45.2 +0.4**
BARN Barnard Glacie 78.06 30 P **P 13 08 46.2 +0.8**
MESA MESA 78.15 30 P **P 13 08 47.1 +1.1**
baz=285,SNR=8.5
MESA MESA 78.15 30 P **P 13 08 46.6 +0.6**
YAH Yahtse 78.20 30 P **P 13 08 46.8 +0.5**
CTG Chitna Glacier 78.23 30 P **P 13 08 47.5 +1.2**
baz=286,SNR=72
CTGM Chitina Glacie 78.24 30 P **P 13 08 47.2 +0.8**
DAWY Dawson 78.24 26 P **P 13 08 46.1 -0.1**
DAWY IAmb IAmb 13 08 48.2
comp=Z,64nm,1.1s
MDUB Mudurnu 78.28 309 P **P 13 08 46.1 -0.8**
MTSE Matsula 78.40 328 *e*P **P 13 08 46.1 -1.0**
LOGN Logan Glacier 78.43 30 P **P 13 08 48.3 +0.8**
SORM Soroca 78.44 317 ⇑P **P 13 08 46.7 -0.9**
NOR Nord 78.47 354 ⇑*i*P **P 13 08 47.2 +0.1**
NOR IAmb IAmb 13 08 48.1
comp=Z,20nm,1.0s
NOR Nord 78.47 354 ⇑*i*P **P 13 08 47.2 +0.1**
NOR pmax pmax
comp=Z,20nm,1.0s
TABL Table Mountain 78.47 30 P **P 13 08 48.5 +0.7**
EPYK Eagle Plains 78.61 24 P **P 13 08 48.3 +0.2**
baz=289,SNR=26
EPYK Eagle Plains 78.61 24 P **P 13 08 48.4 +0.2**
EPYK IAmb IAmb 13 08 49.6
comp=Z,64nm,1.1s
RAF Rauma 78.76 331 *e*P **P 13 08 48.6 -0.4**
TLCR 78.85 314 ⇑P **P 13 08 49.4 -0.5**
PCA Pinnacle 78.99 30 P **P 13 08 51.4 +1.0**
PINM Pinnacle 78.99 30 P **P 13 08 51.6 +1.2**
baz=287,SNR=22
INK Inuvik 79.12 21 P **P 13 08 50.5 -0.3**
INK pmax pmax
comp=Z,72nm,1.1s
INK Inuvik 79.12 21 P **P 13 08 51.0 +0.2**
baz=291,SNR=26
INK Inuvik 79.12 21 P **P 13 08 50.5 -0.3**
INK IAmb IAmb 13 08 52.3
comp=Z,72nm,1.1s
PABE Paberze 79.19 325 *e*P **P 13 08 51.9 +0.4**
PABE Paberze 79.19 325 P **P 13 08 50.9 -0.6**
PABE IAmb IAmb 13 08 53.0
comp=Z,31nm,1.0s
TPGR Topolog 79.20 314 ⇑P **P 13 08 50.6 -1.2**
STEI Steigen 79.21 338 *e*P **P 13 08 51.8 +0.5**
TIRR Tirgusor 79.31 313 P **P 13 08 51.4 -0.9**
TIRR pmax pmax
comp=Z,54nm,1.1s
TIRR Tirgusor 79.31 313 P **P 13 08 51.4 -0.9**
TIRR IAmb IAmb 13 08 55.2
comp=Z,54nm,1.1s
CFR Carcaliu 79.32 314 ⇓P **P 13 08 51.4 -1.0**
BCPM Bancas Point 79.33 30 P **P 13 08 53.2 +1.0**
BCPM IAmb IAmb 13 08 58.4
comp=Z,46nm,1.0s
FAUS Fauske 79.39 338 *e*P **P 13 08 50.6 -1.7**
ISP Isparta 79.42 306 P **P 13 08 51.8 -1.5**
ISP pmax pmax
comp=Z,21nm,0.8s
ISP Isparta 79.42 306 P **P 13 08 51.8 -1.5**
ISP IAmb IAmb 13 08 55.2
comp=Z,21nm,0.8s
SLIT Slitere, Latvi 79.48 327 *e*P **P 13 08 52.6 -0.4**
HARR Harsova 79.58 314 ⇑P **P 13 08 54.0 +0.2**
LOF Lofoten 79.73 339 *e*P **P 13 08 54.7 +0.5**
ICOR Ion Corvin 79.82 313 ⇑P **P 13 08 55.5 +0.3**
ODBI Odobesti 79.90 315 ⇑P **P 13 08 56.2 +0.7**
TESR Tescani 79.97 316 ⇑P **P 13 08 55.9 -0.1**
SUW Suwalki 80.04 324 *e*P **P 13 08 55.9 -0.2**
SUW Suwalki 80.04 324 P **P 13 08 56.2 +0.1**
SUW pmax pmax
comp=Z,44nm,0.8s
SUW Suwalki 80.04 324 P **P 13 08 56.2 +0.1**
SUW IAmb IAmb 13 08 57.2
comp=Z,44nm,0.8s
HYT Haines Junctio 80.07 29 P **P 13 08 57.0 +0.7**
HYT IAmb IAmb 13 08 59.0
comp=Z,97nm,1.2s
VRI Vrincioaia 80.09 315 ⇑P **P 13 08 57.5 +0.8**
PBUR Paburge 80.14 326 *e*P **P 13 08 57.2 +0.6**
MOR8 Moi Rana 80.15 337 *e*P **P 13 08 55.6 -0.9**
PLOR Plostina 80.15 315 ⇑P **P 13 08 57.3 +0.3**
ELL Elmali 80.17 305 P **P 13 08 56.7 -0.7**
ELL pmax pmax
comp=Z,141nm,1.3s
ELL Elmali 80.17 305 P **P 13 08 56.7 -0.7**
ISR Istrita 80.42 314 ⇑P **P 13 08 59.2 +0.7**
BURAR Bucovina Array 80.62 317 ⇓P **P 13 08 59.7 +0.1**
BURAR Bucovina Array 80.62 317 P **P 13 08 59.4 -0.1**
STOK Stokkvaagen 80.62 337 *e*P **P 13 08 59.5 +0.6**
MLR Muntele Rosu 80.72 315 LR LR 13 51 07.0
comp=Z,562nm,19.0s,baz=49,slow=40
MLR Muntele Rosu 80.72 315 ⇓P **P 13 09 01.1 +0.9**
MLR Muntele Rosu 80.72 315 P **P 13 09 00.0 -0.2**
MLR pmax pmax
comp=Z,21nm,0.9s
MLR Muntele Rosu 80.72 315 P **P 13 08 60.0 -0.2**
MLR IAmb IAmb 13 09 02.4
comp=Z,21nm,0.9s
LVV L'vov 80.75 319 *e*P **P 13 09 01.5 +1.5**
BALB Balikesir 80.95 309 P **P 13 09 01.6 +0.2**
UPP Uppsala 81.08 330 *e*P **P 13 09 01.4 -0.1**
EUNU Eureka 81.11 5 P **P 13 09 02.0 +0.5**
EUNU IAmb IAmb 13 09 03.2
comp=Z,59nm,1.1s
ARCR ARCALIA 81.33 317 ⇑P **P 13 09 03.7 +0.5**
WHY Whitehorse 81.33 29 P **P 13 09 04.4 +1.3**
baz=291,SNR=34
WHY Whitehorse 81.33 29 P **P 13 09 04.1 +1.0**
VOIR 81.34 315 ⇑P **P 13 09 02.9 -0.6**
SKAG Skagway 81.56 30 P **P 13 09 05.2 +1.1**
baz=291
SKAG Skagway 81.56 30 P **P 13 09 05.6 +1.5**
SKAG IAmb IAmb 13 09 06.9
comp=Z,88nm,1.2s
KWP Kalwaria Pacla 81.62 319 P **P 13 09 04.8 +0.1**
KWP pmax pmax
comp=Z,490nm,0.5s
KWP Kalwaria Pacla 81.62 319 P **P 13 09 04.8 +0.1**
ARR Arges 81.64 315 ⇑P **P 13 09 05.2 +0.2**
HUMR Humele 81.65 314 ⇑P **P 13 09 04.6 -0.4**
NSS Namsos 81.75 336 *e*P **P 13 09 05.5 +0.4**
C36M Paulatuk 81.78 19 P **P 13 09 04.9 -0.3**
baz=300,SNR=6.3
C36M Paulatuk 81.78 19 P **P 13 09 04.8 -0.3**
CJR Cluj-Napoca 81.94 316 ⇑P **P 13 09 06.5 0.0**
ALN Alexandroupoli 81.95 310 P **P 13 09 06.0 -0.5**
ALN pmax pmax
comp=Z,13nm,1.0s
ALN Alexandroupoli 81.95 310 P **P 13 09 06.0 -0.5**
BEL Belsk 82.09 322 *e*P **P 13 09 08.5 +1.4**
BESE Bessie Mountai 82.10 31 P **P 13 09 08.5 +1.4**
KOLS Kolonicke sedl 82.11 319 *e*P **P 13 09 07.1 -0.2**
KOLS Kolonicke sedl 82.11 319 *e*P **P 13 09 07.1 -0.2**
UZH Uzhgorod 82.19 319 *e*P **P 13 09 08.2 +0.5**
UZH *e* 13 12 24.4
UZH *e*PPP PPP 13 14 11.8
UZH *e*S **S 13 19 18.2 -1.7**
UZH *e*PS **PnS 13 20 09.6 -3.1**
LOT Lotru 82.20 315 ⇑P **P 13 09 08.3 +0.3**
SIT Sitka 82.42 32 P **P 13 09 10.0 +1.3**
SIT pmax pmax
comp=Z,84nm,1.2s
SIT Sitka 82.42 32 P **P 13 09 09.9 +1.3**
baz=291
SIT Sitka 82.42 32 P **P 13 09 09.9 +1.3**
DAG Danmarks Havn 82.44 351 ⇑*i*P **P 13 09 08.0 -0.5**
DAG IAmb IAmb 13 09 09.5
comp=Z,99nm,1.2s
DAG Danmarks Havn 82.44 351 ⇑*i*P **P 13 09 07.9 -0.5**
DAG pmax pmax
comp=Z,99nm,1.2s
JIS Juneau Island 82.45 31 P **P 13 09 09.6 +0.8**
JIS IAmb IAmb 13 09 11.7
comp=Z,64nm,1.1s
DRGR 82.49 317 ⇓P **P 13 09 09.6 +0.2**
CRVS Cervenica-Dubn 82.62 319 *e*P **P 13 09 11.4 +1.4**
CRVS pmax pmax
comp=Z,28nm,1.4s
CRVS Cervenica-Dubn 82.62 319 *e*P **P 13 09 11.4 +1.4**
DEV Deva 82.65 316 ⇑P **P 13 09 09.8 -0.3**
HFS Hagfors 82.81 331 LR LR 13 48 50.6
comp=Z,643nm,19.6s,baz=60,slow=38
GZR Gura Zlata 82.89 315 ⇑P **P 13 09 11.6 +0.1**
OJC Ojcow 83.21 321 *e*P **P 13 09 13.2 +0.2**
OJC Ojcow 83.21 321 P **P 13 09 12.2 -0.8**
OJC pmax pmax
comp=Z,24nm,1.1s
OJC Ojcow 83.21 321 P **P 13 09 12.2 -0.8**
OJC IAmb IAmb 13 09 14.7
comp=Z,24nm,1.1s
BLEU Blekinge 83.27 327 *i* P **P 13 09 11.7 -1.4**
HERR Herculane 83.29 315 ⇑P **P 13 09 13.6 +0.1**
NC405 NORSAR Array S 83.29 332 P **P 13 09 11.6 -1.6**
NC405 IAmb IAmb 13 09 13.2
comp=Z,37nm,0.8s
SIRR Siria 83.35 316 ⇓P **P 13 09 14.1 +0.3**
KECS Kecovo 83.37 319 *e*P **P 13 09 14.8 +0.9**
KECS pmax pmax
comp=Z,6.0nm,0.8s
KECS Kecovo 83.37 319 *e*P **P 13 09 14.8 +0.9**
NC303 NORSAR Array S 83.40 333 P **P 13 09 12.9 -0.9**
NC303 IAmb IAmb 13 09 23.7
comp=Z,14nm,0.9s
VTS Vitosha 83.44 313 ⇑P **P 13 09 14.8 +0.3**
VTS Vitosha 83.44 313 P **P 13 09 14.2 -0.3**
VTS pmax pmax
comp=Z,28nm,1.0s
VTS Vitosha 83.44 313 P **P 13 09 14.2 -0.3**
VTS IAmb IAmb 13 09 17.0
comp=Z,28nm,1.0s
NB201 NORSAR Array S 83.51 333 P **P 13 09 12.7 -1.6**
NB201 IAmb IAmb 13 09 23.3
comp=Z,16nm,0.9s
NC602 NORSAR Array S 83.53 332 *e*P **P 13 09 14.6 +0.2**
NOA NORSAR Array B 83.55 333 P **P 13 09 13.0 -1.5**
comp=Z,2.9nm,0.7s,baz=64,slow=4.9,SNR=25
NOA LR LR 13 50 06.0
comp=Z,672nm,18.4s,baz=70,slow=38
BZS Buzias 83.59 316 ⇑P **P 13 09 14.6 -0.4**
NC204 NORSAR Array S 83.64 333 P **P 13 09 14.1 -0.9**
NC204 IAmb IAmb 13 09 16.6
comp=Z,16nm,0.8s
NBO00 NORSAR Array S 83.74 333 P **P 13 09 15.3 -0.2**
NBO00 IAmb IAmb 13 09 24.5
comp=Z,29nm,1.4s
NAO01 NORSAR Array S 83.78 332 P **P 13 09 15.2 -0.5**
NAO01 IAmb IAmb 13 09 19.0
comp=Z,30nm,1.4s
MDVR Moldovita 83.79 315 ⇑P **P 13 09 16.2 +0.1**
KIBK Kibwezi 83.82 266 P **P 13 09 15.9 -0.9**
PSZ Piszkesteto 83.94 318 ⇑P **P 13 09 17.0 +0.2**
PSZ Piszkesteto 83.94 318 *e*P **P 13 09 18.3 +1.5**
PSZ Piszkesteto 83.94 318 P **P 13 09 16.4 -0.5**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 83.94 318 P **P 13 09 16.4 -0.5**
DOMB Dombas 84.02 334 *e*P **P 13 09 17.1 +0.1**
CRAG Craig 84.16 33 P **P 13 09 18.6 +0.9**
baz=293
CRAG Craig 84.16 33 P **P 13 09 18.5 +0.8**
WRAK Wrangell Islan 84.18 32 P **P 13 09 18.7 +1.0**
baz=294
WRAK Wrangell Islan 84.18 32 P **P 13 09 18.8 +1.0**
WRAK IAmb IAmb 13 09 20.2
comp=Z,51nm,1.2s
BSD Bornholm Skovb 84.19 326 *e*P **P 13 09 17.9 +0.1**
BSD Bornholm Skovb 84.19 326 *i* P **P 13 09 17.0 -0.9**
BSD IAmb IAmb 13 09 20.9
comp=Z,30nm,1.1s
BSD Bornholm Skovb 84.19 326 *i* P **P 13 09 17.0 -0.9**
BSD pmax pmax
comp=Z,30nm,1.1s
DEL Delary 84.20 328 *i* P **P 13 09 17.8 0.0**
KMBO Kilima Mbogo 84.20 267 P **P 13 09 19.1 +0.1**
comp=Z,6.9nm,0.9s,baz=47,slow=7.1,SNR=10
OSL Oslo 84.25 332 *e*P **P 13 09 18.4 +0.4**
CASY Casey 84.33 184 P **P 13 09 18.8 +0.7**
CASY IAmb IAmb 13 09 24.8
comp=Z,21nm,1.0s
OKC Ostrava-Krasne 84.34 321 *e*SKS **SKSac 13 19 38.3 -1.1**
OKC AMS AMS 13 49 20.0
comp=Z,400nm,13.9s
MOL Molde 84.40 335 *e*P **P 13 09 19.0 +0.2**
VYHS Vyhne 84.40 319 *e*P **P 13 09 20.3 +1.2**
VYHS pmax pmax
comp=Z,15nm,1.1s
VYHS Vyhne 84.40 319 *e*P **P 13 09 20.3 +1.2**
STRU Stroemstad 84.43 331 *i* P **P 13 09 19.8 +0.9**
STIP Stip 84.47 312 *i* P **P 13 09 17.7 -1.9**
DLBC Dease Lake 84.48 30 P **P 13 09 20.6 +1.1**
IDI Anoyia 84.48 305 LR LR 13 52 19.9
comp=Z,136nm,21.0s,baz=242,slow=39
FABU Falkenberg 84.56 328 *i* P **P 13 09 19.2 -0.5**
LODK Lodwar 84.62 272 P **P 13 09 20.5 -0.4**
DBG Daneborg 84.64 350 ⇑*i*P **P 13 09 19.4 -0.4**
DBG IAmb IAmb 13 09 20.9
comp=Z,54nm,1.0s
TJOU Tjoern 84.66 330 *i* P **P 13 09 19.4 -0.7**
NEEM North Greenlan 84.67 358 ⇑*i*P **P 13 09 20.9 +0.6**
NEEM IAmb IAmb 13 09 22.0
comp=Z,156nm,1.0s
MORC Moravsky Berou 84.73 321 ⇓P **P 13 09 21.9 +1.1**
MORC Moravsky Berou 84.73 321 P **P 13 09 20.9 +0.1**
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 84.73 321 P **P 13 09 20.9 +0.1**
MORC Moravsky Berou 84.73 321 *e*P **P 13 09 20.9 +0.1**
LIT Litokhoron 84.77 310 P **P 13 09 20.4 -0.8**
LIT pmax pmax
comp=Z,16nm,1.1s
LIT Litokhoron 84.77 310 P **P 13 09 20.4 -0.8**
LIT IAmb IAmb 13 09 26.4
comp=Z,16nm,1.1s
ONAU Onsala 84.78 329 *i* P **P 13 09 20.3 -0.5**
AKN Aaknes 84.81 334 *e*P **P 13 09 22.4 +1.5**
RES Resolute Bay 84.84 9 P **P 13 09 21.4 +0.6**
RES pmax pmax
comp=Z,58nm,1.1s
RES Resolute Bay 84.84 9 P **P 13 09 21.4 +0.6**
KONO Kongsberg 84.88 332 *ce*P **P 13 09 21.2 -0.1**
KONO pmax pmax
comp=Z,29nm,1.7s
KONO Kongsberg 84.88 332 *e*P **P 13 09 21.1 -0.1**
KONO Kongsberg 84.88 332 P **P 13 09 20.9 -0.4**
KONO IAmb IAmb 13 09 22.5
comp=Z,20nm,1.1s
SKO Skopje 84.91 312 *i* P **P 13 09 21.8 0.0**
SRO2 Moca 84.94 319 *e*P **P 13 09 21.8 0.0**
SRO2 Moca 84.94 319 *e*P **P 13 09 21.8 0.0**
FRGS Fruska Gora 84.94 316 ⇑P **P 13 09 21.8 -0.1**
SKAR Skarslia 84.98 333 *e*P **P 13 09 22.4 +0.6**
JAVC Velka Javorina 84.99 320 *e*P **P 13 09 22.8 +0.7**
KSP Ksiaz 85.08 322 *e*P **P 13 09 22.9 +0.4**
KRLC Kraliky 85.08 321 *e*P **P 13 09 22.7 +0.2**
KRLC MLR MLR
comp=Z,500nm,15.5s
KRLC Kraliky 85.08 321 *e*P **P 13 09 22.7 +0.2**
KRLC AMS AMS 13 50 00.0
comp=Z,500nm,15.5s
CSKK Cskako 85.17 318 *e*P **P 13 09 24.3 +1.3**
DIVS Divibare 85.19 315 P **P 13 09 22.9 -0.4**
LNIZ Loecknitz 85.22 325 *e*P **P 13 09 24.0 +0.9**
comp=Z,46nm,1.1s,baz=64,slow=4.3
OSTC Ostas 85.23 322 *e*P **P 13 09 24.6 +1.3**
OSTC *e*SKS **SKSac 13 19 45.3 +0.2**
OSTC AMS AMS 13 53 50.0
comp=Z,500nm,16.8s
AGG Agios Georgios 85.24 309 P **P 13 09 21.9 -1.6**
AGG pmax pmax
comp=Z,12nm,0.9s
AGG Agios Georgios 85.24 309 P **P 13 09 21.9 -1.6**
DPC Dobruska-Polom 85.25 322 *e*P **P 13 09 23.9 +0.5**
DPC *e* 13 19 45.5
DPC MLR MLR
comp=Z,500nm,15.8s
DPC Dobruska-Polom 85.25 322 *e*P **P 13 09 23.9 +0.5**
DPC *e*SKS **SKSac 13 19 45.5 +0.2**
DPC AMS AMS 13 50 10.0
comp=Z,500nm,15.8s
CHVC Chvalec 85.31 322 *e*P **P 13 09 24.9 +1.2**
CHVC AMS AMS 13 50 00.0
comp=Z,500nm,17.2s
MORH Mrgy, Hungar 85.33 317 ⇑P **P 13 09 23.8 0.0**
MORH Mrgy, Hungar 85.33 317 *e*P **P 13 09 24.3 +0.5**
FNA Florina 85.35 311 P **P 13 09 22.7 -1.4**
FNA pmax pmax
comp=Z,14nm,0.8s
FNA Florina 85.35 311 P **P 13 09 22.7 -1.4**
FNA IAmb IAmb 13 09 24.5
comp=Z,14nm,0.8s
UPC Upice 85.37 322 *e*P **P 13 09 24.1 +0.2**
UPC MLR MLR
comp=Z,500nm,15.7s
UPC Upice 85.37 322 *e*P **P 13 09 24.1 +0.2**
UPC AMS AMS 13 54 00.0
comp=Z,500nm,15.7s
MODS Modra-Piesok 85.41 319 *e*P **P 13 09 24.9 +0.7**
MODS Modra-Piesok 85.41 319 *e*P **P 13 09 24.9 +0.7**
DIB Dawson Inlet, 85.42 35 P **P 13 09 24.4 +0.3**
DIB IAmb IAmb 13 09 26.0
comp=Z,68nm,1.4s
VRAC Vranov 85.48 320 ⇑P **P 13 09 25.4 +0.9**
VRAC Vranov 85.48 320 *e*P **P 13 09 25.1 +0.6**
TULEG Thule 85.53 2 *i* P **P 13 09 24.6 +0.4**
TULEG IAmb IAmb 13 09 30.1
comp=Z,28nm,0.8s
TULEG Thule 85.53 2 P **P 13 09 23.9 -0.3**
TULEG IAmb IAmb 13 09 30.4
comp=Z,28nm,0.8s
ZST Bratislava 85.59 319 *e*P **P 13 09 26.0 +1.0**
ZST Bratislava 85.59 319 *e*P **P 13 09 26.0 +1.0**
KRUC Moravsky 85.69 320 *e*P **P 13 09 25.8 +0.2**
MPLH Magyarpolny 85.69 318 *e*P **P 13 09 26.0 +0.4**
KOVH Kovagotottos 85.73 317 *e*P **P 13 09 26.3 +0.5**
EGYH Egyhazaskeszo 85.73 319 *e*P **P 13 09 23.2 -2.6**
KBN Korca 85.82 311 P **P 13 09 25.2 -1.3**
KBN pmax pmax
comp=Z,13nm,0.8s
KBN Korca 85.82 311 P **P 13 09 25.2 -1.3**
KBN IAmb IAmb 13 09 28.0
comp=Z,13nm,0.8s
PUK Puka 85.97 313 P **P 13 09 26.6 -0.6**
PUK IAmb IAmb 13 09 32.5
comp=Z,23nm,1.1s
SOP Sopron 86.12 319 *e*P **P 13 09 28.7 +1.1**
ITM Ithomi 86.15 308 P **P 13 09 26.5 -1.6**
ITM IAmb IAmb 13 09 28.6
comp=Z,31nm,0.9s
TREC Trest 86.15 321 *e*P **P 13 09 28.4 +0.5**
TREC MLR MLR
comp=Z,600nm,15.7s
TREC Trest 86.15 321 *e*P **P 13 09 28.4 +0.5**
TREC AMS AMS 13 50 40.0
comp=Z,600nm,15.7s
PVCC Panska Ves 86.21 322 AMS AMS 13 50 40.0
comp=Z,600nm,15.1s
PDG Podgorica 86.27 313 ⇑P **P 13 09 28.9 +0.4**
PDG Podgorica 86.27 313 P **P 13 09 28.1 -0.5**
PDG IAmb IAmb 13 09 30.2
comp=Z,15nm,0.9s
SUE Sulen 86.30 334 *e*P **P 13 09 28.7 +0.4**
BRG Berggiesshubel 86.43 323 *e*P **P 13 09 29.8 +0.6**
BRG Amp 13 09 31.7
comp=Z,15nm,1.2s
BRG Berggiesshubel 86.43 323 P P 13 09 43.2 +14
BRG Amp 13 09 45.1
comp=Z,12nm,1.3s
BRG Amp 13 51 03.0
comp=E,0.5nm,21.1s
BRG Amp 13 51 06.0
comp=Z,0.8nm,15.0s
BRG Amp 13 51 09.0
comp=N,0.2nm,22.1s
BRG Berggiesshubel 86.43 323 *e*P **P 13 09 29.5 +0.4**
comp=N,15nm,1.2s,baz=64,slow=4.3
PRU Pruhonice 86.44 322 *e*P **P 13 09 29.7 +0.5**
PRU *e* 13 19 51.7
PRU MLR MLR
comp=Z,600nm,17.8s
PRU Pruhonice 86.44 322 *e*P **P 13 09 29.7 +0.5**
PRU *e*SKS **SKSac 13 19 51.7 -0.9**
PRU AMS AMS 13 54 40.0
comp=Z,600nm,17.8s
CONA Conrad Observa 86.46 319 *e*P **P 13 09 29.9 +0.5**
comp=Z,9.8nm,1.1s,SNR=12
PRA Prague 86.47 322 AMS AMS 13 54 40.0
comp=Z,600nm,16.1s
MUD Monsted U'grnd 86.55 329 *i* P **P 13 09 30.0 +0.3**
MUD IAmb IAmb 13 09 31.9
comp=Z,25nm,1.0s
MUD Monsted U'grnd 86.55 329 *i* P **P 13 09 29.9 +0.3**
MUD pmax pmax
comp=Z,25nm,1.0s
SNART Snartemo 86.59 331 *e*P **P 13 09 30.3 +0.5**
CLL Collm 86.79 323 *i* P **P 13 09 32.3 +1.4**
comp=Z,8.0nm,0.8s
CLL *e*PP **PP 13 12 54.0 +0.7**
CLL *e*S **S 13 20 02.0 -3.8**
CLL *e* 13 20 53.0
CLL *e*PS **PnS 13 21 09.0 +0.4**
CLL *e*SS **SS 13 25 55.0 +7.7**
CLL *e*(SSS) 13 28 48.0
CLL LmH 13 50 00.0
comp=N,700nm,18.5s
CLL LmH 13 50 00.0
comp=E,300nm,22.0s
CLL LmV 13 51 00.0
comp=Z,500nm,19.6s
CLL Collm 86.79 323 *i* P **P 13 09 32.3 +1.4**
CLL *e*S **S 13 20 02.0 -3.8**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL MLR MLR
comp=Z,500nm,19.6s

CLL	Collm	86.79	323	P	P	13 09 29.6	+1.3
CLL	Collm	86.79	323	eL	L	13 50 48.8	
comp=Z,474nm,20.5s							
PBCC	Pribram	86.89	321	eP	P	13 09 33.2	+1.7
ARSA	Arzberg	86.93	319	eP	P	13 09 32.1	+0.3
comp=Z,8.0nm,1.0s,SNR=11							
KMY	Karmoy	87.04	332	eP	P	13 09 32.5	+0.6
CKRC	Cesky Krumlov	87.05	321	eP	P	13 09 35.2	+2.9
CKRC				eSKS	SKSac	13 19 55.6	-0.9
CKRC				AMS	AMS	13 51 20.0	
comp=Z,400nm,18.3s							
BSEG	Bad Segeberg	87.12	326	eP	P	13 09 32.5	+0.1
comp=Z,5.9nm,1.0s,baz=64,slow=4.3							
BSEG				eL	L	13 49 36.9	
comp=Z,455nm,20.8s							
KHC	Kasperske Hory	87.36	321	eP	P	13 09 34.1	+0.3
KHC				e		13 19 56.5	
KHC				MLR	MLR		
comp=Z,500nm,18.2s							
KHC	Kasperske Hory	87.36	321	eP	P	13 09 34.1	+0.3
KHC				eSKS	SKSac	13 19 56.5	-2.0
KHC				AMS	AMS	13 51 20.0	
comp=Z,500nm,18.2s							
KHC	Kasperske Hory	87.36	321	P	P	13 09 33.8	0.0
GEC2	GERESS Array S	87.41	321	P	P	13 09 33.7	-0.5
GEC2	GERESS Array S	87.41	321	eL	L	13 54 00.1	
comp=Z,519nm,18.5s							
GERES	GERESS Array B	87.41	321	P	P	13 09 33.6	-0.5
comp=Z,2.5nm,0.8s,baz=64,slow=4.6,SNR=21							
GERES				PP	PP	13 13 00.3	+1.8
comp=Z,1.0nm,0.9s,baz=87,slow=7.1,SNR=3.8							
GERES	GERESS Array B	87.41	321	P	P	13 09 33.2	-0.9
SOKA	Soboth	87.47	318	eP	P	13 09 33.9	-0.5
comp=Z,5.8nm,0.9s							
MOA	Molln	87.47	320	eP	P	13 09 34.8	+0.4
comp=Z,7.8nm,1.1s,SNR=8.3							
NKC	Novy Kostel	87.57	322	AMS	AMS	13 51 20.0	
comp=Z,1μm,16.1s							
GUNZ	Gunzen	87.58	323	eP	P	13 09 34.9	+0.1
comp=Z,5.8nm,0.9s,baz=64,slow=4.3							
KULLO	Kullorsuaq	87.67	359	i P	P	13 09 34.6	-0.1
KULLO				IAmb	IAmb	13 09 36.1	
comp=Z,61nm,1.0s							
KULLO	Kullorsuaq	87.67	359	i P	P	13 09 34.6	-0.1
KULLO				pmax	pmax		
comp=Z,61nm,1.0s							
WET	Wettzell	87.78	321	eL	L	13 52 04.4	
comp=Z,464nm,18.3s							
OBKA	Obir	87.84	318	eP	P	13 09 35.3	-0.9
comp=Z,5.3nm,1.1s							
MOX	Moxa	87.87	323	eP	P	13 09 35.8	-0.3
comp=Z,4.4nm,0.9s,baz=64,slow=4.3							
MOX				eL	L	13 52 10.1	
comp=Z,509nm,20.1s							
ROTZ	Rotzenmuhle	87.91	322	eP	P	13 09 36.9	+0.5
comp=Z,4.2nm,0.9s,baz=64,slow=4.3							
CLZ	Clausthal	88.04	324	eP	P	13 09 37.2	+0.2
comp=Z,7.0nm,1.0s,baz=64,slow=4.3							
SCO	Scoresbysund	88.05	348	i P	P	13 09 36.0	-0.6
SCO				IAmb	IAmb	13 09 38.3	
comp=Z,17nm,1.2s							
SCO	Scoresbysund	88.05	348	P	P	13 09 36.3	-0.3
SCO				pmax	pmax		
comp=Z,17nm,1.2s							
SCO	Scoresbysund	88.05	348	P	P	13 09 36.3	-0.3
SCO				IAmb	IAmb	13 09 38.5	
comp=Z,17nm,1.2s							
KBA	Koelnbreinsper	88.36	319	eP	P	13 09 37.4	-1.4
comp=Z,7.7nm,0.9s							
MYKA	Terra Mystica	88.36	319	eP	P	13 09 37.9	-0.8
comp=Z,1.1nm,0.4s							
RJOB	Jochberg	88.42	320	eP	P	13 09 38.8	-0.1
comp=Z,28nm,1.0s,baz=64,slow=4.3							
GRF	Grafenberg Arr	88.52	322	eP	P	13 09 41.6	+2.4
comp=Z,13nm,1.3s,baz=64,slow=4.3							
GRF				eL	L	13 52 22.7	
comp=Z,913nm,19.2s							
SUMG	Summit	88.62	354	i P	P	13 09 40.0	+0.2
SUMG				IAmb	IAmb	13 09 41.6	
comp=Z,44nm,1.0s							
SUMG	Summit	88.62	354	i P	P	13 09 40.0	+0.2
SUMG				pmax	pmax		
comp=Z,44nm,1.0s							
SUMG	Summit	88.62	354	P	P	13 09 39.6	-0.2
ZOU	Zoufplan	88.81	319	P	P	13 09 39.7	-1.3
YKA	Yellowknife Ar	88.83	22	P	P	13 09 40.8	+0.4
comp=Z,19nm,1.0s,baz=313,slow=4.3,SNR=48							
ABTA	Abfaltersbach	89.02	319	eP	P	13 09 40.6	-1.2
comp=Z,4.4nm,1.0s,SNR=6.9							
STAL	STALIGIAL	89.10	319	P	P	13 09 40.6	-1.5
STAL				IAmb	IAmb	13 09 49.5	
comp=Z,17nm,1.2s							
FUR	Furstenfeldbru	89.16	321	eL	L	13 55 12.2	
comp=Z,429nm,19.4s							
WTTA	Wattenberg	89.34	320	eP	P	13 09 42.7	-0.7
comp=Z,7.4nm,0.7s,SNR=9.1							
WATA	Walderalm	89.34	320	eP	P	13 09 42.8	-0.6
comp=Z,6.4nm,1.0s							
UPNV	Upernavik	89.46	359⇑	i P	P	13 09 43.0	-0.1
UPNV				IAmb	IAmb	13 09 44.0	
comp=Z,27nm,1.1s							
SQTA	Sankt Quirin	89.62	320	eP	P	13 09 44.2	-0.4
comp=Z,5.1nm,0.6s,SNR=6.8							
MOTA	Moosalm	89.63	320	eP	P	13 09 44.5	-0.2
comp=Z,12nm,1.0s,SNR=6.7							
RETA	Reutte	89.77	320	i P	P	13 09 44.9	-0.4
comp=Z,4.3nm,1.0s							
TNS	Taunus Mts	89.86	324	eL	L	13 52 59.4	
comp=Z,571nm,19.0s							
FETA	Feichten	90.00	320	eP	P	13 09 46.1	-0.4
comp=Z,9.1nm,1.0s,SNR=11							
TEOL	Teolo	90.15	318	P	P	13 09 46.9	-0.1
TEOL				IAmb	IAmb	13 09 48.7	
comp=Z,29nm,0.9s							
CEL	Celeste	90.22	310	P	P	13 09 47.3	-0.2
CEL				IAmb	IAmb	13 09 49.5	
comp=Z,32nm,1.0s							
NRCA	Norcia	90.29	316	P	P	13 09 47.7	-0.1
AQU	L'Aquila	90.30	315	P	P	13 09 47.9	+0.1
AQU				pmax	pmax		
comp=Z,11nm,0.9s							
AQU	L'Aquila	90.30	315	P	P	13 09 47.9	+0.1
DAVA	Damuels	90.39	321	eP	P	13 09 47.7	-0.6
comp=Z,9.4nm,1.1s							
AHRW	Bad Neuenahr-A	90.48	324	eL	L	13 56 24.2	
comp=Z,702nm,18.1s							
MURB	Monte Urbino	90.50	316	P	P	13 09 49.3	+0.6
MURB				IAmb	IAmb	13 09 51.9	
comp=Z,22nm,0.9s							
DAVOX	Davos/Dischmat	90.63	320	LR	LR	13 53 00.5	
comp=Z,412nm,19.2s,baz=81,slow=37							
ZCCA	Zocca	91.03	318	P	P	13 09 51.8	+0.6
ZCCA				IAmb	IAmb	13 09 58.7	
comp=Z,54nm,1.5s							
TUE	Stuetta	91.09	320	P	P	13 09 51.4	-0.2
TUE				IAmb	IAmb	13 09 56.1	
comp=Z,14nm,0.9s							
OSSC	Osservatorio P	91.23	317	P	P	13 09 51.9	-0.1
VLC	Villacollemand	91.50	318	P	P	13 09 54.1	+0.8
VLC				IAmb	IAmb	13 10 16.0	
comp=Z,10nm,0.9s							
ICESG	Greenland Ices	92.06	353⇓	i P	P	13 09 56.3	+0.5
ICESG				IAmb	IAmb	13 09 58.2	
comp=Z,40nm,1.3s							
SENIN	Lac Senin/Sane	92.39	321	P	P	13 09 57.4	-0.2
PGC	Sidney	92.58	37	P	P	13 09 59.4	+1.3
PGC				IAmb	IAmb	13 10 01.9	
comp=Z,23nm,1.1s							
ILULI	Ilulissat	92.88	357	P	P	13 09 58.4	-0.7
ILULI				pmax	pmax		
comp=Z,27nm,1.0s							
ILULI	Ilulissat	92.88	357	P	P	13 09 58.4	-0.7
ILULI				IAmb	IAmb	13 10 00.6	
comp=Z,26nm,1.0s							
A04D	Lummi Island	92.96	36	P	P	13 09 59.2	-0.7
baz=302							
NLWA	Neilton Lookou	92.98	38	P	P	13 10 01.5	+1.4
NLWA				IAmb	IAmb	13 10 03.1	
comp=Z,38nm,1.4s							
D03D	Eldon	93.36	38	P	P	13 10 02.3	+0.5
baz=301							
BNI	Bardonecchia	93.41	320	P	P	13 10 01.9	-0.4
BNI				pmax	pmax		
comp=Z,9.0nm,1.0s							
BNI	Bardonecchia	93.41	320	P	P	13 10 01.9	-0.4
BNI				IAmb	IAmb	13 10 23.0	
comp=Z,9.0nm,1.0s							
B05A	Bryant	93.55	37	P	P	13 10 02.9	+0.3
baz=302							
D04E	Lakebay	93.73	38	P	P	13 10 04.9	+1.4
baz=302							
B06A	Marblemount	93.76	36	P	P	13 10 04.6	+1.0
B06A				IAmb	IAmb	13 10 05.7	
comp=Z,40nm,1.5s							
E04D	Cinebar	94.17	38	P	P	13 10 06.2	+0.7
baz=302							
D05A	Enumclaw	94.18	37	P	P	13 10 07.0	+1.4
LON	Longmire	94.51	38	P	P	13 10 07.6	+0.4
LON				pmax	pmax		
comp=Z,9.0nm,1.2s							
LON	Longmire	94.51	38	P	P	13 10 07.6	+0.4
LTY	Liberty	94.90	37	P	P	13 10 09.0	+0.1
LTY				IAmb	IAmb	13 10 10.8	
comp=Z,14nm,1.3s							
PPT	Papeete	94.94	107	LR	LR	13 48 26.2	
comp=Z,202nm,18.7s,baz=301,slow=33							
B08A	Colville Reser	95.04	35	P	P	13 10 09.7	+0.2
B08A				IAmb	IAmb	13 10 11.7	
comp=Z,20nm,1.3s							
SFJD	Kangerlussuaq	95.06	357	P	P	13 10 09.2	0.0
comp=Z,26nm,0.9s,baz=18,slow=6.1,SNR=14							
SFJD	Kangerlussuaq	95.06	357	i P	P	13 10 08.7	-0.4
SFJD				IAmb	IAmb	13 10 10.1	
comp=Z,22nm,0.9s							
SFJD	Kangerlussuaq	95.06	357	P	P	13 10 08.8	-0.4
MAW	Mawson	95.12	199	P	P	13 10 08.4	-0.8
comp=Z,2.3nm,1.1s,baz=354,slow=9.1,SNR=3.6							
MAW				LR	LR	13 52 59.3	
comp=Z,139nm,18.0s,baz=57,slow=35							
H04D	Lebanon	95.13	40	P	P	13 10 11.4	+1.4
baz=301							
DY2G	Dye2	95.27	355⇑	i P	P	13 10 10.0	-0.4
DY2G				IAmb	IAmb	13 10 11.1	
comp=Z,39nm,1.2s							
H04A	Detroit Lake	95.38	40	P	P	13 10 12.4	+1.2
H04A				IAmb	IAmb	13 10 14.1	
comp=Z,18nm,1.5s							
I04A	Tendick Farm,	95.71	41	P	P	13 10 13.1	+0.4
baz=302							
D08A	Wollman Farm,	96.00	36	P	P	13 10 15.1	+1.2
D08A				IAmb	IAmb	13 10 16.1	
comp=Z,16nm,1.4s							
HAWA	Hanford	96.03	37	P	P	13 10 14.9	+0.9
HAWA				IAmb	IAmb	13 10 16.4	
comp=Z,11nm,1.2s							
KEST	Kesra	96.03	310	P	P	13 10 14.6	+0.2
comp=Z,1.8nm,0.8s,baz=34,slow=17,SNR=2.6							
KEST				LR	LR	14 00 58.4	
comp=Z,226nm,18.2s,baz=319,slow=40							
F07A	Phinny Hill Vi	96.07	38	P	P	13 10 16.0	+1.7
F07A				IAmb	IAmb	13 10 21.6	
comp=Z,11nm,1.1s							
J04D	Umpqua Nationa	96.18	41	P	P	13 10 15.1	0.0
baz=302							
NEW	Newport	96.31	35	P	P	13 10 15.5	+0.1
comp=Z,1.6nm,0.4s,baz=259,slow=5.2,SNR=4.4							
NEW	Newport	96.31	35	P	P	13 10 15.6	+0.3
baz=306							
NEW	Newport	96.31	35	IAmb	IAmb	13 10 27.6	
comp=Z,7.5nm,1.1s							
YBH	Yreka Blue Hor	96.58	42	P	P	13 10 17.5	+0.7
YBH				pmax	pmax		
comp=Z,14nm,1.4s							
YBH	Yreka Blue Hor	96.58	42	P	P	13 10 17.5	+0.7
YBH				IAmb	IAmb	13 10 18.9	
comp=Z,14nm,1.4s							
L04D	Klamath Falls	96.59	42	P	P	13 10 17.4	+0.5
baz=302							
PINE	Pine Mountain	96.61	40	P	P	13 10 17.6	+0.6
PINE				IAmb	IAmb	13 10 19.6	
comp=Z,20nm,1.4s							
M02C	Callahan	96.67	43	P	P	13 10 17.2	0.0
baz=301							
N02D	Trinity Center	96.98	43	P	P	13 10 19.6	+1.0
baz=301							
LSZ	Lusaka	97.01	256	P	P	13 10 18.9	-0.3
comp=Z,1.4nm,0.3s,baz=54,slow=5.7,SNR=3.3							
M04C	Macdoel	97.11	42	P	Pdif	13 10 19.6	+0.3
baz=302							
K05A	Summer Lake	97.21	41	P	Pdif	13 10 20.4	+0.5
K05A				IAmb	IAmb	13 10 23.8	
comp=Z,21nm,1.3s							
WDC	Whiskeytown Da	97.29	43	P	Pdif	13 10 20.0	+0.1
WDC				pmax	pmax		
comp=Z,12nm,1.5s							
WDC	Whiskeytown Da	97.29	43	P	Pdif	13 10 20.0	+0.1
WDC				IAmb	IAmb	13 10 23.2	
comp=Z,12nm,1.4s							
O02D	Mt. Diablo Mer	97.33	44	P	Pdif	13 10 20.4	+0.1
baz=301							
O03E	Paynes Creek	97.92	43	P	P	13 10 22.8	-0.1
baz=302							
MOD	Modoc Plateau	98.02	41	P	P	13 10 23.1	-0.3
MOD				IAmb	IAmb	13 10 27.1	
comp=Z,13nm,1.2s							
BMO	Blue Mountains	98.19	38	P	Pdif	13 10 24.7	+0.7
BMO				pmax	pmax		
comp=Z,6.0nm,1.3s							
BMO	Blue Mountains	98.19	38	P	Pdif	13 10 24.7	+0.7
VNDA	Vanda	98.22	172	P	P	13 10 22.8	-0.3
comp=Z,2.3nm,0.9s,baz=320,slow=3.9,SNR=6.6							
VNDA				LR	LR	13 54 54.4	
comp=Z,85nm,20.4s,baz=326,slow=36							
J08A	Circle Bar Ran	98.35	39	P	Pdif	13 10 25.8	+1.0
J08A				IAmb	IAmb	13 10 27.1	
comp=Z,6.8nm,1.2s							
ORV	Oroville	98.50	44	P	P	13 10 25.3	-0.1
ORV				pmax	pmax		
comp=Z,11nm,1.5s							
ORV	Oroville	98.50	44	P	P	13 10 25.2	-0.1
ORV				IAmb	IAmb	13 10 26.5	
comp=Z,11nm,1.4s							
MSO	Missoula	98.89	35	P	P	13 10 26.6	-0.5
MSO				IAmb	IAmb	13 10 39.3	
comp=Z,5.6nm,1.0s							
BEKR	Beckworth	99.08	43	P	Pdif	13 10 28.3	+0.1
BEKR				IAmb	IAmb	13 10 31.4	
comp=Z,7.5nm,1.2s							
PNTR	Pine Nut	100.00	43	Pdif	Pdif	13 10 32.7	+0.4
KVN	Kaiserville	100.99	43	P	Pdif	13 10 37.7	+1.0
KVN	Kaiserville	100.99	43	Pdif	Pdif	13 10 37.7	+1.0
NVAR	Mina Array Bea	101.20	43	P	Pdif	13 10 38.9	+1.2
comp=Z,2.3nm,1.1s,baz=271,slow=4.1,SNR=11							
ELK	Elko	101.82	40	P	Pdif	13 10 41.2	+0.8
comp=Z,0.2nm,0.3s,baz=17,slow=5.8,SNR=3.7							
VES	Vestal, Richgr	102.09	46	P	Pdif	13 10 41.3	-0.1
baz=303							
PKM	Mcpherson Peak	102.10	47	P	Pdif	13 10 40.9	-0.8
baz=302							
CWC	Cottonwood Cre	102.45	45	P	Pdif	13 10 43.5	+0.2
baz=304							
R11A	Troy Canyon, C	103.01	42	P	Pdif	13 10 46.1	+0.4
baz=306							
MPMC	Manual Prospec	103.06	45	P	Pdif	13 10 47.1	+1.1
baz=304							
LRMC	Laurel Mtn Rad	103.25	46	P	Pdif	13 10 47.3	+0.5
baz=304							
EDW2	Edwards Air Fo	103.36	46	P	Pdif	13 10 47.9	+0.7
baz=303							
TPNV	Topopah Spring	103.38	44	P	Pdif	13 10 48.3	+0.9
baz=305							
SYO	Syowa Base	103.50	201⇓	ePdiff	Pdif	13 10 49.0	+2.3
SYO	Syowa Base	103.50	201⇓	eX	Pdif	13 10 58.6	+12
DUG	Dugway, Tooele	103.63	39	P	Pdif	13 10 49.5	+1.1
baz=308							
PDAR	Pinedale Array	103.89	36	PP	PKiKP	13 15 09.6	+2.5
comp=Z,0.7nm,0.9s,baz=300,slow=6.1,SNR=3.0							
GSC	Goldstone, Bar	103.94	45	P	Pdif	13 10 50.8	+1.0
baz=304							
BFSC	Mount Baldy Ra	103.94	47	P	Pdif	13 10 50.3	+0.4
baz=304							
TUQ	Turquoise Moun	104.46	45	P	Pdif	13 10 52.7	+0.6
baz=305							
HEC	Hector,Ludlow	104.53	46	P	Pdif	13 10 53.1	+0.8
baz=304							
MURC	Murrieta	104.62	47	P	Pdif	13 10 53.5	+0.7
baz=304							
GMRC	Granite Mounta	105.01	45	P	Pdif	13 10 55.7	+1.1
baz=305							
PFO	Pinyon Flats O	105.12	47	P	Pdif	13 10 55.8	+0.7
baz=304							
TPFO	Pinon Flats	105.13	47	P	Pdif	13 10 55.5	+0.4
baz=304							
ANMO	Albuquerque	110.86	40	PKiKP	PKiKP	13 15 19.5	-0.8
comp=Z,0.3nm,0.3s,baz=315,slow=1.4,SNR=1.9							
ANMO	Albuquerque	110.86	40	P	PKiKP	13 15 20.6	+0.3
baz=312							
TORD	Torodi Ar. Bea	112.44	293	PKiKP	PKiKP	13 15 24.6	+1.1
comp=Z,1.1nm,0.8s,baz=42,slow=1.1,SNR=4.2							
TORD				PP	PP	13 16 05.7	-3.8
comp=Z,3.2nm,1.1s,baz=68,slow=6.7,SNR=6.6							
TORD				PKKPbc	PKKPbc	13 26 13.8	+1.1
comp=Z,1.1nm,0.8s,baz=250,slow=2.4,SNR=4.5							
TX31	Lajitas Ar. Si	116.35	43		PKiKP	13 15 31.0	+0.2
TX32	Lajitas Array	116.35	43		PKPdf	13 15 30.3	-0.6
TXAR	Lajitas Array	116.35	43	PKP	PKiKP	13 15 31.2	+0.3
comp=Z,0.9nm,0.7s,baz=309,slow=1.4,SNR=8.7							
TXAR				PP	PP	13 16 34.6	-1.8
comp=Z,1.4nm,0.9s,baz=311,slow=5.5,SNR=6.4							
TXAR				PKKPab	PKKPab	13 26 07.1	+1.3
comp=Z,0.3nm,0.7s,baz=150,slow=5.9,SNR=3.8							
H58A	Gabriels	116.44	12	P	PKiKP	13 15 29.9	-0.6
baz=344							
G64A	Maxfield	116.50	8	P	PKPdf	13 15 30.2	-0.3
baz=350							
G63A	Kingsbury	116.52	8	P	PKPdf	13 15 30.0	-0.6
baz=349							
I60A	Shoreham	117.16	11	P	PKPdf	13 15 31.5	-0.3
baz=345							
ACSO	Alum Creek Sta	118.02	20	P	PKPdf	13 15 33.3	-0.3
baz=334							
J62A	Henniker	118.03	10	P	PKiKP	13 15 33.7	+0.2
baz=347							
P52A	Corning	118.84	20	P	PKPdf	13 15 34.3	-0.9
baz=335							
WVT	Waverly	119.77	27	PKIKP	PKPdf	13 15 36.7	-0.4
WVT	Waverly	119.77	27	P	PKPdf	13 15 37.2	+0.1
baz=328							
WVT	Waverly	119.77	27		PKPdf	13 15 36.7	-0.4
KIC	Kosan Boka	121.08	289	ePKP1	PKPdf	13 15 40.3	+0.1
comp=Z,7.3nm,0.7s							
TIC	Toumodi	121.20	290	ePKP1	PKPdf	13 15 40.4	0.0
LIC	Lamto	121.39	289	ePKP1	PKiKP	13 15 41.4	+0.5
comp=Z,15nm,0.8s							
Q61A	Milford	121.48	15	P	PKiKP	13 15 40.5	+0.1
baz=342							
CBN	Corbin Frederi	121.59	17		PKPdf	13 15 39.5	-1.0
LRAL	Lakeview Retre	122.76	28	P	PKPdf	13 15 42.1	-0.8
baz=328							
KMSC	Kings Mountain	123.17	22	P	PKPdf	13 15 43.3	-0.4
baz=335							
NHSC	New Hope	125.41	22	P	PKPdf	13 15 47.9	-0.1
baz=336							
TIGA	Tifton	125.59	26	P	PKPdf	13 15 48.3	-0.1
baz=331							
DWPF	Disney Wildern	129.40	26	P	PKPdf	13 15 55.5	-0.2
baz=332							
MTP	Monte Pirata	143.63	10		PKPab	13 16 19.2	+0.4
CDITO	Canoas	144.77	43		PKPbc	13 16 23.7	+0.4
SJCC	San Jacinto, C	148.15	31		PKPdf	13 16 31.8	+1.6
OCAC	Ocana	150.47	29	eP	PKiKP	13 16 42.2	+2.2
SDV	Santo Domingo	151.04	24		PKPbc	13 16 39.3	-1.4
SDV	Santo Domingo	151.04	24	eP	PKPbc	13 16 38.2	-2.5
SDV	Santo Domingo	151.04	24	eP	PKPdf	13 16 35.6	+0.7
PLMC	San Jos del P	151.72	38	eP	PKPdf	13 16 37.2	+1.3
GUY2C	Guyana, Caldas	151.99	36	eP	PKPdf	13 16 39.5	+2.8
YOTC	Yotoco, Valle	152.41	39	eP	PKPdf	13 16 39.4	+2.5
TOLC	Tolima	152.53	37	eP	PKPbc	13 16 43.9	-0.5
RUSC	La Rusia	152.63	31	PKPdf	PKPdf	13 16 34.5	-3.2
RUSC					PKPbc	13 16 42.2	-2.5
RUSC	La Rusia	152.63	31	eP	PKPdf	13 16 41.2	+3.5
LL02	Futaleuf	152.66	160	PKPdf	PKPdf	13 16 33.6	-2.7
LL02					PKPbc	13 16 42.6	-0.7
ROSC	El Rosal	152.88	35	PKP	PKPdf	13 16 38.0	+0.1
comp=Z,7.6nm,0.4s,baz=260,slow=3.4,SNR=3.5							
ROSC				PKPbc	PKPbc	13 16 45.4	+0.2
comp=Z,21nm,0.9s,baz=292,slow=5.6,SNR=5.4							
ORTC	Ortega, Tolima	153.12	38	eP	PKPdf	13 16 41.4	+3.5
LL01	San Ignacio de	153.18	158		PKPab	13 16 55.4	-0.7
POPC	Popayan, Colom	153.33	42	eP	PKPdf	13 16 39.5	+1.0
VILC	Villavicencio,	153.83	34	eP	PKPdf	13 16 42.9	+3.9
FLOC	Florencia	154.72	42		PKPab	13 17 01.3	-2.2
PLCA	Paso Flores	155.29	159	PKP	PKPdf	13 16 41.5	+1.4
comp=Z,0.6nm,0.5s,baz=194,slow=8.3,SNR=0.9							
PLCA	Paso Flores	155.29	159	PKiKP	PKPdf	13 16 37.1	-3.1
PLCA						13 17 03.8	
PLCA	Paso Flores	155.29	159	PKPdf	PKPdf	13 16 37.1	-3.1
PLCA				PKPab	sPKPbc	13 17 03.8	-2.6
TRQA	Tornquist	159.83	174	PKP2	PKPab	13 17 24.1	-0.7
TRQA						14 16 43.4	
TRQA	Tornquist	159.83	174	PKPdf	PKPdf	13 16 43.4	-2.4
TRQA				PKPab	PKPab	13 17 24.1	-0.7
BO02	Sierra Bellavi	160.31	151	PKPab	PKPab	13 17 26.2	-0.9
MT01	Popeta	160.83	148		PKPab	13 17 28.6	-0.7
CO02	Combarbal	163.02	143	PKPab	PKPab	13 17 38.4	-0.7
CO03	El Pedregal	163.47	143		PKPab	13 17 39.9	-1.2
MNMC	Minye Minye	170.07	98		PKPab	13 18 08.7	-2.4
LPAZ	La Paz	171.31	80	PKP	PKPdf	13 16 56.9	+0.3
comp=Z,3.6nm,1.0s,baz=349,slow=4.6,SNR=8.7							
LPAZ				PKPab	PKPab	13 18 17.3	+0.3
comp=Z,6.5nm,0.9s,baz=298,slow=4.2,SNR=14							
LPAZ	La Paz	171.31	80	PKIKP	PKPdf	13 16 54.6	-2.0
LPAZ						13 18 15.1	
LPAZ	La Paz	171.31	80		PKPdf	13 16 54.6	-2.0
LPAZ				PKPab	PKPab	13 18 15.1	-1.8
LPAZ	La Paz	171.31	80	eP	PKPdf	13 16 58.1	+1.5
CPUP	Villa Florida	171.49	191	PKPab	PKPab	13 18 15.9	-0.4
comp=Z,0.8nm,0.3s,baz=173,slow=5.5,SNR=3.2							
CLDB	Colider	172.22	334	eP	PKPdf	13 16 57.8	+1.4

*THE **05** 13:04:18.3,35.00N×23.88E,h23km±1km,ML2.5/6 Error ellipse: s-maj=1.5km s-min=0.3km az=226.0*
*ATH **05** 13:04:19.5,35.01N×23.96E,h17km±2km,ML2.4/4, Error ellipse: s-maj=2.9km s-min=1.4km az=250.0*

*IDC **05** 13:12:39.6±0.5, 17°.79N×120°.76E, h0km, mb4.4/38, mb1 4.5/40, mb1mx4.4/75, mbtmp4.4/40, ML4.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/57, Error ellipse: s-maj=14.4km s-min=13.1km az=81.0*

*NEIC **05** 13:12:40.9±1.6, 17°.85N±0°.09×120°.68E±0°.08, h6km±4km, mb4.8/119, Error ellipse: s-maj=12.6km s-min=10.9km az=155.0*

*BJI **05** 13:12:41.4±0.0, 18°.00N×120°.66E, h8km, mB5.1/17, mb4.5/52, ML4.1/4, Ms4.5/6, Ms7 4.3/7*

*MAN **05** 13:12:41.4, 17°.98N×120°.73E, h1km, mb5.3, ML4.2, MS4.4*

ISC 05 13:12:41.0±0.3, 17°.85N±0°.04×120°.71E±0°.06, h10km, n318, σ1§33/292, mb4.7/102, 2C-6b, Luzon

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCPH	**Palayan**	**2.31**	**171⇑**	*eP*	**Pb**	**13 13 22.6**	**-0.1**
PCPH				*eS*	**Sg**	**13 13 59.4**	**+4.2**
TGY	**Tagaytay City**	**3.73**	**177⇓**	*eP*	**Pb**	**13 13 45.4**	**-1.7**
LQP	**Lukban**	**3.80**	**168⇓**	*eP*	**Pb**	**13 13 46.4**	**-2.0**
LQP				*i S*	**Sg**	**13 14 43.5**	**+0.2**
GQP	**Guinayangan**	**4.26**	**157⇓**	*eP*	**Pb**	**13 13 51.8**	**-4.3**
GQP				*i S*	**Sb**	**13 14 46.6**	**-1.1**
PGP	**Puerto Galera**	**4.33**	**177⇑**	*eP*	**Pb**	**13 13 52.5**	**-4.8**
TWG	**Pinlang**	**4.96**	**4**		**Pn**	**13 13 55.7**	**+0.1**
TPUB	**Ta-pu**	**5.42**	**359**		**Pn**	**13 14 01.5**	**-0.5**
YULB	**Yu-li**	**5.54**	**6**	Pn	**Pn**	**13 14 03.2**	**-0.4**
SSLB	**Suanglung**	**5.91**	**2**	Pn	**Pn**	**13 14 08.5**	**-0.2**
NACB	**Ninganchiao**	**6.35**	**7**		**Pn**	**13 14 14.7**	**0.0**
YHNB	**Yeheng**	**6.81**	**5**	Pn	**Pn**	**13 14 22.6**	**+1.4**
YOJ	**Yonaguni jima**	**6.92**	**18**		**Pn**	**13 14 21.3**	**-1.2**
KNMB	**Chin-men Tao**	**6.93**	**342**	Pn	**Pn**	**13 14 21.3**	**-1.3**
TATO	**Taipei**	**7.13**	**6**	Pn	**Pn**	**13 14 25.1**	**-0.3**
QZH	**Quanzhou**	**7.33**	**345**	Pn	**Pn**	**13 14 27.5**	**-0.6**
QZH				Sn	**Sn**	**13 15 46.1**	**-5.3**
QZH				smax	smax		
	comp=N,43nm,1.0s						
QZH				smax	smax		
	comp=E,64nm,0.6s						
QIZ	**Qiongzhong**	**10.38**	**278**	P	**Pn**	**13 15 08.5**	**-1.5**
QIZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
QIZ	**Qiongzhong**	**10.38**	**278**	Pn	**Pn**	**13 15 08.3**	**-1.7**
JOW	**Kunigami**	**11.35**	**37**	Pn	**Pn**	**13 15 24.7**	**+1.4**
	7.7nm,0.3s,baz=205,slow=12,SNR=14						
NJ2	**Nanjing**	**14.24**	**354**	*eP*	**Pn**	**13 16 04.4**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GYA	**Guiyang**	**15.56**	**306**	⇓P	**Pn**	**13 16 21.5**	**+0.8**
ENH	**Enshi**	**16.04**	**322**		**Pn**	**13 16 26.6**	**-0.2**
SLVN	**Son La**	**16.21**	**285**		**Pn**	**13 16 27.9**	**-1.2**
JSU	**Suzuyama**	**16.21**	**31**	Pn	**Pn**	**13 16 29.4**	**+0.4**
NONG	**Nongkai**	**16.71**	**273**	P	**P**	**13 16 40.8**	**+3.1**
JNU	**Nakatsue**	**17.75**	**29**	P	**P**	**13 16 50.5**	**+1.3**
	1.3nm,0.3s,baz=193,slow=6.0,SNR=12						
JNU	**Nakatsue**	**17.75**	**29**		**Pn**	**13 16 48.6**	**+0.4**
JNU				IAmb	IAmb	13 16 54.1	
	comp=Z,62nm,0.9s						
KMI	**Kunming**	**18.21**	**297**	⇓P	**P**	**13 16 58.7**	**+4.2**
KMI				pP	sP	13 17 04.5	+5.7
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
JTU	**Tsushima**	**18.33**	**23**	P	**P**	**13 16 56.4**	**+0.9**
XAN	**Xi'an**	**19.27**	**329**	P	**Pn**	**13 17 08.8**	**+2.0**
XAN				pP	sP	13 17 11.6	+1.4
XAN				pmax	pmax		
	comp=Z,26nm,1.0s						
XAN				LR	LR		
	comp=Z,780nm,7.7s						
XAN				LR	LR		
	comp=Z,480nm,10.6s						
XAN				LR	LR		
	comp=Z,650nm,11.9s						
PHIT	**Phitsanulok**	**19.36**	**271**	P	**Pn**	**13 17 11.6**	**+3.5**
	comp=Z,64nm,1.0s						
MTKI	**Muara Teweh, K**	**19.53**	**198**	P	Pn	13 17 20.8	+11
JMN	**Monobe**	**19.73**	**34**		**Pn**	**13 17 12.7**	**+0.3**
JMN				IAmb	IAmb	13 17 16.0	
	comp=Z,41nm,1.0s						
STKI	**Sintang**	**19.87**	**208**	P	Pn	13 17 21.4	+7.3
LAMP	**Lampang**	**20.03**	**275**	P	Pn	13 17 23.3	+7.2
	comp=Z,4.4nm,0.8s						
INCN	**Inchon**	**20.24**	**14**	P	**P**	**13 17 16.2**	**-0.2**
INCN				IAmb	IAmb	13 17 18.1	
	comp=Z,56nm,1.2s						
JHS	**Saijyo**	**20.34**	**30**	P	**P**	**13 17 17.7**	**+0.1**
CM35	**Chiang Mai Arr**	**20.48**	**276**	P	Pn	13 17 23.0	+1.6
CM34	**Chiang Mai Arr**	**20.49**	**276**	P	Pn	13 17 22.0	+0.6
UTHA	**Uthaitani**	**20.49**	**267**	P	Pn	13 17 24.7	+3.2
	comp=Z,126nmcomp=Z,12nm,0.9s						
KSRS	**Korea Array**	**20.53**	**17**	P	**P**	**13 17 20.2**	**+0.6**
	comp=Z,22nm,1.0s,baz=200,slow=11,SNR=72						
CM36	**Chiang Mai Arr**	**20.54**	**275**	P	Pn	13 17 23.0	+0.9
CM09	**Chiang Mai Arr**	**20.64**	**275**	P	Pn	13 17 24.5	+1.2
	comp=Z,160nmcomp=Z,23nm,0.9s						
CM09	**Chiang Mai Arr**	**20.64**	**275**	P	Pn	13 17 24.6	+1.3
	comp=Z,160nmcomp=Z,23nm,0.9s						
CM04	**Chiang Mai Arr**	**20.66**	**275**	P	Pn	13 17 24.3	+0.9
	comp=Z,238nmcomp=Z,33nm,0.9s						
CM04	**Chiang Mai Arr**	**20.66**	**275**	P	Pn	13 17 24.4	+1.0
	comp=Z,238nmcomp=Z,33nm,0.9s						
CM01	**Chiang Mai Arr**	**20.68**	**275**	P	Pn	13 17 24.8	+1.2
	comp=Z,203nmcomp=Z,25nm,0.9s						
CM01	**Chiang Mai Arr**	**20.68**	**275**	P	Pn	13 17 24.9	+1.3
	comp=Z,203nmcomp=Z,25nm,0.9s						
CMMT	**Chiang Mai**	**20.68**	**276**	P	Pn	13 17 24.0	+0.3
	comp=Z,26nm,1.0s						
CMMT	**Chiang Mai**	**20.68**	**276**	P	Pn	13 17 24.0	+0.3
	comp=Z,26nm,1.0s						
CM33	**Chiang Mai Arr**	**20.68**	**276**	P	Pn	13 17 23.0	-0.7
CHTO	**Chiang Mai**	**20.68**	**276**	P	Pn	13 17 24.0	+0.3
	comp=Z,26nm,1.0s						
CHTO	**Chiang Mai**	**20.68**	**276**	P	**P**	**13 17 21.1**	**-0.2**
CM02	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 24.8	+1.0
	comp=Z,152nmcomp=Z,22nm,0.9s						
CM02	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 24.9	+1.1
	comp=Z,152nmcomp=Z,22nm,0.9s						
CM05	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 24.6	+0.8
	comp=Z,128nmcomp=Z,18nm,0.8s						
CM05	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 24.7	+0.9
	comp=Z,128nmcomp=Z,18nm,0.8s						
CM31	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 24.6	+0.8
	comp=Z,6μmcomp=Z,417nm,0.8s						
CM31	**Chiang Mai Arr**	**20.69**	**275**		Pn	13 17 23.7	-0.1
CMAR	**Chiang Mai Arr**	**20.69**	**275**	P	Pn	13 17 23.8	0.0
	comp=Z,14nm,0.9s,baz=93,slow=8.7,SNR=58						
CMAR	**Chiang Mai Arr**	**20.69**	**275**	Pn	Pn	13 17 23.6	-0.2
CM15	**Chiang Mai Arr**	**20.71**	**275**	P	Pn	13 17 24.9	+0.9
	comp=Z,20nm,0.9s						
CM15	**Chiang Mai Arr**	**20.71**	**275**	P	Pn	13 17 24.0	0.0
	comp=Z,20nm,0.9s						
CM13	**Chiang Mai Arr**	**20.73**	**275**	P	Pn	13 17 25.1	+0.9
	comp=Z,136nmcomp=Z,20nm,0.9s						
CM13	**Chiang Mai Arr**	**20.73**	**275**	P	Pn	13 17 25.1	+0.9
	comp=Z,136nmcomp=Z,20nm,0.9s						
CM32	**Chiang Mai Arr**	**20.78**	**276**	P	Pn	13 17 25.0	+0.2
UMPA	**Umpang Tak**	**20.95**	**269**	P	Pn	13 17 32.2	+5.3
	comp=Z,6μmcomp=Z,40nm,0.9s						
UMPA	**Umpang Tak**	**20.95**	**269**	P	Pn	13 17 32.0	+5.1
	comp=Z,2μmcomp=Z,9.9nm,0.9s						
JWT	**Wachi**	**21.73**	**34**	P	**P**	**13 17 33.0**	**+0.5**
BBKI	**Banjar Baru**	**21.95**	**196**	P	P	13 17 43.8	+8.8
	comp=Z,29nm,1.2s						
BJI	**Beijing**	**22.46**	**351**	P	**P**	**13 17 42.2**	**+2.0**
BJI				pmax	pmax		
	comp=Z,21nm,1.0s						
INU	**Inuyama**	**22.67**	**37**	P	**P**	**13 17 42.7**	**+0.2**
KRAB	**Krabi**	**23.01**	**248**	P	**P**	**13 17 45.6**	**-0.7**
	comp=Z,278μmcomp=Z,5μm,0.9s						
KRAB	**Krabi**	**23.01**	**248**	P	**P**	**13 17 45.7**	**-0.7**
LZH	**Lanzhou**	**23.51**	**324**	*eP*	**P**	**13 17 52.3**	**+0.9**
LZH				pP	sP	13 17 55.5	-0.4
LZH				sP	pP	13 17 57.8	+3.3
LZH				pmax	pmax		
	comp=Z,44nm,1.0s						
MAT	**Matsushiro**	**24.20**	**36**	P	**P**	**13 17 58.9**	**+1.1**
MJAR	**Matsushiro Arr**	**24.20**	**36**	P	**P**	**13 17 59.6**	**+1.8**
	comp=Z,4.5nm,0.8s,baz=226,slow=9.2,SNR=13						
MJAR	**Matsushiro Arr**	**24.20**	**36**	P	**P**	**13 17 58.0**	**+0.2**
HHC	**Hu-ho-hao-te**	**24.23**	**343**	*eP*	**P**	**13 17 56.9**	**-1.3**
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,310nm,5.7s						
JSD	**Sado**	**25.31**	**34**	P	**P**	**13 18 08.3**	**+0.4**
CN2	**Changchun**	**26.18**	**8**	*eP*	**P**	**13 18 15.1**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JMM	**Marumori**	**26.59**	**37**	P	**P**	**13 18 18.5**	**-1.0**
MDJ	**Mudanjiang**	**27.71**	**14**	P	**P**	**13 18 29.7**	**+0.3**
MDJ				pP	sP	13 18 37.3	+3.3
MDJ				sP	pP	13 18 41.4	+8.7
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,500nm,10.5s						
MDJ	**Mudanjiang**	**27.71**	**14**	P	**P**	**13 18 29.9**	**+0.5**
MDJ				IAmb	IAmb	13 18 30.9	
	comp=Z,9.2nm,0.7s						
SHL	**Shillong**	**27.82**	**291**	P	**P**	**13 18 30.4**	**-0.4**
SHL				IAmb	IAmb	13 18 33.4	
	comp=Z,14nm,0.8s						
USA0B	**Ussuriysk Arra**	**27.93**	**17**	P	**P**	**13 18 30.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**27.93**	**17**	P	**P**	**13 18 32.5**	**+1.0**
	comp=Z,6.7nm,0.9s,baz=203,slow=9.5,SNR=12						
USRK	**Ussuriysk Ar.**	**27.93**	**17**	P	**P**	**13 18 31.0**	**-0.4**
GTA	**Gaotai**	**28.11**	**324**	*eP*	**P**	**13 18 34.2**	**+0.9**
GTA				pP	sP	13 18 43.6	+5.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**29.42**	**299**	P	**P**	**13 18 44.4**	**-1.0**
LSA				IAmb	IAmb	13 18 49.1	
	comp=Z,18nm,0.7s						
ASAJ	**Asahikawa**	**32.02**	**30**	P	**P**	**13 19 08.5**	**+0.9**
	comp=Z,4.1nm,0.6s,baz=238,slow=6.9,SNR=10						
ASAJ				LR	LR	13 30 41.7	
	comp=Z,282nm,20.5s,baz=192,slow=34						
JKA	**Kamikawa-asahi**	**32.02**	**30**	P	**P**	**13 19 08.5**	**+0.9**
JKA	**Kamikawa-asahi**	**32.02**	**30**	IAmb	IAmb	13 19 20.4	
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	**32.12**	**342**	P	**P**	**13 19 10.6**	**+1.9**
	comp=Z,1.7nm,0.7s,baz=158,slow=9.8,SNR=7.0						
KLR	**Kul'dur**	**32.55**	**13**	P	**P**	**13 19 13.2**	**+0.9**
	comp=Z,11nm,0.6s,baz=221,slow=7.7,SNR=46						
YSS	**Yuzh-Sakhalins**	**34.24**	**27**	P	**P**	**13 19 25.8**	**-1.2**
YSS				IAmb	IAmb	13 19 34.8	
	comp=Z,8.6nm,1.0s						
WMQ	**Urumqi**	**37.97**	**320**	*eP*	**P**	**13 19 59.9**	**+0.8**
WB0	**Warramunga Arr**	**39.73**	**160**	P	**P**	**13 20 11.5**	**-2.4**
WRAB	**Tennant Creek**	**39.87**	**160**	P	**P**	**13 20 12.6**	**-2.5**
WRA	**Warramunga Arr**	**39.87**	**160**	P	**P**	**13 20 14.4**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=346,slow=8.8,SNR=16						
WRA	**Warramunga Arr**	**39.87**	**160**	P	**P**	**13 20 12.4**	**-2.7**
WB2	**Warramunga Arr**	**39.88**	**160**	P	**P**	**13 20 12.8**	**-2.3**
WR0	**Warramunga Arr**	**39.95**	**159**	P	**P**	**13 20 13.7**	**-2.1**
MK31	**Makanchi Array**	**42.77**	**321**	P	**P**	**13 20 40.6**	**+1.9**
MK31				IAmb	IAmb	13 20 42.3	
	comp=Z,13nm,0.9s						
MKAR	**Makanchi Array**	**42.77**	**321**	P	**P**	**13 20 40.8**	**+2.1**
	comp=Z,14nm,0.9s,baz=112,slow=9.7,SNR=57						
MKAR				PcP	**PcP**	**13 22 30.5**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=91,slow=5.8,SNR=3.3						
MKAR	**Makanchi Array**	**42.77**	**321**	P	**P**	**13 20 40.0**	**+1.3**
MAKZ	**Makanchi**	**42.96**	**321**	P	**P**	**13 20 40.1**	**-0.2**
MAKZ				IAmb	IAmb	13 20 43.4	
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**43.23**	**162**	P	**P**	**13 20 42.3**	**-0.4**
ASAR	**Alice Springs**	**43.23**	**162**	P	**P**	**13 20 42.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=339,slow=6.9,SNR=32						
ASAR				PcP	**PcP**	**13 22 32.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=352,slow=3.5,SNR=0.9						
ASAR	**Alice Springs**	**43.23**	**162**	P	**P**	**13 20 42.2**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**43.60**	**82**	T	T	14 06 02.6	
	baz=276,slow=74,SNR=51						
H11S1	**WAKE ISLAND Hy**	**43.61**	**82**	T	T	14 06 20.8	
	baz=276,slow=74,SNR=26						
H11S2	**WAKE ISLAND Hy**	**43.62**	**82**	T	T	14 06 06.3	
	baz=276,slow=74,SNR=32						
H11N1	**WAKE ISLAND Hy**	**43.66**	**80**	T	T	14 06 02.8	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**43.67**	**80**	T	T	14 06 11.6	
	baz=274,slow=75						
H11N3	**WAKE ISLAND Hy**	**43.68**	**80**	T	T	14 06 10.2	
	baz=274,slow=75						
KSH	**Kashi**	**44.24**	**309**	P	**P**	**13 20 54.2**	**+3.4**
KSH				S	**S**	**13 27 26.0**	**+1.4**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,200nm,3.9s						
YAK	**Yakutsk**	**44.58**	**6**	P	**P**	**13 20 53.2**	**+0.2**
NIL	**Nilore**	**45.15**	**300**	P	**P**	**13 20 57.5**	**-0.6**
ZAA0	**Zalesovo Array**	**45.42**	**331**	P	**P**	**13 20 59.8**	**0.0**
ZALV	**Zalesovo Beam**	**45.42**	**331**	P	**P**	**13 21 01.0**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=119,slow=7.5,SNR=10						
ZALV				PcP	**PcP**	**13 22 38.6**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=104,slow=3.5,SNR=2.1						
ZALV	**Zalesovo Beam**	**45.42**	**331**	P	**P**	**13 20 59.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**45.44**	**31**	P	**P**	**13 20 59.6**	**-0.4**
PEA0B				IAmb	IAmb	13 21 03.3	
	comp=Z,8.6nm,1.1s						
PETK	**Petropavlovsk-**	**45.44**	**31**	P	**P**	**13 21 00.1**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=274,slow=2.9,SNR=12						
PETK	**Petropavlovsk-**	**45.44**	**31**	P	**P**	**13 20 59.2**	**-0.8**
PET	**Petropavlovsk**	**45.85**	**31**	P	**P**	**13 21 02.2**	**-1.0**
PET				IAmb	IAmb	13 21 09.8	
	comp=Z,5.9nm,0.7s						
KURBB	**Kurchatov Arra**	**46.80**	**324**	P	**P**	**13 21 12.5**	**+1.7**
	comp=Z,7.5nm,0.6s,baz=119,slow=8.2,SNR=4.9						
GAR	**Garm**	**48.38**	**307**	P	**P**	**13 21 24.2**	**+0.8**
FORT	**Forrest**	**48.86**	**172**	P	**P**	**13 21 26.5**	**-0.4**
KK31	**Karatay Array**	**49.15**	**312**	P	**P**	**13 21 29.7**	**+0.5**
KK31				IAmb	IAmb	13 21 31.4	
	comp=Z,5.1nm,0.7s						
KKAR	**Karatay Array**	**49.15**	**312**	P	**P**	**13 21 29.8**	**+0.6**
KKAR				IAmb	IAmb	13 21 31.4	
	comp=Z,5.1nm,0.7s						
KKAR	**Karatay Array**	**49.15**	**312**	P	**P**	**13 21 29.6**	**+0.5**
CHGR	**Chuyangaron**	**49.21**	**306**	P	**P**	**13 21 30.2**	**+0.4**
SEY	**Seymchan**	**50.08**	**18**	P	**P**	**13 21 36.7**	**+0.9**
	comp=Z,5.0nm,0.6s,baz=221,slow=7.2,SNR=19						
BVAR	**Borovoye Array**	**52.40**	**324**	P	**P**	**13 21 54.7**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=156,slow=11,SNR=7.0						
BVAR				PcP	**PcP**	**13 23 04.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=247,slow=9.5,SNR=3.7						
BRVK	**Borovoye**	**52.47**	**324**	P	**P**	**13 21 53.7**	**-0.2**
BBOO	**Buckleboo**	**52.47**	**164**	P	**P**	**13 21 53.5**	**-0.7**
STKA	**Stephens Creek**	**53.35**	**158**	P	**P**	**13 22 01.4**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=326,slow=12,SNR=2.9						
TIXI	**Tiksi**	**54.01**	**3**	P	**P**	**13 22 04.9**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=204,slow=3.9,SNR=18						
TIXI	**Tiksi**	**54.01**	**3**	P	**P**	**13 22 04.3**	**-0.7**
TIXI				IAmb	IAmb	13 22 05.5	
	comp=Z,4.9nm,0.7s						
NRIK	**Noril'sk**	**55.40**	**346**	P	**P**	**13 22 16.1**	**+1.0**
	comp=Z,7.6nm,0.6s,baz=124,slow=6.9,SNR=11						
NRIK	**Noril'sk**	**55.40**	**346**	P	**P**	**13 22 15.8**	**+0.7**
NRIK				IAmb	IAmb	13 22 18.4	
	comp=Z,8.6nm,0.8s						
ABKAR	**Akbulak array**	**57.66**	**317**	P	**P**	**13 22 32.0**	**+0.4**
GEYT	**Alibeck**	**57.78**	**304**	P	**P**	**13 22 34.0**	**+1.4**
	comp=Z,46nm,0.8s,baz=185,slow=7.2,SNR=6.3						
AKTO	**Aktyubinsk**	**59.09**	**319**	P	**P**	**13 22 42.0**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=107,slow=10,SNR=6.1						
ARU	**Arti**	**59.96**	**325**	P	**P**	**13 22 47.7**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=89,slow=4.1,SNR=8.5						
ARU	**Arti**	**59.96**	**325**	P	**P**	**13 22 46.9**	**-0.5**
ATKA	**Atka Island**	**60.86**	**40**	P	**P**	**13 22 53.8**	**+0.2**
NIKH	**Nikolski High**	**64.18**	**39**	P	**P**	**13 23 14.9**	**-0.9**
	baz=266						
GAMB	**Gambell**	**64.26**	**27**	P	**P**	**13 23 17.0**	**+0.9**
	baz=258						
SOCY	**Socotra**	**64.41**	**275**	P	**P**	**13 23 16.7**	**-1.3**
KIRV	**Kirov**	**65.19**	**327**	P	**P**	**13 23 22.4**	**+0.2**
	comp=Z,6.9nm,0.5s,baz=273,slow=2.2,SNR=3.5						
MSVF	**Nonsavu**	**66.57**	**119**	P	**P**	**13 23 32.1**	**+0.2**
ANM	**Nome**	**67.12**	**27**	P	**P**	**13 23 35.8**	**+1.1**
	baz=263						
KBZ	**Khabaz**	**69.17**	**311**	P	**P**	**13 23 48.0**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=70,slow=3.9,SNR=5.9						
SDPT	**Sand Point**	**69.17**	**37**	P	**P**	**13 23 48.4**	**+0.8**
	baz=271						
KIV	**Kislovodsk**	**69.30**	**311**	P	**P**	**13 23 49.7**	**+1.0**
KIV				IAmb	IAmb	13 23 50.7	
	comp=Z,6.9nm,0.8s						
RAYN	**Ar Rayn**	**69.87**	**289**	P	**P**	**13 23 52.9**	**+0.3**
RAYN				IAmb	IAmb	13 23 54.2	
	comp=Z,5.5nm,0.9s						
KLMR	**Klimovskoe**	**70.30**	**329**	*eP*	**P**	**13 23 53.9**	**-0.6**
KLMR				AMP		13 23 55.7	
	comp=Z,5.0nm,0.9s						
A21K	**Barrow**	**70.88**	**20**	P	**P**	**13 23 58.8**	**+0.9**
	baz=269						
N18K	**Kilae Creek**	**71.39**	**31**	P	**P**	**13 24 02.4**	**+1.2**
	baz=273						
SVW2	**Sparrevohn**	**71.52**	**31**	P	**P**	**13 24 03.1**	**+1.1**
SVW2				IAmb	IAmb	13 24 03.9	
	comp=Z,6.9nm,0.9s						
O18K	**Koktuh Hills**	**71.79**	**32**	P	**P**	**13 24 03.0**	**-0.5**
	baz=274						
L19K	**White Mountain**	**71.80**	**29**	P	**P**	**13 24 04.4**	**+0.8**
	baz=274						
M19K	**Big River Lodg**	**72.03**	**30**	P	**P**	**13 24 06.2**	**+1.2**
	baz=274						
N19K	**Bonanza Creek**	**72.07**	**31**	P	**P**	**13 24 06.7**	**+1.3**
	baz=274						
O19K	**Port Alsworth**	**72.20**	**32**	P	**P**	**13 24 07.0**	**+1.0**
	baz=275						
H21K	**Melozitna Rive**	**72.45**	**26**	P	**P**	**13 24 08.7**	**+1.2**
	baz=274						
M20K	**Styx River**	**72.63**	**30**	P	**P**	**13 24 10.1**	**+1.4**
	baz=275						
P19K	**Oil Pt**	**72.80**	**32**	P	**P**	**13 24 10.7**	**+1.0**
	baz=276						
CHUM	**Lake Minchumin**	**72.82**	**28**	P	**P**	**13 24 11.1**	**+1.5**
	baz=275						
I21K	**Tanana**	**72.84**	**26**	P	**P**	**13 24 10.8**	**+1.1**
	baz=275,SNR=6.8						
PPLA	**Purkeypile**	**72.97**	**29**	P	**P**	**13 24 11.4**	**+0.7**
	baz=276						
PPLA	**Purkeypile**	**72.97**	**29**	P	**P**	**13 24 11.5**	**+0.8**
PPLA				IAmb	IAmb	13 24 20.2	
	comp=Z,11nm,1.0s						
OHAK	**Old Harbor**	**73.04**	**35**	P	**P**	**13 24 12.1**	**+1.1**
	baz=277						
KDAK	**Kodiak Island**	**73.35**	**34**	P	**P**	**13 24 12.9**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=324,slow=1.6,SNR=21						
KDAK	**Kodiak Island**	**73.35**	**34**	P	**P**	**13 24 12.9**	**+0.1**
COLD	**Coldfoot**	**73.35**	**24**	P	**P**	**13 24 13.7**	**+1.0**
	baz=276,SNR=8.2						
COLD	**Coldfoot**	**73.35**	**24**	P	**P**	**13 24 12.3**	**-0.4**
COLD				IAmb	IAmb	13 24 15.1	
	comp=Z,6.5nm,1.0s						
SKT	**Skwentna**	**73.37**	**30**	P	**P**	**13 24 12.8**	**-0.2**
	baz=277						
SKT	**Skwentna**	**73.37**	**30**	P	**P**	**13 24 12.7**	**-0.3**
SKT				IAmb	IAmb	13 24 13.9	
	comp=Z,6.6nm,0.9s						
BPAW	**Bear Paw Mtn.**	**73.38**	**27**	P	**P**	**13 24 14.0**	**+1.0**
	baz=277,SNR=15						
BPAW	**Bear Paw Mtn.**	**73.38**	**27**	P	**P**	**13 24 13.9**	**+0.9**
MLY	**Manley**	**73.38**	**26**	P	**P**	**13 24 13.9**	**+0.9**
	baz=276,SNR=15						
MLY	**Manley**	**73.38**	**26**	P	**P**	**13 24 13.7**	**+0.7**
MLY				IAmb	IAmb	13 24 17.7	
	comp=Z,10nm,0.8s						
TOLK	**Toolik Lake Re**	**73.43**	**22**	P	**P**	**13 24 14.2**	**+0.9**
	baz=276						
TOLK	**Toolik Lake Re**	**73.43**	**22**		**P**	**13 24 14.3**	**+1.1**
TOLK	**Toolik Lake Re**	**73.43**	**22**	P	**P**	**13 24 14.2**	**+0.9**
TOLK				IAmb	IAmb	13 24 15.3	
	comp=Z,7.2nm,0.8s						
KTH	**Kantishna Hill**	**73.47**	**28**	P	**P**	**13 24 14.6**	**+1.0**
KTH				IAmb	IAmb	13 24 16.2	
	comp=Z,12nm,1.1s						
TRF	**Thorofare Moun**	**73.76**	**28**	P	**P**	**13 24 15.7**	**+0.3**
	baz=277						
TRF	**Thorofare Moun**	**73.76**	**28**	P	**P**	**13 24 16.4**	**+1.0**
TRF				IAmb	IAmb	13 24 29.5	
	comp=Z,8.2nm,1.0s						
H23K	**Yukon River**	**73.78**	**25**	P	**P**	**13 24 16.5**	**+1.2**
	baz=277,SNR=20						
SUA	**Susitna One**	**73.81**	**30**	P	**P**	**13 24 15

GLI	Glacier Island	75.65	30	P	P	13 24 26.2	0.0
	baz=281						
M24K	Tolsona, Glenn	75.85	29	P	P	13 24 27.9	+0.5
	baz=281						
M24K	Tolsona, Glenn	75.85	29	P	P	13 24 27.8	+0.5
PAX	Paxson	76.00	28	P	P	13 24 28.3	0.0
	baz=282						
PAX	Paxson	76.00	28	P	P	13 24 28.2	0.0
PAX				IAmb	IAmb	13 24 30.0	
	comp=Z,6.5nm,1.0s						
KLU	Klutina	76.09	30	P	P	13 24 29.1	+0.3
	baz=282						
KLU	Klutina	76.09	30	P	P	13 24 29.1	+0.3
KLU				IAmb	IAmb	13 24 35.4	
	comp=Z,9.3nm,0.8s						
HARP	HAARP	76.25	29	P	P	13 24 29.6	0.0
	baz=282						
EYAK	Cordova Ski Ar	76.36	31	P	P	13 24 30.2	0.0
	baz=282						
EYAK	Cordova Ski Ar	76.36	31	P	P	13 24 31.0	+0.8
SCRK	Sand Creek	76.43	27	P	P	13 24 30.8	+0.1
	baz=283,SNR=9.3						
SCRK	Sand Creek	76.43	27	P	P	13 24 30.7	-0.1
SCRK				IAmb	IAmb	13 24 35.4	
	comp=Z,5.0nm,0.8s						
DOT	Dot Lake	76.47	27	P	P	13 24 31.1	+0.2
DOT				IAmb	IAmb	13 24 32.7	
	comp=Z,7.2nm,0.9s						
BRTR	Keskin Array B	76.61	308	P	P	13 24 32.5	+0.2
	comp=Z,0.5nm,0.4s,baz=42,slow=4.3,SNR=4.1						
N25K	Chitina, Valde	76.68	29	P	P	13 24 32.3	+0.1
	baz=283						
N25K	Chitina, Valde	76.68	29	P	P	13 24 33.5	+1.4
N25K				IAmb	IAmb	13 24 34.3	
	comp=Z,7.8nm,1.0s						
FINES	FINESS Array B	76.69	331	P	P	13 24 32.1	0.0
	comp=Z,0.9nm,0.4s,baz=72,slow=4.2,SNR=11						
FINES	FINESS Array B	76.69	331	P	P	13 24 31.4	-0.7
LTZ	Lake Taylor	76.72	144	P	P	13 24 33.3	+0.8
MENT	Mentasta	76.78	28	P	P	13 24 33.7	+1.1
MENT				IAmb	IAmb	13 24 41.0	
	comp=Z,6.6nm,0.7s						
BMRM	Bremner River	76.82	30	P	P	13 24 32.9	0.0
	baz=283						
GLB	Gilahina Butte	77.09	29	P	P	13 24 34.9	+0.5
HMT	Hamilton	77.13	31	P	P	13 24 36.0	+1.4
HMT				IAmb	IAmb	13 24 36.5	
	comp=Z,9.3nm,0.9s						
KHZ	Kahutara	77.21	143	P	P	13 24 35.4	+0.2
K27K	Chicken	77.24	27	P	P	13 24 36.2	+1.0
	baz=284						
MNK	Minsk	77.28	323	*i* P	P	13 24 31.8	-3.8
	comp=E,1.0nm,0.7s						
MNK				*i* P	P	13 24 31.8	-3.8
	comp=N,24nm,0.7s						
MNK				*i* P	P	13 24 31.8	-3.8
	comp=Z,7.0nm,0.6s,baz=78						
MNK				*i* PcP	sP	13 24 42.4	+2.1
MNK				*i* PP	PP	13 27 25.0	-4.3
MNK				*i* PPP	PPP	13 29 12.4	
MNK				*i* S	S	13 34 17.8	-7.6
MNK				*i* SS	SS	13 39 16.6	-6.4
MNK				*i* SSS	SSS	13 42 40.8	
MNK				*i* LQ	LQ	13 53 15.0	
MNK				*i* LR	LR	13 59 20.7	
MNK				*i* LRM	MLR	14 00 41.7	
	comp=Z,233nm,18.8s						
MNK				*i* LRM	MLR	14 00 47.3	
	comp=E,15nm,15.2s						
MNK				*i* LRM	MLR	14 01 00.3	
	comp=N,211nm,19.6s						
VRDI	Verde Repeater	77.31	30	P	P	13 24 36.4	+0.6
VRDI				IAmb	IAmb	13 24 49.4	
	comp=Z,7.8nm,1.2s						
AKASG	Malin Array Be	77.32	319	P	P	13 24 35.2	-0.6
	comp=Z,0.5nm,0.5s,baz=64,slow=6.5,SNR=5.4						
AKASG	Malin Array Be	77.32	319	IAmb	IAmb	13 24 40.5	
	comp=Z,1.3nm,1.2s						
EGAK	Eagle	77.44	26	P	P	13 24 36.4	+0.1
	baz=285,SNR=9.4						
EGAK	Eagle	77.44	26	P	P	13 24 36.8	+0.5
EGAK				IAmb	IAmb	13 24 37.7	
	comp=Z,7.4nm,0.9s						
MCARA	McCarthy VSAT	77.47	29	P	P	13 24 36.6	+0.1
	baz=284						
CRQM	Cirque	77.57	30	P	P	13 24 37.7	+0.4
CRQM				IAmb	IAmb	13 24 39.6	
	comp=Z,13nm,1.0s						
CRQE	Cirque	77.59	30	P	P	13 24 37.7	+0.3
	baz=284						
L27K	Beaver Creek,	77.59	28	P	P	13 24 38.1	+0.9
	baz=285,SNR=21						
L27K	Beaver Creek,	77.59	28	P	P	13 24 38.1	+0.9
L27K				IAmb	IAmb	13 24 39.8	
	comp=Z,13nm,1.1s						
BCAR	Beaver Creek A	77.61	28	P	P	13 24 38.1	+0.8
ISLE	Juniper Island	77.99	30	P	P	13 24 38.1	-1.5
ISLE				IAmb	IAmb	13 24 44.1	
	comp=Z,9.2nm,1.0s						
BARN	Barnard Glacie	78.19	30	P	P	13 24 41.0	+0.2
CTG	Chitna Glacier	78.37	30	P	P	13 24 42.6	+0.9
	baz=286,SNR=9.9						
CTGM	Chitina Glacie	78.37	30	P	P	13 24 42.0	+0.3
DAWY	Dawson	78.37	26	P	P	13 24 41.8	+0.3
DAWY				IAmb	IAmb	13 24 43.4	
	comp=Z,7.8nm,0.9s						
LOGN	Logan Glacier	78.56	30	P	P	13 24 43.3	+0.5
LOGN				IAmb	IAmb	13 24 52.8	
	comp=Z,13nm,0.9s						
TABL	Table Mountain	78.60	30	P	P	13 24 43.9	+0.8
TABL				IAmb	IAmb	13 24 45.2	
	comp=Z,13nm,1.0s						
EPYK	Eagle Plains	78.74	24	P	P	13 24 43.3	-0.2
	baz=289						
EPYK	Eagle Plains	78.74	24	P	P	13 24 43.2	-0.3
EPYK				IAmb	IAmb	13 24 44.7	
	comp=Z,9.3nm,0.8s						
PINM	Pinnacle	79.12	30	P	P	13 24 44.3	-1.4
	baz=287						
INK	Inuvik	79.25	21	P	P	13 24 45.8	-0.3
	comp=Z,6.9nm,0.8s,baz=271,slow=4.1,SNR=8.2						
INK	Inuvik	79.25	21	P	P	13 24 45.5	-0.7
	baz=291						
INK	Inuvik	79.25	21	P	P	13 24 46.0	-0.1
INK				IAmb	IAmb	13 24 47.4	
	comp=Z,9.0nm,0.9s						
HYT	Haines Junctio	80.20	29	P	P	13 24 52.5	+0.9
HYT				IAmb	IAmb	13 24 57.1	
	comp=Z,8.3nm,1.0s						
BURAR	Bucovina Array	80.64	317	P	P	13 24 54.4	+0.1
MLR	Muntele Rosu	80.74	315	P	P	13 24 55.9	+1.0
	comp=Z,3.5nm,0.7s,baz=232,slow=7.6,SNR=6.8						
MLR	Muntele Rosu	80.74	315	P	P	13 24 55.1	+0.2
WHY	Whitehorse	81.47	29	P	P	13 24 57.7	-0.8
	baz=291						
WHY	Whitehorse	81.47	29	P	P	13 24 58.5	+0.1
WHY				IAmb	IAmb	13 25 01.0	
	comp=Z,5.3nm,0.8s						
KWP	Kalwaria Pacla	81.65	319	P	P	13 24 59.2	-0.2
SKAG	Skagway	81.69	30	P	P	13 25 01.0	+1.6
	baz=291						
C36M	Paulatuk	81.90	19	P	P	13 25 01.5	+1.1
	baz=300						
BESE	Bessie Mountai	82.23	31	P	P	13 25 03.6	+1.1
BESE				IAmb	IAmb	13 25 06.2	
	comp=Z,10.0nm,1.0s						
DAG	Danmarks Havn	82.53	351	*i* P	P	13 25 03.9	+0.3
DAG				IAmb	IAmb	13 25 04.2	
	comp=Z,6.3nm,0.6s						
SIT	Sitka	82.56	32	P	P	13 25 04.9	+0.9
	baz=291						
HFS	Hagfors	82.86	331	P	P	13 25 05.8	+0.2
	comp=Z,1.4nm,0.5s,baz=90,slow=5.2,SNR=15						
NC405	NORSAR Array S	83.35	332	P	P	13 25 06.8	-1.3
VTS	Vitosha	83.45	313	P	P	13 25 08.7	-0.5
VTS				IAmb	IAmb	13 25 18.4	
	comp=Z,5.0nm,1.1s						
NB2	NORSAR Subarra	83.60	333	P	P	13 25 08.7	-0.8
	comp=Z,1.6nm,0.7s,baz=62,slow=4.8						
NOA	NORSAR Array B	83.60	333	P	P	13 25 09.8	+0.3
	comp=Z,1.1nm,0.7s,baz=63,slow=4.8,SNR=10.0						
DLBC	Dease Lake	84.62	30	P	P	13 25 14.6	-0.2
	comp=Z,4.0nm,1.0s,baz=274,slow=7.8,SNR=6.1						
DLBC	Dease Lake	84.62	30	P	P	13 25 14.8	0.0
DLBC				IAmb	IAmb	13 25 17.7	
	comp=Z,5.3nm,1.1s						
DBG	Daneborg	84.73	350	⇓*i* P	P	13 25 15.3	+0.4
DBG				IAmb	IAmb	13 25 15.6	
	comp=Z,5.1nm,0.8s						
NEEM	North Greenlan	84.78	358	*i* P	P	13 25 16.5	+1.0
NEEM				IAmb	IAmb	13 25 17.2	
	comp=Z,18nm,0.9s						
VRAC	Vranov	85.51	320	P	P	13 25 19.7	+0.4
	comp=Z,1.4nm,0.5s,baz=18,slow=5.6,SNR=3.5						
CLL	Collm	86.83	323	*eP*	P	13 25 27.0	+1.3
GERES	GERESS Array B	87.44	321	P	P	13 25 29.2	+0.3
	comp=Z,0.4nm,0.6s,baz=74,slow=4.7,SNR=3.9						
SUMG	Summit	88.72	354	*i* P	P	13 25 35.6	+0.7
SUMG				IAmb	IAmb	13 25 36.8	
	comp=Z,5.3nm,0.9s						
SUMG	Summit	88.72	354	P	P	13 25 34.7	-0.2
SUMG				IAmb	IAmb	13 25 37.0	
	comp=Z,6.7nm,1.0s						
YKA	Yellowknife Ar	88.96	22	P	P	13 25 36.7	+1.0
	comp=Z,1.3nm,0.7s,baz=319,slow=5.0,SNR=5.9						
DAVOX	Davos/Dischmat	90.65	320	P	P	13 25 45.9	+1.7
	comp=Z,1.1nm,0.5s,baz=70,slow=11,SNR=4.0						
I04A	Tendick Farm,	95.84	40	P	P	13 26 06.5	-1.5
	baz=302						
TXAR	Lajitas Array	116.49	43	PKP	PKPdf	13 31 25.8	-0.2
	comp=Z,0.1nm,0.5s,baz=63,slow=0.2,SNR=1.3						

TUL ***05*** *13:13:39.4±0.7,35°.55N±0°.01×97°.23W±0°.03,h7km±6km, ML2.9,mb_Lg2.8/60(NEIC), Error ellipse: s-maj=3.2km s-min=1.7km az=96.0*

NEIC 05 13:13:39.8±1.2,35°.58N±0°.02×97°.26W±0°.03,h10km±4km, Error ellipse: s-maj=3.8km s-min=2.4km az=126.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	Jones High Sch	0.03	240	Pg	Pg	13 13 41.1	-0.6
OK025	Westminster Rd	0.06	275		Pg	13 13 41.9	-0.1
OK025				Sg	Sg	13 13 43.6	0.0
OK005	Luther M Schoo	0.10	35		Pg	13 13 42.3	-0.1
OK009	Oakdale Elemen	0.13	273		Pg	13 13 43.1	+0.2
OKCSW	OKLAHOMA CITY	0.22	221		Pg	13 13 44.1	-0.3
OKCFA	Oklahoma City	0.22	225		Pg	13 13 44.2	-0.3
OKCFA	Oklahoma City	0.22	225	P		13 13 44.2	
	baz=52,SNR=46						
OKCFA				S		13 13 47.8	
	baz=52						
OK029	Liberty Lake	0.27	324		Pg	13 13 45.8	+0.5
OK029				Sg	Sg	13 13 49.8	+0.8
BCOK	Bluff Creek, N	0.30	286		Pg	13 13 46.1	+0.3
FNO	Franklin	0.34	200		Pg	13 13 46.0	-0.5
FNO				Sg	Sg	13 13 50.6	-0.4
OK031	S. Brethren Rd	0.51	42		Pg	13 13 49.3	-0.5
OK031				Sg	Sg	13 13 56.4	-0.1
QUOK	Quay	0.74	37		Pg	13 13 53.3	-0.9
QUOK				Sg	Sg	13 14 03.6	-0.3
X34A	Smith Ranch, M	1.08	206	Pg	Pg	13 13 59.9	-0.6
X34A				Sg	Sg	13 14 14.2	-0.4
CROK	Carrier	1.10	328		Pg	13 14 00.7	-0.2
CROK				Sg	Sg	13 14 14.7	-0.5
BLOK	Blackwell	1.18	2		Pb	13 14 01.6	-0.7
TUL1	Leonard	1.24	74	P		13 14 01.4	
	baz=254,SNR=47						
TUL1				S		13 14 18.3	
	baz=254						
KAN13	South Haven SW	1.45	353		Pn	13 14 06.3	+0.2
OK032	Salt Plains WL	1.45	328		Pn	13 14 06.5	+0.4
T35A	Sooner Cattle	1.47	24	Pn	Pn	13 14 05.9	-0.5
T35B	Sooner Cattle	1.47	24	P		13 14 06.0	
	baz=203,SNR=121						
T35B				S		13 14 26.4	
	baz=203						
WMOK	Wichita Mounta	1.50	237		Pn	13 14 06.4	-0.5
WMOK	Wichita Mounta	1.50	237	P		13 14 06.6	
	baz=57,SNR=52						
WMOK				S		13 14 26.9	
	baz=57						
KAN17	Caldwell West	1.52	345		Pn	13 14 06.8	-0.3
LOOK	Love County	1.58	178	Pn	Pn	13 14 07.5	-0.4
KAN09	Caldwell North	1.58	350	Pn	Pb	13 14 08.9	-0.3
KAN05	Bluff City Nor	1.61	342		Pn	13 14 08.9	+0.6
U32A	Winter Ranch,	1.62	300		Pb	13 14 09.2	-0.7
U32A				IAmb_Lg		13 14 33.4	
	comp=Z,51nm,0.8s						
U32A	Winter Ranch,	1.62	300	P		13 14 09.7	
	baz=119,SNR=27						
KS20	Mayfield South	1.67	352		Pn	13 14 09.6	+0.5
KS20				IAmb_Lg		13 14 37.3	
	comp=Z,51nm,0.8s						
KAN10	Anthony SW Sta	1.69	337	Pn	Pn	13 14 09.9	+0.6
KAN08	Anthony NE Sta	1.75	341		Pb	13 14 11.2	-0.8
KAN12	Harper NE Stat	1.82	341		Pn	13 14 12.1	+0.9
X37A	Clayton	1.83	122		Pn	13 14 11.3	-0.1
X37A	Clayton	1.83	122	P		13 14 11.4	
	baz=303,SNR=67						
U38A	Gravette	2.48	69		Pn	13 14 20.4	+0.1
U38A	Gravette	2.48	69	P		13 14 20.6	
	baz=250						
HHAR	Hobbs	2.79	74		Pn	13 14 24.5	0.0
W39A	Magazine	2.87	97		Pn	13 14 25.2	-0.4
W39A				IAmb_Lg		13 15 15.7	
	comp=Z,22nm,0.8s						
W39A	Magazine	2.87	97	P		13 14 25.3	
	baz=278						
W39A				S		13 15 00.5	
	baz=278						
Z38A	Mt. Pleasant	2.98	140	Pn	Pn	13 14 26.7	-0.4
Z38A				IAmb_Lg		13 15 14.9	
	comp=Z,26nm,0.8s						
MIAR	Mount Ida	3.19	108	Pn	Pn	13 14 30.6	+0.5
MIAR	Mount Ida	3.19	108	P		13 14 30.2	
	baz=290,SNR=16						
ABTX	Abilene, Hawle	3.55	215	Pn	Pn	13 14 35.8	+0.8
WHTX	Lake Whitney,	3.58	183	Pn	Pn	13 14 35.8	+0.4
U40A	Yellville	3.66	76	Pn	Pn	13 14 36.4	-0.1
U40A	Yellville	3.66	76	P		13 14 36.5	
	baz=259,SNR=9.2						
U40A				P		13 14 36.5	
	baz=259,SNR=9.2						
AMTX	Amarillo	3.68	260	Pn	Pn	13 14 37.6	+0.6
AMTX				IAmb_Lg		13 15 43.5	
	comp=Z,22nm,0.8s						
237A	Washetta, Mont	3.76	161	Pn	Pn	13 14 38.1	+0.2
237A				IAmb_Lg		13 15 44.5	
	comp=Z,14nm,0.8s						
CBKS	Cedar Bluff	3.79	329	IAmb_Lg		13 15 44.5	
	comp=Z,16nm,0.9s						
X40A	Basin Creek Fa	3.79	105	Pn	Pn	13 14 38.5	+0.2
S39A	Bolivar	3.81	55	Pn	Pn	13 14 38.5	0.0
S39A	Bolivar	3.81	55	P		13 14 38.6	
	baz=237						
WHAR	Wooly Hollow	4.07	93		Pn	13 14 41.9	-0.3
W41B	Gary Mavity, V	4.12	94	P		13 14 42.9	
	baz=277,SNR=9.8						
W41B				S		13 15 31.6	
	baz=277						
FCAR	Ozark Folk Cen	4.19	84	Pn	Pn	13 14 43.3	-0.5
FCAR				IAmb_Lg		13 15 53.7	
	comp=Z,16nm,0.8s						
MGMO	Mountain Grove	4.33	67	Pn	Pn	13 14 45.7	0.0
MGMO				IAmb_Lg		13 16 08.4	
	comp=Z,19nm,0.7s						
435B	Jarrell	4.79	183	IAmb_Lg		13 16 17.6	
	comp=Z,10nm,0.8s						
R40A	Maddies Statio	4.83	54	Pn	Pn	13 14 52.0	-0.5
LCAR	Lake Charles	4.99	83	Pn	Pn	13 14 52.5	-2.2
P38A	Dawn	5.01	35	Pn	Pn	13 14 54.9	-0.2
P38A				IAmb_Lg		13 16 23.7	
	comp=Z,16nm,0.7s						
CCM	Cathedral Cave	5.42	61	IAmb_Lg		13 16 37.0	
	comp=Z,20nm,0.8s						
N35A	Tabor	5.43	13	Pn	Pn	13 15 00.4	-0.4
N35A				IAmb_Lg		13 16 46.3	
	comp=Z,25nm,0.8s						
JCT	Junction City	5.51	203	IAmb_Lg		13 16 35.9	
	comp=Z,15nm,1.1s						
P40A	Paris	5.72	45	IAmb_Lg		13 16 42.4	
	comp=Z,11nm,0.8s						
T25A	Trinidad	5.98	287	IAmb_Lg		13 16 57.0	
	comp=Z,11nm,0.9s						
W45A	Hickory Valley	6.61	91	IAmb_Lg		13 17 05.9	
	comp=Z,16nm,0.9s						
S44A	Carbondale	6.77	69	IAmb_Lg		13 17 19.6	
	comp=Z,18nm,0.8s						
SIUC	Southern Illin	6.81	69	IAmb_Lg		13 17 11.8	
	comp=Z,17nm,0.9s						
SDCO	Great Sand Dun	6.97	291	Pn	Pn	13 15 23.1	+0.9
SCIA	State Center	7.07	25	IAmb_Lg		13 17 31.1	
	comp=Z,15nm,1.1s						
WVT	Waverly	7.68	83	IAmb_Lg		13 17 56.8	
	comp=Z,9.1nm,1.3s						
OLIL	Olney	7.96	64	IAmb_Lg		13 18 07.1	
	comp=Z,15nm,0.9s						
HDIL	Hopedale	8.01	49	IAmb_Lg		13 17 56.1	
	comp=Z,16nm,0.9s						
O44A	Mansfield	8.32	54	IAmb_Lg		13 18 09.5	
	comp=Z,8.5nm,0.8s						
T47A	Sharon Grove	8.32	77	IAmb_Lg		13 18 12.8	
	comp=Z,9.3nm,0.9s						
PHWY	Pilot Hill	8.60	314	IAmb_Lg		13 18 25.2	
	comp=Z,5.1nm,0.9s						
L42A	Oliver, Polo	8.73	40	IAmb_Lg		13 18 23.1	
	comp=Z,8.9nm,0.9s						
JFWS	Jewell Farm	9.12	34	IAmb_Lg		13 18 28.8	
	comp=Z,8.1nm,0.7s						
WCI	Wyandotte Cave	9.17	70	IAmb_Lg		13 18 37.3	
	comp=Z,8.2nm,0.8s						
BLO	Bloomington	9.27	64	IAmb_Lg		13 18 56.7	
	comp=Z,9.4nm,0.8s						

IDC ***05*** *13:23:31.6±0.6,45°.73N×36°.51E,h0km,mb3.5/8, mb1 3.6/14,mb1mx3.5/53,mbtmp3.6/14,ML3.7/6,MS3.1/1, Ms1 3.1/1,ms1mx2.3/46,Error ellipse: s-maj=11.7km s-min=7.2km az=22.0*

CFUSG ***05*** *13:23:34.1,45°.74N×36°.69E,h18km,MD3.3/6,Sea of Azov district 7 Magtype MSH 3.4 from 5 stations*

MOS ***05*** *13:23:35.3±0.0,45°.68N×36°.58E,h34km,MPVA4.4*

ISC 05 13:23:37.4±0.7,45°.59N±0°.05×36°.62E±0°.03,h49km±7km, n73,σ2.30/120,mb3.4/9,16C-11D,Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERU	Kerch	0.30	202	*i* Pg	Pn	13 23 44.4	-2.0
KERU				Pgm		13 23 44.8	
	comp=Z,320nm,0.3s						
KERU				*i* x	Sn	13 23 55.1	+2.2
KERU	Kerch	0.30	202	*i* Pg	Pn	13 23 44.4	-2.0
KERU				*e*Sg	Sn	13 23 51.8	-1.1
ANN	Anapa	0.98	144	⇓*i* Pg	Pn	13 23 54.0	-0.7
ANN				Pgm		13 23 54.4	
	comp=Z,436nm,0.2s						
ANN				*e*Sg	Sn	13 24 07.5	0.0
ANN				Sgm		13 24 08.2	
	comp=N,956nm,0.7s						
ANN				Sgm		13 24 08.6	
	comp=E,417nm,0.2s						
ANN	Anapa	0.98	144	*i* Pg	Pn	13 23 54.0	-0.7
ANN				*i* Sg	Sn	13 24 07.5	0.0
SUDU	Sudak	1.34	239	⇓*i* P	Pn	13 23 59.3	-0.4
SUDU				P	Pn	13 24 05.0	+5.3
	comp=Z,87nm,0.2s						
SUDU				*e*S	Sn	13 24 17.7	+1.3
SUDU				S	Sn	13 24 24.2	+7.8
	comp=N,134nm,0.5s						
SUDU				S	Sn	13 24 25.0	+8.6
	comp=E,317nm,0.5s						
GL1R	Gelendzhik	1.46	135	⇓*i* P	Pn	13 24 02.4	+1.1
GL1R				*e*x	Sn	13 24 22.3	+3.0
GL1R	Gelendzhik	1.46	135	*i* Pg	Pn	13 24 02.4	+1.1
GL1R				*e*Sg	Sn	13 24 21.5	+2.2
KGUR	Krasnodar	1.79	108	*e*Pg	Pn	13 24 04.4	-1.4
KGUR				*e*Sg	Sn	13 24 27.7	+0.3
ALU	Alushta	1.82	241	⇓*e*P	Pn	13 24 05.1	-1.1
ALU				P	Pn	13 24 05.3	-0.8
	comp=Z,32nm,0.3s						
ALU				*e*x	x	13 24 27.4	
ALU				S	Sn	13 24 35.1	+7.1
	comp=E,51nm,0.3s						
ALU				S	Sn	13 24 38.1	+10
	comp=N,161nm,0.3s						
ALU	Alushta	1.82	241	*e*Pg	Pn	13 24 05.0	-1.1
ALU				*e*Sg	Sn	13 24 26.7	-1.3
SIM	Simferopol'	1.88	251	*e*x	Pn	13 24 07.3	+0.2
SIM				P		13 24 11.5	
	comp=Z,5.0nm,0.3s						
SIM				*e*x	Sn	13 24 31.2	+1.5
SIM				S	S	13 24 34.1	+4.4
	comp=N,161nm,0.3s						
SIM				S	S	13 24 34.1	+4.4
	comp=E,215nm,0.3s						
SIM	Simferopol'	1.88	251	*e*Pg	Pn	13 24 07.5	+0.4
SIM				*e*Sg	Sn	13 24 29.4	-0.3
YAL	Yalta	2.07	239	*e*P	Pn	13 24 08.2	-1.4
YAL				P	Pn	13 24 11.6	+2.0
	comp=Z,33nm,0.3s						
YAL				*e*S	Sn	13 24 33.2	-1.0
YAL				S	Sn	13 24 41.2	+7.0
	comp=E,100nm,0.3s						
YAL				S	Sn	13 24 42.0	+7.8
	comp=N,190nm,0.3s						
TPSR	Tuapse	2.32	130	*e*P	Pn	13 24 13.8	+0.7
TPSR				*e*S	Sn	13 24 42.4	+2.1
TPSR	Tuapse	2.32	130	*i* Pn	Pn	13 24 13.8	+0.7
TPSR				*e*Sn	Sn	13 24 42.1	+1.7
SEV	Sevastopol'	2.34	244	⇓*i* P	Pn	13 24 12.2	-1.1
SEV				P		13 24 24.6	
	comp=Z,22nm,0.2s						
SEV				*e*x	Sn	13 24 40.0	-0.8
SEV				S	S	13 24 45.5	+4.7
	comp=N,254nm,0.3s						
SEV				S	S	13 24 45.5	+4.7
	comp=E,85nm,0.3s						
SEV	Sevastopol'	2.34	244	*e*Pn	Pn	13 24 13.0	-0.3
SEV				*e*Sn	Sn	13 24 41.0	+0.1
LZRR	Lazarevskoye	2.57	129	⇓*i* P	Pn	13 24 16.9	+0.4
LZRR				*e*S	Sn	13 24 47.7	+1.2
LZRR	Lazarevskoye	2.57	129	*e*Pn	Pn	13 24 16.9	+0.4
LZRR				*e*Sn	Sn	13 24 46.9	+0.4
ERBR	Yeremizino-Bor	2.71	86	*e*Pn	Pn	13 24 18.7	+0.3
ERBR				*e*Sn	Sn	13 24 49.4	-0.5
GUZR	Guzeripl'	2.96	121	*i* Pn	Pn	13 24 22.5	+0.6
GUZR				*e*Sn	Sn	13 24 56.7	+0.6
SOC	Sochi	2.99	131	*e*x	Pn	13 24 23.1	+0.9
SOC				*e*x	Sn	13 24 58.6	+1.9
SOC	Sochi	2.99	131	*e*Pn	Pn	13 24 23.1	+0.9
SOC				*e*Sn	Sn	13 24 57.2	+0.5
SOC	Sochi	2.99	131	*e*SSS	Sn	13 24 59.1	+2.4
RPOR	Krasnaya Polya	3.21	125	*i* Pn	Pn	13 24 26.2	+0.9
RPOR				*e*Sn	Sn	13 25 02.7	+0.2
ARXR	Arkhyz	3.89	120	*e*Pn	Pn	13 24 36.1	+1.3
ARXR				*e*Sn	Sn	13 25 18.8	-0.5
DIKM	Dikmen	4.06	195	⇑P

TLBR	Topalu	6.16 263	⇑P		Pn	13 25 03.3 -2.5
SORM	Soroca	6.22 297	⇓P		Pn	13 25 04.3 -2.2
SORM	Soroca	6.22 297	⇑S		Sn	13 26 13.0 -3.1
BRTR	Keskin Array B	6.26 202	Pn		Pn	13 25 07.4 +0.1
	comp=E,1.7nm,0.3s,baz=28,slow=9.9,SNR=60					
BRTR			Pg			13 25 17.4
	comp=E,1.1nm,0.3s,baz=15,slow=13,SNR=13					
BRTR			Sn		Sn	13 26 14.9 -2.6
	comp=E,1.1nm,0.3s,baz=11,slow=24,SNR=7.5					
BRTR			LR		LR	13 28 37.2
	comp=E,171nm,21.9s,baz=92,slow=48					
VRI	Vrincioaia	6.93 276	⇑P		Pn	13 25 15.1 -1.2
TESR	Tescani	7.00 281	⇑P		Pn	13 25 15.8 -1.4
AKASG	Malin Array Be	7.11 319	Pn		Pn	13 25 14.8 -4.0
	comp=E,6.5nm,0.3s,baz=90,slow=16,SNR=22					
AKASG			Sn		Sn	13 26 30.7 -7.4
	comp=E,9.5nm,0.3s,baz=133,slow=24,SNR=9.1					
AKASG			Lg		Lg	13 27 13.4
	comp=E,13nm,0.3s,baz=131,slow=30,SNR=12					
MLR	Muntele Rosu	7.50 273	Pn		Pn	13 25 23.7 -0.5
	comp=E,0.5nm,0.3s,baz=168,slow=4.5,SNR=6.0					
MLR			Sn		Sn	13 26 44.4 -3.5
	comp=E,2.8nm,0.3s,baz=123,slow=20,SNR=12					
MLR	Muntele Rosu	7.50 273	⇑P		Pn	13 25 22.9 -1.3
BURAR	Bucovina Array	8.11 289	⇓P		Pn	13 25 29.3 -3.2
VOIR		8.13 273	⇑P		Pn	13 25 30.7 -2.1
MNK	Minsk	10.53 331	*i* P		Pn	13 26 06.9 +1.4
	comp=E,4.0nm,1.0s					
MNK			*i* P		Pn	13 26 06.9 +1.4
	comp=N,9.0nm,0.8s					
MNK			*i* P		Pn	13 26 06.9 +1.4
	comp=Z,8.0nm,0.7s,baz=144					
MNK			*i* PP		PnPn	13 26 14.6 +1.4
MNK			*i* PPP		PPP	13 26 22.2
MNK			*i* S		Sn	13 28 06.9 +5.0
MNK			*i* SS		SnSn	13 28 18.9 +5.0
MNK			*i* SSS		SSS	13 28 31.4
MNK			*i* LQ		LQ	13 29 10.6
MNK			*i* LR		LR	13 29 58.7
MNK			*i* LRM		MLR	13 30 27.0
	comp=E,30nm,20.8s					
MNK			*i* LRM		MLR	13 30 27.0
	comp=Z,84nm,27.1s					
MNK			*i* LRM		MLR	13 30 41.7
	comp=N,44nm,16.3s					
AKTO	Aktyubinsk	15.10 64	Pn		Pn	13 27 04.3 -3.0
	comp=N,0.5nm,0.3s,baz=261,slow=11,SNR=6.7					
AKTO			Sn		Sn	13 29 39.0 -14
	comp=N,0.8nm,0.3s,baz=128,slow=20,SNR=11					
FINES	FINESS Array B	17.04 343	Pn		Pn	13 27 23.7 -8.0
	comp=N,0.7nm,0.3s,baz=152,slow=13,SNR=21					
FINES			Sn		Sn	13 30 23.8 -16
	comp=N,0.4nm,0.3s,baz=158,slow=22,SNR=5.2					
HFS	Hagfors	19.93 325	P		P	13 28 02.4 -2.4
	comp=N,0.4nm,0.3s,baz=116,slow=13,SNR=8.0					
NB2	NORSAR Subarra	21.46 325	P		P	13 28 18.4 -2.9
	comp=Z,1.1nm,0.7s,baz=125,slow=11					
NOA	NORSAR Array B	21.46 325	P		P	13 28 18.9 -2.4
	comp=Z,0.2nm,0.5s,baz=129,slow=11,SNR=4.8					
BVAR	Borovoye Array	23.07 59	P		P	13 28 38.3 -0.1
	comp=Z,0.3nm,0.5s,baz=239,slow=17,SNR=3.8					
ARCES	ARCESS Array B	24.65 351	P		P	13 28 52.0 -1.0
	comp=Z,0.7nm,0.5s,baz=170,slow=10,SNR=1.6					
MKAR	Makanchi Array	31.30 71	P		P	13 29 52.7 +0.1
	comp=Z,0.3nm,0.4s,baz=269,slow=10.0,SNR=5.9					
ZALV	Zalesovo Beam	31.68 57	P		P	13 29 55.5 -0.4
	comp=Z,0.7nm,0.6s,baz=279,slow=11,SNR=3.8					
TORD	Torodi Ar. Bea	43.80 234	P		P	13 31 37.4 -1.1
	comp=Z,0.3nm,0.5s,baz=47,slow=7.3,SNR=1.8					
SONM	Songino Array	46.39 61	P		P	13 31 58.4 -0.4
	comp=Z,0.5nm,0.5s,baz=282,slow=9.7,SNR=2.2					
CMAR	Chiang Mai Arr	57.75 96	P		P	13 33 22.8 -0.5
	comp=Z,0.6nm,0.6s,baz=302,slow=9.0,SNR=2.4					
PETK	Petropavlovsk-	69.54 33	P		P	13 34 40.3 -0.3
	comp=Z,0.6nm,0.9s,baz=312,slow=8.7,SNR=1.5					

NNC ***05*** *13:43:31.7±0.6, 50°.03N×78°.68E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=5.2km s-min=2.7km az=59.0, Suspected Mining explosion.*
IDC ***05*** *13:43:32.8±0.8, 50°.07N×78°.72E, h0km, mb3.6/1, mb1 3.2/5, mb1mx3.1/51, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=8.9km s-min=6.3km az=53.0*
ISC 05 13:43:32.9±0.8, 50°.08N±0°.04×78°.75E±0°.04, h0km, n22, σ1§01/32, 15C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.52	344	⇑P		Pg	13 43 43.1 +0.2
KUR07				⇑S		Sb	13 43 51.6 -1.5
KUR06	Kurchatov Arra	0.54	345	⇑P		Pg	13 43 43.4 +0.2
KUR06				⇑S		Sb	13 43 52.0 -1.5
KUR14	Kurchatov Arra	0.54	349	⇓P		Pg	13 43 43.3 0.0
KUR14				⇓S		Sg	13 43 51.2 +1.0
KUR15	Kurchatov Arra	0.55	347	⇑P		Pg	13 43 43.5 +0.1
KUR15				⇓S		Sg	13 43 51.4 +0.9
KURBB	Kurchatov Arra	0.56	346	Pg		Pg	13 43 43.8 +0.2
	6.1nm,0.3s,baz=165,slow=17,SNR=93						
KURBB				Lg		Lg	13 43 52.3
	4.0nm,0.3s,baz=170,slow=32,SNR=6.3						
KURBB	Kurchatov Arra	0.56	346	⇓P		Pg	13 43 43.6 0.0
	50nm,0.3s						
KURBB				⇑S		Sb	13 43 52.5 -1.6
	117nm,0.5s						
KUR16	Kurchatov Arra	0.57	344	⇑P		Pg	13 43 43.7 -0.1
KUR16				⇑S		Sg	13 43 52.0 +0.8
KUR05	Kurchatov Arra	0.58	346	⇑P		Pg	13 43 43.0 -0.9
KUR05				⇑S		Sg	13 43 52.3 +0.9
KUR17	Kurchatov Arra	0.58	342	⇑P		Pg	13 43 43.0 -1.0
KUR17				⇓S		Sg	13 43 52.1 +0.7
SEM	Semipalatinsk	1.02	71	P		Pg	13 43 51.6 -0.8
	11nm,0.1s						
SEM				S		Sg	13 44 06.7 +1.2
	143nm,0.4s						
MAKZ	Makanchi	3.92	146	⇓Pg		Pb	13 44 42.9 +0.1
	5.2nm,0.6s						
MAKZ				⇓Lg		Lg	13 45 35.5
	13nm,0.6s						
MKAR	Makanchi Array	4.05	143	Pn		Pn	13 44 36.0 -0.1
	0.5nm,0.3s,baz=331,slow=11,SNR=28						
MKAR				Pg		Pb	13 44 44.1 -0.9
	1.4nm,0.3s,baz=324,slow=16,SNR=19						
MKAR				Lg		Lg	13 45 38.4
	2.8nm,0.3s,baz=329,slow=30,SNR=12						
ZSN	Zaisan	4.83	121	Pg		Pb	13 44 59.1 +0.8
	3.2nm,0.2s						
ZSN				Lg		Lg	13 46 02.3
	16nm,0.6s						
ZAA0	Zalesovo Array	5.39	42	⇑Pn		Pn	13 44 54.9 +0.4
	0.2nm,0.3s						
ZAA0				⇑Lg		Lg	13 46 25.8
	1.7nm,0.9s						
ZALV	Zalesovo Beam	5.39	42	Pn		Pn	13 44 56.3 +1.9
	1.3nm,0.3s,baz=232,slow=14,SNR=15						
ZALV				Lg		Lg	13 46 20.7
	0.4nm,0.3s,baz=227,slow=25,SNR=2.9						
ARXS	Arharly	5.91	186	Pg		Pb	13 45 18.0 +1.3
	1.8nm,0.2s						
ARXS				Lg		Lg	13 46 34.6
	23nm,0.7s						
BVAR	Borovoye Array	5.99	303	Pn		Pn	13 45 02.9 +0.2
	0.3nm,0.3s,baz=124,slow=14,SNR=2.2						
BVAR				Lg		Lg	13 46 44.1
	0.1nm,0.3s,baz=112,slow=26,SNR=1.8						
BRVK	Borovoye	6.06	303	⇑Pg		Pb	13 45 20.5 +1.2
	1.4nm,0.6s						
BRVK				⇑Sn		Sn	13 46 12.5 -1.2
	2.9nm,0.7s						
KUU	Kurty	6.41	196	Pg		Pb	13 45 26.9 +1.7
	1.8nm,0.1s						
KUU				Lg		Lg	13 46 49.5
	11nm,0.7s						
AAK	Ala-Archa	8.01	203	Lg		Lg	13 47 44.4
	0.7nm,0.3s,baz=96,slow=18,SNR=1.6						
SONM	Songino Array	18.25	86	P		Pn	13 47 47.9 +0.3
	0.1nm,0.3s,baz=307,slow=10,SNR=2.2						
HFS	Hagfors	37.05	311	P		P	13 50 42.7 -1.4
	0.3nm,0.3s,baz=80,slow=10,SNR=4.3						

IDC 05 13:44:20.7±4.4, 18°.16S×178°.07W, h621km±26km, mb2.8/4, mb1 3.1/5, mb1mx2.8/29, mbtmp3.7/5, Error ellipse: s-maj=165.2km s-min=25.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.71	276	P		P	13 45 45.9 -0.1
	1.1nm,0.3s,baz=170,slow=12,SNR=9.8						
WRA	Warramunga Arr	44.90	260	P		P	13 51 41.9 -0.4
	0.6nm,0.3s,baz=96,slow=7.5,SNR=18						
ASAR	Alice Springs	45.03	254	P		P	13 51 43.5 +0.3
	2.9nm,0.5s,baz=88,slow=8.5,SNR=39						
ILAR	Eielson Array	86.06	13	P		P	13 55 56.8 +0.2
	0.1nm,0.4s,baz=217,slow=4.8,SNR=1.2						
PDAR	Pinedale Array	87.32	43	P		P	13 56 03.1 -0.2
	0.1nm,0.4s,baz=233,slow=7.3,SNR=2.1						

NEIC 05 13:54:12.9±0.4, 37°.26N±0°.03×97°.58W±0°.02, h6km±3km, Error ellipse: s-maj=4.1km s-min=1.8km az=189.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS20	Mayfield South	0.04	149		Pg	13 54 14.5	+0.2
KS20					Sg	13 54 15.5	+0.2
KS21	Milan North St	0.07	289		Pg	13 54 14.7	0.0
KS21					Sg	13 54 15.8	-0.2
KAN09	Caldwell North	0.13	194		Pg	13 54 15.7	0.0
KAN06	Argonia West S	0.22	266		Pg	13 54 17.3	0.0
KAN06					Sg	13 54 20.4	+0.1
KAN13	South Haven SW	0.26	162		Pg	13 54 18.4	+0.3
KAN13					Sg	13 54 22.2	+0.6
KAN17	Caldwell West	0.26	214		Pg	13 54 17.9	-0.2
KAN05	Bluff City Nor	0.28	237		Pg	13 54 18.3	-0.1
KAN05					Sg	13 54 22.1	0.0
KAN08	Anthony NE Sta	0.32	263		Pg	13 54 19.1	0.0
KAN08					Sg	13 54 23.3	+0.1
KAN10	Anthony SW Sta	0.43	251		Pg	13 54 21.1	-0.3
KAN10	Anthony SW Sta	0.43	251		Sg	13 54 27.1	+0.1
BLOK	Blackwell	0.58	150		Pg	13 54 24.1	0.0
OK032	Salt Plains WL	0.68	228		Pg	13 54 25.6	-0.4
OK032	Salt Plains WL	0.68	228		Sg	13 54 34.9	0.0
CROK	Carrier	0.82	203		Pg	13 54 28.2	-0.5
T35A	Sooner Cattle	0.92	112		Pg	13 54 30.6	-0.1
QUOK	Quay	1.30	147		Pn	13 54 37.1	-0.4
OK031	S. Brethren Rd	1.44	155		Pn	13 54 39.1	-0.4
U32A	Winter Ranch,	1.44	233	Pn	Pn	13 54 38.9	-0.7
U32A				IAmb_Lg		13 54 59.8	
	comp=Z,24nm,0.8s						
R32A	Long Quarter,	1.46	323		Pn	13 54 39.7	-0.2
OK029	Liberty Lake	1.47	176		Pn	13 54 39.5	-0.4
BCOK	Bluff Creek, N	1.60	181		Pn	13 54 41.6	-0.2
OK025	Westminster Rd	1.69	173		Pn	13 54 42.9	0.0
OKCSW	OKLAHOMA CITY	1.86	176		Pn	13 54 45.1	-0.1
X34A	Smith Ranch, M	2.67	184	Pn	Pn	13 54 56.3	-0.1
U38A	Gravette	2.69	107		Pn	13 54 56.8	0.0
WMOK	Wichita Mounta	2.70	201	Pn	Pn	13 54 56.8	-0.1
X37A	Clayton	3.21	145	Pn	Pn	13 55 04.4	+0.5
X37A				IAmb_Lg		13 56 00.3	
	comp=Z,9.3nm,0.7s						
S39A	Bolivar	3.41	82	Pn	Pn	13 55 07.0	+0.3
U40A	Yellville	3.90	102	Pn	Pn	13 55 14.2	+0.8
U40A				IAmb_Lg		13 56 14.5	
	comp=Z,5.7nm,0.9s						
AMTX	Amarillo	4.08	236	IAmb_Lg		13 56 29.5	
	comp=Z,12nm,0.8s						
MIAR	Mount Ida	4.23	129	IAmb_Lg		13 56 38.0	
	comp=Z,7.4nm,0.8s						
R40A	Maddies Statio	4.33	75	Pn	Pn	13 55 19.6	+0.4
Z38A	Mt. Pleasant	4.52	151	IAmb_Lg		13 56 40.1	
	comp=Z,15nm,0.8s						
FCAR	Ozark Folk Cen	4.60	106	IAmb_Lg		13 56 37.4	
	comp=Z,8.1nm,1.0s						
X40A	Basin Creek Fa	4.75	124	IAmb_Lg		13 56 53.6	
	comp=Z,11nm,1.1s						
N38A	Joes South For	4.88	42	IAmb_Lg		13 56 47.9	
	comp=Z,10nm,0.8s						
P40A	Paris	4.90	61	IAmb_Lg		13 56 47.7	
	comp=Z,9.7nm,0.8s						
CCM	Cathedral Cave	5.09	79	IAmb_Lg		13 56 59.7	
	comp=Z,4.9nm,0.8s						
PBMO	Poplar Bluff	5.74	93	IAmb_Lg		13 57 23.5	
	comp=Z,5.4nm,0.9s						
K38A	Parkersburg	6.52	33	IAmb_Lg		13 57 52.8	
	comp=Z,9.2nm,0.8s						

IDC ***05*** *14:01:09.8±10.0, 20°.57N×103°.85W, h0km, mb2.9/2, mb1 3.5/3, mb1mx3.3/36, mbtmp3.0/3, ML3.4/1, Error ellipse: s-maj=160.9km s-min=69.8km az=120.0*
NEIC ***05*** *14:01:13.8±2.0, 21°.06N±0°.04×104°.91W±0°.04, h29km±9km, mb4.1/6, Md3.8/30(MEX), Error ellipse: s-maj=7.6km s-min=4.2km az=217.0*
MEX ***05*** *14:01:16.2±3.5, 21°.37N×105°.35W, h20km±155km, MD3.8*
ISC 05 14:01:16.4±0.9, 21°.18N±0°.03×104°.63W±0°.05, h26km±6km, n25, σ3§58/31, mb3.7/3, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	Ahuacatlan	0.16	141	*e*P	Pb	14 01 22.5	+0.6
ANIG				*i* S	Sb	14 01 25.8	+0.2
ANIG	Ahuacatlan	0.16	141		Pb	14 01 22.5	+0.6
ANIG					Sb	14 01 25.8	+0.2
EZ5V		1.95	150	*e*P	Pb	14 01 53.4	+1.9
EZ5V				*i* S	Sb	14 02 21.6	+6.2
EZ5V		1.95	150		Pb	14 01 53.4	+1.9
R15V		2.09	163	*e*P	Pb	14 01 53.8	+0.1
R15V				*e*S	Sb	14 02 24.0	+4.7
R15V		2.09	163		Pb	14 01 53.8	+0.1
COIG	Colima	2.18	156	*e*P	Pb	14 01 55.9	+0.6
COIG				*i* S	Sb	14 02 26.7	+4.9
AAIG	Aguscalientes	2.23	69	*e*P	Pb	14 01 57.1	+0.8
AAIG				*e*S	Sb	14 02 30.3	+6.7
ZAIG	Zacatecas	2.48	50	*e*P	Pb	14 02 03.2	+2.7
ZAIG				*e*S	Sb	14 02 35.3	+4.5
ZAIG	Zacatecas	2.48	50		Pb	14 02 03.2	+2.7
ZAIG					Sb	14 02 35.3	+4.5
MAIG	Mazatlaan	2.60	321	*e*P	Pb	14 02 06.1	+3.7
MAIG				*e*S	Sn	14 02 29.3	+1.8
MAIG	Mazatlaan	2.60	321		Pb	14 02 06.1	+3.7
MAIG					Sn	14 02 29.3	+1.8
RPIG	Rio Verde	4.38	80	*e*P	Pb	14 02 38.3	+5.5
RPIG				*e*S	Sb	14 03 36.0	+11
GTIG	Gomez Farias	5.40	69	*e*P	Pb	14 02 55.6	+5.5
GTIG				*e*S	Sb	14 04 08.6	+14
LNIG	Linares	6.03	51	*e*P	Pn	14 02 35.6	-8.3
LNIG				*e*S	Sb	14 04 06.4	-6.0
TX31	Lajitas Ar. Si	8.16	6	Pn	Pn	14 03 11.5	-1.9
TXAR	Lajitas Array	8.16	6	Pn	Pn	14 03 18.0	+4.7
	0.1nm,0.3s,baz=186,slow=14,SNR=7.4						
TXAR				Sn	Sn	14 04 56.7	+12
	0.1nm,0.3s,baz=182,slow=17,SNR=1.4						
TXAR				Lg	Lg	14 05 35.5	
	0.2nm,0.3s,baz=193,slow=28,SNR=7.0						
TXAR	Lajitas Array	8.16	6	Pn	Pn	14 03 12.1	-1.2
X37A	Clayton	15.65	29	P	P	14 04 59.3	+0.2
X37A				IAmb	IAmb	14 05 12.1	
	comp=Z,4.5nm,1.1s						
PV14	Lion Creek, Pa	17.55	348	Pn	Pn	14 05 15.6	-3.9
NVAR	Mina Array Bea	20.84	329	P	Pn	14 06 03.5	+4.5
	comp=Z,0.3nm,0.8s,baz=138,slow=12,SNR=3.1						
PDAR	Pinedale Array	21.92	350	P	P	14 06 12.7	+4.8
	comp=Z,0.1nm,0.4s,baz=161,slow=14,SNR=4.0						
DLMT	Dillon	25.00	347	P	P	14 06 35.1	-3.1
DLMT				IAmb	IAmb	14 06 39.9	
	comp=Z,1.8nm,0.8s						
MENT	Mentasta	49.40	338	P	P	14 09 59.3	-4.4
MENT				IAmb	IAmb	14 10 00.5	
	comp=Z,2.4nm,0.5s						
GLI	Glacier Island	49.45	334	P	P	14 10 00.9	-3.2

NIED ***05*** *14:06:26.8, 34°.94N×139°.79E, h113km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr4.96; Mθθ-5.21; Mφφ0.25; Mrθ0.06; Mθφ4.74; Mφr2.60; Fault plane solution: M0 7.31000×1014 NP1: φs328.00000°, δ58.00000°, λ129.00000°. NP2: φs91.00000°, δ48.00000°, λ44.00000°.*
NEIC ***05*** *14:06:26.9±1.2, 34°.99N±0°.05×139°.89E±0°.07, h114km±5km, mb4.4/20 Error ellipse: s-maj=9.5km s-min=5.3km az=131.0*
JMA ***05*** *14:06:26.8±0.2, 34°.94N×139°.79E, h113km±2km, M3.9 Broadband fault plane solution: P waves. NP1: φs105.00000°, δ42.00000°, λ76.00000°. NP2: φs303.00000°, δ50.00000°, λ102.00000°. Principal axes: T Plg80.0000°, Azm271.0000°; N Plg9.0000°, Azm116.0000°; P Plg4.0000°, Azm25.0000°;*
JMA Felt II J1.
IDC ***05*** *14:06:27.3±1.1, 34°.93N×139°.66E, h115km±9km, mb3.4/15, mb1 3.6/16, mb1mx3.5/57, mbtmp3.8/16 Error ellipse: s-maj=21.4km s-min=10.1km az=70.0*
ISC 05 14:06:26.4±0.6, 34°.98N±0°.04×139°.82E±0°.05, h114km±5km, n92, σ1§52/102, mb3.9/27, 10C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	Tateyama 2	0.08	49	⇑P	Pn	14 06 43.0	+1.0
JYO	Yokosk	0.27	333	⇑P	Pn	14 06 43.4	+0.9
JYO				S	Sn	14 06 56.2	+1.6
JIM2	Oshima 3	0.41	231	⇑P	Pn	14 06 43.1	0.0
JIM2				S	Sn	14 06 55.2	-0.5
BSO3	Boso 3	0.60	107	⇑P	Pn	14 06 45.3	+1.3
JOD2	Odawara 2	0.66	296	⇑P	Pn	14 06 45.1	+0.3
JOD2				S	Sn	14 06 58.8	+0.1
JIZS	Izushimoda	0.81	252	⇑P	Pn	14 06 46.6	+0.5
JIZS				S	Sn	14 07 01.3	+0.4
JFNN	Fujinakano	0.95	283	⇑P	Pn	14 06 48.3	+0.9
JFNN				S	Sn	14 07 04.1	+0.9
BSO1	Boso 1	1.01	108	⇑P	Pn	14 06 48.4	+1.1
BSO1				*e*S	Sn	14 07 05.2	+1.9
JMKN	Mikurajimanish	1.10	190	⇓P	Pn	14 06 49.2	+0.3
JMKN				S	Sn	14 07 06.0	+0.1
JYN	Shimob	1.16	297	⇑P	Pn	14 06 50.6	+1.0
JYN				*e*S	Sn	14 07 08.6	+1.3
JRY	Ryogami san	1.28	324	⇑P	Pn	14 06 51.9	+1.0
JRY				S	Sn	14 07 10.4	+1.0
JYT	Yasato	1.28	14		Pn	14 06 51.1	+0.2
SHZ3	Shizuoka 3	1.32	274	P	Pn	14 06 52.5	+1.1
JSG	Sagara	1.38	258		Pn	14 06 53.4	+1.5
JAG	Ashikaga	1.47	349	⇓P	Pn	14 06 53.6	+0.5
JAG				S	Sn	14 07 13.5	+0.1
JHJ	Hachijo jima 2	1.86	181	P	Pn	14 06 58.4	+0.6
	972nm,0.3s,baz=91,slow=21,SNR=579						
JHJ				S	Sn	14 07 21.2	-0.4
	264nm,0.3s,baz=239,slow=23,SNR=17						
JHJ2	Mitsune	1.86	180	⇓P	Pn	14 06 58.3	+0.5
JHJ2				*e*S	Sn	14 07 21.3	-0.5
JHJ2	Mitsune	1.86	180	Pn	Pn	14 06 58.1	+0.3
TK02	Tokai 2	1.99	239	⇓P	Pn	14 07 00.6	+1.4
MJAR	Matsushiro Arr	2.03	320	P	Pn	14 06 59.8	-0.2
	6.1nm,0.3s,baz=150,slow=11,SNR=219						
MJAR				S	Sn	14 07 25.7	0.0
	8.6nm,0.3s,baz=148,slow=39,SNR=9.8						
MJAR	Matsushiro Arr	2.03	320	Pn	Pn	14 07 00.0	0.0
MAJO	Matsushiro	2.04	320		Pn	14 07 00.9	+0.9
MAT	Matsushiro	2.04	320	P	Pn	14 07 01.1	+1.1
MAT				S	Sn	14 07 26.3	+0.6
MJB9	Matsu-Tunnel	2.04	320		Pn	14 07 01.0	+0.9
JGF	Kuroka	2.10	288		Pn	14 07 02.6	+1.7
INU	Inuyama	2.32	280		Pn	14 07 04.5	+0.8
JMM	Marumori	2.99	15		Pn	14 07 12.1	-0.1
JSD	Sado	3.30	338		Pn	14 07 16.5	+0.1
JWT	Wachi	3.63	276		Pn	14 07 21.9	+1.1
JMN	Monobe	5.07	257	Pn	Pn	14 07 41.0	+0.8
JHS	Saijyo	5.50	272	Pn	Pn	14 07 47.9	+1.9
JTM	Tenmabayashi	5.88	9	Pn	Pn	14 07 50.7	-0.4
ERM	Erimo	7.50	19	Pn	Pn	14 08 11.5	-1.4
JEW	Eniwo	7.95	9	Pn	Pn	14 08 17.6	-1.5
JCJ	Chichijima	8.12	165	P	Pn	14 08 17.5	-3.9
	12nm,0.3s,baz=12,slow=19,SNR=16						
JCJ				S	Sn	14 09 41.7	-10
	9.5nm,0.3s,baz=258,slow=21,SNR=1.9						
JCJ	Chichijima	8.12	165	Pn	Pn	14 08 16.6	-4.9
JSU	Suzuyama	8.57	249	Pn	Pn	14 08 23.5	-4.1
ASAJ	Asahikawa	9.37	12	P	Pn	14 08 36.4	-2.0
	2.8nm,0.3s,baz=225,slow=9.0,SNR=32						
ASAJ				S	Sn	14 10 14.6	-7.3
	0.3nm,0.3s,baz=275,slow=33,SNR=1.3						
JKA	Kamikawa-asahi	9.37	12		Pn	14 08 35.9	-2.5
YSS	Yuzh-Sakhalins	12.17	10	Pn	Pn	14 09 13.8	-2.0
KLR	Kul'dur	15.43	340	P	Pn	14 09 56.9	-0.9
	0.3nm,0.3s,baz=148,slow=12,SNR=5.0						
YOJ	Yonaguni jima	17.95	239	Pn	Pn	14 10 30.7	+2.0
PETK	Petropavlovsk-	22.11	29	P	P	14 11 12.9	+0.6
	0.8nm,0.8s,baz=219,slow=5.2,SNR=2.0						
HHC	Hu-ho-hao-te	22.99	293	*e*P	P	14 11 21.7	+0.3
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,82nm,5.9s						
XAN	Xi'an	25.43	277	P	P	14 11 37.0	-6.6
XAN				pP	pP	14 12 02.8	-5.5
XAN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MA2	Magadan	25.64	13	P	P	14 11 46.3	+1.2
MA2				IAmb	IAmb	14 11 54.9	
	comp=Z,7.9nm,1.1s						
SONM	Songino Array	27.93	308	P	P	14 12 04.6	-1.3
	comp=Z,0.6nm,0.6s,baz=106,slow=9.1,SNR=2.2						
H11N2	WAKE ISLAND Hy	28.33	115	T	T	14 41 56.5	
	baz=308,slow=75						
H11N1	WAKE ISLAND Hy	28.33	115	T	T	14 42 05.7	
	baz=308,slow=75						
H11N3	WAKE ISLAND Hy	28.34	115	T	T	14 42 08.2	
	baz=308,slow=75						
H11S3	WAKE ISLAND Hy	28.95	118	T	T	14 42 44.2	
	baz=310,slow=75						
H11S1	WAKE ISLAND

FORT	Forrest	66.34	191	P		P	14 17 02.0 -0.7
FINES	FINESS Array B	70.02	332	P		P	14 17 25.9 +0.4
	comp=Z,0.5nm,0.4s,baz=45,slow=5.7,SNR=5.0						
FINES	FINESS Array B	70.02	332	P		P	14 17 26.3 +0.9
AKASG	Malin Array Be	75.12	322	P		P	14 17 55.9 0.0
	comp=Z,0.7nm,0.4s,baz=52,slow=5.9,SNR=5.7						
NOA	NORSAR Array B	75.57	337	P		P	14 17 59.2 +0.9
	comp=Z,0.2nm,0.6s,baz=88,slow=10,SNR=1.8						
NVAR	Mina Array Bea	77.26	52	P		P	14 18 10.9 +2.4
	comp=Z,0.4nm,0.6s,baz=303,slow=5.3,SNR=5.9						
BRTR	Keskin Array B	79.23	311	P		P	14 18 20.3 +1.1
	comp=Z,0.2nm,0.4s,baz=100,slow=7.5,SNR=3.6						
PDAR	Pinedale Array	80.03	44	P		P	14 18 25.0 +1.3
	comp=Z,0.2nm,0.5s,baz=311,slow=3.5,SNR=2.1						
CLL	Collm	82.22	330	*e*P		P	14 18 34.0 -0.7
GERES	GERESS Array B	83.76	328	P		P	14 18 43.2 +0.4
	comp=Z,0.3nm,0.4s,baz=25,slow=4.9,SNR=3.9						
TXAR	Lajitas Array	92.41	51	P		P	14 19 26.4 +1.7
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=3.5						
TORD	Torodi Ar. Bea	117.81	313	PKP		PKPdf	14 24 59.6 -0.4
	comp=Z,0.3nm,0.4s,baz=58,slow=2.2,SNR=1.5						
LPAZ	La Paz	148.84	60	PKPbc		PKiKP	14 26 03.4 +0.1
	comp=Z,1.6nm,0.8s,baz=29,slow=6.8,SNR=5.2						

*IDC **05** 14:09:52.9±1.3, 17°.76N×121°.01E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/53, mbtmp3.5/5, MS3.7/1, Ms1 3.7/1, ms1mx2.5/25, Error ellipse: s-maj=41.0km s-min=23.9km az=66.0*

*MAN **05** 14:10:00.3, 17°.68N×121°.03E, h15km, mb4.1, ML2.9, MS2.5*

ISC 05 14:09:56.0±1.2, 17°.8N±0°.2×121°.0E±0°.2, h22km, n6, σ0s32/5, mb3.4/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	17.66	28	LR	LR	14 20 53.1	
	comp=Z,203nm,18.4s,baz=267,slow=37						
KSRS	Korea Array	20.51	16	P	P	14 14 32.5	-0.1
	1.1nm,1.0s,baz=198,slow=11,SNR=6.7						
CMAR	Chiang Mai Arr	21.00	275	P	P	14 14 38.0	-0.2
	0.9nm,0.3s,baz=102,slow=8.7,SNR=5.9						
WRA	Warramunga Arr	39.70	160	P	P	14 17 26.7	-0.2
	0.4nm,0.7s,baz=342,slow=7.8,SNR=1.6						
MKAR	Makanchi Array	43.01	321	P	P	14 17 54.1	+0.2
	0.8nm,0.8s,baz=111,slow=7.9,SNR=4.3						
ASAR	Alice Springs	43.07	163	P	P	14 17 54.8	+0.3
	0.2nm,0.3s,baz=336,slow=6.9,SNR=4.3						

*IDC **05** 14:16:01.7±1.6, 9°.65S×66°.87E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/35, mbtmp3.7/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/26, Error ellipse: s-maj=70.5km s-min=27.7km az=38.0*

ISC 05 14:16:04.6±1.2, 9°.5S±0°.3×66°.97E±0°.10, h15km, n18, σ0s80/14, mb3.8/6, MS3.2/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	5.76	71	Pn	Pn	14 17 28.8	-0.5
	baz=278,slow=14,SNR=8.2						
H08S1				Sn	Sn	14 18 35.4	+0.3
H08S1				T	T	14 23 58.4	
	baz=245,slow=75,SNR=7.8						
H08S3	Diego Garcia H	5.77	71	Pn	Pn	14 17 29.6	+0.1
	baz=278,slow=14,SNR=6.9						
H08S3				Sn	Sn	14 18 35.4	-0.1
H08S3				T	T	14 23 56.1	
	baz=245,slow=75,SNR=15						
H08S2	Diego Garcia H	5.78	72	Pn	Pn	14 17 29.0	-0.6
	baz=278,slow=14,SNR=8.2						
H08S2				Sn	Sn	14 18 35.4	-0.1
H08S2				T	T	14 23 55.6	
	baz=245,slow=75,SNR=15						
PALK	Pallekele	21.58	40	LR	LR	14 26 59.2	
	comp=Z,74nm,20.9s,baz=334,slow=30						
CMAR	Chiang Mai Arr	42.06	49	LR	LR	14 37 32.4	
	comp=Z,29nm,21.6s,baz=199,slow=31						
H01W3	Cape Leeuwin H	49.84	128	T	T	15 18 20.4	
	baz=289,slow=75,SNR=11						
H01W2	Cape Leeuwin H	49.84	128	T	T	15 18 17.4	
	baz=289,slow=75,SNR=12						
H01W1	Cape Leeuwin H	49.86	128	T	T	15 18 24.1	
	baz=289,slow=75,SNR=10						
MAW	Mawson	58.07	182	LR	LR	14 47 31.1	
	comp=Z,42nm,18.3s,baz=240,slow=33						
ZALV	Zalesovo Beam	65.02	12	P	P	14 26 44.5	+0.6
	0.5nm,0.5s,baz=235,slow=5.1,SNR=3.8						
ASAR	Alice Springs	65.17	112	P	P	14 26 45.0	-0.6
	0.4nm,0.7s,baz=282,slow=6.2,SNR=5.0						
WRA	Warramunga Arr	65.62	108	P	P	14 26 48.3	-0.3
	0.6nm,0.8s,baz=278,slow=5.6,SNR=2.9						
AKASG	Malin Array Be	68.34	335	P	P	14 27 03.9	-1.3
	0.1nm,0.2s,baz=136,slow=5.2,SNR=4.7						
KSRS	Korea Array	73.65	46	LR	LR	15 00 10.1	
	comp=Z,16nm,19.3s,baz=125,slow=36						
MJAR	Matsushiro Arr	80.91	51	P	P	14 28 19.2	+0.6
	0.8nm,0.6s,baz=243,slow=6.3,SNR=5.3						
ESDC	Sonseca Array	81.71	313	P	P	14 28 22.4	-0.4
	0.7nm,0.8s,baz=101,slow=4.9,SNR=5.8						
PDAR	Pinedale Array	146.75	355	PKPbc	PKPdf	14 35 46.5	+1.6
	0.5nm,0.6s,baz=104,slow=4.7,SNR=6.8						
NVAR	Mina Array Bea	150.84	9	PKPbc	PKPbc	14 35 58.1	+0.9
	1.4nm,0.8s,baz=267,slow=2.0,SNR=14						

*NEIC **05** 14:26:47.9±1.3, 45°.72N±0°.04×26°.65E±0°.05, h138km±5km, Error ellipse: s-maj=5.4km s-min=5.1km az=201.0*

*SIGU **05** 14:26:47.4, 45°.72N×26°.63E, h140km, mb3.0*

*SOF **05** 14:26:47.7, 45°.50N×26°.64E, h2km, MD3.4*

*BUC **05** 14:26:48.4±0.3, 45°.70N×26°.65E, h133km±2km, ml4.0/44, Error ellipse: s-maj=2.3km s-min=1.8km az=11.0*

*IDC **05** 14:26:53.3±9.3, 46°.13N×26°.81E, h148km±64km, mb3.2/1, mb1 3.0/3, mb1mx2.7/32, mbtmp3.4/3, Error ellipse: s-maj=113.0km s-min=76.7km az=104.0*

ISC 05 14:26:48.0±0.7, 45°.73N±0°.03×26°.66E±0°.02, h141km±4km, n193, σ1s02/273, mb4.6/6, 98C-54D, Fault plane solution: NP1:ϕ99.03642°, δ78.11167°, λ99.72202°. NP2: ϕ239.28703°, δ15.31297°, λ51.26527°. **Principal axes:** T Plg55.8602°, Azm21.3210°; N Plg9.5115°, Azm277.0150°; P Plg32.4345°, Azm180.9031°; **Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.13	358	↑P	Pn	14 27 06.7	-0.4
PLOR				↑S	Sn	14 27 20.9	-0.9
PLOR	Plostina	0.13	358	↑P	Pn	14 27 06.7	-0.4
PLOR	Plostina	0.13	358		Pn	14 27 06.8	-0.4
PLOR					Sn	14 27 20.9	-0.9
VRI	Vrincioaia	0.15	19	↑P	Pn	14 27 06.9	-0.2
VRI				↑S	Sn	14 27 20.7	-1.1
VRI	Vrincioaia	0.15	19	↑P	Pn	14 27 06.9	-0.2
VRI	Vrincioaia	0.15	19		Pn	14 27 06.9	-0.2
VRI					Sn	14 27 20.7	-1.1
ODBI	Odobesti	0.28	82	↓P	Pn	14 27 08.1	+0.6
ODBI	Odobesti	0.28	82	↓P	Pn	14 27 08.1	+0.6
ODBI	Odobesti	0.28	82		Pn	14 27 08.1	+0.6
NEHR	Nehoiu	0.39	221	↑P	Pn	14 27 07.8	-0.1
NEHR				↓S	Sn	14 27 22.6	-0.4
NEHR	Nehoiu	0.39	221	↑P	Pn	14 27 07.8	-0.1
NEHR	Nehoiu	0.39	221		Pn	14 27 07.8	-0.1
NEHR					Sn	14 27 22.6	-0.4
PETR	Petresti	0.40	90	↑P	Pn	14 27 08.1	+0.2
PETR				↓S	Sn	14 27 23.0	+0.1
PETR	Petresti	0.40	90	↑P	Pn	14 27 08.1	+0.2
PETR	Petresti	0.40	90		Pn	14 27 08.1	+0.2
PETR					Sn	14 27 23.0	+0.1
GRER		0.41	147	↑P	Pn	14 27 08.6	+0.7
GRER		0.41	147	↑P	Pn	14 27 08.6	+0.7
GRER		0.41	147		Pn	14 27 08.6	+0.7
MLR	Muntele Rosu	0.55	245	↑P	Pn	14 27 08.5	-0.3
MLR				↑S	Sn	14 27 23.2	-1.3
MLR	Muntele Rosu	0.55	245	↑P	Pn	14 27 08.5	-0.3
MLR	Muntele Rosu	0.55	245		Pn	14 27 08.5	-0.3
MLR					Sn	14 27 23.2	-1.3
ISR	Istrita	0.61	188	↑P	Pn	14 27 09.0	-0.1
ISR	Istrita	0.61	188	↑P	Pn	14 27 09.0	-0.1
ISR	Istrita	0.61	188		Pn	14 27 09.0	-0.1
OZUR		0.71	302	↑P	Pn	14 27 08.9	-0.8
OZUR				↑S	Sn	14 27 24.0	-2.2
OZUR		0.71	302	↑P	Pn	14 27 08.9	-0.8
OZUR		0.71	302		Pn	14 27 08.9	-0.8
OZUR					Sn	14 27 24.0	-2.2
TUDR		0.72	100	↓↓P	Pn	14 27 09.4	-0.3
TUDR				↑↑S	Sn	14 27 25.7	-0.4
TUDR		0.72	100	↓↓P	Pn	14 27 09.4	-0.3
TUDR		0.72	100		Pn	14 27 09.4	-0.3
TUDR					Sn	14 27 25.7	-0.4
TESR	Tescani	0.79	360	↓↓P	Pn	14 27 09.6	-0.6
TESR				↓↓S	Sn	14 27 25.2	-1.9
TESR	Tescani	0.79	360	↓↓P	Pn	14 27 09.6	-0.6
TESR	Tescani	0.79	360		Pn	14 27 09.6	-0.6
TESR					Sn	14 27 25.2	-1.9
SECR		0.81	211	↑↑P	Pn	14 27 10.5	+0.1
SECR				↓↓S	Sn	14 27 27.1	-0.2
SECR		0.81	211	↑↑P	Pn	14 27 10.5	+0.1
SECR		0.81	211		Pn	14 27 10.5	+0.1
SECR					Sn	14 27 27.1	-0.2
PGOR	Pogoanele	0.85	164	↑↑P	Pn	14 27 10.7	0.0
PGOR	Pogoanele	0.85	164	↑↑P	Pn	14 27 10.7	0.0
PGOR	Pogoanele	0.85	164		Pn	14 27 10.7	0.0
VARL	Varlezi	0.85	78	↑P	Pn	14 27 10.7	0.0
VARL				↓↓S	Sn	14 27 27.1	-0.8
VARL	Varlezi	0.85	78	↑P	Pn	14 27 10.7	0.0
VARL	Varlezi	0.85	78		Pn	14 27 10.7	0.0
VARL					Sn	14 27 27.1	-0.8
SCHL	Schela	0.85	105	↓↓P	Pn	14 27 10.4	-0.3
SCHL				↑↑S	Sn	14 27 26.9	-1.0
SCHL	Schela	0.85	105	↓↓P	Pn	14 27 10.4	-0.3
SCHL	Schela	0.85	105		Pn	14 27 10.4	-0.3
SCHL					Sn	14 27 26.9	-1.0
BIR	Birlad	0.87	51	↑P	Pn	14 27 10.8	0.0
BIR				↓↓S	Sn	14 27 26.9	-1.3
BIR	Birlad	0.87	51	↑P	Pn	14 27 10.8	0.0
BIR	Birlad	0.87	51		Pn	14 27 10.8	0.0
BIR					Sn	14 27 26.9	-1.3
DOPR	Dopca	0.92	286	↓↓P	Pn	14 27 10.4	-0.9
DOPR				↓↓S	Sn	14 27 27.9	-1.1
DOPR	Dopca	0.92	286	↓↓P	Pn	14 27 10.4	-0.9
DOPR	Dopca	0.92	286		Pn	14 27 10.4	-0.9
DOPR					Sn	14 27 27.9	-1.1
PLAR	PLOIESTI	0.93	209	↑↑P	Pn	14 27 11.4	+0.1
PLAR				↓↓S	Sn	14 27 29.3	+0.3
PLAR	PLOIESTI	0.93	209	↑↑P	Pn	14 27 11.4	+0.1
PLAR	PLOIESTI	0.93	209		Pn	14 27 11.4	+0.1
PLAR					Sn	14 27 29.3	+0.3
GISR	Galati	1.02	106	↑P	Pn	14 27 12.1	0.0
GISR				↑↑S	Sn	14 27 29.5	-0.9
GISR	Galati	1.02	106	↑P	Pn	14 27 12.1	0.0
GISR	Galati	1.02	106		Pn	14 27 12.1	0.0
GISR					Sn	14 27 29.5	-0.9
SULR		1.08	195	↑P	Pn	14 27 12.7	0.0
SULR				↓↓S	Sn	14 27 31.4	-0.1
SULR		1.08	195	↑P	Pn	14 27 12.7	0.0
SULR		1.08	195		Pn	14 27 12.7	0.0
SULR					Sn	14 27 31.4	-0.1
GIUM	Giurgiulesti	1.11	102	↑P	Pn	14 27 13.2	+0.2
GIUM				↓↓S	Sn	14 27 31.3	-0.7
GIUM	Giurgiulesti	1.11	102	↑P	Pn	14 27 13.2	+0.2
GIUM	Giurgiulesti	1.11	102		Pn	14 27 13.2	+0.2
GIUM					Sn	14 27 31.3	-0.7
GIUM	Giurgiulesti	1.11	102	P	Pn	14 27 13.1	+0.2
GIUM				S	Sn	14 27 31.3	-0.7
VOIR		1.17	256	↓P	Pn	14 27 13.0	-0.6
VOIR				↓↓S	Sn	14 27 30.9	-2.1
VOIR		1.17	256	↓P	Pn	14 27 13.0	-0.6
VOIR		1.17	256		Pn	14 27 13.0	-0.6
VOIR					Sn	14 27 30.9	-2.1
CFR	Carcaliu	1.18	117	↑P	Pn	14 27 13.2	-0.4
CFR				↓↓S	Sn	14 27 31.5	-1.5
CFR	Carcaliu	1.18	117	↑P	Pn	14 27 13.2	-0.4
CFR	Carcaliu	1.18	117		Pn	14 27 13.2	-0.4
CFR					Sn	14 27 31.4	-1.5
VASR	Vaslui	1.21	40	↓P	Pn	14 27 14.0	+0.1
VASR				↓↓S	Sn	14 27 32.7	-0.9
VASR	Vaslui	1.21	40	↓P	Pn	14 27 14.0	+0.1
VASR	Vaslui	1.21	40		Pn	14 27 14.0	+0.1
VASR					Sn	14 27 32.7	-0.9
AMRR	Amara	1.21	156	↑P	Pn	14 27 13.9	0.0
AMRR				↑↑S	Sn	14 27 33.0	-0.7
AMRR	Amara	1.21	156	↑P	Pn	14 27 13.9	0.0
AMRR	Amara	1.21	156		Pn	14 27 13.9	0.0
AMRR					Sn	14 27 33.0	-0.7
MTUR	Matau	1.23	247	↓P	Pn	14 27 14.2	0.0
MTUR	Matau	1.23	247	↓P	Pn	14 27 14.2	0.0
MTUR	Matau	1.23	247		Pn	14 27 14.2	0.0
LEHL	Lehliu	1.26	175	↑P	Pn	14 27 14.3	-0.1
LEHL				↓↓S	Sn	14 27 34.0	-0.5
LEHL	Lehliu	1.26	175	↑P	Pn	14 27 14.3	-0.1
LEHL	Lehliu	1.26	175		Pn	14 27 14.3	-0.1
LEHL					Sn	14 27 34.0	-0.5
HARR	Harsova	1.37	139	↑P	Pn	14 27 15.3	-0.2
HARR	Harsova	1.37	139	↑P	Pn	14 27 15.3	-0.2
HARR	Harsova	1.37	139		Pn	14 27 15.3	-0.2
BUC1	Bucharest	1.45	198	↑P	Pn	14 27 16.1	-0.3
BUC1				↓↓S	Sn	14 27 36.6	-1.3
BUC1	Bucharest	1.45	198	↑P	Pn	14 27 16.1	-0.3
BUC1	Bucharest	1.45	198		Pn	14 27 16.1	-0.3
BUC1					Sn	14 27 36.6	-1.3
ARR	Arges	1.47	257	↑P	Pn	14 27 17.1	+0.5
ARR				↓↓S	Sn	14 27 38.1	-0.4
ARR	Arges	1.47	257	↑P	Pn	14 27 17.1	+0.5
ARR	Arges	1.47	257		Pn	14 27 17.1	+0.5
ARR					Sn	14 27 38.1	-0.4
TPGR	Topolog	1.52	124	↑P	Pn	14 27 16.7	-0.5
TPGR				↑↑S	Sn	14 27 37.3	-2.0
TPGR	Topolog	1.52	124	↑P	Pn	14 27 16.7	-0.5
TPGR	Topolog	1.52	124		Pn	14 27 16.7	-0.5
TPGR					Sn	14 27 37.3	-2.0
TLBR	Topalu	1.54	140	↑P	Pn	14 27 17.1	-0.2
TLBR				↓↓S	Sn	14 27 37.9	-1.8
TLBR	Topalu	1.54	140	↑P	Pn	14 27 17.1	-0.2
TLBR	Topalu	1.54	140		Pn	14 27 17.1	-0.2
TLBR					Sn	14 27 37.9	-1.8
SGRR	Singureni	1.58	198	↑P	Pn	14 27 17.2	-0.6
SGRR				↑↑S	Sn	14 27 38.7	-1.8
SGRR	Singureni	1.58	198	↑P	Pn	14 27 17.2	-0.6
SGRR	Singureni	1.58	198		Pn	14 27 17.2	-0.6
SGRR					Sn	14 27 38.7	-1.8
TLCR		1.61	109	↓↓P	Pn	14 27 18.4	+0.2
TLCR				↑↑S	Sn	14 27 40.4	-0.7
TLCR		1.61	109	↓↓P	Pn	14 27 18.4	+0.2
TLCR		1.61	109		Pn	14 27 18.4	+0.2
TLCR					Sn	14 27 40.4	-0.7
HUMR	Humele	1.69	225	↑P	Pn	14 27 18.3	-0.7
HUMR				↓↓S	Sn	14 27 40.8	-1.9
HUMR	Humele	1.69	225	↑↑P	Pn	14 27 18.3	-0.7
HUMR	Humele	1.69	225		Pn	14 27 18.2	-0.7
HUMR					Sn	14 27 40.8	-1.9
CVDA	Cernavoda	1.70	144	↑P	Pn	14 27 18.9	-0.2
CVDA				↑↑S	Sn	14 27 41.4	-1.5
CVDA	Cernavoda	1.70	144	↑P	Pn	14 27 18.9	-0.2
CVDA	Cernavoda	1.70	144		Pn	14 27 18.9	-0.2
CVDA					Sn	14 27 41.4	-1.5
TIRR	Tirgusor	1.77	135	↑P	Pn	14 27 19.7	-0.3
TIRR				↑↑S	Sn	14 27 42.2	-2.2
TIRR	Tirgusor	1.77	135	↑P	Pn	14 27 19.7	-0.3
TIRR	Tirgusor	1.77	135		Pn	14 27 19.3	-0.7
TIRR	Tirgusor	1.77	135		Pn	14 27 19.7	-0.3
TIRR					Sn	14 27 42.2	-2.2
ICOR	Ion Corvin	1.80	153	↑P	Pn	14 27 20.4	+0.1
ICOR				↑↑S	Sn	14 27 43.2	-1.8
ICOR	Ion Corvin	1.80	153	↑P	Pn	14 27 20.4	+0.1
ICOR	Ion Corvin	1.80	153		Pn	14 27 20.4	+0.1
ICOR					Sn	14 27 43.2	-1.8
COPA	Copaceanca	1.89	213	↑P	Pn	14 27 20.6	-0.7
COPA				↑↑S	Sn	14 27 44.9	-1.9
COPA	Copaceanca	1.89	213	↑P	Pn	14 27 20.6	-0.7
COPA	Copaceanca	1.89	213		Pn	14 27 20.6	-0.7
COPA					Sn	14 27 44.9	-1.9
KIS	Kishinev	1.96	49	*e*P	Pn	14 27 22.0	-0.2
KIS				*e*S	Sn	14 27 47.0	-1.4
	130nm,0.3s						
KIS	Kishinev	1.96	49	P	Pn	14 27 22.0	-0.2
KIS				S	Sn	14 27 47.0	-1.4
KIS				m		14 27 47.5	
MFTR	Murfatlar	1.99	140	↑P	Pn	14 27 22.2	-0.3
MFTR				↑↑S	Sn	14 27 47.2	-1.7
MFTR	Murfatlar	1.99	140	↑P	Pn	14 27 22.2	-0.3
MFTR	Murfatlar	1.99	140		Pn	14 27 22.2	-0.3
MFTR					Sn	14 27 47.2	-1.7
BUR01	Bucovina Ar. S	2.13	333		Pn	14 27 25.2	+0.9
BURAR	Bucovina Array	2.13	333	↓↓P	Pn	14 27 25.2	+0.9
BURAR	Bucovina Array	2.13	333	↓↓P	Pn	14 27 25.2	+0.9
BURAR	Bucovina Array	2.13	333		Pn	14 27 25.0	+0.7
EFOR	EFORIE	2.16	139	↑↑S	Sn	14 27 52.7	+0.1
EFOR	EFORIE	2.16	139	↑↑S	Sn	14 27 52.7	+0.1
EFOR	EFORIE	2.16	139		Sn	14 27 52.7	+0.1
ZIMR		2.26	204	↑↑P	Pn	14 27 25.2	-0.6
ZIMR		2.26	204	↑↑P	Pn	14 27 25.2	-0.6
ZIMR		2.26	204		Pn	14 27 25.2	-0.6
PSN	Preselentsi	2.31	151	P	Pn	14 27 26.3	-0.1
CJR	Cluj-Napoca	2.34	296	↓↓P	Pn	14 27 27.2	+0.5
CJR	Cluj-Napoca	2.34	296	↓↓P	Pn	14 27 27.2	+0.5
CJR	Cluj-Napoca	2.34	296		Pn	14 27 27.2	+0.5
SZH	Strazhica	2.51	192	P	Pn	14 27 28.0	-0.9
PRD	Provadia	2.58	168	P	Pn	14 27 30.0	+0.3
SRE	Strehaia	2.66	248	↓↓P	Pn	14 27 30.2	-0.5
SRE	Strehaia	2.66	248	↓↓P	Pn	14 27 30.2	-0.5
SRE	Strehaia	2.66	248		Pn	14 27 30.2	-0.5
SORM	Soroca	2.68	25	↓↓P	Pn	14 27 30.4	-0.4
SORM	Soroca	2.68	25	↓↓P	Pn	14 27 30.4	-0.4
SORM	Soroca	2.68	25		Pn	14 27 30.4	-0.4
GZR	Gura Zlata	2.75	264	↑P	Pn	14 27 31.9	0.0
GZR				↑↑S	Sn	14 28 06.1	+0.5
GZR	Gura Zlata	2.75	264	↑↑P	Pn	14 27 31.9	0.0
GZR	Gura Zlata	2.75	264		Pn	14 27 31.9	0.0
GZR					Sn	14 28 06.1	+0.5
NSLU	Nyzhne Selyshc	2.90	329	*e*Pn	Pn	14 27 38.5	+4.8
NDNU	Novodnistrovsk	2.91	9	*e*Pn	Pn	14 27 33.5	-0.3
DRGR		2.94	293	↑↑P	Pn	14 27 33.3	-0.9
DRGR		2.94	293	↑↑P	Pn	14 27 33.3	-0.9
DRGR		2.94	293		Pn	14 27 33.3	-0.9
HERR	Herculane	3.11	256	↑↑P	Pn	14 27 35.2	-1.2
HERR	Herculane	3.11	256	↑↑P	Pn	14 27 35.2	-1.2
HERR	Herculane	3.11	256		Pn	14 27 35.2	-1.2
JMB	Yambol	3.26	181	P	Pn	14 27 37.3	-1.1
HORU	Horodok	3.49	358	*i* Pn	Pn	14 27 41.5	+0.1
HORU				*e*Sn	Sn	14 28 21.7	-1.0
BZS	Buzias	3.54	270	↓↓P	Pn	14 27 41.3	-0.6
BZS	Buzias	3.54	270	↓↓P	Pn	14 27 41.3	-0.6
BZS	Buzias	3.54	270		Pn	14 27 41.3	-0.6
BRIU	Brid	3.61	318	*i* Pn	Pn	14 27 42.6	-0.2
MDVR	Moldovita	3.62	257	↑↑P	Pn	14 27 42.2	-0.9
MDVR	Moldovita	3.62	257	↑↑P	Pn	14 27 42.2	-0.9
MDVR	Moldovita	3.62	257		Pn	14 27 42.2	-0.9
VTS	Vitosha	3.96	220	↑↑P	Pn	14 27 47.5	-0.2
VTS	Vitosha	3.96	220	↑↑P	Pn	14 27 47.5	-0.2
VTS	Vitosha	3.96	220		Pn	14 27 47.5	-0.2
HOLU	Holmets	4.04	315	*e*Pn	Pn	14 27 48.5	0.0
STZU	Stuzhytsa	4.28	322	*e*Pn	Pn	14 27 51.8	+0.1
KOLS	Kolonicke sedl	4.38	319	*e*P	Pn	14 27 54.2	+1.2
ALN	Alexandroupoli	4.85	185	Pn	Pn	14 27 58.4	-0.8
DIVS	Divibare	5.01	253	Pn	Pn	14 28 00.7	-0.7
SEV	Sevastopol'	5.10	101	P	Pn	14 28 02.0	-0.5
SEV				Pm		14 28 02.4	
SEV				S	Sn	14 28 58.0	-2.6
SEV				Sm		14 29 01.1	
AKASG	Malin Array Be	5.27	18	P	Pn	14 28 04.4	-0.3
	1.2nm,0.3s,baz=201,slow=11,SNR=4.8						
AKASG				S	Sn	14 29 00.6	-4.0
	1.5nm,0.3s,baz=201,slow=21,SNR=7.9						
AKBB	Malin Array Si	5.27	18	Pn	Pn	14 28 04.2	-0.6
YAL	Yalta	5.45	100	P	Pn	14 28 05.5	-1.7
YAL				Pm		14 28 08.6	
YAL				S	Sn	14 29 05.7	-3.3
SUDU	Sudak	5.94	95	P	Pn	14 28 13.1	-0.7
SUDU				Pm		14 28 13.3	
SUDU				S	Sn	14 29 18.4	-2.4
SUDU				Sm		14 29 22.7	
AGG	Agios Georgios	7.42	207	Pn	Pn	14 28 32.7	-1.0
MNK	Minsk	8.82	5	*i* P	Pn	14 28 49.2	-3.0
	comp=E,1.0nm,0.6s						
MNK				*i* P	Pn	14 28 49.2	-3.0
	comp=N,12nm,0.7s						
MNK				*i* P	Pn	14 28 49.2	-3.0
	comp=Z,10.0nm,0.7s,baz=186						
MNK				*i* S	Sn	14 30 26.7	-3.3
MNK

PB10	IPOC Station P	3.68	351	Pn	Pn	14 27 44.6 +0.2
PB15	IPOC Station P	3.96	6	eP	Pn	14 27 49.9 +1.6
PB15	IPOC Station P	3.96	6		Pn	14 27 49.6 +1.2
CO02	Combarbal	4.13	193	eP	Pn	14 27 51.1 +0.6
CO02	Combarbal	4.13	193	Pn	Pn	14 27 51.1 +0.6
PB05	IPOC Station P	4.30	357	eP	Pn	14 27 52.5 -0.3
PB06	IPOC Station P	4.45	4	eP	Pn	14 27 55.4 +0.5
PB06	IPOC Station P	4.45	4	Pn	Pn	14 27 55.3 +0.4
LVC	Limon Verde	4.63	12	P	Pn	14 27 58.4 +1.0
	comp=E,2.0nm,0.3s,baz=204,slow=10,SNR=27					
LVC				S	Sn	14 28 50.8 +0.5
	comp=E,4.4nm,0.3s,baz=231,slow=19,SNR=2.1					
LVC	Limon Verde	4.63	12	Pn	Pn	14 27 58.2 +0.8
PB04	IPOC Station P	4.81	358	eP	Pn	14 27 58.9 -0.8
PB04	IPOC Station P	4.81	358		Pn	14 27 58.8 -1.0
PB09	IPOC Station P	5.38	7	Pn	Pn	14 28 08.3 +0.9
PB07	IPOC Station P	5.42	0		Pn	14 28 06.9 -1.0
VA03	San Esteban	5.61	185		Pn	14 28 11.2 +0.8
PB01	IPOC Station P	6.11	4		Pn	14 28 16.5 -0.7
MT02	Curacav	6.16	190	Pn	Pn	14 28 17.1 -0.7
MT05	Renca	6.25	186	Pn	Pn	14 28 18.9 0.0
MT03	Universidad Ad	6.33	184	Pn	Pn	14 28 20.9 +0.8
TA01	Diego Aracena	6.57	358	Pn	Pn	14 28 21.2 -2.2
VA05	Santo Domingo	6.63	192	Pn	Pn	14 28 22.1 -1.9
MT09	Talagante	6.65	188	Pn	Pn	14 28 23.3 -1.2
MT01	Popeta	6.77	189	Pn	Pn	14 28 24.4 -1.7
PB08	IPOC Station P	7.03	6	Pn	Pn	14 28 29.9 0.0
BO01	Tunca	7.27	188	Pn	Pn	14 28 31.2 -1.5
PSGCX	Pisagua	7.54	359	Pn	Pn	14 28 34.0 -2.6
BO02	Sierra Bellavi	7.64	185	Pn	Pn	14 28 36.6 -1.2
MNMC	Minye Minye	8.00	2	Pn	Pn	14 28 38.9 -4.2
GO05	Huala	8.01	192	Pn	Pn	14 28 38.9 -3.8
H03N1	Juan Fernandez	9.97	229	T	T	14 39 01.7
	baz=52,slow=72,SNR=11					
H03N2	Juan Fernandez	9.98	229	T	T	14 38 57.8
	baz=52,slow=72,SNR=12					
H03N3	Juan Fernandez	9.99	229	T	T	14 38 59.2
	baz=52,slow=72,SNR=6.3					
TRQA	Tornquist	12.75	150	Pn	Pn	14 29 46.6 +0.2
PLTB	Pedras Altas	14.93	112	Pn	P	14 30 15.4 -2.0
TLIG	Tlapa	52.43	325	P	P	14 35 50.7 +0.1
TLIG				IAmb	IAmb	14 35 57.5
	comp=Z,6.0nm,1.1s					
LCAR	Lake Charles	66.01	341	P	P	14 37 25.7 +2.1
LCAR				IAmb	IAmb	14 37 28.8
	comp=Z,2.1nm,0.9s					
TORD	Torodi Ar. Bea	80.15	70	P	P	14 38 51.4 +3.9
	comp=Z,1.5nm,0.5s,baz=261,slow=5.2,SNR=8.6					
TORD	Torodi Ar. Bea	80.15	70	IAmb	IAmb	14 38 51.9
	comp=Z,1.7nm,0.7s					
ZALV	Zalesovo Beam	147.41	28	PKPbc	PKPab	14 46 24.0 +2.2
	comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=3.8					
ZALV	Zalesovo Beam	147.41	28	PKPbc	PKPab	14 46 21.3 -0.5
MKAR	Makanchi Array	150.64	41	PKPbc	PKPab	14 46 32.3 -3.0
	comp=Z,0.5nm,0.7s,baz=321,slow=1.8,SNR=2.2					
MKAR	Makanchi Array	150.64	41		PKiKP	14 46 29.0 +0.3

*NEIC **05** 14:40:20.1±2.2, 19.°48S±0.°05×69.°51W±0.°06, h99km±6km, Error ellipse: s-maj=7.7km s-min=7.2km az=104.0*
*IDC **05** 14:40:21.2±1.8, 19.°35S×69.°37W, h109km±17km, mb4.1/11, mb1 4.2/16, mb1mx4.0/30, mbtmp4.5/16, Error ellipse: s-maj=17.1km s-min=12.8km az=81.0*
*VAO **05** 14:40:22.8±0.3, 19.°34S×69.°32W, h110km, mb4.6*
*GUC **05** 14:40:22.6±0.4, 19.°47S×69.°56W, h110km±2km, ML4.6*
*NEIC **05** 14:40:22, 19.°47S×69.°56W, h110km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}0.90; $M_{\theta\theta}$3.37; $M_{\phi\phi}$-4.27; $M_{r\theta}$-1.93; $M_{r\phi}$-2.82; $M_{\theta\phi}$-1.73; Fault plane solution: $M_0$5.46000×10^15^ NP1:ϕ_s332.41000°, δ61.60000°, λ1.70000°. NP2:ϕ_s241.60000°, δ88.50000°, λ151.59000°. Principal axes: T 4.7915, Plg21.0000°, Azm193.0000°; N 1.1588, Plg62.0000°, Azm59.0000°; P -5.9503, Plg19.0000°, Azm291.0000°;*

ISC 05 14:40:20.7±0.5, 19.°49S±0.°03×69.°47W±0.°05, h107km±5km, n197, σ1°43/198, mb4.7/42, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	0.38	342	eP	Pn	14 40 38.7	+1.7
MNMC				i S	Sn	14 40 51.2	+2.1
MNMC	Minye Minye	0.38	342		Pn	14 40 38.2	+1.2
PSGC	Pisagua	0.62	260	eP	Pn	14 40 39.2	+0.9
PSGC				i S	Sn	14 40 52.0	+0.4
PSGC				IAML		14 40 52.9	
	comp=N,29μm,0.3s						
PSGCX	Pisagua	0.62	260		Pn	14 40 38.2	-0.1
PB08	IPOC Station P	0.71	155	eP	Pn	14 40 41.8	+2.3
PB08				i S	Sn	14 40 56.8	+3.3
PB08				IAML		14 40 58.8	
	comp=N,17μm,0.5s						
PB08	IPOC Station P	0.71	155		Pn	14 40 41.1	+1.7
HMBC	Humberstone	0.88	206	eP	Pn	14 40 41.7	+1.1
HMBC				i S	Sn	14 40 56.9	+1.3
HMBC				IAML		14 41 00.7	
	comp=N,20μm,0.3s						
TA02	Huaiquique	0.99	218	eP	Pn	14 40 42.6	+0.9
TA02				i S	Sn	14 40 58.1	+0.6
TA02				IAML		14 40 59.6	
	comp=N,23μm,0.1s						
TA02	Huaiquique	0.99	218		Pn	14 40 42.6	+0.9
TA01	Diego Aracena	1.26	212	eP	Pn	14 40 45.4	+0.8
TA01				i S	Sn	14 41 03.1	+0.5
TA01	Diego Aracena	1.26	212		Pn	14 40 45.4	+0.8
AP01	Chacalluta	1.39	323	eP	Pn	14 40 46.5	+0.5
AP01				i S	Sn	14 41 05.6	+0.4
AP01	Chacalluta	1.39	323		Pn	14 40 46.4	+0.3
PB01	IPOC Station P	1.54	181	eP	Pn	14 40 49.8	+1.7
PB01				i S	Sn	14 41 10.7	+1.9
PB01	IPOC Station P	1.54	181		Pn	14 40 50.0	+1.9
PB07	IPOC Station P	2.26	190	eP	Pn	14 40 58.6	+1.5
PB07				i S	Sn	14 41 26.7	+1.7
PB07	IPOC Station P	2.26	190		Pn	14 40 58.7	+1.5
PB09	IPOC Station P	2.30	175	eP	Pn	14 40 60.0	+2.2
PB09	IPOC Station P	2.30	175		Pn	14 40 59.9	+2.2
PB03	IPOC Station P	2.56	186	eP	Pn	14 41 02.5	+1.5
PB04	IPOC Station P	2.90	192	eP	Pn	14 41 06.2	+0.6
PB04	IPOC Station P	2.90	192		Pn	14 41 06.5	+1.0
LVC	Limon Verde	3.15	170	P	Pn	14 41 12.0	+3.0
	comp=N,80nm,0.3s,baz=347,slow=13,SNR=185						
LVC				S	Sn	14 41 40.0	-6.2
	comp=N,182nm,0.3s,baz=334,slow=11,SNR=9.6						
LVC	Limon Verde	3.15	170		Pn	14 41 11.2	+2.2
LVC	Limon Verde	3.15	170	eP	Pn	14 41 11.8	+2.8
PB06	IPOC Station P	3.20	182		Pn	14 41 10.9	+1.4
LPAZ	La Paz	3.43	22	P	Pn	14 41 15.9	+2.8
	comp=N,126nm,0.3s,baz=197,slow=3.0,SNR=3016						
LPAZ	La Paz	3.43	22		Pn	14 41 16.1	+3.1
PB15	IPOC Station P	3.70	180		Pn	14 41 17.4	+1.2
PB10	IPOC Station P	4.13	194		Pn	14 41 21.4	-0.3
PB14	IPOC Station P	5.18	189		Pn	14 41 35.2	-1.2
GO02	Mina Guanaco	5.65	181	Pn	Pn	14 41 42.1	-0.4
AC01	Pan de Azucar	6.71	189		Pn	14 41 54.6	-2.1
AC02	Maricunga	7.32	178	Pn	Pn	14 42 05.0	-0.4
GO03	Copiap	8.10	185	Pn	Pn	14 42 13.2	-2.4
SIV	San Ignacio	8.73	68	P	Pn	14 42 23.3	-0.9
	comp=N,18nm,0.3s,baz=270,slow=9.6,SNR=309						
AC04	Llanos de Chal	8.80	189	Pn	Pn	14 42 20.9	-4.2
ETMB	Extrema	10.12	19	eP	Pn	14 42 41.1	-1.9
NNA	Nana	10.29	315	P	Pn	14 42 44.3	-1.1
	comp=N,2.1nm,0.3s,baz=168,slow=17,SNR=4.7						
NNA				S	Sn	14 44 30.8	-8.2
	comp=N,1.9nm,0.3s,baz=204,slow=20,SNR=1.9						
PTLB	Pontes e Lacer	10.65	69	eP	Pn	14 42 48.9	-1.4
GO04	Tololo Observa	10.70	186		Pn	14 42 47.5	-3.6
VILB	Vilhena	11.02	55	eP	Pn	14 42 53.8	-1.6
CO02	Combarbal	11.74	186	Pn	Pn	14 43 00.3	-4.7
AQDB	Aquidauana	12.99	97	eP	Pn	14 43 23.1	+1.8
CPUP	Villa Florida	13.09	124	P	Pn	14 43 22.7	+0.1
	comp=N,0.7nm,0.3s,baz=322,slow=12,SNR=13						
CPUP	Villa Florida	13.09	124		Pn	14 43 21.6	-1.0
CPUP	Villa Florida	13.09	124	eP	Pn	14 43 23.6	+0.9
VA03	San Esteban	13.25	184	Pn	Pn	14 43 21.2	-3.6
SALV	Santo Antonio	13.61	77	eP	Pn	14 43 28.9	-0.4
MT02	Curacav	13.79	186	Pn	Pn	14 43 26.8	-4.9
PP1B	Ponte de Pedra	13.97	85	eP	Pn	14 43 34.5	+0.4
MT03	Universidad Ad	13.98	184	Pn	Pn	14 43 34.2	+0.1
MT09	Talagante	14.29	185		Pn	14 43 35.8	-2.5
BO01	Tunca	14.91	185	Pn	Pn	14 43 46.2	+0.2
ATAH	Atahualpa	15.03	324	P	Pn	14 43 46.2	-1.9
	comp=N,0.3nm,0.3s,baz=180,slow=7.1,SNR=1.5						
BO02	Sierra Bellavi	15.29	184	Pn	Pn	14 43 50.9	+0.1
BO02				IAmb	IAmb	14 43 57.8	
	comp=Z,33nm,0.8s						
ITQB	Itaqui	15.46	133	Pn	P	14 43 53.9	-1.1
ITQB	Itaqui	15.46	133	eP	P	14 43 55.1	+0.1
CLDB	Colider	15.73	59	eP	Pn	14 43 55.8	-0.6
TRCB	Terra Rica	16.05	105	P	P	14 44 00.6	-1.1
TRCB				IAmb	IAmb	14 44 29.7	
	comp=Z,62nm,1.5s						
TRCB	Terra Rica	16.05	105	eP	P	14 44 01.2	-0.5
H03N1	Juan Fernandez	16.25	209	P	P	14 44 06.6	+3.2
H03N1				T	T	15 00 24.6	
	baz=33,slow=72,SNR=3.9						
H03N2	Juan Fernandez	16.26	209	P	P	14 44 06.5	+3.0
H03N2				T	T	15 00 25.3	
	baz=33,slow=72,SNR=24						
H03N3	Juan Fernandez	16.27	209	P	P	14 44 06.2	+2.5
	SNR=12						
H03N3				T	T	15 00 23.6	
	baz=33,slow=72,SNR=20						
H03S3	Juan Fernandez	16.57	209	P	P	14 44 10.1	+3.1
	baz=21,slow=21,SNR=32						
H03S1	Juan Fernandez	16.58	209	P	P	14 44 10.0	+2.8
	baz=21,slow=21,SNR=19						
H03S2	Juan Fernandez	16.59	209	P	P	14 44 10.6	+3.5
	baz=21,slow=21,SNR=20						
PCMB	Pacaembu	17.19	100	eP	Pn	14 44 16.4	+2.1
ARAG	Araguaiana, MT	17.25	80	eP	Pn	14 44 15.9	+0.8
ITAB	Concordia	17.68	119	P	Pn	14 44 20.2	+0.1
ITAB	Concordia	17.68	119	eP	Pn	14 44 20.3	+0.1
CPSB	Cacapava Do Su	18.13	130	eP	Pn	14 44 26.1	+0.5
MACA	Manacapuru-AM	18.36	29	eP	P	14 44 26.9	-0.3
NPGB	Novo Progresso	18.47	50	eP	P	14 44 27.4	-1.0
PLTB	Pedras Altas	18.79	134	P	Pn	14 44 31.4	-2.1
FRTB	Fartura	18.93	105	eP	Pn	14 44 34.1	-1.0
SNDB	Serra Nova Dou	19.02	70	eP	P	14 44 34.1	-0.2
TRQA	Tornquist	19.62	162	P	Pn	14 44 41.3	-1.8
TRQA	Tornquist	19.62	162	eP	Pn	14 44 42.8	-0.3
BB19B	Bebedouro	19.71	98	eP	Pn	14 44 42.2	-2.2
TIJ01	Guaruva-PR	19.79	111	eP	Pn	14 44 42.9	-2.4
ITTB	Itaituba	20.14	43	eP	P	14 44 45.2	-1.3
IPMB	Ipameri, GO	20.19	89	eP	P	14 44 46.7	-0.5
BDFB	Brasilia	20.81	83	P	P	14 44 53.2	-0.6
	comp=Z,7.5nm,0.6s,baz=236,slow=9.5,SNR=8.4						
BDFB	Brasilia	20.81	83	P	P	14 44 53.0	-0.8
BDFB				IAmb	IAmb	14 45 00.5	
	comp=Z,30nm,1.4s						
PTGA	Pitinga	20.84	28	P	P	14 44 52.2	-1.9
	comp=Z,22nm,0.3s,baz=205,slow=13,SNR=52						
PLCA	Paso Flores	21.19	182	P	P	14 44 59.3	+1.6
	comp=Z,8.2nm,1.0s,baz=350,slow=8.0,SNR=7.7						
PLCA	Paso Flores	21.19	182	P	P	14 44 58.6	+0.9
PLCA	Paso Flores	21.19	182	eP	P	14 45 01.0	+3.3
OTAV	Otavalo	21.49	335	eP	P	14 45 03.2	+1.7
PEXB	Peixe	21.64	73	eP	P	14 45 01.9	-0.8
MALB	Monte Alegre	23.00	42	eP	P	14 45 16.6	+0.1
PRPB	Parauapebas	23.25	58	eP	P	14 45 19.3	+0.3
BOAV	Boa Vista	23.46	23	eP	P	14 45 20.5	-0.3
SMTB	Santa Maria do	23.67	67	eP	P	14 45 23.9	+1.1
JANB	Januaria	24.42	84	eP	P	14 45 29.1	-0.4
MC01	Montes Claros	24.42	88	eP	P	14 45 30.0	+0.4
DIAM	Diamantina, MG	24.43	91	eP	P	14 45 29.4	-0.3
SDBA	SAO DESIDERIO	24.63	77	eP	P	14 45 30.9	-0.6
RUSC	La Rusia	25.47	352	P	P	14 45 37.9	-1.7
MCPB	Macapa, AP	25.55	44	eP	P	14 45 39.5	-0.2
TMAB	Tom-Au,PA,Br	26.95	53	eP	P	14 45 53.1	+0.7
BSFB	Barra de Sao F	27.04	93	eP	P	14 45 54.7	+1.6
NAN01	Guarapari, ES	27.84	91	eP	P	14 46 00.2	0.0
GUA01	Guaratinga, BA	28.34	89	eP	P	14 46 04.8	0.0
CMC01	Camacan, BA	28.85	87	eP	P	14 46 09.9	+0.6
NBIT	Itapeh - BA	29.03	86	eP	P	14 46 11.1	+0.2
GDU01	Guandu, BA	29.19	83	eP	P	14 46 12.5	+0.1
MDP	Montagnes des	29.52	36	P	P	14 46 13.9	-1.3
	comp=Z,8.7nm,0.8s,baz=208,slow=7.9,SNR=6.6						
ROSB	Rosrio	29.76	59	eP	P	14 46 18.7	+1.4
URIC	Uribia, Colomb	31.09	355	P	P	14 46 26.4	-2.7
NBPS	Pedro II - PI	31.18	65	eP	P	14 46 29.9	0.0
NBMA	Muriti-CE	32.14	72	eP	P	14 46 37.9	-0.5
NBPB	Pedra_Branca-C	32.22	68	eP	P	14 46 38.8	-0.3
NBAN	Anadia - AL	33.52	78	eP	P	14 46 51.5	+1.1
USHA	Ushuaia	35.29	179	P	P	14 47 06.1	+1.0
	comp=Z,45nm,0.7s,baz=320,slow=0.3,SNR=3.2						
RCBR	Riachuelo	35.37	72	P	P	14 47 06.5	+0.2
RCBR	Riachuelo	35.37	72	eP	P	14 47 07.0	+0.7
CBYP	Canovanas	37.70	6	P	P	14 47 25.0	-1.0
CMIG	Matias Romero	44.10	324	P	P	14 48 18.6	+0.1
	comp=Z,6.1nm,1.0s,baz=89,slow=10,SNR=5.6						
PMSA	Palmer Station	45.40	177	P	P	14 48 29.1	+0.9
	comp=Z,2.8nm,0.3s,baz=340,slow=20,SNR=15						
CSU	Charleston Sou	53.16	349	P	P	14 49 27.2	-0.4
BIRD	Birdtown, Kers	54.84	349	P	P	14 49 40.1	+0.3
W57A	Gilead	55.25	350	P	P	14 49 42.1	-0.7
W57A				IAmb	IAmb	14 49 43.7	
	comp=Z,7.9nm,0.9s						
X48A	Hartselle	56.19	343	P	P	14 49 48.9	-0.6
X48A				IAmb	IAmb	14 49 49.9	
	comp=Z,5.2nm,0.9s						
W50A	Signal Mountai	56.43	344	P	P	14 49 50.5	-0.8
W50A				IAmb	IAmb	14 49 51.8	
	comp=Z,12nm,1.2s						
CPCT	Cooper Cave	56.47	345	P	P	14 49 50.8	-0.7
CPCT				IAmb	IAmb	14 50 06.4	
	comp=Z,5.2nm,1.1s						
SWET	Sewanee	56.61	344	P	P	14 49 51.2	-1.3
SWET				IAmb	IAmb	14 49 52.7	
	comp=Z,5.0nm,0.9s						
V52A	Sevierville	56.63	346	P	P	14 49 51.5	-1.2
V52A				IAmb	IAmb	14 49 53.2	
	comp=Z,9.9nm,1.1s						
OXF	Oxford	56.95	340	P	P	14 49 53.9	-1.0
V48A	Smith Brothers	57.34	343	P	P	14 49 57.0	-0.6
V48A				IAmb	IAmb	14 49 58.0	
	comp=Z,8.2nm,1.0s						
W45A	Hickory Valley	57.48	341	P	P	14 49 57.5	-1.1
CLTN	Cedars of Leba	57.54	344	P	P	14 49 58.2	-0.8
CLTN				IAmb	IAmb	14 50 07.0	
	comp=Z,6.8nm,1.0s						
WVT	Waverly	57.98	342	P	P	14 50 00.9	-1.2
WVT				IAmb	IAmb	14 50 02.0	
	comp=Z,8.0nm,0.8s						
MIAR	Mount Ida	58.42	337	P	P	14 50 04.9	-0.3
MIAR				IAmb	IAmb	14 50 06.1	
	comp=Z,6.4nm,0.9s						
T47A	Sharon Grove	58.59	343	P	P	14 50 05.0	-1.3
TXAR	Lajitas Array	58.69	325	P	P	14 50 06.8	-0.5
	comp=Z,0.9nm,0.9s,baz=134,slow=5.2,SNR=8.2						
TXAR	Lajitas Array	58.69	325	P	P	14 50 06.6	-0.7
W39A	Magazine	59.08	337	P	P	14 50 09.7	-0.1
W39A				IAmb	IAmb	14 50 11.2	
	comp=Z,8.1nm,1.1s						
Q54A	Coxs Mills	59.13	350	P	P	14 50 09.6	-0.5
WCI	Wyandotte Cave	59.55	345	P	P	14 50 11.8	-1.1
WCI				IAmb	IAmb	14 50 12.5	
	comp=Z,6.6nm,1.0s						
P53A	Whipple	59.72	349	P	P	14 50 13.8	-0.3
P53A				IAmb	IAmb	14 50 15.2	
	comp=Z,10nm,1.1s						
U40A	Yellville	59.78	338	P	P	14 50 14.0	-0.6
U40A				IAmb	IAmb	14 50 15.1	
	comp=Z,4.5nm,0.8s						
S44A	Carbondale	59.85	342	P	P	14 50 14.4	-0.6
SIUC	Southern Illin	59.86	342	P	P	14 50 14.4	-0.6
HHAR	Hobbs	60.10	337	P	P	14 50 16.4	-0.4
HHAR				IAmb	IAmb	14 50 18.1	
	comp=Z,5.2nm,1.0s						
MGMO	Mountain Grove	60.30	339	P	P	14 50 17.2	-0.9
MGMO				IAmb	IAmb	14 50 18.7	
	comp=Z,7.7nm,1.1s						
S39A	Bolivar	61.15	339	P	P	14 50 22.9	-0.9
S39A				IAmb	IAmb	14 50 24.4	
	comp=Z,6.4nm,0.8s						
R40A	Maddies Statio	61.33	340	P	P	14 50 24.3	-0.8
R40A				IAmb	IAmb	14 50 24.8	
	comp=Z,6.6nm,1.1s						
M54A	Oil Creek Stat	61.42	351	P	P	14 50 25.7	+0.1
M54A				IAmb	IAmb	14 50 26.4	
	comp=Z,8.5nm,0.9s						
MNTX	Cornudas Mount	61.45	325	P	P	14 50 25.2	-0.9
ALLY	Alegheny Colle	61.63	351	P	P	14 50 27.1	+0.1
T35A	Sooner Cattle	61.63	336	P	P	14 50 27.4	+0.2
T35A				IAmb	IAmb	14 50 28.9	
	comp=Z,10.0nm,1.1s						
N49A	Columbus Grove	61.64	347	P	P	14 50 26.4	-0.6
N49A				IAmb	IAmb	14 50 27.4	
	comp=Z,10nm,0.8s						
M52A	Chesterland	61.71	350	P	P	14 50 27.1	-0.4
P43A	Skaggs, Pawnee	61.73	343	P	P	14 50 26.7	-1.0
SFIN	Lafayette	61.78	345	P	P	14 50 26.4	-1.6
SFIN				IAmb	IAmb	14 50 27.2	
	comp=Z,5.3nm,0.7s						
MSTX	Muleshoe	61.91	329	P	P	14 50 28.6	-0.6
MSTX				IAmb	IAmb	14 50 30.1	
	comp=Z,11nm,1.1s						
P40A	Paris	62.39	340	P	P	14 50 31.1	-1.1
P40A				IAmb	IAmb	14 50 32.5	
	comp=Z,10nm,1.1s						
HDIL	Hopedale	62.52	343	P	P	14 50 31.8	-1.2
P38A	Dawn	62.96	339	P	P	14 50 35.5	-0.4
P38A				IAmb	IAmb	14 50 36.3	
	comp=Z,6.0nm,0.7s						
N41A	Harden Midland	63.11	342	P	P	14 50 35.6	-1.3
N41A				IAmb	IAmb	14 50 36.8	
	comp=Z,9.0nm,0.9s						
319A	Douglas	63.38	322	P	P	14 50 39.4	+0.3
319A				IAmb	IAmb	14 50 41.2	
	comp=Z,6.1nm,0.8s						
DELO	Deloro Mine	64.13	354	P	P	14 50 43.5	0.0
DELO				IAmb	IAmb	14 50 44.9	
	comp=Z,16nm,1.5s						
K43A	Burlington	64.28	345	P	P	14 50 42.8	-1.7
K43A				IAmb	IAmb	14 50 44.7	
	comp=Z,9.6nm,0.9s						
L40A	Anamosa	64.46	342	P	P	14 50 45.1	-0.5
L40A				IAmb	IAmb	14 50 46.5	
	comp=Z,16nm,1.4s						
L34A	Svendsen Farm,	66.02	338	P	P	14 50 55.7	-0.1
X16A	Lo Mia Camp, P	66.84	323	P	P	14 51 00.4	-1.0
DBIC	Dimbokro	68.69	74	P	P	14 51 13.8	+0.6
KNB	Kanab	69.50	324	P	P	14 51 19.5	+1.6
KNB				IAmb	IAmb	14 51 21.2	
	comp=Z,9.6nm,1.2s						
P17A	Butcher Ranch,	70.19	327	P	P	14 51 23.1	+0.9
MSU	Marysvale	70.23	326	P	P	14 51 24.0	+1.5
TPNV	Topopah Spring	71.39	322	P	P	14 51 29.4	0.0
KOWA	Kowa	72.72	67	P	P	14 51 38.3	+0.7
KOWA				IAmb	IAmb	14 51 44.1	
	comp=Z,7.6nm,0.7s						
NVAR	Mina Array Bea	73.59	322	P	P	14 51 43.0	+0.4
	comp=Z,1.3nm,0.8s,baz=147,slow=4.0,SNR=12						
KVN	Kaiserville	73.89	323	P	P	14 51 44.8	+0.5
YNE	Yellowstone No	74.05	331	P	P	14 51 46.1	+1.0
PNTR	Pine Nut	74.79	322	P	P	14 51 51.3	+1.8
PAHR	Pah Rah Range	75.07	322	P	P	14 51 52.5	+1.5
MFID	Camas Ranch	75.68	327	P	P	14 51 55.5	+1.1
TOA0	Torodi Ar. Sit	77.19	71	P	P	14 52 02.3	-1.1
TORD	Torodi Ar. Bea	77.19	71	P	P	14 52 02.5	-0.9
	comp=Z,3.8nm,0.7s,baz=251,slow=5.3,SNR=14						
TORD				pP	pP	14 52 31.2	-1.0
	comp=Z,3.4nm,0.8s,baz=260,slow=4.7,SNR=5.2						
TORD	Torodi Ar. Bea	77.19	71	P	P	14 52 02.3	-1.1
TORD				IAmb	IAmb	14 52 10.5	
	comp=Z,6.4nm,0.6s						
ESDC	Sonseca Array	84.78	45	P	P	14 52 45.1	+1.9
	comp=Z,0.5nm,1.0s,baz=247,slow=4.3,SNR=2.0						
ESDC	Sonseca Array	84.78	45	IAmb	IAmb	14 52 54.4	
	comp=Z,1.4nm,0.8s						
YKA	Yellowknife Ar	89.13	341	P	P	14 53 03.9	+0.3
	comp=Z,4.6nm,0.8s,baz=135,slow=5.2,SNR=15						
H11S2	WAKE ISLAND Hyl	27.08	279	T	T	17 18 43.5	
	baz=102,slow=75						
H11S1	WAKE ISLAND Hyl	27.08	279	T	T	17 18 45.6	
	baz=102,slow=75						
H11S3	WAKE ISLAND Hyl	27.09	279	T	T	17 18 44.8	
	baz=102,slow=75						
H11N3	WAKE ISLAND Hyl	27.11	280	T	T	17 19 08.6	
	baz=100,slow=74						
H11N2	WAKE ISLAND Hyl	27.12	280	T	T	17 18 56.9	
	baz=100,slow=74						
H11N1	WAKE ISLAND Hyl	27.12	280	T	T	17 18 43.3	
	baz=100,slow=74						
ASAR	Alice Springs	131.42	209	PKP	PKiKP	14 59 21.2	-1.2
	comp=Z,0.6nm,0.9s,baz=119,slow=2.1,SNR=2.8						
WRA	Warramunga Arr	134.39	212	PKP	PKiKP	14

*BJI **05** 15:12:10.1±0.0,37°.51N×78°.01E,h10km,mb4.0/12, ML4.1/7*
*MOS **05** 15:12:10.4±1.1,37°.47N×78°.11E,h35km,mb4.5/10,Error ellipse: s-maj=9.7km s-min=5.2km az=96.9*
*NNC **05** 15:12:15.3±1.8,37°.86N×77°.98E,h13km±8km,mb4.7, mpv4.3,Error ellipse: s-maj=13.8km s-min=9.8km az=133.0*

ISC 05 15:12:10.4±0.4,**37°.41N**±0°.04×**78°.01E**±0°.05,**h17**km,**n127**, σ**1**^{s}**79**/134,**mb4.2**/**37**,**MS2.9**/**9**,**11C-7D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**5.40**	**227**	P	**Pn**	**15 13 34.3**	**+4.2**
NIL	**Nilore**	**5.40**	**227**	Pn	**Pn**	**15 13 34.3**	**+4.2**
SATY	**Saty**	**5.65**	**3**	Pg	**Pb**	**15 13 50.9**	**+2.3**
	51nm,0.8s						
SATY				Lg	Lg	15 15 01.8	
	195nm,0.8s						
UZB	**Uzynbulak**	**5.78**	**7**	*e*P	**Pn**	**15 13 36.1**	**+0.6**
MDOK	**Medeo**	**5.80**	**353**	⇑Pg	**Pb**	**15 13 52.6**	**+1.5**
	36nm,0.6s						
MDOK				⇓Lg	Lg	15 15 05.4	
	163nm,0.7s						
MDOK	**Medeo**	**5.80**	**353**	Pg	**Pb**	**15 13 52.8**	**+1.8**
	44nm,0.4s						
MDOK				Lg	Lg	15 15 05.7	
	132nm,0.6s						
SHLS	**Shalkode**	**5.85**	**10**	Pg	**Pb**	**15 13 55.4**	**+3.5**
	43nm,0.6s						
SHLS				Lg	Lg	15 15 10.2	
	92nm,0.8s						
SHLS	**Shalkode**	**5.85**	**10**	*e*P	**Pn**	**15 13 38.0**	**+1.6**
KNDC	**Almaty**	**5.86**	**352**	⇑Pg	**Pb**	**15 13 54.7**	**+2.6**
	97nm,0.6s						
KNDC				⇑Lg	Lg	15 15 06.8	
	487nm,0.8s						
AAK	**Ala-Archa**	**5.88**	**334**	Pn	**Pn**	**15 13 38.7**	**+1.9**
	2.1nm,0.3s,baz=161,slow=8.3,SNR=5.6						
AAK				Pg	**Pb**	**15 13 53.9**	**+1.4**
	3.4nm,0.3s,baz=7.1,slow=1.0,SNR=5.2						
AAK				Sn	**Sn**	**15 14 39.0**	**-4.9**
	5.3nm,0.3s,baz=191,slow=21,SNR=4.0						
AAK				Lg	Lg	15 15 10.3	
	14nm,0.3s,baz=19,slow=18,SNR=4.9						
AAK	**Ala-Archa**	**5.88**	**334**	⇑Pn	**Pn**	**15 13 37.9**	**+1.0**
	6.0nm,0.7s						
AAK				⇓Pg	**Pb**	**15 13 55.1**	**+2.6**
	29nm,0.8s						
AAK				⇓Lg	Lg	15 15 10.0	
	196nm,1.1s						
PDGK	**Podgornoye**	**6.02**	**10**	Pg	**Pb**	**15 13 55.8**	**+0.9**
	12nm,0.4s						
PDGK				Lg	Lg	15 15 10.2	
	35nm,0.9s						
PDGK	**Podgornoye**	**6.02**	**10**	⇓Pn	**Pn**	**15 13 38.9**	**+0.1**
	7.6nm,0.3s,baz=168						
PDGK				⇑Pg	**Pb**	**15 13 55.9**	**+1.1**
	18nm,0.4s						
PDGK				⇓Lg	Lg	15 15 12.6	
	156nm,0.9s						
KPKS	**Kokpek**	**6.07**	**5**	*e*P	**Pn**	**15 13 40.1**	**+0.7**
DGS	**Degeres**	**6.07**	**344**	Pg	**Pb**	**15 13 58.8**	**+3.0**
	26nm,0.5s						
DGS				Lg	Lg	15 15 15.7	
	55nm,0.7s						
KURS	**Kuram**	**6.08**	**1**	Pg	**Pb**	**15 13 58.2**	**+2.4**
	27nm,0.5s						
KURS				Lg	Lg	15 15 14.6	
	61nm,1.2s						
GAR	**Garm**	**6.27**	**287**	Pn	**Pn**	**15 13 43.5**	**+1.3**
SMLA	**Simla**	**6.30**	**187**	*e*P	**Pn**	**15 13 47.0**	**+4.4**
SMLA				*e*S	**Sn**	**15 14 54.4**	**+0.3**
SMLA				IAML		15 15 03.6	
	comp=N,86nm,0.4s						
SMLA				IAML		15 15 07.4	
	comp=E,75nm,0.2s						
KTBS	**Karatobe**	**6.38**	**351**	Pg	**Pb**	**15 14 04.5**	**+3.6**
	comp=E,14nm,0.4s						
KTBS				Lg	Lg	15 15 25.8	
	comp=E,58nm,0.8s						
MRKS	**Merke**	**6.47**	**327**	Pg	**Pb**	**15 14 06.2**	**+3.6**
MRKS				Lg	Lg	15 15 28.5	
KRBS	**Karabastau**	**6.53**	**345**	Pg	**Pb**	**15 14 05.1**	**+1.6**
	comp=E,11nm,0.5s						
KRBS				Lg	Lg	15 15 26.7	
	comp=E,91nm,0.8s						
KUU	**Kurty**	**6.60**	**349**	Pg	**Pb**	**15 14 07.3**	**+2.6**
	comp=E,13nm,0.8s						
KUU				Lg	Lg	15 15 30.2	
	comp=E,40nm,1.1s						
ARXS	**Arharly**	**6.80**	**359**	*e*P	**Pn**	**15 13 49.8**	**+0.4**
DDI	**Dehra Dun**	**7.07**	**180**	*e*P	**Pn**	**15 13 56.1**	**+3.1**
DDI				*e*S	**Sn**	**15 15 09.8**	**-3.2**
CHGR	**Chuyangaron**	**7.10**	**283**	Pn	**Pn**	**15 13 53.3**	**-0.2**
KBL	**Kabul**	**7.81**	**251**	P	**Pn**	**15 14 04.5**	**+1.0**
KBL	**Kabul**	**7.81**	**251**	Pn	**Pn**	**15 14 04.5**	**+1.0**
KK31	**Karatay Array**	**8.08**	**317**	P	**Pn**	**15 14 06.3**	**-0.6**
KK31	**Karatay Array**	**8.08**	**317**		**Pn**	**15 14 06.3**	**-0.6**
KKAR	**Karatay Array**	**8.08**	**317**	P	**Pn**	**15 14 06.4**	**-0.4**
KKAR	**Karatay Array**	**8.08**	**317**		**Pn**	**15 14 06.4**	**-0.4**
KKAR	**Karatay Array**	**8.08**	**317**	Pn	**Pn**	**15 14 06.4**	**-0.4**
WMQ	**Urumqi**	**9.75**	**46**	*e*P	**Pn**	**15 14 34.1**	**+4.2**
WMQ				smax	smax		
	comp=E,66nm,0.9s						
WMQ				smax	smax		
	comp=E,53nm,1.3s						
MAKZ	**Makanchi**	**9.84**	**16**	⇑Pn	**Pn**	**15 14 30.8**	**-0.3**
	comp=E,7.8nm,0.6s						
MAKZ				⇑Sn	**Sn**	**15 16 16.4**	**-4.7**
	comp=E,21nm,1.4s						
MAKZ	**Makanchi**	**9.84**	**16**	P	**Pn**	**15 14 28.8**	**-2.2**
MAKZ	**Makanchi**	**9.84**	**16**	Pn	**Pn**	**15 14 28.8**	**-2.2**
MK31	**Makanchi Array**	**9.90**	**17**	P	**Pn**	**15 14 31.0**	**-0.9**
MK31	**Makanchi Array**	**9.90**	**17**		**Pn**	**15 14 31.0**	**-0.9**
MKAR	**Makanchi Array**	**9.90**	**17**	Pn	**Pn**	**15 14 31.1**	**-0.7**
	comp=E,1.4nm,0.3s,baz=197,slow=12,SNR=71						
MKAR				Sn	Sn	15 16 15.7	-6.9
	comp=E,1.9nm,0.3s,baz=187,slow=18,SNR=7.5						
MKAR	**Makanchi Array**	**9.90**	**17**	P	**Pn**	**15 14 30.4**	**-1.4**
MKAR	**Makanchi Array**	**9.90**	**17**	Pn	**Pn**	**15 14 30.4**	**-1.4**
KURBB	**Kurchatov Arra**	**13.22**	**1**	Pn	**Pn**	**15 15 16.6**	**-0.6**
	comp=E,0.0nm,0.3s,baz=185,slow=12,SNR=2.2						
KURBB				Lg	Lg	15 19 03.1	
	comp=E,0.1nm,0.3s,baz=198,slow=33,SNR=2.1						
KURBB	**Kurchatov Arra**	**13.22**	**1**	⇑Lg	Lg	15 19 02.6	
	comp=E,26nm,1.0s,baz=190,slow=24						
KURK	**Kurchatov**	**13.31**	**2**	P	**Pn**	**15 15 16.6**	**-1.8**
KURK	**Kurchatov**	**13.31**	**2**		**Pn**	**15 15 16.6**	**-1.8**
DGZ	**Jazzator, Alta**	**14.04**	**26**	*i* P	**Pn**	**15 15 26.2**	**-2.4**
BHPL	**Bhopal**	**14.13**	**182**	*ex*	x	15 15 34.7	
BHPL				*e*S	**Sn**	**15 18 01.0**	**-5.2**
GEYT	**Alibeck**	**15.77**	**278**	Pn	**Pn**	**15 15 51.8**	**+0.1**
	comp=E,0.2nm,0.3s,baz=114,slow=9.6,SNR=3.9						
GYA0	**ALIBECK ARRAY**	**15.77**	**278**	*e*P	**P**	**15 15 55.8**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**15.77**	**278**	⇓P	**P**	**15 15 55.7**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**15.77**	**278**	P	**P**	**15 15 55.8**	**+0.4**
GYA0B				IAmb	IAmb	15 15 56.8	
	comp=Z,12nm,0.7s						
BVAR	**Borovoye Array**	**16.50**	**344**	Pn	**Pn**	**15 16 01.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=159,slow=10,SNR=2.9						
BVAR				Lg	Lg	15 20 45.4	
	comp=Z,0.1nm,0.3s,baz=158,slow=25,SNR=3.6						
BRVK	**Borovoye**	**16.55**	**343**	⇑P	**Pn**	**15 16 02.9**	**+1.4**
	comp=Z,13nm,1.1s,baz=199,slow=18						
BRVK	**Borovoye**	**16.55**	**343**	*i* P	**Pn**	**15 16 01.6**	**+0.1**
BRVK	**Borovoye**	**16.55**	**343**	P	**Pn**	**15 16 04.0**	**+2.5**
ZAA0	**Zalesovo Array**	**17.20**	**14**		**Pn**	**15 16 08.3**	**-1.3**
ZALV	**Zalesovo Beam**	**17.20**	**14**	P	**Pn**	**15 16 09.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=219,slow=8.5,SNR=6.0						
ZALV	**Zalesovo Beam**	**17.20**	**14**	*i* P	**Pn**	**15 16 09.3**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**17.20**	**14**		**Pn**	**15 16 09.8**	**+0.2**
GTA	**Gaotai**	**17.20**	**77**	⇑P	**P**	**15 16 18.4**	**+6.9**
GTA				pP	sP	15 16 23.4	+4.3
GTA				sP	pP	15 16 26.1	+9.4
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,68nm,5.1s						
GTA				LR	LR		
	comp=N,130nm,15.3s						
GTA				LR	LR		
	comp=E,130nm,15.6s						
GTA				LR	LR		
	comp=Z,110nm,17.8s						
ABKAR	**Akbulak array**	**17.64**	**318**	P	**Pn**	**15 16 15.9**	**+0.7**
ABKAR	**Akbulak array**	**17.64**	**318**		**Pn**	**15 16 15.0**	**-0.2**
ABKAR				IAmb	IAmb	15 16 28.2	
	comp=Z,1.5nm,0.8s						
AKTO	**Aktyubinsk**	**19.34**	**319**	P	**P**	**15 16 34.8**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=109,slow=11,SNR=6.1						
AKTO	**Aktyubinsk**	**19.34**	**319**	⇓P	**P**	**15 16 34.8**	**+0.1**
	comp=Z,4.2nm,1.1s						
TLY	**Talaya**	**23.02**	**44**	LR	LR	15 27 37.0	
	comp=Z,47nm,20.2s,baz=222,slow=40						
ARU	**Arti**	**23.06**	**332**	P	**P**	**15 17 14.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=119,slow=19,SNR=1.6						
ARU	**Arti**	**23.06**	**332**	*c i* P	**P**	**15 17 15.9**	**+1.2**
ARU						15 17 37.8	
ARU				SS	Sn	15 22 01.3	+20
ARU				pmax	pmax		
	comp=Z,5.0nm,1.4s						
ARU	**Arti**	**23.06**	**332**	IAmb	IAmb	15 17 21.8	
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**23.22**	**54**	P	**P**	**15 17 16.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=247,slow=11,SNR=2.0						
SONM				LR	LR	15 27 01.2	
	comp=Z,21nm,20.3s,baz=256,slow=38						
BELG	**Belogornoye**	**25.98**	**315**	P	**P**	**15 17 40.5**	**-1.4**
	comp=Z,4.8nm,0.4s,baz=108,slow=20,SNR=2.3						
HHC	**Hu-ho-hao-te**	**26.16**	**72**	*e*P	**P**	**15 17 43.1**	**-0.8**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**26.32**	**130**	P	**P**	**15 17 42.9**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=300,slow=9.0,SNR=1.5						
CMAR				LR	LR	15 28 27.8	
	comp=Z,12nm,20.7s,baz=165,slow=37						
ONI	**Oni**	**26.86**	**292**	P	**P**	**15 17 49.6**	**-0.5**
ONI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ONI	**Oni**	**26.86**	**292**	P	**P**	**15 17 49.6**	**-0.5**
ONI				IAmb	IAmb	15 17 54.6	
	comp=Z,3.6nm,0.8s						
KIV	**Kislovodsk**	**27.43**	**295**	*e*P	**P**	**15 17 54.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,16nm,15.0s						
KIRV	**Kirov**	**28.18**	**328**	LR	LR	15 29 57.1	
	comp=Z,31nm,21.9s,baz=155,slow=38						
NRIK	**Noril'sk**	**32.41**	**6**	*i* P	**P**	**15 18 41.9**	**+3.0**
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BR131	**Keskin Array S**	**34.51**	**288**	P	**P**	**15 18 57.7**	**0.0**
BR131				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	**Keskin Array S**	**34.51**	**288**	P	**P**	**15 18 57.7**	**0.0**
BR131				IAmb	IAmb	15 18 59.0	
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**34.51**	**288**	P	**P**	**15 18 57.2**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=90,slow=7.9,SNR=15						
BRTR	**Keskin Array B**	**34.51**	**288**	P	**P**	**15 18 57.9**	**+0.1**
AKASG	**Malin Array Be**	**36.83**	**307**	P	**P**	**15 19 16.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=74,slow=7.8,SNR=4.9						
AKASG	**Malin Array Be**	**36.83**	**307**	*i* P	**P**	**15 19 16.6**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**36.83**	**307**	P	**P**	**15 19 16.3**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AKBB	**Malin Array Si**	**36.83**	**307**	P	**P**	**15 19 16.3**	**-1.0**
MNK	**Minsk**	**37.90**	**313**	*i* P	**P**	**15 19 26.3**	**-0.1**
MNK				*i*		15 20 52.8	
MNK				*i*		15 21 42.3	
MNK				*i* S	**S**	**15 25 18.5**	**+1.5**
MNK				*i* SSS	SSS	15 28 17.5	
MNK				*i*		15 29 39.0	
MNK				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,14nm,0.7s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,139nm,23.0s						
MNK				MLR	MLR		
	comp=Z,113nm,22.0s						
MNK				MLR	MLR		
	comp=E,7.0nm,18.0s						
MNK	**Minsk**	**37.90**	**313**	*i* P	**P**	**15 19 26.3**	**0.0**
	comp=E,3.0nm,0.9s						
MNK				*i* P	**P**	**15 19 26.3**	**0.0**
	comp=N,14nm,0.7s						
MNK				*i* P	**P**	**15 19 26.3**	**0.0**
	comp=Z,11nm,0.8s,baz=275						
MNK				*i* PP	**PP**	**15 20 52.9**	**0.0**
MNK				*i* PPP	PPP	15 21 10.6	
MNK				*i* PcP	**PcP**	**15 21 42.3**	**+0.2**
MNK				*i* S	**S**	**15 25 18.5**	**+1.6**
MNK				*i* SS	**SnSn**	**15 28 00.6**	**+2.3**
MNK				*i* SSS	SSS	15 28 17.5	
MNK				*i* LQ	LQ	15 32 12.4	
MNK				*i* LR	LR	15 35 05.4	
MNK				*i* LRM	MLR	15 36 18.2	
	comp=N,139nm,23.1s						
MNK				*i* LRM	MLR	15 36 29.7	
	comp=Z,113nm,21.7s						
MNK				*i* LRM	MLR	15 36 40.0	
	comp=E,7.0nm,18.1s						
KSRS	**Korea Array**	**39.25**	**74**	P	**P**	**15 19 36.5**	**-1.4**
	comp=E,0.2nm,0.5s,baz=289,slow=10,SNR=2.7						
FIA1	**FINESS Array S**	**39.97**	**324**	P	**P**	**15 19 43.5**	**0.0**
FIA1				IAmb	IAmb	15 19 50.6	
	comp=Z,7.8nm,1.1s						
FINES	**FINESS Array B**	**39.97**	**324**	P	**P**	**15 19 43.5**	**-0.1**
	comp=Z,2.4nm,0.4s,baz=113,slow=9.3,SNR=36						
FINES	**FINESS Array B**	**39.97**	**324**	*i* P	**P**	**15 19 43.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	**Yakutsk**	**39.98**	**35**	P	**P**	**15 19 42.5**	**-1.1**
YAK				IAmb	IAmb	15 20 01.6	
	comp=Z,5.3nm,0.5s						
ARCES	**ARCESS Array B**	**42.55**	**336**	P	**P**	**15 20 04.8**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=98,slow=9.1,SNR=5.8						
OJC	**Ojcow**	**42.86**	**307**	P	**P**	**15 20 07.4**	**-0.1**
OJC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OJC	**Ojcow**	**42.86**	**307**	P	**P**	**15 20 07.4**	**-0.1**
OJC				IAmb	IAmb	15 20 14.1	
	comp=Z,2.9nm,0.5s						
BRG	**Berggiesshubel**	**46.48**	**308**	*e*P	**P**	**15 20 36.7**	**+0.3**
BRG				Amp		15 20 37.7	
	comp=Z,3.5nm,0.9s						
BRG	**Berggiesshubel**	**46.48**	**308**	P	P	15 20 42.7	+6.4
BRG				Amp		15 20 43.1	
	comp=Z,2.5nm,0.7s						
NC405	**NORSAR Array S**	**46.83**	**322**	P	**P**	**15 20 38.1**	**-0.9**
MSEY	**Mahe Island**	**46.83**	**212**	P	**P**	**15 20 39.9**	**+0.4**
MSEY				pmax	pmax		
	comp=Z,34nm,1.2s						
MSEY	**Mahe Island**	**46.83**	**212**	P	**P**	**15 20 39.9**	**+0.4**
GERES	**GERESS Array B**	**46.99**	**305**	P	**P**	**15 20 39.9**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=75,slow=8.5,SNR=8.8						
CLL	**Collm**	**47.00**	**309**	*e*P	**P**	**15 20 40.0**	**-0.4**
CLL	**Collm**	**47.00**	**309**	*e*P	**P**	**15 20 40.0**	**-0.4**
CLL	**Collm**	**47.00**	**309**	P	**P**	**15 20 40.4**	**0.0**
CLL				IAmb	IAmb	15 20 46.9	
	comp=Z,1.6nm,0.7s						
NB2	**NORSAR Subarra**	**47.07**	**322**	P	**P**	**15 20 40.4**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**47.07**	**322**	P	**P**	**15 20 40.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=90,slow=7.6,SNR=6.6						
NOA				LR	LR	15 40 44.7	
	comp=Z,13nm,18.4s,baz=85,slow=36						
NC204	**NORSAR Array S**	**47.28**	**323**	P	**P**	**15 20 42.4**	**-0.2**
PETK	**Petropavlovsk-**	**55.35**	**46**	LR	LR	15 46 09.7	
	comp=Z,38nm,19.4s,baz=119,slow=37						
ESDC	**Sonseca Array**	**61.94**	**300**	P	**P**	**15 22 28.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=54,slow=6.2,SNR=3.1						
TOLK	**Toolik Lake Re**	**68.53**	**17**	P	**P**	**15 23 10.5**	**-0.9**
TOLK				IAmb	IAmb	15 23 17.7	
	comp=Z,2.5nm,0.7s						
ATKA	**Atka Island**	**70.91**	**38**	P	**P**	**15 23 24.7**	**-1.6**
TOA0	**Torodi Ar. Sit**	**71.33**	**272**	P	**P**	**15 23 29.0**	**-0.5**
TOA0				IAmb	IAmb	15 23 31.7	
	comp=Z,4.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P	**P**	**15 23 28.4**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=48,slow=4.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	IAmb	IAmb	15 23 29.3	
	comp=Z,2.0nm,0.8s						
BPAW	**Bear Paw Mtn.**	**71.70**	**20**	P	**P**	**15 23 30.0**	**-0.9**
BPAW				IAmb	IAmb	15 23 32.5	
	comp=Z,8.0nm,1.4s						
MDM	**Murphy Dome**	**71.76**	**19**	P	**P**	**15 23 31.0**	**-0.3**
MDM				IAmb	IAmb	15 23 47.4	
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**72.25**	**19**	P	**P**	**15 23 32.5**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=310,slow=5.1,SNR=12						
SCRK	**Sand Creek**	**73.63**	**18**	P	**P**	**15 23 40.8**	**-1.8**
SCRK				IAmb	IAmb	15 23 48.8	
	comp=Z,4.4nm,1.2s						
SML	**Sawmill**	**74.26**	**21**	P	**P**	**15 23 45.1**	**-1.1**
SML				IAmb	IAmb	15 23 47.0	
	comp=Z,8.0nm,1.0s						
SCM	**Sheep Creek Mo**	**74.52**	**21**	P	**P**	**15 23 47.2**	**-0.6**
SCM				pmax	pmax		
	comp=Z,11nm,1.2s						
SCM	**Sheep Creek Mo**	**74.52**	**21**	P	**P**	**15 23 47.2**	**-0.6**
MORW	**Morawa**	**75.12**	**146**	P	**P**	**15 23 50.9**	**-0.5**
WRA	**Warramunga Arr**	**77.86**	**127**	P	**P**	**15 24 06.3**	**-0.9**
	comp=Z,1.4nm,1.1s,baz=324,slow=4.6,SNR=3.1						
PCA	**Pinnacle**	**77.86**	**19**	P	**P**	**15 24 05.4**	**-1.4**
HYT	**Haines Junctio**	**77.89**	**17**	P	**P**	**15 24 06.1**	**-0.9**
HYT				IAmb	IAmb	15 24 13.8	
	comp=Z,1.9nm,0.7s						
YKA	**Yellowknife Ar**	**79.92**	**6**	P	**P**	**15 24 16.6**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=354,slow=5.6,SNR=2.6						
ASAR	**Alice Springs**	**80.33**	**130**	P	**P**	**15 24 18.9**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=316,slow=7.8,SNR=4.9						

*IDC **05** 15:24:50.0±4.8,9°.23S×124°.13E,h75km±58km,mb3.2/1, mb1 3.6/3,mb1mx3.1/30,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=76.8km s-min=33.8km az=38.0*
*DJA **05** 15:24:51.0±0.5,9°.S±.8°×12°.4E±°,h79km±6km,M3.8/6, mb3.9/3,MLv3.8/6*

ISC 05 15:24:49.5±1.1,**9°.29S**±0°.08×**123°.91E**±0°.08,**h75**km,**n12**, σ**3**^{s}**45**/**17**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.58**	**142**	P	**Pn**	**15 25 07.4**	**+3.6**
SOEI				S	**Sn**	**15 25 17.8**	**+3.5**
BATI	**Baumata**	**0.94**	**195**	P	**Pn**	**15 25 10.2**	**+2.5**
	136nm,0.3s,baz=22,slow=4.4,SNR=150						
BATI				S	**Sn**	**15 25 24.7**	**+3.5**
	68nm,0.3s,baz=236,slow=14,SNR=15						
BATI	**Baumata**	**0.94**	**195**	P	**Pn**	**15 25 10.1**	**+2.4**
BATI				S	**Sn**	**15 25 23.0**	**+1.9**
MMRI	**Maumere**	**1.77**	**291**	P	**Pn**	**15 25 20.0**	**+1.7**
MMRI				S	**Sn**	**15 25 41.3**	**+1.2**
EDFI	**Ende, Flores**	**2.25**	**284**	P	**Pn**	**15 25 25.9**	**+1.1**
BASI	**Baing, Sumba**	**3.41**	**254**	P	**Pn**	**15 25 41.3**	**+0.9**
WBSI	**Waikabubak, Su**	**4.47**	**265**	P	**Pn**	**15 25 55.3**	**+0.4**
PLAI	**Plampang**	**6.07**	**274**	P	**Pn**	**15 26 17.9**	**+1.1**
	0.2nm40nm,1.3s						
TWSI	**Taliwang, Sumb**	**6.96**	**274**	P	**Pn**	**15 26 29.6**	**+0.7**
	6.9nm,1.2s						
WRA	**Warramunga Arr**	**14.62**	**138**	P	**Pn**	**15 28 10.0**	**-2.6**
	0.2nm,0.3s,baz=315,slow=13,SNR=14						
WRA				S	Sn	15 30 42.1	-11
	0.7nm,0.3s,baz=306,slow=24,SNR=9.6						
ASAR	**Alice Springs**	**17.20**	**147**	P	**P**	**15 28 45.9**	**+0.3**
	0.4nm,0.3s,baz=317,slow=12,SNR=52						
ASAR				S	**Sn**	**15 31 46.1**	**-10**
	0.2nm,0.3s,baz=311,slow=21,SNR=8.0						
MKAR	**Makanchi Array**	**67.02**	**330**	P	**P**	**15 35 35.4**	**+0.8**
	0.3nm,0.4s,baz=135,slow=7.4,SNR=2.3						

*MEX **05** 15:34:03.0±1.2,18°.19N×102°.96W,h4km±19km,MD3.8*
*NEIC **05** 15:34:04.0±3.0,18°.46N±0°.02×102°.83W±0°.02,h10km±2km, mb4.4/2,Md3.8/36(MEX),Error ellipse: s-maj=3.8km s-min=3.3km az=358.0*

ISC 05 15:34:01.6±1.4,**18°.40N**±0°.04×**102°.87W**±0°.03,**h4**km±11km, **n30**,σ**1**^{s}**55**/**51**,**Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.46**	**256**	*e*P	**Pn**	**15 34 13.4**	**-1.7**
MMIG				*e*S	**Sb**	**15 34 22.0**	**+2.4**
MMIG	**Aquila**	**0.46**	**256**		**Pn**	**15 34 13.4**	**-1.7**
MMIG					**Sb**	**15 34 22.0**	**+2.4**
COIG	**Colima**	**1.10**	**315**	*e*P	**Pg**	**15 34 22.4**	**-0.4**
COIG				*e*S	**Sg**	**15 34 37.1**	**+0.1**
EZ5V		**1.28**	**327**	*e*P	**Pn**	**15 34 25.9**	**-0.6**
EZ5V				*i* S	**Sn**	**15 34 43.7**	**-0.6**
EZ5V		**1.28**	**327**		**Pn**	**15 34 25.9**	**-0.6**
R15V		**1.30**	**306**	*e*P	**Pn**	**15 34 25.3**	**-1.4**
R15V				*e*S	**Sb**	**15 34 42.2**	**-1.7**
R15V		**1.30**	**306**		**Pn**	**15 34 25.3**	**-1.4**
ZIIG	**Zihuatanejo**	**1.55**	**120**	*i* P	**Pn**	**15 34 27.7**	**-2.3**
ZIIG				*e*S	**Sg**	**15 34 51.4**	**-0.2**
ZIIG	**Zihuatanejo**	**1.55**	**120**		**Pn**	**15 34 27.7**	**-2.3**
ZIIG					**Sg**	**15 34 51.4**	**-0.2**
MOIG	**Morelia**	**2.04**	**51**	*e*P	**P

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.27**	**86**		**Pg**	16 27 56.2	+0.3
BLOK				Sg	Sg	16 27 59.5	0.0
KAN13	**South Haven SW**	**0.28**	**12**	Pg	Pg	16 27 56.2	+0.2
KAN17	**Caldwell West**	**0.35**	**330**		**Pg**	16 27 57.4	+0.1
KAN17				Sg	Sg	16 28 01.5	-0.4
KAN09	**Caldwell North**	**0.40**	**352**	Pg	Pg	16 27 58.1	-0.2
KAN09				Sg	Sg	16 28 03.5	0.0
CROK	**Carrier**	**0.42**	**236**		**Pg**	16 27 59.0	+0.3
CROK				Sg	Sg	16 28 04.5	+0.3
KAN05	**Bluff City Nor**	**0.45**	**325**	Pg	Pg	16 27 59.0	-0.2
KS20	**Mayfield South**	**0.49**	**360**		**Pg**	16 27 59.9	-0.1
OK032	**Salt Plains WL**	**0.53**	**277**	Pg	Pg	16 28 00.8	0.0
OK032				Sg	Sg	16 28 07.9	+0.1
KAN10	**Anthony SW Sta**	**0.58**	**311**		**Pg**	16 28 01.6	-0.1
KAN10				Sg	Sg	16 28 08.5	-0.8
KAN08	**Anthony NE Sta**	**0.59**	**325**		**Pg**	16 28 01.9	0.0
KAN12	**Harper NE Stat**	**0.66**	**327**	Pg	Pg	16 28 03.1	-0.2
KAN12				Sg	Sg	16 28 11.0	-0.9
T35A	**Sooner Cattle**	**0.85**	**78**		**Pg**	16 28 06.7	-0.2
QUOK	**Quay**	**0.89**	**130**		**Pg**	16 28 07.4	-0.1
QUOK				Sg	Sg	16 28 18.9	-0.1
OK029	**Liberty Lake**	**0.95**	**175**		**Pg**	16 28 08.7	0.0
OK031	**S. Brethren Rd**	**0.97**	**144**		**Pg**	16 28 09.2	-0.1
BCOK	**Bluff Creek, N**	**1.08**	**183**		**Pg**	16 28 11.1	-0.2
BCOK				Sg	Sg	16 28 25.5	+0.1
OK025	**Westminster Rd**	**1.17**	**171**		**Pg**	16 28 12.8	-0.2
U32A	**Winter Ranch,**	**1.22**	**253**		**Pg**	16 28 13.5	-0.5
OKCFA	**Oklahoma City**	**1.33**	**177**		**Pn**	16 28 15.3	-0.2
OKCSW	**OKLAHOMA CITY**	**1.34**	**176**		**Pn**	16 28 15.4	-0.3
FNO	**Franklin**	**1.49**	**175**		**Pn**	16 28 17.9	+0.2
X34A	**Smith Ranch, M**	**2.15**	**186**	IAmb	Lg	16 29 04.7	
	comp=Z,53nm,0.8s						
WMOK	**Wichita Mounta**	**2.24**	**207**		**Pn**	16 28 28.1	0.0
U38A	**Gravette**	**2.56**	**96**		**Pn**	16 28 32.7	+0.1
X37A	**Clayton**	**2.79**	**140**	IAmb	Lg	16 29 24.9	
	comp=Z,51nm,0.7s						
HHAR	**Hobbs**	**2.94**	**98**		**Pn**	16 28 37.8	0.0
W39A	**Magazine**	**3.42**	**116**	IAmb	Lg	16 29 47.7	
	comp=Z,29nm,0.8s						
S39A	**Bolivar**	**3.50**	**73**	IAmb	Lg	16 29 46.9	
	comp=Z,22nm,0.7s						
U40A	**Yellville**	**3.80**	**94**		**Pn**	16 28 49.6	0.0
U40A				IAmb	Lg	16 29 51.8	
	comp=Z,21nm,0.8s						
AMTX	**Amarillo**	**3.83**	**242**	IAmb	Lg	16 29 56.5	
	comp=Z,26nm,0.7s						
MIAR	**Mount Ida**	**3.91**	**123**	Pn	Pn	16 28 51.0	-0.1
MIAR				IAmb	Lg	16 29 56.8	
	comp=Z,26nm,0.9s						
MGMO	**Mountain Grove**	**4.25**	**83**	IAmb	Lg	16 30 10.7	
	comp=Z,20nm,0.9s						
N35A	**Tabor**	**4.38**	**19**	IAmb	Lg	16 30 10.8	
	comp=Z,35nm,0.8s						
X40A	**Basin Creek Fa**	**4.45**	**119**	Pn	Pn	16 28 58.7	+0.2
FCAR	**Ozark Folk Cen**	**4.46**	**99**	IAmb	Lg	16 30 12.1	
	comp=Z,17nm,0.8s						
R40A	**Maddies Statio**	**4.47**	**68**	Pn	Pn	16 28 58.9	+0.1
R40A				IAmb	Lg	16 30 14.2	
	comp=Z,15nm,0.7s						
WHAR	**Wooly Hollow**	**4.50**	**107**	IAmb	Lg	16 30 20.6	
	comp=Z,18nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.61**	**301**	IAmb	Lg	16 30 27.7	
	comp=Z,18nm,0.8s						
WLAR	**White Oak Lake**	**4.74**	**129**	IAmb	Lg	16 30 31.7	
	comp=Z,21nm,0.7s						
P40A	**Paris**	**5.15**	**56**	IAmb	Lg	16 30 40.7	
	comp=Z,19nm,0.7s						
N38A	**Joes South For**	**5.27**	**39**	IAmb	Lg	16 30 47.6	
	comp=Z,25nm,0.9s						
L34A	**Svendsen Farm,**	**5.30**	**10**	IAmb	Lg	16 30 48.9	
	comp=Z,26nm,0.7s						
OGNE	**Ogallala**	**5.46**	**322**	IAmb	Lg	16 30 53.2	
	comp=Z,18nm,0.8s						
NATX	**Nacogdoches**	**5.52**	**153**	IAmb	Lg	16 31 00.2	
	comp=Z,19nm,0.8s						
PBMO	**Poplar Bluff**	**5.72**	**88**	IAmb	Lg	16 30 51.6	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**5.94**	**180**	IAmb	Lg	16 31 13.0	
	comp=Z,19nm,0.9s						
SLM	**Saint Louis**	**6.10**	**70**	IAmb	Lg	16 31 03.3	
	comp=Z,21nm,0.7s						
SCIA	**State Center**	**6.16**	**32**	IAmb	Lg	16 31 10.8	
	comp=Z,21nm,0.7s						
JCT	**Junction City**	**6.52**	**197**	IAmb	Lg	16 31 33.0	
	comp=Z,17nm,1.1s						
K38A	**Parkersburg**	**6.95**	**31**	IAmb	Lg	16 31 41.3	
	comp=Z,19nm,0.9s						
L40A	**Anamosa**	**7.23**	**41**	IAmb	Lg	16 31 44.8	
	comp=Z,12nm,0.8s						
O44A	**Mansfield**	**7.90**	**62**	IAmb	Lg	16 32 18.2	
	comp=Z,18nm,0.7s						
USIN	**University of**	**7.97**	**78**	IAmb	Lg	16 32 20.1	
	comp=Z,15nm,0.8s						
L42A	**Oliver, Polo**	**8.05**	**47**	IAmb	Lg	16 32 07.7	
	comp=Z,18nm,0.9s						
JFWS	**Jewell Farm**	**8.34**	**40**	IAmb	Lg	16 32 25.8	
	comp=Z,9.1nm,0.8s						
T47A	**Sharon Grove**	**8.38**	**85**	IAmb	Lg	16 32 15.8	
	comp=Z,6.4nm,0.8s						
Z47A	**Carrollton**	**8.55**	**112**	IAmb	Lg	16 32 46.4	
	comp=Z,8.7nm,0.8s						
SFIN	**Lafayette**	**8.96**	**63**	IAmb	Lg	16 32 36.3	
	comp=Z,10nm,0.8s						
WCI	**Wyandotte Cave**	**9.07**	**77**	IAmb	Lg	16 32 38.6	
	comp=Z,12nm,0.9s						

*UPA **05** 16:52:37.6±0.9, 8.°81N×82.°90W, h22km±7km, MW3.8*
*UCR **05** 16:52:38.0±1.8, 8.°80N×82.°96W, h20km±3km, MW3.6*

ISC 05 16:52:37.6±0.9, 8.°81N±0.°03×82.°92W±0.°02, h29km±7km, n31, σ0°68/47, 3C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.22**	**93**	*i* P	**Pb**	**16 52 43.9**	**-0.2**
BRU2				*e*S	**Sb**	**16 52 48.6**	**0.0**
BRU2	**Volcan**	**0.22**	**93**	*e*P	**Pb**	**16 52 43.9**	**-0.2**
BRU2				*e*S	**Sb**	**16 52 48.7**	**+0.2**
CDITO	**Canoas**	**0.24**	**170**	*i* P	**Pb**	**16 52 43.8**	**-0.4**
CDITO				*e*S	**Sb**	**16 52 47.8**	**-0.7**
LPLA	**Las Palmas La**	**0.24**	**337**⇑	*i* P	**Pb**	**16 52 43.9**	**-0.4**
LPLA				*e*S	**Sb**	**16 52 48.7**	**-0.2**
BC3P	**Paso Ancho**	**0.30**	**88**	*i* P	**Pb**	**16 52 44.8**	**-0.4**
BCO2	**Palmira**	**0.39**	**103**⇓	*i* P	**Pb**	**16 52 46.2**	**-0.2**
BCO2				*e*S	**Sb**	**16 52 52.2**	**-0.3**
PTAR3	**Potrerillos Ar**	**0.43**	**105**⇓	*i* P	**Pb**	**16 52 46.7**	**-0.3**
PTAR3				*e*S	**Sb**	**16 52 52.8**	**-0.5**
PTJ1	**Puerto Jimnez**	**0.47**	**235**⇓	*i* P	**Pb**	**16 52 46.8**	**-0.7**
PTJ1				*e*S	**Sb**	**16 52 54.4**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.47**	**235**	*e*P	**Pb**	**16 52 46.8**	**-0.7**
SBAR3	**San Bartolo, C**	**0.49**	**176**⇓	*i* P	**Pb**	**16 52 47.5**	**-0.3**
EDBA	**Buenos Aires**	**0.50**	**315**	*e*P	**Pb**	**16 52 48.3**	**+0.3**
EDBA				*e*S	**Sn**	**16 52 56.5**	**-0.1**
BAGA3	**Bagala, Chiriq**	**0.51**	**131**	*i* P	**Pb**	**16 52 48.1**	**-0.1**
EDPN	**Palmar Norte**	**0.56**	**286**⇓	*e*P	**Pb**	**16 52 48.1**	**-0.8**
EDPN				*e*S	**Sb**	**16 52 56.6**	**0.0**
DRK0	**Durika**	**0.56**	**324**⇑	*e*P	**Pb**	**16 52 48.5**	**-0.6**
DRK0				*e*S	**Sb**	**16 52 56.7**	**-0.2**
DRK0	**Durika**	**0.56**	**324**	*e*P	**Pb**	**16 52 48.5**	**-0.6**
DRK0				*e*S	**Sb**	**16 52 56.8**	**-0.1**
PIRO	**Carate, Puerto**	**0.58**	**226**⇓	*i* P	**Pb**	**16 52 48.2**	**-1.1**
PIRO				*e*S	**Sb**	**16 52 57.6**	**+0.4**
PIRO	**Carate, Puerto**	**0.58**	**226**	*e*P	**Pb**	**16 52 48.2**	**-1.1**
DVD	**David**	**0.59**	**129**	*e*P	**Pb**	**16 52 49.0**	**-0.4**
PSOM3	**Paja de Sombre**	**0.60**	**102**	*e*S	**Sb**	**16 52 57.0**	**-0.9**
CNI2	**El Empalme, Bo**	**0.75**	**36**⇓	*i* P	**Pb**	**16 52 51.4**	**-0.8**
CNI2				*e*S	**Sb**	**16 53 02.0**	**-0.2**
CHGR2	**Aguacate**	**0.77**	**80**⇑	*i* P	**Pb**	**16 52 51.7**	**-0.8**
CHGR2				*e*S	**Sb**	**16 53 01.8**	**-0.9**
PEZE	**Perez Zeledon,**	**0.95**	**307**	*e*P	**Pb**	**16 52 54.6**	**-0.9**
CDM	**Cerro de Muert**	**1.12**	**312**	*e*P	**Pn**	**16 52 57.2**	**-0.5**
CDM				*e*S	**Sb**	**16 53 11.8**	**-1.2**
RIMA	**Rio Macho**	**1.34**	**316**	*e*P	**Pn**	**16 53 00.3**	**-0.3**
LCR2	**La Lucha 2**	**1.42**	**311**	*e*P	**Pn**	**16 53 01.8**	**+0.1**
CVTR	**Volcan Turrial**	**1.47**	**325**	*e*P	**Pn**	**16 53 03.4**	**+0.9**
OCM	**Ochomogo**	**1.50**	**316**	*e*P	**Pn**	**16 53 03.0**	**+0.3**
HDC	**Heredia**	**1.68**	**315**	*e*P	**Pn**	**16 53 06.1**	**+0.9**
HDC				*e*S	**Sn**	**16 53 27.4**	**+1.7**
HDC	**Heredia**	**1.68**	**315**	*e*P	**Pn**	**16 53 05.9**	**+0.8**
JACO	**JACO, Garabito**	**1.92**	**296**	*e*P	**Pn**	**16 53 08.8**	**+0.4**
JTS	**Las Juntas de**	**2.49**	**306**	*e*P	**Pn**	**16 53 17.7**	**+1.4**

*IDC **05** 16:54:43.0±4.4, 51.°88N×178.°43E, h52km±40km, mb3.4/14, mb1 3.6/16, mb1mx3.4/59, mbtmp3.7/16, ML1.9/1, Error ellipse: s-maj=29.3km s-min=13.6km az=176.0*
*NEIC **05** 16:54:49.3±1.4, 51.°9N±0.°1×178.°48E±0.°08, h113km±3km, mb4.1/50, ML3.2/26(AEIC), Error ellipse: s-maj=19.8km s-min=7.1km az=185.0*
*AEIC **05** 16:54:49.6±1.2, 51.°8N±0.°1×178.°43E±0.°08, h111km±3km, Error ellipse: s-maj=18.9km s-min=6.8km az=182.0*

ISC 05 16:54:48.8±0.7, 51.°9N±0.°1×178.°44E±0.°04, h112km±5km, n96, σ0°88/101, mb4.0/34, Rat Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.09**	**30**		**Pn**	**16 55 04.5**	**+0.2**
LSSA					**Sn**	**16 55 16.2**	**+0.3**
LSNW	**Little Sitkin**	**0.11**	**26**		**Pn**	**16 55 04.3**	**+0.1**
LSPA	**Little Sitkin**	**0.12**	**44**		**Pn**	**16 55 04.4**	**+0.2**
LSPA					**Sn**	**16 55 16.7**	**+0.8**
CESW	**Semis' Southwe**	**0.70**	**87**		**Pn**	**16 55 07.2**	**-0.1**
CEAP	**Semis' Anvil P**	**0.72**	**79**		**Pn**	**16 55 07.8**	**+0.4**
AMKA	**Amchitka**	**0.73**	**132**		**Pn**	**16 55 07.5**	**-0.1**
AMKA					**Sn**	**16 55 20.8**	**-0.9**
CERAA	**Semis' Rag'd T**	**0.77**	**87**		**Pn**	**16 55 08.0**	**+0.1**
CERAA					**Sn**	**16 55 22.6**	**+0.3**
TASE	**Tanaga Southea**	**2.19**	**90**		**Pn**	**16 55 24.4**	**+0.1**
TAFP	**Tanaga Falls P**	**2.22**	**88**		**Pn**	**16 55 24.5**	**-0.1**
TAFP					**Sn**	**16 55 51.3**	**-0.7**
KIMD	**Kanaga Island**	**2.69**	**91**		**Pn**	**16 55 30.6**	**0.0**
KICM	**Kanaga Island**	**2.70**	**87**		**Pn**	**16 55 31.1**	**+0.2**
KIKV	**Kanaga Island**	**2.72**	**88**		**Pn**	**16 55 31.1**	**-0.1**
KIWB	**Kanaga Island**	**2.73**	**89**		**Pn**	**16 55 31.2**	**-0.1**
SMY	**Shemya**	**2.80**	**290**		**Pn**	**16 55 31.6**	**-0.5**
SMY					**Sn**	**16 56 05.2**	**-0.3**
ADK	**Adak**	**3.02**	**88**		**Pn**	**16 55 34.5**	**-0.6**
ADK					**Sn**	**16 56 09.4**	**-1.3**
GSTD	**Great Sitkin T**	**3.35**	**85**		**Pn**	**16 55 38.9**	**-0.6**
GSTD					**Sn**	**16 56 17.6**	**-1.2**
GSTR	**Great Sitkin T**	**3.41**	**84**	Pn	**Pn**	**16 55 40.2**	**-0.1**
GSMY	**Great Sitkin M**	**3.41**	**85**		**Pn**	**16 55 40.0**	**-0.3**
ATKA	**Atka Island**	**4.56**	**83**		**Pn**	**16 55 55.6**	**0.0**
KOFP	**Korovin Flat P**	**4.62**	**82**		**Pn**	**16 55 56.3**	**-0.2**
NIKH	**Nikolski High**	**7.85**	**77**	Pn	**Pn**	**16 56 41.2**	**+1.1**
SPIA	**Saint Paul Isl**	**8.45**	**47**	Pn	**Pn**	**16 56 50.0**	**+1.8**
PETK	**Petropavlovsk-**	**12.70**	**284**	P	Pn	16 57 39.6	-5.6
	0.0nm,0.3s,baz=100,slow=20,SNR=1.4						
PETK				S	**Sn**	**17 00 00.5**	**-4.3**
	0.1nm,0.3s,baz=44,slow=8.7,SNR=4.4						
SDPT	**Sand Point**	**12.98**	**66**	Pn	**Pn**	**16 57 47.8**	**-1.0**
ANM	**Nome**	**15.24**	**27**	Pn	**Pn**	**16 58 18.1**	**+0.4**
OHAK	**Old Harbor**	**17.18**	**61**	P	**P**	**16 58 39.3**	**-2.2**
TTA	**Tatalina**	**17.52**	**41**	P	**P**	**16 58 44.4**	**-0.9**
KDAK	**Kodiak Island**	**17.62**	**59**	P	**P**	**16 58 44.1**	**-2.2**
	1.0nm,0.3s,baz=283,slow=2.5,SNR=21						
CNPM	**China Poot**	**18.59**	**54**	P	**P**	**16 58 57.0**	**0.0**
SKT	**Skwentna**	**19.07**	**46**	P	**P**	**16 59 02.2**	**0.0**
SKT				IAmb	IAmb	16 59 13.9	
	comp=Z,11nm,1.4s						
BPAW	**Bear Paw Mtn.**	**20.06**	**41**	P	**P**	**16 59 14.3**	**+1.4**
TRF	**Thorofare Moun**	**20.11**	**43**	P	**P**	**16 59 14.5**	**+0.9**
TRF				IAmb	IAmb	16 59 39.8	
	comp=Z,27nm,2.0s						
GHO	**Glory Hole Cre**	**20.20**	**48**	P	**P**	**16 59 15.5**	**+1.1**
GHO				IAmb	IAmb	16 59 47.8	
	comp=Z,15nm,1.4s						
PWL	**Port Wells**	**20.27**	**51**	P	**P**	**16 59 14.6**	**-0.6**
PWL				IAmb	IAmb	16 59 16.7	
	comp=Z,8.6nm,1.0s						
SML	**Sawmill**	**20.48**	**48**	P	**P**	**16 59 17.8**	**+0.3**
MLY	**Manley**	**20.54**	**38**	P	**P**	**16 59 19.6**	**+1.5**
RND	**Reindeer**	**20.70**	**43**	P	**P**	**16 59 20.9**	**+1.1**
RND				IAmb	IAmb	17 00 19.9	
	comp=Z,11nm,1.5s						
GLI	**Glacier Island**	**20.87**	**51**	P	**P**	**16 59 22.2**	**+0.6**
GLI				IAmb	IAmb	17 00 14.5	
	comp=Z,11nm,1.0s						
SCM	**Sheep Creek Mo**	**20.95**	**48**	P	**P**	**16 59 22.7**	**+0.2**
NEA2	**Nenana**	**21.02**	**40**	P	**P**	**16 59 23.0**	**-0.2**
NEA2				IAmb	IAmb	16 59 48.9	
	comp=Z,15nm,1.7s						
I23K	**Minto, Yukon-K**	**21.12**	**39**	P	**P**	**16 59 24.4**	**+0.1**
I23K				IAmb	IAmb	16 59 47.5	
	comp=Z,19nm,2.0s						
FID	**Port Fidalgo**	**21.15**	**51**	P	**P**	**16 59 24.3**	**-0.3**
FID				IAmb	IAmb	17 00 20.0	
	comp=Z,14nm,1.2s						
MDM	**Murphy Dome**	**21.49**	**40**	P	**P**	**16 59 28.6**	**+0.4**
CCB	**Clear Creek Bu**	**21.55**	**41**	P	**P**	**16 59 29.4**	**+0.6**
ILAR	**Eielson Array**	**21.96**	**41**	P	**P**	**16 59 32.2**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=239,slow=7.8,SNR=6.6						
PAX	**Paxson**	**22.05**	**46**	P	**P**	**16 59 34.4**	**+0.1**
PAX				IAmb	IAmb	17 00 31.4	
	comp=Z,14nm,1.8s						
BMRM	**Bremner River**	**22.09**	**51**	P	**P**	**16 59 35.2**	**+0.7**
HMT	**Hamilton**	**22.18**	**53**	P	**P**	**16 59 35.8**	**+0.3**
N25K	**Chitina, Valde**	**22.18**	**50**	P	**P**	**16 59 35.7**	**+0.1**
N25K				IAmb	IAmb	16 59 54.6	
	comp=Z,15nm,1.7s						
SUCK	**Suckling Hills**	**22.40**	**54**	P	**P**	**16 59 37.0**	**-0.7**
GLB	**Gilahina Butte**	**22.53**	**50**	P	**P**	**16 59 39.2**	**+0.1**
TOLK	**Toolik Lake Re**	**22.67**	**30**		**P**	**16 59 41.9**	**+1.4**
TOLK	**Toolik Lake Re**	**22.67**	**30**	P	**P**	**16 59 41.3**	**+0.8**
TOLK				IAmb	IAmb	16 59 43.4	
	comp=Z,3.2nm,0.7s						
VRDI	**Verde Repeater**	**22.68**	**51**	P	**P**	**16 59 40.7**	**-0.1**
VRDI				IAmb	IAmb	17 00 32.4	
	comp=Z,12nm,1.6s						
PRP	**Porcupine Dome**	**22.75**	**39**	P	**P**	**16 59 42.3**	**+0.9**
PRP				IAmb	IAmb	17 00 30.9	
	comp=Z,12nm,1.9s						
CRQM	**Cirque**	**22.78**	**52**	P	**P**	**16 59 42.5**	**+0.8**
CRQM				IAmb	IAmb	16 59 44.5	
	comp=Z,13nm,1.2s						
DOT	**Dot Lake**	**22.83**	**44**	P	**P**	**16 59 41.4**	**-0.7**
SCRK	**Sand Creek**	**22.94**	**44**	P	**P**	**16 59 42.3**	**-0.9**
FYU	**Fort Yukon**	**23.23**	**37**	P	**P**	**16 59 45.3**	**-0.5**
FYU				IAmb	IAmb	16 59 51.1	
	comp=Z,18nm,1.8s						
MESA	**MESA**	**23.32**	**54**	P	**P**	**16 59 45.5**	**-1.4**
MESA				IAmb	IAmb	17 00 26.5	
	comp=Z,23nm,1.4s						
YAH	**Yahtse**	**23.43**	**53**	P	**P**	**16 59 46.7**	**-1.2**
YAH				IAmb	IAmb	17 00 28.2	
	comp=Z,14nm,1.4s						
BARN	**Barnard Glacie**	**23.52**	**51**	P	**P**	**16 59 48.8**	**+0.1**
BARN				IAmb	IAmb	16 59 51.4	
	comp=Z,4.1nm,0.6s						
CTGM	**Chitina Glacie**	**23.68**	**52**	P	**P**	**16 59 50.0**	**0.0**
CTGM				IAmb	IAmb	16 59 52.7	
	comp=Z,4.2nm,0.6s						
L27K	**Beaver Creek,**	**23.70**	**46**	P	**P**	**16 59 50.5**	**+0.4**
BCAR	**Beaver Creek A**	**23.72**	**46**	P	**P**	**16 59 51.4**	**+1.1**
TABL	**Table Mountain**	**23.73**	**53**	P	**P**	**16 59 51.0**	**+0.4**
TABL				IAmb	IAmb	16 59 53.1	
	comp=Z,4.5nm,0.7s						
K27K	**Chicken**	**23.77**	**44**	P	**P**	**16 59 51.0**	**+0.3**
K27K				IAmb	IAmb	17 00 28.9	
	comp=Z,11nm,1.8s						
LOGN	**Logan Glacier**	**23.83**	**52**	P	**P**	**16 59 52.0**	**+0.6**
LOGN				IAmb	IAmb	16 59 54.0	
	comp=Z,5.2nm,0.6s						
EGAK	**Eagle**	**24.32**	**42**	P	**P**	**16 59 54.8**	**-0.9**
BCPM	**Bancas Point**	**24.47**	**54**	P	**P**	**16 59 56.9**	**-0.1**
BCPM				IAmb	IAmb	17 00 08.5	
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa**	**25.00**	**266**	P	**P**	**17 00 02.7**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=32,slow=6.5,SNR=3.5						
HYT	**Haines Junctio**	**25.54**	**52**	P	**P**	**17 00 08.3**	**+1.4**
KLR	**Kul'dur**	**29.39**	**284**	P	**P**	**17 00 41.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=72,slow=6.6,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**33.33**	**200**	T	T	17 36 41.5	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	17 36 46.9	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	17 36 46.2	
	baz=11,slow=76						
EDM	**Edmonton**	**40.06**	**60**	P	**P**	**17 02 12.9**	**+0.1**
PNTR	**Pine Nut**	**43.98**	**82**	P	**P**	**17 02 45.1**	**+0.1**
PNTR				IAmb	IAmb	17 02 47.1	
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**44.88**	**295**	P	**P**	**17 02 52.3**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=58,slow=6.7,SNR=2.5						
BOZ	**Bozeman (W)**	**44.92**	**69**	P	**P**	**17 02 51.7**	**-0.6**
BOZ				IAmb	IAmb	17 02 52.6	
	comp=Z,5.4nm,1.7s						
RYN	**Ryan**	**44.93**	**81**	P	**P**	**17 02 52.4**	**-0.1**
RYN				IAmb	IAmb	17 03 50.4	
	comp=Z,11nm,2.0s						
NVAR	**Mina Array Bea**	**45.19**	**81**	P	**P**	**17 02 55.8**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=293,slow=7.3,SNR=6.7						
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**17 03 14.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=284,slow=0.6,SNR=3.8						
PV13	**Radium Mtn., P**	**51.11**	**75**	P	**P**	**17 03 39.7**	**-0.4**
KURK	**Kurchatov**	**57.42**	**312**	P	**P**	**17 04 26.5**	**+1.2**
KURBB	**Kurchatov Arra**	**57.53**	**312**	P	**P**	**17 04 26.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=42,slow=6.6,SNR=4.9						
MK31	**Makanchi Array**	**58.37**	**307**	P	**P**	**17 04 32.0**	**-0.1**
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**17 04 32.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=47,slow=6.8,SNR=4.7						
BVAR	**Borovoye Array**	**59.39**	**318**	P	**P**	**17 04 39.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=49,slow=16,SNR=4.8						
TXAR	**Lajitas Array**	**60.27**	**79**	P	**P**	**17 04 45.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=325,slow=5.3,SNR=5.1						
MOQ	**Mont Orford**	**65.71**	**47**	P	**P**	**17 05 19.9**	**-1.4**
AKTO	**Aktyubinsk**	**66.27**	**323**	P	**P**	**17 05 24.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=44,slow=5.9,SNR=4.4						
KKAR	**Karatay Array**	**66.77**	**311**	P	**P**	**17 05 28.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**69.26**	**274**	P	**P**	**17 05 44.3**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=23,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**81.21**	**221**	P	**P**	**17 06 52.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=29,slow=5.8,SNR=6.7						
ASAR	**Alice Springs**	**84.72**	**220**	P	**P**	**17 07 11.2**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=20,slow=5.1,SNR=4.6						

MAN 05 16:56:55.3, 9.°44N×125.°88E, h1km, mb4.3, ML3.1, MS2.9, Mindanao

*CNRM **05** 17:11:21.9, 36.°02N×4.°81W, h86km, ml2.7, Hypocentre not reviewed by the ISC*
*IGIL **05** 17:11:22.2, 36.°34N×4.°64W, h20km, ML2.4*
*INMG **05** 17:11:22.3±2.0, 36.°35N×4.°64W, h90km±8km, ML2.4, Error ellipse: s-maj=4.6km s-min=4.4km az=159.0*
*SFS **05** 17:11:22.0, 36.°30N×4.°60W, h85km, ML3.0, ALBORAN W.*
*MDD **05** 17:11:22.2±0.7, 36.°30N×4.°62W, h90km±5km, mb2.3/13, Error ellipse: s-maj=6.0km s-min=3.8km az=165.0, PRXIMO*

ISC 05 17:11:19.3±1.3, 36.°25N±0.°03×4.°62W±0.°03, h102km±6km, n69, σ1°77/120, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.33**	**338**	P	**Pn**	**17 11 35.0**	**+0.7**
	31nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**17 11 44.7**	**-0.8**
	25nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.53**	**17**	P	**Pn**	**17 11 36.5**	**+1.0**
EMAL				S	**Sn**	**17 11 46.7**	**-0.8**
EMAL	**Malaga-Limoner**	**0.53**	**17**	P	**Pn**	**17 11 36.5**	**+1.0**
EMAL				S	**Sn**	**17 11 46.7**	**-0.8**
CEU	**Ceuta**	**0.71**	**240**	P	**Pn**	**17 11 38.6**	**+1.7**
CEU				S	**Sn**	**17 11 48.3**	**-1.8**
CEU	**Ceuta**	**0.71**	**240**	P	**Pn**	**17 11 38.6**	**+1.7**
CEU				S	**Sn**	**17 11 48.3**	**-1.8**
ECEU	**Ceuta**	**0.71**	**240**	S	**Sn**	**17 11 51.4**	**+1.2**
	7.1nm,0.2s,SNR=7.9						
EJIF	**J

PBEJ			S		Sn	17 12 42.3	-1.4
	6.8nm,0.1s						
PBEJ	**Beja**	**3.14 305**	*e*P		**Pn**	**17 12 08.5**	**+1.6**
PBEJ			*e*S		**Sn**	**17 12 42.3**	**-1.4**
PBEJ			A		A	17 12 42.5	
	14nm,0.1s						
CZD	**Col de Zad**	**3.23 186**	P			17 12 09.1	
ZHG	**ZHG**	**3.26 211**	P			17 12 10.2	
MESJ	**Messejana**	**3.29 300**	*e*P		**Pn**	**17 12 10.5**	**+1.7**
MESJ			*e*S		**Sn**	**17 12 45.4**	**-1.8**
MESJ			IAML			17 12 47.4	
	comp=N,11nm,0.1s						
MESJ	**Messejana**	**3.29 300**	P		**Pn**	**17 12 10.5**	**+1.7**
MESJ			S		**Sn**	**17 12 45.4**	**-1.8**
MESJ	**Messejana**	**3.29 300**	⇑*i*P		**Pn**	**17 12 10.5**	**+1.7**
MESJ			*e*S		**Sn**	**17 12 45.5**	**-1.7**
MESJ			A		A	17 12 46.1	
	comp=N,6.4nm,0.2s						
PAB	**San Pablo**	**3.29 4**	S		**Sn**	**17 12 45.4**	**-2.0**
	comp=N,1.6nm,0.2s,SNR=7.9						
MD31	**MD31**	**3.38 182**	P			17 12 11.9	
MORF	**Marmelete**	**3.40 289**	*e*S		**Sn**	**17 12 48.5**	**-1.6**
MORF			IAML			17 12 51.4	
	comp=N,14nm,0.1s						
MORF	**Marmelete**	**3.40 289**	S		**Sn**	**17 12 48.5**	**-1.6**
MORF	**Marmelete**	**3.40 289**	*e*S		**Sn**	**17 12 48.5**	**-1.6**
MORF			A		A	17 12 51.3	
	comp=N,11nm,0.1s						
ETOB	**Tobarra**	**3.42 45**	P		**Pn**	**17 12 12.3**	**+1.7**
	comp=N,0.8nm,0.1s,SNR=9.3						
ETOB			S		**Sn**	**17 12 48.5**	**-1.8**
	comp=N,2.9nm,0.2s,SNR=9.8						
MDT	**Midelt**	**3.43 180**	P			17 12 12.3	
ESDC	**Sonseca Array**	**3.45 8**	S		**Sn**	**17 12 49.3**	**-1.9**
	baz=189,slow=23,SNR=7.9						
PFVI	**Vila Bisbo**	**3.50 286**	S		**Sn**	**17 12 50.8**	**-1.4**
	comp=N,3.4nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.50 286**	*e*S		**Sn**	**17 12 51.3**	**-0.8**
PFVI			A		A	17 12 52.9	
	comp=N,7.2nm,0.4s						
PESTR	**Estremoz**	**3.52 319**	*e*P		**Pn**	**17 12 13.7**	**+1.7**
PESTR			*e*S		**Sn**	**17 12 51.2**	**-1.6**
PESTR			A		A	17 12 51.8	
	comp=N,4.8nm,0.2s						
PTEO	**Sao Teotonio**	**3.54 293**	S		**Sn**	**17 12 52.3**	**-0.8**
	comp=N,6.1nm,0.6s						
PTEO	**Sao Teotonio**	**3.54 293**	*e*S		**Sn**	**17 12 52.3**	**-0.8**
PTEO			A		A	17 12 58.3	
	comp=N,12nm,0.6s						
PNCL	**Nicolau / Gran**	**3.63 302**	P		**Pn**	**17 12 15.0**	**+1.5**
PNCL			S		**Sn**	**17 12 53.5**	**-1.9**
	comp=N,5.4nm,1.2s						
PNCL	**Nicolau / Gran**	**3.63 302**	*e*P		**Pn**	**17 12 15.0**	**+1.5**
PNCL			*e*S		**Sn**	**17 12 53.5**	**-1.9**
PNCL			A		A	17 12 54.5	
	comp=N,5.4nm,1.2s						
PMRV	**Marv??o**	**3.85 326**	P		**Pn**	**17 12 18.2**	**+1.7**
PMRV			S		**Sn**	**17 12 58.9**	**-1.9**
	comp=N,3.4nm,0.4s						
PMRV	**Marv??o**	**3.85 326**	*e*P		**Pn**	**17 12 18.2**	**+1.7**
PMRV			*e*S		**Sn**	**17 12 58.9**	**-1.9**
PMRV			A		A	17 13 00.1	
	comp=N,3.4nm,0.4s						
EPLA	**Plasencia**	**3.98 344**	P		**Pn**	**17 12 19.6**	**+1.5**
	comp=N,1.2nm,0.1s,SNR=7.9						
EPLA			S		**Sn**	**17 13 01.4**	**-2.3**
	comp=N,0.1nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**4.01 316**	P		**Pn**	**17 12 20.0**	**+1.4**
PMTG			S		**Sn**	**17 13 02.7**	**-1.9**
	comp=N,2.1nm,0.3s						
PMTG	**Montargil**	**4.01 316**	*e*P		**Pn**	**17 12 20.0**	**+1.4**
PMTG			*e*S		**Sn**	**17 13 02.7**	**-1.9**
PMTG			A		A	17 13 08.5	
	comp=N,2.1nm,0.3s						
PCBR	**Castelo Branco**	**4.23 329**	P		**Pn**	**17 12 24.3**	**+2.7**
PCBR			S		**Sn**	**17 13 08.9**	**-1.0**
	comp=N,1.9nm,0.2s						
PCBR	**Castelo Branco**	**4.23 329**	*e*P		**Pn**	**17 12 24.3**	**+2.7**
PCBR			*e*S		**Sn**	**17 13 08.9**	**-1.0**
PCBR			A		A	17 13 10.9	
	comp=N,3.8nm,0.2s						
GUD	**Guadarrama**	**4.40 5**	S		**Sn**	**17 13 11.7**	**-2.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
PSBE	**So Bento**	**4.64 316**	*e*P		**Pn**	**17 12 29.3**	**+2.2**
PSBE			*e*S		**Sn**	**17 13 18.0**	**-1.8**
PSBE			A		A	17 13 21.7	
	comp=N,2.0nm,0.2s						
PCAS	**Casmilo, Conde**	**4.87 322**	S		**Sn**	**17 13 22.8**	**-2.6**
PCAS	**Casmilo, Conde**	**4.87 322**	*e*S		**Sn**	**17 13 22.8**	**-2.6**
ETOR	**Torete**	**4.98 23**	P		**Pn**	**17 12 33.8**	**+2.0**
	comp=N,1.4nm,0.2s,SNR=7.9						
ETOR			S		**Sn**	**17 13 23.8**	**-4.3**
	comp=N,5.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.24 37**	S		**Sn**	**17 13 32.3**	**-2.3**
	comp=N,1.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.25 340**	P		**Pn**	**17 12 36.9**	**+1.5**
	comp=N,0.8nm,0.1s,SNR=7.9						
MVO			S		**Sn**	**17 13 31.9**	**-2.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.25 340**	*e*P		**Pn**	**17 12 37.6**	**+2.2**
MVO			*e*S		**Sn**	**17 13 32.6**	**-2.1**
MVO			A		A	17 13 35.9	
	comp=N,1.9nm,0.4s						
PVRL	**Vila Real**	**5.57 335**	S		**Sn**	**17 13 40.8**	**-1.6**
	comp=N,2.8nm,0.1s						
PVRL	**Vila Real**	**5.57 335**	*e*S		**Sn**	**17 13 40.8**	**-1.6**
PVRL			A		A	17 13 41.7	
	comp=N,5.6nm,0.1s						
POLO	**Lamas de Olo**	**5.68 335**	S		**Sn**	**17 13 43.9**	**-1.3**
	comp=N,0.4nm,0.1s						
POLO	**Lamas de Olo**	**5.68 335**	*e*S		**Sn**	**17 13 43.9**	**-1.3**
POLO			A		A	17 13 45.8	
	comp=N,0.4nm,0.1s						
ELOB	**Lobios**	**6.21 336**	P		**Pn**	**17 12 50.5**	**+2.1**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELOB			S		**Sn**	**17 13 55.6**	**-2.5**
	comp=N,0.2nm,0.1s,SNR=7.9						

IDC 05 17:22:52.8±2.3, 55°52S×27°64W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.6/16, mbtmp3.9/2, Error ellipse: s-maj=90.5km s-min=50.0km az=3.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**49.86**	**305**	P	P	17 31 49.0	+0.5
	0.4nm,0.3s,baz=169,slow=5.1,SNR=2.2						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	P	17 34 22.4	0.0
	1.1nm,0.6s,baz=200,slow=6.8,SNR=6.4						
ILAR	**Eielson Array**	**149.57**	**312**	PKPbc	PKPbc	17 42 40.8	-1.8
	0.2nm,0.4s,baz=126,slow=1.2,SNR=2.3						
SONM	**Songino Array**	**150.94**	**86**	PKPbc	PKiKP	17 42 47.0	-0.1
	0.6nm,0.6s,baz=242,slow=3.1,SNR=2.3						

*ATH **05** 17:38:00.3, 37°61N×20°92E, h21km±2km, ML3.3/16, Error ellipse: s-maj=2.9km s-min=0.8km az=227.0*
*THE **05** 17:38:00.7, 37°63N×20°96E, h0km±4km, ML3.4/5, Error ellipse: s-maj=4.4km s-min=0.9km az=192.0*
*IDC **05** 17:38:03.1±1.6, 37°68N×20°97E, h52km±21km, mb3.5/10, mb1 3.6/15, mb1mx3.4/43, mbtmp3.7/15, ML3.2/5, MS2.6/1, Ms1 2.6/1, ms1mx1.9/40, Error ellipse: s-maj=18.1km s-min=10.6km az=20.0*

ISC 05 17:38:00.1±0.8, 37°62N±0°03×20°90E±0°02, h25km±5km, n107, σ1°65/153, mb3.8/10, 2C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.10**	**331**	P	**Pb**	**17 38 04.4**	**-0.4**
LTHK				S	**Sb**	**17 38 07.3**	**-0.6**
VLMS	**Volimes, Zakyn**	**0.32**	**324**	P	**Pb**	**17 38 07.3**	**-0.2**
VLMS				S	**Sb**	**17 38 12.9**	**+0.4**
	11μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.32**	**324**	P	**Pb**	**17 38 07.3**	**-0.2**
VLMS				S	**Sb**	**17 38 12.8**	**+0.4**
VLMS				AML	AML	17 38 14.1	
	comp=E,18935μm,0.2s						
VLMS				AML	AML	17 38 20.8	
	comp=N,24248μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.55**	**333**	P	**Pb**	**17 38 11.2**	**0.0**
PSDA				S	**Sb**	**17 38 19.8**	**+1.0**
VLS	**Valsamata**	**0.61**	**336**	P	**Pb**	**17 38 11.8**	**-0.4**
VLS				S	**Sb**	**17 38 21.0**	**+0.6**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.61**	**336**	P	**Pb**	**17 38 11.8**	**-0.4**
VLS				S	**Sb**	**17 38 20.6**	**+0.3**
VLS				AML	AML	17 38 23.6	
	comp=E,3847μm,0.1s						
VLS				AML	AML	17 38 25.3	
	comp=N,4239μm,0.3s						
RLS	**Riolos of Patr**	**0.63**	**46**	P	**Pb**	**17 38 11.8**	**-0.7**
RLS				S	**Sb**	**17 38 20.1**	**-0.8**
	comp=N,2μm,0.6s						
RLS	**Riolos of Patr**	**0.63**	**46**	P	**Pb**	**17 38 11.9**	**-0.6**
RLS				S	**Sb**	**17 38 21.0**	**+0.1**
RLS				AML	AML	17 38 22.0	
	comp=N,5415μm,0.4s						
RLS				AML	AML	17 38 24.9	
	comp=E,3628μm,0.4s						
ARGA	**Argostoli. Kep**	**0.65**	**329**	P	**Pb**	**17 38 13.1**	**+0.3**
ARGA				S	**Sb**	**17 38 22.0**	**+0.5**
AMT	**Artemida-Makis**	**0.65**	**98**	P	**Pb**	**17 38 12.3**	**-0.6**
AMT				S	**Sb**	**17 38 21.2**	**-0.3**
AMT				AML	AML	17 38 24.2	
	comp=N,15633μm,0.4s						
AMT				AML	AML	17 38 24.4	
	comp=E,13853μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.68**	**328**	P	**Pb**	**17 38 13.3**	**-0.2**
LXRA				S	**Sb**	**17 38 23.0**	**+0.5**
DRO	**Drossia**	**0.72**	**62**	P	**Pb**	**17 38 13.7**	**-0.5**
DRO				AML	AML	17 38 28.0	
	comp=N,7709μm,0.5s						
DRO				AML	AML	17 38 30.7	
	comp=E,5501μm,0.4s						
KEF3	**Kipouria, Keph**	**0.73**	**323**	P	**Pb**	**17 38 14.3**	**+0.1**
KEF3				S	**Sn**	**17 38 27.0**	**+1.9**
	comp=E,9μm,0.4s						
KEF3	**Kipouria, Keph**	**0.73**	**323**	P	**Pn**	**17 38 14.5**	**-0.3**
KEF3				S	**Sn**	**17 38 25.2**	**+0.1**
KEF4	**Livadi, Kephal**	**0.74**	**330**	P	**Pb**	**17 38 14.1**	**-0.3**
KEF5	**Kardakata, Kep**	**0.74**	**333**	P	**Pb**	**17 38 14.3**	**-0.1**
KEF5				S	**Sn**	**17 38 26.7**	**+1.2**
KEF5	**Kardakata, Kep**	**0.74**	**333**	P	**Pb**	**17 38 14.5**	**+0.1**
KEF5				S	**Sb**	**17 38 24.5**	**+0.4**
DMLN	**Damoulianata-K**	**0.74**	**326**	P	**Pn**	**17 38 14.9**	**-0.2**
DMLN				S	**Sn**	**17 38 25.2**	**-0.4**
FSK	**Fiskardo**	**0.88**	**343**	P	**Pb**	**17 38 16.6**	**-0.1**
FSK				AML	AML	17 38 34.0	
	comp=E,2727μm,0.2s						
FSK				AML	AML	17 38 36.5	
	comp=N,2766μm,0.9s						
ITM	**Ithomi**	**0.93**	**118**	P	**Pb**	**17 38 17.1**	**-0.6**
ITM	**Ithomi**	**0.93**	**118**	P	**Pb**	**17 38 17.0**	**-0.6**
ITM				AML	AML	17 38 38.9	
	comp=E,2831μm,0.5s						
ITM				AML	AML	17 38 40.7	
	comp=N,1315μm,0.7s						
PYL	**PYLOS**	**0.99**	**137**	P	**Pb**	**17 38 18.2**	**-0.4**
PYL				AML	AML	17 38 39.6	
	comp=N,742μm,0.4s						
PYL				AML	AML	17 38 47.9	
	comp=E,1036μm,0.4s						
EVGI	**Lefkada island**	**1.02**	**349**	P	**Pn**	**17 38 18.9**	**+0.1**
LAKA	**Lakka**	**1.05**	**54**	P	**Pb**	**17 38 20.1**	**+0.3**
KLV	**Kalavryta, Ach**	**1.08**	**67**	P	**Pn**	**17 38 19.2**	**-0.5**
KLV	**Kalavryta, Ach**	**1.08**	**67**	P	**Pn**	**17 38 19.4**	**-0.3**
KLV				AML	AML	17 38 44.8	
	comp=E,1409μm,0.6s						
KLV				AML	AML	17 38 46.7	
	comp=N,1201μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.09**	**347**	P	**Pn**	**17 38 20.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.10**	**352**	P	**Pn**	**17 38 20.1**	**+0.2**
PVO	**Paravola**	**1.11**	**26**	P	**Pb**	**17 38 20.8**	**+0.1**
PVO				AML	AML	17 38 42.7	
	comp=N,3412μm,0.3s						
PVO				AML	AML	17 38 43.5	
	comp=E,3048μm,0.3s						
EFP	**Efpalio**	**1.13**	**44**	P	**Pn**	**17 38 20.2**	**-0.2**
EFP				AML	AML	17 38 43.7	
	comp=N,1693μm,0.7s						
EFP				AML	AML	17 38 47.6	
	comp=E,1507μm,0.6s						
LKD2	**Lefkada island**	**1.18**	**351**	P	**Pn**	**17 38 21.6**	**+0.4**
LKD2				S	**Sb**	**17 38 41.0**	**+4.2**
	comp=E,2μm,0.5s						
LKD2	**Lefkada island**	**1.18**	**351**	P	**Pn**	**17 38 21.5**	**+0.4**
LKD2				AML	AML	17 38 45.7	
	comp=N,3139μm,0.5s						
LKD2				AML	AML	17 38 46.8	
	comp=E,5808μm,0.6s						
TRIZ	**Trizonia**	**1.19**	**51**	P	**Pn**	**17 38 21.1**	**-0.1**
VLX	**Vlachokerasia**	**1.20**	**102**	P	**Pn**	**17 38 21.6**	**+0.2**
VLX				AML	AML	17 38 40.8	
	comp=E,2852μm,0.6s						
VLX				AML	AML	17 38 42.8	
	comp=N,2227μm,0.4s						
SERG	**Sergoula**	**1.21**	**49**	P	**Pn**	**17 38 21.5**	**+0.1**
SERG				AML	AML	17 38 46.6	
	comp=N,2265μm,0.3s						
SERG				AML	AML	17 38 48.1	
	comp=E,2250μm,0.4s						
TSLK	**Tsoukalades, L**	**1.22**	**351**	P	**Pb**	**17 38 22.6**	**+0.1**
TSLK				AML	AML	17 38 44.3	
	comp=E,3694μm,0.4s						
TSLK				AML	AML	17 38 46.5	
	comp=N,3780μm,0.4s						
ANX	**Ano Chora**	**1.26**	**39**	P	**Pb**	**17 38 23.1**	**-0.3**
ANX				AML	AML	17 38 49.4	
	comp=E,2993μm,0.4s						
ANX				AML	AML	17 38 50.4	
	comp=N,3232μm,0.5s						
EVR	**Evrytania**	**1.48**	**29**	P	**Pb**	**17 38 26.8**	**-0.2**
EVR	**Evrytania**	**1.48**	**29**	P	**Pb**	**17 38 27.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.70**	**35**	P	**Pb**	**17 38 30.9**	**+0.2**
AGG	**Agios Georgios**	**1.80**	**38**	P	**Pb**	**17 38 33.1**	**+0.7**
VLI	**Velia i**	**1.86**	**118**	P	**Pb**	**17 38 33.5**	**0.0**
LKR	**Lokris**	**1.95**	**58**	P	**Pb**	**17 38 34.4**	**-0.6**
IGT	**Igoumenitsa**	**1.96**	**347**	P	**Pb**	**17 38 33.7**	**-1.5**
THL	**Klokotos Trika**	**2.13**	**24**	P	**Pb**	**17 38 37.2**	**-0.8**
KTHA	**Kythira Island**	**2.20**	**127**	P	**Pb**	**17 38 38.5**	**-0.8**
KEK	**Kerkira**	**2.26**	**338**	P	**Pn**	**17 38 37.8**	**+1.9**
VLY	**Voula,Athens**	**2.31**	**83**	P	**Pn**	**17 38 38.5**	**+1.9**
DION	**Dionisos Attik**	**2.44**	**78**	P	**Pn**	**17 38 40.6**	**+2.1**
NEO	**Neokhori**	**2.48**	**47**	P	**Pn**	**17 38 41.3**	**+2.3**
XOR	**Xorichti**	**2.51**	**45**	P	**Pn**	**17 38 41.6**	**+2.3**
LIT	**Litokhoron**	**2.77**	**26**	P	**Pn**	**17 38 45.3**	**+2.3**
FNA	**Florina**	**3.18**	**7**	P	**Pn**	**17 38 51.3**	**+2.7**
OHR	**Ohrid**	**3.49**	**359**	*e*Pn	**Pn**	**17 38 55.5**	**+2.7**
GRG	**Griva**	**3.53**	**19**	P	**Pn**	**17 38 55.7**	**+2.3**
SERS	**Sersale**	**3.60**	**294**	P	**Pn**	**17 38 54.9**	**+0.5**
PLAC	**Placanica**	**3.62**	**285**	P	**Pn**	**17 38 55.2**	**+0.6**
PLAC				S	**Sn**	**17 39 36.4**	**-0.1**
SOI	**Samo**	**3.86**	**278**	*e*P	**Pn**	**17 38 58.5**	**+0.6**
SOI				S	**Sn**	**17 39 41.8**	**-0.7**
SOI				AML	AML		
	comp=E,72μm,0.4s						
SOI				AML	AML		
	comp=N,51μm,1.6s						
KNT	**Kendrikon**	**3.86**	**23**	P	**Pn**	**17 39 00.8**	**+2.9**
MPAZ	**Palizzi**	**3.89**	**276**	*e*P	**Pn**	**17 38 58.8**	**+0.5**
MPAZ				S	**Sn**	**17 39 43.5**	**+0.3**
MPAZ				AML	AML		
	comp=E,45μm,0.3s						
MPAZ				AML	AML		
	comp=N,52μm,1.4s						
MPAZ				AML	AML		
	comp=E,107μm,0.3s						
MPAZ				AML	AML		
	comp=N,146μm,0.5s						
IDI	**Anoyia**	**3.97**	**125**	P	**Pn**	**17 39 00.7**	**+1.2**
	comp=N,0.2nm,0.3s,baz=282,slow=9.3,SNR=1.1						
IDI				S	**Sn**	**17 39 47.6**	**+2.3**
	comp=N,2.9nm,0.3s,baz=288,slow=13,SNR=6.1						
CEL	**Celeste**	**4.01**	**281**	P	**Pn**	**17 39 01.2**	**+1.3**
CEL				S	**Sn**	**17 39 44.5**	**-1.6**
JOPP	**Joppolo**	**4.07**	**286**	P	**Pn**	**17 39 01.5**	**+0.7**
JOPP				S	**Sn**	**17 39 46.7**	**-1.1**
TDS	**Terranova Siba**	**4.11**	**301**	S	**Sn**	**17 39 51.0**	**+2.4**
MTTG	**Motta San Giov**	**4.14**	**277**	P	**Pn**	**17 39 01.9**	**+0.1**
MTTG				S	**Sn**	**17 39 48.2**	**-1.1**
STIP	**Stip**	**4.19**	**13**	*i* Pn	**Pn**	**17 39 06.1**	**+3.7**
MSRU	**Castanea**	**4.31**	**280**	P	**Pn**	**17 39 05.4**	**+1.4**
MSRU				S	**Sn**	**17 39 52.5**	**-1.0**
MCSR	**Castroreale**	**4.49**	**277**	*e*P	**Pn**	**17 39 07.5**	**+0.9**
MCSR				S	**Sn**	**17 39 59.3**	**+1.1**
MCSR				AML	AML		
	comp=N,234μm,0.3s						
MCSR				AML	AML		
	comp=E,232μm,0.3s						
NOV	**Novara**	**4.58**	**277**	P	**Pn**	**17 39 08.8**	**+0.9**
NOV				S	**Sn**	**17 40 00.6**	**+0.3**
NOV				AML	AML		
	comp=E,134μm,0.4s						
NOV				AML	AML		
	comp=N,109μm,1.0s						
HAGA	**Augusta**	**4.58**	**268**	⇑*i*P	**Pn**	**17 39 06.8**	**-1.0**
HAGA				S	**Sn**	**17 39 57.8**	**-2.4**
HAVL	**Avola**	**4.65**	**264**	*e*P	**Pn**	**17 39 08.4**	**-0.4**
HAVL				S	**Sn**	**17 40 01.4**	**-0.6**
HAVL				AML	AML		
	comp=E,197μm,0.3s						
HAVL				AML	AML		
	comp=N,238μm,0.3s						
SSY	**Sortino**	**4.66**	**266**	*e*P	**Pn**	**17 39 08.1**	**-0.9**
SSY				S	**Sn**	**17 40 01.0**	**-1.3**
SSY				AML	AML		
	comp=E,74μm,1.0s						
SSY				AML	AML		
	comp=N,198μm,0.2s						
HPAC	**Pachino**	**4.71**	**260**	*e*P	**Pn**	**17 39 11.0**	**+1.4**
HPAC				S	**Sn**	**17 40 04.6**	**+1.2**
HPAC				AML	AML		
	comp=E,192μm,1.0s						
HPAC				AML	AML		
	comp=N,165μm,0.9s						
MEU	**Monte Lauro**	**4.78**	**266**	⇑P	**Pn**	**17 39 10.9**	**+0.2**
MEU				S	**Sn**	**17 40 05.1**	**-0.2**
MEU				AML	AML		
	comp=E,191μm,1.1s						
MEU				AML	AML		
	comp=N,341μm,0.4s						
MUCR	**Ucria**	**4.79**	**277**	P	**Pn**	**17 39 11.7**	**+0.9**
MUCR				S	**Sn**	**17 40 06.4**	**+0.9**
MUCR				AML	AML		
	comp=E,87μm,0.3s						
MUCR				AML	AML		
	comp=N,96μm,0.6s						
HLNI	**Lentini**	**4.80**	**269**	*e*P	**Pn**	**17 39 09.7**	**-1.2**
HLNI				S	**Sn**	**17 40 02.2**	**-3.4**
HLNI				AML	AML		
	comp=E,185μm,0.9s						
HLNI				AML	AML		
	comp=N,123μm,1.5s						
MNO	**Monte Soro**	**4.92**	**276**	P	**Pn**	**17 39 13.6**	**+0.9**
MNO				S	**Sn**	**17 40 08.3**	**-0.7**
MNO				AML	AML		
	comp=E,85μm,1.1s						
MNO				AML	AML		
	comp=N,80μm,0.9s						
MSFR	**San Fratello**	**5.01**	**277**	*e*P	**Pn**	**17 39 14.7**	**+0.9**
MSFR				AML	AML		
	comp=E,27μm,1.1s						
MSFR				AML	AML		
	comp=N,28μm,0.7s						
VAE	**Valguarnera**	**5.16**	**270**	P	**Pn**	**17 39 19.1**	**+3.3**
	comp=N,0.9nm,0.3s,baz=25,slow=14,SNR=1.4						
VAE				S	**Sn**	**17 40 19.6**	**+5.1**
	comp=N,3.0nm,0.3s,baz=201,slow=7.6,SNR=4.4						
RAFF	**Raffo Rosso**	**5.22**	**268**	P	**Pn**	**17 39 16.4**	**-0.2**
RAFF				S	**Sn**	**17 40 15.0**	**-1.0**
RAFF				AML	AML		
	comp=N,61μm,1.1s						
RAFF				AML	AML		
	comp=E,88μm,1.3s						
IACL	**Alicudi**	**5.24**	**282**	*e*P	**Pn**	**17 39 18.4**	**+1.5**
IACL				AML	AML		
	comp=E,61μm,1.5s						
IACL				AML	AML		
	comp=N,57μm,1.2s						
CLTA	**Licata**	**5.54**	**267**	⇓P	**Pn**	**17 39 21.9**	**+0.9**
CLTA				AML	AML		
	comp=N,255μm,1.5s						
CLTA				AML	AML		
	comp=E,158μm,1.5s						
STON	**Ston**	**5.79**	**336**	*e*Pn	**Pn**	**17 39 23.9**	**-0.5**
STON				Sn	**Sn**	**17 40 26.0**	**-3.9**
PAOL	**Paolisi**	**5.97**	**307**	S	**Sn**	**17 40 33.0**	**-1.6**
LSTV	**Lastovo**	**5.99**	**330**	*e*Pn	**Pn**	**17 39 26.7**	**-0.4**
LSTV				Sn	**Sn**	**17 40 29.8**	**-5.0**
HVAR	**Hvar**	**6.51**	**330**	*e*Pn	**Pn**	**17 39 33.6**	**-0.6**
HVAR				Sn	**Sn**	**17 40 42.6**	**-5.0**
RICI	**Ricice**	**6.53**	**335**	*e*Pn	**Pn**	**17 39 34.5**	**0.0**
RICI				Sn	**Sn**	**17 40 44.7**	**-3.5**
KIJV	**Kijevo**	**7.23**	**333**	*e*Pn	**Pn**	**17 39 44.6**	**+0.4**
KIJV				Sn	**Sn**	**17 41 01.6**	**-3.8**
ZIRJ	**Zirje**	**7.23**	**328**	*e*Pn	**Pn**	**17 39 43.3**	**-0.9**
ZIRJ				Sn	**Sn**	**17 41 00.7**	**-4.7**
MORI	**Morici**	**7.38**	**329**	*e*Pn	**Pn**	**17 39 46.4**	**+0.2**
MORI				Sn	**Sn**	**17 41 04.2**	**-4.8**
DUGI	**Dugi Otok**	**7.75**	**327**	*e*Pn	**Pn**	**17 39 51.6**	**+0.3**
DUGI				Sn	**Sn**	**17 41 14.1**	**-4.2**
UDBI	**Udbina**	**7.91**	**332**	*e*Pn	**Pn**	**17 39 54.1**	**+0.5**
UDBI				Sn	**Sn**	**17 41 18.6**	**-3.7**
MLR	**Muntele Rosu**	**8.72**	**24**	P	**Pn**	**17 40 06.4**	**+1.6**
	comp=E,0.3nm,0.3s,baz=120,slow=13,SNR=3.4						
KEST	**Kesra**	**9.47**	**262**	P	**Pn**	**17 40 16.6**	**+1.6**
	comp=E,0.2nm,0.3s,baz=348,slow=9.3,SNR=2.7						
BRTR	**Keskin Array B**	**10.18**	**74**	P	**Pn**	**17 40 28.7**	**+3.8**
	baz=243,slow=12,SNR=1.8						
BRTR				LR	LR	17 45 19.4	
	comp=E,30nm,18.9s,baz=278,slow=43						
GERES	**GERESS Array B**	**12.38**	**337**	S	**Sn**	**17 43 10.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=138,slow=25,SNR=2.1						
AKASG	**Malin Array Be**	**14.36**	**22**	P	**Pn**	**17 41 21.7**	**0.0**
	comp=E,0.2nm,0.3s,baz=203,slow=10,SNR=1.3						
HFS	**Hagfors**	**23.00**	**351**	P	**P**	**17 43 02.0**	**-0.8**
	comp=E,1.0nm,0.3s,baz=164,slow=10.0,SNR=20						
BELG	**Belogornoye**	**23.80**	**43**	P	**P**	**17 43 09.7**	**-1.0**
	comp=E,6.8nm,0.5s,baz=114,slow=20,SNR=2.0						
EKA	**Eskdalemuir Ar**	**24.05**	**325**	P	**P**	**17 43 13.7**	**+0.6**
	comp=E,0.6nm,0.6s,baz=122,slow=9.3,SNR=4.6						
FINES	**F

MJAR			Sn	Sn	17 43 36.0	+0.9
	0.3nm,0.3s,baz=84,slow=17,SNR=5.8					
MAT	Matsushiro	2.71 255	P	Pn	17 43 03.4	+1.0
MAT			S	Sn	17 43 36.5	+1.4
JHJ	Hachijo jima 2	4.39 199	Pn	Pn	17 43 25.9	+0.4
	2.0nm,0.3s,baz=61,slow=19,SNR=1.4					
JHJ			Sn	Sn	17 44 14.7	-1.7
	4.8nm,0.3s,baz=75,slow=20,SNR=1.5					
H11N2	WAKE ISLAND Hy	28.25 121	T	T	18 17 40.1	
	baz=314,slow=75					
H11N1	WAKE ISLAND Hy	28.26 121	T	T	18 18 08.9	
	baz=314,slow=75					
H11N3	WAKE ISLAND Hy	28.27 121	T	T	18 18 01.6	
	baz=314,slow=75					
H11S1	WAKE ISLAND Hy	28.98 123	T	T	18 18 44.3	
	baz=316,slow=76					
H11S3	WAKE ISLAND Hy	28.98 123	T	T	18 18 55.4	
	baz=316,slow=76					
H11S2	WAKE ISLAND Hy	28.99 123	T	T	18 18 44.2	
	baz=316,slow=76					
MKAR	Makanchi Array	44.01 302	P	P	17 50 25.4	-0.8
	0.3nm,0.6s,baz=69,slow=7.9,SNR=2.4					
WRA	Warramunga Arr	57.33 188	P	P	17 52 07.9	+1.0
	0.7nm,1.0s,baz=9.8,slow=8.1,SNR=2.5					

KRSC 05 17:48:53.5±2.0, 52°.17N×169°.80E, h62km±57km, ML3.9, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	5.39	300	eP		Pn	17 50 14.0	+2.8
MKZ				eS		Sn	17 51 15.5	+3.6
KBTR	Krutoberegovo	5.76	317	eP		Pn	17 50 18.1	+1.9
SPN	Mys Shipunski	6.03	283	eP		Pn	17 50 23.2	+3.3
TUMD	Tumrok D	6.36	302	eP		Pn	17 50 28.8	+4.3
KZV	Kizimen	6.38	301	eP		Pn	17 50 27.7	+2.9
KZV				eS		Sn	17 51 39.5	+3.2
KII	Karymskiy	6.51	291	eP		Pn	17 50 30.7	+4.1
TUMR	Tumrok	6.53	302	eP		Pn	17 50 30.7	+3.9
KMNR	Kamenistaya	6.69	306	eP		Pn	17 50 33.3	+4.2
SDLR	Sedlovina	6.73	284	eP		Pn	17 50 33.9	+4.3
DALK	Dalny	6.79	282	eP		Pn	17 50 33.3	+3.0
DALK				eS		Sn	17 51 49.6	+3.5
KRER	Koryakskii	6.81	284	eP		Pn	17 50 35.2	+4.4
AVH	Avacha	6.81	284	eP		Pn	17 50 35.0	+4.3
KRX	Arik	6.88	284	eP		Pn	17 50 35.6	+4.0
KOK	Koryaka	6.88	284	eP		Pn	17 50 35.9	+4.3
RUS	Russkaya	6.93	277	eP		Pn	17 50 36.2	+3.9
RUS				eS		Sn	17 51 53.3	+3.7
MTVR	Mutnovka	7.13	277	eP		Pn	17 50 40.0	+4.8
GRL	Gorelyy	7.20	278	eP		Pn	17 50 42.1	+6.1
KDTR	Khodutka, Kamc	7.25	272	eP		Pn	17 50 39.8	+3.1
KDTR				eS		Sn	17 51 59.9	+2.4
GNL	Ganaly	7.33	287	eP		Pn	17 50 43.0	+5.1
SKR	Severo-Kuril's	8.68	266	eP		Pn	17 51 00.1	+3.9
ALID	Alaid	8.99	267	eP		Pn	17 51 05.0	+4.5

*IDC **05** 17:58:52.9±1.3, 56°.21S×27°.43W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=58.1km s-min=32.1km az=44.0*
*NEIC **05** 17:59:05.0±2.4, 56°.5S±0°.1×27°.5W±0°.2, h114km±11km, mb4.2/19, Error ellipse: s-maj=18.0km s-min=12.3km az=213.0*

ISC 05 17:59:04.8±0.7, 56°.4S±0°.1×27°.5W±0°.1, h112km, n26, σ1§24/26, mb4.1/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.55	289	Pn		Pn	18 00 25.5	+0.6
SNAA	Sanae	18.46	155	Pn		Pn	18 03 13.5	+0.6
SNAA				IAmb		IAmb	18 03 15.3	
	comp=Z,8.4nm,0.6s							
PMSA	Palmer Station	19.51	230	Pn		P	18 03 24.2	+1.4
GO10	Punta Arenas	25.00	259	P		P	18 04 16.6	-1.2
TRQA	Tornquist	29.31	294	P		P	18 04 56.0	-0.5
TRQA				IAmb		IAmb	18 04 59.8	
	comp=Z,5.2nm,1.1s							
PLTB	Pedras Altas	30.62	313	P		P	18 05 08.2	+0.1
PLTB				IAmb		IAmb	18 05 12.4	
	comp=Z,4.4nm,1.2s							
GO07	Milladeo Hill,	32.00	275	P		P	18 05 20.0	0.0
QSPA	South Pole Qui	33.81	180	P		P	18 05 33.9	-2.0
QSPA				IAmb		IAmb	18 05 40.0	
	comp=Z,2.4nm,1.0s							
CPUP	Villa Florida	36.93	312	P		P	18 06 01.2	-1.5
MT02	Curacav	37.74	289	P		P	18 06 08.3	-1.2
MT02				IAmb		IAmb	18 06 27.0	
	comp=Z,5.0nm,1.1s							
CO02	Combarbal	39.28	291	P		P	18 06 21.3	-1.3
CO02				IAmb		IAmb	18 06 37.9	
	comp=Z,3.8nm,0.9s							
MAW	Mawson	39.95	143	P		P	18 06 30.1	+2.7
	comp=Z,0.6nm,0.4s,baz=232,slow=6.6,SNR=2.5							
MAW	Mawson	39.95	143	P		P	18 06 27.0	-0.4
SUR	Sutherland	40.91	75	P		P	18 06 34.5	-1.6
SUR				IAmb		IAmb	18 06 43.4	
	comp=Z,5.5nm,0.9s							
AC01	Pan de Azucar	43.19	296	P		P	18 06 54.0	-0.4
PB09	IPOC Station P	46.19	301	P		P	18 07 18.4	0.0
PB09				IAmb		IAmb	18 07 28.9	
	comp=Z,3.3nm,1.0s							
PB07	IPOC Station P	46.56	300	P		P	18 07 21.6	+0.3
PB07				IAmb		IAmb	18 07 32.2	
	comp=Z,7.2nm,1.1s							
PB08	IPOC Station P	47.57	302	P		P	18 07 31.0	+1.6
PB08				IAmb		IAmb	18 07 40.9	
	comp=Z,2.3nm,0.8s							
MNMC	Minye Minye	48.65	302	P		P	18 07 38.9	+1.3
PB16	IPOC Station P	49.30	303	P		P	18 07 43.5	+0.6
LPAZ	La Paz	50.45	306	P		P	18 07 53.0	+1.3
	comp=Z,2.4nm,0.4s,baz=152,slow=4.2,SNR=18							
LPAZ	La Paz	50.45	306	P		P	18 07 52.8	+1.1
LPAZ				IAmb		IAmb	18 07 54.0	
	comp=Z,3.5nm,0.5s							
TORD	Torodi Ar. Bea	73.48	30	P		P	18 10 26.0	+1.1
	comp=Z,0.4nm,0.5s,baz=197,slow=6.2,SNR=4.5							
ILAR	Eielson Array	150.24	311	PKPbc		PKiKP	18 18 42.0	+0.2
	comp=Z,0.9nm,0.7s,baz=131,slow=2.2,SNR=10							
ILAR	Eielson Array	150.24	311	PKiKP		PKiKP	18 18 43.1	+1.3
TOLK	Toolik Lake Re	151.85	319			PKiKP	18 18 46.3	+1.2

*IDC **05** 18:19:57.4±1.4, 38°.50N×144°.35E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/31, mbtmp3.7/6, ML3.2/3, Error ellipse: s-maj=39.2km s-min=20.4km az=102.0*
*JMA **05** 18:20:01.0±0.2, 38°.63N×144°.21E, h50km, M3.7*
*NIED **05** 18:20:01.1, 38°.63N×144°.21E, h50km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.75; $M_{\theta\theta}$=0.04; $M_{\phi\phi}$=1.79; $M_{r\theta}$=0.49; $M_{\phi r}$=0.29; $M_{r\theta}$=0.31; Fault plane solution: M_0=1.88000×10^{14} NP1: ϕ_s=173.00000°, δ=51.00000°, λ=-111.00000°. NP2: ϕ_s=24.00000°, δ=43.00000°, λ=-66.00000°.*

ISC 05 18:20:00.8±1.3, 38°.63N±0°.05×144°.29E±0°.09, h29km, n24, σ1§78/43, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.09	283	P		Pn	18 20 33.8	-0.1
OFUJ				S		Sn	18 20 57.6	-1.4
MIYJ	Miyakonagasawa	2.14	297	P		Pn	18 20 34.3	-0.2
MIYJ				S		Sn	18 20 59.0	-1.1
JKMT	Kesennumamotoy	2.21	276	P		Pn	18 20 35.4	0.0
JKMT				S		Sn	18 21 00.9	-0.9
JIKH	Ishinomakikobu	2.24	263	P		Pn	18 20 36.5	-0.3
JIKH				S		Sn	18 21 01.0	-1.5
JMK	Ichinoseki	2.42	279	P		Pn	18 20 38.7	+0.4
JMK				S		Sn	18 21 06.1	-0.9
JOM	Ohasama	2.48	291	P		Pn	18 20 39.5	+0.3
JOM				S		Sn	18 21 08.1	-0.4
JANG	Nango	2.76	310	P		Pn	18 20 42.5	-0.6
JYK	Kaneyama	3.08	277	P		Pn	18 20 48.7	+1.2
JYK				eS		Sn	18 21 24.0	+0.6
JFT	Otama	3.31	252	P		Pn	18 20 51.3	+0.7
JFT				eS		Sn	18 21 28.4	-0.6
JOT	Ohata	3.71	319	P		Pn	18 20 56.1	0.0
JOT				eS		Sn	18 21 36.1	-2.7
JNBK	Urakawa-nobuka	3.83	343	P		Pn	18 20 57.9	+0.2
JNBK				eS		Sn	18 21 41.4	-0.4
JCH	Churui	4.04	350	P		Pn	18 21 00.5	-0.2
JCH				eS		Sn	18 21 45.1	-1.9
JKB	Kayabe	4.10	324	P		Pn	18 21 02.2	+0.8
JKB				eS		Sn	18 21 46.5	-1.9
BSO1	Boso 1	4.78	215	P		Pn	18 21 09.2	-1.1
BSO1				eS		Sn	18 22 03.9	-0.5
NEM2	Nemuro 2	4.86	13	P		Pn	18 21 10.1	-1.7
NEM2				eS		Sn	18 22 02.7	-4.4
JRY	Ryogami san	5.02	240	P		Pn	18 21 14.1	-0.1
JRY				eS		Sn	18 22 08.2	-3.0
JOSM	Okushiri--Mats	5.04	315	P		Pn	18 21 16.1	+1.7
MJAR	Matsushiro Arr	5.26	249	Pn		Pn	18 21 17.8	+0.4
	0.3nm,0.3s,baz=67,slow=14,SNR=20							
MJAR				Sn		Sn	18 22 19.4	+2.3
	0.1nm,0.3s,baz=90,slow=30,SNR=4.4							
JTKR	Abashiri--Toko	5.34	357	P		Pn	18 21 18.3	-0.2
JTKR				eS		Sn	18 22 16.5	-2.6
ASAJ	Asahikawa	5.63	347	Pn		Pn	18 21 22.9	+0.5
	0.7nm,0.3s,baz=195,slow=14,SNR=8.8							
ASAJ				Sn		Sn	18 22 30.2	+4.1
	0.2nm,0.3s,baz=238,slow=33,SNR=1.6							
JHJ	Hachijo jima 2	6.60	215	Pn		Pn	18 21 34.7	-1.1
	3.8nm,0.3s,baz=89,slow=22,SNR=6.1							
JHJ				Sn		Sn	18 22 44.9	-5.2
	10.0nm,0.3s,baz=79,slow=22,SNR=2.0							
SEY	Seymchan	24.83	9	P		P	18 25 23.1	+2.9
	0.8nm,0.7s,baz=198,slow=17,SNR=3.6							
WRA	Warramunga Arr	59.00	191	P		P	18 29 57.7	-0.1
	0.6nm,0.7s,baz=14,slow=7.5,SNR=5.7							
ASAR	Alice Springs	62.73	191	P		P	18 30 23.4	+0.4
	0.3nm,0.9s,baz=13,slow=13,SNR=2.5							

*TUL **05** 18:22:56.1±1.5, 36°.29N±0°.01×97°.52W±0°.01, h6km±7km, ML2.8, mb_Lg2.6/44(NEIC), Error ellipse: s-maj=2.0km s-min=1.2km az=49.0*

NEIC 05 18:22:56.1±1.3, 36°.29N±0°.01×97°.53W±0°.01, h3km±8km, Error ellipse: s-maj=2.0km s-min=1.2km az=50.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.43	301			Pg	18 23 04.6	+0.3
CROK				Sg		Sg	18 23 10.7	+0.8
OK029	Liberty Lake	0.49	173			Pg	18 23 05.8	+0.2
OK029				Sg		Sg	18 23 12.5	+0.5
BLOK	Blackwell	0.54	28	Pg		Pg	18 23 06.6	+0.2
BLOK				Sg		Sg	18 23 13.9	+0.5
BCOK	Bluff Creek, N	0.63	186			Pg	18 23 08.3	+0.1
OK031	S. Brethren Rd	0.65	121	Pg		Pg	18 23 08.5	-0.1
QUOK	Quay	0.67	100	Pg		Pg	18 23 09.0	-0.1
OK025	Westminster Rd	0.72	168			Pg	18 23 09.9	-0.1
KAN13	South Haven SW	0.73	3	Pg		Pg	18 23 09.4	-0.6
OK032	Salt Plains WL	0.75	313	Pg		Pg	18 23 10.5	-0.1
KAN09	Caldwell North	0.85	355	Pg		Pg	18 23 12.0	-0.5
OKCFA	Oklahoma City	0.87	176			Pg	18 23 12.4	-0.4
OKCSW	OKLAHOMA CITY	0.88	175			Pg	18 23 12.8	-0.3
T35A	Sooner Cattle	1.03	52	Pg		Pg	18 23 15.4	-0.5
FNO	Franklin	1.03	174			Pg	18 23 15.4	-0.5
U32A	Winter Ranch,	1.19	275			Pg	18 23 18.3	-0.7
X34A	Smith Ranch, M	1.70	189			Pn	18 23 27.3	+0.6
WMOK	Wichita Mounta	1.85	214			Pn	18 23 29.1	+0.2
X37A	Clayton	2.44	133			Pn	18 23 37.5	+0.5
X37A				IAmb_Lg			18 24 14.0	
	comp=Z,15nm,0.7s							
CBKS	Cedar Bluff	3.07	326	IAmb_Lg			18 24 41.8	
	comp=Z,14nm,0.8s							
W39A	Magazine	3.23	109	IAmb_Lg			18 24 42.5	
	comp=Z,27nm,0.8s							
S39A	Bolivar	3.65	66			Pn	18 23 53.8	+0.3
MIAR	Mount Ida	3.66	117			Pn	18 23 54.2	+0.5
MIAR				IAmb_Lg			18 24 57.0	
	comp=Z,12nm,0.9s							
Z38A	Mt. Pleasant	3.67	145	IAmb_Lg			18 25 00.8	
	comp=Z,22nm,0.8s							
U40A	Yellville	3.77	88			Pn	18 23 56.4	+1.1
ABTX	Abilene, Hawle	4.05	206	IAmb_Lg			18 25 06.5	
	comp=Z,13nm,1.1s							
X40A	Basin Creek Fa	4.23	114	IAmb_Lg			18 25 13.1	
	comp=Z,14nm,0.7s							
MGMO	Mountain Grove	4.31	77	IAmb_Lg			18 25 15.7	
	comp=Z,9.6nm,0.8s							
WHAR	Wooly Hollow	4.37	102	IAmb_Lg			18 25 18.1	
	comp=Z,15nm,0.7s							
WLAR	White Oak Lake	4.46	124	IAmb_Lg			18 25 25.9	
	comp=Z,11nm,0.7s							
R40A	Maddies Statio	4.65	63	Pn		Pn	18 24 07.0	-0.3
MSTX	Muleshoe	4.88	243	IAmb_Lg			18 25 43.6	
	comp=Z,7.6nm,1.1s							
BGNE	Belgrade	5.14	355	IAmb_Lg			18 25 37.3	
	comp=Z,16nm,0.7s							
LCAR	Lake Charles	5.16	91	IAmb_Lg			18 25 43.2	
	comp=Z,7.9nm,1.0s							
CCM	Cathedral Cave	5.32	69	IAmb_Lg			18 25 43.3	
	comp=Z,10nm,0.9s							
P40A	Paris	5.41	52	IAmb_Lg			18 25 54.0	
	comp=Z,13nm,0.9s							
T25A	Trinidad	5.59	281	IAmb_Lg			18 26 03.2	
	comp=Z,7.8nm,1.0s							
PBMO	Poplar Bluff	5.74	83	IAmb_Lg			18 25 58.9	
	comp=Z,12nm,0.7s							
JCT	Junction City	6.10	199	IAmb_Lg			18 26 19.6	
	comp=Z,13nm,1.0s							
S44A	Carbondale	6.77	76	IAmb_Lg			18 26 37.4	
	comp=Z,7.9nm,0.9s							
SIUC	Southern Illin	6.80	75	IAmb_Lg			18 26 37.6	
	comp=Z,10nm,0.7s							
SFIN	Lafayette	9.16	60	IAmb_Lg			18 27 52.8	
	comp=Z,5.5nm,0.8s							
PV11	David Mesa, Pa	9.26	286	IAmb_Lg			18 28 06.4	
	comp=Z,5.1nm,0.8s							

*IDC **05** 18:56:41.1±0.6, 51°.37N×173°.91W, h0km, mb4.2/36, mb1 4.3/38, mb1mx4.3/64, mbtmp4.2/38, ML3.8/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/37, Error ellipse: s-maj=17.0km s-min=10.4km az=173.0*
*BJI **05** 18:56:41.0±0.0, 51°.50N×173°.90W, h15km, mB4.9/24, mb4.7/34, Ms4.3/8, Ms7 4.0/8*
*MOS **05** 18:56:44.3±0.9, 51°.46N×173°.89W, h31km, mb4.9/19, Error ellipse: s-maj=9.5km s-min=6.5km az=111.5*
*NEIC **05** 18:56:44.3±2.3, 51°.28N±0°.07×173°.88W±0°.08, h23km±5km, mb4.2/54, ML3.8/22(AEIC), Error ellipse: s-maj=10.1km s-min=7.0km az=162.0*
*AEIC **05** 18:56:44.6±2.0, 51°.23N±0°.07×173°.92W±0°.09, h26km±4km, Error ellipse: s-maj=10.4km s-min=7.6km az=166.0*
*BGR **05** 18:56:47.7±0.0, 51°.29N×174°.30W, h33km, mb4.8, Ms3.8*

ISC 05 18:56:48.6±1.0, 51°.51N±0°.07×173°.92W±0°.04, h56km±7km, n428, σ1§22/431, mb4.5/94, MS3.7/13, 19C-6D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.72	347			Pn	18 57 01.8	-1.1
ATKA	Atka Island	0.72	347			Sn	18 57 15.9	+2.6
KOFP	Korovin Flat P	0.78	352			Pn	18 57 03.5	-0.2
KOKL	Mount Kliuchef	0.84	348			Pn	18 57 04.3	-0.1
GSMY	Great Sitkin M	1.43	293			Pn	18 57 10.5	-1.8
GSMY						Sn	18 57 31.4	+1.4
GSTR	Great Sitkin T	1.45	295			Pn	18 57 11.2	-1.3
GSTD	Great Sitkin T	1.49	293			Pn	18 57 11.6	-1.5
ADK	Adak	1.76	284	P		Pn	18 57 14.5	-2.2
ADK	Adak	1.76	284	Pn		Pn	18 57 14.5	-2.2
KIWB	Kanaga Island	2.04	281			Pn	18 57 18.4	-2.1
KIKV	Kanaga Island	2.06	282			Pn	18 57 18.9	-1.8
KICM	Kanaga Island	2.08	283			Pn	18 57 19.2	-1.8
KIMD	Kanaga Island	2.08	278			Pn	18 57 18.9	-2.1
TAFP	Tanaga Falls P	2.56	280			Pn	18 57 26.3	-1.3
TAFP						Sn	18 57 57.6	+0.1
TASE	Tanaga Southea	2.58	279			Pn	18 57 26.8	-1.2
NIKH	Nikolski High	3.44	63			Pn	18 57 38.1	-1.6
CESW	Semis' Southwe	4.07	278			Pn	18 57 46.1	-2.1
AMKA	Amchitka	4.24	271	Pn		Pn	18 57 47.9	-2.7
MAPS	Pakushin South	4.84	59			Pn	18 57 57.8	-1.0
MNAT	Makushin Natee	5.01	59			Pn	18 58 00.3	-0.8
GAMB	Gambell	12.36	5	P		Pn	18 59 39.9	-1.7
	baz=186							
OHAK	Old Harbor	13.30	56	P		Pn	18 59 52.7	-1.6
	baz=252							
O18K	Koktuh Hills	13.43	44	P		Pn	18 59 54.5	-1.6
	baz=239							
N18K	Kilae Creek	13.58	40	P		Pn	18 59 56.6	-1.6
	baz=235							
KDAK	Kodiak Island	13.83	55	Pn		Pn	18 59 57.0	-4.5
	0.4nm,0.3s,baz=200,slow=5.0,SNR=9.4							
KDAK				Sn		S	19 02 43.7	-8.9
	0.2nm,0.3s,baz=227,slow=17,SNR=1.9							
KDAK	Kodiak Island	13.83	55			Pn	19 00 01.0	-0.5
ANM	Nome	13.84	16	P		Pn	19 00 00.4	-1.2
	baz=202							
SVW2	Sparrevohn	13.95	39	P		P	19 00 08.0	-1.6
M19K	Big River Lodg	14.88	38	P		Pn	19 00 14.4	-1.0
	baz=234							
CNPM	China Poot	15.09	49	Pn		Pn	19 00 17.3	-0.8
CNPM				IAmb		IAmb	19 00 35.0	
	comp=Z,25nm,1.2s							
M20K	Styx River	15.36	39	P		Pn	19 00 21.0	-0.7
	baz=236							
SPU	Mount Spurr	15.44	43	P		P	19 00 25.2	-0.9
SKT	Skwentna	16.06	41	P		Pn	19 00 29.6	-0.9
	baz=239							
SKT	Skwentna	16.06	41			Pn	19 00 29.1	-1.4
SUA	Susitna One	16.13	43	Pn		Pn	19 00 32.1	+0.6
PPLA	Purkeypile	16.29	37	P		P	19 00 35.0	-0.7
PPLA				IAmb		IAmb	19 00 49.1	
	comp=Z,11nm,0.9s							
RC01	Rabbit Creek A	16.40	45	P		Pn	19 00 33.0	-1.8
	baz=244							
RC01	Rabbit Creek A	16.40	45	Pn		Pn	19 00 33.0	-1.8
PET	Petropavlovsk	16.82	286	eP		Pn	19 00 40.1	+0.1
PET				eS		Sn	19 03 43.6	-2.2
PET				pmax		pmax		
	comp=Z,14nm,1.1s							
PET				MLR		MLR		
	comp=Z,200nm,15.0s							
PET				MLR		MLR		
	comp=Z,300nm,15.0s							
PWL	Port Wells	16.94	47	Pn		Pn	19 00 39.2	-2.2
PWL				IAmb		IAmb	19 00 53.8	
	comp=Z,11nm,0.8s							
KNK	Knik Glacier	17.10	45	P		Pn	19 00 42.1	-1.4
	baz=245							
KTH	Kantishna Hill	17.14	36	P		P	19 00 44.6	-0.4
KTH				IAmb		IAmb	19 00 51.9	
	comp=Z,14nm,1.0s							
SML	Sawmill	17.32	44	P		Pn	19 00 45.0	-1.2
	baz=244							
TRF	Thorofare Moun	17.32	37	P		P	19 00 48.1	+1.1
PEA0B	Petropavlovsk-	17.38	286	ceP		P	19 00 47.9	+0.3
PEA0B	Petropavlovsk-	17.38	286	P		P	19 00 47.0	-0.6
PEA0B				IAmb		IAmb	19 00 59.3	
	comp=Z,23nm,1.2s							
PETK	Petropavlovsk-	17.38	286	P		Pn	19 00 46.4	-0.6
	comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=20							
PETK	Petropavlovsk-	17.38	286	P		Pn	19 00 46.3	-0.7
PETK	Petropavlovsk-	17.38	286	P		Pn	19 00 46.3	-0.7
BPAW	Bear Paw Mtn.	17.43	35	P		Pn	19 00 46.3	-1.2
	baz=234,SNR=12							
BPAW	Bear Paw Mtn.	17.43	35	P		P	19 00 48.6	+0.5
BPAW				IAmb		IAmb	19 01 06.8	
	comp=Z,15nm,1.1s							
GLI	Glacier Island	17.51	47	P		Pn	19 00 47.5	-1.0
	baz=249							
FID	Port Fidalgo	17.75	48			Pn	19 00 48.3	-3.2
FID				IAmb		IAmb	19 01 01.1	
	comp=Z,12nm,0.8s							
I21K	Tanana	17.75	31	P		Pn	19 00 51.0	-0.5
	baz=230,SNR=15							
SCM	Sheep Creek Mo	17.76	44	P		Pn	19 00 50.0	-1.7
SCM				pmax		pmax		
	comp=Z,12nm,0.8s							
SCM	Sheep Creek Mo	17.76	44			Pn	19 00 50.0	-1.7
SCM				IAmb		IAmb	19 00 52.0	
	comp=Z,12nm,0.8s							
H21K	Melozitna Rive	17.81	29	P		Pn	19 00 51.7	-0.5
	baz=227							
WAT6	Susitna Watana	17.90	42	P		Pn	19 00 53.0	-0.5
	baz=243							
MCK	McKinley	17.98	38	P		Pn	19 00 52.3	-2.0
MCK				pmax		pmax		
	comp=Z,12nm,1.0s							
MCK	McKinley	17.98	38	P		Pn	19 00 53.2	-1.1
	baz=238							
MCK	McKinley	17.98	38	Pn		Pn	19 00 52.3	-2.0
EYAK	Cordova Ski Ar	18.03	49	P		Pn	19 00 53.7	-1.1
	baz=252							
MLY	Manley	18.07	33	P		Pn	19 00 54.4	-1.0
	baz=232,SNR=21							
MLY	Manley	18.07	33	P		P	19 00 56.2	+1.0
MLY				IAmb		IAmb	19 00 59.3	
	comp=Z,20nm,1.0s							
KLU	Klutina	18.26	46	P		P	19 00 56.0	-1.3
	baz=249							
M24K	Tolsona, Glenn	18.37	44	P		P	19 00 57.5	-1.0
	baz=247							
NEA2	Nenana	18.40	35	P		P	19 00 57.6	-1.1
	baz=236							
NEA2	Nenana	18.40	35	P		P	19 00 57.6	-1.1
I23K	Minto, Yukon-K	18.61	33	P		P	19 01 00.3	-0.7
	baz=234,SNR=21							
I23K	Minto, Yukon-K	18.61	33	P		Pn	19 01 02.0	+0.2
I23K				IAmb		IAmb	19 01 10.8	
	comp=Z,24nm,1.1s							
HMT	Hamilton	18.68	50	P		P	19 01 00.8	-1.0
HMT				IAmb		IAmb	19 01 17.6	
	comp=Z,16nm,0.8s							
WRH	Wood River Hil	18.69	36	P		P	19 01 00.7	-1.2
WRH				IAmb		IAmb	19 01 17.0	
	comp=Z,12nm,1.1s							
SKR	Severo-Kuril's	18.78	279	iP		Pn	19 01 03.5	-0.4
CCB	Clear Creek Bu	18.88	36	P		P	19 01 02.7	-1.3
CCB				IAmb		IAm

TOLK Toolik Lake Re 20.78 25 P P 19 01 25.2 +0.5
TOLK Toolik Lake Re 20.78 25 P 19 01 25.5 +0.8
FYU Fort Yukon 20.81 33 P P 19 01 25.7 +0.7
K27K Chicken 20.83 41 P P 19 01 24.1 -1.1
baz=248,SNR=12
K27K Chicken 20.83 41 P P 19 01 25.4 +0.2
K27K IAmb IAmb 19 01 30.1
comp=Z,12nm,1.1s
SEY Seymchan 21.25 316 P P 19 01 30.6 +1.0
comp=Z,4.1nm,0.9s,baz=117,slow=9.9,SNR=9.3
SEY Seymchan 21.25 316 *i* P **P 19 01 29.1 -0.5**
MA2 Magadan 21.32 306 *i* P **P 19 01 30.9 +0.4**
MA2 pmax pmax
comp=Z,3.0nm,0.9s
EGAK Eagle 21.48 39 P **P 19 01 31.2 -1.0**
baz=247,SNR=33
EGAK Eagle 21.48 39 P 19 01 32.2 +0.1
HYT Haines Junctio 22.04 51 P **P 19 01 39.1 +0.8**
WHY Whitehorse 23.30 52 P **P 19 01 50.7 -0.6**
baz=264
EPYK Eagle Plains 23.79 37 P **P 19 01 55.0 -0.7**
baz=249
EPYK Eagle Plains 23.79 37 P 19 01 55.4 -0.4
EPYK IAmb IAmb 19 01 56.5
comp=Z,12nm,1.1s
WRAK Wrangell Islan 24.66 62 P **P 19 02 02.9 -0.8**
baz=276
INK Inuvik 25.63 34 P **P 19 02 12.4 0.0**
comp=Z,3.9nm,0.8s,baz=228,slow=7.1,SNR=4.3
INK Inuvik 25.63 34 P **P 19 02 11.7 -0.6**
baz=249
INK Inuvik 25.63 34 P **P 19 02 12.5 +0.2**
INK IAmb IAmb 19 02 13.7
comp=Z,14nm,1.4s
DLBC Dease Lake 25.74 57 P **P 19 02 15.5 +1.9**
comp=Z,7.3nm,0.9s,baz=270,slow=12,SNR=10
YSS Yuzh-Sakhalins 28.34 278 *eP* **P 19 02 37.7 +0.8**
YSS MLR MLR
comp=Z,300nm,17.0s
JKA Kamikawa-asahi 29.75 273 P **P 19 02 50.0 +0.5**
JKA Kamikawa-asahi 29.75 273 IAmb IAmb 19 02 59.2
comp=Z,5.9nm,1.0s
ASAJ Asahikawa 29.75 273 P **P 19 02 50.0 +0.5**
comp=Z,3.7nm,0.8s,baz=81,slow=9.2,SNR=6.4
ASAJ LR LR 19 14 33.3
comp=Z,72nm,21.6s,baz=88,slow=36
ASAJ Asahikawa 29.75 273 P **P 19 02 50.0 +0.5**
YAK Yakutsk 31.62 312 *ceP* **P 19 03 06.1 +0.3**
YAK pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 32.05 330 P **P 19 03 09.8 +0.5**
comp=Z,1.5nm,0.7s,baz=104,slow=12,SNR=2.6
YKA Yellowknife Ar 32.92 47 P **P 19 03 17.0 -0.1**
comp=Z,1.3nm,0.8s,baz=276,slow=10.0,SNR=4.8
YKA Yellowknife Ar 32.92 47 P **P 19 03 17.0 -0.1**
KLR Kul'dur 34.06 288 P **P 19 03 26.9 -0.3**
comp=Z,5.4nm,0.7s,baz=65,slow=8.4,SNR=23
KLR Kul'dur 34.06 288 *ceP* **P 19 03 26.7 -0.5**
KLR pmax pmax
comp=Z,5.0nm,0.6s
I03D Drain, OR 34.38 83 P **P 19 03 29.4 -0.6**
baz=301
ZEA Zeya 34.90 297 *eP* **P 19 03 33.8 -0.6**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
H11N2 WAKE ISLAND Hy 35.11 213 T T 19 41 37.9
baz=21,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 35.12 213 T T 19 41 35.3
baz=21,slow=75,SNR=8.6
H11N1 WAKE ISLAND Hy 35.13 213 T T 19 41 41.7
baz=21,slow=75,SNR=5.1
L04D Klamath Falls 35.82 84 P **P 19 03 41.2 -1.4**
baz=303
NEW Newport 35.96 72 P **P 19 03 44.2 +0.6**
comp=Z,2.2nm,0.8s,baz=270,slow=5.1,SNR=2.4
USA0B Ussuriysk Arra 36.29 280 P **P 19 03 45.5 -0.9**
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USA0B Ussuriysk Arra 36.29 280 P **P 19 03 45.5 -0.9**
USRK Ussuriysk Ar. 36.29 280 P **P 19 03 46.0 -0.4**
comp=Z,6.1nm,0.7s,baz=57,slow=8.5,SNR=7.0
USRK Ussuriysk Ar. 36.29 280 P **P 19 03 45.5 -0.9**
USRK Ussuriysk Ar. 36.29 280 P **P 19 03 45.5 -0.9**
H11S1 WAKE ISLAND Hy 36.31 212 T T 19 43 01.2
baz=20,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.33 212 T T 19 43 02.4
baz=20,slow=76,SNR=16
H11S3 WAKE ISLAND Hy 36.33 212 T T 19 42 59.0
baz=20,slow=76,SNR=10
O02D Mt. Diablo Mer 36.67 87 P **P 19 03 48.7 -1.1**
baz=305
MJAR Matsushiro Arr 36.83 265 P **P 19 03 51.0 -0.1**
comp=Z,3.0nm,0.9s,baz=43,slow=7.0,SNR=14
MJAR PcP **PcP 19 06 11.4 -0.5**
comp=Z,1.4nm,0.8s,baz=92,slow=2.8,SNR=4.9
MJAR LR LR 19 17 16.4
comp=Z,85nm,21.7s,baz=65,slow=34
MAJO Matsushiro 36.83 265 *i* P **P 19 03 51.1 0.0**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAT Matsushiro 36.83 265 P **P 19 03 51.3 +0.2**
O03E Paynes Creek 37.21 87 P **P 19 03 53.6 -0.9**
baz=305
MSHR Mys Shultsa 37.67 278 *ceP* **P 19 03 58.9 +0.8**
MSHR pmax pmax
comp=Z,13nm,0.8s
CMB Columbia Colle 39.44 88 P **P 19 04 13.8 +0.7**
CMB pmax pmax
comp=Z,6.0nm,1.3s
CMB Columbia Colle 39.44 88 P **P 19 04 13.8 +0.7**
CMB IAmb IAmb 19 04 27.2
comp=Z,5.8nm,1.3s
EGMT Eagleton 40.41 69 P **P 19 04 20.0 -1.0**
baz=300
NVAR Mina Array Bea 40.50 86 P **P 19 04 22.6 +0.5**
comp=Z,1.2nm,0.8s,baz=292,slow=9.1,SNR=7.2
NVAR PcP **PcP 19 06 24.4 +0.7**
comp=Z,1.1nm,0.8s,baz=281,slow=3.6,SNR=4.3
SMMC Simmler 41.39 91 P **P 19 04 29.4 +0.2**
baz=310
PKM Mcpherson Peak 41.78 92 P **P 19 04 32.6 0.0**
baz=310
CWC Cottonwood Cre 41.87 89 P **P 19 04 33.2 -0.1**
baz=309
RLMT Red Lodge 42.21 72 P **P 19 04 35.8 -0.2**
baz=302
R11A Troy Canyon, C 42.24 85 P **P 19 04 36.4 +0.1**
baz=307
MPMC Manual Prospec 42.48 89 P **P 19 04 38.0 -0.3**
baz=309
FURC Furnace Creek, 42.62 88 P **P 19 04 39.1 0.0**
baz=309
KSRS Korea Array 42.68 274 P **P 19 04 40.8 +1.1**
comp=Z,2.8nm,0.7s,baz=57,slow=7.5,SNR=15
KSRS PcP **PcP 19 06 31.4 +0.9**
comp=Z,0.8nm,0.8s,baz=65,slow=2.5,SNR=1.8
KSRS LR LR 19 22 10.9
comp=Z,47nm,18.8s,baz=44,slow=36
TPNV Topopah Spring 42.70 87 P **P 19 04 39.7 -0.3**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 42.70 87 P **P 19 04 39.9 -0.1**
baz=309
TPNV Topopah Spring 42.70 87 P **P 19 04 39.7 -0.3**
TPNV IAmb IAmb 19 04 53.1
comp=Z,6.3nm,0.9s
DUG Dugway, Tooele 42.85 80 P **P 19 04 40.7 -0.5**
baz=306
EDW2 Edwards Air Fo 42.92 90 P **P 19 04 41.3 -0.4**
baz=310
BW06 Boulder Array 43.34 75 P **P 19 04 44.5 -0.7**
baz=304
PDAR Pinedale Array 43.34 75 P **P 19 04 45.5 +0.2**
comp=Z,1.7nm,0.8s,baz=306,slow=5.3,SNR=9.7
PDAR LR LR 19 23 23.9
comp=Z,41nm,18.2s,baz=303,slow=37
GSC Goldstone, Bar 43.40 89 P **P 19 04 45.6 0.0**
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 43.40 89 P **P 19 04 45.3 -0.3**
baz=310
GSC Goldstone, Bar 43.40 89 P **P 19 04 45.6 0.0**
GSC IAmb IAmb 19 04 58.6
comp=Z,6.9nm,0.9s
BFSC Mount Baldy Ra 43.55 91 P **P 19 04 46.6 -0.3**
baz=311
TJN Taejon 43.70 273 *ceP* **P 19 04 51.4 +3.5**

GMRC Granite Mounta 44.45 89 P **P 19 04 53.6 -0.4**
baz=310
PFO Pinyon Flats O 44.71 90 P **P 19 04 56.0 -0.2**
baz=311
TPFO Pinon Flats 44.72 90 P **P 19 04 55.6 -0.6**
baz=311
BELC Belle Mtn. Jos 44.75 90 P **P 19 04 55.5 -1.0**
baz=311
109C Camp Elliot, M 44.79 92 P **P 19 04 56.3 -0.3**
baz=312
IRM Iron Mountain 45.18 89 P **P 19 04 59.3 -0.4**
baz=311
MONP2 Monument Peak 45.22 91 P **P 19 04 59.9 -0.3**
baz=312
K22A Casper 45.24 74 P **P 19 04 59.3 -1.0**
baz=305
U15A North Rim 45.49 84 P **P 19 05 02.5 0.0**
U15A IAmb IAmb 19 05 15.8
comp=Z,4.7nm,1.0s
SWSC Sam W. Stewart 45.57 91 P **P 19 05 02.8 0.0**
baz=312
IKP In-Ko-Pah, Jac 45.57 91 P **P 19 05 02.5 -0.4**
baz=312
O20A White River Ci 45.69 78 P **P 19 05 03.1 -0.9**
baz=307
NRIK Noril'sk 45.82 331 P **P 19 05 04.9 +0.6**
comp=Z,2.6nm,0.6s,baz=46,slow=7.7,SNR=1.7
NRIK Noril'sk 45.82 331 P **P 19 05 04.4 +0.1**
NRIK pmax pmax
comp=Z,5.0nm,1.0s
NRIK Noril'sk 45.82 331 P **P 19 05 04.4 +0.1**
NRIK IAmb IAmb 19 05 06.6
comp=Z,5.3nm,1.0s
N23A Red Feather La 46.63 75 P **P 19 05 09.9 -1.4**
baz=307
ULM Lac du Bonnet 47.03 59 P **P 19 05 14.2 +0.1**
comp=Z,1.8nm,0.5s,baz=285,slow=7.2,SNR=2.0
S22A 4UR Ranch, Cre 48.03 79 P **P 19 05 21.0 -1.4**
baz=309
214A Organ Pipe Nat 48.10 89 P **P 19 05 22.1 -0.5**
baz=312
AGMN Agassiz Nation 48.13 61 P **P 19 05 22.3 -0.3**
baz=305
TLY Talaya 48.54 305 *eP* **P 19 05 22.9 -2.8**
TLY pmax pmax
comp=Z,12nm,0.8s
TLY MLR MLR
comp=Z,136nm,16.0s
SDCO Great Sand Dun 48.85 78 P **P 19 05 26.9 -1.7**
baz=309
ULN Ulaanbaatar 48.91 299 *ceP* **P 19 05 29.3 +0.5**
ULN pmax pmax
comp=Z,10.0nm,1.0s
TUC Tucson 49.13 87 P **P 19 05 30.6 0.0**
baz=312
SONM Songino Array 49.29 299 P **P 19 05 32.7 +1.0**
comp=Z,4.9nm,0.7s,baz=48,slow=8.1,SNR=28
SONM Songino Array 49.29 299 P **P 19 05 32.6 +1.0**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 49.29 299 P **P 19 05 32.6 +1.0**
ZAK Zakamensk 49.47 303 *eP* **P 19 05 33.4 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.2s
MOY Mondy 49.90 306 *eP* **P 19 05 37.3 +1.1**
T25A Trinidad 49.90 78 P **P 19 05 34.6 -2.0**
baz=310
ANMO Albuquerque 50.07 82 *ceP* **P 19 05 39.0 +1.2**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
ANMO Albuquerque 50.07 82 P **P 19 05 37.1 -0.7**
baz=311
ECSD EROS Data Cent 50.41 67 P **P 19 05 39.5 -0.6**
baz=308
SPITS Spitsbergen Ar 50.43 357 P **P 19 05 41.2 +1.5**
comp=Z,2.2nm,0.5s,baz=46,slow=8.3,SNR=2.1
HHC Hu-ho-hao-te 50.56 289 *eP* **P 19 05 41.9 +0.5**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,92nm,5.7s
EYMN Ely 50.71 59 P **P 19 05 41.6 -0.7**
baz=307
121A Cookes Peak, D 50.85 85 P **P 19 05 43.6 -0.2**
baz=312
MNTX Cornudas Mount 52.91 84 P **P 19 05 58.9 0.0**
baz=313
MSTX Muleshoe 52.99 80 P **P 19 05 59.0 -0.5**
baz=312
AMTX Amarillo 53.05 78 P **P 19 05 59.3 -0.7**
baz=312
JFWS Jewell Farm 54.54 64 P **P 19 06 09.6 -1.0**
baz=310
WMOK Wichita Mounta 54.92 77 P **P 19 06 14.1 +0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 54.92 77 P **P 19 06 13.0 -0.5**
baz=312
WMOK Wichita Mounta 54.92 77 P **P 19 06 14.1 +0.6**
TXAR Lajitas Array 55.61 85 P **P 19 06 18.3 -0.3**
comp=Z,0.9nm,0.7s,baz=296,slow=5.8,SNR=13
ABTX Abilene, Hawle 55.82 79 P **P 19 06 19.5 -0.5**
baz=313
TUL1 Leonard 55.93 74 P **P 19 06 19.7 -1.1**
baz=312
ZALV Zalesovo Beam 56.12 316 P **P 19 06 24.2 +2.4**
comp=Z,0.2nm,0.2s,baz=46,slow=6.4,SNR=1.5
ZALV PcP **PcP 19 07 20.2 +1.1**
comp=Z,0.3nm,0.3s,baz=35,slow=5.4,SNR=4.0
L44A Lake County Fo 56.32 63 P **P 19 06 22.7 -0.7**
baz=311
XAN Xi'an 56.61 284 P **P 19 06 24.5 -1.1**
XAN pP sP 19 06 38.4 -6.7
XAN pmax pmax
comp=Z,7.0nm,1.6s
HDIL Hopedale 56.62 65 P **P 19 06 24.3 -1.3**
baz=312
MATQ Matagami 56.65 51 P **P 19 06 25.1 -0.5**
baz=312
CCM Cathedral Cave 57.18 69 P **P 19 06 28.1 -1.5**
baz=312
U40A Yellville 57.38 71 P **P 19 06 30.0 -1.0**
baz=313
LSQQ Lebel-sur-Quev 57.44 51 P **P 19 06 30.9 -0.3**
baz=312
W39A Magazine 57.62 73 P **P 19 06 31.6 -1.0**
baz=313
DGZ Jazzator, Alta 57.81 311 *i* P **P 19 06 34.9 +0.9**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
SFIN Lafayette 57.98 64 P **P 19 06 35.5 +0.4**
baz=312
CHGQ Chibougamau 58.10 49 P **P 19 06 35.4 -0.4**
baz=313
MIAR Mount Ida 58.19 73 P **P 19 06 36.4 -0.2**
baz=313
LZH Lanzhou 58.25 289 *eP* **P 19 06 38.8 +1.5**
LZH pmax pmax
comp=Z,32nm,1.1s
GTA Gaotai 58.32 295 ⇑P **P 19 06 38.2 +0.5**
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,44nm,4.7s
GTA LR LR
comp=Z,99nm,15.6s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,170nm,18.2s
ARCES ARCESS Array B 58.44 352 P **P 19 06 38.5 +0.5**
comp=Z,2.6nm,0.8s,baz=46,slow=8.7,SNR=2.1
ARCES LR LR 19 36 31.2
comp=Z,37nm,18.1s,baz=285,slow=41
W41B Gary Mavity, V 58.55 72 P **P 19 06 38.1 -1.0**
baz=313
X40A Basin Creek Fa 58.67 73 P **P 19 06 39.6 -0.4**
baz=314
ALGO Algonquin Park 59.03 54 P **P 19 06 42.0 -0.3**
baz=313
P49A Miami Univ. Ec 59.90 63 P **P 19 06 47.8 -0.6**
baz=314
WVT Waverly 60.48 68 P **P 19 06 52.4 -0.1**
baz=314
D58A Chemin du LacG 60.78 50 P **P 19 06 53.8 -0.5**
baz=315
M53A WI Miller and 60.79 59 P **P 19 06 53.6 -0.9**

baz=314
KURK Kurchatov 61.09 316 P **P 19 06 57.4 +1.0**
KURK 19 07 40.4
E58A La Victoria 61.10 51 P **P 19 06 56.3 -0.2**
baz=315
G57A Newington 61.16 53 P **P 19 06 57.0 0.0**
baz=315
KURBB Kurchatov Arra 61.20 316 P **P 19 06 57.4 +0.3**
comp=Z,3.7nm,0.5s,baz=45,slow=6.6,SNR=48
KURBB PcP **PcP 19 07 40.4 +1.0**
comp=Z,0.8nm,0.6s,baz=47,slow=3.4,SNR=5.0
P52A Corning 61.26 62 P **P 19 06 57.4 -0.3**
baz=314
M54A Oil Creek Stat 61.28 59 P **P 19 06 57.9 +0.1**
baz=315
O53A New Philadelph 61.33 61 P **P 19 06 57.7 -0.4**
baz=314
H57A Richville 61.41 54 P **P 19 06 59.0 +0.4**
baz=315
N54A Moraine State 61.49 59 P **P 19 06 58.9 -0.4**
baz=315
G58A Ormstown 61.59 52 P **P 19 06 59.9 0.0**
baz=315
I57A Carthage 61.65 54 P **P 19 07 00.7 +0.4**
baz=315
K56A Middlesex 61.67 56 P **P 19 07 00.5 0.0**
baz=315
LONY Lake Ozonia 61.71 53 P **P 19 07 00.3 -0.3**
baz=315
F59A Saint Guilaume 61.71 51 P **P 19 07 00.7 0.0**
baz=316
WMQ Urumqi 61.79 306 *eP* **P 19 07 03.8 +2.5**
D61A St Aubert, Com 61.98 49 P **P 19 07 02.1 -0.4**
baz=316
E60A Ste Agathe de 61.98 50 P **P 19 07 02.4 -0.1**
baz=316
F60A Warwick 62.03 51 P **P 19 07 02.8 0.0**
baz=316
H58A Gabriels 62.05 53 P **P 19 07 03.2 +0.2**
baz=316
H59A Cadyville 62.13 53 P **P 19 07 04.1 +0.6**
baz=316
I58A Old Forge 62.17 54 P **P 19 07 04.1 +0.2**
baz=316
J58A Remsen 62.25 55 P **P 19 07 04.7 +0.4**
baz=316
MKAR Makanchi Array 62.30 311 P **P 19 07 04.8 +0.1**
comp=Z,1.6nm,0.5s,baz=52,slow=6.2,SNR=37
MKAR Makanchi Array 62.30 311 P **P 19 07 04.4 -0.3**
MKAR Makanchi Array 62.30 311 P **P 19 07 04.4 -0.3**
E61A Lac Etchemin 62.40 49 P **P 19 07 05.2 -0.1**
baz=316
G60A Masonville 62.48 51 P **P 19 07 06.1 +0.3**
baz=316
F61A St Evariste 62.49 50 P **P 19 07 05.7 -0.1**
baz=316
D62A Allapoint, All 62.60 48 P **P 19 07 06.2 -0.4**
baz=317
H60A Morristown 62.69 52 P **P 19 07 06.6 -0.6**
baz=316
BVAR Borovoye Array 62.71 322 P **P 19 07 07.9 +0.7**
comp=Z,1.3nm,0.6s,baz=251,slow=9.2,SNR=12
E62A Clayton Lake 62.72 49 P **P 19 07 07.1 -0.3**
baz=317
BINY Binghamton 62.72 56 P **P 19 07 07.5 -0.1**
baz=316
BRVK Borovoye 62.73 322 *i* P **P 19 07 07.3 0.0**
BRVK pmax pmax
comp=Z,1.0nm,0.6s
G61A St-Isidore-de- 62.73 51 P **P 19 07 07.2 -0.4**
baz=316
O56A Blue Knob Stat 62.75 59 P **P 19 07 07.8 +0.1**
baz=315
SSPA Standing Stone 62.85 58 P **P 19 07 08.4 +0.1**
baz=316
PRGR Permogore 62.89 340 *eP* **P 19 07 07.8 -0.4**
PRGR pmax pmax
comp=Z,56nm,1.5s
L58A Harry Jones Me 62.91 56 P **P 19 07 08.7 -0.1**
baz=316
I60A Shoreham 62.91 53 P **P 19 07 09.2 +0.5**
baz=316
F62A Pittston Farm, 63.03 50 P **P 19 07 09.1 -0.4**
baz=317
D63A Stockholm 63.07 48 P **P 19 07 09.9 +0.2**
baz=317
H61A Lyndonville 63.08 52 P **P 19 07 09.9 0.0**
baz=317
G62A West of Eustis 63.26 50 P **P 19 07 11.6 +0.5**
baz=317
G62A West of Eustis 63.26 50 P **P 19 07 11.4 +0.4**
J60A Lant Hill Farm 63.28 54 P **P 19 07 11.9 +0.7**
baz=316
LBNH Lisbon 63.30 52 P **P 19 07 11.3 0.0**
baz=317
E63A Oxbow 63.38 48 P **P 19 07 11.8 +0.1**
baz=318
I61A Oroboro, Fairl 63.38 52 P **P 19 07 12.2 +0.4**
baz=317
H62A Milan 63.43 51 P **P 19 07 12.7 +0.6**
baz=317
F63A Nahmakanta, Br 63.59 49 P **P 19 07 12.9 -0.3**
baz=317
J61A Chester 63.64 53 P **P 19 07 13.2 -0.3**
baz=317
E64A Bridgewater 63.65 48 P **P 19 07 13.3 -0.2**
baz=318
N59A State Game Lan 63.76 57 P **P 19 07 13.0 -1.4**
baz=316
G63A Kingsbury 63.78 50 P **P 19 07 14.6 +0.2**
baz=317
F64A Sherman 63.82 49 P **P 19 07 14.9 +0.2**
baz=318
BLA Blacksburg 63.92 63 P **P 19 07 15.7 +0.1**
baz=316
ARU Arti 64.05 331 P **P 19 07 16.5 +0.5**
comp=Z,0.7nm,0.5s,baz=141,slow=4.4,SNR=3.9
ARU Arti 64.05 331 *d i* P **P 19 07 16.3 +0.3**
ARU 19 07 47.0
ARU 19 09 35.5
ARU S **S 19 15 50.0 +2.2**
ARU SS **SS 19 19 54.5 -1.8**
ARU pmax pmax
comp=Z,4.0nm,1.4s
ARU Arti 64.05 331 P **P 19 07 15.3 -0.7**
ARU IAmb IAmb 19 07 20.6
comp=Z,4.5nm,1.3s
G64A Maxfield 64.08 49 P **P 19 07 16.5 +0.1**
baz=318
I63A Otisfield 64.10 51 P **P 19 07 16.8 +0.3**
baz=317
J62A Henniker 64.10 53 P **P 19 07 16.4 -0.2**
baz=317
K62A Royalston 64.30 53 P **P 19 07 17.8 -0.1**
baz=317
K63A Dunstable 64.63 53 P **P 19 07 20.1 +0.1**
baz=317
G65A Princeton 64.69 49 P **P 19 07 20.8 +0.5**
baz=318
KIRV Kirov 64.73 337 *ceP* **P 19 07 21.0 +0.6**
KLMR Klimovskoe 64.83 343 *eP* **P 19 07 18.7 -2.2**
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 64.83 343 *eP* **P 19 07 18.8 -2.2**
KLMR AMP 19 07 22.6
comp=Z,17nm,1.5s
KMSC Kings Mountain 64.90 65 P **P 19 07 22.2 +0.3**
baz=316
GOGA Godfrey 64.93 67 P **P 19 07 21.6 -0.6**
baz=316
H66A Whiting 65.11 49 P **P 19 07 22.8 -0.3**
baz=319
FINES FINESS Array B 66.27 350 P **P 19 07 30.4 +0.1**
comp=Z,3.4nm,0.8s,baz=355,slow=8.6,SNR=7.9
FINES LR LR 19 39 41.6
comp=Z,33nm,19.9s,baz=354,slow=39
KMI Kunming 66.71 281 ⇑P **P 19 07 36.9 +2.9**
KMI PcP **PcP 19 08 07.2 +4.5**
KMI pmax pmax
comp=Z,6.0nm,1.4s
NOA NORSAR Array B 67.73 357 P **P 19 07 40.5 +0.9**
comp=Z,1.7nm,0.9s,baz=4.4,slow=6.3,SNR=3.5
AKTO Aktyubinsk 69.28 327 P **P 19 07 50.2 +0.8**
comp=Z,2.8nm,0.5s,baz=57,slow=8.2,SNR=18
ABKAR Akbulak array 69.62 326 P **P 19 07 52.1 +0.6**
ABKAR Akbulak array 69.62 326 P **P 19 07 51.6 +0.1**
KK31 Karatay Array 70.49 315 P **P 19 07 57.8 +0.8**

KK31 pmax pmax
comp=Z,8.0nm,1.2s
KK31 Karatay Array 70.49 315 P **P 19 07 57.8 +0.8**
KKAR Karatay Array 70.49 315 P **P 19 07 57.5 +0.5**
KKAR Karatay Array 70.49 315 P **P 19 07 57.5 +0.5**
OBN Obninsk 70.76 342 *i* P **P 19 07 57.9 -0.5**
OBN *i* 19 08 10.8
OBN pmax pmax
comp=Z,12nm,1.1s
LPSR Galich'ya Gora 72.64 340 *eP* **P 19 08 08.8 -0.9**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
MNK Minsk 72.81 347 *i* P P 19 08 05.0 -5.7
MNK *i* 19 08 29.6
MNK *i* PPP PPP 19 12 36.0
MNK *i* S **S 19 17 26.8 -5.0**
MNK *i* 19 18 09.3
MNK *i* SSS SSS 19 25 28.8
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,30nm,0.8s
MNK MLR MLR
comp=E,30nm,26.0s
MNK MLR MLR
comp=N,472nm,25.0s
MNK MLR MLR
comp=Z,68nm,24.0s
MNK Minsk 72.81 347 *i* P P 19 08 05.1 -5.6
comp=E,2.0nm,0.7s
MNK *i* P P 19 08 05.1 -5.6
comp=N,30nm,0.8s
MNK *i* P P 19 08 05.1 -5.6
comp=Z,6.0nm,0.7s,baz=194
MNK *i* PcP **PcP 19 08 29.6 +2.0**
MNK *i* PP **PP 19 10 46.4 -6.0**
MNK *i* PPP PPP 19 12 36.0
MNK *i* S **S 19 17 26.8 -5.0**
MNK *i* SS **SS 19 22 08.1 -3.2**
MNK *i* SSS SSS 19 25 28.8
MNK *i* LQ LQ 19 35 25.9
MNK *i* LR LR 19 40 07.8
MNK *i* LRM MLR 19 42 12.3
comp=E,30nm,26.1s
MNK *i* LRM MLR 19 42 18.1
comp=N,472nm,25.3s
MNK *i* LRM MLR 19 42 30.2
comp=Z,68nm,23.9s
VRH Novokhopyorsk 73.31 337 *eP* **P 19 08 13.2 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 73.89 339 *eP* **P 19 08 17.7 +0.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 74.02 280 P **P 19 08 18.7 +0.3**
comp=Z,1.4nm,0.8s,baz=30,slow=6.9,SNR=7.5
VORD Divnogorie 74.09 339 *eP* **P 19 08 18.4 +0.1**
VORD pmax pmax
comp=Z,20nm,0.6s
AKASG Malin Array Be 76.29 345 P **P 19 08 30.9 0.0**
comp=Z,4.0nm,0.5s,baz=17,slow=6.1,SNR=22
AKASG LR LR 19 47 31.7
comp=Z,40nm,19.0s,baz=35,slow=40
AKASG Malin Array Be 76.29 345 *ceP* **P 19 08 30.8 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 76.29 345 P **P 19 08 30.9 0.0**
AKBB Malin Array Si 76.29 345 *ceP* **P 19 08 30.9 0.0**
AKBB Malin Array Si 76.29 345 P **P 19 08 30.9 0.0**
FLTG Flechtingen 76.45 357 *eP* **P 19 08 32.6 +0.9**
comp=Z,6.2nm,0.5s,baz=3.2,slow=4.7
CLL Collm 77.39 356 *i* P **P 19 08 37.7 +0.6**
comp=Z,8.0nm,0.7s
CLL Collm 77.39 356 *i* P **P 19 08 37.7 +0.6**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 77.39 356 P **P 19 08 38.0 +0.8**
CLL Collm 77.39 356 *eP* **P 19 08 38.1 +0.9**
comp=Z,6.3nm,0.6s,baz=3.2,slow=4.7
KSP Ksiaz 77.66 353 *eP* **P 19 08 39.6 +1.0**
BRG Berggiesshubel 77.78 355 *eP* **P 19 08 40.2 +0.9**
BRG Amp 19 08 41.3
comp=Z,7.8nm,0.8s
BRG *ex* x 19 08 51.7
BRG Amp 19 08 54.8
comp=Z,3.8nm,0.7s
CHVC Chvalec 77.93 354 *eP* **P 19 08 42.4 +2.2**
OSTC Ostas 77.95 353 *eP* **P 19 08 42.2 +1.9**
MOX Moxa 78.12 356 *eP* **P 19 08 42.6 +1.4**
comp=Z,4.2nm,0.6s,baz=3.2,slow=4.7
MOX *eL* L 19 51 58.0
comp=Z,40nm,18.7s
DPC Dobruska-Polom 78.15 353 *eP* **P 19 08 42.8 +1.4**
DPC Dobruska-Polom 78.15 353 *eP* **P 19 08 42.8 +1.4**
KRLC Kraliky 78.39 353 *eP* **P 19 08 43.9 +1.1**
KRLC Kraliky 78.39 353 *eP* **P 19 08 43.9 +1.1**
WERN Wernitzgruen 78.44 356 *eP* **P 19 08 44.7 +1.7**
comp=Z,10nm,1.0s,baz=3.2,slow=4.7
NKC Novy Kostel 78.49 356 *eP* **P 19 08 44.9 +1.6**
NKC Novy Kostel 78.49 356 *eP* **P 19 08 44.9 +1.6**
MORC Moravsky Berou 78.62 352 *eP* **P 19 08 45.0 +0.9**
PRU Pruhonice 78.63 354 *eP* **P 19 08 45.3 +1.3**
PRU MLR MLR
comp=Z,100nm,17.0s
PRU Pruhonice 78.63 354 *eP* **P 19 08 45.3 +1.3**
PRU AMS AMS 19 52 50.0
comp=Z,100nm,17.0s
TNS Taunus Mts 78.63 358 *eP* **P 19 08 45.7 +1.6**
comp=Z,6.1nm,0.8s,baz=3.2,slow=4.7
SORM Soroca 78.92 345 ⇑P **P 19 08 45.8 +0.2**
PBCC Pribram 78.96 355 *eP* **P 19 08 46.9 +1.0**
KOLS Kolonicke sedl 78.99 349 *eP* **P 19 08 47.4 +1.4**
KOLS pmax pmax
comp=Z,33nm,1.0s
KOLS Kolonicke sedl 78.99 349 *eP* **P 19 08 47.4 +1.4**
LANS Liptovska Anna 79.07 351 *eP* **P 19 08 48.6 +2.1**
LANS Liptovska Anna 79.07 351 *eP* **P 19 08 48.6 +2.1**
GRF Grafenberg Arr 79.09 357 *eP* **P 19 08 48.3 +1.7**
comp=Z,12nm,0.6s,baz=3.2,slow=4.7
GRF *eL* L 19 46 13.8
comp=Z,34nm,18.6s
VRAC Vranov 79.16 353 ⇓P **P 19 08 48.6 +1.6**
VRAC Vranov 79.16 353 *eP* **P 19 08 48.2 +1.2**
KRUC Moravsky 79.42 353 *eP* **P 19 08 49.5 +1.1**
JAVC Velka Javorina 79.52 352 *eP* **P 19 08 51.1 +2.1**
KHC Kasperske Hory 79.54 355 *eP* **P 19 08 50.5 +1.4**
KHC Kasperske Hory 79.54 355 *eP* **P 19 08 50.5 +1.4**
WET Wettzell 79.56 355 *eL* L 19 47 17.9
comp=Z,39nm,18.7s
KIV Kislovodsk 79.77 334 *eP* **P 19 08 52.0 +1.5**
KIV pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 79.78 351 *eP* **P 19 08 51.8 +1.4**
VYHS Vyhne 79.78 351 *eP* **P 19 08 51.8 +1.4**
CKRC Cesky Krumlov 79.81 354 *eP* **P 19 08 52.5 +2.0**
GERES GERESS Array B 79.82 355 P **P 19 08 51.8 +1.1**
comp=Z,2.4nm,0.8s,baz=15,slow=5.5,SNR=25
GERES GERESS Array B 79.82 355 P **P 19 08 49.8 -0.8**
GERES GERESS Array B 79.82 355 P **P 19 08 49.8 -0.8**
BURAR Bucovina Array 79.90 347 ⇑P **P 19 08 52.2 +1.1**
BURAR Bucovina Array 79.90 347 P **P 19 08 51.9 +0.8**
BURAR IAmb IAmb 19 08 53.3
comp=Z,3.4nm,0.8s
KBZ Khabaz 79.92 334 P **P 19 08 52.6 +1.5**
comp=Z,2.4nm,0.8s,baz=294,slow=1.6,SNR=4.4
KBZ Khabaz 79.92 334 *ceP* **P 19 08 52.9 +1.8**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 79.99 321 P **P 19 08 53.0 +1.3**
comp=Z,188nm,0.8s,baz=352,slow=3.0,SNR=10
MODS Modra-Piesok 80.04 352 *eP* **P 19 08 54.0 +2.2**
MODS Modra-Piesok 80.04 352 *eP* **P 19 08 54.0 +2.2**
ZST Bratislava 80.23 353 *eP* **P 19 08 53.9 +1.2**
ZST pmax pmax
comp=Z,38nm,1.5s
ZST Bratislava 80.23 353 *eP* **P 19 08 53.9 +1.2**
BFO Black Forest 80.53 358 *eP* **P 19 08 55.6 +1.2**
comp=Z,3.7nm,0.8s,baz=3.2,slow=4.7
BFO *eL* L 19 51 30.8
comp=Z,44nm,18.9s
CONA Conrad Observa 80.59 353 *eP* **P 19 08 56.2 +1.4**
comp=Z,4.8nm,0.9s
RJOB Jochberg 80.97 355 *eP* **P 19 08 58.1 +1.3**
comp=Z,11nm,0.7s,baz=3.2,slow=4.7
DRGR 81.04 349 ⇑P **P 19 08 58.0 +0.8**
WATA Walderalm 81.43 356 *eP* **P 19 09 00.7 +1.4**
comp=Z,6.9nm,1.1s,SNR=5.4
MOTA Moosalm 81.44 357 *eP* **P 19 09 00.5 +1.1**
comp=Z,7.8nm,1.4s
WTTA Wattenberg 81.50 356 *eP* **P 19 09 01.1 +1.4**
comp=Z,8.3nm,1.1s
DAVA Damuels 81.53 357 *eP* **P 19 09 00.9 +1.0**
comp=Z,5.7nm,1.1s
SQTA Sankt Quirin 81.56 356 *eP* **P 19 09 01.5 +1.5**
comp=Z,7.0nm,0.9s
KBA Koelnbreinsper 81.60 355 *eP* **P 19 09 02.1 +1.8**
comp=Z,5.6nm,0.7s,SNR=9.4
FETA Feichten 81.77 357 *eP* **P 19 09 02.7 +1.5**
comp=Z,4.4nm,0.9s
CFR Carcaliu 81.83 344 ⇑P **P 19 09 02.2 +1.0**
MLR Muntele Rosu 81.87 346 ⇑P **P 19 09 03.1 +1.4**
SOKA Soboth 81.89 354 *i* P **P 19 09 03.0 +1.3**
comp=Z,3.5nm,0.8s,SNR=7.9
ABTA Abfaltersbach 81.97 356 *eP* **P 19 09 03.3 +1.1**
comp=Z,5.7nm,1.1s
MYKA Terra Mystica 82.03 355 *eP* **P 19 09 03.7 +1.3**
comp=Z,3.5nm,0.9s
VOIR 82.06 347 ⇑P **P 19 09 04.4 +1.8**
OBKA Obir 82.09 354 *eP* **P 19 09 04.4 +1.6**
comp=Z,3.1nm,0.7s
HERR Herculane 82.96 348 ⇓P **P 19 09 07.5 +0.3**
FRGS Fruska Gora 82.99 350 ⇓P **P 19 09 08.5 +1.1**
WRA Warramunga Arr 84.29 228 P **P 19 09 13.1 -1.1**
comp=Z,0.8nm,0.7s,baz=15,slow=6.9,SNR=3.8
VTS Vitosha 85.08 347 ⇓P **P 19 09 19.0 +0.7**
PDG Podgorica 85.75 350 ⇓P **P 19 09 22.3 +1.0**
BRTR Keskin Array B 86.01 339 P **P 19 09 24.7 +1.8**
comp=Z,1.3nm,0.9s,baz=62,slow=2.9,SNR=7.5
ASAR Alice Springs 87.72 226 P **P 19 09 30.6 -0.4**
comp=Z,1.8nm,0.9s,baz=20,slow=5.2,SNR=14
ESDC Sonseca Array 88.78 8 P **P 19 09 36.8 +0.7**
comp=Z,1.4nm,0.9s,baz=351,slow=4.8,SNR=9.0
STKA Stephens Creek 91.77 217 P **P 19 09 48.0 -1.7**
comp=Z,2.5nm,0.8s,baz=16,slow=9.2,SNR=3.0
H03N2 Juan Fernandez 118.27 109 T T 21 25 27.3
baz=317
H03N1 Juan Fernandez 118.28 109 T T 21 25 35.6
baz=317
H03N3 Juan Fernandez 118.29 109 T T 21 25 18.1
baz=317
MAW Mawson 148.45 218 PKPbc **PKPbc 19 16 27.2 -0.1**
comp=Z,4.1nm,0.9s,baz=23,slow=4.5,SNR=9.6
MAW Mawson 148.45 218 PKPbc PKiKP 19 16 27.8 +0.5
BOSA Boshof 152.99 321 PKPbc **PKiKP 19 16 40.0 +0.4**
comp=Z,1.2nm,0.6s,baz=27,slow=4.5,SNR=1.6

DNK ***05*** *19:02:23.3±1.0, 82°.67N×5°.71W, h36km±250km, ML1.8*
IEPN 05 19:02:20.0, 83°.16N×5°.24W, h10km, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.18**	**230**	*i* P	Pn	19 02 52.1	-4.1
NOR				*eS*	Sn	19 03 15.4	-7.9
NOR				IAML		19 03 18.9	
comp=Z,16nm,0.4s							
NOR	**Nord**	**2.18**	**230**	*i* P	Pn	19 02 52.0	-4.3
NOR				*i* S	Sn	19 03 15.2	-8.0
NOR				IAML		19 03 18.9	
comp=Z,16nm,0.4s							
KBS	**Kingsbay**	**5.00**	**139**	*eP*	Pn	19 03 31.4	-3.5
KBS				*eS*	Sn	19 04 22.3	-10
KBS				IAML		19 04 28.8	
comp=Z,9.8nm,0.4s							
KBS	**Kingsbay**	**5.00**	**139**	*eP*	Pn	19 03 31.3	-3.5
KBS				*eS*	Sn	19 04 24.6	-7.9
KBS				IAML		19 04 28.8	
comp=Z,9.8nm,0.4s							
KBS	**Kingsbay**	**5.00**	**139**	*eP*	Pn	19 03 31.0	-3.8
KBS				*eS*	Sn	19 04 22.5	-10
BRBB	**Barentsburg B**	**5.95**	**138**	*eP*	Pn	19 03 44.6	-3.2
BRBB	**Barentsburg B**	**5.95**	**138**	*eP*	Pn	19 03 44.6	-3.2
BRBA	**Barentsburg A**	**5.98**	**138**	*eP*	Pn	19 03 45.8	-2.5
BRBA				IAML		19 04 57.1	
comp=Z,5.3nm,0.8s							
BRBA	**Barentsburg A**	**5.98**	**138**	*eP*	Pn	19 03 45.8	-2.5
BRBA				IAML		19 04 57.1	
comp=Z,5.3nm,0.8s							
SPA0	**Spitsbergen Ar**	**6.05**	**134**	*eP*	Pn	19 03 46.3	-3.0
SPA0				*eS*	Sn	19 04 50.0	-8.4
SPA0				IAML		19 04 57.2	
comp=Z,2.6nm,0.8s							
DAG	**Danmarks Havn**	**6.80**	**207**	*i* S	Sn	19 05 05.9	-11
DAG				*i* P	Pn	19 03 55.0	-4.7
DAG				*i* P	Pn	19 03 55.5	-4.1
DAG				IAML		19 05 14.9	
comp=Z,2.5nm,0.4s							
DAG	**Danmarks Havn**	**6.80**	**207**	*i* P	Pn	19 03 55.0	-4.7
DAG				*i* S	Sn	19 05 05.9	-11
DAG				IAML		19 05 14.9	
comp=Z,2.5nm,0.4s							
HSPB	**Hornsund (broa**	**7.07**	**139**	*eP*	Pn	19 04 01.4	-1.9
HSPB				IAML		19 05 23.4	
comp=Z,2.1nm,0.4s							
HSPB	**Hornsund (broa**	**7.07**	**139**	*eP*	Pn	19 04 01.0	-2.3
HSPB				*eS*	Sn	19 05 15.9	-7.7
ZFI2	**Zemlya Franca-**	**7.48**	**80**	*eP*	Pn	19 04 05.9	-2.9
ZFI2				*eS*	Sn	19 05 23.8	-10
comp=Z,12nm,1.1s							
HOPEN	**Hopen**	**8.37**	**126**	*eP*	Pn	19 04 18.7	-2.3
HOPEN				IAML		19 05 48.7	
comp=Z,2.5nm,1.1s							
HOPEN	**Hopen**	**8.37**	**126**	*eP*	Pn	19 04 18.0	-3.1
HOPEN				*eS*	Sn	19 05 46.3	-9.1
NEEM	**North Greenlan**	**9.24**	**258**	*i* P	Pn	19 04 27.8	-5.5
NEEM				*i*		19 06 05.1	
NEEM				IAML		19 06 08.6	
comp=Z,2.1nm,0.5s							
DBG	**Daneborg**	**9.31**	**206**	*i* P	Pn	19 04 28.7	-5.2
DBG				*i*		19 06 04.1	
DBG				IAML		19 06 11.2	
comp=Z,1.0nm,0.4s							
DBG	**Daneborg**	**9.31**	**206**	*i* P	Pn	19 04 28.7	-5.2
DBG				*eS*	Sn	19 06 02.1	-16
DBG				*i*		19 06 04.1	
DBG				IAML		19 06 11.2	
comp=Z,1.0nm,0.4s							
BJO1	**Bjornoya**	**9.73**	**139**	P	Pn	19 04 34.6	-5.1
BJO1				S	Sn	19 06 14.5	-14

IDC ***05*** *19:06:13.4±0.8, 37°.70N×78°.00E, h0km, mb3.6/14, mb1 3.8/19, mb1mx3.7/39, mbtmp3.6/19, ML3.3/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/40, Error ellipse: s-maj=18.7km s-min=13.0km az=49.0*
SOME ***05*** *19:06:13.8, 37°.70N×78°.38E, h10km*
BJI ***05*** *19:06:16.0±0.0, 37°.56N×77°.99E, h10km, mB4.3/5, mb3.6/6, ML4.0/7*
NNC ***05*** *19:06:17.8±1.8, 37°.77N×78°.24E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=18.0km s-min=13.5km az=104.0*
ISC 05 19:06:16.8±0.7, 37°.70N±0°.05×77°.98E±0°.06, h17km, n49, σ2§49/53, mb3.6/14, 7C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.40**	**320**	Pg	**Pn**	**19 06 57.4**	**+1.9**
KSH				Sg	**Sn**	**19 07 25.6**	**+1.0**
KSH				smax	smax		
comp=N,660nm,0.5s							
KSH				smax	smax		
comp=E,860nm,0.5s							
SATY	**Saty**	**5.36**	**3**	*eP*	**Pg**	**19 07 54.9**	**-4.6**
24nm,0.9s							
SATY				*eS*	**Sg**	**19 09 08.3**	**-0.6**
108nm,0.8s							
SATY	**Saty**	**5.36**	**3**	Pg	**Pg**	**19 07 54.7**	**-4.7**
24nm,0.9s							
SATY				Lg	Lg	19 09 08.3	
108nm,0.8s							
UZB	**Uzynbulak**	**5.50**	**8**	*eP*	**Pb**	**19 07 56.1**	**+3.7**
8.4nm,0.6s							
UZB				*eS*	**Sg**	**19 09 10.3**	**-3.0**
46nm,0.7s							
UZB	**Uzynbulak**	**5.50**	**8**	Pg	**Pb**	**19 07 56.1**	**+3.7**
8.4nm,0.6s							
UZB				Lg	Lg	19 09 10.3	
46nm,0.7s							
MDOK	**Medeo**	**5.50**	**353**	*eP*	**Pb**	**19 07 56.6**	**+4.1**
21nm,0.5s							
MDOK				*eS*	**Sg**	**19 09 11.2**	**-2.2**
56nm,0.7s							
MDOK	**Medeo**	**5.50**	**353**	⇑Pn	**Pn**	**19 07 39.1**	**+1.0**
4.4nm,0.6s							
MDOK				⇓Pg	Pb	19 07 57.2	+4.7
31nm,0.8s							
MDOK				⇑Lg	Lg	19 09 11.3	
85nm,0.8s							
KNDC	**Almaty**	**5.57**	**352**	⇑Pg	Pg	19 07 59.0	-4.4
43nm,0.7s							
KNDC				⇓Lg	Lg	19 09 15.2	
246nm,0.8s							
SHLS	**Shalkode**	**5.57**	**11**	*eP*	Pg	19 07 58.2	-5.2
31nm,0.6s							
SHLS				*eS*	**Sg**	**19 09 14.0**	**-1.4**
153nm,0.8s							
SHLS	**Shalkode**	**5.57**	**11**	Pg	Pg	19 07 58.2	-5.2
31nm,0.6s							
SHLS				Lg	Lg	19 09 14.0	
153nm,0.8s							
AAK	**Ala-Archa**	**5.61**	**333**	Pn	**Pn**	**19 07 43.1**	**+3.5**
1.9nm,0.3s,baz=151,slow=6.4,SNR=6.6							
AAK				Pg	**Pb**	**19 07 55.7**	**+1.4**
4.0nm,0.3s,baz=126,slow=4.7,SNR=7.1							
AAK				Sn	**Sn**	**19 08 48.3**	**+4.6**
2.8nm,0.3s,baz=95,slow=1.5,SNR=4.3							
AAK				Lg	Lg	19 09 13.8	
1.0nm,0.3s,baz=21,slow=21,SNR=0.8							
AAK	**Ala-Archa**	**5.61**	**333**	⇓Pn	**Pn**	**19 07 43.1**	**+3.5**
8.2nm,0.8s							
AAK				⇓Pg	Pb	19 08 00.4	+6.0
25nm,0.8s							
AAK				⇓Lg	Lg	19 09 16.4	
96nm,1.1s							
AAK	**Ala-Archa**	**5.61**	**333**			19 07 55.7	
AAK	**Ala-Archa**	**5.61**	**333**	P	P	19 07 43.1	-5.4
PDGK	**Podgornoye**	**5.74**	**11**	Pg	**Pb**	**19 07 58.4**	**+1.9**
5.3nm,0.5s							
PDGK				Lg	Lg	19 09 14.1	
23nm,0.6s							
PDGK	**Podgornoye**	**5.74**	**11**	⇓Pn	**Pn**	**19 07 43.7**	**+2.4**
11nm,0.5s							
PDGK				⇑Pg	**Pg**	**19 08 02.1**	**-4.6**
32nm,1.0s							
PDGK				⇑Lg	Lg	19 09 16.0	
106nm,1.1s							
KPKS	**Kokpek**	**5.79**	**5**	*eP*	**Pb**	**19 08 01.4**	**+4.1**
20nm,0.4s							
KPKS				*eS*	**Sg**	**19 09 19.3**	**-3.1**
72nm,0.3s							
DGS	**Degeres**	**5.79**	**344**	*eP*	Pg	19 08 03.5	-4.1
17nm,0.9s							
DGS				*eS*	**Sg**	**19 09 23.0**	**+0.5**
36nm,0.8s							
KRBS	**Karabastau**	**6.24**	**344**	*eP*	Pb	19 08 11.4	+6.4
12nm,0.6s							
KRBS				*eS*	**Sg**	**19 09 36.5**	**-0.5**
15nm,1.1s							
ARXS	**Arharly**	**6.51**	**359**	*eP*	**Pb**	**19 08 13.6**	**+4.1**
17nm,0.6s							
ARXS				*eS*	**Sg**	**19 09 40.6**	**-5.0**
37nm,0.5s							
ARXS	**Arharly**	**6.51**	**359**	Pg	**Pb**	**19 08 13.5**	**+3.9**
17nm,0.6s							
ARXS				Lg	Lg	19 09 40.6	
37nm,0.5s							
MAKZ	**Makanchi**	**9.57**	**17**	⇑Pn	**Pn**	**19 08 35.1**	**+1.3**
6.7nm,0.6s							
WMQ	**Urumqi**	**9.57**	**47**	*eP*	**Pn**	**19 08 35.1**	**+1.3**
WMQ				S	Sn	19 10 27.9	+6.9
WMQ				smax	smax		
comp=N,63nm,1.1s							
WMQ				smax	smax		
comp=E,58nm,1.1s							
MKAR	**Makanchi Array**	**9.63**	**18**	Pn	**Pn**	**19 08 35.0**	**+0.4**
2.2nm,0.3s,baz=202,slow=13,SNR=96							
MKAR				Sn	**Sn**	**19 10 20.9**	**-1.5**
1.6nm,0.3s,baz=194,slow=27,SNR=5.9							
KURBB	**Kurchatov Arra**	**12.93**	**2**	Pn	**Pn**	**19 09 19.1**	**-0.4**
0.0nm,0.3s,baz=186,slow=10,SNR=3.4							
KURBB				Lg	Lg	19 13 09.9	
0.0nm,0.3s,baz=182,slow=33,SNR=4.1							
KURBB	**Kurchatov Arra**	**12.93**	**2**	⇓Pn	**Pn**	**19 09 23.0**	**+3.4**
1.8nm,0.6s							
KURBB				⇑Lg	Lg	19 13 07.3	
15nm,1.1s,baz=177,slow=23							
GEYT	**Alibeck**	**15.71**	**277**	Pn	**Pn**	**19 09 56.9**	**-0.4**
0.1nm,0.3s,baz=89,slow=15,SNR=1.4							
BVAR	**Borovoye Array**	**16.21**	**343**	Pn	**P**	**19 10 06.5**	**-0.2**
0.8nm,0.3s,baz=191,slow=20,SNR=12							
BRVK	**Borovoye**	**16.27**	**343**	P	**P**	**19 10 08.9**	**+1.6**
ZALV	**Zalesovo Beam**	**16.92**	**14**	Pn	**Pn**	**19 10 10.3**	**-2.3**
0.1nm,0.3s,baz=208,slow=9.7,SNR=3.6							
GTA	**Gaotai**	**17.16**	**78**	*eP*	**P**	**19 10 18.1**	**+0.7**
GTA				pP	sP	19 10 23.4	-1.6
GTA				sP	pP	19 10 27.0	+4.4
GTA				pmax	pmax		
comp=Z,2.0nm,1.2s							
GTA				pmax	pmax		
comp=Z,63nm,5.5s							
AKTO	**Aktyubinsk**	**19.11**	**318**	P	**P**	**19 10 37.6**	**-1.1**
0.3nm,0.3s,baz=109,slow=8.0,SNR=5.4							
ARU	**Arti**	**22.79**	**332**	P	**P**	**19 11 18.7**	**+0.4**
0.7nm,0.6s,baz=144,slow=14,SNR=2.3							
SONM	**Songino Array**	**23.07**	**55**	P	**P**	**19 11 21.8**	**+0.3**
1.8nm,0.6s,baz=245,slow=11,SNR=8.3							
BELG	**Belogornoye**	**25.76**	**315**	LR	LR	19 23 19.1	
comp=Z,40nm,19.5s,baz=288,slow=40							
GNI	**Garni**	**25.89**	**286**	LR	LR	19 22 21.3	
comp=Z,25nm,18.7s,baz=71,slow=37							
CMAR	**Chiang Mai Arr**	**26.53**	**131**	P	**P**	**19 11 53.4**	**-0.3**
0.3nm,0.6s,baz=310,slow=10,SNR=2.0							
BRTR	**Keskin Array B**	**34.40**	**287**	P	**P**	**19 13 03.0**	**-0.3**
0.2nm,0.3s,baz=102,slow=6.1,SNR=2.3							
AKASG	**Malin Array Be**	**36.63**	**307**	P	**P**	**19 13 21.5**	**-0.6**
0.2nm,0.3s,baz=75,slow=7.8,SNR=2.6							
KSRS	**Korea Array**	**39.19**	**75**	P	**P**	**19 13 42.8**	**-1.1**
0.3nm,0.5s,baz=284,slow=8.7,SNR=2.2							
FINES	**FINESS Array B**	**39.72**	**324**	P	**P**	**19 13 48.7**	**+0.7**
1.5nm,0.4s,baz=110,slow=9.0,SNR=29							
ARCES	**ARCESS Array B**	**42.27**	**336**	P	**P**	**19 14 09.3**	**+0.4**
1.9nm,0.8s,baz=90,slow=8.5,SNR=4.2							
GERES	**GERESS Array B**	**46.80**	**305**	P	**P**	**19 14 45.2**	**-0.3**
0.2nm,0.6s,baz=62,slow=6.2,SNR=3.8							
NB2	**NORSAR Subarra**	**46.83**	**322**	P	**P**	**19 14 45.3**	**-0.1**
comp=Z,0.7nm,0.5s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**46.83**	**322**	P	**P**	**19 14 44.3**	**-1.1**
comp=Z,1.6nm,0.8s,baz=89,slow=7.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**71.29**	**272**	P	**P**	**19 17 34.3**	**-1.3**
comp=Z,0.2nm,0.3s,baz=44,slow=5.2,SNR=1.9							
ILAR	**Eielson Array**	**71.98**	**19**	P	**P**	**19 17 38.4**	**-0.7**
comp=Z,1.0nm,0.8s,baz=314,slow=4.8,SNR=13							
WRA	**Warramunga Arr**	**78.06**	**127**	P	**P**	**19 18 14.9**	**+0.2**
comp=Z,0.6nm,0.9s,baz=330,slow=4.9,SNR=2.3							
ASAR	**Alice Springs**	**80.53**	**130**	P	**P**	**19 18 25.8**	**-2.4**
comp=Z,0.2nm,0.7s,baz=320,slow=4.7,SNR=1.8							

IDC ***05*** *19:26:00.5±0.5, 70°.38N×144°.01W, h0km, mb4.1/27, mb1 4.3/32, mb1mx4.2/41, mbtmp4.2/32, ML4.4/5, MS3.3/19, Ms1 3.4/19, ms1mx3.2/44, Error ellipse: s-maj=13.8km s-min=10.0km az=42.0*
ANF ***05*** *19:26:01.0±1.3, 70°.29N×144°.03W, h3km±8km, ML4.5/9, Error ellipse: s-maj=5.1km s-min=3.3km az=128.0*
AEIC ***05*** *19:26:01.2±2.8, 70°.25N±0°.06×144°.0W±0°.1, h21km±5km, ML4.2/46, mb4.6/29(NEIC), ML4.3/14(NEIC), Error ellipse: s-maj=8.4km s-min=7.1km az=183.0*
MOS ***05*** *19:26:03.3±1.1, 70°.19N×144°.02W, h35km, mb4.8/13, Error ellipse: s-maj=28.8km s-min=6.4km az=91.8*
NEIC ***05*** *19:26:04.4±2.0, 70°.29N±0°.06×143°.9W±0°.1, h36km±5km, Error ellipse: s-maj=8.3km s-min=6.7km az=182.0*
ISC 05 19:26:04.6±0.3, 70°.26N±0°.04×143°.86W±0°.03, h35km, n404, σ1§49/422, mb4.5/65, MS3.5/21, 17C-6D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS01	**TAPS Pump Stn**	**1.61**	**272**		**Pn**	**19 26 30.1**	**-0.4**
PS01					**Sn**	**19 26 52.1**	**+2.1**
TOLK	**Toolik Lake Re**	**2.59**	**234**	P	**Pn**	**19 26 43.4**	**-0.6**
baz=48,SNR=58							
TOLK				Sb	Sn	19 27 23.1	+8.8
baz=48							

TOLK **Toolik Lake Re** 2.59 234 IAML 19 27 31.0
comp=N,1µm,0.7s
TOLK IAML 19 27 33.7
comp=E,1µm,0.8s
TOLK Toolik Lake Re 2.59 234 Pn Pn 19 26 43.6 -0.4
PS04 TAPS Pump Stn4 2.69 229 Pn 19 26 45.2 -0.1
BM01 Burnt Mountain 2.84 185 Pn 19 26 47.5 +0.2
FYU Fort Yukon 3.75 188 Pn **Pn 19 26 59.8 -0.1**
COLD Coldfoot 3.83 220 P **Pn 19 27 00.6 -0.3**
baz=34,SNR=49
COLD Coldfoot 3.83 220 Pn **Pn 19 27 00.7 -0.3**
INK Inuvik 4.16 113 Pn **Pn 19 27 06.2 +0.7**
comp=E,20nm,0.3s,baz=298,slow=16,SNR=248
INK Sn **Sn 19 27 50.3 -2.5**
comp=E,12nm,0.3s,baz=345,slow=7.7,SNR=9.0
INK LR LR 19 28 50.0
comp=E,82nm,19.5s,baz=261,slow=40
INK Inuvik 4.16 113 P **Pn 19 27 05.9 +0.4**
INK 19 27 51.9
INK Inuvik 4.16 113 P **Pn 19 27 06.2 +0.7**
baz=303,SNR=52
INK S **Sn 19 27 51.8 -1.0**
baz=303
INK Inuvik 4.16 113 Pn **Pn 19 27 05.9 +0.4**
INK IAML 19 27 55.3
comp=N,307nm,0.6s
A21K Barrow 4.34 290 P **Pn 19 27 07.7 -0.3**
baz=98
A21K S **Sn 19 27 56.4 -0.9**
baz=98
A21K Barrow 4.34 290 Pn **Pn 19 27 08.2 +0.2**
A21K IAML 19 28 41.0
comp=E,462nm,1.1s
A21K IAML 19 28 51.0
comp=N,410nm,1.9s
A21K Barrow 4.34 290 Sn 19 27 56.1 -1.2
H24K Noodor Dome 4.70 201 P **Pn 19 27 11.8 -1.0**
baz=16,SNR=38
H24K S **Sn 19 28 04.9 -1.1**
baz=16
H24K Noodor Dome 4.70 201 Pn 19 27 11.9 -1.0
H24K **Sn 19 28 05.2 -0.9**
EPYK Eagle Plains 4.72 143 P **Pn 19 27 14.0 +0.7**
baz=329,SNR=116
EPYK S **Sn 19 28 08.5 +1.8**
baz=329
EPYK Eagle Plains 4.72 143 Pn **Pn 19 27 14.0 +0.7**
EPYK IAML 19 28 42.7
comp=E,389nm,0.8s
PRP Porcupine Dome 4.81 188 P **Pn 19 27 14.4 -0.1**
baz=6.3,SNR=110
PRP S **Sn 19 28 09.2 +0.2**
baz=6.3
PRP Porcupine Dome 4.81 188 Pn 19 27 14.4 -0.1
H23K Yukon River 4.94 208 P **Pn 19 27 15.3 -0.9**
baz=23,SNR=33
H23K S **Sn 19 28 12.0 -0.1**
baz=23
H23K Yukon River 4.94 208 Pn 19 27 15.4 -0.8
POKR Poker Plat Res 5.35 196 P **Pn 19 27 21.2 -0.5**
baz=13
POKR Poker Plat Res 5.35 196 Pn 19 27 21.7 -0.1
POKR IAML 19 29 00.3
comp=E,167nm,1.0s
POKR IAML 19 29 14.9
comp=N,153nm,1.2s
I23K Minto, Yukon-K 5.55 205 P **Pn 19 27 23.8 -0.7**
baz=19,SNR=35
I23K Minto, Yukon-K 5.55 205 Pn 19 27 23.8 -0.7
MDM Murphy Dome 5.58 199 Pn 19 27 24.3 -0.7
EGAK Eagle 5.61 168 P **Pn 19 27 25.6 +0.2**
baz=350,SNR=53
EGAK S **Sn 19 28 28.7 +0.2**
baz=350
EGAK Eagle 5.61 168 Pn **Pn 19 27 25.8 +0.4**
COLA College 5.63 198 *i* P **Pn 19 27 24.8 -0.8**
COLA College 5.63 198 P **Pn 19 27 24.7 -0.8**
baz=14
COLA College 5.63 198 Pn 19 27 25.2 -0.3
TCOL CIGO, UAF Yank 5.63 198 P **Pn 19 27 24.9 -0.7**
baz=14
TCOL CIGO, UAF Yank 5.63 198 Pn 19 27 25.5 -0.1
IL31 5.64 193 Pn 19 27 25.5 -0.2
ILAR Eielson Array 5.64 193 Pn **Pn 19 27 25.3 -0.5**
comp=N,1.0nm,0.3s,baz=4.1,slow=14,SNR=43
ILAR Sn **Sn 19 28 25.7 -3.5**
comp=N,3.6nm,0.3s,baz=27,slow=9.8,SNR=5.3
ILAR Lg Lg 19 28 53.4
comp=N,2.6nm,0.3s,baz=18,slow=33,SNR=1.6
ILAR Eielson Array 5.64 193 P **Pn 19 27 25.6 -0.2**
ILAR Eielson Array 5.64 193 Pn **Pn 19 27 25.6 -0.2**
H21K Melozitna Rive 5.72 220 P **Pn 19 27 25.6 -1.2**
baz=32
H21K S **Sn 19 28 29.9 -1.3**
baz=32
CCB Clear Creek Bu 5.84 197 Pn 19 27 27.8 -0.8
MLY Manley 5.87 210 P **Pn 19 27 28.2 -0.9**
baz=23,SNR=40
MLY Manley 5.87 210 Pn **Pn 19 27 27.9 -1.1**
I21K Tanana 5.96 215 P **Pn 19 27 29.3 -0.9**
baz=27,SNR=24
I21K Tanana 5.96 215 Pn 19 27 29.8 -0.4
HDA Harding Lake 6.00 193 P **Pn 19 27 29.8 -1.0**
baz=9.7,SNR=28
HDA Harding Lake 6.00 193 Pn 19 27 30.6 -0.1
NEA2 Nenana 6.04 202 P **Pn 19 27 30.0 -1.2**
baz=17,SNR=24
NEA2 Nenana 6.04 202 Pn 19 27 30.5 -0.8
WRH Wood River Hil 6.04 198 Pn 19 27 30.8 -0.6
K27K Chicken 6.30 173 P **Pn 19 27 35.3 +0.4**
baz=354
K27K Chicken 6.30 173 Pn 19 27 35.7 +0.8
SCRK Sand Creek 6.32 181 P **Pn 19 27 35.8 +0.6**
baz=0.0,SNR=70
SCRK Sand Creek 6.32 181 Pn **Pn 19 27 35.7 +0.6**
DAWY Dawson 6.46 162 Pn 19 27 38.3 +1.1
BWN Browne 6.49 202 Pn 19 27 36.9 -0.6
DOT Dot Lake 6.65 181 Pn 19 27 40.3 +0.7
BPAW Bear Paw Mtn. 6.78 207 P **Pn 19 27 40.5 -0.9**
baz=21,SNR=15
BPAW Bear Paw Mtn. 6.78 207 Pn **Pn 19 27 40.8 -0.6**
MCK McKinley 6.85 199 P **Pn 19 27 42.1 -0.4**
MCK McKinley 6.85 199 P **Pn 19 27 41.6 -0.9**
baz=14,SNR=7.0
MCK McKinley 6.85 199 Pn **Pn 19 27 42.1 -0.4**
C36M Paulatuk 6.90 88 P **Pn 19 27 41.9 -1.1**
baz=287
C36M Paulatuk 6.90 88 Pn 19 27 42.2 -0.8
RDOG Red Dog Mine 7.13 261 P **Pn 19 27 45.1 -1.1**
baz=63
RDOG Red Dog Mine 7.13 261 Pn 19 27 45.9 -0.3
RND Reindeer 7.16 198 P **Pn 19 27 46.7 0.0**
RND Reindeer 7.16 198 Pn 19 27 46.7 0.0
CHUM Lake Minchumin 7.20 211 P **Pn 19 27 46.7 -0.5**
baz=23,SNR=26
BC03 7.28 173 Pn 19 27 49.1 +0.9
BCAR Beaver Creek A 7.28 173 Pn 19 27 49.4 +1.1
L27K Beaver Creek, 7.28 173 P **Pn 19 27 48.7 +0.4**
baz=354,SNR=18
L27K Beaver Creek, 7.28 173 Pn 19 27 49.3 +1.0
KTH Kantishna Hill 7.28 206 Pn 19 27 47.9 -0.6
TRF Thorofare Moun 7.29 203 P **Pn 19 27 47.8 -0.9**
baz=17,SNR=7.2
TRF Thorofare Moun 7.29 203 Pn 19 27 48.6 0.0
PAX Paxson 7.36 186 P **Pn 19 27 50.2 +0.8**
PAX Paxson 7.36 186 P **Pn 19 27 49.5 +0.1**
baz=4.0,SNR=38
PAX S **Sn 19 29 11.1 -0.5**
baz=4.0
PAX Paxson 7.36 186 Pn 19 27 50.2 +0.8
MENT Mentasta 7.36 180 Pn 19 27 50.1 +0.7
WAT1 Susitna Watana 7.70 196 P **Pn 19 27 53.7 -0.3**
baz=12
WAT1 S **Sn 19 29 18.4 -1.4**
baz=12
WAT7 Susitna Watana 7.72 197 Pn 19 27 54.2 -0.2
HARP HAARP 7.92 184 P **Pn 19 27 57.4 +0.3**
baz=2.9,SNR=8.4
HARP HAARP 7.92 184 Pn 19 27 58.4 +1.4
PPLA Purkeypile 8.10 208 P **Pn 19 27 59.0 -0.6**
baz=20,SNR=7.5
PPLA Purkeypile 8.10 208 Pn 19 27 59.3 -0.3
YUK2 White River 8.60 170 Pn 19 28 07.7 +1.2
YUK3 Moose Creek 8.64 169 Pn 19 28 08.0 +1.0
SML Sawmill 8.68 194 P **Pn 19 28 06.2 -1.4**
baz=9.9
N25K Chitina, Valde 8.70 182 P **Pn 19 28 07.5 -0.3**
baz=1.4
TT01 Tatalina 8.81 219 Pn 19 28 08.5 -0.7
KLU Klutina 8.85 186 P **Pn 19 28 09.3 -0.6**
baz=4.3
GLB Gilahina Butte 8.86 180 Pn 19 28 11.9 +1.9
SKT Skwentna 8.87 204 P **Pn 19 28 09.3 -0.8**
baz=17
MCARA McCarthy VSAT 8.93 177 P **Pn 19 28 11.2 +0.3**
baz=358
PMR Palmer 8.97 196 P **Pn 19 28 11.1 -0.2**
baz=11
KNK Knik Glacier 9.08 194 P **Pn 19 28 12.5 -0.5**
baz=9.7
M20K Styx River 9.21 208 P **Pn 19 28 14.1 -0.6**
baz=20
L19K White Mountain 9.23 214 P **Pn 19 28 14.4 -0.6**
baz=24
SUA Susitna One 9.27 201 P **Pn 19 28 16.2 +0.6**
baz=14
SUA Susitna One 9.27 201 Pn 19 28 17.8 +2.2
BMRM Bremner River 9.34 182 P **Pn 19 28 17.7 +1.1**
baz=1.3
CTG Chitna Glacier 9.40 172 P **Pn 19 28 16.8 -0.6**
baz=354
CTGM Chitina Glacie 9.40 172 Pn 19 28 19.7 +2.2
M19K Big River Lodg 9.40 212 P **Pn 19 28 17.2 -0.2**
baz=22
CRQE Cirque 9.56 178 P **Pn 19 28 19.7 +0.1**
baz=358
PWL Port Wells 9.62 193 Pn 19 28 22.0 +1.6
ISLE Juniper Island 9.72 176 Pn 19 28 23.2 +1.3
HYT Haines Junctio 9.83 161 Pn 19 28 25.5 +2.2
HMT Hamilton 9.97 181 Pn 19 28 28.0 +2.8
MESA MESA 10.16 175 P **Pn 19 28 27.5 -0.4**
baz=356
WHY Whitehorse 10.32 155 P **Pn 19 28 30.5 +0.4**
baz=343
WHY Whitehorse 10.32 155 Pn 19 28 30.4 +0.4
RSO Redoubt South 10.50 205 Pn 19 28 30.0 -2.6
SKAG Skagway 11.42 158 P **Pn 19 28 46.2 +1.3**
baz=345
BESE Bessie Mountai 12.34 157 Pn 19 28 59.7 +2.2
KDAK Kodiak Island 13.08 201 LR LR 19 33 29.0
comp=N,49nm,21.3s,baz=46,slow=34
DLBC Dease Lake 13.24 147 Pn **Pn 19 29 07.9 -2.0**
comp=N,1.7nm,0.3s,baz=1.8,slow=9.9,SNR=22
DLBC Sn **Sn 19 31 34.0 -1.6**
comp=N,0.2nm,0.3s,baz=233,slow=13,SNR=2.4
DLBC Lg Lg 19 33 06.0
comp=N,0.2nm,0.3s,baz=230,slow=24,SNR=0.9
DLBC Dease Lake 13.24 147 Pn 19 29 10.9 +1.0
YKA Yellowknife Ar 13.92 109 Pn **Pn 19 29 15.1 -3.9**
comp=N,1.9nm,0.3s,baz=312,slow=12,SNR=26
YKA Sn Sn 19 31 34.9 -17
comp=N,1.4nm,0.3s,baz=321,slow=22,SNR=2.4
RES Resolute Bay 14.99 51 Pn **Pn 19 29 31.0 -2.3**
comp=N,1.9nm,0.3s,baz=245,slow=12,SNR=12
RES Sn Sn 19 32 04.6 -13
comp=N,2.3nm,0.3s,baz=314,slow=8.4,SNR=3.2
RES Resolute Bay 14.99 51 P **Pn 19 29 30.8 -2.5**
RES pmax pmax
comp=Z,24nm,0.8s
RES Resolute Bay 14.99 51 Pn 19 29 30.8 -2.5
RES IAmb IAmb 19 29 54.3
comp=Z,24nm,0.8s
EUNU Eureka 16.67 31 P **Pn 19 29 54.5 -0.5**
BILL Bilibino 17.48 287 *i* P **Pn 19 30 04.1 -1.0**
BILL pmax pmax
comp=Z,4.0nm,1.2s
BILL MLR MLR
comp=Z,107nm,15.0s
TULEG Thule 20.79 40 *i* P **P 19 30 42.0 0.0**
TULEG *i* P Pn 19 30 42.6 -2.0
TULEG IAmb IAmb 19 30 44.2
comp=Z,8.5nm,0.6s
TULEG Thule 20.79 40 P **P 19 30 42.1 0.0**
NEEM North Greenlan 23.92 33 *i* P **P 19 31 16.3 +1.4**
NEEM IAmb IAmb 19 31 19.3
comp=Z,9.8nm,0.7s
D03D Eldon 24.92 145 P **P 19 31 26.4 +2.5**
baz=343
SEY Seymchan 25.17 285 P **P 19 31 26.6 +0.6**
comp=Z,10nm,0.9s,baz=90,slow=3.9,SNR=26
SEY Seymchan 25.17 285 ‖ *e* P **P 19 31 27.2 +1.2**
D04E Lakebay 25.32 145 P **P 19 31 30.2 +2.7**
baz=343
NEW Newport 25.52 136 P **P 19 31 31.7 +2.3**
comp=Z,2.0nm,0.8s,baz=63,slow=6.3,SNR=3.3
NEW LR LR 19 42 41.8
comp=Z,188nm,20.2s,baz=314,slow=39
NEW Newport 25.52 136 P **P 19 31 32.0 +2.6**
baz=339
TIXI Tiksi 26.20 314 P **P 19 31 35.5 +0.2**
comp=Z,2.8nm,0.9s,baz=59,slow=12,SNR=2.4
MSO Missoula 27.63 132 P **P 19 31 47.9 -0.7**
baz=339
EGMT Eagleton 27.63 126 P **P 19 31 49.0 +0.5**
baz=336
H04D Lebanon 27.88 147 P **P 19 31 49.7 -1.0**
baz=345
FRB Frobisher Bay 28.27 65 P **P 19 31 54.5 +0.6**
comp=Z,2.7nm,0.5s,baz=312,slow=11,SNR=2.2
FRB LR LR 19 43 44.5
comp=Z,72nm,19.3s,baz=268,slow=38
I05D Terrebonne, OR 28.33 145 P **P 19 31 55.8 +1.1**
baz=344
J05D Fort Rock, OR 29.36 145 P **P 19 32 05.0 +1.0**
baz=344
K02D Willamette Mer 29.48 149 P **P 19 32 07.2 +2.2**
baz=346
DAG Danmarks Havn 29.52 22 *e* P **P 19 32 05.3 +0.3**
DAG Danmarks Havn 29.52 22 *e* P **P 19 32 05.2 +0.3**
BCYI Bear Canyon 30.12 134 P **P 19 32 12.5 +1.7**
L04D Klamath Falls 30.19 147 P **P 19 32 14.0 +2.6**
baz=346
RLMT Red Lodge 30.43 127 P **P 19 32 13.4 -0.1**
baz=338
M04C Macdoel 30.70 147 P **P 19 32 16.9 +1.0**
baz=346
M02C Callahan 30.89 148 P **P 19 32 18.6 +1.1**
baz=346
PETK Petropavlovsk- 30.95 267 P **P 19 32 17.5 -0.3**
comp=Z,3.7nm,0.9s,baz=120,slow=6.0,SNR=9.4
PETK LR LR 19 46 02.1
comp=Z,53nm,20.6s,baz=82,slow=39
PETK Petropavlovsk- 30.95 267 P **P 19 32 13.9 -3.9**
PETK Petropavlovsk- 30.95 267 P **P 19 32 13.9 -3.9**
SPITS Spitsbergen Ar 31.31 8 P **P 19 32 20.0 -0.7**
comp=Z,6.5nm,1.1s,baz=0.0,slow=8.6,SNR=1.2
N02D Trinity Center 31.32 148 P **P 19 32 22.9 +1.6**
baz=346
DBG Daneborg 31.37 26 *i* P **P 19 32 22.4 +1.1**
DBG IAmb IAmb 19 32 23.2
comp=Z,2.3nm,0.7s
AGMN Agassiz Nation 31.58 109 P **P 19 32 24.0 +0.7**
baz=331
ICESG Greenland Ices 32.02 41 *i* P **P 19 32 28.7 +1.3**
ICESG IAmb IAmb 19 32 30.4
comp=Z,6.5nm,0.7s
O03E Paynes Creek 32.15 147 P **P 19 32 29.3 +0.8**
baz=346
BW06 Boulder Array 32.55 130 P **P 19 32 32.3 +0.1**
baz=339
PD31 Pinedale Array 32.55 130 P **P 19 32 28.3 -3.8**
PDAR Pinedale Array 32.55 130 P **P 19 32 34.0 +1.9**
comp=Z,1.0nm,0.7s,baz=14,slow=4.3,SNR=11
PDAR LR LR 19 47 40.9
comp=Z,81nm,18.6s,baz=326,slow=40
PDAR Pinedale Array 32.55 130 P **P 19 32 34.5 +2.3**
RSSD Black Hills 32.82 122 P **P 19 32 34.5 0.0**
baz=336
BEKR Beckworth 32.83 146 P **P 19 32 37.0 +2.4**
YAK Yakutsk 32.93 300 P **P 19 32 34.9 -0.1**
comp=Z,4.2nm,0.7s,baz=126,slow=3.1,SNR=7.1
YAK Yakutsk 32.93 300 *i* P **P 19 32 35.5 +0.5**
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 32.93 300 P **P 19 32 36.0 +1.0**
YAK IAmb IAmb 19 32 36.8
comp=Z,8.0nm,0.7s
EYMN Ely 33.31 104 P **P 19 32 38.5 0.0**
baz=331,SNR=5.1
EYMN Ely 33.31 104 P **P 19 32 40.4 +1.9**
EYMN IAmb IAmb 19 32 41.0
comp=Z,6.6nm,0.7s
K22A Casper 33.47 126 P **P 19 32 41.6 +1.4**
baz=338
DUG Dugway, Tooele 34.15 135 P **P 19 32 45.8 -0.2**
baz=342
NVAR Mina Array Bea 34.63 143 P **P 19 32 52.1 +1.9**
comp=Z,2.5nm,0.8s,baz=331,slow=6.2,SNR=18
NVAR LR LR 19 48 01.5
comp=Z,66nm,20.1s,baz=281,slow=38
R11A Troy Canyon, C 35.28 140 P **P 19 32 57.8 +2.0**
baz=344
O20A White River Ci 35.35 130 P **P 19 32 58.6 +2.1**
baz=340
ECSD EROS Data Cent 35.41 113 P **P 19 32 57.6 +0.9**
baz=334
ECSD EROS Data Cent 35.41 113 P **P 19 32 57.6 +0.9**
ECSD IAmb IAmb 19 32 59.5
comp=Z,11nm,1.5s
SCHQ Schefferville 35.78 75 P **P 19 33 00.4 +0.6**
comp=Z,9.4nm,0.8s,baz=318,slow=9.3,SNR=13
SCHQ Schefferville 35.78 75 P **P 19 33 00.5 +0.6**
TIN Tinemaha, Big 35.97 144 P **P 19 33 00.8 -0.9**
baz=346
ISCO Idaho Springs 36.37 126 P **P 19 33 07.4 +2.1**
baz=339
MATQ Matagami 36.41 89 P **P 19 33 06.0 +0.8**
baz=328
NRIK Noril'sk 36.48 332 P **P 19 33 05.9 +0.3**
comp=Z,6.6nm,0.8s,baz=34,slow=8.0,SNR=2.3
NRIK Noril'sk 36.48 332 *i* P **P 19 33 08.1 +2.6**
NRIK pmax pmax
comp=Z,6.0nm,0.7s
TPNV Topopah Spring 36.48 141 P **P 19 33 08.4 +2.3**
baz=345,SNR=8.0
CWC Cottonwood Cre 36.59 144 P **P 19 33 07.5 +0.4**
baz=346
MPMC Manual Prospec 37.08 143 P **P 19 33 14.4 +3.1**
baz=346
LSQQ Lebel-sur-Quev 37.24 89 P **P 19 33 13.8 +1.6**
baz=329
SHOC Shoshone, Teco 37.48 142 P **P 19 33 16.9 +2.4**
baz=345
LRMC Laurel Mtn Rad 37.60 144 P **P 19 33 16.9 +1.3**
baz=346
PKM Mcpherson Peak 37.76 147 P **P 19 33 18.6 +1.5**
baz=347
GSC Goldstone, Bar 37.95 143 P **P 19 33 20.7 +2.2**
baz=345
S22A 4UR Ranch, Cre 37.97 129 P **P 19 33 20.1 +1.1**
baz=341
MVCO Mesa Verde 38.05 131 P **P 19 33 20.5 +1.0**
baz=341
SCIA State Center 38.13 111 P **P 19 33 20.2 +0.4**
baz=335
JFWS Jewell Farm 38.17 107 P **P 19 33 19.5 -0.7**
JFWS pmax pmax
comp=Z,15nm,0.6s
JFWS Jewell Farm 38.17 107 P **P 19 33 21.7 +1.5**
baz=334,SNR=5.9
JFWS Jewell Farm 38.17 107 P **P 19 33 19.5 -0.7**
SDCO Great Sand Dun 38.33 128 P **P 19 33 23.7 +1.8**
baz=340
HEC Hector,Ludlow 38.50 142 P **P 19 33 24.0 +0.8**
baz=345
GMRC Granite Mounta 38.69 142 P **P 19 33 23.9 -0.9**
baz=345
BBRC Big Bear Solar 38.93 143 P **P 19 33 28.0 +1.0**
baz=346
WUAZ Wupatki 38.95 136 P **P 19 33 28.4 +1.4**
baz=343
L42A Oliver, Polo 39.18 107 P **P 19 33 28.7 +0.1**
L42A IAmb IAmb 19 33 30.9
comp=Z,12nm,0.7s
BELC Belle Mtn. Jos 39.38 142 P **P 19 33 31.5 +1.0**
baz=346
IRM Iron Mountain 39.40 141 P **P 19 33 32.3 +1.7**
baz=345
ALGO Algonquin Park 39.56 92 P **P 19 33 32.2 +0.4**
baz=331
PFO Pinyon Flats O 39.66 143 LR LR 19 52 19.5
comp=Z,96nm,19.3s,baz=268,slow=40
PFO Pinyon Flats O 39.66 143 P **P 19 33 33.3 +0.5**
baz=346
TPFO Pinon Flats 39.66 143 P **P 19 33 33.1 +0.2**
baz=346
BC3 Big Chuckawall 39.82 142 P **P 19 33 35.3 +1.0**
baz=345
ARCES ARCESS Array B 40.27 6 P **P 19 33 37.8 +0.4**
comp=Z,1.6nm,0.7s,baz=357,slow=7.3,SNR=6.0
ARCES LR LR 19 50 52.4
comp=Z,28nm,18.6s,baz=355,slow=37
D58A Chemin du LacG 40.32 87 P **P 19 33 39.1 +1.1**
baz=330
MONP2 Monument Peak 40.36 143 P **P 19 33 39.4 +0.6**
baz=346
SWSC Sam W. Stewart 40.44 142 P **P 19 33 40.1 +1.0**
baz=346
ZEA Zeya 40.49 294 *e* P P 19 33 48.5 +9.1
HDIL Hopedale 40.60 107 P **P 19 33 41.4 +0.9**
baz=335
ANMO Albuquerque 40.71 130 *i* P **P 19 33 43.9 +2.2**
ANMO Albuquerque 40.71 130 P **P 19 33 44.0 +2.4**
baz=342
E58A La Victoria 40.82 87 P **P 19 33 43.7 +1.6**
baz=331
BOD Bodaibo 40.86 307 *e* P **P 19 33 42.0 -0.4**
BOD pmax pmax
comp=Z,26nm,1.6s
D61A St Aubert, Com 41.14 84 P **P 19 33 46.1 +1.3**
baz=330
YSS Yuzh-Sakhalins 41.26 276 *e* P P 19 33 52.3 +6.5
G57A Newington 41.35 90 P **P 19 33 47.0 +0.5**
baz=331
F59A Saint Guilaume 41.44 87 P **P 19 33 47.9 +0.6**
baz=331
E60A Ste Agathe de 41.44 86 P **P 19 33 48.0 +0.8**
baz=331
F60A Warwick 41.62 87 P **P 19 33 48.7 0.0**
baz=331
D62A Allapoint, All 41.63 83 P **P 19 33 49.6 +0.7**
baz=330
E61A Lac Etchemin 41.71 85 P **P 19 33 51.0 +1.5**
baz=331
H57A Richville 41.77 91 P **P 19 33 50.4 +0.4**
baz=332
E62A Clayton Lake 41.87 84 P **P 19 33 50.2 -0.6**
baz=331
LONY Lake Ozonia 41.91 90 P **P 19 33 51.9 +0.7**
baz=332
S39A Bolivar 41.94 114 P **P 19 33 48.9 -2.5**
F61A St Evariste 41.94 86 P **P 19 33 50.8 -0.6**
baz=331
D63A Stockholm 41.99 82 P **P 19 33 53.1 +1.4**
baz=331
214A Organ Pipe Nat 42.03 139 P **P 19 33 54.0 +1.7**
baz=345
I57A Carthage 42.14 91 P **P 19 33 53.8 +0.7**
baz=332
TUC Tucson 42.15 136 P **P 19 33 54.7 +1.3**
baz=344
H59A Cadyville 42.19 89 P **P 19 33 54.3 +0.9**
baz=332
H58A Gabriels 42.22 90 P **P 19 33 54.4 +0.7**
baz=332
G60A Masonville 42.25 88 P **P 19 33 52.0 -1.9**
baz=331
CCM Cathedral Cave 42.25 111 P **P 19 33 54.2 +0.2**
baz=336
SPX San Pedro Mart 42.35 143 P **P 19 33 53.8 -1.5**
SPX IAmb IAmb 19 34 09.2
comp=Z,9.9nm,1.0s
E63A Oxbow 42.42 83 P **P 19 33 56.3 +1.1**
baz=331
I58A Old Forge 42.59 91 P **P 19 33 55.4 -1.4**
baz=332
H60A Morristown 42.60 88 P **P 19 33 55.7 -1.1**
baz=332
E64A Bridgewater 42.62 83 P **P 19 33 56.5 -0.3**
baz=331
M53A Wi Miller and 42.66 98 P **P 19 33 58.8 +1.5**
baz=334
121A Cookes Peak, D 42.67 133 P **P 19 33 59.6 +1.9**
baz=343
K56A Middlesex 42.67 94 P **P 19 33 57.8 +0.3**
baz=333
G62A West of Eustis 42.76 86 P **P 19 33 58.3 +0.2**
baz=331
J58A Remsen 42.78 92 P **P 19 33 59.0 +0.7**
baz=332

F63A	Nahmakanta, Br	42.81	84	P	P	19 33 59.0 +0.5
	baz=331					
TUL1	Leonard	42.82	117	P	P	19 33 59.5 +0.8
	baz=338					
H61A	Lyndonville	42.88	88	P	P	19 33 59.1 0.0
	baz=332					
F64A	Sherman	42.93	83	P	P	19 34 00.8 +1.4
	baz=331					
M54A	Oil Creek Stat	42.94	97	P	P	19 34 00.6 +1.0
	baz=333					
M54A	Oil Creek Stat	42.94	97	P	P	19 33 58.5 -1.1
M54A				IAmb	IAmb	19 34 01.6
	comp=Z,8.7nm,0.8s					
KLR	Kul'dur	42.94	287	LR	LR	19 55 13.6
	comp=Z,46nm,19.0s,baz=64,slow=41					
WMOK	Wichita Mounta	43.02	121	P	P	19 34 01.4 +1.1
	baz=339					
P49A	Miami Univ. Ec	43.03	103	P	P	19 34 00.3 0.0
	baz=335					
L56A	Greenwood	43.09	95	P	P	19 34 00.5 -0.4
L56A				IAmb	IAmb	19 34 02.9
	comp=Z,14nm,0.9s					
H62A	Milan	43.11	87	P	P	19 34 02.3 +1.4
	baz=332					
PKME	Peaks-Kenny Pk	43.14	85	P	P	19 34 00.8 -0.3
	baz=331					
LBNH	Lisbon	43.14	88	P	P	19 34 02.4 +1.2
	baz=332					
G63A	Kingsbury	43.16	85	P	P	19 34 01.5 +0.2
	baz=332					
U40A	Yellville	43.31	114	P	P	19 34 02.8 +0.2
	baz=337					
N54A	Moraine State	43.32	98	P	P	19 34 02.6 -0.1
	baz=334					
G64A	Maxfield	43.33	84	P	P	19 34 02.3 -0.3
	baz=332					
O53A	New Philadelph	43.55	99	P	P	19 34 05.2 +0.7
	baz=334					
BINY	Binghamton	43.57	93	P	P	19 34 06.0 +1.3
	baz=333					
BINY	Binghamton	43.57	93	P	P	19 34 03.8 -0.9
WCI	Wyandotte Cave	43.69	106	P	P	19 34 04.3 -1.3
	baz=336					
H64A	Troy	43.71	85	P	P	19 34 06.5 +0.8
	baz=332					
L58A	Harry Jones Me	43.76	93	P	P	19 34 07.6 +1.4
	baz=333,SNR=5.3					
I63A	Otisfield	43.77	87	P	P	19 34 07.6 +1.4
	baz=332					
P52A	Corning	43.80	101	P	P	19 34 07.5 +1.0
	baz=334					
H65A	Eastbrook	43.99	84	P	P	19 34 09.8 +1.9
	baz=332					
MNTX	Cornudas Mount	44.07	130	P	P	19 34 09.5 +0.7
	baz=342					
K61A	Williamstown	44.08	90	P	P	19 34 08.2 -0.5
	baz=333					
W39A	Magazine	44.09	115	P	P	19 34 08.6 -0.3
	baz=338					
I64A	Boothbay	44.20	86	P	P	19 34 10.8 +1.1
	baz=332					
H66A	Whiting	44.23	83	P	P	19 34 09.8 0.0
	baz=332					
SSPA	Standing Stone	44.32	96	P	P	19 34 10.0 -0.7
	baz=334					
O56A	Blue Knob Stat	44.42	97	P	P	19 34 12.2 +0.7
	baz=334					
W41B	Gary Mavity, V	44.59	114	P	P	19 34 13.4 +0.5
	baz=338					
K63A	Dunstable	44.65	88	P	P	19 34 12.5 -0.8
	baz=333					
ABTX	Abilene, Hawle	44.76	123	P	P	19 34 12.5 -1.8
	baz=340					
MIAR	Mount Ida	44.76	116	P	P	19 34 15.9 +1.7
	baz=338					
N59A	State Game Lan	44.79	94	P	P	19 34 12.9 -1.6
	baz=334					
HRV	Adam Dziewonsk	44.80	89	P	P	19 34 15.9 +1.4
	baz=333					
X40A	Basin Creek Fa	45.04	115	P	P	19 34 18.0 +1.5
	baz=338					
WVT	Waverly	45.11	109	P	P	19 34 18.2 +1.3
WVT				pmax	pmax	
	comp=Z,12nm,0.7s					
WVT	Waverly	45.11	109	P	P	19 34 18.0 +1.1
	baz=337					
WVT	Waverly	45.11	109	P	P	19 34 18.2 +1.3
PAL	Palisades	45.34	92	P	P	19 34 19.7 +0.9
	baz=333					
CLTN	Cedars of Leba	45.63	107	P	P	19 34 22.3 +1.2
CLTN				IAmb	IAmb	19 34 23.0
	comp=Z,5.1nm,0.7s					
V48A	Smith Brothers	45.79	108	P	P	19 34 22.0 -0.4
V48A				IAmb	IAmb	19 34 24.3
	comp=Z,4.4nm,0.8s					
PLAL	Pickwick Lake	46.08	109	P	P	19 34 25.1 +0.5
OXF	Oxford	46.09	111	P	P	19 34 26.9 +2.2
	baz=338					
TZTN	Tazewell	46.12	104	P	P	19 34 26.7 +1.7
	baz=336					
TXAR	Lajitas Array	46.77	129	P	P	19 34 31.8 +1.5
	comp=Z,0.3nm,0.6s,baz=345,slow=6.7,SNR=2.8					
NOA	NORSAR Array B	47.80	16	P	P	19 34 38.0 +0.2
	comp=Z,0.5nm,0.7s,baz=348,slow=7.7,SNR=2.9					
NOA				LR	LR	19 55 30.7
	comp=Z,26nm,19.0s,baz=315,slow=37					
KMSC	Kings Mountain	48.13	102	P	P	19 34 41.6 +0.9
	baz=336					
PRGR	Permogore	48.21	354	eP	P	19 34 39.9 -1.0
PRGR				pmax	pmax	
	comp=Z,5.0nm,0.9s					
LRAL	Lakeview Retre	48.22	109	P	P	19 34 42.7 +1.3
	baz=338,SNR=9.3					
LRAL	Lakeview Retre	48.22	109	P	P	19 34 42.1 +0.8
FINES	FINESS Array B	48.38	6	P	P	19 34 42.2 -0.1
	comp=Z,0.9nm,0.4s,baz=356,slow=9.8,SNR=12					
FINES	FINESS Array B	48.38	6	P	P	19 34 42.0 -0.2
FINES	FINESS Array B	48.38	6	P	P	19 34 42.0 -0.2
GOGA	Godfrey	49.02	106	P	P	19 34 48.9 +1.5
	baz=337					
TLY	Talaya	49.07	310	LR	LR	19 58 00.8
	comp=Z,32nm,19.2s,baz=344,slow=39					
TLY	Talaya	49.07	310	iP	P	19 34 49.6 +1.9
TLY				pmax	pmax	
	comp=Z,3.0nm,0.7s					
KLMR	Klimovskoe	49.15	358	eP	P	19 34 48.7 +0.6
KLMR				pmax	pmax	
	comp=Z,14nm,1.3s					
KLMR	Klimovskoe	49.15	358	eP	P	19 34 48.7 +0.6
KLMR				AMP		19 34 50.3
	comp=Z,14nm,1.3s					
MOY	Mondy	49.76	312	eP	P	19 34 54.7 +1.6
ZAA0	Zalesovo Array	51.24	325	P	P	19 35 03.1 -1.0
ZALV	Zalesovo Beam	51.24	325	P	P	19 35 04.5 +0.5
	comp=Z,3.6nm,0.6s,baz=21,slow=7.5,SNR=20					
ZALV				LR	LR	19 58 42.5
	comp=Z,38nm,20.6s,baz=28,slow=38					
ZALV	Zalesovo Beam	51.24	325	P	P	19 35 03.4 -0.6
ZALV	Zalesovo Beam	51.24	325	P	P	19 35 03.4 -0.6
ULN	Ulaanbaatar	51.64	306	iP	P	19 35 09.1 +1.7
ULN				pmax	pmax	
	comp=Z,2.0nm,1.1s					
SONM	Songino Array	51.85	306	P	P	19 35 09.5 +0.6
	comp=Z,1.5nm,0.8s,baz=30,slow=5.7,SNR=8.4					
SONM				LR	LR	20 01 00.1
	comp=Z,50nm,18.8s,baz=36,slow=41					
SVE	Sverdlovsk	51.99	343	eP	P	19 35 12.4 +2.7
MJAR	Matsushiro Arr	52.06	273	P	P	19 35 10.9 +0.4
	comp=Z,0.4nm,0.5s,baz=8.9,slow=8.6,SNR=5.7					
ARU	Arti	52.58	345c	iP	P	19 35 15.9 +1.9
ARU						19 36 23.9
ARU						19 37 13.5
ARU				S	S	19 42 47.1 +9.0
ARU				SS	SS	19 46 17.8 +2.2
ARU				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ARU	Arti	52.58	345	P	P	19 35 12.9 -1.1
ARU				IAmb	IAmb	19 35 16.9
	comp=Z,9.1nm,0.8s					
BRVK	Borovoye	54.54	335ce	P	P	19 35 29.7 +1.3
BRVK				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BRVK	Borovoye	54.54	335	P	P	19 35 26.9 -1.5
BRVK				IAmb	IAmb	19 35 30.7
	comp=Z,5.4nm,0.8s					
KSRS	Korea Array	54.69	283	P	P	19 35 30.3 +0.6
	comp=Z,0.6nm,0.8s,baz=14,slow=8.7,SNR=6.1					
KSRS				LR	LR	20 03 41.4
	comp=Z,22nm,19.0s,baz=52,slow=41					
DGZ	Jazzator, Alta	54.73	322	iP	P	19 35 31.3 +1.2
DGZ				pmax	pmax	
	comp=Z,1.0nm,0.4s					
OBN	Obninsk	54.92	360	iP	P	19 35 29.7 -1.4
OBN				pmax	pmax	
	comp=Z,7.0nm,1.0s					
OBN				MLR	MLR	
	comp=Z,41nm,15.0s					
MNK	Minsk	55.40	6	iP	P	19 35 31.6 -2.9
MNK				i		19 36 31.7
MNK				i		19 37 35.5
MNK				iS	S	19 43 15.2 -0.9
MNK				i		19 45 21.0
MNK				iSS	SS	19 46 55.6 -4.3
MNK				iSSS	SSS	19 49 00.5
MNK				pmax	pmax	
	comp=E,2.0nm,0.9s					
MNK				pmax	pmax	
	comp=Z,10.0nm,0.6s					
MNK				pmax	pmax	
	comp=N,11nm,0.8s					
MNK				MLR	MLR	
	comp=Z,93nm,18.0s					
MNK				MLR	MLR	
	comp=N,52nm,18.0s					
MNK				MLR	MLR	
	comp=E,6.0nm,23.0s					
MNK	Minsk	55.40	6	iP	P	19 35 31.7 -2.9
	comp=E,2.0nm,0.8s					
MNK				iP	P	19 35 31.7 -2.9
	comp=N,11nm,0.8s					
MNK				iP	P	19 35 31.7 -2.9
	comp=Z,10.0nm,0.7s,baz=177					
MNK				iPcP	PcP	19 36 31.8 -2.7
MNK				iPP	PP	19 37 35.6 -2.4
MNK				iPPP	PPP	19 38 47.6
MNK				iScP	ScP	19 40 20.5 -10
MNK				iPcS	PcS	19 40 27.1 -7.2
MNK				iS	S	19 43 15.2 -0.9
MNK				iScS	ScS	19 45 21.0 +0.8
MNK				iSS	SS	19 46 55.7 -4.3
MNK				iSSS	SSS	19 49 00.5
MNK				iLR	LR	19 57 30.1
MNK				iLRM	MLR	19 59 55.6
	comp=Z,93nm,18.4s					
MNK				iLRM	MLR	20 00 01.0
	comp=N,52nm,18.4s					
MNK				iLRM	MLR	20 00 13.0
	comp=E,6.0nm,22.8s					
HHC	Hu-ho-hao-te	56.77	299	eP	P	19 35 46.9 +2.2
HHC				pmax	pmax	
	comp=Z,9.0nm,1.1s					
HHC				pmax	pmax	
	comp=Z,94nm,5.6s					
CLL	Collm	57.58	17	iP	P	19 35 51.6 +1.5
	comp=Z,5.0nm,1.0s					
CLL	Collm	57.58	17	iP	P	19 35 51.6 +1.5
CLL				pmax	pmax	
	comp=Z,5.0nm,1.0s					
BRG	Berggiesshubel	58.10	16	eP	P	19 35 55.2 +1.4
BRG				Amp		19 35 58.0
	comp=Z,3.1nm,1.1s					
MKAR	Makanchi Array	58.55	324	P	P	19 35 56.7 -0.3
	comp=Z,1.1nm,0.6s,baz=52,slow=6.9,SNR=12					
MKAR				LR	LR	20 03 08.8
	comp=Z,35nm,20.1s,baz=6.5,slow=38					
AKTO	Aktyubinsk	58.57	344	LR	LR	20 01 59.6
	comp=Z,26nm,20.1s,baz=16,slow=37					
CHVC	Chvalec	58.58	15	eP	P	19 36 00.1 +2.9
MAKZ	Makanchi	58.60	325	P	P	19 35 56.6 -0.8
MAKZ				pmax	pmax	
	comp=Z,6.0nm,0.9s					
MAKZ	Makanchi	58.60	325	P	P	19 35 56.6 -0.8
MAKZ				IAmb	IAmb	19 35 58.9
	comp=Z,5.7nm,0.8s					
OSTC	Ostas	58.62	15	eP	P	19 35 59.3 +1.8
DPC	Dobruska-Polom	58.84	15	eP	P	19 36 01.2 +2.2
DPC	Dobruska-Polom	58.84	15	eP	P	19 36 01.2 +2.2
KRLC	Kraliky	59.15	14	eP	P	19 36 03.1 +1.9
KRLC	Kraliky	59.15	14	eP	P	19 36 03.1 +1.9
AKASG	Malin Array Be	59.24	5	P	P	19 36 01.9 +0.2
	comp=Z,2.4nm,0.5s,baz=358,slow=7.0,SNR=47					
AKBB	Malin Array Si	59.24	5	ceP	P	19 36 02.9 +1.2
MORC	Moravsky Berou	59.51	14	eP	P	19 36 05.0 +1.3
ABKAR	Akbulak array	59.54	342	P	P	19 36 03.6 -0.2
ABKAR				IAmb	IAmb	19 36 10.3
	comp=Z,6.0nm,0.9s					
KHC	Kasperske Hory	59.79	17	eP	P	19 36 07.8 +2.2
KHC	Kasperske Hory	59.79	17	eP	P	19 36 07.8 +2.2
GERES	GERESS Array B	60.09	17	P	P	19 36 08.1 +0.4
	comp=Z,1.4nm,0.7s,baz=354,slow=5.4,SNR=13					
KRUC	Moravsky	60.12	15	eP	P	19 36 09.2 +1.4
WMQ	Urumqi	60.26	319	eP	P	19 36 12.7 +3.8
LANS	Liptovska Anna	60.28	13	eP	P	19 36 11.2 +2.2
LANS	Liptovska Anna	60.28	13	eP	P	19 36 11.2 +2.2
KOLS	Kolonicke sedl	60.69	10	eP	P	19 36 14.0 +2.3
KOLS	Kolonicke sedl	60.69	10	eP	P	19 36 14.0 +2.3
KOLL	Kolacno	60.77	13	eP	P	19 36 15.5 +3.3
ZST	Bratislava	61.04	14	eP	P	19 36 16.5 +2.4
ZST	Bratislava	61.04	14	eP	P	19 36 16.5 +2.4
CONA	Conrad Observa	61.20	15	eP	P	19 36 16.8 +1.5
	comp=Z,3.2nm,0.9s					
MOTA	Moosalm	61.30	19	eP	P	19 36 16.8 +0.8
	comp=Z,3.2nm,1.3s					
WTTA	Wattenberg	61.44	19	eP	P	19 36 17.7 +0.7
	comp=Z,3.3nm,1.0s					
GTA	Gaotai	61.44	308	⇑P	P	19 36 19.2 +2.1
GTA				pP	pP	19 36 28.1 +0.3
GTA				sP	sP	19 36 31.7 -0.1
GTA				pmax	pmax	
	comp=Z,4.0nm,1.0s					
PSZ	Piszkesteto	61.54	12	⇑P	P	19 36 19.3 +1.7
SORM	Soroca	61.78	6	⇑P	P	19 36 19.8 +0.8
KBA	Koelnbreinsper	61.80	17	eP	P	19 36 21.1 +1.6
	comp=Z,4.8nm,1.0s					
ARSA	Arzberg	61.84	16	eP	P	19 36 20.8 +1.3
	comp=Z,3.7nm,1.1s					
BURAR	Bucovina Array	62.17	8	⇑P	P	19 36 23.6 +1.8
BURAR	Bucovina Array	62.17	8	P	P	19 36 22.0 +0.2
OBKA	Obir	62.48	17	eP	P	19 36 25.5 +1.6
	comp=Z,5.3nm,0.8s					
NJ2	Nanjing	62.60	288	eP	P	19 36 24.8 0.0
NJ2				pmax	pmax	
	comp=Z,5.0nm,0.5s					
DRGR		62.85	10	⇑P	P	19 36 27.2 +0.8
SIRR	Siria	63.30	11	⇓P	P	19 36 30.5 +1.2
PURM	Purcari	63.43	5	⇓P	P	19 36 31.7 +1.6
DOPR	Dopca	63.82	8	⇑P	P	19 36 33.6 +0.9
XAN	Xi'an	63.86	298	P	P	19 36 34.0 +0.8
XAN				pP	pP	19 36 40.8 -3.1
XAN				pmax	pmax	
	comp=Z,5.0nm,0.8s					
VRI	Vrincioaia	63.98	7	⇑P	P	19 36 35.8 +2.0
PLOR	Plostina	63.99	7	⇓P	P	19 36 35.1 +1.3
AAK	Ala-Archa	64.01	329	LR	LR	20 07 14.3
	comp=Z,28nm,19.7s,baz=16,slow=39					
KKAR	Karatay Array	64.21	333	P	P	19 36 35.0 -0.3
KKAR	Karatay Array	64.21	333	P	P	19 36 35.0 -0.3
GZR	Gura Zlata	64.25	10	⇓P	P	19 36 36.9 +1.3
MLR	Muntele Rosu	64.32	8	⇑P	P	19 36 37.7 +1.6
MLR	Muntele Rosu	64.32	8	P	P	19 36 35.9 -0.2
MLR				pmax	pmax	
	comp=Z,10.0nm,1.3s					
MLR	Muntele Rosu	64.32	8	P	P	19 36 35.9 -0.2
CFR	Carcaliu	64.72	6	⇑P	P	19 36 39.4 +0.8
MDVR	Moldovita	64.79	11	⇑P	P	19 36 40.9 +1.8
TPGR	Topolog	65.06	6	⇓P	P	19 36 41.3 +0.5
HARR	Harsova	65.20	6	⇑P	P	19 36 43.5 +1.8
KIV	Kislovodsk	66.00	355	⇑P	P	19 36 48.3 +1.4
KIV	Kislovodsk	66.00	355	eP	P	19 36 49.1 +2.1
KIV				pmax	pmax	
	comp=Z,7.0nm,1.0s					
KIV				MLR	MLR	
	comp=Z,29nm,17.0s					
KBZ	Khabaz	66.22	355	P	P	19 36 49.5 +1.3
	comp=Z,3.7nm,0.8s,baz=329,slow=6.3,SNR=7.8					
KBZ	Khabaz	66.22	355	ceP	P	19 36 50.9 +2.7
KBZ				pmax	pmax	
	comp=Z,3.0nm,0.8s					
ESDC	Sonseca Array	66.58	33	P	P	19 36 51.8 +1.1
	comp=Z,3.0nm,0.9s,baz=344,slow=6.4,SNR=21					
PDG	Podgorica	66.95	14	⇑P	P	19 36 53.3 +0.4
CHGR	Chuyangaron	68.77	333	P	P	19 37 04.3 -0.3
BRTR	Keskin Array B	70.31	2	P	P	19 37 15.6 +1.5
	comp=Z,2.5nm,0.9s,baz=351,slow=4.2,SNR=9.0					
BRTR				LR	LR	20 11 01.2
	comp=Z,31nm,18.7s,baz=7.5,slow=38					
KEST	Kesra	72.53	23	P	P	19 37 28.1 +0.6
	comp=Z,4.1nm,0.9s,baz=272,slow=2.8,SNR=6.7					
CMAR	Chiang Mai Arr	81.45	301	P	P	19 38 18.5 +0.7
	comp=Z,2.0nm,0.8s,baz=359,slow=6.8,SNR=10					
PMSA	Palmer Station	145.49	132	PKPbc	PKPab	19 45 38.4 +1.1
	comp=Z,5.1nm,0.8s,baz=143,slow=6.5,SNR=6.8					

TAP ***05*** *19:50:26.0,23°.79N×122°.56E,h25km±1km,ML2.7,D*
JMA ***05*** *19:50:26.0±0.1,23°.80N×122°.48E,h23km,M2.2*
ISC 05 19:50:24.9±1.2,23°.73N±0°.02×122°.54E±0°.02,h19km±3km,
n74,σ0s58/139,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.81	27	P	Pb	19 50 40.6	+0.3
JYNG				eS	Sb	19 50 50.2	-0.6
YOJ	Yonaguni jima	0.84	31	P	Pg	19 50 41.6	+0.2
YOJ				eS	Sb	19 50 51.8	-0.1
YOJ	Yonaguni jima	0.84	31	eP	Pb	19 50 39.5	-1.5
	baz=30						
YOJ				eS	Sb	19 50 51.7	-0.1
	baz=30						
TWD	Chiawan	0.93	292	eP	Pb	19 50 42.0	-0.3
	baz=273						
TWD				eS	Sb	19 50 53.8	-0.5
	baz=273						
ETL	Fush Village	0.94	297	eS	Sb	19 50 54.8	+0.2
	baz=277						
NACB	Ninganchiao	0.97	297	eP	Pb	19 50 42.5	-0.5
	baz=280						
NACB				eS	Sb	19 50 55.4	-0.1
	baz=280						
ETM	Tongmen	0.98	284	eP	Pb	19 50 42.9	-0.4
	baz=270						
ETM				eS	Sb	19 50 56.0	+0.1
	baz=270						
ESL	Shilin	1.02	275	eP	Pb	19 50 43.3	-0.5
	baz=256						
ESL				eS	Sb	19 50 57.2	+0.3
	baz=256						
EGFH	Guangfu	1.02	267	eP	Pb	19 50 44.2	+0.3
	baz=262						
EGFH				eS	Sb	19 50 56.6	-0.3
	baz=262						
HGSD	Ruisui	1.05	257	eP	Pb	19 50 44.3	-0.1
	baz=252						
HGSD				eS	Sb	19 50 57.0	-0.7
	baz=252						
ETLH	Xiulin Townshi	1.07	296	eP	Pb	19 50 44.5	-0.4
	baz=290						
ETLH				eS	Sn	19 50 59.6	+0.2
	baz=290						
TWC	Suao	1.08	324	P	Pb	19 50 44.8	-0.1
	baz=319						
TWC				eS	Sn	19 50 59.3	0.0
	baz=319						
EHY	Hungye	1.14	259	eP	Pb	19 50 46.2	+0.3
	baz=254						
EHY				eS	Sb	19 51 00.6	+0.2
	baz=254						
NDS	Dongshan	1.17	320	P	Pb	19 50 46.8	+0.3
	baz=314						
NDS				eS	Sn	19 51 01.7	0.0
	baz=314						
EYUL	Yuli	1.18	251	eP	Pn	19 50 46.8	+0.4
	baz=247						
EYUL				eS	Sb	19 51 01.8	+0.1
	baz=247						
YULB	Yu-li	1.19	254	eP	Pb	19 50 47.0	+0.2
	baz=250						
YULB				eS	Sb	19 51 01.1	-0.7
	baz=250						
TWF1	Yuli	1.20	252	eP	Pb	19 50 47.2	+0.2
	baz=248						
TWF1				eS	Sn	19 51 02.6	+0.2
	baz=248						
WHF	Hehuan Shan	1.23	290	eP	Pn	19 50 47.5	0.0
	baz=271						
WHF				eS	Sb	19 51 03.3	-0.3
	baz=271						
IRIF	Iriomote-Funau	1.24	61	P	Pg	19 50 48.8	-0.1
IRIF				eS	Sg	19 51 05.6	+0.4
FULB	Fuli	1.26	245	eP	Pn	19 50 47.4	0.0
	baz=230						
FULB				eS	Sb	19 51 03.2	-0.7
	baz=230						
TWE	Neicheng	1.27	321	P	Pb	19 50 48.3	+0.2
	baz=316						
TWE				eS	Sg	19 51 05.1	-0.9
	baz=316						
OWD	Renai	1.27	280	eP	Pn	19 50 47.6	-0.1
	baz=275						
OWD				eS	Sb	19 51 03.6	-0.6
	baz=275						
NDT	Datong Townshi	1.27	313	eP	Pn	19 50 48.1	+0.4
	baz=307						
NDT				eS	Sg	19 51 05.7	-0.5
	baz=307						
NNS	Nan Shan	1.28	304	eP	Pn	19 50 48.1	+0.3
	baz=286						
NNS				eS	Sb	19 51 04.2	-0.2
	baz=286						
CHGB	Renai	1.29	285	eP	Pn	19 50 48.2	+0.1
	baz=269						
CHGB				eS	Sb	19 51 04.2	-0.7
	baz=269						
FUSS	Fushou	1.29	294	eP	Pn	19 50 48.2	+0.1
	baz=287						
FUSS				eS	Sn	19 51 05.2	+0.2
	baz=287						
TWT	Tachien	1.35	293	eP	Pb	19 50 50.1	+0.5
	baz=275						
TWT				eS	Sb	19 51 07.0	+0.4
	baz=275						
EDH	Donghe	1.36	237	eS	Sn	19 51 05.0	-1.5
	baz=234						
TDCB	Techi	1.36	293	eP	Pb	19 50 49.7	-0.2
	baz=276						
TDCB				eS	Sn	19 51 06.8	+0.1
	baz=276						
ECS	Chishang	1.37	243	eS	Sb	19 51 08.0	+1.0
	baz=239						
TIPB	Shuangxi	1.39	332	eP	Pg	19 50 51.5	-0.3
	baz=326						
TIPB				eS	Sb	19 51 08.2	+0.4
	baz=326						
NWLT	Wulai	1.41	318	eP	Pb	19 50 50.5	-0.1
	baz=311						
NWLT				eS	Sb	19 51 08.8	+0.8
	baz=311						
YHNB	Yeheng	1.41	312	P	Pn	19 50 50.2	+0.5
	baz=305						
YHNB				eS	Sn	19 51 07.1	-0.7
	baz=305						
NSK	Sanguang	1.43	311	eP	Pn	19 50 50.4	+0.6
	baz=304						
NSK				eS	Sb	19 51 08.7	-0.1
	baz=304						
LDUT	Ludao	1.44	223	eP	Pn	19 50 50.0	+0.1
	baz=221						
LDUT				eS	Sn	19 51 07.2	-1.2
	baz=221						
SSLB	Suanglung	1.45	272	eP	Pn	19 50 50.2	+0.1
	baz=267						
SSLB				eS	Sn	19 51 07.8	-0.9
	baz=267						
ELDTW	Lidau	1.50	249	eP	Pn	19 50 51.3	+0.5
	baz=244						
ELDTW				eS	Sn	19 51 09.1	-0.9
	baz=244						
WFSB	Wu-fen Shan	1.50	333	eP	Pn	19 50 51.4	+0.6
	baz=326						
WFSB				eS	Sb	19 51 10.7	-0.1
	baz=326						
DPDB	Guoxing	1.50	282	eP	Pn	19 50 51.6	+0.8
	baz=266						
DPDB				eS	Sb	19 51 11.4	+0.4
	baz=266						
SMLT	Sun Moon Lake	1.51	276	eP	Pb	19 50 52.5	+0.2
	baz=270						
SMLT				eS	Sn	19 51 08.8	-1.3
	baz=270						

TWA Mucha 1.52 325 *eP* **Pb 19 50 52.8 +0.4**
baz=318
TWA *eS* **Sb 19 51 11.9 +0.6**
baz=318
WCS Beigang Elemen 1.52 283 *eP* **Pn 19 50 51.9 +0.9**
baz=267
WCS *eS* **Sn 19 51 10.7 +0.3**
baz=267
LONT Longtian 1.53 238 *eP* **Pn 19 50 51.6 +0.4**
baz=225
LONT *eS* **Sn 19 51 10.7 0.0**
baz=225
WHP Taichung City 1.55 291 *eP* **Pb 19 50 52.8 -0.3**
baz=284
WHP *eS* **Sb 19 51 12.1 -0.4**
baz=284
TATO Taipei 1.56 322 *eP* **Pb 19 50 53.1 -0.1**
baz=315
TATO *eS* **Sb 19 51 13.2 +0.6**
baz=315
JIJ Ishigaki jima 1.60 67 P **Pb 19 50 54.0 +0.3**
JIJ *eS* **Sn 19 51 12.8 +0.6**
ALS Alishan 1.60 262 *eP* **Pb 19 50 54.1 +0.1**
baz=257
ALS *eS* **Sn 19 51 13.6 +0.8**
baz=257
TWGBT Beinan 1.62 236 *eP* **Pn 19 50 52.5 +0.1**
baz=224
TWGBT *eS* **Sn 19 51 12.5 -0.3**
baz=224
TWG Pinlang 1.63 236 *eP* **Pn 19 50 52.8 +0.3**
baz=224
TWG *eS* **Sn 19 51 12.6 -0.3**
baz=224
YM01 YM01 1.66 328 *eP* **Pb 19 50 54.3 -0.6**
baz=339
YM01 *eS* **Sb 19 51 15.3 -0.2**
baz=339
NSTT Nanjuang 1.66 303 *eP* **Pb 19 50 55.2 +0.3**
baz=298
YM08 YM08 1.69 329 *eP* **Pn 19 50 54.3 +1.0**
baz=324
CHN5 Tsauling 1.71 266 *eP* **Pb 19 50 56.0 +0.2**
baz=260
CHN5 *eS* **Sb 19 51 17.1 +0.2**
baz=260
WWF Wufeng 1.71 281 *eP* **Pb 19 50 56.5 +0.8**
baz=265
WWF *eS* **Sb 19 51 18.5 +1.6**
baz=265
STYH Taoyuan 1.71 251 *eP* **Pb 19 50 55.0 -0.7**
baz=247
STYH *eS* **Sn 19 51 16.1 +1.1**
baz=247
STYT Tauyuan 1.73 251 *eS* **Sn 19 51 16.6 +1.0**
baz=247
TPUB Ta-pu 1.80 257 *eP* **Pb 19 50 57.5 +0.2**
baz=244
TPUB *eS* **Sb 19 51 19.9 +0.3**
baz=244
WGK Gukeng 1.81 269 *eP* **Pb 19 50 57.2 -0.2**
baz=263
WGK *eS* **Sb 19 51 19.9 +0.1**
baz=263
CHN4 Tsaushan 1.82 258 *eP* **Pb 19 50 57.4 -0.3**
baz=253
CHN4 *eS* **Sb 19 51 20.3 +0.2**
baz=253
JISG Ishigakijimahi 1.83 62 P **Pb 19 50 57.3 -0.4**
JISG *eS* **Sb 19 51 19.6 -0.6**
WTP Ta-pu 1.83 255 *eP* **Pb 19 50 57.2 -0.6**
baz=250
WTP *eS* **Sb 19 51 20.3 -0.1**
baz=250
WDLH Douliu 1.83 269 *eP* **Pb 19 50 57.7 -0.1**
baz=263
WDLH *eS* **Sb 19 51 20.4 +0.1**
baz=263
ECL Taimali 1.84 233 *eS* **Sn 19 51 17.2 -1.1**
baz=241
SLGT Liugui 1.89 247 *eP* **Pb 19 50 58.1 -0.6**
baz=237
SLGT *eS* **Sb 19 51 21.4 -0.5**
baz=237
SGST Jiashian 1.91 251 *eP* **Pn 19 50 57.7 +1.3**
baz=246
SGST *eS* **Sb 19 51 23.1 +0.5**
baz=246
TWK Hsinying 1.94 257 *eP* **Pb 19 50 58.6 -1.0**
baz=251
TWK *eS* **Sb 19 51 23.5 +0.1**
baz=251
WTK Tuku 1.97 269 *eP* **Pb 19 50 59.5 -0.6**
baz=262
WTK *eS* **Sb 19 51 24.2 -0.1**
baz=262
WRL Guolierlin Hig 1.99 275 *eS* **Sb 19 51 24.2 -0.5**
baz=258
SSD Sandimen 2.01 241 *eP* **Pn 19 50 58.4 +0.6**
baz=233
SSD *eS* **Sn 19 51 22.5 +0.1**
baz=233
TSMG Majia 2.02 240 *eP* **Pn 19 50 58.9 +1.0**
baz=231
TSMG *eS* **Sn 19 51 22.8 +0.2**
baz=231
EAST Anshuo 2.06 230 *eP* **Pn 19 50 59.1 +0.6**
baz=236
EAST *eS* **Sn 19 51 23.7 +0.1**
baz=236
SCST Cishan 2.06 246 *eP* **Pb 19 51 02.1 +0.5**
baz=241
SCST *eS* **Sb 19 51 28.4 +1.6**
baz=241
MASBT Mashibuluo 2.08 238 *eP* **Pn 19 50 59.9 +1.2**
baz=228
MASBT *eS* **Sn 19 51 25.1 +1.0**
baz=228
WSF Szhu 2.13 268 *eS* **Sb 19 51 27.9 -0.9**
baz=261

*IDC **05** 19:57:08.4±0.7, 6.°05S×151.°92E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/37, mbtmp4.1/16, ML2.6/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=27.5km s-min=16.1km az=108.0*
*DJA **05** 19:57:15.7±2.0, 6.°S±7.°×15.°2E±1.°0, h31km±20km, M5.0/6, mB4.8/2, mb4.6/6, MLv5.2/3, Mw(mB)4.1/2*
*NEIC **05** 19:57:16.1±1.2, 5.°90S±0.°06×151.°5E±0.°1, h49km±12km, mb4.2/10, Error ellipse: s-maj=18.3km s-min=5.9km az=110.0*

ISC 05 19:57:15.2±0.5, 5.°98S±0.°07×151.°60E±0.°08, h41km, n41, σ1°28/43, mb4.1/21, MS3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.86**	**18**		**Pn**	**19 57 44.8**	**+0.1**
RABL	**Rabaul**	**1.86**	**18**	P	**Pn**	**19 57 45.0**	**+0.3**
PMG	**Port Moresby**	**5.57**	**232**	Pn	**Pn**	**19 58 35.4**	**-0.2**
10.0nm,0.3s,baz=46,slow=11,SNR=31							
PMG				Sn	**Sn**	**19 59 35.6**	**-2.7**
3.1nm,0.3s,baz=9.6,slow=14,SNR=1.4							
PMG				LR	LR	20 00 24.8	
comp=Z,79nm,19.8s,baz=36,slow=34							
PMG	**Port Moresby**	**5.57**	**232**	Pn	**Pn**	**19 58 36.4**	**+0.8**
PMG	**Port Moresby**	**5.57**	**232**	P	**Pn**	**19 58 37.9**	**+2.4**
PMG	**Port Moresby**	**5.57**	**232**	P	**Pn**	**19 58 38.0**	**+2.4**
HNR	**Honiara**	**8.96**	**113**	Pn	**Pn**	**19 59 24.4**	**+2.3**
3.6nm,0.3s,baz=226,slow=7.4,SNR=6.0							
HNR	**Honiara**	**8.96**	**113**		**Pn**	**19 59 23.9**	**+1.8**
CTA	**Charters Tower**	**14.96**	**200**	Pn	**P**	**20 00 48.3**	**-0.6**
0.2nm,0.3s,baz=6.8,slow=12,SNR=5.4							
WB0	**Warramunga Arr**	**21.63**	**229**	P	**P**	**20 02 01.2**	**-1.0**
WB0				IAmb	IAmb	20 02 13.5	
comp=Z,12nm,0.8s							
WR0	**Warramunga Arr**	**21.64**	**228**	P	**P**	**20 02 01.7**	**-0.5**
WR0				IAmb	IAmb	20 02 24.0	
comp=Z,12nm,0.8s							
WRAB	**Tennant Creek**	**21.76**	**229**	P	**P**	**20 02 02.5**	**-1.0**
WRAB				IAmb	IAmb	20 02 19.5	
comp=Z,11nm,0.8s							
WB2	**Warramunga Arr**	**21.77**	**229**	P	**P**	**20 02 03.2**	**-0.4**
WB2				IAmb	IAmb	20 02 13.9	
comp=Z,11nm,0.7s							
WRA	**Warramunga Arr**	**21.77**	**229**	P	**P**	**20 02 02.7**	**-1.0**
comp=Z,14nm,1.1s,baz=54,slow=10,SNR=43							
WRA				PcP	**PcP**	**20 06 04.0**	**+0.8**
comp=Z,1.8nm,1.0s,baz=48,slow=2.2,SNR=4.3							
WRA	**Warramunga Arr**	**21.77**	**229**	P	**P**	**20 02 02.5**	**-1.2**
KNRA	**Kununurra**	**24.39**	**245**	P	**P**	**20 02 29.9**	**0.0**
AS31	**Alice Springs**	**24.48**	**222**	P	**P**	**20 02 31.2**	**+0.5**
AS31				IAmb	IAmb	20 02 34.2	
comp=Z,3.9nm,0.8s							
ASAR	**Alice Springs**	**24.48**	**222**	P	**P**	**20 02 30.7**	**0.0**
comp=Z,10nm,0.8s,baz=53,slow=9.5,SNR=89							
ASAR				PcP	**PcP**	**20 06 09.6**	**+0.8**
comp=Z,1.0nm,1.1s,baz=51,slow=2.2,SNR=2.3							
ASAR	**Alice Springs**	**24.48**	**222**	P	**P**	**20 02 30.9**	**+0.1**
STKA	**Stephens Creek**	**27.41**	**199**	P	**P**	**20 02 56.3**	**-0.8**
comp=Z,6.0nm,0.9s,baz=2.7,slow=8.8,SNR=6.3							
STKA				LR	LR	20 13 44.8	
comp=Z,114nm,18.1s,baz=27,slow=36							
STKA	**Stephens Creek**	**27.41**	**199**	P	**P**	**20 02 55.3**	**-1.8**
STKA				IAmb	IAmb	20 03 00.9	
comp=Z,4.2nm,1.3s							
BATI	**Baumata**	**27.97**	**260**	P	**P**	**20 03 04.4**	**+2.1**
comp=Z,15nm,0.9s,baz=252,slow=22,SNR=1.9							
KSRS	**Korea Array**	**48.53**	**335**	P	**P**	**20 05 54.3**	**0.0**
comp=Z,0.9nm,0.9s,baz=149,slow=9.9,SNR=1.5							
KSRS				LR	LR	20 27 12.0	
comp=Z,21nm,18.0s,baz=145,slow=37							
CMAR	**Chiang Mai Arr**	**57.31**	**296**	P	**P**	**20 07 02.1**	**+2.7**
comp=Z,0.2nm,0.5s,baz=128,slow=4.8,SNR=1.6							
PETK	**Petropavlovsk-**	**59.09**	**4**	P	**P**	**20 07 10.6**	**-0.6**
comp=Z,0.5nm,0.5s,baz=155,slow=7.9,SNR=3.6							
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**20 08 03.3**	**+1.3**
comp=Z,1.0nm,0.7s,baz=159,slow=4.6,SNR=5.3							
TLY	**Talaya**	**70.50**	**331**	LR	LR	20 39 15.9	
comp=Z,29nm,19.2s,baz=96,slow=36							
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**20 08 31.4**	**-1.1**
comp=Z,2.1nm,1.0s,baz=338,slow=4.7,SNR=5.2							
MKAR	**Makanchi Array**	**80.43**	**319**	P	**P**	**20 09 22.1**	**-0.6**
comp=Z,0.5nm,0.9s,baz=96,slow=6.3,SNR=2.1							
ZALV	**Zalesovo Beam**	**81.47**	**327**	P	**P**	**20 09 26.1**	**-1.9**
comp=Z,0.5nm,0.4s,baz=121,slow=4.9,SNR=1.9							
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**20 09 38.0**	**-1.4**
comp=Z,1.1nm,0.6s,baz=248,slow=5.2,SNR=15							
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**20 09 38.9**	**-0.6**
KURBB	**Kurchatov Arra**	**83.99**	**322**	P	**P**	**20 09 42.0**	**+0.8**
comp=Z,0.5nm,0.7s,baz=103,slow=3.3,SNR=3.1							
QSPA	**South Pole Qui**	**83.99**	**180**	P	**P**	**20 09 41.6**	**+0.5**
MAW	**Mawson**	**84.03**	**203**	P	**P**	**20 09 40.4**	**-0.7**
comp=Z,1.3nm,0.8s,baz=109,slow=7.4,SNR=9.8							
MAW	**Mawson**	**84.03**	**203**	P	**P**	**20 09 39.6**	**-1.5**
BVAR	**Borovoye Array**	**89.46**	**323**	P	**P**	**20 10 08.0**	**+0.1**
comp=Z,0.4nm,0.7s,baz=40,slow=53,SNR=2.2							
NVAR	**Mina Array Bea**	**93.75**	**52**	P	**P**	**20 10 27.3**	**-1.1**
comp=Z,0.3nm,0.6s,baz=269,slow=5.0,SNR=2.3							
NVAR				LR	LR	20 48 29.4	
comp=Z,50nm,18.9s,baz=268,slow=33							
GERES	**GERESS Array B**	**124.41**	**328**	PKP	**PKPdf**	**20 16 09.7**	**-0.5**
comp=Z,0.2nm,0.6s,baz=54,slow=5.0,SNR=2.2							
TORD	**Torodi Ar. Bea**	**149.50**	**286**	PKPbc	**PKPbc**	**20 17 01.2**	**0.0**
comp=Z,5nm,0.8s,baz=70,slow=2.7,SNR=9.9							
BDFB	**Brasilia**	**151.04**	**138**	PKPbc	**PKPbc**	**20 17 03.9**	**-1.1**
comp=Z,1.0nm,0.4s,baz=192,slow=3.0,SNR=1.7							

*IDC **05** 19:57:50.5±2.4, 37.°68N×78.°14E, h0km, mb3.5/4, mb1 3.5/9, mb1mx3.3/55, mbtmp3.4/9, ML3.0/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/32, Error ellipse: s-maj=32.0km s-min=27.5km az=17.0*
*NNC **05** 19:57:56.6±4.5, 37.°81N×78.°09E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=41.6km s-min=35.4km az=81.0*
*SOME **05** 19:57:59.8, 37.°92N×78.°00E, h10km*

ISC 05 19:57:53.5±1.8, 37.°73N±0.°10×78.°18E±0.°07, h10km, n30, σ2°13/33, mb3.7/4, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.33**	**2**	*eP*	**Pg**	**19 59 36.5**	**+1.1**
7.6nm,0.7s							
SATY				*eS*	**Sg**	**20 00 45.8**	**+1.3**
30nm,0.6s							
SATY	**Saty**	**5.33**	**2**	Pg	**Pg**	**19 59 36.5**	**+1.1**
7.6nm,0.7s							
SATY				Lg	Lg	20 00 45.8	
30nm,0.6s							
UZB	**Uzynbulak**	**5.45**	**7**	*eP*	**Pg**	**19 59 38.0**	**+0.2**
4.3nm,0.4s							
UZB				*eS*	**Sg**	**20 00 48.0**	**-0.4**
15nm,0.8s							
MDOK	**Medeo**	**5.49**	**351**	*eP*	Pb	19 59 35.5	+5.8
5.4nm,0.7s							
MDOK				*eS*	**Sg**	**20 00 43.7**	**-6.1**
17nm,0.7s							
MDOK	**Medeo**	**5.49**	**351**	⇑Pn	**Pn**	**19 59 18.2**	**+2.7**
1.2nm,0.4s							
MDOK				⇓Pg	Pb	19 59 35.7	+6.1
7.6nm,0.6s							
MDOK				⇓Lg	Lg	20 00 47.4	
26nm,0.9s							
MDOK	**Medeo**	**5.49**	**351**	Pg	Pb	19 59 35.4	+5.8
5.4nm,0.7s							
MDOK				Lg	Lg	20 00 43.7	
17nm,0.7s							
SHLS	**Shalkode**	**5.51**	**10**	*eP*	**Pg**	**19 59 40.6**	**+1.6**
6.7nm,0.3s							
SHLS				*eS*	**Sg**	**20 00 52.5**	**+2.2**
30nm,0.7s							
AAK	**Ala-Archa**	**5.65**	**331**	Pn	**Pn**	**19 59 20.2**	**+2.5**
1.2nm,0.3s,baz=156,slow=7.0,SNR=2.7							
AAK				Pg	**Pb**	**19 59 33.4**	**+1.1**
1.2nm,0.3s,baz=150,slow=16,SNR=2.7							
AAK				Lg	Lg	20 00 52.1	
1.4nm,0.3s,baz=0.8,slow=20,SNR=2.3							
AAK	**Ala-Archa**	**5.65**	**331**	⇑Pn	**Pn**	**19 59 19.7**	**+2.0**
2.5nm,0.5s							
AAK				⇑Pg	**Pb**	**19 59 36.1**	**+3.8**
4.7nm,0.6s							
AAK				⇓Lg	Lg	20 00 52.6	
19nm,0.8s							
PDGK	**Podgornoye**	**5.68**	**10**	Pg	Pb	19 59 38.8	+6.0
1.5nm,0.3s							
PDGK				Lg	Lg	20 00 49.4	
5.6nm,0.7s							
PDGK	**Podgornoye**	**5.68**	**10**	⇑Pn	**Pn**	**19 59 20.2**	**+2.2**
2.7nm,0.6s,baz=174							
PDGK				⇓Pg	Pb	19 59 40.0	+7.2
5.8nm,0.7s							
PDGK				⇑Lg	Lg	20 00 53.2	
22nm,0.8s							
KPKS	**Kokpek**	**5.74**	**4**	*eP*	**Pg**	**19 59 43.5**	**0.0**
9.9nm,0.3s							
KPKS				*eS*	**Sg**	**20 00 57.5**	**-0.4**
24nm,0.4s							
DGS	**Degeres**	**5.80**	**342**	*eP*	**Pg**	**19 59 45.2**	**+0.6**
7.9nm,0.5s							
DGS				*eS*	**Sg**	**20 01 00.4**	**+0.7**
7.1nm,0.7s							
KTBS	**Karatobe**	**6.08**	**350**	*eP*	**Pg**	**19 59 49.6**	**-0.3**
2.6nm,0.5s							
KTBS				*eS*	**Sg**	**20 01 07.9**	**-0.8**
11nm,0.5s							
CHKK	**Chushkaly**	**6.18**	**352**	*eP*	**Pg**	**19 59 50.8**	**-1.1**
1.9nm,0.4s							
CHKK				*eS*	**Sg**	**20 01 10.3**	**-1.6**
6.1nm,0.4s							
KRBS	**Karabastau**	**6.25**	**343**	*eP*	**Pg**	**19 59 51.3**	**-1.9**
4.9nm,0.7s							
KRBS				*eS*	**Sg**	**20 01 11.3**	**-2.9**
5.1nm,0.6s							
KUU	**Kurty**	**6.31**	**348**	*eP*	**Pg**	**19 59 52.4**	**-2.0**
2.8nm,0.8s							
KUU				*eS*	**Sg**	**20 01 13.0**	**-3.0**
8.3nm,0.9s							
KUU	**Kurty**	**6.31**	**348**	Pg	**Pg**	**19 59 52.4**	**-2.0**
2.8nm,0.8s							
KUU				Lg	Lg	20 01 13.0	
8.3nm,0.9s							
SGDS	**Sogindy**	**6.32**	**336**	Pg	**Pg**	**19 59 54.6**	**+0.1**
4.7nm,0.1s							
SGDS				Lg	Lg	20 01 16.5	
4.9nm,1.1s							
MAKZ	**Makanchi**	**9.50**	**16**	Pn	**Pn**	**20 00 12.0**	**+1.7**
3.8nm,0.7s							
MKAR	**Makanchi Array**	**9.55**	**17**	Pn	**Pn**	**20 00 12.3**	**+1.2**
0.7nm,0.3s,baz=196,slow=13,SNR=52							
MKAR				Sn	**Sn**	**20 01 57.2**	**-1.3**
0.2nm,0.3s,baz=206,slow=15,SNR=2.1							
KURBB	**Kurchatov Arra**	**12.89**	**1**	Pn	Pn	20 00 54.9	-1.7
0.0nm,0.3s,baz=182,slow=11,SNR=2.1							
KURBB	**Kurchatov Arra**	**12.89**	**1**	Lg	Lg	20 04 41.0	
baz=196,slow=23							
BVAR	**Borovoye Array**	**16.23**	**343**	Pn	Pn	20 01 37.2	-4.2
0.1nm,0.3s,baz=157,slow=42,SNR=1.4							
ZALV	**Zalesovo Beam**	**16.85**	**14**	Pn	**Pn**	**20 01 46.7**	**-2.7**
0.1nm,0.3s,baz=195,slow=10,SNR=1.3							
SONM	**Songino Array**	**22.93**	**55**	P	**P**	**20 02 56.9**	**-0.8**
0.4nm,0.6s,baz=251,slow=9.0,SNR=2.4							
NRIK	**Noril'sk**	**32.08**	**6**	LR	LR	20 18 00.8	
comp=Z,31nm,19.9s,baz=46,slow=38							
FINES	**FINESS Array B**	**39.78**	**324**	P	P	20 05 25.2	-1.0
0.7nm,0.4s,baz=114,slow=8.5,SNR=9.9							
HFS	**Hagfors**	**45.69**	**321**	P	P	20 06 12.5	-1.7
1.3nm,0.9s,baz=74,slow=11,SNR=1.9							
NOA	**NORSAR Array B**	**46.89**	**322**	P	P	20 06 22.2	-1.6
0.5nm,0.6s,baz=90,slow=7.6,SNR=3.1							

IDC 05 20:02:37.1±6.6, 31.°06S×178.°49W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/23, mbtmp3.5/2, Error ellipse: s-maj=266.7km s-min=60.8km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.66**	**268**	P	P	20 10 35.2	-0.5
0.4nm,0.7s,baz=107,slow=7.5,SNR=4.7							
WRA	**Warramunga Arr**	**43.71**	**273**	P	P	20 10 44.5	+0.2
0.6nm,0.6s,baz=114,slow=7.9,SNR=7.5							
FINES	**FINESS Array B**	**145.62**	**339**	PKPbc	PKPdf	20 22 16.0	-0.7
0.9nm,0.8s,baz=42,slow=4.3,SNR=4.5							

*IDC **05** 20:25:11.3±1.1, 32.°25S×177.°83W, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=39.1km s-min=24.2km az=145.0*
*NEIC **05** 20:25:19.1±1.6, 31.°94S±0.°09×178.°2W±0.°2, h35km±2km, mb4.4/11, Error ellipse: s-maj=26.3km s-min=14.7km az=81.0*

ISC 05 20:25:15.8±0.8, 32.°12S±0.°10×178.°1W±0.°1, h24km, n28, σ1°36/29, mb4.3/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.28**	**211**	Pn	**Pn**	**20 26 57.7**	**-2.8**
0.7nm,0.3s,baz=137,slow=12,SNR=1.6							
URZ				Sn	**Sn**	**20 28 21.4**	**-0.9**
4.6nm,0.3s,baz=128,slow=16,SNR=6.9							
URZ	**Urewera**	**7.28**	**211**	Pn	**Pn**	**20 27 00.5**	**0.0**
BKZ	**Black Stump Fm**	**8.30**	**211**	Pn	**Pn**	**20 27 14.1**	**-0.5**
OUENC	**Ouen Island, N**	**16.51**	**302**		**Pn**	**20 29 05.5**	**-0.3**
OUENC				IAmb	IAmb	20 29 17.7	
comp=Z,36nm,1.4s							
AFI	**Afiamalu**	**19.03**	**19**	P	**P**	**20 29 36.0**	**-0.1**
CTA	**Charters Tower**	**34.04**	**282**	P	**P**	**20 32 00.2**	**+2.0**
comp=Z,1.1nm,0.4s,baz=91,slow=8.9,SNR=1.3							
STKA	**Stephens Creek**	**34.06**	**259**	P	**P**	**20 32 00.2**	**+2.0**
comp=Z,1.9nm,0.8s,baz=108,slow=11,SNR=3.9							
STKA	**Stephens Creek**	**34.06**	**259**	P	**P**	**20 31 56.9**	**-1.4**
STKA				IAmb	IAmb	20 32 09.4	
comp=Z,1.1nm,1.1s							
AS31	**Alice Springs**	**42.97**	**269**	P	**P**	**20 33 14.2**	**+1.0**
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**20 33 13.8**	**+0.5**
comp=Z,1.0nm,0.5s,baz=108,slow=7.4,SNR=22							
ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**20 33 11.0**	**-2.3**
WR0	**Warramunga Arr**	**43.94**	**274**	P	**P**	**20 33 21.3**	**+0.2**
WR0				IAmb	IAmb	20 33 22.2	
comp=Z,4.4nm,0.9s							
WB2	**Warramunga Arr**	**44.11**	**274**	P	**P**	**20 33 22.4**	**+0.1**
WRAB	**Tennant Creek**	**44.11**	**274**	P	**P**	**20 33 20.5**	**-2.0**
WRAB				IAmb	IAmb	20 33 23.2	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**20 33 22.6**	**+0.1**
comp=Z,2.5nm,0.5s,baz=113,slow=7.7,SNR=59							
WRA	**Warramunga Arr**	**44.12**	**274**	P	**P**	**20 33 22.3**	**-0.1**
WB0	**Warramunga Arr**	**44.15**	**274**	P	**P**	**20 33 23.0**	**+0.2**
WB0				IAmb	IAmb	20 33 23.9	
comp=Z,4.0nm,0.6s							
FITZ	**Fitzroy Crossi**	**52.30**	**271**	P	**P**	**20 34 23.6**	**-2.1**
FITZ				IAmb	IAmb	20 34 39.6	
comp=Z,8.0nm,1.2s							
QSPA	**South Pole Qui**	**57.99**	**180**	P	**P**	**20 35 09.3**	**+3.1**
QSPA				IAmb	IAmb	20 35 28.8	
comp=Z,3.4nm,0.9s							
PETK	**Petropavlovsk-**	**87.46**	**346**	P	**P**	**20 38 00.8**	**+0.1**
comp=Z,1.1nm,0.6s,baz=141,slow=7.3,SNR=2.6							
NVAR	**Mina Array Bea**	**89.55**	**43**	P	**P**	**20 38 09.7**	**-1.7**
comp=Z,0.2nm,0.4s,baz=209,slow=5.2,SNR=2.4							
FINES	**FINESS Array B**	**146.73**	**339**	PKPbc	**PKPbc**	**20 44 54.6**	**-0.3**
comp=Z,1.8nm,0.5s,baz=51,slow=4.2,SNR=12							
NB2	**NORSAR Subarra**	**150.44**	**351**	PKP	**PKiKP**	**20 45 05.3**	**0.0**
comp=Z,2.2nm,1.1s,baz=17,slow=2.6							
NB2	**NORSAR Subarra**	**150.44**	**351**	PKP	**PKPbc**	**20 45 04.6**	**0.0**
comp=Z,0.3nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**150.44**	**351**	PKPbc	**PKPbc**	**20 45 04.4**	**-0.2**
comp=Z,0.1nm,0.4s,baz=17,slow=2.7,SNR=1.5							
AKASG	**Malin Array Be**	**152.60**	**321**	PKPbc	**PKPbc**	**20 45 09.8**	**+0.1**
comp=Z,1.0nm,0.7s,baz=62,slow=1.3,SNR=2.0							
BRTR	**Keskin Array B**	**153.31**	**295**	PKPbc	**PKPbc**	**20 45 10.7**	**-1.3**
comp=Z,0.3nm,0.5s,baz=110,slow=2.5,SNR=2.4							
TORD	**Torodi Ar. Bea**	**161.11**	**179**	PKPab	**PKPab**	**20 45 57.7**	**0.0**
comp=Z,1.0nm,0.9s,baz=178,slow=5.3,SNR=3.0							

*SOME **05** 20:37:47.4, 37.°45N×78.°32E, h10km*
*IDC **05** 20:37:53.9±9.8, 37.°84N×77.°62E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/33, mbtmp3.4/3, ML3.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/30, Error ellipse: s-maj=285.6km s-min=29.2km az=127.0*
*NNC **05** 20:37:57.5±8.0, 37.°85N×78.°36E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=73.6km s-min=53.1km az=74.0*

ISC 05 20:37:51.8±1.8, 37.°59N±0.°08×78.°0E±0.°1, h10km, n23, σ3°23/18, 3C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.48**	**3**	*eP*	**Pg**	**20 39 33.6**	**-3.1**
13nm,0.7s							
SATY				*eS*	**Sg**	**20 40 50.0**	**+2.4**
36nm,0.7s							
MDOK	**Medeo**	**5.62**	**353**	*eP*	Pg	20 39 34.4	-4.9
3.1nm,0.2s							
MDOK				*eS*	**Sg**	**20 40 51.3**	**-0.8**
17nm,0.6s							
MDOK	**Medeo**	**5.62**	**353**	⇓Pg	**Pg**	**20 39 36.9**	**-2.4**
18nm,1.2s							
MDOK				Lg	Lg	20 40 51.0	
26nm,0.8s							
MDOK	**Medeo**	**5.62**	**353**	Pg	Pn	20 39 19.5	+4.0
2.2nm,0.7s							
MDOK				Lg	Lg	20 40 47.3	
17nm,0.6s							
UZB	**Uzynbulak**	**5.62**	**8**	*eP*	Pg	20 39 33.0	-6.3
2.9nm,0.3s							
UZB				*eS*	**Sg**	**20 40 49.2**	**-2.9**
12nm,0.7s							
UZB	**Uzynbulak**	**5.62**	**8**	Pg	Pn	20 39 19.2	+3.7
2.7nm,0.4s							
UZB				Lg	Lg	20 40 47.2	
12nm,0.7s							
SHLS	**Shalkode**	**5.68**	**11**	*eP*	**Pg**	**20 39 36.9**	**-3.7**
15nm,0.4s							
SHLS				*eS*	**Sg**	**20 40 55.5**	**+1.3**
26nm,0.7s							
SHLS	**Shalkode**	**5.68**	**11**	Pg	Pb	20 39 21.8	-9.3
6.3nm,0.4s							
SHLS				Lg	Lg	20 40 51.5	
26nm,0.7s							
AAK	**Ala-Archa**	**5.70**	**333**	⇑Pg	**Pg**	**20 39 37.6**	**-3.4**
4.6nm,0.6s							

1.5nm,0.3s
KTBS eS **Sg** **20 41 06.2 -4.4**
8.1nm,0.8s
KRBS Karabastau 6.35 345 eP Pg 20 39 48.7 -4.6
1.7nm,0.6s
KRBS eS **Sg** **20 41 16.2 +0.7**
7.2nm,0.9s
KUU Kurty 6.42 349 eP **Pg** **20 39 53.3 -1.4**
5.9nm,0.2s
KUU eS **Sg** **20 41 24.1 +6.3**
6.8nm,0.6s
KUU Kurty 6.42 349 Pg Pb 20 39 34.2 -9.4
1.7nm,1.6s
KUU Lg Lg 20 41 13.0
6.8nm,0.6s
MAKZ Makanchi 9.69 17 ⇓Pn Pn 20 40 14.3 +3.1
5.8nm,1.1s
MKAR Makanchi Array 9.75 18 Pn Pn 20 40 14.7 +2.6
0.7nm,0.3s,baz=197,slow=12,SNR=42
MKAR Sn **Sn** **20 41 59.7 -1.8**
0.3nm,0.3s,baz=195,slow=36,SNR=1.9
KURBB Kurchatov Arra 13.04 2 Lg Lg 20 44 45.3
baz=162,slow=26
ZALV Zalesovo Beam 17.04 14 Pn **P** **20 41 52.3 +0.5**
0.1nm,0.3s,baz=201,slow=11,SNR=1.9
GERES GERESS Array B 46.85 305 LR LR 21 08 50.1
comp=Z,26nm,18.1s,baz=308,slow=40
JHJ Hachijo jima 2 49.83 75 LR LR 21 10 59.4
comp=Z,19nm,20.0s,baz=117,slow=40
TORD Torodi Ar. Bea 71.27 272 P **P** **20 49 13.6 +1.9**
0.2nm,0.3s,baz=51,slow=5.7,SNR=2.0

*IDC **05** 20:42:54.5±0.8, 35°.26S×179°.25W, h0km, mb4.6/9, mb1 4.7/11, mb1mx4.3/26, mbtmp4.5/11, ML5.3/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/22, Error ellipse: s-maj=26.7km s-min=23.6km az=100.0*
*NEIC **05** 20:42:56.8±3.0, 35°.5S±0°.1×179°.4W±0°.2, h10km±2km, mb4.7/17, Error ellipse: s-maj=20.9km s-min=17.4km az=102.0*
ISC 05 20:42:56.3±0.7, 35°.55S±0°.08×179°.3W±0°.1, h10km, n57, σ2°25/56, mb4.7/20, MS3.7/6, 1C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.78**	**223**	Pn	**Pn**	**20 43 42.1**	**+1.2**
URZ	**Urewera**	**3.95**	**226**	Pn	**Pn**	**20 43 58.5**	**+1.5**
18nm,0.3s,baz=299,slow=1.5,SNR=69							
URZ				Sn	**Sn**	**20 44 43.8**	**+0.5**
15nm,0.3s,baz=337,slow=19,SNR=2.3							
URZ	**Urewera**	**3.95**	**226**	Pn	**Pn**	**20 43 57.9**	**+1.0**
BKZ	**Black Stump Fm**	**4.92**	**222**	Pn	**Pn**	**20 44 11.6**	**+1.1**
OUZ	**Omahuta**	**5.82**	**271**	Pn	**Pn**	**20 44 25.0**	**+2.4**
RAO	**Raoul Island**	**6.39**	**11**	LR	LR	20 46 36.3	
comp=Z,267nm,20.3s,baz=250,slow=36							
MQZ	**McQueen's Vall**	**10.23**	**215**	Pn	**Pn**	**20 45 20.1**	**-3.1**
OUENC	**Ouen Island, N**	**17.82**	**314**	P	**P**	**20 47 05.8**	**+0.7**
MSVF	**Nonsavu**	**17.91**	**352**	P	**Pn**	**20 47 00.9**	**-4.7**
1.5nm,0.3s,baz=147,slow=22,SNR=4.8							
MSVF				LR	LR	20 52 13.0	
comp=Z,252nm,19.4s,baz=124,slow=32							
ARMA	**Armidale**	**24.87**	**274**	P	**P**	**20 48 16.2**	**-3.1**
ARMA				IAmb	IAmb	20 48 33.1	
comp=Z,8.4nm,0.9s							
TOO	**Toolangi**	**28.26**	**255**	P	**P**	**20 48 46.5**	**-3.2**
TOO				IAmb	IAmb	20 48 52.8	
comp=Z,17nm,1.2s							
PPT	**Papeete**	**31.88**	**64**	LR	LR	21 02 45.9	
comp=Z,55nm,18.3s,baz=192,slow=38							
STKA	**Stephens Creek**	**32.59**	**265**	P	**P**	**20 49 29.1**	**+1.0**
comp=Z,3.1nm,0.8s,baz=114,slow=18,SNR=4.0							
STKA				LR	LR	21 02 04.0	
comp=Z,125nm,18.1s,baz=49,slow=35							
STKA	**Stephens Creek**	**32.59**	**265**	P	**P**	**20 49 27.7**	**-0.3**
CTA	**Charters Tower**	**33.94**	**288**	P	**P**	**20 49 40.4**	**+0.5**
comp=Z,13nm,0.8s,baz=104,slow=12,SNR=8.0							
AS31	**Alice Springs**	**42.02**	**273**	P	**P**	**20 50 47.6**	**-0.5**
ASAR	**Alice Springs**	**42.02**	**273**	P	**P**	**20 50 47.2**	**-0.9**
comp=Z,12nm,0.7s,baz=116,slow=7.7,SNR=126							
ASAR	**Alice Springs**	**42.02**	**273**	P	**P**	**20 50 46.7**	**-1.4**
WR0	**Warramunga Arr**	**43.31**	**278**	P	**P**	**20 50 58.0**	**-0.6**
WR0				IAmb	IAmb	20 51 09.1	
comp=Z,14nm,0.8s							
WB2	**Warramunga Arr**	**43.47**	**278**	P	**P**	**20 50 59.2**	**-0.7**
WRAB	**Tennant Creek**	**43.48**	**278**	P	**P**	**20 50 59.2**	**-0.7**
WRA	**Warramunga Arr**	**43.48**	**278**	P	**P**	**20 50 59.3**	**-0.6**
comp=Z,18nm,0.6s,baz=121,slow=7.6,SNR=192							
WRA	**Warramunga Arr**	**43.48**	**278**	P	**P**	**20 50 59.0**	**-1.0**
WB0	**Warramunga Arr**	**43.52**	**279**	P	**P**	**20 50 59.4**	**-0.9**
WB0				IAmb	IAmb	20 51 10.8	
comp=Z,17nm,0.8s							
MTN	**Manton Dam**	**49.94**	**284**	P	**P**	**20 51 49.0**	**-1.6**
MTN				IAmb	IAmb	20 51 50.9	
comp=Z,8.8nm,0.9s							
KNRA	**Kununurra**	**50.23**	**279**	P	**P**	**20 51 50.8**	**-2.0**
KNRA				IAmb	IAmb	20 51 54.4	
comp=Z,13nm,0.8s							
NWAO	**Narrogin (SRO)**	**51.72**	**253**	P	**P**	**20 52 02.2**	**-1.7**
NWAO				IAmb	IAmb	20 52 06.7	
comp=Z,7.2nm,0.9s							
MORW	**Morawa**	**54.18**	**257**	P	**P**	**20 52 19.9**	**-2.2**
MORW				IAmb	IAmb	20 52 32.3	
comp=Z,6.5nm,1.0s							
QSPA	**South Pole Qui**	**54.57**	**180**	P	**P**	**20 52 27.7**	**+3.2**
comp=Z,2.1nm,1.1s,baz=360,slow=1.1,SNR=7.0							
QSPA	**South Pole Qui**	**54.57**	**180**	P	**P**	**20 52 24.9**	**+0.3**
QSPA				IAmb	IAmb	20 52 42.9	
comp=Z,3.2nm,0.7s							
SYO	**Syowa Base**	**71.86**	**194⇑**	eX	P	20 54 28.8	+10
GSI	**Gunungsitoli**	**85.16**	**275**	P	**P**	**20 55 32.8**	**-0.4**
KSRS	**Korea Array**	**87.59**	**321**	P	**P**	**20 55 43.7**	**-0.8**
comp=Z,0.7nm,0.7s,baz=139,slow=4.7,SNR=4.7							
KSRS				LR	LR	21 32 35.0	
comp=Z,15nm,18.5s,baz=195,slow=34							
NJ2	**Nanjing**	**88.80**	**312**	eP	**P**	**20 55 51.9**	**+1.5**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.8s							
PEA0B	**Petropavlovsk-**	**90.53**	**346**	P	**P**	**20 55 57.6**	**-0.4**
PETK	**Petropavlovsk-**	**90.53**	**346**	P	**P**	**20 55 57.3**	**-0.6**
comp=Z,9.2nm,0.7s,baz=156,slow=7.3,SNR=38							
USRK	**Ussuriysk Ar.**	**90.87**	**327**	P	**P**	**20 55 58.8**	**-1.0**
comp=Z,2.4nm,0.9s,baz=77,slow=3.3,SNR=4.3							
NVAR	**Mina Array Bea**	**92.74**	**43**	LR	LR	21 35 57.7	
comp=Z,28nm,18.2s,baz=268,slow=34							
CMAR	**Chiang Mai Arr**	**94.09**	**290**	P	**P**	**20 56 14.9**	**-0.4**
comp=Z,0.7nm,0.4s,baz=160,slow=2.9,SNR=4.8							
CMAR				LR	LR	21 42 21.4	
comp=Z,32nm,18.2s,baz=182,slow=38							
XAN	**Xi'an**	**96.36**	**307**	P	**P**	**20 56 29.6**	**+4.2**
XAN				pP	pwP	20 56 49.6	+16
XAN				pmax	pmax		
comp=Z,9.0nm,1.6s							
CPUP	**Villa Florida**	**97.59**	**130**	LR	LR	21 32 16.2	
comp=Z,38nm,20.4s,baz=202,slow=30							
HHC	**Hu-ho-hao-te**	**99.03**	**314**	eP	Pdif	20 56 39.4	+2.1
HHC				pmax	pmax		
comp=Z,8.0nm,1.1s							
HHC				pmax	pmax		
comp=Z,94nm,5.7s							
MKAR	**Makanchi Array**	**120.17**	**308**	PKP	**PKPdf**	**21 01 46.2**	**-1.0**
comp=Z,0.9nm,0.7s,baz=100,slow=1.6,SNR=6.1							
ZALV	**Zalesovo Beam**	**121.09**	**317**	PKP	**PKPdf**	**21 01 46.1**	**-2.5**
comp=Z,0.9nm,0.6s,baz=156,slow=0.8,SNR=5.3							
ARCES	**ARCESS Array B**	**143.34**	**346**	PKP	PKPbc	21 02 27.7	+0.6
comp=Z,1.9nm,0.6s,baz=32,slow=5.0,SNR=7.3							
KLMR	**Klimovskoe**	**144.67**	**328**	ePKPdf	**PKPab**	**21 02 30.2**	**-0.9**
KLMR				AMP		21 02 42.3	
comp=Z,17nm,1.1s							
KBZ	**Khabaz**	**146.79**	**297**	PKPbc	**PKPdf**	**21 02 37.2**	**+0.6**
comp=Z,3.1nm,1.1s,baz=166,slow=4.2,SNR=2.3							
FINES	**FINESS Array B**	**149.51**	**336**	PKPbc	**PKPbc**	**21 02 44.6**	**-0.3**
comp=Z,8.6nm,0.7s,baz=44,slow=3.7,SNR=42							
FINES	**FINESS Array B**	**149.51**	**336**		**PKPbc**	**21 02 45.7**	**+0.8**
MNK	**Minsk**	**153.29**	**324**	*i* PKP	**PKPbc**	**21 02 51.3**	**-2.7**
comp=E,1.0nm,0.6s							
MNK				*i* PKP	**PKPbc**	**21 02 51.3**	**-2.7**
comp=N,9.0nm,0.8s							
MNK				*i* PKP	**PKPbc**	**21 02 51.3**	**-2.7**
comp=Z,15nm,0.8s,baz=56							
MNK				*i* SKP		21 06 21.8	
MNK				*i* PKS	**PKSdf**	**21 06 25.8**	**+5.3**
MNK				*i* PP	**PP**	**21 06 44.0**	**+4.3**
MNK				*i* SKS	**SKSdf**	**21 10 01.4**	**+8.2**
MNK				*i* PPP	PPP	21 10 10.6	
MNK				*i* SS	SS	21 26 35.0	+21
MNK				*i* SSS	SSS	21 32 03.6	
MNK				*i* LQ	LQ	22 04 03.4	
MNK				*i* LR	LR	22 15 41.9	
NB2	**NORSAR Subarra**	**153.62**	**348**	PKP	**PKiKP**	**21 02 55.6**	**+0.9**
comp=Z,2.4nm,0.7s,baz=21,slow=3.6							
NOA	**NORSAR Array B**	**153.62**	**348**	PKPbc	**PKPbc**	**21 02 53.6**	**-1.0**
comp=Z,0.7nm,0.8s,baz=40,slow=2.2,SNR=3.6							
BRTR	**Keskin Array B**	**153.68**	**289**	PKPbc	**PKPbc**	**21 02 54.3**	**-1.2**
comp=Z,1.7nm,0.7s,baz=140,slow=3.6,SNR=10							
BRTR	**Keskin Array B**	**153.68**	**289**		**PKPbc**	**21 02 55.5**	**0.0**
AKASG	**Malin Array Be**	**154.47**	**315**	PKPbc	**PKPbc**	**21 02 55.9**	**-0.7**
comp=Z,1.6nm,0.5s,baz=60,slow=2.4,SNR=12							
TORD	**Torodi Ar. Bea**	**157.67**	**183**	PKPab	**PKPab**	**21 03 25.6**	**+0.1**
comp=Z,0.9nm,0.7s,baz=189,slow=2.3,SNR=4.1							
GERES	**GERESS Array B**	**163.63**	**328**	PKPab	**PKPab**	**21 03 49.4**	**-1.6**
comp=Z,0.7nm,0.8s,baz=58,slow=3.5,SNR=5.7							

*KRSC **05** 20:57:48.4±2.1, 48°.68N×156°.63E, h40km±26km, ML4.0*
*IDC **05** 20:57:51.5±2.7, 49°.05N×154°.63E, h117km±25km, mb3.1/7, mb1 3.3/11, mb1mx3.1/36, mbtmp3.5/11, Error ellipse: s-maj=31.5km s-min=18.6km az=135.0*
ISC 05 20:57:44.7±0.9, 48°.48N±0°.10×155°.5E±0°.1, h50km, n41, σ2°74/37, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.24**	**9**	eS	**Sn**	**20 58 45.3**	**-0.3**
ALID	**Alaid**	**2.39**	**0**	eP	**Pn**	**20 58 25.3**	**+3.8**
PAU	**Pauzhetka**	**3.10**	**15**	eP	**Pn**	**20 58 33.3**	**+2.2**
PAU				eS	**Sn**	**20 59 07.0**	**+0.2**
KDTR	**Khodutka, Kamc**	**3.71**	**25**	eP	**Pn**	**20 58 41.6**	**+2.2**
KDTR				eS	**Sn**	**20 59 20.8**	**-1.0**
MIPR	**Malaya Ipel'ka**	**3.88**	**11**	eP	**Pn**	**20 58 43.8**	**+2.0**
MTVR	**Mutnovka**	**4.35**	**22**	eP	**Pn**	**20 58 51.0**	**+2.7**
MTVR				eS	**Sn**	**20 59 37.3**	**-0.4**
GRL	**Gorelyy**	**4.38**	**21**	eP	**Pn**	**20 58 52.2**	**+3.4**
GRL				eS	**Sn**	**20 59 38.8**	**+0.2**
RUS	**Russkaya**	**4.39**	**25**	eP	**Pn**	**20 58 50.7**	**+2.0**
RUS				eS	**Sn**	**20 59 36.4**	**-2.1**
PETK	**Petropavlovsk-**	**4.83**	**16**	P	**Pn**	**20 58 57.7**	**+2.9**
0.5nm,0.3s,baz=178,slow=10.0,SNR=8.3							
UGLR	**Uglovaya**	**5.17**	**22**	eP	**Pn**	**20 59 01.7**	**+2.1**
AVH	**Avacha**	**5.20**	**22**	eP	**Pn**	**20 59 03.9**	**+4.0**
KOK	**Koryaka**	**5.20**	**21**	eP	**Pn**	**20 59 03.7**	**+3.8**
KRER	**Koryakskii**	**5.24**	**22**	eP	**Pn**	**20 59 01.7**	**+1.1**
SDLR	**Sedlovina**	**5.25**	**23**	eP	**Pn**	**20 59 02.6**	**+2.0**
KRX	**Arik**	**5.26**	**21**	eP	**Pn**	**20 59 04.1**	**+3.2**
NLC	**Nalytchevo**	**5.28**	**26**	S	**Sn**	**20 59 57.3**	**-3.0**
SPN	**Mys Shipunski**	**5.43**	**30**	eP	**Pn**	**20 59 04.7**	**+1.8**
SPN				eS	**Sn**	**21 00 01.1**	**-2.9**
GNL	**Ganaly**	**5.44**	**15**	eP	**Pn**	**20 59 06.1**	**+2.9**
MKZ	**Mys Kozlova**	**7.20**	**30**	eP	**Pn**	**20 59 27.8**	**+0.5**
MKZ				eS	**Sn**	**21 00 42.0**	**-5.6**
KZV	**Kizimen**	**7.26**	**22**	P	**Pn**	**20 59 31.2**	**+2.9**
TUMR	**Tumrok**	**7.38**	**21**	eP	**Pn**	**20 59 34.1**	**+4.2**
KBTR	**Krutoberegovo**	**8.93**	**27**	P	**Pn**	**20 59 53.5**	**+2.7**
ASAJ	**Asahikawa**	**9.96**	**249**	P	**Pn**	**21 00 07.1**	**+2.1**
1.1nm,0.3s,baz=76,slow=14,SNR=8.5							
KLR	**Kul'dur**	**15.66**	**282**	P	**Pn**	**21 01 17.4**	**-4.5**
0.1nm,0.3s,baz=77,slow=14,SNR=1.8							
MJAR	**Matsushiro Arr**	**17.43**	**233**	P	**P**	**21 01 45.9**	**+1.0**
0.0nm,0.3s,baz=36,slow=11,SNR=6.3							
KSRS	**Korea Array**	**22.89**	**251**	P	**P**	**21 02 40.8**	**-3.2**
2.0nm,1.1s,baz=46,slow=12,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**30.11**	**158**	T	T	21 36 22.8	
baz=344							
H11N1	**WAKE ISLAND Hy**	**30.13**	**158**	T	T	21 36 38.8	
baz=344							
H11N3	**WAKE ISLAND Hy**	**30.13**	**158**	T	T	21 36 34.3	
baz=344							
H11S1	**WAKE ISLAND Hy**	**31.24**	**159**	T	T	21 37 21.8	
baz=345,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**31.25**	**159**	T	T	21 37 24.4	
baz=345,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**31.26**	**159**	T	T	21 37 22.2	
baz=345,slow=76,SNR=15							
MKAR	**Makanchi Array**	**47.61**	**297**	P	P	21 06 08.9	-6.5
0.3nm,0.8s,baz=43,slow=7.2,SNR=1.8							
CMAR	**Chiang Mai Arr**	**54.36**	**257**	P	**P**	**21 07 03.9**	**-2.5**
0.7nm,0.7s,baz=33,slow=6.0,SNR=6.0							
FINES	**FINESS Array B**	**63.16**	**335**	P	P	21 08 01.0	-5.9
0.4nm,0.4s,baz=39,slow=12,SNR=4.0							
WRA	**Warramunga Arr**	**70.70**	**201**	P	**P**	**21 08 55.8**	**+0.6**
0.4nm,0.9s,baz=21,slow=6.4,SNR=1.7							
ASAR	**Alice Springs**	**74.39**	**201**	P	**P**	**21 09 18.6**	**+1.5**
0.2nm,0.5s,baz=10.0,slow=6.2,SNR=1.8							
TXAR	**Lajitas Array**	**75.22**	**63**	P	**P**	**21 09 23.3**	**+1.1**
0.2nm,0.5s,baz=308,slow=4.4,SNR=2.4							
H03N2	**Juan Fernandez**	**137.12**	**90**	T	T	23 50 21.2	
baz=310,slow=77,SNR=6.1							
H03N1	**Juan Fernandez**	**137.13**	**90**	T	T	23 50 22.9	
baz=310,slow=77,SNR=5.4							
H03N3	**Juan Fernandez**	**137.13**	**90**	T	T	23 50 23.0	
baz=310,slow=77,SNR=6.2							

*IDC **05** 21:21:23.2±3.3, 43°.45N×147°.46E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/27, mbtmp3.6/7, ML2.9/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/39, Error ellipse: s-maj=89.2km s-min=28.5km az=170.0*
*MOS **05** 21:21:30.1±1.4, 43°.67N×147°.45E, h61km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=13.3km az=171.3*
*JMA **05** 21:21:31.5±0.2, 43°.49N×147°.30E, h32km±5km, M3.8*
*NIED **05** 21:21:31.6, 43°.49N×147°.30E, h32km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.01; $M_{\theta\theta}$-2.50; $M_{\phi\phi}$0.49; $M_{r\theta}$1.33; $M_{\theta\phi}$-1.22; $M_{\phi r}$-1.29; Fault plane solution: $M_0$3.19000×10^{14} NP1: ϕ_s101.00000°, δ64.00000°, λ128.00000°. NP2: ϕ_s221.00000°, δ45.00000°, λ39.00000°.*
*SKHL **05** 21:21:32.4±0.4, 43°.60N×147°.30E, h76km±4km, mb4.3/4*
ISC 05 21:21:29.6±1.4, 43°.53N±0°.07×147°.49E±0°.07, h42km±14km, n45, σ1°44/60, mb3.5/6, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.28**	**294**	*d* PN	**Pn**	**21 21 52.0**	**+1.0**
YUK				*i* S	**Sn**	**21 22 06.8**	**-0.2**
YUK				pmax	pmax		
comp=N,33nm,0.2s							
YUK				pmax	pmax		
comp=Z,353nm,0.2s							
YUK				pmax	pmax		
comp=E,44nm,0.1s							
YUK				smax	smax		
comp=N,2μm,0.2s							
YUK				smax	smax		
comp=E,1μm,0.2s							
YUK				pmax	pmax		
comp=E,1μm,0.7s							
YUK				pmax	pmax		
comp=N,3μm,1.1s							
YUK	**Yuzh-Kuril'sk**	**1.28**	**294**	*i* P	**Pn**	**21 21 51.8**	**+0.8**
YUK				AMB	AMB	21 21 53.2	
comp=N,290nm,0.7s							
YUK				*i* S	**Sn**	**21 22 06.7**	**-0.2**
YUK				A	A	21 22 09.2	
comp=N,2μm,0.4s							
YUK				A	A	21 22 09.2	
comp=N,1μm,0.4s							
YUK				A	A	21 22 10.7	
comp=N,3μm,1.0s							
YUK				A	A	21 22 10.7	
comp=N,1μm,1.0s							
NEM2	**Nemuro 2**	**1.28**	**263**	P	**Pn**	**21 21 51.7**	**+0.7**
NEM2				eS	**Sn**	**21 22 06.5**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.29**	**263**	↑*i* PN	**Pn**	**21 21 51.7**	**+0.5**
NMR				*i* S	**Sn**	**21 22 06.5**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.29**	**263**	*i* P	**Pn**	**21 21 51.7**	**+0.5**
NMR				*i* S	**Sn**	**21 22 06.5**	**-0.7**
GRPR	**Tuman**	**1.33**	**291**	ePN	**Pn**	**21 21 52.5**	**+0.9**
GRPR				eS	**Sn**	**21 22 07.9**	**-0.2**
GRPR				pmax	pmax		
comp=Z,152nm,0.1s							
GRPR				smax	smax		
comp=E,2μm,0.3s							
GRPR				smax	smax		
comp=N,4μm,0.2s							
GRPR	**Tuman**	**1.33**	**291**	eP	**Pn**	**21 21 52.6**	**+0.9**
GRPR				AMB	AMB	21 21 55.0	
comp=N,150nm,0.4s							
GRPR				eS	**Sn**	**21 22 07.9**	**-0.2**
GRPR				A	A	21 22 10.1	
comp=N,4μm,0.4s							
GRPR				A	A	21 22 10.1	
comp=N,2μm,0.4s							
GLVR	**Golovnino**	**1.44**	**279**	ePN	**Pn**	**21 21 54.2**	**+1.0**
GLVR				eS	**Sn**	**21 22 10.9**	**-0.1**
GLVR				pmax	pmax		
comp=Z,134nm,0.2s							
GLVR				pmax	pmax		
comp=N,99nm,0.1s							
GLVR				pmax	pmax		
comp=E,42nm,0.1s							
GLVR				smax	smax		
comp=N,3μm,0.3s							
GLVR				smax	smax		
comp=E,3μm,0.3s							
GLVR	**Golovnino**	**1.44**	**279**	eP	**Pn**	**21 21 54.4**	**+1.2**
GLVR				AMB	AMB	21 21 55.0	
comp=E,100nm,0.2s							
GLVR				AMB	AMB	21 21 55.0	
comp=E,40nm,0.2s							
GLVR				AMB	AMB	21 21 55.0	
comp=E,130nm,0.2s							
GLVR				eS	**Sn**	**21 22 10.5**	**-0.5**
GLVR				A	A	21 22 12.3	
comp=E,3μm,0.5s							
GLVR				A	A	21 22 12.3	
comp=E,3μm,0.5s							
RUSJ	**Misakicho**	**1.72**	**290**	⇓*i* PN	**Pn**	**21 21 58.5**	**+1.5**
RUSJ				eS	**Sn**	**21 22 17.9**	**+0.2**
KUR	**Kuril'sk**	**1.72**	**9**	ePN	**Pn**	**21 21 58.8**	**+1.8**
KUR				eS	**Sn**	**21 22 17.9**	**+0.1**
KUR				smax	smax		
comp=N,303nm,0.3s							
KUR	**Kuril'sk**	**1.72**	**9**	eP	**Pn**	**21 21 59.0**	**+2.0**
KUR				AMB	AMB	21 22 01.2	
comp=N,60nm,0.6s							
KUR				eS	**Sn**	**21 22 18.4**	**+0.6**
KUR				A	A	21 22 23.0	
comp=N,300nm,0.3s							
KUR				A	A	21 22 23.0	
comp=N,550nm,0.3s							
JKHN	**Kushirohamanak**	**1.76**	**256**	P	**Pn**	**21 21 58.9**	**+1.4**
JKHN				eS	**Sn**	**21 22 18.9**	**+0.2**
JRA	**Rausu**	**1.76**	**284**	P	**Pn**	**21 21 58.9**	**+1.3**
JRA				eS	**Sn**	**21 22 19.1**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.82**	**278**	P	**Pn**	**21 21 59.9**	**+1.5**
JNSB				eS	**Sn**	**21 22 20.6**	**+0.4**
AKK	**Akkeshi**	**2.00**	**256**	*i* P	**Pn**	**21 22 02.1**	**+1.2**
AKK				*i* S	**Sn**	**21 22 24.4**	**-0.3**
JNK	**Nakash**	**2.01**	**272**	P	**Pn**	**21 22 02.0**	**+0.9**
JNK				eS	**Sn**	**21 22 24.1**	**-0.9**
JAK	**Akkeshi**	**2.11**	**256**	P	**Pn**	**21 22 03.5**	**+1.1**
JAK				eS	**Sn**	**21 22 26.7**	**-0.6**
JTKR	**Abashiri--Toko**	**2.63**	**281**	P	**Pn**	**21 22 11.7**	**+2.2**
JTKR				eS	**Sn**	**21 22 42.5**	**+2.3**
JAR	**Ashorobuto**	**2.72**	**266**	P	**Pn**	**21 22 12.5**	**+1.7**
JAR				eS	**Sn**	**21 22 43.1**	**+0.7**
JOB	**Onbets**	**2.74**	**258**	P	**Pn**	**21 22 13.2**	**+2.1**
JMP	**Maruseppu**	**3.03**	**280**	P	**Pn**	**21 22 17.3**	**+2.3**
JCH	**Churui**	**3.16**	**255**	P	**Pn**	**21 22 18.3**	**+1.5**
JCH				eS	**Sn**	**21 22 52.8**	**-0.4**
JKK2	**Kamakawa 2**	**3.45**	**277**	P	**Pn**	**21 22 24.6**	**+3.7**
JEM	**Erimo**	**3.53**	**246**	P	**Pn**	**21 22 25.1**	**+3.2**
ERM	**Erimo**	**3.53**	**246**	ePN	**Pn**	**21 22 25.2**	**+3.3**
JFR	**Furan**	**3.59**	**266**	P	**Pn**	**21 22 25.8**	**+3.1**
JNBK	**Urakawa-nobuka**	**3.70**	**252**	P	**Pn**	**21 22 26.0**	**+1.8**
JNBK				eS	**Sn**	**21 23 05.9**	**-0.6**
JSE	**Soyaes**	**3.80**	**294**	P	**Pn**	**21 22 28.0**	**+2.4**
MJAR	**Matsushiro Arr**	**9.96**	**229**	LR	LR	21 27 45.9	
comp=N,18nm,21.1s,baz=220,slow=39							
PETK	**Petropavlovsk-**	**11.73**	**32**	Pn	**Pn**	**21 24 12.6**	**-1.6**
comp=N,0.4nm,0.3s,baz=212,slow=20,SNR=3.0							
EKMR	**Ekimchan**	**13.56**	**320**	eP	**Pn**	**21 24 37.8**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**28.78**	**139**	T	T	21 58 09.1	
baz=330,slow=76,SNR=43							
SONM	**Songino Array**	**28.78**	**293**	P	**P**	**21 27 23.8**	**+0.4**
comp=N,0.3nm,0.5s,baz=81,slow=8.9,SNR=2.4							
H11N1	**WAKE ISLAND Hy**	**28.79**	**139**	T	T	21 58 14.6	
baz=330,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy**	**28.79**	**139**	T	T	21 58 13.7	
baz=330,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**29.74**	**141**	T	T	21 59 21.8	
baz=331,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**29.75**	**141**	T	T	21 59 27.1	
baz=331,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy**	**29.76**	**141**	T	T	21 59 26.8	
baz=331,slow=76,SNR=11							
ILAR	**Eielson Array**	**41.52**	**36**	P	**P**	**21 29 13.0**	**+0.6**
comp=N,0.4nm,0.5s,baz=278,slow=6.2,SNR=4.1							
ILAR	**Eielson Array**	**41.52**	**36**	P	**P**	**21 29 13.0**	**+0.6**
MKAR	**Makanchi Array**	**44.90**	**298**	P	**P**	**21 29 39.1**	**-0.9**
comp=N,0.7nm,0.6s,baz=69,slow=7.9,SNR=5.5							
FINES	**FINESS Array B**	**65.18**	**333**	P	**P**	**21 32 05.4**	**-0.6**
comp=N,1.0nm,0.9s,baz=54,slow=7.1,SNR=3.9							
AKASG	**Malin Array Be**	**71.90**	**324**	P	**P**	**21 32 48.3**	**+0.2**
comp=N,0.4nm,0.4s,baz=40,slow

	baz=310						
TWE			eS	Sb	21 50 12.4	+0.5	
	baz=310						
TWB1	**Santiao Chiao**	**1.29 329**	eP	Pn	21 49 54.8	-0.3	
	baz=329						
NDT	**Datong Townshi**	**1.30 303**	eP	Pn	21 49 55.6	+0.4	
	baz=290						
NDT			eS	Sb	21 50 12.7	-0.5	
	baz=290						
EHY	**Hungye**	**1.33 253**	eP	Pn	21 49 55.6	0.0	
	baz=251						
EHY			eS	Sn	21 50 11.9	-0.5	
	baz=251						
TIPB	**Shuangxi**	**1.34 323**	eP	Pb	21 49 57.4	-0.1	
	baz=336						
TIPB			eS	Sn	21 50 12.8	+0.1	
	baz=336						
WHF	**Hehuan Shan**	**1.35 281**	P	Pn	21 49 56.2	0.0	
	baz=269						
WHF			eS	Sn	21 50 13.9	+0.5	
	baz=269						
FUSS	**Fushou**	**1.39 285**	eP	Pn	21 49 56.9	+0.3	
	baz=284						
FUSS			eS	Sn	21 50 14.0	-0.1	
	baz=284						
JIJ	**Ishigaki jima**	**1.39 70**	P	Pb	21 49 58.1	-0.2	
JIJ			eS	Sb	21 50 16.0	+0.4	
EYUL	**Yuli**	**1.39 247**	eS	Sn	21 50 13.9	+0.1	
	baz=236						
YULB	**Yu-li**	**1.39 249**	eP	Pn	21 49 56.6	+0.2	
	baz=238						
YULB			eS	Sn	21 50 13.6	-0.2	
	baz=238						
TWF1	**Yuli**	**1.41 248**	eP	Pn	21 49 56.4	-0.3	
	baz=236						
TWF1			eS	Sn	21 50 13.7	-0.5	
	baz=236						
OWD	**Renai**	**1.41 273**	eP	Pn	21 49 56.8	0.0	
	baz=271						
OWD			eS	Sn	21 50 14.2	-0.2	
	baz=271						
NWLT	**Wulai**	**1.41 309**	eP	Pn	21 49 57.6	+0.9	
	baz=308						
NWLT			eS	Sb	21 50 15.7	-0.6	
	baz=308						
CHGB	**Renai**	**1.42 277**	eP	Pn	21 49 57.1	+0.1	
	baz=266						
CHGB			eS	Sn	21 50 13.7	-1.1	
	baz=266						
YHNB	**Yeheng**	**1.44 303**	P	Pn	21 49 57.8	+0.5	
	baz=302						
YHNB			eS	Sb	21 50 16.7	-0.5	
	baz=302						
NWF	**Wu-fen Shan**	**1.45 324**	eP	Pb	21 49 58.7	-0.6	
	baz=324						
NWF			eS	Sn	21 50 15.7	+0.4	
	baz=324						
WFSB	**Wu-fen Shan**	**1.45 324**	eP	Pb	21 49 59.0	-0.3	
	baz=324						
WFSB			eS	Sn	21 50 15.5	+0.3	
	baz=324						
TWT	**Tachien**	**1.45 285**	eP	Pn	21 49 58.5	+1.1	
	baz=273						
TWT			eS	Sn	21 50 16.4	+0.9	
	baz=273						
TDCB	**Techi**	**1.46 284**	eP	Pn	21 49 58.3	+0.7	
	baz=273						
TDCB			eS	Sn	21 50 16.0	+0.1	
	baz=273						
FULB	**Fuli**	**1.47 242**	eP	Pn	21 49 57.2	-0.5	
	baz=232						
FULB			eS	Sn	21 50 15.0	-1.0	
	baz=232						
TWA	**Mucha**	**1.49 317**	eP	Pb	21 49 58.9	-1.1	
	baz=316						
TWA			eS	Sb	21 50 17.6	-0.9	
	baz=316						
NHDH	**Xindian Distri**	**1.52 315**	eP	Pn	21 49 57.9	-0.2	
	baz=328						
TATO	**Taipei**	**1.55 314**	eP	Pn	21 49 59.3	+0.7	
	baz=329						
TATO			eS	Sb	21 50 18.9	-1.4	
	baz=329						
EDH	**Donghe**	**1.59 235**	eP	Pn	21 49 58.6	-0.5	
	baz=225						
EDH			eS	Sn	21 50 17.1	-1.6	
	baz=225						
WPL	**Puli Township**	**1.61 274**	eP	Pn	21 49 59.9	+0.4	
	baz=274						
SSLB	**Suanglung**	**1.61 267**	eP	Pn	21 50 00.5	+1.0	
	baz=255						
SSLB			eS	Sn	21 50 19.3	-0.1	
	baz=255						
JISG	**Ishigakijimahi**	**1.61 64**	P	Pb	21 50 00.8	-1.3	
JISG			eS	Sb	21 50 20.9	-1.2	
YM01	**YM01**	**1.62 320**	eP	Pn	21 49 59.2	-0.5	
	baz=320						
WCS	**Beigang Elemen**	**1.65 276**	eP	Pn	21 50 00.9	+0.9	
	baz=268						
WCS			eS	Sn	21 50 21.1	+0.7	
	baz=268						
WHP	**Taichung City**	**1.66 284**	eP	Pb	21 50 02.8	-0.1	
	baz=273						
WHP			eS	Sb	21 50 23.5	0.0	
	baz=273						
YUS	**Yu-Shan**	**1.66 256**	eP	Pn	21 50 01.5	+0.9	
	baz=254						
YUS			eS	Sn	21 50 20.5	-0.8	
	baz=254						
LDUT	**Ludao**	**1.67 223**	eP	Pn	21 49 59.1	-1.1	
	baz=222						
LDUT			eS	Sn	21 50 18.9	-1.9	
	baz=222						
TYC	**Yuchr**	**1.70 271**	eP	Pn	21 50 01.7	+1.0	
	baz=269						
TYC			eS	Sn	21 50 21.9	+0.4	
	baz=269						
ELDTW	**Lidau**	**1.71 246**	eP	Pn	21 50 00.9	0.0	
	baz=244						
ELDTW			eS	Sn	21 50 20.7	-1.1	
	baz=244						
NSTT	**Nanjuang**	**1.72 295**	eP	Pb	21 50 02.9	-1.1	
	baz=295						
NSTT			eS	Sb	21 50 23.9	-1.4	
	baz=295						
LONT	**Longtian**	**1.75 236**	eP	Pn	21 50 02.0	+0.5	
	baz=227						
LONT			eS	Sn	21 50 22.0	-0.9	
	baz=227						
ALS	**Alishan**	**1.79 258**	eP	Pn	21 50 03.8	+1.6	
	baz=256						
ALS			eS	Sn	21 50 24.9	+0.8	
	baz=256						
WJS	**Zhushan**	**1.82 268**	eP	Pb	21 50 04.6	-1.0	
	baz=257						
WJS			eS	Sb	21 50 27.4	-0.5	
	baz=257						
TWQ1	**Liyutan**	**1.83 285**	eP	Pn	21 50 04.2	+1.8	
	baz=284						
TWQ1			eS	Sb	21 50 27.6	-0.7	
	baz=284						
TWGBT	**Beinan**	**1.84 235**	eP	Pn	21 50 02.6	-0.1	
	baz=224						
TWGBT			eS	Sn	21 50 24.4	-0.6	
	baz=224						
TWG	**Pinlang**	**1.85 235**	eP	Pn	21 50 02.9	+0.2	
	baz=224						
TWG			eS	Sn	21 50 24.1	-1.0	
	baz=224						
WWF	**Wufeng**	**1.85 275**	eP	Pb	21 50 05.5	-0.6	
	baz=274						
WWF			eS	Sb	21 50 28.5	-0.3	
	baz=274						
WNT	**Mingjian**	**1.86 270**	eP	Pb	21 50 05.2	-1.1	
	baz=268						
WNT			eS	Sb	21 50 28.5	-0.6	
	baz=268						
CHN5	**Tsauling**	**1.89 261**	eP	Pn	21 50 05.2	+1.8	
	baz=260						
CHN5			eS	Sn	21 50 27.6	+1.3	
	baz=260						
STYH	**Taoyuan**	**1.92 248**	eP	Pn	21 50 05.1	+1.4	
	baz=239						
STYH			eS	Sn	21 50 27.7	+0.8	
	baz=239						
STYT	**Tauyuan**	**1.94 248**	eP	Pn	21 50 04.9	+0.8	
	baz=238						
STYT			eS	Sn	21 50 27.6	+0.2	
	baz=238						
TPUB	**Ta-pu**	**2.00 253**	eP	Pn	21 50 06.5	+1.7	
	baz=244						
TPUB			eS	Sn	21 50 30.1	+1.2	
	baz=244						
WDLH	**Douliu**	**2.00 265**	eP	Pn	21 50 06.8	+2.0	
	baz=263						
WDLH			eS	Sn	21 50 31.4	+2.4	
	baz=263						
CHN4	**Taisuhan**	**2.02 255**	eP	Pn	21 50 07.1	+2.0	
	baz=244						
CHN4			eS	Sn	21 50 31.4	+2.0	
	baz=244						
WTP	**Ta-pu**	**2.03 252**	eP	Pn	21 50 07.0	+1.7	
	baz=243						
WTP			eS	Sn	21 50 31.1	+1.3	
	baz=243						
SLGT	**Liugui**	**2.10 245**	eP	Pn	21 50 07.6	+1.4	
	baz=237						
SLGT			eS	Sn	21 50 32.1	+0.7	
	baz=237						
CHN1	**Nanshi**	**2.12 251**	eP	Pn	21 50 08.6	+2.0	
	baz=249						
CHN1			eS	Sn	21 50 34.7	+2.6	
	baz=249						
TWK	**Hsinying**	**2.13 253**	eP	Pn	21 50 08.4	+1.7	
	baz=251						
TWK			eS	Sn	21 50 34.5	+2.2	
	baz=251						
WRL	**Guolierlin Hig**	**2.14 271**	eP	Pn	21 50 08.6	+1.9	
	baz=259						
WRL			eS	Sb	21 50 35.3	-1.8	
	baz=259						
SNST	**Tainan City**	**2.14 252**	eS	Sn	21 50 35.0	+2.6	
	baz=250						
TSMG	**Majia**	**2.24 238**	eP	Pn	21 50 09.1	+0.9	
	baz=231						
TSMG			eS	Sn	21 50 34.4	-0.5	
	baz=231						
EAST	**Anshuo**	**2.28 229**	eP	Pn	21 50 08.8	0.0	
	baz=235						
EAST			eS	Sn	21 50 34.7	-1.3	
	baz=235						
MASBT	**Mashibuluo**	**2.30 237**	eP	Pn	21 50 10.0	+1.0	
	baz=229						
MASBT			eS	Sn	21 50 36.6	+0.3	
	baz=229						
SLIU	**Shizi**	**2.43 227**	eP	Pn	21 50 11.4	+0.7	
	baz=225						
SLIU			eS	Sn	21 50 40.2	+0.7	
	baz=225						
SCZT	**Fangliau**	**2.45 232**	eP	Pn	21 50 11.2	+0.1	
	baz=224						
SCZT			eS	Sn	21 50 39.3	-0.7	
	baz=224						
PHUB	**P'eng-hu**	**2.90 263**	eP	Pn	21 50 18.4	+1.2	
	baz=276						
PHUB			eS	Sn	21 50 52.6	+1.4	
	baz=276						
PNG	**Penghu**	**2.91 264**	eP	Pn	21 50 19.6	+2.3	
	baz=278						
PNG			eS	Sn	21 50 52.6	+1.2	
	baz=278						
VWUC	**VWUC**	**3.17 291**	eP	Pn	21 50 22.2	+1.3	
	baz=291						
VWUC			eS	Sn	21 50 58.3	+0.6	
	baz=291						
PTMZ	**Houxiangcun**	**3.46 290**	eP	Pn	21 50 26.5	+1.6	
	baz=290						
PTMZ			eS	Sn	21 51 06.1	+1.1	
	baz=290						
KNMB	**Chin-men Tao**	**3.99 279**	eP	Pn	21 50 33.3	+1.1	
	baz=277						
KNMB			eS	Sn	21 51 18.3	+0.3	
	baz=277						

IDC 05 21:55:18.4±8.0, 34°.09N×140°.66E, h83km±102km, mb3.2/2, mb1 3.5/3, mb1mx3.0/35, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=81.2km s-min=66.7km az=41.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.16**	**321**	P	Pn	21 56 06.1	+0.1
	0.8nm,0.3s,baz=144,slow=7.3,SNR=45						
MJAR				S	Sn	21 56 42.3	-0.4
	0.5nm,0.3s,baz=139,slow=24,SNR=9.9						
MAT	**Matsushiro**	**3.16**	**321**	P	Pn	21 56 07.2	+1.2
MAT				S	Sn	21 56 42.5	-0.2
H11N2	**WAKE ISLAND Hy**	**27.32**	**115**	T	T	22 30 12.2	
	baz=306,slow=75,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**27.33**	**115**	T	T	22 30 12.4	
	baz=306,slow=75,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**27.34**	**115**	T	T	22 30 13.3	
	baz=306,slow=75,SNR=9.1						
WRA	**Warramunga Arr**	**54.07**	**187**	P	P	22 04 34.7	+0.1
	0.8nm,0.5s,baz=6.3,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**57.80**	**187**	P	P	22 05 00.9	-0.3
	0.2nm,0.5s,baz=11,slow=10,SNR=1.6						

IDC 05 22:14:21.5±56.0, 18°.16S×176°.37W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/27, mbtmp4.2/3, Error ellipse: s-maj=1035.0km s-min=162.4km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.22**	**242**	P	P	22 22 00.2	+0.2
	1.2nm,0.4s,baz=68,slow=11,SNR=6.1						
WRA	**Warramunga Arr**	**46.49**	**259**	P	P	22 22 50.7	-0.3
	1.4nm,0.5s,baz=98,slow=7.4,SNR=44						
ASAR	**Alice Springs**	**46.59**	**254**	P	P	22 22 51.4	-0.3
	2.2nm,0.4s,baz=88,slow=7.8,SNR=39						

*IDC **05** 22:23:00.1±2.2, 35°.28S×179°.27W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/22, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=64.8km s-min=34.1km az=135.0*
*NEIC **05** 22:23:03.5±0.8, 35°.3S±0°.1×179°.4W±0°.1, h10km±2km, mb4.3/6, Error ellipse: s-maj=24.0km s-min=6.1km az=140.0*

ISC 05 22:23:05.9±1.5, 35°.3S±0°.1×179°.3W±0°.2, h41km, n19, σ0°82/23, mb4.2/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.94**	**220**	Pn	**Pn**	**22 23 49.0**	**-1.2**
MXZ				Sn	**Sn**	**22 24 25.6**	**+1.4**
URZ	**Urewera**	**4.10**	**223**	Pn	**Pn**	**22 24 05.5**	**-0.5**
	2.9nm,0.3s,baz=350,slow=19,SNR=7.8						
URZ				Sn	**Sn**	**22 24 53.2**	**+0.5**
	7.0nm,0.3s,baz=108,slow=20,SNR=7.8						
URZ	**Urewera**	**4.10**	**223**		**Pn**	**22 24 05.2**	**-0.8**
URZ					**Sn**	**22 24 53.3**	**+0.6**
BKZ	**Black Stump Fm**	**5.09**	**220**	Pn	**Pn**	**22 24 19.1**	**-0.6**
BKZ				Sn	**Sn**	**22 25 16.6**	**-0.6**
OUZ	**Omahuta**	**5.80**	**269**	Pn	**Pn**	**22 24 28.4**	**-1.0**
LBZ	**Lake Benmore**	**12.11**	**218**	Pn	**Pn**	**22 25 55.4**	**-0.5**
ASAR	**Alice Springs**	**41.99**	**273**	P	**P**	**22 30 53.6**	**+0.4**
	1.2nm,0.5s,baz=115,slow=7.8,SNR=20						
ASAR	**Alice Springs**	**41.99**	**273**	P	**P**	**22 30 53.0**	**-0.2**
WR0	**Warramunga Arr**	**43.26**	**278**	P	**P**	**22 31 03.9**	**+0.4**
WR0				IAmb	IAmb	22 31 10.8	
	comp=Z,13nm,1.5s						
WB2	**Warramunga Arr**	**43.42**	**278**	P	**P**	**22 31 05.2**	**+0.4**
WB2				IAmb	IAmb	22 31 05.2	
	comp=Z,9.1nm,1.3s						
WRA	**Warramunga Arr**	**43.43**	**278**	P	**P**	**22 31 05.0**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.6,SNR=20						
WRA	**Warramunga Arr**	**43.43**	**278**	P	**P**	**22 31 04.9**	**0.0**
WB0	**Warramunga Arr**	**43.47**	**278**	P	**P**	**22 31 04.9**	**-0.4**
WB0				IAmb	IAmb	22 31 17.8	
	comp=Z,2.1nm,0.7s						
MTN	**Manton Dam**	**49.87**	**284**	P	**P**	**22 31 55.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.44**	**274**	P	**P**	**22 32 07.8**	**+0.7**
FITZ				IAmb	IAmb	22 32 12.1	
	comp=Z,5.9nm,1.2s						
FINES	**FINESS Array B**	**149.29**	**336**	PKPbc	**PKPbc**	**22 42 49.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=45,slow=4.1,SNR=2.5						
FINES	**FINESS Array B**	**149.29**	**336**	PKPdf	**PKPbc**	**22 42 48.0**	**-1.2**
BRTR	**Keskin Array B**	**153.58**	**289**	PKPbc	**PKPbc**	**22 42 59.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=98,slow=2.9,SNR=3.1						
AKASG	**Malin Array Be**	**154.29**	**316**	PKPbc	**PKiKP**	**22 43 03.1**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=67,slow=2.4,SNR=1.8						

*IDC **05** 22:24:09.5±2.6, 31°.51S×71°.63W, h0km, mb4.1/1, mb1 3.9/2, mb1mx3.5/23, mbtmp3.8/2, ML3.7/1, Error ellipse: s-maj=119.4km s-min=47.2km az=96.0*
*GUC **05** 22:24:11.6±0.9, 31°.58S×71°.77W, h31km±8km, ML3.8*
*NEIC **05** 22:24:13.4±2.2, 31°.62S±0°.04×71°.8W±0°.1, h31km±8km, Error ellipse: s-maj=14.7km s-min=4.5km az=106.0*

ISC 05 22:24:12.4±1.5, 31°.61S±0°.03×71°.78W±0°.06, h28km±11km, n57, σ1°19/65, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.78**	**59**	eP	**Pn**	**22 24 27.1**	**-0.5**
CO02				*i* S	**Sb**	**22 24 37.8**	**+0.1**
CO02				IAML		22 24 42.0	
	comp=N,7μm,0.2s						
CO02	**Combarbal**	**0.78**	**59**		**Pn**	**22 24 26.8**	**-0.9**
CO02				Sn	**Sb**	**22 24 37.2**	**-0.5**
CO03	**El Pedregal**	**1.21**	**51**	eP	**Pn**	**22 24 33.9**	**+0.3**
CO03				*i* S	**Sb**	**22 24 50.5**	**+0.6**
CO03	**El Pedregal**	**1.21**	**51**		**Pn**	**22 24 32.7**	**-0.9**
CO03				Sn	**Sn**	**22 24 49.0**	**-0.1**
VA01	**Torpederas**	**1.42**	**175**	eP	**Pn**	**22 24 37.1**	**+0.8**
VA01				eS	**Sb**	**22 24 57.2**	**+1.3**
VA01	**Torpederas**	**1.42**	**175**		**Pn**	**22 24 37.0**	**+0.6**
VA01				Sn	**Sn**	**22 24 54.0**	**-0.1**
ROCH	**El Roble**	**1.51**	**155**	eP	**Pb**	**22 24 39.6**	**-0.3**
ROCH				*i* S	**Sb**	**22 25 00.0**	**+1.3**
ROCH				IAML		22 25 03.4	
	comp=E,2μm,0.6s						
VA03	**San Esteban**	**1.56**	**138**	eP	**Pn**	**22 24 40.0**	**+1.6**
VA03				*i* S	**Sb**	**22 25 01.4**	**+1.4**
VA03				IAML		22 25 02.6	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**1.56**	**138**	Pn	**Pn**	**22 24 36.9**	**-1.5**
GO04	**Tololo Observa**	**1.66**	**31**	eP	**Pn**	**22 24 41.0**	**+1.0**
GO04				*i* S	**Sb**	**22 25 03.8**	**+0.8**
GO04	**Tololo Observa**	**1.66**	**31**	Pn	**Pn**	**22 24 40.5**	**+0.6**
MT02	**Curacav**	**1.74**	**162**	eP	**Pn**	**22 24 41.8**	**+1.1**
MT02				*i* S	**Sb**	**22 25 04.0**	**-1.0**
MT02	**Curacav**	**1.74**	**162**		**Pn**	**22 24 41.6**	**+0.8**
CO05	**La Serena**	**1.75**	**16**	eP	**Pn**	**22 24 41.9**	**+1.0**
CO05				eS	**Sn**	**22 25 04.0**	**+1.8**
CO05				IAML		22 25 11.3	
	comp=N,1μm,0.5s						
MT05	**Renca**	**1.99**	**154**	eP	**Pn**	**22 24 46.1**	**+1.9**
MT05				*i* S	**Sb**	**22 25 12.9**	**+0.6**
MT05	**Renca**	**1.99**	**154**	Pn	**Pn**	**22 24 45.1**	**+0.9**
VA05	**Santo Domingo**	**2.05**	**176**	eP	**Pn**	**22 24 46.0**	**+0.9**
VA05				IAML		22 25 19.6	
	comp=E,1μm,0.3s						
VA05	**Santo Domingo**	**2.05**	**176**		**Pn**	**22 24 44.6**	**-0.4**
MT03	**Universidad Ad**	**2.17**	**151**	eP	**Pn**	**22 24 49.0**	**+2.2**
MT03				*i* S	**Sn**	**22 25 15.2**	**+2.4**
MT03	**Universidad Ad**	**2.17**	**151**		**Pn**	**22 24 47.5**	**+0.7**
MT09	**Talagante**	**2.27**	**163**	eP	**Pn**	**22 24 50.5**	**+2.3**
MT09				*i* S	**Sb**	**22 25 18.7**	**-1.7**
MT09	**Talagante**	**2.27**	**163**		**Pn**	**22 24 49.9**	**+1.7**
MT01	**Popeta**	**2.30**	**169**	eP	**Pn**	**22 24 49.7**	**+1.2**
MT01	**Popeta**	**2.30**	**169**		**Pn**	**22 24 49.8**	**+1.3**
ZON	**Zonda**	**2.65**	**90**		**Pn**	**22 24 54.1**	**+0.7**
LCO	**Las Campanas**	**2.75**	**20**		**Pn**	**22 24 55.4**	**+0.4**
BO01	**Tunca**	**2.84**	**168**	eP	**Pn**	**22 24 57.5**	**+1.6**
BO01	**Tunca**	**2.84**	**168**		**Pn**	**22 24 57.2**	**+1.3**
BO03	**Pichilemu**	**2.89**	**183**	eP	**Pn**	**22 24 56.9**	**+0.3**
BO02	**Sierra Bellavi**	**3.29**	**166**	eP	**Pn**	**22 25 04.0**	**+1.8**
BO02	**Sierra Bellavi**	**3.29**	**166**		**Pn**	**22 25 03.5**	**+1.4**
AC04	**Llanos de Chal**	**3.44**	**10**	eP	**Pn**	**22 25 04.5**	**+0.2**
AC04	**Llanos de Chal**	**3.44**	**10**		**Pn**	**22 25 04.3**	**0.0**
GO03	**Copiap**	**4.22**	**19**	eP	**Pn**	**22 25 15.2**	**+0.2**
GO03	**Copiap**	**4.22**	**19**		**Pn**	**22 25 15.6**	**+0.6**
AC02	**Maricunga**	**5.29**	**27**		**Pn**	**22 25 30.6**	**+0.5**
H03N1	**Juan Fernandez**	**6.29**	**251**	Pn	**Pn**	**22 25 43.3**	**+0.1**
	baz=114,slow=19,SNR=18						
H03N1				T	T	22 32 23.6	
	baz=78,slow=72,SNR=4349						
H03N3	**Juan Fernandez**	**6.31**	**251**	Pn	**Pn**	**22 25 43.5**	**+0.1**
	baz=114,slow=19,SNR=27						
H03N3				T	T	22 32 23.2	
	baz=78,slow=72,SNR=3196						
H03N2	**Juan Fernandez**	**6.31**	**251**	Pn	**Pn**	**22 25 43.7**	**+0.3**
	baz=114,slow=19,SNR=17						
H03N2				T	T	22 32 24.5	
	baz=78,slow=72,SNR=4195						
H03S3	**Juan Fernandez**	**6.40**	**248**	Pn	**Pn**	**22 25 44.2**	**-0.5**
	baz=264,slow=74,SNR=7.3						
H03S3				T	T	22 32 36.6	
	baz=82,slow=76,SNR=8.2						
H03S1	**Juan Fernandez**	**6.41**	**248**	Pn	**Pn**	**22 25 43.9**	**-0.7**
H03S1				T	T	22 32 35.2	
	baz=82,slow=76,SNR=9.1						
H03S2	**Juan Fernandez**	**6.42**	**248**	Pn	**Pn**	**22 25 43.9**	**-1.0**
	baz=36,slow=74,SNR=5.7						
H03S2				T	T	22 32 30.0	
	baz=82,slow=76,SNR=9.9						
PLCA	**Paso Flores**	**9.16**	**174**	Pn	**Pn**	**22 26 24.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=348,slow=3.9,SNR=1.4						
PLCA	**Paso Flores**	**9.16**	**174**		**Pn**	**22 26 22.1**	**-0.7**
TRQA	**Tornquist**	**10.31**	**131**	Pn	**Pn**	**22 26 40.4**	**+2.0**
PLTB	**Pedras Altas**	**15.48**	**95**	Pn	**Pn**	**22 27 45.8**	**-3.1**
QSPA	**South Pole Qui**	**58.62**	**180**	P	**P**	**22 34 05.2**	**-1.6**
QSPA				IAmb	IAmb	22 34 13.8	
	comp=Z,1.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**83.19**	**70**	P	**P**	**22 36 36.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**22 36 37.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=240,slow=4.4,SNR=6.0						
TORD	**Torodi Ar. Bea**	**83.19**	**70**	P	**P**	**22 36 37.0**	**+0.5**
TORD				IAmb	IAmb	22 36 38.8	
	comp=Z,4.0nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**25.99**	**271**	T	T	01 02 01.5	
	baz=116,slow=74,SNR=39						
H11S1	**WAKE ISLAND Hy**	**26.00**	**271**	T	T	01 02 05.8	
	baz=116,slow=74,SNR=38						
H11S3	**WAKE ISLAND Hy**	**26.01**	**271**	T	T	01 02 02.3	
	baz=116,slow=74,SNR=35						
H11N3	**WAKE ISLAND Hy**	**26.34**	**272**	T	T	01 02 23.1	
	baz=113,slow=74,SNR=74						
H11N1	**WAKE ISLAND Hy**	**26.36**	**272**	T	T	01 02 27.1	
	baz=113						
H11N2	**WAKE ISLAND Hy**	**26.36**	**272**	T	T	01 02 24.3	
	baz=113,slow=74,SNR=125						
ZALV	**Zalesovo Beam**	**152.07**	**30**	PKPbc	**PKiKP**	**22 44 05.8**	**+0.9**
	comp=Z,3.0nm,0.4s,baz=312,slow=3.1,SNR=19						

*IDC **05** 22:30:47.2±2.7, 17°.81S×178°.43W, h607km±23km, mb2.7/5, mb1 3.0/6, mb1mx2.8/22, mbtmp3.6/6, Error ellipse: s-maj=70.0km s-min=22.9km az=145.0*

ISC 05 22:30:44.5±1.5, 17°.8S±0°.4×178°.4W±0°.3, h579km, n8, σ0°69/9, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.43**	**271**	P	P	22 32 09.3	+4.6
	2.5nm,0.3s,baz=73,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**22 38 07.5**	**+0.3**
	0.3nm,0.5s,baz=94,slow=7.1,SNR=10.0						
WRA				PcP	**PcP**	**22 39 36.5**	**-0.5**
	0.1nm,0.4s,baz=140,slow=4.3,SNR=1.1						
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**22 38 08.7**	**+0.3**
	0.8nm,0.6s,baz=81,slow=8.1,SNR=9.5						
ASAR				PcP	**PcP**	**22 39 36.8**	**-0.8**
	0.2nm,0.3s,baz=98,slow=3.7,SNR=4.3						
PETK	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**22 41 20.1**	**+0.6**
	0.5nm,0.4

σ1°32/22, mb4.2/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.62**	**283**	Pn	**Pn**	**23 25 31.6**	**+0.8**
RABL				Sn	**Sn**	**23 25 52.1**	**+0.8**
HNR	**Honiara**	**7.82**	**128**	Pn	**Pn**	**23 26 56.6**	**+1.9**
PMG	**Port Moresby**	**8.12**	**233**	P	**Pn**	**23 27 01.4**	**+2.6**
	6.4nm,0.3s,baz=32,slow=5.9,SNR=8.0						
PMG				S	**Sn**	**23 28 28.9**	**0.0**
	2.9nm,0.3s,baz=125,slow=18,SNR=2.5						
PMG	**Port Moresby**	**8.12**	**233**	Pn	**Pn**	**23 27 00.5**	**+1.7**
PATS	**Pohnpei**	**12.21**	**22**	Pn	**Pn**	**23 27 55.1**	**+0.5**
LIFNC	**LIFOU**	**20.78**	**142**	P	**P**	**23 29 38.4**	**+0.5**
FAKI	**Fak Fak**	**21.52**	**274**	P	**P**	**23 29 44.3**	**-1.7**
FAKI				IAmb	IAmb	23 29 45.8	
	comp=Z,16nm,1.1s						
MTN	**Manton Dam**	**23.80**	**248**	P	**P**	**23 30 09.2**	**+0.3**
MTN				IAmb	IAmb	23 30 10.9	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**24.16**	**230**	P	**P**	**23 30 11.8**	**-0.4**
WR0	**Warramunga Arr**	**24.17**	**229**	P	**P**	**23 30 11.9**	**-0.2**
WR0				IAmb	IAmb	23 30 13.3	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**24.30**	**229**	P	**P**	**23 30 12.7**	**-0.6**
WB2				IAmb	IAmb	23 30 13.6	
	comp=Z,7.4nm,1.1s						
WRA	**Warramunga Arr**	**24.31**	**229**	P	**P**	**23 30 12.5**	**-0.9**
	comp=Z,3.1nm,0.4s,baz=54,slow=10,SNR=35						
WRA	**Warramunga Arr**	**24.31**	**229**	P	**P**	**23 30 12.7**	**-0.8**
ASAR	**Alice Springs**	**26.96**	**223**	P	**P**	**23 30 36.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=53,slow=9.0,SNR=4.0						
TOO	**Toolangi**	**33.71**	**192**	P	**P**	**23 31 35.7**	**-1.1**
TOO				IAmb	IAmb	23 31 48.2	
	comp=Z,4.4nm,0.9s						
FORT	**Forrest**	**35.57**	**220**	P	**P**	**23 31 51.2**	**-1.7**
FORT				IAmb	IAmb	23 32 01.1	
	comp=Z,18nm,1.0s						
NIUE	**Niue**	**38.25**	**115**	P	**P**	**23 32 14.2**	**-1.7**
LTZ	**Lake Taylor**	**41.46**	**159**	P	**P**	**23 32 41.8**	**-0.4**
LTZ				IAmb	IAmb	23 32 50.0	
	comp=Z,18nm,1.1s						
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**	**23 37 09.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=97,slow=7.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc	**PKPbc**	**23 44 46.5**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=61,slow=3.1,SNR=3.3						

*IDC **05** 23:26:32.8±0.7, 6°.72S×155°.19E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.2/36, mbtmp4.1/13, Error ellipse: s-maj=28.3km s-min=19.7km az=118.0*
*NEIC **05** 23:26:40.2±1.1, 6°.8S±0°.1×155°.3E±0°.1, h47km±7km, mb4.6/21, Error ellipse: s-maj=19.4km s-min=16.7km az=80.0*

ISC 05 23:26:40.0±0.6, 6°.72S±0°.10×155°.3E±0°.1, h50km, n51, σ0°89/41, mb4.4/23, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.97**	**309**	Pn	Pn	23 27 44.9	+6.4
PMG	**Port Moresby**	**8.45**	**251**	Sn	**Sn**	**23 30 15.7**	**+1.7**
	3.0nm,0.3s,baz=73,slow=22,SNR=3.3						
PATS	**Pohnpei**	**13.81**	**13**	Pn	**Pn**	**23 29 53.1**	**-0.1**
CTA	**Charters Tower**	**15.90**	**212**	Pn	**P**	**23 30 23.9**	**+0.3**
	0.2nm,0.3s,baz=54,slow=13,SNR=5.1						
WR0	**Warramunga Arr**	**24.03**	**235**	P	**P**	**23 31 49.7**	**-0.9**
WR0				IAmb	IAmb	23 32 06.6	
	comp=Z,16nm,1.2s						
WB0	**Warramunga Arr**	**24.06**	**235**	P	**P**	**23 31 50.1**	**-0.7**
WB2	**Warramunga Arr**	**24.18**	**235**	P	**P**	**23 31 51.4**	**-0.5**
WRA	**Warramunga Arr**	**24.19**	**235**	P	**P**	**23 31 51.0**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=58,slow=9.4,SNR=10						
WRA				PcP	**PcP**	**23 35 32.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=68,slow=2.8,SNR=9.7						
WRA	**Warramunga Arr**	**24.19**	**235**	P	**P**	**23 31 51.5**	**-0.6**
ASAR	**Alice Springs**	**26.55**	**228**	P	**P**	**23 32 12.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=58,slow=9.1,SNR=6.0						
ASAR				PcP	**PcP**	**23 35 37.4**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=60,slow=3.4,SNR=4.5						
ASAR	**Alice Springs**	**26.55**	**228**	P	**P**	**23 32 13.0**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**27.47**	**24**	T	T	00 00 44.4	
	baz=203,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**27.48**	**24**	T	T	00 00 47.8	
	baz=203,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**27.49**	**24**	T	T	00 00 51.8	
	baz=203,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.65**	**23**	T	T	00 01 57.7	
	baz=198,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.67**	**23**	T	T	00 01 58.6	
	baz=198,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.67**	**23**	T	T	00 02 27.9	
	baz=198						
BBOO	**Buckleboo**	**31.51**	**212**	P	**P**	**23 32 57.1**	**-0.3**
BBOO				IAmb	IAmb	23 33 16.5	
	comp=Z,14nm,1.1s						
KSRS	**Korea Array**	**50.82**	**332**	P	**P**	**23 35 35.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=149,slow=9.4,SNR=4.6						
PEA0B	**Petropavlovsk-**	**59.63**	**2**	P	**P**	**23 36 39.5**	**+0.7**
PETK	**Petropavlovsk-**	**59.63**	**2**	P	**P**	**23 36 39.7**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=165,slow=6.2,SNR=5.6						
PETK	**Petropavlovsk-**	**59.63**	**2**	P	**P**	**23 36 39.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.90**	**295**	P	**P**	**23 36 48.4**	**+0.2**
	comp=Z,9.7nm,0.9s,baz=121,slow=5.2,SNR=31						
CHTO	**Chiang Mai**	**61.02**	**296**	P	**P**	**23 36 49.1**	**+0.2**
ADK	**Adak**	**63.12**	**19**	P	**P**	**23 37 01.4**	**-1.0**
SONM	**Songino Array**	**69.25**	**327**	P	**P**	**23 37 42.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=143,slow=6.7,SNR=5.3						
SHL	**Shillong**	**69.38**	**300**	P	**P**	**23 37 43.9**	**+0.6**
SHL				IAmb	IAmb	23 37 44.0	
	comp=Z,8.3nm,0.8s						
SUA	**Susitna One**	**79.72**	**23**	P	**P**	**23 38 43.0**	**+0.5**
SUA				IAmb	IAmb	23 38 43.9	
	comp=Z,4.8nm,0.7s						
KLU	**Klutina**	**81.68**	**25**	P	**P**	**23 38 53.9**	**+1.0**
KLU				IAmb	IAmb	23 38 55.8	
	comp=Z,11nm,1.3s						
GLB	**Gilahina Butte**	**82.53**	**25**	IAmb	IAmb	23 38 59.5	
	comp=Z,4.1nm,0.8s						
IL31		**83.02**	**21**	IAmb	IAmb	23 39 08.8	
	comp=Z,5.5nm,1.4s						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**23 38 58.9**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=242,slow=5.6,SNR=14						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**23 38 60.0**	**+0.2**
QSPA	**South Pole Qui**	**83.25**	**180**	P	**P**	**23 39 01.6**	**+0.5**
QSPA				IAmb	IAmb	23 39 02.4	
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**83.37**	**319**	P	**P**	**23 39 00.5**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=104,slow=5.1,SNR=6.6						
DOT	**Dot Lake**	**83.51**	**23**	IAmb	IAmb	23 39 04.2	
	comp=Z,4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**84.10**	**326**	P	**P**	**23 39 03.8**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=118,slow=8.6,SNR=3.8						
K27K	**Chicken**	**84.47**	**23**	P	**P**	**23 39 09.0**	**+1.8**
K27K				IAmb	IAmb	23 39 11.5	
	comp=Z,3.2nm,0.9s						
MAW	**Mawson**	**84.75**	**203**	P	**P**	**23 39 08.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=110,slow=8.5,SNR=6.3						
HYT	**Haines Junctio**	**85.01**	**27**	IAmb	IAmb	23 39 12.9	
	comp=Z,5.9nm,0.8s						
EPYK	**Eagle Plains**	**87.51**	**22**	P	**P**	**23 39 23.4**	**+1.3**
NVAR	**Mina Array Bea**	**91.35**	**52**	P	**P**	**23 39 43.1**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=260,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**23 40 01.1**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=271,slow=4.1,SNR=6.4						
PDAR	**Pinedale Array**	**98.32**	**48**	P	Pdif	23 40 13.4	+0.5
	comp=Z,0.3nm,0.8s,baz=223,slow=4.9,SNR=2.3						
AKASG	**Malin Array Be**	**117.47**	**325**	PKP	**PKPdf**	**23 45 19.4**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=54,slow=2.5,SNR=1.8						
BRTR	**Keskin Array B**	**118.39**	**312**	PKP	**PKPdf**	**23 45 21.7**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=281,slow=0.7,SNR=2.4						
GERES	**GERESS Array B**	**126.95**	**329**	PKP	**PKiKP**	**23 45 39.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=241,slow=1.8,SNR=1.9						
CPUP	**Villa Florida**	**134.41**	**137**	PKP	**PKPdf**	**23 45 53.9**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=217,slow=1.2,SNR=4.0						
BDFB	**Brasilia**	**147.99**	**134**	PKPbc	**PKPbc**	**23 46 21.1**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=201,slow=5.7,SNR=7.9						
BDFB	**Brasilia**	**147.99**	**134**	PKPbc	**PKPbc**	**23 46 20.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**153.20**	**286**	PKPbc	**PKPbc**	**23 46 32.7**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=20,slow=2.2,SNR=9.7						

NNC 05 23:27:27.2±7.0, 37°.61N×78°.28E, h0km, mb4.2, mpv3.8, 3C-2D, Error ellipse: s-maj=70.2km s-min=49.6km az=85.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.45**	**1**	Pg	Pg	23 29 07.5	-4.0
	5.4nm,0.5s						
SATY				Lg	Lg	23 30 21.4	
	11nm,0.5s						
UZB	**Uzynbulak**	**5.56**	**6**	Pg	Pb	23 29 09.0	+3.8
	3.9nm,0.5s						
UZB				Lg	Lg	23 30 23.8	
	5.6nm,0.8s						
SHLS	**Shalkode**	**5.62**	**9**	Pg	Pg	23 29 12.1	-2.7
	9.9nm,0.5s						
SHLS				Lg	Lg	23 30 29.1	
	13nm,0.8s						
MDOK	**Medeo**	**5.63**	**351**	Pg	Pb	23 29 08.5	+2.1
	7.8nm,0.9s						
MDOK				⇑Lg	Lg	23 30 22.9	
	11nm,0.8s						
MDOK	**Medeo**	**5.63**	**351**	Pg	Pb	23 29 09.5	+3.1
	6.7nm,0.5s						
MDOK				Lg	Lg	23 30 24.3	
	7.7nm,0.8s						
PDGK	**Podgornoye**	**5.79**	**9**	Pg	Pb	23 29 13.1	+4.0
	1.4nm,0.5s						
PDGK				Lg	Lg	23 30 31.0	
	2.6nm,0.5s						
PDGK	**Podgornoye**	**5.79**	**9**	⇑Pn	Pn	23 28 55.0	+0.6
	3.8nm,0.4s						
PDGK				⇓Lg	Lg	23 30 32.7	
	9.1nm,0.7s						
AAK	**Ala-Archa**	**5.80**	**331**	⇓Pg	Pb	23 29 10.6	+1.2
	3.6nm,0.6s						
AAK				⇑Lg	Lg	23 30 33.3	
	13nm,0.6s						
MAKZ	**Makanchi**	**9.59**	**15**	Pn	Pn	23 29 46.0	-0.4
KURBB	**Kurchatov Arra**	**13.01**	**1**	Lg	Lg	23 34 17.8	
	baz=157,slow=30						

*IDC **05** 23:29:04.7±3.3, 36°.16N×70°.72E, h187km±28km, mb3.3/13, mb1 3.4/18, mb1mx3.2/50, mbtmp3.9/18, Error ellipse: s-maj=26.9km s-min=18.0km az=169.0*
*NEIC **05** 23:29:08.8±1.9, 36°.50N±0°.06×70°.63E±0°.09, h215km±6km, mb4.3/11, Error ellipse: s-maj=10.9km s-min=7.2km az=123.0*

ISC 05 23:29:08.0±0.6, 36°.47N±0°.06×70°.73E±0°.07, h204km, n54, σ1°38/64, mb4.0/18, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**216**	Pn	**Pn**	**23 29 52.3**	**+1.4**
KBL				Sn	**S**	**23 30 25.4**	**+1.7**
CHGR	**Chuyangaron**	**2.52**	**331**	Pn	**Pn**	**23 29 53.0**	**+0.7**
GAR	**Garm**	**2.55**	**353**		**Pn**	**23 29 53.7**	**+0.9**
NIL	**Nilore**	**3.49**	**143**		**Pn**	**23 30 05.5**	**+1.7**
TAS	**Tashkent**	**4.98**	**347**	Pn	**Pn**	**23 30 22.9**	**+0.7**
AML	**Almayashu**	**6.11**	**21**	P	**Pn**	**23 30 36.8**	**-0.1**
	SNR=36						
EKS2	**Erkin-Say**	**6.62**	**20**	P	**Pn**	**23 30 44.3**	**+1.0**
	SNR=5.5						
KK31	**Karatay Array**	**6.63**	**359**	Pn	**Pn**	**23 30 43.4**	**0.0**
KKAR	**Karatay Array**	**6.63**	**359**	Pn	**Pn**	**23 30 43.0**	**-0.3**
KKAR	**Karatay Array**	**6.63**	**359**		**Pn**	**23 30 43.0**	**-0.3**
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**23 30 46.0**	**+0.2**
	6.1nm,0.3s,baz=196,slow=7.0,SNR=12						
AAK				S	**S**	**23 32 00.7**	**-2.8**
	1.9nm,0.3s,baz=142,slow=24,SNR=7.1						
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**23 30 46.3**	**+0.4**
	SNR=6.6						
AAK	**Ala-Archa**	**6.81**	**24**		**Pn**	**23 30 45.7**	**-0.2**
ULHL	**Ulahol**	**7.18**	**35**	P	**Pn**	**23 30 50.5**	**-0.2**
	SNR=15						
CHMS	**Chumysh**	**7.22**	**24**	P	**Pn**	**23 30 51.2**	**+0.2**
	SNR=5.5						
GEYT	**Alibeck**	**10.17**	**282**	P	**Pn**	**23 31 26.6**	**-2.8**
	0.3nm,0.3s,baz=94,slow=20,SNR=1.5						
GYA0B	**ALIBECK ARRAY**	**10.17**	**282**	Pn	**Pn**	**23 31 26.2**	**-3.1**
MAKZ	**Makanchi**	**13.31**	**36**	Pn	**Pn**	**23 32 08.2**	**-0.9**
MK31	**Makanchi Array**	**13.45**	**36**	Pn	**Pn**	**23 32 10.5**	**-0.2**
MKAR	**Makanchi Array**	**13.45**	**36**	P	**P**	**23 32 13.0**	**-0.3**
	0.2nm,0.3s,baz=238,slow=14,SNR=5.3						
MKAR	**Makanchi Array**	**13.45**	**36**		**Pn**	**23 32 10.5**	**-0.3**
WMQ	**Urumqi**	**14.90**	**55**	*e*P	**P**	**23 32 30.4**	**+1.0**
ABKAR	**Akbulak array**	**15.01**	**332**	P	**Pn**	**23 32 29.6**	**-0.4**
ABKAR	**Akbulak array**	**15.01**	**332**		**Pn**	**23 32 28.1**	**-1.8**
KURBB	**Kurchatov Arra**	**15.22**	**19**	P	**P**	**23 32 33.5**	**+0.7**
	0.1nm,0.3s,baz=212,slow=8.2,SNR=1.1						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**Pn**	**23 32 49.5**	**+0.9**
	0.2nm,0.3s,baz=96,slow=9.1,SNR=4.7						
BVAR				S	**S**	**23 35 51.7**	**+1.5**
	baz=187,slow=23,SNR=3.8						
BRVK	**Borovoye**	**16.59**	**359**		**P**	**23 32 48.0**	**+0.1**
AKTO	**Aktyubinsk**	**16.70**	**331**	P	**P**	**23 32 49.9**	**+0.7**
	0.4nm,0.3s,baz=155,slow=10.0,SNR=7.3						
AKTO				S	**S**	**23 35 50.4**	**-2.7**
	0.0nm,0.3s,baz=192,slow=19,SNR=1.5						
ZAA0	**Zalesovo Array**	**20.04**	**25**	P	**P**	**23 33 25.0**	**-0.1**
ZAA0				IAmb	IAmb	23 33 25.6	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**20.04**	**25**	P	**P**	**23 33 25.1**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=215,slow=10,SNR=15						
ARU	**Arti**	**21.59**	**341**	P	**P**	**23 33 42.7**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=173,slow=20,SNR=4.6						
ARU	**Arti**	**21.59**	**341**	P	**P**	**23 33 41.5**	**0.0**
KVAR	**Kislovodsk Arr**	**22.60**	**298**	P	**P**	**23 33 52.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=80,slow=14,SNR=1.6						
BELG	**Belogornoye**	**22.78**	**322**	P	**P**	**23 33 53.9**	**+1.2**
	comp=Z,7.7nm,0.7s,baz=127,slow=20,SNR=3.8						
KIRV	**Kirov**	**26.18**	**334**	P	**P**	**23 34 23.6**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=126,slow=9.2,SNR=4.0						
HHC	**Hu-ho-hao-te**	**31.98**	**69**	*e*P	**P**	**23 35 15.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
AKASG	**Malin Array Be**	**32.80**	**309**	P	**P**	**23 35 21.5**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=82,slow=7.2,SNR=2.2						
NRIK	**Noril'sk**	**34.20**	**11**	P	**P**	**23 35 34.8**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=185,slow=8.1,SNR=2.4						
NRIK	**Noril'sk**	**34.20**	**11**	P	**P**	**23 35 34.2**	**+0.6**
NRIK				IAmb	IAmb	23 36 02.1	
	comp=Z,18nm,1.9s						
MNK	**Minsk**	**34.37**	**315**	*i* P	**P**	**23 35 37.7**	**+2.4**
	comp=E,2.0nm,0.7s						
MNK				*i* P	**P**	**23 35 37.7**	**+2.4**
	comp=N,13nm,0.7s						
MNK				*i* P	**P**	**23 35 37.7**	**+2.4**
	comp=Z,20nm,0.6s,baz=282						
MNK				*i* PP	**PnPn**	**23 37 00.2**	**+2.3**
MNK				*i* PcP	**PcP**	**23 38 08.4**	**+2.3**
MNK				*i* S	**S**	**23 40 48.2**	**+0.7**
MNK				*i* SS	**SS**	**23 43 26.6**	**+3.5**
MNK				*i* LRM	MLR	23 50 59.8	
	comp=N,39nm,18.8s						
MNK				*i* LRM	MLR	23 51 15.8	
	comp=Z,63nm,21.0s						
MNK				*i* LRM	MLR	23 51 39.6	
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**23 36 01.0**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=116,slow=6.5,SNR=7.3						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**23 36 00.1**	**-0.7**
SCTE	**Santa Cesarea**	**40.71**	**291**	P	**P**	**23 36 29.0**	**+0.4**
SCTE				IAmb	IAmb	23 37 51.0	
	comp=Z,14nm,1.1s						
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**23 36 31.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=114,slow=8.5,SNR=4.3						
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**23 36 31.3**	**0.0**
MSEY	**Mahe Island**	**43.34**	**202**	P	**P**	**23 36 49.0**	**-1.2**
NC300	**NORSAR Array S**	**44.20**	**323**	P	**P**	**23 36 56.6**	**+0.1**
NC300				IAmb	IAmb	23 38 16.9	
	comp=Z,23nm,1.9s						
NC303	**NORSAR Array S**	**44.22**	**323**	P	**P**	**23 36 54.4**	**-2.1**
NC303				IAmb	IAmb	23 37 57.8	
	comp=Z,18nm,1.6s						
NB201	**NORSAR Array S**	**44.24**	**323**	P	**P**	**23 36 56.1**	**-0.7**
NB201				IAmb	IAmb	23 36 57.3	
	comp=Z,26nm,1.4s						
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**23 36 56.5**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**23 36 56.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=99,slow=8.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P	**P**	**23 39 27.8**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=49,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**74.87**	**16**	P	**P**	**23 40 26.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.2,SNR=1.7						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**23 41 04.2**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=307,slow=7.8,SNR=1.6						

*DJA **05** 23:33:30.6±0.5, 4°.5E±6°.5×15°.1E±°, h100km±8km, M5.0/7, mB5.7/2, mb4.9/7, MLv5.1/2, Mw(mB)5.2/2*
*IDC **05** 23:33:33.7±2.9, 5°.41S×151°.85E, h40km±23km, mb4.1/15, mb1 4.2/15, mb1mx4.1/28, mbtmp4.3/15, MS3.4/11, Ms1 3.4/11, ms1mx3.2/27, Error ellipse: s-maj=26.4km s-min=14.9km az=100.0*
*NEIC **05** 23:33:35.0±1.9, 5°.43S±0°.07×151°.92E±0°.10, h46km±4km, mb4.6/20, Error ellipse: s-maj=14.6km s-min=9.0km az=105.0*

ISC 05 23:33:34.1±0.5, 5°.42S±0°.06×151°.92E±0°.09, h45km, n54, σ1°00/53, mb4.5/25, MS3.5/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.25**	**11**		**Pn**	**23 33 55.7**	**+0.5**
MANU	**Manus Island**	**5.65**	**306**	Pn	**Pn**	**23 34 57.9**	**+2.2**
PMG	**Port Moresby**	**6.16**	**230**	P	**Pn**	**23 35 04.8**	**+2.1**
	9.4nm,0.3s,baz=41,slow=9.5,SNR=17						
PMG				S	**Sn**	**23 36 12.4**	**+0.5**
	8.0nm,0.3s,baz=59,slow=17,SNR=6.4						
PMG				LR	LR	23 37 29.3	
	comp=Z,249nm,21.8s,baz=66,slow=38						
PMG	**Port Moresby**	**6.16**	**230**		**Pn**	**23 35 04.0**	**+1.4**
HNR	**Honiara**	**8.90**	**117**	LR	LR	23 39 04.4	
	comp=Z,142nm,18.6s,baz=297,slow=37						
CTA	**Charters Tower**	**15.58**	**200**	P	**P**	**23 37 14.2**	**-0.2**
	0.3nm,0.3s,baz=45,slow=16,SNR=2.2						
EIDS	**Eidsvold**	**19.85**	**182**	P	**P**	**23 38 01.6**	**+0.2**
SIJI	**Sorong**	**21.11**	**282**	P	**P**	**23 38 13.3**	**-1.9**
	26nm,0.5s,baz=131,slow=18,SNR=4.2						
MTN	**Manton Dam**	**21.80**	**249**	P	**P**	**23 38 23.1**	**+0.5**
MTN				IAmb	IAmb	23 38 25.0	
	comp=Z,20nm,0.9s						
WB0	**Warramunga Arr**	**22.23**	**229**	P	**P**	**23 38 26.8**	**-0.4**
WB0				IAmb	IAmb	23 38 29.7	
	comp=Z,20nm,0.7s						
WR0	**Warramunga Arr**	**22.24**	**228**	P	**P**	**23 38 27.0**	**-0.3**
WR0				IAmb	IAmb	23 38 29.8	
	comp=Z,21nm,0.8s						
WRAB	**Tennant Creek**	**22.37**	**228**	P	**P**	**23 38 27.8**	**-0.9**
WB2	**Warramunga Arr**	**22.37**	**228**	P	**P**	**23 38 28.5**	**-0.2**
WB2				IAmb	IAmb	23 38 31.0	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**22.38**	**228**	P	**P**	**23 38 28.2**	**-0.6**
	comp=Z,20nm,0.6s,baz=52,slow=10.0,SNR=87						
WRA				PcP	**PcP**	**23 42 22.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=50,slow=2.1,SNR=2.5						
WRA				ScP	**ScP**	**23 45 57.0**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=60,slow=3.0,SNR=4.6						
WRA	**Warramunga Arr**	**22.38**	**228**	P	**P**	**23 38 27.8**	**-1.1**
WRA	**Warramunga Arr**	**22.38**	**228**		**ScP**	**23 45 58.0**	**+1.0**
ARMA	**Armidale**	**24.86**	**181**	P	**P**	**23 38 53.3**	**+0.6**
ARMA				IAmb	IAmb	23 38 55.5	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**24.91**	**244**	P	**P**	**23 38 53.0**	**-0.3**
AS31	**Alice Springs**	**25.10**	**222**	P	**P**	**23 38 55.0**	**+0.1**
AS31				IAmb	IAmb	23 38 57.9	
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**25.10**	**222**	P	**P**	**23 38 54.9**	**0.0**
	comp=Z,35nm,0.7s,baz=56,slow=9.1,SNR=155						
ASAR				PcP	**PcP**	**23 42 29.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=64,slow=3.2,SNR=2.0						
ASAR				ScP	**ScP**	**23 46 04.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=52,slow=4.8,SNR=4.6						
STKA	**Stephens Creek**	**28.04**	**199**	P	**P**	**23 39 21.7**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=12,slow=11,SNR=4.7						
STKA				LR	LR	23 50 31.7	
	comp=Z,102nm,18.5s,baz=27,slow=36						
MSVF	**Nonsavu**	**28.32**	**118**	LR	LR	23 49 47.5	
	comp=Z,104nm,18.7s,baz=198,slow=34						
BATI	**Baumata**	**28.39**	**259**	P	**P**	**23 39 23.8**	**-0.8**
	comp=Z,22nm,0.7s,baz=143,slow=5.1,SNR=6.0						
FITZ	**Fitz

ellipse: s-maj=86.0km s-min=25.5km az=130.0
*NEIC **05** 23:51:54.2±1.5,5.86S±0.05×151.5E±0.1,h35km±2km, mb4.3/9,Error ellipse: s-maj=20.6km s-min=8.0km az=277.0*

ISC 05 23:51:54.3±0.9,5.84S±0.10×151.5E±0.1,h50km,n19, σ0.73/20,mb4.2/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.76	22	Pn	Pn	23 52 22.9	+0.5
PMG	Port Moresby	5.58	230	Pn	Pn	23 53 14.3	-0.6
	3.1nm,0.3s,baz=42,slow=7.5,SNR=12						
PMG				Sn	Sn	23 54 17.9	+0.3
	1.7nm,0.3s,baz=101,slow=14,SNR=1.3						
PMG	Port Moresby	5.58	230		Pn	23 53 15.4	+0.6
MANU	Manus Island	5.59	312	Pn	Pn	23 53 15.3	+0.3
WB0	Warramunga Arr	21.65	229	P	P	23 56 40.5	-0.2
WB0				IAmb	IAmb	23 56 44.3	
	comp=Z,15nm,1.4s						
WR0	Warramunga Arr	21.66	228	P	P	23 56 41.5	+0.7
WR0				IAmb	IAmb	23 56 58.0	
	comp=Z,14nm,1.3s						
WB2	Warramunga Arr	21.79	228	P	P	23 56 42.6	+0.4
WB2				IAmb	IAmb	23 56 53.0	
	comp=Z,8.4nm,0.9s						
WRA	Warramunga Arr	21.80	228	P	P	23 56 42.2	-0.1
	comp=Z,2.1nm,0.6s,baz=53,slow=10,SNR=15						
ANA2	Anatahan	22.77	345	P	P	23 56 52.5	-0.2
AS31	Alice Springs	24.52	222	P	P	23 57 09.9	+0.6
ASAR	Alice Springs	24.52	222	P	P	23 57 09.8	+0.5
	comp=Z,5.5nm,0.8s,baz=54,slow=9.4,SNR=30						
ASAR	Alice Springs	24.52	222	P	P	23 57 09.5	+0.1
FITZ	Fitzroy Crossi	28.04	242	P	P	23 57 41.6	+0.6
FITZ				IAmb	IAmb	23 57 58.4	
	comp=Z,6.2nm,1.0s						
FORT	Forrest	33.18	219	P	P	23 58 25.5	-0.8
MORW	Morawa	40.70	231	P	P	23 59 29.6	-0.6
MORW				IAmb	IAmb	23 59 37.2	
	comp=Z,17nm,1.4s						
ILAR	Eielson Array	83.60	22	P	P	00 04 15.2	-1.7
	comp=Z,0.4nm,0.6s,baz=244,slow=5.4,SNR=5.3						
MAW	Mawson	84.12	203	P	P	00 04 20.4	+0.8
	comp=Z,0.6nm,0.6s,baz=104,slow=8.3,SNR=1.8						
TORD	Torodi Ar. Bea	149.38	286	PKPbc	PKPbc	00 11 39.6	+0.8
	comp=Z,1.0nm,0.8s,baz=86,slow=2.4,SNR=5.9						
BDFB	Brasilia	151.21	138	PKPbc	PKiKP	00 11 44.9	+1.0
	comp=Z,2.2nm,0.9s,baz=90,slow=6.1,SNR=1.8						

*NOU **06** 00:06:02.5, 19.07S×169.03E, h0km, ML4.8, Vanuatu Islands*
*IDC **06** 00:06:07.3±5.6, 19.48S×169.20E, h119km±58km, mb3.4/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.8/6, Error ellipse: s-maj=91.3km s-min=32.8km az=161.0*

ISC 06 00:06:05.9±0.9,19.2S±0.1×169.1E±0.1,h100km,n16, σ1.12/17,mb3.7/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.35	226	P	Pn	00 06 42.1	-0.9
MARNC	Mare, Loyalty	2.50	202	P	Pn	00 06 45.0	-0.1
YATNC	Mamie plateau,	3.53	215	P	Pn	00 06 58.4	-0.3
PINNC	Pines Island,	3.75	203	P	Pn	00 07 02.8	+1.0
DZM	Mont Dzumac	3.79	220	P	Pn	00 07 03.0	+0.6
	10nm,0.3s,baz=74,slow=10,SNR=66						
DZM				S	Sn	00 07 44.8	-1.3
	39nm,0.3s,baz=31,slow=22,SNR=16						
OUENC	Ouen Island, N	3.85	212	P	Pn	00 07 04.4	+1.3
NOUC	Port Laguerre	3.90	221	P	Pn	00 07 04.5	+0.7
ONTNC	Ouen Toro	3.97	217	P	Pn	00 07 06.5	+1.8
KOUNC	Koumac, New Ca	4.70	252	P	Pn	00 07 14.8	+0.3
WRA	Warramunga Arr	32.69	263	P	P	00 12 28.2	-0.7
	0.2nm,0.4s,baz=85,slow=8.8,SNR=1.4						
ASAR	Alice Springs	32.98	256	P	P	00 12 31.7	+0.2
	1.0nm,0.4s,baz=85,slow=8.7,SNR=9.4						
SONM	Songino Array	87.05	323	P	P	00 18 41.8	+1.5
	0.6nm,0.5s,baz=142,slow=7.3,SNR=2.0						
ILAR	Eielson Array	90.20	17	P	P	00 18 53.8	-0.8
	0.3nm,0.7s,baz=224,slow=5.0,SNR=2.3						
TXAR	Lajitas Array	96.88	61	P	P	00 19 24.8	-1.5
	0.2nm,0.7s,baz=212,slow=3.2,SNR=2.4						
ARCES	ARCESS Array B	124.94	345	PKP	PKPdf	00 24 54.2	+0.6
	1.2nm,0.8s,baz=104,slow=3.8,SNR=1.2						
GERES	GERESS Array B	144.34	332	PKP	PKPab	00 25 29.8	+1.2
	0.2nm,0.4s,baz=29,slow=4.7,SNR=1.9						

*JMA **06** 00:29:06.4±0.1, 38.90N×142.10E, h45km±1km, M3.8*
JMA Felt II J1.
*NIED **06** 00:29:06.4, 38.90N×142.10E, h45km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=5.85; $M_{\theta\theta}$=4.14; $M_{\phi\phi}$ 1.71; $M_{r\theta}$2.80; $M_{\theta\phi}$-2.83; $M_{\phi r}$1.06; Fault plane solution: $M_0$6.62000×10^14^ NP1: ϕ_s=284.00000°, δ57.00000°, λ-113.00000°. NP2: ϕ_s=141.00000°, δ40.00000°, λ-60.00000°.*
*IDC **06** 00:29:09.7±2.2, 38.79N×141.97E, h73km±20km, mb3.5/11, mb1 3.7/15, mb1mx3.5/46, mbtmp3.8/15, MS2.7/4, Ms1 2.7/4, ms1mx2.5/47 Error ellipse: s-maj=22.3km s-min=14.6km az=92.0*

ISC 06 00:29:06.4±1.5,38.84N±0.05×142.13E±0.10,h41km±12km, n39,σ1.59/41,mb3.7/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.43	304	P	Pn	00 29 16.0	-0.3
OFUJ				S	Sn	00 29 22.6	-0.7
JKMT	Kesennumamotoy	0.51	267	P	Pn	00 29 17.2	-0.1
JKMT				S	Sn	00 29 24.6	-0.4
JMK	Ichinoseki	0.72	279	P	Pn	00 29 19.8	-0.3
JMK				S	Sn	00 29 29.2	-0.7
JIO	Ouri	0.72	238	P	Pn	00 29 20.1	0.0
JIO				S	Sn	00 29 29.5	-0.5
JOM	Ohasama	0.91	315	P	Pn	00 29 22.2	-0.5
JOM				S	Sn	00 29 33.5	-1.1
JTH	Tanohata	1.12	350	P	Pn	00 29 24.6	-1.0
JTH				eS	Sn	00 29 38.5	-1.3
JOU	Okura	1.24	248	P	Pn	00 29 27.4	+0.1
JOU				eS	Sn	00 29 43.0	+0.2
JRG	Rokugo	1.29	296	P	Pn	00 29 27.7	-0.2
JRG				eS	Sn	00 29 42.6	-1.4
JYK	Kaneyama	1.38	274	P	Pn	00 29 29.2	0.0
JMM	Marumori	1.43	228	P	Pn	00 29 29.7	-0.1
JMM				eS	Sn	00 29 47.5	+0.1
JANG	Nango	1.60	343	P	Pn	00 29 31.6	-0.7
MJAR	Matsushiro Arr	3.86	235	P	Pn	00 30 05.3	+2.0
	1.2nm,0.3s,baz=27,slow=12,SNR=29						
MJAR				S	Sn	00 30 50.9	+3.4
	baz=67,slow=24,SNR=1.7						
MJAR				LR	LR	00 31 43.8	
	comp=Z,78nm,20.1s,baz=65,slow=41						
MAT	Matsushiro	3.86	235	P	Pn	00 30 05.4	+2.1
MAT				eS	Sn	00 30 49.5	+2.1
ASAJ	Asahikawa	5.29	4	P	Pn	00 30 26.4	+3.6
	1.9nm,0.3s,baz=208,slow=15,SNR=2.5						
ASAJ				S	Sn	00 31 27.1	+4.7
	baz=180,slow=20,SNR=1.6						
JHJ	Hachijo jima 2	6.01	199	P	Pn	00 30 33.2	+0.3
	10nm,0.3s,baz=328,slow=23,SNR=7.1						
JHJ				S	Sn	00 31 38.5	-1.9
	13nm,0.3s,baz=264,slow=23,SNR=1.6						
USRK	Ussuriysk Ar.	9.30	308	P	Pn	00 31 21.4	+3.6
	baz=121,slow=14,SNR=6.9						
KSRS	Korea Array	11.27	267	P	Pn	00 31 50.1	+5.3
	0.2nm,0.3s,baz=82,slow=11,SNR=1.8						
KSRS				LR	LR	00 35 39.1	
	comp=Z,21nm,20.0s,baz=127,slow=35						
KLR	Kul'dur	12.78	328	LR	LR	00 36 59.2	
	comp=Z,39nm,18.5s,baz=176,slow=37						
SEY	Seymchan	24.91	11	P	P	00 34 27.1	+1.9
	0.9nm,0.4s,baz=182,slow=10,SNR=1.7						
H11N2	WAKE ISLAND Hy	28.64	125	T	T	01 05 18.4	
	baz=317,slow=75,SNR=960						
H11N1	WAKE ISLAND Hy	28.66	125	T	T	01 05 22.3	
	baz=317,slow=75,SNR=120						
H11N3	WAKE ISLAND Hy	28.66	125	T	T	01 05 24.3	
	baz=317,slow=75,SNR=838						
H11S1	WAKE ISLAND Hy	29.42	127	T	T	01 06 21.2	
	baz=319,slow=76,SNR=79						
H11S3	WAKE ISLAND Hy	29.42	127	T	T	01 06 20.3	
	baz=319,slow=76,SNR=119						
H11S2	WAKE ISLAND Hy	29.44	127	T	T	01 06 22.5	
	baz=319,slow=76,SNR=147						
TLY	Talaya	29.61	308	LR	LR	00 48 08.1	
	comp=Z,24nm,18.5s,baz=86,slow=38						
ZALV	Zalesovo Beam	41.14	311	P	P	00 36 45.5	-0.9
	0.6nm,0.4s,baz=79,slow=7.5,SNR=3.5						
ZALV				PcP	PcP	00 38 43.5	-1.5
	0.5nm,0.4s,baz=29,slow=3.3,SNR=2.3						
MKAR	Makanchi Array	43.66	301	P	P	00 37 06.4	-0.6
	0.8nm,0.5s,baz=81,slow=11,SNR=4.5						
KURBB	Kurchatov Arra	45.36	307	P	P	00 37 19.6	-0.8
	2.0nm,0.4s,baz=80,slow=7.9,SNR=20						
ILAR	Eielson Array	47.67	33	P	P	00 37 38.9	+0.5
	0.3nm,0.6s,baz=265,slow=6.0,SNR=4.4						
AKTO	Aktyubinsk	57.90	311	P	P	00 38 53.1	-0.9
	0.6nm,0.4s,baz=47,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	58.92	189	P	P	00 39 00.8	-0.6
	2.3nm,0.4s,baz=6.1,slow=7.0,SNR=46						
ASAR	Alice Springs	62.65	189	P	P	00 39 26.7	0.0
	1.0nm,0.6s,baz=14,slow=9.2,SNR=9.3						
PDAR	Pinedale Array	76.01	46	P	P	00 40 49.7	+0.2
	0.2nm,0.5s,baz=347,slow=2.8,SNR=2.3						
BRTR	Keskin Array B	78.08	312	P	P	00 41 00.5	-0.6
	0.2nm,0.4s,baz=119,slow=4.0,SNR=4.4						
TXAR	Lajitas Array	88.58	53	P	P	00 41 55.5	+0.3
	0.2nm,0.6s,baz=298,slow=5.4,SNR=4.2						
H03N2	Juan Fernandez	146.61	94	T	T	03 33 13.4	
	baz=294						
H03N3	Juan Fernandez	146.62	94	T	T	03 33 19.1	
	baz=294						
H03N1	Juan Fernandez	146.63	94	T	T	03 33 20.7	
	baz=294						

NNC 06 00:33:45.5±4.7,37.49N×77.81E,h0km,mb4.4,mpv4.0, 2C-2D,Error ellipse: s-maj=50.9km s-min=31.2km az=84.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	Tian-Shan	5.58	353	Pg	Pb	00 35 26.7	+2.7
	12nm,0.6s						
TNSS				Lg	Lg	00 36 43.8	
	14nm,0.9s						
SATY	Saty	5.58	5	Pg	Pb	00 35 27.8	+4.0
	14nm,0.7s						
SATY				Lg	Lg	00 36 45.9	
	18nm,0.9s						
MDOK	Medeo	5.70	354	⇓Pg	Pb	00 35 30.2	+4.4
	11nm,0.6s						
MDOK				⇓Lg	Lg	00 36 45.4	
	17nm,0.8s						
MDOK	Medeo	5.70	354	Pg	Pb	00 35 29.0	+3.2
	13nm,0.6s						
MDOK				Lg	Lg	00 36 47.3	
	11nm,0.8s						
AAK	Ala-Archa	5.74	335	⇑Pg	Pg	00 35 31.8	-3.6
	3.9nm,0.5s						
AAK				⇑Lg	Lg	00 36 48.0	
	15nm,0.9s						
KUU	Kurty	6.49	351	Pg	Pb	00 35 40.9	+1.6
	1.1nm,0.1s						
KUU				Lg	Lg	00 37 07.6	
	3.9nm,0.7s						

IDC 06 00:35:32.2±1.6,27.97S×177.87W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/25,mbtmp3.6/2,Error ellipse: s-maj=66.9km s-min=44.2km az=172.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.41	264	P	P	00 43 36.9	0.0
	0.2nm,0.3s,baz=96,slow=6.9,SNR=2.0						
WRA	Warramunga Arr	44.18	270	P	P	00 43 42.9	-0.2
	0.8nm,0.6s,baz=106,slow=8.0,SNR=14						
FINES	FINESS Array B	142.91	341	PKhKP	PKPpre	00 55 03.5	
	0.4nm,0.3s,baz=44,slow=3.6,SNR=8.7						
HFS	Hagfors	146.89	349	PKPbc	PKPbc	00 55 16.0	0.0
	0.7nm,0.4s,baz=44,slow=4.4,SNR=6.6						
AKASG	Malin Array Be	149.41	325	PKPbc	PKPbc	00 55 22.2	-0.7
	1.1nm,0.3s,baz=51,slow=3.5,SNR=5.9						
TORD	Torodi Ar. Bea	165.24	178	PKPab	PKPab	00 56 35.1	-1.3
	0.5nm,0.8s,baz=182,slow=4.0,SNR=2.7						

*IDC **06** 00:49:55.7±2.4, 62.20N×151.12W, h65km±24km, mb3.5/5, mb1 3.7/7, mb1mx3.2/59, mbtmp3.8/7, MS3.7/1, Ms1 3.6/1, ms1mx3.0/15, Error ellipse: s-maj=28.1km s-min=22.7km az=92.0*
*NEIC **06** 00:49:56.4±0.8, 62.13N±0.03×150.81W±0.07, h80km±6km, Error ellipse: s-maj=5.6km s-min=4.3km az=49.0*
*ANF **06** 00:49:56.5±0.1, 62.11N×150.78W, h73km±3km, ML4.7/57, Error ellipse: s-maj=1.6km s-min=1.4km az=126.0*
*AEIC **06** 00:49:57±0.8, 62.13N±0.03×150.80W±0.07, h72km±6km, ML4.2, ML4.3/14(NEIC), Error ellipse: s-maj=5.1km s-min=4.0km az=63.0*

ISC 06 00:49:57.1±0.7,62.13N±0.02×150.80W±0.02,h74km±5km, n203,σ0.91/235,mb3.8/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.37	42	P	Pn	00 50 08.7	-0.4
	baz=223,SNR=168						
CUT				S	Sn	00 50 17.6	-0.5
	baz=223						
CUT	Chulitna	0.37	42		Pn	00 50 08.8	-0.4
CUT				Sn	Sn	00 50 18.1	0.0
CUT				IAML		00 50 18.5	
	comp=E,19μm,0.4s						
CUT				IAML		00 50 18.8	
	comp=N,16μm,0.3s						
SKT	Skwentna	0.38	247	P	Pn	00 50 08.6	-0.7
	baz=66,SNR=234						
SKT				S	Sn	00 50 17.5	-0.8
	baz=66						
SKT	Skwentna	0.38	247		Pn	00 50 08.5	-0.7
SKT	Skwentna	0.38	247		Sn	00 50 17.6	-0.6
SUA	Susitna One	0.67	178	P	Pn	00 50 11.7	-0.5
	baz=358,SNR=411						
SUA				S	Sn	00 50 22.5	-0.6
	baz=358						
SUA	Susitna One	0.67	178		Pn	00 50 11.6	-0.5
SUA				Sn	Sn	00 50 23.1	-0.1
SUA				IAML		00 50 50.5	
	comp=E,5μm,0.7s						
STLK	Strandline Lak	0.80	218		Pn	00 50 12.9	-0.6
GHO	Glory Hole Cre	0.96	111		Pn	00 50 15.0	-0.3
GHO				Sn	Sn	00 50 28.5	-0.4
GHO				IAML		00 50 51.7	
	comp=E,13μm,0.8s						
PMR	Palmer	0.96	124	P	Pn	00 50 14.6	-0.7
	baz=305,SNR=137						
PMR				S	Sn	00 50 28.3	-0.4
	baz=305						
PMR	Palmer	0.96	124		Pn	00 50 14.7	-0.5
PMR				Sn	Sn	00 50 28.1	-0.7
PPLA	Purkeypile	1.00	321	P	Pn	00 50 15.3	-0.6
	baz=139,SNR=193						
PPLA				S	Sn	00 50 29.1	-0.9
	baz=139						
PPLA	Purkeypile	1.00	321	Pn	Pn	00 50 15.4	-0.5
PPLA	Purkeypile	1.00	321		Sn	00 50 29.1	-0.9
HUR	Hurricane	1.01	32		Pn	00 50 15.6	-0.3
SPCG	Spurr Capps Gl	1.02	215		Pn	00 50 15.6	-0.6
SPCG					Sn	00 50 29.9	-0.6
FIS	Fire Island	1.03	164		Pn	00 50 16.4	+0.3
FIS				IAML		00 50 59.7	
	comp=N,8μm,0.5s						
FIS				IAML		00 51 03.6	
	comp=E,5μm,0.2s						
SPCP	Crater Peak Br	1.08	217		Pn	00 50 16.5	-0.5
SPCP					Sn	00 50 31.2	-0.5
SPCN	Chakachatna No	1.12	217		Pn	00 50 17.2	-0.2
SPU	Mount Spurr	1.12	213	Pn	Pn	00 50 16.8	-0.6
M20K	Styx River	1.13	258	P	Pn	00 50 17.0	-0.5
	baz=76,SNR=80						
M20K				S	Sn	00 50 32.1	-0.6
	baz=76						
M20K	Styx River	1.13	258		Pn	00 50 17.0	-0.5
M20K					Sn	00 50 32.4	-0.3
WAT7	Susitna Watana	1.15	51		Pn	00 50 17.5	-0.3
WAT7					Sn	00 50 33.0	-0.2
SPBG	Spurr Blockage	1.15	221		Pn	00 50 17.6	-0.2
SPCR	Spurr Chakacha	1.15	216	P	Pn	00 50 17.2	-0.6
	baz=35,SNR=78						
SPCR				S	Sn	00 50 32.7	-0.5
	baz=35						
SPCR	Spurr Chakacha	1.15	216		Pn	00 50 17.2	-0.6
SPCR					Sn	00 50 33.0	-0.2
RC01	Rabbit Creek A	1.16	154	P	Pn	00 50 16.8	-1.0
	baz=335,SNR=53						
RC01				S	Sn	00 50 32.7	-0.6
	baz=335						
RC01	Rabbit Creek A	1.16	154		Pn	00 50 16.8	-1.0
SML	Sawmill	1.21	104	P	Pn	00 50 18.1	-0.4
	baz=287,SNR=165						
SML				S	Sn	00 50 33.8	-0.7
	baz=287						
SML	Sawmill	1.21	104	Pn	Pn	00 50 18.1	-0.4
SML	Sawmill	1.21	104		Sn	00 50 34.6	+0.2
WAT1	Susitna Watana	1.26	55	P	Pn	00 50 18.6	-0.4
	baz=237						
WAT1				S	Sn	00 50 34.6	-1.0
	baz=237						
WAT1	Susitna Watana	1.26	55		Pn	00 50 18.7	-0.4
KNK	Knik Glacier	1.32	122	P	Pn	00 50 19.6	-0.4
	baz=304,SNR=70						
KNK				S	Sn	00 50 36.7	-0.4
	baz=304						
KNK	Knik Glacier	1.32	122		Pn	00 50 19.5	-0.4
TRF	Thorofare Moun	1.34	10	P	Pn	00 50 20.1	-0.3
	baz=190,SNR=575						
TRF				S	Sn	00 50 37.0	-0.8
	baz=190						
TRF	Thorofare Moun	1.34	10		Pn	00 50 20.1	-0.3
CAPN	Captain Cook N	1.38	187	P	Pn	00 50 21.5	+1.0
	baz=6.9,SNR=14						
CAPN	Captain Cook N	1.38	187		Pn	00 50 21.3	+0.7
KTH	Kantishna Hill	1.43	358		Pn	00 50 21.4	0.0
KTH	Kantishna Hill	1.43	358		Sn	00 50 39.3	-0.3
WAT6	Susitna Watana	1.50	71	P	Pn	00 50 21.8	-0.5
	baz=254,SNR=235						
WAT6				S	Sn	00 50 40.4	-0.8
	baz=254						
WAT6	Susitna Watana	1.50	71		Pn	00 50 21.8	-0.5
WAT6					Sn	00 50 41.0	-0.3
RND	Reindeer	1.56	34		Pn	00 50 22.6	-0.5
SLKM	Skilak Lake	1.65	170		Pn	00 50 23.4	-0.8
SCM	Sheep Creek Mo	1.67	99		Pn	00 50 23.8	-0.6
M19K	Big River Lodg	1.71	264	P	Pn	00 50 24.3	-0.7
	baz=81						
M19K				S	Sn	00 50 45.1	-1.0
	baz=81						
M19K	Big River Lodg	1.71	264		Pn	00 50 24.3	-0.7
M19K					Sn	00 50 45.1	-1.0
O22K	Cooper Landing	1.73	162	P	Pn	00 50 24.6	-0.7
	baz=343						
O22K				S	Sn	00 50 44.9	-1.7
	baz=343						
O22K	Cooper Landing	1.73	162		Pn	00 50 24.4	-0.9
PWL	Port Wells	1.74	136		Pn	00 50 24.1	-1.2
DFR	Drift River	1.79	211		Pn	00 50 25.5	-0.6
MCK	McKinley	1.82	27	P	Pn	00 50 26.1	-0.3
	baz=209,SNR=91						
MCK				S	Sn	00 50 48.2	-0.5
	baz=209						
MCK	McKinley	1.82	27	Pn	Pn	00 50 26.1	-0.3
NCT	North Crescent	1.88	214		Pn	00 50 27.1	-0.3
CHUM	Lake Minchumin	1.89	339	P	Pn	00 50 27.1	-0.2
	baz=158,SNR=542						
CHUM				S	Sn	00 50 49.3	-1.0
	baz=158						
CHUM	Lake Minchumin	1.89	339		Pn	00 50 27.1	-0.2
CHUM					Sn	00 50 49.2	-1.1
L19K	White Mountain	1.91	273	P	Pn	00 50 27.2	-0.4
	baz=90,SNR=76						
L19K				S	Sn	00 50 49.8	-0.9
	baz=90						
L19K	White Mountain	1.91	273		Pn	00 50 27.2	-0.4
RSO	Redoubt South	1.92	210		Pn	00 50 27.7	-0.3
RED	Redoubt Volcan	1.96	210		Pn	00 50 28.1	-0.4
BPAW	Bear Paw Mtn.	1.98	358	P	Pn	00 50 27.9	-0.6
	baz=178,SNR=514						
BPAW				S	Sn	00 50 50.5	-1.9
	baz=178						
BPAW	Bear Paw Mtn.	1.98	358	Pn	Pn	00 50 28.0	-0.6
BPAW	Bear Paw Mtn.	1.98	358		Sn	00 50 50.6	-1.9
SEW	Seward	2.14	162	P	Pn	00 50 29.4	-1.2
	baz=343						
SEW				S	Sn	00 50 53.4	-2.7
	baz=343						
SEW	Seward	2.14	162	Pn	Pn	00 50 29.4	-1.2
BWN	Browne	2.14	16		Pn	00 50 30.2	-0.5
M24K	Tolsona, Glenn	2.17	89	P	Pn	00 50 31.2	0.0
	baz=273,SNR=78						
M24K	Tolsona, Glenn	2.17	89	Pn	Pn	00 50 31.2	0.0
GLI	Glacier Island	2.17	124	P	Pn	00 50 29.7	-1.5
	baz=307,SNR=19						
GLI				S	Sn	00 50 55.7	-1.4
	baz=307						
GLI	Glacier Island	2.17	124	Pn	Pn	00 50 29.7	-1.5
N19K	Bonanza Creek	2.21	235	P	Pn	00 50 31.2	-0.5
	baz=52						
N19K	Bonanza Creek	2.21	235		Pn	00 50 31.2	-0.5
O20K	Slope Mountain	2.24	204	P	Pn	00 50 31.9	-0.2
	baz=22,SNR=7.2						
O20K	Slope Mountain	2.24	204		Pn	00 50 32.0	-0.1
BRLK	Bradley Lake	2.38	181	Pn	Pn	00 50 34.9	+1.0
IVE	Iliamna Volcan	2.38	208		Pn	00 50 33.4	-0.6
BRSE	Bradley Lake S	2.40	179	P	Pn	00 50 33.3	-0.9
	baz=359,SNR=9.5						
BRSE	Bradley Lake S	2.40	179		Pn	00 50 32.8	-1.4
KLU	Klutina	2.40	103	P	Pn	00 50 33.3	-1.0
	baz=288,SNR=47						
KLU	Klutina	2.40	103	Pn	Pn	00 50 33.2	-1.0
ILS	Iliamna Low So	2.44	208		Pn	00 50 34.7	-0.2
FID	Port Fidalgo	2.50	122	Pn	Pn	00 50 33.6	-1.9
PS11	TAPS Pump St11	2.50	89		Pn	00 50 35.4	-0.2
SVW2	Sparrevohn	2.51	248	Pn	Pn	00 50 34.8	-0.9
HOM	Homer	2.52	190	P	Pn	00 50 35.6	-0.2
	baz=9.1						
HOM	Homer	2.52	190	Pn	Pn	00 50 35.2	-0.6
TT01	Tatalina	2.54	290		Pn	00 50 35.2	-0.9
TTA	Tatalina	2.55	291	P	Pn	00 50 35.5	-0.7
	baz=106						
TTA	Tatalina	2.55	291	Pn	Pn	00 50 35.5	-0.7
NEA2	Nenana	2.59	17	P	Pn	00 50 35.8	-1.0
	baz=198,SNR=54						
NEA2	Nenana	2.59	17	Pn	Pn	00 50 35.8	-1.0
DIV	Divide	2.60	110		Pn	00 50 35.8	-1.2
PAX	Paxson	2.61	69	P	Pn	00 50 37.0	-0.1
	baz=254,SNR=41						
PAX	Paxson	2.61	69	Pn	Pn	00 50 36.9	-0.1
CNPM	China Poot	2.62	185	Pn	Pn	00 50 36.8	-0.5
WRH	Wood River Hil	2.65	26

baz=170,SNR=220
I21K Tanana 3.11 351 Pn 00 50 43.1 -0.6
O18K Koktuh Hills 3.13 225 P **Pn 00 50 44.0 -0.3**
baz=41
O18K Koktuh Hills 3.13 225 Pn 00 50 43.9 -0.3
IL31 3.18 32 Pn **Pn 00 50 44.2 -0.5**
ILAR Eielson Array 3.18 32 P **Pn 00 50 44.4 -0.4**
comp=E,18nm,0.3s,baz=216,slow=14,SNR=614
ILAR Eielson Array 3.18 32 Pn **Pn 00 50 44.1 -0.6**
BMRM Bremner River 3.19 109 P **Pn 00 50 43.2 -1.7**
baz=294
BMRM Bremner River 3.19 109 Pn **Pn 00 50 43.1 -1.7**
POKR Poker Plat Res 3.35 25 P **Pn 00 50 46.6 -0.5**
baz=208,SNR=18
POKR Poker Plat Res 3.35 25 Pn **Pn 00 50 46.7 -0.4**
PS07 TAPS Pump Stn7 3.38 18 Pn 00 50 47.2 -0.3
GLB Gilahina Butte 3.39 99 Pn **Pn 00 50 46.4 -1.2**
DOT Dot Lake 3.44 61 Pn **Pn 00 50 47.8 -0.5**
MID Middleton Isla 3.48 139 Pn **Pn 00 50 48.4 -0.5**
SCRK Sand Creek 3.61 56 P **Pn 00 50 50.2 -0.5**
baz=242,SNR=33
SCRK Sand Creek 3.61 56 Pn **Pn 00 50 50.3 -0.5**
VRDI Verde Repeater 3.62 101 Pn **Pn 00 50 49.3 -1.5**
HMT Hamilton 3.64 117 Pn **Pn 00 50 49.0 -2.0**
H21K Melozitna Rive 3.65 347 P **Pn 00 50 50.5 -0.6**
baz=165
H23K Yukon River 3.75 8 P **Pn 00 50 52.0 -0.5**
baz=189,SNR=82
H23K Yukon River 3.75 8 Pn 00 50 52.0 -0.5
PS06 TAPS Pump Stn6 3.77 7 Pn 00 50 52.8 0.0
MCARA McCarthy VSAT 3.77 98 P **Pn 00 50 51.8 -1.0**
baz=285
NICHA Nichawak Mount 3.81 117 Pn 00 50 51.5 -1.9
CRQM Cirque 3.93 107 Pn **Pn 00 50 54.8 -0.3**
H24K Noodor Dome 3.94 18 P **Pn 00 50 54.5 -0.6**
baz=200,SNR=45
H24K Noodor Dome 3.94 18 Pn 00 50 54.5 -0.6
CRQE Cirque 3.95 107 P **Pn 00 50 54.5 -0.8**
baz=294
SUCK Suckling Hills 3.98 118 Pn **Pn 00 50 55.2 -0.5**
KHIT Khitrov Hills 4.02 112 Pn 00 50 55.3 -0.9
TGL Tana Glacier 4.07 106 Pn **Pn 00 50 56.2 -0.8**
PTPK Patty Peak 4.08 100 Pn 00 50 56.2 -1.1
PRP Porcupine Dome 4.12 32 P **Pn 00 50 57.4 -0.3**
baz=217,SNR=76
PRP Porcupine Dome 4.12 32 Pn **Pn 00 50 57.3 -0.5**
BALM Baldy 4.19 101 Pn 00 50 57.0 -1.5
WAX Waxell Ridge 4.19 110 Pn **Pn 00 50 57.8 -0.8**
KIAG Kiagna River 4.22 103 Pn 00 50 57.5 -1.6
L27K Beaver Creek, 4.25 73 P **Pn 00 50 58.5 -0.9**
baz=261,SNR=12
L27K Beaver Creek, 4.25 73 Pn **Pn 00 50 58.5 -0.9**
BC03 4.27 73 Pn 00 50 58.9 -0.7
BCAR Beaver Creek A 4.27 73 Pn **Pn 00 50 58.6 -1.0**
KULT Kultieth River 4.34 112 Pn 00 50 59.8 -0.8
ISLE Juniper Island 4.35 107 Pn **Pn 00 50 59.6 -1.2**
K27K Chicken 4.40 61 Pn **Pn 00 51 02.2 +0.8**
KDAK Kodiak Island 4.45 192 P **Pn 00 51 00.2 -1.9**
comp=E,1.8nm,0.3s,baz=56,slow=7.6,SNR=34
KDAK Kodiak Island 4.45 192 P **Pn 00 51 00.3 -1.9**
baz=11
KDAK Kodiak Island 4.45 192 Pn **Pn 00 51 00.5 -1.6**
BARN Barnard Glacie 4.50 100 Pn **Pn 00 51 02.2 -0.6**
BAGL Bagley Icefiel 4.51 108 Pn 00 51 01.9 -0.9
CTG Chitna Glacier 4.67 100 P **Pn 00 51 04.2 -1.0**
baz=289
CTGM Chitina Glacie 4.68 100 Pn **Pn 00 51 04.8 -0.5**
MESA MESA 4.71 111 P **Pn 00 51 04.4 -1.4**
baz=298
MESA MESA 4.71 111 Pn **Pn 00 51 04.4 -1.4**
YUK2 White River 4.71 90 Pn 00 51 05.0 -0.7
YAH Yahtse 4.72 108 Pn **Pn 00 51 05.2 -0.7**
LOGN Logan Glacier 4.88 101 Pn **Pn 00 51 07.5 -0.5**
YUK3 Moose Creek 4.89 90 Pn 00 51 07.6 -0.7
RKAV Rock Avalanche 4.92 108 Pn 00 51 08.0 -0.6
TABL Table Mountain 4.96 106 Pn **Pn 00 51 08.6 -0.5**
EGAK Eagle 5.07 54 Pn **Pn 00 51 10.9 +0.4**
OHAK Old Harbor 5.08 195 P **Pn 00 51 08.6 -2.0**
baz=13
OHAK Old Harbor 5.08 195 Pn **Pn 00 51 08.7 -2.0**
COLD Coldfoot 5.12 3 P **Pn 00 51 11.1 -0.1**
baz=183,SNR=46
COLD Coldfoot 5.12 3 Pn **Pn 00 51 11.1 -0.1**
PCA Pinnacle 5.50 107 Pn **Pn 00 51 15.7 -0.8**
PINM Pinnacle 5.50 107 P **Pn 00 51 15.7 -0.9**
baz=296
BCPM Bancas Point 5.85 107 Pn 00 51 19.4 -1.7
TOLK Toolik Lake Re 6.56 4 P **Pn 00 51 31.3 +0.5**
baz=185,SNR=39
ANM Nome 6.99 297 P **Pn 00 51 36.8 +0.1**
baz=104
TNA Tin City 8.30 302 P **Pn 00 51 54.2 -0.3**
baz=107
INK Inuvik 9.51 42 P **Pn 00 52 10.1 -0.9**
comp=E,0.3nm,0.3s,baz=232,slow=13,SNR=3.6
NVAR Mina Array Bea 30.94 125 P **P 00 56 08.4 +1.4**
comp=E,0.3nm,0.3s,baz=337,slow=8.9,SNR=4.2
ULM Lac du Bonnet 31.77 86 LR LR 01 10 56.9
comp=E,110nm,18.5s,baz=307,slow=40
SONM Songino Array 54.40 306 P **P 00 59 16.3 +0.1**
comp=E,0.7nm,0.6s,baz=22,slow=8.1,SNR=2.7
ZALV Zalesovo Beam 56.28 324 P **P 00 59 27.5 -1.9**
comp=E,0.6nm,0.3s,baz=24,slow=8.8,SNR=4.8
HHC Hu-ho-hao-te 58.15 298 *eP* **P 00 59 46.0 +3.1**
EKA Eskdalemuir Ar 60.16 21 P **P 00 59 55.3 -1.2**
comp=E,0.3nm,0.4s,baz=334,slow=5.7,SNR=7.2
MKAR Makanchi Array 63.42 322 P **P 01 00 16.5 -2.0**
comp=E,0.3nm,0.4s,baz=46,slow=7.8,SNR=6.8
WMQ Urumqi 64.45 317 *eP* **P 01 00 27.8 +2.4**
WMQ pP sP 01 00 53.0 +0.1
LZH Lanzhou 65.36 301 *eP* **P 01 00 31.2 -0.3**
LZH pP pP 01 00 47.0 -3.9
LZH sP sP 01 00 52.9 -6.2
BOSA Boshof 146.38 6 PKPbc **PKPdf 01 09 28.1 +0.3**
comp=E,2.9nm,1.0s,baz=346,slow=4.2,SNR=2.7

*GUC **06** 00:50:09.8±0.7, 23°.96S×67°.17W, h210km±12km, ML3.9*
*VAO **06** 00:50:10.7±0.5, 23°.87S×67°.19W, h240km±6km, mb4.1*
*IDC **06** 00:50:14.3±8.7, 23°.62S×66°.69W, h220km±65km, mb3.1/1, mb1 3.3/3, mb1mx3.1/21, mbtmp3.9/3, Error ellipse: s-maj=87.9km s-min=28.9km az=20.0*
ISC 06 00:50:09.9±0.7, 23°.94S±0°.05×67°.01W±0°.06, h209km±9km, n46, σ1°02/60, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.58**	**120**	*i P*	**Pn**	**00 50 44.2**	**-1.1**
LVC	**Limon Verde**	**2.19**	**307**	*eP*	**Pn**	**00 50 52.1**	**+0.6**
LVC				*eS*	**S**	**00 51 23.6**	**+0.2**
LVC	**Limon Verde**	**2.19**	**307**	*eP*	**Pn**	**00 50 52.4**	**+0.9**
PB15	**IPOC Station P**	**2.37**	**287**	⇑*iP*	**Pn**	**00 50 53.7**	**+0.5**
PB15				*i S*	**S**	**00 51 26.6**	**+0.1**
GO02	**Mina Guanaco**	**2.65**	**242**	⇑*iP*	**Pn**	**00 50 56.5**	**+0.2**
GO02				*i S*	**S**	**00 51 32.0**	**0.0**
PB06	**IPOC Station P**	**2.65**	**297**	⇑*iP*	**Pn**	**00 50 56.9**	**+0.7**
PB06				*i S*	**S**	**00 51 31.8**	**-0.2**
PB06				IAML		00 51 33.4	
	comp=E,307nm,0.1s						
PB09	**IPOC Station P**	**2.96**	**316**	*eP*	**Pn**	**00 50 59.9**	**+0.1**
PB09				*eS*	**S**	**00 51 39.2**	**+0.9**
PB09				IAML		00 51 39.9	
	comp=N,128nm,0.5s						
PB05	**IPOC Station P**	**3.12**	**290**	⇑*iP*	**Pn**	**00 51 01.8**	**+0.2**
PB05				*i S*	**S**	**00 51 40.0**	**-1.6**
PB05				IAML		00 51 45.1	
	comp=E,112nm,0.3s						
PB03	**IPOC Station P**	**3.15**	**306**	⇑*iP*	**Pn**	**00 51 02.3**	**+0.3**
PB03				*i S*	**S**	**00 51 41.1**	**-1.1**
PB03				IAML		00 51 44.1	
	comp=E,162nm,0.1s						
PB14	**IPOC Station P**	**3.17**	**257**	⇑*iP*	**Pn**	**00 51 02.2**	**-0.1**
PB14				*eS*	**S**	**00 51 40.7**	**-2.2**
PB10	**IPOC Station P**	**3.27**	**277**	⇑*iP*	**Pn**	**00 51 03.8**	**+0.5**
PB10				*i S*	**S**	**00 51 44.7**	**+0.2**
PB04	**IPOC Station P**	**3.30**	**298**	⇑*iP*	**Pn**	**00 51 04.0**	**+0.2**
PB04				*eS*	**S**	**00 51 43.9**	**-1.5**
PB07	**IPOC Station P**	**3.45**	**309**	*eP*	**Pn**	**00 51 05.5**	**0.0**
PB07				*i S*	**S**	**00 51 47.3**	**-1.2**
PB01	**IPOC Station P**	**3.68**	**321**	*eP*	**Pn**	**00 51 08.1**	**-0.1**
PB01				*eS*	**S**	**00 51 51.6**	**-2.0**
PB08	**IPOC Station P**	**4.27**	**332**	*eP*	**Pn**	**00 51 16.5**	**+0.7**
PB08				*i S*	**S**	**00 52 06.7**	**-0.4**

TA01	**Diego Aracena**	**4.46**	**318**	*eP*	**Pn**	**00 51 17.4**	**-0.4**
GO03	**Copiap**	**4.66**	**218**	*eP*	**Pn**	**00 51 18.3**	**-2.0**
LPAZ	**La Paz**	**7.68**	**352**	P	**Pn**	**00 52 01.0**	**+1.3**
	comp=E,0.2nm,0.3s,baz=172,slow=7.1,SNR=3.3						
LPAZ				S	**S**	**00 53 25.4**	**-1.6**
	comp=E,0.1nm,0.3s,baz=89,slow=23,SNR=2.0						
LPAZ	**La Paz**	**7.68**	**352**	*eP*	**Pn**	**00 51 59.2**	**-0.5**
TRCB	**Terra Rica**	**13.26**	**88**	*eP*	**Pn**	**00 53 12.6**	**+2.1**
SALV	**Santo Antonio**	**13.30**	**55**	*eP*	**Pn**	**00 53 12.4**	**+1.4**
CPSB	**Cacapava Do Su**	**13.69**	**121**	*eP*	**Pn**	**00 53 17.1**	**+1.4**
PCMB	**Pacaembu**	**14.71**	**84**	*eP*	**P**	**00 53 29.8**	**+0.6**
TRQA	**Tornquist**	**14.72**	**164**	*eP*	**Pn**	**00 53 28.9**	**+0.7**
FRTB	**Fartura**	**16.00**	**91**	*eP*	**P**	**00 53 42.9**	**-0.6**
ITRB	**Iturama**	**16.02**	**78**	*eP*	**Pn**	**00 53 44.9**	**+0.6**
ARAG	**Araguaiana, MT**	**16.47**	**63**	*eP*	**Pn**	**00 53 49.5**	**-0.1**
CLDB	**Colider**	**16.82**	**41**	*eP*	**P**	**00 53 52.2**	**-0.2**
BB19B	**Bebedouro**	**17.32**	**84**	*eP*	**P**	**00 53 58.1**	**+0.2**
VAO	**Valinhos**	**18.41**	**91**	*eP*	**P**	**00 54 08.8**	**-1.1**
IPMB	**Ipameri, GO**	**18.52**	**75**	*eP*	**P**	**00 54 10.7**	**-0.3**
SNDB	**Serra Nova Dou**	**19.08**	**54**	*eP*	**P**	**00 54 16.5**	**-0.6**
BDFB	**Brasilia**	**19.67**	**69**	P	**P**	**00 54 23.1**	**-0.4**
	comp=E,1.0nm,0.3s,baz=246,slow=11,SNR=20						
NPGB	**Novo Progresso**	**20.18**	**36**	*eP*	**P**	**00 54 26.0**	**-2.8**
ESAR	**Angra dos Reis**	**20.72**	**92**	*eP*	**P**	**00 54 34.5**	**0.0**
BSCB	**Bom Sucesso**	**20.75**	**86**	*eP*	**P**	**00 54 35.4**	**+0.4**
ITTB	**Itaituba**	**22.29**	**31**	*eP*	**P**	**00 54 48.5**	**-1.7**
DIAM	**Diamantina, MG**	**22.47**	**80**	*eP*	**P**	**00 54 52.0**	**0.0**
DUB01	**Friburgo-RJ**	**22.75**	**90**	*eP*	**P**	**00 54 54.0**	**-0.4**
MC01	**Montes Claros**	**22.78**	**76**	*eP*	**P**	**00 54 54.0**	**-0.8**
JANB	**Januaria**	**23.12**	**72**	*eP*	**P**	**00 54 57.4**	**-0.5**
SDBA	**SAO DESIDERIO**	**23.89**	**65**	*eP*	**P**	**00 55 04.4**	**-0.4**
BSFB	**Barra de Sao F**	**24.87**	**83**	*eP*	**P**	**00 55 12.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	**P**	**01 01 37.8**	**+0.1**
	comp=E,0.4nm,0.6s,baz=241,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**131.68**	**207**	PKP	**PKiKP**	**01 09 01.2**	**+1.5**
	comp=E,1.1nm,1.2s,baz=152,slow=1.8,SNR=1.1						
MKAR	**Makanchi Array**	**146.48**	**39**	PKPbc	**PKiKP**	**01 09 28.4**	**-0.7**
	comp=E,0.4nm,0.6s,baz=299,slow=3.0,SNR=4.0						

*MOS **06** 00:50:31.2±0.9, 62°.20N×151°.01W, h77km, mb5.1/59, Error ellipse: s-maj=10.4km s-min=4.7km az=94.5*
*IDC **06** 00:50:33.1±0.7, 62°.26N×150°.96W, h75km±5km, mb4.3/42, mb1 4.4/44, mb1mx4.4/61, mbtmp4.7/44, MS3.8/12, Ms1 3.8/12, ms1mx3.6/33, Error ellipse: s-maj=11.9km s-min=8.1km az=14.0*
*NEIC **06** 00:50:33.1±2.3, 62°.14N±0°.03×150°.82W±0°.07, h75km±3km, Error ellipse: s-maj=4.8km s-min=4.2km az=124.0*
*AEIC **06** 00:50:33±2.2, 62°.13N±0°.03×150°.79W±0°.07, h71km±4km, ML4.8, mb5.0/562(NEIC), ML5.0/126(NEIC), Mwr4.9/85(NEIC), Mww4.9(NEIC), Error ellipse: s-maj=4.8km s-min=4.1km az=124.0*
*BGR **06** 00:50:33.2±0.0, 62°.84N×151°.08W, h33km, mb5.2*
*NEIC **06** 00:50:33, 62°.14N×150°.71W, h65km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}0.86; $M_{\theta\theta}$-1.28; $M_{\phi\phi}$0.42; $M_{r\theta}$-0.37; $M_{\phi\theta}$1.55; $M_{\phi r}$1.69; Fault plane solution: $M_0$2.58000×10^16^ NP1:ϕ_s337.85000°, δ76.93000°, λ131.91000°. NP2:ϕ_s81.99000°, δ43.54000°, λ19.16000°. Principal axes: T 2.5106, Plg42.0000°, Azm288.0000°; N 0.1315, Plg41.0000°, Azm146.0000°; P -2.6421, Plg21.0000°, Azm38.0000°;*
*GCMT **06** 00:50:34.0±0.2, 62°.32N±0°.02×150°.84W±0°.03, h79km±3km, MW5.0/114, Moment Tensor Solution. s36,c42; s114,c154; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.56±.12; $M_{\theta\theta}$-2.24±.12; $M_{\phi\phi}$1.68±.13; $M_{r\theta}$-0.44±.07; $M_{\theta\phi}$1.85±.10; $M_{\phi r}$2.31±.06; Best double couple: $M_0$3.60000×10^16^ NP1:ϕ_s71.00000°, δ50.00000°, λ11.00000°. NP2:ϕ_s334.00000°, δ82.00000°, λ140.00000°. Principal axes: T 3.7500, Plg34.0000°, Azm285.0000°; N -0.3000, Plg49.0000°, Azm144.0000°; P -3.4490, Plg21.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 00:50:35, 62°.15N×150°.93W, h50km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}1.08; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$1.28; $M_{r\theta}$-0.19; $M_{\theta\phi}$0.69; $M_{\phi r}$1.96; Fault plane solution: $M_0$2.92000×10^16^ NP1:ϕ_s65.00000°, δ52.00000°, λ26.00000°. NP2:ϕ_s319.00000°, δ70.00000°, λ139.00000°. Principal axes: T 3.1709, Plg43.0000°, Azm275.0000°; N -0.5810, Plg45.0000°, Azm117.0000°; P -2.5899, Plg11.0000°, Azm16.0000°;*
ISC 06 00:50:32.3±0.3, 62°.14N±0°.02×150°.80W±0°.02, h74km±2km, h73km: pP-P, n1150, σ1°05/1036, mb5.0/391, 120C-176D, Fault plane solution: NP1:ϕ_s95.91520°, δ67.07509°, λ11.37542°. NP2:ϕ_s1.43420°, δ79.53364°, λ156.66446°. Principal axes: T Plg23.8214°, Azm316.6470°; N Plg64.5451°, Azm158.5989°; P Plg8.4522°, Azm50.4087°;
Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.37**	**43**	P	**Pn**	**00 50 44.9**	**+0.6**
CUT				S	**Sn**	**00 50 54.4**	**+1.2**
	baz=222						
CUT	**Chulitna**	**0.37**	**43**	Pn	**Pn**	**00 50 45.0**	**+0.6**
CUT				Sn	**Sn**	**00 50 54.4**	**+1.2**
SKT	**Skwentna**	**0.38**	**246**	P	**Pn**	**00 50 44.7**	**+0.2**
SKT				S	**Sn**	**00 50 54.0**	**+0.6**
	baz=66						
SKT	**Skwentna**	**0.38**	**246**	Pn	**Pn**	**00 50 44.9**	**+0.4**
SKT				Sn	**Sn**	**00 50 54.1**	**+0.7**
SKT				IAML		00 50 54.4	
	comp=N,72μm,1.0s						
SKT				IAML		00 50 54.5	
	comp=E,92μm,0.6s						
SUA	**Susitna One**	**0.68**	**178**	P	**Pn**	**00 50 47.8**	**+0.4**
SUA				S	**Sn**	**00 50 58.9**	**+0.5**
	baz=358						
SUA	**Susitna One**	**0.68**	**178**	Pn	**Pn**	**00 50 47.8**	**+0.4**
SUA				Sn	**Sn**	**00 50 59.3**	**+0.8**
SUA				IAML		00 51 00.5	
	comp=E,84μm,1.3s						
SUA				IAML		00 51 01.5	
	comp=N,56μm,1.1s						
GHO	**Glory Hole Cre**	**0.96**	**112**		**Sn**	**00 51 04.8**	**+0.6**
GHO	**Glory Hole Cre**	**0.96**	**112**		**Pn**	**00 50 51.0**	**+0.5**
GHO				IAML		00 51 07.4	
	comp=E,57μm,0.5s						
PMR	**Palmer**	**0.96**	**124**	P	**Pn**	**00 50 50.6**	**+0.1**
PMR				S	**Sn**	**00 51 04.1**	**+0.1**
	baz=305						
PMR	**Palmer**	**0.96**	**124**	Pn	**Pn**	**00 50 50.6**	**+0.1**
PMR				Sn	**Sn**	**00 51 04.4**	**+0.4**
PMR				IAML		00 51 05.5	
	comp=N,26μm,0.6s						
PPLA	**Purkeypile**	**1.00**	**320**	P	**Pn**	**00 50 51.7**	**+0.6**
PPLA				S	**Sn**	**00 51 05.4**	**+0.3**
	baz=139						
PPLA	**Purkeypile**	**1.00**	**320**	Pn	**Pn**	**00 50 51.7**	**+0.6**
HUR	**Hurricane**	**1.00**	**32**		**Pn**	**00 50 51.8**	**+0.8**
HUR					**Sn**	**00 51 06.1**	**+1.1**
SPCG	**Spurr Capps Gl**	**1.03**	**215**		**Pn**	**00 50 51.8**	**+0.3**
SPCG					**Sn**	**00 51 06.1**	**+0.4**
FIS	**Fire Island**	**1.03**	**164**	Pn	**Pn**	**00 50 53.3**	**+1.9**
FIS				Sn	**Sn**	**00 51 07.1**	**+1.5**
SPCP	**Crater Peak Br**	**1.08**	**217**		**Pn**	**00 50 52.7**	**+0.5**
SPCP					**Sn**	**00 51 07.6**	**+0.6**
SPCN	**Chakachatna No**	**1.13**	**216**		**Pn**	**00 50 53.3**	**+0.7**
M20K	**Styx River**	**1.13**	**258**	P	**Pn**	**00 50 53.3**	**+0.7**
M20K				S	**Sn**	**00 51 08.4**	**+0.6**
	baz=76						
M20K	**Styx River**	**1.13**	**258**		**Pn**	**00 50 53.3**	**+0.7**
M20K					**Sn**	**00 51 08.7**	**+0.8**
SPU	**Mount Spurr**	**1.13**	**212**	Pn	**Pn**	**00 50 52.1**	**-0.5**
WAT7	**Susitna Watana**	**1.15**	**52**		**Pn**	**00 50 53.7**	**+0.8**
WAT7					**Sn**	**00 51 08.9**	**+0.6**
SPBG	**Spurr Blockage**	**1.15**	**221**		**Pn**	**00 50 53.7**	**+0.7**
SPCR	**Spurr Chakacha**	**1.15**	**216**	P	**Pn**	**00 50 53.4**	**+0.4**
	baz=35						
SPCR				S	**Sn**	**00 51 08.7**	**+0.3**
	baz=35						

RC01	**Rabbit Creek A**	**1.17**	**154**	P	**Pn**	**00 50 53.3**	**+0.2**
RC01				S	**Sn**	**00 51 08.5**	**-0.1**
	baz=335						
RC01	**Rabbit Creek A**	**1.17**	**154**		**Sn**	**00 51 08.9**	**+0.3**
RC01	**Rabbit Creek A**	**1.17**	**154**	Pn	**Pn**	**00 50 53.2**	**+0.1**
RC01				IAML		00 51 11.2	
	comp=N,22μm,0.7s						
SML	**Sawmill**	**1.21**	**105**	P	**Pn**	**00 50 54.2**	**+0.4**
SML				S	**Sn**	**00 51 10.6**	**+0.8**
	baz=287						
SML	**Sawmill**	**1.21**	**105**	Pn	**Pn**	**00 50 54.2**	**+0.4**
SML				IAML		00 51 11.9	
	comp=E,31μm,1.3s						
SML				IAML		00 51 12.1	
	comp=N,35μm,0.9s						
WAT1	**Susitna Watana**	**1.26**	**55**	P	**Pn**	**00 50 55.0**	**+0.7**
WAT1				S	**Sn**	**00 51 11.5**	**+0.8**
	baz=237						
WAT1	**Susitna Watana**	**1.26**	**55**		**Pn**	**00 50 55.2**	**+0.9**
WAT1					**Sn**	**00 51 11.6**	**+0.8**
KNK	**Knik Glacier**	**1.33**	**122**	P	**Pn**	**00 50 55.6**	**+0.4**
KNK				S	**Sn**	**00 51 12.9**	**+0.5**
	baz=304						
KNK	**Knik Glacier**	**1.33**	**122**	Pn	**Pn**	**00 50 55.5**	**+0.4**
KNK				IAML		00 51 15.0	
	comp=E,38μm,0.5s						
KNK				IAML		00 51 20.4	
	comp=N,18μm,1.1s						
TRF	**Thorofare Moun**	**1.34**	**10**	P	**Pn**	**00 50 56.2**	**+0.7**
TRF				S	**Sn**	**00 51 13.9**	**+1.1**
	baz=190						
TRF	**Thorofare Moun**	**1.34**	**10**		**Sn**	**00 51 14.4**	**+1.6**
TRF	**Thorofare Moun**	**1.34**	**10**	Pn	**Pn**	**00 50 56.3**	**+0.9**
TRF	**Thorofare Moun**	**1.34**	**10**	IAML		00 51 14.9	
	comp=E,21μm,1.0s						
TRF				IAML		00 51 16.4	
	comp=N,31μm,0.6s						
CAPN	**Captain Cook N**	**1.38**	**187**	P	**Pn**	**00 50 57.7**	**+1.8**
	baz=7.1						
CAPN	**Captain Cook N**	**1.38**	**187**	Pn	**Pn**	**00 50 58.2**	**+2.4**
KTH	**Kantishna Hill**	**1.42**	**358**		**Sn**	**00 51 15.9**	**+1.3**
KTH	**Kantishna Hill**	**1.42**	**358**	Pn	**Pn**	**00 50 57.6**	**+1.2**
KTH	**Kantishna Hill**	**1.42**	**358**	IAML		00 51 16.9	
	comp=E,45μm,0.9s						
KTH				IAML		00 51 17.3	
	comp=N,18μm,0.6s						
WAT6	**Susitna Watana**	**1.50**	**71**	P	**Pn**	**00 50 58.1**	**+0.6**
WAT6				S	**Sn**	**00 51 16.3**	**-0.1**
	baz=254						
WAT6	**Susitna Watana**	**1.50**	**71**		**Pn**	**00 50 58.4**	**+0.9**
WAT6					**Sn**	**00 51 17.1**	**+0.6**
RND	**Reindeer**	**1.56**	**34**	P	**Pn**	**00 50 59.3**	**+1.1**
RND	**Reindeer**	**1.56**	**34**	Pn	**Pn**	**00 50 59.3**	**+1.1**
SCM	**Sheep Creek Mo**	**1.67**	**99**	P	**Pn**	**00 51 00.2**	**+0.5**
SCM	**Sheep Creek Mo**	**1.67**	**99**	Pn	**Pn**	**00 51 00.1**	**+0.5**
SCM				IAML		00 51 25.3	
	comp=N,18μm,1.0s						
M19K	**Big River Lodg**	**1.71**	**264**	P	**Pn**	**00 51 00.7**	**+0.5**
M19K				S	**Sn**	**00 51 20.9**	**-0.3**
	baz=81						
M19K	**Big River Lodg**	**1.71**	**264**		**Pn**	**00 51 00.3**	**+0.1**
O22K	**Cooper Landing**	**1.74**	**162**	P	**Pn**	**00 51 01.4**	**+0.8**
O22K				S	**Sn**	**00 51 21.0**	**-0.9**
	baz=343						
O22K	**Cooper Landing**	**1.74**	**162**	Pn	**Pn**	**00 51 02.7**	**+2.2**
PWL	**Port Wells**	**1.75**	**136**	Pn	**Pn**	**00 51 00.6**	**-0.1**
DFR	**Drift River**	**1.80**	**211**		**Pn**	**00 51 01.9**	**+0.6**
MCK	**McKinley**	**1.82**	**27**	P	**Pn**	**00 51 02.6**	**+1.0**
MCK	**McKinley**	**1.82**	**27**	P	**Pn**	**00 51 02.5**	**+0.9**
	baz=209						
MCK	**McKinley**	**1.82**	**27**	Pn	**Pn**	**00 51 02.6**	**+1.0**
MCK				IAML		00 51 26.9	
	comp=N,9μm,1.7s						
NCT	**North Crescent**	**1.88**	**214**		**Pn**	**00 51 03.3**	**+0.7**
CHUM	**Lake Minchumin**	**1.88**	**339**	P	**Pn**	**00 51 03.4**	**+0.9**
CHUM				S	**Sn**	**00 51 25.8**	**+0.5**
	baz=158						
CHUM	**Lake Minchumin**	**1.88**	**339**		**Pn**	**00 51 03.4**	**+0.9**
CHUM					**Sn**	**00 51 25.6**	**+0.3**
L19K	**White Mountain**	**1.90**	**273**	P	**Pn**	**00 51 03.3**	**+0.6**
L19K				S	**Sn**	**00 51 25.8**	**-0.1**
	baz=90						
L19K	**White Mountain**	**1.90**	**273**		**Pn**	**00 51 03.5**	**+0.7**
BPAW	**Bear Paw Mtn.**	**1.97**	**358**	P	**Pn**	**00 51 04.2**	**+0.6**
BPAW				S	**Sn**	**00 51 27.5**	**0.0**
	baz=177						
BPAW	**Bear Paw Mtn.**	**1.97**	**358**		**Sn**	**00 51 27.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.97**	**358**	Pn	**Pn**	**00 51 04.4**	**+0.7**
BPAW	**Bear Paw Mtn.**	**1.97**	**358**	IAML		00 51 28.7	
	comp=E,19μm,0.3s						
BPAW				IAML		00 51 29.0	
	comp=N,10μm,0.6s						
BWN	**Browne**	**2.13**	**16**	Pn	**Pn**	**00 51 07.2**	**+1.5**
BWN				IAML		00 51 50.1	
	comp=N,12μm,1.0s						
BWN				IAML		00 52 00.0	
	comp=E,11μm,1.1s						
SEW	**Seward**	**2.14**	**162**	S	**Sn**	**00 51 29.5**	**-2.0**
	baz=343						
SEW	**Seward**	**2.14**	**162**	Pn	**Pn**	**00 51 07.4**	**+1.5**
M24K	**Tolsona, Glenn**	**2.17**	**89**	P	**Pn**	**00 51 06.9**	**+0.4**
M24K				S	**Sn**	**00 51 33.5**	**+1.0**
	baz=273						
M24K	**Tolsona, Glenn**	**2.17**	**89**	Pn	**Pn**	**00 51 07.3**	**+0.8**
GLI	**Glacier Island**	**2.18**	**124**	P	**Pn**	**00 51 05.8**	**-0.6**
GLI				S	**Sn**	**00 51 32.2**	**-0.3**
	baz=307						
GLI	**Glacier Island**	**2.18**	**124**	Pn	**Pn**	**00 51 06.0**	**-0.4**
GLI				IAML		00 51 34.0	
	comp=N,12μm,0.6s						
N19K	**Bonanza Creek**	**2.21**	**235**	P	**Pn**	**00 51 07.5**	**+0.5**
	baz=52,SNR=7.7						
N19K	**Bonanza Creek**	**2.21**	**235**		**Pn**	**00 51 07.4**	**+0.5**
O20K	**Slope Mountain**	**2.24**	**204**	P	**Pn**	**00 51 08.1**	**+0.7**
	baz=23,SNR=16						
**O20

WRH	Wood River Hil	2.65	26	Pn	Pn	00 51 12.8	+0.1
HARP	HAARP	2.65	82	P	Pn	00 51 13.9	+1.1
baz=267							
HARP	HAARP	2.65	82		Pn	00 51 14.0	+1.1
HIN	Hinchinbrook I	2.71	128	Pn	Pn	00 51 13.3	-0.4
HIN				IAML		00 51 57.7	
comp=N,7μm,0.9s							
HIN				IAML		00 51 57.8	
comp=E,10μm,1.1s							
OPT	Oil Point	2.76	207		Pn	00 51 15.4	+1.1
P19K	Oil Pt	2.76	207	P	Pn	00 51 14.9	+0.6
baz=25,SNR=8.0							
N18K	Kilae Creek	2.85	241	P	Pn	00 51 15.7	+0.3
baz=57,SNR=20							
CCB	Clear Creek Bu	2.86	27	Pn	Pn	00 51 15.4	-0.1
HDA	Harding Lake	2.87	36	P	Pn	00 51 16.3	+0.5
baz=219							
HDA	Harding Lake	2.87	36	Pn	Pn	00 51 16.4	+0.6
HDA				IAML		00 52 10.3	
comp=N,6μm,0.7s							
MLY	Manley	2.91	1	P	Pn	00 51 16.6	+0.4
baz=180							
MLY	Manley	2.91	1	Pn	Pn	00 51 17.0	+0.7
EYAK	Cordova Ski Ar	2.91	121	P	Pn	00 51 15.3	-0.9
baz=305,SNR=18							
EYAK	Cordova Ski Ar	2.91	121	Pn	Pn	00 51 15.8	-0.5
N25K	Chitina, Valde	2.99	98	P	Pn	00 51 17.1	-0.3
baz=283							
N25K	Chitina, Valde	2.99	98	Pn	Pn	00 51 17.8	+0.4
N25K				IAML		00 52 02.9	
comp=E,3μm,0.8s							
N25K				IAML		00 52 04.5	
comp=N,3μm,0.9s							
AU22	Augustine Moun	3.05	205		Pn	00 51 18.8	+0.7
TCOL	CIGO, UAF Yank	3.05	24	P	Pn	00 51 18.8	+0.7
baz=207							
TCOL	CIGO, UAF Yank	3.05	24	Pn	Pn	00 51 18.9	+0.8
I53US	FAIRBANKS INFR	3.05	24	P	Pn	00 51 18.4	+0.3
baz=204,slow=22,SNR=0.5							
COLA	College	3.05	24	*d iP*	Pn	00 51 18.0	-0.1
COLA	College	3.05	24	P	Pn	00 51 18.8	+0.7
baz=207							
COLA	College	3.05	24	Pn	Pn	00 51 18.9	+0.7
MDM	Murphy Dome	3.06	21	Pn	Pn	00 51 19.1	+0.8
AUW	Augustine West	3.07	206		Pn	00 51 19.2	+0.8
AUCH	Augustine Cone	3.07	206		Pn	00 51 19.6	+1.0
AUQ	Augustine Qik'	3.07	206		Pn	00 51 19.5	+1.0
I23K	Minto, Yukon-K	3.09	11	P	Pn	00 51 19.1	+0.4
baz=192							
I23K	Minto, Yukon-K	3.09	11	Pn	Pn	00 51 19.0	+0.4
I21K	Tanana	3.10	351	P	Pn	00 51 19.3	+0.4
baz=170							
I21K	Tanana	3.10	351		Pn	00 51 19.5	+0.6
O18K	Koktuh Hills	3.14	225	P	Pn	00 51 19.9	+0.5
baz=41							
O18K	Koktuh Hills	3.14	225		Pn	00 51 20.1	+0.7
IL31		3.18	32	Pn	Pn	00 51 20.4	+0.6
ILAR	Eielson Array	3.18	32	P	Pn	00 51 20.7	+0.8
comp=N,162nm,0.3s,baz=217,slow=14,SNR=184							
ILAR				S	Sn	00 51 55.7	-0.9
comp=N,151nm,0.3s,baz=215,slow=23,SNR=15							
ILAR				LR	LR	00 52 43.7	
comp=N,2μm,20.5s,baz=194,slow=42							
ILAR	Eielson Array	3.18	32	Pn	Pn	00 51 20.4	+0.5
BMRM	Bremner River	3.19	109	P	Pn	00 51 19.4	-0.7
baz=294,SNR=22							
BMRM	Bremner River	3.19	109	Pn	Pn	00 51 19.6	-0.6
BMRM				IAML		00 52 11.3	
comp=E,4μm,0.9s							
BMRM				IAML		00 52 15.9	
comp=N,4μm,0.9s							
POKR	Poker Plat Res	3.35	25	P	Pn	00 51 22.8	+0.5
baz=208,SNR=44							
POKR	Poker Plat Res	3.35	25	Pn	Pn	00 51 22.7	+0.4
MENT	Mentasta	3.38	73	Pn	Pn	00 51 23.8	+1.1
PS07	TAPS Pump Stn7	3.38	18		Pn	00 51 23.4	+0.8
GLB	Gilahina Butte	3.39	99	Pn	Pn	00 51 23.0	+0.1
GLB				IAML		00 52 15.1	
comp=E,2μm,0.7s							
GLB				IAML		00 52 17.8	
comp=N,3μm,0.8s							
DOT	Dot Lake	3.44	61	Pn	Pn	00 51 24.0	+0.5
MID	Middleton Isla	3.49	139	P	Pn	00 51 25.0	+0.9
MID	Middleton Isla	3.49	139		Pn	00 51 25.0	+0.9
MID	Middleton Isla	3.49	139	IAML		00 52 34.6	
comp=N,2μm,1.5s							
SCRK	Sand Creek	3.61	56	P	Pn	00 51 26.3	+0.4
baz=242							
SCRK	Sand Creek	3.61	56	Pn	Pn	00 51 26.8	+0.9
SCRK				IAML		00 52 14.3	
comp=N,2μm,0.9s							
SCRK				IAML		00 52 27.3	
comp=E,3μm,0.8s							
VRDI	Verde Repeater	3.62	101	Pn	Pn	00 51 25.9	-0.2
VRDI				IAML		00 52 31.6	
comp=N,2μm,1.3s							
HMT	Hamilton	3.64	117	Pn	Pn	00 51 28.1	+1.9
H21K	Melozitna Rive	3.64	347	P	Pn	00 51 26.6	+0.3
baz=165							
H23K	Yukon River	3.75	8	P	Pn	00 51 28.2	+0.6
baz=189							
H23K	Yukon River	3.75	8		Pn	00 51 28.4	+0.7
PS06	TAPS Pump Stn6	3.76	7		Pn	00 51 28.6	+0.7
MCARA	McCarthy VSAT	3.77	98	P	Pn	00 51 27.9	-0.2
baz=285,SNR=9.0							
NICHA	Nichawak Mount	3.82	117		Pn	00 51 27.6	-1.1
CRQM	Cirque	3.93	107	Pn	Pn	00 51 30.9	+0.6
CRQM				IAML		00 52 49.1	
comp=E,3μm,0.9s							
H24K	Noodor Dome	3.93	18	P	Pn	00 51 30.8	+0.6
baz=200							
H24K	Noodor Dome	3.93	18		Pn	00 51 30.9	+0.6
CRQE	Cirque	3.95	107	P	Pn	00 51 30.4	-0.2
baz=294							
SUCK	Suckling Hills	3.99	118		Pn	00 51 29.6	-1.4
SUCK	Suckling Hills	3.99	118	IAML		00 52 41.8	
comp=E,2μm,1.0s							
SUCK				IAML		00 52 43.5	
comp=N,2μm,0.5s							
GRIN	Grindle Hills	4.07	114		Pn	00 51 32.1	0.0
TGL	Tana Glacier	4.07	106	Pn	Pn	00 51 32.1	0.0
TGL				IAML		00 52 39.1	
comp=N,3μm,1.0s							
TGL				IAML		00 52 43.9	
comp=E,3μm,0.8s							
PRP	Porcupine Dome	4.12	32	P	Pn	00 51 33.5	+0.6
baz=217							
PRP	Porcupine Dome	4.12	32	Pn	Pn	00 51 34.0	+1.1
PRP				IAML		00 52 25.2	
comp=E,1μm,0.7s							
PRP				IAML		00 52 57.3	
comp=N,2μm,0.8s							
BGLC	Bering Glacier	4.17	116	P	Pn	00 51 33.4	0.0
baz=302							
BALM	Baldy	4.19	102		Pn	00 51 32.9	-1.0
WAX	Waxell Ridge	4.19	110	Pn	Pn	00 51 33.8	0.0
WAX				IAML		00 52 47.1	
comp=E,3μm,1.0s							
L27K	Beaver Creek,	4.25	73	P	Pn	00 51 34.5	-0.1
baz=261							
L27K	Beaver Creek,	4.25	73	Pn	Pn	00 51 34.9	+0.3
L27K				IAML		00 52 52.3	
comp=N,1μm,1.5s							
L27K				IAML		00 52 53.4	
comp=E,1μm,1.3s							
BCAR	Beaver Creek A	4.27	73	Pn	Pn	00 51 34.8	-0.1
ISLE	Juniper Island	4.35	107		Pn	00 51 36.5	+0.5
ISLE				IAML		00 52 45.3	
comp=E,2μm,0.8s							
K27K	Chicken	4.40	61	P	Pn	00 51 36.4	-0.1
baz=248							
K27K	Chicken	4.40	61	Pn	Pn	00 51 36.4	-0.1
K27K				IAML		00 52 47.8	
comp=N,1μm,1.0s							
K27K				IAML		00 53 05.2	
comp=E,1μm,1.4s							
KDAK	Kodiak Island	4.46	192	P	Pn	00 51 36.9	-0.4
comp=E,14nm,0.3s,baz=62,slow=16,SNR=23							
KDAK				S	Sn	00 52 23.6	-4.3
comp=E,34nm,0.3s,baz=5.7,slow=2.9,SNR=4.2							
KDAK	Kodiak Island	4.46	192	P	Pn	00 51 37.0	-0.4
KDAK	Kodiak Island	4.46	192	P	Pn	00 51 36.3	-1.0
baz=11							
KCE	Katmai Mt Cerb	4.47	211		Pn	00 51 38.8	+1.2
BARN	Barnard Glacie	4.50	100	Pn	Pn	00 51 38.5	+0.4
BARN				IAML		00 52 49.6	
comp=N,2μm,0.9s							
BARN				IAML		00 52 51.3	
comp=E,2μm,1.0s							
KABR	Katmai Barrier	4.53	209		Pn	00 51 39.4	+1.0
ANCK	Angle Creek	4.59	213		Pn	00 51 40.0	+0.8
BVCY	Beaver Creek	4.65	82		Pn	00 51 40.4	+0.4
CAHL	Cahill	4.67	211		Pn	00 51 41.9	+1.6
CTG	Chitna Glacier	4.68	100	P	Pn	00 51 40.5	0.0
baz=289,SNR=8.3							
CTGM	Chitina Glacie	4.68	100	Pn	Pn	00 51 40.6	0.0
CTGM				IAML		00 53 06.0	
comp=N,1μm,2.1s							
PS05	TAPS Pump Stn5	4.70	1		Pn	00 51 41.7	+1.2
MESA	MESA	4.72	111	P	Pn	00 51 40.9	-0.1
baz=298,SNR=12							
MESA	MESA	4.72	111	Pn	Pn	00 51 41.1	0.0
MESA				IAML		00 53 16.0	
comp=E,2μm,0.9s							
MESA				IAML		00 53 20.6	
comp=N,2μm,1.0s							
YAH	Yahtse	4.72	108	Pn	Pn	00 51 41.3	+0.1
YAH				IAML		00 53 02.7	
comp=E,1μm,1.3s							
YAH				IAML		00 53 11.0	
comp=N,1μm,1.3s							
LOGN	Logan Glacier	4.88	101	Pn	Pn	00 51 43.0	-0.2
LOGN				IAML		00 53 09.9	
comp=N,1μm,1.1s							
LOGN				IAML		00 53 16.0	
comp=E,1μm,1.2s							
YUK3	Moose Creek	4.90	90		Pn	00 51 43.6	+0.1
RKAV	Rock Avalanche	4.93	108		Pn	00 51 44.1	+0.2
TABL	Table Mountain	4.96	106	Pn	Pn	00 51 45.1	+0.7
TABL				IAML		00 53 09.3	
comp=N,1μm,0.9s							
TABL				IAML		00 53 11.7	
comp=E,1μm,0.9s							
FYU	Fort Yukon	5.06	26	Pn	Pn	00 51 46.6	+1.1
FYU				IAML		00 53 37.6	
comp=E,1μm,1.2s							
FYU				IAML		00 53 40.6	
comp=N,1μm,1.0s							
EGAK	Eagle	5.07	54	P	Pn	00 51 45.8	+0.1
baz=243							
EGAK	Eagle	5.07	54	Pn	Pn	00 51 46.8	+1.1
OHAK	Old Harbor	5.09	195	P	Pn	00 51 44.6	-1.3
baz=13							
OHAK	Old Harbor	5.09	195		Pn	00 51 44.8	-1.2
COLD	Coldfoot	5.12	3	P	Pn	00 51 47.3	+0.9
baz=183							
COLD	Coldfoot	5.12	3	Pn	Pn	00 51 47.1	+0.8
CHX	Chaix Hills	5.14	110		Pn	00 51 47.0	+0.3
PCA	Pinnacle	5.51	107	Pn	Pn	00 51 52.2	+0.5
PINM	Pinnacle	5.51	107	P	Pn	00 51 52.0	+0.2
baz=296,SNR=20							
DAWY	Dawson	5.53	65	Pn	Pn	00 51 52.0	0.0
YUK4	Talbot Arm	5.83	92		Pn	00 51 56.5	+0.2
BCPM	Bancas Point	5.85	107		Pn	00 51 56.6	+0.2
BM05	Burnt Mountain	5.94	24		Pn	00 51 58.2	+0.7
YKU2	Yakutat	6.05	111	Pn	Pn	00 51 59.0	0.0
YUK6	Outpost Mounta	6.07	96		Pn	00 51 59.0	-0.5
PNL	Peninsula	6.09	109		Pn	00 51 59.3	-0.3
PS04	TAPS Pump Stn4	6.34	5		Pn	00 52 04.9	+1.8
HYT	Haines Junctio	6.50	96	Pn	Pn	00 52 05.0	-0.4
TOLK	Toolik Lake Re	6.55	4	P	Pn	00 52 07.7	+1.8
baz=185							
TOLK	Toolik Lake Re	6.55	4	Pn	Pn	00 52 07.7	+1.8
ANM	Nome	6.99	297	P	Pn	00 52 13.0	+1.2
ANM	Nome	6.99	297	P	Pn	00 52 12.8	+0.9
baz=104,SNR=45							
ANM	Nome	6.99	297		Pn	00 52 13.0	+1.2
EPYK	Eagle Plains	7.45	49	P	Pn	00 52 17.9	-0.3
baz=242							
EPYK	Eagle Plains	7.45	49	Pn	Pn	00 52 18.0	-0.2
WHY	Whitehorse	7.78	94	P	Pn	00 52 22.0	-0.8
baz=288,SNR=17							
WHY	Whitehorse	7.78	94		Pn	00 52 22.0	-0.8
RDOG	Red Dog Mine	7.82	325	P	Pn	00 52 23.9	+0.7
baz=134,SNR=16							
RDOG	Red Dog Mine	7.82	325	Pn	Pn	00 52 26.7	+3.5
SKAG	Skagway	8.03	103	P	Pn	00 52 25.7	-0.3
baz=296,SNR=12							
SKAG	Skagway	8.03	103	Pn	Pn	00 52 25.9	-0.2
TNA	Tin City	8.29	302	P	Pn	00 52 30.8	+1.2
baz=106,SNR=48							
TNA	Tin City	8.29	302		Pn	00 52 31.2	+1.6
SDPT	Sand Point	8.45	221		Pn	00 52 34.0	+2.2
BESE	Bessie Mountai	8.66	107	Pn	Pn	00 52 34.9	+0.1
JIS	Juneau Island	9.04	108		Pn	00 52 39.0	-0.8
SIT	Sitka	9.34	116	P	Pn	00 52 42.5	-1.4
SIT	Sitka	9.34	116	P	Pn	00 52 42.1	-1.8
baz=310,SNR=6.3							
SIT	Sitka	9.34	116		Pn	00 52 42.5	-1.4
A21K	Barrow	9.50	349	P	Pn	00 52 45.8	-0.2
baz=163							
A21K	Barrow	9.50	349	Pn	Pn	00 52 45.2	-0.8
INK	Inuvik	9.50	42	P	Pn	00 52 45.5	-0.6
comp=N,3.9nm,0.3s,baz=220,slow=16,SNR=72							
INK				S	Sn	00 54 28.1	-2.9
comp=N,2.2nm,0.3s,baz=254,slow=15,SNR=3.7							
INK				LR	LR	00 56 52.4	
comp=N,558nm,19.7s,baz=219,slow=40							
INK	Inuvik	9.50	42	P	Pn	00 52 46.0	-0.1
INK	Inuvik	9.50	42	P	Pn	00 52 45.8	-0.3
baz=238,SNR=69							
INK	Inuvik	9.50	42		Pn	00 52 46.0	-0.1
FALS	False Pass	9.82	228		Pn	00 52 49.9	-0.6
DLBC	Dease Lake	10.94	100	P	Pn	00 53 04.9	-0.9
comp=N,0.7nm,0.3s,baz=293,slow=15,SNR=14							
DLBC				S	Sn	00 55 00.9	-5.4
comp=N,0.1nm,0.3s,baz=0.0,slow=20,SNR=1.5							
DLBC	Dease Lake	10.94	100		Pn	00 53 05.1	-0.7
WRAK	Wrangell Islan	11.02	113	P	Pn	00 53 06.0	-0.8
baz=309							
WRAK	Wrangell Islan	11.02	113		Pn	00 53 07.1	+0.3
CRAG	Craig	11.32	118	P	Pn	00 53 10.4	-0.5
baz=313							
CRAG	Craig	11.32	118	Pn	Pn	00 53 11.8	+1.0
C36M	Paulatuk	13.04	45	P	Pn	00 53 30.6	-3.6
baz=249,SNR=12							
C36M	Paulatuk	13.04	45	Pn	Pn	00 53 31.2	-3.0
DIB	Dawson Inlet,	13.23	124		Pn	00 53 37.3	+0.6
BBB	Bella Bella	15.74	119	P	Pn	00 54 09.5	+0.2
comp=N,0.7nm,0.3s,baz=272,slow=13,SNR=3.2							
BBB				S	Sn	00 56 59.8	-3.0
comp=N,0.4nm,0.3s,baz=294,slow=22,SNR=1.5							
BBB				LR	LR	01 00 21.4	
comp=N,194nm,20.3s,baz=355,slow=37							
BBB	Bella Bella	15.74	119	IAmb	IAmb	00 54 25.5	
comp=Z,76nm,1.2s							
ATKA	Atka Island	16.02	242	P	P	00 54 15.6	+0.6
ATKA				IAmb	IAmb	00 54 33.7	
comp=Z,134nm,0.8s							
YKA	Yellowknife Ar	16.69	73	P	Pn	00 54 20.3	-0.8
comp=Z,0.8nm,0.3s,baz=280,slow=11,SNR=84							
ADK	Adak	17.30	245	P	P	00 54 29.1	0.0
ADK				pmax	pmax		
comp=Z,242nm,1.3s							
ADK	Adak	17.30	245		P	00 54 29.1	0.0
ADK				IAmb	IAmb	00 54 48.2	
comp=Z,242nm,1.3s							
KIWB	Kanaga Island	17.53	246	P	P	00 54 34.8	+3.2
BILL	Bilibino	18.68	307	*eP*	P	00 54 44.2	+0.1
BILL				pmax	pmax		
comp=Z,13nm,0.9s							
BILL				MLR	MLR		
comp=Z,92nm,16.0s							
BILL	Bilibino	18.68	307	P	Pn	00 54 44.8	-0.5
PGC	Sidney	20.37	119	P	Pn	00 55 04.7	-0.6
PGC				IAmb	IAmb	00 55 23.7	
comp=Z,78nm,1.4s							
A05A	Maple Falls	20.67	116	IAmb	IAmb	00 55 11.5	
comp=Z,101nm,1.5s							
NLWA	Neilton Lookou	21.20	122	P	P	00 55 14.6	+2.9
B05A	Bryant	21.23	118	P	P	00 55 13.0	+1.1
baz=322,SNR=12							
D03D	Eldon	21.40	120	P	P	00 55 15.0	+1.3
baz=323							
C06D	Leavenworth	22.00	116	P	P	00 55 21.5	+1.4
baz=321							
E03A	Lebam	22.01	123	P	P	00 55 23.3	+3.0
E03A				IAmb	IAmb	00 55 36.3	
comp=Z,43nm,1.1s							
D05A	Enumclaw	22.13	119	P	P	00 55 23.6	+2.1
D05A				IAmb	IAmb	00 55 26.3	
comp=Z,76nm,1.2s							
B08A	Colville Reser	22.33	114	P	P	00 55 25.4	+1.7
E04D	Cinebar	22.40	121	P	P	00 55 25.8	+1.4
baz=324							
RES	Resolute Bay	22.93	34	P	P	00 55 29.2	-0.4
comp=Z,31nm,0.7s,baz=276,slow=8.4,SNR=8.8							
RES	Resolute Bay	22.93	34	P	P	00 55 30.5	+0.9
RES				pmax	pmax		
comp=Z,35nm,0.8s							
RES	Resolute Bay	22.93	34	P	P	00 55 30.5	+0.9
RES				IAmb	IAmb	00 55 32.7	
comp=Z,34nm,0.8s							
C09A	Chrisman Ranch	23.21	113	P	P	00 55 34.6	+1.8
G03D	McMinnville, O	23.24	124	P	P	00 55 33.2	+0.3
baz=327							
NEW	Newport	23.36	111	P	P	00 55 35.5	+1.3
comp=Z,22nm,0.9s,baz=313,slow=9.0,SNR=20							
NEW	Newport	23.36	111	P	P	00 55 35.1	+0.9
baz=319,SNR=18							
NEW	Newport	23.36	111	IAmb	IAmb	00 55 37.4	
comp=Z,58nm,1.4s							
F05D	White Salmon	23.40	120	P	P	00 55 35.5	+1.1
baz=325							
D08A	Wollman Farm,	23.52	115	P	P	00 55 36.6	+1.2
E07A	Sunnyside	23.52	117	IAmb	IAmb	00 55 39.9	
comp=Z,24nm,0.8s							
HAWA	Hanford	23.78	117	P	P	00 55 39.3	+1.5
I02D	Swisshome	23.94	126	P	P	00 55 41.0	+1.7
baz=328							
G05D	Wamic, OR	23.98	121	P	P	00 55 41.3	+1.6
baz=325							
F07A	Phinny Hill Vi	24.02	118	IAmb	IAmb	00 55 44.6	
comp=Z,46nm,0.8s							
H04D	Lebanon	24.02	124	P	P	00 55 40.6	+0.7
baz=327							
H04A	Detroit Lake	24.10	123	P	P	00 55 42.9	+2.1
BUCK	Buck Mountain	24.20	125	P	P	00 55 44.3	+2.6
BUCK				IAmb	IAmb	00 55 46.6	
comp=Z,42nm,1.2s							
WALA	Waterton Lakes	24.21	106	IAmb	IAmb	00 55 45.6	
comp=Z,53nm,0.9s							
I03D	Drain, OR	24.48	126	P	P	00 55 45.7	+1.5
baz=329							
I05D	Terrebonne, OR	24.72	122	P	P	00 55 47.7	+1.3
baz=326							
J01E	Myrtle Point	24.72	128	P	P	00 55 46.4	0.0
baz=330							
I04A	Tendick Farm,	24.76	125	P	P	00 55 48.0	+1.2
baz=328							
JTMT	Jette	25.01	108	P	P	00 55 51.3	+2.2
JTMT				IAmb	IAmb	00 55 53.5	
comp=Z,46nm,0.9s							
K02D	Willamette Mer	25.22	128	P	P	00 55 52.3	+1.2
baz=330,SNR=6.1							
EUNU	Eureka	25.23	22	P	P	00 55 53.7	+2.9
J04D	Umpqua Nationa	25.34	125	P	P	00 55 53.6	+1.3
baz=328							
SEY	Seymchan	25.50	297	P	P	00 55 52.6	-0.6
comp=Z,25nm,0.8s,baz=76,slow=9.1,SNR=42							
SEY				ScP	ScP	01 02 53.7	-1.3
comp=Z,0.8nm,0.3s,baz=102,slow=4.1,SNR=4.3							
SEY	Seymchan	25.50	297	*eP*	P	00 55 52.2	-1.0
HUMO	Hull Mountain	25.56	127	P	P	00 55 56.5	+2.4
J05D	Fort Rock, OR	25.64	124	P	P	00 55 56.2	+1.3
baz=328,SNR=11							
L02E	Cave Junction	25.71	128	P	P	00 55 56.9	+1.5
baz=330							
MSO	Missoula	25.86	109	P	P	00 55 57.4	+0.6
baz=320,SNR=14							
FFC	Flin Flon	26.04	84	P	P	00 55 59.2	+1.0
FFC				pmax	pmax		
comp=Z,18nm,0.9s							
FFC	Flin Flon	26.04	84	P	P	00 55 59.2	+1.0
L04D	Klamath Falls	26.14	126	P	P	00 56 01.4	+1.9
baz=330							
K05A	Summer Lake	26.25	124	P	P	00 56 02.6	+2.1
YBH	Yreka Blue Hor	26.41	128	P	P	00 56 04.1	+2.3
YBH				pmax	pmax		
comp=Z,12nm,0.9s							
YBH	Yreka Blue Hor	26.41	128	P	P	00 56 04.1	+2.3
M02C	Callahan	26.65	128	P	P	00 56 04.3	+0.3
baz=331							
J08A	Circle Bar Ran	26.69	120	P	P	00 56 06.6	+2.3
M04C	Macdoel	26.69	126	P	P	00 56 05.0	+0.6
baz=330							
EGMT	Eagleton	26.86	103	P	P	00 56 06.5	+0.7
baz=317,SNR=14							
EGMT	Eagleton	26.86	103	IAmb	IAmb	00 56 07.8	
comp=Z,33nm,1.1s							
N02D	Trinity Center	27.07	128	P	P	00 56 09.8	+2.1
baz=331,SNR=14							
KMRM	Mail Ridge	27.37	131	IAmb	IAmb	00 56 14.4	
comp=Z,22nm,0.9s							
FCC	Fort Churchill	27.41	71	P	P	00 56 11.9	+1.5
FCC				pmax	pmax		
comp=Z,90nm,1.0s							
FCC	Fort Churchill	27.41	71	P	P	00 56 11.9	+1.5
FCC				IAmb	IAmb	00 56 12.5	
comp=Z,90nm,0.9s							
WDC	Whiskeytown Da	27.48	129	P	P	00 56 13.3	+2.0
WDC				pmax	pmax		
comp=Z,15nm,1.1s							
WDC	Whiskeytown Da	27.48	129	P	P	00 56 13.3	+2.0
MA2	Magadan	27.74	291	*ceP*	P	00 56 11.5	-1.9
MA2				pmax	pmax		
comp=Z,19nm,1.7s							
MA2	Magadan	27.74	291	P	P	00 56 13.2	-0.2
O02D	Mt. Diablo Mer	27.74	129	P	P	00 56 13.8	+0.1
baz=332							
BOZ	Bozeman (W)	27.83	108	P	P	00 56 15.6	+1.0
baz=321,SNR=11							
KCPM	Cahto Peak	27.89	131	P	P	00 56 16.4	+1.3
PET	Petropavlovsk	27.89	274	*i P*	P	00 56 11.9	-2.9
O03E	Paynes Creek	28.00	128	P	P	00 56 16.4	+0.4
baz=331,SNR=11							
PETK	Petropavlovsk-	28.28	275	P	P	00 56 17.3	-1.1
comp=Z,3.5nm,0.8s,baz=91,slow=9.5,SNR=8.4							
PETK	Petropavlovsk-	28.28	275	P	P	00 56 16.9	-1.5
PETK	Petropavlovsk-	28.28	275	P	P	00 56 16.9	-1.5
QLMT	Earthquake Lak	28.52	109	P	P	00 56 22.3	+1.5
YHB	Horse Butte	28.68	109	P	P	00 56 25.2	+3.0
HOPS	Hopland Field	28.68	131	P	P	00 56 24.2	+2.2
YMR	Madison River	28.85	109	P	P	00 56 25.1	+1.4
YMR				IAmb	IAmb	00 56 26.8	
comp=Z,22nm,1.1s							
YNR	Norris Junctio	28.94	108	P	P	00 56 26.2	+1.6
YMP	Mir

RYN **Ryan** 30.69 125 P **P** 00 56 41.5 +1.6
SPUT **South Promonto** 30.90 114 P **P** 00 56 43.9 +2.1
NVAR **Mina Array Bea** 30.95 125 P **P** 00 56 44.6 +2.3
comp=Z,11nm,0.8s,baz=308,slow=8.6,SNR=36
NVAR PcP **PcP** 00 59 38.4 +1.6
comp=Z,1.1nm,0.7s,baz=330,slow=3.4,SNR=3.3
NVAR pPcP 00 59 59.9
comp=Z,5.2nm,0.7s,baz=281,slow=2.2,SNR=12
NVAR ScP **ScP** 01 03 12.0 -0.6
comp=Z,0.7nm,0.7s,baz=286,slow=3.4,SNR=3.9
BW06 **Boulder Array** 30.98 109 P **P** 00 56 43.1 +0.6
baz=323,SNR=9.0
PDAR **Pinedale Array** 30.98 109 P **P** 00 56 44.1 +1.6
comp=Z,4.4nm,0.8s,baz=320,slow=6.6,SNR=37
PDAR PcP **PcP** 00 59 36.5 -0.4
comp=Z,0.5nm,0.7s,baz=341,slow=1.9,SNR=1.7
PDAR pPcP 00 59 58.5
comp=Z,2.3nm,0.9s,baz=90,slow=0.3,SNR=3.9
PDAR ScP **ScP** 01 03 12.7 0.0
comp=Z,0.6nm,0.8s,baz=57,slow=3.3,SNR=4.3
NV11 **Mina Array Sit** 31.00 125 IAmb IAmb 00 56 46.0
comp=Z,16nm,1.1s
LHV **Little Huntoon** 31.03 125 IAmb IAmb 00 56 46.8
comp=Z,22nm,1.1s
HWUT **Hardware Ranch** 31.04 113 P **P** 00 56 44.5 +1.5
MLAC **Mammoth, Mammo** 31.44 126 P **P** 00 56 48.2 +1.5
baz=332
DUG **Dugway, Tooele** 31.67 116 P **P** 00 56 48.8 +0.2
baz=327,SNR=7.2
TPH **Tonopah** 31.68 124 P **P** 00 56 50.2 +1.5
TPH pmax pmax
comp=Z,55nm,1.1s
TPH **Tonopah** 31.68 124 P **P** 00 56 50.2 +1.5
TPH IAmb IAmb 00 56 51.7
comp=Z,55nm,1.1s
CTU **Camp Tracy** 31.71 114 P **P** 00 56 50.0 +1.2
MDND **Maddock** 31.71 93 P **P** 00 56 49.4 +0.7
baz=316
MDND **Maddock** 31.71 93 P **P** 00 56 49.4 +0.7
MDND IAmb IAmb 00 56 51.0
comp=Z,39nm,0.8s
ULM **Lac du Bonnet** 31.77 86 P **P** 00 56 50.4 +1.2
comp=Z,13nm,0.9s,baz=304,slow=9.0,SNR=10
ULM **Lac du Bonnet** 31.77 86 IAmb IAmb 00 57 09.3
comp=Z,36nm,1.0s
JLU **Jordanelle** 31.91 114 P **P** 00 56 52.4 +1.6
PMPB **Monarch Peak** 31.97 130 P **P** 00 56 53.5 +2.3
PMPB IAmb IAmb 00 56 55.0
comp=Z,14nm,1.0s
R11A **Troy Canyon, C** 32.09 121 P **P** 00 56 53.6 +1.4
baz=329,SNR=9.7
R11A **Troy Canyon, C** 32.09 121 P **P** 00 56 53.7 +1.4
E28A **Huff** 32.12 95 P **P** 00 56 54.1 +1.8
TIN **Tinemaha, Big** 32.18 126 P **P** 00 56 54.5 +1.5
baz=332
RSSD **Black Hills** 32.41 102 P **P** 00 56 56.7 +1.6
RSSD pmax pmax
comp=Z,18nm,0.8s
RSSD **Black Hills** 32.41 102 P **P** 00 56 55.7 +0.6
baz=320
RSSD **Black Hills** 32.41 102 P **P** 00 56 56.7 +1.6
RSSD IAmb IAmb 00 56 57.6
comp=Z,18nm,0.8s
K22A **Casper** 32.43 106 P **P** 00 56 56.0 +0.8
baz=322,SNR=9.0
K22A **Casper** 32.43 106 IAmb IAmb 00 56 57.5
comp=Z,19nm,0.9s
NEEM **North Greenlan** 32.44 24⇓*iP* **P** 00 56 55.0 0.0
NEEM IAmb IAmb 00 56 56.0
comp=Z,47nm,0.9s
GRAC **Grapevine Rang** 32.56 125 P **P** 00 56 57.9 +1.6
baz=331
KULLO **Kullorsuaq** 32.57 30⇓*iP* **P** 00 56 56.3 +0.4
KULLO IAmb IAmb 00 56 57.3
comp=Z,42nm,1.1s
KULLO **Kullorsuaq** 32.57 30⇓*iP* **P** 00 56 56.3 +0.4
KULLO pmax pmax
comp=Z,42nm,1.1s
PAGB **Antelope Grade** 32.60 130 P **P** 00 56 58.7 +2.1
PAGB IAmb IAmb 00 57 00.0
comp=Z,18nm,0.9s
PSUT **Pine Spring** 32.63 119 P **P** 00 56 59.0 +1.9
RDMU **Red Mountain** 32.75 112 P **P** 00 56 59.0 +1.0
RDMU IAmb IAmb 00 57 01.5
comp=Z,18nm,1.0s
CWC **Cottonwood Cre** 32.78 126 P **P** 00 57 00.1 +1.8
baz=332
RWWY **Rawlins** 32.88 108 IAmb IAmb 00 57 01.4
comp=Z,19nm,1.1s
VES **Vestal, Richgr** 32.93 128 P **P** 00 57 01.2 +1.8
baz=333
TPNV **Topopah Spring** 33.03 124 P **P** 00 57 02.2 +1.7
baz=331,SNR=6.0
SMMC **Simmler** 33.07 130 P **P** 00 57 02.6 +1.9
baz=334
TMUT **Trail Mountain** 33.10 115 P **P** 00 57 03.3 +2.1
PRN **Pahroc Range** 33.11 122 P **P** 00 57 03.0 +1.9
AGMN **Agassiz Nation** 33.14 89 P **P** 00 57 01.7 +0.6
baz=315,SNR=7.8
AGMN **Agassiz Nation** 33.14 89 IAmb IAmb 00 57 21.4
comp=Z,35nm,0.9s
TCRU **Three Creeks R** 33.15 117 P **P** 00 57 03.2 +1.6
MPMC **Manual Prospec** 33.34 126 P **P** 00 57 05.3 +2.1
baz=332,SNR=14
Q16A **Castle Valley** 33.43 115 IAmb IAmb 00 57 07.1
comp=Z,18nm,1.1s
D32A **Dogwood Acres,** 33.44 91 P **P** 00 57 04.2 +0.5
D32A IAmb IAmb 00 57 23.4
comp=Z,38nm,1.1s
PKM **Mcpherson Peak** 33.52 130 P **P** 00 57 06.7 +2.0
baz=334,SNR=18
SRU **San Rafael Swe** 33.54 114 IAmb IAmb 00 57 08.4
comp=Z,22nm,0.9s
ARVC **Arvin** 33.66 128 P **P** 00 57 06.7 +0.9
baz=333
O20A **White River Ci** 33.69 111 P **P** 00 57 07.1 +0.9
baz=325,SNR=6.8
O20A **White River Ci** 33.69 111 IAmb IAmb 00 57 10.8
comp=Z,12nm,0.9s
SZCU **Shurtz Canyon** 33.75 119 IAmb IAmb 00 57 28.0
comp=Z,10nm,1.0s
LRMC **Laurel Mtn Rad** 33.77 127 P **P** 00 57 08.5 +1.5
baz=333
PHWY **Pilot Hill** 33.98 106 P **P** 00 57 09.7 +0.8
N23A **Red Feather La** 34.09 107 P **P** 00 57 11.1 +1.3
baz=324
B35A **Bob, Littlefor** 34.10 87 IAmb IAmb 00 57 29.0
comp=Z,24nm,0.9s
LCMT **Little Creek M** 34.18 120 P **P** 00 57 12.3 +1.9
EDW2 **Edwards Air Fo** 34.19 128 P **P** 00 57 11.9 +1.4
baz=333
GSC **Goldstone, Bar** 34.26 126 P **P** 00 57 12.9 +1.7
baz=332,SNR=8.3
GSC **Goldstone, Bar** 34.26 126 IAmb IAmb 00 57 14.4
comp=Z,22nm,1.2s
KNB **Kanab** 34.35 119 IAmb IAmb 00 57 33.6
comp=Z,15nm,0.9s
NOR **Nord** 34.41 11⇓*iP* **P** 00 57 11.8 +0.1
NOR IAmb IAmb 00 57 12.8
comp=Z,14nm,1.1s
NOR **Nord** 34.41 11⇓*iP* **P** 00 57 11.8 +0.1
NOR pmax pmax
comp=Z,14nm,1.1s
SUSD **Miller** 34.52 96 P **P** 00 57 14.0 +0.8
baz=319
SUSD **Miller** 34.52 96 IAmb IAmb 00 57 17.1
comp=Z,37nm,0.9s
F33A **5 Mile Ranch,** 34.73 92 IAmb IAmb 00 57 16.8
comp=Z,15nm,1.1s
PASC **Pasadena Art C** 34.75 128 P **P** 00 57 16.3 +1.1
PASC IAmb IAmb 00 57 35.0
comp=Z,20nm,1.4s
PV22 **Blue Mesa, Par** 34.77 113 IAmb IAmb 00 57 19.0
comp=Z,18nm,1.0s
PV10 **Paradox Valley** 34.79 113 P **P** 00 57 18.1 +2.2
PV10 IAmb IAmb 00 57 18.9
comp=Z,14nm,0.9s
PV14 **Lion Creek, Pa** 34.80 113 IAmb IAmb 00 57 19.6
comp=Z,13nm,0.9s
PV04 **Paradox Valley** 34.84 113 IAmb IAmb 00 57 18.7
comp=Z,16nm,1.0s
PV20 **West Nyswonger** 34.85 113 IAmb IAmb 00 57 18.7
comp=Z,11nm,1.1s
HEC **Hector,Ludlow** 34.86 125 P **P** 00 57 17.3 +1.1
baz=332
PV19 **Morning Glory** 34.87 113 P **P** 00 57 17.6 +1.1
PV19 IAmb IAmb 00 57 18.9
comp=Z,9.9nm,0.8s
BFSC **Mount Baldy Ra** 34.89 128 P **P** 00 57 18.4 +1.9
baz=333,SNR=7.5
PV16 **Nyswonger Mesa** 34.90 113 IAmb IAmb 00 57 19.1
comp=Z,13nm,1.1s
PV17 **East Wray Mesa** 34.91 113 IAmb IAmb 00 57 19.2
comp=Z,15nm,0.9s
PV07 **Paradox Valley** 34.91 113 P **P** 00 57 18.8 +1.9
PV07 IAmb IAmb 00 57 19.9
comp=Z,13nm,1.0s
PV11 **David Mesa, Pa** 34.93 113 IAmb IAmb 00 57 19.4
comp=Z,20nm,1.2s
PV18 **Skein Mesa, Pa** 34.96 113 IAmb IAmb 00 57 19.6
comp=Z,12nm,0.9s
PV03 **Paradox Valley** 34.98 113 IAmb IAmb 00 57 19.8
comp=Z,10nm,1.0s
PV05 **Paradox Valley** 35.02 114 IAmb IAmb 00 57 20.2
comp=Z,19nm,0.9s
YAK **Yakutsk** 35.03 306 P **P** 00 57 16.7 -0.7
comp=Z,13nm,0.4s,baz=56,slow=1.5,SNR=7.2
YAK **Yakutsk** 35.03 306 *eP* **P** 00 57 16.6 -0.7
YAK pmax pmax
comp=Z,39nm,0.8s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,21nm,1.1s
YAK **Yakutsk** 35.03 306 P **P** 00 57 16.3 -1.0
PV15 **Paradox Valley** 35.06 113 IAmb IAmb 00 57 20.3
comp=Z,14nm,0.9s
PV02 **Paradox Valley** 35.06 113 P **P** 00 57 19.4 +1.2
PV13 **Radium Mtn., P** 35.07 113 IAmb IAmb 00 57 20.7
comp=Z,22nm,1.0s
SNCC **San Nicolas Is** 35.10 131 P **P** 00 57 18.9 +0.7
SNCC IAmb IAmb 00 57 21.3
comp=Z,29nm,1.0s
ISCO **Idaho Springs** 35.12 108 P **P** 00 57 19.8 +1.0
baz=325
GMRC **Granite Mounta** 35.16 125 P **P** 00 57 20.9 +2.0
baz=332,SNR=8.8
PV01 **Paradox Valley** 35.20 113 IAmb IAmb 00 57 21.8
comp=Z,18nm,0.9s
CIS **Catalina Islan** 35.36 129 P **P** 00 57 21.6 +1.1
baz=334
EYMN **Ely** 35.44 86 P **P** 00 57 21.6 +0.6
baz=316,SNR=18
MURC **Murrieta** 35.63 128 P **P** 00 57 23.5 +0.8
baz=334
OGNE **Ogallala** 35.82 103 P **P** 00 57 25.7 +1.2
baz=323
OGNE **Ogallala** 35.82 103 P **P** 00 57 25.6 +1.2
OGNE IAmb IAmb 00 57 26.8
comp=Z,28nm,1.2s
PFO **Pinyon Flats O** 35.89 127 P **P** 00 57 26.8 +1.6
PFO pmax pmax
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 35.89 127 P **P** 00 57 26.0 +0.8
baz=333
PFO **Pinyon Flats O** 35.89 127 P **P** 00 57 26.8 +1.6
PFO IAmb IAmb 00 57 27.7
comp=Z,11nm,1.1s
TPFO **Pinon Flats** 35.90 127 P **P** 00 57 26.6 +1.4
baz=333,SNR=6.3
IRM **Iron Mountain** 35.91 124 P **P** 00 57 26.7 +1.4
baz=332,SNR=5.8
MVCO **Mesa Verde** 36.00 114 P **P** 00 57 27.4 +1.2
baz=328
F36A **Milaca** 36.01 90 IAmb IAmb 00 57 46.1
comp=Z,21nm,1.0s
Q24A **Divide** 36.01 109 P **P** 00 57 27.8 +1.4
baz=325
ECSD **EROS Data Cent** 36.16 95 P **P** 00 57 27.5 +0.3
baz=320,SNR=19
ECSD **EROS Data Cent** 36.16 95 IAmb IAmb 00 57 28.7
comp=Z,22nm,1.0s
PDMCI **Parker Dam,Lak** 36.18 123 P **P** 00 57 28.8 +1.4
baz=332
WUAZ **Wupatki** 36.23 119 P **P** 00 57 29.6 +1.5
baz=330,SNR=9.0
WUAZ **Wupatki** 36.23 119 P **P** 00 57 30.0 +1.9
WUAZ IAmb IAmb 00 57 31.2
comp=Z,18nm,1.0s
BC3 **Big Chuckawall** 36.24 125 P **P** 00 57 29.0 +0.9
baz=333
S22A **4UR Ranch, Cre** 36.28 112 P **P** 00 57 30.2 +1.5
baz=327,SNR=11
109C **Camp Elliot, M** 36.30 128 P **P** 00 57 30.3 +1.9
baz=334
109C **Camp Elliot, M** 36.30 128 P **P** 00 57 30.0 +1.5
109C IAmb IAmb 00 57 31.6
comp=Z,11nm,0.8s
MONP2 **Monument Peak** 36.55 127 P **P** 00 57 32.4 +1.6
baz=334,SNR=9.7
SWSC **Sam W. Stewart** 36.74 126 P **P** 00 57 33.7 +1.5
baz=333
TYV **Tymovskoe** 36.74 284 *eP* **P** 00 57 32.1 +0.1
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,16nm,1.0s
SPMN **Marine on St.** 36.82 90 P **P** 00 57 33.8 +1.0
baz=318,SNR=5.1
SPMN **Marine on St.** 36.82 90 IAmb IAmb 00 57 34.9
comp=Z,40nm,1.1s
SDCO **Great Sand Dun** 36.86 110 P **P** 00 57 34.4 +0.8
baz=326,SNR=13
IKP **In-Ko-Pah, Jac** 36.88 127 P **P** 00 57 35.7 +2.1
baz=334
GLA **Glamis** 37.01 125 P **P** 00 57 35.7 +1.1
baz=333
GLA **Glamis** 37.01 125 IAmb IAmb 00 57 56.0
comp=Z,12nm,0.8s
KSCO **Kaye Shedlock'** 37.11 106 P **P** 00 57 36.0 +0.6
baz=325
BGNE **Belgrade** 37.24 99 P **P** 00 57 37.2 +0.7
baz=322
BGNE **Belgrade** 37.24 99 P **P** 00 57 37.3 +0.9
W18A **Petrified Fore** 37.26 117 P **P** 00 57 37.6 +0.8
baz=330
W18A **Petrified Fore** 37.26 117 P **P** 00 57 38.4 +1.6
W18A IAmb IAmb 00 57 40.6
comp=Z,9.8nm,0.9s
D41A **Chassel** 37.45 84 IAmb IAmb 00 57 41.9
comp=Z,42nm,1.4s
X18A **Snowflake** 37.67 118 IAmb IAmb 00 58 02.0
comp=Z,13nm,0.9s
T25A **Trinidad** 37.85 109 P **P** 00 57 42.1 +0.2
baz=326,SNR=5.3
COWI **Conover** 37.89 86 IAmb IAmb 00 57 43.5
comp=Z,20nm,1.1s
SUMG **Summit** 38.01 27⇓*iP* **P** 00 57 43.2 +0.2
SUMG IAmb IAmb 00 57 44.3
comp=Z,51nm,1.2s
SUMG **Summit** 38.01 27⇓*iP* **P** 00 57 43.2 +0.2
SUMG pmax pmax
comp=Z,51nm,1.2s
SUMG **Summit** 38.01 27 P **P** 00 57 43.3 +0.3
N33A **J Bar K, Exete** 38.10 99 P **P** 00 57 44.3 +0.6
DAG **Danmarks Havn** 38.15 16⇓*iP* **P** 00 57 43.2 -0.4
DAG IAmb IAmb 00 57 44.2
comp=Z,40nm,0.9s
DAG **Danmarks Havn** 38.15 16⇓*iP* **P** 00 57 43.2 -0.4
DAG pmax pmax
comp=Z,40nm,0.9s
SPX **San Pedro Mart** 38.57 127 P **P** 00 57 50.3 +2.3
SPX IAmb IAmb 00 57 51.4
comp=Z,14nm,1.3s
CBKS **Cedar Bluff** 38.58 103 P **P** 00 57 49.0 +1.2
CBKS pmax pmax
comp=Z,54nm,1.3s
CBKS **Cedar Bluff** 38.58 103 P **P** 00 57 48.5 +0.7
baz=324
CBKS **Cedar Bluff** 38.58 103 P **P** 00 57 49.0 +1.2
CBKS IAmb IAmb 00 57 50.2
comp=Z,54nm,1.3s
F42A **Maple Grove Fa** 38.62 85 P **P** 00 57 48.9 +1.0
F42A IAmb IAmb 00 57 50.3
comp=Z,47nm,1.1s
E43A **Lone Tree Farm** 38.69 84 IAmb IAmb 00 57 50.3
comp=Z,24nm,0.8s
214A **Organ Pipe Nat** 38.77 123 P **P** 00 57 50.2 +0.8
baz=333
214A **Organ Pipe Nat** 38.77 123 P **P** 00 57 51.1 +1.7
ANMO **Albuquerque** 38.80 114 P **P** 00 57 51.3 +1.5
ANMO S **S** 01 03 42.1 +0.2
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO **Albuquerque** 38.80 114 P **P** 00 57 50.4 +0.6
baz=328
ANMO **Albuquerque** 38.80 114 P **P** 00 57 51.3 +1.5
ANMO **S** 01 03 42.1 +0.2
KBS **Kingsbay** 38.80 5 P **P** 00 57 51.3 +2.2
KBS pmax pmax
comp=Z,20nm,1.5s
KBS **Kingsbay** 38.80 5 P **P** 00 57 51.2 +2.2
KBS IAmb IAmb 00 58 03.5
comp=Z,20nm,1.4s
SFJD **Kangerlussuaq** 38.82 38 P **P** 00 57 50.1 +0.7
SFJD pmax pmax
comp=Z,36nm,1.0s
SFJD **Kangerlussuaq** 38.82 38 P **P** 00 57 50.1 +0.7
SFJD IAmb IAmb 00 57 51.2
comp=Z,36nm,0.9s
I40A **Norwalk** 38.85 89 IAmb IAmb 00 57 51.9
comp=Z,28nm,1.1s
SCIA **State Center** 39.16 94 P **P** 00 57 53.3 +0.8
baz=321
SCIA **State Center** 39.16 94 P **P** 00 57 52.9 +0.4
SCIA IAmb IAmb 00 57 54.5
comp=Z,36nm,1.1s
TUC **Tucson** 39.26 121 P **P** 00 57 55.8 +2.3
TUC pmax pmax
comp=Z,9.0nm,1.2s
TUC **Tucson** 39.26 121 P **P** 00 57 54.9 +1.3
baz=332
TUC **Tucson** 39.26 121 P **P** 00 57 55.8 +2.3
YSS **Yuzh-Sakhalins** 39.49 279 *eP* **P** 00 57 54.2 -1.0
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS **Yuzh-Sakhalins** 39.49 279 P **P** 00 57 55.5 +0.3
YSS IAmb IAmb 00 57 56.7
comp=Z,26nm,1.3s
GRNR **Gornyy** 39.62 288⇑*iP* **P** 00 57 56.0 -0.2
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR MLR MLR
comp=E,270nm,18.0s
GRNR MLR MLR
comp=N,60nm,13.0s
GRNR MLR MLR
comp=Z,90nm,15.0s
I42A **Draeger Farm,** 39.65 88 IAmb IAmb 00 57 58.5
comp=Z,38nm,1.4s
JFWS **Jewell Farm** 39.77 90 P **P** 00 57 57.8 +0.2
baz=320,SNR=9.0
JFWS **Jewell Farm** 39.77 90 IAmb IAmb 00 57 58.8
comp=Z,28nm,0.7s
KSU1 **Kansas State U** 39.79 100 P **P** 00 57 58.3 +0.5
baz=324
KSU1 **Kansas State U** 39.79 100 P **P** 00 57 58.3 +0.5
E46A **Sault Ste Mari** 39.95 81 IAmb IAmb 00 58 00.7
comp=Z,42nm,1.1s
DBG **Daneborg** 39.98 19⇓*iP* **P** 00 57 58.5 -0.4
DBG IAmb IAmb 00 57 59.4
comp=Z,40nm,0.9s
N38A **Joes South For** 40.02 95 IAmb IAmb 00 58 01.0
comp=Z,35nm,1.1s
ICESG **Greenland Ices** 40.27 31⇓*iP* **P** 00 58 01.7 0.0
ICESG IAmb IAmb 00 58 02.7
comp=Z,59nm,1.0s
121A **Cookes Peak, D** 40.30 117 P **P** 00 58 03.4 +1.1
baz=330
121A **Cookes Peak, D** 40.30 117 P **P** 00 58 04.3 +2.0
G45A **Suttons Bay** 40.31 84 P **P** 00 58 03.2 +1.2
G45A IAmb IAmb 00 58 03.7
comp=Z,28nm,0.8s
DY2G **Dye2** 40.43 37 *i*P **P** 00 58 03.3 +0.2
DY2G IAmb IAmb 00 58 06.5
comp=Z,20nm,1.1s
NUUK **Nuuk** 40.43 42⇓*iP* **P** 00 58 03.6 +0.9
NUUK IAmb IAmb 00 58 05.4
comp=Z,68nm,1.4s
MATQ **Matagami** 40.52 73 P **P** 00 58 03.9 +0.2
baz=316,SNR=20
319A **Douglas** 40.69 120 P **P** 00 58 07.3 +1.9
L42A **Oliver, Polo** 40.75 90 IAmb IAmb 00 58 06.8
comp=Z,35nm,1.0s
I45A **Fountain** 40.80 85 P **P** 00 58 07.2 +1.1
P38A **Dawn** 40.81 96 IAmb IAmb 00 58 07.6
comp=Z,22nm,0.9s
KAN05 **Bluff City Nor** 40.82 103 **PcP** 01 00 05.6 -0.2
K43A **Burlington** 40.84 89 P **P** 00 58 05.7 -0.7
K43A IAmb IAmb 00 58 07.7
comp=Z,51nm,1.1s
U32A **Winter Ranch,** 40.91 104 IAmb IAmb 00 58 09.1
comp=Z,14nm,1.0s
OK032 **Salt Plains WL** 40.92 103 P **P** 00 58 07.5 +0.3
OK032 IAmb IAmb 00 58 09.0
comp=Z,22nm,1.1s
AMTX **Amarillo** 40.94 108 P **P** 00 58 07.4 0.0
baz=327
AMTX **Amarillo** 40.94 108 P **P** 00 58 08.5 +1.0
AMTX IAmb IAmb 00 58 09.8
comp=Z,33nm,1.4s
GLMI **Grayling** 40.96 83 P **P** 00 58 07.9 +0.5
baz=319
GLMI **Grayling** 40.96 83 IAmb IAmb 00 58 09.3
comp=Z,51nm,0.9s
N41A **Harden Midland** 41.20 93 P **P** 00 58 10.1 +0.7
N41A IAmb IAmb 00 58 10.7
comp=Z,60nm,1.2s
MSTX **Muleshoe** 41.23 110 P **P** 00 58 11.1 +1.3
baz=328,SNR=15
MSTX **Muleshoe** 41.23 110 IAmb IAmb 00 58 12.2
comp=Z,40nm,0.9s
CROK **Carrier** 41.27 103 P **P** 00 58 10.7 +0.7
CROK IAmb IAmb 00 58 13.8
comp=Z,22nm,0.9s
LSQQ **Lebel-sur-Quev** 41.32 73 P **P** 00 58 10.4 +0.1
baz=317
BLOK **Blackwell** 41.41 102 IAmb IAmb 00 58 12.8
comp=Z,49nm,1.0s
L44A **Lake County Fo** 41.44 89 P **P** 00 58 11.8 +0.5
baz=321
L44A **Lake County Fo** 41.44 89 IAmb IAmb 00 58 12.9
comp=Z,36nm,0.8s
ZEA **Zeya** 41.48 297 *eP* **P** 00 58 11.3 -0.2
ZEA pmax pmax
comp=Z,10.0nm,1.1s
SCHQ **Schefferville** 41.53 60 P **P** 00 58 12.2 +0.2
comp=Z,14nm,0.8s,baz=320,slow=9.8,SNR=17
SCHQ **Schefferville** 41.53 60 IAmb IAmb 00 58 13.4
comp=Z,32nm,1.1s
P40A **Paris** 41.58 95 IAmb IAmb 00 58 13.7
comp=Z,43nm,1.2s
T35A **Sooner Cattle** 41.61 101 IAmb IAmb 00 58 14.2
comp=Z,35nm,0.9s
HQIL **Hanson Quary C** 41.76 89 P **P** 00 58 13.7 -0.3
HQIL IAmb IAmb 00 58 29.5
comp=Z,20nm,0.9s
CHGQ **Chibougamau** 41.86 70 P **P** 00 58 14.2 -0.5
baz=317,SNR=20
M44A **Midewin, Midew** 41.99 90 IAmb IAmb 00 58 17.3
comp=Z,41nm,0.9s
MNTX **Cornudas Mount** 42.04 115 P **P** 00 58 17.1 +0.8
baz=330,SNR=8.6
MNTX **Cornudas Mount** 42.04 115 P **P** 00 58 18.2 +1.8
GDL2 **Guadalupe Moun** 42.04 113 P **P** 00 58 17.9 +1.4
HDIL **Hopedale** 42.06 91 P **P** 00 58 16.3 -0.1
baz=322,SNR=9.2
J47A **Sunmer** 42.07 85 IAmb IAmb 00 58 17.9
comp=Z,14nm,0.8s
OK029 **Liberty Lake** 42.09 103 IAmb IAmb 00 58 18.3
comp=Z,48nm,1.3s
HSIG 42.10 123 P **P** 00 58 18.8 +1.9
QUOK **Quay** 42.13 102 IAmb IAmb 00 58 18.3
comp=Z,31nm,1.2s
OK031 **S. Brethren Rd** 42.25 103 IAmb IAmb 00 58 19.3
comp=Z,25nm,0.8s
OK025 **Westminster Rd** 42.33 103 IAmb IAmb 00 58 20.1
comp=Z,40nm,1.0s
L46A **Eue Claire** 42.33 87 IAmb IAmb 00 58 20.2
comp=Z,43nm,0.8s
WMOK **Wichita Mounta** 42.37 106 P **P** 00 58 19.7 +0.7
baz=327,SNR=23
WMOK **Wichita Mounta** 42.37 106 IAmb IAmb 00 58 21.0
comp=Z,22nm,1.0s
OKCFA **Oklahoma City** 42.41 104 P **P** 00 58 19.8 +0.5
OKCFA IAmb IAmb 00 58 20.9
comp=Z,28nm,0.9s
NRIK **Noril'sk** 42.45 333 P **P** 00 58 19.0 -0.2
comp=Z,6.5nm,0.6s,baz=53,slow=6.9,SNR=13

NRIK ScP **ScP** **01 03 53.4 -1.1**
comp=Z,5.3nm,1.0s,baz=51,slow=4.3,SNR=4.3
NRIK **Noril'sk** **42.45 333** *ce*P **P** **00 58 19.2 0.0**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
NRIK **Noril'sk** **42.45 333** P **P** **00 58 19.3 +0.1**
NRIK ScP **ScP** **01 03 54.5 +0.1**
S39A **Bolivar** **42.45 98** IAmb IAmb 00 58 19.9
comp=Z,14nm,1.1s
R40A **Maddies Statio** **42.46 96** IAmb IAmb 00 58 20.6
comp=Z,33nm,1.2s
I49A **Point Hope** **42.47 83** IAmb IAmb 00 58 21.7
comp=Z,37nm,1.1s
P43A **Skaggs, Pawnee** **42.67 92** IAmb IAmb 00 58 22.4
comp=Z,20nm,1.1s
O44A **Mansfield** **42.76 91** IAmb IAmb 00 58 22.6
comp=Z,16nm,0.7s
TUL1 **Leonard** **42.76 102** P **P** **00 58 21.9 -0.2**
baz=326,SNR=5.3
KLR **Kul'dur** **42.81 290** P **P** **00 58 21.6 -0.9**
comp=Z,7.2nm,0.9s,baz=30,slow=8.9,SNR=30
KLR **Kul'dur** **42.81 290** *ce*P **P** **00 58 21.2 -1.2**
KLR pmax pmax
comp=Z,7.0nm,0.9s
X34A **Smith Ranch, M** **42.91 105** P **P** **00 58 24.6 +1.3**
SCO **Scoresbysund** **42.91 23** *i* P **P** **00 58 23.3 +0.4**
SCO IAmb IAmb 00 58 23.8
comp=Z,9.1nm,1.0s
SCO **Scoresbysund** **42.91 23** *i* P **P** **00 58 23.3 +0.4**
SCO pmax pmax
comp=Z,9.0nm,1.0s
SCO **Scoresbysund** **42.91 23** P **P** **00 58 23.6 +0.7**
U38A **Gravette** **42.98 100** IAmb IAmb 00 58 24.6
comp=Z,22nm,0.8s
KHU **Kahuku** **42.98 187** P **P** **00 58 26.0 +1.7**
KHU pmax pmax
comp=Z,244nm,1.5s
KHU **Kahuku** **42.98 187** P **P** **00 58 26.0 +1.7**
CCM **Cathedral Cave** **43.13 95** P **P** **00 58 24.8 -0.3**
CCM pmax pmax
comp=Z,13nm,0.9s
CCM **Cathedral Cave** **43.13 95** P **P** **00 58 24.4 -0.6**
baz=324
CCM **Cathedral Cave** **43.13 95** P **P** **00 58 24.8 -0.3**
CCM IAmb IAmb 00 58 25.8
comp=Z,13nm,0.9s
SLM **Saint Louis** **43.14 94** P **P** **00 58 25.4 +0.3**
SLM pmax pmax
comp=Z,42nm,1.1s
SLM **Saint Louis** **43.14 94** P **P** **00 58 25.4 +0.3**
SLM IAmb IAmb 00 58 26.4
comp=Z,42nm,1.1s
ALGO **Algonquin Park** **43.14 77** P **P** **00 58 25.3 +0.2**
baz=319,SNR=12
SFIN **Lafayette** **43.23 90** P **P** **00 58 26.1 +0.3**
baz=322,SNR=6.3
SFIN **Lafayette** **43.23 90** IAmb IAmb 00 58 27.4
comp=Z,32nm,0.9s
AAM **Ann Arbor** **43.34 85** P **P** **00 58 26.6 -0.1**
baz=321
AAM **Ann Arbor** **43.34 85** IAmb IAmb 00 58 28.5
comp=Z,24nm,0.5s
MGMO **Mountain Grove** **43.38 97** IAmb IAmb 00 58 27.8
comp=Z,36nm,0.8s
ANGG **Ammassalik, Gr** **43.42 34** IAmb IAmb 00 58 27.4
comp=Z,39nm,0.9s
K50A **Casco** **43.46 84** P **P** **00 58 28.4 +0.7**
K50A IAmb IAmb 00 58 29.6
comp=Z,48nm,1.3s
Q44A **Meyer Farm, Va** **43.49 93** IAmb IAmb 00 58 29.2
comp=Z,49nm,1.1s
SADO **Sadowa** **43.54 79** IAmb IAmb 00 58 29.5
comp=Z,45nm,1.1s
BOD **Bodaibo** **43.70 310** *e*P **P** **00 58 28.0 -1.4**
BOD pmax pmax
comp=Z,26nm,1.6s
LOOK **Love County** **43.72 105** P **P** **00 58 30.6 +0.7**
ABTX **Abilene, Hawle** **43.76 108** P **P** **00 58 30.3 +0.1**
baz=328
ABTX **Abilene, Hawle** **43.76 108** IAmb IAmb 00 58 32.7
comp=Z,19nm,1.1s
U40A **Yellville** **43.76 98** P **P** **00 58 29.1 -1.1**
baz=325,SNR=9.6
U40A **Yellville** **43.76 98** IAmb IAmb 00 58 30.6
comp=Z,23nm,1.4s
X37A **Clayton** **44.05 102** IAmb IAmb 00 58 34.3
comp=Z,26nm,1.2s
OLIL **Olney** **44.06 92** IAmb IAmb 00 58 33.9
comp=Z,49nm,0.9s
N49A **Columbus Grove** **44.17 87** IAmb IAmb 00 58 34.7
comp=Z,36nm,0.8s
W39A **Magazine** **44.28 100** P **P** **00 58 34.1 -0.2**
baz=326,SNR=7.0
W39A **Magazine** **44.28 100** IAmb IAmb 00 58 35.4
comp=Z,13nm,1.0s
PLVO **Plevna** **44.28 77** P **P** **00 58 34.2 -0.1**
PLVO IAmb IAmb 00 58 35.6
comp=Z,24nm,1.0s
M50A **Fremont** **44.33 85** P **P** **00 58 34.8 +0.2**
M50A IAmb IAmb 00 58 36.2
comp=Z,25nm,1.1s
S44A **Carbondale** **44.35 94** IAmb IAmb 00 58 36.2
comp=Z,40nm,1.0s
SIUC **Southern Illin** **44.35 94** IAmb IAmb 00 58 36.1
comp=Z,45nm,1.0s
DELO **Deloro Mine** **44.44 78** IAmb IAmb 00 58 37.0
comp=Z,26nm,1.0s
LATQ **La Tuque** **44.45 72** P **P** **00 58 35.5 0.0**
baz=319,SNR=9.1
LATQ **La Tuque** **44.45 72** IAmb IAmb 00 58 36.8
comp=Z,14nm,0.9s
BLO **Bloomington** **44.45 90** IAmb IAmb 00 58 36.8
comp=Z,30nm,0.9s
FCAR **Ozark Folk Cen** **44.48 98** IAmb IAmb 00 58 36.0
comp=Z,13nm,1.0s
D58A **Chemin du LacG** **44.62 72** P **P** **00 58 36.8 -0.1**
baz=319,SNR=29
NRS **Narsarsuaq** **44.63 42** IAmb IAmb 00 58 38.2
comp=Z,24nm,0.8s
O49A **Covington** **44.67 87** IAmb IAmb 00 58 38.4
comp=Z,35nm,1.1s
P48A **Milroy** **44.74 89** IAmb IAmb 00 58 38.5
comp=Z,30nm,1.1s
TX31 **Lajitas Ar. Si** **44.82 115** IAmb IAmb 00 58 41.7
comp=Z,32nm,1.2s
TXAR **Lajitas Array** **44.82 115** P **P** **00 58 40.5 +1.7**
comp=Z,3.2nm,0.7s,baz=323,slow=6.7,SNR=47
TXAR pPcP 01 00 41.5
comp=Z,2.3nm,0.8s,baz=290,slow=2.6,SNR=3.9
TXAR ScP **ScP** **01 04 05.2 +0.4**
comp=Z,1.1nm,1.0s,baz=308,slow=2.9,SNR=4.4
WHAR **Wooly Hollow** **44.89 99** P **P** **00 58 40.4 +1.2**
MIAR **Mount Ida** **44.91 101** P **P** **00 58 39.1 -0.2**
baz=326,SNR=12
MIAR **Mount Ida** **44.91 101** IAmb IAmb 00 58 40.7
comp=Z,19nm,1.0s
PARMO **Parma** **44.95 95** IAmb IAmb 00 58 40.7
comp=Z,37nm,1.0s
JTM **Tenmabayashi** **44.98 275** P **P** **00 58 38.5 -1.3**
JTM IAmb IAmb 00 58 40.6
comp=Z,23nm,1.0s
E58A **La Victoria** **44.99 73** P **P** **00 58 39.5 -0.4**
baz=320,SNR=9.7
W41B **Gary Mavity, V** **45.01 99** P **P** **00 58 39.1 -1.0**
baz=326
P49A **Miami Univ. Ec** **45.01 88** P **P** **00 58 39.1 -1.1**
baz=323
HENM **Henderson Moun** **45.04 95** P **P** **00 58 40.6 +0.3**
MEDO **Medina** **45.09 80** IAmb IAmb 00 58 41.3
comp=Z,44nm,1.1s
D59A **Saint-Raymond** **45.16 71** P **P** **00 58 40.9 -0.2**
baz=320
PECO **Prince Edward** **45.17 78** IAmb IAmb 00 58 42.6
comp=Z,20nm,1.3s
G57A **Newington** **45.19 75** P **P** **00 58 41.2 -0.2**
baz=320,SNR=10.0
ERPA **Erie** **45.19 82** P **P** **00 58 41.9 +0.4**
baz=321,SNR=11
WHTX **Lake Whitney,** **45.27 106** P **P** **00 58 42.1 -0.2**
baz=328
WHTX **Lake Whitney,** **45.27 106** P **P** **00 58 43.5 +1.3**
WHTX IAmb IAmb 00 58 44.1
comp=Z,18nm,1.1s
ACSO **Alum Creek Sta** **45.27 86** P **P** **00 58 42.3 +0.2**
baz=322,SNR=12
ACSO **Alum Creek Sta** **45.27 86** IAmb IAmb 00 58 43.6
comp=Z,44nm,0.9s

HICK **Hickman** **45.30 95** P **P** **00 58 42.4 0.0**
X40A **Basin Creek Fa** **45.30 100** P **P** **00 58 43.0 +0.5**
baz=326
J55A **Hilton** **45.31 79** IAmb IAmb 00 58 43.3
comp=Z,22nm,0.7s
WCI **Wyandotte Cave** **45.31 91** P **P** **00 58 42.9 +0.4**
WCI pmax pmax
comp=Z,29nm,0.9s
WCI **Wyandotte Cave** **45.31 91** P **P** **00 58 42.3 -0.2**
baz=324
WCI **Wyandotte Cave** **45.31 91** P **P** **00 58 42.9 +0.4**
WCI IAmb IAmb 00 58 43.6
comp=Z,29nm,0.9s
Z38A **Mt. Pleasant** **45.33 103** P **P** **00 58 42.9 +0.2**
Z38A IAmb IAmb 00 58 43.8
comp=Z,18nm,1.1s
PEBM **Pemiscott Bayo** **45.35 96** P **P** **00 58 43.3 +0.5**
GNAR **Gosnell** **45.40 96** P **P** **00 58 43.6 +0.4**
M53A **Wl Miller and** **45.40 83** P **P** **00 58 44.1 +0.9**
baz=322,SNR=23
H57A **Richville** **45.50 76** P **P** **00 58 43.8 0.0**
baz=320,SNR=9.4
JCT **Junction City** **45.51 110** P **P** **00 58 45.4 +1.1**
baz=329,SNR=9.8
JCT **Junction City** **45.51 110** IAmb IAmb 00 58 47.3
comp=Z,41nm,1.1s
LNXT **Lenox** **45.53 95** P **P** **00 58 45.2 +0.9**
LNXT IAmb IAmb 00 58 48.5
comp=Z,43nm,0.9s
G58A **Ormstown** **45.58 75** P **P** **00 58 44.2 -0.3**
baz=320,SNR=12
F59A **Saint Guilaume** **45.61 73** P **P** **00 58 44.3 -0.4**
baz=320
UTMT **University of** **45.63 95** P **P** **00 58 45.2 +0.2**
D60A **Saint Jean D'O** **45.63 71** P **P** **00 58 44.9 +0.1**
baz=320,SNR=6.1
MMNY **Mt. Morris Dam** **45.68 80** IAmb IAmb 00 58 46.6
comp=Z,57nm,1.3s
D61A **St Aubert, Com** **45.74 70** P **P** **00 58 45.9 +0.2**
baz=320,SNR=17
J56A **Wolcott** **45.74 79** IAmb IAmb 00 58 47.0
comp=Z,31nm,1.3s
LONY **Lake Ozonia** **45.74 76** P **P** **00 58 45.6 -0.3**
baz=320,SNR=10
LONY **Lake Ozonia** **45.74 76** P **P** **00 58 45.6 -0.3**
LONY IAmb IAmb 00 58 46.1
comp=Z,15nm,0.8s
I57A **Carthage** **45.78 77** P **P** **00 58 46.2 0.0**
baz=321,SNR=11
R49A **Shelbyville** **45.79 90** IAmb IAmb 00 58 47.0
comp=Z,19nm,1.1s
E60A **Ste Agathe de** **45.81 72** P **P** **00 58 46.3 0.0**
baz=320,SNR=10.0
M54A **Oil Creek Stat** **45.82 82** P **P** **00 58 47.2 +0.7**
baz=322,SNR=24
P51A **Williamsport** **45.83 87** IAmb IAmb 00 58 47.6
comp=Z,31nm,1.0s
WLAR **White Oak Lake** **45.84 101** P **P** **00 58 47.4 +0.8**
WLAR IAmb IAmb 00 58 48.5
comp=Z,20nm,0.8s
F60A **Warwick** **45.90 72** P **P** **00 58 46.7 -0.3**
baz=320,SNR=15
T47A **Sharon Grove** **45.93 93** IAmb IAmb 00 58 49.8
comp=Z,33nm,1.1s
K56A **Middlesex** **45.98 79** P **P** **00 58 48.3 +0.5**
baz=321,SNR=14
FRNY **Flat Rock** **46.03 75** P **P** **00 58 47.5 -0.5**
FRNY IAmb IAmb 00 58 48.5
comp=Z,29nm,0.8s
J57A **Williamstown** **46.03 78** IAmb IAmb 00 58 49.2
comp=Z,27nm,1.1s
HPIG **46.08 119** P **P** **00 58 50.7 +1.8**
HPIG IAmb IAmb 00 58 51.7
comp=Z,21nm,1.5s
H58A **Gabriels** **46.08 75** P **P** **00 58 48.2 -0.4**
baz=321,SNR=12
O53A **New Philadelph** **46.09 85** P **P** **00 58 48.5 -0.1**
baz=322,SNR=7.5
O53A **New Philadelph** **46.09 85** IAmb IAmb 00 58 49.8
comp=Z,30nm,1.1s
N54A **Moraine State** **46.10 83** P **P** **00 58 49.2 +0.5**
baz=322,SNR=29
H59A **Cadyville** **46.13 75** P **P** **00 58 48.4 -0.4**
baz=321,SNR=17
P52A **Corning** **46.15 86** P **P** **00 58 48.9 -0.1**
baz=323,SNR=11
P52A **Corning** **46.15 86** IAmb IAmb 00 58 50.0
comp=Z,37nm,1.1s
E61A **Lac Etchemin** **46.19 71** P **P** **00 58 48.5 -0.9**
baz=320,SNR=7.6
R50A **Paris** **46.20 89** IAmb IAmb 00 58 50.5
comp=Z,27nm,1.1s
435B **Jarrell** **46.24 107** P **P** **00 58 50.6 +0.7**
baz=329
435B **Jarrell** **46.24 107** P **P** **00 58 50.9 +1.0**
435B IAmb IAmb 00 58 52.0
comp=Z,17nm,0.9s
CCAR **Cane Creek** **46.26 99** P **P** **00 58 50.6 +0.6**
MOQ **Mont Orford** **46.27 73** P **P** **00 58 49.3 -0.7**
I58A **Old Forge** **46.29 77** P **P** **00 58 50.0 -0.2**
baz=321,SNR=10
WVT **Waverly** **46.29 94** P **P** **00 58 50.7 +0.5**
WVT pmax pmax
comp=Z,27nm,1.1s
WVT **Waverly** **46.29 94** P **P** **00 58 50.0 -0.2**
baz=325
WVT **Waverly** **46.29 94** P **P** **00 58 50.7 +0.5**
WVT IAmb IAmb 00 58 51.8
comp=Z,27nm,1.1s
F61A **St Evariste** **46.32 72** P **P** **00 58 50.6 +0.2**
baz=320,SNR=7.2
K57A **Scipio Center** **46.32 79** IAmb IAmb 00 58 51.6
comp=Z,28nm,0.9s
D62A **Allapoint, All** **46.33 69** P **P** **00 58 50.8 +0.4**
baz=320,SNR=14
D62A **Allapoint, All** **46.33 69** P **P** **00 58 50.2 -0.2**
D62A IAmb IAmb 00 58 52.0
comp=Z,27nm,0.9s
Z41A **Richland Creek** **46.34 101** P **P** **00 58 50.6 0.0**
baz=327
G60A **Masonville** **46.40 73** P **P** **00 58 51.0 0.0**
baz=321,SNR=12
J58A **Remsen** **46.40 77** P **P** **00 58 51.0 -0.1**
baz=321,SNR=12
J58A **Remsen** **46.40 77** IAmb IAmb 00 58 51.7
comp=Z,19nm,0.8s
NCB **Newcomb** **46.41 76** P **P** **00 58 51.1 0.0**
NCB IAmb IAmb 00 58 51.7
comp=Z,10nm,0.8s
W45A **Hickory Valley** **46.45 96** P **P** **00 58 52.1 +0.7**
E62A **Clayton Lake** **46.48 70** P **P** **00 58 51.5 -0.1**
baz=320,SNR=12
E62A **Clayton Lake** **46.48 70** IAmb IAmb 00 58 53.0
comp=Z,42nm,1.0s
USA0B **Ussuriysk Arra** **46.52 285** P **P** **00 58 50.4 -1.5**
USA0B pmax pmax
comp=Z,11nm,1.5s
USA0B **Ussuriysk Arra** **46.52 285** P **P** **00 58 50.4 -1.5**
USRK **Ussuriysk Ar.** **46.52 285** P **P** **00 58 51.1 -0.8**
comp=Z,2.7nm,0.6s,baz=56,slow=8.1,SNR=7.8
USRK PcP **PcP** **01 00 25.3 +0.3**
comp=Z,2.7nm,0.8s,baz=56,slow=3.8,SNR=4.6
USRK **Ussuriysk Ar.** **46.52 285** P **P** **00 58 50.9 -1.0**
USRK **Ussuriysk Ar.** **46.52 285** P **P** **00 58 50.9 -1.0**
G61A **St-Isidore-de-** **46.61 73** P **P** **00 58 52.3 -0.4**
baz=321
H60A **Morristown** **46.65 74** P **P** **00 58 52.7 -0.2**
baz=321,SNR=8.9
J59A **Piesco** **46.68 77** P **P** **00 58 52.8 -0.4**
J59A IAmb IAmb 00 58 53.5
comp=Z,10nm,0.8s
NATX **Nacogdoches** **46.74 104** P **P** **00 58 54.5 +0.7**
baz=328
NATX **Nacogdoches** **46.74 104** P **P** **00 58 55.0 +1.3**
NATX IAmb IAmb 00 58 55.8
comp=Z,25nm,1.1s
D63A **Stockholm** **46.78 69** P **P** **00 58 53.8 -0.1**
baz=320,SNR=6.5
VT1 **Waterbury** **46.80 74** IAmb IAmb 00 58 55.1
comp=Z,20nm,0.9s
F62A **Pittston Farm,** **46.84 71** P **P** **00 58 54.6 +0.2**
baz=321,SNR=11
F62A **Pittston Farm,** **46.84 71** P **P** **00 58 54.0 -0.3**
F62A IAmb IAmb 00 58 55.7
comp=Z,27nm,0.9s
OXF **Oxford** **46.87 97** P **P** **00 58 55.6 +0.8**
baz=326,SNR=16

I60A **Shoreham** **46.93 75** P **P** **00 58 54.7 -0.4**
baz=321
T50A **Nancy** **46.97 90** P **P** **00 58 56.2 +0.7**
BINY **Binghamton** **46.98 79** P **P** **00 58 55.9 +0.3**
baz=322,SNR=20
H61A **Lyndonville** **47.01 74** P **P** **00 58 56.1 +0.3**
baz=321,SNR=9.6
CLTN **Cedars of Leba** **47.02 93** P **P** **00 58 55.8 -0.2**
V48A **Smith Brothers** **47.08 93** IAmb IAmb 00 58 58.1
comp=Z,40nm,1.0s
PQI **Presque Isle** **47.10 69** IAmb IAmb 00 58 56.9
comp=Z,17nm,1.1s
G62A **West of Eustis** **47.11 72** P **P** **00 58 56.7 +0.2**
baz=321,SNR=11
G62A **West of Eustis** **47.11 72** IAmb IAmb 00 58 58.2
comp=Z,38nm,1.2s
E63A **Oxbow** **47.11 69** P **P** **00 58 56.2 -0.3**
baz=321,SNR=10
E63A **Oxbow** **47.11 69** IAmb IAmb 00 58 57.4
comp=Z,29nm,1.1s
ACCN **Adirondack Com** **47.12 76** IAmb IAmb 00 58 57.7
comp=Z,12nm,0.8s
L58A **Harry Jones Me** **47.17 79** P **P** **00 58 57.1 0.0**
baz=322,SNR=19
MCWV **Mont Chateau** **47.20 84** P **P** **00 58 57.3 +0.1**
baz=323,SNR=11
JOHN **Johnston Islan** **47.24 205** P **P** **00 58 57.7 0.0**
LBNH **Lisbon** **47.24 74** P **P** **00 58 57.8 +0.3**
baz=321,SNR=7.6
LBNH **Lisbon** **47.24 74** IAmb IAmb 00 58 59.0
comp=Z,21nm,0.9s
Q54A **Coxs Mills** **47.27 85** IAmb IAmb 00 58 59.0
comp=Z,39nm,0.9s
MDJ **Mudanjiang** **47.28 287** P **P** **00 58 57.4 -0.5**
MDJ IAmb IAmb 00 58 57.7
comp=Z,7.0nm,0.5s
SLBS **Sierra La Lagu** **47.28 125** P **P** **00 59 00.6 +2.4**
SLBS IAmb IAmb 00 59 03.0
comp=Z,31nm,1.4s
O56A **Blue Knob Stat** **47.31 82** P **P** **00 58 58.3 +0.1**
baz=323,SNR=40
H62A **Milan** **47.33 73** P **P** **00 58 58.0 -0.2**
baz=321,SNR=10
H62A **Milan** **47.33 73** IAmb IAmb 00 58 59.6
comp=Z,29nm,0.9s
SSPA **Standing Stone** **47.34 82** P **P** **00 58 58.5 +0.2**
baz=322
SSPA **Standing Stone** **47.34 82** P **P** **00 58 59.0 +0.6**
J60A **Lant Hill Farm** **47.34 76** P **P** **00 58 58.3 0.0**
baz=322,SNR=20
I61A **Oroboro, Fairl** **47.35 74** P **P** **00 58 57.9 -0.5**
baz=321,SNR=11
F63A **Nahmakanta, Br** **47.37 70** P **P** **00 58 57.8 -0.7**
baz=321
F63A **Nahmakanta, Br** **47.37 70** IAmb IAmb 00 58 59.8
comp=Z,35nm,1.1s
E64A **Bridgewater** **47.38 69** P **P** **00 58 58.0 -0.6**
baz=321,SNR=6.3
JMM **Marumori** **47.43 272** P **P** **00 58 58.7 -0.4**
JMM IAmb IAmb 00 58 58.9
comp=Z,17nm,0.9s
HNH **Hanover** **47.50 75** IAmb IAmb 00 59 00.9
comp=Z,22nm,0.9s
833A **Chaparral WMA,** **47.55 111** P **P** **00 59 00.7 +0.6**
baz=330
F64A **Sherman** **47.58 70** P **P** **00 59 00.0 -0.1**
baz=321,SNR=19
G63A **Kingsbury** **47.60 71** P **P** **00 59 00.0 -0.3**
baz=321,SNR=5.6
PKME **Peaks-Kenny Pk** **47.63 71** P **P** **00 59 00.6 +0.1**
baz=321,SNR=11
PKME **Peaks-Kenny Pk** **47.63 71** IAmb IAmb 00 59 01.9
comp=Z,33nm,0.9s
J61A **Chester** **47.66 75** P **P** **00 59 00.9 +0.2**
baz=322,SNR=6.4
H63A **New Sharon** **47.76 72** P **P** **00 59 02.1 +0.5**
baz=321
I62A **Tamworth** **47.80 74** P **P** **00 59 02.1 +0.3**
baz=322
K61A **Williamstown** **47.86 76** P **P** **00 59 02.2 -0.2**
baz=322,SNR=5.7
G64A **Maxfield** **47.87 71** P **P** **00 59 02.6 +0.2**
baz=321,SNR=8.9
HIA **Hailar** **47.94 298** P **P** **00 59 03.2 +0.2**
HIA pmax pmax
comp=Z,17nm,0.9s
HIA **Hailar** **47.94 298** P **P** **00 59 03.1 +0.2**
HIA IAmb IAmb 00 59 03.7
comp=Z,17nm,0.9s
TZTN **Tazewell** **47.96 90** P **P** **00 59 03.2 0.0**
baz=324,SNR=12
FFD **Franklin Falls** **47.97 74** IAmb IAmb 00 59 04.4
comp=Z,18nm,0.9s
I63A **Otisfield** **48.00 73** P **P** **00 59 03.1 -0.3**
baz=322,SNR=5.4
I63A **Otisfield** **48.00 73** IAmb IAmb 00 59 05.0
comp=Z,26nm,1.1s
WVL **Waterville** **48.01 72** IAmb IAmb 00 59 04.7
comp=Z,21nm,1.1s
X48A **Hartselle** **48.03 94** IAmb IAmb 00 59 05.0
comp=Z,22nm,0.8s
J62A **Henniker** **48.09 75** P **P** **00 59 04.0 -0.1**
baz=322
N59A **State Game Lan** **48.09 80** P **P** **00 59 04.2 0.0**
baz=322,SNR=16
H64A **Troy** **48.14 71** P **P** **00 59 04.8 +0.3**
baz=322
R55A **Marlinton** **48.17 85** IAmb IAmb 00 59 06.5
comp=Z,20nm,0.8s
V51A **Loudon** **48.19 91** IAmb IAmb 00 59 06.5
comp=Z,37nm,0.9s
W50A **Signal Mountai** **48.23 92** IAmb IAmb 00 59 06.9
comp=Z,30nm,1.1s
VBMS **Vicksburg** **48.26 99** P **P** **00 59 05.7 +0.2**
baz=327
VBMS **Vicksburg** **48.26 99** P **P** **00 59 06.8 +1.3**
L61B **Northampton** **48.30 76** P **P** **00 59 05.4 -0.4**
baz=322
K62A **Royalston** **48.34 75** P **P** **00 59 05.8 -0.3**
baz=322,SNR=10.0
J63A **Strafford** **48.38 74** P **P** **00 59 06.3 0.0**
baz=322
CPCT **Cooper Cave** **48.39 91** IAmb IAmb 00 59 07.9
comp=Z,26nm,1.0s
G65A **Princeton** **48.44 70** P **P** **00 59 06.9 +0.1**
baz=322,SNR=6.6
G65A **Princeton** **48.44 70** IAmb IAmb 00 59 08.1
comp=Z,35nm,1.1s
JSD **Sado** **48.48 275** P **P** **00 59 06.9 -0.3**
JSD IAmb IAmb 00 59 07.7
comp=Z,17nm,0.9s
KSCT **Kent School, K** **48.51 77** IAmb IAmb 00 59 08.5
comp=Z,19nm,0.9s
V52A **Sevierville** **48.51 90** IAmb IAmb 00 59 08.6
comp=Z,18nm,0.8s
I64A **Boothbay** **48.52 72** P **P** **00 59 06.8 -0.6**
baz=322
H65A **Eastbrook** **48.53 71** P **P** **00 59 07.5 0.0**
baz=322,SNR=8.0
ARCES **ARCESS Array B** **48.59 2** P **P** **00 59 07.3 -0.4**
comp=Z,0.8nm,0.3s,baz=1.2,slow=7.2,SNR=18
ARCES PcP **PcP** **01 00 32.2 +0.2**
comp=Z,5.2nm,0.8s,baz=354,slow=3.7,SNR=5.3
ARCES **ARCESS Array B** **48.59 2** IAmb IAmb 00 59 18.2
comp=Z,18nm,1.5s
TRNY **Table Rock, Ra** **48.63 78** IAmb IAmb 00 59 09.3
comp=Z,24nm,1.0s
K63A **Dunstable** **48.64 75** P **P** **00 59 08.0 -0.3**
baz=322,SNR=5.5
K63A **Dunstable** **48.64 75** IAmb IAmb 00 59 09.7
comp=Z,31nm,0.9s
HRV **Adam Dziewonsk** **48.77 75** P **P** **00 59 09.4 0.0**
baz=322
SDMD **Soldier's Deli** **48.80 82** IAmb IAmb 00 59 10.9
comp=Z,30nm,0.9s
EMMW **East Machias** **48.87 70** IAmb IAmb 00 59 11.3
comp=Z,34nm,1.0s
H66A **Whiting** **48.88 70** P **P** **00 59 10.0 -0.1**
baz=322
PAL **Palisades** **48.88 78** P **P** **00 59 09.8 -0.4**
baz=323
PAL **Palisades** **48.88 78** IAmb IAmb 00 59 11.3
comp=Z,33nm,0.9s
BLA **Blacksburg** **48.89 86** P **P** **00 59 10.3 -0.1**
baz=324,SNR=17
WSPT **Westport, CT** **49.02 77** IAmb IAmb 00 59 12.0
comp=Z,24nm,0.8s
UCCT **U. Connecticut** **49.03 76** P **P** **00 59 11.7 +0.3**

UCCT IAmb IAmb 00 59 12.0
comp=Z,17nm,0.8s
CPNY Central Park 49.03 78 P **P 00 59 12.4 +1.0**
CPNY IAmb IAmb 00 59 13.2
comp=Z,19nm,0.9s
P60A Greenville 49.03 80 P **P 00 59 11.5 +0.1**
baz=323,SNR=8.4
S57A Dark Hollow, R 49.13 85 IAmb IAmb 00 59 14.8
comp=Z,36nm,1.1s
LMN Caledonia Moun 49.14 67 IAmb IAmb 00 59 13.3
comp=Z,25nm,0.8s
LRAL Lakeview Retre 49.22 95 P **P 00 59 12.4 -0.5**
baz=326,SNR=9.6
LRAL Lakeview Retre 49.22 95 IAmb IAmb 00 59 13.9
comp=Z,14nm,0.9s
BRYW Bryant College 49.24 75 IAmb IAmb 00 59 14.0
comp=Z,28nm,0.9s
L63A North Scituate 49.25 76 P **P 00 59 12.8 -0.3**
baz=323
BG3 Lake Jocassee 49.51 90 IAmb IAmb 00 59 16.9
comp=Z,22nm,1.0s
CBN Corbin Frederi 49.52 83 P **P 00 59 15.3 +0.2**
baz=324,SNR=6.6
P61A Hammonton 49.54 80 P **P 00 59 15.9 +0.8**
T57A Hurt 49.61 86 IAmb IAmb 00 59 17.1
comp=Z,31nm,0.9s
M64A Tiverton 49.68 76 P **P 00 59 17.2 +0.9**
baz=323
M64A Tiverton 49.68 76 P **P 00 59 16.9 +0.7**
MAJO Matsushiro 49.72 274 *i* P **P 00 59 16.1 -0.6**
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 49.72 274 P **P 00 59 16.5 -0.1**
MAJO IAmb IAmb 00 59 17.2
comp=Z,13nm,0.8s
MAT Matsushiro 49.72 274 P **P 00 59 15.8 -0.9**
MJAR Matsushiro Arr 49.72 274 P **P 00 59 16.0 -0.7**
comp=Z,2.5nm,0.6s,baz=13,slow=7.7,SNR=13
MJAR PcP **PcP 01 00 36.4 -0.3**
comp=Z,1.0nm,0.4s,baz=59,slow=4.6,SNR=5.4
MJAR Matsushiro Arr 49.72 274 P **P 00 59 16.8 +0.1**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 49.72 274 P **P 00 59 16.8 +0.1**
CN2 Changchun 49.77 289 *eP* **P 00 59 16.3 -0.6**
CN2 pmax pmax
comp=Z,30nm,0.8s
L65A Cape Cod Natio 49.83 74 P **P 00 59 17.6 +0.3**
baz=323
Q61A Milford 49.92 81 P **P 00 59 18.6 +0.5**
baz=324
KMSC Kings Mountain 50.14 89 P **P 00 59 19.9 +0.1**
baz=325,SNR=9.1
KMSC Kings Mountain 50.14 89 IAmb IAmb 00 59 21.3
comp=Z,28nm,1.1s
HODGE Hodges 50.45 90 P **P 00 59 22.8 +0.5**
GOGA Godfrey 50.56 92 P **P 00 59 22.8 -0.2**
baz=326,SNR=6.3
GOGA Godfrey 50.56 92 IAmb IAmb 00 59 23.8
comp=Z,13nm,0.8s
BRAL Brewton 50.75 97 P **P 00 59 24.3 -0.2**
baz=327
JGF Kuroka 50.88 274 IAmb IAmb 00 59 27.3
comp=Z,9.1nm,0.7s
GBN Guysborough 50.90 65 P **P 00 59 26.2 +0.7**
GBN IAmb IAmb 00 59 26.4
comp=Z,17nm,0.9s
352A Blakely 51.48 95 IAmb IAmb 00 59 30.8
comp=Z,38nm,1.1s
X58A Rowland 51.56 88 P **P 00 59 30.9 +0.4**
CNNC Cliffs of the 51.68 86 P **P 00 59 32.0 +0.6**
baz=325
CNNC Cliffs of the 51.68 86 P **P 00 59 32.1 +0.7**
V61A Roper 51.84 84 P **P 00 59 32.9 +0.3**
Y58A Scranton 51.94 88 P **P 00 59 33.4 0.0**
JWT Wachi 52.06 275 P **P 00 59 34.2 0.0**
JWT IAmb IAmb 00 59 34.9
comp=Z,8.9nm,0.9s
TIGA Tifton 52.14 94 P **P 00 59 34.7 -0.2**
baz=327
TLY Talaya 52.24 311 *i* P **P 00 59 34.2 -1.2**
TLY pmax pmax
comp=Z,3.0nm,0.4s
TLY Talaya 52.24 311 P **P 00 59 36.8 +1.4**
TLY IAmb IAmb 00 59 39.8
comp=Z,8.6nm,0.8s
255A Hazlehurst 52.26 92 P **P 00 59 35.7 0.0**
NHSC New Hope 52.36 89 P **P 00 59 36.7 +0.3**
baz=326,SNR=8.5
CSU Charleston Sou 52.51 89 P **P 00 59 38.2 +0.7**
ZAK Zakamensk 53.44 310 *eP* **P 00 59 43.4 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
KS19 Wonju Array Si 53.74 283 P **P 00 59 46.6 +0.1**
KS19 IAmb IAmb 00 59 48.2
comp=Z,26nm,1.0s
KSRS Korea Array 53.75 283 P **P 00 59 47.0 +0.4**
comp=Z,14nm,0.8s,baz=33,slow=7.1,SNR=66
JMN Monobe 54.05 275 P **P 00 59 48.8 -0.2**
JMN IAmb IAmb 00 59 50.4
comp=Z,46nm,1.5s
ULN Ulaanbaatar 54.12 306 *ceP* **P 00 59 49.8 +0.4**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 54.12 306 P **P 00 59 50.2 +0.8**
ULN IAmb IAmb 00 59 50.9
comp=Z,20nm,0.8s
SONM Songino Array 54.40 306 P **P 00 59 52.3 +0.9**
comp=Z,24nm,0.8s,baz=35,slow=7.3,SNR=84
SONM ScP **ScP 01 04 43.4 -2.1**
comp=Z,0.8nm,0.6s,baz=90,slow=1.4,SNR=3.8
SONM Songino Array 54.40 306 P **P 00 59 52.3 +0.9**
SONM IAmb IAmb 00 59 53.4
comp=Z,31nm,0.9s
TJN Taejon 54.89 282 *ceP* **P 00 59 55.1 +0.2**
PRGR Permogore 55.92 351 *eP* **P 01 00 00.8 -1.1**
PRGR *e* 01 00 58.6
PRGR pmax pmax
comp=Z,16nm,0.8s
ZAA0 Zalesovo Array 56.27 324 IAmb IAmb 01 00 04.8
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 56.27 324 P **P 01 00 03.9 -0.7**
comp=Z,6.5nm,0.3s,baz=30,slow=6.8,SNR=62
ZALV PcP **PcP 01 01 01.6 +0.5**
comp=Z,3.9nm,0.8s,baz=55,slow=5.5,SNR=1.8
ZALV ScP **ScP 01 04 52.9 -0.5**
comp=Z,0.8nm,0.7s,baz=5.7,slow=5.8,SNR=2.4
ZALV Zalesovo Beam 56.27 324 P **P 01 00 03.7 -0.9**
ZALV Zalesovo Beam 56.27 324 P **P 01 00 03.7 -0.9**
NB201 NORSAR Array S 56.38 10 P **P 01 00 04.5 -0.8**
NB201 IAmb IAmb 01 00 05.3
comp=Z,25nm,1.4s
NB2 NORSAR Subarra 56.38 10 P **P 01 00 03.9 -1.4**
comp=Z,6.5nm,0.9s,baz=350,slow=7.4
NOA NORSAR Array B 56.38 10 P **P 01 00 04.2 -1.1**
comp=Z,1.9nm,0.7s,baz=350,slow=7.2,SNR=10
NOA PcP **PcP 01 01 01.5 0.0**
comp=Z,0.9nm,0.7s,baz=352,slow=4.6,SNR=3.8
NOA LR LR 01 25 33.1
comp=Z,26nm,20.0s,baz=345,slow=37
NAO01 NORSAR Array S 56.55 11 P **P 01 00 05.5 -1.0**
NAO01 IAmb IAmb 01 00 12.7
comp=Z,16nm,1.1s
FINES FINESS Array B 56.72 2 P **P 01 00 06.6 -1.0**
comp=Z,0.9nm,0.3s,baz=10,slow=9.4,SNR=14
FINES ScP **ScP 01 04 54.3 -1.0**
comp=Z,2.0nm,0.9s,baz=352,slow=2.8,SNR=3.9
FINES FINESS Array B 56.72 2 *i* P **P 01 00 07.5 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.3s
BJI Beijing 56.86 294 P **P 01 00 09.3 +0.4**
BJI pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 56.88 294 P **P 01 00 09.1 0.0**
BJT pmax pmax
comp=Z,11nm,0.9s
BJT Baijiatuau 56.88 294 P **P 01 00 09.1 0.0**
BJT IAmb IAmb 01 00 10.0
comp=Z,11nm,0.9s
KLMR Klimovskoe 57.08 354 *eP* **P 01 00 08.9 -1.3**
KLMR *e* 01 02 15.7
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR Klimovskoe 57.08 354 *eP* **P 01 00 08.9 -1.3**
KLMR AMP 01 00 12.2
comp=Z,22nm,1.1s

KLMR *e*PP **PP 01 02 15.7 -1.3**
HFS Hagfors 57.48 9 P **P 01 00 12.0 -1.0**
comp=Z,2.0nm,0.6s,baz=0.0,slow=3.0,SNR=17
JSU Suzuyama 57.49 277 P **P 01 00 12.6 -1.0**
JSU IAmb IAmb 01 00 13.9
comp=Z,16nm,0.9s
KONO Kongsberg 57.61 12 *ceP* **P 01 00 13.0 -0.9**
KONO pmax pmax
comp=Z,15nm,1.7s
KONO Kongsberg 57.61 12 P **P 01 00 13.6 -0.3**
KONO IAmb IAmb 01 00 14.3
comp=Z,17nm,1.3s
HHC Hu-ho-hao-te 58.14 298 *eP* P 01 00 23.0 +4.9
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.1s
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.2s
DGZ Jazzator, Alta 59.28 320 ⇓*i* P **P 01 00 25.7 -0.3**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 59.57 342 *c i* P **P 01 00 27.1 -0.5**
ARU *PP **pP 01 00 48.0 +1.4**
ARU *SP **sP 01 00 55.3 +0.4**
ARU 01 01 13.3
ARU 01 02 35.4
ARU S **S 01 08 32.4 +1.1**
ARU SS **SS 01 12 24.4 -2.3**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 59.57 342 P **P 01 00 27.1 -0.5**
ARU IAmb IAmb 01 00 28.7
comp=Z,8.6nm,0.7s
ONAU Onsala 60.05 11 *i* P **P 01 00 30.3 -0.5**
EKA Eskdalemuir Ar 60.15 21 P **P 01 00 31.3 -0.3**
comp=Z,16nm,0.7s,baz=332,slow=5.9,SNR=69
EKA pP **pP 01 00 50.4 -0.2**
comp=Z,3.5nm,0.6s,baz=329,slow=5.2,SNR=3.0
BBSR BB Station 60.17 77 P **P 01 00 31.3 -0.8**
BRVK Borovoye 60.65 333 *ceP* **P 01 00 33.8 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 60.65 333 P **P 01 00 34.6 -0.4**
BRVK IAmb IAmb 01 00 35.3
comp=Z,6.7nm,0.9s
KURK Kurchatov 60.85 326 P **P 01 00 36.1 -0.3**
KURK **ScP 01 05 13.1 -0.7**
KURBB Kurchatov Arra 60.95 326 P **P 01 00 36.1 -1.0**
comp=Z,6.6nm,0.7s,baz=25,slow=6.4,SNR=4.9
KURBB ScP **ScP 01 05 13.1 -1.2**
comp=Z,1.3nm,1.0s,baz=23,slow=4.6,SNR=4.9
DEL Delary 61.12 10 *i* P **P 01 00 37.0 -1.2**
DEL *i* P **P 01 00 37.2 -0.9**
BLEU Blekinge 61.43 8 *i* P **P 01 00 39.0 -1.2**
BJUU Bjuv 61.45 10 *i* P **P 01 00 39.6 -0.8**
NJ2 Nanjing 62.37 287 ⇑P **P 01 00 46.1 -0.8**
NJ2 Nanjing 62.37 287 *eP* P 01 00 52.3 +5.4
NJ2 pmax pmax
comp=Z,33nm,0.8s
NJ2 pmax pmax
comp=Z,17nm,0.7s
JOW Kunigami 62.45 276 P **P 01 00 47.7 +0.2**
comp=Z,62nm,0.9s,baz=354,slow=8.7,SNR=8.9
JOW Kunigami 62.45 276 P **P 01 00 47.6 +0.2**
PABE Paberze 62.63 3 P **P 01 00 47.5 -0.7**
PABE IAmb IAmb 01 00 58.6
comp=Z,11nm,0.8s
OBN Obninsk 62.95 355 P **P 01 00 50.1 -0.2**
comp=Z,2.4nm,0.3s,baz=66,slow=8.9,SNR=4.7
OBN Obninsk 62.95 355 *ceP* **P 01 00 51.5 +1.2**
OBN pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 62.95 355 P **P 01 00 51.5 +1.2**
BSEG Bad Segeberg 63.32 12 *eL* L 01 30 10.4
comp=Z,44nm,18.3s
MK31 Makanchi Array 63.41 322 P **P 01 00 52.4 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 63.41 322 P **P 01 00 52.4 -1.3**
MKAR Makanchi Array 63.41 322 P **P 01 00 52.8 -0.9**
comp=Z,7.8nm,0.7s,baz=48,slow=6.7,SNR=51
MKAR pP **pP 01 01 13.3 +0.4**
comp=Z,2.5nm,0.5s,baz=44,slow=11,SNR=3.2
MAKZ Makanchi 63.49 322 P **P 01 00 53.3 -0.9**
MAKZ pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 63.49 322 P **P 01 00 53.3 -0.9**
MAKZ IAmb IAmb 01 00 54.1
comp=Z,11nm,0.8s
MNK Minsk 63.70 1 *i* P **P 01 00 54.5 -0.9**
MNK *i* *PP **pP 01 01 12.9 -1.7**
MNK *i* 01 01 30.1
MNK *i* 01 03 15.1
MNK *i* PPP PPP 01 04 45.3
MNK *i* S **S 01 09 23.7 +0.1**
MNK *i* *S **SS 01 09 55.4 -1.7**
MNK *i* 01 10 40.6
MNK *i* SS **SS 01 13 33.4 +2.2**
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=Z,13nm,1.0s
MNK MLR MLR
comp=E,6.0nm,19.0s
MNK MLR MLR
comp=N,33nm,15.0s
MNK MLR MLR
comp=Z,57nm,23.0s
MNK Minsk 63.70 1 *i* P **P 01 00 54.6 -0.8**
MNK *i* P **P 01 00 54.6 -0.8**
comp=N,9.0nm,1.0s
MNK *i* P **P 01 00 54.6 -0.8**
comp=Z,13nm,1.0s,baz=360
MNK *i* pP **pP 01 01 12.9 -1.7**
MNK *i* PcP **PcP 01 01 30.2 -0.7**
MNK *i* PP **PP 01 03 15.1 -0.4**
MNK *i* PPP PPP 01 04 45.3
MNK *i* S **S 01 09 23.7 +0.1**
MNK *i* sS **sS 01 09 55.5 -1.6**
MNK *i* ScS **SKKSac 01 10 40.6 -0.9**
MNK *i* SS **SS 01 13 33.4 +2.2**
MNK *i* SSS SSS 01 16 35.4
MNK *i* LQ LQ 01 24 12.2
MNK *i* LR LR 01 29 02.8
MNK *i* LRM MLR 01 31 20.5
comp=E,6.0nm,18.7s
MNK *i* LRM MLR 01 31 35.3
comp=N,33nm,15.5s
MNK *i* LRM MLR 01 31 39.2
comp=Z,57nm,22.6s
GTA Gaotai 64.06 306 ⇑P **P 01 00 58.2 0.0**
GTA pP pP 01 01 12.6 -4.8
GTA sP sP 01 01 18.6 -7.0
GTA S **S 01 09 29.1 +0.3**
GTA pmax pmax
comp=Z,24nm,0.9s
GTA pmax pmax
comp=Z,98nm,7.1s
GTA LR LR
comp=N,110nm,15.6s
GTA LR LR
comp=E,93nm,17.1s
GTA LR LR
comp=Z,140nm,19.6s
MTO3 Montecristo 64.17 109 P **P 01 00 59.6 +0.4**
WMQ Urumqi 64.44 317 *eP* **P 01 01 05.1 +4.6**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,110nm,4.9s
NRDL Niedersach Rie 64.72 13 *eP* **P 01 01 02.2 +0.3**
comp=Z,16nm,1.2s,baz=351,slow=6.4
BELG Belogornoye 64.89 348 P **P 01 01 02.5 -0.6**
comp=Z,7.3nm,0.6s,baz=41,slow=3.6,SNR=2.4
XAN Xi'an 65.02 296 P **P 01 01 03.5 -0.9**
XAN pP pP 01 01 09.7 -14
XAN sP sP 01 01 13.5 -18
XAN pmax pmax
comp=Z,13nm,0.5s
XAN pmax pmax
comp=Z,22nm,3.7s
LPSR Galich'ya Gora 65.35 353 *eP* P 01 01 15.4 +9.3

LPSR pmax pmax
comp=Z,7.0nm,0.9s
LZH Lanzhou 65.36 301 *eP* **P 01 01 06.6 -0.1**
LZH pP pP 01 01 23.5 -2.5
LZH sP sP 01 01 30.2 -4.0
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,24nm,1.1s
CLZ Clausthal 65.39 13 *eP* **P 01 01 06.5 0.0**
comp=Z,43nm,1.6s,baz=351,slow=6.4
AKTO Aktyubinsk 65.45 340 P **P 01 01 06.6 -0.3**
comp=Z,8.3nm,0.8s,baz=356,slow=5.6,SNR=17
GTTG Gottingen 65.64 13 *eP* **P 01 01 07.8 -0.2**
comp=Z,23nm,1.2s,baz=351,slow=6.4
SNF Seneffe 65.96 17 *dP* **P 01 01 10.0 -0.1**
BTNL Ternell 66.13 16 *dP* **P 01 01 10.7 -0.5**
NEUB Neuenburg 66.16 12 *eP* **P 01 01 11.3 0.0**
comp=Z,32nm,1.4s,baz=351,slow=6.4
CLL Collm 66.17 11 ⇓*i P* **P 01 01 10.7 -0.8**
comp=Z,17nm,1.5s
CLL *e* 01 01 34.0
CLL *e*(PcP) **PcP 01 01 43.0 +1.8**
CLL *e*PP **PP 01 03 38.0 +0.8**
CLL LmH 01 13 00.0
comp=N,100nm,20.2s
CLL LmH 01 13 00.0
comp=E,100nm,20.6s
CLL Collm 66.17 11 ⇓*i P* **P 01 01 10.7 -0.8**
CLL pmax pmax
comp=Z,17nm,1.5s
CLL Collm 66.17 11 IAmb IAmb 01 01 12.0
comp=Z,15nm,1.4s
CLL Collm 66.17 11 *eL* L 01 29 11.5
comp=Z,53nm,21.0s
BMRD Maredsous 66.23 17 *dP* **P 01 01 11.4 -0.4**
FBE Freiberg 66.59 11 *eP* **P 01 01 13.8 -0.3**
comp=Z,16nm,1.4s,baz=351,slow=6.4
BRG Berggiesshubel 66.69 10 ⇑*i P* **P 01 01 14.8 0.0**
BRG Amp 01 01 16.5
comp=Z,15nm,1.5s
BRG Berggiesshubel 66.69 10 *eP* **P 01 01 14.4 -0.4**
comp=Z,15nm,1.5s,baz=351,slow=6.4
MOX Moxa 66.70 12 *eP* **P 01 01 14.8 -0.1**
comp=Z,24nm,1.5s,baz=351,slow=6.4
MOX *eL* L 01 25 31.1
comp=Z,40nm,21.8s
VSR Storozhevoye 66.72 353 *eP* **P 01 01 13.8 -1.1**
VSR pmax pmax
comp=Z,4.0nm,0.6s
TNS Taunus Mts 66.78 14 *eL* L 01 23 21.0
comp=Z,50nm,21.0s
KSP Ksiaz 66.90 9 *eP* **P 01 01 16.4 +0.3**
PLN Plauen 66.91 12 *eP* **P 01 01 16.0 -0.2**
comp=Z,19nm,1.5s,baz=351,slow=6.4
WLF Walferdange 67.04 16 *dP* **P 01 01 17.2 +0.2**
comp=Z,17nm,1.7s
WLF Walferdange 67.04 16 P **P 01 01 17.6 +0.6**
WLF pmax pmax
comp=Z,36nm,1.4s
WLF Walferdange 67.04 16 P **P 01 01 17.6 +0.6**
WLF IAmb IAmb 01 01 18.5
comp=Z,36nm,1.4s
WLF Walferdange 67.04 16 *eP* **P 01 01 17.2 +0.2**
comp=Z,36nm,1.4s,baz=351,slow=6.4
CHVC Chvalec 67.14 9 *eP* **P 01 01 18.8 +1.1**
OSTC Ostas 67.18 9 *eP* **P 01 01 17.7 -0.2**
MILB Miltenberg 67.26 14 *eP* **P 01 01 18.6 +0.2**
comp=Z,17nm,1.2s,baz=351,slow=6.4
DPC Dobruska-Polom 67.39 9 *eP* **P 01 01 19.7 +0.4**
DPC Dobruska-Polom 67.39 9 *eP* **P 01 01 19.7 +0.4**
MANZ Manzenberg 67.40 12 *eP* **P 01 01 19.5 +0.2**
comp=Z,9.1nm,1.3s,baz=351,slow=6.4
AKASG Malin Array Be 67.51 360 P **P 01 01 19.0 -0.9**
comp=Z,6.5nm,0.6s,baz=2.5,slow=6.4,SNR=22
AKBB Malin Array Si 67.51 360 *ceP* **P 01 01 18.9 -1.1**
AKBB Malin Array Si 67.51 360 IAmb IAmb 01 01 20.9
comp=Z,13nm,1.1s
GRF Grafenberg Arr 67.60 13 *eL* L 01 25 56.5
comp=Z,54nm,19.8s
PRU Pruhonice 67.61 10 *eP* **P 01 01 20.5 -0.1**
PRU Pruhonice 67.61 10 *eP* **P 01 01 20.5 -0.1**
ROTZ Rotzenmuhle 67.62 12 *eP* **P 01 01 20.8 0.0**
comp=Z,17nm,1.4s,baz=351,slow=6.4
KRLC Kraliky 67.70 9 *eP* **P 01 01 21.5 +0.3**
KRLC Kraliky 67.70 9 *eP* **P 01 01 21.5 +0.3**
MORC Moravsky Berou 68.05 8 ⇑P **P 01 01 23.6 +0.1**
MORC Moravsky Berou 68.05 8 ⇑P **P 01 01 23.6 +0.1**
MORC Moravsky Berou 68.05 8 *eP* **P 01 01 23.2 -0.2**
WET Wettzell 68.31 11 *eP* **P 01 01 25.5 +0.5**
comp=Z,15nm,1.4s,baz=351,slow=6.4
WET *eL* L 01 25 14.2
comp=Z,42nm,20.4s
KHC Kasperske Hory 68.38 11 *eP* **P 01 01 25.7 +0.2**
KHC Kasperske Hory 68.38 11 *eP* **P 01 01 25.7 +0.2**
KHC Kasperske Hory 68.38 11 IAmb IAmb 01 01 27.1
comp=Z,13nm,1.2s
VRAC Vranov 68.45 9 P **P 01 01 26.1 +0.2**
comp=Z,6.8nm,1.0s,baz=355,slow=7.7
VRAC Vranov 68.45 9 ⇓P **P 01 01 26.2 +0.3**
VRAC Vranov 68.45 9 *eP* **P 01 01 25.9 0.0**
KWP Kalwaria Pacla 68.46 5 *eP* **P 01 01 26.6 +0.6**
ECH Echery 68.59 16 IAmb IAmb 01 01 27.7
comp=Z,15nm,1.3s
BFO Black Forest 68.62 15 P **P 01 01 27.1 +0.1**
BFO pmax pmax
comp=Z,9.0nm,1.2s
BFO Black Forest 68.62 15 P **P 01 01 27.1 +0.1**
BFO Black Forest 68.62 15 *eP* **P 01 01 26.6 -0.4**
comp=Z,24nm,1.6s,baz=351,slow=6.4
BFO *eL* L 01 28 39.0
comp=Z,44nm,20.1s
GEC2 GERESS Array S 68.68 11 *eP* **P 01 01 27.4 0.0**
comp=Z,8.2nm,1.2s,baz=351,slow=6.4
GERES GERESS Array B 68.68 11 P **P 01 01 27.6 +0.2**
comp=Z,2.2nm,0.8s,baz=11,slow=2.7,SNR=16
KRUC Moravsky 68.68 9 *eP* **P 01 01 27.2 -0.1**
CKRC Cesky Krumlov 68.75 10 *eP* **P 01 01 28.9 +1.1**
CKRC *ex* x 01 01 47.6
USP Ospenovka 68.81 326 P **P 01 01 28.5 +0.2**
SNR=5.4
TKM2 Tokmak 2 68.84 325 P **P 01 01 29.0 +0.3**
SNR=9.4
JAVC Velka Javorina 68.97 8 *eP* **P 01 01 30.1 +0.9**
CHMS Chumysh 68.99 326 P **P 01 01 29.3 -0.1**
SNR=6.7
FUR Furstenfeldbru 69.12 13 *eL* L 01 31 10.7
comp=Z,39nm,21.0s
CRVS Cervenica-Dubn 69.14 5 *eP* **P 01 01 30.7 +0.5**
CRVS Cervenica-Dubn 69.14 5 *eP* **P 01 01 30.7 +0.5**
KOLS Kolonicke sedl 69.14 5 *eP* **P 01 01 31.0 +0.8**
KOLS Kolonicke sedl 69.14 5 *eP* **P 01 01 31.0 +0.8**
AAK Ala-Archa 69.40 326 P **P 01 01 32.7 +0.6**
comp=Z,5.7nm,0.8s,baz=63,slow=7.3,SNR=5.8
AAK Ala-Archa 69.40 326 *ceP* **P 01 01 31.4 -0.7**
AAK pmax pmax
comp=Z,17nm,0.9s
AAK Ala-Archa 69.40 326 P **P 01 01 32.9 +0.8**
MODS Modra-Piesok 69.43 8 *eP* **P 01 01 33.2 +1.2**
MODS Modra-Piesok 69.43 8 *eP* **P 01 01 33.2 +1.2**
UZH Uzhgorod 69.44 5 *eP* **P 01 01 29.0 -3.0**
UZH *e* 01 01 53.0
UBR Ueberruh 69.47 14 *eP* **P 01 01 32.5 +0.2**
comp=Z,34nm,1.8s,baz=351,slow=6.4
EKS2 Erkin-Say 69.56 326 P **P 01 01 33.5 +0.4**
SNR=9.5
RJOB Jochberg 69.69 12 *eP* **P 01 01 33.8 +0.1**
comp=Z,41nm,1.0s,baz=351,slow=6.4
MOA Molln 69.71 11 *eP* **P 01 01 34.0 +0.2**
comp=Z,7.9nm,1.4s
RETA Reutte 69.73 13 *eP* **P 01 01 34.2 +0.2**
comp=Z,11nm,1.4s
CONA Conrad Observa 69.77 10 *i* P **P 01 01 34.0 -0.2**
comp=Z,12nm,1.2s,SNR=10
DAVA Damuels 69.83 14 *eP* **P 01 01 34.8 +0.1**
comp=Z,6.2nm,1.1s
MOTA Moosalm 69.91 13 *i* P **P 01 01 35.4 +0.3**
comp=Z,15nm,1.1s,SNR=6.5
TRPA Tarpa 69.95 5 ⇑P **P 01 01 35.7 +0.5**
TRPA Tarpa 69.95 5 *eP* **P 01 01 36.3 +1.2**
WATA Walderalm 69.97 13 *i* P **P 01 01 35.8 +0.4**
comp=Z,17nm,1.3s,SNR=6.7
PSZ Piszkesteto 70.04 7 *eP* **P 01 01 38.0 +2.1**
PSZ Piszkesteto 70.04 7 IAmb IAmb 01 01 38.1
comp=Z,17nm,1.4s

SQTA	Sankt Quirin	70.04	13	*i* P	P	01 01 36.4	+0.5
	comp=Z,24nm,1.3s,SNR=11						
WTTA	Wattenberg	70.05	13	*i* P	P	01 01 36.4	+0.4
	comp=Z,12nm,0.9s,SNR=15						
SOP	Sopron	70.06	9	*e*P	P	01 01 37.4	+1.5
SORM	Soroca	70.08	1	⇑P	P	01 01 35.0	-0.9
SORM	Soroca	70.08	1	⇑P	P	01 01 35.0	-0.9
AML	Almayashu	70.08	326	P	P	01 01 36.7	+0.1
	SNR=6.2						
FETA	Feichten	70.19	13	*i* P	P	01 01 37.2	+0.3
	comp=Z,12nm,1.4s,SNR=7.6						
DAVOX	Davos/Dischmat	70.33	14	P	P	01 01 38.4	+0.6
	comp=Z,6.3nm,0.9s,baz=350,slow=7.8						
KBA	Koelnbreisnger	70.39	11	*i* P	P	01 01 38.8	+0.7
	comp=Z,16nm,0.9s,SNR=7.7						
ARSA	Arzberg	70.41	10	*e*P	P	01 01 38.5	+0.4
	comp=Z,7.2nm,1.3s						
SENIN	Lac Senin/Sane	70.43	16	IAmb	IAmb	01 01 39.8	
	comp=Z,19nm,1.4s						
BURAR	Bucovina Array	70.55	3	⇑P	P	01 01 38.8	-0.2
TUE	Stuetta	70.58	14	IAmb	IAmb	01 01 40.9	
	comp=Z,12nm,0.9s						
ABTA	Abfaltersbach	70.64	12	*e*P	P	01 01 40.3	+0.7
	comp=Z,5.1nm,1.1s						
MPLH	Magyarpolny	70.64	8	*e*P	P	01 01 40.9	+1.5
MYKA	Terra Mystica	70.87	11	*e*P	P	01 01 41.0	+0.1
	comp=Z,11nm,1.6s						
SOKA	Soboth	70.94	10	*e*P	P	01 01 42.1	+0.8
	comp=Z,8.1nm,1.1s						
MESR	Meseseni	70.95	5	⇓P	P	01 01 41.8	+0.5
ARCR	ARCALIA	71.06	3	⇑P	P	01 01 42.4	+0.5
OBKA	Obir	71.07	11	*i* P	P	01 01 42.2	+0.1
	comp=Z,15nm,0.9s,SNR=18						
GROS	Grobnik	71.20	10	*i* P	P	01 01 42.5	-0.3
GORS	Gorjuse	71.21	11	*i* P	P	01 01 42.2	-0.8
CADS	Cadrg	71.28	11	*i* P	P	01 01 42.4	-1.0
DRGR		71.30	5	⇓P	P	01 01 44.5	+1.0
DRGR		71.30	5	⇓P	P	01 01 44.5	+1.0
CJR	Cluj-Napoca	71.41	4	⇑P	P	01 01 44.7	+0.6
CJR	Cluj-Napoca	71.41	4	⇑P	P	01 01 44.7	+0.6
CRNS	Crni Vrh	71.47	11	*i* P	P	01 01 43.6	-0.9
VASR	Vaslui	71.57	1	⇓P	P	01 01 44.7	-0.3
BNI	Bardonecchia	71.64	17	IAmb	IAmb	01 01 47.8	
	comp=Z,19nm,1.2s						
MORH	Mrgy, Hungar	71.67	8	⇑P	P	01 01 44.6	-1.0
MORH	Mrgy, Hungar	71.67	8	*e*P	P	01 01 46.4	+0.9
PURM	Purcari	71.68	360	⇑P	P	01 01 45.0	-0.7
KOVH	Kovagotottos	71.76	8	*e*P	P	01 01 47.6	+1.4
KSH	Kashi	71.91	324	P	P	01 01 50.1	+2.8
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,71nm,3.0s						
TEOL	Teolo	71.93	13	IAmb	IAmb	01 01 47.9	
	comp=Z,21nm,1.1s						
PGAV	Gavieira, Arco	71.94	28	*e*P	P	01 01 48.4	+0.9
OZUR		72.08	2	⇓P	P	01 01 46.1	-2.1
DOPR	Dopca	72.20	3	⇓P	P	01 01 47.0	-1.9
PCAB	Cabril	72.24	28	*e*P	P	01 01 50.1	+0.9
VRI	Vrincioaia	72.33	2	⇑P	P	01 01 49.1	-0.5
VRI	Vrincioaia	72.33	2	⇑P	P	01 01 49.1	-0.5
PLOR	Plostina	72.34	2	⇑P	P	01 01 50.2	+0.5
PLOR	Plostina	72.34	2	⇑P	P	01 01 50.2	+0.5
BZS	Buzias	72.42	6	⇑P	P	01 01 49.9	-0.2
BZS	Buzias	72.42	6	⇑P	P	01 01 49.9	-0.2
PBRG	Braganca	72.43	27	*e*P	P	01 01 51.0	+0.7
	comp=Z,18nm,1.7s						
POLO	Lamas de Olo	72.61	28	*e*P	P	01 01 51.8	+0.3
	comp=Z,16nm,1.3s						
LOT	Lotru	72.68	4	⇑P	P	01 01 50.2	-1.6
MLR	Muntele Rosu	72.69	2	P	P	01 01 52.2	+0.3
	comp=Z,1.7nm,0.5s,baz=333,slow=6.8,SNR=7.9						
MLR	Muntele Rosu	72.69	2	⇑P	P	01 01 51.7	-0.2
MLR	Muntele Rosu	72.69	2	⇑P	P	01 01 51.7	-0.2
GZR	Gura Zlata	72.70	5	⇓P	P	01 01 51.7	-0.1
GZR	Gura Zlata	72.70	5	⇓P	P	01 01 51.7	-0.1
PVRL	Vila Real	72.72	28	*e*P	P	01 01 53.0	+0.9
	comp=Z,37nm,1.6s						
ARR	Arges	72.78	3	⇓P	P	01 01 53.1	+0.7
FRGS	Fruska Gora	72.79	7	⇑P	P	01 01 51.5	-0.8
MVO	Moncorvo	72.98	28	*e*P	P	01 01 54.4	+0.8
	comp=Z,23nm,1.1s						
CFR	Carcaliu	73.03	1	⇓P	P	01 01 52.1	-1.6
CFR	Carcaliu	73.03	1	⇓P	P	01 01 52.1	-1.6
HERR	Herculane	73.19	5	⇑P	P	01 01 54.8	+0.1
PVIS	Viseu	73.22	29	*e*P	P	01 01 55.5	+0.5
	comp=Z,26nm,1.8s						
MDVR	Moldovita	73.26	6	⇑P	P	01 01 54.3	-0.9
TPGR	Topolog	73.36	1	⇓P	P	01 01 54.2	-1.5
HARR	Harsova	73.52	1	⇑P	P	01 01 55.1	-1.5
HARR	Harsova	73.52	1	⇑P	P	01 01 55.1	-1.5
MTE	Manteigas	73.60	28	*e*P	P	01 01 58.0	+0.7
	comp=Z,39nm,1.1s						
MTE	Manteigas	73.60	28	IAmb	IAmb	01 01 58.9	
	comp=Z,26nm,0.9s						
KVAR	Kislovodsk Arr	73.70	350	P	P	01 01 58.8	+0.9
	comp=Z,3.1nm,0.9s,baz=5.5,slow=17,SNR=2.2						
KIV	Kislovodsk	73.70	350	*e*P	P	01 01 56.4	-1.4
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PCAS	Casmilo, Conde	73.71	29	*e*P	P	01 01 58.6	+0.7
	comp=Z,51nm,1.4s						
GAR	Garm	73.89	328	IAmb	IAmb	01 01 59.7	
	comp=Z,32nm,1.1s						
ICOR	Ion Corvin	74.09	1	⇑P	P	01 01 59.5	-0.5
MURB	Monte Urbino	74.09	13	IAmb	IAmb	01 02 02.9	
	comp=Z,33nm,1.3s						
PCBR	Castelo Branco	74.15	29	*e*P	P	01 02 01.5	+1.1
	comp=Z,34nm,1.5s						
SOC	Sochi	74.29	352	*e*P	P	01 02 00.7	-0.4
SOC				*e*		01 04 47.1	
SOC				*e*PPP	PPP	01 06 28.6	
SOC				*e*S	S	01 11 29.0	+0.1
SOC				*e*SSS	SSS	01 19 31.9	
SOC				pmax	pmax		
	comp=Z,12nm,0.9s						
BOVS	Bovan	74.41	6	⇑P	P	01 01 60.0	-1.8
PMRV	Marv??o	74.56	29	*e*P	P	01 02 04.3	+1.5
	comp=Z,20nm,1.5s						
SJCC	San Jacinto, C	74.59	98	*e*P	P	01 02 15.0	+12
PMTG	Montargil	74.71	29	*e*P	P	01 02 04.1	+0.4
	comp=Z,27nm,1.6s						
ESBB	Sonseca Array	75.06	26	IAmb	IAmb	01 02 07.3	
	comp=Z,24nm,1.1s						
ESDC	Sonseca Array	75.06	26	P	P	01 02 06.2	+0.4
	comp=Z,18nm,1.1s,baz=341,slow=5.6,SNR=68						
ESDC				pP	pP	01 02 25.1	-0.3
	comp=Z,2.6nm,0.8s,baz=339,slow=6.1,SNR=2.9						
ESDC	Sonseca Array	75.06	26	IAmb	IAmb	01 02 07.3	
	comp=Z,21nm,1.1s						
PAB	San Pablo	75.11	26	P	P	01 02 06.5	+0.5
PAB				pmax	pmax		
	comp=Z,22nm,1.2s						
PAB	San Pablo	75.11	26	P	P	01 02 06.5	+0.5
PAB				IAmb	IAmb	01 02 07.6	
	comp=Z,22nm,1.2s						
MOTC	Monteria, Cord	75.35	99	*e*P	P	01 02 07.2	-0.4
PDG	Podgorica	75.47	8	⇓P	P	01 02 08.0	0.0
PDG	Podgorica	75.47	8	IAmb	IAmb	01 02 09.0	
	comp=Z,15nm,1.1s						
VTS	Vitosha	75.49	5	⇑P	P	01 02 06.0	-2.3
VTS	Vitosha	75.49	5	⇑P	P	01 02 06.0	-2.3
PNCL	Nicolau / Gran	75.56	30	*e*P	P	01 02 09.3	+0.8
	comp=Z,39nm,1.0s						
AKT	Akhty	75.65	346	*e*P	P	01 02 08.8	-0.4
AKT				*e*		01 02 20.8	
AKT				*e**PP	pP	01 02 27.3	-1.6
AKT				*e**SP	sP	01 02 36.2	-0.8
AKT				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PBEJ	Beja	75.79	29	*e*P	P	01 02 10.9	+1.0
PBAR	Barrancos	75.84	29	*e*P	P	01 02 10.9	+0.8
	comp=Z,55nm,1.4s						
MORF	Marmelete	76.30	30	*e*P	P	01 02 13.4	+0.6
	comp=Z,52nm,1.4s						
PFVI	Vila Bisbo	76.42	30	*e*P	P	01 02 14.4	+1.0
	comp=Z,98nm,1.5s						
PVAQ	Vaqueiros	76.42	29	*e*P	P	01 02 14.1	+0.7
	comp=Z,52nm,1.4s						
PVAQ	Vaqueiros	76.42	29	IAmb	IAmb	01 02 15.3	
	comp=Z,35nm,1.1s						
PBDV	Barranco-do-Ve	76.52	30	*e*P	P	01 02 15.3	+1.2
ZARC	Zaragoza, Cauc	76.85	99	*e*P	P	01 02 14.5	-1.6
MATE	Matera	77.07	10	⇑P	P	01 02 16.3	-0.7
FNA	Florina	77.23	6	IAmb	IAmb	01 02 19.2	
	comp=Z,21nm,1.3s						
ALN	Alexandroupoli	77.28	2	P	P	01 02 18.8	+0.6
ALN				pmax	pmax		
	comp=Z,11nm,0.9s						
ALN	Alexandroupoli	77.28	2	P	P	01 02 18.8	+0.6
ALN				IAmb	IAmb	01 02 20.1	
	comp=Z,10nm,0.9s						
CBOC	Ciudad Bolivar	77.75	101	*e*P	P	01 02 11.4	-10
SLVN	Son La	78.24	293	P	P	01 02 23.7	-0.3
SLVN				IAmb	IAmb	01 02 24.9	
	comp=Z,13nm,0.9s						
BARC	Barichara	78.42	98	*e*P	P	01 02 22.6	-2.6
BRTR	Keskin Array B	78.42	357	P	P	01 02 24.6	-0.1
	comp=Z,2.6nm,1.0s,baz=2.1,slow=3.4,SNR=11						
BRTR				LR	LR	01 39 37.4	
	comp=Z,34nm,21.5s,baz=41,slow=38						
NORC	Norcasia	78.54	100	*e*P	P	01 02 25.3	-0.3
GUY2C	Guyana, Caldas	78.61	100	*e*P	P	01 02 27.0	+0.5
AGG	Agios Georgios	79.04	5	P	P	01 02 27.8	-0.2
AGG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AGG	Agios Georgios	79.04	5	P	P	01 02 27.8	-0.2
RUSC	La Rusia	79.08	98	IAmb	IAmb	01 02 30.4	
	comp=Z,41nm,1.4s						
RUSC	La Rusia	79.08	98	*e*P	P	01 02 28.2	-0.9
TOLC	Tolima	79.19	101	*e*P	P	01 02 29.5	0.0
BNN	Bunyan	79.22	355	IAmb	IAmb	01 02 31.5	
	comp=Z,19nm,0.8s						
ROSC	El Rosal	79.43	100	LR	LR	01 41 18.4	
	comp=Z,42nm,18.3s,baz=49,slow=38						
PPT	Papeete	79.44	179	LR	LR	01 34 17.7	
	comp=Z,58nm,18.6s,baz=1.5,slow=33						
CORL	Corleone	79.49	13	P	P	01 02 30.3	-0.2
CORL				IAmb	IAmb	01 02 31.9	
	comp=Z,25nm,1.3s						
CLTB	Caltabellotta	79.79	13	IAmb	IAmb	01 02 33.2	
	comp=Z,21nm,1.4s						
ORTC	Ortega, Tolima	79.82	101	*e*P	P	01 02 29.1	-3.5
ITM	Ithomi	80.85	6	IAmb	IAmb	01 02 38.3	
	comp=Z,10nm,0.9s						
HNR	Honiara	80.86	229	LR	LR	01 34 52.3	
	comp=Z,34nm,18.8s,baz=58,slow=33						
KEST	Kesra	81.16	16	P	P	01 02 39.8	+0.3
	comp=Z,10nm,1.0s,baz=271,slow=3.4,SNR=17						
KEST	Kesra	81.16	16	IAmb	IAmb	01 02 40.9	
	comp=Z,15nm,1.1s						
FLOC	Florencia	81.69	102	P	P	01 02 42.6	+0.1
FLOC				IAmb	IAmb	01 02 44.2	
	comp=Z,21nm,1.3s						
BRDH	Bariadhala	82.09	304	LR	LR	01 43 23.7	
	comp=Z,85nm,18.9s,baz=308,slow=39						
UTTA	Uttaradit	82.86	294	P	P	01 02 48.6	0.0
CMAR	Chiang Mai Arr	82.91	296	P	P	01 02 48.4	-0.5
	comp=Z,8.1nm,0.9s,baz=5.9,slow=6.0,SNR=29						
CMAR				pP	pP	01 03 08.9	+0.1
	comp=Z,4.7nm,0.8s,baz=3.8,slow=5.9,SNR=3.2						
CMAR	Chiang Mai Arr	82.91	296	*ce*P	P	01 02 48.5	-0.4
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CM05	Chiang Mai Arr	82.96	296	P	P	01 02 49.5	+0.4
RAR	Rarotonga	83.37	188	LR	LR	01 32 47.2	
	comp=Z,136nm,20.1s,baz=311,slow=30						
MMAI	Mount Meron Ar	85.05	355	P	P	01 03 01.3	+1.6
	comp=Z,0.2nm,0.3s,baz=338,slow=3.4,SNR=2.6						
PMG	Port Moresby	85.75	241	LR	LR	01 37 44.2	
	comp=Z,72nm,19.7s,baz=94,slow=33						
DZM	Mont Dzumac	90.56	219	LR	LR	01 38 56.1	
	comp=Z,60nm,19.0s,baz=28,slow=32						
TORD	Torodi Ar. Bea	101.91	27	P	Pdif	01 04 16.7	-0.9
	comp=Z,0.4nm,0.9s,baz=344,slow=5.6,SNR=2.2						
TORD				PKKPbc	PKKPbc	01 20 19.5	+0.6
	comp=Z,1.0nm,1.1s,baz=154,slow=1.5,SNR=5.2						
VNDA	Vanda	142.41	195	PKP	PKPdf	01 09 52.3	-2.1
	comp=Z,0.9nm,0.7s,baz=64,slow=3.0,SNR=4.1						
BOSA	Boshof	146.37	6	PKPbc	PKPbc	01 10 04.3	+0.1
	comp=Z,5.7nm,0.8s,baz=358,slow=2.8,SNR=18						
MAW	Mawson	164.84	234	PKPab	PKPab	01 11 21.9	-0.6
	comp=Z,1.8nm,0.9s,baz=77,slow=9.6,SNR=4.3						

*IDC **06** 00:52:43.6±1.0, 37.°68N×20.°58E, h0km, mb3.9/11, mb1 3.9/19, mb1mx3.7/58, mbtmp3.8/19, ML3.5/7, MS2.8/5, Ms1 2.8/5, ms1mx2.4/58 Error ellipse: s-maj=19.6km s-min=15.7km az=159.0*

*ATH **06** 00:52:43.4, 37.°49N×20.°34E, h11km±1km, ML4.1/16, Error ellipse: s-maj=2.7km s-min=1.1km az=254.0*

*THE **06** 00:52:45.9, 37.°63N×20.°46E, h7km, ML4.0/20, Error ellipse: s-maj=1.2km s-min=0.5km az=44.0*

*MED_RC **06** 00:52:46.0±0.6, 37.°65N×20.°50E, h20km±1km, MW4.2/9, Moment Tensor Solution. Mantle waves: s9, c12; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.36±.39; $M_{\theta\theta}$0.87±.20; $M_{\phi\phi}$1.49±.27; $M_{r\theta}$-0.11±.18; $M_{\theta\phi}$-0.91±.08; $M_{r\phi}$0.23±.19; Best double couple: $M_0$2.26000×10^{15} NP1:ϕ_S323.00000°, δ42.00000°, λ-92.00000°. NP2: ϕ_S146.00000°, δ48.00000°, λ-89.00000°. Principal axes: T 2.1500, Plg3.0000°, Azm235.0000°; N 0.2200, Plg1.0000°, Azm325.0000°; P -2.3800, Plg87.0000°, Azm73.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 06 00:52:45.7±1.0, 37.°63N±0.°03×20.°41E±0.°03, h17km±6km, n166, σ1°83/228, mb3.9/11, 17C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLMS	Volimes, Zakyn	0.32	38	P	Pg	00 52 52.2	-0.3
VLMS				S	Sg	00 52 56.3	-0.9
	54μm,0.5s						
VLMS	Volimes, Zakyn	0.32	38	P	Pg	00 52 51.9	-0.7
VLMS				AML	AML	00 52 56.8	
	comp=E,98397μm,0.5s						
VLMS				S	Sb	00 52 59.0	+1.2
VLMS				AML	AML	00 52 59.4	
LTHK	Lithakia	0.35	76	P	Pg	00 52 52.3	-0.6
LTHK				S	Sg	00 52 56.5	-1.4
	comp=E,82μm,0.5s						
LTHK	Lithakia	0.35	76	P	Pg	00 52 52.0	-1.0
LTHK				AML	AML	00 52 57.0	
LTHK				AML	AML	00 52 57.3	
ZAK2	Zakynthos	0.42	67	P	Pg	00 52 53.0	-1.2
ZAK2				S	Sg	00 52 59.0	-1.0
	comp=E,196μm,0.3s						
PSDA	Pessada-Kefalo	0.51	15	P	Pg	00 52 55.5	-0.3
PSDA				S	Sb	00 53 02.9	-0.2
	comp=E,2μm,0.3s						
PSDA	Pessada-Kefalo	0.51	15	P	Pg	00 52 55.5	-0.3
ARGA	Argostoli. Kep	0.55	5	P	Pb	00 52 57.8	+0.9
ARGA				S	Sn	00 53 06.2	-1.3
ARG2	Argostoli	0.56	6	P	Pg	00 52 56.8	+0.1
ARG2				S	Sb	00 53 04.7	+0.1
	comp=E,32μm,0.5s						
VLS	Valsamata	0.57	14	P	Pg	00 52 56.5	-0.5
VLS				S	Sb	00 53 04.8	-0.2
	comp=E,9μm,0.6s						
VLS	Valsamata	0.57	14	P	Pg	00 52 56.3	-0.7
VLS				S	Sn	00 53 07.3	-0.6
VLS				AML	AML	00 53 10.2	
	comp=N,17624μm,0.3s						
VLS				AML	AML	00 53 10.7	
	comp=E,12560μm,0.4s						
LXRA	Lixouri, Kepha	0.57	2	P	Pb	00 52 57.3	0.0
LXRA				S	Sn	00 53 07.0	-1.1
LXRA				AML	AML	00 53 12.9	
	comp=N,34327μm,0.3s						
LXRA				AML	AML	00 53 14.2	
	comp=E,48221μm,0.4s						
KEF3	Kipouria, Keph	0.58	355	P	Pb	00 52 57.5	+0.2
KEF3				S	Sb	00 53 05.8	+0.5
	comp=E,27μm,0.6s						
KEF3	Kipouria, Keph	0.58	355	P	Pb	00 52 57.4	0.0
KEF3				S	Sn	00 53 07.1	-1.1
DMLN	Damoulianata-K	0.61	357	P	Pg	00 52 57.8	0.0
DMLN				S	Sb	00 53 06.7	+0.4
	comp=E,16μm,0.5s						
DMLN	Damoulianata-K	0.61	357	P	Pg	00 52 57.7	-0.1
DMLN				S	Sn	00 53 08.2	-0.9
KEF4	Livadi, Kephal	0.63	1	P	Pg	00 52 58.0	-0.1
KEF4				S	Sb	00 53 06.8	0.0
KEF4	Livadi, Kephal	0.63	1	P	Pg	00 52 58.1	-0.1
KEF4				S	Sn	00 53 08.2	-1.2
KEF5	Kardakata, Kep	0.65	4	P	Pg	00 52 58.2	-0.4
KEF5	Kardakata, Kep	0.65	4	P	Pg	00 52 58.1	-0.5
KEF5				S	Sn	00 53 09.6	-0.4
FSK	Fiskardo	0.84	8	P	Pb	00 53 01.1	-0.7
FSK				S	Sn	00 53 13.8	-0.8
	comp=E,12μm,0.9s						
FSK	Fiskardo	0.84	8	P	Pb	00 53 01.2	-0.6
FSK				S	Sn	00 53 15.7	+1.1
FSK				AML	AML	00 53 18.5	
	comp=N,28525μm,0.7s						
FSK				AML	AML	00 53 20.0	
	comp=E,21519μm,0.6s						
RLS	Riolos of Patr	0.94	62	P	Pb	00 53 02.4	-1.1
RLS				S	Sn	00 53 16.7	-0.3
	comp=E,9μm,0.7s						
RLS	Riolos of Patr	0.94	62	P	Pb	00 53 02.3	-1.1
RLS				S	Sn	00 53 17.4	+0.4
RLS				AML	AML	00 53 20.4	
	comp=N,24178μm,0.6s						
RLS				AML	AML	00 53 20.4	
	comp=E,12682μm,0.7s						
EVGI	Lefkada island	1.01	11	P	Pb	00 53 04.1	-0.6
EVGI				S	Sn	00 53 18.7	-0.2
	comp=E,5μm,0.2s						
EVGI	Lefkada island	1.01	11	P	Pb	00 53 03.8	-0.9
EVGI				S	Sn	00 53 21.2	+2.3
AMT	Artemida-Makis	1.03	95	P	Pb	00 53 04.3	-0.8
AMT				S	Sn	00 53 19.8	+0.4
	comp=E,12μm,0.8s						
AMT	Artemida-Makis	1.03	95	P	Pb	00 53 04.3	-0.8
AMT				S	Sb	00 53 18.1	-0.2
AMT				AML	AML	00 53 22.4	
	comp=E,23321μm,0.9s						
AMT				AML	AML	00 53 29.9	
	comp=N,24194μm,1.1s						
DRAG	Dragano-Lefkad	1.06	7	P	Pb	00 53 05.2	-0.4
DRAG				S	Sn	00 53 21.5	+1.3
	comp=N,15μm,0.3s						
DRAG	Dragano-Lefkad	1.06	7	P	Pb	00 53 04.9	-0.7
DRAG				S	Sn	00 53 21.6	+1.5
DRO	Drossia	1.08	72	P	Pb	00 53 04.5	-1.3
DRO				S	Sn	00 53 20.4	-0.1
	comp=N,9μm,0.5s						
DRO	Drossia	1.08	72	P	Pb	00 53 04.7	-1.1
DRO				S	Sg	00 53 21.4	+0.7
DRO				AML	AML	00 53 27.4	
	comp=E,15430μm,0.6s						
DRO				AML	AML	00 53 28.8	
	comp=N,18420μm,0.4s						
NYDR	Nydri-Lefkada	1.11	12	P	Pb	00 53 06.4	0.0
NYDR				S	Sg	00 53 22.9	+1.2
	comp=N,3μm,0.7s						
NYDR	Nydri-Lefkada	1.11	12	P	Pb	00 53 06.4	0.0
NYDR				S	Sg	00 53 23.6	+1.9
LKD2	Lefkada island	1.18	9	P	Pb	00 53 07.6	0.0
LKD2				S	Sg	00 53 24.2	+0.3
	comp=N,4μm,0.7s						
LKD2	Lefkada island	1.18	9	P	Pg	00 53 09.2	+0.7
LKD2				S	Sg	00 53 26.8	+2.9
LKD2				AML	AML	00 53 29.5	
	comp=E,6664μm,0.5s						
LKD2				AML	AML	00 53 29.9	
	comp=N,7940μm,0.8s						
TSLK	Tsoukalades, L	1.21	9	P	Pb	00 53 08.5	+0.4
TSLK				S	Sg	00 53 25.2	+0.2
	comp=N,6μm,0.9s						
TSLK	Tsoukalades, L	1.21	9	P	Pb	00 53 08.5	+0.4
TSLK				S	Sg	00 53 26.2	+1.2
TSLK				AML	AML	00 53 32.2	
	comp=E,10862μm,0.8s						
TSLK				AML	AML	00 53 35.6	
	comp=N,8932μm,0.5s						
UPR	University Cam	1.27	58	P	Pb	00 53 09.0	-0.1
ITM	Ithomi	1.28	110	P	Pn	00 53 09.0	+0.2
ITM				S	Sn	00 53 26.2	+0.6
	comp=N,4μm,0.7s						
ITM	Ithomi	1.28	110	*e*P	Pb	00 53 09.4	0.0
ITM	Ithomi	1.28	110	P	Pn	00 53 08.3	-0.5
ITM				AML	AML	00 53 34.1	
	comp=N,5291μm,0.6s						
ITM				AML	AML	00 53 41.7	
	comp=E,7331μm,0.6s						
PVO	Paravola	1.32	41	P	Pn	00 53 09.5	+0.2
PVO	Paravola	1.32	41	P	Pn	00 53 09.6	+0.2
PVO				S	Sg	00 53 29.5	+1.1
PVO				AML	AML	00 53 32.7	
	comp=E,22821μm,0.6s						
PVO				AML	AML	00 53 34.0	
	comp=N,18427μm,0.4s						
LAKA	Lakka	1.38	63	P	Pb	00 53 11.3	+0.3
LAKA	Lakka	1.38	63	P	Pb	00 53 11.4	+0.4
EFP	Efpalio	1.42	55	P	Pn	00 53 10.6	-0.1
EFP	Efpalio	1.42	55	P	Pn	00 53 11.1	+0.4
EFP				AML	AML	00 53 39.0	
	comp=N,6111μm,0.5s						
EFP				AML	AML	00 53 42.4	
	comp=E,7577μm,0.6s						
KLV	Kalavryta, Ach	1.44	73	P	Pn	00 53 11.1	+0.2
KLV	Kalavryta, Ach	1.44	73	P	Pn	00 53 11.5	+0.5
KLV				AML	AML	00 53 41.2	
	comp=N,5741μm,0.7s						
KLV				AML	AML	00 53 42.7	
	comp=E,4475μm,1.0s						
TRIZ	Trizonia	1.50	60	P	Pn	00 53 11.9	+0.1
TRIZ	Trizonia	1.50	60	P	Pn	00 53 12.0	+0.1
SERG	Sergoula	1.52	58	P	Pn	00 53 12.1	+0.1
SERG	Sergoula	1.52	58	P	Pn	00 53 12.6	+0.6
SERG				AML	AML	00 53 42.0	
	comp=E,6704μm,0.7s						
SERG				AML	AML	00 53 45.4	
	comp=N,6024μm,0.4s						
ANX	Ano Chora	1.53	50	P	Pn	00 53 12.6	+0.3
ANX				S	Sb	00 53 33.6	+0.8
	comp=N,8μm,0.5s						
AN

comp=E,390μm,1.1s
HAVL AML AML

STIP Stip 4.29 18 *i* Pn **Pn 00 53 53.2 +3.1**
IDI Anoyia 4.30 122 Pn **Pn 00 53 50.9 +0.6**
comp=N,0.5nm,0.3s,baz=228,slow=9.2,SNR=19
IDI Sn **Sn 00 54 38.1 -1.9**
comp=N,4.4nm,0.3s,baz=354,slow=19,SNR=4.4
IDI Anoyia 4.30 122 ⇓P **Pn 00 53 54.2 +4.0**
IDI Anoyia 4.30 122 ⇓S **Sn 00 54 40.4 +0.4**
IDI Anoyia 4.30 122 *e*P **Pn 00 53 54.1 +3.8**
HPAC Pachino 4.34 259 ⇓P **Pn 00 53 52.4 +1.7**
HPAC S **Sn 00 54 40.7 -0.1**
HPAC AML AML
comp=E,490μm,0.8s
HPAC AML AML
comp=N,351μm,0.6s
MEU Monte Lauro 4.40 265 ⇑P **Pn 00 53 52.5 +0.8**
MEU S **Sn 00 54 41.9 -0.7**
MEU AML AML
comp=E,447μm,0.6s
MEU AML AML
comp=N,561μm,0.4s
HLNI Lentini 4.42 268 P **Pn 00 53 51.5 -0.3**
HLNI S **Sn 00 54 40.2 -2.6**
HLNI AML AML
comp=E,533μm,1.2s
HLNI AML AML
comp=N,310μm,0.8s
HRKL Herakleio 4.43 120 *e*P **Pn 00 53 56.7 +4.7**
CHOS Chios island 4.52 79 *e*P **Pn 00 53 56.6 +3.3**
HMDC Modica 4.54 263 P **Pn 00 53 53.9 +0.4**
HMDC S **Sn 00 54 43.0 -3.0**
HMDC AML AML
comp=N,474μm,0.5s
HMDC AML AML
comp=E,482μm,0.7s
DRME Dracevica, Mon 4.65 349 *e*Pn **Pn 00 53 55.3 +0.2**
VAE Valguarnera 4.77 270 Pn **Pn 00 54 00.0 +3.2**
comp=E,0.3nm,0.3s,baz=169,slow=10,SNR=1.9
VAE Sn **Sn 00 54 52.2 +0.5**
comp=E,1.9nm,0.3s,baz=56,slow=18,SNR=5.5
RAFF Raffo Rosso 4.83 267 P **Pn 00 53 58.4 +0.8**
RAFF S **Sn 00 54 52.8 -0.4**
RAFF AML AML
comp=E,221μm,0.9s
RAFF AML AML
comp=N,266μm,0.9s
PDG Podgorica 4.88 350 ⇓P **Pn 00 53 58.2 0.0**
PDG Podgorica 4.88 350 ⇑S **Sn 00 54 52.7 -1.5**
PDG Podgorica 4.88 350 *e*Pn **Pn 00 53 58.3 +0.1**
HCY Herceg Novi 5.04 344 *e*Pn **Pn 00 53 59.5 -0.9**
CLTA Licata 5.16 267 ⇑P **Pn 00 54 03.7 +1.7**
CLTA S **Sn 00 55 03.0 +1.9**
CLTA AML AML
comp=E,307μm,0.6s
CLTA AML AML
comp=N,859μm,1.5s
TREB Trebinje 5.33 343 *e*Pn **Pn 00 54 02.6 -1.7**
VTS Vitosha 5.43 23 ⇑P **Pn 00 54 07.4 +1.5**
VTS Vitosha 5.43 23 ⇑S **Sn 00 55 07.0 -1.2**
BRY Bratogost 5.46 345 *e*Pn **Pn 00 54 05.9 -0.4**
STON Ston 5.64 339 *e*Pn **Pn 00 54 08.0 -0.6**
STON Ston 5.64 339 *e*Pn **Pn 00 54 07.7 -0.9**
STON Sn **Sn 00 55 08.8 -4.1**
UPM Unac-Piva 5.69 349 *e*Pn **Pn 00 54 08.4 -1.1**
LSTV Lastovo 5.80 333 *e*Pn **Pn 00 54 10.1 -0.7**
LSTV Sn **Sn 00 55 13.0 -4.0**
RUDO Rudo 6.04 353 *e*Pn **Pn 00 54 14.4 +0.3**
BOVS Bovan 6.08 9 ⇑P **Pn 00 54 13.3 -1.4**
BBLS Lazići 6.28 353 *e*Pn **Pn 00 54 18.8 +1.3**
HVAR Hvar 6.32 333 *e*Pn **Pn 00 54 17.3 -0.6**
HVAR Sn **Sn 00 55 25.3 -4.3**
RICI Ricice 6.37 338 *e*Pn **Pn 00 54 18.6 -0.1**
RICI Sn **Sn 00 55 27.8 -3.2**
DIVS Divibare 6.47 357 *e*Pn **Pn 00 54 19.5 -0.7**
HAPS Han Pijesak,BI 6.55 351 *e*Pn **Pn 00 54 19.2 -2.0**
ZIRJ Zirje 7.03 330 *e*Pn **Pn 00 54 27.1 -0.6**
ZIRJ Sn **Sn 00 55 42.5 -4.6**
KIJV Kijevo 7.06 336 *e*Pn **Pn 00 54 28.4 +0.3**
KIJV Sn **Sn 00 55 44.5 -3.5**
MORI Morici 7.18 332 *e*Pn **Pn 00 54 30.0 +0.2**
MORI Sn **Sn 00 55 47.1 -3.9**
MGRS Mrkonjic Grad 7.24 341 *e*Pn **Pn 00 54 30.7 +0.1**
BLY Banja Luka 7.52 342 *e*Pn **Pn 00 54 33.2 -1.3**
FRGS Fruska Gora 7.54 357 ⇓P **Pn 00 54 33.2 -1.5**
FRGS Fruska Gora 7.54 357 *e*Pn **Pn 00 54 34.1 -0.6**
DUGI Dugi Otok 7.54 329 *e*Pn **Pn 00 54 34.3 -0.4**
DUGI Sn **Sn 00 55 55.2 -4.7**
UDBI Udbina 7.74 334 *e*Pn **Pn 00 54 38.2 +0.7**
UDBI Sn **Sn 00 56 01.3 -3.4**
GZR Gura Zlata 7.96 12 ⇑P **Pn 00 54 36.6 -4.0**
BZS Buzias 8.04 6 ⇑P **Pn 00 54 38.0 -3.5**
ARR Arges 8.36 21 ⇑P **Pn 00 54 42.2 -3.7**
VOIR 8.54 23 ⇑P **Pn 00 54 49.9 +1.3**
MORH Mrgy, Hungar 8.68 352 ⇓P **Pn 00 54 49.6 -0.8**
MORH Mrgy, Hungar 8.68 352 *e*Pn **Pn 00 54 49.7 -0.7**
BOJS Bojanci 8.77 335 *e*Pn **Pn 00 54 51.8 +0.2**
BOJS *e*Sn **Sn 00 56 24.2 -5.7**
ISR Istrita 8.79 30 ⇑P **Pn 00 54 53.4 +1.5**
MLR Muntele Rosu 8.88 26 Pn **Pn 00 54 55.1 +1.8**
comp=N,0.7nm,0.3s,baz=128,slow=17,SNR=18
MLR Muntele Rosu 8.88 26 ⇑P **Pn 00 54 56.4 +3.1**
GBRS Gornja Briga 8.94 334 *i* Pn **Pn 00 54 54.7 +0.7**
CRES Cresnjev 8.99 337 *e*Pn **Pn 00 54 54.2 -0.4**
KEST Kesra 9.09 261 Pn **Pn 00 54 56.8 +0.7**
comp=N,0.1nm,0.3s,baz=45,slow=11,SNR=2.0
KEST Sn **Sn 00 56 37.4 -0.7**
comp=N,0.1nm,0.3s,baz=162,slow=20,SNR=1.1
KEST LR LR 00 59 15.9
comp=N,70nm,19.8s,baz=324,slow=42
CEY Cerknica 9.26 333 *e*Pn **Pn 00 54 58.2 -0.1**
PDKS Podkum 9.35 336 *i* Pn **Pn 00 54 59.3 -0.2**
PDKS *e*Sn **Sn 00 56 38.5 -5.7**
PLOR Plostina 9.45 28 ⇑P **Pn 00 55 02.2 +1.3**
VRI Vrincioaia 9.49 28 ⇑P **Pn 00 55 03.9 +2.5**
OBKA Obir 9.89 336 *e*Pn **Pn 00 55 07.5 +0.5**
comp=N,0.1nm,0.1s
ARSA Arzberg 10.27 341 *e*Pn **Pn 00 55 13.7 +1.5**
comp=N,0.7nm,0.4s
MYKA Terra Mystica 10.30 333 *e*Pn **Pn 00 55 14.5 +1.9**
comp=N,0.9nm,0.2s
BRTR Keskin Array B 10.55 74 Pn **Pn 00 55 18.8 +2.6**
comp=N,0.1nm,0.3s,baz=255,slow=10,SNR=6.3
BRTR LR LR 00 59 23.5
comp=N,48nm,21.6s,baz=280,slow=38
CONA Conrad Observa 10.82 343 *e*Pn **Pn 00 55 23.4 +3.6**
comp=N,0.2nm,0.2s
ABTA Abfaltersbach 10.83 330 *e*Pn **Pn 00 55 22.6 +2.7**
comp=N,0.1nm,0.1s
MOA Molln 11.17 338 *e*Pn **Pn 00 55 25.4 +0.9**
comp=N,0.5nm,0.2s
FETA Feichten 11.80 326 *e*Pn **Pn 00 55 36.0 +2.7**
comp=N,0.1nm,0.1s
DAVOX Davos/Dischmat 12.02 323 Sn **Sn 00 57 45.6 -4.3**
comp=N,0.1nm,0.3s,baz=162,slow=20,SNR=1.4
GERES GERESS Array B 12.23 339 Pn **Pn 00 55 40.6 +1.6**
comp=N,0.1nm,0.3s,baz=157,slow=14,SNR=2.0
GERES Sn **Sn 00 57 49.0 -5.9**
comp=N,0.2nm,0.3s,baz=149,slow=23,SNR=2.6
AKASG Malin Array Be 14.51 23 Pn **Pn 00 56 09.3 -0.7**
comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=2.2
GNI Garni 19.09 75 LR LR 01 04 38.1
comp=N,26nm,19.8s,baz=259,slow=38
ESDC Sonseca Array 19.14 284 P **Pn 00 57 11.3 +2.4**
comp=N,0.0nm,0.3s,baz=76,slow=13,SNR=5.6
OBN Obninsk 20.65 27 LR LR 01 06 55.3
comp=N,16nm,18.7s,baz=196,slow=42
HFS Hagfors 22.93 351 P **P 00 57 48.3 -0.3**
comp=N,2.0nm,0.6s,baz=168,slow=11,SNR=13
EKA Eskdalemuir Ar 23.83 326 P **P 00 57 58.4 +0.8**
comp=N,3.5nm,0.9s,baz=130,slow=9.9,SNR=7.0
BELG Belogornoye 24.06 43 P **P 00 57 58.3 -1.4**
comp=N,14nm,0.7s,baz=309,slow=5.7,SNR=5.1
FINES FINESS Array B 24.11 7 P **P 00 57 59.1 -1.0**
comp=N,1.6nm,0.5s,baz=168,slow=10.0,SNR=21
NB2 NORSAR Subarra 24.14 349 P **P 00 57 59.8 -0.7**
comp=Z,9.2nm,1.2s,baz=160,slow=10
NOA NORSAR Array B 24.14 349 P **P 00 58 00.6 0.0**
comp=Z,1.0nm,0.7s,baz=159,slow=8.9,SNR=5.2
KIRV Kirov 28.16 33 LR LR 01 11 00.2
comp=Z,44nm,19.9s,baz=256,slow=39
TORD Torodi Ar. Bea 29.55 219 P **P 00 58 51.4 +1.9**
comp=Z,0.7nm,0.8s,baz=26,slow=10,SNR=3.6

AKTO Aktyubinsk 29.58 52 P **P 00 58 47.5 -2.0**
comp=Z,0.8nm,0.5s,baz=284,slow=12,SNR=3.6
ZALV Zalesovo Beam 46.12 48 P **P 01 01 07.5 -1.2**
comp=Z,2.5nm,0.5s,baz=278,slow=7.3,SNR=4.9
KLR Kul'dur 74.35 39 P **P 01 04 21.8 -0.3**
comp=Z,0.5nm,0.5s,baz=346,slow=8.0,SNR=4.4
ILAR Eielson Array 77.45 354 P **P 01 04 40.4 +0.9**
comp=Z,0.3nm,0.6s,baz=351,slow=4.6,SNR=2.7
KSRS Korea Array 79.75 50 P **P 01 04 52.5 -0.1**
comp=Z,1.6nm,0.7s,baz=305,slow=5.3,SNR=6.7

PRU 06 00:59:26.1±0.0, 49°.93N×18°.58E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.69**	**258**	*e*PG	Pg	00 59 38.6	-0.7
MORC				*e*SG	Sg	00 59 49.0	+0.8
KRLC	**Kraliky**	**1.17**	**278**	*e*SG	Sg	01 00 03.1	-0.5
	comp=Z,0.7nm,0.3s						
DPC	**Dobruska-Polom**	**1.51**	**287**	*e*SG	Sg	01 00 13.3	-1.4

*ATH **06** 01:03:44.7, 38°.27N×26°.48E, h36km±4km, ML3.8/16, Error ellipse: s-maj=4.2km s-min=0.8km az=85.0*
*IDC **06** 01:03:46.2±1.1, 38°.18N×26°.70E, h0km, mb3.6/4, mb1 3.8/9, mb1mx3.5/50, mbtmp3.7/9, ML3.8/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/35, Error ellipse: s-maj=20.6km s-min=17.9km az=115.0*
*IASPEI **06** 01:03:47.8±0.8, 38°.24N±0°.02×26°.55E±0°.03, h18km±4km, mb3.6/4, Error ellipse: s-maj=4.2km s-min=2.5km az=62.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISK **06** 01:03:47.4, 38°.25N×26°.58E, h20km, ML4.1/42*
*THE **06** 01:03:48.3, 38°.24N×26°.59E, h12km, ML4.2/6, Error ellipse: s-maj=0.9km s-min=0.4km az=58.0*
*NEIC **06** 01:03:48.5±3.2, 38°.19N±0°.04×26°.58E±0°.06, h10km±1km, Error ellipse: s-maj=8.6km s-min=5.7km az=50.0*
*DDA **06** 01:03:48.0, 38°.23N×26°.56E, h16km, MW4.1*
*HLW **06** 01:03:53.1, 37°.79N×26°.72E, h25km±25km, Md4.7*
ISC 06 01:03:48.2±0.7, 38°.23N±0°.02×26°.57E±0°.02, h17km±4km, n249, σ1$25/291, mb3.6/4, 36C-17D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEYE	**Izmir, Urla-Ze**	**0.05**	**276**	⇓*i*P	**Pg**	**01 03 51.1**	**-0.1**
ZEYE				*i* S	**Sg**	**01 03 53.1**	**-0.2**
URLA	**Izmir**	**0.13**	**9**	⇑*i*P	**Pg**	**01 03 51.8**	**-0.3**
URLA				IAML		01 03 54.0	
comp=N,56μm,0.6s							
URLA				*i* S	**Sg**	**01 03 54.4**	**-0.3**
URLA				IAML		01 03 55.0	
comp=E,64μm,0.5s							
URLA	**Izmir**	**0.13**	**9**	PG	**Pg**	**01 03 51.8**	**-0.3**
URLA				SG	**Sg**	**01 03 54.5**	**-0.1**
DGB	**zmir**	**0.31**	**126**	⇓*i*P	**Pb**	**01 03 54.7**	**-0.5**
DGB				*i* S	**Sb**	**01 03 59.4**	**-0.6**
DGB				IAML		01 04 00.0	
comp=E,29μm,0.2s							
DGB				IAML		01 04 01.0	
comp=N,19μm,0.2s							
GMLD	**Gumuldur**	**0.31**	**120**	PG	**Pb**	**01 03 55.0**	**-0.3**
GMLD				SG	**Sb**	**01 03 59.6**	**-0.6**
KRBN	**Karaburun**	**0.36**	**358**	PG	**Pg**	**01 03 55.3**	**-0.3**
KRBN				SG	**Sb**	**01 04 01.1**	**-0.4**
BLCB	**Balcova**	**0.40**	**68**	P	**Pg**	**01 03 56.2**	**-0.2**
BLCB				S	**Sg**	**01 04 01.2**	**-0.7**
CHOS	**Chios island**	**0.43**	**291**	P	**Pb**	**01 03 57.4**	**0.0**
CHOS				S	**Sb**	**01 04 03.8**	**+0.1**
comp=N,24μm,0.2s							
CHOS	**Chios island**	**0.43**	**291**	P	**Pg**	**01 03 55.7**	**-1.3**
CHOS				S	**Sg**	**01 03 59.9**	**-3.0**
CHOS				AML	AML	01 04 07.9	
comp=N,37205μm,0.2s							
CHOS				AML	AML	01 04 09.3	
comp=E,61160μm,0.3s							
CHOS	**Chios island**	**0.43**	**291**	PG	**Pb**	**01 03 57.3**	**-0.1**
FOCM	**Foa**	**0.49**	**15**	PG	**Pg**	**01 03 57.2**	**-0.9**
SMG	**Samos**	**0.56**	**158**	P	**Pg**	**01 03 59.3**	**-0.1**
SMG				S	**Sb**	**01 04 07.7**	**+0.3**
comp=E,85μm,0.5s							
SMG	**Samos**	**0.56**	**158**	P	**Pg**	**01 03 57.5**	**-1.9**
SMG				S	**Sg**	**01 04 05.8**	**-1.1**
SMG				AML	AML	01 04 10.4	
SMG				AML	AML	01 04 12.5	
comp=N,62311μm,0.3s							
CAND	**Candarli**	**0.74**	**14**	PG	**Pg**	**01 04 01.9**	**-0.8**
GCAM	**G?zelcaml?**	**0.75**	**135**	⇓*i*P	**Pb**	**01 04 02.6**	**-0.1**
GCAM				*i* S	**Sn**	**01 04 13.7**	**-1.2**
GCAM				IAML		01 04 15.0	
comp=N,13μm,0.5s							
GCAM				IAML		01 04 15.0	
comp=E,11μm,0.2s							
GCAM	**G?zelcaml?**	**0.75**	**135**	PG	**Pb**	**01 04 02.8**	**+0.1**
ZEDA	**zmir-Bergama**	**0.83**	**28**	⇑*i*P	**Pb**	**01 04 03.5**	**-0.7**
ZEDA				*i* S	**Sn**	**01 04 16.3**	**-0.7**
ZEDA				IAML		01 04 17.0	
comp=N,9μm,0.5s							
DKL	**Dikili**	**0.88**	**17**	PG	**Pb**	**01 04 04.3**	**-0.6**
DKL				SG	**Sn**	**01 04 17.4**	**-0.7**
DDIM	**Aydin, Didim**	**0.94**	**145**	⇓*i*P	**Pg**	**01 04 06.2**	**-0.2**
DDIM				*i* S	**Sn**	**01 04 20.7**	**+1.1**
DDIM				IAML		01 04 22.0	
comp=N,10μm,0.9s							
DDIM				IAML		01 04 22.0	
comp=E,9μm,0.4s							
DIDI	**Didim-Aydin**	**1.01**	**148**	PG	**Pg**	**01 04 07.4**	**-0.3**
PRK	**Paraskevi**	**1.04**	**347**	P	**Pg**	**01 04 08.2**	**-0.1**
PRK				S	**Sg**	**01 04 21.8**	**-0.1**
comp=E,43μm,0.6s							
PRK	**Paraskevi**	**1.04**	**347**	P	**Pb**	**01 04 06.0**	**-1.7**
PRK				S	**Sb**	**01 04 16.3**	**-4.7**
PRK				AML	AML	01 04 24.0	
comp=E,70467μm,0.9s							
PRK				AML	AML	01 04 25.1	
comp=N,80438μm,0.3s							
AYVA	**Ayvalik**	**1.08**	**5**	⇑*i*P	**Pb**	**01 04 07.2**	**-1.2**
AYVA				*i* S	**Sn**	**01 04 23.4**	**+0.4**
AYVA				IAML		01 04 26.0	
comp=N,5μm,0.3s							
AYVA				IAML		01 04 26.0	
comp=E,3μm,0.6s							
AYDB	**Zeytinkoy-Aydi**	**1.08**	**105**	PG	**Pb**	**01 04 08.2**	**-0.3**
GOMA	**Golmarmara-Man**	**1.16**	**65**	PN	**Pn**	**01 04 09.0**	**-0.6**
AKHS	**Akhisar**	**1.17**	**56**	⇓*i*P	**Pn**	**01 04 09.1**	**-0.7**
AKHS				*i* S	**Sn**	**01 04 25.1**	**-0.2**
AYDN	**Tasoluk**	**1.18**	**119**	⇓*i*P	**Pn**	**01 04 09.7**	**-0.3**
AYDN				*i* S	**Sb**	**01 04 25.0**	**-0.2**
AYDN				IAML		01 04 26.0	
comp=N,3μm,0.3s							
YKAV	**Yalikavak-Bodr**	**1.24**	**153**	PN	**Pb**	**01 04 10.9**	**-0.3**
BODT	**Bodrum**	**1.31**	**153**	P	**Pn**	**01 04 11.2**	**-0.5**
BODT				S	**Sg**	**01 04 29.5**	**-1.0**
BODT	**Bodrum**	**1.31**	**153**	PN	**Pn**	**01 04 11.4**	**-0.3**
KOCA	**Canakkale, Ayv**	**1.31**	**345**	⇑*i*P	**Pn**	**01 04 11.0**	**-0.7**
KOCA				*i* S	**Sb**	**01 04 27.2**	**-1.7**
KOCA				IAML		01 04 31.0	
comp=E,6μm,0.5s							
BUHA	**Balikesir, Bur**	**1.33**	**17**	⇑*i*P	**Pn**	**01 04 11.0**	**-0.9**
BUHA				*i* S	**Sg**	**01 04 31.5**	**+0.5**
BUHA				IAML		01 04 33.0	
comp=E,5μm,0.4s							
MLSB	**Milas**	**1.34**	**134**	PN	**Pn**	**01 04 11.8**	**-0.3**
BDRM	**Kayabasi**	**1.36**	**149**	*i* P	**Pn**	**01 04 12.6**	**+0.2**
BDRM				*i* P	**Pb**	**01 04 13.3**	**+0.2**
APE	**Apeiranthos**	**1.43**	**216**	⇓P	**Pn**	**01 04 13.5**	**+0.1**
APE	**Apeiranthos**	**1.43**	**216**	P	**Pn**	**01 04 13.0**	**-0.3**
APE				S	**Sn**	**01 04 31.8**	**+0.1**
comp=E,3μm,0.3s							
APE	**Apeiranthos**	**1.43**	**216**	P	**Pn**	**01 04 10.3**	**-3.1**
APE				AML	AML	01 04 38.1	
comp=N,5465μm,0.2s							
APE				AML	AML	01 04 40.4	
comp=E,4966μm,0.2s							
APE	**Apeiranthos**	**1.43**	**216**	PN	**Pn**	**01 04 12.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.45**	**38**	⇑*i*P	**Pn**	**01 04 12.8**	**-0.9**
STEP				*i* S	**Sg**	**01 04 35.6**	**+0.5**
STEP				IAML		01 04 39.0	
comp=N,5μm,0.7s							
STEP				IAML		01 04 39.0	
comp=E,4μm,0.6s							
BAYC	**CANAKKALE_Bayr**	**1.50**	**359**	⇑*i*P	**Pn**	**01 04 13.3**	**-1.1**
BAYC				*i* S	**Sg**	**01 04 36.2**	**-0.6**
KOSK	**Kos Island**	**1.52**	**167**	P	**Pn**	**01 04 13.9**	**-0.6**
KOSK				S	**Sn**	**01 04 33.9**	**+0.1**
comp=E,7μm,0.6s							
KOSK	**Kos Island**	**1.52**	**167**	PN	**Pn**	**01 04 13.9**	**-0.6**
MANT	**Manisa**	**1.58**	**80**	⇓*i*P	**Pn**	**01 04 15.2**	**-0.5**
MANT				*i* S	**Sg**	**01 04 38.1**	**-1.2**
MANT				IAML		01 04 40.0	
comp=N,2μm,0.3s							
MANT				IAML		01 04 40.0	
comp=E,5μm,0.5s							
EZN	**Ezine**	**1.60**	**353**	P	**Pn**	**01 04 14.8**	**-1.0**
EZN				S	**Sn**	**01 04 35.6**	**-0.4**
comp=E,4μm,0.5s							
EZN	**Ezine**	**1.60**	**353**	PN	**Pn**	**01 04 14.7**	**-1.0**
BOZC	**Bozcaada**	**1.66**	**346**	⇑*i*P	**Pn**	**01 04 15.5**	**-0.9**
BOZC				*i* P	**Pb**	**01 04 16.1**	**-2.2**
BOZC				*i* S	**Sg**	**01 04 40.4**	**-1.1**
BOZC	**Bozcaada**	**1.66**	**346**	PN	**Pn**	**01 04 15.7**	**-0.8**
NISR	**Nisiros**	**1.68**	**164**	P	**Pn**	**01 04 16.8**	**0.0**
NISR	**Nisiros**	**1.68**	**164**	P	**Pn**	**01 04 16.1**	**-0.7**
NISR				AML	AML	01 04 50.2	
comp=N,3025μm,0.3s							
NISR				AML	AML	01 05 01.4	
comp=E,5917μm,0.5s							
KARY	**Karystos**	**1.69**	**264**	P	**Pn**	**01 04 16.6**	**-0.4**
MULA	**Mugla, Merkez-**	**1.70**	**125**	*i* P	**Pn**	**01 04 17.2**	**+0.1**
NIS1	**Nisyros Isl.**	**1.70**	**163**	P	**Pn**	**01 04 16.6**	**-0.5**
NIS1	**Nisyros Isl.**	**1.70**	**163**	P	**Pn**	**01 04 16.0**	**-1.0**
NIS1				S	**Sn**	**01 04 39.2**	**+0.8**
NIS1				AML	AML	01 04 56.6	
comp=E,13491μm,0.6s							
NIS1				AML	AML	01 04 57.8	
comp=N,9155μm,0.4s							
NIS1	**Nisyros Isl.**	**1.70**	**163**	PN	**Pn**	**01 04 16.8**	**-0.3**
DAT	**Datca**	**1.70**	**152**	P	**Pn**	**01 04 16.8**	**-0.4**
DAT	**Datca**	**1.70**	**152**	PN	**Pn**	**01 04 16.8**	**-0.4**
SKY	**Skiros Island**	**1.71**	**293**	P	**Pn**	**01 04 18.0**	**+0.8**
SKY	**Skiros Island**	**1.71**	**293**	P	**Pn**	**01 04 14.1**	**-3.1**
BALY	**Balya**	**1.71**	**28**	⇑*i*P	**Pn**	**01 04 16.5**	**-0.8**
BALY				*i* S	**Sg**	**01 04 43.4**	**0.0**
BALB	**Balikesir**	**1.74**	**36**	PN	**Pn**	**01 04 17.7**	**+0.1**
BALB	**Balikesir**	**1.74**	**36**	Pn	**Pn**	**01 04 16.9**	**-0.6**
YER	**Yerkesik**	**1.75**	**128**	P	**Pn**	**01 04 17.9**	**+0.2**
YER	**Yerkesik**	**1.75**	**128**	PN	**Pn**	**01 04 18.0**	**+0.2**
ECEA	**Canakkale, Ece**	**1.83**	**350**	*i* P	**Pn**	**01 04 18.5**	**-0.4**
ECEA				*i* S	**Sg**	**01 04 46.5**	**-0.7**
DEMI	**Demirci**	**1.86**	**64**	⇓*i*P	**Pn**	**01 04 19.1**	**-0.4**
DEMI				*i* S	**Sg**	**01 04 47.1**	**-1.2**
TURN	**Turunc**	**1.97**	**137**	PN	**Pn**	**01 04 20.9**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.98**	**282**	P	**Pn**	**01 04 20.6**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.98**	**282**	P	**Pn**	**01 04 18.6**	**-2.3**
KYMI				AML	AML	01 04 59.3	
comp=E,1151μm,0.4s							
KYMI				AML	AML	01 05 00.2	
comp=N,1095μm,0.7s							
USAK	**Uak-Merkez**	**1.98**	**75**	⇓*i*P	**Pn**	**01 04 21.1**	**+0.1**
USAK				*i* S	**Sg**	**01 04 50.8**	**-1.1**
USAK				IAML		01 04 52.0	
comp=E,518nm,0.8s							
LIA	**Limnos Island**	**1.98**	**327**	P	**Pn**	**01 04 20.9**	**0.0**
LIA	**Limnos Island**	**1.98**	**327**	P	**Pn**	**01 04 18.8**	**-2.1**
LIA				AML	AML	01 04 44.2	
comp=E,3464μm,0.4s							
LIA				AML	AML	01 04 58.0	
comp=N,2852μm,0.5s							
CMBO	**Columbo, Santo**	**1.99**	**208**	P	**Pn**	**01 04 20.0**	**-1.0**
MRSB	**Marmaris-Mugla**	**1.99**	**139**	PN	**Pn**	**01 04 20.7**	**-0.4**
SAP4	**Santorini-Oia**	**2.00**	**209**	P	**Pn**	**01 04 20.2**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.01**	**112**	*i* P	**Pn**	**01 04 21.7**	**+0.3**
GONE	**Gonen-Balikesi**	**2.01**	**25**	PN	**Pn**	**01 04 20.3**	**-1.0**
THT2	**Imerovigli**	**2.02**	**207**	P	**Pn**	**01 04 20.3**	**-1.1**
THT2	**Imerovigli**	**2.02**	**207**	PN	**Pn**	**01 04 20.6**	**-0.8**
DURS	**Dursunbey**	**2.02**	**47**	⇑*i*P	**Pn**	**01 04 21.1**	**-0.4**
DURS				*i* S	**Sg**	**01 04 51.3**	**-1.8**
GOKA	**anakkale-Gk**	**2.02**	**345**	*i* P	**Pn**	**01 04 21.1**	**-0.4**
GADA	**Gvkgeada**	**2.02**	**345**	P	**Pn**	**01 04 21.0**	**-0.5**
GADA	**Gvkgeada**	**2.02**	**345**	PN	**Pn**	**01 04 21.1**	**-0.5**
THR7	**Fira-Santorini**	**2.02**	**207**	P	**Pn**	**01 04 19.4**	**-2.1**
GOKC	**Gokceada-Canak**	**2.03**	**346**	PN	**Pn**	**01 04 21.4**	**-0.2**
SAP3	**Santorini-Thir**	**2.04**	**209**	P	**Pn**	**01 04 20.6**	**-1.1**
THR3	**Thira Island,**	**2.05**	**207**	P	**Pn**	**01 04 20.6**	**-1.2**
THR5	**Thira Island,**	**2.06**	**209**	P	**Pn**	**01 04 20.8**	**-1.2**
SANT	**Santorini**	**2.06**	**206**	⇑P	**Pn**	**01 04 20.8**	**-1.2**
SANT	**Santorini**	**2.06**	**206**	P	**Pn**	**01 04 20.9**	**-1.2**
SANT	**Santorini**	**2.06**	**206**	PN	**Pn**	**01 04 22.1**	**0.0**
SANT	**Santorini**	**2.06**	**206**	Pn	**Pn**	**01 04 20.8**	**-1.2**
SMAA	**Simav-Kutahya**	**2.08**	**65**	PN	**Pn**	**01 04 21.9**	**-0.4**
EREA	**Eretria**	**2.08**	**276**	P	**Pn**	**01 04 22.4**	**0.0**
DION	**Dionisos Attik**	**2.08**	**267**	P	**Pn**	**01 04 22.3**	**-0.1**
THR6	**Thira Island,**	**2.09**	**207**	P	**Pn**	**01 04 21.3**	**-1.2**
THR9	**Santorini-Faro**	**2.11**	**208**	P	**Pn**	**01 04 21.7**	**-0.9**
PTL	**Penteli**	**2.14**	**266**	P	**Pn**	**01 04 23.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.16**	**358**	PN	**Pn**	**01 04 23.1**	**-0.3**
KNL	**Balıkesir**	**2.17**	**20**	*i* P	**Pn**	**01 04 22.8**	**-0.7**
KNL				*i* S	**Sg**	**01 04 58.5**	**+0.7**
DALY	**Dalyan (Mula)**	**2.18**	**130**	PN	**Pn**	**01 04 24.2**	**+0.6**
KRBG	**Karabiga-Canak**	**2.23**	**14**	PN	**Pn**	**01 04 23.4**	**-0.9**
MHLO	**Agia Marina, M**	**2.31**	**229**	P	**Pn**	**01 04 24.2**	**-1.3**
MHLO				AML	AML	01 05 18.7	
comp=E,8377μm,0.9s							
MHLO				AML	AML	01 05 20.6	
comp=N,6878μm,0.6s							
EDC	**Edincik**	**2.34**	**25**	PN	**Pn**	**01 04 25.1**	**-0.7**
ARG	**Arkhangelos**	**2.37**	**148**	P	**Pn**	**01 04 26.4**	**+0.2**
ARG	**Arkhangelos**	**2.37**	**148**	P	**Pn**	**01 04 26.8**	**+0.6**
ARG				AML	AML	01 05 15.2	
comp=E,1924μm,1.1s							
ARG				AML	AML	01 05 18.6	
comp=N,1279μm,1.2s							
ARG	**Arkhangelos**	**2.37**	**148**	PN	**Pn**	**01 04 26.5**	**+0.2**
GEDZ	**Gediz**	**2.37**	**69**	PN	**Pn**	**01 04 26.0**	**-0.3**

comp=E,722μm,0.7s
MDNY Mudanya-Bursa 2.79 39 PN **Pn 01 04 31.8 -0.2**
BRDR BURDUR-Merkez 2.81 100 *i* P **Pn 01 04 33.1 +0.6**
PAIG Paliouri 2.81 308 P **Pn 01 04 32.3 -0.1**
PAIG Paliouri 2.81 308 P **Pn 01 04 32.3 -0.1**
PAIG AML AML 01 05 22.0
comp=N,324μm,0.7s
PAIG AML AML 01 05 29.0
comp=E,258μm,1.0s
NEO Neokhori 2.83 293 P **Pn 01 04 32.5 -0.1**
NEO Neokhori 2.83 293 P **Pn 01 04 32.6 0.0**
LKR Lokris 2.83 280 P **Pn 01 04 32.7 0.0**
XOR Xorichti 2.87 294 P **Pn 01 04 33.0 -0.2**
XOR Xorichti 2.87 294 P **Pn 01 04 33.0 -0.2**
IGD Bursa 2.88 44 *i* P **Pn 01 04 33.5 +0.2**
OUR Ouranopolis 2.90 317 P **Pn 01 04 33.7 +0.1**
OUR Ouranopolis 2.90 317 P **Pn 01 04 33.8 +0.1**
OUR AML AML 01 05 25.7
comp=N,712μm,0.7s
OUR AML AML 01 05 31.3
comp=E,424μm,0.5s
RDO Rodhopi 3.02 345 P **Pn 01 04 35.0 -0.1**
ELL Elmali 3.04 118 Pn **Pn 01 04 37.3 +1.6**
ISP Isparta 3.15 96 Pn **Pn 01 04 37.7 +0.6**
IDI Anoyia 3.23 205 Pn **Pn 01 04 37.4 -0.9**
comp=E,9.2nm,0.3s,baz=59,slow=4.8,SNR=190
IDI Anoyia 3.23 205 ⇑P **Pn 01 04 37.2 -1.0**
IDI Anoyia 3.23 205 Pn **Pn 01 04 37.2 -1.0**
AGG Agios Georgios 3.41 285 **Pn 01 04 41.3 +0.7**
AKUM Antalya-Kumluc 3.56 121 *i* P **Pn 01 04 44.1 +1.4**
ANX Ano Chora 3.67 277 P **Pn 01 04 45.2 +1.0**
LIT Litokhoron 3.68 302 P **Pn 01 04 44.9 +0.6**
LIT Litokhoron 3.68 302 Pn **Pn 01 04 44.6 +0.3**
ITM Ithomi 3.83 255 Pn **Pn 01 04 48.3 +2.0**
FNA Florina 4.76 304 Pn **Pn 01 05 00.3 +1.2**
STIP Stip 4.83 317 *i* Pn **Pn 01 05 00.2 +0.2**
VTS Vitosha 5.07 331 Pn **Pn 01 05 04.5 +1.1**
KBN Korca 5.07 300 Pn **Pn 01 05 06.2 +2.7**
BR131 Keskin Array S 5.71 73 Pn **Pn 01 05 13.6 +1.3**
BRTR Keskin Array B 5.71 73 Pn **Pn 01 05 13.4 +1.2**
comp=E,0.8nm,0.3s,baz=250,slow=14,SNR=36
BRTR LR LR 01 08 04.6
comp=E,104nm,18.3s,baz=268,slow=46
ICOR Ion Corvin 5.95 9 ⇓P **Pn 01 05 15.7 +0.3**
COPA Copaceanca 5.98 351 ⇑P **Pn 01 05 15.5 -0.4**
CSS Mathiatis 6.34 119 Pn **Pn 01 05 19.8 -1.2**
TIRR Tirgusor 6.37 12 ⇑P **Pn 01 05 21.1 -0.2**
TIRR Tirgusor 6.37 12 Pn **Pn 01 05 21.1 -0.2**
PUK Puka 6.38 309 Pn **Pn 01 05 23.6 +2.2**
TLBR Topalu 6.40 10 ⇓P **Pn 01 05 21.6 -0.1**
HARR Harsova 6.53 9 ⇑P **Pn 01 05 22.5 -0.9**
BOVS Bovan 6.53 327 ⇑P **Pn 01 05 24.2 +0.7**
SCTE Santa Cesarea 6.56 289 Pn **Pn 01 05 25.9 +2.0**
TPGR Topolog 6.76 11 ⇓P **Pn 01 05 26.2 -0.4**
SRE Strehaia 6.90 340 ⇑P **Pn 01 05 28.0 -0.5**
PDG Podgorica 6.98 309 **Pn 01 05 33.0 +3.3**
CFR Carcaliu 7.04 9 ⇑P **Pn 01 05 29.2 -1.2**
MLR Muntele Rosu 7.27 357 Pn **Pn 01 05 34.5 +0.8**
baz=239,slow=5.9
MLR Muntele Rosu 7.27 357 ⇓P **Pn 01 05 34.5 +0.8**
MLR Muntele Rosu 7.27 357 Pn **Pn 01 05 34.9 +1.2**
ARR Arges 7.27 349 ⇓P **Pn 01 05 33.3 -0.4**
VOIR 7.29 352 ⇑P **Pn 01 05 34.1 +0.2**
HERR Herculane 7.33 336 ⇑P **Pn 01 05 33.8 -0.7**
GIUM Giurgiulesti 7.35 9 ⇑P **Pn 01 05 34.9 +0.2**
MDVR Moldovita 7.49 332 ⇓P **Pn 01 05 36.8 +0.2**
LOT Lotru 7.50 345 ⇑P **Pn 01 05 36.1 -0.8**
PLOR Plostina 7.61 0 ⇑P **Pn 01 05 39.3 +1.0**
VRI Vrincioaia 7.63 1 ⇑P **Pn 01 05 37.2 -1.3**
DIVS Divibare 7.67 322 **Pn 01 05 40.0 +0.8**
GZR Gura Zlata 7.69 340 ⇓P **Pn 01 05 38.9 -0.6**
VARL Varlezi 7.72 7 ⇑P **Pn 01 05 39.9 +0.2**
DOPR Dopca 7.78 354 ⇑P **Pn 01 05 40.1 -0.4**
OZUR 7.88 356 ⇑P **Pn 01 05 40.8 -1.2**
MATE Matera 8.01 291 ⇑P **Pn 01 05 43.7 +0.1**
MDB Medias 8.07 349 ⇑P **Pn 01 05 44.6 0.0**
DEV Deva 8.12 342 ⇑P **Pn 01 05 45.3 +0.1**
BZS Buzias 8.25 335 ⇑P **Pn 01 05 47.1 +0.2**
SIRR Siria 8.81 337 ⇑P **Pn 01 05 53.7 -1.0**
MMAI Mount Meron Ar 8.88 123 Pn **Pn 01 05 53.2 -2.5**
comp=E,5.5nm,0.3s,baz=315,slow=12,SNR=31
MMAI Sn **Sn 01 07 29.3 -6.1**
comp=E,4.3nm,0.3s,baz=307,slow=22,SNR=7.2
ARCR ARCALIA 8.99 350 ⇑P **Pn 01 05 56.5 -0.7**
DRGR 9.01 343 ⇑P **Pn 01 05 57.0 -0.6**
SWA2 9.02 186 P **Pn 01 05 56.5 -1.1**
baz=188
SGRT San Giovanni R 9.02 296 **Pn 01 05 57.5 -0.2**
KOT Kottamia 9.36 151 P **Pn 01 06 01.2 -1.1**
baz=150
KOT S Sn 01 07 34.6 -13
baz=150
BURAR Bucovina Array 9.43 354 ⇑P **Pn 01 06 03.0 -0.3**
BURAR Bucovina Array 9.43 354 Pn **Pn 01 06 04.5 +1.2**
GLL Jalalah 9.63 152 P **Pn 01 06 04.3 -1.7**
baz=151
RYAN Fayoum 9.63 160 P **Pn 01 06 05.2 -0.9**
baz=160
PAOL Paolisi 9.67 291 Pn **Pn 01 06 09.2 +2.7**
RAFF Raffo Rosso 9.72 268 Pn **Pn 01 06 07.1 -0.2**
SUZ Suez 9.85 146 P **Pn 01 06 08.9 -0.1**
baz=145
MORH Mrgy, Hungar 9.90 326 *e*P **Pn 01 06 10.8 +1.2**
MORH *e*S **Sn 01 07 59.7 -0.6**
SORM Soroca 9.98 7 ⇑P **Pn 01 06 09.7 -1.0**
INTR Introdacqua 10.41 295 Pn **Pn 01 06 19.3 +2.6**
CORL Corleone 10.47 272 Pn **Pn 01 06 19.9 +2.4**
CLTB Caltabellotta 10.57 271 Pn **Pn 01 06 21.2 +2.2**
EIL Elat 11.01 138 Pn **Pn 01 06 23.5 -1.5**
comp=E,0.6nm,0.3s,baz=223,slow=1.8,SNR=12
EIL Sn **Sn 01 08 19.7 -8.1**
comp=E,2.0nm,0.3s,baz=87,slow=22,SNR=7.8
KOLS Kolonicke sedl 11.14 345 *e*PN Pn 01 06 32.7 +6.1
GRB Gharib 11.21 151 P **Pn 01 06 26.6 -1.1**
baz=150
NRCA Norcia 11.22 298 **Pn 01 06 27.8 0.0**
HKAT Jabal Katrina 11.50 145 P **Pn 01 06 31.1 -0.7**
baz=144
MURB Monte Urbino 11.77 300 Pn **Pn 01 06 38.0 +2.6**
ARSA Arzberg 12.12 322 *e*Pn **Pn 01 06 39.2 -0.9**
comp=E,3.2nm,1.1s
OBKA Obir 12.13 317 *e*Pn **Pn 01 06 42.4 +2.2**
comp=E,1.5nm,0.9s
CONA Conrad Observa 12.44 325 *e*Pn **Pn 01 06 42.2 -2.3**
comp=E,0.2nm,0.2s
ZOU Zoufplan 13.03 314 Pn **Pn 01 06 55.4 +2.8**
MOA Molln 13.15 321 *e*Pn **Pn 01 06 54.5 +0.4**
comp=E,0.1nm,0.2s
ABTA Abfaltersbach 13.40 314 *e*Pn **Pn 01 06 59.7 +2.2**
comp=E,0.1nm,0.1s
CKRC Cesky Krumlov 13.80 324 *e*P **P 01 07 14.4 +3.0**
GERES GERESS Array B 14.11 323 P **P 01 07 18.1 +3.2**
WTTA Wattenberg 14.19 314 *e*Pn **Pn 01 07 08.8 +0.4**
comp=E,2.0nm,0.6s
WATA Walderalm 14.26 314 *e*Pn **Pn 01 07 09.1 -0.3**
comp=E,0.3nm,0.1s
KHC Kasperske Hory 14.36 323 *e*P P 01 07 25.2 +7.6
SQTA Sankt Quirin 14.40 313 *e*Pn **Pn 01 07 13.3 +2.0**
comp=E,0.4nm,0.2s
MOTA Moosalm 14.53 314 *e*Pn **Pn 01 07 15.0 +1.9**
comp=E,2.9nm,1.2s
FETA Feichten 14.58 312 *e*Pn **Pn 01 07 13.8 0.0**
comp=E,0.4nm,0.5s
GRA1 Grafenberg Arr 15.88 321 P **P 01 07 37.1 +2.7**
GRA1 IAmb IAmb 01 07 49.3
comp=Z,4.2nm,1.0s
GRFO Grafenberg 15.88 321 P **P 01 07 36.8 +2.3**
GRFO IAmb IAmb 01 08 00.1
comp=Z,6.4nm,1.3s
FINES FINESS Array B 23.24 359 P **P 01 08 55.7 +1.4**
comp=Z,2.7nm,0.9s,baz=152,slow=16,SNR=4.2
FINES FINESS Array B 23.24 359 P **P 01 08 55.4 +1.1**
ESDC Sonseca Array 23.74 283 P **P 01 09 02.6 +3.1**
comp=Z,1.0nm,1.0s,baz=76,slow=11,SNR=5.0
ESDC Sonseca Array 23.74 283 P **P 01 09 01.2 +1.7**
TOA0 Torodi Ar. Sit 33.36 228 P **P 01 10 26.4 +0.8**
TORD Torodi Ar. Bea 33.36 228 P **P 01 10 26.2 +0.6**
comp=Z,1.6nm,0.7s,baz=33,slow=9.4,SNR=9.3
TORD Torodi Ar. Bea 33.36 228 P **P 01 10 26.2 +0.6**
TORD IAmb IAmb 01 10 27.0
comp=Z,1.6nm,0.9s
MKAR Makanchi Array 41.19 60 P **P 01 11 32.4 +0.6**
comp=Z,0.3nm,0.4s,baz=270,slow=8.2,SNR=5.1
MKAR Makanchi Array 41.19 60 P **P 01 11 32.7 +1.0**

*IDC **06** 01:31:30.5±3.5, 37.°90N×74.°12E, h137km±31km, mb3.5/6, mb1 3.6/12, mb1mx3.2/61, mbtmp4.0/12, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=28.5km s-min=17.3km az=174.0*
*SOME **06** 01:31:31.7, 38.°83N×73.°22E, h10km*
*MOS **06** 01:31:31.8±1.0, 37.°98N×74.°16E, h166km, mb3.8/4, Error ellipse: s-maj=13.7km s-min=7.5km az=94.2*
*BJI **06** 01:31:34.6±0.0, 38.°24N×74.°36E, h173km, mB4.5/1, mb4.5/11*
*NNC **06** 01:31:35.0±5.6, 38.°41N×73.°75E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=46.0km s-min=32.6km az=148.0*
*NEIC **06** 01:31:34.5±2.5, 38.°13N±0.°06×74.°1E±0.°1, h178km±6km, mb3.9/5, Error ellipse: s-maj=11.8km s-min=9.2km az=95.0*

ISC 06 01:31:32.3±0.5, 38.°00N±0.°04×74.°24E±0.°05, h152km, n93, σ2°08/98, mb3.7/9, 6C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.03**	**41**	⇑*i*P	**Pn**	**01 32 06.4**	**-1.6**
KSH				S	**Sn**	**01 32 28.8**	**-6.7**
KSH				smax	smax		
comp=N,3μm,0.2s							
KSH				smax	smax		
comp=E,3μm,0.2s							
GAR	**Garm**	**3.23**	**289**	Pn	**Pn**	**01 32 23.6**	**+0.9**
GAR				Sn	**Sn**	**01 33 00.6**	**-1.2**
CHGR	**Chuyangaron**	**4.05**	**281**		**Pn**	**01 32 33.3**	**+0.1**
AML	**Almayashu**	**4.14**	**354**	P	**Pn**	**01 32 36.0**	**+1.2**
SNR=70							
CHCP	**Chirah Chowk**	**4.41**	**191**	P	Pn	01 32 43.1	+5.1
NIL	**Nilore**	**4.42**	**191**	PN	Pn	01 32 42.9	+4.8
NIL	**Nilore**	**4.42**	**191**		Pn	01 32 42.9	+4.8
ULAH	**Ulahol**	**4.51**	**19**	P	**Pn**	**01 32 41.1**	**+1.8**
SNR=17							
CEP	**Cherat**	**4.58**	**205**	P	**Pn**	**01 32 43.9**	**+3.6**
AAK	**Ala-Archa**	**4.63**	**2**	P	**Pn**	**01 32 42.4**	**+1.4**
10nm,0.3s,baz=164,slow=6.4,SNR=13							
AAK				S	**Sn**	**01 33 34.9**	**+0.3**
3.9nm,0.3s,baz=335,slow=19,SNR=6.8							
AAK	**Ala-Archa**	**4.63**	**2**	P	**Pn**	**01 32 42.6**	**+1.7**
SNR=5.9							
AAK	**Ala-Archa**	**4.63**	**2**	Pn	**Pn**	**01 32 42.4**	**+1.4**
AAK				Sn	**Sn**	**01 33 34.2**	**-0.4**
AAK	**Ala-Archa**	**4.63**	**2**	Pn	**Pn**	**01 32 42.5**	**+1.5**
MRKS	**Merke**	**4.80**	**351**	*e*P	**Pn**	**01 32 44.4**	**+1.3**
95nm,0.4s							
MRKS				*e*S	**Sn**	**01 33 35.5**	**-2.9**
98nm,0.3s							
MRKS	**Merke**	**4.80**	**351**	*e*PN	**Pn**	**01 32 44.4**	**+1.3**
CHMS	**Chumysh**	**5.01**	**4**	P	**Pn**	**01 32 47.5**	**+1.7**
SNR=49							
TKM2	**Tokmak 2**	**5.02**	**11**	P	**Pn**	**01 32 47.7**	**+1.5**
SNR=26							
TKM2	**Tokmak 2**	**5.02**	**11**	⇓Pn	**Pn**	**01 32 47.5**	**+1.4**
24nm,0.5s							
TKM2				⇑Sn	**Sn**	**01 33 42.2**	**-1.6**
33nm,0.6s							
TAS	**Tashkent**	**5.05**	**313**	PN	**Pn**	**01 32 47.1**	**+0.7**
TAS	**Tashkent**	**5.05**	**313**	Pn	**Pn**	**01 32 47.0**	**+0.7**
USP	**Ospenovka**	**5.26**	**2**	P	**Pn**	**01 32 50.3**	**+1.2**
SNR=14							
DGS	**Degeres**	**5.36**	**12**	*e*P	Pn	01 33 00.9	+10
DGS	**Degeres**	**5.36**	**12**	*e*PN	Pn	01 33 00.9	+10
DZA	**Taraz**	**5.36**	**337**	*e*P	**Pn**	**01 32 51.1**	**+0.6**
158nm,0.2s							
DZA				*e*S	**Sn**	**01 33 47.1**	**-4.5**
759nm,0.4s							
DZA	**Taraz**	**5.36**	**337**	*e*PN	**Pn**	**01 32 51.1**	**+0.6**
KBL	**Kabul**	**5.43**	**232**	PN	**Pn**	**01 32 54.5**	**+2.8**
KBL	**Kabul**	**5.43**	**232**		**Pn**	**01 32 54.5**	**+2.8**
THW	**Thamme Wali**	**5.58**	**202**	P	**Pn**	**01 32 56.9**	**+3.4**
KK31	**Karatay Array**	**5.83**	**332**	⇑Pn	**Pn**	**01 32 56.6**	**-0.1**
10nm,0.3s,baz=154,slow=16							
KK31				⇓Sn	**Sn**	**01 33 58.2**	**-4.6**
47nm,0.3s,baz=175,slow=26							
KK31	**Karatay Array**	**5.83**	**332**	PN	**Pn**	**01 32 57.0**	**+0.3**
KK31	**Karatay Array**	**5.83**	**332**	Pn	**Pn**	**01 32 57.0**	**+0.3**
KKAR	**Karatay Array**	**5.83**	**332**	PN	**Pn**	**01 32 57.0**	**+0.3**
KKAR	**Karatay Array**	**5.83**	**332**	Pn	**Pn**	**01 32 57.0**	**+0.3**
KKAR	**Karatay Array**	**5.83**	**332**	Pn	**Pn**	**01 32 57.0**	**+0.3**
KTBS	**Karatobe**	**6.00**	**17**	*e*P	Pn	01 33 13.8	+15
4.2nm,0.4s							
KTBS				*e*S	Sn	01 34 25.8	+19
36nm,0.8s							
KTBS	**Karatobe**	**6.00**	**17**	*e*PN	Pn	01 33 13.8	+15
KUU	**Kurty**	**6.10**	**14**	*e*P	Pn	01 33 14.2	+14
5.1nm,0.7s							
KUU				*e*S	Sn	01 34 26.1	+17
14nm,0.9s							
KUU	**Kurty**	**6.10**	**14**	*e*PN	Pn	01 33 14.2	+14
SARP	**Sargodha**	**6.20**	**192**	P	**Pn**	**01 33 04.0**	**+2.3**
CHKK	**Chushkaly**	**6.21**	**19**	*e*P	Pn	01 33 17.2	+16
4.2nm,0.3s							
CHKK				*e*S	Sn	01 34 31.1	+19
28nm,0.5s							
CHKK	**Chushkaly**	**6.21**	**19**	*e*PN	Pn	01 33 17.2	+16
BTLS	**Baital**	**7.03**	**359**	*e*P	Pn	01 33 26.6	+14
4.5nm,0.3s							
BTLS				*e*S	Sn	01 34 47.1	+16
2.8nm,0.5s							
BTLS	**Baital**	**7.03**	**359**	*e*PN	Pn	01 33 26.6	+14
SMLA	**Simla**	**7.27**	**160**	*e*PG	**Pn**	**01 33 18.6**	**+2.6**
SMLA				*e*SG	**Sn**	**01 34 35.1**	**-2.2**
SMLA				IAML		01 34 39.6	
comp=E,242nm,0.3s							
SMLA				IAML		01 34 41.1	
comp=N,221nm,0.5s							
DDI	**Dehra Dun**	**8.29**	**156**	*e*PG	**Pn**	**01 33 32.4**	**+2.8**
DDI				*e*SG	**Sn**	**01 35 01.1**	**-0.8**
NDI	**New Delhi**	**9.62**	**164**	*e*P	**Pn**	**01 33 47.1**	**-0.1**
NDI				*e*S	**Sn**	**01 35 28.3**	**-5.6**
KUDL	**Kundal**	**10.01**	**168**	*e*P	**Pn**	**01 33 53.8**	**+1.4**
KUDL				*e*S	Sn	01 35 33.5	-10
SONA	**Sohna**	**10.01**	**165**	*e*P	**Pn**	**01 33 54.3**	**+1.9**
SONA				*e*S	**Sn**	**01 35 40.7**	**-2.7**
HRA	**Herat**	**10.34**	**253**	Pn	**Pn**	**01 33 56.4**	**-0.5**
MAKZ	**Makanchi**	**10.49**	**31**	P	**Pn**	**01 33 58.6**	**0.0**
MAKZ	**Makanchi**	**10.49**	**31**		**Pn**	**01 33 58.5**	**0.0**
MK31	**Makanchi Array**	**10.61**	**32**	*e*P	**Pn**	**01 34 01.0**	**+0.9**
MK31	**Makanchi Array**	**10.61**	**32**	Pn	**Pn**	**01 34 01.0**	**+0.9**
MKAR	**Makanchi Array**	**10.61**	**32**	P	**Pn**	**01 34 00.1**	**-0.1**
comp=N,0.3nm,0.3s,baz=213,slow=13,SNR=22							
MKAR	**Makanchi Array**	**10.61**	**32**	P	**Pn**	**01 34 01.0**	**+0.9**
MKAR	**Makanchi Array**	**10.61**	**32**	Pn	**Pn**	**01 34 01.0**	**+0.9**
WMQ	**Urumqi**	**11.72**	**56**	*e*P	**P**	**01 34 18.1**	**-3.8**
GEYT	**Alibeck**	**12.72**	**275**	P	**Pn**	**01 34 25.3**	**-2.5**
comp=N,1.1nm,0.3s,baz=122,slow=11,SNR=10							
GYA0	**ALIBECK ARRAY**	**12.72**	**275**	*e*P	**Pn**	**01 34 25.4**	**-2.4**
GYA0B	**ALIBECK ARRAY**	**12.72**	**275**	Pn	**Pn**	**01 34 25.4**	**-2.4**
KURBB	**Kurchatov Arra**	**12.98**	**12**	P	**Pn**	**01 34 29.3**	**-1.6**
comp=N,0.0nm,0.3s,baz=200,slow=12,SNR=4.2							
KURK	**Kurchatov**	**13.09**	**12**	P	**Pn**	**01 34 29.4**	**-2.9**
KURK	**Kurchatov**	**13.09**	**12**		**Pn**	**01 34 29.4**	**-2.9**
BHPL	**Bhopal**	**14.97**	**169**	*e*P	**P**	**01 34 59.5**	**+1.5**
BHPL				*e*SG	**Sn**	**01 37 36.0**	**-6.6**
DGZ	**Jazzator, Alta**	**15.05**	**35**	*i* P	**Pn**	**01 34 57.2**	**0.0**
AB31	**Akbulak array**	**15.25**	**322**	⇓P	**Pn**	**01 34 59.7**	**+0.2**
comp=N,0.7nm,0.5s							
ABKAR	**Akbulak array**	**15.25**	**322**	P	**P**	**01 35 00.2**	**-0.7**
BVAR	**Borovoye Array**	**15.26**	**351**	P	**Pn**	**01 34 58.1**	**-1.5**
comp=N,0.4nm,0.3s,baz=179,slow=23,SNR=5.0							
BRVK	**Borovoye**	**15.30**	**351**	P	**Pn**	**01 34 58.7**	**-1.4**
BRVK				pmax	pmax		
comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**15.30**	**351**		**Pn**	**01 34 58.7**	**-1.4**
BRVK				IAmb	IAmb	01 35 26.9	
comp=Z,2.4nm,0.9s							
LSA	**Lhasa**	**16.29**	**116**	P	**P**	**01 35 12.9**	**-0.2**
LSA				pmax	pmax		
comp=Z,5.0nm,0.4s							
LSA	**Lhasa**	**16.29**	**116**	P	**P**	**01 35 12.9**	**-0.2**
AKTO	**Aktyubinsk**	**16.97**	**322**	⇑P	**Pn**	**01 35 25.5**	**+5.1**
comp=Z,0.6nm,0.4s							
ZAA0	**Zalesovo Array**	**17.53**	**21**		**P**	**01 35 26.0**	**0.0**
ZAA0				IAmb	IAmb	01 35 27.3	
comp=Z,7.1nm,0.6s							
ZALV	**Zalesovo Beam**	**17.53**	**21**	P	**Pn**	**01 35 26.2**	**-0.8**
comp=Z,2.2nm,0.3s,baz=213,slow=12,SNR=43							
ZALV	**Zalesovo Beam**	**17.53**	**21**	P	**Pn**	**01 35 26.6**	**-0.5**
ZALV	**Zalesovo Beam**	**17.53**	**21**		**Pn**	**01 35 26.6**	**-0.5**
WSAR	**Wadi Sarin**	**19.88**	**227**	LR	LR	01 45 41.7	
comp=Z,24nm,19.6s,baz=65,slow=43							
GTA	**Gaotai**	**20.00**	**78**	⇑P	**Pn**	**01 35 58.1**	**+1.7**
GTA				sP	sP	01 36 50.5	+11
GTA				pmax	pmax		
comp=Z,7.0nm,0.7s							
AKT	**Akhty**	**20.65**	**288**	*e*P	**P**	**01 36 00.8**	**+0.8**
AKT				*e*PP	**pP**	**01 36 29.2**	**+1.1**
AKT				*e*S	**S**	**01 39 42.5**	**+0.1**
AKT				pmax	pmax		
comp=Z,4.0nm,0.7s							
ARU	**Arti**	**21.19**	**335**	*c i*P	**P**	**01 36 06.1**	**+0.6**
ARU						01 36 44.9	
ARU				S	**S**	**01 39 52.7**	**+0.6**
ARU				pmax	pmax		
comp=Z,7.0nm,2.4s							
SONM	**Songino Array**	**25.36**	**57**	P	**P**	**01 36 46.7**	**+1.5**
comp=Z,0.4nm,0.3s,baz=249,slow=12,SNR=3.8							
HHC	**Hu-ho-hao-te**	**28.83**	**73**	*e*P	**P**	**01 37 16.8**	**+0.5**
HHC				pP	pP	01 37 56.5	+7.0
HHC				S	**S**	**01 41 55.6**	**+0.5**
HHC				pmax	pmax		
comp=Z,29nm,0.9s							
HHC				LR	LR		
comp=Z,410nm,12.3s							
HHC				LR	LR		
comp=Z,240nm,15.8s							
HHC				LR	LR		
comp=Z,430nm,14.7s							
FINES	**FINESS Array B**	**37.73**	**324**	P	**P**	**01 38 33.0**	**+0.2**
comp=Z,0.4nm,0.4s,baz=102,slow=8.0,SNR=4.7							
FINES	**FINESS Array B**	**37.73**	**324**	P	**P**	**01 38 33.0**	**+0.2**
FINES	**FINESS Array B**	**37.73**	**324**	P	**P**	**01 38 33.0**	**+0.2**
ARCES	**ARCESS Array B**	**40.78**	**336**	P	**P**	**01 38 58.8**	**+0.7**
comp=Z,2.4nm,0.9s,baz=118,slow=9.6,SNR=1.0							
KLR	**Kul'dur**	**42.17**	**55**	P	**P**	**01 39 10.3**	**+0.7**
comp=Z,0.8nm,0.5s,baz=303,slow=8.6,SNR=4.9							
BILL	**Bilibino**	**56.11**	**27**	*e*P	**P**	**01 40 54.7**	**-0.6**
BILL				*e*PP	**pP**	**01 41 35.1**	**+3.2**
BILL				*e*SP	**PcP**	**01 41 55.3**	**+3.9**
BILL				*e*		01 43 04.7	
BILL				pmax	pmax		
comp=Z,2.0nm,1.2s							
TORD	**Torodi Ar. Bea**	**68.32**	**270**	P	**P**	**01 42 16.4**	**-0.9**
comp=Z,1.5nm,0.4s,baz=46,slow=5.8,SNR=21							
TORD	**Torodi Ar. Bea**	**68.32**	**270**	P	**P**	**01 42 16.4**	**-0.9**
TORD				IAmb	IAmb	01 42 18.7	
comp=Z,1.5nm,0.6s							
WRA	**Warramunga Arr**	**80.64**	**124**	P	**P**	**01 43 28.1**	**-0.1**
comp=Z,0.7nm,0.4s,baz=324,slow=4.8,SNR=10							
WRA	**Warramunga Arr**	**80.64**	**124**	P	**P**	**01 43 27.3**	**-1.0**

*IDC **06** 01:32:26.2±5.8, 37.°16N×78.°77E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.3/53, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=118.2km s-min=31.6km az=125.0*

ISC 06 01:32:33.1±4.3, 37.°5N±0.°4×78.°1E±0.°5, h17km, n9, σ0°93/9, mb3.8/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**9.59**	**46**	*e*P	Pn	01 34 55.0	+4.5
MKAR	**Makanchi Array**	**9.75**	**17**	Pn	**Pn**	**01 34 53.6**	**+1.1**
0.5nm,0.3s,baz=198,slow=12,SNR=6.1							
MKAR				Sn	**Sn**	**01 36 40.4**	**-1.2**
0.7nm,0.3s,baz=190,slow=26,SNR=4.8							
BRTR	**Keskin Array B**	**34.57**	**288**	P	**P**	**01 39 21.8**	**+0.8**
0.5nm,0.6s,baz=82,slow=8.9,SNR=5.1							
FINES	**FINESS Array B**	**39.92**	**324**	P	**P**	**01 40 06.6**	**+0.6**
0.9nm,0.5s,baz=126,slow=9.7,SNR=4.1							
FINES				pP	**pP**	**01 40 11.4**	**-0.2**
0.9nm,0.5s,baz=110,slow=10,SNR=2.1							
ARCES	**ARCESS Array B**	**42.47**	**336**	pP	pP	01 40 32.3	-0.3
1.8nm,0.8s,baz=104,slow=10,SNR=1.4							
NB2	**NORSAR Subarra**	**47.03**	**322**	P	**P**	**01 41 03.1**	**-0.2**
comp=Z,0.7nm,0.6s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**47.03**	**322**	P	**P**	**01 41 03.3**	**-0.1**
comp=Z,0.5nm,0.6s,baz=89,slow=7.7,SNR=3.1							
NOA				pP	**pP**	**01 41 08.4**	**-0.7**
comp=Z,0.6nm,0.5s,baz=90,slow=7.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**71.42**	**272**	P	**P**	**01 43 51.7**	**-1.0**
comp=Z,0.6nm,0.7s,baz=42,slow=5.7,SNR=2.4							
ILAR	**Eielson Array**	**72.10**	**19**	pP	pP	01 44 00.4	-1.8
comp=Z,0.8nm,0.9s,baz=323,slow=5.4,SNR=6.0							

*IDC **06** 01:34:39.0±0.7, 23.°90N×122.°55E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.0/55, mbtmp4.0/18, ML3.8/1, MS3.5/12, Ms1 3.6/12, ms1mx3.3/35, Error ellipse: s-maj=25.0km s-min=15.3km az=60.0*
*NEIC **06** 01:34:41.9±1.7, 23.°79N±0.°04×122.°49E±0.°03, h14km±4km, mb4.4/20, Error ellipse: s-maj=5.3km s-min=3.1km az=156.0*
*JMA **06** 01:34:42.0±0.1, 23.°78N×122.°48E, h22km, M3.9*
*TAP **06** 01:34:42.7, 23.°81N×122.°52E, h29km, mL4.3, D*
*NIED **06** 01:34:42.0, 23.°78N×122.°48E, h22km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.49; $M_{\theta\theta}$-1.63; $M_{\phi\phi}$1.13; $M_{r\theta}$1.75; $M_{\theta\phi}$0.60; $M_{\phi r}$0.94; Fault plane solution: $M_0$2.52000×10^{15} NP1:ϕ_s63.00000°, δ83.00000°, λ55.00000°. NP2:ϕ_s323.00000°, δ36.00000°, λ168.00000°.*

ISC 06 01:34:42.2±1.0, 23.°77N±0.°02×122.°49E±0.°02, h19km±3km, n217, σ0°81/349, mb4.3/28, MS3.5/11, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.80**	**31**	P	**Pb**	**01 34 57.0**	**-0.4**
JYNG				S	**Sb**	**01 35 06.3**	**-1.4**
TEYL	**Yanliau Villag**	**0.82**	**277**	P	**Pg**	**01 34 58.1**	**-0.

HGSD	baz=250			S	Sb	01 35 13.3	-0.8
ETLH	baz=250 **Xiulin Townshi**	1.02	295	P	Pb	01 35 00.6	-0.6
ETLH	baz=289			S	Sn	01 35 14.9	-0.4
TWC	baz=289 **Suao**	1.02	325	*i* P	Pb	01 35 00.6	-0.6
TWC	baz=320			*i* S	Sb	01 35 14.6	+0.4
ECBN	baz=320 **Changbin**	1.05	245	P	Pb	01 35 01.8	0.0
ECBN	baz=229			S	Sb	01 35 14.8	-0.4
EHY	baz=229 **Hungye**	1.10	256	*i* P	Pn	01 35 02.0	-0.6
EHY	baz=252			S	Sb	01 35 16.6	0.0
NDS	baz=252 **Dongshan**	1.11	321	P	Pb	01 35 03.1	+0.3
NDS	baz=315			S	Sb	01 35 17.1	+0.3
EYUL	baz=315 **Yuli**	1.15	249	*e*P	Pn	01 35 03.0	-0.2
EYUL	baz=245			*i* S	Sn	01 35 18.5	0.0
YULB	baz=245 **Yu-li**	1.16	251	⇑P	Pn	01 35 03.1	-0.2
YULB	baz=247			S	Sb	01 35 17.6	-0.6
YULB	baz=247 **Yu-li**	1.16	251		Pn	01 35 02.7	-0.6
YULB				Sg	Sb	01 35 18.0	-0.2
TWF1	**Yuli**	1.17	249	*i* P	Pn	01 35 03.1	-0.4
TWF1	baz=245			S	Sb	01 35 18.5	-0.1
WHF	baz=245 **Hehuan Shan**	1.18	289	*i* P	Pn	01 35 03.2	-0.8
WHF	baz=271			S	Sb	01 35 18.5	-0.8
ILA	**Ilan**	1.20	326	P	Pb	01 35 04.4	+0.1
ILA	baz=320			S	Sn	01 35 20.2	+0.6
TWE	baz=320 **Neicheng**	1.21	322	*i* P	Pn	01 35 04.1	0.0
TWE	baz=316			*i* S	Sb	01 35 18.4	-1.2
NDT	baz=316 **Datong Townshi**	1.22	313	*i* P	Pn	01 35 04.4	+0.2
OWD	baz=309 **Renai**	1.22	279	*e*P	Pn	01 35 04.1	-0.2
OWD	baz=273			*e*S	Sb	01 35 19.4	-0.7
NNS	baz=273 **Nan Shan**	1.22	303	⇑*i*P	Pn	01 35 03.8	-0.5
NNS	baz=297			S	Sb	01 35 18.8	-1.3
CHKT	baz=297 **Chengkung**	1.23	237	*i* P	Pn	01 35 03.4	-0.9
CHKT	baz=223			*i* S	Sb	01 35 17.9	-2.3
FUSS	baz=223 **Fushou**	1.23	293	*i* P	Pn	01 35 04.5	-0.1
FUSS	baz=287			S	Sb	01 35 20.4	-0.2
NTC	baz=287 **Toucheng**	1.23	331	*e*P	Pn	01 35 04.6	+0.2
NTC	baz=325			S	Sn	01 35 21.0	+0.5
FULB	baz=325 **Fuli**	1.24	243	P	Pn	01 35 03.7	-0.8
FULB	baz=228			S	Sb	01 35 19.4	-1.1
HATJ	baz=228 **Hateruma jima**	1.24	76	P	Pn	01 35 04.2	-0.2
HATJ				*e*S	Sn	01 35 20.6	0.0
CHGB	**Renai**	1.24	284	P	Pn	01 35 04.1	-0.6
CHGB	baz=269			S	Sb	01 35 19.7	-1.0
IRIF	baz=269 **Iriomote-Funau**	1.27	63	P	Pn	01 35 05.0	+0.2
IRIF				S	Sb	01 35 21.8	+0.5
TWT	**Tachien**	1.29	292	*i* P	Pn	01 35 05.5	+0.1
TWT	baz=286			S	Sn	01 35 22.3	0.0
TDCB	baz=286 **Techi**	1.31	292	⇑P	Pn	01 35 05.5	0.0
TDCB	baz=286			S	Sn	01 35 22.2	-0.4
TWB1	baz=286 **Santiao Chiao**	1.31	340	*i* P	Pn	01 35 05.4	-0.1
TWB1	baz=352			S	Sg	01 35 24.2	-0.7
TIPB	baz=352 **Shuangxi**	1.34	333	*i* P	Pn	01 35 06.1	+0.2
TIPB	baz=328			S	Sn	01 35 22.9	-0.3
ECS	baz=328 **Chishang**	1.35	240	P	Pn	01 35 05.9	0.0
ECS	baz=227			S	Sn	01 35 23.1	-0.2
NWLT	baz=227 **Wulai**	1.35	318	P	Pn	01 35 06.3	+0.3
NWLT	baz=312			*e*S	Sb	01 35 23.6	-0.1
EDH	baz=312 **Donghe**	1.35	234	*i* P	Pn	01 35 05.1	-0.8
EDH	baz=222			*i* S	Sn	01 35 21.7	-1.6
YHNB	baz=222 **Yeheng**	1.35	312	⇑P	Pn	01 35 06.2	+0.1
YHNB	baz=305			*e*S	Sn	01 35 23.7	+0.1
YHNB	baz=305 **Yeheng**	1.35	312		Pn	01 35 06.1	0.0
NSK	**Sanguang**	1.37	311	*i* P	Pn	01 35 06.3	0.0
NSK	baz=305			S	Sb	01 35 24.3	-0.1
SSLB	baz=305 **Suanglung**	1.41	271	P	Pn	01 35 06.5	-0.3
SSLB	baz=265			S	Sn	01 35 23.6	-1.2
SSLB	baz=265 **Suanglung**	1.41	271		Pn	01 35 06.5	-0.3
WPL	**Puli Township**	1.42	280	P	Pn	01 35 07.3	+0.3
WPL	baz=264			*e*S	Sn	01 35 24.9	-0.3
LDUT	baz=264 **Ludao**	1.44	221	*i* P	Pn	01 35 06.0	-1.2
LDUT	baz=219			*i* S	Sn	01 35 23.3	-2.3
NWF	baz=219 **Wu-fen Shan**	1.45	334	*i* P	Pn	01 35 07.6	+0.2
NWF	baz=328			S	Sn	01 35 26.2	+0.4
WFSB	baz=328 **Wu-fen Shan**	1.45	334	P	Pn	01 35 07.5	+0.1
WFSB	baz=328			S	Sn	01 35 25.9	+0.2
DPDB	baz=328 **Guoxing**	1.46	281	*e*P	Pn	01 35 07.6	+0.1
DPDB	baz=266			*e*S	Sn	01 35 25.4	-0.6
SMLT	baz=266 **Sun Moon Lake**	1.46	275	*i* P	Pn	01 35 07.8	+0.2
SMLT	baz=269			*i* S	Sn	01 35 26.4	+0.2
TWA	baz=269 **Mucha**	1.46	326	*i* P	Pb	01 35 08.4	-0.3
TWA	baz=320			S	Sb	01 35 26.9	0.0
JKRS	baz=320 **Kuro-shima**	1.47	71	P	Pn	01 35 07.9	+0.3
JKRS				S	Sb	01 35 26.9	-0.1
WCS	**Beigang Elemen**	1.47	281	*e*P	Pn	01 35 07.9	+0.2
WCS	baz=267			*e*S	Sn	01 35 26.4	0.0
NHDH	baz=267 **Xindian Distri**	1.48	324	P	Pb	01 35 09.0	0.0
NHDH	baz=318			S	Sb	01 35 28.2	+0.8
WHP	baz=318 **Taichung City**	1.50	290	P	Pb	01 35 10.1	+0.6
WHP	baz=284			S	Sn	01 35 27.4	+0.2
TYC	baz=284 **Yuchr**	1.50	275	*i* P	Pn	01 35 08.4	+0.3
TYC	baz=270			S	Sn	01 35 26.6	-0.5
WHYT	baz=270 **Xinyi Township**	1.50	267	*e*P	Pn	01 35 08.4	+0.3
WHYT	baz=262			S	Sn	01 35 27.3	+0.1
TATO	baz=262 **Taipei**	1.51	323	*e*P	Pn	01 35 08.6	+0.4
TATO	baz=317			S	Sn	01 35 27.7	+0.4
TATO	baz=317 **Taipei**	1.51	323	Pn	Pn	01 35 08.7	+0.5
LONT	**Longtian**	1.52	236	*e*P	Pn	01 35 07.7	-0.6
LONT	baz=223			S	Sn	01 35 27.0	-0.5
TNOU	baz=223 **National Taiwa**	1.52	335	P	Pn	01 35 07.9	-0.4
TNOU	baz=329			S	Sn	01 35 27.3	-0.2
TAP1	baz=329 **Taipei**	1.54	325	*e*P	Pn	01 35 08.7	+0.1
TAP1	baz=319			*e*S	Sb	01 35 29.9	+0.7
TAP	baz=319 **Taipei**	1.55	325	P	Pn	01 35 09.3	+0.6
TAP	baz=319			S	Sn	01 35 28.3	+0.1
ALS	baz=319 **Alishan**	1.57	261	*i* P	Pn	01 35 09.7	+0.5
ALS	baz=255			*i* S	Sn	01 35 28.8	-0.3
NJD	baz=255 **Zhudong**	1.60	307	*e*P	Pb	01 35 10.8	-0.3
NJD	baz=301			*e*S	Sb	01 35 30.5	-0.4
YM01	baz=301 **YM01**	1.60	329	P	Pb	01 35 10.5	-0.8
YM01	baz=340			*e*S	Sn	01 35 29.9	+0.1
NSTT	baz=340 **Nanjuang**	1.61	303	P	Pb	01 35 10.9	-0.4
NSTT	baz=285			S	Sb	01 35 30.9	-0.2
WJS	baz=285 **Zhushan**	1.61	272	P	Pb	01 35 11.5	+0.2
WJS	baz=257			S	Sg	01 35 33.8	-0.5
JIJ	baz=257 **Ishigaki jima**	1.62	68	P	Pn	01 35 09.5	-0.2
JIJ				S	Sn	01 35 28.7	-1.4
YM08	**YM08**	1.63	330	P	Pn	01 35 10.3	+0.5
YM08	baz=324			*e*S	Sn	01 35 30.4	0.0
TWS1	baz=324 **Kuangyinshan**	1.65	324	P	Pn	01 35 10.9	+0.8
TWS1	baz=318			S	Sn	01 35 30.3	-0.3
WNT	baz=318 **Mingjian**	1.66	274	P	Pb	01 35 11.9	-0.2
WNT	baz=268			S	Sb	01 35 33.2	+0.6
WWF	baz=268 **Wufeng**	1.66	280	P	Pb	01 35 12.7	+0.5
WWF	baz=265			S	Sb	01 35 34.0	+1.3
ANP	baz=265 **Anpu**	1.66	328	P	Pn	01 35 10.6	+0.2
ANP	baz=339			S	Sn	01 35 30.6	-0.6
WNT1	baz=339 **Nantou City**	1.66	275	P	Pb	01 35 12.8	+0.6
WNT1	baz=269			S	Sb	01 35 33.8	+1.0
CHN5	baz=269 **Tsauling**	1.67	264	*i* P	Pb	01 35 11.8	-0.6
CHN5	baz=259			S	Sn	01 35 31.8	+0.4
HSN1	baz=259 **Hsinchu**	1.68	307	P	Pb	01 35 12.2	-0.2
HSN1	baz=301			S	Sb	01 35 34.4	+1.3
NTST	baz=301 **Danshui**	1.68	326	*e*P	Pn	01 35 10.9	+0.4
NTST	baz=337			*e*S	Sn	01 35 31.8	+0.2
NCU	baz=337 **National Centr**	1.68	315	*e*P	Pn	01 35 10.9	+0.3
NCU	baz=309			*e*S	Sn	01 35 32.3	+0.7
NCUH	baz=309 **Zhongli**	1.68	315	*e*P	Pb	01 35 12.0	-0.6
NCUH	baz=309			S	Sb	01 35 33.4	0.0
STYH	baz=309 **Taoyuan**	1.68	250	P	Pn	01 35 11.2	+0.6
STYH	baz=245			S	Sn	01 35 32.0	+0.4
TCU	baz=245 **Taichung**	1.70	283	*i* P	Pb	01 35 13.2	+0.3
TCU	baz=277			*e*S	Sb	01 35 35.2	+1.4
STYT	baz=277 **Tauyuan**	1.70	250	*i* P	Pn	01 35 11.5	+0.6
STYT	baz=245			S	Sn	01 35 32.8	+0.6
TWY	baz=245 **Chenhua**	1.70	332	P	Pb	01 35 12.0	-0.9
TWY	baz=326			S	Sn	01 35 31.8	-0.3
NSY	baz=326 **Sanyi**	1.71	292	⇑*i*P	Pb	01 35 12.6	-0.4
NSY	baz=286			*i* S	Sb	01 35 34.4	+0.4
SBCB	baz=286 **Hsinchu**	1.71	307	P	Pb	01 35 12.5	-0.4
SBCB	baz=300			*e*S	Sb	01 35 33.4	-0.7
HSN	baz=300 **Hsinchu**	1.73	307	P	Pb	01 35 12.8	-0.5
HSN	baz=302			S	Sn	01 35 33.1	+0.5
NMLH	baz=302 **Miaoli**	1.73	297	*i* P	Pb	01 35 13.3	0.0
NMLH	baz=290			S	Sb	01 35 35.1	+0.4
WGK	baz=290 **Gukeng**	1.77	268	P	Pb	01 35 14.4	+0.4
WGK	baz=262			S	Sb	01 35 35.8	0.0
TPUB	baz=262 **Ta-pu**	1.77	255	P	Pb	01 35 13.7	-0.3
TPUB	baz=243			S	Sb	01 35 35.5	-0.3
TPUB	baz=243 **Ta-pu**	1.77	255	Pn	Pb	01 35 13.1	-0.9
WDJ	**Dajia District**	1.79	289	*i* P	Pb	01 35 13.6	-0.7
WDJ	baz=282			S	Sb	01 35 37.2	+0.9
CHN4	baz=282 **Tsaushan**	1.79	257	*i* P	Pb	01 35 13.6	-0.8
CHN4	baz=242			*e*S	Sb	01 35 35.5	-0.9
WDLH	baz=242 **Douliu**	1.79	268	*e*P	Pb	01 35 13.6	-0.8
WDLH	baz=262			*e*S	Sb	01 35 36.4	-0.1
WCHH	baz=262 **Zhanghua**	1.79	280	P	Pb	01 35 14.1	-0.4
WCHH	baz=274			S	Sb	01 35 37.9	+1.4
WTP	baz=274 **Ta-pu**	1.80	253	*i* P	Pn	01 35 13.1	+0.8
WTP	baz=248			*e*S	Sn	01 35 35.5	+1.0
ECL	baz=248 **Taimali**	1.83	231	*e*P	Pn	01 35 13.3	+0.7
JISG	baz=240 **Ishigakijimahi**	1.85	64	P	Pn	01 35 12.6	-0.3
JISG				S	Sn	01 35 34.9	-0.8
SLGT	**Liugui**	1.86	246	P	Pn	01 35 14.1	+1.1
SLGT	baz=234			S	Sb	01 35 38.5	0.0
CHN2	baz=234 **Minshiung**	1.86	263	S	Sb	01 35 38.8	+0.3
SGST	baz=257 **Jiashian**	1.88	249	P	Pn	01 35 14.2	+0.9
SGST	baz=235			S	Sb	01 35 38.1	-0.9
PCYT	baz=235 **Pengchaiyu**	1.89	348	*e*P	Pn	01 35 13.3	-0.1
PCYT	baz=345			*e*S	Sn	01 35 36.6	0.0
CHN1	baz=345 **Nanshi**	1.89	252	*i* P	Pb	01 35 15.6	-0.6
CHN1	baz=247			*e*S	Sb	01 35 38.3	-1.1
TWK	baz=247 **Hsinying**	1.91	255	P	Pb	01 35 15.5	-0.8
TWK	baz=249			*e*S	Sn	01 35 38.3	+1.1
SNST	baz=249 **Tainan City**	1.91	254	P	Pb	01 35 16.0	-0.4
SNST	baz=248			*e*S	Sb	01 35 39.6	-0.2
CHY	baz=248 **Chiayi**	1.91	262	*e*P	Pb	01 35 15.5	-1.0
CHY	baz=256			*e*S	Sb	01 35 39.1	-0.9
WTK	baz=256 **Tuku**	1.93	268	*e*P	Pb	01 35 16.0	-0.7
WTK	baz=262			*e*S	Sb	01 35 39.6	-0.7
LAY	baz=262 **Lan-yu**	1.93	207	P	Pn	01 35 12.2	-1.7
LAY	baz=206			S	Sn	01 35 35.3	-2.4
WRL	baz=206 **Guolierlin Hig**	1.94	274	*e*P	Pb	01 35 16.0	-0.9
WRL	baz=257			S	Sb	01 35 41.2	+0.6
SSD	baz=257 **Sandimen**	1.99	240	*e*P	Pn	01 35 15.8	+1.0
SSD	baz=230			*e*S	Sn	01 35 38.5	-0.7
TSMG	baz=230 **Majia**	2.00	238	*e*P	Pn	01 35 16.3	+1.4
TAW	baz=230 **Tawu**	2.03	227	*e*P	Pn	01 35 16.0	+0.7
SCST	baz=235 **Cishan**	2.04	245	*e*P	Pb	01 35 18.5	-0.1
SCST	baz=231			*e*S	Sb	01 35 43.1	-0.3
EAST	baz=231 **Anshuo**	2.05	228	*e*P	Pn	01 35 15.8	+0.1
EAST	baz=233			*e*S	Sn	01 35 40.2	-0.5
MASBT	baz=233 **Mashibuluo**	2.06	236	*e*P	Pn	01 35 16.3	+0.5
MASBT	baz=226			S	Sn	01 35 41.0	0.0
ICHU	baz=226 **Yijhu**	2.07	259	*e*P	Pb	01 35 18.2	-0.9
ICHU	baz=253			*e*S	Sb	01 35 42.9	-1.6
CHN3	baz=253 **Shinhua**	2.07	251	*e*P	Pb	01 35 18.5	-0.7
CHN3	baz=245			S	Sb	01 35 46.1	+1.6
WMLT	baz=245 **Mailiao**	2.08	271	*e*S	Sb	01 35 45.0	+0.4
WSF	baz=265 **Szhu**	2.08	267	*e*P	Pn	01 35 17.7	+1.6
TWM1	baz=250 **Shoushan**	2.12	244	*e*S	Sb	01 35 45.3	-0.7
CHN8	baz=242 **Yiju**	2.13	259	P	Pb	01 35 18.5	-1.7
CHN8	baz=253			S	Sb	01 35 45.6	-0.7
SSPT	baz=253 **Xinbi**	2.18	234	*e*P	Pn	01 35 18.2	+0.8
SCLT	baz=226 **Jiali**	2.19	255	*e*S	Sb	01 35 47.5	-0.4
SLIU	baz=249 **Shizi**	2.20	226	*e*P	Pn	01 35 18.5	+0.8
SLIU	baz=222			*e*S	Sn	01 35 43.1	-1.1
JTJ	baz=222 **Tarama**	2.20	66	P	Pn	01 35 19.1	+1.5
JTJ				S	Sn	01 35 46.0	+1.7
SCZT	**Fangliau**	2.21	231	*e*P	Pn	01 35 19.3	+1.4
KAU	baz=223 **Kaohsiung**	2.34	240	*e*P	Pn	01 35 21.5	+1.9
TSEB	baz=250 **Hengchuen, Pin**	2.37	219	*e*S	Sn	01 35 50.5	+1.9
HEN	baz=225 **Hengchun**	2.39	223	*e*P	Pn	01 35 22.0	+1.8
HEN	baz=220			*e*S	Sn	01 35 50.2	+1.2
TWKBT	baz=220 **Hengchun**	2.39	221	*e*P	Pn	01 35 20.9	+0.6
TWKBT	baz=226			*e*S	Sn	01 35 49.9	+0.9
WLCH	baz=226 **Liuqiu**	2.40	234	*e*P	Pn	01 35 22.3	+1.8
WLCH	baz=226			*e*S	Sn	01 35 50.2	+0.8
SNW	baz=226 **Nanwan**	2.41	222	*e*S	Sn	01 35 51.3	+1.6
TWP	baz=219 **Hsiaoliuchiu**	2.42	235	*e*P	Pb	01 35 25.3	+0.2
TWP	baz=226			*e*S	Sb	01 35 55.9	+1.4
WDGT	baz=226 **Dungji**	2.65	259	P	Pn	01 35 25.3	+1.4
WDGT	baz=253			S	Sn	01 35 55.9	+0.5
JIRB	baz=253 **Irabujima**	2.67	66	P	Pn	01 35 25.7	+1.6
JIRB				S	Sn	01 35 57.5	+1.7
PHUB	**P'eng-hu**	2.69	265	*e*P	Pn	01 35 25.5	+1.1
PHUB	baz=248			*e*S	Sn	01 35 56.7	+0.3
PNG	baz=248 **Penghu**	2.70	266	P	Pn	01 35 25.8	+1.3
PNG	baz=249			S	Sn	01 35 57.8	+1.1
JMJ	baz=249 **Miyako jima 2**	2.76	67	*e*P	Pn	01 35 23.6	-1.8
JMJ2	baz=70 **Miyako jima3**	2.76	69	P	Pn	01 35 26.8	+1.4
JIKM	**Ikemajima**	2.77	65	P	Pn	01 35 26.4	+1.0
JIKM				S	Sn	01 35 59.6	+1.3
VCHM	**Qimei**	2.87	259	*e*P	Pn	01 35 27.1	+0.3
VCHM	baz=253			*e*S	Sn	01 35 59.9	-0.8
VWUC	baz=253 **VWUC**	3.03	294	*e*P	Pn	01 35 29.1	+0.1
VWUC	baz=287			*e*S	Sn	01 36 03.2	-1.6
MATB	baz=287 **Ma-tsu**	3.31	316	*e*P	Pn	01 35 32.6	-0.4
MATB	baz=309			*e*S	Sn	01 36 10.8	-0.9
PTMZ	baz=309 **Houxiangcun**	3.32	293	*e*P	Pn	01 35 33.9	+0.8
PTMZ	baz=273			*e*S	Sn	01 36 11.4	-0.6
MSUT	baz=273 **Lienchiang**	3.34	316	*e*P	Pn	01 35 33.1	-0.2
MSUT	baz=309			*e*S	Sn	01 36 12.0	-0.4
LYJJ	baz=309 **Jianjiangzhen**	3.71	319	*e*P	Pn	01 35 37.7	-0.7
LYJJ	baz=312			*e*S	Sn	01 36 19.6	-2.0
KNM	baz=312 **Kinmen**	3.76	281	P	Pn	01 35 41.0	+1.8
KNM	baz=272			S	Sn	01 36 23.8	+0.9
XPSS	baz=272 **Dashiqiu**	3.77	327	*e*P	Pn	01 35 39.1	-0.2
KNMB	baz=335 **Chin-men Tao**	3.81	281	*e*P	Pn	01 35 39.9	+0.1
KNMB	baz=273			*e*S	Sn	01 36 23.5	-0.6
KNMB	baz=273 **Chin-men Tao**	3.81	281	Pn	Pn	01 35 39.6	-0.2
MHZQ	**Yeshan**	3.90	307	*e*P	Pn	01 35 40.7	-0.4
MHZQ	baz=300			*e*S	Sn	01 36 25.4	-1.0
AXDP	baz=300 **Jialang**	4.27	286	*e*P	Pn	01 35 47.5	+1.3
AXDP	baz=278			*e*S	Sn	01 36 33.9	-1.6
ZPLA	baz=278 **Ao Xicun**	4.34	273	*e*P	Pn	01 35 48.0	+0.9

baz=265
ZPLA *e*S **Sn** **01 36 36.4 -0.8**
baz=265
JOW Kunigami 6.06 59 Pn **Pn** **01 36 10.0 -0.8**
5.2nm,0.3s,baz=180,slow=14,SNR=5.7
JOW Sn **Sn** **01 37 18.3 -1.2**
1.7nm,0.3s,baz=224,slow=25,SNR=1.7
JOW Kunigami 6.06 59 *e*P **Pn** **01 36 10.5 -0.2**
baz=62
JOW Kunigami 6.06 59 Pn **Pn** **01 36 09.6 -1.1**
KSRS Korea Array 14.41 18 Pn **Pn** **01 38 06.6 +1.5**
0.7nm,0.3s,baz=200,slow=12,SNR=22
KSRS LR LR 01 44 37.4
comp=Z,192nm,19.0s,baz=191,slow=42
KS19 Wonju Array Si 14.44 17 P **P** **01 38 10.8 -1.5**
USRK Ussuriysk Ar. 21.82 19 LR LR 01 48 58.5
comp=Z,170nm,18.0s,baz=163,slow=40
KLR Kul'dur 26.44 14 LR LR 01 51 54.6
comp=Z,152nm,18.4s,baz=200,slow=39
SONM Songino Array 27.22 336 P **P** **01 40 24.1 -0.8**
2.5nm,0.7s,baz=152,slow=9.8,SNR=12
SONM LR LR 01 52 10.6
comp=Z,72nm,21.8s,baz=108,slow=39
SONM Songino Array 27.22 336 P **P** **01 40 23.8 -1.1**
KAPI Kappang 28.73 186 LR LR 01 53 30.3
comp=Z,53nm,18.3s,baz=305,slow=39
TLY Talaya 31.41 337 LR LR 01 54 59.0
comp=Z,80nm,19.4s,baz=118,slow=39
MK31 Makanchi Array 39.47 316 P **P** **01 42 11.9 +0.7**
MKAR Makanchi Array 39.47 316 P **P** **01 42 11.2 0.0**
2.5nm,0.5s,baz=98,slow=9.7,SNR=21
MKAR Makanchi Array 39.47 316 P **P** **01 42 11.6 +0.4**
PETK Petropavlovsk- 39.55 33 LR LR 02 00 46.6
comp=Z,23nm,18.8s,baz=211,slow=40
MAKZ Makanchi 39.67 316 P **P** **01 42 12.8 -0.1**
MAKZ IAmb IAmb 01 42 14.6
comp=Z,8.7nm,1.0s
ZAA0 Zalesovo Array 41.24 327 P **P** **01 42 23.6 -2.2**
ZALV Zalesovo Beam 41.24 327 P **P** **01 42 24.3 -1.4**
comp=Z,7.7nm,0.7s,baz=111,slow=8.1,SNR=11
ZALV LR LR 02 00 41.6
comp=Z,55nm,20.2s,baz=106,slow=38
ZALV Zalesovo Beam 41.24 327 P **P** **01 42 24.0 -1.8**
WRA Warramunga Arr 44.96 164 P **P** **01 42 56.5 +0.3**
comp=Z,1.6nm,0.8s,baz=350,slow=9.0,SNR=6.9
WRA Warramunga Arr 44.96 164 P **P** **01 42 56.8 +0.6**
WB2 Warramunga Arr 44.96 164 P **P** **01 42 56.9 +0.7**
WB2 IAmb IAmb 01 43 20.9
comp=Z,8.2nm,1.2s
WR0 Warramunga Arr 45.02 164 P **P** **01 42 57.6 +0.9**
WR0 IAmb IAmb 01 43 25.1
comp=Z,4.6nm,0.9s
KK31 Karatay Array 46.67 308 P **P** **01 43 09.8 +0.3**
KK31 IAmb IAmb 01 43 11.3
comp=Z,3.0nm,0.6s
KKAR Karatay Array 46.67 308 P **P** **01 43 09.8 +0.3**
KKAR Karatay Array 46.67 308 P **P** **01 43 09.7 +0.1**
KKAR IAmb IAmb 01 43 11.3
comp=Z,3.0nm,0.6s
KBL Kabul 47.42 296 P **P** **01 43 17.8 +2.0**
ASAR Alice Springs 48.44 166 P **P** **01 43 23.8 +0.3**
comp=Z,1.0nm,0.8s,baz=349,slow=7.7,SNR=6.7
ASAR Alice Springs 48.44 166 P **P** **01 43 24.2 +0.7**
BVAR Borovoye Array 48.75 321 P **P** **01 43 24.0 -1.5**
comp=Z,0.9nm,0.6s,baz=207,slow=9.6,SNR=5.4
NRIK Noril'sk 50.11 345 LR LR 02 06 23.1
comp=Z,68nm,18.5s,baz=144,slow=38
ABKAR Akbulak array 54.58 314 P **P** **01 44 09.2 0.0**
AKTO Aktyubinsk 55.90 316 P **P** **01 44 18.6 -0.1**
comp=Z,0.7nm,0.7s,baz=133,slow=4.5,SNR=4.0
GEYT Alibek 56.03 301 P **P** **01 44 20.6 +0.7**
comp=Z,2.5nm,0.7s,baz=72,slow=12,SNR=3.8
STKA Stephens Creek 58.27 161 P **P** **01 44 36.8 +1.2**
comp=Z,3.1nm,0.8s,baz=352,slow=7.2,SNR=5.0
KBZ Khabaz 66.67 309 P **P** **01 45 32.2 +0.6**
comp=Z,1.4nm,0.6s,baz=93,slow=7.2,SNR=4.1
MLY Manley 67.37 27 P **P** **01 45 36.5 +0.6**
MLY IAmb IAmb 01 45 45.3
comp=Z,4.3nm,1.4s
BPAW Bear Paw Mtn. 67.39 28 P **P** **01 45 36.0 +0.1**
BPAW IAmb IAmb 01 45 43.4
comp=Z,3.3nm,1.2s
SUA Susitna One 67.89 31 P **P** **01 45 39.0 -0.2**
I23K Minto, Yukon-K 67.93 27 P **P** **01 45 39.9 +0.6**
I23K IAmb IAmb 01 45 51.0
comp=Z,4.3nm,1.4s
RND Reindeer 68.43 29 P **P** **01 45 41.8 -0.8**
WRH Wood River Hil 68.58 28 P **P** **01 45 44.2 +0.8**
WRH IAmb IAmb 01 46 04.3
comp=Z,3.0nm,1.3s
ILAR Eielson Array 69.03 27 P **P** **01 45 45.2 -1.0**
comp=Z,0.3nm,0.5s,baz=277,slow=6.1,SNR=5.1
ARCES ARCESS Array B 70.36 338 P **P** **01 45 53.6 -0.8**
comp=Z,2.6nm,0.8s,baz=52,slow=9.3,SNR=3.7
ARCES LR LR 02 21 50.2
comp=Z,27nm,18.5s,baz=310,slow=40
GLB Gilahina Butte 71.15 30 P **P** **01 45 59.3 -0.1**
K27K Chicken 71.24 28 P **P** **01 46 00.3 +0.6**
K27K IAmb IAmb 01 46 12.2
comp=Z,3.4nm,1.4s
BCAR Beaver Creek A 71.62 29 P **P** **01 46 03.1 +0.9**
FINES FINESS Array B 72.40 330 P **P** **01 46 05.9 -0.9**
comp=Z,2.4nm,0.8s,baz=57,slow=7.0,SNR=6.4
FINES LR LR 02 21 22.8
comp=Z,76nm,18.6s,baz=70,slow=39
AKASG Malin Array Be 73.97 319 P **P** **01 46 15.4 -0.8**
comp=Z,0.9nm,0.7s,baz=58,slow=5.7,SNR=1.8
BR131 Keskin Array S 74.38 307 P **P** **01 46 18.7 -0.3**
BRTR Keskin Array B 74.38 307 P **P** **01 46 19.0 -0.1**
comp=Z,2.4nm,0.8s,baz=104,slow=5.1,SNR=17
BRTR Keskin Array B 74.38 307 P **P** **01 46 19.5 +0.4**
NOA NORSAR Array B 79.14 332 P **P** **01 46 44.5 -0.9**
comp=Z,0.7nm,0.6s,baz=54,slow=6.0,SNR=3.2
NOA LR LR 02 25 53.8
comp=Z,58nm,18.1s,baz=70,slow=39
YKA Yellowknife Ar 82.88 23 P **P** **01 47 04.6 -0.6**
comp=Z,1.2nm,0.8s,baz=316,slow=5.2,SNR=3.7
GEC2 GERESS Array S 83.92 321 P **P** **01 47 10.7 -0.3**
GERES GERESS Array B 83.92 321 P **P** **01 47 10.9 -0.1**
comp=Z,1.0nm,0.9s,baz=49,slow=4.1,SNR=7.8
GERES GERESS Array B 83.92 321 P **P** **01 47 10.6 -0.4**

NEIC ***06*** *01:50:07.6±1.8, 18°.15S±0°.06×178°.4W±0°.1, h576km±6km, mb4.3/34, Error ellipse: s-maj=18.8km s-min=8.6km az=91.0*
IDC ***06*** *01:50:08.6±1.1, 18°.16S×178°.43W, h600km±12km, mb3.3/12, mb1 3.6/13, mb1mx3.3/30, mbtmp4.3/13, Error ellipse: s-maj=22.8km s-min=13.8km az=133.0*
ISC 06 01:50:07.1±0.5, 18°.13S±0°.10×178°.29W±0°.09, h579km, n63, σ1$25/61, mb4.2/29, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.51**	**276**	P	**P**	**01 51 29.5**	**+1.7**
	18nm,0.3s,baz=126,slow=6.4,SNR=68						
MSVF				S	**S**	**01 52 37.7**	**+4.2**
	baz=118,slow=23,SNR=0.5						
MSVF	**Nonsavu**	**3.51**	**276**	P	**P**	**01 51 29.3**	**+1.5**
AFI	**Afiamalu**	**7.54**	**57**	P	**P**	**01 51 59.8**	**-1.7**
	9.7nm,0.3s,baz=20,slow=3.8,SNR=7.8						
YATNC	**Mamie plateau,**	**14.46**	**252**	P	P	01 53 15.8	+5.0
OUENC	**Ouen Island, N**	**14.59**	**251**	P	P	01 53 19.9	+7.9
ONTNC	**Ouen Toro**	**14.91**	**251**	P	**P**	**01 53 15.0**	**-0.1**
NOUC	**Port Laguerre**	**15.00**	**252**	P	**P**	01 53 10.1	-5.8
OUZ	**Omahuta**	**18.48**	**201**	P	**P**	**01 53 49.9**	**+1.9**
URZ	**Urewera**	**20.45**	**190**	P	**P**	**01 54 03.9**	**-1.8**
	8.4nm,0.8s,baz=287,slow=4.1,SNR=5.9						
URZ	**Urewera**	**20.45**	**190**	P	**P**	**01 54 04.0**	**-1.7**
PLWZ	**Palliser**	**24.00**	**192**	P	**P**	**01 54 36.0**	**-1.5**
KHZ	**Kahutara**	**25.19**	**194**	P	**P**	**01 54 47.3**	**-0.5**
FOZ	**Fox Glacier**	**27.24**	**199**	P	**P**	**01 55 04.9**	**-0.9**
EIDS	**Eidsvold**	**29.30**	**250**	P	**P**	**01 55 23.1**	**-0.9**
EIDS				IAmb	IAmb	01 55 35.6	
	comp=Z,16nm,1.5s						
CTAO	**Charters Tower**	**33.52**	**261**	P	**P**	**01 56 00.0**	**-0.1**
CTAO				IAmb	IAmb	01 56 07.5	
	comp=Z,9.1nm,1.1s						
CAN	**Canberra**	**33.66**	**233**	P	**P**	**01 56 01.6**	**+0.5**
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**01 56 29.5**	**-0.1**
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**01 56 41.9**	**0.0**
	comp=Z,5.6nm,0.5s,baz=85,slow=10,SNR=14						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**01 56 42.1**	**+0.2**
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**01 57 19.2**	**-0.5**
BBOO				IAmb	IAmb	01 57 19.8	
	comp=Z,16nm,1.0s						
WR0	**Warramunga Arr**	**44.51**	**260**	P	**P**	**01 57 27.6**	**-0.8**
WR0				IAmb	IAmb	01 57 31.0	
	comp=Z,7.8nm,1.2s						
WB0	**Warramunga Arr**	**44.67**	**260**	P	**P**	**01 57 28.7**	**-0.9**
WB2	**Warramunga Arr**	**44.69**	**260**	P	**P**	**01 57 28.5**	**-1.3**
WB2				IAmb	IAmb	01 57 53.9	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**44.70**	**260**	P	**P**	**01 57 28.1**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=97,slow=7.2,SNR=39						
WRA	**Warramunga Arr**	**44.70**	**260**	P	**P**	**01 57 28.7**	**-1.2**
AS31	**Alice Springs**	**44.84**	**254**	P	**P**	**01 57 30.3**	**-0.7**
AS31				IAmb	IAmb	01 57 31.1	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**01 57 30.2**	**-0.7**
	comp=Z,10.0nm,0.5s,baz=88,slow=8.6,SNR=155						
ASAR	**Alice Springs**	**44.84**	**254**	P	**P**	**01 57 29.9**	**-1.1**
FORT	**Forrest**	**50.02**	**245**	P	**P**	**01 58 08.3**	**-1.1**
FORT				IAmb	IAmb	01 58 08.5	
	comp=Z,15nm,1.0s						
KNRA	**Kununurra**	**50.58**	**264**	P	**P**	**01 58 12.9**	**-0.9**
PSA00	**Pilbara Seismi**	**57.96**	**256**	P	**P**	**01 59 04.4**	**-1.1**
PSA00				IAmb	IAmb	01 59 27.6	
	comp=Z,12nm,1.2s						
SBA	**Scott Base**	**60.20**	**184**	P	**P**	**01 59 21.1**	**+1.7**
MORW	**Morawa**	**60.50**	**246**	P	**P**	**01 59 21.1**	**-1.1**
MORW				IAmb	IAmb	01 59 48.2	
	comp=Z,23nm,1.4s						
JMM	**Marumori**	**67.69**	**326**	P	**P**	**02 00 07.3**	**-0.1**
JMM				IAmb	IAmb	02 00 28.0	
	comp=Z,8.5nm,1.0s						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**02 00 09.3**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=141,slow=6.3,SNR=2.5						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**02 00 09.4**	**-0.9**
ADK	**Adak**	**69.73**	**1**	P	**P**	**02 00 18.2**	**-1.2**
ADK				IAmb	IAmb	02 00 42.0	
	comp=Z,16nm,1.1s						
QSPA	**South Pole Qui**	**71.92**	**180**	P	**P**	**02 00 32.8**	**+0.5**
QSPA				IAmb	IAmb	02 00 33.5	
	comp=Z,8.8nm,1.0s						
PEA0B	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**02 00 43.8**	**0.0**
PEA0B				IAmb	IAmb	02 00 50.4	
	comp=Z,12nm,1.2s						
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**02 00 42.4**	**-1.3**
	comp=Z,2.2nm,0.6s,baz=126,slow=7.5,SNR=8.9						
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**02 00 43.5**	**-0.2**
PMPB	**Monarch Peak**	**76.62**	**45**	P	**P**	**02 01 00.5**	**+1.2**
PMPB				IAmb	IAmb	02 01 15.4	
	comp=Z,8.0nm,1.3s						
SFX	**San Felipe**	**78.09**	**52**	P	**P**	**02 01 09.7**	**+2.6**
SFX				IAmb	IAmb	02 01 14.7	
	comp=Z,18nm,1.0s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**02 01 15.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=220,slow=8.1,SNR=6.3						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**02 01 15.7**	**+0.9**
BRLK	**Bradley Lake**	**80.77**	**14**	P	**P**	**02 01 22.7**	**+2.1**
E03A	**Lebam**	**81.07**	**35**	P	**P**	**02 01 22.9**	**+0.5**
E03A				IAmb	IAmb	02 01 47.2	
	comp=Z,17nm,1.1s						
U15A	**North Rim**	**82.58**	**48**	P	**P**	**02 01 32.3**	**+1.5**
ELK	**Elko**	**82.74**	**43**	P	**P**	**02 01 31.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=235,slow=2.7,SNR=4.1						
SCM	**Sheep Creek Mo**	**83.42**	**14**	P	**P**	**02 01 33.4**	**-0.6**
SCM				IAmb	IAmb	02 01 48.9	
	comp=Z,4.5nm,1.0s						
MAW	**Mawson**	**83.69**	**200**	P	**P**	**02 01 35.2**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=130,slow=7.3,SNR=4.0						
MAW	**Mawson**	**83.69**	**200**	P	**P**	**02 01 35.4**	**+0.1**
TX31	**Lajitas Ar. Si**	**86.02**	**58**	P	**P**	**02 01 48.5**	**+1.0**
TX31				IAmb	IAmb	02 01 49.9	
	comp=Z,5.4nm,0.9s						
TX32	**Lajitas Array**	**86.02**	**58**	P	**P**	**02 01 48.9**	**+1.4**
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**02 01 49.1**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=221,slow=5.8,SNR=19						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**02 01 49.0**	**+1.5**
ILAR	**Eielson Array**	**86.08**	**13**	P	**P**	**02 01 45.5**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=221,slow=5.1,SNR=8.5						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**02 01 54.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=227,slow=3.3,SNR=6.4						
BRTR	**Keskin Array B**	**145.02**	**315**	PKP	**PKPdf**	**02 08 39.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=50,slow=2.3,SNR=4.2						
BRTR	**Keskin Array B**	**145.02**	**315**		**PKPab**	**02 08 41.6**	**+0.2**
CLL	**Collm**	**145.71**	**347**	*i* PKPbc	**PKPbc**	**02 08 41.4**	**-0.4**
GERES	**GERESS Array B**	**147.86**	**345**	PKPbc	**PKPbc**	**02 08 47.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=64,slow=3.1,SNR=5.3						
GERES	**GERESS Array B**	**147.86**	**345**		**PKPbc**	**02 08 47.2**	**-0.6**

TAP 06 01:59:26.1, 24°.67N×121°.20E, h10km, ML3.0, 4C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJD	**Zhudong**	**0.12**	**303**	P	Pg	01 59 29.8	+0.7
	baz=302						
NJD				S	Sg	01 59 32.4	+1.2
	baz=302						
YHNB	**Yeheng**	**0.16**	**89**	⇑P	Pg	01 59 30.1	+0.4
	baz=90						
YHNB				S	Sg	01 59 32.6	+0.4
	baz=90						
NSTT	**Nanjuang**	**0.19**	**259**	⇑*i*P	Pg	01 59 30.6	+0.5
	baz=249						
NSTT				*i* S	Sg	01 59 33.6	+0.8
	baz=249						
HSN1	**Hsinchu**	**0.20**	**303**	P	Pg	01 59 31.4	+1.1
	baz=302						
HSN1				S	Sg	01 59 35.4	+2.2
	baz=302						
SBCB	**Hsinchu**	**0.23**	**302**	P	Pg	01 59 32.3	+1.4
	baz=300						
HSN	**Hsinchu**	**0.25**	**302**	*i* P	Pg	01 59 32.2	+1.0
	baz=311						
HSN				*i* S	Sg	01 59 36.6	+1.9
	baz=311						
NNS	**Nan Shan**	**0.28**	**145**	⇓*i*P	Pb	01 59 32.6	-0.7
	baz=146						
NNS				*i* S	Sg	01 59 36.7	+1.1
	baz=146						
NDT	**Datong Townshi**	**0.29**	**103**	*i* P	Pg	01 59 32.7	+0.7
	baz=104						
NDT				*i* S	Sg	01 59 36.7	+0.8
	baz=104						
NWLT	**Wulai**	**0.29**	**68**	*i* P	Pg	01 59 32.4	+0.3
	baz=69						
NWLT				S	Sg	01 59 36.7	+0.6
	baz=69						
NCUH	**Zhongli**	**0.30**	**357**	*i* P	Pb	01 59 33.4	-0.2
	baz=356						
NCUH				*i* S	Sb	01 59 39.1	+0.4
	baz=356						
NCU	**National Centr**	**0.30**	**358**	*i* P	Pb	01 59 33.4	-0.3
	baz=358						
NCU				S	Sb	01 59 39.1	+0.4
	baz=358						
NJN	**Zhunan**	**0.30**	**273**	P	Pb	01 59 33.6	-0.1
	baz=258						
NJN				S	Sb	01 59 38.8	+0.1
	baz=258						
BACT	**New Taipei Cit**	**0.39**	**34**	*e*P	Pg	01 59 34.5	+0.6
	baz=42						
BACT				S	Sb	01 59 41.2	-0.2
	baz=42						
NMLH	**Miaoli**	**0.40**	**251**	*i* P	Pb	01 59 35.5	+0.3
	baz=239						
NMLH				S	Sb	01 59 42.5	+1.1
	baz=239						
TATO	**Taipei**	**0.40**	**40**	*e*P	Pb	01 59 35.1	-0.3
	baz=45						
TATO				*e*S	Sb	01 59 40.9	-0.7
	baz=45						
TWT	**Tachien**	**0.41**	**183**	*i* P	Pg	01 59 35.0	+0.6
	baz=187						
TWT				*i* S	Sg	01 59 40.5	+0.6
	baz=187						
TDCB	**Techi**	**0.41**	**185**	⇓P	Pg	01 59 34.7	+0.4
	baz=187						
TDCB				S	Sg	01 59 40.7	+0.8
	baz=187						
NHDH	**Xindian Distri**	**0.42**	**45**	*i* P	Pb	01 59 35.2	-0.4
	baz=59						
NHDH				*i* S	Sb	01 59 41.8	-0.2
	baz=59						
FUSS	**Fushou**	**0.42**	**175**	*i* P	Pb	01 59 35.3	-0.5
	baz=177						
FUSS				S	Sg	01 59 41.2	+1.1
	baz=177						
TWE	**Neicheng**	**0.43**	**83**	⇑*i*P	Pb	01 59 35.3	-0.5
	baz=92						
TWE				*i* S	Sb	01 59 41.4	-0.9
	baz=92						
WHP	**Taichung City**	**0.45**	**211**	*i* P	Pg	01 59 35.7	+0.6
	baz=212						
WHP				*i* S	Sg	01 59 41.9	+0.8
	baz=212						
TAP	**Taipei**	**0.46**	**37**	P	Pb	01 59 36.2	-0.2
	baz=45						
TAP				*e*S	Sb	01 59 43.5	+0.1
	baz=45						
TWA	**Mucha**	**0.47**	**48**	⇑*i*P	Pb	01 59 36.3	-0.2
	baz=62						
TWA				*i* S	Sb	01 59 43.4	-0.1
	baz=62						
NDS	**Dongshan**	**0.47**	**94**	P	Pg	01 59 35.9	+0.6
	baz=96						
NDS				S	Sb	01 59 42.9	-0.7
	baz=96						
TAP1	**Taipei**	**0.47**	**38**	*e*P	Pb	01 59 36.7	+0.1
	baz=45						
TAP1				*e*S	Sb	01 59 43.4	-0.1
	baz=45						
NSY	**Sanyi**	**0.47**	**238**	*i* P	Pb	01 59 36.9	+0.4
	baz=235						
NSY				S	Sb	01 59 44.2	+0.5
	baz=235						
TWS1	**Kuangyinshan**	**0.47**	**25**	P	Pb	01 59 37.0	+0.3
	baz=11						
TWS1				S	Sb	01 59 44.3	+0.7
	baz=11						
TWQ1	**Liyutan**	**0.50**	**231**	*i* P	Pb	01 59 37.2	+0.1
	baz=229						
TWQ1				S	Sb	01 59 44.2	-0.3
	baz=229						
ILA	**Ilan**	**0.51**	**79**	*e*P	Pb	01 59 37.0	-0.2
	baz=84						
ILA				S	Sb	01 59 44.6	+0.1
	baz=84						
WHF	**Hehuan Shan**	**0.52**	**174**	*i* P	Pb	01 59 37.6	-0.1
	baz=175						
WHF				*i* S	Sb	01 59 44.9	-0.6
	baz=175						
ETLH	**Xiulin Townshi**	**0.53**	**151**	P	Pb	01 59 37.5	-0.1
	baz=148						
ETLH				S	Sb	01 59 44.5	-0.7
	baz=148						
NTST	**Danshui**	**0.54**	**24**	*e*P	Pb	01 59 38.0	+0.2
	baz=6.0						
NTST				*e*S	Sb	01 59 46.6	+0.9
	baz=6.0						
EWUT	**Wuta**	**0.57**	**113**	*e*P	Pb	01 59 37.8	-0.4
	baz=114						
EWUT				S	Sb	01 59 45.7	-0.7
	baz=114						
YM01	**YM01**	**0.58**	**35**	P	Pb	01 59 38.5	0.0
	baz=16						
YM01				S	Sb	01 59 47.2	+0.3
	baz=16						
ANP	**Anpu**	**0.59**	**29**	P	Pb	01 59 38.7	0.0
	baz=11						
ANP				S	Sb	01 59 48.4	+1.2
	baz=11						
TWC	**Suao**	**0.59**	**96**	P	Pg	01 59 38.1	+0.5
	baz=105						
TWC				S	Sb	01 59 47.3	+0.2
	baz=105						
NTC	**Toucheng**	**0.60**	**72**	*e*P	Pb	01 59 38.3	-0.4
	baz=73						
NTC				S	Sb	01 59 46.7	-0.6
	baz=73						
WDJ	**Dajia District**	**0.60**	**238**	*e*P	Pb	01 59 39.4	+0.6
	baz=228						
WDJ				*e*S	Sb	01 59 48.3	+1.0
	baz=228						
CHGB	**Renai**	**0.61**	**182**	P	Pb	01 59 38.5	-0.5
	baz=191						
CHGB				S	Sg	01 59 46.1	+0.1
	baz=191						
EHP	**Heping Village**	**0.61**	**126**	*e*S	Sb	01 59 48.0	+0.5
	baz=128						
NACB	**Ninganchiao**	**0.61**	**144**	P	Pb	01 59 38.9	0.0
	baz=146						
NACB				S	Sb	01 59 47.3	-0.2
	baz=146						
YM08	**YM08**	**0.63**	**34**	P	Pb	01 59 39.1	-0.2
	baz=16						
YM08				*e*S	Sb	01 59 48.8	+0.7
	baz=16						
ETL	**Fush Village**	**0.64**	**143**	*e*P	Pb	01 59 39.0	-0.4
	baz=145						
ETL				S	Sb	01 59 48.2	-0.1
	baz=145						
TIPB	**Shuangxi**	**0.64**	**62**	*i* P	Pb	01 59 39.2	-0.3
	baz=77						
TIPB				S	Sb	01 59 48.6	0.0
	baz=77						
NWF	**Wu-fen Shan**	**0.66**	**53**	P	Pb	01 59 39.8	-0.1
	baz=53						
NWF				S	Sb	01 59 50.0	+0.8
	baz=53						
WFSB	**Wu-fen Shan**	**0.66**	**53**	*e*P	Pb	01 59 39.9	+0.1
	baz=54						
WFSB				*e*S	Sb	01 59 50.1	+1.1
	baz=54						
WCS	**Beigang Elemen**	**0.66**	**204**	*e*P	Pg	01 59 38.9	-0.1
	baz=196						
WCS				*e*S	Sg	01 59 48.0	+0.4
	baz=196						
DPDB	**Guoxing**	**0.68**	**202**	*e*P	Pb	01 59 39.8	-0.4
	baz=194						
DPDB				*e*S	Sb	01 59 50.0	+0.3
	baz=194						
TWD	**Chiawan**	**0.69**	**148**	*i* P	Pb	01 59 40.1	-0.1
	baz=149						
TWD				S	Sb	01 59 49.2	-0.5
	baz=149						
WPL	**Puli Township**	**0.69**	**199**	*e*P	Pb	01 59 40.3	0.0
	baz=193						
WPL				*e*S	Sb	01 59 50.9	+1.0
	baz=193						
TCU	**Taichung**	**0.70**	**223**	*e*P	Pb	01 59 41.4	+0.8
	baz=222						
TWY	**Chenhua**	**0.70**	**31**	*e*P	Pb	01 59 40.3	-0.3
	baz=32						
TWY				S	Sb	01 59 51.6	+1.3
	baz=32						
TNOU	**National Taiwa**	**0.71**	**47**	P	Pb	01 59 41.0	+0.4
	baz=48						
TNOU				S	Sb	01 59 51.7	+1.3
	baz=48						
OWD	**Renai**	**0.71**	**182**	*e*P	Pg	01 59 39.8	-0.2
	baz=175						
OWD				*e*S	Sg	01 59 49.5	+0.2
	baz=175						
ETM	**Tongmen**	**0.75**	**159**	P	Pb	01 59 41.2	-0.1
	baz=161						
ETM				S	Sg	01 59 51.0	+0.6
	baz=161						
WWF	**Wufeng**	**0.77**	**216**	*e*P	Pn	01 59 43.3	+0.2
	baz=229						
WWF				*e*S	Sn	01 59 53.9	-0.9
	baz=229						
HWA	**Hwalien**	**0.78**	**152**	P	Pg	01 59 41.3	+0.1
	baz=154						
HWA				S	Sb	01 59 52.4	-0.1
	baz=154						
TWB1	**Santiao Chiao**	**0.79**	**64**	P	Pb	01 59 41.9	-0.1
	baz=74						
TWB1				S	Sb	01 59 53.5	+0.7
	baz=74						
TYC	**Yuchr**	**0.82**	**202**	P	Pb	01 59 42.8	+0.2
	baz=196						
TYC				S	Sn	01 59 55.4	-0.6
	baz=196						
SMLT	**Sun Moon Lake**	**0.83**	**199**	P	Pb	01 59 42.6	-0.1
	baz=195						
SMLT				S	Sb	01 59 55.1	+1.1
	baz=195						
WCHH	**Zhanghua**	**0.83**	**225**	*e*P	Pn	01 59 44.0	+0.1
	baz=224						
WCHH				S	Sb	01 59 54.6	+0.7
	baz=224			

SSLB	**Suanglung**	**0.91 194**	*e*P		Pg	01 59 43.3	-0.3
	baz=188						
SSLB			*e*S		Sn	01 59 57.6	-0.6
	baz=188						
WJS	**Zhushan**	**0.95 207**	*e*P		Pn	01 59 45.6	+0.1
	baz=224						
WJS			*e*S		Sn	01 59 58.8	-0.3
	baz=224						
EGFH	**Guangfu**	**1.02 168**	*e*P		Pg	01 59 45.6	-0.1
	baz=170						
EGFH			*e*S		Sb	01 59 59.9	+0.6
	baz=170						
WRL	**Guolierlin Hig**	**1.07 225**	*e*P		Pb	01 59 47.0	+0.2
	baz=224						
WRL			*e*S		Sn	02 00 02.7	+0.5
	baz=224						
WDLH	**Douliu**	**1.15 212**	*e*P		Pb	01 59 47.9	-0.2
	baz=213						
WDLH			*e*S		Sn	02 00 04.1	0.0
	baz=213						
EHY	**Hungye**	**1.16 175**	*e*P		Pb	01 59 48.2	-0.1
	baz=183						
EHY			*e*S		Sn	02 00 04.2	-0.2
	baz=183						
CHN5	**Tsauling**	**1.17 204**	*e*P		Pn	01 59 48.9	+0.3
	baz=220						
CHN5			*e*S		Sn	02 00 05.8	+1.1
	baz=220						
HGSD	**Ruisui**	**1.19 170**	*e*P		Pg	01 59 49.1	+0.1
	baz=178						
HGSD			*e*S		Sn	02 00 05.8	+0.8
	baz=178						
ALS	**Alishan**	**1.21 198**	*e*P		Pg	01 59 50.3	+0.9
	baz=215						
ALS			S		Sn	02 00 06.0	0.0
	baz=215						
WTK	**Tuku**	**1.23 217**	*e*P		Pn	01 59 49.1	-0.2
	baz=218						
WTK			*e*S		Sn	02 00 07.1	+1.1
	baz=218						
YULB	**Yu-li**	**1.27 176**	*e*P		Pn	01 59 50.0	0.0
	baz=178						
TWF1	**Yuli**	**1.31 176**	*e*P		Pb	01 59 50.9	-0.1
	baz=184						
TWF1			*e*S		Sg	02 00 08.7	+0.2
	baz=184						
WSF	**Szhu**	**1.36 221**	*e*S		Sg	02 00 10.4	+0.5
	baz=220						
CHN4	**Tsaushan**	**1.42 203**	*e*P		Pb	01 59 53.0	+0.2
	baz=218						
CHN4			*e*S		Sg	02 00 12.3	+0.4
	baz=218						
FULB	**Fuli**	**1.47 177**	*e*P		Pb	01 59 53.7	+0.1
	baz=184						
WTP	**Ta-pu**	**1.51 201**	*e*P		Pb	01 59 54.2	-0.2
	baz=215						
WTP			*e*S		Sb	02 00 13.8	+0.1
	baz=215						
TWK	**Hsinying**	**1.54 205**	*e*P		Pb	01 59 54.4	-0.4
	baz=219						
STYH	**Taoyuan**	**1.54 195**	*e*P		Pb	01 59 54.6	-0.2
	baz=211						
CHN1	**Nanshi**	**1.60 203**	*e*P		Pb	01 59 56.0	+0.1

TAP 06 01:59:52.7, 22°.80N×120°.88E, h6km, ML2.3, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali**	**0.21**	**161**	*i* P	Pg	01 59 57.8	+0.9
	baz=158						
ECL				*i* S	Sg	02 00 01.2	+1.5
	baz=158						
SSD	**Sandimen**	**0.23**	**257**	⇑*i* P	Pg	01 59 58.5	+1.3
	baz=255						
SSD				*i* S	Sg	02 00 01.5	+1.1
	baz=255						
TSMG	**Majia**	**0.23**	**247**	*i* P	Pg	01 59 58.6	+1.3
	baz=246						
TSMG				S	Sg	02 00 03.0	+2.6
	baz=246						
TTN	**Taitung**	**0.25**	**100**	*i* P	Pb	01 59 59.5	-0.2
	baz=100						
TTN				*i* S	Sb	02 00 03.8	-0.6
	baz=100						
LONT	**Longtian**	**0.26**	**65**	⇑*i* P	Pg	01 59 58.6	+0.9
	baz=65						
LONT				S	Sb	02 00 03.6	-0.9
	baz=65						
SLGT	**Liugui**	**0.29**	**312**	*i* P	Pb	01 59 59.8	-0.5
	baz=312						
SLGT				*i* S	Sb	02 00 03.9	-1.5
	baz=312						
MASBT	**Mashibuluo**	**0.29**	**230**	P	Pg	01 59 59.3	+0.9
	baz=230						
MASBT				*e*S	Sb	02 00 05.7	+0.2
	baz=230						
SCST	**Cishan**	**0.36**	**284**	*e*P	Pb	02 00 02.0	+0.4
	baz=283						
SCST				S	Sb	02 00 07.4	-0.1
	baz=283						
SGLT	**Jiouru**	**0.36**	**258**	P	Pg	02 00 00.2	+0.5
	baz=257						
SGLT				S	Sb	02 00 07.1	-0.5
	baz=257						
TSPT	**Pingtung City**	**0.37**	**251**	*e*P	Pb	02 00 01.4	-0.3
	baz=251						
TSPT				*e*S	Sb	02 00 08.0	+0.2
	baz=251						
STYH	**Taoyuan**	**0.38**	**346**	P	Pb	02 00 01.8	-0.1
	baz=345						
STYH				S	Sb	02 00 07.6	-0.5
	baz=345						
SGST	**Jiashian**	**0.39**	**316**	P	Pg	02 00 01.2	+0.9
	baz=316						
SGST				S	Sb	02 00 07.3	-1.0
	baz=316						
EAST	**Anshuo**	**0.41**	**184**	P	Pb	02 00 01.8	-0.7
	baz=182						
EAST				S	Sb	02 00 09.0	0.0
	baz=182						
TWM1	**Shoushan**	**0.42**	**273**	P	Pb	02 00 02.0	-0.6
	baz=273						
TWM1				*e*S	Sb	02 00 09.2	0.0
	baz=273						
SSPT	**Xinbi**	**0.42**	**222**	*i* P	Pb	02 00 02.5	-0.1
	baz=222						
SSPT				S	Sb	02 00 09.5	+0.3
	baz=222						
EDH	**Donghe**	**0.43**	**66**	*i* P	Pb	02 00 02.8	+0.1
	baz=66						
EDH				*i* S	Sb	02 00 09.4	-0.1
	baz=66						
ECS	**Chishang**	**0.43**	**47**	P	Pb	02 00 02.3	-0.5
	baz=46						
ECS				S	Sb	02 00 09.3	-0.2
	baz=46						
TAW	**Tawu**	**0.44**	**178**	*e*P	Pb	02 00 03.0	+0.2
	baz=176						
TAW				S	Sb	02 00 09.9	+0.2
	baz=176						
SCZT	**Fangliau**	**0.49**	**209**	*i* P	Pb	02 00 03.0	-0.7
	baz=208						
SCZT				S	Sb	02 00 10.4	-0.7
	baz=208						
CHN1	**Nanshi**	**0.50**	**320**	*e*P	Pb	02 00 03.2	-0.8
	baz=320						
CHN1				*e*S	Sb	02 00 11.3	-0.2
	baz=320						
WTP	**Ta-pu**	**0.51**	**331**	*e*S	Sb	02 00 11.8	+0.1
	baz=332						
CHKT	**Chengkung**	**0.54**	**56**	P	Pb	02 00 04.2	-0.3
	baz=56						
CHKT				S	Sb	02 00 13.6	+0.9
	baz=56						
SNST	**Tainan City**	**0.55**	**320**	*e*P	Pb	02 00 04.6	-0.1
	baz=320						
SNST				*e*S	Sb	02 00 13.6	+0.8
	baz=320						
CHN3	**Shinhua**	**0.55**	**300**	*e*S	Sb	02 00 13.6	+0.8
	baz=300						
TPUB	**Ta-pu**	**0.55**	**336**	*e*S	Sb	02 00 13.4	+0.5
	baz=335						
FULB	**Fuli**	**0.55**	**44**	*i* P	Pb	02 00 04.6	-0.2
	baz=44						
FULB				S	Sb	02 00 12.7	-0.3
	baz=44						
FULB	**Fuli**	**0.55**	**44**	*e*S	Sb	02 00 12.5	-0.5
	baz=184						
LDUT	**Ludao**	**0.56**	**103**	*e*P	Pb	02 00 04.4	-0.5
	baz=102						
LDUT				*e*S	Sb	02 00 13.9	+0.7
	baz=102						
SLIU	**Shizi**	**0.58**	**187**	*e*P	Pg	02 00 04.2	+0.3
	baz=187						
SLIU				*e*S	Sb	02 00 13.4	-0.5
	baz=187						
TWK	**Hsinying**	**0.59**	**322**	*e*P	Pb	02 00 05.0	-0.5
	baz=323						
TWK				*e*S	Sb	02 00 13.9	-0.1
	baz=323						
CHN4	**Tsaushan**	**0.61**	**335**	*e*P	Pb	02 00 05.3	-0.5
	baz=334						
CHN4				*e*S	Sb	02 00 15.5	+0.9
	baz=334						
TWP	**Hsiaoliuchiu**	**0.66**	**227**	*e*S	Sb	02 00 15.7	-0.2
	baz=226						
TAI	**Tainan**	**0.66**	**287**	*e*P	Pb	02 00 06.7	+0.1
	baz=287						
TAI				*e*S	Sb	02 00 16.8	+0.8
	baz=287						
TWF1	**Yuli**	**0.67**	**35**	*e*P	Pg	02 00 05.8	+0.2
	baz=35						
TWF1				*e*S	Sb	02 00 17.1	+0.6
	baz=35						
EYUL	**Yuli**	**0.68**	**37**	P	Pb	02 00 07.1	+0.1
	baz=36						
EYUL				*e*S	Sb	02 00 17.1	+0.4
	baz=36						
YUS	**Yu-Shan**	**0.69**	**6**	*e*P	Pb	02 00 07.6	+0.1
	baz=5.0						
YUS				*e*S	Sb	02 00 17.5	0.0
	baz=5.0						
YULB	**Yu-li**	**0.71**	**33**	*e*P	Pb	02 00 06.9	-0.6
	baz=33						
YULB	**Yu-li**	**0.71**	**33**	*e*S	Pb	02 00 06.9	-0.6
	baz=178						
ALS	**Alishan**	**0.71**	**355**	*e*P	Pb	02 00 08.0	+0.2
	baz=355						
ALS				*e*S	Sb	02 00 19.1	+1.2
	baz=355						

IDC 06 02:00:05.0±3.6, 4°.15S×153°.02E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/21, mbtmp3.5/2, Error ellipse: s-maj=159.3km s-min=51.3km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.04**	**228**	P	P	02 05 23.0	+1.0
	1.1nm,0.7s,baz=54,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.78**	**222**	P	P	02 05 46.8	-0.2
	0.4nm,0.6s,baz=58,slow=9.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**150.31**	**289**	PKPbc	PKPbc	02 19 58.0	-1.3
	0.3nm,0.7s,baz=71,slow=2.5,SNR=2.1						

NNC 06 02:04:02.4±1.7, 37°.61N×78°.20E, h0km, mb4.1, mpv3.7, 1C, Error ellipse: s-maj=23.7km s-min=11.0km az=84.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.50**	**350**	Pg	Pb	02 05 43.6	+4.1
	5.0nm,0.4s						
TNSS				Lg	Lg	02 06 58.2	
	9.3nm,0.7s						
UZB	**Uzynbulak**	**5.56**	**6**	Pg	Pb	02 05 43.9	+3.5
	3.5nm,0.4s						
UZB				Lg	Lg	02 06 58.7	
	3.1nm,0.5s						
MDOK	**Medeo**	**5.61**	**351**	⇑Pg	Pb	02 05 44.2	+3.0
	3.2nm,0.6s						
MDOK				Lg	Lg	02 07 01.3	
	8.3nm,0.7s						
MDOK	**Medeo**	**5.61**	**351**	Pg	Pb	02 05 44.8	+3.5
	2.7nm,0.3s						
MDOK				Lg	Lg	02 07 01.3	
	8.8nm,0.6s						
KTBS	**Karatobe**	**6.20**	**350**	Pg	Pb	02 05 54.8	+3.6
	1.6nm,0.4s						
KTBS				Lg	Lg	02 07 17.8	
	7.2nm,0.8s						

IDC 06 02:18:50.0±1.8, 7°.07S×128°.11E, h0km, mb4.1/1, mb1 4.2/4, mb1mx3.7/32, mbtmp4.1/4, ML4.0/3, Error ellipse: s-maj=64.6km s-min=29.5km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.92**	**27**	Pn	Pn	02 20 33.4	+0.5
	2.8nm,0.3s,baz=210,slow=20,SNR=1.5						
SIJI				Sn	Sn	02 21 38.3	-14
	3.9nm,0.3s,baz=276,slow=23,SNR=2.4						
WRA	**Warramunga Arr**	**14.15**	**155**	Pn	Pn	02 22 10.6	-1.3
	0.9nm,0.3s,baz=335,slow=14,SNR=22						
WRA				Sn	Sn	02 24 36.4	-13
	1.4nm,0.3s,baz=334,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**17.41**	**162**	P	P	02 22 55.6	-0.4
	0.5nm,0.3s,baz=350,slow=12,SNR=24						
ASAR				S	Sn	02 25 58.7	-10
	0.4nm,0.3s,baz=356,slow=24,SNR=6.2						
MKAR	**Makanchi Array**	**67.27**	**328**	P	P	02 29 46.5	-0.1
	0.8nm,0.4s,baz=114,slow=8.6,SNR=7.0						

*SOME **06** 02:25:10.3, 50°.52N×81°.23E, h0km*
*NNC **06** 02:25:11.2±6.7, 50°.61N×81°.13E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=51.9km s-min=27.5km az=59.0, Suspected Mining explosion.*
ISC 06 02:25:05.5±4.3, 50°.7N±0°.2×81°.6E±0°.2, h0km, n4, σ1s04/5, 1C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**0.87**	**252**	*e*P	**Pg**	**02 25 22.8**	**+0.7**
	15nm,0.1s						
SEM				*e*S	**Sg**	**02 25 33.4**	**0.0**
	117nm,0.1s						
KURBB	**Kurchatov Arra**	**1.92**	**269**	⇓P	**Pg**	**02 25 42.7**	**+0.4**
	2.2nm,0.3s,baz=80,slow=17						
KURBB				⇓S	**Sn**	**02 26 03.0**	**-1.2**
	6.4nm,0.3s,baz=92,slow=34						
MAKZ	**Makanchi**	**3.89**	**176**	⇑Lg	Lg	02 27 14.2	
	0.3nm,0.3s						
MK31	**Makanchi Array**	**3.92**	**172**	⇓Pg	**Pg**	**02 26 20.8**	**+0.2**
	0.1nm,0.2s						
MK31				⇓Lg	Lg	02 27 12.9	
	1.0nm,0.3s						

NNC 06 02:28:58.7±3.5, 37°.91N×79°.31E, h0km, mb4.0, mpv3.7, 1D, Error ellipse: s-maj=48.1km s-min=22.8km az=75.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**5.41**	**1**	Pg	Pb	02 30 36.3	+2.1
	2.0nm,0.5s						
PDGK				Lg	Lg	02 31 48.4	
	6.0nm,0.8s						
TNSS	**Tian-Shan**	**5.43**	**341**	Pg	Pb	02 30 37.9	+3.4
	6.7nm,0.5s						
TNSS				Lg	Lg	02 31 51.8	
	11nm,0.6s						
MDOK	**Medeo**	**5.52**	**343**	⇓Pg	Pb	02 30 37.6	+1.6
	7.9nm,0.8s						
MDOK				Lg	Lg	02 31 54.0	
	19nm,0.8s						
MDOK	**Medeo**	**5.52**	**343**	Pg	Pb	02 30 39.3	+3.3
	6.7nm,0.7s						
MDOK				Lg	Lg	02 31 53.6	
	10nm,0.7s						
KURS	**Kuram**	**5.64**	**352**	Pg	Pg	02 30 44.4	-2.2
	9.9nm,0.7s						
KURS				Lg	Lg	02 32 02.1	
	7.0nm,1.0s						
CHKK	**Chushkaly**	**6.19**	**344**	Pg	Pb	02 30 52.0	+4.7
	2.7nm,0.5s						
CHKK				Lg	Lg	02 32 15.4	
	7.9nm,0.8s						
KUU	**Kurty**	**6.38**	**340**	Pg	Pb	02 30 54.7	+4.1
	2.2nm,0.6s						
KUU				Lg	Lg	02 32 19.7	
	3.8nm,0.6s						
ARXS	**Arharly**	**6.39**	**350**	Pg	Pb	02 30 55.1	+4.3
	6.3nm,0.6s						
ARXS				Lg	Lg	02 32 21.5	
	8.4nm,0.5s						

KMA 06 02:33:57.6±0.1, 36°.80N×127°.40E, h16km, Error ellipse: s-maj=1.9km s-min=0.9km az=39.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCEA	**Cheonan**	**0.12**	**283**	P	Pg	02 34 01.2	0.0
	SNR=40						
KSCEA	**Cheonan**	**0.12**	**283**	P	Pg	02 34 01.2	0.0
	SNR=40						
KSCEA	**Cheonan**	**0.12**	**283**	P	Pg	02 34 01.2	0.0
	SNR=40						
EMSB	**Eumseong**	**0.25**	**45**	P	Pg	02 34 02.4	-0.7
KSBON	**Boeun**	**0.44**	**133**	P	Pg	02 34 05.8	-0.6
	SNR=12						
KSBON	**Boeun**	**0.44**	**133**	P	Pg	02 34 05.8	-0.6
	SNR=12						
KSBON	**Boeun**	**0.44**	**133**	P	Pg	02 34 05.8	-0.6
	SNR=12						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=8.2						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=7.3						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=8.2						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=7.3						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=8.2						
KSCHJ	**Chungju**	**0.47**	**80**	P	Pg	02 34 06.4	-0.6
	SNR=7.3						
KSICN	**Icheon**	**0.49**	**1**	P	Pg	02 34 07.5	0.0
	SNR=7.2						
KSICN	**Icheon**	**0.49**	**1**	P	Pg	02 34 07.5	0.0
	SNR=7.2						
KSICN	**Icheon**	**0.49**	**1**	P	Pg	02 34 07.5	0.0
	SNR=7.2						
KSCHC	**Chuncheon**	**1.03**	**18**	P	Pb	02 34 17.1	0.0
	SNR=9.5						

*IDC **06** 02:51:13.2±2.4, 37°.56N×78°.05E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/55, mbtmp3.7/4, ML3.7/1, MS3.9/2, Ms1 3.9/2, ms1mx2.5/53, Error ellipse: s-maj=44.3km s-min=26.5km az=101.0*
*NNC **06** 02:51:19.0±2.9, 37°.81N×78°.03E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=34.8km s-min=18.8km az=89.0*
ISC 06 02:51:15.1±2.2, 37°.4N±0°.2×78°.2E±0°.2, h17km, n14, σ2s22/12, mb3.7/3, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.64**	**2**	Pg	**Pb**	**02 52 56.5**	**+3.3**
	12nm,0.8s						
SATY				Lg	Lg	02 54 08.3	
	19nm,0.6s						
TNSS	**Tian-Shan**	**5.70**	**351**	Pg	**Pb**	**02 52 55.7**	**+1.4**
	11nm,0.5s						
TNSS				Lg	Lg	02 54 07.4	
	24nm,0.9s						
UZB	**Uzynbulak**	**5.76**	**6**	Pg	**Pb**	**02 52 57.0**	**+1.7**
	5.6nm,0.4s						
UZB				Lg	Lg	02 54 09.0	
	10.0nm,0.8s						
MDOK	**Medeo**	**5.81**	**352**	⇓Pg	**Pb**	**02 52 56.7**	**+0.6**
	9.8nm,0.8s						
MDOK				Lg	Lg	02 54 12.1	
	20nm,0.7s						
MDOK	**Medeo**	**5.81**	**352**	Pg	**Pb**	**02 52 57.5**	**+1.4**
	8.3nm,0.6s						
MDOK				Lg	Lg	02 54 09.8	
	14nm,0.7s						
AAK	**Ala-Archa**	**5.94**	**333**	Pg	**Pb**	**02 52 59.8**	**+1.5**
	1.6nm,0.3s,baz=118,slow=6.2,SNR=5.2						
AAK				Lg	Lg	02 54 13.8	
	1.2nm,0.3s,baz=356,slow=18,SNR=3.7						
PDGK	**Podgornoye**	**5.99**	**9**	Pg	**Pb**	**02 53 01.5**	**+2.3**
	2.9nm,0.5s						
PDGK				Lg	Lg	02 54 16.6	
	5.7nm,0.6s						
MKAR	**Makanchi Array**	**9.86**	**17**	Pn	**Pn**	**02 53 36.2**	**+0.2**
	0.7nm,0.3s,baz=199,slow=13,SNR=26						
MKAR				Sn	**Sn**	**02 55 22.0**	**-4.2**
	0.5nm,0.3s,baz=198,slow=22,SNR=6.1						
FINES	**FINESS Array B**	**40.05**	**324**	P	**P**	**02 58 48.8**	**-0.1**
	2.1nm,0.9s,baz=118,slow=11,SNR=5.4						
JOW	**Kunigami**	**43.27**	**89**	LR	LR	03 17 52.1	
	comp=Z,114nm,19.4s,baz=128,slow=37						
NB2	**NORSAR Subarra**	**47.15**	**322**	P	P	02 59 51.6	+5.3
	comp=Z,0.5nm,0.6s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**47.15**	**322**	P	**P**	**02 59 46.3**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=88,slow=7.7,SNR=1.5						
TORD	**Torodi Ar. Bea**	**71.47**	**273**	P	**P**	**03 02 34.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=46,slow=5.1,SNR=4.5						
CTA	**Charters Tower**	**85.81**	**119**	LR	LR	03 45 39.0	
	comp=Z,84nm,20.8s,baz=117,slow=38						

DJA 06 02:53:31.0±0.5, 0°.N±8°.×12°.2E±°, h97km±7km, M3.9/7, mb5.0/3, mB5.5/2, MLv3.3/7, Mw(mB)5.0/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.12**	**10**	P	Pn	02 53 45.1	+0.5
MRSI				S	Sn	02 53 56.5	+1.8
GTOI	**Gorontalo**	**1.12**	**76**	P	Pn	02 53 51.2	-1.4
GTOI				S	Sn	02 54 07.3	-1.6
APSI	**Ampana**	**1.29**	**192**	P	Pn	02 53 54.2	-0.4
MPSI	**Mapaga**	**2.02**	**269**	P	Pn	02 54 04.0	+0.3
MPSI				S	Sn	02 54 29.2	+0.4

*IDC **06** 02:54:24.4±1.5, 0°.80N×124°.87E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/54, mbtmp3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=197.1km s-min=20.1km az=64.0*
*NEIC **06** 02:54:29.2±0.9, 1°.4N±0°.2×126°.2E±0°.2, h35km±2km, mb4.0/9, Error ellipse: s-maj=41.3km s-min=6.3km az=232.0*
ISC 06 02:54:29.0±0.9, 1°.4N±0°.2×126°.2E±0°.2, h35km, n20, σ0s78/19, mb4.1/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**119**	Pn	**Pn**	**02 54 51.5**	**+0.4**
TNTI	**Ternate**	**1.33**	**119**	P	**Pn**	**02 54 51.5**	**+0.4**
	1.0nm4μm192nm,0.6s						
KNRA	**Kununurra**	**17.17**	**172**		**P**	**02 58 27.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.40**	**182**	P	**P**	**02 58 51.6**	**-0.6**
FITZ				IAmb	IAmb	02 58 52.5	
	comp=Z,7.8nm,1.1s						
WB0	**Warramunga Arr**	**22.53**	**159**	P	**P**	**02 59 24.5**	**-1.5**
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**02 59 26.4**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=334,slow=11,SNR=46						
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**02 59 26.6**	**-1.0**
WB2	**Warramunga Arr**	**22.68**	**160**	P	**P**	**02 59 26.7**	**-0.9**
WB2				IAmb	IAmb	02 59 34.5	
	comp=Z,6.3nm,0.9s						
WR0	**Warramunga Arr**	**22.76**	**159**	P	**P**	**02 59 27.7**	**-0.7**
WR0				IAmb	IAmb	02 59 35.0	
	comp=Z,7.0nm,1.1s						
PMG	**Port Moresby**	**23.48**	**118**	LR	LR	03 11 11.0	
	comp=Z,54nm,19.6s,baz=143,slow=41						
AS31	**Alice Springs**	**26.03**	**164**	P	**P**	**02 59 59.7**	**+0.6**
ASAR	**Alice Springs**	**26.03**	**164**	P	**P**	**02 59 58.4**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=347,slow=11,SNR=17						
ASAR	**Alice Springs**	**26.03**	**164**	P	**P**	**02 59 59.3**	**+0.2**
MK31	**Makanchi Array**	**59.16**	**326**	P	**P**	**03 04 25.8**	**-0.5**
MK31				IAmb	IAmb	03 04 28.3	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**03 04 25.8**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=122,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**03 04 25.9**	**-0.4**
KURBB	**Kurchatov Arra**	**63.40**	**328**	P	**P**	**03 04 54.4**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=128,slow=6.0,SNR=7.8						
KURK	**Kurchatov**	**63.41**	**328**	P	**P**	**03 04 54.4**	**-0.6**
KKAR	**Karatay Array**	**64.57**	**318**	P	**P**	**03 05 03.7**	**+0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKAR	**Akbulak array**	**73.60**	**321**	P	**P**	**03 05 58.5**	**-0.2**
ABKAR				IAmb	IAmb	03 06 13.8	
	comp=Z,2.9nm,1.3s						

*SJA **06** 03:05:13.4±0.7,20.°91S×69.°35W,h115^{km}±3^{km},ML4.3, MW4.0*
*VAO **06** 03:05:14.4±0.3,20.°84S×69.°36W,h117^{km},mb4.4*
*IDC **06** 03:05:14.3±1.8,20.°81S×69.°02W,h100^{km}±18^{km},mb3.5/6, mb1 3.8/8,mb1mx3.6/24,mbtmp4.0/8,MS2.6/1,Ms1 2.7/1, ms1mx2.4/16,Error ellipse: s-maj=25.9km s-min=15.7km az=116.0*
*NEIC **06** 03:05:15.1±2.5,20.°91S±0.°03×69.°24W±0.°04,h99^{km}±4^{km}, Error ellipse: s-maj=6.3km s-min=4.0km az=61.0*
*GUC **06** 03:05:15.3±0.5,20.°91S×69.°25W,h106^{km}±2^{km},ML4.3*

ISC 06 03:05:14.5±0.5,**20.°91S**±0.°03×**69.°26W**±0.°05,**h107**^{km}±4^{km}, **n172**,σ**1°44**/202,**mb4.3**/14,**8C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.25**	**238**	⇑ *eP*	**Pn**	**03 05 30.0**	**+0.2**
PB01				*i* S	**Sn**	**03 05 41.4**	**+0.1**
PB01				IAML		03 05 42.6	
	comp=E,26μm,0.1s						
PB01	**IPOC Station P**	**0.25**	**238**		**Pn**	**03 05 30.1**	**+0.2**
PB01				Sn	**Sn**	**03 05 41.1**	**-0.2**
PB01	**IPOC Station P**	**0.25**	**238**	*eP*	**Pn**	**03 05 29.9**	**0.0**
PB01				*e*S	**Sn**	**03 05 41.9**	**+0.6**
PB01				IAML		03 05 42.6	
	comp=Z,14μm,0.1s						
PB08	**IPOC Station P**	**0.77**	**7**	⇓ *iP*	**Pn**	**03 05 34.0**	**+0.2**
PB08				*i* S	**Sn**	**03 05 48.5**	**+0.5**
PB08				IAML		03 05 51.0	
	comp=E,7μm,0.1s						
PB08	**IPOC Station P**	**0.77**	**7**		**Pn**	**03 05 33.8**	**+0.2**
PB08				Sn	**Sn**	**03 05 47.9**	**-0.1**
PB08	**IPOC Station P**	**0.77**	**7**	*eP*	**Pn**	**03 05 33.9**	**+0.2**
PB08				*e*S	**Sn**	**03 05 49.0**	**+1.0**
PB08				IAML		03 05 50.9	
	comp=Z,3μm,0.1s						
PB09	**IPOC Station P**	**0.88**	**179**	⇑ *iP*	**Pn**	**03 05 35.1**	**+0.6**
PB09				*i* S	**Sn**	**03 05 50.4**	**+0.9**
PB09				IAML		03 05 51.5	
	comp=N,9μm,0.4s						
PB09	**IPOC Station P**	**0.88**	**179**		**Pn**	**03 05 35.0**	**+0.6**
PB09				Sn	**Sn**	**03 05 50.0**	**+0.6**
PB09	**IPOC Station P**	**0.88**	**179**	*eP*	**Pn**	**03 05 35.1**	**+0.6**
PB09				*e*S	**Sn**	**03 05 51.0**	**+1.6**
PB09				IAML		03 05 52.2	
	comp=Z,7μm,0.4s						
TA01	**Diego Aracena**	**0.93**	**292**	⇑ *iP*	**Pn**	**03 05 34.8**	**+0.1**
TA01				*i* S	**Sn**	**03 05 49.8**	**-0.1**
TA01				IAML		03 05 51.5	
	comp=N,12μm,0.5s						
TA01	**Diego Aracena**	**0.93**	**292**	Pn	**Pn**	**03 05 34.9**	**+0.2**
TA01				Sn	**Sn**	**03 05 49.9**	**-0.1**
PB07	**IPOC Station P**	**1.00**	**216**	⇑ *iP*	**Pn**	**03 05 36.1**	**+0.4**
PB07				*i* S	**Sn**	**03 05 51.6**	**+0.1**
PB07				IAML		03 05 52.1	
	comp=N,9μm,0.1s						
PB07	**IPOC Station P**	**1.00**	**216**		**Pn**	**03 05 35.7**	**0.0**
PB07				Sn	**Sn**	**03 05 51.4**	**-0.2**
PB07	**IPOC Station P**	**1.00**	**216**	*eP*	**Pn**	**03 05 36.0**	**+0.4**
PB07				*e*S	**Sn**	**03 05 51.9**	**+0.3**
PB07				IAML		03 05 53.0	
	comp=Z,4μm,0.2s						
TA02	**Huaiquique**	**1.04**	**308**	*eP*	**Pn**	**03 05 36.0**	**+0.1**
TA02				*i* S	**Sn**	**03 05 52.0**	**+0.1**
TA02				IAML		03 05 53.5	
	comp=N,19μm,0.1s						
TA02	**Huaiquique**	**1.04**	**308**		**Pn**	**03 05 35.9**	**0.0**
TA02				Sn	**Sn**	**03 05 52.2**	**+0.3**
PB03	**IPOC Station P**	**1.22**	**202**	⇑ *iP*	**Pn**	**03 05 38.5**	**+0.4**
PB03				*i* S	**Sn**	**03 05 56.1**	**+0.2**
PB03				IAML		03 05 57.3	
	comp=N,6μm,0.3s						
PB03	**IPOC Station P**	**1.22**	**202**	*eP*	**Pn**	**03 05 38.4**	**+0.3**
PB03				*e*S	**Sn**	**03 05 56.9**	**+1.0**
PB03				IAML		03 05 59.0	
	comp=Z,3μm,0.3s						
PSGC	**Pisagua**	**1.54**	**328**	⇑ *iP*	**Pn**	**03 05 41.2**	**-0.5**
PSGC				*i* S	**Sn**	**03 06 01.9**	**-0.5**
PSGC				IAML		03 06 02.5	
	comp=N,5μm,0.5s						
PSGCX	**Pisagua**	**1.54**	**328**		**Pn**	**03 05 41.2**	**-0.5**
PSGCX				Sn	**Sn**	**03 06 01.4**	**-1.0**
PSGCX	**Pisagua**	**1.54**	**328**	*eP*	**Pn**	**03 05 41.2**	**-0.5**
PSGCX				*e*S	**Sn**	**03 06 02.0**	**-0.3**
PSGCX				IAML		03 06 05.7	
	comp=Z,2μm,0.5s						
PB04	**IPOC Station P**	**1.64**	**210**	⇑ *iP*	**Pn**	**03 05 43.2**	**+0.1**
PB04				*i* S	**Sn**	**03 06 04.5**	**-0.2**
PB04				IAML		03 06 05.7	
	comp=N,3μm,0.3s						
PB04	**IPOC Station P**	**1.64**	**210**		**Pn**	**03 05 43.1**	**+0.1**
PB04	**IPOC Station P**	**1.64**	**210**	*eP*	**Pn**	**03 05 43.2**	**+0.1**
PB04				*e*S	**Sn**	**03 06 04.5**	**-0.2**
PB04				IAML		03 06 06.6	
	comp=Z,2μm,0.2s						
LVC	**Limon Verde**	**1.72**	**169**	P	**Pn**	**03 05 45.1**	**+0.9**
	comp=Z,170nm,0.3s,baz=37,slow=10,SNR=1070						
LVC				S	**Sn**	**03 06 07.8**	**+1.0**
	comp=Z,242nm,0.3s,baz=325,slow=13,SNR=54						
LVC				LR	LR	03 06 23.7	
	comp=Z,127nm,20.0s,baz=9.5,slow=39						
LVC	**Limon Verde**	**1.72**	**169**	*eP*	**Pn**	**03 05 45.1**	**+0.9**
LVC				*i* S	**Sn**	**03 06 08.1**	**+1.3**
LVC	**Limon Verde**	**1.72**	**169**	*eP*	**Pn**	**03 05 45.2**	**+0.9**
LVC	**Limon Verde**	**1.72**	**169**	*eP*	**Pn**	**03 05 44.9**	**+0.6**
LVC				*eP*		03 05 45.2	
LVC				*e*S	**Sn**	**03 06 08.2**	**+1.4**
MNMC	**Minye Minye**	**1.80**	**350**		**Pn**	**03 05 45.5**	**+0.3**
MNMCX	**Minye Minye**	**1.80**	**350**	*eP*	**Pn**	**03 05 45.5**	**+0.3**
MNMCX				*e*S	**Sn**	**03 06 09.8**	**+1.5**
MNMCX				IAML		03 06 11.3	
	comp=Z,5μm,0.3s						
PB06	**IPOC Station P**	**1.81**	**189**	⇑ *iP*	**Pn**	**03 05 45.4**	**+0.2**
PB06				*i* S	**Sn**	**03 06 08.3**	**-0.2**
PB06				IAML		03 06 08.4	
	comp=E,3μm,0.4s						
PB06	**IPOC Station P**	**1.81**	**189**		**Pn**	**03 05 45.4**	**+0.2**
PB06	**IPOC Station P**	**1.81**	**189**	*eP*	**Pn**	**03 05 45.3**	**+0.2**
PB06				*eP*		03 05 45.5	
PB06				*e*S	**Sn**	**03 06 08.2**	**-0.2**
PB06				IAML		03 06 09.6	
	comp=Z,1μm,0.4s						
PB05	**IPOC Station P**	**2.12**	**204**	*eP*	**Pn**	**03 05 48.8**	**-0.3**
PB05				*eP*		03 05 49.0	
PB05				*e*S	**Sn**	**03 06 14.1**	**-1.4**
PB05				IAML		03 06 17.0	
	comp=Z,1μm,0.3s						
PB15	**IPOC Station P**	**2.29**	**185**		**Pn**	**03 05 51.8**	**+0.4**
PB15	**IPOC Station P**	**2.29**	**185**	*eP*	**Pn**	**03 05 51.8**	**+0.4**
PB15				*eP*		03 05 51.9	
PB15				*e*S	**Sn**	**03 06 19.6**	**0.0**
PB15				IAML		03 06 21.5	
	comp=Z,4μm,0.2s						
PB16	**IPOC Station P**	**2.57**	**355**		**Pn**	**03 05 56.3**	**+0.9**
AP01	**Chacalluta**	**2.73**	**338**	Pn	**Pn**	**03 05 56.0**	**-0.8**
PB10	**IPOC Station P**	**2.85**	**205**	Pn	**Pn**	**03 05 57.5**	**-1.1**
PB10	**IPOC Station P**	**2.85**	**205**	*eP*	**Pn**	**03 05 57.5**	**-1.1**
PB14	**IPOC Station P**	**3.84**	**196**	Pn	**Pn**	**03 06 10.2**	**-1.9**
PB14	**IPOC Station P**	**3.84**	**196**	*eP*	**Pn**	**03 06 10.7**	**-1.4**
PB14				*e*S	**Sn**	**03 06 53.5**	**-3.0**
PB14				IAML		03 06 56.7	
	comp=Z,186nm,0.3s						
HJA	**Humahuaca**	**4.24**	**123**	*eP*	**Pn**	**03 06 19.6**	**+2.2**
GO02	**Mina Guanaco**	**4.24**	**184**		**Pn**	**03 06 16.2**	**-1.2**
LPAZ	**La Paz**	**4.72**	**13**	P	**Pn**	**03 06 26.1**	**+2.0**
	comp=Z,8.6nm,0.3s,baz=203,slow=5.7,SNR=169						
LPAZ				LR	LR	03 08 13.2	
	comp=Z,60nm,18.1s,baz=238,slow=39						
LPAZ	**La Paz**	**4.72**	**13**	Pn	**Pn**	**03 06 25.9**	**+1.7**
LPAZ	**La Paz**	**4.72**	**13**	*eP*	**Pn**	**03 06 26.2**	**+2.0**
AC02	**Maricunga**	**5.90**	**179**	Pn	**Pn**	**03 06 39.1**	**-0.9**
GO03	**Copiap**	**6.71**	**187**	Pn	**Pn**	**03 06 47.4**	**-3.2**
GO03	**Copiap**	**6.71**	**187**	*eP*	**Pn**	**03 06 47.6**	**-2.9**
AC04	**Llanos de Chal**	**7.45**	**192**	Pn	Pn	03 06 55.3	-5.2
VCA	**Vinchina**	**7.85**	**173**	*eP*	**Pn**	**03 07 05.7**	**-0.5**
VCA				IAML		03 09 08.6	
	comp=Z,10nm,3.8s						
AGUA	**GUANDACOL**	**8.57**	**175**	*eP*	**Pn**	**03 07 14.1**	**-1.8**
AGUA				IAML		03 09 25.6	
	comp=Z,21nm,0.4s						
ACLC	**CERRO LA CRUZ**	**8.73**	**167**	*eP*	**Pn**	**03 07 16.6**	**-1.6**
SIV	**San Ignacio**	**9.18**	**59**	P	**Pn**	**03 07 20.9**	**-3.2**
	comp=Z,8.4nm,0.3s,baz=261,slow=9.7,SNR=160						
ACDV	**Cuesta del Vie**	**9.22**	**179**	*eP*	**Pn**	**03 07 23.1**	**-1.7**
GO04	**Tololo Observa**	**9.33**	**188**	Pn	**Pn**	**03 07 21.6**	**-4.6**
GO04	**Tololo Observa**	**9.33**	**188**	*eP*	**Pn**	**03 07 21.9**	**-4.4**
ACCO	**Cerro Coronel**	**9.64**	**179**	*eP*	**Pn**	**03 07 28.2**	**-2.3**
AVFE	**Valle Fertil**	**9.84**	**171**	*eP*	**Pn**	**03 07 30.6**	**-2.4**
CO03	**El Pedregal**	**9.97**	**187**	Pn	Pn	03 07 29.1	-5.7
RTCV	**Cerro Valdivia**	**10.93**	**177**	*eP*	**Pn**	**03 07 45.2**	**-2.5**
AUSP	**Uspallata**	**11.27**	**181**	*eP*	**Pn**	**03 07 49.9**	**-2.7**
ETMB	**Extrema**	**11.41**	**15**	*eP*	**Pn**	**03 07 52.5**	**-1.8**
ASAL	**Salagasta**	**11.64**	**178**	*eP*	**Pn**	**03 07 54.8**	**-2.5**
VA03	**San Esteban**	**11.86**	**185**	Pn	Pn	03 07 55.5	-4.9
VA03	**San Esteban**	**11.86**	**185**	*eP*	**Pn**	**03 07 56.0**	**-4.3**
CPUP	**Villa Florida**	**12.19**	**119**	Pn	**Pn**	**03 08 04.0**	**-0.6**
MT02	**Curacav**	**12.41**	**187**	Pn	**Pn**	**03 08 06.8**	**-0.7**
AQDB	**Aquidauana**	**12.70**	**90**	*eP*	**Pn**	**03 08 13.3**	**+2.0**
CZSB	**Cruzeiro do Su**	**13.52**	**345**	*eP*	**Pn**	**03 08 20.9**	**-1.3**
BO01	**Tunca**	**13.53**	**186**	Pn	**Pn**	**03 08 22.2**	**+0.2**
SALV	**Santo Antonio**	**13.80**	**71**	*eP*	**Pn**	**03 08 25.9**	**+0.2**
BO02	**Sierra Bellavi**	**13.89**	**185**	Pn	**Pn**	**03 08 26.9**	**+0.1**
PP1B	**Ponte de Pedra**	**13.97**	**79**	*eP*	**Pn**	**03 08 29.1**	**+1.1**
H03N1	**Juan Fernandez**	**15.14**	**212**	P	**Pn**	**03 08 42.7**	**+0.3**
	baz=108,slow=14,SNR=6.1						
H03N1				T	T	03 24 09.7	
	baz=34,slow=72,SNR=6.7						
H03N2	**Juan Fernandez**	**15.15**	**213**	P	**Pn**	**03 08 43.2**	**+0.6**
	baz=108,slow=14,SNR=5.5						
H03N2				T	T	03 24 15.5	
	baz=34,slow=72,SNR=7.5						
H03N3	**Juan Fernandez**	**15.16**	**212**	P	**Pn**	**03 08 42.8**	**+0.1**
	baz=108,slow=14,SNR=7.9						
H03N3				T	T	03 24 11.7	
	baz=34,slow=72,SNR=6.8						
H03S3	**Juan Fernandez**	**15.45**	**212**	P	**Pn**	**03 08 46.0**	**-0.3**
	baz=56,slow=76,SNR=17						
H03S1	**Juan Fernandez**	**15.46**	**212**	P	**Pn**	**03 08 45.9**	**-0.5**
	baz=56,slow=76,SNR=4.7						
H03S2	**Juan Fernandez**	**15.46**	**212**	P	**Pn**	**03 08 46.1**	**-0.4**
	baz=56,slow=76,SNR=8.9						
TRCB	**Terra Rica**	**15.55**	**100**		**Pn**	**03 08 46.6**	**-1.4**
TRCB	**Terra Rica**	**15.55**	**100**	*eP*	**P**	**03 08 49.1**	**-0.9**
CLDB	**Colider**	**16.34**	**54**	*eP*	**Pn**	**03 08 57.2**	**-0.5**
ITAB	**Concordia**	**16.85**	**115**	P	**Pn**	**03 09 03.2**	**-0.8**
ITAB				IAmb	IAmb	03 09 05.0	
	comp=Z,20nm,0.8s						
ITAB	**Concordia**	**16.85**	**115**	*eP*	**P**	**03 09 04.8**	**+0.4**
ARAG	**Araguaiana, MT**	**17.35**	**76**	*eP*	**Pn**	**03 09 10.0**	**-0.2**
PLTB	**Pedras Altas**	**17.69**	**131**	P	**P**	**03 09 12.6**	**-1.0**
TRQA	**Tornquist**	**18.21**	**161**	P	**Pn**	**03 09 19.8**	**-0.5**
TRQA				IAmb	IAmb	03 09 26.2	
	comp=Z,19nm,1.5s						
FRTB	**Fartura**	**18.41**	**101**	*eP*	**P**	**03 09 20.6**	**-0.9**
BB19B	**Bebedouro**	**19.36**	**94**	*eP*	**P**	**03 09 30.9**	**-1.1**
SNDB	**Serra Nova Dou**	**19.37**	**66**	*eP*	**P**	**03 09 30.2**	**-1.9**
MACA	**Manacapuru-AM**	**19.52**	**26**	*eP*	**P**	**03 09 32.2**	**-1.4**
TER01	**Tubaro-SC**	**19.78**	**117**	*eP*	**P**	**03 09 36.5**	**+0.1**
PLCA	**Paso Flores**	**19.79**	**183**	P	**P**	**03 09 37.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=358,slow=13,SNR=4.7						
PLCA	**Paso Flores**	**19.79**	**183**	P	**Pn**	**03 09 38.0**	**-1.0**
PLCA				IAmb	IAmb	03 09 52.7	
	comp=Z,15nm,1.5s						
IPMB	**Ipameri, GO**	**20.06**	**85**	*eP*	**P**	**03 09 39.2**	**-0.4**
PET01	**Itanhaem-SP**	**20.57**	**104**	*eP*	**P**	**03 09 44.6**	**-0.3**
BDFB	**Brasilia**	**20.84**	**79**	P	**P**	**03 09 46.1**	**-1.9**
	comp=Z,4.4nm,0.4s,baz=256,slow=9.3,SNR=9.3						
BDFB	**Brasilia**	**20.84**	**79**	P	**P**	**03 09 46.4**	**-1.6**
BDFB				IAmb	IAmb	03 10 12.2	
	comp=Z,14nm,1.4s						
PEXB	**Peixe**	**21.90**	**70**	*eP*	**P**	**03 09 59.4**	**+0.2**
PTGA	**Pitinga**	**22.02**	**26**	P	**P**	**03 09 58.2**	**-2.2**
	comp=Z,15nm,0.6s,baz=203,slow=15,SNR=33						
OTAV	**Otavalo**	**22.86**	**336**	P	**P**	**03 10 09.4**	**-0.1**
OTAV	**Otavalo**	**22.86**	**336**	*eP*	**P**	**03 10 08.0**	**-1.6**
BSCB	**Bom Sucesso**	**22.86**	**95**	*eP*	**P**	**03 10 08.9**	**-0.2**
FLOC	**Florencia**	**23.21**	**344**	P	**P**	**03 10 14.0**	**+1.6**
FLOC				IAmb	IAmb	03 10 14.5	
	comp=Z,6.2nm,0.7s						
FLOC	**Florencia**	**23.21**	**344**	*eP*	**P**	**03 10 14.0**	**+1.6**
GCUF	**Volcan Galeras**	**23.38**	**339**	*eP*	**P**	**03 10 20.1**	**+5.6**
PRPB	**Parauapebas**	**23.87**	**55**	*eP*	**P**	**03 10 17.5**	**-0.9**
MALB	**Monte Alegre**	**23.93**	**40**	*eP*	**P**	**03 10 18.3**	**-0.6**
SMTB	**Santa Maria do**	**24.09**	**63**	*eP*	**P**	**03 10 20.0**	**-0.4**
DIAM	**Diamantina, MG**	**24.24**	**88**	*eP*	**P**	**03 10 21.9**	**+0.1**
MC01	**Montes Claros**	**24.32**	**84**	*eP*	**P**	**03 10 21.6**	**-0.9**
POPC	**Popayan, Colom**	**24.41**	**342**	*eP*	**P**	**03 10 19.7**	**-3.8**
JANB	**Januaria**	**24.42**	**80**	*eP*	**P**	**03 10 22.9**	**-0.5**
BOAV	**Boa Vista**	**24.69**	**21**	*eP*	**P**	**03 10 24.9**	**-0.9**
SDBA	**SAO DESIDERIO**	**24.79**	**74**	*eP*	**P**	**03 10 26.9**	**+0.1**
DUB01	**Friburgo-RJ**	**25.03**	**98**	*eP*	**P**	**03 10 29.0**	**+0.1**
ORTC	**Ortega, Tolima**	**25.36**	**346**	*eP*	**P**	**03 10 33.3**	**+1.4**
CHIC	**Chingaza**	**25.76**	**350**	*eP*	**P**	**03 10 42.4**	**+6.5**
MCPB	**Macapa, AP**	**26.45**	**42**	*eP*	**P**	**03 10 41.0**	**-0.7**
SJMB	**Sao Joao De Ma**	**26.49**	**90**	*eP*	**P**	**03 10 42.8**	**+0.7**
GUY2C	**Guyana, Caldas**	**26.66**	**346**	*eP*	**P**	**03 10 45.5**	**+1.4**
RUSC	**La Rusia**	**26.90**	**352**	P	**P**	**03 10 46.9**	**+0.6**
RUSC				IAmb	IAmb	03 10 53.8	
	comp=Z,8.5nm,0.7s						
RUSC	**La Rusia**	**26.90**	**352**	*eP*	**P**	**03 10 46.5**	**+0.3**
BARC	**Barichara**	**27.60**	**352**	*eP*	**P**	**03 10 51.1**	**-1.1**
NAN01	**Guarapari, ES**	**27.64**	**89**	*eP*	**P**	**03 10 52.3**	**-0.1**
TMAB	**Tom-Au,PA,Br**	**27.66**	**51**	*eP*	**P**	**03 10 50.9**	**-1.6**
GUA01	**Guaratinga, BA**	**28.20**	**86**	*eP*	**P**	**03 10 56.4**	**-0.9**
ZARC	**Zaragoza, Cauc**	**28.76**	**348**	*eP*	**P**	**03 11 01.1**	**-1.2**
CMC01	**Camacan, BA**	**28.77**	**84**	*eP*	**P**	**03 11 02.2**	**-0.3**
NBPN	**Ponto Novo - B**	**29.64**	**75**	*eP*	**P**	**03 11 10.5**	**+0.3**
SMLC	**San Martn de**	**29.90**	**350**	*eP*	**P**	**03 11 10.1**	**-2.3**
NBPS	**Pedro II - PI**	**31.62**	**63**	*eP*	**P**	**03 11 26.5**	**-1.2**
NBMA	**Muriti-CE**	**32.41**	**70**	*eP*	**P**	**03 11 33.8**	**-0.8**
NBPB	**Pedra_Branca-C**	**32.58**	**66**	*eP*	**P**	**03 11 34.6**	**-1.4**
NBAN	**Anadia - AL**	**33.65**	**76**	*eP*	**P**	**03 11 45.4**	**+0.1**
NBRF	**Rio Formoso -**	**35.08**	**75**	*eP*	**P**	**03 11 57.5**	**-0.2**
RCBR	**Riachuelo**	**35.64**	**70**	P	**P**	**03 12 04.1**	**+1.6**
OBIP	**Obispado Ponce**	**38.80**	**4**	P	**P**	**03 12 28.7**	**-0.3**
SJG	**San Juan**	**38.90**	**5**	P	**P**	**03 12 28.8**	**-1.1**
SJG				IAmb	IAmb	03 12 56.7	
	comp=Z,21nm,1.1s						
GCPR	**Guaynabo City**	**39.10**	**5**	P	**P**	**03 12 29.5**	**-2.1**
GCPR				IAmb	IAmb	03 12 55.7	
	comp=Z,13nm,0.9s						
SLBS	**Sierra La Lagu**	**59.46**	**316**	P	**P**	**03 15 08.6**	**+2.1**
TXAR	**Lajitas Array**	**59.96**	**325**	P	**P**	**03 15 10.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=130,slow=8.4,SNR=2.9						
TXAR	**Lajitas Array**	**59.96**	**325**	P	**P**	**03 15 10.8**	**+0.8**
VNA3	**Neumayer Olymp**	**60.74**	**161**	P	**P**	**03 15 15.1**	**+0.6**
SNAA	**Sanae**	**62.94**	**161**	P	**P**	**03 15 29.6**	**+0.3**
SNAA	**Sanae**	**62.94**	**161**	P	**P**	**03 15 30.1**	**+0.7**
SNAA				IAmb	IAmb	03 15 37.1	
	comp=Z,6.9nm,1.5s						
QSPA	**South Pole Qui**	**69.28**	**180**	P	**P**	**03 16 11.5**	**+1.4**
W13A	**Hualapai Mount**	**69.97**	**322**	P	**P**	**03 16 17.4**	**+2.6**
CCUT	**Cedar City**	**71.44**	**324**	P	**P**	**03 16 26.5**	**+2.8**
CCUT				IAmb	IAmb	03 16 27.1	
	comp=Z,2.6nm,0.9s						
MSU	**Marysvale**	**71.51**	**326**	P	**P**	**03 16 27.2**	**+3.1**
PDAR	**Pinedale Array**	**73.44**	**330**	P	**P**	**03 16 35.8**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=170,slow=6.0,SNR=1.9						
NVAR	**Mina Array Bea**	**74.83**	**322**	P	**P**	**03 16 44.9**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=142,slow=9.0,SNR=3.6						
RLMT	**Red Lodge**	**75.14**	**332**	P	**P**	**03 16 47.1**	**+1.8**
YNE	**Yellowstone No**	**75.38**	**331**	P	**P**	**03 16 47.9**	**+1.3**
YNE				IAmb	IAmb	03 16 48.9	
	comp=Z,3.1nm,0.8s						
YHH	**Holmes Hill**	**75.59**	**331**	P	**P**	**03 16 50.2**	**+2.3**
TORD	**Torodi Ar. Bea**	**77.47**	**71**	P	**P**	**03 16 57.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=255,slow=5.3,SNR=12						
TORD				pP	**pP**	**03 17 26.4**	**-1.0**
	comp=Z,6.6nm,0.7s,baz=253,slow=5.3,SNR=14						
I07A	**Izee**	**79.34**	**326**	P	**P**	**03 17 10.6**	**+1.9**
I07A				IAmb	IAmb	03 17 39.5	
	comp=Z,4.7nm,1.5s						
H04A	**Detroit Lake**	**81.18**	**325**	P	**P**	**03 17 19.3**	**+1.0**
H04A				IAmb	IAmb	03 17 24.2	
	comp=Z,12nm,1.5s						
BUCK	**Buck Mountain**	**81.29**	**324**	P	**P**	**03 17 20.7**	**+1.6**
ASAR	**Alice Springs**	**130.28**	**208**	PKP	**PKPdf**	**03 24 13.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=111,slow=5.1,SNR=4.1						
ASAR	**Alice Springs**	**130.28**	**208**		**PKPdf**	**03 24 12.9**	**-0.2**
WRA	**Warramunga Arr**	**133.29**	**211**	PKP	**PKPdf**	**03 24 19.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=165,slow=1.1,SNR=5.1						
WRA	**Warramunga Arr**	**133.29**	**211**	PKPdf	**PKPdf**	**03 24 18.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**138.57**	**202**	PKPdf	**PKiKP**	**03 24 30.4**	**-0.4**
JKA	**Kamikawa-asahi**	**144.89**	**319**		**PKPdf**	**03 24 39.4**	**+0.3**
ASAJ	**Asahikawa**	**144.90**	**319**	PKP	**PKPdf**	**03 24 39.9**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=90,slow=5.1,SNR=5.6						
MK31	**Makanchi Array**	**145.35**	**35**	PKPdf	**PKPab**	**03 24 40.7**	**+0.6**
MKAR	**Makanchi Array**	**145.35**	**35**	PKPbc	**PKPab**	**03 24 40.3**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=338,slow=2.9,SNR=13						
MKAR	**Makanchi Array**	**145.35**	**35**	PKPdf	**PKPab**	**03 24 40.0**	**-0.2**
JHJ2	**Mitsune**	**151.49**	**301**	PKPbc	**PKiKP**	**03 24 57.8**	**+0.9**

*NIED **06** 03:08:56.7,38.°64N×144.°19E,h46^{km},MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.49; $M_{\theta\theta}$0.10; $M_{\phi\phi}$1.40; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.36; Fault plane solution: $M_0$1.53000×10^{14} NP1:ϕ_s16.00000°, δ52.00000°,λ-86.00000°. NP2:ϕ_s190.00000°,δ38.00000°, λ-95.00000°.*

JMA 06 03:08:56.6±0.2,**38.°64N**×**144.°19E**,**h46**^{km},**M3.6**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.02**	**283**	P	Pn	03 09 29.2	+1.1
OFUJ				*e*S	Sn	03 09 53.0	+0.9
MIYJ	**Miyakonagasawa**	**2.07**	**298**	P	Pn	03 09 29.7	+0.9
MIYJ				S	Sn	03 09 53.4	0.0
JKMT	**Kesennumamotoy**	**2.13**	**275**	P	Pn	03 09 30.9	+1.2
JKMT				*e*S	Sn	03 09 56.4	+1.5
JIKH	**Ishinomakikobu**	**2.16**	**262**	P	Pn	03 09 31.0	+0.9
JIKH				*e*S	Sn	03 09 56.4	+0.7
JMK	**Ichinoseki**	**2.34**	**279**	P	Pn	03 09 34.1	+1.5
JMK				S	Sn	03 10 01.7	+1.6
JOM	**Ohasama**	**2.40**	**291**	P	Pn	03 09 34.8	+1.4
JOM				*e*S	Sn	03 10 03.0	+1.3
JANG	**Nango**	**2.70**	**311**	P	Pn	03 09 38.6	+1.1
JYK	**Kaneyama**	**3.01**	**276**	P	Pn	03 09 44.1	+2.4
JYK				*e*S	Sn	03 10 19.4	+2.9
JFT	**Otama**	**3.24**	**251**	P	Pn	03 09 46.9	+2.0
JFT				*e*S	Sn	03 10 24.2	+1.9
JNBK	**Urakawa-nobuka**	**3.80**	**344**	P	Pn	03 09 53.8	+1.2
JNBK				*e*S	Sn	03 10 36.1	+0.2
JCH	**Churui**	**4.02**	**351**	P	Pn	03 09 56.2	+0.6
JCH				*e*S	Sn	03 10 40.5	-0.9
JRY	**Ryogami san**	**4.96**	**240**	P	Pn	03 10 09.6	+1.0
JRY				*e*S	Sn	03 11 04.5	-0.2
**

YNCB	**YEONCHEON**	**0.12**	**320**	P	Pg	03 25 20.1	0.0
	SNR=12						
YNCB	**YEONCHEON**	**0.12**	**320**	P	Pg	03 25 20.1	0.0
	SNR=12						
KSCWO	**Cheorwon**	**0.41**	**70**	P	Pg	03 25 25.6	+0.1
	SNR=9.5						
KSCWO	**Cheorwon**	**0.41**	**70**	P	Pg	03 25 25.6	+0.1
	SNR=9.5						
KSCHC	**Chuncheon**	**0.65**	**105**	P	Pg	03 25 30.0	0.0
	SNR=18						
KSCHC	**Chuncheon**	**0.65**	**105**	P	Pg	03 25 30.0	0.0
	SNR=18						
KSIJA	**INJE**	**0.86**	**87**	P	Pg	03 25 33.9	-0.1
	SNR=8.8						
KSIJA	**INJE**	**0.86**	**87**	P	Pg	03 25 33.9	-0.1
	SNR=8.8						

*IDC **06** 03:26:56.1±1.0,22°.48N×101°.01E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/45, mbtmp3.7/5, MS2.6/1, Ms1 2.8/1, ms1mx2.3/41, Error ellipse: s-maj=31.9km s-min=17.3km az=88.0*

ISC 06 03:26:56.7±0.7, 22°.49N±0°.04×100°.93E±0°.06, h10km, n51, σ3.90/54, mb3.8/5, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**2.31**	**193**	P	**Pn**	**03 27 32.6**	**-2.3**
CRAI				S	**Sb**	**03 28 07.6**	**+0.5**
KMI	**Kunming**	**3.10**	**32**	⇑Pg	**Pg**	**03 27 54.7**	**-1.6**
KMI				Sg	**Sg**	**03 28 35.4**	**-1.1**
KMI				smax	smax		
	comp=N,68nm,1.0s						
KMI				smax	smax		
	comp=E,76nm,1.2s						
CM34	**Chiang Mai Arr**	**3.98**	**205**	P	**Pg**	**03 28 10.0**	**-3.1**
CM33	**Chiang Mai Arr**	**4.10**	**207**	P	**Pb**	**03 28 11.0**	**+2.0**
CMMT	**Chiang Mai**	**4.10**	**207**	P	**Pg**	**03 28 12.8**	**-2.5**
CMMT	**Chiang Mai**	**4.10**	**207**	P	**Pn**	**03 27 59.1**	**-0.4**
CMMT				S	**Sb**	**03 29 03.6**	**+4.9**
CMMT	**Chiang Mai**	**4.10**	**207**	P	**Pg**	**03 28 12.9**	**-2.5**
CHTO	**Chiang Mai**	**4.10**	**207**	P	**Pg**	**03 28 12.8**	**-2.6**
CM35	**Chiang Mai Arr**	**4.14**	**204**	P	**Pb**	**03 28 12.0**	**+2.3**
CM32	**Chiang Mai Arr**	**4.29**	**208**	P	**Pg**	**03 28 16.0**	**-2.9**
CM36	**Chiang Mai Arr**	**4.31**	**204**	P	**Pb**	**03 28 15.0**	**+2.4**
CM09	**Chiang Mai Arr**	**4.42**	**205**	P	**Pg**	**03 28 18.1**	**-3.3**
CM09	**Chiang Mai Arr**	**4.42**	**205**	S	**Sb**	**03 29 10.9**	**+3.1**
CM09	**Chiang Mai Arr**	**4.42**	**205**	P	**Pg**	**03 28 18.2**	**-3.2**
CM31	**Chiang Mai Arr**	**4.42**	**205**	P	**Pg**	**03 28 19.7**	**-1.8**
CMAR	**Chiang Mai Arr**	**4.42**	**205**	Pg	**Pg**	**03 28 18.3**	**-3.2**
	comp=E,4.4nm,0.3s,baz=17,slow=16,SNR=28						
CMAR				Lg	Lg	03 29 18.1	
	comp=E,6.8nm,0.3s,baz=20,slow=30,SNR=14						
CMAR				LR	LR	03 30 00.9	
	comp=E,66nm,19.3s,baz=320,slow=42						
CM15	**Chiang Mai Arr**	**4.43**	**205**	P	**Pg**	**03 28 20.1**	**-1.7**
CM15	**Chiang Mai Arr**	**4.43**	**205**	P	**Pb**	**03 28 20.0**	**-1.7**
CM02	**Chiang Mai Arr**	**4.44**	**205**	P	**Pg**	**03 28 19.8**	**-2.0**
CM02	**Chiang Mai Arr**	**4.44**	**205**	S	**Sb**	**03 29 11.7**	**+3.2**
CM02	**Chiang Mai Arr**	**4.44**	**205**	P	**Pg**	**03 28 19.9**	**-2.0**
CM01	**Chiang Mai Arr**	**4.45**	**205**	P	**Pg**	**03 28 20.0**	**-2.0**
CM01	**Chiang Mai Arr**	**4.45**	**205**	S	**Sg**	**03 29 15.5**	**-4.2**
CM01	**Chiang Mai Arr**	**4.45**	**205**	P	**Pg**	**03 28 20.0**	**-2.0**
CM04	**Chiang Mai Arr**	**4.46**	**205**	P	**Pg**	**03 28 18.8**	**-3.4**
CM04	**Chiang Mai Arr**	**4.46**	**205**	S	**Sb**	**03 29 13.1**	**+4.0**
CM04	**Chiang Mai Arr**	**4.46**	**205**	P	**Pg**	**03 28 18.8**	**-3.4**
CM13	**Chiang Mai Arr**	**4.47**	**206**	P	**Pg**	**03 28 20.5**	**-1.9**
CM13	**Chiang Mai Arr**	**4.47**	**206**	P	**Pg**	**03 28 20.6**	**-1.9**
CM05	**Chiang Mai Arr**	**4.47**	**205**	P	**Pg**	**03 28 20.2**	**-2.2**
CM05	**Chiang Mai Arr**	**4.47**	**205**	S	**Sg**	**03 29 15.4**	**-5.0**
CM05	**Chiang Mai Arr**	**4.47**	**205**	P	**Pg**	**03 28 20.2**	**-2.2**
UTTA	**Uttaradit**	**4.73**	**184**	P	**Pb**	**03 28 22.5**	**+2.7**
UTTA	**Uttaradit**	**4.73**	**184**	S	**Sb**	**03 29 21.0**	**+4.2**
UTTA	**Uttaradit**	**4.73**	**184**	P	**Pb**	**03 28 22.0**	**+2.2**
NONG	**Nongkai**	**4.87**	**154**	S	**Sg**	**03 29 28.9**	**-4.2**
NONG	**Nongkai**	**4.87**	**154**	P	**Pg**	**03 28 26.8**	**-3.2**
PHIT	**Phitsanulok**	**5.29**	**185**	P	**Pg**	**03 28 34.4**	**-3.7**
	comp=E,1.1nmcomp=E,2μmcomp=E,201nm,0.9s						
PHIT	**Phitsanulok**	**5.29**	**185**	S	**Sb**	**03 29 37.2**	**+4.2**
PHIT	**Phitsanulok**	**5.29**	**185**	P	**Pg**	**03 28 34.5**	**-3.7**
PBKT	**Sadao Pong**	**5.89**	**180**	S	**Sb**	**03 29 56.3**	**+6.2**
UMPA	**Umpang Tak**	**6.55**	**198**	S	**Sg**	**03 30 25.9**	**-1.1**
CHAI	**Chaiyaphum**	**6.62**	**171**	P	**Pg**	**03 29 02.9**	**-0.8**
	comp=E,0.3nmcomp=E,21nm,0.6s						
CHAI	**Chaiyaphum**	**6.62**	**171**	S	**Sb**	**03 30 17.4**	**+6.0**
GTA	**Gaotai**	**16.90**	**357**	*e*P	**Pn**	**03 30 50.2**	**-3.3**
GTA				pP	pP	03 30 57.3	-1.4
GTA				sP	sP	03 31 00.5	+0.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WMQ	**Urumqi**	**23.93**	**336**	*e*P	**P**	**03 32 11.9**	**+0.9**
SONM	**Songino Array**	**25.67**	**9**	P	**P**	**03 32 29.3**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=200,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**28.55**	**333**	P	**P**	**03 32 54.2**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=144,slow=8.5,SNR=9.2						
WRA	**Warramunga Arr**	**53.32**	**140**	P	**P**	**03 36 17.0**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=333,slow=8.2,SNR=10						
ASAR	**Alice Springs**	**55.97**	**143**	P	**P**	**03 36 35.4**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=324,slow=7.0,SNR=5.9						
NOA	**NORSAR Array B**	**70.46**	**329**	P	**P**	**03 38 10.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=80,slow=5.9,SNR=3.3						

*MEX **06** 03:35:32.7±0.6, 31°.08N×115°.98W, h5km, MD3.7*
*ANF **06** 03:35:33.6±2.2, 31°.19N×115°.89W, h23km±17km, ML3.2/8, Error ellipse: s-maj=14.1km s-min=10.3km az=55.0*
*ECX **06** 03:35:33.1±0.6, 31°.20N×115°.94W, h8km±8km, MD2.8, ML3.0, Fault plane solution: NP1:φs68.00000°, δ68.00000°, λ36.00000°.*

ISC 06 03:35:31.3±1.3, 31°.18N±0°.05×115°.99W±0°.04, h15km±10km, n25, σ0.54/41, 5C-10D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVX	**San Vicente**	**0.27**	**304**	⇑*i*P	**Pb**	**03 35 38.7**	**+0.9**
SVX				*e*S	**Sb**	**03 35 42.7**	**+0.5**
SPIG	**San Pedro Mart**	**0.47**	**106**	*i*P	**Pb**	**03 35 41.3**	**-0.2**
SPIG				*i*S	**Sg**	**03 35 47.1**	**-0.1**
SPIG	**San Pedro Mart**	**0.47**	**106**	⇑*e*P	**Pb**	**03 35 41.3**	**-0.2**
SPIG				*e*S	**Sg**	**03 35 47.2**	**0.0**
SPX	**San Pedro Mart**	**0.47**	**107**	*e*P	**Pb**	**03 35 41.2**	**-0.2**
SPX				*e*S	**Sg**	**03 35 46.9**	**-0.4**
SPX	**San Pedro Mart**	**0.47**	**107**	⇑*i*P	**Pb**	**03 35 41.3**	**-0.2**
SPX				*e*S	**Sg**	**03 35 47.3**	**0.0**
SPX				⇑*e*		03 35 47.9	
SPX				IAML		03 35 47.9	
	comp=N,2μm,0.1s						
CCX	**Cicese**	**0.90**	**320**	⇓*e*P	**Pn**	**03 35 49.3**	**-0.1**
CCX				*e*S	**Sn**	**03 36 01.1**	**-0.9**
SFX	**San Felipe**	**0.99**	**98**	⇑*e*P	**Pg**	**03 35 50.4**	**0.0**
SFX				*e*S	**Sb**	**03 36 03.0**	**+0.1**
SFX				IAML		03 36 04.7	
	comp=E,374nm,0.1s						
SFX				*e*		03 36 04.7	
CBX	**Cerro Bola**	**1.27**	**333**	*e*P	**Pb**	**03 35 54.7**	**-0.3**
CBX				*e*S	**Sn**	**03 36 11.2**	**-0.2**
CBX	**Cerro Bola**	**1.27**	**333**	⇓*e*P	**Pb**	**03 35 54.7**	**-0.3**
CBX				⇓*e*		03 36 16.6	
CBX				IAML		03 36 16.6	
	comp=E,379nm,0.5s						
CBX				⇓*e*		03 36 18.9	
CBX				IAML		03 36 18.9	
	comp=N,368nm,0.8s						
TJIG	**Tijuana**	**1.38**	**335**	*e*P	**Pb**	**03 35 56.3**	**-0.5**
TJIG				*i*S	**Sb**	**03 36 13.8**	**-0.5**
TJIG	**Tijuana**	**1.38**	**335**	⇓*e*P	**Pb**	**03 35 56.4**	**-0.4**
MBIG	**Mexicali**	**1.40**	**29**	*e*P	**Pg**	**03 35 58.7**	**+0.4**
MBIG				*e*S	**Sb**	**03 36 15.3**	**+0.5**
RMX	**La Rumorosa**	**1.42**	**357**	⇓*e*P	**Pn**	**03 35 56.8**	**0.0**
YUH2	**Yuha Desert**	**1.47**	**2**	⇓*e*P	**Pb**	**03 35 58.1**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.47**	**356**	P	**Pb**	**03 35 58.5**	**+0.1**
	baz=174						
IKP				S	**Sn**	**03 36 16.2**	**-0.2**
	baz=174						
IKP	**In-Ko-Pah, Jac**	**1.47**	**356**	⇓*e*P	**Pb**	**03 35 58.5**	**+0.1**
BAR	**Barrett**	**1.60**	**339**	⇓*e*P	**Pb**	**03 36 00.0**	**-0.6**
MONP2	**Monument Peak**	**1.75**	**348**	P	**Pb**	**03 36 02.8**	**-0.4**
	baz=166						
MONP2				S	**Sb**	**03 36 24.5**	**-0.5**
	baz=166						
MONP2	**Monument Peak**	**1.75**	**348**	⇓*e*P	**Pb**	**03 36 02.8**	**-0.4**
SWSC	**Sam W. Stewart**	**1.77**	**5**	P	**Pb**	**03 36 04.0**	**+0.6**
	baz=184						
SWSC				S	**Sb**	**03 36 26.3**	**+0.9**
	baz=184						
109C	**Camp Elliot, M**	**1.95**	**331**	P	**Pb**	**03 36 06.0**	**-0.5**
	baz=149						
109C				S	**Sb**	**03 36 30.8**	**+0.2**
	baz=149						
GLA	**Glamis**	**2.11**	**28**	P	**Pn**	**03 36 06.5**	**+0.3**
	baz=208						
GLA				Sb	**Sg**	**03 36 37.7**	**-1.6**
	baz=208						
TPFO	**Pinon Flats**	**2.45**	**351**	S	**Sb**	**03 36 45.9**	**+0.6**
	baz=169						
PFO	**Pinyon Flats O**	**2.46**	**351**	P	**Pb**	**03 36 16.4**	**+1.1**
	baz=169						
PFO				S	**Sb**	**03 36 46.1**	**+0.7**
	baz=169						
214A	**Organ Pipe Nat**	**2.82**	**73**	P	**Pn**	**03 36 16.3**	**+0.5**
	baz=256						

*IDC **06** 03:50:54.3±0.7, 56°.26S×142°.52W, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.3/21, mbtmp4.4/8, MS4.8/15, Ms1 4.8/15, ms1mx4.8/15, Error ellipse: s-maj=28.5km s-min=18.3km az=11.0*
*NEIC **06** 03:50:57.9, 56°.68S×142°.41W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.27; $M_{\theta\theta}$=2.35; $M_{\phi\phi}$=-2.08; $M_{r\theta}$=0.44; $M_{\theta\phi}$=1.64; $M_{r\phi}$=0.18; Fault plane solution: M_0=2.79000×10^{17} NP1:φs26.00000°, δ85.00000°, λ174.00000°. NP2:φs117.00000°, δ84.00000°, λ5.00000°. Principal axes: T 2.9614, Plg8.0000°, Azm342.0000°; N -0.3404, Plg82.0000°, Azm167.0000°; P -2.6211, Plg1.0000°, Azm72.0000°;*
*NEIC **06** 03:50:57.9±1.7, 56°.6S±0°.2×142°.1W±0°.2, h10km±1km, mb4.9/26, Ms_20 5.1/157, Mwc5.6/11(GCMT) Error ellipse: s-maj=28.3km s-min=17.7km az=10.0*
*GCMT **06** 03:50:59.9±0.1, 56°.70S±0°.01×142°.43W±0°.01, h20km, MW5.5/141, Moment Tensor Solution. s132, c233; s141, c261; Duration: 1*4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.17±.03; $M_{\theta\theta}$=1.90±.03; $M_{\phi\phi}$=-1.73±.02; $M_{r\theta}$=0.30±.05; $M_{\theta\phi}$=1.31±.02; $M_{r\phi}$=0.12±.05; Best double couple: M_0=2.25900×10^{17} NP1:φs117.00000°, δ84.00000°, λ5.00000°. NP2:φs27.00000°, δ85.00000°, λ174.00000°. Principal axes: T 2.3640, Plg7.0000°, Azm342.0000°; N -0.2120, Plg83.0000°, Azm168.0000°; P -2.1540, Plg1.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 03:50:56.6±0.5, 56°.33S±0°.09×142°.26W±0°.10, h10km, n172, σ1.83/60, mb4.8/18, MS5.1/96, 1C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.53**	**202**	P	**P**	**03 56 53.7**	**+1.9**
	1.3nm,1.1s,baz=58,slow=5.1,SNR=3.5						
VNDA				LR	LR	04 04 30.1	
	comp=Z,1μm,21.3s,baz=76,slow=29						
VNDA	**Vanda**	**28.53**	**202**	P	**P**	**03 56 52.6**	**+0.8**
BFZ	**Birch Farm**	**31.07**	**282**	IAMs_20	IAMs_20	04 07 23.4	
	comp=Z,3μm,18.0s						
SNZO	**South Karori**	**31.47**	**280**	IAMs_20	IAMs_20	04 07 13.9	
	comp=Z,4μm,19.0s						
OXZ	**Oxford**	**31.60**	**275**	IAMs_20	IAMs_20	04 06 25.6	
	comp=Z,3μm,20.0s						
LBZ	**Lake Benmore**	**31.96**	**271**	IAMs_20	IAMs_20	04 06 51.5	
	comp=Z,4μm,19.0s						
BKZ	**Black Stump Fm**	**32.01**	**285**	IAMs_20	IAMs_20	04 06 44.6	
	comp=Z,4μm,20.0s						
THZ	**Tophouse**	**32.16**	**278**	IAMs_20	IAMs_20	04 08 01.6	
	comp=Z,3μm,20.0s						
TBI	**Tubuai**	**33.36**	**348**	*e*S	**S**	**04 02 53.9**	**-1.6**
	comp=Z,650nm,29.2s						
TBI				*e*LR	LR	04 06 16.2	
	comp=Z,6μm,28.8s,baz=173						
TBI	**Tubuai**	**33.36**	**348**	*e*T	T	04 32 25.5	
	comp=Z,251nm,0.3s						
RKT	**Rikitea**	**33.60**	**12**	*e*T	T	04 32 51.0	
	comp=Z,19nm,0.3s						
QSPA	**South Pole Qui**	**33.83**	**180**	P	**P**	**03 57 38.1**	**-0.7**
	comp=Z,25nm,1.1s,baz=112,slow=1.7,SNR=29						
QSPA	**South Pole Qui**	**33.83**	**180**	P	**P**	**03 57 37.7**	**-1.1**
PMSA	**Palmer Station**	**36.95**	**136**	P	**P**	**03 58 05.7**	**+0.4**
	comp=Z,11nm,1.1s,baz=247,slow=4.6,SNR=7.4						
PMSA	**Palmer Station**	**36.95**	**136**	P	**P**	**03 58 05.0**	**-0.4**
PMSA				IAmb	IAmb	03 58 10.2	
	comp=Z,14nm,1.1s						
MEH	**Mehetia**	**38.64**	**351**	*e*T	T	04 39 06.0	
	comp=Z,74nm,0.2s						
PAE	**Paea**	**38.99**	**349**	*e*T	T	04 39 29.4	
	comp=Z,8.0nm,0.3s						
PPT2	**Papeete2**	**39.07**	**349**	*e*S	**S**	**04 04 20.7**	**-2.2**
	comp=Z,867nm,26.2s						
PPT2				*e*LR	LR	04 08 51.0	
	comp=Z,7μm,28.2s,baz=178						
PPT2	**Papeete2**	**39.07**	**349**	*e*T	T	04 39 27.8	
	comp=Z,11nm,0.3s						
PPT	**Papeete**	**39.09**	**349**	LR	LR	04 10 48.1	
	comp=Z,1μm,18.2s,baz=185,slow=31						
VAH	**Vaihoa**	**41.22**	**352**	*e*T	T	04 42 19.8	
	comp=Z,74nm,0.2s						
PMOR	**Pomariorio Ree**	**41.47**	**352**	*e*T	T	04 42 38.5	
	comp=Z,6.9nm,0.3s						
CASY	**Casey**	**46.14**	**212**	IAMs_20	IAMs_20	04 15 23.5	
	comp=Z,2μm,21.0s						
TAOE	**Nuku Hiva Isla**	**47.38**	**3**	*e*S	**S**	**04 06 22.0**	**-2.9**
	comp=Z,718nm,26.5s						
TAOE				*e*LR	LR	04 12 34.9	
	comp=Z,4μm,28.0s,baz=195						
PLCA	**Paso Flores**	**47.73**	**103**	LR	LR	04 15 07.4	
	comp=Z,788nm,18.4s,baz=226,slow=30						
H03S2	**Juan Fernandez**	**48.06**	**90**	T	T	04 51 31.9	
	baz=220,slow=74,SNR=667						
H03S1	**Juan Fernandez**	**48.06**	**90**	T	T	04 51 31.0	
	baz=220,slow=74,SNR=629						
H03S3	**Juan Fernandez**	**48.08**	**90**	T	T	04 51 32.4	
	baz=220,slow=74,SNR=661						
H03N3	**Juan Fernandez**	**48.34**	**90**	T	T	04 51 44.6	
	baz=223,slow=72,SNR=219						
H03N2	**Juan Fernandez**	**48.35**	**90**	T	T	04 51 54.6	
	baz=223,slow=72,SNR=673						
H03N1	**Juan Fernandez**	**48.36**	**90**	T	T	04 51 48.2	
	baz=223,slow=72,SNR=450						
VNA3	**Neumayer Olymp**	**48.40**	**161**	P	**P**	**03 59 36.7**	**-1.5**
VNA1	**Neumayer--Stat**	**49.15**	**162**	P	**P**	**03 59 42.8**	**-1.1**
SNAA	**Sanae**	**49.16**	**164**	P	**P**	**03 59 42.8**	**-1.3**
SNAA	**Sanae**	**49.16**	**164**	P	**P**	**03 59 40.8**	**-3.3**
DZM	**Mont Dzumac**	**50.70**	**291**	*e*S	S	04 07 22.9	+11
	comp=Z,246nm,27.2s						
DZM				*e*LQ	LQ	04 12 28.5	
	comp=Z,4μm,27.1s						
DZM				*e*LR	LR	04 14 35.7	
	comp=Z,1μm,24.2s						
BO02	**Sierra Bellavi**	**51.88**	**97**	P	**P**	**04 00 05.4**	**+0.3**
BO02				IAmb	IAmb	04 00 29.6	
	comp=Z,28nm,1.5s						
ARMA	**Armidale**	**52.17**	**271**	P	**P**	**04 00 08.9**	**+1.6**
ARMA				IAmb	IAmb	04 00 26.7	
	comp=Z,25nm,1.4s						
MT02	**Curacav**	**52.82**	**96**	P	**P**	**04 00 12.6**	**+0.6**
CO02	**Combarbal**	**54.44**	**94**	P	**P**	**04 00 24.6**	**+0.5**
CO02				IAmb	IAmb	04 00 38.6	
	comp=Z,9.3nm,0.9s						
SYO	**Syowa Base**	**54.96**	**181**	⇑*e*P	**P**	**04 00 24.4**	**-2.7**
SYO	**Syowa Base**	**54.96**	**181**	⇑*e*pP	**P**	**04 00 27.3**	**+0.2**
MAW	**Mawson**	**54.98**	**191**	P	**P**	**04 00 26.9**	**-0.3**
	comp=Z,3.0nm,1.0s,baz=185,slow=9.9,SNR=4.2						
MAW				LR	LR	04 20 45.4	
	comp=Z,1μm,21.9s,baz=157,slow=33						
MAW	**Mawson**	**54.98**	**191**	P	**P**	**04 00 26.4**	**-0.9**
SANVU	**Saraoutou**	**55.86**	**296**	P	**P**	**04 00 37.9**	**+3.7**
EIDS	**Eidsvold**	**56.39**	**274**	P	**P**	**04 00 38.8**	**+0.8**
EIDS				IAmb	IAmb	04 00 43.3	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**56.64**	**261**	P	**P**	**04 00 39.9**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=153,slow=7.6,SNR=3.4						
STKA				LR	LR	04 20 00.9	
	comp=Z,1μm,22.0s,baz=129,slow=31						
AC02	**Maricunga**	**58.85**	**92**	P	**P**	**04 00 56.5**	**+0.7**
LVC	**Limon Verde**	**62.29**	**90**	P	**P**	**04 01 19.1**	**-0.1**
LVC				IAmb	IAmb	04 01 25.5	
	comp=Z,5.2nm,0.8s						
ITQB	**Itaqui**	**63.52**	**104**	P	**P**	**04 01 26.5**	**-0.3**
MNMC	**Minye Minye**	**64.69**	**87**	P	**P**	**04 01 35.4**	**+0.3**
FORT	**Forrest**	**64.81**	**252**	P	**P**	**04 01 35.8**	**+0.4**
PB16	**IPOC Station P**	**65.38**	**86**	P	**P**	**04 01 39.8**	**-0.1**
PB16				IAmb	IAmb	04 02 01.6	
	comp=Z,7.7nm,1.1s						
CPUP	**Villa Florida**	**65.76**	**101**	P	**P**	**04 01 40.9**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=197,slow=4.3,SNR=4.1						
CPUP				LR	LR	04 26 07.4	
	comp=Z,807nm,19.1s,baz=217,slow=32						
CPUP	**Villa Florida**	**65.76**	**101**	P	**P**	**04 01 41.0**	**-0.6**
CPUP				IAmb	IAmb	04 02 05.9	
	comp=Z,15nm,1.5s						
NNA	**Nana**	**66.54**	**76**	IAMs_20	IAMs_20	04 23 20.9	
	comp=Z,1μm,22.0s						
ASAR	**Alice Springs**	**67.27**	**261**	P	**P**	**04 01 49.1**	**-2.2**
	comp=Z,5.8nm,0.8s,baz=140,slow=6.5,SNR=33						
ASAR				LR	LR	04 26 54.1	
	comp=Z,954nm,21.3s,baz=144,slow=32						
ASAR	**Alice Springs**	**67.27**	**261**	P	**P**	**04 01 50.0**	**-1.3**
AS31	**Alice Springs**	**67.27**	**261**	P	**P**	**04 01 50.8**	**-0.6**
LPAZ	**La Paz**	**67.80**	**86**	P	**P**	**04 01 55.3**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=156,slow=3.3,SNR=10.0						
LPAZ				LR	LR	04 24 42.4	
	comp=Z,415nm,20.6s,baz=188,slow=30						
LPAZ	**La Paz**	**67.80**	**86**	P	**P**	**04 01 55.0**	**-0.4**
LPAZ				IAmb	IAmb	04 02 18.4	
	comp=Z,13nm,1.2s						
LPAZ	**La Paz**	**67.80**	**86**	*e*P	**P**	**04 01 53.4**	**-2.1**
H01W1	**Cape Leeuwin H**	**68.57**	**239**	T	T	05 17 13.4	
	baz=143,slow=76,SNR=1067						
H01W2	**Cape Leeuwin H**	**68.57**	**239**	T	T	05 17 15.2	
	baz=143,slow=76,SNR=1234						
H01W3	**Cape Leeuwin H**	**68.59**	**239**	T	T	05 17 08.2	
	baz=143,slow=76,SNR=1123						
WR0	**Warramunga Arr**	**69.89**	**264**	P	**P**	**04 02 06.2**	**-1.5**
WR0				IAmb	IAmb	04 02 20.8	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**70.01**	**264**	P	**P**	**04 02 06.7**	**-1.7**
WB2				IAmb	IAmb	04 02 23.8	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**70.01**	**264**	P	**P**	**04 02 06.8**	**-1.6**
	comp=Z,3.9nm,0.8s,baz=146,slow=5.6,SNR=23						
WRA				LR	LR	04 28 27.0	
	comp=Z,512nm,20.6s,baz=105,slow=32						
WRA	**Warramunga Arr**	**70.01**	**264**	P	**P**	**04 02 06.5**	**-2.0**
WB0	**Warramunga Arr**	**70.12**	**264**	P	**P**	**04 02 07.7**	**-1.5**
WB0				IAmb	IAmb	04 02 22.0	
	comp=Z,12nm,1.1s						
BBAC	**Balboa, Cauca**	**78.11**	**68**	*e*P	**P**	**04 03 00.1**	**+4.1**
H06E1	**SOCORRO T-PHAS**	**79.34**	**30**	T	T	05 30 15.3	
	SNR=8.3						
BDFB	**Brasilia**	**79.47**	**102**	LR	LR	04 34 31.8	
	comp=Z,1μm,20.0s,baz=202,slow=33						
BETC	**Betania**	**79.61**	**69**	*e*P	P	04 03 08.9	+4.9
GUVC	**San Jose del G**	**80.96**	**72**	*e*P	**P**	**04 03 14.9**	**+3.6**
TOLC	**Tolima**	**81.28**	**68**	*e*P	**P**	**04 03 13.9**	**+0.5**
GUY2C	**Guyana, Caldas**	**81.80**	**68**	*e*P	**P**	**04 03 14.9**	**-1.4**
CBOC	**Ciudad Bolivar**	**82.02**	**67**	*e*P	**P**	**04 03 19.4**	**+2.4**
ROSC	**El Rosal**	**82.02**	**69**	LR	LR	04 32 49.9	
	comp=Z,436nm,21.2s,baz=210,slow=31						
FAKI	**Fak Fak**	**85.08**	**272**	IAMs_20	IAMs_20	04 39 26.7	
	comp=Z,803nm,20.0s						
MMRI	**Maumere**	**85.92**	**261**	IAMs_20	IAMs_20	04 39 34.1	
	comp=Z,656nm,20.0s						
KAPI	**Kappang**	**90.29**	**261**	IAMs_20	IAMs_20	04 41 16.7	
	comp=Z,875nm,20.0s						
TXAR	**Lajitas Array**	**91.41**	**33**	LR	LR	04 35 46.0	
	comp=Z,147nm,21.4s,baz=0.0,slow=29						
PFO	**Pinyon Flats O**	**92.24**	**21**	LR	LR	04 35 27.0	
	comp=Z,547nm,21.5s,baz=195,slow=29						
PFO	**Pinyon Flats O**	**92.24**	**21**	IAMs_20	IAMs_20	04 35 56.9	
	comp=Z,555nm,19.0s						
PASC	**Pasadena Art C**	**92.45**	**20**	IAMs_20	IAMs_20	04 35 19.5	
	comp=Z,725nm,22.0s						
SAO	**San Andreas Ge**	**94.41**	**17**	IAMs_20	IAMs_20	04 37 06.6	
	comp=Z,560nm,20.0s						
BOSA	**Boshof**	**94.73**	**169**	LR	LR	04 43 51.4	
	comp=Z,540nm,19.1s,baz=180,slow=34						
WUAZ	**Wupatki**	**95.18**	**25**	IAMs_20	IAMs_20	04 37 44.6	
	comp=Z,610nm,22.0s						
TPNV	**Topopah Spring**	**95.51**	**21**	IAMs_20	IAMs_20	04 37 50.6	
	comp=Z,542nm,18.0s						
**H

comp=Z,464nm,20.0s
EGAK Eagle 120.78 1 IAMs_20 IAMs_20 04 56 21.2
comp=Z,461nm,19.0s
ILAR Eielson Array 120.83 358 PKP PKPdf 04 09 46.0 -1.4
comp=Z,1.7nm,0.8s,baz=246,slow=2.0,SNR=11
COLA College 120.95 357 IAMs_20 IAMs_20 04 54 23.8
comp=Z,534nm,19.0s
MDM Murphy Dome 121.05 357 IAMs_20 IAMs_20 04 55 30.3
comp=Z,483nm,18.0s
MLY Manley 121.21 356 IAMs_20 IAMs_20 04 56 06.5
comp=Z,498nm,19.0s
I23K Minto, Yukon-K 121.27 356 IAMs_20 IAMs_20 04 57 49.3
comp=Z,379nm,18.0s
PRP Porcupine Dome 121.55 358 IAMs_20 IAMs_20 04 51 19.5
comp=Z,407nm,21.0s
ANM Nome 121.86 348 IAMs_20 IAMs_20 04 50 57.0
comp=Z,486nm,21.0s
GAMB Gambell 121.91 345 IAMs_20 IAMs_20 04 52 26.3
comp=Z,399nm,20.0s
EPYK Eagle Plains 122.45 3 IAMs_20 IAMs_20 04 51 11.2
comp=Z,560nm,22.0s
FYU Fort Yukon 122.60 359 IAMs_20 IAMs_20 04 57 54.2
comp=Z,470nm,20.0s
RDOG Red Dog Mine 125.01 351 IAMs_20 IAMs_20 05 02 46.1
comp=Z,366nm,18.0s
C36M Paulatuk 126.07 8 IAMs_20 IAMs_20 04 54 35.5
comp=Z,494nm,21.0s
LODK Lodwar 127.21 177 IAMs_20 IAMs_20 05 00 03.7
comp=Z,584nm,22.0s
TORD Torodi Ar. Bea 128.79 133 PKP PKPdf 04 10 04.3 +0.1
comp=Z,0.5nm,0.7s,baz=239,slow=1.8,SNR=2.7
TORD Torodi Ar. Bea 128.79 133 PKiKP 04 10 04.7 -0.2
ATD Arta Tunnel 135.13 187 IAMs_20 IAMs_20 05 05 19.9
comp=Z,407nm,22.0s
TULEG Thule 140.37 21 IAMs_20 IAMs_20 05 06 21.8
comp=Z,370nm,19.0s
NEEM North Greenlan 144.38 22 *i* P PKPbc 04 10 30.4 +0.4
NEEM IAmb IAmb 04 10 35.4
comp=Z,20nm,1.1s
ICESG Greenland Ices 144.96 38 *e*P PKiKP 04 10 37.5 +1.0
UOSS Minazif 145.89 211 IAMs_20 IAMs_20 05 11 29.5
comp=Z,266nm,18.0s
SUMG Summit 146.30 32 *i* P PKiKP 04 10 45.0 +5.7
RAYN Ar Rayn 146.74 193 IAMs_20 IAMs_20 05 13 49.9
comp=Z,402nm,21.0s
ESDC Sonseca Array 148.11 104 PKPbc PKPbc 04 10 41.7 -0.1
comp=Z,3.2nm,0.9s,baz=245,slow=2.9,SNR=11
MKAR Makanchi Array 151.18 270 PKPbc PKPbc 04 10 46.3 -2.8
comp=Z,3.3nm,0.9s,baz=111,slow=2.7,SNR=15
SCO Scoresbysund 151.24 37 IAMs_20 IAMs_20 05 12 26.0
comp=Z,304nm,20.0s
KEST Kesra 151.83 125 PKPbc PKiKP 04 10 52.8 +1.4
comp=Z,2.8nm,0.8s,baz=195,slow=2.6,SNR=5.0
KEST Kesra 151.83 125 PKiKP 04 10 52.1 +0.7
ZALV Zalesovo Beam 153.39 285 PKPab PKPab 04 11 03.1 -3.0
comp=Z,2.6nm,0.7s,baz=104,slow=2.8,SNR=7.8
ZALV Zalesovo Beam 153.39 285 PKPdf 04 10 48.9 +2.7
WDD Wied Dalam 154.16 133 IAMs_20 IAMs_20 05 25 09.0
comp=Z,278nm,19.0s
NRIK Noril'sk 154.69 321 PKPab PKPab 04 11 11.0 -0.2
comp=Z,2.5nm,0.4s,baz=53,slow=5.9,SNR=4.2
GHAJ Ghor Haditha 154.94 176 IAMs_20 IAMs_20 05 15 48.1
comp=Z,378nm,21.0s
CEL Celeste 156.80 132 IAMs_20 IAMs_20 05 25 09.9
comp=Z,307nm,20.0s
IDI Anoyia 157.21 152 IAMs_20 IAMs_20 05 22 46.7
comp=Z,365nm,21.0s
BNI Bardonecchia 157.52 107 IAMs_20 IAMs_20 05 26 16.2
comp=Z,256nm,21.0s
CSS Mathiatis 158.42 170 IAMs_20 IAMs_20 05 26 23.3
comp=Z,269nm,20.0s
SENIN Lac Senin/Sane 158.70 105 IAMs_20 IAMs_20 05 19 05.7
comp=Z,265nm,20.0s
AQU L'Aquila 159.01 121 IAMs_20 IAMs_20 05 27 32.7
comp=Z,368nm,22.0s

*IDC **06** 04:23:36.2±6.8, 36°.37N×70°.86E, h181km±65km, mb3.4/4, mb1 3.4/8, mb1mx3.0/49, mbtmp3.9/8, MS3.7/2, Ms1 3.7/2, ms1mx2.7/30, Error ellipse: s-maj=51.1km s-min=25.7km az=12.0*
*NNC **06** 04:23:38.3±15.0, 36°.91N×69°.99E, h0km, mb4.1, mpv3.5, Error ellipse: s-maj=160.5km s-min=108.0km az=128.0*
*NEIC **06** 04:23:39.3±0.9, 36°.55N±0°.04×70°.81E±0°.09, h210km±6km, mb4.0/4, Error ellipse: s-maj=11.6km s-min=2.5km az=67.0*
ISC 06 04:23:37.9±0.7, 36°.48N±0°.06×70°.97E±0°.09, h200km, n34, σ1§74/36, mb3.8/4, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.49	220		Pn	04 24 23.9	+1.9
GAR	Garm	2.57	349		Pn	04 24 23.9	+1.2
CHGR	Chuyangaron	2.61	327		Pn	04 24 23.5	+0.4
NIL	Nilore	3.39	146	Pn	Pn	04 24 35.7	+3.4
BTK	Batken	3.58	358	Pn	Pn	04 24 36.3	+1.8
KK31	Karatay Array	6.63	357	⇑P	Pn	04 25 12.7	-0.5
	1.3nm,0.3s,baz=178,slow=13						
KK31				⇑S	Sn	04 26 23.6	-5.3
	19nm,0.5s,baz=185,slow=20						
KK31	Karatay Array	6.63	357		Pn	04 25 13.3	+0.1
KKAR	Karatay Array	6.63	357	Pn	Pn	04 25 13.3	+0.1
AAK	Ala-Archa	6.73	23	P	Pn	04 25 16.2	+1.5
	1.2nm,0.3s,baz=87,slow=0.2,SNR=2.4						
AAK				S	Sn	04 26 30.3	-1.2
	1.5nm,0.3s,baz=329,slow=23,SNR=10						
AAK	Ala-Archa	6.73	23	Pn	Pn	04 25 14.4	-0.3
SMLA	Simla	7.42	134	*e*P	Pn	04 25 25.6	+2.0
SMLA				*e*S	Sn	04 26 46.5	-1.1
SMLA				IAML		04 26 51.7	
	comp=E,36nm,0.6s						
SMLA				IAML		04 26 52.6	
	comp=N,38nm,0.3s						
KUDL	Kundal	9.53	149	*e*P	Pn	04 25 50.5	-0.6
KUDL				*e*S	Sn	04 27 32.5	-5.3
MAKZ	Makanchi	13.19	35	Pn	Pn	04 26 38.5	+0.9
MK31	Makanchi Array	13.32	36	Pn	Pn	04 26 40.7	+1.3
MKAR	Makanchi Array	13.32	36	P	Pn	04 26 40.2	+0.9
	comp=N,0.5nm,0.3s,baz=214,slow=8.8,SNR=15						
AB31	Akbulak array	15.09	331	⇑P	P	04 27 03.2	+1.6
	comp=N,1.6nm,0.5s						
ABKAR	Akbulak array	15.09	331	P	Pn	04 27 00.7	-0.3
KURBB	Kurchatov Arra	15.15	19	P	P	04 27 03.4	+1.1
	comp=N,0.1nm,0.3s,baz=205,slow=11,SNR=3.5						
KURK	Kurchatov	15.26	19	P	Pn	04 27 03.4	+0.3
AKTO	Aktyubinsk	16.79	330	P	Pn	04 27 21.9	+0.4
	comp=N,0.5nm,0.3s,baz=139,slow=11,SNR=14						
AKTO	Aktyubinsk	16.79	330	⇓P	P	04 27 20.5	+0.2
	comp=N,3.7nm,0.6s						
WSAR	Wadi Sarin	16.96	222	LR	LR	04 35 43.1	
	comp=N,100nm,18.5s,baz=225,slow=43						
ZAA0	Zalesovo Array	19.95	25	P	P	04 27 55.9	+1.5
ZAA0				IAmb	IAmb	04 27 56.2	
	comp=Z,3.2nm,0.7s						
ZALV	Zalesovo Beam	19.95	25	P	P	04 27 55.9	+1.4
	comp=Z,2.3nm,0.4s,baz=219,slow=12,SNR=14						
ZALV	Zalesovo Beam	19.95	25	P	P	04 27 54.2	-0.3
USRK	Ussuriysk Ar.	46.20	61	LR	LR	04 52 48.3	
	comp=Z,214nm,20.9s,baz=120,slow=38						
TORD	Torodi Ar. Bea	65.69	269	P	P	04 34 00.4	-0.9
	comp=Z,0.4nm,0.8s,baz=48,slow=5.8,SNR=4.0						
TORD	Torodi Ar. Bea	65.69	269	P	P	04 34 00.2	-1.1
WRA	Warramunga Arr	82.00	122	P	P	04 35 36.2	+0.5
	comp=Z,0.9nm,0.4s,baz=323,slow=4.8,SNR=25						
WRA	Warramunga Arr	82.00	122	P	P	04 35 36.0	+0.3
WB2	Warramunga Arr	82.01	122	P	P	04 35 36.2	+0.4
WR0	Warramunga Arr	82.15	122	P	P	04 35 36.4	-0.1
WR0				IAmb	IAmb	04 35 54.9	
	comp=Z,3.3nm,1.0s						
ASAR	Alice Springs	84.26	125	P	P	04 35 47.8	+0.5
	comp=Z,0.8nm,0.6s,baz=310,slow=4.9,SNR=11						
ASAR	Alice Springs	84.26	125	P	P	04 35 47.5	+0.2

*IDC **06** 04:25:47.2±0.9, 52°.07N×170°.71W, h0km, mb4.1/20, mb1 4.2/22, mb1mx4.1/56, mbtmp4.1/22, ML3.9/2, Error ellipse: s-maj=24.5km s-min=15.9km az=174.0*
*AEIC **06** 04:25:50±2.6, 51°.88N±0°.08×170°.40W±0°.08, h26km±5km, Error ellipse: s-maj=12.8km s-min=5.3km az=154.0*
*NEIC **06** 04:25:52.0±2.5, 51°.99N±0°.06×170°.46W±0°.07, h34km±5km, mb4.1/57, ML3.7(AEIC), Error ellipse: s-maj=9.8km s-min=4.1km az=144.0*
ISC 06 04:25:51.5±0.6, 51°.97N±0°.10×170°.45W±0°.05, h31km, n133, σ1§21/126, mb4.2/30, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.40	44	Pn	Pn	04 26 13.8	-1.1
NIKH	Nikolski High	1.40	44		Sn	04 26 31.6	-0.6
NIKH	Nikolski High	1.40	44		Sb	04 26 32.8	-1.7
OKSP	Okmok Steeple	1.84	45		Pn	04 26 20.5	-0.5
OKTU	Okmok Mt. Tuli	2.04	45		Pn	04 26 24.0	+0.3
OKFG	Magazine Ridge	2.11	46		Pn	04 26 25.0	+0.3
OKFG					Sb	04 26 51.7	-3.2
KOFP	Korovin Flat P	2.27	279		Pn	04 26 27.1	+0.2
ATKA	Atka Island	2.32	277	Pn	Pn	04 26 27.1	-0.5
ATKA	Atka Island	2.32	277		Sn	04 26 56.6	+1.6
KOKL	Mount Kliuchef	2.34	280		Pn	04 26 28.4	+0.6
MAPS	Pakushin South	2.81	48		Pn	04 26 34.6	+0.3
MSW	Makushin Switc	2.95	47		Pn	04 26 37.0	+0.8
MNAT	Makushin Natee	2.98	49		Pn	04 26 37.3	+0.7
AKBBA	Akutan Broad B	3.46	50		Pn	04 26 45.4	+2.2
GSMY	Great Sitkin M	3.46	273		Pn	04 26 43.5	+0.3
GSTR	Great Sitkin T	3.46	274	Pn	Pn	04 26 43.5	+0.2
GSTD	Great Sitkin T	3.52	274		Pn	04 26 44.5	+0.4
ADK	Adak	3.86	271		Pn	04 26 48.5	-0.2
KIWB	Kanaga Island	4.15	271		Pn	04 26 52.9	+0.2
KIMD	Kanaga Island	4.21	270		Pn	04 26 53.8	+0.3
TASE	Tanaga Southea	4.70	271		Pn	04 27 00.9	+0.6
SPIA	Saint Paul Isl	5.22	1	Pn	Pn	04 27 10.8	+3.5
AMKA	Amchitka	6.40	269	Pn	Pn	04 27 24.3	+0.7
SDPT	Sand Point	6.82	56	Pn	Pn	04 27 32.1	+2.7
OHAK	Old Harbor	11.25	55	Pn	Pn	04 28 27.8	-2.1
KDAK	Kodiak Island	11.80	53	Pn	Pn	04 28 35.3	-2.2
	0.6nm,0.3s,baz=253,slow=5.4,SNR=13						
KDAK	Kodiak Island	11.80	53	Pn	Pn	04 28 35.8	-1.7
CNPM	China Poot	13.17	47	Pn	Pn	04 28 55.5	-0.6
TNA	Tin City	13.69	4	Pn	P	04 29 08.1	-3.4
SEW	Seward	14.23	47	Pn	Pn	04 29 09.0	-1.6
SKT	Skwentna	14.32	38	P	P	04 29 17.2	-1.5
RC01	Rabbit Creek A	14.56	43	P	Pn	04 29 16.8	+1.7
PWL	Port Wells	15.06	45	Pn	Pn	04 29 19.9	-1.9
PWL				IAmb	IAmb	04 29 48.5	
	comp=Z,6.2nm,0.8s						
PMR	Palmer	15.07	42		P	04 29 24.8	-2.1
PMR				IAmb	IAmb	04 29 39.6	
	comp=Z,7.1nm,1.2s						
SML	Sawmill	15.51	42	P	P	04 29 31.7	-0.1
SML				IAmb	IAmb	04 29 55.1	
	comp=Z,5.1nm,0.7s						
GLI	Glacier Island	15.62	46	Pn	Pn	04 29 29.2	+0.1
GLI				IAmb	IAmb	04 29 41.1	
	comp=Z,5.9nm,0.7s						
HIN	Hinchinbrook I	15.70	48	Pn	Pn	04 29 28.5	-1.6
HIN				IAmb	IAmb	04 29 44.9	
	comp=Z,22nm,1.2s						
BPAW	Bear Paw Mtn.	15.84	32	P	P	04 29 34.1	-1.3
FID	Port Fidalgo	15.84	47	Pn	Pn	04 29 30.3	-1.7
FID				IAmb	IAmb	04 29 40.5	
	comp=Z,5.1nm,0.6s						
SCM	Sheep Creek Mo	15.94	43	Pn	Pn	04 29 33.2	0.0
SCM				IAmb	IAmb	04 29 40.5	
	comp=Z,23nm,1.2s						
KLU	Klutina	16.39	45	Pn	Pn	04 29 37.9	-1.2
KLU				IAmb	IAmb	04 29 59.2	
	comp=Z,14nm,1.5s						
MLY	Manley	16.55	30	P	P	04 29 44.1	+0.8
M24K	Tolsona, Glenn	16.55	43	Pn	Pn	04 29 40.0	-1.0
M24K				IAmb	IAmb	04 30 07.5	
	comp=Z,8.9nm,0.8s						
HMT	Hamilton	16.72	50	Pn	Pn	04 29 42.1	-1.1
HMT				IAmb	IAmb	04 29 43.7	
	comp=Z,8.4nm,0.8s						
N25K	Chitina, Valde	17.02	45	Pn	Pn	04 29 45.8	-1.2
I23K	Minto, Yukon-K	17.06	31		P	04 29 48.1	-0.8
PAX	Paxson	17.24	41	Pn	Pn	04 29 48.7	-1.0
CCB	Clear Creek Bu	17.26	34		Pn	04 29 49.3	-0.6
GLB	Gilahina Butte	17.30	46	Pn	Pn	04 29 49.9	-0.7
VRDI	Verde Repeater	17.39	47	Pn	P	04 29 51.2	-1.6
WAX	Waxell Ridge	17.42	50		P	04 29 52.8	-0.2
WAX				IAmb	IAmb	04 30 16.5	
	comp=Z,10nm,1.0s						
HDA	Harding Lake	17.43	35		P	04 29 53.4	+0.4
IL31		17.66	34		P	04 29 56.6	+1.2
ILAR	Eielson Array	17.66	34	P	Pn	04 29 53.9	-0.9
	comp=Z,0.1nm,0.3s,baz=238,slow=10.0,SNR=6.8						
ILAR	Eielson Array	17.66	34		P	04 29 55.4	-0.1
ISLE	Juniper Island	17.71	50		P	04 29 55.1	-1.1
ISLE				IAmb	IAmb	04 30 17.8	
	comp=Z,5.7nm,0.8s						
YAH	Yahtse	17.93	51	Pn	P	04 30 01.2	+2.4
YAH				IAmb	IAmb	04 30 11.2	
	comp=Z,7.2nm,0.7s						
DOT	Dot Lake	18.12	40		P	04 30 01.1	+0.4
TABL	Table Mountain	18.24	51	P	P	04 30 03.4	+1.2
TABL				IAmb	IAmb	04 30 17.7	
	comp=Z,20nm,0.8s						
SCRK	Sand Creek	18.30	39	P	Pn	04 30 02.2	-0.7
L27K	Beaver Creek,	18.77	43	P	Pn	04 30 09.2	+0.7
PEA0B	Petropavlovsk-	19.33	286	P	Pn	04 30 14.4	-0.8
PETK	Petropavlovsk-	19.33	286	P	P	04 30 13.4	-0.5
	comp=Z,6.0nm,0.3s,baz=88,slow=13,SNR=42						
PETK	Petropavlovsk-	19.33	286	P	Pn	04 30 13.6	-1.6
TOLK	Toolik Lake Re	19.47	23	P	Pn	04 30 18.2	+1.4
EGAK	Eagle	19.77	38	P	Pn	04 30 19.4	-0.9
EGAK				IAmb	IAmb	04 30 24.4	
	comp=Z,4.1nm,0.5s						
HYT	Haines Junctio	20.07	51	P	Pn	04 30 24.9	+0.8
DAWY	Dawson	20.17	41	P	Pn	04 30 24.3	-0.8
SKAG	Skagway	20.95	55	P	Pn	04 30 33.8	-0.3
SKAG				IAmb	IAmb	04 30 35.8	
	comp=Z,22nm,0.8s						
EPYK	Eagle Plains	22.12	36	P	P	04 30 43.0	-1.0
EPYK				IAmb	IAmb	04 30 47.1	
	comp=Z,7.5nm,0.6s						
INK	Inuvik	24.04	33	P	P	04 31 03.2	-0.1
	comp=Z,3.7nm,0.4s,baz=244,slow=5.7,SNR=14						
INK	Inuvik	24.04	33	P	P	04 31 02.6	-0.8
INK				IAmb	IAmb	04 31 05.3	
	comp=Z,4.8nm,0.8s						
YKA	Yellowknife Ar	31.00	48	P	P	04 32 08.1	+2.3
	comp=Z,0.3nm,0.4s,baz=276,slow=7.6,SNR=9.4						
EDM	Edmonton	33.92	65	P	P	04 32 33.2	+1.8
EDM				IAmb	IAmb	04 32 35.9	
	comp=Z,8.1nm,1.3s						
H11N2	WAKE ISLAND Hy	36.73	217	T	T	05 12 12.4	
	baz=23,slow=75,SNR=7.4						
H11N3	WAKE ISLAND Hy	36.74	217	T	T	05 12 18.8	
	baz=23,slow=75,SNR=7.8						
H11N1	WAKE ISLAND Hy	36.75	217	T	T	05 12 12.6	
	baz=23,slow=75,SNR=5.6						
H11S1	WAKE ISLAND Hy	37.92	217	T	T	05 13 46.2	
	baz=23,slow=76,SNR=34						
H11S2	WAKE ISLAND Hy	37.94	217	T	T	05 13 47.0	
	baz=23,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	37.94	217	T	T	05 14 00.7	
	baz=23,slow=76,SNR=18						
FFC	Flin Flon	39.50	58	P	P	04 33 21.2	+2.4
FFC				IAmb	IAmb	04 33 21.2	
	comp=Z,2.5nm,0.8s						
LKWY	Lake	39.63	76	P	P	04 33 19.4	-0.9
PDAR	Pinedale Array	41.14	78	P	P	04 33 34.0	+1.2
	comp=Z,0.8nm,0.6s,baz=316,slow=6.2,SNR=10.0						
PDAR	Pinedale Array	41.14	78	P	P	04 33 33.5	+0.6
SPITS	Spitsbergen Ar	50.05	358	P	P	04 34 41.8	-0.8
	comp=Z,0.6nm,0.4s,baz=355,slow=6.2,SNR=10						
SONM	Songino Array	50.93	300	P	P	04 34 49.7	0.0
	comp=Z,1.5nm,0.5s,baz=53,slow=6.8,SNR=7.9						
SONM				PcP	PcP	04 36 07.1	+1.4
	comp=Z,0.6nm,0.6s,baz=127,slow=3.9,SNR=3.6						
SONM	Songino Array	50.93	300	P	P	04 34 49.7	0.0
SONM				IAmb	IAmb	04 34 50.6	
	comp=Z,1.5nm,0.8s						
TXAR	Lajitas Array	53.42	88	P	P	04 35 09.2	+0.8
	comp=Z,0.4nm,0.7s,baz=284,slow=3.9,SNR=5.5						
TXAR	Lajitas Array	53.42	88	P	P	04 35 09.1	+0.6
P40A	Paris	53.54	70	P	P	04 35 09.0	0.0
SCO	Scoresbysund	55.76	12	P	P	04 35 24.9	+0.3
SCHQ	Schefferville	56.18	43	P	P	04 35 29.3	+1.4
	comp=Z,3.8nm,0.8s,baz=302,slow=7.4,SNR=4.8						
SCHQ	Schefferville	56.18	43	P	P	04 35 29.2	+1.2
SCHQ				IAmb	IAmb	04 35 31.2	
	comp=Z,5.3nm,0.9s						
PLVO	Plevna	58.11	56	P	P	04 35 42.5	+0.7
PLVO				IAmb	IAmb	04 35 48.2	
	comp=Z,7.3nm,1.2s						
LVZ	Lovozero	58.98	349	P	P	04 35 47.0	-0.5
E63A	Oxbow	61.43	50	P	P	04 36 06.0	+1.4
F64A	Sherman	61.87	51	P	P	04 36 07.9	+0.4
KURK	Kurchatov	62.22	318	P	P	04 36 09.8	+0.1
KURBB	Kurchatov Arra	62.33	318	P	P	04 36 09.8	-0.7
	comp=Z,1.5nm,0.7s,baz=44,slow=7.1,SNR=9.5						
LMN	Caledonia Moun	63.56	49	P	P	04 36 19.2	+0.5
MK31	Makanchi Array	63.59	313	P	P	04 36 17.9	-1.0
MK31				IAmb	IAmb	04 36 19.3	
	comp=Z,2.8nm,1.4s						
MKAR	Makanchi Array	63.59	313	P	P	04 36 17.7	-1.3
	comp=Z,0.5nm,0.3s,baz=47,slow=6.3,SNR=16						
BVAR	Borovoye Array	63.63	324	P	P	04 36 18.1	-1.1
	comp=Z,2.1nm,0.6s,baz=212,slow=7.0,SNR=11						
MAKZ	Makanchi	63.72	313	P	P	04 36 18.7	-1.1
MAKZ				IAmb	IAmb	04 36 45.4	
	comp=Z,0.9nm,0.7s						
ARU	Arti	64.67	332	P	P	04 36 24.6	-1.2
	comp=Z,2.2nm,0.2s,baz=3.1,slow=9.1,SNR=3.8						
FINES	FINESS Array B	66.17	351	P	P	04 36 34.4	-1.0
	comp=Z,3.4nm,0.8s,baz=15,slow=6.0,SNR=8.9						
FINES	FINESS Array B	66.17	351	P	P	04 36 34.3	-1.1
NC204	NORSAR Array S	67.10	359	P	P	04 36 42.0	+0.6
NB2	NORSAR Subarra	67.33	359	P	P	04 36 42.5	-0.4
	comp=Z,0.5nm,0.5s,baz=1.2,slow=6.5						
NOA	NORSAR Array B	67.33	359	P	P	04 36 42.6	-0.4
	comp=Z,1.1nm,0.7s,baz=1.9,slow=6.4,SNR=6.1						
BOOM	Boomskoye usch	69.79	314	P	P	04 36 58.5	-0.2
BOOM				IAmb	IAmb	04 36 59.3	
	comp=Z,5.1nm,0.9s						
AKTO	Aktyubinsk	70.02	329	P	P	04 36 59.3	-0.5
	comp=Z,2.4nm,0.4s,baz=65,slow=10.0,SNR=7.2						
ABKAR	Akbulak array	70.42	328	P	P	04 37 01.0	-1.2
ABKAR				IAmb	IAmb	04 37 03.0	
	comp=Z,3.4nm,1.1s						
SLVN	Son La	70.85	280	P	P	04 37 04.1	-1.3
SLVN				IAmb	IAmb	04 37 12.8	
	comp=Z,4.5nm,0.8s						
BELG	Belogornoye	71.19	336	P	P	04 37 06.6	-0.2
	comp=Z,7.2nm,0.5s,baz=251,slow=1.6,SNR=7.7						
KK31	Karatay Array	71.64	318	P	P	04 37 09.7	0.0
KK31				IAmb	IAmb	04 37 10.7	
	comp=Z,3.8nm,1.3s						
PABE	Paberze	72.22	351	P	P	04 37 12.9	-0.1
TOLI2	Tolitoli	76.16	254	P	P	04 37 34.7	-1.9
AKASG	Malin Array Be	76.35	347	P	P	04 37 35.9	-1.2
	comp=Z,1.3nm,0.5s,baz=12,slow=5.8,SNR=6.7						
MORC	Moravsky Berou	78.40	355	*e*P	P	04 37 47.9	-0.8
VRAC	Vranov	78.92	355	*e*P	P	04 37 52.1	+0.6
KRUC	Moravsky	79.17	355	*e*P	P	04 37 52.5	-0.4
JAVC	Velka Javorina	79.31	355	*e*P	P	04 37 54.8	+1.1
GERES	GERESS Array B	79.50	357	P	P	04 37 55.1	+0.3
	comp=Z,1.0nm,0.6s,baz=17,slow=4.9,SNR=7.4						
GERES	GERESS Array B	79.50	357	P	P	04 37 55.5	+0.7
BURAR	Bucovina Array	79.89	349	P	P	04 37 57.1	+0.2
TIRR	Tirgusor	82.58	346	P	P	04 38 11.5	+0.4
VLC	Villacollemand	84.25	359	P	P	04 38 21.3	+1.5
WRA	Warramunga Arr	86.23	231	P	P	04 38 29.0	-0.9
	comp=Z,0.4nm,0.5s,baz=36,slow=5.9,SNR=5.1						
BRTR	Keskin Array B	86.30	342	P	P	04 38 30.4	+0.1
	comp=Z,0.9nm,0.9s,baz=102,slow=5.7,SNR=5.5						
ASAR	Alice Springs	89.63	229	P	P	04 38 45.9	-0.1
	comp=Z,0.7nm,0.7s,baz=32,slow=5.3,SNR=6.0						
BOSA	Boshof	153.88	327	PKPbc	PKiKP	04 45 49.8	+2.2
	comp=Z,2.5nm,1.0s,baz=18,slow=2.7,SNR=6.2						
BOSA	Boshof	153.88	327		PKiKP	04 45 48.5	+1.0

WEL 06 04:34:44.8±0.4, 44°S±3°×17°0E±°, h5km, M3.5/20, ML3.6/20, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=145.4, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.43	94	P	Pg	04 34 53.5	+0.4
LBZ				S	Sg	04 34 59.7	+1.0
WKZ	Wanaka	0.62	221	P	Pg	04 34 57.2	+0.4
WKZ				S	Sg	04 35 06.0	+1.2
JCZ	Jackson Bay	0.65	296	P	Pg	04 34 57.4	+0.2
JCZ				S	Sg	04 35 05.8	+0.2
FOZ	Fox Glacier	0.84	11	P	Pg	04 34 59.8	-1.1
TMZ	Timaru	1.02	92	P	Pg	04 35 04.4	+0.1
ODZ	Otahua Downs	1.02	133	P	Pg	04 35 04.0	-0.3
ODZ				S	Sg	04 35 17.5	0.0
GCSZ	Gaunt Creek Bo	1.17	27	P	Pg	04 35 06.0	-1.2
RPZ	Rata Peaks	1.24	59	P	Pg	04 35 07.6	-0.9
RPZ				S	Sg	04 35 23.0	-1.5
WVZ	Waitaha Valley	1.53	33	P	Pn	04 35 12.6	-0.2
WVZ				S	Sg	04 35 34.5	+0.5
TUZ	Tuapeka	1.59	179	P	Pn	04 35 13.6	0.0
WACZ	Wakanui South	1.67	76	P	Pn	04 35 14.4	-0.3
HHSZ	Highcliff Hill	1.68	155	P	Pb	04 35 15.6	-0.7
RACZ	Rakaia	1.94	72	P	Pg	04 35 21.5	-0.6
OXZ	Oxford	2.05	61	P	Pn	04 35 19.7	-0.2
INZ	Inchbonnie	2.12	40	P	Pn	04 35 21.9	+1.0
INZ				S	Sb	04 35 49.6	-0.6
MQZ	McQueen's Vall	2.31	75	P	Pn	04 35 22.9	-0.5
AKCZ	Akaroa Harbour	2.44	80	P	Pn	04 35 24.6	-0.7
LTZ	Lake Taylor	2.51	52	P	Pn	04 35 26.2	-0.1
OKCZ	Okains Bay	2.58	77	P	Pn	04 35 27.5	+0.2
APZ	The Paps	2.72	204

JWY	Kouya	0.91 158	S	Sg	04 45 36.0	-0.8
MAT	Matsushiro	2.87 58	P	Pn	04 45 52.7	-0.2
MAT			eS	Sn	04 46 29.6	+2.3

*IDC **06** 05:03:24.2±1.3,27°.54N×86°.09E,h0km,mb3.7/7,*
mb1 3.9/8,mb1mx3.6/34,mbtmp3.7/8,ML3.6/1 Error
ellipse: s-maj=47.3km s-min=22.3km az=55.0
ISC 06 05:03:27.2±1.5,27°.6N±0°.2×86°.1E±0°.3,h19km,n8,σ0s51/8,
mb3.8/7,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	19.41	352	P	Pn	05 07 52.8	-0.6
	0.2nm,0.3s,baz=173,slow=11,SNR=10						
KURBB	Kurchatov Arra	23.72	348	P	P	05 08 38.6	+0.7
	1.1nm,0.6s,baz=168,slow=9.4,SNR=7.9						
SONM	Songino Array	25.68	33	P	P	05 08 56.2	+0.1
	0.6nm,0.4s,baz=224,slow=8.6,SNR=3.2						
AKASG	Malin Array Be	48.40	315	P	P	05 12 07.6	-0.3
	0.3nm,0.3s,baz=78,slow=6.9,SNR=6.0						
FINES	FINESS Array B	51.90	328	P	P	05 12 34.4	+0.2
	1.3nm,0.8s,baz=123,slow=14,SNR=5.3						
ARCES	ARCESS Array B	54.23	338	P	P	05 12 51.9	+0.5
	3.2nm,0.9s,baz=104,slow=6.6,SNR=1.6						
WRA	Warramunga Arr	66.43	130	P	P	05 14 15.5	0.0
	0.3nm,0.4s,baz=323,slow=6.4,SNR=15						
ILAR	Eielson Array	79.21	20	P	P	05 15 30.4	-0.3
	0.4nm,0.7s,baz=295,slow=5.2,SNR=4.5						

*IDC **06** 05:29:23.4±1.4,24°.10N×122°.16E,h0km,mb3.7/4,*
mb1 3.8/5,mb1mx3.5/38,mbtmp3.7/5,ML3.5/1,Error
ellipse: s-maj=43.8km s-min=28.5km az=68.0
*TAP **06** 05:29:27.9,24°.12N×122°.28E,h22km,ML3.9,C*
*JMA **06** 05:29:28.0±0.1,24°.04N×122°.27E,h30km±3km,M3.6*
ISC 06 05:29:27.8±1.0,24°.07N±0°.02×122°.28E±0°.02,h28km±9km,
n143,σ0s89/202,mb3.8/4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.55	296	eP	Pb	05 29 38.5	-0.4
	baz=299						
EWUT	Wuta	0.59	309	P	Pb	05 29 38.9	-0.8
	baz=316						
EWUT				eS	Sb	05 29 47.6	0.0
	baz=316						
ETL	Fush Village	0.61	279	eP	Pb	05 29 40.2	+0.3
	baz=258						
ETL				eS	Sb	05 29 48.6	+0.4
	baz=258						
HWA	Hwalien	0.62	262	eP	Pb	05 29 40.5	+0.3
	baz=243						
HWA				eS	Sn	05 29 49.6	-0.3
	baz=243						
TWD	Chiawan	0.62	271	eP	Pb	05 29 40.1	-0.1
	baz=251						
TWD				eS	Sb	05 29 49.2	+0.6
	baz=251						
NACB	Ninganchiao	0.63	280	P	Pb	05 29 40.2	-0.1
	baz=259						
TEYL	Yanliau Villag	0.65	252	eP	Pb	05 29 41.0	+0.3
	baz=238						
TEYL				eS	Sb	05 29 49.9	+0.5
	baz=238						
TWC	Suao	0.67	324	P	Pb	05 29 39.8	-1.1
	baz=322						
TWC				eS	Sb	05 29 47.8	-2.0
	baz=322						
JYNG	Yonagunijimaku	0.72	58	P	Pn	05 29 42.1	0.0
JYNG				S	Sb	05 29 51.6	+0.4
ETM	Tongmen	0.73	262	eP	Pb	05 29 41.5	-0.3
	baz=248						
ETM				S	Sb	05 29 51.8	+0.3
	baz=248						
ETLH	Xiulin Townshi	0.74	281	P	Pb	05 29 42.0	-0.2
	baz=263						
ETLH				eS	Sn	05 29 52.6	-0.4
	baz=263						
NDS	Dongshan	0.76	318	P	Pb	05 29 41.8	-0.7
	baz=319						
NDS				eS	Sb	05 29 52.1	-0.4
	baz=319						
TEGC	Jichi Village	0.77	242	eP	Pn	05 29 43.1	+0.4
	baz=240						
TEGC				eS	Sb	05 29 53.6	+1.0
	baz=240						
YOJ	Yonaguni jima	0.77	59	P	Pb	05 29 42.8	+0.1
YOJ				eS	Sb	05 29 52.9	+0.1
YOJ	Yonaguni jima	0.77	59	i P	Pb	05 29 42.8	+0.1
	baz=61						
YOJ				eS	Sn	05 29 53.3	-0.3
	baz=61						
ESL	Shilin	0.81	252	eP	Pb	05 29 42.6	-0.7
	baz=239						
ESL				S	Sb	05 29 54.1	+0.1
	baz=239						
ILA	Ilan	0.85	325	eP	Pb	05 29 43.6	-0.2
	baz=323						
ILA				S	Sn	05 29 54.8	-0.6
	baz=323						
TWE	Neicheng	0.86	319	eP	Pb	05 29 43.5	-0.5
	baz=317						
TWE				eS	Sn	05 29 55.4	-0.2
	baz=317						
EGFH	Guangfu	0.88	243	eP	Pb	05 29 43.7	-0.7
	baz=230						
EGFH				eS	Sb	05 29 55.9	+0.2
	baz=230						
NDT	Datong Townshi	0.88	307	eP	Pn	05 29 44.5	+0.2
	baz=316						
NDT				eS	Sn	05 29 55.7	-0.5
	baz=316						
NTC	Toucheng	0.88	332	eP	Pb	05 29 44.1	-0.4
	baz=330						
NNS	Nan Shan	0.91	294	eP	Pb	05 29 44.6	-0.4
	baz=291						
WHF	Hehuan Shan	0.93	275	P	Pb	05 29 44.9	-0.6
	baz=257						
FUSS	Fushou	0.96	281	eP	Pb	05 29 45.8	-0.2
	baz=278						
HGSD	Ruisui	0.97	234	eP	Pb	05 29 45.5	-0.5
	baz=232						
TWB1	Santiao Chiao	0.97	344	eP	Pb	05 29 45.4	-0.6
	baz=329						
TWB1				eS	Sn	05 29 58.2	-0.3
	baz=329						
TIPB	Shuangxi	0.99	335	P	Pn	05 29 45.9	0.0
	baz=333						
TIPB				S	Sb	05 29 58.1	-0.9
	baz=333						
NWLT	Wulai	1.00	315	P	Pn	05 29 46.4	+0.4
	baz=321						
NWLT				S	Sn	05 29 59.5	+0.2
	baz=321						
CHGB	Renai	1.01	270	P	Pb	05 29 46.3	-0.5
	baz=255						
CHGB				eS	Sn	05 30 00.1	+0.3
	baz=255						
OWD	Renai	1.01	264	eP	Pb	05 29 46.2	-0.6
	baz=262						
OWD				eS	Sb	05 29 59.3	-0.6
	baz=262						
YHNB	Yeheng	1.02	306	eP	Pn	05 29 46.5	+0.2
	baz=303						
TWT	Tachien	1.02	281	eP	Pn	05 29 47.2	+0.7
	baz=264						
EHY	Hungye	1.04	238	eP	Pn	05 29 46.7	+0.1
	baz=251						
TDCB	Techi	1.04	280	eP	Pb	05 29 46.9	-0.3
	baz=264						
ECBN	Changbin	1.07	226	eP	Pn	05 29 46.8	-0.1
	baz=225						
ECBN				eS	Sb	05 30 00.7	-0.5
	baz=225						
NWF	Wu-fen Shan	1.10	336	eP	Pn	05 29 47.5	+0.1
	baz=333						
NWF				eS	Sn	05 30 01.5	-0.2
	baz=333						
WFSB	Wu-fen Shan	1.10	336	eP	Pb	05 29 47.6	-0.6
	baz=333						
WFSB				eS	Sn	05 30 01.6	0.0
	baz=333						
TWA	Mucha	1.11	325	eP	Pb	05 29 48.3	0.0
	baz=323						
TWA				eS	Sn	05 30 02.0	+0.2
	baz=323						
YULB	Yu-li	1.12	233	eP	Pn	05 29 47.5	-0.2
	baz=248						
NHDH	Xindian Distri	1.12	323	eP	Pb	05 29 48.9	+0.3
	baz=333						
NHDH				eS	Sn	05 30 02.5	+0.2
	baz=333						
EYUL	Yuli	1.14	231	eP	Pn	05 29 48.1	+0.2
	baz=218						
EYUL				eS	Sb	05 30 03.4	+0.2
	baz=218						
TWF1	Yuli	1.15	232	eP	Pn	05 29 48.0	-0.1
	baz=219						
TATO	Taipei	1.16	322	eP	Pb	05 29 48.9	-0.3
	baz=318						
TATO				eS	Sn	05 30 03.6	+0.6
	baz=318						
TNOU	National Taiwa	1.17	337	eP	Pn	05 29 48.6	+0.3
	baz=334						
TNOU				eS	Sn	05 30 03.8	+0.4
	baz=334						
WPL	Puli Township	1.21	268	eP	Pn	05 29 49.6	+0.7
	baz=256						
WPL				eS	Sb	05 30 05.9	+0.6
	baz=256						
WHP	Taichung City	1.24	280	eP	Pb	05 29 50.4	-0.1
	baz=266						
DPDB	Guoxing	1.24	269	eP	Pn	05 29 50.1	+0.8
	baz=267						
SSLB	Suanglung	1.24	257	eP	Pn	05 29 49.8	+0.4
	baz=244						
WCS	Beigang Elemen	1.25	270	eP	Pn	05 29 50.2	+0.8
	baz=268						
FULB	Fuli	1.25	226	eP	Pn	05 29 49.2	-0.3
	baz=212						
YM01	YM01	1.25	329	eP	Pb	05 29 50.3	-0.5
	baz=343						
NJD	Zhudong	1.27	302	eP	Pn	05 29 50.4	+0.6
	baz=299						
SMLT	Sun Moon Lake	1.27	262	eP	Pn	05 29 50.5	+0.7
	baz=250						
SMLT				eS	Sb	05 30 07.2	0.0
	baz=250						
CHKT	Chengkung	1.28	221	eP	Pn	05 29 49.2	-0.6
	baz=209						
CHKT				eS	Sn	05 30 04.7	-1.3
	baz=209						
YM08	YM08	1.28	331	eP	Pb	05 29 50.6	-0.7
	baz=343						
TWS1	Kuangyinshan	1.29	323	eP	Pb	05 29 51.0	-0.4
	baz=320						
NSTT	Nanjuang	1.29	296	eP	Pb	05 29 51.4	-0.1
	baz=294						
ANP	Anpu	1.31	328	eP	Pb	05 29 51.1	-0.8
	baz=326						
TYC	Yuchr	1.31	263	eP	Pn	05 29 51.0	+0.7
	baz=261						
NTST	Danshui	1.33	325	eP	Pb	05 29 51.6	-0.5
	baz=339						
NCU	National Centr	1.34	312	eP	Pb	05 29 51.5	-0.7
	baz=309						
NCUH	Zhongli	1.34	312	eP	Pb	05 29 51.7	-0.5
	baz=309						
YUS	Yu-Shan	1.35	245	eP	Pn	05 29 51.7	+0.5
	baz=231						
HSN1	Hsinchu	1.35	302	eP	Pb	05 29 51.8	-0.7
	baz=299						
IRIF	Iriomote-Funau	1.35	78	P	Pb	05 29 52.0	-0.4
IRIF				eS	Sb	05 30 09.8	+0.5
TWY	Chenhua	1.35	333	eP	Pb	05 29 53.4	+0.9
	baz=346						
WHYT	Xinyi Township	1.36	254	eP	Pb	05 29 52.8	+0.3
	baz=244						
ECS	Chishang	1.37	225	eP	Pn	05 29 52.2	+1.0
	baz=212						
SBCB	Hsinchu	1.38	302	eP	Pb	05 29 52.6	-0.3
	baz=299						
HATJ	Hateruma jima	1.40	90	P	Pb	05 29 52.9	-0.3
HATJ				S	Sb	05 30 10.7	+0.1
TWQ1	Liyutan	1.40	282	eP	Pb	05 29 53.4	0.0
	baz=280						
EDH	Donghe	1.41	220	eP	Pn	05 29 50.9	-0.7
	baz=210						
EDH				eS	Sn	05 30 08.1	-1.2
	baz=210						
NSY	Sanyi	1.43	284	eP	Pb	05 29 54.3	+0.5
	baz=282						
NMLH	Miaoli	1.44	289	eP	Pb	05 29 53.8	-0.1
	baz=287						
WJS	Zhushan	1.44	261	eP	Pb	05 29 53.7	-0.2
	baz=259						
WJS				eS	Sb	05 30 12.3	+0.4
	baz=259						
WWF	Wufeng	1.45	269	eP	Pb	05 29 54.5	+0.4
	baz=268						
ELDTW	Lidau	1.45	233	eP	Pn	05 29 52.1	-0.2
	baz=219						
ALS	Alishan	1.46	248	P	Pn	05 29 53.8	+1.2
	baz=247						
ALS				eS	Sn	05 30 12.3	+1.3
	baz=247						
TCU	Taichung	1.47	273	eP	Pb	05 29 53.7	-0.7
	baz=272						
WNT	Mingjian	1.47	263	eP	Pb	05 29 54.9	+0.4
	baz=262						
WNT				eS	Sb	05 30 13.6	+0.8
	baz=262						
WNT1	Nantou City	1.47	264	eP	Pb	05 29 54.3	-0.2
	baz=252						
WDJ	Dajia District	1.52	281	eP	Pb	05 29 54.8	-0.6
	baz=279						
CHN5	Tsauling	1.54	253	eP	Pb	05 29 55.1	-0.6
	baz=242						
CHN5				eS	Sb	05 30 14.6	-0.2
	baz=242						
LONT	Longtian	1.57	223	eP	Pn	05 29 55.1	+1.4
	baz=222						
PCYT	Pengchaiyu	1.57	353	eP	Pn	05 29 54.4	+0.6
	baz=351						
WCHH	Zhanghua	1.57	271	eP	Pb	05 29 55.7	-0.5
	baz=269						
LDUT	Ludao	1.57	208	eP	Pn	05 29 53.3	-0.6
	baz=209						
LDUT				eS	Sn	05 30 11.6	-1.8
	baz=209						
JKRS	Kuro-shima	1.59	84	P	Pb	05 29 56.0	-0.5
JKRS				S	Sb	05 30 15.8	-0.3
WGK	Gukeng	1.62	257	eP	Pb	05 29 56.5	-0.5
	baz=256						
WDLH	Douliu	1.64	257	eP	Pb	05 29 56.7	-0.6
	baz=243						
WDLH				eS	Sb	05 30 17.8	+0.2
	baz=243						
STYH	Taoyuan	1.64	237	eP	Pn	05 29 56.1	+1.3
	baz=237						
STYH				eS	Sb	05 30 17.2	-0.5
	baz=237						
STYT	Tauyuan	1.66	237	eP	Pn	05 29 56.6	+1.5
	baz=237						
STYT				eS	Sn	05 30 17.6	+1.9
	baz=237						
TWGBT	Beinan	1.66	222	eP	Pn	05 29 54.8	-0.3
	baz=222						
TWG	Pinlang	1.67	222	eP	Pn	05 29 54.8	-0.3
	baz=222						
TPUB	Ta-pu	1.69	244	eP	Pb	05 29 57.5	-0.8
	baz=243						
TPUB				eS	Sb	05 30 19.3	0.0
	baz=243						
CHN4	Tsaushan	1.70	246	eP	Pb	05 29 58.2	-0.2
	baz=245						
JIJ	Ishigaki jima	1.73	80	P	Pn	05 29 56.6	+0.6
JIJ				eS	Sn	05 30 18.3	+1.2
WTP	Ta-pu	1.73	242	eP	Pn	05 29 58.0	+1.8
	baz=241						
WRL	Guolierlin Hig	1.75	265	eP	Pb	05 29 58.3	-0.9
	baz=264						
WRL				eS	Sb	05 30 20.6	-0.1
	baz=264						
WTK	Tuku	1.77	258	eP	Pb	05 29 58.6	-0.9
	baz=245						
WTK				eS	Sb	05 30 21.3	-0.1
	baz=245						
CHY	Chiayi	1.79	252	eP	Pb	05 29 59.2	-0.7
	baz=251						
CHY				eS	Sb	05 30 21.6	-0.4
	baz=251						
TWK	Hsinying	1.83	244	eP	Pb	05 29 59.7	-0.8
	baz=244						
TWK				eS	Sb	05 30 22.4	-0.7
	baz=244						
CHN1	Nanshi	1.83	242	eP	Pb	05 29 59.7	-1.0
	baz=241						
SGST	Jiashian	1.84	238	eP	Pn	05 29 59.6	+2.0
	baz=238						
SGST				eS	Sb	05 30 22.6	-0.8
	baz=238						
SLGT	Liugui	1.84	235	eP	Pn	05 29 59.2	+1.6
	baz=223						
ECL	Taimali	1.91	220	eP	Pn	05 29 59.7	+1.3
	baz=230						
JISG	Ishigakijimahi	1.92	74	P	Pn	05 29 59.5	+0.8
WSF	Szhu	1.93	258	eP	Pn	05 30 00.6	+1.8
	baz=242						
ICHU	Yijhu	1.96	249	eP	Pn	05 30 01.4	+2.1
	baz=249						
ICHU				eS	Sb	05 30 25.6	-1.3
	baz=249						
SSD	Sandimen	2.00	229	eP	Pb	05 30 02.3	-1.2
	baz=219						
SCST	Cishan	2.02	235	eP	Pb	05 30 03.1	-0.7
	baz=224						
TSMG	Majia	2.02	228	eP	Pb	05 30 02.9	-1.0
	baz=218						
MASBT	Mashibuluo	2.10	227	eP	Pn	05 30 03.5	+2.4
	baz=217						
TWM1	Shoushan	2.11	234	eP	Pb	05 30 05.0	-0.4
	baz=233						
TAW	Tawu	2.13	217	eP	Pn	05 30 03.4	+2.0
	baz=217						
LAY	Lan-yu	2.13	199	eP	Pn	05 30 00.6	-1.0
	baz=210						
LAY				eS	Sn	05 30 24.1	-3.0
	baz=210						
EAST	Anshuo	2.13	218	eP	Pn	05 30 03.7	+2.1
	baz=218						
SSPT	Xinbi	2.23	225	eP	Pb	05 30 06.2	-1.1
	baz=218						
SCZT	Fangliau	2.28	222	eP	Pn	05 30 05.8	+2.2
	baz=216						
JTJ	Tarama	2.28	75	P	Pn	05 30 05.3	+1.7
SLIU	Shizi	2.29	217	eP	Pn	05 30 05.2	+1.4
	baz=217						
HEN	Hengchun	2.50	215	eP	Pn	05 30 09.0	+2.4
	baz=215						
TWKBT	Hengchun	2.51	213	eP	Pn	05 30 07.6	+0.8
	baz=213						
WDGT	Dungji	2.53	252	eP	Pn	05 30 08.5	+1.4
	baz=240						
WDGT				eS	Sn	05 30 38.5	+1.4
	baz=240						
PHUB	P'eng-hu	2.54	258	eP	Pn	05 30 08.8	+1.6
	baz=258						
PHUB				eS	Sn	05 30 38.7	+1.5
	baz=258						
PNG	Penghu	2.54	259	eP	Pn	05 30 08.5	+1.3
	baz=259						
PNG				eS	Sn	05 30 39.1	+1.8
	baz=259						
VWUC	VWUC	2.74	290	eP	Pn	05 30 09.8	0.0
	baz=289						
JIRB	Irabujima	2.74	73	P	Pn	05 30 11.5	+1.5
VCHM	Qimei	2.75	252	eP	Pn	05 30 09.0	-1.1
	baz=240						
VCHM				eS	Sn	05 30 44.2	+1.8
	baz=240						
MATB	Ma-tsu	2.96	315	eP	Pn	05 30 12.8	-0.2
	baz=312						
PTMZ	Houxiangcun	3.04	289	eP	Pn	05 30 15.3	+1.3
	baz=288						
LYJJ	Jianjiangzhen	3.36	318	eP	Pn	05 30 18.5	+0.1
	baz=316						
XPSS	Dashiqiu	3.42	327	eP	Pn	05 30 19.2	-0.1
	baz=334						
KNM	Kinmen	3.53	276	eP	Pn	05 30 22.9	+2.1
	baz=275						
KNMB	Chin-men Tao	3.57	277	eP	Pn	05 30 21.3	-0.1
	baz=276						
MHZQ	Yeshan	3.57	305	eP	Pn	05 30 21.3	-0.1
	baz=303						
AXDP	Jialang	4.01	283	eP	Pn	05 30 28.7	+1.3
	baz=281						
ZPLA	Ao Xicun	4.14	269	eP	Pn	05 30 29.5	+0.3
	baz=268						
JOW	Kunigami	6.08	62	Pn	Pn	05 30 55.5	-0.3
	2.6nm,0.3s,baz=106,slow=23,SNR=5.9						
MKAR	Makanchi Array	39.12	316	P	P	05 36 51.6	-1.2
	0.2nm,0.5s,baz=98,slow=8.0,SNR=2.3						
WRA	Warramunga Arr	45.30	164	P	P	05 37 43.5	+0.1
	0.9nm,0.7s,baz=345,slow=8.7,SNR=9.5						
ASAR	Alice Springs	48.77	166	P	P	05 38 10.3	-0.1
	0.6nm,0.8s,baz=351,slow=7.2,SNR=5.2						
STKA	Stephens Creek	58.62	161	P	P	05 39 23.1	+0.7
	1.4nm,0.6s,baz=344,slow=9.8,SNR=3.6						

*JMA **06** 05:30:18.7±0.1,24°.06N×122°.29E,h15km±2km,M3.5*
*TAP **06** 05:30:19.4,24°.23N×122°.29E,h18km,ML3.6,D*
ISC 06 05:30:18.7±1.0,24°.17N±0°.02×122°.29E±0°.02,h14km±8km,
n82,σ0s53/104,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.52	286	eP	Pb	05 30 30.0	+0.3
	baz=284						
EWUT	Wuta	0.54	301	eP	Pg	05 30 29.7	+0.2
	baz=302						
EWUT				eS	Sb	05 30 38.0	+0.4
	baz=302						
TWC	Suao	0.60	318	P	Pg	05 30 29.5	-1.0
	baz=313						
TWC				i S	Sg	05 30 37.8	-0.6
	baz=313						
NACB	Ninganchiao	0.63	271	eP	Pb	05 30 32.3	+0.7
	baz=274						
TWD	Chiawan	0.64	263	eP	Pb	05 30 32.6	+1.0
	baz=257						
JYNG	Yonagunijimaku	0.67	64	P	Pb	05 30 32.3	+0.2
JYNG				eS	Sb	05 30 42.0	+0.8
TEYL	Yanliau Villag	0.70	245	eS	Sg	05 30 40.6	-0.9
	baz=226						
NDS	Dongshan	0.70	312	i P	Pg	05 30 32.2	-0.2
	baz=307						
NDS				eS	Sg	05 30 41.9	+0.2
	baz=307						
YOJ	Yonaguni jima	0.72	66	P	Pg	05 30 33.2	+0.4
YOJ				eS	Sb	05 30 43.5	+0.6
YOJ	Yonaguni jima	0.72	66	i P	Pg	05 30 33.0	+0.2
	baz=69						
YOJ				i S	Sg	05 30 42.8	+0.4
	baz=69						
ETLH	Xiulin Townshi	0.74	273	eP	Pg	05 30 31.9	-1.2
	baz=268						
ETM	Tongmen	0.75	255	eP	Pn	05 30 34.4	-0.5
	baz=250						
ILA	Ilan	0.77	321	i P	Pb	05 30 33.9	0.0
	baz=311						
ILA				eS	Sb	05 30 44.5	+0.1
	baz=311						
TWE	Neicheng	0.79	315	eP	Pb	05 30 34.1	-0.1
	baz=311						
TWE				eS	Sb	05 30 45.2	+0.4
	baz=311						
NTC	Toucheng	0.80	329	eP	Pb	05 30 34.4	0.0
	baz=325						
NTC				i S	Sb	05 30 45.4	+0.2
	baz=325						
NDT	Datong Townshi	0.83	302	eP	Pb	05 30 34.6	-0.3
	baz=303						
NDT				eS	Sb	05 30 45.7	-0.2
	baz=303						
ESL	Shilin	0.86	246	eP	Pn	05 30 36.1	-0.2
	baz=228						
NNS	Nan Shan	0.88	288	eP	Pn	05 30 36.7	0.0
	baz=284						
TWB1	Santiao Chiao	0.88	342	eP	Pb	05 30 35.4	-0.4
	baz=349						
TIPB	Shuangxi	0.91	332	eP	Pb	05 30 36.0	-0.2
	baz=330						
TIPB				eS	Sb	05 30 48.5	+0.3
	baz=330						
EGFH	Guangfu	0.93	238	eP	Pn	05 30 37.5	+0.1
	baz=222						
WHF	Hehuan Shan	0.93	269	eP	Pn	05 30 38.5	+0.7
	baz=248						
NWLT	Wulai	0.94	311	eP	Pb	05 30 36.6	-0.2
	baz=307						

FUSS	Fushou	0.96	275	eP		Pn	05 30 38.7	+0.8
	baz=271							
YHNB	Yeheng	0.97	301	eP		Pb	05 30 37.1	-0.3
	baz=297							
NWF	Wu-fen Shan	1.01	333	eP		Pb	05 30 37.7	-0.4
	baz=330							
NWF				eS		Sb	05 30 51.3	0.0
	baz=330							
WFSB	Wu-fen Shan	1.01	333	P		Pb	05 30 37.7	-0.4
	baz=330							
WFSB				eS		Sb	05 30 51.4	+0.2
	baz=330							
TWT	Tachien	1.02	275	eP		Pg	05 30 40.0	+1.5
	baz=261							
CHGB	Renai	1.02	264	eP		Pg	05 30 39.1	+0.6
	baz=246							
TWA	Mucha	1.03	322	eP		Pb	05 30 38.4	-0.1
	baz=319							
TWA				eS		Sb	05 30 52.8	+0.9
	baz=319							
TDCB	Techi	1.03	275	eP		Pb	05 30 37.3	-1.2
	baz=261							
OWD	Renai	1.04	259	eP		Pg	05 30 39.3	+0.5
	baz=241							
NHDH	Xindian Distri	1.05	319	eP		Pb	05 30 39.0	+0.2
	baz=304							
TATO	Taipei	1.09	318	eP		Pb	05 30 39.0	-0.3
	baz=331							
TATO				eS		Sb	05 30 53.4	+0.1
	baz=331							
TNOU	National Taiwa	1.09	335	eP		Pb	05 30 38.8	-0.5
	baz=332							
TNOU				eS		Sb	05 30 53.5	+0.2
	baz=332							
EHY	Hungye	1.10	234	eP		Pn	05 30 39.9	+0.2
	baz=246							
ECBN	Changbin	1.14	222	eP		Pg	05 30 41.4	+0.6
	baz=221							
YM01	YM01	1.18	326	eP		Pn	05 30 40.6	-0.2
	baz=323							
YM01				eS		Sb	05 30 56.6	+0.7
	baz=323							
YULB	Yu-li	1.19	230	eP		Pg	05 30 42.0	+0.3
	baz=217							
YM08	YM08	1.20	328	eP		Pn	05 30 41.4	+0.3
	baz=325							
EYUL	Yuli	1.20	228	eP		Pg	05 30 42.1	+0.2
	baz=214							
TWF1	Yuli	1.22	228	eP		Pg	05 30 42.7	+0.5
	baz=215							
TWS1	Kuangyinshan	1.22	320	eP		Pn	05 30 41.2	-0.1
	baz=335							
WHP	Taichung City	1.23	276	eP		Pn	05 30 41.8	+0.3
	baz=258							
DPDB	Guoxing	1.25	264	eP		Pb	05 30 42.5	+0.4
	baz=249							
NTST	Danshui	1.25	323	eS		Sn	05 30 59.1	+0.6
	baz=320							
NSTT	Nanjuang	1.26	292	eP		Pn	05 30 41.9	0.0
	baz=288							
WCS	Beigang Elemen	1.26	265	eP		Pb	05 30 42.5	+0.3
	baz=250							
TWY	Chenhua	1.27	331	eP		Pb	05 30 43.1	+0.7
	baz=328							
SSLB	Suanglung	1.28	253	eP		Pb	05 30 43.1	+0.6
	baz=237							
FULB	Fuli	1.32	224	eP		Pb	05 30 43.8	+0.5
	baz=208							
IRIF	Iriomote-Funau	1.33	82	P		Pb	05 30 43.2	-0.2
IRIF				S		Sn	05 31 00.2	-0.1
TYC	Yuchr	1.33	259	eS		Sg	05 31 02.3	+0.5
	baz=242							
HATJ	Hateruma jima	1.39	94	P		Pb	05 30 44.3	-0.2
HATJ				eS		Sn	05 31 01.3	-0.5
WWF	Wufeng	1.46	266	eP		Pb	05 30 45.8	+0.2
	baz=262							
WWF				eS		Sb	05 31 04.2	+0.2
	baz=262							
WJS	Zhushan	1.47	257	eP		Pb	05 30 45.6	-0.1
	baz=246							
WJS				eS		Sb	05 31 04.9	+0.6
	baz=246							
EDH	Donghe	1.49	217	eP		Pb	05 30 46.5	+0.3
	baz=217							
WNT1	Nantou City	1.49	260	eS		Sb	05 31 04.8	-0.2
	baz=257							
WNT	Mingjian	1.49	259	eP		Pb	05 30 46.0	-0.3
	baz=244							
ALS	Alishan	1.50	245	eP		Pb	05 30 46.2	-0.4
	baz=243							
ELDTW	Lidau	1.52	230	eP		Pb	05 30 46.8	+0.1
	baz=215							
JKRS	Kuro-shima	1.57	87	P		Pn	05 30 46.4	+0.2
JKRS				eS		Sb	05 31 07.3	0.0
CHN5	Tsauling	1.58	249	eS		Sn	05 31 06.8	+0.3
	baz=234							
WCHH	Zhanghua	1.58	267	eS		Sb	05 31 07.3	-0.2
	baz=263							
WGK	Gukeng	1.65	254	eS		Sb	05 31 09.4	-0.1
	baz=250							
LDUT	Ludao	1.66	207	eP		Pb	05 30 49.2	+0.1
	baz=207							
STYH	Taoyuan	1.70	235	eP		Pb	05 30 49.2	-0.6
	baz=234							
JIJ	Ishigaki jima	1.71	83	S		Sn	05 31 08.0	-1.6
STYT	Tauyuan	1.72	235	eP		Pb	05 30 50.2	0.0
	baz=234							
TWG	Pinlang	1.74	220	eP		Pb	05 30 50.0	-0.4
	baz=220							
TPUB	Ta-pu	1.75	241	eP		Pb	05 30 50.4	-0.2
	baz=228							
CHN4	Tsaushan	1.75	243	eP		Pb	05 30 50.0	-0.6
	baz=230							
WRL	Guolierlin Hig	1.77	262	eS		Sn	05 31 10.8	-0.3
	baz=258							
WTP	Ta-pu	1.79	240	eP		Pb	05 30 50.5	-0.7
	baz=238							
WTK	Tuku	1.80	255	eS		Sn	05 31 12.2	+0.3
	baz=238							
TWK	Hsinying	1.88	242	eS		Sn	05 31 13.4	-0.5
	baz=240							
CHN1	Nanshi	1.89	239	eS		Sn	05 31 13.3	-0.7
	baz=237							
JISG	Ishigakijimahi	1.89	77	S		Sn	05 31 14.0	-0.2
SGST	Jiashian	1.90	236	eS		Sn	05 31 13.5	-0.9
	baz=234							
SSD	Sandimen	2.08	227	eS		Sn	05 31 18.3	-0.5
	baz=219							
MASBT	Mashibuluo	2.17	225	eS		Sn	05 31 20.5	-0.5
	baz=216							
LAY	Lan-yu	2.22	198	eP		Pb	05 30 57.5	-1.2
	baz=199							

WEL **06** *05:45:00, 44°.36S×169°.60E, h2km, ML4.8, Mw4.5, Moment Tensor Solution. s10 Moment tensor: Scale 10^15Nm; Mr=4.50; Mθθ=1.28; Mφφ=-5.78; Mθφ=2.43; Mθφ=-0.04; Mφφ=2.63; Fault plane solution: Mo=6.36000×10^15 NP1: φs=156.00000°, δ37.00000°, λ48.00000°. NP2: φs=24.00000°, δ63.00000°, λ117.00000°. Principal axes: T 625.0200, Plg62.0000°, Azm337.0000°; N 21.5100, Plg24.0000°, Azm191.0000°; P -646.5300, Plg14.0000°, Azm95.0000°;*

WEL **06** *05:45:15.9, 44°.5±8°.×17°.0E±°, h12km, M5.0/73, mB5.5/41, ML5.4/60, MLv5.2/73, Mw(mB)4.9/41 Error ellipse: s-maj=0.0km s-min=0.0km az=0.5*

IDC **06** *05:45:16.1±0.5, 44°.15S×169°.61E, h0km, mb4.7/10, mb1 4.8/11, mb1mx4.7/24, mbtmp4.7/11, ML4.2/1, MS3.9/8, Ms1 3.9/8, ms1mx3.5/19, Error ellipse: s-maj=23.9km s-min=16.1km az=66.0*

MOS **06** *05:45:16.5±1.1, 44°.41S×169°.44E, h6km, mb5.1/13, Error ellipse: s-maj=18.9km s-min=11.6km az=126.7*

NEIC **06** *05:45:17.5±2.2, 44°.39S±0°.07×169°.71E±0°.08, h10km±1km, mb5.1/32, Error ellipse: s-maj=13.0km s-min=7.0km az=143.0*

ISC 06 05:45:16.9±1.0, **44°.35S**±0°.03×**169°.66E**±0°.03, **h8**km±6km, **n345**, σ1§**37**/364, **mb5.0**/28, **MS3.9**/11, **5C-3D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
LBZ	Lake Benmore	0.38	96		Pb	05 45 25.1		-0.7
LBZ	Lake Benmore	0.38	96	P	Pb	05 45 25.1		-0.7
LBZ				S	Sb	05 45 31.3		-0.6
WKZ	Wanaka	0.67	223	Pg	Pg	05 45 28.9		-0.8
WKZ				P	Pg	05 45 28.9		-0.8
WKZ				S	Sg	05 45 37.8		-0.6
JCZ	Jackson Bay	0.69	293	P	Pg	05 45 29.0		-1.1
JCZ				S	Sg	05 45 38.6		-0.5
FOZ	Fox Glacier	0.82	8		Pg	05 45 31.5		-1.1
FOZ	Fox Glacier	0.82	8	P	Pg	05 45 31.5		-1.1
FOZ				S	Sg	05 45 41.5		-1.8
TMZ	Timaru	0.96	93	P	Pb	05 45 36.1		+0.2
ODZ	Otahua Downs	0.99	135	Pg	Pg	05 45 35.7		-0.2
ODZ	Otahua Downs	0.99	135	P	Pg	05 45 35.7		-0.2
ODZ				S	Sb	05 45 49.4		-0.1
GCSZ	Gaunt Creek Bo	1.14	25	P	Pg	05 45 37.1		-1.5
GCSZ				S	Sn	05 45 55.8		+1.0
RPZ	Rata Peaks	1.19	58	Pn	Pg	05 45 39.4		-0.3
RPZ	Rata Peaks	1.19	58	P	Pg	05 45 39.3		-0.3
RPZ				S	Sg	05 45 54.9		-0.1
WVZ	Waitaha Valley	1.49	32	P	Pn	05 45 44.0		+0.1
WVZ				S	Sg	05 46 06.0		+1.2
MLZ	Mavora Lakes	1.50	227		Pn	05 45 43.7		-0.4
TUZ	Tuapeka	1.61	181	P	Pn	05 45 45.3		-0.3
TUZ				S	Sn	05 46 06.1		-0.4
WACZ	Wakanui South	1.62	76	P	Pn	05 45 46.0		+0.4
HHSZ	Highcliff Hill	1.68	157	P	Pn	05 45 47.1		+0.6
RACZ	Rakaia	1.89	72	P	Pn	05 45 49.6		+0.2
WHZ	Wether Hill Ro	1.97	218		Pn	05 45 49.5		-1.0
OXZ	Oxford	2.00	60		Pn	05 45 50.6		-0.3
OXZ	Oxford	2.00	60	P	Pn	05 45 50.7		-0.3
INZ	Inchbonnie	2.08	39	P	Pn	05 45 53.1		+1.1
MQZ	McQueen's Vall	2.25	75	Pn	Pn	05 45 53.9		-0.5
MQZ	McQueen's Vall	2.25	75	P	Pn	05 45 54.2		-0.2
AKCZ	Akaroa Harbour	2.39	80	P	Pn	05 45 56.4		+0.1
LTZ	Lake Taylor	2.46	51	Pn	Pn	05 45 57.7		+0.4
LTZ	Lake Taylor	2.46	51	P	Pn	05 45 57.7		+0.4
AMCZ	Amberley	2.46	63	P	Pn	05 45 57.6		+0.3
OKCZ	Okains Bay	2.53	77	P	Pn	05 45 58.5		+0.2
APZ	The Paps	2.75	205	P	Pn	05 45 59.9		-1.4
PYZ	Puysegur Point	2.78	228		Pn	05 46 01.6		-0.2
GVZ	Greta Valley S	2.81	62	P	Pn	05 46 02.0		0.0
DSZ	Denniston Nort	3.04	32	P	Pn	05 46 05.8		+0.5
KHZ	Kahutara	3.42	57	Pn	Pn	05 46 10.3		-0.1
KHZ	Kahutara	3.42	57	P	Pn	05 46 10.4		0.0
THZ	Tophouse	3.51	44		Pn	05 46 11.9		+0.2
THZ	Tophouse	3.51	44	P	Pn	05 46 11.9		+0.2
BSWZ	Blackbirch Sta	4.06	51	Pn	Pn	05 46 19.8		+0.6
BSWZ	Blackbirch Sta	4.06	51	P	Pn	05 46 20.6		+1.4
QRZ	Quartz Range	4.11	32		Pn	05 46 20.4		+0.5
QRZ	Quartz Range	4.11	32	P	Pn	05 46 20.2		+0.4
QRZ				S	Sn	05 47 07.7		-0.4
NNZ	Nelson	4.15	42		Pn	05 46 19.9		-0.7
NNZ	Nelson	4.15	42	P	Pn	05 46 20.7		+0.2
CMWZ	Cape Campbell	4.23	54	Pn	Pn	05 46 21.4		-0.1
TUWZ	Tuamarina	4.29	49		Pn	05 46 22.3		-0.1
TUWZ	Tuamarina	4.29	49	P	Pn	05 46 22.7		+0.4
TCW	Tory Channel	4.62	49	P	Pn	05 46 29.1		+2.1
DUWZ	D'Urville Isla	4.74	43	P	Pn	05 46 29.6		+1.0
SNZO	South Karori	4.79	52		Pn	05 46 29.5		+0.2
BHW	Baring Head	4.82	54	Pn	Pn	05 46 28.8		-0.9
BHW	Baring Head	4.82	54	P	Pn	05 46 30.4		+0.7
PLWZ	Palliser	4.95	58	Pn	Pn	05 46 31.1		-0.5
PLWZ	Palliser	4.95	58	P	Pn	05 46 31.8		+0.2
MSWZ	Moikau Station	5.04	56	Pn	Pn	05 46 32.2		-0.6
MSWZ	Moikau Station	5.04	56	P	Pn	05 46 32.5		-0.3
CAW	Cannon Point	5.13	53	P	Pn	05 46 33.3		-0.6
PAWZ	Paruwai Farm	5.17	57	P	Pn	05 46 33.9		-0.7
TRWZ	Traveller	5.32	58	P	Pn	05 46 36.8		+0.3
OGWZ	Otaki Gorge	5.38	51	P	Pn	05 46 37.8		+0.4
TMWZ	Te Maipa	5.61	57	P	Pn	05 46 40.5		-0.2
MRZ	Mangatainoka R	5.72	52	P	Pn	05 46 41.7		-0.3
NMEZ	Namu Road	5.85	34	P	Pn	05 46 46.0		+2.2
NBEZ	Newall Road No	5.97	33	P	Pn	05 46 47.1		+1.7
KHEZ	Kahui Hut	6.00	34	P	Pn	05 46 47.7		+1.7
POWZ	Post Office Ro	6.00	51	P	Pn	05 46 50.1		+4.1
LREZ	Lake Rotokare	6.03	38	P	Pn	05 46 49.6		+3.3
NEZ	North Egmont	6.06	35	P	Pn	05 46 48.8		+2.0
PKE	Pukeiti	6.08	34	P	Pn	05 46 49.0		+2.0
BFZ	Birch Farm	6.09	55	Pn	Pn	05 46 47.1		0.0
BFZ	Birch Farm	6.09	55	P	Pn	05 46 47.2		0.0
DREZ	Durham Road	6.17	35	P	Pn	05 46 50.4		+2.2
MHEZ	Mangahewa	6.31	35	P	Pn	05 46 53.3		+3.1
TSZ	Takapari Road	6.34	50	P	Pn	05 46 51.1		+0.5
VRZ	Vera Road	6.46	38	P	Pn	05 46 54.5		+2.3
PNHZ	Pukenui	6.57	50	P	Pn	05 46 54.7		+0.8
PRHZ	Porangahau	6.58	54	P	Pn	05 46 55.2		+1.3
PKVZ	Pokaka	6.60	42	P	Pn	05 46 58.1		+3.9
TRVZ	Turoa	6.69	43	P	Pn	05 46 60.0		+4.4
WNVZ	Wahianoa	6.69	44	P	Pn	05 46 58.2		+2.7
MOVZ	Moawhango	6.71	45	P	Pn	05 47 00.2		+4.5
DRZ	Dome Shelter	6.71	43	P	Pn	05 47 02.2		+6.2
WHVZ	Whangaehu Hut	6.72	43	P	Pn	05 47 00.9		+4.9
BHHZ	Black Hill Sta	6.80	47	P	Pn	05 46 59.0		+2.0
NGZ	Ngauruhoe	6.81	43	P	Pn	05 47 01.6		+4.4
TWVZ	Taurewa	6.81	41	P	Pn	05 47 00.5		+3.3
SNVZ	South Ngauruho	6.82	43	P	Pn	05 47 02.4		+5.0
OTVZ	Oturere	6.85	43	P	Pn	05 47 03.8		+6.1
WTVZ	West Tongariro	6.85	42	P	Pn	05 47 01.3		+3.5
KRHZ	Kereru	6.86	49	P	Pn	05 46 55.2		-2.5
KRVZ	Karewarewa	6.89	42	P	Pn	05 47 02.4		+4.1
NTVZ	North Tongarir	6.91	43	P	Pn	05 47 04.3		+5.8
TMVZ	Te Maari	6.91	43	P	Pn	05 47 02.5		+4.1
HIZ	Hauiti	7.01	36		Pn	05 47 00.5		+0.7
HIZ	Hauiti	7.01	36	P	Pn	05 47 00.7		+0.9
KATZ	Kakaramea	7.01	42	P	Pn	05 47 05.6		+5.6
RATZ	Rangitukua	7.13	42	P	Pn	05 47 05.2		+3.7
MCHZ	McNeill Hill	7.18	49	P	Pn	05 47 08.0		+5.9
WATZ	Wairara	7.24	41	P	Pn	05 47 07.7		+4.7
BKZ	Black Stump Fm	7.27	47	Pn	Pn	05 47 04.8		+1.5
KUTZ	Kaahu Road	7.46	40	P	Pn	05 47 05.3		-0.7
TLZ	Tolley Road	7.46	38	P	Pn	05 47 08.6		+2.6
HSRZ	Hossack Road	7.80	42	P	Pn	05 47 11.9		+1.2
NGRZ	Ngongotaha	7.94	40	P	Pn	05 47 15.7		+3.1
TOZ	Tahuroa Road	7.94	36	P	Pn	05 47 13.8		+1.2
OMRZ	Omania	8.02	41	P	Pn	05 47 19.2		+5.4
AWAZ	Awhitu Peninsu	8.20	29	P	Pn	05 47 17.2		+1.2
PRGZ	Paritu Road	8.20	51	P	Pn	05 47 16.0		-0.2
URZ	Urewera	8.27	45	Pn	Pn	05 47 16.5		-0.5
	2.8nm,0.3s,baz=229,slow=7.1,SNR=7.7							
URZ				Sn	Sn	05 48 45.0		-5.6
	7.2nm,0.3s,baz=80,slow=15,SNR=6.3							
URZ				LR	LR	05 50 58.8		
	comp=Z,1μm,19.8s,baz=224,slow=42							
URZ	Urewera	8.27	45	Pn	Pn	05 47 16.2		-0.8
URZ	Urewera	8.27	45	P	Pn	05 47 16.6		-0.5
TGRZ	Tauranga	8.28	39	P	Pn	05 47 20.0		+2.8
RIGZ	Rimuhau	8.28	50	P	Pn	05 47 18.8		+1.5
WTAZ	Waiatarua	8.29	28	P	Pn	05 47 18.9		+1.5
MKAZ	Moumakai	8.35	32	P	Pn	05 47 20.4		+2.3
ETAZ	East Tamaki Re	8.40	30	P	Pn	05 47 22.0		+3.2
MWZ	Matawai	8.43	47	P	Pn	05 47 17.6		-1.6
WIAZ	Waiheke Island	8.61	31	P	Pn	05 47 24.9		+3.1
ABAZ	Army Bay	8.68	29	P	Pn	05 47 24.5		+1.9
RUGZ	Raukumara Rang	8.78	46	P	Pn	05 47 24.0		-0.2
TWGZ	Tauwhareparae	8.78	48	P	Pn	05 47 23.1		-1.1
HAZ	Te Kaha	8.99	46	P	Pn	05 47 27.1		+0.1
PUZ	Puketiti	9.01	49	P	Pn	05 47 28.6		+1.3
WCZ	Waipu Caves	9.13	25	P	Pn	05 47 28.9		+0.1
WMGZ	Waiomatatini S	9.28	48	P	Pn	05 47 30.8		-0.1
MXZ	Matakaoa Point	9.41	47	Pn	Pn	05 47 32.4		-0.3
OUZ	Omahuta	9.60	20	Pn	Pn	05 47 36.5		+1.2
OUZ	Omahuta	9.60	20	P	Pn	05 47 35.7		+0.4
CTZ	Chatham Island	9.90	91	P	Pn	05 47 39.8		+0.4
TAU	Tasmania Unive	16.24	267	P	P	05 49 07.0		-1.3
TAU				pmax	pmax			
	comp=Z,212nm,1.8s							
TAU	Tasmania Unive	16.24	267	Pn	P	05 49 07.0		-1.3
TAU				IAmb	IAmb	05 49 13.0		
	comp=Z,212nm,1.8s							
MOO	Moorlands	16.44	269	P	Pn	05 49 07.2		-0.6
	baz=16,SNR=4.3							
MILA	Mila	17.14	288	P	P	05 49 18.3		-0.1
	baz=17,SNR=6.1							
CNB	Canberra Magne	17.97	293	P	P	05 49 28.6		+0.9
	baz=18,SNR=4.8							
CAN	Canberra	18.21	293	P	Pn	05 49 28.8		-1.2
CAN				pmax	pmax			
	comp=Z,46nm,1.2s							
CAN	Canberra	18.21	293	P	Pn	05 49 28.8		-1.2
TOO	Toolangi	19.43	282	P	Pn	05 49 44.5		-0.2
	baz=19,SNR=7.1							
TOO	Toolangi	19.43	282	P	Pn	05 49 45.3		+0.6
TOO				pmax	pmax			
	comp=Z,32nm,1.0s							
TOO	Toolangi	19.43	282	P	Pn	05 49 45.3		+0.6
ARMA	Armidale	19.90	308	P	P	05 49 49.7		+0.8
	baz=20,SNR=5.7							
ARMA	Armidale	19.90	308	P	P	05 49 48.6		-0.3
DZM	Mont Dzumac	22.37	352	eP	P	05 50 18.6		+3.0
	comp=Z,146nm,1.6s							
DZM	Mont Dzumac	22.37	352	P	P	05 50 15.9		+0.3
DZM				IAmb	IAmb	05 50 20.6		
	comp=Z,63nm,1.2s							
CMSA	Cobar Meteorol	22.73	296	P	P	05 50 19.6		+0.5
	baz=23,SNR=10							
EIDS	Eidsvold	24.21	315	P	P	05 50 34.9		+1.0
	baz=24,SNR=12							
EIDS	Eidsvold	24.21	315	P	P	05 50 34.1		+0.2
EIDS				IAmb	IAmb	05 50 36.9		
	comp=Z,68nm,1.2s							
RMQ	Roma	24.54	310	P	P	05 50 38.6		+1.7
	baz=24,SNR=13							
STKA	Stephens Creek	25.22	290	P	P	05 50 43.9		+0.9
	comp=Z,11nm,0.8s,baz=136,slow=10,SNR=12							
STKA				LR	LR	05 59 46.1		
	comp=Z,286nm,18.4s,baz=112,slow=35							
STKA	Stephens Creek	25.22	290	P	P	05 50 43.5		+0.5
STKA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
STKA	Stephens Creek	25.22	290	P	P	05 50 43.5		+0.5
VNDA	Vanda	33.43	183	P	P	05 51 58.0		+2.3
	comp=Z,1.6nm,0.9s,baz=347,slow=6.5,SNR=4.5							
VNDA	Vanda	33.43	183	P	P	05 51 57.0		+1.4
VNDA				pmax	pmax			
	comp=Z,24nm,2.0s							
VNDA	Vanda	33.43	183	P	P	05 51 57.0		+1.4
SBA	Scott Base	33.64	181	P	P	05 51 58.3		+0.9
SBA				pmax	pmax			
	comp=Z,19nm,1.0s							
SBA	Scott Base	33.64	181	P	P	05 51 58.2		+0.9
SBA				IAmb	IAmb	05 52 02.4		
	comp=Z,19nm,1.0s							
MTSU	Mount Surprise	33.68	313	P	P	05 51 59.6		+1.2
	baz=34,SNR=4.7							
QIS	Mount Isa	34.40	304	P	P	05 52 04.7		+0.1
	baz=34,SNR=6.0							
AS31	Alice Springs	35.72	293	P	P	05 52 15.0		-1.0
ASAR	Alice Springs	35.72	293	P	P	05 52 14.8		-1.3
	comp=Z,12nm,0.6s,baz=126,slow=6.3,SNR=66							
ASAR				PcP	PcP	05 54 42.6		-1.5
	comp=Z,2.9nm,0.8s,baz=150,slow=3.9,SNR=8.5							
ASAR				LR	LR	06 06 17.7		
	comp=Z,312nm,19.6s,baz=144,slow=35							
ASAR	Alice Springs	35.72	293	P	P	05 52 14.7		-1.3
ASAR						05 54 43.1		
ASAR	Alice Springs	35.72	293	P	P	05 52 14.7		-1.3
ASAR					PcP	05 54 43.1		-1.0
FUNA	Funafuti	36.63	16	PcP	PcP	05 54 45.3		-1.5
WR0	Warramunga Arr	37.96	298	P	P	05 52 33.8		-1.3
WR0				IAmb	IAmb	05 52 35.1		
	comp=Z,24nm,1.0s							
WR0				PcP	PcP	05 54 51.1		+0.3
WB2	Warramunga Arr	38.09	298	P	P	05 52 34.7		-1.5
WB2				IAmb	IAmb	05 52 36.1		
	comp=Z,39nm,1.1s							
WB2				PcP	PcP	05 54 50.2		-1.1
WRA	Warramunga Arr	38.10	298	P	P	05 52 35.3		-1.0
	comp=Z,26nm,0.8s,baz=136,slow=7.9,SNR=294							
WRA				PcP	PcP	05 54 50.5		-0.8
	comp=Z,4.2nm,0.9s,baz=134,slow=2.8,SNR=7.5							
WRA				LR	LR	06 07 50.1		
	comp=Z,231nm,18.9s,baz=145,slow=36							
WRA	Warramunga Arr	38.10	298	P	P	05 52 34.5		-1.8
WRA					PcP	05 54 50.7		-0.6
WRAB	Tennant Creek	38.10	298	ceP	P	05 52 35.5		-0.8
WRAB				pmax	pmax			
	comp=Z,39nm,1.0s							
WRAB	Tennant Creek	38.10	298	P	P	05 52 35.2		-1.0
WRAB				IAmb	IAmb	05 52 36.2		
	comp=Z,37nm,1.0s							
WRAB				PcP	PcP	05 54 50.2		-1.1
WB0	Warramunga Arr	38.20	298	P	P	05 52 36.1		-1.0
WB0				IAmb	IAmb	05 52 36.9		
	comp=Z,42nm,1.2s							
WRKA	Warakurna	38.59	286	P	P	05 52 39.4		-1.0
	baz=38,SNR=21							
TBI	Tubuai	39.37	71	eLR	LR	06 03 27.7		
	comp=Z,190nm,32.0s,baz=219							
PMG	Port Moresby	39.90	324	iP	P	05 52 51.8		+0.5
PMG				pmax	pmax			
	comp=Z,20nm,0.9s							
PMG	Port Moresby	39.90	324	P	P	05 52 52.7		+1.4
KLBR	Kellerberrin	42.19	269	P	P	05 53 09.5		-0.6
	baz=42,SNR=4.5							
PPT2	Papeete2	43.32	65	eLR	LR	06 05 14.8		
	comp=Z,197nm,23.5s							
PPT	Papeete	43.33	65	LR	LR	06 07 12.7		
	comp=Z,123nm,19.6s,baz=180,slow=30							
MEEK	Meekatharra	44.41	276	P	P	05 53 27.1		-1.0
	baz=44,SNR=4.0							
KNRA	Kununurra	44.81	297	P	P	05 53 30.6		-0.7
	baz=45,SNR=7.4							
KNRA	Kununurra	44.81	297	P	P	05 53 30.8		-0.5
MORW	Morawa	44.83	271	P	P

MJAR	**Matsushiro Arr**	**85.41 335**	P		**P**	**05 57 54.8 +0.3**
MAJO	**Matsushiro**	**85.42 335**	*e*P		**P**	**05 57 56.1 +1.6**
MAJO			pmax	pmax		
	comp=Z,11nm,1.3s					
JHS	**Saijyo**	**85.67 331**	P		**P**	**05 57 55.7 -0.2**
JHS			IAmb	IAmb		05 57 57.8
	comp=Z,17nm,1.1s					
NJ2	**Nanjing**	**89.02 319**	*e*P		**P**	**05 58 13.8 +1.8**
NJ2			pmax	pmax		
	comp=Z,11nm,0.8s					
CMAR	**Chiang Mai Arr**	**89.67 296**	P		**P**	**05 58 16.1 +0.6**
	comp=Z,1.3nm,0.3s,baz=158,slow=3.7,SNR=6.3					
CMAR			LR	LR		06 38 35.0
	comp=Z,34nm,21.9s,baz=196,slow=36					
CMAR	**Chiang Mai Arr**	**89.67 296**	*i* P		**P**	**05 58 17.0 +1.5**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
CMAR	**Chiang Mai Arr**	**89.67 296**	P		**P**	**05 58 15.0 -0.5**
KSRS	**Korea Array**	**89.76 328**	P		**P**	**05 58 16.8 +1.5**
	comp=Z,11nm,1.1s,baz=147,slow=5.8,SNR=24					
KSAR	**Wonju Array Be**	**89.76 328**	P		**P**	**05 58 16.7 +1.3**
KSAR	**Wonju Array Be**	**89.76 328**	P		**P**	**05 58 16.7 +1.3**
H08S2	**Diego Garcia H**	**89.81 260**	T		T	07 36 03.2
	baz=135,slow=76,SNR=22					
H08S1	**Diego Carcia H**	**89.82 260**	T		T	07 36 20.0
	baz=135,slow=76,SNR=12					
H08S3	**Diego Garcia H**	**89.83 260**	T		T	07 36 04.6
	baz=135,slow=76,SNR=29					
KMI	**Kunming**	**92.25 303**	⇓P		**P**	**05 58 29.6 +2.0**
KMI			sP		sP	05 58 36.3 +4.6
KMI			pmax	pmax		
	comp=Z,10.0nm,0.5s					
YSS	**Yuzh-Sakhalins**	**93.97 342**	*i* P		**P**	**05 58 34.8 +0.2**
YSS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
KLR	**Kul'dur**	**98.91 336**	LR		LR	06 38 07.3
	comp=Z,18nm,21.0s,baz=145,slow=32					
KLR	**Kul'dur**	**98.91 336**	*i* P		Pdif	05 58 59.6 +2.6
KLR			pmax	pmax		
	comp=Z,2.0nm,1.2s					
HHC	**Hu-ho-hao-te**	**99.57 319**	*e*P		**Pdif**	**05 59 03.0 +2.7**
HHC			pmax	pmax		
	comp=Z,15nm,0.9s					
HHC			pmax	pmax		
	comp=Z,140nm,5.6s					
BILL	**Bilibino**	**112.09 359**	*i* PKIKP		**PKiKP**	**06 03 56.8 +5.3**
BILL			*e*			06 04 40.8
BILL			*e*PPP		PPP	06 06 59.5
BILL			pmax	pmax		
	comp=Z,3.0nm,1.4s					
BILL			MLR	MLR		
	comp=Z,1μm,18.0s					
PDAR	**Pinedale Array**	**112.74 52**	PKKPab	PKKPab		06 14 49.6 +2.0
	comp=Z,0.2nm,0.7s,baz=67,slow=5.1,SNR=3.8					
ILAR	**Eielson Array**	**113.96 19**	PKiKP		**PKiKP**	**06 03 54.5 -0.6**
	comp=Z,1.5nm,0.8s,baz=287,slow=3.2,SNR=13					
ILAR			PKKPab		**PKKPab**	**06 14 42.9 +2.4**
	comp=Z,1.0nm,1.0s,baz=17,slow=4.2,SNR=7.2					
ILAR	**Eielson Array**	**113.96 19**	*i* PKIKP		**PKiKP**	**06 03 55.9 +0.8**
ILAR	**Eielson Array**	**113.96 19**			**PKiKP**	**06 03 55.9 +0.8**
WMQ	**Urumqi**	**114.08 308**	*e*P		**PKiKP**	**06 03 56.7 +0.6**
COLD	**Coldfoot**	**115.35 16**			**PKiKP**	**06 03 58.6 +0.8**
EPYK	**Eagle Plains**	**117.77 22**			**PKiKP**	**06 04 03.8 +1.3**
MK31	**Makanchi Array**	**118.92 308**	PKIKP		**PKPdf**	**06 04 05.2 -0.1**
MK31	**Makanchi Array**	**118.92 308**	PKPdf		**PKPdf**	**06 04 05.2 -0.1**
MKAR	**Makanchi Array**	**118.92 308**	PKP		**PKPdf**	**06 04 05.1 -0.2**
	comp=Z,4.4nm,1.2s,baz=157,slow=0.9,SNR=11					
MAKZ	**Makanchi**	**119.10 308**	PKIKP		**PKPdf**	**06 04 05.4 -0.3**
MAKZ	**Makanchi**	**119.10 308**			**PKPdf**	**06 04 05.3 -0.3**
INK	**Inuvik**	**120.04 21**	PKIKP		**PKiKP**	**06 04 07.0 +0.2**
INK	**Inuvik**	**120.04 21**	PKPdf		**PKiKP**	**06 04 07.0 +0.2**
YKA	**Yellowknife Ar**	**122.33 32**	PKP		**PKPdf**	**06 04 10.9 -0.4**
	comp=Z,3.0nm,1.0s,baz=223,slow=2.1,SNR=4.6					
YKA			PKKPbc		**PKKPbc**	**06 14 07.8 +0.5**
	comp=Z,2.2nm,0.7s,baz=54,slow=4.7,SNR=5.4					
KURK	**Kurchatov**	**123.09 311**	PKIKP		**PKPdf**	**06 04 12.4 -0.7**
KURK	**Kurchatov**	**123.09 311**			**PKPdf**	**06 04 12.4 -0.7**
KURBB	**Kurchatov Arra**	**123.09 311**	PKP		**PKPdf**	**06 04 12.4 -0.8**
	comp=Z,1.9nm,0.5s,baz=139,slow=1.9,SNR=10.0					
F36A	**Milaca**	**123.90 57**			**PKPdf**	**06 04 14.9 0.0**
KK31	**Karatay Array**	**123.91 299**	PKIKP		**PKPdf**	**06 04 15.0 0.0**
KK31	**Karatay Array**	**123.91 299**	PKPdf		**PKPdf**	**06 04 15.0 0.0**
KKAR	**Karatay Array**	**123.91 299**	PKIKP		**PKPdf**	**06 04 15.0 0.0**
KKAR	**Karatay Array**	**123.91 299**	PKPdf		**PKPdf**	**06 04 15.0 0.0**
KKAR	**Karatay Array**	**123.91 299**			**PKPdf**	**06 04 14.8 -0.1**
JFWS	**Jewell Farm**	**124.40 61**	PKIKP		**PKiKP**	**06 04 16.3 +0.1**
JFWS	**Jewell Farm**	**124.40 61**	PKPdf		**PKiKP**	**06 04 16.2 +0.1**
WCI	**Wyandotte Cave**	**124.50 68**	PKIKP		**PKiKP**	**06 04 17.0 +0.5**
WCI	**Wyandotte Cave**	**124.50 68**	PKPdf		**PKiKP**	**06 04 17.0 +0.5**
COWI	**Conover**	**126.67 58**			**PKPdf**	**06 04 19.9 -0.2**
Q51A	**Peebles**	**126.88 69**			**PKPdf**	**06 04 21.0 +0.2**
NRIK	**Noril'sk**	**128.04 333**	PKP		**PKPdf**	**06 04 22.2 +0.2**
	comp=Z,1.8nm,0.5s,baz=182,slow=3.2,SNR=3.6					
BVAR	**Borovoye Array**	**128.68 310**	PKP		**PKPdf**	**06 04 23.8 +0.1**
	comp=Z,2.6nm,1.1s,baz=258,slow=12,SNR=6.4					
O54A	**Avella**	**129.44 69**			**PKiKP**	**06 04 26.3 -0.1**
ARU	**Arti**	**136.28 311**	PKIKP		**PKPdf**	**06 04 37.9 -0.1**
AKT	**Akhty**	**138.14 287**	*e*PKIKP		**PKPdf**	**06 04 41.0 -1.1**
AKT			*e*			06 07 31.3
AKT			pmax	pmax		
	comp=Z,9.0nm,1.1s					
LIC	**Lamto**	**141.75 189**	*e*P		**PKPdf**	**06 04 44.3 -5.0**
	comp=Z,37nm,1.2s					
KIC	**Kosan Boka**	**141.85 189**	*e*P		**PKPdf**	**06 04 45.6 -3.9**
	comp=Z,29nm,1.2s					
TIC	**Toumodi**	**142.16 189**	*e*P		**PKPdf**	**06 04 47.0 -3.1**
NEEM	**North Greenlan**	**143.00 14**	IAmb	IAmb		06 04 51.1
	comp=Z,13nm,0.9s					
KBS	**Kingsbay**	**144.27 353**	*i* P		**PKPab**	**06 04 49.8 0.0**
KBS			IAmb	IAmb		06 04 52.7
	comp=Z,131nm,1.2s					
KBS	**Kingsbay**	**144.27 353**	*e*PKPdf		PKPbc	06 04 50.8 +0.6
SPA0	**Spitsbergen Ar**	**144.47 351**	*e*PKPdf		PKPbc	06 04 51.2 +0.3
HOPEN	**Hopen**	**144.54 346**	*e*PKPdf		PKPbc	06 04 51.2 +0.2
VRH	**Novokhopyorsk**	**144.98 300**	*e*PKIKP		PKPbc	06 04 52.7 -0.4
VRH			pmax	pmax		
	comp=Z,40nm,1.0s					
BNN	**Bunyan**	**145.39 277**			**PKPab**	**06 04 55.3 0.0**
HSPB	**Hornsund (broa**	**145.55 350**	*e*PKPbc		**PKPdf**	**06 04 52.8 -1.3**
VORD	**Divnogorie**	**146.46 299**	*e*PKP2		**PKPbc**	**06 04 57.1 -0.6**
VORD			pmax	pmax		
	comp=Z,10.0nm,0.6s					
KLMR	**Klimovskoe**	**146.50 317**	*e*PKIKP		**PKPdf**	**06 04 56.2 +0.1**
KLMR			pmax	pmax		
	comp=Z,64nm,1.4s					
KLMR	**Klimovskoe**	**146.50 317**	*e*PKPdf		**PKPdf**	**06 04 56.2 +0.1**
KLMR			AMP			06 05 00.7
	comp=Z,64nm,1.4s					
VSR	**Storozhevoye**	**146.57 300**	*e*PKP2		**PKPdf**	**06 04 57.2 +0.7**
VSR			pmax	pmax		
	comp=Z,20nm,1.1s					
LPSR	**Galich'ya Gora**	**146.88 302**	*e*PKP2		**PKPbc**	**06 04 58.7 -0.2**
LPSR			pmax	pmax		
	comp=Z,40nm,0.9s					
TORD	**Torodi Ar. Bea**	**147.25 202**	PKP		**PKPdf**	**06 04 59.0 +0.2**
	comp=Z,40nm,0.8s,baz=157,slow=1.3,SNR=61					
TORD			PKPbc		**PKPbc**	**06 05 01.0 -0.1**
	comp=Z,40nm,0.8s,baz=156,slow=1.7,SNR=83					
DAG	**Danmarks Havn**	**147.28 4⇑**	*i*P		**PKPbc**	**06 04 58.5 -0.9**
DAG			IAmb	IAmb		06 05 00.6
	comp=Z,11nm,0.7s					
DAG	**Danmarks Havn**	**147.28 4⇑**	*i*PKIKP		**PKPbc**	**06 04 58.5 -0.9**
DAG			pmax	pmax		
	comp=Z,11nm,0.7s					
BR131	**Keskin Array S**	**147.31 277**	PKP2		**PKPbc**	**06 05 00.7 -0.1**
BR131	**Keskin Array S**	**147.31 277**			**PKPbc**	**06 05 00.7 -0.1**
BRTR	**Keskin Array B**	**147.31 277**	PKPbc		**PKPbc**	**06 05 00.5 -0.3**
	comp=Z,6.2nm,0.8s,baz=134,slow=4.8,SNR=27					
BRTR	**Keskin Array B**	**147.31 277**	PKP2		**PKPbc**	**06 05 00.2 -0.6**
BRTR	**Keskin Array B**	**147.31 277**			**PKPbc**	**06 05 00.2 -0.6**
ILULI	**Ilulissat**	**147.64 26**	PKP2		**PKPbc**	**06 05 00.1 -0.4**
ILULI	**Ilulissat**	**147.64 26**			**PKPbc**	**06 05 00.1 -0.4**
MOS	**Moscow**	**147.80 308**	*i* PKIKP		**PKPdf**	**06 04 59.8 +1.4**
MOS			pmax	pmax		
	comp=Z,80nm,1.3s					
KEV	**Kevo**	**148.38 336**	PKP2		**PKPbc**	**06 05 03.0 +0.5**
KEV	**Kevo**	**148.38 336**			**PKPbc**	**06 05 03.0 +0.5**
OBN	**Obninsk**	**148.40 307**	*d* iPKP2		**PKPbc**	**06 05 03.7 +0.8**
OBN			*e*			06 08 29.9
OBN			*e*PPP		PPP	06 11 49.7
OBN			pmax	pmax		
	comp=Z,95nm,1.4s					
SUMG	**Summit**	**148.74 16**	*i* P		**PKPbc**	**06 05 04.2 +0.3**
SUMG			IAmb	IAmb		06 05 05.4
	comp=Z,33nm,1.1s					
SUMG	**Summit**	**148.74 16**	PKP2		**PKPbc**	**06 05 04.6 +0.7**
SUMG	**Summit**	**148.74 16**	PKPbc		**PKPbc**	**06 05 04.6 +0.7**
HAMF	**Hammerfest**	**148.76 339**	*e*PKPdf		**PKPbc**	**06 05 03.6 +0.1**
ARA0	**ARCESS Array S**	**148.94 336**	*e*PKPdf		**PKPbc**	**06 05 04.1 +0.1**
ARCES	**ARCESS Array B**	**148.94 336**	PKPbc		**PKPbc**	**06 05 04.0 0.0**
	comp=Z,28nm,0.8s,baz=60,slow=2.6,SNR=73					
ARCES	**ARCESS Array B**	**148.94 336**	PKP2		**PKPbc**	**06 05 04.4 +0.4**
ARCES	**ARCESS Array B**	**148.94 336**			**PKPbc**	**06 05 04.4 +0.4**
NUUK	**Nuuk**	**149.54 35**	*i* P		**PKiKP**	**06 05 06.4 -0.2**
NUUK			IAmb	IAmb		06 05 08.2
	comp=Z,9.3nm,0.7s					
DBG	**Daneborg**	**149.62 5**	*i* P		**PKPbc**	**06 05 04.9 -0.6**
DBG			IAmb	IAmb		06 05 06.0
	comp=Z,22nm,1.2s					
KOWA	**Kowa**	**149.77 192**	PKPbc		**PKPbc**	**06 05 07.9 +0.3**
KTK1	**Kautokeino**	**149.90 337**	*e*pPKPdf		pPKPdf	06 05 05.4 +0.7
DY2G	**Dye2**	**150.60 29**	*i* P		**PKPbc**	**06 05 08.2 -0.2**
DY2G			IAmb	IAmb		06 05 09.5
	comp=Z,102nm,1.3s					
TRO	**Tromso**	**150.65 340**	*e*PKPbc		**PKPbc**	**06 05 07.7 -0.4**
ICESG	**Greenland Ices**	**151.01 21**	*i* P		**PKPbc**	**06 05 09.4 0.0**
ICESG			IAmb	IAmb		06 05 10.7
	comp=Z,24nm,0.9s					
IDI	**Anoyia**	**151.65 264**			**PKiKP**	**06 05 12.4 +0.4**
TIRR	**Tirgusor**	**152.49 284**	PKIKP		**PKPbc**	**06 05 13.0 -0.1**
TIRR	**Tirgusor**	**152.49 284**			**PKPbc**	**06 05 13.0 -0.1**
FINES	**FINESS Array B**	**152.66 322**	PKPbc		**PKPbc**	**06 05 12.8 -0.1**
	comp=Z,8.8nm,0.6s,baz=91,slow=3.2,SNR=26					
FINES			PKPab		**PKPab**	**06 05 23.1 -0.6**
	comp=Z,6.5nm,0.8s,baz=100,slow=4.6,SNR=6.1					
FINES	**FINESS Array B**	**152.66 322**	PKPdf		**PKPdf**	**06 05 05.1 -0.8**
FINES					**PKPbc**	**06 05 12.9 -0.1**
FINES			PKPab		**PKPab**	**06 05 23.1 -0.6**
AKASG	**Malin Array Be**	**152.79 298**	PKPbc		**PKPbc**	**06 05 13.5 0.0**
	comp=Z,6.6nm,0.8s,baz=73,slow=2.5,SNR=17					
AKASG			PKPab		**PKPab**	**06 05 23.8 -0.8**
	comp=Z,2.9nm,0.9s,baz=72,slow=2.8,SNR=4.6					
AKASG	**Malin Array Be**	**152.79 298**	PKIKP		**PKPbc**	**06 05 13.3 -0.2**
AKASG						06 05 24.0
AKASG	**Malin Array Be**	**152.79 298**			**PKPbc**	**06 05 13.3 -0.2**
AKASG			PKPab		**PKPab**	**06 05 24.0 -0.6**
AKBB	**Malin Array Si**	**152.79 298**	PKIKP		**PKPbc**	**06 05 13.5 -0.1**
AKBB						06 05 24.0
AKBB	**Malin Array Si**	**152.79 298**			**PKPbc**	**06 05 13.5 -0.1**
AKBB			PKPab		**PKPab**	**06 05 24.0 -0.6**
STEI	**Steigen**	**152.81 339**	*e*PKPab		**PKPab**	**06 05 23.0 -1.1**
LOF	**Lofoten**	**153.08 340**	*e*pPKPdf		pPKPdf	06 05 10.8 +1.3
ALN	**Alexandroupoli**	**153.15 275**	PKIKP		**PKPdf**	**06 05 06.5 -0.8**
ALN						06 05 25.0
ALN	**Alexandroupoli**	**153.15 275**	PKPdf		**PKPdf**	**06 05 06.5 -0.8**
ALN					**PKPbc**	**06 05 14.1 -0.6**
ALN			PKPab		**PKPab**	**06 05 25.0 -1.4**
SCO	**Scoresbysund**	**153.16 9**	PKIKP		**PKiKP**	**06 05 14.5 +0.6**
SCO						06 05 26.2
SCO	**Scoresbysund**	**153.16 9**	PKPdf		**PKPdf**	**06 05 06.8 +0.4**
SCO					**PKiKP**	**06 05 14.5 +0.6**
SCO			PKPab		**PKPab**	**06 05 26.2 +0.7**
FAUS	**Fauske**	**153.20 338**	*e*PKPab		**PKPab**	**06 05 24.5 -1.3**
MNK	**Minsk**	**153.46 306**	*i* PKIKP		**PKPdf**	**06 05 05.4 -1.8**
MNK			*i*			06 09 00.3
MNK			*i*			06 12 12.5
MNK			*i* PPP	PPP		06 12 28.2
MNK			*i* SS	SS		06 28 35.9 -1.2
MNK			*i* SSS	SSS		06 34 27.8
MNK			pmax	pmax		
	comp=N,6.0nm,0.7s					
MNK			pmax	pmax		
	comp=E,1.0nm,0.7s					
MNK			pmax	pmax		
	comp=Z,3.0nm,0.7s					
MNK	**Minsk**	**153.46 306**	*i* PKP		**PKPdf**	**06 05 05.5 -1.8**
	comp=E,1.0nm,0.7s					
MNK			*i* PKP		**PKPdf**	**06 05 05.5 -1.8**
	comp=N,6.0nm,0.7s					
MNK			*i* PKP		**PKPdf**	**06 05 05.5 -1.8**
	comp=Z,3.0nm,0.7s,baz=264					
MNK			*i* SKP			06 08 38.6
MNK			*i* PKS		**PKSdf**	**06 08 39.9 -1.4**
MNK			*i* PP		**PP**	**06 09 00.4 -1.4**
MNK			*i* SKS		**SKSdf**	**06 12 12.5 -1.5**
MNK			*i* PPP	PPP		06 12 28.2
MNK			*i* SKKP			06 17 17.3
MNK			*i* SKKS		**SKKSdf**	**06 20 54.3 -2.0**
MNK			*i* SS		**SS**	**06 28 35.9 -1.1**
MNK			*i* SSS	SSS		06 34 27.9
MNK			*i* LQ	LQ		07 06 33.9
MNK			*i* LR	LR		07 18 15.5
MOR8	**Moi Rana**	**154.31 337**	*e*PKPdf		**PKPdf**	**06 05 06.0 -2.1**
MLR	**Muntele Rosu**	**154.41 285**	PKIKP		**PKPbc**	**06 05 17.3 -0.2**
MLR						06 05 30.7
MLR	**Muntele Rosu**	**154.41 285**	PKPdf		**PKPdf**	**06 05 07.0 -2.1**
MLR					**PKPbc**	**06 05 17.3 -0.2**
MLR			PKPab		**PKPab**	**06 05 30.7 -1.2**
AGG	**Agios Georgios**	**155.13 269**	PKP2		**PKPab**	**06 05 34.8 -0.2**
AGG	**Agios Georgios**	**155.13 269**	PKPbc		PKPbc	06 05 20.2
AGG					**PKPab**	**06 05 34.8 -0.2**
PABE	**Paberze**	**155.51 309**	PKPdf		**PKPdf**	**06 05 09.5 -0.5**
PABE					**PKPab**	**06 05 36.7 +0.7**
NSS	**Namsos**	**156.22 336**	*e*PKPdf		**PKPdf**	**06 05 09.0 -1.7**
NB2	**NORSAR Subarra**	**158.95 330**	P		**PKPab**	**06 05 48.9 -1.8**
	comp=Z,2.4nm,1.0s,baz=91,slow=5.9					
NOA	**NORSAR Array B**	**158.95 330**	PKPab		**PKPab**	**06 05 49.4 -1.3**
	comp=Z,3.9nm,1.0s,baz=58,slow=4.2,SNR=4.2					
SKAR	**Skarslia**	**160.21 332**	*e*PKPdf		**PKPdf**	**06 05 14.5 -1.3**
KEST	**Kesra**	**162.68 247**	PKPab		**PKPab**	**06 06 09.2 +1.4**
	comp=Z,7.4nm,0.8s,baz=131,slow=1.3,SNR=11					
KEST	**Kesra**	**162.68 247**			**PKPab**	**06 06 08.6 +0.8**
GERES	**GERESS Array B**	**162.90 294**	PKPab		**PKPab**	**06 06 08.7 +0.2**
	comp=Z,0.2nm,0.3s,baz=115,slow=6.0,SNR=3.5					
ESDC	**Sonseca Array**	**173.34 228**	PKP		**PKPdf**	**06 05 27.2 +0.7**
	comp=Z,0.9nm,0.9s,baz=328,slow=1.7,SNR=3.1					
ESDC			PKPab		**PKPab**	**06 06 55.7 +0.9**
	comp=Z,0.4nm,0.3s,baz=125,slow=2.8,SNR=4.1					
ESDC	**Sonseca Array**	**173.34 228**	PKPdf		**PKPdf**	**06 05 25.8 -0.6**
ESDC					**PKPab**	**06 06 53.8 -1.0**

*IDC **06** 06:13:31.5±3.9, 11°.52S×118°.00E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/21, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=259.2km s-min=29.2km az=46.0*
*DJA **06** 06:13:36.5±0.5, 11°.S±5°.×11°.8E±°, h10km, M4.2/10, mb4.2/4, MLv4.3/10*
ISC 06 06:13:37.7±1.2, 11°.5S±0°.1×118°.18E±0°.06, h36km, n14, σ1§01/16, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.16**	**34**	P	**Pn**	**06 14 12.0**	**+0.8**
WBSI				S	**Sn**	**06 14 35.9**	**-0.9**
PLAI	**Plampang**	**2.64**	**351**	P	**Pn**	**06 14 18.2**	**+0.4**
BASI	**Baing, Sumba**	**2.66**	**63**	P	**Pn**	**06 14 19.0**	**+1.0**
BASI				S	**Sn**	**06 14 49.5**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.98**	**335**	P	**Pn**	**06 14 22.7**	**+0.2**
DNP	**Denpasar**	**4.02**	**313**	P	**Pn**	**06 14 38.1**	**+1.4**
EDFI	**Ende, Flores**	**4.38**	**52**	P	**Pn**	**06 14 42.8**	**+1.0**
SRBI	**Singaraja**	**4.44**	**319**	P	**Pn**	**06 14 44.0**	**+1.4**
MMRI	**Maumere**	**4.88**	**55**	P	**Pn**	**06 14 49.7**	**+1.1**
ABJI	**Asem Bagus**	**5.32**	**313**	P	**Pn**	**06 14 55.4**	**+0.7**
	0.5nm100nm,0.7s						
BSSI	**Bau Bau, Buton**	**5.75**	**24**	P	**Pn**	**06 15 01.3**	**+0.7**
	0.2nm31nm,1.9s						
BKSI	**Bulukumba**	**6.39**	**18**	P	**Pn**	**06 15 10.2**	**+0.9**
	0.3nm14nm,0.6s						
WRA	**Warramunga Arr**	**17.69**	**120**	P	**Pn**	**06 17 40.1**	**-1.3**
	0.1nm,0.3s,baz=289,slow=13,SNR=6.0						
WRA				S	Sn	06 20 45.8	-12
	0.1nm,0.3s,baz=287,slow=23,SNR=2.4						
ASAR	**Alice Springs**	**19.27**	**131**	P	**P**	**06 17 59.9**	**+0.4**
	0.1nm,0.3s,baz=309,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**66.27**	**334**	P	**P**	**06 24 21.5**	**-0.8**
	0.4nm,0.4s,baz=141,slow=6.7,SNR=7.0						

*IASPEI **06** 06:20:39.8±0.9, 35°.76N±0°.02×97°.38W±0°.03, h10km±6km, Error ellipse: s-maj=3.9km s-min=3.4km az=86.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*NEIC **06** 06:20:39.9±1.2, 35°.76N±0°.02×97°.39W±0°.04, h8km±1km, Error ellipse: s-maj=5.0km s-min=2.2km az=97.0*
*TUL **06** 06:20:39.7±1.4, 35°.75N±0°.01×97°.38W±0°.04, h6km±5km, ML3.3, mb_Lg3.3/126(NEIC), Error ellipse: s-maj=5.0km s-min=1.9km az=99.0*
*ANF **06** 06:20:40.8±1.1, 35°.80N×97°.38W, h18km±9km, ML4.1/12, Error ellipse: s-maj=5.4km s-min=2.6km az=158.0*
ISC 06 06:20:39.9±0.8, 35°.76N±0°.02×97°.38W±0°.02, h9km±6km, n113, σ0§60/95, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**301**		**Pg**	**06 20 41.9**	**-0.2**
OK029				Sg	**Sg**	**06 20 43.7**	**+0.2**
OK009	**Oakdale Elemen**	**0.18**	**191**		**Pg**	**06 20 43.5**	**-0.2**
OK025	**Westminster Rd**	**0.18**	**169**		**Pg**	**06 20 43.5**	**-0.2**
OK025				Sg	**Sg**	**06 20 46.6**	**+0.2**
OK005	**Luther M Schoo**	**0.19**	**124**		**Pg**	**06 20 43.8**	**0.0**
OK005				Sg	**Sg**	**06 20 46.8**	**+0.3**
BCOK	**Bluff Creek, N**	**0.21**	**241**		**Pg**	**06 20 44.2**	**-0.1**
BCOK				Sg	**Sg**	**06 20 47.8**	**+0.5**
OK001	**Jones High Sch**	**0.21**	**160**	Pg	**Pg**	**06 20 44.1**	**-0.2**
OKCFA	**Oklahoma City**	**0.35**	**190**		**Pg**	**06 20 46.6**	**-0.2**
OKCFA				Sg	**Sg**	**06 20 52.0**	**+0.5**
OKCFA	**Oklahoma City**	**0.35**	**190**	P		06 20 46.5	
	baz=9.8,SNR=74						
OKCFA				S		06 20 51.7	
	baz=9.8						
OKCSW	**OKLAHOMA CITY**	**0.36**	**188**		**Pg**	**06 20 46.8**	**-0.2**
OKCSW				Sg	**Sg**	**06 20 52.0**	**+0.3**
OK031	**S. Brethren Rd**	**0.48**	**66**		**Pg**	**06 20 49.4**	**+0.1**
OK031				Sg	**Sg**	**06 20 56.0**	**+0.4**
FNO	**Franklin**	**0.50**	**182**		**Pg**	**06 20 49.5**	**-0.2**
FNO				Sg	**Sg**	**06 20 56.8**	**+0.5**
QUOK	**Quay**	**0.68**	**53**		**Pg**	**06 20 53.1**	**0.0**
QUOK				Sg	**Sg**	**06 21 02.5**	**+0.5**
CROK	**Carrier**	**0.89**	**327**		**Pg**	**06 20 57.0**	**-0.1**
CROK				Sg	**Sb**	**06 21 09.6**	**+0.1**
BLOK	**Blackwell**	**1.01**	**8**		**Pg**	**06 20 58.9**	**-0.4**
X34A	**Smith Ranch, M**	**1.22**	**198**		**Pb**	**06 21 02.6**	**-0.5**
OK032	**Salt Plains WL**	**1.24**	**327**		**Pn**	**06 21 03.1**	**-0.3**
OK032				Sn	**Sb**	**06 21 19.8**	**+0.2**
KAN13	**South Haven SW**	**1.25**	**356**		**Pn**	**06 21 03.5**	**-0.1**
TUL1	**Leonard**	**1.30**	**83**	P	**Pn**	**06 21 03.0**	**-1.2**
	baz=264,SNR=104						
TUL1				S	**Sb**	**06 21 21.0**	**-0.3**
	baz=264						
TUL1	**Leonard**	**1.30**	**83**	P		06 21 03.1	
	baz=264						
TUL1				S		06 21 21.1	
	baz=264						
KAN17	**Caldwell West**	**1.32**	**347**		**Pn**	**06 21 04.7**	**+0.1**
T35A	**Sooner Cattle**	**1.35**	**31**	Pn	**Pn**	**06 21 04.8**	**-0.2**
T35A				Sn	**Sb**	**06 21 23.0**	**+0.2**
T35B	**Sooner Cattle**	**1.35**	**31**	P		06 21 04.7	
	baz=211,SNR=63						
T35B				S		06 21 23.0	
	baz=211						
KAN09	**Caldwell North**	**1.39**	**352**	Pn	**Pn**	**06 21 05.6**	**+0.1**
KAN09				IAmb_Lg		06 21 26.2	
	comp=Z,252nm,1.0s						
KAN05	**Bluff City Nor**	**1.40**	**344**		**Pn**	**06 21 06.1**	**+0.4**
KAN05				Sn	**Sg**	**06 21 25.2**	**+0.2**
U32A	**Winter Ranch,**	**1.45**	**296**	Pn	**Pn**	**06 21 06.5**	**+0.1**
U32A				Sn	**Sg**	**06 21 26.5**	**-0.1**
U32A	**Winter Ranch,**	**1.45**	**296**	P		06 21 06.5	
	baz=115,SNR=16						
U32A				S		06 21 26.5	
	baz=115						
KS20	**Mayfield South**	**1.47**	**355**		**Pn**	**06 21 07.2**	**+0.6**
KS20				IAmb_Lg		06 21 28.7	
	comp=Z,166nm,0.8s						
KAN10	**Anthony SW Sta**	**1.48**	**337**	Pn	**Pb**	**06 21 07.4**	**-0.1**
WMOK	**Wichita Mounta**	**1.54**	**229**	P	**

	baz=240							
S39A				S			06 22 24.8	
	baz=240							
X40A	**Basin Creek Fa**	**3.94**	**108**	P		**Pn**	**06 21 41.1**	**+0.5**
	baz=290,SNR=7.4							
X40A				S		**Sn**	**06 22 27.7**	**+0.9**
	baz=290							
X40A	**Basin Creek Fa**	**3.94**	**108**	Pn		**Pn**	**06 21 41.6**	**+1.1**
X40A				IAmb_Lg			06 22 50.8	
	comp=Z,68nm,0.7s							
X40A	**Basin Creek Fa**	**3.94**	**108**	P			06 21 41.3	
	baz=290,SNR=15							
X40A				P			06 21 41.3	
	baz=290,SNR=15							
237A	**Washetta, Mont**	**3.97**	**160**	Pn		**Pn**	**06 21 40.9**	**-0.1**
237A				IAmb_Lg			06 22 55.6	
	comp=Z,38nm,0.8s							
WLAR	**White Oak Lake**	**4.08**	**119**	IAmb_Lg			06 22 50.5	
	comp=Z,43nm,0.7s							
WHAR	**Wooly Hollow**	**4.18**	**95**			**Pn**	**06 21 44.2**	**+0.4**
WHAR				IAmb_Lg			06 23 00.7	
	comp=Z,89nm,1.0s							
W41B	**Gary Mavity, V**	**4.23**	**96**	P		**Pn**	**06 21 44.6**	**+0.1**
	baz=280,SNR=7.7							
W41B				S		**Sn**	**06 22 34.2**	**+0.1**
	baz=280							
W41B	**Gary Mavity, V**	**4.23**	**96**	P			06 21 44.9	
	baz=280,SNR=28							
FCAR	**Ozark Folk Cen**	**4.27**	**87**			**Pn**	**06 21 45.1**	**0.0**
FCAR				IAmb_Lg			06 22 57.3	
	comp=Z,65nm,0.7s							
MGMO	**Mountain Grove**	**4.35**	**70**	IAmb_Lg			06 22 56.1	
	comp=Z,126nm,0.9s							
Z41A	**Richland Creek**	**4.53**	**122**	S		**Sn**	**06 22 39.9**	**-1.6**
	baz=305							
MSTX	**Muleshoe**	**4.78**	**250**	P		**Pn**	**06 21 53.1**	**+0.9**
	baz=66							
MSTX				S		**Sn**	**06 22 48.1**	**+0.3**
	baz=66							
MSTX	**Muleshoe**	**4.78**	**250**			**Pn**	**06 21 53.1**	**+0.9**
R40A	**Maddies Statio**	**4.81**	**57**			**Pn**	**06 21 53.0**	**+0.5**
R40A				IAmb_Lg			06 23 14.5	
	comp=Z,57nm,0.7s							
P38A	**Dawn**	**4.92**	**37**	IAmb_Lg			06 23 26.2	
	comp=Z,52nm,0.7s							
CCAR	**Cane Creek**	**4.97**	**110**	Pn		**Pn**	**06 21 54.3**	**-0.4**
CCAR				IAmb_Lg			06 23 28.7	
	comp=Z,30nm,0.8s							
435B	**Jarrell**	**4.97**	**182**	S		**Sn**	**06 22 53.0**	**+0.7**
	baz=1.9							
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg			06 23 15.5	
	comp=Z,34nm,0.7s							
N33A	**J Bar K, Exete**	**4.97**	**359**	IAmb_Lg			06 23 29.9	
	comp=Z,51nm,0.8s							
LCAR	**Lake Charles**	**5.06**	**85**	Pn		**Pn**	**06 21 54.8**	**-1.2**
LCAR				IAmb_Lg			06 23 23.8	
	comp=Z,58nm,0.9s							
N35A	**Tabor**	**5.27**	**14**	Pn		**Pn**	**06 21 58.5**	**-0.3**
KSCO	**Kaye Shedlock'**	**5.29**	**309**	IAmb_Lg			06 23 42.5	
	comp=Z,41nm,0.7s							
CCM	**Cathedral Cave**	**5.42**	**63**	IAmb_Lg			06 23 47.3	
	comp=Z,62nm,0.8s							
HBAR	**Harrisburg**	**5.48**	**90**	IAmb_Lg			06 23 35.6	
	comp=Z,106nm,0.9s							
JCT	**Junction City**	**5.64**	**202**	P		**Pn**	**06 22 04.6**	**+0.6**
	baz=20							
JCT	**Junction City**	**5.64**	**202**	Pn		**Pn**	**06 22 02.3**	**-1.8**
JCT				IAmb_Lg			06 23 49.0	
	comp=Z,38nm,0.9s							
P40A	**Paris**	**5.66**	**47**	Pn		**Pn**	**06 22 03.1**	**-1.1**
P40A				IAmb_Lg			06 23 43.4	
	comp=Z,102nm,0.7s							
BGNE	**Belgrade**	**5.67**	**354**	P		**Pn**	**06 22 03.8**	**-0.6**
	baz=174							
BGNE	**Belgrade**	**5.67**	**354**	IAmb_Lg			06 23 49.8	
	comp=Z,49nm,0.8s							
PBMO	**Poplar Bluff**	**5.71**	**78**	Pn		**Pn**	**06 22 03.6**	**-1.2**
LPAR	**Lepanto**	**5.76**	**90**	IAmb_Lg			06 23 59.0	
	comp=Z,79nm,0.9s							
143A	**Socs Landing,**	**5.81**	**120**	IAmb_Lg			06 23 54.6	
	comp=Z,27nm,0.8s							
T25A	**Trinidad**	**5.83**	**286**	P		**Pn**	**06 22 06.7**	**-0.1**
	baz=102,SNR=6.7							
T25A	**Trinidad**	**5.83**	**286**			**Pn**	**06 22 07.8**	**+1.0**
T25A				IAmb_Lg			06 23 57.9	
	comp=Z,42nm,0.9s							
L34A	**Svendsen Farm,**	**6.25**	**7**	IAmb_Lg			06 24 10.5	
	comp=Z,85nm,0.7s							
OGNE	**Ogallala**	**6.34**	**326**	IAmb_Lg			06 24 02.7	
	comp=Z,75nm,0.8s							
GLAT	**Glass**	**6.58**	**83**	IAmb_Lg			06 24 22.6	
	comp=Z,77nm,0.8s							
OXF	**Oxford**	**6.65**	**98**	P		**Pn**	**06 22 17.5**	**-0.3**
	baz=283							
OXF	**Oxford**	**6.65**	**98**	Pn		**Pn**	**06 22 18.0**	**+0.2**
OXF				IAmb_Lg			06 24 22.1	
	comp=Z,37nm,1.1s							
W45A	**Hickory Valley**	**6.71**	**93**	IAmb_Lg			06 24 16.4	
	comp=Z,49nm,0.7s							
Y45A	**Yeager Farm, C**	**6.72**	**104**	IAmb_Lg			06 24 27.0	
	comp=Z,23nm,0.8s							
S44A	**Carbondale**	**6.80**	**71**	IAmb_Lg			06 24 20.0	
	comp=Z,76nm,0.8s							
SDCO	**Great Sand Dun**	**6.81**	**289**	P		**Pn**	**06 22 20.8**	**+0.5**
	baz=104							
SDCO	**Great Sand Dun**	**6.81**	**289**	Pn		**Pn**	**06 22 21.8**	**+1.5**
SCIA	**State Center**	**6.94**	**27**	IAmb_Lg			06 24 28.4	
	comp=Z,64nm,0.8s							
P43A	**Skaggs, Pawnee**	**7.33**	**56**	Pn		**Pn**	**06 22 27.0**	**-0.2**
K38A	**Parkersburg**	**7.75**	**26**	IAmb_Lg			06 25 00.2	
	comp=Z,50nm,0.7s							
MNTX	**Cornudas Mount**	**7.80**	**241**	IAmb_Lg			06 24 50.6	
	comp=Z,18nm,1.1s							
L40A	**Anamosa**	**7.91**	**35**	IAmb_Lg			06 24 51.7	
	comp=Z,47nm,0.9s							
ECSD	**EROS Data Cent**	**7.99**	**4**	Pn		**Pn**	**06 22 35.2**	**-0.9**
Y22D	**IRIS PASSCAL I**	**8.02**	**261**	IAmb_Lg			06 25 13.4	
	comp=Z,27nm,0.8s							
PHWY	**Pilot Hill**	**8.40**	**314**	IAmb_Lg			06 25 12.4	
	comp=Z,26nm,1.1s							
SUSD	**Miller**	**8.76**	**353**	IAmb_Lg			06 25 37.0	
	comp=Z,22nm,0.8s							
I37A	**Lemond, Waseca**	**8.79**	**19**	IAmb_Lg			06 25 30.3	
	comp=Z,49nm,1.1s							
CLTN	**Cedars of Leba**	**8.97**	**85**	IAmb_Lg			06 25 36.2	
	comp=Z,13nm,0.7s							
JFWS	**Jewell Farm**	**9.03**	**36**	IAmb_Lg			06 25 26.5	
	comp=Z,40nm,0.7s							
WCI	**Wyandotte Cave**	**9.21**	**71**	IAmb_Lg			06 25 32.7	
	comp=Z,46nm,0.8s							
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg			06 25 52.0	
	comp=Z,38nm,0.8s							
SWET	**Sewanee**	**9.35**	**90**	IAmb_Lg			06 25 46.7	
	comp=Z,27nm,1.3s							
U49A	**Red Boiling Sp**	**9.41**	**82**	IAmb_Lg			06 25 52.0	
	comp=Z,25nm,1.2s							
PV12	**Saucer Basin,**	**9.48**	**289**	IAmb_Lg			06 25 58.3	
	comp=Z,15nm,1.2s							
I40A	**Norwalk**	**9.64**	**31**	IAmb_Lg			06 25 47.9	
	comp=Z,25nm,1.0s							
RWWY	**Rawlins**	**9.69**	**311**	IAmb_Lg			06 26 12.9	
	comp=Z,14nm,1.0s							
RSSD	**Black Hills**	**9.79**	**331**	IAmb_Lg			06 26 03.6	
	comp=Z,16nm,0.8s							
W50A	**Signal Mountai**	**9.86**	**90**	IAmb_Lg			06 25 56.1	
	comp=Z,22nm,0.8s							
K43A	**Burlington**	**9.86**	**43**	IAmb_Lg			06 26 07.8	
	comp=Z,35nm,0.8s							
K22A	**Casper**	**9.88**	**317**	IAmb_Lg			06 26 12.8	
	comp=Z,31nm,1.2s							

KRNET ***06*** *06:38:07.5±0.1, 40°.09N×71°.73E, h12km, mb3.8*
NEIC ***06*** *06:38:07.4±1.9, 40°.38N±0°.04×71°.71E±0°.03, h10km±2km, mb4.4/3, Error ellipse: s-maj=8.0km s-min=3.0km az=155.0*
ISU ***06*** *06:38:08, 40°.10N×71°.70E, h5km*
SOME ***06*** *06:38:11.8, 40°.35N×71°.67E, h20km*
IDC ***06*** *06:38:11.7±2.7, 40°.82N×71°.54E, h0km, mb3.8/3, mb1 3.6/5, mb1mx3.3/51, mbtmp3.5/5, ML2.8/2, Error ellipse: s-maj=64.0km s-min=18.3km az=160.0*
NNC ***06*** *06:38:15.2±2.8, 40°.31N×72°.00E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=21.0km s-min=11.1km az=6.0*
ISC 06 06:38:06.6±1.1,**40°.24N**±0°.03×**71°.78E**±0°.02,**h7**km±8km, **n84,** σ2§**18**/118,**mb4.2**/4,**38C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.49**	**0**	*eP*	**Pg**	**06 38 15.0**	**-1.2**
FRG				*eS*	**Sg**	**06 38 19.0**	**-3.7**
BTK	**Batken**	**0.76**	**257**	⇑*iP*	**Pg**	**06 38 21.3**	**+0.2**
BTK				⇑*iS*	**Sg**	**06 38 31.0**	**0.0**
BTK	**Batken**	**0.76**	**257**	Pg	**Pg**	**06 38 21.4**	**+0.2**
BTK				Sg	**Sg**	**06 38 32.2**	**+1.2**
DRK	**Karamyk**	**0.76**	**179**	Pg	**Pg**	**06 38 21.5**	**+0.3**
OHH	**Osh**	**0.82**	**69**	⇑*iP*	**Pn**	**06 38 25.0**	**+0.4**
OHH				⇑*iS*	**Sn**	**06 38 37.8**	**+0.8**
OHH	**Osh**	**0.82**	**69**	*eP*	**Pn**	**06 38 26.0**	**+1.4**
OHH				*eS*	**Sn**	**06 38 37.0**	**0.0**
SFK	**Sufi-Kurgan**	**1.34**	**99**	⇑*iP*	**Pn**	**06 38 33.5**	**+1.6**
SFK				⇑*iS*	**Sn**	**06 38 52.1**	**+2.0**
SFK	**Sufi-Kurgan**	**1.34**	**99**	*eP*	**Pn**	**06 38 33.0**	**+1.1**
SFK				*eS*	**Sg**	**06 38 53.0**	**+3.3**
TRKS	**Terek-Say**	**1.38**	**340**	⇓*iP*	**Pg**	**06 38 34.7**	**+1.7**
TRKS				⇓*iS*	**Sn**	**06 38 54.4**	**+3.5**
GAR	**Garm**	**1.68**	**223**	⇑*iP*	**Pn**	**06 38 36.6**	**+0.2**
GAR				⇑*iS*	**Sn**	**06 38 57.5**	**-0.7**
GAR	**Garm**	**1.68**	**223**	Pn	**Pn**	**06 38 37.8**	**+1.3**
GAR				Sn	**Sn**	**06 38 58.4**	**+0.3**
CHMG	**Chimgan**	**1.88**	**315**	*eP*	**Pg**	**06 38 45.0**	**+2.5**
CHMG				*eS*	**Sg**	**06 39 10.0**	**+3.2**
TGS	**TashGRES**	**2.08**	**305**	*eP*	**Pg**	**06 38 49.0**	**+2.5**
TGS				*eS*	**Sg**	**06 39 19.0**	**+5.5**
TAS	**Tashkent**	**2.18**	**301**	⇑*iP*	**Pg**	**06 38 47.5**	**-0.8**
TAS				⇑*iS*	**Sg**	**06 39 16.8**	**+0.3**
TAS	**Tashkent**	**2.18**	**301**	Pn	**Pn**	**06 38 42.2**	**-1.0**
MNAS	**Manas**	**2.31**	**13**	⇑*iP*	**Pg**	**06 38 50.8**	**-0.1**
MNAS				⇑*iS*	**Sg**	**06 39 22.6**	**+1.8**
AML	**Almayashu**	**2.38**	**37**	⇑*eP*	**Pg**	**06 38 51.8**	**-0.4**
AML				⇑*iS*	**Sg**	**06 39 24.2**	**+1.1**
AML	**Almayashu**	**2.38**	**37**	P	**Pg**	**06 38 51.5**	**-0.7**
ARLS	**Aral**	**2.52**	**49**	⇑*iP*	**Pg**	**06 38 53.5**	**-1.3**
ARLS				⇑*iS*	**Sg**	**06 39 27.1**	**-0.3**
CHGR	**Chuyangaron**	**2.57**	**233**	⇓*iP*	**Pn**	**06 38 50.9**	**+2.2**
CHGR				⇓*iS*	**Sn**	**06 39 22.1**	**+1.8**
CHGR	**Chuyangaron**	**2.57**	**233**	Pn	**Pn**	**06 38 51.1**	**+2.4**
DZA	**Taraz**	**2.67**	**353**	*eP*	Pg	06 39 01.1	+3.3
DZA				*eS*	**Sg**	**06 39 35.6**	**+3.2**
DZA	**Taraz**	**2.67**	**353**	Pg	Pg	06 39 01.1	+3.3
DZA				Lg	Lg	06 39 35.6	
MRKS	**Merke**	**2.73**	**23**	*eP*	Pg	06 39 02.7	+3.8
MRKS				*eS*	**Sg**	**06 39 38.4**	**+4.2**
MRKS	**Merke**	**2.73**	**23**	Pg	**Pg**	**06 39 02.2**	**+3.3**
MRKS				Lg	Lg	06 39 38.7	
EKS2	**Erkin-Say**	**2.85**	**31**	⇑*iP*	**Pb**	**06 38 57.9**	**+0.1**
EKS2				⇑*iS*	**Sg**	**06 39 35.2**	**-2.9**
EKS2	**Erkin-Say**	**2.85**	**31**	P	**Pb**	**06 38 58.2**	**+0.4**
KK31	**Karatay Array**	**3.02**	**342**	⇓Pg	**Pg**	**06 39 05.5**	**+1.2**
KK31				⇑Lg	Lg	06 39 46.8	
KKAR	**Karatay Array**	**3.02**	**342**		**Pn**	**06 38 54.0**	**-0.7**
AAK	**Ala-Archa**	**3.15**	**40**	Pn	**Pb**	**06 39 02.0**	**-0.9**
AAK				Lg	Lg	06 39 51.5	
AAK	**Ala-Archa**	**3.15**	**40**	⇑*eP*	**Pb**	**06 39 02.1**	**-0.9**
AAK				⇑*iS*	**Sb**	**06 39 42.2**	**+0.6**
AAK	**Ala-Archa**	**3.15**	**40**	Pn	**Pn**	**06 38 54.0**	**-2.7**
FRU1	**Bishkek**	**3.34**	**39**	⇑*iP*	**Pb**	**06 39 04.9**	**-1.3**
FRU1				⇑*iS*	**Sb**	**06 39 47.3**	**+0.2**
KBK	**Karagaybulak**	**3.39**	**44**	⇑*eP*	**Pb**	**06 39 05.8**	**-1.3**
KBK				⇑*iS*	**Sb**	**06 39 48.3**	**-0.3**
KBK	**Karagaybulak**	**3.39**	**44**	P	**Pb**	**06 39 06.4**	**-0.7**
CHMS	**Chumysh**	**3.54**	**38**	⇑*iP*	**Pb**	**06 39 07.6**	**-2.0**
CHMS				⇑*iS*	**Sb**	**06 39 51.8**	**-1.1**
CHMS	**Chumysh**	**3.54**	**38**	P	**Pb**	**06 39 07.3**	**-2.3**
USP	**Ospenovka**	**3.65**	**33**	⇑*eP*	**Pb**	**06 39 08.6**	**-2.8**
USP				⇑*iS*	**Sb**	**06 39 54.1**	**-1.7**
USP	**Ospenovka**	**3.65**	**33**	P	**Pb**	**06 39 08.3**	**-3.0**
SGDS	**Sogindy**	**3.85**	**33**	Pg	**Pg**	**06 39 21.3**	**+1.0**
SGDS				Lg	Lg	06 40 12.3	
BOOM	**Boomskoye usch**	**3.85**	**53**	⇑*eP*	**Pb**	**06 39 12.0**	**-3.0**
BOOM				⇑*iS*	**Sb**	**06 39 59.1**	**-2.8**
BOOM	**Boomskoye usch**	**3.85**	**53**	Pn	**Pn**	**06 39 05.8**	**-0.6**
ULHL	**Ulahol**	**3.92**	**58**	⇑*eP*	**Pb**	**06 39 12.6**	**-3.5**
ULHL				⇑*iS*	**Sb**	**06 40 00.2**	**-3.5**
TKM2	**Tokmak 2**	**3.92**	**46**	⇑*eP*	**Pb**	**06 39 12.5**	**-3.6**
TKM2				⇑*iS*	**Sb**	**06 40 00.6**	**-3.3**
TKM2	**Tokmak 2**	**3.92**	**46**	P	**Pb**	**06 39 12.5**	**-3.6**
TKM2	**Tokmak 2**	**3.92**	**46**	⇑Pn	**Pb**	**06 39 12.4**	**-3.6**
TKM2				⇓Pg	**Pg**	**06 39 24.9**	**+3.2**
TKM2				⇑Lg	Lg	06 40 15.9	
KST	**Kastek**	**4.20**	**47**	*eP*	**Pg**	**06 39 29.6**	**+2.4**
KST				*eS*	**Sg**	**06 40 24.9**	**+3.3**
KST	**Kastek**	**4.20**	**47**	Pg	**Pg**	**06 39 29.5**	**+2.4**
KST				Lg	Lg	06 40 24.9	
DGS	**Degeres**	**4.23**	**44**	*eP*	**Pg**	**06 39 30.6**	**+2.9**
DGS				*eS*	**Sg**	**06 40 26.6**	**+4.1**
DGS	**Degeres**	**4.23**	**44**	Pg	**Pg**	**06 39 30.5**	**+2.9**
DGS				Lg	Lg	06 40 26.6	
KDJ	**Kajisay**	**4.49**	**63**	⇓*eP*	Pn	06 39 20.7	+5.5
KDJ				⇓*iS*	**Sn**	**06 40 14.0**	**+6.2**
KDJ	**Kajisay**	**4.49**	**63**	Pn	**Pn**	**06 39 15.7**	**+0.5**
KRBS	**Karabastau**	**4.51**	**39**	*eP*	**Pg**	**06 39 34.0**	**+1.0**
4.2nm,0.4s							
KRBS				*eS*	**Sg**	**06 40 32.6**	**+1.1**
2.3nm,0.4s							
KRBS	**Karabastau**	**4.51**	**39**	Pg	**Pg**	**06 39 34.1**	**+1.0**
4.2nm,0.4s							
KRBS				Lg	Lg	06 40 32.6	
2.3nm,0.4s							
TARG	**Taragay, Kyrgy**	**4.80**	**70**	Pn	**Pn**	**06 39 17.9**	**-1.6**
MDOK	**Medeo**	**4.91**	**52**	*eP*	**Pg**	**06 39 42.5**	**+1.9**
5.7nm,0.3s							
MDOK				*eS*	**Sg**	**06 40 46.8**	**+2.6**
10nm,0.4s							
MDOK	**Medeo**	**4.91**	**52**	Pg	**Pg**	**06 39 42.5**	**+1.9**
5.7nm,0.3s							
MDOK				Lg	Lg	06 40 46.8	
10nm,0.4s							
KUU	**Kurty**	**4.99**	**41**	*eP*	**Pg**	**06 39 44.1**	**+2.0**
2.4nm,0.2s							
KUU				*eS*	**Sg**	**06 40 49.2**	**+2.6**
12nm,0.5s							
KUU	**Kurty**	**4.99**	**41**	Pg	**Pg**	**06 39 44.1**	**+2.0**
2.4nm,0.2s							
KUU				Lg	Lg	06 40 49.2	
12nm,0.5s							
BTLS	**Baital**	**5.08**	**18**	*eP*	**Pg**	**06 39 45.8**	**+1.9**
8.0nm,0.2s							
BTLS				*eS*	**Sg**	**06 40 52.8**	**+3.1**
16nm,0.3s							
BTLS	**Baital**	**5.08**	**18**	Pg	**Pg**	**06 39 45.8**	**+1.9**
8.0nm,0.2s							
BTLS				Lg	Lg	06 40 52.8	
16nm,0.3s							
CHKK	**Chushkaly**	**5.30**	**45**	*eP*	**Pg**	**06 39 48.3**	**+0.2**
1.9nm,0.2s							
CHKK				*eS*	**Sg**	**06 40 57.1**	**+0.4**
13nm,0.3s							
CHKK	**Chushkaly**	**5.30**	**45**	Pg	**Pg**	**06 39 48.3**	**+0.2**
1.9nm,0.2s							
CHKK				Lg	Lg	06 40 57.5	
13nm,0.3s							
SATY	**Saty**	**5.71**	**58**	*eP*	**Pg**	**06 39 57.2**	**+1.4**
4.6nm,0.8s							
SATY				*eS*	**Sg**	**06 41 12.1**	**+2.3**
9.7nm,0.4s							
SATY	**Saty**	**5.71**	**58**	Pg	**Pg**	**06 39 57.2**	**+1.4**
4.6nm,0.8s							
SATY				Lg	Lg	06 41 12.1	
9.7nm,0.4s							
KBL	**Kabul**	**6.09**	**202**	Pn	**Pn**	**06 39 37.0**	**-0.2**
UZB	**Uzynbulak**	**6.15**	**59**	*eP*	**Pg**	**06 40 03.1**	**-1.2**
3.0nm,0.3s							
UZB				*eS*	**Sg**	**06 41 22.8**	**-1.2**
5.2nm,0.3s							
UZB	**Uzynbulak**	**6.15**	**59**	Pg	**Pg**	**06 40 03.1**	**-1.2**
3.0nm,0.3s							
UZB				Lg	Lg	06 41 22.8	
5.2nm,0.3s							
PDGK	**Podgornoye**	**6.54**	**59**	Pg	**Pg**	**06 40 15.5**	**+3.8**
1.4nm,0.6s							
PDGK				Lg	Lg	06 41 43.4	
3.0nm,0.5s							
NIL	**Nilore**	**6.68**	**169**	Pn	**Pn**	**06 39 47.3**	**+2.2**
HRA	**Herat**	**9.58**	**235**	Pn	**Pn**	**06 40 25.6**	**+0.6**
MK31	**Makanchi Array**	**10.05**	**46**	Pn	**Pn**	**06 40 31.9**	**+0.5**
MKAR	**Makanchi Array**	**10.05**	**46**	Pn	**Pn**	**06 40 34.7**	**+3.4**
0.1nm,0.3s,baz=244,slow=18,SNR=3.7							
MKAR	**Makanchi Array**	**10.05**	**46**	Pn	**Pn**	**06 40 30.9**	**-0.4**
AB31	**Akbulak array**	**12.32**	**321**	⇑P	**Pn**	**06 41 00.7**	**-1.6**
0.8nm,0.5s							
ABKAR	**Akbulak array**	**12.32**	**321**	Pn	**Pn**	**06 41 01.0**	**-1.2**
BRVK	**Borovoye**	**12.87**	**356**	Pn	**Pn**	**06 41 07.1**	**-2.6**
ZAA0	**Zalesovo Array**	**16.30**	**28**	Pn	**Pn**	**06 41 52.3**	**-3.5**
ZAA0				IAmb	IAmb	06 42 27.7	
comp=Z,8.0nm,1.4s							
FINES	**FINESS Array B**	**34.80**	**323**	P	**P**	**06 44 58.6**	**+1.1**
comp=Z,0.3nm,0.3s,baz=115,slow=9.4,SNR=5.6							
FINES	**FINESS Array B**	**34.80**	**323**	P	**P**	**06 44 57.0**	**-0.5**
ARCES	**ARCESS Array B**	**37.96**	**336**	P	**P**	**06 45 25.6**	**+1.2**
comp=Z,1.0nm,0.7s,baz=108,slow=8.6,SNR=3.9							
ARCES	**ARCESS Array B**	**37.96**	**336**	P	**P**	**06 45 24.5**	**+0.1**
ARCES				IAmb	IAmb	06 46 45.1	
comp=Z,45nm,1.8s							
DIVS	**Divibare**	**38.06**	**293**	P	**P**	**06 45 24.5**	**-1.2**
DIVS				IAmb	IAmb	06 46 49.3	
comp=Z,4.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**66.46**	**267**	P	P	06 49 02.1	+5.2
comp=Z,0.6nm,0.6s,baz=44,slow=5.7,SNR=4.3							

NNC 06 07:14:02.7±0.4,**50°.03N×78°.75E, h0km, mb3.6, mpv3.4, 14C-5D, Error ellipse: s-maj=3.8km s-min=1.8km az=59.0, Suspected Mining explosion., Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.58**	**345**	⇑P	Pg	07 14 13.7	0.0
KUR07				⇑S	Sg	07 14 22.6	+1.4
KUR06	**Kurchatov Arra**	**0.60**	**346**	⇑P	Pg	07 14 14.1	0.0
KUR06				⇓S	Sg	07 14 23.2	+1.4
KUR14	**Kurchatov Arra**	**0.60**	**350**	⇑P	Pg	07 14 13.9	-0.3
KUR14				⇑S	Sg	07 14 22.4	+0.4
KUR15	**Kurchatov Arra**	**0.61**	**349**	⇑P	Pg	07 14 14.5	+0.2
KUR15				⇓S	Sg	07 14 23.5	+1.4
KURBB	**Kurchatov Arra**	**0.61**	**347**	⇑P	Pg	07 14 14.5	0.0
39nm,0.3s							
KURBB				⇑S	Sg	07 14 23.6	+1.2
116nm,0.6s							
KUR16	**Kurchatov Arra**	**0.62**	**345**	⇑P	Pg	07 14 14.7	+0.1
KUR16				⇑S	Sg	07 14 23.6	+0.9
KUR05	**Kurchatov Arra**	**0.63**	**348**	⇑P	Pg	07 14 14.8	0.0
KUR05				⇓S	Sg	07 14 24.0	+1.0
KUR17	**Kurchatov Arra**	**0.63**	**344**	⇓P	Pg	07 14 15.0	+0.1
KUR17				⇓S	Sg	07 14 24.3	+1.3
SEM	**Semipalatinsk**	**1.04**	**68**	P	Pg	07 14 22.3	-0.3
12nm,0.1s							
SEM				S	Sb	07 14 37.3	-0.6
80nm,0.4s							
MK31	**Makanchi Array**	**4.00**	**143**	⇑Pn	Pn	07 15 06.6	+1.3
0.2nm,0.2s							
MK31				⇑Pg	Pb	07 15 15.8	+1.7
1.3nm,0.3s							
MK31				⇑Lg	Lg	07 16 08.2	
29nm,0.7s							
ZSN	**Zaisan**	**4.80**	**120**	Pg	Pb	07 15 31.0	+3.4
6.3nm,0.3s							
ZSN				Lg	Lg	07 16 35.0	
9.5nm,0.5s							
DJR	**Jarkent**	**5.74**	**173**	Pg	Pg	07 15 48.5	-4.2
0.1nm,0.4s							
DJR				Lg	Lg	07 17 04.5	
0.4nm,0.6s							
KTBS	**Karatobe**	**6.47**	**193**	Pg	Pg	07 16 02.8	-3.9
0.7nm,0.1s							
KRBS	**Karabastau**	**6.67**	**200**	Pg	Pg	07 16 05.7	-4.8
1.7nm,0.3s							
UZB	**Uzynbulak**	**6.88**	**178**	Pg	Pg	07 16 09.3	-5.2
2.7nm,0.4s							
UZB				Lg	Lg	07 17 40.4	
4.8nm,0.6s							

NEIC ***06*** *07:32:08.6±2.4, 30°.90S±0°.03×71°.82W±0°.10, h56km±9km, Error ellipse: s-maj=12.5km s-min=4.0km az=93.0*
IDC ***06*** *07:32:08.1±2.9, 30°.87S×71°.53W, h48km±27km, mb3.6/3, mb1 4.0/8, mb1mx3.7/24, mbtmp4.1/8, ML4.1/5, Error ellipse: s-maj=38.7km s-min=23.0km az=99.0*
SJA ***06*** *07:32:09.1±0.6, 30°.83S×71°.68W, h30km±4km, ML3.7, MW4.0*
GUC ***06*** *07:32:10.1±0.8, 30°.90S×71°.58W, h76km±9km, ML4.2*
VAO ***06*** *07:32:17.9±2.3, 30°.64S×71°.05W, h96km±11km, mb4.1*
ISC 06 07:32:08.1±0.9,**30°.90S**±0°.03×**71°.78W**±0°.05,**h50**km±10km, **n132,** σ1§**89**/142,**mb4.1**/5,**15C-2D, Near coast of central Chile**

comp=N,16μm,0.4s
CO03 El Pedregal 0.94 87 Pn 07 32 26.2 +1.1
CO03 Sn **Sn** 07 32 38.2 +0.7
CO03 El Pedregal 0.94 87 *e*P **Pn** 07 32 26.2 +1.1
CO03 *e*S **Sn** 07 32 38.5 +0.9
CO03 IAML 07 32 39.0
comp=Z,5μm,0.5s
CO05 La Serena 1.08 26⇑*i*P **Pn** 07 32 29.4 +2.6
CO05 *i* S **Sn** 07 32 43.7 +2.9
CO05 IAML 07 32 45.3
comp=N,8μm,0.4s
GO04 Tololo Observa 1.11 50 *e*P **Pn** 07 32 29.0 +1.4
GO04 *i* S **Sn** 07 32 43.0 +1.1
GO04 Tololo Observa 1.11 50 Pn 07 32 29.2 +1.6
GO04 Sn **Sn** 07 32 43.2 +1.3
GO04 Tololo Observa 1.11 50 *e*P **Pn** 07 32 28.7 +1.2
GO04 *e*S **Sn** 07 32 43.6 +1.7
LCO Las Campanas 2.10 27 Pn **Pn** 07 32 42.9 +1.9
LCO Sn **Sn** 07 33 07.7 +1.6
VA01 Torpederas 2.12 177 IAML 07 33 08.2
comp=N,1μm,0.1s
VA01 Torpederas 2.12 177 Pn 07 32 42.2 +1.2
VA01 Sn **Sn** 07 33 06.4 +0.2
VA03 San Esteban 2.13 151⇑*i*P **Pn** 07 32 43.1 +1.7
VA03 *i* S **Sn** 07 33 08.3 +1.6
VA03 IAML 07 33 09.0
comp=E,2μm,0.4s
VA03 San Esteban 2.13 151 Pn 07 32 42.9 +1.5
VA03 Sn **Sn** 07 33 08.1 +1.4
ROCH El Roble 2.17 163⇑*i*P **Pn** 07 32 43.4 +1.5
ROCH *e*S **Sn** 07 33 07.5 -0.3
ROCH IAML 07 33 10.7
comp=E,1μm,0.3s
RTLS Leoncito 2.31 114 *e*P **Pn** 07 32 46.9 +3.0
RTLS IAML 07 33 35.4
comp=Z,268nm,0.8s
ACCO Cerro Coronel 2.36 83 *e*P **Pn** 07 32 47.5 +2.9
ACDV Cuesta del Vie 2.41 73 *e*P **Pn** 07 32 48.0 +2.8
ACDV IAML 07 33 37.1
comp=Z,252nm,0.5s
MT02 Curacav 2.42 167⇑*i*P **Pn** 07 32 46.1 +1.0
MT02 Curacav 2.42 167 Pn **Pn** 07 32 46.1 +1.0
MT02 Sn **Sn** 07 33 14.1 +0.5
AUSP Uspallata 2.43 124 *e*P **Pn** 07 32 49.7 +4.1
MT05 Renca 2.64 161⇑*i*P **Pn** 07 32 49.8 +1.5
MT05 IAML 07 33 25.2
comp=E,2μm,0.4s
MT05 Renca 2.64 161 Pn 07 32 49.8 +1.5
MT05 Sn **Sn** 07 33 20.4 +1.3
ZON Zonda 2.73 104 *e*P **Pn** 07 32 52.4 +2.9
ZON IAML 07 33 48.0
comp=Z,234nm,0.5s
AC04 Llanos de Chal 2.75 13⇑*i*P **Pn** 07 32 51.5 +1.8
AC04 Llanos de Chal 2.75 13 Pn **Pn** 07 32 51.5 +1.8
VA05 Santo Domingo 2.76 177⇑*i*P **Pn** 07 32 50.8 +1.1
VA05 Santo Domingo 2.76 177 Pn 07 32 50.8 +1.1
MT03 Universidad Ad 2.80 158⇑*i*P **Pn** 07 32 52.2 +1.7
MT03 Universidad Ad 2.80 158 Pn 07 32 52.2 +1.7
MT03 Universidad Ad 2.80 158 *e*P **Pn** 07 32 52.4 +1.9
MT03 *e*S Sn 07 33 11.2 -12
MT03 IAML 07 33 25.5
comp=Z,505nm,0.1s
RTLL Cerro Villicun 2.87 100 *e*P **Pn** 07 32 53.5 +2.1
RTCV Cerro Valdivia 2.93 110 *e*P **Pn** 07 32 56.2 +3.9
MT09 Talagante 2.95 167⇑*i*P **Pn** 07 32 54.3 +1.7
MT09 Talagante 2.95 167 Pn 07 32 54.3 +1.7
MT01 Popeta 2.99 172⇑*i*P **Pn** 07 32 54.2 +1.2
MT01 Popeta 2.99 172 Pn 07 32 54.2 +1.2
ASAL Salagasta 3.02 125 *e*P **Pn** 07 32 57.3 +3.8
ARCO CERRO ARCO 3.10 129 *e*P **Pn** 07 32 58.8 +4.1
AGUA GUANDACOL 3.17 65 *e*P **Pn** 07 32 59.5 +3.9
AAGR Agrelo 3.32 132 *e*P Pn 07 33 02.8 +5.1
BO01 Tunca 3.53 171⇑*i*P **Pn** 07 33 01.4 +0.9
BO01 Tunca 3.53 171 Pn 07 33 01.4 +0.9
GO03 Copiap 3.56 23⇑*i*P **Pn** 07 33 02.2 +1.3
GO03 *i* S **Sn** 07 33 42.2 +0.6
GO03 Copiap 3.56 23 Pn **Pn** 07 33 02.1 +1.3
GO03 Copiap 3.56 23 *e*P **Pn** 07 33 02.3 +1.5
BO03 Pichilemu 3.59 182⇑*i*P **Pn** 07 33 01.8 +0.5
AVFE Valle Fertil 3.73 87 *e*P **Pn** 07 33 04.5 +1.3
VCA Vinchina 3.78 56 *e*P **Pn** 07 33 07.4 +3.4
BO02 Sierra Bellavi 3.98 168 *e*P **Pn** 07 33 07.7 +1.2
BO02 Sierra Bellavi 3.98 168 Pn **Pn** 07 33 07.8 +1.2
BO02 Sierra Bellavi 3.98 168 *e*P **Pn** 07 33 08.1 +1.5
GO05 Huala 4.10 182⇑*i*P **Pn** 07 33 08.6 +0.3
GO05 Huala 4.10 182 Pn 07 33 08.7 +0.5
ACAN Cantantal 4.15 111 *e*P **Pn** 07 33 12.1 +3.2
ACHE Chepes 4.40 95 *e*P **Pn** 07 33 13.6 +1.1
ACLC CERRO LA CRUZ 4.43 72 *e*P **Pn** 07 33 14.4 +1.5
APLL PUNTA DE LOS L 4.55 85 *e*P **Pn** 07 33 15.7 +1.2
COIS El Sosneado 4.58 157 *e*P **Pn** 07 33 18.2 +3.4
AC02 Maricunga 4.67 31⇑*i*P **Pn** 07 33 17.8 +1.4
AC02 Maricunga 4.67 31 Pn **Pn** 07 33 17.9 +1.5
AANI Anillaco 4.69 65 *e*P **Pn** 07 33 17.8 +1.4
RFA San Rafael 4.76 145 *e*P **Pn** 07 33 19.6 +2.2
CYA Choya 5.75 66 *e*P **Pn** 07 33 31.0 +0.1
GO02 Mina Guanaco 6.03 19 Pn 07 33 34.6 -0.4
PB14 IPOC Station P 6.36 11 Pn **Pn** 07 33 37.9 -1.7
PB14 IPOC Station P 6.36 11 *e*P **Pn** 07 33 38.2 -1.4
H03N1 Juan Fernandez 6.56 245 P Pn 07 33 45.8 +4.2
baz=118,slow=18,SNR=206
H03N1 T T 07 40 42.6
baz=73,slow=72,SNR=304
H03N3 Juan Fernandez 6.57 245 P **Pn** 07 33 45.8 +3.9
baz=118,slow=18,SNR=155
H03N3 T T 07 40 39.3
baz=73,slow=72,SNR=360
H03N2 Juan Fernandez 6.57 245 P **Pn** 07 33 46.0 +4.1
baz=118,slow=18,SNR=268
H03N2 T T 07 40 38.8
baz=73,slow=72,SNR=298
H03S3 Juan Fernandez 6.70 242 P **Pn** 07 33 46.6 +2.9
baz=5.0,slow=24,SNR=28
H03S1 Juan Fernandez 6.71 242 P **Pn** 07 33 46.2 +2.5
baz=5.0,slow=24,SNR=25
H03S2 Juan Fernandez 6.72 242 P **Pn** 07 33 46.3 +2.5
baz=5.0,slow=24,SNR=32
FSA Cafayete 6.98 48 *e*P **Pn** 07 33 48.4 +0.4
PB10 IPOC Station P 7.43 9 Pn **Pn** 07 33 51.7 -2.3
PB10 IPOC Station P 7.43 9 *e*P **Pn** 07 33 51.7 -2.3
PB15 IPOC Station P 7.93 16 Pn 07 33 59.8 -1.1
PB15 IPOC Station P 7.93 16 *e*P **Pn** 07 34 00.0 -0.9
PB05 IPOC Station P 8.13 10 *e*P **Pn** 07 34 01.2 -2.5
PB06 IPOC Station P 8.39 14 Pn **Pn** 07 34 04.5 -2.7
LVC Limon Verde 8.64 18 P **Pn** 07 34 08.9 -1.9
comp=Z,2.9nm,0.3s,baz=173,slow=6.0,SNR=7.9
LVC S **Sn** 07 35 43.0 -4.2
comp=Z,1.2nm,0.3s,baz=14,slow=23,SNR=1.6
LVC Limon Verde 8.64 18 Pn **Pn** 07 34 09.6 -1.3
LVC Limon Verde 8.64 18 *e*P **Pn** 07 34 14.2 +3.3
PB04 IPOC Station P 8.65 10 Pn **Pn** 07 34 07.8 -3.0
HJA Humahuaca 9.53 38 *e*P **Pn** 07 34 23.4 +0.3
PLCA Paso Flores 9.87 175 P **Pn** 07 34 27.8 +0.5
comp=Z,0.3nm,0.3s,baz=349,slow=11,SNR=3.9
PLCA Paso Flores 9.87 175 Pn 07 34 27.4 +0.1
TRQA Tornquist 10.78 134 Pn **Pn** 07 34 37.8 -2.0
MNMC Minye Minye 11.88 10 Pn **Pn** 07 34 52.7 -2.4
PB16 IPOC Station P 12.68 10 Pn **Pn** 07 35 03.4 -2.8
ITQB Itaqui 13.16 89 Pn Pn 07 35 08.6 -3.6
CPUP Villa Florida 13.48 74 P **Pn** 07 35 14.2 -2.5
comp=Z,0.1nm,0.3s,baz=201,slow=8.4,SNR=3.1
CPUP Villa Florida 13.48 74 Pn 07 35 14.0 -2.6
LPAZ La Paz 14.92 14 P **Pn** 07 35 34.6 -1.8
comp=Z,0.5nm,0.3s,baz=187,slow=7.6,SNR=38
LPAZ La Paz 14.92 14 Pn **Pn** 07 35 35.0 -1.5
LPAZ La Paz 14.92 14 *e*P **Pn** 07 35 39.1 +2.6
ITAB Concordia 17.56 83 *e*P **Pn** 07 36 08.3 -0.9
SIV San Ignacio 17.77 36 P **Pn** 07 36 10.5 -1.4
comp=Z,1.3nm,0.3s,baz=229,slow=0.2,SNR=36
AQDB Aquidauana 17.80 58 Pn 07 36 10.5 -1.8
AQDB IAmb IAmb 07 36 13.2
comp=Z,4.1nm,0.7s
AQDB Aquidauana 17.80 58 *e*P **Pn** 07 36 10.9 -1.4
TRCB Terra Rica 18.88 69 *e*P **P** 07 36 22.5 -1.8
PTLB Pontes e Lacer 19.25 40 *e*P **P** 07 36 28.4 +0.1
TER01 Tubaro-SC 19.81 89 *e*P **P** 07 36 34.0 -0.5
PP1B Ponte de Pedra 20.28 53 *e*P **P** 07 36 39.4 -0.2
PCMB Pacaembu 20.57 68 *e*P **P** 07 36 42.0 -0.7
TIJ01 Guaruva-PR 20.83 84 *e*P **P** 07 36 45.2 -0.4
SALV Santo Antonio 20.95 48 *e*P **P** 07 36 46.0 -0.8
FRTB Fartura 21.13 75 *e*P **P** 07 36 47.8 -1.0
ETMB Extrema 21.61 15 *e*P **P** 07 36 55.6 +1.7
ITRB Iturama 22.30 65 *e*P **P** 07 37 00.3 -1.1
CZSB Cruzeiro do Su 23.07 358 *e*P **P** 07 37 13.1 +3.8
RCLB Rio Claro- Sao 23.22 75 *e*P **P** 07 37 10.2 -0.8
ARAG Araguaiana, MT 23.71 55 *e*P **P** 07 37 14.8 -0.7
CLDB Colider 24.84 40 *e*P **P** 07 37 26.1 +0.2
BDFB Brasilia 26.51 60 P **P** 07 37 39.5 -1.6
comp=Z,5.2nm,0.6s,baz=238,slow=11,SNR=9.8
BDFB Brasilia 26.51 60 P **P** 07 37 39.9 -1.2
BDFB IAmb IAmb 07 37 40.8
comp=Z,6.7nm,0.8s
SNDB Serra Nova Dou 26.71 50 *e*P **P** 07 37 42.7 -0.1
PEXB Peixe 28.64 54 *e*P **P** 07 37 59.4 -0.7
JANB Januaria 29.68 64 *e*P **P** 07 38 08.2 -1.1
NBPN Ponto Novo - B 35.42 63 *e*P **P** 07 38 58.5 -1.0
NBMA Muriti-CE 38.74 60 *e*P **P** 07 39 27.4 -0.3
SNAA Sanae 54.38 159 P **P** 07 41 29.3 -0.2
QSPA South Pole Qui 59.33 180 P **P** 07 42 04.9 +0.3
QSPA IAmb IAmb 07 42 07.5
comp=Z,1.8nm,0.8s
TXAR Lajitas Array 67.15 330 P **P** 07 42 58.2 +1.5
comp=Z,0.2nm,0.8s,baz=148,slow=7.5,SNR=1.7
TXAR Lajitas Array 67.15 330 P **P** 07 42 55.5 -1.2
MAW Mawson 76.09 164 P **P** 07 43 50.1 +0.2
comp=Z,1.6nm,0.9s,baz=229,slow=9.3,SNR=2.2
TORD Torodi Ar. Bea 82.95 70 pP pP 07 44 45.7 +3.0
comp=Z,1.2nm,0.6s,baz=273,slow=6.7,SNR=6.2
WRA Warramunga Arr 123.56 210 PKP **PKPdf** 07 50 59.9 -0.7
comp=Z,0.4nm,0.7s,baz=146,slow=1.6,SNR=2.0
H11S2 WAKE ISLAND Hyl 25.98 271 T T 10 10 04.4
baz=115,slow=75,SNR=10.0
H11S1 WAKE ISLAND Hyl 25.99 271 T T 10 10 02.8
baz=115,slow=75,SNR=7.6
H11S3 WAKE ISLAND Hyl 26.00 271 T T 10 10 05.5
baz=115,slow=75,SNR=8.4
ZALV Zalesovo Beam 151.46 29 PKPbc **PKPbc** 07 51 55.6 -0.2
comp=Z,0.5nm,0.3s,baz=319,slow=4.2,SNR=1.5

IDC ***06*** *07:37:01.4±0.6, 46°.58N×155°.22E, h0km, mb4.0/18, mb1 4.2/22, mb1mx4.2/39, mbtmp4.1/22, ML3.5/4, MS3.5/22, Ms1 3.5/22, ms1mx3.3/44, Error ellipse: s-maj=18.8km s-min=13.0km az=159.0*
SKHL ***06*** *07:37:03.6±0.1, 46°.80N×155°.00E, h27km±3km, mb4.9/9, ms4.0/6*
MOS ***06*** *07:37:03.8±1.1, 46°.69N×155°.13E, h26km, mb4.7/33, MS3.5/6, Error ellipse: s-maj=8.1km s-min=5.8km az=56.2*
BJI ***06*** *07:37:04.5±0.0, 46°.96N×155°.04E, h22km, mB4.9/21, mb4.5/29, Ms3.9/6, Ms7 3.8/5*
NEIC ***06*** *07:37:07.3±1.2, 46°.8N±0°.1×155°.2E±0°.1, h29km±5km, mb4.7/154, Error ellipse: s-maj=16.1km s-min=9.9km az=148.0*
ISC 06 07:37:04.2±0.4,**46°.75N**±0°.06×**155°.15E**±0°.05,**h18**km,**n518**, σ1**927**/510,**mb4.7**/124,**MS3.6**/25,**5C-8D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.98**	**9**	*e*PN	**Pn**	**07 38 04.2**	**-0.1**
SKR				pmax	pmax		
comp=Z,9.0nm,0.5s							
SKR				MLR	MLR		
comp=Z,500nm,13.0s							
SKR	**Severo-Kuril's**	**3.98**	**9**	*e*P	**Pn**	**07 38 03.1**	**-1.2**
SKR				AMB	AMB	07 38 05.0	
comp=Z,80nm,0.5s							
SKR				*e*S	**Sn**	**07 38 47.6**	**-2.9**
SKR				A	A	07 38 50.0	
comp=Z,250nm,0.5s							
SKR				A	A	07 38 50.0	
comp=Z,230nm,0.5s							
SKR				AMS	AMS	07 40 11.0	
comp=Z,700nm,12.0s							
SKR				AMS	AMS	07 40 11.0	
comp=Z,2μm,12.0s							
SKR				AMS	AMS	07 40 11.0	
comp=Z,500nm,12.0s							
PAU	**Pauzhetka**	**4.84**	**12**	*e*P	**Pn**	**07 38 15.5**	**-0.6**
PAU				AMB	AMB	07 38 16.3	
comp=Z,30nm,0.2s							
PAU				*e*S	**Sn**	**07 39 09.5**	**-2.1**
PAU				A	A	07 39 13.0	
comp=Z,120nm,0.5s							
PAU				A	A	07 39 13.0	
comp=Z,390nm,0.5s							
PAU				AMS	AMS	07 40 20.6	
comp=Z,2μm,13.0s							
PAU				AMS	AMS	07 40 20.6	
comp=Z,1μm,13.0s							
KUR	**Kuril'sk**	**5.30**	**256**	*e*PN	**Pn**	**07 38 22.4**	**0.0**
KUR				pmax	pmax		
comp=N,52nm,0.5s							
KUR				pmax	pmax		
comp=Z,216nm,0.5s							
KUR				MLR	MLR		
comp=Z,498nm,10.0s							
KUR	**Kuril'sk**	**5.30**	**256**	*e*P	**Pn**	**07 38 22.3**	**-0.1**
KUR				AMB	AMB	07 38 32.0	
comp=Z,220nm,0.6s							
KUR				*e*S	**Sn**	**07 39 19.8**	**-3.2**
KUR				A	A	07 39 25.0	
comp=Z,210nm,0.4s							
KUR				A	A	07 39 25.0	
comp=Z,60nm,0.4s							
KUR				AMS	AMS	07 42 20.4	
comp=Z,500nm,10.0s							
PEA0B	**Petropavlovsk-**	**6.57**	**14**	*de*PN	**Pn**	**07 38 39.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**6.57**	**14**		**Pn**	**07 38 39.2**	**-0.7**
PETK	**Petropavlovsk-**	**6.57**	**14**	Pn	**Pn**	**07 38 38.0**	**-1.8**
comp=Z,2.2nm,0.3s,baz=195,slow=10,SNR=18							
PETK				Sn	**Sn**	**07 39 55.2**	**+0.9**
comp=Z,1.0nm,0.3s,baz=138,slow=18,SNR=1.3							
PETK	**Petropavlovsk-**	**6.57**	**14**	PN	**Pn**	**07 38 39.4**	**-0.5**
PETK	**Petropavlovsk-**	**6.57**	**14**	Pn	**Pn**	**07 38 39.4**	**-0.5**
PET	**Petropavlovsk**	**6.67**	**19**	*e*PN	**Pn**	**07 38 39.4**	**-1.8**
PET				pmax	pmax		
comp=Z,49nm,0.6s							
PET				MLR	MLR		
comp=Z,300nm,14.0s							
PET				MLR	MLR		
comp=Z,200nm,12.0s							
PET	**Petropavlovsk**	**6.67**	**19**		**Pn**	**07 38 40.3**	**-0.9**
PET	**Petropavlovsk**	**6.67**	**19**	*e*P	**Pn**	**07 38 40.8**	**-0.4**
PET				AMB	AMB	07 38 43.3	
comp=Z,50nm,0.6s							
PET				*e*S	**Sn**	**07 39 52.6**	**-4.1**
PET				A	A	07 39 56.8	
comp=Z,180nm,0.5s							
PET				A	A	07 39 56.8	
comp=Z,220nm,0.5s							
PET				AMS	AMS	07 41 37.6	
comp=Z,500nm,14.0s							
YUK	**Yuzh-Kuril'sk**	**7.08**	**251**⇓	*e*PN	**Pn**	**07 38 46.8**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**7.08**	**251**	*e*P	**Pn**	**07 38 46.9**	**0.0**
YUK				AMB	AMB	07 38 47.3	
comp=Z,140nm,0.4s							
YUK				*e*S	**Sn**	**07 40 03.1**	**-3.8**
YUK				A	A	07 40 16.6	
comp=Z,270nm,0.4s							
YUK				A	A	07 40 16.6	
comp=Z,250nm,0.4s							
YUK				AMS	AMS	07 41 45.9	
comp=Z,700nm,16.0s							
YUK				AMS	AMS	07 41 45.9	
comp=Z,800nm,16.0s							
GRPR	**Tuman**	**7.16**	**251**	*e*PN	**Pn**	**07 38 46.7**	**-1.3**
GRPR				MLR	MLR		
comp=Z,6μm,15.0s							
GRPR	**Tuman**	**7.16**	**251**	*e*P	**Pn**	**07 38 46.0**	**-2.0**
GRPR				*e*S	**Sn**	**07 40 02.0**	**-6.8**
GRPR				AMS	AMS	07 41 34.0	
comp=Z,6μm,15.0s							
GLVR	**Golovnino**	**7.44**	**250**	*e*PN	**Pn**	**07 38 50.2**	**-1.5**
GLVR				MLR	MLR		
comp=Z,13μm,17.0s							
GLVR	**Golovnino**	**7.44**	**250**	*e*P	**Pn**	**07 38 50.0**	**-1.7**
GLVR				*e*S	**Sn**	**07 40 09.0**	**-6.6**
RUSJ	**Misakicho**	**7.46**	**253**	*e*PN	**Pn**	**07 38 51.0**	**-1.0**
NMR	**Nemuro--Hokkai**	**7.48**	**247**	*e*PN	**Pn**	**07 38 49.1**	**-3.3**
NMR	**Nemuro--Hokkai**	**7.48**	**247**	*e*P	**Pn**	**07 38 49.9**	**-2.5**
YSS	**Yuzh-Sakhalins**	**8.50**	**276**	*e*PN	Pn	07 39 10.0	+3.6
YSS				pmax	pmax		
comp=Z,10.0nm,0.8s							
YSS				MLR	MLR		
comp=Z,300nm,10.0s							
YSS	**Yuzh-Sakhalins**	**8.50**	**276**	Pn	Pn	07 39 09.9	+3.6
YSS	**Yuzh-Sakhalins**	**8.50**	**276**	*e*P	**Pn**	**07 39 05.6**	**-0.8**
YSS				AMB	AMB	07 39 06.5	
comp=Z,10.0nm,0.5s							
JKA	**Kamikawa-asahi**	**9.21**	**258**	Pn	**Pn**	**07 39 17.3**	**+1.2**
JKA	**Kamikawa-asahi**	**9.21**	**258**	*e*P	**Pn**	**07 39 17.3**	**+1.2**
TYV	**Tymovskoe**	**9.21**	**301**	*e*P	**Pn**	**07 39 14.7**	**-1.4**
TYV				AMB	AMB	07 39 16.4	
comp=Z,30nm,0.9s							
ASAJ	**Asahikawa**	**9.21**	**258**	Pn	**Pn**	**07 39 16.7**	**+0.6**
comp=Z,1.4nm,0.3s,baz=48,slow=12,SNR=9.5							
ASAJ	**Asahikawa**	**9.21**	**258**	PN	**Pn**	**07 39 17.3**	**+1.2**
JEM	**Erimo**	**9.80**	**245**	Pn	**Pn**	**07 39 22.1**	**-2.1**
ERM	**Erimo**	**9.80**	**245**	*de*PN	**Pn**	**07 39 23.6**	**-0.6**
ERM	**Erimo**	**9.80**	**245**	Pn	**Pn**	**07 39 23.9**	**-0.3**
OKH	**Okha**	**10.37**	**315**	*e*P	**Pn**	**07 39 31.6**	**-0.3**
OKH				AMB	AMB	07 39 32.5	
comp=Z,130nm,0.6s							
OKH				AMS	AMS	07 45 48.0	
comp=Z,400nm,14.0s							
OKH				AMS	AMS	07 45 48.0	
comp=Z,300nm,14.0s							
NKL	**Nikolayevsk**	**11.30**	**310**	AMS	AMS	07 46 14.4	
comp=Z,500nm,15.0s							
NKL				AMS	AMS	07 46 14.4	
comp=Z,300nm,15.0s							
GRNR	**Gornyy**	**12.99**	**295**	AMS	AMS	07 46 56.4	
comp=Z,200nm,14.0s							
GRNR				AMS	AMS	07 46 56.4	
comp=Z,200nm,14.0s							
GRNR				AMS	AMS	07 46 56.4	
comp=Z,200nm,14.0s							
SMY	**Shemya**	**13.62**	**57**	P	**Pn**	**07 40 17.1**	**+0.9**
SMY	**Shemya**	**13.62**	**57**	Pn	**Pn**	**07 40 17.1**	**+0.9**
EKMR	**Ekimchan**	**15.60**	**302**	*e*P	**Pn**	**07 40 38.3**	**-4.8**
EKMR				AMB	AMB	07 40 50.2	
comp=Z,10.0nm,0.7s							
KLR	**Kul'dur**	**15.85**	**288**	Pn	**P**	**07 40 49.2**	**-0.7**
comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=3.6							
KLR				LR	LR	07 46 41.9	
comp=Z,86nm,19.9s,baz=96,slow=36							
KLR	**Kul'dur**	**15.85**	**288**⇓	*e*P	**P**	**07 40 49.6**	**-0.3**
KLR				pmax	pmax		
comp=Z,9.0nm,1.6s							
KLR				MLR	MLR		
comp=Z,195nm,13.0s							
KLR	**Kul'dur**	**15.85**	**288**	AMS	AMS	07 49 10.5	
comp=Z,200nm,13.0s							
MJAR	**Matsushiro Arr**	**16.23**	**237**	Pn	**Pn**	**07 40 50.5**	**-0.7**
comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=1.7							
MJAR				LR	LR	07 48 02.3	
comp=Z,33nm,21.6s,baz=240,slow=41							
MJB9	**Matsu-Tunnel**	**16.23**	**237**	Pn	**P**	**07 40 54.2**	**0.0**
MAJO	**Matsushiro**	**16.23**	**237**⇑	*i*P	**P**	**07 40 55.4**	**+1.2**
MAJO				pmax	pmax		
comp=Z,19nm,1.2s							
MAJO	**Matsushiro**	**16.23**	**237**	Pn	**P**	**07 40 54.0**	**-0.3**
MAT	**Matsushiro**	**16.23**	**237**	P	**P**	**07 40 55.2**	**+1.0**
MAT				*e*S	**Sn**	**07 43 52.4**	**+1.6**
SEY	**Seymchan**	**16.29**	**355**	Pn	**Pn**	**07 40 50.3**	**-1.4**
comp=Z,0.1nm,0.3s,baz=175,slow=10,SNR=4.5							
SEY	**Seymchan**	**16.29**	**355**⇑	*e*P	**P**	**07 40 53.0**	**-1.7**
USA0B	**Ussuriysk Arra**	**16.44**	**270**	P	**Pn**	**07 40 53.4**	**-0.3**
USA0B				pmax	pmax		
comp=Z,10.0nm,1.1s							
USA0B	**Ussuriysk Arra**	**16.44**	**270**	Pn	**Pn**	**07 40 53.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**16.44**	**270**	Pn	**P**	**07 40 53.6**	**-2.8**
baz=75,slow=14,SNR=8.5							
USRK				LR	LR	07 48 12.4	
comp=Z,79nm,18.9s,baz=79,slow=41							
AMKA	**Amchitka**	**16.46**	**65**	Pn	**P**	**07 40 55.4**	**-1.3**
JGF	**Kuroka**	**17.38**	**236**	Pn	**P**	**07 41 06.4**	**-0.7**
JSG	**Sagara**	**17.59**	**233**	Pn	**P**	**07 41 08.0**	**-1.3**
BMKR	**Bomnak**	**18.38**	**305**	*e*P	**P**	**07 41 17.3**	**-0.5**
KROS	**Kirovskiy**	**19.37**	**304**	*e*P	**Pn**	**07 41 29.5**	**-0.4**
KROS				AMB	AMB	07 41 37.0	
comp=Z,3.0nm,0.5s							
YAK	**Yakutsk**	**21.09**	**326**	LR	LR	07 49 37.4	
comp=Z,106nm,21.5s,baz=90,slow=36							
YAK	**Yakutsk**	**21.09**	**326**⇑	*e*P	**P**	**07 41 50.1**	**+2.8**
YAK				pmax	pmax		
comp=Z,8.0nm,0.4s							
BILL	**Bilibino**	**22.09**	**11**	*e*P	**P**	**07 41 58.9**	**+0.9**
BILL				*e*PPP	PPP	07 42 28.6	
BILL				pmax	pmax		
comp=Z,11nm,1.0s							
BILL				MLR	MLR		
comp=Z,116nm,19.0s							
BILL	**Bilibino**	**22.09**	**11**	P	**P**	**07 42 00.9**	**+2.9**
BILL	**Bilibino**	**22.09**	**11**	*e*P	**P**	**07 41 58.9**	**+0.9**
KSRS	**Korea Array**	**22.14**	**255**	P	**P**	**07 41 59.9**	**+1.0**
comp=Z,2.3nm,0.5s,baz=55,slow=11,SNR=11							
KSRS				LR	LR	07 50 25.7	
comp=Z,42nm,21.5s,baz=120,slow=36							
KSAR	**Wonju Array Be**	**22.18**	**255**	P	**P**	**07 42 00.6**	**+1.4**
KSAR	**Wonju Array Be**	**22.18**	**255**	P	**P**	**07 42 00.6**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**28.62**	**156**	T	T	08 12 42.2	
baz=346							
H11N1	**WAKE ISLAND Hy**	**28.63**	**156**	T	T	08 12 46.9	
baz=346,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**28.64**	**156**	T	T	08 12 50.8	
baz=346							
H11S1	**WAKE ISLAND Hy**	**29.73**	**157**	T	T	08 14 08.3	
baz=341,slow=74,SNR=9.9							
H11S3	**WAKE ISLAND Hy**	**29.74**	**158**	T	T	08 14 08.4	
baz=341,slow=74,SNR=11							
H11S2	**WAKE ISLAND Hy**	**29.75**	**157**	T	T	08 14 08.5	
baz=341							
NJ2	**Nanjing**	**31.35**	**255**	*e*P	**P**	**07 43 26.5**	**+2.9**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**31.69**	**275**	*e*P	**P**	**07 43 28.9**	**+2.2**
HHC				pmax	pmax		
comp=Z,18nm,1.0s							
HHC				pmax	pmax		
comp=Z,81nm,7.5s							
P19K	**Oil Pt**	**32.61**	**48**	P	**P**	**07 43 33.4**	**-1.1**
baz=270							
SONM	**Songino Array**	**32.65**	**290**	P	**P**	**07 43 35.3**	**+0.3**
comp=Z,0.3nm,0.3s,baz=81,slow=9.2,SNR=1.6							
SONM				PcP	**PcP**	**07 46 21.0**	**+0.4**
comp=Z,0.5nm,0.5s,baz=93,slow=5.9,SNR=2.1							
OHAK	**Old Harbor**	**32.67**	**52**	P	**P**	**07 43 33.7**	**-1.2**
baz=274							
M20K	**Styx River**	**32.73**	**43**	P	**P**	**07 43 35.1**	**-0.4**
baz=267							
KDAK	**Kodiak Island**	**33.01**	**51**	LR	LR	07 56 13.7	
comp=Z,64nm,19.1s,baz=238,slow=35							
KDAK	**Kodiak Island**	**33.01**	**51**	P	**P**	**07 43 38.2**	**+0.3**
KDAK				pmax	pmax		
comp=Z,28nm,1.4s							
KDAK	**Kodiak Island**	**33.01**	**51**	P	**P**	**07 43 38.2**	**+0.3**
PPLA	**Purkeypile**	**33.23**	**42**	P	**P**	**07 43 40.2**	**+0.2**
baz=266							
H21K	**Melozitna Rive**	**33.27**	**37**	P	**P**	**07 43 38.9**	**-1.3**
baz=261							
TLY	**Talaya**	**33.42**	**298**	LR	LR	07 58 19.1	
comp=

ILAR	Eielson Array	35.67	39	P	P	07 44 01.1	+0.2
	comp=Z,0.4nm,0.6s,baz=250,slow=7.9,SNR=6.6						
M24K	Tolsona, Glenn	36.01	43	P	P	07 44 03.3	-0.6
	baz=272						
KLU	Klutina	36.16	44	P	P	07 44 04.4	-0.8
	baz=274						
PRP	Porcupine Dome	36.27	37	P	P	07 44 06.3	+0.1
	baz=268						
N25K	Chitina, Valde	36.78	44	P	P	07 44 11.1	+0.6
	baz=274						
CRQE	Cirque	37.60	45	P	P	07 44 16.8	-0.7
	baz=277						
K27K	Chicken	37.77	40	P	P	07 44 19.0	+0.2
	baz=274						
K27K	Chicken	37.77	40	P	P	07 44 19.6	+0.8
L27K	Beaver Creek,	37.95	41	P	P	07 44 19.5	-0.9
	baz=275						
L27K	Beaver Creek,	37.95	41	P	P	07 44 20.8	+0.4
BCAR	Beaver Creek A	37.97	41	P	P	07 44 21.8	+1.3
EGAK	Eagle	38.12	38	P	P	07 44 21.0	-0.7
	baz=273						
EGAK	Eagle	38.12	38	P	P	07 44 20.7	-1.1
MESA	MESA	38.23	46	P	P	07 44 22.4	-0.6
	baz=278						
CTG	Chitna Glacier	38.42	45	P	P	07 44 24.2	-0.3
	baz=278						
PINM	Pinnacle	39.09	46	P	P	07 44 29.0	-0.9
	baz=280						
LZH	Lanzhou	39.29	273	eP	P	07 44 36.3	+4.2
LZH				pP	pwP	07 44 42.6	-1.9
LZH				sP	sP	07 44 46.5	+9.4
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
NRIK	Noril'sk	39.48	329	LR	LR	08 01 50.1	
	comp=Z,52nm,19.2s,baz=54,slow=38						
NRIK	Noril'sk	39.48	329‖	eP	P	07 44 34.5	+1.5
NRIK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
EPYK	Eagle Plains	39.85	36	P	P	07 44 36.5	+0.3
	baz=275						
INK	Inuvik	40.89	33	P	P	07 44 46.2	+1.5
	comp=Z,1.0nm,0.5s,baz=268,slow=5.7,SNR=5.1						
INK	Inuvik	40.89	33	P	P	07 44 45.8	+1.1
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	Inuvik	40.89	33	P	P	07 44 44.2	-0.6
	baz=276						
INK	Inuvik	40.89	33	P	P	07 44 45.8	+1.1
SIT	Sitka	42.30	50	P	P	07 44 56.7	+0.3
	baz=287						
ZALV	Zalesovo Beam	43.74	306	P	P	07 45 08.9	+0.8
	comp=Z,0.8nm,0.4s,baz=59,slow=9.4,SNR=2.7						
ZALV				PcP	PcP	07 46 55.0	+0.4
	comp=Z,0.9nm,0.5s,baz=84,slow=5.9,SNR=4.3						
ZALV				LR	LR	08 04 09.3	
	comp=Z,51nm,19.9s,baz=49,slow=37						
CRAG	Craig	43.97	51	P	P	07 45 09.7	-0.2
	baz=290						
WRAK	Wrangell Islan	44.06	50	P	P	07 45 10.2	-0.5
	baz=290						
C36M	Paulatuk	44.11	30	P	P	07 45 11.0	+0.1
	baz=283						
WMQ	Urumqi	46.23	292	eP	P	07 45 32.0	+3.9
KMI	Kunming	46.63	261	⇑P	P	07 45 34.5	+2.9
KMI				pP	sP	07 45 37.4	+0.7
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	Makanchi Array	48.18	298	P	P	07 45 45.2	+1.9
MK31				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MK31	Makanchi Array	48.18	298	P	P	07 45 45.1	+1.9
MKAR	Makanchi Array	48.18	298	P	P	07 45 43.5	+0.3
	comp=Z,0.9nm,0.5s,baz=63,slow=7.8,SNR=11						
MKAR				PcP	PcP	07 47 10.7	+0.3
	comp=Z,0.4nm,0.7s,baz=85,slow=1.6,SNR=2.3						
MKAR	Makanchi Array	48.18	298	P	P	07 45 44.8	+1.5
BRVK	Borovoye	51.97	310	⇑iP	P	07 46 13.3	+1.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	Borovoye	51.97	310	P	P	07 46 13.0	+1.2
NLWA	Neilton Lookou	52.70	58	P	P	07 46 18.5	+1.1
KBS	Kingsbay	52.70	352	P	P	07 46 19.0	+2.1
KBS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBS	Kingsbay	52.70	352	P	P	07 46 19.0	+2.1
KBS				IAmb	IAmb	07 46 46.4	
	comp=Z,7.6nm,1.1s						
D03D	Eldon	53.07	57	P	P	07 46 19.2	-0.9
	baz=302						
B05A	Bryant	53.26	56	P	P	07 46 20.7	-0.8
	baz=302						
D04E	Lakebay	53.45	57	P	P	07 46 22.0	-0.8
	baz=302						
CMAR	Chiang Mai Arr	53.74	258	P	P	07 46 26.2	+0.8
	comp=Z,1.3nm,0.3s,baz=30,slow=7.3,SNR=5.1						
CMAR	Chiang Mai Arr	53.74	258	iP	P	07 46 27.5	+2.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	53.74	258	P	P	07 46 27.6	+2.3
SHL	Shillong	53.77	270	P	P	07 46 26.9	+1.1
SHL				pmax	pmax		
	comp=Z,26nm,1.4s						
SHL	Shillong	53.77	270	P	P	07 46 26.9	+1.1
F04D	Rainier, OR	53.89	59	P	P	07 46 25.3	-0.8
	baz=303						
E04D	Cinebar	53.90	58	P	P	07 46 25.8	-0.4
	baz=303						
G03D	McMinnville, O	54.21	60	P	P	07 46 27.2	-1.3
	baz=303						
I02D	Swisshome	54.47	61	P	P	07 46 29.3	-1.1
	baz=304						
B08A	Colville Reser	54.77	54	P	P	07 46 32.3	-0.2
H04D	Lebanon	54.91	60	P	P	07 46 32.9	-0.6
	baz=304						
J01E	Myrtle Point	54.95	62	P	P	07 46 32.5	-1.3
	baz=304						
AAK	Ala-Archa	55.08	297‖	eP	P	07 46 37.0	+1.9
AAK				pmax	pmax		
	comp=Z,25nm,1.5s						
K02D	Willamette Mer	55.37	62	P	P	07 46 36.7	-0.3
	baz=304						
I05D	Terrebonne, OR	55.84	60	P	P	07 46 40.4	0.0
	baz=304						
HUMO	Hull Mountain	55.85	62	P	P	07 46 41.3	+0.9
ARU	Arti	55.95	318d	iP	P	07 46 42.0	+1.1
ARU						07 48 43.3	
ARU				S	S	07 54 28.8	+1.2
ARU				SS	SS	07 58 09.1	-3.8
ARU				pmax	pmax		
	comp=Z,15nm,1.4s						
ARU	Arti	55.95	318	P	P	07 46 41.9	+1.1
J04D	Umpqua Nationa	56.00	61	P	P	07 46 40.6	-1.1
	baz=305						
NEW	Newport	56.05	54	P	P	07 46 42.7	+0.9
NEW				pmax	pmax		
	comp=Z,4.0nm,1.2s						
NEW	Newport	56.05	54	P	P	07 46 41.8	0.0
	baz=304						
NEW	Newport	56.05	54	P	P	07 46 42.7	+0.9
PINE	Pine Mountain	56.39	60	P	P	07 46 45.6	+1.1
L04D	Klamath Falls	56.47	62	P	P	07 46 43.7	-1.3
	baz=305,SNR=5.6						
J05D	Fort Rock, OR	56.50	60	P	P	07 46 44.2	-1.0
	baz=305,SNR=7.6						
YBH	Yreka Blue Hor	56.50	63	P	P	07 46 47.1	+1.9
YBH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YBH	Yreka Blue Hor	56.50	63	P	P	07 46 47.1	+1.9
YBH				IAmb	IAmb	07 46 49.8	
	comp=Z,10.0nm,1.2s						
K04D	Chiloquin, OR	56.57	61	P	P	07 46 44.4	-1.3
	baz=305						
M02C	Callahan	56.61	63	P	P	07 46 44.7	-1.2
	baz=306						
G08A	Pilot Rock	56.69	57	P	P	07 46 46.8	+0.3
N02D	Trinity Center	56.94	64	P	P	07 46 47.4	-0.9
	baz=306						
M04C	Macdoel	57.00	62	P	P	07 46 47.9	-0.8
	baz=306						
K05A	Summer Lake	57.03	61	P	P	07 46 51.0	+2.0
I07A	Izee	57.07	59	P	P	07 46 50.5	+1.3
KK31	Karatay Array	57.22	300	P	P	07 46 51.7	+1.5
KK31				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KK31	Karatay Array	57.22	300	P	P	07 46 51.7	+1.5
KKAR	Karatay Array	57.22	300	P	P	07 46 51.7	+1.5
KKAR	Karatay Array	57.22	300	P	P	07 46 51.7	+1.5
WDC	Whiskeytown Da	57.27	64	P	P	07 46 50.1	-0.4
WDC				pmax	pmax		
	comp=Z,11nm,1.5s						
WDC	Whiskeytown Da	57.27	64	P	P	07 46 50.1	-0.4
WDC				IAmb	IAmb	07 46 54.7	
	comp=Z,11nm,1.4s						
O02D	Mt. Diablo Mer	57.36	64	P	P	07 46 50.1	-1.2
	baz=306						
MOD	Modoc Plateau	57.86	61	P	P	07 46 56.1	+1.2
MOD				IAmb	IAmb	07 46 57.0	
	comp=Z,9.1nm,1.4s						
O03E	Paynes Creek	57.90	64	P	P	07 46 54.2	-0.9
	baz=306,SNR=9.3						
BMO	Blue Mountains	57.90	57	P	P	07 46 55.5	+0.5
BMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BMO	Blue Mountains	57.90	57	P	P	07 46 55.5	+0.5
ARCES	ARCESS Array B	58.30	341	P	P	07 46 58.9	+1.5
	comp=Z,2.9nm,0.7s,baz=31,slow=7.2,SNR=3.8						
ARCES				LR	LR	08 15 24.2	
	comp=Z,79nm,21.9s,baz=50,slow=39						
ARCES	ARCESS Array B	58.30	341	P	P	07 46 57.0	-0.4
ARCES				pmax	pmax		
	comp=Z,15nm,1.3s						
ARCES	ARCESS Array B	58.30	341	P	P	07 46 57.0	-0.4
MCCM	Marconi Confer	58.51	66	P	P	07 47 02.0	+2.8
WVOR	Wild Horse Val	58.55	60	P	P	07 47 00.1	+0.5
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WVOR	Wild Horse Val	58.55	60	P	P	07 47 00.1	+0.5
WVOR				IAmb	IAmb	07 47 01.2	
	comp=Z,5.1nm,1.1s						
MSO	Missoula	58.64	54	P	P	07 46 59.8	-0.3
	baz=306						
MSO	Missoula	58.64	54	P	P	07 47 01.1	+0.9
BEKR	Beckworth	59.04	63	P	P	07 47 03.5	+0.4
BEKR				IAmb	IAmb	07 47 04.8	
	comp=Z,6.5nm,1.1s						
AFDM	Forest Hills D	59.22	64	P	P	07 47 04.9	+0.7
ABKAR	Akbulak array	59.49	311	P	P	07 47 06.3	+0.5
MFID	Camas Ranch	59.61	58	P	P	07 47 07.8	+0.8
PAHR	Pah Rah Range	59.73	63	P	P	07 47 08.3	+0.4
PAHR				IAmb	IAmb	07 47 09.7	
	comp=Z,3.5nm,0.9s						
GAR	Garm	59.78	296	P	P	07 47 09.9	+1.7
VCNR	Virginia City	59.82	63	P	P	07 47 09.5	+0.9
VCNR				IAmb	IAmb	07 47 10.6	
	comp=Z,6.0nm,0.9s						
PNTR	Pine Nut	59.98	64	P	P	07 47 10.6	+0.9
PNTR				IAmb	IAmb	07 47 11.7	
	comp=Z,5.7nm,0.8s						
LRM	Limekiln Ridge	60.07	54	P	P	07 47 11.0	+0.8
CMB	Columbia Colle	60.14	65	P	P	07 47 11.6	+1.0
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMB	Columbia Colle	60.14	65	P	P	07 47 11.6	+1.0
EGMT	Eagleton	60.18	50	P	P	07 47 10.5	-0.3
	baz=308						
EGMT	Eagleton	60.18	50	P	P	07 47 11.4	+0.6
EGMT				IAmb	IAmb	07 47 12.6	
	comp=Z,7.3nm,1.2s						
YERR	Yerington	60.26	63	P	P	07 47 12.5	+0.9
YERR				IAmb	IAmb	07 47 13.6	
	comp=Z,6.7nm,1.0s						
WAKR	Walker	60.44	64	P	P	07 47 13.8	+1.0
WAKR				IAmb	IAmb	07 47 15.0	
	comp=Z,3.8nm,0.9s						
MCMT	McKenzie Canyo	60.45	55	P	P	07 47 13.6	+0.7
SUMG	Summit	60.59	5	iP	P	07 47 15.0	+1.4
SUMG				IAmb	IAmb	07 47 16.6	
	comp=Z,3.6nm,0.9s						
SUMG	Summit	60.59	5	iP	P	07 47 15.0	+1.4
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOZ	Bozeman (W)	60.66	54	P	P	07 47 15.2	+1.0
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BOZ	Bozeman (W)	60.66	54	P	P	07 47 13.8	-0.4
	baz=308,SNR=12						
BOZ	Bozeman (W)	60.66	54	P	P	07 47 15.2	+1.0
BOZ				IAmb	IAmb	07 47 16.2	
	comp=Z,6.3nm,1.1s						
KVN	Kaiserville	60.92	63	P	P	07 47 16.5	+0.4
KVN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KVN	Kaiserville	60.92	63	P	P	07 47 16.5	+0.4
KVN				IAmb	IAmb	07 47 18.1	
	comp=Z,6.5nm,1.1s						
RYN	Ryan	60.92	63	P	P	07 47 16.6	+0.5
RYN				IAmb	IAmb	07 47 17.9	
	comp=Z,4.2nm,0.9s						
LHV	Little Huntoon	61.17	64	P	P	07 47 19.2	+1.7
NVAR	Mina Array Bea	61.18	63	P	P	07 47 18.9	+1.0
	comp=Z,2.6nm,0.7s,baz=289,slow=7.1,SNR=31						
NVAR				PcP	PcP	07 48 01.2	+0.6
	comp=Z,1.0nm,0.8s,baz=309,slow=4.5,SNR=2.3						
MDPB	Devils Postpil	61.20	65	P	P	07 47 18.5	+0.4
QLMT	Earthquake Lak	61.25	54	P	P	07 47 19.7	+1.4
NV11	Mina Array Sit	61.27	63	P	P	07 47 19.0	+0.6
YHH	Holmes Hill	61.60	54	P	P	07 47 21.8	+1.1
YHH				IAmb	IAmb	07 47 22.8	
	comp=Z,4.5nm,0.9s						
YMR	Madison River	61.61	54	P	P	07 47 21.8	+1.1
GCMT	Greycliff	61.62	52	P	P	07 47 21.1	+0.5
PAGB	Antelope Grade	61.65	67	P	P	07 47 21.5	+0.7
PAGB				IAmb	IAmb	07 47 33.9	
	comp=Z,7.7nm,1.1s						
VOG	Valley Oaks Go	61.83	66	P	P	07 47 21.7	-0.2
	baz=309						
YNE	Yellowstone No	61.92	53	P	P	07 47 24.2	+1.4
H17A	Grant Village	61.99	54	P	P	07 47 22.1	-1.3
	baz=309						
TPH	Tonopah	62.07	63	P	P	07 47 25.0	+1.2
TPH				pmax	pmax		
	comp=Z,23nm,1.0s						
TPH	Tonopah	62.07	63	P	P	07 47 25.0	+1.2
SMMC	Simmler	62.07	67	P	P	07 47 23.0	-0.8
	baz=309						
FLWY	Flagg Ranch	62.12	54	P	P	07 47 26.1	+2.0
FLWY				IAmb	IAmb	07 47 26.5	
	comp=Z,4.3nm,1.1s						
RLMT	Red Lodge	62.26	53	P	P	07 47 23.4	-1.7
	baz=309						
RLMT	Red Lodge	62.26	53	P	P	07 47 26.5	+1.4
RLMT				IAmb	IAmb	07 47 27.7	
	comp=Z,7.2nm,1.2s						
VES	Vestal, Richgr	62.32	66	P	P	07 47 24.3	-1.0
	baz=309						
TPAW	Teton Pass	62.36	55	P	P	07 47 26.7	+0.9
TPAW				IAmb	IAmb	07 47 28.6	
	comp=Z,7.3nm,0.9s						
PKM	Mcpherson Peak	62.46	67	P	P	07 47 25.3	-1.2
	baz=310						
LOHW	Long Hollow	62.47	55	P	P	07 47 28.5	+1.9
LOHW				IAmb	IAmb	07 47 29.2	
	comp=Z,8.5nm,1.3s						
SNOW	Snow King Moun	62.48	55	P	P	07 47 28.8	+2.2
SNOW				IAmb	IAmb	07 47 29.4	
	comp=Z,4.3nm,0.8s						
REDW	Red Top Meadow	62.49	55	P	P	07 47 28.6	+1.9
REDW				IAmb	IAmb	07 47 29.3	
	comp=Z,6.9nm,0.9s						
CWC	Cottonwood Cre	62.57	65	P	P	07 47 27.2	0.0
	baz=310						
GRAC	Grapevine Rang	62.66	64	P	P	07 47 26.5	-1.1
	baz=310,SNR=5.3						
SBC	Santa Barbara	62.81	68	P	P	07 47 28.4	-0.2
	baz=310						
LAO	LASA Array	62.89	50	P	P	07 47 29.2	+0.2
	baz=310						
LAO	LASA Array	62.89	50	P	P	07 47 30.6	+1.5
R11A	Troy Canyon, C	62.90	62	P	P	07 47 28.8	-0.5
	baz=310,SNR=6.4						
R11A	Troy Canyon, C	62.90	62	P	P	07 47 30.3	+0.9
R11A				IAmb	IAmb	07 47 31.1	
	comp=Z,4.1nm,1.1s						
ARVC	Arvin	62.93	67	P	P	07 47 29.1	-0.3
	baz=310						
SCZ2	Santa Cruz Isl	63.14	68	P	P	07 47 30.4	-0.4
	baz=310						
MPMC	Manual Prospec	63.18	65	P	P	07 47 30.5	-0.8
	baz=310,SNR=6.1						
SPR3	Spring Creek 3	63.24	61	P	P	07 47 33.0	+1.2
FURC	Furnace Creek,	63.31	64	P	P	07 47 32.8	+1.0
	baz=310,SNR=7.2						
OSI	Osito Audit: C	63.32	67	P	P	07 47 31.5	-0.6
	baz=310						
DUG	Dugway, Tooele	63.38	59	P	P	07 47 33.5	+1.0
DUG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
DUG	Dugway, Tooele	63.38	59	P	P	07 47 32.7	+0.2
	baz=310,SNR=5.2						
DUG	Dugway, Tooele	63.38	59	P	P	07 47 33.5	+1.0
DUG				IAmb	IAmb	07 47 34.5	
	comp=Z,5.8nm,1.1s						
TPNV	Topopah Spring	63.38	64	P	P	07 47 33.6	+1.0
TPNV				pmax	pmax		
	comp=Z,11nm,1.3s						
TPNV	Topopah Spring	63.38	64	P	P	07 47 32.2	-0.4
	baz=310,SNR=8.3						
TPNV	Topopah Spring	63.38	64	P	P	07 47 33.6	+1.0
LRMC	Laurel Mtn Rad	63.43	66	P	P	07 47 32.0	-0.9
	baz=310						
BW06	Boulder Array	63.60	55	P	P	07 47 33.6	-0.4
	baz=310,SNR=7.4						
BW06	Boulder Array	63.60	55	P	P	07 47 34.7	+0.7
BW06				IAmb	IAmb	07 47 35.8	
	comp=Z,5.6nm,1.0s						
PD31	Pinedale Array	63.60	55	P	P	07 47 34.7	+0.7
PD31				IAmb	IAmb	07 47 35.8	
	comp=Z,4.9nm,1.0s						
PDAR	Pinedale Array	63.60	55	P	P	07 47 34.7	+0.7
	comp=Z,2.9nm,0.8s,baz=294,slow=2.3,SNR=24						
EDW2	Edwards Air Fo	63.62	66	P	P	07 47 33.6	-0.4
	baz=310,SNR=6.3						
SNCC	San Nicolas Is	63.69	69	P	P	07 47 33.3	-1.2
	baz=310						
DECC	Green Verdugo	63.80	67	P	P	07 47 32.8	-2.4
	baz=310						
PRN	Pahroc Range	63.82	63	P	P	07 47 36.5	+1.1
PRN				IAmb	IAmb	07 47 38.3	
	comp=Z,8.4nm,1.3s						
NLU	North Lily Min	63.97	59	P	P	07 47 37.5	+1.1
SHOC	Shoshone, Teco	64.04	65	P	P	07 47 34.3	-2.5
	baz=310						
GSC	Goldstone, Bar	64.09	65	P	P	07 47 34.9	-2.3
	baz=310						
MPU	Maple Canyon	64.19	58	P	P	07 47 39.1	+1.2
BFSC	Mount Baldy Ra	64.24	67	P	P	07 47 36.4	-1.8
	baz=310						
CIS	Catalina Islan	64.30	68	P	P	07 47 37.8	-0.7
	baz=310						
SHPR	Sheep Range	64.33	63	P	P	07 47 39.7	+0.8
SHPR				IAmb	IAmb	07 47 40.9	
	comp=Z,12nm,1.5s						
SCI2	San Clemente I	64.49	68	P	P	07 47 39.0	-0.7
	baz=311						
TUQ	Turquoise Moun	64.55	65	P	P	07 47 38.9	-1.4
	baz=311,SNR=7.6						
FINES	FINESS Array B	64.62	336	P	P	07 47 41.2	+1.1
	comp=Z,2.8nm,0.3s,baz=30,slow=7.0,SNR=16						
FINES				LR	LR	08 20 10.4	
	comp=Z,48nm,18.1s,baz=24,slow=40						
FINES	FINESS Array B	64.62	336	iP	P	07 47 42.9	+2.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BBRC	Big Bear Solar	64.69	66	P	P	07 47 40.3	-1.0
	baz=311						
HEC	Hector,Ludlow	64.69	65	P	P	07 47 40.3	-0.8
	baz=311,SNR=5.4						
CCUT	Cedar City	64.75	61	P	P	07 47 42.7	+1.0
MSU	Marysvale	64.84	60	P	P	07 47 43.6	+1.4
MSU	Marysvale	64.84	60	P	P	07 47 43.6	+1.4
SZCU	Shurtz Canyon	64.89	61	P	P	07 47 43.0	+0.5
SZCU				IAmb	IAmb	07 47 45.2	
	comp=Z,7.0nm,1.5s						
TMUT	Trail Mountain	64.90	59	P	P	07 47 43.8	+1.1
MURC	Murrieta	64.95	67	P	P	07 47 42.0	-0.7
	baz=311						
RDMU	Red Mountain	65.02	57	P	P	07 47 44.8	+1.4
P17A	Butcher Ranch,	65.06	58	P	P	07 47 44.1	+0.5
P17A				IAmb	IAmb	07 47 45.5	
	comp=Z,4.2nm,1.0s						
GMRC	Granite Mounta	65.14	65	P	P	07 47 43.4	-0.7
	baz=311,SNR=5.6						
MTPU	Mount Pierson	65.14	60	P	P	07 47 45.9	+1.5
Q16A	Castle Valley	65.17	59	P	P	07 47 45.5	+1.2
Q16A				IAmb	IAmb	07 47 46.3	
	comp=Z,4.0nm,1.0s						
LCMT	Little Creek M	65.18	62	P	P	07 47 45.1	+0.8
LCMT				IAmb	IAmb	07 47 46.5	
	comp=Z,7.4nm,1.1s						
K22A	Casper	65.37	53	P	P	07 47 44.6	-0.9
	baz=312						
PFO	Pinyon Flats O	65.40	67	LR	LR	08 11 42.9	
	comp=Z,30nm,20.0s,baz=5.0,slow=32						
PFO	Pinyon Flats O	65.40	67	P	P	07 47 45.0	-0.9
	baz=311						
TPFO	Pinon Flats	65.41	67	P	P	07 47 44.3	-1.6
	baz=311						
SRU	San Rafael Swe	65.43	59	P	P	07 47 47.0	+1.1
SRU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SRU	San Rafael Swe	65.43	59	P	P	07 47 47.0	+1.1
SRU				IAmb	IAmb	07 47 47.6	
	comp=Z,6.5nm,0.8s						
KNB	Kanab	65.43	62	P	P	07 47 47.2	+1.2
KNB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KNB	Kanab	65.43	62	P	P	07 47 47.2	+1.2
KNB				IAmb	IAmb	07 47 48.3	
	comp=Z,9.2nm,1.1s						
BELC	Belle Mtn. Jos	65.44	66	P	P	07 47 43.7	-2.3
	baz=311						
109C	Camp Elliot, M	65.47	68	P	P	07 47 45.2	-0.9
	baz=311						
RSSD	Black Hills	65.74	51	P	P	07 47 48.3	+0.4
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
RSSD	Black Hills	65.74	51	P	P	07 47 46.5	-1.4
	baz=312						
RSSD	Black Hills	65.74	51	P	P	07 47 48.3	+0.4
IRM	Iron Mountain	65.87	65	P	P	07 47 46.8	-2.0
	baz=311						
BAR	Barrett	65.88	67	P	P	07 47 49.7	+0.9
MONP2	Monument Peak	65.90	67	P	P	07 47 47.8	-1.3
	baz=311						
BC3	Big Chuckawall	66.01	66	P	P	07 47 48.4	-1.3
	baz=311						
W13A	Hualapai Mount	66.03	64	P	P	07 47 50.9	+0.9
W13A				IAmb	IAmb	07 47 51.6	
	comp=Z,8.5nm,1.4s						
O20A	White River Ci	66.07	56	P	P	07 47 48.3	-1.8
	baz=312						
OBN	Obninsk	66.09	327	eP	P	07 47 49.8	+0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	Obninsk	66.09	327	eP	P	07 47 49.8	+0.1
U15A	North Rim	66.14	62	P	P	07 47 51.1	+0.4
U15A				IAmb	IAmb	07 47 54.9	
	comp=Z,10nm,1.3s						
IKP	In-Ko-Pah, Jac	66.25	67	P	P	07 47 49.8	-1.5
	baz=312						
PDMCI	Parker Dam,Lak	66.40	65	P	P	07 47 50.9	-1.2
	baz=312						
PV10	Paradox Valley	66.78	58	P	P	07 47 56.1	+1.4
PV22	Blue Mesa, Par	66.82	58	P	P	07 47 57.0	+2.0
PV22				IAmb	IAmb	07 47 57.5	
	comp=Z,6.3nm,0.9s						
PV20	West Nyswonger	66.85	58	P	P	07

MSVF Nonsavu 67.43 156 LR LR 08 12 34.2
comp=Z,41nm,20.0s,baz=209,slow=32
SMCO Snowmass 67.44 56 P **P** **07 47 59.5 +0.4**
SMCO IAmb IAmb 07 48 00.7
comp=Z,4.9nm,0.9s
113A Mohawk Valley, 67.65 66 P **P** **07 48 00.6 +0.5**
113A IAmb IAmb 07 48 01.4
comp=Z,6.4nm,1.3s
ISCO Idaho Springs 67.79 55 P **P** **07 48 02.6 +1.4**
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 67.79 55 P **P** **07 48 00.0 -1.2**
baz=313,SNR=6.2
ISCO Idaho Springs 67.79 55 P **P** **07 48 02.6 +1.4**
ISCO IAmb IAmb 07 48 03.3
comp=Z,5.3nm,0.9s
GEYT Alibeck 67.80 302 LR LR 08 19 54.9
comp=Z,52nm,19.0s,baz=70,slow=38
MVCO Mesa Verde 67.88 59 P **P** **07 48 01.1 -0.6**
baz=313
MVCO Mesa Verde 67.88 59 P **P** **07 48 02.3 +0.6**
MVCO IAmb IAmb 07 48 03.3
comp=Z,4.5nm,0.9s
B35A Bob, Littlefor 67.93 42 P **P** **07 48 01.9 +0.4**
B35A IAmb IAmb 07 48 02.1
comp=Z,5.9nm,0.8s
X16A Lo Mia Camp, P 67.99 63 P **P** **07 48 03.5 +1.1**
X16A IAmb IAmb 07 48 04.6
comp=Z,5.7nm,1.0s
S22A 4UR Ranch, Cre 68.49 58 P **P** **07 48 04.4 -1.2**
baz=313,SNR=8.0
W18A Petrified Fore 68.55 61 P **P** **07 48 05.4 -0.5**
baz=313
NOA NORSAR Array B 68.67 342 P **P** **07 48 07.1 +1.1**
comp=Z,0.4nm,0.5s,baz=29,slow=5.6,SNR=2.0
NOA LR LR 08 22 02.0
comp=Z,39nm,20.2s,baz=25,slow=39
214A Organ Pipe Nat 68.80 66 P **P** **07 48 07.0 -0.2**
baz=313
X18A Snowflake 68.82 62 P **P** **07 48 08.7 +1.1**
X18A IAmb IAmb 07 48 09.7
comp=Z,11nm,1.4s
OGNE Ogallala 68.99 52 P **P** **07 48 08.4 0.0**
baz=314
OGNE Ogallala 68.99 52 P **P** **07 48 09.6 +1.1**
WRA Warramunga Arr 69.00 201 P **P** **07 48 07.0 -1.4**
comp=Z,2.1nm,0.9s,baz=27,slow=6.1,SNR=7.4
WRA Warramunga Arr 69.00 201 *i* P **P** **07 48 08.1 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.9s
EYMN Ely 69.25 41 P **P** **07 48 08.8 -1.0**
baz=318
DZM Mont Dzumac 69.26 169 LR LR 08 12 26.5
comp=Z,55nm,20.4s,baz=40,slow=31
DZM Mont Dzumac 69.26 169 *e*LR LR 08 09 10.7
comp=Z,116nm,25.4s
SDCO Great Sand Dun 69.26 57 P **P** **07 48 09.0 -1.4**
baz=314
SDCO Great Sand Dun 69.26 57 P **P** **07 48 10.9 +0.5**
MNK Minsk 69.70 330 *i* P **P** **07 48 10.1 -2.3**
MNK *i* 07 50 44.4
MNK *i* PPP PPP 07 52 26.1
MNK *i* S **S** **07 57 17.4 -2.5**
MNK *i* SS **SS** **08 01 46.5 -0.6**
MNK pmax pmax
comp=N,24nm,1.1s
MNK pmax pmax
comp=Z,10.0nm,0.6s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK MLR MLR
comp=Z,72nm,17.0s
MNK MLR MLR
comp=N,65nm,12.0s
MNK MLR MLR
comp=E,7.0nm,15.0s
MNK Minsk 69.70 330 *i* P **P** **07 48 10.2 -2.3**
comp=E,3.0nm,0.8s
MNK *i* P **P** **07 48 10.2 -2.3**
comp=N,24nm,1.1s
MNK *i* P **P** **07 48 10.2 -2.3**
comp=Z,10.0nm,0.6s,baz=216
MNK *i* PP **PP** **07 50 44.4 -1.5**
MNK *i* PPP PPP 07 52 26.1
MNK *i* S **S** **07 57 17.4 -2.5**
MNK *i* SS **SS** **08 01 46.5 -0.6**
MNK *i* SSS SSS 08 05 07.3
MNK *i* LQ LQ 08 13 59.1
MNK *i* LR LR 08 19 17.7
MNK *i* LRM MLR 08 22 35.3
comp=Z,72nm,17.4s
MNK *i* LRM MLR 08 22 36.6
comp=N,65nm,11.6s
MNK *i* LRM MLR 08 22 39.2
comp=E,7.0nm,14.8s
TUC Tucson 69.82 64 P **P** **07 48 14.3 +0.7**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 69.82 64 P **P** **07 48 13.3 -0.3**
baz=313
TUC Tucson 69.82 64 P **P** **07 48 14.3 +0.7**
ECSD EROS Data Cent 69.86 47 P **P** **07 48 12.7 -0.9**
baz=316
ECSD EROS Data Cent 69.86 47 IAmb IAmb 07 48 14.0
comp=Z,3.5nm,0.8s
ECSD P **P** **07 48 14.0 +0.3**
E38A The Farm, Brul 70.21 42 P **P** **07 48 15.9 +0.2**
T25A Trinidad 70.31 57 P **P** **07 48 15.9 -0.9**
baz=314,SNR=6.5
T25A Trinidad 70.31 57 P **P** **07 48 17.5 +0.8**
T25A IAmb IAmb 07 48 18.5
comp=Z,8.0nm,1.1s
ANMO Albuquerque 70.63 59 P **P** **07 48 19.1 +0.3**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 70.63 59 P **P** **07 48 17.6 -1.2**
baz=314
ANMO Albuquerque 70.63 59 P **P** **07 48 19.1 +0.3**
SPMN Marine on St. 70.65 44 P **P** **07 48 17.7 -0.7**
baz=318
SPMN Marine on St. 70.65 44 P **P** **07 48 18.8 +0.4**
SPMN IAmb IAmb 07 48 19.5
comp=Z,5.0nm,0.8s
BNM Barren Site 71.08 60 P **P** **07 48 22.6 +1.0**
I37A Lemond, Waseca 71.25 45 P **P** **07 48 22.9 +0.8**
319A Douglas 71.39 64 P **P** **07 48 24.5 +1.2**
121A Cookes Peak, D 71.50 62 P **P** **07 48 21.4 -2.6**
baz=314
CBKS Cedar Bluff 71.75 53 P **P** **07 48 23.4 -1.9**
baz=316
KIV Kislovodsk 71.79 315 *e*P **P** **07 48 23.9 -1.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,42nm,18.0s
KBZ Khabaz 71.86 315 P **P** **07 48 27.2 +1.5**
comp=Z,1.5nm,0.5s,baz=30,slow=2.2,SNR=4.6
KBZ LR LR 08 22 43.3
comp=Z,54nm,22.0s,baz=25,slow=38
HSIG 71.97 67 P **P** **07 48 28.1 +1.4**
HSIG IAmb IAmb 07 48 28.9
comp=Z,6.6nm,1.1s
AKASG Malin Array Be 72.31 327 P **P** **07 48 28.9 +0.6**
comp=Z,0.5nm,0.3s,baz=36,slow=6.0,SNR=2.4
AKASG LR LR 08 21 47.8
comp=Z,35nm,21.1s,baz=35,slow=37
AS31 Alice Springs 72.68 200 P **P** **07 48 30.5 -0.2**
ASAR Alice Springs 72.68 200 P **P** **07 48 30.1 -0.7**
comp=Z,1.6nm,0.8s,baz=13,slow=5.4,SNR=12
ASAR Alice Springs 72.68 200 P **P** **07 48 30.6 -0.1**
ASAR Alice Springs 72.68 200 P **P** **07 48 30.6 -0.1**
I40A Norwalk 72.68 44 P **P** **07 48 30.4 -0.3**
I40A IAmb IAmb 07 48 31.5
comp=Z,6.1nm,0.8s
SCIA State Center 72.90 47 P **P** **07 48 29.6 -2.4**
baz=318
SCIA State Center 72.90 47 P **P** **07 48 32.6 +0.6**
MSTX Muleshoe 73.48 58 P **P** **07 48 34.8 -0.9**
baz=316
MSTX Muleshoe 73.48 58 P **P** **07 48 35.9 +0.1**
MSTX IAmb IAmb 07 48 37.1
comp=Z,6.7nm,1.1s
I42A Draeger Farm, 73.49 43 P **P** **07 48 36.1 +0.7**
I42A IAmb IAmb 07 48 38.4
comp=Z,13nm,1.4s
MNTX Cornudas Mount 73.54 61 P **P** **07 48 34.6 -1.4**
baz=315,SNR=6.1
MNTX Cornudas Mount 73.54 61 P **P** **07 48 36.6 +0.6**
MATQ Matagami 73.56 33 P **P** **07 48 33.5 -2.2**
baz=325
LSQQ Lebel-sur-Quev 74.38 33 P **P** **07 48 39.6 -0.9**
baz=326
CHGQ Chibougamau 74.61 31 P **P** **07 48 40.7 -1.2**
baz=327
GLMI Grayling 74.70 40 P **P** **07 48 41.0 -1.6**
baz=322
T35A Sooner Cattle 74.88 52 P **P** **07 48 43.6 -0.1**
T35A IAmb IAmb 07 48 46.3
comp=Z,8.2nm,1.1s
N41A Harden Midland 74.98 46 P **P** **07 48 44.5 +0.3**
WMOK Wichita Mounta 75.22 55 P **P** **07 48 45.4 -0.3**
WMOK pmax pmax
comp=Z,5.0nm,1.1s
WMOK Wichita Mounta 75.22 55 P **P** **07 48 44.9 -0.9**
baz=317,SNR=6.0
WMOK Wichita Mounta 75.22 55 P **P** **07 48 45.4 -0.3**
P40A Paris 75.27 47 P **P** **07 48 45.7 -0.2**
P40A IAmb IAmb 07 48 46.8
comp=Z,5.5nm,0.8s
OK031 S. Brethren Rd 75.41 53 P **P** **07 48 46.7 -0.1**
HDIL Hopedale 75.86 45 P **P** **07 48 47.9 -1.4**
baz=320
TUL1 Leonard 76.01 52 P **P** **07 48 49.2 -1.0**
baz=318
R40A Maddies Statio 76.09 48 P **P** **07 48 50.5 -0.1**
R40A IAmb IAmb 07 48 51.0
comp=Z,5.1nm,0.9s
TX31 Lajitas Ar. Si 76.26 62 P **P** **07 48 52.3 +0.5**
TX32 Lajitas Array 76.26 62 P **P** **07 48 52.2 +0.4**
TXAR Lajitas Array 76.26 62 P **P** **07 48 52.4 +0.5**
comp=Z,8.5nm,0.8s,baz=298,slow=4.1,SNR=125
TXAR Lajitas Array 76.26 62 P **P** **07 48 52.1 +0.2**
TXAR Lajitas Array 76.26 62 P **P** **07 48 52.1 +0.2**
U38A Gravette 76.37 51 P **P** **07 48 52.2 -0.1**
U38A IAmb IAmb 07 48 52.8
comp=Z,5.4nm,0.9s
ALGO Algonquin Park 76.53 35 P **P** **07 48 51.8 -1.2**
baz=326
HHAR Hobbs 76.73 51 P **P** **07 48 54.2 -0.1**
HPIG 76.75 65 P **P** **07 48 54.8 0.0**
HPIG IAmb IAmb 07 48 56.0
comp=Z,5.5nm,1.1s
CCM Cathedral Cave 76.80 48 P **P** **07 48 53.8 -0.8**
baz=320
CLL Collm 77.03 337 *e*P **P** **07 48 57.0 +1.3**
CLL *e* 07 49 02.0
CLL LmV 09 18 00.0
comp=Z,100nm,20.5s
CLL Collm 77.03 337 *e*P **P** **07 48 57.0 +1.3**
CLL *e* 07 49 02.0
SFIN Lafayette 77.06 44 P **P** **07 48 54.9 -1.1**
baz=322
L48A N Adams 77.06 41 P **P** **07 48 56.7 +0.6**
U40A Yellville 77.25 50 P **P** **07 48 56.6 -0.6**
baz=319,SNR=9.5
U40A Yellville 77.25 50 P **P** **07 48 56.6 -0.6**
LATQ La Tuque 77.31 31 P **P** **07 48 55.7 -1.6**
baz=328
D58A Chemin du LacG 77.52 31 P **P** **07 48 56.6 -1.9**
baz=328
W39A Magazine 77.63 51 P **P** **07 48 58.3 -1.0**
baz=319
JCT Junction City 77.74 59 P **P** **07 49 00.5 +0.4**
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 77.74 59 P **P** **07 48 59.6 -0.4**
baz=317,SNR=5.7
JCT Junction City 77.74 59 P **P** **07 49 00.5 +0.4**
JCT IAmb IAmb 07 49 01.2
comp=Z,9.7nm,1.1s
WHTX Lake Whitney, 77.98 56 P **P** **07 49 00.9 -0.5**
baz=318
FCAR Ozark Folk Cen 77.99 50 P **P** **07 49 00.9 -0.4**
FCAR IAmb IAmb 07 49 01.2
comp=Z,5.7nm,0.8s
E58A La Victoria 77.99 32 P **P** **07 49 00.5 -0.7**
baz=328
PBMO Poplar Bluff 78.19 48 P **P** **07 49 02.7 +0.3**
PBMO IAmb IAmb 07 49 03.4
comp=Z,8.0nm,1.1s
MIAR Mount Ida 78.23 52 P **P** **07 49 03.0 +0.3**
MIAR pmax pmax
comp=Z,9.0nm,1.2s
MIAR Mount Ida 78.23 52 P **P** **07 49 02.2 -0.5**
baz=319
MIAR Mount Ida 78.23 52 P **P** **07 49 03.0 +0.3**
MIAR IAmb IAmb 07 49 03.7
comp=Z,9.1nm,1.2s
D60A Saint Jean D'O 78.37 30 P **P** **07 49 02.5 -0.7**
baz=330
G57A Newington 78.43 34 P **P** **07 49 03.4 -0.2**
baz=328
W41B Gary Mavity, V 78.47 51 P **P** **07 49 03.9 0.0**
baz=320
P48A Milroy 78.57 43 P **P** **07 49 04.7 +0.2**
P48A IAmb IAmb 07 49 05.3
comp=Z,10.0nm,0.9s
F59A Saint Guilaume 78.62 32 P **P** **07 49 03.9 -0.7**
baz=329
PARMO Parma 78.62 48 P **P** **07 49 05.5 +0.7**
E60A Ste Agathe de 78.65 31 P **P** **07 49 04.4 -0.4**
baz=329
X40A Basin Creek Fa 78.67 51 P **P** **07 49 05.1 0.0**
baz=320
G58A Ormstown 78.75 33 P **P** **07 49 03.7 -1.6**
baz=328
H57A Richville 78.81 34 P **P** **07 49 04.7 -1.1**
baz=327
F60A Warwick 78.82 31 P **P** **07 49 04.1 -1.7**
baz=329
KHC Kasperske Hory 78.83 335 *e*P **P** **07 49 07.0 +1.2**
KHC Kasperske Hory 78.83 335 *e*P **P** **07 49 07.0 +1.2**
P49A Miami Univ. Ec 78.85 43 P **P** **07 49 05.4 -0.6**
baz=323
D62A Allapoint, All 78.86 29 P **P** **07 49 04.7 -1.2**
baz=331
GERES GERESS Array B 79.05 335 LR LR 08 26 44.2
comp=Z,43nm,21.4s,baz=27,slow=38
ACSO Alum Creek Sta 79.09 41 P **P** **07 49 06.9 -0.4**
baz=324
E62A Clayton Lake 79.10 30 P **P** **07 49 07.1 -0.2**
baz=331
WCI Wyandotte Cave 79.13 45 P **P** **07 49 07.7 +0.1**
baz=322
M53A WI Miller and 79.14 39 P **P** **07 49 07.7 +0.1**
baz=325
I57A Carthage 79.15 35 P **P** **07 49 06.9 -0.7**
baz=327
F61A St Evariste 79.15 31 P **P** **07 49 07.6 0.0**
baz=330
STKA Stephens Creek 79.22 192 LR LR 08 25 58.5
comp=Z,25nm,18.5s,baz=25,slow=37
BRTR Keskin Array B 79.34 318 P **P** **07 49 10.4 +1.6**
comp=Z,1.0nm,0.7s,baz=18,slow=0.5,SNR=5.6
G60A Masonville 79.43 32 P **P** **07 49 08.6 -0.5**
baz=329
M54A Oil Creek Stat 79.52 39 P **P** **07 49 07.9 -1.8**
baz=325
G61A St-Isidore-de- 79.56 31 P **P** **07 49 09.1 -0.7**
baz=330
F62A Pittston Farm, 79.58 30 P **P** **07 49 09.2 -0.7**
baz=330
O52A Adamsville 79.70 41 P **P** **07 49 10.8 +0.1**
O52A IAmb IAmb 07 49 11.3
comp=Z,6.7nm,0.8s
T47A Sharon Grove 79.70 46 P **P** **07 49 11.4 +0.7**
T47A IAmb IAmb 07 49 12.2
comp=Z,9.1nm,1.1s
NATX Nacogdoches 79.73 54 P **P** **07 49 10.4 -0.5**
baz=319
J58A Remsen 79.78 35 P **P** **07 49 10.1 -0.9**
baz=328
N54A Moraine State 79.83 39 P **P** **07 49 10.3 -1.1**
baz=325,SNR=5.8
N54A Moraine State 79.83 39 P **P** **07 49 11.8 +0.4**
E64A Bridgewater 79.84 29 P **P** **07 49 10.1 -1.2**
baz=332
O53A New Philadelph 79.87 40 P **P** **07 49 10.7 -0.9**
baz=324
M55A Ridgway 79.94 38 P **P** **07 49 12.4 +0.4**
M55A IAmb IAmb 07 49 13.3
comp=Z,9.2nm,1.0s
P52A Corning 79.96 41 P **P** **07 49 11.2 -0.9**
baz=324
G62A West of Eustis 79.97 31 P **P** **07 49 11.1 -1.0**
baz=330
WVT Waverly 80.01 47 P **P** **07 49 10.9 -1.5**
baz=322
F63A Nahmakanta, Br 80.04 30 P **P** **07 49 10.3 -2.2**
baz=331
H61A Lyndonville 80.06 32 P **P** **07 49 10.6 -1.9**
baz=329
H62A Milan 80.30 32 P **P** **07 49 13.1 -0.7**
baz=330
PKME Peaks-Kenny Pk 80.36 30 P **P** **07 49 13.2 -0.9**
baz=331
G63A Kingsbury 80.38 30 P **P** **07 49 13.5 -0.7**
baz=331
OXF Oxford 80.47 49 P **P** **07 49 15.1 +0.2**
OXF pmax pmax
comp=Z,17nm,1.0s
OXF Oxford 80.47 49 P **P** **07 49 14.2 -0.7**
baz=321
OXF Oxford 80.47 49 P **P** **07 49 15.1 +0.2**
I61A Oroboro, Fairl 80.47 33 P **P** **07 49 14.3 -0.5**
baz=329
SOKA Soboth 80.60 333 *e*P **P** **07 49 17.4 +1.8**
comp=Z,4.1nm,1.0s
H63A New Sharon 80.63 31 P **P** **07 49 14.8 -0.7**
baz=330
KBA Koelnbreinsper 80.75 335 *e*P **P** **07 49 17.4 +0.9**
comp=Z,4.7nm,1.1s
T50A Nancy 80.79 45 P **P** **07 49 16.5 -0.1**
T50A IAmb IAmb 07 49 18.3
comp=Z,11nm,1.2s
CLTN Cedars of Leba 80.79 46 P **P** **07 49 16.8 +0.2**
CLTN IAmb IAmb 07 49 17.9
comp=Z,9.6nm,1.0s
H64A Troy 80.93 30 P **P** **07 49 17.0 -0.2**
baz=331
MCWV Mont Chateau 80.96 40 P **P** **07 49 17.5 +0.1**
baz=325
I63A Otisfield 80.96 32 P **P** **07 49 17.2 -0.2**
baz=330
G65A Princeton 81.00 29 P **P** **07 49 17.0 -0.5**
baz=332
O56A Blue Knob Stat 81.02 39 P **P** **07 49 17.3 -0.5**
baz=326
PPT Papeete 81.03 127 LR LR 08 20 29.9
comp=Z,71nm,18.2s,baz=320,slow=32
PPT2 Papeete2 81.05 127 *e*LR LR 08 14 40.4
comp=Z,65nm,22.8s
RETA Reutte 81.11 336 *e*P **P** **07 49 20.4 +2.1**
comp=Z,6.6nm,1.1s
MOTA Moosalm 81.15 336 *e*P **P** **07 49 21.0 +2.4**
comp=Z,12nm,1.3s
H66A Whiting 81.45 29 P **P** **07 49 19.8 -0.2**
baz=332
N59A State Game Lan 81.65 36 P **P** **07 49 20.9 -0.2**
baz=327
SWET Sewanee 81.68 46 P **P** **07 49 21.5 0.0**
SWET IAmb IAmb 07 49 22.1
comp=Z,6.6nm,0.9s
TZTN Tazewell 81.79 44 P **P** **07 49 21.2 -0.7**
baz=324
146A Union 82.11 50 P **P** **07 49 24.1 +0.4**
146A IAmb IAmb 07 49 26.1
comp=Z,9.9nm,1.0s
PAL Palisades 82.32 35 P **P** **07 49 22.7 -1.8**
baz=328
BLA Blacksburg 82.71 42 P **P** **07 49 25.7 -1.1**
baz=325
LRAL Lakeview Retre 82.87 48 P **P** **07 49 27.0 -0.5**
baz=322
BG3 Lake Jocassee 83.33 45 P **P** **07 49 30.8 +0.7**
KMSC Kings Mountain 83.98 43 P **P** **07 49 32.9 -0.4**
baz=325
HODGE Hodges 84.27 45 P **P** **07 49 34.6 -0.2**
HODGE IAmb IAmb 07 49 36.9
comp=Z,8.7nm,1.2s
GOGA Godfrey 84.35 46 P **P** **07 49 34.4 -0.8**
baz=324
TBI Tubuai 85.82 131 *e*LR LR 08 16 11.4
comp=Z,91nm,34.8s
ESDC Sonseca Array 91.95 344 P **P** **07 50 11.7 +0.1**
comp=Z,0.5nm,0.8s,baz=358,slow=3.6,SNR=4.1
ESDC LR LR 08 35 35.0
comp=Z,42nm,21.1s,baz=325,slow=38
ESDC Sonseca Array 91.95 344 P **P** **07 50 11.5 -0.1**
ESDC IAmb IAmb 07 50 14.3
comp=Z,2.8nm,1.4s
H03N2 Juan Fernandez 137.35 92 T T 10 28 47.3
baz=308,slow=77,SNR=5.9
H03N1 Juan Fernandez 137.36 92 T T 10 28 57.2
baz=308,slow=77,SNR=6.8
H03N3 Juan Fernandez 137.36 92 T T 10 28 56.4
baz=308,slow=77,SNR=6.0
PLCA Paso Flores 146.81 96 PKPbc **PKPab** **07 56 44.3 -1.8**
comp=Z,5.4nm,1.0s,baz=236,slow=3.6,SNR=3.6
CPUP Villa Florida 147.23 63 PKPbc **PKPab** **07 56 46.2 -1.8**
comp=Z,4.3nm,0.9s,baz=194,slow=0.5,SNR=6.8
CPUP Villa Florida 147.23 63 **PKPab** **07 56 46.4 -1.7**
SNAA Sanae 152.94 195 PKPbc **PKPbc** **07 56 57.1 -1.8**
comp=Z,2.1nm,1.0s,baz=230,slow=2.1,SNR=3.6

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*IDC **06** 07:45:02.2±0.6, 31°.26S×58°.85E, h0km, mb4.0/17, mb1 4.1/18, mb1mx4.0/48, mbtmp4.0/18, ML3.4/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/31, Error ellipse: s-maj=19.3km s-min=16.9km az=69.0*

*NEIC **06** 07:45:04.6±1.5, 31°.23S±0°.09×58°.8E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=22.1km s-min=6.1km az=227.0*

ISC 06 07:45:03.8±0.5, 31°.25S±0°.10×58°.82E±0°.09, h10km, n53, σ0978/44, mb4.3/23, MS3.4/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**14.21**	**308**	Pn	**Pn**	**07 48 25.4**	**+0.1**
ABPO	**Ambohimpanom**	**16.06**	**317**	Pn	**Pn**	**07 48 50.1**	**+0.1**
OPO	**Ambohidratompo**	**16.44**	**317**	Pn	**P**	**07 48 56.4**	**-1.1**
	0.2nm,0.3s,baz=135,slow=15,SNR=2.7						
H08S1	**Diego Carcia H**	**26.72**	**31**	T	T	08 18 43.4	
	baz=205,slow=76,SNR=9.3						
H08S2	**Diego Garcia H**	**26.73**	**31**	T	T	08 18 48.1	
	baz=205,slow=76,SNR=7.3						
H08S3	**Diego Garcia H**	**26.74**	**31**	T	T	08 18 45.8	
	baz=205,slow=76,SNR=12						
BOSA	**Boshof**	**29.14**	**266**	P	**P**	**07 51 04.5**	**-0.8**
BOSA				IAmb	IAmb	07 51 30.8	
	comp=Z,14nm,1.4s						
MATP	**Matopo**	**29.25**	**284**	LR	LR	08 01 18.1	
	comp=Z,54nm,18.2s,baz=124,slow=33						
LSZ	**Lusaka**	**32.18**	**293**	P	**P**	**07 51 32.9**	**+0.7**
	comp=Z,1.5nm,0.2s,baz=122,slow=8.5,SNR=3.7						
SUR	**Sutherland**	**32.21**	**258**	P	**P**	**07 51 32.5**	**+0.1**
	comp=Z,7.1nm,0.9s,baz=100,slow=11,SNR=2.5						
MAW	**Mawson**	**36.47**	**177**	P	**P**	**07 52 09.4**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=5.2,slow=10,SNR=5.2						
MAW				LR	LR	08 02 39.1	
	comp=Z,63nm,21.4s,baz=52,slow=29						
MAW	**Mawson**	**36.47**	**177**	P	**P**	**07 52 10.0**	**+1.4**
H01W2	**Cape Leeuwin H**	**46.00**	**110**	T	T	08 42 35.3	
	baz=258,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**46.01**	**110**	T	T	08 42 37.1	
	baz=258,slow=75,SNR=21						
H01W1	**Cape Leeuwin H**	**46.02**	**110**	T	T	08 42 36.6	
	baz=258,slow=75,SNR=22						
SNAA	**Sanae**	**51.80**	**201**	P	**P**	**07 54 10.5**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=18,slow=9.6,SNR=2.1						
SNAA	**Sanae**	**51.80**	**201**	P	**P**	**07 54 11.1**	**-0.4**
SNAA				IAmb	IAmb	07 54 24.3	
	comp=Z,9.8nm,1.5s						
PSA00	**Pilbara Seismi**	**54.91**	**96**	P	**P**	**07 54 35.2**	**+0.2**
PSA00				IAmb	IAmb	07 54 58.6	
	comp=Z,3.1nm,1.1s						
QSPA	**South Pole Qui**	**58.92**	**180**	P	**P**	**07 55 02.9**	**0.0**
	comp=Z,4.2nm,1.0s,baz=269,slow=1.6,SNR=11						
QSPA	**South Pole Qui**	**58.92**	**180**	P	**P**	**07 55 03.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**61.31**	**95**	P	**P**	**07 55 19.3**	**-0.6**
FITZ				IAmb	IAmb	07 55 26.8	
	comp=Z,13nm,1.5s						
VNDA	**Vanda**	**62.49**	**166**	P	**P**	**07 55 25.7**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=241,slow=13,SNR=2.2						
KAPI	**Kappang**	**62.65**	**79**	P	**P**	**07 55 28.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**62.66**	**44**	P	**P**	**07 55 28.4**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=230,slow=7.2,SNR=10						
CMAR				LR	LR	08 21 08.4	

comp=Z,18nm,18.1s,baz=90,slow=35
CMAR Chiang Mai Arr 62.66 44 P **P** 07 55 28.7 -0.1
ASAR Alice Springs 65.91 104 P **P** 07 55 50.4 +0.1
comp=Z,1.6nm,0.8s,baz=240,slow=5.7,SNR=15
ASAR Alice Springs 65.91 104 P **P** 07 55 49.9 -0.4
AS31 Alice Springs 65.91 104 P **P** 07 55 50.0 -0.3
WRA Warramunga Arr 67.88 101 P **P** 07 56 03.2 +0.4
comp=Z,3.5nm,0.8s,baz=242,slow=5.5,SNR=17
WRA Warramunga Arr 67.88 101 IAmb IAmb 07 56 04.2
comp=Z,0.2nm,1.0s
WB2 Warramunga Arr 67.89 101 P **P** 07 56 03.5 +0.6
WRAB Tennant Creek 67.89 101 P **P** 07 56 02.4 -0.5
WB0 Warramunga Arr 68.00 100 P **P** 07 56 04.4 +0.8
WB0 IAmb IAmb 07 56 04.8
comp=Z,4.9nm,0.9s
WR0 Warramunga Arr 68.04 101 P **P** 07 56 04.6 +0.8
WR0 IAmb IAmb 07 56 07.0
comp=Z,7.1nm,1.3s
TORD Torodi Ar. Bea 70.36 300 P **P** 07 56 17.8 -0.3
comp=Z,0.9nm,0.9s,baz=118,slow=5.3,SNR=5.1
TORD Torodi Ar. Bea 70.36 300 IAmb IAmb 07 56 30.6
comp=Z,4.5nm,1.4s
KK31 Karatay Array 74.76 9 P **P** 07 56 44.9 +1.1
KK31 IAmb IAmb 07 56 56.7
comp=Z,4.6nm,1.4s
KKAR Karatay Array 74.76 9 P **P** 07 56 44.9 +1.1
MKAR Makanchi Array 80.52 16 P **P** 07 57 16.4 +0.6
comp=Z,0.4nm,0.7s,baz=176,slow=4.3,SNR=2.6
MKAR Makanchi Array 80.52 16 P **P** 07 57 15.9 +0.1
AKTO Aktyubinsk 81.33 359 LR LR 08 32 46.8
comp=Z,24nm,18.3s,baz=134,slow=35
KURBB Kurchatov Arra 83.36 12 P **P** 07 57 31.4 +0.8
comp=Z,0.5nm,0.9s,baz=223,slow=3.1,SNR=4.7
KURK Kurchatov 83.47 13 P **P** 07 57 31.4 +0.3
BVAR Borovoye Array 84.52 7 P **P** 07 57 36.4 -0.2
comp=Z,1.0nm,0.8s,baz=220,slow=13,SNR=2.7
AKASG Malin Array Be 85.69 342 P **P** 07 57 41.7 -0.7
comp=Z,0.5nm,0.5s,baz=167,slow=5.2,SNR=1.7
ZALV Zalesovo Beam 87.78 15 P **P** 07 57 51.8 -0.8
comp=Z,0.5nm,0.3s,baz=199,slow=7.0,SNR=2.0
SONM Songino Array 89.55 30 LR LR 08 34 54.2
comp=Z,29nm,19.6s,baz=118,slow=33
ESDC Sonseca Array 91.49 317 P **P** 07 58 12.1 +1.7
comp=Z,0.4nm,0.7s,baz=104,slow=5.4,SNR=4.1
KSRS Korea Array 93.98 48 P **P** 07 58 21.6 -0.3
comp=Z,0.5nm,0.3s,baz=205,slow=6.5,SNR=2.8
ILAR Eielson Array 142.86 18 PKP **PKPdf** 08 04 35.3 -1.5
comp=Z,0.5nm,0.9s,baz=332,slow=3.1,SNR=4.4
YKA Yellowknife Ar 148.46 354 PKPbc **PKPbc** 08 04 48.9 -1.0
comp=Z,2.4nm,0.8s,baz=2.1,slow=2.6,SNR=4.1
ULM Lac du Bonnet 153.24 322 PKPbc **PKPbc** 08 05 01.5 -0.1
comp=Z,4.6nm,0.8s,baz=20,slow=6.1,SNR=2.9
ULM Lac du Bonnet 153.24 322 PKPdf **PKPdf** 08 04 55.8 +1.7
ULM **PKPbc** 08 05 01.2 -0.4
ULM PKPab **PKPab** 08 05 13.0 -0.4

*KRSC **06** 07:45:52.7±2.3, 49°.24N×156°.85E, h77km±34km, ML4.8*
*MOS **06** 07:45:53.3±1.1, 49°.27N×156°.34E, h56km, mb4.6/8, Error ellipse: s-maj=10.1km s-min=3.2km az=78.9*
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **06** 07:45:54.4±1.6, 49°.2N±0°.1×156°.0E±0°.2, h43km±7km, mb4.4/30, Error ellipse: s-maj=17.0km s-min=11.2km az=137.0*
*IDC **06** 07:45:55.3±2.5, 49°.27N×156°.19E, h51km±21km, mb3.8/22, mb1 4.0/28, mb1mx3.9/53, mbtmp4.1/28, ML5.1/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/43, Error ellipse: s-maj=18.0km s-min=12.6km az=142.0*
ISC 06 07:45:53.9±0.5, 49°.15N±0°.06×156°.48E±0°.06, h50km, n214, σ1.9 56/226, mb4.3/56, MS3.6/4, 10C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SKR	**Severo-Kuril's**	**1.55**	**351**	⇓*i* PN		**Pn**	**07 46 18.0**	**-1.0**
SKR				*e*			07 46 30.5	
SKR				pmax	pmax			
	comp=Z,376nm,0.4s							
SKR				smax	smax			
	comp=E,1μm,0.4s							
SKR				smax	smax			
	comp=N,2μm,0.6s							
SKR	**Severo-Kuril's**	**1.55**	**351**	*i* P		**Pn**	**07 46 18.1**	**-1.0**
SKR				*eS*		**Sn**	**07 46 38.6**	**+0.5**
ALID	**Alaid**	**1.82**	**341**	PN		**Pn**	**07 46 23.1**	**+0.2**
ALID	**Alaid**	**1.82**	**341**	*i* P		**Pn**	**07 46 23.1**	**+0.2**
PAU	**Pauzhetka**	**2.33**	**5**	PN		**Pn**	**07 46 29.4**	**-0.3**
PAU				S		**Sn**	**07 46 57.3**	**+0.2**
PAU	**Pauzhetka**	**2.33**	**5**	*i* P		**Pn**	**07 46 29.4**	**-0.3**
PAU				*eS*		**Sn**	**07 46 57.3**	**+0.2**
KDTR	**Khodutka, Kamc**	**2.85**	**20**	PN		**Pn**	**07 46 35.6**	**-1.2**
KDTR				S		**Sn**	**07 47 08.3**	**-1.6**
KDTR	**Khodutka, Kamc**	**2.85**	**20**	*i* P		**Pn**	**07 46 35.6**	**-1.2**
KDTR				*eS*		**Sn**	**07 47 08.3**	**-1.6**
MIPR	**Malaya Ipel'ka**	**3.14**	**3**	PN		**Pn**	**07 46 41.0**	**+0.2**
MIPR	**Malaya Ipel'ka**	**3.14**	**3**	*eP*		**Pn**	**07 46 41.0**	**+0.2**
MTVR	**Mutnovka**	**3.51**	**17**	PN		**Pn**	**07 46 45.3**	**-0.7**
MTVR				S		**Sn**	**07 47 24.5**	**-1.8**
MTVR	**Mutnovka**	**3.51**	**17**	*eP*		**Pn**	**07 46 45.3**	**-0.7**
MTVR				*eS*		**Sn**	**07 47 24.5**	**-1.8**
RUS	**Russkaya**	**3.53**	**21**	PN		**Pn**	**07 46 44.8**	**-1.4**
RUS				S		**Sn**	**07 47 25.1**	**-1.5**
RUS	**Russkaya**	**3.53**	**21**	*eP*		**Pn**	**07 46 44.8**	**-1.4**
RUS				*eS*		**Sn**	**07 47 25.1**	**-1.5**
GRL	**Gorelyy**	**3.55**	**16**	PN		**Pn**	**07 46 46.3**	**-0.3**
GRL				S		**Sn**	**07 47 26.3**	**-1.1**
GRL	**Gorelyy**	**3.55**	**16**	*eP*		**Pn**	**07 46 46.3**	**-0.3**
GRL				*eS*		**Sn**	**07 47 26.3**	**-1.1**
APC	**Apacha**	**3.81**	**6**	PN		**Pn**	**07 46 50.2**	**+0.3**
APC	**Apacha**	**3.81**	**6**	*eP*		**Pn**	**07 46 50.2**	**+0.3**
KRMR	**Karymshinskiy**	**3.83**	**15**	PN		**Pn**	**07 46 51.7**	**+1.4**
KRMR				S		**Sn**	**07 47 31.6**	**-2.3**
KRMR	**Karymshinskiy**	**3.83**	**15**	*eP*		**Pn**	**07 46 51.7**	**+1.4**
KRMR				*eS*		**Sn**	**07 47 31.6**	**-2.3**
PEA0B	**Petropavlovsk-**	**4.04**	**10**	*ce*PN		**Pn**	**07 46 53.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.04**	**10**			**Pn**	**07 46 53.7**	**+0.5**
PETK	**Petropavlovsk-**	**4.04**	**10**	P		**Pn**	**07 46 52.8**	**-0.4**
	comp=N,8.2nm,0.3s,baz=196,slow=12,SNR=98							
PET	**Petropavlovsk**	**4.11**	**19**	*ePN		**Pn**	**07 46 53.7**	**-0.4**
PET				*eS*		**Sn**	**07 47 42.0**	**+1.1**
PET				pmax	pmax			
	comp=Z,128nm,0.4s							
PET				smax	smax			
	comp=E,467nm,0.6s							
PET				smax	smax			
	comp=N,618nm,0.6s							
PET				MLR	MLR			
	comp=Z,300nm,13.0s							
PET				MLR	MLR			
	comp=Z,400nm,12.0s							
PET	**Petropavlovsk**	**4.11**	**19**	*eP*		**Pn**	**07 46 53.4**	**-0.7**
PET				*eS*		**Sn**	**07 47 39.7**	**-1.2**
PET	**Petropavlovsk**	**4.11**	**19**	Pn		**Pn**	**07 46 53.9**	**-0.2**
DALK	**Dalny**	**4.14**	**19**	PN		**Pn**	**07 46 53.9**	**-0.6**
DALK				S		**Sn**	**07 47 40.0**	**-1.6**
DALK	**Dalny**	**4.14**	**19**	*eP*		**Pn**	**07 46 53.9**	**-0.6**
DALK				*eS*		**Sn**	**07 47 40.0**	**-1.6**
UGLR	**Uglovaya**	**4.32**	**19**	PN		**Pn**	**07 46 57.0**	**-0.1**
UGLR	**Uglovaya**	**4.32**	**19**	*eP*		**Pn**	**07 46 57.0**	**-0.1**
AVH	**Avacha**	**4.36**	**18**	PN		**Pn**	**07 46 58.1**	**+0.5**
AVH	**Avacha**	**4.36**	**18**	*eP*		**Pn**	**07 46 58.1**	**+0.5**
KOK	**Koryaka**	**4.36**	**17**	PN		**Pn**	**07 46 58.5**	**+0.8**
KOK	**Koryaka**	**4.36**	**17**	*eP*		**Pn**	**07 46 58.5**	**+0.8**
SMAR	**Somma**	**4.37**	**19**	PN		**Pn**	**07 46 57.4**	**-0.5**
SMAR	**Somma**	**4.37**	**19**	*eP*		**Pn**	**07 46 57.4**	**-0.5**
KRER	**Koryakskii**	**4.40**	**18**	PN		**Pn**	**07 46 58.5**	**+0.3**
KRER	**Koryakskii**	**4.40**	**18**	*eP*		**Pn**	**07 46 58.5**	**+0.3**
NLC	**Nalytchevo**	**4.41**	**23**	PN		**Pn**	**07 46 56.4**	**-1.8**
NLC				S		**Sn**	**07 47 44.4**	**-3.8**
NLC	**Nalytchevo**	**4.41**	**23**	*eP*		**Pn**	**07 46 56.4**	**-1.8**
NLC				*eS*		**Sn**	**07 47 44.4**	**-3.8**
KRX	**Arik**	**4.43**	**17**	PN		**Pn**	**07 46 59.2**	**+0.6**
KRX	**Arik**	**4.43**	**17**	*eP*		**Pn**	**07 46 59.2**	**+0.6**
SPN	**Mys Shipunski**	**4.54**	**28**	PN		**Pn**	**07 46 58.8**	**-1.2**
SPN				S		**Sn**	**07 47 49.2**	**-2.2**
SPN	**Mys Shipunski**	**4.54**	**28**	*eP*		**Pn**	**07 46 58.8**	**-1.2**
SPN				*eS*		**Sn**	**07 47 49.2**	**-2.2**
GNL	**Ganaly**	**4.64**	**11**	PN		**Pn**	**07 47 02.3**	**+0.8**
GNL	**Ganaly**	**4.64**	**11**	*eP*		**Pn**	**07 47 02.3**	**+0.8**
KII	**Karymskiy**	**5.23**	**20**	PN		**Pn**	**07 47 10.3**	**+0.8**
KII	**Karymskiy**	**5.23**	**20**	*eP*		**Pn**	**07 47 10.3**	**+0.8**
KII				*eS*		**Sn**	**07 48 05.2**	**-3.3**
MKZ	**Mys Kozlova**	**6.31**	**29**	PN		**Pn**	**07 47 22.3**	**-2.0**
MKZ	**Mys Kozlova**	**6.31**	**29**	*eP*		**Pn**	**07 47 22.3**	**-2.0**
MKZ				*eS*		**Sn**	**07 48 29.8**	**-5.2**
KZV	**Kizimen**	**6.42**	**20**	PN		**Pn**	**07 47 25.6**	**-0.3**
KZV	**Kizimen**	**6.42**	**20**	*eP*		**Pn**	**07 47 25.6**	**-0.3**
TUMD	**Tumrok D**	**6.52**	**20**	*eP*		**Pn**	**07 47 27.3**	**+0.1**
TUMR	**Tumrok**	**6.54**	**19**	PN		**Pn**	**07 47 27.3**	**-0.2**
TUMR	**Tumrok**	**6.54**	**19**	*eP*		**Pn**	**07 47 27.9**	**+0.4**
ESO	**Esso**	**6.92**	**10**	PN		**Pn**	**07 47 35.0**	**+2.4**
ESO	**Esso**	**6.92**	**10**	*eP*		**Pn**	**07 47 35.0**	**+2.4**
KMNR	**Kamenistaya**	**7.00**	**18**	PN		**Pn**	**07 47 35.1**	**+1.3**
KMNR	**Kamenistaya**	**7.00**	**18**	*eP*		**Pn**	**07 47 35.1**	**+1.3**
KUR	**Kuril'sk**	**7.06**	**240**⇑	*e*PN		**Pn**	**07 47 34.0**	**-0.5**
KPT	**Kopyto**	**7.20**	**17**	PN		**Pn**	**07 47 37.6**	**+1.1**
KPT	**Kopyto**	**7.20**	**17**	*eP*		**Pn**	**07 47 37.6**	**+1.1**
KIRR	**Kirishev**	**7.21**	**18**	PN		**Pn**	**07 47 37.2**	**+0.5**
KIRR	**Kirishev**	**7.21**	**18**	*eP*		**Pn**	**07 47 37.2**	**+0.5**
BZWR	**Bezymyannyi-We**	**7.25**	**18**	PN		**Pn**	**07 47 36.0**	**-1.3**
BZWR	**Bezymyannyi-We**	**7.25**	**18**	*eP*		**Pn**	**07 47 36.0**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**7.27**	**19**	PN		**Pn**	**07 47 36.2**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**7.27**	**19**	*eP*		**Pn**	**07 47 36.2**	**-1.3**
LGNR	**Loginova**	**7.40**	**19**	PN		**Pn**	**07 47 40.8**	**+1.4**
LGNR	**Loginova**	**7.40**	**19**	*eP*		**Pn**	**07 47 40.8**	**+1.4**
SRDR	**Sredinnyy**	**7.44**	**14**	PN		**Pn**	**07 47 41.2**	**+1.4**
SRDR	**Sredinnyy**	**7.44**	**14**	*eP*		**Pn**	**07 47 41.2**	**+1.4**
SMKR	**Semkarok**	**8.03**	**20**	PN		**Pn**	**07 47 47.4**	**-0.5**
SMKR	**Semkarok**	**8.03**	**20**	*eP*		**Pn**	**07 47 47.4**	**-0.5**
SRKR	**Sorokina**	**8.03**	**19**	PN		**Pn**	**07 47 47.8**	**-0.1**
SRKR	**Sorokina**	**8.03**	**19**	*eP*		**Pn**	**07 47 47.8**	**-0.1**
KBTR	**Krutoberegovo**	**8.05**	**26**	PN		**Pn**	**07 47 46.2**	**-1.8**
KBTR	**Krutoberegovo**	**8.05**	**26**	*eP*		**Pn**	**07 47 46.2**	**-1.8**
KBG	**Krutoberegovo**	**8.05**	**26**	PN		**Pn**	**07 47 47.4**	**-0.7**
KBG	**Krutoberegovo**	**8.05**	**26**	*eP*		**Pn**	**07 47 47.4**	**-0.7**
BKI	**Bering**	**8.41**	**40**	PN		**Pn**	**07 47 50.6**	**-2.3**
BKI	**Bering**	**8.41**	**40**	*eP*		**Pn**	**07 47 50.6**	**-2.3**
BKI				*eS*		Sn	07 49 17.2	-9.1
GRPR	**Tuman**	**9.00**	**239**	*e*PN		**Pn**	**07 47 58.6**	**-2.5**
GRPR				MLR	MLR			
	comp=Z,5μm,16.0s							
RUSJ	**Misakicho**	**9.23**	**241**	*e*PN		**Pn**	**07 48 03.5**	**-0.7**
GLVR	**Golovnino**	**9.30**	**239**	PN		**Pn**	**07 48 02.4**	**-2.8**
GLVR				MLR	MLR			
	comp=Z,9μm,17.0s							
NMR	**Nemuro--Hokkai**	**9.42**	**236**	*e*PN		**Pn**	**07 48 02.2**	**-4.7**
YSS	**Yuzh-Sakhalins**	**9.45**	**262**	*e*PN		**Pn**	**07 48 08.6**	**+1.3**
YSS				pmax	pmax			
	comp=Z,20nm,0.5s							
YSS				MLR	MLR			
	comp=Z,300nm,16.0s							
YSS	**Yuzh-Sakhalins**	**9.45**	**262**	Pn		Pn	07 48 01.3	-6.0
JKA	**Kamikawa-asahi**	**10.79**	**247**	Pn		**Pn**	**07 48 23.7**	**-1.9**
ASAJ	**Asahikawa**	**10.79**	**247**	P		**Pn**	**07 48 26.5**	**+0.9**
	comp=Z,12nm,0.3s,baz=68,slow=15,SNR=17							
ASAJ				LR	LR		07 52 03.1	
	comp=Z,163nm,20.1s,baz=328,slow=34							
MA2	**Magadan**	**10.96**	**345**	P		**Pn**	**07 48 27.6**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=158,slow=13,SNR=5.8							
MA2	**Magadan**	**10.96**	**345**⇑	*e*PN		**Pn**	**07 48 27.9**	**0.0**
MA2				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MA2	**Magadan**	**10.96**	**345**	Pn		**Pn**	**07 48 27.8**	**0.0**
ERM	**Erimo**	**11.74**	**238**	*ce*PN		**Pn**	**07 48 36.7**	**-1.9**
ERM	**Erimo**	**11.74**	**238**	Pn		**Pn**	**07 48 36.1**	**-2.4**
SEY	**Seymchan**	**14.00**	**352**	P		**Pn**	**07 49 10.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=20,SNR=2.3							
KLR	**Kul'dur**	**16.15**	**280**	P		**P**	**07 49 38.6**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=69,slow=12,SNR=9.8							
KLR				LR	LR		07 56 24.7	
	comp=Z,205nm,18.6s,baz=80,slow=40							
KLR	**Kul'dur**	**16.15**	**280**⇑	*e*P		**P**	**07 49 38.8**	**-1.0**
KLR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
JSD	**Sado**	**17.20**	**237**			**Pn**	**07 49 48.8**	**-1.7**
JSD				IAmb	IAmb		07 49 56.7	
	comp=Z,20nm,0.6s							
USRK	**Ussuriysk Ar.**	**17.49**	**263**	P		**P**	**07 49 53.3**	**-1.4**
	baz=67,slow=14,SNR=8.2							
MAJO	**Matsushiro**	**18.33**	**233**⇓	*e*P		**Pn**	**07 50 04.7**	**+0.3**
MAJO				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MAJO	**Matsushiro**	**18.33**	**233**			**P**	**07 50 01.7**	**-2.3**
MAT	**Matsushiro**	**18.33**	**233**	P		**Pn**	**07 50 03.1**	**-1.3**
MJAR	**Matsushiro Arr**	**18.33**	**233**	P		**Pn**	**07 50 03.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=5.8							
BILL	**Biiibino**	**19.57**	**11**	*e*P		**P**	**07 50 16.9**	**-0.4**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.9s							
YAK	**Yakutsk**	**19.70**	**321**	LR	LR		07 58 08.5	
	comp=Z,77nm,20.4s,baz=94,slow=38							
YAK	**Yakutsk**	**19.70**	**321**⇑	*e*P		**Pn**	**07 50 17.4**	**-3.1**
YAK				pmax	pmax			
	comp=Z,17nm,0.5s							
INU	**Inuyama**	**19.87**	**233**	P		**P**	**07 50 19.7**	**-1.0**
INU				IAmb	IAmb		07 50 33.3	
	comp=Z,23nm,1.4s							
JWT	**Wachi**	**20.78**	**236**	P		**P**	**07 50 30.2**	**-0.4**
KSRS	**Korea Array**	**23.70**	**251**	P		**P**	**07 51 01.1**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=51,slow=10,SNR=9.5							
KSRS				LR	LR		07 59 34.8	
	comp=Z,66nm,18.5s,baz=65,slow=35							
TIXI	**Tiksi**	**25.88**	**340**	P		**P**	**07 51 19.1**	**-1.4**
	comp=Z,7.0nm,0.6s,baz=122,slow=6.2,SNR=5.5							
TIXI	**Tiksi**	**25.88**	**340**⇑	*e*P		**P**	**07 51 19.5**	**-1.0**
TIXI	**Tiksi**	**25.88**	**340**	P		**P**	**07 51 19.1**	**-1.4**
TIXI				IAmb	IAmb		07 51 21.4	
	comp=Z,9.2nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**30.52**	**160**	T		T	08 24 45.9	
	baz=346,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**30.54**	**160**	T		T	08 24 46.9	
	baz=346,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**30.54**	**160**	T		T	08 25 03.6	
	baz=346,slow=76,SNR=16							
BPAW	**Bear Paw Mtn.**	**31.46**	**42**	P		**P**	**07 52 14.7**	**+4.5**
H11S1	**WAKE ISLAND Hy**	**31.66**	**161**	T		T	08 26 25.6	
	baz=347,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy**	**31.67**	**161**	T		T	08 26 28.2	
	baz=347,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**31.68**	**161**	T		T	08 26 21.6	
	baz=347,slow=76,SNR=18							
HHC	**Hu-ho-hao-te**	**32.42**	**272**	*e*P		**P**	**07 52 19.3**	**+0.3**
HHC				pmax	pmax			
	comp=Z,18nm,0.9s							
HHC				pmax	pmax			
	comp=Z,120nm,5.5s							
TOLK	**Toolik Lake Re**	**32.50**	**33**	P		**P**	**07 52 20.4**	**+1.1**
TOLK				IAmb	IAmb		07 52 36.5	
	comp=Z,2.9nm,0.7s							
KNK	**Knik Glacier**	**32.63**	**47**	P		**P**	**07 52 22.1**	**+1.5**
KNK				IAmb	IAmb		07 52 28.9	
	comp=Z,4.3nm,0.8s							
SML	**Sawmill**	**32.67**	**46**	P		**P**	**07 52 22.0**	**+1.1**
SML				IAmb	IAmb		07 52 22.7	
	comp=Z,6.0nm,0.9s							
COLA	**College**	**32.84**	**41**⇑	*e*P		**P**	**07 52 24.8**	**+2.5**
COLA				pmax	pmax			
	comp=Z,7.0nm,2.0s							
TLY	**Talaya**	**33.16**	**295**	LR	LR		08 07 29.4	
	comp=Z,58nm,18.0s,baz=61,slow=39							
ILAR	**Eielson Array**	**33.26**	**41**	P		**P**	**07 52 26.9**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=251,slow=7.2,SNR=4.3							
FYU	**Fort Yukon**	**33.97**	**38**	P		**P**	**07 52 34.6**	**+2.6**
DOT	**Dot Lake**	**34.52**	**43**	P		**P**	**07 52 37.4**	**+0.4**
SCRK	**Sand Creek**	**34.54**	**42**	P		**P**	**07 52 39.2**	**+2.0**
L27K	**Beaver Creek,**	**35.58**	**44**	P		**P**	**07 52 48.7**	**+2.6**
L27K				IAmb	IAmb		07 53 06.0	
	comp=Z,4.6nm,1.4s							
BCAR	**Beaver Creek A**	**35.60**	**44**	P		**P**	**07 52 49.2**	**+2.9**
EGAK	**Eagle**	**35.71**	**41**	P		**P**	**07 52 48.3**	**+1.2**
EGAK				IAmb	IAmb		07 53 04.7	
	comp=Z,2.6nm,0.8s							
INK	**Inuvik**	**38.40**	**34**	P		**P**	**07 53 11.2**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=195,slow=2.2,SNR=3.7							
INK	**Inuvik**	**38.40**	**34**	P		**P**	**07 53 12.6**	**+2.7**
INK				IAmb	IAmb		07 53 26.6	
	comp=Z,6.1nm,1.2s							
LZH	**Lanzhou**	**40.09**	**271**	*e*P		P	07 53 29.4	+4.8
LZH				pP	pP		07 53 38.1	+1.0
LZH				sP	sP		07 53 43.0	+0.3
LZH				pmax	pmax			
	comp=Z,11nm,1.2s							
GTA	**Gaotai**	**40.85**	**278**	*e*P		**P**	**07 53 30.0**	**-0.8**
GTA				pP	pP		07 53 33.5	-10
GTA				sP	sP		07 53 36.0	-13
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,87nm,4.7s							
GTA				LR	LR			
	comp=N,92nm,14.5s							
GTA				LR	LR			
	comp=E,120nm,16.4s							
GTA				LR	LR			
	comp=Z,140nm,17.1s							
ZALV	**Zalesovo Beam**	**43.07**	**305**	P		**P**	**07 53 46.5**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=78,slow=7.7,SNR=3.7							
ZALV	**Zalesovo Beam**	**43.07**	**305**	*i* P		**P**	**07 53 47.2**	**-1.3**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**43.07**	**305**	P		**P**	**07 53 47.2**	**-1.3**
DGZ	**Jazzator, Alta**	**43.44**	**298**⇑	*e*P		**P**	**07 53 50.8**	**-1.0**
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.9s							
WMQ	**Urumqi**	**46.18**	**291**	*e*P		**P**	**07 54 14.2**	**+0.7**
MK31	**Makanchi Array**	**47.86**	**297**	P		**P**	**07 54 25.6**	**-0.9**
MK31				pmax	pmax			
	comp=Z,4.0nm,1.3s							
MK31	**Makanchi Array**	**47.86**	**297**	P		**P**	**07 54 25.6**	**-0.9**
MK31				IAmb	IAmb		07 54 26.9	
	comp=Z,3.6nm,1.2s							
MKAR	**Makanchi Array**	**47.86**	**297**	P		**P**	**07 54 25.5**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=60,slow=7.2,SNR=15							
MKAR				LR	LR		08 15 39.1	
	comp=Z,100nm,18.6s,baz=58,slow=37							
MKAR	**Makanchi Array**	**47.86**	**297**	P		**P**	**07 54 25.1**	**-1.4**
KURK	**Kurchatov**	**47.93**	**303**	P		**P**	**07 54 26.9**	**-0.1**
KURK	**Kurchatov**	**47.93**	**303**	P		**P**	**07 54 26.9**	**-0.1**
KURBB	**Kurchatov Arra**	**48.03**	**303**	P		**P**	**07 54 26.9**	**-0.9**
	comp=Z,5.5nm,0.7s,baz=64,slow=8.0,SNR=21							
BRVK	**Borovoye**	**51.12**	**309**⇓	*e*P		**P**	**07 54 50.5**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BRVK	**Borovoye**	**51.12**	**309**	P		**P**	**07 54 50.0**	**-1.2**
BRVK				IAmb	IAmb		07 55 02.3	
	comp=Z,4.6nm,0.8s							
ARU	**Arti**	**54.77**	**318***c*	*i* P		**P**	**07 55 16.9**	**-1.1**
ARU				*PP		**pP**	**07 55 27.4**	**-3.6**
ARU				S		**S**	**08 02 52.9**	**-1.8**
ARU				SS		**SS**	**08 06 31.5**	**-6.0**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ARU	**Arti**	**54.77**	**318**	P		**P**	**07 55 17.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**55.12**	**257**	P		**P**	**07 55 22.6**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=32,slow=6.6,SNR=6.0							
ARCES	**ARCESS Array B**	**56.31**	**341**	P		**P**	**07 55 28.8**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=41,slow=8.4,SNR=5.6							
ARCES	**ARCESS Array B**	**56.31**	**341**	IAmb	IAmb		07 55 29.7	
	comp=Z,13nm,1.4s							
KKAR	**Karatay Array**	**56.82**	**299**	P		**P**	**07 55 32.3**	**-0.6**
KKAR	**Karatay Array**	**56.82**	**299**	P		**P**	**07 55 32.3**	**-0.6**
SUMG	**Summit**	**58.12**	**5**	*i* P		**P**	**07 55 43.0**	**+0.8**
SUMG				IAmb	IAmb		07 55 44.8	
	comp=Z,5.3nm,0.9s							
SUMG	**Summit**	**58.12**	**5**	*i* P		**P**	**07 55 43.0**	**+0.8**
SUMG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SUMG	**Summit**	**58.12**	**5**	P		**P**	**07 55 42.0**	**-0.1**
ABKAR	**Akbulak array**	**58.61**	**310**	P		**P**	**07 55 44.8**	**-0.6**
NVAR	**Mina Array Bea**	**59.34**	**65**	P		**P**	**07 55 53.4**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=316,slow=6.2,SNR=4.3							
PDAR	**Pinedale Array**	**61.52**	**57**	P		**P**	**07 56 08.7**	**+3.0**
	comp=Z,0.4nm,0.7s,baz=232,slow=1.7

Error ellipse: s-maj=20.8km s-min=20.4km az=11.0

ISC 06 07:55:40.3±1.7,37°.8N±0°.1×78°.04E±0°.09,h10km,n28,
σ2^{2}12/28,mb3.8/4,2C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.33**	**351**	Pg	**Pg**	**07 57 21.2**	**-1.2**
	13nm,0.5s						
TNSS				Lg	Lg	07 58 35.4	
	34nm,0.8s						
MDOK	**Medeo**	**5.45**	**352**	Pg	**Pg**	**07 57 21.5**	**-3.1**
MDOK				Lg	Lg	07 58 36.8	
MDOK	**Medeo**	**5.45**	**352**	Pg	**Pg**	**07 57 23.8**	**-0.7**
	14nm,0.5s						
MDOK				Lg	Lg	07 58 40.0	
	22nm,0.8s						
TKM2	**Tokmak 2**	**5.48**	**341**	⇑Pg	**Pg**	**07 57 22.7**	**-2.5**
	3.8nm,0.5s						
TKM2				⇓Lg	Lg	07 58 44.4	
	8.7nm,0.7s						
SHLS	**Shalkode**	**5.50**	**11**	Pg	**Pg**	**07 57 25.9**	**+0.4**
	14nm,0.3s						
SHLS				Lg	Lg	07 58 44.3	
	47nm,0.8s						
KST	**Kastek**	**5.50**	**344**	Pg	**Pg**	**07 57 25.9**	**+0.2**
	8.9nm,0.6s						
KST				Lg	Lg	07 58 43.5	
	16nm,0.9s						
AAK	**Ala-Archa**	**5.57**	**332**	Pg	**Pb**	**07 57 20.6**	**+2.9**
	1.6nm,0.3s,baz=152,slow=11,SNR=3.6						
AAK				Lg	Lg	07 58 40.5	
	1.3nm,0.3s,baz=28,slow=18,SNR=2.6						
AAK	**Ala-Archa**	**5.57**	**332**	Pg	Pg	07 57 31.3	+4.3
AAK				Lg	Lg	07 58 39.0	
PDGK	**Podgornoye**	**5.67**	**11**	Pg	**Pg**	**07 57 26.4**	**-2.4**
	4.4nm,0.4s						
PDGK				Lg	Lg	07 58 44.3	
	14nm,0.8s						
KURS	**Kuram**	**5.72**	**1**	Pg	**Pg**	**07 57 29.8**	**0.0**
	16nm,0.7s						
KURS				Lg	Lg	07 58 50.1	
	17nm,0.8s						
DGS	**Degeres**	**5.74**	**343**	Pg	**Pg**	**07 57 29.3**	**-0.8**
	7.4nm,0.4s						
DGS				Lg	Lg	07 58 49.4	
	14nm,0.7s						
KTMS	**Ketmen**	**5.94**	**17**	Pg	**Pg**	**07 57 30.8**	**-3.2**
	7.5nm,0.4s						
KTMS				Lg	Lg	07 58 52.0	
	13nm,0.4s						
KTBS	**Karatobe**	**6.03**	**351**	Pg	**Pg**	**07 57 33.1**	**-2.7**
	5.2nm,0.7s						
KTBS				Lg	Lg	07 58 55.8	
	17nm,0.7s						
CHKK	**Chushkaly**	**6.13**	**353**	Pg	**Pg**	**07 57 34.5**	**-3.2**
	4.0nm,0.7s						
CHKK				Lg	Lg	07 58 58.3	
	12nm,0.7s						
MRKS	**Merke**	**6.19**	**325**	Pg	**Pg**	**07 57 34.8**	**-3.9**
	6.8nm,0.4s						
MRKS				Lg	Lg	07 58 58.9	
	7.9nm,0.6s						
KRBS	**Karabastau**	**6.19**	**344**	Pg	**Pg**	**07 57 37.8**	**-1.0**
	5.0nm,0.5s						
KRBS				Lg	Lg	07 59 03.9	
	2.0nm,0.6s						
SGDS	**Sogindy**	**6.24**	**337**	Pg	**Pg**	**07 57 38.2**	**-1.6**
	1.8nm,0.6s						
SGDS				Lg	Lg	07 59 04.7	
	5.6nm,0.7s						
KUU	**Kurty**	**6.26**	**349**	Pg	**Pg**	**07 57 37.5**	**-2.6**
	1.9nm,0.5s						
KUU				Lg	Lg	07 59 03.4	
	8.8nm,0.8s						
ARXS	**Arharly**	**6.44**	**359**	Pg	**Pg**	**07 57 41.2**	**-2.5**
	12nm,0.5s						
ARXS				Lg	Lg	07 59 10.2	
	11nm,0.5s						
KK31	**Karatay Array**	**7.83**	**315**	⇓Pg	**Pg**	**07 58 09.1**	**-1.1**
	1.0nm,0.7s,baz=136,slow=15						
KK31				⇑Lg	Lg	07 59 48.4	
	3.9nm,0.8s,baz=136,slow=24						
BTLS	**Baital**	**7.86**	**339**	Pg	**Pg**	**07 58 09.0**	**-1.8**
	1.1nm,0.4s						
BTLS				Lg	Lg	07 59 57.6	
	4.0nm,0.6s						
MK31	**Makanchi Array**	**9.55**	**18**	Pn	**Pn**	**07 57 59.3**	**+1.4**
	baz=191,slow=16						
MK31				Sn	**Sn**	**07 59 43.9**	**-1.5**
	baz=187,slow=26						
MKAR	**Makanchi Array**	**9.55**	**18**	Pn	**Pn**	**07 57 59.6**	**+1.7**
	0.5nm,0.3s,baz=202,slow=13,SNR=16						
MKAR				Sn	**Sn**	**07 59 44.1**	**-1.2**
	0.7nm,0.3s,baz=186,slow=27,SNR=6.2						
KURBB	**Kurchatov Arra**	**12.86**	**1**	Lg	Lg	08 02 31.5	
	0.0nm,0.3s,baz=182,slow=29,SNR=2.0						
FINES	**FINESS Array B**	**39.69**	**324**	P	**P**	**08 03 13.0**	**+0.7**
	1.7nm,0.8s,baz=90,slow=4.2,SNR=3.9						
ARCES	**ARCESS Array B**	**42.23**	**335**	P	**P**	**08 03 34.5**	**+1.4**
	6.9nm,1.2s,baz=92,slow=7.5,SNR=1.6						
NOA	**NORSAR Array B**	**46.80**	**322**	P	**P**	**08 04 09.7**	**-0.1**
	0.6nm,0.6s,baz=77,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**71.33**	**272**	P	**P**	**08 06 58.5**	**-2.1**
	0.5nm,0.9s,baz=41,slow=5.8,SNR=2.5						

*IDC **06** 08:20:47.0±2.0,36°.67N×141°.37E,h0km,mb3.6/4,*
mb1 3.7/5,mb1mx3.4/41,mbtmp3.6/5,ML2.9/1,Error
ellipse: s-maj=44.6km s-min=30.1km az=53.0
*JMA **06** 08:20:53.7±0.1,36°.60N×141°.07E,h46km±1km,M3.5*
JMA Felt I J1.
*NIED **06** 08:20:53.8,36°.60N×141°.07E,h46km,MW3.5,Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm;
M_{rr}0.88; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.74; $M_{\theta\phi}$-0.34; $M_{\phi r}$1.43;
Fault plane solution: $M_0$1.81000×1014 NP1:ϕ_s29.00000°,
δ76.00000°,λ87.00000°. NP2:ϕ_s222.00000°,δ14.00000°,
λ103.00000°.

ISC 06 08:20:52.5±2.1,36°.58N±0°.06×141°.13E±0°.09,h30km±12km,
n23,σ0^{2}87/28,mb3.7/4,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.45**	**274**	P	**Pn**	**08 21 03.5**	**+0.6**
JHO				S	**Sn**	**08 21 10.3**	**+0.3**
JHYU	**Hitachinakayam**	**0.50**	**241**	P	**Pn**	**08 21 04.3**	**+0.8**
JHYU				S	**Sn**	**08 21 11.6**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.58**	**333**	P	**Pn**	**08 21 05.0**	**+0.2**
ONAJ				S	**Sb**	**08 21 12.9**	**+0.5**
JFFD	**Fukushimafurud**	**0.68**	**318**	P	**Pn**	**08 21 06.4**	**+0.3**
JFFD				S	**Sb**	**08 21 15.2**	**+0.1**
JFK	**Kawauchi**	**0.81**	**346**	P	**Pn**	**08 21 08.0**	**+0.1**
JFK				S	**Sb**	**08 21 17.9**	**-0.8**
JYT	**Yasato**	**0.83**	**245**	P	**Pn**	**08 21 08.5**	**+0.4**
JYT				S	**Sb**	**08 21 18.8**	**-0.4**
JFT	**Otama**	**1.13**	**326**	P	**Pb**	**08 21 13.6**	**+0.2**
JFT				S	**Sn**	**08 21 27.4**	**+0.6**
JMM	**Marumori**	**1.31**	**348**	P	**Pn**	**08 21 15.2**	**+0.5**
JMM				*e*S	**Sn**	**08 21 31.3**	**+0.1**
JAG	**Ashikaga**	**1.36**	**264**	P	**Pn**	**08 21 15.9**	**+0.5**
JAG				S	**Sn**	**08 21 32.3**	**-0.1**
JFY	**Yanaizu**	**1.41**	**306**	P	**Pn**	**08 21 17.1**	**+1.0**
JKT	**Katashina**	**1.52**	**278**	P	**Pn**	**08 21 18.9**	**+1.2**
MJAR	**Matsushiro Arr**	**2.35**	**270**	Pn	**Pn**	**08 21 29.7**	**+0.6**
	2.2nm,0.3s,baz=102,slow=10,SNR=70						
MJAR				Sn	**Sb**	**08 22 01.1**	**-1.7**
	1.0nm,0.3s,baz=116,slow=17,SNR=6.4						
MAT	**Matsushiro**	**2.35**	**270**	P	**Pn**	**08 21 30.9**	**+1.8**
MAT				*e*S	**Sb**	**08 22 00.6**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	08 56 38.0	
	baz=312,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	08 56 37.8	
	baz=312,slow=75,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	08 56 37.4	
	baz=312,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	08 57 37.2	
	baz=314,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.81**	**122**	T	T	08 57 36.0	
	baz=314,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.83**	**122**	T	T	08 57 37.1	
	baz=314,slow=76,SNR=20						
ZALV	**Zalesovo Beam**	**42.05**	**313**	P	**P**	**08 28 40.2**	**-0.9**
	0.6nm,0.3s,baz=77,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**08 28 58.5**	**+0.1**
	0.3nm,0.8s,baz=82,slow=10,SNR=2.5						
KURBB	**Kurchatov Arra**	**46.10**	**308**	P	**P**	**08 29 13.4**	**-0.2**
	0.8nm,0.4s,baz=81,slow=7.6,SNR=7.2						
WRA	**Warramunga Arr**	**56.58**	**188**	P	**P**	**08 30 32.2**	**-0.2**
	0.6nm,1.0s,baz=4.3,slow=7.5,SNR=5.0						

*ARE **06** 08:23:19±2.1,13°.90S±0°.06×71°.75W±0°.07,h9km±3km,*
Error ellipse: s-maj=10.4km s-min=8.0km az=71.0
*VAO **06** 08:23:25.0±0.2,13°.83S×71°.64W,h10km,mb4.7*
*GCMT **06** 08:23:26.5±0.2,13°.74S±0°.01×71°.51W±0°.03,h16km,*
MW4.9/87,Moment Tensor Solution. s40,c48; s87,c113;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.21±.12;
$M_{\theta\theta}$2.19±.09; $M_{\phi\phi}$0.02±.09; $M_{r\theta}$-0.14±.22; $M_{\theta\phi}$-0.21±.06;
$M_{\phi r}$-1.08±.36; Best double couple: $M_0$2.43400×10^{16}
NP1:ϕ_s296.00000°,δ49.00000°,λ-60.00000°. NP2:
ϕ_s75.00000°,δ50.00000°,λ-120.00000°. Principal axes:
T 2.2110, Plg1.0000°, Azm185.0000°; N 0.4450,
Plg22.0000°, Azm95.0000°; P -2.6560, Plg68.0000°,
Azm277.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*IDC **06** 08:23:27.6±2.4,13°.87S×71°.55W,h39km±21km,mb4.2/17,*
mb1 4.3/21,mb1mx4.2/31,mbtmp4.4/21,ML4.0/4,MS4.0/22,
Ms1 4.1/22,ms1mx4.0/38 Error ellipse: s-maj=18.5km
s-min=13.1km az=56.0
*NEIC **06** 08:23:27.5±1.9,13°.85S±0°.06×71°.73W±0°.08,h37km±5km,*
mb4.9/335,ML4.7(ARE),Error ellipse: s-maj=11.1km
s-min=8.1km az=69.0

ISC 06 08:23:27.2±0.3,13°.83S±0°.04×71°.63W±0°.05,h35km,n685,
σ1^{2}51/676,mb4.9/180,MS4.2/15,1C-1D,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.17**	**126**	Pn	Pn	08 24 35.2	+6.2
	1.4nm,0.3s,baz=304,slow=12,SNR=46						
LPAZ				Sn	**Sn**	**08 25 22.2**	**+5.4**
	13nm,0.3s,baz=236,slow=7.7,SNR=4.1						
LPAZ				LR	LR	08 26 12.0	
	comp=Z,571nm,19.1s,baz=310,slow=40						
LPAZ	**La Paz**	**4.17**	**126**	Pn	**Pn**	**08 24 32.8**	**+3.8**
AP01	**Chacalluta**	**4.68**	**165**		**Pn**	**08 24 36.4**	**+1.0**
NNA	**Nana**	**5.41**	**289**	Pn	**Pn**	**08 24 46.7**	**+1.2**
	3.1nm,0.3s,baz=153,slow=8.5,SNR=12						
NNA				Sn	**Sn**	**08 25 49.1**	**+2.5**
	0.6nm,0.3s,baz=203,slow=11,SNR=1.4						
NNA				Lg	Lg	08 26 12.0	
	2.8nm,0.3s,baz=283,slow=7.4,SNR=3.9						
NNA				LR	LR	08 27 10.0	
	comp=Z,879nm,21.1s,baz=118,slow=40						
NNA	**Nana**	**5.41**	**289**		**Pn**	**08 24 44.9**	**-0.5**
MNMC	**Minye Minye**	**5.62**	**160**		**Pn**	**08 24 51.3**	**+2.7**
PSGCX	**Pisagua**	**5.91**	**166**		**Pn**	**08 24 52.7**	**+0.3**
CZSB	**Cruzeiro do Su**	**6.15**	**350**	*e*P	**Pn**	**08 24 56.2**	**+0.5**
TA02	**Huaiquique**	**6.56**	**168**		**Pn**	**08 25 02.1**	**+0.8**
PB08	**IPOC Station P**	**6.71**	**160**		**Pn**	**08 25 05.4**	**+1.8**
TA01	**Diego Aracena**	**6.84**	**169**	Pn	**Pn**	**08 25 05.1**	**+0.1**
PB01	**IPOC Station P**	**7.46**	**164**	Pn	**Pn**	**08 25 13.6**	**-0.1**
PB07	**IPOC Station P**	**8.03**	**168**	Pn	**Pn**	**08 25 20.7**	**-0.9**
PB09	**IPOC Station P**	**8.24**	**164**	Pn	**Pn**	**08 25 25.3**	**+0.8**
PB04	**IPOC Station P**	**8.57**	**171**	Pn	**Pn**	**08 25 27.7**	**-1.4**
PB06	**IPOC Station P**	**9.04**	**168**	Pn	**Pn**	**08 25 34.4**	**-1.1**
LVC	**Limon Verde**	**9.11**	**164**	Pn	**Pn**	**08 25 37.1**	**+0.5**
	3.4nm,0.3s,baz=328,slow=9.0,SNR=81						
LVC				Sn	**Sn**	**08 27 18.8**	**+0.7**
	baz=172,slow=18,SNR=3.2						
LVC				LR	LR	08 29 29.2	
	comp=Z,2μm,21.4s,baz=325,slow=40						
LVC	**Limon Verde**	**9.11**	**164**	Pn	**Pn**	**08 25 36.4**	**-0.1**
LVC	**Limon Verde**	**9.11**	**164**	*e*P	**Pn**	**08 25 36.7**	**+0.2**
ATAH	**Atahualpa**	**9.41**	**314**	Pn	**Pn**	**08 25 42.0**	**+1.2**
	0.8nm,0.3s,baz=145,slow=11,SNR=9.1						
ATAH				Sn	**Sn**	**08 27 33.0**	**+7.4**
	baz=56,slow=22,SNR=1.4						
ATAH				LR	LR	08 29 40.7	
	comp=Z,1μm,18.8s,baz=138,slow=39						
PB15	**IPOC Station P**	**9.55**	**168**		**Pn**	**08 25 41.1**	**-1.4**
SAML	**Samuel**	**9.59**	**61**		**Pn**	**08 25 43.2**	**+0.3**
PB10	**IPOC Station P**	**9.69**	**174**		**Pn**	**08 25 42.8**	**-1.4**
TBTG	**Tabatinga, AM**	**9.73**	**10**	*e*P	**Pn**	**08 25 44.7**	**-0.1**
SIV	**San Ignacio**	**10.43**	**103**	Pn	**Pn**	**08 25 55.8**	**+1.4**
	1.9nm,0.3s,baz=291,slow=13,SNR=50						
SIV				Lg	Lg	08 28 51.0	
	2.1nm,0.3s,baz=222,slow=16,SNR=3.7						
SIV				LR	LR	08 30 09.9	
	comp=Z,1μm,18.6s,baz=318,slow=39						
PB14	**IPOC Station P**	**10.80**	**174**	Pn	**Pn**	**08 25 57.4**	**-2.3**
GO02	**Mina Guanaco**	**11.44**	**171**		**Pn**	**08 26 06.7**	**-1.7**
PTLB	**Pontes e Lacer**	**12.19**	**99**	*e*P	**Pn**	**08 26 17.9**	**-0.6**
AC02	**Maricunga**	**13.15**	**170**	Pn	**Pn**	**08 26 30.4**	**-1.6**
PTLC	**Puerto Leguiza**	**14.26**	**347**	*e*P	Pn	08 26 39.9	-6.9
OTAV	**Otavalo**	**15.53**	**334**	Pn	**Pn**	**08 27 05.0**	**+0.9**
OTAV	**Otavalo**	**15.53**	**334**	*e*P	**Pn**	**08 27 04.8**	**+0.7**
OTAV	**Otavalo**	**15.53**	**334**	*e*P	**Pn**	**08 27 04.0**	**-0.1**
SALV	**Santo Antonio**	**15.54**	**100**	*e*P	**Pn**	**08 27 04.2**	**+0.4**
TULM	**Tulcn-Chalpat**	**15.69**	**337**	*e*P	**Pn**	**08 27 06.9**	**+0.6**
PAC1	**Pacto, Paraso**	**15.70**	**333**	*e*P	**P**	**08 27 15.9**	**+6.1**
CLDB	**Colider**	**15.74**	**81**	*e*P	**Pn**	**08 27 06.4**	**-0.1**
FLOC	**Florencia**	**15.82**	**345**	Pn	**Pn**	**08 27 05.7**	**-1.8**
FLOC				IAmb	IAmb	08 27 16.3	
	comp=Z,84nm,1.0s						
FLOC	**Florencia**	**15.82**	**345**	*e*P	**Pn**	**08 27 04.0**	**-3.6**
GCUF	**Volcan Galeras**	**16.00**	**339**	*e*P	**P**	**08 27 16.4**	**+3.0**
MACC	**Macarena, Meta**	**16.02**	**352**	*e*P	**Pn**	**08 27 07.3**	**-2.8**
CRUC	**La Cruz**	**16.18**	**341**	*e*P	**P**	**08 27 14.6**	**-0.8**
GO04	**Tololo Observa**	**16.28**	**177**		**Pn**	**08 27 11.7**	**-1.9**
AQDB	**Aquidauana**	**16.59**	**116**	Pn	**Pn**	**08 27 15.4**	**-1.8**
AQDB	**Aquidauana**	**16.59**	**116**	*e*P	**P**	**08 27 19.6**	**+0.3**
SOTA	**Rioblanco**	**16.61**	**342**	*e*P	**Pn**	**08 27 18.1**	**0.0**
BBAC	**Balboa, Cauca**	**16.71**	**340**	*e*P	**P**	**08 27 20.0**	**-1.0**
PCON	**Cinco Dias**	**16.74**	**343**	*e*P	**Pn**	**08 27 19.5**	**-0.2**
BETC	**Betania**	**16.84**	**347**	*e*P	**P**	**08 27 22.3**	**0.0**
CO03	**El Pedregal**	**16.95**	**177**	Pn	**Pn**	**08 27 21.1**	**-0.7**
CO03					**P**	**08 27 21.8**	**-1.7**
POPC	**Popayan, Colom**	**17.02**	**343**	*e*P	**Pn**	**08 27 16.8**	**-6.1**
TUMC	**Tumaco**	**17.07**	**335**	Pn	**Pn**	**08 27 20.3**	**-3.0**
MARP	**Paez Belalcaza**	**17.11**	**345**	*e*P	**Pn**	**08 27 24.5**	**+0.4**
PTGA	**Pitinga**	**17.39**	**43**	P	**Pn**	**08 27 25.5**	**-1.9**
	comp=Z,11nm,0.3s,baz=221,slow=14,SNR=127						
PTGA				S	**Sn**	**08 30 34.1**	**-6.0**
	comp=Z,0.6nm,0.3s,baz=316,slow=9.1,SNR=4.9						
PTGA				Lg	Lg	08 32 39.2	
	comp=Z,0.9nm,0.3s,baz=314,slow=11,SNR=5.5						
PTGA				LR	LR	08 34 19.8	
	comp=Z,857nm,18.3s,baz=224,slow=38						
PRAC	**Prado**	**17.73**	**349**	*e*P	**P**	**08 27 32.3**	**+0.2**
ZON	**Zonda**	**17.84**	**172**	P	**P**	**08 27 33.6**	**+0.3**
PTGC	**Puerto Gaitan,**	**17.92**	**358**	*e*P	**Pn**	**08 27 32.3**	**-1.5**
VILC	**Villavicencio,**	**17.94**	**353**	*e*P	**P**	**08 27 34.7**	**+0.1**
ORTC	**Ortega, Tolima**	**17.99**	**348**	*e*P	**P**	**08 27 35.8**	**+0.9**
CPUP	**Villa Florida**	**18.28**	**135**	P	**P**	**08 27 38.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=313,slow=12,SNR=10						
CPUP				LR	LR	08 36 07.5	
	comp=Z,615nm,18.2s,baz=318,slow=42						
CPUP	**Villa Florida**	**18.28**	**135**	P	**P**	**08 27 37.9**	**-0.1**
YOTC	**Yotoco, Valle**	**18.31**	**345**	*e*P	**Pn**	**08 27 42.7**	**+4.0**
CHIC	**Chingaza**	**18.46**	**353**	*e*P	**Pn**	**08 27 41.1**	**+0.3**
TOLC	**Tolima**	**18.66**	**348**	*e*P	**Pn**	**08 27 45.4**	**+2.2**
ROSC	**El Rosal**	**18.74**	**352**	P	**Pn**	**08 27 48.0**	**+3.8**
	comp=Z,1.8nm,0.3s,baz=356,slow=7.5,SNR=7.9						
ROSC				Lg	Lg	08 33 19.1	
	comp=Z,1.4nm,0.3s,baz=145,slow=22,SNR=5.3						
ROSC				LR	LR	08 35 27.7	
	comp=Z,1μm,18.1s,baz=212,slow=38						
ROSC	**El Rosal**	**18.74**	**352**	P	**P**	**08 27 42.8**	**-0.8**
ROSC				IAmb	IAmb	08 28 09.1	
	comp=Z,52nm,0.9s						
ROSC	**El Rosal**	**18.74**	**352**	*e*P	**Pn**	**08 27 47.5**	**+3.3**
PLMC	**San Jos del P**	**19.18**	**346**	*e*P	**Pn**	**08 27 50.7**	**+1.5**
ARAG	**Araguaiana, MT**	**19.25**	**98**	*e*P	**Pn**	**08 27 50.2**	**+0.2**
GUY2C	**Guyana, Caldas**	**19.29**	**349**	*e*P	**Pn**	**08 27 52.6**	**+1.7**
BOAV	**Boa Vista**	**19.52**	**35**	*e*P	**P**	**08 27 52.4**	**+0.6**
NORC	**Norcasia**	**19.54**	**350**	*e*P	**Pn**	**08 27 54.5**	**+1.0**
RUSC	**La Rusia**	**19.65**	**356**	P	**P**	**08 27 51.1**	**-2.6**
RUSC				IAmb	IAmb	08 28 17.4	
	comp=Z,41nm,1.0s						
RUSC	**La Rusia**	**19.65**	**356**	*e*P	**Pn**	**08 27 55.8**	**+0.6**
VA05	**Santo Domingo**	**19.74**	**180**	P	**P**	**08 27 51.7**	**-2.3**
SNDB	**Serra Nova Dou**	**19.90**	**87**	*e*P	**Pn**	**08 27 58.3**	**+0.5**
MT01	**Popeta**	**19.95**	**179**	P	**P**	**08 27 55.2**	**-1.0**
CBOC	**Ciudad Bolivar**	**20.05**	**347**	*e*P	**P**	**08 27 57.4**	**-0.3**
TRCB	**Terra Rica**	**20.10**	**119**	P	**P**	**08 27 57.0**	**-1.1**
TRCB	**Terra Rica**	**20.10**	**119**	*e*P	Pn	08 27 59.9	-0.1
HELC	**Santa Helena**	**20.27**	**349**	*e*P	Pn	08 28 05.2	+2.9
BARC	**Barichara**	**20.35**	**356**	*e*P	Pn	08 28 04.1	+0.9
BO01	**Tunca**	**20.48**	**179**	P	**P**	**08 28 01.7**	**-0.3**
H03N1	**Juan Fernandez**	**20.62**	**198**	T	T	08 47 01.6	
	baz=18,slow=73,SNR=7.2						
H03N2	**Juan Fernandez**	**20.62**	**198**	T	T	08 46 35.8	
	baz=18,slow=73,SNR=4.2						
H03N3	**Juan Fernandez**	**20.64**	**198**	T	T	08 46 34.9	
	baz=18,slow=73,SNR=5.5						
ELOV	**Elorza**	**20.80**	**6**	*e*P	Pn	08 28 09.3	+1.0
PCMB	**Pacaembu**	**20.87**	**115**	*e*P	Pn	08 28 08.0	-1.0
BO02	**Sierra Bellavi**	**20.89**	**178**	P	**P**	**08 28 06.4**	**-0.2**
MALB	**Monte Alegre**	**20.89**	**57**	*e*P	**P**	**08 28 07.9**	**+1.3**
ITQB	**Itaqui**	**21.00**	**141**	P	**P**	**08 28 08.2**	**+0.5**
ITQB				IAmb	IAmb	08 28 16.6	
	comp=Z,93nm,1.2s						
ITQB	**Itaqui**	**21.00**	**141**	*e*P	**P**	**08 28 08.3**	**+0.6**
PAMC	**Pamplona, Colo**	**21.06**	**357**	*e*P	**P**	**08 28 12.0**	**+3.0**
ITRB	**Iturama**	**21.17**	**109**	*e*P	**P**	**08 28 11.6**	**+1.9**
DBBC	**Dabeiba**	**21.21**	**347**	*e*P	**P**	**08 28 09.4**	**-0.7**
ZARC	**Zaragoza, Cauc**	**21.43**	**351**	*e*P	**P**	**08 28 15.1**	**+2.7**
PTAC	**Punta Ardita,**	**21.73**	**343**	*e*P	**P**	**08 28 16.0**	**+0.4**
ITAB	**Concordia**	**22.57**	**129**	P	**P**	**08 28 24.6**	**0.0**
ITAB				IAmb	IAmb	08 28 27.4	
	comp=Z,34nm,1.0s						
ITAB	**Concordia**	**22.57**	**129**	*e*P	**P**	**08 28 23.5**	**-1.1**
SDV	**Santo Domingo**	**22.59**	**3**	P	**P**	**08 28 26.5**	**+1.4**
	comp=Z,17nm,0.4s,baz=193,slow=12,SNR=6.5						
SDV				Lg	Lg	08 35 17.2	
	comp=Z,14nm,0.3s,baz=25,slow=11,SNR=3.5						
SDV	**Santo Domingo**	**22.59**	**3**	*e*P	**P**	**08 28 25.2**	**+0.1**
SMLC	**San Martn de**	**22.61**	**354**	*e*P	**P**	**08 28 22.6**	**-2.6**
PRPB	**Paraua pebas**	**22.77**	**73**	*e*P	**P**	**08 28 28.8**	**+1.9**
PEXB	**Peixe**	**22.79**	**88**	*e*P	**P**	**08 28 29.5**	**+2.4**
IPMB	**Ipameri, GO**	**22.89**	**103**	*e*P	**P**	**08 28 27.8**	**-0.3**
BDFB	**Brasilia**	**22.90**	**97**	P	**P**	**08 28 27.3**	**-1.1**
	comp=Z,6.9nm,1.2s,baz=254,slow=7.4,SNR=1.9						
FRTB	**Fartura**	**22.92**	**118**	*e*P	**P**	**08 28 30.1**	**+1.7**
BB19B	**Bebedouro**	**23.16**	**111**	*e*P	**P**	**08 28 31.4**	**+0.6**
CPSB	**Cacapava Do Su**	**23.52**	**137**	*e*P	**P**	**08 28 34.3**	**0.0**
MCPB	**Macapa, AP**	**23.55**	**57**	*e*P	**P**	**08 28 35.9**	**+1.2**
SMTB	**Santa Maria do**	**24.07**	**81**	*e*P	**P**	**08 28 41.4**	**+1.8**
PLTB	**Pedras Altas**	**24.32**	**140**	P	**P**	**08 28 41.4**	**-0.4**
PLTB				IAmb	IAmb	08 28 43.8	
	comp=Z,34nm,1.1s						
PLTB	**Pedras Altas**	**24.32**	**140**	*e*P	**P**	**08 28 41.6**	**-0.1**
RCLB	**Rio Claro- Sao**	**24.41**	**114**	*e*P	**P**	**08 28 42.8**	**+0.1**
PCRV	**Puerto La Cruz**	**24.84**	**17**	P	**P**	**08 28 47.1**	**+0.5**
	comp=Z,14nm,0.9s,baz=225,slow=5.7,SNR=2.8						
PET01	**Itanhaem-SP**	**25.22**	**118**	*e*P	**P**	**08 28 52.0**	**+2.1**
TRQA	**Tornquist**	**25.61**	**162**	*e*P	**P**	**08 28 55.0**	**+1.7**
SDBA	**SAO DESIDERIO**	**26.06**	**90**	*e*P	**P**	**08 28 58.5**	**+0.7**
BSCB	**Bom Sucesso**	**26.57**	**109**	*e*P	**P**	**08 29 04.0**	**+1.6**
MDP	**Montagnes des**	**26.62**	**46**	P	**P**	**08 29 03.4**	**+0.7**
	comp=Z,7.0nm,0.9s,baz=253,slow=3.1,SNR=4.6						
MDP				Lg	Lg	08 37 18.3	
	comp=Z,16nm,1.0s,baz=356,slow=22,SNR=5.7						
PLCA	**Paso Flores**	**26.82**	**178**	P	**P**	**08 29 03.1**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=12,slow=7.2,SNR=2.9						
PLCA				LR	LR

CPCT IAmb IAmb 08 32 23.4
comp=Z,10nm,1.0s
TKL Tuckaleechee C 50.54 347 P **P 08 32 21.8 -0.5**
TKL IAmb IAmb 08 32 25.6
comp=Z,25nm,1.2s
U56A King 50.59 351 P **P 08 32 22.1 -0.4**
U56A IAmb IAmb 08 32 26.1
comp=Z,12nm,0.9s
SWET Sewanee 50.63 345 P **P 08 32 22.1 -0.8**
SWET IAmb IAmb 08 32 29.9
comp=Z,13nm,0.8s
V52A Sevierville 50.68 347 P **P 08 32 22.6 -0.8**
V51A Loudon 50.81 347 P **P 08 32 23.3 -1.0**
V51A IAmb IAmb 08 32 27.7
comp=Z,18nm,1.1s
T59A Double "B" Far 50.84 354 P **P 08 32 23.1 -1.3**
T59A IAmb IAmb 08 32 27.5
comp=Z,13nm,1.1s
435B Jarrell 50.90 331 P **P 08 32 23.5 -1.5**
baz=147
OXF Oxford 50.96 341 P **P 08 32 24.3 -1.1**
baz=158
OXF Oxford 50.96 341 P **P 08 32 25.6 +0.2**
OXF IAmb IAmb 08 32 30.2
comp=Z,19nm,1.0s
PLAL Pickwick Lake 50.99 343 P **P 08 32 26.1 +0.5**
PLAL IAmb IAmb 08 32 36.7
comp=Z,8.8nm,0.9s
U54A Nelsons Funny 50.99 349 P **P 08 32 25.3 -0.4**
U54A IAmb IAmb 08 32 28.2
comp=Z,16nm,1.0s
Z41A Richland Creek 51.00 337 P **P 08 32 24.1 -1.6**
baz=153
T57A Hurt 51.06 352 P **P 08 32 25.6 -0.5**
T57A IAmb IAmb 08 32 26.4
comp=Z,13nm,0.8s
PMSA Palmer Station 51.15 176 P **P 08 32 25.6 -0.9**
comp=Z,0.7nm,0.4s,baz=331,slow=8.0,SNR=4.9
PMSA LR LR 08 51 29.0
comp=Z,79nm,21.6s,baz=350,slow=33
PMSA Palmer Station 51.15 176 eP **P 08 32 27.6 +1.2**
TZTN Tazewell 51.35 348 P **P 08 32 27.0 -1.4**
baz=165
TZTN Tazewell 51.35 348 P **P 08 32 27.2 -1.2**
TZTN IAmb IAmb 08 32 31.7
comp=Z,17nm,1.1s
V48A Smith Brothers 51.36 344 P **P 08 32 27.3 -1.0**
V48A IAmb IAmb 08 32 37.6
comp=Z,23nm,1.1s
BLA Blacksburg 51.44 351 P **P 08 32 27.6 -1.4**
baz=169
BLA Blacksburg 51.44 351 P **P 08 32 28.1 -1.0**
W45A Hickory Valley 51.49 342 P **P 08 32 27.6 -1.8**
WLAR White Oak Lake 51.50 337 P **P 08 32 28.1 -1.4**
CLTN Cedars of Leba 51.56 345 P **P 08 32 29.0 -0.9**
CLTN IAmb IAmb 08 32 38.3
comp=Z,10nm,1.0s
JCT Junction City 51.73 329 P **P 08 32 29.3 -2.0**
baz=144
S57A Dark Hollow, R 51.78 353 P **P 08 32 30.0 -1.4**
S57A IAmb IAmb 08 32 33.8
comp=Z,12nm,0.9s
U49A Red Boiling Sp 51.82 345 P **P 08 32 30.9 -1.0**
U49A IAmb IAmb 08 32 34.3
comp=Z,6.6nm,0.8s
R58B Mineral 51.85 354 P **P 08 32 30.7 -1.3**
WHTX Lake Whitney, 51.85 332 P **P 08 32 30.2 -1.9**
baz=148
WHTX Lake Whitney, 51.85 332 P **P 08 32 32.4 +0.3**
WHTX IAmb IAmb 08 32 34.4
comp=Z,28nm,1.4s
Z38A Mt. Pleasant 51.87 335 P **P 08 32 31.7 -0.5**
Z38A IAmb IAmb 08 32 34.8
comp=Z,18nm,0.9s
WVT Waverly 52.00 343 P **P 08 32 31.5 -1.6**
baz=160
WVT Waverly 52.00 343 P **P 08 32 31.2 -2.0**
WVT IAmb IAmb 08 32 40.9
comp=Z,13nm,1.1s
CBN Corbin Frederi 52.04 354 P **P 08 32 32.3 -1.0**
baz=173
T50A Nancy 52.09 347 P **P 08 32 32.4 -1.5**
T50A IAmb IAmb 08 32 34.9
comp=Z,12nm,1.0s
X40A Basin Creek Fa 52.11 338 P **P 08 32 32.6 -1.5**
baz=154
X40A Basin Creek Fa 52.11 338 P **P 08 32 33.1 -0.9**
S54A Dingess, Beckl 52.16 350 P **P 08 32 33.6 -0.7**
S51A Beattyville 52.42 348 P **P 08 32 35.2 -1.1**
S51A IAmb IAmb 08 32 38.8
comp=Z,21nm,1.2s
S51A PcP **PcP 08 33 43.9 -2.9**
MIAR Mount Ida 52.44 337 P **P 08 32 35.0 -1.5**
baz=153
MIAR Mount Ida 52.44 337 P **P 08 32 36.2 -0.2**
R55A Marlinton 52.45 352 P **P 08 32 35.6 -0.9**
R55A IAmb IAmb 08 32 43.3
comp=Z,25nm,1.4s
R55A PcP **PcP 08 33 47.0 0.0**
LNXT Lenox 52.45 342 P **P 08 32 36.1 -0.4**
LNXT PcP **PcP 08 33 46.5 -0.4**
GNAR Gosnell 52.49 341 P **P 08 32 35.6 -1.2**
GNAR PcP **PcP 08 33 46.6 -0.4**
W41B Gary Mavity, V 52.51 339 P **P 08 32 35.7 -1.3**
baz=155,SNR=5.6
GLAT Glass 52.55 342 P **P 08 32 36.2 -1.1**
T47A Sharon Grove 52.61 344 P **P 08 32 36.7 -0.9**
T47A IAmb IAmb 08 32 37.6
comp=Z,18nm,1.1s
WHAR Wooly Hollow 52.63 339 P **P 08 32 37.3 -0.6**
WHAR IAmb IAmb 08 32 39.2
comp=Z,13nm,1.0s
R53A Hurricane 52.78 350 P **P 08 32 38.5 -0.4**
R53A IAmb IAmb 08 32 40.3
comp=Z,17nm,1.1s
R53A PcP **PcP 08 33 48.4 +0.3**
TXAR Lajitas Array 52.90 324 P **P 08 32 39.9 -0.2**
comp=Z,1.5nm,0.9s,baz=149,slow=8.0,SNR=14
TXAR Lajitas Array 52.90 324 P **P 08 32 39.7 -0.4**
TX31 Lajitas Ar. Si 52.90 324 P **P 08 32 39.8 -0.3**
TX31 IAmb IAmb 08 32 45.8
comp=Z,16nm,1.2s
TX32 Lajitas Array 52.90 324 P **P 08 32 40.0 -0.1**
LCAR Lake Charles 52.95 340 P **P 08 32 40.1 -0.1**
LCAR IAmb IAmb 08 32 41.1
comp=Z,9.1nm,1.1s
PARMO Parma 53.05 342 P **P 08 32 40.3 -0.6**
Q56A Snyder Ridge, 53.07 353 P **P 08 32 41.2 +0.2**
Q56A IAmb IAmb 08 32 46.8
comp=Z,11nm,0.9s
W39A Magazine 53.09 337 P **P 08 32 40.0 -1.2**
baz=153
W39A Magazine 53.09 337 P **P 08 32 40.8 -0.4**
FCAR Ozark Folk Cen 53.12 339 P **P 08 32 41.3 -0.1**
FCAR IAmb IAmb 08 32 43.0
comp=Z,10.0nm,0.8s
X37A Clayton 53.18 335 P **P 08 32 42.4 +0.5**
X37A IAmb IAmb 08 33 04.5
comp=Z,8.8nm,0.8s
R50A Paris 53.19 348 P **P 08 32 41.2 -0.7**
R50A IAmb IAmb 08 32 44.5
comp=Z,16nm,1.0s
Q54A Coxs Mills 53.24 351 P **P 08 32 41.3 -0.9**
Q54A IAmb IAmb 08 32 47.5
comp=Z,14nm,0.9s
PBMO Poplar Bluff 53.37 341 P **P 08 32 42.1 -1.2**
PBMO IAmb IAmb 08 32 47.4
comp=Z,15nm,0.8s
R49A Shelbyville 53.38 347 P **P 08 32 42.2 -1.1**
R49A IAmb IAmb 08 32 43.2
comp=Z,27nm,1.4s
LPIG La Paz 53.38 315 LR LR 08 52 18.0
comp=Z,72nm,21.5s,baz=147,slow=32
ABTX Abilene, Hawle 53.40 330 P **P 08 32 42.4 -1.3**
baz=146
ABTX Abilene, Hawle 53.40 330 P **P 08 32 44.0 +0.3**
ABTX IAmb IAmb 08 32 44.9
comp=Z,20nm,1.4s
Q52A Bidwell 53.45 350 P **P 08 32 43.5 -0.4**
Q52A IAmb IAmb 08 32 45.3
comp=Z,18nm,1.1s
P60A Greenville 53.49 356 P **P 08 32 42.2 -1.9**
baz=175
WCI Wyandotte Cave 53.58 346 P **P 08 32 43.3 -1.5**
baz=162

WCI Wyandotte Cave 53.58 346 P **P 08 32 43.1 -1.7**
USIN University of 53.68 344 P **P 08 32 44.8 -0.8**
Q51A Peebles 53.71 349 P **P 08 32 44.5 -1.3**
Q51A IAmb IAmb 08 32 52.2
comp=Z,14nm,1.2s
Q51A PcP **PcP 08 33 48.7 -2.9**
MVL Millersville 53.73 355 P **P 08 32 45.4 -0.5**
MVL IAmb IAmb 08 32 49.1
comp=Z,12nm,1.2s
MVL PcP **PcP 08 33 49.9 -1.8**
MCWV Mont Chateau 53.76 352 P **P 08 32 44.1 -2.0**
baz=170
MCWV Mont Chateau 53.76 352 P **P 08 32 45.6 -0.5**
MCWV IAmb IAmb 08 32 48.0
comp=Z,15nm,0.8s
U40A Yellville 53.79 339 P **P 08 32 43.6 -2.8**
baz=154,SNR=12
U40A Yellville 53.79 339 P **P 08 32 45.6 -0.8**
U40A IAmb IAmb 08 32 47.7
comp=Z,10.0nm,0.8s
P53A Whipple 53.82 351 P **P 08 32 45.8 -0.7**
P53A PcP **PcP 08 33 51.8 -0.2**
S44A Carbondale 53.86 343 P **P 08 32 45.7 -1.2**
SIUC Southern Illin 53.87 343 P **P 08 32 46.2 -0.7**
P52A Corning 54.08 350 P **P 08 32 46.8 -1.6**
baz=168,SNR=7.5
P52A Corning 54.08 350 P **P 08 32 47.1 -1.4**
P51A Williamsport 54.10 349 P **P 08 32 46.9 -1.6**
P51A IAmb IAmb 08 32 50.9
comp=Z,13nm,1.2s
P51A PcP **PcP 08 33 52.9 -0.2**
HHAR Hobbs 54.12 338 P **P 08 32 47.6 -1.2**
HHAR IAmb IAmb 08 32 56.8
comp=Z,14nm,1.0s
O56A Blue Knob Stat 54.20 353 P **P 08 32 47.9 -1.5**
baz=172
O56A Blue Knob Stat 54.20 353 P **P 08 32 48.8 -0.6**
O56A IAmb IAmb 08 32 57.0
comp=Z,7.3nm,0.9s
X34A Smith Ranch, M 54.22 333 P **P 08 32 49.2 -0.4**
MGMO Mountain Grove 54.31 340 P **P 08 32 49.2 -1.0**
MGMO PcP **PcP 08 33 53.5 -0.5**
P49A Miami Univ. Ec 54.47 348 P **P 08 32 48.8 -2.5**
baz=164
P49A Miami Univ. Ec 54.47 348 P **P 08 32 49.5 -1.8**
P49A IAmb IAmb 08 32 51.8
comp=Z,15nm,1.1s
TUL1 Leonard 54.50 336 P **P 08 32 49.7 -1.9**
baz=151
SSPA Standing Stone 54.50 354 P **P 08 32 49.9 -1.5**
baz=173
O52A Adamsville 54.50 350 P **P 08 32 50.4 -1.1**
O52A IAmb IAmb 08 32 54.2
comp=Z,19nm,1.1s
OLIL Olney 54.51 344 P **P 08 32 50.2 -1.4**
BLO Bloomington 54.53 346 P **P 08 32 50.3 -1.4**
O53A New Philadelph 54.53 351 P **P 08 32 50.0 -1.7**
baz=169
O53A New Philadelph 54.53 351 P **P 08 32 50.8 -1.0**
O53A IAmb IAmb 08 32 53.1
comp=Z,16nm,0.9s
P48A Milroy 54.55 347 P **P 08 32 50.4 -1.5**
P48A IAmb IAmb 08 32 53.7
comp=Z,12nm,0.9s
FNO Franklin 54.59 334 P **P 08 32 51.9 -0.4**
N58A Sunbury 54.59 355 P **P 08 32 51.3 -0.8**
N58A IAmb IAmb 08 32 57.5
comp=Z,12nm,1.1s
PAL Palisades 54.60 358 P **P 08 32 50.4 -1.8**
baz=177
N59A State Game Lan 54.60 356 P **P 08 32 50.4 -1.9**
baz=175
WMOK Wichita Mounta 54.76 333 P **P 08 32 52.2 -1.3**
baz=147
WMOK Wichita Mounta 54.76 333 P **P 08 32 52.4 -1.1**
CCM Cathedral Cave 54.80 341 P **P 08 32 52.0 -1.7**
baz=157
CCM Cathedral Cave 54.80 341 P **P 08 32 52.8 -0.9**
CCM IAmb IAmb 08 32 58.0
comp=Z,9.8nm,0.8s
ACSO Alum Creek Sta 54.81 349 P **P 08 32 52.6 -1.2**
baz=167
ACSO Alum Creek Sta 54.81 349 P **P 08 32 52.6 -1.2**
ACSO IAmb IAmb 08 32 56.2
comp=Z,17nm,1.1s
M66A Nantucket 54.83 1 P **P 08 32 53.0 -0.8**
baz=182
Q44A Meyer Farm, Va 54.92 343 P **P 08 32 53.7 -0.9**
OK031 S. Brethren Rd 54.96 335 P **P 08 32 53.0 -1.9**
OK031 IAmb IAmb 08 33 05.5
comp=Z,29nm,1.4s
N53A Lisbon 55.02 351 P **P 08 32 54.0 -1.3**
O49A Covington 55.02 348 P **P 08 32 53.3 -2.0**
O49A IAmb IAmb 08 32 58.1
comp=Z,20nm,1.1s
N54A Moraine State 55.06 352 P **P 08 32 54.6 -0.9**
baz=170,SNR=5.6
N54A Moraine State 55.06 352 P **P 08 32 55.4 -0.1**
N54A IAmb IAmb 08 32 57.5
comp=Z,12nm,0.9s
OK029 Liberty Lake 55.08 334 P **P 08 32 53.9 -1.9**
QUOK Quay 55.09 335 P **P 08 32 55.4 -0.5**
QUOK IAmb IAmb 08 33 06.5
comp=Z,14nm,0.9s
M64A Tiverton 55.10 0 P **P 08 32 54.0 -1.7**
baz=181
P46A Rosedale 55.12 345 P **P 08 32 54.8 -1.2**
P46A IAmb IAmb 08 32 59.5
comp=Z,13nm,0.8s
M57A Sunshine Farm, 55.12 355 P **P 08 32 55.3 -0.7**
M57A IAmb IAmb 08 32 55.7
comp=Z,8.6nm,1.0s
S39A Bolivar 55.15 339 P **P 08 32 55.4 -0.9**
S39A IAmb IAmb 08 32 57.9
comp=Z,15nm,0.8s
R40A Maddies Statio 55.34 340 P **P 08 32 56.1 -1.5**
R40A IAmb IAmb 08 32 58.4
comp=Z,11nm,0.9s
N51A Ashland 55.37 350 P **P 08 32 56.8 -1.0**
N51A IAmb IAmb 08 33 00.0
comp=Z,18nm,1.2s
L63A North Scituate 55.41 0 P **P 08 32 56.0 -2.0**
baz=180
M55A Ridgway 55.41 353 P **P 08 32 57.0 -1.1**
M55A IAmb IAmb 08 33 03.7
comp=Z,29nm,1.4s
BRYW Bryant College 55.47 0 P **P 08 32 58.4 -0.1**
L64A Middleborough 55.49 1 P **P 08 32 56.6 -2.0**
baz=181
M54A Oil Creek Stat 55.56 353 P **P 08 32 57.4 -1.7**
baz=171
M54A Oil Creek Stat 55.56 353 P **P 08 32 58.2 -0.9**
M54A IAmb IAmb 08 33 01.4
comp=Z,25nm,1.4s
M53A WI Miller and 55.62 352 P **P 08 32 57.7 -1.9**
baz=170
M53A WI Miller and 55.62 352 P **P 08 32 58.3 -1.3**
M53A IAmb IAmb 08 33 01.0
comp=Z,15nm,0.8s
MNTX Cornudas Mount 55.65 325 P **P 08 32 57.4 -2.6**
baz=139
MNTX Cornudas Mount 55.65 325 P **P 08 32 59.6 -0.4**
T35A Sooner Cattle 55.66 336 P **P 08 32 59.6 -0.4**
T35A IAmb IAmb 08 33 08.4
comp=Z,15nm,1.1s
N49A Columbus Grove 55.70 348 P **P 08 32 58.6 -1.5**
L58A Harry Jones Me 55.73 356 P **P 08 32 57.9 -2.4**
baz=175
P43A Skaggs, Pawnee 55.75 343 P **P 08 32 59.6 -0.9**
ALLY Alegheny Colle 55.76 352 P **P 08 33 00.2 -0.4**
BLOK Blackwell 55.80 335 P **P 08 33 01.4 +0.5**
BLOK IAmb IAmb 08 33 03.5
comp=Z,13nm,0.8s
SFIN Lafayette 55.81 346 P **P 08 32 58.1 -2.9**
baz=162
SFIN Lafayette 55.81 346 P **P 08 32 59.2 -1.7**
SFIN IAmb IAmb 08 33 04.9
comp=Z,18nm,1.1s
BINY Binghamton 55.89 356 P **P 08 32 59.7 -1.9**
baz=175
BINY Binghamton 55.89 356 P **P 08 33 00.6 -1.0**
BINY IAmb IAmb 08 33 03.6
comp=Z,16nm,1.2s
O44A Mansfield 55.94 344 P **P 08 33 00.4 -1.5**
O44A IAmb IAmb 08 33 10.2

comp=Z,17nm,1.1s
L56A Greenwood 55.95 355 P **P 08 33 01.2 -0.8**
M50A Fremont 55.96 350 P **P 08 33 01.1 -0.9**
N47A Urbana 55.97 347 P **P 08 33 00.7 -1.4**
L61B Northampton 56.01 359 P **P 08 33 00.4 -1.9**
baz=179
MSTX Muleshoe 56.03 329 P **P 08 32 59.6 -3.1**
baz=143
MSTX Muleshoe 56.03 329 P **P 08 33 00.4 -2.4**
MSTX IAmb IAmb 08 33 04.3
comp=Z,18nm,1.4s
HRV Adam Dziewonsk 56.06 0 P **P 08 33 00.3 -2.3**
baz=180
ERPA Erie 56.20 353 P **P 08 33 00.5 -3.2**
baz=170,SNR=6.1
ERPA Erie 56.20 353 P **P 08 33 02.8 -0.9**
K62A Royalston 56.22 359 P **P 08 33 01.4 -2.4**
baz=179
AMTX Amarillo 56.22 330 P **P 08 33 00.5 -3.6**
baz=144
U32A Winter Ranch, 56.23 333 P **P 08 33 03.3 -0.8**
U32A IAmb IAmb 08 33 12.4
comp=Z,7.5nm,0.8s
K61A Williamstown 56.24 359 P **P 08 33 01.6 -2.3**
baz=178
OK032 Salt Plains WL 56.25 334 P **P 08 33 03.8 -0.4**
OK032 IAmb IAmb 08 33 31.7
comp=Z,9.3nm,0.9s
KAN17 Caldwell West 56.27 335 P **P 08 33 03.7 -0.6**
KAN09 Caldwell North 56.29 335 P **P 08 33 04.9 +0.5**
TRY Troy 56.31 358 P **P 08 33 03.6 -0.9**
TRY IAmb IAmb 08 33 09.7
comp=Z,15nm,1.3s
WVNY West Valley, N 56.32 354 P **P 08 33 04.1 -0.5**
WVNY IAmb IAmb 08 33 10.3
comp=Z,25nm,1.2s
P40A Paris 56.40 341 P **P 08 33 04.0 -1.2**
P40A IAmb IAmb 08 33 06.1
comp=Z,13nm,0.9s
K56A Middlesex 56.49 355 P **P 08 33 02.1 -3.7**
baz=174
KAN08 Anthony NE Sta 56.51 335 P **P 08 33 06.2 +0.2**
KAN08 IAmb IAmb 08 33 22.4
comp=Z,20nm,1.0s
HDIL Hopedale 56.54 344 P **P 08 33 04.8 -1.4**
L48A N Adams 56.74 349 P **P 08 33 06.3 -1.2**
J62A Henniker 56.78 360 P **P 08 33 05.9 -1.9**
baz=180
J60A Lant Hill Farm 56.82 358 P **P 08 33 06.1 -1.9**
baz=178
J63A Strafford 56.83 0 P **P 08 33 03.4 -4.7**
baz=181
J61A Chester 56.90 359 P **P 08 33 04.6 -4.1**
baz=179
P38A Dawn 56.96 340 P **P 08 33 08.3 -0.9**
P38A IAmb IAmb 08 33 10.1
comp=Z,9.3nm,0.8s
J58A Remsen 57.01 357 P **P 08 33 05.5 -3.9**
baz=176
J58A Remsen 57.01 357 P **P 08 33 08.5 -0.9**
J58A IAmb IAmb 08 33 11.9
comp=Z,22nm,1.4s
J56A Wolcott 57.03 355 P **P 08 33 10.0 +0.5**
J59A Piesco 57.08 358 P **P 08 33 09.0 -1.0**
J59A IAmb IAmb 08 33 12.5
comp=Z,16nm,1.2s
J55A Hilton 57.10 355 P **P 08 33 09.2 -0.8**
J55A IAmb IAmb 08 33 12.4
comp=Z,12nm,1.1s
N41A Harden Midland 57.12 343 P **P 08 33 08.6 -1.7**
L46A Eue Claire 57.19 347 P **P 08 33 09.2 -1.5**
L46A IAmb IAmb 08 33 10.8
comp=Z,17nm,0.8s
K50A Casco 57.22 350 P **P 08 33 09.7 -1.3**
I58A Old Forge 57.32 357 P **P 08 33 08.2 -3.5**
baz=176
HQIL Hanson Quary C 57.34 346 P **P 08 33 09.9 -1.9**
I60A Shoreham 57.41 359 P **P 08 33 07.5 -4.7**
baz=178
I61A Oroboro, Fairl 57.48 360 P **P 08 33 08.0 -4.7**
baz=179
I63A Otisfield 57.61 1 P **P 08 33 10.3 -3.3**
baz=181
121A Cookes Peak, D 57.63 324 P P 08 33 08.5 -5.8
baz=138
121A Cookes Peak, D 57.63 324 P **P 08 33 13.3 -0.9**
121A IAmb IAmb 08 33 17.1
comp=Z,15nm,1.4s
L44A Lake County Fo 57.71 346 P **P 08 33 11.1 -3.3**
baz=161
LBNH Lisbon 57.79 360 P **P 08 33 12.2 -2.7**
baz=180
R32A Long Quarter, 57.84 335 P **P 08 33 14.6 -0.8**
R32A IAmb IAmb 08 33 21.1
comp=Z,13nm,1.0s
L42A Oliver, Polo 57.99 344 P **P 08 33 15.0 -1.4**
H58A Gabriels 58.01 358 P **P 08 33 14.1 -2.4**
baz=177
J47A Sunmer 58.06 349 P **P 08 33 15.7 -1.1**
H61A Lyndonville 58.08 360 P **P 08 33 14.3 -2.7**
baz=180
H57A Richville 58.11 357 P **P 08 33 15.2 -1.9**
baz=176
H60A Morristown 58.12 359 P **P 08 33 14.9 -2.4**
baz=179
H62A Milan 58.12 0 P **P 08 33 14.5 -2.7**
baz=181
BNM Barren Site 58.19 326 P **P 08 33 17.7 -0.5**
H59A Cadyville 58.23 358 P **P 08 33 15.6 -2.3**
baz=178
H63A New Sharon 58.23 1 P **P 08 33 15.6 -2.3**
baz=182
H64A Troy 58.23 2 P **P 08 33 16.1 -1.9**
baz=183
LONY Lake Ozonia 58.23 358 P **P 08 33 15.6 -2.4**
baz=177
LONY Lake Ozonia 58.23 358 P **P 08 33 16.9 -1.1**
K43A Burlington 58.31 346 P **P 08 33 16.9 -1.6**
DELO Deloro Mine 58.32 355 P **P 08 33 17.4 -1.2**
DELO IAmb IAmb 08 33 21.0
comp=Z,16nm,1.5s
DELO **PcP 08 34 09.8 +0.5**
H65A Eastbrook 58.33 3 P **P 08 33 16.1 -2.5**
baz=184
I49A Point Hope 58.39 351 P **P 08 33 17.5 -1.7**
FRNY Flat Rock 58.41 358 P **P 08 33 18.2 -1.0**
H66A Whiting 58.47 4 P **P 08 33 17.3 -2.2**
baz=185
L40A Anamosa 58.47 343 P **P 08 33 18.6 -1.2**
CBKS Cedar Bluff 58.60 334 P **P 08 33 18.2 -2.6**
baz=148
CBKS Cedar Bluff 58.60 334 P **P 08 33 19.7 -1.1**
CBKS IAmb IAmb 08 33 26.6
comp=Z,12nm,0.8s
G60A Masonville 58.65 359 P **P 08 33 18.9 -2.0**
baz=179
G63A Kingsbury 58.69 2 P **P 08 33 18.6 -2.6**
baz=182
ANMO Albuquerque 58.70 327 P **P 08 33 18.1 -3.6**
baz=140
ANMO Albuquerque 58.70 327 P **P 08 33 20.3 -1.4**
SADO Sadowa 58.72 354 P **P 08 33 21.1 -0.2**
SADO IAmb IAmb 08 33 25.8
comp=Z,22nm,1.4s
G57A Newington 58.73 357 P **P 08 33 17.3 -4.2**
baz=176
G58A Ormstown 58.74 358 P **P 08 33 18.3 -3.2**
baz=177
G62A West of Eustis 58.78 1 P P 08 33 16.2 -5.6
baz=181,SNR=7.2
G62A West of Eustis 58.78 1 P **P 08 33 21.4 -0.4**
G62A IAmb IAmb 08 33 22.2
comp=Z,18nm,1.1s
N35A Tabor 58.79 339 P **P 08 33 19.8 -2.2**
N35A IAmb IAmb 08 33 47.9
comp=Z,10.0nm,0.7s
G61A St-Isidore-de- 58.83 0 P **P 08 33 19.3 -2.9**
baz=180
PKME Peaks-Kenny Pk 58.85 2 P **P 08 33 18.6 -3.6**
baz=183
PKME Peaks-Kenny Pk 58.85 2 P **P 08 33 21.4 -0.9**
PKME IAmb IAmb 08 33 23.8
comp=Z,12nm,1.1s
G64A Maxfield 58.86 2 P **P 08 33 20.7 -1.6**
baz=183
G65A Princeton 58.87 3 P **P 08 33 21.3 -1.1**

baz=185
JFWS Jewell Farm 59.00 344 P P 08 33 21.8 -1.6
baz=159,SNR=8.5
JFWS Jewell Farm 59.00 344 P P 08 33 22.1 -1.3
I45A Fountain 59.11 348 P P 08 33 23.1 -1.0
TUC Tucson 59.24 322 P P 08 33 22.7 -2.7
baz=135
TUC Tucson 59.24 322 P P 08 33 23.7 -1.7
T25A Trinidad 59.35 330 P P 08 33 24.0 -2.2
baz=142
T25A Trinidad 59.35 330 P P 08 33 24.6 -1.7
F64A Sherman 59.49 3 P P 08 33 22.6 -4.1
baz=184
F64A Sherman 59.49 3 P P 08 33 25.7 -0.9
F60A Warwick 59.52 360 P P 08 33 22.3 -4.6
baz=180
F61A St Evariste 59.53 1 P P 08 33 23.3 -3.7
baz=181
GLMI Grayling 59.56 349 P P 08 33 23.5 -3.7
baz=166
I42A Draeger Farm, 59.57 346 P P 08 33 26.7 -0.7
ALGO Algonquin Park 59.79 355 P P 08 33 27.2 -1.6
baz=173
H43A Windswept, Lux 59.85 347 P P 08 33 28.5 -0.8
E58A La Victoria 59.94 359 P P 08 33 27.9 -1.9
baz=178
G45A Suttons Bay 59.96 349 P P 08 33 28.3 -1.7
E61A Lac Etchemin 59.99 1 P P 08 33 28.2 -2.0
baz=181
I40A Norwalk 60.00 344 P P 08 33 28.8 -1.5
L34A Svendsen Farm, 60.02 339 P P 08 33 29.4 -1.1
E63A Oxbow 60.04 3 P P 08 33 29.0 -1.5
baz=184
E64A Bridgewater 60.06 3 P P 08 33 30.0 -0.7
baz=184
BGNE Belgrade 60.18 337 P P 08 33 30.1 -1.5
baz=150
BGNE Belgrade 60.18 337 P P 08 33 31.0 -0.6
E62A Clayton Lake 60.20 2 P P 08 33 30.5 -1.1
baz=182
E62A Clayton Lake 60.20 2 P P 08 33 31.1 -0.5
E62A IAmb IAmb 08 33 34.4
comp=Z,12nm,1.1s
214A Organ Pipe Nat 60.24 320 P P 08 33 29.5 -2.7
baz=133
X18A Snowflake 60.32 324 P P 08 33 32.9 -0.1
SDCO Great Sand Dun 60.36 329 P P 08 33 29.9 -3.3
baz=142,SNR=11
SDCO Great Sand Dun 60.36 329 P P 08 33 33.7 +0.4
SDCO IAmb IAmb 08 33 43.1
comp=Z,9.4nm,1.1s
D60A Saint Jean D'O 60.47 1 P P 08 33 33.1 -0.3
baz=181
W18A Petrified Fore 60.62 325 P P 08 33 31.3 -3.7
baz=137
W18A Petrified Fore 60.62 325 P P 08 33 35.5 +0.5
W18A IAmb IAmb 08 33 36.7
comp=Z,9.1nm,1.1s
D58A Chemin du LacG 60.66 359 P P 08 33 33.3 -1.4
baz=179,SNR=5.9
D63A Stockholm 60.67 3 P P 08 33 33.2 -1.6
baz=184
D62A Allapoint, All 60.67 2 P P 08 33 33.7 -1.1
baz=183,SNR=8.4
D62A Allapoint, All 60.67 2 P P 08 33 34.1 -0.7
D62A IAmb IAmb 08 33 34.8
comp=Z,16nm,1.1s
D61A St Aubert, Com 60.77 1 P P 08 33 34.2 -1.2
baz=182
E46A Sault Ste Mari 61.00 350 P P 08 33 35.3 -1.7
S22A 4UR Ranch, Cre 61.03 329 P P 08 33 36.5 -1.3
baz=140,SNR=5.1
X16A Lo Mia Camp, P 61.11 323 P P 08 33 38.4 +0.2
X16A IAmb IAmb 08 33 48.9
comp=Z,7.5nm,1.1s
K31A O'Neill 61.46 337 P P 08 33 40.4 +0.1
MVCO Mesa Verde 61.49 327 P P 08 33 38.9 -2.0
baz=139
MVCO Mesa Verde 61.49 327 P P 08 33 40.6 -0.2
MVCO IAmb IAmb 08 33 47.6
comp=Z,9.3nm,1.1s
E43A Lone Tree Farm 61.51 348 P P 08 33 39.3 -1.2
E43A IAmb IAmb 08 33 39.5
comp=Z,15nm,0.9s
ECSD EROS Data Cent 61.67 340 P P 08 33 40.5 -1.2
baz=152,SNR=6.3
ECSD EROS Data Cent 61.67 340 P P 08 33 40.4 -1.3
ECSD IAmb IAmb 08 33 50.6
comp=Z,21nm,1.5s
COWI Conover 61.71 346 P P 08 33 40.9 -1.0
SPMN Marine on St. 61.83 343 P P 08 33 42.8 +0.1
baz=157
SPMN Marine on St. 61.83 343 P P 08 33 41.4 -1.3
WUAZ Wupatki 61.84 324 P P 08 33 41.8 -1.4
baz=135,SNR=7.7
WUAZ Wupatki 61.84 324 P P 08 33 42.0 -1.2
WUAZ IAmb IAmb 08 33 46.8
comp=Z,14nm,1.2s
ISCO Idaho Springs 62.03 331 P P 08 33 44.2 -0.4
SMCO Snowmass 62.20 329 P P 08 33 45.7 -0.1
PV01 Paradox Valley 62.22 328 P P 08 33 46.7 +0.9
PV01 IAmb IAmb 08 33 48.5
comp=Z,15nm,1.4s
PV12 Saucer Basin, 62.47 328 P P 08 33 49.0 +1.6
PV12 IAmb IAmb 08 33 49.1
comp=Z,14nm,1.4s
PV20 West Nyswonger 62.58 327 P P 08 33 48.0 -0.1
F36A Milaca 62.62 343 P P 08 33 47.4 -0.6
F36A IAmb IAmb 08 33 52.9
comp=Z,10nm,0.9s
PV22 Blue Mesa, Par 62.63 328 P P 08 33 48.9 +0.4
E38A The Farm, Brul 62.77 345 P P 08 33 48.0 -0.9
E38A IAmb IAmb 08 33 49.1
comp=Z,14nm,1.0s
LSQQ Lebel-sur-Quev 62.79 356 P P 08 33 49.0 0.0
baz=174
U15A North Rim 63.01 324 P P 08 33 52.5 +1.3
W13A Hualapai Mount 63.03 322 P P 08 33 51.8 +0.6
SUSD Miller 63.10 338 P P 08 33 50.8 -0.5
baz=150
SUSD Miller 63.10 338 P P 08 33 50.8 -0.5
PHWY Pilot Hill 63.14 332 P P 08 33 51.6 -0.3
MONP2 Monument Peak 63.16 318 P P 08 33 51.4 -0.7
baz=130
IRM Iron Mountain 63.17 320 P P 08 33 51.0 -0.9
baz=132
F33A 5 Mile Ranch, 63.43 341 P P 08 33 52.0 -1.4
F33A IAmb IAmb 08 33 54.7
comp=Z,8.6nm,1.0s
CHGQ Chibougamau 63.51 358 P P 08 33 52.8 -1.0
baz=177
MATQ Matagami 63.53 356 P P 08 33 52.3 -1.6
baz=174
O20A White River Ci 63.56 329 P P 08 33 54.8 +0.2
baz=140
O20A White River Ci 63.56 329 P P 08 33 53.8 -0.8
O20A IAmb IAmb 08 33 57.1
comp=Z,14nm,1.3s
BELC Belle Mtn. Jos 63.60 320 P P 08 33 55.8 +0.9
baz=131
TPFO Pinon Flats 63.63 319 P P 08 33 55.2 +0.1
baz=130
PFO Pinyon Flats O 63.64 319 P P 08 33 55.1 -0.1
baz=130
PFO Pinyon Flats O 63.64 319 P P 08 33 53.0 -2.2
PFO IAmb IAmb 08 33 58.2
comp=Z,8.5nm,1.2s
KNB Kanab 63.73 324 P P 08 33 55.0 -0.7
KNB IAmb IAmb 08 33 59.9
comp=Z,14nm,1.2s
PKCU Pink Cliffs 63.74 325 P P 08 33 57.0 +1.0
PKCU IAmb IAmb 08 34 12.1
comp=Z,14nm,1.3s
GMRC Granite Mounta 63.90 320 P P 08 33 54.0 -2.9
baz=132
SRU San Rafael Swe 63.97 327 P P 08 33 56.7 -0.5
SRU IAmb IAmb 08 33 59.7
comp=Z,10nm,1.2s
LCMT Little Creek M 63.97 324 P P 08 33 57.8 +0.5
EYMN Ely 64.00 345 P P 08 33 55.3 -1.8
baz=159,SNR=7.1
EYMN Ely 64.00 345 P P 08 33 56.2 -0.8
EYMN IAmb IAmb 08 33 58.8
comp=Z,16nm,0.9s
MTPU Mount Pierson 64.09 325 P P 08 33 57.4 -0.9
MURC Murrieta 64.11 319 P P 08 33 56.3 -1.8
baz=130
Q16A Castle Valley 64.17 327 P P 08 33 59.3 +0.7
Q16A IAmb IAmb 08 34 20.6
comp=Z,7.8nm,1.1s
RWWY Rawlins 64.26 331 P P 08 34 00.5 +1.2
SZCU Shurtz Canyon 64.28 324 P P 08 34 00.6 +1.1
SZCU IAmb IAmb 08 34 02.6
comp=Z,13nm,1.5s
P17A Butcher Ranch, 64.34 327 P P 08 34 00.3 +0.6
P17A IAmb IAmb 08 34 05.9
comp=Z,9.4nm,1.1s
HEC Hector,Ludlow 64.35 320 P P 08 33 59.2 -0.6
baz=131
BBRC Big Bear Solar 64.35 319 P P 08 33 58.4 -1.6
baz=130
CCUT Cedar City 64.41 324 P P 08 34 02.0 +1.7
MSU Marysvale 64.42 326 P P 08 34 01.9 +1.6
TUQ Turquoise Moun 64.49 321 P P 08 34 00.3 -0.5
baz=132
RDMU Red Mountain 64.56 329 P P 08 34 00.6 -0.5
RDMU IAmb IAmb 08 34 07.6
comp=Z,8.5nm,1.0s
K22A Casper 64.70 332 P P 08 34 02.2 +0.2
baz=142
K22A Casper 64.70 332 P P 08 34 02.5 +0.5
K22A IAmb IAmb 08 34 04.3
comp=Z,6.7nm,1.0s
SHPR Sheep Range 64.74 322 P P 08 34 03.3 +0.9
RSSD Black Hills 64.80 335 P P 08 34 02.9 +0.3
baz=145
RSSD Black Hills 64.80 335 P P 08 34 02.9 +0.3
BFSC Mount Baldy Ra 64.81 319 P P 08 34 02.9 0.0
baz=130
GSC Goldstone, Bar 64.95 320 P P 08 34 03.4 -0.2
baz=131
GSC Goldstone, Bar 64.95 320 P P 08 34 04.7 +1.0
GSC IAmb IAmb 08 34 06.7
comp=Z,13nm,1.4s
B35A Bob, Littlefor 64.96 344 P P 08 34 02.4 -0.9
MPU Maple Canyon 65.21 327 P P 08 34 04.2 -1.2
PRN Pahroc Range 65.28 323 P P 08 34 07.2 +1.4
PRN IAmb IAmb 08 34 09.3
comp=Z,10nm,1.5s
PSUT Pine Spring 65.37 325 P P 08 34 06.6 +0.1
NLU North Lily Min 65.40 327 P P 08 34 07.6 +0.9
EDW2 Edwards Air Fo 65.43 319 P P 08 34 06.9 +0.1
baz=130
AGMN Agassiz Nation 65.50 342 P P 08 34 05.8 -1.1
baz=154,SNR=17
AGMN Agassiz Nation 65.50 342 P P 08 34 06.5 -0.3
JLU Jordanelle 65.54 328 P P 08 34 08.6 +1.0
E28A Huff 65.56 338 P P 08 34 07.8 +0.5
LRMC Laurel Mtn Rad 65.61 320 P P 08 34 07.7 -0.3
baz=130
TPNV Topopah Spring 65.69 322 P P 08 34 08.8 +0.3
baz=132
TPNV Topopah Spring 65.69 322 P P 08 34 09.8 +1.3
TPNV IAmb IAmb 08 34 15.4
comp=Z,8.6nm,1.1s
FURC Furnace Creek, 65.74 321 P P 08 34 08.7 +0.1
baz=131,SNR=8.7
CTU Camp Tracy 65.76 327 P P 08 34 09.5 +0.6
MPMC Manual Prospec 65.86 320 P P 08 34 10.1 +0.4
baz=130
SPR3 Spring Creek 3 65.96 325 P P 08 34 09.6 -0.9
DUG Dugway, Tooele 65.97 326 P P 08 34 10.8 +0.6
baz=136,SNR=5.8
DUG Dugway, Tooele 65.97 326 P P 08 34 10.2 -0.1
DUG IAmb IAmb 08 34 13.2
comp=Z,17nm,1.4s
PD31 Pinedale Array 66.20 330 P P 08 34 11.9 +0.1
PDAR Pinedale Array 66.20 330 P P 08 34 11.7 -0.1
comp=Z,2.4nm,1.0s,baz=153,slow=5.0,SNR=8.3
PDAR Pinedale Array 66.20 330 P P 08 34 11.4 -0.4
BW06 Boulder Array 66.20 330 P P 08 34 11.4 -0.4
baz=140
BW06 Boulder Array 66.20 330 P P 08 34 10.9 -0.9
MDND Maddock 66.28 340 P P 08 34 12.3 +0.4
baz=150
MDND Maddock 66.28 340 P P 08 34 11.6 -0.3
HWUT Hardware Ranch 66.33 328 P P 08 34 12.9 +0.3
CWC Cottonwood Cre 66.47 320 P P 08 34 13.7 +0.1
baz=130
PKM Mcpherson Peak 66.60 318 P P 08 34 13.8 -0.7
baz=128
BGU Big Grassy Mou 66.61 327 P P 08 34 14.2 -0.1
VES Vestal, Richgr 66.72 319 P P 08 34 14.1 -0.8
baz=129,SNR=6.6
AHID Auburn Hatcher 66.95 329 P P 08 34 16.6 +0.1
AHID IAmb IAmb 08 34 22.3
comp=Z,5.5nm,0.8s
TPH Tonopah 67.01 322 P P 08 34 15.7 -1.3
TPH IAmb IAmb 08 34 20.7
comp=Z,18nm,1.0s
ULM Lac du Bonnet 67.27 343 P P 08 34 17.6 -0.4
comp=Z,17nm,1.0s,baz=133,slow=2.8,SNR=7.3
ULM Lac du Bonnet 67.27 343 P P 08 34 16.9 -1.2
REDW Red Top Meadow 67.28 330 P P 08 34 18.1 -0.5
REDW IAmb IAmb 08 34 23.8
comp=Z,8.3nm,1.1s
SNOW Snow King Moun 67.30 330 P P 08 34 17.9 -0.9
LOHW Long Hollow 67.34 330 P P 08 34 18.6 -0.5
PAGB Antelope Grade 67.40 319 P P 08 34 17.7 -1.6
PAGB IAmb IAmb 08 34 40.7
comp=Z,12nm,1.3s
TPAW Teton Pass 67.42 330 P P 08 34 20.1 +0.6
ELK Elko 67.67 325 P P 08 34 21.3 +0.1
MLAC Mammoth, Mammo 67.70 321 P P 08 34 21.0 -0.4
baz=130
FLWY Flagg Ranch 67.74 331 P P 08 34 22.3 +0.8
FLWY IAmb IAmb 08 34 27.0
comp=Z,14nm,1.0s
NV11 Mina Array Sit 67.80 322 P P 08 34 23.1 +1.1
MDPB Devils Postpil 67.85 321 P P 08 34 23.3 +0.9
RLMT Red Lodge 67.86 332 P P 08 34 22.2 0.0
baz=140,SNR=5.3
RLMT Red Lodge 67.86 332 P P 08 34 22.3 0.0
NVAR Mina Array Bea 67.89 322 P P 08 34 23.5 +0.9
comp=Z,1.1nm,1.0s,baz=137,slow=5.4,SNR=8.4
NVAR Mina Array Bea 67.89 322 P P 08 34 22.3 -0.3
LHV Little Huntoon 67.89 322 P P 08 34 23.1 +0.8
H17A Grant Village 67.92 331 P P 08 34 21.9 -0.8
baz=139
YPP Pitchstone Pla 67.93 331 P P 08 34 21.7 -1.1
PMPB Monarch Peak 68.05 319 P P 08 34 22.5 -1.0
YNE Yellowstone No 68.11 332 P P 08 34 23.3 -0.6
VNA3 Neumayer Olymp 68.13 162 P P 08 34 23.7 +0.3
KVN Kaiserville 68.17 323 P P 08 34 24.1 -0.2
KVN sP 08 34 45.1 +4.3
YMR Madison River 68.31 331 P P 08 34 23.9 -1.1
YMR IAmb IAmb 08 34 30.4
comp=Z,17nm,1.1s
VNA1 Neumayer--Stat 68.34 161 P P 08 34 25.3 +0.7
YHH Holmes Hill 68.34 331 P P 08 34 25.4 0.0
YHH IAmb IAmb 08 34 28.7
comp=Z,10.0nm,1.1s
SCHQ Schefferville 68.51 3 P P 08 34 24.4 -1.4
comp=Z,4.8nm,1.0s,baz=225,slow=17,SNR=3.8
SCHQ Schefferville 68.51 3 IAmb IAmb 08 34 29.3
comp=Z,8.1nm,1.1s
GCMT Greycliff 68.56 332 P P 08 34 24.9 -1.7
WAKR Walker 68.62 321 P P 08 34 24.9 -2.3
YERR Yerington 68.81 322 P P 08 34 29.3 +1.0
YERR IAmb IAmb 08 34 36.8
comp=Z,9.8nm,1.3s
PNTR Pine Nut 69.09 322 P P 08 34 30.4 +0.3
VCNR Virginia City 69.25 322 P P 08 34 31.8 +0.8
VCNR IAmb IAmb 08 34 34.5
comp=Z,9.7nm,1.3s
BOZ Bozeman (W) 69.31 331 P P 08 34 29.8 -1.4
baz=138,SNR=12
BOZ Bozeman (W) 69.31 331 P P 08 34 31.9 +0.6
BOZ IAmb IAmb 08 34 33.9
comp=Z,14nm,1.4s
MCMT McKenzie Canyo 69.33 330 P P 08 34 31.7 +0.2
PAHR Pah Rah Range 69.35 322 P P 08 34 31.5 -0.1
PAHR IAmb IAmb 08 34 35.0
comp=Z,24nm,1.5s
DLMT Dillon 69.60 330 P P 08 34 32.0 -1.0
AFDM Forest Hills D 69.83 321 P P 08 34 34.4 0.0
MFID Camas Ranch 69.83 327 P P 08 34 33.6 -0.8
MFID IAmb IAmb 08 34 37.6
comp=Z,21nm,1.4s
LRM Limekiln Ridge 69.87 331 P P 08 34 35.1 +0.4
BEKR Beckworth 70.03 322 P P 08 34 35.3 -0.6
HRY Holter Researc 70.24 332 P P 08 34 37.8 +1.0
EGMT Eagleton 70.31 334 P P 08 34 36.8 -0.4
baz=141
EGMT Eagleton 70.31 334 P P 08 34 37.2 -0.1
EGMT IAmb IAmb 08 34 46.3
comp=Z,7.7nm,0.9s
SNAA Sanae 70.33 162 P P 08 34 37.2 +0.1
SNAA Sanae 70.33 162 P P 08 34 36.9 -0.2
ORV Oroville 70.53 321 P P 08 34 39.0 +0.3
ORV IAmb IAmb 08 34 42.0
comp=Z,19nm,1.3s
WVOR Wild Horse Val 70.69 325 P P 08 34 40.0 +0.3
O03E Paynes Creek 71.17 322 P P 08 34 41.9 -0.8
baz=128
MOD Modoc Plateau 71.29 324 P P 08 34 43.5 +0.1
MSO Missoula 71.31 331 P P 08 34 43.4 +0.1
baz=136,SNR=8.1
MSO Missoula 71.31 331 P P 08 34 44.7 +1.3
MSO IAmb IAmb 08 34 49.1
comp=Z,14nm,1.1s
BMO Blue Mountains 71.59 328 P P 08 34 45.0 -0.1
O02D Mt. Diablo Mer 71.69 321 P P 08 34 45.9 +0.1
baz=127
M04C Macdoel 72.11 323 P P 08 34 48.5 +0.2
baz=128
N02D Trinity Center 72.13 322 P P 08 34 47.4 -1.0
baz=128
K05A Summer Lake 72.15 324 P P 08 34 50.4 +1.8
K05A IAmb IAmb 08 35 02.9
comp=Z,29nm,1.5s
I07A Izee 72.25 326 P P 08 34 48.6 -0.5
F10A Beach Ranch, E 72.32 328 P P 08 34 50.1 +0.7
M02C Callahan 72.47 322 P P 08 34 49.4 -1.0
baz=128
KOWA Kowa 72.58 70 P P 08 34 52.2 +0.7
KOWA IAmb IAmb 08 34 54.0
comp=Z,8.7nm,0.7s
L04D Klamath Falls 72.65 323 P P 08 34 51.9 +0.3
baz=128
J05D Fort Rock, OR 72.70 324 P P 08 34 52.1 +0.2
baz=129
G08A Pilot Rock 72.75 327 P P 08 34 53.2 +1.2
PINE Pine Mountain 72.86 325 P P 08 34 54.2 +1.4
PINE IAmb IAmb 08 34 56.2
comp=Z,10nm,1.2s
WALA Waterton Lakes 72.92 332 P P 08 34 53.4 +0.5
WALA IAmb IAmb 08 35 00.1
comp=Z,9.0nm,0.9s
E09A Wood Farm, Sta 73.15 328 P P 08 34 54.5 +0.3
J04D Umpqua Nationa 73.17 324 P P 08 34 54.5 -0.2
baz=129
L02E Cave Junction 73.38 322 P P 08 34 55.7 0.0
baz=127
I05D Terrebonne, OR 73.43 325 P P 08 34 56.3 +0.4
baz=130
K02D Willamette Mer 73.74 323 P P 08 34 58.2 +0.3
baz=127
HAWA Hanford 73.78 328 P P 08 34 58.7 +0.7
NEW Newport 73.84 330 P P 08 34 58.7 +0.3
baz=134
D08A Wollman Farm, 73.91 328 P P 08 34 57.6 -1.1
D08A IAmb IAmb 08 35 04.1
comp=Z,12nm,1.3s
G05D Wamic, OR 73.99 326 P P 08 34 59.5 +0.3
baz=130
E07A Sunnyside 74.06 328 P P 08 35 01.1 +1.4
C09A Chrisman Ranch 74.09 329 P P 08 35 00.7 +0.9
I03D Drain, OR 74.16 324 P P 08 34 59.4 -0.8
baz=128
LTY Liberty 74.94 328 P P 08 35 05.7 +1.0
B08A Colville Reser 74.99 329 P P 08 35 05.7 +0.7
D05A Enumclaw 75.59 327 P P 08 35 09.2 +0.8
D05A IAmb IAmb 08 35 28.3
comp=Z,21nm,1.1s
QSPA South Pole Qui 76.32 180 P P 08 35 12.6 +0.1
B05A Bryant 76.33 328 P P 08 35 12.9 +0.4
baz=130
D03D Eldon 76.39 327 P P 08 35 13.4 +0.5
baz=129
TOA0 Torodi Ar. Sit 77.41 73 P P 08 35 18.8 -0.6
TORD Torodi Ar. Bea 77.41 73 P P 08 35 18.2 -1.2
comp=Z,16nm,0.8s,baz=263,slow=5.2,SNR=38
TORD LR LR 09 10 08.5
comp=Z,108nm,18.1s,baz=275,slow=36
TORD Torodi Ar. Bea 77.41 73 P P 08 35 17.8 -1.6
TORD IAmb IAmb 08 35 21.8
comp=Z,14nm,0.8s
ESDC Sonseca Array 82.31 46 P P 08 35 45.7 +0.2
comp=Z,0.9nm,0.6s,baz=260,slow=5.0,SNR=5.8
ESDC LR LR 09 11 09.3
comp=Z,87nm,18.3s,baz=265,slow=35
ESDC Sonseca Array 82.31 46 P P 08 35 44.9 -0.6
YKA Yellowknife Ar 83.13 341 P P 08 35 48.8 -0.4
comp=Z,6.3nm,0.8s,baz=134,slow=6.1,SNR=15
VNDA Vanda 83.91 190 LR LR 09 06 26.2
comp=Z,106nm,19.0s,baz=126,slow=31
SYO Syowa Base 84.55 160 i eP P 08 35 53.4 -3.1
ICESG Greenland Ices 85.75 11 i P P 08 36 01.6 -1.1
ICESG IAmb IAmb 08 36 04.7
comp=Z,16nm,0.9s
DLBC Dease Lake 86.23 333 P P 08 36 04.4 -0.6
DLBC IAmb IAmb 08 36 11.7
comp=Z,8.7nm,1.1s
SUMG Summit 88.94 9 i P P 08 36 17.9 -0.2
SUMG IAmb IAmb 08 36 20.8
comp=Z,12nm,1.0s
SUMG Summit 88.94 9 P P 08 36 17.8 -0.3
BOSA Boshof 89.38 119 LR LR 09 13 55.2
comp=Z,110nm,19.0s,baz=180,slow=34
EKA Eskdalemuir Ar 89.50 32 LR LR 09 11 13.3
comp=Z,58nm,21.4s,baz=305,slow=32
NEEM North Greenlan 91.88 4 i P P 08 36 31.8 +0.2
NEEM IAmb IAmb 08 36 34.1
comp=Z,18nm,1.0s
MAW Mawson 92.38 164 LR LR 09 17 20.1
comp=Z,129nm,21.3s,baz=236,slow=35
INK Inuvik 92.89 341 P P 08 36 36.0 0.0
comp=Z,4.3nm,0.9s,baz=36,slow=2.3,SNR=7.5
INK Inuvik 92.89 341 P P 08 36 36.5 +0.5
baz=121
INK Inuvik 92.89 341 P P 08 36 36.6 +0.5
INK IAmb IAmb 08 36 38.5
comp=Z,7.5nm,1.1s
DAWY Dawson 92.96 336 P P 08 36 36.7 +0.1
DAWY IAmb IAmb 08 36 42.4
comp=Z,3.6nm,1.1s
BCAR Beaver Creek A 93.52 335 P P 08 36 39.0 -0.1
L27K Beaver Creek, 93.53 335 P P 08 36 40.3 +1.1
baz=114
EGAK Eagle 93.96 336 P P 08 36 41.2 +0.1
baz=114
K27K Chicken 94.02 335 P P 08 36 42.0 +0.6
baz=114
K27K Chicken 94.02 335 P P 08 36 42.2 +0.9
K27K IAmb IAmb 08 36 47.5
comp=Z,6.2nm,1.1s
KLU Klutina 94.72 332 P P 08 36 44.8 0.0
baz=110
SCRK Sand Creek 94.78 335 P P 08 36 45.2 +0.2
baz=112
SML Sawmill 95.91 332 P P 08 36 50.0 -0.1
baz=108
ILAR Eielson Array 96.24 335 P P 08 36 52.1 +0.6
comp=Z,0.6nm,0.9s,baz=141,slow=4.4,SNR=4.4
ILAR PP PP 08 40 45.5 +0.4
comp=Z,0.6nm,1.0s,baz=145,slow=5.2,SNR=4.2
ILAR LR LR 09 24 43.4
comp=Z,64nm,19.7s,baz=140,slow=38
ILAR Eielson Array 96.24 335 P P 08 36 51.6 +0.1
MDM Murphy Dome 96.84 335 P P 08 36 54.2 0.0
MDM IAmb IAmb 08 36 59.9
comp=Z,5.1nm,1.0s
H24K Noodor Dome 96.98 336 P P 08 36 54.9 0.0
baz=108
NEA2 Nenana 97.08 335 P Pdif 08 36 55.3 -0.1
baz=107
SKT Skwentna 97.41 332 P P 08 36 56.7 -0.2
baz=106
BPAW Bear Paw Mtn. 97.74 334 P P 08 36 58.0 -0.3
baz=106
MLY Manley 97.89 335 P Pdif 08 36 59.3 +0.3
baz=106
PPLA Purkeypile 97.94 333 P P 08 36 58.7 -0.8
baz=105
NOA NORSAR Array B 98.55 29 LR LR 09 19 13.9
comp=Z,89nm,18.4s,baz=250,slow=34

H21K	**Melozitna Rive**	**98.88**	**336**	P	Pdif	08 37 03.6	+0.2
	baz=104						
N18K	**Kilae Creek**	**99.15**	**330**	P	**Pdif**	**08 37 04.5**	**-0.3**
	baz=102						
HFS	**Hagfors**	**99.55**	**30**	LR	LR	09 19 04.3	
	comp=Z,36nm,19.1s,baz=262,slow=34						
ASAR	**Alice Springs**	**135.14**	**214**	PKhKP	PKPpre	08 42 38.0	
	comp=Z,0.4nm,0.9s,baz=108,slow=2.1,SNR=3.2						
ASAR				PKP	**PKPdf**	**08 42 42.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=154,slow=1.9,SNR=7.9						
ASAR	**Alice Springs**	**135.14**	**214**		PKPpre	08 42 38.8	
ZALV	**Zalesovo Beam**	**135.88**	**20**	PKP	**PKPdf**	**08 42 44.6**	**+0.4**
	comp=Z,13nm,0.8s,baz=302,slow=2.8,SNR=26						
ZALV	**Zalesovo Beam**	**135.88**	**20**	PKPdf	**PKPdf**	**08 42 44.2**	**0.0**
KURK	**Kurchatov**	**136.01**	**27**		**PKPdf**	**08 42 45.3**	**+0.7**
KURBB	**Kurchatov Arra**	**136.04**	**27**	PKP	**PKPdf**	**08 42 45.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=308,slow=3.3,SNR=9.0						
WRA	**Warramunga Arr**	**137.82**	**218**	PKP	**PKPdf**	**08 42 47.2**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=146,slow=1.5,SNR=3.7						
KLR	**Kul'dur**	**139.81**	**336**	PKP	**PKPdf**	**08 42 50.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=207,slow=2.3,SNR=2.2						
KLR				PP	**PP**	**08 45 45.8**	**-1.2**
	comp=Z,1.8nm,1.0s,baz=28,slow=5.5,SNR=3.0						
MKAR	**Makanchi Array**	**140.54**	**28**	PKhKP	PKPpre	08 42 44.6	
	comp=Z,0.3nm,0.7s,baz=15,slow=6.0,SNR=1.8						
USRK	**Ussuriysk Ar.**	**143.63**	**331**	PKP	PKPbc	08 42 56.4	+0.4
	comp=Z,1.4nm,0.6s,baz=60,slow=11,SNR=6.9						
MJAR	**Matsushiro Arr**	**145.03**	**316**	PKPbc	**PKPbc**	**08 43 00.1**	**-0.6**
	comp=Z,6.4nm,1.0s,baz=74,slow=2.7,SNR=17						
MJAR	**Matsushiro Arr**	**145.03**	**316**		**PKPbc**	**08 42 59.7**	**-1.0**
MAT	**Matsushiro**	**145.03**	**316**	PKP	**PKPbc**	**08 43 00.5**	**-0.2**
SONM	**Songino Array**	**146.06**	**2**	PKPbc	**PKPab**	**08 43 04.9**	**+0.6**
	comp=Z,17nm,0.9s,baz=337,slow=2.6,SNR=40						
SONM	**Songino Array**	**146.06**	**2**		**PKPbc**	**08 43 03.9**	**+0.2**
KSRS	**Korea Array**	**150.73**	**327**	PKPbc	**PKiKP**	**08 43 16.8**	**-0.1**
	comp=Z,9.5nm,1.0s,baz=26,slow=1.3,SNR=24						
GTA	**Gaotai**	**153.43**	**15**	⇓PKPbc	**PKPdf**	**08 43 17.7**	**+2.9**
GTA				pPKP	PKiKP	08 43 23.2	+0.7
GTA				LR	LR		
	comp=N,82nm,19.3s						
GTA				LR	LR		
	comp=E,170nm,24.0s						
GTA				LR	LR		
	comp=Z,68nm,19.6s						
CD2	**Chengdu**	**162.48**	**13**	PKP	**PKPdf**	**08 43 24.0**	**-2.0**

IDC 06 08:23:34.0±2.5, 53°.61N×86°.83E, h0km, mb1 2.9/2, mb1mx2.9/37, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.6km s-min=12.9km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**287**	*i*		08 31 50.2	
	baz=102,slow=314,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.24**	**287**	Pg	Pg	08 23 56.9	-0.8
	1.5nm,0.3s,baz=105,slow=17,SNR=13						
ZALV				Lg	Lg	08 24 14.3	
	2.8nm,0.3s,baz=113,slow=30,SNR=17						
KURBB	**Kurchatov Arra**	**5.92**	**243**	Pn	Pn	08 25 04.6	+1.8
	0.1nm,0.3s,baz=60,slow=14,SNR=4.9						
KURBB				Sn	Sn	08 26 09.3	-2.0
	baz=142,slow=44,SNR=1.2						
KURBB				Lg	Lg	08 26 41.5	
	0.0nm,0.3s,baz=64,slow=33,SNR=3.7						
MKAR	**Makanchi Array**	**7.42**	**205**	Pn	Pn	08 25 24.8	+1.4
	0.2nm,0.3s,baz=28,slow=15,SNR=10						
MKAR				Sn	Sn	08 26 46.5	-1.7
	0.1nm,0.3s,baz=21,slow=23,SNR=2.1						
MKAR				Lg	Lg	08 27 29.9	
	0.0nm,0.3s,baz=27,slow=30,SNR=5.8						

NNC 06 08:33:45.9±5.7, 39°.48N×72°.90E, h0km, mb3.6, mpv3.2, 2C-2D, Error ellipse: s-maj=41.5km s-min=24.7km az=174.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.27**	**4**	Pg	Pb	08 34 44.1	-0.7
	16nm,0.5s						
MRKS				Lg	Lg	08 35 27.9	
	5.8nm,0.3s						
TKM2	**Tokmak 2**	**3.99**	**30**	⇑Pg	Pg	08 35 03.1	+0.7
	2.3nm,0.8s						
TKM2				⇑Lg	Lg	08 35 55.7	
	2.5nm,0.6s						
KK31	**Karatay Array**	**4.04**	**334**	⇓Pn	Pn	08 34 47.3	-1.7
	1.4nm,0.5s,baz=149,slow=12						
KK31				⇓Sn	Sn	08 35 39.6	+2.5
	2.5nm,0.4s,baz=152,slow=23						
SGDS	**Sogindy**	**4.18**	**18**	Pg	Pb	08 35 00.7	+0.4
	2.1nm,0.5s						
SGDS				Lg	Lg	08 35 56.6	
	5.1nm,1.0s						
PDGK	**Podgornoye**	**6.27**	**50**	Pg	Pb	08 35 39.8	+3.9
	0.6nm,0.4s						
PDGK				Lg	Lg	08 37 02.6	
	1.2nm,0.7s						

*INET **06** 08:39:27.4, 12°.76N×90°.17W, h31km, MW3.4*
*SNET **06** 08:39:39.3±1.1, 13°.18N×89°.78W, h30km±2km, ML3.3*
*GCG **06** 08:39:41.8±0.6, 14°.90N×90°.47W, h170km, MD3.6*
*MEX **06** 08:39:44.3±0.6, 12°.73N×90°.66W, h18km±33km, MD4.0*
ISC 06 08:39:37.1±1.8, 13°.11N±0°.08×89°.89W±0°.04, h33km±4km, n38, σ0°63/62, 3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.68**	**56**	*e*P	**Pb**	**08 39 50.8**	**+0.2**
LALI				*e*S	**Sn**	**08 39 58.8**	**-1.0**
LALI				IAML		08 39 59.3	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**0.70**	**38**	⇓*e*P	**Pb**	**08 39 51.4**	**+0.3**
JAYA				*e*S	**Sn**	**08 39 59.9**	**-0.7**
JAYA				IAML		08 40 01.6	
	comp=Z,6μm,0.1s						
CEVE	**Cerro Verde**	**0.77**	**20**	*e*P	**Pb**	**08 39 52.6**	**+0.3**
CEVE				*e*S	**Sb**	**08 40 03.8**	**+1.2**
CEVE				IAML		08 40 07.1	
	comp=Z,2μm,0.2s						
SBLS	**San Blas**	**0.78**	**20**	*e*P	**Pb**	**08 39 52.8**	**+0.3**
SNJE	**San Jose**	**0.81**	**20**	*e*P	**Pb**	**08 39 53.1**	**+0.1**
RTR	**El Retiro**	**0.82**	**17**	*e*P	**Pb**	**08 39 53.5**	**+0.2**
RTR				*e*S	**Sb**	**08 40 04.2**	**+0.1**
MAGS	**Ministerio de**	**0.82**	**46**	*e*P	**Pn**	**08 39 52.9**	**+0.3**
MAGS				*e*S	**Sn**	**08 40 03.5**	**-0.1**
PMON	**Piamonte**	**0.82**	**43**	*e*P	**Pb**	**08 39 53.0**	**-0.2**
PMON				*e*S	**Sb**	**08 40 04.1**	**+0.1**
CEDA	**San Andres**	**0.85**	**35**	⇓*e*P	**Pb**	**08 39 53.4**	**-0.1**
CEDA				*e*S	**Sb**	**08 40 04.5**	**-0.1**
CEDA				IAML		08 40 12.6	
	comp=Z,1μm,0.3s						
BOQS	**Boqueron**	**0.86**	**44**	*e*P	**Pb**	**08 39 53.7**	**-0.2**
BOQS				*e*S	**Sb**	**08 40 05.2**	**-0.1**
SNET	**Serv Nac Est T**	**0.86**	**48**	*e*P	**Pn**	**08 39 53.4**	**+0.3**
SNET				*e*S	**Sn**	**08 40 04.1**	**-0.5**
SNET				IAML		08 40 06.9	
	comp=Z,790nm,0.2s						
UEES	**Universidad Ev**	**0.88**	**46**	*e*P	**Pb**	**08 39 53.7**	**-0.3**
SEMO	**Seminario San**	**0.88**	**47**	*e*P	**Pn**	**08 39 53.5**	**+0.2**
UTEC	**Universidad Te**	**0.90**	**49**	*e*P	**Pn**	**08 39 53.7**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.92**	**7**	*e*P	**Pb**	**08 39 54.9**	**+0.1**
SLOZ				*e*S	**Sb**	**08 40 07.4**	**+0.7**
IGN	**Direccin Gen**	**0.93**	**49**	*e*P	**Pn**	**08 39 54.2**	**+0.3**
UNIC	**Universidad Ca**	**0.93**	**21**	*e*P	**Pb**	**08 39 54.7**	**-0.2**
UDBS	**Universidad Do**	**0.94**	**50**	*e*P	**Pn**	**08 39 54.6**	**+0.5**
UDBS				*e*S	**Sn**	**08 40 05.7**	**-0.7**
UDBS				IAML		08 40 08.1	
	comp=Z,2μm,0.2s						
LFRS	**El Faro**	**0.96**	**57**	*e*P	**Pn**	**08 39 54.7**	**+0.3**
LFU	**La Fuente**	**0.99**	**50**	*e*P	**Pb**	**08 39 55.6**	**-0.4**
LFU				*e*S	**Sn**	**08 40 07.7**	**-0.1**
SJTE	**Alcalda de S**	**1.00**	**59**	*e*P	**Pn**	**08 39 55.4**	**+0.4**
SJTE				*e*S	**Sn**	**08 40 08.3**	**+0.3**
TACO	**Tacachico**	**1.01**	**31**	*e*P	**Pb**	**08 39 55.6**	**-0.5**
LBRS	**Las Brisas**	**1.04**	**53**	*e*P	**Pb**	**08 39 56.2**	**-0.5**
LBRS				*e*S	**Sb**	**08 40 10.1**	**0.0**
PAVA	**Las Pavas**	**1.11**	**57**	*e*P	**Pn**	**08 39 57.3**	**+0.8**
PAVA				*e*S	**Sb**	**08 40 11.8**	**-0.3**
COEG	**Centro de Oper**	**1.11**	**62**	*e*P	**Pn**	**08 39 56.9**	**+0.5**
COEG				*e*S	**Sn**	**08 40 10.4**	**-0.3**
COEG				IAML		08 40 11.7	
	comp=Z,747nm,0.4s						
TECO	**Alcaldia de Te**	**1.17**	**68**	*e*P	**Pn**	**08 39 57.5**	**+0.3**
UESV	**Universidad de**	**1.20**	**64**	*e*P	**Pn**	**08 39 58.3**	**+0.6**
UESV				*e*S	**Sn**	**08 40 12.4**	**-0.4**
UESV				IAML		08 40 19.3	
	comp=Z,456nm,0.3s						
COEB	**Comit de Eme**	**1.38**	**73**	*e*P	**Pn**	**08 40 00.7**	**+0.4**
MTO3	**Montecristo**	**1.39**	**22**	⇓*e*P	**Pb**	**08 40 01.6**	**-1.0**
MTO3				*e*S	**Sb**	**08 40 19.2**	**-0.9**
PQSS	**Presa 15 de Se**	**1.40**	**68**	*e*P	**Pn**	**08 40 01.1**	**+0.8**
PQSS				*e*S	**Sn**	**08 40 17.0**	**-0.6**
TECA	**Tecapa**	**1.41**	**74**	*e*P	**Pn**	**08 40 01.3**	**+0.6**
TECA				*e*S	**Sn**	**08 40 19.6**	**+1.4**
PCG	**Pacaya**	**1.46**	**332**	*e*P	Pb	08 40 10.4	+6.5
PCG				*e*S	**Sb**	**08 40 23.6**	**+1.4**
NBG	**Las Nubes**	**1.54**	**343**	*e*P	**Pb**	**08 40 05.8**	**+0.5**
NBG				*e*S	**Sb**	**08 40 25.1**	**+0.6**
ESQI	**Esquipulas**	**1.54**	**20**	*e*P	**Pb**	**08 40 04.0**	**-1.3**
PACA	**Pacayal**	**1.57**	**76**	*e*P	**Pb**	**08 40 04.7**	**-1.0**
FUG	**Fuego 3**	**1.62**	**325**	*e*P	**Pb**	**08 40 06.3**	**-0.3**
FUG				*e*S	**Sb**	**08 40 25.9**	**-1.0**
LCND	**La Caada**	**1.96**	**84**	*e*P	**Pn**	**08 40 09.2**	**+1.2**
LCND				*e*S	**Sn**	**08 40 31.9**	**+0.3**
LCND				IAML		08 40 38.7	
	comp=Z,227nm,0.4s						
PCIG		**4.13**	**309**	*e*P	**Pb**	**08 40 48.1**	**-1.0**
PCIG				*e*S	**Sn**	**08 41 24.6**	**-0.5**

*IDC **06** 09:05:07.3±1.9, 16°.25S×177°.60W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/29, mbtmp3.8/5, ML5.0/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/30, Error ellipse: s-maj=113.0km s-min=23.5km az=148.0*
ISC 06 09:05:12.2±1.4, 16°.45±0°.5×177°.5W±0°.3, h35km, n12, σ1°57/7, mb3.9/4, MS3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**253**	Pn	**Pn**	**09 06 16.4**	**-1.3**
	2.8nm,0.3s,baz=121,slow=15,SNR=11						
MSVF				Sn	**Sn**	**09 07 10.9**	**+2.2**
	2.2nm,0.3s,baz=329,slow=23,SNR=6.6						
AFI	**Afiamalu**	**6.03**	**66**	LR	LR	09 08 20.6	
	comp=Z,108nm,21.6s,baz=214,slow=32						
RAO	**Raoul Island**	**12.76**	**182**	LR	LR	09 12 00.9	
	comp=Z,249nm,18.7s,baz=3.0,slow=32						
URZ	**Urewera**	**22.26**	**191**	LR	LR	09 16 40.5	
	comp=Z,147nm,19.9s,baz=34,slow=31						
PPT	**Papeete**	**26.68**	**96**	LR	LR	09 20 34.3	
	comp=Z,97nm,18.1s,baz=285,slow=34						
STKA	**Stephens Creek**	**40.14**	**240**	P	**P**	**09 12 45.5**	**+0.6**
	2.6nm,0.9s,baz=76,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**46.08**	**253**	P	**P**	**09 13 31.9**	**-1.2**
	1.3nm,0.9s,baz=88,slow=8.2,SNR=10						
ILAR	**Eielson Array**	**84.26**	**13**	P	**P**	**09 17 39.9**	**+0.1**
	2.2nm,1.2s,baz=211,slow=5.1,SNR=6.7						
TXAR	**Lajitas Array**	**84.44**	**57**	P	**P**	**09 17 42.8**	**+1.1**
	0.2nm,0.8s,baz=254,slow=3.4,SNR=1.4						
MAW	**Mawson**	**85.54**	**200**	LR	LR	09 52 41.7	
	comp=Z,47nm,19.8s,baz=50,slow=33						
YKA	**Yellowknife Ar**	**92.62**	**24**	LR	LR	09 52 54.7	
	comp=Z,21nm,20.9s,baz=0.0,slow=31						
BRTR	**Keskin Array B**	**144.36**	**317**	PKP	**PKPdf**	**09 24 44.5**	**-0.7**
	1.4nm,0.8s,baz=148,slow=1.4,SNR=2.6						

*UUSS **06** 09:08:26.3±2.4, 37°.84N±0°.03×112°.46W±0°.04, h3km±7km, ML2.7/13, ML3.1/112(NEIC), Error ellipse: s-maj=5.3km s-min=3.5km az=142.0*
NEIC 06 09:08:27.1±2.5, 37°.83N±0°.02×112°.48W±0°.02, h4km±7km, Error ellipse: s-maj=2.7km s-min=2.3km az=148.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.32**	**47**		Pg	09 08 31.9	-1.5
MTPU					Sg	09 08 36.7	-1.0
MTPU	**Mount Pierson**	**0.32**	**47**	IAML		09 08 37.0	
	comp=E,738nm,0.3s						
MTPU				IAML		09 08 37.4	
	comp=N,680nm,0.7s						
BHU	**Blowhard Mount**	**0.38**	**232**		Pg	09 08 34.7	+0.3
PKCU	**Pink Cliffs**	**0.41**	**160**		Pg	09 08 34.0	-1.0
PKCU					Sg	09 08 40.3	0.0
PKCU	**Pink Cliffs**	**0.41**	**160**	IAML		09 08 41.7	
	comp=N,1μm,0.3s						
PKCU				IAML		09 08 42.2	
	comp=E,2μm,0.4s						
BTU	**Barney Top**	**0.49**	**98**		Pg	09 08 35.6	-0.8
DWU	**Dry Willow Pea**	**0.49**	**304**		Pb	09 08 38.9	+0.4
SZCU	**Shurtz Canyon**	**0.53**	**245**		Pg	09 08 36.9	-0.5
SZCU	**Shurtz Canyon**	**0.53**	**245**	IAML		09 08 46.7	
	comp=N,960nm,0.3s						
SZCU				IAML		09 08 47.4	
	comp=E,1μm,0.3s						
MSU	**Marysvale**	**0.73**	**19**		Pg	09 08 40.8	-0.2
NMUT	**North Mineral**	**0.75**	**337**		Pb	09 08 43.0	+0.2
EKU	**East Kanab**	**0.75**	**181**		Pg	09 08 40.9	-0.6
CCUT	**Cedar City**	**0.75**	**249**		Pg	09 08 41.2	-0.3
ARUT	**Antelope Range**	**0.76**	**267**		Pb	09 08 43.8	+0.8
TCRU	**Three Creeks R**	**0.78**	**2**		Pg	09 08 41.0	-1.1
TCRU	**Three Creeks R**	**0.78**	**2**	IAML		09 08 53.1	
	comp=E,330nm,0.5s						
TCRU				IAML		09 08 54.9	
	comp=N,550nm,0.7s						
KNB	**Kanab**	**0.85**	**199**		Pg	09 08 42.2	-1.2
MMU	**Miners Mountai**	**1.01**	**68**		Pg	09 08 44.6	-1.8
LCMT	**Little Creek M**	**1.01**	**217**		Pg	09 08 45.2	-1.3
LCMT	**Little Creek M**	**1.01**	**217**	IAML		09 09 02.2	
	comp=E,211nm,0.2s						
LCMT				IAML		09 09 07.7	
	comp=N,176nm,0.2s						
WCU	**Willow Creek**	**1.18**	**15**		Pg	09 08 49.0	-0.7
PSUT	**Pine Spring**	**1.29**	**304**		Pg	09 08 51.3	-0.6
PSUT	**Pine Spring**	**1.29**	**304**	IAML		09 09 12.9	
	comp=N,511nm,0.8s						
PSUT				IAML		09 09 13.4	
	comp=E,400nm,0.8s						
ICU	**Indian Springs**	**1.33**	**240**		Pn	09 08 50.8	-1.8
HMU	**Henry Mountain**	**1.38**	**85**		Pn	09 08 51.7	-1.6
U15A	**North Rim**	**1.40**	**174**		Pn	09 08 52.0	-1.7
U15A				IAML		09 09 10.2	
	comp=N,171nm,0.7s						
U15A				IAML		09 09 13.4	
	comp=E,143nm,0.7s						
Q16A	**Castle Valley**	**1.50**	**43**		Pn	09 08 53.2	-1.7
SNO	**Snow College**	**1.66**	**26**		Pn	09 08 56.9	-0.3
TMUT	**Trail Mountain**	**1.77**	**34**		Pn	09 08 58.4	-0.5
TMUT	**Trail Mountain**	**1.77**	**34**	IAML		09 09 25.0	
	comp=N,82nm,0.5s						
SPR3	**Spring Creek 3**	**1.87**	**309**	Pn	Pn	09 08 58.9	-1.2
SPR3				IAML		09 09 26.5	
	comp=N,105nm,0.6s						
SPR3				IAML		09 09 30.1	
	comp=E,83nm,0.5s						
SRU	**San Rafael Swe**	**2.00**	**50**		Pb	09 09 03.3	-0.9
SRU	**San Rafael Swe**	**2.00**	**50**	Pn	Pn	09 09 01.6	-0.2
SRU	**San Rafael Swe**	**2.00**	**50**	IAML		09 09 29.0	
	comp=N,64nm,0.5s						
SRU				IAML		09 09 32.2	
	comp=E,104nm,0.5s						
ELU	**Electric Lake**	**2.07**	**28**		Pb	09 09 04.2	-1.2
PRN	**Pahroc Range**	**2.08**	**259**		Pn	09 09 02.9	0.0
PRN				IAML		09 09 37.0	
	comp=N,114nm,0.5s						
PRN				IAML		09 09 45.0	
	comp=E,133nm,0.7s						
SUU	**Santaquin Cany**	**2.13**	**14**		Pn	09 09 03.5	-0.1
P17A	**Butcher Ranch,**	**2.14**	**39**		Pn	09 09 03.7	0.0
NLU	**North Lily Min**	**2.15**	**8**	Pn	Pn	09 09 02.9	-1.0
MPU	**Maple Canyon**	**2.28**	**17**	Pn	Pn	09 09 04.5	-1.2
EMUT	**Emma Park**	**2.37**	**33**		Pb	09 09 09.0	-1.6
DUG	**Dugway, Tooele**	**2.38**	**354**		Pn	09 09 05.9	-1.1
WUAZ	**Wupatki**	**2.47**	**159**	Pn	Pn	09 09 09.5	+1.3
R11A	**Troy Canyon, C**	**2.50**	**283**		Pn	09 09 07.2	-1.5
R11A				IAML		09 09 54.6	
	comp=N,38nm,0.9s						
SHPR	**Sheep Range**	**2.51**	**239**	Pn	Pn	09 09 08.7	-0.1
PV05	**Paradox Valley**	**2.69**	**84**		Pn	09 09 13.2	+1.9
PV10	**Paradox Valley**	**2.77**	**78**	Pn	Pn	09 09 12.8	+0.3
PV10				IAML		09 09 54.4	
	comp=E,151nm,0.3s						
PV14	**Lion Creek, Pa**	**2.78**	**78**		Pn	09 09 13.7	+1.1
PV19	**Morning Glory**	**2.80**	**79**		Pn	09 09 13.7	+0.8
PV19				IAML		09 09 53.1	
	comp=N,133nm,0.5s						
PV19				IAML		09 09 55.6	
	comp=E,104nm,0.6s						
PV17	**East Wray Mesa**	**2.82**	**80**		Pn	09 09 13.5	+0.4
PV17				IAML		09 09 52.4	
	comp=E,165nm,0.4s						
PV20	**West Nyswonger**	**2.82**	**78**		Pn	09 09 13.7	+0.6
PV18	**Skein Mesa, Pa**	**2.85**	**80**	Pn	Pn	09 09 14.5	+1.0
PV18				IAML		09 09 54.1	
	comp=E,99nm,0.4s						
PV18				IAML		09 09 57.6	
	comp=N,94nm,0.8s						
PV16	**Nyswonger Mesa**	**2.86**	**79**		Pn	09 09 14.6	+1.0
PV04	**Paradox Valley**	**2.88**	**78**		Pn	09 09 14.7	+0.9
PV04				IAML		09 09 55.8	
	comp=N,129nm,0.6s						
PV04				IAML		09 10 01.8	
	comp=E,108nm,0.7s						
JLU	**Jordanelle**	**2.89**	**16**	Pn	Pn	09 09 15.9	+1.9
PV11	**David Mesa, Pa**	**2.89**	**79**		Pn	09 09 14.2	+0.1
PV03	**Paradox Valley**	**2.90**	**80**		Pn	09 09 15.0	+0.8
PV13	**Radium Mtn., P**	**2.91**	**82**		Pn	09 09 15.2	+0.8
PV12	**Saucer Basin,**	**2.94**	**79**		Pn	09 09 14.6	-0.3
W13A	**Hualapai Mount**	**2.95**	**203**	Pn	Pb	09 09 17.9	-2.4
W13A				IAML		09 09 58.2	
	comp=N,24nm,0.8s						
PV02	**Paradox Valley**	**2.98**	**82**		Pn	09 09 15.5	+0.1
PV22	**Blue Mesa, Par**	**3.00**	**75**		Pn	09 09 18.1	+2.5
PV22				IAML		09 09 58.6	
	comp=N,125nm,0.5s						
PV22				IAML		09 10 03.8	
	comp=E,126nm,0.7s						
PV07	**Paradox Valley**	**3.08**	**77**		Pn	09 09 16.9	+0.2
PV07				IAML		09 10 07.7	
	comp=N,55nm,0.6s						
PV07				IAML		09 10 07.9	
	comp=E,75nm,0.8s						
PV01	**Paradox Valley**	**3.11**	**83**		Pn	09 09 17.3	+0.3
PV01				IAML		09 10 01.0	
	comp=N,91nm,0.6s						
PV01				IAML		09 10 01.8	
	comp=E,114nm,0.6s						
TPNV	**Topopah Spring**	**3.13**	**255**		Pn	09 09 17.0	-0.2
TPNV				IAML		09 10 11.5	
	comp=E,26nm,0.6s						
TPNV				IAML		09 10 15.3	
	comp=E,34nm,0.9s						
PV15	**Paradox Valley**	**3.20**	**80**		Pn	09 09 18.2	-0.2
PV15				IAML		09 10 10.2	
	comp=E,118nm,0.6s						
MVCO	**Mesa Verde**	**3.23**	**100**	Pn	Pn	09 09 19.0	+0.3
MVCO				IAML		09 10 08.7	
	comp=E,115nm,0.6s						
MVCO				IAML		09 10 15.4	
	comp=E,98nm,0.7s						
W18A	**Petrified Fore**	**3.49**	**140**		Pn	09 09 22.2	-0.1
W18A				IAML		09 10 17.7	
	comp=E,59nm,0.5s						
W18A				IAML		09 10 21.9	
	comp=N,91nm,0.6s						
X16A	**Lo Mia Camp, P**	**3.50**	**166**	Pn	Pb	09 09 26.4	-3.4
X16A				IAML		09 10 20.7	
	comp=N,17nm,0.5s						
X16A				IAML		09 10 27.1	
	comp=E,23nm,0.8s						
RDMU	**Red Mountain**	**3.55**	**39**	Pn	Pn	09 09 23.4	+0.2
ELK	**Elko**	**3.62**	**325**	Pn	Pn	09 09 24.6	+0.6
TPH	**Tonopah**	**3.76**	**275**	Pn	Pn	09 09 25.6	-0.4
TPH	**Tonopah**	**3.76**	**275**	IAML		09 10 29.7	
	comp=N,20nm,0.6s						
TPH				IAML		09 10 34.9	
	comp=E,21nm,0.7s						
X18A	**Snowflake**	**3.88**	**147**		Pn	09 09 28.6	+1.0
O20A	**White River Ci**	**4.03**	**54**		Pn	09 09 30.6	+0.9
O20A				IAML		09 10 35.4	
	comp=N,27nm,0.6s						
O20A				IAML		09 10 37.9	
	comp=E,35nm,0.8s						
NV11	**Mina Array Sit**	**4.51**	**279**		Pn	09 09 36.6	+0.2
NV11				IAML		09 10 55.3	
	comp=E,6.7nm,0.9s						
NV11				IAML		09 10 55.6	
	comp=N,7.8nm,0.9s						
SMCO	**Snowmass**	**4.53**	**71**	Pn	Pn	09 09 37.6	+0.9
SMCO				IAML		09 10 50.3	
	comp=N,28nm,0.5s						
KVN	**Kaiserville**	**4.58**	**287**	Pn	Pn	09 09 36.7	-0.5
KVN				IAML		09 10 57.3	
	comp=N,14nm,0.6s						
KVN				IAML		09 10 57.9	
	comp=E,16nm,0.8s						
SDCO	**Great Sand Dun**	**5.53**	**89**	Pn	Pn	09 09 50.7	+0.2
ANMO	**Albuquerque**	**5.65**	**119**	Pn	Pn	09 09 51.9	-0.1

ZUR 06 09:14:13.4, 46°.18N×7°.26E, h3km±2km, MLh1.3/14, 6C-2D, Error ellipse: s-maj=4.9km s-min=0.9km az=250.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRYON	**Gryon**	**0.12**	**304**	Pg	Pg	09 14 16.1	+0.2
	0.2nm,SNR=3.3						
GRYON				Pg	Pg	09 14 16.1	+0.2
GRYON				Sg	Sg	09 14 18.0	+0.4
**DIX

mb1 3.9/9, mb1mx3.6/30, mbtmp4.3/9, Error ellipse: s-maj=21.7km s-min=17.5km az=94.0

ISC 06 09:19:43.5±0.7, 17°36S±0°05×69°68W±0°06, h166km±7km, n80, σ1§46/86, mb4.4/9, 6C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.19**	**212**	⇑*i*P	**Pn**	**09 20 12.8**	**+1.4**
AP01				*i* S	**Sn**	**09 20 34.6**	**+1.6**
AP01				IAML		09 20 35.8	
	comp=N,2μm,0.2s						
AP01	**Chacalluta**	**1.19**	**212**		**Pn**	**09 20 12.8**	**+1.4**
MNMC	**Minye Minye**	**1.77**	**177**	⇑*i*P	**Pn**	**09 20 18.9**	**+1.6**
MNMC				*i* S	**Sn**	**09 20 45.2**	**+1.5**
MNMC				IAML		09 20 50.6	
	comp=E,2μm,0.6s						
MNMC	**Minye Minye**	**1.77**	**177**		**Pn**	**09 20 19.0**	**+1.6**
LPAZ	**La Paz**	**1.82**	**55**	P	**Pn**	**09 20 18.6**	**+0.2**
	comp=E,357nm,0.3s,baz=304,slow=4.4						
LPAZ				LR	LR	09 20 36.0	
	comp=E,34nm,22.0s,baz=97,slow=31						
LPAZ				S	**Sn**	**09 20 43.3**	**-1.9**
	comp=E,25nm,0.3s,baz=62,slow=11,SNR=8.0						
LPAZ	**La Paz**	**1.82**	**55**	*e*P	**Pn**	**09 20 18.7**	**+0.4**
PSGC	**Pisagua**	**2.27**	**191**	⇑*i*P	**Pn**	**09 20 23.6**	**+0.7**
PSGC				*i* S	**Sn**	**09 20 52.8**	**-0.5**
PSGC				IAML		09 20 53.7	
	comp=N,520nm,0.2s						
PSGCX	**Pisagua**	**2.27**	**191**		**Pn**	**09 20 23.6**	**+0.8**
PB08	**IPOC Station P**	**2.81**	**170**	⇑*i*P	**Pn**	**09 20 31.2**	**+1.6**
PB08				*i* S	**Sn**	**09 21 06.1**	**+0.6**
PB08				IAML		09 21 08.3	
	comp=E,450nm,0.2s						
PB08	**IPOC Station P**	**2.81**	**170**		**Pn**	**09 20 30.7**	**+1.1**
TA02	**Huaiquique**	**2.93**	**188**	*e*P	**Pn**	**09 20 30.9**	**+0.3**
TA02				*e*S	**Sn**	**09 21 06.1**	**-1.3**
TA02	**Huaiquique**	**2.93**	**188**		**Pn**	**09 20 31.0**	**+0.3**
TA01	**Diego Aracena**	**3.23**	**188**	⇑*i*P	**Pn**	**09 20 34.6**	**+0.2**
TA01				*i* S	**Sn**	**09 21 11.7**	**-2.3**
TA01				IAML		09 21 15.5	
	comp=E,328nm,0.4s						
TA01	**Diego Aracena**	**3.23**	**188**		**Pn**	**09 20 34.7**	**+0.4**
PB01	**IPOC Station P**	**3.67**	**177**	⇑*i*P	**Pn**	**09 20 40.7**	**+0.7**
PB01				*i* S	**Sn**	**09 21 22.7**	**-1.6**
PB01	**IPOC Station P**	**3.67**	**177**		**Pn**	**09 20 41.1**	**+1.1**
PB07	**IPOC Station P**	**4.35**	**183**	*e*P	**Pn**	**09 20 49.6**	**+0.7**
PB07				*e*S	**Sn**	**09 21 36.9**	**-3.2**
PB07	**IPOC Station P**	**4.35**	**183**		**Pn**	**09 20 49.5**	**+0.6**
PB09	**IPOC Station P**	**4.43**	**175**		**Pn**	**09 20 51.1**	**+1.1**
PB04	**IPOC Station P**	**4.97**	**185**		**Pn**	**09 20 57.4**	**+0.4**
LVC	**Limon Verde**	**5.28**	**172**	P	**Pn**	**09 21 02.5**	**+1.4**
	comp=E,5.8nm,0.3s,baz=18,slow=6.4,SNR=86						
LVC				S	**Sn**	**09 21 59.8**	**-2.2**
	comp=E,18nm,0.3s,baz=202,slow=22,SNR=32						
LVC	**Limon Verde**	**5.28**	**172**		**Pn**	**09 21 02.4**	**+1.2**
PB06	**IPOC Station P**	**5.32**	**179**		**Pn**	**09 21 02.0**	**+0.4**
PB15	**IPOC Station P**	**5.82**	**178**		**Pn**	**09 21 08.7**	**+0.4**
PB10	**IPOC Station P**	**6.18**	**187**		**Pn**	**09 21 12.3**	**-0.4**
PB10					**Sn**	**09 22 17.5**	**-5.4**
PB14	**IPOC Station P**	**7.26**	**185**		**Pn**	**09 21 26.5**	**-0.9**
GO02	**Mina Guanaco**	**7.77**	**179**		**Pn**	**09 21 34.1**	**0.0**
ETMB	**Extrema**	**8.22**	**25**	*e*P	**Pn**	**09 21 37.9**	**-1.9**
SIV	**San Ignacio**	**8.36**	**82**	P	**Pn**	**09 21 40.8**	**-0.9**
	comp=E,4.2nm,0.3s,baz=274,slow=9.4,SNR=121						
SIV				S	Sn	09 23 05.7	-9.3
	comp=E,0.9nm,0.3s,baz=188,slow=23,SNR=9.3						
NNA	**Nana**	**8.75**	**307**	S	**Sn**	**09 23 20.3**	**-4.2**
	comp=E,0.6nm,0.3s,baz=143,slow=22,SNR=2.3						
AC02	**Maricunga**	**9.45**	**177**		**Pn**	**09 21 57.0**	**+0.6**
SALV	**Santo Antonio**	**13.48**	**86**	*e*P	**P**	**09 22 51.4**	**-0.4**
PP1B	**Ponte de Pedra**	**14.12**	**93**	*e*P	**P**	**09 22 59.0**	**0.0**
CPUP	**Villa Florida**	**14.52**	**130**	*e*P	**Pn**	**09 23 01.6**	**+0.3**
CLDB	**Colider**	**14.92**	**66**	*e*P	**P**	**09 23 08.0**	**+0.1**
VA03	**San Esteban**	**15.36**	**183**	P	**Pn**	**09 23 09.3**	**-2.4**
VA03				IAmb	IAmb	09 23 11.7	
	comp=Z,15nm,0.7s						
MACA	**Manacapuru-AM**	**16.64**	**33**	*e*P	**P**	**09 23 25.9**	**-1.0**
BO01	**Tunca**	**17.01**	**184**	P	**Pn**	**09 23 33.0**	**+1.4**
ARAG	**Araguaiana, MT**	**17.21**	**87**	*e*P	**Pn**	**09 23 35.1**	**+0.9**
NPGB	**Novo Progresso**	**17.33**	**55**	*e*P	**Pn**	**09 23 34.8**	**-0.8**
H03N1	**Juan Fernandez**	**18.04**	**206**	T	T	09 41 16.4	
	baz=29,SNR=3.8						
H03N2	**Juan Fernandez**	**18.05**	**206**	T	T	09 42 05.4	
	baz=29,slow=74,SNR=3.8						
H03N3	**Juan Fernandez**	**18.06**	**206**	T	T	09 41 57.4	
	baz=29,slow=74,SNR=8.7						
ITRB	**Iturama**	**18.47**	**100**	*e*P	**P**	**09 23 47.0**	**+0.2**
ITTB	**Itaituba**	**18.80**	**48**	*e*P	**P**	**09 23 49.3**	**-1.2**
PTGA	**Pitinga**	**19.09**	**31**	P	**P**	**09 23 52.3**	**-1.2**
	comp=Z,3.1nm,0.3s,baz=214,slow=16,SNR=16						
CPSB	**Cacapava Do Su**	**19.70**	**134**	*e*P	**P**	**09 23 58.8**	**-1.2**
FRTB	**Fartura**	**19.77**	**111**	*e*P	**P**	**09 24 01.7**	**+0.8**
PLTB	**Pedras Altas**	**20.44**	**138**	*e*P	**P**	**09 24 07.1**	**-0.9**
BDFB	**Brasilia**	**20.84**	**88**	P	**P**	**09 24 13.8**	**+1.3**
	comp=Z,4.1nm,0.5s,baz=260,slow=10,SNR=6.3						
BDFB	**Brasilia**	**20.84**	**88**	IAmb	IAmb	09 24 14.1	
	comp=Z,4.6nm,0.6s						
BOAV	**Boa Vista**	**21.61**	**26**	*e*P	**P**	**09 24 18.2**	**-2.3**
MALB	**Monte Alegre**	**21.61**	**46**	*e*P	**P**	**09 24 20.7**	**+0.1**
SMTB	**Santa Maria do**	**23.09**	**71**	*e*P	**P**	**09 24 34.0**	**-0.9**
PLCA	**Paso Flores**	**23.31**	**182**	P	**P**	**09 24 37.9**	**+1.3**
	comp=Z,4.4nm,0.8s,baz=334,slow=12,SNR=4.4						
PLCA	**Paso Flores**	**23.31**	**182**	IAmb	IAmb	09 24 41.3	
	comp=Z,8.8nm,1.1s						
PARB	**Paraibuna**	**23.31**	**109**	*e*P	**P**	**09 24 35.6**	**-1.3**
MCPB	**Macapa, AP**	**24.21**	**48**	*e*P	**P**	**09 24 44.4**	**-0.6**
SDBA	**SAO DESIDERIO**	**24.43**	**82**	*e*P	**P**	**09 24 47.5**	**+0.4**
JANB	**Januaria**	**24.46**	**88**	*e*P	**P**	**09 24 46.8**	**-0.5**
MC01	**Montes Claros**	**24.61**	**92**	*e*P	**P**	**09 24 48.6**	**-0.1**
DIAM	**Diamantina, MG**	**24.77**	**96**	*e*P	**P**	**09 24 51.0**	**+0.8**
LL01	**San Ignacio de**	**25.05**	**185**	P	**P**	**09 24 53.8**	**+1.5**
TMAB	**Tom-Àu,PA,Br**	**25.91**	**57**	*e*P	**P**	**09 25 00.1**	**-0.3**
RIB01	**Linhares ES**	**27.85**	**99**	*e*P	**P**	**09 25 18.1**	**+0.4**
NBIT	**Itapeh - BA**	**29.14**	**90**	*e*P	**P**	**09 25 30.0**	**+0.8**
NBPS	**Pedro II - PI**	**30.51**	**68**	*e*P	**P**	**09 25 40.4**	**-1.0**
NBPB	**Pedra_Branca-C**	**31.69**	**72**	*e*P	**P**	**09 25 51.4**	**-0.3**
NBAN	**Anadia - AL**	**33.33**	**81**	*e*P	**P**	**09 26 09.7**	**+3.8**
TXAR	**Lajitas Array**	**56.84**	**324**	P	**P**	**09 29 13.1**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=138,slow=9.8,SNR=1.8						
LIC	**Lamto**	**68.00**	**76**	*e*P	**P**	**09 30 24.3**	**-1.0**
	comp=Z,30nm,1.3s						
TIC	**Toumodi**	**68.16**	**75**	*e*P	**P**	**09 30 26.1**	**-0.2**
KIC	**Kosan Boka**	**68.32**	**76**	*e*P	**P**	**09 30 27.5**	**+0.2**
	comp=Z,18nm,0.5s						
PDAR	**Pinedale Array**	**70.18**	**330**	P	**P**	**09 30 41.2**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=137,slow=9.3,SNR=2.3						
ULM	**Lac du Bonnet**	**71.17**	**343**	P	**P**	**09 30 44.6**	**+0.7**
	comp=Z,7.5nm,0.6s,baz=153,slow=6.9,SNR=6.8						
ULM	**Lac du Bonnet**	**71.17**	**343**	P	**P**	**09 30 42.4**	**-1.5**
ULM				IAmb	IAmb	09 30 45.1	
	comp=Z,6.2nm,0.6s						
TOA0	**Torodi Ar. Sit**	**76.69**	**72**	P	**P**	**09 31 16.1**	**-0.6**
TOA0				IAmb	IAmb	09 31 16.6	
	comp=Z,5.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.69**	**72**	P	**P**	**09 31 16.2**	**-0.6**
	comp=Z,3.9nm,0.4s,baz=261,slow=4.9,SNR=44						
TORD	**Torodi Ar. Bea**	**76.69**	**72**	P	**P**	**09 31 15.7**	**-1.0**
TORD				IAmb	IAmb	09 31 16.9	
	comp=Z,4.3nm,0.8s						
ESDC	**Sonseca Array**	**83.42**	**45**	P	**P**	**09 31 53.5**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=248,slow=5.1,SNR=5.1						

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*JMA **06** 09:24:01.8±0.1, 35°89N×139°68E, h89km±1km, M3.3*
JMA Felt I J1.
*IDC **06** 09:24:01.7±4.0, 35°82N×139°66E, h97km±19km, mb3.1/3, mb1 3.3/5, mb1mx3.1/39, mbtmp3.5/5, Error ellipse: s-maj=79.3km s-min=10.0km az=63.0*

ISC 06 09:24:01.2±1.1, 35°88N±0°05×139°70E±0°08, h92km±8km, n15, σ0§90/25, mb3.6/3, 1C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.34**	**265**	⇓P	**Pn**	**09 24 15.6**	**+0.5**
JHU				S	**Sn**	**09 24 25.6**	**+0.2**
JAG	**Ashikaga**	**0.58**	**340**	⇑P	**Pn**	**09 24 17.0**	**+0.2**
JAG				S	**Sn**	**09 24 27.9**	**-0.6**
JRY	**Ryogami san**	**0.66**	**282**	⇓P	**Pn**	**09 24 18.1**	**+0.5**
JRY				S	**Sn**	**09 24 30.7**	**+0.9**
JOD2	**Odawara 2**	**0.79**	**219**	⇓P	**Pn**	**09 24 18.4**	**-0.5**
JOD2				S	**Sn**	**09 24 30.7**	**-1.3**
JKT	**Katashina**	**0.95**	**338**	P	**Pn**	**09 24 20.7**	**0.0**
JKT				S	**Sn**	**09 24 35.3**	**+0.1**
JYN	**Shimob**	**1.01**	**248**	⇓P	**Pn**	**09 24 21.2**	**-0.1**
JYN				S	**Sn**	**09 24 35.8**	**-0.5**
JFNN	**Fujinakano**	**1.07**	**231**	P	**Pn**	**09 24 21.9**	**0.0**
JFNN				S	**Sn**	**09 24 37.1**	**-0.3**
MJAR	**Matsushiro Arr**	**1.37**	**299**	P	**Pn**	**09 24 24.3**	**-1.2**
	5.3nm,0.3s,baz=128,slow=10,SNR=208						
MJAR				S	**Sn**	**09 24 44.5**	**+0.6**
	3.8nm,0.3s,baz=33,slow=16,SNR=5.0						
MAT	**Matsushiro**	**1.37**	**299**	P	**Pn**	**09 24 25.6**	**+0.1**
MAT				*e*S	**Sn**	**09 24 44.4**	**+0.5**
BSO1	**Boso 1**	**1.61**	**139**	S	**Sn**	**09 24 48.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.76**	**179**	P	**Pn**	**09 24 45.1**	**+1.6**
	29nm,0.3s,baz=302,slow=17,SNR=16						
JHJ				S	**Sn**	**09 25 15.6**	**-0.4**
	41nm,0.3s,baz=293,slow=23,SNR=2.7						
KSRS	**Korea Array**	**9.59**	**283**	P	**Pn**	**09 26 18.9**	**+2.6**
	0.2nm,0.3s,baz=97,slow=14,SNR=6.8						
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**09 31 56.1**	**+0.1**
	0.1nm,0.3s,baz=83,slow=9.5,SNR=2.7						
WRA	**Warramunga Arr**	**55.75**	**186**	P	**P**	**09 33 27.7**	**-0.8**
	0.4nm,0.3s,baz=0.0,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**59.48**	**186**	P	**P**	**09 33 53.8**	**-0.9**
	0.3nm,0.6s,baz=20,slow=8.3,SNR=5.6						

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*IDC **06** 09:29:18.4±1.3, 35°32S×179°57W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.0/27, mbtmp4.5/5, ML4.1/1, MS3.7/5, Ms1 3.7/5, ms1mx3.2/32, Error ellipse: s-maj=43.2km s-min=31.2km az=151.0*
*NEIC **06** 09:29:21.5±1.4, 35°6S±0°1×179°5W±0°2, h22km±6km, mb4.5/9, ML4.1(WEL), Error ellipse: s-maj=19.5km s-min=15.0km az=103.0*
*WEL **06** 09:29:22.9±0.8, 36°S±7°×17°9W±1°0, h138km±24km, M4.1/42, mB4.6/9, ML4.6/39, MLv4.4/42, Mw(mB)3.8/9, Error ellipse: s-maj=0.0km s-min=0.0km az=100.1*

ISC 06 09:29:23.6±0.9, 35°59S±0°07×179°34W±0°10, h41km, n91, σ1§43/99, mb4.4/9, MS3.3/6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.73**	**223**		**Pn**	**09 30 04.2**	**-0.7**
PKGZ	**Pakihiroa**	**3.10**	**221**	P	**Pn**	**09 30 10.2**	**+0.2**
PKGZ				S	**Sn**	**09 30 46.8**	**+1.1**
PUZ	**Puketiti**	**3.14**	**217**	P	**Pn**	**09 30 10.5**	**0.0**
HAZ	**Te Kaha**	**3.17**	**226**	P	**Pn**	**09 30 11.7**	**+0.8**
HAZ				S	**Sn**	**09 30 51.4**	**+3.9**
TWGZ	**Tauwhareparae**	**3.36**	**219**	P	**Pn**	**09 30 14.0**	**+0.4**
RUGZ	**Raukumara Rang**	**3.37**	**224**	P	**Pn**	**09 30 14.3**	**+0.5**
CNGZ	**Carnagh Statio**	**3.49**	**213**	P	**Pn**	**09 30 16.0**	**+0.6**
MWZ	**Matawai**	**3.72**	**222**	P	**Pn**	**09 30 18.4**	**-0.1**
MWZ				S	**Sn**	**09 31 02.7**	**+1.6**
RIGZ	**Rimuhau**	**3.88**	**216**	P	**Pn**	**09 30 21.0**	**+0.2**
RAGZ	**Rawiri**	**3.90**	**221**	P	**Pn**	**09 30 21.7**	**+0.7**
URZ	**Urewera**	**3.90**	**226**	Pn	**Pn**	**09 30 20.5**	**-0.5**
	14nm,0.3s,baz=49,slow=3.8,SNR=80						
URZ				Sn	**Sn**	**09 31 04.7**	**-0.8**
	11nm,0.3s,baz=0.5,slow=6.2,SNR=3.3						
URZ	**Urewera**	**3.90**	**226**		**Pn**	**09 30 20.3**	**-0.6**
URZ	**Urewera**	**3.90**	**226**	P	**Pn**	**09 30 20.5**	**-0.5**
URZ				S	**Sn**	**09 31 07.6**	**+2.2**
OPRZ	**Ohinepanea**	**4.00**	**234**	P	**Pn**	**09 30 21.7**	**-0.5**
PRGZ	**Paritu Road**	**4.00**	**213**	P	**Pn**	**09 30 22.3**	**-0.1**
EDRZ	**Edgecumbe**	**4.03**	**230**	P	**Pn**	**09 30 24.5**	**+1.8**
TGRZ	**Tauranga**	**4.13**	**238**	P	**Pn**	**09 30 23.7**	**-0.5**
SNGZ	**Shannon Statio**	**4.15**	**219**	P	**Pn**	**09 30 24.6**	**+0.2**
SNGZ				S	**Sn**	**09 31 13.6**	**+2.0**
KNZ	**Kokohu**	**4.17**	**214**	P	**Pn**	**09 30 24.1**	**-0.6**
KNZ				S	**Sn**	**09 31 13.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**4.18**	**211**	P	**Pn**	**09 30 24.9**	**+0.1**
MUGZ	**Murupara**	**4.24**	**226**	P	**Pn**	**09 30 25.9**	**+0.2**
OMRZ	**Omania**	**4.26**	**233**	P	**Pn**	**09 30 26.9**	**+0.9**
KARZ	**Kaharoa**	**4.30**	**234**	P	**Pn**	**09 30 26.0**	**-0.4**
RRRZ	**Republican Roa**	**4.31**	**229**	P	**Pn**	**09 30 26.8**	**+0.2**
RAHZ	**Arahi**	**4.38**	**220**	P	**Pn**	**09 30 28.1**	**+0.5**
WHHZ	**Waihua**	**4.43**	**217**	P	**Pn**	**09 30 28.9**	**+0.7**
WHHZ				S	**Sn**	**09 31 20.7**	**+2.3**
MTHZ	**Maungataniwha**	**4.46**	**222**	P	**Pn**	**09 30 29.0**	**+0.3**
PRRZ	**Plateau Road**	**4.48**	**228**	P	**Pn**	**09 30 29.6**	**+0.6**
TOZ	**Tahuroa Road**	**4.67**	**241**	P	**Pn**	**09 30 31.6**	**+0.1**
ARHZ	**Aropaoanui**	**4.69**	**217**	P	**Pn**	**09 30 31.8**	**0.0**
ARHZ				S	**Sn**	**09 31 26.5**	**+1.6**
MRHZ	**Matea Rd**	**4.69**	**225**	P	**Pn**	**09 30 31.5**	**-0.4**
MKAZ	**Moumakai**	**4.69**	**250**	P	**Pn**	**09 30 33.0**	**+1.1**
MBAZ	**Motutapu North**	**4.81**	**254**	P	Pn	09 30 39.1	+5.7
BKZ	**Black Stump Fm**	**4.88**	**222**		**Pn**	**09 30 32.4**	**-2.0**
BKZ	**Black Stump Fm**	**4.88**	**222**	P	**Pn**	**09 30 33.7**	**-0.8**
MCHZ	**McNeill Hill**	**4.97**	**218**	P	**Pn**	**09 30 34.9**	**-0.8**
RVAZ	**Riverhead Bore**	**5.06**	**255**	P	Pn	09 30 40.4	+3.5
AWAZ	**Awhitu Peninsu**	**5.08**	**251**	P	**Pn**	**09 30 38.6**	**+1.4**
RATZ	**Rangitukua**	**5.09**	**229**	P	**Pn**	**09 30 37.6**	**+0.2**
WTAZ	**Waiatarua**	**5.10**	**253**	P	**Pn**	**09 30 40.1**	**+2.6**
KWHZ	**Kaweka Forest**	**5.10**	**220**	P	**Pn**	**09 30 38.0**	**+0.5**
KWHZ				S	**Sn**	**09 31 36.0**	**+0.8**
RITZ	**Rihia Road**	**5.11**	**227**	P	**Pn**	**09 30 37.9**	**+0.3**
WCZ	**Waipu Caves**	**5.15**	**264**	P	**Pn**	**09 30 38.1**	**0.0**
KAHZ	**Kahuranaki**	**5.16**	**214**	P	**Pn**	**09 30 36.9**	**-1.4**
KAHZ				S	**Sn**	**09 31 36.4**	**-0.2**
KRHZ	**Kereru**	**5.29**	**219**	P	**Pn**	**09 30 39.7**	**-0.4**
KRHZ				S	**Sn**	**09 31 39.5**	**-0.3**
TMVZ	**Te Maari**	**5.29**	**227**	P	**Pn**	**09 30 40.0**	**-0.2**
BHHZ	**Black Hill Sta**	**5.34**	**222**	P	**Pn**	**09 30 40.6**	**-0.2**
OTVZ	**Oturere**	**5.34**	**227**	P	**Pn**	**09 30 40.8**	**-0.2**
WTVZ	**West Tongariro**	**5.36**	**227**	P	**Pn**	**09 30 43.3**	**+2.2**
NGZ	**Ngauruhoe**	**5.39**	**227**	P	**Pn**	**09 30 41.5**	**0.0**
TWVZ	**Taurewa**	**5.42**	**229**	P	**Pn**	**09 30 42.6**	**+0.6**
MOVZ	**Moawhango**	**5.46**	**224**	P	**Pn**	**09 30 41.0**	**-1.4**
MOVZ				S	**Sn**	**09 31 41.1**	**-2.8**
FWVZ	**Far West T-bar**	**5.47**	**226**	P	**Pn**	**09 30 41.6**	**-1.1**
HIZ	**Hauiti**	**5.49**	**236**	Pn	**Pn**	**09 30 42.4**	**-0.3**
HIZ	**Hauiti**	**5.49**	**236**	P	**Pn**	**09 30 44.8**	**+2.1**
WNVZ	**Wahianoa**	**5.49**	**226**	P	**Pn**	**09 30 42.5**	**-0.5**
PNHZ	**Pukenui**	**5.58**	**218**	P	**Pn**	**09 30 42.5**	**-1.6**
PNHZ				S	**Sn**	**09 31 46.3**	**-0.7**
OUZ	**Omahuta**	**5.78**	**272**	Pn	**Pn**	**09 30 45.5**	**-1.3**
OUZ	**Omahuta**	**5.78**	**272**	P	**Pn**	**09 30 46.4**	**-0.5**
TSZ	**Takapari Road**	**5.81**	**218**	P	**Pn**	**09 30 45.8**	**-1.4**
POWZ	**Post Office Ro**	**6.16**	**217**	P	Pn	09 30 42.6	-9.3
THZ	**Tophouse**	**8.65**	**222**	Pn	**Pn**	**09 31 24.8**	**-1.3**
THZ					**Sn**	**09 32 58.9**	**-3.5**
THZ	**Tophouse**	**8.65**	**222**	P	**Pn**	**09 31 23.6**	**-2.6**
KHZ	**Kahutara**	**8.79**	**217**	Pn	**Pn**	**09 31 26.0**	**-2.0**
KHZ	**Kahutara**	**8.79**	**217**	P	**Pn**	**09 31 26.2**	**-1.8**
LTZ	**Lake Taylor**	**9.69**	**220**	Pn	**Pn**	**09 31 37.9**	**-2.5**
LTZ	**Lake Taylor**	**9.69**	**220**	P	**Pn**	**09 31 36.9**	**-3.6**
MQZ	**McQueen's Wall**	**10.19**	**215**	Pn	**Pn**	**09 31 44.1**	**-3.0**
DZM	**Mont Dzumac**	**18.32**	**314**	P	**Pn**	**09 33 34.6**	**-0.1**
	0.3nm,0.3s,baz=127,slow=19,SNR=1.8						
DZM				LR	LR	09 38 37.5	
	comp=Z,1μm,20.1s,baz=16,slow=31						
DZM	**Mont Dzumac**	**18.32**	**314**	*e*LR	LR	09 37 46.2	
	comp=Z,210nm,24.0s						
TBI	**Tubuai**	**28.61**	**73**	*e*LR	LR	09 42 34.8	
	comp=Z,73nm,27.5s						
PPT2	**Papeete2**	**31.91**	**64**	*e*LR	LR	09 44 04.0	
	comp=Z,65nm,22.2s						
HNR	**Honiara**	**32.16**	**319**	LR	LR	09 45 06.0	
	comp=Z,55nm,19.8s,baz=278,slow=30						
STKA	**Stephens Creek**	**32.56**	**265**	P	**P**	**09 35 50.6**	**-0.3**
	2.8nm,1.0s,baz=105,slow=7.2,SNR=3.8						
STKA				LR	LR	09 48 06.0	
	comp=Z,61nm,19.2s,baz=30,slow=35						
CTAO	**Charters Tower**	**33.92**	**288**	P	**P**	**09 36 01.5**	**-1.3**
CTAO				IAmb	IAmb	09 36 13.2	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**41.99**	**273**	P	**P**	**09 37 09.7**	**-1.3**
AS31				IAmb	IAmb	09 37 19.8	
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**41.99**	**273**	P	**P**	**09 37 09.4**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=114,slow=7.8,SNR=70						
WR0	**Warramunga Arr**	**43.28**	**278**	P	**P**	**09 37 19.9**	**-1.5**
WR0				IAmb	IAmb	09 37 20.5	
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**43.44**	**278**	P	**P**	**09 37 20.9**	**-1.8**
WRAB	**Tennant Creek**	**43.45**	**278**	P	**P**	**09 37 21.3**	**-1.5**
WRA	**Warramunga Arr**	**43.45**	**278**	P	**P**	**09 37 21.4**	**-1.4**
	comp=Z,8.3nm,0.5s,baz=120,slow=7.6,SNR=103						
WRA				LR	LR	09 52 47.7	
	comp=Z,66nm,20.7s,baz=110,slow=33						
WRA	**Warramunga Arr**	**43.45**	**278**	P	**P**	**09 37 20.8**	**-1.9**
WB0	**Warramunga Arr**	**43.50**	**279**	P	**P**	**09 37 21.7**	**-1.4**
WB0				IAmb	IAmb	09 37 22.2	
	comp=Z,8.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.44**	**275**	LR	LR	09 59 46.9	
	comp=Z,82nm,19.3s,baz=111,slow=36						
FITZ	**Fitzroy Crossi**	**51.44**	**275**	P	**P**	**09 38 23.7**	**-1.2**
QSPA	**South Pole Qui**	**54.53**	**180**	P	**P**	**09 38 51.1**	**+3.9**
QSPA				IAmb	IAmb	09 39 16.3	
	comp=Z,3.7nm,0.9s						
PETK	**Petropavlovsk-**	**90.56**	**346**	P	**P**	**09 42 21.1**	**+0.3**
	comp=Z,3.8nm,0.8s,baz=167,slow=8.7,SNR=6.9						
ARCES	**ARCESS Array B**	**143.37**	**346**	PKP	**PKiKP**	**09 48 54.4**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=75,slow=1.4,SNR=4.6						
FINES	**FINESS Array B**	**149.52**	**336**	PKPbc	**PKPbc**	**09 49 06.8**	**-0.8**
	comp=Z,3.4nm,0.5s,baz=28,slow=5.0,SNR=22						
AKASG	**Malin Array Be**	**154.47**	**315**	PKPbc	**PKiKP**	**09 49 19.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=67,slow=2.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**157.64**	**183**	PKP	**PKPdf**	**09 49 17.8**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=307,slow=2.9,SNR=3.2						
TORD				PKPab	**PKPab**	**09 49 49.7**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=179,slow=4.0,SNR=2.5						

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*BJI **06** 09:30:19.6±0.0, 36°01N×140°47E, h60km, mB4.8/14, mb4.4/20*
*MOS **06** 09:30:22.8±1.3, 35°96N×139°93E, h53km, mb4.5/13, Error ellipse: s-maj=10.7km s-min=6.6km az=114.2*
*NIED **06** 09:30:24.9, 36°07N×139°87E, h46km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.11; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$0.23; $M_{r\theta}$0.73; $M_{\theta\phi}$-0.42; $M_{r\phi}$0.99; Fault plane solution: $M_0$1.80000×10^{15} NP1:ϕ_s50.00000°, δ69.00000°, λ65.00000°. NP2:ϕ_s282.00000°, δ32.00000°, λ137.00000°.*
*JMA **06** 09:30:24.9±0.1, 36°07N×139°86E, h46km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s244.00000°, δ21.00000°, λ108.00000°. NP2: ϕ_s45.00000°, δ70.00000°, λ83.00000°. Principal axes: T Plg64.0000°, Azm304.0000°; N Plg6.0000°, Azm47.0000°; P Plg25.0000°, Azm140.0000°;*
JMA Felt III J1.
*IDC **06** 09:30:25.8±1.3, 35°97N×139°78E, h62km±12km, mb3.8/19, mb1 4.0/22, mb1mx3.9/36, mbtmp4.1/22, MS3.1/6, Ms1 3.1/6, ms1mx2.8/57 Error ellipse: s-maj=16.1km s-min=7.5km az=66.0*
*NEIC **06** 09:30:25.2±2.1, 36°05N±0°05×139°89E±0°06, h46km±6km, mb4.3/26, Error ellipse: s-maj=7.3km s-min=6.2km az=137.0*

**ISC 06 09:30:24.9±0.

baz=314,slow=76,SNR=8.1
H11S2 WAKE ISLAND Hy 29.41 119 T T 10 07 21.2
baz=314,slow=76,SNR=14
BILL Bilibino 35.38 17⇑ *eP* **P 09 37 15.6 +0.5**
BILL *e* 09 38 36.0
BILL *e* 09 39 43.9
BILL pmax pmax
comp=Z,2.0nm,1.0s
DGZ Jazzator, Alta 40.00 307⇑ *eP* **P 09 37 54.4 -0.2**
DGZ pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 40.21 298 *eP* **P 09 37 58.4 +2.2**
ZALV Zalesovo Beam 41.70 313 P **P 09 38 07.6 -0.7**
comp=Z,7.5nm,0.5s,baz=90,slow=6.2,SNR=12
ZALV Zalesovo Beam 41.70 313 P **P 09 38 07.9 -0.4**
ZALV Zalesovo Beam 41.70 313 P **P 09 38 07.9 -0.4**
SHL Shillong 42.15 270 P **P 09 38 10.1 -2.4**
SHL pmax pmax
comp=Z,12nm,0.5s
SHL Shillong 42.15 270 P **P 09 38 10.1 -2.4**
MK31 Makanchi Array 43.62 303 P **P 09 38 23.5 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 43.62 303 P **P 09 38 23.5 -0.5**
MKAR Makanchi Array 43.62 303 P **P 09 38 23.2 -0.8**
comp=Z,2.3nm,0.6s,baz=87,slow=10.0,SNR=28
MKAR Makanchi Array 43.62 303 P **P 09 38 23.1 -1.0**
NRIK Noril'sk 43.70 336 P **P 09 38 24.4 +0.2**
comp=Z,3.6nm,0.5s,baz=125,slow=8.7,SNR=3.5
NRIK Noril'sk 43.70 336 IAmb IAmb 09 38 26.5
comp=Z,4.1nm,0.6s
TARG Taragay, Kyrgy 47.75 297 P **P 09 38 57.6 +0.6**
BPAW Bear Paw Mtn. 49.27 33 P **P 09 39 08.9 +0.9**
BPAW IAmb IAmb 09 39 10.9
comp=Z,1.3nm,0.7s
KTH Kantishna Hill 49.30 34 P **P 09 39 10.2 +1.9**
KTH IAmb IAmb 09 39 29.6
comp=Z,7.1nm,1.4s
MLY Manley 49.39 32 P **P 09 39 10.3 +1.3**
MLY IAmb IAmb 09 39 14.8
comp=Z,3.5nm,1.3s
TRF Thorofare Moun 49.59 34 P **P 09 39 11.6 +1.0**
TRF IAmb IAmb 09 39 36.4
comp=Z,6.4nm,1.5s
COLD Coldfoot 49.66 29 P **P 09 39 12.3 +1.4**
AAK Ala-Archa 49.89 299⇓ *iP* **P 09 39 12.9 -0.3**
AAK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 50.41 313⇓ *eP* **P 09 39 15.9 -0.9**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.41 313 P **P 09 39 16.5 -0.3**
BRVK IAmb IAmb 09 39 16.7
comp=Z,3.0nm,0.6s
MDM Murphy Dome 50.46 32 P **P 09 39 18.1 +1.1**
MDM IAmb IAmb 09 39 30.4
comp=Z,2.5nm,0.9s
CCB Clear Creek Bu 50.65 32 P **P 09 39 19.6 +1.2**
ILAR Eielson Array 51.04 32 P **P 09 39 21.3 0.0**
comp=Z,0.6nm,0.7s,baz=270,slow=5.5,SNR=10.0
ILAR Eielson Array 51.04 32 P **P 09 39 21.6 +0.2**
ILAR Eielson Array 51.04 32 P **P 09 39 21.6 +0.2**
SCRK Sand Creek 52.36 33 P **P 09 39 31.7 +0.4**
SCRK IAmb IAmb 09 39 33.6
comp=Z,4.1nm,1.4s
DOT Dot Lake 52.36 33 P **P 09 39 31.6 +0.3**
DOT IAmb IAmb 09 39 53.8
comp=Z,1.7nm,0.9s
K27K Chicken 53.19 33 P **P 09 39 38.2 +0.9**
K27K IAmb IAmb 09 39 44.5
comp=Z,5.3nm,1.5s
BCAR Beaver Creek A 53.45 34 P **P 09 39 40.4 +1.0**
EPYK Eagle Plains 55.05 29 P **P 09 39 52.1 +1.3**
EPYK IAmb IAmb 09 39 53.2
comp=Z,9.1nm,1.2s
WB0 Warramunga Arr 55.70 186 P **P 09 39 56.8 +0.8**
WB0 IAmb IAmb 09 40 00.9
comp=Z,4.2nm,0.8s
WRAB Tennant Creek 55.87 186 P **P 09 39 57.3 +0.2**
WRAB pmax pmax
comp=Z,6.0nm,1.2s
WRAB Tennant Creek 55.87 186 P **P 09 39 57.3 +0.2**
WRAB IAmb IAmb 09 40 11.7
comp=Z,5.5nm,1.1s
WR0 Warramunga Arr 55.87 186 P **P 09 39 56.5 -0.7**
WRA Warramunga Arr 55.88 186 P **P 09 39 57.2 -0.1**
comp=Z,2.2nm,0.6s,baz=2.7,slow=7.6,SNR=15
WRA Warramunga Arr 55.88 186 *eP* **P 09 39 57.6 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 55.88 27 P **P 09 39 56.8 +0.1**
comp=Z,1.3nm,0.6s,baz=315,slow=7.7,SNR=5.9
INK Inuvik 55.88 27 P **P 09 39 57.2 +0.5**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 55.88 27 P **P 09 39 57.1 +0.5**
INK IAmb IAmb 09 40 00.1
comp=Z,2.1nm,0.8s
ARU Arti 56.31 319 *c iP* **P 09 39 59.0 -1.0**
ARU 09 42 02.2
ARU S **S 09 47 48.4 +2.3**
ARU SS **SS 09 51 28.1 -4.9**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 57.66 310 P **P 09 40 07.8 -1.8**
ABKAR Akbulak array 57.66 310 **P 09 40 08.6 -1.0**
ASAR Alice Springs 59.60 186 P **P 09 40 23.5 +0.1**
comp=Z,0.5nm,0.5s,baz=19,slow=12,SNR=10
KIRV Kirov 60.32 323⇓ *eP* **P 09 40 27.4 -0.5**
ARCES ARCESS Array B 64.53 339 P **P 09 40 55.1 -0.7**
comp=Z,0.5nm,0.4s,baz=39,slow=6.8,SNR=5.2
ARCES LR LR 10 13 24.2
comp=Z,32nm,18.9s,baz=105,slow=40
ARCES ARCESS Array B 64.53 339 *eP* **P 09 40 55.7 -0.2**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 67.53 178 P **P 09 41 15.2 -0.3**
comp=Z,0.9nm,0.4s,baz=331,slow=14,SNR=3.0
OBN Obninsk 68.18 323 *eP* **P 09 41 17.7 -1.7**
OBN *e* 09 41 45.3
OBN *e* 09 43 51.1
OBN pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 69.15 332 P **P 09 41 24.4 -0.9**
comp=Z,3.0nm,0.7s,baz=75,slow=4.2,SNR=8.8
KBZ Khabaz 70.63 310 P **P 09 41 34.8 +0.1**
comp=Z,1.5nm,0.4s,baz=166,slow=1.1,SNR=5.1
KBZ Khabaz 70.63 310⇑ *eP* **P 09 41 34.9 +0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 70.64 311 *eP* **P 09 41 35.3 +0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
AKASG Malin Array Be 74.35 322 P **P 09 41 55.4 -1.3**
comp=Z,1.1nm,0.4s,baz=50,slow=6.5,SNR=4.2
AKASG Malin Array Be 74.35 322 *ceP* **P 09 41 57.4 +0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 74.35 322 IAmb IAmb 09 41 56.1
comp=Z,1.4nm,1.1s
NB2 NORSAR Subarra 74.66 337 P **P 09 41 57.4 -1.0**
comp=Z,0.7nm,0.5s,baz=42,slow=5.9
NOA NORSAR Array B 74.66 337 P **P 09 41 57.4 -1.0**
comp=Z,1.2nm,0.6s,baz=41,slow=5.8,SNR=4.4
NOA LR LR 10 17 51.9
comp=Z,14nm,18.7s,baz=295,slow=38
NVAR Mina Array Bea 76.61 52 P **P 09 42 11.4 +1.2**
comp=Z,1.1nm,0.8s,baz=293,slow=5.2,SNR=10
PDAR Pinedale Array 79.28 45 P **P 09 42 25.4 +0.3**
comp=Z,0.3nm,0.5s,baz=349,slow=1.5,SNR=4.2
VRAC Vranov 81.30 326 LR LR 10 20 58.4
comp=Z,23nm,20.8s,baz=38,slow=37
GERES GERESS Array B 82.93 327 P **P 09 42 42.3 -1.8**
comp=Z,0.5nm,0.5s,baz=19,slow=7.3,SNR=1.9
TXAR Lajitas Array 91.74 51 P **P 09 43 27.8 +0.6**
comp=Z,0.4nm,0.5s,baz=305,slow=2.9,SNR=11
H03N2 Juan Fernandez 148.15 97 T T 12 35 26.1
baz=291,slow=76,SNR=7.3
H03N3 Juan Fernandez 148.16 97 T T 12 35 29.6
baz=291,slow=76,SNR=6.1
H03N1 Juan Fernandez 148.16 97 T T 12 35 27.3
baz=291,slow=76,SNR=6.3
LPAZ La Paz 148.30 59 PKPbc **PKPbc 09 50 06.4 -0.1**
comp=Z,0.6nm,0.6s,baz=270,slow=5.1,SNR=2.3

*IDC **06** 09:41:49.3±5.6, 13°.05N×143°.34E, h184km±55km, mb3.6/16, mb1 3.8/17, mb1mx3.6/45, mbtmp4.1/17, Error ellipse: s-maj=23.1km s-min=10.2km az=80.0*
*NEIC **06** 09:41:55.2±0.5, 13°.0N±0°.1×143°.2E±0°.3, h238km±11km, mb4.1/15, Error ellipse: s-maj=38.0km s-min=16.9km az=73.0*
ISC 06 09:41:45.9±0.7, 13°.06N±0°.10×143°.4E±0°.2, h150km, n30, σ0§82/26, mb4.0/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**19.72**	**316**	P	**P**	**09 46 05.0**	**+1.2**
	1.6nm,0.3s,baz=135,slow=17,SNR=2.0						
JWT	**Wachi**	**23.28**	**343**	P	**P**	**09 46 40.6**	**+0.4**
JWT				IAmb	IAmb	09 46 55.8	
	comp=Z,7.9nm,1.2s						
JHS	**Saijyo**	**23.75**	**339**	P	**P**	**09 46 45.1**	**+0.7**
MJAR	**Matsushiro Arr**	**23.85**	**350**	P	**P**	**09 46 44.9**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=180,slow=10,SNR=4.4						
KSRS	**Korea Array**	**27.95**	**333**	P	**P**	**09 47 22.6**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=144,slow=9.1,SNR=4.8						
USRK	**Ussuriysk Ar.**	**32.54**	**345**	P	**P**	**09 48 03.0**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=201,slow=7.7,SNR=2.5						
WB0	**Warramunga Arr**	**33.80**	**195**	P	**P**	**09 48 13.6**	**-0.1**
WB0				IAmb	IAmb	09 48 28.1	
	comp=Z,7.8nm,1.3s						
WR0	**Warramunga Arr**	**33.95**	**195**	P	**P**	**09 48 14.9**	**-0.1**
WR0				IAmb	IAmb	09 48 15.4	
	comp=Z,4.9nm,0.9s						
WRAB	**Tennant Creek**	**33.97**	**195**	P	**P**	**09 48 15.1**	**-0.1**
WRAB				IAmb	IAmb	09 48 15.7	
	comp=Z,5.3nm,0.9s						
WB2	**Warramunga Arr**	**33.98**	**195**	P	**P**	**09 48 15.2**	**-0.1**
WB2				IAmb	IAmb	09 48 15.8	
	comp=Z,5.6nm,0.9s						
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**09 48 15.0**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=3.9,slow=9.5,SNR=38						
WRA	**Warramunga Arr**	**33.98**	**195**	IAmb	IAmb	09 48 16.6	
	comp=Z,0.2nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.57**	**210**	P	**P**	**09 48 28.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=32,slow=13,SNR=1.3						
FITZ	**Fitzroy Crossi**	**35.57**	**210**	IAmb	IAmb	09 48 36.8	
	comp=Z,8.4nm,1.4s						
AS31	**Alice Springs**	**37.66**	**194**	P	**P**	**09 48 46.2**	**-0.5**
AS31				IAmb	IAmb	09 48 47.6	
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**37.66**	**194**	P	**P**	**09 48 46.4**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=18,slow=13,SNR=33						
DZM	**Mont Dzumac**	**41.59**	**147**	P	**P**	**09 49 21.1**	**+1.8**
	comp=Z,4.8nm,0.6s,baz=328,slow=23,SNR=9.1						
DZM	**Mont Dzumac**	**41.59**	**147**	IAmb	IAmb	09 49 43.9	
	comp=Z,35nm,1.5s						
CMAR	**Chiang Mai Arr**	**43.04**	**283**	P	**P**	**09 49 31.3**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=79,slow=6.7,SNR=4.4						
STKA	**Stephens Creek**	**44.71**	**182**	P	**P**	**09 49 43.2**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=346,slow=8.3,SNR=8.9						
SONM	**Songino Array**	**46.35**	**326**	P	**P**	**09 49 57.7**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=141,slow=7.0,SNR=6.5						
SONM	**Songino Array**	**46.35**	**326**	IAmb	IAmb	09 49 59.6	
	comp=Z,1.4nm,0.8s						
MK31	**Makanchi Array**	**60.88**	**316**	P	**P**	**09 51 41.7**	**-1.0**
MK31				IAmb	IAmb	09 51 47.6	
	comp=Z,2.9nm,1.4s						
MKAR	**Makanchi Array**	**60.88**	**316**	P	**P**	**09 51 42.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=92,slow=9.4,SNR=7.8						
ILAR	**Eielson Array**	**69.66**	**25**	P	**P**	**09 52 37.7**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=252,slow=6.1,SNR=11						
INK	**Inuvik**	**75.40**	**22**	P	**P**	**09 53 12.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=270,slow=3.0,SNR=2.1						
ARCES	**ARCESS Array B**	**87.14**	**342**	P	**P**	**09 54 13.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=73,slow=9.0,SNR=4.0						
NVAR	**Mina Array Bea**	**88.37**	**51**	P	**P**	**09 54 21.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=262,slow=6.4,SNR=15						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**09 54 30.8**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=73,slow=4.4,SNR=8.7						
LPAZ	**La Paz**	**149.35**	**100**	PKPbc	**PKPbc**	**10 01 18.8**	**0.0**
	comp=Z,3.0nm,0.9s,baz=353,slow=3.6,SNR=3.8						

*DJA **06** 09:47:41.9±0.4, 7°.5S±3°.×13°.0E±°, h205km±8km, M4.5/13, mb4.5/7, mB5.1/7, MLv4.6/13, Mw(mB)4.4/7*
*NEIC **06** 09:47:43.0±2.4, 7°.13S±0°.08×129°.36E±0°.09, h147km±8km, mb4.4/11, Error ellipse: s-maj=13.4km s-min=11.7km az=97.0*
*IDC **06** 09:47:42.4±2.2, 7°.10S×129°.41E, h143km±20km, mb3.7/10, mb1 3.9/13, mb1mx3.7/36, mbtmp4.3/13, Error ellipse: s-maj=24.0km s-min=13.9km az=80.0*
ISC 06 09:47:42.5±0.5, 7°.15S±0°.05×129°.37E±0°.06, h150km, n60, σ1§67/62, mb4.4/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.09**	**114**	Pn	**Pn**	**09 48 19.9**	**+1.2**
SAUI	**Saumlaki**	**2.09**	**114**	P	**Pn**	**09 48 19.5**	**+0.8**
SAUI				S	**Sn**	**09 48 48.8**	**+2.3**
BNDI	**Bandanaira**	**2.66**	**12**	P	**Pn**	**09 48 28.9**	**+3.3**
MSAI	**Masohi**	**3.80**	**353**	P	**Pn**	**09 48 43.4**	**+3.2**
FAKI	**Fak Fak**	**5.09**	**35**	Pn	**Pn**	**09 48 56.6**	**-0.5**
FAKI	**Fak Fak**	**5.09**	**35**	P	**Pn**	**09 48 56.7**	**-0.4**
	1.0nm5μm86nm,0.6s						
KMPI	**Kaimana, Papua**	**5.54**	**52**	P	**Pn**	**09 49 00.0**	**-3.0**
	2.7nm5μm169nm,0.5s						
SOEI	**Soe**	**5.67**	**242**	Pn	**Pn**	**09 49 05.7**	**+0.8**
SOEI	**Soe**	**5.67**	**242**	P	**Pn**	**09 49 05.8**	**+0.8**
	1.5nm112nm,0.7s						
MTN	**Manton Dam**	**5.92**	**163**	Pn	**Pn**	**09 49 07.9**	**-0.2**
BATI	**Baumata**	**6.40**	**241**	P	**Pn**	**09 49 15.7**	**+1.1**
	36nm,0.3s,baz=149,slow=0.7,SNR=20						
BATI				S	**Sn**	**09 50 24.4**	**-2.4**
	56nm,0.3s,baz=319,slow=5.9,SNR=14						
BATI	**Baumata**	**6.40**	**241**	P	**Pn**	**09 49 15.4**	**+0.8**
	0.6nm1μm52nm,0.5s						
SIJI	**Sorong**	**6.52**	**17**	P	**Pn**	**09 49 15.6**	**-0.6**
	5.7nm,0.3s,baz=257,slow=23,SNR=20						
SIJI				S	**Sn**	**09 50 24.5**	**-5.1**
	19nm,0.3s,baz=236,slow=23,SNR=14						
SWI	**Sorong**	**6.52**	**17**	P	**Pn**	**09 49 17.3**	**+1.1**
EDFI	**Ende, Flores**	**7.77**	**258**	P	**Pn**	**09 49 34.4**	**+1.5**
	0.1nm6.8nm,0.9s						
KNRA	**Kununurra**	**8.50**	**184**	Pn	**Pn**	**09 49 40.7**	**-1.8**
BASI	**Baing, Sumba**	**9.21**	**250**	P	**Pn**	**09 49 53.5**	**+1.5**
BKSI	**Bulukumba**	**9.37**	**281**	P	**Pn**	**09 49 56.2**	**+2.1**
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**	**09 50 19.2**	**-2.8**
	2.7nm,0.3s,baz=30,slow=11,SNR=65						
FITZ				S	Sn	09 52 16.4	-12
	3.8nm,0.3s,baz=90,slow=17,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.47**	**198**	Pn	**Pn**	**09 50 19.5**	**-2.5**
WB0	**Warramunga Arr**	**13.46**	**159**	Pn	**Pn**	**09 50 44.5**	**-3.1**
WRAB	**Tennant Creek**	**13.60**	**160**	Pn	**Pn**	**09 50 46.7**	**-2.7**
WRA	**Warramunga Arr**	**13.60**	**160**	P	**Pn**	**09 50 46.0**	**-3.5**
	2.4nm,0.3s,baz=335,slow=12,SNR=60						
WRA				S	Sn	09 53 08.9	-11
	9.5nm,0.3s,baz=330,slow=23,SNR=18						
WB2	**Warramunga Arr**	**13.61**	**160**	Pn	**Pn**	**09 50 46.7**	**-2.8**
WR0	**Warramunga Arr**	**13.69**	**159**	Pn	**Pn**	**09 50 47.3**	**-3.3**
AS31	**Alice Springs**	**16.99**	**166**		**P**	**09 51 30.6**	**-0.2**
AS31				IAmb	IAmb	09 51 33.1	
	comp=Z,6.2nm,0.5s						
ASAR	**Alice Springs**	**16.99**	**166**	P	**P**	**09 51 30.8**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=346,slow=10.0,SNR=117						
ASAR				S	S	09 54 27.9	-12
	comp=Z,0.8nm,0.3s,baz=333,slow=19,SNR=4.5						
PSA00	**Pilbara Seismi**	**17.04**	**212**	P	**P**	**09 51 32.1**	**+0.9**
PSA00				IAmb	IAmb	09 51 33.1	
	comp=Z,23nm,0.6s						
PSA00	**Pilbara Seismi**	**17.04**	**212**		**P**	**09 51 31.5**	**+0.2**
PSA00				IAmb	IAmb	09 51 33.5	
	comp=Z,6.8nm,0.6s						
FORT	**Forrest**	**23.54**	**183**	P	**P**	**09 52 39.4**	**+0.2**
MORW	**Morawa**	**25.17**	**208**	P	**P**	**09 52 55.0**	**+0.9**
MORW				IAmb	IAmb	09 53 11.9	
	comp=Z,19nm,1.5s						
BBOO	**Buckleboo**	**26.28**	**167**	P	**P**	**09 53 04.2**	**+0.2**
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**09 53 11.9**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=327,slow=11,SNR=20						
STKA	**Stephens Creek**	**27.12**	**157**	IAmb	IAmb	09 53 12.6	
	comp=Z,2.9nm,1.2s						
TOO	**Toolangi**	**33.64**	**157**	P	**P**	**09 54 10.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**09 54 58.2**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=136,slow=7.2,SNR=8.2						
JWT	**Wachi**	**42.58**	**7**	P	**P**	**09 55 24.1**	**+0.4**
JWT				IAmb	IAmb	09 55 25.0	
	comp=Z,6.1nm,0.7s						
MJAR	**Matsushiro Arr**	**44.24**	**10**	P	**P**	**09 55 35.9**	**-1.1**
	comp=Z,2.1nm,0.7s,baz=185,slow=10,SNR=5.5						
KSRS	**Korea Array**	**44.39**	**358**	P	**P**	**09 55 38.8**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=173,slow=8.2,SNR=4.4						
JMM	**Marumori**	**46.03**	**13**	P	**P**	**09 55 51.2**	**+0.1**
JMM				IAmb	IAmb	09 56 16.3	
	comp=Z,22nm,1.3s						
ODAN	**Odare**	**52.88**	**311**	*eP*	**P**	**09 56 43.2**	**-0.3**
	comp=Z,16nm,0.5s						
TAPN	**Taplejung**	**52.91**	**312**	*eP*	**P**	**09 56 43.3**	**-0.5**
	comp=Z,11nm,0.4s						
RAMN	**Ramite**	**53.52**	**311**	*eP*	**P**	**09 56 48.9**	**+0.7**
	comp=Z,37nm,0.5s						
JIRN	**Jiri**	**54.21**	**312**	*eP*	**P**	**09 56 53.5**	**+0.2**
	comp=Z,9.6nm,0.3s						
GUN	**Gumba**	**54.58**	**312**	*eP*	**P**	**09 56 56.1**	**+0.2**
	comp=Z,19nm,0.5s						
PKIN	**Phulchoki**	**54.76**	**311**	*eP*	**P**	**09 56 57.1**	**0.0**
	comp=Z,8.7nm,0.4s						
GKN	**Gorkha**	**55.55**	**311**	*eP*	**P**	**09 57 02.6**	**-0.1**
	comp=Z,16nm,0.3s						
KLR	**Kul'dur**	**56.18**	**2**	P	**P**	**09 57 07.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=211,slow=4.7,SNR=6.2						
KOLN	**Koldanda**	**56.21**	**310**	*eP*	**P**	**09 57 07.7**	**+0.2**
	comp=Z,12nm,0.4s						
PYUN	**Piuthan**	**56.84**	**310**	*eP*	**P**	**09 57 12.2**	**+0.3**
	comp=Z,23nm,0.7s						
SONM	**Songino Array**	**58.38**	**342**	P	**P**	**09 57 22.5**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=154,slow=5.9,SNR=4.3						
PETK	**Petropavlovsk-**	**64.66**	**18**	P	**P**	**09 58 05.5**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=210,slow=8.3,SNR=2.0						
MK31	**Makanchi Array**	**68.00**	**327**	P	**P**	**09 58 26.1**	**+0.6**
MK31				IAmb	IAmb	09 58 27.7	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**09 58 25.8**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=121,slow=7.8,SNR=29						
ZALV	**Zalesovo Beam**	**71.44**	**334**	P	**P**	**09 58 46.0**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=96,slow=4.5,SNR=5.2						
ILAR	**Eielson Array**	**93.75**	**25**	P	**P**	**10 00 40.5**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=315,slow=3.6,SNR=4.3						
ARCES	**ARCESS Array B**	**101.50**	**340**	P	**Pdif**	**10 01 16.2**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=78,slow=18,SNR=1.3						
TXAR	**Lajitas Array**	**125.54**	**59**	PKP	**PKiKP**	**10 06 27.6**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=343,slow=2.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**128.22**	**281**	PKP	**PKiKP**	**10 06 32.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=63,slow=1.8,SNR=6.7						
LPAZ	**La Paz**	**150.98**	**143**	PKPbc	**PKiKP**	**10 07 20.9**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=62,slow=2.0,SNR=17						

*IDC **06** 09:51:32.2±1.6, 0°.90N×146°.42E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/42, mbtmp3.9/8, Error ellipse: s-maj=47.3km s-min=27.2km az=111.0*
ISC 06 09:51:37.4±1.6, 0°.9N±0°.2×146°.4E±0°.3, h35km, n11, σ0§72/8, mb3.9/8, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.85**	**209**	P	**P**	**09 56 47.3**	**-0.3**
	4.4nm,0.5s,baz=32,slow=11,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**26.49**	**47**	T	T	10 25 41.9	
	baz=223,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**26.50**	**48**	T	T	10 25 39.1	
	baz=223						
H11S1	**WAKE ISLAND Hy**	**26.51**	**47**	T	T	10 25 41.2	
	baz=223						
KSRS	**Korea Array**	**40.18**	**337**	P	**P**	**09 59 09.8**	**-0.5**
	0.6nm,0.5s,baz=160,slow=8.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**49.73**	**294**	P	**P**	**10 00 26.4**	**-0.2**
	1.7nm,0.5s,baz=113,slow=6.0,SNR=7.1						
KLR	**Kul'dur**	**49.77**	**347**	P	**P**	**10 00 25.8**	**-0.6**
	0.7nm,0.8s,baz=151,slow=9.1,SNR=3.9						
PETK	**Petropavlovsk-**	**52.88**	**9**	P	**P**	**10 00 49.1**	**-0.5**
	1.0nm,0.7s,baz=223,slow=9.5,SNR=1.5						
SONM	**Songino Array**	**58.17**	**329**	P	**P**	**10 01 29.0**	**+1.0**
	1.1nm,0.8s,baz=159,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**71.87**	**319**	P	**P**	**10 02 57.5**	**+0.5**
	1.2nm,0.8s,baz=105,slow=6.8,SNR=7.2						
ILAR	**Eielson Array**	**79.42**	**24**	P	**P**	**10 03 40.3**	**+0.5**
	0.6nm,0.6s,baz=245,slow=5.6,SNR=7.3						

*IDC **06** 09:56:01.5±1.6, 0°.56S×98°.90E, h0km, mb3.6/5, mb1 3.6/5, mb1mx3.5/43, mbtmp3.6/5, Error ellipse: s-maj=67.8km s-min=26.5km az=53.0*
*DJA **06** 09:56:05.2±0.4, 1°.5±4°.×9°.9E±°, h12km±7km, M3.4/6, MLv3.4/6*
ISC 06 09:56:06.2±0.9, 0°.70S±0°.06×98°.58E±0°.08, h35km, n14, σ1§18/15, mb3.8/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.71**	**335**	P	**Pn**	**09 56 18.5**	**-1.3**
PBSI				S	**Sn**	**09 56 28.6**	**-0.8**
SISI	**Saibi**	**0.81**	**141**	P	**Pn**	**09 56 20.8**	**-0.3**
SISI				S	**Sn**	**09 56 33.6**	**+1.7**
MNSI	**Mandailing Nat**	**1.79**	**34**	P	**Pn**	**09 56 34.7**	**0.0**
MNSI				S	**Sn**	**09 56 57.5**	**+1.3**
PDSI	**Padang**	**1.89**	**96**	P	**Pn**	**09 56 36.1**	**0.0**
PDSI				S	**Sn**	**09 56 58.1**	**-0.7**
GSI	**Gunungsitoli**	**2.23**	**333**	P	**Pn**	**09 56 41.8**	**+1.1**
SBSI	**Sibolga**	**2.25**	**8**	P	**Pn**	**09 56 41.7**	**+0.6**
H08S2	**Diego Garcia H**	**26.90**	**254**	T	T	10 29 45.1	
	baz=76,slow=76,SNR=104						
H08S3	**Diego Garcia H**	**26.91**	**254**	T	T	10 29 43.4	
	baz=76,slow=76,SNR=105						
H08S1	**Diego Carcia H**	**26.92**	**254**	T	T	10 29 32.8	
	baz=76,slow=76,SNR=43						
WRA	**Warramunga Arr**	**39.87**	**121**	P	**P**	**10 03 35.3**	**-1.7**
	0.6nm,1.0s,baz=303,slow=9.1,SNR=2.1						
ASAR	**Alice Springs**	**41.16**	**126**	P	**P**	**10 03 46.6**	**-1.1**
	0.3nm,0.7s,baz=297,slow=7.6,SNR=2.5						
SONM	**Songino Array**	**48.81**	**7**	P	**P**	**10 04 48.0**	**-0.1**
	0.4nm,0.4s,baz=190,slow=8.4,SNR=1.5						
MKAR	**Makanchi Array**	**49.41**	**345**	P	**P**	**10 04 52.3**	**-0.4**
	0.6nm,0.6s,baz=162,slow=7.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**96.86**	**283**	P	**P**	**10 09 36.4**	**+1.8**
	0.4nm,0.8s,baz

H03N3	**Juan Fernandez**	**36.78**	**135**	T	T	11 12 25.0	
	baz=308,slow=77,SNR=123						
H03N1	**Juan Fernandez**	**36.78**	**135**	T	T	11 12 25.5	
	baz=308,slow=77,SNR=151						
TXAR	**Lajitas Array**	**39.12**	**8**	P	**P**	**10 33 42.3**	**-2.0**
	comp=Z,0.6nm,1.0s,baz=185,slow=10.0,SNR=3.8						
LPAZ	**La Paz**	**40.79**	**104**	P	**P**	**10 33 59.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=267,slow=4.6,SNR=5.2						
LPAZ				LR	LR	10 47 08.7	
	comp=Z,159nm,19.4s,baz=279,slow=31						
LPAZ	**La Paz**	**40.79**	**104**	IAmb	IAmb	10 34 07.0	
	comp=Z,2.0nm,0.8s						
MNTX	**Cornudas Mount**	**41.26**	**5**	P	**P**	**10 34 00.6**	**-1.3**
W18A	**Petrified Fore**	**44.48**	**360**	P	**P**	**10 34 27.5**	**-0.7**
W13A	**Hualapai Mount**	**44.66**	**355**	P	**P**	**10 34 30.1**	**+0.5**
W13A				IAmb	IAmb	10 34 32.2	
	comp=Z,4.8nm,1.1s						
GSC	**Goldstone, Bar**	**45.20**	**352**	P	**P**	**10 34 34.5**	**+0.6**
GSC				IAmb	IAmb	10 34 41.4	
	comp=Z,3.5nm,0.9s						
SHPR	**Sheep Range**	**46.18**	**354**	P	**P**	**10 34 43.6**	**+2.0**
SHPR				IAmb	IAmb	10 34 52.6	
	comp=Z,4.9nm,1.3s						
PLCA	**Paso Flores**	**46.31**	**139**	LR	LR	10 49 37.0	
	comp=Z,185nm,18.6s,baz=324,slow=30						
KNB	**Kanab**	**46.48**	**356**	P	**P**	**10 34 44.5**	**+0.5**
KNB				IAmb	IAmb	10 34 58.4	
	comp=Z,4.8nm,1.2s						
OK029	**Liberty Lake**	**46.57**	**13**	P	**P**	**10 34 44.5**	**0.0**
MVCO	**Mesa Verde**	**46.58**	**1**	P	**P**	**10 34 44.9**	**0.0**
PKCU	**Pink Cliffs**	**46.88**	**357**	P	**P**	**10 34 48.3**	**+1.0**
CCUT	**Cedar City**	**47.05**	**356**	P	**P**	**10 34 49.5**	**+0.9**
PRN	**Pahroc Range**	**47.06**	**354**	P	**P**	**10 34 48.9**	**+0.3**
SDCO	**Great Sand Dun**	**47.25**	**4**	P	**P**	**10 34 50.8**	**+0.6**
SDCO				IAmb	IAmb	10 34 60.0	
	comp=Z,5.1nm,1.5s						
SIV	**San Ignacio**	**47.55**	**103**	P	**P**	**10 34 52.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=281,slow=10,SNR=3.7						
PV03	**Paradox Valley**	**47.62**	**1**	P	**P**	**10 34 52.8**	**-0.2**
PV03				IAmb	IAmb	10 35 06.7	
	comp=Z,4.3nm,1.2s						
TPH	**Tonopah**	**47.98**	**352**	P	**P**	**10 34 55.0**	**-0.8**
R11A	**Troy Canyon, C**	**48.05**	**354**	P	**P**	**10 34 56.9**	**+0.6**
TCRU	**Three Creeks R**	**48.05**	**357**	P	**P**	**10 34 56.9**	**+0.6**
TCRU				IAmb	IAmb	10 35 02.0	
	comp=Z,4.9nm,1.2s						
LHV	**Little Huntoon**	**48.35**	**350**	P	**P**	**10 35 00.0**	**+1.7**
LHV				IAmb	IAmb	10 35 11.0	
	comp=Z,5.6nm,1.0s						
NV11	**Mina Array Sit**	**48.47**	**351**	P	**P**	**10 35 00.5**	**+1.0**
NVAR	**Mina Array Bea**	**48.49**	**351**	P	**P**	**10 35 00.1**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=173,slow=8.6,SNR=15						
NVAR				LR	LR	10 50 42.1	
	comp=Z,143nm,18.1s,baz=170,slow=30						
NVAR	**Mina Array Bea**	**48.49**	**351**	P	**P**	**10 34 59.0**	**-0.7**
SPR3	**Spring Creek 3**	**48.57**	**355**	P	**P**	**10 34 58.7**	**-1.7**
SPR3				IAmb	IAmb	10 35 10.3	
	comp=Z,5.4nm,1.4s						
RYN	**Ryan**	**48.72**	**351**	P	**P**	**10 35 01.2**	**-0.3**
RYN				IAmb	IAmb	10 35 04.3	
	comp=Z,7.0nm,1.2s						
P17A	**Butcher Ranch,**	**48.84**	**359**	P	**P**	**10 35 01.9**	**-0.4**
P17A				IAmb	IAmb	10 35 04.0	
	comp=Z,6.2nm,1.1s						
KVN	**Kaiserville**	**49.07**	**351**	P	**P**	**10 35 05.4**	**+1.3**
KVN				IAmb	IAmb	10 35 11.4	
	comp=Z,3.5nm,0.9s						
PNTR	**Pine Nut**	**49.35**	**350**	P	**P**	**10 35 07.1**	**+0.8**
PNTR				IAmb	IAmb	10 35 14.1	
	comp=Z,3.9nm,0.8s						
ELK	**Elko**	**50.38**	**354**	P	**P**	**10 35 15.6**	**+1.4**
HWUT	**Hardware Ranch**	**51.00**	**358**	P	**P**	**10 35 18.5**	**-0.2**
HWUT				IAmb	IAmb	10 35 32.1	
	comp=Z,5.2nm,0.9s						
CPUP	**Villa Florida**	**51.97**	**116**	LR	LR	10 53 20.5	
	comp=Z,124nm,21.2s,baz=242,slow=31						
PD31	**Pinedale Array**	**52.12**	**360**	P	**P**	**10 35 26.5**	**-0.6**
PDAR	**Pinedale Array**	**52.12**	**360**	P	**P**	**10 35 24.7**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=172,slow=8.1,SNR=5.4						
MOD	**Modoc Plateau**	**52.21**	**350**	P	**P**	**10 35 27.9**	**+0.1**
MOD				IAmb	IAmb	10 35 35.2	
	comp=Z,4.5nm,0.8s						
LOHW	**Long Hollow**	**52.98**	**359**	P	**P**	**10 35 32.4**	**-1.1**
MFID	**Camas Ranch**	**53.08**	**354**	P	**P**	**10 35 33.5**	**-0.6**
J08A	**Circle Bar Ran**	**53.34**	**352**	P	**P**	**10 35 37.1**	**+1.0**
J08A				IAmb	IAmb	10 35 43.5	
	comp=Z,3.6nm,0.8s						
FLWY	**Flagg Ranch**	**53.45**	**359**	P	**P**	**10 35 36.1**	**-0.8**
YHH	**Holmes Hill**	**54.16**	**359**	P	**P**	**10 35 41.8**	**-0.4**
YHH				IAmb	IAmb	10 35 51.5	
	comp=Z,3.9nm,1.1s						
I07A	**Izee**	**54.20**	**351**	P	**P**	**10 35 42.9**	**+0.6**
I07A				IAmb	IAmb	10 35 44.5	
	comp=Z,8.6nm,1.5s						
G08A	**Pilot Rock**	**55.31**	**352**	P	**P**	**10 35 51.8**	**+1.4**
G08A				IAmb	IAmb	10 35 56.9	
	comp=Z,4.8nm,1.2s						
F10A	**Beach Ranch, E**	**55.76**	**353**	P	**P**	**10 35 53.3**	**-0.3**
F10A				IAmb	IAmb	10 36 08.3	
	comp=Z,7.9nm,1.4s						
YKA	**Yellowknife Ar**	**71.99**	**358**	LR	LR	11 05 42.4	
	comp=Z,41nm,19.0s,baz=0.0,slow=33						
BCAR	**Beaver Creek A**	**76.59**	**346**	P	**P**	**10 38 06.8**	**-0.1**
L27K	**Beaver Creek,**	**76.59**	**345**	P	**P**	**10 38 08.5**	**+1.6**
ILAR	**Eielson Array**	**79.28**	**345**	P	**P**	**10 38 20.0**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=158,slow=5.8,SNR=8.7						
ILAR				LR	LR	11 06 08.7	
	comp=Z,33nm,21.9s,baz=146,slow=30						
H11S2	**WAKE ISLAND Hy 87.21**	**289**		T	T	12 15 49.9	
	baz=101,slow=75,SNR=176						
H11S1	**WAKE ISLAND Hy 87.22**	**289**		T	T	12 15 45.5	
	baz=101,slow=75,SNR=83						
H11S3	**WAKE ISLAND Hy 87.23**	**289**		T	T	12 15 51.3	
	baz=101,slow=75,SNR=132						
H11N3	**WAKE ISLAND Hy 87.26**	**290**		T	T	12 15 49.9	
	baz=101,slow=74,SNR=79						
H11N2	**WAKE ISLAND Hy 87.27**	**290**		T	T	12 15 50.9	
	baz=101,slow=74,SNR=76						
H11N1	**WAKE ISLAND Hy 87.27**	**290**		T	T	12 15 51.2	
	baz=101,slow=74,SNR=56						
PETK	**Petropavlovsk-**	**99.29**	**322**	LR	LR	11 15 16.4	
	comp=Z,58nm,21.7s,baz=93,slow=30						

IDC 06 10:27:22.6±9.4, 4°.80S×153°.53E, h153km±63km, mb3.1/3, mb1 3.3/4, mb1mx3.0/34, mbtmp3.6/4, Error ellipse: s-maj=112.2km s-min=61.7km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.80**	**234**	P	Pn	10 29 13.1	-0.4
	3.1nm,0.3s,baz=61,slow=13,SNR=6.3						
PMG				S	Sn	10 30 41.9	+1.3
	0.8nm,0.3s,baz=127,slow=12,SNR=1.3						
WRA	**Warramunga Arr**	**23.99**	**230**	P	P	10 32 23.7	+0.4
	0.8nm,0.7s,baz=55,slow=10.0,SNR=7.6						
ASAR	**Alice Springs**	**26.64**	**223**	P	P	10 32 46.9	-0.4
	0.2nm,0.6s,baz=56,slow=8.7,SNR=6.6						
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P	P	10 33 19.6	-0.1
	0.7nm,0.6s,baz=76,slow=8.3,SNR=1.4						
TORD	**Torodi Ar. Bea**	**151.00**	**288**	PKPbc	PKPbc	10 46 58.4	-0.1
	0.5nm,0.8s,baz=95,slow=3.9,SNR=2.7						

PRU 06 10:32:45.4±0.0, 49°.99N×18°.44E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**231**	*e*PG	Pg	10 32 50.8	+0.8
OKC				*e*SG	Sg	10 32 54.0	+0.8
	comp=Z,8.2nm,0.5s						
MORC	**Moravsky Berou**	**0.62**	**250**	*e*PG	Pg	10 32 56.6	-0.6
MORC				*e*SG	Sg	10 33 05.6	+0.4
VRAC	**Vranov**	**1.38**	**241**	*e*PG	Pg	10 33 10.2	-1.6
VRAC				*e*SG	Sg	10 33 29.1	-0.6
DPC	**Dobruska-Polom**	**1.41**	**286**	*e*PG	Pn	10 33 11.1	-1.3
DPC				*e*SG	Sb	10 33 31.0	-0.1
KRUC	**Moravsky**	**1.62**	**236**	*e*SG	Sn	10 33 36.1	-0.8
KHC	**Kasperske Hory**	**3.28**	**257**	*e*SG	Sg	10 34 28.6	-2.1

*BGS **06** 10:33:23.9±0.5, 56°.96N×7°.20E, h30km±999km, ML2.5*
*DNK **06** 10:33:24.6±2.4, 57°.06N×6°.94E, h33km±10km, ML2.6,*
Probable volcanic
*NAO **06** 10:33:24.2±2.8, 57°.15N×7°.01E, ML1.7*
*BER **06** 10:33:25.4±2.3, 57°.07N×6°.95E, h17km±10km, ML1.9, ML2.5(BGS), Confirmed Earthquake*
*UPP **06** 10:33:27.3±2.0, 57°.09N×7°.19E, h39km, ML1.7, Suspected explosion*

ISC 06 10:33:21.9±1.7, 57°.09N±0°.03×6°.86E±0°.03, h18km±12km, n84, σ2°.14/129, 1D, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**1.26**	**8**	*i* P	**Pn**	**10 33 47.1**	**+2.5**
SNART				*e*P	**Pn**	**10 33 47.2**	**+2.5**
SNART				IAML		10 34 19.4	
	comp=Z,53nm,0.4s						
SNART	**Snartemo**	**1.26**	**8**	↓*i*P	**Pn**	**10 33 47.1**	**+2.5**
SNART				*e*S	**Sn**	**10 34 02.8**	**+1.6**
SNART				IAML		10 34 12.3	
	comp=Z,78nm,0.1s						
GOET	**G??ttrup**	**1.29**	**92**	*i* P	**Pn**	**10 33 47.9**	**+2.8**
GOET				*i* S	**Sn**	**10 34 04.1**	**+2.2**
GOET				IAML		10 34 12.5	
	comp=Z,74nm,0.3s						
GOET	**G??ttrup**	**1.29**	**92**	*i* P	**Pn**	**10 33 47.9**	**+2.8**
GOET				*i* S	**Sn**	**10 34 04.1**	**+2.2**
GOET				IAML		10 34 12.5	
	comp=Z,74nm,0.3s						
MUD	**Monsted U'grnd**	**1.43**	**116**	*i* P	**Pb**	**10 33 49.5**	**+1.6**
MUD				*i* S	**Sn**	**10 34 07.6**	**+2.5**
MUD				IAML		10 34 19.7	
	comp=Z,42nm,0.3s						
MUD	**Monsted U'grnd**	**1.43**	**116**	*i* P	**Pb**	**10 33 49.5**	**+1.6**
MUD				*i* S	**Sn**	**10 34 07.6**	**+2.5**
MUD				IAML		10 34 19.7	
	comp=Z,42nm,0.3s						
HOMB	**Homborsund**	**1.47**	**36**	*e*P	**Pb**	**10 33 49.7**	**+1.0**
HOMB				*i* P	**Pg**	**10 33 49.9**	**-0.4**
HOMB				*e*Sg	**Sn**	**10 34 09.1**	**+2.8**
HOMB				*i* S	**Sb**	**10 34 09.4**	**+2.3**
HOMB				*i* S	**Sb**	**10 34 09.4**	**+2.3**
HOMB				IAML		10 34 11.1	
	comp=Z,32nm,0.3s						
HOMB	**Homborsund**	**1.47**	**36**	Pg	**Pb**	**10 33 49.7**	**+1.0**
HOMB				Lg	Lg	10 34 09.1	
HOMB	**Homborsund**	**1.47**	**36**	*e*P	**Pb**	**10 33 49.7**	**+1.0**
HOMB				*e*Sg	**Sn**	**10 34 09.1**	**+2.8**
KMY	**Karmoy**	**2.29**	**339**	*e*P	**Pb**	**10 34 02.0**	**-0.6**
KMY				*e*S	**Sn**	**10 34 27.5**	**+1.0**
KMY				IAML		10 34 31.0	
	comp=Z,16nm,0.1s						
KMY	**Karmoy**	**2.29**	**339**	*e*P	**Pb**	**10 34 02.0**	**-0.6**
KMY				*e*S	**Sn**	**10 34 27.5**	**+1.0**
KMY				IAML		10 34 31.0	
	comp=Z,16nm,0.1s						
BLS5	**Blasjo**	**2.34**	**355**	*e*P	**Pb**	**10 34 02.7**	**-0.9**
BLS5				*e*S	**Sn**	**10 34 29.7**	**+1.8**
BLS5				IAML		10 34 44.0	
	comp=Z,10nm,0.4s						
BLS5	**Blasjo**	**2.34**	**355**	*e*P	**Pb**	**10 34 02.7**	**-0.9**
BLS5				*e*S	**Sn**	**10 34 29.7**	**+1.8**
BLS5				IAML		10 34 44.0	
	comp=Z,10nm,0.4s						
TJOU	**Tjoern**	**2.73**	**68**	P	**Pn**	**10 34 06.2**	**+1.4**
TJOU				*i* P	**Pb**	**10 34 06.4**	**-3.8**
TJOU				S	**Sn**	**10 34 36.0**	**-1.4**
TJOU	**Tjoern**	**2.73**	**68**	P	**Pn**	**10 34 06.2**	**+1.4**
TJOU				S	**Sn**	**10 34 36.0**	**-1.4**
TJOU	**Tjoern**	**2.73**	**68**	P	**Pn**	**10 34 06.2**	**+1.4**
TJOU				S	**Sn**	**10 34 36.0**	**-1.4**
ONAU	**Onsala**	**2.77**	**82**	P	**Pn**	**10 34 06.0**	**+0.7**
ONAU				*i* P	**Pb**	**10 34 06.9**	**-3.9**
ONAU				S	**Sn**	**10 34 35.3**	**-2.9**
ONAU	**Onsala**	**2.77**	**82**	P	**Pn**	**10 34 06.0**	**+0.7**
ONAU				S	**Sn**	**10 34 35.3**	**-2.9**
ONAU	**Onsala**	**2.77**	**82**	P	**Pn**	**10 34 06.0**	**+0.7**
ONAU				S	**Sn**	**10 34 35.3**	**-2.9**
ODD1	**Odda**	**2.83**	**358**	*e*P	**Pn**	**10 34 08.2**	**+2.0**
ODD1				*e*S	**Sn**	**10 34 40.7**	**+0.9**
ODD1				IAML		10 34 42.5	
	comp=Z,11nm,0.2s						
ODD1	**Odda**	**2.83**	**358**	*e*P	**Pn**	**10 34 08.2**	**+2.0**
ODD1				*e*S	**Sn**	**10 34 40.7**	**+0.9**
ODD1				IAML		10 34 42.5	
	comp=Z,11nm,0.2s						
KONO	**Kongsberg**	**2.94**	**28**	*e*P	**Pn**	**10 34 09.6**	**+1.9**
KONO				*e*S	**Sn**	**10 34 44.3**	**+1.8**
KONO	**Kongsberg**	**2.94**	**28**	*e*P	**Pn**	**10 34 09.6**	**+1.9**
KONO				*e*S	**Sn**	**10 34 44.3**	**+1.8**
STRU	**Stroemstad**	**3.01**	**48**	P	**Pn**	**10 34 10.2**	**+1.6**
STRU				*i* P	**Pb**	**10 34 10.4**	**-4.5**
STRU				*e*Pg	**Pn**	10 34 10.9	-8.6
STRU				*i*		10 34 12.3	
STRU	**Stroemstad**	**3.01**	**48**	P	**Pn**	**10 34 10.2**	**+1.6**
STRU	**Stroemstad**	**3.01**	**48**	*e*P	**Pn**	**10 34 10.9**	**+2.3**
VANU	**Vaenersborg**	**3.12**	**61**	P	**Pn**	**10 34 11.5**	**+1.4**
VANU				S	**Sn**	**10 34 45.8**	**-1.2**
VANU	**Vaenersborg**	**3.12**	**61**	P	**Pn**	**10 34 11.5**	**+1.4**
VANU				S	**Sn**	**10 34 45.8**	**-1.2**
VANU	**Vaenersborg**	**3.12**	**61**	P	**Pn**	**10 34 11.5**	**+1.4**
VANU				S	**Sn**	**10 34 45.8**	**-1.2**
BER	**Bergen**	**3.39**	**347**	*e*S	**Sn**	**10 34 54.0**	**+0.3**
BER				IAML		10 34 55.0	
	comp=E,4.5nm,0.2s						
BER				IAML		10 34 55.4	
	comp=N,3.8nm,0.2s					

comp=Z,0.8nm,0.5s,baz=239,slow=2.8,SNR=5.1
ILAR Eielson Array 152.89 306 PKPbc PKPbc 10 59 57.9 -1.5
comp=Z,0.4nm,0.8s,baz=131,slow=3.7,SNR=3.8

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*DDA **06** 10:45:08.4, 37.12N×28.75E, 7km±3km, ML2.2*
*ISK **06** 10:45:08.6, 37.14N×28.75E, 6km, ML2.5/15*
ISC 06 10:45:08.5±1.2, 37.12N±0.03×28.74E±0.02, h6km±10km, n23, σ0°83/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.31**	**192**	PG	**Pb**	**10 45 15.7**	**-0.7**
DALY				SG	**Sb**	**10 45 20.9**	**-0.8**
MULA	**Mugla, Merkez-**	**0.36**	**292**	*i* P	**Pg**	**10 45 15.7**	**+0.2**
MULA				*i* S	**Sb**	**10 45 21.9**	**-1.3**
MULA				IAML		10 45 23.0	
	comp=E,311nm,0.7s						
MULA				IAML		10 45 24.0	
	comp=N,151nm,0.8s						
YER	**Yerkesik**	**0.36**	**272**	PG	**Pg**	**10 45 16.4**	**+0.8**
YER				SG	**Sb**	**10 45 22.2**	**-1.1**
TAVA	**DENIZLI_Tavas**	**0.37**	**22**	*i* P	**Pg**	**10 45 15.2**	**-0.6**
TAVA				*i* S	**Sg**	**10 45 21.5**	**+0.7**
TAVA				IAML		10 45 22.0	
	comp=N,242nm,1.0s						
TAVA				IAML		10 45 23.0	
	comp=E,244nm,0.3s						
CAEL	**Denizli, Camel**	**0.47**	**89**	*i* P	**Pg**	**10 45 17.6**	**0.0**
CAEL				IAML		10 45 29.0	
	comp=E,454nm,0.7s						
CAEL				IAML		10 45 31.0	
	comp=N,276nm,0.3s						
CAME	**Cameli-Denizli**	**0.49**	**111**	PG	**Pg**	**10 45 17.5**	**-0.4**
CAME				SG	**Sb**	**10 45 25.7**	**-1.3**
TURN	**Turunc**	**0.52**	**229**	PG	**Pg**	**10 45 19.3**	**+0.7**
TURN				SG	**Sb**	**10 45 27.7**	**-0.1**
FETY	**Fethiye**	**0.56**	**150**	PG	**Pb**	**10 45 20.2**	**-0.5**
FETY				SG	**Sb**	**10 45 28.0**	**-0.9**
GOLH	**Golhisar**	**0.67**	**80**	*i* P	**Pg**	**10 45 21.5**	**+0.1**
GOLH				IAML		10 45 33.0	
	comp=E,233nm,0.5s						
GOLH				*i* S	**Sb**	**10 45 33.1**	**+0.9**
GOLH				IAML		10 45 34.0	
	comp=N,82nm,0.3s						
MLSB	**Milas**	**0.79**	**283**	PG	**Pb**	**10 45 24.3**	**-0.3**
MLSB				SG	**Sb**	**10 45 35.7**	**+0.2**
AYDN	**Tasoluk**	**0.87**	**309**	*i* P	**Pg**	**10 45 25.4**	**+0.2**
AYDN				*i* S	**Sb**	**10 45 38.2**	**+0.2**
DAT	**Datca**	**1.01**	**248**	PG	**Pb**	**10 45 28.6**	**+0.2**
ELL	**Elmali**	**1.01**	**111**	PG	**Pb**	**10 45 28.3**	**-0.1**
ARG	**Arkhangelos**	**1.03**	**209**	PG	**Pn**	**10 45 29.2**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**321**	PG	**Pb**	**10 45 29.4**	**0.0**
AKAS	**Kas**	**1.13**	**141**	PN	**Pn**	**10 45 30.9**	**0.0**
BODT	**Bodrum**	**1.14**	**268**	PN	**Pn**	**10 45 31.0**	**0.0**
BRDR	**BURDUR-Merkez**	**1.20**	**61**	*i* P	**Pn**	**10 45 31.9**	**0.0**
BRDR				*i* S	**Sn**	**10 45 50.9**	**+2.3**
BRDR				IAML		10 45 54.0	
	comp=N,37nm,0.5s						
BRDR				IAML		10 45 55.0	
	comp=E,56nm,0.5s						
KORT	**Korkueli**	**1.30**	**95**	PN	**Pg**	**10 45 34.0**	**+0.6**
PASA	**Karahalli, USA**	**1.36**	**26**	*i* P	**Pn**	**10 45 33.9**	**-0.3**
PASA				*i* S	**Sn**	**10 45 53.9**	**+1.3**
MANT	**Manisa**	**1.38**	**354**	*i* P	**Pn**	**10 45 32.6**	**-1.8**
MANT				IAML		10 45 50.0	
	comp=E,24nm,1.0s						
MANT				IAML		10 45 52.0	
	comp=N,31nm,1.3s						
MANT				*i* S	**Sn**	**10 45 52.7**	**-0.3**
KULA	**Kula-Manisa**	**1.39**	**358**	PN	**Pb**	**10 45 34.6**	**-0.4**
KARP	**Karpathos**	**2.02**	**219**	PN	**Pb**	**10 45 44.8**	**-0.8**

IDC 06 10:45:49.0±5.7, 24.12S×69.29E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.7/4, MS3.8/3, Ms1 3.8/3, ms1mx2.9/52, Error ellipse: s-maj=198.8km s-min=33.4km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.67**	**11**	T	T	11 06 29.8	
	baz=190,slow=76,SNR=61						
H08S2	**Diego Garcia H**	**16.67**	**11**	T	T	11 06 30.0	
	baz=190,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**16.69**	**11**	T	T	11 06 35.4	
	baz=190,slow=76,SNR=95						
BOSA	**Boshof**	**39.54**	**254**	LR	LR	11 07 12.4	
	comp=Z,61nm,19.0s,baz=2.0,slow=32						
H01W2	**Cape Leeuwin H**	**40.19**	**116**	T	T	11 36 01.6	
	baz=274						
H01W3	**Cape Leeuwin H**	**40.19**	**116**	T	T	11 36 04.5	
	baz=274						
H01W1	**Cape Leeuwin H**	**40.20**	**116**	T	T	11 36 00.7	
	baz=274						
ASAR	**Alice Springs**	**58.58**	**104**	P	P	10 55 48.0	0.0
	0.6nm,0.7s,baz=252,slow=6.3,SNR=10						
ASAR				PcP	PcP	10 56 38.4	0.0
	0.4nm,0.7s,baz=258,slow=2.7,SNR=4.3						
WRA	**Warramunga Arr**	**59.98**	**100**	P	P	10 55 57.4	-0.3
	0.5nm,0.7s,baz=253,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**71.56**	**9**	P	P	10 57 11.4	-0.3
	0.5nm,0.6s,baz=204,slow=6.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**78.90**	**9**	P	P	10 57 53.5	-0.3
	0.9nm,0.6s,baz=202,slow=5.9,SNR=2.6						
JNU	**Nakatsue**	**81.74**	**48**	LR	LR	11 35 12.0	
	comp=Z,273nm,18.4s,baz=112,slow=36						
DAVOX	**Davos/Dischmat**	**88.61**	**324**	LR	LR	11 36 54.6	
	comp=Z,20nm,18.3s,baz=247,slow=35						
NVAR	**Mina Array Bea**	**164.34**	**23**	PKPab	PKPab	11 06 49.9	+0.8
	0.3nm,0.8s,baz=327,slow=1.5,SNR=2.3						

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*JMA **06** 10:56:51.1±0.1, 23.97N×121.70E, h41km±1km, M2.6*
*TAP **06** 10:56:52.0, 24.00N×121.69E, h39km, ML3.0, B*
ISC 06 10:56:52.5±0.9, 24.00N±0.02×121.70E±0.02, h33km±2km, n102, σ0°67/140, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.09**	**256**	*eP*	**Pb**	**10 56 58.5**	**+0.3**
	baz=249						
TWD	**Chiawan**	**0.12**	**311**	P	**Pb**	**10 56 58.7**	**+0.3**
	baz=316						
TWD				S	**Sb**	**10 57 03.8**	**+1.3**
	baz=316						
TEYL	**Yanliau Villag**	**0.16**	**215**	P	**Pb**	**10 56 59.0**	**+0.4**
	baz=219						
ETL	**Fush Village**	**0.17**	**337**	P	**Pb**	**10 56 59.0**	**+0.2**
	baz=332						
ETL				S	**Sb**	**10 57 04.5**	**+1.2**
	baz=332						
ETM	**Tongmen**	**0.19**	**260**	P	**Pn**	**10 56 59.1**	**+0.6**
	baz=259						
ETM				S	**Sb**	**10 57 04.1**	**+0.7**
	baz=259						
NACB	**Ninganchiao**	**0.20**	**331**	*eP*	**Pn**	**10 56 59.1**	**+0.4**
	baz=323						
NACB				*eS*	**Sb**	**10 57 04.5**	**+0.9**
	baz=323						
ETLH	**Xiulin Townshi**	**0.29**	**316**	*eP*	**Pn**	**10 56 59.9**	**-0.5**
	baz=309						
ETLH				*eS*	**Sn**	**10 57 05.4**	**+0.3**
	baz=309						
ESL	**Shilin**	**0.30**	**233**	P	**Pb**	**10 56 60.0**	**-0.3**
	baz=238						
ESL				*eS*	**Sn**	**10 57 05.5**	**-0.1**
	baz=238						
TEGC	**Jichi Village**	**0.32**	**207**	P	**Pb**	**10 57 00.7**	**+0.2**
	baz=196						
EGFH	**Guangfu**	**0.41**	**217**	*eP*	**Pb**	**10 57 01.9**	**+0.1**
	baz=225						
EGFH				S	**Sb**	**10 57 08.0**	**-0.1**
	baz=225						
WHF	**Hehuan Shan**	**0.42**	**290**	P	**Pb**	**10 57 01.8**	**-0.5**
	baz=284						
WHF				S	**Sb**	**10 57 08.9**	**-0.1**
	baz=284						
EWUT	**Wuta**	**0.45**	**9**	*eP*	**Pb**	**10 57 02.5**	**+0.2**
	baz=11						
OWD	**Renai**	**0.48**	**265**	*eP*	**Pb**	**10 57 02.6**	**-0.3**
	baz=270						
OWD				S	**Sb**	**10 57 09.8**	**-0.2**
	baz=270						
CHGB	**Renai**	**0.48**	**277**	*eP*	**Pb**	**10 57 02.7**	**-0.3**
	baz=274						
CHGB				*eS*	**Sb**	**10 57 10.2**	**0.0**
	baz=274						
FUSS	**Fushou**	**0.48**	**301**	P	**Pb**	**10 57 02.8**	**-0.3**
	baz=301						
FUSS				S	**Sb**	**10 57 10.3**	**0.0**
	baz=301						
NNS	**Nan Shan**	**0.53**	**326**	P	**Pb**	**10 57 03.3**	**-0.4**
	baz=327						
NNS				S	**Sb**	**10 57 11.0**	**-0.4**
	baz=327						
TWT	**Tachien**	**0.54**	**298**	P	**Pn**	**10 57 04.0**	**-0.1**
	baz=294						
TWT				*eS*	**Sb**	**10 57 11.6**	**0.0**
	baz=294						
TDCB	**Techi**	**0.56**	**297**	*eP*	**Pn**	**10 57 04.0**	**-0.1**
	baz=294						
TDCB				S	**Sb**	**10 57 11.6**	**-0.4**
	baz=294						
HGSD	**Ruisui**	**0.56**	**207**	*eP*	**Pn**	**10 57 04.4**	**+0.2**
	baz=217						
EHY	**Hungye**	**0.60**	**215**	*eP*	**Pn**	**10 57 04.1**	**-0.6**
	baz=221						
TWC	**Suao**	**0.62**	**13**	*eP*	**Pn**	**10 57 05.3**	**+0.3**
	baz=21						
TWC				*eS*	**Sb**	**10 57 14.6**	**+1.0**
	baz=21						
NDT	**Datong Townshi**	**0.62**	**344**	*eP*	**Pn**	**10 57 04.7**	**-0.3**
	baz=338						
NDT				*eS*	**Sn**	**10 57 13.4**	**-0.6**
	baz=338						
NDS	**Dongshan**	**0.63**	**1**	*eP*	**Pn**	**10 57 05.4**	**+0.3**
	baz=352						
ENTT	**Nioudou**	**0.65**	**349**	P	**Pn**	**10 57 05.0**	**-0.4**
	baz=350						
ENTT				*eS*	**Sn**	**10 57 14.2**	**-0.4**
	baz=350						
WPL	**Puli Township**	**0.68**	**271**	P	**Pn**	**10 57 05.5**	**-0.3**
	baz=269						
WPL				*eS*	**Sn**	**10 57 15.1**	**-0.2**
	baz=269						
DPDB	**Guoxing**	**0.71**	**273**	*eP*	**Pn**	**10 57 06.1**	**-0.1**
	baz=274						
YULB	**Yu-li**	**0.71**	**211**	*eP*	**Pn**	**10 57 04.8**	**-1.4**
	baz=218						
SSLB	**Suanglung**	**0.71**	**253**	*eP*	**Pn**	**10 57 05.8**	**-0.5**
	baz=257						
SSLB				S	**Sn**	**10 57 15.5**	**-0.7**
	baz=257						
TWE	**Neicheng**	**0.72**	**358**	*eP*	**Pn**	**10 57 06.3**	**0.0**
	baz=350						
TWE				*eS*	**Sn**	**10 57 16.3**	**0.0**
	baz=350						
WCS	**Beigang Elemen**	**0.72**	**275**	*eP*	**Pn**	**10 57 06.2**	**-0.2**
	baz=274						
WCS				S	**Sn**	**10 57 16.0**	**-0.3**
	baz=274						
YHNB	**Yeheng**	**0.73**	**336**	*eP*	**Pn**	**10 57 06.2**	**-0.3**
	baz=336						
YHNB				*eS*	**Sn**	**10 57 15.9**	**-0.8**
	baz=336						
EYUL	**Yuli**	**0.74**	**208**	*eP*	**Pn**	**10 57 06.5**	**-0.1**
	baz=218						
SMLT	**Sun Moon Lake**	**0.74**	**261**	P	**Pn**	**10 57 06.5**	**-0.3**
	baz=257						
SMLT				*eS*	**Sn**	**10 57 16.6**	**-0.3**
	baz=257						
TWF1	**Yuli**	**0.74**	**210**	*eP*	**Pn**	**10 57 05.3**	**-1.4**
	baz=219						
NSK	**Sanguang**	**0.74**	**335**	P	**Pn**	**10 57 06.4**	**-0.4**
	baz=336						
NSK				*eS*	**Sn**	**10 57 16.2**	**-0.7**
	baz=336						
WHP	**Taichung City**	**0.74**	**292**	P	**Pn**	**10 57 06.9**	**+0.1**
	baz=292						
WHP				*eS*	**Sn**	**10 57 16.7**	**-0.2**
	baz=292						
TYC	**Yuchr**	**0.78**	**263**	P	**Pn**	**10 57 06.9**	**-0.2**
	baz=263						
TYC				*eS*	**Sn**	**10 57 17.1**	**-0.5**
	baz=263						
NWLT	**Wulai**	**0.80**	**347**	P	**Pn**	**10 57 07.1**	**-0.3**
	baz=348						
WHYT	**Xinyi Township**	**0.83**	**249**	*eP*	**Pn**	**10 57 08.2**	**+0.3**
	baz=246						
YUS	**Yu-Shan**	**0.85**	**234**	*eS*	**Sn**	**10 57 19.4**	**-0.7**
	baz=225						
FULB	**Fuli**	**0.88**	**205**	*eP*	**Pn**	**10 57 08.7**	**+0.1**
	baz=214						
NSTT	**Nanjuang**	**0.90**	**315**	*eP*	**Pn**	**10 57 09.4**	**+0.6**
	baz=315						
NSTT				*eS*	**Sn**	**10 57 21.0**	**+0.4**
	baz=315						
WJS	**Zhushan**	**0.91**	**259**	P	**Pn**	**10 57 09.9**	**+1.0**
	baz=259						
WJS				*eS*	**Sb**	**10 57 22.2**	**+0.7**
	baz=259						
TWQ1	**Liyutan**	**0.91**	**293**	P	**Pn**	**10 57 09.6**	**+0.5**
	baz=292						
WWF	**Wufeng**	**0.92**	**273**	*eP*	**Pn**	**10 57 10.3**	**+1.3**
	baz=272						
WNT	**Mingjian**	**0.94**	**263**	P	**Pn**	**10 57 10.4**	**+1.1**
	baz=262						
WNT1	**Nantou City**	**0.94**	**265**	P	**Pn**	**10 57 10.4**	**+1.1**
	baz=255						
NSY	**Sanyi**	**0.95**	**296**	P	**Pn**	**10 57 10.4**	**+0.9**
	baz=296						
ALS	**Alishan**	**0.95**	**239**	P	**Pn**	**10 57 10.1**	**+0.3**
	baz=231						
NHDH	**Xindian Distri**	**0.97**	**351**	P	**Pn**	**10 57 10.2**	**+0.3**
	baz=351						
TIPB	**Shuangxi**	**0.98**	**7**	*eP*	**Pn**	**10 57 10.4**	**+0.5**
	baz=357						
TIPB				*eS*	**Sn**	**10 57 23.7**	**+1.1**
	baz=357						
TWA	**Mucha**	**0.98**	**354**	*eP*	**Pn**	**10 57 10.2**	**+0.2**
	baz=354						
TWA				*eS*	**Sn**	**10 57 23.5**	**+0.7**
	baz=354						
NMLH	**Miaoli**	**0.99**	**303**	*eP*	**Pn**	**10 57 10.6**	**+0.6**
	baz=302						
TATO	**Taipei**	**0.99**	**349**	*eP*	**Pn**	**10 57 10.1**	**0.0**
	baz=349						
TATO				*eS*	**Sn**	**10 57 23.3**	**+0.4**
	baz=349						
CHN5	**Tsauling**	**1.02**	**247**	*eP*	**Pn**	**10 57 11.1**	**+0.5**
	baz=246						
ELDTW	**Lidau**	**1.02**	**218**	*eP*	**Pn**	**10 57 10.5**	**-0.1**
	baz=210						
WDJ	**Dajia District**	**1.03**	**290**	*eP*	**Pn**	**10 57 10.9**	**+0.3**
	baz=290						
TWB1	**Santiao Chiao**	**1.04**	**15**	*eP*	**Pn**	**10 57 11.3**	**+0.6**
	baz=27						
WCHH	**Zhanghua**	**1.05**	**275**	*eP*	**Pn**	**10 57 11.4**	**+0.6**
	baz=274						
NWF	**Wu-fen Shan**	**1.07**	**4**	*eP*	**Pn**	**10 57 11.6**	**+0.3**
	baz=353						
WFSB	**Wu-fen Shan**	**1.07**	**4**	*eP*	**Pn**	**10 57 11.6**	**+0.4**
	baz=353						
NCUH	**Zhongli**	**1.07**	**334**	*eP*	**Pn**	**10 57 11.5**	**+0.3**
	baz=334						
WDLH	**Douliu**	**1.11**	**254**	*eP*	**Pn**	**10 57 12.6**	**+0.9**
	baz=253						
TWS1	**Kuangyinshan**	**1.13**	**347**	*eP*	**Pn**	**10 57 12.1**	**+0.1**
	baz=348						
YM01	**YM01**	**1.15**	**354**	*eP*	**Pn**	**10 57 12.7**	**+0.3**
	baz=355						
STYH	**Taoyuan**	**1.18**	**226**	*eP*	**Pn**	**10 57 13.1**	**+0.4**
	baz=226						
STYT	**Tauyuan**	**1.20**	**226**	*eP*	**Pn**	**10 57 13.6**	**+0.6**
	baz=226						
CHN4	**Tsaushan**	**1.20**	**238**	*eP*	**Pn**	**10 57 14.0**	**+1.0**
	baz=227						
CHN4				*eS*	**Sb**	**10 57 30.2**	**+0.3**
	baz=227						
TPUB	**Ta-pu**	**1.20**	**235**	*eP*	**Pn**	**10 57 14.0**	**+1.0**
	baz=224						
LONT	**Longtian**	**1.21**	**206**	*eP*	**Pn**	**10 57 11.7**	**-1.4**
	baz=194						
WRL	**Guolierlin Hig**	**1.21**	**266**	*eP*	**Pn**	**10 57 14.2**	**+1.0**
	baz=265						
JYNG	**Yonagunijimaku**	**1.22**	**68**	*eS*	**Sn**	**10 57 28.0**	**-0.7**
WTK	**Tuku**	**1.24**	**256**	*eP*	**Pn**	**10 57 14.5**	**+1.0**
	baz=255						
WTP	**Ta-pu**	**1.25**	**233**	*eP*	**Pn**	**10 57 14.5**	**+0.9**
	baz=232						
CHY	**Chiayi**	**1.27**	**247**	*eP*	**Pn**	**10 57 14.5**	**+0.6**
	baz=246						
YOJ	**Yonaguni jima**	**1.28**	**69**	P	**Pn**	**10 57 14.1**	**0.0**
YOJ				*eS*	**Sn**	**10 57 29.6**	**-0.6**
YOJ	**Yonaguni jima**	**1.28**	**69**	*eP*	**Pn**	**10 57 14.0**	**0.0**
	baz=68						
YOJ				*eS*	**Sn**	**10 57 30.3**	**+0.2**
	baz=68						
TWG	**Pinlang**	**1.31**	**206**	*eP*	**Pn**	**10 57 15.8**	**+1.4**
	baz=194						
TWGBT	**Beinan**	**1.31**	**206**	*eP*	**Pn**	**10 57 14.3**	**-0.2**
	baz=194						
TWK	**Hsinying**	**1.33**	**237**	*eP*	**Pn**	**10 57 15.6**	**+0.9**
	baz=236						
CHN1	**Nanshi**	**1.34**	**233**	*eP*	**Pn**	**10 57 15.8**	**+0.9**
	baz=233						
SGST	**Jiashian**	**1.37**	**229**	*eP*	**Pn**	**10 57 15.3**	**0.0**
	baz=218						
SLGT	**Liugui**	**1.39**	**224**	*eP*	**Pn**	**10 57 16.8**	**+1.2**
	baz=224						
WSF	**Szhu**	**1.40**	**255**	*eP*	**Pn**	**10 57 17.0**	**+1.3**
	baz=254						
ICHU	**Yijhu**	**1.45**	**244**	*eP*	**Pn**	**10 57 17.3**	**+0.9**
	baz=244						
ECL	**Taimali**	**1.55**	**206**	*eP*	**Pn**	**10 57 18.4**	**+0.6**
	baz=198						
SSD	**Sandimen**	**1.59**	**218**	*eP*	**Pn**	**10 57 19.8**	**+1.5**
	baz=218						
TSMG	**Majia**	**1.61**	**217**	*eP*	**Pn**	**10 57 19.8**	**+1.2**
	baz=218						
MASBT	**Mashibuluo**	**1.69**	**216**	*eP*	**Pn**	**10 57 21.4**	**+1.6**
	baz=216						
EAST	**Anshuo**	**1.79**	**206**	*eP*	**Pn**	**10 57 22.4**	**+1.3**
	baz=200						
IRIF	**Iriomote-Funau**	**1.89**	**79**	P	**Pn**	**10 57 22.3**	**-0.1**
IRIF				S	**Sn**	**10 57 44.8**	**-0.2**
SLIU	**Shizi**	**1.96**	**205**	*eP*	**Pn**	**10 57 25.1**	**+1.6**
	baz=201						
PNG	**Penghu**	**2.01**	**258**	*eP*	**Pn**	**10 57 23.9**	**-0.2**
	baz=257						
JKRS	**Kuro-shima**	**2.12**	**83**	P	**Pn**	**10 57 26.5**	**+0.8**
JKRS				S	**Sn**	**10 57 51.5**	**+0.6**
JIJ	**Ishigaki jima**	**2.26**	**80**	P	**Pn**	**10 57 27.4**	**-0.2**
JIJ				S	**Sn**	**10 57 53.2**	**-1.1**
VWUC	**VWUC**	**2.27**	**296**	*eP*	**Pn**	**10 57 26.7**	**-1.0**
	baz=294						
JISG	**Ishigakijimahi**	**2.45**	**76**	P	**Pn**	**10 57 29.8**	**-0.4**
JISG				S	**Sn**	**10 57 58.0**	**-1.1**
PTMZ	**Houxiangcun**	**2.57**	**294**	*eP*	**Pn**	**10 57 31.8**	**+0.1**
	baz=292						
JTJ	**Tarama**	**2.81**	**76**	S	**Sn**	**10 58 07.5**	**-0.4**
KNMB	**Chin-men Tao**	**3.06**	**279**	*eP*	**Pn**	**10 57 37.6**	**-0.9**
	baz=278						
AXDP	**Jialang**	**3.51**	**286**	*eP*	**Pn**	**10 57 45.0**	**+0.2**
	baz=284						
ZPLA	**Ao Xicun**	**3.61**	**270**	*eP*	**Pn**	**10 57 45.6**	**-0.6**
	baz=268						

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*IDC **06** 11:12:55.1±1.0, 17.76N×121.00E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/61, mbtmp3.6/7, MS2.6/2, Ms1 2.7/2, ms1mx2.4/43, Error ellipse: s-maj=36.7km s-min=21.4km az=73.0*
*MAN **06** 11:12:59.8, 17.82N×120.75E, h12km, MS3.8*
ISC 06 11:12:59.6±0.9, 17.84N±0.10×121.0E±0.2, h28km, n8, σ0°84/8, mb3.4/5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**2.27**	**177**	*eP*	**Pb**	**11 13 40.7**	**+0.9**
KSRS	**Korea Array**	**20.47**	**16**	P	**P**	**11 17 35.6**	**+0.6**
	1.0nm,0.6s,baz=198,slow=12,SNR=7.5						
KSRS				LR	LR	11 25 42.8	
	comp=Z,27nm,18.5s,baz=85,slow=37						
CMAR	**Chiang Mai Arr**	**20.96**	**275**	P	**P**	**11 17 40.2**	**-0.3**
	0.6nm,0.3s,baz=99,slow=8.5,SNR=2.1						
CMAR				LR	LR	11 25 31.4	
	comp=Z,9.2nm,19.1s,baz=125,slow=36						
WRA	**Warramunga Arr**	**39.77**	**160**	P	**P**	**11 20 29.0**	**-1.1**
	0.6nm,1.0s,baz=339,slow=9.6,SNR=2.4						
MKAR	**Makanchi Array**	**42.95**	**321**	P	**P**	**11 20 56.5**	**+0.4**
	0.6nm,0.6s,baz=111,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	**43.14**	**163**	P	**P**	**11 20 57.0**	**-0.8**
	0.3nm,0.4s,baz=335,slow=7.0,SNR=14						
ILAR	**Eielson Array**	**74.93**	**26**	P	**P**	**11 24 37.8**	**+0.1**
	0.2nm,0.5s,baz=282,slow=5.5,SNR=4.4						
HFS	**Hagfors**	**83.00**	**331**	P	**P**	**11 25 21.8**	**-0.3**
	1.7nm,0.8s,baz=49,slow=2.7,SNR=2.0						

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*IDC **06** 11:17:44.9±8.2, 4.75S×150.85E, h95km±59km, mb3.7/3, mb1 3.9/4, mb1mx3.3/42, mbtmp4.1/4, ML2.1/1, Error ellipse: s-maj=100.9km s-min=56.6km az=124.0*
*NEIC **06** 11:17:45.1±0.8, 5.2S±0.2×151.4E±0.2, h96km±9km, mb4.1/11, Error ellipse: s-maj=48.2km s-min=8.8km az=133.0*
ISC 06 11:17:45.0±1.0, 5.1S±0.3×151.3E±0.3, h100km, n20, σ0°90/21, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.25**	**44**	Pn	**Pn**	**11 18 08.6**	**+0.2**
PMG	**Port Moresby**	**5.93**	**224**	P	**Pn**	**11 19 11.3**	**+0.9**
	3.3nm,0.3s,baz=40,slow=6.9,SNR=6.0						
PMG				S	**Sn**	**11 20 17.1**	**+0.1**
	4.7nm,0.3s,baz=178,slow=24,SNR=12						
PMG	**Port Moresby**	**5.93**	**224**		**Pn**	**11 19 10.6**	**+0.1**
MTN	**Manton Dam**	**21.34**	**248**	P	**P**	**11 22 24.8**	**+0.4**
MTN				IAmb	IAmb	11 22 48.1	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**21.99**	**227**	P	**P**	**11 22 30.5**	**-0.7**
WB0				IAmb	IAmb	11 22 38.0	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**22.00**	**226**	P	**P**	**11 22 30.9**	**-0.4**
WR0				IAmb	IAmb	11 22 32.1	
	comp=Z,3.5nm,0.8s						
WRAB	**Tennant Creek**	**22.12**	**227**	P	**P**	**11 22 31.9**	**-0.7**
WRAB				IAmb	IAmb	11 22 33.2	
	comp=Z,6.0nm,1.1s						
WB2	**Warramunga Arr**	**22.13**	**227**	P	**P**	**11 22 32.2**	**-0.5**
WB2				IAmb	IAmb	11 22 33.3	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**11 22 31.3**	**-1.5**
	comp=Z,1.9nm,0.3s,baz=50,slow=10,SNR=34						
WRA	**Warramunga Arr**	**22.14**	**227**	P	**P**	**11 22 32.4**	**-0.4**
KNRA	**Kununurra**	**24.50**	**243**	P	**P**	**11 22 55.3**	**+0.1**
KNRA				IAmb	IAmb	11 22 58.7	
	comp=Z,7.7nm,0.6s						
AS31	**Alice Springs**	**24.93**	**221**	P	**P**	**11 22 58.0**	**-1.2**
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**11 22 58.3**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=54,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**11 22 58.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**28.21**	**241**	P	**P**	**11 23 27.6**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=59,slow=9.6,SNR=18						
FITZ	**Fitzroy Crossi**	**28.21**	**241**	P	**P**	**11 23 28.1**	**-0.5**
FITZ				IA

*ARE **06** 11:17:52±0.0,7.17S±80.70W,h17km,Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*

ISC 06 11:17:46.7±0.3,7.23S±0.05×80.66W±0.06,h29km,n773, σ0.91/743,**mb4.9**/177,**MS4.5**/16,**5C,Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.25**	**88**	**Pn**	**Pn**	**11 18 24.4**	**+2.0**
	32nm,0.3s,baz=287,slow=10,SNR=152						
ATAH				Lg	Lg	11 18 58.2	
	345nm,0.3s,baz=105,slow=14,SNR=6.0						
NNA	**Nana**	**6.04**	**142**	Pn	**Pn**	**11 19 14.4**	**+0.2**
	9.4nm,0.3s,baz=338,slow=16,SNR=8.9						
NNA				Sn	**Sn**	**11 20 17.6**	**-4.9**
	22nm,0.3s,baz=57,slow=21,SNR=1.4						
NNA				Lg	Lg	11 20 49.5	
	54nm,0.3s,baz=184,slow=16,SNR=5.4						
NNA				LR	LR	11 21 40.5	
	comp=Z,4μm,18.2s,baz=295,slow=39						
NNA	**Nana**	**6.04**	**142**	Pn	**Pn**	**11 19 13.8**	**-0.4**
PAC1	**Pacto, Paraso**	**7.68**	**14**	*eP*	**Pn**	**11 19 34.4**	**-2.4**
OTAV	**Otavalo**	**7.74**	**17**	Pn	**Pn**	**11 19 37.5**	**-0.5**
OTAV	**Otavalo**	**7.74**	**17**	*eP*	**Pn**	**11 19 37.3**	**-0.7**
OTAV	**Otavalo**	**7.74**	**17**	*eP*	**Pn**	**11 19 38.2**	**+0.3**
CUSE	**Cuicocha Este**	**7.82**	**17**	*eP*	**Pn**	**11 19 43.2**	**+4.2**
CZSB	**Cruzeiro do Su**	**7.91**	**94**	*eP*	**Pn**	**11 19 37.8**	**-2.0**
TULM	**Tulcn-Chalpat**	**8.40**	**20**	*eP*	**Pn**	**11 19 46.1**	**-0.9**
GCUF	**Volcan Galeras**	**9.03**	**22**	*eP*	Pn	11 20 05.4	+10
CRUC	**La Cruz**	**9.49**	**23**	*eP*	**Pn**	**11 20 00.9**	**-1.0**
BBAC	**Balboa, Cauca**	**9.80**	**20**	*eP*	Pn	11 20 13.3	+7.3
FLOC	**Florencia**	**10.08**	**30**	Pn	**Pn**	**11 20 07.8**	**-1.9**
FLOC	**Florencia**	**10.08**	**30**	*eP*	Pn	11 20 15.8	+6.1
SOTA	**Rioblanco**	**10.15**	**24**	*eP*	Pn	11 20 17.5	+6.6
PCON	**Cinco Dias**	**10.41**	**24**	*eP*	Pn	11 20 20.8	+6.2
POPC	**Popayan, Colom**	**10.49**	**22**	*eP*	**Pn**	**11 20 16.6**	**+1.1**
GARC	**Garzon, Huila**	**10.69**	**29**	*eP*	Pn	11 20 24.0	+5.8
MARP	**Paez Belalcaza**	**11.06**	**25**	*eP*	Pn	11 20 29.8	+6.6
TBTG	**Tabatinga, AM**	**11.12**	**75**	*eP*	**Pn**	**11 20 26.5**	**+2.6**
MACC	**Macarena, Meta**	**11.54**	**36**	*eP*	Pn	11 20 34.1	+4.5
YOTC	**Yotoco, Valle**	**11.95**	**21**	*eP*	**Pn**	**11 20 35.3**	**0.0**
PRAC	**Prado**	**12.31**	**28**	*eP*	P	11 20 46.2	-5.9
ORTC	**Ortega, Tolima**	**12.32**	**26**	*eP*	**P**	**11 20 48.7**	**-3.5**
PLMC	**San Jos del P**	**12.82**	**20**	*eP*	**Pn**	**11 20 51.1**	**+3.9**
TOLC	**Tolima**	**12.89**	**25**	*eP*	**P**	**11 21 01.4**	**+2.5**
GUY2C	**Guyana, Caldas**	**13.46**	**23**	*eP*	**P**	**11 21 02.7**	**-2.5**
ROSC	**El Rosal**	**13.56**	**28**	Lg	Lg	11 24 52.5	
	0.7nm,0.3s,baz=218,slow=23,SNR=1.7						
ROSC				LR	LR	11 26 06.0	
	comp=Z,2μm,18.5s,baz=214,slow=37						
CHIC	**Chingaza**	**13.66**	**31**	*eP*	**P**	**11 21 10.1**	**+2.5**
NORC	**Norcasia**	**13.96**	**25**	*eP*	**P**	**11 21 11.7**	**+1.2**
HELC	**Santa Helena**	**14.28**	**21**	*eP*	**P**	**11 21 15.1**	**+0.8**
DBBC	**Dabeiba**	**14.84**	**18**	*eP*	**P**	**11 21 21.8**	**+1.6**
AP01	**Chacalluta**	**14.95**	**139**	Pn	**Pn**	**11 21 13.5**	**-2.6**
RUSC	**La Rusia**	**15.07**	**30**		**Pn**	**11 21 19.6**	**+1.4**
RUSC	**La Rusia**	**15.07**	**30**	*eP*	**P**	**11 21 24.6**	**+1.3**
LPAZ	**La Paz**	**15.21**	**127**	Pn	**Pn**	**11 21 20.5**	**+0.4**
	0.4nm,0.3s,baz=299,slow=8.5,SNR=18						
LPAZ				LR	LR	11 28 13.1	
	comp=Z,1μm,18.6s,baz=298,slow=41						
LPAZ	**La Paz**	**15.21**	**127**	Pn	**Pn**	**11 21 18.3**	**-1.9**
LPAZ	**La Paz**	**15.21**	**127**	*eP*	**Pn**	**11 21 21.0**	**+0.9**
LPAZ	**La Paz**	**15.21**	**127**	*eP*	**Pn**	**11 21 19.3**	**-0.8**
BARC	**Barichara**	**15.63**	**29**	*eP*	**Pn**	**11 21 26.5**	**+1.2**
ZARC	**Zaragoza, Cauc**	**15.73**	**22**	*eP*	**P**	**11 21 29.3**	**-0.8**
MNMC	**Minye Minye**	**15.99**	**139**		**Pn**	**11 21 28.1**	**-1.8**
PSGCX	**Pisagua**	**15.99**	**141**		**Pn**	**11 21 30.0**	**+0.1**
TA02	**Huaiquique**	**16.50**	**143**		**Pn**	**11 21 33.7**	**-2.5**
MOTC	**Monteria, Cord**	**16.67**	**17**	*eP*	**P**	**11 21 40.5**	**+0.1**
TA01	**Diego Aracena**	**16.70**	**144**		**Pn**	**11 21 34.9**	**-3.7**
TA01				IAmb	IAmb	11 21 55.3	
	comp=Z,87nm,1.4s						
PB08	**IPOC Station P**	**17.01**	**140**		**Pn**	**11 21 41.1**	**-1.8**
OCAC	**Ocana**	**17.02**	**26**	*eP*	**P**	**11 21 44.8**	**+0.2**
PB07	**IPOC Station P**	**17.77**	**145**	P	**Pn**	**11 21 54.1**	**+1.8**
SJCC	**San Jacinto, C**	**17.87**	**18**		**P**	**11 21 54.8**	**+0.9**
SJCC				IAmb	IAmb	11 22 06.7	
	comp=Z,68nm,1.1s						
JTS	**Las Juntas de**	**17.92**	**346**	P	**Pn**	**11 21 52.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=204,slow=23,SNR=2.0						
PB09	**IPOC Station P**	**18.20**	**144**	P	**P**	**11 21 55.7**	**-1.9**
PB06	**IPOC Station P**	**18.73**	**146**	P	**P**	**11 22 02.4**	**-1.0**
SDV	**Santo Domingo**	**18.88**	**32**	P	**Pn**	**11 22 05.4**	**-0.4**
	comp=Z,4.5nm,0.3s,baz=228,slow=12,SNR=3.3						
SDV	**Santo Domingo**	**18.88**	**32**	*eP*	**Pn**	**11 22 05.3**	**-0.4**
LVC	**Limon Verde**	**19.02**	**145**	P	**P**	**11 22 08.6**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=310,slow=7.9,SNR=10						
LVC	**Limon Verde**	**19.02**	**145**	IAmb	IAmb	11 22 24.5	
	comp=Z,51nm,1.1s						
ACON	**Acoyapa**	**19.59**	**347**	P	**Pn**	**11 22 16.1**	**+1.9**
MACA	**Manacapuru-AM**	**20.30**	**80**	*eP*	**P**	**11 22 19.3**	**-1.2**
URIC	**Uribia, Colomb**	**20.69**	**25**	P	**P**	**11 22 23.2**	**-1.5**
URIC				IAmb	IAmb	11 22 31.0	
	comp=Z,66nm,0.9s						
GO02	**Mina Guanaco**	**20.73**	**151**	P	**P**	**11 22 27.7**	**+2.3**
SIV	**San Ignacio**	**21.06**	**116**	P	**P**	**11 22 29.4**	**+0.7**
	comp=Z,37nm,1.0s,baz=301,slow=9.6,SNR=105						
PTGA	**Pitinga**	**21.62**	**74**	P	**P**	**11 22 34.2**	**-0.5**
	comp=Z,164nm,0.8s,baz=250,slow=11,SNR=64						
TGUH	**Tegucigalpa,Un**	**22.14**	**343**	P	**P**	**11 22 42.3**	**+1.9**
TGUH				IAmb	IAmb	11 22 44.1	
	comp=Z,52nm,0.9s						
BOAV	**Boa Vista**	**22.26**	**65**	*eP*	**P**	**11 22 41.2**	**-0.4**
AC02	**Maricunga**	**22.37**	**152**	P	**P**	**11 22 44.8**	**+1.6**
AC02				IAmb	IAmb	11 22 56.8	
	comp=Z,72nm,1.0s						
GO03	**Copiap**	**22.54**	**155**	P	**P**	**11 22 45.3**	**+0.8**
GO03				IAmb	IAmb	11 23 09.3	
	comp=Z,57nm,1.4s						
PTLB	**Pontes e Lacer**	**22.61**	**113**	*eP*	**P**	**11 22 45.9**	**+0.5**
MTO3	**Montecristo**	**23.16**	**338**	P	**P**	**11 22 52.1**	**+0.9**
PCRV	**Puerto La Cruz**	**23.53**	**43**	P	**P**	**11 22 54.3**	**-0.4**
	comp=Z,82nm,0.8s,baz=182,slow=4.3,SNR=22						
PLCV	**Puerto La Cruz**	**23.56**	**43**	P	**P**	**11 22 54.3**	**-0.6**
GO04	**Tololo Observa**	**24.63**	**159**	P	**P**	**11 23 06.7**	**+1.7**
GO04				IAmb	IAmb	11 23 08.0	
	comp=Z,35nm,1.1s						
CLDB	**Colider**	**24.82**	**100**	*eP*	**P**	**11 23 07.1**	**+0.4**
ITTB	**Itaituba**	**24.96**	**85**	*eP*	**P**	**11 23 08.3**	**+0.3**
NPGB	**Novo Progresso**	**25.11**	**91**	*eP*	**P**	**11 23 09.4**	**+0.1**
CO03	**El Pedregal**	**25.28**	**160**	P	**P**	**11 23 10.9**	**+0.2**
CO02	**Combarbal**	**25.50**	**160**	P	**P**	**11 23 14.5**	**+1.6**
CO02				IAmb	IAmb	11 23 39.8	
	comp=Z,22nm,0.9s						
SALV	**Santo Antonio**	**25.91**	**112**	*eP*	**P**	**11 23 17.7**	**+1.2**
H03N2	**Juan Fernandez**	**26.13**	**177**	T	T	11 50 31.4	
	baz=356,slow=76,SNR=853						
H03N1	**Juan Fernandez**	**26.13**	**177**	T	T	11 50 33.5	
	baz=356,slow=76,SNR=795						
H03N3	**Juan Fernandez**	**26.14**	**177**	T	T	11 50 31.1	
	baz=356,slow=76,SNR=837						
ZON	**Zonda**	**26.66**	**157**	P	**P**	**11 23 24.6**	**+1.4**
ZON				IAmb	IAmb	11 23 29.0	
	comp=Z,23nm,1.1s						
MALB	**Monte Alegre**	**26.84**	**80**	*eP*	**P**	**11 23 25.7**	**+0.7**
VA03	**San Esteban**	**27.09**	**161**	P	**P**	**11 23 28.3**	**+1.2**
VA03				IAmb	IAmb	11 23 30.0	
	comp=Z,29nm,1.1s						
PP1B	**Ponte de Pedra**	**27.17**	**115**	*eP*	**P**	**11 23 29.0**	**+1.1**
AQDB	**Aquidauana**	**27.53**	**121**	P	**P**	**11 23 32.1**	**+1.0**
AQDB				IAmb	IAmb	11 23 35.4	
	comp=Z,20nm,0.9s						
AQDB	**Aquidauana**	**27.53**	**121**	*eP*	**P**	**11 23 32.2**	**+1.2**
MT09	**Talagante**	**27.89**	**163**	P	**P**	**11 23 34.9**	**+0.6**
MT09				IAmb	IAmb	11 23 37.3	
	comp=Z,37nm,1.4s						
CMIG	**Matias Romero**	**27.96**	**330**	P	**P**	**11 23 34.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=180,slow=15,SNR=2.4						
MPR	**Mayaguez**	**28.59**	**28**	P	**P**	**11 23 40.0**	**-0.5**
OBIP	**Obispado Ponce**	**28.69**	**29**	P	**P**	**11 23 41.7**	**+0.3**
AOPR	**Arecibo Observ**	**28.89**	**28**	P	**P**	**11 23 42.9**	**-0.3**
BO02	**Sierra Bellavi**	**28.90**	**163**	P	**P**	**11 23 44.2**	**+1.0**
PDPR	**Patillas Dam,**	**28.96**	**30**	P	**P**	**11 23 43.3**	**-0.4**
SJG	**San Juan**	**28.97**	**29**	P	**P**	**11 23 44.2**	**+0.3**
	comp=Z,58nm,0.6s,baz=206,slow=5.7,SNR=22						
SJG	**San Juan**	**28.97**	**29**	P	**P**	**11 23 43.9**	**0.0**
GCPR	**Guaynabo City**	**29.18**	**29**	P	**P**	**11 23 44.4**	**-1.3**
CPUP	**Villa Florida**	**29.22**	**133**	P	**P**	**11 23 47.6**	**+1.5**
	comp=Z,7.0nm,1.0s,baz=318,slow=11,SNR=8.8						
CPUP				LR	LR	11 38 17.1	
	comp=Z,1μm,18.3s,baz=320,slow=42						
CPUP	**Villa Florida**	**29.22**	**133**	P	**P**	**11 23 47.0**	**+0.9**
CPUP				IAmb	IAmb	11 23 48.8	
	comp=Z,24nm,1.4s						
CPUP	**Villa Florida**	**29.22**	**133**	*eP*	**P**	**11 23 47.6**	**+1.5**
CBYP	**Canovanas**	**29.25**	**30**	P	**P**	**11 23 46.0**	**-0.5**
SNDB	**Serra Nova Dou**	**29.33**	**102**	*eP*	**P**	**11 23 48.1**	**+0.9**
MCPB	**Macapa, AP**	**29.33**	**78**	*eP*	**P**	**11 23 47.5**	**+0.3**
ARAG	**Araguaiana, MT**	**29.47**	**109**	*eP*	**P**	**11 23 49.1**	**+0.6**
PRPB	**Paraua pebas**	**30.65**	**90**	*eP*	**P**	**11 23 58.8**	**-0.2**
TRCB	**Terra Rica**	**31.09**	**123**	*eP*	**P**	**11 24 03.9**	**+1.1**
ITQB	**Itaqui**	**31.77**	**138**	P	**P**	**11 24 08.0**	**-0.6**
ITQB	**Itaqui**	**31.77**	**138**	*eP*	**P**	**11 24 10.9**	**+2.3**
PCMB	**Pacaembu**	**31.77**	**120**	*eP*	**P**	**11 24 10.1**	**+1.4**
ITRB	**Iturama**	**31.90**	**116**	*eP*	**P**	**11 24 10.9**	**+1.0**
PEXB	**Peixe**	**32.25**	**101**	*eP*	**P**	**11 24 13.9**	**+0.9**
SMTB	**Santa Maria do**	**32.78**	**95**	*eP*	**P**	**11 24 18.4**	**+0.7**
TMAB	**Tom-Au,PA,Br**	**32.80**	**83**	*eP*	**P**	**11 24 18.9**	**+1.1**
BDFB	**Brasilia**	**33.03**	**108**	P	**P**	**11 24 20.7**	**+0.7**
	comp=Z,17nm,0.9s,baz=267,slow=9.4,SNR=16						
BDFB				LR	LR	11 38 40.3	
	comp=Z,3μm,18.4s,baz=282,slow=38						
BDFB	**Brasilia**	**33.03**	**108**	P	**P**	**11 24 18.1**	**-1.9**
BDFB				IAmb	IAmb	11 24 22.2	
	comp=Z,20nm,0.9s						
IPMB	**Ipameri, GO**	**33.36**	**112**	*eP*	**P**	**11 24 23.0**	**+0.2**
ITAB	**Concordia**	**33.59**	**130**	P	**P**	**11 24 24.7**	**+0.1**
ITAB	**Concordia**	**33.59**	**130**	*eP*	**P**	**11 24 25.4**	**+0.8**
FRTB	**Fartura**	**33.89**	**122**	*eP*	**P**	**11 24 28.1**	**+0.8**
BB19B	**Bebedouro**	**33.97**	**117**	*eP*	**P**	**11 24 28.6**	**+0.6**
LL04	**Puerto Octay**	**34.34**	**169**	P	**P**	**11 24 31.5**	**+0.7**
CPSB	**Cacapava Do Su**	**34.39**	**136**	*eP*	**P**	**11 24 33.0**	**+1.5**
PLCA	**Paso Flores**	**34.56**	**166**	P	**P**	**11 24 34.4**	**+1.5**
	comp=Z,13nm,0.9s,baz=339,slow=12,SNR=18						
PLCA				LR	LR	11 36 09.9	
	comp=Z,305nm,19.9s,baz=358,slow=32						
PLCA	**Paso Flores**	**34.56**	**166**	P	**P**	**11 24 34.4**	**+1.5**
PLCA				IAmb	IAmb	11 24 35.3	
	comp=Z,20nm,0.9s						
PLCA	**Paso Flores**	**34.56**	**166**	*eP*	**P**	**11 24 34.6**	**+1.7**
TRQA	**Tornquist**	**35.05**	**154**	P	**P**	**11 24 37.7**	**+0.6**
TRQA	**Tornquist**	**35.05**	**154**	*eP*	**P**	**11 24 38.8**	**+1.8**
PLTB	**Pedras Altas**	**35.10**	**138**	P	**P**	**11 24 37.9**	**+0.3**
PLTB				IAmb	IAmb	11 24 49.6	
	comp=Z,23nm,1.1s						
PLTB	**Pedras Altas**	**35.10**	**138**	*eP*	**P**	**11 24 39.0**	**+1.4**
TIJ01	**Guaruva-PR**	**35.17**	**124**	*eP*	**P**	**11 24 40.0**	**+1.6**
RCLB	**Rio Claro- Sao**	**35.29**	**119**	*eP*	**P**	**11 24 40.0**	**+0.6**
SDBA	**SAO DESIDERIO**	**35.59**	**101**	*eP*	**P**	**11 24 42.6**	**+0.5**
SPB	**Sao Paulo**	**35.80**	**121**	*eP*	**P**	**11 24 44.6**	**+0.9**
VAO	**Valinhos**	**35.98**	**120**	*eP*	**P**	**11 24 45.8**	**+0.4**
PET01	**Itanhaem-SP**	**36.19**	**122**	*eP*	**P**	**11 24 47.7**	**+0.7**
JANB	**Januaria**	**36.46**	**106**	*eP*	**P**	**11 24 50.0**	**+0.4**
TER01	**Tubaro-SC**	**36.54**	**129**	*eP*	**P**	**11 24 51.4**	**+1.4**
ROSB	**Rosrio**	**36.64**	**85**	*eP*	**P**	**11 24 51.5**	**+0.5**
MC01	**Montes Claros**	**37.08**	**108**	*eP*	**P**	**11 24 55.2**	**+0.4**
PARB	**Paraibuna**	**37.26**	**119**	*eP*	**P**	**11 24 57.3**	**+1.0**
BSCB	**Bom Sucesso**	**37.29**	**115**	*eP*	**P**	**11 24 57.0**	**+0.4**
DIAM	**Diamantina, MG**	**37.64**	**111**	*eP*	**P**	**11 25 00.0**	**+0.4**
ESAR	**Angra dos Reis**	**38.19**	**118**	*eP*	**P**	**11 25 05.8**	**+1.8**
TIGA	**Tifton**	**38.55**	**356**	P	**P**	**11 25 06.6**	**-0.3**
	baz=175						
BRAL	**Brewton**	**38.67**	**351**	P	**P**	**11 25 07.2**	**-0.7**
	baz=170						
VAS01	**Vassouras-RJ**	**38.84**	**117**	*eP*	**P**	**11 25 10.7**	**+1.2**
NBPS	**Pedro II - PI**	**39.11**	**88**	*eP*	**P**	**11 25 13.0**	**+1.0**
154A	**Montrose**	**39.69**	**357**	P	**P**	**11 25 16.3**	**-0.1**
833A	**Chaparral WMA,**	**39.70**	**334**	P	**P**	**11 25 15.7**	**-0.9**
	baz=150						
DUB01	**Friburgo-RJ**	**39.73**	**116**	*eP*	**P**	**11 25 17.7**	**+0.7**
152A	**Waverly Hall**	**39.87**	**355**	P	**P**	**11 25 17.0**	**-0.9**
152A				IAmb	IAmb	11 25 18.0	
	comp=Z,16nm,0.8s						
SJMB	**Sao Joao De Ma**	**40.03**	**110**	*eP*	**P**	**11 25 19.8**	**+0.3**
NBPN	**Ponto Novo - B**	**40.10**	**98**	*eP*	**P**	**11 25 20.6**	**+0.4**
NHSC	**New Hope**	**40.12**	**1**	P	**P**	**11 25 19.1**	**-0.8**
	baz=180						
CAM01	**Campos-RJ**	**40.31**	**115**	*eP*	**P**	**11 25 22.1**	**+0.4**
BSFB	**Barra de Sao F**	**40.37**	**111**	*eP*	**P**	**11 25 22.4**	**0.0**
LRAL	**Lakeview Retre**	**40.49**	**352**	P	**P**	**11 25 21.8**	**-1.3**
	baz=170,SNR=11						
LRAL	**Lakeview Retre**	**40.49**	**352**	P	**P**	**11 25 22.1**	**-1.0**
LRAL				IAmb	IAmb	11 25 23.5	
	comp=Z,16nm,0.8s						
GOGA	**Godfrey**	**40.51**	**356**	P	**P**	**11 25 21.6**	**-1.5**
	baz=176,SNR=5.3						
GOGA	**Godfrey**	**40.51**	**356**	P	**P**	**11 25 22.0**	**-1.1**
Z51A	**Franklin**	**40.55**	**354**	P	**P**	**11 25 22.7**	**-0.8**
Z51A				IAmb	IAmb	11 25 23.8	
	comp=Z,22nm,0.8s						
NBMO	**Morrinhos-CE**	**40.62**	**87**	*eP*	**P**	**11 25 25.1**	**+0.6**
Z47A	**Carrollton**	**40.82**	**350**	P	**P**	**11 25 25.0**	**-0.7**
Z47A				IAmb	IAmb	11 25 26.7	
	comp=Z,30nm,0.9s						
NBPB	**Pedra_Branca-C**	**40.85**	**90**	*eP*	**P**	**11 25 26.9**	**+0.5**
ALF01	**Guarapari-ES**	**40.86**	**113**	*eP*	**P**	**11 25 27.0**	**+0.8**
NAN01	**Guarapari, ES**	**40.86**	**109**	*eP*	**P**	**11 25 26.9**	**+0.5**
GDU01	**Guandu, BA**	**40.87**	**103**	*eP*	**P**	**11 25 27.1**	**+0.6**
RIB01	**Linhares ES**	**40.88**	**111**	*eP*	**P**	**11 25 26.6**	**0.0**
GUA01	**Guaratinga, BA**	**40.97**	**107**	*eP*	**P**	**11 25 27.7**	**+0.4**
NATX	**Nacogdoches**	**41.01**	**342**	P	**P**	**11 25 26.9**	**-0.5**
	baz=158						
CMC01	**Camacan, BA**	**41.09**	**105**	*eP*	**P**	**11 25 29.4**	**+1.1**
NBIT	**Itapeh - BA**	**41.12**	**104**	*eP*	**P**	**11 25 29.9**	**+1.4**
435B	**Jarrell**	**41.13**	**338**	P	**P**	**11 25 28.1**	**-0.3**
	baz=154						
Y49A	**Blount Mountai**	**41.23**	**353**	P	**P**	**11 25 27.6**	**-1.5**
HODGE	**Hodges**	**41.27**	**358**	P	**P**	**11 25 28.4**	**-0.9**
JSC	**Jenkinsville**	**41.29**	**359**	P	**P**	**11 25 28.0**	**-1.6**
NBMA	**Muriti-CE**	**41.55**	**93**	*eP*	**P**	**11 25 32.7**	**+0.6**
Y45A	**Yeager Farm, C**	**41.73**	**349**	P	**P**	**11 25 33.2**	**0.0**
JCT	**Junction City**	**41.75**	**335**	P	**P**	**11 25 32.9**	**-0.6**
	baz=151,SNR=5.7						
JCT	**Junction City**	**41.75**	**335**	P	**P**	**11 25 34.4**	**+0.9**
FPAL	**Fort Paine**	**41.81**	**354**	P	**P**	**11 25 32.8**	**-1.1**
FPAL				IAmb	IAmb	11 25 33.6	
	comp=Z,21nm,0.8s						
PAULI	**Pauline**	**41.84**	**359**	P	**P**	**11 25 33.4**	**-0.7**
X48A	**Hartselle**	**41.89**	**352**	P	**P**	**11 25 33.2**	**-1.4**
BG3	**Lake Jocassee**	**42.05**	**357**	P	**P**	**11 25 34.9**	**-0.9**
KMSC	**Kings Mountain**	**42.15**	**359**	P	**P**	**11 25 35.9**	**-0.8**
	baz=179						
KMSC	**Kings Mountain**	**42.15**	**359**	P	**P**	**11 25 35.7**	**-1.0**
W52A	**Murphy**	**42.21**	**356**	P	**P**	**11 25 35.9**	**-1.3**
NBCL	**Cascavel-CE**	**42.26**	**88**	*eP*	**P**	**11 25 38.5**	**+0.7**
OXF	**Oxford**	**42.33**	**349**	P	**P**	**11 25 36.2**	**-1.9**
	baz=167						
W50A	**Signal Mountai**	**42.43**	**354**	P	**P**	**11 25 38.6**	**-0.4**
W50A				IAmb	IAmb	11 25 39.0	
	comp=Z,13nm,0.9s						
Z38A	**Mt. Pleasant**	**42.51**	**342**	P	**P**	**11 25 39.9**	**+0.4**
Z38A				IAmb	IAmb	11 25 41.3	
	comp=Z,30nm,0.9s						
SWET	**Sewanee**	**42.51**	**354**	P	**P**	**11 25 38.3**	**-1.3**
SWET				IAmb	IAmb	11 25 39.4	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**42.57**	**351**	P	**P**	**11 25 38.6**	**-1.4**
TXAR	**Lajitas Array**	**42.57**	**330**	P	**P**	**11 25 40.3**	**0.0**
	comp=Z,0.8nm,0.8s,baz=153,slow=12,SNR=10						
TXAR				PcP	**PcP**	**11 27 32.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=141,slow=5.8,SNR=4.7						
TXAR				LR	LR	11 41 51.4	
	comp=Z,242nm,18.9s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**42.57**	**330**	P	**P**	**11 25 39.5**	**-0.8**
CPCT	**Cooper Cave**	**42.61**	**355**	P	**P**	**11 25 39.5**	**-0.9**
TKL	**Tuckaleechee C**	**42.76**	**356**	P	**P**	**11 25 40.5**	**-1.1**
W45A	**Hickory Valley**	**42.92**	**350**	P	**P**	**11 25 42.0**	**-0.9**
V52A	**Sevierville**	**42.93**	**357**	P	**P**	**11 25 42.4**	**-0.6**
V51A	**Loudon**	**42.95**	**356**	P	**P**	**11 25 41.9**	**-1.2**
X40A	**Basin Creek Fa**	**43.06**	**345**	P	**P**	**11 25 43.7**	**-0.3**
	baz=162						
X40A	**Basin Creek Fa**	**43.06**	**345**	P	**P**	**11 25 43.6**	**-0.4**
V48A	**Smith Brothers**	**43.13**	**353**	P	**P**	**11 25 43.0**	**-1.6**
V48A				IAmb	IAmb	11 25 44.6	
	comp=Z,21nm,0.9s						
NBPA	**Parau_RN**	**43.29**	**91**	*eP*	**P**	**11 25 46.6**	**+0.4**
MIAR	**Mount Ida**	**43.31**	**344**	P	**P**	**11 25 45.6**	**-0.4**
	baz=161,SNR=9.5						
MIAR	**Mount Ida**	**43.31**	**344**	P	**P**	**11 25 45.8**	**-0.2**
MIAR				IAmb	IAmb	11 25 47.2	
	comp=Z,12nm,0.8s						
U56A	**King**	**43.35**	**0**	P	**P**	**11 25 45.4**	**-1.0**
NBLV	**Livramento - P**	**43.38**	**93**	*eP*	**P**	**11 25 47.9**	**+0.8**
CLTN	**Cedars of Leba**	**43.42**	**353**	P	**P**	**11 25 46.1**	**-0.8**
U54A	**Nelsons Funny**	**43.53**	**359**	P	**P**	**11 25 46.9**	**-1.0**
U54A				IAmb	IAmb	11 26 14.1	
	comp=Z,15nm,1.1s						
ABTX	**Abilene, Hawle**	**43.56**	**337**	P	**P**	**11 25 47.3**	**-0.9**
	baz=152,SNR=10						
ABTX	**Abilene, Hawle**	**43.56**	**337**	P	**P**	**11 25 48.5**	**+0.3**
ABTX				IAmb	IAmb	11 25 49.6	
	comp=Z,30nm,0.8s						
W41B	**Gary Mavity, V**	**43.57**	**346**	P	**P**	**11 25 47.5**	**-0.6**
	baz=163,SNR=6.5						
TZTN	**Tazewell**	**43.63**	**357**	P	**P**	**11 25 46.3**	**-2.3**
	baz=176						
WVT	**Waverly**	**43.65**	**352**	P	**P**	**11 25 46.9**	**-1.9**
	baz=170						
WVT	**Waverly**	**43.65**	**352**	P	**P**	**11 25 47.2**	**-1.6**
WVT				IAmb	IAmb	11 25 48.1	
	comp=Z,15nm,0.8s						
WHAR	**Wooly Hollow**	**43.69**	**346**	P	**P**	**11 25 49.0**	**-0.2**
U49A	**Red Boiling Sp**	**43.78**	**354**	P	**P**	**11 25 48.3**	**-1.5**
X37A	**Clayton**	**43.86**	**342**	P	**P**	**11 25 50.1**	**-0.3**
X37A				IAmb	IAmb	11 25 52.2	
	comp=Z,25nm,0.8s						
LOOK	**Love County**	**43.89**	**340**	P	**P**	**11 25 51.4**	**+0.6**
LOOK				IAmb	IAmb	11 25 52.4	
	comp=Z,23nm,0.8s						
NBAN	**Anadia - AL**	**43.95**	**96**	*eP*	**P**	**11 25 51.7**	**0.0**
W39A	**Magazine**	**43.98**	**344**	P	**P**	**11 25 51.1**	**-0.3**
	baz=161,SNR=5.3						
W39A	**Magazine**	**43.98**	**344**	P	**P**	**11 25 51.7**	**+0.3**
W39A				IAmb	IAmb	11 25 53.3	
	comp=Z,16nm,1.2s						
T57A	**Hurt**	**44.02**	**2**	P	**P**	**11 25 50.0**	**-1.7**
LCAR	**Lake Charles**	**44.19**	**348**	P	**P**	**11 25 52.5**	**-0.5**
BLA	**Blacksburg**	**44.21**	**0**	P	**P**	**11 25 51.9**	**-1.4**
	baz=180						
FCAR	**Ozark Folk Cen**	**44.23**	**347**	P	**P**	**11 25 53.0**	**-0.4**
FCAR				IAmb	IAmb	11 25 54.2	
	comp=Z,26nm,0.9s						
T47A	**Sharon Grove**	**44.40**	**353**	P	**P**	**11 25 53.3**	**-1.5**
T47A				IAmb	IAmb	11 25 54.7	
	comp=Z,

HDIL	Hopedale	48.21	351	P	P	11 26 23.8	-0.9
R32A	Long Quarter,	48.43	341	P	P	11 26 26.2	-0.3
R32A				IAmb	IAmb	11 26 27.6	
	comp=Z,16nm,1.1s						
M53A	WI Miller and	48.43	360	P	P	11 26 25.1	-1.3
	baz=180						
M50A	Fremont	48.45	358	P	P	11 26 25.9	-0.6
TRNY	Table Rock, Ra	48.50	6	P	P	11 26 27.5	+0.6
TRNY				IAmb	IAmb	11 26 28.7	
	comp=Z,8.0nm,0.8s						
ANMO	Albuquerque	48.51	331	P	P	11 26 27.6	+0.3
	baz=145						
ANMO	Albuquerque	48.51	331	P	P	11 26 27.5	+0.2
ANMO				IAmb	IAmb	11 26 39.7	
	comp=Z,18nm,1.3s						
M54A	Oil Creek Stat	48.51	1	P	P	11 26 26.0	-1.0
	baz=181						
M54A	Oil Creek Stat	48.51	1	P	P	11 26 25.7	-1.3
M54A				IAmb	IAmb	11 26 26.5	
	comp=Z,8.9nm,1.1s						
TUC	Tucson	48.69	326	P	P	11 26 28.4	-0.2
	baz=138						
TUC	Tucson	48.69	326	P	P	11 26 28.5	-0.2
M63A	Gales Ferry	49.04	9	P	P	11 26 30.1	-0.9
L48A	N Adams	49.06	356	P	P	11 26 29.4	-1.8
CBKS	Cedar Bluff	49.12	340	P	P	11 26 32.3	+0.5
	baz=154						
N38A	Joes South For	49.17	347	P	P	11 26 31.1	-1.0
L56A	Greenwood	49.21	3	P	P	11 26 31.5	-0.9
L56A				IAmb	IAmb	11 26 39.0	
	comp=Z,12nm,1.1s						
M66A	Nantucket	49.21	10	P	P	11 26 32.5	+0.2
	baz=194						
L58A	Harry Jones Me	49.23	5	P	P	11 26 32.1	-0.5
	baz=186						
M64A	Tiverton	49.31	9	P	P	11 26 33.0	-0.1
	baz=192						
T25A	Trinidad	49.42	335	P	P	11 26 34.0	-0.3
	baz=148,SNR=12						
T25A	Trinidad	49.42	335	P	P	11 26 34.4	+0.1
T25A				IAmb	IAmb	11 26 36.0	
	comp=Z,11nm,0.9s						
L59A	Walton	49.45	5	P	P	11 26 33.7	-0.5
L59A				IAmb	IAmb	11 26 36.7	
	comp=Z,9.6nm,0.8s						
L63A	North Scituate	49.55	9	P	P	11 26 34.4	-0.5
	baz=192						
214A	Organ Pipe Nat	49.59	324	P	P	11 26 34.7	-0.8
	baz=136						
L42A	Oliver, Polo	49.69	351	P	P	11 26 34.5	-1.5
L64A	Middleborough	49.75	10	P	P	11 26 35.6	-0.8
	baz=193						
K56A	Middlesex	49.78	3	P	P	11 26 35.9	-0.8
	baz=184						
K50A	Casco	49.80	358	P	P	11 26 35.1	-1.7
K57A	Scipio Center	49.87	4	P	P	11 26 35.9	-1.5
K57A				IAmb	IAmb	11 26 36.5	
	comp=Z,14nm,1.0s						
X18A	Snowflake	49.92	328	P	P	11 26 37.5	-0.7
L65A	Cape Cod Natio	49.98	10	P	P	11 26 37.3	-0.8
	baz=194						
L61B	Northampton	49.98	8	P	P	11 26 37.7	-0.4
	baz=190						
L40A	Anamosa	50.00	350	P	P	11 26 37.2	-1.2
K61A	Williamstown	50.12	7	P	P	11 26 39.2	-0.1
	baz=189						
TRY	Troy	50.13	7	P	P	11 26 39.2	-0.1
TRY				IAmb	IAmb	11 26 41.6	
	comp=Z,14nm,0.9s						
K43A	Burlington	50.19	353	P	P	11 26 38.4	-1.3
HRV	Adam Dziewonsk	50.19	9	P	P	11 26 39.9	+0.1
	baz=192						
K62A	Royalston	50.25	8	P	P	11 26 39.8	-0.4
	baz=191						
W18A	Petrified Fore	50.26	329	P	P	11 26 41.2	+0.5
	baz=141,SNR=10.0						
W18A	Petrified Fore	50.26	329	P	P	11 26 41.8	+1.0
J47A	Sunmer	50.37	356	P	P	11 26 39.8	-1.3
K63A	Dunstable	50.38	9	P	P	11 26 41.2	0.0
	baz=192						
K63A	Dunstable	50.38	9	P	P	11 26 40.1	-1.1
K63A				IAmb	IAmb	11 26 42.8	
	comp=Z,14nm,0.9s						
J56A	Wolcott	50.39	4	P	P	11 26 40.1	-1.1
J56A				IAmb	IAmb	11 26 41.9	
	comp=Z,12nm,1.1s						
SDCO	Great Sand Dun	50.39	334	P	P	11 26 41.7	-0.1
	baz=147,SNR=15						
J58A	Remsen	50.59	5	P	P	11 26 41.7	-1.1
	baz=187						
X16A	Lo Mia Camp, P	50.63	327	P	P	11 26 43.2	-0.3
JFWS	Jewell Farm	50.66	351	P	P	11 26 42.3	-1.1
	baz=168						
JFWS	Jewell Farm	50.66	351	P	P	11 26 42.5	-0.9
JFWS				IAmb	IAmb	11 26 43.2	
	comp=Z,11nm,0.9s						
J60A	Lant Hill Farm	50.67	7	P	P	11 26 43.0	-0.4
	baz=189						
ACCN	Adirondack Com	50.78	7	P	P	11 26 44.0	-0.2
ACCN				IAmb	IAmb	11 26 46.6	
	comp=Z,14nm,1.1s						
K38A	Parkersburg	50.85	348	P	P	11 26 44.0	-0.8
J62A	Henniker	50.86	8	P	P	11 26 44.2	-0.7
	baz=191						
J61A	Chester	50.88	8	P	P	11 26 44.5	-0.4
	baz=190						
I58A	Old Forge	50.94	5	P	P	11 26 44.9	-0.6
	baz=187						
S22A	4UR Ranch, Cre	50.98	333	P	P	11 26 45.9	-0.2
	baz=146						
J63A	Strafford	51.02	9	P	P	11 26 45.9	-0.1
	baz=192						
I57A	Carthage	51.13	5	P	P	11 26 46.2	-0.7
	baz=186						
I60A	Shoreham	51.27	7	P	P	11 26 47.6	-0.3
	baz=189						
Q24A	Divide	51.27	336	P	P	11 26 48.2	-0.2
	baz=148						
MVCO	Mesa Verde	51.31	331	P	P	11 26 48.4	-0.2
	baz=144						
MVCO	Mesa Verde	51.31	331	P	P	11 26 48.8	+0.1
WUAZ	Wupatki	51.42	328	P	P	11 26 49.9	+0.5
	baz=140,SNR=6.5						
WUAZ	Wupatki	51.42	328	P	P	11 26 49.5	+0.1
WUAZ				IAmb	IAmb	11 27 02.8	
	comp=Z,11nm,1.1s						
I42A	Draeger Farm,	51.43	352	P	P	11 26 47.9	-1.2
I42A				IAmb	IAmb	11 26 49.4	
	comp=Z,13nm,0.8s						
I61A	Oroboro, Fairl	51.50	8	P	P	11 26 49.6	0.0
	baz=190						
I62A	Tamworth	51.56	9	P	P	11 26 50.0	-0.1
	baz=192						
H57A	Richville	51.67	5	P	P	11 26 49.9	-1.0
	baz=186						
I40A	Norwalk	51.68	351	P	P	11 26 49.5	-1.4
I40A				IAmb	IAmb	11 26 50.9	
	comp=Z,14nm,0.8s						
LBNH	Lisbon	51.84	8	P	P	11 26 52.3	+0.1
	baz=191						
LBNH	Lisbon	51.84	8	P	P	11 26 52.7	+0.6
LBNH				IAmb	IAmb	11 27 19.5	
	comp=Z,16nm,1.3s						
I63A	Otisfield	51.85	9	P	P	11 26 52.4	+0.1
	baz=192						
H43A	Windswept, Lux	51.86	354	P	P	11 26 51.2	-1.1
I64A	Boothbay	51.88	10	P	P	11 26 52.6	+0.1
	baz=194						
LONY	Lake Ozonia	51.90	6	P	P	11 26 52.0	-0.6
	baz=188						
H59A	Cadyville	52.02	6	P	P	11 26 53.3	-0.2
	baz=189						
H60A	Morristown	52.05	7	P	P	11 26 53.6	-0.2
	baz=190						
PV01	Paradox Valley	52.08	332	P	P	11 26 54.8	+0.4
PV01				IAmb	IAmb	11 27 06.2	
	comp=Z,11nm,1.2s						
H61A	Lyndonville	52.13	8	P	P	11 26 54.2	-0.1
	baz=191						
ISCO	Idaho Springs	52.17	336	P	P	11 26 55.1	0.0
	baz=148,SNR=6.1						
ISCO	Idaho Springs	52.17	336	P	P	11 26 54.9	-0.3
PV15	Paradox Valley	52.21	332	P	P	11 26 55.1	-0.3
FRNY	Flat Rock	52.22	6	P	P	11 26 54.4	-0.6
FRNY				IAmb	IAmb	11 26 57.9	
	comp=Z,10nm,0.9s						
SMCO	Snowmass	52.22	334	P	P	11 26 55.3	-0.3
SMCO				IAmb	IAmb	11 27 06.7	
	comp=Z,14nm,1.5s						
H62A	Milan	52.27	9	P	P	11 26 55.3	-0.1
	baz=192						
H62A	Milan	52.27	9	P	P	11 26 55.1	-0.3
H62A				IAmb	IAmb	11 26 57.5	
	comp=Z,12nm,0.9s						
I37A	Lemond, Waseca	52.29	348	P	P	11 26 54.1	-1.4
I37A				IAmb	IAmb	11 26 55.5	
	comp=Z,12nm,0.9s						
PV18	Skein Mesa, Pa	52.33	332	P	P	11 26 55.7	-0.5
PV18				IAmb	IAmb	11 26 57.4	
	comp=Z,9.6nm,1.0s						
BC3	Big Chuckawall	52.36	323	P	P	11 26 54.7	-1.7
	baz=134						
G58A	Ormstown	52.48	6	P	P	11 26 55.5	-1.4
	baz=188						
W13A	Hualapai Mount	52.48	326	P	P	11 26 57.7	+0.3
W13A				IAmb	IAmb	11 27 11.2	
	comp=Z,9.2nm,1.1s						
WVL	Waterville	52.51	10	P	P	11 26 57.8	+0.8
WVL				IAmb	IAmb	11 26 58.5	
	comp=Z,21nm,1.1s						
H63A	New Sharon	52.54	10	P	P	11 26 57.7	+0.4
	baz=193						
U15A	North Rim	52.60	328	P	P	11 26 57.7	-0.7
G60A	Masonville	52.63	7	P	P	11 26 57.3	-0.7
	baz=190						
H64A	Troy	52.66	10	P	P	11 26 58.2	0.0
	baz=194						
ECSD	EROS Data Cent	52.75	346	P	P	11 26 58.4	-0.6
	baz=160,SNR=5.2						
ECSD	EROS Data Cent	52.75	346	P	P	11 26 57.8	-1.2
H65A	Eastbrook	52.89	11	P	P	11 26 59.3	-0.6
	baz=195						
G61A	St-Isidore-de-	52.92	8	P	P	11 26 59.6	-0.6
	baz=191,SNR=5.6						
BELC	Belle Mtn. Jos	52.93	323	P	P	11 27 00.5	-0.2
	baz=134						
TPFO	Pinon Flats	52.93	322	P	P	11 27 00.1	-0.5
	baz=133						
PFO	Pinyon Flats O	52.94	322	P	P	11 27 00.2	-0.5
	baz=133						
ALGO	Algonquin Park	53.00	2	P	P	11 27 00.3	-0.4
	baz=183						
G62A	West of Eustis	53.00	9	P	P	11 27 00.4	-0.4
	baz=192,SNR=13						
G62A	West of Eustis	53.00	9	P	P	11 27 00.3	-0.5
G63A	Kingsbury	53.05	10	P	P	11 27 00.4	-0.7
	baz=194,SNR=5.8						
H66A	Whiting	53.16	12	P	P	11 27 01.2	-0.7
	baz=196						
N23A	Red Feather La	53.23	336	P	P	11 27 02.9	-0.1
	baz=148						
PKME	Peaks-Kenny Pk	53.25	10	P	P	11 27 02.2	-0.3
	baz=194,SNR=7.9						
PKME	Peaks-Kenny Pk	53.25	10	P	P	11 27 02.6	0.0
GMRC	Granite Mounta	53.28	324	P	P	11 27 03.2	0.0
	baz=135						
KNB	Kanab	53.32	328	P	P	11 27 02.6	-0.9
G64A	Maxfield	53.33	10	P	P	11 27 03.9	+0.8
	baz=195						
SPMN	Marine on St.	53.34	349	P	P	11 27 02.9	-0.4
	baz=165						
SPMN	Marine on St.	53.34	349	P	P	11 27 01.7	-1.6
SPMN				IAmb	IAmb	11 27 03.1	
	comp=Z,13nm,0.8s						
PKCU	Pink Cliffs	53.38	329	P	P	11 27 04.1	0.0
PKCU				IAmb	IAmb	11 27 14.5	
	comp=Z,31nm,1.5s						
MURC	Murrieta	53.38	322	P	P	11 27 03.7	-0.2
	baz=132						
G65A	Princeton	53.51	11	P	P	11 27 03.9	-0.5
	baz=196,SNR=5.5						
G65A	Princeton	53.51	11	P	P	11 27 04.2	-0.2
G65A				IAmb	IAmb	11 27 05.8	
	comp=Z,19nm,0.9s						
F60A	Warwick	53.53	8	P	P	11 27 03.9	-0.7
	baz=191						
LCMT	Little Creek M	53.54	328	P	P	11 27 05.5	+0.4
O20A	White River Ci	53.56	334	P	P	11 27 04.7	-0.6
	baz=145,SNR=6.6						
O20A	White River Ci	53.56	334	P	P	11 27 04.5	-0.7
O20A				IAmb	IAmb	11 27 06.7	
	comp=Z,11nm,1.1s						
GGN	Saint George	53.57	12	P	P	11 27 04.6	-0.3
GGN				IAmb	IAmb	11 27 06.9	
	comp=Z,17nm,1.1s						
COWI	Conover	53.63	353	P	P	11 27 05.3	-0.1
F63A	Nahmakanta, Br	53.70	10	P	P	11 27 06.2	+0.3
	baz=194						
HEC	Hector,Ludlow	53.70	323	P	P	11 27 06.5	+0.3
	baz=134						
F62A	Pittston Farm,	53.75	9	P	P	11 27 05.9	-0.4
	baz=193						
F62A	Pittston Farm,	53.75	9	P	P	11 27 06.0	-0.2
MTPU	Mount Pierson	53.77	329	P	P	11 27 07.0	-0.1
E58A	La Victoria	53.77	6	P	P	11 27 06.0	-0.4
	baz=189						
SRU	San Rafael Swe	53.78	331	P	P	11 27 06.8	-0.1
SRU				IAmb	IAmb	11 27 19.1	
	comp=Z,12nm,1.0s						
TUQ	Turquoise Moun	53.89	324	P	P	11 27 08.1	+0.4
	baz=135						
SZCU	Shurtz Canyon	53.90	328	P	P	11 27 07.9	+0.1
E60A	Ste Agathe de	53.99	8	P	P	11 27 07.5	-0.5
	baz=191						
F64A	Sherman	53.99	11	P	P	11 27 07.8	-0.3
	baz=195,SNR=8.0						
F64A	Sherman	53.99	11	P	P	11 27 07.7	-0.3
F64A				IAmb	IAmb	11 27 09.4	
	comp=Z,19nm,0.9s						
CIS	Catalina Islan	54.01	321	P	P	11 27 07.6	-0.8
	baz=131						
CCUT	Cedar City	54.01	328	P	P	11 27 09.4	+0.8
SUSD	Miller	54.02	344	P	P	11 27 07.1	-1.2
	baz=157						
F36A	Milaca	54.09	349	P	P	11 27 07.3	-1.5
F36A				IAmb	IAmb	11 27 08.8	
	comp=Z,10.0nm,0.9s						
BFSC	Mount Baldy Ra	54.09	322	P	P	11 27 09.3	+0.2
	baz=132						
MSU	Marysvale	54.13	330	P	P	11 27 10.6	+1.2
FMP	Fort Macarthur	54.13	321	P	P	11 27 09.8	+0.6
	baz=132						
P17A	Butcher Ranch,	54.17	331	P	P	11 27 09.6	-0.1
P17A				IAmb	IAmb	11 27 11.1	
	comp=Z,14nm,1.0s						
E61A	Lac Etchemin	54.19	9	P	P	11 27 09.9	+0.4
	baz=192						
SHPR	Sheep Range	54.22	326	P	P	11 27 10.7	+0.6
SHPR				IAmb	IAmb	11 27 22.8	
	comp=Z,10nm,1.3s						
GSC	Goldstone, Bar	54.31	324	P	P	11 27 10.8	+0.1
	baz=134						
TCRU	Three Creeks R	54.34	329	P	P	11 27 11.4	+0.4
TCRU				IAmb	IAmb	11 27 24.6	
	comp=Z,7.3nm,0.9s						
RWWY	Rawlins	54.42	336	P	P	11 27 11.4	-0.1
RWWY				IAmb	IAmb	11 27 13.0	
	comp=Z,17nm,0.9s						
RKT	Rikitea	54.43	247	*e*T	T	12 25 31.9	
	comp=Z,10nm,0.3s						
E38A	The Farm, Brul	54.47	351	P	P	11 27 09.8	-1.7
E38A				IAmb	IAmb	11 27 12.6	
	comp=Z,12nm,1.1s						
RDMU	Red Mountain	54.51	333	P	P	11 27 12.2	0.0
E63A	Oxbow	54.52	10	P	P	11 27 11.6	-0.3
	baz=195,SNR=13						
E63A	Oxbow	54.52	10	P	P	11 27 11.5	-0.3
E62A	Clayton Lake	54.52	9	P	P	11 27 11.9	-0.1
	baz=193,SNR=25						
E62A	Clayton Lake	54.52	9	P	P	11 27 11.8	-0.1
D58A	Chemin du LacG	54.53	7	P	P	11 27 11.5	-0.4
	baz=189						
D60A	Saint Jean D'O	54.60	8	P	P	11 27 12.0	-0.4
	baz=192						
SNCC	San Nicolas Is	54.61	320	P	P	11 27 12.0	-0.8
	baz=130						
E64A	Bridgewater	54.62	11	P	P	11 27 12.1	-0.5
	baz=196,SNR=5.8						
F33A	5 Mile Ranch,	54.65	347	P	P	11 27 11.6	-1.2
F33A				IAmb	IAmb	11 27 22.2	
	comp=Z,18nm,1.5s						
LMN	Caledonia Moun	54.72	14	P	P	11 27 12.9	-0.4
LMN				IAmb	IAmb	11 27 14.3	
	comp=Z,17nm,0.9s						
EDW2	Edwards Air Fo	54.73	322	P	P	11 27 13.4	-0.3
	baz=132						
LATQ	La Tuque	54.82	7	P	P	11 27 13.8	-0.3
	baz=189						
LATQ	La Tuque	54.82	7	P	P	11 27 13.2	-0.9
PQI	Presque Isle	54.83	11	P	P	11 27 13.4	-0.7
PQI				IAmb	IAmb	11 27 15.3	
	comp=Z,19nm,1.0s						
LRMC	Laurel Mtn Rad	54.95	323	P	P	11 27 15.0	-0.4
	baz=133						
K22A	Casper	54.95	337	P	P	11 27 15.0	-0.3
	baz=148,SNR=6.2						
K22A	Casper	54.95	337	P	P	11 27 15.0	-0.3
K22A				IAmb	IAmb	11 27 27.4	
	comp=Z,10.0nm,0.9s						
D61A	St Aubert, Com	54.99	9	P	P	11 27 14.4	-0.8
	baz=192,SNR=16						
PSUT	Pine Spring	55.00	328	P	P	11 27 16.1	+0.3
MPU	Maple Canyon	55.02	331	P	P	11 27 16.5	+0.6
D62A	Allapoint, All	55.05	10	P	P	11 27 15.4	-0.3
	baz=194,SNR=29						
D62A	Allapoint, All	55.05	10	P	P	11 27 15.4	-0.3
TPNV	Topopah Spring	55.14	325	P	P	11 27 16.9	+0.1
	baz=135						
TPNV	Topopah Spring	55.14	325	P	P	11 27 17.7	+0.9
FURC	Furnace Creek,	55.15	325	P	P	11 27 16.6	0.0
	baz=134						
D63A	Stockholm	55.17	10	P	P	11 27 16.1	-0.5
	baz=195,SNR=6.4						
NLU	North Lily Min	55.19	331	P	P	11 27 17.0	-0.1
MPMC	Manual Prospec	55.23	324	P	P	11 27 17.3	-0.2
	baz=134						
RSSD	Black Hills	55.31	340	P	P	11 27 17.7	-0.2
	baz=151						
RSSD	Black Hills	55.31	340	P	P	11 27 18.1	+0.2
RSSD				IAmb	IAmb	11 27 29.4	
	comp=Z,15nm,1.4s						
JLU	Jordanelle	55.40	332	P	P	11 27 18.9	+0.3
JLU				IAmb	IAmb	11 27 20.3	
	comp=Z,14nm,1.1s						
SPR3	Spring Creek 3	55.59	328	P	P	11 27 20.4	+0.2
CTU	Camp Tracy	55.61	332	P	P	11 27 20.4	+0.4
CTU				IAmb	IAmb	11 27 31.2	
	comp=Z,14nm,1.2s						
DUG	Dugway, Tooele	55.73	330	P	P	11 27 21.4	+0.4
	baz=140,SNR=9.4						
DUG	Dugway, Tooele	55.73	330	P	P	11 27 21.2	+0.2
DUG				IAmb	IAmb	11 27 22.8	
	comp=Z,8.7nm,0.9s						
EYMN	Ely	55.77	351	P	P	11 27 19.8	-1.0
	baz=167						
EYMN	Ely	55.77	351	P	P	11 27 19.8	-1.0
EYMN				IAmb	IAmb	11 27 20.3	
	comp=Z,17nm,1.2s						
R11A	Troy Canyon, C	55.78	327	P	P	11 27 21.1	-0.2
	baz=136,SNR=5.0						
R11A	Troy Canyon, C	55.78	327	P	P	11 27 21.1	-0.2
CWC	Cottonwood Cre	55.84	324	P	P	11 27 21.9	0.0
	baz=133						
HWUT	Hardware Ranch	56.24	332	P	P	11 27 24.1	-0.5
BW06	Boulder Array	56.29	335	P	P	11 27 24.0	-1.0
	baz=145,SNR=5.7						
BW06	Boulder Array	56.29	335	P	P	11 27 24.2	-0.8
PD31	Pinedale Array	56.29	335	P	P	11 27 24.4	-0.6
PDAR	Pinedale Array	56.29	335	P	P	11 27 24.7	-0.3
	comp=Z,3.9nm,0.8s,baz=134,slow=8.5,SNR=31						
PDAR				PcP	PcP	11 28 21.6	-0.6
	comp=Z,1.7nm,0.7s,baz=140,slow=5.2,SNR=4.8						
PDAR				LR	LR	11 51 01.0	
	comp=Z,127nm,20.9s,baz=160,slow=36						
PDAR	Pinedale Array	56.29	335	P	P	11 27 24.0	-1.0
BGU	Big Grassy Mou	56.40	331	P	P	11 27 26.3	+0.6
TPH	Tonopah	56.48	326	P	P	11 27 26.6	+0.2
TPH				IAmb	IAmb	11 27 28.0	
	comp=Z,15nm,0.9s						
B35A	Bob, Littlefor	56.54	350	P	P	11 27 25.4	-0.9
B35A				IAmb	IAmb	11 27 26.5	
	comp=Z,11nm,0.8s						
MATQ	Matagami	56.81	2	P	P	11 27 26.8	-1.4
	baz=183						
AGMN	Agassiz Nation	56.89	348	P	P	11 27 28.1	-0.8
	baz=162,SNR=14						
AGMN	Agassiz Nation	56.89	348	P	P	11 27 27.8	-1.0
AHID	Auburn Hatcher	56.95	334	P	P	11 27 28.9	-0.8
AHID				IAmb	IAmb	11 27 39.9	
	comp=Z,6.9nm,0.8s						
CHGQ	Chibougamau	57.17	5	P	P	11 27 29.7	-1.1
	baz=187						
MDPB	Devils Postpil	57.24	324	P	P	11 27 32.7	+0.8
NV11	Mina Array Sit	57.26	325	P	P	11 27 32.3	+0.4
ECR	Eagle Creek	57.30	334	P	P	11 27 32.0	-0.2
REDW	Red Top Meadow	57.32	334	P	P	11 27 32.2	-0.1
REDW				IAmb	IAmb	11 27 47.4	
	comp=Z,18nm,1.4s						
LHV	Little Huntoon	57.33	325	P	P	11 27 32.6	+0.5
MDND	Maddock	57.34	345	P	P	11 27 31.9	-0.1
	baz=157						
MDND	Maddock	57.34	345	P	P	11 27 31.7	-0.4
NVAR	Mina Array Bea	57.34	325	P	P	11 27 32.7	+0.2
	comp=Z,2.6nm,0.9s,baz=146,slow=7.1,SNR=18						
NVAR				PcP	PcP	11 28 26.9	+0.5
	comp=Z,1.8nm,0.8s,baz=133,slow=4.7,SNR=4.9						
NVAR				LR	LR	11 51 19.7	
	comp=Z,142nm,18.1s,baz=132,slow=35						
NVAR	Mina Array Bea	57.34	325	P	P	11 27 32.9	+0.4
ELK	Elko	57.36	329	P	P	11 27 32.5	-0.1
ELK				IAmb	IAmb	11 27 34.1	
	comp=Z,8.8nm,0.9s						
LOHW	Long Hollow	57.42	335	P	P	11 27 32.9	-0.1
TPAW	Teton Pass	57.47	334	P	P	11 27 33.2	-0.2
TPAW				IAmb	IAmb	11 27 49.3	
	comp=Z,15nm,1.4s						
RYN	Ryan	57.60	325	P	P	11 27 34.0	-0.3
KVN	Kaiserville	57.66	326	P	P	11 27 34.7	0.0
FLWY	Flagg Ranch	57.84	335	P	P	11 27 35.8	-0.1
FLWY				IAmb	IAmb	11 27 48.3	
	comp=Z,9.3nm,1.1s						
WAKR	Walker	58.04	325	P	P	11 27 38.1	+0.7
H17A	Grant Village	58.04	335	P	P	11 27 37.5	+0.1
	baz=144						
RLMT	Red Lodge	58.10	336	P	P	11 27 37.6	-0.1
	baz=146						
RLMT	Red Lodge	58.10	336	P	P	11 27 36.8	-1.0
YERR	Yerington	58.25	325	P	P	11 27 39.5	+0.6
LAO	LASA Array	58.30	340	P	P	11 27 38.5	-0.4
	baz=150						
YHH	Holmes Hill	58.47	335	P	P	11 27 40.7	+0.2
PNTR	Pine Nut	58.53	325	P	P	11 27 41.2	+0.3
PNTR				IAmb	IAmb	11 27 54.6	
	comp=Z,7.1nm,1.0s						
YHB	Horse Butte	58.59	335	P	P	11 27 42.3	+1.2
YHB				IAmb	IAmb	11 27 45.4	
	comp=Z,9.5nm,0.9s						
PMSA	Palmer Station	58.64	172	P	P	11 27 42.2	+1.3
PMSA	Palmer Station	58.64	172	*e*P	P	11 27 42.7	+1.8
VCNR	Virginia City	58.70	325	P	P	11 27 43.0	+1.0
ULM	Lac du Bonnet	58.75	349	P	P	11 27 41.2	-0.6
	comp=Z,11nm,0.8s,baz=168,slow=7.2,SNR=11						
ULM	Lac du Bonnet	58.75	349	P	P	11 27 40.3	-1.6
ULM				IAmb	IAmb	11 27 41.8	
	comp=Z,12nm,0.8s						
GCMT	Greycliff	58.82	337	P	P	11 27 41.6	-1.0
PAHR	Pah Rah Range	58.83	326	P	P	11 27 43.5	+0.7
TAOE	Nuku Hiva Isla	58.87	264	*e*LR	LR	11 45 10.2

comp=Z,11nm,1.1s
HRY Holter Researc 60.43 336 P P 11 27 53.3 -0.4
O03E Paynes Creek 60.60 325 P P 11 27 54.7 -0.2
baz=131
EGMT Eagleton 60.70 338 P P 11 27 55.3 -0.2
baz=146
EGMT Eagleton 60.70 338 P P 11 27 54.7 -0.8
EGMT IAmb IAmb 11 28 06.0
comp=Z,5.9nm,0.9s
MOD Modoc Plateau 60.85 327 P P 11 27 56.9 +0.2
MOD IAmb IAmb 11 27 58.5
comp=Z,14nm,0.9s
J08A Circle Bar Ran 60.91 329 P P 11 27 57.1 +0.1
O02D Mt. Diablo Mer 61.09 324 P P 11 27 58.1 -0.1
baz=130
MSO Missoula 61.41 335 P P 11 28 00.8 +0.5
baz=142,SNR=12
MSO Missoula 61.41 335 P P 11 28 00.3 0.0
MSO IAmb IAmb 11 28 01.8
comp=Z,12nm,1.0s
BMO Blue Mountains 61.42 331 P P 11 27 59.9 -0.6
M04C Macdoel 61.61 326 P P 11 28 01.9 +0.1
baz=132,SNR=6.6
K05A Summer Lake 61.73 327 P P 11 28 03.1 +0.4
M02C Callahan 61.92 325 P P 11 28 03.4 -0.4
baz=131
I07A Izee 61.95 329 P P 11 28 04.3 +0.3
I07A IAmb IAmb 11 28 07.3
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 62.06 325 P P 11 28 04.0 -0.8
YBH IAmb IAmb 11 28 05.8
comp=Z,7.0nm,1.1s
L04D Klamath Falls 62.16 326 P P 11 28 05.7 +0.2
baz=132
F10A Beach Ranch, E 62.22 332 P P 11 28 05.8 +0.1
F10A IAmb IAmb 11 28 08.9
comp=Z,17nm,1.1s
J05D Fort Rock, OR 62.30 328 P P 11 28 06.8 +0.4
baz=133,SNR=8.7
PINE Pine Mountain 62.49 328 P P 11 28 07.9 +0.2
PINE IAmb IAmb 11 28 11.2
comp=Z,8.6nm,0.8s
G08A Pilot Rock 62.54 330 P P 11 28 08.1 +0.1
J04D Umpqua Nationa 62.73 327 P P 11 28 09.5 +0.1
baz=132,SNR=6.1
L02E Cave Junction 62.84 325 P P 11 28 10.2 +0.3
baz=130
SCHQ Schefferville 62.91 9 P P 11 28 09.6 -0.5
comp=Z,12nm,0.8s,baz=169,slow=2.4,SNR=15
SCHQ LR LR 11 54 11.8
comp=Z,101nm,21.5s,baz=213,slow=35
SCHQ Schefferville 62.91 9 P P 11 28 08.9 -1.2
SCHQ IAmb IAmb 11 28 10.9
comp=Z,13nm,0.9s
E09A Wood Farm, Sta 63.05 332 P P 11 28 10.9 -0.2
E09A IAmb IAmb 11 28 13.1
comp=Z,13nm,1.0s
I05D Terrebonne, OR 63.07 328 P P 11 28 12.1 +0.7
baz=133,SNR=6.0
WALA Waterton Lakes 63.15 336 P P 11 28 11.6 -0.4
WALA IAmb IAmb 11 28 13.3
comp=Z,7.9nm,0.8s
K02D Willamette Mer 63.23 326 P P 11 28 13.4 +0.8
baz=131,SNR=5.6
I04A Tendick Farm, 63.27 327 P P 11 28 12.4 -0.4
baz=132
F07A Phinny Hill Vi 63.45 330 P P 11 28 14.1 +0.2
F07A IAmb IAmb 11 28 16.4
comp=Z,17nm,1.1s
J01E Myrtle Point 63.68 326 P P 11 28 15.8 +0.4
baz=131
G05D Wamic, OR 63.69 329 P P 11 28 16.9 +1.4
baz=134
I03D Drain, OR 63.71 327 P P 11 28 16.2 +0.6
baz=131
H04A Detroit Lake 63.75 328 P P 11 28 15.9 -0.1
H04A IAmb IAmb 11 28 17.3
comp=Z,14nm,1.0s
NEW Newport 63.89 334 P P 11 28 16.6 -0.1
baz=139,SNR=5.9
NEW Newport 63.89 334 P P 11 28 16.7 -0.1
NEW IAmb IAmb 11 28 17.9
comp=Z,5.7nm,0.9s
E07A Sunnyside 63.89 331 P P 11 28 17.8 +1.0
H04D Lebanon 63.93 328 P P 11 28 16.8 -0.3
baz=132
F05D White Salmon 64.20 330 P P 11 28 19.6 +0.7
baz=134
I02D Swisshome 64.25 327 P P 11 28 20.1 +1.0
baz=131
G03D McMinnville, O 64.67 328 P P 11 28 22.6 +0.7
baz=132
B08A Colville Reser 64.95 333 P P 11 28 23.4 -0.3
LON Longmire 64.98 330 P P 11 28 23.7 -0.3
E04D Cinebar 65.22 329 P P 11 28 26.2 +0.8
baz=133
D05A Enumclaw 65.37 330 P P 11 28 26.6 +0.2
D05A IAmb IAmb 11 28 28.2
comp=Z,15nm,0.9s
D03D Eldon 66.15 330 P P 11 28 31.4 0.0
baz=133
B05A Bryant 66.17 331 P P 11 28 31.2 -0.3
baz=134,SNR=5.8
NLWA Neilton Lookou 66.45 330 P P 11 28 34.6 +1.2
A05A Maple Falls 66.68 332 P P 11 28 34.6 -0.2
A05A IAmb IAmb 11 28 36.0
comp=Z,13nm,0.9s
A04D Lummi Island 66.78 331 P P 11 28 35.3 -0.1
baz=134
TBI Tubuai 67.72 248 *e*S **S 11 37 38.3 +0.2**
comp=Z,103nm,25.5s
TBI Tubuai 67.72 248 *e*LR LR 11 49 19.7
comp=Z,342nm,26.0s,baz=84
TBI Tubuai 67.72 248 *e*T T 12 42 13.9
comp=Z,16nm,0.3s
PPT Papeete 67.79 254 LR LR 11 50 31.4
comp=Z,328nm,18.1s,baz=121,slow=29
PPT2 Papeete2 67.79 254 *e*S **S 11 37 40.5 +1.3**
comp=Z,147nm,24.2s
PPT2 Papeete2 67.79 254 *e*LR LR 11 49 18.8
comp=Z,463nm,23.5s,baz=86
MACI Morro de la Ar 71.18 57 P P 11 29 01.7 -1.7
PMOZ Porto Moniz, M 72.20 52 *e*LR LR 11 54 43.0
comp=Z,186nm,20.0s
YKA Yellowknife Ar 74.25 344 P P 11 29 19.8 -0.9
comp=Z,2.9nm,0.8s,baz=139,slow=6.2,SNR=6.7
YKA LR LR 12 03 59.2
comp=Z,140nm,18.5s,baz=0.0,slow=37
WRAK Wrangell Islan 76.24 333 P P 11 29 32.7 +0.4
baz=127
DLBC Dease Lake 76.50 336 P P 11 29 34.2 +0.4
DLBC IAmb IAmb 11 29 35.7
comp=Z,9.3nm,0.8s
LIC Lamto 76.63 82 *e*P **P 11 29 35.8 +0.4**
comp=Z,49nm,1.2s
TIC Toumodi 76.70 81 *e*P **P 11 29 37.3 +1.4**
DBIC Dimbokro 76.87 81 P **P 11 29 36.5 -0.3**
KIC Kosan Boka 76.93 82 *e*P **P 11 29 38.7 +1.6**
comp=Z,42nm,0.9s
VNA3 Neumayer Olymp 77.12 162 P **P 11 29 37.7 +0.6**
VNA1 Neumayer--Stat 77.42 161 P **P 11 29 39.7 +1.0**
DY2G Dye2 77.64 13⇑ *i*P **P 11 29 39.8 -0.5**
DY2G IAmb IAmb 11 29 40.6
comp=Z,37nm,1.0s
SIT Sitka 77.95 333 P P 11 29 42.2 +0.4
baz=124
KOWA Kowa 79.00 74 P P 11 29 49.0 +0.4
SKAG Skagway 79.31 335 P P 11 29 49.4 +0.1
baz=124
SNAA Sanae 79.35 162 P P 11 29 49.8 +0.3
SNAA Sanae 79.35 162 P P 11 29 49.2 -0.3
SNAA IAmb IAmb 11 29 51.0
comp=Z,17nm,0.9s
WHY Whitehorse 79.81 336 P P 11 29 52.5 +0.3
baz=125
MORF Marmelete 80.28 50 *e*P **P 11 29 54.6 -0.5**
MORF IAmb IAmb 11 29 58.0
comp=Z,16nm,1.0s
MORF Marmelete 80.28 50 *e*P **P 11 29 57.1 +1.9**
MESJ Messejana 80.76 50 *e*P **P 11 29 57.0 -0.6**
MESJ IAmb IAmb 11 29 59.0
comp=Z,7.4nm,0.9s
PCVE Castro Verde 80.84 50 *e*P **P 11 29 59.8 +1.7**
PVAQ Vaqueiros 81.02 50 *e*LR LR 11 56 14.8
comp=Z,187nm,18.0s
PMTG Montargil 81.11 49 *e*P **P 11 30 00.2 +0.7**
PCAS Casmilo, Conde 81.19 48 *e*P **P 11 30 03.7 +3.7**
ICESG Greenland Ices 81.25 14⇑ *i*P **P 11 29 59.4 -0.6**
ICESG IAmb IAmb 11 30 00.2
comp=Z,18nm,0.9s
PINM Pinnacle 81.75 334 P P 11 30 02.5 0.0
baz=120
PVIS Viseu 81.83 47 *e*P **P 11 30 04.0 +0.6**
PMRV Marv??o 81.83 49 *e*LR LR 11 58 43.9
comp=Z,153nm,18.0s
PGAV Gavieira, Arco 81.92 46 *e*LR LR 11 58 57.2
comp=Z,203nm,18.0s
MTE Manteigas 81.99 48 *e*LR LR 11 57 24.1
comp=Z,125nm,18.0s
MDT Midelt 82.31 56 P P 11 30 06.9 +0.8
comp=Z,8.2nm,1.0s,baz=264,slow=4.5,SNR=10
MVO Moncorvo 82.58 47 *e*P **P 11 30 07.5 +0.2**
MVO Moncorvo 82.58 47 *e*LR LR 11 58 16.0
comp=Z,115nm,18.0s
BARN Barnard Glacie 82.84 335 P P 11 30 07.8 -0.5
BARN IAmb IAmb 11 30 09.9
comp=Z,6.2nm,0.9s
KULLO Kullorsuaq 82.93 6 *i*P **P 11 30 08.2 -0.1**
KULLO IAmb IAmb 11 30 09.1
comp=Z,18nm,1.0s
PBRG Braganca 82.97 46 *e*P **P 11 30 10.4 +1.1**
DAWY Dawson 83.44 338 P P 11 30 10.6 -0.6
MCARA McCarthy VSAT 83.57 335 P P 11 30 11.1 -0.8
baz=118
HMT Hamilton 83.63 333 P P 11 30 12.5 +0.3
HMT IAmb IAmb 11 30 26.8
comp=Z,14nm,0.9s
VRDI Verde Repeater 83.68 334 P P 11 30 11.9 -0.8
VRDI IAmb IAmb 11 30 13.9
comp=Z,10nm,1.0s
EPYK Eagle Plains 83.75 340 P P 11 30 12.4 -0.3
baz=124,SNR=5.9
EPYK Eagle Plains 83.75 340 P P 11 30 12.8 0.0
EPYK IAmb IAmb 11 30 28.1
comp=Z,22nm,1.4s
BCAR Beaver Creek A 83.86 336 P P 11 30 13.8 +0.3
INK Inuvik 83.88 343 P P 11 30 13.3 0.0
comp=Z,8.3nm,1.0s,baz=122,slow=6.2,SNR=10
INK Inuvik 83.88 343 P P 11 30 13.3 0.0
baz=127,SNR=8.0
INK Inuvik 83.88 343 P P 11 30 13.1 -0.2
INK IAmb IAmb 11 30 24.1
comp=Z,14nm,1.1s
L27K Beaver Creek, 83.88 336 P P 11 30 13.2 -0.3
baz=119,SNR=12
L27K Beaver Creek, 83.88 336 P P 11 30 13.0 -0.5
L27K IAmb IAmb 11 30 14.9
comp=Z,8.0nm,0.9s
TULEG Thule 83.92 3 P P 11 30 11.7 -1.6
BMRM Bremner River 84.06 334 P P 11 30 14.3 -0.2
baz=116
BMRM Bremner River 84.06 334 P P 11 30 14.6 +0.1
BMRM IAmb IAmb 11 30 15.8
comp=Z,8.7nm,1.2s
PAB San Pablo 84.14 49 P P 11 30 14.7 -0.7
PAB IAmb IAmb 11 30 17.2
comp=Z,14nm,1.1s
SUMG Summit 84.14 12 *e*P **P 11 30 15.8 +0.8**
SUMG IAmb IAmb 11 30 17.1
comp=Z,19nm,0.9s
SUMG Summit 84.14 12 P P 11 30 15.0 0.0
TOA0 Torodi Ar. Sit 84.25 76 P P 11 30 15.0 -1.3
TOA0 IAmb IAmb 11 30 16.9
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 84.25 76 P P 11 30 16.2 -0.2
comp=Z,6.6nm,0.8s,baz=292,slow=6.0,SNR=35
TORD LR LR 12 06 32.8
comp=Z,593nm,20.3s,baz=245,slow=35
TORD Torodi Ar. Bea 84.25 76 P P 11 30 14.8 -1.6
TORD IAmb IAmb 11 30 16.9
comp=Z,8.5nm,1.0s
N25K Chitina, Valde 84.34 334 P P 11 30 15.5 -0.5
baz=116
EYAK Cordova Ski Ar 84.39 333 P P 11 30 16.6 +0.6
baz=115
K27K Chicken 84.45 337 P P 11 30 16.6 +0.4
baz=119
K27K Chicken 84.45 337 P P 11 30 16.3 0.0
K27K IAmb IAmb 11 30 27.9
comp=Z,9.4nm,1.0s
ESDC Sonseca Array 84.46 49 P P 11 30 17.3 +0.3
comp=Z,7.6nm,0.9s,baz=271,slow=5.6,SNR=31
ESDC LR LR 12 08 07.6
comp=Z,176nm,18.1s,baz=270,slow=36
ESDC Sonseca Array 84.46 49 P P 11 30 17.1 +0.1
ESDC IAmb IAmb 11 30 19.0
comp=Z,14nm,1.1s
ESBB Sonseca Array 84.46 49 P P 11 30 16.8 -0.2
ESBB IAmb IAmb 11 30 18.9
comp=Z,13nm,1.1s
EGAK Eagle 84.47 338 P P 11 30 15.8 -0.5
baz=120,SNR=12
EGAK Eagle 84.47 338 P P 11 30 15.5 -0.8
FID Port Fidalgo 84.80 333 P P 11 30 17.9 -0.3
FID IAmb IAmb 11 30 19.8
comp=Z,6.5nm,0.9s
KLU Klutina 84.87 334 P P 11 30 17.8 -0.7
baz=115,SNR=6.8
KLU Klutina 84.87 334 P P 11 30 18.4 -0.1
KLU IAmb IAmb 11 30 20.6
comp=Z,10nm,1.0s
GLI Glacier Island 85.13 333 P P 11 30 19.6 -0.2
baz=114
SCRK Sand Creek 85.17 337 P P 11 30 19.8 -0.3
baz=117
M24K Tolsona, Glenn 85.24 335 P P 11 30 20.1 -0.3
baz=115
PAX Paxson 85.31 335 P P 11 30 20.5 -0.3
baz=116
SEW Seward 85.89 332 P P 11 30 23.3 -0.3
baz=112
KNK Knik Glacier 85.95 333 P P 11 30 23.6 -0.2
baz=113
SML Sawmill 86.04 334 P P 11 30 24.5 +0.1
baz=113
SML Sawmill 86.04 334 P P 11 30 23.5 -0.9
SML IAmb IAmb 11 30 25.1
comp=Z,9.2nm,0.8s
WAT6 Susitna Watana 86.10 335 P P 11 30 24.3 -0.5
baz=114,SNR=7.0
NEEM North Greenlan 86.18 6⇑ *i*P **P 11 30 25.3 +0.3**
NEEM IAmb IAmb 11 30 26.4
comp=Z,22nm,0.9s
GHO Glory Hole Cre 86.29 334 P P 11 30 24.9 -0.7
GHO IAmb IAmb 11 30 46.9
comp=Z,9.1nm,1.0s
BRSE Bradley Lake S 86.37 332 P P 11 30 25.9 -0.1
baz=111
RC01 Rabbit Creek A 86.39 333 P P 11 30 26.2 +0.1
baz=112
PRP Porcupine Dome 86.45 338 P P 11 30 26.5 +0.1
baz=116
HDA Harding Lake 86.52 337 P P 11 30 26.5 -0.1
baz=114
WAT1 Susitna Watana 86.54 335 P P 11 30 26.6 -0.2
baz=113
KDAK Kodiak Island 86.60 329 P P 11 30 26.7 -0.4
baz=109
IL31 86.65 337 P P 11 30 26.9 -0.2
IL31 IAmb IAmb 11 30 27.8
comp=Z,5.8nm,1.0s
ILAR Eielson Array 86.65 337 P P 11 30 26.9 -0.3
comp=Z,3.0nm,0.9s,baz=150,slow=3.6,SNR=28
ILAR PP **PP 11 33 51.5 +1.9**
comp=Z,0.8nm,0.9s,baz=113,slow=6.9,SNR=4.8
HOM Homer 86.77 331 P P 11 30 28.0 +0.1
baz=110
FYU Fort Yukon 86.80 339 P P 11 30 27.2 -0.7
RND Reindeer 86.89 335 P P 11 30 28.7 +0.1
CCB Clear Creek Bu 86.96 337 P P 11 30 28.3 -0.4
CCB IAmb IAmb 11 30 39.7
comp=Z,7.0nm,1.2s
SUA Susitna One 86.98 333 P P 11 30 29.7 +0.6
baz=111
WRH Wood River Hil 87.00 336 P P 11 30 28.0 -1.0
WRH IAmb IAmb 11 30 29.9
comp=Z,5.7nm,0.9s
POKR Poker Flat Res 87.00 337 P P 11 30 29.3 +0.3
baz=114
MCK McKinley 87.05 336 P P 11 30 29.4 +0.2
baz=112
MCK McKinley 87.05 336 P P 11 30 29.6 +0.4
MCK IAmb IAmb 11 30 30.6
comp=Z,6.1nm,0.9s
COLA College 87.07 337 P P 11 30 29.5 +0.3
baz=114
TCOL CIGO, UAF Yank 87.07 337 P P 11 30 29.5 +0.3
baz=114
CUT Chulitna 87.11 334 P P 11 30 28.9 -0.6
baz=111
MDM Murphy Dome 87.25 337 P P 11 30 29.7 -0.5
O20K Slope Mountain 87.37 332 P P 11 30 30.7 -0.3
baz=109
BWN Browne 87.44 336 P P 11 30 30.5 -0.5
NEA2 Nenana 87.44 336 P P 11 30 30.5 -0.6
baz=112,SNR=16
NEA2 Nenana 87.44 336 P P 11 30 30.4 -0.6
H24K Noodor Dome 87.47 338 P P 11 30 31.2 -0.1
baz=114,SNR=14
TRF Thorofare Moun 87.51 335 P P 11 30 31.3 -0.4
baz=111
TRF Thorofare Moun 87.51 335 P P 11 30 31.2 -0.4
TRF IAmb IAmb 11 30 42.0
comp=Z,9.0nm,0.8s
SKT Skwentna 87.52 333 P P 11 30 31.2 -0.3
baz=110,SNR=9.7
P19K Oil Pt 87.53 331 P P 11 30 31.4 -0.3
baz=108
SPCR Spurr Chakacha 87.56 333 P P 11 30 31.9 +0.1
baz=110
RSO Redoubt South 87.56 332 P P 11 30 31.3 -0.7
I23K Minto, Yukon-K 87.77 337 P P 11 30 32.4 -0.2
baz=112,SNR=10
I23K Minto, Yukon-K 87.77 337 P P 11 30 32.4 -0.2
KTH Kantishna Hill 87.81 335 P P 11 30 32.6 -0.3
BPAW Bear Paw Mtn. 88.03 336 P P 11 30 33.4 -0.6
baz=111,SNR=13
BPAW Bear Paw Mtn. 88.03 336 P P 11 30 33.2 -0.8
H23K Yukon River 88.09 337 P P 11 30 34.0 -0.2
baz=112
PPLA Purkeypile 88.12 334 P P 11 30 33.8 -0.7
baz=110
PPLA Purkeypile 88.12 334 P P 11 30 33.9 -0.7
M20K Styx River 88.20 333 P P 11 30 34.5 -0.3
baz=109
O19K Port Alsworth 88.22 331 P P 11 30 34.6 -0.2
baz=108
MLY Manley 88.27 336 P P 11 30 34.7 -0.3
baz=111,SNR=24
MLY Manley 88.27 336 P P 11 30 35.0 -0.1
N19K Bonanza Creek 88.48 332 P P 11 30 35.5 -0.7
baz=108
CHUM Lake Minchumin 88.50 335 P P 11 30 35.7 -0.4
baz=110
VNDA Vanda 88.71 191 P P 11 30 37.9 +0.9
comp=Z,1.6nm,0.9s,baz=134,slow=4.2,SNR=6.3
M19K Big River Lodg 88.77 333 P P 11 30 37.0 -0.5
baz=108
I21K Tanana 88.81 336 P P 11 30 37.5 0.0
baz=110,SNR=5.2
EKA Eskdalemuir Ar 88.85 34 P P 11 30 38.0 +0.1
comp=Z,7.8nm,0.9s,baz=248,slow=3.5,SNR=9.0
COLD Coldfoot 88.86 339 P P 11 30 37.6 -0.2
baz=112,SNR=13
COLD Coldfoot 88.86 339 P P 11 30 38.0 +0.3
L19K White Mountain 89.06 333 P P 11 30 38.5 -0.4
baz=107
N18K Kilae Creek 89.10 332 P P 11 30 38.9 -0.2
baz=106
TOLK Toolik Lake Re 89.17 340 P P 11 30 38.8 -0.5
baz=112,SNR=9.9
TOLK Toolik Lake Re 89.17 340 P P 11 30 38.8 -0.5
H21K Melozitna Rive 89.30 337 P P 11 30 39.1 -0.8
baz=109,SNR=7.0
TTA Tatalina 89.79 334 P P 11 30 41.2 -1.1
baz=106
DAG Danmarks Havn 90.83 12⇑ *i*P **P 11 30 46.5 -0.3**
DAG IAmb IAmb 11 30 47.4
comp=Z,11nm,1.0s
A21K Barrow 92.34 342 P P 11 30 54.4 +0.6
baz=105
KEST Kesra 94.18 55 P P 11 31 03.5 +0.2
comp=Z,2.8nm,0.9s,baz=356,slow=4.0,SNR=4.2
KEST Kesra 94.18 55 P P 11 31 02.6 -0.7
KEST IAmb IAmb 11 31 05.9
comp=Z,5.1nm,1.1s
TSUM Tsumeb 95.37 110 P P 11 31 09.0 -0.2
SPIA Saint Paul Isl 95.79 327 P P 11 31 09.1 -0.9
baz=94
NOA NORSAR Array B 97.19 29 LR LR 12 11 15.0
comp=Z,66nm,21.6s,baz=270,slow=33
CLL Collm 97.89 39 *e*SS SS 11 49 30.0 +4.4
CLL *e*SSS SSS 11 53 17.0
CLL LmV 12 13 00.0
comp=Z,100nm,19.6s
DZM Mont Dzumac 108.14 244 *e*LR LR 12 08 01.7
comp=Z,226nm,29.2s
H11N3 WAKE ISLAND Hyl 13.48 288 T T 13 39 29.0
baz=90,slow=75,SNR=88
H11N2 WAKE ISLAND Hyl 13.50 288 T T 13 39 32.7
baz=90,slow=75,SNR=94
H11N1 WAKE ISLAND Hyl 13.50 288 T T 13 39 29.6
baz=90,slow=75,SNR=105
H11S2 WAKE ISLAND Hyl 13.69 287 T T 13 39 41.5
baz=97,slow=72,SNR=131
H11S1 WAKE ISLAND Hyl 13.69 287 T T 13 39 45.6
baz=97,slow=72,SNR=84
H11S3 WAKE ISLAND Hyl 13.70 287 T T 13 39 42.8
baz=97,slow=72,SNR=50
KBZ Khabaz 116.93 44 PKP PKPdf 11 36 32.7 0.0
comp=Z,2.1nm,0.7s,baz=108,slow=0.8,SNR=5.2
STKA Stephens Creek 123.99 224 PKP PKPdf 11 36 43.0 +0.2
comp=Z,2.1nm,0.7s,baz=171,slow=7.7,SNR=3.8
AKTO Aktyubinsk 124.94 31 PKP PKPdf 11 36 44.0 -0.1
comp=Z,1.7nm,0.7s,baz=301,slow=1.5,SNR=5.7
BVAR Borovoye Array 128.62 22 PKP PKPdf 11 36 50.5 -0.5
comp=Z,1.1nm,0.7s,baz=233,slow=11,SNR=4.6
ZALV Zalesovo Beam 131.96 11 PKP PKPdf 11 36 57.2 -0.1
comp=Z,2.0nm,0.9s,baz=28,slow=6.5,SNR=7.4
KURK Kurchatov 133.35 18 PKPdf 11 37 00.2 +0.2
KURBB Kurchatov Arra 133.41 18 PKP PKPdf 11 37 00.2 +0.1
comp=Z,1.7nm,0.5s,baz=327,slow=2.5,SNR=7.9
ASAR Alice Springs 134.36 227 PKhKP PKPpre 11 36 55.6
comp=Z,2.0nm,0.8s,baz=124,slow=2.3,SNR=4.3
ASAR PKP **PKPdf 11 37 02.2 -0.6**
comp=Z,1.9nm,0.7s,baz=114,slow=2.2,SNR=24
WRA Warramunga Arr 136.23 231 PKP PKPdf 11 37 06.1 -0.3
comp=Z,4.9nm,0.9s,baz=133,slow=1.4,SNR=20
WRA Warramunga Arr 136.23 231 PKPdf PKPdf 11 37 05.1 -1.3
MKAR Makanchi Array 137.95 18 PKP PKPdf 11 37 07.8 -1.1
comp=Z,1.9nm,0.9s,baz=338,slow=1.3,SNR=11
MKAR Makanchi Array 137.95 18 PKPdf PKPdf 11 37 08.5 -0.3
SONM Songino Array 139.10 353 PKhKP PKPpre 11 37 00.6
comp=Z,1.0nm,0.8s,baz=339,slow=3.7,SNR=2.3
KSRS Korea Array 140.27 323 PKP PKPdf 11 37 13.1 -0.2
comp=Z,2.0nm,0.8s,baz=17,slow=1.3,SNR=7.2
WMQ Urumqi 142.15 14 *e*P **PKPdf 11 37 16.1 -0.5**
WMQ pmax pmax
comp=Z,120nm,4.5s
HHC Hu-ho-hao-te 144.79 344 *e*P **PKPab 11 37 19.7 -0.5**
GTA Gaotai 147.96 359 ⇑PKPbc PKPdf 11 37 28.9 +2.1
GTA pPKP PKPab 11 37 34.3 +1.9
GTA sPKP 11 37 37.3
NJ2 Nanjing 149.33 326 *e*P **PKPdf 11 37 29.2 +0.2**
NJ2 pmax pmax
comp=Z,15nm,1.1s
LZH Lanzhou 150.99 352 PKPbc PKPdf 11 37 24.3 -7.5
LZH pPKP PKPbc 11 37 31.7 -5.8
LZH sPKP 11 37 38.2
XAN Xi'an 151.89 343 P PKPbc 11 37 38.7 -0.8
XAN pP sPKPdf 11 37 47.1 +1.2
XAN sP sPKPbc 11 37 53.0 +0.7
XAN pmax pmax
comp=Z,10.0nm,0.8s
CD2 Chengdu 156.08 351 PKP PKPdf 11 37 36.5 -2.6
CMAR Chiang Mai Arr 168.84 2 PKP PKPdf 11 37 52.4 +0.4
comp=Z,1.4nm,0.4s,baz=315,slow=1.5,SNR=4.4
CMAR PKPab **PKPab 11 39 01.4 -0.8**
comp=Z,1.7nm,0.4s,baz=335,slow=5.0,SNR=9.2

*ISK **06** 11:22:49.9, 40°.82N×31°.62E, h5km, ML3.2/31*
*IDC **06** 11:22:50.6±1.5, 40°.81N×31°.63E, h0km, mb3.3/1,*
mb1 3.7/3, mb1mx3.2/44, mbtmp3.6/3, ML3.5/2, MS2.6/1,
Ms1 2.6/1, ms1mx2.0/31, Error ellipse: s-maj=37.5km
s-min=8.8km az=49.0
*DDA **06** 11:22:50.7, 40°.82N×31°.60E, h16km, MW3.3*

ISC 06 11:22:51.4±0.9, 40°.83N±0°.02×31°.58E±0°.02, h12km±7km, n68, σ1§06/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YIGI	**Dzce**	**0.16**	**323**	*i* P	**Pg**	**11 22 55.7**	**+0.6**
YIGI				*i* S	**Sg**	**11 22 58.8**	**+1.1**
YIGI				IAML		11 22 59.0	
	comp=E,3μm,0.3s						
YIGI				IAML		11 22 59.0	
	comp=N,3μm,0.3s						
BCAM	**Yenicaga**	**0.37**	**92**	*i* P	**Pg**	**11 22 58.0**	**-0.8**
BCAM				IAML		11 23 02.0	
	comp=E,2μm,0.3s						
BCAM				*i* S	**Sg**	**11 23 02.6**	**-1.2**
BCAM				IAML		11 23 03.0	
	comp=N,2μm,0.6s						
DEVR	**Zonguldak/Devr**	**0.43**	**44**	*i* P	**Pg**	**11 22 59.5**	**-0.4**
DEVR				IAML		11 23 05.0	
	comp=N,1μm,0.3s						
DEVR				IAML		11 23 05.0	
	comp=E,934nm,0.2s						
DEVR				*i* S	**Sg**	**11 23 05.3**	**-0.3**
YUVA	**Yuva-Kibriscik**	**0.45**	**169**	PG	**Pg**	**11 22 59.7**	**-0.5**
YUVA				SG	**Sg**	**11 23 06.0**	**-0.2**
KIBS	**BOLU**	**0.46**	**153**	*i* P	**Pg**	**11 22 59.7**	**-0.8**
KIBS				IAML		11 23 07.0	
	comp=N,568nm,0.3s						
KIBS				IAML		11 23 18.0	
	comp=E,718nm,0.8s						
MDUB	**Mudurnu**	**0.46**	**219**	PG	**Pb**	**11 23 00.4**	**-1.2**
MDUB				SG	**Sb**	**11 23 08.1**	**-0.3**
SAHE	**Sakarya_HENDEK**	**0.55**	**272**	*i* P	**Pb**	**11 23 02.3**	**-0.8**
SAHE				*i* S	**Sb**	**11 23 10.5**	**-0.4**
SAHE				IAML		11 23 12.0	
	comp=E,1μm,0.5s						
SAHE				IAML		11 23 12.0	
	comp=N,773nm,0.7s						
CMDR	**Camlidere-ANKA**	**0.76**	**116**	*i* P	**Pg**	**11 23 05.2**	**-0.9**
CMDR				IAML		11 23 15.0	
	comp=E,2μm,0.2s						
CMDR				IAML		11 23 15.0	
	comp=N,2μm,0.2s						
KBUK	**KARABUK-Merkez**	**0.89**	**63**	*i* P	**Pg**	**11 23 07.7**	**-0.9**
KBUK				IAML		11 23 22.0	
	comp=E,350nm,0.3s						
KBUK				IAML		11 23 22.0	
	comp=N,220nm,0.7s						
GULT	**Gulveren**	**0.90**	**244**	PG	**Pb**	**11 23 08.6**	**-0.5**
GULT				SG	**Sn**	**11 23 22.7**	**-0.4**
SAFT	**Safranbolu**	**0.93**	**64**	PG	**Pg**	**11 23 08.4**	**-1.0**
KAYN	**Sakarya, Kayna**	**0.95**	**278**	*i* P	**Pb**	**11 23 09.3**	**-0.5**
KAYN				*i* S	**Sb**	**11 23 22.8**	**+0.5**
KAYN				IAML		11 23 27.0	
	comp=E,135nm,0.5s						
KAYN				IAML		11 23 27.0	
	comp=N,139nm,0.4s						
SAUV	**Serdivan-Sakar**	**0.95**	**265**	PG	**Pb**	**11 23 09.9**	**0.0**
GEYV	**SAKARYA_Geyve**	**1.04**	**251**	*i* P	**Pb**	**11 23 11.1**	**-0.2**
GEYV				IAML		11 23 30.0	
	comp=E,263nm,0.5s						
GEYV				IAML		11 23 31.0	
	comp=N,384nm,0.5s						
SRCK	**Saricakaya, Es**	**1.07**	**223**	PN	**Pb**	**11 23 11.7**	**-0.2**
KAND	**Kocaeli-Kandir**	**1.08**	**284**	*i* P	**Pg**	**11 23 11.5**	**-0.7**
KAND				*i* S	**Sn**	**11 23 27.9**	**+0.5**
KAND				IAML		11 23 30.0	
	comp=E,138nm,0.3s						
KAND				IAML		11 23 30.0	
	comp=N,133nm,0.6s						
GPA	**Golpazari**	**1.11**	**241**	PN	**Pb**	**11 23 12.6**	**+0.1**
BORA	**Eskisehir**	**1.28**	**222**	*i* P	**Pg**	**11 23 15.2**	**-0.9**
BORA				*i* S	**Sn**	**11 23 34.2**	**+1.8**
BORA				IAML		11 23 37.0	
	comp=E,72nm,0.3s						
BORA	**Eskisehir**	**1.28**	**222**	PN	**Pn**	**11 23 15.5**	**+0.3**
LOD	**Lodumlu**	**1.31**	**136**	PN	**Pg**	**11 23 15.2**	**-1.3**
ANTO	**Ankara**	**1.34**	**136**	PN	**Pg**	**11 23 16.1**	**-1.0**
KURC	**Kurucasile-Bar**	**1.34**	**41**	PN	**Pn**	**11 23 15.9**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.39**	**182**	PN	**Pn**	**11 23 16.9**	**+0.2**
SGAZ	**Eskisehir, Sey**	**1.42**	**204**	*i* P	**Pb**	**11 23 19.0**	**+1.1**
SGAZ				*i* S	**Sg**	**11 23 35.0**	**-2.1**
SGAZ				IAML		11 23 39.0	
	comp=E,199nm,0.6s						
SGAZ				IAML		11 23 39.0	
	comp=N,196nm,0.6s						
ESKT	**Eskisehir**	**1.43**	**203**	PN	**Pb**	**11 23 18.1**	**+0.1**
HRT	**Hereke**	**1.45**	**270**	PN	**Pg**	**11 23 18.6**	**-0.6**
ADVT	**Abdulvahap**	**1.46**	**255**	PN	**Pn**	**11 23 17.0**	**-0.5**
BILE	**Bilecik/Merkez**	**1.46**	**243**	*i* P	**Pn**	**11 23 17.9**	**+0.2**
BILE				*i* S	**Sn**	**11 23 39.8**	**+2.9**
BILE				IAML		11 23 43.0	
	comp=E,127nm,0.4s						
BILE				IAML		11 23 43.0	
	comp=N,126nm,0.5s						
CAVI	**Cavuskoy**	**1.47**	**245**	PN	**Pg**	**11 23 18.9**	**-0.6**
CIDE	**Kastamonu/Cide**	**1.47**	**44**	*i* P	**Pb**	**11 23 19.0**	**+0.3**
CIDE				*i* S	**Sg**	**11 23 38.6**	**-0.1**
CIDE				IAML		11 23 42.0	
	comp=E,303nm,0.5s						
CIDE				IAML		11 23 46.0	
	comp=N,378nm,0.6s						
AUBOZ	**BOZOYUK**	**1.50**	**233**	*i* P	**Pg**	**11 23 19.6**	**-0.5**
AUBOZ				*i* S	**Sn**	**11 23 40.1**	**+2.4**
AUBOZ				IAML		11 23 43.0	
	comp=N,230nm,0.5s						
AUBOZ				IAML		11 23 44.0	
	comp=E,209nm,0.4s						
AUBOZ	**BOZOYUK**	**1.50**	**233**	PN	**Pg**	**11 23 19.3**	**-0.8**
SILT	**Sile**	**1.50**	**283**	PN	**Pg**	**11 23 19.4**	**-0.8**
CIFT	**Cifteler, Eski**	**1.52**	**195**	PN	**Pb**	**11 23 19.3**	**-0.3**
CANT	**Cankiri**	**1.57**	**98**	PN	**Pn**	**11 23 19.5**	**+0.3**
ILGA	**Ilgaz**	**1.64**	**82**	*i* P	**Pn**	**11 23 21.0**	**+0.8**
ILGA				*i* S	**Sn**	**11 23 42.9**	**+1.6**
ILGA				IAML		11 23 46.0	
	comp=N,80nm,0.6s						
ILGA				IAML		11 23 52.0	
	comp=E,122nm,0.8s						
YLV	**Yalova**	**1.70**	**262**	PN	**Pb**	**11 23 22.2**	**-0.4**
AUKIR	**Kırka- Seyitga**	**1.75**	**208**	*i* P	**Pb**	**11 23 23.3**	**-0.2**
AUKIR				IAML		11 23 50.0	
	comp=N,293nm,0.4s						
BBAL	**Bala**	**1.75**	**137**	*i* P	**Pb**	**11 23 23.4**	**-0.1**
BBAL				IAML		11 23 49.0	
	comp=N,207nm,0.7s						
BBAL				IAML		11 23 49.0	
	comp=E,150nm,1.0s						
KMON	**Kastamonu**	**1.75**	**71**	PN	**Pn**	**11 23 22.3**	**+0.6**
ANDZ	**Kutahya, Merke**	**1.84**	**225**	*i* P	**Pn**	**11 23 23.4**	**+0.4**
GEMT	**Gemlik**	**1.86**	**258**	PN	**Pb**	**11 23 24.5**	**-0.8**
KAVV	**Kandilli-Istan**	**1.92**	**278**	PN	**Pb**	**11 23 25.6**	**-0.8**
BRTR	**Keskin Array B**	**1.93**	**124**	Pn	**Pn**	**11 23 24.9**	**+0.7**
	comp=E,9.7nm,0.3s,baz=310,slow=16,SNR=68						
BRTR				Pg	**Pb**	**11 23 26.5**	**-0.1**
	comp=E,10.0nm,0.3s,baz=304,slow=14,SNR=112						
BRTR				Lg	Lg	11 23 52.5	
	comp=E,15nm,0.3s,baz=306,slow=23,SNR=17						
BRTR	**Keskin Array B**	**1.93**	**124**	PN	**Pn**	**11 23 25.2**	**+1.0**
KKUL	**Konya-Kulu**	**1.95**	**148**	*i* P	**Pg**	**11 23 28.0**	**-0.9**
KKUL				*i* S	**Sg**	**11 23 55.7**	**+1.5**
KKUL				IAML		11 23 56.0	
	comp=E,75nm,1.0s						
KKUL				IAML		11 23 56.0	
	comp=N,72nm,1.0s						
KIZT	**Kizilcal**	**1.96**	**173**	PN	**Pn**	**11 23 25.5**	**+0.8**
KLYT	**Kilyos**	**1.96**	**283**	PN	**Pb**	**11 23 26.1**	**-1.0**
DELI	**KIRIKKALE**	**1.97**	**114**	*i* P	**Pn**	**11 23 25.0**	**+0.2**
DELI				*i* S	**Sn**	**11 23 51.6**	**+2.1**
DELI				IAML		11 23 54.0	
	comp=E,60nm,0.7s						
DELI				IAML		11 23 54.0	
	comp=N,71nm,0.9s						
ULDT	**Uludag**	**1.99**	**250**	*i* P	**Pn**	**11 23 25.8**	**+0.8**
ULDT				*i* S	**Sg**	**11 23 56.4**	**+1.2**
ULDT				IAML		11 23 59.0	
	comp=N,61nm,0.5s						
ULDT				IAML		11 24 04.0	
	comp=E,70nm,0.6s						
KULU	**Kulu**	**2.10**	**148**	PN	**Pn**	**11 23 27.6**	**+1.1**
TVSB	**Tavsanli**	**2.13**	**230**	PN	**Pb**	**11 23 29.2**	**-0.8**
BGKT	**Bogazkoy**	**2.15**	**280**	PN	**Pn**	**11 23 28.7**	**+1.6**
KDHN	**Kadinhani**	**2.35**	**170**	*i* P	**Pn**	**11 23 29.5**	**-0.4**
CTKS	**Kestanelik-??a**	**2.36**	**281**	PN	**Pn**	**11 23 31.6**	**+1.7**
SHUT	**Suhut-Afyon**	**2.41**	**200**	PN	**Pn**	**11 23 32.3**	**+1.5**
CORM	**Corum**	**2.42**	**105**	PN	**Pn**	**11 23 31.9**	**+1.0**
SERE	**Serefilkochisa**	**2.43**	**140**	PN	**Pn**	**11 23 32.4**	**+1.4**
BOYA	**Sinop/Boyabat-**	**2.44**	**72**	*i* P	**Pb**	**11 23 35.4**	**+0.1**
CTAK	**Corum_Osmancik**	**2.45**	**93**	*i* P	**Pn**	**11 23 32.2**	**+0.9**
CDAG	**Cicekdag**	**2.46**	**119**	*i* P	**Pb**	**11 23 34.8**	**-0.8**
CDAG				IAML		11 24 08.0	
	comp=E,59nm,0.7s						
CDAG				IAML		11 24 08.0	
	comp=N,56nm,0.5s						
KIRS	**Kırehir-Merke**	**2.47**	**133**	*i* P	**Pn**	**11 23 31.7**	**+0.1**
KIRS				IAML		11 24 09.0	
	comp=N,32nm,0.5s						
KIRS				IAML		11 24 10.0	
	comp=E,57nm,0.5s						
YVAC	**Isparta, Yalva**	**2.57**	**186**	*i* P	**Pn**	**11 23 33.4**	**+0.4**
USAK	**Uak-Merkez**	**2.89**	**224**	*i* P	**Pg**	**11 23 45.8**	**-1.0**
MLR	**Muntele Rosu**	**6.21**	**320**	Pn	**Pn**	**11 24 25.2**	**+2.1**
	comp=E,0.3nm,0.3s,baz=86,slow=19,SNR=1.8						
MLR				Sn	**Sn**	**11 25 30.5**	**-3.6**
	comp=E,0.1nm,0.3s,baz=273,slow=20,SNR=1.6						
AKASG	**Malin Array Be**	**10.01**	**351**	Pn	**Pn**	**11 25 13.3**	**-1.5**
	comp=E,1.6nm,0.3s,baz=164,slow=13,SNR=5.4						
VRAC	**Vranov**	**13.54**	**314**	LR	LR	11 33 09.3	
	comp=E,22nm,18.7s,baz=198,slow=46						
FINES	**FINESS Array B**	**20.91**	**353**	P	Pn	11 27 36.6	+0.6
	comp=E,1.1nm,0.7s,baz=163,slow=16,SNR=3.5						

ISC 06 11:53:31.9±1.5, 44°.68N±0°.07×17°.13E±0°.07, h18km±10km, n6, σ0§72/12, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.08**	**32**	⇑*i*Pg	**Pg**	**11 53 34.8**	**-0.5**
BLY				*e*Sg	**Sg**	**11 53 38.2**	**+0.6**
KIJV	**Kijevo**	**0.85**	**218**	*e*Pg	**Pg**	**11 53 47.5**	**-1.0**
KIJV				Sg	**Sg**	**11 53 59.8**	**0.0**
RICI	**Ricice**	**1.19**	**180**	*e*Pg	**Pb**	**11 53 54.0**	**+0.1**
RICI				Sg	**Sg**	**11 54 11.2**	**+0.8**
MORI	**Morici**	**1.31**	**232**	*e*Pg	**Pb**	**11 53 56.2**	**+0.3**
MORI				Sg	**Sg**	**11 54 14.8**	**+0.7**
ZIRJ	**Zirje**	**1.48**	**227**	*e*Pg	**Pb**	**11 53 59.2**	**+0.3**
ZIRJ				Sg	**Sg**	**11 54 20.8**	**+1.1**
DUGI	**Dugi Otok**	**1.64**	**246**	*e*Pn	**Pb**	**11 54 01.6**	**+0.1**
DUGI				Sg	**Sg**	**11 54 25.1**	**+0.4**

NIED ***06*** *12:01:56.4, 46°.71N×152°.87E, h30km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.78; $M_{\theta\theta}$0.61; $M_{\phi\phi}$-5.39; $M_{r\theta}$-2.61; $M_{\phi\theta}$-2.88; $M_{r\phi}$0.90; Fault plane solution: $M_0$6.48000×10^{15} NP1: ϕ_s229.00000°, δ53.00000°, λ130.00000°. NP2: ϕ_s355.00000°, δ52.00000°, λ50.00000°.*

JMA ***06*** *12:01:56.4±0.8, 46°.71N×152°.87E, h30km, M4.9*

BJI ***06*** *12:01:57.7±0.0, 46°.72N×152°.88E, h62km, mB4.8/30, mb4.7/44, Ms4.3/19, Ms7 4.0/19*

MOS ***06*** *12:01:58.3±1.0, 46°.56N×152°.76E, h58km, mb4.9/55, MS3.7/10, Error ellipse: s-maj=6.1km s-min=4.8km az=80.5*

SKHL ***06*** *12:01:58.8±0.3, 46°.40N×153°.00E, h71km±5km, mb5.0/16, ms4.1/9*

BGR ***06*** *12:01:58.1±0.0, 46°.53N×153°.04E, h33km, mb4.9*

NEIC ***06*** *12:01:59.9±1.7, 46°.64N±0°.10×152°.6E±0°.1, h54km±6km, mb4.7/166, Error ellipse: s-maj=16.2km s-min=9.9km az=141.0*

IDC ***06*** *12:01:59.7±0.7, 46°.69N×152°.62E, h50km±6km, mb4.1/28, mb1 4.3/31, mb1mx4.2/52, mbtmp4.4/31, MS3.7/12, Ms1 3.7/12, ms1mx3.5/57, Error ellipse: s-maj=14.6km s-min=10.6km az=157.0*

ISC 06 12:01:57.9±0.5, 46°.48N±0°.05×152°.85E±0°.04, h46km±4km, h46km:pP-P, n672, σ1§30/700, mb4.7/181, MS4.0/16, 32C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.70**	**252**	*d i*PN	**Pn**	**12 02 54.2**	**+1.8**
KUR				*e*S	**Sn**	**12 03 37.0**	**+2.3**
KUR				pmax	pmax		
	comp=Z,432nm,0.3s						
KUR				pmax	pmax		
	comp=N,208nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,2.6s						
KUR				smax	smax		
	comp=N,1μm,0.5s						
KUR				smax	smax		
	comp=E,863nm,0.8s						
KUR	**Kuril'sk**	**3.70**	**252**	*e*P	**Pn**	**12 02 54.4**	**+2.0**
KUR				AMB	AMB	12 02 56.0	
	comp=E,400nm,0.3s						
KUR				*e*S	**Sn**	**12 03 36.0**	**+1.3**
KUR				A	A	12 03 38.2	
	comp=E,2μm,2.0s						
KUR				A	A	12 03 38.2	
	comp=E,2μm,2.0s						
KUR				A	A	12 03 41.0	
	comp=E,630nm,0.3s						
KUR				A	A	12 03 41.0	
	comp=E,500nm,0.3s						
KUR				AMS	AMS	12 04 11.5	
	comp=E,2μm,15.0s						
KUR				AMS	AMS	12 04 11.5	
	comp=E,3μm,15.0s						
KUR				AMS	AMS	12 04 11.5	
	comp=E,2μm,15.0s						
SKR	**Severo-Kuril's**	**4.73**	**26**	*e*PN	**Pn**	**12 03 07.9**	**+1.3**
SKR				*e*S	**Sn**	**12 03 58.3**	**-1.9**
SKR				pmax	pmax		
	comp=Z,16nm,0.5s						
SKR				smax	smax		
	comp=E,305nm,0.7s						
SKR				smax	smax		
	comp=N,171nm,0.5s						
SKR				MLR	MLR		
	comp=Z,500nm,20.0s						
SKR	**Severo-Kuril's**	**4.73**	**26**	*e*P	**Pn**	**12 03 08.8**	**+2.2**
SKR				AMB	AMB	12 03 08.9	
	comp=Z,160nm,0.5s						
SKR				*e*S	**Sn**	**12 03 58.9**	**-1.3**
SKR				A	A	12 04 05.0	
	comp=Z,180nm,0.6s						
SKR				A	A	12 04 05.0	
	comp=Z,350nm,0.6s						
SKR				AMS	AMS	12 05 08.0	
	comp=Z,450nm,13.0s						
SKR				AMS	AMS	12 05 08.0	
	comp=Z,560nm,13.0s						
SKR				AMS	AMS	12 05 08.0	
	comp=Z,510nm,13.0s						
YUK	**Yuzh-Kuril'sk**	**5.50**	**246**	*de*PN	**Pn**	**12 03 19.8**	**+2.6**
YUK	**Yuzh-Kuril'sk**	**5.50**	**246**	*e*P	**Pn**	**12 03 19.8**	**+2.6**
YUK				AMB	AMB	12 03 20.0	
	comp=Z,320nm,0.4s						
YUK				*e*S	**Sn**	**12 04 20.8**	**+1.6**
YUK				A	A	12 04 28.0	
	comp=Z,400nm,0.6s						
YUK				A	A	12 04 28.0	
	comp=Z,490nm,0.6s						
YUK				AMS	AMS	12 05 25.0	
	comp=Z,400nm,14.0s						
GRPR	**Tuman**	**5.58**	**246**	*e*PN	**Pn**	**12 03 19.8**	**+1.5**
GRPR				*e*S	**Sn**	**12 04 21.5**	**+0.4**
GRPR				pmax	pmax		
	comp=Z,198nm,0.5s						
GRPR				smax	smax		
	comp=E,489nm,0.4s						
GRPR				smax	smax		
	comp=N,758nm,0.5s						
GRPR	**Tuman**	**5.58**	**246**	*e*P	**Pn**	**12 03 20.5**	**+2.2**
GRPR				AMB	AMB	12 03 24.0	
	comp=N,200nm,0.5s						
GRPR				*e*S	**Sn**	**12 04 21.5**	**+0.4**
GRPR				A	A	12 04 43.0	
	comp=N,760nm,0.5s						
GRPR				A	A	12 04 43.0	
	comp=N,490nm,0.5s						
PAU	**Pauzhetka**	**5.63**	**26**	*e*P	**Pn**	**12 03 20.2**	**+1.2**
PAU				AMB	AMB	12 03 24.3	
	comp=N,40nm,0.4s						
PAU				*e*S	**Sn**	**12 04 21.1**	**-1.2**
PAU				A	A	12 04 37.0	
	comp=N,390nm,0.6s						
PAU				A	A	12 04 37.0	
	comp=N,180nm,0.6s						
PAU				AMS	AMS	12 05 42.5	
	comp=N,500nm,16.0s						
PAU				AMS	AMS	12 05 42.5	
	comp=N,400nm,16.0s						
RUSJ	**Misakicho**	**5.86**	**249**	*e*PN	Pn	12 03 26.2	+4.0
RUSJ				*e*S	**Sn**	**12 04 31.2**	**+3.2**
GLVR	**Golovnino**	**5.87**	**245**	*e*PN	**Pn**	**12 03 23.4**	**+1.2**
GLVR				pmax	pmax		
	comp=Z,189nm,0.1s						
GLVR	**Golovnino**	**5.87**	**245**	*e*P	**Pn**	**12 03 24.0**	**+1.8**
GLVR				AMB	AMB	12 03 27.0	
	comp=Z,190nm,0.3s						
GLVR				*e*S	**Sn**	**12 04 27.0**	**-1.1**
GLVR				A	A	12 04 30.0	
	comp=Z,190nm,0.3s						
GLVR				A	A	12 04 30.0	
	comp=Z,260nm,0.3s						
NEM2	**Nemuro 2**	**5.93**	**241**	P	**Pn**	**12 03 22.9**	**-0.1**
NEM2				*e*S	**Sn**	**12 04 27.0**	**-2.6**
NMR	**Nemuro--Hokkai**	**5.93**	**241**	*e*PN	**Pn**	**12 03 22.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**5.93**	**241**	*e*P	**Pn**	**12 03 23.4**	**+0.3**
JRA	**Rausu**	**6.02**	**248**	P	**Pn**	**12 03 26.6**	**+2.3**
JNK	**Nakash**	**6.45**	**246**	P	**Pn**	**12 03 31.8**	**+1.6**
JNK				*e*S	**Sn**	**12 04 43.1**	**+0.7**
JAK	**Akkeshi**	**6.77**	**242**	P	**Pn**	**12 03 34.5**	**-0.1**
JAK				*e*S	**Sn**	**12 04 47.6**	**-2.7**
JTKR	**Abashiri--Toko**	**6.79**	**252**	P	**Pn**	**12 03 37.3**	**+2.4**
YSS	**Yuzh-Sakhalins**	**6.96**	**278**	⇑*e*PN	**Pn**	**12 03 40.1**	**+3.0**
YSS				*e*S	**Sn**	**12 04 57.8**	**+3.0**
YSS				pmax	pmax		
	comp=Z,70nm,1.1s						
YSS				pmax	pmax		
	comp=Z,200nm,3.1s						
YSS				smax	smax		
	comp=E,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**6.96**	**278**	Pn	**Pn**	**12 03 39.3**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.96**	**278**	*i* P	**Pn**	**12 03 40.1**	**+3.0**
YSS				AMB	AMB	12 03 41.7	
	comp=Z,70nm,1.0s						
YSS				AMB	AMB	12 03 42.6	
	comp=Z,200nm,3.0s						
YSS				*e*S	**Sn**	**12 04 55.9**	**+1.1**
YSS				A	A	12 04 59.6	
	comp=Z,10.0nm,1.0s						
YSS				A	A	12 04 59.6	
	comp=Z,20nm,1.0s						
YSS				AMS	AMS	12 06 02.0	
	comp=Z,900nm,15.0s						
JMP	**Maruseppu**	**7.14**	**253**	P	**Pn**	**12 03 42.6**	**+2.9**
JAR	**Ashorobuto**	**7.19**	**247**	P	**Pn**	**12 03 42.2**	**+1.8**
JAR				*e*S	**Sn**	**12 05 03.3**	**+2.7**
PEA0B	**Petropavlovsk-**	**7.34**	**24**	*de*PN	**Pn**	**12 03 43.2**	**+0.8**
PEA0B	**Petropavlovsk-**	**7.34**	**24**		**Pn**	**12 03 43.2**	**+0.8**
PETK	**Petropavlovsk-**	**7.34**	**24**	P	**Pn**	**12 03 42.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=198,slow=18,SNR=29						
PETK				LR	LR	12 06 53.5	
	comp=Z,140nm,21.3s,baz=211,slow=41						
JSE	**Soyaes**	**7.34**	**262**	P	**Pn**	**12 03 45.7**	**+3.3**
JOB	**Onbets**	**7.35**	**244**	P	**Pn**	**12 03 43.4**	**+0.9**
JOB				*e*S	**Sn**	**12 05 01.9**	**-2.7**
PET	**Petropavlovsk**	**7.55**	**28**	*e*PN	Pn	12 03 48.6	+3.4
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
PET	**Petropavlovsk**	**7.55**	**28**	*e*P	Pn	12 03 48.0	+2.8
PET				AMB	AMB	12 03 49.7	
	comp=Z,40nm,0.3s						
PET				*e*S	**Sn**	**12 05 07.1**	**-2.3**
PET				A	A	12 05 34.2	
	comp=Z,130nm,0.7s						
PET				A	A	12 05 34.2	
	comp=Z,120nm,0.7s						
PET				AMS	AMS	12 08 01.1	
	comp=Z,400nm,13.0s						
JKK2	**Kamakawa 2**	**7.60**	**254**	P	**Pn**	**12 03 48.9**	**+2.9**
JKA	**Kamikawa-asahi**	**7.60**	**256**	Pn	**Pn**	**12 03 49.3**	**+3.3**
ASAJ	**Asahikawa**	**7.61**	**256**	P	**Pn**	**12 03 49.5**	**+3.5**
	comp=Z,3.9nm,0.3s,baz=84,slow=14,SNR=45						
ASAJ				LR	LR	12 06 35.3	
	comp=Z,593nm,20.0s,baz=48,slow=37						
ASAJ	**Asahikawa**	**7.61**	**256**	P	**Pn**	**12 03 49.5**	**+3.5**
ASAJ	**Asahikawa**	**7.61**	**256**	PN	**Pn**	**12 03 49.3**	**+3.3**
UGL	**Uglegorsk**	**7.71**	**294**	⇑*i*PN	**Pn**	**12 03 50.8**	**+3.3**
UGL				pmax	pmax		
	comp=Z,125nm,1.3s						
UGL				MLR	MLR		
	comp=Z,2μm,18.0s						
UGL				MLR	MLR		
	comp=E,600nm,19.0s						
UGL	**Uglegorsk**	**7.71**	**294**	*i* P	**Pn**	**12 03 50.6**	**+3.1**
UGL				AMB	AMB	12 03 53.4	
	comp=E,120nm,1.0s						
UGL				*e*S	**Sn**	**12 05 14.5**	**+1.0**
UGL				AMS	AMS	12 08 02.4	
	comp=E,1μm,18.0s						
UGL				AMS	AMS	12 08 02.4	
	comp=E,600nm,18.0s						
UGL				AMS	AMS	12 08 02.4	
	comp=E,2μm,18.0s						
JCH	**Churui**	**7.80**	**244**	P	**Pn**	**12 03 49.0**	**+0.3**
JCH				*e*S	**Sn**	**12 05 12.5**	**-3.1**
JFR	**Furan**	**8.01**	**249**	P	**Pn**	**12 03 53.6**	**+2.0**
TYV	**Tymovskoe**	**8.04**	**307**	*e*PN	**Pn**	**12 03 53.9**	**+1.9**
TYV				*e*S	**Sn**	**12 05 24.0**	**+2.4**
TYV				pmax	pmax		
	comp=Z,16nm,0.7s						
TYV				smax	smax		
	comp=N,6.0nm,0.5s						
TYV				MLR	MLR		
	comp=E,500nm,12.0s						
TYV				MLR	MLR		
	comp=Z,500nm,16.0s						
TYV	**Tymovskoe**	**8.04**	**307**	*e*P	**Pn**	**12 03 54.4**	**+2.4**
TYV				AMB	AMB	12 03 54.6	
	comp=Z,20nm,0.7s						
TYV				*e*S	**Sn**	**12 05 21.0**	**-0.6**
TYV				A	A	12 05 26.5	
	comp=Z,30nm,0.5s						
TYV				A	A	12 05 26.5	
	comp=Z,20nm,0.5s						
TYV				AMS	AMS	12 08 36.5	
	comp=Z,800nm,16.0s						
TYV				AMS	AMS	12 08 36.5	
	comp=Z,500nm,16.0s						
TYV				AMS	AMS	12 08 36.5	
	comp=Z,500nm,12.0s						
JEM	**Erimo**	**8.26**	**241**	P	**Pn**	**12 03 56.4**	**+1.4**
ERM	**Erimo**	**8.26**	**241**	*ce*PN	**Pn**	**12 03 56.5**	**+1.5**
ERM	**Erimo**	**8.26**	**241**	Pn	**Pn**	**12 03 56.9**	**+1.9**
JBT2	**Biratori 2**	**8.34**	**247**	P	**Pn**	**

JIO	**Ouri**	**11.67 231**		*e*S	Sn	12 06 41.9	-8.5
GRNR	**Gornyy**	**11.68 298**	⇓	*i*PN	**Pn**	**12 04 45.5**	**+3.7**
GRNR				pmax	pmax		
	comp=Z,20nm,0.9s						
GRNR				MLR	MLR		
	comp=E,360nm,17.0s						
GRNR				MLR	MLR		
	comp=N,220nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,460nm,16.0s						
GRNR	**Gornyy**	**11.68 298**		*e*P	**Pn**	**12 04 45.5**	**+3.7**
GRNR				AMB	AMB	12 04 47.2	
	comp=Z,20nm,0.9s						
GRNR				AMS	AMS	12 09 12.5	
	comp=Z,200nm,16.0s						
GRNR				AMS	AMS	12 09 12.5	
	comp=Z,400nm,16.0s						
GRNR				AMS	AMS	12 09 12.5	
	comp=Z,500nm,16.0s						
JMM	**Marumori**	**12.40 230**		Pn	**Pn**	**12 04 48.7**	**-2.9**
MA2	**Magadan**	**13.18 355**	⇓	*e*PN	**Pn**	**12 05 03.0**	**+0.9**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**13.18 355**			**Pn**	**12 05 02.0**	**-0.1**
MA2	**Magadan**	**13.18 355**		*e*P	**Pn**	**12 05 03.0**	**+0.9**
JSD	**Sado**	**13.69 237**		Pn	**Pn**	**12 05 08.0**	**-1.2**
EKMR	**Ekimchan**	**14.42 304**		*e*P	**Pn**	**12 05 19.5**	**+0.4**
EKMR				AMB	AMB	12 05 28.7	
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**14.42 289**		P	**Pn**	**12 05 21.3**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=97,slow=16,SNR=6.2						
KLR				LR	LR	12 11 10.4	
	comp=Z,434nm,18.1s,baz=98,slow=39						
KLR	**Kul'dur**	**14.42 289**	⇓	*e*P	**Pn**	**12 05 21.5**	**+2.4**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLR				MLR	MLR		
	comp=Z,429nm,16.0s						
KLR	**Kul'dur**	**14.42 289**		*e*P	**Pn**	**12 05 20.1**	**+1.0**
KLR				AMB	AMB	12 05 29.1	
	comp=Z,10.0nm,1.0s						
KLR				AMS	AMS	12 11 25.4	
	comp=Z,400nm,16.0s						
MAJO	**Matsushiro**	**14.77 233**	⇑	*e*P	**Pn**	**12 05 22.3**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAJO	**Matsushiro**	**14.77 233**		Pn	**Pn**	**12 05 22.9**	**-0.8**
MAT	**Matsushiro**	**14.77 233**		P	**Pn**	**12 05 22.3**	**-1.5**
MJAR	**Matsushiro Arr**	**14.77 233**		P	**Pn**	**12 05 22.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=12						
MJAR				LR	LR	12 11 19.7	
	comp=Z,184nm,21.4s,baz=25,slow=38						
MJAR	**Matsushiro Arr**	**14.77 233**		P	**Pn**	**12 05 24.2**	**+0.4**
MJAR	**Matsushiro Arr**	**14.77 233**			**Pn**	**12 05 24.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**14.77 233**			**Pn**	**12 05 26.1**	**+2.4**
USA0B	**Ussuriysk Arra**	**14.84 269**		P	**Pn**	**12 05 25.5**	**+0.9**
USA0B	**Ussuriysk Arra**	**14.84 269**		Pn	**Pn**	**12 05 25.5**	**+0.9**
USRK	**Ussuriysk Ar.**	**14.84 269**		P	**Pn**	**12 05 25.5**	**+0.8**
	baz=74,slow=13,SNR=13						
USRK				LR	LR	12 10 49.6	
	comp=Z,364nm,20.4s,baz=60,slow=36						
USRK	**Ussuriysk Ar.**	**14.84 269**			**Pn**	**12 05 25.3**	**+0.6**
INU	**Inuyama**	**16.30 233**			**Pn**	**12 05 43.5**	**0.0**
MDJ	**Mudanjiang**	**16.39 272**			**Pn**	**12 05 42.3**	**-2.2**
SEY	**Seymchan**	**16.49 359**		P	**Pn**	**12 05 45.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=182,slow=9.1,SNR=12						
SEY	**Seymchan**	**16.49 359**	⇑	*i*P	**P**	**12 05 47.7**	**0.0**
SEY	**Seymchan**	**16.49 359**		*i*P	**P**	**12 05 47.7**	**0.0**
JHJ	**Hachijo jima 2**	**16.67 221**		LR	LR	12 14 58.5	
	comp=Z,33nm,18.7s,baz=118,slow=47						
JWT	**Wachi**	**17.25 236**			**Pn**	**12 05 55.1**	**-0.3**
BMKR	**Bomnak**	**17.26 307**		*e*P	**Pn**	**12 05 56.0**	**+0.7**
BMKR				AMB	AMB	12 05 59.8	
	comp=Z,10.0nm,0.8s						
ZEA	**Zeya**	**17.89 303**		*e*P	**P**	**12 06 06.1**	**+2.9**
ZEA				*e*S	**Sn**	**12 09 13.4**	**-7.9**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ZEA				MLR	MLR		
	comp=E,200nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,17.0s						
ZEA	**Zeya**	**17.89 303**		*e*P	**Pn**	**12 06 03.2**	**+0.2**
ZEA				AMB	AMB	12 06 06.9	
	comp=Z,10.0nm,1.0s						
ZEA				AMS	AMS	12 12 59.0	
	comp=Z,200nm,17.0s						
ZEA				AMS	AMS	12 12 59.0	
	comp=Z,200nm,17.0s						
KROS	**Kirovskiy**	**18.22 305**		*e*P	**Pn**	**12 06 09.7**	**+2.6**
KROS				AMB	AMB	12 06 10.2	
	comp=Z,10.0nm,0.8s						
CN2	**Changchun**	**19.48 272**		*e*P	**P**	**12 06 20.7**	**0.0**
CN2				*e*S	S	12 09 51.4	-6.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,6.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,19.0s						
YAK	**Yakutsk**	**20.45 328**		P	**P**	**12 06 31.6**	**+0.4**
	comp=Z,17nm,0.4s,baz=71,slow=2.8,SNR=2.5						
YAK				LR	LR	12 14 17.4	
	comp=Z,202nm,19.6s,baz=89,slow=36						
YAK	**Yakutsk**	**20.45 328**		*e*P	**P**	**12 06 31.2**	**+0.1**
YAK				pmax	pmax		
	comp=Z,30nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK	**Yakutsk**	**20.45 328**		P	**P**	**12 06 29.8**	**-1.4**
YAK	**Yakutsk**	**20.45 328**		*e*P	**P**	**12 06 32.1**	**+1.0**
KSRS	**Korea Array**	**20.54 253**		P	**P**	**12 06 33.4**	**+1.0**
	comp=E,7.5nm,0.9s,baz=55,slow=11,SNR=27						
KSRS				LR	LR	12 13 24.3	
	comp=E,158nm,21.3s,baz=64,slow=33						
JNU	**Nakatsue**	**21.42 239**		P	**P**	**12 06 41.1**	**-0.8**
JNU				IAmb	IAmb	12 07 03.2	
	comp=Z,20nm,0.8s						
TJN	**Taejon**	**21.52 251**		*c*eP	**P**	**12 06 44.0**	**+1.1**
BILL	**Bilibino**	**22.70 13**		*e*P	**P**	**12 06 56.5**	**+1.3**
BILL				*e*'PP	**pwP**	**12 07 08.6**	**-0.3**
BILL				*e*		12 07 21.4	
BILL				*e*		12 10 46.0	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,492nm,18.0s						
BILL	**Bilibino**	**22.70 13**		*e*P	**P**	**12 06 56.5**	**+1.3**
NIKH	**Nikolski High**	**25.36 61**		P	**P**	**12 07 20.1**	**-0.2**
	baz=271						
GAMB	**Gambell**	**26.15 36**		P	**P**	**12 07 26.4**	**-0.9**
	baz=246						
TNA	**Tin City**	**28.36 34**		P	**P**	**12 07 46.0**	**-1.1**
	baz=247						
ANM	**Nome**	**29.02 36**		P	**P**	**12 07 51.4**	**-1.6**
	baz=252						
H11N2	**WAKE ISLAND Hy 29.06 152**			T	T	12 39 11.8	
	baz=340,slow=75,SNR=3062						
H11N1	**WAKE ISLAND Hy 29.08 152**			T	T	12 39 13.5	
	baz=340,slow=75,SNR=2169						
H11N3	**WAKE ISLAND Hy 29.08 152**			T	T	12 39 13.7	
	baz=340,slow=75,SNR=1757						
NJ2	**Nanjing**	**29.74 253**		*e*P	**P**	**12 08 00.4**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**30.13 274**		*e*P	**P**	**12 08 03.2**	**-0.1**
HHC				pP	sP	12 08 20.3	+0.4
HHC				S	**S**	**12 12 54.9**	**-4.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,6.9s						
HHC				LR	LR		
	comp=Z,200nm,12.1s						
HHC				LR	LR		
	comp=Z,200nm,12.8s						
HHC				LR	LR		
	comp=Z,230nm,15.7s						
H11S1	**WAKE ISLAND Hy 30.15 153**			T	T	12 40 47.5	
	baz=340,slow=76,SNR=976						
H11S3	**WAKE ISLAND Hy 30.16 153**			T	T	12 40 36.4	
	baz=340,slow=76,SNR=1123						
H11S2	**WAKE ISLAND Hy 30.16 153**			T	T	12 40 34.6	
	baz=340,slow=76,SNR=1313						
SDPT	**Sand Point**	**30.22 56**		P	**P**	**12 08 02.6**	**-1.1**
	baz=273						
ULN	**Ulaanbaatar**	**30.82 290**	⇑	*e*P	**P**	**12 08 10.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ULN	**Ulaanbaatar**	**30.82 290**		P	**P**	**12 08 07.8**	**-1.5**
ULN	**Ulaanbaatar**	**30.82 290**		*e*P	**P**	**12 08 10.6**	**+1.3**
SONM	**Songino Array**	**31.25 290**		P	**P**	**12 08 11.9**	**-1.2**
	comp=Z,2.3nm,1.0s,baz=73,slow=8.1,SNR=4.2						
SONM				PcP	**PcP**	**12 11 07.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=143,slow=2.9,SNR=3.2						
SONM				LR	LR	12 21 46.5	
	comp=Z,256nm,18.8s,baz=64,slow=38						
TLY	**Talaya**	**32.14 298**	⇑	*e*P	**P**	**12 08 21.3**	**+0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,270nm,16.0s						
TLY	**Talaya**	**32.14 298**		*e*P	**P**	**12 08 21.3**	**+0.5**
N18K	**Kilae Creek**	**32.65 45**		P	**P**	**12 08 24.5**	**-0.5**
	baz=268						
P19K	**Oil Pt**	**33.97 47**		P	**P**	**12 08 36.2**	**-0.4**
	baz=272						
M20K	**Styx River**	**34.02 43**		P	**P**	**12 08 35.9**	**-1.2**
	baz=269						
OHAK	**Old Harbor**	**34.09 52**		P	**P**	**12 08 36.4**	**-1.2**
	baz=276						
O20K	**Slope Mountain**	**34.26 46**		P	**P**	**12 08 38.0**	**-1.2**
	baz=272						
KDAK	**Kodiak Island**	**34.42 51**		P	**P**	**12 08 40.7**	**+0.3**
	comp=Z,13nm,0.8s,baz=341,slow=6.3,SNR=4.7						
KDAK	**Kodiak Island**	**34.42 51**		P	**P**	**12 08 40.4**	**0.0**
	baz=275						
H21K	**Melozitna Rive**	**34.44 37**		P	**P**	**12 08 40.4**	**-0.2**
	baz=264,SNR=7.6						
CHUM	**Lake Minchumin**	**34.48 40**		P	**P**	**12 08 40.2**	**-0.8**
	baz=267						
PPLA	**Purkeypile**	**34.49 41**		P	**P**	**12 08 40.7**	**-0.6**
	baz=268						
I21K	**Tanana**	**34.73 37**		P	**P**	**12 08 43.1**	**+0.1**
	baz=265						
SKT	**Skwentna**	**34.77 43**		P	**P**	**12 08 42.8**	**-0.7**
	baz=270						
BPAW	**Bear Paw Mtn.**	**35.08 39**		P	**P**	**12 08 45.8**	**-0.4**
	baz=268,SNR=5.4						
BPAW	**Bear Paw Mtn.**	**35.08 39**		P	**P**	**12 08 46.5**	**+0.3**
BPAW				IAmb	IAmb	12 08 48.6	
	comp=Z,7.5nm,1.0s						
KTH	**Kantishna Hill**	**35.09 40**		P	**P**	**12 08 47.6**	**+1.4**
BRSE	**Bradley Lake S**	**35.23 47**		P	**P**	**12 08 46.9**	**-0.6**
	baz=274						
MLY	**Manley**	**35.24 38**		P	**P**	**12 08 46.2**	**-1.4**
	baz=266						
MLY	**Manley**	**35.24 38**		P	**P**	**12 08 48.1**	**+0.5**
MLY				IAmb	IAmb	12 09 03.4	
	comp=Z,6.6nm,1.0s						
TRF	**Thorofare Moun**	**35.37 41**		P	**P**	**12 08 48.7**	**-0.1**
	baz=269						
TRF	**Thorofare Moun**	**35.37 41**		P	**P**	**12 08 49.9**	**+1.1**
TRF				IAmb	IAmb	12 09 12.9	
	comp=Z,7.1nm,1.0s						
RC01	**Rabbit Creek A**	**35.65 45**		P	**P**	**12 08 50.4**	**-0.7**
	baz=273						
COLD	**Coldfoot**	**35.66 34**		P	**P**	**12 08 50.7**	**-0.3**
	baz=264						
COLD	**Coldfoot**	**35.66 34**		P	**P**	**12 08 51.1**	**+0.1**
BWN	**Browne**	**35.75 39**		P	**P**	**12 08 54.4**	**+2.5**
H23K	**Yukon River**	**35.79 36**		P	**P**	**12 08 52.0**	**-0.3**
	baz=266,SNR=5.3						
I23K	**Minto, Yukon-K**	**35.83 38**		P	**P**	**12 08 52.1**	**-0.4**
	baz=268						
I23K	**Minto, Yukon-K**	**35.83 38**		P	**P**	**12 08 53.6**	**+1.0**
I23K				IAmb	IAmb	12 09 07.8	
	comp=Z,13nm,1.4s						
SEW	**Seward**	**35.85 46**		P	**P**	**12 08 52.5**	**-0.2**
	baz=274						
PMR	**Palmer**	**35.92 44**		P	**P**	**12 08 54.1**	**+0.8**
PMR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PMR	**Palmer**	**35.92 44**		P	**P**	**12 08 53.1**	**-0.2**
	baz=273						
PMR	**Palmer**	**35.92 44**		P	**P**	**12 08 54.1**	**+0.8**
NEA2	**Nenana**	**35.93 39**		P	**P**	**12 08 53.0**	**-0.4**
	baz=269						
NEA2	**Nenana**	**35.93 39**		P	**P**	**12 08 54.2**	**+0.8**
NEA2				IAmb	IAmb	12 09 14.3	
	comp=Z,5.7nm,0.8s						
MCK	**McKinley**	**35.98 40**		P	**P**	**12 08 54.3**	**+0.4**
MCK				pmax	pmax		
	comp=Z,18nm,1.3s						
MCK	**McKinley**	**35.98 40**		P	**P**	**12 08 52.7**	**-1.1**
	baz=270						
MCK	**McKinley**	**35.98 40**		P	**P**	**12 08 54.3**	**+0.4**
RND	**Reindeer**	**36.01 41**		P	**P**	**12 08 54.3**	**+0.1**
RND				pmax	pmax		
	comp=Z,11nm,1.1s						
RND	**Reindeer**	**36.01 41**		P	**P**	**12 08 54.3**	**+0.1**
RND				IAmb	IAmb	12 09 10.5	
	comp=Z,11nm,1.1s						
TOLK	**Toolik Lake Re**	**36.07 32**		P	**P**	**12 08 53.7**	**-0.9**
	baz=262						
TOLK	**Toolik Lake Re**	**36.07 32**		P	**P**	**12 08 55.0**	**+0.4**
TOLK				IAmb	IAmb	12 09 16.0	
	comp=Z,4.5nm,0.7s						
WAT1	**Susitna Watana**	**36.16 42**		P	**P**	**12 08 54.9**	**-0.5**
	baz=272						
KNK	**Knik Glacier**	**36.25 44**		P	**P**	**12 08 56.0**	**-0.2**
	baz=274						
KNK	**Knik Glacier**	**36.25 44**		P	**P**	**12 08 57.1**	**+0.9**
KNK				IAmb	IAmb	12 08 58.1	
	comp=Z,12nm,1.0s						
SML	**Sawmill**	**36.29 43**		P	**P**	**12 08 56.9**	**+0.3**
	baz=273,SNR=9.1						
MDM	**Murphy Dome**	**36.30 38**		P	**P**	**12 08 57.6**	**+1.0**
MDM				IAmb	IAmb	12 08 59.0	
	comp=Z,7.7nm,0.9s						
WRH	**Wood River Hil**	**36.35 39**		P	**P**	**12 08 58.3**	**+1.2**
WRH				IAmb	IAmb	12 09 15.9	
	comp=Z,9.0nm,1.3s						
TCOL	**CIGO, UAF Yank**	**36.46 38**		P	**P**	**12 08 57.0**	**-0.9**
	baz=269						
TCOL	**CIGO, UAF Yank**	**36.46 38**		P	**P**	**12 08 59.4**	**+1.5**
COLA	**College**	**36.46 38**		*c i*P	**P**	**12 08 59.1**	**+1.2**
COLA				pmax	pmax		
	comp=Z,15nm,1.0s						
COLA	**College**	**36.46 38**		P	**P**	**12 08 56.8**	**-1.1**
	baz=269						
COLA	**College**	**36.46 38**		P	**P**	**12 08 59.4**	**+1.4**
CCB	**Clear Creek Bu**	**36.48 39**		P	**P**	**12 08 59.3**	**+1.3**
H24K	**Noodor Dome**	**36.48 37**		P	**P**	**12 08 57.7**	**-0.5**
	baz=268,SNR=5.8						
WAT6	**Susitna Watana**	**36.54 42**		P	**P**	**12 08 57.1**	**-1.7**
	baz=273						
POKR	**Poker Plat Res**	**36.64 38**		P	**P**	**12 08 58.9**	**-0.6**
	baz=269,SNR=5.5						
POKR	**Poker Plat Res**	**36.64 38**		P	**P**	**12 09 00.9**	**+1.4**
HDA	**Harding Lake**	**36.85 39**		P	**P**	**12 09 00.5**	**-0.8**
	baz=271						
HDA	**Harding Lake**	**36.85 39**		P	**P**	**12 09 01.8**	**+0.6**
IL31		**36.87 38**		P	**P**	**12 09 02.5**	**+1.1**
ILAR	**Eielson Array**	**36.87 38**		P	**P**	**12 09 02.0**	**+0.5**
	comp=Z,3.1nm,1.0s,baz=259,slow=7.6,SNR=26						
ILAR	**Eielson Array**	**36.87 38**		P	**P**	**12 09 02.7**	**+1.2**
GLI	**Glacier Island**	**36.95 45**		P	**P**	**12 09 01.3**	**-0.8**
	baz=275						
M24K	**Tolsona, Glenn**	**37.29 43**		P	**P**	**12 09 04.6**	**-0.5**
	baz=274						
PRP	**Porcupine Dome**	**37.45 37**		P	**P**	**12 09 05.3**	**-1.2**
	baz=271						
KLU	**Klutina**	**37.46 44**		P	**P**	**12 09 06.4**	**-0.2**
	baz=276,SNR=5.9						
KLU	**Klutina**	**37.46 44**		P	**P**	**12 09 08.2**	**+1.7**
KLU				IAmb	IAmb	12 09 08.8	
	comp=Z,9.7nm,1.1s						
PAX	**Paxson**	**37.56 41**		P	**P**	**12 09 06.4**	**-1.0**
	baz=274						
FYU	**Fort Yukon**	**37.57 35**		P	**P**	**12 09 08.7**	**+1.4**
EYAK	**Cordova Ski Ar**	**37.64 45**		P	**P**	**12 09 07.0**	**-0.9**
	baz=277						
LZH	**Lanzhou**	**37.71 272**		*e*P	**P**	**12 09 09.2**	**+0.1**
LZH				pP	pwP	12 09 23.9	-0.1
LZH				sP	sP	12 09 31.7	+5.9
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				LR	LR		
	comp=Z,250nm,11.4s						
LZH				LR	LR		
	comp=Z,290nm,13.0s						
LZH				LR	LR		
	comp=Z,200nm,15.7s						
HARP	**HAARP**	**37.74 42**		P	**P**	**12 09 07.8**	**-1.1**
	baz=275						
N25K	**Chitina, Valde**	**38.08 43**		P	**P**	**12 09 10.7**	**-1.2**
	baz=276						
DOT	**Dot Lake**	**38.15 40**		P	**P**	**12 09 12.2**	**-0.1**
BMRM	**Bremner River**	**38.15 44**		P	**P**	**12 09 10.8**	**-1.5**
	baz=277						
BMRM	**Bremner River**	**38.15 44**		P	**P**	**12 09 13.0**	**+0.6**
BMRM				IAmb	IAmb	12 09 15.7	
	comp=Z,8.4nm,0.9s						
SCRK	**Sand Creek**	**38.16 40**		P	**P**	**12 09 10.9**	**-1.6**
	baz=274						
SCRK	**Sand Creek**	**38.16 40**		P	**P**	**12 09 14.0**	**+1.5**
VRDI	**Verde Repeater**	**38.67 44**		P	**P**	**12 09 17.8**	**+0.9**
GTA	**Gaotai**	**38.83 279**		*e*P	**P**	**12 09 21.3**	**+2.9**
GTA				pP	sP	12 09 38.6	+3.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,55nm,5.0s						
GTA				LR	LR		
	comp=Z,98nm,14.9s						
GTA				LR	LR		
	comp=Z,150nm,16.0s						
GTA				LR	LR		
	comp=Z,160nm,16.7s						
MCARA	**McCarthy VSAT**	**38.86 44**		P	**P**	**12 09 17.3**	**-1.0**
	baz=278						
CRQM	**Cirque**	**38.89 45**		P	**P**	**12 09 19.6**	**+0.9**
CRQE	**Cirque**	**38.91 45**		P	**P**	**12 09 17.5**	**-1.3**
	baz=279,SNR=8.0						
K27K	**Chicken**	**39.00 39**		P	**P**	**12 09 19.3**	**-0.1**
	baz=276						
K27K	**Chicken**	**39.00 39**		P	**P**	**12 09 20.9**	**+1.5**
K27K				IAmb	IAmb	12 09 21.9	
	comp=Z,12nm,0.9s						
L27K	**Beaver Creek,**	**39.21 41**		P	**P**	**12 09 21.1**	**-0.1**
	baz=277,SNR=11						
L27K	**Beaver Creek,**	**39.21 41**		P	**P**	**12 09 22.6**	**+1.4**
L27K				IAmb	IAmb	12 09 24.3	
	comp=Z,8.4nm,0.8s						
BCAR	**Beaver Creek A**	**39.22 41**		P	**P**	**12 09 23.0**	**+1.6**
EGAK	**Eagle**	**39.33 38**		P	**P**	**12 09 21.5**	**-0.6**
	baz=275,SNR=11						
EGAK	**Eagle**	**39.33 38**		P	**P**	**12 09 22.7**	**+0.6**
EGAK				IAmb	IAmb	12 09 23.7	
	comp=Z,10nm,0.9s						
BARN	**Barnard Glacie**	**39.56 44**		P	**P**	**12 09 26.2**	**+1.9**
BARN				IAmb	IAmb	12 09 27.2	
	comp=Z,7.8nm,0.8s						
MESA	**MESA**	**39.56 45**		P	**P**	**12 09 23.6**	**-0.7**
	baz=280						
CTG	**Chitna Glacier**	**39.73 44**		P	**P**	**12 09 25.2**	**-0.5**
	baz=280,SNR=5.3						
CTGM	**Chitina Glacie**	**39.73 44**		P	**P**	**12 09 26.6**	**+0.9**
CTGM				IAmb	IAmb	12 09 28.5	
	comp=Z,10nm,0.8s						
PINM	**Pinnacle**	**40.41 45**		P	**P**	**12 09 30.7**	**-0.6**
	baz=282						
EPYK	**Eagle Plains**	**40.99 35**		P	**P**	**12 09 35.5**	**-0.4**
	baz=277,SNR=6.4						
EPYK	**Eagle Plains**	**40.99 35**		P	**P**	**12 09 36.9**	**+0.9**
EPYK				IAmb	IAmb	12 09 52.5	
	comp=Z,13nm,1.1s						
HYT	**Haines Junctio**	**41.59 44**		P	**P**	**12 09 43.2**	**+2.2**
INK	**Inuvik**	**41.98 32**		P	**P**	**12 09 44.9**	**+1.1**
	comp=Z,6.3nm,0.9s,baz=279,slow=6.0,SNR=10						
INK	**Inuvik**	**41.98 32**		P	**P**	**12 09 44.6**	**+0.8**
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**41.98 32**		P	**P**	**12 09 43.5**	**-0.3**
	baz=278,SNR=5.2						
INK	**Inuvik**	**41.98 32**		P	**P**	**12 09 44.6**	**+0.8**
ZALV	**Zalesovo Beam**	**42.62 306**		P	**P**	**12 09 47.0**	**-2.3**
	comp=Z,1.6nm,0.4s,baz=54,slow=6.2,SNR=5.3						
ZALV				PcP	**PcP**	**12 11 40.8**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=84,slow=4.5,SNR=9.3						
ZALV				LR	LR	12 28 36.4	
	comp=Z,372nm,18.7s,baz=62,slow=38						
WHY	**Whitehorse**	**42.89 44**		P	**P**	**12 09 50.3**	**-1.2**
	baz=285						
WHY	**Whitehorse**	**42.89 44**		P	**P**	**12 09 53.7**	**+2.2**
WMQ	**Urumqi**	**44.85 291**		*e*P	**P**	**12 10 08.9**	**+1.4**
WMQ				LR	LR		
	comp=Z,190nm,14.7s						
WMQ				LR	LR		
	comp=Z,240nm,22.5s						
WMQ				LR	LR		
	comp=Z,250nm,17.7s						
DLBC	**Dease Lake**	**45.91 46**		P	**P**	**12 10 18.4**	**+2.8**
	comp=Z,5.3nm,0.8s,baz=294,slow=10,SNR=10						
DLBC	**Dease Lake**	**45.91 46**		P	**P**	**12 10 18.0**	**+2.3**
DLBC				IAmb	IAmb	12 10 19.1	
	comp=Z,8.4nm,1.1s						
SLVN	**Son La**	**46.80 255**		P	**P**	**12 10 24.1**	**+1.2**
MK31	**Makanchi Array**	**46.90 297**		P	**P**	**12 10 22.6**	**-0.9**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK31	**Makanchi Array**	**46.90 297**		P	**P**	**12 10 22.6**	**-0.9**
MKAR	**Makanchi Array**	**46.90 297**		P	**P**	**12 10 22.1**	**-1.5**
	comp=Z,3.0nm,0.8s,baz=72,slow=7.9,SNR=16						
MKAR				PcP	**PcP**	**12 11 55.6**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=64,slow=4.5,SNR=6.4						
MKAR				LR	LR	12 31 11.0	
	comp=Z,393nm,19.0s,baz=16,slow=38						
MKAR	**Makanchi Array**	**46.90 297**		P	**P**	**12 10 22.4**	**-1.1**
MKAR	**Makanchi Array**	**46.90 297**		P	**P**	**12 10 22.4**	**-1.1**
MAKZ	**Makanchi**	**47.09 298**		P	**P**	**12 10 23.9**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAKZ	**Makanchi**	**47.09 298**		P	**P**	**12 10 23.9**	**-1.1**
NONG	**Nongkai**	**49.61 252**		P	**P**	**12 10 46.9**	**+2.2**
	comp=Z,28nm,1.3s						
LSA	**Lhasa**	**50.11 273**		P	**P**	**12 10 49.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**50.11 273**		P	**P**	**12 10 49.9**	**+1.0**
LSA	**Lhasa**	**50.11 273**		*e*P	**P**	**12 10 49.9**	**+1.0**
BRVK	**Borovoye**	**

KK31 pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 55.97 299 P **P 12 11 30.1 -1.3**
KKAR Karatay Array 55.97 299 P **P 12 11 30.2 -1.1**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 55.97 299 P **P 12 11 30.3 -1.1**
KKAR Karatay Array 55.97 299 P **P 12 11 30.2 -1.1**
H04D Lebanon 56.41 59 P **P 12 11 34.3 -0.1**
baz=305
I03D Drain, OR 56.52 60 P **P 12 11 34.7 -0.5**
baz=305
K02D Willamette Mer 56.90 61 P **P 12 11 37.4 -0.6**
baz=305
NEW Newport 57.48 52 P **P 12 11 42.0 0.0**
baz=305
PINE Pine Mountain 57.89 59 P **P 12 11 47.2 +2.0**
L04D Klamath Falls 57.99 61 P **P 12 11 45.9 +0.1**
baz=306
J05D Fort Rock, OR 58.01 59 P **P 12 11 45.2 -0.8**
baz=306
ARCES ARCESS Array B 58.05 341 P **P 12 11 45.6 0.0**
comp=Z,4.4nm,1.1s,baz=30,slow=7.5,SNR=4.1
ABKAR Akbulak array 58.46 310 P **P 12 11 47.0 -1.8**
ABKAR Akbulak array 58.46 310 P **P 12 11 47.0 -1.8**
ABKAR IAmb IAmb 12 11 50.5
comp=Z,5.9nm,1.4s
N02D Trinity Center 58.48 62 P **P 12 11 49.6 +0.4**
baz=307
WALA Waterton Lakes 58.75 50 P **P 12 11 52.0 +1.0**
WALA IAmb IAmb 12 12 07.3
comp=Z,4.0nm,0.7s
O02D Mt. Diablo Mer 58.90 63 P **P 12 11 52.2 +0.1**
baz=307
CHGR Chuyangaron 59.39 295 P **P 12 11 55.5 -0.1**
NIL Nilore 59.82 288 P **P 12 11 58.3 -0.2**
NIL pmax pmax
comp=Z,24nm,1.0s
NIL Nilore 59.82 288 P **P 12 11 58.3 -0.2**
WVOR Wild Horse Val 60.05 59 P **P 12 12 01.8 +1.7**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 60.05 59 P **P 12 12 01.8 +1.7**
WVOR IAmb IAmb 12 12 17.5
comp=Z,6.3nm,0.9s
MSO Missoula 60.07 52 P **P 12 11 59.8 -0.3**
baz=308
MSO Missoula 60.07 52 P **P 12 12 01.0 +0.9**
BEKR Beckworth 60.58 62 P **P 12 12 05.5 +1.7**
SUMG Summit 60.98 4 P **P 12 12 05.5 -0.7**
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 60.98 4 P **P 12 12 05.5 -0.7**
FFC Flin Flon 61.06 40 P **P 12 12 06.9 +0.3**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 61.06 40 P **P 12 12 06.9 +0.3**
LRM Limekiln Ridge 61.51 52 P **P 12 12 11.5 +1.5**
PNTR Pine Nut 61.52 62 P **P 12 12 10.9 +0.7**
PNTR IAmb IAmb 12 12 29.2
comp=Z,5.8nm,0.9s
EGMT Eagleton 61.58 49 P **P 12 12 10.1 -0.2**
baz=309
YERR Yerington 61.80 62 P **P 12 12 14.0 +1.9**
YERR IAmb IAmb 12 12 29.0
comp=Z,8.1nm,1.1s
KBL Kabul 62.00 292 P **P 12 12 13.4 -0.1**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 62.00 292 P **P 12 12 13.3 -0.1**
KBL IAmb IAmb 12 12 16.1
comp=Z,5.7nm,0.8s
BOZ Bozeman (W) 62.09 52 P **P 12 12 15.2 +1.3**
BOZ pmax pmax
comp=Z,12nm,1.3s
BOZ Bozeman (W) 62.09 52 P **P 12 12 14.3 +0.4**
baz=309
BOZ Bozeman (W) 62.09 52 P **P 12 12 15.2 +1.3**
KVN Kaiserville 62.46 61 P **P 12 12 17.3 +0.8**
KVN pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 62.46 61 P **P 12 12 17.3 +0.8**
KVN IAmb IAmb 12 12 33.4
comp=Z,9.0nm,1.1s
LHV Little Huntoon 62.71 62 P **P 12 12 20.6 +2.7**
NVAR Mina Array Bea 62.72 62 P **P 12 12 19.2 +0.9**
comp=Z,1.2nm,0.8s,baz=289,slow=7.4,SNR=12
MLAC Mammoth, Mammo 62.90 63 P **P 12 12 20.3 +0.8**
baz=310
GCMT Greycliff 63.04 51 P **P 12 12 21.4 +1.2**
ELK Elko 63.10 58 P **P 12 12 22.3 +1.5**
ELK pmax pmax
comp=Z,5.0nm,1.3s
ELK Elko 63.10 58 **P 12 12 22.3 +1.5**
TPH Tonopah 63.60 62 P **P 12 12 25.8 +1.7**
TPH pmax pmax
comp=Z,22nm,0.9s
TPH Tonopah 63.60 62 P **P 12 12 25.8 +1.7**
RLMT Red Lodge 63.68 51 P **P 12 12 23.9 -0.6**
baz=311
RLMT Red Lodge 63.68 51 **P 12 12 25.9 +1.4**
RLMT IAmb IAmb 12 12 41.6
comp=Z,12nm,1.4s
TPAW Teton Pass 63.81 54 P **P 12 12 27.6 +2.1**
LOHW Long Hollow 63.92 53 P **P 12 12 27.9 +1.7**
LOHW IAmb IAmb 12 12 43.4
comp=Z,6.4nm,1.1s
REDW Red Top Meadow 63.95 54 P **P 12 12 28.7 +2.4**
REDW IAmb IAmb 12 12 43.6
comp=Z,11nm,1.1s
CWC Cottonwood Cre 64.12 64 P **P 12 12 28.2 +0.7**
baz=310
FINES FINESS Array B 64.21 335 P **P 12 12 26.1 -1.3**
comp=Z,4.7nm,0.5s,baz=40,slow=8.4,SNR=21
LAO LASA Array 64.27 49 P **P 12 12 27.6 -0.5**
baz=312
LAO LASA Array 64.27 49 P **P 12 12 29.5 +1.3**
LAO IAmb IAmb 12 12 45.0
comp=Z,10.0nm,0.9s
R11A Troy Canyon, C 64.42 61 P **P 12 12 27.5 -1.9**
baz=310
R11A Troy Canyon, C 64.42 61 P **P 12 12 30.9 +1.5**
R11A IAmb IAmb 12 12 46.0
comp=Z,5.4nm,1.0s
MPMC Manual Prospec 64.73 64 P **P 12 12 32.3 +0.8**
baz=310
SPR3 Spring Creek 3 64.75 59 P **P 12 12 34.4 +2.6**
SPR3 IAmb IAmb 12 12 49.0
comp=Z,5.1nm,0.9s
FURC Furnace Creek, 64.85 63 P **P 12 12 33.0 +1.0**
baz=311
DUG Dugway, Tooele 64.87 58 P **P 12 12 32.0 -0.3**
baz=311
TPNV Topopah Spring 64.92 62 P **P 12 12 34.1 +1.4**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 64.92 62 P **P 12 12 33.9 +1.3**
baz=311
TPNV Topopah Spring 64.92 62 P **P 12 12 34.1 +1.4**
TPNV IAmb IAmb 12 12 49.5
comp=Z,6.5nm,1.0s
LRMC Laurel Mtn Rad 64.98 64 P **P 12 12 34.0 +0.9**
baz=311
BW06 Boulder Array 65.05 54 P **P 12 12 33.9 +0.3**
baz=311
BW06 Boulder Array 65.05 54 P **P 12 12 35.0 +1.5**
BW06 IAmb IAmb 12 12 49.8
comp=Z,5.1nm,0.9s
PD31 Pinedale Array 65.05 54 P **P 12 12 35.0 +1.5**
PD31 IAmb IAmb 12 12 49.8
comp=Z,5.3nm,1.0s
PDAR Pinedale Array 65.05 54 P **P 12 12 35.2 +1.7**
comp=Z,1.9nm,0.9s,baz=281,slow=2.4,SNR=12
PDAR Pinedale Array 65.05 54 P **P 12 12 34.4 +0.8**
EDW2 Edwards Air Fo 65.18 65 P **P 12 12 35.2 +0.9**
baz=311,SNR=5.4
OBN Obninsk 65.43 325 *e*P **P 12 12 34.1 -1.3**
OBN *e* 12 13 06.9
OBN *e* 12 14 57.2
OBN pmax pmax
comp=Z,16nm,0.5s
OBN MLR MLR
comp=Z,71nm,15.0s
OBN Obninsk 65.43 325 *e*P **P 12 12 34.1 -1.3**
SHOC Shoshone, Teco 65.58 63 P **P 12 12 37.2 +0.4**
baz=311

GSC Goldstone, Bar 65.64 64 P **P 12 12 39.9 +2.6**
GSC pmax pmax
comp=Z,5.0nm,1.0s
GSC Goldstone, Bar 65.64 64 P **P 12 12 37.8 +0.5**
baz=311
GSC Goldstone, Bar 65.64 64 **P 12 12 39.9 +2.6**
BFSC Mount Baldy Ra 65.80 65 P **P 12 12 38.6 +0.2**
baz=311
SHPR Sheep Range 65.87 62 **P 12 12 40.4 +1.6**
SCI2 San Clemente I 66.06 67 P **P 12 12 40.8 +0.9**
baz=311
TUQ Turquoise Moun 66.10 63 P **P 12 12 41.2 +0.9**
baz=311,SNR=5.1
HEC Hector,Ludlow 66.24 64 P **P 12 12 41.3 +0.2**
baz=311,SNR=5.3
BBRC Big Bear Solar 66.25 65 P **P 12 12 41.5 +0.1**
baz=311
CCUT Cedar City 66.27 60 **P 12 12 42.1 +0.6**
CCUT IAmb IAmb 12 12 58.4
comp=Z,6.6nm,1.0s
SZCU Shurtz Canyon 66.41 60 P **P 12 12 44.2 +1.8**
RDMU Red Mountain 66.50 55 P **P 12 12 44.6 +1.8**
MURC Murrieta 66.51 66 P **P 12 12 43.0 +0.2**
baz=312
GEYT Alibeck 66.59 301 P **P 12 12 43.9 +0.6**
comp=Z,4.0nm,0.7s,baz=2.3,slow=7.4,SNR=4.4
MTPU Mount Pierson 66.65 59 P **P 12 12 45.7 +1.6**
MTPU IAmb IAmb 12 13 01.2
comp=Z,5.3nm,0.9s
GMRC Granite Mounta 66.69 64 P **P 12 12 44.4 +0.3**
baz=312
LCMT Little Creek M 66.70 60 P **P 12 12 46.0 +1.9**
LCMT IAmb IAmb 12 13 01.1
comp=Z,7.9nm,0.9s
K22A Casper 66.80 52 P **P 12 12 44.5 -0.2**
baz=313
MDND Maddock 66.80 44 P **P 12 12 44.2 -0.2**
baz=314
SRU San Rafael Swe 66.92 57 P **P 12 12 46.6 +1.1**
SRU pmax pmax
comp=Z,10.0nm,0.8s
SRU San Rafael Swe 66.92 57 P **P 12 12 46.6 +1.1**
KNB Kanab 66.95 60 P **P 12 12 47.6 +1.8**
KNB pmax pmax
comp=Z,10.0nm,1.0s
KNB Kanab 66.95 60 P **P 12 12 47.6 +1.8**
KNB IAmb IAmb 12 13 03.0
comp=Z,10nm,1.0s
TPFO Pinon Flats 66.97 65 P **P 12 12 46.7 +0.8**
baz=312
BELC Belle Mtn. Jos 67.00 64 P **P 12 12 46.6 +0.5**
baz=312
RSSD Black Hills 67.14 50 P **P 12 12 48.2 +1.3**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
RSSD Black Hills 67.14 50 P **P 12 12 47.5 +0.6**
baz=313
RSSD Black Hills 67.14 50 **P 12 12 48.2 +1.3**
RSSD IAmb IAmb 12 13 02.8
comp=Z,8.1nm,0.8s
IRM Iron Mountain 67.42 64 P **P 12 12 48.7 +0.1**
baz=312
MONP2 Monument Peak 67.46 66 P **P 12 12 48.6 -0.5**
baz=312
O20A White River Ci 67.54 55 **P 12 12 51.9 +2.4**
O20A IAmb IAmb 12 13 05.7
comp=Z,14nm,1.4s
W13A Hualapai Mount 67.58 62 **P 12 12 50.3 +0.5**
PDMCI Parker Dam,Lak 67.95 63 P **P 12 12 51.9 +0.1**
baz=312
WRAB Tennant Creek 68.19 199⇓*e*P **P 12 12 53.3 0.0**
WRAB pmax pmax
comp=Z,9.0nm,1.3s
WRA Warramunga Arr 68.20 199 P **P 12 12 54.9 +1.5**
comp=Z,2.0nm,0.9s,baz=17,slow=6.6,SNR=8.4
WRA Warramunga Arr 68.20 199 P **P 12 12 54.4 +1.0**
WRA pmax pmax
comp=Z,1.0nm,1.2s
WRA Warramunga Arr 68.20 199 P **P 12 12 54.4 +1.0**
NC405 NORSAR Array S 68.25 341 P **P 12 12 52.1 -1.3**
AGMN Agassiz Nation 68.25 42 P **P 12 12 52.5 -1.0**
baz=316
N23A Red Feather La 68.31 53 P **P 12 12 53.5 -0.9**
baz=314
NC204 NORSAR Array S 68.31 341 P **P 12 12 53.2 -0.6**
PV17 East Wray Mesa 68.38 57 P **P 12 12 55.2 +0.4**
NB2 NORSAR Subarra 68.42 341 P **P 12 12 53.7 -0.7**
comp=Z,23nm,1.1s,baz=29,slow=6.5
NB2 NORSAR Subarra 68.42 341 P **P 12 12 53.7 -0.7**
baz=29,slow=6.5
NOA NORSAR Array B 68.42 341 P **P 12 12 53.8 -0.7**
comp=Z,6.1nm,0.8s,baz=28,slow=6.3,SNR=17
PV03 Paradox Valley 68.46 57 P **P 12 12 56.1 +0.8**
PV03 IAmb IAmb 12 13 11.8
comp=Z,8.7nm,1.0s
PV13 Radium Mtn., P 68.54 57 P **P 12 12 56.9 +1.1**
PV13 IAmb IAmb 12 13 12.3
comp=Z,8.8nm,0.8s
HFS Hagfors 68.65 339 P **P 12 12 55.3 -0.5**
comp=Z,6.4nm,0.4s,baz=46,slow=8.3
WUAZ Wupatki 68.82 61 P **P 12 12 57.1 -0.4**
baz=313
WUAZ Wupatki 68.82 61 **P 12 12 57.4 -0.2**
SMCO Snowmass 68.91 55 P **P 12 12 59.7 +1.4**
SMCO IAmb IAmb 12 13 14.6
comp=Z,5.1nm,0.8s
MNK Minsk 69.14 329 *i* P **P 12 12 58.8 -0.1**
MNK *i* *PP **sP** **12 13 15.1 -1.1**
MNK *i* 12 13 22.6
MNK *i* 12 15 31.3
MNK *i* PPP PPP 12 17 11.7
MNK *i* S **S** **12 21 58.9 -1.8**
MNK *i* *SS sS 12 22 27.2 +5.3
MNK *i* 12 22 53.6
MNK *i* SS **SS** **12 26 28.0 +1.6**
MNK pmax pmax
comp=E,2.0nm,1.1s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,25nm,1.1s
MNK MLR MLR
comp=Z,236nm,23.0s
MNK MLR MLR
comp=E,40nm,23.0s
MNK MLR MLR
comp=N,155nm,12.0s
MNK Minsk 69.14 329 *i* P **P 12 12 58.8 -0.1**
comp=E,2.0nm,1.1s
MNK *i* P **P 12 12 58.8 -0.1**
comp=N,25nm,1.1s
MNK *i* P **P 12 12 58.8 -0.1**
comp=Z,17nm,0.8s,baz=217
MNK *i* pP **sP** **12 13 15.2 -1.0**
MNK *i* PcP **PcP** **12 13 22.7 +0.1**
MNK *i* PP **PP** **12 15 31.4 -0.1**
MNK *i* PPP PPP 12 17 11.8
MNK *i* S **S** **12 21 59.0 -1.8**
MNK *i* sS sS 12 22 27.2 +5.4
MNK *i* ScS **SKSac** **12 22 53.7 -1.0**
MNK *i* SS **SS** **12 26 28.0 +1.6**
MNK *i* SSS SSS 12 29 43.5
MNK *i* LQ LQ 12 38 29.1
MNK *i* LR LR 12 43 43.9
MNK *i* LRM MLR 12 46 36.8
comp=Z,236nm,23.2s
MNK *i* LRM MLR 12 47 27.1
comp=E,40nm,22.6s
MNK *i* LRM MLR 12 47 34.2
comp=N,155nm,12.2s
ISCO Idaho Springs 69.25 54 P **P 12 13 02.1 +1.8**
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO Idaho Springs 69.25 54 P **P 12 12 59.2 -1.1**
baz=314
ISCO Idaho Springs 69.25 54 P **P 12 13 02.1 +1.8**
MVCO Mesa Verde 69.38 57 **P 12 13 03.2 +2.2**
MVCO IAmb IAmb 12 13 17.5
comp=Z,6.1nm,0.8s
X16A Lo Mia Camp, P 69.52 61 P **P 12 13 04.0 +2.1**
SUSD Miller 69.53 47 P **P 12 13 00.9 -0.7**
baz=316
F33A 5 Mile Ranch, 69.83 44 P **P 12 13 03.7 +0.3**
F33A IAmb IAmb 12 13 19.5
comp=Z,8.6nm,1.1s

S22A 4UR Ranch, Cre 69.97 56 P **P 12 13 03.8 -1.0**
baz=314
AKT Akhty 70.03 309 *e*P **P 12 13 05.7 +0.9**
AKT *e* 12 13 28.5
AKT pmax pmax
comp=Z,7.0nm,0.7s
Q24A Divide 70.08 54 P **P 12 13 04.0 -1.4**
baz=314
X18A Snowflake 70.35 60 P **P 12 13 08.0 +1.0**
214A Organ Pipe Nat 70.35 64 P **P 12 13 05.5 -1.4**
baz=313
OGNE Ogallala 70.41 51 P **P 12 13 06.4 -0.7**
baz=315
EYMN Ely 70.49 40 P **P 12 13 06.8 -0.6**
baz=319
EYMN Ely 70.49 40 P **P 12 13 07.7 +0.3**
EYMN IAmb IAmb 12 13 08.8
comp=Z,6.8nm,1.1s
SDCO Great Sand Dun 70.73 55 P **P 12 13 08.1 -1.3**
baz=314
SDCO Great Sand Dun 70.73 55 **P 12 13 11.1 +1.7**
KIV Kislovodsk 70.86 314 *e*P **P 12 13 11.6 +1.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,74nm,18.0s
KIV Kislovodsk 70.86 314 *e*P **P 12 13 11.6 +1.8**
KBZ Khabaz 70.92 314 P **P 12 13 10.3 +0.3**
comp=Z,3.4nm,0.8s,baz=42,slow=5.2,SNR=8.3
KBZ Khabaz 70.92 314⇓*e*P **P 12 13 09.1 -0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 70.92 314 *e*P **P 12 13 09.1 -0.9**
ECSD EROS Data Cent 71.20 46 P **P 12 13 10.9 -0.9**
baz=317
ECSD EROS Data Cent 71.20 46 P **P 12 13 11.7 -0.1**
ECSD IAmb IAmb 12 13 27.2
comp=Z,9.3nm,1.1s
TUC Tucson 71.36 63 P **P 12 13 14.9 +1.9**
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 71.36 63 P **P 12 13 13.1 +0.1**
baz=314
TUC Tucson 71.36 63 **P 12 13 14.9 +1.9**
E38A The Farm, Brul 71.48 41 P **P 12 13 14.1 +0.7**
E38A IAmb IAmb 12 13 14.4
comp=Z,8.2nm,0.8s
AKASG Malin Array Be 71.67 326 P **P 12 13 13.6 -0.8**
comp=Z,6.9nm,0.5s,baz=34,slow=6.2,SNR=20
AKASG pP **pP** **12 13 28.1 +1.2**
comp=Z,2.4nm,0.4s,baz=33,slow=6.1,SNR=4.2
AKASG Malin Array Be 71.67 326 P **P 12 13 13.6 -0.8**
AKBB Malin Array Si 71.67 326 *de*P **P 12 13 13.9 -0.5**
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 71.67 326 P **P 12 13 13.6 -0.8**
AKBB IAmb IAmb 12 13 14.7
comp=Z,8.5nm,0.7s
T25A Trinidad 71.78 55 P **P 12 13 15.1 -0.6**
baz=315
AS31 Alice Springs 71.89 198 P **P 12 13 18.0 +2.0**
ASAR Alice Springs 71.89 198 P **P 12 13 18.2 +2.2**
comp=Z,2.0nm,0.7s,baz=11,slow=5.6,SNR=43
SPMN Marine on St. 71.94 43 P **P 12 13 15.5 -0.6**
baz=319
I37A Lemond, Waseca 72.56 44 P **P 12 13 20.6 +0.6**
GNI Garni 72.57 310⇓*e*P **P 12 13 22.8 +2.6**
GNI pmax pmax
comp=Z,7.0nm,0.7s
121A Cookes Peak, D 73.03 61 **P 12 13 23.9 +0.8**
121A IAmb IAmb 12 13 40.5
comp=Z,7.1nm,1.1s
SORM Soroca 74.07 325 ⇑P **P 12 13 28.6 -0.1**
SORM Soroca 74.07 325 ⇑P **P 12 13 28.6 -0.1**
SCIA State Center 74.23 45 P **P 12 13 28.8 -1.0**
baz=319
KIS Kishinev 74.80 324 *e*P P 12 13 38.0 +5.1
comp=Z,70nm,0.4s
KIS Kishinev 74.80 324 *e*P P 12 13 38.0 +5.1
KIS *e* 12 14 03.0
KIS pmax pmax
comp=Z,70nm,0.4s
MNTX Cornudas Mount 75.06 60 **P 12 13 36.6 +1.8**
OJC Ojcow 75.47 331 P **P 12 13 36.1 -0.7**
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 75.47 331 P **P 12 13 36.1 -0.7**
OJC IAmb IAmb 12 13 37.6
comp=Z,9.7nm,0.9s
CHGQ Chibougamau 75.64 29 P **P 12 13 36.6 -1.2**
baz=329
KOLS Kolonicke sedl 75.70 329 *e*P **P 12 13 38.4 +0.2**
KOLS Kolonicke sedl 75.70 329 *e*P **P 12 13 38.4 +0.2**
P38A Dawn 75.80 47 P **P 12 13 39.2 +0.3**
P38A IAmb IAmb 12 13 54.3
comp=Z,11nm,0.9s
CRVS Cervenica-Dubn 76.02 329 *e*P **P 12 13 39.6 -0.3**
CRVS Cervenica-Dubn 76.02 329 *e*P **P 12 13 39.6 -0.3**
TESR Tescani 76.06 325 ⇑P **P 12 13 40.0 -0.2**
FLTG Flechtingen 76.21 337 *e*P **P 12 13 40.8 -0.1**
comp=Z,16nm,0.9s,baz=25,slow=4.8
CHVC Chvalec 76.36 333 *e*P **P 12 13 43.7 +1.8**
UPC Upice 76.44 333 *e*P **P 12 13 43.3 +1.0**
UPC Upice 76.44 333 *e*P **P 12 13 43.3 +1.0**
DPC Dobruska-Polom 76.48 333 *e*P **P 12 13 42.9 +0.3**
DPC Dobruska-Polom 76.48 333 *e*P **P 12 13 42.9 +0.3**
LANS Liptovska Anna 76.49 331 *e*P **P 12 13 44.0 +1.3**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 76.49 331 *e*P **P 12 13 44.0 +1.3**
EKA Eskdalemuir Ar 76.56 346 P **P 12 13 43.8 +0.9**
comp=Z,0.7nm,0.4s,baz=23,slow=5.7,SNR=4.3
VRI Vrincioaia 76.56 325 ⇓P **P 12 13 43.4 +0.3**
VRI Vrincioaia 76.56 325 ⇓P **P 12 13 43.4 +0.3**
MORC Moravsky Berou 76.59 332 ⇑P **P 12 13 43.4 +0.1**
MORC Moravsky Berou 76.59 332 ⇑P **P 12 13 43.4 +0.1**
MORC Moravsky Berou 76.59 332 P **P 12 13 43.2 0.0**
MORC IAmb IAmb 12 13 44.8
comp=Z,9.2nm,0.9s
MORC Moravsky Berou 76.59 332 *e*P **P 12 13 43.3 +0.1**
P40A Paris 76.62 46 P **P 12 13 44.1 +0.7**
P40A IAmb IAmb 12 13 59.1
comp=Z,12nm,1.0s
CLL Collm 76.64 335 *i* P **P 12 13 42.7 -0.7**
comp=Z,15nm,0.8s
CLL Collm 76.64 335 *i* P **P 12 13 42.7 -0.7**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 76.64 335 P **P 12 13 41.7 -1.6**
CLL Collm 76.64 335 *e*P **P 12 13 42.8 -0.7**
comp=Z,15nm,0.8s,baz=25,slow=4.8
TPGR Topolog 76.69 323 ⇑P **P 12 13 43.8 0.0**
BRG Berggiesshubel 76.75 335 *e*P **P 12 13 43.9 -0.1**
BRG Amp 12 13 45.2
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 76.75 335 *e*P **P 12 13 43.6 -0.4**
comp=Z,8.9nm,1.1s,baz=25,slow=4.8
FBE Freiberg 76.88 335 *e*P **P 12 13 44.7 0.0**
comp=Z,11nm,0.9s,baz=25,slow=4.8
CLZ Clausthal 76.89 337 *e*P **P 12 13 45.2 +0.4**
comp=Z,17nm,0.9s,baz=25,slow=4.8
MLR Muntele Rosu 77.18 325 P **P 12 13 47.6 +0.9**
comp=Z,6.1nm,0.7s,baz=32,slow=2.6,SNR=5.4
MLR Muntele Rosu 77.18 325 ⇑P **P 12 13 47.4 +0.7**
MLR Muntele Rosu 77.18 325 ⇑P **P 12 13 47.4 +0.7**
MLR Muntele Rosu 77.18 325 P **P 12 13 46.8 0.0**
MLR IAmb IAmb 12 13 48.6
comp=Z,8.5nm,0.8s
VYHS Vyhne 77.27 331 *e*P **P 12 13 47.0 0.0**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
VYHS Vyhne 77.27 331 *e*P **P 12 13 47.0 0.0**
VRAC Vranov 77.31 332 P **P 12 13 47.4 +0.2**
comp=Z,8.4nm,0.8s,baz=8.6,slow=5.1,SNR=10
VRAC LR LR 12 52 32.4
comp=Z,150nm,18.8s,baz=38,slow=39
VRAC Vranov 77.31 332 ⇑P **P 12 13 46.2 -1.0**
VRAC Vranov 77.31 332 ⇑P **P 12 13 46.2 -1.0**
VRAC Vranov 77.31 332 *e*P **P 12 13 47.6 +0.4**
DRGR 77.34 327 ⇓P **P 12 13 46.5 -1.0**
DRGR 77.34 327 ⇓P **P 12 13 46.5 -1.0**
JAVC Velka Javorina 77.35 332 *e*P **P 12 13 48.8 +1.3**
PRU Pruhonice 77.35 334 *e*P **P 12 13 47.5 +0.1**
PRU Pruhonice 77.35 334 *e*P **P 12 13 47.5 +0.1**
S39A Bolivar 77.37 48 P **P 12 13 47.8 0.0**

S39A IAmb IAmb 12 14 03.1
comp=Z,5.4nm,0.9s
PSZ Piszkesteto 77.40 330 P **P 12 13 47.7 -0.2**
PSZ pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 77.40 330 P **P 12 13 47.7 -0.2**
PSZ IAmb IAmb 12 13 49.2
comp=Z,9.5nm,1.0s
TUL1 Leonard 77.42 51 P **P 12 13 48.0 -0.1**
baz=319
VOIR 77.58 325 ⇓P **P 12 13 50.3 +1.4**
VOIR 77.58 325 ⇓P **P 12 13 50.3 +1.4**
KRUC Moravsky 77.58 332 *e*P **P 12 13 49.2 +0.4**
PLN Plauen 77.61 336 *e*P **P 12 13 48.8 -0.1**
comp=Z,8.9nm,1.2s,baz=25,slow=4.8
MOX Moxa 77.62 336 *e*P **P 12 13 49.1 +0.1**
comp=Z,7.2nm,0.9s,baz=25,slow=4.8
ALGO Algonquin Park 77.66 34 P **P 12 13 48.8 -0.4**
baz=327
SMOL Smolenice 77.73 331 *e*P **P 12 13 50.2 +0.6**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL Smolenice 77.73 331 *e*P **P 12 13 50.2 +0.6**
WERN Wernitzgruen 77.73 335 *e*P **P 12 13 49.6 0.0**
comp=Z,10nm,0.9s,baz=25,slow=4.8
PBCC Pribram 77.78 334 *e*P **P 12 13 50.5 +0.6**
TX31 Lajitas Ar. Si 77.78 60 P **P 12 13 51.5 +1.1**
TX32 Lajitas Array 77.78 60 P **P 12 13 51.2 +0.9**
TX32 IAmb IAmb 12 14 06.9
comp=Z,7.4nm,0.8s
TXAR Lajitas Array 77.78 60 P **P 12 13 51.9 +1.6**
comp=Z,1.1nm,0.7s,baz=303,slow=3.8,SNR=15
TXAR pP **pwP 12 14 05.9 -0.9**
comp=Z,5.1nm,0.6s,baz=299,slow=4.6,SNR=32
TXAR Lajitas Array 77.78 60 P **P 12 13 50.6 +0.3**
TXAR Lajitas Array 77.78 60 P **P 12 13 50.6 +0.3**
ARR Arges 77.80 325 ⇑P **P 12 13 50.3 +0.2**
MODS Modra-Piesok 77.90 331 *e*P **P 12 13 52.3 +1.8**
MODS pmax pmax
comp=Z,14nm,1.1s
MODS Modra-Piesok 77.90 331 *e*P **P 12 13 52.3 +1.8**
KASTN Kahler Asten 77.98 338 *e*P **P 12 13 51.0 0.0**
comp=Z,9.7nm,1.1s,baz=25,slow=4.8
MANZ Manzenberg 78.07 335 *e*P **P 12 13 51.8 +0.3**
comp=Z,8.3nm,1.1s,baz=25,slow=4.8
BNN Bunyan 78.08 315 P **P 12 13 52.2 +0.3**
ZST Bratislava 78.11 332 *e*P **P 12 13 52.5 +0.8**
ZST Bratislava 78.11 332 *e*P **P 12 13 52.5 +0.8**
CCM Cathedral Cave 78.15 47 P **P 12 13 51.8 -0.3**
baz=321
SIRR Siria 78.18 328 ⇓P **P 12 13 52.6 +0.5**
ROTZ Rotzenmuhle 78.24 335 *e*P **P 12 13 52.7 +0.3**
comp=Z,7.7nm,1.0s,baz=25,slow=4.8
SFIN Lafayette 78.34 42 P **P 12 13 52.7 -0.4**
baz=323
KHC Kasperske Hory 78.40 334 P **P 12 13 53.3 0.0**
KHC pmax pmax
comp=Z,12nm,1.0s
KHC Kasperske Hory 78.40 334 *e*P **P 12 13 53.8 +0.5**
KHC Kasperske Hory 78.40 334 P **P 12 13 53.3 0.0**
CKRC Cesky Krumlov 78.45 333 *e*P **P 12 13 55.2 +1.6**
BR131 Keskin Array S 78.46 317 P **P 12 13 54.5 +0.5**
BR131 pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 78.46 317 P **P 12 13 54.5 +0.5**
BR131 IAmb IAmb 12 13 55.8
comp=Z,11nm,0.9s
BRTR Keskin Array B 78.46 317 P **P 12 13 54.4 +0.5**
comp=Z,5.2nm,0.9s,baz=72,slow=4.7,SNR=16
BRTR Keskin Array B 78.46 317 P **P 12 13 53.9 -0.1**
BRTR Keskin Array B 78.46 317 P **P 12 13 53.9 -0.1**
GZR Gura Zlata 78.50 327 ⇑P **P 12 13 53.6 -0.4**
GZR Gura Zlata 78.50 327 ⇑P **P 12 13 53.6 -0.4**
GRF Grafenberg Arr 78.59 336 *e*P **P 12 13 55.0 +0.6**
comp=Z,23nm,1.0s,baz=25,slow=4.8
WET Wettzell 78.60 334 *e*P **P 12 13 54.8 +0.3**
comp=Z,9.5nm,0.9s,baz=25,slow=4.8
GEC2 GERESS Array S 78.62 334 P **P 12 13 54.3 -0.4**
GEC2 IAmb IAmb 12 13 55.3
comp=Z,5.7nm,1.0s
GERES GERESS Array B 78.62 334 P **P 12 13 54.6 0.0**
comp=Z,2.2nm,0.6s,baz=33,slow=5.4,SNR=20
GERES GERESS Array B 78.62 334 P **P 12 13 54.1 -0.5**
GERES GERESS Array B 78.62 334 P **P 12 13 54.1 -0.5**
U40A Yellville 78.64 49 P **P 12 13 55.2 +0.3**
baz=320
U40A Yellville 78.64 49 P **P 12 13 55.0 +0.2**
BZS Buzias 78.74 327 ⇑P **P 12 13 53.4 -1.8**
BZS Buzias 78.74 327 ⇑P **P 12 13 53.4 -1.8**
CONA Conrad Observa 78.75 332 *i*P **P 12 13 56.2 +0.8**
comp=Z,11nm,0.8s,SNR=5.7
MILB Miltenberg 79.00 337 *e*P **P 12 13 57.1 +0.5**
comp=Z,17nm,0.8s,baz=25,slow=4.8
W39A Magazine 79.03 50 P **P 12 13 57.4 +0.4**
baz=320
E58A La Victoria 79.05 31 P **P 12 13 56.4 -0.5**
baz=330
HERR Herculane 79.06 327 ⇑ **P 12 13 56.4 -0.6**
MEM Membach 79.14 339 *d*P **P 12 13 57.7 +0.4**
JCT Junction City 79.23 57 P **P 12 13 59.6 +1.4**
JCT pmax pmax
comp=Z,18nm,1.4s
JCT Junction City 79.23 57 **P 12 13 59.6 +1.4**
JCT IAmb IAmb 12 14 15.0
comp=Z,18nm,1.4s
MORH Mrgy, Hungar 79.31 330 ⇑P **P 12 13 57.5 -0.7**
MOA Molin 79.33 333 *e*P **P 12 13 58.8 +0.3**
comp=Z,5.3nm,0.8s
ARSA Arzberg 79.45 332 *e*P **P 12 13 58.5 -0.6**
comp=Z,9.8nm,1.4s
G57A Newington 79.53 32 P **P 12 13 58.8 -0.7**
baz=329
BGES Gesves 79.57 340 *d*P **P 12 13 59.1 -0.6**
BGES *d*PcP **PcP 12 14 07.4 -0.1**
F59A Saint Guilaume 79.68 31 P **P 12 14 00.2 -0.1**
baz=330,SNR=19
E60A Ste Agathe de 79.69 29 P **P 12 13 59.8 -0.5**
baz=331
BMRD Maredsous 79.72 340 *d*P **P 12 14 00.7 +0.2**
comp=Z,10nm,1.2s
WHAR Wooly Hollow 79.75 49 **P 12 14 01.1 +0.2**
WHAR IAmb IAmb 12 14 16.4
comp=Z,8.3nm,1.0s
FRGS Fruska Gora 79.80 328 ⇓P **P 12 14 00.8 -0.2**
G58A Ormstown 79.83 32 P **P 12 14 00.2 -1.0**
baz=329
D62A Allapoint, All 79.85 28 P **P 12 14 00.7 -0.6**
baz=332
W41B Gary Mavity, V 79.86 49 P **P 12 14 01.1 -0.4**
baz=321
F60A Warwick 79.86 30 P **P 12 14 00.3 -1.0**
baz=331
H57A Richville 79.92 33 P **P 12 14 00.9 -0.7**
baz=329
X40A Basin Creek Fa 80.08 50 P **P 12 14 02.5 -0.2**
baz=321
LONY Lake Ozonia 80.09 32 P **P 12 14 01.8 -0.8**
baz=329
E62A Clayton Lake 80.11 28 P **P 12 14 02.6 0.0**
baz=332
SOKA Soboth 80.12 332 *i*P **P 12 14 03.1 +0.3**
comp=Z,13nm,0.9s,SNR=8.6
PERS Pernice 80.13 332 *i*P **P 12 14 02.6 -0.2**
GROS Grobnik 80.16 332 *i*P **P 12 14 02.5 -0.5**
F61A St Evariste 80.19 29 P **P 12 14 02.6 -0.5**
baz=331
D63A Stockholm 80.19 27 P **P 12 14 02.8 -0.3**
baz=333
KBA Koelnbreinsper 80.30 333 *i*P **P 12 14 04.6 +0.7**
comp=Z,13nm,0.6s,SNR=6.3
MOQ Mont Orford 80.33 30 P **P 12 14 04.0 +0.1**
M53A WI Miller and 80.35 38 P **P 12 14 03.3 -0.7**
baz=326
M53A WI Miller and 80.35 38 P **P 12 14 04.0 -0.1**
BOVS Bovan 80.39 326 ⇑P **P 12 14 03.9 -0.3**
H58A Gabriels 80.41 32 P **P 12 14 03.3 -1.0**
baz=329
OBKA Obir 80.42 332 *e*P **P 12 14 04.7 +0.2**
comp=Z,3.4nm,0.8s
WCI Wyandotte Cave 80.43 43 P **P 12 14 03.5 -1.0**
baz=323
F62A Pittston Farm, 80.60 29 P **P 12 14 04.4 -0.9**
baz=332
G61A St-Isidore-de- 80.61 30 P **P 12 14 04.4 -0.9**
baz=331
WATA Walderalm 80.61 334 *i*P **P 12 14 06.2 +0.7**
comp=Z,13nm,0.6s,SNR=5.1
BFO Black Forest 80.63 337 P **P 12 14 05.4 -0.1**
BFO pmax pmax
comp=Z,10.0nm,1.0s
BFO Black Forest 80.63 337 P **P 12 14 05.4 -0.1**
BFO IAmb IAmb 12 14 06.4
comp=Z,10nm,1.0s
BFO Black Forest 80.63 337 *e*P **P 12 14 05.3 -0.2**
comp=Z,13nm,1.0s,baz=25,slow=4.8
DIVS Divibare 80.64 328 P **P 12 14 04.9 -0.8**
DIVS IAmb IAmb 12 14 06.6
comp=Z,9.2nm,1.0s
VTS Vitosha 80.65 325 ⇑P **P 12 14 06.1 +0.2**
VTS Vitosha 80.65 325 ⇑P **P 12 14 06.1 +0.2**
VTS Vitosha 80.65 325 P **P 12 14 05.8 0.0**
WTTA Wattenberg 80.66 334 *i*P **P 12 14 06.6 +0.8**
comp=Z,15nm,0.6s,SNR=8.1
K56A Middlesex 80.67 35 P **P 12 14 04.4 -1.4**
baz=328
RETA Reutte 80.71 335 *e*P **P 12 14 06.8 +0.8**
comp=Z,8.8nm,1.0s
M54A Oil Creek Stat 80.72 37 P **P 12 14 05.4 -0.7**
baz=327
M54A Oil Creek Stat 80.72 37 P **P 12 14 06.3 +0.3**
M54A IAmb IAmb 12 14 07.2
comp=Z,7.2nm,0.8s
I58A Old Forge 80.74 33 P **P 12 14 05.3 -0.8**
baz=329
MOTA Moosalm 80.74 335 *i*P **P 12 14 06.9 +0.6**
comp=Z,19nm,0.9s
SQTA Sankt Quirin 80.82 335 *e*P **P 12 14 07.8 +1.2**
comp=Z,13nm,0.8s
H60A Morristown 80.82 31 P **P 12 14 06.0 -0.6**
baz=330
E64A Bridgewater 80.83 27 P **P 12 14 05.6 -0.9**
baz=333
ABTA Abfaltersbach 80.85 334 *e*P **P 12 14 06.9 +0.1**
comp=Z,5.4nm,0.9s
J58A Remsen 80.90 33 P **P 12 14 06.0 -1.0**
baz=329
P51A Williamsport 80.91 40 P **P 12 14 06.5 -0.5**
P51A IAmb IAmb 12 14 08.0
comp=Z,13nm,1.1s
ALN Alexandroupoli 80.93 322 P **P 12 14 07.3 +0.2**
ALN pmax pmax
comp=Z,17nm,1.0s
ALN Alexandroupoli 80.93 322 P **P 12 14 07.3 +0.2**
G62A West of Eustis 81.00 29 P **P 12 14 06.3 -1.2**
baz=332
G62A West of Eustis 81.00 29 P **P 12 14 08.0 +0.5**
N54A Moraine State 81.03 38 P **P 12 14 06.7 -1.1**
baz=326
ECH Echery 81.05 338 P **P 12 14 06.9 -0.8**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 81.05 338 P **P 12 14 06.9 -0.8**
ECH IAmb IAmb 12 14 08.6
comp=Z,12nm,1.0s
O53A New Philadelph 81.10 39 P **P 12 14 06.5 -1.6**
baz=326
H61A Lyndonville 81.12 31 P **P 12 14 06.7 -1.4**
baz=331
M55A Ridgway 81.12 37 P **P 12 14 08.7 +0.5**
FETA Feichten 81.14 335 *e*P **P 12 14 09.0 +0.6**
comp=Z,5.8nm,1.1s
CEY Cerknica 81.14 332 *i*P **P 12 14 07.1 -1.1**
DAVA Damuels 81.15 335 *e*P **P 12 14 08.9 +0.5**
comp=Z,4.9nm,0.9s
Q51A Peebles 81.15 41 P **P 12 14 09.5 +1.1**
Q51A IAmb IAmb 12 14 10.3
comp=Z,9.4nm,0.8s
F64A Sherman 81.16 28 P **P 12 14 07.2 -1.1**
baz=333
STAL STALIGIAL 81.23 333 P **P 12 14 07.5 -1.1**
WVT Waverly 81.35 46 P **P 12 14 09.7 +0.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT Waverly 81.35 46 P **P 12 14 08.8 -0.7**
baz=323
WVT Waverly 81.35 46 **P 12 14 09.7 +0.2**
H62A Milan 81.36 30 P **P 12 14 08.5 -0.8**
baz=331
H62A Milan 81.36 30 P **P 12 14 09.7 +0.3**
H62A IAmb IAmb 12 14 10.8
comp=Z,7.3nm,0.8s
PKME Peaks-Kenny Pk 81.38 29 P **P 12 14 08.9 -0.5**
baz=332
G63A Kingsbury 81.41 29 P **P 12 14 09.0 -0.6**
baz=332
I61A Oroboro, Fairl 81.54 31 P **P 12 14 09.8 -0.5**
baz=331
G64A Maxfield 81.57 28 P **P 12 14 09.6 -0.9**
baz=333
DAVOS Davos/Dischmat 81.61 335 P **P 12 14 10.8 -0.1**
comp=Z,5.7nm,0.9s,baz=22,slow=5.4,SNR=6.6
J60A Lant Hill Farm 81.70 32 P **P 12 14 09.8 -1.4**
baz=330
L58A Harry Jones Me 81.81 34 P **P 12 14 11.4 -0.4**
baz=329
MANT Manisa 81.81 319 P **P 12 14 12.2 +0.1**
OXF Oxford 81.84 48 P **P 12 14 10.9 -1.1**
baz=322
M57A Sunshine Farm, 81.90 36 P **P 12 14 12.0 -0.3**
M57A IAmb IAmb 12 14 13.8
comp=Z,8.6nm,0.8s
J61A Chester 81.93 32 P **P 12 14 10.9 -1.4**
baz=330
H64A Troy 81.96 29 P **P 12 14 10.2 -2.3**
baz=332
L59A Walton 81.99 34 P **P 12 14 11.8 -1.0**
L59A IAmb IAmb 12 14 13.7
comp=Z,8.1nm,0.8s
G65A Princeton 82.00 28 P **P 12 14 11.2 -1.4**
baz=333
I63A Otisfield 82.01 30 P **P 12 14 11.7 -1.1**
baz=332
TUE Stuetta 82.04 335 P **P 12 14 13.1 -0.1**
TUE IAmb IAmb 12 14 15.0
comp=Z,10nm,0.9s
U49A Red Boiling Sp 82.05 44 P **P 12 14 13.9 +0.7**
U49A IAmb IAmb 12 14 28.9
comp=Z,5.5nm,0.8s
T50A Nancy 82.09 43 P **P 12 14 13.8 +0.4**
T50A IAmb IAmb 12 14 14.9
comp=Z,5.7nm,0.8s
CLTN Cedars of Leba 82.12 45 P **P 12 14 14.2 +0.6**
CLTN IAmb IAmb 12 14 29.4
comp=Z,8.2nm,1.0s
SSPA Standing Stone 82.18 36 P **P 12 14 11.9 -1.9**
baz=328
SSPA Standing Stone 82.18 36 P **P 12 14 13.8 0.0**
SSPA IAmb IAmb 12 14 15.1
comp=Z,4.6nm,0.8s
O56A Blue Knob Stat 82.21 37 P **P 12 14 12.9 -1.1**
baz=327
H65A Eastbrook 82.23 28 P **P 12 14 12.5 -1.4**
baz=333
K61A Williamstown 82.25 32 P **P 12 14 12.2 -2.0**
baz=330
J62A Henniker 82.30 31 P **P 12 14 12.7 -1.7**
baz=331
PDG Podgorica 82.35 327 ⇑P **P 12 14 14.6 0.0**
PDG Podgorica 82.35 327 P **P 12 14 13.7 -0.9**
PUK Puka 82.44 327 P **P 12 14 14.7 -0.5**
PUK IAmb IAmb 12 14 23.0
comp=Z,7.0nm,1.1s
H66A Whiting 82.45 28 P **P 12 14 13.5 -1.5**
baz=334
L61B Northampton 82.66 32 P **P 12 14 14.0 -2.2**
baz=330
FNA Florina 82.95 325 P **P 12 14 17.0 -0.8**
FNA pmax pmax
comp=Z,7.0nm,0.9s
FNA Florina 82.95 325 P **P 12 14 17.0 -0.8**
FNA IAmb IAmb 12 14 18.6
comp=Z,6.9nm,0.9s
SWET Sewanee 83.01 45 P **P 12 14 18.4 +0.1**
SWET IAmb IAmb 12 14 33.5
comp=Z,7.6nm,0.8s
TZTN Tazewell 83.08 43 P **P 12 14 17.1 -1.5**
baz=325
LIT Litokhoron 83.08 324 P **P 12 14 17.8 -0.7**
LIT pmax pmax
comp=Z,6.0nm,1.0s
LIT Litokhoron 83.08 324 P **P 12 14 17.8 -0.7**
LIT IAmb IAmb 12 14 18.4
comp=Z,6.1nm,1.0s
L64A Middleborough 83.78 31 P **P 12 14 20.3 -1.6**
baz=332
BLA Blacksburg 83.96 40 P **P 12 14 21.7 -1.4**
baz=326
MURB Monte Urbino 83.97 332 P **P 12 14 23.6 +0.5**
RAYN Ar Rayn 84.39 298 P **P 12 14 25.0 -0.5**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 84.39 298 P **P 12 14 25.0 -0.5**
INTR Introdacqua 84.63 331 P **P 12 14 25.9 -0.5**
BG3 Lake Jocassee 84.63 43 P **P 12 14 27.9 +1.4**
BG3 IAmb IAmb 12 14 28.8
comp=Z,5.6nm,1.0s
MATE Matera 84.84 328 ⇑P **P 12 14 24.8 -2.5**
MAW Mawson 131.88 211 PKP **PKiKP 12 21 06.2 +0.6**
comp=Z,1.0nm,0.7s,baz=358,slow=3.5,SNR=4.1
H03N2 Juan Fernandez 138.93 90 T T 14 56 46.0
baz=308,slow=77,SNR=83
H03N1 Juan Fernandez 138.95 90 T T 14 56 47.3
baz=308,slow=77,SNR=87
H03N3 Juan Fernandez 138.95 90 T T 14 56 44.2
baz=308,slow=77,SNR=68
BDFB Brasilia 144.67 36 PKP PKPbc 12 21 29.3 +0.7
comp=Z,4.2nm,0.6s,baz=236,slow=7.3,SNR=4.5
PLCA Paso Flores 148.36 95 PKPbc **PKiKP 12 21 40.5 +0.2**
comp=Z,2.4nm,0.8s,baz=243,slow=4.5,SNR=3.3
CPUP Villa Florida 148.76 60 PKPbc **PKiKP 12 21 41.6 +0.1**
comp=Z,2.7nm,0.6s,baz=303,slow=3.1,SNR=6.4

BJI ***06*** *12:24:03.3±0.0,20°.22S×174°.11W,h21km,mB5.8/49, mb5.5/60,Ms5.4/65,Ms7 5.2/64*

IDC ***06*** *12:24:03.1±2.7,20°.83S×174°.73W,h12km±16km,mb5.4/36, mb1 5.4/37,mb1mx5.4/41,mbtmp5.5/37,ML5.6/1,MS5.1/31, Ms1 5.1/31,ms1mx5.0/37,Error ellipse: s-maj=14.8km s-min=11.3km az=165.0*

MOS ***06*** *12:24:05.9±1.1,20°.50S×174°.63W,h33km,mb5.8/76, MS5.4/38,Error ellipse: s-maj=9.0km s-min=6.6km az=88.8*

NOU ***06*** *12:24:06.0,20°.87S×174°.42W,h36km,mB6.0,Tonga Islands*

NEIC ***06*** *12:24:08.6±2.4,20°.71S±0°.04×174°.50W±0°.06,h44km±1km, mb5.7/455,Ms_20 5.4/489,Mwb5.9/69,Mww5.8, Mwc5.8(GCMT),Error ellipse: s-maj=10.4km s-min=5.0km az=58.0*

NEIC ***06*** *12:24:08.4,20°.70S×174°.64W,h41km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}7.33; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-7.21; $M_{r\theta}$2.35; $M_{\phi\theta}$1.51; $M_{\phi r}$-4.60; Fault plane solution: $M_0$9.04000×10^{17} NP1:ϕ_s159.67000°, δ62.48000°,λ81.67000°. NP2:ϕ_s357.25000°,δ28.66000°, λ105.53000°. Principal axes: T 9.0382, Plg71.0000°, Azm51.0000°; N 0.0065, Plg7.0000°, Azm164.0000°; P -9.0447, Plg17.0000°, Azm256.0000°;*

NEIC ***06*** *12:24:09,20°.79S×174°.28W,h49km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.61; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-4.90; $M_{r\theta}$1.84; $M_{\phi\theta}$2.65; $M_{\phi r}$-2.87; Fault plane solution: $M_0$6.43000×10^{17} NP1:ϕ_s346.00000°, δ29.00000°,λ104.00000°. NP2:ϕ_s150.00000°,δ62.00000°, λ82.00000°. Principal axes: T 5.6580, Plg72.0000°, Azm42.0000°; N 1.3313, Plg7.0000°, Azm154.0000°; P -6.9892, Plg16.0000°, Azm246.0000°;*

NEIC ***06*** *12:24:09,20°.79S×174°.27W,h40km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.21; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-4.20; $M_{r\theta}$2.04; $M_{\phi\theta}$1.63; $M_{\phi r}$-2.32; Fault plane solution: $M_0$5.93000×10^{17} NP1:ϕ_s345.00000°, δ30.00000°,λ105.00000°. NP2:ϕ_s148.00000°,δ61.00000°, λ82.00000°. Principal axes: T 6.1409, Plg73.0000°, Azm37.0000°; N -0.4574, Plg7.0000°, Azm152.0000°; P -5.6835, Plg15.0000°, Azm244.0000°;*

GCMT ***06*** *12:24:10.6±0.1,20°.76S×174°.32W,h48km,MW5.8/155, Moment Tensor Solution. s155,c321; s154,c418; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}4.39±.05; $M_{\theta\theta}$0.32±.04; $M_{\phi\phi}$-4.71±.04; $M_{r\theta}$2.04±.04; $M_{\phi\theta}$2.44±.03; $M_{\phi r}$-2.95±.04; Best double couple: $M_0$6.20800×10^{17} NP1:ϕ_s350.00000°,δ29.00000°, λ109.00000°. NP2:ϕ_s149.00000°,δ63.00000°,λ80.00000°. Principal axes: T 5.6150, Plg70.0000°, Azm38.0000°; N 1.1860, Plg9.0000°, Azm153.0000°; P -6.8010, Plg17.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 06 12:24:05.8±0.4,20°.79S±0°.03×174°.55W±0°.04,h34km±1km, h34km:pP-P,n1945,σ1937/1939,**mb5.7**/333,**MS5.4**/327, **252C-129D,Fault plane solution: NP1:**ϕ_s162.28571°, δ39.95008°,λ99.62760°. **NP2:**ϕ_s329.80844°,δ50.72257°, λ82.02556°. **Principal axes:** T Plg81.7788°, Azm196.4923°; N Plg6.1649°, Azm334.8765°; P Plg5.4179°, Azm65.4634°; **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.67**	**69**	Pn	**Pn**	**12 25 11.3**	**-2.6**
NIUE	**Niue**	**4.67**	**69**	P	**Pn**	**12 25 11.7**	**-2.2**
AFI	**Afiamalu**	**7.34**	**22**	Pn	**Pn**	**12 25 48.3**	**-2.3**
89nm,0.3s,baz=235,slow=1.8,SNR=99							
AFI				Sn	Sn	12 27 01.8	-11
240nm,0.3s,baz=41,slow=22,SNR=2.5							
AFI	**Afiamalu**	**7.34**	**22**	Pn	**Pn**	**12 25 48.1**	**-2.5**
AFI	**Afiamalu**	**7.34**	**22**	Sn		12 27 01.8	-11
AFI	**Afiamalu**	**7.34**	**22**	P	**Pn**	**12 25 49.0**	**-1.7**
MSVF	**Nonsavu**	**7.62**	**292**	Pn	Pn	12 26 01.2	+6.6
26nm,0.3s,baz=132,slow=12,SNR=208							
MSVF				Sn	**Sn**	**12 27 25.7**	**+5.8**
baz=80,slow=22,SNR=0.5							
MSVF				LR	LR	12 28 31.1	
comp=Z,46μm,21.2s,baz=116,slow=36							
MSVF	**Nonsavu**	**7.62**	**292**	Pn	Pn	12 26 00.8	+6.3
MSVF	**Nonsavu**	**7.62**	**292**		**Sn**	**12 27 25.7**	**+5.8**
RIZ	**Raoul Island**	**8.96**	**199**	P	**Pn**	**12 26 14.0**	**+1.2**
RIZ				S	**Sn**	**12 27 49.1**	**-3.4**
RAO	**Raoul Island**	**8.96**	**199**	Pn	**Pn**	**12 26 15.0**	**+2.1**
344nm,0.3s,baz=42,slow=8.7,SNR=7.2							
RAO				Sn	**Sn**	**12 27 48.8**	**-3.7**
806nm,0.3s,baz=84,slow=21,SNR=16							
RAO				LR	LR	12 28 55.8	
comp=Z,4μm,21.7s,baz=21,slow=33							
RAO	**Raoul Island**	**8.96**	**199**	Pn	**Pn**	**12 26 14.2**	**+1.4**
RAO	**Raoul Island**	**8.96**	**199**	Pn	**Pn**	**12 26 14.2**	**+1.4**
RAO	**Raoul Island**	**8.96**	**199**	P	**Pn**	**12 26 14.9**	**+2.1**
GLKZ	**Green Lake**	**8.97**	**199**	P	**Pn**	**12 26 13.9**	**+0.9**
GLKZ				S	**Sn**	**12 27 47.9**	**-4.9**
FUNA	**Funafuti**	**13.61**	**333**		**Pn**	**12 27 15.7**	**-0.8**
RAR	**Rarotonga**	**13.81**	**94**	Pn	**Pn**	**12 27 17.1**	**-2.1**
27nm,0.3s,baz=256,slow=7.4,SNR=34							
RAR				Sn	Sn	12 29 37.2	-14
46nm,0.3s,baz=138,slow=19,SNR=5.6							
RAR				LR	LR	12 31 18.7	
comp=Z,16μm,21.5s,baz=250,slow=31							
RAR	**Rarotonga**	**13.81**	**94**	P	**Pn**	**12 27 16.7**	**-2.5**
RAR	**Rarotonga**	**13.81**	**94**	Pn	**Pn**	**12 27 16.7**	**-2.5**
RAR	**Rarotonga**	**13.81**	**94**	P	**Pn**	**12 27 17.7**	**-1.5**
MARNC	**Mare, Loyalty**	**16.27**	**264**		**Pn**	**12 27 53.1**	**+1.3**
MARNC	**Mare, Loyalty**	**16.27**	**264**	P	**P**	**12 27 55.0**	**+0.5**
PINNC	**Pines Island,**	**16.83**	**261**		**P**	**12 27 60.0**	**-0.8**
PINNC				IAmb	IAmb	12 28 07.1	
comp=Z,638nm,1.4s							
PINNC	**Pines Island,**	**16.83**	**261**	P	**P**	**12 28 03.3**	**+2.6**
LIFNC	**LIFOU**	**17.03**	**267**		**Pn**	**12 28 02.0**	**+0.6**
LIFNC	**LIFOU**	**17.03**	**267**	P	**P**	**12 28 04.1**	**+1.1**
YATNC	**Mamie plateau,**	**17.33**	**262**	P	**P**	**12 28 07.1**	**+0.8**
OUENC	**Ouen Island, N**	**17.38**	**261**	P	**P**	**12 28 07.2**	**+0.3**
OUENC	**Ouen Island, N**	**17.38**	**261**	P	**P**	**12 28 10.3**	**+3.4**
GRZ	**Great Barrier**	**17.71**	**207**	P	**P**	**12 28 11.9**	**+1.5**
ONTNC	**Ouen Toro**	**17.74**	**262**		**P**	**12 28 10.8**	**0.0**
ONTNC				IAmb	IAmb	12 28 31.7	
comp=Z,1μm,1.6s							
ONTNC	**Ouen Toro**	**17.74**	**262**	P	**P**	**12 28 12.8**	**+2.0**
DZM	**Mont Dzumac**	**17.74**	**262**	P	**P**	**12 28 11.5**	**+0.6**
comp=Z,8.7nm,0.3s,baz=84,slow=16,SNR=71							
DZM				LR	LR	12 34 03.5	
comp=Z,19μm,20.0s,baz=99,slow=34							
DZM	**Mont Dzumac**	**17.74**	**262**	*e*Pn	**P**	**12 28 12.9**	**+1.9**
comp=Z,828nm,1.1s							
DZM				*e*LQ	LQ	12 31 35.9	
comp=Z,12μm,23.2s							
DZM				*e*LR	LR	12 32 22.8	

comp=Z,35µm,24.8s
DZM Mont Dzumac 17.74 262 P P 12 28 11.4 +0.4
DZM IAmb IAmb 12 28 17.9
comp=Z,486nm,1.2s
DZM Mont Dzumac 17.74 262 P P 12 28 13.3 +2.3
OUZ Omahuta 17.76 213 P 12 28 11.0 +0.1
MXZ Matakaoa Point 17.83 199 P P 12 28 13.5 +1.9
MXZ S Sn 12 31 13.1 -16
NFK Norfolk Island 17.87 239 P P 12 28 13.0 +0.8
baz=18,SNR=3.5
NOUC Port Laguerre 17.87 262 P P 12 28 15.1 +2.8
KUZ Kuaotunu 18.02 206 P P 12 28 14.2 +0.4
WMGZ Waiomatatini S 18.03 198 P Pn 12 28 08.1 -5.6
WMGZ S Sn 12 31 18.6 -15
KNTN Kanton 18.12 9 P 12 28 15.2 +0.2
KNTN IAmb IAmb 12 28 17.9
comp=Z,1µm,1.7s
KNTN Kanton 18.12 9 P P 12 28 16.2 +1.2
SANVU Saraoutou 18.14 284 P P 12 28 20.1 +4.9
HAZ Te Kaha 18.17 200 P Pn 12 28 07.6 -7.7
HAZ S Sn 12 31 22.9 -14
PKGZ Pakihiroa 18.20 199 P Pn 12 28 12.2 -3.6
PKGZ S Sn 12 31 20.4 -18
PUZ Puketiti 18.31 198 P P 12 28 09.5 -7.6
PUZ S Sn 12 31 22.4 -18
RUGZ Raukumara Rang 18.39 200 P P 12 28 13.7 -4.3
RUGZ S Sn 12 31 22.6 -20
TWGZ Tauwhareparae 18.49 199 P Pn 12 28 19.7 +0.3
WHRZ Whale Island 18.53 202 P Pn 12 28 23.0 +3.3
OPRZ Ohinepanea 18.66 202 P P 12 28 21.0 +0.2
TGRZ Tauranga 18.67 203 P Pn 12 28 23.8 +2.4
CNGZ Carnagh Statio 18.71 198 P P 12 28 15.6 -5.8
TKGZ Te Karaka 18.77 199 P P 12 28 20.6 -1.4
TKGZ S Sn 12 31 34.6 -17
MWZ Matawai 18.78 200 P P 12 28 19.0 -3.2
URZ Urewera 18.84 201 P P 12 28 20.2 -2.7
comp=Z,17nm,0.3s,baz=26,slow=3.1,SNR=95
URZ S Sn 12 31 37.4 -16
comp=Z,10.0nm,0.3s,baz=306,slow=19,SNR=3.4
URZ Urewera 18.84 201 P P 12 28 21.8 -1.0
URZ IAmb IAmb 12 28 29.5
comp=Z,248nm,0.5s
URZ Urewera 18.84 201 P P 12 28 20.4 -2.4
URZ S Sn 12 31 35.8 -18
LIRZ Lichensteins R 18.86 203 P Pn 12 28 25.4 +1.5
RIGZ Rimuhau 19.05 199 P Pn 12 28 25.8 -0.3
PRGZ Paritu Road 19.21 198 P P 12 28 24.0 -2.9
KOUNC Koumac, New Ca 19.81 267 P Pn 12 28 35.5 +0.3
BKZ Black Stump Fm 19.87 201 P P 12 28 33.0 -1.1
HIZ Hauiti 19.89 205 P P 12 28 34.2 -0.1
HIZ IAmb IAmb 12 28 38.5
comp=Z,274nm,0.8s
BFZ Birch Farm 21.32 200 P P 12 28 49.1 -0.7
BFZ IAmb IAmb 12 28 53.8
comp=Z,357nm,0.7s
MSWZ Moikau Station 22.31 201 P P 12 28 58.8 -1.6
SNZO South Karori 22.40 202 P P 12 28 59.5 -1.7
SNZO IAmb IAmb 12 29 11.1
comp=Z,202nm,0.5s
BHW Baring Head 22.43 201 P P 12 28 59.4 -2.2
PLWZ Palliser 22.44 200 P P 12 29 00.4 -1.4
TUWZ Tuamarina 22.77 203 P P 12 29 01.9 -3.3
NNZ Nelson 22.80 204 P P 12 29 02.6 -2.9
NNZ IAmb IAmb 12 29 11.4
comp=Z,130nm,0.6s
QRZ Quartz Range 22.80 206 P P 12 29 05.1 -0.5
QRZ IAmb IAmb 12 29 10.4
comp=Z,273nm,0.5s
CMWZ Cape Campbell 22.95 202 P P 12 29 05.9 -1.2
BSWZ Blackbirch Sta 23.05 203 P P 12 29 05.8 -2.2
TBI Tubuai 23.38 101 *e*P **P 12 29 11.3 -0.3**
comp=Z,314nm,1.0s
TBI *e*S **S 12 33 17.6 -4.9**
comp=Z,8µm,29.6s
TBI *e*LQ LQ 12 33 49.7
comp=Z,25µm,28.5s
TBI *e*LR LR 12 34 39.7
comp=Z,25µm,29.0s,baz=277
TBI Tubuai 23.38 101 *e*T T 12 53 09.0
comp=Z,173nm,0.3s
THZ Tophouse 23.45 204 P P 12 29 10.0 -2.1
THZ IAmb IAmb 12 29 18.6
comp=Z,212nm,0.6s
THZ IAMs_20 IAMs_20 12 39 02.4
comp=Z,13µm,22.0s
PAE Paea 23.77 87 *e*P **P 12 29 15.3 -0.1**
comp=Z,99nm,1.1s
PAE Paea 23.77 87 *e*T T 12 53 41.9
comp=Z,71nm,0.4s
KHZ Kahutara 23.78 202 P P 12 29 13.4 -1.8
KHZ IAmb IAmb 12 29 29.1
comp=Z,161nm,0.5s
PPT2 Papeete2 23.79 87 *e*P **P 12 29 15.9 +0.2**
comp=Z,492nm,1.2s
PPT2 *e*S **S 12 33 24.1 -5.2**
comp=Z,9µm,26.2s
PPT2 *e*LQ LQ 12 33 54.4
comp=Z,19µm,27.2s
PPT2 *e*LR LR 12 35 02.2
comp=Z,29µm,25.2s,baz=253
PPT2 Papeete2 23.79 87 *e*T T 12 53 43.4
comp=Z,58nm,0.3s
PPT Papeete 23.80 87 P **P 12 29 16.2 +0.5**
comp=Z,438nm,1.1s,baz=244,slow=3.1,SNR=12
PPT LR LR 12 35 54.2
comp=Z,9µm,21.2s,baz=238,slow=30
PPT Papeete 23.80 87 P **P 12 29 16.2 +0.5**
TIAR Tiarei 24.01 87 *e*P **P 12 29 17.8 +0.1**
comp=Z,106nm,1.2s
TIAR Tiarei 24.01 87 *e*T T 12 53 59.1
comp=Z,11nm,0.3s
LTZ Lake Taylor 24.56 204 P P 12 29 21.8 -0.8
OXZ Oxford 25.12 204 P P 12 29 25.9 -1.5
MEH Mehetia 25.15 88 *e*P **P 12 29 28.6 +0.6**
comp=Z,66nm,1.1s
MEH Mehetia 25.15 88 *e*T T 12 55 18.6
comp=Z,366nm,0.3s
TARA Tarawa 25.20 329 P P 12 29 27.6 -0.8
TARA IAmb IAmb 12 29 28.6
comp=Z,204nm,0.8s
TARA Tarawa 25.20 329 P P 12 29 28.1 -0.3
MQZ McQueen's Vall 25.22 202 P P 12 29 28.0 -0.4
MQZ IAMs_20 IAMs_20 12 38 26.5
comp=Z,10µm,22.0s
RPZ Rata Peaks 25.82 204 P P 12 29 33.1 -0.8
RPZ IAmb IAmb 12 29 40.2
comp=Z,224nm,0.5s
RPZ IAMs_20 IAMs_20 12 39 03.3
comp=Z,12µm,22.0s
PMOR Pomariorio Ree 25.99 82 *e*T T 12 56 27.7
comp=Z,29nm,0.3s
FOZ Fox Glacier 26.17 206 P P 12 29 36.9 -0.1
VAH Vaihoa 26.17 82 *e*T T 12 56 44.5
comp=Z,28nm,0.3s
LBZ Lake Benmore 26.73 205 P P 12 29 42.1 +0.1
LBZ IAmb IAmb 12 30 00.7
comp=Z,131nm,0.7s
LBZ IAMs_20 IAMs_20 12 41 18.5
comp=Z,9µm,19.0s
HNR Honiara 27.04 291 P P 12 29 44.1 -1.0
comp=Z,53nm,0.6s,baz=198,slow=3.2,SNR=1.9
HNR LR LR 12 38 54.6
comp=Z,4µm,21.2s,baz=135,slow=33
ODZ Otahua Downs 27.11 203 P P 12 29 46.3 +0.9
ODZ IAmb IAmb 12 29 51.3
comp=Z,81nm,0.6s
ODZ IAMs_20 IAMs_20 12 39 43.3
comp=Z,9µm,22.0s
WKZ Wanaka 27.56 206 P P 12 29 48.1 -1.4
XMAS Kiritimati 28.21 38 P P 12 29 55.1 -0.4
XMAS IAmb IAmb 12 30 02.9
comp=Z,110nm,0.8s
XMAS Kiritimati 28.21 38 P P 12 29 56.3 +0.7
MLZ Mavora Lakes 28.37 206 P P 12 29 57.3 +0.5
MLZ IAmb IAmb 12 30 04.7
comp=Z,133nm,0.6s
DCZ Deep Cove 28.85 207 P P 12 29 59.7 -1.3
DCZ IAmb IAmb 12 30 05.0
comp=Z,85nm,0.6s
DCZ IAMs_20 IAMs_20 12 41 48.7
comp=Z,8µm,20.0s
WHZ Wether Hill Ro 28.86 206 P P 12 30 01.7 +0.6
WHZ IAmb IAmb 12 30 05.6
comp=Z,126nm,0.5s
PYZ Puysegur Point 29.61 207 IAMs_20 IAMs_20 12 42 11.8
comp=Z,9µm,20.0s
ARMA Armidale 31.87 246 P P 12 30 27.5 -0.5
baz=32,SNR=29
ARMA Armidale 31.87 246 P P 12 30 27.0 -1.0
EIDS Eidsvold 31.89 255 P P 12 30 27.5 -0.7
baz=32,SNR=13
EIDS Eidsvold 31.89 255 P P 12 30 27.7 -0.4
MGCD Mangrove Creek 32.85 241 P P 12 30 36.5 0.0
baz=33,SNR=20
RMQ Roma 34.01 253 P P 12 30 46.2 -0.5
baz=34,SNR=22
CNB Canberra Magne 34.77 238 P P 12 30 52.0 -1.2
baz=35,SNR=18
CAN Canberra 35.06 238 P P 12 30 53.9 -1.8
CAN pmax pmax
comp=Z,42nm,0.8s
CAN Canberra 35.06 238 P P 12 30 53.9 -1.8
CAN IAMs_20 IAMs_20 12 42 39.9
comp=Z,6µm,20.0s
TAOE Nuku Hiva Isla 35.22 75 *e*P **P 12 30 58.3 +0.9**
comp=Z,295nm,1.0s
TAOE Nuku Hiva Isla 35.22 75 *e*T T 13 07 53.4
comp=Z,282nm,0.2s
TAOE Nuku Hiva Isla 35.22 75 P P 12 30 59.0 +1.6
comp=Z,166nm,0.8s
YNG Young 35.30 240 P P 12 30 57.5 -0.3
baz=35,SNR=5.7
MILA Mila 35.41 235 P P 12 30 57.3 -1.4
baz=35,SNR=13
CTA Charters Tower 36.67 264 P P 12 31 07.6 -2.0
comp=Z,37nm,0.6s,baz=96,slow=11,SNR=59
CTAO Charters Tower 36.67 264 P P 12 31 09.2 -0.5
CTAO pmax pmax
comp=Z,46nm,0.7s
CTAO MLR MLR
comp=Z,5µm,19.0s
CTAO Charters Tower 36.67 264 P P 12 31 09.2 -0.5
CTAO IAmb IAmb 12 31 09.6
comp=Z,46nm,0.7s
RKT Rikitea 36.70 101 *e*T T 13 09 48.4
comp=Z,87nm,0.3s
CMSA Cobar Meteorol 37.08 245 P P 12 31 10.8 -2.2
baz=37,SNR=88
JOHN Johnston Islan 37.61 8 P P 12 31 17.0 -0.5
QLP Quilpie 38.06 253 P P 12 31 19.3 -2.1
baz=38,SNR=28
TOO Toolangi 38.36 235 P P 12 31 22.0 -1.8
baz=38,SNR=26
TOO Toolangi 38.36 235 P P 12 31 22.4 -1.4
TOO pmax pmax
comp=Z,111nm,1.5s
TOO Toolangi 38.36 235 P P 12 31 22.4 -1.4
TOO IAmb IAmb 12 31 40.9
comp=Z,111nm,1.4s
PMG Port Moresby 38.56 281 P P 12 31 23.5 -2.2
comp=Z,73nm,0.9s,baz=114,slow=6.4,SNR=13
PMG Port Moresby 38.56 281 *de*P **P 12 31 24.3 -1.4**
PMG pmax pmax
comp=Z,165nm,1.7s
PMG Port Moresby 38.56 281 P P 12 31 25.2 -0.5
PMG IAmb IAmb 12 31 39.0
comp=Z,139nm,0.9s
PMG Port Moresby 38.56 281 P P 12 31 24.8 -0.9
PMG Port Moresby 38.56 281 P P 12 31 24.7 -0.9
MOO Moorlands 38.64 227 P P 12 31 25.8 -0.2
baz=39,SNR=4.1
TAU Tasmania Unive 38.73 226 P P 12 31 26.4 -0.3
TAU pmax pmax
comp=Z,56nm,0.6s
TAU Tasmania Unive 38.73 226 P P 12 31 26.4 -0.3
TAU IAmb IAmb 12 31 31.2
comp=Z,56nm,0.6s
TAU Tasmania Unive 38.73 226 IAMs_20 IAMs_20 12 45 17.0
comp=Z,7µm,20.0s
MTSU Mount Surprise 38.80 267 P P 12 31 26.5 -1.2
baz=39,SNR=111
STKA Stephens Creek 40.58 245 P P 12 31 40.1 -2.2
comp=Z,26nm,0.5s,baz=96,slow=11,SNR=28
STKA LR LR 12 46 20.9
comp=Z,5µm,20.6s,baz=87,slow=33
STKA Stephens Creek 40.58 245 P P 12 31 40.9 -1.4
STKA pmax pmax
comp=Z,6.0nm,0.6s
STKA Stephens Creek 40.58 245 P P 12 31 40.9 -1.4
ARPS Mount Arapiles 41.04 238 P P 12 31 44.1 -1.9
baz=41,SNR=11
MANU Manus Island 41.54 292 P P 12 31 50.5 +0.1
MANU IAmb IAmb 12 31 51.8
comp=Z,134nm,1.4s
QIS Mount Isa 42.78 262 P P 12 31 58.1 -2.4
baz=43,SNR=7.3
HTT Hallett 42.96 243 P P 12 31 60.0 -1.8
baz=43,SNR=18
WAKE Wake Island 43.88 334 P P 12 32 09.0 -0.1
KHLU Kahalu`u 44.09 26 P P 12 32 09.6 -1.4
KHLU IAmb IAmb 12 32 13.6
comp=Z,192nm,0.8s
PUH Pauahi 44.18 27 P P 12 32 10.0 -1.7
PUH IAmb IAmb 12 32 14.7
comp=Z,227nm,0.9s
HUH Hualalai 44.20 26 P P 12 32 10.0 -2.0
HUH IAmb IAmb 12 32 18.1
comp=Z,161nm,1.0s
MLH Mauna Loa 44.22 26 P P 12 32 10.2 -2.0
MLH IAmb IAmb 12 32 15.8
comp=Z,290nm,1.4s
HMH Humu'ula Sheep 44.27 26 P P 12 32 11.1 -1.6
POHA Pohakuloa 44.39 26 P P 12 32 12.0 -1.5
POHA IAmb IAmb 12 32 24.9
comp=Z,177nm,0.8s
HPAH Hawaii Prepara 44.57 26 P P 12 32 15.5 +0.7
HON Honolulu 44.87 22 P P 12 32 16.2 -0.9
HON pmax pmax
comp=Z,235nm,0.9s
HON Honolulu 44.87 22 P P 12 32 16.2 -0.9
HON IAmb IAmb 12 32 20.0
comp=Z,235nm,0.9s
DHH Diamond Head 44.89 22 P P 12 32 16.1 -1.1
DHH Diamond Head 44.89 22 P P 12 32 16.1 -1.1
KIP Kipapa 44.96 22 *e*P **P 12 32 18.5 +0.7**
KIP pmax pmax
comp=Z,371nm,1.1s
KIP MLR MLR
comp=Z,637nm,17.0s
KIP Kipapa 44.96 22 P P 12 32 18.1 +0.3
WMR Waimanalo Ridg 44.98 23 P P 12 32 16.4 -1.5
HLK Haleakala 45.01 25 P P 12 32 17.8 -0.6
BBOO Buckleboo 45.32 244 P P 12 32 18.8 -1.9
baz=45,SNR=16
BBOO Buckleboo 45.32 244 P P 12 32 19.2 -1.5
WR0 Warramunga Arr 47.57 262 P P 12 32 36.6 -1.9
AS31 Alice Springs 47.59 257 P P 12 32 36.2 -2.5
ASAR Alice Springs 47.60 257 P P 12 32 36.2 -2.5
comp=Z,41nm,0.8s,baz=101,slow=7.2,SNR=136
ASAR PcP **PcP 12 34 08.4 +0.1**
comp=Z,16nm,0.9s,baz=99,slow=5.0,SNR=4.7
ASAR ScP **ScP 12 38 02.9 +2.9**
comp=Z,7.2nm,0.8s,baz=102,slow=4.2,SNR=7.8
ASAR LR LR 12 51 17.4
comp=Z,3µm,21.4s,baz=96,slow=34
ASAR P3KPbc 13 00 56.5
comp=Z,0.5nm,0.8s,baz=267,slow=4.6,SNR=4.7
ASAR PKPPKP P'P'df 13 03 46.1 -10
comp=Z,0.7nm,0.9s,baz=321,slow=2.4,SNR=4.1
ASAR Alice Springs 47.60 257 P P 12 32 36.2 -2.5
GENI Genyem 47.66 286 P P 12 32 38.3 -0.9
comp=Z,4µmcomp=Z,145nm,1.7s
WB0 Warramunga Arr 47.74 262 P P 12 32 37.5 -2.4
WB0 IAmb IAmb 12 32 41.1
comp=Z,58nm,0.6s
WB2 Warramunga Arr 47.75 262 P P 12 32 37.5 -2.4
WB2 IAmb IAmb 12 32 47.3
comp=Z,65nm,0.8s
WRAB Tennant Creek 47.75 262 ‖ *e*P **P 12 32 36.4 -3.5**
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB MLR MLR
comp=Z,3µm,17.0s
WRAB Tennant Creek 47.75 262 P P 12 32 37.5 -2.5
WRAB IAmb IAmb 12 32 46.8
comp=Z,50nm,0.8s
WRAB Tennant Creek 47.75 262 IAMs_20 IAMs_20 12 53 13.1
comp=Z,3µm,18.0s
WRA Warramunga Arr 47.76 262 P P 12 32 36.6 -3.4
comp=Z,31nm,0.8s,baz=98,slow=9.3,SNR=160
WRA PcP **PcP 12 34 09.4 +0.6**
comp=Z,15nm,0.8s,baz=96,slow=3.2,SNR=2.6
WRA ScP **ScP 12 38 02.2 +1.5**
comp=Z,3.1nm,0.9s,baz=92,slow=4.6,SNR=5.0
WRA ScS **ScS 12 42 31.2 -0.3**
comp=Z,2.3nm,0.8s,baz=96,slow=6.0,SNR=4.9
WRA LR LR 12 52 14.7
comp=Z,3µm,18.1s,baz=90,slow=36
WRA Warramunga Arr 47.76 262 P P 12 32 37.0 -3.0
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 47.76 262 P P 12 32 37.0 -3.0
KDU Kakadu 51.19 270 P P 12 33 03.9 -2.2
baz=51,SNR=63
FORT Forrest 52.15 247 P P 12 33 10.7 -2.4
baz=52,SNR=30
FORT Forrest 52.15 247 P P 12 33 10.7 -2.4
MTN Manton Dam 52.39 270 P P 12 33 13.4 -1.7
baz=52,SNR=16
MTN Manton Dam 52.39 270 P P 12 33 14.3 -0.9
MTN IAmb IAmb 12 33 19.7
comp=Z,48nm,0.7s
WRKA Warakurna 52.49 254 P P 12 33 13.3 -2.6
baz=52,SNR=46
KNRA Kununurra 53.86 265 P P 12 33 23.9 -2.1
baz=54,SNR=80
FAKI Fak Fak 54.72 282 P P 12 33 30.5 -1.7
FAKI IAmb IAmb 12 33 59.5
comp=Z,123nm,1.5s
FAKI Fak Fak 54.72 282 P P 12 33 30.7 -1.6
comp=Z,1µmcomp=Z,55nm,2.0s
FITZ Fitzroy Crossi 56.19 262 P P 12 33 40.6 -2.2
baz=56,SNR=40
FITZ Fitzroy Crossi 56.19 262 P P 12 33 41.9 -0.9
BNDI Bandanaira 56.27 279 P P 12 33 45.6 +2.2
SWI Sorong 56.45 283 P P 12 33 45.3 +0.6
comp=Z,2µmcomp=Z,180nm,0.9s
MSAI Masohi 57.61 280 P P 12 33 52.5 -0.4
SBA Scott Base 57.82 185 P P 12 33 55.7 +2.3
SBA pmax pmax
comp=Z,482nm,2.0s
SBA Scott Base 57.82 185 P P 12 33 55.7 +2.3
VNDA Vanda 57.93 186 P P 12 33 57.0 +2.9
comp=Z,16nm,1.0s,baz=18,slow=6.9,SNR=23
VNDA LR LR 12 53 49.5
comp=Z,757nm,21.9s,baz=30,slow=31
VNDA PKP2bc 13 03 52.5
comp=Z,0.8nm,0.6s,baz=212,slow=6.3,SNR=3.5
VNDA Vanda 57.93 186 P P 12 33 51.9 -2.3
VNDA pmax pmax
comp=Z,38nm,1.0s
VNDA Vanda 57.93 186 P P 12 33 51.9 -2.3
SOEI Soe 59.74 271 P P 12 34 07.2 -0.6
SOEI IAMs_20 IAMs_20 13 00 18.8
comp=Z,3µm,22.0s
SOEI Soe 59.74 271 P P 12 34 07.9 0.0
comp=Z,3µmcomp=Z,379nm,0.8s
BATI Baumata 60.16 270 P P 12 34 10.5 -0.2
comp=Z,907nmcomp=Z,43nm,0.8s
TNTI Ternate 60.67 283 P P 12 34 12.9 -1.2
TNTI IAmb IAmb 12 34 16.8
comp=Z,119nm,1.0s
TNTI Ternate 60.67 283 P P 12 34 13.1 -1.0
comp=Z,138nm,1.0s
PSA00 Pilbara Seismi 60.74 256 P P 12 34 13.7 -0.8
PSA00 Pilbara Seismi 60.74 256 P P 12 34 14.2 -0.4
PSA00 IAmb IAmb 12 34 42.3
comp=Z,21nm,1.0s
SANI Sanana 60.81 280 P P 12 34 15.0 -0.1
comp=Z,919nmcomp=Z,63nm,0.8s
KLBR Kellerberrin 60.86 245 P P 12 34 13.6 -1.6
baz=61,SNR=26
MEEK Meekatharra 60.87 250 P P 12 34 14.7 -0.7
baz=61,SNR=12
NWAO Narrogin (SRO) 61.12 243 IAMs_20 IAMs_20 13 00 31.7
comp=Z,3µm,18.0s
BLDU Ballidu 61.88 246 P P 12 34 20.1 -2.0
baz=62,SNR=19
MUN Mundaring 62.11 244 P P 12 34 22.3 -1.3
baz=62,SNR=10
EDFI Ende, Flores 62.47 271 P P 12 34 25.1 -1.3
comp=Z,804nmcomp=Z,45nm,0.8s
MORW Morawa 62.70 247 P P 12 34 25.7 -2.0
baz=63,SNR=16
MORW Morawa 62.70 247 P P 12 34 26.6 -1.0
JCJ Chichijima 63.41 317 IAMs_20 IAMs_20 12 59 31.6
comp=Z,3µm,22.0s
LUWI Luwuk 64.17 279 P P 12 34 42.8 +5.3
BKSI Bulukumba 65.08 274 P P 12 34 42.5 -1.0
comp=Z,30nm,0.9s
CASY Casey 65.09 206 P P 12 34 40.6 -2.0
CASY IAmb IAmb 12 34 48.4
comp=Z,50nm,0.9s
APSI Ampana 65.25 279 P P 12 34 44.4 -0.2
comp=Z,740nmcomp=Z,62nm,0.9s
BNSI Bone 65.41 275 P P 12 34 45.7 +0.1
comp=Z,31nm,1.1s
GIRL Giralia 65.58 254 P P 12 34 45.7 -0.9
baz=66,SNR=7.4
PLAI Plampang 66.10 269 P P 12 34 49.5 -0.6
comp=Z,871nmcomp=Z,80nm,0.8s
TTSI Tana Toraja 66.16 276 P P 12 34 50.1 -0.4
comp=Z,25nm,0.9s
TOLI2 Tolitoli 66.83 281 P P 12 34 52.9 -1.8
TWSI Taliwang, Sumb 66.97 269 P P 12 34 56.1 +0.5
comp=Z,40nm,1.0s
MPSI Mapaga 67.35 279 P P 12 34 57.3 -0.7
comp=Z,912nmcomp=Z,51nm,0.9s
JHJ2 Mitsune 69.07 320 P P 12 35 08.9 +0.6
JHJ Hachijo jima 2 69.09 320 P P 12 35 09.3 +0.8
comp=Z,291nm,0.8s,baz=172,slow=9.4,SNR=10.0
JHJ LR LR 13 02 11.8
comp=Z,323nm,19.1s,baz=136,slow=33
QSPA South Pole Qui 69.28 180 P P 12 35 10.5 +1.0
QSPA IAmb IAmb 12 35 28.3
comp=Z,232nm,1.4s
QSPA South Pole Qui 69.28 180 IAMs_20 IAMs_20 12 59 27.0
comp=Z,2µm,21.0s
BBKI Banjar Baru 70.66 274 P P 12 35 19.6 +1.0
comp=Z,1µmcomp=Z,4µmcomp=Z,26nm,1.5s
JYT Yasato 71.04 323 P P 12 35 19.6 -0.7
JSG Sagara 71.13 320 P P 12 35 21.8 +0.8
MTKI Muara Teweh, K 71.51 276 P P 12 35 23.4 -0.4
comp=Z,4µmcomp=Z,28nm,0.4s
JMM Marumori 71.88 324 P P 12 35 24.6 -0.8
JMM IAmb IAmb 12 35 27.1
comp=Z,190nm,1.8s
PWJI Pagerwojo 71.95 268 P P 12 35 26.7 +0.3
comp=Z,34nm,0.7s
AMKA Amchitka 72.06 356 P P 12 35 25.8 -0.4
SPMM Sapulut 72.20 282 P P 12 35 29.0 +1.0
JGF Kuroka 72.25 320 P P 12 35 27.9 +0.1
INU Inuyama 72.29 320 P P 12 35 27.9 -0.1
INU IAmb IAmb 12 35 55.6
comp=Z,201nm,2.0s
KIWB Kanaga Island 72.36 358 P P 12 35 28.3 +0.3
ADK Adak 72.38 359 P P 12 35 27.2 -0.9
ADK pmax pmax
comp=Z,166nm,1.0s
ADK Adak 72.38 359 P P 12 35 27.2 -0.9
ADK IAmb IAmb 12 35 29.9
comp=Z,166nm,0.9s
MJAR Matsushiro Arr 72.40 322 P P 12 35 28.4 -0.2
comp=Z,27nm,0.7s,baz=148,slow=6.8,SNR=103
MJAR LR LR 13 03 29.6
comp=Z,734nm,21.5s,baz=245,slow=33
MJAR Matsushiro Arr 72.40 322 P P 12 35 27.9 -0.7
MJAR pmax pmax
comp=Z,33nm,0.8s
MJAR Matsushiro Arr 72.40 322 P P 12 35 27.9 -0.7
MAJO Matsushiro 72.40 322 *c i*P **P 12 35 28.3 -0.3**
MAJO pmax pmax
comp=Z,52nm,0.8s
MAJO MLR MLR
comp=Z,521nm,20.0s
MAJO Matsushiro 72.40 322 P P 12 35 28.8 +0.2
MAJO IAmb IAmb 12 35 30.0
comp=Z,46nm,0.8s
MAT Matsushiro 72.40 322 P P 12 35 28.1 -0.5
MAT S **S 12 44 45.2 -4.9**
PCJI Pacitan 72.48 268 P P 12 35 29.5 -0.1
comp=Z,3µmcomp=Z,94nm,0.7s
ATKA Atka Island 72.68 0 P P 12 35 29.8 0.0
JOW Kunigami 72.86 308 LR LR 13 06 54.2
comp=Z,440nm,18.3s,baz=107,slow=35
JMN Monobe 73.16 317 P P 12 35 33.8 +0.6
JMN IAmb IAmb 12 35 37.0

comp=Z,66nm,1.0s
JWT Wachi 73.22 319 P **P 12 35 33.5 0.0**
JSD Sado 73.41 323 P **P 12 35 34.8 +0.3**
NIKH Nikolski High 73.62 4 P **P 12 35 35.4 0.0**
baz=186
NIKH Nikolski High 73.62 4 P **P 12 35 35.2 -0.1**
H06S1 SOCORRO T 73.64 62 T T 13 56 09.1
SNR=41
ERM Erimo 73.71 329 *c iP* **P 12 35 36.6 +0.4**
ERM MLR MLR
comp=Z,1µm,19.0s
ERM Erimo 73.71 329 P **P 12 35 36.6 +0.4**
ERM Erimo 73.71 329 IAms_20 IAms_20 13 05 39.0
comp=Z,2µm,20.0s
JEM Erimo 73.71 329 IAms_20 IAms_20 13 05 42.1
comp=Z,2µm,20.0s
JTM Tenmabayashi 73.85 326 P **P 12 35 37.7 +0.6**
JTM IAmb IAmb 12 35 39.3
comp=Z,136nm,1.3s
SMY Shemya 73.87 353 P **P 12 35 36.3 -0.5**
SMY pmax pmax
comp=Z,171nm,1.0s
SMY Shemya 73.87 353 P **P 12 35 36.3 -0.5**
SMY IAmb IAmb 12 35 39.1
comp=Z,171nm,1.0s
SMY IAms_20 IAms_20 13 04 32.8
comp=Z,3µm,20.0s
YUK Yuzh-Kuril'sk 74.00 331 *deP* **P 12 35 39.9 +2.1**
KUR Kuril'sk 74.08 333 *c iP* **P 12 35 38.3 0.0**
KUR *e* 12 35 54.7
KUR *e*PPP PPP 12 40 10.1
KUR */ S* **S 12 45 08.4 -0.3**
KUR *e* 12 45 46.3
KUR pmax pmax
comp=E,102nm,2.0s
KUR pmax pmax
comp=Z,294nm,2.0s
KUR pmax pmax
comp=N,57nm,1.7s
JHS Saijyo 74.46 318 P **P 12 35 40.9 +0.1**
JHS IAmb IAmb 12 35 44.3
comp=Z,143nm,0.9s
JNU Nakatsue 74.74 315 P **P 12 35 42.8 +0.3**
comp=Z,15nm,0.7s,baz=122,slow=3.4,SNR=3.4
JNU Nakatsue 74.74 315 P **P 12 35 42.3 -0.1**
KPJI Karang Pucung 74.86 268 P **P 12 35 43.3 -0.3**
comp=Z,29nm,0.6s
STKI Sintang 75.05 276 P **P 12 35 45.1 +0.4**
comp=Z,22nm,0.6s
SNCC San Nicolas Is 75.11 45 P **P 12 35 46.2 +1.6**
baz=232
JEW Eniwo 75.17 328 P **P 12 35 46.0 +1.3**
SBUM Sibu 75.24 278 P **P 12 35 47.0 +1.2**
SCZ2 Santa Cruz Isl 75.50 45 P **P 12 35 48.3 +1.5**
baz=232,SNR=12
JKA Kamikawa-asahi 75.56 330 P **P 12 35 47.9 +1.0**
JKA IAmb IAmb 12 35 50.4
comp=Z,333nm,1.9s
JKA IAms_20 IAms_20 13 04 22.1
comp=Z,2µm,20.0s
ASAJ Asahikawa 75.57 330 P **P 12 35 48.2 +1.3**
comp=Z,26nm,0.8s,baz=224,slow=7.0,SNR=23
ASAJ S **S 12 45 23.8 -1.6**
comp=Z,2.8nm,0.9s,baz=150,slow=23,SNR=1.7
ASAJ LR LR 13 04 33.8
comp=Z,2µm,20.8s,baz=155,slow=32
ASAJ Asahikawa 75.57 330 P **P 12 35 47.9 +1.0**
ASAJ pmax pmax
comp=Z,333nm,1.9s
SCI2 San Clemente I 75.61 46 P **P 12 35 48.9 +1.4**
baz=233,SNR=11
SBC Santa Barbara 75.72 44 P **P 12 35 49.3 +1.3**
baz=232
SKR Severo-Kuril's 75.72 341 *eP* **P 12 35 44.0 -3.6**
SKR *eS* **S 12 45 20.3 -6.4**
SKR pmax pmax
comp=Z,400nm,2.8s
SKR MLR MLR
comp=Z,400nm,20.0s
PKM Mcpherson Peak 75.93 44 P **P 12 35 51.0 +1.5**
baz=232,SNR=25
FALS False Pass 75.94 7 P **P 12 35 50.2 +1.5**
baz=191
CIS Catalina Islan 75.95 46 P **P 12 35 50.4 +1.0**
baz=233,SNR=20
SAO San Andreas Ge 76.06 41 P **P 12 35 51.1 +1.1**
SAO pmax pmax
comp=Z,73nm,0.9s
SAO San Andreas Ge 76.06 41 P **P 12 35 51.1 +1.1**
SAO IAmb IAmb 12 35 54.2
comp=Z,73nm,0.9s
SMMC Simmler 76.07 43 P **P 12 35 52.0 +2.0**
baz=232,SNR=23
MCCM Marconi Confer 76.08 40 P **P 12 35 51.6 +1.6**
PMPB Monarch Peak 76.12 42 P **P 12 35 51.4 +1.0**
PAGB Antelope Grade 76.17 43 P **P 12 35 52.1 +1.5**
PAGB IAmb IAmb 12 35 55.0
comp=Z,58nm,0.9s
FMP Fort Macarthur 76.21 46 P **P 12 35 51.5 +0.7**
baz=233
CCX Cicese 76.24 48 P **P 12 35 51.3 +0.3**
LEM Lembang 76.26 268 LR LR 13 10 09.5
comp=Z,887nm,20.4s,baz=106,slow=36
YULB Yu-li 76.38 302 P **P 12 35 52.8 +0.7**
OSI Osito Audit: C 76.47 45 P **P 12 35 53.5 +1.1**
baz=233
OSI Osito Audit: C 76.47 45 P **P 12 35 52.6 +0.2**
CBX Cerro Bola 76.50 48 P **P 12 35 53.1 +0.4**
DECC Green Verdugo 76.51 45 P **P 12 35 53.3 +0.8**
baz=233
HOPS Hopland Field 76.53 39 P **P 12 35 53.7 +1.2**
HOPS IAms_20 IAms_20 13 01 52.2
comp=Z,2µm,21.0s
109C Camp Elliot, M 76.53 47 P **P 12 35 53.9 +1.2**
baz=234
109C Camp Elliot, M 76.53 47 P **P 12 35 52.4 -0.3**
NACB Ninganchiao 76.53 303 P **P 12 35 52.0 -0.9**
NACB IAmb IAmb 12 35 55.0
comp=Z,264nm,1.8s
PASC Pasadena Art C 76.56 45 P **P 12 35 53.5 +0.7**
PASC IAms_20 IAms_20 13 00 51.3
comp=Z,2µm,22.0s
GDXM Geysers 76.57 39 P **P 12 35 52.2 -0.7**
SPX San Pedro Mart 76.61 49 P **P 12 35 54.3 +0.7**
KSM Kuching 76.65 277 P **P 12 35 54.0 +0.2**
MWC Mount Wilson 76.68 45 P **P 12 35 54.6 +0.9**
MWC pmax pmax
comp=Z,49nm,0.9s
MWC Mount Wilson 76.68 45 P **P 12 35 54.6 +0.9**
MWC IAmb IAmb 12 35 56.7
comp=Z,48nm,0.8s
TKX Tecate 76.69 47 P **P 12 35 54.1 +0.4**
KCPM Cahto Peak 76.69 38 P **P 12 35 53.9 +0.4**
BAR Barrett 76.70 47 P **P 12 35 54.0 +0.3**
ARVC Arvin 76.71 44 P **P 12 35 55.2 +1.5**
baz=232,SNR=5.4
SDPT Sand Point 76.78 8 P **P 12 35 55.4 +1.9**
baz=193
LPIG La Paz 76.80 58 P **P 12 35 55.8 +1.4**
comp=Z,21nm,0.4s,baz=204,slow=1.8,SNR=1.4
SSLB Suanglung 76.85 302 P **P 12 35 54.0 -0.7**
SSLB IAmb IAmb 12 36 23.8
comp=Z,194nm,1.9s
TPUB Ta-pu 76.87 301 P **P 12 35 54.1 -0.8**
TPUB IAmb IAmb 12 36 07.4
comp=Z,89nm,0.8s
MURC Murrieta 76.88 46 P **P 12 35 56.2 +1.5**
baz=234,SNR=15
SLBS Sierra La Lagu 76.89 58 P **P 12 35 55.3 +0.3**
SLBS IAmb IAmb 12 36 00.1
comp=Z,186nm,1.9s
BFSC Mount Baldy Ra 76.95 45 P **P 12 35 56.7 +1.5**
baz=233,SNR=20
SRIG Santa Rosalia 76.95 54 P **P 12 35 55.6 +0.5**
SRIG IAmb IAmb 12 35 58.3
comp=Z,102nm,0.8s
KMRM Mail Ridge 76.97 38 P **P 12 35 56.5 +1.4**
VES Vestal, Richgr 76.98 43 P **P 12 35 56.4 +1.2**
baz=232,SNR=22
MONP2 Monument Peak 77.00 47 P **P 12 35 57.1 +1.5**
baz=234,SNR=33
RMX La Rumorosa 77.07 48 P **P 12 35 54.9 -1.1**
RMX IAmb IAmb 12 36 00.2
comp=Z,70nm,1.0s
IKP In-Ko-Pah, Jac 77.08 48 P **P 12 35 57.3 +1.4**
baz=235,SNR=31

VOG Valley Oaks Go 77.08 43 P **P 12 35 56.6 +0.9**
baz=232
PET Petropavlovsk 77.10 344 *eP* **P 12 35 51.9 -3.5**
PET *eS* **S 12 45 38.7 -3.0**
PET pmax pmax
comp=Z,69nm,1.4s
PET pmax pmax
comp=Z,500nm,15.4s
PET Petropavlovsk 77.10 344 P **P 12 35 56.2 +0.8**
PET IAmb IAmb 12 35 57.0
comp=Z,84nm,1.3s
EDW2 Edwards Air Fo 77.11 45 P **P 12 35 57.3 +1.3**
baz=233,SNR=64
JCC Jacoby Creek, 77.19 37 IAms_20 IAms_20 13 01 48.6
comp=Z,2µm,22.0s
PFO Pinyon Flats O 77.39 47 P **P 12 35 58.7 +1.0**
comp=Z,36nm,0.9s,baz=256,slow=4.3,SNR=41
PFO Pinyon Flats O 77.39 47 P **P 12 35 56.9 -0.8**
PFO pmax pmax
comp=Z,115nm,1.5s
PFO Pinyon Flats O 77.39 47 P **P 12 35 59.0 +1.4**
baz=234,SNR=29
PFO Pinyon Flats O 77.39 47 P **P 12 35 56.9 -0.8**
PFO IAmb IAmb 12 36 02.6
comp=Z,115nm,1.5s
PFO Pinyon Flats O 77.39 47 IAms_20 IAms_20 13 01 03.5
comp=Z,2µm,22.0s
TPFO Pinon Flats 77.39 47 P **P 12 35 58.8 +1.1**
baz=234,SNR=21
KHMM Horse Mountain 77.39 37 P **P 12 35 56.9 -0.6**
KHMM IAmb IAmb 12 36 01.9
comp=Z,56nm,1.0s
PEA0B Petropavlovsk- 77.43 343 *ceP* **P 12 35 57.4 +0.1**
PEA0B Petropavlovsk- 77.43 343 P **P 12 35 57.9 +0.7**
PEA0B IAmb IAmb 12 35 59.4
comp=Z,119nm,0.8s
PETK Petropavlovsk- 77.43 343 P **P 12 35 57.2 -0.1**
comp=Z,88nm,0.7s,baz=132,slow=8.2,SNR=142
PETK LR LR 13 07 38.7
comp=Z,892nm,19.5s,baz=156,slow=34
PETK Petropavlovsk- 77.43 343 P **P 12 35 57.1 -0.2**
PETK Petropavlovsk- 77.43 343 P **P 12 35 57.1 -0.2**
BBRC Big Bear Solar 77.46 46 P **P 12 35 59.3 +1.2**
baz=234
SWSC Sam W. Stewart 77.46 47 P **P 12 35 59.3 +1.4**
baz=235,SNR=8.5
O02D Mt. Diablo Mer 77.47 38 P **P 12 35 59.5 +1.6**
baz=229,SNR=53
CMB Columbia Colle 77.52 41 P **P 12 35 58.8 +0.6**
CMB pmax pmax
comp=Z,47nm,1.0s
CMB Columbia Colle 77.52 41 P **P 12 35 58.8 +0.6**
YSS Yuzh-Sakhalins 77.64 332 *ceP* **P 12 35 58.6 0.0**
YSS *e*SP* **sP 12 36 13.7 +1.2**
YSS *e* 12 39 01.0
YSS *eS* **S 12 45 47.0 -0.9**
YSS *e* 12 46 13.4
YSS *e*SS **SS 12 50 42.5 -6.1**
YSS *e*SSS SSS 12 54 09.8
YSS pmax pmax
comp=Z,1µm,2.7s
YSS pmax pmax
comp=Z,190nm,0.9s
YSS smax smax
comp=N,800nm,6.0s
YSS MLR MLR
comp=Z,1µm,17.0s
YSS MLR MLR
comp=N,600nm,18.0s
YSS Yuzh-Sakhalins 77.64 332 P **P 12 35 58.5 -0.1**
LRMC Laurel Mtn Rad 77.67 44 P **P 12 36 00.6 +1.3**
baz=233,SNR=50
KRMB Red Mountain 77.73 36 P **P 12 35 59.3 -0.1**
AFDM Forest Hills D 77.74 40 P **P 12 35 59.3 -0.1**
RRX Edison Barstow 77.77 45 P **P 12 36 00.4 +0.8**
baz=234
ORV Oroville 77.82 39 P **P 12 36 00.3 +0.5**
ORV pmax pmax
comp=Z,26nm,1.0s
ORV Oroville 77.82 39 P **P 12 36 00.2 +0.5**
WDC Whiskeytown Da 77.88 38 P **P 12 36 00.2 +0.1**
WDC pmax pmax
comp=Z,40nm,1.1s
WDC Whiskeytown Da 77.88 38 P **P 12 36 00.2 +0.1**
WDC IAms_20 IAms_20 13 02 00.9
comp=Z,3µm,22.0s
BELC Belle Mtn. Jos 77.93 46 P **P 12 36 02.2 +1.5**
baz=235,SNR=54
CWC Cottonwood Cre 77.99 43 P **P 12 36 02.2 +1.2**
baz=233
N02D Trinity Center 78.04 37 P **P 12 36 02.5 +1.4**
baz=229,SNR=22
MDPB Devils Postpil 78.08 42 P **P 12 36 02.6 +1.0**
MDPB IAmb IAmb 12 36 06.3
comp=Z,59nm,1.0s
BC3 Big Chuckawall 78.10 47 P **P 12 36 03.1 +1.5**
baz=235,SNR=19
O03E Paynes Creek 78.12 38 P **P 12 36 02.4 +0.9**
baz=229,SNR=18
CGJI Cibinong 78.13 267 P **P 12 36 04.5 +2.4**
GSC Goldstone, Bar 78.14 45 P **P 12 36 01.8 0.0**
GSC pmax pmax
comp=Z,46nm,1.0s
GSC Goldstone, Bar 78.14 45 P **P 12 36 02.9 +1.1**
baz=234,SNR=45
GSC Goldstone, Bar 78.14 45 P **P 12 36 01.8 0.0**
MPMC Manual Prospec 78.14 44 P **P 12 36 03.3 +1.4**
baz=233,SNR=86
HEC Hector,Ludlow 78.18 46 P **P 12 36 03.1 +1.1**
baz=234,SNR=89
GLA Glamis 78.19 48 P **P 12 36 00.4 -1.7**
GLA pmax pmax
comp=Z,62nm,1.0s
GLA Glamis 78.19 48 P **P 12 36 04.0 +2.0**
baz=236,SNR=6.1
GLA Glamis 78.19 48 P **P 12 36 00.3 -1.7**
GLA IAmb IAmb 12 36 05.8
comp=Z,62nm,1.0s
MLAC Mammoth, Mammo 78.23 42 P **P 12 36 03.6 +1.2**
baz=232,SNR=15
M02C Callahan 78.23 37 P **P 12 36 03.6 +1.5**
baz=228,SNR=16
TIN Tinemaha, Big 78.26 43 P **P 12 36 04.1 +1.7**
baz=232,SNR=18
L02E Cave Junction 78.33 36 P **P 12 36 04.0 +1.5**
baz=228
WAKR Walker 78.40 41 P **P 12 36 03.0 -0.3**
WAKR IAmb IAmb 12 36 06.8
comp=Z,52nm,0.9s
YBH Yreka Blue Hor 78.54 37 P **P 12 36 04.6 +0.8**
YBH pmax pmax
comp=Z,27nm,1.0s
YBH Yreka Blue Hor 78.54 37 P **P 12 36 04.6 +0.8**
YBH IAms_20 IAms_20 13 02 33.3
comp=Z,3µm,22.0s
IRM Iron Mountain 78.60 47 P **P 12 36 06.0 +1.7**
baz=235,SNR=34
GMRC Granite Mounta 78.61 46 P **P 12 36 05.6 +1.2**
baz=235,SNR=37
K02D Willamette Mer 78.65 36 P **P 12 36 05.5 +1.1**
baz=228
PNTR Pine Nut 78.66 41 P **P 12 36 06.0 +1.2**
PNTR IAmb IAmb 12 36 08.9
comp=Z,92nm,0.9s
BEKR Beckworth 78.69 40 P **P 12 36 05.9 +1.1**
VCNR Virginia City 78.76 40 P **P 12 36 06.7 +1.5**
113A Mohawk Valley, 78.77 49 P **P 12 36 05.9 +0.7**
GRAC Grapevine Rang 78.78 43 P **P 12 36 07.1 +1.8**
baz=233,SNR=41
FURC Furnace Creek, 78.79 44 P **P 12 36 06.5 +1.4**
baz=234,SNR=22
TUQ Turquoise Moun 78.81 45 P **P 12 36 06.9 +1.4**
baz=234,SNR=30
HSIG 78.81 53 P **P 12 36 05.0 -0.5**
YERR Yerington 78.82 41 P **P 12 36 06.2 +0.6**
YERR IAmb IAmb 12 36 08.7
comp=Z,50nm,0.9s
LHV Little Huntoon 78.82 42 P **P 12 36 07.0 +1.8**
LHV IAmb IAmb 12 36 33.4
comp=Z,78nm,1.1s
J01E Myrtle Point 78.82 35 P **P 12 36 06.8 +1.6**
baz=227
SHOC Shoshone, Teco 78.84 45 P **P 12 36 06.9 +1.4**
baz=234,SNR=25
HUMO Hull Mountain 78.98 36 P **P 12 36 07.1 +0.9**
HUMO IAms_20 IAms_20 13 02 46.0

comp=Z,3µm,22.0s
TJN Taejon 79.00 316 ⇑ *iP* **P 12 36 08.2 +1.9**
214A Organ Pipe Nat 79.00 50 P **P 12 36 08.2 +1.7**
baz=237,SNR=17
214A Organ Pipe Nat 79.00 50 P **P 12 36 07.4 +0.9**
RYN Ryan 79.04 41 P **P 12 36 07.4 +0.7**
RYN IAmb IAmb 12 36 11.7
comp=Z,212nm,1.9s
NVAR Mina Array Bea 79.05 42 P **P 12 36 08.3 +1.4**
comp=Z,42nm,0.8s,baz=224,slow=8.8,SNR=144
NVAR PKPPKP **P'P'df 13 03 05.3 +5.2**
comp=Z,0.5nm,0.8s,baz=64,slow=2.3,SNR=4.4
NVAR LR LR 13 03 53.5
comp=Z,1µm,21.3s,baz=246,slow=30
NVAR Mina Array Bea 79.05 42 P **P 12 36 07.5 +0.6**
M04C Macdoel 79.06 37 P **P 12 36 08.0 +1.2**
baz=229,SNR=12
L04D Klamath Falls 79.09 37 P **P 12 36 08.1 +1.2**
baz=229,SNR=16
NV11 Mina Array Sit 79.15 42 P **P 12 36 08.2 +0.9**
NV11 IAmb IAmb 12 36 11.4
comp=Z,62nm,1.0s
PAHR Pah Rah Range 79.18 40 P **P 12 36 08.2 +0.7**
PAHR IAmb IAmb 12 36 11.5
comp=Z,58nm,1.0s
KSRS Korea Array 79.28 317 P **P 12 36 08.5 +0.7**
comp=Z,12nm,1.0s,baz=125,slow=5.9,SNR=4.7
KSRS LR LR 13 07 59.5
comp=Z,618nm,20.7s,baz=123,slow=33
KSRS Korea Array 79.28 317 P **P 12 36 08.5 +0.7**
PDMCI Parker Dam,Lak 79.36 47 P **P 12 36 09.9 +1.5**
baz=236,SNR=31
TPNV Topopah Spring 79.47 44 P **P 12 36 10.1 +0.9**
TPNV pmax pmax
comp=Z,58nm,1.0s
TPNV Topopah Spring 79.47 44 P **P 12 36 10.5 +1.3**
baz=234,SNR=60
TPNV Topopah Spring 79.47 44 P **P 12 36 10.1 +0.9**
TPNV IAmb IAmb 12 36 13.4
comp=Z,58nm,0.9s
TPNV IAms_20 IAms_20 13 02 47.5
comp=Z,3µm,22.0s
I03D Drain, OR 79.50 35 P **P 12 36 10.0 +1.1**
baz=228
I02D Swisshome 79.50 35 P **P 12 36 10.1 +1.2**
baz=227
TPH Tonopah 79.52 43 P **P 12 36 09.6 +0.2**
TPH Tonopah 79.52 43 P **P 12 36 09.6 +0.2**
UGL Uglegorsk 79.56 333 *eP* **P 12 36 10.0 +1.0**
UGL *eS* **S 12 46 06.4 -1.9**
UGL pmax pmax
comp=Z,1µm,3.2s
UGL pmax pmax
comp=Z,140nm,0.9s
UGL smax smax
comp=E,1µm,4.9s
UGL smax smax
comp=N,900nm,6.6s
KVN Kaiserville 79.56 41 P **P 12 36 09.8 +0.2**
KVN pmax pmax
comp=Z,29nm,0.9s
KVN Kaiserville 79.56 41 P **P 12 36 09.8 +0.2**
KASI Kota Agung 79.62 268 P **P 12 36 09.9 -0.4**
comp=Z,74nm,1.0s
K04D Chiloquin, OR 79.66 37 P **P 12 36 11.2 +1.2**
baz=229
PMSA Palmer Station 79.72 156 P **P 12 36 10.7 +0.9**
PMSA Palmer Station 79.72 156 *eP* **P 12 36 11.2 +1.4**
OHAK Old Harbor 79.73 12 P **P 12 36 10.5 +0.7**
baz=200,SNR=9.3
OHAK Old Harbor 79.73 12 P **P 12 36 08.9 -0.9**
OHAK IAms_20 IAms_20 13 03 41.3
comp=Z,2µm,21.0s
J04D Umpqua Nationa 79.87 36 P **P 12 36 12.3 +1.1**
baz=229,SNR=20
SHPR Sheep Range 79.93 45 P **P 12 36 12.7 +1.1**
Y14A Wickenburg 79.95 48 P **P 12 36 13.2 +1.5**
Y14A IAmb IAmb 12 36 15.9
comp=Z,58nm,1.0s
W13A Hualapai Mount 79.98 47 P **P 12 36 13.4 +1.3**
MOD Modoc Plateau 80.02 38 P **P 12 36 12.7 +0.7**
MOD IAms_20 IAms_20 13 03 09.6
comp=Z,2µm,22.0s
BUCK Buck Mountain 80.02 35 P **P 12 36 13.0 +1.1**
I04A Tendick Farm, 80.07 35 P **P 12 36 13.1 +1.0**
baz=228,SNR=7.8
INCN Inchon 80.12 316 IAms_20 IAms_20 13 09 03.0
comp=Z,2µm,21.0s
K05A Summer Lake 80.21 37 P **P 12 36 14.7 +1.6**
K05A IAmb IAmb 12 36 17.3
comp=Z,73nm,1.1s
MDSI Maura Dua 80.27 269 P **P 12 36 13.5 -0.3**
comp=Z,862nmcomp=Z,21nm,0.7s
H04D Lebanon 80.37 35 P **P 12 36 15.0 +1.3**
baz=228,SNR=10
SSE Sheshan 80.38 308 P **P 12 36 15.0 +1.1**
SSE S **S 12 46 23.2 +5.5**
SSE pmax pmax
comp=Z,7.0nm,0.7s
SSE pmax pmax
comp=Z,86nm,3.5s
SSE LR LR
comp=Z,380nm,24.4s
SSE LR LR
comp=Z,420nm,24.2s
J05D Fort Rock, OR 80.38 36 P **P 12 36 15.3 +1.4**
baz=229,SNR=49
KDAK Kodiak Island 80.39 12 P **P 12 36 14.2 +0.8**
comp=Z,112nm,0.7s,baz=277,slow=4.7,SNR=50
KDAK Kodiak Island 80.39 12 P **P 12 36 13.5 +0.1**
KDAK pmax pmax
comp=Z,100nm,0.8s
KDAK Kodiak Island 80.39 12 P **P 12 36 14.0 +0.6**
baz=201
KDAK Kodiak Island 80.39 12 P **P 12 36 13.5 +0.1**
KDAK IAmb IAmb 12 36 16.4
comp=Z,100nm,0.8s
KDAK Kodiak Island 80.39 12 IAms_20 IAms_20 13 03 50.8
comp=Z,3µm,22.0s
VLA Vladivostok 80.41 323 *ceP* **P 12 36 14.6 +0.8**
VLA pmax pmax
comp=Z,116nm,2.2s
VLA MLR MLR
comp=Z,783nm,19.0s
MSHR Mys Shultsa 80.48 323 ⇓ *eP* **P 12 36 16.0 +1.8**
MSHR pmax pmax
comp=Z,74nm,1.1s
PRN Pahroc Range 80.52 44 P **P 12 36 16.1 +1.3**
PRN IAmb IAmb 12 36 20.3
comp=Z,101nm,1.2s
G03D McMinnville, O 80.56 34 P **P 12 36 16.2 +1.6**
baz=228
TUC Tucson 80.64 50 P **P 12 36 16.1 +0.6**
TUC pmax pmax
comp=Z,79nm,1.3s
TUC Tucson 80.64 50 P **P 12 36 17.1 +1.6**
baz=238
TUC Tucson 80.64 50 P **P 12 36 16.1 +0.6**
TUC IAmb IAmb 12 36 21.0
comp=Z,79nm,1.3s
TYV Tymovskoe 80.67 334 *eP* **P 12 36 14.9 -0.1**
TYV *eS* **S 12 46 22.9 +3.0**
TYV pmax pmax
comp=Z,700nm,2.9s
TYV pmax pmax
comp=Z,100nm,0.9s
TYV smax smax
comp=E,400nm,5.3s
R11A Troy Canyon, C 80.72 43 P **P 12 36 17.1 +1.2**
baz=234,SNR=48
R11A Troy Canyon, C 80.72 43 P **P 12 36 16.3 +0.4**
H04A Detroit Lake 80.78 35 P **P 12 36 16.1 +0.3**
PINE Pine Mountain 80.87 36 P **P 12 36 17.6 +1.0**
PINE IAmb IAmb 12 36 20.0
comp=Z,60nm,0.9s
I05D Terrebonne, OR 81.01 36 P **P 12 36 18.3 +1.2**
baz=229,SNR=12
USA0B Ussuriysk Arra 81.05 324 P **P 12 36 18.8 +1.5**
USA0B pmax pmax
comp=Z,102nm,1.3s
USA0B Ussuriysk Arra 81.05 324 P **P 12 36 18.8 +1.5**
USA0B IAmb IAmb 12 36 20.4
comp=Z,102nm,1.3s
USRK Ussuriysk Ar. 81.05 324 P **P 12 36 19.1 +1.9**
comp=Z,15nm,0.7s,baz=116,slow=3.4,SNR=57
USRK LR LR 13 07 57.2

comp=Z,3μm,21.0s,baz=123,slow=32
USRK Ussuriysk Ar. 81.05 324 P **P** **12 36 17.0 -0.2**
USRK Ussuriysk Ar. 81.05 324 P **P** **12 36 17.0 -0.2**
319A Douglas 81.26 52 P **P** **12 36 20.4 +1.5**
F04D Rainier, OR 81.27 33 P **P** **12 36 20.1 +1.7**
baz=228
X16A Lo Mia Camp, P 81.30 48 P **P** **12 36 20.7 +1.6**
E03A Lebam 81.30 33 P **P** **12 36 19.1 +0.6**
E03A IAmb IAmb 12 36 23.2
comp=Z,75nm,1.1s
WVOR Wild Horse Val 81.31 38 P **P** **12 36 19.7 +0.8**
WVOR pmax pmax
comp=Z,54nm,1.1s
WVOR Wild Horse Val 81.31 38 P **P** **12 36 19.7 +0.8**
WVOR IAMs_20 IAMs_20 13 04 14.0
comp=Z,3μm,22.0s
MNAI Manna 81.46 269 IAMs_20 IAMs_20 13 09 26.5
comp=Z,1μm,20.0s
LCMT Little Creek M 81.48 45 P **P** **12 36 20.4 +0.5**
G05D Wamic, OR 81.61 35 P **P** **12 36 21.6 +1.4**
baz=229,SNR=9.2
CCUT Cedar City 81.70 45 P **P** **12 36 22.6 +1.4**
NLWA Neilton Lookou 81.72 32 P **P** **12 36 22.8 +2.0**
NLWA IAMs_20 IAMs_20 13 04 14.5
comp=Z,3μm,22.0s
KNB Kanab 81.77 45 P **P** **12 36 22.8 +1.3**
KNB pmax pmax
comp=Z,70nm,1.2s
KNB Kanab 81.77 45 P **P** **12 36 22.8 +1.3**
KNB IAmb IAmb 12 36 28.2
comp=Z,70nm,1.2s
U15A North Rim 81.80 46 P **P** **12 36 23.5 +1.7**
U15A IAmb IAmb 12 36 25.9
comp=Z,73nm,1.0s
E04D Cinebar 81.82 33 P **P** **12 36 22.8 +1.5**
baz=228,SNR=12
HPIG 81.84 57 P **P** **12 36 22.5 +0.4**
I07A Izee 81.85 37 P **P** **12 36 22.6 +0.9**
SPR3 Spring Creek 3 81.89 43 P **P** **12 36 22.8 +0.5**
SZCU Shurtz Canyon 81.91 45 P **P** **12 36 23.1 +0.8**
WUAZ Wupatki 81.93 47 P **P** **12 36 24.2 +1.8**
baz=237,SNR=31
WUAZ Wupatki 81.93 47 P **P** **12 36 23.9 +1.6**
PSUT Pine Spring 81.94 44 P **P** **12 36 23.0 +0.6**
F05D White Salmon 81.95 34 P **P** **12 36 23.4 +1.4**
baz=229,SNR=8.5
J08A Circle Bar Ran 81.98 38 P **P** **12 36 23.3 +0.9**
P19K Oil Pt 82.03 11 P **P** **12 36 22.8 +0.6**
baz=200
KSI Kapahiang 82.04 269 P **P** **12 36 24.2 +0.9**
comp=Z,119nm,0.8s
D04E Lakebay 82.13 33 P **P** **12 36 24.3 +1.4**
baz=228
DIB Dawson Inlet, 82.19 24 P **P** **12 36 23.5 +0.5**
DIB IAmb IAmb 12 36 26.6
comp=Z,70nm,1.1s
D03D Eldon 82.21 32 P **P** **12 36 24.9 +1.7**
baz=228,SNR=15
CNPM China Poot 82.28 12 P **P** **12 36 24.6 +1.2**
CNPM IAMs_20 IAMs_20 13 05 33.6
comp=Z,2μm,21.0s
MOIG Morelia 82.28 66 P **P** **12 36 25.1 +0.5**
MOIG IAmb IAmb 12 36 27.5
comp=Z,89nm,0.9s
HOM Homer 82.33 12 P **P** **12 36 24.0 +0.5**
baz=202,SNR=6.9
HOM Homer 82.33 12 P **P** **12 36 24.7 +1.1**
HOM IAMs_20 IAMs_20 13 04 52.8
comp=Z,2μm,22.0s
ELK Elko 82.33 41 P **P** **12 36 25.6 +1.2**
comp=Z,12nm,0.8s,baz=248,slow=5.6,SNR=44
ELK S **S** **12 46 38.2 +0.1**
comp=Z,0.3nm,0.4s,baz=280,slow=22,SNR=1.6
ELK Elko 82.33 41 P **P** **12 36 25.3 +0.9**
ELK pmax pmax
comp=Z,19nm,1.0s
ELK Elko 82.33 41 P **P** **12 36 25.3 +0.9**
ELK IAMs_20 IAMs_20 13 04 54.1
comp=Z,2μm,22.0s
LON Longmire 82.34 34 P **P** **12 36 24.9 +0.8**
LON pmax pmax
comp=Z,38nm,1.3s
LON Longmire 82.34 34 P **P** **12 36 24.9 +0.8**
PKCU Pink Cliffs 82.34 45 P **P** **12 36 26.0 +1.3**
O19K Port Alsworth 82.36 10 P **P** **12 36 23.6 -0.2**
baz=199,SNR=21
MAW Mawson 82.36 199 P **P** **12 36 25.1 +1.2**
comp=Z,22nm,0.7s,baz=136,slow=7.1,SNR=77
MAW S **S** **12 46 33.6 -3.7**
comp=Z,1.5nm,1.1s,baz=242,slow=4.1,SNR=1.9
MAW LR LR 13 12 30.6
comp=Z,1μm,19.2s,baz=120,slow=35
MAW Mawson 82.36 199 P **P** **12 36 24.9 +1.0**
baz=82,SNR=94
MAW Mawson 82.36 199 P **P** **12 36 24.3 +0.4**
MAW pmax pmax
comp=Z,28nm,1.6s
MAW MLR MLR
comp=Z,300nm,19.0s
MAW Mawson 82.36 199 P **P** **12 36 24.3 +0.4**
X18A Snowflake 82.40 49 P **P** **12 36 26.1 +1.3**
ZAIG Zacatecas 82.45 62 P **P** **12 36 26.4 +0.8**
D05A Enumclaw 82.54 33 P **P** **12 36 26.9 +1.9**
O20K Slope Mountain 82.54 11 P **P** **12 36 24.7 -0.1**
baz=200,SNR=18
BRLK Bradley Lake 82.57 12 P **P** **12 36 25.1 +0.1**
BRLK IAMs_20 IAMs_20 13 05 30.8
comp=Z,2μm,22.0s
BRSE Bradley Lake S 82.57 12 P **P** **12 36 25.1 +0.2**
baz=202,SNR=32
NJ2 Nanjing 82.58 308 *e*P **P** **12 36 26.7 +1.1**
NJ2 pP **PcP** **12 36 31.5 +1.0**
NJ2 sP **pP** **12 36 34.1 -2.0**
NJ2 S **S** **12 46 43.2 +2.7**
NJ2 pmax pmax
comp=Z,11nm,1.2s
NJ2 pmax pmax
comp=Z,800nm,7.1s
NJ2 LR LR
comp=Z,800nm,17.5s
NJ2 LR LR
comp=Z,530nm,18.9s
NJ2 LR LR
comp=Z,1μm,21.8s
N18K Kilae Creek 82.58 9 P **P** **12 36 24.1 -0.8**
baz=198,SNR=7.7
MDJ Mudanjiang 82.64 323 P **P** **12 36 27.9 +2.3**
MDJ S **S** **12 46 41.6 +1.0**
MDJ pmax pmax
comp=Z,130nm,1.2s
MDJ pmax pmax
comp=Z,1μm,4.4s
MDJ LR LR
comp=Z,1μm,20.6s
MDJ LR LR
comp=Z,1μm,19.8s
MDJ LR LR
comp=Z,3μm,16.7s
MDJ Mudanjiang 82.64 323 P **P** **12 36 27.4 +1.8**
MDJ IAmb IAmb 12 36 28.9
comp=Z,111nm,1.0s
MDJ IAMs_20 IAMs_20 13 09 37.5
comp=Z,2μm,20.0s
MTPU Mount Pierson 82.75 45 P **P** **12 36 29.1 +2.2**
MTPU IAmb IAmb 12 36 31.4
comp=Z,94nm,1.0s
F07A Phinny Hill Vi 82.77 35 P **P** **12 36 26.8 +0.6**
MYKOM Kota Tinggi 82.78 275 P **P** **12 36 28.0 +0.9**
PGC Sidney 82.79 31 P **P** **12 36 26.3 +0.1**
PGC IAmb IAmb 12 36 30.1
comp=Z,62nm,1.1s
W18A Petrified Fore 82.86 48 P **P** **12 36 29.2 +2.0**
baz=238
W18A Petrified Fore 82.86 48 P **P** **12 36 28.6 +1.4**
W18A IAmb IAmb 12 36 32.7
comp=Z,170nm,1.8s
RSO Redoubt South 82.88 11 P **P** **12 36 26.8 0.0**
TCRU Three Creeks R 82.89 44 P **P** **12 36 29.2 +1.8**
TCRU IAmb IAmb 12 36 32.3
comp=Z,65nm,1.0s
G08A Pilot Rock 82.92 36 P **P** **12 36 28.2 +1.0**
G08A IAmb IAmb 12 36 31.2
comp=Z,73nm,1.0s
N19K Bonanza Creek 82.92 10 P **P** **12 36 26.4 -0.5**
baz=199,SNR=11
121A Cookes Peak, D 82.94 51 P **P** **12 36 29.8 +2.1**
baz=240
121A Cookes Peak, D 82.94 51 P **P** **12 36 30.0 +2.3**
121A IAmb IAmb 12 36 31.8
comp=Z,61nm,1.2s
MSU Marysvale 83.02 44 P **P** **12 36 29.9 +1.9**
MSU Marysvale 83.02 44 P **P** **12 36 29.9 +1.9**
SVW2 Sparrevohn 83.02 9 P **P** **12 36 27.6 +0.4**
H03S2 Juan Fernandez 83.15 123 T T 14 08 38.3
baz=248,slow=75,SNR=8507
SEW Seward 83.16 12 P **P** **12 36 27.9 0.0**
baz=204,SNR=31
SEW Seward 83.16 12 P **P** **12 36 28.9 +1.0**
SEW IAmb IAmb 12 36 30.5
comp=Z,118nm,0.9s
SEW IAMs_20 IAMs_20 13 05 34.0
comp=Z,2μm,22.0s
H03S1 Juan Fernandez 83.16 123 T T 14 08 48.1
baz=248,slow=75,SNR=7732
H03S3 Juan Fernandez 83.17 123 T T 14 08 38.3
baz=248,slow=75,SNR=9279
BBB Bella Bella 83.17 27 P **P** **12 36 29.9 +1.8**
comp=Z,61nm,0.9s,baz=256,slow=4.7,SNR=16
BBB Bella Bella 83.17 27 P **P** **12 36 28.6 +0.5**
BBB IAmb IAmb 12 36 31.9
comp=Z,67nm,0.9s
BBB IAMs_20 IAMs_20 13 04 07.3
comp=Z,2μm,22.0s
B05A Bryant 83.20 32 P **P** **12 36 29.8 +1.4**
baz=228,SNR=18
A04D Lummi Island 83.20 32 P **P** **12 36 29.6 +1.2**
baz=228
NKL Nikolayevsk 83.20 335 *e*P **P** **12 36 26.1 -2.2**
NKL *i* 12 39 34.3
NKL *e*S **S** **12 46 50.2 +4.4**
NKL pmax pmax
comp=N,1.0nm,1.2s
NKL pmax pmax
comp=Z,55nm,1.1s
NKL pmax pmax
comp=E,39nm,0.5s
NKL smax smax
comp=E,299nm,2.1s
NKL smax smax
comp=N,4.0nm,0.8s
NKL MLR MLR
comp=E,2μm,13.0s
NKL MLR MLR
comp=N,42nm,14.0s
NKL MLR MLR
comp=Z,815nm,17.0s
MID Middleton Isla 83.21 14 P **P** **12 36 27.0 -1.2**
MID pmax pmax
comp=Z,145nm,0.7s
MID Middleton Isla 83.21 14 P **P** **12 36 27.0 -1.2**
E07A Sunnyside 83.24 35 P **P** **12 36 29.8 +1.1**
E07A IAmb IAmb 12 36 32.9
comp=Z,89nm,0.9s
GRNR Gornyy 83.28 331 ⇓*i*P **P** **12 36 30.3 +1.5**
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR MLR MLR
comp=E,130nm,16.0s
GRNR MLR MLR
comp=N,280nm,20.0s
GRNR MLR MLR
comp=Z,440nm,19.0s
H03N2 Juan Fernandez 83.28 123 T T 14 08 44.2
baz=258,slow=71,SNR=5121
H03N3 Juan Fernandez 83.28 123 T T 14 08 40.4
baz=258,slow=71,SNR=4042
H03N1 Juan Fernandez 83.30 123 T T 14 08 48.2
baz=258,slow=71,SNR=3102
HAWA Hanford 83.30 35 P **P** **12 36 29.6 +0.6**
HAWA IAmb IAmb 12 36 32.3
comp=Z,78nm,1.1s
CAPN Captain Cook N 83.45 11 P **P** **12 36 30.2 +0.8**
baz=202,SNR=8.3
CAPN Captain Cook N 83.45 11 P **P** **12 36 31.1 +1.7**
O22K Cooper Landing 83.45 12 P **P** **12 36 29.6 +0.2**
O22K IAMs_20 IAMs_20 13 05 55.8
comp=Z,2μm,22.0s
EPT El Paso 83.51 53 IAMs_20 IAMs_20 13 05 21.8
comp=Z,2μm,22.0s
DUG Dugway, Tooele 83.54 43 P **P** **12 36 31.5 +1.0**
DUG pmax pmax
comp=Z,30nm,1.2s
DUG Dugway, Tooele 83.54 43 P **P** **12 36 31.6 +1.0**
baz=236,SNR=17
DUG Dugway, Tooele 83.54 43 P **P** **12 36 31.5 +1.0**
MFID Camas Ranch 83.55 39 P **P** **12 36 31.4 +0.8**
MFID IAmb IAmb 12 36 35.3
comp=Z,140nm,1.6s
MFID IAMs_20 IAMs_20 13 05 24.1
comp=Z,2μm,22.0s
BMO Blue Mountains 83.56 37 P **P** **12 36 31.2 +0.7**
BMO pmax pmax
comp=Z,31nm,0.9s
BMO Blue Mountains 83.56 37 P **P** **12 36 31.2 +0.7**
BMO IAMs_20 IAMs_20 13 05 49.4
comp=Z,2μm,22.0s
C06D Leavenworth 83.58 33 P **P** **12 36 30.6 +0.2**
baz=229,SNR=5.8
E08A Dider Farm, El 83.62 35 P **P** **12 36 31.3 +0.7**
E08A IAmb IAmb 12 36 34.5
comp=Z,60nm,1.0s
TLIG Tlapa 83.66 69 P **P** **12 36 32.7 +1.0**
TLIG IAmb IAmb 12 36 35.4
comp=Z,105nm,0.9s
TLIG IAMs_20 IAMs_20 13 07 28.8
comp=Z,2μm,18.0s
SPCR Spurr Chakacha 83.67 11 P **P** **12 36 29.9 -0.7**
baz=201,SNR=13
B06A Marblemount 83.67 32 P **P** **12 36 32.0 +1.2**
SPU Mount Spurr 83.67 11 P **P** **12 36 30.7 +0.1**
A05A Maple Falls 83.69 32 P **P** **12 36 31.9 +0.9**
A05A IAmb IAmb 12 36 35.5
comp=Z,117nm,1.7s
CRAG Craig 83.72 22 P **P** **12 36 32.5 +1.7**
baz=218,SNR=12
CRAG Craig 83.72 22 P **P** **12 36 32.6 +1.7**
CRAG IAmb IAmb 12 36 35.0
comp=Z,105nm,0.9s
BGU Big Grassy Mou 83.81 42 P **P** **12 36 32.7 +0.7**
NLU North Lily Min 83.88 43 P **P** **12 36 33.7 +1.3**
QIZ Qiongzhong 83.94 293 P **P** **12 36 33.9 +1.0**
QIZ S **S** **12 46 53.4 -1.4**
QIZ LR LR
comp=Z,440nm,21.1s
QIZ LR LR
comp=Z,540nm,27.2s
QIZ LR LR
comp=Z,830nm,26.6s
FIS Fire Island 83.97 12 P **P** **12 36 33.9 +1.9**
FIS IAMs_20 IAMs_20 13 05 55.4
comp=Z,2μm,21.0s
M19K Big River Lodg 83.97 9 P **P** **12 36 32.4 +0.3**
baz=199
RC01 Rabbit Creek A 84.01 12 P **P** **12 36 32.8 +0.5**
baz=203,SNR=26
RC01 Rabbit Creek A 84.01 12 P **P** **12 36 32.2 -0.1**
RC01 IAmb IAmb 12 36 35.0
comp=Z,116nm,0.9s
HIN Hinchinbrook I 84.05 14 P **P** **12 36 32.8 +0.3**
HIN IAMs_20 IAMs_20 13 05 43.5
comp=Z,3μm,22.0s
D08A Wollman Farm, 84.05 35 P **P** **12 36 33.9 +1.1**
D08A IAmb IAmb 12 36 36.8
comp=Z,88nm,1.0s
TMUT Trail Mountain 84.08 44 P **P** **12 36 34.7 +1.1**
PWL Port Wells 84.08 13 P **P** **12 36 32.8 +0.1**
PWL IAMs_20 IAMs_20 13 05 38.3
comp=Z,2μm,22.0s
E09A Wood Farm, Sta 84.12 35 P **P** **12 36 33.4 +0.2**
E09A IAmb IAmb 12 36 36.0
comp=Z,47nm,1.0s
M20K Styx River 84.15 10 P **P** **12 36 32.9 -0.2**
baz=200,SNR=9.7
L19K White Mountain 84.17 9 P **P** **12 36 33.5 +0.4**
baz=198,SNR=15
SUA Susitna One 84.17 11 P **P** **12 36 33.3 0.0**
baz=202,SNR=57
SUA Susitna One 84.17 11 P **P** **12 36 34.1 +0.8**
SUA IAMs_20 IAMs_20 13 06 37.6
comp=Z,2μm,22.0s
DL2 Dalian 84.18 315 P **P** **12 36 35.1 +1.4**
DL2 S **S** **12 46 52.0 -4.4**
DL2 pmax pmax
comp=Z,52nm,1.4s
DL2 pmax pmax
comp=Z,490nm,8.3s
DL2 LR LR
comp=Z,540nm,19.9s
DL2 LR LR
comp=Z,620nm,20.8s
DL2 LR LR
comp=Z,890nm,20.2s
MPU Maple Canyon 84.19 43 P **P** **12 36 34.2 +0.2**
MPU IAmb IAmb 12 36 38.2
comp=Z,45nm,1.0s
SIT Sitka 84.23 20 P **P** **12 36 34.6 +1.2**
SIT pmax pmax
comp=Z,65nm,1.0s
SIT Sitka 84.23 20 P **P** **12 36 33.6 +0.1**
baz=216,SNR=5.7
SIT Sitka 84.23 20 P **P** **12 36 34.6 +1.2**
SIT IAmb IAmb 12 36 37.2
comp=Z,65nm,1.0s
F10A Beach Ranch, E 84.29 36 P **P** **12 36 34.3 +0.1**
F10A IAmb IAmb 12 36 37.5
comp=Z,107nm,0.9s
MNTX Cornudas Mount 84.31 53 P **P** **12 36 36.0 +1.5**
baz=241,SNR=94
MNTX Cornudas Mount 84.31 53 P **P** **12 36 35.9 +1.4**
MNTX IAmb IAmb 12 36 38.1
comp=Z,62nm,1.0s
GAMB Gambell 84.31 1 P **P** **12 36 34.6 +0.9**
baz=183
GAMB Gambell 84.31 1 P **P** **12 36 33.5 -0.2**
GAMB IAmb IAmb 12 36 37.2
comp=Z,86nm,1.0s
Y22D IRIS PASSCAL I 84.33 50 P **P** **12 36 37.1 +2.4**
baz=240
EYAK Cordova Ski Ar 84.35 14 P **P** **12 36 34.6 +0.6**
baz=207,SNR=28
EYAK Cordova Ski Ar 84.35 14 P **P** **12 36 34.6 +0.6**
EYAK IAmb IAmb 12 36 36.8
comp=Z,93nm,0.8s
EYAK IAMs_20 IAMs_20 13 06 03.5
comp=Z,2μm,22.0s
GLI Glacier Island 84.35 13 P **P** **12 36 34.2 +0.1**
baz=206,SNR=150
GLI Glacier Island 84.35 13 P **P** **12 36 34.2 +0.1**
GLI IAMs_20 IAMs_20 13 06 27.6
comp=Z,2μm,22.0s
FID Port Fidalgo 84.37 13 P **P** **12 36 34.0 -0.1**
FID IAmb IAmb 12 36 36.5
comp=Z,92nm,0.9s
SUCK Suckling Hills 84.39 15 P **P** **12 36 36.0 +1.8**
SUCK IAmb IAmb 12 36 37.7
comp=Z,49nm,0.9s
SUCK IAMs_20 IAMs_20 13 05 15.9
comp=Z,2μm,22.0s
SRU San Rafael Swe 84.43 45 P **P** **12 36 36.3 +1.1**
SRU pmax pmax
comp=Z,106nm,0.9s
SRU San Rafael Swe 84.43 45 P **P** **12 36 36.3 +1.1**
SRU IAmb IAmb 12 36 38.6
comp=Z,106nm,0.9s
KLR Kul'dur 84.45 328 P **P** **12 36 35.7 +0.9**
comp=Z,14nm,0.9s,baz=118,slow=4.0,SNR=30
KLR S **S** **12 46 53.1 -5.6**
comp=Z,0.5nm,0.6s,baz=11,slow=23,SNR=6.7
KLR PKKPbc **PKKPbc** **12 54 47.5 -1.0**
comp=Z,1.3nm,0.8s,baz=307,slow=5.1,SNR=4.8
KLR LR LR 13 08 34.6
comp=Z,839nm,21.9s,baz=134,slow=32
KLR Kul'dur 84.45 328 *c i*P **P** **12 36 35.2 +0.4**
KLR pmax pmax
comp=Z,50nm,1.5s
KLR MLR MLR
comp=Z,359nm,19.0s
KLR Kul'dur 84.45 328 P **P** **12 36 35.7 +0.9**
P17A Butcher Ranch, 84.48 44 P **P** **12 36 36.8 +1.3**
P17A IAmb IAmb 12 36 39.1
comp=Z,99nm,1.2s
CTU Camp Tracy 84.49 43 P **P** **12 36 36.2 +0.7**
CTU IAmb IAmb 12 36 41.9
comp=Z,51nm,1.0s
HMT Hamilton 84.50 15 P **P** **12 36 36.0 +1.1**
HMT IAmb IAmb 12 36 37.9
comp=Z,78nm,0.9s
HMT IAMs_20 IAMs_20 13 05 31.6
comp=Z,3μm,22.0s
SKT Skwentna 84.51 11 P **P** **12 36 33.7 -1.1**
baz=202,SNR=26
SKT Skwentna 84.51 11 P **P** **12 36 35.2 +0.3**
SKT IAmb IAmb 12 36 38.8
comp=Z,50nm,0.9s
SKT IAMs_20 IAMs_20 13 06 38.6
comp=Z,2μm,22.0s
TX31 Lajitas Ar. Si 84.51 56 P **P** **12 36 37.2 +1.4**
TX32 Lajitas Array 84.51 56 P **P** **12 36 36.8 +1.0**
TX32 IAmb IAmb 12 36 41.0
comp=Z,80nm,1.4s
TXAR Lajitas Array 84.51 56 P **P** **12 36 37.2 +1.5**
comp=Z,26nm,0.9s,baz=215,slow=6.7,SNR=167
TXAR PKKPbc **PKKPbc** **12 54 48.3 +1.0**
comp=Z,0.2nm,0.6s,baz=123,slow=1.5,SNR=3.7
TXAR LR LR 13 06 29.3
comp=Z,1μm,21.6s,baz=0.0,slow=30
TXAR Lajitas Array 84.51 56 P **P** **12 36 36.8 +1.0**
TXAR Lajitas Array 84.51 56 P **P** **12 36 36.8 +1.0**
CN2 Changchun 84.53 321 *e*P **P** **12 36 35.7 +0.4**
CN2 *e*S **S** **12 47 00.2 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,800nm,3.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,800nm,20.0s
SNY Shenyang 84.54 319 ⇓P **P** **12 36 37.2 +1.8**
SNY S **S** **12 47 01.0 +1.2**
SNY SS **SS** **12 52 29.1 -2.6**
SNY pmax pmax
comp=Z,41nm,1.9s
SNY LR LR
comp=Z,380nm,17.1s
SNY LR LR
comp=Z,660nm,18.9s
SNY LR LR
comp=Z,830nm,21.8s
BGLC Bering Glacier 84.55 15 P **P** **12 36 36.1 +1.2**
baz=209
KNK Knik Glacier 84.56 12 P **P** **12 36 35.3 +0.2**
baz=204,SNR=64
KNK Knik Glacier 84.56 12 P **P** **12 36 36.1 +1.0**
KNK IAMs_20 IAMs_20 13 06 28.0
comp=Z,1μm,22.0s
BNM Barren Site 84.58 51 P **P** **12 36 37.0 +0.9**
PMR Palmer 84.59 12 P **P** **12 36 35.6 +0.4**
PMR pmax pmax
comp=Z,109nm,1.2s
PMR Palmer 84.59 12 P **P** **12 36 35.1 0.0**
baz=204,SNR=42
PMR Palmer 84.59 12 P **P** **12 36 35.6 +0.4**
PMR IAmb IAmb 12 36 37.8
comp=Z,109nm,1.2s
JLU Jordanelle 84.63 43 P **P** **12 36 37.3 +1.0**
JLU IAmb IAmb 12 36 39.4
comp=Z,42nm,0.9s
B08A Colville Reser 84.66 33 P **P** **12 36 35.9 0.0**
B08A IAmb IAmb 12 36 39.1
comp=Z,62nm,0.9s
WRAK Wrangell Islan 84.73 22 P **P** **12 36 37.5 +1.5**
baz=219,SNR=20
WRAK Wrangell Islan 84.73 22 P **P** **12 36 36.9 +0.9**
WRAK IAmb IAmb 12 36 40.6
comp=Z,78nm,1.0s
MVCO Mesa Verde 84.79 47 P **P** **12 36 38.3 +1.1**
baz=239,SNR=16
MVCO Mesa Verde 84.79 47 P **P** **12 36 38.1 +1.0**
GHO Glory Hole Cre 84.80 12 P **P** **12 36 36.2 -0.1**
LL02 Futaleuf 84.83 134 P **P** **12 36 39.1 +2.0**
LL02 IAmb IAmb 12 36 40.8
comp=Z,39nm,1.0s
PV05 Paradox Valley 84.83 46 P **P** **12 36 39.0 +1.6**
PV05 IAmb IAmb 12 36 45.3
comp=Z,50nm,1.0s

C09A	**Chrisman Ranch**	**84.86**	**34**	P	**P**	**12 36 37.8**	**+0.9**
C09A				IAmb	IAmb	12 36 41.4	
	comp=Z,245nm,1.9s						
MESA	**MESA**	**84.93**	**16**	P	**P**	**12 36 38.5**	**+1.3**
	baz=210,SNR=38						
MESA	**MESA**	**84.93**	**16**	P	**P**	**12 36 38.1**	**+0.9**
WAX	**Waxell Ridge**	**84.94**	**15**	P	**P**	**12 36 37.6**	**+0.4**
SML	**Sawmill**	**84.94**	**12**	P	**P**	**12 36 37.1**	**0.0**
	baz=204,SNR=18						
SML	**Sawmill**	**84.94**	**12**	P	**P**	**12 36 37.6**	**+0.5**
SML				IAmb	IAmb	12 36 52.6	
	comp=Z,42nm,0.8s						
MA2	**Magadan**	**84.96**	**343** *d i*	P	**P**	**12 36 37.3**	**+0.2**
MA2				pmax	pmax		
	comp=Z,106nm,1.7s						
MA2	**Magadan**	**84.96**	**343**	P	**P**	**12 36 36.8**	**-0.4**
MA2				IAmb	IAmb	12 36 38.8	
	comp=Z,51nm,0.8s						
MA2				IAMs_20	IAMs_20	13 10 07.1	
	comp=Z,1μm,20.0s						
BMRM	**Bremner River**	**84.98**	**14**	P	**P**	**12 36 37.5**	**+0.2**
	baz=208,SNR=73						
BMRM	**Bremner River**	**84.98**	**14**	P	**P**	**12 36 37.3**	**+0.1**
BMRM				IAMs_20	IAMs_20	13 06 00.3	
	comp=Z,2μm,22.0s						
PV10	**Paradox Valley**	**85.03**	**46**	P	**P**	**12 36 38.4**	**+0.1**
PV10				IAmb	IAmb	12 36 43.0	
	comp=Z,64nm,1.1s						
ANMO	**Albuquerque**	**85.09**	**50** *c i*	P	**P**	**12 36 40.1**	**+1.5**
ANMO				pmax	pmax		
	comp=Z,198nm,2.5s						
ANMO				MLR	MLR		
	comp=Z,641nm,16.0s						
ANMO	**Albuquerque**	**85.09**	**50**	P	**P**	**12 36 40.3**	**+1.6**
	baz=240						
ANMO	**Albuquerque**	**85.09**	**50**	P	**P**	**12 36 39.9**	**+1.2**
ANMO				IAmb	IAmb	12 36 42.3	
	comp=Z,63nm,0.9s						
ANMO	**Albuquerque**	**85.09**	**50**	IAMs_20	IAMs_20	13 05 41.6	
	comp=Z,1μm,22.0s						
PV03	**Paradox Valley**	**85.09**	**46**	P	**P**	**12 36 39.9**	**+1.3**
PV03				IAmb	IAmb	12 37 10.8	
	comp=Z,74nm,1.5s						
PV11	**David Mesa, Pa**	**85.10**	**46**	P	**P**	**12 36 39.7**	**+1.1**
PV11				IAmb	IAmb	12 36 43.8	
	comp=Z,87nm,1.3s						
HWUT	**Hardware Ranch**	**85.11**	**42**	P	**P**	**12 36 38.8**	**+0.3**
HWUT				IAmb	IAmb	12 36 41.9	
	comp=Z,34nm,0.8s						
PV04	**Paradox Valley**	**85.13**	**46**	P	**P**	**12 36 39.8**	**+1.1**
CUT	**Chulitna**	**85.13**	**11**	P	**P**	**12 36 37.8**	**0.0**
	baz=203,SNR=28						
CUT	**Chulitna**	**85.13**	**11**	P	**P**	**12 36 37.9**	**0.0**
CUT				IAMs_20	IAMs_20	13 07 08.0	
	comp=Z,3μm,22.0s						
CRQM	**Cirque**	**85.14**	**15**	P	**P**	**12 36 38.6**	**+0.4**
YAH	**Yahtse**	**85.14**	**16**	P	**P**	**12 36 38.4**	**+0.1**
PV02	**Paradox Valley**	**85.14**	**46**	P	**P**	**12 36 39.9**	**+1.0**
PV02				IAmb	IAmb	12 36 46.3	
	comp=Z,174nm,2.0s						
CRQE	**Cirque**	**85.15**	**15**	P	**P**	**12 36 38.8**	**+0.6**
	baz=209,SNR=60						
PV12	**Saucer Basin,**	**85.16**	**46**	P	**P**	**12 36 40.2**	**+1.2**
PV12				IAmb	IAmb	12 36 45.5	
	comp=Z,77nm,1.2s						
KLU	**Klutina**	**85.16**	**13**	P	**P**	**12 36 38.5**	**+0.3**
	baz=207,SNR=39						
KLU	**Klutina**	**85.16**	**13**	P	**P**	**12 36 38.2**	**0.0**
KLU				IAmb	IAmb	12 36 41.1	
	comp=Z,66nm,1.0s						
KLU				IAMs_20	IAMs_20	13 07 13.9	
	comp=Z,2μm,22.0s						
SCM	**Sheep Creek Mo**	**85.17**	**13**	P	**P**	**12 36 38.9**	**+0.7**
SCM				pmax	pmax		
	comp=Z,262nm,0.8s						
SCM	**Sheep Creek Mo**	**85.17**	**13**	P	**P**	**12 36 38.9**	**+0.7**
SCM				IAMs_20	IAMs_20	13 06 35.1	
	comp=Z,1μm,22.0s						
ISLE	**Juniper Island**	**85.20**	**15**	P	**P**	**12 36 39.3**	**+0.8**
TGL	**Tana Glacier**	**85.21**	**15**	P	**P**	**12 36 38.7**	**+0.2**
PV01	**Paradox Valley**	**85.22**	**46**	P	**P**	**12 36 39.1**	**-0.1**
WHN	**Wuhan**	**85.24**	**305** ‖	P	**P**	**12 36 40.8**	**+1.6**
WHN				S	**S**	**12 47 03.9**	**-3.4**
WHN				LR	LR		
	comp=Z,2μm,16.5s						
PPLA	**Purkeypile**	**85.26**	**10**	P	**P**	**12 36 37.9**	**-0.8**
	baz=201,SNR=7.5						
PPLA	**Purkeypile**	**85.26**	**10**	P	**P**	**12 36 39.0**	**+0.2**
PPLA				IAmb	IAmb	12 36 42.5	
	comp=Z,136nm,1.9s						
PPLA				IAMs_20	IAMs_20	13 07 24.3	
	comp=Z,2μm,21.0s						
PV22	**Blue Mesa, Par**	**85.28**	**46**	P	**P**	**12 36 41.6**	**+2.1**
PCA	**Pinnacle**	**85.30**	**16**	P	**P**	**12 36 38.9**	**0.0**
PCA				IAmb	IAmb	12 36 42.1	
	comp=Z,60nm,0.8s						
PINM	**Pinnacle**	**85.30**	**16**	P	**P**	**12 36 39.5**	**+0.6**
	baz=212,SNR=15						
GDL2	**Guadalupe Moun**	**85.31**	**53**	P	**P**	**12 36 41.0**	**+1.2**
BCPM	**Bancas Point**	**85.34**	**17**	P	**P**	**12 36 39.6**	**+0.5**
BCPM				IAMs_20	IAMs_20	13 06 18.0	
	comp=Z,3μm,22.0s						
LL04	**Puerto Octay**	**85.35**	**132**	P	**P**	**12 36 41.1**	**+1.4**
TABL	**Table Mountain**	**85.36**	**16**	P	**P**	**12 36 39.9**	**+0.5**
ANM	**Nome**	**85.38**	**4**	P	**P**	**12 36 39.9**	**+0.8**
	baz=188						
VRDI	**Verde Repeater**	**85.48**	**15**	P	**P**	**12 36 40.0**	**+0.1**
VRDI				IAmb	IAmb	12 36 44.9	
	comp=Z,84nm,0.9s						
VRDI				IAMs_20	IAMs_20	13 06 15.4	
	comp=Z,2μm,22.0s						
JIS	**Juneau Island**	**85.51**	**20**	P	**P**	**12 36 41.0**	**+1.2**
JIS				IAmb	IAmb	12 36 43.4	
	comp=Z,55nm,0.9s						
N25K	**Chitina, Valde**	**85.55**	**14**	P	**P**	**12 36 40.6**	**+0.4**
	baz=208,SNR=157						
N25K	**Chitina, Valde**	**85.55**	**14**	P	**P**	**12 36 39.9**	**-0.2**
N25K				IAMs_20	IAMs_20	13 06 19.3	
	comp=Z,2μm,22.0s						
GLB	**Gilahina Butte**	**85.58**	**14**	P	**P**	**12 36 40.3**	**0.0**
BESE	**Bessie Mountai**	**85.61**	**20**	P	**P**	**12 36 41.9**	**+1.5**
BESE				IAmb	IAmb	12 36 44.2	
	comp=Z,69nm,1.0s						
BESE				IAMs_20	IAMs_20	13 06 02.2	
	comp=Z,1μm,22.0s						
M24K	**Tolsona, Glenn**	**85.66**	**13**	P	**P**	**12 36 41.7**	**+1.0**
	baz=206,SNR=41						
M24K	**Tolsona, Glenn**	**85.66**	**13**	P	**P**	**12 36 41.5**	**+0.9**
M24K				IAMs_20	IAMs_20	13 07 30.0	
	comp=Z,1μm,21.0s						
MCARA	**McCarthy VSAT**	**85.72**	**15**	P	**P**	**12 36 41.7**	**+0.8**
	baz=209,SNR=24						
MCARA	**McCarthy VSAT**	**85.72**	**15**	IAMs_20	IAMs_20	13 06 33.7	
	comp=Z,2μm,21.0s						
LOGN	**Logan Glacier**	**85.73**	**16**	P	**P**	**12 36 41.5**	**+0.3**
NEW	**Newport**	**85.75**	**34**	P	**P**	**12 36 42.1**	**+0.7**
	comp=Z,13nm,0.9s,baz=235,slow=5.5,SNR=16						
NEW				S	**S**	**12 47 07.1**	**-4.6**
	comp=Z,0.6nm,0.4s,baz=96,slow=16,SNR=1.1						
NEW	**Newport**	**85.75**	**34**	P	**P**	**12 36 41.8**	**+0.4**
NEW				pmax	pmax		
	comp=Z,107nm,2.0s						
NEW	**Newport**	**85.75**	**34**	P	**P**	**12 36 42.0**	**+0.7**
	baz=232,SNR=11						
NEW	**Newport**	**85.75**	**34**	P	**P**	**12 36 41.8**	**+0.4**
NEW				IAmb	IAmb	12 36 43.2	
	comp=Z,107nm,2.0s						
CTG	**Chitna Glacier**	**85.76**	**16**	P	**P**	**12 36 41.9**	**+0.6**
	baz=211,SNR=67						
BARN	**Barnard Glacie**	**85.77**	**15**	P	**P**	**12 36 41.9**	**+0.5**
CTGM	**Chitina Glacie**	**85.77**	**16**	P	**P**	**12 36 41.6**	**+0.3**
WAT6	**Susitna Watana**	**85.77**	**12**	P	**P**	**12 36 41.4**	**+0.1**
	baz=205,SNR=87						
RDMU	**Red Mountain**	**85.82**	**44**	P	**P**	**12 36 42.8**	**+0.6**
RDMU				IAmb	IAmb	12 36 45.0	
	comp=Z,34nm,0.9s						
WAT1	**Susitna Watana**	**85.84**	**12**	P	**P**	**12 36 41.5**	**+0.1**
	baz=204						
TIA	**Tai'an**	**85.88**	**311**	P	**P**	**12 36 43.7**	**+1.4**
TIA				S	S	12 47 03.4	-10
TIA				pmax	pmax		
	comp=Z,36nm,1.6s						
TIA				pmax	pmax		
	comp=Z,460nm,6.4s						
TIA				LR	LR		
	comp=Z,510nm,19.6s						
TIA				LR	LR		
	comp=Z,670nm,19.6s						
TIA				LR	LR		
	comp=Z,1μm,17.6s						
ECR	**Eagle Creek**	**86.02**	**41**	P	**P**	**12 36 43.6**	**+0.5**
AHID	**Auburn Hatcher**	**86.03**	**41**	P	**P**	**12 36 44.1**	**+0.9**
AHID				IAmb	IAmb	12 36 46.9	
	comp=Z,36nm,1.1s						
KTH	**Kantishna Hill**	**86.08**	**10**	P	**P**	**12 36 42.6**	**-0.2**
TRF	**Thorofare Moun**	**86.09**	**11**	P	**P**	**12 36 42.6**	**-0.3**
	baz=203,SNR=162						
TRF	**Thorofare Moun**	**86.09**	**11**	P	**P**	**12 36 43.1**	**+0.2**
MCMT	**McKenzie Canyo**	**86.12**	**39**	P	**P**	**12 36 44.3**	**+0.7**
HARP	**HAARP**	**86.13**	**13**	P	**P**	**12 36 43.8**	**+0.8**
	baz=207,SNR=29						
CHUM	**Lake Minchumin**	**86.16**	**10**	P	**P**	**12 36 42.4**	**-0.6**
	baz=201,SNR=48						
SKAG	**Skagway**	**86.17**	**19**	P	**P**	**12 36 44.9**	**+1.8**
	baz=216,SNR=62						
SKAG	**Skagway**	**86.17**	**19**	P	**P**	**12 36 44.5**	**+1.4**
SKAG				IAMs_20	IAMs_20	13 06 41.0	
	comp=Z,1μm,22.0s						
S22A	**4UR Ranch, Cre**	**86.21**	**47**	P	**P**	**12 36 45.3**	**+1.0**
	baz=240,SNR=42						
TNA	**Tin City**	**86.23**	**3**	P	**P**	**12 36 43.3**	**0.0**
	baz=186,SNR=12						
TNA	**Tin City**	**86.23**	**3**	P	**P**	**12 36 44.4**	**+1.1**
TNA				IAmb	IAmb	12 36 46.2	
	comp=Z,75nm,0.8s						
RND	**Reindeer**	**86.31**	**11**	P	**P**	**12 36 44.1**	**+0.3**
RND				pmax	pmax		
	comp=Z,269nm,1.0s						
RND	**Reindeer**	**86.31**	**11**	P	**P**	**12 36 44.1**	**+0.3**
RND				IAMs_20	IAMs_20	13 07 20.1	
	comp=Z,2μm,22.0s						
IPM	**Ipoh**	**86.37**	**276**	P	**P**	**12 36 46.0**	**+0.7**
O20A	**White River Ci**	**86.46**	**45**	P	**P**	**12 36 46.4**	**+1.0**
	baz=239,SNR=24						
O20A	**White River Ci**	**86.46**	**45**	P	**P**	**12 36 46.0**	**+0.7**
REDW	**Red Top Meadow**	**86.50**	**41**	P	**P**	**12 36 46.6**	**+1.1**
REDW				IAmb	IAmb	12 36 49.2	
	comp=Z,37nm,1.1s						
TPAW	**Teton Pass**	**86.51**	**41**	P	**P**	**12 36 46.2**	**+0.6**
TPAW				IAmb	IAmb	12 36 49.4	
	comp=Z,36nm,1.1s						
LC01	**Cunco**	**86.53**	**130**	P	**P**	**12 36 46.9**	**+1.2**
LC01				IAmb	IAmb	12 36 48.7	
	comp=Z,66nm,0.8s						
DLMT	**Dillon**	**86.56**	**39**	P	**P**	**12 36 46.5**	**+0.8**
PAX	**Paxson**	**86.58**	**13**	P	**P**	**12 36 45.2**	**0.0**
PAX				pmax	pmax		
	comp=Z,56nm,0.9s						
PAX	**Paxson**	**86.58**	**13**	P	**P**	**12 36 44.9**	**-0.3**
	baz=207,SNR=50						
PAX	**Paxson**	**86.58**	**13**	P	**P**	**12 36 45.2**	**0.0**
PAX				IAmb	IAmb	12 36 47.6	
	comp=Z,56nm,0.9s						
PAX				IAMs_20	IAMs_20	13 07 18.3	
	comp=Z,2μm,22.0s						
BPAW	**Bear Paw Mtn.**	**86.58**	**10**	P	**P**	**12 36 44.2**	**-0.9**
	baz=202,SNR=26						
BPAW	**Bear Paw Mtn.**	**86.58**	**10**	P	**P**	**12 36 44.8**	**-0.3**
BPAW				IAmb	IAmb	12 36 46.7	
	comp=Z,40nm,1.0s						
BPAW				IAMs_20	IAMs_20	13 07 43.2	
	comp=Z,2μm,22.0s						
MCK	**McKinley**	**86.59**	**11**	P	**P**	**12 36 45.3**	**+0.1**
MCK				pmax	pmax		
	comp=Z,223nm,0.8s						
MCK	**McKinley**	**86.59**	**11**	P	**P**	**12 36 45.1**	**-0.1**
	baz=204,SNR=92						
MCK	**McKinley**	**86.59**	**11**	P	**P**	**12 36 45.3**	**+0.1**
SNOW	**Snow King Moun**	**86.62**	**41**	P	**P**	**12 36 46.8**	**+0.7**
SNOW				IAmb	IAmb	12 36 49.9	
	comp=Z,71nm,1.2s						
MSO	**Missoula**	**86.63**	**37**	P	**P**	**12 36 46.3**	**+0.4**
	baz=235,SNR=15						
MSO	**Missoula**	**86.63**	**37**	P	**P**	**12 36 45.5**	**-0.4**
HYT	**Haines Junctio**	**86.66**	**17**	P	**P**	**12 36 46.7**	**+1.0**
HYT				IAmb	IAmb	12 36 49.4	
	comp=Z,64nm,1.0s						
HYT				IAMs_20	IAMs_20	13 06 37.8	
	comp=Z,2μm,22.0s						
CMIG	**Matias Romero**	**86.70**	**70**	P	**P**	**12 36 47.9**	**+1.1**
	comp=Z,74nm,0.8s,baz=270,slow=5.2,SNR=85						
PLCA	**Paso Flores**	**86.71**	**132**	P	**P**	**12 36 48.2**	**+1.6**
	comp=Z,22nm,0.9s,baz=219,slow=5.3,SNR=20						
PLCA				LR	LR	13 06 59.0	
	comp=Z,1μm,21.7s,baz=240,slow=30						
PLCA	**Paso Flores**	**86.71**	**132**	P	**P**	**12 36 47.8**	**+1.2**
PLCA				pmax	pmax		
	comp=Z,187nm,1.7s						
PLCA	**Paso Flores**	**86.71**	**132**	P	**P**	**12 36 47.8**	**+1.2**
LOHW	**Long Hollow**	**86.79**	**41**	P	**P**	**12 36 47.4**	**+0.5**
SMCO	**Snowmass**	**86.82**	**46**	P	**P**	**12 36 47.8**	**+0.4**
SMCO				IAmb	IAmb	12 36 52.5	
	comp=Z,35nm,0.8s						
BWN	**Browne**	**86.90**	**11**	P	**P**	**12 36 46.3**	**-0.3**
LRM	**Limekiln Ridge**	**86.91**	**38**	P	**P**	**12 36 48.0**	**+0.5**
MENT	**Mentasta**	**86.92**	**14**	P	**P**	**12 36 47.3**	**+0.5**
MENT				IAMs_20	IAMs_20	13 07 04.5	
	comp=Z,2μm,22.0s						
QLMT	**Earthquake Lak**	**86.96**	**39**	P	**P**	**12 36 49.0**	**+1.4**
BW06	**Boulder Array**	**86.99**	**42**	P	**P**	**12 36 48.4**	**+0.5**
	baz=238,SNR=33						
BW06	**Boulder Array**	**86.99**	**42**	P	**P**	**12 36 48.1**	**+0.2**
BW06				IAmb	IAmb	12 36 51.0	
	comp=Z,36nm,1.1s						
PD31	**Pinedale Array**	**86.99**	**42**	P	**P**	**12 36 47.7**	**-0.1**
PDAR	**Pinedale Array**	**86.99**	**42**	P	**P**	**12 36 48.2**	**+0.4**
	comp=Z,24nm,1.0s,baz=201,slow=3.1,SNR=104						
PDAR				PKKPbc	**PKKPbc**	**12 54 41.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=76,slow=3.8,SNR=2.3						
PDAR				LR	LR	13 08 06.3	
	comp=Z,721nm,21.4s,baz=247,slow=30						
PDAR	**Pinedale Array**	**86.99**	**42**	P	**P**	**12 36 48.7**	**+0.8**
FLWY	**Flagg Ranch**	**86.99**	**40**	P	**P**	**12 36 48.6**	**+0.8**
FLWY				IAmb	IAmb	12 36 51.9	
	comp=Z,37nm,1.1s						
YPP	**Pitchstone Pla**	**87.03**	**40**	P	**P**	**12 36 49.6**	**+1.5**
DLBC	**Dease Lake**	**87.09**	**22**	P	**P**	**12 36 48.9**	**+1.1**
	baz=224,slow=7.9						
DLBC	**Dease Lake**	**87.09**	**22**	P	**P**	**12 36 48.6**	**+0.8**
DLBC				IAmb	IAmb	12 36 51.7	
	comp=Z,74nm,0.9s						
SDCO	**Great Sand Dun**	**87.13**	**48**	P	**P**	**12 36 49.3**	**+0.5**
	baz=241,SNR=55						
SDCO	**Great Sand Dun**	**87.13**	**48**	P	**P**	**12 36 49.0**	**+0.3**
SYO	**Syowa Base**	**87.13**	**192** ‖ *e*	P	**P**	**12 36 47.7**	**-0.2**
SYO	**Syowa Base**	**87.13**	**192** ‖ *i*	PcP	**PcP**	**12 36 49.2**	**-0.8**
SYO	**Syowa Base**	**87.13**	**192** ‖ *e*	pP	pP	12 37 01.0	+2.7
SYO	**Syowa Base**	**87.13**	**192** ‖ *i*	X	P	12 37 04.4	+17
YMR	**Madison River**	**87.14**	**40**	P	**P**	**12 36 50.0**	**+1.4**
YMR				IAmb	IAmb	12 36 54.2	
	comp=Z,190nm,2.0s						
H17A	**Grant Village**	**87.23**	**40**	P	**P**	**12 36 50.9**	**+1.8**
	baz=237,SNR=12						
H17A	**Grant Village**	**87.23**	**40**	P	**P**	**12 36 51.2**	**+2.2**
BOZ	**Bozeman (W)**	**87.26**	**39**	P	**P**	**12 36 49.7**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,135nm,1.8s						
BOZ	**Bozeman (W)**	**87.26**	**39**	P	**P**	**12 36 50.5**	**+1.4**
	baz=236,SNR=40						
BOZ	**Bozeman (W)**	**87.26**	**39**	P	**P**	**12 36 49.6**	**+0.6**
BOZ				IAmb	IAmb	12 36 53.9	
	comp=Z,135nm,1.8s						
BOZ				IAMs_20	IAMs_20	13 08 06.3	
	comp=Z,2μm,21.0s						
WHY	**Whitehorse**	**87.27**	**18**	P	**P**	**12 36 49.7**	**+1.0**
	baz=217,SNR=15						
WHY	**Whitehorse**	**87.27**	**18**	P	**P**	**12 36 49.7**	**+1.0**
WHY				IAmb	IAmb	12 37 06.3	
	comp=Z,43nm,1.3s						
WHY				IAMs_20	IAMs_20	13 07 29.1	
	comp=Z,2μm,21.0s						
YHH	**Holmes Hill**	**87.28**	**40**	P	**P**	**12 36 50.8**	**+1.5**
MSTX	**Muleshoe**	**87.31**	**52**	P	**P**	**12 36 50.6**	**+1.1**
	baz=243						
MSTX	**Muleshoe**	**87.31**	**52**	P	**P**	**12 36 50.5**	**+1.0**
MSTX				IAmb	IAmb	12 36 52.5	
	comp=Z,92nm,0.9s						
NEA2	**Nenana**	**87.36**	**11**	P	**P**	**12 36 48.4**	**-0.5**
	baz=204,SNR=21						
NEA2	**Nenana**	**87.36**	**11**	P	**P**	**12 36 49.1**	**+0.2**
NEA2				IAmb	IAmb	12 36 50.9	
	comp=Z,39nm,1.0s						
WRH	**Wood River Hil**	**87.42**	**11**	P	**P**	**12 36 49.4**	**+0.2**
WRH				IAMs_20	IAMs_20	13 08 06.6	
	comp=Z,2μm,22.0s						
SEY	**Seymchan**	**87.42**	**346**	P	**P**	**12 36 49.0**	**-0.1**
	comp=Z,102nm,0.8s,baz=145,slow=5.6,SNR=199						
SEY	**Seymchan**	**87.42**	**346** *c i*	P	**P**	**12 36 49.5**	**+0.3**
LKWY	**Lake**	**87.43**	**40**	P	**P**	**12 36 52.0**	**+2.0**
LKWY				pmax	pmax		
	comp=Z,24nm,1.1s						
LKWY	**Lake**	**87.43**	**40**	P	**P**	**12 36 52.0**	**+2.0**
I21K	**Tanana**	**87.43**	**9**	P	**P**	**12 36 49.1**	**-0.1**
	baz=201,SNR=46						
833A	**Chaparral WMA,**	**87.43**	**59**	P	**P**	**12 36 50.9**	**+0.8**
	baz=245						
L27K	**Beaver Creek,**	**87.46**	**14**	P	**P**	**12 36 50.0**	**+0.6**
	baz=210,SNR=55						
L27K	**Beaver Creek,**	**87.46**	**14**	P	**P**	**12 36 49.7**	**+0.3**
L27K				IAmb	IAmb	12 36 52.7	
	comp=Z,39nm,0.9s						
L27K				IAMs_20	IAMs_20	13 08 05.7	
	comp=Z,2μm,22.0s						
BCAR	**Beaver Creek A**	**87.47**	**14**	P	**P**	**12 36 49.6**	**+0.1**
DOT	**Dot Lake**	**87.47**	**13**	P	**P**	**12 36 50.2**	**+0.7**
DOT				IAMs_20	IAMs_20	13 07 45.0	
	comp=Z,2μm,22.0s						
MLY	**Manley**	**87.49**	**10**	P	**P**	**12 36 49.2**	**-0.3**
	baz=202,SNR=30						
MLY	**Manley**	**87.49**	**10**	P	**P**	**12 36 49.0**	**-0.5**
MLY				IAmb	IAmb	12 36 51.5	
	comp=Z,72nm,1.3s						
HDA	**Harding Lake**	**87.58**	**12**	P	**P**	**12 36 49.8**	**-0.1**
	baz=206,SNR=76						
HDA	**Harding Lake**	**87.58**	**12**	P	**P**	**12 36 50.1**	**+0.2**
HDA				IAmb	IAmb	12 36 52.5	
	comp=Z,93nm,0.9s						
T25A	**Trinidad**	**87.60**	**49**	P	**P**	**12 36 51.4**	**+0.5**
	baz=242,SNR=17						
T25A	**Trinidad**	**87.60**	**49**	P	**P**	**12 36 51.9**	**+1.0**
SNAA	**Sanae**	**87.60**	**177**	P	**P**	**12 36 50.6**	**+0.3**
SNAA	**Sanae**	**87.60**	**177**	PKKPdf	PKKPdf	12 54 37.6	+4.6
SNAA	**Sanae**	**87.60**	**177** ‖ *i*	P	**P**	**12 36 51.0**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,68nm,2.5s						
SNAA	**Sanae**	**87.60**	**177**	P	**P**	**12 36 49.9**	**-0.4**
SNAA				IAmb	IAmb	12 37 07.3	
	comp=Z,56nm,1.2s						
VNA3	**Neumayer Olymp**	**87.61**	**175**	P	**P**	**12 36 50.6**	**+0.4**
VNA3	**Neumayer Olymp**	**87.61**	**175**	PKKPdf	PKKPdf	12 54 38.4	+5.5
CCB	**Clear Creek Bu**	**87.63**	**11**	P	**P**	**12 36 50.1**	**0.0**
CCB				IAmb	IAmb	12 36 53.2	
	comp=Z,90nm,0.9s						
CCB				IAMs_20	IAMs_20	13 08 12.2	
	comp=Z,2μm,22.0s						
YMP	**Mirror Lake Pl**	**87.67**	**40**	P	**P**	**12 36 53.1**	**+1.9**
H21K	**Melozitna Rive**	**87.76**	**9**	P	**P**	**12 36 51.3**	**+0.5**
	baz=200,SNR=45						
HRY	**Holter Researc**	**87.76**	**38**	P	**P**	**12 36 52.0**	**+0.7**
SCRK	**Sand Creek**	**87.78**	**13**	P	**P**	**12 36 51.3**	**+0.3**
	baz=208,SNR=86						
SCRK	**Sand Creek**	**87.78**	**13**	P	**P**	**12 36 51.3**	**+0.3**
SCRK				IAmb	IAmb	12 36 54.1	
	comp=Z,62nm,0.9s						
SCRK				IAMs_20	IAMs_20	13 08 17.1	
	comp=Z,2μm,22.0s						
I23K	**Minto, Yukon-K**	**87.82**	**10**	P	**P**	**12 36 50.8**	**-0.2**
	baz=203,SNR=28						
I23K	**Minto, Yukon-K**	**87.82**	**10**	P	**P**	**12 36 51.9**	**+0.9**
I23K				IAmb	IAmb	12 36 54.3	
	comp=Z,123nm,1.6s						
TCOL	**CIGO, UAF Yank**	**87.83**	**11**	P	**P**	**12 36 51.2**	**+0.1**
	baz=205,SNR=24						
TCOL	**CIGO, UAF Yank**	**87.83**	**11**	P	**P**	**12 36 50.7**	**-0.4**
TCOL				IAMs_20	IAMs_20	13 08 18.4	
	comp=Z,2μm,22.0s						
COLA	**College**	**87.83**	**11** *c i*	P	**P**	**12 36 51.1**	**0.0**
COLA				MLR	MLR		
	comp=Z,227μm,17.2s						
COLA	**College**	**87.83**	**11**	P	**P**	**12 36 50.8**	**-0.2**
	baz=205						
COLA	**College**	**87.83**	**11**	P	**P**	**12 36 50.3**	**-0.8**
COLA	**College**	**87.83**	**11**	IAMs_20	IAMs_20	13 08 41.4	
	comp=Z,2μm,22.0s						
MDM	**Murphy Dome**	**87.84**	**11**	P	**P**	**12 36 50.3**	**-0.9**
MDM				IAmb	IAmb	12 36 54.3	
	comp=Z,93nm,1.1s						
YNE	**Yellowstone No**	**87.90**	**40**	P	**P**	**12 36 53.4**	**+1.1**
YNE				IAmb	IAmb	12 36 57.4	
	comp=Z,136nm,2.0s						
IL31		**87.92**	**11**	P	**P**	**12 36 51.3**	**-0.2**
ILAR	**Eielson Array**	**87.92**	**11**	P	**P**	**12 36 51.3**	**-0.2**
	comp=Z,22nm,0.7s,baz=217,slow=4.8,SNR=170						
ILAR				PP	**PP**	**12 40 19.7**	**+1.4**
	comp=Z,3.7nm,1.0s,baz=218,slow=8.4,SNR=4.9						
ILAR				PKKP	**PKKPdf**	**12 54 34.0**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=343,slow=2.8,SNR=2.8						
ILAR				LR	LR	13 10 15.2	
	comp=Z,338nm,21.0s,baz=213,slow=32						
ILAR	**Eielson Array**	**87.92**	**11**	P	**P**	**12 36 50.9**	**-0.6**
ILAR	**Eielson Array**	**87.92**	**11**	P	**P**	**12 36 50.9**	**-0.6**
RWWY	**Rawlins**	**87.93**	**44**	P	**P**	**12 36 52.6**	**+0.2**
RWWY				IAmb	IAmb	12

AMTX	**Amarillo**	**88.53**	**52**	P	**P**	**12 36 55.4**	**+0.1**
	baz=243						
AMTX	**Amarillo**	**88.53**	**52**	P	**P**	**12 36 55.7**	**+0.4**
AMTX				IAmb	IAmb	12 36 58.6	
	comp=Z,45nm,0.8s						
AMTX				IAMs_20	IAMs_20	13 13 55.7	
	comp=Z,2μm,18.0s						
H24K	**Noodor Dome**	**88.71**	**11**	P	**P**	**12 36 54.8**	**-0.5**
	baz=205,SNR=8.8						
CCIG	**Comitan**	**88.83**	**72**	P	**P**	**12 36 58.4**	**+1.3**
CCIG				IAmb	IAmb	12 37 00.8	
	comp=Z,77nm,1.0s						
CCIG				IAMs_20	IAMs_20	13 06 29.9	
	comp=Z,2μm,22.0s						
PRP	**Porcupine Dome**	**88.84**	**12**	P	**P**	**12 36 56.6**	**+0.5**
	baz=207,SNR=14						
PRP	**Porcupine Dome**	**88.84**	**12**	P	**P**	**12 36 56.5**	**+0.5**
PRP				IAmb	IAmb	12 36 59.6	
	comp=Z,56nm,1.0s						
K22A	**Casper**	**88.85**	**43**	P	**P**	**12 36 56.8**	**+0.2**
	baz=240,SNR=13						
K22A	**Casper**	**88.85**	**43**	P	**P**	**12 36 57.2**	**+0.5**
VA05	**Santo Domingo**	**88.86**	**126**	P	**P**	**12 36 57.7**	**+0.9**
VA05				IAmb	IAmb	12 36 59.7	
	comp=Z,47nm,0.8s						
PHWY	**Pilot Hill**	**88.88**	**45**	P	**P**	**12 36 58.0**	**+1.0**
ENH	**Enshi**	**88.89**	**303**	P	**P**	**12 36 58.1**	**+1.1**
BO01	**Tunca**	**88.95**	**126**	P	**P**	**12 36 58.0**	**+0.7**
BO01				IAmb	IAmb	12 37 00.4	
	comp=Z,54nm,1.1s						
BO01				IAMs_20	IAMs_20	13 07 09.3	
	comp=Z,1μm,20.0s						
RDOG	**Red Dog Mine**	**89.00**	**4**	P	**P**	**12 36 58.6**	**+2.0**
	baz=191						
BO02	**Sierra Bellavi**	**89.02**	**127**	P	**P**	**12 36 58.9**	**+1.2**
BO02				IAmb	IAmb	12 37 00.9	
	comp=Z,35nm,0.9s						
HUEH	**Huehuetenango**	**89.05**	**73**	IAMs_20	IAMs_20	13 05 57.5	
	comp=Z,1μm,22.0s						
MT01	**Popeta**	**89.05**	**126**	P	**P**	**12 36 58.8**	**+1.1**
MT01				IAMs_20	IAMs_20	13 07 11.8	
	comp=Z,1μm,21.0s						
ABTX	**Abilene, Hawle**	**89.07**	**55**	P	**P**	**12 36 58.6**	**+0.8**
	baz=244						
ABTX	**Abilene, Hawle**	**89.07**	**55**	P	**P**	**12 36 58.9**	**+1.1**
EFI	**East Falkland**	**89.07**	**146**	⇑*i*P	**P**	**12 36 59.6**	**+2.2**
EFI				pmax	pmax		
	comp=Z,644nm,3.3s						
EFI	**East Falkland**	**89.07**	**146**	P	**P**	**12 36 58.3**	**+0.9**
EGAK	**Eagle**	**89.09**	**14**	P	**P**	**12 36 57.6**	**+0.6**
	baz=211,SNR=73						
EGAK	**Eagle**	**89.09**	**14**	P	**P**	**12 36 57.2**	**+0.2**
EGAK				IAmb	IAmb	12 37 00.2	
	comp=Z,68nm,0.9s						
EGAK				IAMs_20	IAMs_20	13 08 56.8	
	comp=Z,2μm,22.0s						
MT09	**Talagante**	**89.28**	**126**	P	**P**	**12 37 00.2**	**+1.1**
MT09				IAMs_20	IAMs_20	13 07 07.0	
	comp=Z,2μm,22.0s						
MT02	**Curacav**	**89.38**	**125**	P	**P**	**12 37 00.2**	**+0.8**
MT02				IAmb	IAmb	12 37 19.5	
	comp=Z,42nm,1.2s						
MT02				IAMs_20	IAMs_20	13 06 37.7	
	comp=Z,2μm,22.0s						
NONG	**Nongkai**	**89.40**	**289**	P	**P**	**12 37 02.2**	**+2.7**
	comp=Z,1μmcomp=Z,44nm,1.6s						
NONG	**Nongkai**	**89.40**	**289**	P	**P**	**12 37 02.3**	**+2.7**
ZEA	**Zeya**	**89.48**	**330**	*e*P	**P**	**12 37 00.4**	**+1.3**
ZEA				*e*		12 37 15.1	
ZEA				*e*S	**S**	**12 47 46.5**	**-0.6**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=N,30nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,50nm,1.1s						
ZEA				pmax	pmax		
	comp=E,100nm,3.4s						
ZEA				pmax	pmax		
	comp=Z,200nm,4.2s						
ZEA				smax	smax		
	comp=E,400nm,6.8s						
ZEA				smax	smax		
	comp=N,400nm,8.1s						
COLD	**Coldfoot**	**89.61**	**9**	P	**P**	**12 37 00.0**	**+0.6**
	baz=203,SNR=57						
COLD	**Coldfoot**	**89.61**	**9**	P	**P**	**12 37 00.3**	**+0.9**
COLD				IAmb	IAmb	12 37 02.8	
	comp=Z,36nm,0.8s						
GYA	**Guiyang**	**89.61**	**298**	⇑P	**P**	**12 37 02.6**	**+2.0**
GYA				SKS	**SKSac**	**12 47 27.8**	**-1.1**
GYA				S	**ScS**	**12 47 52.7**	**-1.5**
GYA				SS	**SS**	**12 53 46.7**	**-0.2**
GYA				LR	LR		
	comp=Z,130nm,22.0s						
MT05	**Renca**	**89.63**	**126**	IAMs_20	IAMs_20	13 07 31.3	
	comp=Z,1μm,22.0s						
EGMT	**Eagleton**	**89.66**	**37**	P	**P**	**12 37 01.1**	**+0.8**
	baz=238,SNR=14						
EGMT	**Eagleton**	**89.66**	**37**	P	**P**	**12 37 01.4**	**+1.2**
EGMT				IAmb	IAmb	12 37 05.6	
	comp=Z,27nm,1.0s						
EGMT				IAMs_20	IAMs_20	13 09 32.6	
	comp=Z,2μm,21.0s						
BILL	**Bilibino**	**89.69**	**353**	*d*P	**P**	**12 36 59.3**	**-0.5**
BILL				*i*S	**SKSac**	**12 47 27.2**	**0.0**
BILL				*e*SS	**SS**	**12 53 47.3**	**+1.3**
BILL				pmax	pmax		
	comp=Z,37nm,1.1s						
BILL				MLR	MLR		
	comp=Z,239nm,19.0s						
BILL	**Bilibino**	**89.69**	**353**	P	**P**	**12 37 00.5**	**+0.7**
BILL				IAmb	IAmb	12 37 03.3	
	comp=Z,25nm,0.8s						
BILL				IAMs_20	IAMs_20	13 13 55.0	
	comp=Z,1μm,20.0s						
KSCO	**Kaye Shedlock'**	**89.71**	**48**	P	**P**	**12 37 01.4**	**+0.6**
	baz=243						
KSCO	**Kaye Shedlock'**	**89.71**	**48**	P	**P**	**12 37 01.9**	**+1.1**
KSCO				IAmb	IAmb	12 37 03.6	
	comp=Z,31nm,1.0s						
MT03	**Universidad Ad**	**89.76**	**126**	IAMs_20	IAMs_20	13 07 21.7	
	comp=Z,1μm,22.0s						
FYU	**Fort Yukon**	**89.83**	**11**	P	**P**	**12 37 00.9**	**+0.5**
FYU				IAmb	IAmb	12 37 47.0	
	comp=Z,46nm,1.5s						
435B	**Jarrell**	**89.89**	**57**	P	**P**	**12 37 02.3**	**+0.7**
	baz=246						
435B	**Jarrell**	**89.89**	**57**	P	**P**	**12 37 02.3**	**+0.7**
TIY	**Taiyuan**	**89.90**	**311**	*e*P	**P**	**12 37 03.5**	**+1.9**
TIY				S	**S**	**12 47 54.2**	**+2.4**
TIY				pmax	pmax		
	comp=Z,31nm,0.8s						
TIY				LR	LR		
	comp=Z,250nm,7.7s						
TIY				LR	LR		
	comp=Z,130nm,5.4s						
TIY				LR	LR		
	comp=Z,920nm,22.4s						
SLVN	**Son La**	**89.97**	**293**	P	**P**	**12 37 03.3**	**+1.1**
SLVN				IAmb	IAmb	12 37 06.6	
	comp=Z,37nm,1.4s						
VA03	**San Esteban**	**90.04**	**125**	P	**P**	**12 37 04.1**	**+1.6**
VA03				IAmb	IAmb	12 37 05.9	
	comp=Z,71nm,1.2s						
CO02	**Combarbal**	**90.34**	**124**	P	**P**	**12 37 05.1**	**+1.1**
WHTX	**Lake Whitney,**	**90.48**	**56**	P	**P**	**12 37 04.8**	**+0.4**
	baz=246						
WHTX	**Lake Whitney,**	**90.48**	**56**	P	**P**	**12 37 05.5**	**+1.1**
WMOK	**Wichita Mounta**	**90.61**	**53**	P	**P**	**12 37 04.6**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,13nm,1.0s						
WMOK	**Wichita Mounta**	**90.61**	**53**	P	**P**	**12 37 05.1**	**+0.2**
	baz=245						
WMOK	**Wichita Mounta**	**90.61**	**53**	P	**P**	**12 37 04.6**	**-0.3**
MTO3	**Montecristo**	**90.64**	**75**	P	**P**	**12 37 06.7**	**+0.9**
MTO3				IAMs_20	IAMs_20	13 07 15.8	
	comp=Z,1μm,22.0s						
ESQI	**Esquipulas**	**90.71**	**75**	IAMs_20	IAMs_20	13 07 18.7	
	comp=Z,2μm,22.0s						
CO03	**El Pedregal**	**90.73**	**123**	P	**P**	**12 37 06.9**	**+1.1**
CO03				IAmb	IAmb	12 37 25.8	
	comp=Z,85nm,1.2s						
HIA	**Hailar**	**90.83**	**323**	*i*P	**P**	**12 37 06.1**	**+0.5**
HIA				pmax	pmax		
	comp=Z,46nm,1.8s						
HIA				MLR	MLR		
	comp=Z,783nm,18.0s						
XAN	**Xi'an**	**90.89**	**306**	P	**P**	**12 37 08.0**	**+1.7**
XAN				pP	pP	12 37 16.1	-0.8
XAN				sP	sP	12 37 22.5	+2.2
XAN				S	**S**	**12 48 00.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,71nm,1.0s						
XAN				pmax	pmax		
	comp=Z,520nm,3.7s						
XAN				LR	LR		
	comp=Z,630nm,17.3s						
XAN				LR	LR		
	comp=Z,310nm,17.3s						
XAN				LR	LR		
	comp=Z,590nm,14.3s						
GO04	**Tololo Observa**	**90.92**	**123**	IAMs_20	IAMs_20	13 08 05.7	
	comp=Z,1μm,21.0s						
OGNE	**Ogallala**	**91.00**	**46**	P	**P**	**12 37 06.9**	**+0.2**
	baz=243						
TOLK	**Toolik Lake Re**	**91.01**	**9**	P	**P**	**12 37 06.4**	**+0.4**
	baz=203,SNR=16						
TOLK	**Toolik Lake Re**	**91.01**	**9**	P	**P**	**12 37 07.1**	**+1.1**
TOLK				IAmb	IAmb	12 37 09.0	
	comp=Z,20nm,0.9s						
LAO	**LASA Array**	**91.03**	**40**	P	**P**	**12 37 08.4**	**+1.8**
	baz=240						
LAO	**LASA Array**	**91.03**	**40**	P	**P**	**12 37 08.5**	**+1.8**
LAO				IAMs_20	IAMs_20	13 10 05.2	
	comp=Z,2μm,22.0s						
PETF	**Flores**	**91.09**	**72**	P	**P**	**12 37 08.8**	**+1.3**
PETF				IAMs_20	IAMs_20	13 12 31.7	
	comp=Z,1μm,18.0s						
U32A	**Winter Ranch,**	**91.14**	**51**	P	**P**	**12 37 09.0**	**+1.6**
U32A				IAmb	IAmb	12 37 11.2	
	comp=Z,49nm,0.8s						
RSSD	**Black Hills**	**91.15**	**43**	P	**P**	**12 37 07.6**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,53nm,1.2s						
RSSD	**Black Hills**	**91.15**	**43**	P	**P**	**12 37 07.6**	**+0.2**
	baz=242						
RSSD	**Black Hills**	**91.15**	**43**	P	**P**	**12 37 07.6**	**+0.2**
RSSD				IAmb	IAmb	12 37 11.4	
	comp=Z,53nm,1.1s						
RSSD	**Black Hills**	**91.15**	**43**	IAMs_20	IAMs_20	13 10 09.4	
	comp=Z,2μm,22.0s						
X34A	**Smith Ranch, M**	**91.27**	**53**	P	**P**	**12 37 09.8**	**+1.8**
EPYK	**Eagle Plains**	**91.44**	**14**	P	**P**	**12 37 08.7**	**+0.7**
	baz=215,SNR=34						
EPYK	**Eagle Plains**	**91.44**	**14**	P	**P**	**12 37 09.5**	**+1.4**
EPYK				IAmb	IAmb	12 37 11.2	
	comp=Z,52nm,0.9s						
EPYK				IAMs_20	IAMs_20	13 10 08.8	
	comp=Z,1μm,21.0s						
LCO	**Las Campanas**	**91.48**	**122**	IAMs_20	IAMs_20	13 09 20.7	
	comp=Z,1μm,20.0s						
PHIT	**Phitsanulok**	**91.50**	**288**	P	**P**	**12 37 13.1**	**+3.7**
	comp=Z,99nm,1.0s						
LOOK	**Love County**	**91.51**	**54**	P	**P**	**12 37 10.5**	**+1.4**
LOOK				IAmb	IAmb	12 37 11.9	
	comp=Z,42nm,1.1s						
AC04	**Llanos de Chal**	**91.52**	**121**	IAMs_20	IAMs_20	13 07 47.7	
	comp=Z,1μm,21.0s						
UTTA	**Uttaradit**	**91.58**	**288**	P	**P**	**12 37 13.7**	**+4.0**
	comp=Z,31nm,1.1s						
UTTA	**Uttaradit**	**91.58**	**288**	P	**P**	**12 37 13.7**	**+4.0**
CBKS	**Cedar Bluff**	**91.65**	**49**	P	**P**	**12 37 10.3**	**+0.6**
CBKS				pmax	pmax		
	comp=Z,32nm,1.0s						
CBKS	**Cedar Bluff**	**91.65**	**49**	P	**P**	**12 37 10.2**	**+0.6**
	baz=244						
CBKS	**Cedar Bluff**	**91.65**	**49**	P	**P**	**12 37 10.2**	**+0.6**
CBKS				IAmb	IAmb	12 37 12.2	
	comp=Z,32nm,1.0s						
CBKS				IAMs_20	IAMs_20	13 09 52.1	
	comp=Z,1μm,21.0s						
237A	**Washetta, Mont**	**91.77**	**56**	P	**P**	**12 37 11.7**	**+1.4**
UTHA	**Uthaitani**	**91.79**	**286**	P	**P**	12 37 16.2	+5.5
FNO	**Franklin**	**91.86**	**53**	P	**P**	**12 37 12.3**	**+1.6**
BCOK	**Bluff Creek, N**	**91.87**	**53**	P	**P**	**12 37 11.9**	**+1.2**
HHC	**Hu-ho-hao-te**	**91.89**	**313**	*e*P	**P**	**12 37 12.9**	**+2.1**
HHC				SKS	**SKSac**	**12 47 41.5**	**+0.2**
HHC				S	**ScS**	**12 48 13.9**	**+1.4**
HHC				pmax	pmax		
	comp=Z,63nm,0.9s						
HHC				pmax	pmax		
	comp=Z,370nm,6.9s						
HHC				LR	LR		
	comp=Z,420nm,16.0s						
HHC				LR	LR		
	comp=Z,480nm,17.3s						
HHC				LR	LR		
	comp=Z,730nm,18.0s						
OKCFA	**Oklahoma City**	**91.89**	**53**	P	**P**	**12 37 12.0**	**+1.2**
OKCSW	**OKLAHOMA CITY**	**91.89**	**53**	P	**P**	**12 37 12.7**	**+1.8**
OK032	**Salt Plains WL**	**91.90**	**51**	P	**P**	**12 37 11.8**	**+1.0**
OK032				IAMs_20	IAMs_20	13 10 32.9	
	comp=Z,2μm,22.0s						
CROK	**Carrier**	**91.94**	**52**	P	**P**	**12 37 11.2**	**+0.1**
CROK				IAmb	IAmb	12 37 13.4	
	comp=Z,60nm,1.0s						
ZON	**Zonda**	**91.99**	**125**	P	**P**	**12 37 13.2**	**+1.6**
ZON				pmax	pmax		
	comp=Z,124nm,1.7s						
ZON	**Zonda**	**91.99**	**125**	P	**P**	**12 37 13.2**	**+1.6**
OK025	**Westminster Rd**	**92.04**	**53**	P	**P**	**12 37 12.5**	**+1.0**
OK025				IAmb	IAmb	12 37 14.0	
	comp=Z,58nm,0.9s						
OK025				IAMs_20	IAMs_20	13 11 38.7	
	comp=Z,1μm,20.0s						
OK029	**Liberty Lake**	**92.04**	**52**	IAMs_20	IAMs_20	13 16 08.7	
	comp=Z,1μm,18.0s						
KAN10	**Anthony SW Sta**	**92.11**	**51**	P	**P**	**12 37 12.2**	**+0.4**
R32A	**Long Quarter,**	**92.21**	**50**	P	**P**	**12 37 13.7**	**+1.4**
KAN08	**Anthony NE Sta**	**92.25**	**51**	P	**P**	**12 37 13.7**	**+1.2**
KAN09	**Bluff City Nor**	**92.27**	**51**	P	**P**	**12 37 14.0**	**+1.4**
KAN17	**Caldwell West**	**92.32**	**51**	P	**P**	**12 37 14.4**	**+1.6**
KMI	**Kunming**	**92.37**	**296**	⇑P	**P**	**12 37 15.2**	**+1.6**
KMI				PcP	**pP**	**12 37 19.4**	**-4.7**
KMI				SKS	**SKSac**	**12 47 39.4**	**-5.6**
KMI				S	**S**	**12 48 12.2**	**-3.0**
KMI				LR	LR		
	comp=Z,470nm,20.8s						
KMI				LR	LR		
	comp=Z,740nm,26.4s						
KMI				LR	LR		
	comp=Z,2μm,31.0s						
TGUH	**Tegucigalpa,Un**	**92.41**	**76**	P	**P**	**12 37 15.1**	**+1.3**
TGUH				IAMs_20	IAMs_20	13 12 17.7	
	comp=Z,1μm,19.0s						
GO03	**Copiap**	**92.45**	**121**	IAMs_20	IAMs_20	13 09 20.3	
	comp=Z,2μm,21.0s						
KAN09	**Caldwell North**	**92.47**	**51**	P	**P**	**12 37 14.9**	**+1.4**
KS20	**Mayfield South**	**92.55**	**51**	P	**P**	**12 37 15.1**	**+1.2**
OK031	**S. Brethren Rd**	**92.56**	**53**	P	**P**	**12 37 14.7**	**+0.8**
OK031				IAMs_20	IAMs_20	13 16 41.5	
	comp=Z,1μm,18.0s						
NATX	**Nacogdoches**	**92.57**	**57**	P	**P**	**12 37 14.9**	**+0.8**
	baz=247						
NATX	**Nacogdoches**	**92.57**	**57**	P	**P**	**12 37 15.2**	**+1.1**
NATX				IAmb	IAmb	12 37 17.0	
	comp=Z,57nm,0.9s						
BLOK	**Blackwell**	**92.61**	**52**	P	**P**	**12 37 14.7**	**+0.6**
LAMP	**Lampang**	**92.68**	**289**	P	**P**	**12 37 17.2**	**+2.4**
	comp=Z,570nmcomp=Z,50nm,0.8s						
LAMP	**Lampang**	**92.68**	**289**	P	**P**	**12 37 17.2**	**+2.4**
	comp=Z,0.0nmcomp=Z,142nmcomp=Z,12nm,0.8s						
QUOK	**Quay**	**92.75**	**52**	P	**P**	**12 37 15.7**	**+1.0**
QUOK				IAmb	IAmb	12 37 17.8	
	comp=Z,60nm,0.9s						
NNA	**Nana**	**92.86**	**104**	IAMs_20	IAMs_20	13 08 51.3	
	comp=Z,1μm,21.0s						
CAO2	**Cobano, Puntar**	**92.87**	**81**	IAMs_20	IAMs_20	13 07 42.9	
	comp=Z,2μm,22.0s						
Z38A	**Mt. Pleasant**	**92.90**	**56**	P	**P**	**12 37 16.7**	**+1.2**
X37A	**Clayton**	**93.12**	**54**	P	**P**	**12 37 16.6**	**+0.1**
X37A				IAmb	IAmb	12 37 18.9	
	comp=Z,30nm,0.8s						
CM36	**Chiang Mai Arr**	**93.15**	**288**	P	**P**	**12 37 20.0**	**+3.0**
CM35	**Chiang Mai Arr**	**93.16**	**289**	P	**P**	**12 37 19.0**	**+2.0**
T35A	**Sooner Cattle**	**93.19**	**52**	P	**P**	**12 37 17.6**	**+0.8**
CM04	**Chiang Mai Arr**	**93.21**	**288**	P	**P**	**12 37 20.9**	**+3.6**
	comp=Z,209nmcomp=Z,25nm,1.0s						
CM04	**Chiang Mai Arr**	**93.21**	**288**	P	**P**	**12 37 20.9**	**+3.6**
	comp=Z,0.1nmcomp=Z,209nmcomp=Z,25nm,1.0s						
CM09	**Chiang Mai Arr**	**93.22**	**288**	P	**P**	**12 37 21.0**	**+3.7**
	comp=Z,188nmcomp=Z,22nm,1.0s						
CM09	**Chiang Mai Arr**	**93.22**	**288**	P	**P**	**12 37 21.1**	**+3.7**
	comp=Z,0.1nmcomp=Z,188nmcomp=Z,22nm,1.0s						
JTS	**Las Juntas de**	**93.22**	**80***c*	*i*P	**P**	**12 37 19.4**	**+1.9**
JTS				pmax	pmax		
	comp=Z,100nm,1.0s						
JTS				MLR	MLR		
	comp=Z,234nm,16.0s						
JTS	**Las Juntas de**	**93.22**	**80**	P	**P**	**12 37 19.0**	**+1.6**
JTS	**Las Juntas de**	**93.22**	**80**	IAMs_20	IAMs_20	13 08 25.2	
	comp=Z,2μm,20.0s						
CM34	**Chiang Mai Arr**	**93.22**	**289**	P	**P**	**12 37 20.0**	**+2.7**
CM01	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**12 37 21.1**	**+3.7**
	comp=Z,231nmcomp=Z,24nm,1.2s						
CM01	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**12 37 21.1**	**+3.7**
	comp=Z,0.1nmcomp=Z,231nmcomp=Z,24nm,1.2s						
CM05	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**12 37 21.1**	**+3.6**
	comp=Z,158nmcomp=Z,15nm,1.1s						
CM05	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**12 37 21.0**	**+3.6**
	comp=Z,0.1nmcomp=Z,158nmcomp=Z,15nm,1.1s						
CM02	**Chiang Mai Arr**	**93.25**	**288**	P	**P**	**12 37 21.1**	**+3.6**
	comp=Z,225nmcomp=Z,24nm,1.2s						
CM02	**Chiang Mai Arr**	**93.25**	**288**	P	**P**	**12 37 21.0**	**+3.6**
	comp=Z,0.1nmcomp=Z,225nmcomp=Z,24nm,1.2s						
CM31	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**12 37 21.2**	**+3.7**
	comp=Z,1.6nmcomp=Z,448nm,1.0s						
CM31	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**12 37 18.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**12 37 18.1**	**+0.5**
	comp=Z,9.6nm,0.8s,baz=117,slow=2.8,SNR=38						
CMAR				PP	**PP**	**12 41 01.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=120,slow=5.3,SNR=4.1						
CMAR				PKKP	**PKKPbc**	**12 54 26.5**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=289,slow=4.8,SNR=8.4						
CMAR				LR	LR	13 20 12.1	
	comp=Z,205nm,18.4s,baz=167,slow=36						
CMAR	**Chiang Mai Arr**	**93.27**	**288**	*i*P	**P**	**12 37 19.2**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**12 37 17.6**	**+0.1**
CM15	**Chiang Mai Arr**	**93.28**	**288**	P	**P**	**12 37 21.2**	**+3.6**
	comp=Z,142nmcomp=Z,15nm,0.9s						
CM15	**Chiang Mai Arr**	**93.28**	**288**	P	**P**	**12 37 21.0**	**+3.4**
	comp=Z,0.1nmcomp=Z,142nmcomp=Z,15nm,0.9s						
CM13	**Chiang Mai Arr**	**93.28**	**288**	P	**P**	**12 37 21.3**	**+3.7**
	comp=Z,155nmcomp=Z,16nm,0.9s						
CM13	**Chiang Mai Arr**	**93.28**	**288**	P	**P**	**12 37 21.4**	**+3.7**
	comp=Z,0.1nmcomp=Z,155nmcomp=Z,16nm,0.9s						
TUL1	**Leonard**	**93.32**	**53**	P	**P**	**12 37 17.9**	**+0.5**
	baz=247						
CMMT	**Chiang Mai**	**93.39**	**289**	P	**P**	**12 37 20.2**	**+2.1**
	comp=Z,24nm,1.1s						
CMMT	**Chiang Mai**	**93.39**	**289**	P	**P**	**12 37 20.2**	**+2.1**
	comp=Z,0.1nmcomp=Z,24nm,1.1s						
CM33	**Chiang Mai Arr**	**93.39**	**289**	P	**P**	**12 37 19.0**	**+0.9**
CHTO	**Chiang Mai**	**93.39**	**289**	P	**P**	**12 37 19.1**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,32nm,1.2s						
CHTO	**Chiang Mai**	**93.39**	**289**	P	**P**	**12 37 20.2**	**+2.1**
	comp=Z,18nm,0.8s						
CHTO	**Chiang Mai**	**93.39**	**289**	P	**P**	**12 37 19.1**	**+1.0**
CHTO				IAmb	IAmb	12 37 21.8	
	comp=Z,32nm,1.2s						
CM32	**Chiang Mai Arr**	**93.42**	**289**	P	**P**	**12 37 23.0**	**+4.8**
PB14	**IPOC Station P**	**93.55**	**118**	IAMs_20	IAMs_20	13 10 54.6	
	comp=Z,2μm,20.0s						
ACON	**Acoyapa**	**93.60**	**79**	IAMs_20	IAMs_20	13 07 08.2	
	comp=Z,1μm,22.0s						
YAK	**Yakutsk**	**93.61**	**337**	P	**P**	**12 37 17.2**	**-0.9**
	comp=Z,35nm,0.7s,baz=132,slow=1.9,SNR=14						
YAK	**Yakutsk**	**93.61**	**337**	*e*P	**P**	**12 37 17.6**	**-0.5**
YAK				*e*S	**SKSac**	**12 47 44.9**	**-4.7**
YAK				pmax	pmax		
	comp=Z,50nm,0.6s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.7s						
YAK				smax	smax		
	comp=N,246nm,2.7s						
YAK				smax	smax		
	comp=E,116nm,3.0s						
YAK	**Yakutsk**	**93.61**	**337**	P	**P**	**12 37 17.5**	**-0.5**
AC02	**Maricunga**	**93.66**	**120**	P	**P**	**12 37 21.5**	**+1.6**
AC02				IAmb	IAmb	12 39 59.9	
	comp=Z,85nm,1.3s						
AC02				IAMs_20	IAMs_20	13 10 37.4	
	comp=Z,1μm,19.0s						
CD2	**Chengdu**	**93.68**	**302**	P	**P**	**12 37 20.5**	**+1.2**
CD2				S	**S**	**12 48 31.5**	**+5.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,760nm,16.7s						
CD2				LR	LR		
	comp=Z,760nm,18.6s						
CD2				LR	LR		
	comp=Z,860nm,16.2s						
INK	**Inuvik**	**93.73**	**14**	P	**P**	**12 37 18.6**	**+0.1**
	comp=Z,32nm,0.8s,baz=219,slow=3.9,SNR=70						
INK				LR	LR	13 12 12.5	
	comp=Z,1μm,21.9s,baz=206,slow=31						
INK	**Inuvik**	**93.73**	**14**	P	**P**	**12 37 18.4**	**-0.1**
	baz=218						
INK	**Inuvik**	**93.73**	**14**	P	**P**	**12 37 19.2**	**+0.7**
INK				IAmb	IAmb	12 37 21.2	
	comp=Z,40nm,0.8s						
INK				IAMs_20	IAMs_20	13 11 18.6	
	comp=Z,2μm,22.0s						
TRQA	**Tornquist**	**93.83**	**133**	IAMs_20	IAMs_20	13 11 21.0	
	comp=Z,1μm,22.0s						
BGNE	**Belgrade**	**93.84**	**47**	P	**P**	**12 37 20.5**	**+0.8**
	baz=246						
BGNE	**Belgrade**	**93.84**	**47**	P	**P**	**12 37 21.0**	**+1.3**
COVE	**Coope Vega, Sa**	**93.87**	**80**	IAMs_20	IAMs_20	13 08 14.6	
	comp=Z,2μm,22.0s						
PB10	**IPOC Station P**	**93.88**	**117**	IAMs_20	IAMs_20	13 09

X40A	**Basin Creek Fa**	95.02	55	IAMs_20	IAMs_20	13 12 39.6	
	comp=Z,1μm,22.0s						
PB06	**IPOC Station P**	95.04	116	IAMs_20	IAMs_20	13 09 51.2	
	comp=Z,2μm,21.0s						
RGM0	**Gandoca**	95.14	82	IAMs_20	IAMs_20	13 09 38.2	
	comp=Z,2μm,21.0s						
PB07	**IPOC Station P**	95.18	115	IAMs_20	IAMs_20	13 10 44.1	
	comp=Z,2μm,20.0s						
L34A	**Svendsen Farm,**	95.28	47	P	**P**	**12 37 27.6**	**+1.3**
L34A				IAmb	IAmb	12 37 29.7	
	comp=Z,32nm,0.8s						
N35A	**Tabor**	95.36	48	P	**P**	**12 37 27.5**	**+0.9**
N35A				IAmb	IAmb	12 37 31.1	
	comp=Z,54nm,1.1s						
YKA	**Yellowknife Ar**	95.45	24	P	**P**	**12 37 27.0**	**+0.5**
	comp=Z,30nm,0.8s,baz=231,slow=4.1,SNR=51						
YKA				PP	**PP**	**12 41 17.4**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=229,slow=8.9,SNR=3.1						
YKA				LR	LR	13 12 56.9	
	comp=Z,1μm,21.9s,baz=0.0,slow=31						
YKA	**Yellowknife Ar**	95.45	24	P	**P**	**12 37 27.0**	**+0.5**
LZH	**Lanzhou**	95.53	306	*e*P	**P**	**12 37 30.5**	**+2.8**
LZH				pP	pP	12 37 33.4	-5.0
LZH				sP	sP	12 37 36.4	-5.4
LZH				SKS	**SKSac**	**12 47 59.6**	**-2.0**
LZH				*e*S	**ScS**	**12 48 43.3**	**+0.2**
LZH				sS	pS	12 48 52.8	-3.2
LZH				SS	**SS**	**12 55 14.3**	**+2.7**
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
LZH				pmax	pmax		
	comp=Z,250nm,4.6s						
LZH				LR	LR		
	comp=Z,270nm,13.8s						
LZH				LR	LR		
	comp=Z,690nm,12.7s						
LZH				LR	LR		
	comp=Z,460nm,15.7s						
MDND	**Maddock**	95.57	41	P	**P**	**12 37 27.7**	**+0.2**
	baz=245						
MDND	**Maddock**	95.57	41	P	**P**	**12 37 28.7**	**+1.2**
CIT	**Chita**	95.61	324	*e*P	**P**	**12 37 25.8**	**-1.8**
CIT				*e*		12 37 35.5	
CIT				*e*		12 37 41.6	
LVC	**Limon Verde**	95.64	117	P	**P**	**12 37 32.5**	**+3.6**
	comp=Z,7.1nm,0.9s,baz=261,slow=5.1,SNR=8.8						
LVC	**Limon Verde**	95.64	117	P	**P**	**12 37 32.8**	**+3.9**
LVC				pmax	pmax		
	comp=Z,100nm,0.7s						
LVC	**Limon Verde**	95.64	117	P	**P**	**12 37 32.8**	**+3.9**
LVC	**Limon Verde**	95.64	117	*e*P	**P**	**12 37 31.7**	**+2.8**
U40A	**Yellville**	95.69	53	P	**P**	**12 37 28.4**	**+0.1**
	baz=248						
U40A	**Yellville**	95.69	53	P	**P**	**12 37 28.2**	**-0.1**
U40A				IAmb	IAmb	12 37 30.4	
	comp=Z,28nm,1.3s						
U40A				IAMs_20	IAMs_20	13 12 27.5	
	comp=Z,2μm,22.0s						
PB09	**IPOC Station P**	95.70	116	IAMs_20	IAMs_20	13 10 20.7	
	comp=Z,2μm,21.0s						
W41B	**Gary Mavity, V**	95.72	55	P	**P**	**12 37 28.0**	**-0.4**
	baz=249						
WHAR	**Wooly Hollow**	95.73	55	P	**P**	**12 37 27.9**	**-0.5**
ECSD	**EROS Data Cent**	95.81	45	P	**P**	**12 37 29.0**	**+0.4**
	baz=247						
ECSD	**EROS Data Cent**	95.81	45	P	**P**	**12 37 28.6**	**-0.1**
ECSD				IAmb	IAmb	12 37 30.9	
	comp=Z,46nm,1.1s						
S39A	**Bolivar**	95.83	52	P	**P**	**12 37 29.1**	**+0.2**
S39A				IAmb	IAmb	12 37 31.0	
	comp=Z,24nm,0.9s						
VBMS	**Vicksburg**	96.01	58	IAMs_20	IAMs_20	13 17 48.1	
	comp=Z,1μm,19.0s						
FCAR	**Ozark Folk Cen**	96.07	54	P	**P**	**12 37 29.9**	**-0.2**
P38A	**Dawn**	96.39	50	P	**P**	**12 37 31.6**	**+0.2**
MGMO	**Mountain Grove**	96.42	53	P	**P**	**12 37 31.7**	**+0.1**
MGMO				IAmb	IAmb	12 37 33.8	
	comp=Z,26nm,0.9s						
PB08	**IPOC Station P**	96.47	114	IAMs_20	IAMs_20	13 10 50.1	
	comp=Z,2μm,20.0s						
C36M	**Paulatuk**	96.81	16	P	**P**	**12 37 32.6**	**+0.1**
	baz=227						
C36M	**Paulatuk**	96.81	16	P	**P**	**12 37 33.5**	**+1.0**
C36M				IAmb	IAmb	12 37 36.3	
	comp=Z,26nm,0.9s						
C36M				IAMs_20	IAMs_20	13 12 55.2	
	comp=Z,2μm,22.0s						
R40A	**Maddies Statio**	96.83	52	P	**P**	**12 37 33.4**	**0.0**
R40A				IAmb	IAmb	12 37 35.5	
	comp=Z,27nm,1.1s						
F33A	**5 Mile Ranch,**	96.84	44	P	**P**	**12 37 33.0**	**-0.3**
F33A				IAmb	IAmb	12 37 35.4	
	comp=Z,24nm,0.8s						
N38A	**Joes South For**	97.03	49	P	Pdif	12 37 35.5	+1.2
N38A				IAmb	IAmb	12 37 37.0	
	comp=Z,21nm,1.1s						
P40A	**Paris**	97.43	51	P	Pdif	12 37 37.3	+1.2
SCIA	**State Center**	97.44	48	IAMs_20	IAMs_20	13 15 44.5	
	comp=Z,1μm,21.0s						
CCM	**Cathedral Cave**	97.50	52	P	**P**	**12 37 33.9**	**-2.5**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CCM				MLR	MLR		
	comp=Z,1μm,18.0s						
CCM	**Cathedral Cave**	97.50	52	P	**P**	**12 37 35.2**	**-1.2**
	baz=250						
CCM	**Cathedral Cave**	97.50	52	P	**P**	**12 37 33.9**	**-2.5**
CCM	**Cathedral Cave**	97.50	52	IAMs_20	IAMs_20	13 19 29.2	
	comp=Z,1μm,18.0s						
OXF	**Oxford**	97.67	56	Pdiff	**P**	**12 37 37.0**	**-0.3**
	baz=250						
ULN	**Ulaanbaatar**	97.71	318*c*	*i*P	**P**	**12 37 36.9**	**-0.5**
ULN				pmax	pmax		
	comp=Z,24nm,1.3s						
ULN				MLR	MLR		
	comp=Z,401nm,20.0s						
ULN	**Ulaanbaatar**	97.71	318	P	Pdif	12 37 38.2	+0.8
ULN				IAmb	IAmb	12 37 42.5	
	comp=Z,22nm,1.2s						
AGMN	**Agassiz Nation**	98.05	41	P	**P**	**12 37 38.2**	**-0.5**
	baz=248						
AGMN	**Agassiz Nation**	98.05	41	P	**P**	**12 37 38.5**	**-0.1**
AGMN				IAmb	IAmb	12 37 41.9	
	comp=Z,22nm,1.0s						
W45A	**Hickory Valley**	98.06	56	P	Pdif	12 37 40.2	+1.1
W45A				IAmb	IAmb	12 37 43.5	
	comp=Z,24nm,0.8s						
I37A	**Lemond, Waseca**	98.07	46	P	Pdif	12 37 39.6	+0.7
I37A				IAmb	IAmb	12 37 41.4	
	comp=Z,32nm,0.8s						
SONM	**Songino Array**	98.11	318	P	Pdif	12 37 39.3	+0.1
	comp=Z,3.5nm,0.9s,baz=126,slow=2.7,SNR=17						
SONM				PP	**PP**	**12 41 35.9**	**-2.9**
	comp=Z,2.8nm,1.1s,baz=106,slow=9.6,SNR=2.2						
SONM				S	**SKSac**	**12 48 11.2**	**-3.2**
	comp=Z,0.4nm,0.5s,baz=142,slow=7.3,SNR=1.7						
SONM				LR	LR	13 19 45.2	
	comp=Z,583nm,20.0s,baz=124,slow=34						
SONM	**Songino Array**	98.11	318	P	Pdif	12 37 39.6	+0.5
SONM				IAmb	IAmb	12 37 41.9	
	comp=Z,28nm,1.6s						
BRAL	**Brewton**	98.44	60	Pdiff	**P**	**12 37 40.1**	**-0.7**
	baz=251						
BRAL	**Brewton**	98.44	60	IAMs_20	IAMs_20	13 16 09.4	
	comp=Z,1μm,22.0s						
F36A	**Milaca**	98.65	44		Pdif	12 37 43.0	+1.6
F36A				IAmb	IAmb	12 37 45.7	
	comp=Z,18nm,1.0s						
ULM	**Lac du Bonnet**	98.78	40	P	**P**	**12 37 41.6**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=228,slow=1.6,SNR=5.1						
ULM				LR	LR	13 15 53.6	
	comp=Z,2μm,21.9s,baz=258,slow=31						
ULM	**Lac du Bonnet**	98.78	40	P	**P**	**12 37 41.6**	**-0.3**
PLAL	**Pickwick Lake**	98.87	56	P	**P**	**12 37 42.1**	**-0.5**
PLAL				IAMs_20	IAMs_20	13 18 31.5	
	comp=Z,2μm,19.0s						
SPMN	**Marine on St.**	98.90	45	Pdiff	Pdif	12 37 42.6	0.0
	baz=250						
SPMN	**Marine on St.**	98.90	45	P	Pdif	12 37 43.5	+1.0
SPMN				IAmb	IAmb	12 37 45.2	
	comp=Z,20nm,1.0s						
LPAZ	**La Paz**	98.95	111	P	Pdif	12 37 46.9	+2.6
	comp=Z,1.8nm,0.9s,baz=220,slow=5.4,SNR=4.1						
LPAZ				LR	LR	13 13 00.8	
	comp=Z,2μm,21.4s,baz=279,slow=30						
LRAL	**Lakeview Retre**	99.08	58	IAMs_20	IAMs_20	13 20 14.4	
	comp=Z,1μm,19.0s						
B35A	**Bob, Littlefor**	99.40	42	P	**Pdif**	**12 37 45.4**	**+0.7**
B35A				IAmb	IAmb	12 37 48.3	
	comp=Z,22nm,1.2s						
WVT	**Waverly**	99.43	55	Pdiff	**Pdif**	**12 37 45.0**	**-0.1**
	baz=251						
GTA	**Gaotai**	99.67	308	⇓P	**Pdif**	**12 37 47.8**	**+1.5**
GTA				pP	pP	12 37 51.1	-5.9
GTA				sP	sP	12 37 53.9	-6.4
GTA				SKS	**SKSac**	**12 48 20.2**	**-2.4**
GTA				S	**ScS**	**12 49 16.2**	**-1.3**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,99nm,5.9s						
GTA				LR	LR		
	comp=Z,320nm,20.7s						
GTA				LR	LR		
	comp=Z,480nm,18.9s						
GTA				LR	LR		
	comp=Z,690nm,21.1s						
HDIL	**Hopedale**	99.76	50	Pdiff	**Pdif**	**12 37 46.6**	**+0.1**
	baz=251						
HDIL	**Hopedale**	99.76	50	IAMs_20	IAMs_20	13 19 22.0	
	comp=Z,2μm,20.0s						
JFWS	**Jewell Farm**	99.85	48	Pdiff	**Pdif**	**12 37 47.3**	**+0.5**
	baz=251						
JFWS	**Jewell Farm**	99.85	48	IAMs_20	IAMs_20	13 15 47.2	
	comp=Z,2μm,22.0s						
TIXI	**Tiksi**	99.87	344	P	**Pdif**	**12 37 46.7**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=157,slow=5.8,SNR=3.5						
TIXI	**Tiksi**	99.87	344	⇓*e*P	**Pdif**	**12 37 47.1**	**+0.9**
TIXI	**Tiksi**	99.87	344	IAMs_20	IAMs_20	13 20 27.0	
	comp=Z,1μm,21.0s						
EYMN	**Ely**	100.67	43	Pdiff	**Pdif**	**12 37 49.9**	**-0.5**
	baz=251						
EYMN	**Ely**	100.67	43	IAMs_20	IAMs_20	13 16 01.4	
	comp=Z,1μm,22.0s						
TLY	**Talaya**	101.14	321	IAMs_20	IAMs_20	13 22 58.7	
	comp=Z,1μm,20.0s						
HQIL	**Hanson Quary C**	101.19	50	IAMs_20	IAMs_20	13 16 52.6	
	comp=Z,1μm,22.0s						
WCI	**Wyandotte Cave**	101.25	53	Pdiff	**Pdif**	**12 37 52.5**	**-0.6**
	baz=252						
WCI	**Wyandotte Cave**	101.25	53	IAMs_20	IAMs_20	13 15 50.5	
	comp=Z,2μm,22.0s						
ROSC	**El Rosal**	101.25	89	IAMs_20	IAMs_20	13 15 11.1	
	comp=Z,2μm,20.0s						
COWI	**Conover**	101.62	45	IAMs_20	IAMs_20	13 17 48.6	
	comp=Z,1μm,22.0s						
061Z	**Ochoppi**	101.93	67	IAMs_20	IAMs_20	13 19 44.6	
	comp=Z,1μm,19.0s						
ITQB	**Itaqui**	101.98	128	IAMs_20	IAMs_20	13 14 52.1	
	comp=Z,1μm,22.0s						
GOGA	**Godfrey**	102.02	59	IAMs_20	IAMs_20	13 23 21.1	
	comp=Z,1μm,18.0s						
060A	**Indiantown**	102.74	66	IAMs_20	IAMs_20	13 16 42.0	
	comp=Z,1μm,22.0s						
P49A	**Miami Univ. Ec**	102.80	52	IAMs_20	IAMs_20	13 20 39.6	
	comp=Z,1μm,20.0s						
TZTN	**Tazewell**	102.85	56	IAMs_20	IAMs_20	13 20 46.9	
	comp=Z,2μm,20.0s						
CPUP	**Villa Florida**	103.20	125	Pdiff	**Pdif**	**12 38 06.3**	**+4.1**
	comp=Z,1.3nm,0.6s,baz=219,slow=9.4,SNR=3.8						
GLMI	**Grayling**	104.31	47	IAMs_20	IAMs_20	13 18 53.0	
	comp=Z,1μm,22.0s						
AAM	**Ann Arbor**	104.33	50	IAMs_20	IAMs_20	13 18 57.7	
	comp=Z,1μm,21.0s						
NHSC	**New Hope**	104.58	60	IAMs_20	IAMs_20	13 23 56.0	
	comp=Z,1μm,18.0s						
P52A	**Corning**	104.75	53	IAMs_20	IAMs_20	13 20 06.3	
	comp=Z,1μm,21.0s						
BLA	**Blacksburg**	105.44	56	IAMs_20	IAMs_20	13 17 45.6	
	comp=Z,1μm,22.0s						
O53A	**New Philadelph**	105.59	52	IAMs_20	IAMs_20	13 24 03.3	
	comp=Z,1μm,18.0s						
SDV	**Santo Domingo**	106.05	86	IAMs_20	IAMs_20	13 16 02.3	
	comp=Z,980nm,22.0s						
M53A	**WI Miller and**	106.27	51	IAMs_20	IAMs_20	13 24 41.3	
	comp=Z,1μm,19.0s						
SAML	**Samuel**	106.39	106	IAMs_20	IAMs_20	13 17 45.5	
	comp=Z,1μm,20.0s						
ITAB	**Concordia**	106.62	128	IAMs_20	IAMs_20	13 17 12.9	
	comp=Z,2μm,21.0s						
N54A	**Moraine State**	106.67	52	IAMs_20	IAMs_20	13 24 37.8	
	comp=Z,1μm,19.0s						
ERPA	**Erie**	106.92	51	IAMs_20	IAMs_20	13 20 30.6	
	comp=Z,1μm,22.0s						
CNNC	**Cliffs of the**	106.95	58	IAMs_20	IAMs_20	13 23 06.7	
	comp=Z,1μm,20.0s						
M54A	**Oil Creek Stat**	107.03	52	PKiKP	**PKiKP**	**12 42 28.7**	**+0.4**
	baz=257						
M54A	**Oil Creek Stat**	107.03	52	IAMs_20	IAMs_20	13 20 25.3	
	comp=Z,1μm,21.0s						
O56A	**Blue Knob Stat**	107.57	53	PKiKP	**PKiKP**	**12 42 30.4**	**+1.0**
	baz=257						
CBN	**Corbin Frederi**	108.02	55	PKiKP	**PKiKP**	**12 42 30.3**	**+0.2**
	baz=257						
SSPA	**Standing Stone**	108.15	53	PKiKP	**PKiKP**	**12 42 30.6**	**+0.2**
	baz=258						
K56A	**Middlesex**	108.98	51	PKiKP	**PKiKP**	**12 42 32.4**	**+0.5**
	baz=259						
ALGO	**Algonquin Park**	109.07	47	PKiKP	**PKiKP**	**12 42 32.7**	**+0.7**
	baz=260						
GRTK	**Grand Turk**	109.32	74	IAMs_20	IAMs_20	13 18 42.6	
	comp=Z,982nm,20.0s						
BINY	**Binghamton**	109.86	51	PKiKP	**PKiKP**	**12 42 34.4**	**+0.8**
	baz=260						
BINY	**Binghamton**	109.86	51	IAMs_20	IAMs_20	13 24 50.2	
	comp=Z,1μm,20.0s						
L58A	**Harry Jones Me**	109.93	52	PKiKP	**PKiKP**	**12 42 34.7**	**+1.0**
	baz=260						
MATQ	**Matagami**	109.98	43	PKiKP	**PKiKP**	**12 42 34.3**	**+0.8**
	baz=261						
I57A	**Carthage**	110.39	50	PKiKP	**PKiKP**	**12 42 34.9**	**+0.4**
	baz=260						
E55A	**Montcerf-Lytto**	110.52	47	PKiKP	**PKiKP**	**12 42 34.6**	**0.0**
	baz=261						
J58A	**Remsen**	110.56	50	PKiKP	**PKiKP**	**12 42 35.5**	**+0.6**
	baz=260						
J58A	**Remsen**	110.56	50	IAMs_20	IAMs_20	13 25 36.9	
	comp=Z,1μm,20.0s						
H57A	**Richville**	110.67	49	PKiKP	**PKiKP**	**12 42 35.3**	**+0.4**
	baz=261						
DGZ	**Jazzator, Alta**	110.68	317	*i*PKIKP	**PKiKP**	**12 42 34.4**	**-0.7**
DGZ				MLR	MLR		
	comp=Z,1μm,20.0s						
I58A	**Old Forge**	110.84	50	PKiKP	**PKiKP**	**12 42 35.8**	**+0.4**
	baz=261						
G57A	**Newington**	111.05	48	PKiKP	**PKiKP**	**12 42 35.9**	**+0.3**
	baz=261						
LONY	**Lake Ozonia**	111.26	49	PKiKP	**PKiKP**	**12 42 36.4**	**+0.3**
	baz=261						
LONY	**Lake Ozonia**	111.26	49	IAMs_20	IAMs_20	13 26 17.2	
	comp=Z,994nm,20.0s						
H58A	**Gabriels**	111.52	49	PKiKP	**PKiKP**	**12 42 36.8**	**+0.2**
	baz=262						
TRY	**Troy**	111.64	51	IAMs_20	IAMs_20	13 27 15.3	
	comp=Z,1μm,19.0s						
G58A	**Ormstown**	111.71	48	PKiKP	**PKiKP**	**12 42 37.3**	**+0.4**
	baz=262						
J60A	**Lant Hill Farm**	111.89	51	PKiKP	**PKiKP**	**12 42 37.5**	**+0.2**
	baz=262						
H59A	**Cadyville**	111.90	49	PKiKP	**PKiKP**	**12 42 38.2**	**+0.9**
	baz=262						
K61A	**Williamstown**	111.92	51	PKiKP	**PKiKP**	**12 42 38.5**	**+1.0**
	baz=262						
NRIK	**Noril'sk**	112.06	338	PKiKP	**PKiKP**	**12 42 37.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=14,slow=4.2,SNR=2.8						
NRIK	**Noril'sk**	112.06	338	⇑*i*PKIKP	**PKiKP**	**12 42 37.6**	**+0.7**
I60A	**Shoreham**	112.07	50	PKiKP	**PKiKP**	**12 42 38.0**	**+0.3**
	baz=262						
ZSN	**Zaisan**	112.07	314	*e*PKiKP	**PKiKP**	**12 42 36.2**	**-1.4**
	baz=314						
ZSN	**Zaisan**	112.07	314	*i*PKIKP	**PKiKP**	**12 42 36.2**	**-1.4**
CHGQ	**Chibougamau**	112.09	43	PKiKP	**PKiKP**	**12 42 36.4**	**-1.1**
	baz=264						
L61B	**Northampton**	112.32	52	PKiKP	**PKiKP**	**12 42 38.9**	**+0.7**
	baz=262						
E58A	**La Victoria**	112.41	47	PKiKP	**PKiKP**	**12 42 38.5**	**+0.3**
	baz=263						
VT1	**Waterbury**	112.52	50	IAMs_20	IAMs_20	13 26 57.5	
	comp=Z,915nm,20.0s						
J61A	**Chester**	112.53	51	PKiKP	**PKiKP**	**12 42 38.7**	**+0.2**
	baz=262						
H60A	**Morristown**	112.59	49	PKiKP	**PKiKP**	**12 42 39.2**	**+0.5**
	baz=263						
PTGA	**Pitinga**	112.63	100	PKiKP	**PKiKP**	**12 42 39.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=226,slow=4.2,SNR=4.8						
K62A	**Royalston**	112.67	51	PKiKP	**PKiKP**	**12 42 39.6**	**+0.7**
	baz=262						
K62A	**Royalston**	112.67	51	IAMs_20	IAMs_20	13 26 43.7	
	comp=Z,1μm,20.0s						
F59A	**Saint Guilaume**	112.69	48	PKiKP	**PKiKP**	**12 42 38.8**	**+0.1**
	baz=263						
ZAA0	**Zalesovo Array**	112.75	321	IAMs_20	IAMs_20	13 28 26.9	
	comp=Z,1μm,20.0s						
ZALV	**Zalesovo Beam**	112.75	321	PKiKP	**PKiKP**	**12 42 37.5**	**-1.1**
	comp=Z,9.7nm,0.7s,baz=132,slow=1.0,SNR=29						
D58A	**Chemin du LacG**	112.76	47	PKiKP	**PKiKP**	**12 42 38.7**	**-0.2**
	baz=264						
HNH	**Hanover**	112.77	50	IAMs_20	IAMs_20	13 30 43.3	
	comp=Z,1μm,18.0s						
I61A	**Oroboro, Fairl**	112.86	50	PKiKP	**PKiKP**	**12 42 39.6**	**+0.4**
	baz=263						
L63A	**North Scituate**	113.02	52	PKiKP	**PKiKP**	**12 42 39.4**	**-0.1**
	baz=262						
J62A	**Henniker**	113.05	51	PKiKP	**PKiKP**	**12 42 40.1**	**+0.5**
	baz=263						
LBNH	**Lisbon**	113.10	50	PKiKP	**PKiKP**	**12 42 40.0**	**+0.4**
	baz=263						
LBNH	**Lisbon**	113.10	50	IAMs_20	IAMs_20	13 29 14.8	
	comp=Z,1μm,18.0s						
H61A	**Lyndonville**	113.13	49	PKiKP	**PKiKP**	**12 42 40.0**	**+0.3**
	baz=263						
K63A	**Dunstable**	113.19	51	PKiKP	**PKiKP**	**12 42 39.6**	**-0.2**
	baz=263						
FFD	**Franklin Falls**	113.20	51	IAMs_20	IAMs_20	13 24 51.6	
	comp=Z,1μm,22.0s						
M64A	**Tiverton**	113.28	53	PKiKP	**PKiKP**	**12 42 40.5**	**+0.5**
	baz=262						
F60A	**Warwick**	113.28	48	PKiKP	**PKiKP**	**12 42 40.3**	**+0.4**
	baz=264						
I62A	**Tamworth**	113.48	50	PKiKP	**PKiKP**	**12 42 40.7**	**+0.3**
	baz=263						
I62A	**Tamworth**	113.48	50	IAMs_20	IAMs_20	13 25 48.9	
	comp=Z,1μm,21.0s						
G61A	**St-Isidore-de-**	113.50	49	PKiKP	**PKiKP**	**12 42 40.8**	**+0.4**
	baz=264						
J63A	**Strafford**	113.59	51	PKiKP	**PKiKP**	**12 42 41.1**	**+0.5**
	baz=263						
E60A	**Ste Agathe de**	113.67	47	PKiKP	**PKiKP**	**12 42 41.0**	**+0.4**
	baz=264						
H62A	**Milan**	113.69	49	PKiKP	**PKiKP**	**12 42 41.5**	**+0.8**
	baz=264						
H62A	**Milan**	113.69	49	IAMs_20	IAMs_20	13 23 27.3	
	comp=Z,1μm,22.0s						
TULEG	**Thule**	113.73	14	*i* P	**PKiKP**	**12 42 40.3**	**+0.4**
TULEG	**Thule**	113.73	14	IAMs_20	IAMs_20	13 25 22.0	
	comp=Z,1μm,22.0s						
MKAR	**Makanchi Array**	113.75	313	Pdiff	**Pdif**	**12 38 51.0**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=96,slow=5.8,SNR=2.8						
MKAR				PKiKP	**PKiKP**	**12 42 40.0**	**-0.8**
	comp=Z,10nm,0.8s,baz=157,slow=0.8,SNR=48						
MKAR				PKKPbc	**PKKPbc**	**12 53 25.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=272,slow=3.7,SNR=14						
F61A	**St Evariste**	113.94	48	PKiKP	**PKiKP**	**12 42 41.8**	**+0.6**
	baz=264						
I63A	**Otisfield**	114.04	50	PKiKP	**PKiKP**	**12 42 42.1**	**+0.7**
	baz=264						
I63A	**Otisfield**	114.04	50	IAMs_20	IAMs_20	13 26 24.6	
	comp=Z,1μm,21.0s						
M66A	**Nantucket**	114.04	53	PKiKP	**PKiKP**	**12 42 42.1**	**+0.6**
	baz=263						
G62A	**West of Eustis**	114.19	49	PKiKP	**PKiKP**	**12 42 41.9**	**+0.2**
	baz=264						
G62A	**West of Eustis**	114.19	49	IAMs_20	IAMs_20	13 23 39.7	
	comp=Z,1μm,22.0s						
E61A	**Lac Etchemin**	114.33	47	PKiKP	**PKiKP**	**12 42 42.5**	**+0.6**
	baz=265						
D61A	**St Aubert, Com**	114.61	47	PKiKP	**PKiKP**	**12 42 43.2**	**+0.8**
	baz=266						
F62A	**Pittston Farm,**	114.65	48	PKiKP	**PKiKP**	**12 42 43.1**	**+0.6**
	baz=265						
I64A	**Boothbay**	114.70	50	PKiKP	**PKiKP**	**12 42 43.1**	**+0.5**
	baz=264						
WVL	**Waterville**	114.75	50	IAMs_20	IAMs_20	13 25 32.4	
	comp=Z,1μm,22.0s						
G63A	**Kingsbury**	114.83	49	PKiKP	**PKiKP**	**12 42 43.3**	**+0.4**
	baz=265						
E62A	**Clayton Lake**	115.02	47	PKiKP	**PKiKP**	**12 42 43.6**	**+0.4**
	baz=266						
E62A	**Clayton Lake**	115.02	47	IAMs_20	IAMs_20	13 27 10.3	
	comp=Z,1μm,21.0s						
H64A	**Troy**	115.07	49	PKiKP	**PKiKP**	**12 42 43.8**	**+0.4**
	baz=265						
PKME	**Peaks-Kenny Pk**	115.07	49	PKiKP	**PKiKP**	**12 42 44.0**	**+0.7**
	baz=265						
F63A	**Nahmakanta, Br**	115.24	48	PKiKP	**PKiKP**	**12 42 44.1**	**+0.4**
	baz=266						
F63A	**Nahmakanta, Br**	115.24	48	IAMs_20	IAMs_20	13 25 56.3	
	comp=Z,1μm,21.0s						
D62A	**Allapoint, All**	115.37	47	PKiKP	**PKiKP**	**12 42 43.8**	**0.0**
	baz=266						
D62A	**Allapoint, All**	115.37	47		**PKiKP**	**12 42 42.8**	**-1.1**
D62A				IAMs_20	IAMs_20	13 24 39.7	
	comp=Z,1μm,22.0s						
G64A	**Maxfield**	115.45	49	PKiKP	**PKPdf**	**12 42 44.1**	**0.0**
	baz=266						
SEUS	**St. Eustatius**	115.70	80	IAMs_20	IAMs_20	13 22 35.9	
	comp=Z,880nm,19.0s						
UZB	**Uzynbulak**	115.73	309	*e*PKiKP	**PKP

baz=310
KUU Kurty 117.73 309 *i* PKIKP **PKPdf 12 42 47.5 -1.0**
BOOM Boomskoye usch 117.94 308 PKIKP **PKiKP 12 42 49.6 +0.3**
BOOM Boomskoye usch 117.94 308 **PKiKP 12 42 49.6 +0.3**
UPNV Upernavik 118.00 17 *i* P **PKiKP 12 42 49.1 +0.9**
LMN Caledonia Moun 118.25 48 PKPdf **PKPdf 12 42 49.0 -0.5**
SGDS Sogindy 118.95 309 *e*PKiKP **PKPdf 12 42 50.0 -1.0**
baz=309
SGDS Sogindy 118.95 309 *i* PKIKP **PKPdf 12 42 50.0 -1.0**
AAK Ala-Archa 119.02 308 PKKPab PKKPab 12 53 07.9 +1.2
comp=Z,4.0nm,0.7s,baz=238,slow=4.9,SNR=4.8
AAK Ala-Archa 119.02 308 *c* PKIKP **PKiKP 12 42 52.1 +0.8**
AAK MLR MLR
comp=Z,2μm,20.0s
AAK Ala-Archa 119.02 308 PKPdf **PKiKP 12 42 51.5 +0.2**
NIL Nilore 119.31 298 PKIKP **PKiKP 12 42 52.1 +0.1**
NIL Nilore 119.31 298 PKPdf **PKiKP 12 42 52.1 +0.1**
BTLS Baital 119.40 311 ⇑ *i* PKiKP **PKPdf 12 42 50.8 -1.0**
baz=311
BTLS Baital 119.40 311 *c* *i* PKIKP **PKPdf 12 42 50.7 -1.0**
MCPB Macapa, AP 120.03 103 *e*P **PKiKP 12 42 54.1 +0.1**
SMTB Santa Maria do 120.13 114 *e*P **PKiKP 12 42 55.9 +1.8**
GBN Guysborough 120.56 49 PKPdf **PKPdf 12 42 53.8 -0.1**
ILULI Ilulissat 120.91 20 *i* P **PKiKP 12 42 54.1 +0.2**
ILULI Ilulissat 120.91 20 PKIKP **PKPdf 12 42 53.4 -0.5**
ILULI Ilulissat 120.91 20 **PKPdf 12 42 53.4 -0.5**
ILULI IAMs_20 IAMs_20 13 28 46.3
comp=Z,1μm,21.0s
BVAR Borovoye Array 121.38 320 PKP **PKPdf 12 42 54.9 -0.4**
comp=Z,21nm,0.9s,baz=200,slow=12,SNR=59
BVAR PKKPbc **PKKPbc 12 52 57.9 +0.4**
comp=Z,1.1nm,0.7s,baz=222,slow=13,SNR=4.8
VOI Vohitsoka 121.43 226 PKPdf **PKiKP 12 42 56.7 0.0**
BRVK Borovoye 121.43 320 *c* *i* PKIKP **PKPdf 12 42 55.3 -0.1**
BRVK MLR MLR
comp=Z,1μm,19.0s
BRVK Borovoye 121.43 320 PKPdf **PKPdf 12 42 55.0 -0.3**
BRVK Borovoye 121.43 320 IAMs_20 IAMs_20 13 36 51.7
comp=Z,1μm,20.0s
KBS Kingsbay 121.73 359 *i* P **PKiKP 12 42 55.6 +0.2**
KBS Kingsbay 121.73 359 *d* *i* PKIKP **PKiKP 12 42 56.4 +1.0**
KBS MLR MLR
comp=Z,466nm,19.0s
KBS Kingsbay 121.73 359 *e*PKPdf **PKiKP 12 42 55.6 +0.2**
KBS Kingsbay 121.73 359 PKPdf **PKiKP 12 42 56.1 +0.7**
KK31 Karatay Array 121.95 308 PKIKP **PKPdf 12 42 56.3 -0.4**
KK31 Karatay Array 121.95 308 PKPdf **PKPdf 12 42 56.3 -0.4**
KKAR Karatay Array 121.95 308 PKIKP **PKPdf 12 42 56.3 -0.4**
KKAR Karatay Array 121.95 308 PKPdf **PKPdf 12 42 56.3 -0.4**
KKAR Karatay Array 121.95 308 **PKPdf 12 42 56.3 -0.4**
SFJD Kangerlussuaq 121.99 23 *i* P **PKiKP 12 42 56.5 +0.3**
SFJD Kangerlussuaq 121.99 23 *i* PKIKP **PKiKP 12 42 56.4 +0.3**
SFJD Kangerlussuaq 121.99 23 IAMs_20 IAMs_20 13 27 24.0
comp=Z,974nm,22.0s
SPA0 Spitsbergen Ar 122.33 357 *e*PKPdf **PKiKP 12 42 56.6 0.0**
NUUK Nuuk 122.64 26 *i* P **PKiKP 12 42 58.0 +0.5**
SUMG Summit 122.66 14 *i* P **PKiKP 12 42 58.7 +0.8**
SUMG Summit 122.66 14 PKIKP **PKiKP 12 42 58.3 +0.4**
SUMG Summit 122.66 14 PKPdf **PKiKP 12 42 58.3 +0.4**
SUMG IAMs_20 IAMs_20 13 30 42.8
comp=Z,1μm,21.0s
DAG Danmarks Havn 122.69 6 *i* P **PKPdf 12 42 56.9 -0.3**
DAG Danmarks Havn 122.69 6 *i* PKIKP **PKPdf 12 42 56.8 -0.3**
KBL Kabul 122.87 298 PKIKP **PKiKP 12 42 59.8 +0.6**
KBL Kabul 122.87 298 PKPdf **PKiKP 12 42 59.8 +0.6**
DRLN Deer Lake 123.05 44 PKPdf **PKPdf 12 42 58.6 0.0**
NBIT Itapeh - BA 123.40 125 *e*P **PKPdf 12 43 00.1 -0.1**
HSPB Hornsund (broa 123.52 357 *e*PKPdf **PKPdf 12 42 58.5 -0.2**
DY2G Dye2 123.77 22 *i* P **PKiKP 12 43 00.2 +0.2**
ICESG Greenland Ices 124.50 18 *i* P **PKiKP 12 43 01.6 +0.1**
DBG Daneborg 124.69 8 *i* P **PKPdf 12 43 00.5 -0.6**
NBPN Ponto Novo - B 125.21 121 *e*P **PKPdf 12 43 04.0 +0.2**
BJO1 Bjornoya 125.76 356 *e*PKPdf **PKiKP 12 43 03.7 +0.2**
ROSB Rosrio 126.03 110 *e*P **PKiKP 12 43 06.4 +0.6**
SVE Sverdlovsk 126.05 326 *i* PKIKP **PKiKP 12 43 05.3 +0.8**
SVE pmax pmax
comp=Z,43nm,1.0s
SVE MLR MLR
comp=E,1μm,23.0s
SVE MLR MLR
comp=Z,1μm,23.0s
NRS Narsarsuaq 126.51 28 PKIKP **PKPdf 12 43 04.8 0.0**
NRS Narsarsuaq 126.51 28 **PKPdf 12 43 04.8 0.0**
ANGG Ammassalik, Gr 127.21 21 IAMs_20 IAMs_20 13 38 06.8
comp=Z,1μm,20.0s
ARU Arti 127.26 326 *i* PKIKP **PKPdf 12 43 06.6 +0.2**
ARU 12 45 04.3
ARU SS SS 13 02 07.4 -5.4
ARU MLR MLR
comp=Z,2μm,22.0s
ARU Arti 127.26 326 PKPdf **PKiKP 12 43 06.7 -0.2**
BOSA Boshof 127.29 202 PKP **PKiKP 12 43 08.3 +0.2**
comp=Z,8.5nm,0.9s,baz=133,slow=3.9,SNR=7.5
NBPS Pedro II - PI 127.64 113 *e*P **PKiKP 12 43 09.2 +0.1**
SCO Scoresbysund 127.70 11 *i* P **PKiKP 12 43 08.1 +0.6**
SCO Scoresbysund 127.70 11 *i* PKIKP **PKiKP 12 43 08.0 +0.6**
SCO Scoresbysund 127.70 11 PKPdf **PKiKP 12 43 08.3 +0.9**
SCO IAMs_20 IAMs_20 13 32 26.8
comp=Z,1μm,22.0s
NBMA Muriti-CE 128.33 118 *e*P **PKiKP 12 43 10.9 +0.4**
HRA Herat 128.47 298 PKPdf **PKiKP 12 43 10.1 -0.3**
ABKAR Akbulak array 128.51 317 **PKPdf 12 43 09.3 +0.3**
ABKAR Akbulak array 128.51 317 PKPdf **PKiKP 12 43 09.5 -0.2**
HAMF Hammerfest 128.98 352 *e*PKPdf **PKPdf 12 43 09.2 -0.1**
KEV Kevo 129.32 350 IAMs_20 IAMs_20 13 45 57.2
comp=Z,937nm,20.0s
NBMO Morrinhos-CE 129.39 113 *e*P **PKiKP 12 43 12.8 +0.2**
ARA0 ARCESS Array S 129.75 351 *e*PKPdf **PKPdf 12 43 11.1 +0.2**
ARCES ARCESS Array B 129.75 351 PKP **PKPdf 12 43 11.2 +0.3**
comp=Z,14nm,0.7s,baz=4.0,slow=1.0,SNR=46
ARCES ARCESS Array B 129.75 351 PKPdf **PKiKP 12 43 11.4 -0.2**
APA Apatity 130.02 346 ⇑ *i* PKIKP **PKiKP 12 43 19.5 +7.4**
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,1μm,14.0s
TRO Tromso 130.47 354 *e*PKPdf **PKPdf 12 43 12.3 +0.1**
KTK1 Kautokeino 130.55 352 *e*PKPdf **PKPdf 12 43 12.2 -0.1**
PRGR Permogore 130.65 336 *e*PKIKP **PKPdf 12 43 11.4 -1.3**
PRGR pmax pmax
comp=Z,50nm,1.5s
KIRV Kirov 130.79 331 *d* *i* PKIKP **PKiKP 12 43 14.3 +0.4**
RCBR Riachuelo 131.54 119 IAMs_20 IAMs_20 13 33 26.3
comp=Z,698nm,21.0s
GEYT Alibeck 131.66 303 PKP **PKiKP 12 43 16.1 -0.4**
comp=Z,17nm,0.8s,baz=356,slow=2.0,SNR=15
GEYT SKPbc **SKPbc 12 46 38.4 -0.2**
comp=Z,15nm,0.9s,baz=174,slow=1.4,SNR=9.5
GYA0B ALIBECK ARRAY 131.66 303 PKPdf **PKPdf 12 43 14.9 -0.6**
GYA0B IAMs_20 IAMs_20 13 46 21.0
comp=Z,1μm,22.0s
LOF Lofoten 132.39 356 *e*PKPdf **PKPdf 12 43 16.3 +0.5**
STEI Steigen 132.47 355 *e*PKPdf **PKPdf 12 43 16.4 +0.4**
BORG Borgarnes 132.62 15 IAMs_20 IAMs_20 13 33 42.1
comp=Z,1μm,21.0s
FAUS Fauske 133.00 355 *e*PKPdf **PKPdf 12 43 17.1 +0.1**
UOSS Minazif 133.27 285 PKPdf **PKPdf 12 43 19.2 +0.4**
KLMR Klimovskoe 133.40 338 *e*PKIKP **PKPdf 12 43 18.3 +0.4**
KLMR *e* 12 45 43.9
KLMR pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 133.40 338 *e*PKPdf **PKPdf 12 43 18.4 +0.5**
KLMR AMP 12 43 21.7
comp=Z,30nm,1.0s
KLMR *e*PP **PP 12 45 43.9 -1.7**
KLMR *e*SKPab **SKPab 12 46 46.6 +0.8**
KLMR LQ LQ 13 27 31.8
KLMR LQ LQ 13 27 31.8
KLMR LR LR 13 32 48.3
NSS Namsos 136.07 356 *e*PKPdf **PKPdf 12 43 21.8 -1.0**
FIA1 FINESS Array S 136.91 346 **PKPdf 12 43 25.1 +0.6**
FINES FINESS Array B 136.91 346 PKhKP PKPpre 12 43 13.0
comp=Z,2.8nm,0.7s,baz=64,slow=4.4,SNR=5.7
FINES PKP **PKiKP 12 43 26.4 +0.2**
comp=Z,11nm,0.7s,baz=51,slow=2.3,SNR=10
FINES FINESS Array B 136.91 346 PKIKP **PKPdf 12 43 24.4 0.0**
FINES FINESS Array B 136.91 346 **PKPdf 12 43 24.4 0.0**
MOS Moscow 137.64 333 *i* PKIKP **PKPdf 12 43 23.4 -2.6**
MOS MLR MLR
comp=Z,800nm,21.0s
MEF Metsahovi 138.38 346 *e*P **PKPdf 12 43 23.6 -3.6**
VRH Novokhopyorsk 138.49 326 *i* PKIKP **PKPdf 12 43 28.3 +0.6**
VRH pmax pmax
comp=Z,40nm,1.0s
VRH MLR MLR
comp=Z,2μm,22.0s
OBN Obninsk 138.51 333 *e*PKIKP **PKPdf 12 43 28.4 +0.8**
OBN *e*PPP PPP 12 49 23.2
OBN *e* 12 50 38.4
OBN *e*SS SS 13 04 21.1 -7.5
OBN MLR MLR
comp=Z,660nm,21.0s
OBN Obninsk 138.51 333 IAMs_20 IAMs_20 13 46 41.0
comp=Z,723nm,20.0s
TSUM Tsumeb 138.52 197 PKPdf **PKPdf 12 43 28.2 -0.7**
MAK Makhachkala 138.56 312 *i* P **Pdif 12 40 32.2 -6.7**
MAK *e* 12 50 37.0
MAK *e*SS SS 13 04 24.1 -6.5
MAK *e*SSS SSS 13 09 36.5
MAK pmax pmax
comp=Z,86nm,0.4s
AKN Aaknes 138.63 359 *e*PKPdf **PKPdf 12 43 27.9 +0.3**
DOMB Dombas 138.70 357 *e*PKPdf **PKPdf 12 43 27.6 -0.2**
AKT Akhty 138.85 310 *e*PKIKP **PKiKP 12 43 30.5 -0.5**
AKT *e* 12 46 19.6
AKT pmax pmax
comp=Z,54nm,1.4s
LPSR Galich'ya Gora 139.08 329 *i* PKIKP **PKPdf 12 43 26.9 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,1μm,21.0s
VSU Vasula 139.33 343 ⇑ *e*PKIKP **PKPdf 12 43 28.6 -0.4**
NB201 NORSAR Array S 139.57 356 **PKPdf 12 43 26.6 -2.8**
NB2 NORSAR Subarra 139.58 356 PKP PKPpre 12 43 20.3
comp=Z,180nm,3.3s,baz=17,slow=4.0
NB2 NORSAR Subarra 139.58 356 PKPab PKPpre 12 43 20.3
baz=17,slow=4.0
NOA NORSAR Array B 139.58 356 PKhKP PKPpre 12 43 20.5
comp=Z,0.6nm,0.6s,baz=50,slow=1.7,SNR=4.1
NOA PKP **PKiKP 12 43 31.6 -0.2**
comp=Z,6.6nm,1.0s,baz=14,slow=4.1,SNR=10
NOA PP **PP 12 46 22.6 -1.5**
comp=Z,2.7nm,0.9s,baz=12,slow=7.0,SNR=4.4
NBO00 NORSAR Array S 139.62 356 **PKPdf 12 43 26.8 -2.7**
GROC Groznyy 139.66 313 *e*PKIKP **PKPdf 12 43 30.6 +0.5**
GROC *e* 12 46 25.6
HYA Hoyanger 139.66 359 *e*PKPdf **PKPdf 12 43 29.1 -0.4**
NAO01 NORSAR Array S 139.80 356 PKPpre 12 43 25.8
VSR Storozhevoye 139.80 327 *i* PKIKP **PKPdf 12 43 30.0 -0.1**
VSR pmax pmax
comp=Z,40nm,1.1s
VSR MLR MLR
comp=Z,1μm,22.0s
MTSE Matsula 139.86 345 *e*P **PKPdf 12 43 26.5 -3.4**
NC602 NORSAR Array S 139.86 355 *e*PKPdf **PKPdf 12 43 28.9 -1.1**
VORD Divnogorie 139.89 327 *e*PKIKP **PKPdf 12 43 29.9 -0.3**
VORD pmax pmax
comp=Z,20nm,1.0s
UPP Uppsala 140.01 350 *e*P PKPpre 12 43 23.6
SKAR Skarslia 140.10 358 *e*PKPdf **PKPdf 12 43 30.0 -0.4**
KIBK Kibwezi 140.66 238 **PKPdf 12 43 30.0 -3.0**
KIBK IAMs_20 IAMs_20 13 38 48.2
comp=Z,749nm,22.0s
OSL Oslo 140.71 356 *e*PKPdf **PKPdf 12 43 31.5 +0.1**
NCK Nalchik 141.03 314 ⇑ *i* PKIKP **PKiKP 12 43 35.0 -0.3**
NCK MLR MLR
comp=Z,342nm,20.0s
KONO Kongsberg 141.07 357 *e*PKPdf **PKPdf 12 43 31.7 -0.5**
KONO Kongsberg 141.07 357 IAMs_20 IAMs_20 13 50 21.5
comp=Z,867nm,22.0s
ZEI Tsey 141.10 313 *i* PKIKP **PKiKP 12 43 39.1 +3.4**
ZEI pmax pmax
comp=Z,23nm,1.2s
KBZ Khabaz 141.41 315 PKhKP PKPpre 12 43 27.9
comp=Z,3.3nm,1.0s,baz=228,slow=1.9,SNR=4.8
KBZ PKP **PKiKP 12 43 35.1 -0.9**
comp=Z,8.6nm,0.9s,baz=24,slow=4.2,SNR=9.7
KBZ Khabaz 141.41 315 ⇑ *e*PKHKP PKPpre 12 43 28.3
GNI Garni 141.42 309 ⇓ *i* PKIKP **PKiKP 12 43 35.6 -0.8**
GNI MLR MLR
comp=Z,754nm,23.0s
GNI Garni 141.42 309 IAMs_20 IAMs_20 13 49 39.6
comp=Z,702nm,22.0s
KIV Kislovodsk 141.45 315 *e*PKIKP **PKPdf 12 43 30.6 -2.9**
KIV *e* 12 46 33.7
KIV *e*SS SS 13 05 03.2 -1.3
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 141.45 315 PKPdf **PKPdf 12 43 34.3 +0.8**
KIV IAMs_20 IAMs_20 13 53 19.7
comp=Z,517nm,19.0s
ONI Oni 141.48 313 PKIKP **PKPdf 12 43 33.5 0.0**
ONI Oni 141.48 313 **PKPdf 12 43 33.5 0.0**
ONI IAMs_20 IAMs_20 13 48 55.8
comp=Z,856nm,22.0s
NEY Neytrino 141.72 314 *e*PKIKP **PKPdf 12 43 32.5 -1.6**
ISAL Salakas 141.97 341 *e*P **PKPdf 12 43 30.6 -3.3**
IDID Didziasalis 141.99 340 *e*P **PKPdf 12 43 30.6 -3.3**
KMBO Kilima Mbogo 142.01 239 PKhKP PKPpre 12 43 32.7
comp=Z,5.9nm,0.8s,baz=89,slow=1.7,SNR=11
IIGN Ignalina 142.12 341 *e*P **PKPdf 12 43 31.1 -3.0**
MNK Minsk 142.29 339 *i* PKIKP **PKPdf 12 43 32.5 -2.0**
MNK *i* 12 46 39.1
MNK *i* PPP PPP 12 49 46.5
MNK *i* 12 50 44.4
MNK *i* SS SS 13 05 14.7 +2.1
MNK *i* SSS SSS 13 10 28.0
MNK pmax pmax
comp=N,26nm,1.2s
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=Z,52nm,0.8s
MNK Minsk 142.29 339 *i* PKP **PKPdf 12 43 32.6 -1.9**
comp=E,11nm,0.8s
MNK *i* PKP **PKPdf 12 43 32.6 -1.9**
comp=N,26nm,1.2s
MNK *i* PKP **PKPdf 12 43 32.6 -1.9**
comp=Z,52nm,0.8s,baz=216
MNK *i* PP **PP 12 46 39.1 -1.7**
MNK *i* PKS **PKSdf 12 47 08.4 -1.6**
MNK *i* SKP 12 47 09.1
MNK *i* PPP PPP 12 49 46.5
MNK *i* SKS **SKSdf 12 50 44.4 +2.7**
MNK *i* SKKS **SKKSdf 13 00 05.5 +2.8**
MNK *i* SS **SS 13 05 14.8 +2.2**
MNK *i* SSS SSS 13 10 28.1
MNK *i* LQ LQ 13 39 17.6
MNK *i* LR LR 13 41 56.9
MNK *i* LRM MLR 13 50 12.5
comp=Z,764nm,17.4s
MNK *i* LRM MLR 13 50 53.7
comp=E,37nm,12.9s
MNK *i* LRM MLR 13 50 56.3
comp=N,673nm,18.1s
KPL Plockton 142.59 10 *e*P **PKPdf 12 43 30.6 -4.3**
PABE Paberze 142.65 343 *e*P **PKPdf 12 43 30.5 -4.5**
PABE Paberze 142.65 343 PKPdf **PKiKP 12 43 37.4 -0.7**
PABE IAMs_20 IAMs_20 13 46 58.9
comp=Z,870nm,20.0s
PBUR Paburge 142.73 345 *e*P **PKPdf 12 43 30.5 -4.7**
RAYN Ar Rayn 142.89 282 PKIKP **PKPdf 12 43 37.7 +1.1**
RAYN MLR MLR
comp=Z,1μm,22.0s
RAYN Ar Rayn 142.89 282 PKPdf **PKPdf 12 43 37.7 +1.1**
ATD Arta Tunnel 143.00 262 IAMs_20 IAMs_20 13 40 07.6
comp=Z,702nm,21.0s
DRUM Mains of Drumt 143.45 7 *e*P PKPbc 12 43 34.2 +0.5
SOC Sochi 143.55 316 *e*PKHKP PKPpre 12 43 33.6
SOC *i* 12 43 39.1
SOC *e* 12 46 45.3
SOC *e*SSS SSS 13 10 47.7
SOC pmax pmax
comp=Z,15nm,0.7s
SOC pmax pmax
comp=Z,25nm,0.8s
LAWE Loch Awe, Argy 143.67 10 *e*P PKPbc 12 43 34.5 +0.2
INVG Invergeldie, C 143.72 9 *e*P PKPbc 12 43 34.3 -0.2
GURO Guroymak-BITLI 143.91 307 PKPdf **PKPdf 12 43 38.9 +0.8**
SUW Suwalki 144.18 342 *e*PKPdf **PKPab 12 43 35.1 -0.4**
SUW *e*L L 13 39 10.4
comp=Z,2μm,28.8s
SUW Suwalki 144.18 342 *e*P **PKPab 12 43 34.8 -0.7**
SUW Suwalki 144.18 342 PKIKP PKPbc 12 43 36.7 +0.7
SUW MLR MLR
comp=Z,1μm,22.0s
SUW Suwalki 144.18 342 PKPbc 12 43 36.7 +0.7
SUW IAMs_20 IAMs_20 13 46 43.3
comp=Z,1μm,22.0s
PGBU Glenifferbraes 144.25 10 *e*P **PKPab 12 43 35.9 +0.2**
PGBU IAmb IAmb 12 43 38.1
comp=Z,101nm,0.9s
MUD Monsted U'grnd 144.28 356 *i* P **PKPdf 12 43 37.7 -0.2**
MUD Monsted U'grnd 144.28 356 *i* PKIKP **PKPdf 12 43 37.6 -0.2**
EDI Edinburgh 144.33 8 *e*P PKPbc 12 43 37.1 +0.7
ANN Anapa 144.37 320 *i* PKIKP PKPbc 12 43 37.2 +0.3
ANN *e*SS SS 13 05 34.3 -3.4
ANN pmax pmax
comp=Z,86nm,1.4s
ESY Stoneypath 144.41 8 *e*P PKPbc 12 43 37.3 +0.6
EBL Broad Law 144.49 8 *e*P PKPbc 12 43 37.2 +0.3
KOPT Kop Dagi 144.52 311 PKPdf **PKPdf 12 43 39.7 +0.4**
KOPT IAMs_20 IAMs_20 13 51 14.5
comp=Z,938nm,21.0s
AKASG Malin Array Be 144.77 334 PKP **PKPab 12 43 37.0 -0.9**
comp=Z,129nm,0.7s,baz=40,slow=4.5,SNR=272
AKASG Malin Array Be 144.77 334 PKIKP **PKPab 12 43 37.0 -0.9**
AKASG Malin Array Be 144.77 334 PKPdf **PKPab 12 43 37.0 -0.9**
AKBB Malin Array Si 144.77 334 PKIKP **PKPab 12 43 37.0 -0.8**
AKBB Malin Array Si 144.77 334 PKPdf **PKPab 12 43 37.0 -0.8**
EKA Eskdalemuir Ar 144.91 9 PKP **PKPab 12 43 38.0 -0.2**
comp=Z,53nm,0.8s,baz=335,slow=3.1,SNR=52
ESK Eskdalemuir 144.91 9 *e*P **PKPab 12 43 38.2 0.0**
ESK Eskdalemuir 144.91 9 PKIKP PKPbc 12 43 38.5 +0.2
ESK Eskdalemuir 144.91 9 PKPdf PKPbc 12 43 38.5 +0.3
BSD Bornholm Skovb 144.99 351 *e*P **PKPdf 12 43 39.1 0.0**
BSD Bornholm Skovb 144.99 351 *i* P **PKPab 12 43 38.8 +0.3**
BSD Bornholm Skovb 144.99 351 *i* PKIKP **PKPab 12 43 38.8 +0.3**
GAL1 Galloway 145.12 10 *e*P **PKPbc 12 43 38.7 -0.2**
MARD Mardin 145.25 306 **PKPdf 12 43 40.4 0.0**
MARD IAMs_20 IAMs_20 13 51 54.3
comp=Z,977nm,22.0s
GMM Mts of Mourne 145.49 12 *e*P **PKPab 12 43 41.3 +0.9**
EDMD Edmundbyers 145.55 8 *e*P **PKPdf 12 43 40.1 -0.1**
KESW Keswick, Cumbr 145.64 9 *e*P **PKPdf 12 43 40.4 +0.1**
PCED Cedros 145.68 51 ⇓ *e*PKP **PKPdf 12 43 40.5 -0.4**
CALA Caldeira 145.69 51 *e*PKP **PKPdf 12 43 40.1 -1.0**
IOMK Kirk Michael 145.72 10 *e*P **PKPab 12 43 41.3 +0.1**
WIM Isle of Man 145.81 11 *e*P **PKPab 12 43 42.0 +0.4**
PCAN Candelaria 145.89 51 *e*PKP **PKPab 12 43 43.0 +0.5**
PICO Pico 145.92 51 *e*PKP **PKPab 12 43 42.6 0.0**
ROSA Rosais 145.98 51 *e*PKP **PKPdf 12 43 41.7 +0.3**
ROSA Rosais 145.98 51 PKPdf **PKPab 12 43 43.0 +0.3**
SRBC Serra Branca 146.00 50 *e*PKP **PKPab 12 43 42.6 -0.2**
PGRA Graciosa 146.05 50 *e*PKP **PKPdf 12 43 41.4 -0.1**
PPNO Prainha do Nor 146.05 51 *e*PKP **PKPbc 12 43 42.3 -0.2**
GDLE Glaisdale, N Y 146.09 7 *e*P **PKPbc 12 43 41.6 -0.4**
PMAN Manadas 146.12 51 *e*PKP **PKPbc 12 43 42.3 -0.3**
LODK Lodwar 146.15 243 PKPab **PKPab 12 43 44.7 +0.5**
LODK IAMs_20 IAMs_20 13 47 51.6
comp=Z,564nm,20.0s
PID Ribeirinha 146.17 51 *e*PKP **PKPdf 12 43 41.7 -0.1**
SIM Simferopol' 146.25 322 *d* *i* PKP2 **PKPbc 12 43 43.2 +0.4**
SIM pmax pmax
comp=Z,435nm,1.1s
GKP Gorka Klasztor 146.33 347 *e*PKP **PKPbc 12 43 42.7 -0.1**
GKP *e*L L 13 39 08.6
comp=Z,1μm,28.1s
GKP Gorka Klasztor 146.33 347 *e*P **PKPdf 12 43 40.8 -0.7**
WPS Cemaes, Angles 146.56 11 *e*P **PKPbc 12 43 43.9 +0.5**
WPS IAmb IAmb 12 43 45.6
comp=Z,137nm,0.9s
WME Myndd Eilian 146.60 11 *e*P **PKPab 12 43 44.5 -0.1**
WLF1 Llynfaes 146.68 11 *e*P **PKPbc 12 43 43.8 0.0**
WLF1 IAmb IAmb 12 43 46.0
comp=Z,424nm,0.8s
YRC Rhoscolyn 146.69 11 *e*P **PKPdf 12 43 42.8 +0.7**
BSEG Bad Segeberg 146.70 355 *e*L L 13 49 39.7
comp=Z,735nm,21.8s
PAGU Agualva, Azore 146.72 50 *e*PKP **PKPbc 12 43 44.2 -0.2**
PSCM Serra do Cume 146.80 50 *e*PKP **PKPbc 12 43 45.2 +0.6**
YLL Llanberis 146.87 11 *e*P **PKPab 12 43 45.1 -0.5**
LBWR Ladybower, Pea 146.98 8 *e*P **PKPbc 12 43 44.7 +0.1**
LBWR IAmb IAmb 12 43 48.9
comp=Z,111nm,0.9s
SORM Soroca 147.07 331 ⇓ P **PKPbc 12 43 44.0 -1.0**
SORM Soroca 147.07 331 ⇓ PKIKP **PKPbc 12 43 44.0 -1.0**
SNOP Sinop 147.21 317 PKPdf **PKPbc 12 43 44.7 -1.0**
SNOP IAMs_20 IAMs_20 13 49 37.8
comp=Z,586nm,21.0s
LLW Llanuwychllyn 147.23 10 *e*P **PKPbc 12 43 45.6 +0.3**
FOEL Foel Wylfa 147.27 10 *e*P **PKPbc 12 43 45.6 +0.2**
DIKM Dikmen 147.36 316 ⇑ P **PKPbc 12 43 44.9 -1.2**
MBAR Mbarara 147.38 232 PKP2 **PKPab 12 43 48.7 -0.4**
MBAR Mbarara 147.38 232 **PKPab 12 43 48.7 -0.4**
LVV L'vov 147.49 337 *e*PKP2 **PKPbc 12 43 47.0 +0.8**
HLM1 Long Mynd 147.68 10 *e*P **PKPbc 12 43 46.1 -0.6**
KIS Kishinev 147.69 329 ⇑ *i* PKP **PKPdf 12 43 42.0 -2.0**
comp=Z,430nm,4.2s
KIS *e*LR LR 13 46 15.0
comp=Z,400nm,21.0s
KIS Kishinev 147.69 329 ⇑ P **PKPbc 12 43 47.8 +1.0**
KIS Kishinev 147.69 329 *c* *i* PKHKP PKPpre 12 43 42.0
KIS pmax pmax
comp=Z,430nm,4.2s
KIS MLR MLR
comp=Z,400nm,21.0s
RUE Ruedersdorf 147.72 350 *e*pPKPbc **PKiKP 12 43 47.7 -1.0**
RSBS Rosebush, Pemb 147.90 12 *e*P **PKPbc 12 43 45.9 -1.3**
WACR West Acre 147.91 6 *e*P **PKPbc 12 43 47.5 +0.3**
WACR IAmb IAmb 12 43 49.2
comp=Z,296nm,0.8s
GAZ Gaziantep 147.97 308 **PKPbc 12 43 46.8 -1.2**
GAZ PKPab **PKiKP 12 43 50.0 +0.2**
KWP Kalwaria Pacla 148.11 339 *e*PKP **PKPbc 12 43 46.5 -1.4**
KWP *e*L L 13 44 01.8
comp=Z,983nm,25.2s
KWP Kalwaria Pacla 148.11 339 PKP2 **PKPbc 12 43 46.9 -1.0**
KWP MLR MLR
comp=Z,10μm,19.0s
KWP Kalwaria Pacla 148.11 339 **PKPbc 12 43 46.9 -1.0**
IAS Iasi 148.13 331 ⇑ P **PKPbc 12 43 48.8 +0.8**
IAS Iasi 148.13 331 ⇑ PKP2 **PKPbc 12 43 48.8 +0.8**
NRDL Niedersach Rie 148.15 355 *e*pPKPbc **PKiKP 12 43 49.0 -0.5**
PSET Sete Cidades 148.15 51 *e*PKP **PKPdf 12 43 45.8 +0.7**
MCH1 Michaelchurch 148.16 10 *e*P **PKPbc 12 43 46.5 -1.4**
MCH1 IAmb IAmb 12 43 49.9
comp=Z,124nm,0.8s
FLTG Flechtingen 148.20 353 *e*pPKPbc **PKPbc 12 43 48.9 +0.9**
BNN Bunyan 148.28 311 **PKPbc 12 43 47.5 -1.3**
CMLA Cha da Macela 148.32 51 *e*PKP **PKPbc 12 43 48.6 -0.2**
CMLA Cha da Macela 148.32 51 PKP2 **PKiKP 12 43 50.7 +0.2**
CMLA Cha da Macela 148.32 51 **PKiKP 12 43 50.7 +0.2**
MONM Monmouth 148.35 10 *e*P **PKPbc 12 43 47.0 -1.4**
MONM IAmb IAmb 12 43 50.6
comp=Z,252nm,1.0s
VASR Vaslui 148.43 330 ⇑ P **PKiKP 12 43 49.8 -0.6**
ASSE Asse, Remlinge 148.46 354 *e*pPKPbc **PKiKP 12 43 49.8 -0.3**
IBBN Ibbenburen 148.49 357 *e*pPKPbc **PKiKP 12 43 49.9 -0.4**
OJC Ojcow 148.51 342 *e*PKPdf **PKPdf 12 43 45.2 -0.1**
OJC *e*L L 13 42 54.8
comp=Z,1μm,27.8s
OJC Ojcow 148.51 342 PKIKP **PKPdf 12 43 46.6 +1.3**
OJC MLR MLR
comp=Z,1μm,20.0s
OJC Ojcow 148.51 342 PKPdf **PKPdf 12 43 46.6 +1.3**
BART Pico Bartolome 148.57 51 *e*PKP **PKPdf 12 43 44.9 -1.0**
PRAR RASCA 148.60 332 ⇑ P **PKiKP 12 43 50.6 -0.1**
ILGA Ilgaz 148.66 316 **PKPdf 12 43 47.8 +1.6**
ILGA IAMs_20 IAMs_20 13 54 32.5
comp=Z,670nm,22.0s
CLZ Clausthal 148.77 354 *e*pPKPbc **PKiKP 12 43 50.9 -0.1**
STHS Stebnicka Huta 148.78 340 *e*PKP2 **PKiKP 12 43 50.4 -0.7**
STHS Stebnicka Huta 148.78 340 *e*PKP **PKiKP 12 43 50.4 -0.7**
BIR Birlad 148.79 330 ⇑ P **PKPbc 12 43 50.0 +0.3**
BIR Birlad 148.79 330 ⇑ PKP2 **PKPbc 12 43 50.0 +0.3**
KSP Ksiaz 148.82 347 *e*PKPdf **PKPdf 12 43 46.2 +0.5**
BURAR Bucovina Array 148.83 334 ⇓ P **PKPdf 12 43 46.6 +0.5**
KOLS Kolonicke sedl 148.86 338 *e*PKIKP **PKPbc 12 43 48.0 -1.8**
KOLS *e* 12 43 52.0
KOLS Kolonicke sedl 148.86 338 *e*PKP **PKPbc 12 43 48.0 -1.8**
KOLS *e* 12 43 52.0
PSMA Santa Maria 148.91 52 *e*PKP **PKPbc 12 43 49.0 -1.3**
VARL Varlezi 148.95 329 ⇓ P **PKiKP 12 43 51.8 +0.4**
PSMN Pico do Norte, 148.95 52 *e*PKP **PKPbc 12 43 49.0 -1.5**
CLL Collm 148.97 351 *e*PKPdf **PKPdf 12 43 47.0 +1.0**
CLL *e*PKPbc **PKiKP 12 43 51.0 -0.3**
comp=Z,141nm,1.0s

CLL			*e*PKPlp			12 43 51.0
	comp=Z,600nm,21.0s					
CLL			*i* PKPab	**PKPab**	**12 43 54.2**	**+0.1**
	comp=Z,81nm,0.8s					
CLL			*ep*PKPdf	**sPKPdf**	**12 44 00.0**	**-0.5**
CLL			*e*PSKS		12 57 34.0	
CLL			*e*PPS	PPS	13 00 10.0	
CLL			*e*SS	SS	13 06 36.0	+7.7
CLL			*e*SSS	SSS	13 12 12.0	
CLL			Lm	MLR	13 53 00.0	
	comp=Z,900nm,22.0s					
CLL	**Collm**	**148.97 351**	*e*PKIKP	**PKPdf**	**12 43 47.0**	**+1.0**
CLL			*e*		12 43 51.0	
CLL			*i*		12 43 54.2	
CLL			pmax	pmax		
	comp=Z,141nm,1.0s					
CLL			pmax	pmax		
	comp=Z,81nm,0.8s					
CLL			MLR	MLR		
	comp=Z,900nm,22.0s					
CLL	**Collm**	**148.97 351**	PKPdf	**PKPdf**	**12 43 47.1**	**+1.0**
CLL			IAMs_20	IAMs_20	13 53 34.6	
	comp=Z,904nm,22.0s					
CLL	**Collm**	**148.97 351**	*ep*PKPbc	**PKiKP**	**12 43 51.1**	**-0.3**
CLL			*e*L	L	13 53 34.4	
	comp=Z,857nm,22.0s					
TLCR		**148.97 327**	⇑P	**PKiKP**	**12 43 51.3**	**-0.2**
TLCR		**148.97 327**	⇑PKP2	**PKiKP**	**12 43 51.3**	**-0.2**
TESR	**Tescani**	**149.06 331**	⇑P	**PKPbc**	**12 43 51.1**	**+0.7**
NIE	**Niedzica**	**149.08 341**	*e*PKPdf	**PKPdf**	**12 43 47.5**	**+1.2**
NIE			*e*L	L	13 45 38.2	
	comp=Z,682nm,25.0s					
OSTC	**Ostas**	**149.10 347**	*e*PKPDF	**PKPbc**	**12 43 48.4**	**-2.0**
OSTC			⇑*e*PKP	**PKiKP**	**12 43 51.8**	**+0.1**
OSTC			*e*PKPAB	**PKPab**	**12 43 55.8**	**+1.1**
CHVC	**Chvalec**	**149.11 347**	*e*PKPDF	**PKPbc**	**12 43 49.2**	**-1.2**
CHVC			⇑*e*PKP	**PKiKP**	**12 43 53.0**	**+1.3**
CHVC			*e*PP	**PP**	**12 47 20.9**	**-0.2**
CHVC			AMS	AMS	13 50 30.0	
	comp=Z,800nm,20.8s					
UZH	**Uzhgorod**	**149.11 338**	*e*PKHKP	PKPpre	12 43 45.2	
UZH			*i*		12 43 53.3	
CRVS	**Cervenica-Dubn**	**149.16 339**	*e*PKIKP	**PKPdf**	**12 43 48.0**	**+1.6**
CRVS			*e*		12 43 51.8	
CRVS	**Cervenica-Dubn**	**149.16 339**	*e*PKP	**PKPdf**	**12 43 48.0**	**+1.6**
CRVS			*e*		12 43 51.8	
UPC	**Upice**	**149.19 347**	*e*PKIKP	**PKPdf**	**12 43 48.5**	**+2.1**
UPC			*e*		12 43 51.4	
UPC			*e*		12 47 20.4	
UPC			MLR	MLR		
	comp=Z,900nm,23.6s					
UPC	**Upice**	**149.19 347**	*e*PKPDF	**PKPdf**	**12 43 48.5**	**+2.1**
UPC			⇑*e*PKP	**PKiKP**	**12 43 51.4**	**-0.4**
UPC			*ex*	x	12 47 20.4	
UPC			AMS	AMS	13 50 10.0	
	comp=Z,900nm,23.6s					
NEUB	**Neuenburg**	**149.24 352**	*ep*PKPbc	**PKiKP**	**12 43 51.8**	**-0.1**
BRG	**Berggiesshubel**	**149.24 349**	*e*PKP	**PKPdf**	**12 43 47.9**	**+1.5**
BRG			Amp		12 43 51.8	
	comp=Z,89nm,2.0s					
BRG	**Berggiesshubel**	**149.24 349**	P	**PKiKP**	**12 43 52.3**	**+0.4**
BRG			Amp		12 43 53.8	
	comp=Z,98nm,1.0s					
BRG	**Berggiesshubel**	**149.24 349**	P	PKPab	12 44 07.8	+13
BRG			Amp		12 44 09.8	
	comp=Z,183nm,2.0s					
BRG	**Berggiesshubel**	**149.24 349**	*ep*PKPbc	**PKiKP**	**12 43 52.0**	**0.0**
SCHL	**Schela**	**149.24 328**	⇓P	**PKiKP**	**12 43 51.8**	**-0.2**
TUDR		**149.25 329**	⇓P	**PKiKP**	**12 43 53.1**	**+1.0**
DPC	**Dobruska-Polom**	**149.27 346**	*e*PKIKP	**PKPdf**	**12 43 48.3**	**+1.7**
DPC			*e*		12 43 51.9	
DPC			MLR	MLR		
	comp=Z,700nm,21.1s					
DPC	**Dobruska-Polom**	**149.27 346**	*e*PKPDF	**PKPdf**	**12 43 48.3**	**+1.7**
DPC			⇑*e*PKP	**PKiKP**	**12 43 51.9**	**-0.2**
DPC			*ex*	x	12 57 39.2	
DPC			AMS	AMS	13 49 00.0	
	comp=Z,700nm,21.1s					
FBE	**Freiberg**	**149.29 350**	*ep*PKPbc	**PKiKP**	**12 43 52.4**	**+0.3**
OKC	**Ostrava-Krasne**	**149.31 344**	*e*PKP2	**PKiKP**	**12 43 52.3**	**+0.2**
OKC			*e*		12 47 20.2	
OKC			MLR	MLR		
	comp=Z,1μm,23.7s					
OKC	**Ostrava-Krasne**	**149.31 344**	⇑*e*PKP	**PKiKP**	**12 43 52.3**	**+0.2**
OKC			*e*PKPAB	**PKPab**	**12 43 55.9**	**+0.4**
OKC			*e*PP	**PP**	**12 47 20.2**	**-2.1**
OKC			AMS	AMS	13 50 30.0	
	comp=Z,1μm,23.7s					
CFR	**Carcaliu**	**149.32 328**	⇑P	**PKPdf**	**12 43 46.0**	**-0.7**
CFR	**Carcaliu**	**149.32 328**	⇑PKHKP	PKPpre	12 43 46.0	
PETR	**Petresti**	**149.37 329**	⇓P	**PKPbc**	**12 43 51.5**	**+0.3**
BUG	**Bochum--Univer**	**149.38 358**	*ep*PKPbc	**PKiKP**	**12 43 52.0**	**-0.2**
BR131	**Keskin Array S**	**149.39 314**	PKIKP	**PKPdf**	**12 43 48.7**	**+1.5**
BR131	**Keskin Array S**	**149.39 314**		**PKPdf**	**12 43 48.7**	**+1.5**
BRTR	**Keskin Array B**	**149.39 314**	PKP	**PKPdf**	**12 43 47.7**	**+0.5**
	comp=Z,15nm,0.8s,baz=72,slow=2.7,SNR=8.5					
BRTR			PKPbc	**PKiKP**	**12 43 52.6**	**-0.1**
	comp=Z,48nm,0.8s,baz=139,slow=3.6,SNR=55					
BRTR	**Keskin Array B**	**149.39 314**	PKIKP	**PKPdf**	**12 43 47.0**	**-0.2**
BRTR					12 43 52.8	
BRTR	**Keskin Array B**	**149.39 314**	PKPdf	**PKPdf**	**12 43 47.0**	**-0.2**
BRTR			PKPbc	**PKiKP**	**12 43 52.8**	**0.0**
TPGR	**Topolog**	**149.40 327**	⇑P	**PKPbc**	**12 43 51.5**	**+0.1**
ODBI	**Odobesti**	**149.43 330**	⇓P	**PKiKP**	**12 43 53.4**	**+1.0**
KRLC	**Kraliky**	**149.43 346**	*e*PKIKP	**PKPdf**	**12 43 48.9**	**+2.1**
KRLC			*e*		12 43 53.1	
KRLC			*e*		12 43 57.8	
KRLC			MLR	MLR		
	comp=Z,900nm,19.7s					
KRLC	**Kraliky**	**149.43 346**	*e*PKPDF	**PKPdf**	**12 43 48.9**	**+2.1**
KRLC			⇑*e*PKP	**PKiKP**	**12 43 53.1**	**+0.7**
KRLC			*e*PKPAB	**pPKPdf**	**12 43 57.8**	**+0.2**
KRLC			*ex*	x	12 57 46.6	
KRLC			AMS	AMS	13 52 30.0	
	comp=Z,900nm,19.7s					
TRPA	**Tarpa**	**149.44 337**	⇑P	**PKPbc**	**12 43 51.8**	**+0.6**
PVCC	**Panska Ves**	**149.46 349**	*e*PKP2	**PKiKP**	**12 43 53.0**	**+0.6**
PVCC	**Panska Ves**	**149.46 349**	⇑*e*PKP	**PKiKP**	**12 43 53.0**	**+0.6**
BMR	**Baia Mare**	**149.47 336**	⇓P	**PKiKP**	**12 43 52.2**	**-0.3**
BMR	**Baia Mare**	**149.47 336**	⇓PKP2	**PKiKP**	**12 43 52.2**	**-0.3**
VRI	**Vrincioaia**	**149.50 330**	⇓P	**PKPbc**	**12 43 51.9**	**+0.3**
VRI	**Vrincioaia**	**149.50 330**	⇓PKP2	**PKPbc**	**12 43 51.9**	**+0.3**
MORC	**Moravsky Berou**	**149.52 344**	⇓P	**PKPbc**	**12 43 49.3**	**-2.2**
MORC	**Moravsky Berou**	**149.52 344**	⇓PKHKP	PKPpre	12 43 49.3	
MORC	**Moravsky Berou**	**149.52 344**	PKPdf	**PKPdf**	**12 43 47.4**	**+0.4**
MORC			IAMs_20	IAMs_20	13 53 17.4	
	comp=Z,874nm,22.0s					
MORC	**Moravsky Berou**	**149.52 344**	*e*PKP	**PKPdf**	**12 43 47.2**	**+0.2**
MORC			*e*PKIKP	**PKPbc**	**12 43 52.1**	**+0.6**
PLOR	**Plostina**	**149.55 330**	⇑P	**PKiKP**	**12 43 52.7**	**-0.1**
PLOR	**Plostina**	**149.55 330**	⇑PKP2	**PKiKP**	**12 43 52.7**	**-0.1**
KASTN	**Kahler Asten**	**149.56 356**	*ep*PKPbc	**PKiKP**	**12 43 52.8**	**+0.1**
LANS	**Liptovska Anna**	**149.56 342**	*e*PKP2	**PKiKP**	**12 43 53.3**	**+0.6**
LANS	**Liptovska Anna**	**149.56 342**	*e*PKP	**PKiKP**	**12 43 53.3**	**+0.6**
ARCR	**ARCALIA**	**149.60 334**	⇓P	**PKPdf**	**12 43 49.0**	**+1.9**
TIRR	**Tirgusor**	**149.68 326**	⇑P	**PKPbc**	**12 43 52.2**	**+0.2**
TIRR	**Tirgusor**	**149.68 326**	PKP2	**PKiKP**	**12 43 53.4**	**+0.4**
TIRR	**Tirgusor**	**149.68 326**	PKPdf	**PKPdf**	**12 43 48.3**	**+1.0**
TIRR				**PKiKP**	**12 43 53.4**	**+0.4**
GRER		**149.75 329**	⇑P	**PKiKP**	**12 43 54.9**	**+1.8**
BISRR	**Bisoca**	**149.75 330**	⇑P	**PKiKP**	**12 43 53.0**	**-0.2**
OZUR		**149.76 331**	⇓P	**PKPbc**	**12 43 52.5**	**+0.3**
ASF	**Jabal al Asfar**	**149.76 299**	PKPbc	**PKiKP**	**12 43 54.2**	**+0.5**
	comp=Z,38nm,0.8s,baz=88,slow=1.0,SNR=7.4					
HARR	**Harsova**	**149.77 327**	⇓P	**PKPbc**	**12 43 52.3**	**+0.1**
HARR	**Harsova**	**149.77 327**	⇓PKP2	**PKPbc**	**12 43 52.3**	**+0.1**
MOX	**Moxa**	**149.81 352**	*ep*PKPbc	**PKiKP**	**12 43 53.3**	**+0.1**
MOX			*e*L	L	13 53 30.6	
	comp=Z,520nm,21.2s					
TLBR	**Topalu**	**149.81 327**	⇓P	**PKiKP**	**12 43 53.8**	**+0.5**
UBBA	**Unterbreizbach**	**149.82 354**	*ep*PKPbc	**PKiKP**	**12 43 53.4**	**+0.4**
EFOR	**EFORIE**	**149.83 326**	⇓P	**PKiKP**	**12 43 54.0**	**+0.7**
KECS	**Kecovo**	**149.84 340**	*e*PKP2	**PKiKP**	**12 43 53.1**	**-0.1**
KECS	**Kecovo**	**149.84 340**	*e*PKP	**PKiKP**	**12 43 53.1**	**-0.1**
MFTR	**Murfatlar**	**149.87 326**	⇑P	**PKiKP**	**12 43 54.1**	**+0.7**
ANTO	**Ankara**	**149.88 315**	PKHKP	PKPpre	12 43 49.1	
ANTO	**Ankara**	**149.88 315**	PKPdf	**PKPdf**	**12 43 49.0**	**+1.1**
PLN	**Plauen**	**149.90 351**	*ep*PKPbc	**PKiKP**	**12 43 53.6**	**+0.3**
BR231	**Keskin MP Arra**	**149.91 315**		**PKiKP**	**12 43 54.2**	**+0.4**
WERD	**Werda**	**149.91 351**	*ep*PKPbc	**PKiKP**	**12 43 53.6**	**+0.2**
PRA	**Prague**	**149.93 348**	*e*PKP2	**PKiKP**	**12 43 54.1**	**+0.8**
PRA			*e*		12 47 24.7	
PRA			MLR	MLR		
	comp=Z,1μm,19.9s					
PRA	**Prague**	**149.93 348**	⇑*e*PKP	**PKiKP**	**12 43 54.1**	**+0.8**
PRA			*e*PKPAB	**PKPab**	**12 43 57.8**	**-0.2**
PRA			*e*PP	**PP**	**12 47 24.7**	**-1.0**
PRA			*ex*	x	12 57 51.9	
PRA			AMS	AMS	13 51 20.0	
	comp=Z,1μm,19.9s					
PRU	**Pruhonice**	**149.98 348**	*e*PKHKP	PKPpre	12 43 49.1	
PRU			*e*		12 47 29.8	
PRU			MLR	MLR		
	comp=Z,1μm,22.8s					
PRU	**Pruhonice**	**149.98 348**	*e*PKPDF	**PKPdf**	**12 43 49.1**	**+1.5**
PRU			⇑*e*PKP	**PKiKP**	**12 43 53.2**	**-0.3**
PRU			*e*PKPAB	**sPKPdf**	**12 44 02.3**	**+0.1**
PRU			*e*PP	**PP**	**12 47 29.8**	**+3.7**
PRU			*ex*	x	12 57 50.0	
PRU			AMS	AMS	13 51 30.0	
	comp=Z,1μm,22.8s					
NEHR	**Nehoiu**	**150.03 330**	⇑P	**PKPbc**	**12 43 52.5**	**-0.4**
DOPR	**Dopca**	**150.04 332**	⇓P	**PKPdf**	**12 43 49.3**	**+1.4**
UCC	**Uccle**	**150.04 1**	*dp*PKPdf	**PKPbc**	**12 43 50.6**	**-2.0**
UCC			*d*PKIKP	**PKiKP**	**12 43 54.0**	**+0.5**
UCC	**Uccle**	**150.04 1**	PKP2	**PKiKP**	**12 43 54.4**	**+0.9**
UCC			MLR	MLR		
	comp=Z,2μm,21.0s					
UCC	**Uccle**	**150.04 1**		**PKiKP**	**12 43 54.4**	**+0.9**
BEBN	**Eben Emael**	**150.05 360**	*d*PKPdf	**PKPdf**	**12 43 47.4**	**-0.3**
BEBN			*dp*PKPdf	**PKPbc**	**12 43 50.5**	**-2.1**
BEBN			*dx*	x	12 43 54.1	
WERN	**Wernitzgruen**	**150.06 351**	*ep*PKPbc	**PKiKP**	**12 43 54.3**	**+0.6**
NKC	**Novy Kostel**	**150.10 351**	*e*PKHKP	PKPpre	12 43 50.0	
NKC			*e*		12 47 25.7	
NKC			MLR	MLR		
	comp=Z,1μm,21.1s					
NKC	**Novy Kostel**	**150.10 351**	*e*PKPDF	**PKPdf**	**12 43 50.0**	**+2.1**
NKC			⇑*e*PKP	**PKiKP**	**12 43 53.7**	**-0.1**
NKC			*e*PKPAB	**pPKPdf**	**12 44 00.2**	**+1.5**
NKC			*e*PP	**PP**	**12 47 25.7**	**-1.1**
NKC			AMS	AMS	13 54 10.0	
	comp=Z,1μm,21.1s					
MESR	**Meseseni**	**150.11 336**	⇓P	**PKPbc**	**12 43 52.0**	**-1.0**
AMRR	**Amara**	**150.12 328**	⇓P	**PKiKP**	**12 43 55.5**	**+1.6**
AMRR	**Amara**	**150.12 328**	⇓PKP2	**PKiKP**	**12 43 55.5**	**+1.6**
ISR	**Istrita**	**150.14 329**	⇑P	**PKPbc**	**12 43 53.6**	**+0.4**
ISR	**Istrita**	**150.14 329**	⇑PKP2	**PKPbc**	**12 43 53.6**	**+0.4**
MLR	**Muntele Rosu**	**150.15 330**	PKP	**PKPdf**	**12 43 48.4**	**+0.2**
	comp=Z,8.5nm,1.0s,baz=341,slow=5.7,SNR=9.6					
MLR			PKPbc	**PKiKP**	**12 43 54.7**	**+0.5**
	comp=Z,118nm,0.9s,baz=86,slow=1.8,SNR=63					
MLR	**Muntele Rosu**	**150.15 330**	⇑P	**PKiKP**	**12 43 54.5**	**+0.3**
MLR			⇓P	**PKiKP**	**12 43 54.7**	**+0.5**
MLR	**Muntele Rosu**	**150.15 330**	PKIKP	**PKPdf**	**12 43 48.1**	**-0.1**
MLR					12 43 55.2	
MLR	**Muntele Rosu**	**150.15 330**	PKPdf	**PKPdf**	**12 43 48.1**	**-0.1**
MLR			PKPbc	**PKiKP**	**12 43 55.2**	**+1.1**
VRAC	**Vranov**	**150.19 345**	PKP	**PKPdf**	**12 43 49.1**	**+1.1**
	comp=Z,5.0nm,1.1s,baz=75,slow=2.3,SNR=8.5					
VRAC			PKPbc	**PKiKP**	**12 43 54.3**	**+0.4**
	comp=Z,38nm,0.8s,baz=25,slow=1.7,SNR=38					
VRAC	**Vranov**	**150.19 345**	⇑P	**PKiKP**	**12 43 53.9**	**0.0**
VRAC	**Vranov**	**150.19 345**	*e*PKP	**PKPdf**	**12 43 48.1**	**+0.1**
VRAC			*e*PKIKP	**PKiKP**	**12 43 54.0**	**0.0**
CJR	**Cluj-Napoca**	**150.21 334**	⇓P	**PKiKP**	**12 43 54.9**	**+0.8**
CJR	**Cluj-Napoca**	**150.21 334**	⇓PKP2	**PKiKP**	**12 43 54.9**	**+0.8**
ICOR	**Ion Corvin**	**150.24 327**	⇓P	**PKiKP**	**12 43 54.1**	**-0.1**
MEM	**Membach**	**150.24 359**	*d*PKiKP	**PKiKP**	**12 43 54.4**	**+0.4**
BTNL	**Ternell**	**150.26 359**	*d*PKiKP	**PKiKP**	**12 43 54.4**	**+0.3**
BSTI	**Sart Tilman**	**150.27 360**	*d*PKiKP	**PKiKP**	**12 43 53.8**	**-0.2**
BHL	**Bhannes**	**150.28 302**	*e*P	**PKPdf**	**12 43 50.2**	**+1.5**
AHRW	**Bad Neuenahr-A**	**150.28 358**	*ep*PKPbc	**PKiKP**	**12 43 54.5**	**+0.5**
LTVH	**Ltavrtes, Hu**	**150.31 337**	⇑P	**PKiKP**	**12 43 55.1**	**+0.9**
SNF	**Seneffe**	**150.33 2**	*d*PKiKP	**PKiKP**	**12 43 54.6**	**+0.4**
SNF			*dp*PKPab	**sPKPdf**	**12 44 01.6**	**-1.1**
JAVC	**Velka Javorina**	**150.33 344**	*e*PKP	**PKPdf**	**12 43 50.7**	**+2.4**
JAVC			*e*PKIKP	**PKiKP**	**12 43 55.7**	**+1.4**
VYHS	**Vyhne**	**150.34 342**	*e*PKIKP	**PKiKP**	**12 43 54.6**	**+0.3**
VYHS	**Vyhne**	**150.34 342**	*e*PKP	**PKiKP**	**12 43 54.6**	**+0.3**
MDB	**Medias**	**150.34 333**	⇑P	**PKiKP**	**12 43 55.0**	**+0.6**
MDB	**Medias**	**150.34 333**	⇑PKIKP	**PKiKP**	**12 43 55.0**	**+0.6**
QRWL	**Qaraoun**	**150.37 302**	*e*P	**PKPdf**	**12 43 50.3**	**+1.4**
PBCC	**Pribram**	**150.38 349**	*e*PKPDF	**PKPdf**	**12 43 49.6**	**+1.3**
PBCC			⇑*e*PKP	**PKiKP**	**12 43 54.1**	**-0.2**
PBCC			*e*PKPAB	**pPKPdf**	**12 43 57.7**	**-1.4**
MANZ	**Manzenberg**	**150.39 351**	*ep*PKPbc	**PKiKP**	**12 43 54.9**	**+0.5**
KALB	**Balgarevo**	**150.40 325**	⇑P	**PKiKP**	**12 43 55.7**	**+1.2**
BCLA	**Clavier**	**150.43 0**	*dx*	x	12 43 56.2	
BCLA			*dp*PKP	**PKPab**	**12 44 01.2**	**+1.1**
SECR		**150.43 330**	⇑P	**PKiKP**	**12 43 55.3**	**+0.7**
TREC	**Trest**	**150.45 347**	*e*PKIKP	**PKiKP**	**12 43 55.4**	**+0.9**
TREC			*e*		12 43 58.1	
TREC			MLR	MLR		
	comp=Z,1μm,21.1s					
TREC	**Trest**	**150.45 347**	⇑*e*PKP	**PKiKP**	**12 43 55.4**	**+0.9**
TREC			*e*PKPAB	**pPKPdf**	**12 43 58.1**	**-1.1**
TREC			*ex*	x	12 57 37.5	
TREC			AMS	AMS	13 51 20.0	
	comp=Z,1μm,21.1s					
KRUC	**Moravsky**	**150.46 345**	*e*PKP	**PKPdf**	**12 43 48.1**	**-0.3**
KRUC			*e*PKIKP	**PKiKP**	**12 43 54.6**	**+0.1**
BGES	**Gesves**	**150.47 0**	*d*PKP	**PKiKP**	**12 43 56.0**	**+1.6**
BGES			*d*PKPab	**pPKPdf**	**12 43 59.6**	**+0.4**
LEHL	**Lehliu**	**150.48 328**	⇓P	**PKiKP**	**12 43 55.2**	**+0.6**
BHOU	**Houvegnez**	**150.50 359**	*d*PKPdf	**PKPdf**	**12 43 49.7**	**+1.3**
BHOU			*d*PKiKP	**PKiKP**	**12 43 55.1**	**+0.5**
DRGR		**150.50 336**	⇓P	**PKPdf**	**12 43 46.3**	**-2.4**
DRGR		**150.50 336**	⇓PKIKP	**PKPdf**	**12 43 46.3**	**-2.4**
PSZ	**Piszkesteto**	**150.53 340**	⇓P	**PKPbc**	**12 43 54.3**	**+0.2**
PSZ	**Piszkesteto**	**150.53 340**	*e*PKP	**PKiKP**	**12 43 55.2**	**+0.4**
PSZ	**Piszkesteto**	**150.53 340**	⇓PKIKP	**PKPbc**	**12 43 54.3**	**+0.2**
PSZ	**Piszkesteto**	**150.53 340**	PKPdf	**PKPdf**	**12 43 48.3**	**-0.4**
PSZ			PKPbc	**PKiKP**	**12 43 56.0**	**+1.2**
TNS	**Taunus Mts**	**150.53 356**	*ep*PKPbc	**PKiKP**	**12 43 55.1**	**+0.4**
TNS			*e*L	L	13 52 13.0	
	comp=Z,912nm,22.0s					
BMRD	**Maredsous**	**150.54 1**	*d*PKP	**PKPdf**	**12 43 50.8**	**+2.3**
BMRD			*d*PKiKP	**PKiKP**	**12 43 55.2**	**+0.6**
MDUB	**Mudurnu**	**150.59 318**		**PKiKP**	**12 43 55.4**	**+0.2**
ROTZ	**Rotzenmuhle**	**150.59 351**	*ep*PKPbc	**PKiKP**	**12 43 55.3**	**+0.6**
VOIR		**150.60 331**	⇓P	**PKPdf**	**12 43 50.8**	**+1.9**
VOIR		**150.60 331**	⇓PKIKP	**PKPdf**	**12 43 50.8**	**+1.9**
SULR		**150.61 329**	⇑P	**PKPbc**	**12 43 54.4**	**+0.2**
RCHB	**Rochefort**	**150.70 0**	*d*PKPdf	**PKPdf**	**12 43 49.7**	**+1.0**
RCHB			*d*PKiKP	**PKiKP**	**12 43 55.1**	**+0.2**
SMOL	**Smolenice**	**150.71 344**	*e*PKIKP	**PKiKP**	**12 43 56.6**	**+1.6**
SMOL	**Smolenice**	**150.71 344**	*e*PKP	**PKiKP**	**12 43 56.6**	**+1.6**
DOU	**Dourbes**	**150.75 1**	*dx*	x	12 43 55.5	
MMAI	**Mount Meron Ar**	**150.75 301**	PKPbc	**PKiKP**	**12 43 55.6**	**-0.1**
	comp=Z,99nm,0.8s,baz=83,slow=7.3,SNR=65					
MTUR	**Matau**	**150.75 331**	⇓P	**PKPdf**	**12 43 50.0**	**+0.9**
MTUR	**Matau**	**150.75 331**	⇓PKIKP	**PKPdf**	**12 43 50.0**	**+0.9**
GRA1	**Grafenberg Arr**	**150.80 352**		**PKiKP**	**12 43 56.4**	**+1.2**
GRA1			IAMs_20	IAMs_20	13 54 38.8	
	comp=Z,830nm,20.0s					
GRF	**Grafenberg Arr**	**150.80 352**	PKIKP	**PKiKP**	**12 43 56.4**	**+1.2**
GRF	**Grafenberg Arr**	**150.80 352**	*e*L	L	13 55 00.1	
	comp=Z,903nm,21.7s					
GRFO	**Grafenberg**	**150.80 352**	PKIKP	**PKPdf**	**12 43 48.8**	**-0.2**
GRFO					12 43 56.7	
GRFO	**Grafenberg**	**150.80 352**	PKPdf	**PKPdf**	**12 43 48.8**	**-0.2**
GRFO			PKPbc	**PKiKP**	**12 43 56.7**	**+1.5**
GRFO			IAMs_20	IAMs_20	13 54 48.9	
	comp=Z,896nm,21.0s					
ARR	**Arges**	**150.84 332**	⇑P	**PKPdf**	**12 43 50.9**	**+1.7**
MILB	**Miltenberg**	**150.86 355**	*ep*PKPbc	**PKiKP**	**12 43 55.9**	**+0.6**
MODS	**Modra-Piesok**	**150.88 344**	*e*PKIKP	**PKPdf**	**12 43 51.9**	**+2.8**
MODS			*e*		12 43 57.0	
MODS	**Modra-Piesok**	**150.88 344**	*e*PKP	**PKPdf**	**12 43 51.9**	**+2.8**
MODS			*e*		12 43 57.0	
JLP	**Les Platons**	**150.97 10**	*e*P	**PKPbc**	**12 43 55.2**	**+0.2**
JVM	**Valle D.L. Mar**	**150.98 10**	*e*P	**PKPbc**	**12 43 55.1**	**+0.2**
KHC	**Kasperske Hory**	**150.99 349**	*e*PKIKP	**PKPdf**	**12 43 50.8**	**+1.5**
KHC			*e*		12 43 55.9	
KHC			*e*		12 44 04.2	
KHC			*e*		12 47 30.8	
KHC			MLR	MLR		
	comp=Z,2μm,20.9s					
KHC	**Kasperske Hory**	**150.99 349**	*e*PKPDF	**PKPdf**	**12 43 50.8**	**+1.5**
KHC			⇑*e*PKP	**PKiKP**	**12 43 55.9**	**+0.3**
KHC			*e*PKPAB	**sPKPdf**	**12 44 04.2**	**+0.3**
KHC			*e*PP	**PP**	**12 47 30.8**	**-1.1**
KHC			*ex*	x	12 57 41.2	
KHC			AMS	AMS	13 52 00.0	
	comp=Z,2μm,20.9s					
KHC	**Kasperske Hory**	**150.99 349**		**PKPdf**	**12 43 50.2**	**+0.9**
KHC			PKPbc	**PKiKP**	**12 43 56.4**	**+0.8**
KHC			PKPab	**sPKPdf**	**12 44 04.5**	**+0.7**
JSA	**Saint Aubin**	**151.02 10**	*e*P	**PKPbc**	**12 43 55.2**	**+0.2**
JQE	**Queens East**	**151.03 10**	*e*P	**PKPbc**	**12 43 55.2**	**+0.2**
GHAJ	**Ghor Haditha**	**151.07 297**		**PKiKP**	**12 43 56.8**	**+0.5**
GHAJ			IAMs_20	IAMs_20	13 56 50.5	
	comp=Z,692nm,20.0s					
SGRR	**Singureni**	**151.08 329**	⇓P	**PKiKP**	**12 43 56.4**	**+0.5**
WET	**Wettzell**	**151.09 350**	*ep*PKPbc	**PKiKP**	**12 43 56.6**	**+0.8**
WET			*e*L	L	13 56 31.1	
	comp=Z,1μm,21.2s					
SRO	**Srobarova**	**151.10 342**	*e*PKIKP	**PKiKP**	**12 43 57.4**	**+1.6**
SRO	**Srobarova**	**151.10 342**	*e*PKP	**PKiKP**	**12 43 57.4**	**+1.6**
CKRC	**Cesky Krumlov**	**151.15 348**	*e*PKPDF	**PKPdf**	**12 43 52.2**	**+2.7**
CKRC			⇑*e*PKP	**PKiKP**	**12 43 57.3**	**+1.3**
CKRC			*e*PKPAB	**pPKPbc**	**12 44 05.9**	**-0.4**
CKRC			*e*PP	**PP**	**12 47 32.5**	**-0.3**
CKRC			*ex*	x	12 57 51.9	
CKRC			AMS	AMS	13 52 40.0	
	comp=Z,1μm,21.9s					
LOT	**Lotru**	**151.15 333**	⇓P	**PKPbc**	**12 43 55.5**	**-0.2**
DEV	**Deva**	**151.16 334**	⇑P	**PKPbc**	**12 43 54.8**	**-0.7**
DEV	**Deva**	**151.16 334**	⇑PKIKP	**PKPbc**	**12 43 54.8**	**-0.7**
WLF	**Walferdange**	**151.18 359**	*d*PKiKP	**PKiKP**	**12 43 55.9**	**0.0**
WLF			*d*PKP	**PKiKP**	**12 43 57.4**	**+1.4**
WLF	**Walferdange**	**151.18 359**	PKIKP	**PKiKP**	**12 43 57.3**	**+1.4**
WLF	**Walferdange**	**151.18 359**		**PKiKP**	**12 43 57.3**	**+1.4**
WLF	**Walferdange**	**151.18 359**	*ep*PKPbc	**PKiKP**	**12 43 57.2**	**+1.2**
GEC2	**GERESS Array S**	**151.24 349**	PKPdf	**PKPdf**	**12 43 49.5**	**-0.3**
GEC2			PKPbc	**PKiKP**	**12 43 57.4**	**+1.2**
GEC2	**GERESS Array S**	**151.24 349**	*ep*PKPbc	**PKiKP**	**12 43 56.7**	**+0.5**
GEC2			*e*L	L	13 52 27.4	
	comp=Z,1μm,21.8s					
GERES	**GERESS Array B**	**151.24 349**	PKP	**PKPdf**	**12 43 50.6**	**+0.8**
	comp=Z,7.9nm,0.7s,baz=0.0,slow=1.6,SNR=19					
GERES			PKPbc	**PKPbc**	**12 43 56.0**	**+0.2**
	comp=Z,37nm,0.8s,baz=39,slow=1.8,SNR=67					
GERES	**GERESS Array B**	**151.24 349**	PKPdf	**PKPdf**	**12 43 50.4**	**+0.6**
GERES			PKPbc	**PKiKP**	**12 43 56.6**	**+0.3**

ABTA Abfaltersbach 153.47 349 *i* P **PKPdf 12 43 52.4 -0.7**
comp=Z,16nm,1.2s,SNR=11
ABTA *eP* **PKPbc 12 44 00.5 -0.3**
comp=Z,35nm,0.7s
FETA Feichten 153.48 352 *i* P **PKPdf 12 43 52.0 -1.2**
comp=Z,16nm,1.0s,SNR=12
FETA *eP* **PKiKP 12 44 01.8 +0.8**
comp=Z,28nm,0.8s
BOVS Bovan 153.49 333 ⇓P **PKPdf 12 43 53.5 +0.4**
RDO Rodhopi 153.50 324 P **PKPbc 12 44 00.8 -0.1**
ZOU Zoufplan 153.57 348 PKPdf **PKPdf 12 43 52.8 -0.7**
VTS Vitosha 153.60 330 ⇓P **PKPdf 12 43 53.3 -0.3**
VTS Vitosha 153.60 330 ⇓PKIKP **PKPdf 12 43 53.3 -0.3**
VTS Vitosha 153.60 330 PKPdf **PKPdf 12 43 53.2 -0.3**
VTS PKPab **sPKPbc 12 44 15.7 -0.1**
LEGS Legarje 153.63 344 *e*PKPdf **PKPdf 12 43 53.1 -0.2**
LEGS *e*PKPbc **PKiKP 12 44 01.2 +0.1**
LEGS *e*PKPab **PKPab 12 44 13.9 +0.3**
CRES Cresnjev 153.71 344 ⇑*i*P **PKPdf 12 43 53.2 -0.2**
LJU Ljubljana 153.73 346 *e*PKPdf **PKPdf 12 43 53.3 -0.1**
LJU *e*PKPbc **PKPbc 12 44 01.1 -0.2**
LJU *e*PKPab **PKPab 12 44 14.8 +0.7**
CRNS Crni Vrh 153.76 346 *e*PKPdf **PKPdf 12 43 53.3 -0.3**
ROBS Robic 153.77 347 *e*PKPdf **PKPdf 12 43 52.8 -0.6**
DIVS Divibare 153.80 336 ⇑*i*P **PKPdf 12 43 53.4 -0.3**
DIVS Divibare 153.80 336 PKPdf **PKPdf 12 43 53.7 0.0**
DIVS PKPab **sPKPbc 12 44 15.8 -0.4**
DAVOX Davos/Dischmat 153.82 353 PKP **PKPdf 12 43 55.0 +1.2**
comp=Z,7.8nm,0.8s,baz=282,slow=3.9,SNR=8.3
DAVOX PKPbc **PKiKP 12 44 02.8 +1.0**
comp=Z,33nm,0.7s,baz=343,slow=4.4,SNR=18
AKAS Kas 153.89 311 **PKPbc 12 44 01.8 -0.3**
STAL STALIGIAL 153.91 349 **PKPdf 12 43 53.0 -0.7**
SMTH Samothraki Isl 153.97 323 P **PKiKP 12 44 02.9 +0.9**
CEY Cerknica 154.04 346 ⇑*i*P **PKPdf 12 43 53.7 -0.2**
KAVA Kavala 154.16 325 P **PKPdf 12 43 53.6 -0.6**
TUE Stuetta 154.19 354 PKPdf **PKPdf 12 43 54.7 +0.4**
TUE PKPbc **pPKPdf 12 44 04.3 -0.8**
TUE PKPab **sPKPbc 12 44 17.1 +0.1**
BLY Banja Luka 154.21 341 ⇑*i*P **PKPdf 12 43 54.1 0.0**
BBLS Lazići 154.22 336 ⇑*i*P **PKPdf 12 43 54.1 -0.2**
NVR Nevrokopi 154.24 327 P **PKPdf 12 43 52.8 -1.5**
THAS Thassos island 154.32 325 P **PKPdf 12 43 55.1 +0.7**
SENIN Lac Senin/Sane 154.45 357 **PKPbc 12 44 00.6 -2.5**
SENIN IAMs_20 IAMs_20 13 52 51.3
comp=Z,811nm,22.0s
SRS Serrai 154.55 327 P **PKPdf 12 43 52.8 -1.9**
STIP Stip 154.81 330 *i* P **PKiKP 12 44 04.9 +1.1**
SALO Salr 154.89 352 PKPdf **PKPdf 12 43 54.2 -0.9**
SALO PKPab **PKPab 12 44 19.4 +0.4**
VAY Valandovo 154.91 328 *i* P **PKPdf 12 43 55.0 -0.1**
SKO Skopje 154.94 331 *i* P **PKPdf 12 43 55.6 +0.4**
TEOL Teolo 154.96 350 **PKPdf 12 43 55.5 +0.4**
TEOL PKPab **PKPab 12 44 20.2 +0.9**
UPM Unac-Piva 154.97 336 *eP* **PKiKP 12 44 04.9 +0.6**
PLG Polygyros 155.17 326 P **PKPdf 12 43 54.0 -1.7**
HORT Hortiatis 155.19 327 P **PKPdf 12 43 54.8 -0.9**
BRY Bratogost 155.37 336 *eP* PKPdf 12 44 04.4 +8.4
PDG Podgorica 155.50 335 ⇑*i*P **PKPdf 12 43 55.3 -0.6**
PDG Podgorica 155.50 335 **PKPdf 12 43 54.6 -1.4**
PDG PKPab **PKPab 12 44 22.0 +0.3**
PUK Puka 155.56 333 PKPdf **PKPdf 12 43 55.7 -0.4**
PUK PKPab **PKPab 12 44 22.7 +0.6**
TREB Trebinje 155.60 337 *eP* PKPdf 12 44 06.1 +10
STON Ston 155.70 338 ⇑*i*P **PKPdf 12 43 55.0 -1.2**
DRME Dracevica, Mon 155.73 335 ⇑*i*P **PKPdf 12 43 55.5 -0.8**
HCY Herceg Novi 155.78 336 *eP* **PKPdf 12 43 57.3 +0.9**
BNI Bardonecchia 155.78 358 PKIKP **PKPdf 12 43 56.9 +0.4**
BNI Bardonecchia 155.78 358 PKPdf **PKPdf 12 43 56.9 +0.4**
BNI PKPab **PKPab 12 44 24.9 +1.9**
LIT Litokhoron 155.87 327 P **PKPdf 12 43 55.2 -1.4**
LIT Litokhoron 155.87 327 PKIKP **PKPdf 12 43 55.9 -0.7**
LIT 12 44 21.8
LIT Litokhoron 155.87 327 PKPdf **PKPdf 12 43 55.9 -0.7**
LIT PKPab sPKPbc 12 44 21.8 +1.2
FNA Florina 155.90 329 P **PKPdf 12 43 56.5 -0.1**
FNA Florina 155.90 329 PKIKP **PKPdf 12 43 56.6 -0.1**
FNA Florina 155.90 329 **PKPdf 12 43 56.6 0.0**
FNA IAMs_20 IAMs_20 14 08 29.5
comp=Z,842nm,20.0s
OHR Ohrid 155.91 331 *i* P **PKPdf 12 43 58.7 +2.0**
PGAV Gavieira, Arco 155.92 26 *e*PKPdf **PKPdf 12 43 56.6 -0.1**
PGAV Gavieira, Arco 155.92 26 *e*PP PP 12 48 00.8 +0.6
PGAV Gavieira, Arco 155.92 26 *e*LR LR 13 37 30.9
comp=Z,806nm,22.0s
KARP Karpathos 155.94 312 IAMs_20 IAMs_20 14 01 24.7
comp=Z,698nm,21.0s
XOR Xorichti 156.03 324 P **PKPdf 12 43 55.2 -1.6**
ZCCA Zocca 156.06 350 **PKPdf 12 43 56.0 -0.8**
TIR Tirane 156.14 332 PKP2 **PKPab 12 44 23.7 -0.8**
TIR 13 43 57.4
TIR Tirane 156.14 332 PKPdf **PKPdf 12 43 57.4 +0.5**
TIR **PKPab 12 44 23.7 -0.8**
PCAB Cabril 156.23 26 *e*PKPdf **PKPdf 12 43 57.3 +0.3**
PCAB Cabril 156.23 26 *e*PKPab **PKPab 12 44 27.5 +2.6**
PCAB Cabril 156.23 26 *e*PP PP 12 48 05.0 +3.2
MSSA Maissana 156.30 353 PKPab **PKPab 12 44 23.4 -1.7**
KBN Korca 156.30 330 PKP2 **PKPab 12 44 25.0 -0.3**
KBN 13 43 56.9
KBN Korca 156.30 330 PKPdf **PKPdf 12 43 56.9 -0.3**
KBN **PKPab 12 44 25.0 -0.3**
THL Klokotos Trika 156.51 326 P **PKPdf 12 43 56.1 -1.3**
PMOZ Porto Moniz, M 156.56 55 *e*PKPab **PKPab 12 44 26.2 -0.6**
PMOZ Porto Moniz, M 156.56 55 *e*LR LR 13 37 35.6
comp=Z,674nm,24.0s
POLO Lamas de Olo 156.61 26 *e*PKPdf **PKPdf 12 43 57.5 -0.1**
POLO Lamas de Olo 156.61 26 *e*PKPab **PKPab 12 44 27.9 +1.3**
POLO Lamas de Olo 156.61 26 *e*PP PP 12 48 03.8 -0.2
SANT Santorini 156.63 316 IAMs_20 IAMs_20 13 56 06.4
comp=Z,581nm,22.0s
PBRG Braganca 156.65 23 *e*PKPdf **PKPdf 12 43 57.8 +0.2**
PBRG Braganca 156.65 23 *e*PKPab **PKPab 12 44 28.6 +1.9**
PBRG Braganca 156.65 23 *e*PP PP 12 48 04.4 +0.3
AGG Agios Georgios 156.74 325 P **PKPdf 12 43 56.1 -1.7**
AGG Agios Georgios 156.74 325 PKIKP **PKPdf 12 43 56.4 -1.4**
AGG Agios Georgios 156.74 325 PKPdf **PKPdf 12 43 56.4 -1.4**
VLI Villia 156.80 322 P **PKPdf 12 43 55.8 -2.1**
OSSC Osservatorio P 156.82 349 PKPdf **PKPdf 12 43 57.2 -0.5**
OSSC **PKPab 12 44 27.3 0.0**
MURB Monte Urbino 156.82 347 **PKPdf 12 43 57.8 0.0**
MURB PKPab **PKPab 12 44 29.7 +2.3**
MAKR Makrakomi, Fth 156.85 325 P **PKPdf 12 43 56.9 -1.0**
MVO Moncorvo 157.09 25 *e*PKPdf **PKPdf 12 43 59.5 +1.3**
MVO Moncorvo 157.09 25 *e*PKPab **PKPab 12 44 29.9 +1.2**
MVO Moncorvo 157.09 25 *e*PP PP 12 48 07.4 +0.8
MVO Moncorvo 157.09 25 *e*LR LR 13 37 24.5
comp=Z,868nm,22.0s
EVR Evrytania 157.09 326 P **PKPdf 12 43 58.1 -0.2**
NRCA Norcia 157.10 345 **PKPdf 12 43 57.3 -0.9**
NRCA PKPab **PKPab 12 44 29.6 +1.0**
PVIS Viseu 157.12 27 *e*PKPdf **PKPdf 12 43 58.5 +0.3**
PVIS Viseu 157.12 27 *e*PKPab **PKPab 12 44 29.5 +0.7**
PVIS Viseu 157.12 27 *e*PP PP 12 48 08.3 +1.5
ANX Ano Chora 157.27 325 P **PKPdf 12 43 58.6 +0.1**
COI Coimbra 157.31 28 PKP2 **PKPab 12 44 30.7 +1.2**
COI Coimbra 157.31 28 *e*PKPab **PKPab 12 44 30.6 +1.1**
COI Coimbra 157.31 28 *e*PP PP 12 48 07.9 +0.1
COI Coimbra 157.31 28 PKPab **PKPab 12 44 30.7 +1.2**
SERG Sergoula 157.33 324 P **PKPdf 12 43 57.2 -1.3**
TRIZ Trizonia 157.35 324 P **PKPdf 12 43 57.4 -1.1**
PCAS Casmilo, Conde 157.40 29 *e*PKPdf **PKPdf 12 43 59.4 +0.9**
PCAS Casmilo, Conde 157.40 29 *e*PKPab **PKPab 12 44 31.0 +1.1**
PCAS Casmilo, Conde 157.40 29 *e*PP PP 12 48 08.4 +0.1
EFP Efpalio 157.40 325 P **PKPdf 12 43 57.8 -0.8**
AQU L'Aquila 157.48 344 PKP2 **PKPab 12 44 32.3 +2.0**
AQU 13 43 57.2
AQU L'Aquila 157.48 344 PKPdf **PKPdf 12 43 57.1 -1.5**
AQU **PKPab 12 44 32.2 +2.0**
KEK Kerkira 157.49 330 P **PKPdf 12 43 57.3 -1.4**
LAKA Lakka 157.50 324 P **PKPdf 12 43 59.3 +0.5**
MTE Manteigas 157.53 27 *e*PKPdf **PKPdf 12 43 59.6 +0.8**
MTE Manteigas 157.53 27 *e*PKPab **PKPab 12 44 31.9 +1.3**
MTE Manteigas 157.53 27 *e*PP PP 12 48 09.7 +0.6
MTE Manteigas 157.53 27 *e*LR LR 13 37 41.3
comp=Z,775nm,22.0s
MTE Manteigas 157.53 27 PKPdf **PKPdf 12 43 58.3 -0.5**
MTE PKPab **PKPab 12 44 32.1 +1.5**
KLV Kalavryta, Ach 157.54 324 P **PKPdf 12 43 55.4 -3.5**
IDI Anoyia 157.63 314 PKP **PKPdf 12 44 00.2 +1.1**
comp=Z,12nm,0.8s,baz=20,slow=14,SNR=2.4
IDI Anoyia 157.63 314 IAMs_20 IAMs_20 13 56 32.2
comp=Z,535nm,22.0s
INTR Introdacqua 157.67 343 PKPdf **PKPdf 12 43 59.3 +0.4**
INTR PKPab **PKPab 12 44 31.5 +0.4**
PSBE So Bento 157.69 30 *e*PKPdf **PKPdf 12 43 59.9 +0.9**
PSBE So Bento 157.69 30 *e*PKPab **PKPab 12 44 32.0 +0.7**
DRO Drossia 157.85 324 P **PKPdf 12 43 59.0 -0.2**
VLX Vlachokerasia 157.88 322 P **PKPdf 12 43 59.8 +0.4**
PMAFR Mafra 157.90 32 *e*PKPdf **PKPdf 12 44 00.4 +1.2**
VLI Veliai 157.99 320 P **PKPdf 12 43 57.4 -2.0**
MATE Matera 158.00 337 ⇓P **PKPab 12 44 32.7 +0.2**
PCBR Castelo Branco 158.02 27 *e*PKPdf **PKPdf 12 44 00.6 +1.3**
PCBR Castelo Branco 158.02 27 *e*PKPab **PKPab 12 44 34.4 +1.8**
PCBR Castelo Branco 158.02 27 *e*PP PP 12 48 13.0 +1.3
LIS Lisbon 158.15 32 *e*PKPdf **PKPdf 12 43 59.2 -0.3**
LIS Lisbon 158.15 32 *e*PKIKP **PKPdf 12 43 59.1 -0.3**
KTHA Kythira Island 158.22 319 P **PKPdf 12 43 58.8 -0.9**
ITM Ithomi 158.27 322 P **PKPdf 12 43 53.4 -6.3**
ITM Ithomi 158.27 322 PKPab **PKPab 12 44 33.7 -0.2**
PMTG Montargil 158.31 30 *e*PKPdf **PKPdf 12 44 00.1 +0.4**
PMTG Montargil 158.31 30 *e*PKPab **PKPab 12 44 35.0 +1.1**
PMTG Montargil 158.31 30 *e*PP PP 12 48 13.1 -0.3
PMRV Marv??o 158.40 28 *e*PKPdf **PKPdf 12 44 00.7 +0.9**
PMRV Marv??o 158.40 28 *e*PKPab **PKPab 12 44 35.8 +1.5**
PMRV Marv??o 158.40 28 *e*PP PP 12 48 13.5 -0.3
PMRV Marv??o 158.40 28 *e*LR LR 13 40 21.5
comp=Z,902nm,22.0s
PYL PYLOS 158.58 322 P **PKPdf 12 43 58.3 -1.8**
PESTR Estremoz 158.77 29 *e*PKPdf **PKPdf 12 44 02.5 +2.2**
PESTR Estremoz 158.77 29 *e*PKPab **PKPab 12 44 37.0 +1.1**
PESTR Estremoz 158.77 29 *e*PP PP 12 48 16.3 +0.4
PESTR Estremoz 158.77 29 PKPdf **PKPdf 12 43 59.4 -0.9**
PESTR PKPab **PKPab 12 44 36.8 +0.9**
PESTR IAMs_20 IAMs_20 14 03 35.7
comp=Z,593nm,21.0s
PNCL Nicolau / Gran 158.92 32 *e*PKPdf **PKPdf 12 44 01.1 +0.7**
PNCL Nicolau / Gran 158.92 32 *e*PKPab **PKPab 12 44 35.6 -1.0**
PNCL Nicolau / Gran 158.92 32 *e*PP PP 12 48 23.2 +6.4
PTEO Sao Teotonio 159.26 33 *e*PKPdf **PKPdf 12 44 04.6 +3.8**
PTEO Sao Teotonio 159.26 33 *e*PKPab **PKPab 12 44 37.3 -0.8**
MESJ Messejana 159.29 32 *e*PKPdf **PKPdf 12 44 00.4 -0.4**
MESJ *e*PP **PP 12 48 19.4 +0.7**
MESJ IAMs_20 IAMs_20 13 44 31.5
comp=Z,1µm,29.0s
MESJ Messejana 159.29 32 *e*PKIKP **PKPdf 12 44 00.4 -0.4**
MESJ *e* 12 48 19.4
MESJ Messejana 159.29 32 *e*PKPdf **PKPdf 12 44 00.8 -0.1**
MESJ Messejana 159.29 32 *e*PKPab **PKPab 12 44 37.8 -0.4**
MESJ Messejana 159.29 32 *e*PP PP 12 48 15.6 -3.1
PBEJ Beja 159.31 31 *e*PKPdf **PKPdf 12 44 03.0 +2.1**
MORF Marmelete 159.48 34 *e*PKPdf **PKPdf 12 44 00.7 -0.5**
MORF IAMs_20 IAMs_20 13 46 21.0
comp=Z,2µm,30.3s
MORF Marmelete 159.48 34 *e*PKIKP **PKPdf 12 44 00.7 -0.5**
MORF Marmelete 159.48 34 *e*PKPdf **PKPdf 12 44 02.4 +1.2**
MORF Marmelete 159.48 34 *e*PKPab **PKPab 12 44 40.2 +1.1**
PAB San Pablo 159.50 22 PKIKP **PKPdf 12 44 02.4 +1.2**
PAB San Pablo 159.50 22 PKPdf **PKPdf 12 44 02.4 +1.2**
PAB PKPab **PKPab 12 44 41.1 +1.9**
PFVI Vila Bisbo 159.52 34 *e*PKPdf **PKPdf 12 44 00.2 -1.0**
PFVI Vila Bisbo 159.52 34 *e*PKPab **PKPab 12 44 40.4 +1.2**
PFVI Vila Bisbo 159.52 34 PKPdf **PKPdf 12 44 01.5 +0.4**
PFVI PKPab **PKPab 12 44 41.3 +2.1**
ESBB Sonseca Array 159.52 21 PKPdf **PKPdf 12 44 00.9 -0.3**
ESBB PKPab **PKPab 12 44 41.3 +2.1**
ESDC Sonseca Array 159.52 21 PKP **PKPdf 12 44 02.8 +1.6**
comp=Z,9.2nm,1.1s,baz=335,slow=3.0,SNR=32
ESDC PKPab **PKPab 12 44 41.3 +2.1**
comp=Z,16nm,1.0s,baz=321,slow=4.5,SNR=20
ESDC PP **PP 12 48 19.2 -0.5**
comp=Z,0.3nm,0.5s,baz=343,slow=3.8,SNR=3.9
ESDC Sonseca Array 159.52 21 PKPdf **PKPdf 12 44 01.9 +0.8**
ESDC PKPab **PKPab 12 44 41.1 +1.9**
PCVE Castro Verde 159.54 32 *e*PKPdf **PKPdf 12 44 01.3 +0.1**
PCVE Castro Verde 159.54 32 *e*PKPab **PKPab 12 44 40.0 +0.7**
PBAR Barrancos 159.58 29 *e*PKPdf **PKPdf 12 44 01.8 +0.6**
PBAR Barrancos 159.58 29 *e*PKPab **PKPab 12 44 40.3 +0.9**
PVAQ Vaqueiros 159.88 32 *e*PKPdf **PKPdf 12 44 03.0 +1.4**
PVAQ Vaqueiros 159.88 32 *e*PKPab **PKPab 12 44 42.4 +1.6**
PVAQ Vaqueiros 159.88 32 *e*LR LR 13 38 29.8
comp=Z,704nm,22.0s
PVAQ Vaqueiros 159.88 32 **PKPdf 12 44 01.7 +0.2**
PVAQ **PKPab 12 44 41.7 +1.0**
PBDV Barranco-do-Ve 159.90 33 *e*PKPdf **PKPdf 12 44 02.9 +1.3**
VSL Villasalto 161.05 351 PKPdf **PKPdf 12 44 01.9 -0.9**
LIC Lamto 162.31 143 *eP* **PKPdf 12 44 04.5 -0.4**
comp=Z,75nm,0.9s
LIC Lamto 162.31 143 *eP* **PKPab 12 44 52.4 +0.4**
comp=Z,112nm,1.0s
KIC Kosan Boka 162.58 144 *eP* **PKPdf 12 44 05.8 +0.7**
comp=Z,41nm,0.9s
KIC Kosan Boka 162.58 144 *eP* **PKPab 12 44 54.4 +1.2**
comp=Z,49nm,0.9s
TIC Toumodi 162.66 143 *eP* **PKPdf 12 44 06.0 +0.8**
TIC Toumodi 162.66 143 *eP* **PKPab 12 44 54.7 +1.2**
DBIC Dimbokro 162.77 143 PKIKP **PKPdf 12 44 05.4 +0.1**
DBIC 12 44 54.7
DBIC Dimbokro 162.77 143 **PKPdf 12 44 05.4 +0.1**
DBIC PKPab **PKPab 12 44 54.7 +0.8**
ABA Alger-Bouzarea 163.91 7 P **PKPdf 12 44 08.5 +2.8**
CMAH Djebel Manchou 164.13 354 P **PKPdf 12 44 06.7 +0.7**
DFRA Djebel Bou Aff 164.30 359 P **PKPdf 12 44 08.1 +1.9**
CKFL Kef-Lekhel 164.41 356 P **PKPdf 12 44 07.9 +1.5**
ADJB Djebel Djouab 164.59 6 P **PKPdf 12 44 09.4 +2.9**
KEST Kesra 164.73 348 PKP **PKPdf 12 44 07.8 +1.3**
comp=Z,6.3nm,1.0s,baz=165,slow=4.9,SNR=8.0
KEST PKPab **PKPab 12 45 03.0 +0.9**
comp=Z,16nm,0.8s,baz=284,slow=4.7,SNR=8.0
KEST Kesra 164.73 348 **PKPdf 12 44 07.5 +0.9**
KEST PKPab **PKPab 12 45 03.1 +1.1**
ATAF Djebel Tarf 164.94 4 P **PKPdf 12 44 08.7 +1.9**
MDT Midelt 165.04 35 PKP **PKPdf 12 44 09.5 +2.5**
comp=Z,15nm,0.9s,baz=84,slow=2.0,SNR=14
MDT PKPab **PKPab 12 45 05.5 +1.9**
comp=Z,12nm,0.9s,baz=317,slow=3.4,SNR=5.6
KOWA Kowa 169.02 123 PKP **PKPdf 12 44 10.6 +0.3**
comp=Z,9.4nm,0.8s,baz=273,slow=0.7,SNR=19
KOWA PKPab **PKPab 12 45 22.7 +1.1**
comp=Z,13nm,0.8s,baz=236,slow=3.6,SNR=9.7
KOWA Kowa 169.02 123 **PKPdf 12 44 09.9 -0.4**
KOWA PKPab **PKPab 12 45 22.5 +0.9**
TOA0 Torodi Ar. Sit 171.59 154 **PKPdf 12 44 11.2 -0.5**
TOA0 PKPab **PKPab 12 45 34.0 +1.2**
TORD Torodi Ar. Bea 171.59 154 PKP **PKPdf 12 44 10.6 -1.1**
comp=Z,8.0nm,1.0s,baz=314,slow=1.0,SNR=22
TORD PKPab **PKPab 12 45 33.9 +1.1**
comp=Z,19nm,1.0s,baz=218,slow=3.8,SNR=16
TORD PP **PP 12 49 26.3 +3.8**
comp=Z,2.1nm,1.0s,baz=188,slow=4.4,SNR=4.0
TORD Torodi Ar. Bea 171.59 154 **PKPdf 12 44 10.8 -0.9**
TORD PKPab **PKPab 12 45 33.7 +0.9**

*IDC **06** 12:30:44.1±0.9, 21°.07S×174°.60W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.1/42, mbtmp4.3/10 Error ellipse: s-maj=40.9km s-min=19.5km az=150.0*
*NEIC **06** 12:30:48.7±1.2, 20°.7S±0°.1×174°.6W±0°.1, h35km±2km, mb4.9/34, Error ellipse: s-maj=20.5km s-min=15.1km az=145.0*
*NOU **06** 12:30:54.5, 21°.44S×174°.92W, h0km, MLv5.5, Tonga Islands*
ISC 06 12:30:51.1±0.5, **20°.72S**±0°.08×**174°.53W**±0°.09, **h56**km, **n87**, σ2°**04**/83, **mb4.8**/26, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.63**	**70**	Pn	**Pn**	**12 31 55.0**	**-3.4**
AFI	**Afiamalu**	**7.26**	**22**	Pn	**Pn**	**12 32 33.7**	**-0.9**
	19nm,0.3s,baz=180,slow=20,SNR=1.3						
AFI				Sn	**Sn**	**12 33 49.0**	**-6.7**
	37nm,0.3s,baz=280,slow=17,SNR=1.8						
AFI	**Afiamalu**	**7.26**	**22**	Pn	**Pn**	**12 32 31.8**	**-2.9**
MSVF	**Nonsavu**	**7.61**	**292**	Pn	Pn	12 32 45.8	+6.3
	4.2nm,0.3s,baz=122,slow=14,SNR=22						
MSVF	**Nonsavu**	**7.61**	**292**	P	Pn	12 32 46.2	+6.7
MARNC	**Mare, Loyalty**	**16.30**	**264**	Pn	**Pn**	**12 34 34.0**	**-2.3**
MARNC	**Mare, Loyalty**	**16.30**	**264**	P	**P**	**12 34 40.6**	**+2.2**
PINNC	**Pines Island,**	**16.86**	**260**	Pn	**Pn**	**12 34 40.1**	**-3.3**
PINNC				IAmb	IAmb	12 34 49.4	
	comp=Z,48nm,0.9s						
LIFNC	**LIFOU**	**17.05**	**267**	Pn	**Pn**	**12 34 43.4**	**-2.4**
LIFNC				IAmb	IAmb	12 34 50.9	
	comp=Z,85nm,0.7s						
LIFNC	**LIFOU**	**17.05**	**267**	P	**P**	**12 34 48.9**	**+2.1**
YATNC	**Mamie plateau,**	**17.36**	**262**	P	**P**	**12 34 52.3**	**+2.1**
DZM	**Mont Dzumac**	**17.77**	**262**	P	**P**	**12 34 57.2**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=80,slow=18,SNR=11						
DZM	**Mont Dzumac**	**17.77**	**262**	P	**Pn**	**12 34 51.3**	**-3.5**
DZM	**Mont Dzumac**	**17.77**	**262**	P	**P**	**12 34 57.5**	**+2.6**
OUZ	**Omahuta**	**17.83**	**213**	P	**Pn**	**12 34 54.0**	**-1.3**
NOUC	**Port Laguerre**	**17.90**	**262**	P	**Pn**	**12 34 58.7**	**+2.5**
URZ	**Urewera**	**18.92**	**201**	P	**P**	**12 35 05.1**	**-2.1**
	comp=Z,5.0nm,0.3s,baz=90,slow=6.1,SNR=13						
URZ				S	S	12 38 17.3	-22
	comp=Z,1.0nm,0.3s,baz=184,slow=22,SNR=5.9						
URZ	**Urewera**	**18.92**	**201**	P	**P**	**12 35 05.6**	**-1.7**
KOUNC	**Koumac, New Ca**	**19.83**	**267**	P	**Pn**	**12 35 23.4**	**+4.1**
BKZ	**Black Stump Fm**	**19.95**	**201**	P	**P**	**12 35 16.6**	**-1.9**
HIZ	**Hauiti**	**19.97**	**205**	P	**P**	**12 35 17.4**	**-1.2**
OTVZ	**Oturere**	**20.23**	**203**	P	**P**	**12 35 20.0**	**-1.7**
BHHZ	**Black Hill Sta**	**20.38**	**201**	P	**P**	**12 35 21.3**	**-2.0**
KRHZ	**Kereru**	**20.42**	**200**	P	**P**	**12 35 22.0**	**-1.5**
PRHZ	**Porangahau**	**20.90**	**199**	P	**P**	**12 35 29.6**	**+0.9**
DVHZ	**Dannevirke**	**21.08**	**200**	P	**P**	**12 35 30.9**	**+0.3**
BFZ	**Birch Farm**	**21.40**	**200**	P	**P**	**12 35 32.5**	**-1.6**
BFZ				IAmb	IAmb	12 35 50.6	
	comp=Z,84nm,1.4s						
BFZ	**Birch Farm**	**21.40**	**200**	P	**P**	**12 35 32.7**	**-1.4**
HOWZ	**Holdsworth Sta**	**21.83**	**201**	P	P	12 35 24.4	-14
PLWZ	**Palliser**	**22.52**	**200**	P	**P**	**12 35 44.8**	**-1.4**
PLWZ	**Palliser**	**22.52**	**200**	P	**P**	**12 35 44.6**	**-1.6**
TCW	**Tory Channel**	**22.54**	**202**	P	**P**	**12 35 42.9**	**-3.4**
TUWZ	**Tuamarina**	**22.85**	**203**	P	**P**	**12 35 46.4**	**-3.2**
TUWZ	**Tuamarina**	**22.85**	**203**	P	**P**	**12 35 46.1**	**-3.5**
NNZ	**Nelson**	**22.87**	**204**	P	**P**	**12 35 47.1**	**-2.7**
NNZ	**Nelson**	**22.87**	**204**	P	**P**	**12 35 47.1**	**-2.7**
QRZ	**Quartz Range**	**22.87**	**206**	P	**P**	**12 35 48.4**	**-1.4**
QRZ				IAmb	IAmb	12 35 52.3	
	comp=Z,73nm,1.3s						
QRZ	**Quartz Range**	**22.87**	**206**	P	**P**	**12 35 49.4**	**-0.5**
THZ	**Tophouse**	**23.52**	**204**		**P**	**12 35 54.3**	**-1.9**
THZ				IAmb	IAmb	12 36 04.9	
	comp=Z,40nm,1.1s						
THZ	**Tophouse**	**23.52**	**204**	P	**P**	**12 35 54.3**	**-1.9**
KHZ	**Kahutara**	**23.86**	**202**	P	**P**	**12 35 58.5**	**-0.6**
KHZ				IAmb	IAmb	12 36 06.6	
	comp=Z,46nm,1.2s						
LTZ	**Lake Taylor**	**24.64**	**204**	P	**P**	**12 36 06.2**	**-0.2**
OXZ	**Oxford**	**25.19**	**203**	P	**P**	**12 36 10.4**	**-0.9**
OXZ				IAmb	IAmb	12 36 36.9	
	comp=Z,35nm,1.0s						
RPZ	**Rata Peaks**	**25.90**	**204**		**P**	**12 36 17.7**	**-0.1**
RPZ				IAmb	IAmb	12 36 25.1	
	comp=Z,24nm,0.7s						
FOZ	**Fox Glacier**	**26.24**	**206**	P	**P**	**12 36 18.8**	**-2.0**
LBZ	**Lake Benmore**	**26.80**	**205**	P	**P**	**12 36 25.4**	**-0.5**
LBZ				IAmb	IAmb	12 36 48.7	
	comp=Z,37nm,1.3s						
WKZ	**Wanaka**	**27.63**	**206**	P	**P**	**12 36 33.5**	**+0.1**
WHZ	**Wether Hill Ro**	**28.94**	**206**	P	**P**	**12 36 45.0**	**0.0**
ARMA	**Armidale**	**31.92**	**245**	P	**P**	**12 37 09.8**	**-1.9**
ARMA				IAmb	IAmb	12 37 19.4	
	comp=Z,14nm,1.2s						
CTA	**Charters Tower**	**36.70**	**264**	P	**P**	**12 37 51.9**	**-1.1**
	comp=Z,7.1nm,0.6s,baz=90,slow=10,SNR=10.0						
CTAO	**Charters Tower**	**36.70**	**264**	P	**P**	**12 37 51.9**	**-1.1**
CTAO				IAmb	IAmb	12 37 55.2	
	comp=Z,9.1nm,0.7s						
TOO	**Toolangi**	**38.42**	**235**	P	**P**	**12 38 06.0**	**-1.4**
TOO				IAmb	IAmb	12 38 09.0	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**40.63**	**245**	P	**P**	**12 38 24.1**	**-1.8**
	comp=Z,2.6nm,0.5s,baz=93,slow=9.9,SNR=5.2						
STKA	**Stephens Creek**	**40.63**	**245**	P	**P**	**12 38 24.2**	**-1.6**
AS31	**Alice Springs**	**47.63**	**256**	P	**P**	**12 39 20.2**	**-1.8**
ASAR	**Alice Springs**	**47.63**	**256**	P	**P**	**12 39 20.4**	**-1.5**
	comp=Z,8.1nm,0.9s,baz=92,slow=8.4,SNR=13						
ASAR				PcP	**PcP**	**12 40 51.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=101,slow=3.5,SNR=1.1						
WB0	**Warramunga Arr**	**47.77**	**262**	P	**P**	**12 39 21.4**	**-1.6**
WB0				IAmb	IAmb	12 39 24.1	
	comp=Z,8.9nm,0.8s						
WB2	**Warramunga Arr**	**47.78**	**261**	P	**P**	**12 39 21.4**	**-1.7**
WB2				IAmb	IAmb	12 39 32.7	
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**47.78**	**261**	P	**P**	**12 39 21.6**	**-1.5**
WRAB				IAmb	IAmb	12 39 34.8	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**47.79**	**261**	P	**P**	**12 39 21.1**	**-2.1**
	comp=Z,4.1nm,0.9s,baz=91,slow=8.0,SNR=8.3						
WRA				PcP	**PcP**	**12 40 52.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=102,slow=3.2,SNR=1.9						
WRA	**Warramunga Arr**	**47.79**	**261**	P	**P**	**12 39 21.8**	**-1.4**
FORT	**Forrest**	**52.20**	**247**	P	**P**	**12 39 55.8**	**-0.7**
KNRA	**Kununurra**	**53.89**	**265**	P	**P**	**12 40 07.6**	**-1.5**
MORW	**Morawa**	**62.75**	**247**	P	**P**	**12 41 10.2**	**-0.7**
MORW				IAmb	IAmb	12 41 13.5	
	comp=Z,8.2nm,1.1s						
QSPA	**South Pole Qui**	**69.36**	**180**	P	**P**	**12 41 52.7**	**0.0**
QSPA				IAmb	IAmb	12 41 55.9	
	comp=Z,7.6nm,1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09				eS	S	12 40 34.2	+1.3
PB09				IAML		12 40 35.6	
	comp=N,97nm,0.6s						
PB14	**IPOC Station P**	**2.97**	**259**	eP	Pn	12 39 56.0	+0.6
PB14				eS	S	12 40 32.0	-1.1
PB10	**IPOC Station P**	**3.13**	**280**	eP	Pn	12 39 57.4	+0.3
PB10				eS	S	12 40 33.8	-2.4
PB10				IAML		12 40 39.4	
	comp=E,86nm,0.7s						
PB04	**IPOC Station P**	**3.23**	**302**	eP	Pn	12 39 59.2	+0.7
PB04				i S	S	12 40 37.5	-1.2
PB04				eS	S	12 40 37.5	-1.2
PB04				IAML		12 40 39.4	
	comp=N,190nm,0.5s						
PB07	**IPOC Station P**	**3.42**	**313**	eP	Pn	12 40 01.5	+0.7
PB07				eS	S	12 40 41.6	-1.4
PB01	**IPOC Station P**	**3.71**	**325**	eP	Pn	12 40 05.1	+0.8
PB01				eS	S	12 40 47.9	-1.4
PB08	**IPOC Station P**	**4.34**	**335**	eP	Pn	12 40 14.2	+1.6
PB08				eS	S	12 41 03.6	-0.5
GO03	**Copiap**	**4.42**	**218**	eP	Pn	12 40 12.1	-1.3
TA01	**Diego Aracena**	**4.47**	**321**	eP	Pn	12 40 13.8	-0.2
PSGC	**Pisagua**	**5.24**	**328**	eP	Pn	12 40 23.7	-0.3
LPAZ	**La Paz**	**7.82**	**353**	P	Pn	12 40 59.5	+1.2
	comp=N,1.0nm,0.3s,baz=166,slow=7,1,SNR=22						
LPAZ				S	S	12 42 26.2	-0.4
	comp=N,0.2nm,0.3s,baz=324,slow=25,SNR=2.5						
SIV	**San Ignacio**	**9.91**	**37**	P	Pn	12 41 23.3	-1.9
	comp=N,0.8nm,0.3s,baz=222,slow=14,SNR=12						
SIV				S	S	12 43 10.8	-4.9
	comp=N,0.1nm,0.3s,baz=269,slow=19,SNR=1.8						
BDFB	**Brasilia**	**19.89**	**69**	P	P	12 43 24.3	-0.2
	comp=N,0.6nm,0.3s,baz=234,slow=12,SNR=7.8						
TORD	**Torodi Ar. Bea**	**76.77**	**69**	P	P	12 50 41.8	+3.1
	comp=N,0.7nm,0.6s,baz=248,slow=5.4,SNR=1.4						
ASAR	**Alice Springs**	**128.29**	**205**	PKP	PKiKP	12 57 52.6	-0.3
	comp=N,0.5nm,0.8s,baz=143,slow=1.9,SNR=5.2						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	PKiKP	12 57 59.5	+0.1
	comp=N,0.2nm,0.4s,baz=151,slow=1.7,SNR=6.1						
MKAR	**Makanchi Array**	**146.72**	**39**	PKPbc	PKiKP	12 58 28.4	-1.3
	comp=N,0.6nm,0.8s,baz=288,slow=1.4,SNR=3.0						

*IDC **06** 12:41:26.3±1.4, 20.°54S×175.°08W, h0km, mb3.8/4, mb1 4.2/6, mb1mx3.8/36, mbtmp4.0/6, ML4.4/2, Error ellipse: s-maj=55.7km s-min=24.8km az=136.0*
*NEIC **06** 12:41:30.6±1.8, 20.°8S±0.°1×174.°41W±0.°09, h35km±2km, mb4.8/27, Error ellipse: s-maj=23.0km s-min=14.4km az=354.0*
*NOU **06** 12:41:33.6, 20.°72S×174.°08W, h84km, MLv5.3, Tonga Islands*
ISC 06 12:41:30.5±0.8, 20.°61S±0.°09×174.°36W±0.°10, h56km, n45, σ1§29/40, mb4.7/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.44**	**71**	Pn	Pn	12 42 36.2	+0.8
NIUE	**Niue**	**4.44**	**71**	P	Pn	12 42 36.0	+0.6
AFI	**Afiamalu**	**7.11**	**21**	Pn	Pn	12 43 14.5	+2.5
	3.2nm,0.3s,baz=288,slow=20,SNR=1.9						
AFI				Sn	Sn	12 44 27.8	-3.7
	6.0nm,0.3s,baz=96,slow=22,SNR=2.3						
AFI	**Afiamalu**	**7.11**	**21**		Pn	12 43 13.8	+1.8
MSVF	**Nonsavu**	**7.72**	**290**	Pn	Pn	12 43 20.8	+0.3
MSVF	**Nonsavu**	**7.72**	**290**	P	Pn	12 43 27.4	+7.0
DZM	**Mont Dzumac**	**17.94**	**262**	P	P	12 45 35.6	-0.6
OUZ	**Omahuta**	**18.00**	**214**		P	12 45 34.5	-2.2
URZ	**Urewera**	**19.07**	**201**	P	P	12 45 47.9	-0.5
	1.8nm,0.3s,baz=56,slow=7.3,SNR=9.8						
URZ	**Urewera**	**19.07**	**201**	P	P	12 45 48.3	0.0
BKZ	**Black Stump Fm**	**20.10**	**201**	P	P	12 45 60.0	+0.4
BKZ				IAmb	IAmb	12 46 08.3	
	comp=Z,34nm,1.4s						
HIZ	**Hauiti**	**20.13**	**205**	P	P	12 45 59.0	-0.8
BFZ	**Birch Farm**	**21.55**	**200**	P	P	12 46 15.5	+0.3
BFZ				IAmb	IAmb	12 46 41.4	
	comp=Z,22nm,1.1s						
NNZ	**Nelson**	**23.03**	**204**	P	P	12 46 31.3	+0.5
NNZ				IAmb	IAmb	12 46 54.5	
	comp=Z,82nm,1.3s						
QRZ	**Quartz Range**	**23.03**	**206**	P	P	12 46 28.4	-2.6
THZ	**Tophouse**	**23.68**	**204**	P	P	12 46 37.8	+0.7
THZ				IAmb	IAmb	12 47 02.8	
	comp=Z,35nm,1.4s						
KHZ	**Kahutara**	**24.01**	**202**	P	P	12 46 40.7	+0.7
KHZ				IAmb	IAmb	12 47 00.5	
	comp=Z,34nm,1.4s						
LTZ	**Lake Taylor**	**24.80**	**204**	P	P	12 46 48.1	+0.9
LTZ				IAmb	IAmb	12 47 04.5	
	comp=Z,60nm,1.4s						
OXZ	**Oxford**	**25.35**	**204**	P	P	12 46 52.7	+0.5
OXZ				IAmb	IAmb	12 46 57.8	
	comp=Z,24nm,1.1s						
RPZ	**Rata Peaks**	**26.06**	**205**	P	P	12 46 58.9	+0.3
RPZ				IAmb	IAmb	12 47 10.0	
	comp=Z,48nm,1.3s						
FOZ	**Fox Glacier**	**26.40**	**206**	P	P	12 47 02.1	+0.4
LBZ	**Lake Benmore**	**26.96**	**205**	P	P	12 47 07.6	+0.8
LBZ				IAmb	IAmb	12 47 26.8	
	comp=Z,26nm,1.2s						
WKZ	**Wanaka**	**27.79**	**206**	P	P	12 47 14.4	+0.2
MLZ	**Mavora Lakes**	**28.60**	**206**	P	P	12 47 21.7	+0.2
MLZ				IAmb	IAmb	12 47 21.8	
	comp=Z,34nm,1.2s						
STKA	**Stephens Creek**	**40.82**	**245**	P	P	12 49 05.0	-1.7
	comp=Z,1.7nm,0.8s,baz=115,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**40.82**	**245**	P	P	12 49 06.6	-0.2
WR0	**Warramunga Arr**	**47.77**	**261**	P	P	12 50 01.7	-0.8
WR0				IAmb	IAmb	12 50 07.6	
	comp=Z,17nm,1.5s						
AS31	**Alice Springs**	**47.81**	**256**	P	P	12 50 02.7	-0.1
ASAR	**Alice Springs**	**47.81**	**256**	P	P	12 50 01.1	-1.8
	comp=Z,1.6nm,0.8s,baz=93,slow=8.5,SNR=17						
ASAR				PcP	PcP	12 51 32.6	+1.6
	comp=Z,0.6nm,1.0s,baz=98,slow=4.7,SNR=3.5						
ASAR	**Alice Springs**	**47.81**	**256**	P	P	12 50 03.5	+0.7
WB0	**Warramunga Arr**	**47.94**	**262**	P	P	12 50 02.8	-1.1
WB0				IAmb	IAmb	12 50 18.6	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**47.95**	**261**	P	P	12 50 04.0	+0.1
WB2				IAmb	IAmb	12 50 14.1	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**47.95**	**261**	P	P	12 50 04.8	+0.9
WRAB				IAmb	IAmb	12 50 19.8	
	comp=Z,5.9nm,1.2s						
WRA	**Warramunga Arr**	**47.96**	**261**	P	P	12 50 01.6	-2.4
	comp=Z,1.3nm,0.8s,baz=97,slow=7.7,SNR=10						
WRA				PcP	PcP	12 51 33.3	+1.7
	comp=Z,0.2nm,0.4s,baz=101,slow=3.6,SNR=1.5						
WRA	**Warramunga Arr**	**47.96**	**261**	P	P	12 50 04.5	+0.6
FORT	**Forrest**	**52.38**	**247**	P	P	12 50 37.5	+0.2
KNRA	**Kununurra**	**54.05**	**265**	P	P	12 50 49.6	-0.2
KNRA				IAmb	IAmb	12 50 56.3	
	comp=Z,24nm,1.4s						
SOEI	**Soe**	**59.91**	**271**	P	P	12 51 31.8	+0.4
NVAR	**Mina Array Bea**	**78.80**	**42**	P	P	12 53 33.5	+5.8
	comp=Z,0.2nm,0.6s,baz=224,slow=5.9,SNR=2.1						
H03S2	**Juan Fernandez**	**83.10**	**123**	T	T	14 25 57.8	
	baz=248,slow=75,SNR=89						
H03S1	**Juan Fernandez**	**83.11**	**123**	T	T	14 26 08.9	
	baz=248,slow=75,SNR=81						
H03S3	**Juan Fernandez**	**83.12**	**123**	T	T	14 26 07.5	
	baz=248,slow=75,SNR=66						
H03N2	**Juan Fernandez**	**83.23**	**123**	T	T	14 26 02.0	
	baz=253						
H03N3	**Juan Fernandez**	**83.23**	**123**	T	T	14 26 05.7	
	baz=253						
H03N1	**Juan Fernandez**	**83.25**	**123**	T	T	14 26 03.2	
	baz=253						

*THE **06** 12:46:05.2, 38.°36N×20.°41E, h10km, ML2.7/14, Error ellipse: s-maj=1.4km s-min=0.4km az=274.0*
*ATH **06** 12:46:05.1, 38.°36N×20.°41E, h11km±1km, ML2.2/14, Error ellipse: s-maj=1.9km s-min=0.6km az=274.0*
ISC 06 12:46:03.6±0.9, 38.°38N±0.°02×20.°36E±0.°03, h16km±6km, n54, σ0§88/91, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	**Livadi, Kephal**	**0.13**	**155**	P	Pb	12 46 07.9	+0.2
KEF4				S	Sg	12 46 10.2	+0.5
	19μm,0.1s						
KEF4	**Livadi, Kephal**	**0.13**	**155**	P	Pb	12 46 07.9	+0.2
KEF4				S	Sg	12 46 10.0	+0.3
KEF5	**Kardakata, Kep**	**0.13**	**138**	P	Pb	12 46 07.5	-0.2
KEF5				S	Sg	12 46 09.2	-0.6
	21μm,0.1s						
KEF5	**Kardakata, Kep**	**0.13**	**138**	P	Pb	12 46 07.5	-0.2
KEF5				S	Sg	12 46 08.9	-0.9
DMLN	**Damoulianata-K**	**0.14**	**174**	P	Pb	12 46 08.4	+0.6
DMLN				S	Sg	12 46 11.3	+1.3
	3μm,0.3s						
DMLN	**Damoulianata-K**	**0.14**	**174**	P	Pb	12 46 08.4	+0.6
DMLN				S	Sg	12 46 10.6	+0.7
KEF3	**Kipouria, Keph**	**0.17**	**182**	P	Pb	12 46 08.5	+0.1
KEF3				S	Sg	12 46 11.2	+0.4
	6μm,0.2s						
KEF3	**Kipouria, Keph**	**0.17**	**182**	P	Pb	12 46 08.6	+0.1
KEF3				S	Sg	12 46 11.0	+0.2
FSK	**Fiskardo**	**0.18**	**62**	P	Pb	12 46 08.5	-0.1
FSK				S	Sg	12 46 11.1	0.0
	2μm,0.3s						
FSK	**Fiskardo**	**0.18**	**62**	P	Pb	12 46 08.4	-0.1
FSK				S	Sg	12 46 10.9	-0.1
FSK				AML	AML	12 46 11.1	
	comp=N,3194μm,0.2s						
FSK				AML	AML	12 46 11.4	
	comp=E,4373μm,0.3s						
ARGA	**Argostoli. Kep**	**0.22**	**154**	P	Pb	12 46 10.1	+0.8
ARGA				S	Sb	12 46 13.0	0.0
ARG2	**Argostoli**	**0.22**	**152**	P	Pb	12 46 09.2	-0.1
ARG2				S	Sg	12 46 12.5	+0.5
	comp=E,8μm,0.2s						
VLS	**Valsamata**	**0.27**	**137**	P	Pb	12 46 09.6	-0.5
VLS				S	Sg	12 46 13.1	-0.4
	comp=E,4μm,0.1s						
VLS	**Valsamata**	**0.27**	**137**	P	Pb	12 46 09.6	-0.5
VLS				S	Sg	12 46 13.1	-0.4
VLS				AML	AML	12 46 13.2	
	comp=E,7612μm,0.1s						
VLS				AML	AML	12 46 13.2	
	comp=N,6020μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.32**	**145**	P	Pb	12 46 10.6	-0.3
PSDA				S	Sg	12 46 15.1	+0.3
	comp=N,265nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.32**	**145**	P	Pb	12 46 10.6	-0.3
PSDA				S	Sg	12 46 14.4	-0.4
EVGI	**Lefkada island**	**0.34**	**44**	P	Pb	12 46 11.5	+0.2
EVGI				S	Sb	12 46 16.9	+0.4
	comp=N,1μm,0.2s						
EVGI	**Lefkada island**	**0.34**	**44**	P	Pb	12 46 11.5	+0.2
EVGI				S	Sb	12 46 16.5	0.0
DRAG	**Dragano-Lefkad**	**0.35**	**29**	P	Pb	12 46 12.1	+0.5
DRAG				S	Sb	12 46 18.1	+1.2
	comp=N,1μm,0.2s						
DRAG	**Dragano-Lefkad**	**0.35**	**29**	P	Pb	12 46 11.9	+0.3
DRAG				S	Sb	12 46 17.3	+0.4
NYDR	**Nydri-Lefkada**	**0.43**	**38**	P	Pb	12 46 13.1	+0.2
NYDR				S	Sb	12 46 19.9	+0.8
	comp=N,250nm,0.5s						
NYDR	**Nydri-Lefkada**	**0.43**	**38**	P	Pb	12 46 12.8	0.0
NYDR				S	Sg	12 46 18.7	+0.5
LKD2	**Lefkada island**	**0.48**	**30**	P	Pb	12 46 14.1	+0.4
LKD2	**Lefkada island**	**0.48**	**30**	P	Pb	12 46 14.0	+0.3
LKD2				S	Sb	12 46 21.5	+1.1
LKD2				AML	AML	12 46 30.6	
	comp=E,319μm,0.3s						
LKD2				AML	AML	12 46 30.8	
	comp=N,252μm,0.4s						
TSLK	**Tsoukalades, L**	**0.51**	**27**	P	Pn	12 46 14.8	-1.4
TSLK	**Tsoukalades, L**	**0.51**	**27**	P	Pb	12 46 14.6	+0.4
TSLK				S	Sb	12 46 22.6	+1.3
TSLK				AML	AML	12 46 32.6	
	comp=N,357μm,0.6s						
TSLK				AML	AML	12 46 33.1	
	comp=E,289μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.55**	**154**	P	Pb	12 46 14.9	0.0
VLMS				S	Sb	12 46 23.5	+0.9
	comp=E,1μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.55**	**154**	P	Pb	12 46 14.7	-0.2
VLMS				S	Sb	12 46 23.3	+0.7
VLMS				AML	AML	12 46 25.1	
	comp=N,3614μm,0.2s						
VLMS				AML	AML	12 46 25.3	
	comp=E,1804μm,0.1s						
LTHK	**Lithakia**	**0.77**	**150**	P	Pb	12 46 18.5	0.0
LTHK				S	Sb	12 46 30.0	+1.3
	comp=E,675nm,0.2s						
LTHK	**Lithakia**	**0.77**	**150**	P	Pb	12 46 18.1	-0.4
LTHK				S	Sb	12 46 29.8	+1.1
LTHK				AML	AML	12 46 30.9	
	comp=E,1124μm,0.2s						
LTHK				AML	AML	12 46 30.9	
	comp=N,1568μm,0.3s						
RLS	**Riolos of Patr**	**0.93**	**110**	P	Pb	12 46 21.8	+0.5
RLS	**Riolos of Patr**	**0.93**	**110**	P	Pg	12 46 21.1	-0.5
RLS				S	Sg	12 46 34.6	+0.8
RLS				AML	AML	12 46 39.9	
	comp=N,175μm,0.5s						
RLS				AML	AML	12 46 43.0	
	comp=E,178μm,0.5s						
PVO	**Paravola**	**0.95**	**75**	P	Pn	12 46 22.3	0.0
PVO	**Paravola**	**0.95**	**75**	P	Pb	12 46 22.1	+0.4
PVO				AML	AML	12 46 38.2	
	comp=E,411μm,0.3s						
PVO				AML	AML	12 46 41.6	
	comp=N,314μm,0.3s						
DRO	**Drossia**	**1.15**	**111**	P	Pg	12 46 25.6	-0.2
DRO	**Drossia**	**1.15**	**111**	P	Pg	12 46 25.5	-0.3
DRO				S	Sb	12 46 41.1	+1.3
DRO				AML	AML	12 46 48.1	
	comp=N,388μm,0.4s						
DRO				AML	AML	12 46 48.2	
	comp=E,203μm,0.4s						
IGT	**Igoumenitsa**	**1.16**	**359**	P	Pn	12 46 25.3	+0.1
IGT				AML	AML	12 46 50.3	
	comp=E,64μm,0.3s						
IGT				AML	AML	12 46 50.7	
	comp=N,75μm,0.2s						
EFP	**Efpalio**	**1.22**	**87**	P	Pn	12 46 26.3	+0.3
EFP				S	Sg	12 46 45.4	+2.4
	comp=N,105nm,0.5s						
EFP	**Efpalio**	**1.22**	**87**	P	Pn	12 46 26.0	0.0
EFP				AML	AML	12 46 49.1	
	comp=E,229μm,0.6s						
EFP				AML	AML	12 46 50.1	
	comp=N,175μm,0.4s						
ANX	**Ano Chora**	**1.25**	**79**	P	Pb	12 46 27.2	+0.4
ANX	**Ano Chora**	**1.25**	**79**	P	Pn	12 46 26.8	+0.3
ANX				AML	AML	12 46 51.4	
	comp=E,300μm,0.8s						
ANX				AML	AML	12 46 55.0	
	comp=N,248μm,0.6s						
LAKA	**Lakka**	**1.28**	**96**	P	Pg	12 46 28.7	+0.4
LAKA				S	Sb	12 46 44.7	+1.0
SERG	**Sergoula**	**1.34**	**88**	P	Pb	12 46 28.2	-0.1
SERG	**Sergoula**	**1.34**	**88**	P	Pn	12 46 28.0	+0.4
SERG				AML	AML	12 46 54.3	
	comp=E,168μm,0.3s						
SERG				AML	AML	12 46 56.6	
	comp=N,146μm,0.4s						
TRIZ	**Trizonia**	**1.35**	**90**	P	Pn	12 46 28.3	+0.5
TRIZ	**Trizonia**	**1.35**	**90**	P	Pn	12 46 28.1	+0.3
TRIZ				S	Sb	12 46 47.4	+1.8
KLV	**Kalavryta, Ach**	**1.45**	**103**	P	Pb	12 46 30.2	-0.1
KLV	**Kalavryta, Ach**	**1.45**	**103**	P	Pn	12 46 30.0	+0.7
KLV				AML	AML	12 46 52.7	
	comp=E,98μm,0.3s						
KLV				AML	AML	12 46 53.4	
	comp=N,98μm,0.4s						
AGG	**Agios Georgios**	**1.67**	**67**	P	Pg	12 46 35.0	-0.8
ITM	**Ithomi**	**1.72**	**133**	P	Pg	12 46 35.7	-1.1
LSTV	**Lastovo**	**5.12**	**330**	ePn	Pn	12 47 21.0	+1.4
LSTV				Sn	Sn	12 48 16.5	-1.8
ZIRJ	**Zirje**	**6.37**	**327**	ePn	Pn	12 47 37.8	+1.1
ZIRJ				Sn	Sn	12 48 46.3	-2.7
MORI	**Morici**	**6.51**	**329**	ePn	Pn	12 47 40.6	+1.9
MORI				Sn	Sn	12 48 50.5	-2.1
DUGI	**Dugi Otok**	**6.89**	**326**	i Pn	Pn	12 47 45.5	+1.6
DUGI				Sn	Sn	12 48 59.4	-2.5

*TAP **06** 12:49:51.2, 25.°11N×122.°70E, h188km, ML3.1, C*
*JMA **06** 12:49:53.2±0.4, 25.°06N×122.°55E, h175km±4km, M2.4*
ISC 06 12:49:54.0±2.4, 25.°02N±0.°09×122.°58E±0.°04, h173km±15km, n43, σ0§53/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.54**	**269**	eP	Pn	12 50 17.3	-0.8
	baz=253						
YOJ	**Yonaguni jima**	**0.68**	**145**	P	Pn	12 50 18.7	-0.2
YOJ	**Yonaguni jima**	**0.68**	**145**	eP	Pn	12 50 18.4	-0.5
	baz=159						
TIPB	**Shuangxi**	**0.69**	**266**	i P	Pn	12 50 18.3	-0.7
	baz=250						
TIPB				S	Sn	12 50 38.4	+0.3
	baz=250						
WFSB	**Wu-fen Shan**	**0.73**	**274**	eP	Pn	12 50 19.0	-0.1
	baz=263						
PCYT	**Pengchaiyu**	**0.76**	**323**	eP	Pn	12 50 19.9	+0.5
	baz=304						
TWC	**Suao**	**0.78**	**239**	P	Pn	12 50 18.9	-0.6
	baz=234						
TWC				S	Sn	12 50 38.8	-0.2
	baz=234						
NDS	**Dongshan**	**0.88**	**244**	eP	Pn	12 50 20.1	0.0
	baz=239						
NDS				eS	Sn	12 50 40.8	+0.7
	baz=239						
TWE	**Neicheng**	**0.88**	**250**	P	Pn	12 50 20.0	-0.1
	baz=254						
TWE				eS	Sn	12 50 40.2	0.0
	baz=254						
YM01	**YM01**	**0.93**	**278**	eP	Pn	12 50 19.5	-1.0
	baz=264						
EWUT	**Wuta**	**0.93**	**232**	eP	Pn	12 50 20.3	-0.2
	baz=232						
EWUT				S	Sn	12 50 41.4	+0.6
	baz=232						
ENTT	**Nioudou**	**1.00**	**248**	i P	Pn	12 50 20.9	-0.1
	baz=248						
ENTT				S	Sn	12 50 42.6	+0.8
	baz=248						
NWLT	**Wulai**	**1.01**	**256**	eP	Pn	12 50 20.8	-0.3
	baz=257						
NWLT				S	Sn	12 50 42.0	0.0
	baz=257						
NDT	**Datong Townshi**	**1.06**	**247**	eP	Pn	12 50 20.9	-0.6
	baz=251						
NDT				eS	Sn	12 50 43.1	+0.6
	baz=251						
YHNB	**Yeheng**	**1.15**	**253**	P	Pn	12 50 21.5	-0.8
	baz=246						
YHNB				S	Sn	12 50 43.9	-0.2
	baz=246						
ETL	**Fush Village**	**1.22**	**226**	eP	Pn	12 50 22.9	0.0
	baz=225						
ETL				S	Sn	12 50 46.0	+0.8
	baz=225						
NACB	**Ninganchiao**	**1.23**	**227**	P	Pn	12 50 22.5	-0.5
	baz=225						
NACB				S	Sn	12 50 45.2	0.0
	baz=225						
NNS	**Nan Shan**	**1.24**	**242**	eP	Pn	12 50 23.1	0.0
	baz=248						
NNS				S	Sn	12 50 46.4	+0.9
	baz=248						
IRIF	**Iriomote-Funau**	**1.25**	**123**	P	Pn	12 50 23.3	+0.3
IRIF				eS	Sn	12 50 45.8	+0.4
ETLH	**Xiulin Townshi**	**1.29**	**231**	eP	Pn	12 50 23.3	-0.2
	baz=240						
ETLH				S	Sn	12 50 46.6	+0.4
	baz=240						
TWD	**Chiawan**	**1.30**	**224**	eP	Pn	12 50 23.8	+0.3
	baz=226						
FUSS	**Fushou**	**1.44**	**238**	eP	Pn	12 50 24.7	-0.4
	baz=238						
FUSS				S	Sn	12 50 49.5	+0.5
	baz=238						
ETM	**Tongmen**	**1.44**	**224**	P	Pn	12 50 24.3	-0.6
	baz=225						
ETM				S	Sn	12 50 48.3	-0.3
	baz=225						
WHF	**Hehuan Shan**	**1.48**	**234**	eP	Pn	12 50 25.8	+0.1
	baz=235						
WHF				eS	Sn	12 50 50.5	+0.4
	baz=235						
NSTT	**Nanjuang**	**1.49**	**255**	eP	Pn	12 50 25.3	+0.1
	baz=249						
NSTT				S	Sn	12 50 48.9	-0.5
	baz=249						
JKRS	**Kuro-shima**	**1.52**	**121**	P	Pn	12 50 26.0	+0.5
JKRS				S	Sn	12 50 50.7	+0.9
JIJ	**Ishigaki jima**	**1.56**	**114**	P	Pn	12 50 25.4	-0.6
JIJ				S	Sn	12 50 50.1	-0.6
ESL	**Shilin**	**1.59**	**221**	eP	Pn	12 50 26.7	+0.4
	baz=228						
ESL				S	Sn	12 50 51.0	-0.3
	baz=228						
CHGB	**Renai**	**1.60**	**234**	eP	Pn	12 50 27.0	+0.4
	baz=238						
CHGB				S	Sn	12 50 52.5	+0.7
	baz=238						
JISG	**Ishigakijimahi**	**1.63**	**105**	P	Pn	12 50 27.0	+0.3
JISG				S	Sn	12 50 51.5	-0.4
WHP	**Taichung City**	**1.66**	**244**	eP	Pn	12 50 26.8	-0.3
	baz=249						
WHP				eS	Sn	12 50 52.1	-0.5
	baz=249						
OWD	**Renai**	**1.66**	**231**	eP	Pn	12 50 27.3	+0.1
	baz=229						
OWD				i S	Sn	12 50 53.7	+1.0
	baz=229						
TWQ1	**Liyutan**	**1.77**	**248**	eP	Pn	12 50 28.2	0.0
	baz=241						
TWQ1				eS	Sn	12 50 54.4	-0.2
	baz=241						
WCS	**Beigang Elemen**	**1.80**	**238**	P	Pn	12 50 28.0	-0.4
	baz=238						
WCS				S	Sn	12 50 55.5	+0.5
	baz=238						
EHY	**Hungye**	**1.90**	**218**	eP	Pn	12 50 29.6	+0.1
	baz=219						
EHY				eS	Sn	12 50 56.1	-0.8
	baz=219						
TYC	**Yuchr**	**1.92**	**235**	eP	Pn	12 50 29.6	-0.1
	baz=236						
TYC				S	Sn	12 50 58.2	+0.8
	baz=236						
SSLB	**Suanglung**	**1.93**	**231**	eP	Pn	12 50 30.1	+0.2
	baz=241						
SSLB				eS	Sn	12 50 57.9	+0.4
	baz=241						
JTJ	**Tarama**	**1.96**	**101**	P	Pn	12 50 30.2	0.0
JTJ				S	Sn	12 50 57.8	-0.3
YULB	**Yu-li**	**2.00**	**216**	eP	Pn	12 50 29.7	-1.0
	baz=218						
YULB				eS	Sn	12 50 57.6	-1.4
	baz=218						
EYUL	**Yuli**	**2.02**	**215**	eP	Pn	12 50 31.1	+0.2
	baz=223						
CHN5	**Tsauling**	**2.24**	**231**	eP	Pn	12 50 33.2	-0.2
	baz=232						
CHN5				eS	Sn	12 51 05.0	+1.1
	baz=232						
CHN4	**Tsaushan**	**2.46**	**228**	eP	Pn	12 50 35.6	-0.3
	baz=229			

KEPZ				IAML		12 52 39.0	
	comp=N,54nm,0.9s						
AKUM	**Antalya-Kumluc**	**0.89**	**289**	*i* P	**Pn**	**12 52 23.1**	**-0.4**
AKUM				*i* S	**Sn**	**12 52 36.0**	**+0.6**
AKUM				IAML		12 52 39.0	
	comp=E,101nm,0.3s						
AKUM				IAML		12 52 42.0	
	comp=N,91nm,0.5s						
AKMS	**Akamas**	**1.28**	**142**	P	**Pn**	**12 52 28.8**	**0.0**
AKMS				S	**Sb**	**12 52 47.3**	**+0.9**
AKMS				AML	AML	12 52 56.2	
	comp=N,0.4nm,0.4s						
AKMS				AML	AML	12 52 56.2	
	comp=N,0.4nm,0.4s						
AKMS				AML	AML	12 52 57.9	
	comp=N,0.3nm,0.4s						
AKMS				AML	AML	12 52 57.9	
	comp=N,0.3nm,0.4s						
ALFC	**Alefka**	**1.32**	**131**	P	**Pn**	**12 52 29.6**	**+0.1**
ALFC				S	**Sn**	**12 52 46.4**	**+0.2**
ALFC				AML	AML	12 52 51.4	
	comp=N,0.5nm,0.2s						
ALFC				AML	AML	12 52 51.4	
	comp=N,0.5nm,0.2s						
ALFC				AML	AML	12 52 56.6	
	comp=N,0.5nm,0.3s						
ALFC				AML	AML	12 52 56.6	
	comp=N,0.5nm,0.3s						
ERMK	**Ermenek**	**1.37**	**63**	*i* P	**Pb**	**12 52 33.0**	**+0.9**
ERMK				IAML		12 52 56.0	
	comp=E,35nm,0.3s						
ERMK				IAML		12 53 01.0	
	comp=N,40nm,0.3s						
ELL	**Elmali**	**1.39**	**301**	PN	**Pb**	**12 52 33.1**	**+0.8**
TEKE	**Tekeli-Mersin**	**1.41**	**85**	PN	**Pb**	**12 52 32.4**	**-0.1**
TEKE				SN	**Sb**	**12 52 51.9**	**+1.9**
SEDI	**Konya, Seydise**	**1.44**	**12**	*i* P	**Pb**	**12 52 32.6**	**-0.7**
SEDI				*i* S	**Sb**	**12 52 51.0**	**-0.2**
SEDI				IAML		12 52 53.0	
	comp=N,30nm,0.4s						
SEDI				IAML		12 52 54.0	
	comp=E,21nm,0.4s						
AKAS	**Kas**	**1.45**	**278**	PN	**Pb**	**12 52 33.1**	**-0.3**
KSL	**Kastellorizon**	**1.46**	**275**	S	**Sn**	**12 52 48.1**	**-1.5**
BERE	**Bereket-Mersin**	**1.52**	**78**	PN	**Pb**	**12 52 34.4**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.71**	**76**	PN	**Pb**	**12 52 37.2**	**-0.5**
KKBE	**Karaman, Kazim**	**1.72**	**46**	*i* P	**Pb**	**12 52 38.4**	**+0.5**
KKBE				*i* S	**Sb**	**12 53 00.9**	**+1.7**
KKBE				IAML		12 53 04.0	
	comp=N,54nm,0.7s						
KKBE				IAML		12 53 05.0	
	comp=E,39nm,0.6s						
GULN	**MERSIN_Gulnar**	**1.75**	**85**	*i* P	**Pb**	**12 52 37.4**	**-1.0**
GULN				*i* S	**Sb**	**12 52 59.5**	**-0.5**
GULN				IAML		12 53 02.0	
	comp=N,28nm,0.5s						
GULN				IAML		12 53 02.0	
	comp=E,26nm,0.6s						
AKKU	**Akkuyu-Mersin**	**1.76**	**85**	PN	**Pb**	**12 52 37.4**	**-1.1**
TISA	**Tisan-Mersin**	**1.86**	**85**	PN	**Pb**	**12 52 38.9**	**-1.3**
IKL	**Isikli**	**1.87**	**83**	PN	**Pb**	**12 52 39.5**	**-0.9**
CSS	**Mathiatis**	**1.92**	**123**	S	**Sn**	**12 53 01.6**	**+0.8**
KEBE	**Keben-Mersin**	**1.93**	**77**	PN	**Pb**	**12 52 40.4**	**-1.0**
ASGA	**Asgata**	**1.97**	**129**	P	**Pn**	**12 52 39.0**	**+0.6**
ASGA				S	**Sn**	**12 53 02.7**	**+0.7**
KONT	**Konya--Tatoy**	**2.06**	**22**	*i* P	**Pb**	**12 52 42.8**	**-0.8**
KONT	**Konya--Tatoy**	**2.06**	**22**	PN	**Pb**	**12 52 43.4**	**-0.2**
MVOU	**Mavrovouni**	**2.10**	**118**	P	**Pn**	**12 52 39.5**	**-0.6**
MVOU				S	**Sn**	**12 53 05.7**	**+0.5**
YVAC	**Isparta, Yalva**	**2.23**	**357**	*i* P	**Pn**	**12 52 42.8**	**+0.8**
YVAC				*i* S	**Sn**	**12 53 09.0**	**+0.2**
YVAC				IAML		12 53 11.0	
	comp=E,10nm,0.5s						
KIZK	**Mersin**	**2.27**	**78**	PN	**Pb**	**12 52 45.3**	**-2.0**
KERG	**Konya-Eregli**	**2.59**	**57**	*i* P	**Pb**	**12 52 49.9**	**-2.9**
KERG				*i* S	**Sb**	**12 53 21.6**	**-2.7**
KERG				IAML		12 53 27.0	
	comp=E,11nm,0.4s						
KERG				IAML		12 53 33.0	
	comp=N,6.1nm,0.3s						

*TRN **06** 12:55:06.4, 18°.74N×64°.64W, h51km, M3.1(RSPR)*
*NEIC **06** 12:55:08.5±1.4, 18°.80N±0°.05×64°.68W±0°.03, h33km±10km, Error ellipse: s-maj=7.2km s-min=2.7km az=160.0*
*RSPR **06** 12:55:08.9, 18°.82N×64°.67W, h37km±6km, MD3.1/5*
ISC 06 12:55:08.8±1.6, 18°.8N±0°.1×64°.68W±0°.04, h42km, n28, σ0°55/35, 9C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.33**	**94**	Pn	**Pn**	**12 55 17.5**	**0.0**
TBVI	**Tortola**	**0.34**	**169**	⇑*e*P	**Pn**	**12 55 17.1**	**-0.5**
TBVI	**Tortola**	**0.34**	**169**	⇑*e*P	**Pn**	**12 55 17.1**	**-0.5**
TBVI				*e*S	**Sn**	**12 55 24.1**	**+0.3**
TBVI	**Tortola**	**0.34**	**169**		**Pn**	**12 55 17.1**	**-0.5**
TBVI					**Sn**	**12 55 24.1**	**+0.3**
VGBI	**Virgin Gorda,**	**0.37**	**134**	⇑*e*P	**Pn**	**12 55 17.6**	**-0.5**
VGBI	**Virgin Gorda,**	**0.37**	**134**	*e*S	**Sn**	**12 55 24.0**	**-0.5**
VGBI	**Virgin Gorda,**	**0.37**	**134**		**Pn**	**12 55 17.6**	**-0.5**
VGBI					**Sn**	**12 55 24.0**	**-0.5**
STVI	**Saint Thomas**	**0.47**	**213**	⇑*e*P	**Pn**	**12 55 19.0**	**-0.3**
STVI	**Saint Thomas**	**0.47**	**213**	⇑*e*P	**Pn**	**12 55 19.0**	**-0.3**
STVI				*e*S	**Sn**	**12 55 27.1**	**+0.5**
STVI	**Saint Thomas**	**0.47**	**213**		**Pn**	**12 55 19.0**	**-0.3**
STVI					**Sn**	**12 55 27.1**	**+0.5**
STVI	**Saint Thomas**	**0.47**	**213**	IAML		12 55 27.3	
	comp=E,71nm,0.3s						
STVI				IAML		12 55 27.7	
	comp=N,125nm,0.2s						
CUPR	**Culebra, Puert**	**0.72**	**232**	Pn	**Pn**	**12 55 22.1**	**-0.4**
MTP	**Monte Pirata**	**1.05**	**232**	⇑*e*P	**Pn**	**12 55 26.7**	**-0.3**
MTP	**Monte Pirata**	**1.05**	**232**	⇑*e*P	**Pn**	**12 55 26.7**	**-0.3**
MTP				*e*S	**Sn**	**12 55 40.6**	**+0.1**
MTP	**Monte Pirata**	**1.05**	**232**		**Pn**	**12 55 26.7**	**-0.3**
MTP					**Sn**	**12 55 40.6**	**+0.1**
MTP	**Monte Pirata**	**1.05**	**232**	IAML		12 55 41.3	
	comp=N,86nm,0.2s						
MTP				IAML		12 55 43.1	
	comp=E,102nm,0.2s						
CBYP	**Canovanas**	**1.21**	**247**	⇑*e*P	**Pn**	**12 55 29.0**	**-0.3**
CBYP	**Canovanas**	**1.21**	**247**	⇑*e*P	**Pn**	**12 55 29.0**	**-0.3**
CBYP				*e*S	**Sn**	**12 55 44.1**	**-0.5**
CBYP	**Canovanas**	**1.21**	**247**		**Pn**	**12 55 29.0**	**-0.3**
CBYP					**Sn**	**12 55 44.1**	**-0.5**
HUMP	**Col San Antoni**	**1.26**	**241**	Pn	**Pn**	**12 55 30.1**	**+0.2**
HUMP				IAML		12 55 46.9	
	comp=N,58nm,0.2s						
HUMP				IAML		12 55 50.0	
	comp=E,35nm,0.2s						
GCPR	**Guaynabo City**	**1.40**	**252**	Pn	**Pn**	**12 55 31.9**	**+0.1**
GCPR				IAML		12 55 45.8	
	comp=N,26nm,4.5s						
GCPR				IAML		12 55 49.5	
	comp=E,20nm,0.3s						
PDPR	**Patillas Dam,**	**1.47**	**240**	Pn	**Pn**	**12 55 33.6**	**+0.9**
PDPR				IAML		12 55 56.3	
	comp=E,54nm,2.4s						
IGPR	**InterUniversit**	**1.56**	**240**	Pn	**Pn**	**12 55 35.1**	**+1.1**
IGPR				IAML		12 55 57.5	
	comp=E,53nm,0.2s						
ILAM	**Ilet Lapin Mar**	**5.38**	**137**	Pn	**Pn**	**12 56 27.5**	**+1.0**
GRGR	**Grenville**	**7.20**	**156**	Pn	**Pn**	**12 56 51.0**	**-0.6**
BBGH	**Gun Hill**	**7.44**	**138**	Pn	**Pn**	**12 56 55.6**	**+0.7**
JAKH	**Jacmel**	**7.45**	**267**	Pn	**Pn**	**12 56 56.1**	**+1.1**
GTBY	**Guantanamo Bay**	**9.91**	**278**	Pn	**Pn**	**12 57 27.7**	**-1.0**

IDC 06 12:57:45.6±595.0, 55°.19N×40°.60E, h0km, Error ellipse: s-maj=199.0km s-min=43.8km az=138.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**2.44**	**310**	*i*		13 13 10.0	
	baz=126,slow=321,SNR=1.1						
I37NO	**I37NO**	**17.14**	**333**	*i*		14 47 00.0	
	baz=134,slow=321,SNR=1.3						
I26DE	**FREYUNG INFRAS**	**17.65**	**260**	*i*		14 47 20.0	
	baz=63,slow=323,SNR=0.6						

*BJI **06** 12:58:10.4±0.0, 37°.17N×78°.44E, h10km, ML3.9/4*

*IDC **06** 12:58:13.9±2.0, 37°.48N×77°.97E, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.6/67, mbtmp3.9/9, ML3.6/5, Error ellipse: s-maj=31.4km s-min=26.4km az=136.0*
*NNC **06** 12:58:18.8±3.2, 37°.81N×77°.81E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=25.2km s-min=20.2km az=150.0*
*MOS **06** 12:58:19.0±0.8, 37°.67N×77°.90E, h45km, mb4.1/4, Error ellipse: s-maj=15.2km s-min=6.3km az=89.8*
*NEIC **06** 12:58:20.5±1.6, 37°.63N±0°.09×78°.0E±0°.1, h44km±9km, mb4.2/6, Error ellipse: s-maj=14.3km s-min=10.8km az=129.0*
ISC 06 12:58:17.8±0.8, 37°.58N±0°.06×78°.01E±0°.06, h17km, n73, σ1°76/72, mb3.9/10, 6C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.51**	**321**	Pn	**Pn**	**12 58 58.8**	**+0.8**
KSH				Sn	**Sn**	**12 59 28.1**	**-0.1**
KSH				smax	smax		
	comp=N,360nm,0.4s						
KSH				smax	smax		
	comp=E,470nm,0.5s						
TARG	**Taragay, Kyrgy**	**4.15**	**358**		**Pn**	**12 59 23.0**	**+2.2**
KDJ	**Kajisay**	**4.59**	**352**	P	**Pn**	**12 59 27.9**	**+1.3**
KDJ	**Kajisay**	**4.59**	**352**		**Pn**	**12 59 27.9**	**+1.3**
BOOM	**Boomskoye usch**	**5.16**	**343**	P	**Pn**	**12 59 34.9**	**+0.5**
BOOM	**Boomskoye usch**	**5.16**	**343**	Pn	**Pn**	**12 59 34.9**	**+0.5**
SATY	**Saty**	**5.49**	**3**	Pg	**Pb**	**12 59 56.3**	**+3.1**
	37nm,0.9s						
SATY				Lg	Lg	13 01 05.9	
	34nm,0.5s						
CHCP	**Chirah Chowk**	**5.50**	**226**	P	**Pn**	**12 59 41.2**	**+2.3**
NIL	**Nilore**	**5.51**	**226**	P	**Pn**	**12 59 41.6**	**+2.5**
NIL	**Nilore**	**5.51**	**226**		**Pn**	**12 59 41.6**	**+2.5**
UZB	**Uzynbulak**	**5.62**	**8**	Pg	**Pb**	**12 59 57.9**	**+2.4**
	14nm,0.7s						
UZB				Lg	Lg	13 01 09.2	
	41nm,0.7s						
UZB	**Uzynbulak**	**5.62**	**8**	*e*P	**Pn**	**12 59 41.6**	**+0.9**
MDOK	**Medeo**	**5.63**	**353**	⇑Pg	**Pb**	**12 59 57.3**	**+1.6**
	21nm,0.5s						
MDOK				Lg	Lg	13 01 12.9	
	88nm,0.8s						
TKM2	**Tokmak 2**	**5.65**	**342**	⇓Pn	**Pn**	**12 59 43.0**	**+1.8**
	13nm,0.5s						
TKM2				⇓Lg	Lg	13 01 13.8	
	38nm,0.8s						
SHLS	**Shalkode**	**5.69**	**11**	Pg	Pb	13 00 01.8	+5.2
	43nm,0.4s						
SHLS				Lg	Lg	13 01 16.3	
	65nm,0.6s						
SHLS	**Shalkode**	**5.69**	**11**	*e*P	**Pn**	**12 59 43.9**	**+2.3**
KNDC	**Almaty**	**5.69**	**352**	⇑Pg	**Pb**	**12 59 59.1**	**+2.4**
	48nm,0.5s						
KNDC				⇓Lg	Lg	13 01 16.4	
	178nm,0.8s						
AAK	**Ala-Archa**	**5.73**	**333**	Pn	**Pn**	**12 59 44.0**	**+1.8**
	3.6nm,0.3s,baz=155,slow=7.9,SNR=9.1						
AAK				Pg	**Pb**	**13 00 00.3**	**+3.0**
	7.3nm,0.3s,baz=141,slow=11,SNR=16						
AAK				Lg	Lg	13 01 16.1	
	2.7nm,0.3s,baz=358,slow=22,SNR=6.7						
AAK	**Ala-Archa**	**5.73**	**333**	*i* P	**Pn**	**12 59 43.7**	**+1.5**
AAK	**Ala-Archa**	**5.73**	**333**		**Pn**	**12 59 43.7**	**+1.5**
PDGK	**Podgornoye**	**5.86**	**11**	⇓Pn	**Pn**	**12 59 44.5**	**+0.5**
	18nm,0.5s						
PDGK				⇑Lg	Lg	13 01 22.2	
	56nm,1.1s						
KPKS	**Kokpek**	**5.91**	**5**	*e*P	**Pn**	**12 59 44.5**	**-0.1**
KTMS	**Ketmen**	**6.13**	**16**	Pg	**Pb**	**13 00 06.9**	**+2.7**
	24nm,0.4s						
KTMS				Lg	Lg	13 01 24.2	
	16nm,0.6s						
CEP	**Cherat**	**6.21**	**235**	P	**Pn**	**12 59 50.1**	**+1.2**
SGDS	**Sogindy**	**6.41**	**337**	Pg	**Pb**	**13 00 12.0**	**+3.1**
	10nm,0.6s						
SGDS				Lg	Lg	13 01 33.1	
	10nm,0.7s						
SMLA	**Simla**	**6.47**	**186**	*e*P	**Pn**	**12 59 53.4**	**+1.1**
ARXS	**Arharly**	**6.63**	**359**	*e*P	**Pn**	**12 59 54.9**	**+0.3**
THW	**Thamme Wali**	**7.00**	**229**	P	**Pn**	**12 59 59.4**	**-0.2**
CHGR	**Chuyangaron**	**7.06**	**282**	Pn	**Pn**	**12 59 59.7**	**-0.8**
KBL	**Kabul**	**7.87**	**250**	P	**Pn**	**13 00 11.5**	**-0.1**
KBL	**Kabul**	**7.87**	**250**	Pn	**Pn**	**13 00 11.5**	**-0.1**
KK31	**Karatay Array**	**7.95**	**316**	⇑Pn	**Pn**	**13 00 11.1**	**-1.5**
	0.4nm,0.3s,baz=140,slow=12						
KK31				⇑Sn	**Sn**	**13 01 37.0**	**-5.1**
	2.3nm,0.5s,baz=147,slow=26						
KK31	**Karatay Array**	**7.95**	**316**	P	**Pn**	**13 00 12.1**	**-0.5**
KK31	**Karatay Array**	**7.95**	**316**		**Pn**	**13 00 12.1**	**-0.5**
KKAR	**Karatay Array**	**7.95**	**316**	P	**Pn**	**13 00 11.7**	**-0.9**
KKAR	**Karatay Array**	**7.95**	**316**		**Pn**	**13 00 11.7**	**-0.9**
KKAR	**Karatay Array**	**7.95**	**316**	Pn	**Pn**	**13 00 12.6**	**0.0**
WMQ	**Urumqi**	**9.64**	**47**	*e*P	Pn	13 00 40.6	+4.8
WMQ				smax	smax		
	comp=N,39nm,0.7s						
WMQ				smax	smax		
	comp=E,33nm,1.1s						
MAKZ	**Makanchi**	**9.68**	**16**	⇓Pn	**Pn**	**13 00 36.1**	**-0.2**
	comp=E,4.5nm,0.5s						
MAKZ	**Makanchi**	**9.68**	**16**	P	**Pn**	**13 00 36.3**	**0.0**
MAKZ	**Makanchi**	**9.68**	**16**		**Pn**	**13 00 36.3**	**0.0**
MK31	**Makanchi Array**	**9.74**	**18**	⇓Pn	**Pn**	**13 00 37.0**	**-0.1**
	comp=E,1.2nm,0.2s,baz=202,slow=13						
MK31				Sn	**Sn**	**13 02 20.8**	**-5.3**
	baz=181,slow=27						
MK31	**Makanchi Array**	**9.74**	**18**	*d i*P	**Pn**	**13 00 36.6**	**-0.6**
MK31	**Makanchi Array**	**9.74**	**18**		**Pn**	**13 00 37.0**	**-0.1**
MKAR	**Makanchi Array**	**9.74**	**18**	Pn	**Pn**	**13 00 36.9**	**-0.2**
	comp=E,3.6nm,0.3s,baz=201,slow=13,SNR=159						
MKAR				Sn	**Sn**	**13 02 23.0**	**-3.2**
	comp=E,0.8nm,0.3s,baz=200,slow=20,SNR=2.5						
MKAR	**Makanchi Array**	**9.74**	**18**		**Pn**	**13 00 37.4**	**+0.3**
KURBB	**Kurchatov Arra**	**13.05**	**1**	Pn	**Pn**	**13 01 21.2**	**-1.1**
	comp=E,0.0nm,0.3s,baz=188,slow=13,SNR=11						
KURBB				Lg	Lg	13 05 12.0	
	comp=E,0.0nm,0.3s,baz=192,slow=32,SNR=4.6						
DGZ	**Jazzator, Alta**	**13.89**	**26**	*i* P	**Pn**	**13 01 31.0**	**-3.0**
BRVK	**Borovoye**	**16.39**	**343**	P	**Pn**	**13 02 06.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,18nm,1.1s						
BRVK	**Borovoye**	**16.39**	**343**		**Pn**	**13 02 06.4**	**-0.5**
BRVK				IAmb	IAmb	13 02 17.2	
	comp=Z,18nm,1.1s						
ZALV	**Zalesovo Beam**	**17.04**	**14**	Pn	**Pn**	**13 02 12.6**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=208,slow=10.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**17.04**	**14**	P	**Pn**	**13 02 14.3**	**-0.8**
ZALV	**Zalesovo Beam**	**17.04**	**14**		**Pn**	**13 02 14.3**	**-0.8**
ABKAR	**Akbulak array**	**17.51**	**318**	P	**Pn**	**13 02 19.8**	**-1.3**
AKTO	**Aktyubinsk**	**19.21**	**318**	P	**P**	**13 02 40.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=140,slow=17,SNR=2.1						
TLY	**Talaya**	**22.90**	**44**	*i* P	P	13 03 10.2	-10
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**22.91**	**332**	*c i*P	**P**	**13 03 18.6**	**-2.0**
ARU						13 03 46.6	
ARU				SS	Sn	13 08 14.1	+29
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s						
SONM	**Songino Array**	**23.12**	**55**	P	**P**	**13 03 23.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=249,slow=9.5,SNR=5.0						
SONM	**Songino Array**	**23.12**	**55**	P	**P**	**13 03 22.8**	**-0.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**23.12**	**55**	P	**P**	**13 03 22.8**	**-0.3**
ULN	**Ulaanbaatar**	**23.56**	**55**	*i* P	P	13 03 15.3	-12
ULN				pmax	pmax		
	comp=Z,6.0nm,2.1s						
OBN	**Obninsk**	**32.94**	**316**	*e*P	P	13 04 46.8	-4.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BR231	**Keskin MP Arra**	**35.09**	**288**	P	**P**	**13 05 10.4**	**+0.2**
KS19	**Wonju Array Si**	**39.15**	**74**	P	**P**	**13 05 43.0**	**-1.6**
KS19				IAmb	IAmb	13 05 51.8	
	comp=Z,4.3nm,1.1s						
FINES	**FINESS Array B**	**39.83**	**324**	P	**P**	**13 05 49.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=111,slow=10,SNR=8.6						
FINES	**FINESS Array B**	**39.83**	**324**	P	**P**	**13 05 48.6**	**-1.3**
FINES	**FINESS Array B**	**39.83**	**324**	P	**P**	**13 05 48.6**	**-1.3**
ARCES	**ARCESS Array B**	**42.39**	**336**	P	**P**	**13 06 10.4**	**-0.5**
	comp=Z,4.2nm,0.9s,baz=99,slow=9.2,SNR=3.9						
ARCES	**ARCESS Array B**	**42.39**	**336**	P	**P**	**13 06 08.8**	**-2.1**
ARCES				pmax	pmax		
	comp=Z,16nm,1.3s						
ARCES	**ARCESS Array B**	**42.39**	**336**	P	**P**	**13 06 08.8**	**-2.1**
ARCES				IAmb	IAmb	13 06 14.6	
	comp=Z,16nm,1.3s						
NB2	**NORSAR Subarra**	**46.93**	**322**	P	P	13 06 52.6	+5.3
	comp=Z,1.1nm,0.6s,baz=88,slow=7.9						
TORD	**Torodi Ar. Bea**	**71.31**	**272**	P	**P**	**13 09 34.8**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=44,slow=6.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**71.31**	**272**	P	**P**	**13 09 34.6**	**-2.2**
TORD				IAmb	IAmb	13 09 35.1	
	comp=Z,2.0nm,1.2s						

*IDC **06** 13:25:52.3±2.5, 19°.08S×177°.64W, h528km±23km, mb2.8/5, mb1 3.0/7, mb1mx2.8/32, mbtmp3.7/7, Error ellipse: s-maj=37.3km s-min=23.9km az=116.0*
ISC 06 13:25:55.4±1.4, 19°.2S±0°.2×177°.6W±0°.3, h570km, n8, σ0°82/8, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.34**	**289**	P	P	13 27 15.5	-5.9
	1.1nm,0.3s,baz=100,slow=18,SNR=5.9						
URZ	**Urewera**	**19.54**	**192**	P	**P**	**13 29 45.6**	**-0.5**
	0.4nm,0.3s,baz=314,slow=12,SNR=1.1						
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**13 33 21.3**	**-0.8**
	0.3nm,0.3s,baz=96,slow=7.7,SNR=5.0						
WRA				PcP	**PcP**	**13 34 51.7**	**+1.4**
	0.8nm,1.1s,baz=97,slow=3.5,SNR=2.3						
ASAR	**Alice Springs**	**45.16**	**255**	P	**P**	**13 33 22.2**	**-0.1**
	0.9nm,0.6s,baz=83,slow=7.4,SNR=15						
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P	**P**	**13 34 23.9**	**-0.1**
	0.7nm,0.9s,baz=90,slow=5.1,SNR=1.0						
PETK	**Petropavlovsk-**	**75.10**	**345**	P	**P**	**13 36 38.9**	**-0.5**
	0.9nm,0.7s,baz=114,slow=3.5,SNR=4.5						
ILAR	**Eielson Array**	**86.97**	**13**	P	**P**	**13 37 39.9**	**-0.2**
	0.3nm,0.8s,baz=223,slow=4.4,SNR=2.5						
ARCES	**ARCESS Array B**	**127.70**	**350**	PKP	**PKiKP**	**13 43 57.1**	**+0.6**
	2.5nm,1.0s,baz=15,slow=2.0,SNR=1.7						

*PRU **06** 13:42:13.7±0.0, 42°.28N×19°.78E, h0km, M4.3*
*THE **06** 13:42:13.1, 42°.48N×18°.96E, h8km±21km, ML4.5/7, Error ellipse: s-maj=27.8km s-min=2.2km az=318.0*
*IDC **06** 13:42:13.3±0.7, 42°.26N×19°.45E, h0km, mb4.0/15, mb1 4.1/26, mb1mx4.0/48, mbtmp4.0/26, ML3.7/11, Error ellipse: s-maj=11.4km s-min=10.0km az=176.0*
*MOS **06** 13:42:14.2±1.0, 42°.42N×19°.44E, h13km, mb4.5/12, Error ellipse: s-maj=5.7km s-min=3.3km az=80.8*
*ROM **06** 13:42:14.7±0.2, 42°.47N±0°.02×19°.41E±0°.02, h16km±2km, ML4.2/46, Error ellipse: s-maj=2.0km s-min=1.0km az=47.0*
*PDG **06** 13:42:15.9±0.0, 42°.39N×19°.40E, h18km, MD4.1/14, ML3.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **06** 13:42:15.0±0.1, 42°.35N×19°.38E, h10km, Ml3.8/18, Error ellipse: s-maj=2.3km s-min=1.9km az=6.0*
*TIR **06** 13:42:15.4, 42°.37N×19°.43E, h19km, Md4.3, Ml4.7*
*BEO **06** 13:42:16.6±0.3, 42°.40N×19°.42E, h10km±2km, ML4.1/15*
*SKO **06** 13:42:16.7, 42°.37N×19°.46E, h5km*
*RHSSO **06** 13:42:16.2±0.4, 42°.39N×19°.46E, h7km±1km, ML3.9/14*
*NEIC **06** 13:42:17.1±1.7, 42°.36N±0°.04×19°.37E±0°.06, h20km±5km, mb4.4/18, ML4.1(VIE), ML4.3/2(BUC), Error ellipse: s-maj=6.8km s-min=6.4km az=92.0*
*BGR **06** 13:42:22.7±7.4, 42°.61N×19°.60E, h10km, ML4.2, Error ellipse: s-maj=142.3km s-min=27.8km az=152.0*
ISC 06 13:42:16.1±0.6, 42°.38N±0°.01×19°.42E±0°.01, h18km±3km, n547, σ1°63/679, mb4.2/30, 56C-52D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.13**	**294**	*e*Pg	**Pg**	**13 42 19.7**	**-0.3**
PDG				*e*Sg	**Sg**	**13 42 23.0**	**+0.3**
PDG	**Podgorica**	**0.13**	**294**	⇓P	**Pg**	**13 42 19.3**	**-0.7**
PDG				⇓S	**Sg**	**13 42 22.8**	**+0.1**
PDG	**Podgorica**	**0.13**	**294**	⇓*i*Pg	**Pg**	**13 42 19.8**	**-0.3**
PDG				*e*Sg	**Sg**	**13 42 23.0**	**+0.3**
PDG	**Podgorica**	**0.13**	**294**		**Pg**	**13 42 19.3**	**-0.7**
PDG					**Sg**	**13 42 22.8**	**+0.1**
PDG	**Podgorica**	**0.13**	**294**	*i* Pg	**Pg**	**13 42 19.8**	**-0.3**
PDG				*i* Sg	**Sg**	**13 42 23.0**	**+0.3**
TTG	**Podgorica**	**0.13**	**294**	*e*Pg	**Pg**	**13 42 19.6**	**-0.5**
TTG				*i* Sg	**Sg**	**13 42 22.6**	**-0.1**
DRME	**Dracevica, Mon**	**0.26**	**223**	⇓*i*Pg	**Pb**	**13 42 21.7**	**-0.5**
DRME				*e*Sg	**Sb**	**13 42 26.8**	**+0.5**
DRME	**Dracevica, Mon**	**0.26**	**223**	⇑*i*Pg	**Pg**	**13 42 21.5**	**-0.4**
DRME				*i* Sg	**Sb**	**13 42 26.3**	**0.0**
BUM	**Brajici-Budva**	**0.40**	**259**	⇓*i*Pg	**Pg**	**13 42 23.6**	**-0.7**
BUM				*i* Sg	**Sb**	**13 42 30.2**	**-0.3**
CEME	**Cevo**	**0.41**	**295**	⇑*i*Pg	**Pg**	**13 42 23.6**	**-0.9**
CEME				*i* Sg	**Sb**	**13 42 30.3**	**-0.5**
ULC	**Ulcinj**	**0.43**	**197**	*i* Pg	**Pg**	**13 42 24.5**	**-0.4**
ULC	**Ulcinj**	**0.43**	**197**	*e*Pg	**Pg**	**13 42 24.7**	**-0.2**

STON Sg **Sg** **13 43 00.6 +0.5**
BBLS Lazići 1.49 360 *e*Pg **Pb** **13 42 43.1 -0.2**
BBLS *e*Sg **Sg** **13 43 04.1 -0.1**
BBLS Lazići 1.49 360 ⇓*i*Pg **Pb** **13 42 42.7 -0.6**
BBLS *e*Sg **Sg** **13 43 04.1 -0.1**
SELS Selova 1.51 55 *e*Pg **Pn** **13 42 42.4 +0.1**
SELS *e*Sg **Sg** **13 43 03.8 -1.0**
SKO Skopje 1.56 104 *i* Pg **Pb** **13 42 44.1 -0.2**
SKO *i* Sg **Sg** **13 43 07.0 +0.7**
SKO *e*Lg Lg 13 43 07.3
comp=N,368nm,0.8s
OHR Ohrid 1.63 140 *i* Pn **Pg** **13 42 46.6 -0.9**
OHR *i* Sn **Sg** **13 43 10.1 +1.4**
OHR *e*Lg Lg 13 43 11.9
comp=N,8μm,0.7s
HAPS Han Pijesak,BI 1.74 349 ⇑*i*Pn **Pn** **13 42 46.3 +0.7**
HAPS *e*Sn **Sb** **13 43 09.6 +0.3**
DIVS Divibare 1.77 13 *e*Pn **Pn** **13 42 46.2 +0.2**
DIVS Divibare 1.77 13 ⇓*i*Pn **Pn** **13 42 46.2 +0.2**
DIVS *e*Sn **Sb** **13 43 09.9 -0.1**
DIVS Divibare 1.77 13 Pn **Pn** **13 42 45.9 0.0**
GRUS Gruza 1.79 32 *e*Pn **Pn** **13 42 46.6 +0.5**
GRUS *e*Sn **Sb** **13 43 10.6 +0.3**
BARS Barje 1.82 75 *e*Pn **Pb** **13 42 47.8 -1.2**
BARS Barje 1.82 75 *i* Pn **Pb** **13 42 47.7 -1.2**
LSTV Lastovo 1.91 283 *e*Pn **Pn** **13 42 47.7 0.0**
LSTV Sn **Sn** **13 43 12.3 +1.1**
VLO Vlora 1.91 178 P **Pn** **13 42 48.2 +0.5**
VLO Vlora 1.91 178 **Pn** **13 42 48.2 +0.5**
PRVS Prvonek 1.97 85 *e*Pn **Pn** **13 42 49.5 +0.8**
TRUS Trudelj 1.98 21 *e*Pn **Pn** **13 42 49.2 +0.4**
TRUS *e*Sn **Sb** **13 43 14.9 -1.1**
RICI Ricice 2.02 304 *e*Pn **Pn** **13 42 50.7 +1.5**
RICI Sn **Sb** **13 43 16.9 -0.1**
KBN Korca 2.03 149 P **Pb** **13 42 52.6 +0.1**
KBN S **Sg** **13 43 20.5 -1.0**
comp=N,6μm,0.9s
KBN Korca 2.03 149 P **Pb** **13 42 51.9 -0.6**
KBN Korca 2.03 149 **Pb** **13 42 51.9 -0.6**
KBN Korca 2.03 149 P **Pb** **13 42 52.2 -0.3**
baz=149
KBN S **Sg** **13 43 19.9 -1.5**
baz=149
BOVS Bovan 2.10 52 *e*Pn **Pn** **13 42 50.3 0.0**
BOVS *e*Sn **Sb** **13 43 18.9 -0.4**
BOVS Bovan 2.10 52 ⇑P **Pn** **13 42 50.7 +0.4**
BOVS Bovan 2.10 52 **Pn** **13 42 50.7 +0.4**
FNA Florina 2.17 137 P **Pb** **13 42 54.3 -0.5**
FNA S **Sg** **13 43 24.5 -1.3**
comp=N,8μm,0.5s
FNA Florina 2.17 137 P **Pb** **13 42 53.7 -1.1**
FNA Florina 2.17 137 **Pb** **13 42 53.7 -1.1**
FNA Florina 2.17 137 P **Pb** **13 42 54.0 -0.8**
baz=136
FNA S **Sb** **13 43 22.6 +1.3**
baz=136
FNA Florina 2.17 137 *i* Pn **Pb** **13 42 53.7 -1.1**
STIP Stip 2.17 107 *i* Pn **Pb** **13 42 54.7 -0.1**
BOSS Bosilegrad 2.27 86 *e*Pn **Pn** **13 42 53.4 +0.7**
BOSS *e*Sn **Sn** **13 43 21.2 +0.9**
SVIS Svilajnac 2.30 34 *e*Pn **Pb** **13 42 55.7 -1.3**
NEST Nestorio 2.31 147 P **Pb** **13 42 55.8 -1.5**
NEST S **Sb** **13 43 27.1 +1.5**
comp=N,2μm,0.6s
HVAR Hvar 2.33 291 *e*Pn **Pn** **13 42 54.1 +0.6**
HVAR Sn **Sn** **13 43 23.9 +2.2**
NOCI Noci 2.37 229 ⇓P **Pn** **13 42 54.0 -0.2**
NOCI S **Sn** **13 43 22.7 -0.1**
NOCI AML AML
comp=N,3605μm,0.9s
NOCI AML AML
comp=E,1875μm,0.9s
LSK Leskovik 2.40 158 P **Pn** **13 42 56.3 +1.7**
LSK S **Sb** **13 43 29.4 +1.4**
comp=E,7μm,0.9s
LSK Leskovik 2.40 158 P **Pn** **13 42 56.3 +1.7**
baz=158
LSK S **Sb** **13 43 28.8 +0.8**
baz=158
SCTE Santa Cesarea 2.41 198 Pn **Pn** **13 42 53.9 -0.7**
SCTE Santa Cesarea 2.41 198 AML AML
comp=N,7265μm,0.6s
SCTE AML AML
comp=E,3450μm,0.7s
ZAGS Zajecar 2.51 54 *e*Pn **Pn** **13 42 56.4 +0.4**
ZAGS *e*Sn **Sn** **13 43 27.4 +1.2**
ZAPS Zavoj 2.53 68 *e*Pn **Pn** **13 42 57.2 +0.9**
ZAPS *e*Sn **Sn** **13 43 29.0 +2.3**
SRN Sarande 2.53 170 P **Pn** **13 42 57.1 +0.8**
SRN S **Sn** **13 43 28.9 +2.2**
comp=E,2μm,0.6s
SRN Sarande 2.53 170 P **Pn** **13 42 58.7 +2.4**
baz=170
SRN S **Sb** **13 43 32.4 +0.6**
baz=170
SRN Sarande 2.53 170 P **Pn** **13 42 57.0 +0.8**
SRN S **Sn** **13 43 28.4 +1.7**
PENT Pentalofos 2.54 149 P **Pb** **13 42 59.2 -1.9**
DOB Doboj 2.54 338 *e*Pn **Pn** **13 42 58.2 +1.7**
DOB *e*Sn **Sn** **13 43 29.1 +2.1**
AMUR Altamura 2.57 236 ⇑P **Pn** **13 42 56.7 -0.1**
AMUR S **Sn** **13 43 27.2 -0.5**
AMUR AML AML
comp=E,1160μm,1.1s
AMUR AML AML
comp=N,641μm,1.2s
AMUR AML AML
comp=N,1595μm,0.8s
AMUR AML AML
comp=E,1500μm,0.5s
VAY Valandovo 2.58 113 *i* Pn **Pn** **13 42 58.7 +1.7**
KUBS Kucevo 2.62 38 *e*Pn **Pn** **13 42 57.4 -0.1**
LTRZ Laterza 2.64 229 ⇑P **Pn** **13 42 57.4 -0.4**
LTRZ S **Sn** **13 43 30.2 +0.9**
LTRZ AML AML
comp=E,50000μm,1.6s
LTRZ AML AML
comp=N,2275μm,0.7s
LTRZ AML AML
comp=E,2130μm,0.9s
LTRZ AML AML
comp=N,50000μm,1.6s
GRG Griva 2.65 121 P **Pn** **13 43 00.1 +2.2**
GRG Griva 2.65 121 *i* Pn **Pn** **13 42 59.9 +2.0**
MGRS Mrkonjic Grad 2.66 321 *e*Pn **Pn** **13 43 00.0 +1.9**
MGRS *e*Sn **Sn** **13 43 31.9 +2.1**
KEK Kerkira 2.68 174 ⇑P **Pn** **13 42 58.7 +0.4**
KEK S **Sn** **13 43 31.6 +1.3**
KEK AML AML
comp=N,551μm,1.3s
KEK AML AML
comp=E,479μm,0.4s
MSAG Monte S. Angel 2.70 257 ⇑P **Pn** **13 42 58.5 -0.2**
MSAG AML AML
comp=E,1805μm,0.9s
MSAG AML AML
comp=E,1865μm,0.9s
MSAG AML AML
comp=N,2060μm,1.1s
MSAG AML AML
comp=N,2040μm,1.1s
KZN Kozani 2.72 139 P **Pn** **13 43 01.4 +2.4**
KIJV Kijevo 2.74 307 *e*Pn **Pn** **13 43 01.1 +1.9**
KIJV Sn **Sn** **13 43 34.2 +2.4**
MRVN Minervino Murg 2.75 242 ⇑P **Pn** **13 42 59.1 -0.2**
MRVN S **Sn** **13 43 31.8 -0.3**
MRVN AML AML
comp=N,1154μm,0.9s
MRVN AML AML
comp=E,854μm,0.9s
FRGS Fruska Gora 2.79 6 *e*Pn **Pn** **13 43 00.3 +0.3**
FRGS Fruska Gora 2.79 6 ⇑P **Pn** **13 43 00.6 +0.6**
FRGS Fruska Gora 2.79 6 *e*Pn **Pn** **13 43 00.4 +0.4**
FRGS *e*Sn **Sn** **13 43 34.6 +1.4**
FRGS Fruska Gora 2.79 6 **Pn** **13 43 00.6 +0.6**
SGRT San Giovanni R 2.81 258 Pn **Pn** **13 43 00.1 -0.1**
SGRT San Giovanni R 2.81 258 P **Pn** **13 42 59.8 -0.4**
SGRT AML AML
comp=E,1266μm,1.4s
SGRT AML AML
comp=N,1665μm,1.5s
KPRO Kipourio 2.83 148 P **Pn** **13 43 02.7 +2.2**
KPRO S **Sb** **13 43 40.1 -0.4**
comp=N,3μm,0.6s
VTS Vitosha 2.83 84 ⇑P **Pn** **13 43 01.8 +1.2**
VTS Vitosha 2.83 84 P **Pn** **13 43 00.9 +0.3**
VTS Vitosha 2.83 84 **Pn** **13 43 00.9 +0.3**
KTI Kastanea 2.84 133 P **Pn** **13 43 03.2 +2.6**
MIGL Miglionico 2.85 233 AML AML
comp=E,9925μm,1.6s
MIGL AML AML
comp=N,6900μm,0.9s
BLY Banja Luka 2.87 326 *e*Pn **Pn** **13 43 03.0 +2.0**
BLY Banja Luka 2.87 326 *e*Pn **Pn** **13 43 03.1 +2.0**
BLY *e*Sn **Sn** **13 43 36.9 +1.7**
TREM Isole Tremiti 2.91 266 AML AML
comp=N,1800μm,0.9s
TREM AML AML
comp=E,1985μm,1.2s
IGT Igoumenitsa 2.92 166 P **Pn** **13 43 02.7 +1.0**
IGT S **Sn** **13 43 38.5 +2.1**
comp=E,2μm,0.6s
MDVR Moldovita 2.92 34 ⇓P **Pn** **13 43 02.3 +0.5**
MDVR Moldovita 2.92 34 **Pn** **13 43 02.3 +0.5**
ZIRJ Zirje 3.05 296 *e*Pn **Pn** **13 43 04.3 +0.9**
ZIRJ Sn **Sn** **13 43 41.1 +1.7**
ACER Acerenza 3.05 240 P **Pn** **13 43 03.7 +0.2**
ACER S **Sn** **13 43 39.8 +0.1**
ACER AML AML
comp=N,1970μm,0.7s
ACER AML AML
comp=E,1940μm,0.8s
ACER AML AML
comp=N,2110μm,0.7s
ACER AML AML
comp=E,1830μm,0.8s
MORI Morici 3.10 300 *i* Pn **Pn** **13 43 05.7 +1.6**
MORI Sn **Sn** **13 43 43.5 +2.9**
THE Thessaloniki 3.18 122 P **Pn** **13 43 07.7 +2.5**
PUNG Punghina 3.19 52 ⇑P **Pn** **13 43 06.4 +1.0**
PUNG Punghina 3.19 52 **Pn** **13 43 06.4 +1.0**
LIT Litokhoron 3.25 133 P **Pn** **13 43 08.1 +1.9**
LIT Litokhoron 3.25 133 P **Pn** **13 43 07.3 +1.1**
LIT Litokhoron 3.25 133 Pn **Pn** **13 43 07.3 +1.1**
MELA Melanico ??? S 3.27 260 S **Sn** **13 43 42.8 -2.0**
MELA AML AML
comp=N,1805μm,0.9s
MELA AML AML
comp=E,1915μm,1.4s
MELA AML AML
comp=E,1820μm,1.4s
MELA AML AML
comp=N,1845μm,0.9s
HORT Hortiatis 3.29 122 P **Pn** **13 43 09.0 +2.2**
HERR Herculane 3.32 40 ⇑P **Pn** **13 43 07.9 +0.8**
HERR Herculane 3.32 40 **Pn** **13 43 07.9 +0.8**
SOH Sokhos 3.33 116 P **Pn** **13 43 09.8 +2.4**
MRLC Muro Lucano 3.36 243 P **Pn** **13 43 07.4 -0.4**
MRLC AML AML
comp=E,932μm,1.6s
MRLC AML AML
comp=N,1215μm,1.4s
SRS Serrai 3.37 111 P **Pn** **13 43 10.1 +2.3**
MCEL Monticello 3.41 234 ⇓P **Pn** **13 43 08.5 +0.1**
MCEL AML AML
comp=E,982μm,1.4s
MCEL AML AML
comp=N,1026μm,0.7s
MCEL AML AML
comp=E,992μm,1.4s
MCEL AML AML
comp=N,1070μm,1.0s
CAFE Carife 3.41 248 ⇑P **Pn** **13 43 08.7 +0.2**
CAFE AML AML
comp=N,830μm,1.4s
CAFE AML AML
comp=N,818μm,1.4s
CAFE AML AML
comp=E,1310μm,1.1s
CAFE AML AML
comp=E,1360μm,1.6s
SALB San Lorenzo Be 3.41 224 ⇓P **Pn** **13 43 08.6 +0.1**
SALB AML AML
comp=N,693μm,0.9s
SALB AML AML
comp=E,920μm,1.0s
SALB AML AML
comp=N,652μm,0.8s
SALB AML AML
comp=E,912μm,1.1s
UDBI Udbina 3.42 310 *e*Pn **Pn** **13 43 10.6 +2.0**
UDBI Sn **Sn** **13 43 51.6 +2.9**
THL Klokotos Trika 3.43 144 ⇓P **Pn** **13 43 09.8 +1.2**
THL AML AML
comp=E,178μm,1.0s
THL AML AML
comp=N,209μm,1.3s
SIRI Monte Sirino - 3.46 232 P **Pn** **13 43 09.0 -0.2**
SIRI S **Sn** **13 43 49.2 -0.5**
SNAL S. Angelo Dei 3.47 247 ⇓P **Pn** **13 43 09.8 +0.4**
SNAL AML AML
comp=E,1135μm,1.0s
SNAL AML AML
comp=E,1295μm,1.1s
SNAL AML AML
comp=N,1570μm,0.8s
SNAL AML AML
comp=N,1585μm,0.8s
NVR Nevrokopi 3.47 106 P **Pn** **13 43 11.8 +2.5**
MTSN Montesano sull 3.47 234 ⇓P **Pn** **13 43 09.8 +0.4**
MTSN AML AML
comp=N,604μm,1.6s
MTSN AML AML
comp=E,688μm,1.0s
PIPA Pietrapaola 3.50 215 P **Pn** **13 43 09.5 -0.1**
PIPA S **Sn** **13 43 51.0 +0.4**
PIPA AML AML
comp=N,770μm,0.8s
PIPA AML AML
comp=E,924μm,0.5s
PIPA AML AML
comp=N,656μm,0.9s
PIPA AML AML
comp=E,928μm,0.5s
MCRV Calabrutti - M 3.56 245 P **Pn** **13 43 10.7 +0.1**
MCRV AML AML
comp=N,558μm,0.5s
MCRV AML AML
comp=E,508μm,0.5s
DUGI Dugi Otok 3.57 298 *e*Pn **Pn** **13 43 11.5 +0.9**
DUGI Sn **Sn** **13 43 54.5 +2.1**
SRE Strehaia 3.58 49 ⇑P **Pn** **13 43 11.5 +0.8**
SRE Strehaia 3.58 49 P **Pn** **13 43 11.5 +0.8**
SRE Strehaia 3.58 49 **Pn** **13 43 11.5 +0.8**
TDS Terranova Siba 3.58 222 P **Pn** **13 43 10.9 +0.2**
TDS S **Sn** **13 43 52.6 +0.1**
TDS AML AML
comp=N,420μm,1.0s
TDS AML AML
comp=E,326μm,1.5s
BZS Buzias 3.61 25 ⇑P **Pn** **13 43 11.6 +0.6**
BZS Buzias 3.61 25 P **Pn** **13 43 11.7 +0.6**
BZS Buzias 3.61 25 **Pn** **13 43 11.7 +0.6**
CUC Castrocucco 3.61 230 ⇓P **Pn** **13 43 11.9 +0.6**
CUC AML AML
comp=E,1051μm,0.8s
CUC AML AML
comp=N,1500μm,1.0s
CUC AML AML
comp=N,1240μm,0.9s
CUC AML AML
comp=E,1275μm,0.8s
CDRU Civita di Ruta 3.62 240 ⇓P **Pn** **13 43 12.8 +1.4**
CDRU AML AML
comp=E,358μm,1.2s
CDRU AML AML
comp=N,314μm,1.3s
PLG Polygyros 3.63 122 P **Pn** **13 43 14.2 +2.7**
T0702 Acquaformosa (3.66 225 P **Pn** **13 43 12.8 +0.9**
TSLK Tsoukalades, L 3.67 165 P **Pn** **13 43 12.7 +0.7**
MGR Morigerati 3.67 234 ⇓P **Pn** **13 43 12.6 +0.6**
MGR AML AML
comp=E,533μm,0.7s
MGR AML AML
comp=N,628μm,0.5s
TRIV Trivento 3.67 262 ⇑P **Pn** **13 43 13.5 +1.4**
TRIV AML AML
comp=E,766μm,1.6s
TRIV AML AML
comp=N,1175μm,1.0s
LKD2 Lefkada island 3.71 165 P **Pn** **13 43 12.9 +0.4**
MOSL Moslavina 3.76 330 *e*Pn **Pn** **13 43 14.8 +1.6**
VITU Vitulano (BN) 3.77 253 P **Pn** **13 43 14.9 +1.5**
VITU AML AML
comp=N,590μm,0.9s
VITU AML AML
comp=E,676μm,1.4s
VITU AML AML
comp=E,400μm,0.5s
VITU AML AML
comp=N,646μm,1.0s
NYDR Nydri-Lefkada 3.79 165 P **Pn** **13 43 13.9 +0.4**
DRAG Dragano-Lefkad 3.79 166 P **Pn** **13 43 13.8 +0.1**
BULG Bulgheria - Ca 3.81 234 ⇑P **Pn** **13 43 14.7 +0.6**
BULG AML AML
comp=N,1049μm,1.2s
BULG AML AML
comp=E,840μm,0.9s
BULG AML AML
comp=N,991μm,0.8s
BULG AML AML
comp=E,878μm,0.9s
KOVH Kovagotottos 3.83 346 *e*P **Pn** **13 43 15.2 +1.1**
KOVH *e*S **Sn** **13 43 59.9 +1.2**
EVGI Lefkada island 3.87 165 P **Pn** **13 43 15.0 +0.3**
CET2 Cetraro 3.87 224 P **Pn** **13 43 15.1 +0.4**
CET2 AML AML
comp=E,1395μm,0.6s
CET2 AML AML
comp=N,1870μm,1.1s
GZR Gura Zlata 3.87 38 ⇑P **Pn** **13 43 15.8 +1.0**
GZR Gura Zlata 3.87 38 P **Pn** **13 43 15.8 +1.0**
GZR Gura Zlata 3.87 38 **Pn** **13 43 15.8 +1.0**
PAOL Paolisi 3.87 251 Pn **Pn** **13 43 15.2 +0.4**
MORH Mrgy, Hungar 3.88 352 ⇓P **Pn** **13 43 16.1 +1.3**
MORH Mrgy, Hungar 3.88 352 *e*P **Pn** **13 43 15.1 +0.3**
MORH *e*S **Sn** **13 44 01.2 +1.3**
MORH Mrgy, Hungar 3.88 352 *e*Pn **Pn** **13 43 15.5 +0.7**
MORH Mrgy, Hungar 3.88 352 **Pn** **13 43 16.1 +1.3**
SGG Gregorio Mates 3.89 257 ⇓P **Pn** **13 43 16.4 +1.4**
SGG AML AML
comp=N,2.0nm,1.6s
SGG AML AML
comp=E,458μm,0.5s
SGG AML AML
comp=E,1.5nm,1.6s
SGG AML AML
comp=N,530μm,0.7s
EVR Evrytania 3.91 151 P **Pn** **13 43 17.8 +2.5**
SERS Sersale 3.93 213 ⇓P **Pn** **13 43 15.4 -0.2**
SERS AML AML
comp=N,482μm,0.8s
SERS AML AML
comp=E,624μm,0.7s
MAKR Makrakomi, Fth 3.94 148 P **Pn** **13 43 17.7 +2.0**
NVLJ Novalja 3.97 305 *e*Pn **Pn** **13 43 17.5 +1.5**
NVLJ Sn **Sn** **13 44 04.6 +2.6**
RNI2 Rionero Sannit 3.98 262 ⇑P **Pn** **13 43 17.6 +1.3**
RNI2 AML AML
comp=N,688μm,1.6s
RNI2 AML AML
comp=E,802μm,1.1s
RNI2 AML AML
comp=N,672μm,1.6s
RNI2 AML AML
comp=E,808μm,1.1s
VAGA Valle Agricola 3.99 258 ⇑P **Pn** **13 43 17.5 +1.1**
VAGA AML AML
comp=E,563μm,1.6s
VAGA AML AML
comp=N,691μm,1.6s
OUR Ouranopolis 4.00 119 P **Pn** **13 43 18.9 +2.5**
AGG Agios Georgios 4.01 146 P **Pn** **13 43 17.5 +0.7**
AGG Agios Georgios 4.01 146 Pn **Pn** **13 43 17.5 +0.7**
KAVA Kavala 4.06 108 P **Pn** **13 43 19.4 +2.1**
PVO Paravola 4.08 156 P **Pn** **13 43 19.8 +2.1**
CERA Filignano 4.10 261 ⇓P **Pn** **13 43 20.1 +2.1**
CERA AML AML
comp=E,886μm,0.8s
CERA AML AML
comp=N,972μm,1.0s
CERA AML AML
comp=N,924μm,1.0s
CERA AML AML
comp=E,960μm,1.5s
INTR Introdacqua 4.11 267 Pn **Pn** **13 43 18.5 +0.4**
INTR Introdacqua 4.11 267 P **Pn** **13 43 18.9 +0.8**
INTR AML AML
comp=E,798μm,1.2s
INTR AML AML
comp=N,1135μm,1.0s
VCEL Villa Celiera 4.13 272 ⇑P **Pn** **13 43 20.5 +2.1**
KEF5 Kardakata, Kep 4.17 169 P **Pn** **13 43 18.4 -0.5**
DMLN Damoulianata-K 4.20 170 P **Pn** **13 43 18.9 -0.3**
SIRR Siria 4.21 22 ⇑P **Pn** **13 43 20.5 +1.1**
SIRR Siria 4.21 22 **Pn** **13 43 20.5 +1.1**
GRI Girifalco 4.22 214 ⇓P **Pn** **13 43 19.7 +0.1**
GRI AML AML
comp=E,552μm,1.0s
GRI AML AML
comp=N,830μm,0.9s
KEF3 Kipouria, Keph 4.23 170 P **Pn** **13 43 18.9 -0.7**
ANX Ano Chora 4.23 152 P **Pn** **13 43 22.0 +2.2**
POFI Posta Fibreno 4.30 263 P **Pn** **13 43 21.5 +0.8**
TERO Teramo 4.31 275 ⇓P **Pn** **13 43 22.2 +1.4**
DEV Deva 4.31 34 ⇑P **Pn** **13 43 21.1 +0.4**
DEV Deva 4.31 34 P **Pn** **13 43 21.1 +0.4**
DEV Deva 4.31 34 **Pn** **13 43 21.1 +0.4**
OZLJ Ozalj 4.31 320 *e*Pn **Pn** **13 43 23.1 +2.3**
KALN Kalnik 4.32 331 *e*Pn **Pn** **13 43 22.7 +1.8**
PTJ Puntijarka 4.32 326 *e*Pn **Pn** **13 43 22.7 +1.7**
MODR Mondragone 4.32 255 ⇑P **Pn** **13 43 21.4 +0.4**
MODR AML AML
comp=N,307μm,1.1s
MODR AML AML
comp=E,281μm,1.2s
BOJS Bojanci 4.34 318 *i* Pn **Pn** **13 43 23.5 +2.3**
BOJS *e*Sn **Sn** **13 44 14.2 +3.0**
BOJS IAML 13 44 44.7
comp=Z,710nm,1.7s
THAS Thassos island 4.36 112 P **Pn** **13 43 24.6 +3.2**
EFP Efpalio 4.38 153 P **Pn** **13 43 23.8 +2.1**
LOT Lotru 4.39 44 ⇑P **Pn** **13 43 22.7 +0.7**
LOT Lotru 4.39 44 **Pn** **13 43 22.7 +0.7**
GCIS Gornji Cirnik 4.43 323 *e*Pn **Pn** **13 43 24.1 +1.7**
SERG Sergoula 4.44 152 P **Pn** **13 43 24.2 +1.6**
LIK San Giovanni I 4.46 261 S **Sn** **13 44 13.0 -1.2**
AQU L'Aquila 4.46 272 P **Pn** **13 43 22.9 +0.1**
AQU L'Aquila 4.46 272 *e*Pn **Pn** **13 43 24.7 +1.8**
AQU L'Aquila 4.46 272 Pn **Pn** **13 43 22.9 +0.1**
CRES Cresnjev 4.47 322 *e*Pn **Pn** **13 43 24.6 +1.6**
CRES *e*Sn **Sn** **13 44 15.6 +0.9**
CRES Cresnjev 4.47 322 *e*Pn **Pn** **13 43 24.7 +1.6**
CRES *i* Sn **Sn** **13 44 15.9 +1.2**
LOBO Lobor 4.48 329 *i* Pn **Pn** **13 43 24.8 +1.7**
TRIZ Trizonia 4.49 152 P **Pn** **13 43 25.3 +2.1**
SMIA Simia 4.53 139 P **Pn** **13 43 26.5 +2.7**
PLAC Placanica 4.53 211 P **Pn** **13 43 23.1 -0.8**
PLAC AML AML
comp=E,1002μm,0.9s
PLAC AML AML
comp=N,976μm,0.7s
GOLS Golise 4.54 324 *e*Pn **Pn** **13 43 25.6 +1.6**
HUMR Humele 4.58 60 ⇑P **Pn** **13 43 25.7 +1.2**
HUMR Humele 4.58 60 **Pn** **13 43 25.7 +1.2**
COPA Copaceanca 4.58 66 ⇓P **Pn** **13 43 26.1 +1.6**
COPA Copaceanca 4.58 66 **Pn** **13 43 26.1 +1.6**
RLS Riolos of Patr 4.59 159 P **Pn** **13 43 26.3 +1.7**
RM33 Pellescritta (4.59 274 P **Pn** **13 43 27.1 +2.3**
JOPP Joppolo 4.63 217 ⇓P **Pn** **13 43 24.8 -0.4**
JOPP AML AML
comp=E,650μm,0.8s
JOPP AML AML
comp=N,370μm,0.8s
TIH Tihany 4.65 347 *e*P **Pn** **13 43 26.8 +1.4**
FIAM Fiamignano 4.67 271 ⇓P **Pn** **13 43 28.0 +2.2**
FIAM AML AML
comp=N,316μm,0.8s
FIAM AML AML
comp=E,396μm,0.7s
NRCA Norcia 4.68 278 **Pn** **13 43 26.0 +0.1**
LNSS Leonessa 4.72 275 ⇓P **Pn** **13 43 28.2 +1.7**

LNSS AML AML
comp=E,720µm,0.8s
LNSS AML AML
comp=N,588µm,1.1s
RDO Rodhopi 4.74 103 P Pn 13 43 29.1 +2.5
DRO Drossia 4.75 158 P Pn 13 43 28.2 +1.3
KLV Kalavryta, Ach 4.81 153 ⇑P Pn 13 43 28.4 +0.7
KLV AML AML
comp=E,376µm,0.9s
KLV AML AML
comp=N,230µm,1.4s
ARR Arges 4.81 50 ⇑P Pn 13 43 28.9 +1.2
ARR Arges 4.81 50 Pn 13 43 28.9 +1.2
CEL Celeste 4.92 214 Pn Pn 13 43 28.1 -1.0
CEY Cerknica 4.92 315 *e*Pn **Pn 13 43 30.6 +1.4**
CEY *e*Sn **Sn 13 44 26.2 +0.5**
GROS Grobnik 4.95 327 *i* Pn **Pn 13 43 31.2 +1.5**
MPLH Magyarpolny 4.98 345 *e*P **Pn 13 43 31.3 +1.4**
MPLH *e*S **Sn 13 44 30.8 +3.9**
FOSV Fossato di Vic 4.98 283 ⇓P Pn 13 43 32.6 +2.6
DRGR 5.00 27 P **Pn 13 43 31.1 +0.8**
DRGR 5.00 27 Pn 13 43 31.1 +0.8
SOI Samo 5.01 212 ⇓P Pn 13 43 29.8 -0.6
ASSB Assisi San Ben 5.03 280 ⇓P Pn 13 43 33.0 +2.4
ASSB AML AML
comp=E,236µm,1.2s
ASSB AML AML
comp=N,292µm,1.1s
CSKK Cskako 5.05 351 *e*P **Pn 13 43 33.1 +2.2**
CSKK *e*S **Sn 13 44 31.6 +2.7**
MOMA Monte Martano 5.07 277 ⇓P Pn 13 43 33.3 +2.0
LJU Ljubljana 5.08 318 *e*Pn **Pn 13 43 32.7 +1.4**
LJU *e*Sn **Sn 13 44 30.1 +0.6**
LJU Ljubljana 5.08 318 P **Pb 13 43 40.6 -3.8**
MSRU Castanea 5.08 217 ⇓P Pn 13 43 30.2 -1.1
VOIR 5.09 51 ⇑P Pn 13 43 33.2 +1.7
VOIR 5.09 51 P **Pn 13 43 33.3 +1.7**
VOIR 5.09 51 Pn 13 43 33.2 +1.7
BUD Budapest 5.12 357 *e*P **Pn 13 43 32.8 +1.1**
BUD *e*S **Sn 13 44 33.3 +2.9**
SGRR Singureni 5.13 67 ⇑P Pn 13 43 33.4 +1.4
SGRR Singureni 5.13 67 Pn 13 43 33.4 +1.4
MPAZ Palizzi 5.13 212 ⇓P Pn 13 43 31.4 -0.7
MURB Monte Urbino 5.15 282 Pn 13 43 33.0 +0.7
ALN Alexandroupoli 5.18 104 P **Pn 13 43 35.1 +2.4**
ALN Alexandroupoli 5.18 104 P **Pn 13 43 34.2 +1.5**
ALN Alexandroupoli 5.18 104 Pn **Pn 13 43 34.2 +1.5**
PIEI Pieia 5.18 285 ⇓P Pn 13 43 35.5 +2.7
MPNC Port Mandanici 5.25 218 ⇓P Pn 13 43 32.4 -1.3
MPNC AML AML
comp=E,1290µm,0.6s
MPNC AML AML
comp=N,1255µm,0.9s
EGYH Egyhazaskeszo 5.25 344 *e*P **Pn 13 43 37.4 +3.7**
PERS Pernice 5.25 326 *e*Pn **Pn 13 43 35.5 +1.8**
CJR Cluj-Napoca 5.26 33 ⇑P Pn 13 43 35.4 +1.5
CJR Cluj-Napoca 5.26 33 P **Pn 13 43 35.4 +1.5**
CJR Cluj-Napoca 5.26 33 Pn 13 43 35.4 +1.5
SOKA Soboth 5.32 325 *i* Pn **Pn 13 43 36.9 +2.1**
comp=N,38nm,0.6s,SNR=48
SOKA Soboth 5.32 325 Pn 13 43 36.9 +2.1
MCSR Castroreale 5.36 218 ⇓P Pn 13 43 34.1 -1.2
OBKA Obir 5.41 322 *i* Pn **Pn 13 43 39.3 +3.4**
comp=N,9.4nm,0.7s,SNR=9.6
OBKA Obir 5.41 322 Pn 13 43 39.3 +3.4
OBKA Obir 5.41 322 *e*Pn **Pn 13 43 39.5 +3.7**
SNR=6.1
AIO Antillo 5.44 217 ⇑P Pn 13 43 35.8 -0.7
SULR 5.48 63 ⇑P Pn 13 43 37.9 +1.1
SULR 5.48 63 Pn 13 43 37.9 +1.1
ITM Ithomi 5.54 159 Pn **Pn 13 43 37.7 0.0**
PSZ Piszkesteto 5.55 3 ⇓P Pn 13 43 38.6 +0.7
PSZ Piszkesteto 5.55 3 *e*P **Pn 13 43 38.2 +0.3**
PSZ *e*S **Sn 13 44 42.9 +1.6**
PSZ Piszkesteto 5.55 3 P **Pn 13 43 37.0 -0.9**
PSZ Piszkesteto 5.55 3 Pn 13 43 38.6 +0.7
PSZ Piszkesteto 5.55 3 Pn **Pn 13 43 37.0 -0.9**
DOPR Dopca 5.60 48 ⇓P Pn 13 43 40.0 +1.6
DOPR Dopca 5.60 48 Pn 13 43 40.0 +1.6
ARSA Arzberg 5.61 332 *i* Pn **Pn 13 43 40.8 +2.2**
comp=N,15nm,0.4s,SNR=27
ARSA *e*Sn **Sn 13 44 43.7 +1.2**
comp=N,9.4nm,0.5s
ARSA Arzberg 5.61 332 Pn 13 43 40.8 +2.2
ARSA **Sn 13 44 43.7 +1.2**
ARSA Arzberg 5.61 332 *e*Pn **Pn 13 43 40.5 +1.9**
SNR=15
ARSA *e*Sn **Sn 13 44 44.5 +2.0**
SNR=1.6
MLR Muntele Rosu 5.65 54 Pn **Pn 13 43 41.1 +1.9**
comp=N,3.5nm,0.3s,baz=204,slow=7.4,SNR=28
MLR Sn **Sn 13 44 46.3 +2.6**
comp=N,1.8nm,0.3s,baz=284,slow=12,SNR=4.7
MLR Lg Lg 13 45 15.9
baz=92,slow=23,SNR=1.2
MLR Muntele Rosu 5.65 54 ⇓P Pn 13 43 40.8 +1.6
MLR Muntele Rosu 5.65 54 Pn 13 43 40.1 +0.8
SOP Sopron 5.68 340 *e*P Pn 13 43 46.3 +6.7
SOP *e*S **Sn 13 44 47.0 +2.7**
MSFR San Fratello 5.70 222 ⇓P Pn 13 43 40.6 +0.7
MNO Monte Soro 5.73 221 P **Pn 13 43 42.9 +2.5**
EPZF Pizzo Felice 5.74 219 P **Pn 13 43 42.5 +2.0**
ISR Istrita 5.84 60 ⇑P Pn 13 43 43.4 +1.6
ISR Istrita 5.84 60 P **Pn 13 43 43.4 +1.6**
ISR Istrita 5.84 60 Pn 13 43 43.4 +1.6
MYKA Terra Mystica 5.93 318 *e*Pn **Pn 13 43 45.7 +2.6**
comp=N,3.5nm,0.4s
MYKA *e*Sn **Sn 13 44 51.5 +1.0**
comp=N,12nm,0.6s
MYKA Terra Mystica 5.93 318 Pn 13 43 45.6 +2.6
MYKA **Sn 13 44 51.5 +1.0**
ZST Bratislava 6.04 345 *e*P **Pn 13 43 46.4 +1.8**
ZST *e* 13 44 53.7
ZST Bratislava 6.04 345 *e*PN **Pn 13 43 46.4 +1.8**
ZST *e*SN **Sn 13 44 53.7 +0.4**
CONA Conrad Observa 6.09 337 *i* Pn **Pn 13 43 47.0 +1.6**
comp=N,2.1nm,0.4s,SNR=6.9
CONA *e*Sn **Sn 13 44 54.7 0.0**
comp=N,20nm,0.7s
CONA Conrad Observa 6.09 337 Pn 13 43 47.0 +1.6
CONA **Sn 13 44 54.7 0.0**
OSSC Osservatorio P 6.11 284 Pn **Pn 13 43 46.0 +0.6**
VYHS Vyhne 6.13 356 *e*P **Pn 13 43 47.7 +1.9**
VYHS *e* 13 44 56.4
VYHS Vyhne 6.13 356 *e*PN **Pn 13 43 47.7 +1.9**
VYHS *e*SN **Sn 13 44 56.4 +0.9**
BISRR Bisoca 6.14 56 ⇓P Pn 13 43 47.7 +1.7
BISRR Bisoca 6.14 56 Pn 13 43 47.7 +1.7
KECS Kecovo 6.15 7 *e*P **Pn 13 43 47.6 +1.5**
KECS *e* 13 44 57.1
KECS Kecovo 6.15 7 *e*PN **Pn 13 43 47.6 +1.5**
KECS *e*SN **Sn 13 44 57.1 +1.1**
STAL STALIGIAL 6.18 311 Pn 13 43 46.9 +0.4
MODS Modra-Piesok 6.18 347 *e*P **Pn 13 43 49.2 +2.7**
MODS *e* 13 44 59.6
MODS Modra-Piesok 6.18 347 *e*PN **Pn 13 43 49.2 +2.7**
MODS *e*SN **Sn 13 44 59.6 +2.9**
SSY Sortino 6.20 214 ⇓P Pn 13 43 44.6 -2.2
ZOU Zoufplan 6.22 314 Pn **Pn 13 43 47.4 +0.1**
VAE Valguarnera 6.22 220 Pn Pn 13 43 52.4 +5.2
comp=N,3.2nm,0.3s,baz=32,slow=7.0,SNR=5.8
VAE Sn **Sn 13 44 58.2 +0.4**
comp=N,4.4nm,0.3s,baz=79,slow=17,SNR=1.7
PLOR Plostina 6.26 54 ⇑P Pn 13 43 49.0 +1.5
PLOR Plostina 6.26 54 P **Pn 13 43 49.0 +1.5**
PLOR Plostina 6.26 54 Pn 13 43 49.0 +1.5
SMOL Smolenice 6.29 348 *e*P **Pn 13 43 50.8 +2.8**
SMOL *e* 13 45 03.1
SMOL Smolenice 6.29 348 *e*PN **Pn 13 43 50.8 +2.8**
SMOL *e*SN **Sn 13 45 03.1 +3.6**
MEU Monte Lauro 6.30 215 P **Pn 13 43 44.1 -4.1**
VRI Vrincioaia 6.31 54 ⇑P Pn 13 43 49.4 +1.2
VRI Vrincioaia 6.31 54 P **Pn 13 43 49.4 +1.2**
VRI Vrincioaia 6.31 54 Pn 13 43 49.4 +1.2
HAVL Avola 6.34 213 ⇓P Pn 13 43 46.1 -2.6
ALJA Alia 6.34 225 ⇓P Pn 13 43 49.8 +1.1
TEOL Teolo 6.34 301 Pn **Pn 13 43 49.3 +0.6**
ICOR Ion Corvin 6.36 71 ⇑P Pn 13 43 50.3 +1.4
ICOR Ion Corvin 6.36 71 Pn 13 43 50.3 +1.4
KBA Koelnbreinsper 6.39 319 *i* Pn **Pn 13 43 52.1 +2.7**
comp=N,1.0nm,0.2s,SNR=8.0
KBA *e*Sn **Sn 13 45 00.2 -1.8**
comp=N,10.0nm,0.6s
KBA Koelnbreinsper 6.39 319 Pn 13 43 52.1 +2.7
KBA **Sn 13 45 00.2 -1.8**
KBA Koelnbreinsper 6.39 319 *e*Pn **Pn 13 43 53.3 +3.8**
SNR=5.0
RAFF Raffo Rosso 6.45 219 Pn 13 43 49.4 -0.8
RAFF Raffo Rosso 6.45 219 ⇑P Pn 13 43 49.9 -0.3
ZCCA Zocca 6.46 291 Pn 13 43 50.5 +0.1
CORL Corleone 6.48 228 Pn 13 43 50.5 -0.2
UZH Uzhgorod 6.57 17 *e*P **Pn 13 43 52.5 +0.7**
UZH *e*S **Sn 13 45 07.5 +1.3**
UZH MLR MLR
comp=N,220nm,14.0s
UZH MLR MLR
comp=E,150nm,14.0s
UZH MLR MLR
comp=Z,200nm,14.0s
MOA Molln 6.57 328 *e*Pn **Pn 13 43 51.0 -0.9**
comp=Z,1.5nm,0.3s
MOA *e*Sn **Sn 13 45 08.1 +1.7**
comp=Z,11nm,0.5s
MOA Molln 6.57 328 Pn 13 43 51.0 -0.9
MOA **Sn 13 45 08.1 +1.7**
MOA Molln 6.57 328 *e*Sn **Sn 13 45 10.5 +4.1**
SNR=2.0
ABTA Abfaltersbach 6.59 314 *e*Pn **Pn 13 43 55.2 +3.0**
comp=Z,3.1nm,0.2s
ABTA *e*Sn **Sn 13 45 09.1 +2.3**
comp=Z,38nm,0.6s
ABTA Abfaltersbach 6.59 314 Pn 13 43 55.2 +3.0
ABTA **Sn 13 45 09.1 +2.3**
JAVC Velka Javorina 6.60 350 *e*PN **Pn 13 43 54.3 +2.1**
JAVC Velka Javorina 6.60 350 *e*Pn **Pn 13 43 55.0 +2.8**
SNR=4.4
HARR Harsova 6.61 67 ⇑P Pn 13 43 53.6 +1.4
HARR Harsova 6.61 67 P **Pn 13 43 53.6 +1.4**
HARR Harsova 6.61 67 Pn 13 43 53.6 +1.4
BUR01 Bucovina Ar. S 6.66 36 Pn 13 43 54.6 +1.5
BURAR Bucovina Array 6.66 36 ⇑P Pn 13 43 54.6 +1.5
CRVS Cervenica-Dubn 6.68 12 *e*P **Pn 13 43 54.2 +0.9**
CRVS Cervenica-Dubn 6.68 12 *e*PN **Pn 13 43 54.2 +0.9**
CLTB Caltabellotta 6.75 227 Pn **Pn 13 43 54.2 -0.2**
VLC Villacollemand 6.83 288 Pn **Pn 13 43 56.6 +1.2**
KOLS Kolonicke sedl 6.86 16 *e*P **Pn 13 43 57.4 +1.7**
KOLS *e* 13 45 12.0
KOLS Kolonicke sedl 6.86 16 *e*PN **Pn 13 43 57.4 +1.7**
KOLS *e*SN **Sn 13 45 12.0 -1.3**
TIRR Tirgusor 6.87 69 ⇓P Pn 13 43 57.2 +1.3
TIRR Tirgusor 6.87 69 P **Pn 13 43 55.7 -0.2**
TIRR Tirgusor 6.87 69 Pn 13 43 57.2 +1.3
TIRR Tirgusor 6.87 69 Pn **Pn 13 43 55.7 -0.2**
BALB Balikesir 6.96 110 Pn **Pn 13 43 58.5 +1.4**
TPGR Topolog 6.99 66 ⇓P Pn 13 43 57.9 +0.4
TPGR Topolog 6.99 66 Pn 13 43 57.9 +0.4
KRUC Moravsky 7.01 343 *e*PN **Pn 13 43 58.9 +1.1**
KRUC *e*SN **Sn 13 45 19.7 +2.6**
KRUC Moravsky 7.01 343 *e*Sn **Sn 13 45 22.2 +5.1**
SNR=2.8
RJOB Jochberg 7.12 321 *e*Pn **Pn 13 44 04.0 +4.6**
SNR=4.7
SALO Salr 7.18 300 Pn **Pn 13 44 00.9 +0.6**
VRAC Vranov 7.21 345 Pn **Pn 13 44 02.3 +1.8**
comp=Z,0.3nm,0.3s,baz=177,slow=11,SNR=5.2
VRAC Sn **Sn 13 45 26.3 +4.4**
comp=Z,0.6nm,0.3s,baz=276,slow=8.6,SNR=3.7
VRAC Vranov 7.21 345 *e*PN **Pn 13 44 01.6 +1.1**
VRAC *e*SN **Sn 13 45 23.6 +1.7**
CKRC Cesky Krumlov 7.37 333 *e*PN **Pn 13 44 07.4 +4.6**
CKRC *e*SN **Sn 13 45 32.2 +6.2**
CKRC Cesky Krumlov 7.37 333 *e*Pn **Pn 13 44 07.4 +4.6**
SNR=8.1
WTTA Wattenberg 7.38 314 *i* Pn **Pn 13 44 05.9 +2.9**
comp=Z,8.9nm,0.5s,SNR=6.7
WTTA *e*Sn **Sn 13 45 29.4 +2.9**
comp=Z,12nm,0.5s
WTTA Wattenberg 7.38 314 Pn 13 44 05.9 +2.9
WTTA **Sn 13 45 29.4 +2.9**
WTTA Wattenberg 7.38 314 *e*Pn **Pn 13 44 07.4 +4.3**
SNR=6.4
MSSA Maissana 7.47 288 Pn **Pn 13 44 04.3 0.0**
MORC Moravsky Berou 7.52 351 P **Pn 13 44 04.4 -0.4**
MORC Moravsky Berou 7.52 351 Pn 13 44 04.4 -0.4
MORC Moravsky Berou 7.52 351 *e*PN **Pn 13 44 06.3 +1.5**
MORC *e*SN **Sn 13 45 29.7 +0.2**
MORC Moravsky Berou 7.52 351 *e*Pn **Pn 13 44 06.8 +2.0**
SNR=3.7
SQTA Sankt Quirin 7.58 312 *e*Pn Pn 13 44 11.3 +5.5
comp=Z,5.2nm,0.2s
SQTA *e*Sn **Sn 13 45 35.1 +3.7**
comp=Z,9.7nm,0.3s
SQTA Sankt Quirin 7.58 312 Pn 13 44 11.3 +5.5
SQTA **Sn 13 45 35.1 +3.7**
GEC2 GERESS Array S 7.61 330 Pn **Pn 13 44 07.2 +1.1**
GEC2 GERESS Array S 7.61 330 *e*Pn **Pn 13 44 09.5 +3.4**
SNR=4.5
GERES GERESS Array B 7.61 330 Pn **Pn 13 44 08.4 +2.3**
comp=Z,0.7nm,0.3s,baz=154,slow=13,SNR=31
GERES Sn **Sn 13 45 32.9 +1.0**
comp=Z,0.2nm,0.3s,baz=145,slow=23,SNR=1.5
GERES GERESS Array B 7.61 330 P **Pn 13 44 07.3 +1.2**
GERES 13 45 32.9
GERES GERESS Array B 7.61 330 Pn **Pn 13 44 07.3 +1.2**
KWP Kalwaria Pacla 7.61 16 P **Pn 13 44 06.7 +0.7**
KWP Kalwaria Pacla 7.61 16 Pn 13 44 06.7 +0.7
MOTA Moosalm 7.72 313 *e*Pn **Pn 13 44 10.5 +2.8**
comp=Z,3.5nm,0.5s
MOTA *e*Sn **Sn 13 45 35.9 +1.2**
comp=Z,36nm,0.8s
MOTA Moosalm 7.72 313 P **Pn 13 44 10.5 +2.8**
MOTA 13 45 35.9
MOTA Moosalm 7.72 313 Pn 13 44 10.5 +2.8
MOTA **Sn 13 45 35.9 +1.2**
FETA Feichten 7.74 310 *e*Pn **Pn 13 44 08.2 +0.2**
comp=Z,0.4nm,0.2s
FETA *e*Sn **Sn 13 45 34.7 -0.5**
comp=Z,4.3nm,0.6s
FETA Feichten 7.74 310 Pn 13 44 08.2 +0.2
FETA **Sn 13 45 34.7 -0.5**
OJC Ojcow 7.85 2 P **Pn 13 44 09.3 0.0**
OJC Ojcow 7.85 2 Pn **Pn 13 44 09.3 0.0**
KHC Kasperske Hory 7.89 331 *e*P **Pn 13 44 12.3 +2.4**
KHC *e* 13 45 42.4
KHC Kasperske Hory 7.89 331 *e*PN **Pn 13 44 12.3 +2.4**
KHC *ex* x 13 44 32.5
KHC *e*SN **Sn 13 45 42.4 +3.6**
KHC Kasperske Hory 7.89 331 Pn 13 44 10.8 +0.9
KHC Kasperske Hory 7.89 331 *e*Pn **Pn 13 44 13.4 +3.5**
SNR=5.8
RETA Reutte 7.99 313 *e*Pn Pn 13 44 16.2 +4.9
comp=Z,0.4nm,0.2s
RETA *e*Sn **Sn 13 45 40.3 -0.9**
comp=Z,3.2nm,0.3s
RETA Reutte 7.99 313 Pn 13 44 16.2 +4.9
RETA **Sn 13 45 40.3 -0.9**
DAVOX Davos/Dischmat 8.11 306 Pn **Pn 13 44 16.0 +3.0**
comp=Z,1.5nm,0.3s,baz=118,slow=18,SNR=7.0
DAVOX Sn **Sn 13 45 49.8 +5.5**
comp=Z,1.0nm,0.3s,baz=265,slow=19,SNR=2.1
VSL Villasalto 8.13 253 Pn **Pn 13 44 12.2 -1.0**
PBCC Pribram 8.22 335 *e*PN **Pn 13 44 17.7 +3.2**
PBCC *e*SN **Sn 13 45 50.9 +4.0**
DPC Dobruska-Polom 8.26 346 *e*P **Pn 13 44 15.7 +0.7**
DPC *e* 13 45 47.5
DPC Dobruska-Polom 8.26 346 *e*PN **Pn 13 44 15.7 +0.7**
DPC *e*SN **Sn 13 45 47.5 -0.3**
IDI Anoyia 8.26 147 Pn **Pn 13 44 14.2 -1.0**
comp=Z,1.3nm,0.3s,baz=293,slow=21,SNR=3.5
IDI Sn **Sn 13 45 41.6 -6.5**
comp=Z,11nm,0.3s,baz=41,slow=7.7,SNR=11
IDI Anoyia 8.26 147 Pn **Pn 13 44 13.6 -1.5**
TUE Stuetta 8.29 303 Pn **Pn 13 44 16.2 +0.6**
PRU Pruhonice 8.33 338 *e*P **Pn 13 44 19.3 +3.4**
PRU *e* 13 45 52.2
PRU Pruhonice 8.33 338 *e*PN **Pn 13 44 19.3 +3.4**
PRU *e*SN **Sn 13 45 52.2 +2.7**
DAVA Damuels 8.37 309 *e*Sn **Sn 13 45 52.0 +1.4**
comp=Z,4.5nm,0.3s
DAVA Damuels 8.37 309 Sn 13 45 52.0 +1.4
OSTC Ostas 8.47 346 *e*PN **Pn 13 44 19.2 +1.3**
OSTC *e*SN **Sn 13 45 53.5 +0.4**
SBF Sospel 8.89 284 *e*Pn **Pn 13 44 22.0 -1.7**
SBF *e*Sn Sn 13 45 54.8 -8.6
comp=Z,4.8nm,0.4s
MDUB Mudurnu 9.05 98 Pn **Pn 13 44 26.1 +0.2**
KARP Karpathos 9.10 136 Pn **Pn 13 44 26.5 -0.1**
BRG Berggiesshubel 9.29 338 *e*P **Pn 13 44 32.1 +3.0**
BRG Amp 13 44 42.1
comp=Z,10nm,1.5s
BRG r 13 46 02.3
BRG r 13 46 36.5
BRG Amp 13 46 39.2
comp=Z,10nm,0.9s
BRG Amp 13 53 47.0
comp=E,0.3nm,23.6s
BRG Amp 13 54 05.0
comp=Z,1.1nm,23.9s
BRG Amp 13 54 10.0
comp=N,0.6nm,17.1s
FRF La Foret Royal 9.44 282 *e*P **Pn 13 44 33.3 +2.1**
FRF *e*Sn Sn 13 46 08.0 -8.8
comp=N,4.0nm,0.4s
MBDF Montbardon 9.48 289 *e*Pn **Pn 13 44 29.7 -2.1**
MBDF *e*Sn Sn 13 46 09.4 -8.6
comp=N,2.3nm,0.4s
LMR La Mourre 9.53 280 *e*P **Pn 13 44 34.8 +2.4**
LMR *e*Sn Sn 13 46 10.2 -8.8
comp=N,4.3nm,0.5s
SENIN Lac Senin/Sane 9.55 299 Pn **Pn 13 44 33.3 +0.5**
BNI Bardonecchia 9.61 290 P **Pn 13 44 33.4 -0.2**
BNI Bardonecchia 9.61 290 Pn **Pn 13 44 33.4 -0.2**
LPG La Plagne 9.66 293 *e*Pn **Pn 13 44 31.6 -2.8**
LPG *e*Sn Sn 13 46 12.5 -10
comp=N,64nm,1.1s
LPL La Plagne 9.67 293 *e*Pn **Pn 13 44 33.4 -1.2**
BFO Black Forest 9.81 311 P **Pn 13 44 36.0 -0.2**
BFO Black Forest 9.81 311 Pn **Pn 13 44 36.0 -0.2**
CLL Collm 9.95 336 *e*Pn **Pn 13 44 38.0 -0.1**
CLL *e*Sn Sn 13 46 03.0 -26
CLL *e*Sb 13 46 56.0
CLL *e*Sg 13 47 41.0
CLL Collm 9.95 336 *e*P **Pn 13 44 38.0 -0.1**
ORIF Oris-en-Rattie 10.14 289 *e*Pn **Pn 13 44 38.2 -2.6**
ORIF *e*Sn Sn 13 46 24.7 -9.4
comp=N,2.1nm,0.3s
KEST Kesra 10.26 233 Pn **Pn 13 44 45.4 +2.9**
comp=N,0.1nm,0.3s,baz=356,slow=9.8,SNR=12
HINF Hinteralfeld 10.41 306 *e*P **Pn 13 44 47.6 +3.1**
HINF *e*Sn Sn 13 46 31.8 -8.9
comp=N,1.1nm,0.2s
CABF La Chapelle 10.42 298 *e*P **Pn 13 44 45.0 +0.3**
CABF *e*Sn Sn 13 46 31.0 -10
comp=N,1.6nm,0.3s
CDF Champ du Feu 10.45 309 *e*P **Pn 13 44 48.1 +3.0**
AKASG Malin Array Be 10.71 36 Pn **Pn 13 44 49.5 +1.0**
comp=N,0.4nm,0.3s,baz=223,slow=12,SNR=21
AKBB Malin Array Si 10.71 36 *ce*P **Pn 13 44 49.4 +0.9**
AKBB Malin Array Si 10.71 36 Pn 13 44 48.3 -0.2
HAU Haudompre 10.80 306 *e*P **Pn 13 44 52.8 +3.0**
HAU *e*Sn Sn 13 46 40.8 -9.4
comp=N,4.5nm,0.3s
VIVF Saint-Julien-I 10.98 288 *e*Pn **Pn 13 44 50.0 -2.2**
VIVF *e*Sn Sn 13 46 44.9 -10
comp=N,2.2nm,0.4s
BR131 Keskin Array S 11.06 99 *i* P **Pn 13 44 54.3 +0.8**
BRTR Keskin Array B 11.06 99 Pn **Pn 13 44 56.8 +3.3**
comp=N,0.3nm,0.3s,baz=272,slow=11,SNR=3.6
LASF Ste Croix 11.48 284 *e*P **Pn 13 45 02.4 +3.3**
LASF *e*Sn Sn 13 46 57.1 -10
comp=N,1.0nm,0.4s
SMF Signal de Mont 11.91 296 *e*P **Pn 13 45 07.6 +2.6**
SMF *e*Sn Sn 13 47 07.0 -10
comp=N,1.9nm,0.4s
LOR Lormes 12.08 299 *e*P **Pn 13 45 09.2 +1.9**
LOR *e*Sn Sn 13 47 11.4 -10
comp=N,132nm,2.1s
SSF Saint Saulge 12.25 298 *e*P **Pn 13 45 12.1 +2.6**
SSF *e*Sn Sn 13 47 15.6 -10
comp=N,1.5nm,0.4s
AVF Avril sur Loir 12.27 297 *e*P **Pn 13 45 12.7 +2.8**
BGF Bois d'Agland 12.55 295 *e*P **Pn 13 45 16.1 +2.4**
BGF *e*Sn Sn 13 47 22.4 -11
comp=N,6.3nm,0.5s
BAIF Baives 13.02 311 *e*P **Pn 13 45 21.6 +1.5**
BAIF *e*Sn Sn 13 47 32.9 -12
comp=N,54nm,1.5s
ANN Anapa 13.28 73 *e*P Pn 13 45 18.3 -5.4
ANN *e*S **Sn 13 47 43.9 -6.9**
ANN pmax pmax
comp=Z,55nm,1.1s
MNK Minsk 13.36 22 *i* P **Pn 13 45 23.2 -1.4**
MNK *i* S **Sn 13 47 51.3 -1.3**
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=N,948nm,26.0s
MNK MLR MLR
comp=E,28nm,22.0s
MNK MLR MLR
comp=Z,756nm,20.0s
MNK Minsk 13.36 22 *i* P **Pn 13 45 23.3 -1.4**
comp=E,1.0nm,0.7s
MNK *i* P **Pn 13 45 23.3 -1.4**
comp=N,26nm,0.9s
MNK *i* P **Pn 13 45 23.3 -1.4**
comp=Z,29nm,0.9s,baz=208
MNK *i* PP **PnPn 13 45 31.1 -1.3**
MNK *i* PPP PPP 13 45 38.8
MNK *i* S **Sn 13 47 51.3 -1.2**
MNK *i* SS **SnSn 13 48 04.5 -0.3**
MNK *i* SSS SSS 13 48 17.1
MNK *i* LQ LQ 13 48 45.9
MNK *i* LR LR 13 50 43.7
MNK *i* LRM MLR 13 51 20.4
comp=N,948nm,25.8s
MNK *i* LRM MLR 13 51 27.9
comp=E,28nm,21.9s
MNK *i* LRM MLR 13 51 29.6
comp=Z,756nm,20.3s
PABE Paberze 13.47 11 Pn 13 45 27.3 +1.1
MMAI Mount Meron Ar 15.71 121 Pn **Pn 13 45 55.8 -0.7**
comp=Z,0.2nm,0.3s,baz=297,slow=18,SNR=6.2
VORD Divnogorie 16.08 51 *e*P **Pn 13 45 59.1 -2.0**
VORD pmax pmax
comp=Z,20nm,1.1s
VSR Storozhevoye 16.11 50 *e*P **Pn 13 45 58.2 -3.4**
VSR pmax pmax
comp=Z,20nm,1.3s
LPSR Galich'ya Gora 16.63 45 *e*P **Pn 13 46 06.5 -1.6**
LPSR pmax pmax
comp=Z,30nm,1.0s
VSU Vasula 16.75 13 *i* P **Pn 13 46 08.4 -1.1**
OBN Obninsk 16.98 35 *ce*P **Pn 13 46 11.1 -1.3**
OBN pmax pmax
comp=Z,21nm,0.7s
OBN MLR MLR
comp=Z,381nm,19.0s
KIV Kislovodsk 17.04 77 *e*P **Pn 13 46 13.6 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 17.21 78 *ce*P **Pn 13 46 14.7 -0.7**
ESDC Sonseca Array 17.84 269 P **Pn 13 46 23.7 +0.3**
comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=5.7
MOS Moscow 17.84 35 *e*P **Pn 13 46 21.3 -1.9**
HFS Hagfors 18.13 351 P **P 13 46 27.3 +0.3**
comp=Z,0.3nm,0.3s,baz=165,slow=12,SNR=6.0
GNI Garni 19.15 88 *i* P **P 13 46 38.1 -0.4**
GNI pmax pmax
comp=Z,17nm,1.1s
NC405 NORSAR Array S 19.34 349 P **P 13 46 39.3 -0.9**
NC405 IAmb IAmb 13 46 40.0
comp=Z,32nm,1.1s
NB201 NORSAR Array S 19.34 348 P **P 13 46 40.4 +0.2**
NB2 NORSAR Subarra 19.34 348 P **P 13 46 40.2 -0.1**
comp=Z,8.5nm,1.2s,baz=159,slow=9.3
NOA NORSAR Array B 19.34 348 P **P 13 46 40.9 +0.6**
comp=Z,0.0nm,0.3s,baz=161,slow=11,SNR=5.1
GROC Groznyy 19.36 79 *e*P **P 13 46 39.3 -1.3**
GROC pmax pmax
comp=Z,35nm,0.6s
NC303 NORSAR Array S 19.49 348 P **P 13 46 42.3 +0.3**
NC303 IAmb IAmb 13 46 52.6
comp=Z,34nm,1.3s
FINES FINESS Array B 19.51 10 P **Pn 13 46 44.0 +0.6**
comp=Z,0.2nm,0.3s,baz=177,slow=13,SNR=6.9

FINES	**FINESS Array B**	**19.51**	**10**	P	**P**	13 46 42.2	+0.1
FINES	**FINESS Array B**	**19.51**	**10**	P	**P**	13 46 42.2	+0.1
FIA1	**FINESS Array S**	**19.51**	**10**	P	**P**	13 46 42.0	-0.1
FIA1				IAmb	IAmb	13 46 45.6	
	comp=Z,18nm,1.2s						
EKA	**Eskdalemuir Ar**	**19.60**	**319**	P	**Pn**	13 46 44.3	-0.3
	baz=115,slow=12,SNR=4.4						
VALR	**Valaam**	**20.23**	**16**	*i* P	**P**	13 46 48.9	-1.0
VALR				pmax	pmax		
	comp=Z,33nm,0.9s						
AKT	**Akhty**	**21.05**	**83**	*e*P	**P**	13 47 00.1	+1.0
AKT				*e*		13 47 19.3	
AKT				pmax	pmax		
	comp=Z,34nm,1.1s						
MDT	**Midelt**	**21.24**	**251**	P	**P**	13 47 01.2	0.0
	comp=Z,4.2nm,0.8s,baz=86,slow=11,SNR=5.3						
BELG	**Belogornoye**	**21.44**	**52**	P	**P**	13 47 04.0	+0.9
	comp=Z,22nm,0.8s,baz=198,slow=20,SNR=6.2						
BELG	**Belogornoye**	**21.44**	**52**	*i* P	**P**	13 47 02.6	-0.4
BELG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KLMR	**Klimovskoe**	**22.15**	**27**	*e*P	**P**	13 47 09.5	-1.1
KLMR				pmax	pmax		
	comp=Z,44nm,1.3s						
KLMR	**Klimovskoe**	**22.15**	**27**	*e*P	**P**	13 47 09.6	-1.1
KLMR				AMP		13 47 15.5	
	comp=Z,44nm,1.3s						
KIRV	**Kirov**	**24.75**	**39**	*i* P	**P**	13 47 36.5	+0.2
PRGR	**Permogore**	**24.84**	**30**	*e*P	**P**	13 47 37.3	+0.2
PRGR				pmax	pmax		
	comp=Z,14nm,0.8s						
ARCES	**ARCESS Array B**	**27.41**	**5**	P	**P**	13 48 00.4	+0.1
	comp=Z,2.7nm,0.9s,baz=184,slow=12,SNR=1.4						
ARCES	**ARCESS Array B**	**27.41**	**5**	IAmb	IAmb	13 48 10.0	
	comp=Z,4.3nm,0.9s						
ARU	**Arti**	**28.64**	**47**	P	**P**	13 48 11.8	+0.4
	comp=Z,1.4nm,0.4s,baz=256,slow=5.6,SNR=7.4						
ARU	**Arti**	**28.64**	**47**	*c i*P	**P**	13 48 12.3	+0.9
ARU						13 48 58.6	
ARU				S	**S**	13 53 03.1	+4.1
ARU				SS	**SnSn**	13 54 21.9	+2.7
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ARU	**Arti**	**28.64**	**47**	P	**P**	13 48 10.6	-0.8
ARU				IAmb	IAmb	13 48 21.3	
	comp=Z,10nm,1.2s						
ABKAR	**Akbulak array**	**28.80**	**62**	P	**P**	13 48 14.0	+1.2
GEYT	**Alibeck**	**29.73**	**85**	P	**P**	13 48 21.6	+0.3
	comp=Z,2.0nm,0.5s,baz=268,slow=7.2,SNR=2.5						
GEYT	**Alibeck**	**29.73**	**85**	IAmb	IAmb	13 48 25.3	
	comp=Z,45nm,1.2s						
TOA0	**Torodi Ar. Sit**	**32.93**	**213**	P	**P**	13 48 50.4	+0.8
TORD	**Torodi Ar. Bea**	**32.93**	**213**	P	**P**	13 48 50.1	+0.5
	comp=Z,3.8nm,0.9s,baz=17,slow=9.6,SNR=14						
TORD	**Torodi Ar. Bea**	**32.93**	**213**	P	**P**	13 48 50.4	+0.8
KOWA	**Kowa**	**34.36**	**223**	P	**P**	13 49 02.1	+0.1
KOWA				IAmb	IAmb	13 49 11.4	
	comp=Z,8.5nm,1.0s						
BRVK	**Borovoye**	**35.15**	**54**	*ce*P	**P**	13 49 08.9	+0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**35.15**	**54**	P	**P**	13 49 07.8	-0.7
BRVK				IAmb	IAmb	13 49 16.0	
	comp=Z,7.5nm,0.7s						
BVAR	**Borovoye Array**	**35.21**	**54**	P	**P**	13 49 09.0	0.0
	comp=Z,2.7nm,0.9s,baz=232,slow=20,SNR=8.8						
AAK	**Ala-Archa**	**39.98**	**70**	*ce*P	**P**	13 49 51.0	+1.3
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**40.54**	**57**	P	**P**	13 49 53.3	-0.7
	comp=Z,0.4nm,0.5s,baz=289,slow=10.0,SNR=4.6						
KURK	**Kurchatov**	**40.58**	**57**	P	**P**	13 49 53.3	-1.0
KURK	**Kurchatov**	**40.58**	**57**	P	**P**	13 49 53.3	-1.0
LODK	**Lodwar**	**41.32**	**155**	P	**P**	13 50 01.2	+0.3
LODK				IAmb	IAmb	13 50 10.4	
	comp=Z,6.3nm,1.3s						
DBIC	**Dimbokro**	**41.55**	**218**	P	**P**	13 50 02.0	-0.6
DBIC	**Dimbokro**	**41.55**	**218**	P	**P**	13 50 02.0	-0.6
ZAA0	**Zalesovo Array**	**43.62**	**51**	P	**P**	13 50 18.1	-1.0
ZALV	**Zalesovo Beam**	**43.62**	**51**	P	**P**	13 50 19.1	0.0
	comp=Z,0.9nm,0.5s,baz=290,slow=9.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**43.62**	**51**	P	**P**	13 50 18.3	-0.8
ZALV	**Zalesovo Beam**	**43.62**	**51**	P	**P**	13 50 18.3	-0.8
MK31	**Makanchi Array**	**43.94**	**62**	*i* P	**P**	13 50 21.1	-0.7
MK31	**Makanchi Array**	**43.94**	**62**	P	**P**	13 50 21.5	-0.3
MKAR	**Makanchi Array**	**43.94**	**62**	P	**P**	13 50 22.2	+0.4
	comp=Z,1.4nm,0.7s,baz=278,slow=7.3,SNR=13						
MKAR	**Makanchi Array**	**43.94**	**62**	P	**P**	13 50 21.8	-0.1
MKAR	**Makanchi Array**	**43.94**	**62**	P	**P**	13 50 21.8	-0.1
DGZ	**Jazzator, Alta**	**46.30**	**56**	*i* P	**P**	13 50 40.7	0.0
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMQ	**Urumqi**	**48.56**	**64**	*e*P	**P**	13 51 02.0	+3.7
SONM	**Songino Array**	**58.49**	**52**	P	**P**	13 52 11.1	-0.1
	comp=Z,0.9nm,0.6s,baz=284,slow=5.8,SNR=2.5						
SONM	**Songino Array**	**58.49**	**52**	IAmb	IAmb	13 52 19.2	
	comp=Z,2.9nm,1.2s						
GTA	**Gaotai**	**58.64**	**63**	*e*P	P	13 52 19.2	+6.9
GTA				pP	sP	13 52 22.9	+2.5
GTA				sP	pP	13 52 25.4	+7.3
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LZH	**Lanzhou**	**63.12**	**65**	*e*P	P	13 52 49.2	+6.3
LZH				pP	sP	13 52 52.5	+1.5
LZH				sP	pP	13 52 55.0	+6.3
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC	**Hu-ho-hao-te**	**65.39**	**56**	*e*P	**P**	13 52 59.2	+1.6
HHC				pmax	pmax		
	comp=Z,25nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,7.1s						
BILL	**Bilibino**	**67.12**	**13**	*e*P	**P**	13 53 09.1	+1.0
BILL				*e*		13 53 36.5	
BILL				*e*		13 55 33.5	
BILL				*e*PPP	PPP	13 57 11.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**70.17**	**83**	P	**P**	13 53 27.0	-0.9
	comp=Z,0.8nm,0.7s,baz=308,slow=6.9,SNR=7.1						
CMAR	**Chiang Mai Arr**	**70.17**	**83**	*i* P	**P**	13 53 26.8	-1.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KLR	**Kul'dur**	**71.18**	**40**	*i* P	**P**	13 53 34.6	+1.0
KLR				pmax	pmax		
	comp=Z,7.0nm,2.1s						
ILAR	**Eielson Array**	**72.65**	**354**	P	**P**	13 53 42.6	+0.5
	comp=Z,0.3nm,0.7s,baz=15,slow=3.7,SNR=3.0						
BCAR	**Beaver Creek A**	**73.83**	**351**	P	**P**	13 53 50.0	+0.8
USA0B	**Ussuriysk Arra**	**74.81**	**43**	P	**P**	13 53 55.1	-0.1
USA0B				pmax	pmax		
	comp=Z,3.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**74.81**	**43**	P	**P**	13 53 55.1	-0.1
USA0B				IAmb	IAmb	13 53 55.9	
	comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**74.81**	**43**	P	**P**	13 53 54.8	-0.4
USRK	**Ussuriysk Ar.**	**74.81**	**43**	P	**P**	13 53 54.8	-0.4
KSRS	**Korea Array**	**77.32**	**51**	P	**P**	13 54 10.7	+1.1
	comp=Z,0.5nm,0.7s,baz=303,slow=5.6,SNR=2.6						
PDAR	**Pinedale Array**	**83.62**	**325**	P	**P**	13 54 43.5	-0.2
	comp=Z,0.3nm,0.4s,baz=38,slow=1.6,SNR=4.1						
MAT	**Matsushiro**	**83.64**	**45**	P	**P**	13 54 44.9	+1.3
TXAR	**Lajitas Array**	**91.48**	**313**	P	**P**	13 55 22.0	+0.3
	comp=Z,0.9nm,0.8s,baz=60,slow=5.3,SNR=6.8						
ASAR	**Alice Springs**	**123.34**	**93**	PKP	**PKPdf**	14 01 11.3	-0.8
	comp=Z,0.2nm,0.6s,baz=296,slow=1.7,SNR=2.4						

IDC 06 13:43:12.3±12.0,5°.08S×11°.49W,h0km,mb3.7/3,
mb1 3.9/3,mb1mx3.5/53,mbtmp3.8/3,Error ellipse:
s-maj=438.2km s-min=114.2km az=145.0,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.04**	**227**	T	T	13 48 23.5	
	baz=44,slow=74,SNR=454						
H10N1	**ASCENSION HYDR**	**4.05**	**227**	T	T	13 48 31.3	
	baz=44,slow=74,SNR=663						
H10N3	**ASCENSION HYDR**	**4.06**	**227**	T	T	13 48 22.5	
	baz=44,slow=74,SNR=425						
H10S2	**ASCENSION HYDR**	**4.97**	**219**	T	T	13 49 39.0	
	baz=38,slow=74,SNR=75						
H10S3	**ASCENSION HYDR**	**4.97**	**219**	T	T	13 49 28.4	
	baz=182,slow=74,SNR=74						

TORD	**Torodi Ar. Bea**	**22.35**	**36**	P	P	13 48 12.1	0.0
	2.4nm,1.1s,baz=222,slow=10,SNR=6.2						
GERES	**GERESS Array B**	**58.03**	**19**	P	P	13 53 07.2	+0.1
	0.8nm,0.6s,baz=198,slow=6.2,SNR=3.9						
AKASG	**Malin Array Be**	**65.65**	**27**	P	P	13 53 58.3	-0.1
	0.3nm,0.3s,baz=222,slow=6.8,SNR=4.1						

*NEIC **06** 13:56:24.9±1.3,27°.7N±0°.1×111°.62W±0°.08,h10km±2km,*
mb4.2/4,Md3.8/6(MEX),Error ellipse: s-maj=20.5km
s-min=3.7km az=145.0
*ECX **06** 13:56:27.5±0.6,27°.77N×111°.75W,h20km±15km,MD3.1*
*MEX **06** 13:56:28.4±0.4,27°.70N×111°.75W,h10km,MD3.8*
ISC 06 13:56:24.1±1.6,27°.74N±0°.07×111°.72W±0°.06,
h10km±13km,n15,σ0°92/21,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.62**	**228**	*e*P	**Pn**	**13 56 38.3**	**-0.7**
SRIG				*e*S	**Sb**	**13 56 47.0**	**+1.3**
SRIG	**Santa Rosalia**	**0.62**	**228**		**Sb**	**13 56 47.0**	**+1.3**
SRIG	**Santa Rosalia**	**0.62**	**228**		**Pb**	**13 56 37.8**	**+0.8**
SRIG	**Santa Rosalia**	**0.62**	**228**	*e*P	**Pn**	**13 56 38.3**	**-0.7**
SRIG				*i* S	**Sn**	**13 56 47.5**	**-1.5**
GUYB	**Guaymas**	**0.77**	**78**	*e*P	**Pn**	**13 56 41.7**	**+0.7**
GUYB				*e*S	**Sn**	**13 56 52.5**	**-0.2**
GUYB	**Guaymas**	**0.77**	**78**	*e*P	**Pn**	**13 56 41.7**	**+0.7**
GUYB				*e*S	**Sn**	**13 56 51.9**	**-0.8**
HSIG		**1.45**	**28**	*e*P	**Pg**	**13 56 51.5**	**-0.4**
HSIG				*e*S	**Sg**	**13 57 10.5**	**-0.2**
HSIG		**1.45**	**28**		**Sg**	**13 57 10.5**	**-0.2**
HSIG		**1.45**	**28**		**Pb**	**13 56 51.0**	**-0.2**
HSIG		**1.45**	**28**	*e*P	**Pg**	**13 56 51.8**	**-0.1**
HSIG				*e*S	**Sg**	**13 57 10.3**	**-0.4**
214A	**Organ Pipe Nat**	**4.31**	**348**	Pn	**Pn**	**13 57 30.4**	**+0.7**
BLOK	**Blackwell**	**15.20**	**50**	Pn	**Pn**	**13 59 58.3**	**-0.6**
BLOK				IAmb	IAmb	13 59 59.2	
	comp=Z,22nm,1.1s						
DLMT	**Dillon**	**17.60**	**358**	P	**P**	**14 00 32.2**	**+1.5**
DLMT				IAmb	IAmb	14 00 43.7	
	comp=Z,1.6nm,1.1s						
O53A	**New Philadelph**	**28.06**	**56**	P	**P**	**14 02 15.7**	**0.0**
O53A				IAmb	IAmb	14 02 45.0	
	comp=Z,4.9nm,0.6s						
M52A	**Chesterland**	**28.36**	**53**	P	**P**	**14 02 16.9**	**-1.5**

*JMA **06** 13:59:59.0±0.1,23°.63N×121°.53E,h0km,M3.0*
*TAP **06** 14:00:00.2,23°.68N×121°.46E,h8km,ML3.6,C*
ISC 06 14:00:00.5±0.8,23°.68N±0°.01×121°.49E±0°.02,h10km±4km,
n115,σ0°87/189,8C-20D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.05**	**54**	P	**Pg**	**14 00 03.2**	**+0.7**
	baz=67						
TEGC				S	**Sg**	**14 00 05.9**	**+1.9**
	baz=67						
EGFH	**Guangfu**	**0.06**	**263**	⇑*i*P	**Pg**	**14 00 02.0**	**-0.6**
	baz=252						
EGFH				S	**Sg**	**14 00 02.7**	**-1.4**
	baz=252						
ESL	**Shilin**	**0.15**	**338**	⇓*i*P	**Pg**	**14 00 03.5**	**-0.3**
	baz=352						
ESL				*i* S	**Sg**	**14 00 05.4**	**-0.7**
	baz=352						
HGSD	**Ruisui**	**0.19**	**199**	⇑*i*P	**Pg**	**14 00 04.9**	**+0.3**
	baz=198						
HGSD				S	**Sg**	**14 00 10.7**	**+3.3**
	baz=198						
TEYL	**Yanliau Villag**	**0.21**	**27**	*e*P	**Pb**	**14 00 06.0**	**+1.1**
	baz=20						
EHY	**Hungye**	**0.23**	**223**	⇑*i*P	**Pg**	**14 00 04.6**	**-0.6**
	baz=222						
EHY				*i* S	**Sg**	**14 00 07.3**	**-1.1**
	baz=222						
ETM	**Tongmen**	**0.29**	**0**	⇓*i*P	**Pg**	**14 00 06.3**	**0.0**
	baz=360						
ETM				*i* S	**Sg**	**14 00 09.9**	**-0.3**
	baz=360						
HWA	**Hwalien**	**0.32**	**19**	P	**Pg**	**14 00 07.6**	**+0.8**
	baz=25						
YULB	**Yu-li**	**0.34**	**212**	⇓*i*P	**Pg**	**14 00 06.6**	**-0.5**
	baz=217						
YULB				S	**Sg**	**14 00 10.8**	**-0.8**
	baz=217						
ECBN	**Changbin**	**0.36**	**186**	*e*P	**Pb**	**14 00 09.2**	**+0.1**
	baz=166						
ECBN				*e*S	**Sb**	**14 00 16.4**	**+1.7**
	baz=166						
EYUL	**Yuli**	**0.36**	**206**	P	**Pg**	**14 00 07.6**	**-0.1**
	baz=211						
TWF1	**Yuli**	**0.37**	**209**	⇑*i*P	**Pg**	**14 00 07.4**	**-0.4**
	baz=217						
TWF1				S	**Sg**	**14 00 12.3**	**-0.4**
	baz=217						
OWD	**Renai**	**0.40**	**314**	P	**Pg**	**14 00 08.1**	**-0.4**
	baz=317						
OWD				*e*S	**Sg**	**14 00 13.1**	**-0.7**
	baz=317						
TWD	**Chiawan**	**0.41**	**13**	⇓*i*P	**Pg**	**14 00 08.8**	**+0.1**
	baz=6.0						
TWD				S	**Sg**	**14 00 14.2**	**+0.1**
	baz=6.0						
CHGB	**Renai**	**0.48**	**323**	⇓*i*P	**Pg**	**14 00 09.8**	**-0.1**
	baz=334						
CHGB				S	**Sg**	**14 00 16.4**	**0.0**
	baz=334						
ETL	**Fush Village**	**0.49**	**14**	P	**Pg**	**14 00 10.3**	**+0.1**
	baz=11						
NACB	**Ninganchiao**	**0.50**	**11**	⇓*i*P	**Pg**	**14 00 10.1**	**-0.3**
	baz=11						
NACB				*e*S	**Sb**	**14 00 18.2**	**-0.7**
	baz=11						
SSLB	**Suanglung**	**0.51**	**283**	⇓*i*P	**Pg**	**14 00 10.0**	**-0.3**
	baz=285						
SSLB				S	**Sg**	**14 00 16.0**	**-1.0**
	baz=285						
FULB	**Fuli**	**0.51**	**201**	P	**Pb**	**14 00 11.3**	**-0.3**
	baz=219						
WHF	**Hehuan Shan**	**0.51**	**336**	⇓*i*P	**Pg**	**14 00 10.1**	**-0.4**
	baz=338						
WHF				*e*S	**Sg**	**14 00 17.1**	**-0.3**
	baz=338						
ETLH	**Xiulin Townshi**	**0.53**	**359**	P	**Pg**	**14 00 10.4**	**-0.4**
	baz=359						
ETLH				S	**Sg**	**14 00 18.2**	**+0.4**
	baz=359						
YUS	**Yu-Shan**	**0.53**	**249**	*e*P	**Pg**	**14 00 10.8**	**-0.1**
	baz=260						
YUS				S	**Sg**	**14 00 17.3**	**-0.7**
	baz=260						
SMLT	**Sun Moon Lake**	**0.58**	**291**	⇓*i*P	**Pg**	**14 00 11.6**	**-0.2**
	baz=293						
SMLT				*i* S	**Sg**	**14 00 19.3**	**-0.2**
	baz=293						
CHKT	**Chengkung**	**0.59**	**191**	*e*P	**Pb**	**14 00 12.7**	**-0.2**
	baz=172						
CHKT				*e*S	**Sn**	**14 00 23.7**	**-0.9**
	baz=172						
WHYT	**Xinyi Township**	**0.59**	**272**	*e*P	**Pg**	**14 00 11.7**	**-0.2**
	baz=274						
WHYT				*e*S	**Sg**	**14 00 19.6**	**0.0**
	baz=274						
WPL	**Puli Township**	**0.59**	**304**	⇓*i*P	**Pg**	**14 00 12.1**	**0.0**
	baz=307						
WPL				*e*S	**Sg**	**14 00 19.6**	**-0.2**
	baz=307						
FUSS	**Fushou**	**0.61**	**338**	P	**Pg**	**14 00 12.2**	**-0.2**
	baz=340						
FUSS				S	**Sg**	**14 00 20.5**	**-0.1**
	baz=340						
TYC	**Yuchr**	**0.62**	**291**	⇓*i*P	**Pg**	**14 00 12.3**	**-0.3**
	baz=293						
TYC				S	**Sg**	**14 00 19.7**	**-1.1**
	baz=293						
DPDB	**Guoxing**	**0.63**	**305**	P	**Pg**	**14 00 12.8**	**+0.1**
	baz=306						
DPDB				*e*S	**Sg**	**14 00 20.5**	**-0.5**
	baz=306						
ECS	**Chishang**	**0.63**	**203**	*e*P	**Pb**	**14 00 13.9**	**+0.2**
	baz=218						
TWT	**Tachien**	**0.64**	**333**	P	**Pg**	**14 00 13.2**	**+0.1**
	baz=334						
TWT				S	**Sg**	**14 00 21.5**	**0.0**
	baz=334						
TDCB	**Techi**	**0.65**	**332**	⇓*i*P	**Pg**	**14 00 13.1**	**-0.1**
	baz=334						
ALS	**Alishan**	**0.65**	**255**	⇓*i*P	**Pg**	**14 00 13.2**	**+0.1**
	baz=256						
ALS				*i* S	**Sg**	**14 00 21.4**	**-0.4**
	baz=256						
ELDTW	**Lidau**	**0.65**	**222**	⇓*i*P	**Pg**	**14 00 12.3**	**-0.9**
	baz=221						
WCS	**Beigang Elemen**	**0.65**	**306**	P	**Pg**	**14 00 13.2**	**0.0**
	baz=317						
WCS				S	**Sg**	**14 00 21.7**	**0.0**
	baz=317						
WJS	**Zhushan**	**0.71**	**282**	P	**Pb**	**14 00 14.8**	**-0.4**
	baz=283						
WJS				S	**Sn**	**14 00 26.2**	**-1.6**
	baz=283						
EDH	**Donghe**	**0.72**	**194**	P	**Pb**	**14 00 15.0**	**-0.2**
	baz=179						
EDH				S	**Sn**	**14 00 27.5**	**-0.4**
	baz=179						
CHN5	**Tsauling**	**0.75**	**264**	⇓*i*P	**Pb**	**14 00 15.5**	**-0.3**
	baz=257						
CHN5				*i* S	**Sb**	**14 00 27.1**	**+0.9**
	baz=257						
WNT	**Mingjian**	**0.77**	**285**	P	**Pb**	**14 00 16.2**	**+0.2**
	baz=293						
WNT				S	**Sn**	**14 00 28.1**	**-1.0**
	baz=293						
NNS	**Nan Shan**	**0.77**	**352**	⇓*i*P	**Pg**	**14 00 15.2**	**-0.2**
	baz=353						
NNS				S	**Sg**	**14 00 25.6**	**+0.1**
	baz=353						
WNT1	**Nantou City**	**0.78**	**287**	*e*P	**Pb**	**14 00 16.6**	**+0.4**
	baz=289						
WNT1				*e*S	**Sn**	**14 00 28.9**	**-0.5**
	baz=289						
WHP	**Taichung City**	**0.78**	**320**	*e*P	**Pg**	**14 00 15.5**	**-0.1**
	baz=321						
WHP				*e*S	**Sb**	**14 00 27.1**	**+0.1**
	baz=321						
EWUT	**Wuta**	**0.81**	**19**	P	**Pg**	**14 00 15.8**	**-0.3**
	baz=5.0						
WWF	**Wufeng**	**0.81**	**297**	P	**Pn**	**14 00 17.3**	**-0.7**
	baz=304						
WWF				S	**Sn**	**14 00 29.6**	**-0.7**
	baz=304						
STYH	**Taoyuan**	**0.83**	**233**	*e*P	**Pg**	**14 00 15.9**	**-0.6**
	baz=239						
LONT	**Longtian**	**0.84**	**204**	*e*P	**Pb**	**14 00 17.0**	**-0.2**
	baz=214						
STYT	**Tauyuan**	**0.85**	**233**	P	**Pg**	**14 00 16.5**	**-0.3**
	baz=228						
STYT				*e*S	**Sg**	**14 00 27.7**	**-0.2**
	baz=228						
WGK	**Gukeng**	**0.85**	**271**	⇑*i*P	**Pn**	**14 00 18.1**	**-0.5**
	baz=272						
WGK				*i* S	**Sn**	**14 00 30.9**	**-0.3**
	baz=272						
WDLH	**Douliu**	**0.88**	**271**	P	**Pn**	**14 00 18.4**	**-0.5**
	baz=273						
WDLH				*e*S	**Sn**	**14 00 31.2**	**-0.5**
	baz=273						
TPUB	**Ta-pu**	**0.88**	**245**	P	**Pb**	**14 00 17.8**	**-0.1**
	baz=255						
TPUB				*e*S	**Sg**	**14 00 29.0**	**+0.1**
	baz=255						
TCU	**Taichung**	**0.88**	**302**	*e*P	**Pn**	**14 00 18.5**	**-0.5**
	baz=309						
TCU				*e*S	**Sn**	**14 00 31.8**	**-0.1**
	baz=309						
CHN4	**Tsaushan**	**0.89**	**249**	P	**Pb**	**14 00 18.2**	**+0.2**
	baz=257						
CHN4				S	**Sb**	**14 00 30.4**	**+0.4**
	baz=257						
WTP	**Ta-pu**	**0.91**	**242**	⇑*i*P	**Pb**	**14 00 18.5**	**0.0**
	baz=252						
WTP				S	**Sb**	**14 00 31.2**	**+0.5**
	baz=252						
NDT	**Datong Townshi**	**0.92**	**1**	P	**Pg**	**14 00 18.1**	**-0.2**
	baz=352						
NDT				S	**Sb**	**14 00 31.2**	**+0.2**
	baz=352						
TWG	**Pinlang**	**0.94**	**204**	*e*P	**Pg**	**14 00 17.7**	**-0.8**
	baz=214						
TWGBT	**Beinan**	**0.94**	**204**	*e*P	**Pg**	**14 00 17.6**	**-0.9**
	baz=214						
TWQ1	**Liyutan**	**0.94**	**316**	⇓*i*P	**Pn**	**14 00 19.7**	**-0.1**
	baz=325						
TWQ1				S	**Sn**	**14 00 33.6**	**+0.3**
	baz=325						
CHN2	**Minshiung**	**0.94**	**261**	P	**Pn**	**14 00 20.1**	**+0.2**
	baz=263						
CHN2				S	**Sn**	**14 00 34.8**	**+1.4**
	baz=263						
WCHH	**Zhanghua**	**0.94**	**295**	P	**Pn**	**14 00 19.8**	**-0.1**
	baz=297						
WCHH				*e*S	**Sn**	**14 00 33.5**	**+0.1**
	baz=297						
ENTT	**Nioudou**	**0.96**	**4**	⇓*i*P	**Pg**	**14 00 18.9**	**-0.1**
	baz=3.0						
ENTT				S	**Sg**	**14 00 31.4**	**-0.2**
	baz=3.0						
NDS	**Dongshan**	**0.97**	**12**	P	**Pg**	**14 00 19.1**	**-0.2**
	baz=10.0						
NDS				*e*S	**Sg**	**14 00 31.6**	**-0.4**
	baz=10.0						
TWC	**Suao**	**0.98**	**19**	P	**Pg**	**14 00 19.2**	**-0.2**
	baz=6.0						
TWC				S	**Sb**	**14 00 32.9**	**+0.1**
	baz=6.0						
NSY	**Sanyi**	**0.99**	**318**	P	**Pn**	**14 00 20.9**	**+0.4**
	baz=318						
YHNB	**Yeheng**	**0.99**	**354**	⇓*i*P	**Pg**	**14 00 19.6**	**-0.1**
	baz=353						
YHNB				*i* S	**Sb**	**14 00 33.1**	**-0.1**
	baz=353						
CHY	**Chiayi**	**1.00**	**260**	*e*P	**Pn**	**14 00 20.4**	**-0.1**
	baz=262						
CHY				*e*S	**Sn**	**14 00 35.1**	**+0.4**
	baz=262						
NSK	**Sanguang**	**1.00**	**353**	⇓*i*P	**Pg**	**14 00 19.8**	**-0.1**
	baz=353						
NSK				*i* S	**Sg**	**14 00 33.1**	**+0.2**
	baz=353						
TWK	**Hsinying**	**1.01**	**246**	⇑*i*P	**Pb**	**14 00 20.2**	**+0.1**
	baz=248						
TWK				*i* S	**Sn**	**14 00 34.5**	**-0.7**
	baz=248						
CHN1	**Nanshi**	**1.01**	**241**	⇑*i*P	**Pn**	**14 00 20.5**	**-0.3**
	baz=243						
CHN1				S	**Sn**	**14 00 34.2**	**-1.0**
	baz=243						
WTK	**Tuku**	**1.01**	**271**	*e*P	**Pn**	**14 00 20.7**	**-0.1**
	baz=273						
WTK				*

ICHU	Yijhu	1.16	254	P	Pg	14 00 23.2	+0.5
	baz=256						
ICHU				eS	Sn	14 00 39.3	+0.6
	baz=256						
WSF	Szhu	1.17	268	eP	Pb	14 00 21.3	-1.4
	baz=270						
WSF				eS	Sn	14 00 39.5	+0.6
	baz=270						
ECL	Taimali	1.18	205	eP	Pb	14 00 21.4	-1.7
	baz=218						
CHN3	Shinhua	1.20	240	eP	Pg	14 00 24.6	+1.1
	baz=242						
CHN3				eS	Sn	14 00 44.8	+5.1
	baz=242						
SBCB	Hsinchu	1.20	337	eP	Pg	14 00 24.6	+1.0
	baz=338						
SBCB				eS	Sn	14 00 41.9	+2.0
	baz=338						
SCST	Cishan	1.21	230	eP	Pg	14 00 24.4	+0.7
	baz=233						
SSD	Sandimen	1.22	221	eP	Pn	14 00 23.1	-0.6
	baz=217						
TSMG	Majia	1.24	219	eP	Pg	14 00 24.4	0.0
	baz=217						
TSMG				eS	Sg	14 00 41.9	+1.4
	baz=217						
NHDH	Xindian Distri	1.28	1	eP	Pg	14 00 25.3	+0.1
	baz=13						
SCLT	Jiali	1.29	248	eS	Sg	14 00 44.6	+2.5
	baz=250						
TATO	Taipei	1.29	360	eP	Pb	14 00 25.1	+0.1
	baz=11						
TWM1	Shoushan	1.30	229	eP	Pg	14 00 26.7	+1.2
	baz=232						
TWM1				eS	Sg	14 00 46.0	+3.6
	baz=232						
TWA	Mucha	1.30	4	eP	Pg	14 00 25.6	+0.1
	baz=17						
NCUH	Zhongli	1.32	348	eP	Pg	14 00 26.5	+0.7
	baz=4.0						
MASBT	Mashibuluo	1.32	217	P	Pn	14 00 25.1	0.0
	baz=214						
MASBT				eS	Sg	14 00 44.0	+0.9
	baz=214						
TIPB	Shuangxi	1.32	13	P	Pb	14 00 25.6	0.0
	baz=12						
NWF	Wu-fen Shan	1.41	11	eP	Pg	14 00 27.7	0.0
	baz=9.0						
WFSB	Wu-fen Shan	1.41	11	eP	Pb	14 00 27.3	+0.3
	baz=9.0						
EAST	Anshuo	1.42	205	eP	Pn	14 00 26.1	-0.3
	baz=199						
TWS1	Kuangyinshan	1.42	357	eP	Pg	14 00 28.5	+0.7
	baz=9.0						
TWS1				eS	Sg	14 00 47.7	+1.5
	baz=9.0						
SSPT	Xinbi	1.46	216	eP	Pg	14 00 28.4	-0.1
	baz=214						
YM01	YM01	1.47	3	eP	Pg	14 00 28.8	+0.1
	baz=360						
ANP	Anpu	1.50	1	eP	Pg	14 00 29.2	-0.2
	baz=18						
YM08	YM08	1.51	3	eP	Pn	14 00 27.8	+0.2
SCZT	Fangliau	1.53	212	eP	Pb	14 00 28.2	-0.7
	baz=205						
JYNG	Yonaguni jima	1.54	60	P	Pn	14 00 27.9	-0.1
SLIU	Shizi	1.59	204	eP	Pb	14 00 29.7	-0.3
	baz=200						
YOJ	Yonaguni jima	1.59	60	P	Pn	14 00 29.0	+0.2
YOJ				eS	Sn	14 00 49.4	-0.1
LAY	Lan-yu	1.63	178	eP	Pn	14 00 26.6	-2.7
	baz=168						
PHUB	P'eng-hu	1.77	265	eP	Pn	14 00 30.6	-0.6
	baz=264						
PNG	Penghu	1.78	267	eP	Pn	14 00 31.5	+0.1
	baz=269						
PNG				eS	Sn	14 00 54.2	+0.2
	baz=269						
IRIF	Iriomote-Funau	2.15	72	P	Pn	14 00 36.8	+0.4
IRIF				eS	Sn	14 01 01.2	-2.0
JKRS	Kuro-shima	2.37	76	S	Sn	14 01 09.2	+0.6
JIJ	Ishigaki jima	2.52	74	P	Pn	14 00 41.2	-0.3
JIJ				eS	Sn	14 01 12.6	+0.3
JISG	Ishigakijimahi	2.73	70	P	Pn	14 00 44.2	-0.2
JISG				eS	Sn	14 01 15.1	-2.4
JTJ	Tarama	3.08	71	eS	Sn	14 01 27.0	+0.7

*TIR **06** 14:08:08.9, 42.˚42N×19.˚39E, h11km, Md2.9*
*RHSSO **06** 14:08:10.5±0.5, 42.˚40N×19.˚50E, h7km±2km, ML2.5/11*
*BEO **06** 14:08:11.3±0.3, 42.˚43N×19.˚48E, h6km±3km, ML2.1/11*
*PDG **06** 14:08:11.1±0.1, 42.˚40N×19.˚41E, h6km, MD2.7/6,*
ML2.6/13, Error ellipse: s-maj=0.0km s-min=0.1km az=0.0
ISC 06 14:08:10.3±0.8, 42.˚42N±0.˚02×19.˚49E±0.˚02, h13km±6km,
n58, σ0°90/108, 9C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.17	274	ePg	Pg	14 08 14.4	+0.2
PDG				eSg	Sg	14 08 17.8	+0.8
PDG	Podgorica	0.17	274	⇑iPg	Pg	14 08 14.5	+0.2
PDG				eSg	Sg	14 08 17.7	+0.8
TTG	Podgorica	0.17	274	⇓iPg	Pg	14 08 14.4	+0.2
TTG				iSg	Sg	14 08 15.8	-1.2
DRME	Dracevica, Mon	0.32	224	⇓iPg	Pg	14 08 16.3	-0.6
DRME				eSg	Sb	14 08 22.0	-1.0
DRME	Dracevica, Mon	0.32	224	⇑iPg	Pg	14 08 16.2	-0.6
DRME				iSg	Sg	14 08 20.6	-0.6
PVY	Plav	0.39	63	⇑iPg	Pb	14 08 19.4	+0.3
PVY				iSg	Sb	14 08 26.5	+1.4
BCI	Bajram Curri	0.43	97	P	Pb	14 08 19.9	+0.1
	baz=96						
BCI				S	Sb	14 08 27.6	+1.4
	baz=96						
KOME	Kolasin	0.43	3	⇓iPg	Pb	14 08 19.5	-0.4
KOME				iSg	Sb	14 08 26.7	+0.4
CEME	Cevo	0.44	287	⇓iPg	Pg	14 08 18.4	-0.6
CEME				iSg	Sg	14 08 24.7	-0.2
BUM	Brajici-Budva	0.46	255	⇑iPg	Pg	14 08 18.4	-0.9
BUM				iSg	Sg	14 08 24.7	-0.7
PUK	Puka	0.48	141	P	Pb	14 08 20.1	-0.5
	baz=135						
PUK				S	Sb	14 08 28.5	+0.9
	baz=135						
ULC	Ulcinj	0.49	202	⇑iPg	Pg	14 08 19.5	-0.4
ULC				iSg	Sg	14 08 26.6	+0.2
NKME	Niksic	0.53	312	ePg	Pg	14 08 20.2	-0.4
NKME				iSg	Sb	14 08 28.2	-0.8
NKY	Niksic	0.54	317	⇓iPg	Pg	14 08 20.6	-0.3
NKY				iSg	Sb	14 08 28.7	-0.7
IVA	Berane	0.54	33	⇑iPg	Pb	14 08 22.0	+0.3
IVA				iSg	Sn	14 08 31.2	-1.7
HCY	Herceg Novi	0.74	273	⇓iPg	Pg	14 08 23.6	-0.9
HCY				eSg	Sb	14 08 34.4	-0.5
HCY	Herceg Novi	0.74	273	⇑iPg	Pg	14 08 23.6	-0.9
HCY				iSg	Sb	14 08 34.3	-0.6
BRY	Bratogost	0.85	305	⇓iPg	Pg	14 08 25.9	-0.9
BRY				eSg	Sb	14 08 38.1	-0.3
BRY	Bratogost	0.85	305	⇓iPg	Pg	14 08 26.1	-0.7
BRY				iSg	Sb	14 08 38.9	+0.5
TREB	Trebinje	0.89	290	ePg	Pg	14 08 26.6	-0.9
TREB				eSg	Sb	14 08 40.4	+1.0
TREB	Trebinje	0.89	290	⇓iPg	Pg	14 08 26.7	-0.8
TREB				eSg	Sb	14 08 39.7	+0.3
UPM	Unac-Piva	0.90	332	ePg	Pb	14 08 27.7	-0.1
UPM				eSg	Sb	14 08 39.7	0.0
UPM	Unac-Piva	0.90	332	⇓iPg	Pb	14 08 27.4	-0.4
UPM				iSg	Sn	14 08 41.2	-0.5
PLE	Pljevlja	0.92	355	⇑iPg	Pb	14 08 28.2	+0.1
PLE				iSg	Sn	14 08 42.7	+0.6
SJES	Sjenica	0.92	23	ePg	Pb	14 08 27.9	-0.2
SJES				eSg	Sb	14 08 40.4	+0.2
PHP	Peshkopia	1.02	136	P	Pn	14 08 30.5	+0.2
	baz=132						
PHP				S	Sn	14 08 46.7	+2.2
	baz=132						
TIR	Tirane	1.10	165	ePg	Pg	14 08 30.8	-0.7
TIR				eSg	Sn	14 08 47.6	+1.0
RUDO	Rudo	1.20	356	ePg	Pn	14 08 32.9	+0.1
RUDO				eSg	Sn	14 08 48.7	-0.3
STON	Ston	1.40	290	⇑iPg	Pn	14 08 35.0	-0.4
STON				eSg	Sg	14 08 55.4	+0.2
STON	Ston	1.40	290	ePn	Pn	14 08 35.0	-0.4
STON				Sg	Sg	14 08 55.9	+0.7
SELS	Selova	1.44	56	ePg	Pg	14 08 37.1	-0.9
SELS				eSg	Sg	14 08 57.2	+0.4
BBLS	Lazići	1.45	358	ePg	Pg	14 08 38.0	-0.1
BBLS				eSg	Sg	14 08 58.4	+1.4
BBLS	Lazići	1.45	358	ePg	Pb	14 08 36.9	-0.3
BBLS				eSg	Sg	14 08 57.0	0.0
OHR	Ohrid	1.63	143	iPn	Pn	14 08 31.9	-6.9
HAPS	Han Pijesak,Bl	1.71	347	ePn	Pb	14 08 40.9	-0.8
HAPS				eSn	Sg	14 09 03.9	-1.5
DIVS	Divibare	1.72	12	ePg	Pb	14 08 41.1	-0.7
DIVS				eSg	Sg	14 09 04.3	-1.3
DIVS	Divibare	1.72	12	⇓iPn	Pb	14 08 40.7	-1.1
DIVS				eSn	Sb	14 09 03.4	0.0
GRUS	Gruza	1.72	31	ePn	Pb	14 08 41.2	-0.6
GRUS				eSn	Sg	14 09 04.7	-1.0
BARS	Barje	1.76	76	ePn	Pb	14 08 42.2	-0.3
BARS				eSn	Sg	14 09 06.8	-0.2
PRVS	Prvonek	1.92	86	ePn	Pb	14 08 43.7	-1.4
PRVS				eSn	Sb	14 09 08.8	-0.2
TRUS	Trudelj	1.93	20	ePn	Pb	14 08 43.8	-1.4
LSTV	Lastovo	1.95	281	ePn	Pn	14 08 43.0	-0.1
LSTV				Sn	Sn	14 09 08.4	+1.0
BOVS	Bovan	2.03	52	ePn	Pn	14 08 44.7	+0.5
BOVS				eSn	Sb	14 09 11.2	-1.0
RICI	Ricice	2.04	303	ePn	Pn	14 08 45.3	+1.0
RICI				Sn	Sb	14 09 11.2	-1.2
STIP	Stip	2.13	109	iPn	Pg	14 08 50.4	-0.8
BOSS	Bosilegrad	2.22	87	ePn	Pb	14 08 49.3	-0.9
HVAR	Hvar	2.36	290	ePn	Pn	14 08 49.2	+0.5
HVAR				Sn	Sn	14 09 18.2	+0.6
ZAGS	Zajecar	2.45	54	ePn	Pn	14 08 50.6	+0.7
ZAPS	Zavoj	2.47	69	ePn	Pb	14 08 52.1	-2.4
FRGS	Fruska Gora	2.75	5	ePn	Pn	14 08 54.8	+0.7
FRGS				eSn	Sn	14 09 28.9	+1.7
KIJV	Kijevo	2.76	306	ePn	Pn	14 08 56.4	+2.2
KIJV				Sn	Sn	14 09 28.9	+1.5
BLY	Banja Luka	2.87	325	ePn	Pn	14 08 57.2	+1.5
BLY				eSn	Sn	14 09 31.9	+1.8
ZIRJ	Zirje	3.08	295	ePn	Pn	14 08 59.1	+0.5
ZIRJ				Sn	Sn	14 09 35.6	+0.4
MORI	Morici	3.12	299	ePn	Pn	14 09 00.7	+1.6
MORI				Sn	Sn	14 09 37.5	+1.1
DUGI	Dugi Otok	3.60	297	ePn	Pn	14 09 06.5	+0.7
DUGI				Sn	Sn	14 09 48.7	+0.6
MOSL	Moslavina	3.75	329	ePn	Pn	14 09 09.3	+1.4
MORH	Mrgy, Hungar	3.84	351	ePn	Pn	14 09 09.8	+0.7
MORH				eSn	Sn	14 09 54.9	+0.8
NVLJ	Novalja	3.99	304	ePn	Pn	14 09 12.3	+1.3
NVLJ				Sn	Sn	14 09 58.1	+0.5

*IDC **06** 14:14:48.4±83.0, 17.˚51S×168.˚63E, h0km, mb4.0/3,*
mb1 4.2/3, mb1mx3.7/24, mbtmp4.0/3, Error ellipse:
s-maj=1396.0km s-min=130.9km az=70.0
*NEIC **06** 14:15:00.3±2.0, 18.˚5S±0.˚1×168.˚5E±0.˚1, h70km±13km,*
mb4.5/13, Error ellipse: s-maj=22.0km s-min=15.7km
az=124.0
*NOU **06** 14:15:28.2, 20.˚49S×167.˚37E, h0km, ML2.7, Loyalty*
Islands
ISC 06 14:14:58.2±1.3, 18.˚3S±0.˚1×168.˚4E±0.˚1, h50km, n28,
σ1°77/29, mb4.3/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.66	203	Pn	Pn	14 15 38.3	-0.3
LIFNC				Sn	Sn	14 16 06.2	-3.4
MARNC	Mare, Loyalty	3.16	185	Pn	Pn	14 15 48.6	+3.1
MARNC	Mare, Loyalty	3.16	185	P	Pn	14 15 50.0	+4.5
YATNC	Mamie plateau,	3.97	200	P	Pn	14 15 57.2	+0.7
DZM	Mont Dzumac	4.14	205	Pn	Pn	14 15 59.5	+0.5
DZM	Mont Dzumac	4.14	205	P	Pn	14 16 00.3	+1.3
NOUC	Port Laguerre	4.23	207	P	Pn	14 16 01.0	+0.9
OUENC	Ouen Island, N	4.32	199	Pn	Pn	14 16 03.9	+2.5
ONTNC	Ouen Toro	4.35	204	Pn	Pn	14 16 02.7	+1.0
ONTNC	Ouen Toro	4.35	204	P	Pn	14 16 03.2	+1.4
PINNC	Pines Island,	4.36	191	Pn	Pn	14 16 02.6	+0.7
NIUE	Niue	20.60	96	P	P	14 19 30.4	-2.8
STKA	Stephens Creek	27.64	236	P	P	14 20 44.2	+3.0
	2.8nm,0.8s,baz=76,slow=8.3,SNR=3.8						
STKA	Stephens Creek	27.64	236	P	P	14 20 41.8	+0.5
WR0	Warramunga Arr	31.95	262	P	P	14 21 19.2	-0.4
WR0				IAmb	IAmb	14 21 23.5	
	comp=Z,1.8nm,0.9s						
WB0	Warramunga Arr	32.10	262	P	P	14 21 20.5	-0.3
WB0				IAmb	IAmb	14 21 23.7	
	comp=Z,5.8nm,1.2s						
WB2	Warramunga Arr	32.13	262	P	P	14 21 20.9	-0.2
WB2				IAmb	IAmb	14 21 44.9	
	comp=Z,7.5nm,1.3s						
WRAB	Tennant Creek	32.13	262	P	P	14 21 20.9	-0.2
WRAB				IAmb	IAmb	14 21 22.2	
	comp=Z,10nm,1.4s						
WRA	Warramunga Arr	32.14	262	P	P	14 21 21.4	+0.2
	comp=Z,0.4nm,0.4s,baz=91,slow=9.1,SNR=3.1						
WRA	Warramunga Arr	32.14	262	P	P	14 21 21.2	0.0
BBOO	Buckleboo	32.35	237	P	P	14 21 24.8	+1.8
BBOO				IAmb	IAmb	14 21 43.7	
	comp=Z,26nm,1.4s						
AS31	Alice Springs	32.54	255	P	P	14 21 25.2	+0.4
ASAR	Alice Springs	32.54	255	P	P	14 21 25.6	+0.8
	comp=Z,1.4nm,0.5s,baz=82,slow=8.9,SNR=52						
ASAR	Alice Springs	32.54	255	P	P	14 21 25.3	+0.6
KNRA	Kununurra	37.90	268	P	P	14 22 11.7	+0.9
KNRA				IAmb	IAmb	14 22 14.6	
	comp=Z,21nm,1.4s						
FITZ	Fitzroy Crossi	40.50	263	P	P	14 22 34.0	+1.4
FITZ				IAmb	IAmb	14 22 36.8	
	comp=Z,5.4nm,0.8s						
GIRL	Giralia	50.65	255	P	P	14 23 52.7	-0.1
CASY	Casey	60.63	203	P	P	14 25 02.2	-1.4

*INET **06** 14:17:05.5, 11.˚21N×85.˚68W, h197km, MW4.2*
*SNET **06** 14:17:13.5±5.3, 11.˚57N×85.˚50W, h148km, mb4.5(NEIC)*
*IDC **06** 14:17:14.0±0.4, 11.˚32N×85.˚43W, h161km±4km, mb3.8/17,*
mb1 4.0/18, mb1mx3.9/35, mbtmp4.2/18, Error ellipse:
s-maj=19.9km s-min=8.8km az=59.0
*NEIC **06** 14:17:14.1±1.8, 11.˚29N±0.˚04×85.˚64W±0.˚06, h161km±4km,*
mb4.7/167, Error ellipse: s-maj=8.4km s-min=6.0km
az=67.0
*UPA **06** 14:17:17.3±3.2, 9.˚94N×86.˚25W, h10km±157km, MW4.6*
ISC 06 14:17:13.8±0.5, 11.˚29N±0.˚04×85.˚69W±0.˚05, h162km±5km,
n407, σ1°19/437, mb4.7/95, 2C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	Horizontes, Gu	0.58	171	Pn	Pn	14 17 37.0	+0.1
HZTE				Sn	Sn	14 17 54.2	-0.4
MASN	Masaya	0.83	327	Pn	Pn	14 17 38.3	-0.1
ACON	Acoyapa	0.84	37	Pn	Pn	14 17 38.6	+0.2
ACON				Sn	Sn	14 17 56.4	-1.1
HUEN		1.14	336	Pn	Pn	14 17 41.6	+0.7
DUNO	Dulce Nombre,	1.22	171	Pn	Pn	14 17 41.8	+0.2
JTS	Las Juntas de	1.23	144	P	Pn	14 17 41.7	0.0
	218nm,0.3s,baz=340,slow=12,SNR=397						
JTS				S	Sn	14 18 01.5	-1.6
	491nm,0.3s,baz=10,slow=23,SNR=16						
JTS				LR	LR	14 18 16.9	
	comp=Z,421nm,18.1s,baz=62,slow=56						
JTS	Las Juntas de	1.23	144	iP	Pn	14 17 41.8	+0.1
JTS				eS	Sn	14 18 01.6	-1.6
JTS	Las Juntas de	1.23	144	Pn	Pn	14 17 41.6	-0.1
COVE	Coope Vega, Sa	1.39	114	Pn	Pn	14 17 43.1	0.0
CNGN	Cerro Negro	1.56	321	Pn	Pn	14 17 46.5	+1.7
ESPN	Las Esperanzas	1.63	56	Pn	Pn	14 17 45.8	+0.2
CAO2	Cobano, Puntar	1.69	160	Pn	Pn	14 17 46.2	-0.1
JACO	JACO, Garabito	1.91	148		Pn	14 17 49.1	+0.5
CRIN	San Cristobal	1.93	317	Pn	Pn	14 17 49.7	+0.7
HDC	Heredia	2.01	129	⇑iP	Pn	14 17 51.3	+1.4
HDC				eS	Sn	14 18 18.4	+0.7
CVTR	Volcan Turrial	2.28	123	Pn	Pn	14 17 53.3	0.0
RIMA	Rio Macho	2.35	130	Pn	Pn	14 17 54.7	+0.8
BATAN	Batan	2.56	117	eP	Pn	14 17 57.4	+1.1
BATAN				eS	Sn	14 18 35.7	+6.6
BATAN	Batan	2.56	117	Pn	Pn	14 17 56.9	+0.6
PEZE	Perez Zeledon,	2.74	134		Pn	14 17 59.5	+1.0
CNCH	Conchagua	2.88	314	eP	Pn	14 18 01.2	+1.0
CNCH				eS	Sn	14 18 35.2	-1.1
SRBA	San Rafael, Bu	3.07	132		Pn	14 18 03.4	+0.7
DRK0	Durika	3.14	130	eP	Pn	14 18 04.6	+1.0
DRK0				eS	Sn	14 18 41.5	-0.6
DRK0	Durika	3.14	130	Pn	Pn	14 18 04.2	+0.7
TGUH	Tegucigalpa,Un	3.15	331	iP	Pn	14 18 05.6	+1.9
TGUH	Tegucigalpa,Un	3.15	331	Pn	Pn	14 18 05.8	+2.1
VSM	San Miguel	3.30	310	eP	Pn	14 18 08.9	+3.2
VSM				eS	Sn	14 18 49.9	+3.9
LCY	Lacayo	3.31	310	eP	Pn	14 18 07.0	+1.3
LCY				eS	Sn	14 18 42.5	-3.5
TECA	Tecapa	3.52	309	eP	Pn	14 18 10.0	+1.6
TECA				eS	Sn	14 18 47.8	-2.9
PTJ1	Puerto Jimnez	3.61	139	eP	Pn	14 18 11.5	+2.2
PTJ1				eS	Sn	14 18 53.8	+1.3
CNI2	El Empalme, Bo	3.67	120	eP	Pn	14 18 12.0	+1.9
CNI2				eS	Sn	14 18 57.7	+3.8
PIRO	Carate, Puerto	3.69	141	eP	Pn	14 18 11.9	+1.5
PIRO				eS	Sn	14 18 55.1	+0.7
MLIR3	Monte Lirio, C	3.76	131	eP	Pn	14 18 13.6	+2.3
MLIR3				eS	Sn	14 18 55.4	-0.7
BRU2	Volcan	3.86	130	eP	Pn	14 18 14.2	+1.6
BRU2				eS	Sn	14 18 58.0	-0.5
CDITO	Canoas	3.87	134	eP	Pn	14 18 13.8	+1.1
CDITO	Canoas	3.87	134	Pn	Pn	14 18 13.4	+0.7
BC3P	Paso Ancho	3.90	129	eP	Pn	14 18 15.1	+1.8
BC3P				eS	Sn	14 18 59.4	-0.3
BCO2	Palmira	4.03	129	eP	Pn	14 18 16.3	+1.4
BCO2				eS	Sn	14 19 00.2	-2.2
LFRS	El Faro	4.03	305	eP	Pn	14 18 16.6	+1.8
LFRS				eS	Sn	14 19 00.6	-1.8
LNBQ3	Los Naranjos,	4.05	128	⇑eP	Pn	14 18 17.0	+1.9
PTAR3	Potrerillos Ar	4.07	129	eP	Pn	14 18 17.6	+2.3
PTAR3				eS	Sn	14 18 56.0	-7.4
CHGR2	Aguacate	4.20	123	eP	Pn	14 18 17.8	+0.8
CHGR2				eS	Sn	14 19 08.2	+1.9
PSOM3	Paja de Sombre	4.21	128	eP	Pn	14 18 18.3	+1.2
BOQS	Boqueron	4.27	305	eP	Pn	14 18 20.8	+2.8
BOQS				eS	Sn	14 19 08.3	+0.2
DVD	David	4.27	131	eP	Pn	14 18 19.2	+1.3
DVD				eS	Sn	14 19 06.0	-1.9
SBLS	San Blas	4.60	304	eP	Pn	14 18 24.7	+2.3
SBLS				eS	Sn	14 19 15.8	-0.2
PRVC	Isla de Provid	4.71	63	Pn	Pn	14 18 23.6	0.0
MTO3	Montecristo	4.73	311	eP	Pn	14 18 25.7	+1.6
MTO3				eS	Sn	14 19 17.9	-1.1
BCIP	Isla Barro Col	6.13	110	Pn	Pn	14 18 43.0	+0.6
CMIG	Matias Romero	10.62	304	P	Pn	14 19 42.6	+0.9
	3.1nm,0.3s,baz=118,slow=12,SNR=27						
CMIG				S	Sn	14 21 37.5	-2.0
	0.5nm,0.3s,baz=85,slow=22,SNR=2.2						
ROSC	El Rosal	12.95	119	Pn	Pn	14 20 10.5	-1.9
OTAV	Otavalo	13.12	146	Pn	Pn	14 20 14.2	-0.5
URIC	Uribia, Colomb	13.43	87		P	14 20 22.4	+0.6
553A	Crawfordville	18.84	3	Pn	Pn	14 21 24.1	+0.3
553A				IAmb	IAmb	14 21 45.9	
	comp=Z,38nm,1.0s						
ATAH	Atahualpa	19.69	158	P	Pn	14 21 33.9	-0.4
	comp=Z,0.4nm,0.3s,baz=76,slow=10,SNR=4.3						
SJG	San Juan	20.07	68	P	P	14 21 35.4	+0.7
	comp=Z,1.6nm,0.3s,baz=245,slow=4.3,SNR=6.0						
SJG	San Juan	20.07	68	IAmb	IAmb	14 21 39.1	
	comp=Z,19nm,0.7s						
250A	Grady	20.60	359	P	P	14 21 41.2	+1.0
250A				IAmb	IAmb	14 21 47.4	
	comp=Z,26nm,1.1s						
PCRV	Puerto La Cruz	20.71	91	P	P	14 21 42.9	+1.2
	comp=Z,26nm,0.5s,baz=243,slow=4.6,SNR=13						
255A	Hazlehurst	20.75	8	P	P	14 21 42.1	+0.3
255A				IAmb	IAmb	14 21 46.5	
	comp=Z,25nm,0.8s						
833A	Chaparral WMA,	21.26	325	P	P	14 21 48.2	+0.9
	baz=140						
152A	Waverly Hall	21.30	2	P	P	14 21 49.0	+1.3
154A	Montrose	21.36	6	P	P	14 21 50.2	+1.9
LRAL	Lakeview Retre	21.68	357	P	P	14 21 52.3	+0.5
	baz=176,SNR=16						
LRAL	Lakeview Retre	21.68	357		P	14 21 51.5	-0.2
LRAL				IAmb	IAmb	14 21 55.5	
	comp=Z,25nm,0.7s						
Z51A	Franklin	21.93	1	P	P	14 21 55.2	+0.9
Z51A				IAmb	IAmb	14 21 57.9	
	comp=Z,32nm,1.0s						
GOGA	Godfrey	22.11	5	P	P	14 21 56.1	0.0
	baz=186,SNR=9.2						
GOGA	Godfrey	22.11	5	P	P	14 21 57.0	+0.9
GOGA				IAmb	IAmb	14 21 59.4	
	comp=Z,51nm,1.5s						
435B	Jarrell	22.32	332	P	P	14 21 58.6	+0.4
	baz=148						
Y49A	Blount Mountai	22.47	358	P	P	14 21 59.4	-0.3
Y52A	Lilburn	22.52	4	P	P	14 21 59.1	-0.9
Y52A				IAmb	IAmb	14 22 02.9	
	comp=Z,29nm,0.8s						
Z41A	Richland Creek	22.82	344	P	P	14 22 03.3	+0.6
	baz=162						
HODGE	Hodges	23.05	7	P	P	14 22 06.2	+1.3
X48A	Hartselle	23.09	357	P	P	14 22 06.2	+1.0
X48A				IAmb	IAmb	14 22 08.0	
	comp=Z,15nm,0.8s						
FPAL	Fort Paine	23.14	0	P	P	14 22 06.0	+0.1
FPAL				IAmb	IAmb	14 22 08.1	
	comp=Z,16nm,1.0s						
JCT	Junction City	23.16	328	P	P	14 22 06.1	+0.1
	baz=143						
X51A	Calhoun	23.18	2	P	P	14 22 07.0	+0.9
X51A				IAmb	IAmb	14 22 08.7	
	comp=Z,26nm,0.8s						
JSC	Jenkinsville	23.24	9	P	P	14 22 07.8	+1.2
JSC				IAmb	IAmb	14 22 09.5	
	comp=

V51A Loudon 24.43 3 P P 14 22 17.1 -0.4
V51A IAmb IAmb 14 22 20.3
comp=Z,27nm,0.8s
W41B Gary Mavity, V 24.51 347 P P 14 22 17.9 -0.3
baz=164,SNR=7.7
V52A Sevierville 24.52 4 P P 14 22 17.6 -0.6
V52A IAmb IAmb 14 22 23.0
comp=Z,12nm,0.8s
TXAR Lajitas Array 24.57 320 P P 14 22 20.5 +1.6
comp=Z,5.8nm,0.8s,baz=138,slow=9.2,SNR=40
TXAR pP pP 14 22 53.9 +2.1
comp=Z,1.2nm,0.7s,baz=138,slow=9.1,SNR=2.8
TXAR PcP PcP 14 25 54.3 +1.6
comp=Z,1.3nm,0.8s,baz=134,slow=5.0,SNR=8.8
TXAR Lajitas Array 24.57 320 P P 14 22 18.1 -0.8
TX31 Lajitas Ar. Si 24.57 320 P P 14 22 19.0 +0.1
TX31 IAmb IAmb 14 22 23.5
comp=Z,21nm,0.8s
TX31 PcP 14 25 53.7 +1.0
TX32 Lajitas Array 24.57 320 P P 14 22 19.2 +0.4
WHAR Wooly Hollow 24.63 347 P P 14 22 19.6 +0.3
WHAR IAmb IAmb 14 22 20.8
comp=Z,15nm,0.9s
CLTN Cedars of Leba 24.70 359 P P 14 22 19.3 -0.6
CLTN IAmb IAmb 14 22 22.2
comp=Z,32nm,1.3s
V55A Taylorsville 24.79 9 P P 14 22 20.8 +0.1
V55A IAmb IAmb 14 22 23.6
comp=Z,15nm,0.9s
WVT Waverly 24.81 356 P P 14 22 21.3 +0.5
baz=175
WVT Waverly 24.81 356 P P 14 22 19.5 -1.4
ABTX Abilene, Hawle 24.81 331 P P 14 22 21.5 +0.5
baz=146
W39A Magazine 24.91 344 P P 14 22 22.2 +0.4
baz=161,SNR=6.4
U49A Red Boiling Sp 25.11 360 P P 14 22 22.5 -1.2
U49A IAmb IAmb 14 22 25.8
comp=Z,18nm,0.8s
V58A Windy Hill, Pi 25.11 13 P P 14 22 23.2 -0.4
LCAR Lake Charles 25.16 350 P P 14 22 22.7 -1.3
LCAR IAmb IAmb 14 22 25.3
comp=Z,13nm,0.7s
TZTN Tazewell 25.22 4 P P 14 22 25.5 +0.9
baz=185
TZTN Tazewell 25.22 4 P P 14 22 23.8 -0.8
TZTN IAmb IAmb 14 22 30.3
comp=Z,16nm,0.8s
U54A Nelsons Funny 25.36 7 P P 14 22 26.4 +0.5
U54A IAmb IAmb 14 22 28.8
comp=Z,22nm,1.0s
T47A Sharon Grove 25.62 357 P P 14 22 28.1 -0.1
T47A IAmb IAmb 14 22 30.0
comp=Z,22nm,0.8s
T50A Nancy 25.63 2 P P 14 22 28.5 +0.2
T50A IAmb IAmb 14 22 30.3
comp=Z,9.3nm,0.8s
U40A Yellville 25.78 347 P P 14 22 30.2 +0.5
baz=164,SNR=5.7
U40A Yellville 25.78 347 P P 14 22 29.6 -0.1
WMOK Wichita Mounta 26.21 335 P P 14 22 33.9 +0.3
baz=150
BLA Blacksburg 26.24 10 P P 14 22 34.1 +0.2
baz=192
BLA Blacksburg 26.24 10 P P 14 22 34.0 +0.2
BLA IAmb IAmb 14 22 37.5
comp=Z,12nm,0.8s
S51A Beattyville 26.30 4 P P 14 22 34.1 -0.2
MGMO Mountain Grove 26.43 348 P P 14 22 35.2 -0.2
MGMO IAmb IAmb 14 22 37.6
comp=Z,8.1nm,0.7s
S44A Carbondale 26.49 354 P P 14 22 34.5 -1.5
S44A IAmb IAmb 14 22 37.7
comp=Z,28nm,1.1s
T59A Double "B" Far 26.60 15 P P 14 22 36.1 -0.9
S54A Dingess, Beckl 26.69 8 P P 14 22 38.2 +0.4
S54A IAmb IAmb 14 22 40.3
comp=Z,12nm,0.8s
WCI Wyandotte Cave 26.83 359 P P 14 22 39.5 +0.5
baz=179
WCI Wyandotte Cave 26.83 359 P P 14 22 38.5 -0.6
R49A Shelbyville 26.89 1 P P 14 22 39.6 0.0
R50A Paris 26.91 2 P P 14 22 39.6 -0.1
R50A IAmb IAmb 14 22 41.9
comp=Z,16nm,0.8s
CCM Cathedral Cave 27.11 350 P P 14 22 41.9 +0.3
baz=168
CCM Cathedral Cave 27.11 350 P P 14 22 40.4 -1.1
CCM IAmb IAmb 14 22 42.8
comp=Z,16nm,0.9s
S39A Bolivar 27.17 347 P P 14 22 41.1 -1.0
R55A Marlinton 27.34 10 P P 14 22 44.2 +0.6
R55A IAmb IAmb 14 22 46.6
comp=Z,15nm,0.9s
R40A Maddies Statio 27.52 349 P P 14 22 45.4 +0.2
Q44A Meyer Farm, Va 27.66 354 P P 14 22 44.0 -2.4
Q51A Peebles 27.70 4 P P 14 22 46.7 -0.1
Q52A Bidwell 27.73 6 P P 14 22 46.2 -0.8
Q54A Coxs Mills 27.92 8 P P 14 22 48.6 -0.1
P48A Milroy 28.06 0 P P 14 22 49.6 -0.4
P49A Miami Univ. Ec 28.14 2 P P 14 22 51.1 +0.4
baz=182
P49A Miami Univ. Ec 28.14 2 P P 14 22 50.0 -0.7
P51A Williamsport 28.17 4 P P 14 22 51.0 0.0
Q56A Snyder Ridge, 28.24 11 P P 14 22 52.5 +1.0
Q56A IAmb IAmb 14 22 55.0
comp=Z,23nm,1.1s
P46A Rosedale 28.25 358 P P 14 22 51.5 -0.1
P53A Whipple 28.34 7 P P 14 22 53.2 +0.7
P52A Corning 28.41 6 P P 14 22 53.6 +0.6
baz=187,SNR=9.0
P52A Corning 28.41 6 P P 14 22 52.2 -0.9
R61A Willards 28.47 17 P P 14 22 52.5 -1.1
MACA Manacapuru-AM 28.72 119 eP P 14 22 55.6 -0.6
MCWV Mont Chateau 28.73 9 P P 14 22 56.3 +0.4
baz=192
P57A Homestead Farm 28.90 12 P P 14 22 57.7 +0.3
O52A Adamsville 28.91 6 P P 14 22 57.0 -0.6
ACSO Alum Creek Sta 28.93 4 P P 14 22 57.9 +0.2
baz=185,SNR=6.8
ACSO Alum Creek Sta 28.93 4 P P 14 22 56.9 -0.8
SFIN Lafayette 29.00 358 P P 14 22 58.1 -0.2
baz=177,SNR=13
SFIN Lafayette 29.00 358 P P 14 22 56.5 -1.7
P38A Dawn 29.07 347 P P 14 22 57.0 -2.0
P38A IAmb IAmb 14 22 59.7
comp=Z,8.4nm,0.8s
O53A New Philadelph 29.11 7 P P 14 22 59.8 +0.5
baz=189,SNR=7.2
O53A New Philadelph 29.11 7 P P 14 22 59.5 +0.2
HDIL Hopedale 29.32 354 P P 14 23 01.5 +0.4
baz=173
HDIL Hopedale 29.32 354 P P 14 23 01.0 -0.2
O56A Blue Knob Stat 29.54 11 P P 14 23 04.5 +1.4
baz=194
O56A Blue Knob Stat 29.54 11 P P 14 23 03.0 -0.1
N49A Columbus Grove 29.55 2 P P 14 23 02.7 -0.4
N53A Lisbon 29.71 7 P P 14 23 04.6 0.0
N53A IAmb IAmb 14 23 06.6
comp=Z,21nm,0.8s
P60A Greenville 29.77 16 P P 14 23 06.2 +1.1
baz=200
SSPA Standing Stone 30.03 12 P P 14 23 09.2 +1.8
baz=195
SSPA Standing Stone 30.03 12 P P 14 23 07.7 +0.3
SSPA IAmb IAmb 14 23 10.0
comp=Z,15nm,0.9s
M53A WI Miller and 30.35 7 P P 14 23 10.9 +0.7
baz=190,SNR=10
M53A WI Miller and 30.35 7 P P 14 23 10.5 +0.3
M52A Chesterland 30.37 6 P P 14 23 10.5 +0.1
M52A IAmb IAmb 14 23 12.1
comp=Z,17nm,1.1s
N58A Sunbury 30.48 13 P P 14 23 11.8 +0.5
N58A IAmb IAmb 14 23 14.0
comp=Z,16nm,1.0s
L48A N Adams 30.56 2 P P 14 23 12.0 0.0
M54A Oil Creek Stat 30.56 9 P P 14 23 13.3 +1.2
baz=192
M54A Oil Creek Stat 30.56 9 P P 14 23 12.6 +0.5
M54A IAmb IAmb 14 23 14.2
comp=Z,8.9nm,0.9s
M55A Ridgway 30.67 10 P P 14 23 13.9 +0.8
M55A IAmb IAmb 14 23 15.4
comp=Z,21nm,0.9s

N59A State Game Lan 30.78 15 P P 14 23 15.5 +1.5
baz=199
N59A State Game Lan 30.78 15 P P 14 23 14.7 +0.7
N59A IAmb IAmb 14 23 16.8
comp=Z,11nm,0.7s
L42A Oliver, Polo 30.79 354 P P 14 23 13.8 -0.3
M57A Sunshine Farm, 30.86 13 P P 14 23 15.6 +0.9
M57A IAmb IAmb 14 23 17.5
comp=Z,19nm,0.8s
L40A Anamosa 31.04 352 P P 14 23 15.8 -0.4
L40A IAmb IAmb 14 23 17.2
comp=Z,18nm,0.8s
ERPA Erie 31.11 8 P P 14 23 18.0 +1.1
baz=191
ERPA Erie 31.11 8 P P 14 23 16.2 -0.7
SCIA State Center 31.20 349 P P 14 23 18.7 +1.0
baz=166
L56A Greenwood 31.54 12 P P 14 23 20.9 +0.2
WVNY West Valley, N 31.61 10 P P 14 23 21.5 +0.2
WVNY IAmb IAmb 14 23 23.5
comp=Z,21nm,1.2s
JFWS Jewell Farm 31.75 354 P P 14 23 23.3 +0.8
baz=172
JFWS Jewell Farm 31.75 354 P P 14 23 22.3 -0.2
JFWS IAmb IAmb 14 23 23.5
comp=Z,18nm,1.1s
SDCO Great Sand Dun 31.77 329 P P 14 23 23.8 +0.6
baz=141
L58A Harry Jones Me 31.82 14 P P 14 23 24.6 +1.5
baz=198
K38A Parkersburg 31.84 350 P P 14 23 23.2 -0.1
BGNE Belgrade 31.94 342 P P 14 23 24.7 +0.5
baz=156
BINY Binghamton 31.94 14 P P 14 23 25.5 +1.4
baz=198
BINY Binghamton 31.94 14 P P 14 23 24.3 +0.2
BINY IAmb IAmb 14 23 26.7
comp=Z,20nm,0.9s
MMNY Mt. Morris Dam 32.05 11 P P 14 23 24.8 -0.3
K56A Middlesex 32.13 12 P P 14 23 27.1 +1.3
baz=196
L59A Walton 32.16 15 P P 14 23 26.4 +0.3
L59A IAmb IAmb 14 23 28.8
comp=Z,18nm,1.1s
K57A Scipio Center 32.33 13 P P 14 23 28.0 +0.5
K57A IAmb IAmb 14 23 29.7
comp=Z,26nm,1.3s
MEDO Medina 32.37 10 P P 14 23 27.0 -0.9
MEDO IAmb IAmb 14 23 29.6
comp=Z,12nm,0.8s
LPAZ La Paz 32.44 147 P P 14 23 29.8 +0.2
comp=Z,0.5nm,0.4s,baz=328,slow=9.5,SNR=2.2
S22A 4UR Ranch, Cre 32.45 328 P P 14 23 29.9 +0.8
baz=139
I42A Draeger Farm, 32.60 356 P P 14 23 29.2 -0.7
I42A IAmb IAmb 14 23 30.8
comp=Z,17nm,0.8s
M64A Tiverton 32.71 20 P P 14 23 32.2 +1.3
baz=207
J56A Wolcott 32.78 12 P P 14 23 31.0 -0.4
J56A IAmb IAmb 14 23 33.3
comp=Z,19nm,0.9s
L63A North Scituate 32.86 20 P P 14 23 33.1 +0.9
baz=206
K61A Williamstown 33.08 17 P P 14 23 34.4 +0.3
baz=203
J57A Williamstown 33.09 13 P P 14 23 33.2 -0.9
J57A IAmb IAmb 14 23 36.0
comp=Z,14nm,1.0s
H43A Windswept, Lux 33.11 357 P P 14 23 33.0 -1.3
J58A Remsen 33.20 14 P P 14 23 35.6 +0.4
baz=199,SNR=5.5
J58A Remsen 33.20 14 P P 14 23 34.1 -1.1
J58A IAmb IAmb 14 23 37.3
comp=Z,21nm,1.1s
I37A Lemond, Waseca 33.28 350 P P 14 23 34.1 -1.7
PECO Prince Edward 33.38 11 P P 14 23 36.3 -0.4
PECO IAmb IAmb 14 23 38.2
comp=Z,13nm,0.9s
K62A Royalston 33.38 18 P P 14 23 37.8 +1.1
baz=204
ISCO Idaho Springs 33.44 332 P P 14 23 38.6 +1.0
baz=143
HRV Adam Dziewonsk 33.45 19 P P 14 23 38.8 +1.5
baz=206
J59A Piesco 33.49 15 P P 14 23 36.7 -1.0
WUAZ Wupatki 33.53 320 P P 14 23 39.7 +1.4
baz=130
J60A Lant Hill Farm 33.57 16 P P 14 23 39.3 +1.0
baz=202
I58A Old Forge 33.59 14 P P 14 23 39.0 +0.5
baz=199
K63A Dunstable 33.63 19 P P 14 23 39.2 +0.4
baz=206
I57A Carthage 33.66 13 P P 14 23 39.6 +0.5
baz=198
ECSD EROS Data Cent 33.68 346 P P 14 23 39.0 -0.3
baz=160
ECSD EROS Data Cent 33.68 346 P P 14 23 38.4 -0.9
SADO Sadowa 33.83 8 P P 14 23 40.9 +0.3
comp=Z,12nm,0.7s,baz=210,slow=8.0,SNR=16
SADO Sadowa 33.83 8 P P 14 23 40.1 -0.5
SADO IAmb IAmb 14 23 41.8
comp=Z,15nm,0.8s
J61A Chester 33.91 17 P P 14 23 42.7 +1.4
baz=203
PV18 Skein Mesa, Pa 33.93 326 P P 14 23 42.6 +0.8
J62A Henniker 34.02 18 P P 14 23 43.4 +1.2
baz=205
I60A Shoreham 34.16 16 P P 14 23 44.5 +1.1
baz=202
H57A Richville 34.22 13 P P 14 23 45.4 +1.5
baz=198
SPMN Marine on St. 34.36 351 P P 14 23 44.2 -0.9
SPMN IAmb IAmb 14 23 45.5
comp=Z,10nm,0.8s
PLVO Plevna 34.43 11 P P 14 23 45.1 -0.6
PLVO IAmb IAmb 14 23 47.1
comp=Z,11nm,1.1s
N23A Red Feather La 34.47 332 P P 14 23 47.0 +0.6
baz=143
H58A Gabriels 34.47 15 P P 14 23 47.3 +1.2
baz=200
I61A Oroboro, Fairl 34.55 17 P P 14 23 48.0 +1.3
baz=204
LONY Lake Ozonia 34.56 14 P P 14 23 47.0 +0.2
baz=199,SNR=8.0
LONY Lake Ozonia 34.56 14 P P 14 23 47.0 +0.2
LONY IAmb IAmb 14 23 48.7
comp=Z,20nm,1.1s
PDMCI Parker Dam,Lak 34.61 316 P P 14 23 49.1 +1.7
baz=125
I62A Tamworth 34.76 18 P P 14 23 49.9 +1.4
baz=205
H59A Cadyville 34.80 15 P P 14 23 49.8 +0.9
baz=201
COWI Conover 34.82 356 P P 14 23 46.8 -2.2
COWI IAmb IAmb 14 23 49.3
comp=Z,14nm,1.4s
LBNH Lisbon 34.91 17 P P 14 23 50.8 +0.9
baz=204
G57A Newington 34.92 13 P P 14 23 51.1 +1.1
baz=198
O20A White River Ci 34.98 329 P P 14 23 51.5 +0.8
baz=139
H60A Morristown 34.99 16 P P 14 23 52.3 +1.7
baz=202
F36A Milaca 35.10 350 P P 14 23 50.1 -1.4
F36A IAmb IAmb 14 23 52.2
comp=Z,7.0nm,0.7s
IKP In-Ko-Pah, Jac 35.11 312 P P 14 23 53.6 +1.8
baz=120
I63A Otisfield 35.15 19 P P 14 23 53.6 +1.7
baz=206
ALGO Algonquin Park 35.16 9 P P 14 23 51.8 -0.1
baz=193,SNR=6.5
BC3 Big Chuckawall 35.16 314 P P 14 23 54.0 +1.7
baz=122
G58A Ormstown 35.19 14 P P 14 23 53.2 +1.0
baz=200
IRM Iron Mountain 35.22 315 P P 14 23 55.0 +2.3
baz=123
NPGB Novo Progresso 35.25 120 eP P 14 23 52.0 -1.2
SRU San Rafael Swe 35.44 326 P P 14 23 55.4 +0.7
H62A Milan 35.45 18 P P 14 23 56.4 +1.9
baz=205
G60A Masonville 35.58 16 P P 14 23 56.9 +1.3
baz=203
F33A 5 Mile Ranch, 35.60 347 P P 14 23 54.4 -1.3
F33A IAmb IAmb 14 23 56.7
comp=Z,9.7nm,0.6s
BELC Belle Mtn. Jos 35.73 314 P P 14 23 58.8 +1.6
baz=122
TPFO Pinon Flats 35.85 313 P P 14 24 00.3 +2.1
baz=121
PFO Pinyon Flats O 35.85 313 P P 14 24 00.6 +2.4
comp=Z,5.5nm,0.9s,baz=136,slow=5.2,SNR=6.2
PFO Pinyon Flats O 35.85 313 P P 14 23 59.9 +1.6
baz=121
GMRC Granite Mounta 35.92 315 P P 14 24 00.5 +1.7
baz=124
G61A St-Isidore-de- 35.98 17 P P 14 24 00.5 +1.5
baz=204
H64A Troy 36.13 20 P P 14 24 01.9 +1.7
baz=208
G62A West of Eustis 36.22 18 P P 14 24 01.2 +0.2
baz=206,SNR=6.4
G62A West of Eustis 36.22 18 P P 14 24 01.6 +0.6
G62A IAmb IAmb 14 24 04.4
comp=Z,10nm,0.9s
MURC Murrieta 36.38 313 P P 14 24 03.9 +1.4
baz=120
HEC Hector,Ludlow 36.41 315 P P 14 24 03.2 +0.4
baz=123
G63A Kingsbury 36.41 19 P P 14 24 04.0 +1.3
baz=207
TUQ Turquoise Moun 36.46 316 P P 14 24 04.0 +0.7
baz=124
F60A Warwick 36.49 16 P P 14 24 04.5 +1.2
baz=203
H65A Eastbrook 36.51 21 P P 14 24 04.9 +1.4
baz=210
E58A La Victoria 36.52 14 P P 14 24 04.6 +1.1
baz=201
PKME Peaks-Kenny Pk 36.65 20 P P 14 24 05.2 +0.6
baz=208,SNR=5.5
PKME Peaks-Kenny Pk 36.65 20 P P 14 24 05.4 +0.8
F61A St Evariste 36.77 17 P P 14 24 06.8 +1.1
baz=204
G64A Maxfield 36.82 20 P P 14 24 07.3 +1.2
baz=208
EYMN Ely 36.86 353 P P 14 24 07.8 +1.4
baz=170
H66A Whiting 36.92 22 P P 14 24 07.9 +1.0
baz=211
E60A Ste Agathe de 37.00 16 P P 14 24 08.3 +0.7
baz=204
F63A Nahmakanta, Br 37.10 19 P P 14 24 09.0 +0.5
baz=208
F63A Nahmakanta, Br 37.10 19 P P 14 24 08.7 +0.2
F63A IAmb IAmb 14 24 11.9
comp=Z,13nm,1.1s
CIS Catalina Islan 37.17 312 P P 14 24 10.5 +1.2
baz=119
G65A Princeton 37.19 21 P P 14 24 09.6 +0.4
baz=210
G65A Princeton 37.19 21 P P 14 24 10.0 +0.8
FMP Fort Macarthur 37.23 312 P P 14 24 09.3 -0.4
baz=119
D58A Chemin du LacG 37.29 14 P P 14 24 10.7 +0.6
baz=201
E61A Lac Etchemin 37.33 17 P P 14 24 11.4 +1.0
baz=205
VLDQ Val d'Or 37.35 9 P P 14 24 10.2 -0.3
PTLB Pontes e Lacer 37.38 135 eP P 14 24 11.0 -0.2
LVC Limon Verde 37.49 154 P P 14 24 15.1 +2.7
comp=Z,4.9nm,0.7s,baz=308,slow=3.6,SNR=4.3
LVC Limon Verde 37.49 154 eP P 14 24 15.1 +2.7
F64A Sherman 37.49 20 P P 14 24 12.7 +1.0
baz=209
TPNV Topopah Spring 37.53 318 P P 14 24 13.2 +0.8
baz=125,SNR=5.7
EDW2 Edwards Air Fo 37.59 314 P P 14 24 14.8 +1.9
baz=121
PDAR Pinedale Array 37.61 331 P P 14 24 13.4 +0.3
comp=Z,0.5nm,0.6s,baz=126,slow=9.1,SNR=5.5
PDAR PcP PcP 14 26 27.1 -0.3
comp=Z,0.3nm,0.6s,baz=156,slow=7.6,SNR=3.9
PDAR Pinedale Array 37.61 331 P P 14 24 11.7 -1.4
D60A Saint Jean D'O 37.64 17 P P 14 24 13.6 +0.6
baz=204
FURC Furnace Creek, 37.66 317 P P 14 24 15.0 +1.7
baz=124
LRMC Laurel Mtn Rad 37.69 315 P P 14 24 14.7 +1.0
baz=122,SNR=6.7
E62A Clayton Lake 37.79 18 P P 14 24 15.1 +0.9
baz=206
E62A Clayton Lake 37.79 18 P P 14 24 14.2 0.0
E62A IAmb IAmb 14 24 17.8
comp=Z,15nm,1.5s
MPMC Manual Prospec 37.86 316 P P 14 24 16.4 +1.1
baz=123,SNR=7.1
R11A Troy Canyon, C 37.93 320 P P 14 24 17.4 +1.6
baz=127
E63A Oxbow 37.96 20 P P 14 24 16.0 +0.3
baz=208
E63A Oxbow 37.96 20 P P 14 24 15.7 +0.1
E63A IAmb IAmb 14 24 17.4
comp=Z,8.2nm,0.8s
D61A St Aubert, Com 38.11 17 P P 14 24 17.7 +0.8
baz=205
E64A Bridgewater 38.16 20 P P 14 24 18.7 +1.4
baz=209
MDND Maddock 38.27 345 P P 14 24 19.3 +1.1
baz=158
MDND Maddock 38.27 345 P P 14 24 18.2 -0.1
MDND IAmb IAmb 14 24 20.3
comp=Z,18nm,0.7s
D62A Allapoint, All 38.35 18 P P 14 24 19.6 +0.8
baz=207,SNR=6.0
D62A Allapoint, All 38.35 18 P P 14 24 19.3 +0.4
D62A IAmb IAmb 14 24 21.7
comp=Z,11nm,1.1s
CWC Cottonwood Cre 38.47 316 P P 14 24 22.0 +1.7
baz=122
D63A Stockholm 38.60 19 P P 14 24 22.1 +1.1
baz=208
REDW Red Top Meadow 38.69 330 P P 14 24 19.6 -2.5
LMN Caledonia Moun 38.77 23 P P 14 24 22.4 -0.1
LMN IAmb IAmb 14 24 25.2
comp=Z,20nm,0.8s
PKM Mcpherson Peak 38.90 313 P P 14 24 25.3 +1.4
baz=119
MATQ Matagami 38.93 8 P P 14 24 23.5 -0.2
baz=193
NV11 Mina Array Sit 39.61 319 P P 14 24 29.5 -0.2
PAGB Antelope Grade 39.62 314 P P 14 24 30.4 +0.7
PAGB IAmb IAmb 14 24 33.2
comp=Z,11nm,0.8s
CHGQ Chibougamau 39.62 11 P P 14 24 29.4 -0.1
baz=198
NVAR Mina Array Bea 39.71 319 P P 14 24 33.2 +2.5
comp=Z,2.0nm,0.6s,baz=127,slow=7.4,SNR=26
NVAR PcP PcP 14 26 35.5 +1.4
comp=Z,1.7nm,0.7s,baz=134,slow=4.1,SNR=14
NVAR Mina Array Bea 39.71 319 P P 14 24 30.5 -0.1
ULM Lac du Bonnet 39.74 350 P P 14 24 29.6 -0.8
comp=Z,1.9nm,0.3s,baz=139,slow=12,SNR=3.2
ULM Lac du Bonnet 39.74 350 P P 14 24 28.6 -1.9
WAKR Walker 40.49 318 P P 14 24 36.9 -0.1
BOZ Bozeman (W) 40.73 332 P P 14 24 39.2 +0.3
baz=139
MCMT McKenzie Canyo 40.74 330 P P 14 24 38.5 -0.5
WVOR Wild Horse Val 42.26 323 P P 14 24 51.2 -0.1
ARAG Araguaiana, MT 42.94 128 eP P 14 24 55.7 -1.2
DRLN Deer Lake 44.49 26 P P 14 25 08.5 -0.3
DRLN IAmb IAmb 14 25 10.2
comp=Z,31nm,1.0s
BDFB Brasilia 45.90 125 P P 14 25 19.5 -1.1
comp=Z,5.7nm,0.6s,baz=314,slow=13,SNR=7.9
BDFB Brasilia 45.90 125 P P 14 25 19.2 -1.4
SCHQ Schefferville 45.92 15 P P 14 25 19.3 -0.8
comp=Z,21nm,0.7s,baz=224,slow=7.1,SNR=26
SCHQ Schefferville 45.92 15 P P 14 25 18.2 -1.8
SCHQ IAmb IAmb 14 25 20.5
comp=Z,22nm,0.7s
CPUP Villa Florida 46.46 144 P P 14 25 23.4 -1.2
comp=Z,2.2nm,0.8s,baz=332,slow=7.4,SNR=4.8
CPUP Villa Florida 46.46 144 IAmb IAmb 14 25 25.1
comp=Z,3.6nm,0.9s
IPMB Ipameri, GO 47.06 128 eP P 14 25 28.5 -1.1
ITQB Itaqui 49.43 146 eP P 14 25 48.3 +0.9
VAO Valinhos 50.98 132 eP P 14 25 58.5 -0.8
PLTB Pedras Altas 52.70 145 P P 14 26 10.8 -1.0

PLCA	**Paso Flores**	53.62 166	P	**P**	**14 26 18.7**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=352,slow=8.5,SNR=3.8					
PLCA			pP	**pP**	**14 26 56.1**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=326,slow=6.6,SNR=2.9					
YKA	**Yellowknife Ar**	55.19 344	P	**P**	**14 26 28.3**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=110,slow=13,SNR=3.7					
CRAG	**Craig**	57.47 330	P	**P**	**14 26 46.5**	**+0.8**
	baz=121					
BGLC	**Bering Glacier**	64.43 332	P	**P**	**14 27 33.9**	**+1.4**
	baz=113					
CRQE	**Cirque**	64.60 333	P	**P**	**14 27 34.0**	**+0.2**
	baz=114					
EPYK	**Eagle Plains**	64.74 340	P	**P**	**14 27 35.0**	**+0.5**
	baz=122					
INK	**Inuvik**	64.83 342	P	**P**	**14 27 35.0**	**0.0**
	comp=Z,1.4nm,0.6s,baz=106,slow=9.2,SNR=3.4					
INK	**Inuvik**	64.83 342	P	**P**	**14 27 35.5**	**+0.6**
	baz=127					
BCAR	**Beaver Creek A**	65.02 335	P	**P**	**14 27 36.0**	**-0.3**
K27K	**Chicken**	65.56 336	P	**P**	**14 27 40.3**	**+0.5**
	baz=116					
N25K	**Chitina, Valde**	65.61 333	P	**P**	**14 27 40.6**	**+0.4**
	baz=113					
EYAK	**Cordova Ski Ar**	65.73 332	P	**P**	**14 27 41.1**	**+0.3**
	baz=111					
DOT	**Dot Lake**	66.20 335	P	**P**	**14 27 41.5**	**-2.4**
SCRK	**Sand Creek**	66.30 336	P	**P**	**14 27 45.0**	**+0.4**
	baz=114					
M24K	**Tolsona, Glenn**	66.49 333	P	**P**	**14 27 45.9**	**+0.1**
	baz=112					
KNK	**Knik Glacier**	67.27 332	P	**P**	**14 27 51.1**	**+0.4**
	baz=109					
SUMG	**Summit**	67.29 14	P	**P**	**14 27 49.2**	**-1.8**
SML	**Sawmill**	67.34 333	P	**P**	**14 27 51.3**	**+0.1**
	baz=109					
WAT6	**Susitna Watana**	67.34 334	P	**P**	**14 27 51.4**	**+0.1**
	baz=110					
HDA	**Harding Lake**	67.66 336	P	**P**	**14 27 52.9**	**-0.2**
	baz=112					
RC01	**Rabbit Creek A**	67.75 332	P	**P**	**14 27 53.6**	**-0.1**
	baz=108					
IL31		67.77 336	P	**P**	**14 27 53.0**	**-0.6**
ILAR	**Eielson Array**	67.77 336	P	**P**	**14 27 53.4**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=126,slow=4.0,SNR=14					
ILAR	**Eielson Array**	67.77 336	P	**P**	**14 27 53.0**	**-0.8**
RND	**Reindeer**	68.10 334	P	**P**	**14 27 55.4**	**-0.5**
RND			IAmb	IAmb	14 27 57.0	
	comp=Z,7.8nm,0.8s					
MCK	**McKinley**	68.24 335	P	**P**	**14 27 57.2**	**+0.4**
	baz=110					
MDM	**Murphy Dome**	68.38 336	P	**P**	**14 27 56.8**	**-0.7**
H24K	**Noodor Dome**	68.55 337	P	**P**	**14 27 58.6**	**0.0**
	baz=111					
NEA2	**Nenana**	68.59 336	P	**P**	**14 27 58.7**	**-0.1**
	baz=110					
TRF	**Thorofare Moun**	68.73 334	P	**P**	**14 28 00.1**	**+0.2**
	baz=108					
SKT	**Skwentna**	68.84 332	P	**P**	**14 27 59.9**	**-0.6**
	baz=106					
I23K	**Minto, Yukon-K**	68.89 336	P	**P**	**14 28 00.6**	**-0.1**
	baz=110					
I23K	**Minto, Yukon-K**	68.89 336	P	**P**	**14 28 00.3**	**-0.4**
KTH	**Kantishna Hill**	69.03 334	P	**P**	**14 28 00.4**	**-1.3**
BPAW	**Bear Paw Mtn.**	69.22 335	P	**P**	**14 28 02.1**	**-0.6**
	baz=108					
BPAW	**Bear Paw Mtn.**	69.22 335	P	**P**	**14 28 01.5**	**-1.2**
PPLA	**Purkeypile**	69.39 333	P	**P**	**14 28 03.2**	**-0.8**
	baz=106					
PPLA	**Purkeypile**	69.39 333	P	**P**	**14 28 02.4**	**-1.6**
PPLA			IAmb	IAmb	14 28 06.5	
	comp=Z,14nm,1.4s					
MLY	**Manley**	69.41 336	P	**P**	**14 28 03.3**	**-0.7**
	baz=108					
MLY	**Manley**	69.41 336	P	**P**	**14 28 02.5**	**-1.5**
CHUM	**Lake Minchumin**	69.72 334	P	**P**	**14 28 05.5**	**-0.3**
	baz=106					
COLD	**Coldfoot**	69.91 338	P	**P**	**14 28 06.9**	**0.0**
	baz=110					
I21K	**Tanana**	69.95 336	P	**P**	**14 28 07.1**	**-0.1**
	baz=107					
TOLK	**Toolik Lake Re**	70.17 340	P	**P**	**14 28 08.1**	**-0.5**
	baz=111					
TOLK	**Toolik Lake Re**	70.17 340	P	**P**	**14 28 07.3**	**-1.3**
H21K	**Melozitna Rive**	70.42 336	P	**P**	**14 28 09.3**	**-0.7**
	baz=106					
ESDC	**Sonseca Array**	76.55 52	P	**P**	**14 28 46.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=278,slow=5.5,SNR=4.2					
TORD	**Torodi Ar. Bea**	84.98 78	P	**P**	**14 29 29.6**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=302,slow=4.4,SNR=1.8					
KSRS	**Korea Array**	122.16 329	PKP	**PKPdf**	**14 35 48.8**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=24,slow=3.0,SNR=5.6					
LZH	**Lanzhou**	132.03 350	*e*PKP	PKPpre	14 36 03.3	
LZH			sPKP		14 36 59.4	
ASAR	**Alice Springs**	140.42 246	PKhKP	PKPpre	14 36 18.1	
	comp=Z,0.6nm,0.6s,baz=108,slow=3.6,SNR=11					
ASAR			PKP	**PKPdf**	**14 36 25.2**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=100,slow=2.0,SNR=18					
ASAR			pPKP	pPKPdf	14 37 08.4	+1.2
	comp=Z,0.4nm,0.9s,baz=86,slow=1.6,SNR=2.0					
ASAR			SKPbc	**SKPbc**	**14 39 46.3**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=108,slow=3.1,SNR=5.4					
WRA	**Warramunga Arr**	140.59 252	PKhKP	PKPpre	14 36 18.7	
	comp=Z,0.7nm,0.6s,baz=94,slow=3.1,SNR=13					
WRA			PKP	**PKPdf**	**14 36 25.4**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=93,slow=2.6,SNR=20					
WRA			pPKP	pPKPdf	14 37 07.6	0.0
	comp=Z,0.3nm,0.6s,baz=97,slow=1.7,SNR=1.2					
FITZ	**Fitzroy Crossi**	148.98 254	PKPbc	**PKiKP**	**14 36 44.3**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=83,slow=6.8,SNR=6.9					
FITZ	**Fitzroy Crossi**	148.98 254		**PKPbc**	**14 36 43.0**	**-0.6**
CMAR	**Chiang Mai Arr**	150.09 351	PKPbc	**PKPbc**	**14 36 45.4**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=347,slow=3.7,SNR=5.8					

*IDC **06** 14:18:30.8±1.6, 15°.01S×173°.73W, h0km, mb3.9/7, mb1 4.3/7, mb1mx3.9/46, mbtmp3.9/7, Error ellipse: s-maj=77.3km s-min=22.6km az=150.0*
*NEIC **06** 14:18:32.4±2.0, 15°.1S±0°.1×173°.6W±0°.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.4km s-min=5.5km az=230.0*

ISC 06 14:18:34.8±0.7, 14°.83S±0°.09×173°.3W±0°.1, h30km, n36, σ2°.20/28, mb3.9/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.76**	**59**	Pn	**Pn**	**14 19 01.8**	**-1.6**
	46nm,0.3s,baz=211,slow=3.7,SNR=41						
AFI				Sn	**Sn**	**14 19 22.4**	**-2.4**
	88nm,0.3s,baz=192,slow=21,SNR=4.6						
AFI	**Afiamalu**	**1.76**	**59**		**Pn**	**14 19 01.6**	**-1.8**
NIUE	**Niue**	**5.33**	**143**		**Pn**	**14 19 50.7**	**-1.7**
KNTN	**Kanton**	**12.09**	**8**	Pn	**Pn**	**14 21 22.5**	**-2.7**
H11S2	**WAKE ISLAND Hy**	**38.52**	**329**	T	T	15 06 47.4	
	baz=149,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**38.53**	**329**	T	T	15 06 49.8	
	baz=149,slow=76,SNR=28						
H11S1	**WAKE ISLAND Hy**	**38.53**	**329**	T	T	15 06 46.0	
	baz=149,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**39.46**	**330**	T	T	15 08 04.1	
	baz=150,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**39.46**	**330**	T	T	15 08 06.2	
	baz=150,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy**	**39.48**	**330**	T	T	15 07 56.5	
	baz=150,slow=76,SNR=28						
WR0	**Warramunga Arr**	**49.85**	**256**	P	**P**	**14 27 23.3**	**-2.4**
WR0				IAmb	IAmb	14 27 48.0	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**50.00**	**257**	P	**P**	**14 27 24.3**	**-2.5**
WB0				IAmb	IAmb	14 27 49.4	
	comp=Z,7.1nm,1.2s						
WB2	**Warramunga Arr**	**50.03**	**256**	P	**P**	**14 27 24.2**	**-2.9**
WB2				IAmb	IAmb	14 27 50.5	
	comp=Z,4.8nm,1.2s						
WRA	**Warramunga Arr**	**50.04**	**256**	P	**P**	**14 27 24.6**	**-2.6**
	comp=Z,0.7nm,0.9s,baz=90,slow=7.3,SNR=9.8						
AS31	**Alice Springs**	**50.35**	**251**	P	**P**	**14 27 25.4**	**-4.1**
AS31				IAmb	IAmb	14 27 31.9	
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**50.35**	**251**	P	**P**	**14 27 26.1**	**-3.5**
	comp=Z,3.0nm,0.8s,baz=88,slow=7.9,SNR=41						
PETK	**Petropavlovsk-**	**72.12**	**342**	P	**P**	**14 29 57.3**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=154,slow=8.2,SNR=2.5						
PETK	**Petropavlovsk-**	**72.12**	**342**	P	**P**	**14 29 58.2**	**+2.0**
NVAR	**Mina Array Bea**	**73.86**	**42**	P	**P**	**14 30 09.8**	**+2.6**
	comp=Z,0.9nm,0.8s,baz=229,slow=10,SNR=6.0						
QSPA	**South Pole Qui**	**75.21**	**180**	P	**P**	**14 30 15.2**	**+0.7**
QSPA				IAmb	IAmb	14 30 18.2	
	comp=Z,4.4nm,1.2s						
SPUT	**South Promonto**	**79.21**	**42**	P	**P**	**14 30 38.3**	**+1.0**
TXAR	**Lajitas Array**	**80.24**	**56**	P	**P**	**14 30 46.8**	**+3.7**
	comp=Z,0.7nm,0.9s,baz=221,slow=6.6,SNR=4.1						
TXAR	**Lajitas Array**	**80.24**	**56**	P	**P**	**14 30 44.5**	**+1.4**
PDAR	**Pinedale Array**	**81.80**	**42**	P	**P**	**14 30 53.6**	**+2.2**
	comp=Z,1.6nm,1.2s,baz=173,slow=2.4,SNR=4.2						
PDAR	**Pinedale Array**	**81.80**	**42**	P	**P**	**14 30 53.0**	**+1.7**
ILAR	**Eielson Array**	**81.88**	**11**	P	**P**	**14 30 52.4**	**+1.4**
	comp=Z,1.4nm,1.2s,baz=228,slow=7.6,SNR=5.0						
H03S2	**Juan Fernandez**	**85.45**	**124**	T	T	16 05 52.7	
	baz=251,slow=75,SNR=3.2						
H03S1	**Juan Fernandez**	**85.47**	**124**	T	T	16 05 57.4	
	baz=251,slow=75,SNR=2.8						
H03S3	**Juan Fernandez**	**85.47**	**124**	T	T	16 05 53.7	
	baz=251,slow=75,SNR=2.8						
KHC	**Kasperske Hory**	**145.33**	**352**	*e*PKP	**PKPab**	**14 38 11.9**	**+2.1**
KHC	**Kasperske Hory**	**145.33**	**352**		**PKPab**	**14 38 10.2**	**+0.5**
CKRC	**Cesky Krumlov**	**145.53**	**351**	*e*PKP	**PKiKP**	**14 38 14.4**	**+0.2**
GERES	**GERESS Array B**	**145.59**	**352**	PKPbc	**PKPab**	**14 38 11.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=49,slow=4.1,SNR=7.7						
GERES	**GERESS Array B**	**145.59**	**352**	PKPdf	**PKPdf**	**14 38 10.2**	**-0.2**
BRTR	**Keskin Array B**	**145.76**	**322**	PKPbc	**PKPab**	**14 38 12.1**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=64,slow=2.9,SNR=12						
BRTR	**Keskin Array B**	**145.76**	**322**		**PKPdf**	**14 38 11.3**	**+0.3**

*MEX **06** 14:30:10.7±0.6, 17°.05N×95°.00W, h127km±6km, MD4.3*
*IDC **06** 14:30:10.2±1.2, 17°.21N×94°.64W, h107km±43km, mb3.2/3, mb1 3.6/4, mb1mx3.2/33, mbtmp3.5/4, Error ellipse: s-maj=157.3km s-min=35.4km az=30.0*
*NEIC **06** 14:30:11.2±2.1, 16°.97N±0°.05×94°.93W±0°.05, h104km±5km, mb4.5/8, Md4.3/54(MEX), Error ellipse: s-maj=7.1km s-min=6.6km az=126.0*

ISC 06 14:30:10.7±0.7, 17°.00N±0°.04×94°.97W±0°.03, h121km±6km, n51, σ2°.46/82, mb3.5/5, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.13**	**41**	P	**Pn**	**14 30 26.8**	**-0.5**
	233nm,0.3s,baz=156,slow=0.5,SNR=3960						
CMIG				S	**Sn**	**14 30 38.5**	**-1.3**
	260nm,0.3s,baz=18,slow=20,SNR=22						
CMIG	**Matias Romero**	**0.13**	**41**	*i*P	**Pn**	**14 30 27.0**	**-0.3**
CMIG				*i* S	**Sn**	**14 30 38.8**	**-1.1**
CMIG	**Matias Romero**	**0.13**	**41**		**Pn**	**14 30 27.0**	**-0.3**
CMIG					**Sn**	**14 30 38.8**	**-1.1**
TUIG	**Tuzandepetl**	**1.16**	**27**	*e*P	**Pn**	**14 30 33.6**	**-0.8**
TUIG				*e*S	**Sn**	**14 30 50.5**	**-1.9**
TUIG	**Tuzandepetl**	**1.16**	**27**		**Pn**	**14 30 33.6**	**-0.8**
TUIG					**Sn**	**14 30 50.5**	**-1.9**
HUIG	**Huatulco**	**1.64**	**222**	*i* P	**Pn**	**14 30 38.7**	**-1.1**
HUIG				*e*S	**Sn**	**14 31 01.6**	**-0.4**
HUIG	**Huatulco**	**1.64**	**222**		**Pn**	**14 30 38.7**	**-1.1**
HUIG					**Sn**	**14 31 01.6**	**-0.4**
VHO	**Vista Hermosa**	**1.69**	**273**	*i* P	**Pn**	**14 30 41.8**	**+1.2**
VHO				*i* S	**Sn**	**14 31 04.6**	**+1.2**
TGIG		**1.78**	**97**	*i* P	**Pn**	**14 30 40.9**	**-0.6**
TGIG				*e*S	**Sn**	**14 31 02.4**	**-2.8**
TGIG		**1.78**	**97**		**Pn**	**14 30 40.9**	**-0.6**
TGIG					**Sn**	**14 31 02.4**	**-2.8**
PCIG		**2.12**	**127**	*e*P	**Pn**	**14 30 45.7**	**0.0**
PCIG				*e*S	**Sn**	**14 31 12.5**	**+0.2**
PCIG		**2.12**	**127**		**Pn**	**14 30 45.7**	**0.0**
PCIG					**Sn**	**14 31 12.5**	**+0.2**
PEIG	**Puerto Escondi**	**2.31**	**245**	*i* P	**Pn**	**14 30 46.9**	**-1.3**
PEIG				*e*S	**Sn**	**14 31 16.5**	**-0.4**
YOIG	**Yosondua**	**2.47**	**267**	*e*P	**Pn**	**14 30 50.7**	**+0.3**
YOIG				*e*S	**Sn**	**14 31 19.1**	**-1.8**
TXIG	**Tlaxiaco**	**2.69**	**276**	*i* P	**Pn**	**14 30 54.1**	**+0.9**
TXIG				*e*S	**Sn**	**14 31 25.4**	**-0.5**
CCIG	**Comitan**	**2.81**	**104**	*e*P	**Pn**	**14 30 54.5**	**-0.2**
CCIG				*e*S	**Sn**	**14 31 23.5**	**-5.0**
CCIG	**Comitan**	**2.81**	**104**		**Pn**	**14 30 54.5**	**-0.2**
CCIG					**Sn**	**14 31 23.5**	**-5.0**
HLIG	**Huajuapan de L**	**2.83**	**287**	*i* P	**Pn**	**14 30 56.1**	**+1.1**
HLIG				*e*S	**Sn**	**14 31 23.7**	**-5.4**
TLIG	**Tlapa**	**3.48**	**280**	*e*P	**Pn**	**14 31 04.5**	**+1.0**
TLIG				*e*S	**Sn**	**14 31 39.9**	**-4.4**
TLIG	**Tlapa**	**3.48**	**280**		**Pn**	**14 31 04.5**	**+1.0**
TLIG					**Sn**	**14 31 39.9**	**-4.4**
CRIG	**Cruz Grande**	**3.99**	**267**	*e*P	**Pn**	**14 31 09.4**	**-0.8**
CRIG				*e*S	**Sn**	**14 31 52.2**	**-4.1**
CRIG	**Cruz Grande**	**3.99**	**267**		**Pn**	**14 31 09.4**	**-0.8**
CRIG					**Sn**	**14 31 52.2**	**-4.1**
PPM	**Popocatepetl**	**4.04**	**301**	*e*P	**Pn**	**14 31 13.9**	**+2.6**
PPM				*e*S	**Sn**	**14 31 51.9**	**-6.4**
YAIG	**Yautepec**	**4.32**	**296**	*e*P	**Pn**	**14 31 16.7**	**+2.0**
YAIG				*e*S	**Sn**	**14 32 00.8**	**-3.5**
YAIG	**Yautepec**	**4.32**	**296**		**Pn**	**14 31 16.7**	**+2.0**
YAIG					**Sn**	**14 32 00.8**	**-3.5**
DAIG	**Los Arroyos**	**4.48**	**271**	*e*P	**Pn**	**14 31 16.4**	**-0.2**
DAIG				*e*S	Sn	14 31 56.2	-12
DAIG	**Los Arroyos**	**4.48**	**271**		**Pn**	**14 31 16.4**	**-0.2**
MEIG	**Mezcala**	**4.53**	**282**	*i* P	**Pn**	**14 31 18.9**	**+1.4**
MEIG				*i* S	**Sn**	**14 32 04.8**	**-4.6**
MEIG	**Mezcala**	**4.53**	**282**		**Pn**	**14 31 18.9**	**+1.4**
MEIG					**Sn**	**14 32 04.8**	**-4.6**
PLIG	**Platanillo**	**4.54**	**289**	*e*P	**Pn**	**14 31 19.2**	**+1.7**
PLIG				*e*S	**Sn**	**14 32 04.1**	**-5.4**
PLIG	**Platanillo**	**4.54**	**289**		**Pn**	**14 31 19.2**	**+1.7**
PLIG					**Sn**	**14 32 04.1**	**-5.4**
PETF	**Flores**	**4.88**	**90**	Pn	**Pn**	**14 31 19.8**	**-2.3**
CAIG	**El Cayaco**	**5.07**	**271**	*e*P	**Pn**	**14 31 24.0**	**-0.6**
CAIG				*i* S	Sn	14 32 11.8	-10
CAIG	**El Cayaco**	**5.07**	**271**		**Pn**	**14 31 24.0**	**-0.6**
CAIG					Sn	14 32 11.8	-10
ARIG	**Puente Sto Nin**	**5.28**	**285**	*i* P	**Pn**	**14 31 29.4**	**+1.8**
ARIG				*i* S	**Sn**	**14 32 22.9**	**-4.4**
ARIG	**Puente Sto Nin**	**5.28**	**285**		**Pn**	**14 31 29.4**	**+1.8**
ARIG					**Sn**	**14 32 22.9**	**-4.4**
TXAR	**Lajitas Array**	**14.65**	**329**	P	**Pn**	**14 33 33.7**	**+1.6**
	0.1nm,0.3s,baz=143,slow=14,SNR=5.5						
TXAR	**Lajitas Array**	**14.65**	**329**	P	**P**	**14 33 36.5**	**+1.4**
TX31	**Lajitas Ar. Si**	**14.65**	**329**	P	**P**	**14 33 36.7**	**+1.6**
TX32	**Lajitas Array**	**14.65**	**329**	P	**P**	**14 33 36.7**	**+1.6**
FCAR	**Ozark Folk Cen**	**18.99**	**7**	P	**P**	**14 34 21.9**	**-0.9**
U40A	**Yellville**	**19.38**	**5**	P	**P**	**14 34 26.1**	**-0.9**
U40A				IAmb	IAmb	14 38 26.7	
	comp=Z,8.1nm,0.5s						
Y52A	**Lilburn**	**19.45**	**28**	P	**P**	**14 34 28.8**	**+1.0**
HALT	**Halls**	**19.49**	**14**	P	**Pn**	**14 34 30.5**	**-0.2**
PEBM	**Pemiscott Bayo**	**19.58**	**12**	P	**P**	**14 34 30.6**	**+1.5**
Y58A	**Scranton**	**21.74**	**36**	P	**P**	**14 34 54.2**	**+1.9**
Y58A				IAmb	IAmb	14 35 24.7	
	comp=Z,42nm,0.7s						
NVAR	**Mina Array Bea**	**29.55**	**321**	P	**P**	**14 36 06.1**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=135,slow=9.0,SNR=5.5						
NVAR	**Mina Array Bea**	**29.55**	**321**	P	**P**	**14 36 05.8**	**+1.5**
YHB	**Horse Butte**	**30.86**	**337**	P	**P**	**14 36 18.0**	**+2.4**
YHB				IAmb	IAmb	14 46 30.1	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**58.98**	**337**	P	**P**	**14 39 56.2**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=123,slow=7.6,SNR=3.1						
ESDC	**Sonseca Array**	**80.11**	**52**	P	**P**	**14 42 06.4**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=298,slow=5.6,SNR=4.4						

*IDC **06** 14:42:58.8±1.3, 34°.55N×72°.06E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/40, mbtmp3.5/6, ML2.8/1, Error ellipse: s-maj=36.0km s-min=30.4km az=83.0*
*NNC **06** 14:43:05.5±9.8, 34°.91N×71°.80E, h0km, mb3.9, mpv3.9, Error ellipse: s-maj=101.4km s-min=65.6km az=134.0*

ISC 06 14:43:04.0±1.2, 34°.6N±0°.1×72°.0E±0°.1, h35km, n10, σ1°.42/12, mb3.5/5, 5C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**8.61**	**353**	⇑P	**Pn**	**14 45 07.0**	**+0.9**
	4.1nm,0.3s,baz=176,slow=13						
KK31				⇓S	**Sn**	**14 46 41.6**	**-0.3**
	1.0nm,0.3s,baz=166,slow=22						
TKM2	**Tokmak 2**	**8.82**	**18**	⇑P	**Pn**	**14 45 12.6**	**+3.5**
	1.6nm,0.7s						
TKM2				⇑S	**Sn**	**14 46 47.8**	**+0.5**
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**14.50**	**29**	Pn	**Pn**	**14 46 25.6**	**-1.0**
	0.0nm,0.3s,baz=216,slow=14,SNR=1.8						
AB31	**Akbulak array**	**17.16**	**332**	⇑P	**Pn**	**14 47 00.8**	**-0.2**
	1.4nm,0.7s						
AKTO	**Aktyubinsk**	**18.86**	**332**	⇑P	**P**	**14 47 20.7**	**-0.2**
	3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**21.40**	**21**	P	**P**	**14 47 46.8**	**-1.7**
	1.2nm,0.3s,baz=210,slow=9.6,SNR=7.2						
ARCES	**ARCESS Array B**	**43.24**	**338**	P	**P**	**14 51 02.3**	**+0.9**
	2.1nm,0.9s,baz=112,slow=9.8,SNR=1.5						
TORD	**Torodi Ar. Bea**	**66.48**	**270**	P	**P**	**14 53 50.6**	**+0.3**
	0.1nm,0.3s,baz=45,slow=5.4,SNR=1.3						
WRA	**Warramunga Arr**	**80.30**	**122**	P	**P**	**14 55 11.6**	**+0.1**
	0.3nm,0.9s,baz=324,slow=4.4,SNR=1.7						
ASAR	**Alice Springs**	**82.50**	**125**	P	**P**	**14 55 23.2**	**0.0**
	0.2nm,0.5s,baz=309,slow=5.3,SNR=2.0						

*IDC **06** 15:18:56.9±3.1, 35°.23S×179°.65W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.8/32, mbtmp4.1/3, ML3.9/1, Error ellipse: s-maj=70.9km s-min=35.9km az=122.0*
*NEIC **06** 15:18:58.9±0.7, 35°.4S±0°.1×179°.62W±0°.05, h10km±1km, mb4.6/13, Error ellipse: s-maj=22.1km s-min=6.7km az=4.0*
*WEL **06** 15:19:00.4±1.2, 36°.S±11°.×17°.9W±1°.5, h121km±36km, M4.0/27, mb4.6/1, MLv4.0/27, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8*

ISC 06 15:19:01.3±1.1, 35°.46S±0°.09×179°.4W±0°.1, h41km, n49, σ1°.11/56, mb4.5/9, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.81**	**221**	Pn	**Pn**	**15 19 42.7**	**-1.1**
MXZ	**Matakaoa Point**	**2.81**	**221**	P	**Pn**	**15 19 43.1**	**-0.7**
MXZ				S	**Sn**	**15 20 17.6**	**+1.1**
WMGZ	**Waiomatatini S**	**2.96**	**216**	P	**Pn**	**15 19 47.0**	**+1.2**
PKGZ	**Pakihiroa**	**3.18**	**219**	P	**Pn**	**15 19 48.8**	**-0.1**
PKGZ				S	**Sn**	**15 20 26.8**	**+1.3**
PUZ	**Puketiti**	**3.23**	**215**	P	**Pn**	**15 19 49.3**	**-0.2**
HAZ	**Te Kaha**	**3.24**	**224**	P	**Pn**	**15 19 49.8**	**+0.2**
TWGZ	**Tauwhareparae**	**3.45**	**217**	P	**Pn**	**15 19 52.6**	**+0.1**
TWGZ				S	**Sn**	**15 20 34.9**	**+2.7**
RUGZ	**Raukumara Rang**	**3.45**	**223**	P	**Pn**	**15 19 52.9**	**+0.3**
CNGZ	**Carnagh Statio**	**3.59**	**212**	P	**Pn**	**15 19 54.7**	**+0.3**
TKGZ	**Te Karaka**	**3.72**	**216**	P	**Pn**	**15 19 57.0**	**+0.8**
MWZ	**Matawai**	**3.80**	**220**	P	**Pn**	**15 19 56.9**	**-0.5**
RIGZ	**Rimuhau**	**3.97**	**214**	P	**Pn**	**15 19 58.9**	**-0.8**
URZ	**Urewera**	**3.97**	**224**	Pn	**Pn**	**15 19 59.0**	**-0.6**
	7.2nm,0.3s,baz=264,slow=2.5,SNR=48						
URZ				Sn	**Sn**	**15 20 46.4**	**+1.4**
	5.2nm,0.3s,baz=205,slow=19,SNR=6.8						
URZ	**Urewera**	**3.97**	**224**		**Pn**	**15 19 58.6**	**-1.1**
URZ	**Urewera**	**3.97**	**224**	P	**Pn**	**15 19 59.1**	**-0.6**
RAGZ	**Rawiri**	**3.98**	**219**	P	**Pn**	**15 19 59.9**	**0.0**
OPRZ	**Ohinepanea**	**4.05**	**233**	P	**Pn**	**15 20 00.7**	**0.0**
PRGZ	**Paritu Road**	**4.10**	**212**	P	**Pn**	**15 20 00.9**	**-0.5**
KUZ	**Kuaotunu**	**4.18**	**251**	P	**Pn**	**15 20 02.7**	**+0.2**
TGRZ	**Tauranga**	**4.18**	**236**	P	**Pn**	**15 20 02.2**	**-0.3**
SNGZ	**Shannon Statio**	**4.23**	**217**	P	**Pn**	**15 20 01.3**	**-2.1**
KNZ	**Kokohu**	**4.27**	**213**	P	**Pn**	**15 20 02.7**	**-1.1**
KNZ				S	**Sn**	**15 20 50.3**	**-2.0**
WHHZ	**Waihua**	**4.52**	**216**	P	**Pn**	**15 20 06.6**	**-0.6**
WHHZ				S	**Sn**	**15 20 58.5**	**+0.1**
MTHZ	**Maungataniwha**	**4.54**	**221**	P	**Pn**	**15 20 07.5**	**-0.1**
TOZ	**Tahuroa Road**	**4.71**	**240**	P	**Pn**	**15 20 09.9**	**+0.1**
NMHZ	**Naumai**	**4.74**	**219**	P	**Pn**	**15 20 10.5**	**+0.2**
ARHZ	**Aropaoanui**	**4.78**	**216**	P	**Pn**	**15 20 10.5**	**-0.2**
ETAZ	**East Tamaki Re**	**4.85**	**250**	P	**Pn**	**15 20 12.8**	**+1.1**
BKZ	**Black Stump Fm**	**4.96**	**220**		**Pn**	**15 20 12.7**	**-0.5**
BKZ	**Black Stump Fm**	**4.96**	**220**	P	**Pn**	**15 20 11.9**	**-1.4**
MCHZ	**McNeill Hill**	**5.06**	**217**	P	**Pn**	**15 20 14.1**	**-0.5

MKAR	**Makanchi Array**	**19.01**	**353**	P	**P**	**15 33 29.4**	**+0.3**
MAKZ	**Makanchi**	**19.06**	**352**	P	**P**	**15 33 30.8**	**+1.2**
MAKZ				IAmb	IAmb	15 33 31.7	
	comp=Z,3.7nm,0.5s						
KURBB	**Kurchatov Arra**	**23.30**	**348**	P	**P**	**15 34 15.7**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=169,slow=10.0,SNR=19						
KURK	**Kurchatov**	**23.37**	**349**	P	**P**	**15 34 15.7**	**0.0**
HHC	**Hu-ho-hao-te**	**24.84**	**52**	*eP*	**P**	**15 34 29.6**	**-0.1**
HHC				pmax	pmax		
	comp=Z,27nm,0.9s						
SONM	**Songino Array**	**25.58**	**34**	P	**P**	**15 34 37.6**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=218,slow=10,SNR=10						
SONM	**Songino Array**	**25.58**	**34**	P	**P**	**15 34 38.4**	**+2.0**
SONM				IAmb	IAmb	15 34 40.3	
	comp=Z,2.1nm,0.8s						
ULN	**Ulaanbaatar**	**25.93**	**34**	P	**P**	**15 34 42.1**	**+2.6**
ULN				IAmb	IAmb	15 34 43.4	
	comp=Z,3.5nm,0.6s						
ZAA0	**Zalesovo Array**	**25.99**	**359**	P	**P**	**15 34 40.0**	**+0.1**
ZAA0				IAmb	IAmb	15 34 47.0	
	comp=Z,5.9nm,1.4s						
ZALV	**Zalesovo Beam**	**25.99**	**359**	P	**P**	**15 34 40.6**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=181,slow=8.1,SNR=7.6						
ABKAR	**Akbulak array**	**29.04**	**324**	P	**P**	**15 35 07.8**	**+0.5**
TIXI	**Tiksi**	**49.73**	**17**	P	**P**	**15 37 59.3**	**+0.3**
TIXI				IAmb	IAmb	15 37 59.6	
	comp=Z,5.5nm,1.0s						
FIA1	**FINESS Array S**	**51.40**	**328**	P	**P**	**15 38 12.5**	**+0.7**
FINES	**FINESS Array B**	**51.40**	**328**	P	**P**	**15 38 12.4**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=110,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**51.40**	**328**	P	**P**	**15 38 12.5**	**+0.7**
ARCES	**ARCESS Array B**	**53.77**	**338**	P	**P**	**15 38 30.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=103,slow=7.6,SNR=11						
WB0	**Warramunga Arr**	**66.85**	**130**	P	**P**	**15 39 59.6**	**+0.1**
WB0				IAmb	IAmb	15 40 16.8	
	comp=Z,9.1nm,1.5s						
WRA	**Warramunga Arr**	**66.94**	**130**	P	**P**	**15 39 59.8**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=322,slow=6.4,SNR=11						
WRAB	**Tennant Creek**	**66.94**	**130**	P	**P**	**15 39 59.9**	**-0.1**
WB2	**Warramunga Arr**	**66.95**	**130**	P	**P**	**15 40 00.1**	**+0.1**
WB2				IAmb	IAmb	15 40 16.2	
	comp=Z,9.4nm,1.5s						
AS31	**Alice Springs**	**69.25**	**133**	P	**P**	**15 40 14.1**	**-0.4**
AS31				IAmb	IAmb	15 40 31.3	
	comp=Z,1.0nm,1.2s						
ASAR	**Alice Springs**	**69.25**	**133**	P	**P**	**15 40 14.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=313,slow=6.5,SNR=7.7						

*JMA **06** 15:42:52.2±0.2, 38°.66N×144°.15E, h45km, M3.7*
*IDC **06** 15:42:56.4±5.8, 41°.38N×136°.73E, h191km±44km, mb2.9/2, mb1 3.0/4, mb1mx2.7/50, mbtmp3.4/4, Error ellipse: s-maj=96.8km s-min=14.7km az=111.0*

ISC 06 15:42:49.8±1.3, 38°.74N±0°.05×144°.13E±0°.07, h14km, n21, σ1 99/39, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.95**	**281**	P	**Pb**	**15 43 24.4**	**-0.7**
OFUJ				*eS*	**Sb**	15 43 48.2	-1.1
MIYJ	**Miyakonagasawa**	**1.98**	**296**	P	**Pb**	**15 43 24.9**	**-0.7**
MIYJ				S	**Sn**	15 43 48.6	+1.1
JKMT	**Kesennumamotoy**	**2.08**	**273**	P	**Pb**	**15 43 25.9**	**-1.3**
JKMT				*eS*	**Sn**	15 43 50.6	+0.8
JIKH	**Ishinomakikobu**	**2.13**	**259**	P	**Pb**	**15 43 26.2**	**-2.0**
JIKH				S	**Sn**	15 43 51.4	+0.2
JMK	**Ichinoseki**	**2.28**	**276**	P	**Pb**	**15 43 29.2**	**-1.5**
JMK				S	**Sn**	15 43 56.6	+1.7
JOM	**Ohasama**	**2.33**	**289**	P	**Pb**	**15 43 30.1**	**-1.4**
JOM				S	**Sb**	15 43 58.5	-1.6
JANG	**Nango**	**2.60**	**310**	P	**Pn**	**15 43 33.2**	**+1.8**
JANG				*eS*	**Sn**	15 44 04.8	+2.0
JYK	**Kaneyama**	**2.95**	**275**	P	**Pb**	**15 43 39.2**	**-2.9**
JYK				*eS*	**Sn**	15 44 13.9	+2.5
JFT	**Otama**	**3.23**	**249**	P	**Pn**	**15 43 42.3**	**+2.3**
JFT				S	**Sn**	15 44 19.0	+0.7
JOT	**Ohata**	**3.55**	**319**	P	**Pn**	**15 43 46.9**	**+2.5**
JOT				*eS*	**Sn**	15 44 26.7	+0.6
JNBK	**Urakawa-nobuka**	**3.69**	**344**	P	**Pn**	**15 43 48.7**	**+2.3**
JNBK				S	**Sn**	15 44 32.4	+2.7
JCH	**Churui**	**3.92**	**352**	P	**Pn**	**15 43 51.0**	**+1.5**
JCH				*eS*	**Sn**	15 44 34.6	-0.7
JKB	**Kayabe**	**3.94**	**324**	P	**Pn**	**15 43 53.0**	**+3.2**
JKB				*eS*	**Sn**	15 44 36.0	+0.2
NEM2	**Nemuro 2**	**4.78**	**14**	P	**Pn**	**15 44 00.8**	**-0.5**
NEM2				*eS*	**Sn**	15 44 52.7	-3.8
BSO1	**Boso 1**	**4.80**	**213**	*eS*	**Sn**	**15 44 53.0**	**-3.2**
JRY	**Ryogami san**	**4.97**	**239**	P	**Pn**	**15 44 04.8**	**+0.8**
JRY				*eS*	**Sn**	15 44 58.5	-2.8
MJAR	**Matsushiro Arr**	**5.18**	**247**	P	**Pn**	**15 44 08.8**	**+1.9**
	0.2nm,0.3s,baz=10,slow=13,SNR=10						
MJAR				S	**Sn**	**15 45 10.5**	**+4.0**
	0.2nm,0.3s,baz=352,slow=16,SNR=4.8						
JTKR	**Abashiri--Toko**	**5.23**	**358**	P	**Pn**	**15 44 09.8**	**+2.3**
JTKR				S	**Sn**	**15 45 07.1**	**-0.5**
ASAJ	**Asahikawa**	**5.50**	**348**	P	**Pn**	**15 44 11.6**	**+0.4**
	1.2nm,0.3s,baz=207,slow=11,SNR=8.0						
ASAJ				S	**Sn**	**15 45 12.6**	**-1.6**
	0.8nm,0.3s,baz=40,slow=28,SNR=5.6						
WRA	**Warramunga Arr**	**59.09**	**191**	P	**P**	**15 52 48.6**	**-1.0**
	0.5nm,0.6s,baz=7.4,slow=6.8,SNR=7.4						
ASAR	**Alice Springs**	**62.81**	**191**	P	**P**	**15 53 15.7**	**+0.9**
	0.2nm,0.6s,baz=14,slow=14,SNR=6.6						

KRSC 06 15:48:30.3±1.6, 48°.38N×154°.25E, h206km±18km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.61**	**27**	*eP*	Pn	15 49 17.2	+1.5
ALID	**Alaid**	**2.64**	**18**	*eP*	Pn	15 49 15.7	-0.4
PAU	**Pauzhetka**	**3.51**	**27**	*eP*	Pn	15 49 27.3	+1.1
KDTR	**Khodutka, Kamc**	**4.23**	**34**	*eP*	Pn	15 49 35.8	+0.8
KDTR				*eS*	S	15 50 25.4	-0.2
MTVR	**Mutnovka**	**4.82**	**30**	*eP*	Pn	15 49 44.5	+1.9
MTVR				*eS*	S	15 50 40.7	+1.4
GRL	**Gorelyy**	**4.84**	**29**	*eP*	Pn	15 49 44.9	+2.1
RUS	**Russkaya**	**4.89**	**32**	*eP*	Pn	15 49 44.6	+1.3
RUS				*eS*	S	15 50 40.8	+0.1
APC	**Apacha**	**4.92**	**21**	*eP*	Pn	15 49 44.0	+0.4
PET	**Petropavlovsk**	**5.43**	**29**	*eP*	Pn	15 49 51.8	+1.7
DALK	**Dalny**	**5.47**	**30**	*eP*	Pn	15 49 52.2	+1.6
UGLR	**Uglovaya**	**5.64**	**29**	*eP*	Pn	15 49 55.3	+2.3
KOK	**Koryaka**	**5.65**	**28**	*eP*	Pn	15 49 55.7	+2.6
AVH	**Avacha**	**5.66**	**28**	*eP*	Pn	15 49 56.2	+3.0
KRX	**Arik**	**5.71**	**28**	*eP*	Pn	15 49 56.5	+2.5
SDLR	**Sedlovina**	**5.72**	**29**	*eP*	Pn	15 49 56.1	+2.1
SPN	**Mys Shipunski**	**5.98**	**36**	*eP*	Pn	15 49 58.8	+1.6
SPN				*eS*	S	15 51 04.6	-1.3
KZV	**Kizimen**	**7.72**	**27**	*eP*	Pn	15 50 22.1	+2.3
MKZ	**Mys Kozlova**	**7.75**	**34**	*eP*	Pn	15 50 21.1	+1.0
MKZ				*eS*	S	15 51 44.6	-3.0
TUMR	**Tumrok**	**7.82**	**26**	*eP*	Pn	15 50 22.6	+1.5
BKI	**Bering**	**9.97**	**42**	*eP*	Pn	15 50 51.1	+2.4

*IDC **06** 15:49:33.8±3.0, 5°.73S×130°.65E, h42km±42km, mb3.0/1, mb1 3.5/5, mb1mx3.2/37, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=81.6km s-min=25.1km az=89.0*

ISC 06 15:49:33.9±1.0, 5°.72S±0°.07×130°.7E±0°.2, h77km, n5, σ4 36/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.85**	**6**	P	**Pn**	**15 50 44.4**	**0.0**
	3.2nm,0.3s,baz=222,slow=23,SNR=2.7						
SIJI				S	**Sn**	**15 51 34.4**	**-4.8**
	3.2nm,0.3s,baz=134,slow=24,SNR=9.8						
FITZ	**Fitzroy Crossi**	**13.27**	**202**	P	**Pn**	**15 52 40.1**	**+0.9**
	0.2nm,0.3s,baz=30,slow=11,SNR=16						
FITZ				S	**Sn**	**15 54 59.5**	**-5.6**
	0.1nm,0.3s,baz=215,slow=18,SNR=1.9						
WRA	**Warramunga Arr**	**14.56**	**166**	P	**Pn**	**15 52 55.4**	**-0.7**
	0.1nm,0.3s,baz=347,slow=13,SNR=11						
WRA				S	Sn	15 55 29.5	-6.9
	0.4nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**18.10**	**171**	P	**P**	**15 53 42.6**	**+2.9**
	0.1nm,0.3s,baz=353,slow=11,SNR=17						
ASAR				S	Sn	15 56 54.6	-7.4
	0.1nm,0.3s,baz=356,slow=27,SNR=6.5						
MKAR	**Makanchi Array**	**67.57**	**326**	P	**P**	**16 00 25.7**	**+3.4**
	0.2nm,0.5s,baz=117,slow=7.0,SNR=1.9						

*JMA **06** 15:59:14.8±0.3, 28°.36N×139°.15E, h577km±4km, M3.8*
*IDC **06** 15:59:16.9±2.0, 28°.33N×138°.63E, h508km±42km, mb2.9/3, mb1 3.0/6, mb1mx2.6/41, mbtmp3.8/6, Error ellipse: s-maj=97.0km s-min=16.8km az=79.0*

ISC 06 15:59:17.9±1.0, 28°.38N±0°.09×138°.9E±0°.2, h524km, n16, σ0 80/18, mb3.5/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.20**	**113**	P	**P**	**16 00 32.3**	**+0.1**
CBIJ				*eS*	**S**	**16 01 33.4**	**+0.8**
JCJ	**Chichijima**	**3.20**	**113**	P	**P**	**16 00 32.3**	**+0.1**
	9.0nm,0.3s,baz=308,slow=20,SNR=8.0						
JCJ				S	**S**	**16 01 31.2**	**-1.4**
	13nm,0.3s,baz=281,slow=22,SNR=5.4						
JHH2	**Haha-jima-NKT2**	**3.41**	**120**	*eS*	**S**	**16 01 35.7**	**+0.5**
JHJ2	**Mitsune**	**4.78**	**10**	P	**P**	**16 00 45.5**	**+1.3**
BSO1	**Boso 1**	**6.50**	**15**	*eS*	**S**	**16 02 23.0**	**+0.4**
BSO4	**Boso 4**	**6.70**	**10**	*eS*	**S**	**16 02 26.3**	**-0.6**
JNY	**Yasuok**	**7.01**	**353**	P	**P**	**16 01 05.8**	**+0.9**
JHU	**Hanno**	**7.46**	**3**	P	**P**	**16 01 09.1**	**-0.2**
JRY	**Ryogami san**	**7.61**	**0**	P	**P**	**16 01 10.9**	**0.0**
JYT	**Yasato**	**7.90**	**8**	P	**P**	**16 01 13.3**	**-0.4**
JAG	**Ashikaga**	**8.03**	**3**	P	**P**	**16 01 14.2**	**-0.9**
MJAR	**Matsushiro Arr**	**8.15**	**356**	P	**P**	**16 01 15.2**	**-1.1**
	0.2nm,0.3s,baz=168,slow=10,SNR=14						
USRK	**Ussuriysk Ar.**	**16.72**	**343**	P	**P**	**16 02 45.8**	**+0.8**
	baz=165,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**48.24**	**186**	P	**P**	**16 07 10.3**	**-0.7**
	2.5nm,1.4s,baz=1.0,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**51.97**	**186**	P	**P**	**16 07 38.6**	**+0.2**
	0.3nm,0.9s,baz=7.0,slow=8.4,SNR=1.5						
FINES	**FINESS Array B**	**75.48**	**333**	P	**P**	**16 10 07.5**	**-0.4**
	0.5nm,0.3s,baz=64,slow=4.4,SNR=7.0						

*IDC **06** 16:30:52.5±0.6, 20°.55N×120°.24E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/40, mbtmp4.1/16, MS3.5/5, Ms1 3.6/5, ms1mx3.1/43, Error ellipse: s-maj=24.2km s-min=13.2km az=70.0*
*NEIC **06** 16:30:54.3±1.7, 20°.59N±0°.08×120°.28E±0°.05, h10km±1km, mb4.6/44, Error ellipse: s-maj=14.7km s-min=3.0km az=149.0*
*BJI **06** 16:30:54.4±0.0, 20°.77N×119°.99E, h6km, mB4.6/25, mb4.3/35, ML4.0/2, Ms4.1/16, Ms7 3.8/17*
*MAN **06** 16:30:55.8, 20°.60N×120°.29E, h98km, mb4.8, ML3.7, MS3.7*
*JMA **06** 16:30:55.0±0.3, 20°.82N×120°.32E, h0km, M4.9*

ISC 06 16:30:55.9±0.4, 20°.60N±0°.05×120°.15E±0°.05, h25km, n100, σ1 58/108, mb4.5/38, MS3.6/6, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.71**	**95**	*eP*	**Pb**	**16 31 23.9**	**-2.6**
TWG	**Pinlang**	**2.37**	**21**		**Pn**	**16 31 32.8**	**-0.4**
TPUB	**Ta-pu**	**2.73**	**9**		**Pn**	**16 31 36.9**	**-1.3**
YULB	**Yu-li**	**2.98**	**21**		**Pn**	**16 31 41.2**	**-0.4**
SSLB	**Suanglung**	**3.26**	**13**	Pn	**Pn**	**16 31 44.2**	**-1.3**
NACB	**Ninganchiao**	**3.80**	**20**		**Pn**	**16 31 51.4**	**-1.5**
KNMB	**Chin-men Tao**	**4.18**	**337**	Pn	**Pn**	**16 31 55.5**	**-2.6**
YHNB	**Yeheng**	**4.21**	**15**		**Pn**	**16 31 58.2**	**-0.3**
TATO	**Taipei**	**4.53**	**16**	Pn	**Pn**	**16 32 02.3**	**-0.6**
QZH	**Quanzhou**	**4.56**	**342**	Pn	**Pn**	**16 32 01.1**	**-2.2**
QZH				Sn	**Sn**	**16 32 49.6**	**-5.9**
YOJ	**Yonaguni jima**	**4.67**	**34**	P	**Pn**	**16 32 04.4**	**-0.4**
YOJ				*eS*	**Sn**	**16 32 57.5**	**-0.7**
YOJ	**Yonaguni jima**	**4.67**	**34**	Pn	**Pn**	**16 32 03.2**	**-1.6**
HATJ	**Hateruma jima**	**4.83**	**44**	P	**Pn**	**16 32 07.9**	**+0.9**
HATJ				*eS*	**Sn**	**16 33 01.1**	**-1.0**
IRIF	**Iriomote-Funau**	**4.98**	**41**	P	**Pn**	**16 32 10.1**	**+1.0**
IRIF				S	**Sn**	**16 33 04.1**	**-1.7**
JKRS	**Kuro-shima**	**5.09**	**44**	P	**Pn**	**16 32 11.6**	**+1.1**
JKRS				*eS*	**Sn**	**16 33 06.9**	**-1.6**
PCPH	**Palayan**	**5.09**	**170**	*eP*	**Pn**	**16 32 11.8**	**+1.3**
JIJ	**Ishigaki jima**	**5.26**	**44**	P	**Pn**	**16 32 13.3**	**+0.4**
JIJ				S	**Sn**	**16 33 10.0**	**-2.8**
JISG	**Ishigakijimahi**	**5.53**	**43**	P	**Pn**	**16 32 16.5**	**-0.1**
JISG				*eS*	**Sn**	**16 33 16.3**	**-3.0**
JTJ	**Tarama**	**5.82**	**45**	P	**Pn**	**16 32 21.5**	**+0.9**
JTJ				*eS*	**Sn**	**16 33 23.6**	**-3.0**
JIRB	**Irabujima**	**6.26**	**47**	P	**Pn**	**16 32 27.0**	**+0.3**
JIRB				*eS*	**Sn**	**16 33 34.9**	**-2.6**
QIZ	**Qiongzhong**	**9.83**	**263**	P	**Pn**	**16 33 14.2**	**-1.5**
QIZ				S	**Sn**	**16 35 05.8**	**+0.5**
QIZ				LR	LR		
	comp=N,240nm,4.8s						
QIZ				LR	LR		
	comp=E,370nm,6.5s						
QIZ				LR	LR		
	comp=Z,260nm,11.2s						
QIZ	**Qiongzhong**	**9.83**	**263**	Pn	**Pn**	**16 33 12.1**	**-3.5**
NJ2	**Nanjing**	**11.47**	**354**	*eP*	**Pn**	**16 33 38.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.9s						
SLVN	**Son La**	**15.20**	**276**	Pn	**Pn**	**16 34 29.7**	**+0.7**
JTU	**Tsushima**	**16.10**	**29**	P	**P**	**16 34 43.7**	**0.0**
JTU				IAmb	IAmb	16 35 00.4	
	comp=Z,43nm,1.1s						
JMN	**Monobe**	**17.87**	**40**	P	**P**	**16 35 04.7**	**+1.3**
KSRS	**Korea Array**	**18.11**	**20**	P	**Pn**	**16 35 01.5**	**-4.1**
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=10						
KSRS				LR	LR	16 42 22.9	
	comp=Z,116nm,19.8s,baz=168,slow=38						
JHS	**Saijyo**	**18.34**	**36**	Pn	**P**	**16 35 06.0**	**-2.5**
BJI	**Beijing**	**19.68**	**351**	P	**Pn**	**16 35 24.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,22nm,0.7s						
BJI				LR	LR		
	comp=Z,220nm,12.6s						
BJI				LR	LR		
	comp=Z,140nm,13.1s						
BJI				LR	LR		
	comp=Z,210nm,18.6s						
JWT	**Wachi**	**19.85**	**39**		**Pn**	**16 35 26.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.10**	**268**	P	Pn	16 35 29.2	-0.6
	comp=Z,0.9nm,0.8s,baz=74,slow=8.8,SNR=5.7						
CMAR				PcP	**PcP**	**16 39 43.7**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=71,slow=0.3,SNR=7.0						
CMAR				LR	LR	16 43 54.2	
	comp=Z,110nm,20.2s,baz=119,slow=39						
INU	**Inuyama**	**20.88**	**42**		Pn	16 35 37.0	-1.8
INU				IAmb	IAmb	16 35 43.4	
	comp=Z,20nm,0.7s						
JGF	**Kuroka**	**21.25**	**42**	P	**P**	**16 35 40.4**	**+0.1**
JGF				IAmb	IAmb	16 35 47.0	
	comp=Z,18nm,0.9s						
HHC	**Hu-ho-hao-te**	**21.47**	**342**	*eP*	**P**	**16 35 44.3**	**+1.6**
HHC				S	**S**	**16 39 40.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,25nm,0.9s						
HHC				pmax	pmax		
	comp=Z,94nm,6.0s						
HHC				LR	LR		
	comp=Z,330nm,13.1s						
HHC				LR	LR		
	comp=Z,130nm,13.5s						
HHC				LR	LR		
	comp=Z,280nm,14.7s						
MAJO	**Matsushiro**	**22.39**	**41**	P	**P**	**16 35 52.0**	**-0.4**
MAJO				IAmb	IAmb	16 36 00.6	
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**22.39**	**41**	P	**P**	**16 35 52.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**22.39**	**41**	P	**P**	**16 35 53.1**	**+0.7**
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**16 35 52.0**	**-0.4**
	comp=Z,6.9nm,0.9s,baz=229,slow=6.7,SNR=11						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**16 35 51.8**	**-0.6**
JSD	**Sado**	**23.41**	**38**	P	**P**	**16 36 02.2**	**-0.7**
JSD				IAmb	IAmb	16 36 08.5	
	comp=Z,9.9nm,0.8s						
SIJI	**Sorong**	**23.95**	**152**	P	**P**	**16 36 08.1**	**-0.2**
	comp=Z,28nm,0.9s,baz=3.1,slow=4.7,SNR=6.7						
JMM	**Marumori**	**24.82**	**42**	P	**P**	**16 36 16.6**	**+0.5**
JMM				IAmb	IAmb	16 36 21.7	
	comp=Z,14nm,0.8s						
MDJ	**Mudanjiang**	**25.20**	**16**	P	**P**	**16 36 19.4**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,13nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,82nm,3.9s						
MDJ	**Mudanjiang**	**25.20**	**16**	P	**P**	**16 36 20.0**	**+0.6**
MDJ				IAmb	IAmb	16 36 22.5	
	comp=Z,26nm,1.0s						
USRK	**Ussuriysk Ar.**	**25.52**	**20**	P	**P**	**16 36 22.7**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=191,slow=9.5,SNR=8.0						
USA0B	**Ussuriysk Arra**	**25.52**	**20**	P	**P**	**16 36 23.1**	**+0.8**
GTA	**Gaotai**	**25.62**	**321**	*eP*	**P**	**16 36 28.0**	**+4.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,69nm,4.6s						
GTA				LR	LR		
	comp=Z,82nm,11.6s						
GTA				LR	LR		
	comp=Z,99nm,10.9s						
GTA				LR	LR		
	comp=Z,130nm,12.0s						
FAKI	**Fak Fak**	**26.21**	**152**	P	**P**	**16 36 29.7**	**+0.9**
FAKI				IAmb	IAmb	16 36 31.4	
	comp=Z,17nm,0.7s						
ERM	**Erimo**	**28.86**	**37**	P	**P**	**16 36 53.1**	**+0.8**
ERM				IAmb	IAmb	16 37 12.2	
	comp=Z,9.4nm,0.9s						
SONM	**Songino Array**	**29.36**	**341**	P	**P**	**16 36 57.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=163,slow=10.0,SNR=4.0						
SONM				LR	LR	16 49 48.0	
	comp=Z,126nm,18.2s,baz=120,slow=39						
SOEI	**Soe**	**30.43**	**172**	P	**P**	**16 37 06.5**	**-0.2**
MTN	**Manton Dam**	**34.94**	**161**	P	**P**	**16 37 42.5**	**-3.5**
WMQ	**Urumqi**	**35.56**	**318**	*eP*	**P**	**16 37 53.7**	**+2.5**
KNRA	**Kununurra**	**37.02**	**166**	P	**P**	**16 37 59.9**	**-3.9**
KNRA				IAmb	IAmb	16 38 15.7	
	comp=Z,31nm,1.4s						
FITZ	**Fitzroy Crossi**	**38.83**	**172**	P	**P**	**16 38 16.4**	**-2.5**
PMG	**Port Moresby**	**39.93**	**136**	P	**P**	**16 38 27.0**	**-1.3**
PMG				IAmb	IAmb	16 38 49.0	
	comp=Z,14nm,0.8s						
MK31	**Makanchi Array**	**40.34**	**319**	P	**P**	**16 38 32.1**	**+0.7**
MKAR	**Makanchi Array**	**40.34**	**319**	P	**P**	**16 38 32.3**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=118,slow=8.0,SNR=7.4						
MKAR	**Makanchi Array**	**40.34**	**319**	P	**P**	**16 38 31.6**	**+0.2**
PSA00	**Pilbara Seismi**	**41.91**	**180**	P	**P**	**16 38 43.3**	**-1.2**
PSA00				IAmb	IAmb	16 38 43.8	
	comp=Z,9.6nm,0.8s						
WB0	**Warramunga Arr**	**42.47**	**160**	P	**P**	**16 38 48.1**	**-1.0**
WB0				IAmb	IAmb	16 38 49.2	
	comp=Z,27nm,1.0s						
WRAB	**Tennant Creek**	**42.61**	**160**	P	**P**	**16 38 49.2**	**-1.0**
WRA	**Warramunga Arr**	**42.62**	**160**	P	**P**	**16 38 49.6**	**-0.7**
	comp=Z,20nm,0.6s,baz=342,slow=9.1,SNR=107						
WRA	**Warramunga Arr**	**42.62**	**160**	P	**P**	**16 38 48.2**	**-2.1**
WB2	**Warramunga Arr**	**42.62**	**160**	P	**P**	**16 38 49.5**	**-0.8**
WR0	**Warramunga Arr**	**42.70**	**160**	P	**P**	**16 38 50.2**	**-0.7**
ZALV	**Zalesovo Beam**	**42.79**	**330**	P	**P**	**16 38 51.9**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=113,slow=7.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**42.79**	**330**	P	**P**	**16 38 49.5**	**-1.8**
PEA0B	**Petropavlovsk-**	**43.38**	**32**	P	**P**	**16 38 56.0**	**-0.1**
PEA0B				IAmb	IAmb	16 39 07.1	
	comp=Z,8.2nm,1.0s						
PETK	**Petropavlovsk-**	**43.38**	**32**	LR	LR	16 58 49.9	
	comp=Z,41nm,18.1s,baz=213,slow=39						
PETK	**Petropavlovsk-**	**43.38**	**32**	P	**P**	**16 38 56.0**	**-0.2**
KURK	**Kurchatov**	**44.29**	**323**	P	**P**	**16 39 04.7**	**+1.2**
KURBB	**Kurchatov Arra**	**44.30**	**323**	P	**P**	**16 39 04.7**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=124,slow=7.6,SNR=9.2						
AS31	**Alice Springs**	**45.99**	**162**	P	**P**	**16 39 16.8**	**-0.5**
ASAR	**Alice Springs**	**45.99**	**162**	P	**P**	**16 39 17.1**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=344,slow=6.9,SNR=173						
ASAR	**Alice Springs**	**45.99**	**162**	P	**P**	**16 39 16.2**	**-1.1**
KKAR	**Karatay Array**	**46.97**	**310**	P	**P**	**16 39 25.0**	**+0.2**
CTAO	**Charters Tower**	**47.83**	**146**	P	**P**	**16 39 32.4**	**+0.7**
FORT	**Forrest**	**51.64**	**171**	P	**P**	**16 40 00.2**	**-0.3**
NRIK	**Noril'sk**	**52.62**	**346**	P	**P**	**16 40 08.3**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=116,slow=9.4,SNR=5.0						
NRIK	**Noril'sk**	**52.62**	**346**	P	**P**	**16 40 08.1**	**+0.7**
BBOO	**Buckleboo**	**55.24**	**164**	P	**P**	**16 40 26.1**	**-0.8**
STKA	**Stephens Creek**	**56.08**	**158**	P	**P**	**16 40 33.1**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=322,slow=8.2,SNR=6.2						
STKA	**Stephens Creek**	**56.08**	**158**	P	**P**	**16 40 31.4**	**-1.6**
TOO	**Toolangi**	**62.58**	**157**	P	**P**	**16 41 18.9**	**+1.0**
RAYN	**Ar Rayn**	**68.50**

AS31	**Alice Springs**	**25.65**	**220**	P	**P**	**16 58 03.3**	**+0.7**
ASAR	**Alice Springs**	**25.65**	**220**	P	**P**	**16 58 03.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=52,slow=8.6,SNR=11						
BATI	**Baumata**	**28.34**	**257**	LR	LR	17 10 09.7	
	comp=Z,129nm,18.4s,baz=148,slow=38						
FITZ	**Fitzroy Crossi**	**28.83**	**240**	LR	LR	17 10 36.5	
	comp=Z,101nm,20.4s,baz=64,slow=38						
FITZ	**Fitzroy Crossi**	**28.83**	**240**	P	**P**	**16 58 31.1**	**-0.1**
FITZ				IAmb	IAmb	16 58 49.4	
	comp=Z,6.4nm,1.1s						
STKA	**Stephens Creek**	**28.86**	**198**	LR	LR	17 11 03.1	
	comp=Z,37nm,18.1s,baz=25,slow=38						
UGM	**Wanagama**	**41.03**	**263**	P	**P**	**17 00 15.1**	**-1.2**
LEM	**Lembang**	**43.88**	**265**	LR	LR	17 22 08.5	
	comp=Z,34nm,18.2s,baz=52,slow=41						
ERM	**Erimo**	**46.90**	**351**	P	**P**	**17 01 02.9**	**0.0**
KLR	**Kul'dur**	**56.21**	**344**	LR	LR	17 25 50.7	
	comp=Z,18nm,20.6s,baz=184,slow=36						
PEA0B	**Petropavlovsk-**	**57.58**	**4**	P	**P**	**17 02 22.1**	**0.0**
PETK	**Petropavlovsk-**	**57.58**	**4**	P	**P**	**17 02 21.6**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=170,slow=7.1,SNR=6.4						
MKAR	**Makanchi Array**	**79.33**	**319**	P	**P**	**17 04 38.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=97,slow=7.4,SNR=5.8						
MAKZ	**Makanchi**	**79.54**	**319**	P	**P**	**17 04 39.3**	**0.0**
MAKZ				IAmb	IAmb	17 04 40.1	
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**80.24**	**327**	P	**P**	**17 04 42.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=96,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**82.28**	**22**	P	**P**	**17 04 55.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=248,slow=5.1,SNR=7.8						
KK31	**Karatay Array**	**86.58**	**314**	P	**P**	**17 05 16.4**	**+0.7**
KK31				IAmb	IAmb	17 05 18.1	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**86.58**	**314**	P	**P**	**17 05 16.3**	**+0.6**
KKAR	**Karatay Array**	**86.58**	**314**	P	**P**	**17 05 16.5**	**+0.8**
KKAR				IAmb	IAmb	17 05 18.1	
	comp=Z,3.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**149.12**	**288**	PKPbc	**PKPab**	**17 12 24.7**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=67,slow=3.0,SNR=9.8						
TORD	**Torodi Ar. Bea**	**149.12**	**288**	PKPdf	**PKPdf**	**17 12 16.9**	**-0.5**

DJA 06 17:01:33.8±0.5, 6°S±3°×13°1E±°, h143km±9km, M3.9/7, mb3.9/4, mB4.8/1, MLv3.9/7, Mw(mB)4.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.67**	**324**	P	Pn	17 02 05.6	+0.9
BNDI				S	Sn	17 02 28.4	0.0
SAUI	**Saumlaki**	**2.12**	**169**	P	Pn	17 02 10.3	+0.3
FAKI	**Fak Fak**	**3.25**	**25**	P	Pn	17 02 25.5	+1.3
FAKI				S	Sn	17 03 02.9	-0.2
NLAI	**Namlea**	**4.60**	**305**	P	Pn	17 02 42.5	+0.7
SWI	**Sorong**	**5.01**	**4**	P	Pn	17 02 47.3	0.0
	0.2nm20nm,0.9s						
SANI	**Sanana**	**6.19**	**308**	P	Pn	17 03 02.4	-0.7
	0.1nm16nm,1.4s						

*JMA **06** 17:08:42.1±0.1, 22°.71N×121°.25E, h0km, M3.4*
*TAP **06** 17:08:43.7, 22°.81N×120°.92E, h6km, ML3.7, C*
*IDC **06** 17:08:44.4±2.6, 22°.46N×120°.86E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/50, mbtmp3.4/4, Error ellipse: s-maj=240.2km s-min=22.8km az=63.0*
ISC 06 17:08:43.7±0.8, 22°.75N±0°.02×120°.93E±0°.01, h14km±5km, n110, σ1°.08/168, mb3.4/4, 19C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**0.15**	**63**	⇑*iP*	**Pg**	**17 08 47.4**	**-0.1**
	baz=87						
TWG				*i* S	**Sg**	17 08 49.5	-0.6
	baz=87						
TWGBT	**Beinan**	**0.15**	**65**	⇑*iP*	**Pg**	**17 08 47.4**	**-0.2**
	baz=87						
TWGBT				*i* S	**Sg**	17 08 49.4	-0.8
	baz=87						
ECL	**Taimali**	**0.16**	**171**	⇑*iP*	**Pb**	**17 08 48.4**	**+0.1**
	baz=170						
ECL				S	**Sg**	17 08 52.1	+2.0
	baz=170						
TTN	**Taitung**	**0.20**	**90**	⇑*iP*	**Pb**	**17 08 49.6**	**+0.4**
	baz=106						
TTN				*i* S	**Sg**	17 08 53.6	+2.2
	baz=106						
LONT	**Longtian**	**0.24**	**51**	⇑*iP*	**Pg**	**17 08 48.7**	**-0.3**
	baz=63						
LONT				*e*S	**Sg**	17 08 51.6	-0.9
	baz=63						
TSMG	**Majia**	**0.27**	**260**	⇑*iP*	**Pb**	**17 08 49.6**	**-0.7**
	baz=249						
TSMG				S	**Sg**	17 08 53.1	-0.1
	baz=249						
SSD	**Sandimen**	**0.27**	**269**	⇑*iP*	**Pb**	**17 08 49.5**	**-0.9**
	baz=256						
SSD				S	**Sg**	17 08 52.6	-0.8
	baz=256						
MASBT	**Mashibuluo**	**0.31**	**243**	⇑*iP*	**Pn**	**17 08 50.6**	**-3.2**
	baz=234						
MASBT				*i* S	**Sb**	17 08 54.7	-1.1
	baz=234						
SLGT	**Liugui**	**0.35**	**313**	P	**Pg**	**17 08 50.3**	**-0.6**
	baz=305						
SLGT				S	**Sg**	17 08 54.1	-1.7
	baz=305						
EAST	**Anshuo**	**0.38**	**191**	⇑*iP*	**Pn**	**17 08 52.6**	**-2.1**
	baz=189						
EAST				*e*S	**Sb**	17 08 59.4	+1.6
	baz=189						
TAW	**Tawu**	**0.39**	**184**	P	**Pn**	**17 08 52.9**	**-2.0**
	baz=182						
TAW				*e*S	**Sb**	17 08 59.9	+1.6
	baz=182						
SGLT	**Jiouru**	**0.40**	**266**	⇑*iP*	**Pn**	**17 08 53.1**	**-1.9**
	baz=265						
TSPT	**Pingtung City**	**0.41**	**259**	*e*P	**Pn**	**17 08 53.3**	**-1.8**
	baz=252						
TSPT				*e*S	**Sb**	17 08 59.5	+0.8
	baz=252						
EDH	**Donghe**	**0.41**	**58**	⇑*iP*	**Pb**	**17 08 52.5**	**-0.2**
	baz=65						
EDH				S	**Sb**	17 08 58.7	-0.2
	baz=65						
SCST	**Cishan**	**0.42**	**288**	P	**Pb**	**17 08 52.8**	**-0.1**
	baz=274						
SCST				S	**Sb**	17 08 58.6	-0.6
	baz=274						
SSPT	**Xinbi**	**0.43**	**231**	⇑*iP*	**Pn**	**17 08 53.7**	**-1.7**
	baz=214						
SSPT				S	**Sb**	17 09 00.8	+1.5
	baz=214						
ECS	**Chishang**	**0.43**	**38**	P	**Pg**	**17 08 52.0**	**-0.4**
	baz=44						
ECS				*e*S	**Sg**	17 08 58.7	+0.4
	baz=44						
STYT	**Tauyuan**	**0.44**	**339**	⇓*iP*	**Pg**	**17 08 51.9**	**-0.6**
	baz=337						
STYT				*i* S	**Sg**	17 08 57.1	-1.3
	baz=337						
STYH	**Taoyuan**	**0.44**	**341**	P	**Pg**	**17 08 52.0**	**-0.4**
	baz=339						
STYH				S	**Sg**	17 08 57.1	-1.3
	baz=339						
ELDTW	**Lidau**	**0.44**	**11**	⇓*iP*	**Pg**	**17 08 51.7**	**-0.9**
	baz=13						
ELDTW				S	**Sg**	17 08 56.6	-1.9
	baz=13						
SGST	**Jiashian**	**0.46**	**316**	⇑*iP*	**Pg**	**17 08 51.8**	**-0.9**
	baz=311						
SGST				S	**Sg**	17 08 57.9	-1.1
	baz=311						
TWM1	**Shoushan**	**0.47**	**279**	⇑*iP*	**Pn**	**17 08 54.5**	**-1.5**
	baz=272						
TWM1				S	**Sb**	17 09 02.3	+1.7
	baz=272						
SCZT	**Fangliau**	**0.47**	**217**	⇑*iP*	**Pn**	**17 08 54.1**	**-2.0**
	baz=222						
SCZT				S	**Sb**	17 09 00.9	+0.3
	baz=222						
LDUT	**Ludao**	**0.51**	**99**	P	**Pn**	**17 08 55.0**	**-1.5**
	baz=105						
LDUT				S	**Sn**	17 09 03.2	-1.8
	baz=105						
CHKT	**Chengkung**	**0.53**	**49**	⇑*iP*	**Pb**	**17 08 54.5**	**-0.3**
	baz=74						
CHKT				S	**Sg**	17 09 02.3	+1.0
	baz=74						
SLIU	**Shizi**	**0.55**	**193**	*e*P	**Pn**	**17 08 55.6**	**-1.4**
	baz=202						
SNJT	**Kaohsiung City**	**0.55**	**270**	*e*P	**Pn**	**17 08 57.0**	**0.0**
	baz=264						
FULB	**Fuli**	**0.56**	**37**	⇑*iP*	**Pg**	**17 08 54.8**	**+0.1**
	baz=30						
FULB				S	**Sg**	17 09 02.9	+0.8
	baz=30						
CHN1	**Nanshi**	**0.57**	**320**	P	**Pb**	**17 08 55.5**	**0.0**
	baz=321						
CHN1				S	**Sn**	17 09 04.8	-1.7
	baz=321						
WTP	**Ta-pu**	**0.57**	**330**	⇓*iP*	**Pb**	**17 08 55.2**	**-0.2**
	baz=329						
WTP				S	**Sg**	17 09 02.5	0.0
	baz=329						
KAU	**Kaohsiung**	**0.60**	**252**	*e*P	**Pn**	**17 08 59.2**	**+1.4**
	baz=246						
CHN3	**Shinhua**	**0.61**	**302**	*e*P	**Pn**	**17 08 58.8**	**+0.9**
	baz=303						
CHN3				*e*S	**Sn**	17 09 10.1	+2.5
	baz=303						
TPUB	**Ta-pu**	**0.61**	**333**	P	**Pb**	**17 08 56.1**	**0.0**
	baz=335						
TPUB				S	**Sg**	17 09 03.5	-0.3
	baz=335						
SNST	**Tainan City**	**0.61**	**320**	*e*P	**Pn**	**17 08 56.7**	**-1.2**
	baz=318						
WLCH	**Liuqiu**	**0.65**	**232**	*e*P	**Pn**	**17 09 00.7**	**+2.3**
	baz=218						
TWK	**Hsinying**	**0.65**	**322**	P	**Pn**	**17 08 57.3**	**-1.3**
	baz=324						
TWK				S	**Sb**	17 09 07.0	+1.1
	baz=324						
TWP	**Hsiaoliuchiu**	**0.66**	**232**	*e*P	**Pn**	**17 09 01.3**	**+2.7**
	baz=218						
TWF1	**Yuli**	**0.69**	**30**	⇑*iP*	**Pg**	**17 08 56.1**	**-1.0**
	baz=33						
TWF1				S	**Sg**	17 09 04.0	-2.2
	baz=33						
EYUL	**Yuli**	**0.69**	**31**	P	**Pg**	**17 08 56.3**	**-0.9**
	baz=35						
YULB	**Yu-li**	**0.72**	**28**	⇑*iP*	**Pg**	**17 08 56.5**	**-1.3**
	baz=30						
YULB				*e*S	**Sg**	17 09 05.5	-1.8
	baz=30						
YUS	**Yu-Shan**	**0.73**	**2**	P	**Pg**	**17 08 57.1**	**-1.0**
	baz=2.0						
YUS				*e*S	**Sg**	17 09 06.4	-1.5
	baz=2.0						
ECBN	**Changbin**	**0.74**	**41**	*e*P	**Pg**	**17 08 57.4**	**-0.7**
	baz=59						
ALS	**Alishan**	**0.76**	**352**	*e*P	**Pg**	**17 08 58.0**	**-0.6**
	baz=351						
ALS				*e*S	**Sg**	17 09 08.3	-0.4
	baz=351						
HEN	**Hengchun**	**0.76**	**193**	*e*P	**Pn**	**17 09 00.7**	**+0.7**
	baz=202						
SCLT	**Jiali**	**0.80**	**302**	*e*P	**Pn**	**17 09 01.1**	**+0.6**
	baz=299						
SCLT				*e*S	**Sn**	17 09 14.6	+2.5
	baz=299						
EHY	**Hungye**	**0.83**	**26**	P	**Pg**	**17 08 58.7**	**-1.1**
	baz=30						
ICHU	**Yijhu**	**0.85**	**316**	*e*P	**Pn**	**17 09 01.5**	**+0.3**
	baz=313						
ICHU				*e*S	**Sn**	17 09 14.3	+0.9
	baz=313						
HGSD	**Ruisui**	**0.87**	**32**	*e*P	**Pg**	**17 09 00.1**	**-0.4**
	baz=28						
CHN5	**Tsauling**	**0.87**	**345**	*e*P	**Pb**	**17 09 00.6**	**-0.1**
	baz=355						
CHY	**Chiayi**	**0.88**	**328**	*e*P	**Pn**	**17 09 01.3**	**-0.3**
	baz=341						
CHY				*e*S	**Sn**	17 09 14.1	0.0
	baz=341						
CHN8	**Yiju**	**0.89**	**312**	*e*P	**Pn**	**17 09 02.1**	**+0.4**
	baz=325						
CHN8				*e*S	**Sn**	17 09 15.8	+1.5
	baz=325						
LAY	**Lan-yu**	**0.92**	**141**	*e*P	**Pn**	**17 09 01.4**	**-0.8**
	baz=143						
WHYT	**Xinyi Township**	**0.94**	**356**	*e*P	**Pg**	**17 09 01.3**	**-0.6**
	baz=6.0						
WGK	**Gukeng**	**0.99**	**340**	P	**Pn**	**17 09 03.6**	**+0.5**
	baz=338						
WGK				*e*S	**Sn**	17 09 17.6	+0.7
	baz=338						
WDLH	**Douliu**	**1.00**	**339**	*e*P	**Pn**	**17 09 04.0**	**+0.7**
	baz=337						
WDLH				*e*S	**Sn**	17 09 17.6	+0.5
	baz=337						
EGFH	**Guangfu**	**1.02**	**27**	*e*P	**Pb**	**17 09 01.9**	**-1.2**
	baz=30						
SSLB	**Suanglung**	**1.03**	**1**	*e*P	**Pb**	**17 09 02.5**	**-0.9**
	baz=3.0						
WTK	**Tuku**	**1.05**	**332**	*e*P	**Pn**	**17 09 04.5**	**+0.4**
	baz=329						
WTK				*e*S	**Sn**	17 09 19.4	+0.9
	baz=329						
WJS	**Zhushan**	**1.08**	**350**	*e*P	**Pg**	**17 09 05.4**	**+0.9**
	baz=359						
WSF	**Szhu**	**1.09**	**324**	P	**Pg**	**17 09 05.1**	**+0.3**
	baz=321						
WSF				S	**Sn**	17 09 20.7	+1.2
	baz=321						
SMLT	**Sun Moon Lake**	**1.12**	**359**	*e*P	**Pb**	**17 09 04.8**	**-0.2**
	baz=7.0						
SMLT				*e*S	**Sn**	17 09 21.6	+1.1
	baz=7.0						
WNT	**Mingjian**	**1.14**	**349**	*e*P	**Pg**	**17 09 06.3**	**+0.6**
	baz=347						
WNT				*e*S	**Sn**	17 09 21.4	+0.6
	baz=347						
TYC	**Yuchr**	**1.15**	**357**	*e*P	**Pg**	**17 09 06.2**	**+0.3**
	baz=5.0						
TYC				*e*S	**Sn**	17 09 22.0	+1.2
	baz=5.0						
ESL	**Shilin**	**1.15**	**24**	P	**Pn**	**17 09 04.3**	**-1.1**
	baz=34						
ESL				*e*S	**Sb**	17 09 19.6	-0.7
	baz=34						
OWD	**Renai**	**1.22**	**11**	*e*P	**Pn**	**17 09 05.8**	**-0.7**
	baz=20						
OWD				*e*S	**Sg**	17 09 23.7	+0.6
	baz=20						
WRL	**Guolierlin Hig**	**1.25**	**336**	*e*P	**Pg**	**17 09 07.4**	**-0.3**
	baz=334						
WRL				*e*S	**Sg**	17 09 24.4	+0.3
	baz=334						
WPL	**Puli Township**	**1.25**	**1**	*e*P	**Pb**	**17 09 07.1**	**0.0**
	baz=360						
WPL				*e*S	**Sg**	17 09 24.5	+0.3
	baz=360						
WDGT	**Dungji**	**1.27**	**294**	*e*P	**Pg**	**17 09 07.5**	**-0.7**
	baz=292						
WDGT				*e*S	**Sg**	17 09 24.4	-0.4
	baz=292						
DPDB	**Guoxing**	**1.27**	**360**	*e*P	**Pg**	**17 09 08.1**	**-0.2**
	baz=6.0						
DPDB				*e*S	**Sg**	17 09 25.5	+0.6
	baz=6.0						
WCS	**Beigang Elemen**	**1.30**	**359**	*e*P	**Pg**	**17 09 08.5**	**-0.2**
	baz=13						
WWF	**Wufeng**	**1.30**	**351**	*e*P	**Pg**	**17 09 08.9**	**+0.2**
	baz=351						
ETM	**Tongmen**	**1.31**	**23**	*e*P	**Pn**	**17 09 07.1**	**-0.5**
	baz=35						
CHGB	**Renai**	**1.32**	**10**	*e*P	**Pn**	**17 09 07.8**	**-0.1**
	baz=26						
WCHH	**Zhanghua**	**1.36**	**346**	*e*P	**Pg**	**17 09 10.2**	**+0.2**
	baz=346						
WHF	**Hehuan Shan**	**1.42**	**13**	*e*P	**Pb**	**17 09 09.8**	**-0.4**
	baz=27						
VCHM	**Qimei**	**1.45**	**288**	*e*P	**Pg**	**17 09 09.9**	**-1.8**
	baz=287						
VCHM				*e*S	**Sg**	17 09 28.3	-2.3
	baz=287						
TWD	**Chiawan**	**1.46**	**25**	*e*P	**Pn**	**17 09 09.6**	**+0.1**
	baz=35						
PHUB	**P'eng-hu**	**1.46**	**302**	*e*P	**Pn**	**17 09 07.7**	**-1.9**
	baz=300						
PHUB				*e*S	**Sb**	17 09 28.4	-0.7
	baz=300						
PNG	**Penghu**	**1.50**	**303**	*e*P	**Pb**	**17 09 10.4**	**-0.9**
	baz=302						
PNG				*e*S	**Sb**	17 09 29.5	-0.8
	baz=302						
TDCB	**Techi**	**1.51**	**8**	*e*P	**Pb**	**17 09 11.2**	**-0.4**
	baz=10.0						
FUSS	**Fushou**	**1.52**	**11**	*e*P	**Pb**	**17 09 11.2**	**-0.5**
	baz=13						
WHP	**Taichung City**	**1.52**	**1**	*e*P	**Pg**	**17 09 12.6**	**-0.3**
	baz=359						
WHP				*e*S	**Sg**	17 09 33.0	+0.4
	baz=359						
ETLH	**Xiulin Townshi**	**1.53**	**19**	*e*P	**Pb**	**17 09 11.4**	**-0.6**
	baz=36						
NACB	**Ninganchiao**	**1.54**	**23**	*e*P	**Pn**	**17 09 10.6**	**-0.1**
	baz=37						
WDJ	**Dajia District**	**1.61**	**351**	*e*P	**Pg**	**17 09 14.6**	**-0.1**
	baz=349						
WDJ				*e*S	**Sg**	17 09 36.5	+1.0
	baz=349						
NSY	**Sanyi**	**1.66**	**355**	*e*P	**Pg**	**17 09 14.8**	**-0.9**
	baz=353						
NSY				*e*S	**Sg**	17 09 38.0	+0.7
	baz=353						
NNS	**Nan Shan**	**1.73**	**14**	*e*P	**Pb**	**17 09 15.1**	**-0.2**
	baz=22						
NNS				*e*S	**Sb**	17 09 38.9	+2.0
	baz=22						
NSTT	**Nanjuang**	**1.87**	**2**	*e*P	**Pg**	**17 09 18.9**	**-0.7**
	baz=344						
NDT	**Datong Townshi**	**1.92**	**16**	*e*P	**Pb**	**17 09 19.0**	**+0.5**
	baz=17						
YHNB	**Yeheng**	**1.95**	**12**	*e*P	**Pb**	**17 09 18.7**	**-0.4**
	baz=11						
YHNB				*e*S	**Sb**	17 09 44.6	+1.2
	baz=11						
ENTT	**Nioudou**	**1.97**	**17**	*e*P	**Pb**	**17 09 19.6**	**+0.2**
	baz=34						
NDS	**Dongshan**	**2.01**	**21**	*e*P	**Pb**	**17 09 20.3**	**+0.3**
	baz=34						
TWC	**Suao**	**2.03**	**24**	*e*P	**Pb**	**17 09 20.3**	**-0.1**
	baz=27						
TWE	**Neicheng**	**2.07**	**19**	*e*P	**Pb**	**17 09 21.8**	**+0.7**
	baz=35						
NWLT	**Wulai**	**2.08**	**15**	*e*P	**Pb**	**17 09 22.2**	**+0.9**
	baz=34						
TWA	**Mucha**	**2.30**	**15**	*e*P	**Pg**	**17 09 27.2**	**-0.5**
	baz=35						
YM01	**YM01**	**2.45**	**14**	*e*P	**Pb**	**17 09 28.6**	**+1.0**
	baz=33						
YOJ	**Yonaguni jima**	**2.56**	**48**	P	**Pn**	**17 09 24.5**	**-0.2**
YOJ				*e*S	**Sn**	17 09 54.5	-1.2
KNMB	**Chin-men Tao**	**2.88**	**307**	*e*P	**Pn**	**17 09 30.0**	**+0.8**
	baz=307						
IRIF	**Iriomote-Funau**	**3.02**	**58**	P	**Pn**	**17 09 30.5**	**-0.5**
JIJ	**Ishigaki jima**	**3.36**	**61**	P	**Pn**	**17 09 35.3**	**-0.4**
JIJ				*e*S	**Sn**	17 10 13.9	-1.5
JISG	**Ishigakijimahi**	**3.60**	**59**	P	**Pn**	**17 09 38.6**	**-0.4**
JISG				*e*S	**Sn**	17 10 20.5	-0.9
JTJ	**Tarama**	**3.94**	**61**	P	**Pn**	**17 09 43.3**	**-0.4**
JTJ				S	**Sn**	17 10 28.7	-1.0
MKAR	**Makanchi Array**	**39.21**	**317**	P	P	17 16 15.9	+4.5
	0.4nm,0.7s,baz=117,slow=9.4,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.32**	**328**	P	P	17 16 33.1	+4.3
	0.6nm,0.4s,baz=119,slow=7.8,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**42.82**	**85**	T	T	18 02 40.6	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**42.82**	**85**	T	T	18 02 38.8	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**42.84**	**85**	T	T	18 02 39.7	
	baz=283						
WRA	**Warramunga Arr**	**44.41**	**162**	P	**P**	**17 16 54.9**	**+0.7**
	0.3nm,0.5s,baz=343,slow=8.9,SNR=5.8						
ASAR	**Alice Springs**	**47.84**	**164**	P	**P**	**17 17 22.1**	**+1.0**
	0.1nm,0.3s,baz=339,slow=6.9,SNR=11						

VAO 06 17:12:15.2±0.7, 3°.80N×62°.37W, h0km, mbR3.6, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAV	**Boa Vista**	**2.31**	**127**	*e*P	Pb	17 12 56.4	-1.5
BOAV				*e*S	Sn	17 13 24.2	+0.4
MACA	**Manacapuru-AM**	**7.12**	**166**	*e*P	Pn	17 14 00.4	-0.3
MACA				*e*S	Sn	17 15 23.2	+0.8
MALB	**Monte Alegre**	**9.86**	**125**	*e*P	Pn	17 14 38.7	+0.4
MALB				*e*S	Sn	17 16 29.9	+0.1
ITTB	**Itaituba**	**10.48**	**141**	*e*P	Pn	17 14 46.5	-0.4
ITTB				*e*S	Sn	17 16 46.1	+1.0
MCPB	**Macapa, AP**	**11.11**	**112**	*e*P	Pn	17 14 54.8	-0.6
MCPB				*e*S	Sn	17 17 01.0	+0.5
ETMB	**Extrema**	**14.06**	**196**	*e*P	Pn	17 15 35.6	-0.3
PTLB	**Pontes e Lacer**	**19.39**	**171**	*e*P	P	17 16 42.7	-0.2
PTLB				*e*S	Sn	17 20 22.4	+0.2
TRCB	**Terra Rica**	**28.09**	**161**	*e*P	P	17 18 07.9	-1.0

*IDC **06** 17:13:17.9±3.3, 11°.01S×165°.68E, h60km±28km, mb4.0/10, mb1 4.2/12, mb1mx3.8/47, mbtmp4.3/12, ML4.7/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/26, Error ellipse: s-maj=22.2km s-min=18.8km az=69.0*
*NEIC **06** 17:13:17.0±1.0, 10°.90S±0°.09×165°.8E±0°.1, h48km±7km, mb4.5/17, Error ellipse: s-maj=16.6km s-min=12.1km az=68.0*
ISC 06 17:13:18.0±0.8, 11°.05S±0°.07×165°.72E±0°.09, h61km, n56, σ1°.24/45, mb4.4/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.90**	**285**	P	**Pn**	**17 14 43.5**	**+0.5**
	46nm,0.3s,baz=151,slow=4.1,SNR=14						
HNR				S	**Sn**	17 15 48.1	-1.1
	baz=226,slow=10,SNR=1.3						
HNR				LR	LR	17 17 07.0	
	comp=Z,964nm,20.4s,baz=128,slow=39						
HNR	**Honiara**	**5.90**	**285**	Pn	**Pn**	**17 14 42.3**	**-0.7**
MARNC	**Mare, Loyalty**	**10.61**	**168**	Pn	**Pn**	**17 15 47.3**	**0.0**
DZM	**Mont Dzumac**	**10.98**	**176**	P	**Pn**	**17 15 53.1**	**+0.6**
	2.0nm,0.3s,baz=9.4,slow=4.3,SNR=57						
DZM				S	**Sn**	17 17 53.7	-0.2
	0.7nm,0.3s,baz=331,slow=18,SNR=2.8						
DZM	**Mont Dzumac**	**10.98**	**176**	*e*Pn	**Pn**	**17 15 52.8**	**+0.3**
	13nm,0.4s						
DZM				*e*Sn	**Sn**	17 17 48.9	-4.9
	12nm,0.7s						
DZM				*e*LR	LR	17 18 57.0	
	comp=Z,708nm,23.6s						
DZM	**Mont Dzumac**	**10.98**	**176**	Pn	**Pn**	**17 15 53.2**	**+0.7**
DZM	**Mont Dzumac**	**10.98**	**176**	P	**Pn**	**17 15 54.6**	**+2.1**
NOUC	**Port Laguerre**	**11.00**	**177**	P	**Pn**	**17 15 54.3**	**+1.6**
YATNC	**Mamie plateau,**	**11.00**	**174**	P	**Pn**	**17 15 54.1**	**+1.4**
ONTNC	**Ouen Toro**	**11.21**	**176**	Pn	**Pn**	**17 15 55.9**	**+0.3**
ONTNC	**Ouen Toro**	**11.21**	**176**	P	**Pn**	**17 15 58.4**	**+2.8**
OUENC	**Ouen Island, N**	**11.36**	**175**	Pn	**Pn**	**17 15 59.2**	**+1.7**
OUENC	**Ouen Island, N**	**11.36**	**175**	P	**Pn**	**17 15 59.8**	**+2.3**
MSVF	**Nonsavu**	**13.67**	**120**	LR	LR	17 20 44.6	
	comp=Z,286nm,21.2s,baz=307,slow=33						
PMG	**Port Moresby**	**18.34**	**273**	LR	LR	17 24 22.1	
	comp=Z,468nm,18.7s,baz=83,slow=36						
EIDS	**Eidsvold**	**19.87**	**222**	P	**Pn**

WRA LR LR 17 32 14.4
comp=Z,144nm,18.6s,baz=165,slow=36
WRA Warramunga Arr 31.45 250 P **P 17 19 33.1 -0.9**
KMPI Kaimana, Papua 32.56 281 P **P 17 19 42.5 -1.3**
comp=Z,15μmcomp=Z,749nm,0.7s
AS31 Alice Springs 32.76 243 P **P 17 19 45.2 -0.4**
ASAR Alice Springs 32.76 243 P **P 17 19 45.3 -0.2**
comp=Z,5.7nm,0.9s,baz=73,slow=9.4,SNR=46
ASAR PcP **PcP 17 22 30.9 +1.1**
comp=Z,0.6nm,0.9s,baz=91,slow=3.7,SNR=3.4
ASAR LR LR 17 32 10.0
comp=Z,222nm,20.3s,baz=74,slow=35
ASAR Alice Springs 32.76 243 P **P 17 19 44.2 -1.3**
KNRA Kununurra 36.21 259 P **P 17 20 15.7 +0.4**
FITZ Fitzroy Crossi 39.35 255 P **P 17 20 41.2 -0.6**
comp=Z,6.3nm,0.8s,baz=78,slow=7.5,SNR=11
FITZ Fitzroy Crossi 39.35 255 IAmb IAmb 17 20 42.8
comp=Z,8.8nm,0.9s
PPT Papeete 43.72 104 LR LR 17 35 39.2
comp=Z,56nm,20.6s,baz=296,slow=31
PPT2 Papeete2 43.72 104 *e*LR LR 17 33 44.2
comp=Z,134nm,25.2s
TBI Tubuai 44.36 112 *e*LR LR 17 34 01.0
comp=Z,169nm,27.8s
PSA00 Pilbara Seismi 45.10 251 P **P 17 21 28.8 +0.2**
PSA00 Pilbara Seismi 45.10 251 P **P 17 21 28.8 +0.2**
PETK Petropavlovsk- 64.27 355 LR LR 17 45 45.7
comp=Z,56nm,20.5s,baz=158,slow=30
SONM Songino Array 78.65 324 P **P 17 25 13.2 -0.5**
comp=Z,0.4nm,0.4s,baz=108,slow=4.8,SNR=4.5
SONM Songino Array 78.65 324 IAmb IAmb 17 25 14.2
comp=Z,2.3nm,1.1s
H02S1 DAWSON INLET T 82.71 32 T T 18 56 51.9
SNR=18
HDA Harding Lake 83.26 19 P **P 17 25 37.0 -0.7**
HDA IAmb IAmb 17 25 39.1
comp=Z,5.1nm,0.9s
ILAR Eielson Array 83.53 19 P **P 17 25 38.8 -0.2**
comp=Z,0.6nm,0.5s,baz=234,slow=4.7,SNR=8.4
ILAR Eielson Array 83.53 19 P **P 17 25 38.4 -0.6**
MAW Mawson 84.70 202 P **P 17 25 44.8 -0.3**
comp=Z,3.9nm,0.9s,baz=41,slow=6.0,SNR=6.9
MAW Mawson 84.70 202 P **P 17 25 46.3 +1.3**
EGAK Eagle 85.39 20 P **P 17 25 48.2 -0.3**
EGAK IAmb IAmb 17 25 50.3
comp=Z,2.9nm,0.8s
NVAR Mina Array Bea 86.05 50 P **P 17 25 52.4 -0.2**
comp=Z,0.7nm,0.8s,baz=232,slow=7.2,SNR=4.8
MKAR Makanchi Array 93.51 317 P **P 17 26 27.0 -0.2**
comp=Z,0.4nm,0.8s,baz=121,slow=5.6,SNR=4.2
YKA Yellowknife Ar 94.99 27 LR LR 18 04 15.9
comp=Z,46nm,19.8s,baz=0.0,slow=32
TXAR Lajitas Array 95.86 61 LR LR 18 05 24.9
comp=Z,55nm,18.3s,baz=0.0,slow=33
H03N2 Juan Fernandez 104.30 129 T T 19 24 24.7
baz=256
H03N3 Juan Fernandez 104.30 129 T T 19 24 22.5
baz=256
H03N1 Juan Fernandez 104.32 129 T T 19 24 31.0
baz=256

*IDC **06** 17:18:22.6±2.0, 38°.70N×144°.31E, h0km, mb3.7/2, mb1 3.8/5, mb1mx3.4/43, mbtmp3.8/5, ML3.1/3, MS3.9/2, Ms1 3.9/2, ms1mx2.6/40, Error ellipse: s-maj=53.4km s-min=26.8km az=88.0*
*JMA **06** 17:18:27.7±0.2, 38°.62N×144°.16E, h49km, M3.7*
ISC 06 17:18:23.5±3.3, 38°.66N±0°.05×144°.15E±0°.08, h5km±21km, n26, σ2§05/41, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
OFUJ	**Ofunato**	**1.98**	**283**	**P**	**Pb**	**18**	**17 19 00.0**	**0.0**
OFUJ				*e*S	**Sb**	**17**	**19 23.8**	**-1.2**
MIYJ	**Miyakonagasawa**	**2.03**	**297**	**P**	**Pb**	**17**	**19 00.7**	**-0.2**
MIYJ				*e*S	**Sn**	**17**	**19 25.0**	**+0.9**
JKMT	**Kesennumamotoy**	**2.10**	**275**	**P**	**Pb**	**17**	**19 01.5**	**-0.5**
JKMT				*e*S	**Sn**	**17**	**19 26.2**	**+0.5**
JIKH	**Ishinomakikobu**	**2.14**	**261**	**P**	**Pb**	**17**	**19 01.7**	**-1.0**
JIKH				S	**Sn**	**17**	**19 26.4**	**-0.3**
JMK	**Ichinoseki**	**2.31**	**278**	**P**	**Pb**	**17**	**19 05.0**	**-0.6**
JMK				*e*S	**Sn**	**17**	**19 32.2**	**+1.3**
JOM	**Ohasama**	**2.37**	**291**	**P**	**Pb**	**17**	**19 05.8**	**-0.8**
JOM				S	**Sn**	**17**	**19 33.8**	**+1.4**
JANG	**Nango**	**2.66**	**311**	**P**	**Pn**	**17**	**19 09.1**	**+2.1**
JANG				*e*S	**Sn**	**17**	**19 40.7**	**+1.1**
JYK	**Kaneyama**	**2.97**	**276**	**P**	**Pb**	**17**	**19 14.9**	**-2.1**
JYK				S	**Sb**	**17**	**19 50.5**	**-3.1**
JFT	**Otama**	**3.22**	**250**	**P**	**Pn**	**17**	**19 17.6**	**+2.9**
JFT				S	**Sn**	**17**	**19 54.5**	**+1.1**
JOT	**Ohata**	**3.61**	**320**	**P**	**Pn**	**17**	**19 22.5**	**+2.4**
JOT				*e*S	**Sn**	**17**	**20 02.8**	**-0.3**
JNBK	**Urakawa-nobuka**	**3.77**	**344**	**P**	**Pn**	**17**	**19 24.6**	**+2.4**
JNBK				*e*S	**Sn**	**17**	**20 08.5**	**+1.5**
JCH	**Churui**	**3.99**	**352**	**P**	**Pn**	**17**	**19 27.0**	**+1.7**
JCH				*e*S	**Sn**	**17**	**20 11.8**	**-0.7**
JKB	**Kayabe**	**4.01**	**324**	**P**	**Pn**	**17**	**19 28.4**	**+2.9**
JKB				*e*S	**Sn**	**17**	**20 12.4**	**-0.5**
NEM2	**Nemuro 2**	**4.85**	**14**	**P**	**Pn**	**17**	**19 36.9**	**-0.2**
NEM2				*e*S	**Sn**	**17**	**20 28.9**	**-4.7**
JRY	**Ryogami san**	**4.95**	**239**	**P**	**Pn**	**17**	**19 40.3**	**+1.8**
JRY				*e*S	**Sn**	**17**	**20 34.3**	**-1.7**
MJAR	**Matsushiro Arr**	**5.17**	**248**	**Pn**	**Pn**	**17**	**19 43.6**	**+2.1**
MJAR				LR	LR	17	21 55.2	
MAT	**Matsushiro**	**5.17**	**248**	**P**	**Pn**	**17**	**19 45.0**	**+3.4**
MAT				*e*S	**Sn**	**17**	**20 44.5**	**+2.9**
JTKR	**Abashiri--Toko**	**5.31**	**358**	**P**	**Pn**	**17**	**19 44.7**	**+1.3**
JTKR				*e*S	**Sn**	**17**	**20 42.3**	**-2.6**
ASAJ	**Asahikawa**	**5.57**	**348**	Pn	**Pn**	**17**	**19 46.7**	**-0.3**
ASAJ				Sn	**Sn**	**17**	**20 51.5**	**0.0**
JHJ	**Hachijo jima 2**	**6.57**	**214**	Pn	**Pn**	**17**	**20 00.5**	**-0.2**
JHJ				Sn	**Sn**	**17**	**21 10.5**	**-5.5**
H11S1	**WAKE ISLAND Hy**	**28.07**	**129**	T	T	17	54 22.8	
H11S3	**WAKE ISLAND Hy**	**28.07**	**129**	T	T	17	54 21.3	
H11S2	**WAKE ISLAND Hy**	**28.08**	**129**	T	T	17	54 22.0	
WRA	**Warramunga Arr**	**59.02**	**191**	**P**	**P**	**17**	**28 23.8**	**-0.5**
ASAR	**Alice Springs**	**62.74**	**191**	**P**	**P**	**17**	**28 50.7**	**+1.1**
ASAR				LR	LR	17	59 07.6	
LPIG	**La Paz**	**86.51**	**62**	LR	LR	18	01 19.1	

*ARE **06** 17:34:29±2.4, 16°.07S±0°.07×74°.31W±0°.09, h22km±3km, ML4.4, mb4.2/3(NEIC), Error ellipse: s-maj=12.8km s-min=8.2km az=61.0*
*NEIC **06** 17:34:30.1±1.8, 16°.14S±0°.07×74°.28W±0°.09, h27km±4km, Error ellipse: s-maj=14.6km s-min=5.3km az=51.0*
*IDC **06** 17:34:34.1±2.3, 15°.99S×74°.06W, h60km±22km, mb3.5/3, mb1 3.8/6, mb1mx3.5/28, mbtmp3.9/6, ML3.6/3, MS3.2/9, Ms1 3.2/9, ms1mx3.1/29, Error ellipse: s-maj=31.3km s-min=16.4km az=53.0*
ISC 06 17:34:31.3±0.7, 16°.23S±0°.08×74°.3W±0°.1, h35km, n47, σ1§70/30, mb4.0/4, MS3.3/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
AP01	**Chacalluta**	**4.30**	**120**	Pn	**Pn**		**17 35 34.7**	**+0.6**
NNA	**Nana**	**4.91**	**329**	**P**	**Pn**		**17 35 43.4**	**+0.7**
NNA				S	**Sn**		**17 36 39.8**	**+1.5**
PSGCX	**Pisagua**	**5.16**	**131**		**Pn**		**17 35 46.7**	**+0.5**
MNMC	**Minye Minye**	**5.29**	**124**	Pn	**Pn**		**17 35 47.0**	**-1.1**
TA01	**Diego Aracena**	**5.79**	**139**		**Pn**		**17 35 55.1**	**+0.4**
LPAZ	**La Paz**	**5.87**	**91**	**P**	**Pn**		**17 36 01.2**	**+4.8**
LPAZ				S	Sn		17 37 12.3	+9.4

LPAZ LR LR 17 38 26.4
comp=Z,116nm,20.8s,baz=216,slow=41
LPAZ La Paz 5.87 91 **Pn 17 35 55.6 -0.9**
PB08 IPOC Station P 6.21 130 **Pn 17 36 02.2 +1.3**
PB01 IPOC Station P 6.58 137 **Pn 17 36 06.7 +1.0**
PB07 IPOC Station P 6.85 144 Pn **Pn 17 36 09.9 +0.4**
PB04 IPOC Station P 7.20 148 Pn **Pn 17 36 14.2 -0.1**
PB09 IPOC Station P 7.29 140 Pn **Pn 17 36 16.9 +1.4**
PB06 IPOC Station P 7.81 146 Pn **Pn 17 36 23.0 +0.4**
PB10 IPOC Station P 8.04 155 Pn Pn 17 36 24.5 -1.1
LVC Limon Verde 8.10 142 P **Pn 17 36 29.4 +2.6**
0.8nm,0.3s,baz=316,slow=8.1,SNR=3.9
LVC S **Sn 17 37 56.2 -1.2**
0.7nm,0.3s,baz=104,slow=18,SNR=1.2
LVC Limon Verde 8.10 142 **Pn 17 36 28.1 +1.3**
PB15 IPOC Station P 8.27 148 Pn **Pn 17 36 29.2 +0.2**
PB14 IPOC Station P 9.10 157 Pn Pn 17 36 40.3 -0.2
GO02 Mina Guanaco 9.90 155 Pn **Pn 17 36 51.5 +0.1**
SIV San Ignacio 12.66 91 P **Pn 17 37 30.1 +1.0**
0.3nm,0.3s,baz=270,slow=14,SNR=6.2
SIV LR LR 17 43 22.2
comp=Z,62nm,19.7s,baz=348,slow=42
H03N1 Juan Fernandez 17.65 193 T T 17 56 54.1
baz=15,slow=74,SNR=2711
H03N2 Juan Fernandez 17.65 193 T T 17 56 51.5
baz=15,slow=74,SNR=2790
H03N3 Juan Fernandez 17.67 193 T T 17 57 05.9
baz=15,slow=74,SNR=3212
CPUP Villa Florida 18.68 125 LR LR 17 47 39.2
comp=Z,42nm,19.4s,baz=253,slow=42
PTGA Pitinga 20.86 44 P **P 17 39 06.9 -3.5**
1.7nm,0.5s,baz=258,slow=14,SNR=5.1
PTGA LR LR 17 47 53.2
comp=Z,128nm,20.9s,baz=250,slow=39
ROSC El Rosal 20.93 360 LR LR 17 47 49.0
comp=Z,116nm,18.2s,baz=60,slow=38
PLCA Paso Flores 24.63 173 P **P 17 39 51.8 +3.2**
3.1nm,0.9s,baz=350,slow=11,SNR=3.3
SDV Santo Domingo 25.21 8 LR LR 17 51 46.7
comp=Z,66nm,18.7s,baz=248,slow=41
MDP Montagnes des 30.10 47 LR LR 17 53 28.0
comp=Z,136nm,18.6s,baz=219,slow=38
SADO Sadowa 60.87 356 LR LR 18 16 22.0
comp=Z,46nm,18.9s,baz=87,slow=41
SNAA Sanae 68.88 161 P **P 17 45 32.8 +0.6**
KBO Bosley Butte 74.16 324 P **P 17 46 03.5 -0.8**
KBO IAmb IAmb 17 46 18.1
comp=Z,35nm,1.4s
FFC Flin Flon 74.51 344 P **P 17 46 04.9 -1.1**
FFC IAmb IAmb 17 46 33.4
comp=Z,2.3nm,0.9s
TORD Torodi Ar. Bea 80.53 73 P **P 17 46 40.7 +0.1**
comp=Z,0.7nm,0.8s,baz=263,slow=5.0,SNR=3.0
TORD Torodi Ar. Bea 80.53 73 IAmb IAmb 17 47 05.5
comp=Z,0.3nm,0.8s
H11N3 WAKE ISLAND Hy 21.99 283 T T 20 06 57.5
baz=97,slow=74,SNR=7.3
H11N2 WAKE ISLAND Hy 22.00 283 T T 20 06 58.1
baz=97,slow=74,SNR=9.1
H11N1 WAKE ISLAND Hy 22.01 283 T T 20 06 57.7
baz=97,slow=74,SNR=5.0
H11S2 WAKE ISLAND Hy 22.02 282 T T 20 07 02.2
baz=99,slow=75,SNR=132
H11S1 WAKE ISLAND Hy 22.03 282 T T 20 06 59.5
baz=99,slow=75,SNR=163
H11S3 WAKE ISLAND Hy 22.04 282 T T 20 07 00.5
baz=99,slow=75,SNR=150
ASAR Alice Springs 131.74 215 PKP **PKPdf 17 53 40.3 -1.3**
comp=Z,0.2nm,0.6s,baz=134,slow=1.4,SNR=1.7
WRA Warramunga Arr 134.38 219 PKP **PKPdf 17 53 46.2 -0.3**
comp=Z,0.4nm,0.9s,baz=140,slow=2.0,SNR=2.0
ZALV Zasovo Beam 138.97 19 PKP **PKPdf 17 53 51.9 -2.1**
comp=Z,0.3nm,0.4s,baz=207,slow=3.0,SNR=3.9
MKAR Makanchi Array 143.83 28 PKP PKPab 17 54 01.8 +1.9
comp=Z,0.2nm,0.6s,baz=50,slow=2.3,SNR=3.4
SONM Songino Array 148.48 359 PKPbc **PKPdf 17 54 12.6 +1.7**
comp=Z,0.4nm,0.5s,baz=17,slow=5.3,SNR=2.0

*NEIC **06** 18:49:07.0±2.5, 37°.39N±0°.06×20°.86E±0°.05, h23km±6km, Error ellipse: s-maj=9.6km s-min=5.8km az=194.0*
*ATH **06** 18:49:06.5, 37°.34N×20°.91E, h12km±1km, ML3.9/13, Error ellipse: s-maj=2.1km s-min=0.8km az=44.0*
*THE **06** 18:49:07.0, 37°.38N×20°.87E, h0km±2km, ML3.8/14, Error ellipse: s-maj=2.7km s-min=0.6km az=224.0*
*IDC **06** 18:49:08.8±2.1, 37°.44N×21°.01E, h40km±19km, mb3.8/15, mb1 3.8/21, mb1mx3.6/64, mbtmp3.9/21, ML4.0/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/40, Error ellipse: s-maj=18.9km s-min=15.4km az=155.0*
ISC 06 18:49:06.9±0.9, 37°.39N±0°.03×20°.88E±0°.03, h27km±6km, n202, σ2§06/239, mb3.9/19, 17C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
LTHK	**Lithakia**	**0.32**	**353**	**P**	**Pb**		**18 49 14.2**	**-0.2**
LTHK				S	**Sb**		**18 49 19.7**	**+0.2**
68μm,0.3s								
LTHK	**Lithakia**	**0.32**	**353**	**P**	**Pb**		**18 49 14.3**	**-0.2**
LTHK				S	**Sb**		**18 49 19.0**	**-0.5**
LTHK				AML	AML		18 49 21.3	
LTHK				AML	AML		18 49 21.5	
ZAK2	**Zakynthos**	**0.39**	**2**	**P**	**Pb**		**18 49 14.9**	**-0.6**
ZAK2				S	**Sb**		**18 49 21.7**	**+0.3**
166μm,0.3s								
VLMS	**Volimes, Zakyn**	**0.51**	**340**	**P**	**Pb**		**18 49 17.3**	**-0.2**
VLMS				S	**Sb**		**18 49 25.0**	**+0.3**
34μm,0.5s								
VLMS	**Volimes, Zakyn**	**0.51**	**340**	**P**	**Pb**		**18 49 17.4**	**-0.2**
VLMS				S	**Sb**		**18 49 25.0**	**+0.3**
VLMS				AML	AML		18 49 31.0	
comp=E,52406μm,0.3s								
VLMS				AML	AML		18 49 31.1	
comp=N,69046μm,0.4s								
AMT	**Artemida-Makis**	**0.67**	**78**	**P**	**Pb**		**18 49 19.6**	**-0.5**
AMT				S	**Sn**		**18 49 30.0**	**-0.4**
comp=N,14μm,0.5s								
AMT	**Artemida-Makis**	**0.67**	**78**	**P**	**Pb**		**18 49 19.4**	**-0.8**
AMT				AML	AML		18 49 40.2	
comp=E,23958μm,0.9s								
AMT				AML	AML		18 49 43.3	
comp=N,27721μm,0.5s								
PSDA	**Pessada-Kefalo**	**0.76**	**342**	**P**	**Pb**		**18 49 21.3**	**-0.2**
PSDA				S	**Sn**		**18 49 34.4**	**+2.0**
comp=N,2μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.76**	**342**	**P**	**Pb**		**18 49 21.5**	**-0.1**
PSDA				S	**Sn**		**18 49 33.4**	**+1.0**
RLS	**Riolos of Patr**	**0.81**	**35**	**P**	**Pb**		**18 49 21.9**	**-0.5**
RLS	**Riolos of Patr**	**0.81**	**35**	**P**	**Pb**		**18 49 22.0**	**-0.4**
VLS	**Valsamata**	**0.82**	**344**	**P**	**Pb**		**18 49 22.3**	**-0.3**
VLS				S	**Sn**		**18 49 35.3**	**+1.4**
comp=N,7μm,0.3s								
VLS	**Valsamata**	**0.82**	**344**	**P**	**Pb**		**18 49 22.1**	**-0.5**
VLS				S	**Sn**		**18 49 35.4**	**+1.4**
VLS				AML	AML		18 49 39.8	
comp=E,9022μm,0.2s								
VLS				AML	AML		18 49 40.5	
comp=N,17900μm,0.4s								
ARGA	**Argostoli. Kep**	**0.84**	**338**	**P**	**Pn**		**18 49 24.1**	**+1.1**
ARGA				S	**Sn**		**18 49 36.0**	**+1.5**
PYL	**PYLOS**	**0.85**	**126**	**P**	**Pb**		**18 49 22.0**	**-1.1**
PYL				S	**Sn**		**18 49 35.2**	**+0.6**
comp=N,4μm,0.7s								
PYL	**PYLOS**	**0.85**	**126**	**P**	**Pb**		**18 49 22.0**	**-1.1**
PYL				AML	AML		18 49 44.7	
comp=E,7686μm,0.9s								
PYL				AML	AML		18 49 45.1	
comp=N,7655μm,0.6s								
ITM	**Ithomi**	**0.86**	**104**	**P**	**Pb**		**18 49 22.3**	**-1.0**
ITM				S	**Sn**		**18 49 35.6**	**+0.6**
comp=N,4μm,0.7s								
ITM	**Ithomi**	**0.86**	**104**	**P**	**Pb**		**18 49 22.3**	**-1.0**
ITM				S	**Sb**		**18 49 32.1**	**-2.3**
ITM	**Ithomi**	**0.86**	**104**	Pg	**Pb**		**18 49 22.3**	**-1.0**
DRO	**Drossia**	**0.86**	**49**	**P**	**Pb**		**18 49 22.7**	**-0.6**
DRO	**Drossia**	**0.86**	**49**	**P**	**Pb**		**18 49 22.8**	**-0.6**
DRO				S	**Sn**		**18 49 35.1**	**0.0**
DRO				AML	AML		18 49 50.0	
comp=E,12469μm,0.4s								
DRO				AML	AML		18 49 50.9	
comp=N,17469μm,0.5s								
LXRA	**Lixouri, Kepha**	**0.88**	**336**	**P**	**Pn**		**18 49 23.4**	**-0.2**
LXRA				S	**Sn**		**18 49 37.6**	**+2.2**
KEF3	**Kipouria, Keph**	**0.91**	**332**	**P**	**Pb**		**18 49 24.5**	**+0.3**
KEF3	**Kipouria, Keph**	**0.91**	**332**	**P**	**Pb**		**18 49 24.4**	**+0.3**
KEF3				S	**Sn**		**18 49 39.2**	**+2.9**
DMLN	**Damoulianata-K**	**0.94**	**335**	**P**	**Pb**		**18 49 24.7**	**+0.1**
DMLN	**Damoulianata-K**	**0.94**	**335**	**P**	**Pb**		**18 49 24.6**	**0.0**
DMLN				S	**Sn**		**18 49 38.9**	**+2.1**
KEF4	**Livadi, Kephal**	**0.94**	**337**	**P**	**Pb**		**18 49 24.7**	**+0.2**
KEF4	**Livadi, Kephal**	**0.94**	**337**	**P**	**Pb**		**18 49 24.7**	**+0.2**
KEF4				S	**Sn**		**18 49 39.9**	**+3.1**
KEF5	**Kardakata, Kep**	**0.94**	**340**	**P**	**Pn**		**18 49 24.5**	**+0.1**
KEF5	**Kardakata, Kep**	**0.94**	**340**	**P**	**Pb**		**18 49 24.7**	**0.0**
KEF5				S	**Sn**		**18 49 38.9**	**+1.9**
FSK	**Fiskardo**	**1.09**	**347**	**P**	**Pb**		**18 49 27.5**	**+0.3**
FSK				S	**Sb**		**18 49 43.8**	**+2.7**
comp=N,5μm,1.1s								
VLX	**Vlachokerasia**	**1.19**	**91**	**P**	**Pb**		**18 49 30.0**	**+1.1**
VLX				S	**Sb**		**18 49 46.9**	**+2.9**
comp=N,3μm,0.8s								
VLX	**Vlachokerasia**	**1.19**	**91**	**P**	**Pb**		**18 49 28.7**	**-0.3**
VLX				AML	AML		18 50 02.3	
comp=E,7178μm,0.6s								
VLX				AML	AML		18 50 03.5	
comp=N,6338μm,0.7s								
KLV	**Kalavryta, Ach**	**1.20**	**57**	**P**	**Pb**		**18 49 28.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.20**	**57**	**P**	**Pn**		**18 49 28.2**	**+0.2**
LAKA	**Lakka**	**1.21**	**45**	**P**	**Pb**		**18 49 30.3**	**+1.1**
LAKA	**Lakka**	**1.21**	**45**	**P**	**Pb**		**18 49 29.3**	**0.0**
EVGI	**Lefkada island**	**1.24**	**352**	**P**	**Pb**		**18 49 29.9**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.31**	**349**	**P**	**Pb**		**18 49 31.5**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.31**	**349**	**P**	**Pb**		**18 49 30.5**	**-0.5**
PVO	**Paravola**	**1.32**	**22**	**P**	**Pb**		**18 49 31.2**	**+0.1**
PVO				S	**Sb**		**18 49 52.5**	**+4.8**
comp=N,5μm,0.5s								
PVO	**Paravola**	**1.32**	**22**	**P**	**Pb**		**18 49 31.2**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.33**	**354**	**P**	**Pb**		**18 49 31.9**	**+0.7**
NYDR				S	**Sb**		**18 49 51.5**	**+3.8**
comp=N,3μm,0.5s								
NYDR	**Nydri-Lefkada**	**1.33**	**354**	**P**	**Pb**		**18 49 31.1**	**0.0**
TRIZ	**Trizonia**	**1.35**	**44**	**P**	**Pb**		**18 49 31.5**	**-0.1**
TRIZ	**Trizonia**	**1.35**	**44**	**P**	**Pb**		**18 49 31.0**	**-0.6**
SERG	**Sergoula**	**1.38**	**42**	**P**	**Pb**		**18 49 31.7**	**-0.4**
SERG	**Sergoula**	**1.38**	**42**	**P**	**Pb**		**18 49 31.5**	**-0.6**
SERG				AML	AML		18 50 00.1	
comp=E,5683μm,0.5s								
SERG				AML	AML		18 50 04.6	
comp=N,5907μm,0.5s								
LKD2	**Lefkada island**	**1.41**	**353**	**P**	**Pb**		**18 49 32.9**	**+0.4**
LKD2	**Lefkada island**	**1.41**	**353**	**P**	**Pb**		**18 49 32.4**	**-0.1**
LKD2				S	**Sb**		**18 49 52.6**	**+2.6**
LKD2				AML	AML		18 49 56.6	
comp=N,9651μm,0.6s								
LKD2				AML	AML		18 50 02.6	
comp=E,11083μm,0.5s								
TSLK	**Tsoukalades, L**	**1.44**	**353**	**P**	**Pb**		**18 49 34.6**	**+1.5**
TSLK	**Tsoukalades, L**	**1.44**	**353**	**P**	**Pb**		**18 49 32.9**	**-0.2**
TSLK				S	**Sb**		**18 49 53.5**	**+2.4**
TSLK				AML	AML		18 50 08.8	
comp=N,10243μm,0.9s								
TSLK				AML	AML		18 50 09.1	
comp=E,8669μm,0.7s								
ANX	**Ano Chora**	**1.45**	**34**	**P**	**Pb**		**18 49 35.0**	**+1.6**
ANX	**Ano Chora**	**1.45**	**34**	**P**	**Pb**		**18 49 32.8**	**-0.5**
ANX				AML	AML		18 49 58.8	
comp=N,9133μm,0.6s								
ANX				AML	AML		18 50 01.3	
comp=E,10677μm,0.6s								
THAL	**Thalero**	**1.55**	**65**	**P**	**Pb**		**18 49 35.6**	**+0.6**
THAL	**Thalero**	**1.55**	**65**	**P**	**Pb**		**18 49 34.9**	**-0.1**
DLFA	**Delphi**	**1.67**	**49**	**P**	**Pb**		**18 49 37.7**	**+0.6**
EVR	**Evrytania**	**1.69**	**25**	**P**	**Pb**		**18 49 38.2**	**+0.8**
EVR	**Evrytania**	**1.69**	**25**	**P**	**Pb**		**18 49 37.1**	**-0.3**
LOUT	**Loutraki**	**1.76**	**70**	**P**	**Pb**		**18 49 37.7**	**-0.9**
LTK	**Loutraki**	**1.77**	**69**	**P**	**Pb**		**18 49 37.7**	**-1.0**
LTK	**Loutraki**	**1.77**	**69**	**P**	**Pb**		**18 49 37.7**	**-1.0**
VLI	**Veliai**	**1.78**	**112**	**P**	**Pb**		**18 49 38.6**	**-0.2**
VLI				S	**Sb**		**18 50 08.8**	**+8.1**
comp=E,2μm,1.0s								
VLI	**Veliai**	**1.78**	**112**	**P**	**Pb**		**18 49 37.9**	**-0.9**
VLI				AML	AML		18 50 24.7	
comp=E,4029μm,1.2s								
VLI				AML	AML		18 50 26.2	
comp=N,3406μm,0.8s								
KRND	**KRANIDI**	**1.81**	**90**	**P**	**Pb**		**18 49 39.0**	**-0.3**
KRND				AML	AML		18 50 22.1	
comp=N,2029μm,0.8s								
KRND				AML	AML		18 50 30.5	
comp=E,2765μm,0.9s								
MAKR	**Makrakomi, Fth**	**1.89**	**31**	**P**	**Pb**		**18 49 41.3**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.89**	**31**	**P**	**Pb**		**18 49 41.3**	**+0.5**
AGG	**Agios Georgios**	**1.99**	**35**	**P**	**Pb**		**18 49 42.1**	**-0.3**
AGG	**Agios Georgios**	**1.99**	**35**	**P**	**Pb**		**18 49 42.1**	**-0.3**
AGG	**Agios Georgios**	**1.99**	**35**		**Pb**		**18 49 42.0**	**-0.3**
KTHR	**Kythira**	**2.04**	**123**	**P**	**Pb**		**18 49 42.3**	**-1.1**
VILL	**Villia**	**2.07**	**67**	**P**	**Pb**		**18 49 43.3**	**-0.6**
KTHA	**Kythira Island**	**2.08**	**122**	**P**	**Pb**		**18 49 42.8**	**-1.3**
KTHA	**Kythira Island**	**2.08**	**122**	**P**	**Pb**		**18 49 42.6**	**-1.5**
LKR	**Lokris**	**2.09**	**52**	**P**	**Pb**		**18 49 42.5**	**-1.7**
LKR				S	**Sb**		**18 50 10.2**	**+0.5**
comp=E,632nm,0.8s								
LKR	**Lokris**	**2.09**	**52**	**P**	**Pb**		**18 49 42.7**	**-1.5**
IGT	**Igoumenitsa**	**2.18**	**349**	**P**	**Pb**		**18 49 43.7**	**-2.0**
JAN	**Janina**	**2.26**	**359**	**P**	**Pb**		**18 49 45.9**	**-1.2**
THL	**Klokotos Trika**	**2.34**	**22**	**P**	**Pb**		**18 49 46.5**	**-2.0**
SMIA	**Simia**	**2.36**	**50**	**P**	**Pb**		**18 49 46.4**	**-2.4**
KPRO	**Kipourio**	**2.58**	**8**	**P**	**Pb**		**18 49 50.4**	**-2.2**
XOR	**Xorichti**	**2.68**	**42**	**P**	**Pn**		**18 49 50.1**	**+1.8**
LIT	**Litokhoron**	**2.98**	**24**		**Pn**		**18 49 54.1**	**+1.7**
KBN	**Korca**	**3.23**	**359**		**Pn**		**18 49 58.8**	**+2.9**
VLO	**Vlora**	**3.26**	**341**		**Pn**		**18 49 56.0**	**-0.2**
SCTE	**Santa Cesarea**	**3.27**	**326**		**Pn**		**18 49 56.5**	**+0.1**
FNA	**Florina**	**3.41**	**6**		**Pn**		**18 50 00.5**	**+2.1**
OHR	**Ohrid**	**3.71**	**359**	*i* Pn	**Pn**		**18 50 05.1**	**+2.6**
APE	**Apeiranthos**	**3.72**	**94**	⇓P	**Pb**		**18 50 10.4**	**-1.6**
IDI	**Anoyia**	**3.86**	**122**	Pn	**Pn**		**18 50 05.2**	**+0.6**
comp=E,0.7nm,0.3s,baz=310,slow=12,SNR=1.7								
IDI				Sn	**Sn**		**18 50 44.8**	**-4.2**
comp=E,3.3nm,0.3s,baz=50,slow=23,SNR=5.6								
IDI				LR	LR		18 51 47.8	
comp=E,93nm,18.9s,baz=258,slow=42								
IDI	**Anoyia**	**3.86**	**122**	⇑P	**

KOVH *eS* **Sn** **18 52 47.7 -6.1**
MLR Muntele Rosu 8.94 24 Pn **Pn** **18 51 17.2 +2.9**
comp=E,0.5nm,0.3s,baz=167,slow=14,SNR=9.7
MLR LR LR 18 55 14.4
comp=E,110nm,21.0s,baz=216,slow=41
MLR Muntele Rosu 8.94 24 ⇑P **Pn** **18 51 16.9 +2.6**
MLR Muntele Rosu 8.94 24 *e*P **Pn** **18 51 15.4 +1.1**
TLBR Topalu 8.96 35 ⇑P **Pn** **18 51 16.8 +2.3**
MORH Mrgy, Hungar 8.97 350 ⇓P **Pn** **18 51 14.2 -0.5**
MORH Mrgy, Hungar 8.97 350 *e*P **Pn** **18 51 14.1 -0.5**
NEHR Nehoiu 8.99 25 ⇑P **Pn** **18 51 18.0 +2.9**
HARR Harsova 9.02 356 ⇑P **Pn** **18 51 17.1 +1.7**
TPGR Topolog 9.37 35 ⇑P **Pn** **18 51 21.8 +1.6**
KEST Kesra 9.43 263 Pn **Pn** **18 51 23.1 +2.0**
comp=E,0.2nm,0.3s,baz=53,slow=16,SNR=9.4
KEST Sn **Sn** **18 53 04.4 -1.8**
comp=E,0.2nm,0.3s,baz=2.7,slow=16,SNR=1.6
KEST Kesra 9.43 263 **Sn** **18 51 22.6 +1.6**
PLOR Plostina 9.49 25 ⇑P **Pn** **18 51 25.0 +3.2**
VRI Vrincioaia 9.53 25 ⇑P **Pn** **18 51 25.1 +2.8**
MPLH Magyarpolny 10.08 347 *e*P **Pn** **18 51 30.8 +1.0**
SOKA Soboth 10.24 337 *e*Pn **Pn** **18 51 31.9 -0.3**
comp=E,5.9nm,0.5s,SNR=7.7
OBKA Obir 10.25 335 *e*Pn **Pn** **18 51 32.6 +0.3**
comp=E,6.1nm,0.6s,SNR=5.2
OBKA *e*Sn **Sn** **18 53 22.8 -3.6**
comp=E,3.5nm,0.4s
BRTR Keskin Array B 10.26 73 Pn Pn 18 51 39.7 +7.2
comp=E,0.1nm,0.3s,baz=273,slow=15,SNR=1.5
BRTR LR LR 18 56 30.5
comp=E,73nm,19.2s,baz=262,slow=44
PSZ Piszkesteto 10.54 356 ⇑P **Pn** **18 51 37.2 +0.9**
PSZ Piszkesteto 10.54 356 *e*P **Pn** **18 51 36.4 +0.2**
PSZ Piszkesteto 10.54 356 Pn **Pn** **18 51 36.6 +0.3**
ZOU Zoufplan 10.88 330 Pn **Pn** **18 51 40.8 -0.1**
KBA Koelnbreinsper 11.17 332 *i* Pn **Pn** **18 51 46.4 +1.5**
comp=E,1.1nm,0.4s
KBA *i* Sn **Sn** **18 53 45.2 -3.8**
comp=E,1.2nm,0.4s
ABTA Abfaltersbach 11.22 329 *i* Pn **Pn** **18 51 45.6 0.0**
comp=E,0.8nm,0.3s
ABTA *e*Sn **Sn** **18 53 43.4 -6.6**
comp=E,4.9nm,0.6s
CRVS Cervenica-Dubn 11.51 2 *e*PN **Pn** **18 51 48.4 -1.0**
KOLS Kolonicke sedl 11.58 5 *e*PN **Pn** **18 51 51.7 +1.3**
WTTA Wattenberg 11.99 328 *e*Pn **Pn** **18 51 55.3 -0.9**
comp=E,1.9nm,0.3s
WTTA *e*Sn **Sn** **18 54 07.9 -1.2**
comp=E,5.4nm,0.6s
FETA Feichten 12.21 325 *e*Pn **Pn** **18 52 01.6 +2.5**
comp=E,1.4nm,0.6s
FETA *e*Sn **Sn** **18 54 13.4 -0.8**
comp=E,1.6nm,0.5s
MOTA Moosalm 12.28 327 *i* Pn **Pn** **18 52 03.7 +3.6**
comp=E,1.8nm,0.5s
MOTA *e*Sn **Sn** **18 54 13.7 -2.5**
comp=E,4.6nm,0.8s
VRAC Vranov 12.31 347 Pn **Pn** **18 51 58.0 -2.3**
comp=E,0.2nm,0.3s,baz=191,slow=8.7,SNR=2.4
CKRC Cesky Krumlov 12.38 339 *e*PN **Pn** **18 52 00.5 -0.9**
DAVOX Davos/Dischmat 12.43 322 Pn **Pn** **18 52 06.1 +3.9**
comp=E,0.2nm,0.3s,baz=156,slow=18,SNR=4.0
DAVOX Sn **Sn** **18 54 15.9 -3.9**
comp=E,0.3nm,0.3s,baz=307,slow=15,SNR=2.6
TUE Stuetta 12.48 320 Pn **Pn** **18 52 03.2 +0.3**
GEC2 GERESS Array S 12.58 338 Pn **Pn** **18 52 04.5 +0.3**
GERES GERESS Array B 12.58 338 Pn **Pn** **18 52 05.3 +1.2**
comp=E,0.4nm,0.3s,baz=153,slow=14,SNR=15
GERES GERESS Array B 12.58 338 **Pn** **18 52 04.0 -0.2**
KHC Kasperske Hory 12.87 338 *e*PN **Pn** **18 52 08.3 +0.2**
KHC Kasperske Hory 12.87 338 Pn **Pn** **18 52 08.7 +0.6**
PRU Pruhonice 13.39 342 *e*PN **Pn** **18 52 14.9 -0.2**
GRA1 Grafenberg Arr 14.13 333 P **P** **18 52 30.8 -1.8**
GRFO Grafenberg 14.13 333 P **P** **18 52 30.8 -1.8**
AKASG Malin Array Be 14.58 21 Pn **Pn** **18 52 30.0 -1.3**
comp=E,1.0nm,0.3s,baz=206,slow=13,SNR=7.3
CLL Collm 15.00 341 *i* (P) **P** **18 52 44.3 +2.2**
comp=Z,14nm,1.3s
CLL *i* 18 52 46.7
CLL Collm 15.00 341 **Pn** **18 52 37.3 +0.4**
ESDC Sonseca Array 19.56 284 P **Pn** **18 53 35.0 +1.0**
comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=4.8
ESDC Sonseca Array 19.56 284 IAmb IAmb 18 53 42.3
comp=Z,1.9nm,1.4s
HFS Hagfors 23.22 351 P **P** **18 54 11.2 -0.3**
comp=Z,5.2nm,0.6s,baz=163,slow=11,SNR=8.2
BELG Belogornoye 23.37 43 P **P** **18 54 18.0 -0.9**
comp=Z,12nm,0.8s,baz=45,slow=1.7,SNR=4.9
NC602 NORSAR Array S 24.10 349 P **P** **18 54 20.2 +0.2**
EKA Eskdalemuir Ar 24.23 325 P **P** **18 54 21.8 +0.5**
comp=Z,6.6nm,0.7s,baz=126,slow=8.7,SNR=24
ESK Eskdalemuir 24.25 325 P **P** **18 54 21.6 +0.2**
FINES FINESS Array B 24.29 6 P **P** **18 54 21.3 -0.5**
comp=Z,1.3nm,0.5s,baz=176,slow=10.0,SNR=14
FINES LR LR 19 04 56.2
comp=Z,74nm,18.6s,baz=208,slow=39
FINES FINESS Array B 24.29 6 P **P** **18 54 21.8 0.0**
NC405 NORSAR Array S 24.43 349 P **P** **18 54 23.0 -0.2**
NB2 NORSAR Subarra 24.44 349 P **P** **18 54 23.4 +0.2**
comp=Z,1.3nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 24.44 349 P **P** **18 54 23.1 -0.1**
comp=Z,1.2nm,0.7s,baz=154,slow=9.3,SNR=7.3
TOA0 Torodi Ar. Sit 29.61 220 P **P** **18 55 11.3 +1.3**
TOA0 IAmb IAmb 18 55 13.4
comp=Z,7.2nm,1.5s
TORD Torodi Ar. Bea 29.61 220 P **P** **18 55 10.9 +1.0**
comp=Z,1.2nm,0.6s,baz=26,slow=9.3,SNR=8.6
ARU Arti 31.46 41 P **P** **18 55 24.9 -1.1**
comp=Z,0.5nm,0.5s,baz=276,slow=14,SNR=2.4
ARU Arti 31.46 41 IAmb IAmb 18 55 28.1
comp=Z,2.9nm,1.0s
ARCES ARCESS Array B 32.30 3 P **P** **18 55 32.3 -0.9**
comp=Z,4.0nm,0.8s,baz=182,slow=7.2,SNR=6.6
ARCES LR LR 19 10 27.1
comp=Z,46nm,20.2s,baz=210,slow=40
ARCES ARCESS Array B 32.30 3 IAmb IAmb 18 55 39.2
comp=Z,6.8nm,1.1s
BVAR Borovoye Array 37.41 49 P **P** **18 56 16.5 -1.0**
comp=Z,0.5nm,0.7s,baz=248,slow=7.8,SNR=3.9
TIC Toumodi 38.63 224 *e*P **P** **18 56 30.5 +2.4**
KIC Kosan Boka 38.71 223 *e*P **P** **18 56 31.2 +2.4**
comp=Z,6.5nm,0.7s
LIC Lamto 38.98 224 *e*P **P** **18 56 32.6 +1.6**
comp=Z,36nm,1.1s
SPITS Spitsbergen Ar 40.94 359 P **P** **18 56 47.5 +0.9**
comp=Z,1.5nm,0.5s,baz=155,slow=8.3,SNR=5.9
KURBB Kurchatov Arra 42.47 53 P **P** **18 56 58.2 -1.2**
comp=Z,1.2nm,0.6s,baz=281,slow=8.7,SNR=8.9
KURK Kurchatov 42.52 53 P **P** **18 56 58.2 -1.6**
MK31 Makanchi Array 45.47 58 P **P** **18 57 22.7 -1.0**
MK31 IAmb IAmb 18 57 39.9
comp=Z,0.9nm,0.7s
MKAR Makanchi Array 45.47 58 P **P** **18 57 22.7 -1.0**
comp=Z,0.7nm,0.5s,baz=276,slow=7.5,SNR=11
ZALV Zalesovo Beam 46.00 48 P **P** **18 57 26.4 -1.3**
comp=Z,0.8nm,0.5s,baz=297,slow=12,SNR=4.6
SEY Seymchan 72.76 21 P **P** **19 00 33.0 +0.6**
comp=Z,1.4nm,0.9s,baz=306,slow=8.7,SNR=2.4
KLR Kul'dur 74.30 40 P **P** **19 00 42.3 +0.7**
comp=Z,0.3nm,0.4s,baz=252,slow=6.2,SNR=1.5

*TIR **06** 18:49:24.3, 42.°45N×19.°47E, h10km, Md2.4*
*PDG **06** 18:49:24.9±0.1, 42.°40N×19.°40E, h18km, MD2.7/4, ML2.4/14, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*RHSSO **06** 18:49:25.1±0.5, 42.°39N×19.°45E, h9km±3km, ML2.2/8*
*BEO **06** 18:49:25.0±0.8, 42.°42N×19.°47E, h9km±6km, ML2.0/6*
ISC 06 18:49:25.4±0.8, **42.°43N**±0.°02×**19.°42E**±0.°02, **h14**km±5km,
n44, σ0**80**/87, **13C-5D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.12**	**272**	*e*Pg	**Pg**	**Pg**	**18 49 28.6**	**-0.3**
PDG				*e*Sg	**Sg**	**Sg**	**18 49 31.9**	**+0.7**
PDG	**Podgorica**	**0.12**	**272**	⇑*i*Pg	**Pg**	**Pg**	**18 49 28.7**	**-0.2**
PDG				*e*Sg	**Sg**	**Sg**	**18 49 31.8**	**+0.6**
TTG	**Podgorica**	**0.12**	**272**	⇑*i*Pg	**Pg**	**Pg**	**18 49 28.5**	**-0.3**
TTG				*i* Sg	**Sg**	**Sg**	**18 49 31.6**	**+0.4**
DRME	**Dracevica, Mon**	**0.30**	**217**	⇓*i*Pg	**Pg**	**Pg**	**18 49 30.5**	**-1.1**
DRME				*e*Sg	**Sg**	**Sg**	**18 49 35.8**	**0.0**
DRME	**Dracevica, Mon**	**0.30**	**217**	⇑*i*Pg	**Pg**	**Pg**	**18 49 30.6**	**-1.1**
DRME				*i* Sg	**Sg**	**Sg**	**18 49 35.4**	**-0.4**
CEME	**Cevo**	**0.39**	**288**	⇑*i*Pg	**Pg**	**Pg**	**18 49 32.6**	**-0.8**
CEME				*i* Sg	**Sg**	**Sg**	**18 49 39.1**	**+0.3**
BUM	**Brajici-Budva**	**0.41**	**253**	⇑*i*Pg	**Pg**	**Pg**	**18 49 32.7**	**-1.0**
BUM				*i* Sg	**Sg**	**Sg**	**18 49 39.2**	**-0.1**
KOME	**Kolasin**	**0.43**	**9**	⇓*i*Pg	**Pg**	**Pg**	**18 49 33.9**	**-0.2**
KOME				*i* Sg	**Sb**	**Sb**	**18 49 41.6**	**+0.4**
PVY	**Plav**	**0.43**	**67**	⇓*i*Pg	**Pg**	**Pg**	**18 49 33.8**	**-0.3**
PVY				*i* Sg	**Sb**	**Sb**	**18 49 41.5**	**+0.3**
ULC	**Ulcinj**	**0.48**	**196**	⇑*i*Pg	**Pg**	**Pg**	**18 49 33.6**	**-1.3**
ULC				*i* Sg	**Sg**	**Sg**	**18 49 41.1**	**-0.3**
BCI	**Bajram Curri**	**0.48**	**97**	P	**Pg**	**Pg**	**18 49 34.2**	**-0.8**
	baz=100							
BCI				S	**Sb**	**Sb**	**18 49 41.7**	**-0.9**
	baz=100							
NKME	**Niksic**	**0.49**	**315**	⇓*i*Pg	**Pg**	**Pg**	**18 49 34.5**	**-0.6**
NKME				*i* Sg	**Sb**	**Sb**	**18 49 42.7**	**-0.1**
NKY	**Niksic**	**0.50**	**321**	⇑*i*Pg	**Pg**	**Pg**	**18 49 34.8**	**-0.6**
NKY				*i* Sg	**Sb**	**Sb**	**18 49 43.2**	**0.0**
PUK	**Puka**	**0.52**	**137**	P	**Pg**	**Pg**	**18 49 34.6**	**-1.0**
	baz=142							
PUK				S	**Sb**	**Sb**	**18 49 43.0**	**-0.7**
	baz=142							
IVA	**Berane**	**0.57**	**38**	⇑*i*Pg	**Pg**	**Pg**	**18 49 36.3**	**-0.3**
IVA				*i* Sg	**Sb**	**Sb**	**18 49 46.0**	**+0.9**
HCY	**Herceg Novi**	**0.69**	**272**	⇑*i*Pg	**Pg**	**Pg**	**18 49 37.7**	**-1.1**
HCY				*e*Sg	**Sg**	**Sg**	**18 49 48.5**	**+0.5**
HCY	**Herceg Novi**	**0.69**	**272**	*e*Pg	**Pg**	**Pg**	**18 49 37.6**	**-1.2**
HCY				*i* Sg	**Sg**	**Sg**	**18 49 48.4**	**+0.5**
BRY	**Bratogost**	**0.81**	**306**	⇑*i*Pg	**Pg**	**Pg**	**18 49 40.0**	**-1.1**
BRY				*e*Sg	**Sg**	**Sg**	**18 49 51.4**	**-0.4**
BRY	**Bratogost**	**0.81**	**306**	*e*Pg	**Pg**	**Pg**	**18 49 40.1**	**-1.1**
BRY				*i* Sg	**Sb**	**Sb**	**18 49 53.1**	**+1.0**
TREB	**Trebinje**	**0.84**	**291**	*e*Pg	**Pg**	**Pg**	**18 49 40.4**	**-1.4**
TREB				*e*Sg	**Sb**	**Sb**	**18 49 53.9**	**+0.9**
TREB	**Trebinje**	**0.84**	**291**	⇑*i*Pg	**Pg**	**Pg**	**18 49 40.7**	**-1.1**
TREB				*e*Sg	**Sg**	**Sg**	**18 49 52.8**	**-0.1**
UPM	**Unac-Piva**	**0.87**	**334**	*e*Pg	**Pg**	**Pg**	**18 49 41.5**	**-0.7**
UPM				*e*Sg	**Sb**	**Sb**	**18 49 54.6**	**+0.8**
UPM	**Unac-Piva**	**0.87**	**334**	⇑*i*Pg	**Pg**	**Pg**	**18 49 41.5**	**-0.7**
UPM				*i* Sg	**Sn**	**Sn**	**18 49 55.6**	**-0.2**
PLE	**Pljevlja**	**0.91**	**358**	*e*Pg	**Pg**	**Pg**	**18 49 42.6**	**-0.4**
PLE				*e*Sg	**Sn**	**Sn**	**18 49 57.1**	**+0.4**
SJES	**Sjenica**	**0.93**	**26**	*e*Pg	**Pb**	**Pb**	**18 49 41.9**	**-1.4**
SJES				*e*Sg	**Sb**	**Sb**	**18 49 55.6**	**0.0**
PHP	**Peshkopia**	**1.06**	**134**	P	**Pg**	**Pg**	**18 49 45.5**	**-0.4**
	baz=136							
PHP				S	**Sn**	**Sn**	**18 50 02.0**	**+1.6**
	baz=136							
TIR	**Tirane**	**1.13**	**163**	P	**Pg**	**Pg**	**18 49 47.8**	**+0.6**
	baz=164							
TIR				S	**Sn**	**Sn**	**18 50 04.8**	**+2.9**
	baz=164							
RUDO	**Rudo**	**1.19**	**358**	*e*Pg	**Pn**	**Pn**	**18 49 46.9**	**-0.7**
RUDO				*e*Sg	**Sn**	**Sn**	**18 50 03.9**	**+0.3**
STON	**Ston**	**1.35**	**290**	*e*Pg	**Pn**	**Pn**	**18 49 49.3**	**-0.4**
STON				*e*Sg	**Sg**	**Sg**	**18 50 09.2**	**+0.4**
STON	**Ston**	**1.35**	**290**	*e*Pn	**Pn**	**Pn**	**18 49 49.1**	**-0.6**
STON				*e*Sg	**Sg**	**Sg**	**18 50 08.6**	**-0.2**
BBLS	**Lazići**	**1.44**	**360**	*e*Pg	**Pb**	**Pb**	**18 49 51.8**	**-0.2**
BBLS				*e*Sg	**Sg**	**Sg**	**18 50 11.6**	**-0.3**
BBLS	**Lazići**	**1.44**	**360**	⇑*i*Pg	**Pb**	**Pb**	**18 49 51.9**	**-0.1**
BBLS				*e*Sg	**Sg**	**Sg**	**18 50 11.7**	**-0.2**
SELS	**Selova**	**1.48**	**57**	*e*Pg	**Pn**	**Pn**	**18 49 51.0**	**-0.6**
SELS				*e*Sg	**Sb**	**Sb**	**18 50 11.0**	**-0.3**
HAPS	**Han Pijesak,Bl**	**1.70**	**348**	*e*Pn	**Pn**	**Pn**	**18 49 55.6**	**+0.9**
HAPS				*e*Sn	**Sb**	**Sb**	**18 50 17.8**	**+0.2**
DIVS	**Divibare**	**1.72**	**14**	*e*Pg	**Pn**	**Pn**	**18 49 55.2**	**+0.2**
DIVS				*e*Sg	**Sb**	**Sb**	**18 50 17.9**	**-0.5**
DIVS	**Divibare**	**1.72**	**14**	⇓*i*Pn	**Pn**	**Pn**	**18 49 54.8**	**-0.2**
DIVS				*e*Sn	**Sb**	**Sb**	**18 50 17.8**	**-0.6**
LSTV	**Lastovo**	**1.90**	**281**	*e*Pn	**Pn**	**Pn**	**18 49 57.2**	**-0.1**
LSTV				Sn	**Sb**	**Sb**	**18 50 23.0**	**-0.4**
RICI	**Ricice**	**1.99**	**303**	*e*Pn	**Pn**	**Pn**	**18 49 59.5**	**+0.9**
RICI				Sn	**Sb**	**Sb**	**18 50 25.1**	**-0.9**
HVAR	**Hvar**	**2.31**	**290**	*e*Pn	**Pn**	**Pn**	**18 50 03.5**	**+0.5**
HVAR				Sn	**Sn**	**Sn**	**18 50 32.5**	**+1.3**
KIJV	**Kijevo**	**2.71**	**307**	*e*Pn	**Pn**	**Pn**	**18 50 09.9**	**+1.4**
ZIRJ	**Zirje**	**3.03**	**295**	*e*Pn	**Pn**	**Pn**	**18 50 13.3**	**+0.4**
ZIRJ				Sn	**Sn**	**Sn**	**18 50 49.0**	**+0.2**
DUGI	**Dugi Otok**	**3.55**	**298**	*e*Pn	**Pn**	**Pn**	**18 50 20.7**	**+0.6**
DUGI				Sn	**Sn**	**Sn**	**18 51 03.0**	**+1.1**
MOSL	**Moslavina**	**3.72**	**330**	*e*Pn	**Pn**	**Pn**	**18 50 23.8**	**+1.4**
MOSL				Sn	**Sn**	**Sn**	**18 51 06.4**	**+0.4**
NVLJ	**Novalja**	**3.94**	**304**	*e*Pn	**Pn**	**Pn**	**18 50 26.4**	**+1.1**
NVLJ				Sn	**Sn**	**Sn**	**18 51 11.8**	**+0.5**

*IDC **06** 18:57:15.9±0.7, 6.°05S×149.°50E, h53km±5km, mb3.9/14, mb1 4.1/16, mb1mx4.0/33, mbtmp4.2/16, MS3.4/3, Ms1 3.4/3, ms1mx2.8/32, Error ellipse: s-maj=18.1km s-min=9.1km az=112.0*
*NEIC **06** 18:57:17.8±1.3, 6.°0S±0.°1×149.°4E±0.°1, h58km±8km, mb4.2/16, Error ellipse: s-maj=20.7km s-min=10.1km az=126.0*
*DJA **06** 18:57:18.9±0.5, 6.°S±5.°×14.°9E±.°, h76km±9km, M4.6/8, mB4.6/2, mb4.5/8, MLv4.7/3, Mw(mB)3.8/2*
ISC 06 18:57:16.8±0.5, **6.°10S**±0.°06×**149.°46E**±0.°08, **h58**km, **n45,**
σ1**48**/53, **mb4.0**/15, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.29**	**55**	Pn	**Pn**	**Pn**	**18 58 07.2**	**+1.3**
PMG	**Port Moresby**	**4.00**	**215**	P	**Pn**	**Pn**	**18 58 16.1**	**+0.5**
	53nm,0.3s,baz=38,slow=7.9,SNR=117							
PMG				S	**Sn**	**Sn**	**18 59 02.7**	**+1.5**
	67nm,0.3s,baz=7.0,slow=22,SNR=8.7							
PMG	**Port Moresby**	**4.00**	**215**	Pn	**Pn**	**Pn**	**18 58 16.9**	**+1.3**
MANU	**Manus Island**	**4.54**	**333**	Pn	**Pn**	**Pn**	**18 58 25.5**	**+2.5**
HNR	**Honiara**	**10.90**	**108**	LR	**LR**	**LR**	19 03 23.0	
	comp=Z,102nm,18.5s,baz=213,slow=34							
CTA	**Charters Tower**	**14.25**	**192**	P	**Pn**	**Pn**	**19 00 37.0**	**+1.3**
	0.2nm,0.3s,baz=0.8,slow=22,SNR=2.9							
EIDS	**Eidsvold**	**19.22**	**176**	P	**P**	**P**	**19 01 35.9**	**-0.3**
MTN	**Manton Dam**	**19.27**	**248**	P	**P**	**P**	**19 01 36.6**	**-0.3**
MTN				IAmb	IAmb	IAmb	19 02 00.0	
	comp=Z,33nm,1.5s							
WB0	**Warramunga Arr**	**19.98**	**226**	P	**P**	**P**	**19 01 45.0**	**+0.4**
WB0				IAmb	IAmb	IAmb	19 01 46.0	
	comp=Z,6.0nm,0.7s							
WR0	**Warramunga Arr**	**20.00**	**225**	P	**P**	**P**	**19 01 45.1**	**+0.4**
WR0				IAmb	IAmb	IAmb	19 02 01.1	
	comp=Z,12nm,1.1s							
WB2	**Warramunga Arr**	**20.12**	**225**	P	**P**	**P**	**19 01 46.6**	**+0.5**
WB2				IAmb	IAmb	IAmb	19 02 10.5	
	comp=Z,9.4nm,0.5s							
WRA	**Warramunga Arr**	**20.13**	**225**	P	**P**	**P**	**19 01 46.8**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=51,slow=11,SNR=115							
WRA				pP	**pP**	**pP**	**19 01 58.8**	**+0.9**
	comp=Z,4.9nm,0.4s,baz=51,slow=11,SNR=10							
WRA				S	**S**	**S**	**19 05 22.5**	**-6.7**
	comp=Z,5.2nm,1.4s,baz=40,slow=23,SNR=3.4							
WRA				PcP	**PcP**	**PcP**	**19 05 58.7**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=42,slow=2.1,SNR=5.4							
WRA				ScP	**ScP**	**ScP**	**19 09 34.4**	**+3.3**
	comp=Z,1.1nm,1.0s,baz=48,slow=2.6,SNR=5.0							
WRA	**Warramunga Arr**	**20.13**	**225**	P	**P**	**P**	**19 01 45.5**	**-0.7**
KNRA	**Kununurra**	**22.42**	**243**	P	**P**	**P**	**19 02 09.8**	**-1.0**
KNRA				IAmb	IAmb	IAmb	19 02 14.2	
	comp=Z,9.5nm,0.7s							
DZM	**Mont Dzumac**	**22.84**	**136**	P	**P**	**P**	**19 02 15.0**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=320,slow=16,SNR=5.2							
AS31	**Alice Springs**	**23.00**	**219**	P	**P**	**P**	**19 02 16.9**	**0.0**
AS31				IAmb	IAmb	IAmb	19 02 33.9	
	comp=Z,2.7nm,0.5s							
ASAR	**Alice Springs**	**23.00**	**219**	P	**P**	**P**	**19 02 16.9**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=54,slow=9.6,SNR=84							
ASAR				PcP	**PcP**	**PcP**	**19 06 04.9**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=52,slow=3.2,SNR=7.8							
ASAR				S	**S**	**S**	**19 06 25.1**	**+1.9**
	comp=Z,2.0nm,1.1s,baz=43,slow=21,SNR=6.0							
ASAR				ScP	**ScP**	**ScP**	**19 09 40.6**	**+2.4**
	comp=Z,0.8nm,0.9s,baz=55,slow=3.6,SNR=5.8							
ASAR	**Alice Springs**	**23.00**	**219**	P	**P**	**P**	**19 02 16.4**	**-0.5**
BATI	**Baumata**	**25.85**	**259**	P	**P**	**P**	**19 02 43.9**	**+0.6**
	comp=Z,5.8nm,0.5s,baz=115,slow=5.7,SNR=4.2							
FITZ	**Fitzroy Crossi**	**26.12**	**241**	P	**P**	**P**	**19 02 45.1**	**-0.4**
	comp=Z,6.1nm,0.4s,baz=52,slow=7.4,SNR=129							
FITZ	**Fitzroy Crossi**	**26.12**	**241**	P	**P**	**P**	**19 02 45.2**	**-0.4**
STKA	**Stephens Creek**	**26.68**	**195**	P	**P**	**P**	**19 02 51.5**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=358,slow=16,SNR=2.2							
STKA				LR	LR	LR	19 12 36.4	
	comp=Z,66nm,19.7s,baz=23,slow=34							
STKA	**Stephens Creek**	**26.68**	**195**	P	**P**	**P**	**19 02 51.2**	**+0.7**
WBSI	**Waikabubak, Su**	**29.98**	**261**	P	**P**	**P**	**19 03 19.8**	**-0.4**
MORW	**Morawa**	**38.96**	**230**			**P**	**19 04 37.1**	**-0.4**
JSD	**Sado**	**45.13**	**348**	P	**P**	**P**	**19 05 27.4**	**-0.2**
KSRS	**Korea Array**	**47.76**	**337**	P	**P**	**P**	**19 05 48.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=151,slow=7.9,SNR=5.8							
KSRS				pP	**pP**	**pP**	**19 06 02.5**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=154,slow=8.8,SNR=6.2							
PEA0B	**Petropavlovsk-**	**59.40**	**6**	P	**P**	**P**	**19 07 12.9**	**-0.1**
PETK	**Petropavlovsk-**	**59.40**	**6**	P	**P**	**P**	**19 07 12.7**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=182,slow=9.3,SNR=12							
PETK				pP	**pP**	**pP**	**19 07 26.9**	**-1.9**
	comp=Z,2.6nm,0.5s,baz=172,slow=7.8,SNR=4.8							
PETK	**Petropavlovsk-**	**59.40**	**6**	P	**P**	**P**	**19 07 12.1**	**-0.9**
SONM	**Songino Array**	**65.70**	**330**	P	**P**	**P**	**19 07 56.2**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=150,slow=5.0,SNR=7.0							
SONM	**Songino Array**	**65.70**	**330**	IAmb	IAmb	IAmb	19 07 57.9	
	comp=Z,0.8nm,0.6s							
TLY	**Talaya**	**69.58**	**332**	LR	LR	LR	19 37 41.5	
	comp=Z,52nm,18.3s,baz=267,slow=35							
VNDA	**Vanda**	**71.68**	**177**	P	**P**	**P**	**19 08 32.2**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=337,slow=6.9,SNR=9.4							
VNDA				pP	**pP**	**pP**	**19 08 47.1**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=323,slow=6.0,SNR=6.0							
VNDA	**Vanda**	**71.68**	**177**	P	**P**	**P**	**19 08 33.2**	**+1.2**
VNDA				IAmb	IAmb	IAmb	19 08 47.6	
	comp=Z,3.5nm,0.8s							
SBA	**Scott Base**	**72.28**	**176**	P	**P**	**P**	**19 08 37.4**	**+1.8**
MKAR	**Makanchi Array**	**79.14**	**320**	P	**P**	**P**	**19 09 13.8**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.2,SNR=11							
ZALV	**Zalesovo Beam**	**80.41**	**327**	P	**P**	**P**	**19 09 20.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=114,slow=6.9,SNR=5.9							
MAW	**Mawson**	**83.10**	**203**	P	**P**	**P**	**19 09 35.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=115,slow=7.0,SNR=6.1							
MAW				pP	**pP**	**pP**	**19 09 49.4**	**-2.2**
	comp=Z,2.0nm,1.0s,baz=25,slow=16,SNR=2.8							
ILAR	**Eielson Array**	**84.62**	**23**	P	**P**	**P**	**19 09 42.9**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=256,slow=5.7,SNR=8.0							
SIV	**San Ignacio**	**142.65**	**126**	PKhKP	PKPpre		19 16 39.7	
	comp=Z,1.1nm,0.6s,baz=216,slow=2.4,SNR=6.5							
TORD	**Torodi Ar. Bea**	**147.48**	**285**	PKPbc	**PKPdf**		**19 16 54.0**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=65,slow=3.3,SNR=16							
PTGA	**Pitinga**	**149.85**	**102**	PKPbc	**PKPbc**		**19 17 01.0**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=297,slow=6.8,SNR=7.4							
BDFB	**Brasilia**	**152.32**	**141**	PKPbc	**PKPbc**		**19 17 07.0**	**-0.4**
	comp=Z,10nm,0.5s,baz=181,slow=1.2,SNR=12							
BDFB	**Brasilia**	**152.32**	**141**		**PKPbc**		**19 17 07.1**	**-0.3**

*ATH **06** 18:59:56.8, 39.°00N×26.°40E, h30km±3km, ML3.0/9, Error ellipse: s-maj=3.8km s-min=1.2km az=63.0*
*ISK **06** 18:59:56.6, 38.°98N×26.°25E, h10km, ML3.3/42*
*DDA **06** 18:59:57.2, 38.°99N×26.°32E, h6km±5km, ML3.3*
*THE **06** 18:59:58.7, 38.°98N×26.°28E, h9km±1km, ML3.0/5, Error ellipse: s-maj=2.5km s-min=1.0km az=78.0*
ISC 06 18:59:57.1±0.9, **38.°98N**±0.°01×**26.°31E**±0.°02, **h15**km±8km,
n98, σ1**29**/141, **3C-1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.26**	**354**	P	**Pb**	**Pb**	**19 00 03.8**	**+0.2**
PRK				S	**Sb**	**Sb**	**19 00 08.9**	**+1.0**
	6μm,0.4s							
PRK	**Paraskevi**	**0.

SMG				AML	AML	19 00 43.1
	comp=E,2171μm,0.3s					
SMG				AML	AML	19 00 44.4
	comp=N,1778μm,0.4s					
SKY	**Skiros Island**	**1.38**	**266**	P	**Pg**	**19 00 23.7 +0.1**
SKY	**Skiros Island**	**1.38**	**266**	P	**Pn**	**19 00 21.7 -0.1**
SKY				AML	AML	19 00 45.2
	comp=E,728μm,0.2s					
SKY				AML	AML	19 00 48.2
	comp=N,511μm,0.4s					
BALB	**Balikesir**	**1.38**	**61**	PN	**Pb**	**19 00 23.2 +0.5**
GELI	**Tayfur-Gelibol**	**1.42**	**5**	PN	**Pn**	**19 00 23.2 +0.8**
GCAM	**G?zelcaml?**	**1.47**	**150**	*i* P	**Pb**	**19 00 25.0 +0.8**
GCAM				*i* S	**Sn**	**19 00 39.9 -2.2**
GCAM	**G?zelcaml?**	**1.47**	**150**	PN	**Pn**	**19 00 23.9 +0.8**
GONE	**Gonen-Balikesi**	**1.50**	**45**	PN	**Pb**	**19 00 24.8 +0.1**
KNL	**Balıkesir**	**1.59**	**36**	*i* P	**Pg**	**19 00 27.2 -0.5**
KNL				*i* S	**Sn**	**19 00 45.5 +0.4**
KRBG	**Karabiga-Canak**	**1.60**	**28**	PN	**Pn**	**19 00 25.9 +1.0**
SMTH	**Samothraki Isl**	**1.60**	**338**	P	**Pn**	**19 00 25.7 +0.8**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**129**	PN	**Pn**	**19 00 26.2 +1.0**
DDIM	**Aydin, Didim**	**1.69**	**154**	*i* P	**Pb**	**19 00 28.6 +0.7**
DDIM				*i* S	**Sn**	**19 00 44.4 -3.1**
ERIK	**Erikli-Kesan**	**1.69**	**5**	PN	**Pn**	**19 00 27.4 +1.3**
CAVK	**Edirne/Enez-Ca**	**1.71**	**356**	*i* P	**Pb**	**19 00 27.8 -0.4**
CAVK				*i* S	**Sn**	**19 00 46.9 -1.1**
CAVK				IAML		19 00 53.0
	comp=N,325nm,0.8s					
ENEZ	**Enez**	**1.75**	**356**	PN	**Pn**	**19 00 28.2 +1.2**
DURS	**Dursunbey**	**1.79**	**69**	*i* P	**Pb**	**19 00 29.3 -0.3**
DURS				*i* S	**Sn**	**19 00 47.7 -2.4**
AYDN	**Tasoluk**	**1.81**	**136**	*i* P	**Pb**	**19 00 29.7 -0.3**
AYDN				*i* S	**Sn**	**19 00 47.3 -3.2**
EDC	**Edincik**	**1.81**	**41**	PN	**Pn**	**19 00 29.1 +1.3**
MANT	**Manisa**	**1.83**	**105**	*i* P	**Pb**	**19 00 31.2 +0.9**
MANT				*i* S	**Sn**	**19 00 50.9 -0.3**
RKY	**Sarkoy-Tekirda**	**1.83**	**21**	PN	**Pn**	**19 00 29.2 +1.1**
KESN	**Edirne-Kesan**	**1.86**	**9**	*i* P	**Pn**	**19 00 29.6 +0.8**
KESN				*i* S	**Sn**	**19 00 49.0 -3.3**
MAR6	**Marsite Statio**	**1.87**	**23**	PN	**Pn**	**19 00 29.9 +1.3**
DEMI	**Demirci**	**1.88**	**87**	*i* P	**Pg**	**19 00 32.6 -0.5**
DEMI				*i* S	**Sn**	**19 00 50.4 -1.8**
MAR2	**Marsite Statio**	**1.90**	**24**	PN	**Pn**	**19 00 30.3 +1.4**
DST	**Dursunbey**	**1.90**	**70**	PN	**Pb**	**19 00 30.8 -0.7**
KULA	**Kula-Manisa**	**1.90**	**104**	PN	**Pn**	**19 00 30.5 +1.5**
MRMT	**Marmara Adasi**	**1.90**	**31**	PN	**Pn**	**19 00 30.2 +1.2**
MAR3	**Marsite Statio**	**1.91**	**23**	PN	**Pn**	**19 00 30.3 +1.1**
ALN	**Alexandroupoli**	**1.92**	**354**	P	**Pn**	**19 00 30.4 +1.1**
ALN	**Alexandroupoli**	**1.92**	**354**	P	**Pn**	**19 00 30.1 +0.8**
ALN				AML	AML	19 00 59.5
	comp=E,280μm,0.4s					
ALN				AML	AML	19 01 00.1
	comp=N,236μm,0.7s					
ALN	**Alexandroupoli**	**1.92**	**354**	PN	**Pn**	**19 00 30.1 +0.8**
GZKV	**Gazikoy-Tekird**	**1.93**	**24**	PN	**Pn**	**19 00 30.8 +1.4**
MAR9	**Marsite Statio**	**1.95**	**33**	PN	**Pn**	**19 00 30.9 +1.2**
APE	**Apeiranthos**	**2.01**	**198**	PN	**Pn**	**19 00 30.5 0.0**
THAS	**Thassos island**	**2.03**	**323**	P	**Pn**	**19 00 32.5 +1.7**
THAS	**Thassos island**	**2.03**	**323**	P	**Pn**	**19 00 32.4 +1.6**
THAS				AML	AML	19 01 06.0
	comp=N,160μm,0.3s					
THAS				AML	AML	19 01 11.3
	comp=E,161μm,0.4s					
KCTX	**Karacabey (Bur**	**2.03**	**50**	PN	**Pn**	**19 00 32.3 +1.4**
MLSB	**Milas**	**2.04**	**145**	PN	**Pn**	**19 00 32.3 +1.3**
BODT	**Bodrum**	**2.08**	**157**	PN	**Pn**	**19 00 31.5 +0.1**
USAK	**Uak-Merkez**	**2.13**	**96**	*i* P	**Pg**	**19 00 37.3 -0.7**
USAK				*i* S	**Sn**	**19 00 58.9 +0.4**
UKOP	**Uzunkopru-Edir**	**2.16**	**6**	PN	**Pn**	**19 00 33.7 +1.2**
RDO	**Rodhopi**	**2.24**	**345**	PN	**Pn**	**19 00 34.6 +0.9**
OUR	**Ouranopolis**	**2.25**	**308**	P	**Pn**	**19 00 34.4 +0.7**
OUR	**Ouranopolis**	**2.25**	**308**	PN	**Pn**	**19 00 34.4 +0.7**
CRLT	**Corlu**	**2.41**	**27**	PN	**Pn**	**19 00 37.6 +1.6**
YER	**Yerkesik**	**2.42**	**139**	PN	**Pn**	**19 00 37.8 +1.7**
GEDZ	**Gediz**	**2.42**	**88**	PN	**Pn**	**19 00 38.0 +1.8**
MDNY	**Mudanya-Bursa**	**2.42**	**54**	PN	**Pn**	**19 00 37.9 +1.8**
DAT	**Datca**	**2.46**	**156**	PN	**Pn**	**19 00 38.1 +1.2**
ULDT	**Uludag**	**2.47**	**61**	*i* P	**Pg**	**19 00 43.2 -1.3**
ULDT				*i* S	**Sn**	**19 01 07.6 +0.5**
TVSB	**Tavsanli**	**2.49**	**78**	PN	**Pn**	**19 00 38.9 +1.7**
ARMT	**Armutlu**	**2.52**	**50**	PN	**Pn**	**19 00 39.5 +1.9**
SLVT	**Silivri**	**2.67**	**32**	PN	**Pn**	**19 00 41.4 +1.7**
TURN	**Turunc**	**2.68**	**145**	PN	**Pn**	**19 00 41.4 +1.6**
TRML	**Termal-Yalova**	**2.74**	**53**	PN	**Pn**	**19 00 42.4 +1.9**
VTS	**Vitosha**	**4.32**	**328**	⇑S	**Sn**	**19 01 50.9 -1.5**
PLOR	**Plostina**	**6.87**	**2**	⇑P	**Pn**	**19 01 41.7 +4.4**
VRI	**Vrincioaia**	**6.88**	**2**	⇑P	**Pn**	**19 01 41.7 +4.2**
GZR	**Gura Zlata**	**6.92**	**339**	⇑P	**Pn**	**19 01 39.3 +1.2**

*ISK **06** 19:02:43.5, 38.°98N×26.°25E, h8km, ML3.0/38*
*ATH **06** 19:02:43.5, 39.°01N×26.°40E, h32km±4km, ML2.8/4, Error ellipse: s-maj=4.7km s-min=1.5km az=56.0*
*DDA **06** 19:02:43.6, 38.°95N×26.°24E, h7km±2km, ML2.9*
*THE **06** 19:02:45.6, 39.°00N×26.°29E, h9km±1km, ML2.6/5, Error ellipse: s-maj=2.5km s-min=1.0km az=77.0*

ISC 06 19:02:43.6±1.0, 38.°99N±0.°01×26.°31E±0.°02, h15km±9km, n75, σ0.°94/105, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.26**	**354**	P	**Pb**	**19 02 50.7**	**+0.8**
PRK				S	**Sb**	**19 02 55.4**	**+1.2**
	3μm,0.3s						
PRK	**Paraskevi**	**0.26**	**354**	P	**Pb**	**19 02 50.6**	**+0.6**
PRK				S	**Sb**	**19 02 55.2**	**+1.0**
PRK				AML	AML	19 02 56.1	
	comp=N,5028μm,0.4s						
PRK				AML	AML	19 02 56.4	
	comp=E,5626μm,0.2s						
CAND	**Candarli**	**0.39**	**95**	PG	**Pb**	**19 02 52.6**	**+0.4**
CAND				SG	**Sb**	**19 02 58.9**	**+0.9**
FOCM	**Foa**	**0.43**	**130**	PG	**Pb**	**19 02 52.9**	**0.0**
FOCM				SG	**Sb**	**19 02 59.5**	**+0.3**
AYVA	**Ayvalik**	**0.43**	**43**	*i* P	**Pb**	**19 02 53.3**	**+0.4**
AYVA				*i* S	**Sg**	**19 02 58.2**	**-0.1**
AYVA				IAML		19 03 00.0	
	comp=N,675nm,0.2s						
KRBN	**Karaburun**	**0.44**	**154**	PG	**Pb**	**19 02 53.0**	**-0.1**
DKL	**Dikili**	**0.47**	**80**	PG	**Pb**	**19 02 54.2**	**+0.6**
DKL				SG	**Sb**	**19 03 01.7**	**+1.3**
KOCA	**Canakkale, Ayv**	**0.53**	**346**	*i* P	**Pb**	**19 02 54.5**	**0.0**
KOCA				*i* S	**Sb**	**19 03 01.8**	**-0.2**
ZEDA	**zmir-Bergama**	**0.60**	**92**	*i* P	**Pb**	**19 02 56.4**	**+0.5**
ZEDA				*i* S	**Sg**	**19 03 03.3**	**-0.1**
CHOS	**Chios island**	**0.64**	**198**	P	**Pg**	**19 02 56.3**	**+0.2**
CHOS				S	**Sn**	**19 03 08.4**	**+0.4**
	comp=N,798nm,0.3s						
CHOS	**Chios island**	**0.64**	**198**	P	**Pg**	**19 02 55.9**	**-0.2**
CHOS				S	**Sb**	**19 03 06.6**	**+1.4**
CHOS				AML	AML	19 03 07.6	
	comp=E,1335μm,0.4s						
CHOS				AML	AML	19 03 09.1	
	comp=N,1073μm,0.2s						
CHOS	**Chios island**	**0.64**	**198**	PG	**Pg**	**19 02 55.9**	**-0.2**
CHOS				SG	**Sg**	**19 03 04.9**	**+0.3**
URLA	**Izmir**	**0.67**	**160**	*i* P	**Pg**	**19 02 56.5**	**-0.2**
URLA				*i* S	**Sg**	**19 03 05.6**	**-0.1**
URLA	**Izmir**	**0.67**	**160**	PG	**Pb**	**19 02 56.9**	**-0.1**
URLA				SG	**Sb**	**19 03 06.8**	**+0.7**
PSRA	**Psara**	**0.73**	**232**	P	**Pn**	**19 02 58.9**	**-0.5**
PSRA				S	**Sn**	**19 03 10.5**	**+0.1**
PSRA				AML	AML	19 03 11.5	
	comp=E,1882μm,0.2s						
PSRA				AML	AML	19 03 13.2	
	comp=N,1524μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.77**	**168**	*i* P	**Pg**	**19 02 58.5**	**-0.1**
ZEYE				*i* S	**Sg**	**19 03 08.4**	**-0.2**
ZEYE				IAML		19 03 12.0	
	comp=N,479nm,0.2s						
ZEYE				IAML		19 03 12.0	
	comp=E,753nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.77**	**14**	*i* P	**Pn**	**19 02 59.5**	**-0.5**
BAYC				*i* S	**Sb**	**19 03 09.2**	**+0.1**
BAYC				IAML		19 03 13.0	
	comp=N,339nm,0.3s						
BAYC				IAML		19 03 13.0	
	comp=E,359nm,0.4s						
BUHA	**Balikesir, Bur**	**0.79**	**49**	*i* P	**Pn**	**19 02 59.9**	**-0.3**
BUHA				*i* S	**Sb**	**19 03 10.1**	**+0.6**
BUHA				IAML		19 03 15.0	
	comp=E,371nm,0.6s						
EZN	**Ezine**	**0.83**	**1**	P	**Pn**	**19 03 01.9**	**+1.1**
EZN	**Ezine**	**0.83**	**1**	PG	**Pn**	**19 03 00.2**	**-0.6**
EZN				SG	**Sn**	**19 03 12.4**	**-0.4**
BLCB	**Balcova**	**0.84**	**136**	P	**Pn**	**19 03 00.6**	**-0.2**
BLCB				S	**Sn**	**19 03 14.1**	**+1.3**
BOZC	**Bozcaada**	**0.87**	**347**	*i* P	**Pg**	**19 03 00.7**	**+0.1**
BOZC				*i* S	**Sb**	**19 03 11.3**	**-0.6**
BOZC				IAML		19 03 15.0	
	comp=N,290nm,0.3s						
BOZC	**Bozcaada**	**0.87**	**347**	PG	**Pg**	**19 03 00.7**	**+0.1**
GMLD	**Gumuldur**	**1.03**	**152**	PG	**Pg**	**19 03 03.9**	**+0.3**
DGB	**zmir**	**1.04**	**154**	*i* P	**Pg**	**19 03 03.8**	**0.0**
DGB				*i* S	**Sb**	**19 03 14.8**	**-2.0**
ECEA	**Canakkale, Ece**	**1.06**	**354**	*i* P	**Pg**	**19 03 05.0**	**+0.9**
ECEA				*i* S	**Sb**	**19 03 16.5**	**-0.7**
ECEA				IAML		19 03 21.0	
	comp=N,228nm,0.2s						
ECEA				IAML		19 03 23.0	
	comp=E,337nm,0.3s						
STEP	**BALIKESIR_Sava**	**1.16**	**70**	*i* P	**Pg**	**19 03 07.3**	**+1.3**
STEP				*i* S	**Sb**	**19 03 19.1**	**-1.2**
STEP				IAML		19 03 25.0	
	comp=N,360nm,0.7s						
STEP				IAML		19 03 26.0	
	comp=E,380nm,0.6s						
AKHS	**Akhisar**	**1.18**	**95**	*i* P	**Pg**	**19 03 06.9**	**+0.5**
AKHS				*i* S	**Sb**	**19 03 19.7**	**-1.1**
GOKA	**anakkale-Gk**	**1.24**	**346**	*i* P	**Pg**	**19 03 07.4**	**0.0**
GOKA				*i* S	**Sb**	**19 03 21.4**	**-1.0**
GOKA				IAML		19 03 26.0	
	comp=E,253nm,0.3s						
GADA	**Gvkgeada**	**1.24**	**345**	P	**Pg**	**19 03 07.6**	**0.0**
GADA				S	**Sg**	**19 03 25.1**	**+1.4**
	comp=E,135nm,0.2s						
GADA	**Gvkgeada**	**1.24**	**345**	PN	**Pg**	**19 03 07.5**	**0.0**
GOKC	**Gokceada-Canak**	**1.24**	**346**	PN	**Pg**	**19 03 07.7**	**+0.1**
LIA	**Limnos Island**	**1.25**	**316**	P	**Pg**	**19 03 07.6**	**-0.2**
LIA				S	**Sg**	**19 03 25.5**	**+1.3**
	comp=E,175nm,0.4s						
LIA	**Limnos Island**	**1.25**	**316**	P	**Pg**	**19 03 07.4**	**-0.4**
LIA				S	**Sg**	**19 03 24.0**	**-0.1**
LIA				AML	AML	19 03 26.4	
	comp=E,310μm,0.3s						
LIA				AML	AML	19 03 27.9	
	comp=N,327μm,0.3s						
BALY	**Balya**	**1.26**	**53**	*i* P	**Pg**	**19 03 08.9**	**+0.9**
BALY				*i* S	**Sb**	**19 03 22.6**	**-0.6**
BALY				IAML		19 03 28.0	
	comp=N,165nm,0.8s						
SMG	**Samos**	**1.35**	**162**	P	**Pg**	**19 03 10.1**	**+0.5**
SMG				S	**Sg**	**19 03 29.2**	**+2.1**
	comp=N,500nm,0.3s						
SMG	**Samos**	**1.35**	**162**	P	**Pn**	**19 03 07.9**	**+0.1**
SKY	**Skiros Island**	**1.38**	**266**	P	**Pb**	**19 03 08.9**	**-0.2**
BALB	**Balikesir**	**1.38**	**62**	PN	**Pg**	**19 03 10.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.41**	**5**	PN	**Pg**	**19 03 10.3**	**-0.5**
GCAM	**G?zelcaml?**	**1.48**	**150**	PN	**Pb**	**19 03 11.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.50**	**45**	PN	**Pg**	**19 03 11.9**	**-0.6**
KRBG	**Karabiga-Canak**	**1.59**	**28**	PN	**Pb**	**19 03 12.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**130**	PN	**Pb**	**19 03 13.7**	**+0.4**
ERIK	**Erikli-Kesan**	**1.68**	**5**	PN	**Pb**	**19 03 14.2**	**-0.1**
ENEZ	**Enez**	**1.75**	**356**	PN	**Pb**	**19 03 15.1**	**-0.3**
EDC	**Edincik**	**1.81**	**41**	PN	**Pb**	**19 03 15.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.82**	**21**	PN	**Pb**	**19 03 16.4**	**-0.3**
MAR6	**Marsite Statio**	**1.86**	**23**	PN	**Pb**	**19 03 17.1**	**-0.3**
MAR2	**Marsite Statio**	**1.89**	**24**	PN	**Pb**	**19 03 17.5**	**-0.3**
MRMT	**Marmara Adasi**	**1.89**	**31**	PN	**Pb**	**19 03 17.5**	**-0.4**
KULA	**Kula-Manisa**	**1.90**	**104**	PN	**Pb**	**19 03 17.6**	**-0.5**
MAR3	**Marsite Statio**	**1.91**	**23**	PN	**Pb**	**19 03 17.6**	**-0.5**
ALN	**Alexandroupoli**	**1.91**	**354**	P	**Pb**	**19 03 17.4**	**-0.8**
ALN	**Alexandroupoli**	**1.91**	**354**	P	**Pb**	**19 03 16.9**	**-1.3**
ALN	**Alexandroupoli**	**1.91**	**354**	PN	**Pb**	**19 03 17.4**	**-0.8**
GZKV	**Gazikoy-Tekird**	**1.92**	**24**	PN	**Pb**	**19 03 18.0**	**-0.3**
MAR9	**Marsite Statio**	**1.95**	**33**	PN	**Pb**	**19 03 18.4**	**-0.4**
APE	**Apeiranthos**	**2.02**	**198**	PN	**Pn**	**19 03 17.9**	**+0.8**
THAS	**Thassos island**	**2.02**	**323**	P	**Pb**	**19 03 19.2**	**-0.9**
KCTX	**Karacabey (Bur**	**2.03**	**51**	PN	**Pb**	**19 03 19.5**	**-0.7**
MLSB	**Milas**	**2.05**	**145**	PN	**Pb**	**19 03 19.3**	**-1.3**
BODT	**Bodrum**	**2.08**	**157**	PN	**Pn**	**19 03 18.9**	**+0.9**
UKOP	**Uzunkopru-Edir**	**2.15**	**7**	PN	**Pb**	**19 03 20.8**	**-1.4**
RDO	**Rodhopi**	**2.23**	**345**	P	**Pb**	**19 03 21.9**	**-1.7**
RDO	**Rodhopi**	**2.23**	**345**	PN	**Pb**	**19 03 21.9**	**-1.7**
OUR	**Ouranopolis**	**2.24**	**307**	PN	**Pn**	**19 03 21.7**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.42**	**55**	PN	**Pb**	**19 03 25.5**	**-1.3**
DAT	**Datca**	**2.47**	**156**	PN	**Pb**	**19 03 25.6**	**-2.2**
TVSB	**Tavsanli**	**2.49**	**78**	PN	**Pb**	**19 03 26.5**	**-1.7**
ARMT	**Armutlu**	**2.52**	**51**	PN	**Pb**	**19 03 26.5**	**-2.0**
SLVT	**Silivri**	**2.67**	**33**	PN	**Pb**	**19 03 28.6**	**-2.5**
TURN	**Turunc**	**2.69**	**145**	PN	**Pb**	**19 03 28.8**	**-2.7**
TRML	**Termal-Yalova**	**2.74**	**53**	PN	**Pb**	**19 03 29.7**	**-2.5**
STIP	**Stip**	**4.15**	**312**	*i* Pn	**Pn**	**19 03 46.5**	**+0.1**

THE 06 19:10:04.7, 38.°72N×20.°62E, h7km±3km, ML0.9/4, Error ellipse: s-maj=3.6km s-min=0.7km az=90.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.05**	**223**	P	Pg	19 10 05.9	-0.3
NYDR	**Nydri-Lefkada**	**0.06**	**95**	P	Pg	19 10 06.1	-0.3
NYDR				S	Sg	19 10 07.5	-0.1
	295nm,0.3s						
LKD2	**Lefkada island**	**0.08**	**25**	P	Pg	19 10 06.3	-0.3
LKD2				S	Sg	19 10 08.1	+0.1
	100nm,0.4s						
EVGI	**Lefkada island**	**0.10**	**162**	P	Pg	19 10 07.0	0.0
EVGI				S	Sg	19 10 09.3	+0.8
	135nm,0.1s						
TSLK	**Tsoukalades, L**	**0.11**	**16**	P	Pg	19 10 07.2	+0.1
TSLK				S	Sg	19 10 09.5	+0.7
	65nm,0.2s						

ATH 06 19:10:58.3, 37.°35N×20.°90E, h15km±2km, ML2.1/2, Error ellipse: s-maj=4.5km s-min=1.2km az=36.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.36**	**352**	P	Pg	19 11 05.5	-0.1
LTHK				S	Sg	19 11 11.1	+0.5
LTHK				AML	AML	19 11 11.3	
	comp=E,1596μm,0.3s						
LTHK				AML	AML	19 11 11.4	
	comp=N,1890μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.55**	**340**	P	Pg	19 11 08.6	-0.6
AMT	**Artemida-Makis**	**0.67**	**74**	P	Pg	19 11 11.2	-0.2
PYL	**PYLOS**	**0.82**	**124**	P	Pg	19 11 13.6	-0.5
PYL				S	Sb	19 11 24.9	-0.1
PYL				AML	AML	19 11 29.0	
	comp=N,103μm,0.4s						
PYL				AML	AML	19 11 30.0	
	comp=E,129μm,0.3s						
ITM	**Ithomi**	**0.84**	**102**	P	Pg	19 11 14.3	-0.3
VLS	**Valsamata**	**0.86**	**344**	P	Pb	19 11 14.5	-0.5
DRO	**Drossia**	**0.88**	**47**	P	Pb	19 11 14.5	-0.8
DMLN	**Damoulianata-K**	**0.98**	**335**	P	Pb	19 11 16.7	-0.2

*MOS **06** 19:21:03.2±2.1, 21.°21S×174.°15W, h10km, mb5.2/18, MS4.8/10, Error ellipse: s-maj=10.8km s-min=9.6km az=74.5*
*NEIC **06** 19:21:03.7±2.8, 21.°15S±0.°07×174.°0W±0.°1, h10km±1km, mb5.1/164, Error ellipse: s-maj=16.4km s-min=11.3km az=74.0*
*IDC **06** 19:21:04.8±0.5, 21.°19S×174.°50W, h0km, mb4.7/25, mb1 4.8/26, mb1mx4.8/37, mbtmp4.7/26, ML4.7/1, MS4.6/25, Ms1 4.6/25, ms1mx4.5/26, Error ellipse: s-maj=20.0km s-min=13.7km az=143.0*
*BJI **06** 19:21:04.8±0.0, 20.°86S×173.°78W, h12km, mB5.6/28, mb5.2/43, Ms5.1/22, Ms7 4.8/22*
*BGR **06** 19:21:09.6±0.0, 21.°60S×173.°10W, h33km, Ms4.8*
*GCMT **06** 19:21:09.7±0.1, 21.°41S±0.°01×173.°93W±0.°01, h18km, MW5.3/133, Moment Tensor Solution. s96,c162; s133,c245; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.96±.02; $M_{\theta\theta}$0.05±.01; $M_{\phi\phi}$-1.01±.01; $M_{r\theta}$0.26±.03; $M_{\theta\phi}$-0.28±.01; $M_{\phi r}$0.53±.03; Best double couple: M_0=1.18300×10^{17} NP1:ϕ_s186.00000°, δ31.00000°, λ78.00000°. NP2:ϕ_s21.00000°, δ60.00000°, λ97.00000°. Principal axes: T 1.1300, Plg74.0000°, Azm309.0000°; N 0.1090, Plg6.0000°, Azm197.0000°; P -1.2360, Plg15.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 19:21:05.3±0.6, 21.°26S±0.°06×174.°30W±0.°06, h13km±3km, h13km:pP-P, n685, σ2.°04/650, mb5.1/158, MS4.8/53, 40C-53D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.64**	**63**	P	Pn	19 22 08.5	-6.6
	baz=4.2,SNR=27						
NIUE				S	Sn	19 22 57.0	-12
	baz=4.2						
NIUE	**Niue**	**4.64**	**63**	Pn	Pn	19 22 09.6	-5.5
NIUE				Sn	Sn	19 22 56.9	-12
AFI	**Afiamalu**	**7.69**	**19**	Pn	**Pn**	**19 22 54.1**	**-3.0**
	12nm,0.3s,baz=293,slow=1.5,SNR=9.9						
AFI				Sn	Sn	19 24 10.9	-13
	12nm,0.3s,baz=243,slow=22,SNR=1.7						
AFI				LR	LR	19 25 44.5	
	comp=Z,2μm,19.9s,baz=192,slow=36						
AFI	**Afiamalu**	**7.69**	**19**		**Pn**	**19 22 52.4**	**-4.7**
MSVF	**Nonsavu**	**8.02**	**295**	Pn	Pb	19 23 09.7	-15
	5.1nm,0.3s,baz=126,slow=14,SNR=82						
MSVF				LR	LR	19 25 52.9	
	comp=Z,18μm,18.5s,baz=93,slow=37						
RAO	**Raoul Island**	**8.61**	**202**	Sn	**Sn**	**19 24 43.9**	**-2.6**
	80nm,0.3s,baz=74,slow=23,SNR=6.3						
RAO				LR	LR	19 26 18.6	
	comp=Z,2μm,19.8s,baz=12,slow=36						
RAR	**Rarotonga**	**13.55**	**92**	Pn	Pn	19 24 11.1	-6.1
	6.7nm,0.3s,baz=273,slow=7.5,SNR=22						
RAR				Sn	Sn	19 26 26.6	-21
	1.7nm,0.3s,baz=339,slow=14,SNR=1.1						
RAR				LR	LR	19 30 05.7	
	comp=Z,2μm,18.5s,baz=238,slow=39						
RAR	**Rarotonga**	**13.55**	**92**	P	Pn	19 24 10.8	-6.4
RAR	**Rarotonga**	**13.55**	**92**	Pn	Pn	19 24 10.8	-6.4
MARNC	**Mare, Loyalty**	**16.46**	**266**		**P**	**19 24 59.1**	**+0.4**
PINNC	**Pines Island,**	**16.99**	**262**	Pn	**Pn**	**19 24 59.4**	**-3.3**
LIFNC	**LIFOU**	**17.24**	**268**	P	**P**	**19 25 09.0**	**+1.6**
LIFNC				IAmb	IAmb	19 25 30.1	
	comp=Z,131nm,0.8s						
OUENC	**Ouen Island, N**	**17.55**	**263**	P	**P**	**19 25 08.8**	**-1.9**
ONTNC	**Ouen Toro**	**17.91**	**263**	Pn	**Pn**	**19 25 11.2**	**-2.9**
DZM	**Mont Dzumac**	**17.92**	**264**	P	**P**	**19 25 18.1**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=82,slow=18,SNR=14						
DZM	**Mont Dzumac**	**17.92**	**264**	*e*P	**P**	**19 25 17.5**	**+2.6**
	comp=Z,158nm,1.1s						
DZM				*e*S	**S**	**19 28 35.8**	**-4.8**
	comp=Z,857nm,24.0s						
DZM				*e*LR	LR	19 29 28.2	
	comp=Z,4μm,22.3s						
DZM	**Mont Dzumac**	**17.92**	**264**	P	**P**	**19 25 14.4**	**-0.6**
URZ	**Urewera**	**18.49**	**202**	P	**Pn**	**19 25 23.0**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=324,slow=5.0,SNR=9.0						
URZ				S	Sn	19 28 33.4	-14
	comp=Z,0.8nm,0.3s,baz=131,slow=19,SNR=1.4						
URZ				LR	LR	19 31 55.4	
	comp=Z,2μm,19.6s,baz=8.5,slow=35						
URZ	**Urewera**	**18.49**	**202**	P	**P**	**19 25 20.1**	**-0.9**
BKZ	**Black Stump Fm**	**19.52**	**202**	P	**P**	**19 25 31.5**	**-0.9**
HIZ	**Hauiti**	**19.57**	**206**	P	**P**	**19 25 32.3**	**-0.6**
HIZ				IAmb	IAmb	19 25 41.4	
	comp=Z,170nm,1.3s						
BFZ	**Birch Farm**	**20.96**	**200**	P	**P**	**19 25 47.2**	**-0.8**
BFZ				IAmb	IAmb	19 26 05.8	
	comp=Z,64nm,1.1s						
MSWZ	**Moikau Station**	**21.95**	**201**	P	**P**	**19 25 58.3**	**-0.4**
SNZO	**South Karori**	**22.05**	**203**	P	**P**	**19 25 59.9**	**+0.2**
SNZO				IAmb	IAmb	19 26 11.3	
	comp=Z,100nm,1.1s						
BHW	**Baring Head**	**22.08**	**202**	P	**P**	**19 25 59.0**	**-1.0**
PLWZ	**Palliser**	**22.09**	**201**	P	**P**	**19 25 59.4**	**-0.8**
TUWZ	**Tuamarina**	**22.43**	**204**	P	**P**	**19 26 02.9**	**-0.9**
NNZ	**Nelson**	**22.47**	**205**	P	**P**	**19 26 02.4**	**-1.8**
NNZ				IAmb	IAmb	19 26 12.0	
	comp=Z,103nm,1.4s						
QRZ	**Quartz Range**	**22.48**	**207**	P	**P**	**19 26 03.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**22.71**	**203**	P	**P**	**19 26 05.5**	**-1.2**
TBI	**Tubuai**	**23.07**	**100**	*e*S	S	19 30 11.

BBOO IAmb IAmb 19 29 49.8
comp=Z,27nm,1.1s
AS31 Alice Springs 47.72 257 P **P 19 29 41.4 -0.7**
ASAR Alice Springs 47.72 257 P **P 19 29 41.2 -0.9**
comp=Z,24nm,0.8s,baz=91,slow=8.0,SNR=145
ASAR PcP **PcP 19 31 13.1 +1.7**
comp=Z,7.1nm,0.8s,baz=103,slow=4.6,SNR=8.0
ASAR LR LR 19 49 01.8
comp=Z,1μm,18.2s,baz=102,slow=35
ASAR Alice Springs 47.72 257 P **P 19 29 40.9 -1.2**
ASAR Alice Springs 47.72 257 P **P 19 29 40.9 -1.2**
WR0 Warramunga Arr 47.73 262 P **P 19 29 41.4 -0.8**
WR0 IAmb IAmb 19 29 46.7
comp=Z,15nm,1.1s
WB0 Warramunga Arr 47.91 262 P **P 19 29 42.0 -1.6**
WB0 IAmb IAmb 19 29 48.4
comp=Z,16nm,0.7s
WB2 Warramunga Arr 47.91 262 P **P 19 29 42.3 -1.3**
WB2 IAmb IAmb 19 29 48.5
comp=Z,17nm,0.8s
WRAB Tennant Creek 47.91 262 *i* P **P 19 29 42.5 -1.1**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 47.91 262 P **P 19 29 42.8 -0.8**
WRAB IAmb IAmb 19 29 48.5
comp=Z,17nm,0.8s
WRA Warramunga Arr 47.92 262 P **P 19 29 42.8 -0.9**
comp=Z,14nm,0.8s,baz=97,slow=7.7,SNR=50
WRA PcP **PcP 19 31 13.2 +1.1**
comp=Z,7.0nm,0.8s,baz=96,slow=3.4,SNR=7.1
WRA LR LR 19 49 41.4
comp=Z,1μm,18.2s,baz=105,slow=36
WRA Warramunga Arr 47.92 262 P **P 19 29 42.3 -1.4**
WRA 19 31 13.2
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 47.92 262 P **P 19 29 42.3 -1.4**
GENI Genyem 48.01 286 P **P 19 29 45.6 +1.2**
comp=Z,40nm,1.7s
FORT Forrest 52.18 247 P **P 19 30 15.2 -0.6**
WRKA Warakurna 52.59 254 P **P 19 30 18.2 -0.8**
baz=53,SNR=34
MTN Manton Dam 52.62 270 P **P 19 30 19.4 +0.1**
baz=53,SNR=4.3
MTN Manton Dam 52.62 270 P **P 19 30 19.5 +0.1**
MTN IAmb IAmb 19 30 20.1
comp=Z,12nm,0.8s
KNRA Kununurra 54.06 266 P **P 19 30 29.7 -0.2**
baz=54,SNR=7.0
KNRA Kununurra 54.06 266 P **P 19 30 29.1 -0.8**
KNRA IAmb IAmb 19 30 32.5
comp=Z,11nm,0.8s
FAKI Fak Fak 55.04 282 P **P 19 30 36.8 -0.3**
comp=Z,32nm,1.3s
FITZ Fitzroy Crossi 56.35 262 P **P 19 30 44.8 -1.6**
comp=Z,4.0nm,0.6s,baz=115,slow=10.0,SNR=15
FITZ Fitzroy Crossi 56.35 262 P **P 19 30 46.3 -0.1**
baz=57,SNR=6.4
BNDI Bandanaira 56.57 279 P **P 19 30 48.4 +0.4**
comp=Z,96nm,1.0s
SIJI Sorong 56.78 284 P **P 19 30 49.5 0.0**
baz=75,slow=7.9
SWI Sorong 56.78 284 P **P 19 30 50.3 +0.7**
comp=Z,65nm,0.9s
SBA Scott Base 57.37 185 P **P 19 30 54.0 +1.2**
SBA pmax pmax
comp=Z,22nm,1.1s
SBA Scott Base 57.37 185 P **P 19 30 54.0 +1.2**
SBA IAmb IAmb 19 31 09.9
comp=Z,22nm,1.1s
VNDA Vanda 57.49 186 P **P 19 30 56.6 +3.0**
comp=Z,4.2nm,0.9s,baz=351,slow=5.5,SNR=4.9
VNDA LR LR 19 55 34.9
comp=Z,233nm,18.5s,baz=10,slow=36
VNDA Vanda 57.49 186 P **P 19 30 55.0 +1.4**
VNDA pmax pmax
comp=Z,20nm,1.5s
VNDA Vanda 57.49 186 P **P 19 30 55.0 +1.4**
VNDA IAmb IAmb 19 31 09.8
comp=Z,20nm,1.4s
SOEI Soe 59.98 271 P **P 19 31 11.9 -0.1**
SOEI Soe 59.98 271 P **P 19 31 12.0 -0.1**
comp=Z,35nm,0.7s
BATI Baumata 60.40 270 P **P 19 31 15.1 +0.3**
comp=Z,14nm,0.8s,baz=233,slow=5.4,SNR=5.0
BATI Baumata 60.40 270 P **P 19 31 14.4 -0.4**
comp=Z,13nm,0.9s
PSA00 Pilbara Seismi 60.86 257 P **P 19 31 16.9 -1.0**
PSA00 Pilbara Seismi 60.86 257 P **P 19 31 17.1 -0.8**
PSA00 IAmb IAmb 19 31 21.1
comp=Z,9.7nm,1.0s
KLBR Kellerberrin 60.87 245 P **P 19 31 18.9 +1.1**
baz=61,SNR=11
MEEK Meekatharra 60.94 251 P **P 19 31 19.0 +0.7**
baz=61,SNR=3.2
NWAO Narrogin (SRO) 61.12 243 P **P 19 31 21.0 +1.5**
comp=Z,12nm,0.9s,baz=136,slow=5.5,SNR=4.3
NWAO Narrogin (SRO) 61.12 243 IAmb IAmb 19 31 23.4
comp=Z,14nm,1.1s
MUN Mundaring 62.12 244 P **P 19 31 28.3 +2.1**
baz=62,SNR=5.2
EDFI Ende, Flores 62.71 271 P **P 19 31 30.1 -0.4**
comp=Z,7.2nm,0.8s
MORW Morawa 62.74 247 P **P 19 31 31.8 +1.4**
baz=63,SNR=4.9
MORW Morawa 62.74 247 P **P 19 31 29.4 -1.0**
PLAI Plampang 66.33 269 P **P 19 31 55.1 +1.0**
comp=Z,28nm,0.8s
TWSI Taliwang, Sumb 67.20 269 P **P 19 31 59.7 +0.1**
comp=Z,14nm,0.8s
PCI Palu 67.23 278 P **P 19 32 01.6 +1.8**
comp=Z,514nmcomp=Z,36nm,0.9s
MPSI Mapaga 67.65 280 P **P 19 32 02.2 -0.3**
comp=Z,11nm,0.9s
QSPA South Pole Qui 68.82 180 P **P 19 32 06.8 -2.3**
JYT Yasato 71.55 323 P **P 19 32 25.1 -0.9**
PWJI Pagerwojo 72.17 268 P **P 19 32 26.7 -3.6**
comp=Z,32nm,1.2s
PCJI Pacitan 72.70 268 P **P 19 32 33.8 +0.4**
comp=Z,97nm,1.9s
MJAR Matsushiro Arr 72.91 322 P **P 19 32 34.7 +0.5**
comp=Z,16nm,0.9s,baz=157,slow=5.6,SNR=37
MJAR LR LR 20 00 22.9
comp=Z,207nm,21.4s,baz=120,slow=32
MJAR Matsushiro Arr 72.91 322 P **P 19 32 34.1 -0.1**
MJAR pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 72.91 322 P **P 19 32 34.1 -0.1**
MJAR IAmb IAmb 19 32 36.8
comp=Z,9.0nm,0.8s
MAJO Matsushiro 72.91 322 *c i* P **P 19 32 35.0 +0.8**
MAJO pmax pmax
comp=Z,22nm,0.9s
MAJO Matsushiro 72.91 322 P **P 19 32 33.6 -0.6**
MAJO IAmb IAmb 19 32 36.5
comp=Z,19nm,0.9s
MAT Matsushiro 72.91 322 P **P 19 32 34.2 0.0**
MAT *e*S **SKiKP 19 42 06.8 -0.6**
MJB9 Matsu-Tunnel 72.92 322 P **P 19 32 34.4 +0.1**
JMN Monobe 73.66 317 P **P 19 32 37.2 -1.5**
JWT Wachi 73.73 319 P **P 19 32 38.9 -0.1**
JWT IAmb IAmb 19 32 41.8
comp=Z,12nm,0.9s
JSD Sado 73.92 323 P **P 19 32 39.8 -0.3**
JSD IAmb IAmb 19 32 43.0
comp=Z,22nm,0.9s
JHS Saijyo 74.96 318 P **P 19 32 46.0 -0.3**
JNU Nakatsue 75.23 315 P **P 19 32 49.7 +1.8**
comp=Z,11nm,0.8s,baz=200,slow=15,SNR=3.8
PKM Mcpherson Peak 76.10 44 P **P 19 32 54.0 +0.9**
baz=231
CIS Catalina Islan 76.11 46 P **P 19 32 54.4 +1.5**
baz=233
LEM Lembang 76.48 268 P **P 19 32 57.2 +1.6**
comp=Z,20nm,0.5s,baz=84,slow=8.6,SNR=5.8
BFSC Mount Baldy Ra 77.11 45 P **P 19 33 00.3 +1.6**
baz=233
MONP2 Monument Peak 77.14 47 P **P 19 33 00.3 +1.3**
baz=234
IKP In-Ko-Pah, Jac 77.22 47 P **P 19 33 01.4 +2.1**
baz=234
EDW2 Edwards Air Fo 77.28 45 P **P 19 33 01.6 +2.1**
baz=233
TPFO Pinon Flats 77.54 46 P **P 19 33 04.4 +3.3**
baz=234
PET Petropavlovsk 77.61 344 *e*P **P 19 33 00.2 -0.6**
PET *e*S **S 19 42 48.8 -3.1**
PET pmax pmax
comp=Z,200nm,11.4s
PET pmax pmax
comp=Z,200nm,11.6s
PET MLR MLR
comp=Z,400nm,20.0s
O02D Mt. Diablo Mer 77.69 38 P **P 19 33 05.8 +4.1**
baz=228
CMB Columbia Colle 77.72 41 P **P 19 32 59.0 -2.9**
CMB pmax pmax
comp=Z,10.0nm,1.2s
CMB Columbia Colle 77.72 41 P **P 19 32 59.0 -2.9**
LRMC Laurel Mtn Rad 77.84 44 P **P 19 33 06.6 +3.8**
baz=233
PEA0B Petropavlovsk- 77.94 343 *i* P **P 19 33 04.7 +2.0**
PETK Petropavlovsk- 77.94 343 P **P 19 33 03.4 +0.7**
comp=Z,3.2nm,0.7s,baz=145,slow=9.0,SNR=8.1
PETK LR LR 20 05 24.7
comp=Z,223nm,18.4s,baz=166,slow=34
PETK Petropavlovsk- 77.94 343 P **P 19 33 01.8 -0.9**
PETK Petropavlovsk- 77.94 343 P **P 19 33 01.8 -0.9**
AFDM Forest Hills D 77.95 40 P **P 19 32 59.6 -3.6**
ORV Oroville 78.03 39 P P 19 32 57.9 -5.6
ORV pmax pmax
comp=Z,6.0nm,1.1s
ORV Oroville 78.03 39 P P 19 32 57.9 -5.7
BELC Belle Mtn. Jos 78.08 46 P **P 19 33 08.8 +4.7**
baz=234
WDC Whiskeytown Da 78.10 38 P **P 19 33 00.2 -3.7**
WDC pmax pmax
comp=Z,14nm,1.3s
WDC Whiskeytown Da 78.10 38 P **P 19 33 00.2 -3.7**
YSS Yuzh-Sakhalins 78.16 332 *e*P P 19 33 08.2 +4.2
YSS pmax pmax
comp=Z,20nm,1.0s
CWC Cottonwood Cre 78.17 43 P **P 19 33 08.9 +4.3**
baz=232
SPIA Saint Paul Isl 78.20 2 P **P 19 33 08.0 +3.9**
baz=184
BC3 Big Chuckawall 78.25 47 P **P 19 33 09.3 +4.2**
baz=235
N02D Trinity Center 78.27 37 P **P 19 33 08.6 +3.7**
baz=228
GSC Goldstone, Bar 78.31 45 P **P 19 33 01.4 -3.9**
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone, Bar 78.31 45 P **P 19 33 09.6 +4.3**
baz=233
GSC Goldstone, Bar 78.31 45 P **P 19 33 01.4 -3.9**
MPMC Manual Prospec 78.32 44 P **P 19 33 09.7 +4.2**
baz=233
GLA Glamis 78.33 48 P **P 19 33 09.3 +3.9**
baz=235
O03E Paynes Creek 78.34 38 P **P 19 33 06.7 +1.4**
baz=229
HEC Hector,Ludlow 78.34 45 P **P 19 33 09.3 +3.9**
baz=234
M02C Callahan 78.46 37 P **P 19 33 09.2 +3.2**
baz=228
WAKR Walker 78.60 41 P **P 19 33 03.9 -3.0**
WAKR IAmb IAmb 19 33 23.9
comp=Z,15nm,1.0s
IRM Iron Mountain 78.75 47 P **P 19 33 10.7 +3.0**
baz=235
GMRC Granite Mounta 78.76 46 P **P 19 33 10.8 +2.9**
baz=234
YBH Yreka Blue Hor 78.77 37 P **P 19 33 05.4 -2.3**
YBH pmax pmax
comp=Z,8.0nm,1.1s
YBH Yreka Blue Hor 78.77 37 P **P 19 33 05.4 -2.3**
PNTR Pine Nut 78.86 40 P **P 19 33 08.2 -0.2**
PNTR IAmb IAmb 19 33 23.0
comp=Z,16nm,0.7s
K02D Willamette Mer 78.89 36 P **P 19 33 12.9 +4.6**
baz=227
BEKR Beckworth 78.90 39 P **P 19 33 06.9 -1.6**
VCNR Virginia City 78.97 40 P **P 19 33 06.0 -2.9**
VCNR IAmb IAmb 19 33 33.4
comp=Z,14nm,1.1s
LHV Little Huntoon 79.01 42 P **P 19 33 07.1 -1.9**
LHV IAmb IAmb 19 33 32.1
comp=Z,25nm,1.1s
YERR Yerington 79.02 41 P **P 19 33 07.4 -1.8**
YERR IAmb IAmb 19 33 26.0
comp=Z,27nm,1.4s
RYN Ryan 79.23 41 P **P 19 33 06.3 -4.1**
NVAR Mina Array Bea 79.25 42 P **P 19 33 12.6 +2.0**
comp=Z,6.2nm,0.8s,baz=225,slow=8.0,SNR=27
NVAR LR LR 20 03 48.0
comp=Z,604nm,18.1s,baz=238,slow=32
NVAR Mina Array Bea 79.25 42 P **P 19 33 08.4 -2.2**
M04C Macdoel 79.29 37 P **P 19 33 12.8 +2.2**
baz=229
L04D Klamath Falls 79.32 37 P **P 19 33 13.4 +2.7**
baz=228
NV11 Mina Array Sit 79.34 42 P **P 19 33 09.2 -1.8**
NV11 IAmb IAmb 19 33 33.7
comp=Z,16nm,1.0s
PAHR Pah Rah Range 79.38 40 P P 19 33 05.5 -5.7
TJN Taejon 79.50 316 *i* P **P 19 33 13.4 +1.8**
PDMCI Parker Dam,Lak 79.51 47 P P 19 33 16.6 +4.9
baz=235
TPNV Topopah Spring 79.65 44 P P 19 33 08.0 -4.7
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 79.65 44 P **P 19 33 15.1 +2.4**
baz=234
TPNV Topopah Spring 79.65 44 P P 19 33 08.0 -4.8
KVN Kaiserville 79.75 41 P **P 19 33 09.1 -4.2**
KVN pmax pmax
comp=Z,6.0nm,0.9s
KVN Kaiserville 79.75 41 P **P 19 33 09.1 -4.2**
KSRS Korea Array 79.77 317 P **P 19 33 15.2 +2.1**
comp=Z,10.0nm,1.0s,baz=144,slow=5.9,SNR=37
KSRS LR LR 20 02 59.6
comp=Z,194nm,19.9s,baz=151,slow=32
KSAR Wonju Array Be 79.79 317 P **P 19 33 12.9 -0.3**
KSAR Wonju Array Be 79.79 317 P **P 19 33 12.9 -0.3**
KASI Kota Agung 79.84 268 P **P 19 33 13.9 -0.2**
comp=Z,52nm,1.1s
KS19 Wonju Array Si 79.84 317 P **P 19 33 12.1 -1.4**
SHPR Sheep Range 80.10 45 P **P 19 33 11.3 -3.8**
J04D Umpqua Nationa 80.11 36 P **P 19 33 18.6 +3.5**
baz=228
MOD Modoc Plateau 80.24 38 P **P 19 33 12.8 -3.0**
I04A Tendick Farm, 80.31 35 P **P 19 33 18.8 +2.8**
baz=228
LWLI Liwa 80.42 268 P **P 19 33 18.1 +0.7**
comp=Z,2μmcomp=Z,54nm,0.9s
K05A Summer Lake 80.44 37 P **P 19 33 18.4 +1.5**
K05A IAmb IAmb 19 33 39.4
comp=Z,20nm,1.1s
MDSI Maura Dua 80.50 269 P **P 19 33 17.7 +0.1**
comp=Z,10nm,1.0s
J05D Fort Rock, OR 80.62 36 P **P 19 33 20.0 +2.2**
baz=229
KDAK Kodiak Island 80.80 12 P **P 19 33 20.7 +2.5**
baz=200
R11A Troy Canyon, C 80.90 43 P **P 19 33 21.4 +2.0**
baz=234
R11A Troy Canyon, C 80.90 43 P **P 19 33 18.2 -1.3**
PINE Pine Mountain 81.11 36 P **P 19 33 19.9 -0.5**
PINE IAmb IAmb 19 33 43.5
comp=Z,19nm,1.1s
I05D Terrebonne, OR 81.25 35 P **P 19 33 23.8 +2.8**
baz=229
WVOR Wild Horse Val 81.54 38 P P 19 33 18.0 -4.7
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 81.54 38 P P 19 33 18.0 -4.7
USRK Ussuriysk Ar. 81.57 324 P **P 19 33 24.2 +1.6**
comp=Z,5.9nm,0.9s,baz=64,slow=4.4,SNR=6.8
USRK LR LR 20 05 17.4
comp=Z,343nm,20.3s,baz=124,slow=33
USRK Ussuriysk Ar. 81.57 324 P **P 19 33 19.7 -2.9**
USRK Ussuriysk Ar. 81.57 324 P **P 19 33 19.7 -2.9**
G05D Wamic, OR 81.86 35 P **P 19 33 27.5 +3.3**
baz=229
CCUT Cedar City 81.87 45 P **P 19 33 21.2 -3.5**
U15A North Rim 81.95 46 P P 19 33 20.6 -4.6
U15A IAmb IAmb 19 33 43.5
comp=Z,17nm,1.3s
MAW Mawson 82.00 199 P **P 19 33 26.7 +2.1**
comp=Z,8.5nm,1.1s,baz=130,slow=10,SNR=10
MAW LR LR 20 08 54.4
comp=Z,313nm,18.4s,baz=89,slow=35
MAW Mawson 82.00 199 P **P 19 33 26.0 +1.4**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW Mawson 82.00 199 P **P 19 33 26.0 +1.4**
SZCU Shurtz Canyon 82.08 45 P **P 19 33 26.2 +0.5**
I07A Izee 82.09 36 P **P 19 33 22.9 -2.6**
KSI Kapahiang 82.27 269 P **P 19 33 27.8 +0.7**
comp=Z,41nm,0.9s
LON Longmire 82.60 33 P **P 19 33 26.9 -1.2**
LON pmax pmax
comp=Z,11nm,1.1s
LON Longmire 82.60 33 P **P 19 33 26.9 -1.2**
H03S2 Juan Fernandez 82.70 123 T T 21 05 49.9
baz=247,slow=74,SNR=112
H03S1 Juan Fernandez 82.71 123 T T 21 05 35.1
baz=247,slow=74,SNR=76
H03S3 Juan Fernandez 82.72 123 T T 21 05 32.3
baz=247,slow=74,SNR=118
H03N2 Juan Fernandez 82.83 123 T T 21 05 52.7
baz=258,slow=71,SNR=8.3
H03N3 Juan Fernandez 82.83 123 T T 21 05 26.2
baz=258,slow=71,SNR=5.3
H03N1 Juan Fernandez 82.85 123 T T 21 05 27.4
baz=258,slow=71,SNR=4.0
MTPU Mount Pierson 82.92 45 P **P 19 33 27.2 -3.2**
MTPU IAmb IAmb 19 33 49.0
comp=Z,25nm,1.3s
BRSE Bradley Lake S 82.98 12 P **P 19 33 32.5 +2.8**
baz=202
N18K Kilae Creek 83.00 9 P **P 19 33 30.8 +1.0**
baz=197
NJ2 Nanjing 83.05 308 *e*P **P 19 33 32.4 +1.8**
NJ2 pmax pmax
comp=Z,12nm,0.8s
MDJ Mudanjiang 83.16 323 P **P 19 33 34.0 +3.1**
MDJ pmax pmax
comp=Z,23nm,1.9s
MDJ pmax pmax
comp=Z,280nm,7.3s
MDJ Mudanjiang 83.16 323 P **P 19 33 28.6 -2.3**
G08A Pilot Rock 83.16 36 P **P 19 33 29.3 -1.8**
G08A IAmb IAmb 19 33 53.8
comp=Z,16nm,1.1s
N19K Bonanza Creek 83.34 10 P **P 19 33 34.8 +3.2**
baz=199
B05A Bryant 83.47 32 P **P 19 33 35.4 +3.0**
baz=228
E07A Sunnyside 83.49 34 P **P 19 33 31.9 -0.7**
E07A IAmb IAmb 19 33 55.5
comp=Z,17nm,0.9s
LTY Liberty 83.52 34 P **P 19 33 30.9 -1.9**
LTY IAmb IAmb 19 33 50.1
comp=Z,17nm,1.3s
HAWA Hanford 83.55 35 P **P 19 33 31.8 -1.1**
HAWA IAmb IAmb 19 33 50.6
comp=Z,24nm,1.3s
SEW Seward 83.57 12 P **P 19 33 34.6 +2.0**
baz=203
MFID Camas Ranch 83.77 39 P **P 19 33 31.9 -2.4**
MFID IAmb IAmb 19 33 56.7
comp=Z,13nm,1.1s
BMO Blue Mountains 83.80 37 P **P 19 33 31.7 -2.7**
BMO pmax pmax
comp=Z,14nm,1.2s
BMO Blue Mountains 83.80 37 P **P 19 33 31.6 -2.7**
BMO IAmb IAmb 19 33 50.7
comp=Z,14nm,1.2s
C06D Leavenworth 83.84 33 P **P 19 33 37.3 +2.9**
baz=229
E08A Dider Farm, El 83.87 35 P **P 19 33 32.6 -1.9**
E08A IAmb IAmb 19 33 51.4
comp=Z,10nm,1.0s
Q16A Castle Valley 84.07 44 P **P 19 33 32.1 -3.9**
Q16A IAmb IAmb 19 33 43.0
comp=Z,18nm,1.2s
SPCR Spurr Chakacha 84.08 11 P **P 19 33 36.7 +1.4**
baz=201
TMUT Trail Mountain 84.25 44 P P 19 33 31.1 -5.9
D08A Wollman Farm, 84.30 34 P P 19 33 30.9 -5.9
D08A IAmb IAmb 19 33 53.6
comp=Z,18nm,1.1s
E09A Wood Farm, Sta 84.37 35 P P 19 33 31.5 -5.6
E09A IAmb IAmb 19 33 54.1
comp=Z,23nm,1.5s
MNTX Cornudas Mount 84.40 53 P **P 19 33 33.9 -3.7**
MNTX IAmb IAmb 19 33 53.6
comp=Z,10nm,1.1s
LENM Lemitar 84.45 50 P P 19 33 33.5 -4.6
PWL Port Wells 84.48 12 P **P 19 33 33.7 -3.7**
F10A Beach Ranch, E 84.53 36 P **P 19 33 35.2 -2.8**
TX31 Lajitas Ar. Si 84.58 56 P **P 19 33 35.8 -2.9**
TXAR Lajitas Array 84.58 56 P **P 19 33 40.7 +2.0**
comp=Z,1.0nm,1.0s,baz=224,slow=5.2,SNR=5.7
TXAR LR LR 20 05 16.3
comp=Z,261nm,19.0s,baz=0.0,slow=31
TXAR Lajitas Array 84.58 56 P P 19 33 34.3 -4.4
TXAR Lajitas Array 84.58 56 P P 19 33 34.3 -4.4
SRU San Rafael Swe 84.59 45 P **P 19 33 38.7 0.0**
SRU pmax pmax
comp=Z,24nm,1.3s
SRU San Rafael Swe 84.59 45 P **P 19 33 38.7 0.0**
P17A Butcher Ranch, 84.65 44 P **P 19 33 38.3 -0.6**
P17A IAmb IAmb 19 33 54.4
comp=Z,18nm,1.3s
GLI Glacier Island 84.76 13 P **P 19 33 39.0 +0.3**
baz=205,SNR=8.0
GLI Glacier Island 84.76 13 P **P 19 33 38.2 -0.5**
B08A Colville Reser 84.92 33 P **P 19 33 40.3 +0.4**
B08A IAmb IAmb 19 33 56.0
comp=Z,11nm,1.2s
SKT Skwentna 84.93 11 P **P 19 33 40.5 +1.0**
baz=201
SKT Skwentna 84.93 11 P **P 19 33 39.7 +0.2**
SKT IAmb IAmb 19 33 41.4
comp=Z,12nm,1.1s
KNK Knik Glacier 84.97 12 P **P 19 33 41.6 +1.9**
baz=204
KNK Knik Glacier 84.97 12 P **P 19 33 40.4 +0.6**
KLR Kul'dur 84.97 328 P **P 19 33 41.6 +1.6**
comp=Z,1.2nm,0.8s,baz=123,slow=9.9,SNR=2.6
KLR Kul'dur 84.97 328 *i* P **P 19 33 41.1 +1.1**
KLR pmax pmax
comp=Z,15nm,1.9s
CN2 Changchun 85.04 321 *e*P **P 19 33 42.3 +1.8**
CN2 *e*S **S 19 44 13.0 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,300nm,6.2s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,200nm,21.0s
C09A Chrisman Ranch 85.11 34 P **P 19 33 38.4 -2.4**
C09A IAmb IAmb 19 33 58.2
comp=Z,20nm,1.3s
GHO Glory Hole Cre 85.21 12 P **P 19 33 41.4 +0.4**
ANMO Albuquerque 85.21 50 *i* P **P 19 33 42.5 +0.6**
ANMO pmax pmax
comp=Z,19nm,1.4s
ANMO Albuquerque 85.21 50 P **P 19 33 44.0 +2.2**
baz=240
ANMO Albuquerque 85.21 50 P P 19 33 36.2 -5.7
ANMO IAmb IAmb 19 33 57.9
comp=Z,17nm,1.2s
WAX Waxell Ridge 85.33 15 P **P 19 33 37.0 -4.6**
SML Sawmill 85.35 12 P **P 19 33 44.0 +2.3**
baz=204
BMRM Bremner River 85.38 14 P **P 19 33 44.1 +2.3**
baz=208
BMRM Bremner River 85.38 14 P P 19 33 36.9 -5.0
MA2 Magadan 85.47 343 *i* P **P 19 33 42.3 0.0**
MA2 pmax pmax
comp=Z,19nm,1.6s
YAH Yahtse 85.53 16 P **P 19 33 38.4 -4.4**
YAH IAmb IAmb 19 34 03.8
comp=Z,12nm,0.9s
CRQE Cirque 85.54 15 P **P 19 33 44.5 +1.7**
baz=209
CUT Chulitna 85.54 11 P **P 19 33 45.4 +2.9**
baz=202
CUT Chulitna 85.54 11 P **P 19 33 40.6 -1.9**
KLU Klutina 85.56 13 P **P 19 33 44.6 +1.8**

baz=206
KLU Klutina 85.56 13 P **P 19 33 44.2 +1.4**
KLU IAmb IAmb 19 33 46.0
comp=Z,16nm,1.3s
SCM Sheep Creek Mo 85.57 12 P **P 19 33 43.6 +0.7**
SCM pmax pmax
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 85.57 12 P **P 19 33 43.5 +0.7**
TGL Tana Glacier 85.60 15 P P 19 33 36.9 -6.2
TGL IAmb IAmb 19 33 46.5
comp=Z,16nm,1.0s
TABL Table Mountain 85.75 16 P P 19 33 38.8 -5.1
TABL IAmb IAmb 19 33 47.3
comp=Z,18nm,1.1s
VRDI Verde Repeater 85.87 14 P P 19 33 39.7 -4.8
VRDI IAmb IAmb 19 33 48.4
comp=Z,22nm,1.4s
N25K Chitina, Valde 85.95 14 P **P 19 33 46.5 +1.8**
baz=208
N25K Chitina, Valde 85.95 14 P **P 19 33 45.4 +0.7**
N25K IAmb IAmb 19 33 48.0
comp=Z,11nm,0.8s
GLB Gilahina Butte 85.98 14 P **P 19 33 45.1 +0.2**
GLB IAmb IAmb 19 33 48.1
comp=Z,9.4nm,0.9s
M24K Tolsona, Glenn 86.06 13 P **P 19 33 47.9 +2.7**
baz=206
M24K Tolsona, Glenn 86.06 13 P **P 19 33 46.6 +1.4**
MCARA McCarthy VSAT 86.11 15 P **P 19 33 48.2 +2.8**
baz=209
MCARA McCarthy VSAT 86.11 15 P **P 19 33 42.9 -2.5**
MCARA IAmb IAmb 19 33 52.5
comp=Z,13nm,1.0s
LOGN Logan Glacier 86.11 16 P **P 19 33 42.4 -3.2**
LOGN IAmb IAmb 19 33 53.8
comp=Z,20nm,1.1s
CTG Chitna Glacier 86.15 15 P **P 19 33 47.9 +2.1**
baz=211
CTGM Chitina Glacie 86.15 15 P **P 19 33 43.5 -2.4**
CTGM IAmb IAmb 19 33 53.9
comp=Z,11nm,1.0s
BARN Barnard Glacie 86.15 15 P **P 19 33 42.6 -3.3**
BARN IAmb IAmb 19 33 49.4
comp=Z,14nm,0.9s
WAT6 Susitna Watana 86.17 12 P **P 19 33 45.9 0.0**
baz=205,SNR=14
PLCA Paso Flores 86.22 132 LR LR 20 05 30.8
comp=Z,148nm,18.9s,baz=239,slow=31
WAT1 Susitna Watana 86.25 12 P **P 19 33 47.1 +0.9**
baz=204
TIA Tai'an 86.36 311 P **P 19 33 49.8 +2.5**
TIA pmax pmax
comp=Z,16nm,1.0s
KTH Kantishna Hill 86.50 10 P **P 19 33 46.7 -0.7**
KTH IAmb IAmb 19 33 49.5
comp=Z,11nm,0.9s
TRF Thorofare Moun 86.51 11 P **P 19 33 48.0 +0.4**
baz=202,SNR=10
TRF Thorofare Moun 86.51 11 P **P 19 33 45.9 -1.7**
SKAG Skagway 86.54 19 P **P 19 33 48.9 +1.4**
baz=216
SKAG Skagway 86.54 19 P **P 19 33 44.7 -2.8**
SKAG IAmb IAmb 19 34 09.6
comp=Z,19nm,1.0s
O20A White River Ci 86.63 45 P **P 19 33 48.8 0.0**
baz=239
MNSI Mandailing Nat 86.67 272 P **P 19 33 50.0 +0.7**
comp=Z,34nm,0.8s
TNA Tin City 86.68 3 P **P 19 33 51.0 +2.9**
baz=186
SYO Syowa Base 86.72 192‖ *e*P **P 19 33 46.4 -2.1**
SYO Syowa Base 86.72 192‖ *ep*P pP 19 33 50.8 -1.0
RND Reindeer 86.72 11 P **P 19 33 49.4 +0.9**
RND pmax pmax
comp=Z,30nm,0.9s
RND Reindeer 86.72 11 P **P 19 33 49.4 +0.9**
BPAW Bear Paw Mtn. 87.00 10 P **P 19 33 50.0 +0.2**
MCK McKinley 87.01 11 P **P 19 33 49.9 +0.1**
MCK pmax pmax
comp=Z,30nm,1.0s
MCK McKinley 87.01 11 P **P 19 33 50.2 +0.3**
baz=204,SNR=7.1
MCK McKinley 87.01 11 P **P 19 33 49.9 +0.1**
HYT Haines Junctio 87.03 17 P **P 19 33 48.8 -1.3**
HYT IAmb IAmb 19 33 58.1
comp=Z,9.7nm,1.2s
VNA3 Neumayer Olymp 87.13 175 P **P 19 33 52.9 +2.4**
SNAA Sanae 87.13 177 P **P 19 33 53.1 +2.4**
SNAA Sanae 87.13 177 *i* P **P 19 33 52.4 +1.8**
SNAA pmax pmax
comp=Z,12nm,1.5s
SNAA Sanae 87.13 177 P **P 19 33 48.0 -2.6**
SNAA IAmb IAmb 19 34 05.0
comp=Z,18nm,1.5s
BW06 Boulder Array 87.18 42 P **P 19 33 53.7 +2.3**
baz=236
BW06 Boulder Array 87.18 42 P **P 19 33 48.3 -3.1**
PD31 Pinedale Array 87.18 42 P **P 19 33 48.8 -2.7**
PDAR Pinedale Array 87.18 42 P **P 19 33 52.9 +1.5**
comp=Z,1.7nm,0.8s,baz=202,slow=3.5,SNR=12
PDAR LR LR 20 08 32.7
comp=Z,330nm,18.5s,baz=254,slow=33
PDAR Pinedale Array 87.18 42 P **P 19 33 47.4 -4.1**
MENT Mentasta 87.32 13 P **P 19 33 49.7 -1.7**
MENT IAmb IAmb 19 33 54.9
comp=Z,9.8nm,0.8s
DLBC Dease Lake 87.44 22 P **P 19 33 51.5 -0.5**
DLBC IAmb IAmb 19 34 19.7
comp=Z,14nm,1.3s
WHY Whitehorse 87.64 18 P **P 19 33 54.7 +1.6**
baz=216
WHY Whitehorse 87.64 18 P **P 19 33 48.6 -4.5**
VNA1 Neumayer--Stat 87.81 175 P **P 19 33 56.4 +2.6**
WRH Wood River Hil 87.83 11 P **P 19 33 53.8 0.0**
L27K Beaver Creek, 87.85 14 P **P 19 33 56.6 +2.7**
baz=210
L27K Beaver Creek, 87.85 14 P **P 19 33 52.1 -1.8**
BCAR Beaver Creek A 87.86 14 P **P 19 33 53.0 -1.0**
DOT Dot Lake 87.88 13 P **P 19 33 54.8 +0.8**
MLY Manley 87.91 10 P **P 19 33 54.4 +0.3**
baz=202,SNR=5.4
MLY Manley 87.91 10 P **P 19 33 52.2 -2.0**
MLY IAmb IAmb 19 33 56.4
comp=Z,8.0nm,1.1s
SEY Seymchan 87.94 345 *i* P **P 19 33 54.0 -0.2**
RPSI Rantau Prapat 87.96 274 P **P 19 33 53.3 -2.3**
HDA Harding Lake 87.99 12 P **P 19 33 55.9 +1.4**
baz=205
HDA Harding Lake 87.99 12 P **P 19 33 54.1 -0.4**
HDA IAmb IAmb 19 33 57.3
comp=Z,12nm,0.9s
PSI Prapat 88.00 274 P **P 19 33 53.3 -2.6**
PSI pmax pmax
comp=Z,17nm,1.0s
CCB Clear Creek Bu 88.05 11 P **P 19 33 53.9 -0.8**
SCRK Sand Creek 88.18 13 P **P 19 33 57.2 +1.6**
baz=208
SCRK Sand Creek 88.18 13 P **P 19 33 56.3 +0.7**
SCRK IAmb IAmb 19 33 59.0
comp=Z,10nm,1.0s
WALA Waterton Lakes 88.18 35 P **P 19 33 53.4 -2.6**
WALA IAmb IAmb 19 34 12.9
comp=Z,10.0nm,1.1s
I23K Minto, Yukon-K 88.24 10 P **P 19 33 52.3 -3.4**
I23K IAmb IAmb 19 34 17.9
comp=Z,7.9nm,1.2s
COLA College 88.25 11 *i* P **P 19 33 56.9 +1.2**
COLA pmax pmax
comp=Z,20nm,1.1s
COLA College 88.25 11 P **P 19 33 57.1 +1.4**
baz=205
IL31 88.33 11 P **P 19 33 52.1 -3.9**
IL31 IAmb IAmb 19 34 07.7
comp=Z,12nm,1.2s
ILAR Eielson Array 88.33 11 P **P 19 33 56.5 +0.5**
comp=Z,2.4nm,0.7s,baz=212,slow=5.5,SNR=13
ILAR Eielson Array 88.33 11 P **P 19 33 51.6 -4.5**
ILAR Eielson Array 88.33 11 P **P 19 33 51.6 -4.5**
POKR Poker Plat Res 88.54 11 P **P 19 33 58.5 +1.4**
baz=205
MT01 Popeta 88.58 126 P **P 19 33 59.9 +1.6**
K27K Chicken 88.64 14 P **P 19 33 57.3 -0.2**
K27K IAmb IAmb 19 34 01.7
comp=Z,11nm,1.1s
GSI Gunungsitoli 88.72 272 P **P 19 34 00.6 +1.4**
GSI Gunungsitoli 88.72 272 P **P 19 34 02.1 +2.9**
comp=Z,95nm,0.9s
BJI Beijing 88.88 314 P **P 19 34 02.1 +2.8**
BJI S **S 19 44 49.1 +2.4**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=Z,230nm,13.0s
BJI LR LR
comp=Z,240nm,13.7s
BJI LR LR
comp=Z,310nm,18.0s
PRP Porcupine Dome 89.25 12 P **P 19 34 02.7 +2.1**
baz=207
PRP Porcupine Dome 89.25 12 P **P 19 34 01.3 +0.7**
PRP IAmb IAmb 19 34 24.3
comp=Z,11nm,1.1s
DAWY Dawson 89.28 15 P **P 19 34 00.8 +0.1**
DAWY IAmb IAmb 19 34 04.4
comp=Z,12nm,0.9s
ENH Enshi 89.34 303 P **P 19 34 02.7 +0.9**
EGAK Eagle 89.49 14 P **P 19 34 04.2 +2.7**
baz=211
EGAK Eagle 89.49 14 P **P 19 34 00.7 -0.8**
EGAK IAmb IAmb 19 34 05.1
comp=Z,10nm,0.9s
NONG Nongkai 89.78 289 P P 19 34 08.3 +4.3
CHAI Chaiyaphum 89.99 287 P P 19 34 09.4 +4.4
comp=Z,11nm,0.9s
ZEA Zeya 90.00 330 *e*P **P 19 34 07.0 +2.8**
ZEA *e* 19 45 00.0
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
COLD Coldfoot 90.03 9 P **P 19 34 06.8 +2.7**
baz=202
COLD Coldfoot 90.03 9 P **P 19 34 05.0 +0.9**
BILL Bilibino 90.18 353 *e*P **P 19 34 05.9 +1.2**
BILL *e* 19 37 40.0
BILL *e*PPP PPP 19 39 38.3
BILL pmax pmax
comp=Z,5.0nm,1.0s
SLVN Son La 90.36 293 P **P 19 34 08.0 +1.2**
SLVN IAmb IAmb 19 34 11.7
comp=Z,12nm,1.1s
PHET Kaeng Krachan 91.01 283 P P 19 34 14.4 +4.6
TOLK Toolik Lake Re 91.43 9 P **P 19 34 12.3 +1.7**
baz=203
CBKS Cedar Bluff 91.78 49 P **P 19 34 15.2 +2.3**
baz=244
EPYK Eagle Plains 91.83 14 P **P 19 34 14.2 +1.7**
baz=215
EPYK Eagle Plains 91.83 14 P **P 19 34 10.4 -2.0**
EPYK IAmb IAmb 19 34 36.4
comp=Z,12nm,1.1s
PHIT Phitsanulok 91.87 288 P **P 19 34 17.4 +3.7**
comp=Z,814nmcomp=Z,87nm,1.0s
UTTA Uttaradit 91.95 288 P **P 19 34 17.5 +3.4**
comp=Z,183nmcomp=Z,22nm,1.0s
HHC Hu-ho-hao-te 92.38 313 *e*P **P 19 34 17.4 +1.7**
HHC S **S 19 45 22.0 +2.9**
HHC sS sS 19 45 29.6 +4.8
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,230nm,19.0s
HHC LR LR
comp=Z,290nm,15.7s
HHC LR LR
comp=Z,290nm,16.9s
KMI Kunming 92.78 296 ⇑P **P 19 34 21.2 +3.1**
KMI sP pwP 19 34 29.4 +3.8
KMI pmax pmax
comp=Z,23nm,1.0s
KMI LR LR
comp=Z,320nm,15.7s
KMI LR LR
comp=Z,410nm,17.4s
KMI LR LR
comp=Z,490nm,21.5s
LAMP Lampang 93.05 289 P **P 19 34 22.4 +3.2**
comp=Z,407nmcomp=Z,55nm,0.8s
CM04 Chiang Mai Arr 93.58 288 P **P 19 34 25.3 +3.7**
comp=Z,153nmcomp=Z,19nm,0.9s
CM04 Chiang Mai Arr 93.58 288 P **P 19 34 25.3 +3.7**
comp=Z,153nmcomp=Z,19nm,0.9s
CM09 Chiang Mai Arr 93.59 288 P **P 19 34 25.3 +3.6**
comp=Z,115nmcomp=Z,15nm,1.0s
CM09 Chiang Mai Arr 93.59 288 P **P 19 34 25.3 +3.6**
comp=Z,115nmcomp=Z,15nm,1.0s
CM01 Chiang Mai Arr 93.61 288 P **P 19 34 25.5 +3.7**
comp=Z,111nmcomp=Z,14nm,1.0s
CM05 Chiang Mai Arr 93.61 288 P **P 19 34 25.4 +3.6**
comp=Z,96nmcomp=Z,12nm,1.0s
CM05 Chiang Mai Arr 93.61 288 P **P 19 34 25.4 +3.6**
comp=Z,96nmcomp=Z,12nm,1.0s
CM02 Chiang Mai Arr 93.62 288 P **P 19 34 25.4 +3.6**
comp=Z,94nmcomp=Z,13nm,1.0s
CM02 Chiang Mai Arr 93.62 288 P **P 19 34 25.4 +3.6**
comp=Z,94nmcomp=Z,13nm,1.0s
CM31 Chiang Mai Arr 93.63 288 P **P 19 34 21.4 -0.5**
CM31 IAmb IAmb 19 34 26.0
comp=Z,9.6nm,0.8s
CMAR Chiang Mai Arr 93.63 288 P **P 19 34 23.4 +1.6**
comp=Z,9.2nm,0.9s,baz=120,slow=2.7,SNR=43
CMAR LR LR 20 15 05.5
comp=Z,72nm,19.1s,baz=110,slow=35
CMAR Chiang Mai Arr 93.63 288 P **P 19 34 20.0 -1.9**
CMAR Chiang Mai Arr 93.63 288 P **P 19 34 19.9 -1.9**
CM15 Chiang Mai Arr 93.65 288 P **P 19 34 25.5 +3.6**
comp=Z,85nmcomp=Z,12nm,0.9s
CM15 Chiang Mai Arr 93.65 288 P **P 19 34 25.5 +3.6**
comp=Z,85nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 93.65 288 P **P 19 34 25.6 +3.6**
comp=Z,84nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 93.65 288 P **P 19 34 25.6 +3.6**
comp=Z,84nmcomp=Z,12nm,0.9s
CMMT Chiang Mai 93.75 289 P **P 19 34 25.4 +2.9**
comp=Z,19nm,0.8s
CHTO Chiang Mai 93.76 289 P **P 19 34 23.5 +1.0**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 93.76 289 P **P 19 34 25.4 +2.9**
comp=Z,19nm,0.8s
CHTO Chiang Mai 93.76 289 P **P 19 34 25.4 +2.9**
comp=Z,19nm,0.8s
CHTO Chiang Mai 93.76 289 P **P 19 34 23.5 +1.0**
CD2 Chengdu 94.12 301 *e*P **P 19 34 25.5 +1.6**
INK Inuvik 94.13 14 P **P 19 34 24.2 +1.3**
comp=Z,3.7nm,0.7s,baz=205,slow=4.2,SNR=7.1
INK Inuvik 94.13 14 P **P 19 34 21.6 -1.3**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 94.13 14 P **P 19 34 25.6 +2.6**
baz=218
INK Inuvik 94.13 14 P **P 19 34 21.6 -1.3**
INK IAmb IAmb 19 34 25.9
comp=Z,7.8nm,1.0s
YAK Yakutsk 94.14 337 *i* P **P 19 34 23.7 +0.6**
YAK pmax pmax
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 95.78 24 P **P 19 34 32.0 +1.4**
comp=Z,1.0nm,0.8s,baz=211,slow=3.5,SNR=2.5
YKA LR LR 20 12 54.7
comp=Z,145nm,19.7s,baz=0.0,slow=32
LZH Lanzhou 95.99 306 *e*P P 19 34 37.9 +5.4
LZH pP pwP 19 34 41.4 +1.4
LZH sP sP 19 34 44.1 +7.2
LZH pmax pmax
comp=Z,12nm,1.1s
LZH LR LR
comp=Z,380nm,12.5s
LZH LR LR
comp=Z,280nm,13.0s
LZH LR LR
comp=Z,200nm,13.8s
ULN Ulaanbaatar 98.21 318 *ce*P Pdif 19 34 43.9 +1.6
ULN pmax pmax
comp=Z,4.0nm,1.0s
LPAZ La Paz 98.57 111 LR LR 20 12 33.4
comp=Z,279nm,18.4s,baz=301,slow=31
SONM Songino Array 98.61 318 P Pdif 19 34 45.4 +1.3
comp=Z,0.7nm,0.8s,baz=147,slow=8.6,SNR=2.9
SONM LR LR 20 15 39.4
comp=Z,130nm,21.7s,baz=89,slow=33
ULM Lac du Bonnet 98.99 40 LR LR 20 15 39.6
comp=Z,446nm,18.8s,baz=282,slow=33
GTA Gaotai 100.14 308 *e*P **Pdif 19 34 54.6 +3.5**
GTA pP pwP 19 34 59.8 +1.2
GTA sP sP 19 35 02.7 +7.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.7s
GTA LR LR
comp=Z,95nm,17.8s
GTA LR LR
comp=Z,170nm,18.9s
GTA LR LR
comp=Z,180nm,20.4s
NRIK Noril'sk 112.58 338 PKiKP **PKiKP 19 39 40.8 +0.2**
comp=Z,2.4nm,0.6s,baz=102,slow=5.3,SNR=4.2
ZALV Zalesovo Beam 113.26 321 PKiKP **PKiKP 19 39 43.6 +1.3**
comp=Z,1.3nm,0.7s,baz=104,slow=0.9,SNR=6.1
MKAR Makanchi Array 114.24 313 *i* PKIKP PKPdf 19 39 43.5 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 121.94 320 PKIKP **PKPdf 19 39 58.8 -0.3**
BRVK Borovoye 121.94 320 **PKPdf 19 39 58.8 -0.3**
KKAR Karatay Array 122.42 308 PKIKP PKPdf 19 39 51.5 -8.9
KKAR Karatay Array 122.42 308 PKPpre 19 39 51.5
SUMG Summit 123.05 14 *i* P PKiKP 19 40 13.8 +12
SUMG Summit 123.05 14 *i* PKIKP PKiKP 19 40 13.7 +12
DAG Danmarks Havn 123.12 7 *i* P PKiKP 19 40 10.7 +10
DAG IAmb IAmb 19 40 12.1
comp=Z,3.6nm,1.1s
DAG Danmarks Havn 123.12 7 *i* PKIKP PKiKP 19 40 10.6 +10
DAG pmax pmax
comp=Z,4.0nm,1.1s
ICESG Greenland Ices 124.87 18 *i* P PKiKP 19 40 15.5 +10
ICESG IAmb IAmb 19 40 17.1
comp=Z,20nm,1.2s
DBG Daneborg 125.11 8 *i* P PKiKP 19 40 14.9 +10
DBG IAmb IAmb 19 40 18.2
comp=Z,4.9nm,1.0s
ARU Arti 127.78 326 *i* PKIKP **PKiKP 19 40 12.1 +1.4**
ARU 19 42 14.8
ARU 19 47 22.8
ARU SS SS 19 59 27.9 +4.2
ARU MLR MLR
comp=Z,309nm,22.0s
ARU Arti 127.78 326 **PKPdf 19 40 08.2 -2.0**
HRA Herat 128.90 298 PKPdf PKPpre 19 40 07.6
ABKAR Akbulak array 129.01 317 PKPpre 19 40 08.0
ARCES ARCESS Array B 130.25 351 PKP **PKiKP 19 40 15.6 +0.3**
comp=Z,2.2nm,0.7s,baz=8.5,slow=2.5,SNR=8.1
GEYT Alibeck 132.11 302 PKP **PKiKP 19 40 20.8 +0.7**
comp=Z,2.7nm,0.9s,baz=218,slow=11,SNR=3.0
KLMR Klimovskoe 133.92 338 *e*PKIKP **PKiKP 19 40 23.8 +0.9**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 133.92 338 *e*PKPdf **PKiKP 19 40 23.8 +0.9**
KLMR AMP 19 40 28.3
comp=Z,15nm,1.4s
BELG Belogornoye 135.25 324 PKP **PKiKP 19 40 25.1 -0.7**
comp=Z,15nm,0.9s,baz=305,slow=2.6,SNR=3.7
FINES FINESS Array B 137.41 346 PKP **PKiKP 19 40 30.1 +0.1**
comp=Z,2.2nm,0.9s,baz=72,slow=4.8,SNR=5.0
OBN Obninsk 139.03 333 *e*PKIKP **PKPdf 19 40 31.8 +0.6**
OBN *e* 19 43 26.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 140.06 356 PKP **PKiKP 19 40 34.3 -1.2**
comp=Z,2.4nm,1.1s,baz=45,slow=5.6,SNR=2.9
GNI Garni 141.89 309 PKP **PKPdf 19 40 38.2 +1.1**
comp=Z,2.9nm,0.4s,baz=151,slow=10,SNR=2.3
GNI Garni 141.89 309 *i* PKIKP **PKPdf 19 40 37.1 -0.1**
KBZ Khabaz 141.90 315 PKP **PKiKP 19 40 39.5 -0.2**
comp=Z,1.9nm,0.9s,baz=174,slow=6.3,SNR=3.7
KBZ Khabaz 141.90 315 *i* PKIKP **PKPdf 19 40 37.9 +1.1**
KIV Kislovodsk 141.95 315 *i* PKIKP **PKPdf 19 40 36.8 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 142.06 315 *i* PKIKP **PKPdf 19 40 37.5 0.0**
MNK Minsk 142.81 339 *i* PKIKP **PKPdf 19 40 36.2 -1.9**
MNK *i* 19 43 44.9
MNK *i* PPP PPP 19 46 53.2
MNK *i* 19 47 44.2
MNK *i* SS SS 20 02 20.9 -2.2
MNK *i* SSS SSS 20 07 43.0
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK pmax pmax
comp=Z,17nm,0.7s
MNK MLR MLR
comp=Z,117nm,15.0s
MNK Minsk 142.81 339 *i* PKP **PKPdf 19 40 36.2 -1.9**
comp=E,3.0nm,0.7s
MNK *i* PKP **PKPdf 19 40 36.2 -1.9**
comp=N,15nm,0.7s
MNK *i* PKP **PKPdf 19 40 36.2 -1.9**
comp=Z,17nm,0.7s,baz=216
MNK *i* PP **PP 19 43 44.9 -1.5**
MNK *i* SKP 19 44 10.7
MNK *i* PKS **PKSdf 19 44 12.0 -1.6**
MNK *i* PPP PPP 19 46 53.2
MNK *i* SKS **SKSdf 19 47 44.3 -3.2**
MNK *i* SKKS **SKKSdf 19 57 03.4 -3.1**
MNK *i* SS **SS 20 02 21.0 -2.2**
MNK *i* SSS SSS 20 07 43.1
MNK *i* LQ LQ 20 36 35.9
MNK *i* LR LR 20 40 30.0
MNK *i* LRM MLR 20 46 18.9
comp=Z,117nm,15.3s
MNK *i* LRM MLR 20 46 43.1
comp=N,128nm,21.7s
MNK *i* LRM MLR 20 48 20.2
comp=E,29nm,28.1s
PABE Paberze 143.16 343 *e*P **PKPdf 19 40 38.1 -0.6**
PBUR Paburge 143.24 345 *e*P **PKPdf 19 40 37.1 -1.7**
SOC Sochi 144.04 316 *e*PKHKP PKPpre 19 40 25.3
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,144nm,20.0s
GURO Guroymak-BITLI 144.38 307 **PKPab 19 40 37.7 -2.0**
SUW Suwalki 144.69 342 *e*PKPdf **PKPdf 19 40 42.4 +1.0**
SUW *e*L L 20 45 39.7
comp=Z,220nm,20.9s
SUW Suwalki 144.69 342 *e*P **PKPdf 19 40 42.1 +0.7**
SUW Suwalki 144.69 342 PKIKP **PKPab 19 40 38.7 -1.4**
SUW Suwalki 144.69 342 **PKPab 19 40 38.7 -1.4**
MUD Monsted U'grnd 144.76 357 *i* P **PKPdf 19 40 42.7 +1.2**
MUD IAmb IAmb 19 40 43.2
comp=Z,44nm,0.9s
MUD *i* 19 40 53.0
MUD Monsted U'grnd 144.76 357 *i* PKIKP **PKPdf 19 40 42.6 +1.2**
AKASG Malin Array Be 145.29 334 PKPbc **PKPdf 19 40 42.7 +0.1**
comp=Z,13nm,0.7s,baz=37,slow=4.1,SNR=49
AKASG Malin Array Be 145.29 334 PKIKP **PKPbc 19 40 41.8 -0.5**
AKASG Malin Array Be 145.29 334 **PKPbc 19 40 41.8 -0.5**
AKBB Malin Array Si 145.29 334 PKIKP **PKPbc 19 40 41.3 -1.0**
AKBB Malin Array Si 145.29 334 **PKPbc 19 40 41.3 -1.0**
BSD Bornholm Skovb 145.49 351 *e*P **PKPab 19 40 44.4 +1.4**
BSD Bornholm Skovb 145.49 351 *i* P **PKPab 19 40 44.2 +1.2**
BSD IAmb IAmb 19 40 45.0
comp=Z,29nm,0.9s
BSD *i* 19 40 54.5
BSD Bornholm Skovb 145.49 351 *i* PKIKP **PKPab 19 40 44.2 +1.2**
BSD pmax pmax
comp=Z,29nm,0.9s
LODK Lodwar 146.15 242 **PKPab 19 40 47.0 +0.2**
GKP Gorka Klasztor 146.84 347 *e*PKP **PKiKP 19 40 49.3 -0.3**
GKP *e*L L 20 40 13.6
comp=Z,178nm,24.0s
GKP Gorka Klasztor 146.84 347 *e*P **PKPbc 19 40 46.4 -0.5**
LNIZ Loecknitz 147.16 351 *e*L L 20 46 46.2
comp=Z,147nm,21.4s
BSEG Bad Segeberg 147.19 355 *e*PKPbc **PKiKP 19 40 50.0 -0.3**
baz=8.5,slow=2.4
MBAR Mbarara 147.28 232 PKHKP PKPpre 19 40 43.1
MBAR Mbarara 147.28 232 **PKPdf 19 40 43.1 -4.3**
BEL Belsk 147.30 343 *e*PKP **PKiKP 19 40 51.0 +0.4**
BEL *e*L L 20 42 00.0
comp=Z,200nm,21.0s

SORM	Soroca	147.59 331	⇓P	PKPab	19 40 50.2	-1.1
SORM	Soroca	147.59 331	⇓PKP2	PKPab	19 40 50.2	-1.1
DIKM	Dikmen	147.86 316	⇓P	PKPab	19 40 53.2	+0.5
LVV	L'vov	148.01 337	*e*PKP2	PKiKP	19 40 51.5	-0.6
PURM	Purcari	148.03 328	⇑P	PKiKP	19 40 51.6	-0.6
GAZ	Gaziantep	148.44 307	PKPdf	PKPdf	19 40 45.1	-3.3
GAZ			PKPbc	pPKPdf	19 40 50.0	-1.7
KWP	Kalwaria Pacla	148.63 339	*e*PKP	PKiKP	19 40 54.0	+0.6
KWP			*e*L	L	20 42 22.3	
comp=Z,234nm,26.1s						
KWP	Kalwaria Pacla	148.63 339	PKP2	PKiKP	19 40 52.8	-0.7
KWP	Kalwaria Pacla	148.63 339		PKiKP	19 40 52.8	-0.7
NRDL	Niedersach Rie	148.63 355	*e*PKPbc	PKiKP	19 40 53.9	+0.7
baz=8.5,slow=2.4						
FLTG	Flechtingen	148.69 353	*e*PKPbc	PKiKP	19 40 53.8	+0.4
baz=8.5,slow=2.4						
BNN	Bunyan	148.76 311		PKiKP	19 40 53.7	-0.6
ASSE	Asse, Remlinge	148.94 354	*e*PKPbc	PKiKP	19 40 54.8	+0.9
baz=8.5,slow=2.4						
VASR	Vaslui	148.95 330	⇑P	PKPab	19 40 55.8	-1.1
IBBN	Ibbenburen	148.97 358	*e*PKPbc	PKiKP	19 40 54.9	+0.9
baz=8.5,slow=2.4						
OJC	Ojcow	149.03 342	*e*PKPbc	PKiKP	19 40 53.9	-0.3
OJC			*e*L	L	20 44 15.6	
comp=Z,191nm,23.4s						
OJC	Ojcow	149.03 342	PKIKP	PKPdf	19 40 50.4	+1.5
OJC	Ojcow	149.03 342		PKPdf	19 40 50.4	+1.5
KSP	Ksiaz	149.32 347	*e*PKP	PKPab	19 40 56.5	-1.8
KSP			*e*L	L	20 52 05.6	
comp=Z,235nm,20.4s						
BURAR	Bucovina Array	149.35 334	⇑P	PKiKP	19 40 55.6	+0.5
KOLS	Kolonicke sedl	149.38 338	*e*PKP2	PKiKP	19 40 56.0	+1.0
KOLS	Kolonicke sedl	149.38 338	*e*PKP	PKiKP	19 40 56.0	+1.0
KOLS			*e*		19 41 01.1	
CLL	Collm	149.47 351	*e*PKPdf	PKPdf	19 40 51.0	+1.5
CLL			*i* (PKPbc)	PKiKP	19 40 55.9	+0.9
comp=Z,31nm,1.4s						
CLL			*i* PKPab	PKPab	19 40 59.1	+0.3
comp=Z,13nm,1.1s						
CLL			*e*PKPIp		19 41 01.0	
comp=Z,200nm,17.9s						
CLL			*i*		19 41 02.6	
CLL			*i*		19 41 06.0	
comp=Z,46nm,1.2s						
CLL			*e*PP	PP	19 44 29.0	+3.3
CLL			*e*PSKS		19 54 45.0	
CLL			*e*SS	SS	20 03 38.0	-0.4
CLL			*e*		20 05 04.0	
CLL			*e*SSS	SSS	20 09 12.0	
CLL			*e*SSSS		20 13 18.0	
CLL			LmH		20 49 00.0	
comp=N,100nm,19.7s						
CLL			LmH		20 49 00.0	
comp=E,100nm,21.9s						
CLL			LmV		20 50 00.0	
comp=Z,200nm,20.3s						
CLL	Collm	149.47 351	*e*PKHKP	PKPpre	19 40 51.0	
CLL			*i*		19 40 55.9	
CLL			pmax	pmax		
comp=Z,31nm,1.4s						
CLL			pmax	pmax		
comp=Z,13nm,1.1s						
CLL	Collm	149.47 351		PKPdf	19 40 49.9	+0.4
CLL	Collm	149.47 351	*e*PKPbc	PKiKP	19 40 56.0	+0.9
baz=8.5,slow=2.4						
TLCR		149.49 327	⇑P	PKiKP	19 40 55.1	-0.2
TLCR		149.49 327	⇑PKP2	PKiKP	19 40 55.1	-0.2
GHRR		149.56 329	⇑P	PKPab	19 40 57.9	-1.4
TESR	Tescani	149.58 331	⇓P	PKPab	19 40 57.3	-2.1
GTTG	Gottingen	149.59 355	*e*PKPbc	PKiKP	19 40 56.4	+1.1
baz=8.5,slow=2.4						
NIE	Niedzica	149.59 341	*e*PKP	PKiKP	19 40 57.1	+1.7
NIE			*e*L	L	20 48 41.4	
comp=Z,159nm,21.7s						
OSTC	Ostas	149.61 347	⇑*e*PKP	PKPbc	19 40 54.6	+0.2
OSTC			*e*PKPAB	sPKPab	19 41 05.8	+1.6
OSTC			AMS	AMS	20 51 50.0	
comp=Z,200nm,15.2s						
CHVC	Chvalec	149.61 347	⇑*e*PKP	PKiKP	19 40 56.8	+1.3
CHVC			*e*PKPAB	sPKPab	19 41 07.4	+3.1
CHVC			AMS	AMS	20 52 30.0	
comp=Z,200nm,23.6s						
UZH	Uzhgorod	149.63 338	*e*PKHKP	PKPpre	19 40 48.7	
UZH			*i*		19 40 57.1	
CRVS	Cervenica-Dubn	149.68 339	*e*PKP2	PKPab	19 40 57.7	-2.1
CRVS	Cervenica-Dubn	149.68 339	*e*PKP	PKPab	19 40 57.7	-2.1
UPC	Upice	149.70 347	*e*PKP2	PKiKP	19 40 56.1	+0.5
UPC			MLR	MLR		
comp=Z,200nm,18.2s						
UPC	Upice	149.70 347	⇑*e*PKP	PKiKP	19 40 56.1	+0.5
UPC			*e*PKPAB	sPKPab	19 41 05.4	+0.8
UPC			AMS	AMS	20 52 20.0	
comp=Z,200nm,18.2s						
NEUB	Neuenburg	149.73 352	*e*PKPbc	PKiKP	19 40 56.8	+1.2
baz=8.5,slow=2.4						
BRG	Berggiesshubel	149.74 350	*e*PKP	PKiKP	19 40 57.3	+1.6
BRG			Amp		19 41 03.0	
comp=Z,35nm,1.2s						
BRG	Berggiesshubel	149.74 350	*e*PKPbc	PKiKP	19 40 56.9	+1.3
baz=8.5,slow=2.4						
DPC	Dobruska-Polom	149.78 346	*e*PKP2	PKiKP	19 40 56.5	+0.7
DPC			MLR	MLR		
comp=Z,200nm,22.6s						
DPC	Dobruska-Polom	149.78 346	⇑*e*PKP	PKiKP	19 40 56.5	+0.7
DPC			*e*PKPAB	sPKPab	19 41 06.1	+1.1
DPC			AMS	AMS	20 50 00.0	
comp=Z,200nm,22.6s						
FBE	Freiberg	149.79 350	*e*PKPbc	PKiKP	19 40 57.3	+1.6
baz=8.5,slow=2.4						
CFR	Carcaliu	149.84 328	⇓P	PKiKP	19 40 56.4	+0.4
CFR	Carcaliu	149.84 328	⇓PKP2	PKiKP	19 40 56.4	+0.4
BUG	Bochum--Univer	149.85 358	*e*PKPbc	PKiKP	19 40 56.9	+1.0
baz=8.5,slow=2.4						
BR131	Keskin Array S	149.88 314	PKHKP	PKPpre	19 40 52.9	
BR131	Keskin Array S	149.88 314		PKPbc	19 40 52.9	-2.7
BRTR	Keskin Array B	149.88 314	PKPbc	PKiKP	19 40 57.0	+0.5
comp=Z,7.8nm,0.8s,baz=147,slow=3.6,SNR=29						
BRTR	Keskin Array B	149.88 314		PKPdf	19 40 52.4	+1.6
TPGR	Topolog	149.92 327	⇑P	PKiKP	19 40 57.2	+0.9
KRLC	Kraliky	149.94 346	*e*PKP2	PKiKP	19 40 57.7	+1.5
KRLC			MLR	MLR		
comp=Z,200nm,22.5s						
KRLC	Kraliky	149.94 346	⇑*e*PKP	PKiKP	19 40 57.7	+1.5
KRLC			*e*PKPAB	sPKPab	19 41 06.2	+0.6
KRLC			AMS	AMS	20 46 00.0	
comp=Z,200nm,22.5s						
ODBI	Odobesti	149.94 329	⇓P	PKPab	19 41 02.1	+1.2
PVCC	Panska Ves	149.97 349	*e*PKP2	PKiKP	19 40 57.8	+1.7
PVCC			MLR	MLR		
comp=Z,200nm,22.2s						
PVCC	Panska Ves	149.97 349	⇑*e*PKP	PKiKP	19 40 57.8	+1.7
PVCC			*e*PKPAB	sPKPab	19 41 07.8	+2.1
PVCC			AMS	AMS	20 56 40.0	
comp=Z,200nm,22.2s						
BMR	Baia Mare	149.99 336	⇑P	PKPab	19 41 03.8	+2.8
BMR	Baia Mare	149.99 336	⇑PKP2	PKPab	19 41 03.8	+2.8
VRI	Vrincioaia	150.02 330	⇓P	PKiKP	19 40 56.8	+0.3
VRI	Vrincioaia	150.02 330	⇓PKIKP	PKiKP	19 40 56.8	+0.3
MORC	Moravsky Berou	150.03 345	⇑P	PKiKP	19 40 58.0	+1.6
MORC	Moravsky Berou	150.03 345	⇑PKIKP	PKiKP	19 40 58.0	+1.6
MORC	Moravsky Berou	150.03 345	PKPdf	PKPdf	19 40 47.5	-3.1
MORC	Moravsky Berou	150.03 345	*e*PKP	PKiKP	19 40 57.6	+1.2
KASTN	Kahler Asten	150.04 357	*e*PKPbc	PKiKP	19 40 57.6	+1.3
baz=8.5,slow=2.4						
PLOR	Plostina	150.07 330	⇑P	PKiKP	19 40 57.5	+0.9
PLOR	Plostina	150.07 330	⇑PKIKP	PKiKP	19 40 57.5	+0.9
LANS	Liptovska Anna	150.08 342	*e*PKIKP	PKPab	19 40 59.3	-2.2
LANS	Liptovska Anna	150.08 342	*e*PKP	PKPab	19 40 59.2	-2.2
TIRR	Tirgusor	150.20 326	⇓P	PKPab	19 41 04.9	+2.9
TIRR	Tirgusor	150.20 326	⇓PKIKP	PKPab	19 41 04.9	+2.9
OZUR		150.28 331	⇑P	PKiKP	19 40 58.7	+1.6
HARR	Harsova	150.29 327	⇑P	PKiKP	19 40 59.2	+2.2
HARR	Harsova	150.29 327	⇑PKIKP	PKiKP	19 40 59.2	+2.2
MOX	Moxa	150.31 352	*e*PKPbc	PKiKP	19 40 58.2	+1.4
baz=8.5,slow=2.4						
MOX			*e*L	L	20 57 48.9	
comp=Z,165nm,19.9s						
ANTO	Ankara	150.37 315	PKIKP	PKiKP	19 40 57.2	-0.3
ANTO	Ankara	150.37 315		PKiKP	19 40 57.2	-0.3
PLN	Plauen	150.39 352	*e*PKPbc	PKiKP	19 40 58.4	+1.4
baz=8.5,slow=2.4						
WERD	Werda	150.41 351	*e*PKPbc	PKiKP	19 40 58.5	+1.4
baz=8.5,slow=2.4						
PRA	Prague	150.43 349	*e*PKIKP	PKiKP	19 40 59.1	+2.0
PRA	Prague	150.43 349	⇑*e*PKP	PKiKP	19 40 59.1	+2.0
PRA			*e*PKPAB	sPKPab	19 41 08.6	+1.0
PRU	Pruhonice	150.49 348	*e*PKIKP	PKiKP	19 40 58.3	+1.1
PRU			MLR	MLR		
comp=Z,200nm,16.4s						
PRU	Pruhonice	150.49 348	⇑*e*PKP	PKiKP	19 40 58.3	+1.1
PRU			*e*PKPAB	sPKPab	19 41 07.4	-0.4
PRU			AMS	AMS	20 53 40.0	
comp=Z,200nm,16.4s						
WERN	Wernitzgruen	150.55 351	*e*PKPbc	PKiKP	19 40 59.1	+1.7
baz=8.5,slow=2.4						
DOPR	Dopca	150.56 331	⇓P	PKiKP	19 40 58.4	+0.9
NKC	Novy Kostel	150.60 351	*e*PKIKP	PKiKP	19 40 59.0	+1.5
NKC			MLR	MLR		
comp=Z,200nm,15.2s						
NKC	Novy Kostel	150.60 351	⇑*e*PKP	PKiKP	19 40 59.0	+1.5
NKC			*e*PKPAB	sPKPab	19 41 08.7	+0.4
NKC			AMS	AMS	20 55 50.0	
comp=Z,200nm,15.2s						
ISR	Istrita	150.66 329	⇓P	PKiKP	19 40 59.6	+1.7
ISR	Istrita	150.66 329	⇓PKIKP	PKiKP	19 40 59.6	+1.7
MLR	Muntele Rosu	150.67 330	⇓P	PKiKP	19 40 57.7	-0.3
MLR	Muntele Rosu	150.67 330	⇓PKIKP	PKiKP	19 40 57.7	-0.3
MLR	Muntele Rosu	150.67 330		PKiKP	19 40 59.1	+1.1
VRAC	Vranov	150.70 345	⇓P	PKiKP	19 40 58.3	+0.6
VRAC	Vranov	150.70 345	⇓PKIKP	PKiKP	19 40 58.3	+0.6
VRAC	Vranov	150.70 345	*e*PKP	PKiKP	19 40 59.4	+1.7
MEM	Membach	150.71 360	*d*PKPbc	PKiKP	19 40 58.1	+0.4
MEM			*dp*PKPab	pPKPab	19 41 06.2	-1.2
BTNL	Ternell	150.73 359	*d*PKPbc	PKiKP	19 40 58.7	+0.9
BTNL			*dp*PKPab	pPKPab	19 41 06.2	-1.4
BTNL			*dx*	x	19 41 44.7	
CJR	Cluj-Napoca	150.73 334	⇓P	PKiKP	19 41 00.4	+2.5
CJR	Cluj-Napoca	150.73 334	⇓PKIKP	PKiKP	19 41 00.4	+2.5
BSTI	Sart Tilman	150.73 0	*dp*PKPab	pPKPab	19 41 06.5	-1.1
AHRW	Bad Neuenahr-A	150.76 358	*e*PKPbc	PKiKP	19 40 59.2	+1.5
baz=8.5,slow=2.4						
SNF	Seneffe	150.79 2	*dp*PKPab	pPKPab	19 41 06.7	-1.1
JAVC	Velka Javorina	150.84 344	*e*PKP	PKiKP	19 41 00.9	+2.8
VYHS	Vyhne	150.85 342	*e*PKIKP	PKiKP	19 40 59.7	+1.6
VYHS			*e*		19 41 08.2	
VYHS	Vyhne	150.85 342	*e*PKP	PKiKP	19 40 59.7	+1.6
VYHS			*e*		19 41 08.2	
PBCC	Pribram	150.88 349	⇑*e*PKP	PKiKP	19 40 59.5	+1.4
PBCC			*e*PKPAB	sPKPab	19 41 09.2	-0.3
PBCC			AMS	AMS	20 52 40.0	
comp=Z,2μm,55.4s						
MANZ	Manzenberg	150.89 351	*e*PKPbc	PKiKP	19 40 59.8	+1.7
baz=8.5,slow=2.4						
BCLA	Clavier	150.90 1	*d*PKPbc	PKiKP	19 40 58.0	-0.1
BCLA			*dp*PKPab	pPKPab	19 41 06.7	-1.6
BCLA			*dx*	x	19 41 26.1	
BGES	Gesves	150.93 1	*dp*PKPab	pPKPab	19 41 06.7	-1.6
BGES			*dx*	x	19 41 09.3	
BGES			*dx*	x	19 41 24.6	
SECR		150.95 329	⇓P	PKiKP	19 40 59.8	+1.4
TREC	Trest	150.96 347	AMS	AMS	20 48 20.0	
comp=Z,300nm,18.8s						
BHOU	Houvegnez	150.96 360	*d*PKPbc	PKiKP	19 40 58.9	+0.6
BHOU			*dp*PKPab	pPKPab	19 41 07.5	-1.0
KRUC	Moravsky	150.97 345	*e*PKP	PKiKP	19 40 59.5	+1.2
BMRD	Maredsous	151.01 1	*dp*PKPab	pPKPab	19 41 07.4	-1.2
TNS	Taunus Mts	151.01 356	*e*PKPbc	PKiKP	19 40 59.8	+1.4
baz=8.5,slow=2.4						
DRGR		151.02 335	⇑P	PKiKP	19 40 59.2	+0.7
DRGR		151.02 335	⇑PKIKP	PKiKP	19 40 59.2	+0.7
PSZ	Piszkesteto	151.05 340	⇑P	PKPbc	19 40 56.4	-1.6
PSZ	Piszkesteto	151.05 340	*e*PKP	PKPab	19 41 01.7	-3.8
PSZ	Piszkesteto	151.05 340	PKIKP	PKPbc	19 40 55.9	-2.1
PSZ	Piszkesteto	151.05 340		PKPbc	19 40 55.9	-2.1
MDUB	Mudurnu	151.09 317		PKPdf	19 40 54.9	+2.3
ROTZ	Rotzenmuhle	151.09 351	*e*PKPbc	PKiKP	19 41 00.2	+1.7
baz=8.5,slow=2.4						
VOIR		151.12 331	⇓P	PKiKP	19 41 00.9	+2.1
VOIR		151.12 331	⇓PKIKP	PKiKP	19 41 00.9	+2.1
DOU	Dourbes	151.21 1	*d*PKPbc	PKPbc	19 40 57.6	-0.5
DOU			*dp*PKPab	pPKPab	19 41 08.2	-1.3
DOU			*ds*PKPab	sPKPab	19 41 10.4	-0.3
DOU			*dx*	x	19 41 17.3	
GRA1	Grafenberg Arr	151.29 353		PKPdf	19 40 48.8	-3.7
GRF	Grafenberg Arr	151.29 353	PKIKP	PKPdf	19 40 48.8	-3.7
GRF	Grafenberg Arr	151.29 353	*e*PKPbc	PKiKP	19 41 00.8	+1.8
baz=8.5,slow=2.4						
GRF			*e*L	L	20 49 35.1	
comp=Z,162nm,21.6s						
GRFO	Grafenberg	151.29 353	PKIKP	PKPdf	19 40 47.4	-5.0
GRFO	Grafenberg	151.29 353		PKPdf	19 40 47.4	-5.0
MILB	Miltenberg	151.35 355	*e*PKPbc	PKiKP	19 41 00.6	+1.5
baz=8.5,slow=2.4						
ARR	Arges	151.36 331	⇑P	PKiKP	19 41 01.1	+1.8
MODS	Modra-Piesok	151.39 344	*e*PKIKP	PKiKP	19 41 02.0	+2.8
MODS	Modra-Piesok	151.39 344	*e*PKP	PKiKP	19 41 02.0	+2.8
MODS			*e*		19 41 10.7	
KHC	Kasperske Hory	151.49 349	*e*PKIKP	PKiKP	19 40 59.6	+0.2
KHC	Kasperske Hory	151.49 349	⇑*e*PKP	PKiKP	19 41 00.5	+1.1
KHC			*e*PKPAB	pPKPab	19 41 09.8	-1.0
KHC			AMS	AMS	20 54 10.0	
comp=Z,300nm,23.2s						
KHC	Kasperske Hory	151.49 349		PKiKP	19 40 59.6	+0.2
GHAJ	Ghor Haditha	151.49 297		PKiKP	19 41 00.4	+0.5
WET	Wettzell	151.59 350	*e*PKPbc	PKiKP	19 41 01.3	+1.7
baz=8.5,slow=2.4						
CKRC	Cesky Krumlov	151.65 348	⇑*e*PKP	PKiKP	19 41 01.6	+1.9
CKRC			*e*PKPAB	pPKPab	19 41 10.2	-1.2
CKRC			AMS	AMS	20 50 20.0	
comp=Z,300nm,23.2s						
WLF	Walferdange	151.65 359	*d*PKPbc	PKiKP	19 41 00.7	+1.0
WLF			*dp*PKPab	pPKPab	19 41 10.6	-0.8
WLF	Walferdange	151.65 359	PKIKP	PKPdf	19 40 49.1	-3.9
WLF	Walferdange	151.65 359		PKPdf	19 40 49.1	-3.9
WLF	Walferdange	151.65 359	*e*PKPbc	PKiKP	19 41 01.8	+2.2
baz=8.5,slow=2.4						
GEC2	GERESS Array S	151.74 349		PKiKP	19 41 00.7	+0.7
GEC2	GERESS Array S	151.74 349	*e*PKPbc	PKiKP	19 41 01.5	+1.5
baz=8.5,slow=2.4						
GERES	GERESS Array B	151.74 349	PKPbc	PKiKP	19 41 00.8	+0.8
comp=Z,5.6nm,1.0s,baz=42,slow=2.2,SNR=21						
GERES	GERESS Array B	151.74 349	PKIKP	PKiKP	19 40 59.9	-0.1
GERES	GERESS Array B	151.74 349		PKiKP	19 40 59.9	-0.1
HUMR	Humele	151.84 330	⇓P	PKiKP	19 41 01.8	+1.5
SIRR	Siria	151.86 336	⇓P	PKiKP	19 41 01.5	+1.3
GZR	Gura Zlata	152.14 334	⇓P	PKiKP	19 41 02.0	+1.1
GZR	Gura Zlata	152.14 334	⇓PKIKP	PKiKP	19 41 02.0	+1.1
CONA	Conrad Observa	152.16 345	*e*P	PKiKP	19 41 02.7	+1.9
comp=Z,28nm,1.8s						
STU	Stuttgart	152.41 355	PKIKP	PKPdf	19 40 50.9	-3.2
STU	Stuttgart	152.41 355		PKPdf	19 40 50.9	-3.2
STU	Stuttgart	152.41 355	*e*PKPbc	PKiKP	19 41 03.1	+1.8
baz=8.5,slow=2.4						
BZS	Buzias	152.42 335	⇓P	PKiKP	19 41 03.0	+1.6
BZS	Buzias	152.42 335	⇓PKIKP	PKiKP	19 41 03.0	+1.6
MOA	Molln	152.59 347	*e*P	PKiKP	19 41 04.0	+2.3
comp=Z,9.4nm,1.3s						
HERR	Herculane	152.70 334	⇓P	PKiKP	19 41 03.2	+1.3
FUR	Furstenfeldbru	152.78 352	*e*PKPbc	PKiKP	19 41 03.7	+1.6
baz=8.5,slow=2.4						
ARSA	Arzberg	152.88 345	*e*P	PKiKP	19 41 04.5	+2.2
comp=Z,5.9nm,1.0s						
BFO	Black Forest	152.91 356	*e*PKPbc	PKiKP	19 41 04.0	+1.6
baz=8.5,slow=2.4						
MORH	Mrgy, Hungar	152.95 340	⇑P	PKiKP	19 41 03.8	+1.4
MORH	Mrgy, Hungar	152.95 340	*e*PKP	PKiKP	19 41 04.5	+2.1
MDVR	Moldovita	153.07 334	⇑P	PKiKP	19 41 04.5	+1.6
UBR	Ueberruh	153.40 353	*e*PKPbc	PKiKP	19 41 05.0	+1.5
baz=8.5,slow=2.4						
FRGS	Fruska Gora	153.48 337	⇑P	PKPab	19 41 15.8	+0.1
KBA	Koelnbreinsper	153.50 348	*i* P	PKPbc	19 41 03.2	-0.5
comp=Z,8.0nm,1.2s						
RETA	Reutte	153.51 352	*e*P	PKiKP	19 41 06.2	+2.5
comp=Z,13nm,1.3s						
SOKA	Soboth	153.53 345	*e*P	PKiKP	19 41 05.1	+1.3
comp=Z,11nm,1.1s						
WATA	Walderalm	153.55 351	*e*P	PKiKP	19 41 05.2	+1.3
comp=Z,13nm,1.0s						
MOTA	Moosalm	153.61 352	*i* P	PKiKP	19 41 05.5	+1.5
comp=Z,16nm,1.0s						
WTTA	Wattenberg	153.61 351	*e*P	PKiKP	19 41 05.6	+1.5
comp=Z,9.9nm,0.9s						
SQTA	Sankt Quirin	153.72 352	*e*P	PKiKP	19 41 05.9	+1.7
comp=Z,9.4nm,0.9s						
OBKA	Obir	153.80 346	*e*P	PKiKP	19 41 05.0	+0.7
comp=Z,9.9nm,1.5s						
DAVA	Damuels	153.81 354	*e*P	PKiKP	19 41 06.2	+1.7
comp=Z,17nm,1.0s						
MYKA	Terra Mystica	153.88 348	*e*P	PKiKP	19 41 05.1	+0.6
comp=Z,7.5nm,1.1s						
ABTA	Abfaltersbach	153.98 349	*e*P	PKiKP	19 41 06.6	+1.9
comp=Z,19nm,1.2s						
FETA	Feichten	153.98 352	*e*P	PKiKP	19 41 06.4	+1.7
comp=Z,18nm,1.0s						
BOVS	Bovan	154.01 333	⇑P	PKiKP	19 41 05.8	+1.1
DIVS	Divibare	154.32 336	PKPdf	PKPdf	19 40 55.2	-1.9
SENIN	Lac Senin/Sane	154.92 357		PKPab	19 41 19.0	-3.0
PDG	Podgorica	156.02 335		PKPdf	19 40 54.5	-4.9
PUK	Puka	156.08 333		PKPdf	19 40 52.3	-7.3
NRCA	Norcia	157.61 346	PKPdf	PKPdf	19 40 57.2	-4.4
ESDC	Sonseca Array	159.87 22	PKP	PKPdf	19 41 06.0	+1.7
comp=Z,0.7nm,1.0s,baz=341,slow=3.1,SNR=4.5						
TORD	Torodi Ar. Bea	171.07 154	PKP	PKPdf	19 41 15.7	+1.4
comp=Z,0.7nm,0.8s,baz=12,slow=1.1,SNR=3.6						
TORD			PKPab	PKPab	19 42 33.6	+0.5
comp=Z,0.8nm,0.9s,baz=250,slow=4.2,SNR=1.8						
TORD	Torodi Ar. Bea	171.07 154		PKPdf	19 41 12.0	-2.2

SOME ***06*** *19:22:33.0, 38°.58N×83°.00E, h10km*
IDC ***06*** *19:22:35.7±0.8, 37°.50N×77°.90E, h0km, mb3.8/14, mb1 3.9/19, mb1mx3.8/54, mbtmp3.8/19, ML3.6/4, MS2.6/5, Ms1 2.6/5, ms1mx2.5/42, Error ellipse: s-maj=18.3km s-min=13.5km az=51.0*
NNC ***06*** *19:22:36.9±7.0, 37°.56N×77°.68E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=54.1km s-min=43.7km az=166.0*
BJI ***06*** *19:22:36.9±0.0, 37°.53N×77°.94E, h10km, mB4.4/2, mb3.8/6, ML4.0/6, Ms3.7/4, Ms7 3.4/2*
NEIC ***06*** *19:22:38.8±1.6, 37°.66N±0°.08×77°.88E±0°.08, h10km±1km, mb4.1/11, Error ellipse: s-maj=15.0km s-min=9.1km az=146.0*

ISC 06 19:22:37.6±0.5, 37°.62N±0°.04×77°.95E±0°.05, h10km, n70, σ2s06/83, mb3.9/16, 13C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	4.10	359		Pn	19 23 41.2	+0.4
KDJ	Kajisay	4.54	353	Pn	Pn	19 23 47.1	+0.5
BOOM	Boomskoye usch	5.10	343		Pn	19 23 55.0	+0.7
SATY	Saty	5.44	4	*e*P	Pb	19 24 17.4	+4.5
67nm,0.9s							
SATY				*e*S	Sg	19 25 29.6	-2.8
110nm,0.9s							
CHCP	Chirah Chowk	5.49	225	P	Pn	19 24 02.3	+2.8
NIL	Nilore	5.50	225	Pn	Pn	19 24 01.9	+2.2
MDOK	Medeo	5.58	353	⇑Pg	Pb	19 24 18.5	+3.4
38nm,0.7s							
MDOK				⇑Lg	Lg	19 25 33.4	
125nm,0.7s							
UZB	Uzynbulak	5.58	8	*e*P	Pb	19 24 13.1	-2.1
UZB				*e*S	Sb	19 25 22.4	+0.2
48nm,0.6s							
TKM2	Tokmak 2	5.59	342	⇑Pn	Pn	19 24 04.6	+3.6
2.4nm,0.3s							
TKM2				⇑Pg	Pb	19 24 17.4	+2.0
18nm,0.8s							
TKM2				⇑Lg	Lg	19 25 35.7	
93nm,1.0s							
KNDC	Almaty	5.64	353	⇓Pg	Pb	19 24 20.7	+4.5
89nm,0.7s							
KNDC				⇑Lg	Lg	19 25 36.3	
353nm,0.9s							
SHLS	Shalkode	5.65	11	*e*P	Pn	19 24 06.0	+4.2
22nm,0.3s							
SHLS				*e*S	Sn	19 25 11.0	+4.3
144nm,0.5s							
AAK	Ala-Archa	5.67	333	Pn	Pn	19 24 05.9	+3.9
1.2nm,0.3s,baz=117,slow=6.8,SNR=2.7							
AAK				Pg	Pb	19 24 20.4	+3.8
5.9nm,0.3s,baz=171,slow=16,SNR=12							
AAK				Sn	Sn	19 25 12.0	+4.8
5.0nm,0.3s,baz=129,slow=7.0,SNR=4.2							
AAK				Lg	Lg	19 25 36.1	
7.9nm,0.3s,baz=31,slow=21,SNR=4.1							
AAK				LR	LR	19 26 31.1	
comp=Z,23nm,18.5s,baz=156,slow=41							
AAK	Ala-Archa	5.67	333	⇓Pn	Pb	19 24 10.3	-6.4
6.7nm,0.5s							
AAK				⇓Pg	Pg	19 24 21.4	-4.7
18nm,0.6s							
AAK				⇓Lg	Lg	19 25 39.5	
140nm,0.8s						

BRVK	**Borovoye**	**16.33**	**343**		**Pn**	**19 26 27.7**	**+0.8**
BRVK				IAmb	IAmb	19 26 39.5	
comp=Z,23nm,1.0s							
ZAA0	**Zalesovo Array**	**17.00**	**14**	P	**Pn**	**19 26 35.5**	**+0.1**
ZALV	**Zalesovo Beam**	**17.00**	**14**	P	**Pn**	**19 26 34.6**	**-0.8**
comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=11							
ZALV				LR	LR	19 34 15.0	
comp=Z,13nm,20.3s,baz=21,slow=41							
ZALV	**Zalesovo Beam**	**17.00**	**14**	P	**Pn**	**19 26 34.5**	**-0.9**
GTA	**Gaotai**	**17.21**	**77**	*eP*	**P**	**19 26 42.8**	**+3.0**
GTA				pP	sP	19 26 47.7	+3.2
GTA				sP	pP	19 26 51.3	+8.3
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
GTA				pmax	pmax		
comp=Z,58nm,5.6s							
GTA				LR	LR		
comp=Z,110nm,14.2s							
GTA				LR	LR		
comp=Z,140nm,12.7s							
GTA				LR	LR		
comp=Z,120nm,12.7s							
ABKAR	**Akbulak array**	**17.45**	**318**	P	**Pn**	**19 26 40.9**	**0.0**
AKTO	**Aktyubinsk**	**19.14**	**318**	P	**P**	**19 27 00.8**	**-0.1**
comp=Z,0.3nm,0.3s,baz=116,slow=9.1,SNR=4.6							
AKTO				LR	LR	19 34 47.1	
comp=Z,23nm,18.2s,baz=132,slow=38							
ARU	**Arti**	**22.85**	**332**	P	**P**	**19 27 42.4**	**+1.6**
comp=Z,0.3nm,0.3s,baz=143,slow=20,SNR=1.6							
SONM	**Songino Array**	**23.14**	**55**	P	**P**	**19 27 44.3**	**+0.3**
comp=Z,0.6nm,0.5s,baz=251,slow=8.9,SNR=4.5							
SONM	**Songino Array**	**23.14**	**55**	IAmb	IAmb	19 27 47.2	
comp=Z,3.6nm,1.4s							
CMAR	**Chiang Mai Arr**	**26.50**	**130**	P	**P**	**19 28 15.8**	**+0.5**
comp=Z,0.6nm,0.4s,baz=326,slow=10,SNR=5.8							
BR131	**Keskin Array S**	**34.39**	**288**	P	**P**	**19 29 24.6**	**-0.5**
BRTR	**Keskin Array B**	**34.39**	**288**	P	**P**	**19 29 25.3**	**+0.2**
comp=Z,2.0nm,0.8s,baz=113,slow=8.2,SNR=8.5							
AKASG	**Malin Array Be**	**36.66**	**307**	P	**P**	**19 29 43.9**	**-0.3**
comp=Z,0.4nm,0.3s,baz=70,slow=7.6,SNR=5.7							
MLR	**Muntele Rosu**	**39.11**	**299**	P	**P**	**19 30 05.7**	**+0.5**
MLR				IAmb	IAmb	19 30 18.0	
comp=Z,3.7nm,1.0s							
FINES	**FINESS Array B**	**39.76**	**324**	P	**P**	**19 30 11.2**	**+0.9**
comp=Z,1.5nm,0.3s,baz=112,slow=9.7,SNR=28							
KLR	**Kul'dur**	**39.97**	**55**	P	**P**	**19 30 13.2**	**+1.1**
comp=Z,0.4nm,0.5s,baz=311,slow=11,SNR=1.8							
ARCES	**ARCESS Array B**	**42.33**	**336**	P	**P**	**19 30 30.8**	**-0.5**
comp=Z,4.7nm,1.0s,baz=94,slow=8.2,SNR=4.7							
PUK	**Puka**	**44.07**	**295**	P	**P**	**19 30 45.2**	**-0.6**
PUK				IAmb	IAmb	19 30 46.0	
comp=Z,2.3nm,0.4s							
GERES	**GERESS Array B**	**46.82**	**305**	P	**P**	**19 31 08.4**	**+0.9**
comp=Z,0.1nm,0.3s,baz=60,slow=7.9,SNR=5.3							
NB2	**NORSAR Subarra**	**46.87**	**322**	P	**P**	**19 31 08.0**	**+0.3**
comp=Z,3.0nm,0.6s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**46.87**	**322**	P	**P**	**19 31 07.6**	**0.0**
comp=Z,0.2nm,0.3s,baz=106,slow=6.8,SNR=1.7							
ESDC	**Sonseca Array**	**61.78**	**300**	P	**P**	**19 32 56.0**	**-0.6**
comp=Z,0.4nm,0.5s,baz=58,slow=7.4,SNR=5.4							
ESDC	**Sonseca Array**	**61.78**	**300**	IAmb	IAmb	19 32 58.5	
comp=Z,0.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**71.26**	**272**	P	**P**	**19 33 56.0**	**-1.5**
comp=Z,0.6nm,0.3s,baz=49,slow=6.0,SNR=13							
TORD	**Torodi Ar. Bea**	**71.26**	**272**	IAmb	IAmb	19 34 18.0	
comp=Z,2.6nm,1.5s							
WRA	**Warramunga Arr**	**78.03**	**127**	P	**P**	**19 34 35.4**	**-1.2**
comp=Z,0.9nm,0.9s,baz=322,slow=6.1,SNR=3.1							
ASAR	**Alice Springs**	**80.51**	**130**	P	**P**	**19 34 48.8**	**-1.3**
comp=Z,0.4nm,0.7s,baz=324,slow=5.5,SNR=4.1							

DDA 06 19:39:19.6, 37.°16N×28.°74E, h7^{km}±5^{km}, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.33**	**25**	*i* P	Pg	19 39 26.8	+0.6
TAVA				*i* S	Sg	19 39 30.5	-0.1
MULA	**Mugla, Merkez-**	**0.34**	**286**	*i* P	Pb	19 39 27.4	-0.8
MULA				*i* S	Sg	19 39 31.7	+0.7
MULA				IAML		19 39 35.0	
comp=E,33nm,0.7s							
DALY	**Dalyan (Mula)**	**0.35**	**191**	*i* P	Pg	19 39 26.4	-0.1
DALY				*i* S	Sb	19 39 33.0	-0.8
DALY				IAML		19 39 35.0	
comp=N,21nm,0.6s							
DALY				IAML		19 39 37.0	
comp=E,23nm,1.4s							
CAEL	**Denizli, Camel**	**0.47**	**95**	*i* P	Pb	19 39 30.0	-0.3
CAEL				*i* S	Sg	19 39 35.4	+0.6
CAEL				IAML		19 39 44.0	
comp=N,36nm,2.1s							
CAEL				IAML		19 39 44.0	
comp=E,37nm,1.4s							
AYDN	**Tasoluk**	**0.84**	**306**	*i* P	Pb	19 39 36.3	-0.4
AYDN				*i* S	Sg	19 39 45.7	-1.1
AYDN				IAML		19 40 06.0	
comp=E,7.1nm,1.4s							

*JMA **06** 19:58:11.5±0.1, 35.°68N×140.°10E, h62^{km}±2^{km}, M2.7*
*IDC **06** 19:58:14.2±4.1, 35.°05N×138.°96E, h57^{km}±50^{km}, mb3.2/2, mb1 3.4/2, mb1mx3.0/51, mbtmp3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/20, Error ellipse: s-maj=71.2km s-min=37.8km az=59.0*
ISC 06 19:58:11.2±1.0, 35.°62N±0.°05×140.°10E±0.°05, h71^{km}±9^{km}, n23, σ0.°68/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**158**	P	**Pn**	**19 58 22.3**	**+0.2**
JSMT	**Sammumatsuo**	**0.28**	**86**	P	**Pn**	**19 58 22.3**	**-0.1**
BSO3	**Boso 3**	**0.89**	**158**	P	**Pn**	**19 58 28.0**	**-0.1**
BSO3				S	**Sn**	**19 58 41.8**	**+1.1**
JOD2	**Odawara 2**	**0.90**	**247**	P	**Pn**	**19 58 28.5**	**-0.1**
JOD2				S	**Sn**	**19 58 41.0**	**-0.5**
JAG	**Ashikaga**	**0.96**	**327**	P	**Pn**	**19 58 28.7**	**-0.6**
JRY	**Ryogami san**	**1.05**	**292**	P	**Pn**	**19 58 30.9**	**+0.4**
JIM2	**Oshima 3**	**1.06**	**212**	P	**Pn**	**19 58 30.0**	**-0.6**
JIM2				S	**Sn**	**19 58 44.2**	**-0.7**
BSO1	**Boso 1**	**1.21**	**143**	P	**Pn**	**19 58 31.5**	**-0.4**
BSO1				S	**Sn**	**19 58 47.7**	**+0.3**
JFNN	**Fujinakano**	**1.23**	**250**	P	**Pn**	**19 58 33.0**	**+0.2**
JFNN				S	**Sn**	**19 58 49.3**	**+0.4**
JYN	**Shimob**	**1.28**	**265**	P	**Pn**	**19 58 33.6**	**+0.2**
JYN				S	**Sn**	**19 58 50.3**	**+0.3**
JKT	**Katashina**	**1.33**	**329**	P	**Pn**	**19 58 33.9**	**-0.3**
JKT				*e*S	**Sn**	**19 58 50.7**	**-0.7**
JIZS	**Izushimoda**	**1.35**	**228**	P	**Pn**	**19 58 34.2**	**-0.1**
JIZS				S	**Sn**	**19 58 50.9**	**-0.7**
MJAR	**Matsushiro Arr**	**1.79**	**301**	P	**Pn**	**19 58 39.7**	**-0.4**
2.1nm,0.3s,baz=155,slow=14,SNR=64							
MJAR				S	**Sn**	**19 59 03.5**	**+1.5**
0.8nm,0.3s,baz=137,slow=16,SNR=7.6							
MAT	**Matsushiro**	**1.79**	**301**	P	**Pn**	**19 58 40.8**	**+0.7**
MAT				*e*S	**Sn**	**19 59 00.6**	**-1.4**
H11N2	**WAKE ISLAND Hy**	**28.40**	**117**	T	T	20 33 36.0	
baz=312							
H11N1	**WAKE ISLAND Hy**	**28.41**	**117**	T	T	20 33 27.5	
baz=312							
H11N3	**WAKE ISLAND Hy**	**28.42**	**117**	T	T	20 33 33.0	
baz=312							
H11S3	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	20 34 10.1	
baz=312							
H11S1	**WAKE ISLAND Hy**	**29.05**	**119**	T	T	20 34 11.9	
baz=312							
H11S2	**WAKE ISLAND Hy**	**29.06**	**119**	T	T	20 34 15.0	
baz=312							
TLY	**Talaya**	**30.49**	**313**	LR	LR	20 16 47.7	
comp=Z,274nm,21.4s,baz=105,slow=37							
MKAR	**Makanchi Array**	**43.99**	**303**	P	**P**	**20 06 12.0**	**+0.6**
0.3nm,0.7s,baz=88,slow=9.9,SNR=2.9							
WRA	**Warramunga Arr**	**55.53**	**187**	P	**P**	**20 07 38.6**	**-0.5**
0.3nm,0.4s,baz=0.2,slow=7.4,SNR=8.2							

*IDC **06** 19:59:39.5±1.0, 57.°32S×24.°53W, h0^{km}, mb4.2/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.2/4, Error ellipse: s-maj=37.8km s-min=30.6km az=51.0*
*NEIC **06** 19:59:46.1±0.9, 57.°3S±0.°1×24.°7W±0.°2, h49^{km}±10^{km}, mb4.4/14, Error ellipse: s-maj=23.1km s-min=14.1km az=211.0*
ISC 06 19:59:40.8±0.8, 57.°3S±0.°1×24.°6W±0.°1, h10^{km}, n22, σ0.°74/23, mb4.5/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.37**	**289**	Pn	**Pn**	**20 01 29.7**	**+1.4**
HOPE					**Sn**	**20 02 50.7**	**-1.3**
VNA1	**Neumayer--Stat**	**15.07**	**159**	P	**Pn**	**20 03 12.9**	**-0.6**
VNA3	**Neumayer Olymp**	**15.31**	**162**	P	**Pn**	**20 03 15.7**	**-0.9**
SNAA	**Sanae**	**16.98**	**156**	P	**Pn**	**20 03 38.4**	**+0.2**
SNAA	**Sanae**	**16.98**	**156**	Pn	**Pn**	**20 03 37.9**	**-0.3**
PMSA	**Palmer Station**	**20.20**	**232**	P	**P**	**20 04 15.7**	**+0.5**
PLTB	**Pedras Altas**	**32.43**	**310**	P	**P**	**20 06 09.7**	**-1.1**
PLTB				IAmb	IAmb	20 06 11.7	
comp=Z,6.1nm,0.7s							
QSPA	**South Pole Qui**	**32.91**	**180**	P	**P**	**20 06 15.2**	**+0.2**
QSPA				IAmb	IAmb	20 06 38.9	
comp=Z,12nm,1.4s							
ITQB	**Itaqui**	**35.52**	**307**	P	**P**	**20 06 37.2**	**-0.5**
CPUP	**Villa Florida**	**38.74**	**309**	P	**P**	**20 07 05.0**	**0.0**
comp=Z,4.5nm,0.7s,baz=163,slow=7.9,SNR=7.8							
CPUP	**Villa Florida**	**38.74**	**309**	P	**P**	**20 07 04.7**	**-0.3**
VNDA	**Vanda**	**45.35**	**182**	P	**P**	**20 07 58.2**	**-0.2**
comp=Z,0.7nm,0.6s,baz=206,slow=4.8,SNR=2.2							
VNDA	**Vanda**	**45.35**	**182**	IAmb	IAmb	20 08 06.9	
comp=Z,5.4nm,1.4s							
MNMC	**Minye Minye**	**50.49**	**300**	P	**P**	**20 08 38.5**	**-0.7**
LPAZ	**La Paz**	**52.29**	**303**	P	**P**	**20 08 52.7**	**-0.4**
comp=Z,3.1nm,0.7s,baz=187,slow=7.5,SNR=14							
LPAZ	**La Paz**	**52.29**	**303**	P	**P**	**20 08 52.3**	**-0.8**
LPAZ				IAmb	IAmb	20 08 54.4	
comp=Z,3.1nm,0.7s							
TOA0	**Torodi Ar. Sit**	**73.51**	**27**	P	**P**	**20 11 13.5**	**0.0**
TOA0				IAmb	IAmb	20 11 14.2	
comp=Z,3.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.51**	**27**	P	**P**	**20 11 13.4**	**-0.1**
comp=Z,2.9nm,0.6s,baz=201,slow=6.6,SNR=28							
TORD	**Torodi Ar. Bea**	**73.51**	**27**	P	**P**	**20 11 13.3**	**-0.2**
TORD				IAmb	IAmb	20 11 14.2	
comp=Z,2.7nm,0.7s							
INK	**Inuvik**	**147.71**	**319**	PKPbc	**PKPbc**	**20 19 24.1**	**+0.2**
comp=Z,0.7nm,0.3s,baz=169,slow=3.0,SNR=3.1							
SONM	**Songino Array**	**149.37**	**87**	PKPbc	**PKPbc**	**20 19 29.1**	**+0.1**
comp=Z,1.0nm,0.5s,baz=264,slow=1.4,SNR=2.8							
ILAR	**Eielson Array**	**152.04**	**309**	PKPbc	**PKPbc**	**20 19 34.8**	**+0.1**
comp=Z,1.7nm,1.0s,baz=118,slow=1.8,SNR=8.4							
ILAR				PKPab	**PKPab**	**20 19 46.0**	**+1.7**
comp=Z,2.5nm,0.8s,baz=128,slow=2.5,SNR=12							

*IDC **06** 20:07:17.3±3.5, 4.°10S×143.°10E, h0^{km}, mb3.8/4, mb1 4.2/5, mb1mx3.7/51, mbtmp4.0/5, ML4.5/1, Error ellipse: s-maj=75.8km s-min=31.7km az=73.0*
*NEIC **06** 20:07:29.2±1.2, 4.°7S±0.°1×142.°8E±0.°1, h35^{km}±2^{km}, mb4.1/10, Error ellipse: s-maj=25.9km s-min=17.7km az=31.0*
ISC 06 20:07:26.5±3.7, 4.°4S±0.°4×143.°0E±0.°2, h35^{km}, n20, σ1.°28/19, mb3.6/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.48**	**140**	Sn	**Sn**	**20 10 14.1**	**+1.8**
0.6nm,0.3s,baz=177,slow=20,SNR=1.2							
PMG	**Port Moresby**	**6.48**	**140**	Pn	**Pn**	**20 09 00.5**	**+1.0**
MTN	**Manton Dam**	**14.36**	**234**		**Pn**	**20 10 50.3**	**+2.8**
CTAO	**Charters Tower**	**15.90**	**169**		**Pn**	**20 11 06.2**	**-1.6**
CTAO				IAmb	IAmb	20 11 14.1	
comp=Z,10nm,1.2s							
WB0	**Warramunga Arr**	**17.39**	**208**	P	**P**	**20 11 27.1**	**-0.4**
WB0				IAmb	IAmb	20 11 30.7	
comp=Z,17nm,1.0s							
WR0	**Warramunga Arr**	**17.48**	**207**	P	**P**	**20 11 28.7**	**0.0**
WRAB	**Tennant Creek**	**17.55**	**208**	P	**Pn**	**20 11 28.1**	**-0.4**
WRAB				IAmb	IAmb	20 11 31.8	
comp=Z,14nm,0.6s							
WB2	**Warramunga Arr**	**17.56**	**208**	P	**P**	**20 11 28.7**	**-0.8**
WB2				IAmb	IAmb	20 11 32.0	
comp=Z,15nm,0.6s							
WRA	**Warramunga Arr**	**17.56**	**208**	P	**P**	**20 11 28.9**	**-0.7**
comp=Z,1.8nm,0.3s,baz=28,slow=12,SNR=92							
WRA	**Warramunga Arr**	**17.56**	**208**	P	**Pn**	**20 11 28.2**	**-0.5**
KNRA	**Kununurra**	**17.88**	**230**		**P**	**20 11 32.8**	**-0.2**
KNRA				IAmb	IAmb	20 11 36.0	
comp=Z,23nm,1.1s							
SOEI	**Soe**	**19.28**	**253**	Pn	**P**	**20 11 49.6**	**+1.1**
BATI	**Baumata**	**19.97**	**252**	P	**Pn**	**20 11 58.6**	**+0.8**
comp=Z,12nm,0.5s,baz=126,slow=3.8,SNR=6.8							
AS31	**Alice Springs**	**21.03**	**204**		**P**	**20 12 06.4**	**-1.1**
AS31				IAmb	IAmb	20 12 15.2	
comp=Z,1.6nm,0.7s							
ASAR	**Alice Springs**	**21.03**	**204**	P	**P**	**20 12 06.8**	**-0.7**
comp=Z,1.4nm,0.6s,baz=34,slow=9.7,SNR=22							
ASAR	**Alice Springs**	**21.03**	**204**	P	**P**	**20 12 06.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.71**	**230**	P	**P**	**20 12 13.3**	**-1.4**
comp=Z,1.7nm,0.7s,baz=55,slow=13,SNR=2.8							
STKA	**Stephens Creek**	**27.34**	**183**	P	**P**	**20 13 07.0**	**-1.4**
comp=Z,2.1nm,0.6s,baz=356,slow=12,SNR=8.3							
STKA	**Stephens Creek**	**27.34**	**183**	P	**P**	**20 13 07.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**48.95**	**299**	P	P	20 16 05.7	-4.2
comp=Z,0.4nm,0.3s,baz=118,slow=6.2,SNR=4.9							

*IDC **06** 20:14:39.8±3.0, 37.°25N×78.°26E, h0^{km}, mb4.0/2, mb1 3.7/7, mb1mx3.4/51, mbtmp3.7/7, ML3.0/5, Error ellipse: s-maj=55.9km s-min=28.7km az=115.0*
*NNC **06** 20:14:46.5±11.0, 37.°46N×80.°48E, h0^{km}, mb4.1, mpv3.9, Error ellipse: s-maj=90.1km s-min=81.2km az=23.0*
ISC 06 20:14:40.6±1.5, 37.°24N±0.°09×78.°4E±0.°1, h10^{km}, n17, σ2.°69/21, mb4.1/3, 7C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.94**	**321**	Pn	**Pn**	**20 15 27.6**	**+0.1**
KSH				Sn	**Sn**	**20 15 56.6**	**-6.3**
KSH				smax	smax		
comp=N,280nm,0.5s							
KSH				smax	smax		
comp=E,380nm,0.5s							
MDOK	**Medeo**	**6.00**	**351**	Pn	**Pb**	**20 16 26.3**	**+1.0**
comp=E,12nm,0.5s							
MDOK				⇑Sn	**Sb**	**20 17 39.8**	**+2.6**
comp=E,39nm,0.8s							
TKM2	**Tokmak 2**	**6.05**	**340**	⇑Pn	Pb	20 16 19.0	-7.2
comp=E,3.2nm,0.4s							
TKM2				⇑Sn	**Sb**	**20 17 42.4**	**+3.6**
comp=E,32nm,1.0s							
PDGK	**Podgornoye**	**6.14**	**8**	⇑Pn	**Pn**	**20 16 13.2**	**+1.7**
comp=E,2.3nm,0.4s							
PDGK				⇑Sn	**Sn**	**20 17 20.4**	**-1.4**
comp=E,32nm,0.8s							
AAK	**Ala-Archa**	**6.15**	**332**	Pn	Pn	20 16 15.6	+4.0
comp=E,0.4nm,0.3s,baz=203,slow=7.7,SNR=1.8							
AAK				Pg	**Pb**	**20 16 29.4**	**+1.6**
comp=E,1.7nm,0.3s,baz=172,slow=16,SNR=6.9							
AAK				Lg	Lg	20 17 47.4	
comp=E,1.2nm,0.3s,baz=18,slow=22,SNR=3.9							
WMQ	**Urumqi**	**9.68**	**44**	*e*P	Pn	20 17 10.4	+10
WMQ				smax	smax		
comp=N,21nm,0.5s							
WMQ				smax	smax		
comp=E,25nm,0.9s							
MAKZ	**Makanchi**	**9.93**	**15**	⇑Pn	**Pn**	**20 17 03.8**	**+0.5**
comp=E,1.2nm,0.4s							
MAKZ				⇓Sn	**Sn**	**20 18 51.6**	**-3.3**
comp=E,2.6nm,0.7s							
MK31	**Makanchi Array**	**9.98**	**16**	⇑Pn	**Pn**	**20 17 05.6**	**+1.5**
comp=E,0.5nm,0.3s,baz=199,slow=13							
MK31				⇓Sn	**Sn**	**20 18 51.6**	**-4.5**
comp=E,2.9nm,0.5s,baz=190,slow=25							
MKAR	**Makanchi Array**	**9.98**	**16**	Pn	**Pn**	**20 17 05.7**	**+1.6**
comp=E,0.9nm,0.3s,baz=200,slow=13,SNR=70							
MKAR				Sn	**Sn**	**20 18 51.3**	**-4.8**
comp=E,0.6nm,0.3s,baz=196,slow=20,SNR=7.0							
KURBB	**Kurchatov Arra**	**13.38**	**1**	Pn	**Pn**	**20 17 50.7**	**+0.3**
comp=E,0.0nm,0.3s,baz=193,slow=12,SNR=5.9							
KURBB				Lg	Lg	20 21 45.0	
comp=E,0.0nm,0.3s,baz=185,slow=28,SNR=4.1							
GEYT	**Alibeck**	**16.05**	**279**	Pn	**P**	**20 18 29.5**	**-0.4**
comp=E,0.3nm,0.3s,baz=56,slow=18,SNR=3.8							
BVAR	**Borovoe Array**	**16.73**	**343**	Pn	**P**	**20 18 36.1**	**-1.2**
comp=E,0.1nm,0.3s,baz=258,slow=7.2,SNR=3.7							
ZALV	**Zalesovo Beam**	**17.30**	**13**	P	**P**	**20 18 43.1**	**-0.4**
comp=E,0.1nm,0.3s,baz=208,slow=15,SNR=4.6							
AKTO	**Aktyubinsk**	**19.64**	**319**	P	**Pn**	**20 19 10.2**	**-0.5**
comp=E,0.1nm,0.3s,baz=138,slow=15,SNR=1.9							
FINES	**FINESS Array B**	**40.26**	**324**	P	**P**	**20 22 17.7**	**+0.4**
comp=E,5.4nm,1.1s,baz=104,slow=8.0,SNR=5.5							
NB2	**NORSAR Subarra**	**47.36**	**322**	P	P	20 23 20.5	+6.0
comp=Z,1.2nm,0.6s,baz=88,slow=7.9							
TORD	**Torodi Ar. Bea**	**71.60**	**273**	P	**P**	**20 26 02.7**	**+0.2**
comp=Z,0.3nm,0.4s,baz=54,slow=5.8,SNR=6.6							

*NOU **06** 20:16:35.9, 20.°72S×174.°49W, h365^{km}, MLv5.4, Tonga Islands*
*BGR **06** 20:16:42.7±0.0, 21.°47S×179.°73E, h33^{km}*
*IDC **06** 20:17:30.9±0.8, 24.°29S×179.°99W, h512^{km}±7^{km}, mb3.6/17, mb1 3.8/20, mb1mx3.8/25, mbtmp4.5/20, Error ellipse: s-maj=12.5km s-min=9.9km az=91.0*
*NEIC **06** 20:17:31.1±1.6, 24.°3S±0.°1×180.°0W±0.°1, h504^{km}±5^{km}, mb4.4/93, Error ellipse: s-maj=17.4km s-min=14.6km az=115.0*
ISC 06 20:17:30.0±0.3, 24.°30S±0.°05×180.°00W±0.°07, h505^{km}, n299, σ1.°39/346, mb4.3/63, 37C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.27**	**160**	P	**P**	**20 19 02.3**	**+2.8**
71nm,0.3s,baz=114,slow=20,SNR=2.5							
RAO				S	**S**	**20 20 14.8**	**+2.0**
52nm,0.3s,baz=106,slow=23,SNR=1.9							
RAO	**Raoul Island**	**5.27**	**160**	P	**P**	**20 19 00.8**	**+1.2**
GLKZ	**Green Lake**	**5.28**	**160**	P	**P**	**20 19 02.8**	**+3.1**
GLKZ				S	**S**	**20 20 14.1**	**+1.1**
MSVF	**Nonsavu**	**6.79**	**344**	P	**P**	**20 19 16.9**	**+2.5**
28nm,0.3s,baz=188,slow=9.0,SNR=105							
MSVF				S	**S**	**20 20 40.7**	**+0.9**
baz=338,slow=23,SNR=0.9							
MSVF	**Nonsavu**	**6.79**	**344**	P	**P**	**20 19 16.6**	**+2.2**
MARNC	**Mare, Loyalty**	**11.39**	**282**	P	**P**	**20 20 03.2**	**+1.1**
MARNC	**Mare, Loyalty**	**11.39**	**282**	P	**P**	**20 20 04.9**	**+2.7**
MARNC	**Mare, Loyalty**	**11.39**	**282**	P	**P**	**20 20 05.3**	**+3.1**
PINNC	**Pines Island,**	**11.65**	**276**	P	**P**	**20 20 07.6**	**+2.7**
OUZ	**Omahuta**	**12.22**	**206**	P	**P**	**20 20 12.5**	**+1.8**
OUZ	**Omahuta**	**12.22**	**206**	P	**P**	**20 20 13.6**	**+2.9**
OUENC	**Ouen Island, N**	**12.24**	**276**	P	**P**	**20 20 11.2**	**+0.1**
OUENC	**Ouen Island, N**	**12.24**	**276**	P	**P**	**20 20 14.8**	**+3.7**
OUENC	**Ouen Island, N**	**12.24**	**276**	P	**P**	**20 20 15.2**	**+4.1**
YATNC	**Mamie plateau,**	**12.27**	**278**	P	**P**	**20 20 15.4**	**+4.0**
YATNC	**Mamie plateau,**	**12.27**	**278**	P	**P**	**20 20 15.5**	**+4.0**
LIFNC	**LIFOU**	**12.30**	**284**	P	**P**	**20 20 13.2**	**+1.3**
LIFNC	**LIFOU**	**12.30**	**284**	P	**P**	**20 20 14.5**	**+2.6**
ONTNC	**Ouen Toro**	**12.61**	**276**	P	**P**	**20 20 15.5**	**+0.4**
ONTNC	**Ouen Toro**	**12.61**	**276**	P	**P**	**20 20 18.5**	**+3.4**
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**20 20 19.0**	**+3.2**
2.9nm,0.3s,baz=98,slow=23,SNR=11							
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**20 20 18.6**	**+2.8**
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**20 20 19.3**	**+3.5**
DZM	**Mont Dzumac**	**12.67**	**277**	P	**P**	**20 20 19.6**	**+3.8**
NOUC	**Port Laguerre**	**12.79**	**277**	P	**P**	**20 20 20.4**	**+3.4**
NOUC	**Port Laguerre**	**12.79**	**277**	P	**P**	**20 20 20.6**	**+3.6**
AFI	**Afiamalu**	**12.92**	**38**	P	**P**	**20 20 18.4**	**-0.1**
4.4nm,0.3s,baz=78,slow=18,SNR=3.0							
AFI				S	S	20 22 25.7	-12
1.7nm,0.3s,baz=254,slow=13,SNR=1.5							
AFI	**Afiamalu**	**12.92**	**38**	P	**P**	**20 20 19.1**	**+0.5**
KUZ	**Kuaotunu**	**12.94**	**196**	P	**P**	**20 20 19.8**	**+1.5**
TOZ	**Tahuroa Road**	**13.93**	**195**	P	**P**	**20 20 33.2**	**+4.5**
URZ	**Urewera**	**14.13**	**189**	P	**P**	**20 20 27.8**	**-3.1**
8.7nm,0.3s,baz=227,slow=2.4,SNR=22							
URZ				S	**S**	**20 22 58.8**	**-1.2**
3.0nm,0.3s,baz=84,slow=20,SNR=12							
URZ	**Urewera**	**14.13**	**189**	P	**P**	**20 20 28.3**	**-2.6**
URZ	**Urewera**	**14.13**	**189**	P	**P**	**20 20 28.4**	**-2.4**
URZ				S	**S**	**20 22 58.5**	**-1.5**
MWZ	**Matawai**	**14.15**	**188**	P	**P**	**20 20 33.2**	**+2.1**
MWZ				S	**S**	**20 23 00.5**	**+0.1**
CNGZ	**Carnagh Statio**	**14.22**	**186**	P	**P**	**20 20 33.5**	**+1.7**
SNGZ	**Shannon Statio**	**14.61**	**188**	P	**P**	**20 20 37.9**	**+2.0**
SNGZ				S	**S**	**20 23 11.0**	**+1.7**
MTHZ	**Maungataniwha**	**14.75**	**190**	P	**P**	**20 20 38.5**	**+1.1**
MTHZ				S	**S**	**20 23 11.5**	**-0.5**

MAW Mawson 77.38 200 IAmb IAmb 20 28 33.3
comp=Z,1.1nm,0.7s
KSRS Korea Array 78.56 320 P **P 20 28 39.5 +0.7**
comp=Z,1.1nm,0.7s,baz=132,slow=5.5,SNR=7.1
KSAR Wonju Array Be 78.57 320 P **P 20 28 39.3 +0.4**
PETK Petropavlovsk- 79.49 347 P **P 20 28 43.8 +0.4**
comp=Z,3.4nm,0.6s,baz=121,slow=6.6,SNR=8.9
PETK Petropavlovsk- 79.49 347 P **P 20 28 44.0 +0.6**
USRK Ussuriysk Ar. 81.10 327 P **P 20 28 53.3 +1.3**
comp=Z,1.2nm,0.4s,baz=138,slow=4.8,SNR=4.7
USRK Ussuriysk Ar. 81.10 327 P **P 20 28 53.2 +1.1**
SAO San Andreas Ge 82.04 44 P **P 20 28 57.9 +0.8**
SAO IAmb IAmb 20 28 59.5
comp=Z,7.9nm,0.8s
HOPS Hopland Field 82.44 41 P **P 20 29 00.6 +1.6**
HOPS IAmb IAmb 20 29 01.5
comp=Z,12nm,0.9s
CBX Cerro Bola 82.59 50 P **P 20 29 01.4 +1.4**
SLBS Sierra La Lagu 83.00 60 P **P 20 29 03.5 +1.2**
SLBS IAmb IAmb 20 29 04.8
comp=Z,15nm,0.7s
RMX La Rumorosa 83.16 50 P **P 20 29 04.2 +1.2**
RMX IAmb IAmb 20 29 05.7
comp=Z,9.0nm,0.9s
KHMM Horse Mountain 83.25 39 P **P 20 29 04.8 +1.5**
KHMM IAmb IAmb 20 29 06.6
comp=Z,21nm,1.3s
CMB Columbia Colle 83.49 43 P **P 20 29 05.2 +0.8**
CMB IAmb IAmb 20 29 06.4
comp=Z,8.4nm,1.0s
AFDM Forest Hills D 83.69 42 P **P 20 29 06.3 +1.0**
AFDM IAmb IAmb 20 29 07.4
comp=Z,6.6nm,0.9s
ORV Oroville 83.74 42 P **P 20 29 06.7 +1.1**
ORV IAmb IAmb 20 29 07.7
comp=Z,7.7nm,1.0s
WDC Whiskeytown Da 83.76 40 P **P 20 29 06.7 +1.1**
WDC IAmb IAmb 20 29 08.1
comp=Z,12nm,1.1s
GSC Goldstone, Bar 84.19 47 P **P 20 29 09.1 +1.1**
GSC IAmb IAmb 20 29 10.2
comp=Z,7.2nm,0.9s
SNAA Sanae 84.27 179 P **P 20 29 06.9 -0.9**
WAKR Walker 84.37 43 P **P 20 29 10.2 +1.3**
YBH Yreka Blue Hor 84.39 39 P **P 20 29 09.6 +0.8**
VNA3 Neumayer Olymp 84.48 177 P **P 20 29 08.1 -0.7**
PNTR Pine Nut 84.62 43 P **P 20 29 11.1 +1.0**
PNTR IAmb IAmb 20 29 12.3
comp=Z,6.6nm,0.8s
BEKR Beckworth 84.62 42 P **P 20 29 10.8 +0.6**
YERR Yerington 84.78 43 P **P 20 29 11.5 +0.6**
YERR IAmb IAmb 20 29 13.0
comp=Z,12nm,1.3s
LHV Little Huntoon 84.81 44 P **P 20 29 12.3 +1.6**
HUMO Hull Mountain 84.81 38 P **P 20 29 12.1 +1.3**
HUMO IAmb IAmb 20 29 13.8
comp=Z,15nm,1.2s
113A Mohawk Valley, 84.87 51 P **P 20 29 11.9 +0.7**
113A IAmb IAmb 20 29 13.9
comp=Z,6.7nm,1.0s
HSIG 84.94 55 P **P 20 29 12.4 +0.7**
NVAR Mina Array Bea 85.04 44 P **P 20 29 13.2 +1.0**
comp=Z,2.8nm,0.8s,baz=224,slow=8.2,SNR=20
NVAR Mina Array Bea 85.04 44 P **P 20 29 12.6 +0.4**
214A Organ Pipe Nat 85.11 52 P **P 20 29 13.8 +1.3**
214A IAmb IAmb 20 29 15.4
comp=Z,8.1nm,0.9s
VNA1 Neumayer--Stat 85.13 177 P **P 20 29 11.5 -0.4**
NV11 Mina Array Sit 85.13 44 P **P 20 29 13.4 +0.8**
TPNV Topopah Spring 85.50 46 P **P 20 29 15.2 +0.7**
TPNV IAmb IAmb 20 29 16.5
comp=Z,5.7nm,0.9s
KVN Kaiserville 85.53 44 P **P 20 29 15.3 +0.7**
KVN IAmb IAmb 20 29 16.2
comp=Z,4.7nm,0.6s
MOD Modoc Plateau 85.90 40 P **P 20 29 17.1 +0.9**
MOD IAmb IAmb 20 29 18.5
comp=Z,11nm,1.3s
Y14A Wickenburg 86.04 50 P **P 20 29 18.0 +1.0**
W13A Hualapai Mount 86.06 49 P **P 20 29 17.9 +0.7**
PRN Pahroc Range 86.55 46 P **P 20 29 20.6 +1.1**
PRN IAmb IAmb 20 29 21.9
comp=Z,6.4nm,0.8s
PINE Pine Mountain 86.70 38 P **P 20 29 21.6 +1.5**
TUC Tucson 86.76 52 P **P 20 29 22.1 +1.6**
TUC IAmb IAmb 20 29 23.6
comp=Z,11nm,0.8s
WVOR Wild Horse Val 87.21 41 P **P 20 29 23.5 +1.2**
WVOR IAmb IAmb 20 29 24.7
comp=Z,13nm,1.2s
319A Douglas 87.38 54 P **P 20 29 25.0 +1.6**
X16A Lo Mia Camp, P 87.39 50 P **P 20 29 25.2 +1.7**
X16A IAmb IAmb 20 29 26.2
comp=Z,5.2nm,1.0s
I07A Izee 87.70 39 P **P 20 29 25.4 +0.8**
CCUT Cedar City 87.75 47 P **P 20 29 26.3 +1.2**
CCUT IAmb IAmb 20 29 27.3
comp=Z,4.4nm,1.0s
KNB Kanab 87.82 48 P **P 20 29 26.4 +0.9**
KNB IAmb IAmb 20 29 28.0
comp=Z,5.1nm,0.9s
KNB **pP 20 31 15.4 -1.4**
J08A Circle Bar Ran 87.86 40 P **P 20 29 26.3 +0.9**
U15A North Rim 87.87 48 P **P 20 29 27.3 +1.5**
U15A IAmb IAmb 20 29 28.4
comp=Z,14nm,1.2s
HPIG 87.96 59 P **P 20 29 27.1 +0.8**
HPIG IAmb IAmb 20 29 28.3
comp=Z,7.3nm,0.7s
PLCA Paso Flores 87.98 134 P **P 20 29 27.3 +1.2**
comp=Z,1.3nm,0.5s,baz=274,slow=7.6,SNR=3.4
LON Longmire 88.07 36 P **P 20 29 27.0 +0.8**
LON IAmb IAmb 20 29 27.5
comp=Z,4.8nm,0.8s
ELK Elko 88.31 43 P **P 20 29 27.8 +0.1**
X18A Snowflake 88.50 51 P **P 20 29 29.7 +1.0**
X18A IAmb IAmb 20 29 31.1
comp=Z,4.6nm,0.8s
PWL Port Wells 88.67 15 P **P 20 29 28.0 -0.6**
PWL IAmb IAmb 20 29 29.5
comp=Z,10nm,0.9s
G08A Pilot Rock 88.74 38 P **P 20 29 30.5 +1.1**
G08A IAmb IAmb 20 29 32.3
comp=Z,8.7nm,0.9s
MTPU Mount Pierson 88.80 47 P **P 20 29 31.8 +1.6**
MTPU IAmb IAmb 20 29 33.2
comp=Z,7.7nm,0.9s
GLI Glacier Island 88.98 15 P **P 20 29 29.6 -0.4**
MSU Marysvale 89.06 47 P **P 20 29 33.0 +1.7**
121A Cookes Peak, D 89.06 54 P **P 20 29 32.5 +1.2**
121A IAmb IAmb 20 29 33.7
comp=Z,3.8nm,0.7s
HAWA Hanford 89.09 37 P **P 20 29 31.9 +1.0**
HAWA IAmb IAmb 20 29 33.2
comp=Z,10nm,1.1s
GHO Glory Hole Cre 89.34 14 P **P 20 29 31.6 -0.2**
BMO Blue Mountains 89.42 39 P **P 20 29 33.0 +0.4**
MFID Camas Ranch 89.46 41 P **P 20 29 32.8 0.0**
MFID IAmb IAmb 20 29 34.9
comp=Z,8.2nm,0.9s
CMAR Chiang Mai Arr 89.67 290 P **P 20 29 36.0 +1.7**
comp=Z,1.6nm,0.8s,baz=149,slow=3.5,SNR=7.8
CMAR Chiang Mai Arr 89.67 290 P **P 20 29 35.8 +1.6**
BMRM Bremner River 89.68 16 P **P 20 29 33.7 +0.4**
BMRM IAmb IAmb 20 29 34.6
comp=Z,7.2nm,0.9s
MESA MESA 89.73 18 P **P 20 29 33.9 +0.2**
Q16A Castle Valley 89.94 47 P **P 20 29 36.2 +1.0**
Q16A IAmb IAmb 20 29 38.7
comp=Z,4.6nm,0.8s
TMUT Trail Mountain 90.11 46 P **P 20 29 37.5 +1.2**
F10A Beach Ranch, E 90.12 38 P **P 20 29 36.0 +0.2**
F10A IAmb IAmb 20 29 37.0
comp=Z,4.4nm,0.7s
N25K Chitina, Valde 90.23 16 P **P 20 29 34.6 -1.3**
N25K pP **pP 20 31 24.7 -2.9**
MNTX Cornudas Mount 90.44 55 P **P 20 29 38.1 +0.6**
MNTX IAmb IAmb 20 29 39.8
comp=Z,4.4nm,0.8s
LENM Lemitar 90.45 52 P **P 20 29 38.0 +0.3**
SRU San Rafael Swe 90.47 47 P **P 20 29 38.1 +0.4**
P17A Butcher Ranch, 90.51 46 P **P 20 29 38.9 +1.0**
P17A IAmb IAmb 20 29 40.2
comp=Z,4.9nm,0.9s

BARN Barnard Glacie 90.54 18 P **P 20 29 37.5 0.0**
BARN IAmb IAmb 20 29 39.0
comp=Z,6.0nm,0.8s
TX31 Lajitas Ar. Si 90.64 58 P **P 20 29 39.6 +1.0**
TX32 Lajitas Array 90.64 58 P **P 20 29 39.6 +1.0**
TX32 IAmb IAmb 20 29 41.1
comp=Z,6.1nm,0.8s
TXAR Lajitas Array 90.64 58 P **P 20 29 40.1 +1.5**
comp=Z,5.7nm,0.7s,baz=214,slow=6.5,SNR=65
TXAR Lajitas Array 90.64 58 P **P 20 29 39.5 +0.8**
RND Reindeer 90.80 13 P **P 20 29 38.2 -0.3**
ANMO Albuquerque 91.20 52 P **P 20 29 41.6 +0.4**
ANMO IAmb IAmb 20 29 43.1
comp=Z,5.1nm,1.2s
ILAR Eielson Array 92.42 14 P **P 20 29 45.0 -0.8**
comp=Z,0.8nm,0.5s,baz=227,slow=5.5,SNR=8.8
PD31 Pinedale Array 92.97 44 P **P 20 29 48.3 -0.9**
PDAR Pinedale Array 92.97 44 P **P 20 29 49.1 -0.1**
comp=Z,1.5nm,0.8s,baz=207,slow=2.9,SNR=13
PDAR Pinedale Array 92.97 44 P **P 20 29 48.4 -0.8**
SDCO Great Sand Dun 93.22 50 P **P 20 29 50.8 +0.2**
PRP Porcupine Dome 93.36 14 P **P 20 29 51.6 +1.3**
EGAK Eagle 93.74 16 P **P 20 29 52.1 +0.2**
EGAK IAmb IAmb 20 29 52.8
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 112.26 320 PKiKP **PKiKP 20 35 06.1 -1.6**
comp=Z,0.8nm,0.4s,baz=152,slow=1.5,SNR=5.6
MKAR Makanchi Array 112.43 313 PKiKP **PKiKP 20 35 07.1 -1.1**
comp=Z,0.6nm,0.4s,baz=122,slow=0.7,SNR=14
MKAR PKKPbc **PKKPbc 20 45 59.5 -0.8**
comp=Z,0.2nm,0.5s,baz=304,slow=3.8,SNR=4.1
MKAR PKKPab **PKKPab 20 46 08.8 +0.5**
comp=Z,0.5nm,0.7s,baz=282,slow=5.7,SNR=5.2
MKAR Makanchi Array 112.43 313 PKiKP **PKiKP 20 35 06.9 -1.3**
KURK Kurchatov 115.49 316 **PKPdf 20 35 12.8 -1.1**
KURK **PKKPbc 20 45 48.9 -1.1**
KURBB Kurchatov Arra 115.54 316 PKP **PKPdf 20 35 12.8 -1.2**
comp=Z,1.9nm,0.7s,baz=107,slow=2.0,SNR=18
KURBB PKKPbc **PKKPbc 20 45 48.9 -1.0**
comp=Z,0.3nm,0.6s,baz=273,slow=4.2,SNR=4.1
KK31 Karatay Array 120.11 307 PKPdf **PKPdf 20 35 21.7 -1.4**
KKAR Karatay Array 120.11 307 **PKPdf 20 35 21.9 -1.3**
KKAR Karatay Array 120.11 307 PKPdf **PKPdf 20 35 21.9 -1.3**
BVAR Borovoye Array 120.74 319 PKP **PKPdf 20 35 22.8 -1.2**
comp=Z,1.5nm,0.3s,baz=54,slow=7.5,SNR=21
BRVK Borovoye 120.81 319 PKPdf **PKPdf 20 35 23.4 -0.8**
BOSA Boshof 122.05 206 PKP **PKPdf 20 35 27.2 -0.3**
comp=Z,2.4nm,0.8s,baz=360,slow=4.5,SNR=4.3
BOSA PKKPbc **PKKPbc 20 45 25.3 -1.8**
comp=Z,2.0nm,0.8s,baz=114,slow=5.7,SNR=3.6
BOSA Boshof 122.05 206 **PKPdf 20 35 27.0 -0.6**
LMN Caledonia Moun 124.34 50 PKPdf **PKPdf 20 35 29.8 -1.4**
SPITS Spitsbergen Ar 125.52 356 PKP **PKPdf 20 35 32.1 -0.4**
comp=Z,4.9nm,0.6s,baz=92,slow=5.8,SNR=8.9
ARU Arti 127.21 323 PKP **PKPdf 20 35 36.0 -0.3**
comp=Z,3.2nm,0.4s,baz=60,slow=2.5,SNR=25
ARU Arti 127.21 323 **PKPdf 20 35 35.8 -0.4**
AKTO Aktyubinsk 128.59 316 PKP **PKPdf 20 35 38.7 -0.4**
comp=Z,2.2nm,0.6s,baz=108,slow=4.4,SNR=8.7
GEYT Alibeck 129.17 300 PKP **PKiKP 20 35 41.2 -0.3**
comp=Z,1.5nm,0.6s,baz=16,slow=42,SNR=2.2
KIRV Kirov 131.27 328 PKP **PKPdf 20 35 43.6 -0.3**
comp=Z,8.0nm,0.6s,baz=272,slow=6.0,SNR=3.7
KIRV SKPbc **SKPbc 20 38 19.5 -2.0**
comp=Z,6.4nm,0.5s,baz=24,slow=6.9,SNR=4.9
ARCES ARCESS Array B 132.28 348 PKhKP PKPpre 20 35 36.5
comp=Z,4.5nm,1.0s,baz=90,slow=0.9,SNR=4.0
ARCES PKP **PKPdf 20 35 44.9 -0.6**
comp=Z,5.0nm,0.7s,baz=64,slow=1.9,SNR=20
ARCES SKPbc **SKPbc 20 38 23.3 -1.5**
comp=Z,3.7nm,0.9s,baz=27,slow=5.7,SNR=3.9
BELG Belogornoye 134.45 321 PKP **PKPdf 20 35 49.8 -0.2**
comp=Z,11nm,0.6s,baz=201,slow=2.4,SNR=8.4
BELG SKPbc **SKPbc 20 38 31.1 -1.3**
comp=Z,14nm,0.7s,baz=333,slow=1.9,SNR=6.4
FINES FINESS Array B 138.83 341 PKhKP PKPpre 20 35 47.6
comp=Z,3.6nm,0.7s,baz=51,slow=2.7,SNR=20
FINES PKP **PKPdf 20 35 59.0 +1.1**
comp=Z,1.9nm,0.4s,baz=98,slow=2.2,SNR=12
FINES SKPbc **SKPbc 20 38 43.9 -1.2**
comp=Z,2.9nm,0.5s,baz=51,slow=3.7,SNR=13
FINES FINESS Array B 138.83 341 PKPpre PKPpre 20 35 47.8
FINES **PKPdf 20 35 58.8 +0.9**
NB2 NORSAR Subarra 142.48 351 PKP **PKPdf 20 36 00.9 -3.6**
comp=Z,1.2nm,0.6s,baz=16,slow=3.0
NOA NORSAR Array B 142.48 351 PKhKP PKPpre 20 36 00.7
comp=Z,2.8nm,0.8s,baz=16,slow=4.7,SNR=6.8
HFS Hagfors 142.94 349 PKhKP PKPpre 20 36 02.2
comp=Z,21nm,0.4s,baz=64,slow=3.4,SNR=190
PABE Paberze 144.19 337 **PKPab 20 36 07.3 0.0**
AKASG Malin Array Be 145.31 327 PKPbc **PKPdf 20 36 09.8 +0.1**
comp=Z,6.8nm,0.5s,baz=45,slow=4.2,SNR=24
AKASG SKPbc **SKPbc 20 39 00.6 -0.8**
comp=Z,0.4nm,0.4s,baz=43,slow=2.1,SNR=5.5
AKASG Malin Array Be 145.31 327 PKPdf **PKPdf 20 36 09.5 -0.2**
AKBB Malin Array Si 145.31 327 PKPdf **PKPdf 20 36 09.7 +0.1**
SUW Suwalki 145.63 336 PKPdf **PKPbc 20 36 11.0 -0.6**
GAZ Gaziantep 145.76 301 **PKPbc 20 36 12.9 +0.3**
BNN Bunyan 146.43 304 **PKPbc 20 36 14.5 0.0**
SORM Soroca 147.33 324 ⇑P **PKPdf 20 36 12.4 -0.8**
PURM Purcari 147.39 320 ⇓P **PKPbc 20 36 16.5 -0.1**
BR131 Keskin Array S 147.82 307 PKPdf **PKPdf 20 36 13.8 -0.7**
BR131 **PKPbc 20 36 17.5 -0.6**
BRTR Keskin Array B 147.82 307 PKPbc **PKPbc 20 36 17.6 -0.6**
comp=Z,3.6nm,0.6s,baz=140,slow=3.8,SNR=16
BRTR Keskin Array B 147.82 307 PKPdf **PKPdf 20 36 13.9 -0.6**
BRTR **PKPbc 20 36 17.6 -0.6**
ANTO Ankara 148.39 307 **PKPbc 20 36 19.6 +0.1**
TLCR 148.73 319 ⇑P **PKPbc 20 36 19.6 -0.4**
JURR Jurilovca 148.91 318 ⇑P **PKPbc 20 36 20.9 +0.4**
EKA Eskdalemuir Ar 148.92 4 PKPbc **PKPbc 20 36 19.5 -0.7**
comp=Z,3.0nm,0.4s,baz=353,slow=2.9,SNR=38
KWP Kalwaria Pacla 149.12 331 **PKPbc 20 36 20.9 0.0**
CFR Carcaliu 149.14 319 ⇑P **PKPbc 20 36 20.9 -0.1**
TPGR Topolog 149.14 319 ⇑P **PKPbc 20 36 21.0 -0.1**
BURAR Bucovina Array 149.30 326 ⇑P **PKiKP 20 36 22.5 +0.2**
BURAR Bucovina Array 149.30 326 **PKiKP 20 36 22.0 -0.4**
MDUB Mudurnu 149.32 309 **PKPbc 20 36 21.5 -0.3**
TIRR Tirgusor 149.36 318 ⇑P **PKPbc 20 36 21.4 -0.1**
BSEG Bad Segeberg 149.41 348 *e*PKPbc **PKPbc 20 36 21.4 0.0**
baz=22,slow=2.5
MFTR Muntatlar 149.50 318 ⇑P **PKPbc 20 36 21.5 -0.4**
HARR Harsova 149.53 319 ⇑P **PKPbc 20 36 22.0 0.0**
TLBR Topalu 149.53 318 ⇑P **PKPbc 20 36 20.8 -1.2**
VRI Vrincioaia 149.57 322 ⇑P **PKPbc 20 36 20.6 -1.5**
LEF Lefka 149.60 298 ⇑P **PKPbc 20 36 20.6 -1.8**
PLOR Plostina 149.62 322 ⇓P **PKPbc 20 36 22.0 -0.2**
OJC Ojcow 149.90 334 **PKPbc 20 36 22.6 -0.1**
ICOR Ion Corvin 149.91 318 ⇑P **PKPbc 20 36 22.9 0.0**
OZUR 149.96 323 ⇑P **PKPbc 20 36 23.3 +0.3**
NEHR Nehoiu 150.07 321 ⇑P **PKPbc 20 36 22.8 -0.5**
BMR Baia Mare 150.13 327 ⇓P **PKiKP 20 36 23.6 -0.3**
MLR Muntele Rosu 150.23 322 PKPbc **PKPbc 20 36 23.2 -0.6**
comp=Z,5.2nm,0.6s,baz=319,slow=6.5,SNR=22
MLR Muntele Rosu 150.23 322 ⇓P **PKPbc 20 36 23.6 -0.2**
MLR Muntele Rosu 150.23 322 **PKPbc 20 36 23.0 -0.8**
DOPR Dopca 150.25 323 ⇑P **PKiKP 20 36 24.0 -0.3**
CJR Cluj-Napoca 150.73 326 ⇑P **PKiKP 20 36 25.5 +0.2**
FLTG Flechtingen 150.73 346 *e*PKPbc **PKPbc 20 36 24.4 -0.1**
baz=22,slow=2.5
VOIR 150.76 322 ⇑P **PKPbc 20 36 23.5 -1.5**
NRDL Niedersach Rie 150.82 347 *e*PKPbc **PKPbc 20 36 24.7 0.0**
baz=22,slow=2.5
OKC Ostrava-Krasne 150.84 336⇑ *e*PKP **PKiKP 20 36 25.2 -0.1**
OSTC Ostas 150.93 338⇑ *e*PKP **PKiKP 20 36 25.5 0.0**
CHVC Chvalec 150.96 339⇑ *e*PKP **PKiKP 20 36 26.5 +0.9**
ARR Arges 151.04 323 ⇓P **PKiKP 20 36 26.1 +0.1**
UPC Upice 151.04 339⇑ *e*PKP **PKiKP 20 36 25.7 0.0**
UPC *e*PKPAB **PKPab 20 36 36.0 +0.8**
DPC Dobruska-Polom 151.07 338⇑ *e*PKP **PKiKP 20 36 25.9 +0.1**
DPC *e*PKPAB **PKPab 20 36 36.0 +0.6**
MORC Moravsky Berou 151.12 336 ⇑P **PKPbc 20 36 25.2 -0.4**
MORC Moravsky Berou 151.12 336 **PKPbc 20 36 25.6 0.0**
MORC Moravsky Berou 151.12 336 *e*PKP **PKPbc 20 36 25.6 0.0**
KRLC Kraliky 151.14 337⇑ *e*PKP **PKiKP 20 36 25.8 -0.2**
KRLC *e*PKPAB **PKPab 20 36 36.2 +0.5**
CLL Collm 151.24 343⇑ *i*PKPbc **PKPbc 20 36 25.6 -0.1**
comp=Z,24nm,0.7s
CLL *i* PKPab **PKPab 20 36 36.0 0.0**
CLL *e* 20 36 49.0
CLL *e*pPKPab **pPKPab 20 38 32.0 +2.9**
CLL Collm 151.24 343 **PKPbc 20 36 25.6 -0.1**
CLL Collm 151.24 343 *e*PKPbc **PKPbc 20 36 25.7 0.0**
baz=22,slow=2.5

BRG Berggiesshubel 151.37 341 *e*PKPbc **PKiKP 20 36 26.2 -0.2**
baz=22,slow=2.5
CLZ Clausthal 151.38 347 *e*PKPbc **PKiKP 20 36 26.3 -0.1**
baz=22,slow=2.5
PVCC Panska Ves 151.48 340⇑ *e*PKP **PKiKP 20 36 26.8 +0.2**
FBE Freiberg 151.49 342 *e*PKPbc **PKiKP 20 36 26.8 +0.2**
baz=22,slow=2.5
JAVC Velka Javorina 151.82 335 *e*PKP **PKiKP 20 36 28.2 +0.7**
VRAC Vranov 151.85 337 PKPbc **PKPbc 20 36 26.7 -0.6**
comp=Z,1.5nm,0.6s,baz=18,slow=3.2,SNR=2.3
VRAC PKPab **PKPab 20 36 38.2 -0.5**
comp=Z,2.9nm,0.6s,baz=19,slow=7.8,SNR=4.6
VRAC Vranov 151.85 337 *e*PKP **PKPbc 20 36 26.6 -0.6**
VRAC *e* 20 36 39.4
PRU Pruhonice 151.97 340⇑ *e*PKP **PKPbc 20 36 27.4 0.0**
SIRR Siria 152.01 327 ⇓P **PKPbc 20 36 27.7 0.0**
GZR Gura Zlata 152.03 324 ⇑P **PKPbc 20 36 27.0 -0.8**
KRUC Moravsky 152.13 337 *e*PKP **PKPbc 20 36 27.6 -0.2**
KRUC *e* 20 36 40.4
NKC Novy Kostel 152.36 343⇑ *e*PKP **PKiKP 20 36 28.7 +0.2**
NKC *e*PKPAB **PKPab 20 36 39.2 -1.6**
BZS Buzias 152.48 326 ⇑P **PKPbc 20 36 28.0 -0.7**
HERR Herculane 152.56 324 ⇑P **PKPbc 20 36 28.5 -0.4**
MDVR Moldovita 153.00 325 ⇑P **PKPbc 20 36 29.0 -0.9**
KHC Kasperske Hory 153.02 340⇑ *e*PKP **PKPbc 20 36 29.7 -0.1**
KHC *e*PKPAB **PKPab 20 36 44.4 +0.7**
KHC Kasperske Hory 153.02 340 PKPbc **PKPbc 20 36 29.7 -0.1**
KHC **PKPab 20 36 44.4 +0.7**
CKRC Cesky Krumlov 153.06 339⇑ *e*PKP **PKiKP 20 36 31.0 +1.0**
GERES GERESS Array B 153.23 340 PKPbc **PKPbc 20 36 30.0 -0.3**
comp=Z,1.1nm,0.6s,baz=48,slow=2.0,SNR=9.1
GERES PKPab **PKPab 20 36 44.8 +0.1**
comp=Z,0.5nm,0.5s,baz=29,slow=6.1,SNR=5.6
CONA Conrad Observa 153.27 336 *e*P **PKiKP 20 36 30.6 +0.1**
comp=Z,3.0nm,0.8s
CONA *e*P **PKPab 20 36 45.6 +0.7**
comp=Z,4.6nm,0.9s
MORH Mrgy, Hungar 153.49 330 ⇑P **PKPdf 20 36 21.7 -1.0**
VTS Vitosha 153.51 319 PKPbc **PKPbc 20 36 28.8 -2.4**
VTS PKPab **PKPab 20 36 47.2 +1.0**
BOVS Bovan 153.76 323 ⇑P **PKPbc 20 36 30.5 -1.0**
SOKA Soboth 154.63 335 *i* P **PKPdf 20 36 23.9 -0.5**
comp=Z,2.6nm,1.1s
SOKA *i* P **PKPab 20 36 51.1 +0.4**
comp=Z,2.7nm,1.2s
KBA Koelnbreinsper 154.89 338 *i* P **PKPab 20 36 52.1 +0.2**
comp=Z,2.3nm,0.7s
OBKA Obir 154.95 336 *i* P **PKPab 20 36 52.3 +0.2**
comp=Z,1.8nm,0.7s
MYKA Terra Mystica 155.18 337 *i* P **PKPab 20 36 53.0 0.0**
comp=Z,2.9nm,0.6s
WATA Walderalm 155.23 341 *e*P **PKPdf 20 36 24.1 -1.2**
comp=Z,2.0nm,0.7s
WATA *i* P **PKPab 20 36 53.4 +0.1**
comp=Z,2.8nm,0.8s
WTTA Wattenberg 155.28 341 *e*P **PKPab 20 36 53.7 +0.1**
comp=Z,2.8nm,0.5s
RETA Reutte 155.32 342 *i* P **PKPab 20 36 53.6 -0.1**
comp=Z,2.9nm,1.0s
MOTA Moosalm 155.36 342 *i* P **PKPdf 20 36 24.1 -1.3**
comp=Z,1.8nm,0.7s
MOTA *i* P **PKPab 20 36 54.2 +0.3**
comp=Z,6.4nm,1.1s
SQTA Sankt Quirin 155.44 341 *i* P **PKPab 20 36 54.4 +0.2**
comp=Z,5.5nm,1.1s
ABTA Abfaltersbach 155.46 339 *e*P **PKPdf 20 36 24.7 -0.8**
comp=Z,4.2nm,1.2s
ABTA *e*P **PKPab 20 36 54.3 +0.1**
comp=Z,1.9nm,0.6s
DAVA Damuels 155.75 343 *e*P **PKPab 20 36 55.2 -0.3**
comp=Z,3.4nm,0.6s
FETA Feichten 155.76 342 *i* P **PKPdf 20 36 24.9 -1.1**
comp=Z,6.2nm,1.0s
DAVOX Davos/Dischmat 156.21 343 PKPab **PKPab 20 36 58.0 +0.4**
comp=Z,3.2nm,0.5s,baz=267,slow=1.6,SNR=8.0
ESDC Sonseca Array 164.31 11 PKPab **PKPab 20 37 32.4 -0.7**
comp=Z,0.5nm,0.8s,baz=340,slow=4.4,SNR=9.3
ESDC Sonseca Array 164.31 11 PKPab **PKPab 20 37 32.7 -0.4**
TORD Torodi Ar. Bea 168.79 189 PKP **PKPdf 20 36 38.4 -1.1**
comp=Z,2.2nm,1.0s,baz=312,slow=1.4,SNR=6.9
TORD PKPab **PKPab 20 37 52.5 -0.7**
comp=Z,2.9nm,0.9s,baz=179,slow=3.8,SNR=8.9
TORD Torodi Ar. Bea 168.79 189 **PKPdf 20 36 38.1 -1.4**

IPEC ***06*** *20:58:24.4±0.3, 51°.61N×16°.21E, h0km, ML2.6/3, Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
DNK ***06*** *20:58:25.9±0.8, 51°.30N×15°.82E, h50km±9km, ML2.2, Suspected explosion*
PRU ***06*** *20:58:26.5±0.0, 51°.52N×16°.08E, h0km*
BGR ***06*** *20:58:27.2±0.3, 51°.50N×16°.11E, h1km, ML3.0/12, Error ellipse: s-maj=3.3km s-min=2.2km az=44.0*
VIE ***06*** *20:58:27.8±0.8, 51°.40N×16°.05E, h0km, mb2.3/6, ml2.7/8, Error ellipse: s-maj=8.2km s-min=4.7km az=58.0 75 km WNW of Wroclaw Suspected Mining induced.*
UPP ***06*** *20:58:29.7±3.2, 51°.81N×15°.58E, h0km, ML2.0, Suspected explosion*

ISC 06 20:58:24.9±0.7, 51°.57N±0°.02×16°.12E±0°.02, h0km, n74, σ1.31/136, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**20 58 39.2**	**+0.3**
KSP				*e*Sg	**Sg**	**20 58 48.5**	**+0.1**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**20 58 39.3**	**+0.4**
	SNR=32						
KSP				*e*Sg	**Sg**	**20 58 48.6**	**+0.2**
	SNR=4.1						
CHVC	**Chvalec**	**0.98**	**182**	*e*PG	**Pb**	**20 58 45.1**	**+0.3**
CHVC				*e*SG	**Sg**	**20 58 56.7**	**+0.4**
	comp=Z,61nm,0.5s						
OSTC	**Ostas**	**1.01**	**176**	*e*PG	**Pg**	**20 58 44.7**	**+0.4**
OSTC				*e*SG	**Sg**	**20 58 56.9**	**-0.5**
	comp=Z,48nm,0.3s						
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**20 58 45.3**	**+0.1**
UPC				*e*SG	**Sg**	**20 58 58.9**	**-0.1**
	comp=Z,136nm,0.5s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**20 58 48.1**	**-0.2**
DPC				*e*SG	**Sg**	**20 59 03.5**	**-0.7**
	comp=Z,51nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*Pg	**Pg**	**20 58 48.1**	**-0.2**
	SNR=54						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**20 58 52.2**	**0.0**
PVCC				*e*SG	**Sn**	**20 59 11.4**	**-0.1**
	comp=Z,174nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*Pg	**Pn**	**20 58 51.9**	**-0.1**
	SNR=32						
PVCC				*e*Sg	**Sn**	**20 59 12.5**	**+1.0**
	SNR=3.4						
BRG	**Berggiesshubel**	**1.53**	**244**	Pg	**Pg**	**20 58 54.5**	**+0.3**
BRG				Sg	**Sb**	**20 59 15.0**	**+0.9**
BRG				Amp		20 59 16.0	
	comp=Z,135nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**244**	*e*Pn	**Pg**	**20 58 54.5**	**+0.3**
	SNR=10						
BRG				*e*Sg	**Sb**	**20 59 15.0**	**+0.9**
	SNR=7.5						
RUE	**Ruedersdorf**	**1.71**	**303**	*e*Pn	**Pb**	**20 58 56.9**	**-0.3**
	SNR=1.7						
RUE				*e*Sg	**Sg**	**20 59 23.5**	**+3.7**
	SNR=2.9						
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Sg	**Sg**	**20 59 28.6**	**+4.6**
	SNR=4.6						
FBE	**Freiberg**	**1.85**	**251**	*e*Pn	**Pg**	**20 59 00.5**	**+0.1**
	SNR=5.0						
FBE				*e*Sg	**Sg**	**20 59 24.8**	**+0.5**
	SNR=6.0						
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**20 58 58.6**	**+0.5**
PRU				*e*PG	**Pb**	**20 58 59.9**	**0.0**
PRU				*e*SG	**Sb**	**20 59 23.7**	**-0.1**
	comp=Z,37nm,0.4s						
PRU	**Pruhonice**	**1.87**	**213**	*e*Pn	**Pn**	**20 58 58.5**	**+0.4**
	SNR=3.1						
PRU				*e*Sg	**Sb**	**20 59 24.1**	**+0.3**
	SNR=4.3						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**20 58 59.0**	**-0.4**
CLL				*e*Pg	**Pg**	**20 59 03.0**	**+0.5**
CLL				*e*		20 59 06.0	
CLL				*e*Sg	**Sg**	**20 59 28.0**	**0.0**
	comp=Z,47nm,0.8s						
CLL	**Collm**	**1.96**	**264**	*e*Pn	**Pn**	**20 58

MORC Moravsky Berou 2.01 153 *e*Pn **Pn 20 58 59.8 -0.3**
baz=336
MORC *e*Sg **Sb 20 59 27.9 +0.1**
comp=Z,38nm,0.4s,baz=336
MORC Moravsky Berou 2.01 153 *e*PN **Pn 20 58 59.8 -0.3**
MORC *e*SG **Sb 20 59 28.0 +0.1**
MORC Moravsky Berou 2.01 153 *e*Pn **Pn 20 58 59.7 -0.4**
SNR=12
MORC *e*Sg **Sg 20 59 29.1 -0.3**
SNR=3.9
OKC Ostrava-Krasne 2.16 142 *e*PG **Pb 20 59 05.4 +0.5**
OKC *e*SG **Sg 20 59 34.4 +0.2**
comp=Z,36nm,0.6s
LNIZ Loecknitz 2.25 330 *e*Pn **Pn 20 59 03.6 +0.1**
SNR=5.0
VRAC Vranov 2.28 172 *e*Pn **Pn 20 59 03.8 0.0**
baz=354
VRAC *e*Sg **Sb 20 59 36.9 +1.2**
comp=Z,37nm,0.6s,baz=354
VRAC Vranov 2.28 172 *e*PN **Pn 20 59 03.9 +0.1**
VRAC *e*SG **Sb 20 59 36.9 +1.2**
VRAC Vranov 2.28 172 *e*Pn **Pn 20 59 04.4 +0.6**
SNR=3.5
VRAC *e*Sg **Sg 20 59 38.0 -0.2**
SNR=2.6
TREC Trest 2.31 190 *e*Sg **Sg 20 59 39.1 +0.1**
SNR=4.2
PBCC Pribram 2.32 216 *e*PN **Pn 20 59 03.5 -0.8**
PBCC *e*PG **Pb 20 59 07.9 +0.4**
PBCC *e*SG **Sb 20 59 36.4 -0.3**
comp=Z,13nm,0.4s
KRUC Moravsky 2.51 176 *e*Pn **Pn 20 59 07.0 0.0**
baz=357
KRUC *e*Sg **Sg 20 59 44.3 -1.3**
comp=Z,28nm,0.7s,baz=357
KRUC Moravsky 2.51 176 *e*PN **Pn 20 59 07.0 0.0**
KRUC *e*SG **Sg 20 59 44.4 -1.2**
KRUC Moravsky 2.51 176 *e*Pn **Pn 20 59 07.6 +0.6**
SNR=1.9
KRUC *e*Sg **Sg 20 59 45.5 -0.1**
SNR=3.3
WERD Werda 2.65 247 *e*Pg **Pg 20 59 16.6 +0.8**
SNR=4.5
NKC Novy Kostel 2.68 242 *e*PN **Pn 20 59 09.7 +0.4**
NKC *e*PG **Pg 20 59 16.6 +0.4**
NKC *e*SG **Sg 20 59 50.8 -0.1**
comp=Z,73nm,0.4s
WERN Wernitzgruen 2.69 243 *e*Sg **Sg 20 59 52.2 +0.9**
SNR=6.1
OJC Ojcow 2.69 119 *e*Pn **Pn 20 59 07.8 -1.7**
OJC *e*Pg **Pg 20 59 17.6 +1.0**
OJC *e*Sg **Sg 20 59 52.6 +1.2**
PLN Plauen 2.72 248 *e*Sg **Sg 20 59 52.4 +0.1**
SNR=4.7
NEUB Neuenburg 2.74 264 *e*Sg **Sg 20 59 54.2 +1.2**
SNR=8.1
JAVC Velka Javorina 2.89 159 *e*PN **Pn 20 59 12.6 +0.4**
KHC Kasperske Hory 2.93 215 *e*PN **Pn 20 59 12.8 +0.1**
KHC *e*PG **Pb 20 59 19.1 +1.1**
KHC *e*SN **Sn 20 59 48.6 0.0**
KHC *e*SG **Sg 20 59 56.9 -2.1**
comp=Z,14nm,0.5s
KHC Kasperske Hory 2.93 215 *e*Pn **Pn 20 59 12.9 +0.1**
SNR=4.2
MOX Moxa 2.98 254 *e*Sg **Sg 21 00 02.4 +1.8**
SNR=3.9
CKRC Cesky Krumlov 2.98 204 *e*Pn **Pn 20 59 15.1 +1.6**
SNR=7.1
MANZ Manzenberg 3.00 240 *e*Pn **Pn 20 59 14.3 +0.6**
SNR=2.3
ROTZ Rotzenmuhle 3.07 236 *e*Pn **Pn 20 59 15.2 +0.6**
SNR=3.8
ROTZ *e*Sg **Sg 21 00 02.5 -1.0**
SNR=4.5
GEC2 GERESS Array S 3.13 211 *e*Pn **Pn 20 59 16.6 +1.0**
SNR=4.7
SMOL Smolenice 3.17 164 *e*SG **Sg 21 00 09.1 +2.4**
WET Wettzell 3.19 222 *e*Pn **Pn 20 59 16.7 +0.4**
SNR=2.2
LANS Liptovska Anna 3.23 137 *e*PN **Pn 20 59 17.1 +0.2**
LANS *e*PG **Pg 20 59 27.0 +0.2**
LANS *e*SG **Sg 21 00 08.7 0.0**
MODS Modra-Piesok 3.28 166 *e*PG **Pg 20 59 28.2 +0.4**
MODS *e*SG **Sg 21 00 11.8 +1.5**
NIE Niedzica 3.43 127 *e*P **Pg 20 59 30.4 -0.2**
NIE *e*S **Sg 21 00 15.2 +0.1**
ZST Bratislava 3.43 169 *e*SG **Sg 21 00 15.7 +0.6**
VYHS Vyhne 3.54 149 *e*PN **Pn 20 59 21.2 +0.1**
VYHS *e*PG **Pg 20 59 33.2 +0.5**
BSD Bornholm Skovb 3.63 349 *i*P **Pn 20 59 23.1 +0.8**
BSD *i*S **Sn 21 00 04.7 -1.1**
BSD IAML 21 00 16.2
comp=Z,2.2nm,0.4s
CONA Conrad Observa 3.65 183 *i*Pn **Pn 20 59 23.1 +0.5**
comp=Z,0.6nm,0.1s
CONA Sg **Sg 21 00 21.3 -0.7**
comp=Z,13nm,0.3s
MOA Molln 3.91 199 *i*Pn **Pn 20 59 26.6 +0.4**
comp=Z,1.2nm,0.1s
MOA *e*Sg **Sg 21 00 30.0 -0.4**
comp=Z,11nm,0.4s
STHS Stebnicka Huta 3.92 121 *e*PG **Pg 20 59 40.5 +0.5**
STHS *e*SG **Sg 21 00 34.5 +3.8**
ARSA Arzberg 4.34 185 *i*Pn **Pn 20 59 32.3 +0.2**
comp=Z,0.6nm,0.2s
ARSA Sg **Sg 21 00 45.3 +1.1**
comp=Z,10nm,0.6s
LUNU Lund 4.37 340 *i*P **Pn 20 59 32.2 -0.3**
LUNU *i*S **Sn 21 00 21.7 -2.4**
KOLS Kolonicke sedl 4.75 121 *e*PN **Pn 20 59 38.0 +0.3**
KOLS *e*PG **Pg 20 59 55.5 -0.4**
BLEU Blekinge 4.75 358 P **Pn 20 59 38.2 +0.5**
BLEU *i*P **Pn 20 59 38.5 +0.8**
BLEU *i*S **Sn 21 00 31.2 -2.2**
BLEU Blekinge 4.75 358 P **Pn 20 59 38.2 +0.5**
BJUU Bjuv 4.87 339 P **Pn 20 59 38.7 -0.6**
BJUU *i*P **Pn 20 59 39.1 -0.3**
BJUU S **Sn 21 00 31.0 -5.5**
BJUU *i*S **Sn 21 00 31.9 -4.5**
BJUU Bjuv 4.87 339 P **Pn 20 59 38.7 -0.6**
BJUU S **Sn 21 00 31.0 -5.5**
DEL Delary 5.09 346 P **Pn 20 59 42.1 -0.2**
DEL *i*P **Pn 20 59 42.4 0.0**
DEL Delary 5.09 346 P **Pn 20 59 42.1 -0.2**
WATA Walderalm 5.17 217 *i*Pn **Pn 20 59 45.1 +1.5**
comp=Z,0.5nm,0.1s
WATA *e*Sg **Sg 21 01 12.2 +1.5**
comp=Z,3.1nm,0.3s
WTTA Wattenberg 5.20 216 *i*Pn **Pn 20 59 45.7 +1.6**
comp=Z,0.5nm,0.1s
WTTA *e*Sg **Sg 21 01 13.5 +1.5**
comp=Z,4.8nm,0.4s
SQTA Sankt Quirin 5.40 218 *i*Pn **Pn 20 59 47.9 +1.1**
comp=Z,1.0nm,0.1s
SQTA Sg **Sg 21 01 15.9 -2.4**
comp=Z,4.8nm,0.4s
VXJU Vaexsjoe 5.41 353 P **Pn 20 59 47.4 +0.6**
VXJU Vaexsjoe 5.41 353 P **Pn 20 59 47.4 +0.6**
OSKU Oskarshamn 5.64 360 P **Pn 20 59 50.3 +0.4**
OSKU Oskarshamn 5.64 360 P **Pn 20 59 50.3 +0.4**
VSTU Vaestervik 6.11 2 P **Pn 20 59 56.6 +0.2**
VSTU S **Sn 21 01 03.8 -3.1**
VSTU Vaestervik 6.11 2 P **Pn 20 59 56.6 +0.2**
VSTU S **Sn 21 01 03.8 -3.1**

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*IDC **06** 21:06:06.2±2.0, 6°.45S×131°.79E, h0km, mb3.5/1, mb1 3.8/6, mb1mx3.6/26, mbtmp3.7/6, ML3.6/5, Error ellipse: s-maj=57.4km s-min=24.4km az=89.0*
ISC 06 21:06:09.1±1.0, 6°.56S±0°.06×131°.8E±0°.1, h46km, n6, σ4§54/11, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.68**	**355**	Pn	**Pn**	**21 07 31.6**	**+0.6**
	1.7nm,0.3s,baz=35,slow=23,SNR=8.9						
SIJI				Sn	**Sn**	**21 08 27.9**	**-7.0**
	2.8nm,0.3s,baz=245,slow=23,SNR=7.2						
BATI	**Baumata**	**8.81**	**245**	Pn	**Pn**	**21 08 16.2**	**+2.3**
	3.0nm,0.3s,baz=139,slow=4.0,SNR=2.3						
BATI				Sn	**Sn**	**21 09 50.2**	**-1.8**
	2.1nm,0.3s,baz=70,slow=18,SNR=1.8						
FITZ	**Fitzroy Crossi**	**12.94**	**207**	Pn	**Pn**	**21 09 12.2**	**+1.8**
	0.2nm,0.3s,baz=26,slow=9.8,SNR=16						
FITZ				Sn	**Sn**	**21 11 27.2**	**-5.8**
	0.9nm,0.3s,baz=263,slow=10,SNR=8.5						
WRA	**Warramunga Arr**	**13.53**	**170**	Pn	**Pn**	**21 09 20.6**	**+2.0**
	0.3nm,0.3s,baz=353,slow=13,SNR=22						
WRA				Sn	**Sn**	**21 11 41.2**	**-6.3**
	0.2nm,0.3s,baz=346,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**17.13**	**173**	P	**P**	**21 10 09.8**	**+3.3**
	0.2nm,0.3s,baz=353,slow=12,SNR=12						
ASAR				S	**Sn**	**21 13 12.2**	**-2.8**
	0.2nm,0.3s,baz=0.5,slow=26,SNR=5.6						
MKAR	**Makanchi Array**	**68.84**	**326**	P	**P**	**21 17 11.5**	**+2.6**
	0.2nm,0.5s,baz=112,slow=8.0,SNR=5.5						

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*IDC **06** 21:11:30.6±3.8, 13°.31N×89°.33W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/31, mbtmp3.7/4, ML3.0/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/38, Error ellipse: s-maj=93.3km s-min=37.8km az=17.0*
*SNET **06** 21:11:31.4±1.7, 12°.83N×90°.47W, h16km±10km, ML3.6*
UCR 06 21:11:31.2±2.0, 12°.83N×90°.50W, h16km±12km, ML3.6, 4C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**1.30**	**40**	*e*P	Pn	21 11 54.6	-0.5
CEVE				IAML		21 12 17.3	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**1.30**	**40**	*e*P	Pn	21 11 54.6	-0.5
CEVE				IAML		21 12 17.3	
	comp=Z,2μm,0.4s						
JAYA	**Jayaque - finc**	**1.31**	**51**	*e*P	Pn	21 11 54.4	-0.6
JAYA				IAML		21 12 17.7	
	comp=Z,1μm,0.3s						
JAYA	**Jayaque - finc**	**1.31**	**51**	*e*P	Pn	21 11 54.4	-0.6
JAYA				IAML		21 12 17.7	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.31**	**40**	*e*P	Pn	21 11 54.8	-0.4
SBLS	**San Blas**	**1.31**	**40**	*e*P	Pn	21 11 54.8	-0.4
RTR	**El Retiro**	**1.34**	**38**	*e*P	Pn	21 11 55.5	0.0
RTR	**El Retiro**	**1.34**	**38**	*e*P	Pn	21 11 55.5	0.0
SNJE	**San Jose**	**1.35**	**40**	⇓*i*P	Pn	21 11 55.4	-0.2
SNJE	**San Jose**	**1.35**	**40**	⇓*i*P	Pn	21 11 55.4	-0.2
BOQS	**Boqueron**	**1.49**	**53**	*e*P	Pn	21 11 57.4	-0.1
BOQS				*e*S	Sg	21 12 19.7	+0.4
BOQS	**Boqueron**	**1.49**	**53**	*e*P	Pn	21 11 57.4	-0.1
BOQS				*e*S	Sg	21 12 19.7	+0.4
TACO	**Tacachico**	**1.59**	**44**	⇑*i*P	Pn	21 11 58.4	-0.4
TACO				*e*S	Sn	21 12 18.4	-0.6
TACO	**Tacachico**	**1.59**	**44**	⇑*i*P	Pn	21 11 58.4	-0.4
TACO				*e*S	Sn	21 12 18.4	-0.6
LFRS	**El Faro**	**1.60**	**60**	*e*P	Pn	21 11 58.7	-0.3
LFRS	**El Faro**	**1.60**	**60**	*e*P	Pn	21 11 58.7	-0.3
SJTE	**Alcalda de S**	**1.65**	**62**	*e*P	Pn	21 11 59.1	-0.5
SJTE	**Alcalda de S**	**1.65**	**62**	*e*P	Pn	21 11 59.1	-0.5
LBRS	**Las Brisas**	**1.68**	**57**	*e*P	Pn	21 11 59.9	-0.1
LBRS	**Las Brisas**	**1.68**	**57**	*e*P	Pn	21 11 59.9	-0.1
PAVA	**Las Pavas**	**1.75**	**60**	*e*P	Pn	21 12 00.0	-1.1
PAVA				IAML		21 12 12.3	
	comp=Z,297nm,0.4s						
PAVA	**Las Pavas**	**1.75**	**60**	*e*P	Pn	21 12 00.0	-1.1
PAVA				IAML		21 12 12.3	
	comp=Z,297nm,0.4s						
COEG	**Centro de Oper**	**1.76**	**63**	⇑*i*P	Pn	21 12 01.0	-0.1
COEG	**Centro de Oper**	**1.76**	**63**	⇑*i*P	Pn	21 12 01.0	-0.1
TECO	**Alcaldia de Te**	**1.81**	**67**	*e*P	Pn	21 12 00.4	-1.4
MTO3	**Montecristo**	**1.91**	**35**	*e*P	Pn	21 12 03.4	+0.1
MTO3	**Montecristo**	**1.91**	**35**	*e*P	Pn	21 12 03.4	+0.1
ESQI	**Esquipulas**	**2.05**	**33**	*e*P	Pn	21 12 06.1	+0.8
LCND	**La Caada**	**2.58**	**79**	*e*P	Pn	21 12 12.3	-0.1
LCND	**La Caada**	**2.58**	**79**	*e*P	Pn	21 12 12.3	-0.1
CMIG	**Matias Romero**	**5.99**	**316**	Pn	Pb	21 13 08.6	-6.7
	comp=Z,0.3nm,0.3s,baz=84,slow=23,SNR=3.9						
CMIG				Sn	Sb	21 14 25.4	-1.6
	comp=Z,0.8nm,0.3s,baz=55,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**20.48**	**325**	P	Pn	21 16 12.7	+1.9
	comp=Z,0.8nm,0.8s,baz=151,slow=12,SNR=8.9						
TKL	**Tuckaleechee C**	**23.52**	**14**	LR	LR	21 26 28.2	
	comp=Z,138nm,19.1s,baz=194,slow=39						
SADO	**Sadowa**	**33.28**	**15**	LR	LR	21 31 14.2	
	comp=Z,82nm,19.7s,baz=247,slow=36						
ELK	**Elko**	**35.27**	**327**	LR	LR	21 35 24.5	
	comp=Z,62nm,18.1s,baz=82,slow=40						
NVAR	**Mina Array Bea**	**35.50**	**321**	P	P	21 18 32.5	+5.0
	comp=Z,0.7nm,0.6s,baz=136,slow=7.4,SNR=7.8						
LPAZ	**La Paz**	**36.41**	**142**	LR	LR	21 33 31.2	
	comp=Z,50nm,18.8s,baz=327,slow=37						
ULM	**Lac du Bonnet**	**37.57**	**354**	LR	LR	21 36 38.6	
	comp=Z,47nm,18.2s,baz=166,slow=40						
SCHQ	**Schefferville**	**45.83**	**19**	P	P	21 19 47.7	-4.7
	comp=Z,2.0nm,0.5s,baz=216,slow=8.7,SNR=2.6						
FRB	**Frobisher Bay**	**53.13**	**12**	LR	LR	21 43 41.3	
	comp=Z,66nm,20.1s,baz=205,slow=37						
CMAR	**Chiang Mai Arr**	**147.55**	**343**	PKPbc	PKPbc	21 31 16.6	+0.9
	comp=Z,0.4nm,0.3s,baz=355,slow=3.9,SNR=4.2						

IDC 06 21:13:12.6±3.4, 5°.70S×153°.10E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/30, mbtmp3.7/5, MS2.9/1, Ms1 2.8/1, ms1mx2.4/33, Error ellipse: s-maj=107.9km s-min=29.0km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**230**	P	P	21 18 22.0	+1.8
	1.1nm,0.7s,baz=55,slow=10,SNR=10						
ASAR	**Alice Springs**	**25.70**	**224**	P	P	21 18 44.5	-0.3
	0.5nm,0.8s,baz=59,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**28.18**	**201**	LR	LR	21 30 45.2	
	comp=Z,21nm,19.0s,baz=21,slow=37						
FITZ	**Fitzroy Crossi**	**29.50**	**243**	P	P	21 19 17.0	-1.9
	2.2nm,1.0s,baz=60,slow=8.1,SNR=2.2						
SONM	**Songino Array**	**67.23**	**328**	P	P	21 24 10.3	+1.3
	0.5nm,0.5s,baz=134,slow=4.2,SNR=2.2						
MKAR	**Makanchi Array**	**81.19**	**319**	P	P	21 25 30.0	-0.4
	0.4nm,0.6s,baz=93,slow=7.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.86**	**287**	PKPbc	PKPbc	21 33 07.5	-0.8
	1.0nm,0.8s,baz=67,slow=2.6,SNR=4.5						

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*KISR **06** 21:33:24.3±3.0, 35°.00N×17°.04E, h0km*
*IDC **06** 21:33:58.9±0.6, 36°.08N×21°.49E, h0km, mb4.4/26, mb1 4.4/38, mb1mx4.3/50, mbtmp4.3/38, ML3.8/11, MS3.6/19, Ms1 3.6/19, ms1mx3.3/48, Error ellipse: s-maj=13.8km s-min=11.2km az=170.0*
*MOS **06** 21:33:59.3±1.4, 35°.98N×21°.43E, h16km, mb4.8/22, Error ellipse: s-maj=6.3km s-min=3.6km az=72.8*
*PDG **06** 21:34:01.9±0.2, 36°.26N×21°.19E, h13km±2km, ML4.5/14, Error ellipse: s-maj=3.0km s-min=0.7km az=90.0*
*THE **06** 21:34:02.5, 36°.06N×21°.45E, h6km±1km, ML4.0/12, Error ellipse: s-maj=1.5km s-min=0.7km az=34.0*
*NEIC **06** 21:34:03.7±2.4, 36°.11N±0°.07×21°.40E±0°.07, h26km±4km, mb4.6/63, ML4.0(THE), Error ellipse: s-maj=10.6km s-min=7.9km az=201.0*
*MED_RC **06** 21:34:04.0±0.6, 36°.08N×21°.37E, h57km±5km, MW4.5/10, Moment Tensor Solution. Mantle waves: s10, c14; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.79±.72; $M_{\theta\theta}$0.20±1.02; $M_{\phi\phi}$2.59±1.13; $M_{r\theta}$2.09±.28; $M_{\theta\phi}$6.85±.58; $M_{\phi r}$-1.51±.39; Best double couple: $M_0$7.72000×10^{15} NP1:ϕ_s359.00000°, δ68.00000°, λ-158.00000°. NP2:ϕ_s261.00000°, δ69.00000°, λ-24.00000°. Principal axes: T 8.3500, Plg1.0000°, Azm310.0000°; N -1.2600, Plg59.0000°, Azm42.0000°; P -7.0900, Plg31.0000°, Azm220.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*HLW **06** 21:34:04.0, 36°.17N×21°.96E, h30km±43km, Md4.3, Ml4.3*
ISC 06 21:34:03.0±0.9, 36°.08N±0°.03×21°.42E±0°.03, h30km±6km, n480, σ2§07/533, mb4.6/77, MS3.6/15, 45C-21D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.86**	**18**	P	**Pn**	**21 34 18.3**	**-0.7**
PYL				S	**Sb**	**21 34 31.0**	**+0.5**
	12μm,0.6s						
ITM	**Ithomi**	**1.17**	**20**	P	**Pb**	**21 34 24.5**	**-0.2**
ITM				S	**Sb**	**21 34 42.3**	**+2.7**
	6μm,0.9s						
ITM	**Ithomi**	**1.17**	**20**	*e*P	**Pn**	**21 34 23.8**	**+0.4**
ITM	**Ithomi**	**1.17**	**20**	Pn	**Pb**	**21 34 24.8**	**+0.1**
ITM				Sg	**Sb**	**21 34 42.0**	**+2.5**
KTHR	**Kythira**	**1.30**	**81**	P	**Pn**	**21 34 25.9**	**+0.8**
KTHR				S	**Sb**	**21 34 44.1**	**+1.0**
	3μm,0.6s						
KTHA	**Kythira Island**	**1.34**	**82**	P	**Pb**	**21 34 27.0**	**-0.6**
KTHA				S	**Sb**	**21 34 45.4**	**+1.0**
	7μm,1.8s						
KTHA	**Kythira Island**	**1.34**	**82**	*e*P	**Pb**	**21 34 26.8**	**-0.8**
VLI	**Veliai**	**1.38**	**62**	P	**Pb**	**21 34 27.5**	**-0.7**
VLI				S	**Sb**	**21 34 46.2**	**+0.7**
	7μm,0.8s						
VLX	**Vlachokerasia**	**1.50**	**31**	P	**Pb**	**21 34 29.8**	**-0.5**
LTHK	**Lithakia**	**1.69**	**344**	P	**Pn**	**21 34 31.5**	**+1.0**
LTHK				S	**Sb**	**21 34 54.4**	**0.0**
	3μm,0.8s						
DRO	**Drossia**	**1.89**	**7**	P	**Pb**	**21 34 35.1**	**-1.7**
DRO				S	**Sb**	**21 34 58.7**	**-1.2**
	3μm,0.6s						
VLMS	**Volimes, Zakyn**	**1.89**	**342**	P	**Pn**	**21 34 33.9**	**+0.6**
VLMS				S	**Sb**	**21 35 01.5**	**+1.3**
	3μm,0.5s						
RLS	**Riolos of Patr**	**1.98**	**1**	P	**Pb**	**21 34 37.4**	**-0.9**
RLS				S	**Sb**	**21 35 03.3**	**+0.8**
	3μm,1.3s						
KNDR	**Palaiochora Ch**	**2.03**	**114**	P	**Pn**	**21 34 35.4**	**+0.3**
KNDR				S	**Sn**	**21 35 00.7**	**+1.2**
	828nm,0.9s						
KNDR	**Palaiochora Ch**	**2.03**	**114**	*e*P	**Pn**	**21 34 35.4**	**+0.3**
KLV	**Kalavryta, Ach**	**2.05**	**16**	P	**Pb**	**21 34 37.6**	**-2.0**
PSDA	**Pessada-Kefalo**	**2.14**	**342**	P	**Pn**	**21 34 38.6**	**+2.0**
IMMV	**Iera Moni Meta**	**2.17**	**106**	P	**Pn**	**21 34 38.1**	**+0.9**
IMMV				S	**Sb**	**21 35 06.3**	**-1.9**
	2μm,0.9s						
IMMV	**Iera Moni Meta**	**2.17**	**106**	*e*P	**Pn**	**21 34 38.0**	**+0.9**
THAL	**Thalero**	**2.19**	**27**	P	**Pn**	**21 34 39.4**	**+2.0**
VLS	**Valsamata**	**2.20**	**343**	P	**Pn**	**21 34 38.7**	**+1.2**
LOUT	**Loutraki**	**2.28**	**33**	P	**Pn**	**21 34 40.8**	**+2.2**
KEF3	**Kipouria, Keph**	**2.29**	**338**	P	**Pn**	**21 34 40.1**	**+1.4**
LTK	**Loutraki**	**2.30**	**32**	P	**Pn**	**21 34 40.1**	**+1.2**
KEF4	**Livadi, Kephal**	**2.31**	**340**	P	**Pn**	**21 34 40.5**	**+1.4**
KEF5	**Kardakata, Kep**	**2.32**	**341**	P	**Pn**	**21 34 40.5**	**+1.3**
TRIZ	**Trizonia**	**2.34**	**13**	P	**Pb**	**21 34 43.2**	**-1.3**
VAM	**Vamos**	**2.36**	**106**	P	**Pn**	**21 34 40.6**	**+0.9**
SERG	**Sergoula**	**2.39**	**12**	P	**Pb**	**21 34 43.6**	**-1.7**
FSK	**Fiskardo**	**2.47**	**344**	P	**Pn**	**21 34 42.7**	**+1.5**
MHLO	**Agia Marina, M**	**2.48**	**75**	P	**Pn**	**21 34 41.5**	**+0.1**
GVD	**Gavdhos**	**2.51**	**119**	P	**Pn**	**21 34 42.3**	**+0.6**
GVD	**Gavdhos**	**2.51**	**119**	*e*P	**Pn**	**21 34 42.6**	**+0.9**
GVDS	**Gavdos**	**2.51**	**119**	P	**Pn**	**21 34 41.6**	**-0.1**
GVDS				S	**Sn**	**21 35 14.4**	**+3.2**
	672nm,1.0s						
GVDS	**Gavdos**	**2.51**	**119**	*e*P	**Pn**	**21 34 41.8**	**+0.1**
PVO	**Paravola**	**2.54**	**2**	P	**Pb**	**21 34 45.2**	**-2.6**
ANX	**Ano Chora**	**2.54**	**9**	P	**Pb**	**21 34 45.8**	**-2.2**
VILL	**Villia**	**2.58**	**35**	P	**Pn**	**21 34 43.7**	**+1.0**
VLY	**Voula,Athens**	**2.60**	**46**	P	**Pn**	**21 34 43.9**	**+0.9**
EVGI	**Lefkada island**	**2.61**	**347**	P	**Pn**	**21 34 45.1**	**+2.0**
ATHU	**Athens Univers**	**2.67**	**44**	P	**Pn**	**21 34 44.8**	**+0.8**
LKD2	**Lefkada island**	**2.77**	**348**	P	**Pn**	**21 34 47.7**	**+2.3**
PTL	**Penteli**	**2.77**	**44**	P	**Pn**	**21 34 46.7**	**+1.3**
TSLK	**Tsoukalades, L**	**2.81**	**348**	P	**Pn**	**21 34 48.5**	**+2.7**
EVR	**Evrytania**	**2.85**	**6**	P	**Pb**	**21 34 50.1**	**-3.1**
LKR	**Lokris**	**2.86**	**26**	P	**Pn**	**21 34 48.0**	**+1.4**
IDI	**Anoyia**	**2.94**	**105**	Pn	**Pn**	**21 34 48.8**	**+1.2**
	2.4nm,0.3s,baz=333,slow=20,SNR=17						
IDI				Sn	**Sn**	**21 35 21.2**	**-0.7**
	14nm,0.3s,baz=327,slow=23,SNR=8.2						
IDI	**Anoyia**	**2.94**	**105**	⇑P	**Pn**	**21 34 49.2**	**+1.6**
IDI	**Anoyia**	**2.94**	**105**	P	**Pn**	**21 34 48.5**	**+0.8**
IDI	**Anoyia**	**2.94**	**105**	*e*P	**Pn**	**21 34 48.4**	**+0.8**
IDI	**Anoyia**	**2.94**	**105**	Pn	**Pn**	**21 34 48.7**	**+1.0**
SIVA	**Sivas**	**2.96**	**110**	P	**Pn**	**21 34 49.6**	**+1.6**
AGG	**Agios Georgios**	**3.03**	**14**	*e*P	**Pn**	**21 34 49.6**	**+0.7**
AGG	**Agios Georgios**	**3.03**	**14**	P	**Pn**	**21 34 50.9**	**+2.0**
AGG	**Agios Georgios**	**3.03**	**14**	Pn	**Pn**	**21 34 50.9**	**+2.0**
HRKL	**Herakleio**	**3.10**	**103**	*e*P	**Pn**	**21 34 50.9**	**+1.1**
KARY	**Karystos**	**3.10**	**50**	P	**Pn**	**21 34 50.6**	**+0.7**
SANT	**Santorini**	**3.28**	**84**	Pn	**Pn**	**21 34 53.3**	**+0.9**
APE	**Apeiranthos**	**3.46**	**72**	⇑P	**Pn**	**21 34 57.3**	**+2.5**
APE	**Apeiranthos**	**3.46**	**72**	*e*P	**Pn**	**21 34 54.8**	**0.0**
ZKR	**Zakros**	**4.03**	**102**	*e*P	**Pn**	**21 35 04.4**	**+1.8**
LIT	**Litokhoron**	**4.10**	**12**	P	**Pn**	**21 35 05.6**	**+1.9**
LIT	**Litokhoron**	**4.10**	**12**		**Pn**	**21 35 05.6**	**+1.9**
CHIOS	**Chios island**	**4.36**	**57**	*e*P	**Pn**	**21 35 07.5**	**+0.3**
KBN	**Korca**	**4.56**	**354**	P	**Pn**	**21 35 12.8**	**+2.7**
KBN	**Korca**	**4.56**	**354**		**Pn**	**21 35 12.8**	**+2.7**
SCTE	**Santa Cesarea**	**4.62**	**331**	Pn	**Pn**	**21 35 10.8**	**+0.1**
FNA	**Florina**	**4.70**	**360**	*e*P	**Pn**	**21 35 13.3**	**+1.4**
FNA	**Florina**	**4.70**	**360**	P	**Pn**	**21 35 13.0**	**+1.1**
FNA	**Florina**	**4.70**	**360**		**Pn**	**21 35 13.0**	**+1.1**
KARP	**Karpathos**	**4.70**	**95**	*e*P	**Pn**	**21 35 13.2**	**+1.3**
KARP	**Karpathos**	**4.70**	**95**	Pn	**Pn**	**21 35 13.4**	**+1.5**
HORT	**Hortiatis**	**4.70**	**16**	*e*P	**Pn**	**21 35 11.9**	**-0.1**
OUR	**Ouranopolis**	**4.71**	**25**	*e*P	**Pn**	**21 35 12.5**	**+0.6**
URLA	**Izmir**	**4.72**	**60**	*e*P	**Pn**	**21 35 12.1**	**0.0**
BODT	**Bodrum**	**4.84**	**77**	*e*P	**Pn**	**21 35 14.3**	**+0.4**
CEL	**Celeste**	**4.92**	**298**	Pn	**Pn**	**21 35 15.4**	**+0.5**
DAT	**Datca**	**5.01**	**81**	*e*P	**Pn**	**21 35 16.8**	**+0.6**
OHR	**Ohrid**	**5.05**	**355**	*i*Pn	**Pn**	**21 35 18.2**	**+1.5**
BOZC	**Bozcaada**	**5.25**	**43**	*e*P	**Pn**	**21 35 19.2**	**-0.2**
VAY	**Valandovo**	**5.31**	**9**	*i*Pn	**Pn**	**21 35 20.7**	**+0.5**
TIR	**Tirane**	**5.40**	**347**	P	**Pn**	**21 35 22.4**	**+0.9**
TIR	**Tirane**	**5.40**	**347**	Pn	**Pn**	**21 35 22.4**	**+0.9**
GADA	**Gvkgeada**	**5.42**	**39**	*e*P	**Pn**	**21 35 21.9**	**+0.2**
ARG	**Arkhangelos**	**5.43**	**87**	*e*P	**Pn**	**21 35 22.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**5.51**	**68**	*e*P

NKME *i* Sn **Sn** **21 36 57.4 -3.3**
NKY Niksic 6.98 345 ⇓*i*Pn **Pn** **21 35 42.7 -0.6**
NKY *i* Sn **Sn** **21 36 58.3 -3.4**
TREB Trebinje 7.04 341 *e*Pn **Pn** **21 35 42.2 -1.8**
BRY Bratogost 7.17 343 *e*Pn **Pn** **21 35 44.1 -1.8**
BRY *i* Sn **Sn** **21 37 02.6 -3.7**
SGRT San Giovanni R 7.19 324 Pn **Pn** **21 35 45.6 -0.5**
PAOL Paolisi 7.30 315 Pn **Pn** **21 35 47.5 -0.1**
STON Ston 7.37 338 *e*Pn **Pn** **21 35 46.6 -1.8**
STON Ston 7.37 338 *e*Pn **Pn** **21 35 46.9 -1.6**
STON Sn Sn 21 37 01.4 -9.5
UPM Unac-Piva 7.37 346 *e*Pn **Pn** **21 35 48.3 -0.4**
UPM Unac-Piva 7.37 346 ⇑*i*Pn **Pn** **21 35 48.1 -0.6**
UPM *i* Sn **Sn** **21 37 07.7 -3.7**
PLE Pljevlja 7.41 348 ⇓*i*Pn **Pn** **21 35 48.7 -0.4**
PLE *i* Sn **Sn** **21 37 08.7 -3.5**
LSTV Lastovo 7.54 334 *e*Pn **Pn** **21 35 49.4 -1.4**
LSTV Sn Sn 21 37 05.3 -10
BOVS Bovan 7.55 2 ⇑P **Pn** **21 35 50.3 -0.6**
SWA2 7.62 152 P **Pn** **21 35 51.3 -0.6**
baz=155
SWA2 AMP 21 37 00.0
baz=155
SWA2 S **Sn** **21 37 10.0 -7.2**
baz=155
RUDO Rudo 7.69 349 *e*Pn **Pn** **21 35 51.5 -1.4**
BBLS Lazići 7.93 349 *e*Pn **Pn** **21 35 52.3 -3.9**
HVAR Hvar 8.06 333 *e*Pn **Pn** **21 35 57.2 -0.7**
HVAR Sn Sn 21 37 17.2 -11
DIVS Divibare 8.08 353 *e*Pn **Pn** **21 35 56.8 -1.6**
DIVS Divibare 8.08 353 Pn **Pn** **21 35 57.5 -0.9**
RICI Ricice 8.11 337 *e*Pn **Pn** **21 35 57.0 -1.6**
RICI Sn **Sn** **21 37 20.9 -8.3**
HAPS Han Pijesak,Bl 8.22 347 *e*Pn **Pn** **21 35 58.4 -1.8**
INTR Introdacqua 8.32 318 Pn **Pn** **21 36 03.5 +1.9**
COPA Copaceanca 8.56 19 ⇑P **Pn** **21 36 06.0 +1.2**
TEKS Tekeris 8.58 351 *e*Pn **Pn** **21 36 03.5 -1.7**
MDVR Moldovita 8.70 1 ⇓P **Pn** **21 36 06.0 -0.8**
ZIRJ Zirje 8.77 331 *e*Pn **Pn** **21 36 05.8 -1.9**
ZIRJ Sn Sn 21 37 34.7 -11
KIJV Kijevo 8.80 336 *e*Pn **Pn** **21 36 07.7 -0.4**
KIJV Sn **Sn** **21 37 37.3 -8.9**
AQU L'Aquila 8.83 318 P **Pn** **21 36 09.7 +1.2**
AQU L'Aquila 8.83 318 *e*Pn **Pn** **21 36 09.3 +0.8**
AQU L'Aquila 8.83 318 **Pn** **21 36 09.7 +1.2**
HERR Herculane 8.83 5 ⇓P **Pn** **21 36 07.8 -0.7**
HUMR Humele 8.87 17 ⇓P **Pn** **21 36 10.2 +1.2**
MORI Morici 8.93 332 *e*Pn **Pn** **21 36 08.8 -1.0**
MORI Sn Sn 21 37 39.4 -10
MGRS Mrkonjic Grad 8.96 340 *e*Pn **Pn** **21 36 10.1 -0.2**
FRGS Fruska Gora 9.15 353 ⇑P **Pn** **21 36 11.3 -1.7**
FRGS Fruska Gora 9.15 353 *e*Pn **Pn** **21 36 11.1 -1.8**
BLY Banja Luka 9.24 341 *e*Pn **Pn** **21 36 11.5 -2.6**
DUGI Dugi Otok 9.28 330 *e*Pn **Pn** **21 36 14.1 -0.7**
DUGI Sn Sn 21 37 47.3 -11
NRCA Norcia 9.31 319 **Pn** **21 36 16.4 +1.2**
GZR Gura Zlata 9.36 6 ⇑P **Pn** **21 36 15.6 -0.3**
LOT Lotru 9.53 10 ⇑P **Pn** **21 36 18.3 +0.1**
BZS Buzias 9.53 1 ⇑P **Pn** **21 36 17.4 -0.7**
ARR Arges 9.59 14 ⇓P **Pn** **21 36 19.1 +0.1**
BR231 Keskin MP Arra 9.72 64 Pn **Pn** **21 36 24.4 +3.5**
VOIR 9.74 15 ⇑P **Pn** **21 36 22.1 +0.9**
ANTO Ankara 9.75 64 P **Pn** **21 36 25.2 +4.0**
ANTO Ankara 9.75 64 Pn **Pn** **21 36 25.1 +4.0**
KEST Kesra 9.80 272 Pn **Pn** **21 36 23.6 +1.7**
0.7nm,0.3s,baz=56,slow=9.0,SNR=8.9
KEST Sn **Sn** **21 38 04.1 -6.8**
0.1nm,0.3s,baz=15,slow=14,SNR=1.4
KEST Kesra 9.80 272 Pn **Pn** **21 36 24.4 +2.5**
ISR Istrita 9.83 22 ⇑P **Pn** **21 36 22.8 +0.5**
TLBR Topalu 9.85 29 ⇑P **Pn** **21 36 23.7 +1.2**
DEV Deva 9.86 6 ⇑P **Pn** **21 36 22.6 0.0**
MURB Monte Urbino 9.92 319 Pn **Pn** **21 36 24.7 +1.2**
TIRR Tirgusor 9.93 30 ⇑P **Pn** **21 36 25.4 +1.9**
HARR Harsova 9.93 28 ⇑P **Pn** **21 36 24.7 +1.1**
MLR Muntele Rosu 10.01 19 Pn **Pn** **21 36 26.5 +1.8**
0.5nm,0.3s,baz=228,slow=5.5,SNR=10
MLR LR LR 21 39 58.3
comp=Z,203nm,20.2s,baz=161,slow=36
MLR Muntele Rosu 10.01 19 ⇓P **Pn** **21 36 26.2 +1.5**
MLR Muntele Rosu 10.01 19 P **Pn** **21 36 24.2 -0.6**
MLR Muntele Rosu 10.01 19 Pn **Pn** **21 36 24.2 -0.6**
NEHR Nehoiu 10.04 20 ⇓P **Pn** **21 36 25.9 +0.8**
VSL Villasalto 10.12 293 **Pn** **21 36 26.7 +0.4**
SIRR Siria 10.18 1 ⇑P **Pn** **21 36 27.0 0.0**
RYAN Fayoum 10.22 131 P **Pn** **21 36 25.8 -1.9**
baz=133
TPGR Topolog 10.26 29 ⇑P **Pn** **21 36 28.8 +0.7**
KOVH Kovagotottos 10.31 347 *e*P **Pn** **21 36 27.8 -0.9**
BR131 Keskin Array S 10.32 66 P **Pn** **21 36 32.1 +3.0**
BR131 Keskin Array S 10.32 66 Pn **Pn** **21 36 32.1 +3.0**
BRTR Keskin Array B 10.32 66 Pn **Pn** **21 36 31.4 +2.3**
0.2nm,0.3s,baz=248,slow=12,SNR=8.8
BRTR LR LR 21 41 17.6
comp=Z,462nm,18.8s,baz=270,slow=43
BRTR Keskin Array B 10.32 66*ce*P **Pn** **21 36 32.0 +2.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
DOPR Dopca 10.32 16 ⇑P **Pn** **21 36 29.7 +0.7**
MORH Mrgy, Hungar 10.34 349 ⇑P **Pn** **21 36 27.3 -1.8**
MORH Mrgy, Hungar 10.34 349 *e*P **Pn** **21 36 28.3 -0.9**
MORH *e*S **Sn** **21 38 16.0 -8.0**
MORH Mrgy, Hungar 10.34 349 *e*Pn **Pn** **21 36 26.2 -3.0**
CFR Carcaliu 10.42 27 ⇑P **Pn** **21 36 30.9 +0.6**
PLOR Plostina 10.53 20 ⇓P **Pn** **21 36 33.6 +1.7**
OZUR 10.54 17 ⇑P **Pn** **21 36 32.2 +0.3**
VRI Vrincioaia 10.57 21 ⇑P **Pn** **21 36 33.1 +0.8**
CRES Cresnjev 10.73 337 *e*Pn **Pn** **21 36 32.9 -1.6**
DRGR 10.75 5 ⇑P **Pn** **21 36 35.2 +0.3**
GLL Jalalah 10.81 124 P **Pn** **21 36 33.8 -1.9**
baz=126
CEY Cerknica 11.00 333 *e*Pn **Pn** **21 36 36.7 -1.5**
TIH Tihany 11.13 347 *e*P **Pn** **21 36 38.6 -1.4**
ARCR ARCALIA 11.21 10 ⇑P **Pn** **21 36 41.5 +0.4**
MPLH Magyarpolny 11.45 347 *e*P **Pn** **21 36 44.3 -0.1**
ZCCA Zocca 11.48 319 Pn **Pn** **21 36 49.5 +4.7**
SOKA Soboth 11.62 338 *i* Pn **Pn** **21 36 45.3 -1.4**
comp=Z,2.7nm,0.4s
SOKA *e*Sn **Sn** **21 38 48.9 -6.5**
comp=Z,5.6nm,0.7s
OBKA Obir 11.62 336 Pn **Pn** **21 36 46.9 0.0**
comp=Z,4.4nm,0.6s,SNR=8.4
OBKA *i* Sn **Sn** **21 38 50.4 -5.2**
comp=Z,21nm,0.6s
BNN Bunyan 11.80 72 Pn **Pn** **21 36 53.6 +4.3**
TEOL Teolo 11.85 324 Pn **Pn** **21 36 49.1 -0.8**
BURAR Bucovina Array 11.87 13 ⇑P **Pn** **21 36 50.7 +0.5**
BURAR Bucovina Array 11.87 13 Pn **Pn** **21 36 51.7 +1.5**
PSZ Piszkesteto 11.88 355 ⇑P **Pn** **21 36 49.6 -0.8**
PSZ Piszkesteto 11.88 355 *e*P **Pn** **21 36 50.3 0.0**
PSZ *e*S Sn 21 38 52.8 -9.1
PSZ Piszkesteto 11.88 355 P **Pn** **21 36 48.9 -1.5**
PSZ Piszkesteto 11.88 355 **Pn** **21 36 48.9 -1.5**
MMAI Mount Meron Ar 11.93 101 Pn **Pn** **21 36 49.0 -2.1**
comp=Z,0.8nm,0.3s,baz=286,slow=10,SNR=2.4
MMAI Sn **Sn** **21 38 55.1 -8.0**
comp=Z,1.2nm,0.3s,baz=308,slow=24,SNR=3.5
ARSA Arzberg 12.00 340 *i* Pn **Pn** **21 36 51.0 -0.9**
comp=Z,1.6nm,0.4s
MYKA Terra Mystica 12.04 333 *e*Pn **Pn** **21 36 53.9 +1.4**
comp=Z,1.5nm,0.3s
MYKA *e*Sn **Sn** **21 38 58.5 -7.3**
comp=Z,6.4nm,0.6s
STAL STALIGIAL 12.09 330 Pn **Pn** **21 36 54.3 +1.1**
KIS Kishinev 12.23 25 *e*P Pn 21 37 00.0 +5.0
KIS *e*LR LR 21 41 51.0
comp=Z,150nm,11.0s
KIS Kishinev 12.23 25 *e*P Pn 21 37 00.0 +5.0
KIS MLR MLR
comp=Z,150nm,11.0s
ZOU Zoufplan 12.23 331 **Pn** **21 36 57.2 +2.0**
KBA Koelnbreinsper 12.53 334 *i* Pn **Pn** **21 36 59.4 0.0**
comp=Z,2.6nm,0.7s
KBA *e*Sn **Sn** **21 39 10.2 -7.7**
comp=Z,10nm,0.7s
CONA Conrad Observa 12.54 343 *i* Pn **Pn** **21 37 02.2 +2.9**
comp=Z,1.4nm,0.5s
CONA *e*Sn **Sn** **21 39 14.0 -3.8**
comp=Z,0.8nm,0.5s
VYHS Vyhne 12.55 352 *e*SN **Sn** **21 39 14.1 -4.0**
ABTA Abfaltersbach 12.57 331 *e*Pn **Pn** **21 37 00.0 +0.3**
comp=Z,6.9nm,0.9s
ABTA *e*Sn Sn 21 39 09.6 -9.1
comp=Z,12nm,0.7s
MODS Modra-Piesok 12.66 347 *e*P **Pn** **21 37 05.5 +4.6**
MODS Modra-Piesok 12.66 347 *e*SN **Sn** **21 39 15.9 -4.9**
MODS Modra-Piesok 12.66 347 *e* **Pn** **21 37 05.5 +4.6**
KOLS Kolonicke sedl 12.86 3 *e*P **Pn** **21 37 06.2 +2.5**
KOLS Kolonicke sedl 12.86 3 *e*PN **Pn** **21 37 06.2 +2.5**
KOLS *e* 21 37 15.1
MOA Molln 12.90 338 *e*Pn **Pn** **21 37 03.9 -0.3**
comp=Z,2.6nm,0.3s,SNR=12
MOA *e*Sn **Sn** **21 39 19.6 -7.1**
comp=Z,5.6nm,0.6s
EIL Elat 13.04 115 Pn **Pn** **21 37 04.5 -1.7**
comp=Z,0.5nm,0.3s,baz=177,slow=1.3,SNR=8.5
EIL Sn Sn 21 39 19.8 -10
comp=Z,0.6nm,0.3s,baz=84,slow=19,SNR=3.0
SORM Soroca 13.09 21 ⇑P **Pn** **21 37 07.3 +0.5**
WTTA Wattenberg 13.34 330 *e*Pn **Pn** **21 37 11.2 +0.9**
comp=Z,0.7nm,0.3s
WTTA *e*Sn **Sn** **21 39 30.3 -7.3**
comp=Z,27nm,0.8s
ASF Jabal al Asfar 13.40 102 Pn **Pn** **21 37 10.8 -0.4**
comp=Z,0.1nm,0.3s,baz=284,slow=8.3,SNR=2.2
ASF Sn **Sn** **21 39 34.6 -4.6**
comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=2.0
WATA Walderalm 13.42 330 *i* Pn **Pn** **21 37 13.4 +1.9**
comp=Z,1.1nm,0.3s
WATA *e*Sn **Sn** **21 39 35.3 -4.3**
comp=Z,21nm,1.1s
SQTA Sankt Quirin 13.48 329 *e*Pn **Pn** **21 37 13.5 +1.3**
comp=Z,0.4nm,0.2s
SQTA *e*Sn **Sn** **21 39 35.1 -5.9**
comp=Z,7.1nm,0.6s
FETA Feichten 13.53 327 *e*Pn **Pn** **21 37 13.0 0.0**
comp=Z,2.6nm,0.9s
FETA *e*Sn **Sn** **21 39 37.4 -5.0**
comp=Z,4.4nm,0.6s
MOTA Moosalm 13.62 329 *e*Pn **Pn** **21 37 15.3 +1.1**
comp=Z,2.7nm,0.6s
MOTA *e*Sn **Sn** **21 39 39.3 -5.2**
comp=Z,11nm,0.7s
VRAC Vranov 13.69 347 Pn **Pn** **21 37 15.0 +0.1**
comp=Z,0.1nm,0.3s,baz=180,slow=19,SNR=2.0
VRAC LR LR 21 43 20.6
comp=Z,170nm,18.4s,baz=166,slow=41
DAVOX Davos/Dischmat 13.74 325 Pn **Pn** **21 37 17.9 +2.1**
comp=Z,0.3nm,0.3s,baz=148,slow=16,SNR=8.1
DAVOX Sn Sn 21 39 35.6 -12
comp=Z,0.4nm,0.3s,baz=152,slow=19,SNR=2.0
CKRC Cesky Krumlov 13.76 340 *e*P **Pn** **21 37 16.7 +0.7**
CKRC AMS AMS 21 43 40.0
comp=Z,900nm,13.1s
TUE Stuetta 13.77 323 **Pn** **21 37 17.1 +0.8**
TREC Trest 13.90 344 AMS AMS 21 43 40.0
comp=Z,1μm,12.3s
OKC Ostrava-Krasne 13.96 351 *e*P **P** **21 37 30.1 +3.8**
OKC MLR MLR
comp=Z,600nm,10.5s
OKC Ostrava-Krasne 13.96 351 *e*P **P** **21 37 30.1 +3.8**
OKC AMS AMS 21 44 00.0
comp=Z,600nm,10.5s
GEC2 GERESS Array S 13.96 338 **Pn** **21 37 20.3 +1.6**
GERES GERESS Array B 13.96 338 Pn **Pn** **21 37 18.1 -0.6**
comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=15
GERES Sn **Sn** **21 39 44.0 -8.6**
comp=Z,0.5nm,0.3s,baz=154,slow=24,SNR=7.2
GERES LR LR 21 42 51.0
comp=Z,88nm,20.2s,baz=143,slow=38
GERES GERESS Array B 13.96 338 P **Pn** **21 37 17.7 -1.0**
GERES GERESS Array B 13.96 338 Pn **Pn** **21 37 17.7 -1.0**
DAVA Damuels 14.11 326 *i* Pn **Pn** **21 37 24.2 +3.3**
comp=Z,2.2nm,0.5s
DAVA *e*Sn **Sn** **21 39 51.0 -5.5**
comp=Z,7.5nm,0.6s
KHC Kasperske Hory 14.25 339 *e*P **Pn** **21 37 25.0 +2.3**
KHC MLR MLR
comp=Z,800nm,14.1s
KHC Kasperske Hory 14.25 339 *e*P **Pn** **21 37 25.0 +2.3**
KHC *ex* x 21 39 52.5
KHC *e*S **Sn** **21 39 53.6 -6.1**
KHC AMS AMS 21 44 00.0
comp=Z,800nm,14.1s
KHC Kasperske Hory 14.25 339 Pn **Pn** **21 37 24.1 +1.4**
KRLC Kraliky 14.39 348 *e*P **Pn** **21 37 27.4 +2.9**
KRLC Kraliky 14.39 348 *e*P **Pn** **21 37 27.4 +2.9**
DPC Dobruska-Polom 14.73 347 *e*P **Pn** **21 37 30.4 +1.2**
DPC MLR MLR
comp=Z,900nm,14.2s
DPC Dobruska-Polom 14.73 347 *e*P **Pn** **21 37 30.4 +1.2**
DPC AMS AMS 21 44 30.0
comp=Z,900nm,14.2s
SENIN Lac Senin/Sane 14.76 318 P **Pn** **21 37 31.9 +2.2**
PRU Pruhonice 14.77 342 *e*P **Pn** **21 37 32.4 +2.7**
PRU MLR MLR
comp=Z,900nm,11.2s
PRU Pruhonice 14.77 342 *e*P **Pn** **21 37 32.4 +2.7**
PRU AMS AMS 21 44 20.0
comp=Z,900nm,11.2s
PRA Prague 14.88 342 AMS AMS 21 44 20.0
comp=Z,800nm,13.4s
UPC Upice 14.94 347 AMS AMS 21 44 40.0
comp=Z,800nm,15.2s
OSTC Ostas 14.95 347 *e*P **P** **21 37 35.5 -1.9**
OSTC AMS AMS 21 44 30.0
comp=Z,800nm,13.1s
ANN Anapa 14.97 50 *e*P **Pn** **21 37 29.5 -2.8**
ANN *e*S **Sn** **21 40 12.3 -4.7**
ANN pmax pmax
comp=Z,22nm,0.8s
CHVC Chvalec 15.01 347 *e*P **P** **21 37 41.3 +3.3**
CHVC AMS AMS 21 44 40.0
comp=Z,800nm,16.0s
PVCC Panska Ves 15.27 343 AMS AMS 21 44 40.0
comp=Z,700nm,13.4s
GRA1 Grafenberg Arr 15.50 335 P **P** **21 37 44.7 +1.2**
GRA1 IAmb IAmb 21 37 46.1
comp=Z,23nm,1.0s
GRF Grafenberg Arr 15.50 335 P **P** **21 37 44.7 +1.2**
GRF pmax pmax
comp=Z,23nm,1.0s
GRFO Grafenberg 15.50 335 P **P** **21 37 44.6 +1.2**
GRFO pmax pmax
comp=Z,23nm,1.0s
GRFO Grafenberg 15.50 335 P **P** **21 37 44.6 +1.2**
GRFO IAmb IAmb 21 37 46.0
comp=Z,23nm,1.0s
NKC Novy Kostel 15.57 338 AMS AMS 21 45 00.0
comp=Z,800nm,13.4s
AKASG Malin Array Be 15.66 19 Pn **Pn** **21 37 39.1 -2.3**
comp=Z,0.6nm,0.3s,baz=208,slow=12,SNR=3.3
AKASG Sn **Sn** **21 40 38.8 +4.9**
baz=201,slow=23,SNR=1.2
AKASG Malin Array Be 15.66 19*ce*P **P** **21 37 43.9 -1.3**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 15.66 19 Pn **Pn** **21 37 41.9 +0.5**
AKBB Malin Array Si 15.66 19⇓*e*P **Pn** **21 37 42.8 +1.4**
AKBB Malin Array Si 15.66 19 Pn **Pn** **21 37 42.3 +0.9**
BRG Berggiesshubel 15.74 342 *e*P **P** **21 37 47.5 +1.5**
BRG Amp 21 37 49.1
comp=Z,1.9nm,0.7s
BRG Amp 21 45 08.0
comp=Z,0.7nm,13.0s
BRG Amp 21 45 11.0
comp=E,0.3nm,10.6s
BRG Amp 21 45 11.0
comp=N,0.5nm,14.9s
ECH Echery 16.06 323 P **P** **21 37 48.7 -1.0**
ECH pmax pmax
comp=Z,23nm,1.4s
ECH Echery 16.06 323 P **P** **21 37 48.7 -1.0**
CLL Collm 16.38 341 *e*P **P** **21 37 54.0 +0.9**
comp=Z,5.0nm,0.9s
CLL *e* 21 38 05.0
CLL *i* sPP 21 38 11.1
comp=Z,11nm,1.3s
CLL *i* sPPP 21 38 17.2
CLL *i* 21 38 29.1
CLL *e*S **S** **21 41 00.0 -2.9**
CLL *i* SS **SnSn** **21 41 09.5 +5.1**
CLL Lmax 21 45 00.0
CLL Collm 16.38 341 *e*P **P** **21 37 54.0 +0.9**
CLL pmax pmax
comp=Z,5.0nm,0.9s
GURO Guroymak-BITLI 16.59 75 P **P** **21 37 55.6 -0.1**
GKP Gorka Klasztor 17.44 352 *e*P **P** **21 38 05.8 +1.0**
WLF Walferdange 17.55 325 P **P** **21 38 07.5 +1.4**
WLF pmax pmax
comp=Z,29nm,1.2s
WLF Walferdange 17.55 325 P **P** **21 38 07.5 +1.4**
NEY Neytrino 17.87 60⇓*e*P **P** **21 38 12.5 +2.6**
NEY pmax pmax
comp=Z,7.0nm,1.2s
SUW Suwalki 17.98 3 *e*P **P** **21 38 10.8 +0.1**
SUW Suwalki 17.98 3 *e*P **Pn** **21 38 10.2 -0.3**
SUW Suwalki 17.98 3 P **Pn** **21 38 09.7 -0.7**
SUW pmax pmax
comp=Z,54nm,0.8s
SUW Suwalki 17.98 3 P **Pn** **21 38 09.7 -0.7**
SUW IAmb IAmb 21 38 11.6
comp=Z,54nm,0.8s
KIV Kislovodsk 18.06 58 *e*P **P** **21 38 13.4 +1.5**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,65nm,14.0s
KIV Kislovodsk 18.06 58 P **Pn** **21 38 11.1 -0.5**
KVAR Kislovodsk Arr 18.07 58 P **P** **21 38 12.0 +0.1**
baz=259,slow=21,SNR=7.5
KBZ Khabaz 18.13 59 P **P** **21 38 13.0 +0.4**
comp=Z,0.8nm,0.3s,baz=240,slow=9.6,SNR=14
KBZ Khabaz 18.13 59*ce*P **P** **21 38 12.8 +0.2**
KBZ pmax pmax
comp=Z,12nm,0.8s
ONI Oni 18.22 62 P **P** **21 38 15.2 +1.6**
ONI pmax pmax
comp=Z,9.0nm,0.8s
ONI Oni 18.22 62 P **P** **21 38 15.2 +1.6**
NCK Nalchik 18.55 60⇓*e*P **Pn** **21 38 19.0 +1.4**
NCK pmax pmax
comp=Z,25nm,1.4s
ZEI Tsey 18.59 62 *e*P **Pn** **21 38 18.5 +0.3**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
GOF Gofitskoye 18.68 55⇑*e*P **Pn** **21 38 20.2 +1.2**
GNI Garni 18.78 70 P **Pn** **21 38 20.7 +0.1**
comp=Z,0.9nm,0.3s,baz=344,slow=9.1,SNR=7.1
GNI LR LR 21 46 55.3
comp=Z,223nm,19.8s,baz=273,slow=41
GNI Garni 18.78 70⇑*i*P **Pn** **21 38 21.3 +0.7**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI Garni 18.78 70 P **Pn** **21 38 21.6 +1.0**
GNI IAmb IAmb 21 38 28.3
comp=Z,27nm,1.1s
MNK Minsk 18.96 12 *i* P **P** **21 38 19.6 -2.0**
MNK *i* S **Sn** **21 41 52.0 -1.7**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=N,332nm,15.0s
MNK MLR MLR
comp=E,18nm,12.0s
MNK MLR MLR
comp=Z,426nm,15.0s
MNK Minsk 18.96 12 *i* P **P** **21 38 19.7 -1.9**
comp=E,2.0nm,0.9s
MNK *i* P **P** **21 38 19.7 -1.9**
comp=N,12nm,0.9s
MNK *i* P **P** **21 38 19.7 -1.9**
comp=Z,19nm,0.9s,baz=196
MNK *i* PP **pwP** **21 38 33.5 -0.4**
MNK *i* S **Sn** **21 41 52.1 -1.6**
MNK *i* SS **SnSn** **21 42 07.7 -0.2**
MNK *i* LQ LQ 21 44 03.5
MNK *i* LR LR 21 45 29.9
MNK *i* LRM MLR 21 46 49.6
comp=N,332nm,15.5s
MNK *i* LRM MLR 21 46 49.9
comp=E,18nm,11.9s
MNK *i* LRM MLR 21 46 52.7
comp=Z,426nm,14.5s
PABE Paberze 19.51 4 *e*P **P** **21 38 27.7 +0.2**
PABE Paberze 19.51 4 P **P** **21 38 27.0 -0.5**
PABE IAmb IAmb 21 38 32.1
comp=Z,48nm,0.8s
IIGN Ignalina 19.55 8 *e*P **P** **21 38 28.3 +0.3**
VORD Divnogorie 19.66 35 *e*P **P** **21 38 29.4 +0.2**
VORD pmax pmax
comp=Z,30nm,0.8s
ISAL Salakas 19.76 8 *e*P **P** **21 38 30.2 0.0**
VSR Storozhevoye 19.77 35 *e*P **P** **21 38 30.6 +0.2**
VSR pmax pmax
comp=Z,20nm,0.5s
GROC Groznyy 20.04 62 *e*P Pn 21 38 37.9 +2.6
GROC *e* 21 38 55.0
GROC pmax pmax
comp=Z,26nm,0.6s
ESBB Sonseca Array 20.33 288 P **P** **21 38 37.1 +0.4**
ESBB IAmb IAmb 21 38 43.1
comp=Z,22nm,1.0s
ESDC Sonseca Array 20.33 288 P Pn 21 38 38.0 -1.0
comp=Z,18nm,1.0s,baz=85,slow=10,SNR=38
ESDC LR LR 21 46 42.7
comp=Z,54nm,19.9s,baz=115,slow=38
ESDC Sonseca Array 20.33 288 P **P** **21 38 37.3 +0.5**
PAB San Pablo 20.62 287 P **P** **21 38 40.7 +0.8**
PAB pmax pmax
comp=Z,15nm,1.0s
PAB San Pablo 20.62 287 P **P** **21 38 40.7 +0.8**
PAB IAmb IAmb 21 38 46.8
comp=Z,16nm,0.9s
LPSR Galich'ya Gora 20.64 31 *e*P **P** **21 38 40.0 +0.1**
LPSR pmax pmax
comp=Z,30nm,0.6s
VRH Novokhopyorsk 20.98 38 *e*P **P** **21 38 43.3 -0.2**
VRH pmax pmax
comp=Z,70nm,0.9s
AKT Akhty 21.17 67 *e*P **P** **21 38 45.9 0.0**
AKT *e* 21 39 06.8
AKT pmax pmax
comp=Z,29nm,0.8s
MDT Midelt 21.69 269 P **P** **21 38 51.0 -0.4**
comp=Z,6.9nm,0.9s,baz=85,slow=10,SNR=12
MDT LR LR 21 49 47.6
comp=Z,136nm,18.8s,baz=101,slow=44
OBN Obninsk 21.70 24 P **P** **21 38 50.2 -1.0**
comp=Z,6.9nm,0.6s,baz=217,slow=4.2,SNR=8.7
OBN Obninsk 21.70 24*c i*P **P** **21 38 50.0 -1.2**
OBN *e* 21 39 14.6
OBN pmax pmax
comp=Z,23nm,0.6s
OBN MLR MLR
comp=Z,165nm,17.0s
OBN Obninsk 21.70 24 P **P** **21 38 50.0 -1.2**
OBN IAmb IAmb 21 38 51.1
comp=Z,31nm,0.7s
RST Umm Al-Ruwaisa 22.45 100 *e*P **P** **21 38 57.7 -1.8**
MOS Moscow 22.56 24 *e*P **P** **21 38 58.4 -2.1**
MOS pmax pmax
comp=Z,30nm,1.1s
PBRG Braganca 22.58 293 *e*P **P** **21 39 01.5 +0.6**
MIB Mutribah 22.60 99 *e*P **P** **21 38 59.5 -1.7**
VSU Vasula 22.67 7 *e*P **P** **21 38 55.3 -6.3**
VSU Vasula 22.67 7⇑*e*P **P** **21 39 02.5 +0.9**
VSU pmax pmax
comp=Z,141nm,1.4s
MVO Moncorvo 22.75 292 *e*P **P** **21 39 02.7 0.0**
PBAR Barrancos 22.75 284 *e*P **P** **21 39 04.5 +1.8**
comp=Z,25nm,1.4s
PMRV Marv??o 22.98 287 *e*P **P** **21 39 06.4 +1.3**
comp=Z,22nm,1.1s
PCBR Castelo Branco 23.04 288 *e*P **P** **21 39 09.1 +3.4**
comp=Z,21nm,1.7s
PESTR Estremoz 23.15 286 *e*P **P** **21 39 07.8 +1.0**
comp=Z,28nm,1.3s
PESTR Estremoz 23.15 286 P **P** **21 39 06.4 -0.4**
PVRL Vila Real 23.27 292 *e*P **P** **21 39 08.9 +0.9**
PVAQ Vaqueiros 23.35 282 *e*P **P** **21 39 10.1 +1.3**
PVIS Viseu 23.38 290 *e*P **P** **21 39 10.1 +1.0**
PBEJ Beja 23.41 284 *e*P **P** **21 39 10.8 +1.4**
PCAB Cabril 23.53 293 *e*P **P** **21 39 11.4 +0.8**
comp=Z,41nm,1.5s
PBDV Barranco-do-Ve 23.53 282 *e*P **P** **21 39 12.4 +1.8**
PCVE Castro Verde 23.58 283 *e*P **P** **21 39 12.3 +1.3**
PMTG Montargil 23.64 286 *e*P **P** **21 39 12.4 +0.9**
MESJ Messejana 23.70 283 *e*P **P** **21 39 13.7 +1.5**

PNCL Nicolau / Gran 23.93 284 *e*P **P 21 39 16.4 +2.1**
AAL Aland 24.13 358 *e*P **P 21 39 15.5 -0.5**
RAYN Ar Rayn 24.29 114 P **P 21 39 18.7 +0.9**
RAYN pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 24.29 114 P **P 21 39 18.7 +0.9**
HFS Hagfors 24.58 351 P **P 21 39 20.0 -0.1**
comp=Z,5.8nm,0.6s,baz=163,slow=11,SNR=18
HFS LR LR 21 50 29.3
comp=Z,99nm,18.2s,baz=164,slow=40
BELG Belogornoye 24.67 40 P **P 21 39 20.9 0.0**
comp=Z,16nm,0.5s,baz=29,slow=2.6,SNR=14
BELG LR LR 21 50 26.6
comp=Z,78nm,21.7s,baz=114,slow=40
NC602 NORSAR Array S 25.47 349 P **P 21 39 29.9 +1.7**
FINES FINESS Array B 25.56 5 P **P 21 39 29.1 +0.2**
comp=Z,5.4nm,0.7s,baz=160,slow=11,SNR=14
FINES PcP **PcP 21 42 59.5 +0.2**
comp=Z,2.1nm,0.8s,baz=123,slow=5.1,SNR=3.5
FINES LR LR 21 50 59.2
comp=Z,353nm,18.4s,baz=196,slow=40
FINES FINESS Array B 25.56 5 P **P 21 39 28.9 0.0**
FINES FINESS Array B 25.56 5 P **P 21 39 28.9 0.0**
FIA1 FINESS Array S 25.56 5 P **P 21 39 28.8 -0.1**
FIA1 IAmb IAmb 21 39 29.4
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 25.56 327 P **P 21 39 29.2 +0.2**
comp=Z,2.8nm,0.5s,baz=125,slow=8.4,SNR=15
NB201 NORSAR Array S 25.81 349 P **P 21 39 31.6 +0.3**
NB2 NORSAR Subarra 25.81 349 P **P 21 39 31.2 -0.1**
comp=Z,1.4nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 25.81 349 P **P 21 39 31.4 +0.1**
comp=Z,7.0nm,1.0s,baz=161,slow=9.7,SNR=8.0
NBO00 NORSAR Array S 25.88 348 P **P 21 39 32.0 +0.2**
KLMR Klimovskoe 27.35 19 *e*P **P 21 39 47.0 +2.0**
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 27.35 19 *e*P **P 21 39 47.1 +2.0**
KLMR AMP 21 40 01.2
comp=Z,14nm,0.9s
KLMR LR LR 21 49 35.5
TOA0 Torodi Ar. Sit 28.91 223 P **P 21 40 00.7 +1.3**
TORD Torodi Ar. Bea 28.91 223 P **P 21 40 00.0 +0.6**
comp=Z,2.9nm,0.8s,baz=33,slow=9.0,SNR=16
TORD LR LR 21 52 53.9
comp=Z,225nm,18.5s,baz=355,slow=39
TORD Torodi Ar. Bea 28.91 223 P **P 21 40 00.3 +0.9**
KIRV Kirov 29.06 30 P **P 21 39 58.9 -1.5**
comp=Z,12nm,0.6s,baz=202,slow=1.6,SNR=7.3
KIRV LR LR 21 53 47.9
comp=Z,57nm,18.4s,baz=298,slow=41
GEYT Alibeck 29.25 75 P **P 21 40 03.2 +0.8**
comp=Z,1.4nm,0.5s,baz=298,slow=9.7,SNR=2.1
AKTO Aktyubinsk 29.93 50 P **P 21 40 08.3 +0.2**
comp=Z,1.2nm,0.4s,baz=252,slow=9.8,SNR=5.2
ABKAR Akbulak array 30.89 53 P **P 21 40 16.2 -0.4**
ARU Arti 32.20 39*c i*P **P 21 40 27.4 -0.6**
ARU 21 41 30.4
ARU S **S 21 45 37.9 -1.0**
ARU SS **SnSn 21 47 31.9 +1.1**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 32.20 39 P **P 21 40 27.7 -0.4**
ARU IAmb IAmb 21 40 44.9
comp=Z,6.8nm,1.0s
ARCES ARCESS Array B 33.59 3 P **P 21 40 40.2 +0.2**
comp=Z,5.8nm,0.9s,baz=168,slow=6.2,SNR=8.1
ARCES PcP **PcP 21 43 20.5 +0.7**
comp=Z,1.4nm,0.9s,baz=207,slow=1.8,SNR=1.0
ARCES LR LR 21 55 39.9
comp=Z,181nm,18.7s,baz=190,slow=39
ARCES ARCESS Array B 33.59 3 P **P 21 40 40.3 +0.2**
ARCES IAmb IAmb 21 40 40.5
comp=Z,12nm,1.1s
CHGR Chuyangaron 37.70 71 P **P 21 41 16.0 +0.2**
BRVK Borovoye 37.90 48⇑*e*P **P 21 41 17.1 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 37.90 48 P **P 21 41 16.6 -0.6**
BRVK IAmb IAmb 21 41 44.4
comp=Z,5.5nm,0.9s
TIC Toumodi 38.00 226 *e*PKP2 **P 21 41 20.6 +2.1**
KK31 Karatay Array 38.03 64 P **P 21 41 18.2 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 38.03 64 P **P 21 41 18.1 -0.3**
KK31 IAmb IAmb 21 41 35.7
comp=Z,4.9nm,0.8s
KKAR Karatay Array 38.03 64 P **P 21 41 17.8 -0.7**
KKAR Karatay Array 38.03 64 P **P 21 41 17.8 -0.7**
KIC Kosan Boka 38.07 225 *e*PKP2 **P 21 41 20.3 +1.2**
comp=Z,14nm,1.0s
LIC Lamto 38.35 226 *e*PKP2 **P 21 41 21.7 +0.3**
comp=Z,19nm,0.9s
GAR Garm 38.52 71 P **P 21 41 23.2 +0.4**
GAR IAmb IAmb 21 41 24.5
comp=Z,20nm,1.1s
KBL Kabul 38.59 78 P **P 21 41 23.3 -0.3**
KBL pmax pmax
comp=Z,6.0nm,1.0s
KBL Kabul 38.59 78 P **P 21 41 23.3 -0.3**
KBL IAmb IAmb 21 41 25.0
comp=Z,6.2nm,0.9s
AAK Ala-Archa 40.99 64⇓*e*P **P 21 41 43.3 -0.1**
AAK pmax pmax
comp=Z,14nm,1.1s
BOOM Boomskoye usch 42.07 64 P **P 21 41 53.0 +0.8**
BOOM pmax pmax
comp=Z,7.0nm,0.7s
BOOM Boomskoye usch 42.07 64 P **P 21 41 53.0 +0.8**
BOOM IAmb IAmb 21 41 59.2
comp=Z,6.5nm,0.7s
NIL Nilore 42.19 78 P **P 21 41 53.8 +0.7**
NIL pmax pmax
comp=Z,34nm,1.1s
NIL Nilore 42.19 78 P **P 21 41 53.8 +0.7**
TARG Taragay, Kyrgy 43.58 65 P **P 21 42 05.6 +0.9**
MAKZ Makanchi 45.60 57 P **P 21 42 18.7 -1.7**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
MAKZ Makanchi 45.60 57 P **P 21 42 18.6 -1.7**
MAKZ IAmb IAmb 21 42 42.7
comp=Z,6.2nm,1.3s
MK31 Makanchi Array 45.82 57*ce*P **P 21 42 21.3 -0.7**
MK31 Makanchi Array 45.82 57 P **P 21 42 21.3 -0.7**
MKAR Makanchi Array 45.82 57 P **P 21 42 21.4 -0.7**
comp=Z,3.0nm,0.4s,baz=270,slow=7.5,SNR=80
MKAR PcP **PcP 21 44 00.2 +1.1**
comp=Z,1.2nm,0.8s,baz=283,slow=3.1,SNR=1.3
ZAA0 Zalesovo Array 46.58 47 P **P 21 42 26.7 -1.2**
ZAA0 IAmb IAmb 21 42 28.2
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 46.58 47 P **P 21 42 26.8 -1.1**
comp=Z,6.6nm,0.5s,baz=272,slow=8.8,SNR=32
ZALV LR LR 22 04 43.5
comp=Z,37nm,18.5s,baz=302,slow=40
ZALV Zalesovo Beam 46.58 47 P **P 21 42 26.7 -1.2**
SUMG Summit 47.03 339 P **P 21 42 33.0 +1.4**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 47.03 339 P **P 21 42 33.0 +1.4**
SUMG IAmb IAmb 21 42 34.7
comp=Z,7.7nm,1.0s
NRIK Noril'sk 48.36 26 P **P 21 42 41.8 +0.3**
comp=Z,2.9nm,0.6s,baz=251,slow=7.0,SNR=4.5
DGZ Jazzator, Alta 48.72 52⇓*e*P **P 21 42 45.0 +0.2**
DGZ pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 50.18 60 *e*P **P 21 42 59.6 +3.8**
TLY Talaya 58.20 47*ce*P **P 21 43 54.4 +0.3**
TLY pmax pmax
comp=Z,11nm,1.0s
ZAK Zakamensk 58.41 48 *e*P **P 21 43 55.3 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 60.20 61⇑P **P 21 44 08.3 0.0**
GTA pP pP 21 44 16.8 +0.4
GTA sP pwP 21 44 20.8 -0.5
GTA pmax pmax
comp=Z,6.0nm,0.9s
SHL Shillong 60.24 79 P **P 21 44 08.8 0.0**
SHL pmax pmax
comp=Z,14nm,1.4s
SHL Shillong 60.24 79 P **P 21 44 08.8 0.0**
SCHQ Schefferville 60.49 318 P **P 21 44 11.2 +1.4**
comp=Z,3.9nm,0.6s,baz=48,slow=11,SNR=6.1
SCHQ Schefferville 60.49 318 P **P 21 44 10.9 +1.0**
PALK Pallekele 61.04 103 LR LR 22 14 31.9
comp=Z,39nm,18.9s,baz=26,slow=40
SONM Songino Array 61.25 50 P **P 21 44 15.6 +0.3**
comp=Z,4.4nm,0.8s,baz=282,slow=8.7,SNR=12
SONM Songino Array 61.25 50 P **P 21 44 14.3 -1.0**
SONM pmax pmax
comp=Z,8.0nm,1.1s
SONM Songino Array 61.25 50 P **P 21 44 14.3 -1.0**
SONM IAmb IAmb 21 44 16.3
comp=Z,7.9nm,1.1s
TIXI Tiksi 61.37 20⇑*e*P **P 21 44 15.7 +0.2**
TIXI Tiksi 61.37 20 P **P 21 44 15.7 +0.2**
TIXI IAmb IAmb 21 44 18.5
comp=Z,6.8nm,1.1s
BOD Bodaibo 61.59 37 *e*P **P 21 44 15.0 -2.3**
BOD pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 61.64 50*ce*P **P 21 44 18.0 0.0**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 61.64 50 P **P 21 44 17.3 -0.6**
ULN IAmb IAmb 21 44 18.9
comp=Z,7.3nm,0.9s
LMN Caledonia Moun 62.83 308 P **P 21 44 26.7 +0.9**
BOSA Boshof 64.45 176 P **P 21 44 38.0 +1.4**
comp=Z,3.8nm,0.9s,baz=4.0,slow=11,SNR=3.1
BOSA LR LR 22 15 38.8
comp=Z,136nm,19.1s,baz=17,slow=39
BOSA Boshof 64.45 176 P **P 21 44 37.2 +0.6**
BOSA pmax pmax
comp=Z,15nm,1.3s
BOSA Boshof 64.45 176 P **P 21 44 37.2 +0.6**
PQI Presque Isle 64.49 310 P **P 21 44 38.2 +1.5**
PQI IAmb IAmb 21 44 39.1
comp=Z,6.7nm,1.0s
LZH Lanzhou 64.51 63 *e*P **P 21 44 38.2 +1.0**
LZH pP pP 21 44 46.5 +1.1
LZH sP pwP 21 44 52.9 +2.6
LZH pmax pmax
comp=Z,18nm,1.1s
D62A Allapoint, AII 64.94 311 P **P 21 44 41.0 +1.4**
E62A Clayton Lake 65.44 311 P **P 21 44 42.5 -0.3**
E62A IAmb IAmb 21 44 45.7
comp=Z,7.6nm,0.8s
YAK Yakutsk 66.59 29⇓*i*P **P 21 44 49.7 -0.2**
YAK pmax pmax
comp=Z,7.0nm,0.6s
YAK Yakutsk 66.59 29 P **P 21 44 49.1 -0.8**
HHC Hu-ho-hao-te 67.64 55 *e*P **P 21 44 58.1 +0.9**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.9s
CMAR Chiang Mai Arr 69.48 82 P **P 21 45 08.7 -0.2**
comp=Z,2.3nm,0.8s,baz=305,slow=8.0,SNR=12
CMAR Chiang Mai Arr 69.48 82 *i* P **P 21 45 08.6 -0.2**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 69.48 82 P **P 21 45 09.0 +0.2**
PLVO Plevna 70.81 312 P **P 21 45 19.2 +2.6**
PLVO IAmb IAmb 21 45 20.6
comp=Z,7.4nm,1.0s
PAL Palisades 70.95 307 P **P 21 45 19.2 +1.7**
PAL pmax pmax
comp=Z,17nm,1.1s
PAL Palisades 70.95 307 P **P 21 45 19.2 +1.7**
BJI Beijing 71.09 54 P **P 21 45 18.8 +0.5**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BILL Bilibino 72.90 13 *e*P **P 21 45 29.4 +0.7**
BILL *e*PPP PPP 21 49 55.9
BILL pmax pmax
comp=Z,3.0nm,0.5s
SEY Seymchan 73.83 21⇓*e*P **P 21 45 34.9 +0.6**
CN2 Changchun 74.80 47 *e*P **P 21 45 40.1 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 75.03 40⇓*i*P **P 21 45 41.9 +0.4**
KLR pmax pmax
comp=Z,10.0nm,1.8s
YKA Yellowknife Ar 75.60 341 P **P 21 45 45.7 +1.1**
comp=Z,1.2nm,0.8s,baz=37,slow=6.2,SNR=2.1
MA2 Magadan 75.92 24⇑*e*P **P 21 45 47.4 +1.0**
MA2 pmax pmax
comp=Z,5.0nm,0.8s
NJ2 Nanjing 77.26 60 *e*P **P 21 45 55.0 +0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
USRK Ussuriysk Ar. 78.31 43 P **P 21 46 00.1 -0.1**
comp=Z,1.7nm,0.6s,baz=253,slow=4.4,SNR=3.0
ILAR Eielson Array 79.06 355 P **P 21 46 05.3 +1.4**
comp=Z,1.3nm,0.9s,baz=354,slow=3.8,SNR=8.5
ILAR Eielson Array 79.06 355 P **P 21 46 05.5 +1.6**
K27K Chicken 79.37 353 P **P 21 46 07.2 +1.6**
K27K IAmb IAmb 21 46 08.7
comp=Z,8.0nm,1.1s
HDA Harding Lake 79.42 355 P **P 21 46 06.8 +0.9**
HDA IAmb IAmb 21 46 07.9
comp=Z,4.0nm,0.8s
SCRK Sand Creek 79.61 354 P **P 21 46 08.7 +1.7**
SCRK IAmb IAmb 21 46 10.7
comp=Z,4.6nm,1.1s
DOT Dot Lake 79.94 353 P **P 21 46 09.8 +1.0**
DOT IAmb IAmb 21 46 11.2
comp=Z,4.8nm,1.0s
KSAR Wonju Array Be 80.09 51 P **P 21 46 09.9 -0.1**
KSAR Wonju Array Be 80.09 51 P **P 21 46 09.9 -0.1**
KSRS Korea Array 80.10 51 P **P 21 46 10.6 +0.6**
comp=Z,1.8nm,0.5s,baz=310,slow=4.6,SNR=10
KSRS LR LR 22 25 55.3
comp=Z,31nm,18.8s,baz=324,slow=39
BCAR Beaver Creek A 80.28 352 P **P 21 46 12.3 +1.7**
L27K Beaver Creek, 80.29 352 P **P 21 46 12.9 +2.2**
L27K IAmb IAmb 21 46 13.8
comp=Z,5.7nm,1.1s
N41A Harden Midland 81.52 315 P **P 21 46 19.1 +1.5**
HYT Haines Junctio 81.91 350 P **P 21 46 20.8 +1.3**
HYT IAmb IAmb 21 46 22.6
comp=Z,8.0nm,1.2s
BDFB Brasília 83.27 245 P **P 21 46 27.5 +0.4**
comp=Z,1.5nm,0.4s,baz=112,slow=11,SNR=1.7
PETK Petropavlovsk- 83.41 25 LR LR 22 29 33.9
comp=Z,30nm,18.5s,baz=332,slow=40
MJAR Matsushiro Arr 86.93 46 P **P 21 46 46.5 +1.3**
comp=Z,0.5nm,0.4s,baz=324,slow=4.5,SNR=4.6
MJAR Matsushiro Arr 86.93 46 P **P 21 46 45.2 0.0**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 86.93 46 P **P 21 46 45.2 0.0**
JTMT Jette 87.63 332 P **P 21 46 49.8 +1.3**
JTMT IAmb IAmb 21 46 51.8
comp=Z,4.2nm,0.9s
PDAR Pinedale Array 89.69 326 PP PP 21 50 31.7 +2.0
comp=Z,0.1nm,0.3s,baz=52,slow=9.6,SNR=4.1
CPUP Villa Florida 96.71 242 LR LR 22 33 02.9
comp=Z,46nm,18.4s,baz=62,slow=37
ASAR Alice Springs 121.21 98 PKP **PKiKP 21 52 53.6 +0.2**
comp=Z,0.8nm,0.9s,baz=295,slow=1.4,SNR=5.2
ASAR Alice Springs 121.21 98 **PKiKP 21 52 53.8 +0.4**
QSPA South Pole Qui 125.94 180 PKPdf **PKiKP 21 53 02.1 +0.7**

SKO 06 21:41:34.1,41°.22N×22°.73E,h12km,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.14**	**115**	*i* P	g	Pg	21 41 37.6	0.0
KNT				*i* S	g	Sg	21 41 39.6	-0.4
VAY	**Valandovo**	**0.16**	**310**	*i* P	g	Pg	21 41 37.9	0.0
VAY				*i* S	g	Sg	21 41 40.3	-0.1
VAY				*e*L	g	Lg	21 41 40.6	
	comp=N,8.5nm,0.2s							
GRG	**Griva**	**0.36**	**223**	*i* P	g	Pg	21 41 41.7	+0.3
GRG				*i* S	g	Sg	21 41 47.2	+0.9
STIP	**Stip**	**0.63**	**319**	*i* P	g	Pg	21 41 45.9	-0.5
STIP				*i* S	g	Sg	21 41 52.4	-2.2
STIP				*e*L	g	Lg	21 41 54.4	
	comp=E,1.4nm,0.2s							

ATH 06 21:41:52.2,40°.47N×21°.57E,h17km±3km,ML1.1/3,Error ellipse: s-maj=3.4km s-min=1.1km az=273.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.22**	**137**	P	g	Pg	21 41 57.3	-0.1
KZN				S	g	Sg	21 42 01.2	+0.3
KZN				AML		AML	21 42 01.4	
	comp=E,275μm,0.2s							
KZN				AML		AML	21 42 01.6	
	comp=N,177μm,0.3s							
FNA	**Florina**	**0.35**	**335**	P	g	Pg	21 41 59.3	-0.3
FNA				S	g	Sg	21 42 04.5	-0.1
FNA				AML		AML	21 42 05.6	
	comp=E,78μm,0.3s							
FNA				AML		AML	21 42 05.8	
	comp=N,62μm,0.3s							
NEST	**Nestorio**	**0.40**	**263**	P	g	Pg	21 42 00.3	-0.2
NEST				S	g	Sg	21 42 06.1	0.0
NEST				AML		AML	21 42 08.5	
	comp=E,50μm,0.3s							
NEST				AML		AML	21 42 08.7	
	comp=N,35μm,0.3s							
KPRO	**Kipourio**	**0.54**	**198**	P	g	Pg	21 42 02.8	-0.2
LIT	**Litokhoron**	**0.79**	**117**	P	g	Pb	21 42 07.0	-0.5

*JMA **06** 22:42:58.8±0.2,24°.47N×122°.84E,h102km±2km,M1.6*
*TAP **06** 22:42:58.8,24°.44N×122°.97E,h55km±1km,ML2.5,D*
ISC 06 22:42:59.0±1.7,24°.52N±0°.08×122°.84E±0°.03,h99km±12km, n29,σ0s56/54,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.12**	**127**	P	e	Pn	**22 43 13.2**	**+0.3**
JYNG				*e*S		**Sn**	**22 43 23.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.17**	**111**	P	e	Pn	**22 43 13.3**	**+0.3**
YOJ				*e*S		**Sn**	**22 43 23.9**	**+0.5**
YOJ	**Yonaguni jima** baz=41	**0.17**	**111**	P		Pn	22 43 08.2	-4.8
YOJ				S		Sn	22 43 13.4	-10
IRIF	**Iriomote-Funau** baz=41	**0.83**	**103**	P	e	Pn	**22 43 17.8**	**+0.2**
IRIF				S		**Sn**	**22 43 31.4**	**-0.2**
TWC	**Suao** baz=279	**0.91**	**276**	*i* P	e	Pn	**22 43 17.9**	**-0.4**
TWC				S		**Sn**	**22 43 32.2**	**-0.7**
TIPB	**Shuangxi** baz=296	**1.03**	**296**	*i* P	e	Pn	**22 43 19.7**	**-0.1**
TIPB				*i* S		**Sn**	**22 43 35.3**	**0.0**
NDS	**Dongshan** baz=279	**1.03**	**276**	P	e	Pn	**22 43 19.2**	**-0.5**
NDS				S		**Sn**	**22 43 34.5**	**-0.8**
TWE	**Neicheng** baz=283	**1.09**	**281**	P	e	Pn	**22 43 20.1**	**-0.2**
TWE				S		**Sn**	**22 43 36.7**	**+0.2**
JKRS	**Kuro-shima**	**1.10**	**105**	P	e	Pn	**22 43 21.2**	**+0.7**
JKRS				S		**Sn**	**22 43 37.2**	**+0.5**
ENTT	**Nioudou** baz=278	**1.17**	**276**	P	e	Pn	**22 43 21.7**	**+0.4**
ENTT				S		**Sn**	**22 43 38.0**	**-0.1**
ETL	**Fush Village** baz=257	**1.17**	**252**	*e*P	e	Pn	**22 43 20.9**	**-0.5**
ETL				*e*S		**Sn**	**22 43 37.6**	**-0.5**
NACB	**Ninganchiao** baz=258	**1.19**	**253**	P	e	Pn	**22 43 21.1**	**-0.5**
NACB				S		**Sn**	**22 43 37.7**	**-0.8**
JIJ	**Ishigaki jima**	**1.20**	**97**	P	e	Pn	**22 43 21.8**	**+0.2**
JIJ				S		**Sn**	**22 43 37.8**	**-0.9**
NDT	**Datong Townshi** baz=276	**1.21**	**274**	P	e	Pn	**22 43 22.9**	**+1.1**
NDT				S		**Sn**	**22 43 40.1**	**+1.1**
TWD	**Chiawan** baz=254	**1.22**	**249**	*e*P	e	Pn	**22 43 21.8**	**0.0**
TWD				*e*S		**Sn**	**22 43 38.4**	**-0.7**
NWLT	**Wulai** baz=284	**1.25**	**282**	P	e	Pn	**22 43 21.9**	**-0.3**
NWLT				S		**Sn**	**22 43 39.6**	**-0.1**
ETLH	**Xiulin Townshi** baz=260	**1.28**	**256**	P	e	Pn	**22 43 22.6**	**-0.1**
ETLH				S		**Sn**	**22 43 40.4**	**-0.1**
JISG	**Ishigakijimahi**	**1.34**	**87**	P	e	Pn	**22 43 23.3**	**0.0**
JISG				S		**Sn**	**22 43 40.7**	**-0.9**
NNS	**Nan Shan** baz=269	**1.34**	**267**	P	e	Pn	**22 43 23.6**	**+0.2**
NNS				S		**Sn**	**22 43 41.9**	**0.0**
YHNB	**Yeheng** baz=278	**1.34**	**277**	P	e	Pn	**22 43 24.0**	**+0.6**
YHNB				*e*S		**Sn**	**22 43 41.4**	**-0.5**
ETM	**Tongmen** baz=250	**1.35**	**246**	P	e	Pn	**22 43 22.7**	**-0.8**
ETM				S		**Sn**	**22 43 41.7**	**-0.2**
NSK	**Sanguang** baz=279	**1.36**	**277**	P	e	Pn	**22 43 24.0**	**+0.4**
NSK				*e*S		**Sn**	**22 43 41.4**	**-0.8**
FUSS	**Fushou** baz=263	**1.48**	**260**	P	e	Pn	**22 43 25.6**	**+0.3**
FUSS				S		**Sn**	**22 43 45.1**	**0.0**
CHGB	**Renai** baz=257	**1.59**	**254**	P	e	Pn	**22 43 27.1**	**+0.5**
CHGB				S		**Sn**	**22 43 47.6**	**+0.1**
OWD	**Renai** baz=253	**1.62**	**250**	P	e	Pn	**22 43 27.3**	**+0.4**
OWD				S		**Sn**	**22 43 47.8**	**-0.2**
JTJ	**Tarama**	**1.70**	**86**	S	e	Sn	**22 43 48.9**	**-0.6**
WHP	**Taichung City** baz=265	**1.75**	**262**	P	e	Pn	**22 43 29.8**	**+1.4**
WHP				S		**Sn**	**22 43 51.4**	**+0.6**
YULB	**Yu-li** baz=235	**1.81**	**232**	P	e	Pn	**22 43 28.8**	**-0.3**
YULB				S		**Sn**	**22 43 51.3**	**-0.7**
FULB	**Fuli** baz=231	**1.94**	**227**	*e*S	e	Sn	**22 43 55.9**	**+0.9**

*JMA **06** 23:40:25.9±0.1,23°.95N×122°.20E,h26km±3km,M2.5*
*TAP **06** 23:40:26.5,24°.02N×122°.22E,h29km,ML2.8,D*
ISC 06 23:40:26.0±1.1,23°.97N±0°.02×122°.21E±0°.02,h26km±11km, n64,σ0s72/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EHP	**Heping Village** baz=303	**0.55**	**308**	*e*S	e	**Sn**	**23 40 45.5**	**-0.9**
ETL	**Fush Village** baz=271	**0.57**	**289**	*i* P	e	**Pb**	**23 40 37.9**	**+0.4**
ETL				*i* S		**Sn**	**23 40 46.3**	**-0.7**
TWD	**Chiawan** baz=276	**0.57**	**281**	P	e	**Pb**	**23 40 37.4**	**-0.2**
TWD				*i* S		**Sb**	**23 40 46.1**	**+0.7**
NACB	**Ninganchiao** baz=272	**0.60**	**290**	P	e	**Pb**	**23 40 37.9**	**0.0**
NACB				S		**Sb**	**23 40 45.7**	**-0.4**
EWUT	**Wuta** baz=323	**0.61**	**320**	P	e	**Pb**	**23 40 37.7**	**-0.6**
EWUT				S		**Sn**	**23 40 47.5**	**-0.6**
ETM	**Tongmen** baz=257	**0.66**	**270**	P	e	**Pb**	**23 40 38.6**	**-0.4**
ETM				S		**Sn**	**23 40 48.9**	**-0.3**
TEGC	**Jichi Village** baz=243	**0.67**	**247**	P	e	**Pn**	**23 40 40.0**	**+0.2**
TEGC				*i* S		**Sn**	**23 40 49.4**	**0.0**
ETLH	**Xiulin Townshi** baz=275	**0.71**	**289**	P	e	**Pb**	**23 40 39.6**	**-0.2**

ETLH				S	Sb	23 40 49.8	+0.6
	baz=275						
ESL	**Shilin**	**0.73**	**258**	P	Pb	23 40 39.7	-0.4
	baz=248						
ESL				S	Sn	23 40 51.2	+0.3
	baz=248						
EGFH	**Guangfu**	**0.78**	**247**	*e*P	Pn	23 40 42.2	+0.9
	baz=234						
EGFH				S	Sb	23 40 51.7	+0.6
	baz=234						
NDS	**Dongshan**	**0.80**	**326**	P	Pb	23 40 41.2	-0.1
	baz=328						
NDS				S	Sb	23 40 51.6	-0.2
	baz=328						
JYNG	**Yonagunijimaku**	**0.82**	**54**	P	Pb	23 40 41.5	-0.2
JYNG				*e*S	Sn	23 40 52.9	-0.3
HGSD	**Ruisui**	**0.86**	**237**	P	Pn	23 40 41.9	-0.6
	baz=234						
HGSD				S	Sb	23 40 53.9	+0.3
	baz=234						
YOJ	**Yonaguni jima**	**0.88**	**56**	P	Pn	23 40 42.2	-0.5
YOJ				*e*S	Sn	23 40 54.5	-0.1
YOJ	**Yonaguni jima**	**0.88**	**56**	P	Pb	23 40 42.8	+0.2
	baz=58						
YOJ				S	Sn	23 40 54.3	-0.3
	baz=58						
WHF	**Hehuan Shan**	**0.88**	**281**	*i* P	Pb	23 40 42.8	-0.2
	baz=267						
WHF				S	Sb	23 40 53.8	-0.8
	baz=267						
ENTT	**Nioudou**	**0.89**	**319**	P	Pb	23 40 43.6	+0.8
	baz=315						
ENTT				*e*S	Sb	23 40 53.3	-1.1
	baz=315						
NDT	**Datong Townshi**	**0.89**	**315**	*e*P	Pb	23 40 44.4	+1.4
	baz=310						
NDT				*e*S	Sn	23 40 55.9	+0.8
	baz=310						
NNS	**Nan Shan**	**0.90**	**302**	P	Pb	23 40 43.1	0.0
	baz=298						
NNS				*e*S	Sb	23 40 52.3	-2.4
	baz=298						
TWE	**Neicheng**	**0.90**	**326**	*i* P	Pb	23 40 43.0	0.0
	baz=323						
TWE				*i* S	Sb	23 40 54.6	0.0
	baz=323						
FUSS	**Fushou**	**0.93**	**287**	P	Pn	23 40 43.6	0.0
	baz=283						
FUSS				*i* S	Sn	23 40 56.1	0.0
	baz=283						
EHY	**Hungye**	**0.94**	**241**	P	Pn	23 40 43.2	-0.3
	baz=238						
EHY				S	Sn	23 40 56.6	+0.6
	baz=238						
NTC	**Toucheng**	**0.94**	**338**	*e*P	Pn	23 40 42.5	-1.2
	baz=347						
NTC				S	Sn	23 40 56.6	+0.4
	baz=347						
OWD	**Renai**	**0.95**	**269**	*i* P	Pn	23 40 43.6	-0.2
	baz=266						
OWD				S	Sb	23 40 55.8	-0.3
	baz=266						
CHGB	**Renai**	**0.95**	**276**	P	Pn	23 40 43.6	-0.3
	baz=262						
CHGB				S	Sb	23 40 56.5	+0.1
	baz=262						
ECBN	**Changbin**	**0.95**	**227**	P	Pn	23 40 43.6	-0.1
	baz=213						
ECBN				S	Sb	23 40 56.2	+0.1
	baz=213						
TWT	**Tachien**	**0.99**	**287**	P	Pb	23 40 45.3	+0.7
	baz=274						
TWT				S	Sn	23 40 58.2	+0.7
	baz=274						
TDCB	**Techi**	**1.00**	**286**	*e*P	Pb	23 40 44.9	+0.1
	baz=273						
YULB	**Yu-li**	**1.02**	**236**	P	Pn	23 40 44.4	-0.2
	baz=249						
YULB				S	Sn	23 40 57.7	-0.4
	baz=249						
EYUL	**Yuli**	**1.03**	**233**	P	Pn	23 40 45.0	+0.2
	baz=221						
EYUL				S	Sb	23 40 58.8	+0.6
	baz=221						
NWLT	**Wulai**	**1.03**	**321**	P	Pb	23 40 45.4	+0.1
	baz=317						
NWLT				S	Sb	23 40 58.3	-0.1
	baz=317						
YHNB	**Yeheng**	**1.03**	**313**	P	Pn	23 40 44.6	-0.2
	baz=309						
TWF1	**Yuli**	**1.04**	**234**	*i* P	Pn	23 40 44.8	-0.1
	baz=222						
TWF1				S	Sb	23 40 59.3	+0.6
	baz=222						
TIPB	**Shuangxi**	**1.06**	**341**	*i* P	Pn	23 40 45.3	+0.1
	baz=347						
TIPB				S	Sn	23 40 58.3	-0.7
	baz=347						
FULB	**Fuli**	**1.14**	**228**	P	Pn	23 40 45.8	-0.5
	baz=215						
FULB				S	Sn	23 41 00.3	-0.8
	baz=215						
WFSB	**Wu-fen Shan**	**1.16**	**340**	P	Pn	23 40 46.3	-0.3
	baz=352						
WFSB				S	Sb	23 41 02.1	-0.1
	baz=352						
WCS	**Beigang Elemen**	**1.19**	**274**	P	Pb	23 40 47.7	-0.2
	baz=264						
WCS				S	Sn	23 41 02.2	-0.1
	baz=264						
WHP	**Taichung City**	**1.20**	**285**	*e*P	Pb	23 40 49.4	+1.3
	baz=272						
WHP				*e*S	Sb	23 41 06.0	+2.8
	baz=272						
SMLT	**Sun Moon Lake**	**1.20**	**266**	P	Pb	23 40 48.2	0.0
	baz=263						
SMLT				S	Sb	23 41 03.5	0.0
	baz=263						
TYC	**Yuchr**	**1.24**	**267**	P	Pb	23 40 48.4	-0.4
	baz=264						
TYC				S	Sn	23 41 04.0	+0.5
	baz=264						
YUS	**Yu-Shan**	**1.25**	**248**	P	Pb	23 40 49.1	-0.1
	baz=245						
YUS				S	Sb	23 41 05.1	0.0
	baz=245						
ECS	**Chishang**	**1.26**	**226**	S	Sb	23 41 05.4	+0.4
	baz=215						
EDH	**Donghe**	**1.30**	**220**	P	Pn	23 40 48.2	-0.3
	baz=211						
EDH				S	Sn	23 41 03.5	-1.5
	baz=211						
YM01	**YM01**	**1.31**	**334**	S	Sn	23 41 05.0	-0.2
	baz=345						
ELDTW	**Lidau**	**1.34**	**235**	P	Pn	23 40 49.1	-0.2
	baz=221						
ELDTW				S	Sn	23 41 05.7	-0.6
	baz=221						
ALS	**Alishan**	**1.37**	**251**	P	Pb	23 40 50.9	-0.2
	baz=248						
ALS				S	Sb	23 41 08.2	-0.1
	baz=248						
IRIF	**Iriomote-Funau**	**1.43**	**75**	P	Pn	23 40 50.5	+0.2
CHN5	**Tsauling**	**1.45**	**255**	P	Pb	23 40 52.6	+0.2
	baz=243						
CHN5				*e*S	Sb	23 41 11.9	+1.3
	baz=243						
LONT	**Longtian**	**1.45**	**223**	P	Pn	23 40 50.6	0.0
	baz=215						
LONT				S	Sn	23 41 08.4	-0.4
	baz=215						
LDUT	**Ludao**	**1.46**	**208**	P	Pn	23 40 50.4	-0.3
	baz=209						
LDUT				S	Sn	23 41 07.5	-1.5
	baz=209						
STYH	**Taoyuan**	**1.54**	**239**	P	Pn	23 40 52.9	+1.1
	baz=229						
STYH				S	Sb	23 41 12.8	-0.2
	baz=229						
TWGBT	**Beinan**	**1.55**	**222**	P	Pn	23 40 51.4	-0.6
	baz=233						
TWGBT				S	Sn	23 41 10.4	-0.8
	baz=233						
TWG	**Pinlang**	**1.55**	**223**	*i* P	Pn	23 40 51.8	-0.2
	baz=233						
TWG				S	Sn	23 41 10.2	-1.1
	baz=233						
CHN4	**Tsaushan**	**1.61**	**248**	*e*P	Pb	23 40 56.0	+0.9
	baz=246						
CHN4				S	Sb	23 41 15.9	+0.9
	baz=246						
WTP	**Ta-pu**	**1.63**	**244**	P	Pb	23 40 55.0	-0.6
	baz=242						
WTP				*e*S	Sb	23 41 17.2	+1.4
	baz=242						
JKRS	**Kuro-shima**	**1.66**	**80**	P	Pb	23 40 55.4	-0.6
JKRS				S	Sn	23 41 15.1	+1.1
TWK	**Hsinying**	**1.73**	**246**	*e*P	Pb	23 40 56.8	-0.4
	baz=245						
TWK				*e*S	Sb	23 41 19.2	+0.7
	baz=245						
CHN1	**Nanshi**	**1.73**	**243**	P	Pb	23 40 56.6	-0.5
	baz=242						
CHN1				*e*S	Sb	23 41 19.5	+0.9
	baz=242						
SLGT	**Liugui**	**1.74**	**236**	P	Pn	23 40 56.0	+1.5
	baz=226						
SLGT				*e*S	Sb	23 41 18.4	-0.3
	baz=226						
JIJ	**Ishigaki jima**	**1.81**	**77**	P	Pn	23 40 56.2	+0.7
JIJ				*e*S	Sn	23 41 19.0	+1.5
SSD	**Sandimen**	**1.90**	**230**	*e*P	Pb	23 40 59.4	-0.6
	baz=223						
SSD				*e*S	Sb	23 41 22.6	-0.7
	baz=223						
MASBT	**Mashibuluo**	**1.98**	**227**	P	Pn	23 40 59.3	+1.4
	baz=222						
MASBT				*e*S	Sb	23 41 26.0	+0.3
	baz=222						
SCZT	**Fangliau**	**2.16**	**223**	*e*P	Pb	23 41 03.7	-0.8
	baz=218						
SCZT				S	Sn	23 41 27.5	+1.2
	baz=218						
PTMZ	**Houxiangcun**	**3.01**	**291**	*e*P	Pn	23 41 12.0	0.0
	baz=287						
PTMZ				*e*S	Sn	23 41 46.5	-0.8
	baz=287						

BGR ***06*** *23:58:06.2±1.3, 42°.11N×20°.24E, h10km, ML4.1, Error ellipse: s-maj=44.5km s-min=16.7km az=64.0*
PRU ***06*** *23:58:07.6±0.0, 42°.31N×19°.47E, h0km, M4.3*
MOS ***06*** *23:58:07.7±0.9, 42°.40N×19°.41E, h11km, mb4.5/6, Error ellipse: s-maj=5.7km s-min=3.6km az=80.4*
IDC ***06*** *23:58:07.6±0.6, 42°.33N×19°.46E, h0km, mb4.0/13, mb1 4.0/27, mb1mx3.9/49, mbtmp3.9/27, ML3.5/13, MS3.4/25, Ms1 3.4/25, ms1mx3.2/56, Error ellipse: s-maj=10.7km s-min=9.2km az=179.0*
TIR ***06*** *23:58:09.4, 42°.36N×19°.41E, h14km±3km, Md3.9, Ml4.4*
PDG ***06*** *23:58:09.5±0.1, 42°.38N×19°.38E, h21km, MD3.9/13, ML3.6/14, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
RHSSO ***06*** *23:58:09.7±0.4, 42°.38N×19°.46E, h11km±1km, ML3.9/17*
LDG ***06*** *23:58:09.9±0.1, 42°.39N×19°.47E, h10km, Ml3.3/19, Error ellipse: s-maj=2.5km s-min=2.0km az=22.0*
BEO ***06*** *23:58:10.3±0.2, 42°.39N×19°.45E, h10km±2km, ML3.8/18*
NEIC ***06*** *23:58:10.7±1.6, 42°.37N±0°.04×19°.40E±0°.05, h18km±4km, Error ellipse: s-maj=6.4km s-min=5.9km az=185.0*
SKO ***06*** *23:58:10.6, 42°.37N×19°.45E, h7km*
ISC 06 23:58:09.9±0.7,**42°.37N**±0°.01×**19°.42E**±0°.02,**h18**km±3km, **n512**,σ1§**86**/647,**mb4.2**/20,**MS3.5**/13,**25C-46D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.14**	**295**	*e*Pg	**Pg**	**23 58 13.9**	**-0.1**
PDG				*e*Sg	**Sg**	**23 58 16.9**	**+0.1**
PDG	**Podgorica**	**0.14**	**295**	⇓P	**Pg**	**23 58 13.4**	**-0.7**
PDG				⇑S	**Sg**	**23 58 17.0**	**+0.3**
PDG	**Podgorica**	**0.14**	**295**	*e*Pg	**Pg**	**23 58 13.8**	**-0.2**
PDG				*e*Sg	**Sg**	**23 58 16.9**	**+0.1**
PDG	**Podgorica**	**0.14**	**295**		**Pg**	**23 58 13.1**	**-0.9**
PDG				Sg	**Sg**	**23 58 16.9**	**+0.1**
PDG	**Podgorica**	**0.14**	**295**	*i* Pg	**Pg**	**23 58 13.8**	**-0.2**
PDG				*i* Sg	**Sg**	**23 58 17.1**	**+0.3**
TTG	**Podgorica**	**0.14**	**295**	P	**Pg**	**23 58 13.3**	**-0.7**
	baz=301						
TTG				S	**Sg**	**23 58 16.1**	**-0.6**
	baz=301						
TTG	**Podgorica**	**0.14**	**295**	*e*Pg	**Pg**	**23 58 13.5**	**-0.5**
TTG				*i* Sg	**Sg**	**23 58 16.8**	**+0.1**
DRME	**Dracevica, Mon**	**0.26**	**224**	⇓*i*Pg	**Pg**	**23 58 15.6**	**-0.1**
DRME				*e*Sg	**Sb**	**23 58 20.5**	**+0.6**
DRME	**Dracevica, Mon**	**0.26**	**224**	*e*Pg	**Pg**	**23 58 15.2**	**-0.5**
DRME				*i* Sg	**Sg**	**23 58 19.8**	**+0.1**
BUM	**Brajici-Budva**	**0.40**	**260**	*e*Pg	**Pg**	**23 58 17.2**	**-1.0**
BUM				*i* Sg	**Sg**	**23 58 23.6**	**-0.2**
CEME	**Cevo**	**0.41**	**295**	*e*Pg	**Pg**	**23 58 17.4**	**-1.0**
CEME				*i* Sg	**Sg**	**23 58 24.1**	**-0.1**
ULC	**Ulcinj**	**0.43**	**198**	P	**Pg**	**23 58 18.4**	**-0.3**
	baz=197						
ULC				S	**Sb**	**23 58 25.1**	**0.0**
	baz=197						
ULC	**Ulcinj**	**0.43**	**198**	*i* Pg	**Pg**	**23 58 18.5**	**-0.3**
ULC	**Ulcinj**	**0.43**	**198**	*e*Pg	**Pg**	**23 58 18.1**	**-0.6**
ULC				*i* Sg	**Sb**	**23 58 25.3**	**+0.2**
PVY	**Plav**	**0.45**	**61**	⇑*i*Pg	**Pb**	**23 58 18.9**	**-0.6**
PVY				*i* Sg	**Sb**	**23 58 26.5**	**+0.5**
BCI	**Bajram Curri**	**0.48**	**90**	P	**Pb**	**23 58 19.1**	**-0.7**
	baz=89						
BCI				S	**Sb**	**23 58 27.3**	**+0.8**
	baz=89						
BCI				AMP			
	comp=E,205nm,0.5s,baz=89						
PUK	**Puka**	**0.48**	**133**		**Pb**	**23 58 19.7**	**-0.2**
PUK	**Puka**	**0.48**	**133**	P	**Pb**	**23 58 19.7**	**-0.2**
	baz=131						
PUK				S	**Sb**	**23 58 27.8**	**+1.2**
	baz=131						
PUK				AMP			
	comp=N,108nm,0.1s,baz=131						
KOME	**Kolasin**	**0.48**	**8**	⇑*i*Pg	**Pg**	**23 58 19.0**	**-0.7**
KOME				*i* Sg	**Sb**	**23 58 27.1**	**+0.4**
NKME	**Niksic**	**0.53**	**319**	⇑*i*Pg	**Pg**	**23 58 19.4**	**-1.1**
NKME				*i* Sg	**Sg**	**23 58 27.8**	**+0.2**
NKY	**Niksic**	**0.54**	**324**	⇑*i*Pg	**Pg**	**23 58 19.8**	**-1.0**
NKY				*i* Sg	**Sg**	**23 58 28.4**	**+0.2**
BEY	**Berane**	**0.61**	**35**	*i* Pg	**Pg**	**23 58 21.4**	**-0.6**
IVA	**Berane**	**0.61**	**35**	⇓*i*Pg	**Pg**	**23 58 21.5**	**-0.6**
IVA				*i* Sg	**Sb**	**23 58 31.7**	**+1.5**
HCY	**Herceg Novi**	**0.69**	**277**	⇓*i*Pg	**Pg**	**23 58 22.6**	**-0.9**
HCY				*e*Sg	**Sb**	**23 58 33.3**	**+0.7**
HCY	**Herceg Novi**	**0.69**	**277**	⇑*i*Pg	**Pg**	**23 58 22.2**	**-1.3**
HCY				*i* Sg	**Sg**	**23 58 32.9**	**+0.1**
BRY	**Bratogost**	**0.84**	**309**	⇑*i*Pg	**Pg**	**23 58 24.7**	**-1.6**
BRY				*e*Sg	**Sb**	**23 58 38.0**	**+0.9**
BRY	**Bratogost**	**0.84**	**309**	⇓*i*Pg	**Pg**	**23 58 24.9**	**-1.4**
BRY				*i* Sg	**Sb**	**23 58 38.0**	**+0.9**
TREB	**Trebinje**	**0.86**	**294**	*e*Pg	**Pg**	**23 58 25.5**	**-1.3**
TREB				*e*Sg	**Sb**	**23 58 39.4**	**+1.8**
TREB	**Trebinje**	**0.86**	**294**	*e*Pg	**Pg**	**23 58 25.3**	**-1.5**
TREB				*e*Sg	**Sg**	**23 58 38.3**	**+0.1**
UPM	**Unac-Piva**	**0.91**	**335**	*e*Pg	**Pg**	**23 58 26.0**	**-1.7**
UPM				*e*Sg	**Sg**	**23 58 39.7**	**-0.1**
UPM	**Unac-Piva**	**0.91**	**335**	⇑*i*Pg	**Pg**	**23 58 26.3**	**-1.4**
UPM				*i* Sg	**Sb**	**23 58 40.8**	**+1.6**
PLE	**Pljevlja**	**0.96**	**358**	⇓*i*Pg	**Pg**	**23 58 27.4**	**-1.1**
PLE				*i* Sg	**Sn**	**23 58 42.6**	**+0.8**
SJES	**Sjenica**	**0.98**	**24**	*e*Pg	**Pg**	**23 58 28.0**	**-0.9**
SJES				*e*Sg	**Sb**	**23 58 41.3**	**+0.4**
PHP	**Peshkopia**	**1.02**	**132**	P	**Pb**	**23 58 29.0**	**-0.1**
PHP	**Peshkopia**	**1.02**	**132**	P	**Pg**	**23 58 28.3**	**-1.4**
	baz=131						
PHP				S	**Sn**	**23 58 46.1**	**+2.9**
	baz=131						
PHP				AMP			
	comp=N,36nm,0.4s,baz=131						
TIR	**Tirane**	**1.08**	**162**	*e*Pg	**Pg**	**23 58 30.0**	**-0.8**
TIR				*e*Sg	**Sn**	**23 58 45.3**	**+0.8**
TIR	**Tirane**	**1.08**	**162**	⇓P	**Pg**	**23 58 29.7**	**-1.1**
TIR	**Tirane**	**1.08**	**162**	P	**Pg**	**23 58 29.9**	**-0.8**
TIR	**Tirane**	**1.08**	**162**	P	**Pg**	**23 58 29.6**	**-1.1**
TIR	**Tirane**	**1.08**	**162**		**Pg**	**23 58 29.6**	**-1.1**
TIR	**Tirane**	**1.08**	**162**	P	**Pg**	**23 58 29.9**	**-0.8**
	baz=161						
TIR				S	**Sn**	**23 58 46.9**	**+2.4**
	baz=161						
TIR				AMP			
	comp=N,38nm,0.5s,baz=161						
TIR	**Tirane**	**1.08**	**162**	*i* Pg	**Pg**	**23 58 29.9**	**-0.8**
RUDO	**Rudo**	**1.25**	**358**	⇓*i*Pg	**Pn**	**23 58 31.8**	**-0.6**
RUDO				*e*Sg	**Sb**	**23 58 49.1**	**+0.5**
STON	**Ston**	**1.37**	**292**	*e*Pg	**Pn**	**23 58 34.1**	**+0.1**
STON				*e*Sg	**Sn**	**23 58 53.6**	**+1.9**
STON	**Ston**	**1.37**	**292**	*e*Pn	**Pn**	**23 58 33.8**	**-0.2**
STON				Sg	**Sg**	**23 58 54.6**	**+0.5**
BBLS	**Lazići**	**1.49**	**359**	*e*Pg	**Pb**	**23 58 37.1**	**0.0**
BBLS				*e*Sg	**Sb**	**23 58 56.7**	**+0.9**
BBLS	**Lazići**	**1.49**	**359**	⇓*i*Pg	**Pn**	**23 58 36.7**	**+0.8**
BBLS				*e*Sg	**Sg**	**23 58 57.2**	**-1.0**
SELS	**Selova**	**1.51**	**55**	*e*Pg	**Pn**	**23 58 36.3**	**+0.3**
SELS				*e*Sg	**Sg**	**23 58 56.9**	**-1.7**
SKO	**Skopje**	**1.55**	**104**	*i* Pg	**Pg**	**23 58 38.8**	**-1.0**
SKO				*i* Sg	**Sg**	**23 58 59.1**	**-0.8**
SKO				*e*Lg	Lg	23 59 00.4	
	comp=E,142nm,0.8s						
OHR	**Ohrid**	**1.63**	**140**	*i* Pn	**Pg**	**23 58 41.0**	**-0.2**
OHR				*i* Sn	**Sg**	**23 59 04.2**	**+1.8**
OHR				*e*Lg	Lg	23 59 05.7	
	comp=N,6μm,0.8s						
DIVS	**Divibare**	**1.77**	**13**	*e*Pn	**Pn**	**23 58 40.1**	**+0.3**
DIVS				*e*Sn	**Sn**	**23 59 03.4**	**+1.5**
DIVS	**Divibare**	**1.77**	**13**	⇓*i*Pn	**Pn**	**23 58 40.1**	**+0.3**
DIVS				*e*Sn	**Sn**	**23 59 02.5**	**+0.6**
DIVS	**Divibare**	**1.77**	**13**		**Pn**	**23 58 40.0**	**+0.3**
GRUS	**Gruza**	**1.79**	**32**	*e*Pn	**Pn**	**23 58 40.4**	**+0.6**
GRUS				*e*Sn	**Sn**	**23 59 03.5**	**+1.4**
BARS	**Barje**	**1.82**	**75**	*e*Pn	**Pb**	**23 58 41.6**	**-1.0**
BARS				*e*Sn	**Sn**	**23 59 02.5**	**-0.4**
BARS	**Barje**	**1.82**	**75**	*i* Pn	**Pb**	**23 58 41.6**	**-1.0**
VLO	**Vlora**	**1.90**	**178**	P	**Pb**	**23 58 45.0**	**+1.0**
VLO	**Vlora**	**1.90**	**178**	P	**Pb**	**23 58 43.3**	**-0.7**
	baz=178						
VLO				S	**Sb**	**23 59 09.3**	**+1.8**
	baz=178						
LSTV	**Lastovo**	**1.91**	**283**	*e*Pn	**Pn**	**23 58 41.8**	**+0.2**
LSTV				Sn	**Sn**	**23 59 06.5**	**+1.4**
PRVS	**Prvonek**	**1.97**	**85**	*e*Pn	**Pn**	**23 58 43.5**	**+1.1**
PRVS				*e*Sn	**Sn**	**23 59 07.5**	**+0.9**
TRUS	**Trudelj**	**1.98**	**21**	*e*Pn	**Pn**	**23 58 42.9**	**+0.3**
TRUS				*e*Sn	**Sn**	**23 59 08.2**	**+1.2**
RICI	**Ricice**	**2.02**	**304**	*e*Pn	**Pn**	**23 58 44.6**	**+1.6**
RICI				Sn	**Sn**	**23 59 09.8**	**+1.9**
KBN	**Korca**	**2.02**	**149**	P	**Pb**	**23 58 46.3**	**+0.1**
KBN	**Korca**	**2.02**	**149**	P	**Pn**	**23 58 43.3**	**+0.1**
KBN	**Korca**	**2.02**	**149**		**Pn**	**23 58 43.3**	**+0.1**
KBN	**Korca**	**2.02**	**149**	P	**Pb**	**23 58 45.2**	**-1.0**
	baz=148						
KBN				S	**Sg**	**23 59 13.5**	**-1.6**
	baz=148						
KBN				AMP			
	comp=E,12nm,1.1s,baz=148						
BOVS	**Bovan**	**2.10**	**52**	*e*Pn	**Pn**	**23 58 43.9**	**-0.2**
BOVS				*e*Sn	**Sb**	**23 59 12.2**	**-0.8**
BOVS	**Bovan**	**2.10**	**52**	⇓P	**Pn**	**23 58 43.9**	**-0.2**
BOVS	**Bovan**	**2.10**	**52**		**Pn**	**23 58 43.9**	**-0.2**
FNA	**Florina**	**2.16**	**137**	P	**Pn**	**23 58 46.7**	**+1.7**
FNA	**Florina**	**2.16**	**137**	*e*P	**Pb**	**23 58 47.7**	**-0.8**
FNA	**Florina**	**2.16**	**137**	P	**Pn**	**23 58 45.6**	**+0.6**
FNA	**Florina**	**2.16**	**137**		**Pn**	**23 58 45.5**	**+0.6**
FNA	**Florina**	**2.16**	**137**	*i* Pn	**Pb**	**23 58 47.5**	**-0.9**
STIP	**Stip**	**2.17**	**107**	*i* Pn	**Pb**	**23 58 48.4**	**-0.1**
STIP				*i* Sn	**Sg**	**23 59 17.5**	**-2.1**
STIP				*e*Lg	Lg	23 59 19.8	
	comp=E,144nm,0.4s						
TEKS	**Tekeris**	**2.18**	**2**	*e*Pn	**Pn**	**23 58 45.7**	**+0.5**
TEKS	**Tekeris**	**2.18**	**2**	*e*Pn	**Pn**	**23 58 45.3**	**+0.1**
TEKS				*e*Sn	**Sn**	**23 59 12.2**	**+0.4**
BOSS	**Bosilegrad**	**2.27**	**86**	*e*Pn	**Pn**	**23 58 47.2**	**+0.8**
BOSS				*e*Sn	**Sn**	**23 59 14.1**	**+0.2**
SVIS	**Svilajnac**	**2.30**	**34**	*e*Pn	**Pn**	**23 58 47.5**	**+0.6**
SVIS				*e*Sn	**Sn**	**23 59 15.8**	**+1.1**
NEST	**Nestorio**	**2.31**	**147**	P	**Pb**	**23 58 49.3**	**-1.7**
HVAR	**Hvar**	**2.33**	**291**	*e*Pn	**Pn**	**23 58 48.1**	**+0.8**
HVAR				Sn	**Sn**	**23 59 16.2**	**+0.7**
LSK	**Leskovik**	**2.39**	**158**	P	**Pn**	**23 58 50.2**	**+1.9**
LSK	**Leskovik**	**2.39**	**158**	P	**Pn**	**23 58 50.1**	**+1.9**
	baz=157						
LSK				S	**Sb**	**23 59 23.2**	**+1.6**
	baz=157						
SCTE	**Santa Cesarea**	**2.41**	**198**	Pn	**Pn**	**23 58 47.6**	**-0.8**
ZAGS	**Zajecar**	**2.51**	**54**	*e*Pn	**Pn**	**23 58 50.2**	**+0.4**
ZAGS				*e*Sn	**Sn**	**23 59 21.6**	**+1.7**
ZAPS	**Zavoj**	**2.53**	**68**	*e*Pn	**Pn**	**23 58 51.0**	**+0.9**
ZAPS				*e*Sn	**Sn**	**23 59 22.8**	**+2.4**
SRN	**Sarande**	**2.53**	**170**	P	**Pn**	**23 58 51.5**	**+1.5**
SRN	**Sarande**	**2.53**	**170**	P	**Pn**	**23 58 51.3**	**+1.3**
	baz=169						
SRN				S	**Sb**	**23 59 27.7**	**+2.3**
	baz=169						
PENT	**Pentalofos**	**2.53**	**149**	P	**Pg**	**23 58 58.0**	**-0.4**
DOB	**Doboj**	**2.55**	**338**	*e*Pn	**Pn**	**23 58 51.2**	**+0.9**
DOB				*e*Sn	**Sn**	**23 59 22.6**	**+1.8**
VAY	**Valandovo**	**2.57**	**113**	*i* Pn	**Pn**	**23 58 52.4**	**+1.7**
VAY				*i* Sn	**Sb**	**23 59 25.1**	**-1.7**
VAY				*e*Lg	Lg	23 59 25.7	
	comp=E,482nm,0.6s						
KUBS	**Kucevo**	**2.62**	**38**	*e*Pn	**Pn**	**23 58 53.0**	**+1.7**
KUBS				*e*Sn	**Sn**	**23 59 25.4**	**+2.8**
GRG	**Griva**	**2.64**	**121**	P	**Pn**	**23 58 54.1**	**+2.5**
GRG	**Griva**	**2.64**	**121**	*e*P	**Pn**	**23 58 54.2**	**+2.6**
MGRS	**Mrkonjic Grad**	**2.66**	**321**	*e*Pn	**Pn**	**23 58 53.6**	**+1.7**
MGRS				*e*Sn	**Sn**	**23 59 25.3**	**+1.6**
MATE	**Matera**	**2.67**	**231**	⇓P	**Pn**	**23 58 51.5**	**-0.5**
MATE	**Matera**	**2.67**	**231**		**Pn**	**23 58 51.5**	**-0.5**
KEK	**Kerkira**	**2.67**	**174**	P	**Pn**	**23 58 53.2**	**+1.2**
KZN	**Kozani**	**2.72**	**139**	P	**Pn**	**23 58 53.2**	**+0.5**
KIJV	**Kijevo**	**2.75**	**307**	*e*Pn	**Pn**	**23 58 55.0**	**+2.0**
KIJV				Sn	**Sn**	**23 59 28.1**	**+2.3**
FRGS	**Fruska Gora**	**2.80**	**6**	*e*Pn	**Pn**	**23 58 53.9**	**+0.1**
FRGS	**Fruska Gora**	**2.80**	**6**	⇓P	**Pn**	**23 58 53.7**	**-0.1**
FRGS	**Fruska Gora**	**2.80**	**6**	⇓*i*Pn	**Pn**	**23 58 53.7**	**-0.1**
FRGS				*e*Sn	**Sn**	**23 59 28.0**	**+0.9**
FRGS	**Fruska Gora**	**2

NYDR	Nydri-Lefkada	3.78	165	P	Pn	23 59 07.0	-0.2
DRAG	Dragano-Lefkad	3.79	166	P	Pn	23 59 07.5	+0.1
KOVH	Kovagotottos	3.83	346	*e*P	Pn	23 59 08.4	+0.4
KOVH				*e*S	Sn	23 59 52.1	-0.5
EVGI	Lefkada island	3.86	166	P	Pn	23 59 07.5	-0.9
GZR	Gura Zlata	3.87	38	⇑P	Pn	23 59 08.9	+0.3
GZR	Gura Zlata	3.87	38	P	Pn	23 59 08.9	+0.3
GZR	Gura Zlata	3.87	38		Pn	23 59 08.9	+0.3
PAOL	Paolisi	3.88	251		Pn	23 59 09.2	+0.6
MORH	Mrgy, Hungar	3.88	352	⇓P	Pn	23 59 08.8	+0.2
MORH	Mrgy, Hungar	3.88	352	*e*P	Pn	23 59 08.8	+0.2
MORH				*e*S	Sn	23 59 53.4	-0.3
MORH	Mrgy, Hungar	3.88	352	⇓*i* Pn	Pn	23 59 08.7	+0.1
MORH				*e*Sn	Sn	23 59 54.6	+0.9
MORH	Mrgy, Hungar	3.88	352		Pn	23 59 08.8	+0.2
EVR	Evrytania	3.90	151	P	Pn	23 59 10.1	+1.1
PLD	Plovdiv	3.93	92	*e*P	Pn	23 59 11.6	+2.3
NVLJ	Novalja	3.97	305	*e*Pn	Pn	23 59 11.0	+1.1
NVLJ				Sn	Sn	23 59 56.7	+0.8
VLAD	Vladila	3.99	64	⇓P	Pn	23 59 11.5	+1.4
VLAD	Vladila	3.99	64		Pn	23 59 11.5	+1.4
OUR	Ouranopolis	3.99	119	P	Pn	23 59 12.7	+2.6
OUR	Ouranopolis	3.99	119	*e*P	Pn	23 59 12.9	+2.8
AGG	Agios Georgios	4.01	146	P	Pn	23 59 10.1	-0.3
AGG	Agios Georgios	4.01	146	*e*P	Pn	23 59 11.9	+1.5
AGG	Agios Georgios	4.01	146	P	Pn	23 59 11.8	+1.4
AGG	Agios Georgios	4.01	146	Pn	Pn	23 59 11.8	+1.4
PAIG	Paliouri	4.04	126	P	Pn	23 59 12.2	+1.5
KAVA	Kavala	4.05	108	P	Pn	23 59 12.7	+1.7
PVO	Paravola	4.08	156	P	Pn	23 59 12.7	+1.3
AMBH	Ambrzfalva	4.08	13	⇓P	Pn	23 59 12.2	+0.8
AMBH	Ambrzfalva	4.08	13	*e*P	Pn	23 59 12.7	+1.3
AMBH				*e*S	Sn	23 59 59.7	+1.0
AMBH	Ambrzfalva	4.08	13		Pn	23 59 12.2	+0.8
INTR	Introdacqua	4.12	267		Pn	23 59 12.7	+0.7
XOR	Xorichti	4.14	135	P	Pn	23 59 13.1	+0.8
KEF5	Kardakata, Kep	4.17	169	P	Pn	23 59 10.9	-1.7
DMLN	Damoulianata-K	4.19	170	P	Pn	23 59 12.2	-0.7
NEO	Neokhori	4.21	135	P	Pn	23 59 13.9	+0.8
SIRR	Siria	4.21	22	⇓P	Pn	23 59 13.8	+0.6
SIRR	Siria	4.21	22		Pn	23 59 13.8	+0.6
KEF3	Kipouria, Keph	4.22	170	P	Pn	23 59 12.2	-1.1
ANX	Ano Chora	4.23	152	P	Pn	23 59 13.5	0.0
VLS	Valsamata	4.28	168	P	Pn	23 59 12.7	-1.5
DEV	Deva	4.31	34	⇑P	Pn	23 59 15.6	+1.1
DEV	Deva	4.31	34	P	Pn	23 59 15.6	+1.1
DEV	Deva	4.31	34		Pn	23 59 15.6	+1.1
OZLJ	Ozalj	4.32	320	*e*Pn	Pn	23 59 17.0	+2.4
KALN	Kalnik	4.32	331	*e*Pn	Pn	23 59 16.0	+1.3
PTJ	Puntijarka	4.32	326	*e*Pn	Pn	23 59 16.2	+1.5
BOJS	Bojanci	4.34	318	*i* Pn	Pn	23 59 17.3	+2.3
BOJS				*e*Sn	Sn	00 00 08.3	+3.1
PSDA	Pessada-Kefalo	4.34	168	P	Pn	23 59 12.7	-2.3
THAS	Thassos island	4.35	112	P	Pn	23 59 17.8	+2.7
EFP	Efpalio	4.37	154	P	Pn	23 59 17.0	+1.6
LOT	Lotru	4.39	44	⇓P	Pn	23 59 16.6	+0.9
LOT	Lotru	4.39	44		Pn	23 59 16.6	+0.9
AQU	L'Aquila	4.46	272	P	Pn	23 59 17.7	+1.0
AQU	L'Aquila	4.46	272	*e*Pn	Pn	23 59 17.9	+1.2
AQU				*e*Sn	Sn	00 00 07.6	-0.6
AQU	L'Aquila	4.46	272	Pn	Pn	23 59 17.7	+1.0
CRES	Cresnjev	4.48	322	*e*Pn	Pn	23 59 17.7	+0.8
CRES				*e*Sn	Sn	00 00 08.5	0.0
LOBO	Lobor	4.48	329	*e*Pn	Pn	23 59 18.4	+1.5
TRIZ	Trizonia	4.48	152	P	Pn	23 59 18.7	+1.8
GOLS	Golise	4.55	324	*i* Pn	Pn	23 59 19.8	+2.0
COPA	Copaceanca	4.58	65	⇓P	Pn	23 59 19.3	+1.1
COPA	Copaceanca	4.58	65		Pn	23 59 19.3	+1.1
HUMR	Humele	4.58	60	⇓P	Pn	23 59 19.3	+1.1
HUMR	Humele	4.58	60		Pn	23 59 19.3	+1.1
RLS	Riolos of Patr	4.58	159	P	Pn	23 59 20.9	+2.6
VLMS	Volimes, Zakyn	4.59	168	P	Pn	23 59 16.5	-1.9
ALIK	Aliki, Aigiali	4.59	153	P	Pn	23 59 23.0	+4.6
LKR	Lokris	4.61	143	P	Pn	23 59 20.0	+1.4
RIY	Rijeka	4.63	311	*e*Pn	Pn	23 59 20.9	+1.9
RIY				Sn	Sn	00 00 14.3	+2.0
TIH	Tihany	4.66	347	*e*P	Pn	23 59 20.2	+0.9
TIH				*e*S	Sn	00 00 13.8	+1.0
KOGS	Kog	4.67	332	*i* Pn	Pn	23 59 20.8	+1.4
KOGS				*e*Sn	Sn	00 00 13.6	+0.5
NRCA	Norcia	4.68	278	Pn	Pn	23 59 20.3	+0.6
RDO	Rodhopi	4.73	103	P	Pn	23 59 21.3	+1.0
RDO	Rodhopi	4.73	103	*e*P	Pn	23 59 22.7	+2.4
DRO	Drossia	4.75	158	P	Pn	23 59 21.3	+0.7
KLV	Kalavryta, Ach	4.80	153	P	Pn	23 59 21.7	+0.4
ARR	Arges	4.81	50	⇑P	Pn	23 59 22.8	+1.4
ARR	Arges	4.81	50		Pn	23 59 22.8	+1.4
KNDS	Knezji Dol	4.82	313	*i* Pn	Pn	23 59 23.3	+1.7
KNDS				*e*Sn	Sn	00 00 19.6	+2.7
PDKS	Podkum	4.87	321	*e*Sn	Sn	00 00 18.8	+0.6
PDKS				*e*		00 00 49.0	
CEL	Celeste	4.92	214	Pn	Pn	23 59 21.9	-0.9
CEY	Cerknica	4.93	315	*e*Pn	Pn	23 59 24.0	+1.0
CEY				*e*Sn	Sn	00 00 19.5	-0.1
BSZH	Besenyszg	4.96	7	⇓P	Pn	23 59 24.7	+1.2
BSZH	Besenyszg	4.96	7	*e*P	Pn	23 59 25.4	+2.0
BSZH	Besenyszg	4.96	7		Pn	23 59 24.7	+1.2
MPLH	Magyarpolny	4.98	345	*e*P	Pn	23 59 25.2	+1.5
MPLH				*e*S	Sn	00 00 21.8	+0.9
DRGR		5.00	27	⇑P	Pn	23 59 24.2	+0.1
DRGR		5.00	27	P	Pn	23 59 24.2	+0.1
DRGR		5.00	27		Pn	23 59 24.2	+0.1
CSKK	Cskako	5.06	351	*e*P	Pn	23 59 26.5	+1.7
CSKK				*e*S	Sn	00 00 23.4	+0.7
LJU	Ljubljana	5.08	318	*e*Pn	Pn	23 59 25.6	+0.4
LJU				*e*Sn	Sn	00 00 22.9	-0.5
LJU	Ljubljana	5.08	318	*i* Sn	Sn	00 00 28.6	+5.2
VOIR		5.09	51	⇓P	Pn	23 59 26.7	+1.4
VOIR		5.09	51	P	Pn	23 59 26.7	+1.4
VOIR		5.09	51		Pn	23 59 26.7	+1.4
BUD	Budapest	5.12	357	*e*P	Pn	23 59 27.1	+1.5
BUD				*e*S	Sn	00 00 24.2	0.0
LTK	Loutraki	5.12	147	P	Pn	23 59 24.8	-0.9
SGRR	Singureni	5.13	67	⇓P	Pn	23 59 27.2	+1.5
SGRR	Singureni	5.13	67		Pn	23 59 27.2	+1.5
AMT	Artemida-Makis	5.14	159	P	Pn	23 59 25.6	-0.4
MURB	Monte Urbino	5.15	282		Pn	23 59 26.9	+0.7
ALN	Alexandroupoli	5.18	104	P	Pn	23 59 27.3	+0.9
ALN	Alexandroupoli	5.18	104	*e*P	Pn	23 59 28.9	+2.5
ALN	Alexandroupoli	5.18	104	P	Pn	23 59 27.9	+1.5
ALN	Alexandroupoli	5.18	104	Pn	Pn	23 59 27.9	+1.5
EGYH	Egyhazaskeszo	5.26	344	*e*P	Pn	23 59 25.6	-1.9
EGYH				*e*S	Sn	00 00 25.3	-2.3
PERS	Pernice	5.26	326	*i* Pn	Pn	23 59 29.4	+1.8
CJR	Cluj-Napoca	5.27	33	⇑P	Pn	23 59 29.5	+1.8
CJR	Cluj-Napoca	5.27	33	P	Pn	23 59 29.5	+1.8
CJR	Cluj-Napoca	5.27	33		Pn	23 59 29.5	+1.8
ENEZ	Enez	5.31	106	*e*P	Pn	23 59 30.2	+2.0
LTVH	Ltavrtes, Hu	5.31	18	⇑P	Pn	23 59 29.9	+1.6
LTVH	Ltavrtes, Hu	5.31	18	*e*P	Pn	23 59 30.2	+2.0
LTVH				*e*S	Sn	00 00 28.3	-0.6
LTVH	Ltavrtes, Hu	5.31	18		Pn	23 59 29.9	+1.6
SOKA	Soboth	5.33	325	*i* Pn	Pn	23 59 30.6	+2.0
	comp=E,15nm,0.5s,SNR=36						
SOKA				*e*Sn	Sn	00 00 30.7	+1.2
	comp=E,40nm,1.6s						
GADA	Gvkgeada	5.34	112	*e*P	Pn	23 59 30.9	+2.2
MESR	Meseseni	5.40	27	⇓P	Pn	23 59 29.9	+0.5
MESR	Meseseni	5.40	27		Pn	23 59 29.9	+0.5
OBKA	Obir	5.41	322	*i* Pn	Pn	23 59 32.3	+2.6
	comp=E,4.3nm,0.3s						
ATH	Athens Observa	5.49	142	P	Pn	23 59 32.1	+1.4
SECR		5.50	59	⇓P	Pn	23 59 33.1	+2.2
SECR		5.50	59		Pn	23 59 33.1	+2.2
DION	Dionisos Attik	5.50	140	P	Pn	23 59 33.4	+2.4
ITM	Ithomi	5.53	159	*e*P	Pn	23 59 32.2	+0.8
ITM	Ithomi	5.53	159	Pn	Pn	23 59 31.6	+0.3
UKOP	Uzunkopru-Edir	5.53	101	*e*P	Pn	23 59 34.5	+3.2
PSZ	Piszkesteto	5.56	3	⇓P	Pn	23 59 32.0	+0.3
PSZ	Piszkesteto	5.56	3	*e*P	Pn	23 59 31.8	+0.1
PSZ				*e*S	Sn	00 00 34.3	-0.8
PSZ	Piszkesteto	5.56	3	P	Pn	23 59 32.0	+0.3
PSZ	Piszkesteto	5.56	3	Pn	Pn	23 59 31.4	-0.3
PSZ	Piszkesteto	5.56	3		Pn	23 59 32.0	+0.3
ERIK	Erikli-Kesan	5.59	105	*e*P	Pn	23 59 33.3	+1.3
DOPR	Dopca	5.60	48	⇓P	Pn	23 59 33.8	+1.6
DOPR	Dopca	5.60	48		Pn	23 59 33.8	+1.6
ARSA	Arzberg	5.61	332	*e*Pg	Pn	23 59 34.3	+1.9
	comp=E,12nm,0.3s,SNR=23						
ARSA				*i* Sn	Sn	00 00 37.3	+0.9
	comp=E,5.2nm,0.3s						
ARSA	Arzberg	5.61	332	*e*Pn	Pn	23 59 34.4	+1.9
	SNR=21						
ARSA				*e*Sn	Sn	00 00 38.1	+1.7
	SNR=1.7						
MLR	Muntele Rosu	5.65	54	Pn	Pn	23 59 34.9	+1.9
	comp=E,0.7nm,0.3s,baz=173,slow=10,SNR=18						
MLR				Sn	Sn	00 00 39.1	+1.7
	comp=E,1.2nm,0.3s,baz=145,slow=13,SNR=3.9						
MLR				Lg	Lg	00 01 11.9	
	comp=E,0.7nm,0.3s,baz=190,slow=16,SNR=1.7						
MLR				LR	LR	00 02 21.7	
	comp=E,649nm,20.1s,baz=239,slow=45						
MLR	Muntele Rosu	5.65	54	⇓P	Pn	23 59 34.5	+1.5
MLR	Muntele Rosu	5.65	54	P	Pn	23 59 34.4	+1.4
MLR						00 00 39.2	
MLR	Muntele Rosu	5.65	54	Pn	Pn	23 59 34.4	+1.4
GELI	Tayfur-Gelibol	5.66	108	*e*P	Pn	23 59 35.1	+2.1
SOP	Sopron	5.69	340	*e*P	Pn	23 59 34.9	+1.5
SOP				*e*S	Sn	00 00 38.7	+0.5
KRND	KRANIDI	5.75	149	P	Pn	23 59 32.8	-1.5
EZN	Ezine	5.80	114	*e*P	Pn	23 59 37.6	+2.6
NEHR	Nehoiu	5.83	56	⇓P	Pn	23 59 37.2	+1.8
NEHR	Nehoiu	5.83	56		Pn	23 59 37.2	+1.8
ISR	Istrita	5.84	60	⇑P	Pn	23 59 37.8	+2.2
ISR	Istrita	5.84	60	P	Pn	23 59 37.8	+2.2
ISR	Istrita	5.84	60		Pn	23 59 37.8	+2.2
ARCR	ARCALIA	5.88	35	⇓P	Pn	23 59 36.8	+0.7
ARCR	ARCALIA	5.88	35		Pn	23 59 36.8	+0.7
OZUR		5.89	49	⇑P	Pn	23 59 37.6	+1.3
OZUR		5.89	49		Pn	23 59 37.6	+1.3
MYKA	Terra Mystica	5.93	318	*e*Pn	Pn	23 59 38.8	+2.0
	comp=E,6.7nm,0.6s						
MYKA				*e*Sn	Sn	00 00 48.6	+4.2
	comp=E,4.9nm,0.4s						
BMR	Baia Mare	6.04	27	⇓P	Pn	23 59 38.9	+0.7
BMR	Baia Mare	6.04	27	P	Pn	23 59 38.9	+0.7
BMR	Baia Mare	6.04	27		Pn	23 59 38.9	+0.7
PGOR	Pogoanele	6.04	63	⇓P	Pn	23 59 40.2	+1.9
PGOR	Pogoanele	6.04	63		Pn	23 59 40.1	+1.9
ZST	Bratislava	6.05	345	*e*P	Pn	23 59 40.8	+2.4
ZST				*e*		00 00 45.7	
CONA	Conrad Observa	6.10	337	*i* Pn	Pn	23 59 41.3	+2.2
	comp=E,1.6nm,0.3s						
CONA				*e*Sn	Sn	00 00 50.5	+2.0
	comp=E,29nm,0.9s						
MAR6	Marsite Statio	6.12	103	*e*P	Pn	23 59 42.7	+3.4
MAR3	Marsite Statio	6.12	103	*e*P	Pn	23 59 42.1	+2.7
VYHS	Vyhne	6.14	356	*e*P	Pn	23 59 40.2	+0.6
VYHS				*e*		00 00 50.7	
BISRR	Bisoca	6.14	56	⇑P	Pn	23 59 41.8	+2.1
BISRR	Bisoca	6.14	56		Pn	23 59 41.8	+2.1
MAR2	Marsite Statio	6.14	103	*e*P	Pn	23 59 43.9	+4.2
GZKV	Gazikoy-Tekird	6.15	103	*e*P	Pn	23 59 38.7	-1.0
KECS	Kecovo	6.16	7	*e*P	Pn	23 59 41.1	+1.2
KECS				*e*		00 00 50.9	
STAL	STALIGIAL	6.19	311		Pn	23 59 41.2	+0.9
MODS	Modra-Piesok	6.19	347	*e*P	Pn	23 59 42.8	+2.5
MODS				*e*		00 00 50.8	
VAE	Valguarnera	6.22	220	Pn	Pn	23 59 44.1	+3.2
	comp=E,0.6nm,0.3s,baz=158,slow=4.4,SNR=8.2						
VAE				Sn	Sn	00 00 52.2	+0.7
	comp=E,0.9nm,0.3s,baz=78,slow=17,SNR=2.1						
ZOU	Zoufplan	6.23	314	Pn	Pn	23 59 42.2	+1.2
KRBG	Karabiga-Canak	6.24	106	*e*P	Pn	23 59 43.6	+2.5
PLOR	Plostina	6.26	54	⇓P	Pn	23 59 42.5	+1.2
PLOR	Plostina	6.26	54	P	Pn	23 59 42.5	+1.2
PLOR	Plostina	6.26	54		Pn	23 59 42.5	+1.2
VLI	Veliai	6.26	153	P	Pn	23 59 43.8	+2.4
VRI	Vrincioaia	6.31	54	⇓P	Pn	23 59 43.4	+1.4
VRI	Vrincioaia	6.31	54	P	Pn	23 59 43.4	+1.4
VRI	Vrincioaia	6.31	54		Pn	23 59 43.4	+1.4
CASP	Castiglione de	6.33	277	Pn	Pn	23 59 43.1	+0.7
TEOL	Teolo	6.35	301	Pn	Pn	23 59 42.2	-0.3
ICOR	Ion Corvin	6.36	71	⇑P	Pn	23 59 44.4	+1.7
ICOR	Ion Corvin	6.36	71		Pn	23 59 44.4	+1.7
MRMT	Marmara Adasi	6.39	103	*e*P	Pn	23 59 45.7	+2.6
KBA	Koelnbreinsper	6.39	319	*i* Pn	Pn	23 59 46.1	+2.8
	comp=E,6.2nm,0.4s,SNR=6.9						
KBA				*i* Sn	Sn	00 00 59.3	+3.5
	comp=E,7.8nm,0.5s						
KBA	Koelnbreinsper	6.39	319	*e*Pn	Pn	23 59 46.1	+2.8
	SNR=3.6						
RAFF	Raffo Rosso	6.45	219	Pn	Pn	23 59 43.8	-0.2
ZCCA	Zocca	6.47	291	Pn	Pn	23 59 45.9	+1.7
CORL	Corleone	6.48	228	Pn	Pn	23 59 44.9	+0.5
DKL	Dikili	6.57	118	*e*P	Pn	23 59 49.7	+4.2
UZH	Uzhgorod	6.58	17	*e*P	Pn	23 59 47.3	+1.7
MOA	Molln	6.58	328	*i* Pn	Pn	23 59 48.4	+2.7
	comp=E,3.0nm,0.3s,SNR=7.1						
MOA				*e*Sn	Sn	00 01 02.7	+2.5
	comp=E,9.6nm,0.6s						
MOA	Molln	6.58	328	*e*Pn	Pn	23 59 48.9	+3.1
	SNR=12						
MOA				*e*Sn	Sn	00 01 02.3	+2.0
	SNR=2.3						
ABTA	Abfaltersbach	6.59	314	*i* Pn	Pn	23 59 47.1	+1.1
	comp=E,8.2nm,0.5s						
ABTA				*i* Sn	Sn	00 01 05.1	+4.4
	comp=E,16nm,0.6s						
HARR	Harsova	6.60	67	⇓P	Pn	23 59 47.1	+1.1
HARR	Harsova	6.60	67	P	Pn	23 59 47.1	+1.1
HARR	Harsova	6.60	67		Pn	23 59 47.1	+1.1
JAVC	Velka Javorina	6.60	350	*e*PN	Pn	23 59 47.8	+1.7
JAVC				*e*SN	Sn	00 01 02.8	+2.0
TLBR	Topalu	6.64	68	⇓P	Pn	23 59 48.5	+2.0
TLBR	Topalu	6.64	68		Pn	23 59 48.5	+2.0
BUR01	Bucovina Ar. S	6.66	36		Pn	23 59 48.6	+1.8
BURAR	Bucovina Array	6.66	36	⇓P	Pn	23 59 48.6	+1.8
BURAR	Bucovina Array	6.66	36	Pn	Pn	23 59 48.6	+1.8
CRVS	Cervenica-Dubn	6.69	12	*e*P	Pn	23 59 48.5	+1.4
CRVS				*e*		00 01 00.2	
KTHA	Kythira Island	6.73	154	*e*P	Pn	23 59 47.7	0.0
CLTB	Caltabellotta	6.75	227	Pn	Pn	23 59 50.2	+2.0
VLC	Villacollemand	6.83	288	Pn	Pn	23 59 49.8	+0.6
KOLS	Kolonicke sedl	6.86	16	*e*P	Pn	23 59 50.9	+1.4
KOLS				*e*		00 01 06.3	
TIRR	Tirgusor	6.87	69	⇓P	Pn	23 59 50.8	+1.2
TIRR	Tirgusor	6.87	69	P	Pn	23 59 50.8	+1.2
TIRR	Tirgusor	6.87	69	Pn	Pn	23 59 50.6	+0.9
TIRR	Tirgusor	6.87	69		Pn	23 59 50.8	+1.2
CFR	Carcaliu	6.90	63	⇑P	Pn	23 59 50.5	+0.4
CFR	Carcaliu	6.90	63	P	Pn	23 59 50.5	+0.4
CFR	Carcaliu	6.90	63		Pn	23 59 50.5	+0.4
BALB	Balikesir	6.95	110	Pn	Pn	23 59 51.8	+0.9
KRUC	Moravsky	7.02	343	*e*PN	Pn	23 59 52.0	+0.3
KRUC				*e*SN	Sn	00 01 10.4	-0.6
PRMA	PARMA	7.04	293	Pn	Pn	23 59 52.1	+0.2
NIE	Niedzica	7.07	5	*e*Pn	Pn	23 59 54.1	+1.7
NIE				*e*Sn	Sn	00 01 11.4	-1.0
RJOB	Jochberg	7.13	321	*e*Pn	Pn	23 59 56.0	+2.8
	SNR=20						
RJOB				*e*Sn	Sn	00 01 17.6	+3.8
	SNR=1.8						
SALO	Salr	7.19	300	Pn	Pn	23 59 54.0	-0.1
VRAC	Vranov	7.21	345	Pn	Pn	23 59 56.1	+1.8
	comp=E,0.1nm,0.3s,baz=183,slow=10,SNR=4.1						
VRAC				Sn	Sn	00 01 15.1	-0.7
	comp=E,0.3nm,0.3s,baz=147,slow=6.5,SNR=2.0						
VRAC				LR	LR	00 03 03.1	
	comp=E,145nm,21.1s,baz=166,slow=41						
VRAC	Vranov	7.21	345	*e*PN	Pn	23 59 53.5	-0.9
VRAC				*e*SN	Sn	00 01 15.4	-0.4
JURR	Jurilovca	7.27	68	⇓P	Pn	23 59 55.6	+0.5
JURR	Jurilovca	7.27	68		Pn	23 59 55.6	+0.5
CKRC	Cesky Krumlov	7.38	333	*e*PN	Pn	23 59 59.4	+2.8
WTTA	Wattenberg	7.39	314	*e*Pn	Pn	23 59 58.9	+2.0
	comp=E,3.5nm,0.3s						
WTTA				*e*Sn	Sn	00 01 23.7	+3.4
	comp=E,10nm,0.5s						
WTTA	Wattenberg	7.39	314	*e*Pn	Pn	00 00 00.5	+3.5
	SNR=6.9						
WATA	Walderalm	7.46	314	*e*Pn	Pn	00 00 00.6	+2.7
	comp=E,3.8nm,0.3s,SNR=9.0						
WATA				*e*Sn	Sn	00 01 25.0	+2.9
	comp=E,5.4nm,0.3s						
MSSA	Maissana	7.48	288	Pn	Pn	23 59 57.4	-0.7
OKC	Ostrava-Krasne	7.52	354	*e*SN	Sn	00 01 23.3	0.0
MORC	Moravsky Berou	7.52	351	P	Pn	23 59 59.8	+1.2
MORC	Moravsky Berou	7.52	351	Pn	Pn	00 00 00.4	+1.8
MORC	Moravsky Berou	7.52	351		Pn	23 59 59.8	+1.2
MORC	Moravsky Berou	7.52	351	*e*PN	Pn	23 59 59.6	+1.0
MORC				*e*SN	Sn	00 01 23.4	0.0
SQTA	Sankt Quirin	7.59	312	*e*Pn	Pn	00 00 01.6	+1.9
	comp=E,4.3nm,0.3s						
SQTA				*i* Sn	Sn	00 01 27.9	+2.7
	comp=E,7.2nm,0.5s						
KWP	Kalwaria Pacla	7.61	16	P	Pn	00 00 00.8	+1.0
KWP	Kalwaria Pacla	7.61	16	Pn	Pn	00 00 00.8	+1.0
GEC2	GERESS Array S	7.61	330	Pn	Pn	23 59 59.0	-0.9
GEC2	GERESS Array S	7.61	330	*e*Pn	Pn	00 00 03.1	+3.1
	SNR=5.4						
GERES	GERESS Array B	7.61	330	Pn	Pn	00 00 03.0	+3.1
	comp=E,0.9nm,0.3s,baz=149,slow=13,SNR=27						
GERES				Sn	Sn	00 01 27.6	+1.9
	comp=E,0.2nm,0.3s,baz=155,slow=16,SNR=1.4						
GERES				LR	LR	00 03 29.6	
	comp=E,219nm,19.1s,baz=142,slow=42						
GERES	GERESS Array B	7.61	330	P	Pn	23 59 59.2	-0.8
GERES	GERESS Array B	7.61	330	Pn	Pn	23 59 59.2	-0.8
MOTA	Moosalm	7.72	313	*i* Pn	Pn	00 00 03.4	+1.9
	comp=E,3.6nm,0.3s						
MOTA				*e*Sn	Sn	00 01 32.4	+3.9
	comp=E,33nm,1.0s						
FETA	Feichten	7.74	310	*i* Pn	Pn	00 00 03.5	+1.7
	comp=E,1.4nm,0.4s						
FETA				*e*Sn	Sn	00 01 32.4	+3.3
	comp=E,18nm,1.3s						
OJC	Ojcow	7.85	2	P	Pn	00 00 03.3	+0.1
OJC	Ojcow	7.85	2	Pn	Pn	00 00 03.3	+0.1
KHC	Kasperske Hory	7.90	331	*e*P	Pn	00 00 06.5	+2.7
KHC				*e*		00 01 33.4	
KHC	Kasperske Hory	7.90	331	*e*PN	Pn	00 00 06.5	+2.7
KHC				*e*SN	Sn	00 01 33.4	+0.7
KHC	Kasperske Hory	7.90	331		Pn	00 00 06.7	+2.9
KRLC	Kraliky	7.92	348	*e*P	Pn	00 00 06.4	+2.3
KRLC				*e*		00 01 34.0	
KRLC	Kraliky	7.92	348	*e*PN	Pn	00 00 06.4	+2.3
KRLC				*e*SN	Sn	00 01 34.0	+0.8
RETA	Reutte	7.99	313	*i* Pn	Pn	00 00 07.0	+1.8
	comp=E,0.5nm,0.2s						
RETA				*e*Sn	Sn	00 01 36.4	+1.3
	comp=E,4.1nm,0.5s						
DAVOX	Davos/Dischmat	8.11	306	Pn	Pn	00 00 09.0	+2.1
	comp=E,1.6nm,0.3s,baz=120,slow=12,SNR=11						
DAVOX				Sn	Sn	00 01 37.0	-1.2
	comp=E,0.4nm,0.3s,baz=114,slow=21,SNR=1.0						
DAVOX				LR	LR	00 03 17.7	
	comp=E,67nm,19.9s,baz=96,slow=38						
DAVOX	Davos/Dischmat	8.11	306	P	Pn	00 00 09.0	+2.1
VSL	Villasalto	8.13	253		Pn	00 00 06.9	-0.1
IDI	Anoyia	8.26	147	Pn	Pn	00 00 07.5	-1.4
	comp=E,1.1nm,0.3s,baz=275,slow=8.5,SNR=14						
IDI				Sn	Sn	00 01 35.9	-5.8
	comp=E,6.1nm,0.3s,baz=282,slow

VORD	**Divnogorie**	**16.08**	**51**	*e*P		**Pn**	**00 01 53.0**	**-1.9**
VORD				pmax	pmax			
comp=Z,10.0nm,1.1s								
VSR	**Storozhevoye**	**16.11**	**50**	*e*P		**Pn**	**00 01 53.2**	**-2.1**
VSR				pmax	pmax			
comp=Z,9.0nm,1.2s								
LPSR	**Galich'ya Gora**	**16.63**	**45**	*e*P		**Pn**	**00 02 00.8**	**-1.1**
LPSR				pmax	pmax			
comp=Z,20nm,1.2s								
OBN	**Obninsk**	**16.98**	**35**	LR	LR	LR	00 08 59.9	
comp=Z,43nm,18.1s,baz=178,slow=38								
OBN	**Obninsk**	**16.98**	**35⇓**	*e*P		**Pn**	**00 02 04.4**	**-1.8**
OBN				*e*S		**Sn**	**00 05 11.7**	**-2.6**
OBN				pmax	pmax			
comp=Z,18nm,1.3s								
OBN				MLR	MLR			
comp=Z,145nm,19.0s								
KIV	**Kislovodsk**	**17.04**	**77**	*e*P		**Pn**	**00 02 07.6**	**+0.4**
KIV				pmax	pmax			
comp=Z,6.0nm,1.1s								
KIV				MLR	MLR			
comp=Z,25nm,14.0s								
KIV	**Kislovodsk**	**17.04**	**77**	Pn		**Pn**	**00 02 06.4**	**-0.8**
KBZ	**Khabaz**	**17.20**	**78**	*i* P		**P**	**00 02 11.0**	**+0.4**
PYA1	**Pyatigorsk**	**17.33**	**76**	*i* P		**P**	**00 02 12.2**	**+0.1**
ESDC	**Sonseca Array**	**17.84**	**269**	P		**Pn**	**00 02 17.3**	**+0.1**
comp=Z,0.0nm,0.3s,baz=76,slow=11,SNR=3.8								
ESDC				LR	LR		00 09 11.7	
comp=Z,70nm,21.4s,baz=110,slow=37								
MOS	**Moscow**	**17.84**	**35**	*e*P		**Pn**	**00 02 14.1**	**-2.9**
HFS	**Hagfors**	**18.13**	**351**	P		**Pn**	**00 02 20.9**	**+0.4**
comp=Z,0.1nm,0.3s,baz=180,slow=5.8,SNR=2.2								
HFS				LR	LR		00 10 13.0	
comp=Z,64nm,18.9s,baz=182,slow=40								
GNI	**Garni**	**19.14**	**88**	P		**Pn**	**00 02 34.0**	**+0.9**
comp=Z,0.3nm,0.3s,baz=29,slow=23,SNR=5.5								
GNI	**Garni**	**19.14**	**88**	*i* P		**P**	**00 02 32.7**	**+0.5**
GNI				pmax	pmax			
comp=Z,13nm,1.0s								
GNI	**Garni**	**19.14**	**88**	P		**P**	**00 02 32.4**	**+0.1**
GNI				IAmb	IAmb		00 02 40.6	
comp=Z,13nm,0.9s								
NOA	**NORSAR Array B**	**19.34**	**348**	P		**P**	**00 02 34.1**	**0.0**
comp=Z,0.0nm,0.3s,baz=163,slow=8.6,SNR=1.6								
NOA				LR	LR	LR	00 11 10.0	
comp=Z,76nm,18.3s,baz=165,slow=40								
FINES	**FINESS Array B**	**19.52**	**10**	P		**P**	**00 02 36.0**	**+0.1**
comp=Z,0.2nm,0.3s,baz=191,slow=9.5,SNR=6.2								
FINES				LR	LR	LR	00 10 43.5	
comp=Z,118nm,19.7s,baz=218,slow=39								
FINES	**FINESS Array B**	**19.52**	**10**	P		**P**	**00 02 36.4**	**+0.5**
EKA	**Eskdalemuir Ar**	**19.61**	**319**	P		**P**	**00 02 37.4**	**+0.4**
baz=113,slow=8.4,SNR=5.6								
AKT	**Akhty**	**21.05**	**83**	*e*P		**P**	**00 02 54.6**	**+1.8**
AKT				*e*			00 03 13.3	
AKT				pmax	pmax			
comp=Z,21nm,1.1s								
MDT	**Midelt**	**21.24**	**251**	P		**P**	**00 02 55.3**	**+0.3**
comp=Z,3.8nm,0.9s,baz=89,slow=9.5,SNR=6.4								
MDT				LR	LR	LR	00 10 24.9	
comp=Z,96nm,19.3s,baz=36,slow=35								
BELG	**Belogornoye**	**21.44**	**52**	P		**P**	**00 02 55.9**	**-0.9**
comp=Z,23nm,1.0s,baz=280,slow=4.2,SNR=4.1								
BELG				LR	LR	LR	00 12 24.4	
comp=Z,192nm,19.1s,baz=232,slow=40								
KLMR	**Klimovskoe**	**22.15**	**26**	*e*P		**P**	**00 03 02.8**	**-1.6**
KLMR				pmax	pmax			
comp=Z,37nm,1.4s								
KLMR	**Klimovskoe**	**22.15**	**26**	*e*P		**P**	**00 03 02.8**	**-1.6**
KLMR				AMP			00 03 09.3	
comp=Z,37nm,1.4s								
KIRV	**Kirov**	**24.75**	**39**	LR	LR	LR	00 13 32.2	
comp=Z,151nm,19.1s,baz=187,slow=37								
KIRV	**Kirov**	**24.75**	**39**	*c*eP		**P**	**00 03 32.7**	**+2.7**
PRGR	**Permogore**	**24.84**	**30**	*e*P		**P**	**00 03 28.0**	**-2.9**
PRGR				pmax	pmax			
comp=Z,18nm,0.9s								
ARCES	**ARCESS Array B**	**27.41**	**5**	P		**P**	**00 03 53.2**	**-0.9**
comp=Z,2.6nm,0.8s,baz=198,slow=11,SNR=2.3								
ARCES				LR	LR	LR	00 16 00.0	
comp=Z,113nm,19.2s,baz=210,slow=39								
AKTO	**Aktyubinsk**	**27.55**	**60**	LR		LR	00 16 44.5	
comp=Z,94nm,18.8s,baz=280,slow=40								
ARU	**Arti**	**28.64**	**47**	P		**P**	**00 04 05.0**	**-0.2**
comp=Z,1.3nm,0.8s,baz=288,slow=8.1,SNR=6.0								
ARU				LR	LR	LR	00 16 04.6	
comp=Z,149nm,18.3s,baz=258,slow=38								
ARU	**Arti**	**28.64**	**47**	*c i*P		**P**	**00 04 05.3**	**+0.2**
ARU							00 04 55.3	
ARU				S		**S**	**00 08 59.4**	**+6.7**
ARU				SS		**SnSn**	**00 10 23.6**	**+11**
ARU				pmax	pmax			
comp=Z,2.0nm,0.6s								
ARU	**Arti**	**28.64**	**47**	IAmb	IAmb		00 04 15.2	
comp=Z,7.7nm,1.1s								
GEYT	**Alibeck**	**29.73**	**85**	P		**P**	**00 04 15.6**	**+0.5**
comp=Z,94nm,0.9s,baz=287,slow=20,SNR=1.8								
TOA0	**Torodi Ar. Sit**	**32.93**	**213**	P		**P**	**00 04 42.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**32.93**	**213**	P		**P**	**00 04 44.0**	**+0.7**
comp=Z,2.6nm,0.8s,baz=19,slow=9.6,SNR=13								
TORD				LR	LR	LR	00 20 23.9	
comp=Z,60nm,18.7s,baz=125,slow=41								
TORD	**Torodi Ar. Bea**	**32.93**	**213**	P		**P**	**00 04 43.8**	**+0.5**
TORD				IAmb	IAmb		00 04 52.9	
comp=Z,9.4nm,1.2s								
KOWA	**Kowa**	**34.36**	**223**	P		**P**	**00 04 56.8**	**+1.0**
comp=Z,2.9nm,0.7s,baz=44,slow=9.9,SNR=7.7								
BRVK	**Borovoye**	**35.15**	**54**	*c*eP		**P**	**00 05 02.9**	**+0.7**
BRVK				pmax	pmax			
comp=Z,4.0nm,0.8s								
BRVK	**Borovoye**	**35.15**	**54**	P		**P**	**00 05 02.5**	**+0.2**
BRVK				IAmb	IAmb		00 05 09.8	
comp=Z,5.3nm,0.8s								
BTK	**Batken**	**38.25**	**76**	P		**P**	**00 05 29.0**	**+0.1**
BTK				pmax	pmax			
comp=Z,6.0nm,1.2s								
BTK	**Batken**	**38.25**	**76**	P		**P**	**00 05 29.0**	**+0.1**
BTK				IAmb	IAmb		00 05 31.2	
comp=Z,5.5nm,1.2s								
DBIC	**Dimbokro**	**41.54**	**218**	P		**P**	**00 05 56.4**	**0.0**
DBIC	**Dimbokro**	**41.54**	**218**	P		**P**	**00 05 56.4**	**0.0**
NRIK	**Noril'sk**	**43.47**	**29**	LR		LR	00 26 42.3	
comp=Z,83nm,18.0s,baz=324,slow=39								
ZALV	**Zalesovo Beam**	**43.62**	**51**	P		**P**	**00 06 11.6**	**-1.2**
comp=Z,0.6nm,0.5s,baz=278,slow=9.9,SNR=2.8								
ZALV				LR	LR	LR	00 26 38.8	
comp=Z,96nm,18.1s,baz=252,slow=39								
MK31	**Makanchi Array**	**43.94**	**62**	P		**P**	**00 06 14.8**	**-0.8**
MK31				pmax	pmax			
comp=Z,3.0nm,1.3s								
MK31	**Makanchi Array**	**43.94**	**62**	P		**P**	**00 06 14.8**	**-0.8**
MK31				IAmb	IAmb		00 06 22.9	
comp=Z,2.7nm,1.3s								
MKAR	**Makanchi Array**	**43.94**	**62**	P		**P**	**00 06 14.2**	**-1.4**
comp=Z,1.1nm,0.7s,baz=281,slow=7.1,SNR=9.1								
MKAR				LR	LR	LR	00 26 11.9	
comp=Z,48nm,20.3s,baz=284,slow=38								
MKAR	**Makanchi Array**	**43.94**	**62**	P		**P**	**00 06 14.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**70.17**	**83**	P		**P**	**00 09 21.2**	**-0.5**
comp=Z,0.5nm,0.3s,baz=303,slow=8.5,SNR=1.5								
ILAR	**Eielson Array**	**72.66**	**354**	P		**P**	**00 09 36.6**	**+0.7**
comp=Z,0.2nm,0.6s,baz=74,slow=13,SNR=2.1								
USRK	**Ussuriysk Ar.**	**74.81**	**43**	LR		LR	00 45 17.2	
comp=Z,33nm,20.3s,baz=338,slow=38								
KSRS	**Korea Array**	**77.32**	**51**	LR		LR	00 47 20.0	
comp=Z,48nm,18.7s,baz=226,slow=38								
PDAR	**Pinedale Array**	**83.63**	**325**	P		**P**	**00 10 37.5**	**+0.1**
comp=Z,0.2nm,0.4s,baz=22,slow=5.1,SNR=3.2								
BDFB	**Brasilia**	**84.61**	**243**	P		**P**	**00 10 42.5**	**0.0**
comp=Z,4.2nm,1.0s,baz=144,slow=13,SNR=3.5								
TXAR	**Lajitas Array**	**91.49**	**313**	P		**P**	**00 11 15.7**	**+0.2**
comp=Z,0.5nm,0.8s,baz=72,slow=4.1,SNR=4.5								
CPUP	**Villa Florida**	**98.27**	**242**	LR		LR	00 56 58.1	
comp=Z,27nm,18.0s,baz=98,slow=36								

NEIC ***06*** *23:59:20.8±1.2, 18°.12N±0°.09×68°.59W±0°.05, h104km±5km, Error ellipse: s-maj=13.8km s-min=7.1km az=189.0*
RSPR ***06*** *23:59:20.2, 18°.26N×68.61W, h116km±1km, MD3.8/10*
OSPL ***06*** *23:59:21.6±1.1, 17°.68N×68°.59W, h19km±6km, ML3.3*
ISC 06 23:59:22.3±1.4, **18°.06N**±0°.09×**68°.56W**±0°.04, **h90**km±12km, **n62**, σ1§**17**/74, **10C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.48**	**21**	⇑*i*P	**Pn**	**23 59 36.4**	**-0.4**
PCDR	**Punta Cana, DR**	**0.48**	**21**	⇑*i*P	**Pn**	**23 59 36.5**	**-0.4**
PCDR					**Sn**	**23 59 48.5**	**+0.8**
PCDR				IAML		23 59 49.9	
comp=E,2μm,0.5s							
PCDR	**Punta Cana, DR**	**0.48**	**21**	*i* P	**Pn**	**23 59 36.5**	**-0.4**
PCDR				*e*S	**Sn**	**23 59 48.3**	**+0.6**
PCDR				IAML		23 59 50.7	
comp=Z,923nm,0.2s							
DR12	**Loma Pena Alta**	**1.06**	**313**		**Pn**	**23 59 41.0**	**-1.7**
IDE	**Isla Desecheo**	**1.08**	**73**	⇑*e*P	**Pn**	**23 59 42.6**	**-0.3**
IDE	**Isla Desecheo**	**1.08**	**73**	*e*S	**Sn**	**23 59 59.7**	**+1.2**
IDE	**Isla Desecheo**	**1.08**	**73**		**Pn**	**23 59 42.6**	**-0.3**
IDE					**Sn**	**23 59 59.7**	**+1.2**
SDD	**Santo Domingo**	**1.34**	**287**	Pn	**Pn**	**23 59 44.3**	**-1.7**
SDD				IAML		00 00 04.5	
comp=N,669nm,0.2s							
SDD				IAML		00 00 06.3	
comp=E,352nm,0.3s							
SDD	**Santo Domingo**	**1.34**	**287**	*i* P	**Pn**	**23 59 45.3**	**-0.8**
SDD				*e*S	**Sn**	**00 00 03.0**	**-1.0**
MPR	**Mayaguez**	**1.36**	**84**	Pn	**Pn**	**23 59 45.5**	**-0.7**
MPR	**Mayaguez**	**1.36**	**84**	*i* P	**Pn**	**23 59 45.6**	**-0.7**
MPR				*e*S	**Sn**	**00 00 03.2**	**-1.2**
LSP	**Las Mesas**	**1.41**	**85**	⇓*e*P	**Pn**	**23 59 46.6**	**-0.3**
LSP				*e*S	**Sn**	**00 00 07.0**	**+1.5**
LSP	**Las Mesas**	**1.41**	**85**		**Pn**	**23 59 46.6**	**-0.3**
LSP					**Sn**	**00 00 07.0**	**+1.5**
AGPR	**Aguadilla, PR**	**1.44**	**73**	⇑*e*P	**Pn**	**23 59 46.8**	**-0.5**
AGPR	**Aguadilla, PR**	**1.44**	**73**	*e*S	**Sn**	**00 00 06.6**	**+0.4**
AGPR	**Aguadilla, PR**	**1.44**	**73**	Pn	**Pn**	**23 59 47.0**	**-0.3**
AGPR				IAML		00 00 11.8	
comp=E,356nm,0.3s							
AGPR				IAML		00 00 12.4	
comp=N,398nm,0.6s							
AGPR	**Aguadilla, PR**	**1.44**	**73**	*i* P	**Pn**	**23 59 47.3**	**0.0**
AGPR				*e*S	**Sn**	**00 00 07.0**	**+0.9**
AGPR				IAML		00 00 15.1	
comp=Z,192nm,0.2s							
MLPR	**Magueyes Islan**	**1.45**	**93**	⇑*e*P	**Pn**	**23 59 46.0**	**-1.4**
MLPR	**Magueyes Islan**	**1.45**	**93**	*e*S	**Sn**	**00 00 08.8**	**+2.4**
MLPR	**Magueyes Islan**	**1.45**	**93**	Pn	**Pn**	**23 59 45.6**	**-1.8**
MLPR					**Sn**	**00 00 05.6**	**-0.7**
BANI	**BANI**	**1.74**	**281**		**Pn**	**23 59 49.8**	**-1.4**
BANI	**BANI**	**1.74**	**281**	*i* P	**Pn**	**23 59 50.9**	**-0.2**
AOPR	**Arecibo Observ**	**1.74**	**80**	⇑*e*P	**Pn**	**23 59 50.4**	**-0.8**
AOPR	**Arecibo Observ**	**1.74**	**80**	*e*S	**Sn**	**00 00 13.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.74**	**80**		**Pn**	**23 59 50.4**	**-0.8**
AOPR					**Sn**	**00 00 13.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.86**	**90**	⇓*i* P	**Pn**	**23 59 52.3**	**-0.4**
OBIP	**Obispado Ponce**	**1.86**	**90**	*e*S	**Sn**	**00 00 17.3**	**+1.5**
OBIP	**Obispado Ponce**	**1.86**	**90**		**Pn**	**23 59 52.3**	**-0.4**
OBIP	**Obispado Ponce**	**1.86**	**90**		**Sn**	**00 00 17.3**	**+1.5**
OBIP	**Obispado Ponce**	**1.86**	**90**	IAML		00 00 16.3	
comp=N,117nm,0.5s							
CELP	**Cerrillos**	**1.89**	**89**	⇑*e*P	**Pn**	**23 59 52.3**	**-0.7**
CELP	**Cerrillos**	**1.89**	**89**	*e*S	**Sn**	**00 00 17.7**	**+1.2**
CELP	**Cerrillos**	**1.89**	**89**		**Pn**	**23 59 52.3**	**-0.7**
CELP					**Sn**	**00 00 17.7**	**+1.2**
ICMP	**Isla Caja de M**	**1.95**	**95**	Pn	**Pn**	**23 59 53.9**	**+0.1**
EMPR	**Esperanza - Ma**	**1.98**	**78**	⇑*e*P	**Pn**	**23 59 53.4**	**-0.8**
EMPR	**Esperanza - Ma**	**1.98**	**78**	*e*S	**Sn**	**00 00 18.6**	**+0.1**
EMPR	**Esperanza - Ma**	**1.98**	**78**	Pn	**Pn**	**23 59 53.6**	**-0.5**
EMPR				IAML		00 00 22.2	
comp=E,310nm,0.4s							
EMPR				IAML		00 00 25.0	
comp=N,263nm,0.5s							
EMPR	**Esperanza - Ma**	**1.98**	**78**		**Sn**	**00 00 18.6**	**+0.1**
SJG	**San Juan**	**2.30**	**88**	Pn	**Pn**	**23 59 56.5**	**-1.9**
SJG				IAML		00 00 27.9	
comp=N,144nm,0.2s							
SJG				IAML		00 00 31.0	
comp=N,173nm,0.5s							
IGPR	**InterUniversit**	**2.34**	**92**	⇑*e*P	**Pn**	**23 59 58.1**	**-0.8**
IGPR	**InterUniversit**	**2.34**	**92**	*e*S	**Sn**	**00 00 28.3**	**+1.3**
GCPR	**Guaynabo City**	**2.37**	**84**	Pn	**Pn**	**23 59 57.8**	**-1.6**
GCPR				IAML		00 00 35.6	
comp=N,151nm,1.1s							
LOBA1	**Barahona**	**2.39**	**271**	*i* P	**Pn**	**23 59 58.8**	**-0.9**
LOBA1				IAML		00 00 18.2	
comp=Z,914nm,1.9s							
PDPR	**Patillas Dam,**	**2.42**	**91**	Pn	**Pn**	**23 59 59.3**	**-0.7**
PDPR				IAML		00 00 33.3	
comp=E,97nm,0.6s							
SC01	**Santiago de Io**	**2.46**	**304**	Pn	**Pn**	**23 59 59.8**	**-0.7**
SC01				IAML		00 00 36.5	
comp=N,304nm,0.4s							
SC01				IAML		00 00 40.2	
comp=E,370nm,0.6s							
SC01	**Santiago de Io**	**2.46**	**304**	*i* P	**Pn**	**00 00 01.9**	**+1.3**
SC01				*e*S	**Sn**	**00 00 32.5**	**+2.6**
SC01				IAML		00 00 40.1	
comp=Z,158nm,0.4s							
CBYP	**Canovanas**	**2.58**	**85**	⇑*e*P	**Pn**	**00 00 01.3**	**-1.0**
CBYP	**Canovanas**	**2.58**	**85**	Pn	**Pn**	**00 00 01.0**	**-1.3**
HUMP	**Col San Antoni**	**2.58**	**88**	⇑*e*P	**Pn**	**00 00 01.3**	**-0.9**
HUMP				*e*S	**Sn**	**00 00 33.4**	**+0.6**
HUMP	**Col San Antoni**	**2.58**	**88**	Pn	**Pn**	**00 00 01.1**	**-1.1**
HUMP				IAML		00 00 34.8	
comp=N,165nm,0.2s							
HUMP				IAML		00 00 39.7	
comp=E,165nm,0.2s							
SDDR	**Presa de Saban**	**2.74**	**290**		**Pn**	**00 00 01.6**	**-2.8**
SDDR				IAML		00 00 43.0	
comp=E,130nm,0.8s							
SDDR				IAML		00 00 44.6	
comp=E,88nm,0.6s							
SDDR	**Presa de Saban**	**2.74**	**290**	*i* P	**Pn**	**00 00 05.9**	**+1.5**
MTP	**Monte Pirata**	**2.86**	**89**	⇑*e*P	**Pn**	**00 00 05.3**	**-0.7**
MTP	**Monte Pirata**	**2.86**	**89**	*e*S	**Sn**	**00 00 40.2**	**+0.6**
MTP	**Monte Pirata**	**2.86**	**89**	Pn	**Pn**	**00 00 05.2**	**-0.7**
MTP				IAML		00 00 45.9	
comp=N,72nm,0.2s							
MTP				IAML		00 00 49.5	
comp=E,64nm,0.4s							
CUPR	**Culebra, Puert**	**3.13**	**85**	Pn	**Pn**	**00 00 09.0**	**-0.6**
STVI	**Saint Thomas**	**3.44**	**85**	Pn	**Pn**	**00 00 12.6**	**-1.2**
STVI				IAML		00 00 54.9	
comp=N,60nm,0.5s							
STVI				IAML		00 00 55.6	
comp=E,53nm,0.3s							
CDVI	**St. Croix**	**3.63**	**94**	Pn	**Pn**	**00 00 15.1**	**-1.1**
CDVI				IAML		00 01 05.2	
comp=E,114nm,0.6s							
CDVI				IAML		00 01 08.2	
comp=N,123nm,0.7s							
JAKH	**Jacmel**	**3.76**	**273**	Pn	**Pn**	**00 00 17.1**	**-1.0**
GRTK	**Grand Turk**	**4.20**	**325**	Pn	**Pn**	**00 00 21.0**	**-3.0**
URIC	**Uribia, Colomb**	**7.14**	**208**	Pn	**Pn**	**00 01 02.5**	**-1.6**
BIM	**Bigot**	**8.01**	**115**	Pn	**Pn**	**00 01 14.9**	**-1.1**

JMA ***07*** *00:10:12.5±0.1, 22°.59N×122°.13E, h33km, M4.2*
IDC ***07*** *00:10:13.7±1.8, 22°.78N×122°.03E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/52, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=79.3km s-min=29.9km az=68.0*
TAP ***07*** *00:10:13.9, 22°.53N×122°.04E, h39km, ML4.2, D*
ISC 07 00:10:09.6±1.3, **22°.55N**±0°.02×**122°.17E**±0°.03, **h1**km±9km, **n158**, σ1§**25**/230, **mb3.3**/3, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.66**	**281**	P	**Pb**	**00 10 24.7**	**+0.8**
baz=285							
LDUT				S	**Sb**	**00 10 31.9**	**-1.5**
baz=285							
LAY	**Lan-yu**	**0.76**	**228**	P	**Pb**	**00 10 26.1**	**+0.5**
baz=228							
LAY				*e*S	**Sg**	**00 10 34.0**	**-0.1**
baz=228							
EDH	**Donghe**	**0.90**	**298**	P	**Pb**	**00 10 28.5**	**+0.5**
baz=311							
EDH				S	**Sg**	**00 10 39.0**	**+0.4**
baz=311							
CHKT	**Chengkung**	**0.92**	**307**	P	**Pb**	**00 10 28.5**	**+0.1**
baz=320							
CHKT				S	**Sg**	**00 10 39.2**	**0.0**
baz=320							
TTN	**Taitung**	**0.96**	**282**	*e*P	**Pb**	**00 10 29.5**	**+0.4**
baz=285							
ECBN	**Changbin**	**1.01**	**319**	*e*P	**Pb**	**00 10 30.1**	**+0.2**
baz=325							
ECBN				*e*S	**Sg**	**00 10 42.1**	**+0.1**
baz=325							
LONT	**Longtian**	**1.02**	**291**	*e*P	**Pn**	**00 10 31.1**	**+0.1**
baz=294							
LONT				*e*S	**Sb**	**00 10 43.3**	**-0.7**
baz=294							
ECS	**Chishang**	**1.03**	**302**	P	**Pn**	**00 10 30.8**	**-0.4**
baz=314							
ECS				S	**Sg**	**00 10 43.2**	**+0.6**
baz=314							
FULB	**Fuli**	**1.03**	**309**	*e*P	**Pb**	**00 10 30.1**	**-0.2**
baz=314							
FULB				*e*S	**Sg**	**00 10 42.5**	**-0.2**
baz=314							
TWGBT	**Beinan**	**1.04**	**285**	*e*P	**Pb**	**00 10 30.5**	**+0.2**
baz=288							
TWGBT				*e*S	**Sg**	**00 10 43.4**	**+0.4**
baz=288							
TWG	**Pinlang**	**1.05**	**285**	*e*P	**Pb**	**00 10 30.6**	**+0.1**
baz=288							
TWG				*e*S	**Sg**	**00 10 43.4**	**+0.2**
baz=288							
EYUL	**Yuli**	**1.11**	**316**	*e*P	**Pb**	**00 10 31.7**	**0.0**
baz=325							
EYUL				*e*S	**Sg**	**00 10 45.3**	**-0.1**
baz=325							
ECL	**Taimali**	**1.12**	**273**	P	**Pb**	**00 10 31.9**	**+0.1**
baz=285							
ECL				*e*S	**Sg**	**00 10 44.7**	**-0.9**
baz=285							
TWF1	**Yuli**	**1.13**	**315**	P	**Pb**	**00 10 31.8**	**-0.1**
baz=328							
TWF1				S	**Sg**	**00 10 45.8**	**-0.2**
baz=328							
YULB	**Yu-li**	**1.16**	**317**	*e*P	**Pg**	**00 10 32.3**	**+0.5**
baz=329							
YULB				*e*S	**Sg**	**00 10 47.0**	**+0.1**
baz=329							
HGSD	**Ruisui**	**1.16**	**324**	*e*P	**Pg**	**00 10 31.8**	**0.0**
baz=329							
TAW	**Tawu**	**1.19**	**261**	*e*P	**Pb**	**00 10 32.8**	**-0.1**
baz=260							
TAW				*e*S	**Sg**	**00 10 46.4**	**-1.4**
baz=260							
EHY	**Hungye**	**1.23**	**321**	*e*P	**Pg**	**00 10 33.3**	**+0.1**
baz=331							
EHY				*e*S	**Sg**	**00 10 48.6**	**-0.5**
baz=331							
EAST	**Anshuo**	**1.23**	**263**	*e*P	**Pn**	**00 10 34.1**	**+0.1**
baz=262							
EAST				*e*S	**Sg**	**00 10 47.4**	**-1.7**
baz=262							
ELDTW	**Lidau**	**1.24**	**301**	P	**Pg**	**00 10 33.3**	**0.0**
baz=312							
ELDTW				*e*S	**Sg**	**00 10 48.3**	**-1.1**
baz=312							
TEGC	**Jichi Village**	**1.29**	**334**	*e*P	**Pg**	**00 10 33.7**	**-0.6**
baz=339							
TEGC				*e*S	**Sg**	**00 10 50.1**	**-1.0**
baz=339							
EGFH	**Guangfu**	**1.30**	**329**	*e*P	**Pg**	**00 10 34.6**	**0.0**
baz=339							
EGFH				*e*S	**Sg**	**00 10 50.5**	**-1.1**
baz=339							
SLIU	**Shizi**	**1.31**	**256**	*e*P	**Pg**	**00 10 34.6**	**0.0**
baz=245							
SLIU				*e*S	**Sg**	**00 10 49.9**	**-1.8**
baz=245							
TSEB	**Hengchuen, Pin**	**1.34**	**241**	*e*P	**Pg**	**00 10 36.2**	**+1.0**
baz=248							
TSEB				*e*S	**Sg**	**00 10 52.2**	**-0.4**
baz=248							
TWKBT	**Hengchun**	**1.39**	**244**	*e*S	**Sb**	**00 10 52.6**	**-2.1**
baz=242							
TEYL	**Yanliau Villag**	**1.41**	**338**	*e*S	**Sb**	**00 10 53.4**	**-1.9**
baz=343							
TSMG	**Majia**	**1.41**	**277**	*e*P	**Pb**	**00 10 36.7**	**-0.1**
baz=283							
MASBT	**Mashibuluo**	**1.42**	**273**	*e*P	**Pb**	**00 10 36.6**	**-0.2**
baz=273							
MASBT				*e*S	**Sb**	**00 10 53.6**	**-1.9**
baz=273							
STYH	**Taoyuan**	**1.42**	**296**	*e*P	**Pb**	**00 10 36.8**	**-0.1**
baz=304							
STYH				*e*S	**Sb**	**00 10 54.0**	**-1.6**
baz=304							
ESL	**Shilin**	**1.43**	**332**	*e*P	**Pn**	**00 10 36.2**	**-0.5**
baz=344							
ESL				*e*S	**Sb**	**00 10 53.2**	**-2.5**
baz=344							
HEN	**Hengchun**	**1.43**	**248**	*e*P	**Pg**	**00 10 37.6**	**+0.6**
baz=240							
HEN				*e*S	**Sb**	**00 10 53.5**	**-2.3**
baz=240							
SSD	**Sandimen**	**1.43**	**278**	*e*P	**Pn**	**00 10 36.6**	**-0.1**
baz=285							
SNW	**Nanwan**	**1.44**	**246**	*e*S	**Sb**	**00 10 54.1**	**-1.9**
baz=244							
SCZT	**Fangliau**	**1.44**	**263**	*e*P	**Pb**	**00 10 37.2**	**0.0**
baz=263							
SLGT	**Liugui**	**1.47**	**288**	*e*P	**Pb**	**00 10 37.7**	**-0.1**
baz=295							
SSPT	**Xinbi**	**1.48**	**268**	*e*P	**Pg**	**00 10 38.1**	**+0.2**
baz=268							
HWA	**

WHF	Hehuan Shan	1.79	333	eP		Pn	00 10 41.1 -0.9
	baz=346						
WHF				eS		Sn	00 11 03.0 -2.7
	baz=346						
TYC	Yuchr	1.81	318	eP		Pb	00 10 43.0 -0.5
	baz=326						
TYC				eS		Sn	00 11 05.5 0.0
	baz=326						
WJS	Zhushan	1.83	314	eP		Pb	00 10 44.1 +0.2
	baz=316						
WJS				eS		Sb	00 11 07.6 +0.2
	baz=316						
WPL	Puli Township	1.83	323	eS		Sn	00 11 05.1 -1.0
	baz=326						
CHN2	Minshiung	1.84	302	eP		Pg	00 10 44.8 -0.1
	baz=304						
WGK	Gukeng	1.86	308	eP		Pg	00 10 45.0 -0.3
	baz=310						
CHY	Chiayi	1.86	301	eP		Pb	00 10 44.9 +0.5
	baz=303						
DPDB	Guoxing	1.87	323	eP		Pb	00 10 44.1 -0.4
	baz=334						
WDLH	Douliu	1.88	307	eP		Pb	00 10 45.1 +0.4
	baz=310						
FUSS	Fushou	1.89	334	eP		Pn	00 10 43.9 +0.6
	baz=346						
WCS	Beigang Elemen	1.89	323	eP		Pb	00 10 44.2 -0.7
	baz=334						
WNT	Mingjian	1.90	314	eP		Pb	00 10 45.1 +0.1
	baz=317						
WNT				eS		Sb	00 11 08.4 -1.0
	baz=317						
ICHU	Yijhu	1.92	295	eP		Pb	00 10 45.2 -0.1
	baz=297						
EWUT	Wuta	1.92	349	eP		Pn	00 10 44.4 +0.9
	baz=352						
EWUT				eS		Sn	00 11 06.0 -2.3
	baz=352						
WNT1	Nantou City	1.92	315	eP		Pb	00 10 45.6 +0.1
	baz=317						
TWT	Tachien	1.93	332	eP		Pb	00 10 45.2 -0.4
	baz=342						
TDCB	Techi	1.93	332	eP		Pn	00 10 44.7 +0.9
	baz=343						
TDCB				eS		Sn	00 11 07.3 -1.5
	baz=343						
CHN8	Yiju	1.97	294	eP		Pb	00 10 46.0 -0.3
	baz=296						
WTK	Tuku	1.99	305	eP		Pb	00 10 46.0 -0.6
	baz=307						
WWF	Wufeng	2.01	318	eP		Pn	00 10 45.6 +1.0
	baz=320						
WWF				eS		Sn	00 11 11.0 +0.5
	baz=320						
NNS	Nan Shan	2.02	339	eP		Pn	00 10 46.0 +1.1
	baz=342						
NNS				eS		Sn	00 11 08.4 -2.4
	baz=342						
JYNG	Yonagunijimaku	2.02	21	P		Pn	00 10 45.8 +0.9
WHP	Taichung City	2.05	327	eP		Pb	00 10 47.2 -0.6
	baz=336						
YOJ	Yonaguni jima	2.06	22	P		Pn	00 10 46.2 +0.9
YOJ				eS		Sn	00 11 10.1 -1.5
YOJ	Yonaguni jima	2.06	22	eP		Pn	00 10 46.2 +0.9
	baz=25						
TWC	Suao	2.07	352	eP		Pn	00 10 46.9 +1.4
	baz=355						
TWC				eS		Sn	00 11 10.1 -1.9
	baz=355						
NDS	Dongshan	2.12	349	eP		Pn	00 10 46.9 +0.8
	baz=351						
NDS				eS		Sn	00 11 11.4 -1.7
	baz=351						
WCHH	Zhanghua	2.12	316	eP		Pb	00 10 47.7 -1.1
	baz=305						
HATJ	Hateruma jima	2.13	45	P		Pn	00 10 47.2 +0.9
HATJ				S		Sn	00 11 11.2 -2.1
WRL	Guolierlin Hig	2.13	310	eP		Pn	00 10 47.4 +1.1
	baz=311						
WRL				eS		Sn	00 11 12.0 -1.3
	baz=311						
NDT	Datong Townshi	2.13	344	eP		Pn	00 10 47.4 +1.0
	baz=338						
ENTT	Nioudou	2.15	345	eP		Pb	00 10 48.5 -0.9
	baz=349						
TWQ1	Liyutan	2.20	325	eP		Pb	00 10 49.3 -0.9
	baz=338						
TWQ1				eS		Sb	00 11 16.8 -1.2
	baz=338						
TWE	Neicheng	2.21	348	eP		Pn	00 10 48.8 +1.3
	baz=351						
TWE				eS		Sn	00 11 14.8 -0.6
	baz=351						
YHNB	Yeheng	2.23	341	eP		Pn	00 10 49.4 +1.6
	baz=344						
ILA	Ilan	2.24	350	eP		Pb	00 10 50.2 -0.6
	baz=354						
NSY	Sanyi	2.26	326	eP		Pb	00 10 50.6 -0.6
	baz=339						
WDJ	Dajia District	2.27	322	eP		Pn	00 10 49.3 +1.0
	baz=325						
IRIF	Iriomote-Funau	2.29	39	P		Pn	00 10 49.6 +1.1
IRIF				S		Sn	00 11 16.0 -1.3
NWLT	Wulai	2.30	345	eP		Pn	00 10 50.2 +1.5
	baz=338						
NWLT				eS		Sn	00 11 16.0 -1.7
	baz=338						
NTC	Toucheng	2.31	352	eP		Pb	00 10 52.2 0.0
	baz=355						
NTC				eS		Sn	00 11 17.4 -0.7
	baz=355						
NSTT	Nanjuang	2.33	333	eP		Pb	00 10 51.2 -1.2
	baz=342						
NSTT				eS		Sn	00 11 18.3 -0.1
	baz=342						
NMLH	Miaoli	2.35	328	eP		Pn	00 10 51.0 +1.7
	baz=341						
NMLH				eS		Sn	00 11 19.3 +0.5
	baz=341						
JKRS	Kuro-shima	2.39	45	P		Pn	00 10 50.9 +1.1
JKRS				S		Sn	00 11 17.7 -2.0
NJD	Zhudong	2.39	336	eS		Sn	00 11 19.9 0.0
	baz=346						
WDGT	Dungji	2.42	288	eP		Pn	00 10 51.2 +1.0
	baz=288						
WDGT				eS		Sn	00 11 18.1 -2.4
	baz=288						
TIPB	Shuangxi	2.43	353	eP		Pb	00 10 52.6 -1.6
	baz=4.0						
TIPB				eS		Sn	00 11 20.7 -0.3
	baz=4.0						
NJN	Zhunan	2.43	331	eS		Sn	00 11 20.8 -0.1
	baz=333						
TWB1	Santiao Chiao	2.45	356	eP		Pn	00 10 52.1 +1.3
	baz=359						
HSN1	Hsinchu	2.46	335	eS		Sn	00 11 22.4 +0.9
	baz=327						
NHDH	Xindian Distri	2.47	346	eS		Sn	00 11 22.0 +0.1
	baz=349						
TWA	Mucha	2.48	348	eS		Sn	00 11 21.4 -0.7
	baz=350						
SBCB	Hsinchu	2.48	334	eP		Pn	00 10 52.8 +1.6
	baz=337						
SBCB				eS		Sn	00 11 23.1 +1.0
	baz=337						
TATO	Taipei	2.49	346	eP		Pb	00 10 53.9 -1.4
	baz=348						
TATO				eS		Sn	00 11 22.5 +0.1
	baz=348						
HSN	Hsinchu	2.50	334	eS		Sn	00 11 23.9 +1.4
	baz=327						
NWF	Wu-fen Shan	2.54	352	eP		Pb	00 10 54.3 -1.6
	baz=345						
NWF				eS		Sn	00 11 24.1 +0.5
	baz=345						
WFSB	Wu-fen Shan	2.54	352	eP		Pb	00 10 54.3 -1.6
	baz=345						
WFSB				eS		Sn	00 11 23.4 -0.1
	baz=345						
TAP1	Taipei	2.55	347	eS		Sn	00 11 23.9 +0.2
	baz=349						
TAP	Taipei	2.55	346	eS		Sn	00 11 24.5 +0.6
	baz=349						
JIJ	Ishigaki jima	2.56	45	P		Pn	00 10 52.9 +0.7
JIJ				S		Sn	00 11 21.3 -2.8
NCUH	Zhongli	2.57	340	eS		Sn	00 11 24.8 +0.4
	baz=350						
NCU	National Centr	2.57	340	eS		Sn	00 11 25.1 +0.8
	baz=350						
PHUB	P'eng-hu	2.58	292	eP		Pn	00 10 53.4 +0.9
	baz=293						
PHUB				eS		Sn	00 11 22.9 -1.5
	baz=293						
VCHM	Qimei	2.61	285	eP		Pn	00 10 53.6 +0.7
	baz=285						
VCHM				eS		Sn	00 11 22.9 -2.4
	baz=285						
PNG	Penghu	2.61	293	eP		Pn	00 10 54.0 +1.0
	baz=284						
PNG				eS		Sn	00 11 23.4 -1.9
	baz=284						
TNOU	National Taiwa	2.61	352	eP		Pb	00 10 56.4 -0.9
	baz=3.0						
TNOU				eS		Sn	00 11 25.8 +0.4
	baz=3.0						
TWS1	Kuangyinshan	2.63	345	eS		Sn	00 11 26.6 +0.8
	baz=347						
YM01	YM01	2.64	348	eP		Pb	00 10 56.0 -1.8
	baz=340						
YM01				eS		Sn	00 11 25.4 -0.8
	baz=340						
YM08	YM08	2.68	349	eP		Pn	00 10 56.0 +2.1
	baz=340						
NTST	Danshui	2.69	346	eS		Sn	00 11 27.8 +0.7
	baz=348						
ANP	Anpu	2.69	347	eP		Pb	00 10 57.0 -1.6
	baz=351						
TWY	Chenhua	2.76	349	eS		Sn	00 11 30.1 +1.1
	baz=340						
JISG	Ishigakijimahi	2.83	44	P		Pn	00 10 56.4 +0.5
JISG				S		Sn	00 11 28.2 -2.4
JTJ	Tarama	3.12	48	P		Pn	00 11 01.1 +1.1
JTJ				S		Sn	00 11 35.9 -2.0
VWUC	VWUC	3.48	315	eP		Pn	00 11 05.7 +0.9
	baz=304						
JIRB	Irabujima	3.57	50	P		Pn	00 11 06.9 +0.8
JIRB				S		Sn	00 11 46.7 -2.3
JMJ2	Miyako jima3	3.63	52	P		Pn	00 11 08.5 +1.6
JMJ2				eS		Sn	00 11 49.7 -0.7
JMJ	Miyako jima 2	3.65	51	eP		Pn	00 11 08.7 +1.5
	baz=53						
JIKM	Ikemajima	3.68	49	P		Pn	00 11 08.7 +1.0
JIKM				eS		Sn	00 11 50.1 -1.7
JOGS	Gusukube	3.70	53	eS		Sn	00 11 51.7 -0.4
PTMZ	Houxiangcun	3.73	312	eP		Pn	00 11 10.0 +1.6
	baz=302						
PTMZ				eS		Sn	00 11 51.8 -1.2
	baz=302						
KNM	Kinmen	3.90	299	eP		Pn	00 11 12.7 +2.1
	baz=299						
KNMB	Chin-men Tao	3.96	300	eP		Pn	00 11 12.5 +1.1
	baz=299						
KNMB				eS		Sn	00 11 55.3 -3.3
	baz=299						
MATB	Ma-tsu	4.12	331	eP		Pn	00 11 14.4 +0.8
	baz=333						
ZPLA	Ao Xicun	4.29	290	eP		Pn	00 11 17.2 +1.2
	baz=290						
AXDP	Jialang	4.50	302	eP		Pn	00 11 20.6 +1.7
	baz=302						
AXDP				eS		Sn	00 12 10.2 -1.8
	baz=302						
LYJJ	Jianjiangzhen	4.55	332	eP		Pn	00 11 21.2 +1.7
	baz=334						
MHZQ	Yeshan	4.55	322	eP		Pn	00 11 21.6 +2.0
	baz=324						
XPSS	Dashiqiu	4.72	338	eP		Pn	00 11 24.9 +3.0
	baz=351						
VDOS	Pratas Island	5.38	251	eP		Pn	00 11 32.8 +1.8
	baz=247						
VDOS				eS		Sn	00 12 29.9 -3.8
	baz=247						
KSRS	Korea Array	15.66	17	Pn		Pn	00 13 52.5 +1.0
	0.5nm,0.3s,baz=199,slow=12,SNR=9.1						
MKAR	Makanchi Array	40.14	317	P		P	00 17 48.5 +1.3
	0.3nm,0.7s,baz=104,slow=9.6,SNR=1.8						
H11N1	WAKE ISLAND Hy	41.70	85	T		T	01 03 25.2
	baz=282						
H11N2	WAKE ISLAND Hy	41.70	85	T		T	01 03 32.8
	baz=282						
H11N3	WAKE ISLAND Hy	41.72	85	T		T	01 03 29.7
	baz=282						
ZALV	Zalesovo Beam	42.10	328	P		P	00 18 06.1 +3.0
	0.3nm,0.4s,baz=126,slow=7.4,SNR=2.1						
WRA	Warramunga Arr	43.87	163	P		P	00 18 24.0 +6.2
	0.4nm,0.7s,baz=343,slow=8.8,SNR=1.8						

KRSC 07 00:12:49.8±2.3, 49°.39N×156°.44E, h39km±25km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.32	351	eP	Pn	00 13 12.0	+0.4
SKR				eS	Sn	00 13 28.8	+0.8
ALID	Alaid	1.59	339	eP	Pn	00 13 14.5	-1.1
ALID				eS	Sn	00 13 34.7	-0.3
PAU	Pauzhetka	2.10	6	eP	Pn	00 13 25.5	+3.1
PAU				eS	Sn	00 13 51.7	+4.5
KDTR	Khodutka, Kamc	2.64	23	eP	Pn	00 13 33.1	+3.3
KDTR				eS	Sn	00 14 05.0	+4.4
MIPR	Malaya Ipel'ka	2.90	4	eP	Pn	00 13 35.2	+1.7
MTVR	Mutnovka	3.29	19	eP	Pn	00 13 43.3	+4.4
MTVR				eS	Sn	00 14 22.2	+5.4
RUS	Russkaya	3.32	22	eP	Pn	00 13 43.0	+3.8
RUS				eS	Sn	00 14 21.7	+4.4
GRL	Gorelyy	3.33	17	eP	Pn	00 13 44.1	+4.6
GRL				eS	Sn	00 14 23.6	+5.7
KRMR	Karymshinskiy	3.61	16	eS	Sn	00 14 28.5	+4.0
PET	Petropavlovsk	3.90	20	eS	Sn	00 14 37.7	+6.1
DALK	Dalny	3.93	21	eP	Pn	00 13 52.1	+4.6
DALK				eS	Sn	00 14 38.1	+5.8
UGLR	Uglovaya	4.11	20	eP	Pn	00 13 55.2	+5.1
AVH	Avacha	4.14	19	eP	Pn	00 13 56.1	+5.5
KOK	Koryaka	4.15	19	eP	Pn	00 13 55.9	+5.3
SDLR	Sedlovina	4.19	20	eP	Pn	00 13 55.7	+4.5
NLC	Nalytchevo	4.21	25	S	Sn	00 14 43.3	+4.2
KRX	Arik	4.21	18	eP	Pn	00 13 55.7	+4.1
SPN	Mys Shipunski	4.34	30	eP	Pn	00 13 57.5	+4.3
SPN				eS	Sn	00 14 47.8	+5.2
MKZ	Mys Kozlova	6.12	30	eP	Pn	00 14 20.8	+3.2
MKZ				eS	Sn	00 15 29.3	+3.1
KZV	Kizimen	6.21	21	eP	Pn	00 14 25.6	+6.7
TUMD	Tumrok D	6.31	21	eS	Sn	00 15 37.0	+6.0
TUMR	Tumrok	6.33	20	eP	Pn	00 14 26.7	+6.1
KBTR	Krutoberegovo	7.85	27	eP	Pn	00 14 46.1	+4.8

*IDC **07** 00:14:57.3±3.1, 1°.71N×128°.46E, h46km±31km, mb4.1/16, mb1 4.2/18, mb1mx4.0/47, mbtmp4.3/18, ML3.9/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/35, Error ellipse: s-maj=28.9km s-min=12.2km az=84.0*

*DJA **07** 00:14:57.4±0.9, 2°N±4°×12°9E±°, h28km±9km, M4.4/13, mb4.6/10, mB4.7/3, MLv4.4/13, Mw(mB)4.0/3*

*NEIC **07** 00:14:58.2±1.8, 1°.80N±0°.07×128°.60E±0°.08, h43km±7km, mb4.6/27, Error ellipse: s-maj=13.2km s-min=6.7km az=53.0*

ISC 07 00:14:56.7±0.4, 1°.75N±0°.05×128°.70E±0°.06, h35km, n84, σ1§48/82, mb4.6/35, MS3.5/3, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.65	234	Pn	Pn	00 15 22.8	-0.3
TNTI	Ternate	1.65	234	P	Pn	00 15 22.9	-0.3
TNTI				S	Sn	00 15 43.9	+0.8
SWI	Sorong	3.65	135	P	Pn	00 15 52.9	+2.1
SWI				S	Sn	00 16 32.9	+0.3
SIJI	Sorong	3.66	135	P	Pn	00 15 52.8	+1.9
	18nm,0.3s,baz=323,slow=20,SNR=24						
SIJI				S	Sn	00 16 33.0	+0.1
	7.9nm,0.3s,baz=10,slow=24,SNR=7.0						
SIJI				LR	LR	00 17 46.2	
	comp=Z,334nm,20.2s,baz=49,slow=44						
SGSI	Sangihe	3.70	301	P	Pn	00 15 52.5	+1.1
SGSI				S	Sn	00 16 36.7	+2.8
SANI	Sanana	4.65	216	P	Pn	00 16 06.7	+2.2
KMSI	Cibinong	4.86	256	P	Pn	00 16 08.5	+1.2
NLAI	Namlea	5.21	198	P	Pn	00 16 12.6	+0.4
	0.1nm2μm16nm,0.5s						
GTOI	Gorontalo	5.79	259	P	Pn	00 16 22.7	+2.5
	0.1nm41nm,0.7s						
FAKI	Fak Fak	5.84	143	Pn	Pn	00 16 23.1	+2.1
FAKI	Fak Fak	5.84	143	P	Pn	00 16 23.2	+2.2
	0.2nm35nm,0.5s						
KCP	Kidapawan	6.34	326	⇑iP	Pn	00 16 32.6	+4.8
MRSI	Marisa	6.87	259	P	Pn	00 16 37.2	+2.2
	0.2nm57nm,0.7s						
APSI	Ampana	7.53	249	P	Pn	00 16 44.4	+0.4
	0.2nm71nm,0.8s						
TOLI2	Tolitoli	7.94	265	Pn	Pn	00 16 50.0	+0.3
MPSI	Mapaga	8.91	261	P	Pn	00 17 04.6	+1.6
	14nm,0.8s						
TTSI	Tana Toraja	10.07	242	P	Pn	00 17 19.4	+0.4
	32nm,0.5s						
BNSI	Bone	10.54	235	P	Pn	00 17 26.3	+0.9
	1μm30nm,0.6s						
BKSI	Bulukumba	11.08	231	P	Pn	00 17 34.3	+1.5
	24nm,0.7s						
KAPI	Kappang	11.18	233	P	Pn	00 17 36.3	+2.1
	2.3nm,0.3s,baz=45,slow=3.7,SNR=6.3						
KAPI				LR	LR	00 21 35.5	
	comp=Z,33nm,18.9s,baz=18,slow=36						
KAPI	Kappang	11.18	233	Pn	Pn	00 17 34.7	+0.6
BATI	Baumata	12.89	203	LR	LR	00 23 07.4	
	comp=Z,149nm,21.9s,baz=0.5,slow=38						
FITZ	Fitzroy Crossi	19.95	189	P	P	00 19 25.4	-0.6
	0.2nm,0.3s,baz=9.5,slow=9.9,SNR=2.3						
FITZ				LR	LR	00 27 28.2	
	comp=Z,31nm,21.5s,baz=106,slow=38						
WB0	Warramunga Arr	22.11	166	P	P	00 19 51.4	+2.2
WRA	Warramunga Arr	22.26	166	P	P	00 19 50.0	-0.8
	1.7nm,0.5s,baz=344,slow=10,SNR=9.6						
WB2	Warramunga Arr	22.26	166	P	P	00 19 52.7	+1.8
WR0	Warramunga Arr	22.33	165	P	P	00 19 53.3	+1.8
PSA00	Pilbara Seismi	24.75	200	P	P	00 20 16.7	+1.6
PSA00	Pilbara Seismi	24.75	200	P	P	00 20 15.8	+0.6
PSA00				IAmb	IAmb	00 20 25.1	
	comp=Z,19nm,1.2s						
AS31	Alice Springs	25.77	169	P	P	00 20 26.4	+2.0
ASAR	Alice Springs	25.77	169	P	P	00 20 24.1	-0.3
	comp=Z,1.0nm,0.6s,baz=354,slow=16,SNR=16						
ASAR				PcP	PcP	00 23 52.1	-1.8
	comp=Z,0.5nm,0.5s,baz=344,slow=2.3,SNR=2.9						
ASAR	Alice Springs	25.77	169	P	P	00 20 25.3	+0.9
GSI	Gunungsitoli	31.11	270	P	P	00 21 10.8	-1.5
GSI				IAmb	IAmb	00 21 14.3	
	comp=Z,12nm,0.8s						
NJ2	Nanjing	31.53	344	eP	P	00 21 18.1	+2.4
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	Chiang Mai Arr	33.56	302	P	P	00 21 31.8	-1.9
	comp=Z,1.2nm,0.4s,baz=134,slow=7.7,SNR=2.0						
JWT	Wachi	33.94	10	P	P	00 21 37.0	+0.3
KMI	Kunming	34.16	315	⇑P	P	00 21 40.7	+1.7
KMI				pP	pP	00 21 47.1	-1.7
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INU	Inuyama	34.31	12	P	P	00 21 40.0	+0.1
EIDS	Eidsvold	34.60	143	P	P	00 21 44.2	+1.7
EIDS				IAmb	IAmb	00 22 13.4	
	comp=Z,20nm,1.5s						
JGF	Kuroka	34.63	12	P	P	00 21 42.2	-0.5
JGF				IAmb	IAmb	00 21 43.6	
	comp=Z,4.6nm,0.9s						
KSRS	Korea Array	35.53	359	P	P	00 21 50.6	+0.2
	comp=Z,2.0nm,0.5s,baz=176,slow=9.6,SNR=8.7						
KSRS				LR	LR	00 35 30.8	
	comp=Z,17nm,21.3s,baz=285,slow=35						
STKA	Stephens Creek	35.62	161	P	P	00 21 51.4	+0.1
	comp=Z,2.0nm,0.5s,baz=8.1,slow=7.1,SNR=6.6						
STKA	Stephens Creek	35.62	161	P	P	00 21 51.9	+0.6
STKA				IAmb	IAmb	00 21 60.0	
	comp=Z,1.4nm,1.1s						
STKA	Stephens Creek	35.62	161	P	P	00 21 51.9	+0.6
MAJO	Matsushiro	35.72	13	P	P	00 21 51.1	-1.0
MAT	Matsushiro	35.72	13	P	P	00 21 51.0	-1.1
MJAR	Matsushiro Arr	35.72	13	P	P	00 21 51.2	-0.9
	comp=Z,13nm,0.8s,baz=182,slow=9.6,SNR=34						
MJAR	Matsushiro Arr	35.72	13	P	P	00 21 50.7	-1.4
MJAR				IAmb	IAmb	00 21 53.7	
	comp=Z,4.5nm,0.7s						
XAN	Xi'an	37.06	332	P	P	00 22 03.2	-0.4
XAN				pP	pP	00 22 11.0	-2.5
XAN				sP	sP	00 22 16.6	-0.9
XAN				pmax	pmax		
	comp=Z,11nm,1.1s						
JSD	Sado	37.16	13	P	P	00 22 03.6	-0.8
CD2	Chengdu	37.39	323	eP	P	00 22 07.0	+0.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JMM	Marumori	37.62	16	P	P	00 22 07.6	-0.6
LZH	Lanzhou	41.19	329	eP	P	00 22 39.1	+0.8
LZH				pP	pP	00 22 50.0	+1.8
LZH				sP	sP	00 22 54.8	+2.5
LZH				pmax	pmax		
	comp=Z,30nm,1.1s						
H11N1	WAKE ISLAND Hy	41.39	62	T	T	01 07 03.2	
	baz=248,slow=75,SNR=9.3						
H11N2	WAKE ISLAND Hy	41.40	62	T	T	01 07 03.2	
	baz=248,slow=75,SNR=7.0						
H11N3	WAKE ISLAND Hy	41.41	62	T	T	01 07 09.4	
	baz=248,slow=75,SNR=13						
HHC	Hu-ho-hao-te	41.89	340	eP	P	00 22 46.8	+2.9
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,97nm,6.8s						
USRK	Ussuriysk Ar.	42.37	4	P	P	00 22 47.6	+0.1
	comp=Z,1.6nm,0.5s,baz=141,slow=8.3,SNR=4.1						
SHL	Shillong	42.62	307	P	P	00 22 49.6	-0.6
SHL				IAmb	IAmb	00 22 50.5	
	comp=Z,24nm,0.9s						
GTA	Gaotai	45.79	329	eP	P	00 23 15.4	+0.1
GTA				pP	pP	00 23 25.9	+0.6
GTA				sP	sP	00 23 29.9	+0.6
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,74nm,5.7s						
GTA				LR	LR		
	comp=N,63nm,14.2s						
GTA				LR	LR		
	comp=E,120nm,15.6s						
GTA				LR	LR		
	comp=Z,62nm,15.3s						
ULN	Ulaanbaatar	49.60	341	P	P	00 23 44.2	-0.6
ULN				IAmb	IAmb	00 23 45.6	
	comp=Z,9.0nm,0.9s						
SONM	Songino Array	49.80	340	P	P	00 23 45.7	-0.5
	comp=Z,3.5nm,0.8s,baz=156,slow=8.7,SNR=6.9						
SONM	Songino Array	49.80	340	P	P	00 23 45.1	-1.1
SONM				IAmb	IAmb	00 23 46.9	
	comp=Z,3.1nm,0.8s						
MSVF	Nonsavu	52.32	114	LR	LR	00 45 21.6	
	comp=Z,42nm,18.2s,baz=350,slow=35						
WMQ	Urumqi	55.46	325	eP	P	00 24 30.3	+2.2
PEA0B	Petropavlovsk-	56.55	21	P	P	00 24 35.8	+0.2
PETK	Petropavlovsk-	56.55	21	P	P	00 24 36.1	+0.5
	comp=Z,5.5nm,0.8s,baz=206,slow=9.9,SNR=9.2						
MK31	Makanchi Array	60.29	325	P	P	00 25 01.1	-0.8
MK31				IAmb	IAmb	00 25 01.9	
	comp=Z,4.6nm,0.7s						
MKAR	Makanchi Array	60.29	325	P	P	00 25 01.1	-0.8
	comp=Z,6.3nm,0.6s,baz=118,slow=8.4,SNR=72						
MAKZ	Makanchi	60.48	325	P	P	00 25 02.3	-0.9
MAKZ				IAmb	IAmb	00 25 03.1	
	comp=Z,6.0nm,0.7s						
ZAA0	Zalesovo Array	63.23	333	P	P	00 25 20.1	-1.4
ZAA0				IAmb	IAmb	00 25 21.9	
	comp=Z,2.0nm,0.6s						
ZALV	Zalesovo Beam	63.23	333	P	P	00 25 18.9	-2.6
	comp=Z,1.0nm,0.5s,baz=110,slow=8.1,SNR=5.9						
ZALV	Zalesovo Beam	63.23	333	P	P	00 25 19.0	-2.5
GAR	Garm	64.70	313	P	P	00 25 29.9	-1.7
GAR				IA

comp=Z,1.8nm,0.6s
ILAR Eielson Array 86.04 25 P **P 00 27 33.2 -0.3**
comp=Z,0.5nm,0.5s,baz=239,slow=5.2,SNR=6.0
KLMR Klimovskoe 88.08 331 P P 00 27 39.5 -3.9
KLMR AMP 00 27 40.7
comp=Z,11nm,1.4s
KLMR *e*PP PP 00 31 02.4 -7.8
ARCES ARCESS Array B 92.97 340 P **P 00 28 03.8 -2.3**
comp=Z,4.3nm,0.9s,baz=72,slow=5.9,SNR=2.2
TORD Torodi Ar. Bea 125.39 287 PKP **PKPdf 00 33 52.8 -2.3**
comp=Z,0.7nm,0.7s,baz=36,slow=2.4,SNR=4.9

*NOU **07** 00:15:43.0, 24°.03S×179°.27W, h535km, MLv4.7, South of Fiji Islands*
*NEIC **07** 00:15:44.6±2.0, 24°.1S±0°.1×179°.5W±0°.2, h522km±11km, mb4.6/35, Error ellipse: s-maj=20.4km s-min=15.2km az=90.0*
*IDC **07** 00:15:44.5±1.2, 24°.18S×179°.67W, h518km±12km, mb3.5/10, mb1 3.8/13, mb1mx3.5/35, mbtmp4.5/13, Error ellipse: s-maj=17.7km s-min=14.9km az=31.0*
ISC 07 00:15:43.5±0.5, 24°.02S±0°.05×179°.51W±0°.07, h512km, n89, σ1°.95/100, mb4.3/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.39**	**165**	P	**P**	**00 17 17.3**	**+2.7**
RIZ				S	**S**	**00 18 30.6**	**+1.6**
RAO	**Raoul Island**	**5.40**	**165**	P	**P**	**00 17 16.2**	**+1.6**
	113nm,0.3s,baz=268,slow=21,SNR=4.1						
RAO				S	**S**	**00 18 29.8**	**+0.6**
	83nm,0.3s,baz=107,slow=20,SNR=2.3						
RAO	**Raoul Island**	**5.40**	**165**	P	**P**	**00 17 15.8**	**+1.2**
GLKZ	**Green Lake**	**5.41**	**165**	P	**P**	**00 17 15.2**	**+0.5**
GLKZ				S	**S**	**00 18 28.9**	**-0.4**
MSVF	**Nonsavu**	**6.66**	**339**	P	**P**	**00 17 27.4**	**+0.5**
	4.2nm,0.3s,baz=85,slow=21,SNR=7.7						
MSVF				S	**S**	**00 18 52.0**	**+0.6**
	baz=198,slow=20,SNR=1.7						
MSVF	**Nonsavu**	**6.66**	**339**		**P**	**00 17 27.2**	**+0.3**
MSVF	**Nonsavu**	**6.66**	**339**	P	**P**	**00 17 27.8**	**+0.9**
MARNC	**Mare, Loyalty**	**11.77**	**280**	P	**P**	**00 18 19.1**	**-0.6**
AFI	**Afiamalu**	**12.43**	**37**	P	**P**	**00 18 24.6**	**-2.2**
	6.4nm,0.3s,baz=257,slow=18,SNR=4.6						
AFI				S	**S**	**00 20 34.9**	**-6.3**
	3.0nm,0.3s,baz=18,slow=21,SNR=2.0						
OUENC	**Ouen Island, N**	**12.65**	**275**	P	**P**	**00 18 29.8**	**+0.9**
OUENC	**Ouen Island, N**	**12.65**	**275**	P	**P**	**00 18 30.3**	**+1.4**
OUZ	**Omahuta**	**12.67**	**207**	P	**P**	**00 18 31.1**	**+2.3**
LIFNC	**LIFOU**	**12.68**	**282**	P	**P**	**00 18 30.0**	**+0.8**
YATNC	**Mamie plateau,**	**12.68**	**276**	P	**P**	**00 18 31.4**	**+2.2**
WCZ	**Waipu Caves**	**13.02**	**203**	P	**P**	**00 18 34.7**	**+2.2**
DZM	**Mont Dzumac**	**13.08**	**276**	P	**P**	**00 18 34.7**	**+1.1**
	0.9nm,0.3s,baz=81,slow=16,SNR=12						
DZM	**Mont Dzumac**	**13.08**	**276**	P	**P**	**00 18 35.3**	**+1.8**
DZM	**Mont Dzumac**	**13.08**	**276**	P	**P**	**00 18 35.3**	**+1.8**
KUZ	**Kuaotunu**	**13.33**	**197**	P	**P**	**00 18 36.7**	**+0.8**
MXZ	**Matakaoa Point**	**13.63**	**187**	P	**P**	**00 18 40.8**	**+1.8**
WMGZ	**Waiomatatini S**	**13.87**	**187**	P	**P**	**00 18 39.7**	**-1.8**
WMGZ				S	**S**	**00 21 09.3**	**+1.0**
HAZ	**Te Kaha**	**13.89**	**189**	P	**P**	**00 18 40.9**	**-0.8**
HAZ				S	**S**	**00 21 06.7**	**-1.9**
AWAZ	**Awhitu Peninsu**	**13.94**	**200**	P	**P**	**00 18 43.2**	**+1.0**
PKGZ	**Pakihiroa**	**13.98**	**188**	P	**P**	**00 18 43.0**	**+0.3**
PKGZ				S	**S**	**00 21 09.6**	**-0.9**
PUZ	**Puketiti**	**14.14**	**187**	P	**P**	**00 18 43.2**	**-1.1**
TOZ	**Tahuroa Road**	**14.32**	**196**	P	**P**	**00 18 50.6**	**+4.4**
URZ	**Urewera**	**14.49**	**191**	P	**P**	**00 18 44.9**	**-3.0**
	15nm,0.3s,baz=66,slow=6.4,SNR=33						
URZ				S	**S**	**00 21 15.4**	**-4.7**
	4.2nm,0.3s,baz=179,slow=20,SNR=13						
URZ	**Urewera**	**14.49**	**191**	P	**P**	**00 18 49.2**	**+1.3**
SNGZ	**Shannon Statio**	**14.96**	**190**	P	**P**	**00 18 53.4**	**+0.5**
KNZ	**Kokohu**	**15.15**	**188**	P	**P**	**00 18 54.6**	**-0.3**
HIZ	**Hauiti**	**15.23**	**197**	P	**P**	**00 18 58.7**	**+3.0**
FUNA	**Funafuti**	**15.46**	**355**	P	**P**	**00 19 00.1**	**+1.7**
FUNA				IAmb	IAmb	00 19 00.9	
	comp=Z,72nm,1.1s						
BKZ	**Black Stump Fm**	**15.48**	**192**	P	**P**	**00 18 57.5**	**-0.9**
BKZ				S	**S**	**00 21 34.5**	**-4.5**
BHHZ	**Black Hill Sta**	**15.87**	**193**	P	**P**	**00 19 01.6**	**-0.8**
BHHZ				S	**S**	**00 21 42.8**	**-3.5**
KAHZ	**Kahuranaki**	**16.02**	**190**	P	**P**	**00 19 03.2**	**-0.8**
KAHZ				S	**S**	**00 21 46.9**	**-2.1**
PNHZ	**Pukenui**	**16.26**	**192**	P	**P**	**00 19 01.7**	**-4.7**
PNHZ				S	**S**	**00 21 47.1**	**-6.0**
PNHZ	**Pukenui**	**16.26**	**192**	S	**P**	**00 19 01.7**	**-4.7**
BFZ	**Birch Farm**	**17.00**	**191**	P	**P**	**00 19 12.6**	**-1.1**
MSWZ	**Moikau Station**	**17.89**	**193**	P	**P**	**00 19 20.1**	**-2.0**
SNZO	**South Karori**	**17.91**	**194**		**P**	**00 19 20.6**	**-1.6**
BHW	**Baring Head**	**17.97**	**194**	P	**P**	**00 19 21.8**	**-1.0**
PLWZ	**Palliser**	**18.04**	**193**	P	**P**	**00 19 21.9**	**-1.6**
QRZ	**Quartz Range**	**18.04**	**200**	P	**P**	**00 19 23.3**	**-0.1**
NNZ	**Nelson**	**18.16**	**197**	P	**P**	**00 19 22.6**	**-1.8**
NNZ				IAmb	IAmb	00 19 30.0	
	comp=Z,50nm,1.1s						
TUWZ	**Tuamarina**	**18.20**	**196**	P	**P**	**00 19 23.9**	**-1.0**
CMWZ	**Cape Campbell**	**18.44**	**195**		**P**	**00 19 26.8**	**-0.3**
BSWZ	**Blackbirch Sta**	**18.49**	**196**	P	**P**	**00 19 27.5**	**0.0**
THZ	**Tophouse**	**18.79**	**198**	P	**P**	**00 19 30.7**	**+0.3**
KHZ	**Kahutara**	**19.23**	**196**	P	**P**	**00 19 33.5**	**-0.8**
KHZ				IAmb	IAmb	00 19 37.7	
	comp=Z,53nm,1.0s						
LTZ	**Lake Taylor**	**19.91**	**198**	P	**P**	**00 19 39.4**	**-1.1**
OXZ	**Oxford**	**20.48**	**198**	P	**P**	**00 19 45.5**	**-0.2**
KNTN	**Kanton**	**22.42**	**21**	P	**P**	**00 20 03.5**	**0.0**
ARMA	**Armidale**	**26.40**	**250**	P	**P**	**00 20 39.2**	**+0.4**
ARMA				IAmb	IAmb	00 20 40.4	
	comp=Z,8.1nm,0.8s						
EIDS	**Eidsvold**	**26.73**	**261**	P	**P**	**00 20 41.6**	**-0.1**
EIDS				IAmb	IAmb	00 20 42.5	
	comp=Z,8.0nm,0.6s						
CAN	**Canberra**	**29.47**	**240**	P	**P**	**00 21 05.8**	**+0.2**
CAN				IAmb	IAmb	00 21 17.6	
	comp=Z,8.2nm,1.0s						
CTA	**Charters Tower**	**31.93**	**270**	P	**P**	**00 21 27.0**	**+0.2**
	comp=Z,21nm,0.5s,baz=96,slow=11,SNR=43						
CTAO	**Charters Tower**	**31.93**	**270**	P	**P**	**00 21 27.1**	**+0.2**
CTAO				IAmb	IAmb	00 21 27.7	
	comp=Z,23nm,0.7s						
TOO	**Toolangi**	**32.76**	**237**	P	**P**	**00 21 34.2**	**+0.4**
TOO				IAmb	IAmb	00 21 35.6	
	comp=Z,8.0nm,1.1s						
PMG	**Port Moresby**	**34.96**	**289**	P	**P**	**00 21 51.1**	**-1.4**
	comp=Z,11nm,0.4s,baz=106,slow=5.0,SNR=5.1						
BBOO	**Buckleboo**	**39.81**	**247**	P	**P**	**00 22 31.2**	**-0.9**
BBOO				IAmb	IAmb	00 22 48.1	
	comp=Z,6.0nm,1.1s						
AS31	**Alice Springs**	**42.46**	**261**	P	**P**	**00 22 52.8**	**-0.5**
ASAR	**Alice Springs**	**42.46**	**261**	P	**P**	**00 22 52.8**	**-0.5**
	comp=Z,10nm,0.9s,baz=95,slow=8.2,SNR=42						
ASAR				S	**S**	**00 28 34.2**	**-3.9**
	comp=Z,0.5nm,0.7s,baz=102,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**42.46**	**261**	P	**P**	**00 22 52.1**	**-1.3**
WR0	**Warramunga Arr**	**42.66**	**266**	P	**P**	**00 22 53.9**	**-1.0**
WR0				IAmb	IAmb	00 22 54.7	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**42.84**	**266**	IAmb	IAmb	00 22 56.1	
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**42.84**	**266**	P	**P**	**00 22 53.2**	**-3.1**
WRAB				IAmb	IAmb	00 22 54.1	
	comp=Z,18nm,0.6s						
WB0	**Warramunga Arr**	**42.84**	**266**	IAmb	IAmb	00 22 56.1	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**42.85**	**266**	P	**P**	**00 22 55.4**	**-1.0**
	comp=Z,13nm,0.6s,baz=103,slow=8.3,SNR=67						
FORT	**Forrest**	**46.69**	**250**	P	**P**	**00 23 25.0**	**-0.9**
FORT				IAmb	IAmb	00 23 25.4	
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**47.91**	**274**	P	**P**	**00 23 34.2**	**-1.0**
MTN				IAmb	IAmb	00 23 34.7	
	comp=Z,8.4nm,0.7s						
KNRA	**Kununurra**	**49.14**	**270**	IAmb	IAmb	00 23 44.7	
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.27**	**266**	P	**P**	**00 23 59.5**	**-0.5**
	comp=Z,5.6nm,0.6s,baz=124,slow=7.2,SNR=15						
FITZ	**Fitzroy Crossi**	**51.27**	**266**	IAmb	IAmb	00 24 00.8	
	comp=Z,7.5nm,0.8s						
SBA	**Scott Base**	**54.29**	**184**	P	**P**	**00 24 22.7**	**+2.1**
VNDA	**Vanda**	**54.30**	**185**	P	**P**	**00 24 19.1**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=3.7,slow=5.5,SNR=8.8						
VNDA	**Vanda**	**54.30**	**185**	P	**P**	**00 24 19.7**	**-1.0**
SOEI	**Soe**	**55.30**	**275**	P	**P**	**00 24 29.5**	**+0.7**
SOEI				IAmb	IAmb	00 24 39.3	
	comp=Z,30nm,1.1s						
PSA00	**Pilbara Seismi**	**55.59**	**260**	P	**P**	**00 24 29.0**	**-1.6**
PSA00	**Pilbara Seismi**	**55.59**	**260**	P	**P**	**00 24 29.6**	**-1.1**
PSA00				IAmb	IAmb	00 24 33.9	
	comp=Z,10nm,1.1s						
MORW	**Morawa**	**57.26**	**250**	P	**P**	**00 24 41.5**	**-0.6**
CASY	**Casey**	**60.20**	**206**	P	**P**	**00 25 01.6**	**+0.4**
QSPA	**South Pole Qui**	**66.07**	**180**	P	**P**	**00 25 41.1**	**+2.0**
QSPA				IAmb	IAmb	00 25 41.9	
	comp=Z,5.1nm,0.8s						
PETK	**Petropavlovsk-**	**79.32**	**346**	P	**P**	**00 26 56.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=130,slow=5.8,SNR=2.7						
NVAR	**Mina Array Bea**	**84.52**	**44**	P	**P**	**00 27 24.5**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=226,slow=8.6,SNR=2.4						
TXAR	**Lajitas Array**	**90.11**	**58**	P	**P**	**00 27 52.0**	**+3.0**
	comp=Z,0.3nm,0.7s,baz=208,slow=7.2,SNR=2.3						
ILAR	**Eielson Array**	**92.04**	**13**	P	**P**	**00 27 57.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=247,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**112.56**	**313**	PKiKP	**PKiKP**	**00 33 21.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=103,slow=0.9,SNR=3.0						
AKASG	**Malin Array Be**	**145.31**	**328**	PKPbc	**PKPbc**	**00 34 23.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=45,slow=3.9,SNR=4.5						
AKASG				SKPbc	**SKPbc**	**00 37 13.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=67,slow=3.7,SNR=1.1						
CLL	**Collm**	**151.10**	**344**	*i* PKPbc	**PKiKP**	**00 34 39.1**	**+0.6**

WEL 07 00:18:17.0±1.5, 39°.5S±7°.×17°.6E±1°.3, h114km±17km, M2.9/9, ML3.1/6, MLv2.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=90.9, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.68**	**279**	P	Pn	00 18 36.9	+1.4
BKZ	**Black Stump Fm**	**0.82**	**132**	P	Pn	00 18 36.4	-0.4
PNHZ	**Pukenui**	**1.35**	**164**	P	Pn	00 18 43.0	+0.8
KAHZ	**Kahuranaki**	**1.48**	**143**	P	Pn	00 18 44.5	+0.7
RUGZ	**Raukumara Rang**	**1.68**	**68**	P	Pn	00 18 45.5	-0.7
PRHZ	**Porangahau**	**1.79**	**157**	P	Pn	00 18 48.7	+1.2
MRZ	**Mangatainoka R**	**2.04**	**183**	P	Pn	00 18 50.5	-0.1
MRZ				S	Sn	00 19 19.4	+3.0
BFZ	**Birch Farm**	**2.10**	**169**	P	Pn	00 18 51.1	-0.3
TIWZ	**Tintock**	**2.16**	**177**	P	Pn	00 18 52.0	-0.2
TIWZ				S	Sn	00 19 17.5	-1.6
OGWZ	**Otaki Gorge**	**2.23**	**191**	P	Pn	00 18 53.1	0.0
OGWZ				S	Sn	00 19 21.1	+0.3
KIW	**Kapiti Island**	**2.32**	**195**	P	Pn	00 18 53.9	-0.4
CAW	**Cannon Point**	**2.53**	**191**	P	Pn	00 18 56.4	-0.6

*NEIC **07** 00:26:19.7±1.3, 17°.6S±0°.1×178°.7W±0°.1, h560km±8km, mb4.1/40, Error ellipse: s-maj=20.5km s-min=15.4km az=151.0*
*IDC **07** 00:26:19.6±1.5, 17°.57S×178°.67W, h566km±16km, mb3.4/14, mb1 3.6/15, mb1mx3.5/33, mbtmp4.3/15, Error ellipse: s-maj=22.8km s-min=11.8km az=150.0*
ISC 07 00:26:18.2±0.5, 17°.5S±0°.1×178°.68W±0°.09, h550km, n66, σ0°.79/69, mb4.0/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**266**	P	**P**	**00 27 36.5**	**+2.4**
	17nm,0.3s,baz=110,slow=4.2,SNR=212						
MSVF	**Nonsavu**	**3.12**	**266**	P	**P**	**00 27 37.0**	**+2.8**
OUENC	**Ouen Island, N**	**14.45**	**248**	P	**P**	**00 29 21.4**	**-0.6**
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**00 29 23.3**	**-1.5**
	0.3nm,0.3s,baz=357,slow=21,SNR=1.4						
DZM	**Mont Dzumac**	**14.70**	**250**	P	**P**	**00 29 24.1**	**-0.7**
KNTN	**Kanton**	**16.19**	**26**	P	**P**	**00 29 39.8**	**+0.1**
RAR	**Rarotonga**	**18.20**	**105**	P	**P**	**00 29 58.4**	**+0.4**
FOZ	**Fox Glacier**	**27.68**	**198**	P	**P**	**00 31 21.2**	**-1.1**
WKZ	**Wanaka**	**29.09**	**198**	P	**P**	**00 31 35.4**	**+0.7**
EIDS	**Eidsvold**	**29.15**	**249**	P	**P**	**00 31 34.8**	**-0.6**
EIDS				IAmb	IAmb	00 31 36.6	
	comp=Z,7.1nm,0.9s						
MLZ	**Mavora Lakes**	**29.85**	**199**	P	**P**	**00 31 41.3**	**0.0**
ARMA	**Armidale**	**29.90**	**239**	P	**P**	**00 31 42.6**	**+0.6**
ARMA				IAmb	IAmb	00 31 43.6	
	comp=Z,5.6nm,0.7s						
CTA	**Charters Tower**	**33.25**	**260**	P	**P**	**00 32 10.9**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=102,slow=9.5,SNR=6.6						
CTAO	**Charters Tower**	**33.25**	**260**	P	**P**	**00 32 11.0**	**+0.3**
CTAO				IAmb	IAmb	00 32 11.7	
	comp=Z,4.0nm,0.8s						
PMG	**Port Moresby**	**34.15**	**279**	P	**P**	**00 32 19.5**	**+1.4**
	comp=Z,10.0nm,0.4s,baz=56,slow=4.0,SNR=5.1						
TOO	**Toolangi**	**37.20**	**230**	P	**P**	**00 32 43.2**	**0.0**
TOO				IAmb	IAmb	00 32 44.5	
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**00 32 55.2**	**+0.7**
	comp=Z,7.1nm,0.6s,baz=93,slow=11,SNR=18						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**00 32 55.5**	**+1.1**
BBOO	**Buckleboo**	**43.36**	**241**	P	**P**	**00 33 32.7**	**+0.3**
WR0	**Warramunga Arr**	**44.25**	**259**	P	**P**	**00 33 39.4**	**-0.1**
WR0				IAmb	IAmb	00 33 51.9	
	comp=Z,5.2nm,1.1s						
WB0	**Warramunga Arr**	**44.41**	**259**	P	**P**	**00 33 40.7**	**0.0**
WB0				IAmb	IAmb	00 33 41.1	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**44.43**	**259**	P	**P**	**00 33 41.2**	**+0.3**
WB2				IAmb	IAmb	00 33 41.3	
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**00 33 40.4**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=92,slow=6.8,SNR=67						
WRA				PcP	**PcP**	**00 35 12.4**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=94,slow=3.0,SNR=3.7						
WRA	**Warramunga Arr**	**44.45**	**259**	P	**P**	**00 33 40.6**	**-0.4**
AS31	**Alice Springs**	**44.64**	**254**	P	**P**	**00 33 42.7**	**+0.2**
AS31				IAmb	IAmb	00 33 43.2	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**00 33 42.5**	**+0.1**
	comp=Z,39nm,0.6s,baz=88,slow=8.2,SNR=451						
ASAR				PcP	**PcP**	**00 35 13.0**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=104,slow=3.9,SNR=5.9						
ASAR				S	**S**	**00 39 38.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=83,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**00 33 42.3**	**-0.1**
GUMO	**Guam**	**47.45**	**308**	P	**P**	**00 34 01.8**	**-1.9**
MTN	**Manton Dam**	**48.55**	**268**	P	**P**	**00 34 11.7**	**-0.4**
FORT	**Forrest**	**49.93**	**244**	P	**P**	**00 34 21.5**	**-0.5**
KNRA	**Kununurra**	**50.27**	**264**	P	**P**	**00 34 25.1**	**+0.4**
KNRA				IAmb	IAmb	00 34 25.5	
	comp=Z,11nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	P	**P**	**00 34 43.7**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=66,slow=5.4,SNR=17						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	P	**P**	**00 34 43.6**	**+0.5**
SOEI	**Soe**	**55.81**	**270**	P	**P**	**00 35 05.7**	**+1.4**
PSA00	**Pilbara Seismi**	**57.75**	**255**	P	**P**	**00 35 17.1**	**-0.3**
PSA00	**Pilbara Seismi**	**57.75**	**255**	P	**P**	**00 35 17.1**	**-0.3**
PSA00				IAmb	IAmb	00 35 17.6	
	comp=Z,8.5nm,0.6s						
MORW	**Morawa**	**60.39**	**246**	P	**P**	**00 35 34.1**	**-0.9**
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**00 35 50.7**	**+0.3**
MJAR	**Matsushiro Arr**	**67.46**	**323**	P	**P**	**00 36 19.6**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=116,slow=8.3,SNR=4.8						
QSPA	**South Pole Qui**	**72.51**	**180**	P	**P**	**00 36 49.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=343,slow=1.8,SNR=5.1						
PETK	**Petropavlovsk-**	**73.26**	**345**	P	**P**	**00 36 53.4**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=148,slow=6.0,SNR=2.4						
YBH	**Yreka Blue Hor**	**78.41**	**39**	P	**P**	**00 37 22.9**	**+0.5**
LHV	**Little Huntoon**	**79.11**	**44**	P	**P**	**00 37 26.4**	**+0.3**
LHV				IAmb	IAmb	00 37 27.7	
	comp=Z,4.3nm,0.9s						
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**00 37 27.1**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=223,slow=8.4,SNR=12						
NV11	**Mina Array Sit**	**79.44**	**44**	P	**P**	**00 37 28.6**	**+0.6**
PRN	**Pahroc Range**	**81.01**	**46**	P	**P**	**00 37 36.6**	**+0.4**
PRN				IAmb	IAmb	00 37 37.7	
	comp=Z,4.3nm,1.0s						
WVOR	**Wild Horse Val**	**81.30**	**40**	P	**P**	**00 37 37.8**	**+0.2**
WVOR				IAmb	IAmb	00 37 38.8	
	comp=Z,4.8nm,1.1s						
TUC	**Tucson**	**81.68**	**52**	P	**P**	**00 37 39.9**	**+0.2**
TUC				IAmb	IAmb	00 37 41.7	
	comp=Z,4.3nm,1.1s						
I07A	**Izee**	**81.69**	**39**	P	**P**	**00 37 40.2**	**+0.8**
I07A				IAmb	IAmb	00 37 40.8	
	comp=Z,3.1nm,0.8s						
X16A	**Lo Mia Camp, P**	**82.15**	**50**	P	**P**	**00 37 42.7**	**+0.5**
X16A				IAmb	IAmb	00 37 43.9	
	comp=Z,4.0nm,1.0s						
U15A	**North Rim**	**82.47**	**48**	P	**P**	**00 37 44.7**	**+0.8**
U15A				IAmb	IAmb	00 37 45.5	
	comp=Z,4.7nm,0.9s						
MTPU	**Mount Pierson**	**83.31**	**47**	P	**P**	**00 37 48.5**	**+0.4**
MTPU				IAmb	IAmb	00 37 50.1	
	comp=Z,4.8nm,1.1s						
MAW	**Mawson**	**84.11**	**200**	P	**P**	**00 37 50.4**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=138,slow=1.8,SNR=3.6						
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**00 37 57.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=228,slow=5.2,SNR=3.0						
TX31	**Lajitas Ar. Si**	**86.02**	**58**	P	**P**	**00 38 01.9**	**+0.7**
TX31				IAmb	IAmb	00 38 03.1	
	comp=Z,8.7nm,0.9s						
TX32	**Lajitas Array**	**86.02**	**58**	P	**P**	**00 38 00.9**	**-0.3**
TX32				IAmb	IAmb	00 38 03.1	
	comp=Z,2.7nm,0.8s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**00 38 02.2**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=210,slow=5.9,SNR=15						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**00 38 01.8**	**+0.5**
PDAR	**Pinedale Array**	**87.27**	**44**	P	**P**	**00 38 07.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=210,slow=4.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**88.52**	**290**	P	**P**	**00 38 13.2**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=83,slow=2.8,SNR=5.2						
MKAR	**Makanchi Array**	**108.70**	**314**	PKiKP	**PKiKP**	**00 43 43.8**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=107,slow=1.5,SNR=2.3						
BNN	**Bunyan**	**143.22**	**312**		**PKPdf**	**00 44 49.6**	**-0.9**
BRTR	**Keskin Array B**	**144.34**	**315**	PKP	**PKPdf**	**00 44 52.3**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=5.7,slow=2.9,SNR=5.3						
BRTR	**Keskin Array B**	**144.34**	**315**		**PKPab**	**00 44 52.5**	**-0.2**
CLL	**Collm**	**145.05**	**347**	*i* PKPbc	**PKPbc**	**00 44 53.8**	**0.0**
GERES	**GERESS Array B**	**147.19**	**345**	PKPbc	**PKPbc**	**00 44 59.7**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=29,slow=3.4,SNR=11						

MEX 07 00:41:17.7±0.6, 17°.26N×96°.03W, h87km±9km, MD4.3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.70**	**254**	*i* P	Pn	00 41 33.0	-1.2
VHO				*i* S	Sn	00 41 44.9	-1.5
CMIG	**Matias Romero**	**1.11**	**99**	*i* P	Pn	00 41 37.1	-1.4
CMIG				*i* S	Sn	00 41 52.2	-1.9
TOIG	**Toxpalan**	**1.29**	**310**	*i* P	Pn	00 41 39.8	-1.0
TOIG				*e*S	Sn	00 41 56.3	-1.9
HUIG	**Huatulco**	**1.49**	**183**	*e*P	Pn	00 41 41.6	-1.6
HUIG				*e*S	Sn	00 41 59.7	-2.7
YOIG	**Yosondua**	**1.51**	**255**	*i* P	Pn	00 41 42.1	-1.5
YOIG				*i* S	Sn	00 42 01.6	-1.6
PEIG	**Puerto Escondi**	**1.65**	**221**	*e*P	Pn	00 41 43.5	-1.8
PEIG				*e*S	Sn	00 42 04.7	-1.5
TXIG	**Tlaxiaco**	**1.66**	**270**	*e*P	Pn	00 41 44.6	-1.0
TXIG				*e*S	Sn	00 42 05.0	-1.8
TPIG	**Tehuac#an**	**1.71**	**312**	*i* P	Pn	00 41 45.4	-0.9
TPIG				*e*S	Sn	00 42 07.0	-0.8
HLIG	**Huajuapan de L**	**1.79**	**289**	*i* P	Pn	00 41 46.3	-0.9
HLIG				*e*S	Sn	00 42 07.8	-1.8
PNIG	**Pinotepa**	**2.19**	**247**	*i* P	Pn	00 41 49.2	-3.1
PNIG				*i* S	Sn	00 42 15.2	-3.6
TLIG	**Tlapa**	**2.44**	**277**	*i* P	Pn	00 41 54.8	-1.0
TLIG				*e*S	Sn	00 42 22.1	-2.9
TGIG		**2.82**	**99**	*i* P	Pn	00 42 00.7	-0.1
TGIG				*e*S	Sn	00 42 31.2	-2.8
CRIG	**Cruz Grande**	**3.02**	**260**	*e*P	Pn	00 42 00.3	-3.1
CRIG				*e*S	Sn	00 42 33.8	-4.8
PCIG		**3.11**	**119**	*

comp=Z,17nm,0.8s
BBOO Buckleboo 32.44 209 P **P 00 49 30.8 -0.5**
BBOO IAmb IAmb 00 49 31.6
comp=Z,21nm,1.1s
TOO Toolangi 33.49 192 P **P 00 49 40.6 +0.1**
TOO IAmb IAmb 00 50 00.4
comp=Z,6.5nm,0.8s
WBSI Waikabubak, Su 34.52 260 P **P 00 49 49.1 -0.5**
comp=Z,76nm,0.7s
FORT Forrest 35.46 220 P **P 00 49 57.1 -0.3**
PLAI Plampang 36.04 262 P **P 00 50 01.0 -1.6**
comp=Z,42nm,0.6s
PSA00 Pilbara Seismi 36.94 240 P **P 00 50 09.3 -0.9**
PSA00 Pilbara Seismi 36.94 240 P **P 00 50 09.5 -0.7**
PSA00 IAmb IAmb 00 50 10.4
comp=Z,13nm,0.9s
THZ Tophouse 40.53 158 P **P 00 50 38.4 -1.6**
THZ IAmb IAmb 00 50 48.7
comp=Z,6.0nm,0.9s
SNZO South Karori 40.85 156 P **P 00 50 43.5 +1.0**
PLWZ Palliser 41.30 156 P **P 00 50 46.7 +0.5**
PWJI Pagerwojo 41.90 263 P **P 00 50 51.9 +0.4**
comp=Z,33nm,1.0s
DCZ Deep Cove 42.12 166 P **P 00 50 52.6 -0.2**
DCZ IAmb IAmb 00 50 59.8
comp=Z,17nm,1.0s
NACB Ninganchiao 42.64 314 P **P 00 50 57.9 +0.6**
NACB IAmb IAmb 00 51 08.2
comp=Z,9.3nm,0.7s
WHZ Wether Hill Ro 42.72 165 P **P 00 50 58.4 +0.7**
MORW Morawa 43.17 232 P **P 00 51 01.2 -0.4**
JWT Wachi 43.49 338 P **P 00 51 04.8 +0.8**
JWT IAmb IAmb 00 51 07.3
comp=Z,3.8nm,0.6s
NWAO Narrogin (SRO) 44.14 226 P **P 00 51 09.4 0.0**
NWAO IAmb IAmb 00 51 17.6
comp=Z,17nm,1.1s
JHS Saijyo 44.15 335 P **P 00 51 09.1 -0.3**
JHS IAmb IAmb 00 51 18.6
comp=Z,8.7nm,1.1s
CISI Cisompet, Garu 45.85 264 P **P 00 51 22.1 -1.0**
CISI Cisompet, Garu 45.85 264 P **P 00 51 22.0 -1.2**
comp=Z,2μmcomp=Z,78nm,0.7s
KSRS Korea Array 48.49 332 P **P 00 51 43.3 0.0**
comp=Z,1.0nm,0.5s,baz=148,slow=9.8,SNR=6.8
KSRS LR LR 01 08 49.2
comp=Z,14nm,21.3s,baz=150,slow=32
MDSI Maura Dua 49.52 268 P **P 00 51 51.5 0.0**
NJ2 Nanjing 49.53 320 *e*P **P 00 51 54.2 +3.0**
NJ2 pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 52.61 340 P **P 00 52 13.9 -0.2**
comp=Z,2.6nm,0.6s,baz=134,slow=5.0,SNR=6.7
USRK Ussuriysk Ar. 52.61 340 P **P 00 52 14.5 +0.5**
MNSI Mandailing Nat 54.51 274 P **P 00 52 28.5 -0.1**
BJI Beijing 56.49 326 P **P 00 52 45.7 +3.5**
BJI pmax pmax
comp=Z,8.0nm,0.6s
PEA0B Petropavlovsk- 57.79 3 P **P 00 52 52.7 +1.5**
PETK Petropavlovsk- 57.79 3 P **P 00 52 51.9 +0.8**
comp=Z,4.7nm,0.8s,baz=160,slow=4.6,SNR=7.4
PETK Petropavlovsk- 57.79 3 P **P 00 52 52.4 +1.3**
CMAR Chiang Mai Arr 58.84 295 P **P 00 53 00.1 +1.0**
comp=Z,2.1nm,0.7s,baz=122,slow=5.7,SNR=9.8
HHC Hu-ho-hao-te 59.68 324 *e*P **P 00 53 08.1 +3.5**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,92nm,7.2s
LZH Lanzhou 61.98 315 *e*P **P 00 53 22.2 +1.8**
LZH pP pP 00 53 46.3 +1.3
LZH sP sP 00 53 55.7 -0.3
LZH pmax pmax
comp=Z,22nm,1.1s
GTA Gaotai 66.39 317 *e*P **P 00 53 51.1 +2.0**
GTA pP pP 00 54 14.8 +0.8
GTA sP sP 00 54 25.5 +0.5
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,60nm,4.8s
GTA LR LR
comp=N,63nm,15.3s
GTA LR LR
comp=E,77nm,14.9s
GTA LR LR
comp=Z,78nm,13.1s
SONM Songino Array 66.90 327 P **P 00 53 53.2 +1.1**
comp=Z,1.9nm,0.5s,baz=144,slow=5.1,SNR=6.8
RAMN Ramite 72.17 300 *e*P **P 00 54 26.3 +1.1**
comp=Z,17nm,0.5s
JIRN Jiri 72.70 301 *e*P **P 00 54 29.1 +0.6**
comp=Z,17nm,0.4s
VNDA Vanda 72.78 178 P **P 00 54 26.9 -0.7**
comp=Z,1.5nm,0.8s,baz=339,slow=5.6,SNR=4.5
PKI Pulchoki 73.35 300 *e*P **P 00 54 32.8 +0.5**
comp=Z,20nm,0.7s
PKIN Phulchoki 73.36 300 *e*P **P 00 54 32.8 +0.5**
comp=Z,18nm,0.5s
KKN Kakani 73.52 301 *e*P **P 00 54 34.0 +0.9**
comp=Z,24nm,0.5s
DMN Daman 73.62 300 *e*P **P 00 54 34.9 +1.1**
comp=Z,34nm,0.6s
GKN Gorkha 74.12 301 *e*P **P 00 54 37.1 +0.6**
comp=Z,20nm,0.4s
KOLN Koldanda 74.95 300 *e*P **P 00 54 42.2 +0.8**
DANN Dangsing 74.96 301 *e*P **P 00 54 42.1 +0.6**
comp=Z,23nm,0.6s
PYUN Piuthan 75.56 300 *e*P **P 00 54 45.1 +0.2**
comp=Z,69nm,0.9s
WMQ Urumqi 76.47 317 *e*P **P 00 54 52.7 +3.1**
MLY Manley 80.52 21 P **P 00 55 12.7 +1.4**
MK31 Makanchi Array 81.03 319 P **P 00 55 15.5 +1.1**
MKAR Makanchi Array 81.03 319 P **P 00 55 15.1 +0.6**
comp=Z,2.9nm,0.8s,baz=94,slow=8.0,SNR=21
MKAR Makanchi Array 81.03 319 P **P 00 55 15.0 +0.5**
MAKZ Makanchi 81.24 319 P **P 00 55 16.7 +1.2**
ZAA0 Zalesovo Array 81.75 326 P **P 00 55 18.1 +0.1**
ZALV Zalesovo Beam 81.75 326 P **P 00 55 17.6 -0.3**
comp=Z,2.4nm,0.7s,baz=109,slow=5.0,SNR=13
ILAR Eielson Array 81.77 22 P **P 00 55 17.6 -0.3**
comp=Z,1.7nm,0.9s,baz=250,slow=5.3,SNR=15
DOT Dot Lake 82.31 23 P **P 00 55 22.5 +1.7**
DOT IAmb IAmb 00 55 23.0
comp=Z,5.6nm,1.0s
KSH Kashi 83.75 310 P **P 00 55 31.8 +2.9**
KSH pmax pmax
comp=Z,6.0nm,1.5s
KSH pmax pmax
comp=Z,100nm,5.7s
MAW Mawson 85.97 203 P **P 00 55 39.0 -0.2**
comp=Z,9.6nm,0.8s,baz=97,slow=7.2,SNR=23
NRIK Noril'sk 86.32 341 P **P 00 55 40.6 -0.2**
comp=Z,2.2nm,0.7s,baz=96,slow=6.3,SNR=5.6
NVAR Mina Array Bea 91.26 52 P **P 00 56 06.1 +0.9**
comp=Z,0.3nm,0.5s,baz=268,slow=6.2,SNR=2.4
PDAR Pinedale Array 98.07 48 LR LR 01 37 42.2
comp=Z,18nm,18.2s,baz=238,slow=33
MNK Minsk 114.15 329 *i* PKP PKPdf 01 01 33.5 -4.5
comp=E,2.0nm,0.9s
MNK *i* PKP PKPdf 01 01 33.5 -4.5
comp=N,9.0nm,1.2s
MNK *i* PKP PKPdf 01 01 33.5 -4.5
comp=Z,9.0nm,0.9s,baz=242
MNK *i* PP **PP 01 02 28.9 -5.1**
MNK *i* PPP PPP 01 04 53.6
MNK *i* SKP 01 04 59.5
MNK *i* PKS **PKSdf 01 05 10.2 -4.2**
MNK *i* SKS **SKSdf 01 08 36.2 -4.3**
MNK *i* SP **SP 01 11 55.5 -4.4**
MNK *i* PS **PS 01 12 07.5 -5.6**
MNK *i* SS **SS 01 18 13.7 -2.7**
MNK *i* SSS SSS 01 22 27.4
MNK *i* LQ LQ 01 43 28.5
MNK *i* LR LR 01 46 58.7
MNK *i* LRM MLR 01 49 15.3
comp=E,16nm,20.6s
MNK *i* LRM MLR 01 49 29.5
comp=N,430nm,23.2s
MNK *i* LRM MLR 01 49 31.5
comp=Z,91nm,21.9s
GERES GERESS Array B 124.61 329 PKP **PKPdf 01 01 57.9 -0.6**
comp=Z,0.3nm,0.6s,baz=48,slow=1.5,SNR=2.9
BDFB Brasilia 150.30 134 PKPbc **PKPbc 01 02 50.2 -1.0**
comp=Z,2.2nm,0.7s,baz=188,slow=6.5,SNR=3.8
TORD Torodi Ar. Bea 151.32 289 PKPbc **PKPbc 01 02 52.8 -0.7**
comp=Z,2.8nm,0.4s,baz=74,slow=1.8,SNR=36
TORD PKPab **PKPab 01 03 01.8 -0.1**
comp=Z,4.4nm,1.0s,baz=55,slow=4.9,SNR=8.6
TORD pPKP **pPKPbc 01 03 18.5 -2.1**
comp=Z,1.6nm,0.8s,baz=50,slow=2.4,SNR=2.1

*IDC **07** 01:04:17.1±8.9, 12.°91S×166.°80E, h234km±102km, mb3.4/5, mb1 3.5/6, mb1mx3.3/36, mbtmp4.0/6, Error ellipse: s-maj=79.6km s-min=39.6km az=158.0*
ISC 07 01:04:18.3±1.9, 13.°0S±0.°1×166.°8E±0.°3, h250km, n6, σ0°68/7, mb3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.05**	**182**	P	**Pn**	**01 06 25.2**	**+0.2**
	2.5nm,0.3s,baz=356,slow=15,SNR=17						
DZM				S	**S**	**01 08 07.1**	**-0.3**
	0.4nm,0.3s,baz=145,slow=21,SNR=1.6						
CTA	**Charters Tower**	**20.94**	**248**	P	**P**	**01 08 42.3**	**-0.1**
	1.5nm,0.3s,baz=55,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**31.88**	**253**	P	**P**	**01 10 20.8**	**+0.1**
	0.3nm,0.5s,baz=85,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**32.93**	**246**	P	**P**	**01 10 29.9**	**+0.1**
	1.0nm,0.7s,baz=74,slow=9.8,SNR=11						
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**01 16 03.6**	**-1.0**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.1						
MKAR	**Makanchi Array**	**95.65**	**317**	P	**P**	**01 17 16.4**	**+0.8**
	0.7nm,0.6s,baz=90,slow=6.2,SNR=6.2						

*IDC **07** 01:21:51.5±2.6, 52.°93N×172.°56E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/34, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=95.0km s-min=34.7km az=173.0*
*KRSC **07** 01:21:56.5±1.3, 52.°84N×171.°72E, h48km±42km, ML3.9*
*NEIC **07** 01:21:56.5±1.0, 53.°0N±0.°2×172.°41E±0.°06, h31km±10km, mb3.8/6, Error ellipse: s-maj=34.8km s-min=2.7km az=187.0*
ISC 07 01:21:54.7±0.9, 52.°9N±0.°2×172.°27E±0.°06, h28km, n33, σ1°67/31, mb3.6/7, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.13**	**98**		**Pb**	**01 22 14.6**	**-0.9**
SMY				Sn	**Sb**	**01 22 29.3**	**-0.5**
BKI	**Bering**	**4.36**	**304**	*e*P	**Pn**	**01 23 00.2**	**+1.2**
BKI				*e*S	**Sn**	**01 23 48.9**	**0.0**
AMKA	**Amchitka**	**4.60**	**107**	Pn	**Pn**	**01 23 03.2**	**+0.9**
MKZ	**Mys Kozlova**	**6.47**	**289**	*e*P	**Pn**	**01 23 28.9**	**+1.0**
MKZ				*e*S	**Sn**	**01 24 38.9**	**-1.8**
TUMD	**Tumrok D**	**7.35**	**293**	P	**Pn**	**01 23 43.2**	**+3.1**
KZV	**Kizimen**	**7.39**	**292**	*e*P	**Pn**	**01 23 41.6**	**+0.8**
KZV				*e*S	**Sn**	**01 25 01.3**	**-2.4**
SPN	**Mys Shipunski**	**7.39**	**276**	*e*P	**Pn**	**01 23 41.8**	**+1.2**
SPN				*e*S	**Sn**	**01 24 59.9**	**-3.6**
TUMR	**Tumrok**	**7.51**	**293**	*e*P	**Pn**	**01 23 44.9**	**+2.5**
KMNR	**Kamenistaya**	**7.59**	**297**	*e*P	**Pn**	**01 23 44.9**	**+1.5**
KMNR				*e*S	**Sn**	**01 25 05.9**	**-2.5**
ATKA	**Atka Island**	**8.28**	**89**	Pn	**Pn**	**01 23 53.1**	**+0.2**
RUS	**Russkaya**	**8.38**	**272**	*e*P	**Pn**	**01 23 55.4**	**+1.3**
GRL	**Gorelyy**	**8.62**	**273**	*e*P	**Pn**	**01 23 58.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**8.79**	**277**	Pn	**Pn**	**01 24 02.7**	**+2.9**
PETK	**Petropavlovsk-**	**8.79**	**277**	Pn	**Pn**	**01 24 02.3**	**+2.5**
	0.4nm,0.3s,baz=89,slow=19,SNR=5.6						
PETK				Sn	**Sn**	**01 25 37.9**	**+0.1**
	1.1nm,0.3s,baz=23,slow=24,SNR=7.6						
PETK	**Petropavlovsk-**	**8.79**	**277**	Pn	**Pn**	**01 24 01.9**	**+2.1**
TRF	**Thorofare Moun**	**22.04**	**47**	P	**P**	**01 26 46.3**	**-0.6**
COLD	**Coldfoot**	**23.09**	**37**	P	**P**	**01 26 57.6**	**-0.1**
COLD				IAmb	IAmb	01 27 03.5	
	comp=Z,4.1nm,0.5s						
ILAR	**Eielson Array**	**23.75**	**44**	P	**P**	**01 27 03.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=250,slow=8.6,SNR=4.2						
DOT	**Dot Lake**	**24.83**	**47**	P	**P**	**01 27 14.7**	**+0.5**
GLB	**Gilahina Butte**	**24.84**	**53**	P	**P**	**01 27 15.0**	**+0.6**
GLB				IAmb	IAmb	01 27 23.6	
	comp=Z,1.5nm,0.8s						
SCRK	**Sand Creek**	**24.89**	**46**	P	**P**	**01 27 15.0**	**+0.1**
SCRK				IAmb	IAmb	01 27 23.5	
	comp=Z,1.1nm,0.9s						
EGAK	**Eagle**	**26.19**	**45**	P	**P**	**01 27 26.3**	**-0.1**
EGAK				IAmb	IAmb	01 27 34.4	
	comp=Z,0.9nm,0.2s						
H11N2	**WAKE ISLAND Hy**	**33.38**	**189**	T	T	02 03 48.4	
	baz=5.7,slow=76,SNR=776						
H11N3	**WAKE ISLAND Hy**	**33.39**	**189**	T	T	02 03 49.3	
	baz=5.7,slow=76,SNR=664						
H11N1	**WAKE ISLAND Hy**	**33.39**	**189**	T	T	02 03 49.9	
	baz=5.7,slow=76,SNR=702						
H11S1	**WAKE ISLAND Hy**	**34.60**	**189**	T	T	02 05 23.2	
	baz=5.6,slow=76,SNR=485						
H11S3	**WAKE ISLAND Hy**	**34.62**	**189**	T	T	02 05 24.3	
	baz=5.6,slow=76,SNR=560						
H11S2	**WAKE ISLAND Hy**	**34.62**	**189**	T	T	02 05 21.9	
	baz=5.6,slow=76,SNR=256						
PDAR	**Pinedale Array**	**50.97**	**68**	P	**P**	**01 30 54.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=336,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**63.74**	**76**	P	**P**	**01 32 23.3**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=302,slow=5.2,SNR=3.6						
H03N2	**Juan Fernandez**	**126.85**	**98**	T	T	04 00 00.9	
	baz=317,slow=78,SNR=13						
H03N1	**Juan Fernandez**	**126.86**	**98**	T	T	04 00 02.2	
	baz=317,slow=78,SNR=15						
H03N3	**Juan Fernandez**	**126.86**	**98**	T	T	04 00 01.5	
	baz=317,slow=78,SNR=15						

IDC 07 01:49:55.1±5.5, 9.°95S×151.°20E, h0km, mb3.0/1, mb1 3.5/2, mb1mx3.3/18, mbtmp3.2/2, ML3.1/1, Error ellipse: s-maj=296.3km s-min=57.0km az=130.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.06**	**237**	P	Pn	01 54 20.2	+0.3
	0.1nm,0.3s,baz=60,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**21.41**	**228**	P	P	01 54 44.0	-0.8
	0.5nm,0.6s,baz=60,slow=9.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.96**	**279**	PKPbc	PKPbc	02 09 48.3	-0.3
	0.4nm,0.7s,baz=67,slow=1.2,SNR=2.1						

*NEIC **07** 02:08:12.0±1.4, 4.°8S±0.°1×154.°2E±0.°1, h98km±5km, mb4.4/11, Error ellipse: s-maj=17.9km s-min=13.7km az=125.0*
*IDC **07** 02:08:13.9±5.5, 4.°84S×153.°97E, h116km±44km, mb3.7/9, mb1 3.9/11, mb1mx3.7/42, mbtmp4.2/11, MS3.0/1, Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=47.5km s-min=22.4km az=103.0*
ISC 07 02:08:12.3±0.8, 4.°85S±0.°09×154.°1E±0.°1, h105km, n26, σ1°23/29, mb4.2/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.01**	**289**	Pn	**Pn**	**02 08 44.4**	**-0.9**
RABL				Sn	**Sn**	**02 09 12.1**	**+1.7**
PMG	**Port Moresby**	**8.22**	**236**	P	**Pn**	**02 10 09.4**	**+0.5**
	10nm,0.3s,baz=47,slow=7.6,SNR=7.3						
PMG				S	**Sn**	**02 11 35.2**	**-4.9**
	1.9nm,0.3s,baz=313,slow=16,SNR=1.3						
PMG	**Port Moresby**	**8.22**	**236**	Pn	**Pn**	**02 10 10.7**	**+1.8**
PMG				Sn	**Sn**	**02 11 41.1**	**+1.1**
CTA	**Charters Tower**	**16.95**	**206**	P	**P**	**02 12 04.6**	**+1.2**
	0.1nm,0.3s,baz=61,slow=7.1,SNR=4.0						
MTN	**Manton Dam**	**24.00**	**249**	P	**P**	**02 13 18.8**	**+1.2**
MTN				IAmb	IAmb	02 13 21.4	
	comp=Z,39nm,1.4s						
WR0	**Warramunga Arr**	**24.23**	**230**	IAmb	IAmb	02 13 19.9	
	comp=Z,12nm,1.4s						
WR0				P	**P**	**02 13 20.1**	**+0.6**
WB0	**Warramunga Arr**	**24.23**	**231**	P	**P**	**02 13 20.4**	**+0.8**
WB0				IAmb	IAmb	02 13 21.4	
	comp=Z,5.3nm,0.6s						
WB2	**Warramunga Arr**	**24.36**	**230**	P	**P**	**02 13 21.4**	**+0.6**
WB2				IAmb	IAmb	02 13 22.8	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**24.37**	**230**	P	**P**	**02 13 21.0**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=54,slow=9.9,SNR=48						
WRA	**Warramunga Arr**	**24.37**	**230**	P	**P**	**02 13 21.4**	**+0.5**
ASAR	**Alice Springs**	**26.98**	**224**	P	**P**	**02 13 44.8**	**+0.3**
	comp=Z,1.3nm,0.4s,baz=54,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**29.32**	**202**	P	**P**	**02 14 04.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=32,slow=14,SNR=4.3						
STKA				LR	LR	02 24 11.6	
	comp=Z,32nm,20.9s,baz=27,slow=33						
STKA	**Stephens Creek**	**29.32**	**202**	P	**P**	**02 14 05.2**	**0.0**
FITZ	**Fitzroy Crossi**	**30.75**	**242**	P	**P**	**02 14 17.4**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=67,slow=7.7,SNR=20						
FITZ	**Fitzroy Crossi**	**30.75**	**242**	P	**P**	**02 14 17.6**	**-0.3**
FITZ				IAmb	IAmb	02 14 17.9	
	comp=Z,5.1nm,0.8s						
BBOO	**Buckleboo**	**32.51**	**209**	P	**P**	**02 14 33.3**	**+0.1**
BBOO				IAmb	IAmb	02 14 49.1	
	comp=Z,21nm,1.5s						
FORT	**Forrest**	**35.56**	**220**	P	**P**	**02 14 59.9**	**+0.3**
MORW	**Morawa**	**43.31**	**232**	P	**P**	**02 16 03.6**	**-0.4**
MORW				IAmb	IAmb	02 16 04.4	
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**67.05**	**327**	P	**P**	**02 18 54.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=130,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**81.20**	**319**	P	**P**	**02 20 16.3**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.4,SNR=2.3						
ILAR	**Eielson Array**	**81.73**	**22**	P	**P**	**02 20 19.4**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=238,slow=5.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**81.90**	**326**	P	**P**	**02 20 20.3**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=94,slow=6.1,SNR=2.0						
MAW	**Mawson**	**86.01**	**203**	P	**P**	**02 20 41.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=114,slow=8.0,SNR=7.4						
113A	**Mohawk Valley,**	**94.41**	**58**	P	**P**	**02 21 19.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**151.53**	**289**	PKPbc	**PKPbc**	**02 27 55.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=43,slow=1.7,SNR=10						
TORD	**Torodi Ar. Bea**	**151.53**	**289**		**PKPbc**	**02 27 55.1**	**-0.2**

IDC 07 02:11:55.5±3.6, 6.°84S×153.°89E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, Error ellipse: s-maj=131.6km s-min=52.1km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.01**	**234**	P	P	02 17 03.3	+1.0
	1.8nm,0.4s,baz=58,slow=9.2,SNR=16						
ASAR	**Alice Springs**	**25.46**	**227**	P	P	02 17 24.4	-1.1
	0.8nm,0.5s,baz=57,slow=9.4,SNR=7.0						
FITZ	**Fitzroy Crossi**	**29.71**	**245**	P	P	02 18 02.7	-0.9
	1.4nm,0.7s,baz=72,slow=9.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**151.92**	**285**	PKPbc	PKiKP	02 31 54.5	+0.5
	0.4nm,0.7s,baz=74,slow=2.9,SNR=1.9						

*NNC **07** 02:14:44.7±4.2, 48.°84N×85.°80E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=41.1km s-min=18.6km az=94.0*
*SOME **07** 02:14:51.5, 48.°50N×82.°88E, h15km*
*ASRS **07** 02:14:53.3±0.4, 49.°N±2.°×8.°5E±.°, h10km, MLh3.5/9, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
ISC 07 02:14:49.3±0.7, 48.°95N±0.°02×84.°39E±0.°03, h10km, n34, σ1°89/51, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.54**	**168**	*e*P	**Pg**	**02 15 18.6**	**-0.2**
	31nm,0.2s						
ZSN				*e*S	**Sg**	**02 15 38.0**	**-0.6**
	575nm,0.4s						
ZSN	**Zaisan**	**1.54**	**168**	P	**Pg**	**02 15 18.5**	**-0.2**
	37nm,0.3s						
ZSN				S	**Sg**	**02 15 39.1**	**+0.5**
	575nm,0.4s						
UKR	**Ust'-Kan**	**2.00**	**7**	Pn	**Pb**	**02 15 25.6**	**-0.3**
UKR				Sg	**Sg**	**02 15 52.3**	**-1.4**
DGZ	**Jazzator, Alta**	**2.13**	**68**	Pn	**Pg**	**02 15 28.8**	**-1.3**
DGZ				Sg	**Sb**	**02 15 55.1**	**+0.6**
CHBI	**Chibit, Altay**	**2.44**	**55**	Pn	**Pb**	**02 15 33.8**	**+0.5**
CHBI				Pg	**Pg**	**02 15 37.2**	**+1.1**
CHBI				Sg	**Sg**	**02 16 06.9**	**-0.8**
MK31	**Makanchi Array**	**2.58**	**214**	⇑Pn	**Pb**	**02 15 33.4**	**-2.3**
	1.5nm,0.2s,baz=39,slow=16						
MK31				⇓Lg	Lg	02 16 21.7	
	17nm,0.4s,baz=61,slow=37						
MKAR	**Makanchi Array**	**2.58**	**214**	Pn	**Pb**	**02 15 34.1**	**-1.5**
MKAR				Sg	**Sb**	**02 16 08.0**	**+0.6**
MAKZ	**Makanchi**	**2.69**	**218**	Pn	**Pb**	**02 15 35.5**	**-2.0**
MAKZ	**Makanchi**	**2.69**	**218**	⇑Pn	**Pb**	**02 15 35.2**	**-2.4**
	14nm,0.3s						
MAKZ				⇓Lg	Lg	02 16 26.6	
	13nm,0.3s						
CUR	**Chagan-Uzun**	**2.83**	**64**	Pn	**Pb**	**02 15 38.1**	**-1.8**
CUR				Sg	**Sg**	**02 16 19.1**	**-0.9**
ULGR	**Ulagan, Altay**	**2.86**	**53**	Pn	**Pb**	**02 15 41.7**	**+1.2**
ULGR				Pg	**Pg**	**02 15 45.2**	**+1.1**
ULGR				Sg	**Sg**	**02 16 21.6**	**+0.6**
SEM	**Semipalatinsk**	**3.06**	**300**	*e*P	**Pn**	**02 15 37.7**	**-0.2**
	13nm,0.1s						
SEM				*e*S	**Sn**	**02 16 11.8**	**-2.9**
	49nm,0.1s						
SEM	**Semipalatinsk**	**3.06**	**300**	Pg	**Pg**	**02 15 48.9**	**+1.1**
	29nm,0.2s						
SEM				Lg	Lg	02 16 30.5	
	271nm,0.3s						
GALT	**Gorno-Altaysk,**	**3.17**	**18**	Sg	**Sg**	**02 16 29.1**	**-2.0**
ARTR	**Artybash**	**3.40**	**32**	Pg	**Pg**	**02 15 53.5**	**-0.9**
ARTR				Sg	**Sg**	**02 16 36.6**	**-1.8**
KURBB	**Kurchatov Arra**	**4.15**	**296**	⇑Pn	**Pb**	**02 16 00.2**	**-2.1**
	1.3nm,0.2s						
KURBB				⇑Sn	**Sg**	**02 17 05.2**	**+2.8**
	108nm,0.6s						
TEL	**Teeli**	**4.28**	**59**	Pg	**Pg**	**02 16 09.9**	**-1.4**
TEL				Sg	**Sg**	**02 17 05.5**	**-1.3**
ELT	**Eltsovka**	**4.47**	**14**	Pn	**Pn**	**02 15 59.0**	**+2.0**
ELT				Sg	**Sg**	**02 17 11.0**	**-1.7**
ZAA0	**Zalesovo Array**	**5.01**	**3**	⇑Pg	**Pb**	**02 16 17.3**	**+0.3**
	0.3nm,0.5s						
ZAA0				⇑Lg	Lg	02 17 29.8	
	6.4nm,0.8s						
KAPS	**Kapalarasan**	**5.02**	**225**	*e*P	**Pn**	**02 16 06.8**	**+2.1**
	18nm,0.2s						
KAPS				*e*S	**Sn**	**02 17 03.3**	**+0.4**
	6.8nm,0.2s						
BJR1	**Bachatsky 1, K**	**5.39**	**10**	Sg	**Sg**	**02 17 39.5**	**-2.9**
LUZB	**Luzhba, Kemero**	**5.50**	**29**	Sg	**Sg**	**02 17 42.2**	**-3.5**
SALR	**Pechorkino, Sa**	**5.54**	**8**	Sg	**Sg**	**02 17 44.5**	**-2.3**
DJR	**Jarkent**	**5.60**	**216**	*e*P	**Pn**	**02 16 15.4**	**+2.7**
	11nm,0.3s						
DJR				*e*S	**Sn**	**02 17 17.1**	**0.0**
	4.2nm,0.2s						
DJR	**Jarkent**	**5.60**	**216**	Pg	**Pg**	**02 16 36.0**	**-0.5**
	4.9nm,0.5s						
DJR				Lg	Lg	02 17 51.3	
	8.1nm,0.9s						
DJO	**Djoy, Khakassi**	**5.78**	**46**	Sg	**Sg**	**02 17 52.8**	**-1.9**
DJOS	**Djoyskaya Sosn**	**5.87**	**46**	Sg	**Sg**	**02 17 54.2**	**-3.5**
NVS	**Novosibirsk**	**5.94**	**354**	Sg	**Sg**	**02 18 00.6**	**+0.7**
ALXA	**Alekseevka, NS**	**6.09**	**350**	Sg	**Sg**	**02 18 06.3**	**+1.6**
ARXS	**Arharly**	**6.55**	**226**	Pg	**Pg**	**02 16 51.5**	**-3.2**
	4.0nm,0.7s						
ARXS				Lg	Lg	02 18 18.3	
	15nm,0.5s						
PDGK	**Podgornoye**	**6.57**	**213**	Pg	**Pg**	**02 16 52.7**	**-2.4**
	1.2nm,0.6s						
PDGK				Lg	Lg	02 18 19.9	
	4.5nm,0.6s						
PDGK	**Podgornoye**	**6.57**	**213**

MKAR	Makanchi Array	67.70	327	P		P	02 40 17.9	0.0
	0.3nm,0.4s,baz=145,slow=6.2,SNR=2.7							

MAN 07 04:08:20.1,16.71N×119.94E,h28km,mb4.4,ML3.3, MS3.0,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	1.31	22⇑	eP	Pn	04 08 42.0	-0.5
SIPP				eS	Sb	04 09 07.5	+7.1
TGY	Tagaytay City	2.76	159⇑	eP	Pb	04 09 09.4	+0.5
LQP	Lukban	3.01	149	eP	Pn	04 09 02.6	-3.5

NNC 07 04:11:29.3±11.0,37.61N×72.23E,h0km,mb3.6,mpv3.2, 2C-4D,Error ellipse: s-maj=92.0km s-min=73.4km az=165.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.31	18	⇓P	Pn	04 12 51.4	+1.3
	3.6nm,0.4s						
AAK				⇓S	Sn	04 13 56.4	+4.5
	0.9nm,0.4s						
KK31	Karatay Array	5.64	347	⇓P	Pn	04 12 52.9	-1.5
	0.2nm,0.2s,baz=152,slow=11						
KK31				⇑S	Sn	04 13 59.7	-0.1
	1.8nm,0.3s,baz=163,slow=21						
TKM2	Tokmak 2	5.89	25	⇓P	Pn	04 12 57.6	-0.5
	1.5nm,0.5s						
TKM2				⇑S	Sn	04 14 05.4	-1.1
	1.2nm,0.8s						

*IDC **07** 04:19:01.5±2.6,0.37S×123.00E,h69km±25km,mb3.5/5, mb1 3.8/8,mb1mx3.5/35,mbtmp3.9/8,MS3.2/2,Ms1 3.2/2, ms1mx2.7/24,Error ellipse: s-maj=19.3km s-min=17.1km az=144.0*
*NEIC **07** 04:19:02.8±0.8,0.40S±0.05×123.08E±0.08,h73km±3km, mb4.1/8,Error ellipse: s-maj=11.1km s-min=7.3km az=95.0*
*DJA **07** 04:19:03.0±0.0,0.3S±3.3×12.3E±.3,h41km±21km,M4.7/13, mb4.9/7,mB5.0/3,MLv4.7/13,Mw(mB)4.3/3*

ISC 07 04:19:02.7±0.7,0.42S±0.05×123.04E±0.06,h78km,n39, σ1§15/46,mb3.9/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.68	203	Pn	Pn	04 19 18.0	0.0
LUWI				Sn	Sn	04 19 29.1	-0.1
LUWI	Luwuk	0.68	203	P	Pn	04 19 18.0	0.0
GTOI	Gorontalo	1.05	358	P	Pn	04 19 23.3	+1.1
GTOI				S	Sn	04 19 38.7	+1.9
KMSI	Cibinong	1.36	44	P	Pn	04 19 25.8	-0.4
MRSI	Marisa	1.41	309	P	Pn	04 19 26.5	-0.3
MRSI				S	Sn	04 19 44.8	-0.2
APSI	Ampana	1.47	251	P	Pn	04 19 28.0	+0.4
TOLI2	Tolitoli	2.72	304		Pn	04 19 45.0	+0.7
TOLI2				Sn	Sn	04 20 16.5	+0.3
MPSI	Mapaga	3.23	283	P	Pn	04 19 52.7	+1.5
SANI	Sanana	3.37	119	P	Pn	04 19 51.2	-1.8
TTSI	Tana Toraja	4.14	231	P	Pn	04 20 04.8	+1.2
BNSI	Bone	4.92	216	P	Pn	04 20 16.1	+1.9
NLAI	Namlea	4.93	125	P	Pn	04 20 15.1	+0.7
KAPI	Kappang	5.62	216	P	Pn	04 20 24.1	+0.3
	4.5nm,0.3s,baz=25,slow=7.2,SNR=16						
KAPI				S	Sn	04 21 25.9	-1.1
	4.8nm,0.3s,baz=24,slow=24,SNR=7.4						
KAPI				LR	LR	04 22 49.0	
	comp=Z,104nm,21.1s,baz=6.0,slow=40						
KAPI	Kappang	5.62	216		Pn	04 20 24.8	+0.9
KAPI				Sn	Sn	04 21 27.6	+0.5
BSSI	Bau Bau, Buton	6.23	204	P	Pn	04 20 35.2	+3.1
	0.3nm1μm70nm,0.6s						
MSAI	Masohi	6.56	116	P	Pn	04 20 38.9	+2.2
	0.2nm26nm,0.5s						
BNDI	Bandanaira	7.98	121	P	Pn	04 20 57.5	+1.5
	1.4nm422nm,0.7s						
SWI	Sorong	8.23	93	P	Pn	04 21 00.3	+0.8
	61nm,0.5s						
SIJI	Sorong	8.24	93	P	Pn	04 20 58.9	-0.7
	1.9nm,0.3s,baz=240,slow=14,SNR=3.0						
SIJI				S	Sn	04 22 30.5	-0.7
	2.4nm,0.3s,baz=116,slow=22,SNR=1.8						
EDFI	Ende, Flores	8.38	189	P	Pn	04 21 01.4	-0.3
	11nm,0.6s						
FAKI	Fak Fak	9.54	105		Pn	04 21 15.5	-1.8
FAKI	Fak Fak	9.54	105	P	Pn	04 21 15.4	-1.8
MTN	Manton Dam	14.72	147		Pn	04 22 28.9	+1.9
FITZ	Fitzroy Crossi	17.75	172	P	P	04 23 04.2	-0.4
	0.2nm,0.3s,baz=2.1,slow=7.7,SNR=6.1						
FITZ	Fitzroy Crossi	17.75	172	P	P	04 23 04.3	-0.4
WB0	Warramunga Arr	22.21	151	P	P	04 23 52.5	-0.5
WB0				IAmb	IAmb	04 24 06.0	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	22.34	151	P	P	04 23 54.0	-0.4
	comp=Z,2.0nm,0.6s,baz=332,slow=11,SNR=29						
WRA				LR	LR	04 33 26.0	
	comp=Z,124nm,19.5s,baz=325,slow=39						
WRA	Warramunga Arr	22.34	151	P	P	04 23 54.3	0.0
WB2	Warramunga Arr	22.34	151	P	P	04 23 54.1	-0.3
WB2				IAmb	IAmb	04 24 08.0	
	comp=Z,7.7nm,0.9s						
WR0	Warramunga Arr	22.45	151	P	P	04 23 55.3	-0.3
WR0				IAmb	IAmb	04 24 13.1	
	comp=Z,8.0nm,0.9s						
ASAR	Alice Springs	25.40	156	P	P	04 24 24.3	+1.2
	comp=Z,0.8nm,0.6s,baz=335,slow=8.6,SNR=12						
ASAR	Alice Springs	25.40	156	P	P	04 24 22.4	-0.7
BBOO	Buckleboo	34.48	160	P	P	04 25 43.4	+0.2
ULN	Ulaanbaatar	50.06	346	P	P	04 27 49.5	-0.2
SONM	Songino Array	50.20	345	P	P	04 27 50.6	-0.1
	comp=Z,1.6nm,0.9s,baz=158,slow=10,SNR=7.4						
SONM	Songino Array	50.20	345	P	P	04 27 50.4	-0.4
SONM				IAmb	IAmb	04 27 51.8	
	comp=Z,1.3nm,0.8s						
MKAR	Makanchi Array	58.99	328	P	P	04 28 53.2	-1.1
	comp=Z,0.5nm,0.6s,baz=128,slow=7.8,SNR=3.4						
VNDA	Vanda	79.83	172	P	P	04 31 02.8	+0.6
	comp=Z,0.8nm,0.8s,baz=309,slow=4.7,SNR=3.9						
TORD	Torodi Ar. Bea	120.55	285	PKP	PKPdf	04 37 44.4	-2.1
	comp=Z,0.6nm,0.7s,baz=72,slow=1.2,SNR=4.5						

*DJA **07** 04:23:25.8±0.4,7.3S±3.3×12.8E±.8,h140km±24km,M4.5/10, mb4.8/7,mB4.8/7,MLv4.7/10,Mw(mB)4.1/7*
*IDC **07** 04:23:27.9±2.7,7.54S×127.60E,h48km±27km,mb4.1/11, mb1 4.3/13,mb1mx4.1/29,mbtmp4.5/13,ML4.6/3,MS3.3/4, Ms1 3.3/4,ms1mx3.0/38,Error ellipse: s-maj=23.0km s-min=14.4km az=72.0*
*NEIC **07** 04:23:27.1±1.0,7.57S±0.08×127.70E±0.08,h50km±4km, mb4.8/27,Error ellipse: s-maj=12.9km s-min=10.1km az=131.0*

ISC 07 04:23:27.1±0.4,7.60S±0.05×127.67E±0.06,h50km,n78, σ1§55/81,mb4.8/27,2D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.99	237	Pn	Pn	04 24 26.3	+0.5
SOEI				Sn	Sn	04 25 12.4	+1.0
SOEI	Soe	3.99	237	P	Pn	04 24 26.4	+0.6
NLAI	Namlea	4.37	353	P	Pn	04 24 28.2	-2.7
BATI	Baumata	4.73	236	P	Pn	04 24 36.7	+0.8
	86nm,0.3s,baz=111,slow=1.0,SNR=46						
BATI				S	Sn	04 25 31.1	+1.6
	7.4nm,0.3s,baz=345,slow=19,SNR=1.5						
BATI				LR	LR	04 26 04.3	
	comp=Z,380nm,20.0s,baz=74,slow=33						
BATI	Baumata	4.73	236	P	Pn	04 24 36.5	+0.6
MMRI	Maumere	5.47	259	Pn	Pn	04 24 46.5	+0.4
MMRI	Maumere	5.47	259	P	Pn	04 24 44.9	-1.2
	1.2nm5μm313nm,1.0s						
SANI	Sanana	5.76	343	P	Pn	04 24 47.3	-2.7
	0.3nm844nm80nm,0.5s						
EDFI	Ende, Flores	6.03	259	P	Pn	04 24 52.1	-1.7
	0.2nm608nm66nm,1.0s						
MTN	Manton Dam	6.23	147	Pn	Pn	04 24 58.1	+1.6
FAKI	Fak Fak	6.51	45	Pn	Pn	04 24 59.7	-0.7
SIJI	Sorong	7.58	28	LR	LR	04 28 29.2	
	comp=Z,324nm,21.1s,baz=234,slow=40						
BKSI	Bulukumba	7.83	286	P	Pn	04 25 14.6	-3.8
	0.2nm590nm47nm,0.9s						
KNRA	Kununurra	8.10	172		Pn	04 25 23.3	+1.2
KNRA				Sn	Sn	04 26 53.7	+1.2
BNSI	Bone	8.16	292	P	Pn	04 25 18.4	-4.6
	0.1nm46nm,0.8s						
FITZ	Fitzroy Crossi	10.62	191	P	Pn	04 25 56.1	-0.5
	1.9nm,0.3s,baz=29,slow=11,SNR=36						
FITZ				S	Sn	04 27 51.2	-3.0
	1.5nm,0.3s,baz=72,slow=18,SNR=4.2						
FITZ	Fitzroy Crossi	10.62	191	Pn	Pn	04 25 56.0	-0.7
WB0	Warramunga Arr	13.75	152	Pn	Pn	04 26 38.1	-1.3
WRAB	Tennant Creek	13.87	153	Pn	Pn	04 26 40.5	-0.6
WRA	Warramunga Arr	13.87	153	P	Pn	04 26 39.2	-1.9
	1.1nm,0.3s,baz=319,slow=13,SNR=29						
WRA				S	Sn	04 29 07.9	-5.8
	0.7nm,0.3s,baz=331,slow=23,SNR=9.1						
WRA	Warramunga Arr	13.87	153	Pn	Pn	04 26 39.5	-1.7
WB2	Warramunga Arr	13.88	153	Pn	Pn	04 26 39.8	-1.4
WR0	Warramunga Arr	13.98	152	Pn	Pn	04 26 40.7	-1.9
PSA00	Pilbara Seismi	15.81	208	P	Pn	04 27 04.2	-2.3
PSA00				IAmb	IAmb	04 27 12.2	
	comp=Z,76nm,0.8s						
AS31	Alice Springs	17.06	160	P	Pn	04 27 23.0	+0.7
ASAR	Alice Springs	17.06	160	P	Pn	04 27 22.6	+0.3
	comp=Z,1.8nm,0.3s,baz=329,slow=10,SNR=32						
ASAR				S	Sn	04 30 27.6	-3.7
	comp=Z,0.5nm,0.3s,baz=325,slow=18,SNR=5.7						
ASAR	Alice Springs	17.06	160		Pn	04 27 22.9	+0.6
CTA	Charters Tower	21.88	126	P	P	04 28 18.4	+2.4
	comp=Z,1.8nm,0.2s,baz=287,slow=14,SNR=2.6						
FORT	Forrest	23.07	179	P	P	04 28 27.6	-0.8
MORW	Morawa	24.00	206	P	P	04 28 37.9	+0.6
MORW				IAmb	IAmb	04 28 38.6	
	comp=Z,16nm,0.8s						
BBOO	Buckleboo	26.27	164	P	P	04 28 59.6	+1.8
BBOO				IAmb	IAmb	04 29 01.7	
	comp=Z,18nm,1.0s						
NWAO	Narrogin (SRO)	27.00	200	P	P	04 29 05.9	+1.5
	comp=Z,12nm,0.9s,baz=11,slow=10,SNR=2.3						
STKA	Stephens Creek	27.43	154	P	P	04 29 10.2	+2.0
	comp=Z,4.9nm,0.7s,baz=314,slow=11,SNR=8.6						
STKA	Stephens Creek	27.43	154	P	P	04 29 10.3	+2.1
CM31	Chiang Mai Arr	38.38	313	P	P	04 30 42.8	-1.0
CMAR	Chiang Mai Arr	38.38	313	P	P	04 30 42.6	-1.2
CHTO	Chiang Mai	38.61	313	P	P	04 30 44.8	-0.9
CHTO				IAmb	IAmb	04 30 48.3	
	comp=Z,11nm,0.8s						
NJ2	Nanjing	40.31	348	eP	P	04 31 02.1	+2.5
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	Korea Array	44.81	0	P	P	04 31 36.8	+0.7
	comp=Z,2.4nm,0.8s,baz=178,slow=10,SNR=8.6						
KSRS				LR	LR	04 48 15.6	
	comp=Z,32nm,21.6s,baz=155,slow=33						
MJAR	Matsushiro Arr	45.01	12	P	P	04 31 37.8	+0.1
	comp=Z,0.8nm,0.3s,baz=194,slow=9.9,SNR=4.7						
MJAR				LR	LR	04 50 34.0	
	comp=Z,22nm,20.4s,baz=110,slow=36						
LZH	Lanzhou	48.88	334	eP	P	04 32 09.2	+1.0
LZH				pP	pP	04 32 21.8	+1.3
LZH				sP	sP	04 32 26.4	+0.5
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC	Hu-ho-hao-te	50.43	344	eP	P	04 32 22.6	+2.8
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
USRK	Ussuriysk Ar.	51.70	4	P	P	04 32 30.3	+1.2
	comp=Z,2.5nm,0.7s,baz=190,slow=8.8,SNR=5.7						
GTA	Gaotai	53.42	333	eP	P	04 32 42.9	+0.8
GTA				pP	pP	04 32 54.1	-0.4
GTA				sP	pwP	04 32 59.6	-0.4
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	Ulaanbaatar	58.15	344	P	P	04 33 16.3	+0.4
ULN				IAmb	IAmb	04 33 19.0	
	comp=Z,8.5nm,1.0s						
SONM	Songino Array	58.31	343	P	P	04 33 18.0	+1.1
	comp=Z,3.8nm,0.9s,baz=163,slow=6.9,SNR=14						
SONM	Songino Array	58.31	343	P	P	04 33 17.6	+0.7
SONM				IAmb	IAmb	04 33 26.6	
	comp=Z,6.8nm,1.1s						
WMQ	Urumqi	62.66	328	eP	P	04 33 48.8	+2.2
NIL	Nilore	65.87	312	P	P	04 34 07.0	-0.9
NIL				IAmb	IAmb	04 34 08.1	
	comp=Z,12nm,0.9s						
MK31	Makanchi Array	67.48	328	P	P	04 34 18.0	+0.2
MKAR	Makanchi Array	67.48	328	P	P	04 34 17.9	+0.1
	comp=Z,12nm,0.8s,baz=131,slow=8.0,SNR=72						
MAKZ	Makanchi	67.65	328	P	P	04 34 18.6	-0.3
MAKZ				IAmb	IAmb	04 34 19.9	
	comp=Z,11nm,0.9s						
BOOM	Boomskoye usch	68.54	321	P	P	04 34 24.7	-0.1
BOOM				IAmb	IAmb	04 34 26.0	
	comp=Z,9.1nm,0.8s						
KBL	Kabul	69.39	311	P	P	04 34 29.8	-0.5
KBL				IAmb	IAmb	04 34 30.8	
	comp=Z,10nm,0.8s						
AAK	Ala-Archa	69.52	321	P	P	04 34 30.6	-0.2
AAK				IAmb	IAmb	04 34 32.3	
	comp=Z,8.6nm,0.8s						
DRK	Karamyk	69.67	317	P	P	04 34 31.8	-0.2
DRK				IAmb	IAmb	04 34 33.0	
	comp=Z,13nm,0.9s						
GAR	Garm	70.46	316	P	P	04 34 36.1	-0.5
CHGR	Chuyangaron	71.11	315	P	P	04 34 39.5	-1.1
ZAA0	Zalesovo Array	71.11	335	P	P	04 34 39.2	-0.8
ZALV	Zalesovo Beam	71.11	335	P	P	04 34 39.8	-0.3
	comp=Z,22nm,0.9s,baz=123,slow=4.1,SNR=56						
ZALV	Zalesovo Beam	71.11	335	P	P	04 34 39.2	-0.8
VNDA	Vanda	72.15	173	P	P	04 34 47.0	+1.0
	comp=Z,1.0nm,0.8s,baz=292,slow=4.1,SNR=3.6						
VNDA	Vanda	72.15	173	P	P	04 34 46.0	0.0
KK31	Karatay Array	72.28	320	P	P	04 34 46.6	-0.7
KKAR	Karatay Array	72.28	320	P	P	04 34 46.4	-1.0
KKAR	Karatay Array	72.28	320	P	P	04 34 46.2	-1.2
KKAR				IAmb	IAmb	04 34 48.8	
	comp=Z,6.3nm,1.2s						
BRVK	Borovoye	77.42	329	P	P	04 35 16.8	0.0
BRVK				IAmb	IAmb	04 35 28.3	
	comp=Z,10nm,1.1s						
ABKAR	Akbulak array	81.55	322	P	P	04 35 39.0	-0.4
NRIK	Noril'sk	81.59	347	P	P	04 35 40.0	+0.9
	comp=Z,1.3nm,0.4s,baz=121,slow=5.2,SNR=3.5						
SYO	Syowa Base	82.27	201⇓	eP	P	04 35 42.0	-0.8
SYO	Syowa Base	82.27	201⇓	epP	pP	04 35 56.7	+0.3
QSPA	South Pole Qui	82.39	180	P	P	04 35 44.9	+1.3
RAYN	Ar Rayn	85.87	294	P	P	04 36 01.2	-1.0
RAYN				IAmb	IAmb	04 36 02.7	
	comp=Z,5.5nm,1.0s						
TORD	Torodi Ar. Bea	126.65	281	PKP	PKPdf	04 42 25.2	-0.7
	comp=Z,0.7nm,0.9s,baz=9.6,slow=2.7,SNR=3.7						
TORD	Torodi Ar. Bea	126.65	281	PKPdf	PKPdf	04 42 24.9	-1.1
CPUP	Villa Florida	145.93	172	PKPbc	PKiKP	04 43 04.1	-1.2
	comp=Z,2.3nm,0.9s,baz=140,slow=8.9,SNR=3.5						
LPAZ	La Paz	151.58	147	PKPbc	PKiKP	04 43 18.5	+0.5
	comp=Z,0.6nm,0.3s,baz=24,slow=1.5,SNR=1.7						
LPAZ	La Paz	151.58	147		PKPbc	04 43 16.0	-1.6

*NEIC **07** 04:27:53.7±1.7,16.24S±0.07×73.86W±0.09,h35km±2km, mb4.1/4,ML4.4(ARE),Error ellipse: s-maj=16.9km s-min=8.1km az=230.0*
*ARE **07** 04:27:53±3.0,16.28S±0.07×73.83W±0.09,h27km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=142.0*
*IDC **07** 04:27:54.7±1.2,16.28S×73.69W,h50km±7km,mb3.3/3, mb1 3.8/6,mb1mx3.5/25,mbtmp3.8/6,MS2.7/1,Ms1 2.7/1, ms1mx2.2/18,Error ellipse: s-maj=36.7km s-min=13.0km az=48.0*

ISC 07 04:27:54.3±0.7,16.31S±0.08×73.82W±0.10,h50km,n35, σ1§45/43,mb4.0/4,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	3.91	122	Pn	Pn	04 28 52.5	+0.7
PSGCX	Pisagua	4.81	133	Pn	Pn	04 29 04.7	+0.4
PSGCX				Sn	Sn	04 29 57.9	-0.8
MNMC	Minye Minye	4.91	126	eP	Pn	04 29 07.5	+1.6
MNMC				i S	Sn	04 30 00.3	-1.2
MNMC				IAML		04 30 34.1	
	comp=N,124nm,0.1s						
MNMC	Minye Minye	4.91	126	Pn	Pn	04 29 05.8	0.0
MNMC				Sn	Sn	04 30 02.2	+0.7
NNA	Nana	5.20	325	P	Pn	04 29 12.2	+2.7
	comp=N,21nm,0.3s,baz=131,slow=14,SNR=20						
NNA				S	Sn	04 30 11.9	+3.6
	comp=N,9.1nm,0.3s,baz=245,slow=13,SNR=2.0						
NNA	Nana	5.20	325	Pn	Pn	04 29 08.3	-1.3
NNA					Sn	04 30 05.4	-2.9
TA02	Huaiquique	5.28	139	Pn	Pn	04 29 10.7	+0.1
LPAZ	La Paz	5.46	91	P	Pn	04 29 18.6	+4.8
	comp=N,1.4nm,0.3s,baz=278,slow=11,SNR=17						
LPAZ	La Paz	5.46	91	Pn	Pn	04 29 17.9	+4.2
TA01	Diego Aracena	5.47	141	Pn	Pn	04 29 14.4	+1.2
TA01				Sn	Sn	04 30 13.6	-1.2
PB08	IPOC Station P	5.85	131	eP	Pn	04 29 20.4	+1.6
PB08				i S	Sn	04 30 23.2	-1.6
PB08				IAML		04 30 27.4	
	comp=E,64nm,0.1s						
PB08	IPOC Station P	5.85	131	Pn	Pn	04 29 20.1	+1.3
PB01	IPOC Station P	6.25	140	Pn	Pn	04 29 25.3	+1.3
PB07	IPOC Station P	6.55	146	Pn	Pn	04 29 29.4	+1.1
PB04	IPOC Station P	6.93	151	Pn	Pn	04 29 33.7	+0.3
PB06	IPOC Station P	7.52	148	Pn	Pn	04 29 41.1	-0.5
LVC	Limon Verde	7.80	144	P	Pn	04 29 47.2	+1.7
	comp=E,2.7nm,0.3s,baz=321,slow=12,SNR=40						
LVC				S	Sn	04 31 12.4	-0.2
	comp=E,7.4nm,0.3s,baz=116,slow=20,SNR=17						
LVC				LR	LR	04 32 51.4	
	comp=E,53nm,18.4s,baz=333,slow=38						
LVC	Limon Verde	7.80	144	Pn	Pn	04 29 46.1	+0.6
LVC					Sn	04 31 13.1	+0.5
PB10	IPOC Station P	7.80	157	Pn	Pn	04 29 45.9	+0.7
PB15	IPOC Station P	7.99	150	Pn	Pn	04 29 49.3	+1.2
GO02	Mina Guanaco	9.66	157	Pn	Pn	04 30 11.8	+0.9
AC02	Maricunga	11.35	158	Pn	Pn	04 30 35.4	+1.2
SIV	San Ignacio	12.25	90	P	Pn	04 30 45.7	-0.5
	comp=E,0.2nm,0.3s,baz=267,slow=16,SNR=2.4						
H03N1	Juan Fernandez	17.67	194	T	T	04 50 26.5	
	baz=18,slow=74						
H03N2	Juan Fernandez	17.67	194	T	T	04 50 26.3	
	baz=18,slow=74						
H03N3	Juan Fernandez	17.69	194	T	T	04 50 24.7	
	baz=18,slow=74						
PTGA	Pitinga	20.64	43	P	P	04 32 29.0	-0.8
	comp=E,0.8nm,0.3s,baz=351,slow=22,SNR=1.4						
TXAR	Lajitas Array	53.75	327	P	P	04 37 11.3	-0.5
	comp=E,0.2nm,0.5s,baz=144,slow=9.2,SNR=4.2						
TXAR				pP	pP	04 37 25.8	+0.4
	comp=E,0.2nm,0.5s,baz=152,slow=9.4,SNR=2.9						
TXAR				sP	sP	04 37 31.8	+0.6
	comp=E,0.3nm,0.5s,baz=153,slow=9.1,SNR=4.3						
TXAR	Lajitas Array	53.75	327	P	P	04 37 09.8	-2.0
WMOK	Wichita Mounta	56.03	335	P	P	04 37 26.3	-1.8
QSPA	South Pole Qui	73.85	180	P	P	04 39 24.2	+0.5
QSPA				IAmb	IAmb	04 39 29.8	
	comp=Z,2.6nm,1.2s						
TOA0	Torodi Ar. Sit	80.16	73	P	P	04 39 59.6	-0.2
TOA0				IAmb	IAmb	04 40 15.1	
	comp=Z,2.4nm,1.0s						
TORD	Torodi Ar. Bea	80.16	73	P	P	04 39 59.5	-0.4
	comp=Z,0.9nm,0.6s,baz=263,slow=5.4,SNR=6.6						
TORD				pP	pP	04 40 14.1	-0.1
	comp=Z,1.4nm,0.8s,baz=268,slow=5.6,SNR=6.5						
TORD	Torodi Ar. Bea	80.16	73	P	P	04 39 59.4	-0.4
WRA	Warramunga Arr	134.58	219	PKP	PKPdf	04 47 08.1	0.0
	comp=Z,0.5nm,0.7s,baz=146,slow=1.9,SNR=2.3						

*INET **07** 04:45:46.8,11.56N×87.22W,h20km,MD3.4*
*IDC **07** 04:45:52.9±3.1,12.41N×86.36W,h125km±59km,mb2.9/2, mb1 3.4/3,mb1mx3.1/43,mbtmp3.3/3,Error ellipse: s-maj=240.3km s-min=50.6km az=61.0*
*SNET **07** 04:45:53.6±1.1,12.10N×86.77W,h104km±46km,ML3.7*
*UCR **07** 04:45:55.1±2.8,11.94N×86.89W,h34km±22km,ML3.5, MW3.4*

ISC 07 04:45:53.2±1.0,12.10N±0.10×86.79W±0.10,h100km,n36, σ1§64/40,2C-2D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.56	319	eP	Pn	04 46 21.1	+0.8
CNCH				eS	Sn	04 46 43.9	+3.0
CNCH	Conchagua	1.56	319	eP	Pn	04 46 21.1	+0.8
CNCH				eS	Sn	04 46 43.9	+3.0
LCND	La Caada	1.62	318⇑	eP	Pn	04 46 21.5	+0.5
LCND				eS	Sn	04 46 43.2	+1.2
LCND				IAML		04 46 53.1	
	comp=Z,649nm,0.3s						
LCND	La Caada	1.62	318⇑	eP	Pn	04 46 21.5	+0.5
LCND				eS	Sn	04 46 43.2	+1.2
LCND				IAML		04 46 53.1	
	comp=Z,649nm,0.3s						
BUEV	Buena Vista	1.87	134	eP	Pn	04 46 25.6	+1.4
BUEV				eS	Sn	04 46 49.7	+1.9
GPS2	Hotel Rincn d	1.94	133	eP	Pn	04 46 27.2	+2.0
LCY	Lacayo	1.98	312	eP	Pn	04 46 27.5	+1.9
LCY	Lacayo	1.98	312	eP	Pn	04 46 27.5	+1.9
TGUH	Tegucigalpa,Un	2.01	346⇓	iP	Pn	04 46 26.6	+0.6
TGUH	Tegucigalpa,Un	2.01	346⇓	iP	Pn	04 46 26.6	+0.6
PACA	Pacayal	2.03	312	eP	Pn	04 46 28.1	+1.8
PACA	Pacayal	2.03	312	eP	Pn	04 46 28.1	+1.8
COEB	Comit de Eme	2.20	309	eP	Pn	04 46 29.7	+1.2
COEB				IAML		04 47 06.8	
	comp=Z,345nm,0.7s						
COEB	Comit de Eme	2.20	309	eP	Pn	04 46 29.7	+1.2
COEB				IAML		04 47 06.8	
	comp=Z,345nm,0.7s						
SAJU	San Juanillo,	2.28	152	eP	Pn	04 46 30.3	+0.9
PQSS	Presa 15 de Se	2.30	311	eP	Pn	04 46 30.6	+0.8
GRZA	Playa Garza	2.44	152	e

EVGI Lefkada island 0.22 4 P Pg 04 53 36.7 +0.3
EVGI S Sb 04 53 40.6 +0.9
96µm,0.1s
EVGI Lefkada island 0.22 4 P Pg 04 53 36.7 +0.3
EVGI S Sb 04 53 40.5 +0.9
KEF4 Livadi, Kephal 0.22 229 P Pg 04 53 36.7 +0.2
KEF4 Livadi, Kephal 0.22 229 P Pg 04 53 36.8 +0.4
VLS Valsamata 0.23 189 P Pg 04 53 36.3 -0.3
VLS S Sg 04 53 40.2 -0.1
35µm,0.2s
VLS Valsamata 0.23 189 P Pg 04 53 36.3 -0.3
VLS S Sg 04 53 40.1 -0.1
VLS AML AML 04 53 40.5
comp=N,74221µm,0.3s
VLS AML AML 04 53 40.8
comp=E,64491µm,0.1s
ARG2 Argostoli 0.26 208 P Pg 04 53 37.0 0.0
ARG2 S Sg 04 53 41.8 +0.9
LXRA Lixouri, Kepha 0.26 218 P Pg 04 53 37.4 +0.4
LXRA S Sg 04 53 41.9 +0.9
LXRA AML AML 04 53 42.9
LXRA AML AML 04 53 44.9
comp=N,97976µm,0.4s
ARGA Argostoli. Kep 0.26 209 P Pg 04 53 37.5 +0.5
DMLN Damoulianata-K 0.27 232 P Pg 04 53 37.5 +0.3
DMLN S Sg 04 53 42.2 +0.9
DMLN Damoulianata-K 0.27 232 P Pg 04 53 37.5 +0.3
DMLN S Sg 04 53 42.1 +0.9
DRAG Dragano-Lefkad 0.28 350 P Pg 04 53 37.8 +0.3
DRAG S Sb 04 53 42.9 +0.8
comp=N,61µm,0.3s
DRAG Dragano-Lefkad 0.28 350 P Pg 04 53 37.7 +0.3
DRAG S Sb 04 53 42.9 +0.8
PSDA Pessada-Kefalo 0.29 188 P Pg 04 53 37.3 -0.3
PSDA S Sg 04 53 42.4 +0.4
PSDA Pessada-Kefalo 0.29 188 P Pg 04 53 37.3 -0.3
PSDA S Sg 04 53 41.9 0.0
KEF3 Kipouria, Keph 0.30 229 P Pg 04 53 37.5 -0.3
KEF3 S Sg 04 53 42.9 +0.6
KEF3 Kipouria, Keph 0.30 229 P Pg 04 53 37.5 -0.3
KEF3 S Sg 04 53 42.7 +0.5
NYDR Nydri-Lefkada 0.31 9 P Pg 04 53 38.2 +0.3
NYDR S Sb 04 53 43.5 +0.5
comp=N,9µm,0.1s
LKD2 Lefkada island 0.38 2 P Pg 04 53 39.6 +0.3
LKD2 S Sb 04 53 45.8 +0.6
comp=N,15µm,0.3s
LKD2 Lefkada island 0.38 2 P Pg 04 53 39.5 +0.3
LKD2 S Sb 04 53 45.5 +0.4
LKD2 AML AML 04 53 47.2
comp=N,29400µm,0.2s
LKD2 AML AML 04 53 47.2
comp=E,38019µm,0.3s
TSLK Tsoukalades, L 0.42 2 P Pb 04 53 40.3 +0.2
TSLK S Sb 04 53 47.7 +1.5
comp=E,12µm,0.3s
TSLK Tsoukalades, L 0.42 2 P Pb 04 53 40.3 +0.2
VLMS Volimes, Zakyn 0.53 178 P Pg 04 53 41.4 -0.4
VLMS S Sb 04 53 49.9 +0.8
VLMS Volimes, Zakyn 0.53 178 P Pg 04 53 41.2 -0.5
LTHK Lithakia 0.71 167 P Pg 04 53 44.2 -1.0
LTHK S Sg 04 53 54.4 -0.2
comp=E,3µm,0.3s
PVO Paravola 0.73 73 P Pg 04 53 45.5 0.0
PVO S Sn 04 53 56.9 -0.3
comp=E,6µm,0.3s
PVO Paravola 0.73 73 P Pg 04 53 45.5 0.0
PVO S Sb 04 53 55.4 +0.5
PVO AML AML 04 53 58.4
comp=N,9005µm,0.3s
PVO AML AML 04 54 04.7
comp=E,13112µm,0.6s
RLS Riolos of Patr 0.74 118 P Pb 04 53 45.1 -0.4
DRO Drossia 0.96 118 P Pb 04 53 48.8 -0.4
DRO Drossia 0.96 118 P Pb 04 53 48.8 -0.4
EFP Efpalio 1.00 88 P Pb 04 53 49.2 -0.7
ANX Ano Chora 1.02 79 P Pb 04 53 50.2 -0.2
SERG Sergoula 1.11 89 P Pb 04 53 51.2 -0.7
TRIZ Trizonia 1.13 92 P Pb 04 53 51.4 -0.7
ALIK Aliki, Aigiali 1.17 97 P Pn 04 53 52.2 -0.4
AMT Artemida-Makis 1.21 135 P Pn 04 53 53.9 +0.6
AGG Agios Georgios 1.46 64 Pn Pb 04 53 58.1 +0.3
AGG Sn Sg 04 54 21.4 +3.0
ITM Ithomi 1.59 140 Pb 04 54 00.4 +0.4
ITM Sn Sg 04 54 23.3 +0.7
KBN Korca 2.22 3 Pb 04 54 10.2 -0.6
KBN Sn Sn 04 54 36.0 +1.9
LIT Litokhoron 2.22 40 Pn Pb 04 54 09.7 -1.1
SCTE Santa Cesarea 2.37 315 Pn Pn 04 54 10.7 +1.6
FNA Florina 2.44 13 Pn 04 54 12.6 +2.4
OHR Ohrid 2.71 3 *i* Pn Pb 04 54 17.6 -1.5
TIR Tirane 3.00 349 Pn Pn 04 54 19.6 +1.9
VAY Valandovo 3.27 26 *i* Pn Pn 04 54 24.2 +2.7
STIP Stip 3.49 19 *i* Pn Pn 04 54 28.3 +3.7
SKO Skopje 3.62 10 *i* Pn Pn 04 54 26.5 +0.2
PUK Puka 3.68 351 Pn Pn 04 54 28.5 +1.3
ULC Ulcinj 3.71 344 *e*Pn Pn 04 54 28.6 +1.0
ULC *i* Sn Sn 04 55 09.7 -1.2
CEL Celeste 3.73 269 Pn 04 54 29.4 +1.5
MATE Matera 3.78 308 ⇓P Pg 04 54 45.6 +2.1
DRME Dracevica, Mon 3.94 344 *e*Pn Pn 04 54 32.0 +1.3
DRME Dracevica, Mon 3.94 344 ⇑*i*Pn Pn 04 54 32.0 +1.3
DRME *i* Sn Sn 04 55 15.1 -1.3
BUM Brajici-Budva 4.11 342 ⇓*i*Pn Pn 04 54 34.3 +1.1
BUM *i* Sn Sn 04 55 19.2 -1.6
PDG Podgorica 4.16 346 ⇑P Pn 04 54 35.2 +1.6
PDG Podgorica 4.16 346 *e*Pn Pn 04 54 34.4 +0.8
PDG Podgorica 4.16 346 Pn Pn 04 54 34.5 +0.8
TTG Podgorica 4.16 346 *e*Pn Pn 04 54 35.0 +1.3
TTG *i* Sn Sn 04 55 20.4 -1.4
PVY Plav 4.22 353 ⇑*i*Pn Pn 04 54 36.0 +1.4
PVY *i* Sn Sn 04 55 22.1 -1.4
CEME Cevo 4.34 343 ⇑*i*Pn Pn 04 54 36.9 +0.6
CEME *i* Sn Sn 04 55 24.6 -1.8
HCY Herceg Novi 4.36 339 *e*Pn Pn 04 54 36.8 +0.4
HCY Herceg Novi 4.36 339 *e*Pn Pn 04 54 37.1 +0.7
HCY *i* Sn Sn 04 55 24.8 -1.9
IVA Berane 4.50 353 *e*Pn Pn 04 54 39.8 +1.3
IVA *i* Sn Sn 04 55 28.8 -1.5
KOME Kolasin 4.52 349 *e*Pn Pn 04 54 40.0 +1.2
KOME *i* Sn Sn 04 55 29.3 -1.6
NKME Niksic 4.54 344 *e*Pn Pn 04 54 40.2 +1.2
NKME *i* Sn Sn 04 55 29.5 -1.9
NKY Niksic 4.58 345 ⇑*i*Pn Pn 04 54 40.7 +1.1
NKY *i* Sn Sn 04 55 30.4 -1.9
IDI Anoyia 4.62 131 Pn Pn 04 54 40.6 +0.6
comp=E,0.3nm,0.3s,baz=275,slow=22,SNR=1.4
IDI Sn Sn 04 55 35.0 +1.8
comp=E,3.1nm,0.3s,baz=10,slow=13,SNR=10
IDI LR LR 04 56 53.2
comp=E,37nm,21.2s,baz=272,slow=44
IDI Anoyia 4.62 131 ⇓P Pn 04 54 32.1 -8.0
TREB Trebinje 4.65 339 *e*Pn Pn 04 54 40.1 -0.3
VTS Vitosha 4.65 24 ⇓P Pb 04 54 49.9 -2.3
BRY Bratogost 4.77 341 *e*Pn Pn 04 54 40.6 -1.6
BRY Bratogost 4.77 341 *e*Pn Pn 04 54 42.8 +0.6
BRY *i* Sn Sn 04 55 34.7 -2.3
UPM Unac-Piva 4.97 345 *e*Pn Pn 04 54 45.8 +0.8
UPM Unac-Piva 4.97 345 ⇑*i*Pn Pn 04 54 46.1 +1.1
UPM *i* Sn Sn 04 55 39.7 -2.4
STON Ston 4.99 334 *e*Pn Pn 04 54 44.7 -0.4
STON Ston 4.99 334 *e*Pn Pn 04 54 44.9 -0.2
STON Sn Sn 04 55 38.5 -3.7
VAE Valguarnera 5.01 261 Pn Pn 04 54 46.1 +0.7
comp=E,3.7nm,0.3s,baz=337,slow=5.5,SNR=1.9
VAE Sn Sn 04 55 44.6 +1.7
comp=E,3.8nm,0.3s,baz=190,slow=22,SNR=3.4
SGRT San Giovanni R 5.03 313 Pn Pn 04 54 47.2 +1.5
RAFF Raffo Rosso 5.11 259 Pn Pn 04 54 47.5 +0.7
LSTV Lastovo 5.21 328 *e*Pn Pn 04 54 48.1 0.0
LSTV Sn Sn 04 55 44.8 -2.9
BOVS Bovan 5.29 8 ⇑P Pn 04 54 52.4 +3.2
RUDO Rudo 5.30 350 *e*Pn Pn 04 54 49.1 -0.2
PAOL Paolisi 5.37 301 Pn Pn 04 54 51.7 +1.4
WDD Wied Dalam 5.52 244 Pn Pn 04 54 53.2 +0.8
BBLS Lazići 5.54 351 *e*Pn Pn 04 54 52.6 -0.1
DIVS Divibare 5.71 355 *e*Pn Pn 04 54 55.3 +0.2
DIVS Divibare 5.71 355 Pn Pn 04 54 55.7 +0.6
HVAR Hvar 5.73 328 *e*Pn Pn 04 54 55.8 +0.5
HVAR Sn Sn 04 55 57.0 -3.5
RICI Ricice 5.74 334 *e*Pn Pn 04 54 55.6 +0.2
RICI Sn Sn 04 55 58.0 -2.7
CORL Corleone 5.80 267 Pn Pn 04 54 58.2 +1.9
HAPS Han Pijesak,BI 5.82 348 *e*Pn Pn 04 54 55.4 -1.2
CLTB Caltabellotta 5.92 264 Pn Pn 04 54 59.7 +1.7
INTR Introdacqua 6.29 307 Pn Pn 04 55 05.1 +2.1
MDVR Moldovita 6.42 7 ⇑P Pb 04 55 21.0 -1.4
KIJV Kijevo 6.44 332 *i* Pn Pn 04 55 05.9 +0.8
KIJV Sn Sn 04 56 14.9 -3.2
ZIRJ Zirje 6.46 326 *e*Pn Pn 04 55 05.5 +0.2
ZIRJ Sn Sn 04 56 14.8 -3.7
MGRS Mrkonjic Grad 6.57 337 *e*Pn Pn 04 55 11.9 +5.0
MORI Morici 6.60 327 *e*Pn Pn 04 55 08.3 +1.1
MORI Sn Sn 04 56 19.3 -2.7
BLY Banja Luka 6.85 339 *e*Pn Pn 04 55 05.0 -5.6
DUGI Dugi Otok 6.99 325 *e*Pn Pn 04 55 13.3 +0.8
DUGI Sn Sn 04 56 27.5 -4.0
UDBI Udbina 7.13 331 *e*Pn Pn 04 55 15.9 +1.3
GZR Gura Zlata 7.16 12 ⇑P Pb 04 55 28.0 -7.0
NRCA Norcia 7.23 310 Pn Pn 04 55 17.4 +1.4
NVLJ Novalja 7.52 327 *e*Pn Pn 04 55 20.7 +0.9
NVLJ Sn Sn 04 56 40.2 -4.4
MOSL Moslavina 7.76 339 *e*Pn Pn 04 55 23.6 +0.5
MOSL Sn Sn 04 56 47.0 -3.5
MLR Muntele Rosu 8.11 27 Pn Pn 04 55 27.9 -0.2
comp=E,0.3nm,0.3s,baz=214,slow=11,SNR=2.2
MLR Muntele Rosu 8.11 27 ⇑P Pn 04 55 36.1 +8.1
CRES Cresnjev 8.35 334 *e*Pn Pn 04 55 31.4 +0.1
CEY Cerknica 8.66 330 *e*Pn Pn 04 55 36.1 +0.6
VRI Vrincioaia 8.72 29 ⇑P Pn 04 55 28.0 -8.3
SOKA Soboth 9.24 335 *i* Pn Pn 04 55 43.2 -0.3
comp=E,3.6nm,0.6s
SOKA *i* Sn Sn 04 57 22.6 -4.5
comp=E,1.6nm,0.5s
KEST Kesra 9.41 257 Pn Pn 04 55 46.7 +0.8
comp=E,0.2nm,0.3s,baz=204,slow=7.2,SNR=2.2
MYKA Terra Mystica 9.70 330 *e*Sn Sn 04 57 36.5 -1.8
comp=E,1.4nm,0.2s
STAL STALIGIAL 9.80 326 Pn Pn 04 55 52.3 +1.2
ZOU Zoufplan 9.91 328 Pn Pn 04 55 54.2 +1.3
KBA Koelnbreinsper 10.19 331 *i* Pn Pn 04 55 58.0 +1.4
comp=E,0.7nm,0.3s
KBA *e*Sn Sn 04 57 47.4 -3.0
comp=E,3.1nm,0.5s
ABTA Abfaltersbach 10.26 327 *i* Pn Pn 04 55 58.2 +0.7
comp=E,1.1nm,0.4s
ABTA *i* Sn Sn 04 57 49.5 -2.5
comp=E,7.6nm,0.6s
WTTA Wattenberg 11.04 326 *i* Pn Pn 04 56 10.3 +2.1
comp=E,2.0nm,0.4s
WTTA *e*Sn Sn 04 58 09.1 -2.2
comp=E,6.4nm,0.6s
FETA Feichten 11.27 323 *i* Sn Sn 04 58 15.4 -1.6
comp=E,2.0nm,0.6s
MOTA Moosalm 11.34 325 *i* Sn Sn 04 58 18.0 -0.5
comp=E,2.9nm,0.5s
DAVOX Davos/Dischmat 11.52 320 Pn Pn 04 56 15.9 +1.1
comp=E,0.2nm,0.3s,baz=314,slow=23,SNR=1.5
DAVOX Sn Sn 04 58 20.3 -2.8
comp=E,0.4nm,0.3s,baz=306,slow=22,SNR=2.1
GERES GERESS Array B 11.58 337 Pn Pn 04 56 14.9 -0.6
comp=E,0.2nm,0.3s,baz=155,slow=15,SNR=3.4
GERES Sn Sn 04 58 19.5 -4.8
comp=E,0.3nm,0.3s,baz=146,slow=26,SNR=3.5
GERES LR LR 05 01 30.5
comp=E,34nm,21.9s,baz=254,slow=42
TUE Stuetta 11.59 318 Pn Pn 04 56 17.1 +1.2
SENIN Lac Senin/Sane 12.66 313 Pn Pn 04 56 31.9 +1.5
HFS Hagfors 22.19 351 P P 04 58 25.6 -0.6
comp=E,1.9nm,0.7s,baz=155,slow=14,SNR=5.4
NC602 NORSAR Array S 23.07 349 P P 04 58 35.9 +0.4
NC602 IAmb IAmb 04 58 49.9
comp=Z,36nm,1.2s
EKA Eskdalemuir Ar 23.30 324 P P 04 58 37.7 0.0
comp=Z,2.7nm,0.9s,baz=116,slow=11,SNR=4.2
FINES FINESS Array B 23.31 7 P P 04 58 37.1 -0.7
comp=Z,1.5nm,0.7s,baz=160,slow=6.1,SNR=4.1
FINES LR LR 05 08 54.7
comp=Z,21nm,18.4s,baz=176,slow=40
NOA NORSAR Array B 23.41 348 P P 04 58 37.8 -1.1
comp=Z,1.0nm,0.7s,baz=158,slow=8.3,SNR=3.3
NOA LR LR 05 10 32.7
comp=Z,6.9nm,19.6s,baz=240,slow=44
NC303 NORSAR Array S 23.57 349 P P 04 58 40.4 +0.1
NC303 IAmb IAmb 04 58 41.0
comp=Z,9.9nm,0.9s
TORD Torodi Ar. Bea 30.26 219 P P 04 59 41.6 +0.4
comp=Z,0.4nm,0.8s,baz=28,slow=9.6,SNR=2.1
LVZ Lovozero 30.56 10 P P 04 59 44.2 +0.8
BRVK Borovoye 36.84 50 P P 05 00 36.9 -1.1
BRVK IAmb IAmb 05 00 43.7
comp=Z,2.8nm,0.7s
KK31 Karatay Array 37.62 67 P P 05 00 44.4 -0.5
KKAR Karatay Array 37.62 67 P P 05 00 44.7 -0.1
KURBB Kurchatov Arra 42.02 54 P P 05 01 21.3 +0.1
comp=Z,0.2nm,0.4s,baz=276,slow=9.1,SNR=1.6
MKAR Makanchi Array 45.10 59 P P 05 01 46.1 -0.1
comp=Z,0.7nm,0.6s,baz=285,slow=6.3,SNR=7.4
ZALV Zalesovo Beam 45.47 48 P P 05 01 48.9 0.0
comp=Z,1.3nm,0.5s,baz=286,slow=7.6,SNR=5.3

UCR ***07*** *04:55:20.8±0.7, 14°.10N×91°.22W, h9km±6km, ML4.2, mb4.2(NEIC)*
SNET ***07*** *04:55:21.2±0.6, 14°.10N×91°.22W, h13km±4km, ML4.3*
IDC ***07*** *04:55:22.1±1.7, 14°.23N×91°.07W, h75km±16km, mb3.7/17, mb1 3.9/20, mb1mx3.7/57, mbtmp4.0/20, MS3.1/1, Ms1 3.1/1, ms1mx2.8/39, Error ellipse: s-maj=26.7km s-min=9.4km az=46.0*
NEIC ***07*** *04:55:23.6±2.0, 14°.23N±0°.07×91°.23W±0°.08, h65km±10km, mb4.2/72, Error ellipse: s-maj=14.5km s-min=5.0km az=224.0*
GCG ***07*** *04:55:25.8±0.3, 14°.10N×91°.11W, h29km±21km, MD4.2*
ISC 07 04:55:21.1±0.8, 14°.06N±0°.06×91°.36W±0°.05, h69km±7km, n163,σ1$26/150, mb4.1/43, 7C-11D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RTAL	Retalhuleu	0.57	325	⇑*i*P		Pn	04 55 32.8	-1.7
RTAL				*e*S		Sn	04 55 42.3	-2.0
RTAL	Retalhuleu	0.57	325			Pn	04 55 32.8	-1.7
RTAL				Sn		Sn	04 55 42.4	-1.9
FUG	Fuego 3	0.63	52	⇓*i*P		Pn	04 55 35.5	+0.1
PCG	Pacaya	0.80	65	*e*P		Pn	04 55 37.8	+0.5
NBG	Las Nubes	1.11	62	*e*P		Pn	04 55 42.9	+1.7
NBG				*e*S		Sn	04 55 56.2	0.0
HUEH	Huehuetenango	1.26	354	⇓*i*P		Pn	04 55 43.6	+0.5
HUEH	Huehuetenango	1.26	354			Pn	04 55 43.5	+0.3
HUEH				Sn		Sn	04 55 58.3	-1.2
RTR	El Retiro	1.67	95	*e*P		Pn	04 55 48.8	+0.4
RTR	El Retiro	1.67	95	*e*P		Pn	04 55 48.8	+0.4
SBLS	San Blas	1.70	97	*e*P		Pn	04 55 48.9	+0.1
SBLS	San Blas	1.70	97	*e*P		Pn	04 55 48.9	+0.1
CEVE	Cerro Verde	1.70	97	*e*P		Pn	04 55 49.0	+0.1
CEVE	Cerro Verde	1.70	97	*e*P		Pn	04 55 49.0	+0.1
SNJE	San Jose	1.71	96	*e*P		Pn	04 55 49.1	+0.1
SNJE	San Jose	1.71	96	*e*P		Pn	04 55 49.1	+0.1
JAYA	Jayaque - finc	1.90	102	⇓*e*P		Pn	04 55 51.0	-0.5
JAYA	Jayaque - finc	1.90	102	⇓*e*P		Pn	04 55 51.0	-0.5
CEDA	San Andres	1.92	97	*e*P		Pn	04 55 52.0	+0.3
CEDA				IAML			04 56 27.4	
CEDA	San Andres	1.92	97	*e*P		Pn	04 55 52.0	+0.3
CEDA				IAML			04 56 27.4	
TACO	Tacachico	1.95	92	⇓*i*P		Pn	04 55 51.9	-0.1
TACO	Tacachico	1.95	92	⇓*i*P		Pn	04 55 51.9	-0.1
MTO3	Montecristo	1.97	80	⇓*i*P		Pn	04 55 52.2	-0.2
MTO3	Montecristo	1.97	80	⇓*i*P		Pn	04 55 52.2	-0.2
MTO3	Montecristo	1.97	80			Pn	04 55 52.3	-0.2
ESQI	Esquipulas	2.02	75	⇓*i*P		Pn	04 55 53.2	+0.2
ESQI	Esquipulas	2.02	75			Pn	04 55 53.2	+0.2
BOQS	Boqueron	2.04	99	⇑*e*P		Pn	04 55 53.9	+0.4
BOQS				*e*S		Sn	04 56 19.4	+1.3
BOQS	Boqueron	2.04	99	⇑*e*P		Pn	04 55 53.9	+0.4
BOQS				*e*S		Sn	04 56 19.4	+1.3
LALI	Alcalda de L	2.06	106	⇑*e*P		Pn	04 55 53.2	-0.3
LALI	Alcalda de L	2.06	106	⇑*e*P		Pn	04 55 53.2	-0.3
UEES	Universidad Ev	2.08	99	*e*P		Pn	04 55 54.0	+0.1
UEES				IAML			04 56 24.9	
UEES	Universidad Ev	2.08	99	*e*P		Pn	04 55 54.0	+0.1
UEES				IAML			04 56 24.9	
SNET	Serv Nac Est T	2.10	100	⇑*e*P		Pn	04 55 54.2	+0.1
SNET	Serv Nac Est T	2.10	100	⇑*e*P		Pn	04 55 54.2	+0.1
SNET	Serv Nac Est T	2.10	100			Pn	04 55 53.8	-0.3
LBRS	Las Brisas	2.27	98	*e*P		Pn	04 55 56.7	+0.3
LBRS	Las Brisas	2.27	98	*e*P		Pn	04 55 56.7	+0.3
LFRS	El Faro	2.27	101	*e*P		Pn	04 55 57.0	+0.5
LFRS	El Faro	2.27	101	*e*P		Pn	04 55 57.0	+0.5
SJTE	Alcalda de S	2.33	101	*e*P		Pn	04 55 57.2	0.0
SJTE	Alcalda de S	2.33	101	*e*P		Pn	04 55 57.2	0.0
CCIG	Comitan	2.34	341			Pn	04 55 58.7	+1.2
PAVA	Las Pavas	2.38	98	⇓*i*P		Pn	04 55 58.0	+0.1
PAVA	Las Pavas	2.38	98	⇓*i*P		Pn	04 55 58.0	+0.1
COEG	Centro de Oper	2.44	100	*e*P		Pn	04 55 58.9	+0.1
COEG				IAML			04 56 40.0	
COEG	Centro de Oper	2.44	100	*e*P		Pn	04 55 58.9	+0.1
COEG				IAML			04 56 40.0	
TECO	Alcaldia de Te	2.56	101	*i* P		Pn	04 56 00.5	+0.2
PQSS	Presa 15 de Se	2.75	99	*e*P		Pn	04 56 03.0	+0.1
COEB	Comit de Eme	2.80	101	*e*P		Pn	04 56 03.8	+0.1
COEB				IAML			04 56 45.8	
COEB	Comit de Eme	2.80	101	*e*P		Pn	04 56 03.8	+0.1
COEB				IAML			04 56 45.8	
PETF	Flores	3.19	27			Pn	04 56 06.8	-2.0
CNCH	Conchagua	3.51	102	*e*P		Pn	04 56 13.6	+0.2
CNCH	Conchagua	3.51	102	*e*P		Pn	04 56 13.6	+0.2
TGUH	Tegucigalpa,Un	3.96	90	Pn		Pn	04 56 18.9	-0.7
CRIN	San Cristobal	4.40	107	Pn		Pn	04 56 26.2	+0.7
CMIG	Matias Romero	4.54	312	P		Pn	04 56 28.4	+1.1
CMIG				S		Sn	04 57 21.3	+2.4
CMIG				LR		LR	04 58 39.3	
CNGN	Cerro Negro	4.79	108	Pn		Pn	04 56 32.4	+1.6
ACON	Acoyapa	6.37	108	Pn		Pn	04 56 52.7	+0.3
HZTE	Horizontes, Gu	6.54	120			Pn	04 56 56.0	+1.3
DUNO	Dulce Nombre,	6.96	124	Pn		Pn	04 57 02.5	+2.0
ESPN	Las Esperanzas	7.12	104	Pn		Pn	04 57 04.1	+1.5
JTS	Las Juntas de	7.29	120	P		Pn	04 57 05.7	+0.7
JTS				S		Sn	04 58 23.5	-2.9
JTS	Las Juntas de	7.29	120	Pn		Pn	04 57 06.8	+1.8
CAO2	Cobano, Puntar	7.50	125	Pn		Pn	04 57 10.0	+2.1
TLIG	Tlapa	7.76	298	Pn		Pn	04 57 12.7	+1.1
RIMA	Rio Macho	8.48	119	Pn		Pn	04 57 23.3	+1.8
PEZE	Perez Zeledon,	8.84	121	Pn		Pn	04 57 28.0	+1.8
SRBA	San Rafael, Bu	9.18	121			Pn	04 57 33.0	+2.0
DRK0	Durika	9.26	120			Pn	04 57 32.9	+0.7
SJCC	San Jacinto, C	16.36	103	Pn		Pn	04 59 06.9	+0.4
CBOC	Ciudad Bolivar	17.16	117	*e*P		P	04 59 17.5	+0.2
553A	Crawfordville	17.28	21	P		P	04 59 19.9	+1.6
656A	Willston	17.29	27	P		P	04 59 19.4	+1.0
344A	Westbrook Farm	17.32	2	P		P	04 59 20.9	+2.1
344A				IAmb		IAmb	04 59 24.6	
comp=Z,10nm,0.7s								
PLMC	San Jos del P	17.42	120	*e*P		P	04 59 20.7	+0.6
HELC	Santa Helena	17.42	115	*e*P		Pn	04 59 20.4	+0.3
ZARC	Zaragoza, Cauc	17.46	110	*e*P		Pn	04 59 19.7	-0.6
BRAL	Brewton	17.49	12	P		P	04 59 23.0	+2.4
YOTC	Yotoco, Valle	17.87	123	*e*P		P	04 59 24.8	-0.4
GUY2C	Guyana, Caldas	18.03	118	*e*P		Pn	04 59 29.3	+1.6
JCT	Junction City	18.10	336	P		Pn	04 59 30.7	+2.8
352A	Blakely	18.32	18	P		Pn	04 59 32.8	+2.3
BBAC	Balboa, Cauca	18.37	129	*e*P		Pn	04 59 31.4	-0.1
TOLC	Tolima	18.40	119	*e*P		Pn	04 59 33.5	+1.7
250A	Grady	18.44	14	P		Pn	04 59 32.0	+0.1
250A				IAmb		IAmb	04 59 35.3	
comp=Z,11nm,0.9s								
POPC	Popayan, Colom	18.47	127	*e*P		P	04 59 27.0	-4.9
143A	Socs Landing,	18.56	360	P		Pn	04 59 34.3	+1.0
SOTA	Rioblanco	18.78	128	*e*P		Pn	04 59 37.2	+0.5
ORTC	Ortega, Tolima	18.82	121	*e*P		Pn	04 59 37.7	+1.0
MARP	Paez Belalcaza	18.86	125	*e*P		Pn	04 59 38.6	+1.3
TX31	Lajitas Ar. Si	19.00	325	P		Pn	04 59 39.7	+0.9
TX32	Lajitas Array	19.00	325	P		Pn	04 59 39.8	+1.1
TXAR	Lajitas Array	19.00	325	P		Pn	04 59 39.4	+0.6
comp=Z,0.4nm,0.3s,baz=151,slow=12,SNR=23								
TXAR				PcP		PcP	05 04 01.1	+0.7
comp=Z,0.0nm,0.3s,baz=146,slow=4.5,SNR=4.7								
TXAR	Lajitas Array	19.00	325	P		Pn	04 59 39.9	+1.2
TXAR						PcP	05 04 01.2	+0.8
ROSC	El Rosal	19.12	117	*e*P		Pn	04 59 42.5	+1.8
PRAC	Prado	19.23	121	*e*P		Pn	04 59 41.9	+0.3
Z47A	Carrollton	19.29	8	IAmb		IAmb	04 59 50.4	
comp=Z,12nm,0.6s								
LRAL	Lakeview Retre	19.31	11			Pn	04 59 42.2	-0.1
LRAL				IAmb		IAmb	04 59 46.0	
comp=Z,11nm,0.8s								
BARC	Barichara	19.35	111	*e*P		P	04 59 40.7	-0.7
RUSC	La Rusia	19.73	112	*e*P		P	04 59 45.4	-0.5
CHIC	Chingaza	19.74	117	*e*P		P	04 59 45.9	+0.1
ABTX	Abilene, Hawle	19.97	339			P	04 59 48.3	+0.5
ABTX				IAmb		IAmb	04 59 50.3	
comp=Z,9.9nm,0.7s								
Y49A	Blount Mountai	20.22	12			P	04 59 51.5	+1.0
Y49A				IAmb		IAmb	04 59 53.8	
comp=Z,7.9nm,0.8s								
MIAR	Mount Ida	20.50	355	P		Pn	04 59 55.0	-1.3
GOGA	Godfrey	20.56	19	P		P	04 59 55.1	+0.9
Y52A	Lilburn	20.80	17	P		P	04 59 58.0	+1.3
Y52A				IAmb		IAmb	05 00 03.4	
comp=Z,9.7nm,0.8s								
MACC	Macarena, Meta	20.96	123	*e*P		P	04 59 58.7	0.0
FPAL	Fort Paine	21.05	13	P		P	05 00 00.5	+1.1
FPAL				IAmb		IAmb	05 00 02.2	
comp=Z,7.7nm,0.7s								
SWET	Sewanee	21.63	12	P		P	05 00 06.0	+0.4
W50A	Signal Mountai	21.75	13	IAmb		IAmb	05 00 15.9	
comp=Z,8.4nm,0.9s								
FCAR	Ozark Folk Cen	21.75	358	IAmb		IAmb	05 00 08.0	
comp=Z,5.2nm,0.7s								
MNTX	Cornudas Mount	21.76	326	P		P	05 00 08.2	+1.1
LCAR	Lake Charles	21.92	0	P		P	05 00 09.2	+0.4
LCAR				IAmb		IAmb	05 00 11.0	
comp=Z,8.7nm,0.8s								
U40A	Yellville	22.25	357	IAmb		IAmb	05 00 13.0	
comp=Z,5.3nm,0.6s								
MSTX	Muleshoe	22.36	334	IAmb		IAmb	05 00 16.8	
comp=Z,5.9nm,0.6s								
TKL	Tuckaleechee C	22.57	16	P		P	05 00 15.6	-0.1
comp=Z,4.7nm,0.6s,baz=176,slow=11,SNR=16								
AMTX	Amarillo	22.73	338	IAmb		IAmb	05 00 19.3	
comp=Z,7.6nm,0.7s								
V53A	Saluda	22.85	18	IAmb		IAmb	05 00 37.3	
comp=Z,6.2nm,0.8s								
U49A	Red Boiling Sp	22.91	12	IAmb		IAmb	05 00 28.7	
comp=Z,9.0nm,0.9s								
MGMO	Mountain Grove	23.02	358	IAmb		IAmb	05 00 21.1	
comp=Z,4.5nm,0.7s								
S39A	Bolivar	23.60	356	IAmb		IAmb	05 00 25.9	
comp=Z,6.8nm,0.5s								
S44A	Carbondale	23.61	4	IAmb		IAmb	05 00 27.9	
comp=Z,8.3nm,0.7s								
121A	Cookes Peak, D	23.73	324	IAmb		IAmb	05 00 31.5	
comp=Z,5.2nm,0.8s								
319A

comp=Z,1.6nm,0.7s,baz=151,slow=7.7,SNR=8.4
ELK Elko 33.79 326 IAmb IAmb 05 01 59.1
comp=Z,1.6nm,0.7s
NV11 Mina Array Sit 33.93 321 P **P** **05 02 00.3 +2.4**
NVAR Mina Array Bea 34.02 320 P **P** **05 02 01.4 +2.6**
comp=Z,4.6nm,0.9s,baz=138,slow=8.2,SNR=14
NVAR PcP **PcP** **05 04 36.9 +1.5**
comp=Z,1.6nm,0.7s,baz=126,slow=3.3,SNR=5.4
LHV Little Huntoon 34.04 320 P **P** **05 02 00.1 +1.5**
LHV IAmb IAmb 05 02 17.9
comp=Z,2.9nm,0.8s
KVN Kaiserville 34.28 322 IAmb IAmb 05 02 03.8
comp=Z,4.1nm,1.2s
YERR Yerington 34.94 320 IAmb IAmb 05 02 10.9
comp=Z,2.7nm,0.8s
MFID Camas Ranch 36.01 329 IAmb IAmb 05 02 20.6
comp=Z,3.1nm,1.0s
BEKR Beckworth 36.16 321 P **P** **05 02 19.7 +2.5**
BEKR IAmb IAmb 05 02 21.2
comp=Z,2.2nm,0.9s
WVOR Wild Horse Val 36.80 325 IAmb IAmb 05 02 24.4
comp=Z,2.8nm,1.0s
PLID Pearl Lake 37.33 331 IAmb IAmb 05 02 28.2
comp=Z,2.8nm,0.7s
H04A Detroit Lake 40.22 326 P **P** **05 02 51.5 +0.5**
NEW Newport 40.22 333 P **P** **05 02 51.3 +0.3**
comp=Z,1.0nm,0.7s,baz=158,slow=11,SNR=2.7
SIV San Ignacio 42.28 134 P **P** **05 03 07.9 -0.3**
comp=Z,5.8nm,0.7s,baz=322,slow=8.2,SNR=33
SCHQ Schefferville 44.95 20 P **P** **05 03 27.2 -2.0**
comp=Z,1.6nm,0.5s,baz=235,slow=4.5,SNR=5.1
YKA Yellowknife Ar 51.12 346 P **P** **05 04 15.6 -1.0**
comp=Z,0.4nm,0.4s,baz=124,slow=8.5,SNR=5.1
CPUP Villa Florida 52.03 140 P **P** **05 04 22.4 -1.4**
comp=Z,1.7nm,0.8s,baz=319,slow=7.2,SNR=3.4
DLBC Dease Lake 52.86 336 P **P** **05 04 30.4 +0.7**
comp=Z,0.6nm,0.5s,baz=129,slow=9.9,SNR=4.0
DLBC Dease Lake 52.86 336 P **P** **05 04 31.1 +1.4**
DLBC IAmb IAmb 05 04 34.0
comp=Z,3.7nm,1.3s
INK Inuvik 60.56 343 P **P** **05 05 22.8 -1.2**
comp=Z,0.8nm,0.5s,baz=156,slow=6.8,SNR=5.6
KDAK Kodiak Island 63.00 328 P **P** **05 05 40.4 -0.1**
comp=Z,8.3nm,0.8s,baz=130,slow=2.1,SNR=2.2
ILAR Eielson Array 63.03 337 P **P** **05 05 40.0 -0.8**
comp=Z,0.4nm,0.4s,baz=125,slow=5.5,SNR=13
EKA Eskdalemuir Ar 77.56 36 P **P** **05 07 06.3 -3.2**
comp=Z,1.3nm,0.7s,baz=260,slow=6.1,SNR=2.5
TORD Torodi Ar. Bea 89.76 77 P **P** **05 08 10.1 -2.6**
comp=Z,0.2nm,0.5s,baz=289,slow=5.7,SNR=1.6
KURBB Kurchatov Arra 114.99 7 PKP **PKiKP** **05 13 52.7 -1.5**
comp=Z,0.3nm,0.5s,baz=11,slow=0.9,SNR=2.5
MKAR Makanchi Array 119.16 5 PKP **PKPdf** **05 14 00.8 -1.6**
comp=Z,0.5nm,0.9s,baz=29,slow=3.3,SNR=2.8
ASAR Alice Springs 136.27 250 PKP **PKPdf** **05 14 35.4 -0.2**
comp=Z,0.6nm,0.7s,baz=100,slow=2.1,SNR=3.3
CMAR Chiang Mai Arr 146.13 342 PKPbc **PKPbc** **05 14 53.8 -0.6**
comp=Z,6.2nm,0.7s,baz=329,slow=3.5,SNR=13

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*IDC **07** 04:58:26.1±4.8, 6°.03S×146°.47E, h135km±52km, mb3.2/4, mb1 3.4/6, mb1mx3.1/49, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=51.8km s-min=28.7km az=141.0*
ISC 07 04:58:23.2±1.2, 5°.8S±0°.1×146°.3E±0°.2, h100km, n9, σ0s84/9, mb3.6/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**167**	P	**Pn**	**04 59 19.0**	**+1.3**
	5.6nm,0.3s,baz=320,slow=16,SNR=2.8						
PMG				S	**Sn**	**04 59 59.4**	**-0.5**
	11nm,0.3s,baz=217,slow=18,SNR=9.6						
CTA	**Charters Tower**	**14.18**	**180**	P	**P**	**05 01 43.4**	**-0.6**
	1.0nm,0.3s,baz=352,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**18.24**	**219**	P	**P**	**05 02 28.8**	**-0.2**
	0.2nm,0.3s,baz=45,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.39**	**213**	P	**P**	**05 03 02.9**	**-0.2**
	0.3nm,0.4s,baz=47,slow=8.6,SNR=5.2						
BATI	**Baumata**	**22.86**	**258**	LR	LR	05 14 00.5	
	comp=Z,64nm,19.1s,baz=317,slow=41						
FITZ	**Fitzroy Crossi**	**23.59**	**237**	P	**P**	**05 03 24.4**	**-0.9**
	1.6nm,0.4s,baz=51,slow=8.4,SNR=18						
CMAR	**Chiang Mai Arr**	**52.58**	**298**	P	**P**	**05 07 27.9**	**+0.8**
	1.1nm,0.6s,baz=116,slow=5.3,SNR=2.0						
ILAR	**Eielson Array**	**85.58**	**23**	P	**P**	**05 10 49.5**	**-0.7**
	0.2nm,0.5s,baz=265,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**144.40**	**284**	PKP	**PKPab**	**05 17 47.5**	**+0.3**
	0.4nm,0.5s,baz=77,slow=3.1,SNR=6.4						

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*ISK **07** 05:02:04.7, 39°.53N×26°.19E, h6km, ML2.9/26*
*THE **07** 05:02:05.7, 39°.53N×26°.19E, h5km±2km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=0.7km az=266.0*
*DDA **07** 05:02:05.2, 39°.53N×26°.24E, h4km±2km, ML2.8*
*ATH **07** 05:02:06.1, 39°.55N×26°.23E, h12km±3km, ML2.4/5, Error ellipse: s-maj=4.1km s-min=1.2km az=243.0*
ISC 07 05:02:05.4±0.9, 39°.53N±0°.02×26°.25E±0°.02, h10km±6km, n58, σ1s07/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.09**	**251**	*i* P	**Pg**	**05 02 07.4**	**-0.5**
KOCA				IAML		05 02 09.0	
	comp=N,6μm,0.3s						
KOCA				*i* S	**Sg**	**05 02 09.1**	**-0.6**
PRK	**Paraskevi**	**0.29**	**176**	P	**Pg**	**05 02 12.1**	**+0.9**
PRK				S	**Sg**	**05 02 16.5**	**+1.5**
	comp=N,1μm,0.4s						
PRK	**Paraskevi**	**0.29**	**176**	P	**Pg**	**05 02 12.1**	**+0.9**
PRK				S	**Sb**	**05 02 16.8**	**-0.6**
PRK				AML	AML	05 02 17.3	
	comp=N,1953μm,0.7s						
PRK				AML	AML	05 02 19.6	
	comp=E,1380μm,0.4s						
EZN	**Ezine**	**0.30**	**12**	P	**Pg**	**05 02 11.4**	**-0.1**
EZN				S	**Sg**	**05 02 16.2**	**+0.7**
	comp=E,1μm,0.3s						
EZN	**Ezine**	**0.30**	**12**	PG	**Pg**	**05 02 11.4**	**-0.1**
EZN				SG	**Sg**	**05 02 16.1**	**+0.6**
BAYC	**CANAKKALE_Bayr**	**0.31**	**48**	*i* P	**Pg**	**05 02 11.4**	**-0.3**
BAYC				*i* S	**Sg**	**05 02 14.9**	**-1.0**
BOZC	**Bozcaada**	**0.34**	**334**	*i* P	**Pg**	**05 02 12.2**	**-0.1**
BOZC				*i* S	**Sg**	**05 02 15.7**	**-1.2**
BOZC	**Bozcaada**	**0.34**	**334**	PG	**Pg**	**05 02 12.0**	**-0.3**
BOZC				SG	**Sg**	**05 02 16.7**	**-0.2**
AYVA	**Ayvalik**	**0.41**	**123**	*i* P	**Pg**	**05 02 13.7**	**+0.2**
AYVA				*i* S	**Sg**	**05 02 17.9**	**-1.0**
ECEA	**Canakkale, Ece**	**0.52**	**354**	*i* P	**Pg**	**05 02 15.7**	**+0.2**
ECEA				*i* S	**Sg**	**05 02 21.8**	**-0.5**
BUHA	**Balikesir, Bur**	**0.64**	**92**	*i* P	**Pg**	**05 02 17.5**	**-0.4**
BUHA				*i* S	**Sg**	**05 02 25.2**	**-1.1**
DKL	**Dikili**	**0.69**	**132**	PG	**Pg**	**05 02 19.0**	**+0.3**
DKL				SG	**Sb**	**05 02 29.3**	**+0.3**
GOKA	**anakkale-Gk**	**0.71**	**339**	*i* P	**Pg**	**05 02 18.8**	**-0.3**
GOKA				*i* S	**Sg**	**05 02 27.5**	**-0.9**
GADA	**Gvkgeada**	**0.71**	**338**	P	**Pg**	**05 02 18.7**	**-0.5**
GADA				S	**Sg**	**05 02 28.6**	**+0.1**
GADA	**Gvkgeada**	**0.71**	**338**	PG	**Pg**	**05 02 18.6**	**-0.6**
GADA				SG	**Sg**	**05 02 28.6**	**+0.1**
ZEDA	**zmir-Bergama**	**0.86**	**131**	*i* P	**Pg**	**05 02 22.2**	**+0.3**
ZEDA				*i* S	**Sg**	**05 02 30.0**	**-3.1**
GELI	**Tayfur-Gelibol**	**0.88**	**11**	PG	**Pg**	**05 02 21.8**	**-0.6**
GELI				SG	**Sb**	**05 02 34.9**	**+0.3**
LIA	**Limnos Island**	**0.90**	**294**	P	**Pg**	**05 02 21.1**	**-1.6**
LIA				S	**Sg**	**05 02 34.9**	**+0.5**
	comp=E,180nm,0.3s						
LIA	**Limnos Island**	**0.90**	**294**	P	**Pg**	**05 02 22.5**	**-0.2**
LIA				S	**Sb**	**05 02 35.2**	**+0.2**
LIA				AML	AML	05 02 37.2	
	comp=N,310μm,0.3s						
LIA				AML	AML	05 02 37.2	
	comp=E,406μm,0.4s						
FOCM	**Foa**	**0.90**	**155**	PG	**Pg**	**05 02 23.1**	**+0.4**
BALY	**Balya**	**1.08**	**78**	*i* P	**Pg**	**05 02 26.3**	**+0.1**
BALY				*i* S	**Sg**	**05 02 38.3**	**-1.9**
SMTH	**Samothraki Isl**	**1.09**	**330**	P	**Pg**	**05 02 25.8**	**-0.5**
SMTH				S	**Sb**	**05 02 41.5**	**+1.0**
	comp=E,212nm,0.3s						
SMTH	**Samothraki Isl**	**1.09**	**330**	P	**Pg**	**05 02 25.8**	**-0.5**
SMTH				AML	AML	05 02 42.8	
	comp=N,356μm,0.3s						
SMTH				AML	AML	05 02 43.0	
	comp=E,488μm,0.4s						
PSRA	**Psara**	**1.12**	**208**	P	**Pg**	**05 02 27.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.15**	**97**	*i* P	**Pg**	**05 02 27.5**	**0.0**
STEP				*i* S	**Sg**	**05 02 40.9**	**-1.6**
CHOS	**Chios island**	**1.15**	**187**	P	**Pg**	**05 02 27.2**	**-0.4**
CHOS				S	**Sg**	**05 02 42.7**	**+0.2**
	comp=E,218nm,0.2s						
CHOS	**Chios island**	**1.15**	**187**	P	**Pg**	**05 02 27.1**	**-0.4**
CHOS				AML	AML	05 02 46.2	
	comp=N,396μm,0.3s						
CHOS				AML	AML	05 02 48.2	
	comp=E,562μm,0.2s						
CHOS	**Chios island**	**1.15**	**187**	PN	**Pg**	**05 02 26.8**	**-0.8**
ERIK	**Erikli-Kesan**	**1.16**	**10**	PN	**Pg**	**05 02 26.9**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**1.16**	**357**	*i* P	**Pg**	**05 02 26.6**	**-1.1**
CAVK				*i* S	**Sg**	**05 02 38.9**	**-3.9**
CAVK				IAML		05 02 45.0	
	comp=E,164nm,0.5s						
KRBG	**Karabiga-Canak**	**1.18**	**43**	PN	**Pg**	**05 02 26.6**	**-1.5**
URLA	**Izmir**	**1.20**	**167**	*i* P	**Pg**	**05 02 27.7**	**-0.7**
URLA				*i* S	**Sg**	**05 02 40.6**	**-3.5**
URLA	**Izmir**	**1.20**	**167**	PN	**Pg**	**05 02 27.8**	**-0.7**
ENEZ	**Enez**	**1.21**	**357**	P	**Pg**	**05 02 28.7**	**+0.1**
ENEZ				S	**Sn**	**05 02 45.5**	**+0.9**
ENEZ	**Enez**	**1.21**	**357**	PN	**Pg**	**05 02 27.8**	**-0.8**
GONE	**Gonen-Balikesi**	**1.22**	**65**	PN	**Pg**	**05 02 28.9**	**0.0**
BALB	**Balikesir**	**1.27**	**85**	PN	**Pn**	**05 02 29.6**	**+0.5**
BLCB	**Balcova**	**1.30**	**151**	P	**Pn**	**05 02 29.3**	**-0.3**
BLCB				S	**Sb**	**05 02 47.7**	**+1.1**
ZEYE	**Izmir, Urla-Ze**	**1.31**	**171**	*i* P	**Pn**	**05 02 28.6**	**-1.0**
ZEYE				*i* S	**Sb**	**05 02 43.8**	**-3.0**
KESN	**Edirne-Kesan**	**1.33**	**14**	*i* P	**Pn**	**05 02 30.7**	**+0.3**
KESN				*i* S	**Sg**	**05 02 46.7**	**-1.7**
KESN				IAML		05 02 51.0	
	comp=N,231nm,0.2s						
KESN				IAML		05 02 52.0	
	comp=E,234nm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.36**	**31**	PN	**Pn**	**05 02 30.0**	**-0.4**
ALN	**Alexandroupoli**	**1.37**	**354**	P	**Pn**	**05 02 30.5**	**-0.1**
ALN				S	**Sn**	**05 02 50.0**	**+1.2**
ALN	**Alexandroupoli**	**1.37**	**354**	P	**Pn**	**05 02 30.7**	**+0.1**
ALN				AML	AML	05 02 50.7	
	comp=E,499μm,0.4s						
ALN				AML	AML	05 02 51.5	
	comp=N,385μm,0.4s						
ALN	**Alexandroupoli**	**1.37**	**354**	PN	**Pn**	**05 02 30.0**	**-0.6**
MAR6	**Marsite Statio**	**1.41**	**33**	PN	**Pn**	**05 02 31.7**	**+0.6**
MAR3	**Marsite Statio**	**1.45**	**33**	PN	**Pn**	**05 02 32.1**	**+0.4**
GZKV	**Gazikoy-Tekird**	**1.47**	**34**	PN	**Pn**	**05 02 32.6**	**+0.7**
EDC	**Edincik**	**1.49**	**56**	PN	**Pn**	**05 02 33.0**	**+0.9**
MRMT	**Marmara Adasi**	**1.49**	**44**	PN	**Pn**	**05 02 32.8**	**+0.5**
UKOP	**Uzunkopru-Edir**	**1.62**	**10**	PN	**Pn**	**05 02 34.6**	**+0.6**
RDO	**Rodhopi**	**1.70**	**342**	PN	**Pn**	**05 02 35.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.78**	**65**	PN	**Pn**	**05 02 36.5**	**+0.3**
SMG	**Samos**	**1.88**	**166**	P	**Pb**	**05 02 40.4**	**+0.7**
GCAM	**G?zelcaml?**	**1.98**	**157**	PN	**Pn**	**05 02 39.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**140**	PN	**Pn**	**05 02 41.1**	**+1.2**
KULA	**Kula-Manisa**	**2.14**	**118**	PN	**Pn**	**05 02 42.5**	**+1.3**
ARMT	**Armutlu**	**2.26**	**62**	PN	**Pn**	**05 02 44.4**	**+1.6**
CTKS	**Kestanelik-??a**	**2.42**	**45**	PN	**Pn**	**05 02 46.9**	**+1.9**

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*TIF **07** 05:03:00.2, 43°.44N×44°.88E, h16km±2km*
*NORS **07** 05:03:01.7±0.0, 43°.31N×44°.71E, h9km, MPVA3.6*
ISC 07 05:03:03.1±0.9, 43°.31N±0°.03×44°.71E±0°.02, h9km±7km, n25, σ1s17/46, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.14**	**299**	*i* Pg	**Pg**	**05 03 05.4**	**-0.9**
BTKR				*e*Sg	**Sg**	**05 03 09.1**	**+0.6**
VLKR	**Vladikavkaz**	**0.26**	**185**	*i* Pg	**Pg**	**05 03 08.3**	**-0.1**
VLKR				*e*Sg	**Sb**	**05 03 14.3**	**-0.2**
KMGR	**Komgaron**	**0.27**	**155**	*e*Pg	**Pg**	**05 03 08.6**	**-0.1**
KMGR				*e*Sg	**Sb**	**05 03 14.5**	**-0.5**
ARNR	**Ardon**	**0.33**	**248**	*e*Pg	**Pb**	**05 03 11.7**	**+0.5**
ARNR				*e*Sg	**Sb**	**05 03 17.4**	**+0.8**
TRKR	**Terskaya**	**0.42**	**3**	*e*Pg	**Pb**	**05 03 12.9**	**+0.2**
TRKR				*e*Sg	**Sb**	**05 03 19.6**	**+0.5**
KORR	**Kora**	**0.52**	**245**	*e*Pg	**Pg**	**05 03 13.1**	**0.0**
KORR				*e*Sg	**Sb**	**05 03 22.3**	**+0.4**
LACR	**Lac**	**0.56**	**212**	*e*Pg	**Pg**	**05 03 13.8**	**-0.3**
LACR				*e*Sg	**Sn**	**05 03 24.9**	**-1.9**
MTEO	**Meteo**	**0.64**	**192**	P	**Pg**	**05 03 15.6**	**+0.1**
LSNR	**Lesken**	**0.64**	**268**	*e*Pg	**Pb**	**05 03 16.4**	**-0.1**
LSNR				*e*Sg	**Sn**	**05 03 26.8**	**-1.9**
ZEI	**Tsey**	**0.78**	**229**	*e*Pg	**Pb**	**05 03 19.2**	**+0.2**
ZEI				*e*Sg	**Sn**	**05 03 32.5**	**0.0**
GROC	**Groznyy**	**0.80**	**97**	*e*Pg	**Pn**	**05 03 20.7**	**+0.2**
GROC				*e*Sg	**Sn**	**05 03 34.6**	**+2.0**
GUDG	**Gudauri**	**0.86**	**191**	P	**Pg**	**05 03 16.7**	**-2.9**
DIGR	**Digorskoe uzhe**	**0.92**	**244**	*e*Pg	**Pb**	**05 03 20.8**	**-0.5**
DIGR				*e*Sg	**Sn**	**05 03 35.9**	**+0.2**
DVE	**Vedeno**	**1.10**	**108**	*e*Pg	**Pb**	**05 03 23.2**	**-1.0**
DVE				*e*Sg	**Sn**	**05 03 39.9**	**0.0**
ONI	**Oni**	**1.17**	**233**	P	**Pg**	**05 03 26.0**	**+0.5**
ONI				S	**Sn**	**05 03 43.8**	**+2.1**
BTLR	**Botlikh**	**1.28**	**119**	*e*Pg	**Pb**	**05 03 27.1**	**-0.3**
BTLR				*e*Sg	**Sg**	**05 03 45.6**	**+1.2**
NEY	**Neytrino**	**1.45**	**268**	*e*Pg	**Pn**	**05 03 28.8**	**-0.8**
NEY				*e*Sg	**Sg**	**05 03 49.3**	**-0.5**
SHA1	**Shidzhatmaz**	**1.55**	**287**	*e*Pg	**Pn**	**05 03 30.6**	**-0.4**
SHA1				*e*Sg	**Sg**	**05 03 52.6**	**-0.4**
DBC	**Dubki**	**1.58**	**100**	*e*Pg	**Pb**	**05 03 31.9**	**-0.6**
DBC				*e*Sg	**Sg**	**05 03 55.1**	**+1.3**
BTNK	**Botanikuri**	**1.62**	**178**	P	**Pb**	**05 03 32.3**	**-0.9**
XNZR	**Khunzakh**	**1.66**	**117**	*e*Pg	**Pb**	**05 03 33.4**	**-0.5**
XNZR				*e*Sg	**Sg**	**05 03 56.8**	**+0.5**
BKRG	**Bakuriani**	**1.77**	**210**	P	**Pb**	**05 03 35.9**	**+0.1**
BKRG				S	**Sg**	**05 04 02.6**	**+2.5**
TRLG	**Trialeti**	**1.82**	**194**	P	**Pb**	**05 03 35.5**	**-1.1**
TRLG				S	**Sg**	**05 04 01.6**	**0.0**
LGD	**Lagodekhi**	**1.86**	**142**	P	**Pb**	**05 03 36.6**	**-0.5**
ABS	**Abastumani**	**2.09**	**223**	P	**Pb**	**05 03 40.4**	**-0.8**
ABS				S	**Sg**	**05 04 14.0**	**+3.9**

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*ISK **07** 05:06:54.6, 36°.79N×25°.58E, h22km, ML3.0/10*
*ATH **07** 05:06:56.0, 36°.78N×25°.59E, h15km±2km, ML3.2/5, Error ellipse: s-maj=2.3km s-min=0.8km az=227.0*
*THE **07** 05:06:56.0, 36°.79N×25°.59E, h3km±2km, ML3.0/9, Error ellipse: s-maj=2.3km s-min=0.8km az=214.0*
ISC 07 05:06:55.7±0.8, 36°.79N±0°.02×25°.59E±0°.02, h17km±7km, n58, σ0s62/75, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.29**	**351**	P	**Pg**	**05 07 02.1**	**+0.1**
APE				S	**Sg**	**05 07 06.5**	**+0.1**
	7μm,0.1s						
APE	**Apeiranthos**	**0.29**	**351**	P	**Pg**	**05 07 02.1**	**+0.1**
APE				S	**Sg**	**05 07 06.2**	**-0.2**
APE				AML	AML	05 07 06.7	
	comp=E,14206μm,0.2s						
APE				AML	AML	05 07 06.8	
	comp=N,14150μm,0.2s						
APE	**Apeiranthos**	**0.29**	**351**	PG	**Pg**	**05 07 01.8**	**-0.2**
APE				SG	**Sg**	**05 07 06.4**	**+0.1**
CMBO	**Columbo, Santo**	**0.35**	**205**	P	**Pg**	**05 07 02.6**	**-0.4**
CMBO				S	**Sg**	**05 07 08.5**	**+0.6**
	comp=N,3μm,0.3s						
CMBO	**Columbo, Santo**	**0.35**	**205**	P	**Pg**	**05 07 02.2**	**-0.8**
CMBO				S	**Sg**	**05 07 08.3**	**+0.4**
CMBO				AML	AML	05 07 10.9	
	comp=N,10390μm,0.2s						
CMBO				AML	AML	05 07 13.6	
	comp=E,6080μm,0.2s						
SAP4	**Santorini-Oia**	**0.36**	**209**	P	**Pg**	**05 07 03.1**	**0.0**
THT2	**Imerovigli**	**0.37**	**201**	P	**Pg**	**05 07 03.6**	**+0.1**
THT2	**Imerovigli**	**0.37**	**201**	PG	**Pg**	**05 07 03.2**	**-0.3**
THR7	**Fira-Santorini**	**0.38**	**200**	P	**Pg**	**05 07 02.9**	**-0.7**
THR8	**Santorini-Mono**	**0.39**	**193**	P	**Pg**	**05 07 03.5**	**-0.2**
THR8	**Santorini-Mono**	**0.39**	**193**	P	**Pg**	**05 07 03.5**	**-0.2**
THR3	**Thira Island,**	**0.40**	**202**	P	**Pg**	**05 07 03.9**	**-0.1**
THR3	**Thira Island,**	**0.40**	**202**	P	**Pg**	**05 07 04.1**	**+0.1**
SNT5	**Nea Kammeni, S**	**0.41**	**202**	P	**Pg**	**05 07 04.0**	**-0.1**
SNT5				S	**Sb**	**05 07 11.3**	**+0.8**
	comp=E,3μm,0.2s						
SNT5	**Nea Kammeni, S**	**0.41**	**202**	P	**Pg**	**05 07 04.0**	**-0.1**
THR5	**Thira Island,**	**0.41**	**208**	P	**Pg**	**05 07 04.3**	**+0.1**
THR5	**Thira Island,**	**0.41**	**208**	P	**Pg**	**05 07 04.0**	**-0.2**
SANT	**Santorini**	**0.43**	**194**	P	**Pg**	**05 07 04.3**	**-0.1**
SANT				S	**Sg**	**05 07 10.6**	**+0.3**
	comp=E,1μm,0.1s						
SANT	**Santorini**	**0.43**	**194**	P	**Pg**	**05 07 04.3**	**-0.1**
SANT				S	**Sg**	**05 07 10.4**	**+0.1**
SANT				AML	AML	05 07 12.2	
	comp=N,1256μm,0.1s						
SANT				AML	AML	05 07 12.3	
	comp=E,4504μm,0.2s						
SANT	**Santorini**	**0.43**	**194**	PG	**Pg**	**05 07 04.3**	**-0.1**
SANT				SG	**Sg**	**05 07 10.7**	**+0.4**
THR6	**Thira Island,**	**0.45**	**200**	P	**Pg**	**05 07 05.1**	**+0.2**
THR6	**Thira Island,**	**0.45**	**200**	P	**Pg**	**05 07 04.8**	**-0.1**
THR9	**Santorini-Faro**	**0.47**	**204**	P	**Pb**	**05 07 05.6**	**+0.2**
THR9	**Santorini-Faro**	**0.47**	**204**	P	**Pg**	**05 07 05.2**	**+0.2**
TNSA	**Tinos**	**0.83**	**336**	P	**Pg**	**05 07 12.2**	**+0.3**
TNSA				S	**Sb**	**05 07 23.5**	**+1.0**
TNSA				AML	AML	05 07 24.9	
	comp=N,10299μm,0.3s						
TNSA				AML	AML	05 07 25.0	
	comp=E,4988μm,0.2s						
MHLO	**Agia Marina, M**	**0.96**	**265**	P	**Pg**	**05 07 14.5**	**+0.2**
MHLO				S	**Sg**	**05 07 27.4**	**+0.5**
	comp=E,2μm,0.3s						
MHLO	**Agia Marina, M**	**0.96**	**265**	P	**Pb**	**05 07 13.0**	**-0.8**
MHLO				S	**Sb**	**05 07 26.1**	**-0.2**
MHLO				AML	AML	05 07 29.2	
	comp=E,3921μm,0.3s						
MHLO				AML	AML	05 07 30.7	
	comp=N,4008μm,0.3s						
KOSK	**Kos Island**	**1.12**	**91**	P	**Pb**	**05 07 16.4**	**-0.2**
KOSK				S	**Sg**	**05 07 31.8**	**-0.2**
	comp=N,402nm,0.3s						
KOSK	**Kos Island**	**1.12**	**91**	PN	**Pb**	**05 07 15.6**	**-1.0**
NISR	**Nisiros**	**1.25**	**97**	P	**Pg**	**05 07 20.1**	**+0.2**
NISR	**Nisiros**	**1.25**	**97**	P	**Pn**	**05 07 18.6**	**+0.3**
NIS1	**Nisyros Isl.**	**1.29**	**98**	P	**Pb**	**05 07 20.2**	**+0.6**
NIS1	**Nisyros Isl.**	**1.29**	**98**	P	**Pn**	**05 07 19.5**	**+0.5**
NIS1	**Nisyros Isl.**	**1.29**	**98**	PN	**Pn**	**05 07 18.1**	**-0.9**
SMG	**Samos**	**1.36**	**47**	P	**Pn**	**05 07 20.2**	**+0.3**
SMG				S	**Sg**	**05 07 40.0**	**+0.4**
	comp=N,620nm,0.4s						
SMG	**Samos**	**1.36**	**47**	P	**Pn**	**05 07 20.2**	**+0.3**
BODT	**Bodrum**	**1.41**	**78**	PN	**Pn**	**05 07 19.3**	**-1.3**
NPS	**Neapolis**	**1.52**	**179**	P	**Pn**	**05 07 21.9**	**-0.3**
NPS				S	**Sg**	**05 07 44.7**	**0.0**
	comp=N,315nm,0.5s						
NPS	**Neapolis**	**1.52**	**179**	P	**Pn**	**05 07 21.8**	**-0.3**
KARY	**Karystos**	**1.55**	**324**	P	**Pb**	**05 07 24.2**	**+0.3**
KARY				S	**Sb**	**05 07 44.4**	**+1.2**
KARY	**Karystos**	**1.55**	**324**	P	**Pb**	**05 07 24.2**	**+0.3**
IDI	**Anoyia**	**1.60**	**201**	P	**Pn**	**05 07 22.1**	**-1.2**
IDI	**Anoyia**	**1.60**	**201**	PN	**Pn**	**05 07 22.2**	**-1.0**
DAT	**Datca**	**1.60**	**91**	PN	**Pn**	**05 07 22.1**	**-1.2**
GCAM	**G?zelcaml?**	**1.60**	**55**	PN	**Pn**	**05 07 22.7**	**-0.5**
LAST	**Lasithi**	**1.62**	**183**	P	**Pn**	**05 07 22.9**	**-0.7**
LAST	**Lasithi**	**1.62**	**183**	P	**Pn**	**05 07 22.9**	**-0.7**
CHOS	**Chios island**	**1.64**	**13**	P	**Pn**	**05 07 22.7**	**-1.2**
CHOS				S	**Sb**	**05 07 47.1**	**+1.1**
	comp=N,325nm,0.6s						
CHOS	**Chios island**	**1.64**	**13**	PN	**Pn**	**05 07 22.6**	**-1.3**
ZKR	**Zakros**	**1.74**	**163**	PN	**Pn**	**05 07 24.5**	**-0.7**
URLA	**Izmir**	**1.77**	**27**	PN	**Pn**	**05 07 23.8**	**-1.7**
KARP	**Karpathos**	**1.77**	**134**	P	**Pn**	**05 07 24.9**	**-0.8**
VLY	**Voula,Athens**	**1.78**	**307**	P	**Pg**	**05 07 29.3**	**-0.7**
IMMV	**Iera Moni Meta**	**1.85**	**225**	P	**Pn**	**05 07 27.5**	**+0.8**
ARG	**Arkhangelos**	**2.12**	**105**	PN	**Pn**	**05 07 30.1**	**-0.3**
TURN	**Turunc**	**2.13**	**89**	PN	**Pn**	**05 07 29.9**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**57**	PN	**Pn**	**05 07 30.6**	**-0.6**
YER	**Yerkesik**	**2.19**	**80**	PN	**Pn**	**05 07 30.8**	**-0.6**

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*IDC **07** 05:07:50.8±1.5, 5°.42S×129°.00E, h305km±17km, mb3.7/1, mb1 3.5/6, mb1mx3.2/48, mbtmp4.2/6, Error ellipse: s-maj=25.7km s-min=12.0km az=75.0*
*DJA **07** 05:07:50.5±0.7, 5°.5S±5°.×12°.9E±°., h329km±13km, M4.2/10, mB4.8/3, mb4.4/4, MLv4.2/10, Mw(mB)4.1/3*
ISC 07 05:07:50.5±0.9, 5°.39S±0°.07×129°.0E±0°.1, h300km, n15, σ1s75/19, Banda Sea

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

KAYN *i* S **Sg** **05 08 51.3 -3.0**
KAYN IAML 05 08 58.0
comp=N,846nm,0.4s
KAYN IAML 05 08 59.0
comp=E,590nm,0.6s
SAUV Serdivan-Sakar 0.75 262 PG **Pg** **05 08 44.4 -0.3**
SAUV SG **Sb** **05 08 55.1 +0.2**
GEYV SAKARYA_Geyve 0.85 245 *i* P **Pg** **05 08 46.4 -0.2**
GEYV *i* S **Sg** **05 08 56.4 -1.4**
GEYV IAML 05 09 01.0
comp=N,3μm,0.5s
GEYV IAML 05 09 05.0
comp=E,1μm,0.3s
KAND Kocaeli-Kandir 0.88 286 *i* P **Pn** **05 08 48.8 +0.9**
KAND *i* S **Sg** **05 08 56.0 -2.6**
KAND IAML 05 09 03.0
comp=N,1μm,0.6s
KAND IAML 05 09 06.0
comp=E,665nm,0.6s
GPA Golpazari 0.94 234 PG **Pg** **05 08 47.9 -0.5**
GPA SG **Sb** **05 09 00.6 +0.1**
CMDR Camlidere-ANKA 0.96 112 *i* P **Pb** **05 08 48.7 +0.2**
CMDR *i* S **Sg** **05 08 58.2 -3.0**
CMDR IAML 05 09 07.0
comp=N,1μm,0.8s
CMDR IAML 05 09 09.0
comp=E,881nm,0.7s
SRCK Saricakaya, Es 0.96 213 PG **Pg** **05 08 48.2 -0.5**
SRCK SG **Sn** **05 09 01.8 -0.7**
BTIN Bartın 1.06 42 *i* P **Pb** **05 08 50.1 0.0**
BTIN *i* S **Sb** **05 09 02.7 -1.1**
KBUK KARABUK-Merkez 1.07 69 *i* P **Pb** **05 08 50.0 -0.4**
KBUK *i* S **Sb** **05 09 03.3 -0.8**
KBUK IAML 05 09 10.0
comp=N,694nm,0.6s
KBUK IAML 05 09 11.0
comp=E,763nm,0.5s
SAFT Safranbolu 1.11 69 PN **Pb** **05 08 50.9 -0.2**
BORA Eskisehir 1.17 214 *i* P **Pb** **05 08 51.9 -0.1**
BORA *i* S **Sb** **05 09 06.4 -0.6**
BORA IAML 05 09 11.0
comp=N,851nm,0.3s
BORA IAML 05 09 11.0
comp=E,920nm,0.4s
BORA Eskisehir 1.17 214 PN **Pn** **05 08 52.1 +0.1**
BORA SN **Sn** **05 09 08.4 +0.7**
HRT Hereke 1.24 269 PN **Pb** **05 08 53.5 +0.2**
MASR Amasra-Bartin 1.26 44 PN **Pg** **05 08 55.3 +0.9**
ADVT Abdulvahap 1.26 251 PN **Pb** **05 08 53.5 -0.1**
CAVI Cavuskoy 1.29 240 PN **Pb** **05 08 54.3 +0.2**
CAVI SN **Sg** **05 09 13.1 +1.4**
BILE Bilecik/Merkez 1.29 238 *i* P **Pb** **05 08 54.0 -0.1**
BILE *i* S **Sb** **05 09 09.6 -0.9**
BILE IAML 05 09 16.0
comp=E,1μm,0.5s
BILE IAML 05 09 18.0
comp=N,2μm,0.4s
SILT Sile 1.29 284 PN **Pg** **05 08 55.1 +0.1**
AUBOZ BOZOYUK 1.35 226 *i* P **Pb** **05 08 55.0 -0.2**
AUBOZ *i* S **Sb** **05 09 10.8 -1.5**
AUBOZ IAML 05 09 16.0
comp=N,2μm,0.5s
AUBOZ IAML 05 09 18.0
comp=E,1μm,0.5s
AUBOZ BOZOYUK 1.35 226 PN **Pb** **05 08 55.1 -0.1**
AUBOZ SN **Sg** **05 09 14.6 +0.9**
SGAZ Eskisehir, Sey 1.37 195 *i* P **Pb** **05 08 55.5 +0.1**
SGAZ *i* S **Sb** **05 09 11.8 -1.0**
SGAZ IAML 05 09 16.0
comp=E,828nm,0.4s
SGAZ IAML 05 09 18.0
comp=N,522nm,0.4s
ESKT Eskisehir 1.38 195 PN **Pb** **05 08 55.6 0.0**
SVRH Sivrihisar-ESK 1.41 173 PN **Pb** **05 08 56.0 -0.2**
KURC Kurucasile-Bar 1.47 47 PN **Pn** **05 08 55.8 -0.2**
LOD Lodumlu 1.47 130 PN **Pb** **05 08 57.8 +0.6**
YLV Yalova 1.50 260 PN **Pb** **05 08 58.1 +0.5**
YLV SN **Sg** **05 09 18.6 +0.3**
CIFT Cifteler, Eski 1.50 187 PN **Pb** **05 08 57.5 -0.2**
ANTO Ankara 1.50 130 PN **Pb** **05 08 58.0 +0.3**
CFTB Yalova 1.54 264 PN **Pb** **05 08 58.7 +0.5**
CIDE Kastamonu/Cide 1.61 50 *i* P **Pb** **05 08 59.5 +0.1**
CIDE *i* S **Sn** **05 09 19.4 +1.0**
CIDE IAML 05 09 25.0
comp=E,573nm,0.9s
CIDE IAML 05 09 26.0
comp=N,767nm,0.6s
TRML Termal-Yalova 1.64 262 PN **Pb** **05 08 59.9 -0.1**
BUY Buyukada 1.66 271 *i* P **Pb** **05 09 00.6 +0.2**
BUY *i* S **Sn** **05 09 18.3 -1.4**
BUY IAML 05 09 26.0
comp=N,1μm,0.4s
BUY IAML 05 09 26.0
comp=E,2μm,0.4s
GEMT Gemlik 1.66 256 PN **Pb** **05 09 00.1 -0.3**
AUKIR Kırka- Seyitga 1.68 201 *i* P **Pb** **05 09 00.6 -0.2**
AUKIR *i* S **Sn** **05 09 20.3 -0.1**
AUKIR IAML 05 09 26.0
comp=E,2μm,0.7s
AUKIR IAML 05 09 28.0
comp=N,959nm,0.5s
IGD Bursa 1.71 251 *i* P **Pb** **05 09 01.0 -0.1**
IGD *i* S **Sn** **05 09 20.0 -0.9**
IGD IAML 05 09 27.0
comp=E,424nm,0.5s
IGD IAML 05 09 29.0
comp=N,315nm,0.3s
KAVV Kandilli-Istan 1.71 278 PN **Pb** **05 09 01.2 -0.1**
ANDZ Kutahya, Merke 1.72 219 *i* P **Pn** **05 09 00.4 +0.8**
ANDZ *i* S **Sn** **05 09 19.2 -2.1**
ANDZ IAML 05 09 26.0
comp=E,405nm,0.3s
ANDZ IAML 05 09 28.0
comp=N,503nm,0.4s
KLYT Kilyos 1.76 284 PN **Pb** **05 09 01.6 -0.4**
CANT Cankiri 1.78 97 PN **Pb** **05 09 02.2 -0.2**
ULDT Uludag 1.80 248 *i* P **Pn** **05 09 01.8 +1.0**
ULDT *i* S **Sn** **05 09 21.8 -1.6**
ULDT IAML 05 09 30.0
comp=N,450nm,0.5s
ULDT IAML 05 09 33.0
comp=E,432nm,0.4s
ILGA Ilgaz 1.84 83 *i* P **Pb** **05 09 03.5 -0.1**
ILGA *i* S **Sb** **05 09 26.5 +0.1**
ILGA IAML 05 09 36.0
comp=N,171nm,1.2s
ILGA IAML 05 09 36.0
comp=E,238nm,0.7s
ARMT Armutlu 1.88 262 PN **Pb** **05 09 03.5 -0.6**
MDNY Mudanya-Bursa 1.91 256 PN **Pb** **05 09 03.4 -1.1**
BBAL Bala 1.91 133 *i* P **Pg** **05 09 06.2 -0.6**
BBAL *i* S **Sn** **05 09 24.9 -1.2**
BGKT Bogazkoy 1.94 281 PN **Pb** **05 09 04.7 -0.5**
AVCI Avcilar-stanb 1.96 275 PN **Pb** **05 09 04.8 -0.7**
TVSB Tavsanli 1.99 226 PN **Pb** **05 09 04.8 -1.2**
KIZT Kizilcal 2.02 167 PN **Pn** **05 09 04.4 +0.7**
KAST KASTAMONU 2.08 71 *i* P **Pb** **05 09 06.7 -0.9**
KAST *i* S **Sn** **05 09 28.4 -1.8**
KKUL Konya-Kulu 2.09 143 *i* P **Pg** **05 09 10.1 0.0**
KKUL *i* S **Sb** **05 09 32.9 -0.6**
BRTR Keskin Array B 2.11 121 Pn **Pb** **05 09 06.9 -1.2**
comp=E,7.1nm,0.3s,baz=306,slow=14,SNR=53
BRTR Sn **Sn** **05 09 32.2 +1.2**
comp=E,5.2nm,0.3s,baz=43,slow=13,SNR=8.4
BRTR Keskin Array B 2.11 121 PN **Pn** **05 09 06.5 +1.5**
CTKS Kestanelik-??a 2.15 281 PN **Pb** **05 09 07.5 -1.2**
DELI KIRIKKALE 2.17 112 *i* P **Pn** **05 09 06.4 +0.6**
DELI *i* S **Sn** **05 09 29.2 -3.2**
ELBA Catalca 2.20 279 *i* P **Pn** **05 09 08.0 +1.9**
ELBA *i* S **Sn** **05 09 32.1 -0.8**
AFYO Afyonkarahisar 2.20 201 *i* P **Pg** **05 09 11.5 -0.8**
AFYO *i* S **Sb** **05 09 35.8 -1.0**
KULU Kulu 2.23 144 PN **Pn** **05 09 08.4 +1.8**
GDZ Gediz 2.25 219 *i* P **Pn** **05 09 07.9 +0.9**
GDZ *i* S **Sn** **05 09 35.0 +0.5**
BZK Bozkurt 2.31 61 PN **Pb** **05 09 10.2 -1.3**
GEDZ Gediz 2.32 220 PN **Pb** **05 09 09.6 +1.8**
KCTX Karacabey (Bur 2.32 256 PN **Pb** **05 09 10.0 -1.7**
CTYL Yalikoy Yolu 2.36 286 PN **Pn** **05 09 10.4 +2.1**
SHUT Suhut-Afyon 2.37 194 PN **Pn** **05 09 10.1 +1.6**
SLVT Silivri 2.37 280 PN **Pb** **05 09 10.8 -1.7**
DST Dursunbey 2.41 240 PN **Pn** **05 09 10.6 +1.6**
KAGI orum-Kargı 2.42 82 *i* P **Pg** **05 09 15.2 -1.3**
KAGI *i* S **Sg** **05 09 46.2 -1.6**
SHAP Saphane-Kutahy 2.43 222 PN **Pn** **05 09 10.9 +1.6**
DURS Dursunbey 2.50 241 *i* P **Pn** **05 09 10.9 +0.6**
DURS *i* S **Sn** **05 09 40.6 0.0**
YVAC Isparta, Yalva 2.58 181 *i* P **Pn** **05 09 13.1 +1.7**
YVAC *i* S **Sg** **05 09 50.1 -2.8**
CORM Corum 2.62 104 PN **Pn** **05 09 14.0 +2.0**
BOYA Sinop/Boyabat- 2.64 74 *i* P **Pb** **05 09 18.5 +1.5**
BOYA *i* S **Sb** **05 09 49.0 -0.2**
KIRS Kırehir-Merke 2.64 130 *i* P **Pn** **05 09 14.4 +2.2**
KIRS *i* S **Sn** **05 09 43.5 -0.5**
CDAG Cicekdag 2.65 117 *i* P **Pb** **05 09 18.8 +1.5**
CDAG *i* S **Sn** **05 09 45.7 +1.4**
CTAK Corum_Osmancik 2.66 93 *i* P **Pn** **05 09 14.9 +2.3**
CTAK *i* S **Sg** **05 09 54.2 -1.2**
YAYX Yaylak 2.71 134 PN **Pn** **05 09 15.4 +2.1**
LADK Ladik-KONYA 2.77 162 PN **Pn** **05 09 15.9 +1.8**
BALB Balikesir 2.89 246 PN **Pn** **05 09 18.0 +2.5**
TIRR Tirgusor 4.19 330 ⇑P **Pn** **05 09 35.2 +1.8**
TIRR Tirgusor 4.19 330 ⇑S **Sn** **05 10 16.3 -5.7**
TPGR Topolog 4.53 333 ⇑P **Pn** **05 09 40.2 +2.0**
TPGR Topolog 4.53 333 ⇓S **Sn** **05 10 25.2 -5.3**
HARR Harsova 4.57 328 ⇑P **Pn** **05 09 41.0 +2.4**
CFR Carcaliu 4.91 333 ⇓P **Pn** **05 09 46.3 +3.0**
ISR Istrita 5.51 322 ⇑P **Pn** **05 09 54.5 +2.9**
VRI Vrincioaia 6.02 328 ⇑P **Pn** **05 10 01.2 +2.6**
PLOR Plostina 6.04 327 ⇑P **Pn** **05 10 01.2 +2.3**
MLR Muntele Rosu 6.07 322 Pn **Pn** **05 10 02.4 +3.0**
comp=E,0.8nm,0.3s,baz=168,slow=14,SNR=9.0
MLR Sn **Sn** **05 11 10.9 +2.2**
comp=E,0.8nm,0.3s,baz=66,slow=23,SNR=1.8
MLR Muntele Rosu 6.07 322 ⇓P **Pn** **05 10 01.2 +1.8**
VTS Vitosha 6.29 289 ⇑P **Pn** **05 10 05.5 +3.0**
VOIR 6.47 317 ⇑P **Pn** **05 10 06.5 +1.7**
DOPR Dopca 6.69 322 ⇓P **Pn** **05 10 09.6 +1.9**
LOT Lotru 7.17 312 ⇑P **Pn** **05 10 16.1 +1.6**
SORM Soroca 7.58 345 ⇑P **Pn** **05 10 21.1 +1.1**
GZR Gura Zlata 7.71 309 ⇓P **Pn** **05 10 23.3 +1.5**
AKASG Malin Array Be 9.96 352 Pn **Pn** **05 10 52.3 -0.2**
comp=E,1.5nm,0.3s,baz=171,slow=12,SNR=7.5
AKASG Sn **Sn** **05 12 38.0 -5.9**
comp=E,1.1nm,0.3s,baz=174,slow=22,SNR=4.3
FINES FINESS Array B 20.86 353 P Pn 05 13 15.1 +1.4
comp=E,2.0nm,0.8s,baz=167,slow=13,SNR=1.6
AKTO Aktyubinsk 20.89 54 P Pn 05 13 14.6 +0.5
comp=E,0.7nm,0.5s,baz=234,slow=14,SNR=2.5
MKAR Makanchi Array 36.72 63 P **P** **05 15 39.1 +2.5**
comp=E,0.6nm,0.6s,baz=282,slow=6.7,SNR=4.8
TORD Torodi Ar. Bea 37.84 232 P **P** **05 15 47.4 +1.2**
comp=E,0.5nm,0.9s,baz=38,slow=9.3,SNR=3.3

BJI ***07*** *05:10:23.8±0.0, 43°.98N×148°.06E, h20km, mB6.3/68, mb6.3/80, Ms6.2/98, Ms7 6.0/90*

MOS ***07*** *05:10:25.6±1.2, 44°.06N×148°.07E, h43km, mb6.7/90, MS6.1/66, Error ellipse: s-maj=4.4km s-min=2.8km az=77.9 Broadband fault plane solution: P waves. $M_0$4.50000×10^{18} NP1:ϕ_s230.00000°, δ20.00000°, λ76.00000°. NP2:ϕ_s65.00000°, δ71.00000°, λ95.00000°. Principal axes: T Plg64.0000°, Azm343.0000°; N Plg5.0000°, Azm243.0000°; P Plg26.0000°, Azm151.0000°;*

MOS Fault plane solution: P-wave C114, D25 . Felt (V-VI) at Gornyy, Goryachiye Klyuchi, (V) at Kuril'sk, Kitovyy, Reydovo, (IV) at Malokuril'skoye, Yuzhno-Kuril'sk, Golovnino, Lagunnoye, Mendeleevo, Goryachiy Plyazh.

JMA ***07*** *05:10:26.7±0.2, 43°.68N×147°.84E, h1km, M6.3*

JMA Felt III J1.

NIED ***07*** *05:10:26.8, 43°.68N×147°.84E, h1km, MW6.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.88; $M_{\theta\theta}$0.53; $M_{\phi\phi}$-1.41; $M_{r\theta}$3.04; $M_{\theta\phi}$-0.22; $M_{\phi r}$1.48; Fault plane solution: $M_0$3.55000×10^{18} NP1:ϕ_s57.00000°, δ85.00000°, λ106.00000°. NP2:ϕ_s164.00000°, δ17.00000°, λ17.00000°.*

SKHL ***07*** *05:10:27.1±0.4, 43°.80N×148°.30E, h66km±4km, mb6.4/21, mbv6.8/7, ms6.0/9, msh6.5/7*

NEIC ***07*** *05:10:27.3, 43°.97N×147°.92E, h48km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.36; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-2.22; $M_{r\theta}$2.26; $M_{\theta\phi}$-0.81; $M_{\phi r}$1.07; Fault plane solution: $M_0$3.49000×10^{18} NP1:ϕ_s179.10000°, δ30.41000°, λ46.18000°. NP2:ϕ_s47.15000°, δ68.58000°, λ112.11000°. Principal axes: T 3.7409, Plg60.0000°, Azm350.0000°; N -0.5730, Plg21.0000°, Azm219.0000°; P -3.1679, Plg21.0000°, Azm121.0000°;*

IDC ***07*** *05:10:27.4±1.6, 43°.96N×148°.03E, h43km±14km, mb5.8/40, mb1 5.9/49, mb1mx5.9/51, mbtmp6.0/49, ML4.7/7, MS5.9/62, Ms1 5.9/62, ms1mx5.9/66 Error ellipse: s-maj=9.7km s-min=7.9km az=97.0*

NEIC ***07*** *05:10:28.1±2.5, 43°.91N±0°.06×147°.98E±0°.09, h49km±1km, mb6.4/862, Ms_20 5.9/738, Mwb6.3/116, Mwc6.3/111, Mww6.3, Mwc6.3(GCMT), Error ellipse: s-maj=11.9km s-min=10.3km az=299.0*

BGR ***07*** *05:10:31.1±0.0, 44°.45N×147°.71E, h33km, mb7.3, mB_BB7.2, Ms6.3*

NEIC ***07*** *05:10:31, 43°.94N×148°.21E, h58km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.20; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-2.32; $M_{r\theta}$2.49; $M_{\theta\phi}$-0.65; $M_{\phi r}$1.28; Fault plane solution: $M_0$3.66000×10^{18} NP1:ϕ_s173.00000°, δ30.00000°, λ40.00000°. NP2:ϕ_s46.00000°, δ71.00000°, λ113.00000°. Principal axes: T 3.9416, Plg57.0000°, Azm347.0000°; N -0.6573, Plg22.0000°, Azm218.0000°; P -3.2843, Plg23.0000°, Azm118.0000°;*

GCMT ***07*** *05:10:31.1±0.0, 43°.93N×148°.12E, h54km, MW6.3/166, Moment Tensor Solution. s164,c412; s166,c666; Duration: 3≥5 Moment tensor: Scale 10^{18}Nm; M_{rr}2.18±.02; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$-2.25±.01; $M_{r\theta}$2.58±.02; $M_{\theta\phi}$-0.73±.01; $M_{\phi r}$1.30±.01; Best double couple: $M_0$3.67200×10^{18} NP1:ϕ_s175.00000°, δ28.00000°, λ40.00000°. NP2:ϕ_s48.00000°, δ72.00000°, λ112.00000°. Principal axes: T 3.9880, Plg57.0000°, Azm348.0000°; N -0.6360, Plg21.0000°, Azm221.0000°; P -3.3560, Plg24.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *05:10:33, 43°.88N×147°.94E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.81; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-1.97; $M_{r\theta}$2.36; $M_{\theta\phi}$-0.46; $M_{\phi r}$1.79; Fault plane solution: $M_0$3.55000×10^{18} NP1:ϕ_s171.00000°, δ24.00000°, λ40.00000°. NP2:ϕ_s43.00000°, δ75.00000°, λ109.00000°. Principal axes: T 3.7522, Plg56.0000°, Azm337.0000°; N -0.4544, Plg18.0000°, Azm218.0000°; P -3.2978, Plg28.0000°, Azm119.0000°;*

NEIC ***07*** *05:10:42.1, 43°.77N×147°.97E, h55km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.85; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-2.16; $M_{r\theta}$2.07; $M_{\theta\phi}$-0.42; $M_{\phi r}$1.41; Fault plane solution: $M_0$3.22000×10^{18} NP1:ϕ_s166.02000°, δ29.44000°, λ38.77000°. NP2:ϕ_s41.04000°, δ72.07000°, λ113.75000°. Principal axes: T 3.4502, Plg56.0000°, Azm342.0000°; N -0.4522, Plg23.0000°, Azm213.0000°; P -2.9980, Plg23.0000°, Azm113.0000°;*

ISC 07 05:10:27.9±0.2,**43.97N**±0.02×**148.00E**±0.02,**h51**km±1km, **h51**km:**pP-P,n2782,σ1971**/2827,**mb6.4**/747,**MS6.0**/544, **1050C-154D,Fault plane solution: NP1:**ϕ_s200.36983°, δ37.23844°,λ80.26816°. **NP2:**ϕ_s32.52699°,δ53.38570°, λ97.32153°. **Principal axes:** T Plg79.9583°, Azm333.6449°; N Plg5.8711°, Azm208.1449°; P Plg8.1178°, Azm117.3045°; **Fault plane solution: NP1:**ϕ_s91.66048°,δ71.97046°,λ103.40250°. **NP2:** ϕ_s234.06895°,δ22.33163°,λ54.54426°. **Principal axes:** T Plg60.8008°, Azm21.2918°; N Plg12.7330°, Azm267.4426°; P Plg25.7992°, Azm171.1715°; **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.27**	**356**	*d* iPN		**Pn**	**05 10 51.0**	**+1.8**
KUR					pmax	pmax		
comp=Z,245μm,4.6s								
KUR					pmax	pmax		
comp=N,170μm,4.1s								
KUR					pmax	pmax		
comp=E,61μm,3.2s								
KUR					pmax	pmax		
comp=Z,89μm,0.4s								
KUR					pmax	pmax		
comp=N,35μm,0.3s								
KUR					pmax	pmax		
comp=E,14μm,0.4s								
KUR	**Kuril'sk**	**1.27**	**356**	*i* P		**Pn**	**05 10 51.0**	**+1.8**
KUR					AMB	AMB	05 10 53.8	
comp=E,170μm,4.0s								
KUR					AMB	AMB	05 10 53.8	
comp=E,61μm,4.0s								
KUR					AMB	AMB	05 10 53.8	
comp=E,245μm,4.0s								
KUR					AMB	AMB	05 11 02.1	
comp=E,89μm,0.5s								
KUR					*i* S	**Sn**	**05 11 08.8**	**+3.7**
KUR					A	A	05 11 14.7	
comp=E,69μm,0.5s								
KUR					A	A	05 11 14.7	
comp=E,290μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.55**	**273**	*d* iPN		**Pn**	**05 10 54.1**	**+1.1**
YUK					*i* S	**Sn**	**05 11 14.9**	**+3.0**
YUK					pmax	pmax		
comp=E,57μm,0.4s								
YUK					pmax	pmax		
comp=Z,93μm,0.4s								
YUK					pmax	pmax		
comp=N,15μm,0.1s								
YUK					pmax	pmax		
comp=Z,103μm,0.5s								
YUK					smax	smax		
comp=E,536μm,0.8s								
YUK					smax	smax		
comp=N,482μm,0.7s								
YUK					smax	smax		
comp=N,405μm,0.6s								
YUK					smax	smax		
comp=E,280μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.55**	**273**	*i* P		**Pn**	**05 10 54.2**	**+1.2**
YUK					AMB	AMB	05 10 56.0	
comp=E,15μm,0.5s								
YUK					AMB	AMB	05 10 56.0	
comp=E,57μm,0.5s								
YUK					AMB	AMB	05 10 56.0	
comp=E,93μm,0.5s								
YUK					*i* S	**Sn**	**05 11 14.9**	**+3.0**
YUK					*i* S	**Sn**	**05 11 14.9**	**+3.0**
YUK					A	A	05 11 18.0	
comp=E,482μm,1.0s								
YUK					A	A	05 11 18.0	
comp=E,536μm,1.0s								
YUK					A	A	05 11 20.5	
comp=E,405μm,0.5s								
YUK					A	A	05 11 20.5	
comp=E,580μm,0.5s								
GRPR	**Tuman**	**1.61**	**272**	⇑*i* PN		**Pn**	**05 10 55.1**	**+1.2**
GRPR					*e*S	**Sn**	**05 11 15.6**	**+2.1**
GRPR					pmax	pmax		
comp=Z,62μm,0.3s								
GRPR					pmax	pmax		
comp=N,18μm,0.2s								
GRPR					pmax	pmax		
comp=E,41μm,0.5s								
GRPR					smax	smax		
comp=N,210μm,0.4s								
GRPR					smax	smax		
comp=E,190μm,0.4s								
GRPR	**Tuman**	**1.61**	**272**	*i* P		**Pn**	**05 10 55.1**	**+1.2**
GRPR					AMB	AMB	05 10 56.0	
comp=E,18μm,0.5s								
GRPR					AMB	AMB	05 10 56.0	
comp=E,41μm,0.5s								
GRPR					AMB	AMB	05 10 56.0	
comp=E,62μm,0.5s								
GRPR					*e*S	**Sn**	**05 11 15.6**	**+2.1**
GRPR					A	A	05 11 17.0	
comp=E,210μm,0.4s								
GRPR					A	A	05 11 17.0	
comp=E,190μm,0.4s								
NEM2	**Nemuro 2**	**1.75**	**251**	⇓P		**Pn**	**05 10 55.8**	**+0.1**
NEM2					*e*S	**Sn**	**05 11 16.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.76**	**251**	⇑*i* PN		**Pn**	**05 10 56.0**	**+0.2**
NMR					*e*S	**Sn**	**05 11 18.3**	**+1.3**
NMR	**Nemuro--Hokkai**	**1.76**	**251**	*i* P		**Pn**	**05 10 56.2**	**+0.4**
NMR					*e*S	**Sn**	**05 11 18.3**	**+1.3**
GLVR	**Golovnino**	**1.81**	**264**	*e*PN		**Pn**	**05 10 58.3**	**+1.7**
GLVR					*i* S	**Sn**	**05 11 21.7**	**+3.3**
GLVR					pmax	pmax		
comp=Z,146μm,0.5s								
GLVR					pmax	pmax		
comp=E,21μm,0.4s								
GLVR					pmax	pmax		
comp=N,18μm,0.3s								
GLVR					smax	smax		
comp=E,112μm,0.2s								
GLVR					smax	smax		
comp=N,415μm,0.4s								
GLVR					smax	smax		
comp=N,525μm,0.8s								
GLVR					smax	smax		
comp=E,523μm,0.6s								
GLVR	**Golovnino**	**1.81**	**264**	*e*P		**Pn**	**05 10 58.3**	**+1.7**
GLVR					AMB	AMB	05 11 00.0	
comp=E,18μm,0.5s								
GLVR					AMB	AMB	05 11 00.0	
comp=E,21μm,0.5s								
GLVR					AMB	AMB	05 11 00.0	
comp=E,73μm,0.5s								
GLVR					*i* S	**Sn**	**05 11 21.7**	**+3.3**
GLVR					A	A	05 11 24.0	
comp=E,415μm,0.5s								
GLVR					A	A	05 11 24.0	
comp=E,112μm,0.5s								
GLVR					A	A	05 11 27.1	
comp=E,525μm,1.0s								
GLVR					A	A	05 11 27.1	
comp=E,523μm,1.0s								
RUSJ	**Misakicho**	**1.99**	**275**	⇑*i* PN		**Pn**	**05 11 01.4**	**+2.3**
RUSJ					*e*S	**Sn**	**05 11 27.6**	**+4.8**
JRA	**Rausu**	**2.08**	**270**	⇓P		**Pn**	**05 11 01.9**	**+1.6**
JRA					*e*S	**Sn**	**05 11 27.6**	**+2.6**
JNSB	**Nemuroshibetsu**	**2.18**	**266**	⇓P		**Pn**	**05 11 03.3**	**+1.7**
JNSB					*e*S	**Sn**	**05 11 29.9**	**+2.5**
JKHN	**Kushirohamanak**	**2.25**	**248**	⇓P		**Pn**	**05 11 03.0**	**+0.4**
JKHN					*e*S	**Sn**	**05 11 29.3**	**+0.2**
JNK	**Nakash**	**2.41**	**262**	⇓P		**Pn**	**05 11 05.8**	**+1.0**
JNK					*e*S	**Sn**	**05 11 34.9**	**+1.8**
AKK	**Akkeshi**	**2.49**	**249**	*i* P		**Pn**	**05 11 06.2**	**+0.3**
AKK					*i* S	**Sn**	**05 11 35.5**	**+0.5**
JAK	**Akkeshi**	**2.60**	**249**	P		**Pn**	**05 11 07.4**	**+0.1**
JAK					*e*S	**Sn**	**05 11 36.9**	**-0.7**
JTKR	**Abashiri--Toko**	**2.96**	**271**	⇓P		**Pn**	**05 11 14.5**	**+2.2**
JAR	**Ashorobuto**	**3.15**	**259**	⇓P		**Pn**	**05 11 16.5**	**+1.6**
JAR					*e*S	**Sn**	**05 11 52.7**	**+1.5**
JOB	**Onbets**	**3.22**	**252**	⇓P		**Pn**	**05 11 16.9**	**+1.0**
JOB					*e*S	**Sn**	**05 11 53.2**	**+0.3**
JMP	**Maruseppu**	**3.35**	**272**	⇓P		**Pn**	**05 11 20.3**	**+2.6**
JCH	**Churui**	**3.65**	**250**	P		**Pn**	**05 11 22.2**	**+0.4**
JCH					*e*S	**Sn**	**05 12 03.3**	**-0.2**
JKK2	**Kamakawa 2**	**3.80**	**270**	⇓P		**Pn**	**05 11 26.7**	**+2.9**
JKA	**Kamikawa-asahi**	**3.90**	**274**	Pn		**Pn**	**05 11 28.4**	**+3.2**
JKA	**Kamikawa-asahi**	**3.90**	**274**	*e*P		**Pn**	**05 11 26.8**	**+1.6**
ASAJ	**Asahikawa**	**3.90**	**274**	P		**Pn**	**05 11 26.8**	**+1.6**
comp=E,737nm,0.3s,baz=84,slow=18,SNR=374								
ASAJ					S	**Sn**	**05 12 10.8**	**+1.0**
comp=E,230nm,0.3s,baz=146,slow=30,SNR=1.4								
ASAJ					LR	LR	05 12 20.1	
comp=E,66μm,21.1s,baz=86,slow=29								
JSE	**Soyaes**	**4.00**	**286**	⇓P		**Pn**	**05 11 29.4**	**+2.8**
JFR	**Furan**	**4.01**	**260**	P		**Pn**	**05 11 29.0**	**+2.2**
JFR					*e*S	**Sn**	**05 12 14.7**	**+2.2**
JEM	**Erimo**	**4.06**	**243**			**Pn**	**05 11 28.2**	**+0.9**
ERM	**Erimo**	**4.06**	**243**	*ce*PN		**Pn**	**05 11 28.2**	**+0.8**
ERM					pmax	pmax		
comp=Z,17μm,1.3s								
ERM	**Erimo**	**4.06**	**243**	Pn		**Pn**	**05 11 28.0**	**+0.6**
ERM	**Erimo**	**4.06**	**243**	⇓P		**Pn**	**05 11 28.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.20**	**248**	⇓P		**Pn**	**05 11 29.7**	**+0.4**
JHR	**Hokuryu**	**4.55**	**269**	P		**Pn**	**05 11 37.5**	**+3.4**
JWK2	**Keihoku**	**4.56**	**289**	⇓P		**Pn**	**05 11 38.5**	**+4.2**
YSS	**Yuzh-Sakhalins**	**4.75**	**311**	κ *i* PN		**Pn**	**05 11 40.2**	**+3.4**
YSS					*e*S	**Sn**	**05 12 36.0**	**+5.5**
YSS					pmax	pmax		
comp=Z,21μm,4.8s								

YSS				pmax	pmax	
	comp=N,12μm,4.1s					
YSS				pmax	pmax	
	comp=Z,3μm,0.9s					
YSS				smax	smax	
	comp=N,4μm,1.1s					
YSS				smax	smax	
	comp=N,33μm,3.9s					
YSS				MLR	MLR	
	comp=Z,213μm,17.0s					
YSS				MLR	MLR	
	comp=E,157μm,12.0s					
YSS	**Yuzh-Sakhalins**	**4.75 311**			**Pn**	**05 11 40.0 +3.2**
YSS	**Yuzh-Sakhalins**	**4.75 311**	⇓	P	**Pn**	**05 11 40.0 +3.2**
YSS	**Yuzh-Sakhalins**	**4.75 311**	*i*	P	**Pn**	**05 11 40.2 +3.4**
YSS			*i*	P	**Pn**	**05 11 40.2 +3.4**
YSS				AMB	AMB	05 11 41.0
	comp=E,21μm,5.0s					
YSS				AMB	AMB	05 11 43.0
	comp=E,3μm,0.9s					
YSS			*e*	S	**Sn**	**05 12 35.5 +5.0**
YSS				A	A	05 12 39.2
	comp=E,4μm,1.0s					
YSS				A	A	05 12 40.0
	comp=E,33μm,4.0s					
YSS				AMS	AMS	05 13 36.0
	comp=E,157μm,17.0s					
YSS				AMS	AMS	05 13 36.0
	comp=E,213μm,17.0s					
JYG	**Yagishiri**	**4.75 278**		P	**Pn**	**05 11 40.6 +3.7**
JEW	**Eniwo**	**4.91 259**	⇓	P	**Pn**	**05 11 41.6 +2.6**
JEW	**Eniwo**	**4.91 259**			**Pn**	**05 11 41.7 +2.6**
JEW	**Eniwo**	**4.91 259**	⇓	P	**Pn**	**05 11 41.6 +2.6**
JTM	**Tenmabayashi**	**6.04 241**		Pn	**Pn**	**05 11 54.0 -0.6**
JTM	**Tenmabayashi**	**6.04 241**	⇓	P	**Pn**	**05 11 54.0 -0.6**
JSI2	**Shiura 2**	**6.32 245**		P	**Pn**	**05 11 58.9 +0.5**
UGL	**Uglegorsk**	**6.55 323**	⇑	*i*PN	Pn	05 12 06.3 +4.8
UGL			*e*	S	**Sn**	**05 13 17.6 +2.9**
UGL				pmax	pmax	
	comp=Z,2μm,0.8s					
UGL				pmax	pmax	
	comp=Z,22μm,6.4s					
UGL				smax	smax	
	comp=N,135μm,7.6s					
UGL				MLR	MLR	
	comp=Z,71μm,15.0s					
UGL				MLR	MLR	
	comp=E,75μm,12.0s					
UGL				MLR	MLR	
	comp=N,68μm,16.0s					
UGL	**Uglegorsk**	**6.55 323**	*i*	P	**Pn**	**05 12 06.0 +4.5**
UGL				AMB	AMB	05 12 09.0
	comp=N,2μm,0.8s					
UGL				AMB	AMB	05 12 09.3
	comp=N,22μm,6.5s					
UGL			*e*	S	**Sn**	**05 13 19.7 +5.0**
UGL			*e*	S	**Sn**	**05 13 19.7 +5.0**
UGL				A	A	05 13 28.1
	comp=N,135μm,8.0s					
UGL				AMS	AMS	05 16 14.0
	comp=N,68μm,15.0s					
UGL				AMS	AMS	05 16 14.0
	comp=N,75μm,15.0s					
UGL				AMS	AMS	05 16 14.0
	comp=N,71μm,15.0s					
JKMT	**Kesennumamotoy**	**7.12 226**	⇓	P	**Pn**	**05 12 07.1 -2.2**
JIO	**Ouri**	**7.45 225**		P	**Pn**	**05 12 11.6 -2.3**
JIKH	**Ishinomakikobu**	**7.50 223**		P	**Pn**	**05 12 11.8 -2.8**
TYV	**Tymovskoe**	**7.79 334**	*e*	PN	**Pn**	**05 12 23.0 +4.5**
TYV			*e*	S	Sn	05 13 55.9 +11
TYV				pmax	pmax	
	comp=Z,23μm,4.5s					
TYV				pmax	pmax	
	comp=Z,668nm,1.4s					
TYV				smax	smax	
	comp=E,424nm,1.7s					
TYV				MLR	MLR	
	comp=Z,160μm,17.0s					
TYV				MLR	MLR	
	comp=E,80μm,16.0s					
TYV	**Tymovskoe**	**7.79 334**	*e*	P	**Pn**	**05 12 22.3 +3.8**
TYV				AMB	AMB	05 12 24.7
	comp=E,23μm,4.5s					
TYV				AMB	AMB	05 12 24.8
	comp=E,670nm,1.0s					
TYV			*e*	S	**Sn**	**05 13 49.0 +3.8**
TYV				A	A	05 13 58.2
	comp=E,420nm,1.0s					
TYV				AMS	AMS	05 15 29.0
	comp=E,80μm,17.0s					
TYV				AMS	AMS	05 15 29.0
	comp=E,160μm,17.0s					
JTB	**Tobi-shima**	**7.92 236**		P	**Pn**	**05 12 19.2 -1.2**
JMM	**Marumori**	**8.18 224**			**Pn**	**05 12 20.3 -3.6**
JMM	**Marumori**	**8.18 224**	⇓	P	**Pn**	**05 12 20.8 -3.1**
JMST	**Minamisoumatoc**	**8.24 223**		P	**Pn**	**05 12 21.9 -2.9**
ALID	**Alaid**	**8.59 34**		PN	**Pn**	**05 12 31.4 +1.9**
JAW	**Awa shima**	**8.59 233**		P	**Pn**	**05 12 28.9 -0.6**
SKR	**Severo-Kuril's**	**8.68 36**	⇑	*i*PN	**Pn**	**05 12 30.6 -0.1**
SKR				pmax	pmax	
	comp=Z,490nm,0.6s					
SKR				pmax	pmax	
	comp=Z,6μm,2.8s					
SKR				pmax	pmax	
	comp=Z,3μm,7.3s					
SKR				MLR	MLR	
	comp=E,27μm,14.0s					
SKR				MLR	MLR	
	comp=Z,52μm,14.0s					
SKR	**Severo-Kuril's**	**8.68 36**	*i*	P	**Pn**	**05 12 31.6 +0.9**
SKR				AMB	AMB	05 12 32.0
	comp=Z,490nm,0.6s					
SKR				AMB	AMB	05 12 51.0
	comp=Z,3μm,7.0s					
SKR			*i*	S	**Sn**	**05 14 05.0 -2.1**
SKR				A	A	05 14 12.0
	comp=Z,3μm,0.7s					
SKR				A	A	05 14 12.0
	comp=Z,2μm,0.7s					
SKR				AMS	AMS	05 15 51.0
	comp=Z,31μm,15.0s					
SKR				AMS	AMS	05 15 51.0
	comp=Z,27μm,15.0s					
SKR				AMS	AMS	05 15 51.0
	comp=Z,52μm,15.0s					
JNS	**Sasagawa**	**9.00 230**		P	**Pn**	**05 12 34.6 -0.5**
JHO	**Hitachi**	**9.29 220**		P	**Pn**	**05 12 35.5 -3.5**
JSD	**Sado**	**9.45 234**		P	**Pn**	**05 12 40.6 -0.7**
JSD	**Sado**	**9.45 234**		Pn	**Pn**	**05 12 39.2 -2.1**
JSD	**Sado**	**9.45 234**	⇓	P	**Pn**	**05 12 39.8 -1.5**
PAU	**Pauzhetka**	**9.56 35**		PN	**Pn**	**05 12 42.3 -0.4**
PAU	**Pauzhetka**	**9.56 35**	*e*	P	**Pn**	**05 12 43.1 +0.4**
PAU				AMB	AMB	05 12 43.4
	comp=Z,450nm,0.6s					
PAU			*e*	S	**Sn**	**05 14 26.1 -2.4**
PAU				A	A	05 14 35.8
	comp=Z,3μm,1.0s					
JYT	**Yasato**	**9.77 220**			**Pn**	**05 12 42.4 -3.3**
JYT	**Yasato**	**9.77 220**	⇓	P	**Pn**	**05 12 42.1 -3.6**
JAG	**Ashikaga**	**9.97 224**		P	**Pn**	**05 12 46.4 -2.0**
JJN	**Nakama**	**10.15 231**		P	**Pn**	**05 12 50.7 -0.2**
OKH	**Okha**	**10.15 343**	*d*	*i*PN	**Pn**	**05 12 49.6 -1.2**
OKH				pmax	pmax	
	comp=Z,18μm,6.8s					
OKH				MLR	MLR	
	comp=N,82μm,14.0s					
OKH				MLR	MLR	
	comp=E,72μm,16.0s					
OKH				MLR	MLR	
	comp=Z,69μm,14.0s					
OKH	**Okha**	**10.15 343**	*i*	P	Pn	05 12 55.8 +5.0
OKH				AMB	AMB	05 12 59.1
	comp=Z,18μm,7.0s					
OKH			*i*	S	**Sn**	**05 14 48.0 +5.0**
OKH				A	A	05 15 05.3
	comp=Z,52μm,9.0s					
OKH				A	A	05 15 05.3
	comp=Z,31μm,9.0s					
OKH				AMS	AMS	05 18 34.0
	comp=Z,82μm,15.0s					
OKH				AMS	AMS	05 18 34.0
	comp=Z,72μm,15.0s					
OKH				AMS	AMS	05 18 34.0
	comp=Z,69μm,15.0s					
MIPR	**Malaya Ipel'ka**	**10.16 32**		PN	**Pn**	**05 12 51.7 +0.8**
KDTR	**Khodutka, Kamc**	**10.35 37**		PN	**Pn**	**05 12 51.0 -2.5**
JSZ	**Suzu**	**10.37 235**		P	**Pn**	**05 12 53.5 -0.4**
GRNR	**Gornyy**	**10.38 315**	⇑	*i*PN	**Pn**	**05 12 58.5 +4.5**
GRNR			*e*	S	Sn	05 14 58.1 +9.3
GRNR				pmax	pmax	
	comp=E,80nm,0.9s					
GRNR				pmax	pmax	
	comp=N,60nm,0.8s					
GRNR				pmax	pmax	
	comp=Z,100nm,0.9s					
GRNR				smax	smax	
	comp=N,40nm,0.6s					
GRNR				MLR	MLR	
	comp=E,35μm,18.0s					
GRNR				MLR	MLR	
	comp=N,26μm,17.0s					
GRNR				MLR	MLR	
	comp=Z,54μm,20.0s					
GRNR	**Gornyy**	**10.38 315**	*i*	P	**Pn**	**05 12 58.5 +4.5**
GRNR				AMB	AMB	05 13 00.1
	comp=Z,60nm,0.9s					
GRNR				AMB	AMB	05 13 00.1
	comp=Z,80nm,0.9s					
GRNR				AMB	AMB	05 13 00.1
	comp=Z,100nm,0.9s					
GRNR				AMS	AMS	05 16 54.0
	comp=Z,26μm,18.0s					
GRNR				AMS	AMS	05 16 54.0
	comp=Z,35μm,18.0s					
GRNR				AMS	AMS	05 16 54.0
	comp=Z,54μm,18.0s					
NKL	**Nikolayevsk**	**10.38 335**	*e*	PN	**Pn**	**05 12 54.3 +0.4**
NKL			*e*	S	**Sn**	**05 14 54.4 +5.7**
NKL				pmax	pmax	
	comp=N,9.0nm,0.7s					
NKL				pmax	pmax	
	comp=Z,1μm,1.7s					
NKL				pmax	pmax	
	comp=E,31nm,0.8s					
NKL				smax	smax	
	comp=E,124nm,2.3s					
NKL				smax	smax	
	comp=N,3.0nm,1.1s					
NKL				MLR	MLR	
	comp=Z,53μm,16.0s					
NKL	**Nikolayevsk**	**10.38 335**	*e*	P	**Pn**	**05 12 56.9 +3.0**
NKL				AMB	AMB	05 13 10.7
	comp=Z,90nm,1.0s					
NKL				AMB	AMB	05 13 10.7
	comp=Z,30nm,1.0s					
NKL				AMB	AMB	05 13 10.7
	comp=Z,1μm,1.0s					
NKL			*e*	S	**Sn**	**05 14 51.4 +2.7**
NKL				A	A	05 14 59.7
	comp=Z,500nm,2.0s					
NKL				A	A	05 14 59.7
	comp=Z,1μm,2.0s					
NKL				AMS	AMS	05 17 14.4
	comp=Z,69μm,16.0s					
NKL				AMS	AMS	05 17 14.4
	comp=Z,34μm,16.0s					
NKL				AMS	AMS	05 17 14.4
	comp=Z,53μm,16.0s					
MAJO	**Matsushiro**	**10.53 229**	*d*	*i*PN	**Pn**	**05 12 54.7 -1.4**
MAJO	**Matsushiro**	**10.53 229**			**Pn**	**05 12 54.4 -1.7**
MAJO	**Matsushiro**	**10.53 229**	⇓	P	**Pn**	**05 12 54.6 -1.6**
MAT	**Matsushiro**	**10.53 229**		P	**Pn**	**05 12 54.2 -1.9**
MAT				S	**Sn**	**05 14 51.4 -1.2**
MAT	**Matsushiro**	**10.53 229**		P	**Pn**	**05 12 55.0 -1.1**
MJAR	**Matsushiro Arr**	**10.53 229**		P	**Pn**	**05 12 54.5 -1.6**
	comp=Z,10nm,0.3s,baz=33,slow=13,SNR=552					
MJAR				S	**Sn**	**05 14 45.3 -7.4**
	comp=Z,8.4nm,0.3s,baz=201,slow=13,SNR=1.9					
MJAR	**Matsushiro Arr**	**10.53 229**			**Pn**	**05 12 54.2 -1.9**
MJB9	**Matsu-Tunnel**	**10.53 229**			**Pn**	**05 12 54.8 -1.3**
JRY	**Ryogami san**	**10.57 224**		P	**Pn**	**05 12 54.8 -1.8**
JNG	**Nsakai**	**10.69 228**		P	**Pn**	**05 12 58.2 -0.2**
APC	**Apacha**	**10.82 31**		PN	**Pn**	**05 13 00.0 +0.1**
MTVR	**Mutnovka**	**10.88 35**		PN	**Pn**	**05 12 59.8 -1.1**
GRL	**Gorelyy**	**10.89 34**		PN	**Pn**	**05 13 00.7 -0.3**
RUS	**Russkaya**	**10.98 36**		PN	**Pn**	**05 13 00.1 -2.0**
JJH	**Hakui**	**11.07 234**		P	**Pn**	**05 13 03.0 -0.4**
JNT	**Takato**	**11.07 226**		P	**Pn**	**05 13 02.5 -1.1**
KRMR	**Karymshinskiy**	**11.12 34**		PN	**Pn**	**05 13 02.5 -1.5**
JYN	**Shimob**	**11.16 224**		P	**Pn**	**05 13 03.7 -1.0**
PEA0B	**Petropavlovsk-**	**11.17 32**	*ce*	PN	**Pn**	**05 13 03.5 -1.2**
PEA0B	**Petropavlovsk-**	**11.17 32**		P	**Pn**	**05 13 04.1 -0.5**
PETK	**Petropavlovsk-**	**11.17 32**		P	**Pn**	**05 13 04.4 -0.3**
	comp=Z,60nm,0.3s,baz=206,slow=16,SNR=304					
PETK				LR	LR	05 17 52.5
	comp=Z,67μm,19.0s,baz=227,slow=40					
PETK	**Petropavlovsk-**	**11.17 32**			**Pn**	**05 13 04.5 -0.1**
JGN	**Niukaw**	**11.26 230**		P	**Pn**	**05 13 05.9 -0.1**
PET	**Petropavlovsk**	**11.48 34**	*e*	PN	**Pn**	**05 13 06.8 -2.1**
PET				pmax	pmax	
	comp=Z,378nm,0.5s					
PET				pmax	pmax	
	comp=Z,9μm,6.6s					
PET				pmax	pmax	
	comp=Z,16μm,6.8s					
PET				MLR	MLR	
	comp=Z,58μm,18.0s					
PET				MLR	MLR	
	comp=Z,51μm,18.0s					
PET	**Petropavlovsk**	**11.48 34**		Pn	**Pn**	**05 13 06.4 -2.5**
PET	**Petropavlovsk**	**11.48 34**	⇑	P	**Pn**	**05 13 06.8 -2.1**
PET	**Petropavlovsk**	**11.48 34**	*e*	P	**Pn**	**05 13 08.4 -0.4**
PET				AMB	AMB	05 13 11.0
	comp=Z,380nm,0.5s					
PET				AMB	AMB	05 13 25.0
	comp=Z,16μm,7.0s					
PET				AMS	AMS	05 19 01.0
	comp=Z,51μm,18.0s					
DALK	**Dalny**	**11.52 34**		PN	**Pn**	**05 13 07.4 -2.1**
USRK	**Ussuriysk Ar.**	**11.53 277**		P	**Pn**	**05 13 10.7 +1.1**
	baz=92,slow=13,SNR=67					
USRK				S	**Sn**	**05 15 17.7 +1.0**
	baz=70,slow=5.8,SNR=1.2					
USRK				LR	LR	05 17 36.2
	comp=Z,99μm,21.3s,baz=85,slow=37					
USRK	**Ussuriysk Ar.**	**11.53 277**			**Pn**	**05 13 09.7 +0.1**
USA0B	**Ussuriysk Arra**	**11.53 277**		PN	**Pn**	**05 13 10.8 +1.2**
USA0B	**Ussuriysk Arra**	**11.53 277**			**Pn**	**05 13 10.8 +1.2**
JNY	**Yasuok**	**11.61 226**		P	**Pn**	**05 13 09.6 -1.3**
JIZS	**Izushimoda**	**11.62 220**		S	Sn	05 15 09.2 -10
KOK	**Koryaka**	**11.67 33**		PN	**Pn**	**05 13 11.2 -0.4**
KOK	**Koryaka**	**11.67 33**	*e*	P	**Pn**	**05 13 11.2 -0.4**
UGLR	**Uglovaya**	**11.68 34**		PN	**Pn**	**05 13 11.4 -0.4**
AVH	**Avacha**	**11.69 34**		PN	**Pn**	**05 13 11.3 -0.6**
JGF	**Kuroka**	**11.69 228**		P	**Pn**	**05 13 11.2 -0.8**
JGF	**Kuroka**	**11.69 228**		Pn	**Pn**	**05 13 10.1 -1.9**
JGF	**Kuroka**	**11.69 228**	⇑	P	**Pn**	**05 13 10.2 -1.8**
SMAR	**Somma**	**11.71 34**		PN	**Pn**	**05 13 11.2 -1.1**
GNL	**Ganaly**	**11.72 30**		PN	**Pn**	**05 13 12.8 +0.5**
KRER	**Koryakskii**	**11.72 33**		PN	**Pn**	**05 13 11.6 -0.8**
KRX	**Arik**	**11.72 33**		PN	**Pn**	**05 13 11.9 -0.5**
VLA	**Vladivostok**	**11.73 271**	*d*	*i*PN	**Pn**	**05 13 13.4 +1.0**
VLA	**Vladivostok**	**11.73 271**	*i*	P	**Pn**	**05 13 13.4 +1.0**
SDLR	**Sedlovina**	**11.76 34**		PN	**Pn**	**05 13 11.3 -1.5**
JKG	**Kaga**	**11.78 233**		P	**Pn**	**05 13 12.4 -0.6**
NLC	**Nalytchevo**	**11.87 35**		PN	**Pn**	**05 13 11.2 -3.0**
JYZW	**Yoshizawa**	**11.96 225**		P	**Pn**	**05 13 13.9 -1.7**
JSG	**Sagara**	**11.99 223**			**Pn**	**05 13 13.4 -2.5**
JSG	**Sagara**	**11.99 223**	⇓	P	**Pn**	**05 13 16.6 +0.7**
JAO	**Obara**	**12.00 227**		P	**Pn**	**05 13 14.7 -1.5**
JYTA	**Yamagatataniai**	**12.04 230**		P	**Pn**	**05 13 16.1 -0.5**
INU	**Inuyama**	**12.06 228**			**Pn**	**05 13 14.9 -2.1**
INU	**Inuyama**	**12.06 228**	⇓	P	**Pn**	**05 13 14.7 -2.4**
HMMJ	**Hamamatsu 2**	**12.08 225**		P	**Pn**	**05 13 16.8 -0.4**
SPN	**Mys Shipunski**	**12.10 37**		PN	**Pn**	**05 13 14.3 -3.1**
KLR	**Kul'dur**	**12.35 301**		P	**Pn**	**05 13 22.1 +1.3**
	comp=Z,2.1nm,0.3s,baz=106,slow=14,SNR=68					
KLR				S	**Sn**	**05 15 38.6 +1.8**
	comp=Z,1.3nm,0.3s,baz=155,slow=21,SNR=1.1					
KLR				LR	LR	05 18 38.8
	comp=Z,120μm,18.7s,baz=121,slow=40					
KLR	**Kul'dur**	**12.35 301**	*ce*	PN	**Pn**	**05 13 22.2 +1.4**
KLR	**Kul'dur**	**12.35 301**	*e*	P	**Pn**	**05 13 22.2 +1.4**
MSHR	**Mys Shultsa**	**12.36 269**	*ce*	PN	**Pn**	**05 13 21.3 +0.3**
MSHR				pmax	pmax	
	comp=Z,83nm,0.7s					
JFM	**Mihama**	**12.51 232**		P	**Pn**	**05 13 23.1 +0.1**
KII	**Karymskiy**	**12.55 33**		PN	**Pn**	**05 13 23.5 -0.1**
JHJ2	**Mitsune**	**12.59 213**		Pn	**Pn**	**05 13 21.1 -3.0**
JHJ2	**Mitsune**	**12.59 213**	⇑	P	**Pn**	**05 13 21.2 -2.9**
JHJ2			⇑	S	Sn	05 15 32.4 -10
JHJ	**Hachijo jima 2**	**12.59 213**		P	**Pn**	**05 13 22.9 -1.3**
	comp=Z,122nm,0.3s,baz=92,slow=23,SNR=26					
JHJ				S	Sn	05 15 31.0 -12
	comp=Z,322nm,0.3s,baz=94,slow=22,SNR=13					
TSUJ	**Tsu 2**	**12.87 228**		P	**Pn**	**05 13 26.2 -1.8**
JWT	**Wachi**	**13.01 232**		Pn	**Pn**	**05 13 28.8 -1.2**
JWT	**Wachi**	**13.01 232**	⇓	P	**Pn**	**05 13 28.8 -1.2**
MDJ	**Mudanjiang**	**13.21 279**		P	**Pn**	**05 13 31.8 -0.8**
MDJ				sP	P	05 13 42.4 +1.3
MDJ				S	**Sn**	**05 15 58.8 +1.0**
MDJ				sS	S	05 16 10.4 -10
MDJ				ScP	**ScP**	**05 22 30.1 +1.4**
MDJ				PcS	**PcS**	**05 22 35.9 +1.7**
MDJ				ScS	**ScS**	**05 26 08.7 +3.5**
MDJ				pmax	pmax	
	comp=Z,170nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,6μm,6.1s					
MDJ				LR	LR	
	comp=Z,63μm,24.3s					
MDJ				LR	LR	
	comp=Z,64μm,24.1s					
MDJ				LR	LR	
	comp=Z,137μm,24.1s					
EKMR	**Ekimchan**	**13.48 318**	*i*	P	**Pn**	**05 13 38.0 +1.7**
EKMR				AMB	AMB	05 13 41.0
	comp=Z,630nm,0.9s					
EKMR				AMB	AMB	05 13 41.0
	comp=Z,440nm,0.9s					
EKMR				AMB	AMB	05 13 41.0
	comp=Z,900nm,0.9s					
KZV	**Kizimen**	**13.69 31**		P	**Pn**	**05 13 37.0 -2.2**
TUMR	**Tumrok**	**13.76 30**		P	**Pn**	**05 13 38.8 -1.4**
ESO	**Esso**	**13.78 26**		P	**Pn**	**05 13 42.2 +1.8**
MKZ	**Mys Kozlova**	**13.85 35**		P	Pn	05 13 36.3 -4.9
KMNR	**Kamenistaya**	**14.16 29**		P	**Pn**	**05 13 44.0 -1.5**
KOZ	**Kozyrevsk**	**14.28 28**		P	**Pn**	**05 13 44.9 -2.1**
KOZ	**Kozyrevsk**	**14.28 28**	*e*	P	**Pn**	**05 13 44.9 -2.1**
KPT	**Kopyto**	**14.32 29**		P	**Pn**	**05 13 45.3 -2.3**
KIRR	**Kirishev**	**14.36 29**		P	**Pn**	**05 13 45.2 -2.9**
BZMR	**Bezymyannaya**	**14.39 29**		P	**Pn**	**05 13 47.8 -0.8**
BZWR	**Bezymyannyi-We**	**14.42 29**		P	**Pn**	**05 13 46.8 -2.2**
SRDR	**Sredinnyy**	**14.43 27**		P	**Pn**	**05 13 47.9 -1.2**
BZGR	**Bezymyannyi-Gr**	**14.47 30**		P	**Pn**	**05 13 46.8 -2.8**
ULDB	**Ullung-do Bore**	**14.49 249**		P	**Pn**	**05 13 48.5 -1.3**
	SNR=72					
ULDB	**Ullung-do Bore**	**14.49 249**		P	**Pn**	**05 13 48.5 -1.3**
	SNR=72					
JHS	**Saijyo**	**14.56 237**		Pn	**Pn**	**05 13 49.0 -1.8**
JHS	**Saijyo**	**14.56 237**	⇓	P	**Pn**	**05 13 49.0 -1.8**
LGNR	**Loginova**	**14.58 29**		P	**Pn**	**05 13 50.0 -1.2**
CIRR	**Tsirk**	**14.62 29**		P	**Pn**	**05 13 50.6 -1.1**
KLY	**Klyuchi**	**14.74 29**		P	**Pn**	**05 13 50.7 -2.4**
JMN	**Monobe**	**15.00 232**		Pn	**Pn**	**05 13 53.7 -2.9**
JMN	**Monobe**	**15.00 232**	⇑	P	**Pn**	**05 13 53.9 -2.8**
SRKR	**Sorokina**	**15.19 29**		P	**Pn**	**05 13 55.9 -3.1**
SMKR	**Semkarok**	**15.24 29**		P	**Pn**	**05 13 57.6 -2.0**
KBG	**Krutoberegovo**	**15.45 32**		P	**Pn**	**05 13 58.3 -3.9**
KBG				S	**Sn**	**05 16 41.6 -11**
KBTR	**Krutoberegovo**	**15.46 32**		P	**Pn**	**05 13 57.4 -5.0**
IMWB	**Imwonan-gil**	**15.67 251**		P	**Pn**	**05 14 06.0 +0.8**
	SNR=11					
IMWB	**Imwonan-gil**	**15.67 251**		P	**Pn**	**05 14 06.0 +0.8**
	SNR=11					
MA2	**Magadan**	**15.72 5**		P	**Pn**	**05 14 05.5 -0.2**
	comp=Z,27nm,0.3s,baz=189,slow=11,SNR=203					
MA2				S	**Sn**	**05 16 58.3 -0.3**
	comp=Z,2.1nm,0.3s,baz=166,slow=14,SNR=0.9					
MA2				LR	LR	05 19 56.2
	comp=Z,64μm,20.3s,baz=188,slow=36					
MA2	**Magadan**	**15.72 5**	*c*	*i*P	**Pn**	**05 14 05.3 -0.4**
MA2	**Magadan**	**15.72 5**		P	**Pn**	**05 14 05.5 -0.2**
MA2				IAmb	IAmb	05 14 11.7
	comp=Z,3μm,0.9s					
MA2	**Magadan**	**15.72 5**	⇑	P	**Pn**	**05 14 05.1 -0.6**
MA2	**Magadan**	**15.72 5**	*i*	P	**Pn**	**05 14 05.3 -0.4**
KSSKC	**Sokcho**	**15.73 256**		P	**Pn**	**05 14 04.7 -1.2**
	SNR=30					
KSSKC	**Sokcho**	**15.73 256**		P	**Pn**	**05 14 04.7 -1.2**
	SNR=30					
OKEB	**Okgye-meyeon**	**15.73 253**		P	**Pn**	**05 14 06.0 0.0**
	SNR=9.0					
OKEB	**Okgye-meyeon**	**15.73 253**		P	**Pn**	**05 14 06.0 0.0**
	SNR=9.0					
OKEB	**Okgye-meyeon**	**15.73 253**		P	**Pn**	**05 14 07.0 +1.0**
	SNR=16					
UJN	**ULJIN**	**15.75 250**		P	**P**	**05 14 08.0 -1.4**
	SNR=26					
KSJMJ	**Jumunjin**	**15.76 254**		P	**Pn**	**05 14 04.6 -1.6**
	SNR=24					
KSJMJ	**Jumunjin**	**15.76 254**		P	**Pn**	**05 14 04.6 -1.6**
	SNR=24					
KSDGY	**Daegwallycong**	**15.90 253**		P	**Pn**	**05 14 07.0 -1.3**
	SNR=28					
KSDGY	**Daegwallycong**	**15.90 253**		P	**Pn**	**05 14 07.0 -1.3**
	SNR=28					
KSULJ	**Uljin**	**15.91 249**		P	**Pn**	**05 14 09.0 +0.8**
	SNR=19					
KSULJ	**Uljin**	**15.91 249**		P	**Pn**	**05 14 09.0 +0.8**
	SNR=19					
KSULJ	**Uljin**	**15.91 249**		P	**P**	**05 14 10.0 -1.1**
	SNR=23					
SEHB	**SEOHWA**	**15.92 256**		P	**Pn**	**05 14 07.2 -1.2**
	SNR=62					
SEHB	**SEOHWA**	**15.92 256**		P	**Pn**	**05 14 07.2 -1.2**
	SNR=62					
KSTBA	**Taebaek**	**16.00 251**		P	**Pn**	**05 14 09.4 -0.1**
	SNR=23					
KSTBA	**Taebaek**	**16.00 251**		P	**Pn**	**05 14 09.4 -0.1**
	SNR=23					
KSTBA	**Taebaek**	**16.00 251**		P	**Pn**	**05 14 10.5 +1.0**
	SNR=20					
KSGWL	**Sabuk**	**16.04 252**		P	**P**	**05 14 11.9 -0.7**
	SNR=10					
BKI	**Bering**	**16.13 40**		P	**Pn**	**05 14 06.5 -4.4**
KSIJA	**INJE**	**16.15 255**		P	**Pn**	**05 14 10.6 -0.7**
	SNR=45					
KSIJA	**INJE**	**16.15 255**		P	**Pn**	**05 14 10.6 -0.7**
	SNR=45					
KSPHA	**Pohang**	**16.22 248**		P	**Pn**	**05 14 13.0 +0.8**
	SNR=15					
KSPHA	**Pohang**	**16.22 248**		P	**Pn**	**05 14 13.0 +0.8**
	SNR=15					
CN2	**Changchun**	**16.26 277**	*e*	P	**Pn**	**05 14 10.3 -2.3**
CN2			*es*	P	pP	05 14 22.7 -3.7
CN2			*e*	S	**Sn**	**05 17 08.6 -3.3**
CN2			*es*	S	S	05 17 20.6 -1.9
CN2				pmax	pmax	
	comp=Z,1μm,3.5s					
CN2				LR	LR	
	comp=Z,58μm,18.0s					
CN2				LR	LR	
	comp=Z,22μm,18.0s					
CN2				LR	LR	
	comp=Z,73μm,20.0s					
KSYOW	**Yeongwol**	**16.31 252**		P	**Pn**	**05 14 13.0 -0.4**
	SNR=17					
KSYOW	**Yeongwol**	**16.31 252**		P	**P

SNR=36
KSRS Korea Array 16.54 254 P **Pn 05 14 14.7 -1.5**
comp=Z,3.6nm,0.3s,baz=60,slow=12,SNR=88
KSRS S **Sn 05 17 12.5 -6.2**
comp=Z,1.8nm,0.3s,baz=68,slow=22,SNR=3.2
KSRS PcP **PcP 05 19 05.6 +1.0**
comp=Z,0.2nm,0.3s,baz=26,slow=0.3,SNR=8.9
KSEUS ULSEONG 16.59 249 P **P 05 14 17.8 -0.8**
SNR=17
KSEUS ULSEONG 16.59 249 P **P 05 14 17.8 -0.8**
SNR=17
KSYOC YEONGCHEON 16.62 248 P **P 05 14 19.6 +0.6**
SNR=15
KSYOC YEONGCHEON 16.62 248 P **P 05 14 19.6 +0.6**
SNR=15
KSUSN Ulsan 16.66 247 P **P 05 14 19.5 0.0**
SNR=9.3
KSUSN Ulsan 16.66 247 P **P 05 14 19.5 0.0**
SNR=9.3
KSUSN Ulsan 16.66 247 P **Pn 05 14 16.9 -0.8**
SNR=11
ZEA Zeya 16.74 313 *ce*P **P 05 14 19.6 -0.5**
ZEA pmax pmax
comp=E,380nm,1.8s
ZEA pmax pmax
comp=N,360nm,1.3s
ZEA pmax pmax
comp=Z,560nm,1.4s
ZEA Zeya 16.74 313 *e*P **Pn 05 14 19.1 +0.6**
ZEA *e*P **Pn 05 14 19.1 +0.6**
ZEA AMB AMB 05 14 22.8
comp=Z,360nm,1.4s
ZEA AMB AMB 05 14 22.8
comp=Z,380nm,1.4s
ZEA AMB AMB 05 14 22.8
comp=Z,560nm,1.4s
KSDAG Daegu 16.77 247 P **P 05 14 21.0 +0.3**
SNR=11
KSDAG Daegu 16.77 247 P **P 05 14 20.0 -0.7**
SNR=15
KSCHJ Chungju 16.80 252 P **Pn 05 14 19.1 -0.3**
SNR=9.1
KSCHJ Chungju 16.80 252 P **Pn 05 14 20.0 +0.5**
SNR=8.9
KSCHJ Chungju 16.80 252 P **Pn 05 14 19.1 -0.3**
SNR=9.1
KSCHJ Chungju 16.80 252 P **Pn 05 14 20.0 +0.5**
SNR=8.9
PALN Palana 16.83 22 P **Pn 05 14 17.6 -2.0**
KSMGY Mungyeong 16.85 251 P **P 05 14 21.4 -0.2**
SNR=17
KSMGY Mungyeong 16.85 251 P **P 05 14 21.4 -0.2**
SNR=17
KSSAJ Sangju 16.92 250 P **P 05 14 22.6 +0.4**
SNR=10
KSSAJ Sangju 16.92 250 P **Pn 05 14 20.6 -0.3**
SNR=18
KSDDC Dongducheon 16.93 256 P **Pn 05 14 20.8 -0.3**
SNR=14
KSDDC Dongducheon 16.93 256 P **Pn 05 14 20.8 -0.3**
SNR=14
KSBUS Busan 16.93 245 P **P 05 14 23.0 +0.5**
SNR=12
KSBUS Busan 16.93 245 P **Pn 05 14 21.6 +0.5**
SNR=12
KSBUS Busan 16.93 245 P **P 05 14 23.0 +0.5**
SNR=12
KSBUS Busan 16.93 245 P **Pn 05 14 21.0 -0.2**
SNR=6.6
YNCB YEONCHEON 16.96 257 P **Pn 05 14 20.4 -1.0**
SNR=50
YNCB YEONCHEON 16.96 257 P **Pn 05 14 20.4 -1.0**
SNR=50
KSICN Icheon 16.97 254 P **Pn 05 14 21.4 -0.2**
SNR=12
KSICN Icheon 16.97 254 P **Pn 05 14 21.4 -0.2**
SNR=12
KSBSA Busan_acc 17.07 245 P **Pn 05 14 23.1 +0.2**
SNR=12
KSBON Boeun 17.11 251 P **P 05 14 26.2 +1.7**
SNR=19
KSGIC Gimchen 17.13 249 P **P 05 14 25.2 +0.5**
SNR=12
KSGIC Gimchen 17.13 249 P **P 05 14 25.2 +0.5**
SNR=12
KSCPR CHUPUNGNYEONG 17.14 250 P **P 05 14 25.2 +0.5**
SNR=21
KSCPR CHUPUNGNYEONG 17.14 250 P **P 05 14 25.2 +0.5**
SNR=21
KSMUS Musan 17.14 257 P **Pn 05 14 22.8 -0.9**
SNR=32
KSMUS Musan 17.14 257 P **Pn 05 14 22.8 -0.9**
SNR=32
KSSOD Songwoldong 17.15 255 P **Pn 05 14 23.4 -0.4**
SNR=14
KSSOD Songwoldong 17.15 255 P **Pn 05 14 23.4 -0.4**
SNR=14
JTU Tsushima 17.19 243 P **Pn 05 14 23.0 -1.3**
JTU Tsushima 17.19 243 ⇓P **Pn 05 14 22.3 -2.0**
JNU Nakatsue 17.19 237 P **Pn 05 14 23.2 -1.2**
comp=Z,0.9nm,0.3s,baz=41,slow=10,SNR=11
JNU S **Sn 05 17 35.7 +1.0**
baz=92,slow=6.9,SNR=2.0
JNU LR LR 05 21 24.5
comp=Z,40μm,21.7s,baz=42,slow=38
JNU Nakatsue 17.19 237 P **Pn 05 14 23.2 -1.2**
JNU Nakatsue 17.19 237 ⇓P **Pn 05 14 22.8 -1.6**
OKCB Cheongsan-myeo 17.20 251 P **P 05 14 25.0 -0.4**
SNR=17
OKCB Cheongsan-myeo 17.20 251 P **P 05 14 25.0 -0.4**
SNR=17
KROS Kirovskiy 17.21 315 *i*P **Pn 05 14 24.1 -0.3**
KROS AMB AMB 05 14 30.2
comp=Z,120nm,0.6s
KROS AMB AMB 05 14 30.2
comp=Z,140nm,0.6s
KROS AMB AMB 05 14 30.2
comp=Z,230nm,0.6s
KSSEO Seoul 17.22 255 P **Pn 05 14 24.6 -0.1**
SNR=12
KSSEO Seoul 17.22 255 P **Pn 05 14 25.0 +0.3**
SNR=7.5
KSSEO Seoul 17.22 255 P **Pn 05 14 24.6 -0.1**
SNR=12
KSSEO Seoul 17.22 255 P **Pn 05 14 25.0 +0.3**
SNR=7.5
KSSWO Suwon 17.30 254 P **Pn 05 14 24.9 -0.7**
SNR=20
KSSWO Suwon 17.30 254 P **Pn 05 14 24.9 -0.7**
SNR=20
KSCEA Cheonan 17.32 253 P **Pn 05 14 26.1 +0.2**
SNR=27
KSCEA Cheonan 17.32 253 P **Pn 05 14 25.8 0.0**
SNR=19
KSMAS Masan 17.34 246 P **P 05 14 29.8 +2.9**
SNR=10.0
KSMAS Masan 17.34 246 P **P 05 14 28.6 +1.7**
SNR=18
KSMAS Masan 17.34 246 P **P 05 14 29.8 +2.9**
SNR=10.0
PYTK Pyeongtaek 17.34 253 P **Pn 05 14 26.0 -0.1**
SNR=11
PYTK Pyeongtaek 17.34 253 P **Pn 05 14 26.0 -0.1**
SNR=11
INCN Inchon 17.42 255 P **Pn 05 14 25.8 -1.4**
INCN pmax pmax
comp=Z,359nm,1.1s
INCN Inchon 17.42 255 Pn **Pn 05 14 25.8 -1.4**
INCN Inchon 17.42 255 ⇑P **Pn 05 14 25.9 -1.4**
EURB Uiryeong-eup 17.44 247 P **P 05 14 32.0 +4.0**
SNR=7.7
SHHB Siheung-si 17.44 255 P **P 05 14 28.1 +0.1**
SNR=12
SHHB Siheung-si 17.44 255 P **P 05 14 28.1 +0.1**
SNR=12
KSGAH Ganghwa 17.45 256 P **Pn 05 14 26.8 -0.7**
SNR=23
KSGAH Ganghwa 17.45 256 P **Pn 05 14 26.4 -1.0**
SNR=20
TJN Taejon 17.48 251 *ce*P **Pn 05 14 26.9 -0.9**
JCJ Chichijima 17.48 198 P **Pn 05 14 26.4 -1.5**
comp=Z,60nm,0.3s,baz=318,slow=17,SNR=19
JCJ S Sn 05 17 22.5 -19
comp=Z,53nm,0.3s,baz=290,slow=23,SNR=2.6
JCJ LR LR 05 22 06.1
comp=Z,7μm,18.2s,baz=3.0,slow=40
JCJ Chichijima 17.48 198 Pn **Pn 05 14 25.0 -3.0**
JCJ IAmb IAmb 05 14 47.5
comp=Z,4μm,1.7s
KUJA Jangpyeong 17.48 245 P **P 05 14 30.0 +1.4**
SNR=16
KSKCH Geochang 17.52 248 P **P 05 14 31.8 +2.8**
SNR=10
KSKCH Geochang 17.52 248 P **P 05 14 31.8 +2.8**
SNR=10
HAWB Hwaseong-si 17.52 254 P **P 05 14 29.0 +0.1**
SNR=8.8
HAWB Hwaseong-si 17.52 254 P **P 05 14 29.0 +0.1**
SNR=8.8
KOJ2 Gongju-si 17.57 252 P **P 05 14 30.1 +0.6**
SNR=21
KOJ2 Gongju-si 17.57 252 P **P 05 14 30.1 +0.6**
SNR=21
HAMB Hamyang 17.69 248 P **P 05 14 32.0 +1.2**
SNR=20
HAMB Hamyang 17.69 248 P **P 05 14 32.0 +1.2**
SNR=20
KSJEO Jeonju 17.76 250 P **P 05 14 33.0 +1.4**
SNR=17
KSJEO Jeonju 17.76 250 P **P 05 14 33.0 +1.4**
SNR=17
KSJEO Jeonju 17.76 250 P **P 05 14 36.0 +4.4**
SNR=6.2
OSSR Ossora 17.86 26 P **Pn 05 14 31.8 -0.5**
KSSES Seosan 17.89 254 P **P 05 14 33.0 0.0**
SNR=20
KSSES Seosan 17.89 254 P **P 05 14 33.0 0.0**
SNR=20
KSDEI Deokjeokdo 17.90 256 P **P 05 14 33.9 +0.8**
SNR=63
KSDEI Deokjeokdo 17.90 256 P **P 05 14 33.9 +0.8**
SNR=63
KSNAH Namhae 17.97 246 P **Pn 05 14 33.9 0.0**
SNR=6.9
NAWB Namwon 17.98 249 P **Pn 05 14 36.4 +2.4**
SNR=12
NAWB Namwon 17.98 249 P **Pn 05 14 36.4 +2.4**
SNR=12
SNY Shenyang 18.01 272 ⇑P **P 05 14 34.0 -0.3**
SNY S **Sn 05 17 46.8 -7.5**
SNY pmax pmax
comp=Z,5μm,7.1s
SNY LR LR
comp=Z,27μm,14.2s
SNY LR LR
comp=Z,39μm,18.9s
SNY LR LR
comp=Z,56μm,24.6s
KSGUS GUNSAN 18.05 251 P **Pn 05 14 37.4 +2.5**
SNR=8.0
KSGUS GUNSAN 18.05 251 P **Pn 05 14 35.6 +0.7**
SNR=20
PORA Boryeong 18.05 252 P **Pn 05 14 37.1 +2.2**
SNR=8.0
PORA Boryeong 18.05 252 P **Pn 05 14 36.1 +1.2**
SNR=11
GWYB Gwangyang 18.05 247 P **Pn 05 14 38.0 +3.1**
SNR=9.1
KSJEU Jeongeup 18.25 250 P **Pn 05 14 39.4 +2.1**
SNR=20
KSJEU Jeongeup 18.25 250 P **Pn 05 14 41.7 +4.3**
SNR=10
KSSCH SUNCHEON 18.29 248 P **Pn 05 14 43.3 +5.6**
SNR=15
KSSCH SUNCHEON 18.29 248 P **Pn 05 14 39.0 +1.3**
SNR=10
SMKB Mukjeong-gil 18.40 251 P **Pn 05 14 41.1 +2.1**
SNR=13
KSKWJ Gwangju 18.40 249 P **Pn 05 14 42.4 +3.3**
SNR=12
KSKWJ Gwangju 18.40 249 P **Pn 05 14 43.8 +4.7**
SNR=9.0
BOSB Boseong-gun 18.48 247 P **Pn 05 14 41.0 +0.9**
SNR=12
KOHB KOHEUNG 18.52 247 P **Pn 05 14 44.3 +3.7**
SNR=7.3
KSBAR Backryungdo 18.55 259 P **Pn 05 14 42.8 +1.9**
SNR=56
KSBAR Backryungdo 18.55 259 P **Pn 05 14 40.7 -0.2**
SNR=89
GOCB Gochang-gun 18.56 250 P **Pn 05 14 43.0 +2.1**
SNR=10.0
GOCB Gochang-gun 18.56 250 P **Pn 05 14 43.1 +2.1**
SNR=17
KSGBI Gyogryolbido 18.59 254 P **Pn 05 14 42.1 +0.6**
SNR=78
JSU Suzuyama 18.59 234 P **P 05 14 39.7 -1.1**
JSU Suzuyama 18.59 234 ⇓P **P 05 14 40.6 -0.1**
DACB Daecheong-do R 18.62 259 P **Pn 05 14 42.0 +0.3**
SNR=71
DACB Daecheong-do R 18.62 259 P **Pn 05 14 44.0 +2.2**
SNR=32
DACB Daecheong-do R 18.62 259 P **Pn 05 14 42.0 +0.3**
SNR=71
KSJDO Jindo 19.25 248 P **Pn 05 14 52.9 +3.5**
SNR=17
KSJDO Jindo 19.25 248 P **Pn 05 14 51.0 +1.6**
SNR=17
SMY Shemya 19.34 54 P **Pn 05 14 50.4 +0.2**
SMY pmax pmax
comp=Z,4μm,1.4s
SMY Shemya 19.34 54 P **Pn 05 14 50.4 +0.2**
SMY IAmb IAmb 05 14 55.1
comp=Z,4μm,1.4s
SMY Shemya 19.34 54 ⇑P **Pn 05 14 51.1 +0.8**
HUK2 Heuksan-myeon 19.71 250 P **Pn 05 14 57.0 +2.2**
SNR=18
KSJJU Jeju 19.72 245 P **Pn 05 14 58.1 +3.1**
SNR=11
TILK Tilichiki 19.78 27 P **P 05 14 46.9 -6.5**
HALB Hallimjungang- 19.92 245 P **Pn 05 15 00.1 +2.9**
SNR=11
HIA Hailar 20.06 295 P **P 05 14 55.8 -0.9**
HIA pmax pmax
comp=Z,2μm,1.8s
HIA MLR MLR
comp=Z,70μm,18.0s
HIA Hailar 20.06 295 P **P 05 14 55.8 -0.9**
HIA Hailar 20.06 295 IAMs_20 IAMs_20 05 23 26.2
comp=Z,70μm,18.0s
DL2 Dalian 20.37 265 P **P 05 15 00.0 -0.1**
DL2 pP **pP 05 15 09.5 -2.2**
DL2 sP **sP 05 15 12.6 -5.5**
DL2 S **S 05 18 40.3 -5.1**
DL2 pmax pmax
comp=Z,530nm,1.4s
DL2 pmax pmax
comp=Z,6μm,4.5s
DL2 LR LR
comp=Z,10μm,13.6s
DL2 LR LR
comp=Z,21μm,18.8s
DL2 LR LR
comp=Z,22μm,17.0s
YAK Yakutsk 21.05 336 P **P 05 15 04.9 -2.3**
comp=Z,1μm,0.5s,baz=282,slow=0.2,SNR=249
YAK S **S 05 18 51.9 -6.5**
comp=Z,43nm,0.5s,baz=53,slow=20,SNR=2.5
YAK LR LR 05 23 34.9
comp=Z,79μm,21.3s,baz=146,slow=37
YAK Yakutsk 21.05 336 *c i*P **P 05 15 05.0 -2.2**
YAK *e*PP **sP 05 15 23.7 -1.5**
YAK *e*S **S 05 18 49.2 -9.2**
YAK pmax pmax
comp=Z,1μm,0.7s
YAK pmax pmax
comp=N,253nm,0.6s
YAK pmax pmax
comp=E,350nm,0.8s
YAK smax smax
comp=N,3μm,2.3s
YAK smax smax
comp=E,10μm,2.8s
YAK Yakutsk 21.05 336 P **P 05 15 04.8 -2.3**
YAK Yakutsk 21.05 336 IAMs_20 IAMs_20 05 23 32.9
comp=Z,71μm,20.0s
YAK Yakutsk 21.05 336 ⇑P **P 05 15 04.6 -2.5**
KMSK Kamenskaya 21.35 23 P **P 05 15 09.9 -0.5**
AMKA Amchitka 22.21 59 P **P 05 15 21.9 +2.2**
JMZ Minamidaito 2 22.67 222 pP pP 05 15 32.6 -3.4
JOW Kunigami 23.38 229 P **P 05 15 33.7 +1.8**
comp=Z,102nm,1.0s,baz=28,slow=9.9,SNR=18
JOW S **S 05 19 40.6 -0.5**
comp=Z,32nm,0.9s,baz=221,slow=24,SNR=1.9
JOW Kunigami 23.38 229 P **P 05 15 32.9 +0.9**
JOW Kunigami 23.38 229 ⇑P **P 05 15 32.9 +0.9**
BJI Beijing 23.89 272 P **P 05 15 37.1 +0.5**
BJI S **S 05 19 47.6 -1.6**
BJI pmax pmax
comp=Z,920nm,2.0s
BJI pmax pmax
comp=Z,13μm,4.0s
BJI LR LR
comp=Z,18μm,19.2s
BJI LR LR
comp=Z,35μm,20.1s
BJI LR LR
comp=Z,45μm,20.6s
BJT Baijiatuau 23.91 272 IAmb IAmb 05 16 00.7
comp=Z,3μm,1.6s
BJT Baijiatuau 23.91 272 IAMs_20 IAMs_20 05 25 17.0
comp=Z,38μm,19.0s
CIT Chita 24.23 302 *e*P **P 05 15 37.3 -2.4**
CIT *e* 05 15 54.6
CIT *e* 05 16 15.8
CIT *e* 05 16 26.4
CIT *e* 05 19 46.8
CIT pmax pmax
comp=Z,1μm,2.6s
KIWB Kanaga Island 24.46 59 P **P 05 15 42.3 +0.5**
SSE Sheshan 24.72 248 P **P 05 15 45.7 +1.4**
SSE S **S 05 20 00.4 -2.3**
SSE pmax pmax
comp=Z,91nm,1.0s
SSE pmax pmax
comp=Z,3μm,3.7s
SSE LR LR
comp=Z,2μm,16.9s
SSE LR LR
comp=Z,4μm,17.8s
ADK Adak 24.75 59 P **P 05 15 44.3 -0.1**
ADK pmax pmax
comp=Z,503nm,1.1s
ADK MLR MLR
comp=Z,18μm,20.0s
ADK Adak 24.75 59 P **P 05 15 44.3 -0.1**
ADK Adak 24.75 59 ⇑P **P 05 15 44.1 -0.2**
TIA Tai'an 24.76 262 ⇑*i*P **P 05 15 45.1 +0.5**
TIA S **S 05 20 02.7 -0.5**
TIA pmax pmax
comp=Z,190nm,1.9s
TIA pmax pmax
comp=Z,7μm,5.0s
TIA LR LR
comp=Z,9μm,17.2s
TIA LR LR
comp=Z,9μm,13.7s
TIA LR LR
comp=Z,16μm,17.2s
GSTR Great Sitkin T 25.15 58 P **P 05 15 47.3 -0.8**
BOD Bodaibo 25.20 315 *e*P **P 05 15 46.1 -2.3**
BOD pmax pmax
comp=Z,758nm,1.2s
NJ2 Nanjing 25.73 252 ⇑*i*P **P 05 15 54.3 +0.9**
NJ2 pP **pP 05 16 02.7 -3.5**
NJ2 sP **sP 05 16 08.5 -3.8**
NJ2 PP **PnPn 05 16 39.3 +7.4**
NJ2 S **S 05 20 19.0 +0.4**
NJ2 sS sS 05 20 32.2 -7.6
NJ2 PcS **PcS 05 23 02.4 -0.7**
NJ2 pmax pmax
comp=Z,140nm,0.9s
NJ2 pmax pmax
comp=Z,13μm,4.0s
NJ2 LR LR
comp=Z,34μm,18.9s
NJ2 LR LR
comp=Z,31μm,20.8s
NJ2 LR LR
comp=Z,51μm,22.3s
BILL Bilibino 25.98 16 *d i*P **P 05 15 52.7 -2.6**
BILL *e* 05 16 38.8
BILL *i* S **S 05 20 23.8 +1.8**
BILL pmax pmax
comp=Z,262nm,1.5s
BILL MLR MLR
comp=Z,31μm,20.0s
BILL Bilibino 25.98 16 P **P 05 15 53.2 -2.1**
BILL IAmb IAmb 05 15 59.1
comp=Z,800nm,0.8s
BILL IAMs_20 IAMs_20 05 26 18.1
comp=Z,31μm,21.0s
ATKA Atka Island 26.31 58 P **P 05 15 58.2 -0.3**
ATKA IAMs_20 IAMs_20 05 24 53.5
comp=Z,37μm,22.0s
ATKA Atka Island 26.31 58 ⇑P **P 05 15 58.1 -0.3**
HHC Hu-ho-hao-te 26.95 276 ⇑*i*P **P 05 16 05.5 +1.0**
HHC sP pP 05 16 19.9 +2.5
HHC S **S 05 20 38.3 +0.3**
HHC sS sS 05 20 51.6 -7.6
HHC pmax pmax
comp=Z,280nm,1.5s
HHC pmax pmax
comp=Z,11μm,7.0s
HHC LR LR
comp=Z,21μm,13.5s
HHC LR LR
comp=Z,32μm,19.4s
HHC LR LR
comp=Z,49μm,19.4s
TIY Taiyuan 27.48 269 *e*P **P 05 16 11.2 +2.0**
TIY sP **sP 05 16 26.1 -2.1**
TIY S **S 05 20 46.4 +0.1**
TIY sS **sS 05 21 03.5 -4.0**
TIY pmax pmax
comp=Z,290nm,0.7s
TIY pmax pmax
comp=Z,5μm,4.3s
TIY LR LR
comp=Z,5μm,12.4s
TIY LR LR
comp=Z,7μm,8.1s
TIY LR LR
comp=Z,27μm,23.5s
BTO Baotou 28.14 276 *e*P **P 05 16 16.4 +1.3**
BTO pmax pmax
comp=Z,980nm,1.9s
BTO LR LR
comp=Z,174μm,20.8s
BTO LR LR
comp=Z,122μm,17.9s
YOJ Yonaguni jima 28.21 235 IAMs_20 IAMs_20 05 27 36.7
comp=Z,29μm,22.0s
ULN Ulaanbaatar 28.51 292 *ce*P **P 05 16 19.0 +0.5**
ULN pmax pmax
comp=Z,2μm,1.7s
ULN MLR MLR
comp=Z,60μm,17.0s
ULN Ulaanbaatar 28.51 292 P **P 05 16 19.3 +0.9**
ULN IAmb IAmb 05 16 21.5
comp=Z,669nm,0.7s
ULN Ulaanbaatar 28.51 292 ⇑P **P 05 16 18.8 +0.4**
ULN Ulaanbaatar 28.51 292 *e*P **P 05 16 19.3 +0.9**
TATO Taipei 28.73 237 IAMs_20 IAMs_20 05 27 54.6
comp=Z,26μm,22.0s
H11N2 WAKE ISLAND Hy 28.87 141 P **P 05 16 21.7 +0.3**
baz=302,slow=12,SNR=7.7
H11N2 T T 05 47 04.5
baz=329,slow=75
H11N1 WAKE ISLAND Hy 28.88 141 P **P 05 16 22.1 +0.6**
baz=302,slow=12,SNR=8.1
H11N1 T T 05 47 14.9
baz=329,slow=75
H11N3 WAKE ISLAND Hy 28.89 141 P **P 05 16 23.2 +1.7**
baz=302,slow=12,SNR=10
H11N3 T T 05 46 55.7
baz=329,slow=75
SONM Songino Array 28.96 292 P **P 05 16 23.3 +1.0**
comp=Z,446nm,0.6s,baz=81,slow=8.5,SNR=685
SONM S **S 05 21 08.8 -0.8**
comp=Z,4.7nm,0.8s,baz=23,slow=1.3,SNR=1.5
SONM LR LR 05 28 47.1
comp=Z,59μm,20.0s,baz=84,slow=38
SONM P3KP 05 49 38.5
comp=Z,0.9nm,0.8s,baz=172,slow=2.9,SNR=3.9
SONM Songino Array 28.96 292 P **P 05 16 22.0 -0.4**
SONM Songino Array 28.96 292 P **P 05 16 22.0 -0.4**
YHNB Yeheng 29.03 237 IAMs_20 IAMs_20 05 28 03.5
comp=Z,33μm,21.0s
SPIA Saint Paul Isl 29.12 48 P **P 05 16 24.8 +1.3**
baz=261

SPIA				S	**S**	**05 21 12.3**	**+0.8**
	baz=261						
SPIA	**Saint Paul Isl**	**29.12**	**48**	P	**P**	**05 16 25.0**	**+1.5**
SPIA				IAmb	IAmb	05 16 26.5	
	comp=Z,1μm,1.3s						
WAKE	**Wake Island**	**29.15**	**142**	P	**P**	**05 16 23.5**	**-0.6**
WAKE	**Wake Island**	**29.15**	**142**	⇓P	**P**	**05 16 23.7**	**-0.4**
TIXI	**Tiksi**	**29.27**	**348**	P	**P**	**05 16 22.1**	**-2.6**
	comp=Z,99nm,0.6s,baz=143,slow=9.1,SNR=113						
TIXI				LR	LR	05 29 10.4	
	comp=Z,16μm,18.1s,baz=142,slow=38						
TIXI	**Tiksi**	**29.27**	**348**	*c iP*	**P**	**05 16 21.5**	**-3.2**
TIXI	**Tiksi**	**29.27**	**348**	P	**P**	**05 16 21.0**	**-3.7**
TIXI	**Tiksi**	**29.27**	**348**	⇑P	**P**	**05 16 21.3**	**-3.4**
NIKH	**Nikolski High**	**29.59**	**57**	P	**P**	**05 16 28.5**	**+0.8**
	baz=270						
WHN	**Wuhan**	**29.73**	**255**	⇑P	**P**	**05 16 29.6**	**+0.4**
WHN				pP	**pP**	**05 16 43.7**	**+1.5**
WHN				pmax	pmax		
	comp=Z,7μm,3.2s						
WHN				LR	LR		
	comp=Z,46μm,23.0s						
WHN				LR	LR		
	comp=Z,56μm,17.4s						
WHN				LR	LR		
	comp=Z,92μm,20.4s						
H11S1	**WAKE ISLAND Hy**	**29.85**	**142**	P	**P**	**05 16 30.3**	**+0.1**
	baz=333,slow=5.6,SNR=8.9						
H11S1				T	T	05 48 12.4	
	baz=333,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.86**	**142**	P	**P**	**05 16 30.3**	**+0.1**
	baz=333,slow=5.6,SNR=6.6						
H11S3				T	T	05 48 07.6	
	baz=333,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.87**	**142**	P	**P**	**05 16 30.6**	**+0.3**
	baz=333,slow=5.6,SNR=7.2						
H11S2				T	T	05 48 13.3	
	baz=333,slow=76						
SSLB	**Suanglung**	**29.94**	**237**	P	**P**	**05 16 28.9**	**-2.3**
SSLB				IAMs_20	IAMs_20	05 29 05.7	
	comp=Z,40μm,21.0s						
IRK	**Irkutsk**	**29.96**	**302**	*e*P	**P**	**05 16 29.7**	**-1.3**
IRK				*e*		05 17 44.4	
IRK				pmax	pmax		
	comp=Z,429nm,0.7s						
GAMB	**Gambell**	**30.17**	**35**	P	**P**	**05 16 33.6**	**+0.8**
	baz=248						
GAMB				S	**S**	**05 21 28.8**	**+0.8**
	baz=248						
GAMB	**Gambell**	**30.17**	**35**	P	**P**	**05 16 33.2**	**+0.5**
GAMB				IAMs_20	IAMs_20	05 30 29.7	
	comp=Z,23μm,19.0s						
GAMB	**Gambell**	**30.17**	**35**	⇑P	**P**	**05 16 33.3**	**+0.5**
TLY	**Talaya**	**30.37**	**301**	*c iP*	**P**	**05 16 33.5**	**-1.2**
TLY				*e*S	**S**	**05 21 27.1**	**-4.3**
TLY				pmax	pmax		
	comp=Z,345nm,0.6s						
TLY				MLR	MLR		
	comp=Z,145μm,20.0s						
TLY	**Talaya**	**30.37**	**301**	P	**P**	**05 16 33.7**	**-0.9**
TLY	**Talaya**	**30.37**	**301**	⇑P	**P**	**05 16 34.0**	**-0.7**
TPUB	**Ta-pu**	**30.50**	**236**	P	**P**	**05 16 34.9**	**-1.2**
QZH	**Quanzhou**	**30.55**	**241**	⇑*iP*	**P**	**05 16 37.9**	**+1.4**
QZH				sP	**pP**	**05 16 52.1**	**+2.6**
QZH				S	**S**	**05 21 38.7**	**+4.0**
QZH				sS	**sS**	**05 21 55.2**	**-0.7**
QZH				pmax	pmax		
	comp=Z,190nm,2.4s						
QZH				pmax	pmax		
	comp=Z,3μm,3.3s						
QZH				LR	LR		
	comp=Z,5μm,16.6s						
QZH				LR	LR		
	comp=Z,13μm,20.4s						
QZH				LR	LR		
	comp=Z,15μm,22.3s						
ZAK	**Zakamensk**	**30.69**	**298**	*e*P	**P**	**05 16 37.4**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,180nm,1.7s						
KNMB	**Chin-men Tao**	**31.03**	**241**	P	**P**	**05 16 41.9**	**+1.2**
XAN	**Xi'an**	**31.69**	**265**	P	**P**	**05 16 46.7**	**+0.2**
XAN				pP	pP	05 16 55.5	-4.1
XAN				sP	sP	05 17 00.9	-4.7
XAN				S	**S**	**05 21 47.7**	**-4.8**
XAN				pmax	pmax		
	comp=Z,230nm,1.1s						
XAN				pmax	pmax		
	comp=Z,630nm,7.1s						
XAN				LR	LR		
	comp=Z,16μm,17.4s						
XAN				LR	LR		
	comp=Z,20μm,14.1s						
XAN				LR	LR		
	comp=Z,20μm,15.4s						
MIDW	**Midway**	**31.82**	**108**	P	**P**	**05 16 48.8**	**+1.2**
MIDW				IAmb	IAmb	05 16 49.7	
	comp=Z,582nm,1.1s						
MOY	**Mondy**	**32.01**	**301**	*e*P	**P**	**05 16 48.8**	**-0.5**
MOY				pmax	pmax		
	comp=Z,588nm,2.6s						
TNA	**Tin City**	**32.33**	**33**	P	**P**	**05 16 53.2**	**+1.5**
	baz=250,SNR=601						
TNA				S	**S**	**05 22 03.6**	**+1.9**
	baz=250						
TNA	**Tin City**	**32.33**	**33**	P	**P**	**05 16 53.2**	**+1.5**
TNA	**Tin City**	**32.33**	**33**	⇑P	**P**	**05 16 52.9**	**+1.1**
FALS	**False Pass**	**32.79**	**53**	IAMs_20	IAMs_20	05 28 31.8	
	comp=Z,22μm,22.0s						
ANM	**Nome**	**33.05**	**35**	P	**P**	**05 16 59.8**	**+1.7**
ANM				pmax	pmax		
	comp=Z,2μm,1.2s						
ANM				MLR	MLR		
	comp=Z,19μm,20.0s						
ANM	**Nome**	**33.05**	**35**	P	**P**	**05 16 59.8**	**+1.7**
	baz=254,SNR=257						
ANM				S	**S**	**05 22 15.8**	**+2.9**
	baz=254						
ANM	**Nome**	**33.05**	**35**	P	**P**	**05 16 59.8**	**+1.7**
ANM				IAMs_20	IAMs_20	05 32 07.9	
	comp=Z,19μm,20.0s						
ENH	**Enshi**	**33.31**	**259**	IAmb	IAmb	05 17 16.0	
	comp=Z,493nm,1.1s						
LZH	**Lanzhou**	**34.38**	**272**	⇑*iP*	**P**	**05 17 11.4**	**+1.3**
LZH				pP	pP	05 17 25.1	+1.8
LZH				*e*S	**S**	**05 22 31.2**	**-3.2**
LZH				sS	sS	05 22 56.5	+0.7
LZH				SS	**SnSn**	**05 24 49.2**	**+1.2**
LZH				pmax	pmax		
	comp=Z,1μm,1.3s						
LZH				pmax	pmax		
	comp=Z,6μm,4.1s						
LZH				LR	LR		
	comp=Z,12μm,14.1s						
LZH				LR	LR		
	comp=Z,24μm,14.1s						
LZH				LR	LR		
	comp=Z,20μm,16.3s						
SDPT	**Sand Point**	**34.46**	**52**	P	**P**	**05 17 12.4**	**+2.1**
	baz=273						
CHNA	**Chernabura Isl**	**35.00**	**53**	P	**P**	**05 17 14.1**	**-0.9**
	baz=274						
CHNA				S	**S**	**05 22 37.2**	**-6.0**
	baz=274						
CNBA	**Chernabura Isl**	**35.00**	**53**	P	**P**	**05 17 14.8**	**-0.2**
CNBA				IAMs_20	IAMs_20	05 31 47.3	
	comp=Z,20μm,22.0s						
RDOG	**Red Dog Mine**	**35.03**	**30**	P	**P**	**05 17 17.5**	**+2.3**
	baz=252,SNR=60						
RDOG				S	**S**	**05 22 45.5**	**+2.1**
	baz=252						
RDOG	**Red Dog Mine**	**35.03**	**30**	P	**P**	**05 17 17.5**	**+2.3**
RDOG				IAMs_20	IAMs_20	05 31 51.9	
	comp=Z,29μm,22.0s						
GZH	**Guangzhou**	**35.25**	**245**	P	**P**	**05 17 13.5**	**-4.0**
GZH				S	**S**	**05 22 39.8**	**-7.8**
GZH				pmax	pmax		
	comp=Z,3μm,6.0s						
GZH				LR	LR		
	comp=Z,21μm,18.2s						
GZH				LR	LR		
	comp=Z,19μm,21.9s						
GTA	**Gaotai**	**35.87**	**280**	⇑P	**P**	**05 17 24.2**	**+1.4**
GTA				pP	pP	05 17 32.0	-4.0
GTA				sP	sP	05 17 36.5	-5.5
GTA				PP	**PnPn**	**05 18 42.1**	**-2.1**
GTA				PcP	**PcP**	**05 19 51.5**	**+2.3**
GTA				S	**S**	**05 22 57.2**	**+0.1**
GTA				PcS	**PcS**	**05 23 38.4**	**+1.7**
GTA				SS	**SnSn**	**05 25 28.5**	**+4.7**
GTA				ScS	**ScS**	**05 27 36.6**	**+0.3**
GTA				pmax	pmax		
	comp=Z,360nm,1.7s						
GTA				pmax	pmax		
	comp=Z,6μm,7.4s						
GTA				LR	LR		
	comp=Z,18μm,21.5s						
GTA				LR	LR		
	comp=Z,8μm,16.7s						
GTA				LR	LR		
	comp=Z,25μm,18.5s						
N18K	**Kilae Creek**	**36.83**	**43**	P	**P**	**05 17 32.3**	**+1.6**
	baz=269,SNR=262						
N18K				S	**S**	**05 23 13.8**	**+2.7**
	baz=269						
TTA	**Tatalina**	**36.87**	**39**	P	**P**	**05 17 33.5**	**+2.5**
TTA				pmax	pmax		
	comp=Z,558nm,1.0s						
TTA	**Tatalina**	**36.87**	**39**	P	**P**	**05 17 32.3**	**+1.3**
	baz=266,SNR=5.7						
TTA				S	**S**	**05 23 12.6**	**+0.8**
	baz=266						
TTA	**Tatalina**	**36.87**	**39**	P	**P**	**05 17 33.5**	**+2.5**
TTA				IAmb	IAmb	05 17 35.6	
	comp=Z,558nm,1.0s						
SVW2	**Sparrevohn**	**36.99**	**42**	P	**P**	**05 17 33.7**	**+1.7**
SVW2				IAmb	IAmb	05 17 35.8	
	comp=Z,822nm,1.2s						
CD2	**Chengdu**	**37.04**	**265**	P	**P**	**05 17 33.4**	**+0.6**
CD2				pP	pP	05 17 44.7	-1.4
CD2				sP	sP	05 17 47.0	-5.0
CD2				S	**S**	**05 23 13.6**	**-1.4**
CD2				sS	sS	05 23 37.5	+1.0
CD2				pmax	pmax		
	comp=Z,1μm,0.6s						
CD2				pmax	pmax		
	comp=Z,5μm,5.7s						
CD2				LR	LR		
	comp=Z,23μm,18.4s						
CD2				LR	LR		
	comp=Z,15μm,16.7s						
CD2				LR	LR		
	comp=Z,15μm,19.0s						
L19K	**White Mountain**	**37.37**	**40**	P	**P**	**05 17 36.8**	**+1.6**
	baz=268,SNR=123						
L19K				S	**S**	**05 23 21.3**	**+2.0**
	baz=268						
N19K	**Bonanza Creek**	**37.52**	**43**	P	**P**	**05 17 38.3**	**+1.7**
	baz=270,SNR=94						
N19K				S	**S**	**05 23 22.6**	**+0.8**
	baz=270						
GYA	**Guiyang**	**37.57**	**256**	⇑P	**P**	**05 17 37.6**	**+0.1**
GYA				pP	pP	05 17 51.9	+1.2
GYA				S	**S**	**05 23 22.7**	**-0.6**
GYA				sS	sS	05 23 44.8	-0.1
GYA				pmax	pmax		
	comp=Z,600nm,4.6s						
GYA				LR	LR		
	comp=Z,2μm,17.6s						
GYA				LR	LR		
	comp=Z,3μm,19.0s						
GYA				LR	LR		
	comp=Z,5μm,19.2s						
M19K	**Big River Lodg**	**37.58**	**41**	P	**P**	**05 17 38.6**	**+1.6**
	baz=269,SNR=122						
M19K				S	**S**	**05 23 24.0**	**+1.6**
	baz=269						
O19K	**Port Alsworth**	**37.61**	**44**	P	**P**	**05 17 38.6**	**+1.4**
	baz=271						
O19K				S	**S**	**05 23 25.1**	**+2.2**
	baz=271						
PATS	**Pohnpei**	**38.08**	**163**	P	**P**	**05 17 41.5**	**0.0**
PATS				IAMs_20	IAMs_20	05 30 46.4	
	comp=Z,20μm,20.0s						
A21K	**Barrow**	**38.08**	**25**	P	**P**	**05 17 41.4**	**+0.4**
	baz=254,SNR=48						
A21K				S	**S**	**05 23 27.7**	**-2.1**
	baz=254						
A21K	**Barrow**	**38.08**	**25**	P	**P**	**05 17 41.5**	**+0.5**
M20K	**Styx River**	**38.17**	**41**	P	**P**	**05 17 44.1**	**+2.0**
	baz=270						
M20K				S	**S**	**05 23 34.0**	**+2.4**
	baz=270						
P19K	**Oil Pt**	**38.17**	**45**	P	**P**	**05 17 43.0**	**+0.9**
	baz=273,SNR=8.1						
P19K				S	**S**	**05 23 30.3**	**-1.2**
	baz=273						
OHAK	**Old Harbor**	**38.32**	**49**	P	**P**	**05 17 43.1**	**-0.1**
	baz=276,SNR=23						
OHAK				S	**S**	**05 23 30.8**	**-2.8**
	baz=276						
OHAK	**Old Harbor**	**38.32**	**49**	P	**P**	**05 17 43.3**	**0.0**
OHAK				IAmb	IAmb	05 18 07.1	
	comp=Z,436nm,1.0s						
RSO	**Redoubt South**	**38.38**	**43**	P	**P**	**05 17 44.8**	**+0.8**
O20K	**Slope Mountain**	**38.46**	**44**	P	**P**	**05 17 45.2**	**+0.7**
	baz=273,SNR=18						
O20K				S	**S**	**05 23 35.7**	**-0.2**
	baz=273						
H21K	**Melozitna Rive**	**38.47**	**35**	P	**P**	**05 17 45.9**	**+1.5**
	baz=266,SNR=1000						
H21K				S	**S**	**05 23 37.7**	**+1.8**
	baz=266						
CHUM	**Lake Minchumin**	**38.58**	**38**	P	**P**	**05 17 47.5**	**+2.2**
	baz=268						
CHUM				S	**S**	**05 23 39.9**	**+2.4**
	baz=268						
PPLA	**Purkeypile**	**38.62**	**39**	P	**P**	**05 17 47.9**	**+2.1**
	baz=270						
PPLA				S	**S**	**05 23 40.9**	**+2.6**
	baz=270						
SPCR	**Spurr Chakacha**	**38.62**	**42**	P	**P**	**05 17 47.5**	**+1.7**
	baz=272,SNR=106						
SPCR				S	**S**	**05 23 40.5**	**+2.1**
	baz=272						
KDAK	**Kodiak Island**	**38.65**	**48**	P	**P**	**05 17 45.5**	**-0.4**
KDAK				pmax	pmax		
	comp=Z,433nm,1.1s						
KDAK				MLR	MLR		
	comp=Z,20μm,21.0s						
KDAK	**Kodiak Island**	**38.65**	**48**	P	**P**	**05 17 46.0**	**0.0**
	baz=276						
KDAK				S	**S**	**05 23 35.8**	**-2.8**
	baz=276						
KDAK	**Kodiak Island**	**38.65**	**48**	P	**P**	**05 17 45.5**	**-0.4**
KDAK	**Kodiak Island**	**38.65**	**48**	IAMs_20	IAMs_20	05 34 20.5	
	comp=Z,20μm,21.0s						
KDAK	**Kodiak Island**	**38.65**	**48**	⇑P	**P**	**05 17 45.8**	**-0.2**
SPU	**Mount Spurr**	**38.70**	**42**	P	**P**	**05 17 48.1**	**+1.7**
I21K	**Tanana**	**38.78**	**36**	P	**P**	**05 17 48.7**	**+1.7**
	baz=267,SNR=730						
I21K				S	**S**	**05 23 42.8**	**+2.3**
	baz=267						
SKT	**Skwentna**	**38.93**	**41**	P	**P**	**05 17 49.2**	**+0.9**
	baz=271,SNR=76						
SKT				S	**S**	**05 23 42.8**	**0.0**
	baz=271						
SKT	**Skwentna**	**38.93**	**41**	P	**P**	**05 17 48.7**	**+0.4**
SKT				IAMs_20	IAMs_20	05 32 12.7	
	comp=Z,18μm,22.0s						
KWAJ	**Kwajalein Atol**	**38.97**	**148**	P	**P**	**05 17 50.6**	**+1.5**
KWAJ				pmax	pmax		
	comp=Z,2μm,1.9s						
KWAJ	**Kwajalein Atol**	**38.97**	**148**	P	**P**	**05 17 50.5**	**+1.5**
KWAJ	**Kwajalein Atol**	**38.97**	**148**	IAMs_20	IAMs_20	05 30 20.4	
	comp=Z,19μm,21.0s						
HOM	**Homer**	**38.98**	**45**	P	**P**	**05 17 48.8**	**+0.1**
	baz=274,SNR=8.2						
HOM				S	**S**	**05 23 40.7**	**-2.8**
	baz=274						
HOM	**Homer**	**38.98**	**45**	P	**P**	**05 17 50.2**	**+1.5**
HOM				IAmb	IAmb	05 17 51.8	
	comp=Z,997nm,1.1s						
CAPN	**Captain Cook N**	**39.15**	**43**	P	**P**	**05 17 51.4**	**+1.2**
	baz=273,SNR=5.9						
CAPN				S	**S**	**05 23 47.4**	**+1.3**
	baz=273						
CAPN	**Captain Cook N**	**39.15**	**43**	IAmb	IAmb	05 18 32.0	
	comp=Z,552nm,0.9s						
CAPN				IAMs_20	IAMs_20	05 33 52.7	
	comp=Z,14μm,19.0s						
BPAW	**Bear Paw Mtn.**	**39.17**	**37**	P	**P**	**05 17 52.0**	**+1.7**
	baz=269,SNR=324						
BPAW				S	**S**	**05 23 48.3**	**+1.8**
	baz=269						
BPAW	**Bear Paw Mtn.**	**39.17**	**37**	P	**P**	**05 17 52.0**	**+1.7**
BPAW				IAmb	IAmb	05 17 55.1	
	comp=Z,515nm,1.0s						
KTH	**Kantishna Hill**	**39.20**	**38**	P	**P**	**05 17 52.5**	**+1.9**
MLY	**Manley**	**39.30**	**36**	P	**P**	**05 17 53.1**	**+1.7**
	baz=268,SNR=717						
MLY				S	**S**	**05 23 50.6**	**+2.1**
	baz=268						
MLY	**Manley**	**39.30**	**36**	IAmb	IAmb	05 17 55.2	
	comp=Z,964nm,1.1s						
MLY				IAMs_20	IAMs_20	05 36 22.0	
	comp=Z,16μm,20.0s						
SUA	**Susitna One**	**39.32**	**42**	P	**P**	**05 17 52.1**	**+0.4**
	baz=273,SNR=21						
SUA				S	**S**	**05 23 47.8**	**-1.1**
	baz=273						
SUA	**Susitna One**	**39.32**	**42**	P	**P**	**05 17 52.4**	**+0.7**
BRLK	**Bradley Lake**	**39.35**	**44**	P	**P**	**05 17 52.2**	**+0.3**
BRLK				IAmb	IAmb	05 18 16.7	
	comp=Z,1μm,1.6s						
NRIK	**Noril'sk**	**39.36**	**331**	P	**P**	**05 17 49.4**	**-2.4**
	comp=Z,69nm,0.5s,baz=103,slow=8.4,SNR=105						
NRIK				PcP	**PcP**	**05 20 00.0**	**+0.9**
	comp=Z,98nm,0.6s,baz=137,slow=3.5,SNR=6.9						
NRIK				LR	LR	05 35 36.6	
	comp=Z,29μm,18.8s,baz=102,slow=38						
NRIK	**Noril'sk**	**39.36**	**331**	*c iP*	**P**	**05 17 49.1**	**-2.7**
NRIK				pmax	pmax		
	comp=Z,539nm,1.5s						
NRIK				MLR	MLR		
	comp=Z,28μm,16.0s						
NRIK	**Noril'sk**	**39.36**	**331**	P	**P**	**05 17 49.2**	**-2.5**
BRSE	**Bradley Lake S**	**39.43**	**44**	P	**P**	**05 17 52.2**	**-0.3**
	baz=275,SNR=38						
BRSE				S	**S**	**05 23 46.5**	**-3.9**
	baz=275						
TRF	**Thorofare Moun**	**39.48**	**38**	P	**P**	**05 17 54.3**	**+1.2**
	baz=270,SNR=17						
TRF				S	**S**	**05 23 51.1**	**-0.3**
	baz=270						
CUT	**Chulitna**	**39.51**	**40**	P	**P**	**05 17 53.6**	**+0.5**
	baz=272,SNR=29						
CUT				S	**S**	**05 23 50.6**	**-0.8**
	baz=272						
CUT	**Chulitna**	**39.51**	**40**	P	**P**	**05 17 53.4**	**+0.3**
CUT				IAmb	IAmb	05 18 18.9	
	comp=Z,842nm,1.2s						
COLD	**Coldfoot**	**39.63**	**33**	P	**P**	**05 17 55.6**	**+1.5**
	baz=266,SNR=1000						
COLD				S	**S**	**05 23 54.1**	**+0.8**
	baz=266						
COLD	**Coldfoot**	**39.63**	**33**	P	**P**	**05 17 55.9**	**+1.7**
RC01	**Rabbit Creek A**	**39.83**	**42**	P	**P**	**05 17 55.8**	**0.0**
	baz=274,SNR=75						
RC01				S	**S**	**05 23 52.5**	**-3.8**
	baz=274						
RC01	**Rabbit Creek A**	**39.83**	**42**	P	**P**	**05 17 56.0**	**+0.2**
RC01				IAmb	IAmb	05 17 58.7	
	comp=Z,635nm,1.1s						
RC01				IAMs_20	IAMs_20	05 37 33.5	
	comp=Z,17μm,20.0s						
H23K	**Yukon River**	**39.83**	**35**	P	**P**	**05 17 57.8**	**+2.0**
	baz=268,SNR=1000						
H23K				S	**S**	**05 23 58.7**	**+2.4**
	baz=268						
BWN	**Browne**	**39.84**	**37**	P	**P**	**05 17 57.8**	**+1.9**
O22K	**Cooper Landing**	**39.88**	**43**	P	**P**	**05 17 56.4**	**+0.2**
	baz=275,SNR=17						
O22K				S	**S**	**05 23 53.4**	**-3.6**
	baz=275						
O22K	**Cooper Landing**	**39.88**	**43**	P	**P**	**05 17 56.2**	**0.0**
O22K				IAMs_20	IAMs_20	05 37 39.9	
	comp=Z,15μm,21.0s						
I23K	**Minto, Yukon-K**	**39.89**	**36**	P	**P**	**05 17 58.0**	**+1.8**
	baz=269,SNR=678						
I23K				S	**S**	**05 23 58.2**	**+1.1**
	baz=269						
TOLK	**Toolik Lake Re**	**39.98**	**30**	P	**P**	**05 17 58.4**	**+1.3**
	baz=265,SNR=811						
TOLK				S	**S**	**05 23 58.2**	**-0.4**
	baz=265						
TOLK	**Toolik Lake Re**	**39.98**	**30**	P	**P**	**05 17 58.3**	**+1.3**
TOLK				IAMs_20	IAMs_20	05 35 03.9	
	comp=Z,25μm,22.0s						
NEA2	**Nenana**	**40.01**	**37**	P	**P**	**05 17 58.8**	**+1.5**
	baz=270,SNR=532						
NEA2				S	**S**	**05 24 00.2**	**+1.2**
	baz=270						
NEA2	**Nenana**	**40.01**	**37**	IAmb	IAmb	05 18 01.8	
	comp=Z,931nm,0.9s						
NEA2				IAMs_20	IAMs_20	05 36 35.1	
	comp=Z,17μm,19.0s						
SEW	**Seward**	**40.04**	**44**	P	**P**	**05 17 57.8**	**+0.2**
	baz=275,SNR=28						
SEW				S	**S**	**05 23 56.5**	**-2.9**
	baz=275						
SEW	**Seward**	**40.04**	**44**	P	**P**	**05 17 57.6**	**+0.1**
SEW				IAmb	IAmb	05 18 26.2	
	comp=Z,862nm,1.3s						
SEW				IAMs_20	IAMs_20	05 37 30.3	
	comp=Z,18μm,21.0s						
MCK	**McKinley**	**40.08**	**38**	P	**P**	**05 17 58.8**	**+0.9**
	baz=271,SNR=260						
MCK				S	**S**	**05 23 58.3**	**-1.8**
	baz=271						
MCK	**McKinley**	**40.08**	**38**	IAmb	IAmb	05 18 02.2	
	comp=Z,670nm,1.0s						
MCK				IAMs_20	IAMs_20	05 34 34.0	
	comp=Z,14μm,21.0s						
PMR	**Palmer**	**40.08**	**41**	P	**P**	**05 17 57.9**	**0.0**
PMR				pmax	pmax		
	comp=Z,524nm,1.2s						
PMR				MLR	MLR		
	comp=Z,16μm,22.0s						
PMR	**Palmer**	**40.08**	**41**	P	**P**	**05 17 57.7**	**-0.2**
	baz=274,SNR=107						
PMR				S	**S**	**05 23 58.4**	**-1.7**
	baz=274						
PMR	**Palmer**	**40.08**	**41**	P	**P**	**05 17 57.9**	**0.0**
PMR				IAMs_20	IAMs_20	05 35 01.3	
	comp=Z,16μm,22.0s						
RND	**Reindeer**	**40.13**	**39**	P	**P**	**05 17 57.8**	**-0.5**
RND				pmax	pmax		
	comp=Z,860nm,1.2s						
RND				MLR	MLR		
	comp=Z,13μm,20.0s						
RND	**Reindeer**	**40.13**	**39**	P	**P**	**05 17 57.8**	**-0.5**
RND				IAmb	IAmb	05 18 22.4	
	comp=Z,860nm,1.2s						
RND				IAMs_20	IAMs_20	05 36 31.2	
	comp=Z,13μm,20.0s						
GHO	**Glory Hole Cre**	**40.17**	**41**	IAmb	IAmb	05 18 24.9	
	comp=Z,596nm,1.0s						
GHO				IAMs_20	IAMs_20	05 36 35.5	
	comp=Z,14μm,21.0s						
WAT1	**Susitna Watana**	**40.29**	**39**	P	**P**	**05 17 60.0**	**+0.3**
	baz=273						
WAT1				S	**S**	**05 24 01.2**	**-1.9**
	baz=273						
MDM	**Murphy Dome**	**40.37**	**36**	P	**P**	**05 18 01.5**	**+1.3**
KNK	**Knik Glacier**	**40.42**	**42**	P	**P**	**05 18 01.6**	**+0.8**
	baz=275,SNR=171						
KNK				S	**S**	**05 24 04.1**	**-1.1**
	baz=275						
KNK	**Knik Glacier**	**40.42**	**42**	P	**P**	**05 18 01.6**	**+0.8**
KNK				IAmb	IAmb	05 18 05.1	
	comp=Z,738nm,1.0s						
KNK				IAMs_20	IAMs_20	05 37 40.3	
	comp=Z,19μm,20.0s						
QIZ	**Qiongzhong**	**40.42**	**244**	P	**P**	**05 18 01.8**	**+0.6**
QIZ				sP	**pP**	**05 18 14.8**	**+0.3**
QIZ				PP	**PP**	**05 19 35.9**	**+1.0**
QIZ				S	**S**	**05 24 08.1**	**+2.1**
QIZ				SS	**SS**	**05 27 09.5**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,100nm,2.6s						
QIZ				pmax	pmax		
	comp=Z,1μm,5.2s						
QIZ				LR	LR		
	comp=Z,10μm,17.8s						
QIZ				LR	LR		
	comp=Z,18μm,23.2s						
QIZ				LR	LR		
	comp=Z,21μm,22.4s						
QIZ	**Qiongzhong**	**40.42**	**244**	IAMs_20	IAMs_20	05 34 17.2	
	comp=Z,26μm,22.0s						

WRH	**Wood River Hil**	**40.44**	**37**	IAmb	IAmb	05 18 08.0	
	comp=Z,813nm,1.0s						
WRH				IAms_20	IAms_20	05 37 18.4	
	comp=Z,17µm,20.0s						
SML	**Sawmill**	**40.45**	**41**	P	**P**	**05 18 01.8**	**+0.8**
	baz=274,SNR=533						
SML				S	**S**	**05 24 05.3**	**-0.3**
	baz=274						
SML	**Sawmill**	**40.45**	**41**	P	**P**	**05 18 02.0**	**+1.0**
SML				IAms_20	IAms_20	05 37 53.1	
	comp=Z,15µm,22.0s						
H24K	**Noodor Dome**	**40.51**	**35**	P	**P**	**05 18 03.5**	**+2.1**
	baz=270,SNR=1000						
H24K				S	**S**	**05 24 09.5**	**+3.0**
	baz=270						
PWL	**Port Wells**	**40.52**	**42**	IAmb	IAmb	05 18 03.8	
	comp=Z,711nm,1.2s						
PWL				IAms_20	IAms_20	05 37 37.0	
	comp=Z,22µm,21.0s						
TCOL	**CIGO, UAF Yank**	**40.52**	**36**	P	**P**	**05 18 03.2**	**+1.7**
	baz=271,SNR=40						
TCOL				S	**S**	**05 24 07.7**	**+1.1**
	baz=271						
TCOL	**CIGO, UAF Yank**	**40.52**	**36**	IAms_20	IAms_20	05 37 00.8	
	comp=Z,16µm,20.0s						
COLA	**College**	**40.53**	**36***c*	*i*P	**P**	**05 18 02.8**	**+1.3**
COLA				pmax	pmax		
	comp=Z,2µm,1.2s						
COLA				MLR	MLR		
	comp=Z,14µm,20.0s						
COLA	**College**	**40.53**	**36**	P	**P**	**05 18 02.9**	**+1.4**
	baz=271						
COLA				S	**S**	**05 24 06.9**	**+0.3**
	baz=271						
COLA	**College**	**40.53**	**36**	P	**P**	**05 18 02.4**	**+0.9**
COLA	**College**	**40.53**	**36**	IAms_20	IAms_20	05 37 00.8	
	comp=Z,15µm,20.0s						
COLA	**College**	**40.53**	**36**	⇑P	**P**	**05 18 02.7**	**+1.2**
CCB	**Clear Creek Bu**	**40.55**	**37**	IAms_20	IAms_20	05 37 21.5	
	comp=Z,14µm,20.0s						
WAT6	**Susitna Watana**	**40.67**	**40**	P	**P**	**05 18 03.5**	**+0.6**
	baz=274,SNR=227						
WAT6				S	**S**	**05 24 07.7**	**-1.6**
	baz=274						
POKR	**Poker Plat Res**	**40.70**	**36**	P	**P**	**05 18 04.6**	**+1.6**
	baz=271,SNR=526						
POKR				S	**S**	**05 24 09.9**	**+0.6**
	baz=271						
POKR	**Poker Plat Res**	**40.70**	**36**	P	**P**	**05 18 04.3**	**+1.3**
POKR	**Poker Plat Res**	**40.70**	**36**	IAms_20	IAms_20	05 37 07.1	
	comp=Z,13µm,20.0s						
SCM	**Sheep Creek Mo**	**40.92**	**41**	P	**P**	**05 18 05.5**	**+0.6**
SCM				pmax	pmax		
	comp=Z,719nm,1.2s						
SCM				MLR	MLR		
	comp=Z,11µm,20.0s						
SCM	**Sheep Creek Mo**	**40.92**	**41**	P	**P**	**05 18 05.5**	**+0.6**
SCM				IAmb	IAmb	05 18 29.5	
	comp=Z,719nm,1.2s						
HDA	**Harding Lake**	**40.93**	**37**	P	**P**	**05 18 05.0**	**+0.1**
	baz=272,SNR=479						
HDA				S	**S**	**05 24 11.5**	**-1.2**
	baz=272						
HDA				S	**S**	**05 24 11.5**	**-1.2**
	baz=272						
IL31		**40.95**	**36**	P	**P**	**05 18 04.6**	**-0.3**
IL31				IAmb	IAmb	05 18 07.7	
	comp=Z,845nm,1.1s						
ILAR	**Eielson Array**	**40.95**	**36**	P	**P**	**05 18 05.2**	**+0.2**
	comp=Z,290nm,0.8s,baz=259,slow=9.0,SNR=430						
ILAR				S	**S**	**05 24 09.9**	**-3.0**
	comp=Z,3.6nm,1.0s,baz=257,slow=12,SNR=2.4						
ILAR				LR	LR	05 36 54.3	
	comp=Z,9µm,19.6s,baz=288,slow=39						
GLI	**Glacier Island**	**41.13**	**42**	P	**P**	**05 18 06.8**	**+0.2**
	baz=276,SNR=36						
GLI				S	**S**	**05 24 15.9**	**+0.2**
	baz=276						
GLI	**Glacier Island**	**41.13**	**42**	P	**P**	**05 18 06.8**	**+0.2**
GLI				IAms_20	IAms_20	05 38 23.9	
	comp=Z,14µm,20.0s						
KMI	**Kunming**	**41.17**	**258**	⇑P	**P**	**05 18 08.2**	**+0.7**
KMI				sP	pP	05 18 22.1	+1.2
KMI				PcS	**PcS**	**05 23 59.8**	**+2.3**
KMI				S	**S**	**05 24 16.3**	**-1.2**
KMI				sS	sS	05 24 33.6	-5.6
KMI				SS	**SS**	**05 27 16.6**	**-5.0**
KMI				pmax	pmax		
	comp=Z,420nm,1.4s						
KMI				pmax	pmax		
	comp=Z,6µm,3.9s						
KMI				LR	LR		
	comp=Z,15µm,23.3s						
KMI				LR	LR		
	comp=Z,12µm,25.7s						
KMI				LR	LR		
	comp=Z,21µm,25.5s						
ZALV	**Zalesovo Beam**	**41.36**	**307**	P	**P**	**05 18 08.0**	**-0.5**
	comp=Z,75nm,0.4s,baz=63,slow=8.2,SNR=192						
ZALV				PcP	**PcP**	**05 20 06.3**	**+0.5**
	comp=Z,210nm,0.7s,baz=77,slow=2.9,SNR=18						
ZALV				LR	LR	05 36 31.4	
	comp=Z,24µm,18.4s,baz=73,slow=38						
ZALV				P3KP		05 49 28.6	
	comp=Z,0.3nm,0.3s,baz=53,slow=0.7,SNR=1.4						
ZALV	**Zalesovo Beam**	**41.36**	**307**	P	**P**	**05 18 06.9**	**-1.6**
ZALV				PcP	**PcP**	**05 20 07.2**	**+1.3**
M24K	**Tolsona, Glenn**	**41.44**	**40**	P	**P**	**05 18 10.6**	**+1.4**
	baz=276,SNR=118						
M24K				S	**S**	**05 24 22.6**	**+2.2**
	baz=276						
M24K	**Tolsona, Glenn**	**41.44**	**40**	P	**P**	**05 18 09.9**	**+0.8**
M24K				IAmb	IAmb	05 18 14.4	
	comp=Z,1µm,1.1s						
FID	**Port Fidalgo**	**41.44**	**42**	IAmb	IAmb	05 18 11.5	
	comp=Z,823nm,1.4s						
HIN	**Hinchinbrook I**	**41.47**	**43**	IAmb	IAmb	05 18 12.2	
	comp=Z,650nm,1.1s						
HIN				IAms_20	IAms_20	05 38 29.1	
	comp=Z,14µm,20.0s						
PRP	**Porcupine Dome**	**41.49**	**35**	P	**P**	**05 18 10.6**	**+0.9**
	baz=272,SNR=208						
PRP				S	**S**	**05 24 22.0**	**+0.8**
	baz=272						
PRP	**Porcupine Dome**	**41.49**	**35**	IAmb	IAmb	05 18 13.1	
	comp=Z,916nm,1.0s						
KLU	**Klutina**	**41.62**	**41**	P	**P**	**05 18 11.9**	**+1.2**
	baz=277,SNR=383						
KLU				S	**S**	**05 24 23.9**	**+0.7**
	baz=277						
KLU	**Klutina**	**41.62**	**41**	IAmb	IAmb	05 18 15.4	
	comp=Z,1µm,1.2s						
DAV	**Davao City (W)**	**41.67**	**215**	LR	LR	05 32 20.3	
	comp=Z,47nm,20.6s,baz=13,slow=32						
PAX	**Paxson**	**41.68**	**39**	P	**P**	**05 18 12.4**	**+1.2**
PAX				pmax	pmax		
	comp=Z,360nm,1.2s						
PAX				MLR	MLR		
	comp=Z,16µm,22.0s						
PAX	**Paxson**	**41.68**	**39**	P	**P**	**05 18 11.7**	**+0.5**
	baz=275,SNR=41						
PAX				S	**S**	**05 24 24.6**	**+0.6**
	baz=275						
PAX	**Paxson**	**41.68**	**39**	P	**P**	**05 18 12.4**	**+1.2**
PAX				IAms_20	IAms_20	05 35 50.5	
	comp=Z,16µm,22.0s						
MID	**Middleton Isla**	**41.69**	**44**	P	**P**	**05 18 12.9**	**+1.8**
MID				pmax	pmax		
	comp=Z,817nm,1.1s						
MID	**Middleton Isla**	**41.69**	**44**	P	**P**	**05 18 12.9**	**+1.8**
MID				IAmb	IAmb	05 18 14.4	
	comp=Z,817nm,1.1s						
EYAK	**Cordova Ski Ar**	**41.82**	**43**	P	**P**	**05 18 13.3**	**+1.1**
	baz=278,SNR=77						
EYAK				S	**S**	**05 24 27.3**	**+1.4**
	baz=278						
EYAK	**Cordova Ski Ar**	**41.82**	**43**	P	**P**	**05 18 13.1**	**+0.9**
EYAK				IAmb	IAmb	05 18 38.2	
	comp=Z,1µm,1.7s						
EYAK				IAms_20	IAms_20	05 38 49.3	
	comp=Z,17µm,20.0s						
HARP	**HAARP**	**41.88**	**40**	P	**P**	**05 18 14.4**	**+1.7**
	baz=276,SNR=152						
HARP				S	**S**	**05 24 29.0**	**+2.1**
	baz=276						
N25K	**Chitina, Valde**	**42.24**	**41**	P	**P**	**05 18 17.2**	**+1.5**
	baz=278,SNR=120						
N25K				S	**S**	**05 24 34.1**	**+1.8**
	baz=278						
N25K	**Chitina, Valde**	**42.24**	**41**	IAmb	IAmb	05 18 40.9	
	comp=Z,1µm,1.6s						
SCRK	**Sand Creek**	**42.25**	**37**	P	**P**	**05 18 16.3**	**+0.4**
	baz=275,SNR=722						
SCRK				S	**S**	**05 24 31.5**	**-1.1**
	baz=275						
SCRK	**Sand Creek**	**42.25**	**37**	IAmb	IAmb	05 18 25.6	
	comp=Z,518nm,0.8s						
SCRK				IAms_20	IAms_20	05 38 07.4	
	comp=Z,13µm,20.0s						
BMRM	**Bremner River**	**42.32**	**42**	P	**P**	**05 18 17.6**	**+1.3**
	baz=278,SNR=121						
BMRM				S	**S**	**05 24 36.0**	**+2.6**
	baz=278						
BMRM	**Bremner River**	**42.32**	**42**	IAmb	IAmb	05 18 42.4	
	comp=Z,1µm,1.4s						
BMRM				IAms_20	IAms_20	05 37 36.5	
	comp=Z,16µm,22.0s						
MENT	**Mentasta**	**42.48**	**39**	IAmb	IAmb	05 18 43.9	
	comp=Z,1µm,1.5s						
HMT	**Hamilton**	**42.59**	**43**	IAmb	IAmb	05 18 21.9	
	comp=Z,672nm,1.1s						
HMT				IAms_20	IAms_20	05 39 22.5	
	comp=Z,12µm,20.0s						
WMQ	**Urumqi**	**42.59**	**292**	P	**P**	**05 18 20.3**	**+1.5**
WMQ				pP	pP	05 18 30.9	-1.3
WMQ				PcS	**PcS**	**05 24 02.9**	**+0.6**
WMQ				S	**S**	**05 24 39.5**	**+1.7**
WMQ				sS	sS	05 24 57.8	-1.8
WMQ				ScS	**ScS**	**05 28 16.0**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,930nm,0.7s						
WMQ				LR	LR		
	comp=Z,35µm,14.1s						
WMQ				LR	LR		
	comp=Z,56µm,17.5s						
WMQ				LR	LR		
	comp=Z,44µm,17.7s						
WMQ	**Urumqi**	**42.59**	**292**	P	**P**	**05 18 20.6**	**+1.8**
WMQ	**Urumqi**	**42.59**	**292**	P	**P**	**05 18 20.6**	**+1.8**
GLB	**Gilahina Butte**	**42.64**	**41**	IAmb	IAmb	05 18 47.0	
	comp=Z,1µm,1.8s						
GLB				IAms_20	IAms_20	05 37 17.7	
	comp=Z,17µm,22.0s						
SLVN	**Son La**	**42.81**	**253**	IAmb	IAmb	05 18 39.5	
	comp=Z,1µm,2.0s						
SLVN				IAms_20	IAms_20	05 36 13.3	
	comp=Z,20µm,22.0s						
VRDI	**Verde Repeater**	**42.84**	**41**	IAms_20	IAms_20	05 37 31.1	
	comp=Z,20µm,22.0s						
SUCK	**Suckling Hills**	**42.87**	**43**	P	**P**	**05 18 21.5**	**+0.8**
SUCK				IAms_20	IAms_20	05 39 25.9	
	comp=Z,19µm,18.0s						
MCARA	**McCarthy VSAT**	**43.02**	**41**	P	**P**	**05 18 23.6**	**+1.7**
	baz=279,SNR=136						
MCARA				S	**S**	**05 24 46.1**	**+2.6**
	baz=279						
MCARA	**McCarthy VSAT**	**43.02**	**41**	IAms_20	IAms_20	05 37 38.9	
	comp=Z,21µm,22.0s						
CRQM	**Cirque**	**43.06**	**42**	IAms_20	IAms_20	05 37 36.7	
	comp=Z,14µm,21.0s						
K27K	**Chicken**	**43.09**	**37**	P	**P**	**05 18 24.1**	**+1.7**
	baz=277						
K27K				S	**S**	**05 24 45.9**	**+1.4**
	baz=277						
K27K	**Chicken**	**43.09**	**37**	IAms_20	IAms_20	05 38 51.1	
	comp=Z,13µm,20.0s						
CRQE	**Cirque**	**43.09**	**42**	P	**P**	**05 18 24.0**	**+1.4**
	baz=280,SNR=354						
CRQE				S	**S**	**05 24 47.2**	**+2.4**
	baz=280						
BGLC	**Bering Glacier**	**43.10**	**43**	P	**P**	**05 18 24.9**	**+2.4**
	baz=280,SNR=6.4						
BGLC				S	**S**	**05 24 49.0**	**+4.4**
	baz=280						
ZSN	**Zaisan**	**43.15**	**298**	⇑*i*P	**P**	**05 18 23.9**	**+0.7**
	comp=Z,2µm,2.5s,baz=298						
ZSN				*i*S	**S**	**05 24 45.8**	**-0.1**
	comp=Z,824nm,4.1s,baz=298						
ZSN	**Zaisan**	**43.15**	**298**	*c i*P	**P**	**05 18 23.9**	**+0.7**
ZSN				*i*S	**S**	**05 24 45.7**	**-0.1**
ZSN				pmax	pmax		
	comp=Z,2µm,2.5s						
ZSN				smax	smax		
	comp=N,825nm,4.1s						
TGL	**Tana Glacier**	**43.21**	**42**	IAms_20	IAms_20	05 37 06.1	
	comp=Z,22µm,22.0s						
WAX	**Waxell Ridge**	**43.26**	**43**	IAmb	IAmb	05 18 27.5	
	comp=Z,836nm,0.9s						
WAX				IAms_20	IAms_20	05 39 30.2	
	comp=Z,11µm,19.0s						
L27K	**Beaver Creek,**	**43.32**	**39**	P	**P**	**05 18 26.3**	**+1.9**
	baz=278,SNR=901						
L27K				S	**S**	**05 24 50.5**	**+2.5**
	baz=278						
L27K	**Beaver Creek,**	**43.32**	**39**	IAms_20	IAms_20	05 39 04.8	
	comp=Z,14µm,19.0s						
BCAR	**Beaver Creek A**	**43.34**	**39**	P	**P**	**05 18 26.1**	**+1.5**
EGAK	**Eagle**	**43.39**	**36**	P	**P**	**05 18 25.6**	**+0.7**
	baz=277,SNR=854						
EGAK				S	**S**	**05 24 50.3**	**+1.4**
	baz=277						
EGAK	**Eagle**	**43.39**	**36**	P	**P**	**05 18 25.0**	**+0.1**
EGAK				IAmb	IAmb	05 18 27.6	
	comp=Z,1µm,1.2s						
EGAK				IAms_20	IAms_20	05 38 16.1	
	comp=Z,12µm,20.0s						
ISLE	**Juniper Island**	**43.48**	**42**	IAmb	IAmb	05 18 52.8	
	comp=Z,993nm,1.1s						
ISLE				IAms_20	IAms_20	05 37 23.0	
	comp=Z,14µm,22.0s						
BARN	**Barnard Glacie**	**43.72**	**42**	IAmb	IAmb	05 18 31.8	
	comp=Z,557nm,0.9s						
MESA	**MESA**	**43.75**	**43**	P	**P**	**05 18 29.7**	**+1.7**
	baz=281,SNR=94						
MESA				S	**S**	**05 24 57.0**	**+2.4**
	baz=281						
MESA	**MESA**	**43.75**	**43**	IAmb	IAmb	05 18 31.5	
	comp=Z,635nm,1.0s						
MESA				IAms_20	IAms_20	05 39 40.2	
	comp=Z,14µm,19.0s						
YAH	**Yahtse**	**43.81**	**43**	IAmb	IAmb	05 18 32.1	
	comp=Z,780nm,1.0s						
YAH				IAms_20	IAms_20	05 36 19.8	
	comp=Z,17µm,22.0s						
CTG	**Chitna Glacier**	**43.89**	**42**	P	**P**	**05 18 30.8**	**+1.6**
	baz=281,SNR=238						
CTG				S	**S**	**05 24 57.1**	**+0.5**
	baz=281						
CTGM	**Chitina Glacie**	**43.90**	**42**	IAmb	IAmb	05 18 32.5	
	comp=Z,857nm,1.1s						
CTGM				IAms_20	IAms_20	05 37 27.0	
	comp=Z,17µm,22.0s						
LOGN	**Logan Glacier**	**44.08**	**42**	IAmb	IAmb	05 19 03.9	
	comp=Z,978nm,1.5s						
LOGN				IAms_20	IAms_20	05 37 43.0	
	comp=Z,14µm,22.0s						
TABL	**Table Mountain**	**44.09**	**42**	IAmb	IAmb	05 18 33.8	
	comp=Z,602nm,1.0s						
DAWY	**Dawson**	**44.25**	**37**	IAms_20	IAms_20	05 39 26.2	
	comp=Z,19µm,20.0s						
PINM	**Pinnacle**	**44.60**	**43**	P	**P**	**05 18 35.8**	**+1.1**
	baz=282,SNR=53						
PINM				S	**S**	**05 25 07.7**	**+1.0**
	baz=282						
SGSI	**Sangihe**	**44.76**	**213**	P	**P**	**05 18 37.7**	**+1.3**
	comp=Z,5µmcomp=Z,207nm,0.6s						
JOHN	**Johnston Islan**	**44.90**	**114**	P	**P**	**05 18 37.5**	**+0.1**
JOHN				IAmb	IAmb	05 18 39.8	
	comp=Z,952nm,1.4s						
JOHN	**Johnston Islan**	**44.90**	**114**	IAms_20	IAms_20	05 36 05.8	
	comp=Z,14µm,21.0s						
EPYK	**Eagle Plains**	**45.00**	**33**	P	**P**	**05 18 39.5**	**+1.7**
	baz=279,SNR=788						
EPYK				S	**S**	**05 25 14.3**	**+2.0**
	baz=279						
MK31	**Makanchi Array**	**45.03**	**298***c i*P		**P**	**05 18 38.9**	**+0.6**
MK31	**Makanchi Array**	**45.03**	**298**	IAmb	IAmb	05 18 41.0	
	comp=Z,943nm,1.0s						
MKAR	**Makanchi Array**	**45.03**	**298**	P	**P**	**05 18 38.9**	**+0.6**
	comp=Z,476nm,0.6s,baz=80,slow=8.7,SNR=2110						
MKAR				PcP	**PcP**	**05 20 18.8**	**+0.4**
	comp=Z,37nm,0.7s,baz=60,slow=3.6,SNR=1.6						
MKAR				S	**S**	**05 25 10.4**	**-2.8**
	comp=Z,11nm,0.9s,baz=73,slow=17,SNR=3.4						
MKAR				LR	LR	05 38 55.8	
	comp=Z,63µm,19.2s,baz=64,slow=38						
MKAR				PKPPKP	**P'P'df**	**05 50 12.1**	**-7.4**
	comp=Z,1.3nm,0.8s,baz=198,slow=2.0,SNR=5.5						
SEM	**Semipalatinsk**	**45.04**	**303**⇑*i*P		**P**	**05 18 37.4**	**-1.1**
	comp=Z,832nm,0.7s,baz=303						
SEM				*i*S	**S**	**05 25 05.3**	**-8.5**
	baz=303						
SEM				*e*LR	LR	05 37 59.2	
	comp=Z,17µm,18.1s,baz=303						
SEM	**Semipalatinsk**	**45.04**	**303***c i*P		**P**	**05 18 37.4**	**-1.1**
SEM				*i*S	**S**	**05 25 05.2**	**-8.5**
SEM				pmax	pmax		
	comp=Z,832nm,0.7s						
SEM				MLR	MLR		
	comp=Z,17µm,18.0s						
MAKZ	**Makanchi**	**45.23**	**298**	P	**P**	**05 18 40.5**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,886nm,0.9s						
MAKZ				MLR	MLR		
	comp=Z,71µm,19.0s						
MAKZ	**Makanchi**	**45.23**	**298**	P	**P**	**05 18 40.5**	**+0.7**
MAKZ	**Makanchi**	**45.23**	**298**	⇑P	**P**	**05 18 40.5**	**+0.7**
NONG	**Nongkai**	**45.56**	**250**	P	**P**	**05 18 44.1**	**+1.3**
	comp=Z,16µmcomp=Z,957nm,1.2s						
NONG	**Nongkai**	**45.56**	**250**	P	**P**	**05 18 44.0**	**+1.3**
	comp=Z,16µmcomp=Z,947nm,1.2s						
HYT	**Haines Junctio**	**45.76**	**41**	IAms_20	IAms_20	05 39 48.2	
	comp=Z,15µm,21.0s						
INK	**Inuvik**	**45.90**	**30**	P	**P**	**05 18 46.2**	**+1.4**
	baz=280,SNR=1000						
INK				S	**S**	**05 25 25.8**	**+0.8**
	baz=280						
INK	**Inuvik**	**45.90**	**30**	⇑P	**P**	**05 18 45.8**	**+1.0**
KURBB	**Kurchatov Arra**	**46.00**	**304**	P4KPbc		05 56 32.9	
	comp=Z,3.4nm,0.8s,baz=81,slow=3.6,SNR=7.0						
KURBB				PKPPKP	P'P'df	05 50 07.5	-11
	comp=Z,0.9nm,0.8s,baz=311,slow=2.6,SNR=3.8						
BAKI	**Biak**	**46.20**	**197**	P	**P**	**05 18 48.9**	**+1.1**
	comp=Z,11µmcomp=Z,502nm,1.3s						
TNTI	**Ternate**	**46.77**	**209**	P	**P**	**05 18 56.5**	**+4.3**
	comp=Z,5µmcomp=Z,5µmcomp=Z,148nm,1.0s						
LSA	**Lhasa**	**46.80**	**272**	P	**P**	**05 18 54.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,1µm,0.8s						
LSA				pmax	pmax		
	comp=Z,12µm,11.4s						
LSA				LR	LR		
	comp=Z,16µm,17.8s						
LSA				LR	LR		
	comp=Z,25µm,19.2s						
LSA				LR	LR		
	comp=Z,32µm,17.8s						
LSA	**Lhasa**	**46.80**	**272**	P	**P**	**05 18 54.7**	**+1.8**
LSA	**Lhasa**	**46.80**	**272**	IAmb	IAmb	05 19 11.1	
	comp=Z,688nm,1.2s						
LSA				IAms_20	IAms_20	05 39 56.5	
	comp=Z,12µm,20.0s						
GENI	**Genyem**	**46.88**	**191**	P	**P**	**05 18 53.3**	**+0.2**
	comp=Z,15µmcomp=Z,13µmcomp=Z,378nm,1.5s						
WHY	**Whitehorse**	**47.05**	**41**	P	**P**	**05 18 55.9**	**+1.8**
	baz=286,SNR=116						
WHY				S	**S**	**05 25 45.8**	**+3.9**
	baz=286						
WHY	**Whitehorse**	**47.05**	**41**	IAmb	IAmb	05 19 20.8	
	comp=Z,688nm,1.4s						
SWI	**Sorong**	**47.08**	**203**	P	**P**	**05 18 54.2**	**-0.4**
	comp=Z,8µmcomp=Z,10µmcomp=Z,458nm,2.6s						
SIJI	**Sorong**	**47.08**	**203**	LR	LR	05 36 29.1	
	comp=Z,7µm,21.9s,baz=6.5,slow=33						
SKAG	**Skagway**	**47.17**	**43**	P	**P**	**05 18 56.7**	**+1.9**
	baz=287,SNR=57						
SKAG				S	**S**	**05 25 47.8**	**+4.4**
	baz=287						
SKAG	**Skagway**	**47.17**	**43**	IAmb	IAmb	05 19 21.9	
	comp=Z,592nm,1.4s						
SKAG				IAms_20	IAms_20	05 41 34.6	
	comp=Z,14µm,20.0s						
SKAG	**Skagway**	**47.17**	**43**	⇑P	**P**	**05 18 56.5**	**+1.7**
UTTA	**Uttaradit**	**47.55**	**252**	P	**P**	**05 18 59.6**	**+1.3**
	comp=Z,6µmcomp=Z,628nm,1.2s						
UTTA	**Uttaradit**	**47.55**	**252**	P	**P**	**05 18 59.7**	**+1.3**
	comp=Z,1µmcomp=Z,157nm,1.2s						
LAMP	**Lampang**	**47.66**	**254**	P	**P**	**05 19 00.5**	**+1.4**
	comp=Z,10µmcomp=Z,1µm,0.9s						
LAMP	**Lampang**	**47.66**	**254**	P	**P**	**05 19 00.6**	**+1.4**
	comp=Z,2µmcomp=Z,313nm,0.9s						
BESE	**Bessie Mountai**	**47.66**	**44**	IAmb	IAmb	05 19 02.6	
	comp=Z,662nm,1.4s						
CM34	**Chiang Mai Arr**	**47.77**	**254**	P	**P**	**05 19 01.0**	**+1.0**
TARA	**Tarawa**	**47.87**	**145**	P	**P**	**05 19 01.1**	**+0.4**
TARA	**Tarawa**	**47.87**	**145**	IAms_20	IAms_20	05 34 30.1	
	comp=Z,12µm,22.0s						
CHAI	**Chaiyaphum**	**47.87**	**249**	P	**P**	**05 19 01.6**	**+0.8**
	comp=Z,11µmcomp=Z,1µm,0.9s						
CHAI	**Chaiyaphum**	**47.87**	**249**	P	**P**	**05 19 01.7**	**+0.8**
	comp=Z,3µmcomp=Z,290nm,0.9s						
CM35	**Chiang Mai Arr**	**47.88**	**254**	P	**P**	**05 19 01.0**	**+0.1**
SIT	**Sitka**	**47.90**	**46**	P	**P**	**05 19 02.7**	**+2.1**
	baz=289,SNR=20						
SIT				S	**S**	**05 25 58.5**	**+4.6**
	baz=289						
SIT	**Sitka**	**47.90**	**46**	IAmb	IAmb	05 19 28.9	
	comp=Z,949nm,1.5s						
CM33	**Chiang Mai Arr**	**47.93**	**255**	P	**P**	**05 19 02.0**	**+0.7**
CHTO	**Chiang Mai**	**47.94**	**255**	P	**P**	**05 19 02.6**	**+1.3**
CHTO				pmax	pmax		
	comp=Z,1µm,1.1s						
CHTO				MLR	MLR		
	comp=Z,16µm,20.0s						
CHTO	**Chiang Mai**	**47.94**	**255**	P	**P**	**05 19 02.1**	**+0.8**
	comp=Z,13µmcomp=Z,16µmcomp=Z,1µm,1.3s						
CHTO	**Chiang Mai**	**47.94**	**255**	P	**P**	**05 19 02.6**	**+1.3**
CHTO	**Chiang Mai**	**47.94**	**255**	IAms_20	IAms_20	05 41 21.1	
	comp=Z,16µm,20.0s						
CHTO	**Chiang Mai**	**47.94**	**255**	⇑P	**P**	**05 19 02.2**	**+0.9**
SPMM	**Sapulut**	**47.95**	**225**	P	**P**	**05 19 03.0**	**+1.5**
JIS	**Juneau Island**	**47.99**	**44**	IAmb	IAmb	05 19 24.2	
	comp=Z,367nm,0.9s						
CM36	**Chiang Mai Arr**	**48.03**	**254**	P	**P**	**05 19 03.0**	**+0.9**
PHIT	**Phitsanulok**	**48.03**	**252**	P	**P**	**05 19 04.0**	**+2.0**
	comp=Z,14µmcomp=Z,2µm,1.2s						
PHIT	**Phitsanulok**	**48.03**	**252**	P	**P**	**05 19 04.0**	**+2.0**
	comp=Z,4µmcomp=Z,400nm,1.2s						
PBKT	**Sadao Pong**	**48.09**	**251**	P	**P**	**05 19 04.5**	**+2.1**
	comp=Z,214nm,1.5s						
PBKT	**Sadao Pong**	**48.09**	**251**	P	**P**	**05 19 04.0**	**+1.6**
	comp=Z,214nm,1.5s						
RABL	**Rabaul**	**48.09**	**174**	IAms_20	IAms_20	05 34 35.4	
	comp=Z,16µm,22.0s						
CM32	**Chiang Mai Arr**	**48.11**	**254**	P	**P**	**05 19 04.0**	**+1.3**
CM09	**Chiang Mai Arr**	**48.16**	**254**	P	**P**	**05 19 04.6**	**+1.6**
	comp=Z,4µmcomp=Z,436nm,1.2s						
CM09	**Chiang Mai Arr**	**48.16**	**254**	P	**P**	**05 19 04.7**	**+1.6**
	comp=Z,4µmcomp=

CM13	Chiang Mai Arr	48.23 254	P	P		05 19 05.0 +1.5
	comp=Z,4μmcomp=Z,393nm,1.3s					
CM13	Chiang Mai Arr	48.23 254	P	P		05 19 05.1 +1.5
	comp=Z,4μmcomp=Z,393nm,1.3s					
TDK	Taldyqorghan	48.23 297	*i* P	P		05 19 04.6 +1.3
	comp=Z,2μm,1.2s,baz=297					
TDK			*i* S	S		05 25 57.0 -1.9
	comp=Z,3μm,3.6s,baz=297					
TDK			*e*LR	LR		05 40 47.3
	comp=Z,21μm,15.6s,baz=297					
TDK	Taldyqorghan	48.23 297	*i* P	P		05 19 04.6 +1.3
TDK			*i* S	S		05 25 57.0 -1.9
TDK			pmax	pmax		
	comp=Z,2μm,1.2s					
TDK			smax	smax		
	comp=N,3μm,3.6s					
TDK			MLR	MLR		
	comp=Z,21μm,16.0s					
SHLS	Shalkode	48.33 294⇑	*i* P	P		05 19 02.6 -1.7
	comp=Z,297nm,0.5s,baz=294					
SHLS			*i* S	S		05 25 55.3 -5.4
	comp=Z,3μm,3.2s,baz=294					
SHLS	Shalkode	48.33 294*c*	*i* P	P		05 19 02.6 -1.7
SHLS			*i* S	S		05 25 55.3 -5.4
SHLS			pmax	pmax		
	comp=Z,297nm,0.5s					
SHLS			smax	smax		
	comp=N,3μm,3.2s					
GTOI	Gorontalo	48.55 214	P	P		05 19 06.4 +0.4
	comp=N,4μmcomp=N,88nm,1.3s					
UZB	Uzynbulak	48.62 294⇑	*i* P	P		05 19 07.0 +0.5
	comp=N,153nm,0.6s,baz=295					
UZB			*i* S	S		05 26 04.2 -0.7
	comp=N,1μm,3.8s,baz=295					
UZB	Uzynbulak	48.62 294*c*	*i* P	P		05 19 07.0 +0.5
UZB			*i* S	S		05 26 04.2 -0.7
UZB			pmax	pmax		
	comp=Z,153nm,0.6s					
UZB			smax	smax		
	comp=N,1μm,3.8s					
KPKS	Kokpek	48.71 295⇑	*i* P	P		05 19 07.8 +0.7
	comp=N,376nm,0.6s,baz=295					
KPKS			*i* S	S		05 26 04.8 -1.1
	comp=N,2μm,3.5s,baz=295					
KPKS	Kokpek	48.71 295*c*	*i* P	P		05 19 07.8 +0.7
KPKS			*i* S	S		05 26 04.8 -1.1
KPKS			pmax	pmax		
	comp=Z,376nm,0.6s					
KPKS			smax	smax		
	comp=N,2μm,3.5s					
FAKI	Fak Fak	48.77 201	⇓P	P		05 19 07.2 -0.5
FAKI	Fak Fak	48.77 201	P	P		05 19 06.7 -1.0
	comp=N,7μmcomp=N,9μmcomp=N,484nm,1.7s					
ARXS	Arharly	48.94 296	*e*P	P		05 19 08.3 -0.6
C36M	Paulatuk	48.99 28	P	P		05 19 10.0 +1.2
	baz=287,SNR=332					
C36M			S	S		05 26 09.2 +0.2
	baz=287					
C36M	Paulatuk	48.99 28	IAms_20	IAms_20		05 43 44.9
	comp=Z,12μm,22.0s					
SATY	Saty	49.07 295⇑	*i* P	P		05 19 10.9 +1.0
	comp=Z,1μm,2.0s,baz=295					
SATY			*i* S	S		05 26 11.1 0.0
	comp=Z,2μm,3.6s,baz=295					
SATY	Saty	49.07 295*c*	*i* P	P		05 19 10.9 +1.0
SATY			*i* S	S		05 26 11.0 0.0
SATY			pmax	pmax		
	comp=Z,1μm,2.0s					
SATY			smax	smax		
	comp=N,2μm,3.6s					
MHMT	Maesarieng	49.07 255	P	P		05 19 11.9 +1.9
	comp=N,23μmcomp=N,2μm,1.2s					
MHMT	Maesarieng	49.07 255	P	P		05 19 11.9 +1.9
	comp=N,23μmcomp=N,2μm,1.2s					
MRSI	Marisa	49.13 216	P	P		05 19 11.4 +0.9
	comp=N,8μmcomp=N,10μmcomp=N,541nm,1.6s					
SRAK	Srakaew	49.18 247	P	P		05 19 09.4 -1.5
	comp=N,97μmcomp=N,10μm,1.1s					
CRAG	Craig	49.60 47	P	P		05 19 15.6 +2.0
	baz=292,SNR=15					
CRAG			S	S		05 26 23.2 +5.3
	baz=292					
CRAG	Craig	49.60 47	IAmb	IAmb		05 19 33.0
	comp=Z,433nm,1.4s					
CRAG	Craig	49.60 47	⇑P	P		05 19 15.3 +1.7
CHKK	Chushkaly	49.64 296⇑	*i* P	P		05 19 14.4 +0.3
	baz=296					
CHKK	Chushkaly	49.64 296⇑	*i* P	P		05 19 14.4 +0.3
WRAK	Wrangell Islan	49.66 46	P	P		05 19 16.0 +2.0
	baz=291,SNR=54					
WRAK			S	S		05 26 23.6 +5.0
	baz=291					
WRAK	Wrangell Islan	49.66 46	IAmb	IAmb		05 19 41.3
	comp=Z,346nm,1.2s					
WRAK	Wrangell Islan	49.66 46	IAms_20	IAms_20		05 41 11.7
	comp=Z,12μm,20.0s					
KIP	Kipapa	49.70 99	P	P		05 19 16.1 +1.3
KIP			pmax	pmax		
	comp=Z,693nm,1.2s					
KIP	Kipapa	49.70 99	P	P		05 19 16.1 +1.3
KIP			IAmb	IAmb		05 19 17.7
	comp=Z,692nm,1.2s					
KIP	Kipapa	49.70 99	IAms_20	IAms_20		05 35 05.7
	comp=Z,15μm,21.0s					
HON	Honolulu	49.77 99	IAms_20	IAms_20		05 34 58.7
	comp=Z,15μm,22.0s					
UMPA	Umpang Tak	49.78 252	P	P		05 19 19.1 +3.6
	comp=Z,12μmcomp=Z,1μm,1.2s					
UMPA	Umpang Tak	49.78 252	P	P		05 19 19.1 +3.6
	comp=Z,3μmcomp=Z,299nm,1.2s					
UTHA	Uthaitani	49.83 251	P	P		05 19 18.1 +2.3
	comp=Z,2μmcomp=Z,214nm,1.0s					
BVAR	Borovoye Array	49.84 309	P	P		05 19 15.5 0.0
	comp=Z,267nm,0.6s,baz=237,slow=5.1,SNR=315					
SANI	Sanana	49.88 209	⇑P	P		05 19 15.4 -0.8
SANI	Sanana	49.88 209	P	P		05 19 14.8 -1.4
	comp=Z,7μmcomp=Z,9μmcomp=Z,405nm,1.2s					
BRVK	Borovoye	49.89 310	*ce*P	P		05 19 15.9 +0.1
BRVK			pmax	pmax		
	comp=Z,1μm,1.7s					
BRVK			MLR	MLR		
	comp=Z,45μm,17.0s					
BRVK	Borovoye	49.89 310	P	P		05 19 15.7 -0.1
BRVK	Borovoye	49.89 310	⇑P	P		05 19 15.5 -0.3
MDOK	Medeo	49.91 295	*i* P	P		05 19 17.0 +0.6
	baz=295					
MDOK			*i* S	S		05 26 22.1 -0.8
	baz=295					
MDOK			*e*LR	LR		05 41 19.8
	comp=Z,12μm,15.0s,baz=295					
MDOK	Medeo	49.91 295	*i* P	P		05 19 17.0 +0.6
MDOK			*i* S	S		05 26 22.1 -0.8
MDOK			MLR	MLR		
	comp=Z,12μm,15.0s					
AAA	Alma-Ata	49.98 295⇑	*i* P	P		05 19 17.1 +0.3
	comp=Z,7μm,2.7s,baz=296					
AAA			*i* S	S		05 26 23.4 -0.3
	comp=Z,7μm,3.8s,baz=296					
AAA	Alma-Ata	49.98 295*c*	*i* P	P		05 19 17.9 +1.1
AAA			*i* S	S		05 26 23.3 -0.3
AAA			pmax	pmax		
	comp=Z,7μm,2.7s					
AAA			smax	smax		
	comp=N,7μm,3.8s					
AAA	Alma-Ata	49.98 295	*i* P	P		05 19 17.9 +1.1
TARG	Taragay, Kyrgy	50.07 293	IAmb	IAmb		05 19 35.2
	comp=Z,224nm,0.7s					
DLBC	Dease Lake	50.10 43	IAmb	IAmb		05 19 21.7
	comp=Z,386nm,1.2s					
MSAI	Masohi	50.12 205	P	P		05 19 18.5 +0.5
	comp=Z,1μmcomp=Z,31nm,0.6s					
MPSI	Mapaga	50.14 218	P	P		05 19 17.0 -1.1
	comp=Z,6μmcomp=Z,4μmcomp=Z,86nm,2.1s					
LUWI	Luwuk	50.17 214	IAmb	IAmb		05 19 42.9
	comp=Z,686nm,1.3s					
KDJ	Kajisay	50.30 294	IAmb	IAmb		05 19 23.6
	comp=Z,784nm,1.2s					
APSI	Ampana	50.51 215	P	P		05 19 20.5 -0.4
	comp=Z,4μmcomp=Z,5μmcomp=Z,276nm,1.2s					
BRDH	Bariadhala	50.61 264	P	P		05 19 22.7 +1.1
	comp=Z,265nm,0.6s,baz=68,slow=8.6,SNR=28					
NLAI	Namlea	50.61 207	P	P		05 19 27.7 +6.1
	comp=Z,3μmcomp=Z,76nm,1.0s					
TAPN	Taplejung	50.62 272	*e*P	P		05 19 23.2 +1.1
	comp=Z,537nm,0.8s					
PATY	Pattaya	50.76 247	P	P		05 19 25.4 +2.6
	comp=Z,1μm,0.9s					
PATY	Pattaya	50.76 247	P	P		05 19 25.4 +2.6
	comp=Z,329nm,0.9s					
DIB	Dawson Inlet,	50.83 50	P	P		05 19 23.6 +0.8
ULHL	Ulahol	50.86 295	P	P		05 19 24.7 +1.1
	SNR=546					
BNDI	Bandanaira	50.95 204	P	P		05 19 24.6 +0.4
	comp=Z,9μmcomp=Z,20μmcomp=Z,916nm,1.4s					
TKM2	Tokmak 2	50.97 296	P	P		05 19 25.6 +1.2
	SNR=529					
BTLS	Baital	50.99 299⇑	*i* P	P		05 19 24.5 +0.2
	comp=Z,1μm,2.3s,baz=299					
BTLS			*i* S	S		05 26 34.5 -3.1
	comp=Z,462nm,3.7s,baz=299					
BTLS	Baital	50.99 299*c*	*i* P	P		05 19 24.5 +0.2
BTLS			*i* S	S		05 26 34.4 -3.1
BTLS			pmax	pmax		
	comp=Z,1μm,2.3s					
BTLS			smax	smax		
	comp=N,462nm,3.7s					
ODAN	Odare	51.14 272	*e*P	P		05 19 26.6 +0.7
	comp=N,429nm,0.8s					
SGDS	Sogindy	51.35 297⇑	*i* P	P		05 19 27.8 +0.7
	comp=N,952nm,1.6s,baz=297					
SGDS			*i* S	S		05 26 42.7 0.0
	comp=N,839nm,3.5s,baz=297					
SGDS	Sogindy	51.35 297*c*	*i* P	P		05 19 27.8 +0.7
SGDS			*i* S	S		05 26 42.6 0.0
SGDS			pmax	pmax		
	comp=Z,952nm,1.6s					
SGDS			smax	smax		
	comp=N,839nm,3.5s					
HLK	Haleakala	51.38 98	P	P		05 19 27.3 -0.5
HLK			IAms_20	IAms_20		05 35 31.3
	comp=Z,15μm,22.0s					
CHMS	Chumysh	51.48 296	P	P		05 19 29.7 +1.7
	SNR=13					
KBK	Karagaybulak	51.51 296	P	P		05 19 29.7 +1.2
	SNR=10					
USP	Ospenovka	51.52 297	P	P		05 19 29.8 +1.4
	SNR=119					
JIRN	Jiri	51.54 273	*e*P	P		05 19 30.3 +1.2
	comp=Z,1μm,0.8s					
PHET	Kaeng Krachan	51.59 248	P	P		05 19 31.3 +2.2
	comp=Z,17μmcomp=Z,2μm,1.0s					
PHET	Kaeng Krachan	51.59 248	P	P		05 19 31.4 +2.3
	comp=Z,4μmcomp=Z,496nm,1.0s					
GUN	Gumba	51.62 274	*e*P	P		05 19 31.1 +1.5
FRU1	Bishkek	51.65 296	IAmb	IAmb		05 19 32.0
	comp=Z,428nm,0.7s					
RAMN	Ramite	51.66 272	*e*P	P		05 19 30.6 +0.8
	comp=Z,884nm,0.5s					
AAK	Ala-Archa	51.82 296	P	P		05 19 31.9 +1.1
	comp=Z,173nm,0.5s,baz=86,slow=6.6,SNR=208					
AAK			S	S		05 26 44.4 -4.9
	comp=Z,2.2nm,0.4s,baz=52,slow=5.5,SNR=1.1					
AAK			LR	LR		05 43 36.6
	comp=Z,16μm,18.6s,baz=78,slow=38					
AAK	Ala-Archa	51.82 296	P	P		05 19 31.8 +1.1
	SNR=124					
AAK	Ala-Archa	51.82 296	*i* P	P		05 19 31.9 +1.1
	SNR=135					
AAK	Ala-Archa	51.82 296	*ce*P	P		05 19 31.6 +0.9
AAK			pmax	pmax		
	comp=Z,3μm,2.5s					
AAK			MLR	MLR		
	comp=Z,44μm,17.0s					
AAK	Ala-Archa	51.82 296	P	P		05 19 31.8 +1.1
AAK			IAmb	IAmb		05 19 33.9
	comp=Z,829nm,1.4s					
AAK	Ala-Archa	51.82 296	IAms_20	IAms_20		05 41 49.4
	comp=Z,12μm,19.0s					
AAK	Ala-Archa	51.82 296	⇑P	P		05 19 31.7 +0.9
AAK	Ala-Archa	51.82 296	*e*P	P		05 19 31.6 +0.9
SMKI	Samarinda	52.06 220	P	P		05 19 34.0 +1.5
	comp=Z,10μmcomp=Z,13μmcomp=Z,364nm,1.2s					
SBUM	Sibu	52.08 228	P	P		05 19 33.0 +0.3
KKN	Kakani	52.12 274	*e*P	P		05 19 34.0 +0.8
	comp=Z,2μm,0.8s					
PKI	Pulchoki	52.15 274	*e*P	P		05 19 34.4 +0.8
PKIN	Phulchoki	52.16 274	*e*P	P		05 19 34.3 +0.7
	comp=Z,427nm,0.7s					
HPAH	Hawaii Prepara	52.25 98	IAms_20	IAms_20		05 36 29.2
	comp=Z,12μm,21.0s					
EKS2	Erkin-Say	52.27 296	P	P		05 19 35.4 +1.4
	SNR=86					
DMN	Daman	52.35 274	*e*P	P		05 19 36.2 +1.2
	comp=Z,997nm,0.6s					
KSH	Kashi	52.35 292⇑	*i* P	P		05 19 39.3 +4.6
KSH			sP	sP		05 19 52.6 -1.7
KSH			S	S		05 27 03.2 +6.5
KSH			sS	sS		05 27 24.0 +4.2
KSH			SS	SS		05 30 41.2 +6.7
KSH			pmax	pmax		
	comp=Z,16μm,2.7s					
KSH			pmax	pmax		
	comp=Z,6μm,5.7s					
KSH			LR	LR		
	comp=Z,42μm,11.8s					
KSH			LR	LR		
	comp=Z,42μm,14.9s					
KSH			LR	LR		
	comp=Z,71μm,10.5s					
HUH	Hualalai	52.37 99	IAmb	IAmb		05 19 37.8
	comp=Z,452nm,1.2s					
HUH			IAms_20	IAms_20		05 36 00.5
	comp=Z,17μm,22.0s					
KHLU	Kahalu`u	52.39 99	IAmb	IAmb		05 19 37.7
	comp=Z,695nm,1.2s					
KHLU			IAms_20	IAms_20		05 36 12.0
	comp=Z,15μm,22.0s					
GKN	Gorkha	52.46 275	*e*P	P		05 19 36.7 +1.0
	comp=Z,961nm,0.7s					
POHA	Pohakuloa	52.54 99	P	P		05 19 37.9 +1.5
POHA	Pohakuloa	52.54 99	IAms_20	IAms_20		05 36 28.0
	comp=Z,12μm,21.0s					
POHA	Pohakuloa	52.54 99	⇓P	P		05 19 37.4 +1.0
AML	Almayashu	52.58 296	P	P		05 19 38.0 +1.4
	SNR=241					
AML	Almayashu	52.58 296	*i* P	P		05 19 38.1 +1.4
	SNR=243					
AML			*i* P	P		05 19 38.4 +1.7
	SNR=83					
MMPI	Merauke	52.64 190	P	P		05 19 38.3 +1.5
	comp=Z,29μmcomp=Z,642nm,0.4s					
MLOA	Mauna Loa Obse	52.65 99	IAms_20	IAms_20		05 36 20.0
	comp=Z,16μm,22.0s					
HMH	Humu`ula Sheep	52.68 99	IAms_20	IAms_20		05 36 53.6
	comp=Z,14μm,21.0s					
KHU	Kahuku	52.81 99	P	P		05 19 39.0 +0.6
KHU			pmax	pmax		
	comp=Z,1μm,1.0s					
KHU	Kahuku	52.81 99	P	P		05 19 39.0 +0.6
MLH	Mauna Loa	52.82 99	IAms_20	IAms_20		05 36 13.3
	comp=Z,17μm,22.0s					
AIN	Ainahou	52.84 99	IAms_20	IAms_20		05 36 59.0
	comp=Z,16μm,21.0s					
DANN	Dangsing	52.89 275	*e*P	P		05 19 40.4 +1.4
	comp=Z,2μm,0.8s					
BKB	Balikpapan	52.92 220	IAms_20	IAms_20		05 38 41.5
	comp=Z,12μm,21.0s					
BKB	Balikpapan	52.92 220	P	P		05 19 39.5 +0.6
	comp=Z,11μmcomp=Z,11μmcomp=Z,514nm,1.6s					
UWE	Uwekahuna	52.93 99	IAms_20	IAms_20		05 37 00.3
	comp=Z,14μm,21.0s					
WRMHI	West Rim	52.94 99	IAmb	IAmb		05 19 41.9
	comp=Z,678nm,1.1s					
WRMHI			IAms_20	IAms_20		05 36 30.4
	comp=Z,16μm,22.0s					
OBL	Observatory Le	52.94 99	IAms_20	IAms_20		05 36 59.5
	comp=Z,15μm,21.0s					
UWB	Uwekahuna B	52.94 99	IAms_20	IAms_20		05 37 00.5
	comp=Z,16μm,22.0s					
NPH	North Pit	52.95 99	IAms_20	IAms_20		05 36 59.7
	comp=Z,15μm,21.0s					
SBLHI	Steaming Bluff	52.95 99	P	P		05 19 40.0 +0.7
SBLHI			IAmb	IAmb		05 19 41.9
	comp=Z,539nm,1.1s					
SDHHI	Sand Hill	52.95 99	IAms_20	IAms_20		05 36 15.8
	comp=Z,17μm,22.0s					
RIM	Rim	52.96 99	IAms_20	IAms_20		05 37 01.1
	comp=Z,15μm,21.0s					
KKO	Keanakako`i	52.97 99	IAmb	IAmb		05 19 42.1
	comp=Z,641nm,1.2s					
KKO			IAms_20	IAms_20		05 36 53.2
	comp=Z,14μm,21.0s					
HLP	Hilina Pali	53.00 99	IAms_20	IAms_20		05 36 41.2
	comp=Z,15μm,21.0s					
PUH	Pauahi	53.02 99	IAmb	IAmb		05 19 42.5
	comp=Z,584nm,1.0s					
PUH			IAms_20	IAms_20		05 36 18.6
	comp=Z,16μm,22.0s					
NPOC	North of Pu'u	53.08 99	IAms_20	IAms_20		05 36 52.3
	comp=Z,14μm,21.0s					
PMG	Port Moresby	53.13 181	P	P		05 19 40.4 +0.1
	comp=Z,27nm,0.7s,baz=357,slow=6.9,SNR=10					
PMG			LR	LR		05 39 43.5
	comp=Z,5μm,21.4s,baz=30,slow=33					
PMG	Port Moresby	53.13 181*d*	*i* P	P		05 19 39.8 -0.5
PMG			pmax	pmax		
	comp=Z,364nm,1.5s					
PMG			MLR	MLR		
	comp=Z,3μm,18.0s					
PMG	Port Moresby	53.13 181	P	P		05 19 42.2 +1.8
PMG			IAmb	IAmb		05 20 05.5
	comp=Z,466nm,1.4s					
PMG	Port Moresby	53.13 181	IAms_20	IAms_20		05 38 58.8
	comp=Z,9μm,22.0s					
TTSI	Tana Toraja	53.20 216	P	P		05 19 40.6 -0.3
	comp=Z,6μmcomp=Z,3μmcomp=Z,42nm,1.0s					
KOLN	Koldanda	53.34 275	*e*P	P		05 19 43.5 +1.3
	comp=Z,2μm,0.8s					
SVE	Sverdlovsk	53.40 317*d*	*i* P	P		05 19 41.9 -0.1
SVE			*e*S	S		05 27 07.5 -2.7
SVE			pmax	pmax		
	comp=Z,1μm,1.3s					
SVE			pmax	pmax		
	comp=Z,2μm,10.1s					
SVE			MLR	MLR		
	comp=E,18μm,18.0s					
SVE			MLR	MLR		
	comp=Z,25μm,16.0s					
SVE	Sverdlovsk	53.40 317	*i* P	P		05 19 41.9 -0.1
PYUN	Piuthan	53.59 276	*e*P	P		05 19 45.3 +1.3
	comp=Z,2μm,0.9s					
MTKI	Muara Teweh, K	53.60 223	P	P		05 19 45.2 +1.3
	comp=Z,5μmcomp=Z,7μmcomp=Z,240nm,1.6s					
DZA	Taraz	53.74 298⇑	*i* P	P		05 19 45.1 +0.4
	comp=Z,864nm,1.2s,baz=298					
DZA			*e*S	S		05 27 15.7 +0.5
	baz=298					
DZA	Taraz	53.74 298*c*	*i* P	P		05 19 45.1 +0.4
DZA			*e*S	S		05 27 15.7 +0.5
DZA			pmax	pmax		
	comp=Z,864nm,1.2s					
SAUI	Saumlaki	53.88 201	P	P		05 19 46.3 +0.4
	comp=Z,14μmcomp=Z,24μmcomp=Z,2μm,1.3s					
KSM	Kuching	53.93 229	P	P		05 19 48.0 +1.7
BOK	Bokaro	54.06 270	*e*P	P		05 19 48.3 +1.0
BOK			*i* pP	pP		05 20 01.9 +0.8
BOK			IAmb	IAmb		05 20 04.6
	comp=Z,350nm,1.6s					
KK31	Karatay Array	54.16 298	P	P		05 19 48.6 +0.8
KK31			pmax	pmax		
	comp=Z,359nm,1.0s					
KK31	Karatay Array	54.16 298	P	P		05 19 48.6 +0.8
KK31			IAmb	IAmb		05 19 50.4
	comp=Z,359nm,0.9s					
KKAR	Karatay Array	54.16 298	P	P		05 19 48.2 +0.4
KKAR	Karatay Array	54.16 298	P	P		05 19 48.2 +0.4
KKAR	Karatay Array	54.16 298	IAmb	IAmb		05 19 50.4
	comp=Z,359nm,0.9s					
KKAR	Karatay Array	54.16 298	⇑P	P		05 19 48.2 +0.4
HNR	Honiara	54.24 165	LR	LR		05 39 53.8
	comp=Z,15μm,22.0s,baz=342,slow=33					
HNR	Honiara	54.24 165	P	P		05 19 49.5 +1.0
HNR			pmax	pmax		
	comp=Z,1μm,1.1s					
HNR	Honiara	54.24 165	P	P		05 19 49.5 +1.0
BNSI	Bone	54.30 215	P	P		05 19 50.6 +1.6
	comp=Z,9μmcomp=Z,6μmcomp=Z,221nm,2.4s					
NOR	Nord	54.41 357⇑	*i* P	P		05 19 47.4 -1.6
NOR			IAmb	IAmb		05 19 51.8
	comp=Z,181nm,0.8s					
NOR			IAms_20	IAms_20		05 43 34.5
	comp=Z,13μm,19.0s					
NOR	Nord	54.41 357⇑	*i* P	P		05 19 47.4 -1.6
NOR			pmax	pmax		
	comp=Z,180nm,0.8s					
NOR			MLR	MLR		
	comp=Z,13μm,19.0s					
NOR	Nord	54.41 357	⇑P	P		05 19 47.1 -1.9
STKI	Sintang	54.48 227	P	P		05 19 52.0 +1.7
	comp=Z,5μmcomp=Z,23μmcomp=Z,139nm,1.5s					
HOPEN	Hopen	54.53 346⇑	*i* P	P		05 19 48.3 -1.7
HOPEN			*e*S	S		05 27 19.9 -5.0
RES	Resolute Bay	54.58 17	⇑P	P		05 19 50.3 0.0
ARU	Arti	54.61 317	P	P		05 19 50.3 -0.5
	comp=Z,250nm,0.5s,baz=64,slow=4.5,SNR=421					
ARU			PcP	PcP		05 20 53.7 +0.5
	comp=Z,79nm,0.7s,baz=56,slow=3.6,SNR=3.9					
ARU			S	S		05 27 19.1 -7.3
	comp=Z,2.1nm,0.2s,baz=310,slow=23,SNR=1.1					
ARU			LR	LR		05 45 43.7
	comp=Z,29μm,19.3s,baz=49,slow=39					
ARU			PKPPKP			05 50 02.5
	comp=Z,1.0nm,0.3s,baz=200,slow=1.2,SNR=3.9					
ARU	Arti	54.61 317*c*	*i* P	P		05 19 50.2 -0.6
ARU			*PP	pP		05 20 02.0 -2.6
ARU			*SP	sP		05 20 11.4 +0.9
ARU						05 20 53.2
ARU			PPP	PPP		05 23 08.1
ARU			S	S		05 27 27.4 +1.0
ARU						05 29 32.8
ARU			SS	SS		05 31 09.9 +0.9
ARU			pmax	pmax		
	comp=Z,2μm,1.6s					
ARU			MLR	MLR		
	comp=Z,26μm,16.0s					
ARU	Arti	54.61 317	P	P		05 19 50.4 -0.4
ARU	Arti	54.61 317	⇑P	P		05 19 50.1 -0.7
KBS	Kingsbay	54.67 351⇑	*i* P	P		05 19 49.7 -1.2
KBS			IAmb	IAmb		05 19 52.8
	comp=Z,711nm,0.8s					
KBS			IAms_20	IAms_20		05 42 58.2
	comp=Z,32μm,20.2s					
KBS	Kingsbay	54.67 351*c*	*i* P	P		05 19 49.6 -1.3
KBS			pmax	pmax		
	comp=Z,566nm,1.1s					
KBS	Kingsbay	54.67 351⇑	*i* P	P		05 19 49.6 -1.3
KBS			*e*S	S		05 27 28.5 +1.8
KBS	Kingsbay	54.67 351	P	P		05 19 50.2 -0.7
KBS			IAmb	IAmb		05 19 52.1
	comp=Z,487nm,1.1s					
KBS	Kingsbay	54.67 351	IAms_20	IAms_20		05 43 03.9
	comp=Z,14μm,21.0s					
KBS	Kingsbay	54.67 351	⇑P	P		05 19 49.5 -1.3
SPA0	Spitsbergen Ar	54.69 349	*e*P	P		05 19 50.8 -0.3
SPITS	Spitsbergen Ar	54.69 349	LR	LR		05 43 40.5
	comp=Z,11μm,21.7s,baz=15,slow=36					
KAPI	Kappang	55.00 215	P	P		05 19 54.3 +0.2
KAPI			pmax	pmax		
	comp=Z,470nm,1.6s					
KAPI			MLR	MLR		
	comp=Z,5μm,22.0s					
KAPI	Kappang	55.00 215	P	P		05 19 54.3 +0.2
KAPI			IAmb	IAmb		05 20 19.7
	comp=Z,470nm,1.6s					
KAPI	Kappang	55.00 215	⇑P	P		05 19 54.4 +0.4
SURT	Suratani	55.04 246	P	P		05 19 59.8 +5.4
	comp=Z,127nmcomp=Z,16nm,1.1s					
SURT	Suratani	55.04 246	P	P		05 19 59.0 +4.6
	comp=Z,127nmcomp=Z,16nm,1.1s					
KBKI	Kotabaru	55.05 220	P	P		05 19 53.0 -1.4
	comp=Z,181nm,1.2s					
BKSI	Bulukumba	55.13 215	P	P		05 19 54.7 -0.3
	comp=Z,4μmcomp=Z,89nm,0.9s					
CHM	Chimkent	55.13 298	*e*P	P		05 19 57.6 +2.8
	baz=298					
CHM			*i* S	S		05 27 34.8 +0.9
	comp=Z,5μm,4.3s,baz=298					
CHM	Chimkent	55.13 298	*e*P	P		05 19 57.6 +2.8
CHM			*i* S	S		05 27 34.8 +0.9
CHM			smax	smax		
	comp=E,5μm,4.3s					
DRK	Karamyk	55.15 294	IAmb	IAmb		05 19 59.6
	comp=Z,733nm,1.2s					
YKA	Yellowknife Ar	55.27 34	P	P		05 19 56.4 +0.9
	comp=Z,138nm,0.9s,baz=298,slow=6.7,SNR=204					
YKA			PP	PP	

comp=Z,8µm,21.5s,baz=0.0,slow=40
YKA PKPPKP **P'P'df** **05 50 06.5 +0.1**
comp=Z,2.0nm,0.8s,baz=137,slow=3.2,SNR=4.7
KRAB Krabi 55.32 245 P P 05 20 01.2 +4.8
comp=Z,116µmcomp=Z,15µm,0.9s
KRAB Krabi 55.32 245 P P 05 20 01.3 +4.8
comp=Z,29µmcomp=Z,4µm,0.9s
BTK Batken 55.50 295 IAmb IAmb 05 20 01.4
comp=Z,298nm,0.7s
HSPB Hornsund (broa 55.70 348 *e*P **P** **05 19 57.2 -1.2**
HSPB Hornsund (broa 55.70 348 ⇑*i*P **P** **05 19 58.6 +0.3**
HSPB IVmB_BB 05 19 59.5
comp=Z,10µm,2.1s
HSPB *e*S **S** **05 27 40.7 +0.2**
HSPB IVMs_BB IVMs_BB 05 39 57.2
comp=Z,6µm,28.1s
BSSI Bau Bau, Buton 55.72 214 P **P** **05 19 58.4 -0.9**
comp=Z,6µmcomp=Z,4µmcomp=Z,118nm,1.6s
BBKI Banjar Baru 55.82 221 P **P** **05 20 00.0 0.0**
comp=Z,6µmcomp=Z,211nm,1.2s
DDI Dehra Dun 55.83 281 *i* P **P** **05 20 00.7 +0.6**
DDI *i* pP **pP** **05 20 15.6 +1.6**
DGPR DIGLIPUR 55.99 254 *i* P **P** **05 20 02.8 +1.6**
DGPR *ex* x 05 20 17.3
SMLA Simla 56.00 282 *i* P **P** **05 20 01.7 +0.5**
PKDT Phuket 56.13 245 P **P** **05 20 04.9 +2.7**
comp=Z,17µmcomp=Z,869nm,1.3s
PKDT Phuket 56.13 245 P **P** **05 20 05.0 +2.7**
PBKI Pangkalan Bun 56.73 225 P **P** **05 20 04.9 -1.6**
comp=Z,7µmcomp=Z,213nm,1.6s
IPM Ipoh 56.99 240 P **P** **05 20 10.0 +1.6**
BJO1 Bjornoya 57.03 346 ⇑*i*P **P** **05 20 05.5 -2.3**
BJO1 IVmBBB 05 20 07.8
comp=Z,7µm,1.1s
BJO1 *e*S **S** **05 27 53.0 -5.1**
BJO1 IVMs_BB IVMs_BB 05 42 08.1
comp=Z,6µm,26.4s
PBA Port Blair 57.18 253 *e*P P 05 20 10.0 +0.3
PBA *i* pP pP 05 20 24.4 +0.8
PBA IAmb IAmb 05 20 27.6
comp=Z,675nm,1.3s
PBA Port Blair 57.18 253 IAMs_20 IAMs_20 05 46 01.1
comp=Z,8µm,21.0s
PBA Port Blair 57.18 253 ⇑P P 05 20 10.6 +0.9
NIL Nilore 57.32 287 P **P** **05 20 11.6 +1.0**
NIL pmax pmax
comp=Z,2µm,1.2s
NIL MLR MLR
comp=Z,12µm,22.0s
NIL Nilore 57.32 287 P **P** **05 20 11.6 +1.0**
NIL Nilore 57.32 287 IAMs_20 IAMs_20 05 46 46.2
comp=Z,13µm,22.0s
MMRI Maumere 57.33 211 P **P** **05 20 11.0 +0.3**
comp=Z,9µmcomp=Z,13µmcomp=Z,374nm,1.9s
MYKOM Kota Tinggi 57.37 236 P **P** **05 20 14.0 +3.0**
ABKAR Abkulak array 57.41 309 P **P** **05 20 11.4 +0.5**
ABKAR Abkulak array 57.41 309 IAmb IAmb 05 20 13.6
comp=Z,4µm,1.6s
ABKAR Abkulak array 57.41 309 ⇑P **P** **05 20 11.3 +0.5**
TULEG Thule 57.51 10 *i* P **P** **05 20 09.0 -2.2**
TULEG ⇑*i*P **P** **05 20 10.6 -0.6**
TULEG IAmb IAmb 05 20 13.1
comp=Z,2µm,1.0s
TULEG IAMs_20 IAMs_20 05 50 13.1
comp=Z,13µm,17.4s
TULEG Thule 57.51 10 IAMs_20 IAMs_20 05 45 12.1
comp=Z,10µm,22.0s
TULEG Thule 57.51 10 ⇑P **P** **05 20 10.2 -1.0**
EDFI Ende, Flores 57.64 211 P **P** **05 20 11.4 -1.6**
comp=Z,5µmcomp=Z,4µmcomp=Z,129nm,2.1s
SOEI Soe 57.65 208 IAmb IAmb 05 20 46.6
comp=Z,450nm,1.0s
SOEI IAMs_20 IAMs_20 05 40 27.0
comp=Z,8µm,22.0s
SOEI Soe 57.65 208 ⇑P **P** **05 20 12.3 -0.7**
SOEI Soe 57.65 208 P **P** **05 20 13.0 -0.1**
comp=Z,7µmcomp=Z,8µmcomp=Z,263nm,2.0s
PRGR Permogore 57.73 327 *e*P **P** **05 20 12.4 -0.5**
PRGR *e* 05 22 18.6
PRGR pmax pmax
comp=Z,331nm,1.4s
KIRV Kirov 57.80 322 P **P** **05 20 12.9 -0.5**
comp=Z,409nm,0.5s,baz=59,slow=3.6,SNR=122
KIRV PcP **PcP** **05 21 06.6 +1.0**
comp=Z,313nm,0.6s,baz=218,slow=1.3,SNR=7.8
KIRV S **S** **05 28 08.8 +0.2**
comp=Z,16nm,0.8s,baz=19,slow=23,SNR=6.1
KIRV LR LR 05 47 29.3
comp=Z,28µm,19.4s,baz=67,slow=38
KIRV Kirov 57.80 322*c* *i*P **P** **05 20 12.5 -0.9**
LVZ Lovozero 57.85 336*c* *i*P **P** **05 20 12.2 -1.6**
LVZ pmax pmax
comp=Z,487nm,0.8s
LVZ MLR MLR
comp=Z,28µm,22.0s
LVZ Lovozero 57.85 336 P **P** **05 20 12.7 -1.1**
LVZ IAmb IAmb 05 20 15.5
comp=Z,397nm,0.8s
LVZ Lovozero 57.85 336 ⇑P **P** **05 20 12.4 -1.4**
AKTO Aktyubinsk 57.86 311 P **P** **05 20 14.4 +0.4**
comp=Z,121nm,0.4s,baz=70,slow=8.1,SNR=282
AKTO S **S** **05 28 05.5 -4.2**
comp=Z,2.2nm,0.6s,baz=325,slow=14,SNR=1.7
AKTO PKPPKP **P'P'df** **05 50 02.5 +0.5**
comp=Z,0.8nm,0.4s,baz=268,slow=3.4,SNR=3.6
KDU Kakadu 58.13 198 ⇓P **P** **05 20 15.9 -0.4**
NEEM North Greenlan 58.28 5 ⇑*i*P **P** **05 20 16.1 -0.9**
NEEM IAMs_20 IAMs_20 05 46 26.2
comp=Z,27µm,20.3s
BATI Baumata 58.28 208 LR LR 05 42 23.3
comp=Z,3µm,20.9s,baz=17,slow=33
BATI Baumata 58.28 208 P **P** **05 20 20.7 +3.4**
comp=Z,3µmcomp=Z,3µmcomp=Z,106nm,1.1s
A04D Lummi Island 58.38 51 P **P** **05 20 18.3 +0.6**
baz=302,SNR=6.0
A04D S **S** **05 28 16.4 0.0**
baz=302
NLWA Neilton Lookou 58.42 53 IAmb IAmb 05 20 21.2
comp=Z,275nm,1.1s
NLWA IAMs_20 IAMs_20 05 41 11.8
comp=Z,10µm,22.0s
NLWA Neilton Lookou 58.42 53 ⇑P **P** **05 20 19.4 +1.3**
APA Apatity 58.43 336 ⇑*i*P **P** **05 20 15.8 -2.0**
APA *i* PPP PPP 05 23 48.0
APA *i* S **S** **05 28 08.0 -8.6**
APA *i* 05 28 43.0
APA pmax pmax
comp=Z,252nm,0.8s
APA MLR MLR
comp=Z,28µm,21.0s
A05A Maple Falls 58.58 51 IAmb IAmb 05 20 38.0
comp=Z,295nm,1.3s
MTN Manton Dam 58.60 199 IAmb IAmb 05 20 41.1
comp=Z,424nm,1.0s
KEV Kevo 58.72 340 P **P** **05 20 18.7 -1.1**
KEV pmax pmax
comp=Z,511nm,0.7s
KEV MLR MLR
comp=Z,20µm,21.0s
KEV Kevo 58.72 340 P **P** **05 20 18.7 -1.1**
KEV Kevo 58.72 340 ⇑P **P** **05 20 18.6 -1.1**
D03D Eldon 58.79 52 P **P** **05 20 21.8 +1.2**
baz=303,SNR=88
D03D S **S** **05 28 22.3 +0.4**
baz=303
KNTN Kanton 58.87 131 P **P** **05 20 22.0 +0.5**
KNTN IAMs_20 IAMs_20 05 40 19.0
comp=Z,9µm,21.0s
KNTN Kanton 58.87 131 ⇓P **P** **05 20 22.1 +0.5**
TPI Tanjungpandan 58.90 229 P **P** **05 20 22.7 +1.0**
comp=Z,5µmcomp=Z,237nm,1.4s
HAMF Hammerfest 58.90 341 ⇑*i*P **P** **05 20 19.7 -1.3**
HAMF IVmB_BB 05 20 22.0
comp=Z,8µm,2.0s
HAMF *e*S **S** **05 28 19.5 -3.2**
HAMF IVMs_BB IVMs_BB 05 51 03.4
comp=Z,8µm,18.9s
B05A Bryant 58.96 51 P **P** **05 20 22.5 +0.7**
baz=303,SNR=43
B05A S **S** **05 28 23.5 -0.6**
baz=303
LHMI Lhok Sumawe 59.03 245 P **P** **05 20 24.1 +1.5**
comp=Z,15µmcomp=Z,14µmcomp=Z,626nm,1.3s
E03A Lebam 59.05 54 IAmb IAmb 05 20 25.6
comp=Z,384nm,1.2s
D04E Lakebay 59.17 53 P **P** **05 20 24.9 +1.7**
baz=303
D04E S **S** **05 28 28.4 +1.7**
baz=303
B06A Marblemount 59.17 51 IAmb IAmb 05 20 50.7
comp=Z,761nm,1.8s
DAG Danmarks Havn 59.24 356 ⇑*i*P **P** **05 20 22.1 -1.1**
DAG IAMs_20 IAMs_20 05 48 43.4
comp=Z,7µm,18.3s
DAG Danmarks Havn 59.24 356 ⇑*i*P **P** **05 20 22.1 -1.1**
DAG MLR MLR
comp=Z,7µm,18.0s
DAG Danmarks Havn 59.24 356 ⇑P **P** **05 20 21.7 -1.5**
PPBI Pangkal Pinang 59.24 231 P **P** **05 20 25.4 +1.3**
comp=Z,9µmcomp=Z,17µmcomp=Z,452nm,1.6s
ARA0 ARCESS Array S 59.26 340 ⇑*i*P **P** **05 20 22.7 -0.8**
ARCES ARCESS Array B 59.26 340 P **P** **05 20 22.6 -0.9**
comp=Z,157nm,0.5s,baz=46,slow=7.5,SNR=298
ARCES PcP **PcP** **05 21 12.5 +1.3**
comp=Z,70nm,0.7s,baz=41,slow=4.8,SNR=4.9
ARCES S **S** **05 28 25.8 -1.5**
comp=Z,13nm,1.1s,baz=50,slow=8.4,SNR=4.4
ARCES LR LR 05 49 47.4
comp=Z,21µm,21.1s,baz=40,slow=40
ARCES ARCESS Array B 59.26 340 P **P** **05 20 22.0 -1.5**
ARCES IAmb IAmb 05 20 25.8
comp=Z,405nm,0.8s
PLAI Plampang 59.26 215 P **P** **05 20 20.2 -4.0**
comp=Z,6µmcomp=Z,5µmcomp=Z,162nm,2.2s
TSI Tuntungan 59.30 242 P **P** **05 20 25.3 +0.8**
comp=Z,8µmcomp=Z,15µmcomp=Z,624nm,1.2s
WBSI Waikabubak, Su 59.34 213 P **P** **05 20 24.9 +0.2**
comp=Z,4µmcomp=Z,249nm,0.8s
KMMI Kalianget 59.37 220 P **P** **05 20 26.0 +1.1**
comp=Z,9µmcomp=Z,8µmcomp=Z,166nm,1.3s
TWSI Taliwang, Sumb 59.56 216 P **P** **05 20 25.4 -0.8**
comp=Z,4µmcomp=Z,2µmcomp=Z,139nm,1.1s
D05A Enumclaw 59.61 52 IAmb IAmb 05 20 51.0
comp=Z,534nm,1.3s
E04D Cinebar 59.62 53 P **P** **05 20 27.7 +1.3**
baz=303,SNR=93
E04D S **S** **05 28 33.3 +0.6**
baz=303
F04D Rainier, OR 59.62 54 P **P** **05 20 27.5 +1.1**
baz=303,SNR=9.7
F04D S **S** **05 28 32.8 +0.1**
baz=303
KBL Kabul 59.69 290 P **P** **05 20 27.2 -0.1**
KBL pmax pmax
comp=Z,469nm,0.8s
KBL Kabul 59.69 290 P **P** **05 20 27.2 -0.1**
SRBI Singaraja 59.71 218 P **P** **05 20 26.7 -0.5**
comp=Z,11µmcomp=Z,14µmcomp=Z,640nm,1.6s
VIS Vishakhapatnam 59.76 266 ⇑*i*P **P** **05 20 27.9 +0.3**
VIS *i* pP **pP** **05 20 42.1 +0.5**
C06D Leavenworth 59.83 51 P **P** **05 20 28.3 +0.5**
baz=304,SNR=11
C06D S **S** **05 28 34.6 -0.7**
baz=304
ABJI Asem Bagus 59.90 220 P **P** **05 20 27.7 -0.8**
comp=Z,11µmcomp=Z,12µmcomp=Z,478nm,1.6s
G03D McMinnville, O 59.95 55 P **P** **05 20 30.0 +1.4**
baz=304,SNR=50
G03D S **S** **05 28 38.1 +1.1**
baz=304
RGRI Rengat 59.98 236 P **P** **05 20 31.2 +2.1**
MLSI Meulaboh, Aceh 60.11 244 P **P** **05 20 29.2 -0.8**
comp=Z,8µmcomp=Z,713nm,1.0s
TBJI Tambak Boyo 60.18 222 P **P** **05 20 31.2 +0.8**
comp=Z,5µmcomp=Z,7µmcomp=Z,186nm,2.0s
KTK1 Kautokeino 60.19 340 ⇑*i*P **P** **05 20 29.4 -0.5**
BKNI Bangkinang 60.22 237 P **P** **05 20 32.4 +1.6**
comp=Z,10µmcomp=Z,10µmcomp=Z,604nm,1.0s
I02D Swisshome 60.22 56 P **P** **05 20 32.2 +1.8**
baz=304,SNR=30
I02D S **S** **05 28 42.4 +2.0**
baz=304
DNP Denpasar 60.24 218 P P 05 20 43.7 +13
comp=Z,326nm,0.9s
COR Corvallis 60.28 55 P **P** **05 20 31.7 +0.9**
COR pmax pmax
comp=Z,544nm,1.2s
COR Corvallis 60.28 55 P **P** **05 20 31.7 +0.9**
COR IAmb IAmb 05 20 34.6
comp=Z,544nm,1.2s
COR Corvallis 60.28 55 ⇑P **P** **05 20 32.5 +1.7**
LTY Liberty 60.32 52 IAmb IAmb 05 20 49.5
comp=Z,628nm,1.8s
LTY IAMs_20 IAMs_20 05 42 51.0
comp=Z,9µm,22.0s
TPTI 60.37 243 P **P** **05 20 30.9 -0.9**
comp=Z,738nmcomp=Z,40nm,1.4s
B08A Colville Reser 60.45 50 IAmb IAmb 05 20 34.6
comp=Z,371nm,1.4s
JETT Jettan, Norway 60.46 341 ⇑*i*P **P** **05 20 32.2 +0.4**
JETT IVmB_BB 05 20 34.4
comp=Z,17µm,0.7s
JETT IVMs_BB IVMs_BB 05 47 46.2
comp=Z,8µm,28.8s
KULLO Kullorsuaq 60.54 8 ⇑*i*P **P** **05 20 31.9 -0.3**
KULLO IAMs_20 IAMs_20 05 47 54.0
comp=Z,21µm,20.4s
KULLO Kullorsuaq 60.54 8 ⇑*i*P **P** **05 20 31.8 -0.3**
KULLO MLR MLR
comp=Z,21µm,20.0s
KLMR Klimovskoe 60.58 328*c* *i*P **P** **05 20 32.0 -0.6**
KLMR *e* 05 21 14.6
KLMR *e* 05 22 42.3
KLMR *e*S **S** **05 28 47.7 +3.3**
KLMR *e*SS **SS** **05 32 48.9 +6.5**
KLMR pmax pmax
comp=Z,652nm,0.9s
KLMR MLR MLR
comp=Z,12µm,19.0s
KLMR Klimovskoe 60.58 328 ⇑*i*P **P** **05 20 32.0 -0.6**
KLMR ⇓*i*P **P** **05 20 32.0 -0.6**
KLMR ⇓*i*P **P** **05 20 32.0 -0.6**
KLMR AMP 05 20 35.1
comp=Z,652nm,0.9s
KLMR *e*PcP **PcP** **05 21 14.6 -2.0**
KLMR *e*PP **PP** **05 22 42.4 -3.7**
KLMR *e*PPP PPP 05 24 05.5
KLMR *e*S **S** **05 28 47.8 +3.3**
KLMR *e*S **S** **05 28 47.8 +3.3**
KLMR *e*SS **SS** **05 32 49.0 +6.5**
KLMR *e*SS **SS** **05 32 49.0 +6.5**
KLMR LQ LQ 05 43 27.7
KLMR LQ LQ 05 43 27.7
KLMR LR LR 05 44 13.2
KLMR AMP 05 47 12.6
comp=Z,12µm,19.0s
KEBM Edson Butte 60.62 57 IAmb IAmb 05 20 36.8
comp=Z,422nm,1.1s
KEBM IAMs_20 IAMs_20 05 41 59.5
comp=Z,7µm,21.0s
F05D White Salmon 60.63 53 P **P** **05 20 34.5 +1.2**
baz=304,SNR=37
F05D S **S** **05 28 46.7 +0.9**
baz=304
PMBI Palembang 60.64 232 P **P** **05 20 35.4 +1.8**
comp=Z,754nm,0.8s
H04D Lebanon 60.65 55 P **P** **05 20 34.9 +1.5**
baz=304,SNR=45
H04D S **S** **05 28 48.3 +2.4**
baz=304
BUCK Buck Mountain 60.68 56 IAmb IAmb 05 20 54.5
comp=Z,621nm,1.4s
J01E Myrtle Point 60.70 57 P **P** **05 20 35.4 +1.7**
baz=304,SNR=40
J01E S **S** **05 28 49.4 +2.9**
baz=304
TRO Tromso 60.74 342 *e*P **P** **05 20 34.0 +0.4**
TRO IVmB_BB 05 20 35.3
comp=Z,13µm,0.6s
TRO *e*S **S** **05 28 46.1 -0.2**
I03D Drain, OR 60.75 56 P **P** **05 20 35.7 +1.6**
baz=304,SNR=89
I03D S **S** **05 28 49.5 +2.3**
baz=304
MNSI Mandailing Nat 60.75 239 P **P** **05 20 35.0 +0.6**
comp=Z,11µmcomp=Z,3µmcomp=Z,88nm,1.0s
H04A Detroit Lake 60.88 55 IAmb IAmb 05 20 58.5
comp=Z,464nm,1.1s
KBO Bosley Butte 61.05 58 IAmb IAmb 05 21 01.1
comp=Z,702nm,1.5s
SMRI Semarang 61.07 224 P **P** **05 20 36.7 +0.1**
comp=Z,11µmcomp=Z,14µmcomp=Z,675nm,1.1s
G05D Wamic, OR 61.08 54 P **P** **05 20 37.7 +1.3**
baz=305,SNR=103
G05D S **S** **05 28 52.7 +1.2**
baz=305
K02D Willamette Mer 61.12 57 P **P** **05 20 38.0 +1.3**
baz=305,SNR=88
K02D S **S** **05 28 55.3 +3.1**
baz=305
E07A Sunnyside 61.17 52 IAmb IAmb 05 20 40.0
comp=Z,424nm,1.2s
PWJI Pagerwojo 61.24 222 P **P** **05 20 36.9 -0.8**
comp=Z,9µmcomp=Z,522nm,0.9s
I04A Tendick Farm, 61.25 56 P **P** **05 20 38.7 +1.1**
baz=305,SNR=22
I04A S **S** **05 28 55.4 +1.7**
baz=305
C09A Chrisman Ranch 61.35 50 IAmb IAmb 05 20 40.6
comp=Z,332nm,1.3s
D08A Wollman Farm, 61.42 51 IAmb IAmb 05 20 56.9
comp=Z,796nm,1.9s
HAWA Hanford 61.45 52 IAmb IAmb 05 20 41.7
comp=Z,319nm,1.2s
HAWA IAMs_20 IAMs_20 05 43 24.9
comp=Z,7µm,22.0s
HAWA Hanford 61.45 52 ⇑P **P** **05 20 39.4 +0.5**
L02E Cave Junction 61.47 58 P **P** **05 20 40.3 +1.2**
baz=305,SNR=64
L02E S **S** **05 28 59.1 +2.7**
baz=305
F07A Phinny Hill Vi 61.51 53 IAmb IAmb 05 20 42.3
comp=Z,346nm,0.9s
I05D Terrebonne, OR 61.58 55 P **P** **05 20 40.8 +1.0**
baz=305,SNR=107
I05D S **S** **05 29 00.1 +2.2**
baz=305
HUMO Hull Mountain 61.60 57 IAMs_20 IAMs_20 05 42 00.2
comp=Z,9µm,22.0s
HUMO Hull Mountain 61.60 57 ⇑P **P** **05 20 41.0 +1.0**
GSI Gunungsitoli 61.61 241 P **P** **05 20 41.1 +0.9**
GSI Gunungsitoli 61.61 241 ⇑P **P** **05 20 41.0 +0.7**
GSI Gunungsitoli 61.61 241 P **P** **05 20 41.7 +1.4**
comp=Z,10µmcomp=Z,16µmcomp=Z,579nm,2.7s
KRMB Red Mountain 61.64 59 IAmb IAmb 05 21 04.2
comp=Z,321nm,1.3s
SANVU Saraoutou 61.68 159 ⇓P **P** **05 20 39.9 -0.6**
PCJI Pacitan 61.70 222 P **P** **05 20 40.2 -0.5**
comp=Z,5µmcomp=Z,151nm,1.2s
NEW Newport 61.72 49 P **P** **05 20 40.9 +0.2**
baz=305,SNR=204
NEW S **S** **05 28 58.7 -0.9**
baz=305
NEW Newport 61.72 49 IAmb IAmb 05 20 43.2
comp=Z,303nm,1.2s
NEW Newport 61.72 49 IAMs_20 IAMs_20 05 44 39.9
comp=Z,7µm,22.0s
DBG Daneborg 61.75 356 ⇑*i*P **P** **05 20 39.2 -1.1**
DBG IAmb IAmb 05 20 42.0
comp=Z,853nm,1.2s
DBG IAMs_20 IAMs_20 05 51 24.6
comp=Z,10µm,19.0s
J04D Umpqua Nationa 61.75 56 P **P** **05 20 42.4 +1.2**
baz=305,SNR=122
J04D S **S** **05 29 03.0 +2.6**
baz=305
UGM Wanagama 61.77 223 P **P** **05 20 40.2 -1.1**
comp=Z,9µmcomp=Z,11µmcomp=Z,762nm,1.7s
YOGI Yogyakarta 61.80 223 P **P** **05 20 40.2 -1.3**
comp=Z,8µmcomp=Z,454nm,1.6s
KNRA Kununurra 61.91 201 P **P** **05 20 42.3 +0.2**
KNRA IAmb IAmb 05 21 04.1
comp=Z,612nm,1.4s
JCC Jacoby Creek, 61.97 59 IAmb IAmb 05 21 07.2
comp=Z,797nm,1.6s
KPJI Karang Pucung 62.08 225 P **P** **05 20 43.1 -0.2**
comp=Z,7µmcomp=Z,313nm,1.5s
LHSI Lahat 62.09 232 P **P** **05 20 44.9 +1.5**
comp=Z,20µmcomp=Z,1µm,1.9s
KHMM Horse Mountain 62.12 59 IAmb IAmb 05 21 09.2
comp=Z,438nm,1.3s
PINE Pine Mountain 62.13 55 IAmb IAmb 05 20 47.1
comp=Z,397nm,1.1s
PINE IAMs_20 IAMs_20 05 43 11.0
comp=Z,8µm,22.0s
BELG Belogornoye 62.16 317 P **P** **05 20 43.7 +0.3**
comp=Z,486nm,0.6s,baz=339,slow=1.3,SNR=216
BELG PKPPKP 05 49 51.6
comp=Z,7.2nm,0.7s,baz=180,slow=3.0,SNR=1.5
BELG LR LR 05 50 16.2
comp=Z,19µm,19.3s,baz=53,slow=38
E09A Wood Farm, Sta 62.17 51 IAmb IAmb 05 20 46.4
comp=Z,439nm,1.2s
PBSI Pulau Batu 62.22 240 P **P** **05 20 44.8 +0.5**
comp=Z,8µmcomp=Z,9µmcomp=Z,484nm,1.7s
L04D Klamath Falls 62.22 57 P **P** **05 20 45.5 +1.2**
baz=305,SNR=200
L04D S **S** **05 29 07.7 +1.5**
baz=305
J05D Fort Rock, OR 62.25 56 P **P** **05 20 45.7 +1.3**
baz=306,SNR=203
J05D S **S** **05 29 09.1 +2.5**
baz=306
MDSI Maura Dua 62.25 231 P **P** **05 20 44.8 +0.3**
comp=Z,5µmcomp=Z,6µmcomp=Z,286nm,1.7s
TNG Tangerang 62.29 228 P **P** **05 20 45.1 +0.3**
comp=Z,11µmcomp=Z,24µmcomp=Z,680nm,0.7s
TNG P **P** **05 20 46.8 +2.0**
comp=Z,8µmcomp=Z,17µmcomp=Z,462nm,0.8s
K04D Chiloquin, OR 62.32 56 P **P** **05 20 46.1 +1.2**
baz=306
K04D S **S** **05 29 09.6 +2.2**
baz=306
LEM Lembang 62.33 227 P **P** **05 20 44.9 -0.3**
comp=Z,37nm,0.4s,baz=65,slow=4.3,SNR=21
LEM LR LR 05 48 05.6
comp=Z,3µm,22.0s,baz=24,slow=36
LEM Lembang 62.33 227 P **P** **05 20 45.0 -0.3**
comp=Z,4µmcomp=Z,6µmcomp=Z,285nm,2.1s
UPNV Upernavik 62.34 8 ⇑*i*P **P** **05 20 43.9 -0.4**
UPNV IAmb IAmb 05 20 46.3
comp=Z,1µm,1.0s
UPNV IAMs_20 IAMs_20 05 51 16.8
comp=Z,15µm,16.8s
M02C Callahan 62.36 58 P **P** **05 20 46.7 +1.5**
baz=306,SNR=130
M02C S **S** **05 29 10.1 +2.2**
baz=306
BLSI Bandar Lampung 62.38 230 P **P** **05 20 45.0 -0.4**
comp=Z,8µmcomp=Z,485nm,1.5s
CBJI Citeko 62.39 228 P **P** **05 20 46.5 +1.1**
comp=Z,8µmcomp=Z,21µmcomp=Z,215nm,0.7s
G08A Pilot Rock 62.41 53 IAmb IAmb 05 21 15.0
comp=Z,550nm,1.9s
KSI Kapahiang 62.48 233 P **P** **05 20 45.4 -0.7**
comp=Z,6µmcomp=Z,11µmcomp=Z,203nm,1.5s
DBJI Dramaga 62.56 228 P **P** **05 20 45.9 -0.7**
comp=Z,229nm,1.6s
N02D Trinity Center 62.70 58 P **P** **05 20 48.7 +1.3**
baz=306,SNR=155
N02D S **S** **05 29 14.4 +2.3**
baz=306
SISI Saibi 62.71 238 P **P** **05 20 47.9 +0.3**
comp=Z,4µmcomp=Z,177nm,1.2s
LWLI Liwa 62.76 231 P **P** **05 20 46.5 -1.5**
comp=Z,477nm,0.8s
M04C Macdoel 62.76 57 P **P** **05 20 49.0 +1.2**
baz=306,SNR=192
M04C S **S** **05 29 14.5 +1.6**
baz=306
K05A Summer Lake 62.77 56 IAmb IAmb 05 21 13.4
comp=Z,562nm,1.1s
CISI Cisompet, Garu 62.84 226 P **P** **05 20 48.4 -0.1**
comp=Z,3µmcomp=Z,3µmcomp=Z,96nm,1.6s
MNAI Manna 62.84 232 P **P** **05 20 48.9 +0.4**
comp=Z,7µmcomp=Z,15µmcomp=Z,738nm,1.6s
KCPM Cahto Peak 62.90 60 IAmb IAmb 05 21 12.5
comp=Z,277nm,1.1s
STEI Steigen 62.92 342 *e*P **P** **05 20 47.9 -0.3**
STEI IVmB_BB 05 20 48.7
comp=Z,8µm,3.3s
STEI *e* 05 20 48.7
STEI *e*S **S** **05 29 14.1 +0.3**
KASI Kota Agung 62.93 230 P **P** **05 20 49.7 +0.7**
comp=Z,8µmcomp=Z,4µmcomp=Z,204nm,1.0s
WALA Waterton Lakes 62.98 47 IAmb IAmb 05 21 07.6
comp=Z,268nm,1.0s
WALA IAMs_20 IAMs_20 05 49 03.0
comp=Z,9µm,22.0s
F10A Beach Ranch, E 63.00 51 IAmb IAmb 05 21 08.2

comp=Z,431nm,1.8s
F10A IAMs_20 IAMs_20 05 51 42.8
comp=Z,7μm,22.0s
WDC Whiskeytown Da 63.03 59 ⇑P **P 05 20 50.1 +0.7**
O02D Mt. Diablo Mer 63.11 59 P **P 05 20 51.6 +1.4**
baz=306,SNR=152
O02D S **S 05 29 19.1 +1.8**
baz=306
LOF Lofoten 63.13 343⇑*i*P **P 05 20 48.9 -0.7**
LOF IVmB_BB 05 20 53.3
comp=Z,10μm,3.2s
LOF IVMs_BB IVMs_BB 05 47 30.9
comp=Z,8μm,31.2s
FAUS Fauske 63.35 341⇑*i*P **P 05 20 50.2 -0.9**
FAUS IVmB_BB 05 20 53.0
comp=Z,12μm,0.6s
FAUS IVMs_BB IVMs_BB 05 50 15.0
comp=Z,9μm,21.4s
HYB Hyderabad 63.40 269 *i*P **P 05 20 52.0 -0.2**
HYB *e*pP **pP 05 21 07.0 +0.6**
HYB *e*PcP **PcP 05 21 28.5 -0.3**
HYB *e*S **S 05 29 23.0 +1.7**
HYB Hyderabad 63.40 269 *i*P **P 05 20 52.2 0.0**
HYB *i*x x 05 21 06.9
MOD Modoc Plateau 63.61 56 IAMs_20 IAMs_20 05 44 00.4
comp=Z,8μm,22.0s
BMO Blue Mountains 63.62 52 IAMs_20 IAMs_20 05 44 18.3
comp=Z,7μm,22.0s
HOPS Hopland Field 63.63 60 IAmb IAmb 05 21 13.4
comp=Z,414nm,1.6s
HOPS IAMs_20 IAMs_20 05 42 10.1
comp=Z,9μm,22.0s
O03E Paynes Creek 63.65 59 P **P 05 20 54.0 +0.3**
baz=306,SNR=286
O03E S **S 05 29 25.2 +1.1**
baz=306
SUMG Summit 63.67 2⇑*i*P **P 05 20 54.4 +0.7**
SUMG IAMs_20 IAMs_20 05 50 12.2
comp=Z,20μm,21.0s
SUMG Summit 63.67 2⇑*i*P **P 05 20 54.3 +0.7**
SUMG MLR MLR
comp=Z,20μm,21.0s
SUMG Summit 63.67 2 P **P 05 20 53.7 0.0**
SUMG Summit 63.67 2 ⇑P **P 05 20 53.7 0.0**
XMAS Kiritimati 63.70 115 P **P 05 20 53.8 -0.4**
XMAS IAmb IAmb 05 20 56.9
comp=Z,571nm,1.1s
XMAS Kiritimati 63.70 115 ⇓P **P 05 20 55.2 +1.0**
CTA Charters Tower 63.76 182 P **P 05 20 54.1 -0.2**
comp=Z,38nm,0.8s,baz=360,slow=8.2,SNR=41
CTA LR LR 05 45 09.5
comp=Z,5μm,21.6s,baz=350,slow=33
CTA PKPPKP **P'P'df 05 49 48.5 +5.7**
comp=Z,5.6nm,1.0s,baz=108,slow=6.4,SNR=5.9
CTAO Charters Tower 63.76 182 P **P 05 20 53.6 -0.8**
CTAO pmax pmax
comp=Z,290nm,1.2s
CTAO Charters Tower 63.76 182 P **P 05 20 53.6 -0.8**
CTAO Charters Tower 63.76 182 IAMs_20 IAMs_20 05 44 22.6
comp=Z,8μm,22.0s
CTAO Charters Tower 63.76 182 ⇓P **P 05 20 53.9 -0.4**
JMIC Jan Mayen 64.11 352 LR LR 05 49 47.1
comp=Z,3μm,19.8s,baz=29,slow=37
JMIC Jan Mayen 64.11 352⇑*i*P **P 05 20 56.6 +0.5**
PLID Pearl Lake 64.22 51 IAmb IAmb 05 20 59.9
comp=Z,359nm,1.2s
MCCM Marconi Confer 64.26 61 ⇑P **P 05 20 58.0 +0.4**
MCCM ⇓P **P 05 20 58.4 +0.8**
WVOR Wild Horse Val 64.29 55 ⇑P **P 05 20 58.3 +0.4**
MSO Missoula 64.31 49 P **P 05 20 58.6 +0.7**
baz=308,SNR=347
MSO S **S 05 29 32.0 -0.1**
baz=308
MSO Missoula 64.31 49 IAmb IAmb 05 21 00.5
comp=Z,380nm,1.1s
HRA Herat 64.33 294 P **P 05 20 56.1 -2.4**
HRA IAmb IAmb 05 21 00.9
comp=Z,284nm,0.7s
MOR8 Moi Rana 64.53 341⇑*i*P **P 05 20 57.1 -1.9**
MOR8 IVmB_BB 05 21 00.2
comp=Z,14μm,0.6s
MOR8 *e*S **S 05 29 32.9 -1.1**
MOR8 IVMs_BB IVMs_BB 05 51 22.4
comp=Z,8μm,20.8s
KONS Konsvik 64.57 342 *e*P **P 05 20 58.9 -0.2**
MOS Moscow 64.64 324*a i*P **P 05 20 59.4 -0.3**
MOS *e* 05 21 32.6
MOS *e*S **S 05 29 32.6 -2.9**
MOS pmax pmax
comp=Z,11μm,2.8s
MOS pmax pmax
comp=N,5μm,3.0s
MOS pmax pmax
comp=E,3μm,3.0s
MOS pmax pmax
comp=E,453nm,1.7s
MOS pmax pmax
comp=Z,3μm,1.8s
MOS pmax pmax
comp=N,654nm,1.5s
MOS smax smax
comp=E,2μm,3.4s
MOS smax smax
comp=N,7μm,3.4s
MOS MLR MLR
comp=N,8μm,14.0s
MOS MLR MLR
comp=E,8μm,14.0s
MOS MLR MLR
comp=Z,11μm,14.0s
MOS Moscow 64.64 324 *i*P **P 05 20 59.4 -0.3**
WB0 Warramunga Arr 64.64 194 IAmb IAmb 05 21 21.4
comp=Z,1μm,1.9s
PUL Pulkovo 64.72 330*c i*P **P 05 21 00.3 +0.1**
PUL pmax pmax
comp=Z,451nm,0.6s
PUL Pulkovo 64.72 330 *i*P **P 05 21 00.3 +0.1**
WRAB Tennant Creek 64.81 194*d i*P **P 05 20 59.8 -1.4**
WRAB pmax pmax
comp=Z,340nm,1.2s
WRAB Tennant Creek 64.81 194 P **P 05 21 01.7 +0.5**
WR2 Warramunga Arr 64.82 194 IAMs_20 IAMs_20 05 45 31.3
comp=Z,6μm,20.0s
WRA Warramunga Arr 64.82 194 P **P 05 21 00.2 -1.1**
comp=Z,32nm,0.8s,baz=11,slow=6.8,SNR=84
WRA Warramunga Arr 64.82 194 P **P 05 20 59.9 -1.4**
WRA Warramunga Arr 64.82 194 P **P 05 20 59.9 -1.4**
GEYT Alibeck 64.87 299 P **P 05 21 02.5 +0.8**
comp=Z,201nm,0.6s,baz=27,slow=1.0,SNR=179
GEYT LR LR 05 52 01.9
comp=Z,31μm,18.7s,baz=45,slow=38
GEYT Alibeck 64.87 299 P **P 05 21 02.7 +1.0**
GEYT IAmb IAmb 05 21 04.0
comp=Z,237nm,0.7s
GYA0B ALIBECK ARRAY 64.87 299 IAmb IAmb 05 21 03.9
comp=Z,227nm,0.7s
FINES FINESS Array B 64.96 333 P **P 05 21 01.4 -0.4**
comp=Z,369nm,0.5s,baz=41,slow=6.6,SNR=907
FINES PKP2bc 05 49 53.0
comp=Z,2.3nm,0.8s,baz=210,slow=11,SNR=4.0
FINES LR LR 05 52 46.6
comp=Z,22μm,19.2s,baz=41,slow=39
FINES FINESS Array B 64.96 333 P **P 05 21 01.0 -0.7**
AFDM Forest Hills D 64.97 59 IAmb IAmb 05 21 26.2
comp=Z,535nm,1.7s
MDRS Chennai 65.05 264 *i*P **P 05 21 03.9 +0.8**
MDRS *i*x x 05 21 18.5
FITZ Fitzroy Crossi 65.07 204 P **P 05 21 03.1 +0.2**
comp=Z,28nm,0.7s,baz=22,slow=6.0,SNR=53
FITZ LR LR 05 46 01.6
comp=Z,1μm,21.8s,baz=21,slow=33
FITZ PKP2bc 05 49 53.0
comp=Z,21nm,1.0s,baz=172,slow=2.2,SNR=9.2
FFC Flin Flon 65.15 37 P **P 05 21 02.9 -0.3**
FFC pmax pmax
comp=Z,518nm,1.0s
FFC MLR MLR
comp=Z,9μm,20.0s
FFC Flin Flon 65.15 37 P **P 05 21 02.9 -0.3**
FFC IAmb IAmb 05 21 05.9
comp=Z,518nm,1.0s
FFC Flin Flon 65.15 37 IAMs_20 IAMs_20 05 51 20.9
comp=Z,9μm,20.0s
MFID Camas Ranch 65.34 53 IAmb IAmb 05 21 23.5
comp=Z,722nm,1.9s
RUBR Rubicon Trail 65.41 59 IAmb IAmb 05 21 25.4
comp=Z,352nm,1.1s
PAHR Pah Rah Range 65.49 58 IAmb IAmb 05 21 08.4
comp=Z,403nm,1.3s
OBN Obninsk 65.50 324 P **P 05 21 05.4 0.0**
comp=Z,125nm,1.0s,baz=50,slow=5.5,SNR=176
OBN PKPPKP **P'P'df 05 49 46.7 -3.2**
comp=Z,4.4nm,0.4s,baz=258,slow=9.3,SNR=3.1
OBN LR LR 05 52 09.8
comp=Z,4μm,20.0s,baz=47,slow=38
OBN Obninsk 65.50 324*c i*P **P 05 21 05.4 0.0**
OBN *e* 05 21 37.6
OBN *e* 05 23 29.9
OBN *e*PPP PPP 05 25 06.8
OBN *i*S **S 05 29 41.6 -4.5**
OBN pmax pmax
comp=Z,3μm,1.6s
OBN MLR MLR
comp=Z,17μm,16.0s
OBN Obninsk 65.50 324 P **P 05 21 05.5 +0.2**
FCC Fort Churchill 65.52 30 IAmb IAmb 05 21 07.7
comp=Z,400nm,0.9s
SCO Scoresbysund 65.63 356⇑*i*P **P 05 21 06.7 +0.7**
SCO Scoresbysund 65.63 356⇑*i*P **P 05 21 06.6 +0.7**
SCO Scoresbysund 65.63 356 P **P 05 21 06.1 +0.1**
SCO IAMs_20 IAMs_20 05 50 18.3
comp=Z,6μm,20.0s
PNTR Pine Nut 65.73 59 IAmb IAmb 05 21 31.8
comp=Z,966nm,1.6s
VRH Novokhopyorsk 65.77 319 *e*P **P 05 21 07.1 -0.1**
VRH *e*S **S 05 29 43.2 -6.3**
VRH *e*SSS SSS 05 37 01.8
VRH pmax pmax
comp=Z,2μm,1.4s
VRH pmax pmax
comp=Z,5μm,1.6s
VRH smax smax
comp=N,3μm,10.6s
VRH MLR MLR
comp=Z,23μm,18.0s
EGMT Eagleton 65.79 46 P **P 05 21 08.2 +0.7**
baz=309,SNR=148
EGMT S **S 05 29 49.0 -1.1**
baz=309
CMB Columbia Colle 65.89 60 IAmb IAmb 05 21 32.3
comp=Z,598nm,1.6s
KOUNC Koumac, New Ca 65.92 163 ⇓P **P 05 21 09.2 +0.9**
KOUNC ⇑P **P 05 21 09.5 +1.2**
DLMT Dillon 65.95 50 IAmb IAmb 05 21 28.2
comp=Z,750nm,1.8s
YERR Yerington 66.02 58 IAmb IAmb 05 21 12.1
comp=Z,534nm,1.2s
BHUJ Bhuj 66.06 280 *i*P **P 05 21 10.7 +1.2**
BHUJ *i*x x 05 21 25.3
POO Poona 66.07 273 *e*P **P 05 21 09.7 0.0**
POO *i*x x 05 21 24.3
LPSR Galich'ya Gora 66.15 321 *e*P **P 05 21 10.0 +0.4**
LPSR *e*S **S 05 29 47.9 -6.2**
LPSR pmax pmax
comp=Z,3μm,1.4s
LPSR pmax pmax
comp=Z,5μm,1.6s
LPSR smax smax
comp=N,4μm,9.4s
LPSR MLR MLR
comp=Z,20μm,17.0s
ILULI Ilulissat 66.25 7⇑*i*P **P 05 21 10.1 +0.1**
ILULI IAmb IAmb 05 21 11.8
comp=Z,1μm,1.1s
ILULI IAMs_20 IAMs_20 05 47 27.5
comp=Z,24μm,24.6s
ILULI Ilulissat 66.25 7⇑*i*P **P 05 21 10.0 +0.1**
ILULI pmax pmax
comp=Z,1μm,1.1s
ILULI MLR MLR
comp=Z,24μm,25.0s
BOZ Bozeman (W) 66.33 49 P **P 05 21 12.1 +1.0**
baz=309,SNR=348
BOZ S **S 05 29 57.0 +0.1**
baz=309
BOZ Bozeman (W) 66.33 49 IAmb IAmb 05 21 13.8
comp=Z,342nm,1.1s
MEF Metsahovi 66.42 333 *e*P **P 05 21 11.5 +0.3**
NSS Namsos 66.48 341 *e*P **P 05 21 12.0 +0.5**
NSS IVmB_BB 05 21 12.4
comp=Z,10μm,1.9s
NSS *e*S **S 05 29 57.6 -0.1**
NSS IVMs_BB IVMs_BB 05 53 40.6
comp=Z,11μm,21.4s
VORR Voronezh 66.64 320⇑*i*P **P 05 21 12.0 -0.8**
VORR pmax pmax
comp=Z,5μm,1.6s
RAF Rauma 66.64 335 *e*P **P 05 21 11.5 -1.1**
KVN Kaiserville 66.68 58 IAmb IAmb 05 21 16.3
comp=Z,437nm,1.1s
LHV Little Huntoon 66.92 59 IAmb IAmb 05 21 18.3
comp=Z,645nm,1.2s
NVAR Mina Array Bea 66.94 58 P **P 05 21 15.8 +0.6**
comp=Z,126nm,0.8s,baz=295,slow=6.5,SNR=234
NVAR LR LR 05 47 46.9
comp=Z,2μm,21.7s,baz=303,slow=33
NVAR PKP2bc 05 49 52.6
comp=Z,3.8nm,1.0s,baz=168,slow=4.9,SNR=5.1
NVAR Mina Array Bea 66.94 58 P **P 05 21 15.6 +0.4**
VSU Vasula 66.95 331 *e*P **P 05 21 15.0 +0.4**
VSU Vasula 66.95 331*c i*P **P 05 21 14.1 -0.5**
VSU pmax pmax
comp=Z,1μm,1.2s
VSU MLR MLR
comp=Z,42μm,20.0s
VSU Vasula 66.95 331⇑P **P 05 21 14.4 -0.2**
VSR Storozhevoye 66.97 320 *e*P **P 05 21 15.8 +1.0**
VSR *e*S **S 05 29 56.5 -7.6**
VSR pmax pmax
comp=Z,3μm,1.3s
VSR pmax pmax
comp=Z,6μm,1.7s
VSR smax smax
comp=N,4μm,10.5s
VSR MLR MLR
comp=Z,26μm,26.0s
VORD Divnogorie 67.08 319 *e*P **P 05 21 16.7 +1.2**
VORD *e*S **S 05 30 03.2 -2.1**
VORD pmax pmax
comp=Z,3μm,1.6s
VORD pmax pmax
comp=Z,5μm,1.7s
VORD smax smax
comp=N,550nm,5.3s
VORD MLR MLR
comp=Z,7μm,13.0s
MLAC Mammoth, Mammo 67.11 59 P **P 05 21 17.8 +1.5**
baz=309,SNR=64
MLAC S **S 05 30 09.0 +2.3**
baz=309
ICESG Greenland Ices 67.12 3⇑*i*P **P 05 21 16.9 +0.9**
ICESG IAmb IAmb 05 21 19.6
comp=Z,2μm,0.9s
ICESG IAMs_20 IAMs_20 05 49 22.1
comp=Z,23μm,23.9s
MSVF Nonsavu 67.28 149 LR LR 05 44 47.6
comp=Z,9μm,20.8s,baz=305,slow=31
MSVF Nonsavu 67.28 149 P **P 05 21 18.1 +0.9**
MSVF pmax pmax
comp=Z,196nm,1.3s
MSVF Nonsavu 67.28 149 P **P 05 21 18.1 +0.9**
ELK Elko 67.34 55 IAMs_20 IAMs_20 05 46 06.9
comp=Z,6μm,21.0s
PAGB Antelope Grade 67.40 62 IAmb IAmb 05 21 42.9
comp=Z,577nm,1.5s
YUF Upper Falls 67.50 49 IAmb IAmb 05 22 00.8
comp=Z,520nm,1.8s
VOG Valley Oaks Go 67.58 61 P **P 05 21 19.1 +0.2**
baz=309
VOG S **S 05 30 11.8 -0.1**
baz=309
YPP Pitchstone Pla 67.63 50 IAmb IAmb 05 21 45.5
comp=Z,544nm,1.8s
H17A Grant Village 67.67 49 P **P 05 21 22.2 +2.5**
baz=310,SNR=219
H17A S **S 05 30 17.3 +3.9**
baz=310
H17A Grant Village 67.67 49 IAmb IAmb 05 21 24.2
comp=Z,384nm,1.1s
MTSE Matsula 67.76 332 *e*P **P 05 21 17.6 -2.1**
SMMC Simmler 67.82 62 P **P 05 21 21.7 +1.1**
baz=309,SNR=12
SMMC S **S 05 30 15.8 +0.9**
baz=309
TIN Tinemaha, Big 67.84 60 P **P 05 21 21.5 +0.7**
baz=309,SNR=12
TIN S **S 05 30 16.6 +1.3**
baz=309
AAL Aland 67.85 335 *e*P **P 05 21 20.0 -0.2**
DZM Mont Dzumac 67.86 162 PKP2bc 05 49 42.6
comp=Z,12nm,1.1s,baz=142,slow=7.7,SNR=3.4
DZM LR LR 05 51 22.7
comp=Z,5μm,18.4s,baz=13,slow=36
DZM Mont Dzumac 67.86 162 *e*P **P 05 21 22.4 +1.6**
comp=Z,199nm,1.1s
DZM *e*S **S 05 30 15.0 -0.4**
comp=Z,4μm,26.2s
DZM *e*SS **SS 05 34 38.0 -0.4**
comp=Z,4μm,29.0s
DZM *e*LQ LQ 05 38 48.0
comp=Z,17μm,31.9s
DZM *e*LR LR 05 41 53.0
comp=Z,27μm,24.9s
DZM Mont Dzumac 67.86 162 ⇓P **P 05 21 22.1 +1.3**
DZM ⇓P **P 05 21 22.2 +1.4**
RLMT Red Lodge 67.92 48 P **P 05 21 22.3 +1.0**
baz=311,SNR=156
RLMT S **S 05 30 16.5 +0.4**
baz=311
RLMT Red Lodge 67.92 48 IAmb IAmb 05 21 41.3
comp=Z,693nm,1.6s
TPAW Teton Pass 68.05 50 IAmb IAmb 05 21 25.6
comp=Z,395nm,1.1s
VES Vestal, Richgr 68.07 61 P **P 05 21 22.0 -0.1**
baz=309,SNR=42
VES S **S 05 30 16.1 -1.7**
baz=309
GOA Goa 68.07 271 *e*P **P 05 21 22.1 -0.3**
GOA *i*P **P 05 21 22.7 +0.4**
GOA *i*x x 05 21 37.2
MAK Makhachkala 68.09 309 *e*P **P 05 21 20.7 -1.3**
MAK *e*PPP PPP 05 25 28.2
MAK *e*S **S 05 30 17.0 -0.7**
MAK *e*SS **SS 05 34 39.1 -0.9**
MAK pmax pmax
comp=Z,2μm,2.7s
MAK MLR MLR
comp=Z,12μm,15.0s
LOHW Long Hollow 68.16 50 IAmb IAmb 05 21 43.1
comp=Z,892nm,1.8s
REDW Red Top Meadow 68.19 50 IAmb IAmb 05 21 26.2
comp=Z,436nm,1.2s
PKM Mcpherson Peak 68.20 62 P **P 05 21 24.2 +1.0**
baz=309,SNR=41
PKM S **S 05 30 20.2 +0.4**
baz=309
OUENC Ouen Island, N 68.28 161 IAmb IAmb 05 21 47.1
comp=Z,984nm,1.5s
DGMT Dagmar 68.31 43 IAMs_20 IAMs_20 05 50 24.2
comp=Z,10μm,22.0s
CWC Cottonwood Cre 68.32 60 P **P 05 21 24.4 +0.6**
baz=309
CWC S **S 05 30 21.6 +0.5**
baz=309
GRAC Grapevine Rang 68.41 59 P **P 05 21 25.4 +1.2**
baz=309,SNR=20
GRAC S **S 05 30 22.7 +0.7**
baz=309
AHID Auburn Hatcher 68.43 51 IAMs_20 IAMs_20 05 47 50.6
comp=Z,7μm,22.0s
SFJD Kangerlussuaq 68.45 8⇑*i*P **P 05 21 24.3 +0.3**
SFJD IAmb IAmb 05 21 26.5
comp=Z,576nm,1.1s
SFJD IAMs_20 IAMs_20 05 48 55.4
comp=Z,15μm,25.1s
SFJD Kangerlussuaq 68.45 8⇑*i*P **P 05 21 24.2 +0.3**
SFJD pmax pmax
comp=Z,580nm,1.1s
SFJD MLR MLR
comp=Z,15μm,25.0s
SFJD Kangerlussuaq 68.45 8 P **P 05 21 23.7 -0.2**
SFJD Kangerlussuaq 68.45 8 ⇑P **P 05 21 23.2 -0.7**
SFJD ⇓P **P 05 21 23.4 -0.5**
LAO LASA Array 68.49 45 P **P 05 21 25.8 +1.2**
baz=312,SNR=164
LAO S **S 05 30 23.3 +0.7**
baz=312
LAO LASA Array 68.49 45 IAmb IAmb 05 21 27.5
comp=Z,630nm,1.2s
LAO IAMs_20 IAMs_20 05 52 25.6
comp=Z,7μm,21.0s
ASAR Alice Springs 68.54 194 P **P 05 21 24.9 -0.1**
comp=Z,28nm,0.7s,baz=12,slow=6.1,SNR=93
ASAR LR LR 05 49 04.1
comp=Z,5μm,21.8s,baz=47,slow=34
ASAR PKP2bc 05 49 41.2
comp=Z,11nm,0.9s,baz=172,slow=4.1,SNR=7.0
ASAR Alice Springs 68.54 194 P **P 05 21 24.7 -0.2**
ASAR Alice Springs 68.54 194 P **P 05 21 24.7 -0.2**
SBC Santa Barbara 68.55 63 P **P 05 21 26.1 +1.0**
baz=309
SBC S **S 05 30 24.8 +1.4**
baz=309
R11A Troy Canyon, C 68.65 57 P **P 05 21 26.3 +0.5**
baz=310,SNR=145
R11A S **S 05 30 24.6 -0.4**
baz=310
ARVC Arvin 68.68 61 P **P 05 21 26.0 +0.2**
baz=310,SNR=16
ARVC S **S 05 30 24.6 -0.4**
baz=310
PALK Pallekele 68.69 259 P **P 05 21 26.9 +0.6**
PALK pmax pmax
comp=Z,316nm,1.1s
PALK MLR MLR
comp=Z,8μm,22.0s
PALK Pallekele 68.69 259 P **P 05 21 26.9 +0.6**
PALK IAMs_20 IAMs_20 05 53 37.9
comp=Z,9μm,22.0s
UPP Uppsala 68.82 336 *e*P **P 05 21 27.0 +0.6**
SCZ2 Santa Cruz Isl 68.88 63 P **P 05 21 27.5 +0.3**
baz=310
SCZ2 S **S 05 30 26.9 -0.6**
baz=310
GROC Groznyy 68.88 310 *e*P **P 05 21 27.5 +0.5**
GROC *e* 05 21 51.9
GROC *e* 05 24 01.3
GROC *e*S **S 05 30 26.7 -0.5**
GROC pmax pmax
comp=Z,291nm,0.7s
AKT Akhty 68.91 308⇑*i*P **P 05 21 28.4 +1.0**
AKT *e* 05 21 50.1
AKT *e* 05 24 00.6
AKT *e*S **S 05 30 27.1 -0.8**
AKT pmax pmax
comp=Z,440nm,0.6s
MPMC Manual Prospec 68.93 60 P **P 05 21 28.3 +0.6**
baz=310,SNR=228
MPMC S **S 05 30 28.7 +0.2**
baz=310
SPR3 Spring Creek 3 68.99 56 IAmb IAmb 05 21 52.2
comp=Z,658nm,1.7s
EIDS Eidsvold 69.06 177 IAmb IAmb 05 21 50.3
comp=Z,725nm,1.8s
FURC Furnace Creek, 69.06 59 P **P 05 21 29.0 +0.8**
baz=310,SNR=45
FURC S **S 05 30 29.0 -0.5**
baz=310
OSI Osito Audit: C 69.07 62 P **P 05 21 29.1 +0.7**
baz=310
OSI S **S 05 30 30.3 +0.5**
baz=310
OSI Osito Audit: C 69.07 62 IAMs_20 IAMs_20 05 46 08.1
comp=Z,7μm,21.0s
DUG Dugway, Tooele 69.11 54 P **P 05 21 29.5 +0.8**
baz=310,SNR=240
DUG S **S 05 30 31.4 +1.0**
baz=310
SLIT Slitere, Latvi 69.12 332 *e*P **P 05 21 28.6 +0.5**
SLIT Slitere, Latvi 69.12 332 ⇑P **P 05 21 27.9 -0.2**
SLIT ⇓P **P 05 21 28.6 +0.5**
TPNV Topopah Spring 69.13 59 P **P 05 21 29.5 +0.6**
baz=310,SNR=293
TPNV S **S 05 30 31.6 +0.9**
baz=310
TPNV Topopah Spring 69.13 59 IAmb IAmb 05 21 53.0
comp=Z,830nm,1.4s
TPNV Topopah Spring 69.13 59 ⇑P **P 05 21 29.1 +0.2**
TPNV ⇑P **P 05 21 29.3 +0.4**

GOF	**Gofitskoye**	**69.15**	**313**	⇑ *i*P		**P**	**05 21 29.7**	**+1.1**
GOF				*e*S		**S**	**05 30 30.7**	**+0.4**
GOF				pmax	pmax			
	comp=Z,2μm,0.6s							
GOF				smax	smax			
	comp=E,273nm,1.6s							
GOF				smax	smax			
	comp=N,1μm,2.3s							
LRMC	**Laurel Mtn Rad**	**69.18**	**61**	P		**P**	**05 21 29.4**	**+0.2**
	baz=310,SNR=26							
LRMC				S		**S**	**05 30 30.7**	**-0.5**
	baz=310							
MOL	**Molde**	**69.19**	**342**	*e*P		**P**	**05 21 28.6**	**+0.1**
MOL	**Molde**	**69.19**	**342**	⇑ *i*P		**P**	**05 21 28.8**	**+0.3**
MOL				IVmB_BB			05 21 30.1	
	comp=Z,14μm,2.8s							
MOL				IVMs_BB	IVMs_BB		05 49 46.1	
	comp=Z,7μm,23.6s							
DOMB	**Dombas**	**69.29**	**341**	⇑ *i*P		**P**	**05 21 29.0**	**-0.3**
DOMB				IVmB_BB			05 21 30.3	
	comp=Z,15μm,2.2s							
DOMB				*e*S		**S**	**05 30 29.0**	**-2.5**
DOMB				IVMs_BB	IVMs_BB		05 55 12.4	
	comp=Z,9μm,18.3s							
BW06	**Boulder Array**	**69.30**	**50**	P		**P**	**05 21 30.3**	**+0.4**
	baz=311,SNR=213							
BW06				S		**S**	**05 30 32.1**	**-0.5**
	baz=311							
BW06	**Boulder Array**	**69.30**	**50**	IAMs_20	IAMs_20		05 51 46.3	
	comp=Z,6μm,22.0s							
PDAR	**Pinedale Array**	**69.30**	**50**	P		**P**	**05 21 30.4**	**+0.4**
	comp=Z,87nm,0.8s,baz=273,slow=2.2,SNR=272							
PDAR				LR	LR		05 48 09.6	
	comp=Z,3μm,21.8s,baz=330,slow=33							
PDAR				PKP2bc			05 49 33.2	
	comp=Z,3.5nm,1.1s,baz=123,slow=5.5,SNR=13							
PDAR	**Pinedale Array**	**69.30**	**50**	P		**P**	**05 21 29.9**	**-0.1**
IDID	**Didziasalis**	**69.30**	**329**	*e*P		**P**	**05 21 30.4**	**+1.0**
ISAL	**Salakas**	**69.34**	**329**	*e*P		**P**	**05 21 30.4**	**+0.8**
DY2G	**Dye2**	**69.34**	**6**	⇑ *i*P		**P**	**05 21 30.4**	**+0.6**
DY2G				IAMs_20	IAMs_20		05 52 40.8	
	comp=Z,16μm,20.7s							
EDW2	**Edwards Air Fo**	**69.36**	**61**	P		**P**	**05 21 30.8**	**+0.6**
	baz=310,SNR=98							
EDW2				S		**S**	**05 30 32.6**	**-0.7**
	baz=310							
SNCC	**San Nicolas Is**	**69.42**	**63**	P		**P**	**05 21 31.3**	**+0.8**
	baz=310							
SNCC				S		**S**	**05 30 34.3**	**+0.4**
	baz=310							
SNCC	**San Nicolas Is**	**69.42**	**63**	IAMs_20	IAMs_20		05 45 58.6	
	comp=Z,7μm,21.0s							
IIGN	**Ignalina**	**69.47**	**329**	*e*P		**P**	**05 21 31.8**	**+1.4**
MNK	**Minsk**	**69.47**	**327**	*i* P		**P**	**05 21 32.2**	**+1.7**
MNK				*i* *PP		**pP**	**05 21 46.4**	**+1.7**
MNK				*i*			05 21 54.8	
MNK				*i*			05 24 06.2	
MNK				*i* PPP	PPP		05 25 47.6	
MNK				*i* S		**S**	**05 30 35.4**	**+1.6**
MNK				*i* *SS		**sS**	**05 31 01.3**	**+3.5**
MNK				*i*			05 31 29.1	
MNK				*i* SS		**SS**	**05 35 06.3**	**+5.5**
MNK				pmax	pmax			
	comp=Z,2μm,1.2s							
MNK				pmax	pmax			
	comp=E,171nm,1.2s							
MNK				pmax	pmax			
	comp=N,1μm,1.2s							
MNK				MLR	MLR			
	comp=E,1μm,22.0s							
MNK				MLR	MLR			
	comp=Z,27μm,22.0s							
MNK				MLR	MLR			
	comp=N,19μm,23.0s							
MNK	**Minsk**	**69.47**	**327**	*i* P		**P**	**05 21 32.2**	**+1.8**
	comp=E,171nm,1.2s							
MNK				*i* P		**P**	**05 21 32.2**	**+1.8**
	comp=N,1μm,1.2s							
MNK				*i* P		**P**	**05 21 32.2**	**+1.8**
	comp=Z,2μm,1.2s,baz=222							
MNK				*i* pP		**pP**	**05 21 46.4**	**+1.7**
MNK				*i* PcP		**PcP**	**05 21 54.8**	**+1.4**
MNK				*i* PP		**PP**	**05 24 06.2**	**+2.4**
MNK				*i* PPP		PPP	05 25 47.7	
MNK				*i* S		**S**	**05 30 35.4**	**+1.6**
MNK				*i* sS		**sS**	**05 31 01.3**	**+3.5**
MNK				*i* SS		**SS**	**05 35 06.3**	**+5.5**
MNK				*i* SSS		SSS	05 38 24.1	
MNK				*i* LR		LR	05 47 36.3	
MNK				*i* LRM		MLR	05 53 35.6	
	comp=E,1μm,21.7s							
MNK				*i* LRM		MLR	05 54 06.0	
	comp=Z,27μm,21.7s							
MNK				*i* LRM		MLR	05 54 10.4	
	comp=N,19μm,22.8s							
HALK	**Hakmana**	**69.53**	**258**	⇑P		**P**	**05 21 32.2**	**+0.8**
HALK				⇑P		**P**	**05 21 32.2**	**+0.8**
HALK				⇓P		**pP**	**05 21 47.7**	**+2.0**
HALK				⇓P		**sP**	**05 21 49.1**	**-2.3**
DECC	**Green Verdugo**	**69.55**	**62**	P		**P**	**05 21 32.1**	**+0.7**
	baz=310,SNR=8.9							
DECC				S		**S**	**05 30 34.8**	**-0.6**
	baz=310							
PRN	**Pahroc Range**	**69.58**	**58**	IAMs_20	IAMs_20		05 46 10.2	
	comp=Z,6μm,22.0s							
NB2	**NORSAR Subarra**	**69.62**	**339**	P		**P**	**05 21 31.7**	**+0.4**
	comp=Z,5μm,2.0s,baz=31,slow=6.5							
NB2	**NORSAR Subarra**	**69.62**	**339**	P		**P**	**05 21 31.7**	**+0.4**
	baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.62**	**339**	P		**P**	**05 21 31.4**	**+0.1**
	comp=Z,446nm,0.7s,baz=31,slow=6.3,SNR=1072							
NOA				PKPPKP			05 49 35.0	
	comp=Z,2.7nm,0.9s,baz=249,slow=1.0,SNR=4.3							
NOA				LR	LR		05 55 15.6	
	comp=Z,20μm,21.9s,baz=35,slow=39							
AKN	**Aaknes**	**69.65**	**342**	⇑ *i*P		**P**	**05 21 33.2**	**+1.7**
AKN				IVmB_BB			05 21 34.2	
	comp=Z,14μm,2.0s							
AKN				*e*S		**S**	**05 30 38.5**	**+2.8**
AKN				IVMs_BB	IVMs_BB		05 49 02.2	
	comp=Z,6μm,26.4s							
PASC	**Pasadena Art C**	**69.69**	**62**	IAmb	IAmb		05 21 55.0	
	comp=Z,733nm,1.9s							
PASC	**Pasadena Art C**	**69.69**	**62**	IAMs_20	IAMs_20		05 46 36.7	
	comp=Z,6μm,21.0s							
HFS	**Hagfors**	**69.72**	**338**	P		**P**	**05 21 32.7**	**+0.8**
	comp=Z,583nm,0.6s,baz=50,slow=4.6,SNR=713							
HFS				S		**S**	**05 30 37.0**	**+0.4**
	comp=Z,30nm,1.0s,baz=40,slow=12,SNR=8.6							
HFS				PKP2bc			05 49 41.4	
	comp=Z,3.0nm,1.0s,baz=160,slow=4.6,SNR=2.7							
HFS				LR	LR		05 55 23.1	
	comp=Z,17μm,20.9s,baz=26,slow=39							
SHOC	**Shoshone, Teco**	**69.79**	**59**	P		**P**	**05 21 33.3**	**+0.5**
	baz=310,SNR=28							
SHOC				S		**S**	**05 30 37.9**	**-0.2**
	baz=310							
NC602	**NORSAR Array S**	**69.79**	**339**	*e*P		**P**	**05 21 33.1**	**+0.7**
NC602				IVmB_BB			05 21 33.3	
	comp=Z,13μm,1.6s							
NC602				*e*S		**S**	**05 30 36.5**	**-0.9**
NC602				IVMs_BB	IVMs_BB		05 52 32.5	
	comp=Z,6μm,24.2s							
GSC	**Goldstone, Bar**	**69.84**	**60**	P		**P**	**05 21 33.6**	**+0.4**
	baz=310,SNR=75							
GSC				S		**S**	**05 30 38.3**	**-0.7**
	baz=310							
FMP	**Fort Macarthur**	**69.92**	**62**	P		**P**	**05 21 34.1**	**+0.6**
	baz=310							
FMP				S		**S**	**05 30 39.1**	**-0.6**
	baz=310							
BFSC	**Mount Baldy Ra**	**69.99**	**62**	P		**P**	**05 21 34.3**	**+0.1**
	baz=310,SNR=63							
BFSC				S		**S**	**05 30 39.7**	**-1.1**
	baz=310							
RRX	**Edison Barstow**	**70.00**	**61**	P		**P**	**05 21 34.7**	**+0.6**
	baz=310,SNR=7.6							
RRX				S		**S**	**05 30 41.2**	**+0.6**
	baz=310							
CIS	**Catalina Islan**	**70.04**	**63**	P		**P**	**05 21 34.5**	**+0.2**
	baz=310,SNR=13							
CIS				S		**S**	**05 30 40.8**	**-0.4**
	baz=310							
KVAR	**Kislovodsk Arr**	**70.07**	**312**	S		**S**	**05 30 43.4**	**+2.0**
	comp=Z,50nm,1.1s,baz=0.0,slow=8.1,SNR=7.5							
KVAR				LR	LR		05 56 41.3	
	comp=Z,28μm,21.1s,baz=288,slow=40							
KIV	**Kislovodsk**	**70.08**	**312**	⇑P		**P**	**05 21 36.4**	**+1.9**
KIV	**Kislovodsk**	**70.08**	**312**	*i* P		**P**	**05 21 35.9**	**+1.3**
SNR=518								
KIV	**Kislovodsk**	**70.08**	**312**	*e*P		**P**	**05 21 35.3**	**+0.8**
KIV				*e*S		**S**	**05 30 43.1**	**+1.7**
KIV				*e*SS		**SS**	**05 35 11.0**	**+0.1**
KIV				pmax	pmax			
	comp=Z,3μm,3.8s							
KIV				pmax	pmax			
	comp=Z,1μm,1.0s							
KIV				MLR	MLR			
	comp=Z,23μm,18.0s							
KIV	**Kislovodsk**	**70.08**	**312**	P		**P**	**05 21 35.8**	**+1.3**
KIV	**Kislovodsk**	**70.08**	**312**	P		**P**	**05 21 36.1**	**+1.6**
KIV				P		**P**	**05 21 36.1**	**+1.6**
KIV				P		**P**	**05 21 36.1**	**+1.6**
KIV	**Kislovodsk**	**70.08**	**312**	*e*P		**P**	**05 21 35.3**	**+0.8**
KBZ	**Khabaz**	**70.11**	**312**	P		**P**	**05 21 36.0**	**+1.4**
	comp=Z,768nm,0.9s,baz=58,slow=5.8,SNR=510							
KBZ				S		**S**	**05 30 43.8**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=3.4,slow=19,SNR=9.9							
KBZ				PKP2bc			05 49 32.3	
	comp=Z,2.7nm,1.0s,baz=221,slow=3.2,SNR=9.0							
KBZ				LR	LR		05 57 11.3	
	comp=Z,35μm,19.1s,baz=42,slow=40							
KBZ	**Khabaz**	**70.11**	**312**	*c i*P		**P**	**05 21 35.5**	**+0.9**
KBZ				pmax	pmax			
	comp=Z,652nm,0.8s							
KBZ				MLR	MLR			
	comp=Z,36μm,19.0s							
KBZ	**Khabaz**	**70.11**	**312**	*i* P		**P**	**05 21 35.5**	**+0.9**
PSA00	**Pilbara Seismi**	**70.15**	**208**	P		**P**	**05 21 34.7**	**-0.2**
PSA00				IAmb	IAmb		05 21 57.3	
	comp=Z,556nm,1.6s							
PABE	**Paberze**	**70.18**	**330**	*e*P		**P**	**05 21 36.0**	**+1.2**
ZEI	**Tsey**	**70.20**	**311**	*e*P		**P**	**05 21 33.8**	**-1.6**
ZEI				pmax	pmax			
	comp=Z,581nm,0.9s							
SCI2	**San Clemente I**	**70.22**	**63**	P		**P**	**05 21 36.1**	**+0.7**
	baz=310							
SCI2				S		**S**	**05 30 43.5**	**+0.2**
	baz=310							
SHA1	**Shidzhatmaz**	**70.24**	**312**	*c i*P		**P**	**05 21 36.6**	**+0.9**
QLP	**Quilpie**	**70.29**	**184**	⇓P		**P**	**05 21 35.9**	**+0.2**
QLP				⇑P		**P**	**05 21 36.5**	**+0.8**
TUQ	**Turquoise Moun**	**70.31**	**60**	P		**P**	**05 21 36.8**	**+0.7**
	baz=310,SNR=91							
TUQ				S		**S**	**05 30 44.9**	**+0.4**
	baz=310							
BBRC	**Big Bear Solar**	**70.44**	**61**	P		**P**	**05 21 37.4**	**+0.4**
	baz=310,SNR=24							
BBRC				S		**S**	**05 30 45.5**	**-0.8**
	baz=310							
HEC	**Hector,Ludlow**	**70.44**	**60**	P		**P**	**05 21 37.7**	**+0.8**
	baz=310,SNR=32							
HEC				S		**S**	**05 30 46.2**	**+0.2**
	baz=310							
PBUR	**Paburge**	**70.50**	**331**	*e*P		**P**	**05 21 37.7**	**+1.0**
TRD	**Trivandrum**	**70.51**	**263**	⇑ *i*P		**P**	**05 21 37.7**	**+0.3**
TRD				*i* pP		**pP**	**05 21 52.1**	**+0.4**
NEY	**Neytrino**	**70.53**	**312**	*c i*P		**P**	**05 21 38.9**	**+1.5**
NEY				pmax	pmax			
	comp=Z,61nm,0.7s							
NEY				MLR	MLR			
	comp=Z,13μm,18.0s							
ONI	**Oni**	**70.58**	**311**	IAmb	IAmb		05 21 42.3	
	comp=Z,824nm,1.3s							
FOO	**Floro**	**70.60**	**342**	⇑ *e*P		**P**	**05 21 37.6**	**+0.4**
FOO	**Floro**	**70.60**	**342**	⇑ *i*P		**P**	**05 21 37.7**	**+0.4**
SKAR	**Skarslia**	**70.66**	**340**	IVmB_BB			05 21 39.6	
	comp=Z,16μm,1.6s							
SKAR				*e*S		**S**	**05 30 48.8**	**+1.2**
SKAR				IVMs_BB	IVMs_BB		05 52 53.0	
	comp=Z,7μm,25.7s							
ANGG	**Ammassalik, Gr**	**70.66**	**2**	⇑ *i*P		**P**	**05 21 37.5**	**0.0**
ANGG	**Ammassalik, Gr**	**70.66**	**2**	IAmb	IAmb		05 21 39.5	
	comp=Z,1μm,1.4s							
ANGG	**Ammassalik, Gr**	**70.66**	**2**	⇑P		**P**	**05 21 37.2**	**-0.3**
ANGG				⇑P		**P**	**05 21 37.3**	**-0.3**
ISOG	**Isortoq, Green**	**70.69**	**3**	⇑ *i*P		**P**	**05 21 37.9**	**+0.2**
ISOG				IAMs_20	IAMs_20		05 51 30.6	
	comp=Z,18μm,23.1s							
OSL	**Oslo**	**70.69**	**339**	*e*P		**P**	**05 21 37.7**	**-0.1**
OSL				IVmB_BB			05 21 39.3	
	comp=Z,25μm,2.2s							
MURC	**Murrieta**	**70.69**	**62**	P		**P**	**05 21 38.7**	**+0.4**
	baz=310,SNR=38							
MURC				S		**S**	**05 30 48.5**	**-0.3**
	baz=310							
HYA	**Hoyanger**	**70.73**	**341**	⇑ *i*P		**P**	**05 21 38.2**	**+0.2**
RDMU	**Red Mountain**	**70.74**	**52**	IAmb	IAmb		05 21 41.5	
	comp=Z,498nm,0.9s							
MTPU	**Mount Pierson**	**70.89**	**55**	IAmb	IAmb		05 22 03.8	
	comp=Z,834nm,1.9s							
GMRC	**Granite Mounta**	**70.89**	**60**	P		**P**	**05 21 40.2**	**+0.5**
	baz=311,SNR=112							
GMRC				S		**S**	**05 30 50.4**	**-0.9**
	baz=311							
ULM	**Lac du Bonnet**	**70.95**	**38**	P		**P**	**05 21 39.6**	**0.0**
	comp=Z,106nm,0.8s,baz=317,slow=6.8,SNR=92							
ULM				PKPPKP	P'P'df		05 49 29.6	-11
	comp=Z,1.4nm,0.5s,baz=182,slow=1.8,SNR=3.7							
ULM	**Lac du Bonnet**	**70.95**	**38**	IAmb	IAmb		05 21 58.1	
	comp=Z,974nm,1.9s							
ULM				IAMs_20	IAMs_20		05 55 26.2	
	comp=Z,7μm,22.0s							
MDND	**Maddock**	**70.97**	**41**	P		**P**	**05 21 40.2**	**+0.5**
	baz=315,SNR=170							
MDND				S		**S**	**05 30 50.1**	**-1.4**
	baz=315							
MDND	**Maddock**	**70.97**	**41**	IAmb	IAmb		05 21 42.3	
	comp=Z,750nm,1.1s							
MDND				IAMs_20	IAMs_20		05 55 24.0	
	comp=Z,8μm,22.0s							
K22A	**Casper**	**71.04**	**49**	P		**P**	**05 21 40.6**	**+0.1**
	baz=313,SNR=144							
K22A				S		**S**	**05 30 51.5**	**-1.4**
	baz=313							
K22A	**Casper**	**71.04**	**49**	IAmb	IAmb		05 21 42.8	
	comp=Z,643nm,1.4s							
NUUK	**Nuuk**	**71.07**	**9**	⇑ *i*P		**P**	**05 21 41.1**	**+1.1**
NUUK				IAmb	IAmb		05 21 42.7	
	comp=Z,1μm,1.2s							
NUUK				IAMs_20	IAMs_20		05 50 26.8	
	comp=Z,21μm,24.7s							
SUE	**Sulen**	**71.15**	**342**	*e*P		**P**	**05 21 41.5**	**+1.0**
SUE				IVmB_BB			05 21 42.4	
	comp=Z,18μm,1.6s							
SUE				IVMs_BB	IVMs_BB		05 56 57.3	
	comp=Z,6μm,20.5s							
PFO	**Pinyon Flats O**	**71.15**	**61**	LR	LR		05 47 04.5	
	comp=Z,7μm,21.7s,baz=292,slow=31							
PFO				PKPPKP			05 49 30.4	
	comp=Z,2.9nm,1.1s,baz=139,slow=5.7,SNR=3.5							
PFO	**Pinyon Flats O**	**71.15**	**61**	P		**P**	**05 21 41.3**	**+0.1**
PFO				pmax	pmax			
	comp=Z,359nm,1.5s							
PFO	**Pinyon Flats O**	**71.15**	**61**	P		**P**	**05 21 41.4**	**+0.1**
	baz=311,SNR=50							
PFO				S		**S**	**05 30 53.3**	**-1.1**
	baz=311							
PFO	**Pinyon Flats O**	**71.15**	**61**	P		**P**	**05 21 41.3**	**+0.1**
PFO	**Pinyon Flats O**	**71.15**	**61**	IAMs_20	IAMs_20		05 47 33.3	
	comp=Z,7μm,21.0s							
TPFO	**Pinon Flats**	**71.16**	**61**	P		**P**	**05 21 41.6**	**+0.3**
	baz=311,SNR=54							
TPFO				S		**S**	**05 30 53.1**	**-1.4**
	baz=311							
KNB	**Kanab**	**71.18**	**57**	IAmb	IAmb		05 22 06.1	
	comp=Z,1μm,1.8s							
BELC	**Belle Mtn. Jos**	**71.19**	**61**	P		**P**	**05 21 41.2**	**-0.3**
	baz=311,SNR=67							
BELC				S		**S**	**05 30 52.8**	**-2.1**
	baz=311							
PKCU	**Pink Cliffs**	**71.20**	**56**	IAmb	IAmb		05 22 08.6	
	comp=Z,587nm,1.5s							
109C	**Camp Elliot, M**	**71.21**	**62**	P		**P**	**05 21 41.9**	**+0.5**
	baz=311,SNR=13							
109C				S		**S**	**05 30 54.2**	**-0.6**
	baz=311							
KONO	**Kongsberg**	**71.23**	**339**	⇑ *e*P		**P**	**05 21 41.5**	**+0.4**
KONO	**Kongsberg**	**71.23**	**339**	P		**P**	**05 21 41.7**	**+0.6**
KONO				pmax	pmax			
	comp=Z,1μm,1.4s							
KONO				MLR	MLR			
	comp=Z,27μm,22.0s							
KONO	**Kongsberg**	**71.23**	**339**	⇑ *i*P		**P**	**05 21 41.6**	**+0.4**
KONO				*e*S		**S**	**05 30 46.9**	**-7.2**
KONO	**Kongsberg**	**71.23**	**339**	P		**P**	**05 21 41.7**	**+0.6**
KONO	**Kongsberg**	**71.23**	**339**	⇑P		**P**	**05 21 41.3**	**+0.2**
KONO				⇑P		**P**	**05 21 41.4**	**+0.2**
CHVG	**Ch'k'valeri**	**71.23**	**312**	⇓P		**P**	**05 21 42.9**	**+1.4**
BORG	**Borgarnes**	**71.30**	**355**	P		**P**	**05 21 43.1**	**+1.7**
BORG				pmax	pmax			
	comp=Z,2μm,1.3s							
BORG				MLR	MLR			
	comp=Z,5μm,19.0s							
BORG	**Borgarnes**	**71.30**	**355**	P		**P**	**05 21 43.1**	**+1.7**
BORG	**Borgarnes**	**71.30**	**355**	IAMs_20	IAMs_20		05 56 43.2	
	comp=Z,5μm,19.0s							
RWWY	**Rawlins**	**71.31**	**50**	IAMs_20	IAMs_20		05 52 04.7	
	comp=Z,6μm,22.0s							
STRU	**Stroemstad**	**71.34**	**338**	*i* P		**P**	**05 21 42.2**	**+0.4**
E28A	**Huff**	**71.34**	**43**	IAmb	IAmb		05 21 44.3	
	comp=Z,456nm,1.1s							
E28A				IAMs_20	IAMs_20		05 52 27.9	
	comp=Z,8μm,22.0s							
RSSD	**Black Hills**	**71.36**	**46**	P		**P**	**05 21 42.6**	**+0.1**
RSSD				pmax	pmax			
	comp=Z,368nm,1.2s							
RSSD				MLR	MLR			
	comp=Z,7μm,22.0s							
RSSD	**Black Hills**	**71.36**	**46**	P		**P**	**05 21 42.6**	**+0.1**
	baz=314							
RSSD				S		**S**	**05 30 54.6**	**-2.0**
	baz=314							
RSSD	**Black Hills**	**71.36**	**46**	P		**P**	**05 21 42.6**	**+0.1**
RSSD	**Black Hills**	**71.36**	**46**	IAMs_20	IAMs_20		05 55 00.7	
	comp=Z,7μm,22.0s							
RSSD	**Black Hills**	**71.36**	**46**	⇑P		**P**	**05 21 42.4**	**0.0**
RSSD				⇑P		**P**	**05 21 42.6**	**+0.1**
GNI	**Garni**	**71.50**	**308**	*c i*P		**P**	**05 21 45.0**	**+1.7**
GNI				pmax	pmax			
	comp=Z,1μm,1.6s							
GNI				MLR	MLR			
	comp=Z,17μm,18.0s							
GNI	**Garni**	**71.50**	**308**	P		**P**	**05 21 45.5**	**+2.2**
GNI	**Garni**	**71.50**	**308**	P		**P**	**05 21 45.3**	**+2.1**
GNI				P		**P**	**05 21 45.3**	**+2.1**
ASK	**Askoy**	**71.56**	**342**	⇑ *i*P		**P**	**05 21 43.8**	**+0.7**
ASK				IVmB_BB			05 21 45.0	
	comp=Z,41μm,1.5s							
ASK				*e*SKSac		**SKSac**	**05 31 44.8**	**+3.0**
ASK				IVMs_BB	IVMs_BB		05 56 46.5	
	comp=Z,13μm,21.0s							
BER	**Bergen**	**71.62**	**341**	*e*P		**P**	**05 21 44.4**	**+1.0**
BER	**Bergen**	**71.62**	**341**	⇑ *i*P		**P**	**05 21 44.0**	**+0.6**
BER				IVmB_BB			05 21 45.3	
	comp=Z,19μm,1.8s							
BER				*e*S		**S**	**05 30 59.8**	**+1.2**
BER				IVMs_BB	IVMs_BB		05 56 46.7	
	comp=Z,6μm,17.1s							
BAR	**Barrett**	**71.62**	**62**	IAMs_20	IAMs_20		05 47 18.7	
	comp=Z,6μm,22.0s							
IRM	**Iron Mountain**	**71.62**	**60**	P		**P**	**05 21 44.5**	**+0.5**
	baz=311,SNR=107							
IRM				S		**S**	**05 30 59.1**	**-0.5**
	baz=311							
SUW	**Suwalki**	**71.63**	**329**	*e*P		**P**	**05 21 43.6**	**0.0**
SUW				*e*S		**S**	**05 30 56.7**	**-2.2**
SUW				*e*L		L	05 52 54.0	
	comp=Z,27μm,27.2s							
SUW	**Suwalki**	**71.63**	**329**	*e*P		**P**	**05 21 44.1**	**+0.5**
MONP2	**Monument Peak**	**71.64**	**62**	P		**P**	**05 21 44.3**	**-0.1**
	baz=311,SNR=28							
MONP2				S		**S**	**05 30 59.5**	**-0.7**
	baz=311							
ODD1	**Odda**	**71.74**	**341**	*e*P		**P**	**05 21 45.1**	**+0.9**
ODD1				IVmB_BB			05 21 46.2	
	comp=Z,20μm,1.6s							
ODD1				IVMs_BB	IVMs_BB		05 56 27.7	
	comp=Z,8μm,20.1s							
BC3	**Big Chuckawall**	**71.76**	**61**	P		**P**	**05 21 45.2**	**+0.3**
	baz=311,SNR=87							
BC3				S		**S**	**05 30 59.7**	**-1.6**
	baz=311							
AKASG	**Malin Array Be**	**71.77**	**324**	P		**P**	**05 21 44.5**	**+0.1**
	comp=Z,474nm,0.6s,baz=38,slow=6.0,SNR=1244							
AKASG				S		**S**	**05 30 58.1**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=42,slow=12,SNR=11							
AKASG				PKPPKP	**P'P'df**		**05 49 32.1**	**-7.0**
	comp=Z,0.4nm,0.3s,baz=222,slow=1.3,SNR=6.0							
AKASG				LR	LR		05 55 48.0	
	comp=Z,6μm,18.8s,baz=40,slow=38							
AKASG	**Malin Array Be**	**71.77**	**324**	P		**P**	**05 21 44.4**	**-0.1**
O20A	**White River Ci**	**71.78**	**52**	P		**P**	**05 21 45.4**	**+0.4**
	baz=313,SNR=145							
O20A				S		**S**	**05 31 00.3**	**-1.3**
	baz=313							
O20A	**White River Ci**	**71.78**	**52**	IAMs_20	IAMs_20		05 59 33.3	
	comp=Z,6μm,21.0s							
U15A	**North Rim**	**71.89**	**57**	IAmb	IAmb		05 22 09.7	
	comp=Z,629nm,1.5s							
U15A				IAMs_20	IAMs_20		05 47 36.4	
	comp=Z,6μm,22.0s							
TASB	**TASBURUN-IGDIR**	**71.89**	**308**	*e*P		**P**	**05 21 47.9**	**+2.4**
SOC	**Sochi**	**71.90**	**313**	*e*P		**P**	**05 21 43.5**	**-1.9**
SOC				*e**PP		**pP**	**05 21 57.7**	**-2.1**
SOC				*e**SP		**PcP**	**05 22 03.9**	**0.0**
SOC				*e*			05 24 24.2	
SOC				*e*PPP		PPP	05 26 08.5	
SOC				*e*S		**S**	**05 31 01.4**	**-1.0**
SOC				*e*SS		**SS**	**05 35 38.5**	**-0.1**
SOC				pmax	pmax			
	comp=Z,487nm,0.6s							
SOC				MLR	MLR			
	comp=Z,23μm,16.0s							
IKP	**In-Ko-Pah, Jac**	**72.00**	**62**	P		**P**	**05 21 46.7**	**+0.3**
	baz=311,SNR=38							
IKP				S		**S**	**05 31 02.9**	**-1.2**
	baz=311							
SWSC	**Sam W. Stewart**	**72.00**	**62**	P		**P**	**

GLA	**Glamis**	**72.55**	**61**	P	**P**	**05 21 50.0**	**+0.5**
	baz=312,SNR=54						
GLA				S	**S**	**05 31 09.9**	**-0.4**
	baz=312						
GLA	**Glamis**	**72.55**	**61**	IAMs_20	IAMs_20	05 46 51.2	
	comp=Z,7μm,22.0s						
N23A	**Red Feather La**	**72.55**	**50**	P	**P**	**05 21 50.6**	**+0.9**
	baz=314,SNR=181						
N23A				S	**S**	**05 31 10.8**	**+0.3**
	baz=314						
PV22	**Blue Mesa, Par**	**72.55**	**53**	IAMs_20	IAMs_20	05 53 30.7	
	comp=Z,7μm,22.0s						
SENK	**Senkaya-Erzuru**	**72.56**	**310**	*e*P	**P**	**05 21 51.8**	**+2.1**
PV20	**West Nyswonger**	**72.58**	**53**	IAMs_20	IAMs_20	05 53 07.4	
	comp=Z,6μm,22.0s						
PV04	**Paradox Valley**	**72.58**	**53**	IAMs_20	IAMs_20	05 57 28.5	
	comp=Z,7μm,22.0s						
PV19	**Morning Glory**	**72.59**	**53**	IAmb	IAmb	05 21 52.4	
	comp=Z,458nm,1.1s						
PV19				IAMs_20	IAMs_20	05 53 07.7	
	comp=Z,6μm,22.0s						
PV17	**East Wray Mesa**	**72.62**	**53**	IAmb	IAmb	05 21 52.6	
	comp=Z,501nm,1.0s						
PV17				IAMs_20	IAMs_20	05 49 49.6	
	comp=Z,8μm,22.0s						
PV16	**Nyswonger Mesa**	**72.63**	**53**	IAmb	IAmb	05 21 52.7	
	comp=Z,430nm,1.2s						
PV16				IAMs_20	IAMs_20	05 53 09.7	
	comp=Z,6μm,22.0s						
FABU	**Falkenberg**	**72.64**	**336**	*i* P	**P**	**05 21 49.5**	**-0.1**
CLDR	**Caldiran**	**72.64**	**308**	*e*P	**P**	**05 21 52.2**	**+2.0**
PV11	**David Mesa, Pa**	**72.66**	**53**	IAmb	IAmb	05 21 52.9	
	comp=Z,625nm,1.3s						
PV11				IAMs_20	IAMs_20	05 53 20.6	
	comp=Z,8μm,22.0s						
PV18	**Skein Mesa, Pa**	**72.67**	**53**	IAmb	IAmb	05 21 52.9	
	comp=Z,386nm,1.1s						
PV18				IAMs_20	IAMs_20	05 53 11.0	
	comp=Z,6μm,22.0s						
PV05	**Paradox Valley**	**72.68**	**54**	IAmb	IAmb	05 21 53.1	
	comp=Z,573nm,1.2s						
PV05				IAMs_20	IAMs_20	05 53 12.9	
	comp=Z,6μm,22.0s						
KMY	**Karmoy**	**72.69**	**341**⇑	*i*P	**P**	**05 21 50.6**	**+0.9**
KMY				IVmB_BB		05 21 51.8	
	comp=Z,17μm,1.6s						
KMY				IVMs_BB	IVMs_BB	05 56 56.9	
	comp=Z,5μm,16.5s						
PV12	**Saucer Basin,**	**72.69**	**53**	IAmb	IAmb	05 22 13.8	
	comp=Z,1μm,1.9s						
PV12				IAMs_20	IAMs_20	05 57 30.4	
	comp=Z,7μm,21.0s						
PV07	**Paradox Valley**	**72.70**	**53**	IAMs_20	IAMs_20	05 53 33.5	
	comp=Z,7μm,22.0s						
D32A	**Dogwood Acres,**	**72.70**	**40**	IAmb	IAmb	05 21 51.9	
	comp=Z,471nm,0.9s						
D32A				IAMs_20	IAMs_20	05 57 24.7	
	comp=Z,8μm,22.0s						
PV03	**Paradox Valley**	**72.70**	**53**	IAMs_20	IAMs_20	05 57 31.8	
	comp=Z,5μm,21.0s						
HOMB	**Homborsund**	**72.71**	**339**	*i* P	**P**	**05 21 50.0**	**+0.1**
HOMB				*i* P	**P**	**05 21 50.3**	**+0.4**
HOMB	**Homborsund**	**72.71**	**339**⇑	*i*P	**P**	**05 21 50.1**	**+0.1**
HOMB				IVmB_BB		05 21 51.3	
	comp=Z,16μm,2.2s						
HOMB				IVMs_BB	IVMs_BB	05 54 23.4	
	comp=Z,10μm,23.8s						
DEL	**Delary**	**72.75**	**335**	*i* P	**P**	**05 21 49.0**	**-1.2**
DEL				*i* P	**P**	**05 21 50.1**	**-0.1**
PV02	**Paradox Valley**	**72.80**	**53**	IAMs_20	IAMs_20	05 57 55.4	
	comp=Z,5μm,20.0s						
PV15	**Paradox Valley**	**72.86**	**53**	IAMs_20	IAMs_20	05 53 49.8	
	comp=Z,6μm,22.0s						
AGRB	**Hanur-Agry**	**72.87**	**309**	*e*P	**P**	**05 21 53.8**	**+2.2**
PV01	**Paradox Valley**	**72.95**	**53**	IAmb	IAmb	05 22 11.0	
	comp=Z,803nm,1.8s						
PV01				IAMs_20	IAMs_20	05 53 30.2	
	comp=Z,7μm,22.0s						
SNART	**Snartemo**	**72.98**	**340**	*i* P	**P**	**05 21 51.0**	**-0.6**
SNART				*i* P	**P**	**05 21 52.5**	**+1.0**
SNART	**Snartemo**	**72.98**	**340**	*e*P	**P**	**05 21 52.6**	**+1.0**
WUAZ	**Wupatki**	**73.05**	**57**	P	**P**	**05 21 53.6**	**+1.0**
	baz=312,SNR=114						
WUAZ				S	**S**	**05 31 18.2**	**+2.1**
	baz=312						
WUAZ	**Wupatki**	**73.05**	**57**	IAMs_20	IAMs_20	05 48 10.1	
	comp=Z,5μm,21.0s						
WUAZ	**Wupatki**	**73.05**	**57**	⇑P	**P**	**05 21 53.4**	**+0.7**
WUAZ				⇑P	**P**	**05 21 53.7**	**+1.0**
CHOM	**Cayeli-Rize**	**73.06**	**311**	*e*P	**P**	**05 21 53.7**	**+1.3**
SMCO	**Snowmass**	**73.15**	**52**	IAMs_20	IAMs_20	05 49 56.5	
	comp=Z,6μm,22.0s						
LRW	**Lerwick**	**73.22**	**344**⇑	*e*P	**P**	**05 21 53.5**	**+0.6**
LRW				IAmb	IAmb	05 21 55.0	
	comp=Z,411nm,0.7s						
LRW				IAMs_20	IAMs_20	05 53 53.5	
	comp=Z,13μm,24.0s						
B35A	**Bob, Littlefor**	**73.30**	**38**	IAMs_20	IAMs_20	05 56 56.3	
	comp=Z,8μm,22.0s						
VANB	**Van**	**73.32**	**308**	*e*P	**P**	**05 21 56.1**	**+2.0**
BJUU	**Bjuv**	**73.34**	**336**	*i* P	**P**	**05 21 54.2**	**+0.5**
MLAZ	**Malazgirt-MUS**	**73.42**	**309**	*e*P	**P**	**05 21 57.2**	**+2.4**
ISCO	**Idaho Springs**	**73.49**	**50**	P	**P**	**05 21 56.4**	**+1.1**
	baz=314,SNR=139						
ISCO				S	**S**	**05 31 21.6**	**+0.3**
	baz=314						
ISCO	**Idaho Springs**	**73.49**	**50**	IAMs_20	IAMs_20	05 50 36.3	
	comp=Z,7μm,22.0s						
GID	**Gilleleje**	**73.55**	**336**	*i* P	**P**	**05 21 56.3**	**+1.4**
BSD	**Bornholm Skovb**	**73.57**	**334**	*e*P	**P**	**05 21 55.4**	**+0.4**
BSD	**Bornholm Skovb**	**73.57**	**334**⇑	*i*P	**P**	**05 21 55.5**	**+0.4**
BSD				IAMs_20	IAMs_20	05 57 55.3	
	comp=Z,14μm,17.5s						
BSD	**Bornholm Skovb**	**73.57**	**334**⇑	*i*P	**P**	**05 21 55.5**	**+0.4**
BSD				MLR	MLR		
	comp=Z,14μm,18.0s						
LUNU	**Lund**	**73.59**	**335**	*i* P	**P**	**05 21 55.0**	**-0.2**
LUNU				*i* P	**P**	**05 21 55.5**	**+0.3**
GOET	**G??ttrup**	**73.60**	**338**⇑	*i*P	**P**	**05 21 56.5**	**+1.3**
GOET				IAmb	IAmb	05 21 57.9	
	comp=Z,1μm,0.7s						
GOET				IAMs_20	IAMs_20	05 56 50.5	
	comp=Z,16μm,21.2s						
NIUE	**Niue**	**73.61**	**139**	IAmb	IAmb	05 22 20.8	
	comp=Z,776nm,1.4s						
MVCO	**Mesa Verde**	**73.62**	**54**	P	**P**	**05 21 56.7**	**+0.6**
	baz=313,SNR=173						
MVCO				S	**S**	**05 31 22.5**	**-0.2**
	baz=313						
MVCO	**Mesa Verde**	**73.62**	**54**	IAMs_20	IAMs_20	05 49 56.0	
	comp=Z,5μm,21.0s						
BANOM	**Banah**	**73.65**	**290**	P	**P**	**05 21 56.6**	**+0.5**
BANOM	**Banah**	**73.65**	**290**	P	**P**	**05 21 56.9**	**+0.8**
	SNR=35						
BANOM				P	**P**	**05 21 56.9**	**+0.8**
	SNR=35						
SHME	**Shamm**	**73.68**	**290**	P	**P**	**05 21 56.3**	**+0.1**
SHME	**Shamm**	**73.68**	**290**	P	**P**	**05 21 57.7**	**+1.5**
	SNR=27						
SHME				P	**P**	**05 21 57.7**	**+1.5**
	SNR=27						
KTUT	**Trabzon**	**73.68**	**311**	⇓P	**P**	**05 21 57.2**	**+1.2**
KTUT	**Trabzon**	**73.68**	**311**	*e*P	**P**	**05 21 56.8**	**+0.8**
SUSD	**Miller**	**73.72**	**43**	P	**P**	**05 21 56.1**	**-0.1**
	baz=316,SNR=32						
SUSD				S	**SKiKP**	**05 31 20.3**	**-0.7**
	baz=316						
SUSD	**Miller**	**73.72**	**43**	IAmb	IAmb	05 21 58.1	
	comp=Z,497nm,1.2s						
SUSD				IAMs_20	IAMs_20	05 57 39.9	
	comp=Z,7μm,22.0s						
AKDM	**Akdamar-Van**	**73.73**	**308**	*e*P	**P**	**05 21 58.3**	**+1.7**
SIM	**Simferopol'**	**73.77**	**317***c*	*i*P	**P**	**05 21 56.3**	**-0.2**
SIM				*e*		05 24 45.0	
SIM				*i* S	**SKiKP**	**05 31 21.0**	**0.0**
SIM				pmax	pmax		
	comp=Z,474nm,0.7s						
SIM				MLR	MLR		
	comp=Z,5μm,13.0s						
WSAR	**Wadi Sarin**	**73.82**	**287**	P	**P**	**05 21 58.3**	**+1.2**
	comp=Z,41nm,0.6s,baz=88,slow=4.3,SNR=44						
WSAR				LR	LR	05 59 59.7	
	comp=Z,5μm,19.0s,baz=58,slow=40						
WSAR	**Wadi Sarin**	**73.82**	**287**	P	**P**	**05 21 58.4**	**+1.3**
	SNR=16						
COP	**Copenhagen**	**73.85**	**336**⇑	*i*P	**P**	**05 21 57.7**	**+0.9**
COP				IAmb	IAmb	05 21 59.1	
	comp=Z,736nm,0.7s						
COP				IAMs_20	IAMs_20	05 58 19.9	
	comp=Z,9μm,16.9s						
COP	**Copenhagen**	**73.85**	**336**⇑	*i*P	**P**	**05 21 57.6**	**+0.9**
COP				pmax	pmax		
	comp=Z,740nm,0.7s						
COP				MLR	MLR		
	comp=Z,9μm,17.0s						
BAYT	**Aydıntepe-Bayb**	**73.89**	**311**	*e*P	**P**	**05 21 59.3**	**+1.8**
BIDO	**Bidbid**	**73.98**	**287**	P	**P**	**05 21 59.3**	**+1.2**
	SNR=32						
BIDO				P	**P**	**05 21 59.3**	**+1.2**
	SNR=32						
F33A	**5 Mile Ranch,**	**73.99**	**41**	IAmb	IAmb	05 21 59.8	
	comp=Z,464nm,1.1s						
F33A				IAMs_20	IAMs_20	05 58 38.9	
	comp=Z,7μm,21.0s						
JLN	**Jalan Bani Buh**	**73.99**	**285**	P	**P**	**05 22 01.0**	**+2.8**
	SNR=26						
JLN				P	**P**	**05 22 01.0**	**+2.8**
	SNR=26						
WBK	**Wadi Bani Khal**	**74.00**	**286**	P	**P**	**05 21 59.9**	**+1.7**
	SNR=23						
WBK				P	**P**	**05 21 59.9**	**+1.7**
	SNR=23						
VRTB	**Varto-Mus**	**74.02**	**309**	*e*P	**P**	**05 22 01.4**	**+3.1**
MDH	**Madha**	**74.06**	**290**	P	**P**	**05 21 58.3**	**-0.2**
MDH	**Madha**	**74.06**	**290**	P	**P**	**05 21 59.0**	**+0.5**
	SNR=27						
MDH				P	**P**	**05 21 59.0**	**+0.5**
	SNR=27						
SORM	**Soroca**	**74.07**	**323**	⇑P	**P**	**05 21 58.7**	**+0.5**
ARMA	**Armidale**	**74.10**	**177**	IAmb	IAmb	05 22 21.6	
	comp=Z,606nm,1.4s						
MASF	**Masafi**	**74.11**	**290**	P	**P**	**05 21 59.6**	**+0.8**
	SNR=32						
CUKT	**Cukurca**	**74.11**	**307**	*e*P	**P**	**05 22 00.3**	**+1.5**
MSFE	**Esma-Masafi**	**74.12**	**290**	P	**P**	**05 21 59.1**	**+0.2**
GURO	**Guroymak-BITLI**	**74.12**	**308**	*e*P	**P**	**05 22 01.8**	**+3.0**
GURO	**Guroymak-BITLI**	**74.12**	**308**	IAmb	IAmb	05 22 03.7	
	comp=Z,501nm,1.1s						
S22A	**4UR Ranch, Cre**	**74.22**	**53**	P	**P**	**05 22 00.6**	**+1.0**
	baz=314,SNR=202						
S22A				S	**S**	**05 31 30.7**	**+1.2**
	baz=314						
BEL	**Belsk**	**74.24**	**329**	*e*P	**P**	**05 22 00.3**	**+1.2**
BEL				*e*S	**S**	**05 31 29.2**	**+0.5**
BEL				*e*L	L	05 54 53.2	
	comp=Z,26μm,26.3s						
ESPY	**Espiye-Giresun**	**74.29**	**312**	*e*P	**P**	**05 21 59.8**	**+0.2**
W18A	**Petrified Fore**	**74.31**	**56**	P	**P**	**05 22 00.8**	**+0.7**
	baz=313,SNR=43						
W18A				S	**S**	**05 31 32.0**	**+1.7**
	baz=313						
W18A	**Petrified Fore**	**74.31**	**56**	IAMs_20	IAMs_20	05 49 16.4	
	comp=Z,6μm,22.0s						
Q24A	**Divide**	**74.33**	**51**	P	**P**	**05 22 00.7**	**+0.5**
	baz=314,SNR=48						
Q24A				S	**S**	**05 31 30.5**	**-0.2**
	baz=314						
GKP	**Gorka Klasztor**	**74.34**	**332**	*e*P	**P**	**05 22 00.2**	**+0.6**
GKP				*e*S	**S**	**05 31 29.4**	**-0.3**
GKP	**Gorka Klasztor**	**74.34**	**332**	*e*P	**P**	**05 22 00.1**	**+0.5**
SMDO	**Samad**	**74.34**	**287**	P	**P**	**05 22 01.2**	**+0.9**
	SNR=28						
SMDO				P	**P**	**05 22 01.2**	**+0.9**
	SNR=28						
YEDI	**Yedisu-Bingol**	**74.34**	**310**	*e*P	**P**	**05 22 01.8**	**+1.7**
UOSS	**Minazif**	**74.36**	**290**	P	**P**	**05 22 00.1**	**-0.1**
UOSS	**Minazif**	**74.36**	**290**	P	**P**	**05 22 00.4**	**+0.1**
UOSS				IAmb	IAmb	05 22 02.5	
	comp=Z,490nm,1.0s						
UOSS	**Minazif**	**74.36**	**290**	IAMs_20	IAMs_20	05 57 49.8	
	comp=Z,6μm,22.0s						
HATD	**Hatta, Dubai**	**74.49**	**290**	P	**P**	**05 22 01.5**	**+0.5**
HATD	**Hatta, Dubai**	**74.49**	**290**	P	**P**	**05 22 02.0**	**+1.0**
	SNR=83						
HATD				P	**P**	**05 22 02.0**	**+1.0**
	SNR=83						
HOQ	**Hoqain**	**74.50**	**288**	P	**P**	**05 22 02.0**	**+0.9**
	SNR=49						
RGN	**Rugen**	**74.54**	**335**	*e*P	**P**	**05 22 02.0**	**+1.3**
	comp=Z,5μm,1.4s,baz=30,slow=5.5						
214A	**Organ Pipe Nat**	**74.55**	**61**	P	**P**	**05 22 01.7**	**+0.4**
	baz=312,SNR=45						
214A				S	**S**	**05 31 32.8**	**0.0**
	baz=312						
214A	**Organ Pipe Nat**	**74.55**	**61**	IAMs_20	IAMs_20	05 48 02.1	
	comp=Z,5μm,22.0s						
BNGB	**Bingl**	**74.57**	**309**	*e*P	**P**	**05 22 03.3**	**+1.9**
X18A	**Snowflake**	**74.58**	**57**	IAMs_20	IAMs_20	05 49 07.6	
	comp=Z,5μm,21.0s						
EYMN	**Ely**	**74.59**	**37**	P	**P**	**05 22 01.0**	**-0.2**
	baz=320,SNR=129						
EYMN				S	**S**	**05 31 28.9**	**-3.8**
	baz=320						
EYMN	**Ely**	**74.59**	**37**	IAmb	IAmb	05 22 03.0	
	comp=Z,453nm,1.1s						
EYMN	**Ely**	**74.59**	**37**	IAMs_20	IAMs_20	05 59 28.4	
	comp=Z,7μm,20.0s						
SIRT	**Sirnak**	**74.61**	**307**	*e*P	**P**	**05 22 01.4**	**-0.3**
ASHO	**Ashiyiah**	**74.63**	**289**	P	**P**	**05 22 02.3**	**+0.4**
ASHO	**Ashiyiah**	**74.63**	**289**	P	**P**	**05 22 02.5**	**+0.6**
	SNR=78						
ASHO				P	**P**	**05 22 02.5**	**+0.6**
	SNR=78						
OGNE	**Ogallala**	**74.64**	**48**	P	**P**	**05 22 01.8**	**+0.1**
	baz=315,SNR=83						
OGNE				S	**S**	**05 31 32.2**	**-1.4**
	baz=315						
OGNE	**Ogallala**	**74.64**	**48**	IAMs_20	IAMs_20	05 58 23.5	
	comp=Z,5μm,21.0s						
NRS	**Narsarsuaq**	**74.66**	**7**⇑	*i*P	**P**	**05 22 01.7**	**+0.3**
NRS				IAmb	IAmb	05 22 04.5	
	comp=Z,313nm,1.1s						
NRS				IAMs_20	IAMs_20	05 55 45.8	
	comp=Z,19μm,19.9s						
NRS	**Narsarsuaq**	**74.66**	**7**⇑	*i*P	**P**	**05 22 01.6**	**+0.3**
NRS				pmax	pmax		
	comp=Z,310nm,1.1s						
NRS				MLR	MLR		
	comp=Z,19μm,20.0s						
SOHO	**SOHO**	**74.67**	**289**	P	**P**	**05 22 01.9**	**-0.1**
NAZ	**Nazwa, Dubai**	**74.70**	**290**	P	**P**	**05 22 02.1**	**-0.1**
NAZ	**Nazwa, Dubai**	**74.70**	**290**	P	**P**	**05 22 02.9**	**+0.6**
	SNR=35						
KIS	**Kishinev**	**74.73**	**322**⇑	*i*P	**P**	**05 22 02.3**	**+0.3**
	comp=Z,5μm,3.2s						
KIS	**Kishinev**	**74.73**	**322**	*e*PcP	**PcP**	**05 22 13.0**	**-3.0**
KIS			⇑	*i*S	**S**	**05 31 31.0**	**-3.2**
	comp=Z,3μm,3.5s						
KIS				*e*ScS	SKSac	05 31 47.0	-19
KIS	**Kishinev**	**74.73**	**322**	⇓P	**P**	**05 22 03.0**	**+1.0**
KIS	**Kishinev**	**74.73**	**322***c*	*i*P	**P**	**05 22 02.3**	**+0.3**
KIS				*e*		05 22 13.0	
KIS				*i* S	**S**	**05 31 31.0**	**-3.2**
KIS				*i* PS	PnS	05 31 59.0	-15
KIS				pmax	pmax		
	comp=Z,5μm,3.2s						
KIS				pmax	pmax		
	comp=N,2μm,3.0s						
KIS				pmax	pmax		
	comp=E,2μm,2.9s						
KIS				smax	smax		
	comp=N,3μm,5.6s						
KIS				smax	smax		
	comp=E,3μm,3.5s						
KIS				MLR	MLR		
	comp=Z,6μm,20.0s						
KIS				MLR	MLR		
	comp=N,5μm,18.5s						
KIS				MLR	MLR		
	comp=E,4μm,21.0s						
JMDO	**Jabal Madar**	**74.75**	**286**	P	**P**	**05 22 03.7**	**+1.1**
	SNR=22						
JMDO				P	**P**	**05 22 03.7**	**+1.1**
	SNR=22						
SVAN	**Silvan-Diyarba**	**74.87**	**309**	*e*P	**P**	**05 22 04.9**	**+1.8**
FAQ	**Al Faqa, Dubai**	**74.91**	**290**	P	**P**	**05 22 03.4**	**-0.1**
FAQ	**Al Faqa, Dubai**	**74.91**	**290**	P	**P**	**05 22 04.0**	**+0.6**
	SNR=40						
SDCO	**Great Sand Dun**	**74.97**	**52**	P	**P**	**05 22 04.5**	**+0.5**
	baz=314,SNR=48						
SDCO				S	**S**	**05 31 38.0**	**+0.1**
	baz=314						
SDCO	**Great Sand Dun**	**74.97**	**52**	IAMs_20	IAMs_20	05 58 24.8	
	comp=Z,5μm,22.0s						
BSY	**Bisya**	**75.13**	**287**	P	**P**	**05 22 06.0**	**+1.2**
	SNR=57						
BSY				P	**P**	**05 22 06.0**	**+1.2**
	SNR=57						
IAS	**Iasi**	**75.14**	**323**	⇑P	**P**	**05 22 05.2**	**+0.8**
K31A	**O'Neill**	**75.14**	**45**	IAmb	IAmb	05 22 07.0	
	comp=Z,888nm,1.1s						
K31A				IAMs_20	IAMs_20	06 01 31.9	
	comp=Z,8μm,20.0s						
LNIZ	**Loecknitz**	**75.15**	**334**	*e*P	**P**	**05 22 05.4**	**+1.1**
	comp=Z,11μm,2.3s,baz=30,slow=5.5						
ASUD	**Al Ashush, Dub**	**75.17**	**290**	P	**P**	**05 22 05.5**	**+0.6**
ASUD	**Al Ashush, Dub**	**75.17**	**290**	P	**P**	**05 22 05.8**	**+0.9**
	SNR=18						
ARQ	**Araqi**	**75.21**	**288**	P	**P**	**05 22 06.2**	**+1.0**
	SNR=50						
ARQ				P	**P**	**05 22 06.2**	**+1.0**
	SNR=50						
ALNE	**Al Ain**	**75.26**	**289**	P	**P**	**05 22 05.9**	**+0.4**
ALNE	**Al Ain**	**75.26**	**289**	P	**P**	**05 22 06.3**	**+0.9**
	SNR=64						
F36A	**Milaca**	**75.26**	**39**	IAMs_20	IAMs_20	05 55 15.5	
	comp=Z,8μm,22.0s						
KWP	**Kalwaria Pacla**	**75.26**	**327**	*e*P	**P**	**05 22 06.5**	**+1.4**
KWP				*e*S	**S**	**05 31 40.8**	**+0.6**
KWP				*e*L	L	05 57 00.2	
	comp=Z,24μm,22.9s						
BIGH	**Upper Bighouse**	**75.27**	**345**⇑	*e*P	**P**	**05 22 05.6**	**+0.7**
BIGH				IAMs_20	IAMs_20	05 57 21.8	
	comp=Z,21μm,21.4s						
MLA1	**Latheron**	**75.34**	**345**⇑	*e*P	**P**	**05 22 06.1**	**+0.8**
SNOP	**Sinop**	**75.35**	**315**	*e*P	**P**	**05 22 06.5**	**+0.8**
SNOP	**Sinop**	**75.35**	**315**	IAmb	IAmb	05 22 08.6	
	comp=Z,393nm,1.0s						
ECSD	**EROS Data Cent**	**75.39**	**43**	P	**P**	**05 22 05.8**	**-0.1**
	baz=318,SNR=312						
ECSD				S	**S**	**05 31 39.2**	**-2.6**
	baz=318						
ECSD	**EROS Data Cent**	**75.39**	**43**	IAmb	IAmb	05 22 07.8	
	comp=Z,623nm,1.2s						
ECSD	**EROS Data Cent**	**75.39**	**43**	IAMs_20	IAMs_20	05 57 30.0	
	comp=Z,8μm,20.0s						
RSDY	**Resadiye-TOKAT**	**75.41**	**312**	*e*P	**P**	**05 22 07.5**	**+1.4**
ILIC	**ilic-Erzincan**	**75.41**	**311**	*e*P	**P**	**05 22 08.2**	**+1.9**
AJN	**Ajban**	**75.44**	**290**	P	**P**	**05 22 06.3**	**-0.1**
AJN	**Ajban**	**75.44**	**290**	P	**P**	**05 22 06.8**	**+0.3**
	SNR=17						
VASR	**Vaslui**	**75.46**	**322**	⇑P	**P**	**05 22 07.5**	**+1.3**
SKMB	**Sankelmark Bun**	**75.56**	**337**	*e*P	**P**	**05 22 08.2**	**+1.6**
	comp=Z,13μm,2.1s,baz=30,slow=5.5						
TUC	**Tucson**	**75.57**	**59**	P	**P**	**05 22 07.6**	**+0.3**
TUC				pmax	pmax		
	comp=Z,442nm,1.9s						
TUC	**Tucson**	**75.57**	**59**	P	**P**	**05 22 08.0**	**+0.8**
	baz=313						
TUC				S	**S**	**05 31 44.9**	**+0.6**
	baz=313						
TUC	**Tucson**	**75.57**	**59**	P	**P**	**05 22 07.6**	**+0.3**
E38A	**The Farm, Brul**	**75.59**	**38**	IAmb	IAmb	05 22 08.5	
	comp=Z,570nm,1.1s						
E38A				IAMs_20	IAMs_20	05 58 25.9	
	comp=Z,8μm,22.0s						
DIKM	**Dikmen**	**75.59**	**314**	⇑P	**P**	**05 22 08.7**	**+1.6**
DIKM	**Dikmen**	**75.59**	**314**	*e*P	**P**	**05 22 08.6**	**+1.5**
KVT	**Kavak**	**75.59**	**314**	*e*P	**P**	**05 22 08.8**	**+1.6**
DYBB	**Diyarbakir**	**75.60**	**309**	*e*P	**P**	**05 22 09.1**	**+1.8**
KSCO	**Kaye Shedlock'**	**75.69**	**49**	P	**P**	**05 22 08.0**	**+0.1**
	baz=316,SNR=80						
KSCO				S	**S**	**05 31 43.1**	**-2.4**
	baz=316						
KSCO	**Kaye Shedlock'**	**75.69**	**49**	IAmb	IAmb	05 22 10.0	
	comp=Z,732nm,1.4s						
TSSL	**Sulina**	**75.70**	**320**	⇑P	**P**	**05 22 09.2**	**+1.5**
STKA	**Stephens Creek**	**75.71**	**186**	P	**P**	**05 22 08.2**	**+0.6**
	comp=Z,20nm,0.9s,baz=348,slow=7.6,SNR=26						
STKA				LR	LR	05 53 41.1	
	comp=Z,9μm,21.9s,baz=8.2,slow=34						
MHTO	**MHTO**	**75.76**	**285**	P	**P**	**05 22 09.1**	**+0.8**
	SNR=62						
MHTO				P	**P**	**05 22 09.1**	**+0.8**
	SNR=62						
MAZI	**Mazidag**	**75.78**	**308**	*e*P	**P**	**05 22 09.8**	**+1.4**
BIR	**Birlad**	**75.82**	**322**	⇓P	**P**	**05 22 10.3**	**+2.1**
BURAR	**Bucovina Array**	**75.82**	**324**	⇑P	**P**	**05 22 09.2**	**+0.7**
BURAR	**Bucovina Array**	**75.82**	**324**	P	**P**	**05 22 09.0**	**+0.6**
LINV	**Loch Inver, As**	**75.83**	**346**⇑	*e*P	**P**	**05 22 08.7**	**+0.6**
LINV				IAmb	IAmb	05 22 10.5	
	comp=Z,3μm,1.8s						
LINV				IAMs_20	IAMs_20	05 53 12.7	
	comp=Z,9μm,23.2s						
TOKT	**Tokat**	**75.88**	**313**	*e*P	**P**	**05 22 10.2**	**+1.4**
OJC	**Ojcow**	**75.92**	**329**	*e*P	**P**	**05 22 09.6**	**+0.8**
OJC				*e*S	**S**	**05 31 47.3**	**0.0**
OJC				*e*L	L	05 56 12.9	
	comp=Z,26μm,26.1s						
SVSK	**Karacayir**	**75.93**	**312**	*e*P	**P**	**05 22 10.8**	**+1.8**
BSEG	**Bad Segeberg**	**75.98**	**336**	*e*P	**P**	**05 22 10.2**	**+1.2**
	comp=Z,11μm,2.5s,baz=30,slow=5.5						
BSEG				*e*L	L	05 57 35.5	
	comp=Z,8μm,21.7s						
KOLS	**Kolonicke sedl**	**75.99**	**327**	*e*P	**P**	**05 22 10.3**	**+1.0**
KOLS	**Kolonicke sedl**	**75.99**	**327**	*e*P	**P**	**05 22 10.3**	**+1.0**
VARL	**Varlezi**	**76.00**	**322**	⇑P	**P**	**05 22 11.4**	**+2.1**
MCD	**Coleburn Disti**	**76.00**	**345**⇑	*e*P	**P**	**05 22 09.7**	**+0.5**
BZK	**Bozkurt**	**76.01**	**315**	⇑P	**P**	**05 22 10.7**	**+1.3**
BZK	**Bozkurt**	**76.01**	**315**	*e*P

comp=Z,5µm,23.0s
ANMO Albuquerque 76.37 55 P **P 05 22 12.8 +0.9**
baz=314
ANMO S **S 05 31 53.6 +0.3**
baz=314
ANMO Albuquerque 76.37 55 P **P 05 22 12.4 +0.5**
ANMO Albuquerque 76.37 55 IAMs_20 IAMs_20 05 51 60.0
comp=Z,6µm,22.0s
NIE Niedzica 76.37 328 *e*P **P 05 22 12.9 +1.5**
NIE *e*S **S 05 31 54.3 +1.8**
NIE *e*L L 05 56 34.8
comp=Z,13µm,24.8s
JURR Jurilovca 76.40 320 ⇑P **P 05 22 12.9 +1.3**
PETR Petresti 76.41 322 ⇓P **P 05 22 13.7 +2.0**
CFR Carcaliu 76.42 321 ⇑P **P 05 22 12.2 +0.5**
ODBI Odobesti 76.46 322 ⇓P **P 05 22 14.4 +2.5**
HLG Helgoland 76.46 337 *e*P **P 05 22 12.9 +1.2**
comp=Z,9µm,2.3s,baz=30,slow=5.5
DRUM Mains of Drumt 76.48 344⇑*e*P **P 05 22 12.2 +0.3**
DRUM IAMs_20 IAMs_20 05 50 25.0
comp=Z,16µm,34.3s
BMR Baia Mare 76.50 325 ⇓P **P 05 22 13.2 +1.0**
VRI Vrincioaia 76.53 322 ⇑P **P 05 22 13.5 +1.1**
TRPA Tarpa 76.53 326 ⇑P **P 05 22 13.6 +1.4**
D41A Chassel 76.53 36 IAmb IAmb 05 22 14.4
comp=Z,833nm,1.2s
D41A IAMs_20 IAMs_20 05 58 36.1
comp=Z,8µm,21.0s
TPGR Topolog 76.54 321 ⇑P **P 05 22 13.5 +1.1**
PLOR Plostina 76.57 322 ⇑P **P 05 22 13.9 +1.3**
FORT Forrest 76.59 198 IAmb IAmb 05 22 35.5
comp=Z,623nm,1.1s
ARCR ARCALIA 76.60 324 ⇑P **P 05 22 14.4 +1.7**
RAC Raciborz 76.62 329 *e*P **P 05 22 14.0 +1.2**
RAC *e*S **S 05 31 54.5 -0.5**
RAC LMZ LR 05 57 24.7
comp=Z,19nm,22.7s
RAC Raciborz 76.62 329 *e*P **P 05 22 14.0 +1.2**
RAC *e*S **S 05 31 54.5 -0.5**
RAC MLR MLR
comp=Z,19µm,22.7s
DARE Darende-Malaty 76.63 311 *e*P **P 05 22 15.1 +1.9**
KPL Plockton 76.68 346⇑*e*P **P 05 22 13.8 +0.9**
KPL IAmb IAmb 05 22 15.1
comp=Z,1µm,1.3s
KPL IAMs_20 IAMs_20 05 53 49.0
comp=Z,10µm,25.8s
KSP Ksiaz 76.68 331 *e*P **P 05 22 14.0 +1.0**
KSP *e*S **S 05 31 55.6 -0.1**
KSP *e*L L 05 55 18.6
comp=Z,15µm,28.2s
URFA Urfa 76.70 309 *e*P **P 05 22 15.6 +2.0**
Y22D IRIS PASSCAL I 76.70 55 P **P 05 22 15.0 +1.3**
baz=314,SNR=7.7
Y22D S **S 05 31 58.2 +1.4**
baz=314
Y22D IRIS PASSCAL I 76.70 55 IAmb IAmb 05 22 39.8
comp=Z,975nm,1.8s
Y22D IAMs_20 IAMs_20 05 51 22.8
comp=Z,7µm,22.0s
I37A Lemond, Waseca 76.72 41 IAMs_20 IAMs_20 06 02 55.1
comp=Z,6µm,20.0s
KURC Kurucasile-Bar 76.73 316 *e*P **P 05 22 13.2 -0.3**
OZUR 76.76 323 ⇑P **P 05 22 15.5 +1.8**
DQM DQM 76.77 285 P **P 05 22 14.7 +0.7**
SNR=12
DQM P **P 05 22 14.7 +0.7**
SNR=12
BISRR Bisoca 76.78 322 ⇓P **P 05 22 15.5 +1.6**
GRER 76.79 322 ⇑P **P 05 22 15.8 +2.0**
L34A Svendsen Farm, 76.81 44 IAmb IAmb 05 22 15.5
comp=Z,469nm,1.0s
L34A IAMs_20 IAMs_20 05 52 59.9
comp=Z,7µm,22.0s
OKC Ostrava-Krasne 76.84 329⇑*i*P **P 05 22 14.9 +0.9**
OKC MLR MLR
comp=Z,13µm,18.2s
OKC Ostrava-Krasne 76.84 329⇑*i*P **P 05 22 14.9 +0.9**
OKC AMS AMS 06 00 20.0
comp=Z,13µm,18.2s
TIRR Tirgusor 76.84 320 ⇑P **P 05 22 15.2 +1.1**
UMR Umm Al-Rimmam 76.87 298 *e*P **P 05 22 14.4 -0.1**
HARR Harsova 76.89 321 ⇓P **P 05 22 15.5 +1.2**
LANS Liptovska Anna 76.91 328 *e*P **P 05 22 16.7 +2.2**
LANS pmax pmax
comp=Z,324nm,0.7s
LANS Liptovska Anna 76.91 328 *e*P **P 05 22 16.7 +2.2**
EDU Dundee 76.92 344⇑*e*P **P 05 22 14.8 +0.5**
MIB Mutribah 76.94 299 *e*P **P 05 22 15.1 +0.2**
OSTC Ostas 76.94 331⇑*i*P **P 05 22 15.7 +1.1**
OSTC AMS AMS 05 59 10.0
comp=Z,18µm,19.0s
TLBR Topalu 76.95 321 ⇑P **P 05 22 16.0 +1.3**
TSCT Constanta Port 76.96 320 ⇓P **P 05 22 16.1 +1.4**
CHVC Chvalec 76.97 331⇑*i*P **P 05 22 16.8 +2.0**
CHVC *e*S **S 05 31 54.9 -4.0**
CHVC AMS AMS 05 59 10.0
comp=Z,20µm,18.3s
CORM Corum 76.99 314 *e*P **P 05 22 16.9 +1.7**
EFOR EFORIE 77.03 320 ⇓P **P 05 22 17.0 +1.8**
DOPR Dopca 77.03 323 ⇓P **P 05 22 16.8 +1.5**
COWI Conover 77.04 37 IAMs_20 IAMs_20 05 58 55.2
comp=Z,9µm,22.0s
MFTR Murfatlar 77.06 320 ⇑P **P 05 22 16.4 +1.0**
UPC Upice 77.06 331⇑*i*P **P 05 22 15.9 +0.7**
UPC *e*S **S 05 31 57.1 -2.7**
UPC MLR MLR
comp=Z,21µm,18.5s
UPC Upice 77.06 331⇑*i*P **P 05 22 15.9 +0.7**
UPC *e*S **S 05 31 57.1 -2.7**
UPC AMS AMS 05 59 10.0
comp=Z,21µm,18.5s
NEHR Nehoiu 77.06 322 ⇓P **P 05 22 17.0 +1.6**
KECS Kecovo 77.06 327 *e*P **P 05 22 16.5 +1.2**
KECS pmax pmax
comp=Z,151nm,1.1s
KECS Kecovo 77.06 327 *e*P **P 05 22 16.5 +1.2**
DPC Dobruska-Polom 77.08 331⇑*i*P **P 05 22 16.4 +1.0**
DPC *e* 05 25 07.2
DPC *e*S **S 05 31 57.4 -2.7**
DPC MLR MLR
comp=Z,16µm,19.2s
DPC Dobruska-Polom 77.08 331⇑*i*P **P 05 22 16.4 +1.0**
DPC *e*PP **PP 05 25 07.2 -1.5**
DPC *e*S **S 05 31 57.4 -2.7**
DPC AMS AMS 06 00 40.0
comp=Z,16µm,19.2s
FLTG Flechtingen 77.09 334 *e*P **P 05 22 15.9 +0.6**
comp=Z,10µm,2.6s,baz=30,slow=5.5
CVDA Cernavoda 77.11 320 ⇓P **P 05 22 17.3 +1.6**
MORC Moravsky Berou 77.11 330 ⇑P **P 05 22 16.5 +0.9**
MORC Moravsky Berou 77.11 330 IAmb IAmb 05 22 20.3
comp=Z,535nm,0.9s
MORC Moravsky Berou 77.11 330⇑*i*P **P 05 22 16.6 +0.9**
MORC *e*S **S 05 31 59.2 -1.4**
ELO Logie Almond 77.13 344⇑*e*P **P 05 22 15.8 +0.2**
MESR Meseseni 77.14 325 ⇑P **P 05 22 17.3 +1.6**
KRLC Kraliky 77.14 330⇑*i*P **P 05 22 16.6 +0.8**
KRLC *e*S **S 05 31 57.5 -3.4**
KRLC MLR MLR
comp=Z,18µm,19.4s
KRLC Kraliky 77.14 330⇑*i*P **P 05 22 16.6 +0.8**
KRLC *e*S **S 05 31 57.5 -3.4**
KRLC AMS AMS 06 00 10.0
comp=Z,18µm,19.4s
319A Douglas 77.14 59 IAMs_20 IAMs_20 05 51 33.7
comp=Z,5µm,21.0s
MLR Muntele Rosu 77.16 322 S **S 05 32 02.0 +0.6**
comp=Z,3.0nm,0.9s,baz=190,slow=22,SNR=7.9
MLR LR LR 05 59 36.3
comp=Z,18µm,19.4s,baz=48,slow=38
MLR Muntele Rosu 77.16 322 ⇑P **P 05 22 17.0 +0.9**
MLR Muntele Rosu 77.16 322 IAmb IAmb 05 22 19.2
comp=Z,1µm,1.8s
N33A J Bar K, Exete 77.18 45 IAmb IAmb 05 22 17.2
comp=Z,575nm,1.2s
N33A IAMs_20 IAMs_20 05 57 48.7
comp=Z,7µm,21.0s
ISR Istrita 77.19 322 ⇑P **P 05 22 17.7 +1.6**
BBOO Buckleboo 77.19 190 IAmb IAmb 05 22 40.5
comp=Z,884nm,1.8s
BBOO IAMs_20 IAMs_20 05 56 54.0
comp=Z,6µm,19.0s
CBBR Cluj-Babes-Bol 77.19 324 ⇑P **P 05 22 16.9 +0.8**

CANT Cankiri 77.20 315 *e*P **P 05 22 17.9 +1.6**
SCHQ Schefferville 77.21 20 P **P 05 22 16.6 +0.6**
comp=Z,214nm,0.7s,baz=350,slow=6.0,SNR=74
SCHQ LR LR 05 59 47.5
comp=Z,13µm,20.1s,baz=344,slow=38
SCHQ Schefferville 77.21 20 IAmb IAmb 05 22 21.7
comp=Z,445nm,1.1s
CJR Cluj-Napoca 77.21 324 ⇑P **P 05 22 17.6 +1.3**
G40A Rib Lake 77.22 38 IAmb IAmb 05 22 17.9
comp=Z,315nm,1.1s
G40A IAMs_20 IAMs_20 05 58 55.3
comp=Z,5µm,20.0s
AMRR Amara 77.22 321 ⇑P **P 05 22 17.6 +1.3**
INVG Invergeldie, C 77.24 345⇑*e*P **P 05 22 16.5 +0.3**
INVG IAMs_20 IAMs_20 06 00 40.0
comp=Z,16µm,21.6s
121A Cookes Peak, D 77.26 57 P **P 05 22 18.1 +1.2**
baz=314,SNR=91
121A S **S 05 32 03.6 +0.7**
baz=314
121A Cookes Peak, D 77.26 57 IAmb IAmb 05 22 40.8
comp=Z,331nm,1.1s
QRN Al-Qurain 77.29 298 *e*P **P 05 22 17.1 +0.2**
NRDL Niedersach Rie 77.30 335 *e*P **P 05 22 17.5 +1.1**
comp=Z,7µm,2.6s,baz=30,slow=5.5
EBH Black Hill 77.30 344⇑*e*P **P 05 22 17.1 +0.6**
BNN Bunyan 77.31 312 *e*P **P 05 22 18.3 +1.2**
SARI SarD1z-Kayseri 77.33 312 *e*P **P 05 22 18.8 +1.6**
MDB Medias 77.33 324 ⇑P **P 05 22 18.7 +1.8**
RST Umm Al-Ruwaisa 77.36 299 *e*P **P 05 22 17.3 0.0**
ICOR Ion Corvin 77.39 320 ⇑P **P 05 22 18.8 +1.7**
CBKS Cedar Bluff 77.39 48 P **P 05 22 16.7 -0.7**
baz=317,SNR=38
CBKS S **S 05 31 59.9 -4.1**
baz=317
CBKS Cedar Bluff 77.39 48 IAMs_20 IAMs_20 05 58 55.5
comp=Z,5µm,22.0s
CLL Collm 77.40 333⇑*i*P **P 05 22 17.7 +0.6**
comp=Z,969nm,0.9s
CLL *e*Pmax 05 22 22.0
CLL *e*sP **sP 05 22 39.0 +1.7**
comp=Z,1µm,1.4s
CLL *e*PP **PP 05 25 10.0 -1.3**
CLL *e*PPP PPP 05 27 00.0
CLL *e*S **S 05 32 03.0 -0.5**
CLL *e*sS **ScS 05 32 33.0 +2.3**
CLL *e*PPS PPS 05 33 06.0
CLL *e*SS **SS 05 37 12.0 +10**
CLL *e*SSmax 05 38 00.0
CLL *e*SSS SSS 05 40 30.0
CLL *e*SSSS 05 42 36.0
CLL *e* 05 49 18.0
CLL *e*PKPPKPd**P'P'df** **05 49 24.0 -5.2**
CLL *e* 05 49 52.0
CLL Lm MLR 06 00 00.0
comp=Z,16µm,21.1s
CLL Lmax 06 01 00.0
CLL Collm 77.40 333⇑*i*P **P 05 22 17.7 +0.6**
CLL *e* 05 22 36.0
CLL *e*S **S 05 32 03.0 -0.5**
CLL pmax pmax
comp=Z,969nm,0.9s
CLL MLR MLR
comp=Z,16µm,21.1s
CLL Collm 77.40 333 *e*P **P 05 22 17.7 +0.6**
comp=Z,45µm,4.6s,baz=30,slow=5.5
CLL *e*L L 06 00 36.1
comp=Z,16µm,21.1s
ESY Stoneypath 77.43 344⇑*e*P **P 05 22 17.9 +0.7**
ASSE Asse, Remlinge 77.44 335 *e*P **P 05 22 18.4 +1.2**
comp=Z,4µm,2.7s,baz=30,slow=5.5
BRG Berggiesshubel 77.46 332⇑*i*P **P 05 22 17.9 +0.4**
BRG Amp 05 22 20.4
comp=Z,823nm,1.5s
BRG Berggiesshubel 77.46 332 PP PP 05 25 15.0 +3.2
BRG Berggiesshubel 77.46 332 S **S 05 32 04.0 -0.1**
BRG Berggiesshubel 77.46 332 *e*P **P 05 22 18.4 +0.9**
comp=Z,7µm,2.9s,baz=30,slow=5.5
EAB Aberfoyle 77.52 345⇑*e*P **P 05 22 18.4 +0.7**
DRGR 77.52 325 ⇑P **P 05 22 18.9 +0.9**
PVCC Panska Ves 77.54 332⇑*i*P **P 05 22 18.8 +0.9**
PVCC *e*S **S 05 32 03.0 -2.0**
PVCC MLR MLR
comp=Z,35µm,18.7s
PVCC Panska Ves 77.54 332⇑*i*P **P 05 22 18.8 +0.9**
PVCC *e*S **S 05 32 03.0 -2.0**
PVCC AMS AMS 05 59 50.0
comp=Z,35µm,18.7s
EDI Edinburgh 77.54 344⇑*e*P **P 05 22 18.3 +0.5**
EDI IAMs_20 IAMs_20 05 52 49.7
comp=Z,13µm,26.6s
LEHL Lehliu 77.56 321 ⇓P **P 05 22 19.4 +1.2**
VOIR 77.60 323 ⇓P **P 05 22 19.7 +1.2**
FBE Freiberg 77.62 333 *e*P **P 05 22 19.5 +1.2**
comp=Z,12µm,3.1s,baz=30,slow=5.5
LAWE Loch Awe, Argy 77.65 345⇑*e*P **P 05 22 19.1 +0.7**
LAWE IAMs_20 IAMs_20 06 01 26.9
comp=Z,11µm,19.8s
EBL Broad Law 77.65 344⇑*e*P **P 05 22 19.1 +0.7**
SULR 77.66 322 ⇑P **P 05 22 19.8 +1.2**
VYHS Vyhne 77.69 328 *e*P **P 05 22 20.2 +1.4**
VYHS pmax pmax
comp=Z,9µm,3.3s
VYHS Vyhne 77.69 328 *e*P **P 05 22 20.2 +1.4**
VYHS *e*S **S 05 32 01.3 -5.4**
VYHS *e*L L 05 57 21.9
KMRS Kahramanmaras 77.72 311 *e*P **P 05 22 20.9 +1.7**
E43A Lone Tree Farm 77.73 35 IAmb IAmb 05 22 20.8
comp=Z,322nm,1.0s
F42A Maple Grove Fa 77.74 37 IAmb IAmb 05 22 21.0
comp=Z,358nm,1.0s
F42A IAMs_20 IAMs_20 05 59 13.7
comp=Z,8µm,22.0s
PSZ Piszkesteto 77.75 327 ⇑P **P 05 22 20.3 +1.0**
PSZ Piszkesteto 77.75 327 *e*P **P 05 22 20.2 +1.0**
PSZ Piszkesteto 77.75 327 IAmb IAmb 05 22 24.2
comp=Z,310nm,0.8s
MTUR Matau 77.76 323 ⇑P **P 05 22 20.8 +1.4**
CLZ Clausthal 77.78 335 *e*P **P 05 22 20.6 +1.3**
comp=Z,18µm,3.2s,baz=30,slow=5.5
GAZ Gaziantep 77.79 310 *e*P **P 05 22 21.2 +1.5**
GAZ Gaziantep 77.79 310 IAmb IAmb 05 22 45.1
comp=Z,776nm,1.6s
JAVC Velka Javorina 77.83 329⇑*i*P **P 05 22 21.5 +1.9**
JAVC *e*S **S 05 32 09.4 +1.1**
ARR Arges 77.83 323 ⇓P **P 05 22 21.6 +1.8**
BR131 Keskin Array S 77.84 314 IAmb IAmb 05 22 45.6
comp=Z,844nm,1.5s
BR131 Keskin Array S 77.84 314 P **P 05 22 21.1 +1.1**
SNR=128
BR131 P **P 05 22 21.1 +1.1**
SNR=128
BRTR Keskin Array B 77.84 314 P **P 05 22 20.8 +0.7**
comp=Z,108nm,0.7s,baz=74,slow=3.4,SNR=251
BRTR LR LR 06 01 51.7
comp=Z,16µm,21.2s,baz=76,slow=40
BRTR Keskin Array B 77.84 314 *i* P **P 05 22 20.7 +0.7**
BRTR pmax pmax
comp=Z,109nm,0.7s
BRTR Keskin Array B 77.84 314 P **P 05 22 20.6 +0.6**
VRAC Vranov 77.85 330 S **S 05 32 10.3 +1.8**
comp=Z,1.9nm,0.3s,baz=173,slow=18,SNR=7.2
VRAC LR LR 06 01 37.0
comp=Z,22µm,19.4s,baz=32,slow=39
VRAC Vranov 77.85 330 ⇑P **P 05 22 20.9 +1.2**
VRAC Vranov 77.85 330⇑*i*P **P 05 22 20.7 +1.0**
VRAC *e*S **S 05 32 07.0 -1.4**
NEUB Neuenburg 77.89 334 *e*P **P 05 22 20.7 +0.9**
comp=Z,14µm,3.0s,baz=30,slow=5.5
PGBU Glenifferbraes 77.90 345⇑*e*P **P 05 22 20.9 +1.1**
PGBU IAmb IAmb 05 22 22.9
comp=Z,853nm,0.9s
PGBU IAMs_20 IAMs_20 06 00 59.2
comp=Z,13µm,20.2s
PRA Prague 77.97 331⇑*i*P **P 05 22 21.3 +1.0**
PRA *e*S **S 05 32 06.9 -2.8**
PRA MLR MLR
comp=Z,38µm,19.0s
PRA Prague 77.97 331⇑*i*P **P 05 22 21.3 +1.0**
PRA *e*S **S 05 32 06.9 -2.8**
PRA AMS AMS 06 00 10.0
comp=Z,38µm,19.0s
PRU Pruhonice 78.00 331⇑*i*P **P 05 22 21.4 +0.9**
PRU *e*S **S 05 32 07.2 -2.9**

PRU MLR MLR
comp=Z,34µm,18.3s
PRU Pruhonice 78.00 331⇑*i*P **P 05 22 21.4 +0.9**
PRU *e*S **S 05 32 07.2 -2.9**
PRU AMS AMS 06 00 10.0
comp=Z,34µm,18.3s
N35A Tabor 78.01 44 IAmb IAmb 05 22 22.6
comp=Z,394nm,0.8s
N35A IAMs_20 IAMs_20 06 01 43.4
comp=Z,6µm,21.0s
SRIG Santa Rosalia 78.05 64 IAmb IAmb 05 22 44.2
comp=Z,558nm,1.5s
SRIG IAMs_20 IAMs_20 05 50 12.1
comp=Z,5µm,21.0s
K38A Parkersburg 78.06 41 IAmb IAmb 05 22 22.7
comp=Z,370nm,1.1s
K38A IAMs_20 IAMs_20 06 03 49.6
comp=Z,8µm,21.0s
EKA Eskdalemuir Ar 78.09 344 P **P 05 22 21.5 +0.6**
comp=Z,181nm,0.5s,baz=24,slow=5.8,SNR=652
I40A Norwalk 78.10 39 IAmb IAmb 05 22 22.8
comp=Z,365nm,1.1s
BSZH Besenyszg 78.11 327 ⇑P **P 05 22 22.9 +1.8**
ESK Eskdalemuir 78.11 344⇑*e*P **P 05 22 21.5 +0.5**
ESK IAMs_20 IAMs_20 05 53 07.4
comp=Z,15µm,26.7s
ESK Eskdalemuir 78.11 344 P **P 05 22 21.8 +0.8**
ESK pmax pmax
comp=Z,2µm,1.8s
ESK Eskdalemuir 78.11 344 P **P 05 22 21.8 +0.8**
ESK Eskdalemuir 78.11 344 IAMs_20 IAMs_20 06 03 51.2
comp=Z,6µm,20.0s
KRUC Moravsky 78.13 330⇑*i*P **P 05 22 22.1 +0.9**
KRUC *e*S **S 05 32 11.2 -0.2**
SGRR Singureni 78.14 321 ⇑P **P 05 22 22.4 +1.1**
LOT Lotru 78.14 324 ⇑P **P 05 22 22.2 +0.6**
IBBN Ibbenburen 78.16 336 *e*P **P 05 22 22.3 +1.0**
comp=Z,14µm,2.8s,baz=30,slow=5.5
GTTG Gottingen 78.16 335 *e*P **P 05 22 22.6 +1.2**
comp=Z,14µm,3.1s,baz=30,slow=5.5
ANTO Ankara 78.17 315 P **P 05 22 22.6 +0.9**
ANTO pmax pmax
comp=Z,552nm,0.8s
ANTO Ankara 78.17 315 P **P 05 22 22.6 +0.9**
ANTO IAmb IAmb 05 22 25.0
comp=Z,552nm,0.8s
DEV Deva 78.17 324 ⇑P **P 05 22 21.8 +0.3**
LOD Lodumlu 78.17 315 *e*P **P 05 22 23.0 +1.3**
BR231 Keskin MP Arra 78.20 315 IAmb IAmb 05 22 25.2
comp=Z,592nm,0.9s
SMOL Smolenice 78.20 329 *e*P **P 05 22 23.5 +1.8**
SMOL pmax pmax
comp=Z,327nm,1.3s
SMOL Smolenice 78.20 329 *e*P **P 05 22 23.5 +1.8**
R32A Long Quarter, 78.23 47 IAMs_20 IAMs_20 06 00 49.6
comp=Z,7µm,21.0s
TREC Trest 78.26 330⇑*i*P **P 05 22 22.7 +0.7**
TREC *e*S **S 05 32 10.3 -2.6**
TREC MLR MLR
comp=Z,20µm,21.1s
TREC Trest 78.26 330⇑*i*P **P 05 22 22.7 +0.7**
TREC *e*S **S 05 32 10.3 -2.6**
TREC AMS AMS 05 59 50.0
comp=Z,20µm,21.1s
EDMD Edmundbyers 78.31 343⇑*e*P **P 05 22 22.2 +0.1**
EDMD IAMs_20 IAMs_20 05 52 09.3
comp=Z,21µm,32.8s
KOZT Kozan 78.32 311 *e*P **P 05 22 23.9 +1.4**
YAYX Yaylak 78.33 313 *e*P **P 05 22 23.5 +0.8**
HUMR Humele 78.34 322 ⇑P **P 05 22 22.4 -0.1**
MORW Morawa 78.36 208 IAmb IAmb 05 22 45.0
comp=Z,514nm,1.4s
WERD Werda 78.37 333 *e*P **P 05 22 23.7 +1.1**
comp=Z,9µm,3.3s,baz=30,slow=5.5
MODS Modra-Piesok 78.37 329 *e*P **P 05 22 25.1 +2.5**
MODS pmax pmax
comp=Z,2µm,2.0s
MODS Modra-Piesok 78.37 329 *e*P **P 05 22 25.1 +2.5**
MODS *e*S **S 05 32 14.0 -0.1**
MODS *e*L L 05 54 26.5
SIRR Siria 78.38 325 ⇑P **P 05 22 23.7 +1.0**
PLN Plauen 78.38 333 *e*P **P 05 22 23.8 +1.2**
comp=Z,8µm,3.1s,baz=30,slow=5.5
SCIA State Center 78.41 42 P **P 05 22 23.1 +0.2**
baz=320,SNR=43
SCIA S **S 05 32 11.9 -2.8**
baz=320
SCIA State Center 78.41 42 IAMs_20 IAMs_20 06 01 18.9
comp=Z,5µm,20.0s
MOX Moxa 78.42 333 *e*P **P 05 22 23.9 +1.1**
comp=Z,9µm,3.1s,baz=30,slow=5.5
MOX *e*L L 05 59 26.9
comp=Z,12µm,21.9s
GDLE Glaisdale, N Y 78.44 342⇑*e*P **P 05 22 23.2 +0.4**
GDLE IAMs_20 IAMs_20 06 01 34.2
comp=Z,19µm,20.2s
SRO Srobarova 78.45 328 *e*P **P 05 22 25.1 +2.1**
SRO pmax pmax
comp=Z,602nm,0.9s
SRO Srobarova 78.45 328 *e*P **P 05 22 25.1 +2.1**
PBCC Pribram 78.45 332⇑*i*P **P 05 22 23.8 +0.8**
SERE Sereflikochisa 78.45 314 *e*P **P 05 22 24.4 +1.0**
SRO2 Moca 78.46 328 *e*P **P 05 22 24.4 +1.4**
SRO2 pmax pmax
comp=Z,353nm,0.6s
SRO2 Moca 78.46 328 *e*P **P 05 22 24.4 +1.4**
WERN Wernitzgruen 78.48 333 *e*P **P 05 22 24.4 +1.2**
comp=Z,14µm,3.6s,baz=30,slow=5.5
NKC Novy Kostel 78.50 333⇑*i*P **P 05 22 23.9 +0.6**
NKC MLR MLR
comp=Z,16µm,16.7s
NKC Novy Kostel 78.50 333⇑*i*P **P 05 22 23.9 +0.6**
NKC AMS AMS 06 00 50.0
comp=Z,16µm,16.7s
MATQ Matagami 78.51 28 P **P 05 22 23.1 -0.2**
baz=328,SNR=105
MATQ S **S 05 32 10.9 -4.6**
baz=328
MDUB Mudurnu 78.53 316 *e*P **P 05 22 24.9 +1.2**
GULA Gulagac 78.54 313 *e*P **P 05 22 25.2 +1.3**
COPA Copaceanca 78.55 322 ⇑P **P 05 22 23.7 +0.1**
ZST Bratislava 78.59 329 *e*P **P 05 22 25.3 +1.5**
ZST Bratislava 78.59 329 *e*P **P 05 22 25.3 +1.5**
ZST *e*S **S 05 32 15.2 -1.1**
GZR Gura Zlata 78.61 324 ⇑P **P 05 22 24.9 +0.9**
KULU Kulu 78.67 314 *e*P **P 05 22 26.1 +1.5**
AMBH Ambrzfalva 78.69 326 ⇑P **P 05 22 25.8 +1.5**
CEYT Ceyhan 78.71 311 *e*P **P 05 22 26.5 +1.9**
SAUV Serdivan-Sakar 78.76 317 *e*P **P 05 22 25.8 +1.0**
KESW Keswick, Cumbr 78.78 343⇑*e*P **P 05 22 25.5 +0.8**
KESW IAmb IAmb 05 22 28.7
comp=Z,3µm,1.5s
KESW IAMs_20 IAMs_20 05 53 25.3
comp=Z,16µm,30.6s
SILT Sile 78.78 317 *e*P **P 05 22 25.9 +1.0**
UBBA Unterbreizbach 78.79 334 *e*P **P 05 22 25.5 +0.8**
comp=Z,5µm,2.8s,baz=30,slow=5.5
MANZ Manzenberg 78.83 333 *e*P **P 05 22 25.9 +0.8**
comp=Z,9µm,3.6s,baz=30,slow=5.5
KSU1 Kansas State U 78.83 46 P **P 05 22 24.5 -0.8**
baz=318,SNR=8.0
KSU1 S **S 05 32 13.5 -5.8**
baz=318
KSU1 Kansas State U 78.83 46 IAMs_20 IAMs_20 06 01 04.3
comp=Z,6µm,21.0s
GAL1 Galloway 78.84 344⇑*e*P **P 05 22 25.6 +0.6**
GAL1 IAMs_20 IAMs_20 06 01 36.4
comp=Z,11µm,19.8s
E46A Sault Ste Mari 78.84 34 IAmb IAmb 05 22 26.7
comp=Z,1µm,1.8s
ZIMR 78.86 321 ⇑P **P 05 22 26.6 +1.3**
I42A Draeger Farm, 78.87 38 IAMs_20 IAMs_20 05 59 46.8
comp=Z,7µm,22.0s
CLGH Cloghs, Cushen 78.90 345⇑*e*P **P 05 22 25.6 +0.3**
CLGH IAmb IAmb 05 22 27.7
comp=Z,958nm,1.2s
CLGH IAMs_20 IAMs_20 06 01 41.2
comp=Z,12µm,19.9s
GULT Gulveren 78.90 316 *e*P **P 05 22 26.5 +0.8**
KARA Karaisali 78.90 312 *e*P **P 05 22 27.2 +1.5**
H43A Windswept, Lux 78.92 37 IAmb IAmb 05 22 27.5
comp=Z,510nm,1.1s
H43A IAMs_20 IAMs_20 06 00 03.0
comp=Z,6µm,22.0s
BZS Buzias 78.92 325 ⇑P **P 05 22 25.9 +0.3**

CAN Canberra 78.92 179 IAmb IAmb 05 22 49.5
comp=Z,839nm,1.4s
CAN IAMs_20 IAMs_20 05 49 40.3
comp=Z,6μm,20.0s
TAHT Tahtakopru-Hat 78.93 310 *e*P **P** **05 22 27.5 +1.6**
KASTN Kahler Asten 78.94 335 *e*P **P** **05 22 26.7 +1.0**
comp=Z,16μm,3.6s,baz=30,slow=5.5
ROTZ Rotzenmuhle 78.98 333 *e*P **P** **05 22 27.2 +1.2**
comp=Z,10μm,3.3s,baz=30,slow=5.5
TIM Timisoara 78.99 325 ⇑P **P** **05 22 26.7 +0.7**
KLYT Kilyos 79.00 318 *e*P **P** **05 22 26.9 +0.8**
SRE Strehaia 79.01 323 ⇑P **P** **05 22 27.3 +1.1**
VLAD Vladila 79.02 322 ⇑P **P** **05 22 26.8 +0.7**
HRT Hereke 79.02 317 *e*P **P** **05 22 27.2 +0.8**
JFWS Jewell Farm 79.03 40 P **P** **05 22 25.6 -0.7**
baz=321,SNR=17
JFWS S **S** **05 32 16.7 -4.6**
baz=321
SULT Sultanhani-AKS 79.03 313 *e*P **P** **05 22 27.6 +1.1**
HPK Haverah Park 79.05 342⇑*e*P **P** **05 22 26.9 +0.8**
HPK IAMs_20 IAMs_20 05 52 48.1
comp=Z,25μm,33.5s
BUG Bochum--Univer 79.06 336 *e*P **P** **05 22 27.2 +0.9**
comp=Z,2μm,1.3s,baz=30,slow=5.5
KHC Kasperske Hory 79.06 331⇑*i*P **P** **05 22 27.2 +0.8**
KHC *e* 05 22 48.0
KHC *e* 05 25 23.9
KHC *e*S **S** **05 32 19.8 -1.7**
KHC MLR MLR
comp=Z,41μm,18.6s
KHC Kasperske Hory 79.06 331⇑*i*P **P** **05 22 27.2 +0.8**
KHC *e*sP **sP** **05 22 48.0 +1.4**
KHC *e*PP **PP** **05 25 23.9 -1.4**
KHC *e*S **S** **05 32 19.8 -1.7**
KHC AMS AMS 06 00 50.0
comp=Z,41μm,18.6s
CKRC Cesky Krumlov 79.07 331⇑*i*P **P** **05 22 28.0 +1.5**
CKRC *e*PP **PP** **05 25 23.7 -1.7**
CKRC *e*S **S** **05 32 21.1 -0.5**
CKRC AMS AMS 06 00 30.0
comp=Z,25μm,20.1s
CHBY Cihanbeyli 79.08 314 *e*P **P** **05 22 27.6 +0.8**
SVRH Sivrihisar-ESK 79.13 315 *e*P **P** **05 22 27.6 +0.5**
KAVV Kandilli-Istan 79.13 318 *e*P **P** **05 22 28.9 +2.0**
SRCK Saricakaya, Es 79.14 316 *e*P **P** **05 22 27.4 +0.4**
HERR Herculane 79.17 324 ⇓P **P** **05 22 27.5 +0.4**
AMTX Amarillo 79.17 52 P **P** **05 22 28.1 +0.7**
baz=317
AMTX S **S** **05 32 22.3 -1.0**
baz=317
BGKT Bogazkoy 79.18 318 *e*P **P** **05 22 28.1 +1.0**
CTYL Yalikoy Yolu 79.19 318 *e*P **P** **05 22 28.1 +0.9**
MSTX Muleshoe 79.21 53 P **P** **05 22 27.8 +0.2**
baz=316
MSTX S **S** **05 32 24.0 +0.3**
baz=316
LMK Market Rasen 79.22 341⇑*e*P **P** **05 22 28.0 +0.9**
LMK IAMs_20 IAMs_20 05 53 43.4
comp=Z,26μm,30.0s
YAYL Yayladag 79.22 310 *e*P **P** **05 22 29.0 +1.3**
KRTS Karatas 79.23 311 *e*P **P** **05 22 29.6 +2.1**
L40A Anamosa 79.24 41 IAmb IAmb 05 22 28.9
comp=Z,400nm,1.1s
L40A IAMs_20 IAMs_20 06 01 45.8
comp=Z,7μm,20.0s
N38A Joes South For 79.25 43 IAmb IAmb 05 22 29.3
comp=Z,461nm,1.0s
N38A IAMs_20 IAMs_20 06 00 10.2
comp=Z,7μm,20.0s
GEC2 GERESS Array S 79.27 331 *e*P **P** **05 22 28.4 +0.8**
comp=Z,7μm,3.5s,baz=30,slow=5.5
GEC2 *e*L L 06 01 31.5
comp=Z,28μm,20.1s
GERES GERESS Array B 79.27 331 P **P** **05 22 27.9 +0.3**
comp=Z,132nm,0.5s,baz=42,slow=6.1,SNR=732
GERES S **S** **05 32 27.3 +3.5**
comp=Z,0.3nm,0.2s,baz=33,slow=13,SNR=1.4
GERES PKKPbc **PKKPbc** **05 41 14.8 -1.4**
comp=Z,1.4nm,0.7s,baz=183,slow=2.5,SNR=8.7
GERES PKPPKP P'P'df 05 49 15.4 -11
comp=Z,0.3nm,0.2s,baz=197,slow=2.8,SNR=3.7
GERES LR LR 06 01 22.2
comp=Z,31μm,20.3s,baz=30,slow=38
GERES GERESS Array B 79.27 331 P **P** **05 22 27.8 +0.2**
GERES pP **pP** **05 22 42.4 +0.2**
RAO Raoul Island 79.27 150 LR LR 05 50 40.1
comp=Z,11μm,22.0s,baz=354,slow=30
CONA Conrad Observa 79.27 329 *i*P **P** **05 22 28.8 +1.2**
comp=Z,242nm,0.6s,SNR=300
CONA *e*S **S** **05 32 26.1 +2.3**
comp=Z,14nm,1.7s
CTKS Kestanelik-??a 79.27 318 *e*P **P** **05 22 28.5 +0.9**
ADVT Abdulvahap 79.28 317 *e*P **P** **05 22 28.6 +0.9**
MNTX Cornudas Mount 79.29 56 P **P** **05 22 28.7 +0.7**
baz=315,SNR=81
MNTX S **S** **05 32 24.8 +0.3**
baz=315
WET Wettzell 79.29 332 *e*P **P** **05 22 29.0 +1.3**
comp=Z,16μm,3.7s,baz=30,slow=5.5
WET *e*L L 06 01 31.1
comp=Z,31μm,18.8s
LSQQ Lebel-sur-Quev 79.33 28 P **P** **05 22 27.6 -0.2**
baz=329
LSQQ S **S** **05 32 22.6 -1.7**
baz=329
YLV Yalova 79.36 317 *e*P **P** **05 22 29.1 +0.9**
G45A Suttons Bay 79.36 36 IAmb IAmb 05 22 29.9
comp=Z,435nm,1.0s
GRF Grafenberg Arr 79.37 333 *e*P **P** **05 22 29.5 +1.4**
comp=Z,995nm,1.1s,baz=30,slow=5.5
GRF *e*L L 06 02 12.2
comp=Z,15μm,19.4s
GRFO Grafenberg 79.38 333 P **P** **05 22 29.0 +0.9**
GRFO pmax pmax
comp=Z,761nm,0.9s
GRFO MLR MLR
comp=Z,15μm,19.0s
GRFO Grafenberg 79.38 333 P **P** **05 22 28.9 +0.9**
KIZT Kizilcal 79.38 315 *e*P **P** **05 22 29.2 +0.8**
IOMK Kirk Michael 79.38 344⇑*e*P **P** **05 22 28.4 +0.5**
IOMK IAMs_20 IAMs_20 06 01 18.6
comp=Z,17μm,21.5s
SHAO Shalim 79.38 285 P **P** **05 22 29.1 +0.5**
CAVI Cavuskoy 79.41 317 *e*P **P** **05 22 29.6 +1.2**
SLVT Silivri 79.42 318 *e*P **P** **05 22 29.7 +1.3**
CIFT Cifteler, Eski 79.43 315 *e*P **P** **05 22 29.3 +0.6**
PUNG Punghina 79.44 323 ⇑P **P** **05 22 29.1 +0.6**
KAN12 Harper NE Stat 79.44 48 IAmb IAmb 05 22 30.1
comp=Z,371nm,1.0s
CHGQ Chibougamau 79.46 26 P **P** **05 22 28.5 0.0**
baz=330,SNR=196
CHGQ S **S** **05 32 23.0 -2.6**
baz=330
MERS Mersin 79.48 312 *e*P **P** **05 22 29.7 +0.7**
KAN08 Anthony NE Sta 79.51 48 IAmb IAmb 05 22 30.5
comp=Z,330nm,0.9s
WIM Isle of Man 79.51 344⇑*e*P **P** **05 22 29.5 +0.8**
GEMT Gemlik 79.55 317 *e*P **P** **05 22 30.2 +1.0**
MDVR Moldovita 79.55 324 ⇑P **P** **05 22 29.5 +0.3**
LBWR Ladybower, Pea 79.59 342⇑*e*P **P** **05 22 30.0 +0.9**
LBWR IAmb IAmb 05 22 32.7
comp=Z,1μm,0.8s
LBWR IAMs_20 IAMs_20 05 53 20.8
comp=Z,23μm,30.1s
ARMT Armutlu 79.61 317 *e*P **P** **05 22 30.2 +0.7**
KS21 Milan North St 79.63 48 IAMs_20 IAMs_20 06 02 03.6
comp=Z,6μm,21.0s
LADK Ladik-KONYA 79.64 314 *e*P **P** **05 22 30.5 +0.7**
MORH Mrgy, Hungar 79.64 327 ⇑P **P** **05 22 29.5 0.0**
MORH Mrgy, Hungar 79.64 327⇑*i*P **P** **05 22 29.2 -0.3**
KAN05 Bluff City Nor 79.65 48 IAmb IAmb 05 22 31.4
comp=Z,448nm,1.1s
GMM Mts of Mourne 79.67 345⇑*e*P **P** **05 22 30.1 +0.5**
WACR West Acre 79.67 341⇑*e*P **P** **05 22 30.7 +1.1**
WACR IAmb IAmb 05 22 32.6
comp=Z,962nm,0.9s
WACR IAMs_20 IAMs_20 05 54 31.0
comp=Z,23μm,29.5s
OK032 Salt Plains WL 79.69 48 IAMs_20 IAMs_20 06 01 50.3
comp=Z,7μm,21.0s
CRLT Corlu 79.72 318 *e*P **P** **05 22 31.9 +1.8**
KS20 Mayfield South 79.73 48 IAMs_20 IAMs_20 06 02 05.2
comp=Z,6μm,21.0s
KAN17 Caldwell West 79.75 48 IAmb IAmb 05 22 32.1
comp=Z,507nm,1.2s

MDNY Mudanya-Bursa 79.75 317 *e*P **P** **05 22 31.3 +1.0**
TNS Taunus Mts 79.79 335 *e*P **P** **05 22 31.2 +0.8**
comp=Z,17μm,3.9s,baz=30,slow=5.5
TNS *e*L L 06 01 12.3
comp=Z,9μm,21.8s
KONT Konya--Tatoy 79.83 314 *e*P **P** **05 22 31.7 +0.9**
MILB Miltenberg 79.87 334 *e*P **P** **05 22 31.6 +0.9**
comp=Z,17μm,3.8s,baz=30,slow=5.5
MOA Molln 79.91 330 *i*P **P** **05 22 31.7 +0.7**
comp=Z,162nm,0.8s,SNR=102
AHRW Bad Neuenahr-A 79.92 336 *e*P **P** **05 22 31.9 +1.0**
comp=Z,1μm,1.4s,baz=30,slow=5.5
I45A Fountain 79.93 36 IAMs_20 IAMs_20 05 58 57.6
comp=Z,7μm,22.0s
ILTH Belurgan, Co L 79.94 345⇑*e*P **P** **05 22 30.7 -0.3**
ARSA Arzberg 79.96 329 *i*P **P** **05 22 32.1 +0.8**
comp=Z,248nm,1.2s,SNR=84
ARSA *i*P P'P'df 05 49 15.5 -9.0
comp=Z,6.2nm,1.2s
KIZK Mersin 79.97 312 *e*P **P** **05 22 32.2 +0.7**
GLMI Grayling 79.97 35 P **P** **05 22 31.7 +0.3**
baz=324,SNR=43
GLMI S **S** **05 32 27.7 -3.5**
baz=324
GLMI Grayling 79.97 35 IAmb IAmb 05 22 33.4
comp=Z,682nm,0.9s
VLDQ Val d'Or 79.97 29 IAmb IAmb 05 22 40.8
comp=Z,380nm,0.8s
P38A Dawn 80.00 44 IAmb IAmb 05 22 33.6
comp=Z,516nm,1.1s
P38A IAMs_20 IAMs_20 05 58 34.1
comp=Z,7μm,22.0s
L42A Oliver, Polo 80.01 40 IAMs_20 IAMs_20 06 02 39.1
comp=Z,6μm,20.0s
DOK Doka 80.02 286 P **P** **05 22 32.4 +0.4**
SNR=13
DOK P **P** **05 22 32.4 +0.4**
SNR=13
FRGS Fruska Gora 80.03 326 ⇑P **P** **05 22 32.1 +0.4**
FRGS Fruska Gora 80.03 326⇑*i*P **P** **05 22 32.3 +0.5**
HGN Heimansgroeve 80.05 337⇑*e*P **P** **05 22 32.1 +0.4**
K43A Burlington 80.07 39 IAmb IAmb 05 22 33.3
comp=Z,466nm,1.1s
K43A IAMs_20 IAMs_20 05 59 08.5
comp=Z,8μm,22.0s
KCTX Karacabey (Bur 80.09 318 *e*P **P** **05 22 33.1 +1.0**
BEBN Eben Emael 80.10 337 *b*P **P** **05 22 32.4 +0.5**
BEBN *ds*P **pP** **05 22 47.4 +0.9**
CWF Charnwood Fore 80.11 342⇑*e*P **P** **05 22 32.4 +0.4**
CWF IAmb IAmb 05 22 36.1
comp=Z,2μm,1.5s
CWF IAMs_20 IAMs_20 05 54 08.5
comp=Z,25μm,31.3s
WME Myndd Eilian 80.14 344⇑*e*P **P** **05 22 32.7 +0.6**
BTNL Ternell 80.15 336 *d*P **P** **05 22 32.8 +0.5**
BTNL *dx* x 05 22 35.9
BTNL *dp*P **PcP** **05 22 42.5 +3.1**
BTNL *ds*P **pP** **05 22 48.1 +1.2**
MEM Membach 80.17 337 *b*P **P** **05 22 32.8 +0.4**
MEM *dx* x 05 22 36.1
MEM *dx* x 05 22 56.3
TVSB Tavsanli 80.17 316 *e*P **P** **05 22 33.6 +0.9**
SILI Silifke-Mersin 80.17 312 *e*P **P** **05 22 33.3 +0.7**
WPS Cemaes, Angles 80.18 344⇑*e*P **P** **05 22 32.6 +0.3**
WPS IAMs_20 IAMs_20 05 56 33.9
comp=Z,11μm,25.4s
MRMT Marmara Adasi 80.20 318 *e*P **P** **05 22 33.5 +0.7**
KEBE Keben-Mersin 80.23 312 *e*P **P** **05 22 33.9 +0.9**
BLOK Blackwell 80.26 48 IAmb IAmb 05 22 35.0
comp=Z,439nm,1.1s
WLF1 Llynfaes 80.26 344⇑*e*P **P** **05 22 33.2 +0.5**
WLF1 IAmb IAmb 05 22 36.7
comp=Z,2μm,1.5s
WLF1 IAMs_20 IAMs_20 05 56 48.5
comp=Z,23μm,24.4s
EDC Edincik 80.27 318 *e*P **P** **05 22 34.2 +1.1**
SHUT Suhut-Afyon 80.30 315 *e*P **P** **05 22 34.7 +1.2**
BSTI Sart Tilman 80.32 337 *d*P **P** **05 22 33.7 +0.5**
BSTI *d*PcP **PcP** **05 22 40.3 +0.1**
BSTI *ds*P **pP** **05 22 49.5 +1.8**
BSTI *dx* x 05 22 56.8
RKY Sarkoy-Tekirda 80.33 319 *e*P **P** **05 22 34.5 +1.0**
YRC Rhoscolyn 80.33 344⇑*e*P **P** **05 22 33.2 +0.1**
YLL Llanberis 80.36 343⇑*e*P **P** **05 22 34.1 +0.8**
KOGS Kog 80.36 328 *i*P **P** **05 22 33.9 +0.4**
KOGS *e*S **S** **05 32 32.8 -2.5**
TEVE Tevekalti-Mers 80.38 312 *e*P **P** **05 22 34.4 +0.6**
SBD1 Bryn Du 80.39 343⇑*e*P P 05 22 47.2 +14
FOEL Foel Wylfa 80.39 343⇑*e*P **P** **05 22 34.3 +0.8**
FOEL IAMs_20 IAMs_20 05 53 09.2
comp=Z,20μm,32.5s
IKL Isikli 80.40 312 *e*P **P** **05 22 34.2 +0.4**
BHOU Houvegnez 80.40 336 *d*P **P** **05 22 34.3 +0.7**
BHOU *ds*P **pP** **05 22 48.3 +0.1**
BHOU *dx* x 05 22 57.5
UCC Uccle 80.46 338⇑*e*P **P** **05 22 34.2 +0.3**
UCC Uccle 80.46 338 *d*P **P** **05 22 34.2 +0.3**
UCC *ds*P **pP** **05 22 49.5 +1.0**
UCC *dx* x 05 22 52.9
UCC Uccle 80.46 338 IAmb IAmb 05 22 37.9
comp=Z,514nm,1.3s
N41A Harden Midland 80.47 41 IAmb IAmb 05 22 36.0
comp=Z,653nm,1.0s
N41A IAMs_20 IAMs_20 06 02 37.7
comp=Z,7μm,22.0s
KRBG Karabiga-Canak 80.50 318 *e*P **P** **05 22 35.2 +0.9**
GEDZ Gediz 80.50 316 *e*P **P** **05 22 35.8 +1.3**
T35A Sooner Cattle 80.51 47 IAmb IAmb 05 22 36.5
comp=Z,534nm,1.0s
T35A IAMs_20 IAMs_20 06 03 53.0
comp=Z,5μm,21.0s
LLW Llanuwychllyn 80.52 343⇑*e*P **P** **05 22 34.6 +0.4**
RJOB Jochberg 80.53 331 *e*P **P** **05 22 35.7 +1.2**
comp=Z,6μm,2.0s,baz=30,slow=5.5
AKKU Akkuyu-Mersin 80.53 312 *e*P **P** **05 22 35.3 +0.8**
BCLA Clavier 80.54 337 *b*P **P** **05 22 34.8 +0.5**
BERE Bereket-Mersin 80.56 312 *e*P **P** **05 22 35.4 +0.5**
RAR Rarotonga 80.57 132 LR LR 05 51 03.2
comp=Z,3μm,21.4s,baz=312,slow=30
RAR Rarotonga 80.57 132 P **P** **05 22 36.7 +2.0**
RAR pmax pmax
comp=Z,567nm,2.0s
RAR Rarotonga 80.57 132 P **P** **05 22 36.7 +2.0**
HWQ Hawqa 80.60 309 *e*P **P** **05 22 35.7 +0.6**
SOKA Soboth 80.63 329 *i*P **P** **05 22 35.4 +0.4**
comp=Z,718nm,1.3s,SNR=452
SOKA *e*S **S** **05 32 38.6 +0.4**
comp=Z,20nm,2.1s
SOKA *e*P **PKKPbc** **05 41 14.9 +1.7**
comp=Z,1.1nm,0.6s
SOKA *i*P P'P'df 05 49 14.8 -8.6
comp=Z,5.6nm,1.5s
VTS Vitosha 80.63 322 ⇑P **P** **05 22 36.0 +0.8**
VTS Vitosha 80.63 322 IAmb IAmb 05 22 38.2
comp=Z,629nm,1.1s
PERS Pernice 80.63 329 *i*P **P** **05 22 35.4 +0.4**
PERS *e*S **S** **05 32 36.9 -1.3**
PERS *e* 05 38 54.3
BGES Gesves 80.63 337 *b*P **P** **05 22 34.9 +0.1**
BGES *dx* x 05 22 38.7
BGES *dx* x 05 22 57.9
EREN Erenkoy 80.66 311 *e*P **P** **05 22 35.9 +0.7**
ERIK Erikli-Kesan 80.66 319 *e*P **P** **05 22 36.1 +1.0**
HLM1 Long Mynd 80.67 342⇑*e*P **P** **05 22 35.9 +0.9**
HLM1 IAmb IAmb 05 22 37.0
comp=Z,303nm,0.7s
HLM1 IAMs_20 IAMs_20 05 54 52.5
comp=Z,19μm,27.9s
L44A Lake County Fo 80.67 39 P **P** **05 22 35.1 -0.1**
baz=323,SNR=14
L44A S **S** **05 32 33.5 -5.0**
baz=323
L44A Lake County Fo 80.67 39 P **P** **05 22 35.5 +0.3**
L44A IAmb IAmb 05 22 36.9
comp=Z,458nm,1.1s
FUR Furstenfeldbru 80.68 332 *e*P **P** **05 22 36.2 +1.1**
comp=Z,1μm,1.2s,baz=30,slow=5.5
FUR *e*L L 06 01 55.6
comp=Z,10μm,21.5s
ALN Alexandroupoli 80.70 319 P **P** **05 22 36.0 +0.6**
ALN Alexandroupoli 80.70 319 IAmb IAmb 05 22 38.2
comp=Z,635nm,1.3s
RBK Rabkut 80.73 285 P **P** **05 22 36.1 +0.2**
SNR=7.4

RBK P **P** **05 22 36.1 +0.2**
SNR=7.4
WHFO Wadi Hawf 80.75 286 P **P** **05 22 36.0 0.0**
SNR=12
WHFO P **P** **05 22 36.0 0.0**
SNR=12
SNF Seneffe 80.75 337 *b*P **P** **05 22 35.9 +0.5**
SNF *d*PcP **PcP** **05 22 41.8 -0.2**
SNF *dx* x 05 22 54.5
RDO Rodhopi 80.75 320 P **P** **05 22 36.4 +0.8**
TEKE Tekeli-Mersin 80.78 312 *e*P **P** **05 22 35.9 0.0**
ENEZ Enez 80.78 319 P **P** **05 22 36.6 +0.8**
ENEZ Enez 80.78 319 *e*P **P** **05 22 36.7 +0.9**
BMRD Maredsous 80.80 337 *d*P **P** **05 22 35.9 +0.2**
BMRD *dx* x 05 22 59.5
RCHB Rochefort 80.80 337 *b*P **P** **05 22 36.0 +0.3**
RCHB *ds*P **pP** **05 22 51.1 +0.8**
RCHB *dx* x 05 22 58.3
P40A Paris 80.80 43 IAmb IAmb 05 22 38.0
comp=Z,575nm,1.1s
P40A IAMs_20 IAMs_20 06 01 07.3
comp=Z,8μm,22.0s
BALB Balikesir 80.80 317 *e*P **P** **05 22 36.8 +0.9**
BALB Balikesir 80.80 317 P **P** **05 22 36.9 +0.9**
DIVS Divibare 80.83 325⇑*i*P **P** **05 22 36.0 -0.1**
DIVS Divibare 80.83 325 P **P** **05 22 35.5 -0.6**
DIVS IAmb IAmb 05 22 38.3
comp=Z,541nm,1.4s
STU Stuttgart 80.83 334 IAmb IAmb 05 22 41.0
comp=Z,634nm,0.9s
STU IAMs_20 IAMs_20 06 01 58.1
comp=Z,8μm,21.0s
STU Stuttgart 80.83 334 *e*P **P** **05 22 36.7 +0.8**
comp=Z,872nm,1.1s,baz=30,slow=5.5
BCOK Bluff Creek, N 80.87 49 IAmb IAmb 05 23 01.9
comp=Z,1μm,1.5s
GELI Tayfur-Gelibol 80.89 319 *e*P **P** **05 22 37.3 +0.9**
KBA Koelnbreinsper 80.90 331 *i*P **P** **05 22 37.0 +0.5**
comp=Z,557nm,1.0s,SNR=353
KBA *e*S **S** **05 32 41.6 +0.4**
comp=Z,38nm,2.5s
KBA *i*P P'P'df 05 49 14.1 -8.9
comp=Z,2.3nm,0.9s
WMOK Wichita Mounta 80.91 50 P **P** **05 22 36.9 +0.3**
baz=318,SNR=22
WMOK S **S** **05 32 39.6 -1.8**
baz=318
WMOK Wichita Mounta 80.91 50 IAMs_20 IAMs_20 06 04 00.6
comp=Z,5μm,19.0s
OBKA Obir 80.95 329 *i*P **P** **05 22 36.1 -0.6**
comp=Z,180nm,0.7s,SNR=84
OBKA S **S** **05 32 41.2 -0.3**
comp=Z,15nm,1.6s
OBKA *i*P **PKKPbc** **05 41 14.8 +2.3**
comp=Z,1.8nm,0.5s
WLF Walferdange 80.97 336 *d*P **P** **05 22 37.4 +0.7**
WLF *dx* x 05 23 00.5
WLF Walferdange 80.97 336 IAmb IAmb 05 23 02.4
comp=Z,499nm,1.2s
WLF Walferdange 80.97 336 *e*P **P** **05 22 37.7 +1.0**
comp=Z,2μm,2.1s,baz=30,slow=5.5
HQIL Hanson Quary C 81.00 39 IAmb IAmb 05 22 38.6
comp=Z,588nm,1.1s
DOU Dourbes 81.03 337⇑*e*P **P** **05 22 37.2 +0.2**
DOU Dourbes 81.03 337 *d*P **P** **05 22 37.2 +0.2**
DOU *ds*P **pP** **05 22 51.8 +0.3**
BHL Bhannes 81.04 309 *e*P **P** **05 22 38.3 +0.9**
OK031 S. Brethren Rd 81.06 48 IAMs_20 IAMs_20 06 02 58.6
comp=Z,6μm,22.0s
IGLA Glengowla, Co 81.06 347⇑*e*P **P** **05 22 37.3 +0.2**
OK025 Westminster Rd 81.07 49 IAmb IAmb 05 22 39.5
comp=Z,432nm,0.8s
OK025 IAMs_20 IAMs_20 06 02 40.9
comp=Z,6μm,21.0s
DOB Doboj 81.08 326⇑*i*P **P** **05 22 37.6 +0.3**
BCK Bucak 81.11 314 *e*P **P** **05 22 37.7 0.0**
OKCFA Oklahoma City 81.13 49 IAmb IAmb 05 22 40.0
comp=Z,447nm,1.0s
OKCFA IAMs_20 IAMs_20 06 02 47.5
comp=Z,7μm,22.0s
GAZI Gazipasa 81.13 312 *e*P **P** **05 22 37.1 -0.7**
MYKA Terra Mystica 81.17 330 *i*P **P** **05 22 37.8 -0.1**
comp=Z,129nm,0.6s,SNR=101
MYKA *i*S **S** **05 32 39.0 -4.8**
comp=Z,9.2nm,1.0s
MYKA *e*P **PKKPbc** **05 41 14.0 +2.0**
comp=Z,3.4nm,1.0s
J47A Sunmer 81.17 36 IAmb IAmb 05 22 40.2
comp=Z,606nm,1.1s
MCH1 Michaelchurch 81.18 342⇑*e*P **P** **05 22 38.4 +0.6**
MCH1 IAmb IAmb 05 22 39.7
comp=Z,592nm,0.7s
MCH1 IAMs_20 IAMs_20 05 55 07.4
comp=Z,21μm,27.1s
CRES Cresnjev 81.19 329⇑*i*P **P** **05 22 38.1 +0.2**
LFK Lefkose 81.19 311 *e*P **P** **05 22 38.8 +0.6**
TOO Toolangi 81.19 182 IAmb IAmb 05 23 01.0
comp=Z,618nm,1.4s
M44A Midewin, Midew 81.24 39 IAmb IAmb 05 22 40.0
comp=Z,696nm,1.0s
BBLS Lazići 81.26 325⇑*i*P **P** **05 22 39.1 +0.7**
HAPS Han Pijesak,Bl 81.27 326 *e*P **P** **05 22 42.3 +3.8**
SMTH Samothraki Isl 81.28 319 P **P** **05 22 38.5 0.0**
MONM Monmouth 81.28 342⇑*e*P **P** **05 22 39.1 +0.9**
MONM IAMs_20 IAMs_20 05 55 11.9
comp=Z,22μm,27.9s
KULA Kula-Manisa 81.29 316 P **P** **05 22 39.2 +0.5**
KULA Kula-Manisa 81.29 316 *e*P **P** **05 22 39.1 +0.4**
WATA Walderalm 81.29 332 *i*P **P** **05 22 39.2 +0.6**
comp=Z,464nm,0.5s,SNR=241
WATA *e*S **S** **05 32 45.6 +0.3**
comp=Z,34nm,1.6s
WATA *i*P **PKKPdf** **05 41 01.4 +1.3**
comp=Z,2.7nm,0.4s
WATA *i*P **PKKPbc** **05 41 14.7 +2.9**
comp=Z,2.7nm,0.4s
HDIL Hopedale 81.32 40 P **P** **05 22 38.9 +0.2**
baz=322,SNR=115
HDIL S **S** **05 32 42.0 -3.4**
baz=322
HDIL Hopedale 81.32 40 IAMs_20 IAMs_20 06 03 15.9
comp=Z,5μm,19.0s
BUW Bucklebury Wes 81.33 341⇑*e*P **P** **05 22 39.1 +0.6**
GADA Gvkgeada 81.33 319 P **P** **05 22 38.7 0.0**
GADA Gvkgeada 81.33 319 *e*P **P** **05 22 39.3 +0.6**
WTTA Wattenberg 81.33 332 *i*P **P** **05 22 39.7 +0.8**
comp=Z,520nm,0.5s,SNR=350
WTTA *i*S **S** **05 32 46.3 +0.5**
comp=Z,23nm,1.8s
WTTA *i*P **PKKPbc** **05 41 14.6 +2.8**
comp=Z,12nm,1.3s
WTTA *i*P P'P'df 05 49 10.0 -12
comp=Z,9.4nm,1.5s
KAVA Kavala 81.34 320 P **P** **05 22 39.2 +0.4**
LJU Ljubljana 81.35 329 *i*P **P** **05 22 39.0 +0.2**
NVR Nevrokopi 81.36 321 P **P** **05 22 39.1 +0.2**
OLDB Oldbury-Upon-S 81.40 342⇑*e*P **P** **05 22 39.3 +0.5**
OLDB IAMs_20 IAMs_20 05 55 14.4
comp=Z,24μm,29.4s
SHBL Chebaa 81.40 308 *e*P **P** **05 22 40.5 +1.1**
EZN Ezine 81.41 318 P **P** **05 22 39.5 +0.4**
EZN Ezine 81.41 318 *e*P **P** **05 22 39.8 +0.7**
CRNS Crni Vrh 81.42 329 *e*P **P** **05 22 38.9 -0.3**
CRNS *e* 05 22 52.3
WOL Wolverton 81.42 341⇑*e*P **P** **05 22 39.7 +0.7**
BLY Banja Luka 81.42 327⇑*i*P **P** **05 22 39.3 +0.1**
I49A Point Hope 81.43 34 IAmb IAmb 05 22 41.3
comp=Z,428nm,0.9s
RETA Reutte 81.44 332 *i*P **P** **05 22 39.9 +0.6**
comp=Z,331nm,0.8s,SNR=206
RETA *i*S **S** **05 32 46.3 -0.2**
comp=Z,22nm,1.6s
RETA *i*P **PKKPdf** **05 41 02.9 +3.1**
comp=Z,1.8nm,0.4s
RETA *e*P **PKKPbc** **05 41 13.3 +1.9**
comp=Z,5.4nm,1.1s
VISS Visnje 81.44 329 *i*P **P** **05 22 39.5 +0.2**
VISS *i*S **S** **05 32 43.3 -3.1**
MOTA Moosalm 81.45 332 *i*P **P** **05 22 40.2 +0.7**
comp=Z,605nm,0.7s,SNR=451
MOTA *i*S **S** **05 32 47.3 +0.5**
comp=Z,12nm,1.3s
MOTA *e*P **PKKPbc** **05 41 13.5 +2.0**
comp=Z,4.3nm,1.0s
MOTA *e*P P'P'df 05 49 13.3 -8.7

comp=Z,2.9nm,0.7s
HMNX Herstmonceux 81.45 340⇑ eP P 05 22 40.5 +1.3
HMNX IAMs_20 IAMs_20 05 56 52.1
comp=Z,24μm,28.8s
ABTO Aybut 81.46 286 P **P 05 22 40.1 +0.2**
SNR=14
ABTO P **P 05 22 40.1 +0.2**
SNR=14
GBAS Gorenja Brezov 81.47 329 *i* P **P 05 22 39.0 -0.5**
GBAS *e* 05 22 53.7
GBAS *e*S **S 05 32 42.3 -4.5**
ABTA Abfaltersbach 81.48 331 *i* P **P 05 22 39.3 -0.2**
comp=Z,107nm,0.7s,SNR=76
ABTA *i* S **S 05 32 46.2 -0.8**
comp=Z,9.5nm,1.4s
ABTA *e*P **PKKPbc 05 41 13.6 +2.3**
comp=Z,1.7nm,0.6s
ABTA *e*P **P'P'df 05 49 16.6 -5.2**
comp=Z,6.1nm,1.4s
ZOU Zoufplan 81.48 330 IAmb IAmb 05 22 41.2
comp=Z,561nm,1.5s
RUDO Rudo 81.48 325⇑ *i*P **P 05 22 39.3 -0.2**
UBR Ueberruh 81.49 333 *e*P **P 05 22 40.3 +0.7**
comp=Z,310nm,1.1s,baz=30,slow=5.5
BFO Black Forest 81.49 334 P **P 05 22 39.1 -0.4**
BFO pmax pmax
comp=Z,536nm,1.2s
BFO MLR MLR
comp=Z,8μm,20.0s
BFO Black Forest 81.49 334 P **P 05 22 39.1 -0.4**
BFO IAmb IAmb 05 22 41.9
comp=Z,536nm,1.2s
BFO Black Forest 81.49 334 *e*P **P 05 22 40.2 +0.8**
comp=Z,19μm,4.3s,baz=30,slow=5.5
BFO *e*L L 06 03 08.6
comp=Z,8μm,20.4s
ANTB Antalya 81.51 314 *e*P **P 05 22 39.2 -0.5**
SQTA Sankt Quirin 81.52 332 *i* P **P 05 22 40.6 +0.8**
comp=Z,388nm,0.6s,SNR=161
SQTA *e*S **S 05 32 48.3 +0.8**
comp=Z,8.8nm,0.8s
SQTA *e*P **PKKPbc 05 41 13.3 +2.0**
comp=Z,4.6nm,0.7s
NWAO Narrogin (SRO) 81.52 206 P **P 05 22 39.9 +0.3**
comp=Z,24nm,0.6s,baz=47,slow=2.7,SNR=18
NWAO LR LR 05 58 11.6
comp=Z,2μm,21.9s,baz=36,slow=35
L46A Eue Claire 81.53 38 IAmb IAmb 05 22 41.5
L46A IAMs_20 IAMs_20 06 02 06.1
comp=Z,6μm,20.0s
BOZC Bozcaada 81.53 319 *e*P **P 05 22 40.1 +0.3**
X34A Smith Ranch, M 81.53 50 IAmb IAmb 05 22 42.5
comp=Z,432nm,1.2s
CSS Mathiatis 81.54 311 IAmb IAmb 05 22 43.3
CSS IAMs_20 IAMs_20 06 02 50.7
comp=Z,7μm,22.0s
THAS Thassos island 81.55 320 P **P 05 22 41.6 +1.7**
S39A Bolivar 81.58 45 IAMs_20 IAMs_20 06 04 05.1
comp=Z,7μm,22.0s
KORT Korkueli 81.59 314 *e*P **P 05 22 40.4 +0.1**
RSBS Rosebush, Pemb 81.59 343⇑ *e*P **P 05 22 40.6 +0.7**
RSBS IAMs_20 IAMs_20 05 53 07.8
comp=Z,15μm,35.0s
IWEX Carrickbyrne, 81.60 345⇑ *e*P **P 05 22 40.5 +0.6**
IWEX IAMs_20 IAMs_20 06 03 38.4
comp=Z,10μm,18.9s
ALGO Algonquin Park 81.60 31 P **P 05 22 39.1 -0.9**
baz=328,SNR=76
ALGO S **S 05 32 44.0 -4.1**
baz=328
ASF Jabal al Asfar 81.60 307 S **S 05 32 52.6 +3.8**
comp=Z,0.8nm,0.5s,baz=293,slow=22,SNR=6.3
ASF LR LR 06 02 40.2
comp=Z,4μm,21.6s,baz=166,slow=38
CEY Cerknica 81.65 329⇑ *i*P **P 05 22 39.9 -0.5**
R40A Maddies Statio 81.65 44 IAmb IAmb 05 22 42.1
comp=Z,405nm,1.0s
R40A IAMs_20 IAMs_20 05 59 32.9
comp=Z,6μm,22.0s
TUL1 Leonard 81.65 47 P **P 05 22 40.8 +0.3**
baz=319,SNR=68
TUL1 S **S 05 32 47.4 -1.6**
baz=319
LEF Lefka 81.66 311 ⇓P **P 05 22 41.5 +0.9**
LEF Lefka 81.66 311 *e*P **P 05 22 40.9 +0.3**
SRS Serrai 81.67 321 P **P 05 22 40.6 +0.1**
PLE Pljevlja 81.71 325 *e*P **P 05 22 42.0 +1.2**
OKL Dikili 81.72 318 *e*P **P 05 22 41.2 +0.4**
MGRS Mrkonjic Grad 81.74 327⇑ *i*P **P 05 22 42.1 +1.2**
STAL STALIGIAL 81.82 330 IAmb IAmb 05 22 42.3
comp=Z,563nm,1.3s
MMAI Mount Meron Ar 81.83 308 LR LR 06 03 15.7
comp=Z,7μm,20.9s,baz=15,slow=39
STIP Stip 81.83 322 *i* P **P 05 22 41.3 -0.1**
FETA Feichten 81.86 332 *i* P **P 05 22 42.4 +0.8**
comp=Z,422nm,1.3s,SNR=97
FETA *e*S **S 05 32 51.3 +0.3**
comp=Z,30nm,1.9s
FETA *i* P **P'P'df 05 49 17.6 -3.7**
comp=Z,3.0nm,1.2s
IVA Berane 81.87 324 *e*P **P 05 22 42.5 +0.8**
PRK Paraskevi 81.89 318 P **P 05 22 42.5 +0.8**
LIA Limnos Island 81.90 319 P **P 05 22 41.7 0.0**
DAVA Damuels 81.91 333 *i* P **P 05 22 42.3 +0.5**
comp=Z,433nm,0.8s,SNR=131
DAVA *i* P **PKKPbc 05 41 13.5 +3.0**
comp=Z,2.9nm,0.6s
SKO Skopje 81.94 323 *i* P **P 05 22 42.8 +0.9**
KNT Kendrikon 81.94 321 P **P 05 22 42.5 +0.5**
ECH Echery 81.96 335 IAmb IAmb 05 22 46.4
comp=Z,476nm,0.9s
VAY Valandovo 81.97 322 *i* P **P 05 22 42.8 +0.7**
ABTX Abilene, Hawle 81.98 52 P **P 05 22 42.5 +0.2**
baz=318,SNR=55
ABTX S **S 05 32 52.2 -0.4**
baz=318
U38A Gravette 81.99 46 IAMs_20 IAMs_20 06 05 49.1
comp=Z,5μm,20.0s
ELL Elmali 82.01 314 *e*P **P 05 22 43.0 +0.5**
SOH Sokhos 82.01 321 P **P 05 22 42.3 -0.1**
UPM Unac-Piva 82.01 325⇑ *i*P **P 05 22 42.5 0.0**
UPM Unac-Piva 82.01 325 *e*P **P 05 22 42.5 0.0**
TX31 Lajitas Ar. Si 82.01 57 IAmb IAmb 05 22 45.0
comp=Z,552nm,0.8s
TXAR Lajitas Array 82.01 57 P **P 05 22 42.7 0.0**
comp=Z,159nm,0.8s,baz=300,slow=3.0,SNR=690
TXAR PKKPbc **PKKPbc 05 41 12.0 +2.2**
comp=Z,4.6nm,0.7s,baz=156,slow=4.8,SNR=34
TXAR LR LR 05 54 31.9
comp=Z,3μm,21.9s,baz=0.0,slow=32
TXAR Lajitas Array 82.01 57 P **P 05 22 42.3 -0.3**
TXAR Lajitas Array 82.01 57 P **P 05 22 42.3 -0.3**
O44A Mansfield 82.03 40 IAmb IAmb 05 22 44.1
comp=Z,537nm,1.2s
O44A IAMs_20 IAMs_20 06 03 52.5
comp=Z,6μm,20.0s
KOME Kolasin 82.05 324 *e*P **P 05 22 43.0 +0.4**
SLBS Sierra La Lagu 82.06 65 P **P 05 22 43.3 +0.3**
SLBS IAmb IAmb 05 23 06.8
comp=Z,684nm,1.7s
PVY Plav 82.07 324 *e*P **P 05 22 42.9 +0.1**
AYDB Zeytinkoy-Aydi 82.11 316 *e*P **P 05 22 43.7 +0.6**
OUR Ouranopolis 82.11 320 P **P 05 22 42.9 +0.1**
LATQ La Tuque 82.18 27 P **P 05 22 43.1 0.0**
baz=332,SNR=33
LATQ S **S 05 32 53.3 -0.7**
baz=332
BLCB Balcova 82.19 317 P **P 05 22 43.5 +0.2**
BLCB Balcova 82.19 317 *e*P **P 05 22 43.7 +0.4**
NKY Niksic 82.30 325 *e*P **P 05 22 43.8 -0.1**
HORT Hortiatis 82.31 321 P **P 05 22 43.4 -0.6**
PLG Polygyros 82.33 321 P **P 05 22 44.4 +0.4**
GRG Griva 82.33 322 P **P 05 22 43.8 -0.3**
CCM Cathedral Cave 82.34 43 P **P 05 22 43.8 -0.3**
CCM pmax pmax
comp=Z,422nm,1.0s
CCM Cathedral Cave 82.34 43 P **P 05 22 44.2 +0.1**
baz=321
CCM Cathedral Cave 82.34 43 P **P 05 22 43.8 -0.3**
CCM IAmb IAmb 05 22 45.9
comp=Z,422nm,0.9s
CCM Cathedral Cave 82.34 43 IAMs_20 IAMs_20 06 06 45.1
comp=Z,7μm,20.0s
LOOK Love County 82.34 50 IAMs_20 IAMs_20 06 01 53.6
comp=Z,5μm,20.0s
HHAR Hobbs 82.34 46 IAMs_20 IAMs_20 06 04 04.4
comp=Z,5μm,21.0s
DAVOX Davos/Dischmat 82.35 332 P **P 05 22 45.1 +0.9**
comp=Z,172nm,0.5s,baz=14,slow=2.8,SNR=190
DAVOX S **S 05 32 57.3 +1.1**
comp=Z,0.9nm,0.3s,baz=291,slow=23,SNR=8.5
DAVOX PKKPbc **PKKPbc 05 41 10.5 +1.0**
comp=Z,1.8nm,0.5s,baz=107,slow=10,SNR=4.9
DAVOX LR LR 06 04 28.6
comp=Z,8μm,18.5s,baz=32,slow=39
NKME Niksic 82.35 325 *e*P **P 05 22 43.5 -0.6**
SLM Saint Louis 82.38 42 IAmb IAmb 05 22 46.2
comp=Z,553nm,1.1s
SLM IAMs_20 IAMs_20 05 55 15.1
comp=Z,6μm,19.0s
L48A N Adams 82.39 37 IAMs_20 IAMs_20 06 03 60.0
comp=Z,7μm,21.0s
D58A Chemin du LacG 82.40 27 P **P 05 22 44.1 -0.1**
baz=332,SNR=57
D58A S **S 05 32 55.5 -0.8**
baz=332
BRY Bratogost 82.41 325⇑ *i*P **P 05 22 44.4 -0.2**
BRY Bratogost 82.41 325 *e*P **P 05 22 44.3 -0.3**
URLA Izmir 82.43 317 *e*P **P 05 22 45.0 +0.4**
AAM Ann Arbor 82.44 36 P **P 05 22 44.7 +0.2**
baz=325,SNR=32
AAM Ann Arbor 82.44 36 IAmb IAmb 05 22 46.7
comp=Z,443nm,1.1s
AAM IAMs_20 IAMs_20 06 00 16.6
comp=Z,7μm,22.0s
HTL Hartland 82.44 343⇑ *e*P **P 05 22 45.1 +0.8**
HTL IAmb IAmb 05 22 46.9
comp=Z,859nm,1.1s
HTL IAMs_20 IAMs_20 06 03 37.8
comp=Z,13μm,21.2s
RAYN Ar Rayn 82.47 295 P **P 05 22 46.0 +0.9**
RAYN Ar Rayn 82.47 295 P **P 05 22 45.7 +0.7**
RAYN pmax pmax
comp=Z,609nm,1.4s
RAYN MLR MLR
comp=Z,12μm,22.0s
RAYN Ar Rayn 82.47 295 P **P 05 22 45.7 +0.7**
RAYN IAmb IAmb 05 23 02.9
comp=Z,609nm,1.4s
K50A Casco 82.48 35 IAmb IAmb 05 22 46.8
comp=Z,550nm,1.1s
SFIN Lafayette 82.48 39 P **P 05 22 44.8 0.0**
baz=324,SNR=41
SFIN Lafayette 82.48 39 IAmb IAmb 05 22 46.7
comp=Z,492nm,1.1s
PDG Podgorica 82.50 324 ⇑P **P 05 22 44.9 +0.1**
PDG Podgorica 82.50 324⇑ *i*P **P 05 22 44.8 0.0**
TTG Podgorica 82.50 324 *e*P **P 05 22 45.1 +0.3**
FETY Fethiye 82.52 315 P **P 05 22 45.1 0.0**
FETY Fethiye 82.52 315 *e*P **P 05 22 45.4 +0.3**
MGMO Mountain Grove 82.53 44 IAMs_20 IAMs_20 06 02 02.2
comp=Z,6μm,21.0s
YER Yerkesik 82.54 316 P **P 05 22 46.6 +1.3**
YER Yerkesik 82.54 316 *e*P **P 05 22 46.5 +1.3**
CEME Cevo 82.55 325 *e*P **P 05 22 45.2 0.0**
PUK Puka 82.55 324 IAmb IAmb 05 23 02.2
comp=Z,1μm,1.9s
AKAS Kas 82.56 314 *e*P **P 05 22 45.4 0.0**
PAIG Paliouri 82.58 320 P **P 05 22 45.1 -0.2**
DALY Dalyan (Mula) 82.60 315 *e*P **P 05 22 46.3 +0.9**
PHP Peshkopia 82.61 323 P **P 05 22 45.5 0.0**
GCAM G?zelcaml? 82.63 317 *e*P **P 05 22 46.2 +0.6**
KSL Kastellorizon 82.63 314 P **P 05 22 45.5 -0.1**
TREB Trebinje 82.64 325⇑ *i*P **P 05 22 44.9 -0.7**
CHOS Chios island 82.67 318 P **P 05 22 46.7 +0.8**
MLSB Milas 82.67 316 *e*P **P 05 22 47.1 +1.2**
N47A Urbana 82.71 38 IAmb IAmb 05 22 47.5
comp=Z,604nm,1.1s
N47A IAMs_20 IAMs_20 06 00 47.4
comp=Z,7μm,22.0s
PMOR Pomariorio Ree 82.72 119 *e*P **P 05 22 47.7 +1.5**
comp=Z,409nm,1.3s
PMOR Pomariorio Ree 82.72 119 *e*T T 06 54 02.3
comp=Z,398nm,0.2s
DRME Dracevica, Mon 82.73 324⇑ *i*P **P 05 22 46.0 -0.1**
DRME Dracevica, Mon 82.73 324 *e*P **P 05 22 46.6 +0.5**
PLVO Plevna 82.74 30 IAmb IAmb 05 22 47.5
comp=Z,282nm,0.9s
Q44A Meyer Farm, Va 82.76 41 IAmb IAmb 05 22 48.2
comp=Z,572nm,1.1s
Q44A IAMs_20 IAMs_20 06 04 27.0
comp=Z,6μm,20.0s
BUM Brajici-Budva 82.76 325 *e*P **P 05 22 46.2 -0.1**
STON Ston 82.78 326⇑ *i*P **P 05 22 45.3 -1.0**
TUE Stuetta 82.80 333 IAmb IAmb 05 22 51.8
comp=Z,632nm,1.0s
Z35A Perchaven, San 82.80 50 IAMs_20 IAMs_20 06 04 02.7
comp=Z,6μm,21.0s
HCY Herceg Novi 82.81 325⇑ *i*P **P 05 22 46.2 -0.2**
HCY Herceg Novi 82.81 325 *e*P **P 05 22 46.0 -0.4**
D59A Saint-Raymond 82.82 26 P **P 05 22 46.5 +0.1**
baz=332,SNR=28
SMG Samos 82.82 317 P **P 05 22 46.1 -0.5**
TURN Turunc 82.84 315 *e*P **P 05 22 47.8 +1.1**
U40A Yellville 82.85 45 P **P 05 22 46.6 -0.2**
baz=321,SNR=276
U40A Yellville 82.85 45 IAmb IAmb 05 22 48.4
comp=Z,456nm,0.9s
U40A IAMs_20 IAMs_20 06 04 45.7
comp=Z,7μm,22.0s
DYA Yadsworthy 82.85 342⇑ *e*P **P 05 22 46.8 +0.3**
DYA IAmb IAmb 05 22 48.6
comp=Z,2μm,1.3s
DYA IAMs_20 IAMs_20 05 54 36.4
comp=Z,17μm,31.2s
X37A Clayton 82.88 48 IAMs_20 IAMs_20 06 05 10.6
comp=Z,6μm,21.0s
ULC Ulcinj 82.89 324 *e*P **P 05 22 46.9 0.0**
E58A La Victoria 82.91 27 P **P 05 22 46.9 0.0**
baz=331,SNR=185
OHR Ohrid 82.92 323 *i* P **P 05 22 47.2 +0.1**
FNA Florina 82.93 322 P **P 05 22 46.9 -0.3**
TEOL Teolo 82.97 331 IAmb IAmb 05 22 49.2
comp=Z,474nm,1.0s
DELO Deloro Mine 82.98 31 IAmb IAmb 05 22 48.9
comp=Z,342nm,1.1s
LIT Litokhoron 82.98 321 P **P 05 22 46.8 -0.6**
SKY Skiros Island 83.00 319 P **P 05 22 47.8 +0.3**
VAH Vaihoa 83.06 119 *e*P **P 05 22 49.4 +1.4**
comp=Z,203nm,1.2s
E59A St. Maurice 83.06 27 P **P 05 22 47.6 -0.1**
baz=332
BODT Bodrum 83.09 316 P **P 05 22 48.0 0.0**
BODT Bodrum 83.09 316 *e*P **P 05 22 48.6 +0.6**
TIR Tirane 83.13 323 ⇑P **P 05 22 48.6 +0.5**
TIR Tirane 83.13 323 P **P 05 22 48.4 +0.3**
KZN Kozani 83.14 322 P **P 05 22 47.3 -1.0**
SALO Salr 83.14 331 IAmb IAmb 05 22 51.6
comp=Z,417nm,0.8s
D61A St Aubert, Com 83.16 25 P **P 05 22 48.3 +0.1**
baz=333,SNR=88
F58A St-Lin Laurent 83.17 28 P **P 05 22 48.0 -0.2**
baz=331,SNR=6.7
D60A Saint Jean D'O 83.19 26 P **P 05 22 48.1 -0.2**
baz=333,SNR=147
DAT Datca 83.21 316 P **P 05 22 48.4 -0.4**
DAT Datca 83.21 316 *e*P **P 05 22 48.7 -0.1**
XOR Xorichti 83.25 320 P **P 05 22 48.2 -0.6**
W39A Magazine 83.26 47 P **P 05 22 48.8 -0.1**
baz=320,SNR=82
W39A Magazine 83.26 47 IAMs_20 IAMs_20 06 06 40.6
comp=Z,5μm,20.0s
NEO Neokhori 83.28 320 P **P 05 22 48.3 -0.7**
TAOE Nuku Hiva Isla 83.31 109 *e*S **S 05 33 04.5 -2.0**
comp=Z,3μm,24.0s
TAOE Nuku Hiva Isla 83.31 109 *e*LQ LQ 05 45 19.0
comp=Z,3μm,32.2s
TAOE *e*LR LR 05 48 54.2
comp=Z,27μm,26.1s,baz=319
TAOE Nuku Hiva Isla 83.31 109 *e*T T 06 54 46.5
comp=Z,34nm,0.2s
KBN Korca 83.32 322 P **P 05 22 49.0 -0.2**
KBN Korca 83.32 322 IAmb IAmb 05 22 51.4
comp=Z,738nm,1.3s
OLIL Olney 83.33 41 IAmb IAmb 05 22 51.4
comp=Z,443nm,1.1s
OLIL IAMs_20 IAMs_20 05 59 58.0
comp=Z,4μm,21.0s
ARG Arkhangelos 83.33 315 P **P 05 22 49.9 +0.6**
N49A Columbus Grove 83.34 37 IAmb IAmb 05 22 51.2
comp=Z,464nm,1.1s
N49A IAMs_20 IAMs_20 06 02 57.0
comp=Z,5μm,20.0s
CCA1 Carnmenellis 83.36 343⇑ *e*P **P 05 22 49.6 +0.4**
CCA1 IAmb IAmb 05 22 51.3
comp=Z,2μm,1.4s
CCA1 IAMs_20 IAMs_20 05 58 58.3
comp=Z,13μm,27.2s
NEST Nestorio 83.38 322 P **P 05 22 50.0 +0.5**
KYMI Kymi, Euboea I 83.41 319 P **P 05 22 49.3 -0.3**
G57A Newington 83.43 29 P **P 05 22 49.1 -0.4**
baz=330,SNR=132
M50A Fremont 83.43 36 IAmb IAmb 05 22 51.5
comp=Z,297nm,0.9s
JCT Junction City 83.47 54 P **P 05 22 50.3 +0.2**
baz=318,SNR=148
JCT Junction City 83.47 54 IAmb IAmb 05 22 52.2
comp=Z,405nm,1.1s
JCT IAMs_20 IAMs_20 05 56 48.8
comp=Z,6μm,21.0s
KOSK Kos Island 83.50 316 P **P 05 22 49.9 -0.2**
E60A Ste Agathe de 83.51 26 P **P 05 22 49.7 -0.2**
baz=333,SNR=111
NIS1 Nisyros Isl. 83.51 316 P **P 05 22 49.1 -1.1**
PENT Pentalofos 83.51 322 P **P 05 22 50.0 -0.3**
F59A Saint Guilaume 83.53 27 P **P 05 22 50.3 +0.3**
baz=332,SNR=111
NISR Nisiros 83.53 316 P **P 05 22 49.6 -0.6**
JLP Les Platons 83.55 341⇑ *e*P **P 05 22 50.8 +0.7**
CLF Chambon-Foret 83.56 338 IAmb IAmb 05 22 55.2
comp=Z,552nm,1.0s
SENIN Lac Senin/Sane 83.56 334 IAmb IAmb 05 22 52.4
comp=Z,247nm,0.7s
SENIN IAMs_20 IAMs_20 06 04 12.3
comp=Z,6μm,20.0s
JQE Queens East 83.58 341 *e*P **P 05 22 51.3 +1.0**
FCAR Ozark Folk Cen 83.58 45 IAmb IAmb 05 22 52.0
comp=Z,334nm,1.1s
FCAR IAMs_20 IAMs_20 06 05 16.1
comp=Z,6μm,21.0s
JDG Jersey Dam (Ga 83.58 341⇑ *e*P **P 05 22 50.6 +0.3**
JDC Jersey Dam (Cr 83.59 341⇑ *e*P **P 05 22 51.2 +0.9**
JVM Valle D.L. Mar 83.60 341⇑ *e*P **P 05 22 51.0 +0.6**
S44A Carbondale 83.60 42 IAmb IAmb 05 22 52.7
comp=Z,601nm,0.9s
SIUC Southern Illin 83.60 42 IAmb IAmb 05 22 52.7
comp=Z,609nm,0.9s
PPT Papeete 83.61 122 P **P 05 22 52.1 +1.3**
comp=Z,63nm,0.9s,baz=198,slow=3.6,SNR=5.0
PPT LR LR 05 52 58.2
comp=Z,6μm,21.5s,baz=312,slow=30
KPRO Kipourio 83.61 322 P **P 05 22 50.2 -0.5**
D62A Allapoint, All 83.61 24 P **P 05 22 50.7 +0.2**
baz=334,SNR=133
JSA Saint Aubin 83.62 341⇑ *e*P **P 05 22 50.9 +0.5**
JSA IAmb IAmb 05 22 52.8
comp=Z,1μm,1.1s
JSA IAMs_20 IAMs_20 05 56 52.8
comp=Z,21μm,27.3s
PPT2 Papeete2 83.62 122 *e*P **P 05 22 52.4 +1.5**
comp=Z,138nm,1.3s
PPT2 Papeete2 83.62 122 *e*S **S 05 33 07.7 -1.7**
comp=Z,4μm,26.5s
PPT2 Papeete2 83.62 122 *e*LQ LQ 05 45 39.8
comp=Z,6μm,30.2s
PPT2 *e*LR LR 05 48 58.4
comp=Z,71μm,32.0s,baz=321
PPT2 Papeete2 83.62 122 *e*T T 06 55 10.7
comp=Z,53nm,0.3s
THL Klokotos Trika 83.63 321 P **P 05 22 49.1 -1.6**
SMIA Simia 83.63 320 P **P 05 22 50.7 -0.1**
J54A Appleton 83.66 32 IAmb IAmb 05 22 52.7
comp=Z,492nm,1.0s
EREA Eretria 83.66 319 P **P 05 22 50.5 -0.5**
PAE Paea 83.68 122 *e*P **P 05 22 52.3 +1.2**
comp=Z,31nm,1.3s
PAE Paea 83.68 122 *e*T T 06 55 13.8
comp=Z,10nm,0.3s
WHTX Lake Whitney, 83.69 51 P **P 05 22 51.4 +0.2**
baz=319,SNR=28
WHTX Lake Whitney, 83.69 51 IAMs_20 IAMs_20 06 00 37.4
comp=Z,5μm,22.0s
F60A Warwick 83.70 27 P **P 05 22 50.7 -0.2**
baz=332,SNR=48
BLO Bloomington 83.71 40 IAmb IAmb 05 23 16.4
comp=Z,897nm,1.8s
G58A Ormstown 83.71 28 P **P 05 22 50.7 -0.3**
baz=331,SNR=124
KARY Karystos 83.73 319 P **P 05 22 50.8 -0.5**
TIAR Tiarei 83.74 122 *e*P **P 05 22 52.8 +1.3**
comp=Z,17nm,0.9s
TIAR Tiarei 83.74 122 *e*T T 06 55 18.2
comp=Z,15nm,0.3s
PBMO Poplar Bluff 83.74 43 IAmb IAmb 05 22 53.5
comp=Z,620nm,1.2s
PBMO IAMs_20 IAMs_20 06 07 37.2
comp=Z,6μm,21.0s
E61A Lac Etchemin 83.75 26 P **P 05 22 51.5 +0.2**
baz=333,SNR=85
LSK Leskovik 83.79 322 P **P 05 22 52.0 +0.3**
MEDO Medina 83.82 32 IAmb IAmb 05 22 52.5
comp=Z,486nm,1.1s
H57A Richville 83.84 30 P **P 05 22 51.1 -0.6**
baz=330,SNR=112
MIAR Mount Ida 83.86 47 P **P 05 22 52.3 +0.3**
baz=320,SNR=255
MIAR Mount Ida 83.86 47 IAmb IAmb 05 22 54.2
comp=Z,294nm,0.9s
MIAR IAMs_20 IAMs_20 06 00 26.7
comp=Z,6μm,22.0s
O49A Covington 83.87 38 IAmb IAmb 05 22 53.9
comp=Z,325nm,1.1s
O49A IAMs_20 IAMs_20 05 59 19.1
comp=Z,5μm,21.0s
E62A Clayton Lake 83.88 25 P **P 05 22 51.9 0.0**
baz=334,SNR=147
E62A Clayton Lake 83.88 25 IAmb IAmb 05 22 53.8
comp=Z,340nm,1.1s
LKR Lokris 83.91 320 P **P 05 22 51.3 -0.9**
AGG Agios Georgios 83.92 320 P **P 05 22 51.5 -0.8**
D63A Stockholm 83.93 24 P **P 05 22 51.9 -0.3**
baz=335,SNR=63
DION Dionisos Attik 83.93 319 P **P 05 22 51.3 -1.0**
LCAR Lake Charles 83.94 44 IAmb IAmb 05 23 17.3
comp=Z,675nm,1.7s
LCAR IAMs_20 IAMs_20 06 07 46.4
comp=Z,4μm,21.0s
WHAR Wooly Hollow 83.96 46 IAmb IAmb 05 22 54.3
comp=Z,592nm,1.1s
WHAR IAMs_20 IAMs_20 06 05 20.2
comp=Z,6μm,21.0s
APE Apeiranthos 83.96 317 ⇑P **P 05 22 51.1 -1.4**
APE Apeiranthos 83.96 317 P **P 05 22 52.7 +0.2**
J55A Hilton 83.98 32 IAmb IAmb 05 22 54.0
comp=Z,366nm,0.9s
P48A Milroy 83.98 39 IAmb IAmb 05 22 54.3
comp=Z,379nm,1.1s
PTL Penteli 83.99 319 P **P 05 22 51.5 -1.1**
LONY Lake Ozonia 83.99 29 P **P 05 22 52.0 -0.5**
baz=331,SNR=63
F61A St Evariste 84.00 26 P **P 05 22 53.1 +0.6**
baz=333,SNR=256
VLO Vlora 84.01 323 P **P 05 22 53.4 +0.8**
MAKR Makrakomi, Fth 84.02 321 P **P 05 22 52.4 -0.4**
W41B Gary Mavity, V 84.07 46 P **P 05 22 52.8 -0.2**
baz=321,SNR=180
JAN Janina 84.08 322 P **P 05 22 53.0 -0.1**
ATHU Athens Univers 84.09 319 P **P 05 22 52.0 -1.1**
Z38A Mt. Pleasant 84.09 49 IAmb IAmb 05 23 19.4
comp=Z,461nm,1.3s
Z38A IAMs_20 IAMs_20 06 04 52.9
comp=Z,5μm,22.0s
ERPA Erie 84.10 34 P **P 05 22 53.3 +0.2**
baz=328,SNR=33
ERPA Erie 84.10 34 IAmb IAmb 05 22 55.3
comp=Z,565nm,1.0s
ERPA IAMs_20 IAMs_20 06 02 37.6
comp=Z,8μm,22.0s
N51A Ashland 84.12 36 IAmb IAmb 05 22 55.0
comp=Z,396nm,1.0s
ATH Athens Observa 84.12 319 P **P 05 22 52.1 -1.1**
USIN University of 84.15 41 IAmb IAmb 05 22 55.6
comp=Z,588nm,1.2s
USIN IAMs_20 IAMs_20 06 07 54.7
comp=Z,4μm,20.0s
VILL Villia 84.16 319 P **P 05 22 52.7 -0.8**
PARMO Parma 84.17 43 IAMs_20 IAMs_20 06 03 34.5

comp=Z,8µm,22.0s
VLY Voula,Athens 84.18 319 P P 05 22 51.7 -1.9
I57A Carthage 84.20 30 P P 05 22 53.0 -0.6
baz=330,SNR=70
P49A Miami Univ. Ec 84.24 38 P P 05 22 53.7 -0.1
baz=325,SNR=108
P49A Miami Univ. Ec 84.24 38 IAmb IAmb 05 22 55.7
comp=Z,555nm,1.1s
P49A IAMs_20 IAMs_20 06 01 33.8
comp=Z,6µm,21.0s
EVR Evrytania 84.25 321 P P 05 22 53.1 -0.9
HENM Henderson Moun 84.27 43 IAmb IAmb 05 23 15.6
comp=Z,296nm,0.8s
SRN Sarande 84.28 322 P P 05 22 53.6 -0.4
H59A Cadyville 84.28 29 P P 05 22 53.6 -0.4
baz=331,SNR=87
PQI Presque Isle 84.29 24 IAmb IAmb 05 23 19.4
comp=Z,450nm,1.6s
PQI IAMs_20 IAMs_20 06 01 32.9
comp=Z,7µm,22.0s
X40A Basin Creek Fa 84.30 46 P P 05 22 54.2 0.0
baz=321,SNR=130
X40A Basin Creek Fa 84.30 46 IAmb IAmb 05 22 56.4
comp=Z,317nm,1.2s
X40A IAMs_20 IAMs_20 06 05 27.2
comp=Z,5µm,19.0s
H58A Gabriels 84.31 29 P P 05 22 53.8 -0.4
baz=331,SNR=125
J56A Wolcott 84.33 31 IAmb IAmb 05 22 55.6
comp=Z,312nm,1.0s
G60A Masonville 84.34 27 P P 05 22 54.0 -0.3
baz=332,SNR=54
KARP Karpathos 84.34 315 P P 05 22 54.6 +0.1
E63A Oxbow 84.39 24 P P 05 22 54.2 -0.3
baz=335,SNR=83
E63A Oxbow 84.39 24 IAmb IAmb 05 22 56.2
comp=Z,344nm,1.1s
M53A WI Miller and 84.39 35 P P 05 22 54.9 +0.3
baz=327,SNR=120
M53A WI Miller and 84.39 35 IAMs_20 IAMs_20 06 03 55.4
comp=Z,6µm,21.0s
F62A Pittston Farm, 84.39 26 P P 05 22 54.7 +0.2
baz=334,SNR=292
F62A Pittston Farm, 84.39 26 IAmb IAmb 05 22 56.8
comp=Z,616nm,1.1s
MMNY Mt. Morris Dam 84.40 32 IAmb IAmb 05 22 56.2
comp=Z,456nm,1.0s
PENMO Penman 84.40 43 IAmb IAmb 05 22 57.0
comp=Z,468nm,1.0s
WVNY West Valley, N 84.41 33 IAmb IAmb 05 22 56.6
comp=Z,511nm,1.1s
IGT Igoumenitsa 84.41 322 P P 05 22 54.5 -0.2
ACSO Alum Creek Sta 84.43 37 P P 05 22 55.0 +0.2
baz=326,SNR=92
ACSO Alum Creek Sta 84.43 37 IAmb IAmb 05 22 56.8
comp=Z,411nm,0.9s
T45A Paducah 84.43 42 IAMs_20 IAMs_20 06 02 40.3
comp=Z,7µm,21.0s
LTK Loutraki 84.43 319 P P 05 22 53.1 -1.8
G61A St-Isidore-de- 84.44 27 P P 05 22 55.4 +0.6
baz=333,SNR=252
LOUT Loutraki 84.46 319 P P 05 22 52.9 -2.1
ANX Ano Chora 84.46 320 P P 05 22 54.4 -0.7
RENF Rennes 84.48 340⇑ *e*P P 05 22 55.8 +0.9
CMBO Columbo, Santo 84.50 317 P P 05 22 53.7 -1.5
KEK Kerkira 84.50 322 P P 05 22 54.8 -0.4
SOCY Socotra 84.51 282 IAMs_20 IAMs_20 06 01 06.0
comp=Z,6µm,22.0s
SOCY Socotra 84.51 282 P P 05 22 54.6 -1.1
SNR=8.6
435B Jarrell 84.52 52 P P 05 22 55.4 0.0
baz=319,SNR=13
435B Jarrell 84.52 52 IAmb IAmb 05 23 21.6
comp=Z,473nm,1.7s
HICK Hickman 84.52 43 IAMs_20 IAMs_20 06 04 27.8
comp=Z,7µm,22.0s
SERG Sergoula 84.54 320 P P 05 22 54.3 -1.1
PEBM Pemiscott Bayo 84.55 44 IAMs_20 IAMs_20 06 03 35.5
comp=Z,6µm,22.0s
SANT Santorini 84.55 317 ⇑P P 05 22 54.9 -0.6
SANT Santorini 84.55 317 P P 05 22 54.2 -1.3
THAL Thalero 84.56 320 P P 05 22 54.1 -1.4
E64A Bridgewater 84.57 24 P P 05 22 55.5 +0.1
baz=335,SNR=115
TRIZ Trizonia 84.57 320 P P 05 22 54.4 -1.1
WCI Wyandotte Cave 84.58 40 P P 05 22 56.1 +0.5
WCI pmax pmax
comp=Z,440nm,1.1s
WCI MLR MLR
comp=Z,7µm,22.0s
WCI Wyandotte Cave 84.58 40 P P 05 22 56.0 +0.5
baz=324
WCI Wyandotte Cave 84.58 40 P P 05 22 56.1 +0.5
WCI IAmb IAmb 05 22 57.8
comp=Z,440nm,1.1s
WCI Wyandotte Cave 84.58 40 IAMs_20 IAMs_20 06 03 20.0
comp=Z,7µm,22.0s
GNAR Gosnell 84.59 44 IAMs_20 IAMs_20 06 08 03.6
comp=Z,5µm,20.0s
237A Washetta, Mont 84.60 50 IAMs_20 IAMs_20 06 05 13.4
comp=Z,6µm,20.0s
EFP Efpalio 84.60 320 P P 05 22 55.5 -0.2
PVO Paravola 84.62 321 P P 05 22 55.4 -0.4
MSSA Maissana 84.63 331 IAmb IAmb 05 22 57.5
comp=Z,378nm,1.1s
K56A Middlesex 84.65 32 P P 05 22 55.7 -0.2
baz=329,SNR=93
I58A Old Forge 84.66 30 P P 05 22 55.4 -0.5
baz=330,SNR=51
ROSF Rostrenen 84.67 341⇑ *e*P P 05 22 56.0 +0.1
H60A Morristown 84.69 28 P P 05 22 56.3 +0.2
baz=332,SNR=78
GLAT Glass 84.71 43 IAMs_20 IAMs_20 06 03 37.8
comp=Z,8µm,22.0s
LAKA Lakka 84.72 320 P P 05 22 57.8 +1.5
LPAR Lepanto 84.73 44 IAMs_20 IAMs_20 06 02 33.4
comp=Z,6µm,22.0s
LNXT Lenox 84.74 43 IAMs_20 IAMs_20 06 03 50.6
comp=Z,8µm,22.0s
M54A Oil Creek Stat 84.75 34 P P 05 22 56.6 +0.2
baz=328,SNR=116
M54A Oil Creek Stat 84.75 34 IAmb IAmb 05 22 58.5
comp=Z,463nm,1.0s
M54A IAMs_20 IAMs_20 06 03 06.7
comp=Z,7µm,20.0s
WLAR White Oak Lake 84.77 47 IAmb IAmb 05 22 59.0
comp=Z,352nm,0.9s
WLAR IAMs_20 IAMs_20 06 07 51.7
comp=Z,6µm,21.0s
MEH Mehetia 84.77 121 *e*P P 05 22 58.0 +1.3
comp=Z,48nm,1.0s
MEH Mehetia 84.77 121 *e*T T 06 56 36.2
comp=Z,225nm,0.3s
KLV Kalavryta, Ach 84.80 320 P P 05 22 56.3 -0.5
MHLO Agia Marina, M 84.81 318 P P 05 22 53.8 -3.0
G62A West of Eustis 84.82 26 P P 05 22 57.4 +0.7
baz=333,SNR=190
G62A West of Eustis 84.82 26 IAmb IAmb 05 22 59.3
comp=Z,514nm,1.1s
F63A Nahmakanta, Br 84.83 25 P P 05 22 57.0 +0.2
baz=334,SNR=86
F63A S S 05 33 20.3 -0.6
baz=334
F63A Nahmakanta, Br 84.83 25 IAmb IAmb 05 22 59.0
comp=Z,266nm,1.1s
DGAR Diego Garcia 84.84 255 IAMs_20 IAMs_20 05 59 01.0
comp=Z,5µm,20.0s
J58A Remsen 84.84 30 P P 05 22 56.4 -0.4
baz=330,SNR=132
J58A Remsen 84.84 30 IAmb IAmb 05 22 58.5
comp=Z,328nm,1.0s
J58A IAMs_20 IAMs_20 06 06 35.7
comp=Z,6µm,20.0s
TSLK Tsoukalades, L 84.85 321 P P 05 22 56.4 -0.5
KRND KRANIDI 84.86 319 P P 05 22 54.9 -2.1
LKD2 Lefkada island 84.87 321 P P 05 22 56.7 -0.4
VT1 Waterbury 84.88 28 IAmb IAmb 05 22 59.1
comp=Z,330nm,1.1s
AQU L'Aquila 84.92 328⇑ *i*P P 05 22 57.5 +0.2
AQU L'Aquila 84.92 328 IAmb IAmb 05 22 60.0
comp=Z,402nm,0.9s
NYDR Nydri-Lefkada 84.92 321 P P 05 22 56.7 -0.5
F64A Sherman 84.92 25 P P 05 22 57.3 +0.1
baz=335,SNR=114
F64A S S 05 33 20.4 -1.2
baz=335
F64A Sherman 84.92 25 IAmb IAmb 05 22 59.1
comp=Z,264nm,1.1s
BNI Bardonecchia 84.92 334 IAmb IAmb 05 23 04.2
comp=Z,517nm,1.3s
K57A Scipio Center 84.93 31 IAmb IAmb 05 22 58.8
comp=Z,246nm,1.1s
H61A Lyndonville 84.97 27 P P 05 22 58.0 +0.5
baz=332,SNR=186
H61A S S 05 33 22.1 -0.2
baz=332
P51A Williamsport 85.01 37 IAmb IAmb 05 22 59.4
comp=Z,365nm,0.9s
EVGI Lefkada island 85.01 321 P P 05 22 57.4 -0.4
O52A Adamsville 85.01 36 IAmb IAmb 05 22 59.7
comp=Z,532nm,1.1s
INTR Introdacqua 85.02 328 IAmb IAmb 05 23 00.2
comp=Z,300nm,0.8s
J59A Piesco 85.03 30 IAmb IAmb 05 22 59.4
comp=Z,285nm,1.0s
L56A Greenwood 85.04 32 IAmb IAmb 05 22 59.7
comp=Z,323nm,0.9s
R49A Shelbyville 85.04 39 IAmb IAmb 05 23 24.4
comp=Z,536nm,1.8s
MATE Matera 85.05 325 ⇑P **P 05 22 57.7 -0.1**
N54A Moraine State 85.07 34 P P 05 22 58.2 +0.2
baz=328,SNR=143
N54A S S 05 33 22.3 -1.1
baz=328
DRO Drossia 85.08 320 P P 05 22 58.2 +0.1
RLS Riolos of Patr 85.10 320 P P 05 22 58.4 +0.2
I60A Shoreham 85.12 29 P P 05 22 58.0 -0.2
baz=332,SNR=73
I60A S S 05 33 21.6 -2.1
baz=332
STIA Sitia Lasithi 85.16 316 P P 05 22 58.4 -0.1
ZKR Zakros 85.16 316 P P 05 22 58.7 +0.1
O53A New Philadelph 85.16 36 P P 05 22 58.6 +0.1
baz=327,SNR=88
O53A S S 05 33 21.9 -2.5
baz=327
O53A New Philadelph 85.16 36 IAmb IAmb 05 23 00.5
comp=Z,476nm,1.0s
PKME Peaks-Kenny Pk 85.17 25 P P 05 22 58.8 +0.4
baz=334,SNR=87
PKME S S 05 33 24.0 -0.2
baz=334
PKME Peaks-Kenny Pk 85.17 25 IAmb IAmb 05 23 00.8
comp=Z,302nm,1.1s
FSK Fiskardo 85.19 321 P P 05 22 57.7 -0.9
H62A Milan 85.19 27 P P 05 22 59.3 +0.7
baz=333,SNR=245
H62A S S 05 33 22.4 -2.0
baz=333
T47A Sharon Grove 85.19 41 IAMs_20 IAMs_20 06 08 28.4
comp=Z,5µm,20.0s
G63A Kingsbury 85.20 26 P P 05 22 59.3 +0.7
baz=334,SNR=155
G63A S S 05 33 22.5 -2.1
baz=334
LBNH Lisbon 85.23 28 P P 05 22 59.3 +0.5
baz=332,SNR=71
LBNH S S 05 33 24.0 -0.9
baz=332
LBNH Lisbon 85.23 28 IAmb IAmb 05 23 00.3
comp=Z,742nm,1.9s
Q51A Peebles 85.26 38 IAMs_20 IAMs_20 06 06 54.9
comp=Z,6µm,20.0s
Z41A Richland Creek 85.27 47 P P 05 22 59.6 +0.5
baz=321,SNR=26
Z41A S S 05 33 25.7 +0.2
baz=321
P52A Corning 85.29 36 P P 05 22 59.0 -0.1
baz=326,SNR=67
P52A S S 05 33 24.5 -1.1
baz=326
P52A Corning 85.29 36 IAmb IAmb 05 23 00.8
comp=Z,344nm,1.1s
P52A IAMs_20 IAMs_20 06 05 29.5
comp=Z,7µm,20.0s
MET Memphis--Engin 85.29 44 IAMs_20 IAMs_20 06 07 55.3
comp=Z,5µm,20.0s
CCAR Cane Creek 85.30 46 IAMs_20 IAMs_20 06 06 14.5
comp=Z,6µm,21.0s
833A Chaparral WMA, 85.30 55 P P 05 23 00.0 +0.6
baz=318,SNR=32
833A S S 05 33 26.9 +0.8
baz=318
G64A Maxfield 85.35 25 P P 05 22 59.7 +0.4
baz=334,SNR=143
G64A S S 05 33 25.0 -0.9
baz=334
NPS Neapolis 85.35 316 P P 05 22 58.1 -1.4
KEF5 Kardakata, Kep 85.38 321 P P 05 22 58.6 -1.0
ACCN Adirondack Com 85.39 29 IAmb IAmb 05 23 01.5
comp=Z,277nm,1.1s
VLS Valsamata 85.40 321 P P 05 22 59.1 -0.6
I61A Oroboro, Fairl 85.41 28 P P 05 23 00.3 +0.6
baz=332,SNR=121
I61A S S 05 33 25.7 -0.9
baz=332
NATX Nacogdoches 85.41 49 P P 05 23 00.7 +0.8
baz=320,SNR=24
NATX S S 05 33 25.6 -1.5
baz=320
NATX Nacogdoches 85.41 49 IAMs_20 IAMs_20 06 05 49.9
comp=Z,6µm,22.0s
AMT Artemida-Makis 85.42 320 P P 05 22 59.1 -0.7
R50A Paris 85.43 39 IAmb IAmb 05 23 02.1
comp=Z,277nm,1.1s
R50A IAMs_20 IAMs_20 06 02 12.6
comp=Z,7µm,22.0s
PSDA Pessada-Kefalo 85.46 321 P P 05 22 58.8 -1.2
H63A New Sharon 85.48 26 P P 05 23 00.6 +0.6
baz=334,SNR=111
H63A S S 05 33 26.7 -0.5
baz=334
FRMA Ierapetra Chan 85.48 316 P P 05 23 00.6 +0.5
CASP Castiglione de 85.49 330 IAmb IAmb 05 23 00.8
comp=Z,843nm,1.9s
LAST Lasithi 85.50 316 P P 05 23 00.1 -0.2
VLI Veliai 85.50 319 P P 05 22 58.2 -2.0
WVT Waverly 85.53 42 P P 05 23 00.4 0.0
WVT pmax pmax
comp=Z,967nm,2.0s
WVT MLR MLR
comp=Z,6µm,20.0s
WVT Waverly 85.53 42 P P 05 23 00.9 +0.5
baz=323
WVT S S 05 33 27.2 -0.9
baz=323
WVT Waverly 85.53 42 P P 05 23 00.4 0.0
WVT Waverly 85.53 42 IAMs_20 IAMs_20 06 03 23.5
comp=Z,6µm,20.0s
BINY Binghamton 85.58 31 P P 05 23 00.5 -0.1
baz=330,SNR=56
BINY S S 05 33 25.4 -3.1
baz=330
BINY Binghamton 85.58 31 IAmb IAmb 05 23 02.5
comp=Z,233nm,1.1s
BINY IAMs_20 IAMs_20 06 06 12.5
comp=Z,6µm,19.0s
ITM Ithomi 85.60 320 P P 05 22 59.8 -0.9
J60A Lant Hill Farm 85.60 29 P P 05 23 00.8 +0.1
baz=332,SNR=63
J60A S S 05 33 27.3 -1.3
baz=332
VLMS Volimes, Zakyn 85.62 321 P P 05 22 59.9 -0.9
W45A Hickory Valley 85.64 44 IAMs_20 IAMs_20 06 08 35.5
comp=Z,4µm,20.0s
LTHK Lithakia 85.67 321 P P 05 22 59.8 -1.2
WVL Waterville 85.68 26 IAmb IAmb 05 23 03.3
comp=Z,337nm,1.1s
IDI Anoyia 85.69 317 S S **05 33 29.5 -0.2**
comp=Z,13nm,0.9s,baz=261,slow=23,SNR=3.9
IDI Anoyia 85.69 317 ⇑⇑P **P 05 22 59.6 -1.6**
IDI Anoyia 85.69 317 P **P 05 22 59.4 -1.9**
IDI Anoyia 85.69 317 IAmb IAmb 05 23 19.2
comp=Z,318nm,0.8s
P53A Whipple 85.73 36 IAmb IAmb 05 23 03.4
comp=Z,299nm,1.0s
H64A Troy 85.75 26 P P 05 23 01.9 +0.6
baz=334,SNR=106
H64A S S 05 33 29.8 -0.1
baz=334
G65A Princeton 85.75 24 P P 05 23 01.6 +0.3
baz=335,SNR=87
G65A S S 05 33 30.1 +0.2
baz=335
G65A Princeton 85.75 24 IAmb IAmb 05 23 03.6
comp=Z,349nm,1.1s
G65A IAMs_20 IAMs_20 06 03 12.7
comp=Z,6µm,22.0s
I62A Tamworth 85.76 27 P P 05 23 02.0 +0.6
baz=333,SNR=49
I62A S S 05 33 28.3 -1.7
baz=333
I62A Tamworth 85.76 27 IAmb IAmb 05 23 03.9
comp=Z,633nm,1.6s
I62A IAMs_20 IAMs_20 06 07 29.9
comp=Z,5µm,19.0s
L58A Harry Jones Me 85.77 31 P P 05 23 01.6 +0.1
baz=330,SNR=112
L58A S S 05 33 27.7 -2.6
baz=330
Q52A Bidwell 85.79 37 IAmb IAmb 05 23 03.5
comp=Z,310nm,1.1s
Q52A IAMs_20 IAMs_20 06 08 20.7
comp=Z,7µm,20.0s
KTHA Kythira Island 85.81 318 P P 05 23 00.9 -0.9
J61A Chester 85.81 28 P P 05 23 02.0 +0.4
baz=332,SNR=68
J61A S S 05 33 28.4 -2.1
baz=332
KTHR Kythira 85.83 318 P P 05 23 00.5 -1.4
735A Kenedy 85.83 53 IAMs_20 IAMs_20 05 56 11.4
comp=Z,8µm,22.0s
I63A Otisfield 85.85 27 P P 05 23 02.7 +0.9
baz=333,SNR=151
I63A S S 05 33 29.5 -1.4
baz=333
PYL PYLOS 85.92 320 P P 05 23 00.9 -1.4
TMBK Timbaki Herakl 85.92 317 P P 05 23 02.3 0.0
VAM Vamos 85.93 317 P P 05 23 02.0 -0.4
SIVA Sivas 85.94 316 P P 05 23 02.3 -0.1
TRY Troy 85.97 29 IAmb IAmb 05 23 04.5
comp=Z,228nm,1.1s
TRY IAMs_20 IAMs_20 06 03 49.6
comp=Z,7µm,22.0s
IMMV Iera Moni Meta 86.00 317 P P 05 23 01.5 -1.2
H65A Eastbrook 86.00 25 P P 05 23 02.8 +0.3
baz=335,SNR=85
H65A S S 05 33 30.3 -2.1
baz=335
FFD Franklin Falls 86.01 28 IAmb IAmb 05 23 05.3
comp=Z,313nm,1.1s
CHIF Chize 86.02 339⇑ *e*P P 05 23 03.1 +0.6
OXF Oxford 86.04 44 P P 05 23 03.0 +0.1
baz=323,SNR=52
OXF S S 05 33 31.5 -1.6
baz=323
OXF Oxford 86.04 44 IAMs_20 IAMs_20 06 08 17.1
comp=Z,5µm,21.0s
GGN Saint George 86.04 24 IAmb IAmb 05 23 04.8
comp=Z,264nm,1.2s
K61A Williamstown 86.16 29 P P 05 23 03.9 +0.5
baz=332,SNR=78
K61A S S 05 33 31.9 -2.2
baz=332
J62A Henniker 86.17 28 P P 05 23 04.3 +0.9
baz=332,SNR=66
J62A S S 05 33 32.8 -1.3
baz=332
SSPA Standing Stone 86.19 33 P P 05 23 04.0 +0.4
baz=329
SSPA S S 05 33 32.7 -1.7
baz=329
SSPA Standing Stone 86.19 33 P P 05 23 02.9 -0.7
SSPA Standing Stone 86.19 33 IAMs_20 IAMs_20 06 04 51.0
comp=Z,6µm,20.0s
H66A Whiting 86.20 24 P P 05 23 03.7 +0.1
baz=335,SNR=73
H66A S S 05 33 32.0 -2.3
baz=335
U49A Red Boiling Sp 86.20 41 IAmb IAmb 05 23 05.8
comp=Z,340nm,0.9s
U49A IAMs_20 IAMs_20 06 01 46.1
comp=Z,7µm,22.0s
KSPA Keystone Colle 86.22 31 IAmb IAmb 05 23 05.6
comp=Z,202nm,0.9s
MCWV Mont Chateau 86.23 35 P P 05 23 04.5 +0.7
baz=328,SNR=134
MCWV S S 05 33 33.4 -1.4
baz=328
T50A Nancy 86.23 40 IAmb IAmb 05 23 05.4
comp=Z,255nm,0.8s
EMMW East Machias 86.23 24 IAmb IAmb 05 23 05.9
comp=Z,363nm,1.2s
O56A Blue Knob Stat 86.24 34 P P 05 23 04.4 +0.5
baz=328,SNR=264
O56A S S 05 33 33.6 -1.4
baz=328
O56A Blue Knob Stat 86.24 34 IAMs_20 IAMs_20 06 04 54.1
comp=Z,7µm,21.0s
I64A Boothbay 86.27 26 P P 05 23 04.1 +0.3
baz=334,SNR=45
I64A S S 05 33 34.9 0.0
baz=334
CLTN Cedars of Leba 86.28 41 IAMs_20 IAMs_20 06 09 10.3
comp=Z,4µm,20.0s
S51A Beattyville 86.29 39 IAmb IAmb 05 23 23.7
comp=Z,160nm,0.7s
S51A IAMs_20 IAMs_20 06 04 35.3
comp=Z,7µm,21.0s
KNDR Palaiochora Ch 86.32 317 P P 05 23 04.0 -0.3
PLAL Pickwick Lake 86.33 43 IAmb IAmb 05 23 29.3
comp=Z,421nm,1.6s
PLAL IAMs_20 IAMs_20 06 05 43.7
comp=Z,8µm,22.0s
J63A Strafford 86.37 27 P P 05 23 05.0 +0.6
baz=333,SNR=55
J63A S S 05 33 35.3 -0.7
baz=333
143A Socs Landing, 86.43 47 IAMs_20 IAMs_20 06 06 53.7
comp=Z,6µm,20.0s
GVDS Gavdos 86.44 317 P P 05 23 04.5 -0.4
GVD Gavdhos 86.44 317 P P 05 23 03.9 -1.0
R53A Hurricane 86.45 37 IAmb IAmb 05 23 07.1
comp=Z,304nm,1.2s
K62A Royalston 86.52 29 P P 05 23 05.6 +0.4
baz=332,SNR=66
K62A S S 05 33 36.7 -0.8
baz=332
K62A Royalston 86.52 29 IAmb IAmb 05 23 07.7
comp=Z,269nm,1.1s
L61B Northampton 86.56 29 P P 05 23 05.2 -0.1
baz=332,SNR=35
L61B S S 05 33 36.0 -1.9
baz=332
K63A Dunstable 86.74 28 P P 05 23 06.9 +0.7
baz=333,SNR=69
K63A S S 05 33 39.3 -0.3
baz=333
K63A Dunstable 86.74 28 IAmb IAmb 05 23 08.9
comp=Z,428nm,1.2s
K63A IAMs_20 IAMs_20 06 06 22.1
comp=Z,7µm,20.0s
KVTX Kingsville 86.76 54 IAmb IAmb 05 23 31.7
comp=Z,310nm,1.1s
N59A State Game Lan 86.77 32 P P 05 23 06.8 +0.4
baz=330,SNR=198
N59A S S 05 33 38.0 -2.1
baz=330
N59A State Game Lan 86.77 32 IAMs_20 IAMs_20 06 07 11.1
comp=Z,6µm,19.0s
HRV Adam Dziewonsk 86.90 28 P P 05 23 07.6 +0.6
HRV pmax pmax
comp=Z,375nm,1.2s
HRV Adam Dziewonsk 86.90 28 P P 05 23 07.6 +0.6
baz=333
HRV S S 05 33 40.6 -0.5
baz=333
HRV Adam Dziewonsk 86.90 28 P P 05 23 07.6 +0.6
HRV IAmb IAmb 05 23 09.6
comp=Z,375nm,1.2s
342A Flagon Creek P 86.98 48 IAmb IAmb 05 23 33.8
comp=Z,605nm,1.6s
342A IAMs_20 IAMs_20 06 08 16.2
comp=Z,6µm,21.0s
441A DeRidder 86.99 49 IAmb IAmb 05 23 33.9
comp=Z,389nm,1.5s
441A IAMs_20 IAMs_20 06 00 14.7
comp=Z,6µm,22.0s
PAGS Pennsylvania G 87.00 33 IAmb IAmb 05 23 09.4
comp=Z,430nm,1.0s
Q56A Snyder Ridge, 87.02 35 IAmb IAmb 05 23 09.9
comp=Z,353nm,1.1s

ODNJ	Ogdensburg	87.06	31	IAmb	IAmb	05 23 33.6	
	comp=Z,331nm,1.5s						
WES	Weston	87.08	28	IAmb	IAmb	05 23 10.4	
	comp=Z,476nm,1.2s						
WES				IAMs_20	IAMs_20	06 05 40.1	
	comp=Z,6μm,20.0s						
P57A	Homestead Farm	87.13	34	IAmb	IAmb	05 23 34.3	
	comp=Z,475nm,1.4s						
TRNY	Table Rock, Ra	87.15	31	IAmb	IAmb	05 23 10.4	
	comp=Z,398nm,1.1s						
BCX	Boston College	87.18	28	IAmb	IAmb	05 23 10.7	
	comp=Z,268nm,1.2s						
BCX				IAMs_20	IAMs_20	06 06 45.6	
	comp=Z,5μm,20.0s						
SWET	Sewanee	87.18	42	IAmb	IAmb	05 23 10.2	
	comp=Z,408nm,1.0s						
SWET				IAMs_20	IAMs_20	06 09 49.1	
	comp=Z,6μm,20.0s						
TZTN	Tazewell	87.21	39	P	P	05 23 09.0	+0.4
	baz=326,SNR=92						
TZTN				S	S	05 33 42.9	-1.6
	baz=326						
X48A	Hartselle	87.26	43	IAmb	IAmb	05 23 33.7	
	comp=Z,661nm,1.9s						
X48A				IAMs_20	IAMs_20	06 04 25.3	
	comp=Z,6μm,19.0s						
VBMS	Vicksburg	87.28	46	P	P	05 23 09.9	+0.9
	baz=322,SNR=31						
VBMS				S	S	05 33 44.6	-0.5
	baz=322						
VBMS	Vicksburg	87.28	46	IAMs_20	IAMs_20	06 10 05.0	
	comp=Z,5μm,20.0s						
UCCT	U. Connecticut	87.30	29	IAmb	IAmb	05 23 11.3	
	comp=Z,369nm,1.0s						
MVL	Millersville	87.34	33	IAmb	IAmb	05 23 11.3	
	comp=Z,353nm,1.0s						
PAL	Palisades	87.39	30	P	P	05 23 09.7	+0.3
	baz=331,SNR=50						
PAL				S	S	05 33 44.5	-1.4
	baz=331						
BRYW	Bryant College	87.42	28	IAmb	IAmb	05 23 11.9	
	comp=Z,278nm,1.1s						
ZAIG	Zacatecas	87.45	61	IAmb	IAmb	05 23 33.1	
	comp=Z,338nm,1.7s						
L63A	North Scituate	87.45	28	P	P	05 23 10.1	+0.4
	baz=333,SNR=43						
L63A				S	S	05 33 45.0	-1.4
	baz=333						
L63A	North Scituate	87.45	28	IAmb	IAmb	05 23 12.0	
	comp=Z,621nm,1.6s						
V51A	Loudon	87.45	40	IAmb	IAmb	05 23 11.9	
	comp=Z,285nm,1.0s						
WSPT	Westport, CT	87.45	30	IAmb	IAmb	05 23 11.6	
	comp=Z,341nm,1.2s						
W50A	Signal Mountai	87.49	41	IAmb	IAmb	05 23 12.0	
	comp=Z,198nm,0.9s						
W50A				IAMs_20	IAMs_20	06 05 05.2	
	comp=Z,6μm,21.0s						
CPNY	Central Park	87.56	31	IAmb	IAmb	05 23 12.5	
	comp=Z,421nm,1.1s						
L64A	Middleborough	87.65	28	P	P	05 23 11.1	+0.6
	baz=333,SNR=62						
L64A				S	S	05 33 46.7	-1.6
	baz=333						
L64A	Middleborough	87.65	28	IAmb	IAmb	05 23 13.1	
	comp=Z,500nm,1.2s						
SDMD	Soldier's Deli	87.66	33	IAmb	IAmb	05 23 11.3	
	comp=Z,547nm,2.0s						
CPCT	Cooper Cave	87.66	40	IAmb	IAmb	05 23 12.8	
	comp=Z,276nm,1.0s						
CPCT				IAMs_20	IAMs_20	06 05 39.7	
	comp=Z,6μm,21.0s						
M63A	Gales Ferry	87.70	29	IAmb	IAmb	05 23 12.8	
	comp=Z,236nm,0.9s						
Z47A	Carrollton	87.76	44	IAMs_20	IAMs_20	06 06 55.5	
	comp=Z,5μm,21.0s						
344A	Westbrook Farm	87.77	47	IAMs_20	IAMs_20	06 03 07.0	
	comp=Z,7μm,22.0s						
V52A	Sevierville	87.77	40	IAmb	IAmb	05 23 13.6	
	comp=Z,433nm,1.1s						
V52A				IAMs_20	IAMs_20	06 03 28.5	
	comp=Z,6μm,22.0s						
P60A	Greenville	87.78	32	P	P	05 23 11.5	+0.2
	baz=330,SNR=53						
P60A				S	S	05 33 46.7	-3.0
	baz=330						
P60A	Greenville	87.78	32	IAmb	IAmb	05 23 13.4	
	comp=Z,401nm,1.1s						
P60A				IAMs_20	IAMs_20	06 08 04.8	
	comp=Z,5μm,19.0s						
NNZ	Nelson	87.82	161	IAmb	IAmb	05 23 34.0	
	comp=Z,439nm,1.5s						
L65A	Cape Cod Natio	87.83	27	P	P	05 23 11.9	+0.5
	baz=334						
L65A				S	S	05 33 47.9	-2.2
	baz=334						
TKL	Tuckaleechee C	87.84	40	IAmb	IAmb	05 23 13.7	
	comp=Z,315nm,0.9s						
TKL				IAMs_20	IAMs_20	06 03 30.3	
	comp=Z,7μm,22.0s						
M64A	Tiverton	87.86	28	P	P	05 23 11.8	+0.2
	baz=333,SNR=16						
M64A				S	S	05 33 48.1	-2.3
	baz=333						
M64A	Tiverton	87.86	28	IAmb	IAmb	05 23 37.9	
	comp=Z,296nm,1.5s						
FPAL	Fort Paine	87.88	42	IAMs_20	IAMs_20	06 04 57.7	
	comp=Z,6μm,22.0s						
U54A	Nelsons Funny	88.01	38	IAmb	IAmb	05 23 14.6	
	comp=Z,256nm,0.9s						
U54A				IAMs_20	IAMs_20	06 09 35.7	
	comp=Z,5μm,19.0s						
M65A	Busby, Falmout	88.05	28	P	P	05 23 12.9	+0.4
	baz=333						
M65A				S	S	05 33 49.7	-2.4
	baz=333						
BLA	Blacksburg	88.05	37	P	P	05 23 12.9	+0.2
	baz=327,SNR=71						
BLA				S	S	05 33 51.3	-1.2
	baz=327						
BLA	Blacksburg	88.05	37	IAmb	IAmb	05 23 14.9	
	comp=Z,391nm,1.1s						
Y49A	Blount Mountai	88.05	43	IAmb	IAmb	05 23 14.4	
	comp=Z,192nm,0.9s						
Y49A				IAMs_20	IAMs_20	06 05 21.1	
	comp=Z,6μm,20.0s						
TBI	Tubuai	88.09	125	*e*P	P	05 23 14.3	+1.5
	comp=Z,314nm,1.5s						
TBI	Tubuai	88.09	125	*e*S	S	05 33 50.7	-2.0
	comp=Z,5μm,26.2s						
TBI	Tubuai	88.09	125	*e*LR	LR	05 50 48.0	
	comp=Z,31μm,33.5s,baz=321						
TBI	Tubuai	88.09	125	*e*T	T	07 00 44.4	
	comp=Z,33nm,0.2s						
W52A	Murphy	88.23	40	IAmb	IAmb	05 23 39.0	
	comp=Z,598nm,1.7s						
THZ	Tophouse	88.23	162	IAmb	IAmb	05 23 35.0	
	comp=Z,654nm,1.9s						
V53A	Saluda	88.27	39	IAmb	IAmb	05 23 16.0	
	comp=Z,195nm,1.1s						
LRAL	Lakeview Retre	88.42	44	P	P	05 23 14.2	-0.3
	baz=324,SNR=52						
LRAL				S	S	05 33 52.9	-3.1
	baz=324						
LRAL	Lakeview Retre	88.42	44	IAmb	IAmb	05 23 15.4	
	comp=Z,491nm,2.0s						
CBN	Corbin Frederi	88.48	34	P	P	05 23 15.0	+0.4
	baz=329,SNR=34						
CBN				S	S	05 33 56.9	+0.5
	baz=329						
R58B	Mineral	88.48	35	IAmb	IAmb	05 23 40.9	
	comp=Z,267nm,1.2s						
346A	Big Creek Wild	88.48	46	IAmb	IAmb	05 23 17.4	
	comp=Z,215nm,0.9s						
346A				IAMs_20	IAMs_20	06 08 42.9	
	comp=Z,3μm,19.0s						
M66A	Nantucket	88.49	28	P	P	05 23 14.9	+0.3
	baz=334						
M66A				S	S	05 33 55.6	-0.7
	baz=334						
Q61A	Milford	88.71	32	P	P	05 23 15.8	+0.1
	baz=330,SNR=6.4						
Q61A				S	S	05 33 57.2	-1.3
	baz=330						
T57A	Hurt	88.72	36	IAmb	IAmb	05 23 42.1	
	comp=Z,573nm,1.6s						
BG3	Lake Jocassee	88.77	40	IAmb	IAmb	05 23 18.6	
	comp=Z,281nm,1.0s						
U56A	King	88.79	37	IAmb	IAmb	05 23 18.3	
	comp=Z,168nm,0.9s						
VSL	Villasalto	88.91	329	IAmb	IAmb	05 23 40.5	
	comp=Z,248nm,1.6s						
RAFF	Raffo Rosso	88.91	325	IAmb	IAmb	05 23 18.9	
	comp=Z,200nm,1.2s						
LTZ	Lake Taylor	89.06	162	IAmb	IAmb	05 23 40.3	
	comp=Z,410nm,1.5s						
Z51A	Franklin	89.09	42	IAmb	IAmb	05 23 19.4	
	comp=Z,313nm,0.9s						
Y52A	Lilburn	89.17	41	IAmb	IAmb	05 23 20.4	
	comp=Z,226nm,0.9s						
KMSC	Kings Mountain	89.38	38	P	P	05 23 19.1	+0.1
	baz=327,SNR=90						
KMSC				S	S	05 34 04.0	-1.0
	baz=327						
KMSC	Kings Mountain	89.38	38	IAmb	IAmb	05 23 20.9	
	comp=Z,272nm,1.1s						
PAULI	Pauline	89.43	39	IAmb	IAmb	05 23 21.1	
	comp=Z,206nm,0.9s						
T59A	Double "B" Far	89.46	35	IAmb	IAmb	05 23 21.7	
	comp=Z,376nm,1.4s						
250A	Grady	89.64	44	IAMs_20	IAMs_20	06 08 08.3	
	comp=Z,6μm,21.0s						
HODGE	Hodges	89.71	40	IAmb	IAmb	05 23 22.9	
	comp=Z,237nm,1.1s						
V58A	Windy Hill, Pi	89.80	37	IAMs_20	IAMs_20	06 08 28.1	
	comp=Z,5μm,20.0s						
GOGA	Godfrey	89.83	41	P	P	05 23 21.5	+0.4
	baz=326,SNR=45						
GOGA				S	S	05 34 06.8	-2.4
	baz=326						
GOGA	Godfrey	89.83	41	IAmb	IAmb	05 23 46.6	
	comp=Z,279nm,1.4s						
GOGA	Godfrey	89.83	41	IAMs_20	IAMs_20	06 03 47.1	
	comp=Z,6μm,22.0s						
U59A	Littleton	89.89	35	IAmb	IAmb	05 23 23.6	
	comp=Z,210nm,1.2s						
BRAL	Brewton	89.90	45	P	P	05 23 22.3	+0.9
	baz=324,SNR=10						
BRAL				S	S	05 34 09.3	-0.6
	baz=324						
BRAL	Brewton	89.90	45	IAMs_20	IAMs_20	06 08 14.2	
	comp=Z,6μm,21.0s						
W57A	Gilead	89.96	38	IAmb	IAmb	05 23 23.7	
	comp=Z,248nm,1.1s						
W57A				IAMs_20	IAMs_20	06 08 26.4	
	comp=Z,6μm,19.0s						
WDD	Wied Dalam	90.02	324	IAmb	IAmb	05 23 22.3	
	comp=Z,108nm,0.7s						
WDD				IAMs_20	IAMs_20	06 09 59.6	
	comp=Z,5μm,19.0s						
JSC	Jenkinsville	90.13	39	IAMs_20	IAMs_20	06 02 21.9	
	comp=Z,5μm,22.0s						
BIRD	Birdtown, Kers	90.18	38	IAmb	IAmb	05 23 24.8	
	comp=Z,205nm,1.1s						
BIRD				IAMs_20	IAMs_20	06 08 09.3	
	comp=Z,6μm,20.0s						
154A	Montrose	90.66	41	IAMs_20	IAMs_20	06 06 53.1	
	comp=Z,5μm,20.0s						
352A	Blakely	90.71	43	IAMs_20	IAMs_20	06 08 39.5	
	comp=Z,4μm,21.0s						
Y57A	Sumter	90.74	38	IAmb	IAmb	05 23 51.4	
	comp=Z,471nm,2.0s						
X58A	Rowland	90.75	37	IAmb	IAmb	05 23 27.4	
	comp=Z,162nm,0.9s						
CNNC	Cliffs of the	90.80	36	P	P	05 23 25.8	+0.2
	baz=329,SNR=15						
CNNC				S	S	05 34 18.0	0.0
	baz=329						
CNNC	Cliffs of the	90.80	36	IAmb	IAmb	05 23 27.8	
	comp=Z,235nm,1.2s						
CNNC				IAMs_20	IAMs_20	06 08 04.0	
	comp=Z,5μm,21.0s						
451A	Vernon	91.00	44	IAMs_20	IAMs_20	06 09 36.4	
	comp=Z,7μm,21.0s						
Y58A	Scranton	91.16	38	IAmb	IAmb	05 23 29.4	
	comp=Z,193nm,0.9s						
Y58A				IAMs_20	IAMs_20	06 10 51.1	
	comp=Z,5μm,19.0s						
TIGA	Tifton	91.39	42	P	P	05 23 28.9	+0.6
	baz=326,SNR=9.1						
TIGA				S	S	05 34 24.1	+0.6
	baz=326						
Y59A	Loris	91.44	37	IAmb	IAmb	05 23 30.4	
	comp=Z,196nm,1.0s						
Y59A				IAMs_20	IAMs_20	06 12 04.4	
	comp=Z,6μm,18.0s						
255A	Hazlehurst	91.52	41	IAMs_20	IAMs_20	06 07 29.0	
	comp=Z,6μm,20.0s						
NHSC	New Hope	91.60	39	P	P	05 23 29.6	+0.3
	baz=328,SNR=9.8						
NHSC				S	S	05 34 25.8	+0.4
	baz=328						
PBRG	Braganca	91.65	341	⇑*i*P	P	05 23 28.8	-0.6
	comp=Z,148nm,2.1s						
PBRG				*e*P	pP	05 23 43.8	-0.4
Y60A	Bolivia	91.71	37	IAmb	IAmb	05 23 31.6	
	comp=Z,235nm,1.0s						
Y60A				IAMs_20	IAMs_20	06 06 06.6	
	comp=Z,7μm,22.0s						
PGAV	Gavieira, Arco	91.84	343	⇑*i*P	P	05 23 29.7	-0.7
	comp=Z,185nm,1.7s						
PGAV				*e*P	pP	05 23 45.8	+0.7
PGAV	Gavieira, Arco	91.84	343	*e*SKS	SKSac	05 33 58.7	-0.3
PGAV				*i* LQ	LQ	05 35 45.4	
PGAV	Gavieira, Arco	91.84	343	*e*LQ	LQ	05 48 36.5	
PGAV				*e*LR	LR	05 54 08.1	
	comp=Z,7μm,20.0s						
553A	Crawfordville	92.00	43	IAMs_20	IAMs_20	06 09 40.9	
	comp=Z,5μm,21.0s						
CMAH	Djebel Manchou	92.17	329	P	P	05 23 31.4	-0.5
UCM	Universidad Co	92.19	338	P	P	05 23 26.7	-5.3
UCM				SKS	SKSac	05 33 54.1	-6.8
KEST	Kesra	92.22	327	P	P	05 23 32.0	-0.2
	comp=Z,48nm,0.5s,baz=330,slow=0.9,SNR=122						
KEST				LR	LR	06 10 15.1	
	comp=Z,23μm,19.0s,baz=333,slow=39						
KEST	Kesra	92.22	327	IAmb	IAmb	05 23 34.2	
	comp=Z,198nm,1.3s						
KEST	Kesra	92.22	327	P	P	05 23 32.2	0.0
	SNR=55						
KEST				P	P	05 23 32.2	0.0
	SNR=55						
POLO	Lamas de Olo	92.30	342	⇑*i*P	P	05 23 31.9	-0.6
	comp=Z,111nm,1.2s						
POLO				*e*P	pP	05 23 46.2	-1.1
MVO	Moncorvo	92.32	341	⇑*i*P	P	05 23 31.9	-0.7
	comp=Z,160nm,2.1s						
MVO				*e*P	pP	05 23 47.1	-0.3
MVO	Moncorvo	92.32	341	*e*SKS	SKSac	05 34 02.5	+0.8
MVO				*i* LQ	LQ	05 35 52.0	
MVO	Moncorvo	92.32	341	*e*LQ	LQ	05 47 58.4	
MVO				*e*LR	LR	05 54 09.8	
	comp=Z,14μm,20.0s						
ABSA	Djebel Ababsia	92.46	329	P	P	05 23 33.4	+0.1
CKFL	Kef-Lekhel	92.62	330	P	P	05 23 33.4	-0.7
ATD	Arta Tunnel	92.73	289	LR	LR	06 10 53.4	
	comp=Z,6μm,21.4s,baz=25,slow=39						
ATD	Arta Tunnel	92.73	289	⇑*i*P	P	05 23 36.0	+1.1
ATD				*e*S	PP	05 27 21.0	+4.0
DFRA	Djebel Bou Aff	92.80	330	P	P	05 23 35.1	+0.2
PVIS	Viseu	92.95	342	⇑*e*P	P	05 23 34.4	-1.1
	comp=Z,150nm,1.7s						
PVIS				*e*pP	pP	05 23 50.0	-0.2
ESBB	Sonseca Array	92.98	339	IAmb	IAmb	05 23 37.4	
	comp=Z,182nm,1.2s						
ESDC	Sonseca Array	92.98	339	P	P	05 23 35.1	-0.5
	comp=Z,44nm,0.9s,baz=13,slow=3.8,SNR=148						
ESDC				PKKPbc	PKKPbc	05 40 45.2	+1.5
	comp=Z,0.4nm,0.3s,baz=212,slow=1.2,SNR=4.2						
ESDC				LR	LR	06 09 50.9	
	comp=Z,17μm,21.8s,baz=10.0,slow=38						
ESDC	Sonseca Array	92.98	339	P	P	05 23 35.0	-0.5
ESDC				IAmb	IAmb	05 23 37.4	
	comp=Z,169nm,1.2s						
ESDC				pP	pP	05 23 49.6	-0.8
CTEI	Djebel Teioual	93.04	330	P	P	05 23 36.3	+0.2
MTE	Manteigas	93.17	342	⇑*i*P	P	05 23 35.8	-0.7
	comp=Z,150nm,1.3s						
MTE				*e*pP	pP	05 23 51.8	+0.5
MTE	Manteigas	93.17	342	*e*SKS	SKSac	05 34 07.2	+0.8
MTE				*i* LQ	LQ	05 36 02.4	
MTE	Manteigas	93.17	342	*e*LQ	LQ	05 49 25.9	
MTE				*e*LR	LR	05 54 53.0	
	comp=Z,11μm,22.0s						
PAB	San Pablo	93.20	339	IAmb	IAmb	05 23 38.3	
	comp=Z,200nm,1.4s						
SET	Setif	93.28	331	P	P	05 23 38.0	+0.9
COI	Coimbra	93.55	342	⇑*i*P	P	05 23 37.4	-0.7
	comp=Z,186nm,1.2s						
COI				*e*pP	pP	05 23 52.7	-0.2
COI	Coimbra	93.55	342	IAmb	IAmb	05 23 39.0	
	comp=Z,115nm,0.8s						
656A	Willston	93.61	42	IAmb	IAmb	05 23 41.1	
	comp=Z,173nm,0.9s						
PCBR	Castelo Branco	93.69	341	⇑*e*P	P	05 23 38.8	0.0
	comp=Z,113nm,1.7s						
PCBR				*e*pP	pP	05 23 54.1	+0.5
PCAS	Casmilo, Conde	93.72	342	⇑*i*P	P	05 23 38.0	-0.9
	comp=Z,185nm,1.6s						
TEND	Ethiopian Broa	93.80	290	*i* P	P	05 23 42.0	+2.2
TLIG	Tlapa	93.81	61	IAmb	IAmb	05 24 03.0	
	comp=Z,385nm,2.0s						
HARA	HARA	94.03	287	*i* P	P	05 23 46.7	+5.6
PMRV	Marv??o	94.06	341	⇑*i*P	P	05 23 39.4	-1.2
	comp=Z,111nm,1.7s						
PMRV				*e*pP	pP	05 23 55.0	-0.3
PMRV	Marv??o	94.06	341	*e*SKS	SKSac	05 34 12.1	+0.9
PMRV				*i* LQ	LQ	05 36 13.3	
PMRV	Marv??o	94.06	341	*e*LQ	LQ	05 52 42.4	
PMRV				*e*LR	LR	05 55 22.2	
	comp=Z,12μm,20.0s						
CART	Cartagena	94.10	336	P	P	05 23 36.9	-3.8
CART				SKS	SKSac	05 33 60.0	-11
CART	Cartagena	94.10	336	IAmb	IAmb	05 23 43.2	
	comp=Z,471nm,2.0s						
CART				IAMs_20	IAMs_20	06 10 37.2	
	comp=Z,6μm,21.0s						
PSBE	So Bento	94.30	342	⇑*i*P	P	05 23 40.7	-1.0
	comp=Z,179nm,2.0s						
PMTG	Montargil	94.59	342	⇑*i*P	P	05 23 41.3	-1.7
	comp=Z,97nm,2.2s						
PMTG				*e*pP	pP	05 23 56.9	-0.9
PESTR	Estremoz	94.64	341	⇑*i*P	P	05 23 41.9	-1.3
	comp=Z,102nm,1.8s						
PESTR				*e*pP	pP	05 23 58.2	+0.2
PMAFR	Mafra	94.94	342	⇑*i*P	P	05 23 43.6	-1.0
	comp=Z,228nm,1.4s						
PMAFR				*e*pP	pP	05 23 57.9	-1.5
MSEY	Mahe Island	95.03	268	IAMs_20	IAMs_20	06 07 18.4	
	comp=Z,4μm,21.0s						
EVO	Evora	95.06	341	P	P	05 23 43.4	-1.7
EVO				SKS	SKSac	05 34 15.1	-1.5
EVO	Evora	95.06	341	⇑*i*P	P	05 23 44.3	-0.8
	comp=Z,136nm,2.0s						
EVO				*e*pP	pP	05 23 59.4	-0.5
PMST	Lisbon--Monsan	95.13	342	⇑*i*P	P	05 23 43.9	-1.5
LIS	Lisbon	95.14	342	*e*P	P	05 23 44.4	-1.1
LIS				*e*PP	PP	05 27 35.1	+0.5
LIS				*e*SKSac	SKSac	05 34 17.0	+0.1
LIS				IAMs_20	IAMs_20	06 00 50.6	
	comp=N,13μm,29.8s						
LIS	Lisbon	95.14	342	*e*P	P	05 23 44.3	-1.1
LIS				*e*		05 27 35.0	
LIS				*e*		05 34 17.0	
LIS	Lisbon	95.14	342	⇑*i*P	P	05 23 44.6	-0.8
	comp=N,145nm,2.2s						
PBAR	Barrancos	95.17	340	⇑*i*P	P	05 23 45.0	-0.6
	comp=N,97nm,2.1s						
PBAR				*e*pP	pP	05 24 00.9	+0.5
DWPF	Disney Wildern	95.19	42	P	P	05 23 45.8	-0.1
	baz=327						
DESE	Dese	95.21	291	*i* P	P	05 23 48.0	+1.5
PBEJ	Beja	95.51	341	⇑*e*P	P	05 23 46.3	-0.9
	comp=N,109nm,1.8s						
PBEJ				*e*pP	pP	05 24 02.6	+0.6
PNCL	Nicolau / Gran	95.58	342	⇑*i*P	P	05 23 46.5	-1.0
	comp=N,88nm,2.2s						
PNCL				*e*pP	pP	05 24 01.6	-0.7
MESJ	Messejana	95.77	341	*e*P	P	05 23 47.7	-0.7
MESJ				*e*PP	PP	05 27 39.8	+0.4
MESJ				*e*SKSac	SKSac	05 34 20.5	+0.2
MESJ				IAMs_20	IAMs_20	06 02 06.1	
	comp=Z,13μm,28.1s						
MESJ	Messejana	95.77	341	*e*P	P	05 23 47.6	-0.7
MESJ				*e*		05 27 39.8	
MESJ				*e*		05 34 20.5	
MESJ	Messejana	95.77	341	⇑*i*P	P	05 23 47.5	-0.8
	comp=Z,144nm,2.1s						
MESJ				*e*pP	pP	05 24 01.6	-1.5
EMAL	Malaga-Limoner	95.84	338	P	P	05 23 45.1	-3.6
EMAL				SKS	SKSac	05 34 12.3	-8.4
PCVE	Castro Verde	95.92	341	⇑*i*P	P	05 23 48.6	-0.5
	comp=Z,155nm,1.9s						
PCVE				*e*pP	pP	05 24 04.5	+0.6
LIJA	Lijar	95.96	339	P	P	05 23 49.5	+0.1
PVAQ	Vaqueiros	96.06	341	⇑*i*P	P	05 23 49.2	-0.5
	comp=Z,100nm,1.8s						
PVAQ	Vaqueiros	96.06	341	*e*SKS	SKSac	05 34 21.9	0.0
PVAQ				*i* LQ	LQ	05 36 34.8	
PVAQ	Vaqueiros	96.06	341	*e*LQ	LQ	05 51 08.0	
PVAQ				*e*LR	LR	05 56 25.0	
	comp=Z,7μm,20.0s						
PVAQ	Vaqueiros	96.06	341	IAmb	IAmb	05 23 50.3	
	comp=Z,282nm,2.0s						
PTEO	Sao Teotonio	96.16	342	*e*P	P	05 23 49.7	-0.4
	comp=Z,234nm,1.9s						
ANKE	Ethiopia-Afar	96.24	290	*e*P	P	05 23 53.5	+2.1
PBDV	Barranco-do-Ve	96.27	341	⇑*i*P	P	05 23 50.4	-0.3
	comp=Z,122nm,2.0s						
PBDV				*e*pP	pP	05 24 04.7	-0.8
MORF	Marmelete	96.38	341	*e*P	P	05 23 50.5	-0.7
MORF				*e*PP	PP	05 27 44.0	-0.3
MORF				*e*SKSac	SKSac	05 34 23.6	0.0
MORF				IAMs_20	IAMs_20	06 10 04.1	
	comp=Z,13μm,23.3s						
MORF	Marmelete	96.38	341	*e*P	P	05 23 50.5	-0.7
MORF				*e*		05 27 43.9	
MORF				*e*		05 34 23.6	
MORF	Marmelete	96.38	341	⇑*i*P	P	05 23 50.4	-0.8
	comp=Z,212nm,2.1s						
MORF				*e*pP	pP	05 24 06.9	+0.9
PFVI	Vila Bisbo	96.58	342	⇑*i*P	P	05 23 50.9	-1.2
	comp=Z,163nm,1.3s						
PFVI				*e*pP	pP	05 24 06.4	-0.5
PFVI	Vila Bisbo	96.58	342	IAmb	IAmb	05 23 53.4	
	comp=Z,105nm,1.0s						
SFS	San Fernando	96.58	339	P	P	05 23 49.9	-2.1
SFS				SKS	SKSac	05 34 16.2	-8.4
CNIL	Conil	96.64	339	P	P	05 23 50.8	-1.6
MELI	Melilla	96.80	336	P	P	05 23 48.7	-4.4
MELI				SKS	S	05 35 23.6	+13
CEU	Ceuta	96.90	339	P	P	05 23 50.8	-2.8
CEU				SKS	SKSac	05 34 21.5	-4.7
H07S1	FLORES T-PHASE	97.03	359	*e*P	P	05 23 52.2	-1.9
PVLZ	Peæn de	97.30	337	P	P	05 23 51.5	-3.8
PVLZ				SKS	SKSac	05 34 22.5	-5.8
PGRA	Graciosa	97.30	357	*e*P	P	05 23 55.3	0.0
	comp=Z,307nm,1.4s						
AAE	Adis Abeba	97.30	290	*e*P	Pdif	05 23 58.2	+2.1
AAE	Adis Abeba	97.30	290	⇑*i*P	P	05 23 55.0	-1.1
AAE				*e*S	PP	05

CCIG	Comitan	98.77	57	IAMs_20	IAMs_20	06 03 58.5		
	comp=Z,4μm,22.0s							
IFR	Ifrane	99.08	338	P	Pdif	05 24 01.0	-2.6	
IFR				SKS	SKSac	05 34 37.8	0.0	
PSMN	Pico do Norte,	99.16	354	eP	Pdif	05 24 03.7	0.0	
	comp=Z,114nm,1.4s							
PSMA	Santa Maria	99.17	354	eP	Pdif	05 24 00.9	-2.8	
	comp=Z,122nm,1.4s							
DILA	Dilla	99.50	288	eP	Pdif	05 24 07.0	+1.3	
PETF	Flores	99.64	55	IAMs_20	IAMs_20	06 06 10.4		
	comp=Z,4μm,22.0s							
AVE	Averroes	99.90	339	P	Pdif	05 24 07.4	+0.4	
AVE				SKS		05 34 37.1		
MTO3	Montecristo	101.91	57	IAMs_20	IAMs_20	06 04 55.5		
	comp=Z,3μm,22.0s							
PMOZ	Porto Moniz, M	102.39	347⇑	eP	Pdif	05 24 18.0	-0.2	
PMOZ	Porto Moniz, M	102.39	347	eSKS		05 34 57.9		
PMOZ				i LQ	LQ	05 37 42.4		
PMOZ	Porto Moniz, M	102.39	347	eLR	LR	06 00 04.8		
	comp=Z,5μm,22.0s							
PMAR	Madeira	102.44	347⇑	eP	Pdif	05 24 18.6	0.0	
MTDJ	Mount Denham	105.40	45	IAMs_20	IAMs_20	06 15 57.0		
	comp=Z,3μm,22.0s							
KMBO	Kilima Mbogo	105.62	284	Pdiff	Pdif	05 24 33.7	+0.6	
	comp=Z,2.4nm,0.7s,baz=52,slow=6.5,SNR=6.8							
SDDR	Presa de Saban	107.76	39	IAMs_20	IAMs_20	06 22 32.0		
	comp=Z,4μm,20.0s							
PEZE	Perez Zeledon,	109.25	55	IAMs_20	IAMs_20	06 25 08.0		
	comp=Z,2μm,20.0s							
CDITO	Canoas	110.37	55	IAMs_20	IAMs_20	06 23 35.7		
	comp=Z,3μm,21.0s							
SJG	San Juan	110.76	35	IAMs_20	IAMs_20	06 21 33.8		
	comp=Z,4μm,20.0s							
CDVI	St. Croix	111.65	34	e	Pdif	05 25 05.0	+5.5	
SMRT	St. Maarten	112.04	32	IAMs_20	IAMs_20	06 21 46.2		
	comp=Z,3μm,21.0s							
SEUS	St. Eustatius	112.58	32	IAMs_20	IAMs_20	06 20 03.6		
	comp=Z,3μm,22.0s							
VOI	Vohitsoka	112.77	261	IAMs_20	IAMs_20	06 14 06.6		
	comp=Z,3μm,22.0s							
ANWB	Willy Bob	112.88	31	e	Pdif	05 25 07.2	+2.3	
ANBD	Bethesda, Anti	113.45	31	e	Pdif	05 25 06.7	-0.8	
CASY	Casey	113.63	196	IAMs_20	IAMs_20	06 11 40.0		
	comp=Z,3μm,20.0s							
ABD	La Joyeuse, An	114.08	31	e	Pdif	05 25 11.0	+0.7	
DSLB	Salisbury	115.05	32	e	Pdif	05 25 13.1	-1.6	
TORD	Torodi Ar. Bea	115.39	323	PKP	PKiKP	05 29 03.5	-0.7	
	comp=Z,111nm,0.6s,baz=18,slow=2.1,SNR=39							
TORD				PKKPbc	PKKPbc	05 39 37.1	+0.6	
	comp=Z,1.5nm,0.8s,baz=207,slow=2.2,SNR=8.8							
TORD				SKKP		05 43 21.2		
	comp=Z,1.7nm,0.9s,baz=176,slow=1.9,SNR=3.8							
TORD	Torodi Ar. Bea	115.39	323		PKiKP	05 29 02.8	-1.4	
DBBC	Dabeiba	115.45	50	eP	PKPdf	05 29 05.7	+1.2	
OCAC	Ocana	115.99	47	eP	PKiKP	05 29 05.9	+0.3	
BIM	Bigot	116.03	32	e	Pdif	05 25 23.6	+4.5	
MPOM	Morne Pois Mar	116.17	31	e	Pdif	05 25 13.0	-6.7	
CBOC	Ciudad Bolivar	116.51	51	eP	PKiKP	05 29 06.6	0.0	
SDV	Santo Domingo	116.82	44	IAMs_20	IAMs_20	06 26 37.4		
	comp=Z,3μm,21.0s							
PLMC	San Jos del P	117.14	51	eP	PKiKP	05 29 08.3	+0.6	
GUY2C	Guyana, Caldas	117.40	50	eP	PKPdf	05 29 08.5	-0.2	
BBGH	Gun Hill	117.85	31	e	Pdif	05 25 33.4	+6.2	
YOTC	Yotoco, Valle	117.86	52	eP	PKPdf	05 29 08.1	-1.1	
TOLC	Tolima	117.95	51	eP	PKiKP	05 29 09.7	0.0	
GRGR	Grenville	117.98	33	IAMs_20	IAMs_20	06 23 06.8		
	comp=Z,4μm,22.0s							
RUSC	La Rusia	118.09	48	eP	PKPdf	05 29 09.8	-0.2	
ROSC	El Rosal	118.29	50	PKP	PKiKP	05 29 10.6	+0.2	
	comp=Z,9.0nm,0.6s,baz=212,slow=2.8,SNR=5.7							
ROSC				PP	PP	05 30 26.6	+0.6	
	comp=Z,32nm,1.1s,baz=336,slow=11,SNR=4.9							
ROSC	El Rosal	118.29	50	IAMs_20	IAMs_20	06 29 25.9		
	comp=Z,3μm,21.0s							
ORTC	Ortega, Tolima	118.55	51	eP	PKPdf	05 29 09.8	-0.6	
CHIC	Chingaza	118.79	49	eP	PKiKP	05 29 11.4	+0.1	
POPC	Popayan, Colom	118.84	53	eP	PKPdf	05 29 03.9	-7.3	
POPC				eP	PKiKP	05 29 04.4	-6.9	
PRAC	Prado	118.91	51	eP	PKPdf	05 29 09.8	-1.3	
BBAC	Balboa, Cauca	118.93	54	eP	PKPdf	05 29 10.9	-0.4	
ELOV	Elorza	119.01	44	eP	PKiKP	05 29 11.6	+0.4	
MARP	Paez Belalcaza	119.01	52	eP	PKiKP	05 29 12.3	+0.6	
PCON	Cinco Dias	119.18	53	eP	PKPdf	05 29 09.3	-2.9	
SOTA	Rioblanco	119.21	54	eP	PKPdf	05 29 08.1	-4.1	
VILC	Villavicencio,	119.24	49	eP	PKiKP	05 29 12.1	+0.2	
BETC	Betania	119.44	52	eP	PKiKP	05 29 12.3	+0.1	
GCUF	Volcan Galeras	119.51	55	eP	PKiKP	05 29 13.9	+1.1	
OTAV	Otavalo	119.64	57	eP	PKPdf	05 29 12.9	-0.1	
TULM	Tulcn-Chalpat	119.66	56	eP	PKiKP	05 29 13.9	+0.8	
GARC	Garzon, Huila	119.81	52	eP	PKPdf	05 29 13.1	0.0	
SACV	Santiago Islan	120.85	351	IAMs_20	IAMs_20	06 26 54.5		
	comp=Z,3μm,20.0s							
GUVC	San Jose del G	121.12	49	eP	PKPdf	05 29 13.8	-1.5	
VNDA	Vanda	121.52	176	PKP	PKiKP	05 29 15.2	+1.0	
	comp=Z,7.3nm,0.7s,baz=314,slow=4.6,SNR=39							
VNDA				PKKPbc	PKKPbc	05 39 16.6	+1.2	
	comp=Z,19nm,1.2s,baz=197,slow=2.7,SNR=14							
TIC	Toumodi	124.03	327	ePKIKP	PKiKP	05 29 21.3	+0.1	
KIC	Kosan Boka	124.18	327	ePKIKP	PKiKP	05 29 21.6	+0.1	
	comp=Z,113nm,1.0s							
LIC	Lamto	124.42	327	ePKIKP	PKPdf	05 29 21.0	-0.6	
	comp=Z,129nm,0.8s							
BOAV	Boa Vista	127.24	37	eP	PKiKP	05 29 27.8	+0.3	
MAW	Mawson	127.99	209	PKP	PKiKP	05 29 28.0	+0.8	
	comp=Z,9.1nm,0.8s,baz=70,slow=3.7,SNR=16							
TBTG	Tabatinga, AM	128.19	51	eP	PKPdf	05 29 28.8	0.0	
CZSB	Cruzeiro do Su	129.41	57	eP	PKPdf	05 29 30.8	-0.3	
NNA	Nana	130.07	64	PKP	PKPdf	05 29 32.6	+0.2	
	baz=320,slow=4.5							
NNA	Nana	130.07	64	IAMs_20	IAMs_20	06 36 51.6		
	comp=Z,3μm,19.0s							
MACA	Manacapuru-AM	132.09	40	eP	PKiKP	05 29 37.1	-0.2	
BOSA	Boshof	132.30	269	PKhKP	PKPpre	05 29 22.8		
	comp=Z,4.5nm,0.9s,baz=59,slow=1.5,SNR=6.3							
BOSA				PKP	PKPdf	05 29 34.8	-1.5	
	comp=Z,12nm,0.7s,baz=354,slow=3.8,SNR=5.2							
BOSA				PP	PP	05 31 58.8	-1.1	
	comp=Z,16nm,1.0s,baz=38,slow=8.9,SNR=3.6							
MCPB	Macapa, AP	133.04	28	eP	PKPdf	05 29 37.9	-0.1	
QSPA	South Pole Qui	133.71	180	IAMs_20	IAMs_20	06 26 04.7		
	comp=Z,2μm,21.0s							
SAML	Samuel	135.82	47	IAMs_20	IAMs_20	06 40 23.7		
	comp=Z,3μm,20.0s							
SYO	Syowa Base	136.68	210‖	ePdiff	Pdif	05 26 50.3	+0.9	
SYO	Syowa Base	136.68	210‖	ePKPdf	PKPdf	05 29 42.0	-1.0	
SYO	Syowa Base	136.68	210⇑	/PKiKP	PKiKP	05 29 46.8	+2.0	
SYO	Syowa Base	136.68	210⇑	epPKPdf	pPKPdf	05 29 58.6	+0.4	
LPAZ	La Paz	138.84	59	PKhKP	PKPpre	05 29 40.4		
	comp=Z,5.2nm,0.8s,baz=332,slow=4.8,SNR=6.5							
LPAZ				PKP	PKPdf	05 29 49.7	+0.3	
	comp=Z,9.4nm,0.6s,baz=14,slow=8.3,SNR=16							
LPAZ				PP	PP	05 32 42.9	+1.6	
	comp=Z,2.1nm,0.6s,baz=38,slow=16,SNR=1.2							
NBMO	Morrinhos-CE	138.89	12	eP	PKiKP	05 29 50.2	-0.9	
AP01	Chacalluta	138.98	64	IAMs_20	IAMs_20	06 39 51.8		
	comp=Z,3μm,22.0s							
PSGCX	Pisagua	140.01	65	IAMs_20	IAMs_20	06 40 50.1		
	comp=Z,3μm,22.0s							
NBCL	Cascavel-CE	140.03	10	eP	PKPdf	05 29 51.5	+0.5	
TA02	Huaiquique	140.49	66	eP	PKPdf	05 29 45.1	-6.4	
TA01	Diego Aracena	140.66	66	eP	PKPdf	05 29 43.9	-7.9	
TA01	Diego Aracena	140.66	66	IAMs_20	IAMs_20	06 42 48.5		
	comp=Z,2μm,19.0s							
PB08	IPOC Station P	141.03	64	eP	PKPdf	05 29 47.7	-5.3	
PB08	IPOC Station P	141.03	64	IAMs_20	IAMs_20	06 44 38.6		
	comp=Z,3μm,21.0s							
PB01	IPOC Station P	141.46	66	eP	PKPdf	05 29 47.9	-5.5	
PB01	IPOC Station P	141.46	66	IAMs_20	IAMs_20	06 44 03.5		
	comp=Z,3μm,21.0s							
PB07	IPOC Station P	141.67	67	eP	PKPdf	05 29 48.9	-5.0	
RCBR	Riachuelo	141.86	6	PP	PP	05 33 00.0	+2.0	
	comp=Z,14nm,0.9s,baz=317,slow=7.4,SNR=5.0							
PB03	IPOC Station P	141.98	67	eP	PKPdf	05 29 49.6	-4.8	
PB05	IPOC Station P	142.23	69	eP	PKPdf	05 29 51.2	-3.6	
H03N2	Juan Fernandez	142.35	90	T	T	08 08 42.7		
	baz=304,slow=77,SNR=606							
H03N3	Juan Fernandez	142.36	90	T	T	08 08 43.9		
	baz=304,slow=77,SNR=677							
H03N1	Juan Fernandez	142.36	90	T	T	08 08 46.2		
	baz=304,slow=77,SNR=680							
PB10	IPOC Station P	142.44	70	eP	PKPdf	05 29 47.9	-7.0	
PB06	IPOC Station P	142.56	68	eP	PKPdf	05 29 50.0	-5.4	
PB06	IPOC Station P	142.56	68	IAMs_20	IAMs_20	06 24 07.0		
	comp=Z,3μm,20.0s							
SIV	San Ignacio	142.78	51	PKhKP	PKPpre	05 29 51.3		
	comp=Z,22nm,0.7s,baz=308,slow=3.3,SNR=11							
SIV				PP	PP	05 33 08.5	+4.1	
	comp=Z,23nm,1.1s,baz=3.4,slow=6.0,SNR=3.9							
LVC	Limon Verde	142.93	67	PKhKP	PKPpre	05 29 53.4		
	comp=Z,22nm,0.7s,baz=287,slow=4.4,SNR=34							
LVC	Limon Verde	142.93	67	eP	PKPdf	05 29 56.1	-0.2	
PB15	IPOC Station P	142.97	68	eP	PKPdf	05 29 52.1	-4.0	
PB14	IPOC Station P	143.28	71	eP	PKPab	05 29 53.2	+0.5	
PEXB	Peixe	145.28	29	eP	PKPbc	05 29 60.0	0.0	
SALV	Santo Antonio	145.54	43	eP	PKPab	05 30 01.5	+0.5	
NBAN	Anadia - AL	145.63	7	eP	PKPdf	05 30 00.9	+0.1	
LCO	Las Campanas	145.83	77	eP	PKPbc	05 30 01.7	0.0	
NBPN	Ponto Novo - B	146.24	15	eP	PKPdf	05 30 02.1	+0.2	
SDBA	SAO DESIDERIO	146.65	23	eP	PKPbc	05 30 04.2	0.0	
ARAG	Araguaiana, MT	147.18	37	eP	PKPbc	05 30 06.3	+0.7	
VA01	Torpederas	147.38	84	eP	PKPdf	05 30 03.4	+0.2	
PP1B	Ponte de Pedra	147.39	43	eP	PKPbc	05 30 05.1	-1.0	
VA05	Santo Domingo	147.73	85	eP	PKPdf	05 30 04.8	+1.1	
ROCH	El Roble	147.81	83	eP	PKPdf	05 30 04.9	+0.7	
MT02	Curacav	147.87	84	eP	PKPdf	05 30 05.2	+1.2	
VA03	San Esteban	148.04	83	eP	PKPdf	05 30 05.0	+0.6	
MT01	Popeta	148.10	85	eP	PKPdf	05 30 05.7	+1.3	
MT05	Renca	148.23	84	eP	PKPbc	05 30 06.5	-1.5	
MT09	Talagante	148.24	85	eP	PKPdf	05 30 06.0	+1.2	
MT03	Universidad Ad	148.44	84	eP	PKPbc	05 30 07.2	-1.4	
BDFB	Brasilia	148.65	31	PKP	PKPdf	05 30 06.2	+0.3	
	comp=Z,101nm,0.7s,baz=314,slow=2.3,SNR=15							
BDFB				PKPbc	PKPbc	05 30 10.3	+0.7	
	comp=Z,106nm,0.7s,baz=258,slow=1.2,SNR=15							
BDFB				PP	PP	05 33 36.5	-2.4	
	comp=Z,17nm,0.9s,baz=342,slow=8.6,SNR=2.3							
SNAA	Sanae	148.85	197	PKPdf	PKiKP	05 30 09.2	-0.7	
SNAA	Sanae	148.85	197	PKiKP	PKPab	05 30 26.3	+14	
SNAA	Sanae	148.85	197	PP	PP	05 33 43.9	+4.1	
	comp=Z,7.1nm,1.1s,baz=92,slow=14,SNR=0.9							
GDU01	Guandu, BA	149.16	14	eP	PKPdf	05 30 08.1	+1.5	
JANB	Januaria	149.33	24	eP	PKPdf	05 30 09.0	+2.1	
AQDB	Aquidauana	149.37	48	eP	PKPdf	05 30 08.4	+1.6	
NBIT	Itapeh - BA	150.37	15	eP	PKPdf	05 30 09.9	+1.4	
VNA3	Neumayer Olymp	150.54	194	PKPbc	PKiKP	05 30 13.5	+0.3	
VNA3	Neumayer Olymp	150.54	194	PKiKP	PKPab	05 30 30.4	+11	
IPMB	Ipameri, GO	150.71	33	eP	PKPdf	05 30 10.5	+1.5	
VNA1	Neumayer--Stat	150.76	196	PKPbc	PKiKP	05 30 14.0	+0.3	
VNA1	Neumayer--Stat	150.76	196	PKiKP	PKPab	05 30 30.5	+10	
CMC01	Camacan, BA	150.77	15	eP	PKPdf	05 30 11.1	+2.0	
MC01	Montes Claros	151.00	24	eP	PKPbc	05 30 12.6	-2.7	
ITRB	Iturama	151.34	38	eP	PKPdf	05 30 11.4	+1.5	
PLCA	Paso Flores	151.50	97	PKP	PKPdf	05 30 09.8	+0.1	
	comp=Z,15nm,1.0s,baz=239,slow=2.0,SNR=15							
PLCA				PKPbc	PKiKP	05 30 16.8	+0.5	
	comp=Z,87nm,0.7s,baz=252,slow=2.6,SNR=102							
GUA01	Guaratinga, BA	151.91	16	eP	PKPdf	05 30 10.4	-0.4	
PMSA	Palmer Station	152.54	150	PKP	PKPdf	05 30 10.2	0.0	
	comp=Z,3.5nm,0.7s,baz=120,slow=1.1,SNR=6.8							
PMSA				PKPbc	PKiKP	05 30 18.4	+0.9	
	comp=Z,45nm,0.8s,baz=164,slow=1.5,SNR=27							
DIAM	Diamantina, MG	152.58	25	eP	PKPdf	05 30 14.1	+2.1	
TRCB	Terra Rica	152.88	46	eP	PKPdf	05 30 12.2	0.0	
CPUP	Villa Florida	152.98	58	PKP	PKPdf	05 30 12.1	0.0	
	comp=Z,11nm,0.8s,baz=343,slow=1.5,SNR=22							
CPUP				PKPbc	PKiKP	05 30 19.6	0.0	
	comp=Z,24nm,0.6s,baz=322,slow=2.2,SNR=26							
CPUP				PKPab	sPKPdf	05 30 31.7	-0.7	
	comp=Z,41nm,0.8s,baz=304,slow=3.3,SNR=17							
NAN01	Guarapari, ES	153.07	17	eP	PKPdf	05 30 13.2	+0.7	
BB19B	Bebedouro	153.34	36	eP	PKPdf	05 30 14.9	+2.0	
SJMB	Sao Joao De Ma	153.65	20	eP	PKPdf	05 30 15.3	+2.0	
BSFB	Barra de Sao F	153.86	19	eP	PKPdf	05 30 15.2	+1.6	
RIB01	Linhares ES	154.43	19	eP	PKPdf	05 30 15.8	+1.4	
BSCB	Bom Sucesso	154.75	29	eP	PKPdf	05 30 16.1	+1.2	
FRTB	Fartura	154.86	41	eP	PKPdf	05 30 16.8	+1.9	
RCLB	Rio Claro- Sao	154.97	36	eP	PKPdf	05 30 18.3	+3.2	
ITAB	Concordia	156.71	51	eP	PKPdf	05 30 19.4	+2.1	
PLTB	Pedras Altas	159.11	62	eP	PKPdf	05 30 20.4	+0.3	

NOU ***07*** *05:35:13.5, 35.°79S×178.°80W, h37km, MLv6.0, East of North Island, N.Z.*

BJI ***07*** *05:35:14.0±0.0, 35.°17S×178.°55W, h37km, mb5.5/22, Ms5.4/1, Ms7 5.3/3*

NEIC ***07*** *05:35:14.5±3.0, 35.°43S±0.°04×179.°62W±0.°10, h10km±1km, mb5.6/75, Ms_20 5.6/112, Mww5.6, ML5.6(WEL), Mwc5.7(GCMT), Error ellipse: s-maj=13.3km s-min=6.3km az=262.0*

MOS ***07*** *05:35:14.2±1.3, 35.°14S×179.°88W, h10km, mb5.7/13, Error ellipse: s-maj=11.3km s-min=9.6km az=96.5*

WEL ***07*** *05:35:15.1±0.8, 36.°S±6.°×17.°9W±.°, h33km, M5.7/46, mB6.0/12, ML6.0/46, MLv5.8/46, Mw(mB)5.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=114.5*

NEIC ***07*** *05:35:15, 34.°78S×179.°67W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.76; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-1.66; $M_{r\theta}$1.04; $M_{r\phi}$-0.99; $M_{\theta\phi}$2.34; Fault plane solution: M_o3.24000×10^17^ NP1:ϕ_s208.00000°, δ19.00000°, λ94.00000°. NP2:ϕ_s24.00000°, δ71.00000°, λ89.00000°. Principal axes: T 3.0348, Plg64.0000°, Azm292.0000°; N 0.3790, Plg1.0000°, Azm25.0000°; P -3.4138, Plg26.0000°, Azm115.0000°;*

IDC ***07*** *05:35:17.0±1.3, 35.°14S×179.°79W, h20km±7km, mb4.9/25, mb1 5.0/28, mb1mx4.9/43, mbtmp5.0/28, ML5.3/3, MS5.3/4, Ms1 5.4/4, ms1mx4.6/27 Error ellipse: s-maj=12.5km s-min=11.4km az=104.0*

GCMT ***07*** *05:35:20.5±0.4, 35.°34S±0.°03×179.°28W±0.°03, h26km±1km, MW5.6/96, Moment Tensor Solution. s49,c63; s96,c133; Duration: 1s5 Moment tensor: Scale 10^17^Nm; M_{rr}2.24±.13; $M_{\theta\theta}$-0.28±.08; $M_{\phi\phi}$-1.96±.08; $M_{r\theta}$0.64±.20; $M_{\theta\phi}$-0.46±.05; $M_{r\phi}$2.04±.18; Best double couple: M_o3.04000×10^17^ NP1:ϕ_s193.00000°, δ23.00000°, λ86.00000°. NP2:ϕ_s17.00000°, δ67.00000°, λ91.00000°. Principal axes: T 3.1210, Plg68.0000°, Azm289.0000°; N -0.1630, Plg1.0000°, Azm196.0000°; P -2.9580, Plg22.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *05:35:21, 35.°43S×179.°25W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}1.51; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-1.42; $M_{r\theta}$2.02; $M_{\theta\phi}$-0.29; $M_{r\phi}$3.30; Fault plane solution: M_o4.15000×10^17^ NP1:ϕ_s178.00000°, δ12.00000°, λ59.00000°. NP2:ϕ_s30.00000°, δ80.00000°, λ96.00000°. Principal axes: T 4.2305, Plg55.0000°, Azm307.0000°; N -0.1702, Plg6.0000°, Azm209.0000°; P -4.0603, Plg35.0000°, Azm115.0000°;*

ISC 07 05:35:18.0±0.2, 35.°31S±0.°04×179.°59W±0.°05, h35km, n688, σ1$45/657, mb5.5/91, MS5.6/64, 12C-11D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.82	216		Pn	05 35 59.2	-1.4
MXZ	Matakaoa Point	2.82	216	P	Pn	05 35 59.6	-0.9
MXZ				S	Sn	05 36 33.8	+0.5
WMGZ	Waiomatatini S	2.98	212	P	Pn	05 36 02.6	-0.1
PKGZ	Pakihiroa	3.19	215	P	Pn	05 36 05.6	-0.1
PKGZ				S	Sn	05 36 43.0	+0.5
HAZ	Te Kaha	3.23	220	P	Pn	05 36 06.5	+0.3
PUZ	Puketiti	3.26	211	P	Pn	05 36 05.8	-0.8
WIZ	White Island	3.42	229	P	Pn	05 36 08.4	-0.3
RUGZ	Raukumara Rang	3.45	219	P	Pn	05 36 08.9	-0.3
TWGZ	Tauwhareparae	3.47	214	P	Pn	05 36 08.6	-0.8
CNGZ	Carnagh Statio	3.63	208	P	Pn	05 36 10.8	-0.9
TKGZ	Te Karaka	3.74	213	P	Pn	05 36 11.8	-1.4
TKGZ				S	Sn	05 36 56.5	+0.4
WHRZ	Whale Island	3.76	226	P	Pn	05 36 15.0	+1.6
MWZ	Matawai	3.81	217	P	Pn	05 36 12.9	-1.2
URZ	Urewera	3.96	221	Pn	Pn	05 36 15.6	-0.7
	120nm,0.3s,baz=268,slow=0.4,SNR=606						
URZ				Sn	Sn	05 37 01.4	-0.1
	132nm,0.3s,baz=136,slow=20,SNR=6.9						
URZ	Urewera	3.96	221		Pn	05 36 15.1	-1.2
URZ	Urewera	3.96	221	P	Pn	05 36 15.0	-1.2
RAGZ	Rawiri	3.99	216	P	Pn	05 36 15.6	-1.1
RAGZ				S	Sn	05 37 02.0	-0.2
RIGZ	Rimuhau	4.00	211	P	Pn	05 36 15.6	-1.2
RIGZ				S	Sn	05 37 02.0	-0.5
OPRZ	Ohinepanea	4.01	230	P	Pn	05 36 16.4	-0.4
MARZ	Manawahe	4.02	227	P	Pn	05 36 17.2	+0.1
EDRZ	Edgecumbe	4.06	225	P	Pn	05 36 17.5	-0.2
TGRZ	Tauranga	4.12	233	P	Pn	05 36 18.5	0.0
PRGZ	Paritu Road	4.14	208	P	Pn	05 36 16.7	-2.0
PRGZ				S	Sn	05 37 05.2	-0.6
LIRZ	Lichensteins R	4.21	229	P	Pn	05 36 20.6	+1.0
SNGZ	Shannon Statio	4.25	214	P	Pn	05 36 18.5	-1.8
SNGZ				S	Sn	05 37 09.7	+1.0
OMRZ	Omania	4.28	228	P	Pn	05 36 20.4	-0.3
TARZ	Mount Tarawera	4.29	226	P	Pn	05 36 21.3	+0.5
RTZ	Ruatahuna	4.30	219	P	Pn	05 36 20.2	-0.7
MUGZ	Murupara	4.30	222	P	Pn	05 36 19.6	-1.4
MUGZ				S	Sn	05 37 09.9	0.0
KNZ	Kokohu	4.30	210	P	Pn	05 36 18.6	-2.3
KARZ	Kaharoa	4.31	230	P	Pn	05 36 20.8	-0.3
MHGZ	Mahia Peninsul	4.33	207	P	Pn	05 36 19.1	-2.2
HLRZ	Highlands Stat	4.39	227	P	Pn	05 36 22.1	-0.1
KMRZ	Kaimai	4.40	234	P	Pn	05 36 22.4	+0.1
UTU	Utuhina	4.44	229	P	Pn	05 36 24.0	+1.2
RAHZ	Arahi	4.48	215	P	Pn	05 36 22.0	-1.4
HSRZ	Hossack Road	4.49	227	P	Pn	05 36 23.8	+0.3
HRRZ	Handcock Road	4.52	226	P	Pn	05 36 23.9	-0.1
WIAZ	Waiheke Island	4.53	249	P	Pn	05 36 26.3	+2.3
PRRZ	Plateau Road	4.53	224	P	Pn	05 36 23.2	-0.9
WHHZ	Waihua	4.54	213	P	Pn	05 36 22.5	-1.6
MTHZ	Maungataniwha	4.55	218	P	Pn	05 36 23.3	-1.0
MTHZ				S	Sn	05 37 17.2	+1.3
GRRZ	Galatos Road	4.60	227	P	Pn	05 36 25.1	+0.1
ALRZ	Allen Road	4.60	224	P	Pn	05 36 24.6	-0.5
TOZ	Tahuroa Road	4.63	237	P	Pn	05 36 26.0	+0.6
ETAZ	East Tamaki Re	4.73	248	P	Pn	05 36 29.0	+2.2
MRHZ	Matea Rd	4.75	221	P	Pn	05 36 26.4	-0.7
NMHZ	Naumai	4.75	216	P	Pn	05 36 25.5	-1.7
ARHZ	Aropaoanui	4.80	214	P	Pn	05 36 25.7	-2.0
KUTZ	Kaahu Road	4.86	228	P	Pn	05 36 28.4	-0.2
WHTZ	Whakaora	4.89	225	P	Pn	05 36 29.6	+0.5
RVAZ	Riverhead Bore	4.95	251	P	Pn	05 36 32.5	+2.8
BKZ	Black Stump Fm	4.96	218		Pn	05 36 28.4	-1.7
BKZ	Black Stump Fm	4.96	218	P	Pn	05 36 27.9	-2.1
HATZ	Hinemaiaia	4.97	223	P	Pn	05 36 29.7	-0.4
WATZ	Wairara	5.05	226	P	Pn	05 36 30.8	-0.5
MCHZ	McNeill Hill	5.08	215	P	Pn	05 36 29.4	-2.2
CKHZ	Cape Kidnapper	5.09	210	P	Pn	05 36 28.4	-3.3
RATZ	Rangitukua	5.14	225	P	Pn	05 36 31.9	-0.5
RITZ	Rihia Road	5.16	223	P	Pn	05 36 32.3	-0.5
KWHZ	Kaweka Forest	5.19	217	P	Pn	05 36 30.6	-2.6
KAHZ	Kaharanaki	5.29	211	P

baz=31,SNR=8.1
PAE Paea 31.92 64 *e*T T 06 14 27.3
comp=Z,1.5nm,0.3s
PPT2 Papeete2 31.97 64 *e*T T 06 14 33.3
comp=Z,5.2nm,0.4s
QLP Quilpie 32.08 276 P **P 05 41 42.9 +1.2**
baz=32,SNR=5.2
STKA Stephens Creek 32.38 265 P **P 05 41 45.4 +1.1**
comp=Z,38nm,1.0s,baz=105,slow=9.4,SNR=35
STKA ScP **ScP 05 48 14.0 +1.6**
comp=Z,8.9nm,1.0s,baz=114,slow=5.8,SNR=5.6
STKA Stephens Creek 32.38 265 P **P 05 41 44.0 -0.3**
STKA pmax pmax
comp=Z,22nm,1.2s
STKA Stephens Creek 32.38 265 P **P 05 41 44.0 -0.3**
KNTN Kanton 33.18 14 P **P 05 41 49.5 -1.9**
comp=Z,146nm,1.6s
CTA Charters Tower 33.63 288 P **P 05 41 56.2 +0.8**
comp=Z,100nm,0.9s,baz=116,slow=10,SNR=70
CTA ScP **ScP 05 48 18.7 +1.7**
comp=Z,12nm,1.0s,baz=90,slow=3.0,SNR=3.5
CTAO Charters Tower 33.63 288 P **P 05 41 56.0 +0.6**
CTAO pmax pmax
comp=Z,274nm,1.2s
CTAO Charters Tower 33.63 288 P **P 05 41 56.0 +0.6**
HTT Hallett 34.12 261 P **P 05 42 00.2 +0.6**
baz=34,SNR=9.9
MTSU Mount Surprise 36.25 289 P **P 05 42 19.7 +1.8**
baz=36,SNR=41
BBOO Buckleboo 36.60 261 P **P 05 42 20.8 0.0**
baz=36,SNR=11
BBOO Buckleboo 36.60 261 P **P 05 42 20.0 -0.8**
BBOO IAmb IAmb 05 42 34.7
comp=Z,200nm,1.6s
TARA Tarawa 37.14 348 P **P 05 42 24.1 -1.4**
TARA IAmb IAmb 05 42 36.0
comp=Z,176nm,1.4s
QIS Mount Isa 38.65 281 P **P 05 42 38.8 +0.5**
baz=38,SNR=33
PMG Port Moresby 39.80 302 P **P 05 42 48.3 +0.4**
comp=Z,40nm,0.9s,baz=115,slow=7.9,SNR=11
PMG LR LR 05 56 30.3
comp=Z,6μm,21.0s,baz=136,slow=32
PMG Port Moresby 39.80 302*ce*P **P 05 42 46.6 -1.2**
PMG pmax pmax
comp=Z,98nm,1.7s
PMG Port Moresby 39.80 302 P **P 05 42 48.4 +0.6**
PMG IAmb IAmb 05 42 50.7
comp=Z,98nm,1.1s
ASAR Alice Springs 41.77 273 P **P 05 43 04.0 -0.1**
comp=Z,103nm,1.1s,baz=114,slow=7.6,SNR=159
ASAR ScP **ScP 05 48 49.8 +2.2**
comp=Z,4.0nm,0.7s,baz=108,slow=3.2,SNR=5.9
ASAR S **S 05 49 16.2 -3.1**
comp=Z,4.6nm,1.0s,baz=118,slow=16,SNR=6.2
ASAR LR LR 06 00 46.2
comp=Z,10μm,18.4s,baz=76,slow=37
WR0 Warramunga Arr 43.03 278 P **P 05 43 13.0 -1.4**
WR0 IAmb IAmb 05 43 15.7
comp=Z,144nm,1.1s
WR9 Warramunga Arr 43.06 278 IAMs_20 IAMs_20 06 01 41.7
comp=Z,5μm,18.0s
WR7 Warramunga Arr 43.09 278 IAMs_20 IAMs_20 06 01 42.6
comp=Z,5μm,18.0s
VNDA Vanda 43.09 186 P **P 05 43 17.9 +3.7**
comp=Z,3.1nm,0.7s,baz=1.1,slow=7.2,SNR=2.5
WR4 Warramunga Arr 43.15 278 IAMs_20 IAMs_20 06 01 45.1
comp=Z,5μm,18.0s
WR3 Warramunga Arr 43.16 278 IAMs_20 IAMs_20 06 01 53.6
comp=Z,6μm,18.0s
WC3 Warramunga Arr 43.17 278 IAMs_20 IAMs_20 06 00 38.8
comp=Z,6μm,20.0s
WC4 Warramunga Arr 43.20 278 IAMs_20 IAMs_20 06 00 39.4
comp=Z,6μm,19.0s
WB2 Warramunga Arr 43.20 278 P **P 05 43 15.2 -0.5**
WB2 IAMs_20 IAMs_20 06 00 39.4
comp=Z,6μm,19.0s
WRAB Tennant Creek 43.20 278*ce*P **P 05 43 15.5 -0.3**
WRAB pmax pmax
comp=Z,255nm,1.7s
WRAB Tennant Creek 43.20 278 P **P 05 43 15.1 -0.7**
WRAB IAmb IAmb 05 43 16.9
comp=Z,190nm,1.2s
WRAB Tennant Creek 43.20 278 IAMs_20 IAMs_20 06 00 39.3
comp=Z,5μm,19.0s
WB3 Warramunga Arr 43.20 278 IAMs_20 IAMs_20 06 00 38.6
comp=Z,6μm,20.0s
WR1 Warramunga Arr 43.21 278 IAMs_20 IAMs_20 06 03 06.7
comp=Z,9μm,19.0s
WRA Warramunga Arr 43.21 278 P **P 05 43 15.5 -0.3**
comp=Z,93nm,0.9s,baz=118,slow=7.5,SNR=439
WRA ScP **ScP 05 48 55.9 +2.6**
comp=Z,3.2nm,1.0s,baz=101,slow=3.4,SNR=3.7
WRA S **S 05 49 35.4 -5.1**
comp=Z,8.2nm,1.1s,baz=117,slow=13,SNR=7.8
WRA LR LR 06 00 50.3
comp=Z,5μm,19.3s,baz=115,slow=36
WRA Warramunga Arr 43.21 278 P **P 05 43 14.2 -1.6**
WC1 Warramunga Arr 43.22 278 IAMs_20 IAMs_20 06 00 39.9
comp=Z,6μm,20.0s
PTCN Pitcairn Islan 43.59 90 IAMs_20 IAMs_20 05 59 23.6
comp=Z,8μm,21.0s
FORT Forrest 43.70 261 P **P 05 43 19.1 -0.6**
baz=44,SNR=14
FORT Forrest 43.70 261 P **P 05 43 17.7 -2.0**
FORT IAmb IAmb 05 43 31.4
comp=Z,172nm,1.3s
MANU Manus Island 45.13 310 P **P 05 43 30.3 -0.9**
MANU IAmb IAmb 05 43 52.9
comp=Z,86nm,1.5s
WRKA Warakurna 45.75 268 P **P 05 43 34.9 -1.2**
baz=46,SNR=15
GENI Genyem 49.49 302 P **P 05 44 05.3 +0.1**
comp=Z,5μmcomp=Z,85nm,1.0s
MTN Manton Dam 49.65 284 P **P 05 44 06.4 0.0**
baz=50,SNR=6.6
MTN Manton Dam 49.65 284 P **P 05 44 05.4 -0.9**
MTN IAmb IAmb 05 44 07.4
comp=Z,98nm,1.2s
KNRA Kununurra 49.96 279 P **P 05 44 08.7 0.0**
baz=50,SNR=12
KNRA Kununurra 49.96 279 P **P 05 44 08.3 -0.4**
CASY Casey 50.21 210 P **P 05 44 09.4 -0.6**
FITZ Fitzroy Crossi 51.22 275 P **P 05 44 18.1 -0.1**
comp=Z,66nm,0.9s,baz=138,slow=7.5,SNR=54
FITZ S **S 05 51 33.5 -1.0**
comp=Z,4.6nm,1.1s,baz=32,slow=23,SNR=7.2
FITZ Fitzroy Crossi 51.22 275 P **P 05 44 18.1 -0.1**
baz=51,SNR=53
FITZ Fitzroy Crossi 51.22 275 P **P 05 44 17.6 -0.6**
NWAO Narrogin (SRO) 51.56 253 P **P 05 44 19.8 -0.9**
comp=Z,37nm,1.0s,baz=127,slow=7.9,SNR=12
NWAO Narrogin (SRO) 51.56 253 P **P 05 44 20.0 -0.7**
baz=51,SNR=10
NWAO Narrogin (SRO) 51.56 253 IAmb IAmb 05 44 20.8
comp=Z,102nm,1.3s
KLBR Kellerberrin 51.65 255 P **P 05 44 20.4 -0.9**
baz=51,SNR=21
MUN Mundaring 52.72 254 P **P 05 44 28.5 -0.8**
baz=52,SNR=7.8
BLDU Ballidu 52.85 256 P **P 05 44 29.7 -0.6**
baz=53,SNR=5.4
MEEK Meekatharra 52.95 261 P **P 05 44 29.7 -1.3**
baz=53,SNR=21
MORW Morawa 54.00 257 P **P 05 44 37.5 -1.3**
baz=54,SNR=11
MORW Morawa 54.00 257 P **P 05 44 37.2 -1.5**
MORW IAmb IAmb 05 44 38.3
comp=Z,40nm,1.1s
PSAA3 Pilbara Seismi 54.23 267 IAMs_20 IAMs_20 06 08 34.2
comp=Z,6μm,19.0s
PSAB2 Pilbara Seismi 54.23 267 IAMs_20 IAMs_20 06 08 42.4
comp=Z,7μm,18.0s
PSA00 Pilbara Seismi 54.24 267 P **P 05 44 38.7 -1.8**
PSA00 IAmb IAmb 05 44 51.0
comp=Z,73nm,1.0s
PSA00 Pilbara Seismi 54.24 267 IAmb IAmb 05 44 40.7
comp=Z,73nm,1.2s
PSAC1 Pilbara Seismi 54.28 267 IAMs_20 IAMs_20 06 08 44.3
comp=Z,7μm,18.0s
MBWA Marble Bar 54.53 268 IAMs_20 IAMs_20 06 09 23.6
comp=Z,4μm,18.0s
QSPA South Pole Qui 54.82 180 P **P 05 44 47.8 +3.5**
comp=Z,18nm,0.8s,baz=23,slow=3.0,SNR=14
QSPA South Pole Qui 54.82 180 P **P 05 44 44.1 -0.2**
QSPA IAmb IAmb 05 45 10.1
comp=Z,82nm,1.1s

FAKI Fak Fak 54.97 295 P **P 05 44 45.4 -0.5**
comp=Z,52nm,1.8s
SOEI Soe 56.91 282 P **P 05 45 00.6 +0.6**
SOEI IAMs_20 IAMs_20 06 11 05.6
comp=Z,4μm,19.0s
SOEI Soe 56.91 282 P **P 05 45 00.8 +0.9**
comp=Z,174nm,1.2s
SWI Sorong 57.08 296 P **P 05 45 00.6 -0.4**
comp=Z,89nm,1.5s
BATI Baumata 57.13 281 P **P 05 45 00.4 -1.0**
comp=Z,34nm,0.7s,baz=170,slow=5.7,SNR=7.0
MSAI Masohi 57.19 292 P P 05 45 15.0 +13
GIRL Giralia 58.30 263 P **P 05 45 10.1 +0.6**
baz=58,SNR=4.4
MMRI Maumere 59.18 282 P **P 05 45 14.8 -1.0**
MMRI Maumere 59.18 282 P **P 05 45 15.1 -0.6**
comp=Z,7μmcomp=Z,220nm,1.2s
EDFI Ende, Flores 59.55 281 P **P 05 45 16.8 -1.6**
comp=Z,37nm,1.1s
SANI Sanana 60.27 291 P **P 05 45 22.5 -0.7**
comp=Z,2μmcomp=Z,132nm,0.9s
PLAI Plampang 62.66 279 P **P 05 45 38.0 -1.4**
comp=Z,83nm,1.1s
BKSI Bulukumba 62.83 284 P **P 05 45 39.7 -0.8**
comp=Z,55nm,1.6s
KAPI Kappang 63.31 284 P **P 05 45 43.3 -0.4**
comp=Z,36nm,1.1s,baz=173,slow=16,SNR=5.3
KAPI Kappang 63.31 284 P **P 05 45 43.1 -0.6**
KAPI IAmb IAmb 05 46 05.7
comp=Z,70nm,1.2s
BNSI Bone 63.39 284 P **P 05 45 43.8 -0.4**
comp=Z,50nm,1.3s
TWSI Taliwang, Sumb 63.43 278 P **P 05 45 43.7 -0.8**
comp=Z,45nm,1.2s
APSI Ampana 64.33 288 P **P 05 45 49.7 -0.7**
comp=Z,78nm,1.2s
TTSI Tana Toraja 64.44 285 P **P 05 45 50.5 -0.6**
comp=Z,58nm,0.9s
JAGI Jajag, Banyuwa 65.80 277 IAMs_20 IAMs_20 06 14 52.6
comp=Z,3μm,19.0s
TOLI2 Tolitoli 66.27 290 P **P 05 46 01.3 -1.7**
TOLI2 IAmb IAmb 05 46 19.0
comp=Z,58nm,1.4s
KBKI Kotabaru 67.19 283 P **P 05 46 08.2 -0.6**
comp=Z,11μmcomp=Z,65nm,1.0s
MAW Mawson 67.26 202 P **P 05 46 10.8 +2.4**
comp=Z,31nm,1.1s,baz=109,slow=9.0,SNR=16
MAW Mawson 67.26 202 P **P 05 46 10.1 +1.7**
baz=67,SNR=9.8
MAW Mawson 67.26 202 P **P 05 46 05.9 -2.6**
PWJI Pagerwojo 67.96 276 P **P 05 46 12.7 -1.0**
comp=Z,63nm,1.3s
BBKI Banjar Baru 68.15 282 P **P 05 46 14.8 -0.1**
comp=Z,61nm,1.3s
PMSA Palmer Station 68.36 155 P **P 05 46 16.1 +0.7**
comp=Z,5.7nm,0.8s,baz=203,slow=10,SNR=5.8
PMSA Palmer Station 68.36 155 P **P 05 46 15.5 +0.1**
PCJI Pacitan 68.37 275 P P 05 46 10.3 -6.0
KPJI Karang Pucung 70.69 275 P **P 05 46 29.7 -0.9**
comp=Z,57nm,1.2s
CISI Cisompet, Garu 71.48 274 P **P 05 46 33.6 -1.9**
CISI Cisompet, Garu 71.48 274 P **P 05 46 32.8 -2.6**
comp=Z,56nm,1.2s
SPMM Sapulut 71.87 290 P P 05 46 50.0 +12
SYO Syowa Base 72.05 194‖*e*P **P 05 46 34.2 -3.7**
SYO Syowa Base 72.05 194‖*ep*P **P 05 46 39.6 +1.7**
SYO Syowa Base 72.05 194‖*e*X P 05 46 45.0 +7.1
LEM Lembang 72.05 274 P **P 05 46 37.7 -1.3**
comp=Z,44nm,0.6s,baz=288,slow=22,SNR=7.1
DBJI Dramaga 72.91 274 P **P 05 46 42.8 -1.2**
comp=Z,3μmcomp=Z,54nm,0.7s
SNAA Sanae 73.30 179 P **P 05 46 45.4 -0.1**
SNAA Sanae 73.30 179*ce*P **P 05 46 46.5 +1.1**
SNAA pmax pmax
comp=Z,25nm,1.3s
MG02 Cerro Sombrero 73.49 144 IAMs_20 IAMs_20 06 25 02.6
comp=Z,3μm,19.0s
VNA3 Neumayer Olymp 73.51 177 P **P 05 46 46.4 -0.2**
SBUM Sibu 73.79 285 P **P 05 46 49.0 -0.1**
VNA1 Neumayer--Stat 74.16 177 P **P 05 46 50.4 0.0**
KSM Kuching 74.72 283 P **P 05 46 54.0 -0.5**
PPBI Pangkal Pinang 75.93 277 P **P 05 47 00.3 -1.2**
comp=Z,37nm,1.3s
MDSI Maura Dua 76.19 274 P **P 05 47 00.5 -2.5**
comp=Z,26nm,0.9s
PMBI Palembang 76.60 276 IAMs_20 IAMs_20 06 20 35.6
comp=Z,3μm,21.0s
LHSI Lahat 77.10 274 P **P 05 47 05.8 -2.3**
comp=Z,70nm,0.9s
LL07 Hotel Espejo d 77.13 134 IAMs_20 IAMs_20 06 26 41.2
comp=Z,5μm,21.0s
LL05 Los Muermos 77.98 132 IAMs_20 IAMs_20 06 25 12.9
comp=Z,4μm,20.0s
LL03 Petrohue 78.78 133 IAMs_20 IAMs_20 06 24 39.2
comp=Z,4μm,22.0s
LL04 Puerto Octay 78.92 132 IAMs_20 IAMs_20 06 24 28.8
comp=Z,4μm,22.0s
EFI East Falkland 79.40 147 *i*P **P 05 47 19.4 -0.9**
EFI pmax pmax
comp=Z,128nm,1.5s
PLCA Paso Flores 80.14 133 P **P 05 47 25.9 +1.3**
comp=Z,14nm,1.0s,baz=224,slow=6.1,SNR=7.3
LC01 Cunco 80.47 131 IAMs_20 IAMs_20 06 21 49.0
comp=Z,4μm,22.0s
MJAR Matsushiro Arr 81.56 327 P **P 05 47 30.7 -1.1**
comp=Z,0.8nm,0.4s,baz=163,slow=6.6,SNR=7.4
MJAR Matsushiro Arr 81.56 327 P **P 05 47 30.4 -1.4**
MAJO Matsushiro 81.56 327 *i*P **P 05 47 29.4 -2.5**
MAJO pmax pmax
comp=Z,15nm,1.4s
MAT Matsushiro 81.56 327 P **P 05 47 30.8 -1.1**
JWT Wachi 81.82 324 P **P 05 47 32.2 -1.1**
JHS Saijyo 82.71 323 P **P 05 47 37.3 -0.7**
JHS IAmb IAmb 05 47 39.2
comp=Z,50nm,1.5s
GO05 Huala 82.82 128 IAMs_20 IAMs_20 06 25 28.9
comp=Z,3μm,20.0s
MNSI Mandailing Nat 82.97 276 P **P 05 47 37.3 -2.5**
BO02 Sierra Bellavi 83.70 128 IAmb IAmb 05 48 02.4
comp=Z,43nm,1.0s
BO02 IAMs_20 IAMs_20 06 25 11.0
comp=Z,3μm,21.0s
BO01 Tunca 83.75 128 IAMs_20 IAMs_20 06 24 59.5
comp=Z,4μm,21.0s
VA05 Santo Domingo 83.86 127 IAMs_20 IAMs_20 06 23 55.6
comp=Z,4μm,21.0s
IPM Ipoh 83.94 280 P **P 05 47 45.0 +0.2**
MT01 Popeta 83.97 127 IAmb IAmb 05 47 51.6
comp=Z,48nm,0.9s
MT01 IAMs_20 IAMs_20 06 25 17.4
comp=Z,4μm,20.0s
MT09 Talagante 84.20 127 P **P 05 47 45.4 -0.7**
MT09 IAmb IAmb 05 48 07.2
comp=Z,35nm,1.1s
MT09 IAMs_20 IAMs_20 06 25 24.4
comp=Z,4μm,21.0s
VA01 Torpederas 84.24 127 IAMs_20 IAMs_20 06 21 03.8
comp=Z,3μm,20.0s
MT02 Curacav 84.42 127 IAMs_20 IAMs_20 06 28 15.5
comp=Z,3μm,20.0s
MT05 Renca 84.60 127 P **P 05 47 48.3 +0.2**
MT05 IAMs_20 IAMs_20 06 24 02.1
comp=Z,3μm,21.0s
MT03 Universidad Ad 84.69 128 IAMs_20 IAMs_20 06 26 27.3
comp=Z,2μm,20.0s
KULM Kulim 84.72 280 P **P 05 47 48.0 -0.7**
GSI Gunungsitoli 84.89 275 P **P 05 47 49.1 -0.5**
GSI Gunungsitoli 84.89 275 P **P 05 47 48.9 -0.8**
comp=Z,170nm,1.2s
HOPE Hope Point 85.27 159 IAMs_20 IAMs_20 06 32 17.7
comp=Z,3μm,19.0s
CO03 El Pedregal 86.24 125 IAmb IAmb 05 48 04.3
comp=Z,89nm,1.6s
TJN Taejon 86.73 320*ce*P **P 05 47 57.0 -1.1**
KIWB Kanaga Island 86.82 2 P **P 05 47 59.5 +1.3**
ADK Adak 86.86 2 P **P 05 47 59.4 +1.1**
ADK pmax pmax
comp=Z,198nm,1.2s
ADK Adak 86.86 2 P **P 05 47 59.4 +1.1**
TRQA Tornquist 86.91 136 IAMs_20 IAMs_20 06 29 01.7
comp=Z,3μm,22.0s
TRQA Tornquist 86.91 136 *e*P **P 05 48 03.5 +4.2**
KSRS Korea Array 87.25 321 P **P 05 48 01.7 +1.1**
comp=Z,5.1nm,1.0s,baz=146,slow=5.9,SNR=15
ATKA Atka Island 87.27 3 P **P 05 48 01.3 +0.9**
MLSI Meulaboh, Aceh 87.56 277 P **P 05 48 00.9 -1.9**

AC04 Llanos de Chal 87.63 123 IAMs_20 IAMs_20 06 29 48.1
comp=Z,3μm,20.0s
NIKH Nikolski High 88.41 6 P **P 05 48 06.6 +0.9**
baz=188
NJ2 Nanjing 88.46 312 *e*P **P 05 48 07.0 +0.5**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
MSHR Mys Shultsa 89.63 326*ce*P **P 05 48 12.2 +0.4**
MSHR pmax pmax
comp=Z,29nm,1.7s
AC02 Maricunga 89.83 123 IAMs_20 IAMs_20 06 25 53.4
comp=Z,3μm,22.0s
PET Petropavlovsk 89.98 347 *e*P **P 05 48 13.8 +0.7**
PET pmax pmax
comp=Z,58nm,1.1s
PET Petropavlovsk 89.98 347 P **P 05 48 12.9 -0.3**
PET IAmb IAmb 05 48 14.6
comp=Z,40nm,1.0s
MONP2 Monument Peak 90.02 49 P **P 05 48 14.7 +0.6**
baz=226
MURC Murrieta 90.03 48 P **P 05 48 13.6 -0.4**
baz=226
IKP In-Ko-Pah, Jac 90.05 49 P **P 05 48 14.1 -0.1**
baz=226
BFSC Mount Baldy Ra 90.19 47 P **P 05 48 15.4 +0.6**
baz=225
PEA0B Petropavlovsk- 90.24 347*ce*P **P 05 48 14.4 0.0**
PEA0B Petropavlovsk- 90.24 347 P **P 05 48 14.8 +0.4**
PETK Petropavlovsk- 90.24 347 P **P 05 48 15.4 +1.0**
comp=Z,53nm,1.0s,baz=132,slow=6.2,SNR=36
NONG Nongkai 90.33 292 P **P 05 48 16.2 +0.5**
PB14 IPOC Station P 90.36 121 P **P 05 48 17.6 +1.4**
PB14 IAmb IAmb 05 48 24.6
comp=Z,44nm,1.4s
PB14 IAMs_20 IAMs_20 06 24 16.6
comp=Z,3μm,20.0s
SWSC Sam W. Stewart 90.44 49 P **P 05 48 16.4 +0.6**
baz=226
EDW2 Edwards Air Fo 90.44 46 P **P 05 48 16.4 +0.5**
baz=225
VES Vestal, Richgr 90.47 45 P **P 05 48 16.1 +0.2**
baz=225
TPFO Pinon Flats 90.49 48 P **P 05 48 15.4 -0.8**
baz=226
PFO Pinyon Flats O 90.49 48 P **P 05 48 18.6 +2.4**
comp=Z,3.6nm,0.9s,baz=242,slow=3.3,SNR=6.4
PFO Pinyon Flats O 90.49 48 P **P 05 48 15.6 -0.6**
baz=226
PB10 IPOC Station P 90.95 120 IAMs_20 IAMs_20 06 29 03.6
comp=Z,4μm,19.0s
HSIG 90.96 55 P **P 05 48 20.6 +2.2**
BELC Belle Mtn. Jos 91.03 48 P **P 05 48 17.9 -0.9**
baz=226
GLA Glamis 91.11 49 P **P 05 48 19.5 +0.5**
baz=227
BC3 Big Chuckawall 91.13 49 P **P 05 48 19.4 +0.2**
baz=227
HEC Hector,Ludlow 91.39 47 P **P 05 48 20.4 +0.1**
baz=226
GSC Goldstone, Bar 91.43 47 P **P 05 48 20.9 +0.4**
baz=226
O02D Mt. Diablo Mer 91.52 40 P **P 05 48 21.9 +1.1**
baz=222
MPMC Manual Prospec 91.55 46 P **P 05 48 22.3 +1.1**
baz=226
AFDM Forest Hills D 91.61 42 P **P 05 48 23.4 +2.2**
AFDM IAmb IAmb 05 50 14.6
comp=Z,29nm,1.6s
214A Organ Pipe Nat 91.66 51 P **P 05 48 22.7 +1.1**
baz=228
IRM Iron Mountain 91.66 48 P **P 05 48 22.6 +1.1**
baz=227
DL2 Dalian 91.67 318 P **P 05 48 21.2 -0.2**
DL2 pmax pmax
comp=Z,19nm,1.3s
GMRC Granite Mounta 91.77 48 P **P 05 48 24.3 +2.1**
baz=226
PHIT Phitsanulok 91.90 290 P P 05 48 39.2 +16
PB15 IPOC Station P 91.91 120 IAMs_20 IAMs_20 06 25 26.4
comp=Z,4μm,21.0s
MDJ Mudanjiang 91.93 326 P **P 05 48 23.1 +0.7**
MDJ S **S 05 59 26.3 +5.1**
MDJ sS sS 05 59 43.8 +5.9
MDJ pmax pmax
comp=Z,24nm,1.4s
MDJ LR LR
comp=Z,2μm,12.8s
WDC Whiskeytown Da 91.95 40 IAmb IAmb 05 50 19.6
comp=Z,53nm,1.9s
PB04 IPOC Station P 91.99 119 IAMs_20 IAMs_20 06 24 45.1
comp=Z,3μm,20.0s
O03E Paynes Creek 92.13 40 P **P 05 48 25.3 +1.7**
baz=223
WAKR Walker 92.14 43 P **P 05 48 25.7 +1.9**
WAKR IAmb IAmb 05 50 14.2
comp=Z,75nm,1.9s
N02D Trinity Center 92.15 39 P **P 05 48 25.5 +1.8**
baz=222
PDMCI Parker Dam,Lak 92.37 49 P **P 05 48 27.3 +2.6**
baz=227
M02C Callahan 92.38 39 P **P 05 48 27.2 +2.5**
baz=222
PNTR Pine Nut 92.46 42 P **P 05 48 27.6 +2.2**
LHV Little Huntoon 92.49 44 P **P 05 48 28.1 +2.9**
LHV IAmb IAmb 05 50 07.6
comp=Z,29nm,1.3s
L02E Cave Junction 92.55 38 P **P 05 48 26.8 +1.3**
baz=222
PB07 IPOC Station P 92.56 119 IAMs_20 IAMs_20 06 25 03.3
comp=Z,5μm,21.0s
LVC Limon Verde 92.69 120 P **P 05 48 27.1 -0.1**
LVC pmax pmax
comp=Z,56nm,1.5s
LVC Limon Verde 92.69 120 P **P 05 48 27.1 -0.1**
LVC IAmb IAmb 05 48 37.1
comp=Z,56nm,1.5s
LVC Limon Verde 92.69 120 IAMs_20 IAMs_20 06 23 45.6
comp=Z,3μm,20.0s
LVC Limon Verde 92.69 120 *e*P **P 05 48 29.2 +2.0**
NVAR Mina Array Bea 92.72 44 P **P 05 48 29.0 +2.4**
comp=Z,1.4nm,0.8s,baz=223,slow=8.6,SNR=6.4
NVAR Mina Array Bea 92.72 44 P **P 05 48 27.2 +0.6**
NV11 Mina Array Sit 92.81 44 P **P 05 48 27.4 +0.6**
NV11 IAmb IAmb 05 50 04.5
comp=Z,43nm,1.9s
Y14A Wickenburg 92.84 50 P **P 05 48 27.2 +0.2**
TPNV Topopah Spring 92.89 46 P **P 05 48 27.2 -0.1**
baz=226
K02D Willamette Mer 92.92 38 P **P 05 48 29.2 +2.0**
baz=222
PB09 IPOC Station P 92.97 119 P **P 05 48 26.7 -1.5**
PB09 IAmb IAmb 05 48 38.3
comp=Z,32nm,1.2s
PAHR Pah Rah Range 93.01 42 P **P 05 48 29.5 +1.7**
PAHR IAmb IAmb 05 50 06.3
comp=Z,45nm,1.9s
TA01 Diego Aracena 93.08 118 IAMs_20 IAMs_20 06 38 27.4
comp=Z,2μm,22.0s
J01E Myrtle Point 93.13 37 P **P 05 48 28.9 +0.9**
baz=222
M04C Macdoel 93.18 39 P **P 05 48 29.0 +0.5**
baz=223
TUC Tucson 93.19 52 P **P 05 48 28.6 -0.1**
baz=229
HUMO Hull Mountain 93.21 38 IAmb IAmb 05 50 21.1
comp=Z,39nm,1.5s
L04D Klamath Falls 93.26 39 P **P 05 48 29.9 +1.1**
baz=223
CN2 Changchun 93.26 324 *e*P **P 05 48 27.5 -1.1**
CN2 *es*P sP 05 48 42.2 +0.2
PB01 IPOC Station P 93.28 119 IAMs_20 IAMs_20 06 22 08.5
comp=Z,3μm,22.0s
CMAR Chiang Mai Arr 93.78 290 P **P 05 48 31.6 0.0**
comp=Z,1.8nm,0.5s,baz=151,slow=3.4,SNR=11
CMAR PP **PP 05 52 17.6 0.0**
comp=Z,1.1nm,0.3s,baz=130,slow=6.5,SNR=5.3
CMAR LR LR 06 33 06.5
comp=Z,485nm,20.5s,baz=145,slow=37
CMAR Chiang Mai Arr 93.78 290 P **P 05 48 31.4 -0.2**
CMAR Chiang Mai Arr 93.78 290 P **P 05 48 31.4 -0.2**
CM15 Chiang Mai Arr 93.79 290 P P 05 48 38.7 +7.0
I03D Drain, OR 93.81 37 P **P 05 48 32.6 +1.4**
baz=222
MOD Modoc Plateau 94.07 40 IAmb IAmb 05 50 11.0
comp=Z,38nm,1.4s
PB08 IPOC Station P 94.09 118 IAMs_20 IAMs_20 06 29 51.1
comp=Z,3μm,22.0s

J04D Umpqua Nationa 94.10 38 P **P 05 48 34.9 +2.1**
baz=223
J05D Fort Rock, OR 94.57 39 P **P 05 48 37.5 +2.7**
baz=224
KLR Kul'dur 94.61 330*c*eP **P 05 48 32.3 -2.4**
KLR pmax pmax
comp=Z,11nm,2.3s
KMI Kunming 94.86 297 ⇑P **P 05 48 38.2 +1.5**
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI LR LR
comp=Z,1µm,22.2s
U15A North Rim 94.91 48 P **P 05 48 39.1 +2.3**
PINE Pine Mountain 95.08 38 P **P 05 48 39.4 +2.1**
ITQB Itaqui 95.97 133 IAMs_20 IAMs_20 06 32 15.2
comp=Z,3µm,22.0s
XAN Xi'an 96.03 308 P **P 05 48 38.5 -3.1**
XAN pP pP 05 48 48.6 -3.0
XAN pmax pmax
comp=Z,14nm,0.8s
TXAR Lajitas Array 96.13 58 P **P 05 48 44.1 +1.8**
comp=Z,0.6nm,0.8s,baz=238,slow=5.2,SNR=5.2
TXAR PKKP **PKKPbc 06 05 29.4 +0.3**
comp=Z,1.2nm,1.2s,baz=134,slow=2.6,SNR=4.1
PLTB Pedras Altas 96.20 136 IAMs_20 IAMs_20 06 36 10.6
comp=Z,3µm,20.0s
LPAZ La Paz 97.30 116 P Pdif 05 48 51.8 +3.1
comp=Z,2.6nm,0.8s,baz=259,slow=5.2,SNR=2.3
LPAZ La Paz 97.30 116 *e*P Pdif 05 48 51.5 +2.8
CD2 Chengdu 97.58 302 *e*P **P 05 48 48.5 -0.2**
ANMO Albuquerque 97.65 52 *i* P **P 05 48 46.9 -2.3**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
HHC Hu-ho-hao-te 98.68 314 *e*P **P 05 48 53.4 -0.1**
HHC pmax pmax
comp=Z,20nm,0.9s
CNGN Cerro Negro 99.44 81 IAMs_20 IAMs_20 06 22 47.3
comp=Z,2µm,21.0s
ITAB Concordia 100.43 134 IAMs_20 IAMs_20 06 28 24.0
comp=Z,2µm,20.0s
LZH Lanzhou 100.57 307 *e*P **Pdif 05 49 05.7 +3.6**
LZH pP pPdif 05 49 09.6 -2.4
LZH pmax pmax
comp=Z,23nm,1.2s
PDAR Pinedale Array 100.58 45 P **Pdif 05 49 04.8 +2.7**
comp=Z,0.4nm,0.8s,baz=190,slow=4.6,SNR=2.3
PDAR PKKP **PKKPdf 06 05 24.9 +1.8**
comp=Z,0.7nm,0.8s,baz=66,slow=5.0,SNR=4.5
JIS Juneau Island 100.60 22 IAMs_20 IAMs_20 06 31 49.0
comp=Z,1µm,20.0s
ESPN Las Esperanzas 101.21 83 IAMs_20 IAMs_20 06 26 48.2
comp=Z,3µm,21.0s
ILAR Eielson Array 103.00 14 P **Pdif 05 49 13.2 +1.2**
comp=Z,0.5nm,0.7s,baz=219,slow=4.2,SNR=3.5
ILAR PP **PP 05 53 24.3 -3.0**
comp=Z,3.7nm,1.1s,baz=224,slow=6.5,SNR=11
ILAR PKKP **PKKPdf 06 05 15.3 -3.8**
comp=Z,0.7nm,0.9s,baz=14,slow=1.9,SNR=4.1
OK025 Westminster Rd 104.09 56 IAMs_20 IAMs_20 06 22 15.8
comp=Z,1µm,19.0s
OK032 Salt Plains WL 104.17 55 IAMs_20 IAMs_20 06 31 11.0
comp=Z,1µm,20.0s
SONM Songino Array 105.87 318 PP **PP 05 53 44.7 -4.4**
comp=Z,0.8nm,0.7s,baz=134,slow=6.2,SNR=3.9
SPB Sao Paulo 105.94 135 IAMs_20 IAMs_20 06 41 29.9
comp=Z,5µm,22.0s
W39A Magazine 106.33 58 IAMs_20 IAMs_20 06 43 12.1
comp=Z,2µm,20.0s
INK Inuvik 108.85 16 PKiKP **PKiKP 05 53 47.5 +5.1**
comp=Z,1.3nm,1.1s,baz=255,slow=2.1,SNR=1.7
BOSA Boshof 112.24 204 PKiKP **PKiKP 05 53 50.6 +0.2**
comp=Z,4.4nm,1.0s,baz=63,slow=2.3,SNR=2.1
TIXI Tiksi 112.62 344 PKiKP **PKiKP 05 53 49.0 -0.4**
comp=Z,1.6nm,0.6s,baz=168,slow=2.0,SNR=4.1
TIXI Tiksi 112.62 344 *i* PKIKP **PKiKP 05 53 47.2 -2.3**
WMQ Urumqi 115.15 307 *e*PKP **PKdf 05 53 53.2 -2.1**
M54A Oil Creek Stat 119.06 58 P **PKPdf 05 54 01.3 -1.5**
baz=246
O56A Blue Knob Stat 119.35 59 P **PKPdf 05 54 03.0 -0.5**
baz=246
MK31 Makanchi Array 119.83 308 *i* PKIKP **PKPdf 05 54 02.5 -1.6**
MK31 Makanchi Array 119.83 308 **PKPdf 05 54 03.4 -0.7**
MKAR Makanchi Array 119.83 308 PKP **PKPdf 05 54 03.7 -0.4**
comp=Z,6.3nm,0.9s,baz=82,slow=1.7,SNR=20
MKAR SKP 05 57 39.0
comp=Z,5.6nm,1.1s,baz=85,slow=3.0,SNR=6.1
MKAR PKKPbc **PKKPbc 06 04 16.5 +2.4**
comp=Z,0.5nm,0.6s,baz=316,slow=3.3,SNR=3.8
MAKZ Makanchi 120.04 308 PKIKP **PKPdf 05 54 03.3 -1.2**
MAKZ Makanchi 120.04 308 **PKPdf 05 54 03.3 -1.2**
ZALV Zalesovo Beam 120.74 317 PKP **PKPdf 05 54 05.1 -0.5**
comp=Z,2.7nm,0.7s,baz=177,slow=2.5,SNR=7.7
L58A Harry Jones Me 121.91 58 P **PKPdf 05 54 08.2 0.0**
baz=249
ULHL Ulahol 122.28 302 P **PKiKP 05 54 09.8 +0.4**
SNR=6.2
J58A Remsen 122.75 57 P **PKPdf 05 54 09.1 -0.7**
baz=250
TKM2 Tokmak 2 122.96 302 P **PKPdf 05 54 09.9 -0.6**
SNR=7.1
LSZ Lusaka 123.21 213 PKP **PKiKP 05 54 12.2 +0.2**
comp=Z,6.6nm,0.9s,baz=150,slow=3.4,SNR=2.4
LSZ PP **PP 05 55 52.2 +1.3**
comp=Z,2.1nm,0.7s,baz=144,slow=8.8,SNR=1.6
KURK Kurchatov 123.39 312 PKIKP **PKPdf 05 54 10.4 -0.4**
KURK Kurchatov 123.39 312 **PKPdf 05 54 10.3 -0.4**
KURBB Kurchatov Arra 123.42 312 PKP **PKPdf 05 54 10.3 -0.5**
comp=Z,10nm,0.9s,baz=108,slow=1.9,SNR=36
KURBB SKP 05 57 45.7
comp=Z,8.2nm,1.1s,baz=114,slow=1.9,SNR=8.2
G57A Newington 123.52 55 P **PKPdf 05 54 11.4 +0.2**
baz=251
NRIK Noril'sk 123.53 335 PKP **PKPdf 05 54 10.7 +0.2**
comp=Z,7.9nm,0.9s,baz=110,slow=1.8,SNR=9.1
NRIK Noril'sk 123.53 335 *i* PKIKP **PKPdf 05 54 09.2 -1.3**
NRIK Noril'sk 123.53 335 PKPdf **PKPdf 05 54 10.4 -0.1**
AAK Ala-Archa 123.63 302 PKP **PKPdf 05 54 11.7 -0.1**
comp=Z,1.5nm,0.3s,baz=174,slow=3.4,SNR=5.6
AAK Ala-Archa 123.63 302 *i* PKIKP **PKPdf 05 54 11.1 -0.7**
USP Ospenovka 123.83 302 P **PKPdf 05 54 12.2 +0.2**
SNR=5.4
J60A Lant Hill Farm 124.00 58 P **PKPdf 05 54 10.8 -1.4**
baz=250,SNR=6.1
AML Almayashu 124.02 301 P **PKiKP 05 54 13.2 +0.1**
SNR=7.1
EKS2 Erkin-Say 124.14 301 P **PKiKP 05 54 13.3 +0.3**
SNR=7.8
G58A Ormstown 124.16 55 P **PKPdf 05 54 11.1 -1.4**
baz=251
L61B Northampton 124.26 59 P **PKPdf 05 54 11.1 -1.6**
baz=250,SNR=6.8
I60A Shoreham 124.28 57 P **PKPdf 05 54 11.2 -1.5**
baz=251,SNR=8.4
J61A Chester 124.63 58 P **PKPdf 05 54 12.7 -0.7**
baz=251,SNR=6.9
NBPB Pedra_Branca-C 124.64 129 *e*P **PKiKP 05 54 18.0 +3.2**
KBL Kabul 124.80 291 PKIKP **PKPdf 05 54 14.4 +0.1**
KBL Kabul 124.80 291 PKPdf **PKPdf 05 54 14.4 +0.1**
H60A Morristown 124.90 57 P **PKPdf 05 54 13.0 -0.9**
baz=252,SNR=5.4
M64A Tiverton 125.01 60 P **PKPdf 05 54 13.7 -0.5**
baz=250
E58A La Victoria 125.04 54 P **PKPdf 05 54 14.3 +0.2**
baz=253
I61A Oroboro, Fairl 125.05 57 P **PKPdf 05 54 12.8 -1.4**
baz=252,SNR=6.7
EUNU Eureka 125.06 12 PKPdf **PKPdf 05 54 12.0 -1.3**
HRV Adam Dziewonsk 125.07 59 P **PKPdf 05 54 14.2 0.0**
baz=251
J62A Henniker 125.11 58 P **PKPdf 05 54 12.6 -1.7**
baz=251,SNR=7.9
K63A Dunstable 125.14 59 P **PKPdf 05 54 14.4 0.0**
baz=251
CHGQ Chibougamau 125.29 50 P **PKPdf 05 54 14.5 0.0**
baz=254
G60A Masonville 125.31 56 P **PKiKP 05 54 15.5 +0.5**
baz=252
LBNH Lisbon 125.34 57 P **PKPdf 05 54 13.9 -0.8**
baz=252,SNR=6.3
L64A Middleborough 125.40 60 P **PKiKP 05 54 16.0 +0.7**
baz=251
H61A Lyndonville 125.42 57 P **PKPdf 05 54 14.6 -0.3**
baz=252
D58A Chemin du LacG 125.50 54 P **PKPdf 05 54 14.8 -0.2**
baz=253,SNR=9.8
I62A Tamworth 125.64 58 P **PKPdf 05 54 15.0 -0.4**
baz=252
F60A Warwick 125.81 55 P **PKPdf 05 54 15.3 -0.3**
baz=253,SNR=7.6
G61A St-Isidore-de- 125.91 56 P **PKPdf 05 54 15.6 -0.2**
baz=253,SNR=7.6
H62A Milan 125.96 57 P **PKPdf 05 54 15.4 -0.5**
baz=253,SNR=6.6
CHGR Chuyangaron 126.16 295 PKPdf **PKPdf 05 54 16.8 +0.2**
I63A Otisfield 126.21 58 P **PKPdf 05 54 15.6 -0.8**
baz=253,SNR=6.1
E60A Ste Agathe de 126.26 55 P **PKPdf 05 54 15.0 -1.4**
baz=254,SNR=5.2
F61A St Evariste 126.46 55 P **PKPdf 05 54 16.4 -0.5**
baz=254,SNR=6.6
G62A West of Eustis 126.57 56 P **PKPdf 05 54 16.0 -1.1**
baz=253,SNR=7.7
G62A West of Eustis 126.57 56 PKPdf **PKPdf 05 54 16.5 -0.6**
D60A Saint Jean D'O 126.75 54 P **PKPdf 05 54 16.0 -1.3**
baz=254
I64A Boothbay 126.83 58 P **PKPdf 05 54 16.8 -0.7**
baz=253
E61A Lac Etchemin 126.92 55 P **PKPdf 05 54 18.0 +0.2**
baz=254,SNR=5.6
F62A Pittston Farm, 127.13 56 P **PKPdf 05 54 16.4 -1.7**
baz=254
G63A Kingsbury 127.16 57 P **PKPdf 05 54 17.0 -1.2**
baz=254,SNR=5.9
D61A St Aubert, Com 127.31 54 P **PKPdf 05 54 18.2 -0.2**
baz=255,SNR=6.4
H64A Troy 127.31 57 P **PKPdf 05 54 17.8 -0.7**
baz=254
PKME Peaks-Kenny Pk 127.42 57 P **PKPdf 05 54 18.4 -0.3**
baz=254
PKME Peaks-Kenny Pk 127.42 57 **PKiKP 05 54 19.2 0.0**
E62A Clayton Lake 127.61 55 P **PKPdf 05 54 18.8 -0.3**
baz=255
E62A Clayton Lake 127.61 55 **PKPdf 05 54 19.0 -0.1**
F63A Nahmakanta, Br 127.67 56 P **PKPdf 05 54 19.2 +0.1**
baz=255
G64A Maxfield 127.79 57 P **PKPdf 05 54 19.4 +0.1**
baz=254
H65A Eastbrook 128.00 57 P **PKPdf 05 54 19.1 -0.7**
baz=254
D62A Allapoint, All 128.03 54 P **PKiKP 05 54 20.4 0.0**
baz=256,SNR=5.2
F64A Sherman 128.22 56 P **PKPdf 05 54 20.3 +0.1**
baz=255
E63A Oxbow 128.30 55 P **PKPdf 05 54 20.4 +0.1**
baz=256
G65A Princeton 128.59 57 P **PKPdf 05 54 20.6 -0.3**
baz=255
G65A Princeton 128.59 57 **PKPdf 05 54 20.4 -0.5**
D63A Stockholm 128.65 55 P **PKPdf 05 54 20.7 -0.2**
baz=256
E64A Bridgewater 128.70 55 P **PKPdf 05 54 20.0 -1.0**
baz=256
BVAR Borovoye Array 128.88 313 PKP **PKPdf 05 54 21.7 +0.4**
comp=Z,6.1nm,0.9s,baz=210,slow=12,SNR=20
BRVK Borovoye 128.95 313*c* *i* PKIKP **PKPdf 05 54 21.7 +0.3**
BRVK pmax pmax
comp=Z,46nm,1.7s
BRVK Borovoye 128.95 313 PKPdf **PKPdf 05 54 20.8 -0.6**
KMBO Kilima Mbogo 130.03 232 PKP **PKiKP 05 54 26.9 +1.1**
comp=Z,0.9nm,0.4s,baz=205,slow=3.8,SNR=3.9
KMBO SKPbc **SKPbc 05 57 46.6 +1.5**
comp=Z,0.9nm,0.4s,baz=91,slow=3.6,SNR=3.3
GEYT Alibeck 134.25 291 PKP **PKiKP 05 54 33.0 -0.3**
comp=Z,5.4nm,0.7s,baz=347,slow=5.2,SNR=1.1
GEYT SKPbc **SKPbc 05 57 59.5 +0.8**
comp=Z,14nm,1.0s,baz=210,slow=7.4,SNR=8.2
MBAR Mbarara 134.42 225 SKPbc **SKPab 05 58 02.9 -0.6**
comp=Z,8.9nm,1.0s,baz=224,slow=0.6,SNR=5.1
ABKAR Akbulak array 134.94 307 PKPdf **PKPdf 05 54 30.8 -2.0**
ARU Arti 135.90 317 PKP **PKPdf 05 54 34.5 +0.1**
comp=Z,2.7nm,0.7s,baz=181,slow=3.3,SNR=5.5
ARU SKPbc **SKPbc 05 58 04.4 +1.1**
comp=Z,1.9nm,0.2s,baz=80,slow=5.4,SNR=5.0
ARU Arti 135.90 317 *i* PKIKP **PKPdf 05 54 34.1 -0.3**
ARU Arti 135.90 317 PKPdf **PKPdf 05 54 33.2 -1.1**
AKTO Aktyubinsk 136.27 309 PKP **PKPdf 05 54 35.7 +0.5**
comp=Z,5.6nm,0.9s,baz=109,slow=2.4,SNR=6.0
AKTO SKPbc **SKPbc 05 58 05.5 +0.9**
comp=Z,2.7nm,0.9s,baz=80,slow=5.2,SNR=3.9
SPITS Spitsbergen Ar 136.48 355 PKP **PKiKP 05 54 36.2 -0.5**
comp=Z,19nm,0.9s,baz=96,slow=2.9,SNR=4.6
KIRV Kirov 140.46 322 PKP **PKPdf 05 54 42.6 0.0**
comp=Z,15nm,0.9s,baz=177,slow=1.4,SNR=7.5
KIRV SKPbc **SKiKP 05 58 18.3 -0.2**
comp=Z,9.9nm,0.5s,baz=321,slow=13,SNR=5.5
PRGR Permogore 141.32 327 *e*PKHKP PKPpre 05 54 38.6
PRGR pmax pmax
comp=Z,71nm,1.4s
BELG Belogornoye 142.67 312 PKhKP PKPpre 05 54 41.5
comp=Z,26nm,0.9s,baz=272,slow=3.7,SNR=4.7
BELG SKPbc **SKiKP 05 58 24.6 +1.3**
comp=Z,101nm,1.0s,baz=24,slow=1.8,SNR=11
BELG Belogornoye 142.67 312 *i* PKIKP **PKPdf 05 54 43.3 -3.5**
AKT Akhty 142.78 294 *e*PKIKP **PKPdf 05 54 46.0 -1.5**
AKT *e* 05 57 57.3
AKT pmax pmax
comp=Z,25nm,1.3s
ARCES ARCESS Array B 143.04 346 PKhKP PKPpre 05 54 44.3
comp=Z,13nm,0.8s,baz=72,slow=1.9,SNR=12
KLMR Klimovskoe 144.33 328 *e*PKHKP PKPpre 05 54 45.1
KLMR *e*PPP PPP 06 01 19.4
KLMR pmax pmax
comp=Z,96nm,1.3s
KLMR Klimovskoe 144.33 328 *e*PKPdf **PKPab 05 54 45.2 -2.4**
KLMR AMP 05 54 48.7
comp=Z,96nm,1.3s
KLMR *e*SKPbc **SKPbc 05 58 25.2 -0.5**
KLMR *e*PPP PPP 06 01 19.5
GNI Garni 144.88 291 *i* PKIKP **PKPab 05 54 49.0 -1.5**
CLDR Caldiran 145.39 290 *e*P **PKPbc 05 54 52.2 -0.1**
ZEI Tsey 145.71 296 *i* PKP2 **PKPdf 05 54 51.7 -1.0**
ZEI pmax pmax
comp=Z,46nm,1.3s
VANB Van 145.72 288 *e*P **PKPdf 05 54 52.7 -0.1**
AKDM Akdamar-Van 146.00 288 *e*P **PKPdf 05 54 53.8 +0.5**
AGRB Hanur-Agry 146.16 290 *e*P **PKPbc 05 54 54.5 -0.1**
KARS Kars 146.19 292 *e*P **PKPbc 05 54 54.9 +0.3**
STEI Steigen 146.25 350 *e*PKPab **PKPbc 05 54 53.3 -0.4**
LOF Lofoten 146.29 351 *e*PKPab **PKPbc 05 54 54.3 +0.4**
GOF Gofitskoye 146.34 300⇑ *e*PKP2 **PKPbc 05 54 54.3 -0.4**
GOF pmax pmax
comp=Z,140nm,1.6s
KBZ Khabaz 146.47 298 PKPbc **PKPbc 05 54 55.1 0.0**
comp=Z,12nm,1.0s,baz=95,slow=3.8,SNR=11
KBZ Khabaz 146.47 298 *i* PKIKP **PKPdf 05 54 52.8 -0.9**
VRH Novokhopyorsk 146.49 311 *e*PKP2 **PKPdf 05 54 54.0 +0.6**
VRH pmax pmax
comp=Z,160nm,1.0s
KIV Kislovodsk 146.62 298 *e*PKIKP **PKPdf 05 54 52.5 -1.6**
KIV pmax pmax
comp=Z,16nm,1.0s
SENK Senkaya-Erzuru 146.74 292 *e*P **PKPdf 05 54 53.2 -1.4**
FAUS Fauske 146.75 350 *e*PKPab **PKPbc 05 54 55.9 +0.7**
GURO Guroymak-BITLI 146.77 288 *e*P **PKPbc 05 54 56.5 +0.1**
NBB08 Skaug oppvekst 146.84 350 *e*PKPab **PKPbc 05 54 56.1 +0.7**
NBB28 Valnes 147.05 350 *e*PKPab **PKPab 05 54 57.3 -0.4**
KOPR Koprukoy-ERZUR 147.07 291 *e*P **PKPdf 05 54 52.6 -2.5**
VRTB Varto-Mus 147.29 289 *e*P **PKPbc 05 54 57.9 0.0**
BATM Batumi 147.30 294 *e*P **PKPbc 05 54 56.9 -0.7**
SVAN Silvan-Diyarba 147.37 287 *e*P **PKPdf 05 54 52.6 -2.9**
MOS Moscow 147.45 321 *e*PKP2 **PKPbc 05 54 56.9 -0.6**
MOS pmax pmax
comp=Z,197nm,1.3s
VALR Valaam 147.54 333 *i* PKIKP **PKPdf 05 54 54.2 -0.7**
NBB15 Halsa Church 147.60 350 *e*PKPab **PKiKP 05 54 59.5 -0.1**
LPSR Galich'ya Gora 147.81 315 *e*PKP2 **PKPbc 05 54 58.1 -0.5**
LPSR pmax pmax
comp=Z,160nm,1.3s
MAZI Mazidag 147.86 286 *e*P **PKPdf 05 54 56.0 -0.4**
BNGB Bingl 147.88 289 *e*P **PKPdf 05 54 57.5 +1.1**
KONS Konsvik 147.89 350 *e*PKPab **PKiKP 05 55 00.4 +0.2**
NBB40 Tonnes 147.89 351 *e*PKPab **PKiKP 05 54 59.7 -0.5**
VORR Voronezh 147.90 313 *e*PKHKP PKPpre 05 54 52.0
VORR pmax pmax
comp=Z,400nm,1.4s
CHOM Cayeli-Rize 147.98 293 *e*P **PKPbc 05 55 00.0 +0.5**
MOR8 Moi Rana 148.01 349 *e*PKPbc **PKPbc 05 54 57.7 -1.0**
YEDI Yedisu-Bingol 148.03 290 *e*P **PKPbc 05 55 00.1 +0.3**
VORD Divnogorie 148.03 311 *e*PKP2 **PKPbc 05 54 58.8 -0.4**
VORD pmax pmax
comp=Z,90nm,1.4s
VSR Storozhevoye 148.04 312 *e*PKP2 **PKPbc 05 54 58.6 -0.7**
VSR pmax pmax
comp=Z,140nm,1.5s
OBN Obninsk 148.25 320 PKPbc **PKPdf 05 54 57.8 +1.5**
comp=Z,12nm,0.7s,baz=38,slow=1.3,SNR=8.8
OBN Obninsk 148.25 320⇑ *i* PKIKP **PKPdf 05 54 57.7 +1.5**
OBN *e* 05 58 35.2
OBN pmax pmax
comp=Z,279nm,1.7s
KTUT Trabzon 148.72 292 *e*P **PKPdf 05 54 55.4 -2.1**
SOC Sochi 148.78 297 *i* PKIKP **PKPdf 05 54 59.3 +1.8**
SOC *e* 05 58 32.4
SOC *e*SSS SSS 06 23 22.5
SOC MLR MLR
comp=Z,369nm,19.0s
URFA Urfa 149.14 285 *e*P **PKPdf 05 54 55.9 -2.5**
FINES FINESS Array B 149.18 336 PKPbc **PKPbc 05 55 02.2 +0.3**
comp=Z,82nm,0.8s,baz=37,slow=5.4,SNR=81
ESPY Espiye-Giresun 149.51 292 *e*P **PKPdf 05 54 57.5 -1.3**
ILIC Ilic-Erzincan 149.55 289 *e*P **PKPbc 05 55 04.1 +0.4**
MALT Malatya 149.56 287 *e*P **PKPbc 05 55 04.3 +0.6**
ASF Jabal al Asfar 149.60 275 PKPbc **PKPbc 05 55 04.5 +0.5**
comp=Z,18nm,1.1s,baz=99,slow=1.3,SNR=17
ARPR Arapgir-MALATY 149.70 289 *e*P **PKPbc 05 55 04.1 0.0**
NSS Namsos 149.91 350 *e*PKPdf **PKPdf 05 54 58.4 -0.2**
DARE Darende-Malaty 150.32 287 *e*P **PKPdf 05 54 57.1 -3.2**
GAZ Gaziantep 150.38 285 *e*P **PKPdf 05 55 02.2 +1.8**
GAZ Gaziantep 150.38 285 **PKPbc 05 55 05.7 0.0**
EIL Elat 150.43 269 PKPbc **PKPbc 05 55 06.4 +0.5**
comp=Z,49nm,1.0s,baz=139,slow=4.5,SNR=33
SACV Santiago Islan 150.43 127 **PKPbc 05 55 04.1 -2.2**
LIC Lamto 150.63 169 *e*P **PKiKP 05 55 07.5 0.0**
comp=Z,155nm,0.9s
MEF Metsahovi 150.64 336 *e*P **PKiKP 05 55 06.4 +0.3**
KMRS Kahramanmaras 150.66 285 *e*P **PKPbc 05 55 06.3 0.0**
SVSK Karacayir 150.79 290 *e*P **PKiKP 05 55 07.1 +0.1**
KIC Kosan Boka 150.81 169 *e*P **PKiKP 05 55 08.9 +1.0**
comp=Z,74nm,0.9s
RAF Rauma 150.87 339 *e*P **PKPbc 05 55 04.4 -1.5**
VSU Vasula 151.02 331 *e*P **PKiKP 05 55 07.4 +0.5**
TIC Toumodi 151.04 169 *e*P **PKiKP 05 55 09.3 +0.9**
MMAI Mount Meron Ar 151.04 276 PKPbc **PKPbc 05 55 07.7 +0.3**
comp=Z,59nm,1.0s,baz=54,slow=4.2,SNR=37
YAYL Yayladag 151.09 282 *e*P **PKPbc 05 55 07.7 +0.2**
SARI SarD1z-Kayseri 151.14 287 *e*P **PKPbc 05 55 06.9 -0.7**
TOKT Tokat 151.15 291 *e*P **PKPbc 05 55 06.7 -0.7**
KOZT Kozan 151.51 285 *e*P **PKPbc 05 55 06.5 -1.7**
CEYT Ceyhan 151.51 284 *e*P **PKPbc 05 55 08.4 +0.2**
KVT Kavak 151.54 292 *e*P **PKiKP 05 55 08.8 +0.1**
BNN Bunyan 151.62 288 *e*P **PKPbc 05 55 08.7 +0.1**
MTSE Matsula 151.82 284 *e*P **PKPbc 05 55 06.7 -1.7**
AAL Alanci 152.07 339 *e*P **PKPbc 05 55 08.8 +0.2**
KARA Karaisali 152.09 284 *e*P **PKPbc 05 55 09.3 -0.3**
DIKM Dikmen 152.13 294 *e*P **PKPbc 05 55 09.1 -0.4**
SNOP Sinop 152.15 294 *e*P **PKPbc 05 55 09.6 +0.1**
CMRD Camardi-Nigde 152.19 285 *e*P **PKPbc 05 55 10.1 +0.2**
MOL Molde 152.35 353 *e*PKPdf **PKPdf 05 55 00.7 -1.8**
MERS Mersin 152.47 283 *e*P **PKPbc 05 55 10.1 -0.4**
EREN Erenkoy 152.56 280 *e*P **PKPbc 05 55 10.4 -0.2**
CORM Corum 152.61 291 *e*P **PKiKP 05 55 11.3 +0.3**
DOMB Dombas 152.69 351 *e*PKPdf **PKPdf 05 55 00.8 -2.3**
KIZK Mersin 152.72 282 *e*P **PKPbc 05 55 10.8 -0.2**
GULA Gulagac 152.84 286 *e*P **PKPbc 05 55 10.5 -0.8**
SILI Silifke-Mersin 152.88 282 *e*P **PKPbc 05 55 11.4 +0.1**
MNK Minsk 152.95 324 *i* PKIKP **PKPdf 05 55 03.0 -0.6**
MNK *i* 05 58 57.4
MNK *i* 06 02 10.2
MNK *i* PPP PPP 06 02 24.7
MNK *i* SS SS 06 18 24.5 -0.8
MNK pmax pmax
comp=N,26nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=Z,76nm,1.2s
MNK Minsk 152.95 324 *i* PKP **PKPdf 05 55 03.0 -0.6**
comp=E,5.0nm,1.0s
MNK *i* PKP **PKPdf 05 55 03.0 -0.6**
comp=N,26nm,1.0s
MNK *i* PKP **PKPdf 05 55 03.0 -0.6**
comp=Z,76nm,1.2s,baz=236
MNK *i* SKP 05 58 36.2
MNK *i* PKS **PKSdf 05 58 37.5 -0.3**
MNK *i* PP **PP 05 58 57.5 +1.8**
MNK *i* SKS **SKSdf 06 02 10.2 +2.5**
MNK *i* PPP PPP 06 02 24.7
MNK *i* SKKS **SKKSdf 06 10 52.4 0.0**
MNK *i* SS **SS 06 18 24.6 -0.7**
MNK *i* SSS SSS 06 24 23.0
MNK *i* LQ LQ 06 56 03.2
MNK *i* LR LR 07 02 39.8
MNK *i* LRM MLR 07 08 47.4
comp=N,424nm,24.6s
MNK *i* LRM MLR 07 08 47.4
comp=Z,497nm,20.3s
MNK *i* LRM MLR 07 09 17.8
comp=E,32nm,21.7s
UPP Uppsala 153.00 341 *e*P **PKPbc 05 55 10.6 -0.2**
IDID Didziasalis 153.02 326 *e*P **PKiKP 05 55 12.0 +0.9**
KEBE Keben-Mersin 153.06 282 *e*P **PKPbc 05 55 11.9 +0.1**
NC303 NORSAR Array S 153.13 348 **PKPbc 05 55 09.5 -1.6**
ISAL Salakas 153.14 327 *e*P **PKiKP 05 55 12.5 +1.1**
CSS Mathiatis 153.14 279 *e*P **PKPbc 05 55 11.4 -0.6**
CSS Mathiatis 153.14 279 **PKPbc 05 55 11.1 -0.9**
AKKU Akkuyu-Mersin 153.15 282 *e*P **PKPbc 05 55 11.3 -0.6**
YAYX Yaylak 153.21 288 *e*P **PKPbc 05 55 11.3 -0.8**
IIGN Ignalina 153.23 326 *e*P **PKiKP 05 55 12.9 +1.3**
TEVE Tevekalti-Mers 153.28 282 *e*P **PKPbc 05 55 12.4 +0.1**
NB201 NORSAR Array S 153.31 348 **PKiKP 05 55 12.9 +1.3**
NB2 NORSAR Subarra 153.33 348 PKP **PKiKP 05 55 12.0 +0.3**
comp=Z,127nm,1.7s,baz=17,slow=2.6
NB2 NORSAR Subarra 153.33 348 PKP **PKiKP 05 55 12.0 +0.3**
baz=17,slow=2.6
NOA NORSAR Array B 153.33 348 PKP **PKPdf 05 55 04.6 +0.6**
comp=Z,0.6nm,0.7s,baz=186,slow=8.9,SNR=5.8
NOA PKPbc **PKiKP 05 55 12.0 +0.3**
comp=Z,9.7nm,0.9s,baz=28,slow=2.0,SNR=14
BR131 Keskin Array S 153.37 289 PKIKP **PKPbc 05 55 11.3 -1.2**
BR131 Keskin Array S 153.37 289 **PKPbc 05 55 11.2 -1.2**
BRTR Keskin Array B 153.37 289 PKP **PKPdf 05 55 06.0 +1.1**
comp=Z,16nm,1.0s,baz=150,slow=5.7,SNR=6.0
BRTR PKPbc **PKPbc 05 55 11.9 -0.6**
comp=Z,18nm,1.0s,baz=162,slow=2.9,SNR=17
BRTR Keskin Array B 153.37 289 *e*P **PKPbc 05 55 11.8 -0.7**
CANT Cankiri 153.38 291 *e*P **PKPbc 05 55 12.2 -0.2**
SULT Sultanhani-AKS 153.40 286 *e*P **PKPbc 05 55 10.7 -1.8**
BERE Bereket-Mersin 153.44 282 *e*P **PKPbc 05 55 09.6 -3.2**
TEKE Tekeli-Mersin 153.50 281 *e*P **PKPbc 05 55 10.0 -2.7**
HFS Hagfors 153.70 345 PKP **PKPdf 05 55 06.0 +1.5**
comp=Z,4.1nm,0.9s,baz=177,slow=37,SNR=3.1
HFS PKPbc **PKiKP 05 55 12.7 +0.2**
comp=Z,15nm,0.8s,baz=50,slow=2.3,SNR=11
KULU Kulu 153.84 288 *e*P **PKPdf 05 55 04.8 -0.8**
CHBY Cihanbeyli 153.91 287 *e*P **PKPbc 05 55 12.4 -1.3**
ANTO Ankara 154.02 290 *e*P **PKPdf 05 55 08.7 +3.0**
ANTO Ankara 154.02 290 PKIKP **PKiKP 05 55 14.4 +0.5**
ANTO Ankara 154.02 290 **PKiKP 05 55 14.4 +0.5**
LOD Lodumlu 154.04 290 *e*P **PKPbc 05 55 10.2 -3.7**
PABE Paberze 154.12 329 *e*P **PKiKP 05 55 14.8 +1.4**
AKASG Malin Array Be 154.13 315 PKP **PKPdf 05 55 06.9 +1.5**
comp=Z,0.8nm,0.5s,baz=57,slow=1.3,SNR=5.3
AKASG PKPbc **PKiKP 05 55 13.8 +0.2**
comp=Z,3.7nm,0.5s,baz=59,slow=2.7,SNR=25
AKBB Malin Array Si 154.13 315 PKIKP **PKiKP 05 55 13.8 +0.2**
AKBB Malin Array Si 154.13 315 **PKiKP 05 55 13.8 +0.2**
LADK Ladik-KONYA 154.30 286 *e*P PKPdf 05 54 57.0 -9.2
SUW Suwalki 155.44 327 *e*P PKPdf 05 55 17.1 +10
BURAR Bucovina Array 157.82 311 PKPdf **PKPdf 05 55 10.6 +0.1**
BURAR **PKPab 05 55 43.6 +0.2**
TOA0 Torodi Ar. Sit 157.91 183 PKPdf **PKPdf 05 55 10.0 -1.5**
TORD Torodi Ar. Bea 157.91 183 PKP **PKPdf 05 55 12.1 +0.5**
comp=Z,4.9nm,1.1s,baz=312,slow=1.3,SNR=16
TORD PKPab **PKPab 05 55 47.5 +3.2**
comp=Z,18nm,0.8s,baz=157,slow=2.3,SNR=14
MLR Muntele Rosu 158.14 305 PKP **PKPdf 05 55 10.9 -0.1**
comp=Z,1.8nm,0.8s,baz=329,slow=6.5,SNR=4.1
KOWA Kowa 158.90 168 PKP **PKPdf 05 55 13.8 +1.1**
comp=Z,5.8nm,1.1s,baz=107,slow=1.4,SNR=5.1
UZH Uzhgorod 159.07 316 *e*PKP2 **PKPab 05 55 48.7 0.0**
CRVS Cervenica-Dubn 159.39 318 *e*PKP2 **PKPab 05 55 49.9 -0.2**
BSEG Bad Segeberg 160.12 343 *e*PKPab **PKPab 05 55 52.9 0.0**
baz=32,slow=4.4
MORC Moravsky Berou 160.87 324 *e*PKP **PKPdf 05 55 13.6 -0.3**
MORC *e* 05 55 56.4

KRLC	Kraliky	161.02 326	*e*PKP2	PKPab	05 55 56.8	-0.4
KRLC	Kraliky	161.02 326	*e*PKPAB	PKPab	05 55 56.8	-0.4
DPC	Dobruska-Polom	161.03 327	*e*PKP2	PKPab	05 55 57.0	-0.2
DPC	Dobruska-Polom	161.03 327	*e*PKPAB	PKPab	05 55 57.0	-0.2
VYHS	Vyhne	161.04 320	*e*PKP2	PKPab	05 55 58.1	+0.8
FLTG	Flechtingen	161.31 339	*e*PKPab	PKPab	05 55 57.8	-0.4
	baz=32,slow=4.4					
JAVC	Velka Javorina	161.42 322	*e*PKP	PKPdf	05 55 15.1	+0.5
JAVC			*e*		05 56 00.0	
NRDL	Niedersach Rie	161.48 341	*e*PKPab	PKPab	05 55 59.0	+0.1
	baz=32,slow=4.4					
CLL	Collm	161.61 334	*i* PKPdf	PKPdf	05 55 15.0	+0.4
CLL			*e*		05 55 24.0	
CLL			*i* PKPab	PKPab	05 55 58.9	-0.7
	comp=Z,29nm,1.5s					
CLL			*e*		05 59 54.0	
CLL	Collm	161.61 334	*i* PKIKP	PKPdf	05 55 15.0	+0.4
CLL			*i*		05 55 58.9	
CLL			pmax	pmax		
	comp=Z,29nm,1.5s					
CLL	Collm	161.61 334	*e*PKPab	PKPab	05 55 59.2	-0.5
	baz=32,slow=4.4					
BRG	Berggiesshubel	161.62 332	*e*PKP	PKPdf	05 55 13.4	-1.2
BRG			Amp		05 55 16.2	
	comp=Z,66nm,2.3s					
BRG	Berggiesshubel	161.62 332	P	PKPab	05 55 59.2	-0.4
BRG			Amp		05 56 01.1	
	comp=Z,31nm,1.7s					
BRG			Amp		06 00 15.0	
	comp=N,10nm,24.5s					
BRG			Amp		06 00 18.0	
	comp=E,14nm,17.7s					
BRG			Amp		06 00 20.0	
	comp=Z,18nm,19.3s					
BRG	Berggiesshubel	161.62 332	*e*PKPab	PKPab	05 55 58.9	-0.8
	baz=32,slow=4.4					
VRAC	Vranov	161.64 325	PKP	PKPdf	05 55 16.1	+1.3
	comp=Z,1.4nm,0.3s,baz=254,slow=2.9,SNR=3.9					
VRAC			PKPab	PKPab	05 55 59.1	-0.8
	comp=Z,4.1nm,0.4s,baz=64,slow=5.3,SNR=6.0					
VRAC	Vranov	161.64 325	*e*PKP	PKPdf	05 55 14.1	-0.6
VRAC			*e*		05 55 59.8	
KRUC	Moravsky	161.91 324	*e*PKP	PKPdf	05 55 14.5	-0.5
KRUC			*e*		05 56 00.8	
MODS	Modra-Piesok	161.93 321	*e*PKIKP	PKPdf	05 55 17.3	+2.2
MODS	Modra-Piesok	161.93 321	*e*PKP	PKPdf	05 55 17.3	+2.2
MODS			*e*		05 56 02.8	
CLZ	Clausthal	161.99 340	*e*PKPab	PKPab	05 56 01.1	-0.2
	baz=32,slow=4.4					
IBBN	Ibbenburen	162.21 345	*e*PKPab	PKPab	05 56 02.3	+0.2
	baz=32,slow=4.4					
GTTG	Gottingen	162.37 340	*e*PKPab	PKPab	05 56 03.0	0.0
	baz=32,slow=4.4					
WERD	Werda	162.57 334	*e*PKPab	PKPab	05 56 03.5	-0.4
	baz=32,slow=4.4					
DIVS	Divibare	162.59 306	PKPdf	PKPdf	05 55 15.1	-0.9
PLN	Plauen	162.59 334	*e*PKPab	PKPab	05 56 03.8	-0.2
	baz=32,slow=4.4					
MOX	Moxa	162.65 335	*e*PKPab	PKPab	05 56 03.8	-0.4
	baz=32,slow=4.4					
MOX			*e*L	L	07 03 40.8	
	comp=Z,520nm,20.1s					
WERN	Wernitzgruen	162.68 333	*e*PKPab	PKPab	05 56 04.2	-0.2
	baz=32,slow=4.4					
MANZ	Manzenberg	163.02 333	*e*PKPab	PKPab	05 56 05.7	-0.2
	baz=32,slow=4.4					
CKRC	Cesky Krumlov	163.04 327	*e*PKPAB	PKPab	05 56 07.1	+1.1
KHC	Kasperske Hory	163.13 329	*e*PKIKP	PKPdf	05 55 15.0	-1.3
KHC			*e*		05 56 06.5	
KHC	Kasperske Hory	163.13 329	*e*PKPDF	PKPdf	05 55 15.0	-1.3
KHC			*e*PKPAB	PKPab	05 56 06.5	+0.1
ROTZ	Rotzenmuhle	163.17 333	*e*PKPab	PKPab	05 56 06.2	-0.3
	baz=32,slow=4.4					
GEC2	GERESS Array S	163.29 328	*e*PKPab	PKPab	05 56 06.1	-1.1
	baz=32,slow=4.4					
GERES	GERESS Array B	163.29 328	PKP	PKPdf	05 55 16.5	0.0
	comp=Z,1.1nm,0.8s,baz=60,slow=3.2,SNR=5.6					
GERES			PKPab	PKPab	05 56 06.1	-1.1
	comp=Z,1.3nm,0.8s,baz=48,slow=6.0,SNR=7.2					
GRF	Grafenberg Arr	163.59 334	*e*L	L	06 53 37.0	
	comp=Z,679nm,20.2s					
BTNL	Ternell	164.17 347	*d*pPKPab	PKPab	05 56 10.7	-0.2
MEM	Membach	164.17 347	*d*pPKPab	PKPab	05 56 10.8	0.0
SOKA	Soboth	164.19 320	*i* P	PKPdf	05 55 17.8	+0.4
	comp=Z,6.4nm,1.1s					
BSTI	Sart Tilman	164.28 348	*d*PKPab	PKPab	05 56 11.2	-0.1
BHOU	Houvegnez	164.42 347	*d*pPKPab	PKPab	05 56 12.2	+0.2
BCLA	Clavier	164.48 348	*d*pPKPab	PKPab	05 56 12.6	+0.4
SNF	Seneffe	164.55 351	*d*pPKPab	PKPab	05 56 12.6	+0.1
BGES	Gesves	164.55 349	*d*pPKPab	PKPab	05 56 12.2	-0.3
BMRD	Maredsous	164.68 349	*d*pPKPab	PKPab	05 56 13.2	+0.1
KBA	Koelnbreinsper	164.76 324	*i* P	PKPdf	05 55 17.8	-0.2
	comp=Z,7.8nm,1.4s					
BOJS	Bojanci	164.81 317	*e*PKPdf	PKPdf	05 55 18.1	+0.2
VISS	Visnje	164.85 318	*i* PKPdf	PKPdf	05 55 18.2	+0.3
LJU	Ljubljana	164.87 319	*e*PKPdf	PKPdf	05 55 18.4	+0.5
MYKA	Terra Mystica	164.93 323	*e*P	PKPdf	05 55 18.2	+0.2
	comp=Z,5.6nm,1.1s					
CRNS	Crni Vrh	164.98 320	*e*PKPdf	PKPdf	05 55 17.9	-0.1
WLF	Walferdange	165.05 345	*d*pPKPab	PKPab	05 56 14.9	+0.2
ABTA	Abfaltersbach	165.39 325	*i* P	PKPdf	05 55 18.3	-0.1
	comp=Z,5.8nm,0.9s					
WTTA	Wattenberg	165.39 328	*i* P	PKPdf	05 55 19.2	+0.7
	comp=Z,14nm,1.6s					
MOTA	Moosalm	165.56 330	*e*P	PKPdf	05 55 17.8	-0.9
	comp=Z,9.3nm,1.4s					
BFO	Black Forest	165.72 338	PKP2	PKPab	05 56 17.8	0.0
BFO	Black Forest	165.72 338		PKPab	05 56 17.8	0.0
BFO	Black Forest	165.72 338	*e*PKPab	PKPab	05 56 17.2	-0.6
	baz=32,slow=4.4					
FETA	Feichten	165.97 330	*e*P	PKPdf	05 55 18.7	-0.3
	comp=Z,12nm,1.1s					
DAVOX	Davos/Dischmat	166.51 331	PKP	PKPdf	05 55 20.5	+1.0
	comp=Z,2.8nm,0.7s,baz=59,slow=4.2,SNR=5.0					
DAVOX			PKPab	PKPab	05 56 21.4	-0.2
	comp=Z,1.3nm,0.4s,baz=84,slow=16,SNR=3.7					
NRCA	Norcia	167.60 311		PKPdf	05 55 20.3	0.0
BNI	Bardonecchia	169.15 336	PKIKP	PKPdf	05 55 21.7	+0.4
BNI	Bardonecchia	169.15 336		PKPdf	05 55 21.7	+0.4
KEST	Kesra	172.70 276	PKP	PKPdf	05 55 24.9	+1.5
	comp=Z,4.8nm,0.8s,baz=289,slow=4.4,SNR=6.7					
KEST			PKPab	PKPab	05 56 48.5	-0.9
	comp=Z,8.8nm,1.0s,baz=308,slow=4.4,SNR=5.2					
KEST			PP	PP	06 00 43.8	+2.3
	comp=Z,6.4nm,1.1s,baz=111,slow=3.7,SNR=6.2					
ESDC	Sonseca Array	174.42 37	PKP	PKPdf	05 55 24.9	+1.1
	comp=Z,1.7nm,0.7s,baz=343,slow=2.7,SNR=13					
ESDC			PKPab	PKPab	05 56 57.8	+1.1
	comp=Z,1.3nm,0.9s,baz=348,slow=3.5,SNR=2.0					
ESDC			PP	PP	06 00 51.1	+2.4
	comp=Z,0.3nm,0.4s,baz=310,slow=4.2,SNR=1.7					
MDT	Midelt	175.15 119	PKP	PKPdf	05 55 25.5	+1.2
	comp=Z,4.5nm,1.1s,baz=241,slow=1.6,SNR=5.9					

*ISK **07** 05:44:34.4, 39°.53N×26°.22E, h9km, ML3.1/22*
*DDA **07** 05:44:35.0, 39°.56N×26°.19E, h7km±2km, ML2.9*
*ATH **07** 05:44:35.6, 39°.57N×26°.27E, h10km±2km, ML2.6/5, Error ellipse: s-maj=3.1km s-min=0.9km az=251.0*
*THE **07** 05:44:35.7, 39°.54N×26°.19E, h3km±2km, ML2.5/9, Error ellipse: s-maj=2.3km s-min=0.8km az=108.0*
ISC 07 05:44:35.0±0.9, 39°.57N±0°.01×26°.27E±0°.02, h19km±2km, n58, σ0°89/95, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.12	236	*i* P	Pb	05 44 37.3	+0.4
KOCA				*i* S	Sb	05 44 38.6	+0.7
KOCA				IAML		05 44 39.0	
	comp=N,14μm,0.3s						
KOCA				IAML		05 44 39.0	
	comp=E,9μm,0.3s						
EZN	Ezine	0.26	10	P	Pg	05 44 41.2	+0.2
EZN				S	Sg	05 44 46.0	+0.9
	comp=E,2μm,0.3s						
EZN	Ezine	0.26	10	PG	Pg	05 44 41.2	+0.2
EZN				SG	Sg	05 44 45.9	+0.9
BAYC	CANAKKALE_Bayr	0.28	51	*i* P	Pg	05 44 41.3	0.0
BAYC				*i* S	Sb	05 44 44.6	-1.0
BOZC	Bozcaada	0.32	329	*i* P	Pb	05 44 42.0	-0.2
BOZC				*i* S	Sg	05 44 45.4	-1.3
BOZC	Bozcaada	0.32	329	PG	Pg	05 44 41.8	-0.2
BOZC				SG	Sb	05 44 47.1	+0.1
PRK	Paraskevi	0.32	179	P	Pg	05 44 42.0	0.0
PRK				S	Sg	05 44 46.7	0.0
	comp=E,1μm,0.6s						
PRK	Paraskevi	0.32	179	P	Pg	05 44 42.0	0.0
PRK				S	Sg	05 44 46.3	-0.4
PRK				AML	AML	05 44 49.5	
	comp=N,2727μm,0.9s						
PRK				AML	AML	05 44 51.9	
	comp=E,1868μm,0.3s						
AYVA	Ayvalik	0.42	128	*i* P	Pg	05 44 44.1	+0.4
AYVA				*i* S	Sg	05 44 48.4	-1.1
ECEA	Canakkale, Ece	0.48	351	*i* P	Pb	05 44 45.4	+0.5
ECEA				*i* S	Sg	05 44 51.2	-0.1
BUHA	Balikesir, Bur	0.63	96	*i* P	Pn	05 44 49.8	+0.7
BUHA				*i* S	Sb	05 44 56.0	+0.1
GOKA	anakkale-Gk	0.68	336	*i* P	Pg	05 44 48.5	+0.1
GOKA				*i* S	Sg	05 44 57.3	-0.2
GOKA				IAML		05 44 59.0	
	comp=E,484nm,0.2s						
GADA	Gvkgeada	0.68	336	P	Pg	05 44 48.6	+0.1
GADA				S	Sg	05 44 58.3	+0.7
	comp=E,152nm,0.4s						
GADA	Gvkgeada	0.68	336	PG	Pg	05 44 48.4	-0.1
GADA				SG	Sg	05 44 58.4	+0.8
GOKC	Gokceada-Canak	0.68	337	PG	Pg	05 44 48.7	+0.1
GOKC				SG	Sn	05 44 58.9	-1.0
DKL	Dikili	0.70	135	PG	Pb	05 44 48.7	+0.1
DKL				SG	Sb	05 44 58.4	+0.5
GELI	Tayfur-Gelibol	0.84	11	PG	Pg	05 44 51.7	+0.2
GELI				SG	Sn	05 45 04.6	+0.8
ZEDA	zmir-Bergama	0.87	134	*i* P	Pg	05 44 52.8	+0.7
ZEDA				*i* S	Sb	05 45 01.8	-1.1
LIA	Limnos Island	0.90	292	P	Pg	05 44 52.4	-0.1
LIA				S	Sg	05 45 04.5	+0.1
	comp=E,268nm,0.4s						
LIA	Limnos Island	0.90	292	P	Pg	05 44 52.5	-0.1
LIA				S	Sn	05 45 04.9	-0.3
LIA				AML	AML	05 45 07.1	
	comp=N,488μm,0.3s						
LIA				AML	AML	05 45 07.1	
	comp=E,574μm,0.5s						
FOCM	Foa	0.93	157	PG	Pb	05 44 52.4	-0.1
BALY	Balya	1.06	80	*i* P	Pg	05 44 56.1	+0.5
BALY				*i* S	Sb	05 45 07.8	-0.5
BALY				IAML		05 45 12.0	
	comp=N,271nm,0.3s						
SMTH	Samothraki Isl	1.06	328	P	Pg	05 44 55.6	-0.1
SMTH				S	Sg	05 45 11.2	+1.5
	comp=N,300nm,0.3s						
SMTH	Samothraki Isl	1.06	328	P	Pg	05 44 55.7	-0.1
SMTH				S	Sg	05 45 10.7	+1.0
SMTH				AML	AML	05 45 12.7	
	comp=N,500μm,0.3s						
SMTH				AML	AML	05 45 12.8	
	comp=E,699μm,0.4s						
ERIK	Erikli-Kesan	1.12	10	PN	Pg	05 44 56.7	0.0
CAVK	Edirne/Enez-Ca	1.12	356	*i* P	Pg	05 44 57.2	+0.3
CAVK				*i* S	Sn	05 45 10.9	+0.1
CAVK				IAML		05 45 15.0	
	comp=E,240nm,0.5s						
STEP	BALIKESIR_Sava	1.14	99	*i* P	Pg	05 44 58.7	+1.6
STEP				*i* S	Sb	05 45 09.5	-1.1
KRBG	Karabiga-Canak	1.14	44	PN	Pb	05 44 56.8	+0.6
PSRA	Psara	1.16	208	P	Pb	05 44 57.4	+0.8
PSRA				S	Sg	05 45 13.4	+0.6
ENEZ	Enez	1.17	356	P	Pg	05 44 58.2	+0.5
ENEZ				S	Sg	05 45 15.4	+2.4
	comp=E,405nm,0.2s						
ENEZ	Enez	1.17	356	PN	Pg	05 44 57.6	-0.1
CHOS	Chios island	1.19	188	P	Pn	05 44 57.0	+0.2
CHOS				S	Sb	05 45 12.4	+0.2
	comp=E,300nm,0.4s						
CHOS	Chios island	1.19	188	P	Pn	05 44 57.2	+0.4
CHOS				S	Sn	05 45 13.1	+0.6
CHOS				AML	AML	05 45 16.0	
	comp=N,534μm,0.6s						
CHOS				AML	AML	05 45 17.8	
	comp=E,660μm,0.3s						
CHOS	Chios island	1.19	188	PN	Pn	05 44 56.6	-0.2
GONE	Gonen-Balikesi	1.19	66	PN	Pg	05 44 58.4	+0.3
URLA	Izmir	1.23	168	*i* P	Pn	05 44 57.7	+0.4
URLA				*i* S	Sb	05 45 10.4	-3.0
URLA				IAML		05 45 16.0	
	comp=N,172nm,0.5s						
URLA	Izmir	1.23	168	PN	Pn	05 44 57.4	0.0
BALB	Balikesir	1.25	86	PN	Pb	05 44 58.7	+0.7
KESN	Edirne-Kesan	1.29	14	*i* P	Pg	05 45 00.4	+0.2
KESN				*i* S	Sb	05 45 14.6	-0.9
KESN				IAML		05 45 22.0	
	comp=E,322nm,0.5s						
KESN				IAML		05 45 23.0	
	comp=N,281nm,0.5s						
RKY	Sarkoy-Tekirda	1.32	32	PN	Pb	05 44 59.5	+0.3
SART	Tekirdag	1.32	32	*i* P	Pg	05 45 00.2	-0.3
SART				*i* S	Sn	05 45 12.8	-3.0
ALN	Alexandroupoli	1.34	353	P	Pg	05 45 00.5	-0.4
ALN				S	Sg	05 45 19.8	+1.4
	comp=N,325nm,0.4s						
ALN	Alexandroupoli	1.34	353	P	Pg	05 45 00.4	-0.4
ALN				S	Sg	05 45 17.6	-0.7
ALN				AML	AML	05 45 20.5	
	comp=E,704μm,0.4s						
ALN				AML	AML	05 45 21.4	
	comp=N,593μm,0.4s						
ALN	Alexandroupoli	1.34	353	PN	Pb	05 45 00.1	+0.6
ZEYE	Izmir, Urla-Ze	1.34	172	*i* P	Pn	05 44 59.6	+0.8
ZEYE				*i* S	Sn	05 45 12.8	-3.3
ZEYE				IAML		05 45 20.0	
	comp=E,191nm,0.3s						
MAR6	Marsite Statio	1.37	34	PN	Pb	05 45 00.8	+0.7
MAR2	Marsite Statio	1.40	35	PN	Pb	05 45 01.1	+0.5
GZKV	Gazikoy-Tekird	1.43	34	PN	Pb	05 45 01.9	+0.8
MRMT	Marmara Adasi	1.45	44	PN	Pb	05 45 02.2	+0.7
EDC	Edincik	1.45	57	PN	Pb	05 45 02.1	+0.6
THAS	Thassos island	1.58	312	P	Pg	05 45 04.6	-0.8
THAS				S	Sb	05 45 23.9	+0.8
THAS	Thassos island	1.58	312	P	Pg	05 45 04.5	-0.8
UKOP	Uzunkopru-Edir	1.58	10	PN	Pb	05 45 03.8	+0.1
RDO	Rodhopi	1.67	341	P	Pb	05 45 05.5	+0.3
RDO				S	Sg	05 45 27.3	-1.7
	comp=E,48nm,0.3s						
RDO	Rodhopi	1.67	341	P	Pb	05 45 05.4	+0.2
RDO	Rodhopi	1.67	341	PN	Pb	05 45 04.9	-0.3
KCTX	Karacabey (Bur	1.75	66	PN	Pb	05 45 06.2	-0.4
SMG	Samos	1.91	166	P	Pb	05 45 10.7	+1.4

*NEIC **07** 05:54:06.5±0.9, 52°.25N±0°.06×167°.51W±0°.03, h15km±7km, Error ellipse: s-maj=9.5km s-min=2.5km az=169.0*
*AEIC **07** 05:54:07.6±1.0, 52°.20N±0°.06×167°.48W±0°.06, h12km±6km, ML3.0/26, Error ellipse: s-maj=9.2km s-min=5.6km az=170.0*
*IDC **07** 05:54:10.6±1.8, 52°.36N×166°.04W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/62, mbtmp3.5/7, ML3.1/2, Error ellipse: s-maj=42.9km s-min=25.7km az=128.0*
ISC 07 05:54:06.8±2.8, 52°23N±0°.10×167°49W±0°.06, h22km±21km, n28, σ0°76/34, mb3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.12	312		Pn	05 54 26.6	-0.5
NIKH					Sn	05 54 42.2	+0.4
OKSP	Okmok Steeple	1.14	335		Pn	05 54 27.2	-0.2
OKSP					Sn	05 54 41.1	-1.2
OKTU	Okmok Mt. Tuli	1.21	344		Pn	05 54 28.5	+0.1
OKER	Okmok East Rim	1.28	345		Pn	05 54 29.7	+0.4
OKER					Sn	05 54 45.8	-0.1
OKRE	Okmok R'deer P	1.36	343		Pn	05 54 30.9	+0.5
MGOD	Makushin Gods	1.61	13		Pn	05 54 34.0	0.0
MREP	Makushin Rep't	1.65	15		Pn	05 54 34.3	-0.1
MSW	Makushin Switc	1.74	14		Pn	05 54 36.0	+0.3
MSW					Sb	05 54 59.6	+0.1
MTBL	Makushin Table	1.81	15		Pn	05 54 36.7	0.0
ZRO	Akutan Zero	2.08	25		Pn	05 54 40.3	0.0
AKBBA	Akutan Broad B	2.10	26		Pn	05 54 40.8	+0.2
AKBBA					Sn	05 55 06.9	+1.0
AKV	Akutan Volcano	2.11	25		Pn	05 54 41.4	+0.5
AKUT	Akutan	2.17	28		Pn	05 54 41.5	-0.1
AKUT					Sn	05 55 08.9	+1.1
WESP	Westdahl Peak	2.81	35		Pn	05 54 50.8	+0.3
WESP					Sn	05 55 24.4	+0.7
KOFP	Korovin Flat P	4.06	273		Pn	05 55 08.1	+0.5
ATKA	Atka Island	4.13	272		Pn	05 55 08.1	-0.3
DT1	Dutton Round H	4.23	45		Pn	05 55 09.8	-0.1
SDPT	Sand Point	5.20	50	Pn	Pn	05 55 22.2	-0.9
GSTR	Great Sitkin T	5.28	272	Pn	Pn	05 55 26.2	+1.9
CNBA	Chernabura Isl	5.38	58	Pn	Pn	05 55 24.9	-0.7
ADK	Adak	5.69	270	Pn	Pn	05 55 30.9	+1.1
KDAK	Kodiak Island	10.20	51	Pn	Pn	05 56 29.9	-1.8
	0.3nm,0.3s,baz=210,slow=5.4,SNR=6.2						
KDAK				Sn	Sn	05 58 14.4	-11
	0.1nm,0.3s,baz=21,slow=4.9,SNR=1.7						
ILAR	Eielson Array	16.44	32	Pn	Pn	05 57 54.9	-0.8
	0.1nm,0.3s,baz=233,slow=11,SNR=2.2						
INK	Inuvik	22.84	32	P	P	05 59 08.6	+0.6
	1.6nm,0.5s,baz=257,slow=7.3,SNR=6.6						
NVAR	Mina Array Bea	36.51	92	P	P	06 01 11.1	+0.6
	0.5nm,0.7s,baz=300,slow=8.9,SNR=4.0						
PDAR	Pinedale Array	39.29	80	P	P	06 01 34.2	+0.2
	0.4nm,0.7s,baz=336,slow=5.4,SNR=3.9						
TXAR	Lajitas Array	51.59	90	P	P	06 03 10.6	-0.8
	0.2nm,0.6s,baz=316,slow=5.2,SNR=4.1						
ASAR	Alice Springs	91.20	232	P	P	06 07 20.9	+11
	0.3nm,0.5s,baz=42,slow=3.7,SNR=4.2						

*ISK **07** 05:57:36.5, 38°.69N×43°.22E, h22km, ML2.5/5*
*DDA **07** 05:57:37.3, 38°.67N×43°.15E, h7km±2km, ML2.3*
ISC 07 05:57:37.1±1.1, 38°69N±0°.04×43°18E±0°.04, h15km±11km, n9, σ0°52/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.19	121	PG	Pb	05 57 42.5	+0.1
VANB				SG	Sb	05 57 47.0	+1.1
TVAN	Van	0.24	133	*i* P	Pb	05 57 42.7	-0.6
TVAN				*i* S	Sg	05 57 46.2	+0.1
TVAN				IAML		05 57 47.0	
	comp=E,2μm,0.4s						
TVAN				IAML		05 57 47.0	
	comp=N,1μm,0.3s						
ERCV	ERCIS-VAN	0.35	21	PG	Pg	05 57 44.6	+0.3
GEVA	Gevas	0.39	194	*i* P	Pb	05 57 45.5	-0.4
GEVA				*i* S	Sb	05 57 52.1	+0.3
GEVA				IAML		05 57 54.0	
	comp=N,126nm,0.4s						
GEVA				IAML		05 57 54.0	
	comp=E,129nm,1.3s						
AKDM	Akdamar-Van	0.40	203	PG	Pb	05 57 45.3	-0.6
VMUR	Van-Muradiye	0.43	46	*i* P	Pb	05 57 46.1	-0.3
VMUR				*i* S	Sb	05 57 53.2	+0.4
VMUR				IAML		05 57 54.0	
	comp=N,259nm,0.2s						
VMUR				IAML		05 57 56.0	
	comp=E,332nm,0.5s						
CLDR	Caldiran	0.73	52	PG	Pg	05 57 50.8	-0.5
CLDR				SG	Sb	05 58 01.6	0.0
BLIS	Bitlis-Merkez	0.88	252	*i* P	Pb	05 57 54.1	-0.1
BLIS				*i* S	Sb	05 58 06.2	+0.4
BLIS				IAML		05 58 07.0	
	comp=E,139nm,0.5s						
BLIS				IAML		05 58 08.0	
	comp=N,203nm,0.7s						
AGRB	Hanur-Agry	0.89	351	PG	Pg	05 57 54.4	0.0

IDC 07 06:16:47.5±4.2, 4°.47S×132°.46E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.6/28, mbtmp3.7/3, ML3.8/2, MS4.1/1, Ms1 4.1/1, ms1mx3.2/23, Error ellipse: s-maj=242.3km s-min=18.4km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.48	173	Pn	Pn	06 20 25.4	-2.0
	0.2nm,0.3s,baz=352,slow=13,SNR=15						
WRA				Sn	Sn	06 23 17.7	-2.1
	0.3nm,0.3s,baz=3.7,slow=23,SNR=5.4						
ASAR	Alice Springs	19.13	176	P	Pn	06 21 14.2	+1.1
	1.2nm,0.3s,baz=6.8,slow=11,SNR=81						
ASAR				S	Sn	06 24 48.9	+0.7
	0.1nm,0.3s,baz=3.8,slow=30,SNR=1.4						
KSRS	Korea Array	41.92	355	LR	LR	06 40 02.8	
	comp=Z,248nm,22.0s,baz=285,slow=33						
MKAR	Makanchi Array	67.52	325	P	P	06 27 45.3	-0.3
	0.2nm,0.5s,baz=122,slow=8.1,SNR=2.5						

DJA 07 06:18:38.2±0.6, 1°S±6°.×12°0E±°, h10km, M3.2/6, MLv3.2/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.37	71	P	Pn	06 19 01.7	-1.7
APSI				S	Sb	06 19 21.5	-0.1
MPSI	Mapaga	1.75	345	P	Pn	06 19 08.7	+0.1
TTSI	Tana Toraja	1.76	198	P	Pn	06 19 08.4	-0.3
MRSI	Marisa	2.42	41	P	Pn	06 19 17.5	-0.4
LUWI	Luwuk	2.44	83	P	Pn	06 19 19.2	+1.0
GTOI	Gorontalo	3.32	53	P	Pn	06 19 30.0	-0.2

*WEL **07** 06:21:01.0±0.8, 36°S±8°.×17°9W±°, h33km, M5.4/84, mB5.8/49, ML5.8/84, MLv5.6/84, Mw(mB)5.4/49, Error ellipse: s-maj=0.0km s-min=0.0km az=138.4*
*BJI **07** 06:21:00.4±0.0, 35°.51S×179°.60W, h12km, mB5.9/3, mb5.6/7, Ms5.8/2, Ms7 5.5/1*
*MOS **07** 06:21:01.9±1.1, 35°.31S×179°.81W, h17km, mb5.6/22, MS5.2/7, Error ellipse: s-maj=11.1km s-min=8.6km az=85.8*
*NEIC **07** 06:21:02.2±2.1, 35°.41S±0°.06×179°.7W±0°.1, h10km±1km, mb5.4/118, Ms_20 5.8/232, Mww5.6, Mwc5.6(GCMT), Error ellipse: s-maj=15.1km s-min=9.8km az=114.0*
*IDC **07** 06:21:05.0±2.5, 35°.28S×179°.73W, h30km±17km, mb4.5/18, mb1 4.6/20, mb1mx4.5/28, mbtmp4.7/20, ML5.2/2, MS5.2/19, Ms1 5.2/19, ms1mx5.0/40, Error ellipse: s-maj=14.6km s-min=13.0km az=149.0*
*GCMT **07** 06:21:06.2±0.2, 35°.53S±0°.02×

WIZ	**White Island**	**3.41 230**	P	**Pn**	**06 21 56.0**	**-0.5**
RUGZ	**Raukumara Rang**	**3.42 220**	P	**Pn**	**06 21 56.4**	**-0.4**
TWGZ	**Tauwhareparae**	**3.44 215**	P	**Pn**	**06 21 56.2**	**-0.8**
CNGZ	**Carnagh Statio**	**3.59 210**	P	**Pn**	**06 21 58.0**	**-1.1**
TKGZ	**Te Karaka**	**3.71 214**	P	**Pn**	**06 21 59.9**	**-0.8**
TKGZ			S	**Sn**	**06 22 43.4**	**+0.3**
WHRZ	**Whale Island**	**3.75 228**	P	**Pn**	**06 22 02.4**	**+1.2**
MWZ	**Matawai**	**3.78 218**	P	**Pn**	**06 22 00.4**	**-1.3**
MWZ			S	**Sn**	**06 22 46.7**	**+1.8**
MYRZ	**Mayor Island**	**3.91 240**	P	**Pn**	**06 22 04.1**	**+0.7**
URZ	**Urewera**	**3.94 222**	Pn	**Pn**	**06 22 01.9**	**-2.0**
	69nm,0.3s,baz=41,slow=9.4,SNR=224					
URZ			Sn	**Sn**	**06 22 49.1**	**+0.2**
	126nm,0.3s,baz=319,slow=20,SNR=6.7					
URZ	**Urewera**	**3.94 222**	P	**Pn**	**06 22 02.7**	**-1.2**
RAGZ	**Rawiri**	**3.96 217**	P	**Pn**	**06 22 03.0**	**-1.2**
RIGZ	**Rimuhau**	**3.97 212**	P	**Pn**	**06 22 02.9**	**-1.4**
RIGZ			S	**Sn**	**06 22 50.8**	**+1.3**
OPRZ	**Ohinepanea**	**4.00 231**	P	**Pn**	**06 22 03.8**	**-0.9**
OPRZ			S	**Sn**	**06 22 52.1**	**+1.8**
MARZ	**Manawahe**	**4.01 228**	P	**Pn**	**06 22 04.9**	**0.0**
EDRZ	**Edgecumbe**	**4.05 227**	P	**Pn**	**06 22 05.2**	**-0.3**
PRGZ	**Paritu Road**	**4.10 210**	P	**Pn**	**06 22 03.9**	**-2.1**
TGRZ	**Tauranga**	**4.12 234**	P	**Pn**	**06 22 05.9**	**-0.5**
LIRZ	**Lichensteins R**	**4.20 230**	P	**Pn**	**06 22 08.6**	**+1.1**
SNGZ	**Shannon Statio**	**4.22 216**	P	**Pn**	**06 22 06.0**	**-1.8**
MKRZ	**Makatiti**	**4.24 228**	P	**Pn**	**06 22 09.4**	**+1.4**
KNZ	**Kokohu**	**4.27 211**	P	**Pn**	**06 22 06.0**	**-2.3**
RTZ	**Ruatahuna**	**4.27 220**	P	**Pn**	**06 22 07.4**	**-1.1**
OMRZ	**Omania**	**4.27 229**	P	**Pn**	**06 22 07.9**	**-0.6**
TARZ	**Moant Tarawera**	**4.27 227**	P	**Pn**	**06 22 08.3**	**-0.2**
MUGZ	**Murupara**	**4.29 223**	P	**Pn**	**06 22 07.0**	**-1.6**
MHGZ	**Mahia Peninsul**	**4.29 208**	P	**Pn**	**06 22 06.5**	**-2.1**
KARZ	**Kaharoa**	**4.30 231**	P	**Pn**	**06 22 08.0**	**-0.8**
RRRZ	**Republican Roa**	**4.34 226**	P	**Pn**	**06 22 08.7**	**-0.6**
HLRZ	**Highlands Stat**	**4.38 228**	P	**Pn**	**06 22 10.2**	**+0.3**
NGRZ	**Ngongotaha**	**4.39 230**	P	**Pn**	**06 22 09.9**	**-0.1**
KMRZ	**Kaimai**	**4.40 235**	P	**Pn**	**06 22 10.1**	**-0.1**
UTU	**Utuhina**	**4.43 230**	P	**Pn**	**06 22 12.5**	**+1.9**
RAHZ	**Arahi**	**4.45 216**	P	**Pn**	**06 22 09.9**	**-0.9**
HSRZ	**Hossack Road**	**4.48 228**	P	**Pn**	**06 22 11.6**	**+0.3**
WHHZ	**Waihua**	**4.51 214**	P	**Pn**	**06 22 10.5**	**-1.1**
HRRZ	**Handcock Road**	**4.51 227**	P	**Pn**	**06 22 11.6**	**0.0**
PRRZ	**Plateau Road**	**4.51 225**	P	**Pn**	**06 22 10.8**	**-0.9**
MTHZ	**Maungataniwha**	**4.52 219**	P	**Pn**	**06 22 10.7**	**-1.2**
ALRZ	**Allen Road**	**4.59 225**	P	**Pn**	**06 22 12.2**	**-0.6**
GRRZ	**Galatos Road**	**4.59 228**	P	**Pn**	**06 22 12.6**	**-0.1**
WPRZ	**Whakapapatarin**	**4.66 227**	P	**Pn**	**06 22 14.3**	**+0.5**
NMHZ	**Naumai**	**4.73 217**	P	**Pn**	**06 22 13.7**	**-1.0**
MRHZ	**Matea Rd**	**4.73 222**	P	**Pn**	**06 22 13.8**	**-1.0**
ARHZ	**Aropaoanui**	**4.77 215**	P	**Pn**	**06 22 13.4**	**-1.8**
KUTZ	**Kaahu Road**	**4.85 229**	P	**Pn**	**06 22 16.2**	**-0.2**
EPAZ	**Eden Park BICE**	**4.87 251**	P	Pn	06 22 24.9	+8.2
HBAZ	**Herne Bay Bore**	**4.88 251**	P	Pn	06 22 23.9	+7.2
WHTZ	**Whakaora**	**4.88 226**	P	**Pn**	**06 22 17.1**	**+0.2**
TLZ	**Tolley Road**	**4.93 232**	P	**Pn**	**06 22 18.6**	**+1.1**
BKZ	**Black Stump Fm**	**4.94 219**	Pn	**Pn**	**06 22 15.3**	**-2.3**
BKZ	**Black Stump Fm**	**4.94 219**	P	**Pn**	**06 22 15.4**	**-2.3**
HATZ	**Hinemaiaia**	**4.95 224**	P	**Pn**	**06 22 17.5**	**-0.3**
WATZ	**Wairara**	**5.04 227**	P	**Pn**	**06 22 18.7**	**-0.3**
MCHZ	**McNeill Hill**	**5.05 215**	P	**Pn**	**06 22 17.0**	**-2.1**
CKHZ	**Cape Kidnapper**	**5.05 211**	P	**Pn**	**06 22 16.3**	**-2.8**
RATZ	**Rangitukua**	**5.12 226**	P	**Pn**	**06 22 19.4**	**-0.7**
RITZ	**Rihia Road**	**5.15 224**	P	**Pn**	**06 22 20.1**	**-0.4**
KWHZ	**Kaweka Forest**	**5.17 217**	P	**Pn**	**06 22 18.5**	**-2.3**
KATZ	**Kakaramea**	**5.24 225**	P	**Pn**	**06 22 20.6**	**-1.2**
KAHZ	**Kahuranaki**	**5.25 212**	P	**Pn**	**06 22 18.6**	**-3.3**
TMVZ	**Te Maari**	**5.33 224**	P	**Pn**	**06 22 21.8**	**-1.3**
NTVZ	**North Tongarir**	**5.33 224**	P	**Pn**	**06 22 21.9**	**-1.2**
ETVZ	**East Tongariro**	**5.34 224**	P	**Pn**	**06 22 21.7**	**-1.5**
KRVZ	**Karewarewa**	**5.35 225**	P	**Pn**	**06 22 22.5**	**-0.8**
KRHZ	**Kereru**	**5.36 216**	P	**Pn**	**06 22 21.3**	**-2.1**
OTVZ	**Oturere**	**5.38 224**	P	**Pn**	**06 22 22.0**	**-1.8**
NNVZ	**North Ngauruho**	**5.39 225**	P	**Pn**	**06 22 23.1**	**-0.8**
WTVZ	**West Tongariro**	**5.39 225**	P	**Pn**	**06 22 23.2**	**-0.8**
BHHZ	**Black Hill Sta**	**5.40 219**	P	**Pn**	**06 22 21.8**	**-2.2**
SNVZ	**South Ngauruho**	**5.41 224**	P	**Pn**	**06 22 22.4**	**-1.8**
NGZ	**Ngauruhoe**	**5.43 224**	P	**Pn**	**06 22 23.1**	**-1.3**
TWVZ	**Taurewa**	**5.45 226**	P	**Pn**	**06 22 24.1**	**-0.7**
PXZ	**Pawanui**	**5.46 211**	P	**Pn**	**06 22 21.4**	**-3.2**
TUVZ	**Tukino**	**5.46 223**	P	**Pn**	**06 22 23.6**	**-1.3**
HIZ	**Hauiti**	**5.48 234**	Pn	**Pn**	**06 22 22.2**	**-2.8**
HIZ	**Hauiti**	**5.48 234**	P	**Pn**	**06 22 25.3**	**+0.3**
MOVZ	**Moawhango**	**5.50 222**	P	**Pn**	**06 22 22.9**	**-2.5**
WHVZ	**Whangaehu Hut**	**5.51 224**	P	**Pn**	**06 22 23.9**	**-1.7**
FWVZ	**Far West T-bar**	**5.51 224**	P	**Pn**	**06 22 24.0**	**-1.6**
DRZ	**Dome Shelter**	**5.52 224**	P	**Pn**	**06 22 24.8**	**-1.0**
WNVZ	**Wahianoa**	**5.53 223**	P	**Pn**	**06 22 23.6**	**-2.3**
TRVZ	**Turoa**	**5.54 224**	P	**Pn**	**06 22 24.2**	**-1.9**
OUZ	**Omahuta**	**5.63 270**		**Pn**	**06 22 26.6**	**-0.4**
PKVZ	**Pokaka**	**5.65 225**	P	**Pn**	**06 22 26.8**	**-0.6**
PNHZ	**Pukenui**	**5.66 216**	P	**Pn**	**06 22 24.1**	**-3.3**
WPHZ	**Waipukurau**	**5.67 213**	P	**Pn**	**06 22 24.3**	**-3.3**
PRHZ	**Porangahau**	**5.75 211**	P	**Pn**	**06 22 25.9**	**-2.7**
TSZ	**Takapari Road**	**5.88 216**	P	**Pn**	**06 22 27.7**	**-2.9**
VRZ	**Vera Road**	**5.89 229**	P	**Pn**	**06 22 30.6**	**-0.1**
ANWZ	**Angora Road**	**5.98 211**	P	**Pn**	**06 22 28.1**	**-3.7**
DVHZ	**Dannevirke**	**5.98 213**	P	**Pn**	**06 22 28.6**	**-3.2**
MHEZ	**Mangahewa**	**6.14 231**	P	**Pn**	**06 22 38.4**	**+4.4**
WAZ	**Wangaehu**	**6.17 223**	P	**Pn**	**06 22 33.4**	**-1.1**
POWZ	**Post Office Ro**	**6.24 215**	P	**Pn**	**06 22 32.2**	**-3.2**
BFZ	**Birch Farm**	**6.26 211**	Pn	**Pn**	**06 22 31.3**	**-4.4**
BFZ	**Birch Farm**	**6.26 211**	P	**Pn**	**06 22 31.0**	**-4.7**
RAO	**Raoul Island**	**6.26 13**	Pn	**Pn**	**06 22 31.1**	**-4.7**
	44nm,0.3s,baz=282,slow=20,SNR=1.5					
RAO			Sn	**Sn**	**06 23 42.3**	**-3.7**
	160nm,0.3s,baz=103,slow=19,SNR=3.3					
RAO	**Raoul Island**	**6.26 13**	P	**Pn**	**06 22 33.7**	**-2.1**
RAO					06 23 42.3	
RAO	**Raoul Island**	**6.26 13**	Pn	**Pn**	**06 22 33.7**	**-2.1**
DREZ	**Durham Road**	**6.28 231**	P	**Pn**	**06 22 38.1**	**+2.0**
NEZ	**North Egmont**	**6.40 231**	P	**Pn**	**06 22 39.1**	**+1.4**
PREZ	**Palmer Road**	**6.40 230**	P	**Pn**	**06 22 40.1**	**+2.5**
PKE	**Pukeiti**	**6.42 232**	P	**Pn**	**06 22 38.0**	**+2.0**
KHEZ	**Kahui Hut**	**6.46 231**	P	**Pn**	**06 22 40.8**	**+2.2**
TIWZ	**Tintock**	**6.49 213**	P	**Pn**	**06 22 37.0**	**-1.9**
MRZ	**Mangatainoka R**	**6.54 215**	P	**Pn**	**06 22 35.1**	**-4.4**
NBEZ	**Newall Road No**	**6.54 232**	P	**Pn**	**06 22 42.2**	**+2.7**
HOWZ	**Holdsworth Sta**	**6.75 214**	P	**Pn**	**06 22 38.4**	**-4.1**
TMWZ	**Te Maipa**	**6.76 211**	P	**Pn**	**06 22 38.0**	**-4.6**
OGWZ	**Otaki Gorge**	**6.85 216**	P	**Pn**	**06 22 39.5**	**-4.3**
MTW	**Mount Morrison**	**6.97 213**	P	**Pn**	**06 22 40.7**	**-4.7**
KIW	**Kapiti Island**	**7.01 217**	P	**Pn**	**06 22 41.6**	**-4.4**
CAW	**Cannon Point**	**7.13 215**	P	**Pn**	**06 22 43.1**	**-4.5**
MSWZ	**Moikau Station**	**7.29 213**		Pn	06 22 44.1	-5.7
PLWZ	**Palliser**	**7.41 212**	Pn	Pn	06 22 46.5	-5.0
BHW	**Baring Head**	**7.45 214**	Pn	**Pn**	**06 22 48.0**	**-4.1**
SNZO	**South Karori**	**7.46 216**	Pn	**Pn**	**06 22 47.4**	**-4.7**
DUWZ	**D'Urville Isla**	**7.48 222**	P	Pn	06 22 49.1	-3.4
TUWZ	**Tuamarina**	**7.92 218**		Pn	06 22 53.4	-5.1
CMWZ	**Cape Campbell**	**8.03 216**	Pn	**Pn**	**06 22 56.1**	**-3.8**
NNZ	**Nelson**	**8.06 222**	Pn	**Pn**	**06 22 55.8**	**-4.6**
NNZ	**Nelson**	**8.06 222**	P	**Pn**	**06 22 56.7**	**-3.7**
BSWZ	**Blackbirch Sta**	**8.17 217**	Pn	**Pn**	**06 22 57.6**	**-4.2**
BSWZ	**Blackbirch Sta**	**8.17 217**	P	**Pn**	**06 22 57.9**	**-4.0**
QRZ	**Quartz Range**	**8.29 227**	Pn	**Pn**	**06 22 58.9**	**-4.7**
CTZ	**Chatham Island**	**8.64 166**	P	**Pn**	**06 23 04.6**	**-3.7**
CTZ			S	Sn	06 24 33.5	-11
THZ	**Tophouse**	**8.70 221**	Pn	Pn	06 23 03.6	-5.7
KHZ	**Kahutara**	**8.86 215**		**Pn**	**06 23 06.9**	**-4.5**
KHZ	**Kahutara**	**8.86 215**	P	**Pn**	**06 23 06.9**	**-4.5**
LTZ	**Lake Taylor**	**9.76 218**	Pn	Pn	06 23 17.9	-5.8
AMCZ	**Amberley**	**9.87 216**	P	**Pn**	**06 23 22.1**	**-3.0**
INZ	**Inchbonnie**	**10.15 221**	P	**Pn**	**06 23 25.3**	**-3.7**
MQZ	**McQueen's Vall**	**10.27 214**		Pn	06 23 23.6	-7.1
OXZ	**Oxford**	**10.27 217**		Pn	06 23 23.0	-7.7
RACZ	**Rakaia**	**10.53 215**	P	**Pn**	**06 23 29.6**	**-4.6**
WVZ	**Waitaha Valley**	**10.77 222**	P	**Pn**	**06 23 34.2**	**-3.2**
WACZ	**Wakanui South**	**10.83 215**	P	**Pn**	**06 23 34.4**	**-3.9**
RPZ	**Rata Peaks**	**11.05 218**		Pn	06 23 35.8	-5.5
GCSZ	**Gaunt Creek Bo**	**11.15 222**	P	**Pn**	**06 23 40.5**	**-2.2**
FOZ	**Fox Glacier**	**11.57 222**	Pn	Pn	06 23 43.2	-5.2
FOZ	**Fox Glacier**	**11.57 222**	P	**Pn**	**06 23 44.5**	**-3.9**
LBZ	**Lake Benmore**	**11.96 218**		Pn	06 23 47.1	-6.7
ODZ	**Otahua Downs**	**12.22 215**		Pn	06 23 50.8	-6.6
JCZ	**Jackson Bay**	**12.49 222**	P	**Pn**	**06 23 58.7**	**-2.5**
WKZ	**Wanaka**	**12.87 219**	Pn	Pn	06 23 58.7	-7.5
WKZ	**Wanaka**	**12.87 219**	P	**Pn**	**06 24 03.6**	**-2.6**
MSZ	**Milford Sound**	**13.35 222**	P	**Pn**	**06 24 12.7**	**0.0**
MLZ	**Mavora Lakes**	**13.70 220**	Pn	Pn	06 24 09.6	-8.0
MLZ	**Mavora Lakes**	**13.70 220**	P	**Pn**	**06 24 17.5**	**-0.1**
SYZ	**Scrubby Hill**	**14.04 214**	P	**Pn**	**06 24 22.6**	**+0.5**
WHZ	**Wether Hill Ro**	**14.15 218**	Pn	Pn	06 24 16.4	-7.3
WHZ	**Wether Hill Ro**	**14.15 218**	P	**Pn**	**06 24 21.1**	**-2.5**
APZ	**The Paps**	**14.79 216**	P	**Pn**	**06 24 31.9**	**-0.4**
PINNC	**Pines Island,**	**17.06 315**	P	**Pn**	**06 24 58.8**	**-2.6**
PINNC			IAmb	IAmb	06 25 12.4	
	comp=Z,609nm,1.7s					
PINNC	**Pines Island,**	**17.06 315**	P	**P**	**06 25 06.4**	**+3.7**
OUENC	**Ouen Island, N**	**17.56 314**	P	**Pn**	**06 25 06.4**	**-1.2**
OUENC			IAmb	IAmb	06 25 17.4	
	comp=Z,213nm,1.3s					
OUENC	**Ouen Island, N**	**17.56 314**	P	**P**	**06 25 12.0**	**+3.7**
MSVF	**Nonsavu**	**17.71 352**	P	**Pn**	**06 25 07.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=164,slow=11,SNR=11					
MSVF			LR	LR	06 30 06.5	
	comp=Z,4μm,21.1s,baz=168,slow=31					
MSVF	**Nonsavu**	**17.71 352**	P	**Pn**	**06 25 08.0**	**-1.5**
MSVF			pmax	pmax		
	comp=Z,58nm,0.9s					
MSVF	**Nonsavu**	**17.71 352**	P	**Pn**	**06 25 08.0**	**-1.5**
YATNC	**Mamie plateau,**	**17.81 315**	P	**P**	**06 25 15.7**	**+4.6**
ONTNC	**Ouen Toro**	**17.88 313**		**Pn**	**06 25 10.6**	**-0.9**
ONTNC	**Ouen Toro**	**17.88 313**	P	**P**	**06 25 17.3**	**+5.5**
	comp=Z,155nm,1.3s					
DZM	**Mont Dzumac**	**18.06 314**	P	**P**	**06 25 15.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=122,slow=14,SNR=11					
DZM			LR	LR	06 31 04.2	
	comp=Z,22μm,18.7s,baz=132,slow=34					
DZM	**Mont Dzumac**	**18.06 314**	*e*P	**Pn**	**06 25 13.9**	**0.0**
	comp=Z,248nm,1.9s					
DZM			*e*LR	LR	06 29 28.7	
	comp=Z,23μm,23.6s					
DZM	**Mont Dzumac**	**18.06 314**	P	**Pn**	**06 25 11.7**	**-2.2**
DZM	**Mont Dzumac**	**18.06 314**	P	**P**	**06 25 17.2**	**+3.2**
NOUC	**Port Laguerre**	**18.12 313**	P	**Pn**	**06 25 19.0**	**+4.5**
LHI	**Lord Howe Isla**	**18.27 276**	P	**P**	**06 25 12.4**	**-3.7**
LHI			IAmb	IAmb	06 25 58.9	
	comp=Z,672nm,1.9s					
NIUE	**Niue**	**18.33 30**	P	**Pn**	**06 25 17.4**	**+0.4**
NIUE			IAmb	IAmb	06 26 00.8	
	comp=Z,180nm,0.8s					
LIFNC	**LIFOU**	**18.63 318**	P	**P**	**06 25 19.1**	**-0.9**
LIFNC			IAmb	IAmb	06 26 01.6	
	comp=Z,741nm,1.8s					
KOUNC	**Komac, New Ca**	**20.52 312**	P	Pn	06 25 44.8	+1.7
RAR	**Rarotonga**	**22.34 56**	P	**P**	**06 25 59.9**	**-0.4**
	comp=Z,39nm,1.1s,baz=259,slow=16,SNR=4.8					
RAR			S	**S**	**06 29 53.8**	**-10**
	comp=Z,15nm,1.0s,baz=348,slow=19,SNR=2.4					
RAR			LR	LR	06 32 20.2	
	comp=Z,3μm,21.6s,baz=227,slow=30					
RAR	**Rarotonga**	**22.34 56**	P	**P**	**06 26 00.9**	**+0.6**
RAR			pmax	pmax		
	comp=Z,230nm,1.6s					
RAR	**Rarotonga**	**22.34 56**	P	**P**	**06 26 00.9**	**+0.6**
RAR			IAmb	IAmb	06 26 41.5	
	comp=Z,230nm,1.6s					
AFI	**Afiamalu**	**22.49 20**	P	**P**	**06 26 01.3**	**-0.7**
	comp=Z,32nm,0.9s,baz=229,slow=19,SNR=2.4					
AFI			S	S	06 29 50.7	-16
	comp=Z,8.1nm,0.3s,baz=300,slow=18,SNR=1.8					
AFI	**Afiamalu**	**22.49 20**	P	**P**	**06 26 02.0**	**0.0**
AFI					06 29 50.7	
AFI			pmax	pmax		
	comp=Z,93nm,1.0s					
AFI	**Afiamalu**	**22.49 20**	P	**P**	**06 26 02.0**	**0.0**
AFI			IAmb	IAmb	06 26 30.4	
	comp=Z,92nm,1.0s					
AFI	**Afiamalu**	**22.49 20**	P	P	06 26 10.5	+8.5
MCQ	**Macquarie Isla**	**24.27 211**	P	**P**	**06 26 17.9**	**-1.1**
MCQ			pmax	pmax		
	comp=Z,549nm,1.6s					
MCQ	**Macquarie Isla**	**24.27 211**	P	**P**	**06 26 17.9**	**-1.1**
ARMA	**Armidale**	**24.68 273**	P	**P**	**06 26 23.4**	**+0.3**
	baz=25,SNR=4.7					
ARMA	**Armidale**	**24.68 273**	P	**P**	**06 26 20.8**	**-2.3**
ARMA			IAmb	IAmb	06 26 27.2	
	comp=Z,93nm,1.4s					
CAN	**Canberra**	**25.62 261**	P	**P**	**06 26 25.5**	**-6.1**
CAN			pmax	pmax		
	comp=Z,110nm,1.6s					
CAN			MLR	MLR		
	comp=Z,4μm,19.0s					
CAN	**Canberra**	**25.62 261**	P	**P**	**06 26 25.5**	**-6.1**
CAN			IAmb	IAmb	06 26 43.1	
	comp=Z,110nm,1.6s					
TAU	**Tasmania Unive**	**26.66 244**	P	**P**	**06 26 36.0**	**-4.8**
TAU			pmax	pmax		
	comp=Z,103nm,1.4s					
TAU			MLR	MLR		
	comp=Z,8μm,18.0s					
TAU	**Tasmania Unive**	**26.66 244**	P	**P**	**06 26 36.0**	**-4.8**
TAU			IAmb	IAmb	06 26 53.8	
	comp=Z,103nm,1.4s					
MOO	**Moorlands**	**26.72 245**	P	**P**	**06 26 40.0**	**-1.4**
	baz=26,SNR=3.9					
FUNA	**Funafuti**	**26.75 357**	IAMs_20	IAMs_20	06 33 55.3	
	comp=Z,34μm,18.0s					
EIDS	**Eidsvold**	**27.16 283**	P	**P**	**06 26 46.1**	**+0.6**
	baz=27,SNR=5.1					
EIDS	**Eidsvold**	**27.16 283**	P	**P**	**06 26 45.3**	**-0.2**
TOO	**Toolangi**	**28.12 255**	P	**P**	**06 26 51.1**	**-2.9**
TOO			pmax	pmax		
	comp=Z,53nm,1.5s					
TOO	**Toolangi**	**28.12 255**	P	**P**	**06 26 51.1**	**-2.9**
TOO			IAmb	IAmb	06 27 47.7	
	comp=Z,53nm,1.5s					
RMQ	**Roma**	**28.52 279**	P	**P**	**06 26 58.2**	**+0.6**
	baz=28,SNR=30					
TBI	**Tubuai**	**28.70 73**	*e*LR	LR	06 34 29.0	
	comp=Z,6μm,24.5s,baz=234					
TBI	**Tubuai**	**28.70 73**	*e*T	T	06 56 36.8	
	comp=Z,13nm,0.4s					
CMSA	**Cobar Meteorol**	**29.18 268**	P	**P**	**06 27 03.7**	**+0.3**
	baz=29,SNR=20					
ARPS	**Mount Arapiles**	**31.12 256**	P	**P**	**06 27 20.7**	**+0.1**
	baz=31,SNR=6.3					
HNR	**Honiara**	**31.91 319**	LR	LR	06 38 14.1	
	comp=Z,2μm,21.9s,baz=166,slow=32					
HNR	**Honiara**	**31.91 319**	P	**P**	**06 27 26.6**	**-1.0**
HNR			pmax	pmax		
	comp=Z,161nm,0.9s					
HNR	**Honiara**	**31.91 319**	P	**P**	**06 27 26.6**	**-1.0**
PPT2	**Papeete2**	**31.95 64**	*e*LR	LR	06 35 57.3	
	comp=Z,5μm,23.8s,baz=226					
PPT	**Papeete**	**31.97 64**	P	**P**	**06 27 28.7**	**+0.5**
	comp=Z,17nm,0.6s,baz=246,slow=17,SNR=1.8					
PPT			LR	LR	06 37 11.8	
	comp=Z,2μm,19.6s,baz=249,slow=30					
QLP	**Quilpie**	**32.14 276**	P	**P**	**06 27 29.1**	**-0.5**
	baz=32,SNR=3.8					
TIAR	**Tiarei**	**32.14 64**	*e*P	**P**	**06 27 32.1**	**+2.4**
	comp=Z,13nm,0.9s					
STKA	**Stephens Creek**	**32.42 265**	P	**P**	**06 27 29.8**	**-2.2**
	comp=Z,19nm,1.0s,baz=102,slow=9.5,SNR=25					
STKA			PcP	**PcP**	**06 30 19.1**	**+0.4**
	comp=Z,7.4nm,0.9s,baz=124,slow=3.6,SNR=3.9					
STKA			LR	LR	06 40 07.3	
	comp=Z,6μm,19.0s,baz=112,slow=35					
STKA	**Stephens Creek**	**32.42 265**	P	**P**	**06 27 30.0**	**-2.0**
CTA	**Charters Tower**	**33.71 288**	S	**S**	**06 33 02.6**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=104,slow=20,SNR=1.0					
CTAO	**Charters Tower**	**33.71 288**	P	**P**	**06 27 42.9**	**-0.5**
CTAO			pmax	pmax		
	comp=Z,179nm,1.3s					
CTAO			MLR	MLR		
	comp=Z,4μm,18.0s					
CTAO	**Charters Tower**	**33.71 288**	P	**P**	**06 27 42.9**	**-0.5**
HTT	**Hallett**	**34.16 261**	P	**P**	**06 27 47.1**	**-0.2**
	baz=34,SNR=12					
PMOR	**Pomariorio Ree**	**34.85 62**	*e*T	T	07 04 09.9	
	comp=Z,6.6nm,0.2s					
MTSU	**Mount Surprise**	**36.32 289**	P	**P**	**06 28 07.0**	**+1.1**
	baz=36,SNR=12					
BBOO	**Buckleboo**	**36.64 261**	P	**P**	**06 28 08.2**	**-0.3**
	baz=36,SNR=16					
BBOO	**Buckleboo**	**36.64 261**	P	**P**	**06 28 07.1**	**-1.4**
BBOO			IAmb	IAmb	06 28 09.7	
	comp=Z,48nm,1.4s					
TARA	**Tarawa**	**37.22 347**	P	**P**	**06 28 12.2**	**-1.2**
TARA			IAmb	IAmb	06 29 01.2	
	comp=Z,229nm,1.8s					
QIS	**Mount Isa**	**38.72 281**	P	**P**	**06 28 26.9**	**+0.7**
	baz=39,SNR=10					
PMG	**Port Moresby**	**39.88 302**	LR	LR	06 42 56.8	
	comp=Z,6μm,19.0s,baz=137,slow=33					
PMG	**Port Moresby**	**39.88 302**	*c i*P	**P**	**06 28 35.8**	**-0.1**
PMG			pmax	pmax		
	comp=Z,91nm,1.7s					
PMG	**Port Moresby**	**39.88 302**	P	**P**	**06 28 35.2**	**-0.7**
PMG			IAmb	IAmb	06 28 38.1	
	comp=Z,93nm,1.2s					
PMG	**Port Moresby**	**39.88 302**	IAMs_20	IAMs_20	06 44 03.6	
	comp=Z,8μm,18.0s					
PMG	**Port Moresby**	**39.88 302**	P	**P**	**06 28 38.8**	**+2.9**
PMG	**Port Moresby**	**39.88 302**	P	**P**	**06 28 39.0**	**+3.1**
RABL	**Rabaul**	**40.59 313**	P	**P**	**06 28 42.7**	**+0.9**
AS31	**Alice Springs**	**41.83 273**	P	**P**	**06 28 50.9**	**-1.1**
ASAR	**Alice Springs**	**41.83 273**	P	**P**	**06 28 50.5**	**-1.4**
	comp=Z,44nm,0.9s,baz=114,slow=7.6,SNR=134					
ASAR			ScP	**ScP**	**06 34 34.6**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=122,slow=3.5,SNR=3.7					
ASAR			S	**S**	**06 35 05.2**	**-1.8**
	comp=Z,2.0nm,1.0s,baz=114,slow=14,SNR=4.9					
ASAR			LR	LR	06 46 33.9	
	comp=Z,12μm,18.2s,baz=125,slow=37					
ASAR	**Alice Springs**	**41.83 273**	P	**P**	**06 28 50.4**	**-1.6**
SBA	**Scott Base**	**42.99 184**	P	**P**	**06 29 00.5**	**-0.1**
SBA			pmax	pmax		
	comp=Z,93nm,1.4s					
SBA			MLR	MLR		
	comp=Z,2μm,18.0s					
SBA	**Scott Base**	**42.99 184**	P	**P**	**06 29 00.5**	**-0.1**
SBA			IAmb	IAmb	06 29 16.9	
	comp=Z,93nm,1.4s					
VNDA	**Vanda**	**43.02 186**	P	**P**	**06 29 02.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=317,slow=13,SNR=4.1					
VNDA	**Vanda**	**43.02 186**	P	**P**	**06 29 01.7**	**+0.8**
WR0	**Warramunga Arr**	**43.10 278**	P	**P**	**06 29 01.0**	**-1.3**
WR0			IAmb	IAmb	06 29 10.2	
	comp=Z,57nm,0.9s					
WB2	**Warramunga Arr**	**43.26 278**	P	**P**	**06 29 02.3**	**-1.3**
WRAB	**Tennant Creek**	**43.27 278**	*c i*P	**P**	**06 29 02.3**	**-1.3**
WRAB			pmax	pmax		
	comp=Z,164nm,1.7s					
WRAB	**Tennant Creek**	**43.27 278**	P	**P**	**06 29 01.4**	**-2.2**
WRAB			IAmb	IAmb	06 29 04.5	
	comp=Z,188nm,1.4s					
WRA	**Warramunga Arr**	**43.27 278**	P	**P**	**06 29 02.5**	**-1.2**
	comp=Z,52nm,0.6s,baz=119,slow=7.5,SNR=16					
WRA			ScP	**ScP**	**06 34 40.6**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=127,slow=4.2,SNR=1.7					
WRA			S	**S**	**06 35 23.9**	**-4.3**
	comp=Z,1.6nm,1.0s,baz=131,slow=16,SNR=4.7					
WRA			LR	LR	06 46 28.2	
	comp=Z,5μm,19.7s,baz=115,slow=35					
WRA	**Warramunga Arr**	**43.27 278**	P	**P**	**06 29 02.4**	**-1.2**
WB0	**Warramunga Arr**	**43.32 279**	P	**P**	**06 29 02.9

comp=Z,75nm,1.9s
MAW Mawson 67.21 202 P **P 06 31 55.6 +0.2**
comp=Z,5.7nm,0.8s,baz=151,slow=8.0,SNR=3.0
MAW Mawson 67.21 202 P **P 06 31 57.5 +2.1**
baz=67,SNR=7.1
MAW Mawson 67.21 202 P **P 06 31 55.8 +0.4**
MAW pmax pmax
comp=Z,17nm,1.5s
MAW Mawson 67.21 202 P **P 06 31 55.8 +0.4**
BKB Balikpapan 67.91 285 IAms_20 IAms_20 07 05 51.4
comp=Z,4μm,18.0s
BBKI Banjar Baru 68.22 282 P **P 06 32 03.1 +0.5**
comp=Z,37nm,1.1s
PMSA Palmer Station 68.27 155 P **P 06 32 02.0 -0.1**
comp=Z,2.6nm,0.7s,baz=290,slow=11,SNR=6.1
PMSA Palmer Station 68.27 155 P **P 06 32 01.8 -0.3**
UGM Wanagama 69.13 275 IAms_20 IAms_20 07 05 01.8
comp=Z,3μm,18.0s
SMRI Semarang 69.68 276 IAms_20 IAms_20 07 03 03.6
comp=Z,3μm,19.0s
CISI Cisompet, Garu 71.53 274 P **P 06 32 21.1 -1.9**
SYO Syowa Base 71.99 194⇑ *e*P **P 06 32 23.6 -1.2**
SYO Syowa Base 71.99 194‖ *e*pP **P 06 32 27.8 +3.0**
LEM Lembang 72.11 274 LR LR 07 03 35.0
comp=Z,3μm,21.3s,baz=150,slow=35
MG01 Puerto William 72.85 146 P **P 06 32 30.8 +0.6**
MG01 IAmb IAmb 06 32 38.0
comp=Z,54nm,1.2s
SNAA Sanae 73.22 179 P **P 06 32 33.7 +1.5**
SNAA Sanae 73.22 179⇑ *e*P **P 06 32 32.5 +0.3**
SNAA pmax pmax
comp=Z,29nm,1.5s
SNAA Sanae 73.22 179 P **P 06 32 32.1 -0.1**
SNAA IAmb IAmb 06 33 03.4
comp=Z,34nm,1.3s
VNA3 Neumayer Olymp 73.43 177 P **P 06 32 33.8 +0.4**
VNA1 Neumayer--Stat 74.08 177 P **P 06 32 37.7 +0.5**
PMBI Palembang 76.66 276 IAms_20 IAms_20 07 06 14.4
comp=Z,3μm,20.0s
LL02 Futaleuf 77.78 135 P **P 06 32 58.8 0.0**
COCO West Island 77.91 264 IAms_20 IAms_20 07 08 25.8
comp=Z,4μm,18.0s
LL03 Petrohue 78.69 133 P **P 06 33 05.3 +1.5**
LL03 IAmb IAmb 06 33 19.1
comp=Z,42nm,0.8s
H03S2 Juan Fernandez 78.79 123 T T 07 59 52.5
baz=233,slow=74,SNR=8.9
H03S1 Juan Fernandez 78.80 123 T T 07 59 58.5
baz=233,slow=74,SNR=6.2
H03S3 Juan Fernandez 78.81 123 T T 07 59 59.4
baz=233,slow=74,SNR=8.2
LL04 Puerto Octay 78.83 132 P **P 06 33 08.1 +3.5**
LL04 IAmb IAmb 06 33 12.4
comp=Z,29nm,1.1s
H03N3 Juan Fernandez 79.01 123 T T 08 00 05.8
baz=237,slow=72,SNR=20
H03N2 Juan Fernandez 79.01 123 T T 08 00 05.8
baz=237,slow=72,SNR=9.0
H03N1 Juan Fernandez 79.03 123 T T 08 00 05.8
baz=237,slow=72,SNR=9.4
JOW Kunigami 79.12 314 LR LR 07 04 07.6
comp=Z,955nm,20.4s,baz=198,slow=33
PLCA Paso Flores 80.05 133 P **P 06 33 12.1 +0.7**
comp=Z,5.5nm,1.0s,baz=210,slow=5.0,SNR=6.8
PLCA Paso Flores 80.05 133 P **P 06 33 12.6 +1.2**
PLCA pmax pmax
comp=Z,104nm,1.7s
PLCA Paso Flores 80.05 133 P **P 06 33 12.6 +1.2**
PLCA IAmb IAmb 06 33 20.7
comp=Z,104nm,1.7s
LC01 Cunco 80.38 131 P **P 06 33 14.5 +1.4**
LC01 IAmb IAmb 06 33 21.0
comp=Z,136nm,1.9s
YULB Yu-li 80.96 307 P **P 06 33 15.7 -0.5**
YULB IAmb IAmb 06 33 42.2
comp=Z,97nm,1.7s
INU Inuyama 81.21 325 P **P 06 33 16.9 -0.3**
JGF Kuroka 81.26 326 P **P 06 33 16.5 -1.0**
NACB Ninganchiao 81.32 308 P **P 06 33 18.1 0.0**
BKNI Bangkinang 81.57 276 IAms_20 IAms_20 07 09 25.7
comp=Z,3μm,22.0s
JMM Marumori 81.64 329 P **P 06 33 18.4 -1.1**
JMM IAmb IAmb 06 34 22.2
comp=Z,23nm,1.2s
MJAR Matsushiro Arr 81.65 327 P **P 06 33 18.3 -1.3**
comp=Z,0.6nm,0.4s,baz=151,slow=5.6,SNR=1.5
MJAR LR LR 07 09 10.7
comp=Z,332nm,18.6s,baz=340,slow=35
MJAR Matsushiro Arr 81.65 327 P **P 06 33 18.3 -1.3**
MAJO Matsushiro 81.65 327 P **P 06 33 18.8 -0.8**
MAJO pmax pmax
comp=Z,36nm,1.9s
MAJO Matsushiro 81.65 327 P **P 06 33 18.8 -0.8**
MAJO IAmb IAmb 06 34 52.8
comp=Z,36nm,1.9s
GO05 Huala 82.73 128 P **P 06 33 25.2 -0.4**
JSD Sado 82.87 328 P **P 06 33 24.5 -1.4**
JSD IAmb IAmb 06 33 26.5
comp=Z,29nm,1.6s
BO02 Sierra Bellavi 83.61 128 P **P 06 33 30.5 +0.3**
KNMB Chin-men Tao 83.61 306 P **P 06 33 29.6 -0.4**
BO01 Tunca 83.66 128 P **P 06 33 32.0 +1.6**
BO01 IAmb IAmb 06 33 38.0
comp=Z,73nm,1.8s
VA05 Santo Domingo 83.78 127 P **P 06 33 31.2 +0.2**
MT01 Popeta 83.89 127 P **P 06 33 32.2 +0.6**
MT09 Talagante 84.11 127 P **P 06 33 34.0 +1.1**
MT09 IAmb IAmb 06 33 50.0
comp=Z,41nm,1.2s
MT02 Curacav 84.34 127 P **P 06 33 35.4 +1.5**
MT05 Renca 84.51 127 P **P 06 33 36.0 +1.2**
MT03 Universidad Ad 84.60 127 P **P 06 33 36.7 +1.4**
MT03 IAmb IAmb 06 33 43.1
comp=Z,58nm,1.4s
GSI Gunungsitoli 84.95 275 P **P 06 33 36.1 -1.1**
GSI IAms_20 IAms_20 07 16 29.3
comp=Z,3μm,20.0s
CO03 El Pedregal 86.15 125 P **P 06 33 44.2 +1.1**
CO03 IAmb IAmb 06 33 50.9
comp=Z,66nm,1.4s
ZON Zonda 87.03 127 P **P 06 33 49.2 +1.9**
ZON pmax pmax
comp=Z,72nm,1.4s
ZON Zonda 87.03 127 P **P 06 33 49.2 +1.9**
KSRS Korea Array 87.34 321 P **P 06 33 48.1 -0.2**
comp=Z,2.5nm,0.8s,baz=137,slow=5.0,SNR=8.2
KSRS LR LR 07 10 08.2
comp=Z,291nm,18.4s,baz=138,slow=34
KSAR Wonju Array Be 87.35 321 P **P 06 33 47.8 -0.6**
KSAR Wonju Array Be 87.35 321 P **P 06 33 47.8 -0.6**
LHMI Lhok Sumawe 87.73 278 IAms_20 IAms_20 07 13 04.1
comp=Z,3μm,20.0s
YSS Yuzh-Sakhalins 88.69 335‖ *e*P **P 06 33 55.2 +0.7**
YSS pmax pmax
comp=Z,159nm,1.8s
TKX Tecate 89.69 49 P **P 06 34 00.4 +0.8**
TKX IAmb IAmb 06 34 09.0
comp=Z,17nm,1.1s
AC02 Maricunga 89.75 123 P **P 06 34 01.1 +0.2**
AC02 IAmb IAmb 06 34 10.7
comp=Z,49nm,1.6s
SAO San Andreas Ge 89.80 43 IAms_20 IAms_20 07 18 31.7
comp=Z,2μm,18.0s
MCCM Marconi Confer 90.02 41 IAms_20 IAms_20 07 14 10.3
comp=Z,2μm,18.0s
MONP2 Monument Peak 90.03 49 P **P 06 34 05.6 +4.2**
baz=227
PET Petropavlovsk 90.06 347 *e*P **P 06 34 01.8 +1.1**
PET *e*S **S 06 44 51.6 +1.2**
PET pmax pmax
comp=Z,45nm,1.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 90.06 347 P **P 06 34 00.1 -0.6**
PET IAmb IAmb 06 34 24.7
comp=Z,50nm,1.2s
BFSC Mount Baldy Ra 90.21 47 P **P 06 34 05.5 +3.4**
baz=226
PEA0B Petropavlovsk- 90.32 347 *d i*P **P 06 34 03.3 +1.3**
PEA0B Petropavlovsk- 90.32 347 P **P 06 34 02.1 +0.1**
PETK Petropavlovsk- 90.32 347 P **P 06 34 01.9 0.0**
comp=Z,28nm,0.9s,baz=166,slow=6.7,SNR=29
PETK Petropavlovsk- 90.32 347 P **P 06 34 02.0 0.0**

EDW2 Edwards Air Fo 90.45 46 P **P 06 34 07.2 +4.0**
baz=226
TPFO Pinon Flats 90.50 48 P **P 06 34 06.9 +3.4**
baz=227
PFO Pinyon Flats O 90.50 48 P **P 06 34 04.7 +1.2**
PFO pmax pmax
comp=Z,26nm,1.5s
PFO Pinyon Flats O 90.50 48 P **P 06 34 07.2 +3.7**
baz=227
PFO Pinyon Flats O 90.50 48 P **P 06 34 04.7 +1.2**
PFO IAmb IAmb 06 34 13.0
comp=Z,26nm,1.4s
HOPS Hopland Field 90.53 41 IAms_20 IAms_20 07 14 44.9
comp=Z,2μm,18.0s
PB10 IPOC Station P 90.87 120 IAms_20 IAms_20 07 21 36.7
comp=Z,4μm,20.0s
HSIG 90.96 55 P **P 06 34 07.2 +1.7**
HSIG IAmb IAmb 06 34 14.7
comp=Z,24nm,1.2s
BELC Belle Mtn. Jos 91.04 48 P **P 06 34 09.7 +3.6**
baz=227
GLA Glamis 91.12 49 P **P 06 34 07.9 +1.6**
GLA pmax pmax
comp=Z,29nm,1.2s
GLA Glamis 91.12 49 P **P 06 34 10.4 +4.1**
baz=228
GLA Glamis 91.12 49 P **P 06 34 07.9 +1.6**
GLA IAmb IAmb 06 34 16.2
comp=Z,29nm,1.2s
BC3 Big Chuckawall 91.14 49 P **P 06 34 10.6 +4.2**
baz=227
CMB Columbia Colle 91.30 43 P **P 06 34 08.3 +1.3**
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB Columbia Colle 91.30 43 P **P 06 34 08.3 +1.3**
GSC Goldstone, Bar 91.45 47 P **P 06 34 11.2 +3.4**
baz=226
CWC Cottonwood Cre 91.48 45 P **P 06 34 11.0 +2.9**
baz=226
O02D Mt. Diablo Mer 91.55 40 P **P 06 34 12.1 +4.0**
baz=223
AFDM Forest Hills D 91.63 42 P **P 06 34 09.6 +1.1**
214A Organ Pipe Nat 91.66 51 P **P 06 34 12.7 +3.9**
baz=229
214A Organ Pipe Nat 91.66 51 P **P 06 34 09.3 +0.5**
214A IAmb IAmb 06 34 31.4
comp=Z,20nm,1.2s
IRM Iron Mountain 91.67 48 P **P 06 34 12.6 +3.8**
baz=227
GMRC Granite Mounta 91.78 48 P **P 06 34 12.7 +3.3**
baz=227
PB15 IPOC Station P 91.83 120 P **P 06 34 09.4 -0.8**
PB15 IAmb IAmb 06 34 26.5
comp=Z,25nm,1.2s
WDC Whiskeytown Da 91.97 40 P **P 06 34 11.9 +1.9**
WDC pmax pmax
comp=Z,10.0nm,1.3s
WDC Whiskeytown Da 91.97 40 P **P 06 34 11.9 +1.9**
O03E Paynes Creek 92.15 40 P **P 06 34 13.3 +2.3**
baz=224
WAKR Walker 92.16 43 P **P 06 34 13.1 +2.0**
N02D Trinity Center 92.17 39 P **P 06 34 14.5 +3.5**
baz=223
PDMCI Parker Dam,Lak 92.38 49 P **P 06 34 16.1 +4.0**
baz=228
M02C Callahan 92.40 39 P **P 06 34 15.3 +3.2**
baz=223
PNTR Pine Nut 92.48 42 P **P 06 34 13.5 +0.8**
PNTR IAmb IAmb 06 34 37.5
comp=Z,7.3nm,0.9s
LHV Little Huntoon 92.50 44 P **P 06 34 14.4 +2.0**
VCNR Virginia City 92.60 42 P **P 06 34 14.6 +1.4**
YERR Yerington 92.61 43 P **P 06 34 14.7 +1.5**
LVC Limon Verde 92.61 120 LR LR 07 07 15.4
comp=Z,2μm,21.7s,baz=149,slow=30
LVC Limon Verde 92.61 120 P **P 06 34 14.6 +0.6**
LVC pmax pmax
comp=Z,55nm,1.7s
LVC Limon Verde 92.61 120 P **P 06 34 14.6 +0.6**
LVC IAmb IAmb 06 34 24.0
comp=Z,55nm,1.7s
BEKR Beckworth 92.62 41 P **P 06 34 14.4 +1.2**
BEKR IAmb IAmb 06 34 31.9
comp=Z,14nm,1.6s
YBH Yreka Blue Hor 92.72 39 P **P 06 34 14.8 +1.3**
YBH pmax pmax
comp=Z,8.0nm,1.3s
YBH Yreka Blue Hor 92.72 39 P **P 06 34 14.8 +1.3**
NVAR Mina Array Bea 92.74 44 P **P 06 34 14.6 +0.7**
comp=Z,1.6nm,0.9s,baz=221,slow=7.3,SNR=9.9
NVAR Mina Array Bea 92.74 44 P **P 06 34 16.1 +2.2**
NV11 Mina Array Sit 92.83 44 P **P 06 34 15.9 +1.8**
Y14A Wickenburg 92.84 50 P **P 06 34 16.4 +2.1**
Y14A IAmb IAmb 06 34 36.5
comp=Z,8.3nm,1.0s
TPNV Topopah Spring 92.90 46 P **P 06 34 16.6 +2.0**
TPNV pmax pmax
comp=Z,9.0nm,1.2s
TPNV Topopah Spring 92.90 46 P **P 06 34 18.2 +3.6**
baz=227
TPNV Topopah Spring 92.90 46 P **P 06 34 16.6 +2.0**
K02D Willamette Mer 92.94 38 P **P 06 34 18.1 +3.6**
baz=223
PAHR Pah Rah Range 93.03 42 P **P 06 34 16.3 +1.2**
TUC Tucson 93.19 52 P **P 06 34 18.3 +2.4**
TUC pmax pmax
comp=Z,14nm,1.3s
TUC Tucson 93.19 52 P **P 06 34 18.3 +2.4**
TUC IAmb IAmb 06 34 38.7
comp=Z,14nm,1.3s
PB01 IPOC Station P 93.20 118 IAms_20 IAms_20 07 22 00.5
comp=Z,2μm,20.0s
HUMO Hull Mountain 93.23 38 P **P 06 34 17.7 +1.9**
HUMO IAmb IAmb 06 34 35.2
comp=Z,29nm,1.8s
L04D Klamath Falls 93.28 39 P **P 06 34 19.5 +3.4**
baz=224
KVN Kaiserville 93.29 43 P **P 06 34 17.8 +1.4**
KVN pmax pmax
comp=Z,6.0nm,1.2s
KVN Kaiserville 93.29 43 P **P 06 34 17.8 +1.4**
CN2 Changchun 93.35 324 *e*P **P 06 34 16.0 -0.2**
PSGCX Pisagua 93.65 117 IAms_20 IAms_20 07 21 29.9
comp=Z,4μm,22.0s
CMAR Chiang Mai Arr 93.85 290 P **P 06 34 19.4 +0.2**
comp=Z,1.6nm,0.3s,baz=145,slow=3.0,SNR=5.5
CMAR PP **PP 06 38 05.1 -0.4**
comp=Z,1.1nm,0.3s,baz=144,slow=7.1,SNR=4.4
CMAR LR LR 07 20 42.1
comp=Z,681nm,18.7s,baz=210,slow=38
MOD Modoc Plateau 94.09 40 P **P 06 34 21.1 +1.2**
J04D Umpqua Nationa 94.12 38 P **P 06 34 23.3 +3.2**
baz=224
X16A Lo Mia Camp, P 94.14 50 P **P 06 34 21.8 +1.4**
X16A IAmb IAmb 06 34 30.1
comp=Z,13nm,1.4s
K05A Summer Lake 94.37 39 P **P 06 34 23.0 +1.7**
K05A IAmb IAmb 06 35 06.4
comp=Z,15nm,1.2s
J05D Fort Rock, OR 94.60 39 P **P 06 34 25.5 +3.3**
baz=224
KLR Kul'dur 94.70 330⇑ *e*P **P 06 34 23.2 +0.9**
KLR pmax pmax
comp=Z,12nm,1.9s
PINE Pine Mountain 95.11 38 P **P 06 34 26.3 +1.7**
PINE IAmb IAmb 06 34 33.1
comp=Z,8.2nm,1.1s
I05D Terrebonne, OR 95.30 38 P **P 06 34 28.5 +3.2**
baz=224
J08A Circle Bar Ran 96.08 40 P **P 06 34 31.0 +2.1**
TXAR Lajitas Array 96.12 58 P **P 06 34 29.2 -0.2**
comp=Z,0.2nm,0.6s,baz=281,slow=9.1,SNR=1.3
MNTX Cornudas Mount 96.38 56 IAms_20 IAms_20 07 25 05.5
comp=Z,4μm,20.0s
G08A Pilot Rock 97.17 38 P Pdif 06 34 35.7 +1.7
LPAZ La Paz 97.22 116 P Pdif 06 34 37.1 +1.5
comp=Z,0.5nm,0.3s,baz=159,slow=6.6,SNR=1.4
CD2 Chengdu 97.66 302 *e*P Pdif 06 34 37.5 +1.1
BMO Blue Mountains 97.72 39 IAms_20 IAms_20 07 20 04.9
comp=Z,2μm,18.0s
CPUP Villa Florida 97.84 130 P Pdif 06 34 38.4 +1.0
comp=Z,3.2nm,1.1s,baz=201,slow=7.2,SNR=3.2
SNET Serv Nac Est T 98.02 79 IAms_20 IAms_20 07 18 54.5
comp=Z,5μm,21.0s
HWUT Hardware Ranch 98.70 45 IAms_20 IAms_20 07 27 24.5
comp=Z,2μm,22.0s

CAO2 Cobano, Puntar 99.11 85 P **Pdif 06 34 44.1 +0.9**
CNGN Cerro Negro 99.40 81 IAms_20 IAms_20 07 19 06.5
comp=Z,5μm,21.0s
JCT Junction City 99.50 59 IAms_20 IAms_20 07 25 21.4
comp=Z,3μm,21.0s
AHID Auburn Hatcher 99.71 44 IAms_20 IAms_20 07 28 44.1
comp=Z,2μm,20.0s
MESA MESA 100.11 18 IAms_20 IAms_20 07 24 50.5
comp=Z,2μm,19.0s
NEW Newport 100.13 37 IAms_20 IAms_20 07 13 26.7
comp=Z,2μm,20.0s
TPAW Teton Pass 100.25 44 IAms_20 IAms_20 07 28 24.5
comp=Z,2μm,21.0s
SNOW Snow King Moun 100.35 44 IAms_20 IAms_20 07 28 35.9
comp=Z,3μm,22.0s
BW06 Boulder Array 100.59 45 IAms_20 IAms_20 07 26 25.5
comp=Z,2μm,19.0s
PDAR Pinedale Array 100.59 45 P **Pdif 06 34 50.6 +1.2**
comp=Z,0.3nm,0.7s,baz=191,slow=0.9,SNR=2.7
AMTX Amarillo 100.76 55 IAms_20 IAms_20 07 26 53.5
comp=Z,3μm,19.0s
LKWY Lake 101.24 43 IAms_20 IAms_20 07 29 40.5
comp=Z,5μm,22.0s
PALK Pallekele 102.13 270 IAms_20 IAms_20 07 22 14.1
comp=Z,2μm,20.0s
RLMT Red Lodge 102.22 43 IAms_20 IAms_20 07 29 49.4
comp=Z,2μm,20.0s
WMOK Wichita Mounta 102.63 56 IAms_20 IAms_20 07 28 06.1
comp=Z,3μm,19.0s
ILAR Eielson Array 103.05 14 P **Pdif 06 34 58.7 -0.8**
comp=Z,0.7nm,1.0s,baz=243,slow=7.9,SNR=3.4
ILAR PP **PP 06 39 10.6 -4.5**
comp=Z,2.6nm,1.1s,baz=218,slow=6.1,SNR=8.4
U32A Winter Ranch, 103.40 55 IAms_20 IAms_20 07 25 52.5
comp=Z,2μm,21.0s
OGNE Ogallala 104.02 50 IAms_20 IAms_20 07 30 43.4
comp=Z,3μm,21.0s
OK025 Westminster Rd 104.08 56 IAms_20 IAms_20 07 28 32.6
comp=Z,3μm,21.0s
OK032 Salt Plains WL 104.17 55 IAms_20 IAms_20 07 29 40.8
comp=Z,3μm,19.0s
CBKS Cedar Bluff 104.28 53 IAms_20 IAms_20 07 30 30.5
comp=Z,3μm,18.0s
OK031 S. Brethren Rd 104.63 56 IAms_20 IAms_20 07 27 48.0
comp=Z,2μm,20.0s
KS21 Milan North St 104.80 55 IAms_20 IAms_20 07 30 49.5
comp=Z,3μm,18.0s
KS20 Mayfield South 104.84 55 IAms_20 IAms_20 07 30 50.6
comp=Z,3μm,19.0s
X37A Clayton 104.89 58 IAms_20 IAms_20 07 29 12.2
comp=Z,4μm,21.0s
SONM Songino Array 105.96 318 PP **PP 06 39 33.5 -3.7**
comp=Z,0.6nm,0.4s,baz=71,slow=6.2,SNR=3.8
MIAR Mount Ida 106.12 59 IAms_20 IAms_20 07 30 15.7
comp=Z,3μm,19.0s
W39A Magazine 106.32 58 IAms_20 IAms_20 07 30 20.9
comp=Z,3μm,19.0s
X40A Basin Creek Fa 106.61 59 IAms_20 IAms_20 07 30 45.7
comp=Z,4μm,18.0s
U40A Yellville 107.57 58 IAms_20 IAms_20 07 30 54.0
comp=Z,4μm,20.0s
ECSD EROS Data Cent 108.90 49 IAms_20 IAms_20 07 33 30.7
comp=Z,2μm,20.0s
OXF Oxford 109.05 61 IAms_20 IAms_20 07 35 34.3
comp=Z,2μm,21.0s
BRAL Brewton 109.09 65 IAms_20 IAms_20 07 23 36.5
comp=Z,2μm,18.0s
CCM Cathedral Cave 109.54 57 IAms_20 IAms_20 07 31 49.0
comp=Z,3μm,21.0s
LRAL Lakeview Retre 110.06 63 IAms_20 IAms_20 07 32 06.0
comp=Z,2μm,20.0s
SCIA State Center 110.14 53 IAms_20 IAms_20 07 33 26.6
comp=Z,3μm,21.0s
PLAL Pickwick Lake 110.24 61 IAms_20 IAms_20 07 30 48.7
comp=Z,2μm,22.0s
HDIL Hopedale 112.08 55 IAms_20 IAms_20 07 34 09.1
comp=Z,3μm,18.0s
JFWS Jewell Farm 112.55 53 IAms_20 IAms_20 07 34 55.4
comp=Z,3μm,19.0s
TIXI Tiksi 112.71 344⇑ *i*PKIKP **PKiKP 06 39 37.7 +0.9**
GOGA Godfrey 112.83 64 IAms_20 IAms_20 07 32 47.6
comp=Z,4μm,18.0s
WCI Wyandotte Cave 113.05 59 IAms_20 IAms_20 07 34 52.9
comp=Z,2μm,18.0s
TZTN Tazewell 114.22 61 IAms_20 IAms_20 07 35 16.4
comp=Z,2μm,18.0s
COWI Conover 114.70 50 IAms_20 IAms_20 07 35 56.1
comp=Z,2μm,20.0s
P49A Miami Univ. Ec 114.73 58 IAms_20 IAms_20 07 35 49.6
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 116.24 58 IAms_20 IAms_20 07 36 47.5
comp=Z,3μm,18.0s
AAM Ann Arbor 116.65 56 IAms_20 IAms_20 07 37 13.0
comp=Z,3μm,18.0s
BLA Blacksburg 116.76 62 IAms_20 IAms_20 07 34 48.6
comp=Z,3μm,19.0s
O53A New Philadelph 117.48 59 IAms_20 IAms_20 07 37 00.2
comp=Z,2μm,18.0s
N54A Moraine State 118.62 58 IAms_20 IAms_20 07 37 46.4
comp=Z,3μm,18.0s
M54A Oil Creek Stat 119.06 58 IAms_20 IAms_20 07 38 29.9
comp=Z,2μm,18.0s
ERPA Erie 119.07 57 IAms_20 IAms_20 07 38 46.2
comp=Z,3μm,18.0s
SJG San Juan 119.11 88 IAms_20 IAms_20 07 32 57.9
comp=Z,2μm,20.0s
O56A Blue Knob Stat 119.34 60 IAms_20 IAms_20 07 36 14.6
comp=Z,3μm,20.0s
GRGR Grenville 119.60 96 IAms_20 IAms_20 07 32 30.6
comp=Z,3μm,21.0s
MK31 Makanchi Array 119.92 308 *d i*PKIKP **PKPdf 06 39 51.3 -0.2**
MK31 Makanchi Array 119.92 308 PKPdf **PKPdf 06 39 50.7 -0.8**
MKAR Makanchi Array 119.92 308 PKP **PKPdf 06 39 50.7 -0.8**
comp=Z,5.3nm,1.0s,baz=82,slow=2.6,SNR=25
MKAR PKKPbc **PKKPbc 06 50 02.1 +1.1**
comp=Z,0.7nm,0.8s,baz=267,slow=2.3,SNR=4.4
MKAR Makanchi Array 119.92 308 PKIKP **PKPdf 06 39 51.0 -0.5**
MKAR Makanchi Array 119.92 308 PKPdf **PKPdf 06 39 51.0 -0.5**
MAKZ Makanchi 120.12 308 PKIKP **PKPdf 06 39 50.4 -1.5**
MAKZ Makanchi 120.12 308 **PKPdf 06 39 50.4 -1.5**
ZALV Zalesovo Beam 120.83 317 PKP **PKPdf 06 39 52.2 -0.7**
comp=Z,2.1nm,0.6s,baz=132,slow=2.2,SNR=7.7
SMRT St. Maarten 121.59 90 IAms_20 IAms_20 07 35 55.6
comp=Z,3μm,19.0s
BINY Binghamton 121.86 58 IAms_20 IAms_20 07 38 21.3
comp=Z,4μm,20.0s
BOOM Boomskoye usch 122.66 302 PKIKP **PKPdf 06 39 55.8 -1.3**
BOOM Boomskoye usch 122.66 302 PKPdf **PKPdf 06 39 55.8 -1.3**
J58A Remsen 122.75 57 IAms_20 IAms_20 07 38 42.7
comp=Z,4μm,21.0s
KURK Kurchatov 123.48 312 PKIKP **PKPdf 06 39 57.1 -1.0**
KURK Kurchatov 123.48 312 **PKPdf 06 39 57.1 -1.0**
KURBB Kurchatov Arra 123.51 312 PKP **PKPdf 06 39 57.1 -1.1**
comp=Z,10nm,0.9s,baz=104,slow=2.0,SNR=36
NRIK Noril'sk 123.62 335 PKP **PKPdf 06 39 57.6 -0.2**
comp=Z,4.9nm,0.7s,baz=86,slow=2.6,SNR=7.2
NRIK Noril'sk 123.62 335 *d i*PKIKP **PKiKP 06 39 58.6 +0.5**
NRIK Noril'sk 123.62 335 **PKiKP 06 39 58.1 0.0**
AAK Ala-Archa 123.71 301 PKP **PKiKP 06 40 01.0 +1.6**
comp=Z,2.5nm,0.4s,baz=153,slow=2.3,SNR=4.5
AAK Ala-Archa 123.71 301⇑ *i*PKIKP **PKiKP 06 40 00.3 +0.9**
AAK pmax pmax
comp=Z,23nm,1.3s
EUNU Eureka 125.12 12 PKPdf **PKiKP 06 40 01.6 +0.6**
G61A St-Isidore-de- 125.91 56 P **PKiKP 06 40 04.7 +1.3**
baz=254
H62A Milan 125.96 57 PKPdf **PKiKP 06 40 03.9 +0.4**
I63A Otisfield 126.20 58 PKPdf **PKiKP 06 40 04.1 +0.1**
E60A Ste Agathe de 126.26 55 P **PKiKP 06 40 04.6 +0.5**
baz=254
E61A Lac Etchemin 126.92 55 P **PKiKP 06 40 06.5 +1.1**
baz=255
D61A St Aubert, Com 127.31 54 P **PKiKP 06 40 07.0 +0.9**
baz=256
PKME Peaks-Kenny Pk 127.42 57 P **PKiKP 06 40 07.4 +1.0**
baz=255
E62A Clayton Lake 127.61 55 P **PKiKP 06 40 08.0 +1.2**
baz=256
E62A Clayton Lake 127.61 55 **PKiKP 06 40 07.1 +0.3**
G64A Maxfield 127.78 57 P **PKiKP 06 40 08.7 +1.5**
baz=255
D62A Allapoint, All 128.03 54 P **PKiKP 06 40 08.4 +0.8**
baz=256
TULEG Thule 128.91 16 IAms_20 IAms_20 07 48 50.3
comp=Z,2μm,21.0s
BVAR Borovoye Array 128.97 313 PKP **PKPdf 06 40 08.5 0.0**
comp=Z,6.5nm,1.0s,baz=222,slow=8.2,SNR=12

BRVK	Borovoye	129.04 313	*d*	PKIKP	PKiKP	06 40 09.2	-0.2
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
BRVK	Borovoye	129.04 313		PKPdf	PKPdf	06 40 07.7	-1.0
KMBO	Kilima Mbogo	130.03 231		PKP	PKiKP	06 40 12.7	-0.3
	comp=Z,0.5nm,0.3s,baz=153,slow=6.2,SNR=3.4						
ARU	Arti	135.99 317	*i*	PKIKP	PKiKP	06 40 23.2	-0.1
ARU						06 43 01.1	
ARU				SS	SS	07 00 52.2	-6.1
ARU	Arti	135.99 317		PKPdf	PKPdf	06 40 20.5	-1.2
ILULI	Ilulissat	136.03 24		IAMs_20	IAMs_20	07 53 39.4	
	comp=Z,3μm,22.0s						
KBS	Kingsbay	136.09 357		PKIKP	PKPdf	06 40 21.2	-0.1
KBS	Kingsbay	136.09 357	*e*	PKPdf	PKPdf	06 40 21.7	+0.4
KBS	Kingsbay	136.09 357		PKPdf	PKPdf	06 40 21.2	-0.1
FURI	Furi	136.31 242		IAMs_20	IAMs_20	07 40 47.0	
	comp=Z,1μm,19.0s						
HSPB	Hornsund (broa	137.74 355	*e*	PKPdf	PKPdf	06 40 24.6	+0.2
SUMG	Summit	137.83 16		IAMs_20	IAMs_20	07 53 33.0	
	comp=Z,1μm,20.0s						
RAYN	Ar Rayn	139.37 266		IAMs_20	IAMs_20	07 28 58.5	
	comp=Z,1μm,22.0s						
KIRV	Kirov	140.55 322	*de*	PKIKP	PKPdf	06 40 30.5	+0.5
HAMF	Hammerfest	142.55 348	*e*	PKPdf	PKPdf	06 40 33.3	+0.1
BELG	Belogornoye	142.76 312		PKP	PKPdf	06 40 31.9	-2.3
	comp=Z,34nm,0.9s,baz=163,slow=2.2,SNR=5.4						
AKT	Akhty	142.85 294	*e*	PKIKP	PKPdf	06 40 34.0	-0.9
AKT			*e*			06 43 44.4	
AKT				pmax	pmax		
	comp=Z,32nm,1.9s						
ARCES	ARCESS Array B	143.13 346		PKP	PKPdf	06 40 33.0	-1.4
	comp=Z,12nm,1.0s,baz=56,slow=1.4,SNR=8.9						
ARCES	ARCESS Array B	143.13 346		PKIKP	PKPdf	06 40 33.0	-1.4
KTK1	Kautokeino	144.02 346		PKPdf	PKPdf	06 40 35.8	-0.2
TRO	Tromso	144.22 349		PKPdf	PKPdf	06 40 35.6	-0.6
KLMR	Klimovskoe	144.42 328	*e*	PKHKP	PKPpre	06 40 32.5	
KLMR				pmax	pmax		
	comp=Z,65nm,1.4s						
KLMR	Klimovskoe	144.42 328	*e*	PKPdf	PKPab	06 40 32.5	-2.6
KLMR				AMP		06 40 36.8	
	comp=Z,65nm,1.4s						
KLMR			*e*	SKP		06 44 12.9	
GNI	Garni	144.96 291	*c*	PKIKP	PKPbc	06 40 36.9	-1.1
ZEI	Tsey	145.79 296		PKIKP	PKPdf	06 40 39.8	-0.3
ZEI				pmax	pmax		
	comp=Z,51nm,1.9s						
NCK	Nalchik	146.04 297	‖	PKP2	PKPbc	06 40 40.8	-0.3
STEI	Steigen	146.33 350		PKPab	PKPab	06 40 42.7	+0.7
LOF	Lofoten	146.37 351		PKPab	PKPab	06 40 42.6	+0.4
GOF	Gofitskoye	146.43 300	‖	PKP2	PKPbc	06 40 41.9	-0.3
GOF				pmax	pmax		
	comp=Z,100nm,1.5s						
KBZ	Khabaz	146.55 297		PKPbc	PKPbc	06 40 42.9	+0.3
	comp=Z,2.6nm,0.5s,baz=101,slow=6.9,SNR=8.4						
KBZ	Khabaz	146.55 297	*ce*	PKIKP	PKPdf	06 40 40.9	-0.1
VRH	Novokhopyorsk	146.57 311		PKP2	PKPbc	06 40 42.0	-0.4
VRH				pmax	pmax		
	comp=Z,110nm,1.2s						
NEY	Neytrino	146.67 297	‖	PKIKP	PKPdf	06 40 41.3	-0.2
KIV	Kislovodsk	146.70 298	*i*	PKP2	PKPdf	06 40 42.0	+0.6
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MOS	Moscow	147.54 320		PKIKP	PKPdf	06 40 41.9	-0.3
MOS				pmax	pmax		
	comp=Z,130nm,1.4s						
LPSR	Galich'ya Gora	147.90 314		PKP2	PKPbc	06 40 46.0	0.0
LPSR				pmax	pmax		
	comp=Z,90nm,1.0s						
KONS	Konsvik	147.97 350		PKPbc	PKPbc	06 40 46.1	+0.3
MOR8	Moi Rana	148.09 349		PKPdf	PKPdf	06 40 43.0	0.0
VORD	Divnogorie	148.12 311		PKP2	PKPbc	06 40 46.3	-0.3
VORD				pmax	pmax		
	comp=Z,30nm,0.7s						
VSR	Storozhevoye	148.13 312		PKP2	PKPbc	06 40 46.1	-0.6
VSR				pmax	pmax		
	comp=Z,80nm,1.4s						
PUL	Pulkovo	148.85 331	‖	PKP2	PKiKP	06 40 49.6	0.0
SOC	Sochi	148.86 297	*i*	PKP2	PKPbc	06 40 47.6	-1.2
SOC			*e*	PPP	PPP	06 47 45.3	
SOC			*e*	SS	SS	07 03 20.8	-7.3
FIA1	FINESS Array S	149.27 336			PKPbc	06 40 48.5	-0.7
FINES	FINESS Array B	149.27 336		PKPbc	PKPbc	06 40 48.6	-0.7
	comp=Z,73nm,0.9s,baz=64,slow=4.4,SNR=61						
ANN	Anapa	150.42 300	*e*	PKIKP	PKPdf	06 40 46.0	-1.3
ANN			*i*			06 40 51.8	
ANN				pmax	pmax		
	comp=Z,45nm,1.2s						
ANN				pmax	pmax		
	comp=Z,34nm,0.8s						
GAZ	Gaziantep	150.45 284			PKPdf	06 40 50.0	+2.3
LIC	Lamto	150.54 169	*e*	P	PKiKP	06 40 54.6	0.0
	comp=Z,110nm,1.1s						
KIC	Kosan Boka	150.72 169	*e*	P	PKiKP	06 40 56.1	+1.2
	comp=Z,58nm,0.9s						
MEF	Metsahovi	150.73 336	*e*	P	PKiKP	06 40 54.2	+0.8
TIC	Toumodi	150.96 169	*e*	P	PKiKP	06 40 56.7	+1.3
DBIC	Dimbokro	151.01 169		PKIKP	PKPdf	06 40 49.4	+0.3
DBIC	Dimbokro	151.01 169		PKPdf	PKPdf	06 40 49.4	+0.3
VSU	Vasula	151.11 331	*e*	P	PKiKP	06 40 55.2	+0.9
VSU	Vasula	151.11 331	*c*	PKIKP	PKPbc	06 40 53.4	-0.3
MOL	Molde	152.43 353	*e*	PKPdf	PKPdf	06 40 49.4	-0.4
DOMB	Dombas	152.77 351	*e*	PKPbc	PKiKP	06 40 58.4	+0.7
MNK	Minsk	153.04 324	*i*	PKIKP	PKPdf	06 40 53.3	+2.4
MNK			*i*			06 44 45.7	
MNK			*i*			06 48 00.6	
MNK			*i*	PPP	PPP	06 48 11.9	
MNK			*i*	SS	SS	07 04 18.7	+5.7
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,54nm,0.9s						
MNK				pmax	pmax		
	comp=N,13nm,0.8s						
MNK	Minsk	153.04 324	*i*	PKP	PKPdf	06 40 53.3	+2.4
	comp=E,3.0nm,0.9s						
MNK			*i*	PKP	PKPdf	06 40 53.3	+2.4
	comp=N,13nm,0.8s						
MNK			*i*	PKP	PKPdf	06 40 53.3	+2.4
	comp=Z,54nm,0.9s,baz=57						
MNK			*i*	PKS	PKSdf	06 44 27.8	+2.8
MNK			*i*	PP	PP	06 44 45.7	+2.4
MNK			*i*	SKS	SKSdf	06 48 00.6	+6.2
MNK			*i*	PPP	PPP	06 48 11.9	
MNK			*i*	SKKS	SKKSdf	06 56 54.0	+15
MNK			*i*	SS	SS	07 04 18.7	+5.7
MNK			*i*	SSS	SSS	07 10 15.1	
MNK			*i*	LR	LR	07 45 05.0	
MNK			*i*	LRM	MLR	07 46 45.6	
	comp=Z,617nm,22.4s						
MNK			*i*	LRM	MLR	07 47 06.6	
	comp=E,33nm,21.0s						
MNK			*i*	LRM	MLR	07 47 41.4	
	comp=N,551nm,19.5s						
IDID	Didziasalis	153.11 326	*e*	P	PKiKP	06 41 00.8	+2.3
CSS	Mathiatis	153.21 279		PKPdf	PKPdf	06 40 51.7	-0.1
ISAL	Salakas	153.23 327	*e*	P	PKiKP	06 40 59.6	+0.9
IIGN	Ignalina	153.32 326	*e*	P	PKiKP	06 41 01.1	+2.1
NB201	NORSAR Array S	153.39 348			PKiKP	06 40 59.9	+0.9
NB2	NORSAR Subarra	153.42 348		PKP	PKiKP	06 40 59.2	+0.1
	comp=Z,161nm,2.0s,baz=17,slow=2.6						
NB2	NORSAR Subarra	153.42 348		PKPbc	PKiKP	06 40 59.2	+0.1
	baz=17,slow=2.6						
NOA	NORSAR Array B	153.42 348		PKP	PKPdf	06 40 50.7	-0.6
	comp=Z,2.3nm,0.9s,baz=0.4,slow=13,SNR=5.0						
NOA				PKPbc	PKiKP	06 40 59.1	+0.1
	comp=Z,7.6nm,0.9s,baz=28,slow=2.0,SNR=13						
BR131	Keskin Array S	153.44 289		PKIKP	PKPbc	06 40 59.9	0.0
BR131	Keskin Array S	153.44 289			PKPbc	06 40 59.9	0.0
BRTR	Keskin Array B	153.44 289		PKP	PKPdf	06 40 51.6	-0.6
	comp=Z,0.5nm,0.5s,baz=186,slow=2.9,SNR=1.5						
BRTR				PKPbc	PKPbc	06 40 58.6	-1.2
	comp=Z,7.4nm,0.9s,baz=134,slow=3.6,SNR=23						
BRTR	Keskin Array B	153.44 289		PKPdf	PKPdf	06 40 51.3	-0.9
BRTR				PKPbc	PKPbc	06 40 59.2	-0.7
FOO	Floro	153.60 355	*e*	PKPbc	PKiKP	06 40 59.9	+0.6
NC602	NORSAR Array S	153.65 348	*e*	PKPbc	PKiKP	06 41 00.1	+0.6
SKAR	Skarslia	154.19 351	*e*	PKPdf	PKPdf	06 40 52.4	0.0
PABE	Paberze	154.21 329	*e*	P	PKiKP	06 41 02.4	+1.6
PABE	Paberze	154.21 329			PKiKP	06 41 01.8	+1.0
AKASG	Malin Array Be	154.22 315		PKP	PKPdf	06 40 52.4	-0.3
	comp=Z,0.7nm,0.5s,baz=49,slow=1.7,SNR=5.9						
AKASG				PKPbc	PKPbc	06 41 00.6	-0.4
	comp=Z,7.5nm,0.8s,baz=56,slow=2.6,SNR=18						
AKASG	Malin Array Be	154.22 315		PKPdf	PKPdf	06 40 49.1	-3.6
AKASG				PKPbc	PKPbc	06 41 00.5	-0.4
AKBB	Malin Array Si	154.22 315	*e*	PKIKP	PKPdf	06 40 51.9	-0.8
AKBB			*i*			06 41 00.4	
ASK	Askoy	154.70 355	*e*	PKPab	PKPab	06 41 17.4	+0.8
BLS5	Blasjo	155.63 353	*e*	PKPdf	PKPdf	06 40 54.6	+0.2
TOA0	Torodi Ar. Sit	157.84 183		PKPdf	PKPdf	06 40 57.8	-0.8
TORD	Torodi Ar. Bea	157.84 183		PKP	PKPdf	06 40 58.8	+0.2
	comp=Z,2.7nm,1.0s,baz=224,slow=0.4,SNR=10						
TORD				PKPab	PKPab	06 41 31.7	+0.5
	comp=Z,3.9nm,0.6s,baz=168,slow=2.4,SNR=6.3						
TORD	Torodi Ar. Bea	157.84 183		PKPdf	PKPdf	06 40 58.4	-0.3
BURAR	Bucovina Array	157.91 311		PKPdf	PKPdf	06 40 58.3	+0.4
BURAR					PKPab	06 41 30.1	-1.0
KOWA	Kowa	158.82 168			PKPdf	06 41 00.1	+0.4
UZH	Uzhgorod	159.16 316	*e*	PKP2	PKPab	06 41 35.5	-0.8
CRVS	Cervenica-Dubn	159.48 318	*e*	PKP2	PKPab	06 41 38.4	+0.7
OJC	Ojcow	159.57 322		IAMs_20	IAMs_20	08 07 04.9	
	comp=Z,1μm,21.0s						
MORC	Moravsky Berou	160.96 324	*e*	PKP	PKPdf	06 41 01.1	-0.1
VYHS	Vyhne	161.14 320	*e*	PKP2	PKPab	06 41 45.6	+0.7
FLTG	Flechtingen	161.40 339	*e*	PKPab	PKPab	06 41 45.5	-0.4
	baz=32,slow=4.5						
JAVC	Velka Javorina	161.51 322	*e*	PKP	PKPdf	06 41 02.6	+0.8
JAVC			*e*			06 41 48.0	
NRDL	Niedersach Rie	161.57 341	*e*	PKPab	PKPab	06 41 46.3	-0.2
	baz=32,slow=4.5						
CLL	Collm	161.70 334	*e*	PKPdf	PKPdf	06 41 02.0	+0.1
CLL			*e*			06 41 10.0	
CLL			*e*	PKPab	PKPab	06 41 46.0	-1.2
	comp=Z,13nm,1.2s						
CLL			*e*			06 42 21.0	
CLL				LmV		08 12 00.0	
	comp=Z,900nm,20.6s						
CLL	Collm	161.70 334	*e*	PKIKP	PKPdf	06 41 02.0	+0.1
CLL			*e*			06 41 10.0	
CLL			*e*			06 41 46.0	
CLL				pmax	pmax		
	comp=Z,13nm,1.2s						
CLL				MLR	MLR		
	comp=Z,900nm,20.6s						
CLL	Collm	161.70 334		PKPdf	PKPdf	06 41 01.9	0.0
CLL					PKPab	06 41 46.5	-0.7
BRG	Berggiesshubel	161.71 332	*e*	PKP	PKPdf	06 41 02.5	+0.6
BRG				Amp		06 41 04.4	
	comp=Z,19nm,1.6s						
BRG	Berggiesshubel	161.71 332		P	PKPdf	06 41 12.0	+10
BRG				Amp		06 41 13.7	
	comp=Z,55nm,2.2s						
BRG	Berggiesshubel	161.71 332		P	PKPab	06 41 41.4	-5.9
BRG				Amp		06 41 48.5	
	comp=Z,14nm,1.5s						
VRAC	Vranov	161.73 325	*e*	PKP	PKPdf	06 41 01.8	-0.2
VRAC			*e*			06 41 47.7	
FBE	Freiberg	161.89 333	*e*	PKPab	PKPab	06 41 47.7	-0.3
	baz=32,slow=4.5						
KRUC	Moravsky	162.00 324	*e*	PKP	PKPdf	06 41 01.8	-0.5
KRUC			*e*			06 41 48.9	
MODS	Modra-Piesok	162.02 321	*e*	PKIKP	PKPdf	06 41 06.3	+4.0
MODS	Modra-Piesok	162.02 321	*e*	PKP	PKPdf	06 41 06.3	+4.0
MODS			*e*			06 41 51.8	
CLZ	Clausthal	162.08 340	*e*	PKPab	PKPab	06 41 49.0	0.0
	baz=32,slow=4.5						
IBBN	Ibbenburen	162.30 345	*e*	PKPab	PKPab	06 41 49.5	-0.3
	baz=32,slow=4.5						
GTTG	Gottingen	162.46 340	*e*	PKPab	PKPab	06 41 50.5	0.0
	baz=32,slow=4.5						
MOX	Moxa	162.74 336	*e*	PKPab	PKPab	06 41 51.6	-0.2
	baz=32,slow=4.5						
MOX			*e*	L	L	07 32 43.6	
	comp=Z,816nm,21.5s						
MANZ	Manzenberg	163.11 333	*e*	PKPab	PKPab	06 41 53.2	-0.3
	baz=32,slow=4.5						
KASTN	Kahler Asten	163.18 343	*e*	PKPab	PKPab	06 41 53.4	-0.3
	baz=32,slow=4.5						
KHC	Kasperske Hory	163.22 329	*e*	PKIKP	PKPdf	06 41 03.0	-0.5
KHC	Kasperske Hory	163.22 329	*e*	PKPDF	PKPdf	06 41 03.0	-0.5
ROTZ	Rotzenmuhle	163.26 333	*e*	PKPab	PKPab	06 41 54.3	+0.2
	baz=32,slow=4.5						
GERES	GERESS Array B	163.38 328		PKP	PKPdf	06 41 03.2	-0.6
	comp=Z,0.2nm,0.2s,baz=66,slow=4.5,SNR=4.0						
GERES				PKPab	PKPab	06 41 54.9	0.0
	comp=Z,1.9nm,0.9s,baz=356,slow=4.0,SNR=6.3						
GRF	Grafenberg Arr	163.68 334	*e*	L	L	07 31 42.1	
	comp=Z,559nm,21.2s						
TNS	Taunus Mts	164.07 341	*e*	PKPab	PKPab	06 41 57.2	-0.5
	baz=32,slow=4.5						
MEM	Membach	164.26 347	*d*	PKPab	PKPab	06 41 58.6	+0.1
PERS	Pernice	164.26 320	*e*	PKPdf	PKPdf	06 41 03.8	-0.8
BHOU	Houvegnez	164.50 347	*d*	PKPab	PKPab	06 41 58.9	-0.6
SNF	Seneffe	164.63 351	*d*	PKPab	PKPab	06 42 00.4	+0.4
BGES	Gesves	164.63 349	*d*	PKPab	PKPab	06 41 59.5	-0.6
BMRD	Maredsous	164.76 349	*d*	PKPab	PKPab	06 42 01.1	+0.5
DOU	Dourbes	164.99 350	*d*	PKPab	PKPab	06 42 01.4	-0.2
CRNS	Crni Vrh	165.07 320	*e*	PKPdf	PKPdf	06 41 04.6	-0.7
ROBS	Robic	165.35 322	*e*	PKPdf	PKPdf	06 41 04.6	-0.9
BFO	Black Forest	165.81 338		PKIKP	PKPdf	06 41 07.2	+1.4
BFO						06 42 05.3	
BFO	Black Forest	165.81 338		PKPdf	PKPdf	06 41 07.2	+1.4
BFO					PKPab	06 42 05.3	-0.1
BFO	Black Forest	165.81 338	*e*	PKPab	PKPab	06 42 05.1	-0.3
	baz=32,slow=4.5						
KEST	Kesra	172.76 275		PKP	PKPdf	06 41 11.3	+0.7
	comp=Z,4.3nm,0.9s,baz=45,slow=7.1,SNR=5.7						
KEST				PKPab	PKPab	06 42 37.4	+0.5
	comp=Z,4.4nm,0.8s,baz=37,slow=5.1,SNR=4.9						
KEST				PP	PP	06 46 31.7	+2.7
	comp=Z,1.7nm,1.0s,baz=97,slow=3.0,SNR=4.1						
PAB	San Pablo	174.34 41		PKIKP	PKPdf	06 41 12.6	+1.6
PAB	San Pablo	174.34 41			PKPdf	06 41 12.6	+1.6
ESDC	Sonseca Array	174.45 38		PKP	PKPdf	06 41 12.1	+1.1
	comp=Z,0.4nm,0.4s,baz=332,slow=2.0,SNR=10						
ESDC				PKPab	PKPab	06 42 45.9	+1.9
	comp=Z,1.4nm,1.1s,baz=317,slow=4.0,SNR=4.5						
ESDC	Sonseca Array	174.45 38			PKPdf	06 41 12.5	+1.5

NEIC ***07*** *06:23:04.8±0.7, 11°.1S±0°.1×162°.7E±0°.1, h36km±10km, mb4.5/13, Error ellipse: s-maj=19.2km s-min=7.2km az=225.0*
IDC ***07*** *06:23:07.6±2.9, 11°.23S×162°.57E, h59km±25km, mb3.7/6, mb1 4.1/8, mb1mx3.8/40, mbtmp4.2/8, ML4.6/2, Error ellipse: s-maj=33.6km s-min=15.5km az=56.0*
ISC 07 06:23:06.1±0.7,**11°.12S**±0°.08×**162°.7E**±0°.1,**h46**km,**n31,**
σ1º**35**/24,**mb4.1/8, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.17	302	P	Pn	06 23 52.6	-0.9
	267nm,0.3s,baz=151,slow=3.9,SNR=49						
HNR				S	Sn	06 24 31.9	+1.7
	214nm,0.3s,baz=150,slow=9.2,SNR=9.9						
HNR	Honiara	3.17	302		Pn	06 23 52.2	-1.3
LIFNC	LIFOU	10.55	156	Pn	Pn	06 25 33.2	-1.6
DZM	Mont Dzumac	11.47	162	P	Pn	06 25 49.5	+2.1
	0.9nm,0.3s,baz=336,slow=18,SNR=2.5						
DZM				S	Sn	06 27 53.2	-1.0
	0.5nm,0.3s,baz=330,slow=20,SNR=1.5						
CTAO	Charters Tower	18.15	239	P	P	06 27 13.9	-0.8
PATS	Pohnpei	18.36	346	P	P	06 27 15.6	-1.4
ARMA	Armidale	21.78	207	P	P	06 27 56.4	+2.3
ARMA				IAmb	IAmb	06 28 01.4	
	comp=Z,34nm,1.3s						
WR0	Warramunga Arr	28.47	249	P	P	06 28 56.2	-0.8
WB0	Warramunga Arr	28.56	249	P	P	06 28 57.2	-0.7
WRAB	Tennant Creek	28.63	249	P	P	06 28 57.5	-1.0
WB2	Warramunga Arr	28.64	249	P	P	06 28 57.8	-0.8
WB2				IAmb	IAmb	06 29 04.4	
	comp=Z,240nm,1.5s						
WRA	Warramunga Arr	28.65	249	P	P	06 28 57.3	-1.3
	comp=Z,1.5nm,0.5s,baz=78,slow=8.9,SNR=7.9						
WRA	Warramunga Arr	28.65	249	IAmb	IAmb	06 29 04.5	
	comp=Z,9.2nm,1.4s						
H11S2	WAKE ISLAND Hy	29.69	8	T	T	06 59 57.6	
	baz=188,slow=76,SNR=340						
H11S3	WAKE ISLAND Hy	29.69	8	T	T	06 59 59.5	
	baz=188,slow=76,SNR=184						
H11S1	WAKE ISLAND Hy	29.71	8	T	T	07 00 00.1	
	baz=188,slow=76,SNR=254						
H11N1	WAKE ISLAND Hy	30.92	8	T	T	07 01 31.4	
	baz=188,slow=76,SNR=158						
H11N3	WAKE ISLAND Hy	30.93	8	T	T	07 01 31.9	
	baz=188,slow=76,SNR=144						
H11N2	WAKE ISLAND Hy	30.94	8	T	T	07 01 33.6	
	baz=188,slow=76,SNR=143						

BBOO	Buckleboo	32.63	224	P	P	06 29 33.6	-0.1
BBOO				IAmb	IAmb	06 29 37.4	
	comp=Z,32nm,1.4s						
KNRA	Kununurra	33.28	258	P	P	06 29 38.4	-1.1
ADK	Adak	65.23	14	P	P	06 33 42.3	-0.3
SONM	Songino Array	76.97	325	P	P	06 34 54.8	+0.8
	comp=Z,3.5nm,0.8s,baz=133,slow=6.1,SNR=6.6						
SONM	Songino Array	76.97	325	P	P	06 34 53.7	-0.3
SONM				IAmb	IAmb	06 34 55.2	
	comp=Z,3.8nm,1.0s						
QSPA	South Pole Qui	78.88	180	P	P	06 35 03.9	-0.5
	comp=Z,1.8nm,1.0s,baz=28,slow=7.4,SNR=1.6						
QSPA	South Pole Qui	78.88	180	IAmb	IAmb	06 35 31.6	
	comp=Z,4.6nm,1.2s						
H02S1	DAWSON INLET T	84.38	33	T	T	08 08 39.0	
	SNR=54						
ILAR	Eielson Array	84.56	19	P	P	06 35 33.8	-0.2
	comp=Z,0.3nm,0.6s,baz=232,slow=5.6,SNR=1.5						
WMQ	Urumqi	87.03	316	P	P	06 35 49.7	+2.8
NVAR	Mina Array Bea	88.38	50	P	P	06 35 55.0	+1.3
	comp=Z,0.4nm,0.6s,baz=231,slow=5.7,SNR=1.7						
MKAR	Makanchi Array	91.53	317	P	P	06 36 07.5	-0.5
	comp=Z,0.4nm,0.6s,baz=119,slow=4.7,SNR=4.0						

IDC ***07*** *06:28:02.9±1.7, 35°.44S×179°.32W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.0/33, mbtmp4.1/6, ML3.9/2, Error ellipse: s-maj=46.2km s-min=28.4km az=146.0*
NEIC ***07*** *06:28:03.9±2.6, 35°.7S±0°.1×179°.1W±0°.2, h10km±2km, mb4.3/5, ML4.4(WEL), Error ellipse: s-maj=22.4km s-min=20.5km az=137.0*
WEL ***07*** *06:28:06.7±1.1, 36°.5±8°.×17°.9W±°., h33km, M4.4/25, ML4.6/25, MLv4.4/25, Error ellipse: s-maj=0.0km s-min=0.0km az=33.3*
ISC 07 06:28:07.0±1.1,**35°.50S**±0°.08×**179°.08W**±0°.09,**h35**km,**n51,**
σ1º**06**/54,**mb4.2/6, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.94	225	Pn	Pn	06 28 48.9	-2.3
MXZ	Matakaoa Point	2.94	225	P	Pn	06 28 51.0	-0.3
WMGZ	Waiomatatini S	3.07	220	P	Pn	06 28 54.2	+1.3
WMGZ				S	Sn	06 29 30.8	+2.3
PKGZ	Pakihiroa	3.30	223	P	Pn	06 28 56.7	+0.4
PKGZ				S	Sn	06 29 34.8	+0.4
PUZ	Puketiti	3.34	219	P	Pn	06 28 57.3	+0.6
PUZ				S	Sn	06 29 36.1	+0.8
HAZ	Te Kaha	3.38	227	P	Pn	06 28 58.3	+1.0
HAZ				S	Sn	06 29 37.7	+1.5
TWGZ	Tauwhareparae	3.56	220	P	Pn	06 29 00.6	+0.7
RUGZ	Raukumara Rang	3.58	226	P	Pn	06 29 00.8	+0.6
CNGZ	Carnagh Statio	3.69	215	P	Pn	06 29 02.6	+1.1
TKGZ	Te Karaka	3.83	219	P	Pn	06 29 04.2	+0.8
MWZ	Matawai	3.92	223	P	Pn	06 29 05.1	+0.4
RIGZ	Rimuhau	4.08	217	P	Pn	06 29 07.1	+0.2
RAGZ	Rawiri	4.10	222	P	Pn	06 29 07.8	+0.5
URZ	Urewera	4.11	227	Pn	Pn	06 29 06.7	-0.6
	16nm,0.3s,baz=99,slow=18,SNR=32						
URZ				Sn	Sn	06 29 52.7	-1.5
	7.6nm,0.3s,baz=112,slow=22,SNR=8.2						
URZ	Urewera	4.11	227	P	Pn	06 29 07.1	-0.2
PRGZ	Paritu Road	4.19	214	P	Pn	06 29 09.0	+0.6
OPRZ	Ohinepanea	4.22	235	P	Pn	06 29 08.3	-0.5
SNGZ	Shannon Statio	4.35	220	P	Pn	06 29 11.2	+0.5
TGRZ	Tauranga	4.36	238	P	Pn	06 29 10.2	-0.5
KNZ	Kokohu	4.37	215	P	Pn	06 29 10.7	-0.2
MHGZ	Mahia Peninsul	4.37	212	P	Pn	06 29 11.6	+0.7
KUZ	Kuaotunu	4.39	252	P	Pn	06 29 10.6	-0.5
RTZ	Ruatahuna	4.43	224	P	Pn	06 29 11.9	+0.1
KARZ	Kaharoa	4.52	235	P	Pn	06 29 12.6	-0.4
RRRZ	Republican Roa	4.53	230	P	Pn	06 29 12.9	-0.1
RAHZ	Arahi	4.58	221	P	Pn	06 29 14.7	+0.9
MTHZ	Maungataniwha	4.67	223	P	Pn	06 29 15.4	+0.3
HSRZ	Hossack Road	4.68	232	P	Pn	06 29 15.6	+0.5
WIAZ	Waiheke Island	4.86	253	P	Pn	06 29 17.5	0.0
NMHZ	Naumai	4.86	221	P	Pn	06 29 17.5	-0.3
ARHZ	Aropaoanui	4.89	219	P	Pn	06 29 18.1	+0.2
TOZ	Tahuroa Road	4.89	241	P	Pn	06 29 17.9	-0.1
MRHZ	Matea Rd	4.90	226	P	Pn	06 29 18.0	-0.2
BKZ	Black Stump F

TWGZ	**Tauwhareparae**	**3.52 215**	P	**Pn**	**06 46 45.2**	**-0.6**
TWGZ			S	**Sn**	**06 47 25.9**	**-0.3**
CNGZ	**Carnagh Statio**	**3.67 210**	P	**Pn**	**06 46 47.2**	**-0.7**
CNGZ			S	**Sn**	**06 47 32.5**	**+2.6**
URZ	**Urewera**	**4.02 222**	Pn	**Pn**	**06 46 51.9**	**-0.8**
	7.4nm,0.3s,baz=0.0,slow=20,SNR=18					
URZ			Sn	**Sn**	**06 47 38.3**	**-0.3**
	6.9nm,0.3s,baz=112,slow=23,SNR=7.7					
URZ	**Urewera**	**4.02 222**	P	**Pn**	**06 46 51.2**	**-1.5**
KUZ	**Kuaotunu**	**4.15 248**	P	**Pn**	**06 46 55.1**	**+0.6**
SNGZ	**Shannon Statio**	**4.30 215**	P	**Pn**	**06 46 55.8**	**-0.8**
SNGZ			S	**Sn**	**06 47 45.9**	**+0.4**
MTHZ	**Maungataniwha**	**4.60 219**	P	**Pn**	**06 47 00.9**	**+0.2**
MTHZ			S	**Sn**	**06 47 52.1**	**-0.9**
TOZ	**Tahuroa Road**	**4.71 238**	P	**Pn**	**06 47 05.7**	**+3.5**
NMHZ	**Naumai**	**4.80 217**	P	**Pn**	**06 47 02.0**	**-1.6**
NMHZ			S	**Sn**	**06 47 56.2**	**-1.8**
BKZ	**Black Stump Fm**	**5.01 219**	P	**Pn**	**06 47 05.5**	**-0.9**
CTZ	**Chatham Island**	**8.70 166**	P	**Pn**	**06 47 56.3**	**-0.5**
CTA	**Charters Tower**	**33.73 288**	P	**P**	**06 52 30.1**	**-1.7**
	1.6nm,0.3s,baz=98,slow=7.1,SNR=2.5					
ASAR	**Alice Springs**	**41.87 273**	P	**P**	**06 53 39.4**	**-1.2**
	2.0nm,0.7s,baz=116,slow=7.8,SNR=5.4					
WRA	**Warramunga Arr**	**43.30 278**	P	**P**	**06 53 50.9**	**-1.4**
	1.8nm,0.5s,baz=120,slow=7.6,SNR=19					
FITZ	**Fitzroy Crossi**	**51.31 275**	P	**P**	**06 54 53.2**	**-1.3**
	2.1nm,0.8s,baz=106,slow=7.4,SNR=2.7					
FINES	**FINESS Array B**	**149.23 336**	PKPbc	**PKPbc**	**07 05 36.9**	**-0.7**
	2.1nm,0.6s,baz=60,slow=3.4,SNR=6.9					
AKASG	**Malin Array Be**	**154.20 315**	PKPbc	**PKiKP**	**07 05 51.3**	**+1.9**
	0.3nm,0.3s,baz=78,slow=1.7,SNR=2.0					
TORD	**Torodi Ar. Bea**	**157.91 183**	PKPab	**PKPab**	**07 06 24.7**	**+4.7**
	0.3nm,0.6s,baz=187,slow=4.7,SNR=2.2					

*IDC **07** 06:56:16.5±2.1, 43°.27N×42°.65E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx3.2/44, Error ellipse: s-maj=36.9km s-min=14.2km az=118.0*

*NORS **07** 06:56:17.3±0.0, 43°.51N×43°.36E, h6km, MPVA4.6, FELT I=II MSK at Nal'chik*

*TIF **07** 06:56:18.2, 43°.60N×43°.44E, h9km±2km*

*MOS **07** 06:56:19.2±0.0, 43°.56N×43°.38E, h7km, ML3.5/9, MPVA4.5*

ISC 07 06:56:18.8±0.9, 43°.56N±0°.02×43°.40E±0°.01, h6km±7km, n102, σ1°17/177, 4C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCK	**Nalchik**	**0.16 114**		*e*PG	**Pg**	**06 56 22.1**	**0.0**
NCK	**Nalchik**	**0.16 114**		*i* Pg	**Pg**	**06 56 22.1**	**0.0**
	4μm,0.2s						
NCK				*i* Sg	**Sg**	**06 56 25.1**	**+0.9**
	40μm,0.4s						
KBZ	**Khabaz**	**0.40 295**		Pg	**Pg**	**06 56 26.6**	**0.0**
	66nm,0.3s,baz=133,slow=18,SNR=1533						
KBZ				Lg	Lg	06 56 33.5	
	537nm,0.3s,baz=225,slow=8.6,SNR=35						
KBZ	**Khabaz**	**0.40 295**		*i* PG	**Pg**	**06 56 27.0**	**+0.4**
KBZ				*i* S	**Sg**	**06 56 33.0**	**+1.1**
KBZ	**Khabaz**	**0.40 295**		*i* Pg	**Pg**	**06 56 26.8**	**+0.1**
KBZ				*e*Sg	**Sg**	**06 56 33.3**	**+1.4**
LSNR	**Lesken**	**0.42 132**		*e*PG	**Pg**	**06 56 27.5**	**+0.5**
LSNR				*e*S	**Sb**	**06 56 33.8**	**-1.5**
LSNR	**Lesken**	**0.42 132**		*i* Pg	**Pg**	**06 56 27.4**	**+0.5**
	365nm,0.1s						
LSNR				*i* Sg	**Sb**	**06 56 34.1**	**-1.1**
	2μm,0.3s						
STDR	**Stavd-Durt**	**0.52 111**		*e*PG	**Pb**	**06 56 30.0**	**-0.3**
STDR				*e*S	**Sb**	**06 56 38.6**	**+0.5**
STDR	**Stavd-Durt**	**0.52 111**		*e*Pg	**Pb**	**06 56 30.0**	**-0.3**
	32nm,0.1s						
STDR				*e*Sg	**Sb**	**06 56 38.5**	**+0.4**
PYA1	**Pyatigorsk**	**0.55 336**		*i* PG	**Pg**	**06 56 29.1**	**-0.3**
PYA1				pmax	pmax		
	comp=Z,63nm,0.1s						
PYA1	**Pyatigorsk**	**0.55 336**		*e*Pg	**Pg**	**06 56 29.1**	**-0.3**
	comp=Z,32nm,0.1s						
PYA1				*i* Sg	**Sg**	**06 56 36.2**	**-0.4**
	comp=Z,143nm,0.1s						
SHA1	**Shidzhatmaz**	**0.57 289**		*i* PG	**Pg**	**06 56 30.1**	**+0.3**
SHA1				*i* S	**Sg**	**06 56 38.5**	**+1.2**
SHA1	**Shidzhatmaz**	**0.57 289**		*e*Pg	**Pg**	**06 56 30.0**	**+0.2**
	comp=Z,457nm,0.2s						
SHA1				*i* Sg	**Sb**	**06 56 38.7**	**-1.0**
	comp=Z,2μm,0.4s						
NEY	**Neytrino**	**0.58 238**		⇑*i*PG	**Pg**	**06 56 30.6**	**+0.5**
NEY				*i* S	**Sb**	**06 56 38.8**	**-1.3**
NEY	**Neytrino**	**0.58 238**		*i* Pg	**Pg**	**06 56 30.6**	**+0.5**
	comp=Z,72nm,0.1s						
NEY				*i* Sg	**Sb**	**06 56 38.9**	**-1.3**
	comp=Z,765nm,0.2s						
BEYR	**Belyy Ugol+**	**0.62 317**		*e*PG	**Pg**	**06 56 30.6**	**-0.2**
BEYR				*e*S	**Sg**	**06 56 39.5**	**+0.7**
BEYR	**Belyy Ugol+**	**0.62 317**		*e*Pg	**Pg**	**06 56 30.6**	**-0.2**
BEYR				*e*Sg	**Sg**	**06 56 39.5**	**+0.7**
KIV0	**Kislovodsk Arr**	**0.65 308**		*i* Pg	**Pg**	**06 56 31.2**	**-0.1**
KIV0				*e*Sg	**Sg**	**06 56 40.5**	**+0.7**
KIV	**Kislovodsk**	**0.65 308**		*i* PG	**Pg**	**06 56 31.2**	**-0.2**
KIV				*e*S	**Sg**	**06 56 40.5**	**+0.6**
KIV	**Kislovodsk**	**0.65 308**		*i* Pg	**Pg**	**06 56 31.3**	**-0.1**
	comp=Z,223nm,0.2s						
KIV				*i* Sg	**Sg**	**06 56 40.8**	**+0.9**
	comp=Z,3μm,0.5s						
PRTR	**Priterechnaya**	**0.67 73**		*e*PG	**Pg**	**06 56 32.3**	**+0.6**
PRTR				*e*S	**Sn**	**06 56 45.5**	**-0.1**
PRTR	**Priterechnaya**	**0.67 73**		*e*Pg	**Pg**	**06 56 32.3**	**+0.6**
PRTR				*e*Sg	**Sb**	**06 56 43.0**	**+0.6**
DIGR	**Digorskoe uzhe**	**0.67 169**		*e*PG	**Pg**	**06 56 31.6**	**-0.2**
DIGR				pmax	pmax		
	comp=Z,98nm,0.2s						
DIGR	**Digorskoe uzhe**	**0.67 169**		*e*Pg	**Pg**	**06 56 31.6**	**-0.2**
DIGR				*e*Sg	**Sg**	**06 56 40.6**	**0.0**
KORR	**Kora**	**0.68 134**		*e*PG	**Pg**	**06 56 32.3**	**+0.4**
KORR				pmax	pmax		
	comp=Z,66nm,0.1s						
KORR	**Kora**	**0.68 134**		*e*Pg	**Pg**	**06 56 32.3**	**+0.4**
KORR				*e*Sg	**Sb**	**06 56 42.8**	**+0.1**
ARNR	**Ardon**	**0.75 120**		*e*PG	**Pb**	**06 56 34.3**	**+0.1**
ARNR				*e*S	**Sn**	**06 56 46.9**	**-0.7**
ARNR	**Ardon**	**0.75 120**		*e*Pg	**Pb**	**06 56 34.3**	**+0.1**
ARNR				*e*Sg	**Sn**	**06 56 46.9**	**-0.7**
BTKR	**Batakoyurt**	**0.85 102**		*e*PG	**Pb**	**06 56 36.4**	**+0.3**
BTKR				*e*S	**Sn**	**06 56 51.0**	**+0.8**
BTKR	**Batakoyurt**	**0.85 102**		*e*Pg	**Pb**	**06 56 36.4**	**+0.3**
BTKR				*e*Sg	**Sn**	**06 56 50.2**	**0.0**
ZEI	**Tsey**	**0.85 154**		*e*PG	**Pg**	**06 56 35.1**	**-0.1**
ZEI				*e*S	**Sg**	**06 56 46.4**	**+0.1**
ZEI	**Tsey**	**0.85 154**		*e*Pg	**Pg**	**06 56 34.9**	**-0.3**
ZEI				*e*Sg	**Sg**	**06 56 46.4**	**+0.1**
ONI	**Oni**	**0.97 178**		P	**Pn**	**06 56 38.6**	**-0.4**
ONI				S	**Sn**	**06 56 52.3**	**-0.8**
ONI	**Oni**	**0.97 178**		⇑*i*PG	**Pn**	**06 56 38.7**	**-0.3**
ONI				*i* S	**Sn**	**06 56 52.2**	**-0.9**
ONI	**Oni**	**0.97 178**		*i* Pg	**Pn**	**06 56 38.7**	**-0.3**
ONI				*e*Sg	**Sn**	**06 56 52.3**	**-0.8**
TRKR	**Terskaya**	**0.98 80**		*e*PG	**Pg**	**06 56 37.7**	**0.0**
TRKR				*e*S	**Sn**	**06 56 54.9**	**+1.6**
TRKR	**Terskaya**	**0.98 80**		*e*Pg	**Pg**	**06 56 37.7**	**0.0**
TRKR				*e*Sg	**Sb**	**06 56 52.1**	**+0.8**
LACR	**Lac**	**0.98 138**		*e*PG	**Pg**	**06 56 37.6**	**-0.1**
LACR				*e*S	**Sb**	**06 56 50.8**	**-0.7**
LACR				pmax	pmax		
	comp=Z,460nm,0.3s						
LACR				smax	smax		
	comp=N,2μm,0.5s						
LACR	**Lac**	**0.98 138**		*e*Pg	**Pg**	**06 56 37.6**	**-0.1**
LACR				*e*Sg	**Sb**	**06 56 50.9**	**-0.7**
VLKR	**Vladikavkaz**	**1.06 118**		*e*PG	**Pn**	**06 56 40.2**	**-0.1**
VLKR				*e*S	**Sn**	**06 56 56.1**	**+0.7**
VLKR	**Vladikavkaz**	**1.06 118**		*e*Pg	**Pn**	**06 56 40.2**	**-0.1**
VLKR				*e*Sg	**Sn**	**06 56 55.6**	**+0.2**
KMGR	**Komgaron**	**1.18 115**		*e*PG	**Pn**	**06 56 42.1**	**+0.2**
KMGR				*e*S	**Sn**	**06 57 00.7**	**+2.3**
KMGR	**Komgaron**	**1.18 115**		*e*Pg	**Pn**	**06 56 42.1**	**+0.2**
KMGR				*e*Sg	**Sn**	**06 57 00.7**	**+2.3**
MTEO	**Meteo**	**1.21 136**		P	**Pg**	**06 56 41.4**	**-0.6**
TKB	**Tkibuli**	**1.24 194**		P	**Pn**	**06 56 43.7**	**+0.9**
TKB				S	**Sn**	**06 57 01.3**	**+1.4**
TKB	**Tkibuli**	**1.24 194**		*e*PG	**Pn**	**06 56 43.6**	**+0.9**
TKB				*e*S	**Sn**	**06 57 01.2**	**+1.4**
CHVG	**Ch'k'valeri**	**1.28 229**		P	**Pb**	**06 56 44.3**	**+1.0**
CHVG				S	**Sn**	**06 57 02.5**	**+1.8**
CHVG	**Ch'k'valeri**	**1.28 229**		*e*PG	**Pb**	**06 56 44.3**	**+1.0**
CHVG				*e*S	**Sn**	**06 57 02.4**	**+1.8**
DOMR	**Dombai**	**1.32 259**		*i* PG	**Pn**	**06 56 43.9**	**-0.1**
DOMR				*i* S	**Sg**	**06 57 01.0**	**-0.3**
DOMR	**Dombai**	**1.32 259**		*i* Pg	**Pg**	**06 56 44.0**	**-0.2**
	comp=N,89nm,0.1s						
DOMR				*i* Sg	**Sb**	**06 57 01.3**	**0.0**
	comp=N,942nm,0.2s						
GUDG	**Gudauri**	**1.35 144**		P	**Pn**	**06 56 40.8**	**-3.6**
GUDG				S	**Sg**	**06 56 59.2**	**-3.0**
GUDG	**Gudauri**	**1.35 144**		*e*PG	**Pn**	**06 56 40.8**	**-3.6**
GOF	**Gofitskoye**	**1.52 350**		*i* PG	**Pb**	**06 56 47.3**	**-0.1**
GOF				*e*S	**Sg**	**06 57 08.7**	**+1.0**
GOF	**Gofitskoye**	**1.52 350**		*i* Pg	**Pb**	**06 56 47.3**	**-0.1**
GOF				*i* Sg	**Sg**	**06 57 08.7**	**+1.0**
	comp=N,2μm,0.4s						
ARXR	**Arkhyz**	**1.54 271**		*i* PG	**Pb**	**06 56 47.5**	**-0.4**
ARXR				*i* S	**Sg**	**06 57 08.3**	**-0.2**
ARXR	**Arkhyz**	**1.54 271**		*i* Pg	**Pn**	**06 56 47.4**	**+0.4**
	comp=N,138nm,0.1s						
ARXR				*i* Sg	**Sg**	**06 57 08.5**	**0.0**
	comp=N,1μm,0.2s						
GROC	**Groznyy**	**1.78 101**		*e*PN	**Pb**	**06 56 51.4**	**-0.5**
GROC				*e*S	**Sg**	**06 57 15.9**	**-0.2**
GROC	**Groznyy**	**1.78 101**		*e*Pg	**Pb**	**06 56 51.4**	**-0.5**
GROC				*e*Sg	**Sg**	**06 57 15.9**	**-0.2**
BKRG	**Bakuriani**	**1.80 177**		P	**Pb**	**06 56 52.3**	**-0.1**
BKRG				S	**Sg**	**06 57 18.6**	**+1.8**
BKRG	**Bakuriani**	**1.80 177**		*e*PN	**Pb**	**06 56 52.2**	**-0.1**
BKRG				*e*S	**Sg**	**06 57 18.5**	**+1.8**
ABS	**Abastumani**	**1.85 194**		P	**Pb**	**06 56 53.2**	**0.0**
ABS				S	**Sg**	**06 57 19.0**	**+0.5**
ABS	**Abastumani**	**1.85 194**		*e*PN	**Pb**	**06 56 53.2**	**0.0**
ABS				*e*S	**Sg**	**06 57 18.9**	**+0.5**
DVE	**Vedeno**	**2.08 106**		*e*PN	**Pn**	**06 56 55.5**	**+1.2**
DVE				*e*S	**Sb**	**06 57 22.8**	**-0.3**
DVE	**Vedeno**	**2.08 106**		*e*Pg	**Pn**	**06 56 55.5**	**+1.2**
DVE				*e*Sg	**Sb**	**06 57 22.1**	**-1.0**
BTNK	**Botanikuri**	**2.14 151**		P	**Pb**	**06 56 57.6**	**-0.4**
BTNK				S	**Sb**	**06 57 25.9**	**+1.0**
BTNK	**Botanikuri**	**2.14 151**		*e*PN	**Pb**	**06 56 57.6**	**-0.4**
BTNK				*e*S	**Sb**	**06 57 25.8**	**+1.0**
BTLR	**Botlikh**	**2.25 112**		*i* PN	**Pn**	**06 56 57.4**	**+0.7**
BTLR	**Botlikh**	**2.25 112**		*e*Pn	**Pn**	**06 56 57.4**	**+0.7**
BTLR				*e*Sn	**Sn**	**06 57 23.7**	**-1.0**
RPOR	**Krasnaya Polya**	**2.28 275**		*e*PN	**Pb**	**06 57 00.0**	**-0.4**
RPOR				*e*S	**Sb**	**06 57 29.2**	**+0.4**
RPOR	**Krasnaya Polya**	**2.28 275**		*e*Pn	**Pb**	**06 57 00.7**	**+0.3**
RPOR				*e*Sn	**Sn**	**06 57 25.8**	**+0.4**
DMNI	**Dmanisi**	**2.30 165**		P	**Pn**	**06 56 58.9**	**+1.4**
DMNI				S	**Sb**	**06 57 29.2**	**-0.5**
DMNI	**Dmanisi**	**2.30 165**		*e*PN	**Pn**	**06 56 58.8**	**+1.4**
DMNI				*e*S	**Sb**	**06 57 29.1**	**-0.5**
BATM	**Batumi**	**2.33 213**		P	**Pb**	**06 56 59.6**	**-1.6**
BATM	**Batumi**	**2.33 213**		*e*PN	**Pb**	**06 56 59.5**	**-1.6**
DLMR	**Dylym**	**2.41 101**		*e*PN	**Pn**	**06 57 00.4**	**+1.6**
DLMR				*e*S	**Sn**	**06 57 27.6**	**-0.9**
DLMR	**Dylym**	**2.41 101**		*e*Pn	**Pn**	**06 57 00.4**	**+1.6**
DLMR				*e*Sn	**Sn**	**06 57 27.6**	**-0.9**
GUZR	**Guzeripl'**	**2.42 282**		*i* PN	**Pb**	**06 57 02.4**	**-0.3**
GUZR				*i* S	**Sb**	**06 57 33.2**	**+0.4**
GUZR	**Guzeripl'**	**2.42 282**		*e*Pn	**Pb**	**06 57 02.2**	**-0.6**
GUZR				*e*Sn	**Sb**	**06 57 31.9**	**-0.9**
DBC	**Dubki**	**2.56 101**		*e*PN	**Pn**	**06 57 00.1**	**-0.8**
DBC				*e*S	**Sn**	**06 57 31.7**	**-0.7**
XNZR	**Khunzakh**	**2.63 112**		*e*PN	**Pn**	**06 57 02.2**	**+0.3**
XNZR				*e*S	**Sn**	**06 57 33.3**	**-0.9**
XNZR	**Khunzakh**	**2.63 112**		*e*Pn	**Pn**	**06 57 02.2**	**+0.3**
KRNR	**Karanay**	**2.67 105**		*e*PN	**Pn**	**06 57 01.7**	**-0.7**
KRNR				*e*S	**Sn**	**06 57 34.0**	**-1.1**
SOC	**Sochi**	**2.68 272**		*e*PN	**Pn**	**06 57 01.4**	**-1.0**
SOC				*e*		06 57 35.2	
SOC				pmax	pmax		
	comp=Z,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,188nm,15.0s						
SOC	**Sochi**	**2.68 272**		*e*Sn	**Sn**	**06 57 35.5**	**+0.4**
LGD	**Lagodekhi**	**2.71 128**		P	**Pn**	**06 57 04.9**	**+2.0**
LGD	**Lagodekhi**	**2.71 128**		*e*PN	**Pn**	**06 57 04.9**	**+2.0**
BUJR	**Buynaksk**	**2.81 104**		*e*PN	**Pb**	**06 57 08.7**	**-0.7**
BUJR				*e*S	**Sn**	**06 57 37.9**	**-0.6**
LZRR	**Lazarevskoye**	**2.94 279**		*e*PN	**Pb**	**06 57 09.1**	**-2.5**
LZRR				*e*S	**Sb**	**06 57 45.8**	**-1.9**
ERBR	**Yeremizino-Bor**	**3.00 317**		*e*PN	**Pn**	**06 57 09.2**	**+2.4**
ERBR				*e*S	**Sb**	**06 57 46.5**	**-2.9**
MAK	**Makhachkala**	**3.06 100**		*e*PN	**Pn**	**06 57 08.6**	**+1.0**
MAK				*e*		06 57 13.5	
MAK				*e*S	**Sn**	**06 57 47.8**	**+3.3**
MAK				*e*		06 57 51.4	
MAK				*e*		06 57 59.6	
MAK				pmax	pmax		
	comp=Z,94nm,0.3s						
MAK				smax	smax		
	comp=N,226nm,0.4s						
MAK				smax	smax		
	comp=N,226nm,0.4s						
MAK				MLR	MLR		
	comp=Z,197nm,2.0s						
GNI	**Garni**	**3.55 163**		*e*PN	**Pb**	**06 57 22.4**	**+0.3**
GNI				*e*S	**Sn**	**06 57 59.4**	**+2.4**
GNI	**Garni**	**3.55 163**		*e*Sn	**Sn**	**06 57 59.4**	**+2.4**
AKTO	**Aktyubinsk**	**12.11 50**		⇑Pn	**Pn**	**06 59 08.4**	**-3.4**
	comp=Z,2.1nm,0.3s						
AKTO				⇓Sn	Sn	07 01 16.6	-10
	comp=Z,2.2nm,0.7s						
MLR	**Muntele Rosu**	**12.61 285**		LR	LR	07 04 01.2	
	comp=Z,380nm,20.9s,baz=92,slow=38						
AB31	**Akbulak array**	**12.75 58**		⇓Pn	**Pn**	**06 59 17.2**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=244,slow=11,SNR=33						
AB31				⇑Sn	Sn	07 01 32.3	-10
	comp=Z,0.9nm,0.6s,baz=254,slow=21,SNR=5.5						
ARU	**Arti**	**16.10 32**		*i* P	**Pn**	**07 00 06.5**	**+0.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU				MLR	MLR		
	comp=Z,412nm,14.0s						
BRVK	**Borovoye**	**20.14 52**		*i* P	**P**	**07 00 53.4**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,415nm,18.0s						
FINES	**FINESS Array B**	**20.66 336**		P	**P**	**07 00 57.0**	**-2.0**
	comp=Z,2.3nm,0.8s,baz=141,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**20.66 336**		*i* P	**P**	**07 00 58.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**25.93 324**		P	**P**	**07 01 50.8**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=123,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**27.41 70**		P	**P**	**07 02 09.8**	**+4.7**
	comp=Z,0.4nm,0.8s,baz=288,slow=8.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**52.66 100**		*i* P	**P**	**07 05 34.5**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						

*IDC **07** 07:01:37.5±0.6, 13°.17S×112°.03W, h0km, mb4.3/19, mb1 4.5/19, mb1mx4.4/29, mbtmp4.3/19, MS5.5/23, Ms1 5.4/23, ms1mx5.4/27, Error ellipse: s-maj=19.5km s-min=15.5km az=59.0*

*MOS **07** 07:01:40.9±1.2, 13°.18S×111°.53W, h10km, mb5.3/48, MS5.6/5, Error ellipse: s-maj=13.8km s-min=6.2km az=88.7*

*NEIC **07** 07:01:42.7±1.6, 13°.33S±0°.09×111°.6W±0°.1, h10km±1km, mb5.2/361, Ms_20 5.7/348, Mww5.9, Mwc5.9(GCMT), Error ellipse: s-maj=22.3km s-min=12.9km az=239.0*

*BJI **07** 07:01:43.0±0.0, 12°.30S×112°.19W, h10km, mB5.7/11, Ms6.0/17, Ms7 5.8/17*

*GCMT **07** 07:01:44.7±0.1, 13°.36S×112°.23W, h15km, MW5.9/162, Moment Tensor Solution. s137,c246; s162,c497; Duration: ≥≥1 Moment tensor: Scale 10^17^Nm; Mrr~0.54±.07; Mθθ2.69±.06; Mφφ~2.15±.07; Mrθ~2.35±.21; Mθφ7.35±.05; Mφr1.10±.21; Best double couple: M0 8.17500×10^17^ NP1:φs190.00000°, δ72.00000°, λ~174.00000°. NP2:φs98.00000°, δ84.00000°, λ~18.00000°. Principal axes: T 8.1970, Plg9.0000°, Azm145.0000°; N -0.0420, Plg71.0000°, Azm261.0000°; P -8.1530, Plg17.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 07:01:45, 13°.40S×112°.24W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr~0.58; Mθθ2.85; Mφφ~2.27; Mrθ~1.48; Mθφ7.87; Mφr~0.34; Fault plane solution: M0 8.43000×10^17^ NP1:φs189.00000°, δ81.00000°, λ177.00000°. NP2:φs279.00000°, δ87.00000°, λ9.00000°. Principal axes: T 8.7767, Plg9.0000°, Azm144.0000°; N -0.7441, Plg80.0000°, Azm295.0000°; P -8.0325, Plg5.0000°, Azm54.0000°;*

*NEIC **07** 07:01:49, 13°.60S×112°.34W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr~0.61; Mθθ2.54; Mφφ~1.92; Mrθ~0.22; Mθφ8.72; Mφr~2.90; Fault plane solution: M0 9.47000×10^17^ NP1:φs277.00000°, δ72.00000°, λ~2.00000°. NP2:φs8.00000°, δ88.00000°, λ~161.00000°. Principal axes: T 9.6857, Plg11.0000°, Azm141.0000°; N -0.4402, Plg72.0000°, Azm15.0000°; P -9.2455, Plg14.0000°, Azm234.0000°;*

ISC 07 07:01:40.5±0.3, 13°.44S±0°.05×111°.99W±0°.06, h10km, n1072, σ1°88/1100, mb5.2/207, MS5.7/215, 1C-2D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.84 170**		LR	LR	07 08 50.0	
	comp=Z,33μm,20.4s,baz=346,slow=31						
PTCN	**Pitcairn Islan**	**20.61 233**		IAMs_20	IAMs_20	07 11 44.0	
	comp=Z,38μm,21.0s						
RKT	**Rikitea**	**23.82 243**		*e*T	T	07 31 08.0	
	comp=Z,7.5nm,0.3s						
PAYG	**Puerto Ayora**	**24.95 61**		IAMs_20	IAMs_20	07 13 53.7	
	comp=Z,24μm,22.0s						
TAOE	**Nuku Hiva Isla**	**27.99 276**		*e*T	T	07 36 14.7	
	comp=Z,34nm,0.2s						
TLIG	**Tlapa**	**33.53 24**		P	**P**	**07 08 21.2**	**+0.5**
ATAH	**Atahualpa**	**33.62 83**		P	**P**	**07 08 21.5**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=248,slow=7.6,SNR=5.3						
NNA	**Nana**	**34.30 92**		IAMs_20	IAMs_20	07 18 35.6	
	comp=Z,6μm,19.0s						
CMIG	**Matias Romero**	**34.72 30**		P	**P**	**07 08 27.8**	**-3.1**
	comp=Z,4.3nm,1.0s,baz=249,slow=8.6,SNR=3.3						
SNET	**Serv Nac Est T**	**35.14 41**		IAMs_20	IAMs_20	07 18 53.8	
	comp=Z,5μm,21.0s						
MTO3	**Montecristo**	**35.59 40**		P	**P**	**07 08 38.4**	**-0.4**
MTO3				IAmb	IAmb	07 08 42.4	
	comp=Z,37nm,1.2s						
JTS	**Las Juntas de**	**35.72 50**		LR	LR	07 19 24.7	
	comp=Z,13μm,21.9s,baz=271,slow=30						
JTS	**Las Juntas de**	**35.72 50**		*i* P	**P**	**07 08 36.4**	**-3.2**
JTS				pmax	pmax		
	comp=Z,16nm,1.3s						
JTS	**Las Juntas de**	**35.72 50**		IAMs_20	IAMs_20	07 19 12.5	
	comp=Z,14μm,21.0s						
ESQI	**Esquipulas**	**35.73 40**		P	**P**	**07 08 39.7**	**0.0**
CRIN	**San Cristobal**	**35.85 45**		IAMs_20	IAMs_20	07 20 04.5	
	comp=Z,6μm,21.0s						
OTAV	**Otavalo**	**35.90 70**		P	**P**	**07 08 37.7**	**-4.0**
OTAV				pmax	pmax		
	comp=Z,55nm,1.4s						
OTAV	**Otavalo**	**35.90 70**		P	**P**	**07 08 37.7**	**-4.0**
OTAV				IAmb	IAmb	07 08 54.8	
	comp=Z,55nm,1.4s						
OTAV	**Otavalo**	**35.90 70**		IAMs_20	IAMs_20	07 19 24.6	
	comp=Z,7μm,20.0s						
OTAV	**Otavalo**	**35.90 70**		*e*P	**P**	**07 08 40.5**	**-1.2**
OTAV	**Otavalo**	**35.90 70**		*e*P	**P**	**07 08 40.8**	**-0.9**
H03N2	**Juan Fernandez**	**36.05 129**		T	T	07 47 15.4	
	baz=300,slow=77,SNR=670						
H03N3	**Juan Fernandez**	**36.06 129**		T	T	07 47 12.3	
	baz=300,slow=77,SNR=568						
H03N1	**Juan Fernandez**	**36.06 129**		T	T	07 47 11.6	
	baz=300,slow=77,SNR=687						
PPT	**Papeete**	**36.41 259**		LR	LR	07 19 43.0	
	comp=Z,3μm,19.1s,baz=86,slow=30						
PPT2	**Papeete2**	**36.41 259**		*e*S	**S**	**07 14 21.8**	**-5.7**
	comp=Z,5μm,27.8s						
PPT2				*e*LQ	LQ	07 16 50.2	
	comp=Z,14μm,38.5s						
PPT2				*e*LR	LR	07 18 21.9	
	comp=Z,17μm,27.0s,baz=92						
TGUH	**Tegucigalpa,Un**	**36.68 43**		P	**P**	**07 08 47.1**	**-0.8**
TGUH				IAmb	IAmb	07 08 55.2	
	comp=Z,88nm,

LPAZ	La Paz	42.43	99	P	P	07 09 35.9	-0.6	
	comp=Z,1.6nm,0.4s,baz=282,slow=5.9,SNR=13							
LPAZ				LR	LR	07 23 40.5		
	comp=Z,939nm,21.6s,baz=258,slow=31							
LPAZ	La Paz	42.43	99	eP	P	07 09 36.1	-0.4	
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.4s							
LPAZ	La Paz	42.43	99	P	P	07 09 36.5	0.0	
LPAZ	La Paz	42.43	99	eP	P	07 09 34.9	-1.6	
BO01	Tunca	42.44	127	P	P	07 09 36.4	+0.7	
BO01				IAmb	IAmb	07 09 42.8		
	comp=Z,96nm,1.9s							
TBTG	Tabatinga, AM	42.52	81	eP	P	07 09 37.6	+1.0	
BO02	Sierra Bellavi	42.81	127	P	P	07 09 41.5	+2.7	
BO02				IAmb	IAmb	07 09 50.6		
	comp=Z,97nm,1.9s							
RUSC	La Rusia	43.14	66	P	P	07 09 40.8	-1.4	
RUSC	La Rusia	43.14	66	eP	P	07 09 42.0	-0.1	
PTGC	Puerto Gaitan,	43.27	69	eP	P	07 09 45.6	+3.0	
833A	Chaparral WMA,	43.27	16	P	P	07 09 41.4	-1.0	
	baz=198,SNR=9.3							
833A				S	S	07 16 11.3	+1.6	
	baz=198							
TX31	Lajitas Ar. Si	43.27	11	P	P	07 09 43.4	+0.9	
TX31				IAmb	IAmb	07 09 53.2		
	comp=Z,103nm,1.6s							
TX32	Lajitas Array	43.27	11	P	P	07 09 43.5	+1.0	
TXAR	Lajitas Array	43.27	11	P	P	07 09 39.7	-2.8	
	comp=Z,0.1nm,0.3s,baz=190,slow=9.2,SNR=2.0							
TXAR				PcP	PcP	07 11 30.0	-1.6	
	comp=Z,0.2nm,0.8s,baz=156,slow=4.6,SNR=2.0							
TXAR				LR	LR	07 24 23.8		
	comp=Z,4μm,18.2s,baz=0.0,slow=32							
TXAR	Lajitas Array	43.27	11	P	P	07 09 43.0	+0.5	
TXAR	Lajitas Array	43.27	11	P	P	07 09 43.0	+0.5	
BARC	Barichara	43.37	65	eP	P	07 09 43.3	-0.4	
SMLC	San Martn de	43.65	62	eP	P	07 09 47.8	+2.2	
OCAC	Ocana	44.02	63	eP	P	07 09 50.9	+2.0	
PAMC	Pamplona, Colo	44.14	64	eP	P	07 09 49.5	-0.7	
SFX	San Felipe	44.31	356	P	P	07 09 54.8	+4.2	
SFX				IAmb	IAmb	07 09 56.7		
	comp=Z,90nm,1.8s							
SPX	San Pedro Mart	44.35	356	P	P	07 09 52.8	+1.4	
SPX				IAmb	IAmb	07 09 57.8		
	comp=Z,77nm,1.7s							
LL1C	La Loma 1 Cana	44.46	61	eP	P	07 09 54.7	+2.5	
LL2C	La Loma 2 Cana	44.57	61	eP	P	07 09 54.7	+1.7	
319A	Douglas	44.63	3	P	P	07 09 54.6	+1.1	
319A				IAmb	IAmb	07 10 08.3		
	comp=Z,36nm,1.2s							
SMRC	Santa Marta, M	44.73	59	eP	P	07 09 57.0	+2.7	
ETMB	Extrema	44.93	90	eP	P	07 09 54.1	-1.9	
214A	Organ Pipe Nat	45.14	359	P	P	07 09 57.7	+0.3	
	baz=178,SNR=8.5							
214A				S	S	07 16 39.9	+3.0	
	baz=178							
214A	Organ Pipe Nat	45.14	359	P	P	07 09 58.9	+1.5	
214A				IAmb	IAmb	07 10 03.9		
	comp=Z,79nm,1.8s							
JCT	Junction City	45.21	15	P	P	07 09 57.0	-1.0	
JCT				pmax	pmax			
	comp=Z,160nm,1.7s							
JCT	Junction City	45.21	15	P	P	07 09 58.1	+0.1	
	baz=196,SNR=14							
JCT				S	S	07 16 38.9	+0.9	
	baz=196							
JCT	Junction City	45.21	15	P	P	07 09 57.0	-1.0	
PLCA	Paso Flores	45.22	135	P	P	07 09 57.6	-0.4	
	comp=Z,5.6nm,1.0s,baz=321,slow=9.0,SNR=5.1							
PLCA				LR	LR	07 24 01.7		
	comp=Z,13μm,21.3s,baz=287,slow=30							
PLCA	Paso Flores	45.22	135	P	P	07 10 00.0	+2.0	
PLCA				pmax	pmax			
	comp=Z,35nm,1.4s							
PLCA	Paso Flores	45.22	135	P	P	07 10 00.0	+2.0	
PLCA				IAmb	IAmb	07 10 05.9		
	comp=Z,35nm,1.4s							
PLCA	Paso Flores	45.22	135	eP	P	07 09 58.0	0.0	
EPT	El Paso	45.26	7	IAMs_20	IAMs_20	07 25 01.1		
	comp=Z,7μm,20.0s							
MNTX	Cornudas Mount	45.32	8	P	P	07 09 59.5	+0.7	
	baz=189,SNR=27							
MNTX				S	S	07 16 40.2	+0.7	
	baz=189							
MNTX	Cornudas Mount	45.32	8	P	P	07 09 58.9	+0.1	
MNTX				IAmb	IAmb	07 10 04.0		
	comp=Z,28nm,1.1s							
LL02	Futaleuf	45.45	139	P	P	07 10 03.5	+3.7	
LL02				IAmb	IAmb	07 10 08.5		
	comp=Z,44nm,1.6s							
TUC	Tucson	45.50	1	P	P	07 10 00.9	+0.6	
TUC				pmax	pmax			
	comp=Z,14nm,1.1s							
TUC	Tucson	45.50	1	P	P	07 10 00.9	+0.6	
	baz=181							
TUC				S	S	07 16 42.7	+0.4	
	baz=181							
TUC	Tucson	45.50	1	P	P	07 10 00.8	+0.6	
TUC	Tucson	45.50	1	IAMs_20	IAMs_20	07 24 42.4		
	comp=Z,10μm,20.0s							
121A	Cookes Peak, D	45.89	5	P	P	07 10 01.6	-1.8	
	baz=185							
121A				S	S	07 16 49.5	+1.5	
	baz=185							
121A	Cookes Peak, D	45.89	5	P	P	07 10 03.7	+0.3	
121A				IAmb	IAmb	07 10 10.4		
	comp=Z,56nm,1.4s							
113A	Mohawk Valley,	45.98	358	P	P	07 10 05.6	+1.7	
IKP	In-Ko-Pah, Jac	46.00	355	P	P	07 10 04.1	-0.1	
	baz=174,SNR=6.2							
IKP				S	S	07 16 53.5	+4.2	
	baz=174							
BAR	Barrett	46.08	355	P	P	07 10 06.8	+2.0	
435B	Jarrell	46.10	17	P	P	07 10 03.4	-1.5	
	baz=199							
435B				S	S	07 16 51.8	+1.1	
	baz=199							
435B	Jarrell	46.10	17	P	P	07 10 04.5	-0.4	
435B				IAMs_20	IAMs_20	07 26 39.8		
	comp=Z,6μm,18.0s							
RAR	Rarotonga	46.13	253	IAMs_20	IAMs_20	07 23 41.5		
	comp=Z,9μm,20.0s							
MONP2	Monument Peak	46.26	355	P	P	07 10 06.7	+0.3	
	baz=174,SNR=8.5							
MONP2				S	S	07 16 53.7	+0.2	
	baz=174							
SWSC	Sam W. Stewart	46.27	356	P	P	07 10 06.4	+0.3	
	baz=174							
SWSC				S	S	07 16 54.3	+1.3	
	baz=174							
GLA	Glamis	46.31	357	P	P	07 10 07.2	+0.6	
GLA				pmax	pmax			
	comp=Z,112nm,2.0s							
GLA	Glamis	46.31	357	P	P	07 10 06.2	-0.4	
	baz=176							
GLA				S	S	07 16 55.9	+2.2	
	baz=176							
GLA	Glamis	46.31	357	P	P	07 10 07.2	+0.6	
MTDJ	Mount Denham	46.31	48	IAMs_20	IAMs_20	07 25 15.3		
	comp=Z,5μm,21.0s							
109C	Camp Elliot, M	46.33	354	P	P	07 10 07.1	+0.5	
	baz=173							
109C				S	S	07 16 58.2	+4.3	
	baz=173							
109C	Camp Elliot, M	46.33	354	IAMs_20	IAMs_20	07 24 28.2		
	comp=Z,9μm,20.0s							
SCI2	San Clemente I	46.58	352	P	P	07 10 09.7	+1.1	
	baz=171							
SCI2				S	S	07 17 02.9	+5.4	
	baz=171							
SDV	Santo Domingo	46.66	64	P	P	07 10 08.8	-1.1	
	comp=Z,15nm,0.4s,baz=238,slow=9.0,SNR=7.0							
SDV	Santo Domingo	46.66	64	IAMs_20	IAMs_20	07 25 44.0		
	comp=Z,3μm,19.0s							
SDV	Santo Domingo	46.66	64	eP	P	07 10 11.6	+1.7	
SDV	Santo Domingo	46.66	64	eP	P	07 10 08.0	-1.9	
ELOV	Elorza	46.84	67	eP	P	07 10 09.6	-1.4	
URIC	Uribia, Colomb	46.88	60	eP	P	07 10 12.2	+0.9	
BC3	Big Chuckawall	46.95	356	P	P	07 10 12.6	+0.9	
	baz=175,SNR=6.6							
BC3				S	S	07 17 04.3	+1.3	
	baz=175							
TPFO	Pinon Flats	46.98	355	P	P	07 10 12.3	+0.4	
	baz=174,SNR=9.8							
TPFO				S	S	07 17 05.2	+1.8	
	baz=174							
SNCC	San Nicolas Is	46.98	351	P	P	07 10 12.5	+0.7	
	baz=170							
SNCC				S	S	07 17 08.1	+4.8	
	baz=170							
CIS	Catalina Islan	46.98	353	P	P	07 10 12.8	+0.9	
	baz=171							
CIS				S	S	07 17 08.7	+5.4	
	baz=171							
PFO	Pinyon Flats O	46.98	355	P	P	07 10 14.7	+2.8	
PFO				pmax	pmax			
	comp=Z,87nm,1.9s							
PFO	Pinyon Flats O	46.98	355	P	P	07 10 13.6	+1.6	
	baz=174,SNR=8.0							
PFO				S	S	07 17 07.9	+4.4	
	baz=174							
PFO	Pinyon Flats O	46.98	355	P	P	07 10 14.7	+2.8	
PFO	Pinyon Flats O	46.98	355	IAMs_20	IAMs_20	07 24 32.4		
	comp=Z,8μm,22.0s							
MURC	Murrieta	47.04	354	P	P	07 10 12.9	+0.6	
	baz=173							
MURC				S	S	07 17 05.8	+1.6	
	baz=173							
Y14A	Wickenburg	47.12	359	P	P	07 10 13.6	+0.6	
WHTX	Lake Whitney,	47.27	17	P	P	07 10 12.6	-1.4	
	baz=199							
WHTX				S	S	07 17 09.0	+1.6	
	baz=199							
FMP	Fort Macarthur	47.27	353	P	P	07 10 14.8	+0.8	
	baz=171							
FMP				S	S	07 17 11.0	+3.6	
	baz=171							
ABTX	Abilene, Hawle	47.30	14	P	P	07 10 14.4	0.0	
	baz=196							
ABTX				S	S	07 17 06.1	-1.8	
	baz=196							
ABTX	Abilene, Hawle	47.30	14	P	P	07 10 13.9	-0.5	
BELC	Belle Mtn. Jos	47.33	355	P	P	07 10 15.9	+1.2	
	baz=174,SNR=11							
BELC				S	S	07 17 11.3	+2.8	
	baz=174							
IRM	Iron Mountain	47.43	356	P	P	07 10 16.0	+0.7	
	baz=175							
IRM				S	S	07 17 15.3	+5.6	
	baz=175							
Y22D	IRIS PASSCAL I	47.49	6	P	P	07 10 15.9	-0.1	
	baz=186							
Y22D				S	S	07 17 14.7	+3.8	
	baz=186							
Y22D	IRIS PASSCAL I	47.49	6	IAMs_20	IAMs_20	07 26 39.4		
	comp=Z,9μm,18.0s							
PDMCI	Parker Dam,Lak	47.52	358	P	P	07 10 16.8	+0.8	
	baz=177							
PDMCI				S	S	07 17 13.4	+2.4	
	baz=177							
LENM	Lemitar	47.58	6	P	P	07 10 16.1	-0.6	
X16A	Lo Mia Camp, P	47.59	1	P	P	07 10 17.3	+0.5	
BNM	Barren Site	47.60	6	P	P	07 10 17.6	+0.7	
DABV	Dabajuro	47.63	61	eP	P	07 10 14.6	-2.6	
XMAS	Kiritimati	47.63	285	IAMs_20	IAMs_20	07 23 55.3		
	comp=Z,5μm,19.0s							
BBRC	Big Bear Solar	47.67	354	P	P	07 10 17.5	0.0	
	baz=173,SNR=7.0							
BBRC				S	S	07 17 14.6	+1.1	
	baz=173							
PASC	Pasadena Art C	47.71	353	P	P	07 10 20.5	+3.0	
PASC	Pasadena Art C	47.71	353	IAMs_20	IAMs_20	07 25 08.1		
	comp=Z,9μm,19.0s							
BFSC	Mount Baldy Ra	47.72	354	P	P	07 10 18.4	+0.7	
	baz=172							
BFSC				S	S	07 17 18.4	+4.4	
	baz=172							
SCZ2	Santa Cruz Isl	47.73	351	P	P	07 10 18.7	+1.0	
	baz=170							
SCZ2				S	S	07 17 14.6	+0.6	
	baz=170							
X18A	Snowflake	47.74	2	P	P	07 10 19.0	+1.1	
X18A				IAmb	IAmb	07 10 23.6		
	comp=Z,44nm,1.3s							
DECC	Green Verdugo	47.81	353	P	P	07 10 19.2	+0.9	
	baz=171							
DECC				S	S	07 17 18.5	+3.3	
	baz=171							
NATX	Nacogdoches	47.91	20	P	P	07 10 18.9	-0.2	
	baz=202							
NATX				S	S	07 17 17.9	+1.2	
	baz=202							
NATX	Nacogdoches	47.91	20	IAMs_20	IAMs_20	07 29 02.6		
	comp=Z,3μm,19.0s							
MSTX	Muleshoe	47.95	10	P	P	07 10 19.3	-0.2	
	baz=192							
MSTX				S	S	07 17 16.1	-1.3	
	baz=192							
MSTX	Muleshoe	47.95	10	P	P	07 10 19.7	+0.2	
GMRC	Granite Mounta	48.08	356	P	P	07 10 21.9	+1.4	
	baz=175,SNR=9.3							
GMRC				S	S	07 17 20.5	+1.3	
	baz=175							
HEC	Hector,Ludlow	48.18	355	P	P	07 10 22.0	+0.8	
	baz=174							
HEC				S	S	07 17 23.9	+3.4	
	baz=174							
SBC	Santa Barbara	48.18	351	P	P	07 10 22.2	+1.2	
	baz=170							
SBC				S	S	07 17 26.1	+5.8	
	baz=170							
OSI	Osito Audit: C	48.21	353	P	P	07 10 22.1	+0.7	
	baz=171							
OSI				S	S	07 17 25.6	+4.7	
	baz=171							
RRX	Edison Barstow	48.28	354	P	P	07 10 22.5	+0.6	
	baz=173							
RRX				S	S	07 17 23.4	+1.6	
	baz=173							
W13A	Hualapai Mount	48.30	358	P	P	07 10 22.1	-0.2	
W13A				IAmb	IAmb	07 10 27.9		
	comp=Z,44nm,1.5s							
W18A	Petrified Fore	48.34	2	P	P	07 10 22.8	+0.3	
	baz=182,SNR=6.5							
W18A				S	S	07 17 24.8	+1.9	
	baz=182							
W18A	Petrified Fore	48.34	2	P	P	07 10 23.9	+1.4	
W18A				IAmb	IAmb	07 10 43.2		
	comp=Z,22nm,1.0s							
342A	Flagon Creek P	48.39	23	P	P	07 10 23.3	+0.5	
EDW2	Edwards Air Fo	48.39	353	P	P	07 10 19.4	-3.4	
	baz=172,SNR=6.5							
EDW2				S	S	07 17 23.6	+0.2	
	baz=172							
ANMO	Albuquerque	48.40	6	iP	P	07 10 21.5	-1.6	
ANMO				pmax	pmax			
	comp=Z,30nm,2.0s							
ANMO	Albuquerque	48.40	6	P	P	07 10 23.4	+0.3	
	baz=187							
ANMO				S	S	07 17 25.1	+1.2	
	baz=187							
ANMO	Albuquerque	48.40	6	P	P	07 10 23.5	+0.5	
ANMO				IAmb	IAmb	07 10 28.5		
	comp=Z,59nm,2.0s							
ANMO	Albuquerque	48.40	6	IAMs_20	IAMs_20	07 26 51.5		
	comp=Z,6μm,20.0s							
Z35A	Perchaven, San	48.59	16	P	P	07 10 25.2	+1.0	
PKM	Mcpherson Peak	48.63	351	P	P	07 10 22.1	-2.7	
	baz=169							
PKM				S	S	07 17 29.6	+2.5	
	baz=169							
GSC	Goldstone, Bar	48.69	355	P	P	07 10 26.8	+1.7	
GSC				pmax	pmax			
	comp=Z,67nm,1.7s							
GSC	Goldstone, Bar	48.69	355	P	P	07 10 23.5	-1.6	
	baz=173,SNR=11							
GSC				S	S	07 17 30.5	+2.9	
	baz=173							
GSC	Goldstone, Bar	48.69	355	P	P	07 10 26.8	+1.7	
WUAZ	Wupatki	48.69	1	P	P	07 10 22.1	-3.1	
	baz=180,SNR=11							
WUAZ				S	S	07 17 35.6	+7.7	
	baz=180							
WUAZ	Wupatki	48.69	1	P	P	07 10 26.6	+1.3	
ARVC	Arvin	48.73	353	P	P	07 10 23.2	-2.1	
	baz=171							
ARVC				S	S	07 17 33.6	+5.5	
	baz=171							
TUQ	Turquoise Moun	48.75	356	P	P	07 10 23.6	-2.1	
	baz=174							
TUQ				S	S	07 17 33.6	+5.0	
	baz=174							
LRMC	Laurel Mtn Rad	48.95	354	P	P	07 10 26.6	-0.6	
	baz=172,SNR=7.5							
LRMC				S	S	07 17 37.2	+5.8	
	baz=172							
AMTX	Amarillo	49.04	11	P	P	07 10 24.6	-3.2	
	baz=193							
AMTX				S	S	07 17 31.7	-0.9	
	baz=193							
AMTX	Amarillo	49.04	11	P	P	07 10 28.2	+0.3	
AMTX				IAmb	IAmb	07 10 51.8		
	comp=Z,50nm,1.6s							
344A	Westbrook Farm	49.08	24	P	P	07 10 27.6	-0.4	
SMMC	Simmler	49.08	351	P	P	07 10 27.8	-0.2	
	baz=169							
SMMC				S	S	07 17 38.3	+5.3	
	baz=169							
GTBY	Guantanamo Bay	49.15	48	IAMs_20	IAMs_20	07 26 55.6		
	comp=Z,6μm,22.0s							
SHOC	Shoshone, Teco	49.24	355	P	P	07 10 28.5	-0.8	
	baz=174							
SHOC				S	S	07 17 39.4	+4.1	
	baz=174							
VES	Vestal, Richgr	49.47	352	P	P	07 10 30.1	-0.9	
	baz=170							
VES				S	S	07 17 40.6	+2.2	
	baz=170							
MPMC	Manual Prospec	49.50	354	P	P	07 10 30.6	-0.9	
	baz=172,SNR=9.8							
MPMC				S	S	07 17 40.8	+1.5	
	baz=172							
PAGB	Antelope Grade	49.52	351	P	P	07 10 34.3	+2.9	
WMOK	Wichita Mounta	49.53	14	P	P	07 10 30.1	-1.4	
	baz=196							
WMOK				S	S	07 17 37.3	-2.1	
	baz=196							
U15A	North Rim	49.60	360	P	P	07 10 33.7	+1.4	
U15A				IAmb	IAmb	07 10 39.1		
	comp=Z,38nm,1.5s							
SHPR	Sheep Range	49.76	357	P	P	07 10 33.7	+0.3	
VBMS	Vicksburg	49.84	24	P	P	07 10 31.5	-2.3	
	baz=207							
VBMS				S	S	07 17 45.7	+2.1	
	baz=207							
VBMS	Vicksburg	49.84	24	IAMs_20	IAMs_20	07 31 35.0		
	comp=Z,2μm,20.0s							
FURC	Furnace Creek,	49.85	355	P	P	07 10 33.6	-0.3	
	baz=173							
FURC				S	S	07 17 44.7	+1.1	
	baz=173							
Z41A	Richland Creek	49.91	21	P	P	07 10 32.8	-1.6	
	baz=204							
Z41A				S	S	07 17 47.2	+2.4	
	baz=204							
143A	Socs Landing,	49.92	23	P	P	07 10 33.6	-0.9	
CWC	Cottonwood Cre	49.94	354	P	P	07 10 34.7	-0.1	
	baz=172							
CWC				S	S	07 17 48.8	+3.4	
	baz=172							
VOG	Valley Oaks Go	49.98	352	P	P	07 10 34.3	-0.5	
	baz=170							
VOG				S	S	07 17 49.2	+3.6	
	baz=170							
KNB	Kanab	50.19	359	P	P	07 10 37.7	+1.0	
KNB				pmax	pmax			
	comp=Z,50nm,1.5s							
KNB	Kanab	50.19	359	P	P	07 10 37.7	+1.0	
KNB				IAmb	IAmb	07 10 44.3		
	comp=Z,50nm,1.5s							
LCMT	Little Creek M	50.19	359	P	P	07 10 37.6	+1.0	
LCMT				IAmb	IAmb	07 10 43.2		
	comp=Z,61nm,1.8s							
WLAR	White Oak Lake	50.20	21	P	P	07 10 36.6	0.0	
TPNV	Topopah Spring	50.28	356	P	P	07 10 39.7	+2.4	
TPNV				pmax	pmax			
	comp=Z,63nm,2.0s							
TPNV	Topopah Spring	50.28	356	P	P	07 10 36.6	-0.7	
	baz=174,SNR=6.7							
TPNV				S	S	07 17 51.9	+1.9	
	baz=174							
TPNV	Topopah Spring	50.28	356	P	P	07 10 39.6	+2.4	
TPNV				IAmb	IAmb	07 10 43.0		
	comp=Z,63nm,1.9s							
TPNV				IAMs_20	IAMs_20	07 26 48.6		
	comp=Z,7μm,20.0s							
X37A	Clayton	50.31	18	P	P	07 10 37.5	+0.1	
X37A				IAmb	IAmb	07 10 47.8		
	comp=Z,49nm,1.5s							
VILB	Vilhena	50.34	96	eP	P	07 10 37.6	-0.5	
FNO	Franklin	50.37	16	P	P	07 10 38.5	+0.7	
BRAL	Brewton	50.41	28	P	P	07 10 36.4	-1.8	
	baz=212							
BRAL				S	S	07 17 49.2	-2.5	
	baz=212							
GRAC	Grapevine Rang	50.42	354	P	P	07 10 37.5	-0.7	
	baz=173							
GRAC				S	S	07 17 55.7	+3.9	
	baz=173							
MVCO	Mesa Verde	50.48	4	P	P	07 10 37.8	-1.1	
	baz=184,SNR=11							
MVCO				S	S	07 17 50.5	-2.6	
	baz=184							
MVCO	Mesa Verde	50.48	4	P	P	07 10 39.6	+0.7	
MVCO				IAMs_20	IAMs_20	07 27 24.9		
	comp=Z,5μm,21.0s							
OKCFA	Oklahoma City	50.50	15	P	P	07 10 39.5	+0.6	
TRQA	Tornquist	50.55	128	P	P	07 10 41.2	+1.8	
TRQA				pmax	pmax			
	comp=Z,88nm,2.0s							
TRQA	Tornquist	50.55	128	P	P	07 10 41.1	+1.8	
TRQA				IAmb	IAmb	07 10 51.2		
	comp=Z,88nm,2.0s							
TRQA	Tornquist	50.55	128	IAMs_20	IAMs_20	07 27 30.4		
	comp=Z,7μm,20.0s							
TRQA	Tornquist	50.55	128	eP	P	07 10 38.4	-1.0	
TIN	Tinemaha, Big	50.56	354	P	P	07 10 39.0	-0.4	
	baz=172							
TIN				S	S	07 17 58.9	+4.9	
	baz=172							
PKCU	Pink Cliffs	50.61	360	P	P	07 10 41.6	+1.6	
PRN	Pahroc Range	50.66	357	P	P	07 10 41.4	+1.2	
PRN				IAmb	IAmb	07 10 46.1		
	comp=Z,64nm,1.6s							
OK025	Westminster Rd	50.69	15	P	P	07 10 40.5	+0.3	
BCOK	Bluff Creek, N	50.69	15	P	P	07 10 41.0	+0.7	
SAO	San Andreas Ge	50.72	350	P	P	07 10 43.2	+2.7	
SAO				pmax	pmax			
	comp=Z,24nm,1.1s							
SAO	San Andreas Ge	50.72	350	P	P	07 10 43.2	+2.7	
SAO				IAMs_20	IAMs_20	07 26 30.4		
	comp=Z,10μm,21.0s							
CCUT	Cedar City	50.73	359	P	P	07 10 42.3	+1.4	
CCUT				IAmb	IAmb	07 10 46.6		
	comp=Z,40nm,1.6s							
SZCU	Shurtz Canyon	50.77	359	P	P	07 10 42.3	+1.2	
SZCU				IAmb	IAmb	07 10 48.0		
	comp=Z,76nm,1.9s							
DWPF	Disney Wildern	50.81	35	P	P	07 10 37.1	-4.2	
	baz=219							
DWPF				S	S	07 18 00.4	+3.1	
	baz=219							
DWPF	Disney Wildern	50.81	35	IAMs_20	IAMs_20	07 29 43.5		
	comp=Z,7μm,20.0s							
T25A	Trinidad	50.81	8	P	P	07 10 39.0	-2.4	
	baz=189,SNR=7.9							
T25A				S	S	07 18 00.7	+3.1	
	baz=189							
T25A	Trinidad	50.81	8	P	P	07 10 42.3	+0.9	
T25A				IAmb	IAmb	07 10 47.8		
	comp=Z,59nm,1.5s							
T25A				IAMs_20	IAMs_20	07 28 31.9		
	comp=Z,5μm,19.0s							
MIAR	Mount Ida	50.83	20	P	P	07 10 39.9	-1.4	
MIAR				pmax	pmax			
	comp=Z,93nm,2.0s							
MIAR	Mount Ida	50.83	20	P	P	07 10 38.1	-3.2	
	baz=203							
MIAR				S	S	07 17 57.5	+0.1	
	baz=203							
MIAR	Mount Ida	50.83	20	P	P	07 10 39.9	-1.4	
MIAR				IAmb	IAmb	07 10 46.4		
	comp=Z,93nm,2.0s							
OK029	Liberty Lake	50.86	15	P	P	07 10 41.4	-0.2	
CCAR	Cane Creek	50.88	22	P

U32A	Winter Ranch,	51.04	13	IAMs_20	IAMs_20	07 25 53.3		
	comp=Z,2µm,21.0s							
S22A	4UR Ranch, Cre	51.14	5	P	P	07 10 42.7	-1.3	
	baz=186,SNR=9.9							
S22A				S	S	07 18 01.3	-1.0	
	baz=186							
OK031	S. Brethren Rd	51.17	16	P	P	07 10 43.3	-0.6	
MLAC	Mammoth, Mammo	51.20	353	P	P	07 10 43.5	-0.9	
	baz=171							
MLAC				S	S	07 18 03.0	0.0	
	baz=171							
MTPU	Mount Pierson	51.21	360	P	P	07 10 45.3	+0.8	
MTPU				IAmb	IAmb	07 10 55.2		
	comp=Z,57nm,2.0s							
SDCO	Great Sand Dun	51.27	7	P	P	07 10 44.2	-0.8	
	baz=188							
SDCO				S	S	07 18 03.6	-0.5	
	baz=188							
SDCO	Great Sand Dun	51.27	7	P	P	07 10 45.7	+0.7	
SDCO				IAmb	IAmb	07 11 10.4		
	comp=Z,34nm,1.3s							
SDCO				IAMs_20	IAMs_20	07 28 47.4		
	comp=Z,7µm,20.0s							
PV05	Paradox Valley	51.32	3	P	P	07 10 46.5	+1.3	
W39A	Magazine	51.36	19	P	P	07 10 43.6	-1.7	
	baz=202							
W39A				S	S	07 18 04.2	-0.5	
	baz=202							
W39A	Magazine	51.36	19	P	P	07 10 45.2	0.0	
W39A				IAmb	IAmb	07 11 05.4		
	comp=Z,51nm,1.7s							
PV01	Paradox Valley	51.40	3	P	P	07 10 45.8	-0.1	
PV01				IAmb	IAmb	07 10 52.0		
	comp=Z,30nm,1.3s							
CROK	Carrier	51.40	14	P	P	07 10 45.7	+0.1	
PV13	Radium Mtn., P	51.41	3	P	P	07 10 45.8	-0.1	
PV13				IAmb	IAmb	07 10 52.0		
	comp=Z,30nm,1.3s							
QUOK	Quay	51.41	16	P	P	07 10 45.9	+0.3	
TUL1	Leonard	51.42	17	P	P	07 10 44.3	-1.4	
	baz=200							
TUL1				S	S	07 18 04.1	-1.5	
	baz=200							
SDDR	Presa de Saban	51.44	52	IAMs_20	IAMs_20	07 28 45.0		
	comp=Z,3µm,20.0s							
250A	Grady	51.45	28	P	P	07 10 44.8	-1.2	
PV02	Paradox Valley	51.46	3	P	P	07 10 46.8	+0.5	
PV02				IAmb	IAmb	07 10 52.4		
	comp=Z,65nm,1.7s							
R11A	Troy Canyon, C	51.62	356	P	P	07 10 47.9	+0.5	
	baz=175,SNR=13							
R11A				S	S	07 18 06.7	-2.0	
	baz=175							
R11A	Troy Canyon, C	51.62	356	P	P	07 10 48.4	+1.0	
R11A				IAmb	IAmb	07 10 54.3		
	comp=Z,71nm,2.0s							
OK032	Salt Plains WL	51.63	14	P	P	07 10 47.2	-0.1	
OK032				IAmb	IAmb	07 10 53.0		
	comp=Z,52nm,1.4s							
352A	Blakely	51.66	30	P	P	07 10 46.9	-0.7	
352A				IAmb	IAmb	07 10 53.3		
	comp=Z,41nm,1.2s							
MSU	Marysvale	51.68	360	P	P	07 10 48.9	+1.0	
MSU	Marysvale	51.68	360	P	P	07 10 48.9	+1.0	
MACA	Manacapuru-AM	51.68	83	eP	P	07 10 46.6	-1.6	
Z47A	Carrollton	51.69	26	P	P	07 10 47.7	-0.1	
Z47A				IAmb	IAmb	07 10 53.5		
	comp=Z,22nm,0.9s							
PSUT	Pine Spring	51.73	358	P	P	07 10 49.8	+1.5	
PSUT				IAmb	IAmb	07 10 53.8		
	comp=Z,46nm,1.6s							
TCRU	Three Creeks R	51.78	360	P	P	07 10 49.1	+0.4	
TCRU				IAmb	IAmb	07 10 54.6		
	comp=Z,40nm,1.4s							
LHV	Little Huntoon	51.78	353	P	P	07 10 49.6	+1.3	
CMB	Columbia Colle	51.80	352	P	P	07 10 51.7	+3.1	
CMB				pmax	pmax			
	comp=Z,32nm,1.5s							
CMB	Columbia Colle	51.80	352	P	P	07 10 51.7	+3.1	
BLOK	Blackwell	51.84	15	P	P	07 10 49.0	+0.1	
BLOK				IAmb	IAmb	07 12 26.7		
	comp=Z,41nm,0.9s							
W41B	Gary Mavity, V	51.84	21	P	P	07 10 47.6	-1.3	
	baz=204							
W41B				S	S	07 18 11.1	-0.4	
	baz=204							
NV11	Mina Array Sit	51.92	354	P	P	07 10 50.2	+0.6	
NV11				IAmb	IAmb	07 10 54.9		
	comp=Z,42nm,1.4s							
NVAR	Mina Array Bea	51.93	354	P	P	07 10 47.8	-2.0	
	comp=Z,1.9nm,0.7s,baz=164,slow=24,SNR=2.8							
NVAR				PcP	PcP	07 11 59.4	-3.0	
	comp=Z,2.2nm,0.9s,baz=191,slow=7.0,SNR=0.9							
NVAR				LR	LR	07 27 49.7		
	comp=Z,8µm,19.5s,baz=172,slow=30							
NVAR	Mina Array Bea	51.93	354	P	P	07 10 49.5	-0.3	
WHAR	Wooly Hollow	51.94	21	P	P	07 10 49.4	-0.2	
KAN05	Bluff City Nor	52.00	14	P	P	07 10 50.2	+0.1	
KAN05				IAmb	IAmb	07 11 44.1		
	comp=Z,26nm,0.8s							
LRAL	Lakeview Retre	52.01	27	P	P	07 10 48.5	-1.7	
	baz=211							
LRAL				S	S	07 18 14.0	+0.1	
	baz=211							
LRAL	Lakeview Retre	52.01	27	P	P	07 10 49.3	-0.9	
LRAL				IAmb	IAmb	07 11 05.5		
	comp=Z,52nm,1.8s							
WAKR	Walker	52.14	353	P	P	07 10 53.2	+1.9	
WAKR				IAmb	IAmb	07 10 56.7		
	comp=Z,47nm,1.7s							
RYN	Ryan	52.15	354	P	P	07 10 52.7	+1.4	
RYN				IAmb	IAmb	07 10 56.7		
	comp=Z,56nm,1.6s							
T35A	Sooner Cattle	52.16	16	P	P	07 10 50.6	-0.7	
T35A				IAmb	IAmb	07 11 01.1		
	comp=Z,36nm,1.6s							
KS20	Mayfield South	52.20	15	P	P	07 10 51.4	-0.2	
SPR3	Spring Creek 3	52.21	358	P	P	07 10 52.1	+0.1	
SPR3				IAmb	IAmb	07 10 56.7		
	comp=Z,48nm,1.5s							
KS21	Milan North St	52.22	14	IAMs_20	IAMs_20	07 30 51.4		
	comp=Z,3µm,18.0s							
TIGA	Tifton	52.29	31	P	P	07 10 49.6	-2.7	
	baz=215							
TIGA				S	S	07 18 17.1	-0.5	
	baz=215							
OXF	Oxford	52.29	24	P	P	07 10 52.4	+0.1	
OXF				pmax	pmax			
	comp=Z,29nm,1.1s							
OXF	Oxford	52.29	24	P	P	07 10 50.4	-1.8	
	baz=208							
OXF				S	S	07 18 17.6	0.0	
	baz=208							
OXF	Oxford	52.29	24	P	P	07 10 52.4	+0.1	
OXF				IAmb	IAmb	07 11 16.7		
	comp=Z,29nm,1.1s							
SRU	San Rafael Swe	52.29	1	P	P	07 10 52.9	+0.5	
SRU				pmax	pmax			
	comp=Z,23nm,1.1s							
SRU	San Rafael Swe	52.29	1	P	P	07 10 52.9	+0.5	
HHAR	Hobbs	52.31	18	P	P	07 10 51.5	-0.9	
U38A	Gravette	52.32	18	P	P	07 10 51.6	-0.9	
U38A				IAmb	IAmb	07 11 02.3		
	comp=Z,39nm,1.5s							
TMUT	Trail Mountain	52.47	1	P	P	07 10 55.0	+1.1	
Q24A	Divide	52.52	7	P	P	07 10 53.8	-0.5	
	baz=188							
Q24A				S	S	07 18 21.5	+0.3	
	baz=188							
KVN	Kaiserville	52.53	354	P	P	07 10 54.9	+0.7	
KVN				pmax	pmax			
	comp=Z,42nm,1.7s							
KVN	Kaiserville	52.53	354	P	P	07 10 54.9	+0.7	
KVN				IAmb	IAmb	07 10 59.3		
	comp=Z,42nm,1.7s							
FCAR	Ozark Folk Cen	52.53	20	P	P	07 10 53.5	-0.6	
FCAR				IAmb	IAmb	07 11 08.3		
	comp=Z,64nm,1.9s							
SMCO	Snowmass	52.55	5	P	P	07 10 55.1	+0.4	
SMCO				IAmb	IAmb	07 11 04.6		
	comp=Z,61nm,1.8s							
SMCO				IAMs_20	IAMs_20	07 29 15.4		
	comp=Z,6µm,20.0s							
YERR	Yerington	52.59	353	P	P	07 10 55.7	+1.1	
YERR				IAmb	IAmb	07 10 59.9		
	comp=Z,55nm,1.5s							
CPUP	Villa Florida	52.63	113	P	P	07 10 53.6	-1.4	
	comp=Z,3.5nm,1.1s,baz=280,slow=7.7,SNR=8.5							
CPUP				LR	LR	07 28 57.3		
	comp=Z,5µm,22.0s,baz=276,slow=31							
CPUP	Villa Florida	52.63	113	P	P	07 10 55.1	0.0	
CPUP				pmax	pmax			
	comp=Z,66nm,1.9s							
CPUP	Villa Florida	52.63	113	P	P	07 10 55.0	0.0	
CPUP				IAmb	IAmb	07 11 06.8		
	comp=Z,66nm,1.9s							
CPUP	Villa Florida	52.63	113	eP	P	07 10 54.4	-0.7	
P17A	Butcher Ranch,	52.65	1	P	P	07 10 55.2	+0.1	
P17A				IAmb	IAmb	07 11 00.1		
	comp=Z,45nm,1.4s							
U40A	Yellville	52.72	19	P	P	07 10 54.3	-1.2	
U40A				S	S	07 18 22.3	-1.1	
	baz=203,SNR=7.9							
U40A	Yellville	52.72	19	P	P	07 10 54.5	-0.9	
U40A				IAmb	IAmb	07 11 05.5		
	comp=Z,85nm,1.9s							
PNTR	Pine Nut	52.73	353	P	P	07 10 56.6	+0.8	
PNTR				IAmb	IAmb	07 11 01.1		
	comp=Z,28nm,1.1s							
152A	Waverly Hall	52.74	29	P	P	07 10 55.8	+0.1	
152A				IAmb	IAmb	07 11 10.7		
	comp=Z,62nm,1.9s							
AFDM	Forest Hills D	52.78	351	P	P	07 10 57.0	+1.1	
AFDM				IAmb	IAmb	07 11 00.8		
	comp=Z,41nm,1.7s							
KSCO	Kaye Shedlock'	52.90	9	P	P	07 10 54.1	-2.9	
	baz=191							
KSCO				S	S	07 18 25.6	-0.6	
	baz=191							
KSCO	Kaye Shedlock'	52.90	9	P	P	07 10 57.0	+0.1	
KSCO				IAmb	IAmb	07 11 02.8		
	comp=Z,22nm,0.9s							
VCNR	Virginia City	52.95	353	P	P	07 10 58.8	+1.5	
Y49A	Blount Mountai	52.97	27	P	P	07 10 57.1	-0.2	
LCAR	Lake Charles	53.03	21	P	P	07 10 57.7	0.0	
GRTK	Grand Turk	53.05	50	IAMs_20	IAMs_20	07 29 06.9		
	comp=Z,5µm,22.0s							
R32A	Long Quarter,	53.07	13	P	P	07 10 58.4	+0.4	
R32A				IAmb	IAmb	07 11 03.5		
	comp=Z,27nm,1.1s							
NLU	North Lily Min	53.12	360	P	P	07 10 59.6	+1.0	
NLU				IAmb	IAmb	07 11 04.1		
	comp=Z,41nm,1.4s							
HOPS	Hopland Field	53.18	349	P	P	07 11 00.3	+1.5	
HOPS				IAmb	IAmb	07 11 10.9		
	comp=Z,61nm,1.7s							
MPU	Maple Canyon	53.18	0	P	P	07 10 59.9	+0.9	
MPU				IAmb	IAmb	07 11 04.3		
	comp=Z,46nm,1.5s							
X48A	Hartselle	53.20	26	P	P	07 10 58.6	-0.4	
X48A				IAmb	IAmb	07 11 13.5		
	comp=Z,49nm,1.9s							
CBKS	Cedar Bluff	53.23	12	P	P	07 10 56.9	-2.3	
	baz=194							
CBKS	Cedar Bluff	53.23	12	IAMs_20	IAMs_20	07 30 31.3		
	comp=Z,3µm,18.0s							
PLAL	Pickwick Lake	53.23	25	P	P	07 10 56.6	-2.6	
ISCO	Idaho Springs	53.30	6	P	P	07 11 00.5	+0.5	
ISCO				pmax	pmax			
	comp=Z,41nm,1.6s							
ISCO	Idaho Springs	53.30	6	P	P	07 10 57.4	-2.6	
	baz=187							
ISCO				S	S	07 18 33.3	+1.5	
	baz=187							
ISCO	Idaho Springs	53.30	6	P	P	07 11 00.5	+0.5	
ISCO				IAmb	IAmb	07 11 06.1		
	comp=Z,41nm,1.6s							
ISCO				IAMs_20	IAMs_20	07 29 54.9		
	comp=Z,6µm,19.0s							
PAHR	Pah Rah Range	53.32	353	P	P	07 11 01.9	+2.0	
DUG	Dugway, Tooele	53.36	359	P	P	07 11 00.9	+0.6	
DUG				pmax	pmax			
	comp=Z,40nm,1.5s							
DUG	Dugway, Tooele	53.36	359	P	P	07 10 58.7	-1.5	
	baz=179,SNR=7.4							
DUG				S	S	07 18 34.8	+2.4	
	baz=179							
DUG	Dugway, Tooele	53.36	359	P	P	07 11 00.9	+0.6	
DUG				IAmb	IAmb	07 11 05.7		
	comp=Z,40nm,1.5s							
DUG				IAMs_20	IAMs_20	07 29 47.6		
	comp=Z,5µm,19.0s							
O20A	White River Ci	53.41	4	P	P	07 10 58.9	-1.8	
	baz=184,SNR=7.9							
O20A				S	S	07 18 34.9	+1.8	
	baz=184							
O20A	White River Ci	53.41	4	P	P	07 11 01.3	+0.6	
BOAV	Boa Vista	53.41	77	eP	P	07 10 59.3	-1.7	
ORV	Oroville	53.46	351	P	P	07 11 02.0	+1.2	
ORV				pmax	pmax			
	comp=Z,24nm,1.4s							
ORV	Oroville	53.46	351	P	P	07 11 02.0	+1.2	
154A	Montrose	53.48	30	P	P	07 11 00.1	-1.0	
154A				IAmb	IAmb	07 11 02.9		
	comp=Z,33nm,0.9s							
ITQB	Itaqui	53.48	117	P	P	07 11 01.4	0.0	
ITQB	Itaqui	53.48	117	eP	P	07 11 00.6	-0.7	
BEKR	Beckworth	53.60	352	P	P	07 11 03.0	+0.9	
MGMO	Mountain Grove	53.64	20	P	P	07 11 02.3	+0.1	
MGMO				IAmb	IAmb	07 11 08.0		
	comp=Z,69nm,1.6s							
JLU	Jordanelle	53.77	1	P	P	07 11 04.5	+1.1	
JLU				IAmb	IAmb	07 11 08.6		
	comp=Z,42nm,1.4s							
RDMU	Red Mountain	53.78	2	P	P	07 11 03.9	+0.5	
S39A	Bolivar	53.80	18	P	P	07 11 02.5	-0.9	
CTU	Camp Tracy	53.85	0	P	P	07 11 05.4	+1.5	
CTU				IAmb	IAmb	07 11 23.8		
	comp=Z,24nm,1.1s							
FPAL	Fort Paine	53.90	27	P	P	07 11 03.3	-0.9	
T42A	Van Buren	53.92	21	P	P	07 11 03.7	-0.5	
T42A				IAmb	IAmb	07 11 08.8		
	comp=Z,64nm,1.9s							
PBMO	Poplar Bluff	53.92	21	P	P	07 11 03.9	-0.4	
PBMO				IAmb	IAmb	07 11 27.2		
	comp=Z,44nm,1.8s							
KCPM	Cahto Peak	53.94	349	P	P	07 11 07.2	+2.7	
KCPM				IAmb	IAmb	07 11 09.6		
	comp=Z,41nm,1.5s							
GOGA	Godfrey	53.95	30	P	P	07 11 03.4	-1.1	
GOGA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GOGA	Godfrey	53.95	30	P	P	07 11 02.3	-2.2	
	baz=215							
GOGA				S	S	07 18 40.8	+0.5	
	baz=215							
GOGA	Godfrey	53.95	30	P	P	07 11 03.4	-1.1	
GOGA	Godfrey	53.95	30	IAMs_20	IAMs_20	07 32 48.2		
	comp=Z,4µm,18.0s							
ELK	Elko	53.99	357	P	P	07 11 04.2	-0.8	
ELK				pmax	pmax			
	comp=Z,47nm,1.6s							
ELK	Elko	53.99	357	P	P	07 11 04.2	-0.8	
ELK				IAmb	IAmb	07 11 10.3		
	comp=Z,47nm,1.6s							
ELK				IAMs_20	IAMs_20	07 29 21.6		
	comp=Z,7µm,19.0s							
Y52A	Lilburn	54.04	29	P	P	07 11 04.2	-0.9	
AQDB	Aquidauana	54.08	106	P	P	07 11 05.0	-0.8	
AQDB	Aquidauana	54.08	106	eP	P	07 11 04.8	-1.0	
POHA	Pohakuloa	54.08	307	IAMs_20	IAMs_20	07 27 53.6		
	comp=Z,6µm,22.0s							
BGU	Big Grassy Mou	54.10	359	P	P	07 11 07.1	+1.4	
KSU1	Kansas State U	54.20	15	P	P	07 11 03.9	-2.4	
	baz=198							
KSU1				S	S	07 18 42.1	-1.4	
	baz=198							
KSU1	Kansas State U	54.20	15	IAMs_20	IAMs_20	07 31 21.8		
	comp=Z,3µm,18.0s							
O03E	Paynes Creek	54.23	351	P	P	07 11 03.7	-2.8	
	baz=168							
O02D	Mt. Diablo Mer	54.28	350	P	P	07 11 05.3	-1.6	
	baz=167,SNR=6.4							
O02D				S	S	07 18 47.8	+3.2	
	baz=167							
SWET	Sewanee	54.33	26	P	P	07 11 06.0	-1.3	
WVT	Waverly	54.33	24	P	P	07 11 06.7	-0.6	
WVT				pmax	pmax			
	comp=Z,30nm,1.6s							
WVT	Waverly	54.33	24	P	P	07 11 03.4	-3.8	
	baz=209							
WVT				S	S	07 18 45.2	-0.1	
	baz=209							
WVT	Waverly	54.33	24	P	P	07 11 06.7	-0.6	
WVT				IAmb	IAmb	07 11 15.1		
	comp=Z,30nm,1.6s							
WVT	Waverly	54.33	24	IAMs_20	IAMs_20	07 31 43.9		
	comp=Z,3µm,21.0s							
N23A	Red Feather La	54.35	6	P	P	07 11 05.4	-2.3	
	baz=187							
N23A				S	S	07 18 47.6	+1.7	
	baz=187							
SALV	Santo Antonio	54.38	100	eP	P	07 11 06.6	-1.4	
V48A	Smith Brothers	54.40	25	P	P	07 11 06.6	-1.2	
SPUT	South Promonto	54.47	360	P	P	07 11 08.5	+0.1	
SPUT				IAmb	IAmb	07 11 13.4		
	comp=Z,40nm,1.4s							
W50A	Signal Mountai	54.59	27	P	P	07 11 08.9	-0.3	
WDC	Whiskeytown Da	54.63	350	P	P	07 11 11.7	+2.4	
WDC				pmax	pmax			
	comp=Z,26nm,1.3s							
WDC	Whiskeytown Da	54.63	350	P	P	07 11 11.7	+2.4	
WDC				IAmb	IAmb	07 11 13.4		
	comp=Z,26nm,1.3s							
WDC				IAMs_20	IAMs_20	07 28 22.7		
	comp=Z,7µm,20.0s							
R40A	Maddies Statio	54.67	19	P	P	07 11 09.9	+0.2	
R40A				IAmb	IAmb	07 11 33.3		
	comp=Z,40nm,1.8s							
HWUT	Hardware Ranch	54.77	0	P	P	07 11 10.9	+0.3	
HWUT				IAmb	IAmb	07 11 15.0		
	comp=Z,27nm,1.4s							
HWUT				IAMs_20	IAMs_20	07 29 55.6		
	comp=Z,6µm,20.0s							
CCM	Cathedral Cave	54.79	20	P	P	07 11 09.8	-0.8	
CCM				pmax	pmax			
	comp=Z,43nm,1.7s							
CCM	Cathedral Cave	54.79	20	P	P	07 11 07.1	-3.4	
	baz=204							
CCM				S	S	07 18 50.8	-0.7	
	baz=204							
CCM	Cathedral Cave	54.79	20	P	P	07 11 09.8	-0.8	
CCM				IAmb	IAmb	07 11 15.0		
	comp=Z,43nm,1.6s							
PHWY	Pilot Hill	54.80	6	P	P	07 11 10.7	-0.2	
PHWY				IAmb	IAmb	07 11 16.6		
	comp=Z,27nm,1.4s							
PHWY				IAMs_20	IAMs_20	07 30 44.4		
	comp=Z,8µm,20.0s							
OGNE	Ogallala	54.89	9	P	P	07 11 08.4	-2.9	
	baz=191							
OGNE				S	S	07 18 54.7	+1.9	
	baz=191							
CLDB	Colider	54.90	94	eP	P	07 11 10.6	-1.2	
CLTN	Cedars of Leba	54.91	25	P	P	07 11 11.3	-0.1	
PP1B	Ponte de Pedra	55.02	102	eP	P	07 11 12.1	-0.6	
SJG	San Juan	55.02	56	IAMs_20	IAMs_20	07 32 58.5		
	comp=Z,2µm,20.0s							
RWWY	Rawlins	55.03	4	P	P	07 11 13.3	+0.7	
N02D	Trinity Center	55.04	350	P	P	07 11 10.0	-2.4	
	baz=167,SNR=10							
N02D				S	S	07 18 54.0	-0.8	
	baz=167							
W52A	Murphy	55.12	28	P	P	07 11 13.1	+0.1	
JCC	Jacoby Creek,	55.12	349	IAMs_20	IAMs_20	07 29 03.1		
	comp=Z,7µm,19.0s							
KHMM	Horse Mountain	55.12	349	P	P	07 11 13.8	+0.7	
KHMM				IAmb	IAmb	07 11 29.7		
	comp=Z,41nm,1.3s							
CPCT	Cooper Cave	55.15	27	P	P	07 11 10.0	-3.2	
CPCT				IAmb	IAmb	07 11 18.2		
	comp=Z,54nm,2.0s							
SIUC	Southern Illin	55.19	22	P	P	07 11 13.3	-0.2	
HODGE	Hodges	55.20	30	P	P	07 11 13.3	-0.3	
NHSC	New Hope	55.36	33	P	P	07 11 10.9	-3.8	
	baz=218							
NHSC	New Hope	55.36	33	IAMs_20	IAMs_20	07 32 29.3		
	comp=Z,9µm,20.0s							
T47A	Sharon Grove	55.36	24	P	P	07 11 13.6	-1.1	
M02C	Callahan	55.47	350	P	P	07 11 13.1	-2.4	
	baz=167							
M02C				S	S	07 19 02.5	+1.8	
	baz=167							
V51A	Loudon	55.52	27	P	P	07 11 14.8	-1.0	
P38A	Dawn	55.52	17	P	P	07 11 16.8	+1.0	
P38A				IAmb	IAmb	07 11 21.0		
	comp=Z,34nm,1.4s							
MOD	Modoc Plateau	55.60	352	P	P	07 11 18.5	+2.0	
MOD				IAmb	IAmb	07 11 21.5		
	comp=Z,35nm,1.4s							
MOD				IAMs_20	IAMs_20	07 29 36.9		
	comp=Z,8µm,20.0s							
TKL	Tuckaleechee C	55.65	28	P	P	07 11 16.3	-0.6	
TKL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TKL	Tuckaleechee C	55.65	28	P	P	07 11 16.2	-0.6	
M04C	Macdoel	55.69	351	P	P	07 11 14.7	-2.5	
	baz=168,SNR=10							
M04C				S	S	07 19 06.0	+2.3	
	baz=168							
JSC	Jenkinsville	55.73	31	P	P	07 11 17.1	-0.3	
JSC				pmax	pmax			
	comp=Z,11nm,1.0s							
JSC	Jenkinsville	55.73	31	P	P	07 11 17.1	-0.3	
YBH	Yreka Blue Hor	55.78	350	P	P	07 11 18.8	+1.0	
YBH				pmax	pmax			
	comp=Z,27nm,1.6s							
YBH	Yreka Blue Hor	55.78	350	P	P	07 11 18.8	+1.0	
KRMB	Red Mountain	55.78	349	P	P	07 11 20.5	+2.7	
KRMB				IAmb	IAmb	07 11 34.3		
	comp=Z,51nm,1.6s							
PAULI	Pauline	55.89	30	P	P	07 11 17.9	-0.7	
WVOR	Wild Horse Val	55.93	354	P	P	07 11 20.0	+1.2	
WVOR				pmax	pmax			
	comp=Z,46nm,1.4s							
WVOR	Wild Horse Val	55.93	354	P	P	07 11 20.0	+1.2	
WVOR				IAmb	IAmb	07 11 24.2		
	comp=Z,46nm,1.4s							
AHID	Auburn Hatcher	55.93	1	P	P	07 11 19.6	+0.6	
AHID				IAMs_20	IAMs_20	07 30 54.3		
	comp=Z,7µm,19.0s							
BW06	Boulder Array	55.97	2	P	P	07 11 16.6	-2.7	
	baz=182							
BW06				S	S	07 19 06.2	-1.4	
	baz=182							
BW06	Boulder Array	55.97	2	P	P	07 11 19.5	+0.2	
BW06				IAMs_20	IAMs_20	07 30 59.1		
	comp=Z,6µm,20.0s							
PD31	Pinedale Array	55.97	2	P	P	07 11 18.0	-1.3	
PDAR	Pinedale Array	55.97	2	P	P	07 11 15.5	-3.8	
	comp=Z,1.7nm,0.6s,baz=161,slow=6.5,SNR=13							
PDAR				LR	LR	07 31 19.2		
	comp=Z,5µm,19.6s,baz=190,slow=32							
PDAR	Pinedale Array	55.97	2	P	P	07 11 18.9	-0.4	
GRGR	Grenville	56.00	65	IAMs_20	IAMs_20	07 32 31.5		
	comp=Z,3µm,21.0s							
K22A	Casper	56.04	5	P	P	07 11 16.9	-2.8	
	baz=186							
K22A				S	S	07 19 07.2	-1.1	
	baz=186							
K22A	Casper	56.04	5	P	P	07 11 19.4	-0.3	
BGNE	Belgrade	56.05	13	P	P	07 11 16.2	-3.4	
	baz=196							
V53A	Saluda	56.11	29	P	P	07 11 19.4	-0.7	
L04D

TZTN IAmb IAmb 07 11 47.0
comp=Z,64nm,1.8s
K04D Chiloquin, OR 56.50 351 P **P** **07 11 21.6 -1.3**
baz=168
REDW Red Top Meadow 56.53 1 P **P** **07 11 23.1 -0.1**
REDW IAmb IAmb 07 11 28.5
comp=Z,73nm,1.9s
REDW IAMs_20 IAMs_20 07 31 03.1
comp=Z,7μm,20.0s
SNOW Snow King Moun 56.63 1 P **P** **07 11 24.1 +0.1**
SNOW IAMs_20 IAMs_20 07 31 07.8
comp=Z,7μm,21.0s
TPAW Teton Pass 56.66 1 P **P** **07 11 26.0 +1.8**
TPAW IAmb IAmb 07 11 42.2
comp=Z,25nm,1.3s
TPAW IAMs_20 IAMs_20 07 30 56.5
comp=Z,7μm,22.0s
HUMO Hull Mountain 56.67 350 P **P** **07 11 25.1 +1.1**
HUMO IAmb IAmb 07 11 35.5
comp=Z,59nm,1.9s
MFID Camas Ranch 56.69 357 P **P** **07 11 24.9 +0.7**
MFID IAmb IAmb 07 11 29.0
comp=Z,37nm,1.2s
MFID IAMs_20 IAMs_20 07 31 06.9
comp=Z,5μm,19.0s
WCI Wyandotte Cave 56.76 24 P **P** **07 11 24.5 -0.2**
WCI pmax pmax
comp=Z,18nm,1.3s
WCI Wyandotte Cave 56.76 24 P **P** **07 11 22.2 -2.5**
baz=210
WCI S **S** **07 19 15.3 -2.3**
baz=210
WCI Wyandotte Cave 56.76 24 P **P** **07 11 24.5 -0.2**
LOHW Long Hollow 56.79 1 P **P** **07 11 25.7 +0.6**
LOHW IAMs_20 IAMs_20 07 31 12.8
comp=Z,7μm,21.0s
J08A Circle Bar Ran 56.83 354 P **P** **07 11 26.0 +0.7**
TRCB Terra Rica 56.86 109 P **P** **07 11 25.1 -0.8**
TRCB Terra Rica 56.86 109 *e*P **P** **07 11 25.1 -0.8**
K02D Willamette Mer 56.88 350 P **P** **07 11 24.0 -1.6**
baz=166,SNR=7.3
K02D S **S** **07 19 19.8 +0.6**
baz=166
KIP Kipapa 56.94 307 IAMs_20 IAMs_20 07 28 41.1
comp=Z,6μm,22.0s
V55A Taylorsville 57.01 30 P **P** **07 11 26.4 -0.2**
V55A IAmb IAmb 07 11 41.3
comp=Z,40nm,1.6s
J05D Fort Rock, OR 57.08 352 P **P** **07 11 24.8 -2.3**
baz=169,SNR=9.3
J05D S **S** **07 19 25.2 +3.1**
baz=169
J04D Umpqua Nationa 57.16 351 P **P** **07 11 25.7 -2.0**
baz=168
J04D S **S** **07 19 25.8 +2.5**
baz=168
KEBM Edson Butte 57.17 349 P **P** **07 11 30.9 +3.4**
FLWY Flagg Ranch 57.26 1 P **P** **07 11 29.1 +0.7**
FLWY IAMs_20 IAMs_20 07 31 38.2
comp=Z,5μm,21.0s
ITAB Concordia 57.30 114 *e*P **P** **07 11 28.8 -0.1**
SEUS St. Eustatius 57.31 59 IAMs_20 IAMs_20 07 35 23.2
comp=Z,3μm,19.0s
J01E Myrtle Point 57.38 350 P **P** **07 11 27.0 -1.9**
baz=166
J01E S **S** **07 19 27.4 +1.7**
baz=166
YPP Pitchstone Pla 57.44 1 P **P** **07 11 31.2 +1.4**
EFI East Falkland 57.49 143 *i* P **P** **07 11 27.9 -1.8**
EFI pmax pmax
comp=Z,29nm,1.1s
EFI East Falkland 57.49 143 IAMs_20 IAMs_20 07 30 49.9
comp=Z,4μm,21.0s
SMRT St. Maarten 57.50 58 IAMs_20 IAMs_20 07 35 56.4
comp=Z,3μm,19.0s
PINE Pine Mountain 57.54 352 P **P** **07 11 31.8 +1.4**
PINE IAmb IAmb 07 11 35.4
comp=Z,53nm,1.7s
H17A Grant Village 57.57 1 S **S** **07 19 28.9 +0.2**
baz=181
R50A Paris 57.61 26 P **P** **07 11 30.0 -0.7**
R50A IAmb IAmb 07 11 44.2
comp=Z,48nm,1.8s
I07A Izee 57.65 354 P **P** **07 11 31.8 +0.8**
I07A IAmb IAmb 07 11 36.3
comp=Z,57nm,1.6s
HDIL Hopedale 57.70 20 P **P** **07 11 28.3 -3.0**
baz=206
HDIL Hopedale 57.70 20 IAMs_20 IAMs_20 07 34 08.5
comp=Z,3μm,18.0s
SCIA State Center 57.73 17 P **P** **07 11 29.4 -2.0**
baz=201
SCIA S **S** **07 19 27.9 -2.4**
baz=201
RSSD Black Hills 57.74 7 P **P** **07 11 31.9 +0.1**
RSSD pmax pmax
comp=Z,76nm,2.0s
RSSD Black Hills 57.74 7 P **P** **07 11 29.3 -2.5**
baz=189
RSSD S **S** **07 19 29.2 -1.7**
baz=189
RSSD Black Hills 57.74 7 P **P** **07 11 31.9 +0.1**
RSSD IAmb IAmb 07 11 37.0
comp=Z,76nm,2.0s
RSSD Black Hills 57.74 7 IAMs_20 IAMs_20 07 32 48.5
comp=Z,10μm,19.0s
LKWY Lake 57.74 1 IAMs_20 IAMs_20 07 31 25.1
comp=Z,7μm,21.0s
I04A Tendick Farm, 57.75 351 P **P** **07 11 30.4 -1.2**
baz=168
I04A S **S** **07 19 30.6 0.0**
baz=168
I03D Drain, OR 57.80 350 P **P** **07 11 29.7 -2.2**
baz=166
I03D S **S** **07 19 31.6 +0.5**
baz=166
YMR Madison River 57.84 1 P **P** **07 11 33.0 +0.6**
YMR IAmb IAmb 07 11 37.3
comp=Z,32nm,1.5s
YHB Horse Butte 57.92 1 P **P** **07 11 34.5 +1.5**
YHB IAmb IAmb 07 11 59.1
comp=Z,28nm,1.5s
AFI Afiamalu 57.96 262 LR LR 07 30 59.4
comp=Z,4μm,18.2s,baz=98,slow=30
AFI Afiamalu 57.96 262 IAMs_20 IAMs_20 07 30 38.0
comp=Z,5μm,18.0s
YHH Holmes Hill 57.96 1 P **P** **07 11 34.2 +0.8**
MCMT McKenzie Canyo 57.99 359 P **P** **07 11 32.6 -1.0**
QLMT Earthquake Lak 57.99 0 P **P** **07 11 34.7 +1.1**
V58A Windy Hill, Pi 58.00 31 P **P** **07 11 32.9 -0.7**
ARAG Araguaiana, MT 58.12 100 *e*P **P** **07 11 33.7 -1.1**
I05D Terrebonne, OR 58.13 352 P **P** **07 11 33.2 -1.1**
baz=169,SNR=8.7
I05D S **S** **07 19 37.2 +1.6**
baz=169
PCMB Pacaembu 58.18 107 *e*P **P** **07 11 35.7 +0.5**
YNE Yellowstone No 58.20 2 P **P** **07 11 35.5 +0.5**
CNNC Cliffs of the 58.21 33 P **P** **07 11 32.0 -3.0**
baz=220
CNNC Cliffs of the 58.21 33 IAMs_20 IAMs_20 07 34 03.6
comp=Z,8μm,20.0s
BMO Blue Mountains 58.21 356 P **P** **07 11 34.4 -0.6**
BMO pmax pmax
comp=Z,42nm,1.4s
BMO Blue Mountains 58.21 356 P **P** **07 11 34.4 -0.6**
BMO IAmb IAmb 07 11 39.7
comp=Z,42nm,1.4s
BMO IAMs_20 IAMs_20 07 31 34.6
comp=Z,6μm,21.0s
MALB Monte Alegre 58.21 84 *e*P **P** **07 11 35.4 -0.1**
BUCK Buck Mountain 58.23 351 P **P** **07 11 37.1 +2.1**
I02D Swisshome 58.28 350 P **P** **07 11 33.9 -1.4**
baz=166
I02D S **S** **07 19 37.7 +0.3**
baz=166
BBGH Gun Hill 58.28 65 IAMs_20 IAMs_20 07 33 56.8
comp=Z,6μm,22.0s
SFIN Lafayette 58.32 22 P **P** **07 11 32.1 -3.6**
baz=208
SFIN S **S** **07 19 36.4 -1.7**
baz=208
RLMT Red Lodge 58.33 2 P **P** **07 11 34.0 -2.0**
baz=183
RLMT S **S** **07 19 36.2 -2.4**
baz=183
RLMT Red Lodge 58.33 2 P **P** **07 11 37.2 +1.2**

RLMT IAMs_20 IAMs_20 07 32 35.6
comp=Z,4μm,19.0s
PLID Pearl Lake 58.36 357 P **P** **07 11 38.1 +2.0**
PLID IAMs_20 IAMs_20 07 35 06.3
comp=Z,5μm,18.0s
ANWB Willy Bob 58.39 59 IAMs_20 IAMs_20 07 34 24.9
comp=Z,2μm,21.0s
BLA Blacksburg 58.48 29 P **P** **07 11 36.7 -0.2**
BLA pmax pmax
comp=Z,15nm,1.0s
BLA Blacksburg 58.48 29 P **P** **07 11 33.3 -3.6**
baz=216
BLA S **S** **07 19 37.8 -2.6**
baz=216
BLA Blacksburg 58.48 29 P **P** **07 11 36.7 -0.2**
P49A Miami Univ. Ec 58.51 25 P **P** **07 11 33.5 -3.5**
baz=211
H04D Lebanon 58.51 351 P **P** **07 11 36.5 -0.4**
baz=167
DLMT Dillon 58.52 359 P **P** **07 11 38.6 +1.4**
H04A Detroit Lake 58.58 351 P **P** **07 11 39.3 +1.9**
H04A IAmb IAmb 07 11 41.6
comp=Z,37nm,1.6s
ECSD EROS Data Cent 58.60 13 P **P** **07 11 35.3 -2.2**
baz=197,SNR=5.4
ECSD S **S** **07 19 39.6 -2.2**
baz=197
ECSD EROS Data Cent 58.60 13 P **P** **07 11 37.4 -0.2**
ECSD IAmb IAmb 07 11 42.6
comp=Z,33nm,1.6s
COR Corvallis 58.66 351 IAMs_20 IAMs_20 07 31 04.3
comp=Z,5μm,22.0s
R53A Hurricane 58.68 27 P **P** **07 11 38.2 0.0**
BOZ Bozeman (W) 58.76 0 P **P** **07 11 39.2 +0.4**
BOZ pmax pmax
comp=Z,27nm,1.7s
BOZ Bozeman (W) 58.76 0 P **P** **07 11 36.7 -2.1**
baz=180
BOZ Bozeman (W) 58.76 0 P **P** **07 11 39.2 +0.4**
BOZ IAmb IAmb 07 11 44.0
comp=Z,27nm,1.7s
G08A Pilot Rock 58.79 354 P **P** **07 11 40.0 +1.0**
SUSD Miller 58.81 11 P **P** **07 11 37.3 -1.7**
baz=194
SUSD S **S** **07 19 43.1 -1.3**
baz=194
T57A Hurt 58.88 30 P **P** **07 11 39.9 +0.3**
T57A IAmb IAmb 07 11 44.7
comp=Z,21nm,1.3s
LRM Limekiln Ridge 58.98 360 P **P** **07 11 42.6 +2.1**
GCMT Greycliff 58.99 2 P **P** **07 11 41.7 +1.3**
G05D Wamic, OR 59.01 352 P **P** **07 11 37.7 -2.7**
baz=169
ITRB Iturama 59.13 105 *e*P **P** **07 11 42.6 +0.7**
G03D McMinnville, O 59.26 351 P **P** **07 11 40.2 -1.9**
baz=167
G03D S **S** **07 19 51.8 +1.6**
baz=167
HQIL Hanson Quary C 59.30 21 IAMs_20 IAMs_20 07 34 51.9
comp=Z,3μm,19.0s
F10A Beach Ranch, E 59.32 356 P **P** **07 11 44.3 +1.7**
F10A IAmb IAmb 07 11 48.1
comp=Z,49nm,1.8s
F07A Phinny Hill Vi 59.49 354 P **P** **07 11 45.8 +2.2**
JFWS Jewell Farm 59.52 18 P **P** **07 11 40.9 -3.1**
baz=204
JFWS S **S** **07 19 52.3 -1.3**
baz=204
L44A Lake County Fo 59.62 21 P **P** **07 11 43.2 -1.4**
baz=207
L44A S **S** **07 19 52.8 -2.0**
baz=207
L44A Lake County Fo 59.62 21 IAMs_20 IAMs_20 07 35 00.2
comp=Z,3μm,19.0s
I37A Lemond, Waseca 59.64 15 P **P** **07 11 44.4 -0.4**
I37A IAmb IAmb 07 11 50.1
comp=Z,28nm,0.9s
F05D White Salmon 59.66 352 P **P** **07 11 43.1 -1.8**
baz=169
F05D S **S** **07 19 57.8 +2.4**
baz=169
FRTB Fartura 59.67 109 *e*P **P** **07 11 45.5 0.0**
P52A Corning 59.67 26 P **P** **07 11 42.9 -2.2**
baz=214
P52A S **S** **07 19 53.6 -2.1**
baz=214
P52A Corning 59.67 26 IAMs_20 IAMs_20 07 36 26.1
comp=Z,3μm,18.0s
ACSO Alum Creek Sta 59.81 25 P **P** **07 11 43.1 -2.9**
baz=213
ACSO Alum Creek Sta 59.81 25 IAMs_20 IAMs_20 07 36 46.8
comp=Z,3μm,18.0s
HRY Holter Researc 59.87 0 P **P** **07 11 47.2 +0.8**
P53A Whipple 59.88 27 P **P** **07 11 46.4 -0.1**
E09A Wood Farm, Sta 59.93 355 P **P** **07 11 47.8 +1.1**
HAWA Hanford 59.94 354 P **P** **07 11 48.9 +2.1**
HAWA IAmb IAmb 07 11 51.8
comp=Z,22nm,1.2s
E08A Dider Farm, El 59.99 354 P **P** **07 11 49.2 +2.1**
MSO Missoula 60.02 358 P **P** **07 11 45.1 -2.3**
baz=177
MSO S **S** **07 20 00.7 +0.5**
baz=177
MSO Missoula 60.02 358 P **P** **07 11 48.3 +0.9**
MSO IAmb IAmb 07 11 56.1
comp=Z,25nm,1.6s
MSO IAMs_20 IAMs_20 07 33 08.8
comp=Z,6μm,20.0s
F04D Rainier, OR 60.07 351 P **P** **07 11 46.9 -0.7**
baz=167
LAO LASA Array 60.07 5 P **P** **07 11 46.4 -1.4**
baz=186
LAO S **S** **07 19 59.4 -1.3**
baz=186
LAO LASA Array 60.07 5 P **P** **07 11 48.2 +0.5**
LAO IAmb IAmb 07 12 12.0
comp=Z,34nm,1.3s
LAO IAMs_20 IAMs_20 07 34 05.2
comp=Z,6μm,20.0s
E07A Sunnyside 60.14 354 P **P** **07 11 50.1 +1.9**
E07A IAmb IAmb 07 11 53.3
comp=Z,37nm,1.3s
E04D Cinebar 60.47 352 P **P** **07 11 48.9 -1.4**
baz=168,SNR=6.0
E04D S **S** **07 20 08.1 +2.4**
baz=168
D08A Wollman Farm, 60.54 355 P **P** **07 11 53.3 +2.4**
LON Longmire 60.56 352 P **P** **07 11 53.1 +2.0**
LON pmax pmax
comp=Z,53nm,1.9s
LON Longmire 60.56 352 P **P** **07 11 53.1 +2.0**
LON IAmb IAmb 07 11 55.4
comp=Z,53nm,1.9s
O53A New Philadelph 60.58 27 P **P** **07 11 47.6 -3.7**
baz=214
O53A S **S** **07 20 05.8 -1.6**
baz=214
O53A New Philadelph 60.58 27 P **P** **07 11 49.8 -1.5**
O53A IAmb IAmb 07 11 58.5
comp=Z,28nm,1.4s
E28A Huff 60.59 9 P **P** **07 11 50.8 -0.5**
MCWV Mont Chateau 60.71 28 P **P** **07 11 48.3 -3.9**
baz=216
MCWV S **S** **07 20 07.3 -1.8**
baz=216
MCWV Mont Chateau 60.71 28 IAMs_20 IAMs_20 07 37 16.4
comp=Z,4μm,18.0s
MCPB Macapa, AP 60.73 83 *e*P **P** **07 11 51.4 -1.5**
CBN Corbin Frederi 60.75 31 P **P** **07 11 49.3 -3.2**
baz=219
CBN S **S** **07 20 10.7 +1.2**
baz=219
CBN Corbin Frederi 60.75 31 IAMs_20 IAMs_20 07 35 37.2
comp=Z,6μm,20.0s
BB19B Bebedouro 60.75 107 *e*P **P** **07 11 53.7 +0.7**
PMSA Palmer Station 60.79 159 P **P** **07 11 54.7 +2.3**
PMSA Palmer Station 60.79 159 IAMs_20 IAMs_20 07 30 49.6
comp=Z,6μm,22.0s
PMSA Palmer Station 60.79 159 *e*P **P** **07 11 53.0 +0.6**
LTY Liberty 60.92 353 P **P** **07 11 55.1 +1.5**
LTY IAmb IAmb 07 12 42.0
comp=Z,54nm,1.9s
SPMN Marine on St. 60.92 15 P **P** **07 11 51.6 -1.9**
baz=201
SPMN S **S** **07 20 11.4 -0.2**
baz=201

JTMT Jette 60.94 358 P **P** **07 11 52.2 -1.5**
D05A Enumclaw 61.01 352 P **P** **07 11 56.6 +2.5**
D04E Lakebay 61.11 352 P **P** **07 11 54.4 -0.3**
baz=168
N53A Lisbon 61.20 27 P **P** **07 11 53.5 -2.0**
EGMT Eagleton 61.22 2 P **P** **07 11 54.1 -1.4**
baz=182,SNR=5.1
EGMT S **S** **07 20 14.7 -0.7**
baz=182
EGMT Eagleton 61.22 2 P **P** **07 11 56.8 +1.2**
EGMT IAmb IAmb 07 12 00.0
comp=Z,21nm,1.2s
EGMT IAMs_20 IAMs_20 07 34 20.0
comp=Z,4μm,19.0s
C09A Chrisman Ranch 61.22 355 P **P** **07 11 55.4 -0.1**
C09A IAmb IAmb 07 12 00.1
comp=Z,22nm,1.0s
AAM Ann Arbor 61.28 24 P **P** **07 11 54.0 -2.0**
baz=211
AAM S **S** **07 20 14.1 -2.2**
baz=211
IPMB Ipameri, GO 61.31 103 *e*P **P** **07 11 58.0 +1.1**
F36A Milaca 61.33 15 P **P** **07 11 55.9 -0.4**
F36A IAmb IAmb 07 12 01.7
comp=Z,30nm,1.1s
NLWA Neilton Lookou 61.48 351 P **P** **07 11 58.5 +1.2**
NLWA IAMs_20 IAMs_20 07 32 46.9
comp=Z,6μm,20.0s
D03D Eldon 61.50 351 P **P** **07 11 55.9 -1.5**
baz=167
D03D S **S** **07 20 19.1 +0.2**
baz=167
PRPB Parauapebas 61.56 90 *e*P **P** **07 11 56.5 -2.0**
RCLB Rio Claro- Sao 61.59 108 *e*P **P** **07 11 59.5 +0.8**
NEW Newport 61.60 356 P **P** **07 11 59.5 +1.4**
NEW pmax pmax
comp=Z,75nm,2.0s
NEW Newport 61.60 356 P **P** **07 11 56.4 -1.7**
baz=174,SNR=5.4
NEW S **S** **07 20 20.8 +0.7**
baz=174
NEW Newport 61.60 356 P **P** **07 11 59.5 +1.4**
NEW Newport 61.60 356 IAMs_20 IAMs_20 07 34 20.0
comp=Z,4μm,19.0s
C06D Leavenworth 61.60 353 P **P** **07 11 57.6 -0.5**
baz=170
SPB Sao Paulo 61.61 110 *e*P **P** **07 11 58.7 0.0**
N54A Moraine State 61.70 27 P **P** **07 11 56.3 -2.6**
baz=215
N54A Moraine State 61.70 27 P **P** **07 11 58.7 -0.2**
N54A IAmb IAmb 07 12 10.4
comp=Z,19nm,1.1s
BDFB Brasilia 61.76 101 P **P** **07 11 57.5 -2.5**
comp=Z,1.6nm,0.5s,baz=219,slow=15,SNR=2.1
BDFB LR LR 07 36 21.0
comp=Z,957nm,21.6s,baz=272,slow=34
M53A WI Miller and 61.79 26 P **P** **07 11 57.1 -2.4**
baz=215
M53A S **S** **07 20 21.3 -1.4**
baz=215
O56A Blue Knob Stat 61.79 29 P **P** **07 11 56.7 -2.9**
baz=217
O56A S **S** **07 20 21.2 -1.7**
baz=217
O56A Blue Knob Stat 61.79 29 P **P** **07 12 00.5 +1.0**
O56A IAmb IAmb 07 12 04.9
comp=Z,52nm,1.9s
B08A Colville Reser 61.87 354 P **P** **07 12 01.4 +1.5**
B08A IAmb IAmb 07 12 03.9
comp=Z,25nm,1.6s
PEXB Peixe 61.97 97 *e*P **P** **07 12 01.1 -0.2**
MDND Maddock 62.00 9 P **P** **07 11 59.2 -1.5**
baz=193
MDND S **S** **07 20 25.0 -0.3**
baz=193
DGMT Dagmar 62.02 6 IAMs_20 IAMs_20 07 31 41.9
comp=Z,1μm,19.0s
VAO Valinhos 62.08 109 *e*P **P** **07 12 03.4 +1.4**
B05A Bryant 62.08 352 P **P** **07 12 00.3 -0.9**
baz=168,SNR=5.2
B05A S **S** **07 20 26.9 +0.8**
baz=168
WALA Waterton Lakes 62.24 359 P **P** **07 12 03.6 +1.1**
WALA IAmb IAmb 07 12 06.8
comp=Z,20nm,1.3s
B06A Marblemount 62.26 353 P **P** **07 12 04.6 +2.2**
M54A Oil Creek Stat 62.29 27 P **P** **07 11 59.6 -3.3**
baz=216
M54A S **S** **07 20 27.3 -1.7**
baz=216
M54A Oil Creek Stat 62.29 27 P **P** **07 12 02.9 0.0**
SSPA Standing Stone 62.40 29 P **P** **07 11 59.8 -3.8**
baz=218
SSPA S **S** **07 20 30.0 -0.5**
baz=218
SSPA Standing Stone 62.40 29 P **P** **07 12 02.6 -1.0**
SSPA IAmb IAmb 07 12 13.3
comp=Z,29nm,1.4s
SSPA Standing Stone 62.40 29 IAMs_20 IAMs_20 07 36 60.0
comp=Z,4μm,19.0s
A04D Lummi Island 62.61 352 P **P** **07 12 03.3 -1.5**
baz=168
A04D S **S** **07 20 33.8 +1.1**
baz=168
PAGS Pennsylvania G 62.63 30 P **P** **07 12 05.2 +0.1**
ERPA Erie 62.64 26 P **P** **07 12 02.3 -2.9**
baz=215
ERPA S **S** **07 20 33.0 -0.4**
baz=215
MVL Millersville 62.64 30 P **P** **07 12 05.0 -0.1**
RAO Raoul Island 62.67 244 P **P** **07 12 04.3 -1.5**
comp=Z,327nm,0.8s,baz=106,slow=20,SNR=2.1
RAO LR LR 07 31 53.2
comp=Z,3μm,21.4s,baz=88,slow=29
A05A Maple Falls 62.80 353 P **P** **07 12 08.9 +2.8**
P60A Greenville 62.85 31 P **P** **07 12 04.2 -2.4**
baz=220
P60A S **S** **07 20 36.9 +0.8**
baz=220
P60A Greenville 62.85 31 IAMs_20 IAMs_20 07 36 59.7
comp=Z,5μm,20.0s
GLMI Grayling 63.09 22 P **P** **07 12 05.9 -2.2**
baz=210
GLMI Grayling 63.09 22 IAMs_20 IAMs_20 07 37 17.0
comp=Z,4μm,19.0s
N58A Sunbury 63.11 29 P **P** **07 12 07.7 -0.6**
N58A IAmb IAmb 07 12 11.3
comp=Z,14nm,0.9s
AGMN Agassiz Nation 63.11 12 P **P** **07 12 05.8 -2.3**
baz=197
AGMN S **S** **07 20 36.9 -2.2**
baz=197
AGMN Agassiz Nation 63.11 12 IAMs_20 IAMs_20 07 36 57.9
comp=Z,2μm,18.0s
SMTB Santa Maria do 63.20 93 *e*P **P** **07 12 09.2 -0.3**
M57A Sunshine Farm, 63.30 29 P **P** **07 12 09.6 -0.1**
N59A State Game Lan 63.63 30 P **P** **07 12 08.1 -3.7**
baz=220
N59A S **S** **07 20 45.4 -0.5**
baz=220
N59A State Game Lan 63.63 30 P **P** **07 12 11.8 0.0**
N59A IAMs_20 IAMs_20 07 37 58.4
comp=Z,5μm,19.0s
B35A Bob, Littlefor 63.63 13 P **P** **07 12 12.2 +0.5**
B35A IAmb IAmb 07 12 19.6
comp=Z,44nm,1.9s
L56A Greenwood 63.73 28 P **P** **07 12 11.7 -0.8**
L56A IAmb IAmb 07 12 21.4
comp=Z,23nm,1.0s
EYMN Ely 63.78 15 P **P** **07 12 10.6 -2.0**
baz=202
EYMN S **S** **07 20 45.2 -2.4**
baz=202
EYMN Ely 63.78 15 IAMs_20 IAMs_20 07 36 07.2
comp=Z,3μm,21.0s
MMNY Mt. Morris Dam 64.05 27 P **P** **07 12 16.0 +1.5**
MMNY IAmb IAmb 07 12 21.5
comp=Z,29nm,1.3s
BBSR BB Station 64.19 44 IAMs_20 IAMs_20 07 36 00.2
comp=Z,2μm,21.0s
JOHN Johnston Islan 64.26 296 IAMs_20 IAMs_20 07 33 34.8
comp=Z,4μm,20.0s
K56A Middlesex 64.28 28 P **P** **07 12 12.8 -3.3**
baz=218
K56A S **S** **07 20 52.5 -1.5**
baz=218
ODNJ Ogdensburg 64.33 31 P **P** **07 12 16.6 +0.3**

ODNJ IAmb IAmb 07 12 27.4
comp=Z,17nm,1.1s
L58A Harry Jones Me 64.46 29 P P 07 12 15.2 -2.0
L58A S S 07 20 58.9 +2.8
baz=219
BINY Binghamton 64.51 29 P P 07 12 14.5 -3.1
BINY S S 07 20 57.3 +0.5
baz=219
BINY Binghamton 64.51 29 P P 07 12 17.2 -0.4
BINY IAmb IAmb 07 12 27.4
comp=Z,36nm,1.4s
PAL Palisades 64.62 31 P P 07 12 14.7 -3.5
PAL S S 07 20 59.8 +1.8
baz=221
PAL Palisades 64.62 31 IAMs_20 IAMs_20 07 38 02.4
comp=Z,8µm,21.0s
K57A Scipio Center 64.68 28 P P 07 12 18.7 +0.1
K57A IAmb IAmb 07 12 29.8
comp=Z,21nm,1.1s
L59A Walton 64.95 30 P P 07 12 20.9 +0.4
L59A IAmb IAmb 07 12 36.4
comp=Z,40nm,1.6s
ULM Lac du Bonnet 64.97 11 P P 07 12 17.1 -3.3
comp=Z,2.4nm,0.6s,baz=163,slow=9.4,SNR=2.6
ULM LR LR 07 37 53.3
comp=Z,3µm,18.4s,baz=196,slow=34
ULM Lac du Bonnet 64.97 11 *e*P P 07 12 22.5 +2.1
ULM pmax pmax
comp=Z,4.0nm,0.9s
WSPT Westport, CT 65.03 31 IAMs_20 IAMs_20 07 38 33.4
comp=Z,6µm,20.0s
SDBA SAO DESIDERIO 65.20 98 *e*P P 07 12 21.6 -1.1
YLE Yale 65.34 31 IAMs_20 IAMs_20 07 40 16.5
comp=Z,5µm,19.0s
JANB Januaria 65.38 101 *e*P P 07 12 23.0 -0.8
DIAM Diamantina, MG 65.57 104 *e*P P 07 12 26.1 +1.0
J58A Remsen 65.73 29 P P 07 12 22.2 -3.3
baz=219,SNR=7.0
J58A S S 07 21 12.6 +0.8
baz=219
J58A Remsen 65.73 29 P P 07 12 25.9 +0.4
J58A IAmb IAmb 07 12 31.5
comp=Z,27nm,1.2s
J58A IAMs_20 IAMs_20 07 38 43.3
comp=Z,4µm,21.0s
I57A Carthage 66.01 28 P P 07 12 24.3 -2.9
baz=219
I57A S S 07 21 13.7 -1.4
baz=219
TRY Troy 66.03 30 P P 07 12 27.9 +0.5
TRY IAmb IAmb 07 12 40.4
comp=Z,26nm,1.5s
TRY IAMs_20 IAMs_20 07 38 51.9
comp=Z,6µm,21.0s
UCCT U. Connecticut 66.05 32 P P 07 12 27.6 0.0
UCCT IAmb IAmb 07 12 38.2
comp=Z,11nm,0.8s
I58A Old Forge 66.13 29 P P 07 12 25.3 -2.8
baz=220
I58A S S 07 21 16.5 -0.2
baz=220
K61A Williamstown 66.18 30 P P 07 12 25.3 -3.0
baz=221
K61A S S 07 21 18.6 +1.5
baz=221
L61B Northampton 66.30 31 P P 07 12 26.1 -3.0
baz=222
L61B S S 07 21 19.4 +0.7
baz=222
M64A Tiverton 66.40 32 P P 07 12 27.0 -2.7
baz=224
M64A S S 07 21 21.3 +1.5
baz=224
M64A Tiverton 66.40 32 IAMs_20 IAMs_20 07 39 25.5
comp=Z,8µm,20.0s
L63A North Scituate 66.42 32 P P 07 12 25.9 -3.9
baz=223
L63A S S 07 21 22.1 +2.1
baz=223
L63A North Scituate 66.42 32 IAMs_20 IAMs_20 07 38 34.0
comp=Z,7µm,21.0s
BRYW Bryant College 66.49 32 IAMs_20 IAMs_20 07 38 36.0
comp=Z,8µm,22.0s
ACCN Adirondack Com 66.52 30 P P 07 12 29.9 -0.6
ACCN IAmb IAmb 07 12 31.7
comp=Z,19nm,0.9s
J60A Lant Hill Farm 66.53 30 P P 07 12 27.3 -3.3
baz=221,SNR=6.0
J60A S S 07 21 22.3 +0.8
baz=221
H57A Richville 66.54 28 P P 07 12 27.9 -2.6
baz=219
H57A S S 07 21 22.4 +1.0
baz=219
ALGO Algonquin Park 66.56 25 P P 07 12 28.4 -2.3
baz=216
ALGO S S 07 21 23.4 +1.6
baz=216
K62A Royalston 66.68 31 P P 07 12 28.5 -3.1
baz=222
K62A Royalston 66.68 31 IAMs_20 IAMs_20 07 39 33.2
comp=Z,4µm,20.0s
NCB Newcomb 66.70 29 P P 07 12 31.8 +0.2
M65A Busby, Falmout 66.70 33 P P 07 12 28.1 -3.5
baz=224
M65A Busby, Falmout 66.70 33 IAMs_20 IAMs_20 07 39 43.4
comp=Z,7µm,20.0s
URZ Urewera 66.86 234 LR LR 07 36 07.2
comp=Z,6µm,19.2s,baz=119,slow=31
L64A Middleborough 66.87 32 P P 07 12 30.4 -2.3
baz=224
L64A Middleborough 66.87 32 IAMs_20 IAMs_20 07 39 38.9
comp=Z,8µm,20.0s
HRV Adam Dziewonsk 66.91 31 P P 07 12 30.1 -2.9
baz=223
HRV Adam Dziewonsk 66.91 31 IAMs_20 IAMs_20 07 39 10.1
comp=Z,4µm,20.0s
WES Weston 66.94 32 IAMs_20 IAMs_20 07 38 59.9
comp=Z,6µm,21.0s
BCX Boston College 66.98 32 IAMs_20 IAMs_20 07 39 23.0
comp=Z,6µm,21.0s
LONY Lake Ozonia 67.03 28 P P 07 12 31.8 -1.9
baz=220
LONY S S 07 21 28.2 +0.8
baz=220
LONY Lake Ozonia 67.03 28 P P 07 12 33.5 -0.3
LONY IAMs_20 IAMs_20 07 39 32.5
comp=Z,4µm,20.0s
J61A Chester 67.03 30 P P 07 12 31.5 -2.2
baz=222
I60A Shoreham 67.04 29 P P 07 12 31.4 -2.4
baz=221,SNR=6.6
I60A S S 07 21 28.9 +1.3
baz=221
K63A Dunstable 67.06 31 P P 07 12 32.0 -1.9
baz=223
K63A S S 07 21 26.2 -1.5
baz=223
K63A Dunstable 67.06 31 P P 07 12 34.0 +0.1
K63A IAMs_20 IAMs_20 07 39 15.0
comp=Z,3µm,19.0s
H58A Gabriels 67.06 28 P P 07 12 31.0 -3.0
baz=220
H58A S S 07 21 29.7 +1.8
baz=220
MSVF Nonsavu 67.19 256 LR LR 07 34 21.9
comp=Z,5µm,21.4s,baz=99,slow=29
MSVF Nonsavu 67.19 256 IAMs_20 IAMs_20 07 34 22.6
comp=Z,5µm,22.0s
G57A Newington 67.22 28 P P 07 12 33.6 -1.3
baz=219
G57A S S 07 21 29.4 -0.2
baz=219
J62A Henniker 67.31 31 P P 07 12 33.6 -1.9
baz=222
HNH Hanover 67.43 30 P P 07 12 36.8 +0.6
HNH IAMs_20 IAMs_20 07 39 29.9
comp=Z,6µm,21.0s
H59A Cadyville 67.46 29 P P 07 12 35.5 -1.0
baz=220
H59A S S 07 21 33.6 +0.9
baz=220
FFD Franklin Falls 67.56 31 IAMs_20 IAMs_20 07 40 20.5
comp=Z,4µm,19.0s
BFZ Birch Farm 67.58 231 IAMs_20 IAMs_20 07 35 06.1
comp=Z,4µm,20.0s
I61A Oroboro, Fairl 67.63 30 P P 07 12 36.5 -1.1
baz=222
I61A S S 07 21 34.6 -0.1
baz=222
VT1 Waterbury 67.67 29 P P 07 12 36.9 -0.9
VT1 IAmb IAmb 07 12 49.8
comp=Z,17nm,1.1s
G58A Ormstown 67.67 28 P P 07 12 36.8 -1.0
baz=220
G58A S S 07 21 36.9 +1.8
baz=220
ROSB Rosrio 67.80 88 *e*P P 07 12 38.5 -0.8
SJMB Sao Joao De Ma 67.86 105 *e*P P 07 12 39.6 0.0
H60A Morristown 67.86 29 P P 07 12 37.2 -1.8
baz=221
H60A S S 07 21 38.7 +1.3
baz=221
LBNH Lisbon 68.00 30 P P 07 12 37.1 -2.8
baz=222
LBNH Lisbon 68.00 30 IAMs_20 IAMs_20 07 40 29.0
comp=Z,5µm,19.0s
I62A Tamworth 68.02 31 P P 07 12 37.7 -2.3
baz=223
I62A S S 07 21 41.6 +2.3
baz=223
I62A Tamworth 68.02 31 IAMs_20 IAMs_20 07 40 25.5
comp=Z,4µm,19.0s
BSFB Barra de Sao F 68.16 105 *e*P P 07 12 43.1 +1.6
H61A Lyndonville 68.21 30 P P 07 12 40.1 -1.1
baz=222
H61A S S 07 21 44.2 +2.6
baz=222
FFC Flin Flon 68.43 6 IAMs_20 IAMs_20 07 39 27.9
comp=Z,3µm,19.0s
G60A Masonville 68.44 29 S S 07 21 48.3 +4.0
baz=222
I63A Otisfield 68.52 31 P P 07 12 40.5 -2.6
baz=223
I63A S S 07 21 50.1 +4.8
baz=223
I63A Otisfield 68.52 31 P P 07 12 42.7 -0.4
I63A IAMs_20 IAMs_20 07 39 27.8
comp=Z,3µm,22.0s
H62A Milan 68.62 30 P P 07 12 41.5 -2.2
baz=223,SNR=5.5
H62A S S 07 21 48.8 +2.3
baz=223
H62A Milan 68.62 30 P P 07 12 43.7 0.0
H62A IAMs_20 IAMs_20 07 41 04.4
comp=Z,4µm,19.0s
HIZ Hauiti 68.63 234 IAMs_20 IAMs_20 07 35 08.3
comp=Z,4µm,22.0s
F59A Saint Guilaume 68.79 28 P P 07 12 44.6 -0.2
baz=221
I64A Boothbay 68.90 31 P P 07 12 44.0 -1.5
baz=224
I64A S S 07 21 51.8 +2.0
baz=224
G61A St-Isidore-de- 68.96 29 P P 07 12 44.2 -1.7
baz=222
G61A S S 07 21 51.6 +1.1
baz=222
E58A La Victoria 68.96 28 P P 07 12 44.5 -1.3
baz=220
E58A S S 07 21 51.0 +0.6
baz=220
H63A New Sharon 69.23 31 P P 07 12 45.0 -2.5
baz=224
H63A S S 07 21 53.9 +0.2
baz=224
F60A Warwick 69.26 29 P P 07 12 45.9 -1.8
baz=222
F60A S S 07 21 54.8 +0.8
baz=222
WVL Waterville 69.35 31 P P 07 12 48.6 +0.4
WVL IAmb IAmb 07 13 04.2
comp=Z,13nm,0.9s
WVL IAMs_20 IAMs_20 07 39 51.7
comp=Z,5µm,22.0s
G62A West of Eustis 69.39 30 P P 07 12 47.1 -1.4
baz=223
G62A S S 07 21 58.9 +3.3
baz=223
G62A West of Eustis 69.39 30 P P 07 12 49.2 +0.6
G62A IAMs_20 IAMs_20 07 41 10.9
comp=Z,4µm,19.0s
H64A Troy 69.62 31 P P 07 12 48.1 -1.8
baz=224
H64A S S 07 21 58.3 0.0
baz=224
D58A Chemin du LacG 69.68 27 P P 07 12 48.6 -1.7
baz=220
D58A S S 07 21 58.8 -0.2
baz=220
F61A St Evariste 69.72 29 P P 07 12 47.6 -2.9
baz=222
F61A S S 07 22 00.3 +0.9
baz=222
G63A Kingsbury 69.76 31 P P 07 12 48.6 -2.2
baz=224
E60A Ste Agathe de 69.80 29 P P 07 12 48.9 -2.1
baz=222
MATQ Matagami 69.81 23 S S 07 22 00.5 +0.1
baz=215
CMC01 Camacan, BA 69.91 102 *e*P P 07 12 53.9 +1.5
NBPN Ponto Novo - B 70.01 97 *e*P P 07 12 54.8 +1.7
PKME Peaks-Kenny Pk 70.03 31 P P 07 12 50.8 -1.7
baz=224
PKME S S 07 22 04.8 +1.7
baz=224
PKME Peaks-Kenny Pk 70.03 31 P P 07 12 52.7 +0.3
PKME IAmb IAmb 07 12 57.8
comp=Z,51nm,1.8s
PKME IAMs_20 IAMs_20 07 40 35.8
comp=Z,5µm,22.0s
NBIT Itapeh - BA 70.05 101 *e*P P 07 12 53.9 +0.6
NBPS Pedro II - PI 70.08 90 *e*P P 07 12 54.5 +0.9
D59A Saint-Raymond 70.09 28 P P 07 12 51.0 -1.8
baz=222
D59A S S 07 22 04.0 +0.2
baz=222
F62A Pittston Farm, 70.15 30 P P 07 12 52.1 -1.1
baz=224
F62A Pittston Farm, 70.15 30 IAMs_20 IAMs_20 07 42 12.1
comp=Z,4µm,18.0s
H65A Eastbrook 70.16 32 P P 07 12 52.3 -0.9
baz=225
H65A S S 07 22 05.5 +1.0
baz=225
G64A Maxfield 70.29 31 P P 07 12 53.4 -0.7
baz=225
E61A Lac Etchemin 70.29 29 P P 07 12 53.2 -0.8
baz=223
QRZ Quartz Range 70.40 231 IAMs_20 IAMs_20 07 36 35.9
comp=Z,4µm,21.0s
F63A Nahmakanta, Br 70.44 30 P P 07 12 53.9 -1.1
baz=224
F63A Nahmakanta, Br 70.44 30 P P 07 12 54.4 -0.6
F63A IAmb IAmb 07 13 04.1
comp=Z,29nm,1.2s
F63A IAMs_20 IAMs_20 07 40 25.5
comp=Z,4µm,22.0s
D60A Saint Jean D'O 70.44 29 P P 07 12 53.4 -1.5
baz=222
D60A S S 07 22 05.4 -2.4
baz=222
EMMW East Machias 70.57 32 IAMs_20 IAMs_20 07 41 37.9
comp=Z,7µm,20.0s
H66A Whiting 70.70 32 P P 07 12 55.9 -0.7
baz=226
H66A S S 07 22 11.5 +0.6
baz=226
HOPE Hope Point 70.74 143 IAMs_20 IAMs_20 07 37 41.2
comp=Z,5µm,21.0s
G65A Princeton 70.86 32 P P 07 12 56.8 -0.6
baz=226
G65A Princeton 70.86 32 IAMs_20 IAMs_20 07 41 14.5
comp=Z,7µm,21.0s
E62A Clayton Lake 70.89 30 P P 07 12 56.6 -1.1
baz=224
E62A Clayton Lake 70.89 30 P P 07 12 56.7 -1.0
E62A IAmb IAmb 07 13 07.7
comp=Z,40nm,1.4s
E62A IAMs_20 IAMs_20 07 42 07.6
comp=Z,4µm,19.0s
CRAG Craig 70.92 347 S S 07 22 17.3 +4.3
baz=158
F64A Sherman 70.92 31 P P 07 12 56.0 -1.9
baz=225
F64A Sherman 70.92 31 P P 07 12 58.2 +0.3
F64A IAmb IAmb 07 13 13.8
comp=Z,17nm,1.1s
F64A IAMs_20 IAMs_20 07 41 13.4
comp=Z,5µm,21.0s
D61A St Aubert, Com 71.00 29 P P 07 12 56.8 -1.5
baz=223
GGN Saint George 71.17 32 P P 07 12 58.6 -0.8
CHGQ Chibougamau 71.21 25 P P 07 12 57.7 -1.9
baz=218
E63A Oxbow 71.28 30 P P 07 12 59.0 -1.0
baz=225
E63A S S 07 22 17.1 -0.5
baz=225
E63A Oxbow 71.28 30 P P 07 13 00.3 +0.3
E63A IAmb IAmb 07 13 09.3
comp=Z,20nm,1.2s
E63A IAMs_20 IAMs_20 07 40 50.9
comp=Z,4µm,21.0s
D62A Allapoint, All 71.45 29 P P 07 12 58.9 -2.1
baz=224
D62A Allapoint, All 71.45 29 P P 07 13 01.4 +0.3
D62A IAmb IAmb 07 13 09.0
comp=Z,32nm,1.6s
D62A IAMs_20 IAMs_20 07 41 47.3
comp=Z,3µm,20.0s
E64A Bridgewater 71.57 31 P P 07 13 00.2 -1.6
baz=225
E64A S S 07 22 18.2 -2.8
baz=225
NBPB Pedra_Branca-C 71.64 91 *e*P P 07 13 04.5 +1.5
WRAK Wrangell Islan 71.65 348 S S 07 22 23.0 +1.6
baz=159
WRAK Wrangell Islan 71.65 348 IAMs_20 IAMs_20 07 36 49.3
comp=Z,4µm,20.0s
PQI Presque Isle 71.66 30 IAMs_20 IAMs_20 07 41 58.8
comp=Z,4µm,21.0s
NBMO Morrinhos-CE 71.68 89 *e*P P 07 13 04.5 +1.3
D63A Stockholm 71.87 30 P P 07 13 01.7 -1.9
baz=225
D63A S S 07 22 24.7 +0.3
baz=225
HAL Halifax 72.57 34 P P 07 13 08.8 +1.0
HAL pmax pmax
comp=Z,33nm,1.4s
HAL Halifax 72.57 34 P P 07 13 08.8 +1.0
HAL IAmb IAmb 07 13 09.1
comp=Z,33nm,1.4s
SIT Sitka 72.86 347 S S 07 22 37.6 +2.3
baz=156
DLBC Dease Lake 73.13 350 P P 07 13 13.1 +2.1
DLBC IAmb IAmb 07 13 15.7
comp=Z,23nm,1.2s
NBPA Parau_RN 74.00 92 *e*P P 07 13 18.4 +1.4
NBAN Anadia - AL 74.02 96 *e*P P 07 13 18.7 +1.6
SKAG Skagway 75.07 348 P P 07 13 22.2 0.0
baz=156
SKAG S S 07 23 02.4 +2.3
baz=156
SBA Scott Base 75.11 193 P P 07 13 26.1 +3.9
SBA pmax pmax
comp=Z,67nm,2.0s
SBA Scott Base 75.11 193 P P 07 13 26.1 +3.9
SBA IAmb IAmb 07 13 56.6
comp=Z,67nm,1.9s
SBA Scott Base 75.11 193 IAMs_20 IAMs_20 07 40 44.5
comp=Z,2µm,18.0s
RCBR Riachuelo 75.16 93 IAMs_20 IAMs_20 07 43 31.6
comp=Z,3µm,21.0s
YKA Yellowknife Ar 75.72 359 P P 07 13 24.2 -1.6
comp=Z,2.1nm,0.9s,baz=175,slow=5.5,SNR=2.8
YKA LR LR 07 43 17.4
comp=Z,7µm,19.1s,baz=0.0,slow=33
YKA Yellowknife Ar 75.72 359 *e*P P 07 13 28.0 +2.2
YKA pmax pmax
comp=Z,5.0nm,0.9s
WHY Whitehorse 76.09 349 P P 07 13 27.9 -0.2
baz=157
WHY Whitehorse 76.09 349 P P 07 13 29.8 +1.6
WHY IAmb IAmb 07 13 32.5
comp=Z,43nm,1.8s
VNDA Vanda 76.14 193 P P 07 13 30.2 +2.0
comp=Z,1.2nm,0.8s,baz=34,slow=0.9,SNR=3.0
VNDA LR LR 07 40 59.6
comp=Z,2µm,18.0s,baz=96,slow=31
BCPM Bancas Point 76.46 346 IAMs_20 IAMs_20 07 39 13.0
comp=Z,3µm,20.0s
QSPA South Pole Qui 76.66 180 P P 07 13 31.8 +0.3
comp=Z,7.3nm,0.8s,baz=135,slow=2.0,SNR=5.6
QSPA South Pole Qui 76.66 180 P P 07 13 33.2 +1.7
QSPA IAmb IAmb 07 13 43.2
comp=Z,27nm,1.0s
PINM Pinnacle 76.73 346 P P 07 13 31.7 -0.1
baz=151
HYT Haines Junctio 76.77 347 P P 07 13 32.4 +0.3
HYT IAmb IAmb 07 13 36.8
comp=Z,29nm,1.2s
LIFNC LIFOU 76.85 252 IAMs_20 IAMs_20 07 39 07.5
comp=Z,3µm,22.0s
MESA MESA 77.22 345 S S 07 23 24.6 +0.4
baz=150
MESA MESA 77.22 345 IAMs_20 IAMs_20 07 39 56.2
comp=Z,3µm,19.0s
TABL Table Mountain 77.25 346 IAMs_20 IAMs_20 07 40 47.9
comp=Z,3µm,18.0s
YAH Yahtse 77.33 345 IAMs_20 IAMs_20 07 41 32.0
comp=Z,4µm,18.0s
DZM Mont Dzumac 77.37 250 *e*S S 07 23 21.0 -6.3
comp=Z,2µm,30.8s
DZM Mont Dzumac 77.37 250 *e*LQ LQ 07 34 11.3
comp=Z,2µm,25.2s
DZM *e*LR LR 07 37 28.4
comp=Z,6µm,27.8s
LOGN Logan Glacier 77.55 346 P P 07 13 39.9 +3.5
LOGN IAmb IAmb 07 13 45.0
comp=Z,39nm,1.6s
LOGN IAMs_20 IAMs_20 07 39 37.9
comp=Z,3µm,20.0s
SUCK Suckling Hills 77.59 344 IAMs_20 IAMs_20 07 39 33.3
comp=Z,3µm,19.0s
WAX Waxell Ridge 77.68 345 P P 07 13 40.0 +3.0
WAX IAMs_20 IAMs_20 07 39 39.4
comp=Z,3µm,19.0s
ISLE Juniper Island 77.68 345 P P 07 13 39.7 +2.5
ISLE IAmb IAmb 07 13 54.0
comp=Z,50nm,1.5s
CTGM Chitina Glacie 77.75 346 P P 07 13 39.4 +1.8
CTGM IAmb IAmb 07 13 41.9
comp=Z,26nm,1.2s
CTGM IAMs_20 IAMs_20 07 39 33.3
comp=Z,4µm,22.0s
CTG Chitna Glacier 77.75 346 P P 07 13 37.4 -0.2
baz=150
BARN Barnard Glacie 77.91 346 P P 07 13 41.5 +3.0
BARN IAmb IAmb 07 13 42.7
comp=Z,36nm,1.5s
BARN IAMs_20 IAMs_20 07 39 23.5
comp=Z,3µm,19.0s
HMT Hamilton 77.94 344 P P 07 13 40.7 +2.2
HMT IAmb IAmb 07 13 42.9
comp=Z,31nm,1.2s
HMT IAMs_20 IAMs_20 07 39 43.6
comp=Z,4µm,19.0s
SCHQ Schefferville 77.96 25 P P 07 13 34.9 -3.8
comp=Z,4.6nm,0.8s,baz=229,slow=20,SNR=2.0
SCHQ LR LR 07 46 34.7
comp=Z,5µm,20.4s,baz=225,slow=35
SCHQ Schefferville 77.96 25 P P 07 13 39.0 +0.3
CRQE Cirque 78.00 345 P P 07 13 39.6 +0.6
baz=149
CRQM Cirque 78.01 345 IAMs_20 IAMs_20 07 43 29.9
comp=Z,3µm,18.0s
VRDI Verde Repeater 78.50 345 P P 07 13 44.0 +2.2
EYAK Cordova Ski Ar 78.52 344 P P 07 13 43.0 +1.4
baz=146
EYAK Cordova Ski Ar 78.52 344 P P 07 13 44.4 +2.7
EYAK IAmb IAmb 07 13 48.6
comp=Z,34nm,1.3s
MCARA McCarthy VSAT 78.53 345 P P 07 13 41.9 +0.2
baz=149
BMRM Bremner River 78.57 344 P P 07 13 42.2 +0.2
baz=147
BMRM Bremner River 78.57 344 P P 07 13 44.6 +2.6
BMRM IAmb IAmb 07 13 46.1
comp=Z,38nm,1.3s

BMRM IAMs_20 IAMs_20 07 40 05.1
comp=Z,3μm,20.0s
GLB Gilahina Butte 78.77 345 P **P** **07 13 45.3 +2.2**
N25K Chitina, Valde 79.11 345 S **S** **07 23 45.0 +0.7**
baz=147
N25K Chitina, Valde 79.11 345 IAMs_20 IAMs_20 07 40 35.3
comp=Z,3μm,22.0s
GLI Glacier Island 79.17 343 S **S** **07 23 42.7 -2.0**
baz=145
SEW Seward 79.22 342 S **S** **07 23 44.4 -0.9**
baz=143
KLU Klutina 79.36 344 S **S** **07 23 45.1 -1.9**
baz=146
KLU Klutina 79.36 344 P **P** **07 13 48.5 +2.2**
KLU IAMs_20 IAMs_20 07 40 40.0
comp=Z,4μm,20.0s
BCAR Beaver Creek A 79.69 347 P **P** **07 13 46.7 -1.4**
L27K Beaver Creek, 79.70 347 S **S** **07 23 46.2 -4.2**
baz=150
M24K Tolsona, Glenn 79.94 344 IAMs_20 IAMs_20 07 41 00.3
comp=Z,3μm,20.0s
KNK Knik Glacier 79.99 343 S **S** **07 23 51.2 -2.3**
baz=144
SCM Sheep Creek Mo 80.02 344 IAMs_20 IAMs_20 07 40 59.5
comp=Z,4μm,21.0s
DAWY Dawson 80.07 348 P **P** **07 13 51.4 +1.2**
RC01 Rabbit Creek A 80.10 342 S **S** **07 23 51.1 -3.5**
baz=142
PMR Palmer 80.32 343 P **P** **07 13 51.4 0.0**
PMR pmax pmax
comp=Z,21nm,1.0s
PMR Palmer 80.32 343 P **P** **07 13 51.5 0.0**
baz=143,SNR=5.2
PMR S **S** **07 23 55.0 -1.9**
baz=143
PMR Palmer 80.32 343 P **P** **07 13 51.4 0.0**
PMR IAmb IAmb 07 13 55.0
comp=Z,21nm,1.0s
GHO Glory Hole Cre 80.41 343 P **P** **07 13 52.5 +0.5**
GHO IAmb IAmb 07 14 49.3
comp=Z,59nm,1.6s
PAX Paxson 80.48 345 P **P** **07 13 53.5 +1.1**
PAX pmax pmax
comp=Z,68nm,2.0s
PAX Paxson 80.48 345 P **P** **07 13 52.0 -0.5**
baz=147,SNR=6.3
PAX Paxson 80.48 345 P **P** **07 13 53.5 +1.1**
PAX IAmb IAmb 07 13 56.8
comp=Z,68nm,2.0s
K27K Chicken 80.60 347 P **P** **07 13 53.1 +0.2**
baz=150
K27K S **S** **07 23 59.0 -0.8**
baz=150
K27K Chicken 80.60 347 P **P** **07 13 54.3 +1.4**
K27K IAMs_20 IAMs_20 07 43 03.3
comp=Z,3μm,19.0s
DOT Dot Lake 80.72 346 P **P** **07 13 53.6 +0.1**
WAT6 Susitna Watana 80.75 344 P **P** **07 13 54.0 +0.1**
baz=144,SNR=7.7
SPU Mount Spurr 80.86 342 P **P** **07 13 54.4 0.0**
SCRK Sand Creek 80.98 346 P **P** **07 13 55.2 +0.1**
baz=148,SNR=8.6
SCRK S **S** **07 24 04.3 +0.3**
baz=148
SCRK Sand Creek 80.98 346 P **P** **07 13 56.4 +1.2**
SCRK IAMs_20 IAMs_20 07 44 26.6
comp=Z,3μm,18.0s
EGAK Eagle 81.06 348 P **P** **07 13 54.4 -0.9**
baz=151,SNR=5.9
EGAK Eagle 81.06 348 P **P** **07 13 57.4 +2.0**
EGAK IAMs_20 IAMs_20 07 42 10.4
comp=Z,4μm,21.0s
WAT1 Susitna Watana 81.17 344 P **P** **07 13 55.4 -0.6**
baz=144
VNA3 Neumayer Olymp 81.29 161 P **P** **07 13 55.1 -1.6**
CUT Chulitna 81.30 343 P **P** **07 13 57.1 +0.5**
baz=142
CUT Chulitna 81.30 343 P **P** **07 13 58.8 +2.2**
SKT Skwentna 81.33 342 P **P** **07 13 56.7 -0.2**
baz=141,SNR=14
SKT S **S** **07 24 07.6 +0.1**
baz=141
SKT Skwentna 81.33 342 P **P** **07 13 57.8 +1.0**
N19K Bonanza Creek 81.35 340 P **P** **07 13 56.2 -0.9**
baz=138
N19K S **S** **07 24 05.8 -2.1**
baz=138
EPYK Eagle Plains 81.67 350 P **P** **07 13 57.6 -1.1**
baz=155,SNR=8.7
EPYK S **S** **07 24 06.5 -4.4**
baz=155
EPYK Eagle Plains 81.67 350 P **P** **07 13 56.6 -2.0**
EPYK IAmb IAmb 07 14 02.3
comp=Z,31nm,1.1s
EPYK IAMs_20 IAMs_20 07 43 34.9
comp=Z,4μm,20.0s
RND Reindeer 81.71 344 P **P** **07 14 01.2 +2.2**
RND pmax pmax
comp=Z,34nm,1.1s
RND Reindeer 81.71 344 P **P** **07 14 01.2 +2.2**
RND IAmb IAmb 07 14 02.6
comp=Z,34nm,1.1s
N18K Kilae Creek 81.72 340 P **P** **07 13 57.9 -1.1**
baz=137
N18K S **S** **07 24 07.7 -3.8**
baz=137
M20K Styx River 81.74 342 P **P** **07 13 58.4 -0.7**
baz=139
M20K S **S** **07 24 09.8 -2.1**
baz=139
VNA1 Neumayer--Stat 81.91 161 P **P** **07 13 59.4 -0.5**
SVW2 Sparrevohn 81.92 340 P **P** **07 14 01.4 +1.4**
SVW2 IAmb IAmb 07 14 02.8
comp=Z,21nm,1.1s
MCK McKinley 82.00 344 P **P** **07 14 01.4 +1.0**
MCK pmax pmax
comp=Z,49nm,1.2s
MCK McKinley 82.00 344 P **P** **07 14 00.5 +0.1**
baz=144,SNR=8.6
MCK S **S** **07 24 11.1 -3.3**
baz=144
MCK McKinley 82.00 344 P **P** **07 14 01.4 +1.0**
HDA Harding Lake 82.05 345 P **P** **07 14 00.2 -0.4**
baz=145
HDA S **S** **07 24 12.0 -2.8**
baz=145
HDA S **S** **07 24 12.0 -2.8**
baz=145
HDA Harding Lake 82.05 345 P **P** **07 14 02.5 +1.9**
HDA IAmb IAmb 07 14 04.0
comp=Z,45nm,1.8s
NIKH Nikolski High 82.08 329 P **P** **07 14 01.6 +0.6**
baz=124
M19K Big River Lodg 82.14 341 P **P** **07 14 00.8 -0.3**
baz=138
M19K S **S** **07 24 13.2 -2.6**
baz=138
PPLA Purkeypile 82.24 343 P **P** **07 14 01.6 -0.2**
baz=140,SNR=6.1
PPLA Purkeypile 82.24 343 P **P** **07 14 03.9 +2.1**
IL31 82.34 346 P **P** **07 14 02.7 +0.6**
ILAR Eielson Array 82.34 346 P **P** **07 13 58.5 -3.6**
comp=Z,0.9nm,0.9s,baz=207,slow=5.8,SNR=3.7
ILAR LR LR 07 43 23.4
comp=Z,1μm,19.2s,baz=130,slow=30
ILAR Eielson Array 82.34 346 *e*P **P** **07 14 02.9 +0.8**
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR Eielson Array 82.34 346 P **P** **07 14 02.2 +0.1**
WRH Wood River Hil 82.39 345 IAMs_20 IAMs_20 07 42 38.8
comp=Z,3μm,20.0s
KTH Kantishna Hill 82.39 344 P **P** **07 14 00.3 -2.2**
CCB Clear Creek Bu 82.46 345 P **P** **07 14 02.0 -0.7**
CCB IAmb IAmb 07 14 06.2
comp=Z,31nm,1.3s
CCB IAMs_20 IAMs_20 07 42 53.7
comp=Z,2μm,19.0s
BWN Browne 82.49 344 P **P** **07 14 04.6 +1.7**
BWN IAMs_20 IAMs_20 07 42 28.7
comp=Z,4μm,20.0s
PRP Porcupine Dome 82.64 347 P **P** **07 14 04.1 +0.3**
baz=147,SNR=8.5
PRP Porcupine Dome 82.64 347 P **P** **07 14 06.0 +2.1**
PRP IAmb IAmb 07 14 07.8
comp=Z,31nm,1.3s
COLA College 82.66 345 *i* P **P** **07 14 05.2 +1.5**
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 82.66 345 P **P** **07 14 04.5 +0.8**
baz=145
COLA S **S** **07 24 16.4 -4.5**
baz=145
COLA College 82.66 345 P **P** **07 14 05.4 +1.7**
COLA IAmb IAmb 07 14 07.4
comp=Z,20nm,1.1s
COLA College 82.66 345 IAMs_20 IAMs_20 07 42 42.0
comp=Z,2μm,20.0s
TCOL CIGO, UAF Yank 82.66 345 P **P** **07 14 04.2 +0.4**
baz=145
TCOL S **S** **07 24 16.4 -4.5**
baz=145
TCOL CIGO, UAF Yank 82.66 345 P **P** **07 14 05.6 +1.9**
TCOL IAmb IAmb 07 14 07.4
comp=Z,20nm,1.1s
TCOL IAMs_20 IAMs_20 07 42 42.0
comp=Z,2μm,20.0s
NEA2 Nenana 82.73 345 P **P** **07 14 04.4 +0.2**
baz=143,SNR=7.3
NEA2 S **S** **07 24 16.8 -4.9**
baz=143
NEA2 Nenana 82.73 345 P **P** **07 14 05.1 +0.9**
NEA2 IAMs_20 IAMs_20 07 42 49.0
comp=Z,3μm,20.0s
POKR Poker Plat Res 82.75 346 P **P** **07 14 06.3 +2.0**
baz=145
POKR S **S** **07 24 24.7 +2.6**
baz=145
POKR Poker Plat Res 82.75 346 P **P** **07 14 05.6 +1.3**
POKR Poker Plat Res 82.75 346 IAMs_20 IAMs_20 07 49 45.5
comp=Z,2μm,18.0s
MDM Murphy Dome 82.82 345 P **P** **07 14 05.8 +1.2**
MDM IAMs_20 IAMs_20 07 43 04.3
comp=Z,3μm,20.0s
BPAW Bear Paw Mtn. 82.84 344 P **P** **07 14 04.4 -0.3**
baz=142,SNR=9.1
BPAW Bear Paw Mtn. 82.84 344 P **P** **07 14 04.5 -0.3**
INK Inuvik 82.99 352 P **P** **07 14 02.8 -2.6**
comp=Z,6.0nm,1.1s,baz=141,slow=6.1,SNR=5.7
INK Inuvik 82.99 352 P **P** **07 14 06.7 +1.3**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 82.99 352 P **P** **07 14 04.9 -0.4**
baz=159,SNR=8.2
INK S **S** **07 24 20.6 -3.6**
baz=159
INK Inuvik 82.99 352 P **P** **07 14 06.7 +1.3**
INK IAmb IAmb 07 14 09.0
comp=Z,17nm,1.1s
C36M Paulatuk 83.01 356 P **P** **07 14 06.0 +0.6**
baz=168
C36M S **S** **07 24 25.3 +0.9**
baz=168
C36M Paulatuk 83.01 356 IAMs_20 IAMs_20 07 45 47.4
comp=Z,4μm,22.0s
CHUM Lake Minchumin 83.04 343 P **P** **07 14 05.1 -0.6**
baz=140
SNAA Sanae 83.22 162 P **P** **07 14 05.8 -1.0**
SNAA Sanae 83.22 162 P **P** **07 14 07.0 +0.2**
SNAA pmax pmax
comp=Z,40nm,0.5s
SNAA Sanae 83.22 162 P **P** **07 14 07.0 +0.2**
I23K Minto, Yukon-K 83.25 345 P **P** **07 14 07.1 +0.3**
baz=143,SNR=14
I23K S **S** **07 24 25.5 -1.5**
baz=143
I23K Minto, Yukon-K 83.25 345 P **P** **07 14 09.3 +2.5**
H24K Noodor Dome 83.45 346 P **P** **07 14 08.4 +0.5**
baz=145,SNR=8.9
H24K S **S** **07 24 29.8 +0.6**
baz=145
FYU Fort Yukon 83.47 347 P **P** **07 14 10.0 +2.1**
FYU IAMs_20 IAMs_20 07 43 21.0
comp=Z,3μm,21.0s
MLY Manley 83.51 344 P **P** **07 14 08.3 +0.1**
baz=142,SNR=13
MLY S **S** **07 24 25.5 -4.3**
baz=142
MLY Manley 83.51 344 P **P** **07 14 09.0 +0.8**
MLY IAmb IAmb 07 14 11.8
comp=Z,27nm,1.1s
MLY IAMs_20 IAMs_20 07 43 20.8
comp=Z,4μm,20.0s
H23K Yukon River 83.85 345 P **P** **07 14 09.3 -0.6**
baz=143,SNR=7.4
H23K S **S** **07 24 30.5 -2.6**
baz=143
I21K Tanana 83.96 344 P **P** **07 14 10.0 -0.4**
baz=141,SNR=6.6
I21K S **S** **07 24 32.4 -1.7**
baz=141
H21K Melozitna Rive 84.55 344 P **P** **07 14 13.4 0.0**
baz=140,SNR=8.8
H21K S **S** **07 24 39.4 -0.7**
baz=140
COLD Coldfoot 85.13 346 P **P** **07 14 16.2 -0.2**
baz=142,SNR=12
COLD S **S** **07 24 45.6 -0.2**
baz=142
COLD Coldfoot 85.13 346 P **P** **07 14 15.8 -0.5**
HNR Honiara 85.99 261 IAMs_20 IAMs_20 07 58 44.7
comp=Z,3μm,21.0s
TOLK Toolik Lake Re 86.13 347 P **P** **07 14 24.5 +3.2**
baz=143
TOLK S **S** **07 24 53.1 -2.5**
baz=143
TOLK Toolik Lake Re 86.13 347 P **P** **07 14 24.3 +3.0**
TOLK IAMs_20 IAMs_20 07 46 37.3
comp=Z,2μm,19.0s
H11S2 WAKE ISLAND Hy 86.17 290 T T 08 49 20.5
baz=106,slow=75,SNR=224
H11S1 WAKE ISLAND Hy 86.18 290 T T 08 49 18.9
baz=106,slow=75,SNR=93
H11S3 WAKE ISLAND Hy 86.19 290 T T 08 49 21.8
baz=106,slow=75,SNR=97
H11N3 WAKE ISLAND Hy 86.31 291 T T 08 49 18.8
baz=107,slow=75,SNR=41
H11N2 WAKE ISLAND Hy 86.33 291 T T 08 49 20.0
baz=107,slow=75,SNR=60
H11N1 WAKE ISLAND Hy 86.33 291 T T 08 49 20.2
baz=107,slow=75,SNR=25
ANM Nome 87.58 340 P **P** **07 14 29.0 +0.6**
baz=128
ANM Nome 87.58 340 IAMs_20 IAMs_20 07 45 28.1
comp=Z,4μm,21.0s
TNA Tin City 89.04 340 P **P** **07 14 35.7 +0.3**
baz=126
CAN Canberra 89.53 234 IAMs_20 IAMs_20 07 46 59.6
comp=Z,4μm,20.0s
NRS Narsarsuaq 90.82 26 IAMs_20 IAMs_20 07 53 36.1
comp=Z,3μm,19.0s
SFJD Kangerlussuaq 91.67 20 IAMs_20 IAMs_20 07 54 44.9
comp=Z,3μm,20.0s
ILULI Ilulissat 92.68 18 IAMs_20 IAMs_20 07 53 38.8
comp=Z,3μm,22.0s
TULEG Thule 93.34 9 IAMs_20 IAMs_20 07 52 57.9
comp=Z,3μm,22.0s
ANGG Ammassalik, Gr 95.80 24 IAMs_20 IAMs_20 07 56 09.9
comp=Z,2μm,21.0s
CTA Charters Tower 96.17 248 LR LR 07 49 24.0
comp=Z,2μm,21.9s,baz=141,slow=30
CTAO Charters Tower 96.17 248 IAMs_20 IAMs_20 07 49 22.0
comp=Z,2μm,21.0s
STKA Stephens Creek 96.47 235 LR LR 07 51 38.0
comp=Z,3μm,20.2s,baz=112,slow=31
SUMG Summit 97.88 17 IAMs_20 IAMs_20 08 00 30.8
comp=Z,3μm,18.0s
PMG Port Moresby 98.24 258 IAMs_20 IAMs_20 07 56 44.4
comp=Z,2μm,20.0s
MAW Mawson 99.09 178 LR LR 07 55 16.2
comp=Z,2μm,21.2s,baz=178,slow=32
BILL Bilibino 99.29 338‖ *e*P **Pdif** **07 15 22.8 +0.5**
BILL *e* 07 19 24.0
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 99.29 338 IAMs_20 IAMs_20 07 57 00.4
comp=Z,2μm,19.0s
PET Petropavlovsk 100.22 322 IAMs_20 IAMs_20 07 53 19.3
comp=Z,2μm,20.0s
BORG Borgarnes 102.32 26 IAMs_20 IAMs_20 08 00 35.1
comp=Z,2μm,18.0s
SCO Scoresbysund 102.58 20 IAMs_20 IAMs_20 08 02 26.6
comp=Z,3μm,19.0s
MA2 Magadan 105.14 328 IAMs_20 IAMs_20 07 54 36.9
comp=Z,3μm,20.0s
MTE Manteigas 109.54 52 IAMs_20 IAMs_20 07 56 14.4
comp=Z,1μm,21.0s
KOWA Kowa 110.38 79 IAMs_20 IAMs_20 08 02 48.4
comp=Z,2μm,21.0s
SFS San Fernando 110.49 56 IAMs_20 IAMs_20 08 09 27.5
comp=Z,2μm,20.0s
TIXI Tiksi 111.66 343 IAMs_20 IAMs_20 08 03 03.1
comp=Z,2μm,19.0s
FAKI Fak Fak 114.25 261 IAMs_20 IAMs_20 08 06 07.8
comp=Z,2μm,19.0s
INU Inuyama 114.71 303 IAMs_20 IAMs_20 07 57 20.5
comp=Z,3μm,22.0s
KEV Kevo 118.17 15 IAMs_20 IAMs_20 08 07 19.1
comp=Z,2μm,21.0s
MDJ Mudanjiang 119.50 314 IAMs_20 IAMs_20 08 01 17.0
comp=Z,2μm,22.0s
SENIN Lac Senin/Sane 119.75 44 IAMs_20 IAMs_20 08 03 56.6
comp=Z,1μm,22.0s
APA Apatity 121.37 15‖ *i* PKIKP PKPdf 07 20 23.9 -10
APA pmax pmax
comp=Z,11nm,1.2s
APA MLR MLR
comp=Z,3μm,17.0s
NKC Novy Kostel 122.03 39 AMS AMS 08 11 50.0
comp=Z,1μm,19.2s
VLC Villacollemand 122.36 46 IAMs_20 IAMs_20 08 09 14.8
comp=Z,1μm,21.0s
INCN Inchon 122.89 306 IAMs_20 IAMs_20 08 13 01.7
comp=Z,1μm,19.0s
KHC Kasperske Hory 123.08 40 AMS AMS 08 16 00.0
comp=Z,900nm,17.0s
PVCC Panska Ves 123.21 38 AMS AMS 08 15 20.0
comp=Z,900nm,17.2s
GERES GERESS Array B 123.25 40 PKP **PKPdf** **07 20 37.0 -0.8**
comp=Z,0.2nm,0.2s,baz=326,slow=8.3,SNR=1.9
PRA Prague 123.29 38 AMS AMS 08 13 20.0
comp=Z,1μm,20.5s
PRU Pruhonice 123.38 38 AMS AMS 08 13 20.0
comp=Z,1μm,18.7s
CKRC Cesky Krumlov 123.64 40 AMS AMS 08 20 30.0
comp=Z,800nm,16.9s
CHVC Chvalec 124.06 37 AMS AMS 08 10 30.0
comp=Z,1μm,23.2s
UPC Upice 124.07 37 AMS AMS 08 13 40.0
comp=Z,1μm,19.1s
OSTC Ostas 124.17 37 AMS AMS 08 14 00.0
comp=Z,900nm,17.1s
TREC Trest 124.20 39 AMS AMS 08 06 50.0
comp=Z,2μm,20.4s
DPC Dobruska-Polom 124.31 37 AMS AMS 08 10 40.0
comp=Z,1μm,20.1s
KRLC Kraliky 124.69 38 AMS AMS 08 14 00.0
comp=Z,800nm,17.0s
OKC Ostrava-Krasne 125.60 38 AMS AMS 08 11 00.0
comp=Z,1μm,19.8s
PABE Paberze 126.00 29 IAMs_20 IAMs_20 08 10 38.2
comp=Z,1μm,21.0s
MNK Minsk 128.43 29 *i* PKIKP **PKPdf** **07 20 45.4 -2.0**
MNK *i* 07 22 48.2
MNK *i* PPP PPP 07 25 32.4
MNK *i* PS **PS** **07 32 58.0 -1.8**
MNK *i* SS SS 07 40 03.0 -4.5
MNK *i* SSS SSS 07 44 46.4
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK MLR MLR
comp=Z,857nm,22.0s
MNK MLR MLR
comp=E,59nm,22.0s
MNK MLR MLR
comp=N,904nm,24.0s
MNK Minsk 128.43 29 *i* PKP **PKPdf** **07 20 45.5 -1.9**
comp=E,3.0nm,0.7s
MNK *i* PKP **PKPdf** **07 20 45.5 -1.9**
comp=N,15nm,0.7s
MNK *i* PKP **PKPdf** **07 20 45.5 -1.9**
comp=Z,12nm,0.8s,baz=305
MNK *i* PP **PP** **07 22 48.2 -3.6**
MNK *i* PKS **PKSdf** **07 24 22.0 -1.6**
MNK *i* PPP PPP 07 25 32.5
MNK *i* SKS **SKSdf** **07 28 04.2 +5.1**
MNK *i* PS **PS** **07 32 58.0 -1.8**
MNK *i* SKKS SKKSdf 07 37 59.4 -12
MNK *i* SS **SS** **07 40 03.1 -4.4**
MNK *i* SSS SSS 07 44 46.5
MNK *i* LQ LQ 08 09 13.7
MNK *i* LR LR 08 13 45.8
MNK *i* LRM MLR 08 16 05.5
comp=Z,857nm,21.7s
MNK *i* LRM MLR 08 16 29.4
comp=E,59nm,22.4s
MNK *i* LRM MLR 08 16 37.6
comp=N,904nm,23.9s
NJ2 Nanjing 130.07 301 *e*PKP **PKIKP** **07 20 53.5 +1.5**
BJI Beijing 130.26 311 PKP **PKiKP** **07 20 54.4 +2.3**
BJI LR LR
comp=N,610nm,19.1s
BJI LR LR
comp=N,2μm,23.4s
BJI LR LR
comp=N,1μm,21.8s
AKASG Malin Array Be 131.34 32 PKP **PKPdf** **07 20 51.0 -2.1**
comp=N,0.3nm,0.3s,baz=292,slow=2.5,SNR=1.7
OBN Obninsk 131.75 24‖ *e*PKIKP **PKiKP** **07 20 57.1 +2.5**
OBN *e* 07 23 14.6
OBN *e*PPP PPP 07 26 04.4
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,2μm,17.0s
SONM Songino Array 133.20 325 PKP **PKPdf** **07 20 55.8 -1.1**
comp=Z,0.3nm,0.3s,baz=90,slow=1.4,SNR=1.5
SONM Songino Array 133.20 325 *e*PKIKP **PKiKP** **07 21 00.2 +2.2**
SONM pmax pmax
comp=Z,1.0nm,0.4s
HHC Hu-ho-hao-te 133.27 314 *e*PKP **PKPdf** **07 20 56.1 -1.1**
HHC AMB AMB
comp=Z,400nm,7.6s
ARU Arti 136.49 8 *i* PKIKP **PKiKP** **07 21 04.3 +0.1**
ARU 07 23 42.5
ARU SS SS 07 41 39.1 -5.5
ARU MLR MLR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 137.46 345 PKP **PKPdf** **07 21 01.9 -2.5**
comp=Z,0.4nm,0.3s,baz=4.5,slow=7.4,SNR=1.4
ZALV Zalesovo Beam 137.46 345 PKIKP **PKiKP** **07 21 06.0 -0.3**
ZALV Zalesovo Beam 137.46 345 PKPdf **PKiKP** **07 21 06.0 -0.3**
ENH Enshi 138.29 301 IAMs_20 IAMs_20 08 20 46.4
comp=Z,2μm,20.0s
BRTR Keskin Array B 140.03 43 PKP **PKPdf** **07 21 06.4 -3.3**
comp=Z,0.4nm,0.5s,baz=267,slow=9.8,SNR=2.3
BRTR Keskin Array B 140.03 43 PKIKP **PKPdf** **07 21 10.8 +1.0**
BRTR Keskin Array B 140.03 43 PKPdf **PKPdf** **07 21 10.8 +1.0**
BRVK Borovoye 140.44 358 *i* PKIKP **PKPdf** **07 21 10.5 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
MBAR Mbarara 140.51 108 IAMs_20 IAMs_20 08 19 16.0
comp=Z,2μm,21.0s
LZH Lanzhou 140.75 311 *e*PKP **PKPdf** **07 21 10.3 -0.9**
LZH LR LR
comp=Z,2μm,13.8s
LZH LR LR
comp=Z,690nm,13.8s
LZH LR LR
comp=Z,1μm,17.1s
MNAI Manna 141.06 245 IAMs_20 IAMs_20 08 19 35.4
comp=Z,2μm,20.0s
ABPO Ambohimpanom 141.79 147 IAMs_20 IAMs_20 08 15 59.1
comp=Z,2μm,22.0s
GTA Gaotai 141.87 319 *e*PKPbc **PKiKP** **07 21 20.3 +4.3**
KURBB Kurchatov Arra 141.94 349 PKP **PKPdf** **07 21 08.7 -3.9**
comp=Z,1.5nm,0.7s,baz=8.9,slow=3.1,SNR=5.2
AKTO Aktyubinsk 142.21 10 PKP **PKPdf** **07 21 09.4 -3.7**
comp=Z,0.9nm,0.5s,baz=354,slow=5.3,SNR=2.2
KIV Kislovodsk 142.64 31 *i* PKIKP **PKPdf** **07 21 15.9 +1.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,854nm,24.0s
KIV Kislovodsk 142.64 31 IAMs_20 IAMs_20 08 25 43.4
comp=Z,850nm,19.0s

CD2	Chengdu	142.82	304	PKP	PKPdf	07 21 16.5	+1.6
KBZ	Khabaz	142.91	31	PKhKP	PKPpre	07 21 09.3	
comp=Z,1.5nm,0.5s,baz=354,slow=7.6,SNR=2.9							
KBZ	Khabaz	142.91	31	*e*PKIKP	PKPdf	07 21 13.4	-1.2
KBZ				pmax	pmax		
comp=Z,3.0nm,0.8s							
MMAI	Mount Meron Ar	144.47	51	PKP	PKPab	07 21 14.2	-1.9
comp=Z,0.8nm,0.3s,baz=266,slow=4.3,SNR=1.4							
MK31	Makanchi Array	144.65	343	PKIKP	PKPbc	07 21 16.8	+0.4
MK31	Makanchi Array	144.65	343	PKPdf	PKPbc	07 21 16.8	+0.4
MKAR	Makanchi Array	144.65	343	PKP	PKPab	07 21 14.5	-1.7
comp=Z,4.0nm,0.9s,baz=29,slow=2.8,SNR=17							
MKAR	Makanchi Array	144.65	343	*e*PKIKP	PKPab	07 21 15.4	-0.8
MKAR				pmax	pmax		
comp=Z,4.0nm,0.9s							
MKAR	Makanchi Array	144.65	343	PKPdf	PKPab	07 21 16.6	+0.4
MAKZ	Makanchi	144.73	343	PKIKP	PKPab	07 21 15.6	-0.8
MAKZ	Makanchi	144.73	343		PKPab	07 21 15.6	-0.8
BKNI	Bangkinang	144.79	251	IAMs_20	IAMs_20	08 19 18.8	
comp=Z,1μm,21.0s							
SLVN	Son La	144.92	288	IAMs_20	IAMs_20	08 22 23.8	
comp=Z,1μm,20.0s							
KMI	Kunming	145.32	295	PKP	PKiKP	07 21 23.0	-0.6
WMQ	Urumqi	145.33	335	*e*PKP	PKPdf	07 21 20.9	+2.0
WMQ				AMB	AMB		
comp=Z,320nm,4.5s							
WMQ				LR	LR		
comp=Z,2μm,16.7s							
WMQ				LR	LR		
comp=Z,1μm,17.7s							
WMQ				LR	LR		
comp=Z,4μm,19.5s							
MAK	Makhachkala	145.67	27	*e*PKHKP	PKPpre	07 21 13.2	
MAK				*e*		07 24 34.6	
MAK				*e*		07 28 23.9	
MAK				pmax	pmax		
comp=Z,139nm,1.0s							
NONG	Nongkai	145.91	282	PKP	PKiKP	07 21 25.0	+0.3
ASF	Jabal al Asfar	145.97	52	PKPbc	PKPdf	07 21 19.3	-1.1
comp=Z,4.3nm,0.8s,baz=234,slow=5.8,SNR=5.8							
KMBO	Kilima Mbogo	146.24	113	PKPbc	PKPdf	07 21 21.9	+0.3
comp=Z,6.2nm,1.1s,baz=180,slow=3.8,SNR=5.2							
LODK	Lodwar	146.25	104	PKPdf	PKPdf	07 21 19.8	-1.6
LODK				IAMs_20	IAMs_20	08 26 06.0	
comp=Z,1μm,18.0s							
UTTA	Uttaradit	148.39	282	PKP	PKPab	07 21 39.7	+8.3
UTTA	Uttaradit	148.39	282	P	PKPab	07 21 39.7	+8.3
comp=Z,2.8nm,0.6s							
PHIT	Phitsanulok	148.55	281	PKP	PKPab	07 21 35.7	+3.7
PHIT	Phitsanulok	148.55	281	P	PKPab	07 21 35.0	+3.0
comp=Z,580nmcomp=Z,13nm,1.0s							
CM34	Chiang Mai Arr	149.64	284	P	PKPab	07 21 36.0	-0.5
CM35	Chiang Mai Arr	149.65	284	P	PKPab	07 21 36.0	-0.5
CM36	Chiang Mai Arr	149.72	284	P	PKPab	07 21 36.0	-0.8
CM33	Chiang Mai Arr	149.83	284	P	PKPab	07 21 37.0	-0.3
CHTO	Chiang Mai	149.84	284	PKIKP	PKiKP	07 21 34.6	+1.8
CHTO	Chiang Mai	149.84	284	PKP	PKPab	07 21 36.3	-1.0
CHTO	Chiang Mai	149.84	284		PKiKP	07 21 34.6	+1.8
CHTO	Chiang Mai	149.84	284	IAMs_20	IAMs_20	08 32 45.5	
comp=Z,1μm,20.0s							
CM04	Chiang Mai Arr	149.84	283	PKP	PKPab	07 21 41.9	+4.6
CM01	Chiang Mai Arr	149.86	284	PKP	PKPab	07 21 42.5	+5.2
CM01	Chiang Mai Arr	149.86	284	P	PKPab	07 21 42.5	+5.2
CM02	Chiang Mai Arr	149.87	284	PKP	PKPab	07 21 36.8	-0.6
CM02	Chiang Mai Arr	149.87	284	P	PKPab	07 21 36.9	-0.6
comp=Z,118nmcomp=Z,11nm,0.8s							
CMAR	Chiang Mai Arr	149.87	284	PKPbc	PKPbc	07 21 30.5	-1.4
comp=Z,2.1nm,0.3s,baz=45,slow=1.2,SNR=1.7							
CM05	Chiang Mai Arr	149.87	284	PKP	PKPab	07 21 42.4	+5.0
CM13	Chiang Mai Arr	149.91	284	PKP	PKPab	07 21 42.0	+4.4
CM32	Chiang Mai Arr	149.94	284	P	PKPab	07 21 44.0	+6.3
KKAR	Karatay Array	150.36	356	PKIKP	PKPbc	07 21 33.2	+0.8
KKAR	Karatay Array	150.36	356		PKPbc	07 21 33.2	+0.8
FURI	Furi	150.88	96	IAMs_20	IAMs_20	08 28 42.5	
comp=Z,812nm,20.0s							
LSA	Lhasa	153.16	311	IAMs_20	IAMs_20	08 30 51.3	
comp=Z,1μm,20.0s							
GEYT	Alibeck	154.07	18	PKPbc	PKPdf	07 21 37.0	+4.1
comp=Z,1.7nm,0.6s,baz=210,slow=4.6,SNR=1.7							
GAR	Garm	154.46	356	PKPdf	PKPdf	07 21 33.7	+0.2
GAR				PKPbc	PKiKP	07 21 42.5	+0.6
GAR					PKPab	07 21 55.1	-0.9
ATD	Arta Tunnel	155.36	92	IAMs_20	IAMs_20	08 30 38.9	
comp=Z,1μm,20.0s							
RAYN	Ar Rayn	156.44	62	IAMs_20	IAMs_20	08 46 57.9	
comp=Z,1μm,20.0s							

KRSC 07 07:04:30.8±1.5, 48°.36N×157°.51E, *h*40km±46km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.50	339	*e*S	Sn	07 05 40.7	+2.6
ALID	Alaid	2.82	334	*e*P	Pn	07 05 15.3	+1.9
PAU	Pauzhetka	3.15	352	*e*S	Sn	07 05 59.3	+5.2
KDTR	Khodutka, Kamc	3.48	6	*e*P	Pn	07 05 26.2	+3.9
KDTR				*e*S	Sn	07 06 08.1	+5.9
RUS	Russkaya	4.13	9	*e*P	Pn	07 05 35.3	+4.0
RUS				*e*S	Sn	07 06 23.6	+5.3
MTVR	Mutnovka	4.16	6	*e*P	Pn	07 05 36.2	+4.4
MTVR				*e*S	Sn	07 06 25.1	+6.0
GRL	Gorelyy	4.22	5	*e*P	Pn	07 05 36.5	+3.9
GRL				*e*S	Sn	07 06 25.9	+5.3
UGLR	Uglovaya	4.93	9	*e*P	Pn	07 05 47.3	+4.9
AVH	Avacha	4.98	9	*e*P	Pn	07 05 48.5	+5.5
KOK	Koryaka	5.00	8	*e*P	Pn	07 05 48.5	+5.3
SDLR	Sedlovina	5.01	10	*e*P	Pn	07 05 48.3	+4.9
KRX	Arik	5.06	8	*e*P	Pn	07 05 47.4	+3.2
GNL	Ganaly	5.36	3	*e*P	Pn	07 05 53.3	+5.1
MKZ	Mys Kozlova	6.75	21	*e*P	Pn	07 06 11.5	+4.4
MKZ				*e*S	Sn	07 07 27.0	+4.4

*IDC **07** 07:04:45.5±1.2, 34°.23N×25°.11E, h0km, mb4.1/5, mb1 4.1/8, mb1mx3.7/61, mbtmp4.0/8, ML3.9/3, MS4.1/1, Ms1 4.1/1, ms1mx3.2/50, Error ellipse: s-maj=24.6km s-min=12.4km az=74.0*
*THE **07** 07:04:48.0, 34°.32N×25°.08E, h0km±2km, ML2.9/4, Error ellipse: s-maj=5.8km s-min=1.5km az=159.0*
*ATH **07** 07:04:48.9, 34°.36N×25°.09E, h40km±15km, ML2.9/5, Error ellipse: s-maj=17.6km s-min=1.9km az=353.0*

ISC 07 07:04:46.2±1.8, 34°.22N±0°.07×25°.12E±0°.04, h11km±11km, n25, σ1°.33/32, mb4.0/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.84	342	P	Pg	07 05 02.2	-0.2
SIVA				S	Sg	07 05 13.3	-0.1
2μm,0.5s							
SIVA	Sivas	0.84	342	P	Pg	07 05 02.2	-0.2
SIVA				S	Sg	07 05 12.7	-0.8
SIVA				AML	AML	07 05 21.5	
comp=E,5667μm,0.8s							
SIVA				AML	AML	07 05 25.0	
comp=N,3509μm,0.4s							
LAST	Lasithi	0.99	17	P	Pb	07 05 05.2	-0.2
LAST	Lasithi	0.99	17	P	Pb	07 05 05.0	-0.4
LAST				AML	AML	07 05 29.7	
comp=N,1021μm,0.7s							
LAST				AML	AML	07 05 30.4	
comp=E,911μm,1.1s							
GVD	Gavdhos	1.06	306	P	Pn	07 05 06.3	-0.7
GVD				S	Sn	07 05 21.7	0.0
comp=E,925nm,0.5s							
GVD	Gavdhos	1.06	306	P	Pn	07 05 06.3	-0.7
GVD				S	Sb	07 05 19.9	-0.4
GVD				AML	AML	07 05 28.8	
comp=N,1561μm,0.4s							
GVD				AML	AML	07 05 31.3	
comp=E,1781μm,0.6s							
GVDS	Gavdos	1.06	307	P	Pn	07 05 06.5	-0.5
GVDS				S	Sn	07 05 22.9	+1.2
comp=E,558nm,0.4s							
IDI	Anoyia	1.09	350	Pg	Pb	07 05 06.6	-0.5
comp=E,18nm,0.3s,baz=172,slow=23,SNR=70							
IDI				Lg	Lg	07 05 20.7	
comp=E,34nm,0.3s,baz=205,slow=14,SNR=9.7							
IDI	Anoyia	1.09	350	P	Pb	07 05 06.4	-0.7
IDI	Anoyia	1.09	350	P	Pb	07 05 06.4	-0.7
NPS	Neapolis	1.12	21	P	Pg	07 05 08.7	+0.9
NPS				S	Sn	07 05 23.6	+0.3
comp=E,355nm,0.6s							
NPS	Neapolis	1.12	21	P	Pg	07 05 08.4	+0.6
ZKR	Zakros	1.27	45	P	Pg	07 05 11.3	+0.7
ZKR				S	Sb	07 05 26.0	-0.5
ZKR				AML	AML	07 05 39.6	
comp=N,348μm,0.6s							
ZKR				AML	AML	07 05 47.8	
comp=E,786μm,0.8s							
VAM	Vamos	1.41	328	P	Pb	07 05 12.3	-0.3
VAM	Vamos	1.41	328	P	Pb	07 05 12.2	-0.3
VAM				AML	AML	07 05 38.7	
comp=E,1275μm,0.6s							
VAM				AML	AML	07 05 42.3	
comp=N,961μm,0.6s							
IMMV	Iera Moni Meta	1.56	323	P	Pb	07 05 14.3	-0.7
EIL	Elat	9.50	116	Pn	Pn	07 07 03.8	+0.8
comp=N,0.6nm,0.3s,baz=49,slow=20,SNR=8.5							
EIL				Sn	Sn	07 08 44.1	-5.6
comp=N,0.6nm,0.3s,baz=174,slow=10,SNR=2.3							
AKASG	Malin Array Be	16.75	9	Pn	Pn	07 08 40.7	+0.1
comp=N,0.8nm,0.3s,baz=200,slow=11,SNR=8.0							
GERES	GERESS Array B	16.90	333	Pn	P	07 08 44.5	-0.3
comp=N,0.2nm,0.3s,baz=142,slow=13,SNR=10							
DAVOX	Davos/Dischmat	17.05	322	LR	LR	07 17 18.5	
comp=N,702nm,21.8s,baz=214,slow=44							
TORD	Torodi Ar. Bea	29.86	231	P	P	07 10 54.5	+0.7
comp=N,0.5nm,0.4s,baz=34,slow=8.3,SNR=7.8							
KURBB	Kurchatov Arra	41.74	50	P	P	07 12 35.4	+0.2
comp=N,1.1nm,0.4s,baz=270,slow=8.1,SNR=4.4							
MKAR	Makanchi Array	44.33	56	P	P	07 12 56.6	+0.4
comp=N,0.6nm,0.5s,baz=284,slow=4.9,SNR=5.2							
ZALV	Zalesovo Beam	45.68	46	P	P	07 13 06.2	-0.6
comp=N,1.1nm,0.5s,baz=266,slow=8.6,SNR=3.3							
CMAR	Chiang Mai Arr	66.72	83	P	P	07 15 40.5	+2.9
comp=N,1.9nm,0.3s,baz=300,slow=6.2,SNR=5.2							

*NNC **07** 07:04:47.8±5.7, 35°.90N×69°.94E, h19km±47km, mb4.3, mpv4.2, Error ellipse: s-maj=51.9km s-min=45.7km az=176.0*
*IDC **07** 07:05:04.7±2.7, 36°.23N×70°.14E, h196km±25km, mb3.4/11, mb1 3.5/18, mb1mx3.3/75, mbtmp4.1/18, Error ellipse: s-maj=20.6km s-min=15.4km az=166.0*
*NEIC **07** 07:05:08.6±1.1, 36°.53N±0°.08×70°.21E±0°.09, h216km±9km, mb4.3/4, Error ellipse: s-maj=12.6km s-min=9.9km az=159.0*

ISC 07 07:05:06.3±0.6, 36°.49N±0°.06×70°.16E±0°.06, h200km, n57, σ1°.76/60, mb3.6/10, 4C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.14	205	Pn	Pn	07 05 49.8	+3.2
CEP	Cherat	3.02	151	P	Pn	07 05 59.5	+3.2
DRK	Karamyk	3.26	23		Pn	07 06 01.9	+2.7
BTK	Batken	3.60	8	Pn	Pn	07 06 06.3	+3.1
CHCP	Chirah Chowk	3.80	137	P	Pn	07 06 08.9	+3.3
NIL	Nilore	3.80	137	Pn	Pn	07 06 08.8	+3.1
THW	Thamme Wali	3.91	160	P	Pn	07 06 09.5	+2.5
AML	Almayashu	6.27	25	P	Pn	07 06 38.7	+1.5
SNR=34							
KK31	Karatay Array	6.62	2	⇓Pn	Pn	07 06 33.6	-7.7
3.2nm,0.3s,baz=172,slow=12							
KK31				⇓Sn	Sn	07 07 53.2	-3.7
21nm,0.5s,baz=190,slow=20							
KK31	Karatay Array	6.62	2	Pn	Pn	07 06 42.7	+1.3
KKAR	Karatay Array	6.62	2	Pn	Pn	07 06 42.6	+1.2
KKAR	Karatay Array	6.62	2		Pn	07 06 42.3	+0.9
EKS2	Erkin-Say	6.77	23	P	Pn	07 06 45.1	+1.6
SNR=15							
AAK	Ala-Archa	7.00	27	P	Pn	07 06 48.0	+1.5
3.7nm,0.3s,baz=207,slow=4.2,SNR=18							
AAK				S	Sn	07 08 03.7	-2.4
5.1nm,0.3s,baz=131,slow=22,SNR=15							
AAK	Ala-Archa	7.00	27	P	Pn	07 06 48.2	+1.7
SNR=7.4							
AAK	Ala-Archa	7.00	27	⇓Pn	Pn	07 06 40.4	-6.1
13nm,0.5s							
AAK				⇓Sn	Sn	07 08 04.7	-1.4
98nm,0.9s							
AAK	Ala-Archa	7.00	27	Pn	Pn	07 06 48.0	+1.5
ULHL	Ulahol	7.43	37	P	Pn	07 06 54.0	+1.7
SNR=6.0							
BOOM	Boomskoye usch	7.48	35	Pn	Pn	07 06 54.2	+1.5
USP	Ospenovka	7.55	25	P	Pn	07 06 54.2	+0.7
SNR=7.3							
TKM2	Tokmak 2	7.67	31	P	Pn	07 06 56.9	+1.6
SNR=9.7							
TKM2	Tokmak 2	7.67	31	⇑Pn	Pn	07 06 45.3	-10
13nm,0.7s							
TKM2				⇓Sn	Sn	07 08 21.1	-1.0
22nm,0.8s							
KDJ	Kajisay	7.83	42	Pn	Pn	07 06 58.9	+1.5
SMLA	Simla	7.91	130	*e*P	Pn	07 06 59.1	+0.8
SMLA				*e*S	Sn	07 08 24.4	-3.1
SMLA				IAML		07 08 29.1	
comp=N,66nm,0.5s							
SMLA				IAML		07 08 32.4	
comp=E,56nm,0.8s							
GEYT	Alibeck	9.71	282	P	Pn	07 07 22.3	+0.5
comp=E,0.5nm,0.3s,baz=74,slow=15,SNR=2.4							
GEYT				S	Sn	07 09 07.2	-3.2
comp=E,0.4nm,0.3s,baz=70,slow=22,SNR=1.7							
KUDL	Kundal	9.89	145	*e*P	Pn	07 07 23.9	-0.2
KUDL				*e*S	Sn	07 09 06.5	-8.1
MAKZ	Makanchi	13.56	37	⇓P	Pn	07 08 08.5	-2.2
comp=E,12nm,0.5s							
MAKZ	Makanchi	13.56	37		Pn	07 08 11.4	+0.8
MK31	Makanchi Array	13.71	38	⇓P	Pn	07 08 09.5	-2.9
comp=E,7.5nm,0.7s							
MK31	Makanchi Array	13.71	38		Pn	07 08 13.1	+0.6
MKAR	Makanchi Array	13.71	38	P	Pn	07 08 12.7	+0.2
comp=E,0.8nm,0.3s,baz=228,slow=13,SNR=36							
AB31	Akbulak array	14.78	333	⇓P	Pn	07 08 25.1	-0.5
comp=E,2.5nm,0.8s,baz=150,slow=12,SNR=22							
ABKAR	Akbulak array	14.78	333	P	Pn	07 08 25.3	-0.2
KURBB	Kurchatov Arra	15.36	20	P	Pn	07 08 32.8	+0.1
comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=16							
KURBB	Kurchatov Arra	15.36	20	⇑P	Pn	07 08 31.5	-1.2
comp=E,6.4nm,0.7s							
AKTO	Aktyubinsk	16.46	332	P	P	07 08 46.8	+1.7
comp=E,0.6nm,0.3s,baz=150,slow=8.7,SNR=8.9							
AKTO				S	S	07 11 48.1	+1.1
comp=E,0.1nm,0.3s,baz=170,slow=23,SNR=1.5							
AKTO	Aktyubinsk	16.46	332	⇑P	P	07 08 45.9	+0.8
comp=E,2.8nm,0.6s							
BVAR	Borovoye Array	16.54	0	P	P	07 08 47.1	+1.2
comp=E,1.3nm,0.3s,baz=198,slow=12,SNR=11							
WSAR	Wadi Sarin	16.54	220	P	P	07 08 41.6	-4.6
comp=E,0.2nm,0.3s,baz=63,slow=6.8,SNR=1.4							
BRVK	Borovoye	16.57	0	⇓P	P	07 08 46.9	+0.7
comp=E,4.6nm,0.5s							
BRVK	Borovoye	16.57	0	P	P	07 08 47.3	+1.1
BRVK				IAmb	IAmb	07 08 50.7	
comp=Z,18nm,1.3s							
ZAA0	Zalesovo Array	20.21	26	⇑P	P	07 09 25.3	-0.3
comp=Z,0.7nm,0.6s							
ZAA0	Zalesovo Array	20.21	26	P	P	07 09 25.4	-0.3
ZAA0				IAmb	IAmb	07 09 27.3	
comp=Z,11nm,1.2s							
ZALV	Zalesovo Beam	20.21	26	P	P	07 09 26.3	+0.7
comp=Z,5.2nm,0.4s,baz=220,slow=11,SNR=27							
ZALV	Zalesovo Beam	20.21	26	P	P	07 09 25.8	+0.1
RAYN	Ar Rayn	24.87	246	P	P	07 10 12.1	+1.4
SONM	Songino Array	28.90	55	P	P	07 10 48.3	+1.8
comp=Z,0.4nm,0.4s,baz=284,slow=12,SNR=1.9							
FINES	FINESS Array B	37.12	326	P	P	07 11 57.7	+0.6
comp=Z,1.9nm,0.9s,baz=143,slow=12,SNR=1.0							
ARCES	ARCESS Array B	40.90	338	P	P	07 12 29.0	+0.6
comp=Z,8.1nm,1.1s,baz=46,slow=6.9,SNR=2.1							
ARCES	ARCESS Array B	40.90	338	P	P	07 12 29.2	+0.7
HFS	Hagfors	42.66	322	P	P	07 12 43.2	+0.4
comp=Z,2.3nm,0.8s,baz=84,slow=15,SNR=4.1							
NOA	NORSAR Array B	43.98	323	P	P	07 12 53.4	0.0
comp=Z,0.5nm,0.7s,baz=97,slow=8.0,SNR=1.5							
TIXI	Tiksi	46.04	22	P	P	07 13 09.7	+0.3
comp=Z,0.6nm,0.3s,baz=306,slow=4.7,SNR=1.7							
TORD	Torodi Ar. Bea	65.04	268	P	P	07 15 23.7	-1.7
comp=Z,0.9nm,0.7s,baz=44,slow=5.3,SNR=5.5							
KOWA	Kowa	68.89	273	P	P	07 15 48.9	-0.8
comp=Z,0.7nm,0.4s,baz=117,slow=4.5,SNR=1.8							
WRA	Warramunga Arr	82.56	121	P	P	07 17 05.2	-1.8
comp=Z,0.7nm,0.9s,baz=311,slow=3.7,SNR=2.5							
ASAR	Alice Springs	84.80	124	P	P	07 17 16.6	-1.7
comp=Z,0.3nm,0.6s,baz=307,slow=4.8,SNR=5.3							

IDC 07 07:11:19.4±369.0, 48°.67N×50°.65E, h0km, Error ellipse: s-maj=141.5km s-min=108.7km az=55.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	5.11	67	*i*		07 41 30.0	
baz=254,slow=314,SNR=1.3							
I43RU	DUBNA INFRASONI	1.45	320	*i*		08 22 30.0	
baz=132,slow=317,SNR=1.1							
I26DE	FREYUNG INFRAS	24.20	284	*i*		09 41 00.0	
baz=78,slow=318,SNR=1.2							

*JMA **07** 07:11:25.6±0.1, 39°.24N×142°.41E, h35km±1km, M4.3*
JMA Felt I J1.
*IDC **07** 07:11:28.2±2.4, 39°.18N×142°.28E, h55km±22km, mb3.8/14, mb1 4.0/18, mb1mx3.7/57, mbtmp4.1/18, ML3.5/4, Error ellipse: s-maj=19.6km s-min=13.8km az=107.0*
*NEIC **07** 07:11:28.9±1.7, 39°.31N±0°.06×142°.2E±0°.1, h51km±8km, mb4.3/11, Error ellipse: s-maj=13.9km s-min=8.1km az=110.0*

ISC 07 07:11:25.8±1.5, 39°.22N±0°.04×142°.42E±0°.06, h30km±10km, n69, σ1°.38/77, mb4.2/19, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.58	307	P	Pb	07 11 36.9	-0.7
MIYJ				S	Sb	07 11 45.0	-0.7
OFUJ	Ofunato	0.60	256	P	Pb	07 11 37.4	-0.5
OFUJ				S	Sb	07 11 45.9	-0.2
JTH	Tanohata	0.83	329	P	Pn	07 11 40.5	-1.1
JTH				S	Sn	07 11 51.2	-1.6
JKMT	Kesennumamotoy	0.84	241	P	Pn	07 11 41.0	-0.7
JKMT				S	Sn	07 11 52.1	-0.9
JOM	Ohasama	0.91	286	P	Pn	07 11 42.0	-0.6
JOM				S	Sn	07 11 53.9	-0.8
JMK	Ichinoseki	0.97	254	P	Pn	07 11 42.9	-0.5
JMK				S	Sn	07 11 55.6	-0.6
JKZ	Kuzumaki	1.13	312	P	Pn	07 11 45.5	-0.2
JKZ				S	Sn	07 12 00.1	-0.2
JIO	Ouri	1.14	228	P	Pn	07 11 45.0	-0.7
JIO				S	Sn	07 11 59.3	-0.9
JANG	Nango	1.34	329	P	Pn	07 11 48.1	-0.5
JANG				S	Sn	07 12 04.7	-0.7
JRG	Rokugo	1.40	278	P	Pn	07 11 49.3	0.0
JRG				S	Sn	07 12 08.4	+1.7
JMM	Marumori	1.86	224		Pn	07 11 56.7	+1.1
JTM	Tenmabayashi	1.88	327	Pn	Pn	07 11 56.3	+0.4
ERM	Erimo	2.84	11		Pn	07 12 09.9	+0.7
JSD	Sado	3.47	251		Pn	07 12 18.2	+0.5
JYT	Yasato	3.47	211		Pn	07 12 19.1	+1.3
JEW	Eniwo	3.69	349	Pn	Pn	07 12 23.1	+2.3
MJAR	Matsushiro Arr	4.27	233	P	Pn	07 12 29.6	+0.8
0.5nm,0.3s,baz=42,slow=12,SNR=53							
MJAR	Matsushiro Arr	4.27	233		Pn	07 12 31.4	+2.5
MAJO	Matsushiro	4.27	233		Pn	07 12 31.2	+2.4
MAT	Matsushiro	4.27	233	P	Pn	07 12 32.6	+3.7
MAT				*e*S	Sn	07 13 19.7	+2.0
JKA	Kamikawa-asahi	4.89	2	Pn	Pn	07 12 39.0	+1.7
ASAJ	Asahikawa	4.89	1	P	Pn	07 12 40.2	+2.9
5.6nm,0.3s,baz=223,slow=6.0,SNR=9.8							
ASAJ				S	Sn	07 13 33.6	+0.7
3.3nm,0.3s,baz=206,slow=33,SNR=1.2							
JGF	Kuroka	5.41	230	Pn	Pn	07 12 47.1	+2.6
INU	Inuyama	5.79	230	Pn	Pn	07 12 52.0	+2.3
JHJ	Hachijo jima 2	6.45	200	P	Pn	07 12 59.0	+0.2
4.1nm,0.3s,baz=276,slow=13,SNR=1.8							
JHJ				S	Sn	07 14 08.2	-3.2
2.4nm,0.3s,baz=75,slow=22,SNR=1.7							
JWT	Wachi	6.84	237	Pn	Pn	07 13 06.5	+2.4
USA0B	Ussuriysk Arra	9.25	306	Pn	Pn	07 13 37.7	+0.7
MDJ	Mudanjiang	10.97	304	Pn	Pn	07 14 02.6	+1.9
KSRS	Korea Array	11.52	266	P	Pn	07 14 12.9	+4.6
0.3nm,0.3s,baz=76,slow=15,SNR=6.4							
KLR	Kul'dur	12.58	326	P	Pn	07 14 23.5	+0.8
0.1nm,0.3s,baz=129,slow=9.7,SNR=4.3							
MA2	Magadan	21.05	12	P	P	07 16 08.4	+1.3
MA2				IAmb	IAmb	07 16 18.9	
comp=Z,12nm,1.1s							
SEY	Seymchan	24.49	11	P	P	07 16 42.3	+0.2
comp=Z,0.8nm,0.2s,baz=181,slow=23,SNR=6.7							
SONM	Songino Array	27.30	300	P	P	07 17 07.2	-0.6
comp=Z,0.6nm,0.5s,baz=45,slow=6.3,SNR=1.8							
SONM	Songino Array	27.30	300	P	P	07 17 05.9	-1.8
H11N2	WAKE ISLAND Hy	28.68	126	T	T	07 47 58.7	
baz=318,slow=75,SNR=255							
H11N1	WAKE ISLAND Hy	28.69	126	T	T	07 48 02.0	
baz=318,slow=75,SNR=256							
H11N3	WAKE ISLAND Hy	28.70	126	T	T	07 48 00.6	
baz=318,slow=75,SNR=213							
H11S1	WAKE ISLAND Hy	29.47	128	T	T	07 48 58.4	
baz=321,slow=76,SNR=13							
H11S3	WAKE ISLAND Hy	29.47	128	T	T	07 49 00.9	

KURS	**Kuram**	**0.40**	**56**	*e*P	**Pg**	**07 13 11.2**	**-0.1**
	baz=54						
KURS				*e*S	**Sg**	**07 13 17.0**	**+0.5**
	baz=54						
KURS	**Kuram**	**0.40**	**56**	*e*P	**Pg**	**07 13 11.2**	**-0.1**
	167nm,0.1s						
KURS				*e*S	**Sg**	**07 13 17.1**	**+0.5**
	2μm,0.4s						
KURS	**Kuram**	**0.40**	**56**	P	**Pg**	**07 13 11.2**	**-0.1**
	167nm,0.1s						
KURS				S	**Sg**	**07 13 17.1**	**+0.5**
	2μm,0.4s						
ANVS	**Anan'yevo**	**0.48**	**184**	⇑*i*P	**Pg**	**07 13 12.5**	**-0.3**
	baz=86						
ANVS				⇑*i*S	**Sg**	**07 13 19.2**	**+0.1**
	baz=86						
MDOK	**Medeo**	**0.50**	**258**	*e*P	**Pg**	**07 13 13.0**	**-0.1**
	baz=59						
MDOK				*e*S	**Sg**	**07 13 20.5**	**+0.9**
	baz=59						
MDOK	**Medeo**	**0.50**	**258**	*e*P	**Pg**	**07 13 13.0**	**-0.1**
	192nm,0.1s						
MDOK				*e*S	**Sg**	**07 13 20.5**	**+0.9**
	979nm,0.2s						
MDOK	**Medeo**	**0.50**	**258**	⇑P	**Pg**	**07 13 12.6**	**-0.5**
MDOK				⇓S	**Sg**	**07 13 20.1**	**+0.5**
MDOK	**Medeo**	**0.50**	**258**	Pg	**Pg**	**07 13 13.0**	**-0.1**
	192nm,0.1s						
MDOK				Lg	Lg	07 13 20.5	
	979nm,0.2s						
SATY	**Saty**	**0.55**	**112**	*e*P	**Pg**	**07 13 13.4**	**-0.7**
	baz=12						
SATY				*e*S	**Sg**	**07 13 21.0**	**-0.2**
	baz=12						
SATY	**Saty**	**0.55**	**112**	*e*P	**Pg**	**07 13 13.4**	**-0.7**
	699nm,0.2s						
SATY				*e*S	**Sg**	**07 13 20.9**	**-0.2**
	2μm,0.2s						
SATY	**Saty**	**0.55**	**112**	P	**Pg**	**07 13 13.4**	**-0.7**
	699nm,0.2s						
SATY				S	**Sg**	**07 13 20.9**	**-0.2**
	2μm,0.2s						
KNDC	**Almaty**	**0.55**	**265**	⇑P	**Pg**	**07 13 14.5**	**+0.5**
KNDC				⇑S	**Sg**	**07 13 22.6**	**+1.3**
AAA	**Alma-Ata**	**0.59**	**265**	*e*P	**Pg**	**07 13 15.2**	**+0.4**
	baz=65						
AAA				*e*S	**Sg**	**07 13 23.9**	**+1.5**
	baz=65						
AAA	**Alma-Ata**	**0.59**	**265**	*e*P	**Pg**	**07 13 15.2**	**+0.4**
	409nm,0.1s						
AAA				*e*S	**Sg**	**07 13 23.9**	**+1.5**
	4μm,0.1s						
AAA	**Alma-Ata**	**0.59**	**265**	P	**Pg**	**07 13 15.2**	**+0.4**
	409nm,0.1s						
AAA				S	**Sg**	**07 13 23.9**	**+1.5**
	4μm,0.1s						
KPKS	**Kokpek**	**0.73**	**74**	*e*P	**Pg**	**07 13 16.6**	**-1.0**
	baz=73						
KPKS				*e*S	**Sg**	**07 13 26.5**	**-0.7**
	baz=73						
KPKS	**Kokpek**	**0.73**	**74**	*e*P	**Pg**	**07 13 16.6**	**-1.0**
	678nm,0.1s						
KPKS				*e*S	**Sg**	**07 13 26.5**	**-0.7**
	2μm,0.3s						
CHKK	**Chushkaly**	**0.79**	**318**	*e*P	**Pg**	**07 13 18.3**	**-0.4**
	baz=18						
CHKK				*e*S	**Sg**	**07 13 29.3**	**+0.3**
	baz=18						
CHKK	**Chushkaly**	**0.79**	**318**	*e*P	**Pg**	**07 13 18.3**	**-0.4**
	109nm,0.2s						
CHKK				*e*S	**Sg**	**07 13 29.3**	**+0.3**
	2μm,0.3s						
CHKK	**Chushkaly**	**0.79**	**318**	P	**Pg**	**07 13 18.3**	**-0.4**
	109nm,0.2s						
CHKK				S	**Sg**	**07 13 29.3**	**+0.3**
	2μm,0.3s						
KTBS	**Karatobe**	**0.87**	**301**	*e*P	**Pg**	**07 13 19.8**	**-0.5**
	baz=1.0						
KTBS				*e*S	**Sg**	**07 13 32.0**	**+0.4**
	baz=1.0						
KTBS	**Karatobe**	**0.87**	**301**	*e*P	**Pg**	**07 13 19.8**	**-0.5**
	190nm,0.1s						
KTBS				*e*S	**Sg**	**07 13 32.0**	**+0.4**
	2μm,0.3s						
KTBS	**Karatobe**	**0.87**	**301**	P	**Pg**	**07 13 19.8**	**-0.5**
	190nm,0.1s						
KTBS				S	**Sg**	**07 13 32.0**	**+0.4**
	2μm,0.3s						
ARXS	**Arharly**	**0.95**	**5**	*e*P	**Pg**	**07 13 20.8**	**-0.9**
	587nm,0.2s						
ARXS				*e*S	**Sg**	**07 13 33.8**	**-0.3**
	656nm,0.2s						
ARXS	**Arharly**	**0.95**	**5**	P	**Pg**	**07 13 20.8**	**-0.9**
	587nm,0.2s						
ARXS				S	**Sg**	**07 13 33.8**	**-0.3**
	656nm,0.2s						
UZB	**Uzynbulak**	**0.96**	**97**	*e*P	**Pg**	**07 13 20.4**	**-1.6**
	baz=96						
UZB				*e*S	**Sg**	**07 13 33.1**	**-1.4**
	baz=96						
UZB	**Uzynbulak**	**0.96**	**97**	*e*P	**Pg**	**07 13 20.4**	**-1.6**
	239nm,0.2s						
UZB				*e*S	**Sg**	**07 13 33.0**	**-1.4**
	1μm,0.3s						
UZB	**Uzynbulak**	**0.96**	**97**	P	**Pg**	**07 13 20.4**	**-1.6**
	239nm,0.2s						
UZB				S	**Sg**	**07 13 33.0**	**-1.4**
	1μm,0.3s						
KDJ	**Kajisay**	**1.20**	**199**	⇓*i*P	**Pb**	**07 13 25.4**	**-1.2**
	baz=0.0						
KDJ				⇓*i*S	**Sb**	**07 13 41.4**	**-1.0**
	baz=0.0						
SHLS	**Shalkode**	**1.28**	**94**	*e*P	**Pg**	**07 13 31.8**	**+3.8**
	baz=93						
SHLS				*e*S	**Sn**	**07 13 52.5**	**+7.1**
	baz=93						
SHLS	**Shalkode**	**1.28**	**94**	*e*P	**Pg**	**07 13 31.8**	**+3.8**
	64nm,0.3s						
SHLS				*e*S	**Sn**	**07 13 52.5**	**+7.1**
	221nm,0.2s						
SHLS	**Shalkode**	**1.28**	**94**	P	**Pg**	**07 13 31.8**	**+3.8**
	64nm,0.3s						
SHLS				S	**Sn**	**07 13 52.5**	**+7.1**
	221nm,0.2s						
PDGK	**Podgornoye**	**1.30**	**87**	P	**Pn**	**07 13 26.1**	**-2.0**
	61nm,0.2s						
PDGK				S	**Sb**	**07 13 42.8**	**-2.4**
	127nm,0.4s						
PDGK	**Podgornoye**	**1.30**	**87**	⇑P	**Pn**	**07 13 26.0**	**-2.2**
	26nm,0.3s						
PDGK				⇑S	**Sb**	**07 13 42.7**	**-2.5**
	83nm,0.3s						
KST	**Kastek**	**1.30**	**261**	*e*P	**Pn**	**07 13 27.1**	**-1.1**
	baz=61						
KST				*e*S	**Sb**	**07 13 44.5**	**-0.8**
	baz=61						
KST	**Kastek**	**1.30**	**261**	*e*P	**Pn**	**07 13 27.1**	**-1.1**
	156nm,0.3s						
KST				*e*S	**Sb**	**07 13 44.5**	**-0.8**
	494nm,0.2s						
KST	**Kastek**	**1.30**	**261**	P	**Pn**	**07 13 27.1**	**-1.1**
	156nm,0.3s						
KST				S	**Sb**	**07 13 44.5**	**-0.8**
	494nm,0.2s						
DGS	**Degeres**	**1.42**	**270**	*e*P	**Pn**	**07 13 28.8**	**-1.0**
	baz=70						
DGS				*e*S	**Sn**	**07 13 47.9**	**-0.9**
	baz=70						
DGS	**Degeres**	**1.42**	**270**	*e*P	**Pn**	**07 13 28.8**	**-1.0**
	270nm,0.2s						
DGS				*e*S	**Sn**	**07 13 47.9**	**-0.9**
	735nm,0.6s						
DGS	**Degeres**	**1.42**	**270**	P	**Pn**	**07 13 28.8**	**-1.0**
	270nm,0.2s						
DGS				S	**Sn**	**07 13 47.9**	**-0.9**
	735nm,0.6s						
ULHL	**Ulahol**	**1.49**	**227**	⇓*i*P	**Pn**	**07 13 30.1**	**-0.7**
	baz=28						
ULHL				⇓*i*S	**Sn**	**07 13 49.9**	**-0.7**
	baz=28						
ULHL	**Ulahol**	**1.49**	**227**	P	**Pn**	**07 13 30.3**	**-0.5**
	SNR=85						
BOOM	**Boomskoye usch**	**1.52**	**240**	⇑*i*P	**Pn**	**07 13 30.8**	**-0.4**
	baz=40						
BOOM				⇑*i*S	**Sn**	**07 13 50.7**	**-0.6**
	baz=40						
TARG	**Taragay, Kyrgy**	**1.54**	**177**	⇓*i*P	**Pn**	**07 13 31.1**	**-0.6**
	baz=78						
TARG				⇓*i*S	**Sn**	**07 13 51.1**	**-1.0**
	baz=78						
KRBS	**Karabastau**	**1.55**	**287**	*e*P	**Pn**	**07 13 31.1**	**-0.4**
	baz=87						
KRBS				*e*S	**Sn**	**07 13 51.8**	**0.0**
	baz=87						
KRBS	**Karabastau**	**1.55**	**287**	*e*P	**Pn**	**07 13 31.1**	**-0.4**
	304nm,0.3s						
KRBS				*e*S	**Sn**	**07 13 51.8**	**0.0**
	955nm,0.3s						
KRBS	**Karabastau**	**1.55**	**287**	P	**Pn**	**07 13 31.1**	**-0.4**
	304nm,0.3s						
KRBS				S	**Sn**	**07 13 51.8**	**0.0**
	955nm,0.3s						
TKM2	**Tokmak 2**	**1.59**	**258**	⇑*i*P	**Pn**	**07 13 31.8**	**-0.4**
	baz=59						
TKM2				⇑*i*S	**Sn**	**07 13 53.1**	**0.0**
	baz=59						
TKM2	**Tokmak 2**	**1.59**	**258**	P	**Pn**	**07 13 31.8**	**-0.4**
	SNR=298						
TKM2	**Tokmak 2**	**1.59**	**258**	⇑P	**Pn**	**07 13 31.9**	**-0.4**
	17nm,0.2s						
TKM2				⇑S	**Sb**	**07 13 53.6**	**-0.1**
	69nm,0.2s						
TDK	**Taldyqorghan**	**1.81**	**16**	*e*P	**Pn**	**07 13 35.2**	**+0.2**
	354nm,0.5s						
TDK				*e*S	**Sb**	**07 13 59.1**	**-0.6**
	184nm,0.6s						
TDK	**Taldyqorghan**	**1.81**	**16**	P	**Pn**	**07 13 35.2**	**+0.2**
	354nm,0.5s						
TDK				S	**Sb**	**07 13 59.1**	**-0.6**
	184nm,0.6s						
DJR	**Jarkent**	**1.84**	**54**	*e*P	**Pb**	**07 13 36.3**	**-1.2**
	47nm,0.2s						
DJR				*e*S	**Sb**	**07 14 00.3**	**-0.6**
	347nm,0.4s						
DJR	**Jarkent**	**1.84**	**54**	P	**Pb**	**07 13 36.3**	**-1.2**
	47nm,0.2s						
DJR				S	**Sb**	**07 14 00.3**	**-0.6**
	347nm,0.4s						
KBK	**Karagaybulak**	**2.12**	**254**	⇑*i*P	**Pn**	**07 13 39.8**	**+0.3**
	baz=55						
KBK				⇑*i*S	**Sn**	**07 14 06.5**	**+0.3**
	baz=55						
KBK	**Karagaybulak**	**2.12**	**254**	P	**Pn**	**07 13 40.4**	**+0.9**
	SNR=49						
CHMS	**Chumysh**	**2.19**	**264**	⇓*i*P	**Pn**	**07 13 40.6**	**+0.4**
	baz=64						
CHMS				⇓*i*S	**Sn**	**07 14 07.6**	**0.0**
	baz=64						
CHMS	**Chumysh**	**2.19**	**264**	P	**Pn**	**07 13 40.2**	**0.0**
	SNR=54						
SGDS	**Sogindy**	**2.26**	**276**	Pg	**Pb**	**07 13 43.4**	**-1.2**
	41nm,0.2s						
SGDS				Lg	Lg	07 14 12.7	
	134nm,0.3s						
FRU1	**Bishkek**	**2.31**	**260**	⇑*i*P	**Pn**	**07 13 42.5**	**+0.6**
	baz=60						
FRU1				⇑*i*S	**Sn**	**07 14 10.9**	**+0.3**
	baz=60						
USP	**Ospenovka**	**2.35**	**271**	⇑*i*P	**Pn**	**07 13 42.9**	**+0.4**
	baz=71						
USP				⇑*i*S	**Sn**	**07 14 11.4**	**-0.2**
	baz=71						
USP	**Ospenovka**	**2.35**	**271**	P	**Pn**	**07 13 43.9**	**+1.4**
	SNR=33						
AAK	**Ala-Archa**	**2.45**	**256**	⇑*i*P	**Pn**	**07 13 44.3**	**+0.4**
	baz=56						
AAK				⇑*i*S	**Sn**	**07 14 14.0**	**-0.2**
	baz=56						
AAK	**Ala-Archa**	**2.45**	**256**	P	**Pb**	**07 13 46.6**	**-1.3**
	SNR=15						
AAK	**Ala-Archa**	**2.45**	**256**	⇑Pg	**Pb**	**07 13 46.2**	**-1.6**
	11nm,0.3s						
AAK				⇑Lg	Lg	07 14 19.0	
	82nm,0.5s						
ARLS	**Aral**	**2.87**	**242**	⇑*i*P	**Pn**	**07 13 50.2**	**+0.4**
	baz=42						
ARLS				⇑*i*S	**Sn**	**07 14 24.0**	**-0.7**
	baz=42						
EKS2	**Erkin-Say**	**2.95**	**260**	⇑*i*P	**Pn**	**07 13 51.3**	**+0.4**
	baz=60						
EKS2				⇑*i*S	**Sn**	**07 14 26.1**	**-0.5**
	baz=60						
EKS2	**Erkin-Say**	**2.95**	**260**	P	**Pn**	**07 13 53.2**	**+2.4**
	SNR=18						
BTLS	**Baital**	**3.18**	**305**	*e*P	**Pb**	**07 13 59.5**	**-0.8**
	17nm,0.4s						
BTLS				*e*S	**Sb**	**07 14 39.9**	**+0.7**
	19nm,0.5s						
BTLS	**Baital**	**3.18**	**305**	Pg	**Pb**	**07 13 59.5**	**-0.8**
	17nm,0.4s						
BTLS				Lg	Lg	07 14 39.9	
	19nm,0.5s						
MRKS	**Merke**	**3.33**	**263**	*e*P	**Pb**	**07 14 02.8**	**-0.1**
	31nm,0.4s						
MRKS				*e*S	**Sb**	**07 14 45.7**	**+2.0**
	98nm,0.3s						
MRKS	**Merke**	**3.33**	**263**	Pg	**Pb**	**07 14 02.8**	**-0.1**
	31nm,0.4s						
MRKS				Lg	Lg	07 14 45.7	
	98nm,0.3s						
MNAS	**Manas**	**3.91**	**260**	⇑*e*P	**Pn**	**07 14 04.4**	**+0.4**
	baz=60						
MNAS				⇑*i*S	**Sn**	**07 14 49.0**	**-1.2**
	baz=60						
MAKZ	**Makanchi**	**4.66**	**39**	⇓Pn	**Pn**	**07 14 13.7**	**-0.5**
	1.8nm,0.3s						
MAKZ				⇑Pg	**Pb**	**07 14 26.7**	**+1.3**
	6.3nm,0.8s						
MAKZ				⇓Lg	Lg	07 15 26.1	
	12nm,0.7s						
MK31	**Makanchi Array**	**4.79**	**41**	⇑Pn	**Pn**	**07 14 15.4**	**-0.7**
	0.3nm,0.1s,baz=217,slow=15						
MK31				⇓Pg	**Pb**	**07 14 28.4**	**+0.6**
	1.0nm,0.3s,baz=228,slow=15						
MK31				⇓Lg	Lg	07 15 32.9	
	8.5nm,0.6s,baz=220,slow=27						
KK31	**Karatay Array**	**5.27**	**271**	⇓Pg	**Pb**	**07 14 40.1**	**+4.2**
	3.6nm,0.5s						
KK31				⇓Lg	Lg	07 15 53.3	
	22nm,0.5s						
ZSN	**Zaisan**	**6.55**	**48**	*e*P	**Pb**	**07 15 00.7**	**+3.1**
	4.4nm,0.5s						
ZSN				*e*S	**Sg**	**07 16 26.5**	**-7.1**
	5.8nm,0.5s						
ZSN	**Zaisan**	**6.55**	**48**	Pg	**Pb**	**07 15 00.7**	**+3.1**
	4.4nm,0.5s						
ZSN				Lg	Lg	07 16 26.5	
	5.8nm,0.5s						
KURBB	**Kurchatov Arra**	**7.38**	**4**	⇓Lg	Lg	07 17 01.0	
	28nm,0.6s						

NNC 07 07:30:22.4±3.9, 38°.82N×78°.90E, h0km, mb3.6, mpv3.2, 5C-5D, Error ellipse: s-maj=34.7km s-min=27.4km az=154.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**4.53**	**5**	⇓Pn	Pn	07 31 34.9	+2.5
	1.9nm,0.5s						
PDGK				⇑Lg	Lg	07 32 47.4	
	7.9nm,0.8s						
MDOK	**Medeo**	**4.56**	**343**	Pn	Pn	07 31 34.5	+1.7
	7.5nm,0.8s						
MDOK				Lg	Lg	07 32 50.1	
	12nm,0.9s						
TKM2	**Tokmak 2**	**4.80**	**330**	⇓Pn	Pn	07 31 34.1	-2.1
	1.7nm,0.8s						
TKM2				⇓Lg	Lg	07 32 56.5	
	5.5nm,0.8s						
AAK	**Ala-Archa**	**5.07**	**320**	⇑Pn	Pn	07 31 38.4	-1.5
	2.0nm,0.5s						
AAK				⇑Lg	Lg	07 33 04.2	
	7.4nm,1.0s						
MAKZ	**Makanchi**	**8.30**	**15**	⇑Pn	Pn	07 32 24.2	+0.2
	0.9nm,0.4s						
MAKZ				⇓Sn	Sn	07 33 58.4	0.0
	0.5nm,0.5s						
MK31	**Makanchi Array**	**8.35**	**16**	⇓Pn	Pn	07 32 24.4	-0.3
	0.4nm,0.5s,baz=202,slow=12						
MK31				⇑Sn	Sn	07 33 57.7	-2.0
	0.2nm,0.3s,baz=197,slow=25						

*IDC **07** 07:53:12.9±2.6, 5°.43S×152°.22E, h24km±16km, mb4.9/31, mb1 5.0/32, mb1mx4.9/40, mbtmp5.0/32, ML4.9/1, MS4.5/12, Ms1 4.5/12, ms1mx4.2/34, Error ellipse: s-maj=12.6km s-min=11.2km az=71.0*

*BJI **07** 07:53:13.5±0.0, 5°.34S×152°.58E, h53km, mB5.3/31, mb5.1/56, Ms5.3/26, Ms7 5.0/25*

*MOS **07** 07:53:13.2±0.8, 5°.37S×152°.22E, h39km, mb5.4/41, Error ellipse: s-maj=8.0km s-min=6.7km az=107.4*

*NEIC **07** 07:53:15.9±1.6, 5°.49S±0°.06×152°.34E±0°.07, h46km±5km, mb5.2/166, Error ellipse: s-maj=10.3km s-min=7.5km az=55.0*

*GCMT **07** 07:53:17.9±0.4, 5°.72S±0°.03×152°.24E±0°.03, h41km±1km, MW5.3/58, Moment Tensor Solution. s23,c28; s58,c72; Duration: 1ŝ1 Moment tensor: Scale 10^17^Nm; M_{rr}0.83±.11; $M_{\theta\theta}$-0.67±.06; $M_{\phi\phi}$-0.16±.06; $M_{r\theta}$0.21±.05; $M_{\theta\phi}$-0.45±.03; $M_{\phi r}$0.59±.05; Best double couple: $M_0$1.08600×10^17^ NP1:ϕ_s259.00000°, δ34.00000°, λ126.00000°. NP2:ϕ_s38.00000°, δ63.00000°, λ68.00000°. Principal axes: T 1.1080, Plg65.0000°, Azm270.0000°; N -0.0440, Plg19.0000°, Azm49.0000°; P -1.0640, Plg15.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **07** 07:53:17.8±0.4, 5°.S±3°×15°.2E±°, h68km±4km, M5.5/47, mB5.8/17, mb5.4/47, MLv5.8/3, Mw(mB)5.3/17*

ISC 07 07:53:16.2±0.7, 5°.46S±0°.04×152°.22E±0°.04, h55km±6km, n645, σ1ŝ22/665, mb5.2/184, **MS4.7**/24, **112C-16D, Fault plane solution: NP1:**ϕ_s38.73317°, δ56.23164°, λ61.67418°. **NP2:**ϕ_s262.85352°, δ42.96622°, λ125.36045°. **Principal axes:** T Plg65.5697°, Azm254.5172°; N Plg23.2308°, Azm55.4119°; P Plg7.1457°, Azm148.4966°; **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.26**	**358**		**Pn**	**07 53 37.7**	**+0.1**
MANU	**Manus Island**	**5.91**	**305**		**Pn**	**07 54 42.0**	**+0.7**
PMG	**Port Moresby**	**6.37**	**232**	Pn	**Pn**	**07 54 48.6**	**+1.1**
	40nm,0.3s,baz=26,slow=7.3,SNR=93						
PMG				Sn	**Sn**	**07 55 57.8**	**-1.1**
	65nm,0.3s,baz=146,slow=22,SNR=24						
PMG	**Port Moresby**	**6.37**	**232**	*ce*P	**Pn**	**07 54 49.1**	**+1.6**
PMG				pmax	pmax		
	comp=Z,510nm,0.7s						
PMG	**Port Moresby**	**6.37**	**232**	Pn	**Pn**	**07 54 48.5**	**+1.0**
PMG	**Port Moresby**	**6.37**	**232**	P	**Pn**	**07 54 50.0**	**+2.5**
PMG	**Port Moresby**	**6.37**	**232**	P	**Pn**	**07 54 50.0**	**+2.5**
HNR	**Honiara**	**8.62**	**118**	Pn	**Pn**	**07 55 18.4**	**+0.1**
	comp=Z,14nm,0.3s,baz=296,slow=1.9,SNR=12						
HNR				Sn	**Sn**	**07 56 55.5**	**+1.3**
	comp=Z,12nm,0.3s,baz=312,slow=21,SNR=2.0						
HNR				LR	LR	07 58 56.0	
	comp=Z,2μm,19.9s,baz=266,slow=40						
HNR	**Honiara**	**8.62**	**118**	Pn	**Pn**	**07 55 16.1**	**-2.3**
HNR	**Honiara**	**8.62**	**118**	P	**Pn**	**07 55 20.5**	**+2.2**
MTSU	**Mount Surprise**	**14.77**	**211**	P	**P**	**07 56 46.9**	**0.0**
	baz=15,SNR=76						
CTA	**Charters Tower**	**15.65**	**201**	Pn	**P**	**07 56 56.0**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=21,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**15.65**	**201**	P	**P**	**07 56 55.2**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**15.65**	**201**	P	**P**	**07 56 55.2**	**-1.4**
SANVU	**Saraoutou**	**17.75**	**125**	P	**P**	**07 57 20.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**19.04**	**143**	P	**Pn**	**07 57 35.0**	**-0.1**
QIS	**Mount Isa**	**19.37**	**218**	P	**Pn**	**07 57 39.3**	**+0.1**
	baz=20,SNR=216						
EIDS	**Eidsvold**	**19.83**	**183**	P	**P**	**07 57 42.7**	**+0.3**
	baz=20,SNR=7.5						
EIDS	**Eidsvold**	**19.83**	**183**	P	**P**	**07 57 42.3**	**-0.2**
FAKI	**Fak Fak**	**20.07**	**276**	P	**P**	**07 57 44.9**	**-0.4**
	comp=Z,59nm,1.0s						
KDU	**Kakadu**	**20.77**	**248**	P	**P**	**07 57 53.3**	**+0.5**
	baz=21,SNR=156						
LIFNC	**LIFOU**	**21.08**	**138**	P	**P**	**07 57 55.0**	**-1.1**
LIFNC	**LIFOU**	**21.08**	**138**	P	**P**	**07 57 55.6**	**-0.5**
RMQ	**Roma**	**21.17**	**189**	P	**P**	**07 57 57.5**	**+0.5**
	baz=21,SNR=24						
SIJI	**Sorong**	**21.41**	**282**	P	**P**	**07 57 59.8**	**+0.1**
	comp=Z,103nm,0.7s,baz=88,slow=8.4,SNR=13						
SWI	**Sorong**	**21.41**	**282**	P	**P**	**07 57 59.7**	**0.0**
	comp=Z,3μmcomp=Z,206nm,1.0s						
NOUC	**Port Laguerre**	**21.43**	**142**	P	**P**	**07 58 00.3**	**+0.4**
DZM	**Mont Dzumac**	**21.50**	**142**	P	**P**	**07 58 00.7**	**+0.1**
	comp=Z,75nm,0.6s,baz=336,slow=9.1,SNR=91						
DZM				LR	LR	08 05 18.6	
	comp=Z,2μm,21.5s,baz=299,slow=34						
DZM	**Mont Dzumac**	**21.50**	**142**	*e*P	**P**	**07 57 59.0**	**-1.7**
	comp=Z,265nm,1.2s						
DZM				*e*LR	LR	08 03 11.6	
	comp=Z,4μm,24.6s						
DZM	**Mont Dzumac**	**21.50**	**142**	P	**P**	**07 57 59.9**	**-0.7**
DZM				IAmb	IAmb	07 58 01.5	
	comp=Z,89nm,0.8s						
DZM	**Mont Dzumac**	**21.50**	**142**	P	**P**	**07 58 00.9**	**+0.2**
ONTNC	**Ouen Toro**	**21.68**	**142**	P	**P**	**07 58 01.3**	**-1.2**
ONTNC				IAmb	IAmb	07 58 15.7	
	comp=Z,117nm,1.2s						
ONTNC	**Ouen Toro**	**21.68**	**142**	P	**P**	**07 58 03.5**	**+1.0**
TARA	**Tarawa**	**21.76**	**72**	P	**P**	**07 58 00.9**	**-2.5**
TARA				IAmb	IAmb	07 58 13.4	
	comp=Z,107nm,0.8s						
YATNC	**Mamie plateau,**	**21.77**	**141**	P	**P**	**07 58 03.6**	**+0.1**
OUENC	**Ouen Island, N**	**22.00**	**141**	P	**P**	**07 58 04.7**	**-1.2**
OUENC				IAmb	IAmb	07 58 07.1	
	comp=Z,64nm,0.9s						
OUENC	**Ouen Island, N**	**22.00**	**141**	P	**P**	**07 58 06.5**	**+0.6**
MTN	**Manton Dam**	**22.06**	**249**	P	**P**	**07 58 06.5**	**-0.2**
	baz=22,SNR=87						
MTN	**Manton Dam**	**22.06**	**249**	P	**P**	**07 58 07.1**	**+0.4**
MARNC	**Mare, Loyalty**	**22.10**	**138**	P	**P**	**07 58 05.4**	**-1.6**
MARNC	**Mare, Loyalty**	**22.10**	**138**	P	**P**	**07 58 08.1**	**+1.1**
WB0	**Warramunga Arr**	**22.43**	**229**	P	**P**	**07 58 10.2**	**-0.5**
WB0				IAmb	IAmb	07 58 13.4	
	comp=Z,85nm,0.8s						
WR0	**Warramunga Arr**	**22.43**	**228**	P	**P**	**07 58 10.4**	**-0.3**
WR0				IAmb	IAmb	07 58 13.5	
	comp=Z,67nm,0.8s						
PINNC	**Pines Island,**	**22.52**	**141**	P	**P**	**07 58 10.7**	**-0.9**
PINNC				IAmb	IAmb	07 58 12.5	
	comp=Z,127nm,1.2s						
PINNC	**Pines Island,**	**22.52**	**141**	P	**P**	**07 58 12.6**	**+1.1**
WRAB	**Tennant Creek**	**22.56**	**229**	P	**P**	**07 58 12.1**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,125nm,0.7s						
WRAB	**Tennant Creek**	**22.56**	**229**	P	**P**	**07 58 12.1**	**+0.1**
WRAB				IAmb	IAmb	07 58 14.6	
	comp=Z,125nm,0.7s						
WB2	**Warramunga Arr**	**22.57**	**229**	P	**P**	**07 58 11.8**	**-0.3**
WRA	**Warramunga Arr**	**22.57**	**229**	P	**P**	**07 58 12.0**	**-0.2**
	comp=Z,94nm,0.7s,baz=53,slow=10,SNR=215						
WRA				PcP	**PcP**	**08 02 05.3**	**+1.2**
	comp=Z,10nm,0.8s,baz=47,slow=1.8,SNR=4.9						
WRA				S	**S**	**08 02 14.7**	**-1.4**
	comp=Z,24nm,1.3s,baz=54,slow=18,SNR=12						

comp=Z,4.2nm,0.7s,baz=11,slow=10,SNR=14
STKA LR LR 08 09 56.9
comp=Z,746nm,20.4s,baz=8.2,slow=36
STKA Stephens Creek 28.10 199 P P 07 59 02.0 -0.9
BATI Baumata 28.67 259 P P 07 59 08.7 +0.4
comp=Z,150nm,0.7s,baz=173,slow=2.8,SNR=15
BATI Baumata 28.67 259 P P 07 59 10.4 +2.2
comp=Z,139nm,1.0s
FITZ Fitzroy Crossi 28.84 242 P P 07 59 09.9 +0.3
comp=Z,88nm,0.6s,baz=61,slow=7.2,SNR=333
FITZ Fitzroy Crossi 28.84 242 P P 07 59 10.0 +0.4
baz=29,SNR=99
FITZ Fitzroy Crossi 28.84 242 P P 07 59 09.4 -0.2
MMRI Maumere 29.91 262 P P 07 59 18.7 -0.5
MMRI Maumere 29.91 262 P P 07 59 19.2 -0.1
comp=Z,229nm,0.9s
WRKA Warakurna 30.09 227 P P 07 59 20.4 -0.3
baz=30,SNR=72
HTT Hallett 30.45 202 P P 07 59 23.9 +0.1
baz=31,SNR=6.1
EDFI Ende, Flores 30.46 262 P P 07 59 23.8 -0.4
comp=Z,708nmcomp=Z,88nm,0.8s
BBOO Buckleboo 31.11 207 P P 07 59 29.3 -0.3
baz=31,SNR=12
BBOO Buckleboo 31.11 207 P P 07 59 29.1 -0.5
TOLI2 Tolitoli 32.07 281 P P 07 59 38.9 +0.6
KAPI Kappang 32.33 269 P P 07 59 40.1 -0.4
comp=Z,9.9nm,0.6s,baz=122,slow=10.0,SNR=5.4
KAPI LR LR 08 14 56.7
comp=Z,535nm,19.0s,baz=111,slow=40
KAPI Kappang 32.33 269 P P 07 59 40.9 +0.4
KAPI pmax pmax
comp=Z,33nm,0.7s
KAPI Kappang 32.33 269 P P 07 59 40.9 +0.4
KAPI IAmb IAmb 08 00 04.2
comp=Z,33nm,0.7s
MPSI Mapaga 32.78 279 P P 07 59 42.6 -1.9
comp=Z,3μmcomp=Z,30nm,0.6s
WBSI Waikabubak, Su 32.80 261 P P 07 59 44.4 -0.3
comp=Z,2μmcomp=Z,202nm,0.7s
JCJ Chichijima 33.79 344 LR LR 08 13 37.7
comp=Z,560nm,18.0s,baz=193,slow=36
FORT Forrest 33.91 219 P P 07 59 54.0 -0.1
baz=34,SNR=50
FORT Forrest 33.91 219 P P 07 59 53.9 -0.3
PLAI Plampang 34.33 262 P P 07 59 55.5 -2.5
comp=Z,1μmcomp=Z,146nm,0.6s
PSA00 Pilbara Seismi 35.20 240 P P 08 00 05.1 -0.3
PSA00 Pilbara Seismi 35.20 240 P P 08 00 04.5 -0.9
PSA00 IAmb IAmb 08 00 10.1
comp=Z,23nm,0.9s
TWSI Taliwang, Sumb 35.21 263 P P 08 00 04.3 -1.2
comp=Z,27nm,0.6s
MEEK Meekatharra 38.34 233 P P 08 00 32.3 +0.2
baz=38,SNR=12
JOW Kunigami 39.60 325 LR LR 08 14 14.8
comp=Z,644nm,19.4s,baz=160,slow=32
JOW Kunigami 39.60 325 P P 08 00 43.2 +0.7
URZ Urewera 39.72 149 P P 08 00 43.4 0.0
comp=Z,6.9nm,0.8s,baz=292,slow=5.4,SNR=1.2
PWJI Pagerwojo 40.20 264 P P 08 00 47.2 -0.5
comp=Z,97nm,1.2s
GIRL Giralia 40.44 241 P P 08 00 50.7 +1.1
baz=41,SNR=24
GIRL Giralia 40.44 241 P P 08 00 50.3 +0.7
PCJI Pacitan 40.83 264 P P 08 00 52.0 -0.9
comp=Z,3μmcomp=Z,247nm,0.8s
KLBR Kellerberrin 41.43 227 P P 08 00 57.1 -0.6
baz=42,SNR=10
MORW Morawa 41.48 231 P P 08 00 57.9 -0.1
baz=42,SNR=6.7
MORW Morawa 41.48 231 P P 08 00 58.0 -0.1
MORW IAmb IAmb 08 01 03.8
comp=Z,31nm,0.6s
YULB Yu-li 41.64 315 P P 08 00 59.6 +0.2
BLDU Ballidu 41.71 229 P P 08 00 59.7 -0.3
baz=42,SNR=6.6
KPJI Karang Pucung 43.05 265 P P 08 01 10.9 -0.1
comp=Z,100nm,0.8s
JNU Nakatsue 43.39 334 P P 08 01 13.1 -0.4
JWT Wachi 43.51 340 P P 08 01 13.8 -0.6
MJAR Matsushiro Arr 43.79 344 P P 08 01 14.9 -1.8
comp=Z,1.5nm,0.6s,baz=109,slow=14,SNR=4.7
MJAR PcP **PcP 08 03 03.4 +0.8**
comp=Z,2.9nm,0.8s,baz=156,slow=3.5,SNR=8.3
MJAR ScP **ScP 08 06 52.7 +2.9**
comp=Z,5.0nm,1.0s,baz=155,slow=5.3,SNR=11
MAT Matsushiro 43.80 344 P P 08 01 16.7 0.0
JHS Saijyo 44.08 337 P P 08 01 18.6 -0.5
CISI Cisompet, Garu 44.15 265 P P 08 01 19.1 -0.9
CISI Cisompet, Garu 44.15 265 P P 08 01 18.7 -1.3
comp=Z,3μmcomp=Z,109nm,0.6s
LEM Lembang 44.35 266 P P 08 01 21.9 +0.1
comp=Z,37nm,0.7s,baz=79,slow=6.2,SNR=6.2
TPI Tanjungpandan 44.52 272 P P 08 01 23.3 +0.4
comp=Z,43nm,0.9s
CNJI Cibinong 44.83 265 P P 08 01 24.8 -0.6
comp=Z,3μmcomp=Z,207nm,1.1s
KASI Kota Agung 47.49 268 P P 08 01 43.5 -2.8
comp=Z,53nm,0.9s
TJN Taejon 47.69 333*ce*P P **08 01 47.7 +0.3**
MDSI Maura Dua 47.86 269 P P 08 01 47.5 -1.6
comp=Z,21nm,1.0s
KSRS Korea Array 48.33 334 P P 08 01 52.5 +0.1
comp=Z,5.0nm,0.8s,baz=149,slow=9.0,SNR=19
KSRS PcP **PcP 08 03 20.2 +1.9**
comp=Z,3.6nm,0.6s,baz=161,slow=3.3,SNR=9.7
NJ2 Nanjing 49.00 322 *e*P **P 08 02 00.1 +2.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MCQ Macquarie Isla 49.20 175 P P 08 01 56.6 -2.1
baz=49,SNR=5.1
DL2 Dalian 52.45 330 P P 08 02 24.0 +0.6
DL2 pmax pmax
comp=Z,32nm,0.8s
DL2 LR LR
comp=Z,800nm,16.3s
DL2 LR LR
comp=Z,770nm,18.0s
DL2 LR LR
comp=Z,970nm,20.3s
YSS Yuzh-Sakhalins 52.86 352 *i* P **P 08 02 26.5 +0.2**
YSS pmax pmax
comp=Z,19nm,1.1s
MNSI Mandailing Nat 52.93 275 P P 08 02 26.1 -1.4
comp=Z,36nm,0.9s
NONG Nongkai 53.75 297 P P 08 02 34.1 +0.7
comp=Z,77nm,0.8s
CHAI Chaiyaphum 54.05 294 P P 08 02 36.3 +0.7
comp=Z,38nm,0.8s
ENH Enshi 54.18 314 P P 08 02 36.1 -0.3
ENH **PcP 08 03 41.2 +0.8**
SLVN Son La 54.33 301 P P 08 02 38.0 +0.3
GYA Guiyang 54.34 308 P P 08 02 38.5 +0.8
GYA pmax pmax
comp=Z,5.0nm,0.9s
GYA LR LR
comp=Z,110nm,22.6s
GYA LR LR
comp=Z,170nm,22.8s
GYA LR LR
comp=Z,280nm,21.8s
GSI Gunungsitoli 54.98 275 P P 08 02 41.6 -0.9
GSI Gunungsitoli 54.98 275 P P 08 02 40.8 -1.7
comp=Z,59nm,1.1s
PHIT Phitsanulok 55.90 295 P P 08 02 50.5 +1.6
comp=Z,1μmcomp=Z,87nm,0.8s
UTTA Uttaradit 55.95 296 P P 08 02 50.6 +1.3
comp=Z,46nm,0.8s
UTTA Uttaradit 55.95 296 P P 08 02 50.0 +0.7
BJI Beijing 56.12 327 P P 08 02 50.7 +0.6
BJI pP **pP 08 03 01.6 -3.0**
BJI PcP **PcP 08 03 49.0 +1.4**
BJI pmax pmax
comp=Z,11nm,1.4s
MLSI Meulaboh, Aceh 56.58 279 P P 08 02 52.2 -1.7
comp=Z,108nm,0.8s
XAN Xi'an 56.70 317 P P 08 02 54.7 +0.2
XAN pP pP 08 03 04.4 -5.0
XAN pmax pmax
comp=Z,36nm,0.9s
XAN pmax pmax
comp=Z,220nm,6.0s
XAN LR LR
comp=Z,750nm,16.2s
XAN LR LR
comp=Z,1μm,14.7s
XAN LR LR
comp=Z,2μm,16.7s
KMI Kunming 56.88 305 ⇑P **P 08 02 57.7 +1.6**
KMI pP pP 08 03 07.6 -3.3
KMI pmax pmax
comp=Z,34nm,0.8s
KMI LR LR
comp=Z,530nm,15.8s
KMI LR LR
comp=Z,470nm,18.7s
KMI LR LR
comp=Z,900nm,20.0s
LAMP Lampang 57.04 296 P **P 08 02 58.7 +1.7**
comp=Z,61nm,0.8s
LAMP Lampang 57.04 296 P **P 08 02 58.7 +1.7**
KLR Kul'dur 57.31 344*ce*P **P 08 02 58.6 +0.2**
KLR pmax pmax
comp=Z,3.0nm,0.9s
CM35 Chiang Mai Arr 57.52 296 P **P 08 03 01.0 +0.5**
CM36 Chiang Mai Arr 57.52 296 P **P 08 03 01.0 +0.5**
CM34 Chiang Mai Arr 57.58 296 P **P 08 03 02.0 +1.1**
CM04 Chiang Mai Arr 57.58 296 P **P 08 03 02.6 +1.7**
comp=Z,187nmcomp=Z,20nm,0.9s
CM04 Chiang Mai Arr 57.58 296 P **P 08 03 02.7 +1.8**
CM09 Chiang Mai Arr 57.59 296 P **P 08 03 02.9 +2.0**
comp=Z,220nmcomp=Z,27nm,0.8s
CM09 Chiang Mai Arr 57.59 296 P **P 08 03 03.0 +2.0**
CM01 Chiang Mai Arr 57.61 296 P **P 08 03 03.0 +1.9**
comp=Z,158nmcomp=Z,19nm,0.9s
CM01 Chiang Mai Arr 57.61 296 P **P 08 03 03.0 +1.9**
CM05 Chiang Mai Arr 57.62 296 P **P 08 03 02.6 +1.5**
comp=Z,131nmcomp=Z,16nm,1.0s
CM05 Chiang Mai Arr 57.62 296 P **P 08 03 02.7 +1.6**
CM02 Chiang Mai Arr 57.62 296 P **P 08 03 02.8 +1.6**
comp=Z,134nmcomp=Z,22nm,0.9s
CM02 Chiang Mai Arr 57.62 296 P **P 08 03 02.9 +1.7**
CM31 Chiang Mai Arr 57.64 296 P **P 08 03 03.0 +1.7**
CMAR Chiang Mai Arr 57.64 296 P **P 08 03 02.2 +0.9**
comp=Z,14nm,0.9s,baz=116,slow=5.3,SNR=40
CMAR PcP **PcP 08 03 55.3 +1.3**
comp=Z,8.6nm,0.9s,baz=113,slow=2.7,SNR=8.2
CMAR Chiang Mai Arr 57.64 296 P **P 08 03 01.8 +0.5**
CM15 Chiang Mai Arr 57.65 296 P **P 08 03 03.0 +1.6**
comp=Z,25nm,0.9s
CM15 Chiang Mai Arr 57.65 296 P **P 08 03 03.0 +1.6**
CM13 Chiang Mai Arr 57.66 296 P **P 08 03 03.0 +1.6**
comp=Z,153nmcomp=Z,17nm,0.9s
CM13 Chiang Mai Arr 57.66 296 P **P 08 03 03.0 +1.6**
CMMT Chiang Mai 57.75 296 P **P 08 03 03.1 +1.0**
comp=Z,20nm,0.9s
CMMT Chiang Mai 57.75 296 P **P 08 03 03.1 +1.0**
CM33 Chiang Mai Arr 57.75 296 P **P 08 03 03.0 +0.9**
CHTO Chiang Mai 57.75 296 P **P 08 03 02.6 +0.5**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 57.75 296 P **P 08 03 03.3 +1.2**
comp=Z,20nm,1.0s
CHTO Chiang Mai 57.75 296 P **P 08 03 02.6 +0.5**
CHTO IAmb IAmb 08 03 04.1
comp=Z,20nm,1.1s
CM32 Chiang Mai Arr 57.79 296 P **P 08 03 04.0 +1.7**
PPT Papeete 58.08 107 LR LR 08 24 47.3
comp=Z,170nm,19.1s,baz=300,slow=33
PPT2 Papeete2 58.08 107 *e*LR LR 08 20 08.3
comp=Z,402nm,23.8s
PETK Petropavlovsk- 58.53 4 P **P 08 03 06.9 0.0**
comp=Z,3.7nm,0.5s,baz=166,slow=7.2,SNR=29
PETK PcP **PcP 08 03 57.7 +1.0**
comp=Z,12nm,0.8s,baz=186,slow=8.9,SNR=8.2
CD2 Chengdu 58.73 311 *e*P **P 08 03 10.0 +1.2**
TBI Tubuai 58.82 114 *e*LR LR 08 20 29.5
comp=Z,1μm,31.2s
HHC Hu-ho-hao-te 59.25 325 *e*P **P 08 03 13.2 +1.0**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.3s
LZH Lanzhou 61.30 316 *e*P **P 08 03 27.8 +1.4**
LZH pP pP 08 03 38.3 -3.3
LZH sP sP 08 03 42.0 -5.8
LZH pmax pmax
comp=Z,47nm,1.1s
LZH LR LR
comp=Z,1μm,14.9s
LZH LR LR
comp=Z,980nm,14.9s
LZH LR LR
comp=Z,1μm,16.5s
MA2 Magadan 64.84 359*ce*P **P 08 03 49.6 +0.4**
MA2 pmax pmax
comp=Z,33nm,2.5s
MA2 Magadan 64.84 359 P **P 08 03 49.5 +0.2**
MA2 IAmb IAmb 08 03 50.5
comp=Z,18nm,0.8s
GTA Gaotai 65.75 318 ⇑P **P 08 03 57.0 +1.3**
GTA pP pP 08 04 08.3 -2.7
GTA PcP **PcP 08 04 28.3 +1.7**
GTA pmax pmax
comp=Z,200nm,6.9s
GTA LR LR
comp=Z,1μm,16.4s
GTA LR LR
comp=Z,490nm,17.1s
GTA LR LR
comp=Z,1μm,17.1s
SHL Shillong 66.14 301 P **P 08 03 58.6 0.0**
SHL pmax pmax
comp=Z,45nm,0.7s
SHL Shillong 66.14 301 P **P 08 03 58.6 0.0**
ULN Ulaanbaatar 66.25 329*ce*P **P 08 03 59.4 +0.6**
ULN pmax pmax
comp=Z,19nm,0.8s
ULN Ulaanbaatar 66.25 329 P **P 08 03 59.7 +0.9**
ULN IAmb IAmb 08 04 01.2
comp=Z,24nm,1.1s
SONM Songino Array 66.57 328 P **P 08 04 01.8 +0.9**
comp=Z,8.3nm,0.5s,baz=138,slow=5.4,SNR=35
SONM PcP **PcP 08 04 30.9 +1.1**
comp=Z,8.7nm,0.8s,baz=140,slow=3.5,SNR=7.8
SONM Songino Array 66.57 328 P **P 08 04 01.5 +0.6**
SONM IAmb IAmb 08 04 03.1
comp=Z,33nm,1.4s
NIKH Nikolski High 66.85 24 P **P 08 04 04.2 +1.9**
baz=223
LSA Lhasa 68.14 305 P **P 08 04 13.1 +1.6**
LSA pmax pmax
comp=Z,120nm,0.7s
LSA Lhasa 68.14 305 P **P 08 04 12.2 +0.7**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 68.14 305 P **P 08 04 12.2 +0.7**
LSA IAmb IAmb 08 04 13.7
comp=Z,22nm,0.8s
SEY Seymchan 68.20 0 *i* P **P 08 04 10.3 -0.3**
YAK Yakutsk 69.50 349 *i* P **P 08 04 18.6 -0.1**
YAK pmax pmax
comp=Z,9.0nm,0.9s
ZAK Zakamensk 69.75 329 *e*P **P 08 04 20.8 +0.1**
ZAK pmax pmax
comp=Z,27nm,1.1s
TLY Talaya 70.36 330 P **P 08 04 25.6 +1.4**
comp=Z,3.6nm,0.5s,baz=125,slow=9.7,SNR=3.8
TLY Talaya 70.36 330 *e*P **P 08 04 25.8 +1.6**
TLY pmax pmax
comp=Z,16nm,0.8s
RAMN Ramite 71.08 301 *e*P **P 08 04 30.1 +0.7**
comp=Z,16nm,0.5s
JIRN Jiri 71.63 301 *e*P **P 08 04 33.5 +0.6**
comp=Z,14nm,0.5s
GUN Gumba 71.97 302 *e*P **P 08 04 35.4 +0.5**
comp=Z,85nm,0.7s
SDPT Sand Point 72.06 26 P **P 08 04 35.4 +1.0**
baz=230
CHNA Chernabura Isl 72.13 27 P **P 08 04 36.3 +1.6**
baz=231
VNDA Vanda 72.19 178 P **P 08 04 35.3 +0.4**
comp=Z,0.9nm,0.6s,baz=334,slow=5.6,SNR=4.0
VNDA LR LR 08 32 39.1
comp=Z,200nm,18.4s,baz=308,slow=33
PKI Pulchoki 72.27 301 *e*P **P 08 04 37.1 +0.4**
PKIN Phulchoki 72.28 301 *e*P **P 08 04 37.3 +0.6**
KKN Kakani 72.44 301 *e*P **P 08 04 38.2 +0.6**
comp=Z,30nm,0.6s
PALK Pallekele 72.47 279 P **P 08 04 38.3 +0.6**
comp=Z,8.2nm,0.6s,baz=31,slow=12,SNR=5.5
DMN Daman 72.54 301 *e*P **P 08 04 38.8 +0.6**
comp=Z,64nm,0.8s
GKN Gorkha 73.05 301 *e*P **P 08 04 41.5 +0.4**
comp=Z,48nm,0.7s
KOLN Koldanda 73.87 301 *e*P **P 08 04 46.3 +0.3**
comp=Z,82nm,1.0s
DANN Dangsing 73.89 301 *e*P **P 08 04 46.2 0.0**
comp=Z,53nm,0.8s
BILL Bilibino 74.00 5*ce*P **P 08 04 46.7 +1.1**
BILL *e* 08 07 35.4
BILL *e*S **SKSac 08 14 49.8 +1.9**
BILL pmax pmax
comp=Z,19nm,0.9s
BILL Bilibino 74.00 5 P **P 08 04 46.2 +0.6**
BILL IAmb IAmb 08 04 48.8
comp=Z,22nm,1.0s
GAMB Gambell 74.17 16 P **P 08 04 47.9 +1.2**
baz=217
PYUN Piuthan 74.48 301 *e*P **P 08 04 49.4 -0.1**
comp=Z,99nm,0.9s
WMQ Urumqi 75.83 318 *e*P **P 08 04 58.6 +1.8**
WMQ pP PcP 08 05 10.3 +1.1
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,300nm,6.5s
WMQ LR LR
comp=Z,2μm,18.3s
WMQ LR LR
comp=Z,2μm,18.9s
WMQ LR LR
comp=Z,3μm,17.7s
OHAK Old Harbor 76.40 27 P **P 08 05 01.1 +1.5**
baz=236
ANM Nome 76.58 17 P **P 08 05 02.2 +1.7**
ANM pmax pmax
comp=Z,42nm,0.8s
ANM Nome 76.58 17 P **P 08 05 02.0 +1.5**
baz=224
ANM Nome 76.58 17 P **P 08 05 02.1 +1.7**
TNA Tin City 76.59 16 P **P 08 05 01.4 +0.9**
baz=221
TNA Tin City 76.59 16 P **P 08 05 01.6 +1.2**
TNA IAmb IAmb 08 05 02.6
comp=Z,20nm,0.9s
KDAK Kodiak Island 77.02 27 P **P 08 05 03.4 +0.3**
baz=237
N18K Kilae Creek 77.28 23 P **P 08 05 06.0 +1.4**
baz=233
O19K Port Alsworth 77.63 24 P **P 08 05 07.2 +0.8**
baz=235
SVW2 Sparrevohn 77.66 23 P **P 08 05 08.1 +1.5**
SVW2 IAmb IAmb 08 05 09.6
comp=Z,25nm,1.0s
P19K Oil Pt 77.78 25 P **P 08 05 07.9 +0.5**
baz=236
N19K Bonanza Creek 77.92 24 P **P 08 05 09.2 +0.9**
baz=234
DGZ Jazzator, Alta 78.26 323 *i* P **P 08 05 10.7 +0.3**
DGZ pmax pmax
comp=Z,13nm,0.8s
O20K Slope Mountain 78.27 25 P **P 08 05 10.5 +0.4**
baz=236
HOM Homer 78.45 25 P **P 08 05 12.0 +1.0**
baz=237
TIXI Tiksi 78.47 353*ce*P **P 08 05 10.1 -0.8**
TIXI Tiksi 78.47 353 P **P 08 05 11.6 +0.7**
CNPM China Poot 78.56 26 P **P 08 05 12.5 +0.8**
L19K White Mountain 78.58 22 P **P 08 05 13.5 +1.7**
baz=234
M19K Big River Lodg 78.59 23 P **P 08 05 13.7 +1.9**
baz=234
BRSE Bradley Lake S 78.89 26 P **P 08 05 14.8 +1.3**
baz=238
ZSN Zaisan 79.00 320 *e*P **P 08 05 14.2 -0.2**
baz=320
ZSN Zaisan 79.00 320 *e*P **P 08 05 14.2 -0.2**
SPCR Spurr Chakacha 79.06 24 P **P 08 05 15.6 +1.2**
baz=237
M20K Styx River 79.07 23 P **P 08 05 15.5 +0.9**
baz=236
CAPN Captain Cook N 79.26 25 P **P 08 05 16.9 +1.5**
baz=238
SEW Seward 79.63 26 P **P 08 05 18.6 +1.1**
baz=239
SKT Skwentna 79.75 24 P **P 08 05 17.9 -0.3**
baz=237
SKT Skwentna 79.75 24 P **P 08 05 17.5 -0.7**
RDOG Red Dog Mine 79.77 16 P **P 08 05 21.3 +3.2**
baz=225,SNR=27
RDOG Red Dog Mine 79.77 16 P **P 08 05 19.9 +1.8**
RC01 Rabbit Creek A 80.01 25 P **P 08 05 20.2 +0.6**
baz=239
RC01 Rabbit Creek A 80.01 25 P **P 08 05 19.2 -0.4**
MK31 Makanchi Array 80.44 319*c i*P **P 08 05 22.6 +0.4**
MK31 Makanchi Array 80.44 319 P **P 08 05 22.5 +0.3**
MKAR Makanchi Array 80.44 319 P **P 08 05 22.8 +0.5**
comp=Z,18nm,0.9s,baz=102,slow=6.5,SNR=75
MKAR Makanchi Array 80.44 319 P **P 08 05 22.3 +0.1**
PWL Port Wells 80.49 25 P **P 08 05 23.0 +0.9**
CHUM Lake Minchumin 80.50 22 P **P 08 05 23.5 +1.4**
baz=236,SNR=13
PMR Palmer 80.52 24 P **P 08 05 22.5 +0.3**
PMR pmax pmax
comp=Z,44nm,1.4s
PMR Palmer 80.52 24 P **P 08 05 22.7 +0.5**
baz=239,SNR=8.2
PMR Palmer 80.52 24 P **P 08 05 22.5 +0.3**
PMR IAmb IAmb 08 05 24.0
comp=Z,44nm,1.4s
MAKZ Makanchi 80.65 319 P **P 08 05 23.6 +0.3**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 80.65 319 P **P 08 05 23.6 +0.3**
MAKZ IAmb IAmb 08 05 25.9
comp=Z,20nm,0.9s
GHO Glory Hole Cre 80.70 24 P **P 08 05 24.0 +0.7**
GHO IAmb IAmb 08 05 43.8
comp=Z,17nm,0.8s
KNK Knik Glacier 80.71 25 P **P 08 05 24.0 +0.7**
baz=240
SML Sawmill 80.96 24 P **P 08 05 25.6 +0.9**
baz=240,SNR=16
SML Sawmill 80.96 24 P **P 08 05 25.0 +0.3**
GLI Glacier Island 81.03 26 P **P 08 05 25.7 +0.7**
baz=241
GLI Glacier Island 81.03 26 P **P 08 05 25.9 +0.9**
GLI IAmb IAmb 08 05 26.5
comp=Z,34nm,0.8s
BPAW Bear Paw Mtn. 81.11 22 P **P 08 05 25.7 +0.3**
baz=237,SNR=5.9
BPAW Bear Paw Mtn. 81.11 22 P **P 08 05 25.6 +0.2**
BPAW IAmb IAmb 08 05 26.8
comp=Z,20nm,1.1s
FID Port Fidalgo 81.23 26 P **P 08 05 26.8 +0.7**
FID IAmb IAmb 08 05 37.5
comp=Z,30nm,1.0s
SHLS Shalkode 81.28 315 *e*P **P 08 05 24.4 -2.5**
baz=315
SHLS Shalkode 81.28 315 *e*P **P 08 05 24.4 -2.5**
H21K Melozitna Rive 81.33 20 P **P 08 05 27.9 +1.3**
baz=235,SNR=16
I21K Tanana 81.34 21 P **P 08 05 28.0 +1.5**
baz=236,SNR=14
ZAA0 Zalesovo Array 81.38 326 P **P 08 05 27.3 +0.3**
ZAA0 IAmb IAmb 08 05 28.9
comp=Z,14nm,0.6s
ZALV Zalesovo Beam 81.38 326 P **P 08 05 26.6 -0.4**
comp=Z,15nm,0.6s,baz=111,slow=5.6,SNR=40
ZALV Zalesovo Beam 81.38 326 *i* P **P 08 05 27.3 +0.3**
ZALV pmax pmax
comp=Z,15nm,0.6s
ZALV Zalesovo Beam 81.38 326 P **P 08 05 27.2 +0.3**
WAT1 Susitna Watana 81.38 24 P **P 08 05 27.1 +0.2**
baz=240
SCM Sheep Creek Mo 81.39 25 P **P 08 05 27.6 +0.6**
SCM pmax pmax
comp=Z,42nm,1.1s
SCM Sheep Creek Mo 81.39 25 P **P 08 05 27.6 +0.6**
SCM IAmb IAmb 08 05 43.5
comp=Z,42nm,1.1s
EYAK Cordova Ski Ar 81.46 26 P **P 08 05 27.9 +0.7**
baz=243
RND Reindeer 81.56 23 P **P 08 05 27.8 0.0**
RND pmax pmax
comp=Z,36nm,1.0s
RND Reindeer 81.56 23 P **P 08 05 27.8 0.0**

RND IAmb IAmb 08 05 29.2
comp=Z,36nm,1.0s
WAT6 Susitna Watana 81.58 24 P **P 08 05 28.7 +0.6**
baz=240,SNR=10
UZB Uzynbulak 81.59 315 *e*P **P 08 05 28.3 -0.3**
comp=Z,9.1nm,1.0s,baz=315
UZB Uzynbulak 81.59 315 *e*P **P 08 05 28.2 -0.3**
UZB pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 81.69 23 P **P 08 05 28.5 0.0**
MCK pmax pmax
comp=Z,65nm,1.0s
MCK McKinley 81.69 23 P **P 08 05 28.7 +0.2**
baz=239,SNR=29
MCK McKinley 81.69 23 P **P 08 05 28.5 0.0**
MLY Manley 81.70 21 P **P 08 05 29.5 +0.9**
baz=237,SNR=40
MLY Manley 81.70 21 P **P 08 05 29.0 +0.5**
MLY IAmb IAmb 08 05 30.6
comp=Z,42nm,1.1s
BWN Browne 81.72 22 P **P 08 05 29.9 +1.3**
KLU Klutina 81.82 25 P **P 08 05 30.7 +1.4**
baz=242,SNR=11
KLU Klutina 81.82 25 P **P 08 05 30.5 +1.2**
KPKS Kokpek 81.92 315 *e*P **P 08 05 29.3 -0.9**
baz=315
KPKS Kokpek 81.92 315 *e*P **P 08 05 29.3 -0.9**
M24K Tolsona, Glenn 82.00 25 P **P 08 05 31.8 +1.6**
baz=242
M24K Tolsona, Glenn 82.00 25 P **P 08 05 30.6 +0.5**
SATY Saty 82.00 315 *e*P **P 08 05 29.0 -1.8**
baz=315
SATY Saty 82.00 315 *e*P **P 08 05 28.9 -1.8**
HMT Hamilton 82.02 27 P **P 08 05 31.1 +0.8**
HMT IAmb IAmb 08 05 41.7
comp=Z,32nm,0.9s
NEA2 Nenana 82.08 22 P **P 08 05 30.5 -0.1**
baz=239,SNR=23
NEA2 Nenana 82.08 22 P **P 08 05 30.4 -0.1**
NEA2 IAmb IAmb 08 05 31.7
comp=Z,36nm,1.0s
BMRM Bremner River 82.15 26 P **P 08 05 31.9 +0.9**
baz=244
BMRM Bremner River 82.15 26 P **P 08 05 31.2 +0.2**
BMRM IAmb IAmb 08 05 42.9
comp=Z,32nm,1.0s
WRH Wood River Hil 82.39 22 P **P 08 05 31.9 -0.2**
WRH IAmb IAmb 08 05 33.3
comp=Z,43nm,1.2s
N25K Chitina, Valde 82.44 25 P **P 08 05 33.8 +1.3**
baz=244,SNR=9.6
N25K Chitina, Valde 82.44 25 P **P 08 05 33.2 +0.7**
H23K Yukon River 82.55 21 P **P 08 05 34.0 +1.1**
baz=238,SNR=20
HARP HAARP 82.56 25 P **P 08 05 33.8 +0.8**
baz=243
MDM Murphy Dome 82.58 22 P **P 08 05 33.0 -0.1**
MDM IAmb IAmb 08 05 34.3
comp=Z,20nm,1.2s
CCB Clear Creek Bu 82.58 22 P **P 08 05 32.7 -0.4**
CCB IAmb IAmb 08 05 34.1
comp=Z,34nm,1.2s
KDJ Kajisay 82.64 314 P **P 08 05 34.7 +0.6**
KDJ pmax pmax
comp=Z,24nm,1.1s
KDJ Kajisay 82.64 314 P **P 08 05 34.7 +0.6**
KDJ IAmb IAmb 08 05 38.0
comp=Z,24nm,1.1s
TCOL CIGO, UAF Yank 82.67 22 P **P 08 05 33.4 -0.1**
baz=240,SNR=9.3
TCOL CIGO, UAF Yank 82.67 22 P **P 08 05 33.7 +0.2**
COLA College 82.68 22*c i*P **P 08 05 33.4 -0.1**
COLA pmax pmax
comp=Z,32nm,0.9s
COLA College 82.68 22 P **P 08 05 33.1 -0.5**
baz=240
COLA College 82.68 22 P **P 08 05 33.4 -0.1**
GLB Gilahina Butte 82.70 26 P **P 08 05 34.2 +0.4**
GLB IAmb IAmb 08 05 45.8
comp=Z,39nm,1.1s
CRQM Cirque 82.70 27 P **P 08 05 34.5 +0.5**
WAX Waxell Ridge 82.70 27 P **P 08 05 34.5 +0.6**
ARXS Arharly 82.71 316 *e*P **P 08 05 33.8 -0.5**
CRQE Cirque 82.72 27 P **P 08 05 35.2 +1.1**
baz=245,SNR=11
VRDI Verde Repeater 82.77 26 P **P 08 05 35.0 +0.6**
VRDI IAmb IAmb 08 05 46.2
comp=Z,24nm,1.0s
HDA Harding Lake 82.79 22 P **P 08 05 34.2 0.0**
baz=241,SNR=8.2
HDA Harding Lake 82.79 22 P **P 08 05 33.6 -0.5**
TGL Tana Glacier 82.84 27 P **P 08 05 36.1 +1.4**
TGL IAmb IAmb 08 05 38.1
comp=Z,17nm,0.8s
KSH Kashi 82.92 311 P **P 08 05 38.0 +2.4**
KSH S **S 08 15 48.7 -1.9**
KSH sS sS 08 16 16.7 -0.7
KSH pmax pmax
comp=Z,6.0nm,0.2s
KSH pmax pmax
comp=Z,130nm,5.0s
KSH LR LR
comp=Z,810nm,10.4s
KSH LR LR
comp=Z,660nm,12.3s
KSH LR LR
comp=Z,880nm,9.5s
POKR Poker Plat Res 82.95 22 P **P 08 05 34.8 -0.2**
baz=240
IL31 82.99 22 P **P 08 05 35.0 -0.1**
IL31 IAmb IAmb 08 05 36.0
comp=Z,21nm,0.9s
ILAR Eielson Array 82.99 22 P **P 08 05 34.8 -0.4**
comp=Z,19nm,0.9s,baz=254,slow=4.9,SNR=111
ILAR Eielson Array 82.99 22 P **P 08 05 34.7 -0.5**
MDOK Medeo 82.99 315 *e*P **P 08 05 36.2 +0.3**
baz=314
MDOK Medeo 82.99 315 *e*P **P 08 05 36.2 +0.3**
ISLE Juniper Island 83.00 27 P **P 08 05 36.6 +1.1**
ISLE IAmb IAmb 08 05 47.3
comp=Z,25nm,1.0s
MESA MESA 83.00 27 P **P 08 05 37.0 +1.4**
baz=246
MESA MESA 83.00 27 P **P 08 05 37.0 +1.4**
MESA IAmb IAmb 08 05 38.1
comp=Z,26nm,0.9s
MCARA McCarthy VSAT 83.02 26 P **P 08 05 36.5 +1.1**
baz=245,SNR=5.2
MCARA McCarthy VSAT 83.02 26 P **P 08 05 36.9 +1.5**
MCARA IAmb IAmb 08 05 48.6
comp=Z,24nm,0.8s
COLD Coldfoot 83.07 19 P **P 08 05 36.9 +1.3**
baz=238,SNR=10
H24K Noodor Dome 83.15 21 P **P 08 05 36.5 +0.5**
baz=240,SNR=11
YAH Yahtse 83.17 27 P **P 08 05 37.5 +0.9**
YAH IAmb IAmb 08 05 39.7
comp=Z,15nm,0.7s
ULHL Ulahol 83.35 314 P **P 08 05 38.7 +0.8**
SNR=7.5
TABL Table Mountain 83.47 27 P **P 08 05 39.1 +1.0**
BARN Barnard Glacie 83.49 27 P **P 08 05 39.1 +1.0**
DOT Dot Lake 83.56 24 P **P 08 05 38.8 +0.6**
DOT IAmb IAmb 08 05 49.8
comp=Z,24nm,1.0s
CTG Chitna Glacier 83.59 27 P **P 08 05 40.0 +1.4**
baz=246,SNR=10
CTGM Chitina Glacie 83.60 27 P **P 08 05 39.9 +1.3**
BOOM Boomskoye usch 83.62 314 P **P 08 05 40.1 +0.9**
BOOM pmax pmax
comp=Z,17nm,0.8s
BOOM Boomskoye usch 83.62 314 P **P 08 05 40.0 +0.9**
BOOM IAmb IAmb 08 05 42.4
comp=Z,17nm,0.8s
LOGN Logan Glacier 83.69 27 P **P 08 05 40.0 +0.9**
LOGN IAmb IAmb 08 05 42.1
comp=Z,18nm,0.7s
SCRK Sand Creek 83.74 23 P **P 08 05 40.0 +0.8**
baz=244,SNR=16
SCRK Sand Creek 83.74 23 P **P 08 05 39.6 +0.3**
SCRK IAmb IAmb 08 05 50.2
comp=Z,18nm,1.2s
PCA Pinnacle 83.75 28 P **P 08 05 40.6 +1.3**
PCA IAmb IAmb 08 05 42.8
comp=Z,31nm,1.0s
PINM Pinnacle 83.75 28 P **P 08 05 40.5 +1.2**
baz=248,SNR=6.4
PRP Porcupine Dome 83.85 22 P **P 08 05 40.8 +1.0**
baz=242
PRP Porcupine Dome 83.85 22 P **P 08 05 39.5 -0.3**
NIL Nilore 83.87 305 P **P 08 05 40.8 +0.3**
NIL pmax pmax
comp=Z,28nm,0.8s
NIL Nilore 83.87 305 P **P 08 05 40.8 +0.3**
NIL IAmb IAmb 08 05 43.1
comp=Z,28nm,0.8s
KURK Kurchatov 83.93 322 P **P 08 05 40.9 +0.6**
KURBB Kurchatov Arra 83.96 322 P **P 08 05 40.9 +0.4**
comp=Z,6.9nm,0.6s,baz=112,slow=3.9,SNR=35
TKM2 Tokmak 2 83.97 314 P **P 08 05 42.1 +1.1**
SNR=19
BCPM Bancas Point 83.98 28 P **P 08 05 41.7 +1.2**
TOLK Toolik Lake Re 84.02 18 P **P 08 05 41.8 +1.3**
baz=238
TOLK Toolik Lake Re 84.02 18 P **P 08 05 41.5 +1.0**
TOLK IAmb IAmb 08 05 43.1
comp=Z,34nm,0.9s
BCAR Beaver Creek A 84.25 25 P **P 08 05 42.7 +1.0**
FYU Fort Yukon 84.44 21 P **P 08 05 43.7 +1.2**
QSPA South Pole Qui 84.50 180 P **P 08 05 43.5 +0.4**
K27K Chicken 84.52 24 P **P 08 05 44.7 +1.7**
baz=246
K27K Chicken 84.52 24 P **P 08 05 44.8 +1.7**
K27K IAmb IAmb 08 05 50.6
comp=Z,15nm,0.9s
CHMS Chumysh 84.59 314 P **P 08 05 45.0 +1.1**
SNR=9.4
AAK Ala-Archa 84.70 314 P **P 08 05 46.0 +1.4**
comp=Z,8.8nm,0.7s,baz=119,slow=5.7,SNR=20
AAK Ala-Archa 84.70 314 P **P 08 05 46.1 +1.5**
SNR=5.6
AAK Ala-Archa 84.70 314*ce*P **P 08 05 45.9 +1.3**
AAK pmax pmax
comp=Z,73nm,1.1s
AAK Ala-Archa 84.70 314 P **P 08 05 45.7 +1.1**
AAK IAmb IAmb 08 05 48.0
comp=Z,16nm,1.0s
MAW Mawson 84.74 203 P **P 08 05 44.7 +0.7**
comp=Z,4.1nm,0.7s,baz=93,slow=5.9,SNR=12
MAW Mawson 84.74 203 P **P 08 05 44.8 +0.7**
baz=85,SNR=6.4
MAW Mawson 84.74 203 P **P 08 05 44.8 +0.7**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 84.74 203 P **P 08 05 44.8 +0.7**
SGDS Sogindy 84.78 314 *e*P **P 08 05 45.4 +0.4**
comp=Z,11nm,1.2s,baz=314
SGDS Sogindy 84.78 314 *e*P **P 08 05 45.3 +0.4**
SGDS pmax pmax
comp=Z,11nm,1.2s
USP Ospenovka 84.83 314 P **P 08 05 46.2 +1.0**
SNR=21
SIT Sitka 85.14 32 P **P 08 05 47.6 +1.3**
baz=252
AML Almayashu 85.17 313 P **P 08 05 49.2 +1.9**
SNR=6.5
EGAK Eagle 85.19 23 P **P 08 05 47.8 +1.4**
baz=246,SNR=22
EGAK Eagle 85.19 23 P **P 08 05 47.3 +0.9**
EGAK IAmb IAmb 08 05 50.4
comp=Z,18nm,0.8s
EKS2 Erkin-Say 85.22 314 P **P 08 05 48.8 +1.6**
SNR=25
HYT Haines Junctio 85.28 28 P **P 08 05 48.0 +0.9**
BTLS Baital 85.53 316 *e*P **P 08 05 49.1 +0.6**
comp=Z,38nm,1.6s,baz=316
BTLS Baital 85.53 316 *e*P **P 08 05 49.1 +0.6**
BTLS pmax pmax
comp=Z,38nm,1.6s
DAWY Dawson 85.62 24 P **P 08 05 50.0 +1.4**
DAWY IAmb IAmb 08 06 00.6
comp=Z,24nm,1.2s
BESE Bessie Mountai 85.84 30 P **P 08 05 50.3 +0.5**
BESE IAmb IAmb 08 05 52.7
comp=Z,20nm,0.9s
SKAG Skagway 85.87 29 P **P 08 05 51.4 +1.6**
baz=252
SKAG Skagway 85.87 29 P **P 08 05 51.3 +1.5**
SKAG IAmb IAmb 08 06 02.6
comp=Z,29nm,1.5s
JIS Juneau Island 85.98 31 P **P 08 05 52.0 +1.6**
JIS IAmb IAmb 08 05 54.1
comp=Z,15nm,0.8s
NRIK Noril'sk 86.40 341 P **P 08 05 52.2 -0.1**
comp=Z,11nm,0.6s,baz=116,slow=4.0,SNR=28
NRIK Noril'sk 86.40 341*ce*P **P 08 05 51.8 -0.5**
NRIK pmax pmax
comp=Z,11nm,0.9s
NRIK Noril'sk 86.40 341 P **P 08 05 52.2 -0.1**
NRIK IAmb IAmb 08 05 54.7
comp=Z,14nm,0.8s
WHY Whitehorse 86.45 28 P **P 08 05 54.5 +1.6**
baz=252
WHY Whitehorse 86.45 28 P **P 08 05 54.1 +1.2**
WHY IAmb IAmb 08 05 55.6
comp=Z,10nm,0.8s
WRAK Wrangell Islan 86.53 33 P **P 08 05 54.5 +1.3**
baz=255
BTK Batken 86.92 311 P **P 08 05 55.5 -0.1**
BTK pmax pmax
comp=Z,18nm,0.9s
BTK Batken 86.92 311 P **P 08 05 55.5 -0.1**
BTK IAmb IAmb 08 05 57.8
comp=Z,18nm,0.9s
DZA Taraz 87.03 313 *e*P **P 08 05 56.4 +0.3**
baz=313
DZA Taraz 87.03 313 *e*P **P 08 05 56.3 +0.3**
GAR Garm 87.13 309 P **P 08 05 57.5 +0.8**
GAR IAmb IAmb 08 05 58.6
comp=Z,30nm,1.2s
KBL Kabul 87.46 305 P **P 08 05 57.9 -0.6**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 87.46 305 P **P 08 05 57.9 -0.6**
EPYK Eagle Plains 87.49 22 P **P 08 05 58.8 +1.1**
baz=250
EPYK Eagle Plains 87.49 22 P **P 08 05 58.3 +0.5**
KK31 Karatay Array 87.66 314 P **P 08 05 59.1 0.0**
KK31 pmax pmax
comp=Z,24nm,1.5s
KK31 Karatay Array 87.66 314 P **P 08 05 59.0 0.0**
KK31 IAmb IAmb 08 06 00.2
comp=Z,24nm,1.5s
KKAR Karatay Array 87.66 314 P **P 08 05 59.4 +0.4**
KKAR pmax pmax
comp=Z,24nm,1.5s
KKAR Karatay Array 87.66 314 P **P 08 05 59.4 +0.4**
KKAR Karatay Array 87.66 314 P **P 08 05 59.0 -0.1**
KKAR IAmb IAmb 08 06 00.2
comp=Z,24nm,1.5s
CHGR Chuyangaron 87.97 309 P **P 08 06 01.4 +0.7**
DLBC Dease Lake 88.24 31 P **P 08 06 03.0 +1.5**
DLBC IAmb IAmb 08 06 05.6
comp=Z,14nm,0.8s
KHMM Horse Mountain 89.05 49 P **P 08 06 06.2 +0.4**
KHMM IAmb IAmb 08 06 18.9
comp=Z,18nm,1.1s
J01E Myrtle Point 89.22 47 P **P 08 06 07.1 +0.7**
baz=262
INK Inuvik 89.27 21 P **P 08 06 06.7 +0.7**
comp=Z,11nm,1.0s,baz=251,slow=4.3,SNR=12
INK Inuvik 89.27 21 P **P 08 06 06.7 +0.7**
baz=253
INK Inuvik 89.27 21 P **P 08 06 06.8 +0.8**
INK IAmb IAmb 08 06 08.0
comp=Z,13nm,1.0s
L02E Cave Junction 89.32 48 P **P 08 06 07.6 +0.8**
baz=262
K02D Willamette Mer 89.35 47 P **P 08 06 07.7 +0.6**
baz=262
BVAR Borovoye Array 89.42 323 P **P 08 06 06.6 -0.5**
comp=Z,12nm,0.8s,baz=182,slow=11,SNR=54
BRVK Borovoye 89.49 323*ce*P **P 08 06 06.2 -1.2**
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK Borovoye 89.49 323 P **P 08 06 07.2 -0.2**
I03D Drain, OR 89.72 46 P **P 08 06 09.5 +0.9**
baz=262
M02C Callahan 89.77 49 P **P 08 06 10.0 +0.9**
baz=262
N02D Trinity Center 89.83 49 P **P 08 06 10.3 +1.0**
baz=263
HUMO Hull Mountain 89.86 47 P **P 08 06 09.3 0.0**
HUMO IAmb IAmb 08 06 30.5
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 89.92 48 P **P 08 06 09.1 -0.7**
YBH pmax pmax
comp=Z,5.0nm,1.1s
YBH Yreka Blue Hor 89.92 48 P **P 08 06 09.1 -0.7**
G03D McMinnville, O 89.98 45 P **P 08 06 10.6 +0.8**
baz=262
H04D Lebanon 90.26 45 P **P 08 06 11.8 +0.6**
baz=262
L04D Klamath Falls 90.28 48 P **P 08 06 12.2 +0.7**
baz=263
I04A Tendick Farm, 90.40 46 P **P 08 06 12.6 +0.6**
baz=263
O03E Paynes Creek 90.43 50 P **P 08 06 13.0 +0.8**
baz=263
J04D Umpqua Nationa 90.55 47 P **P 08 06 13.7 +0.9**
baz=263
D04E Lakebay 90.58 43 P **P 08 06 13.6 +1.1**
baz=262
M04C Macdoel 90.58 48 P **P 08 06 13.9 +1.0**
baz=263
E04D Cinebar 90.64 43 P **P 08 06 13.8 +0.9**
baz=263
B05A Bryant 91.16 42 P **P 08 06 16.1 +0.9**
baz=263
J05D Fort Rock, OR 91.19 47 P **P 08 06 16.8 +1.0**
baz=264
I05D Terrebonne, OR 91.23 46 P **P 08 06 16.9 +1.1**
baz=264
G05D Wamic, OR 91.35 45 P **P 08 06 17.4 +1.1**
baz=264
K05A Summer Lake 91.38 47 P **P 08 06 17.1 +0.4**
K05A IAmb IAmb 08 06 28.8
comp=Z,14nm,1.2s
PKM Mcpherson Peak 91.42 55 P **P 08 06 17.1 0.0**
baz=264
PINE Pine Mountain 91.46 46 P **P 08 06 16.9 -0.1**
PINE IAmb IAmb 08 06 28.5
comp=Z,14nm,1.1s
MOD Modoc Plateau 91.73 48 P **P 08 06 17.5 -0.8**
MOD IAmb IAmb 08 06 28.7
comp=Z,11nm,1.4s
VCNR Virginia City 91.97 51 P **P 08 06 20.4 +0.9**
PNTR Pine Nut 91.99 51 P **P 08 06 18.7 -0.9**
PNTR IAmb IAmb 08 06 31.2
comp=Z,6.7nm,0.9s
PAHR Pah Rah Range 92.22 51 P **P 08 06 20.3 -0.2**
I07A Izee 92.52 46 P **P 08 06 22.5 +0.7**
I07A IAmb IAmb 08 06 33.1
comp=Z,10nm,1.1s
HAWA Hanford 92.70 44 P **P 08 06 23.0 +0.5**
HAWA IAmb IAmb 08 06 34.3
comp=Z,8.3nm,1.1s
LHV Little Huntoon 92.78 52 P **P 08 06 21.9 -1.0**
LHV IAmb IAmb 08 06 39.4
comp=Z,6.9nm,1.1s
RYN Ryan 92.79 52 P **P 08 06 22.6 -0.6**
C36M Paulatuk 92.85 21 P **P 08 06 23.8 +1.2**
baz=262
C36M Paulatuk 92.85 21 P **P 08 06 22.6 0.0**
SYO Syowa Base 92.86 199↑ *e*PcP **PcP 08 06 25.5 +2.2**
TIN Tinemaha, Big 92.89 53 P **P 08 06 25.3 +1.6**
baz=265
PNT Penticton 92.90 41 P **P 08 06 18.7 -4.7**
PNT pmax pmax
comp=Z,7.0nm,0.9s
EDW2 Edwards Air Fo 92.91 55 P **P 08 06 24.7 +0.9**
baz=265
NVAR Mina Array Bea 92.95 52 P **P 08 06 25.3 +1.2**
comp=Z,2.9nm,0.8s,baz=253,slow=6.6,SNR=21
NVAR LR LR 08 42 10.9
comp=Z,460nm,19.4s,baz=282,slow=32
NVAR Mina Array Bea 92.95 52 P **P 08 06 24.6 +0.6**
CWC Cottonwood Cre 92.97 54 P **P 08 06 25.3 +1.2**
baz=265
G08A Pilot Rock 93.01 45 P **P 08 06 24.8 +0.7**
G08A IAmb IAmb 08 06 35.7
comp=Z,7.0nm,1.1s
WVOR Wild Horse Val 93.01 48 P **P 08 06 23.6 -0.6**
WVOR pmax pmax
comp=Z,8.0nm,1.2s
WVOR Wild Horse Val 93.01 48 P **P 08 06 23.6 -0.6**
WVOR IAmb IAmb 08 06 36.1
comp=Z,8.1nm,1.2s
NV11 Mina Array Sit 93.06 52 P **P 08 06 24.6 +0.1**
NV11 IAmb IAmb 08 06 35.9
comp=Z,6.5nm,1.0s
BFSC Mount Baldy Ra 93.14 56 P **P 08 06 26.1 +1.1**
baz=266
KVN Kaiserville 93.15 51 P **P 08 06 23.9 -1.1**
KVN pmax pmax
comp=Z,4.0nm,0.9s
KVN Kaiserville 93.15 51 P **P 08 06 23.9 -1.1**
J08A Circle Bar Ran 93.20 47 P **P 08 06 25.9 +0.9**
J08A IAmb IAmb 08 06 36.7
comp=Z,7.3nm,1.1s
LRMC Laurel Mtn Rad 93.21 55 P **P 08 06 26.7 +1.4**
baz=266
MPMC Manual Prospec 93.41 54 P **P 08 06 27.6 +1.3**
baz=266
GRAC Grapevine Rang 93.58 53 P **P 08 06 28.3 +1.4**
baz=266
E09A Wood Farm, Sta 93.67 44 P **P 08 06 25.8 -1.1**
E09A IAmb IAmb 08 06 38.0
comp=Z,19nm,1.3s
GSC Goldstone, Bar 93.91 55 P **P 08 06 29.7 +1.2**
baz=266
FURC Furnace Creek, 93.95 54 P **P 08 06 30.0 +1.7**
baz=266
MONP2 Monument Peak 94.07 57 P **P 08 06 31.1 +1.8**
baz=266
PFO Pinyon Flats O 94.09 57 P **P 08 06 31.1 +1.8**
baz=266
TPFO Pinon Flats 94.09 57 P **P 08 06 31.2 +1.9**
baz=266
BMO Blue Mountains 94.15 45 P **P 08 06 30.1 +0.8**
BMO pmax pmax
comp=Z,6.0nm,1.1s
BMO Blue Mountains 94.15 45 P **P 08 06 30.1 +0.8**
HEC Hector,Ludlow 94.27 56 P **P 08 06 30.8 +0.7**
baz=266
F10A Beach Ranch, E 94.27 44 P **P 08 06 29.3 -0.5**
F10A IAmb IAmb 08 06 47.6
comp=Z,5.6nm,0.8s
IKP In-Ko-Pah, Jac 94.32 58 P **P 08 06 31.0 +0.7**
baz=266
TPNV Topopah Spring 94.47 53 P **P 08 06 32.0 +0.9**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 94.47 53 P **P 08 06 32.2 +1.1**
baz=266
TPNV Topopah Spring 94.47 53 P **P 08 06 32.0 +0.9**
NEW Newport 94.47 42 P **P 08 06 30.3 -0.3**
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 94.47 42 P **P 08 06 31.9 +1.2**
baz=267
NEW Newport 94.47 42 P **P 08 06 30.3 -0.3**
NEW IAmb IAmb 08 06 41.9
comp=Z,7.8nm,1.1s
BELC Belle Mtn. Jos 94.49 56 P **P 08 06 31.9 +0.7**
baz=266
SWSC Sam W. Stewart 94.59 57 P **P 08 06 32.9 +1.4**
baz=266
TUQ Turquoise Moun 94.64 55 P **P 08 06 32.7 +0.9**
baz=266
GMRC Granite Mounta 94.82 56 P **P 08 06 33.4 +0.8**
baz=267
BC3 Big Chuckawall 94.93 57 P **P 08 06 33.9 +0.8**
baz=267
R11A Troy Canyon, C 95.07 52 P **P 08 06 34.7 +0.9**
baz=267
R11A Troy Canyon, C 95.07 52 P **P 08 06 34.1 +0.3**
PLID Pearl Lake 95.09 45 P **P 08 06 34.6 +0.8**
IRM Iron Mountain 95.21 56 P **P 08 06 35.5 +1.2**
baz=267
SHPR Sheep Range 95.32 54 P **P 08 06 34.7 -0.2**
PRN Pahroc Range 95.45 53 P **P 08 06 34.4 -1.1**
ABKAR Akbulak array 95.58 319 P **P 08 06 34.9 -0.7**
ABKAR IAmb IAmb 08 06 35.4
comp=Z,5.5nm,0.9s
ABKAR Akbulak array 95.58 319 P **P 08 06 33.8 -1.8**
SPR3 Spring Creek 3 96.08 51 P **P 08 06 39.5 +1.0**
SPR3 IAmb IAmb 08 06 50.6

comp=Z,7.3nm,1.2s
YKA Yellowknife Ar 96.28 28 P P 08 06 39.6 +1.2
comp=Z,4.5nm,0.8s,baz=269,slow=4.4,SNR=18
W13A Hualapai Mount 96.29 55 P P 08 06 38.0 -1.5
ARU Arti 96.54 326 P P 08 06 39.0 -0.8
comp=Z,1.4nm,0.3s,baz=143,slow=1.7,SNR=9.4
ARU Arti 96.54 326 *ce* **P 08 06 38.5 -1.3**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 96.54 326 P P 08 06 39.1 -0.7
GEYT Alibeck 96.56 307 P P 08 06 39.9 -0.5
comp=Z,20nm,0.5s,baz=42,slow=8.8,SNR=1.4
CCUT Cedar City 96.80 53 P P 08 06 41.1 -0.6
AKTO Aktyubinsk 96.85 320 P P 08 06 40.2 -1.1
comp=Z,3.2nm,0.9s,baz=91,slow=4.7,SNR=6.7
LCMT Little Creek M 96.88 53 P P 08 06 42.1 +0.1
KNB Kanab 97.21 53 P P 08 06 42.2 -1.4
KNB Kanab 97.21 53 P P 08 06 42.2 -1.4
KNB IAmb IAmb 08 06 55.5
comp=Z,8.0nm,1.3s
MTPU Mount Pierson 97.74 52 P P 08 06 45.2 -1.0
BOZ Bozeman (W) 98.18 45 P Pdif 08 06 47.9 +0.2
BOZ pmax pmax
comp=Z,1.0nm,0.8s
BOZ Bozeman (W) 98.18 45 P Pdif 08 06 48.5 +0.8
baz=270
BOZ Bozeman (W) 98.18 45 P Pdif 08 06 47.9 +0.2
YMR Madison River 98.66 46 P P 08 06 48.9 -1.0
TUC Tucson 98.80 58 P Pdif 08 06 51.1 +0.5
baz=269
BW06 Boulder Array 99.72 48 P Pdif 08 06 55.4 +0.7
baz=272
PDAR Pinedale Array 99.72 48 P Pdif 08 06 55.1 +0.4
comp=Z,0.8nm,0.6s,baz=228,slow=1.8,SNR=8.7
PDAR LR LR 08 49 58.7
comp=Z,339nm,18.1s,baz=303,slow=34
RLMT Red Lodge 99.85 45 P Pdif 08 06 55.8 +0.5
baz=272
TXAR Lajitas Array 104.95 61 PKKPbc PKKPbc 08 23 00.6 -0.4
comp=Z,0.2nm,0.6s,baz=116,slow=5.9,SNR=4.6
APA Apatity 105.75 340 ⇓ *iP* **Pdif 08 07 20.0 -0.6**
APA *i* *i* 08 11 47.0
APA *i* S **Sdif 08 19 03.0 -10**
APA *i* PS PS 08 21 06.0 +4.9
APA pmax pmax
comp=Z,12nm,1.1s
APA MLR MLR
comp=Z,100nm,16.0s
ECSD EROS Data Cent 109.01 46 P PKiKP 08 11 39.8 -0.2
baz=281
FINES FINESS Array B 111.41 335 Pdiff **Pdif 08 07 45.0 -0.9**
comp=Z,1.1nm,0.5s,baz=21,slow=5.9,SNR=5.8
U40A Yellville 113.24 53 P PKiKP 08 11 47.9 -0.3
baz=281
MNK Minsk 113.85 328 *i* PKIKP **PKiKP 08 11 44.2 -4.6**
MNK *i* 08 12 39.4
MNK *i* PPP PPP 08 15 03.9
MNK *i* 08 18 51.9
MNK *i* PS **PS 08 22 17.6 -2.5**
MNK *i* SS SS 08 28 27.8 +0.8
MNK *i* SSS SSS 08 32 42.4
MNK pmax pmax
comp=N,20nm,0.8s
MNK pmax pmax
comp=Z,12nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK MLR MLR
comp=N,366nm,22.0s
MNK MLR MLR
comp=E,21nm,21.0s
MNK MLR MLR
comp=Z,476nm,24.0s
MNK Minsk 113.85 328 *i* PKP **PKiKP 08 11 44.2 -4.6**
comp=E,2.0nm,0.6s
MNK *i* PKP **PKiKP 08 11 44.2 -4.6**
comp=N,20nm,0.8s
MNK *i* PKP **PKiKP 08 11 44.2 -4.6**
comp=Z,12nm,1.0s,baz=243
MNK *i* PP **PP 08 12 39.4 -2.9**
MNK *i* PPP PPP 08 15 03.9
MNK *i* SKS **SKSdf 08 18 52.0 -4.3**
MNK *i* PS **PS 08 22 17.6 -2.5**
MNK *i* SS **SS 08 28 27.8 +0.8**
MNK *i* SKKS **SKKSdf 08 29 53.9 -9.2**
MNK *i* SSS SSS 08 32 42.4
MNK *i* LQ LQ 08 53 04.2
MNK *i* LR LR 08 57 41.5
MNK *i* LRM MLR 09 01 06.9
comp=N,366nm,21.7s
MNK *i* LRM MLR 09 01 08.4
comp=E,21nm,21.0s
MNK *i* LRM MLR 09 01 16.3
comp=Z,476nm,23.9s
AKASG Malin Array Be 114.69 324 PKP **PKiKP 08 11 50.0 -0.5**
comp=Z,1.2nm,0.5s,baz=56,slow=3.1,SNR=2.2
OXF Oxford 116.36 54 P **PKiKP 08 11 54.4 +0.1**
baz=282
HFS Hagfors 117.07 338 PKP **PKiKP 08 11 55.0 +0.2**
comp=Z,3.6nm,0.9s,baz=46,slow=6.2,SNR=2.1
WVT Waverly 117.25 52 P PKPdf 08 11 54.7 -1.2
baz=284
NB2 NORSAR Subarra 117.33 340 PKPdf **PKPdf 08 11 55.4 0.0**
comp=Z,4.7nm,1.1s,baz=38,slow=1.6
NOA NORSAR Array B 117.33 340 PKP **PKPdf 08 11 55.2 -0.1**
comp=Z,1.2nm,0.8s,baz=43,slow=1.8,SNR=4.8
LRAL Lakeview Retre 118.64 55 P PKiKP 08 11 58.7 0.0
baz=283
BOSA Boshof 118.77 233 PKP **PKiKP 08 11 59.3 0.0**
comp=Z,3.5nm,0.8s,baz=24,slow=1.1,SNR=5.0
MATQ Matagami 119.22 35 P PKPdf 08 11 59.2 -0.1
baz=299
PLCA Paso Flores 119.60 144 PKKPbc PKKPbc 08 22 12.0 -0.7
comp=Z,3.5nm,0.8s,baz=27,slow=6.9,SNR=6.3
ACSO Alum Creek Sta 119.72 46 P PKPdf 08 11 60.0 -0.6
baz=290
P52A Corning 120.54 47 P PKiKP 08 12 02.2 0.0
baz=290
ALGO Algonquin Park 120.77 39 P PKiKP 08 12 02.5 0.0
baz=297
CHGQ Chibougamau 120.96 33 P PKPdf 08 12 02.3 -0.3
baz=302
O53A New Philadelph 120.98 46 P PKiKP 08 12 03.3 +0.2
baz=291
GOGA Godfrey 121.42 54 P PKPdf 08 12 03.9 -0.1
baz=286
N54A Moraine State 121.58 45 P PKPdf 08 12 04.1 -0.1
baz=292
M54A Oil Creek Stat 121.60 44 P PKiKP 08 12 04.3 0.0
baz=293
KMSC Kings Mountain 122.61 51 P PKPdf 08 12 06.0 -0.2
baz=288
BLA Blacksburg 122.63 49 P PKPdf 08 12 06.3 0.0
baz=290
K56A Middlesex 122.69 42 P PKiKP 08 12 06.5 +0.1
baz=296
O56A Blue Knob Stat 122.85 45 P PKPdf 08 12 06.4 -0.3
baz=293
G57A Newington 123.08 38 P PKPdf 08 12 06.8 0.0
baz=299
H57A Richville 123.13 39 P PKPdf 08 12 07.0 +0.1
baz=299
CLL Collm 123.14 331 *e*(Pdif) **Pdif 08 08 36.0 -2.4**
CLL *e*PKPdf **PKPdf 08 12 06.0 -0.8**
CLL Collm 123.14 331 *eP* **Pdif 08 08 36.0 -2.4**
CLL *e* 08 12 06.0
CLL pmax pmax
comp=Z,3.0nm,0.6s
SSPA Standing Stone 123.18 44 P PKiKP 08 12 07.4 -0.1
baz=294
DIVS Divibare 123.20 320 PKiKP 08 12 07.6 +0.2
D58A Chemin du LacG 123.31 35 P PKPdf 08 12 07.0 -0.2
baz=302
E58A La Victoria 123.46 36 P PKiKP 08 12 07.9 +0.1
baz=302
LONY Lake Ozonia 123.56 39 P PKiKP 08 12 08.3 +0.2
baz=299
CONA Conrad Observa 123.67 326 *i P* **PKPdf 08 12 08.0 0.0**
comp=Z,3.4nm,0.6s
J58A Remsen 123.72 40 P PKPdf 08 12 08.2 0.0
baz=298
I58A Old Forge 123.77 40 P PKiKP 08 12 08.6 0.0
baz=298
FNA Florina 123.77 316 PKIKP **PKPdf 08 12 08.5 +0.1**
FNA Florina 123.77 316 PKPdf 08 12 08.5 +0.1
H58A Gabriels 123.91 39 P PKiKP 08 12 08.9 +0.1
baz=300
L58A Harry Jones Me 123.96 42 P PKPdf 08 12 08.6 -0.1
baz=297
F59A Saint Guilaume 124.03 37 P PKPdf 08 12 08.6 0.0
baz=302
NHSC New Hope 124.14 53 P PKPdf 08 12 09.0 -0.3
baz=288
GEC2 GERESS Array S 124.31 328 PKPdf 08 12 09.1 -0.1
GERES GERESS Array B 124.31 328 PKP **PKiKP 08 12 10.0 +0.5**
comp=Z,3.6nm,0.6s,baz=52,slow=2.2,SNR=10.0
F60A Warwick 124.46 36 P PKiKP 08 12 09.7 -0.1
baz=303
N59A State Game Lan 124.51 43 P PKiKP 08 12 10.2 +0.1
baz=296
D60A Saint Jean D'O 124.53 35 P PKPdf 08 12 09.7 +0.1
baz=304
E60A Ste Agathe de 124.53 35 P PKPdf 08 12 09.6 0.0
baz=303
G60A Masonville 124.69 37 P PKiKP 08 12 10.5 +0.2
baz=302
I60A Shoreham 124.75 39 P PKiKP 08 12 10.8 +0.4
baz=300
H60A Morristown 124.75 38 P PKiKP 08 12 10.5 0.0
baz=301
D61A St Aubert, Com 124.78 34 P PKPdf 08 12 10.1 +0.1
baz=305
SOKA Soboth 124.85 325 *i P* **PKiKP 08 12 11.0 +0.4**
comp=Z,2.6nm,0.7s
J60A Lant Hill Farm 124.97 40 P PKiKP 08 12 10.9 0.0
baz=300
F61A St Evariste 125.01 36 P PKiKP 08 12 10.9 0.0
baz=304
E61A Lac Etchemin 125.05 35 P PKiKP 08 12 11.0 0.0
baz=304
G61A St-Isidore-de- 125.08 37 P PKPdf 08 12 10.8 +0.1
baz=303
P60A Gronville 125.09 44 P PKPdf 08 12 11.0 +0.1
baz=296
H61A Lyndonville 125.24 38 P PKiKP 08 12 11.3 -0.2
baz=302
K61A Williamstown 125.35 40 P PKPdf 08 12 11.2 -0.1
baz=299
I61A Oroboro, Fairl 125.38 38 P PKiKP 08 12 11.5 -0.2
baz=301
LBNH Lisbon 125.39 38 P PKiKP 08 12 11.9 +0.2
baz=302
J61A Chester 125.47 39 P PKiKP 08 12 11.9 +0.1
baz=300
D62A Allapoint, All 125.48 34 P PKPdf 08 12 11.4 0.0
baz=306
E62A Clayton Lake 125.48 34 P PKPdf 08 12 11.5 +0.1
baz=306
F62A Pittston Farm, 125.65 35 P PKPdf 08 12 11.8 0.0
baz=305
MYKA Terra Mystica 125.66 326 *i P* **PKiKP 08 12 12.5 +0.3**
comp=Z,2.9nm,0.7s
H62A Milan 125.68 37 P PKPdf 08 12 12.0 +0.1
baz=303
G62A West of Eustis 125.70 36 P PKPdf 08 12 11.8 -0.1
baz=304
Q61A Milford 125.70 45 P PKPdf 08 12 11.8 -0.2
baz=295
PAL Palisades 125.73 42 P PKPdf 08 12 12.2 +0.2
baz=298
L61B Northampton 125.84 40 P PKPdf 08 12 12.3 +0.1
baz=300
I62A Tamworth 125.95 38 P PKPdf 08 12 12.5 +0.1
baz=302
J62A Henniker 125.99 39 P PKiKP 08 12 12.8 -0.1
baz=301
K62A Royalston 126.02 40 P PKiKP 08 12 12.8 -0.1
baz=300
D63A Stockholm 126.02 33 P PKPdf 08 12 12.5 +0.1
baz=307
ABTA Abfaltersbach 126.21 327 *i P* **PKiKP 08 12 13.4 0.0**
comp=Z,4.8nm,0.7s
E63A Oxbow 126.22 34 P PKPdf 08 12 12.9 +0.1
baz=306
G63A Kingsbury 126.29 36 P PKiKP 08 12 13.3 -0.2
baz=304
I63A Otisfield 126.31 37 P PKPdf 08 12 13.1 0.0
baz=303
STAL STALIGIAL 126.39 326 PKiKP 08 12 13.9 +0.3
PKME Peaks-Kenny Pk 126.40 36 P PKPdf 08 12 13.3 +0.2
baz=305
J63A Strafford 126.42 38 P PKPdf 08 12 13.0 -0.3
baz=302
K63A Dunstable 126.45 39 P PKPdf 08 12 13.2 -0.1
baz=301
EKA Eskdalemuir Ar 126.49 343 PKP **PKiKP 08 12 14.0 +0.5**
comp=Z,3.6nm,0.7s,baz=18,slow=2.7,SNR=8.1
EKA Eskdalemuir Ar 126.49 343 PKIKP **PKiKP 08 12 14.0 +0.5**
HRV Adam Dziewonsk 126.53 40 P PKPdf 08 12 13.4 -0.2
baz=301
E64A Bridgewater 126.55 34 P PKiKP 08 12 14.3 +0.4
baz=307
F64A Sherman 126.59 34 P PKiKP 08 12 13.8 -0.2
baz=306
MOTA Moosalm 126.60 328 *i P* **PKiKP 08 12 14.0 -0.2**
comp=Z,5.0nm,0.7s
G64A Maxfield 126.72 35 P PKPdf 08 12 13.9 +0.1
baz=305
H64A Troy 126.80 36 P PKPdf 08 12 14.0 0.0
baz=305
L63A North Scituate 126.82 40 P PKiKP 08 12 14.4 -0.2
baz=300
I64A Boothbay 126.96 37 P PKPdf 08 12 14.3 0.0
baz=304
M64A Tiverton 127.24 40 P PKPdf 08 12 14.7 -0.2
baz=301
L64A Middleborough 127.28 40 P PKPdf 08 12 14.6 -0.4
baz=301
H65A Eastbrook 127.33 36 P PKPdf 08 12 15.3 -0.2
baz=306
G65A Princeton 127.43 35 P PKiKP 08 12 15.9 +0.2
baz=307
DAVOX Davos/Dischmat 127.61 328 PKP **PKPdf 08 12 14.6 -1.1**
comp=Z,1.9nm,0.4s,baz=324,slow=7.6,SNR=2.4
H66A Whiting 127.82 35 P PKiKP 08 12 16.3 -0.2
baz=307
TSUM Tsumeb 129.06 240 PKPdf 08 12 19.0 -0.2
VSL Villasalto 132.36 321 PKPdf **PKPdf 08 12 24.1 -0.6**
ROSC El Rosal 133.65 89 PKP **PKiKP 08 12 29.1 -0.5**
comp=Z,3.6nm,0.3s,baz=336,slow=20,SNR=2.1
LPAZ La Paz 134.61 119 PKP **PKiKP 08 12 31.4 -0.4**
comp=Z,2.0nm,0.5s,baz=357,slow=10,SNR=4.7
LPAZ La Paz 134.61 119 PKIKP **PKPdf 08 12 28.9 -1.5**
LPAZ La Paz 134.61 119 PKPdf 08 12 28.9 -1.5
ESDC Sonseca Array 139.73 331 PKP **PKiKP 08 12 41.0 +0.1**
comp=Z,0.7nm,0.8s,baz=48,slow=2.2,SNR=4.2
ESDC PP **PP 08 15 35.0 +1.4**
comp=Z,1.2nm,0.7s,baz=18,slow=7.0,SNR=6.3
TORD Torodi Ar. Bea 149.95 287 PKPbc **PKPbc 08 13 01.9 +0.3**
comp=Z,14nm,0.7s,baz=48,slow=1.9,SNR=67
TORD PKPab **PKPab 08 13 07.8 +0.5**
comp=Z,26nm,0.6s,baz=77,slow=4.1,SNR=20
TORD Torodi Ar. Bea 149.95 287 PKPbc 08 12 59.3 -2.3
BDFB Brasilia 151.00 137 PKPbc **PKPbc 08 13 04.2 0.0**
comp=Z,6.4nm,0.7s,baz=155,slow=5.8,SNR=8.4
BDFB Brasilia 151.00 137 PKIKP **PKPdf 08 13 00.5 +2.1**
BDFB Brasilia 151.00 137 PKPdf 08 13 00.5 +2.1
KOWA Kowa 154.96 293 PKPab **PKPab 08 13 27.6 -0.8**
KIC Kosan Boka 157.06 273 *e*PKP1 **PKPab 08 13 38.5 +1.0**
comp=Z,75nm,0.7s
DBIC Dimbokro 157.17 274 PKP2 **PKPab 08 13 36.8 -1.2**
DBIC Dimbokro 157.17 274 PKPab 08 13 36.8 -1.2
TIC Toumodi 157.34 274 *e*PKP1 **PKPab 08 13 39.7 +1.0**
LIC Lamto 157.35 273 *e*PKP1 **PKPab 08 13 39.0 +0.2**
comp=Z,95nm,0.8s

*IDC **07** 07:54:36.7±7.4, 36°.64N×70°.80E, h0km, mb4.2/1, mb1 4.3/4, mb1mx3.6/57, mbtmp4.2/4, ML3.6/2 Error ellipse: s-maj=130.0km s-min=31.3km az=147.0*
*NNC **07** 07:54:52.4±8.4, 37°.08N×70°.62E, h183km±151km, mb2.6, mpv3.7, Error ellipse: s-maj=82.1km s-min=46.4km az=25.0*
ISC 07 07:54:45.7±1.9, **36°.8N**±0°.1×**70°.44E**±0°.09, **h64km, n9,**
σ1§**81**/14, **4C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.34**	**0**	⇓P		**Pn**	**07 56 18.9**	**+2.4**
	1.4nm,0.3s,baz=179,slow=12,SNR=17							
KK31				⇑S		**Sn**	**07 57 29.7**	**+2.0**
	2.6nm,0.3s,baz=178,slow=17,SNR=11							
AAK	**Ala-Archa**	**6.66**	**27**	Pn		**Pn**	**07 56 19.9**	**-1.1**
	1.7nm,0.3s,baz=203,slow=13,SNR=4.1							
AAK				Sn		**Sn**	**07 57 35.1**	**-0.4**
	0.5nm,0.3s,baz=288,slow=19,SNR=1.3							
AAK	**Ala-Archa**	**6.66**	**27**	⇑P		**Pn**	**07 56 20.5**	**-0.5**
	2.4nm,0.4s							
AAK				⇑S		**Sn**	**07 57 36.1**	**+0.6**
	6.3nm,0.7s							
TKM2	**Tokmak 2**	**7.33**	**31**	⇑P		Pn	07 56 35.5	+5.3
	4.0nm,0.5s							
TKM2				⇓S		**Sn**	**07 57 50.8**	**-1.1**
	3.5nm,1.1s							
GEYT	**Alibeck**	**9.89**	**281**	Pn		**Pn**	**07 57 04.3**	**-0.7**
	baz=63,slow=14,SNR=1.0							
GEYT				Sn		**Sn**	**07 58 54.5**	**+0.1**
	0.6nm,0.3s,baz=314,slow=56,SNR=2.1							
GEYT				Lg		Lg	07 59 42.1	
	1.5nm,0.3s,baz=80,slow=41,SNR=2.5							
MKAR	**Makanchi Array**	**13.36**	**38**	Pn		**Pn**	**07 57 53.4**	**+1.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=1.5							
AB31	**Akbulak array**	**14.65**	**332**	⇓P		**Pn**	**07 58 09.8**	**+0.5**
	0.2nm,0.3s,baz=169,slow=12,SNR=15							
AB31				S		**Sn**	**08 00 46.5**	**-3.8**
	1.2nm,0.8s,baz=157,slow=23,SNR=3.5							
ZALV	**Zalesovo Beam**	**19.88**	**26**	P		**P**	**07 59 08.9**	**-2.6**
	0.7nm,0.3s,baz=212,slow=11,SNR=6.8							
ARCES	**ARCESS Array B**	**40.74**	**338**	P		**P**	**08 02 20.4**	**+0.5**
	2.6nm,0.8s,baz=100,slow=9.2,SNR=1.8							

IDC 07 08:06:13.6±7.0, **41°.84N×97°.10E, h0km, mb1 3.4**/3, **mb1mx3.1**/66, **mbtmp3.4**/3, **ML3.2**/3, **Error ellipse: s-maj=86.2km s-min=27.7km az=171.0, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.91**	**45**	Pn		Pn	08 08 23.9	+0.2
	0.3nm,0.3s,baz=229,slow=16,SNR=3.5							
SONM				Lg		Lg	08 10 57.6	
	1.1nm,0.3s,baz=232,slow=28,SNR=11							
MKAR	**Makanchi Array**	**11.70**	**300**	Pn		Pn	08 08 59.5	-2.3
	0.2nm,0.3s,baz=113,slow=14,SNR=6.7							
MKAR				Lg		Lg	08 12 26.4	
	0.1nm,0.3s,baz=108,slow=23,SNR=1.6							
ZALV	**Zalesovo Beam**	**14.62**	**330**	Pn		Pn	08 09 39.6	-1.9
	0.4nm,0.3s,baz=141,slow=11,SNR=1.8							

*IDC **07** 08:11:32.0±3.3, 53°.72N×90°.73E, h0km, mb1 3.4/3, mb1mx3.2/54, mbtmp3.4/3, ML2.7/3, Error ellipse: s-maj=29.0km s-min=23.5km az=47.0*
*NNC **07** 08:11:40.6±5.3, 53°.44N×90°.07E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=43.6km s-min=29.8km az=74.0, Suspected Mining explosion.*
ISC 07 08:11:33.5±4.1, **53°.7N**±0°.1×**90°.5E**±0°.2, **h0km, n10,**
σ1§**06**/12, **6C-5D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.36**	**276**	*i*			08 33 23.6	
	baz=90,slow=314,SNR=2.3							
ZAA0	**Zalesovo Array**	**3.36**	**276**	⇓Pn		**Pb**	**08 12 33.3**	**-0.6**
	3.7nm,0.7s							
ZAA0				⇓Lg		Lg	08 13 21.2	
	9.5nm,0.7s							
ZALV	**Zalesovo Beam**	**3.36**	**276**	Pn		**Pn**	**08 12 28.1**	**+1.0**
	0.4nm,0.3s,baz=90,slow=11,SNR=4.2							
ZALV				Lg		Lg	08 13 24.1	
	2.4nm,0.3s,baz=93,slow=26,SNR=9.9							
KURBB	**Kurchatov Arra**	**7.98**	**252**	Pn		**Pn**	**08 13 31.2**	**+0.6**
	0.2nm,0.3s,baz=65,slow=15,SNR=16							
KURBB				Sn		**Sn**	**08 15 00.1**	**-1.3**
	0.0nm,0.3s,baz=24,slow=44,SNR=1.0							
KURBB				Lg		Lg	08 15 49.2	
	0.1nm,0.3s,baz=68,slow=35,SNR=6.7							
KURBB	**Kurchatov Arra**	**7.98**	**252**	⇑Pn		**Pn**	**08 13 31.0**	**+0.5**
	7.2nm,0.6s							
KURBB				⇓Sn		**Sn**	**08 15 00.8**	**-0.6**
	21nm,0.8s							
KURBB				⇑Lg		Lg	08 15 46.2	
	43nm,0.8s							
TLY	**Talaya**	**8.26**	**99**	Lg		Lg	08 15 36.4	
	0.0nm,0.3s,baz=205,slow=21,SNR=5.7							
MK31	**Makanchi Array**	**8.70**	**220**	⇑Pn		**Pn**	**08 13 39.5**	**-1.0**
	1.2nm,0.6s,baz=38,slow=14							
MK31				⇓Sn		**Sn**	**08 15 20.2**	**+1.0**
	2.9nm,0.7s,baz=32,slow=20							
MK31				⇑Lg		Lg	08 16 04.8	
	14nm,0.9s,baz=29,slow=27							
MKAR	**Makanchi Array**	**8.70**	**220**	Pn		**Pn**	**08 13 40.5**	**0.0**
	0.4nm,0.3s,baz=40,slow=14,SNR=11							
MKAR				Sn		**Sn**	**08 15 20.3**	**+1.1**
	0.2nm,0.3s,baz=48,slow=27,SNR=4.2							
MKAR				Lg		Lg	08 16 06.0	
	0.1nm,0.3s,baz=30,slow=28,SNR=2.3							
MAKZ	**Makanchi**	**8.81**	**222**	⇑Pn		**Pn**	**08 13 41.2**	**-0.8**
	2.6nm,0.8s							
MAKZ				⇑Sn		**Sn**	**08 15 23.5**	**+1.5**
	2.4nm,0.7s							
MAKZ				⇓Lg		Lg	08 16 07.2	
	11nm,1.0s							
SONM	**Songino Array**	**11.66**	**114**	Lg		Lg	08 17 25.3	
	baz=266,slow=11,SNR=2.2							

*IDC **07** 08:34:57.4±2.5, 6°.99S×130°.22E, h62km±27km, mb3.9/2, mb1 4.1/7, mb1mx3.7/31, mbtmp4.2/7, ML4.1/5, Error ellipse: s-maj=24.9km s-min=19.3km az=84.0*
*DJA **07** 08:34:57.9±0.3, 7°.S±3°×13°.0E±°, h169km±8km, M4.4/7, mB5.0/3, mb4.2/7, MLv4.5/6, Mw(mB)4.3/3*
ISC 07 08:34:58.3±0.8, **6°.84S**±0°.06×**130°.29E**±0°.07, **h150km, n13,**
σ3§**27**/17, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.52**	**138**	P		**Pn**	**08 35 28.0**	**-0.1**
SAUI				S		**Sn**	**08 35 51.2**	**+0.3**
FAKI	**Fak Fak**	**4.36**	**27**	P		**Pn**	**08 36 05.3**	**+1.9**
KMPI	**Kaimana, Papua**	**4.64**	**47**	P		**Pn**	**08 36 05.8**	**-1.3**
KMPI				S		**Sn**	**08 36 58.5**	**-2.1**
SIJI	**Sorong**	**6.01**	**9**	P		**Pn**	**08 36 26.3**	**+1.0**
	3.4nm,0.3s,baz=238,slow=22,SNR=18							
SIJI				S		**Sn**	**08 37 29.7**	**-3.6**
	5.9nm,0.3s,baz=217,slow=22,SNR=8.5							
SOEI	**Soe**	**6.62**	**244**	P		**Pn**	**08 36 35.1**	**+1.6**
	0.2nm32nm,0.6s							
BATI	**Baumata**	**7.35**	**242**	P		**Pn**	**08 36 42.0**	**-1.2**
	3.3nm,0.3s,baz=124,slow=3.6,SNR=2.2							
BATI				S		**Sn**	**08 38 02.5**	**-3.0**
	3.4nm,0.3s,baz=66,slow=15,SNR=1.7							
BATI	**Baumata**	**7.35**	**242**	P		**Pn**	**08 36 44.6**	**+1.4**
	0.1nm25nm,0.8s							
TTSI	**Tana Toraja**	**11.09**	**289**	P		**Pn**	**08 37 33.8**	**+1.0**
	2μm12nm,0.4s							
FITZ	**Fitzroy Crossi**	**12.07**	**202**	P		**Pn**	**08 37 44.2**	**-1.4**
	3.8nm,0.3s,baz=35,slow=10,SNR=83							
FITZ				S		Sn	08 39 47.2	-12
	1.3nm,0.3s,baz=142,slow=22,SNR=5.5							
WRA	**Warramunga Arr**	**13.61**	**164**	P		**Pn**	**08 38 04.5**	**-0.8**
	0.6nm,0.3s,baz=339,slow=13,SNR=35							
WRA				S		Sn	08 40 25.9	-10
	1.6nm,0.3s,baz=344,slow=24,SNR=10							
ASAR	**Alice Springs**	**17.09**	**169**	P		**Pn**	**08 38 50.8**	**+2.4**
	0.4nm,0.3s,baz=342,slow=9.8,SNR=13							
ASAR				S		**S**	**08 41 50.7**	**-7.6**
	0.4nm,0.3s,baz=342,slow=13,SNR=7.1							
STKA	**Stephens Creek**	**27.05**	**158**	P		**P**	**08 40 33.4**	**+6.6**
	0.8nm,0.3s,baz=334,slow=7.5,SNR=6.8							
MKAR	**Makanchi Array**	**68.25**	**327**	P		P	08 45 51.8	+8.9
	1.6nm,0.5s,baz=122,slow=7.1,SNR=20							

*IDC **07** 08:37:12.6±1.4, 34°.19N×25°.21E, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.6/48, mbtmp3.8/7, ML3.8/4, Error ellipse: s-maj=24.8km s-min=13.7km az=73.0*
*ATH **07** 08:37:16.1, 34°.25N×25°.05E, h13km±4km, ML3.0/5, Error ellipse: s-maj=4.5km s-min=2.3km az=301.0*
*THE **07** 08:37:16.0, 34°.31N×25°.11E, h0km±2km, ML2.9/7, Error ellipse: s-maj=4.3km s-min=1.1km az=150.0*
ISC 07 08:37:14.4±1.5, **34°.19N**±0°.06×**25°.12E**±0°.04, **h16km**±10**km,**
n24, σ1§**15**/36, **mb3.6**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.86**	**343**	P		**Pb**	**08 37 30.9**	**-0.2**

SIVA			S	Sb	08 37 41.9	-0.5
	4μm,0.6s					
SIVA	**Sivas**	**0.86 343**	P	**Pb**	**08 37 30.9**	**-0.2**
SIVA			S	**Sn**	**08 37 42.5**	**-1.7**
SIVA			AML	AML	08 37 50.4	
	comp=E,10423μm,0.7s					
SIVA			AML	AML	08 37 51.4	
	comp=N,6810μm,0.5s					
TMBK	**Timbaki Herakl**	**0.93 342**	P	**Pb**	**08 37 32.3**	**+0.2**
TMBK			S	**Sn**	**08 37 45.2**	**-0.5**
	comp=N,808nm,0.7s					
FRMA	**Ierapetra Chan**	**0.97 31**	P	**Pn**	**08 37 36.7**	**+3.4**
LAST	**Lasithi**	**1.01 17**	P	**Pn**	**08 37 34.0**	**-0.1**
LAST			S	**Sn**	**08 37 47.6**	**-0.4**
	comp=N,618nm,0.6s					
LAST	**Lasithi**	**1.01 17**	P	**Pn**	**08 37 34.0**	**-0.1**
LAST			S	**Sn**	**08 37 48.1**	**0.0**
LAST			AML	AML	08 37 58.2	
	comp=N,1296μm,0.6s					
LAST			AML	AML	08 38 10.4	
	comp=E,1171μm,0.9s					
GVD	**Gavdhos**	**1.07 308**	P	**Pb**	**08 37 34.8**	**+0.3**
GVD			S	**Sn**	**08 37 50.0**	**+0.7**
	comp=E,1μm,0.6s					
GVD	**Gavdhos**	**1.07 308**	P	**Pb**	**08 37 34.8**	**+0.3**
GVD			AML	AML	08 38 01.5	
	comp=E,2761μm,0.4s					
GVD			AML	AML	08 38 01.8	
	comp=N,2511μm,0.6s					
GVDS	**Gavdos**	**1.07 308**	P	**Pg**	**08 37 35.1**	**-0.1**
GVDS			S	**Sn**	**08 37 50.6**	**+1.3**
	comp=N,642nm,0.3s					
IDI	**Anoyia**	**1.11 350**	Pg	**Pb**	**08 37 35.0**	**-0.3**
	comp=N,22nm,0.3s,baz=266,slow=12,SNR=99					
IDI			Lg	Lg	08 37 49.1	
	comp=N,31nm,0.3s,baz=340,slow=20,SNR=12					
IDI	**Anoyia**	**1.11 350**	P	**Pb**	**08 37 35.0**	**-0.3**
IDI			S	**Sn**	**08 37 49.4**	**-1.0**
	comp=N,450nm,0.8s					
IDI	**Anoyia**	**1.11 350**	P	**Pb**	**08 37 35.1**	**-0.3**
IDI			S	**Sn**	**08 37 49.4**	**-1.0**
IDI			AML	AML	08 37 58.0	
	comp=N,815μm,0.6s					
IDI			AML	AML	08 38 02.7	
	comp=E,840μm,0.8s					
PRNS	**Prines Rethymn**	**1.28 337**	P	**Pb**	**08 37 38.1**	**0.0**
PRNS			S	**Sn**	**08 37 55.1**	**+0.7**
ZKR	**Zakros**	**1.29 44**	P	**Pg**	**08 37 40.1**	**+0.7**
ZKR			AML	AML	08 38 05.6	
	comp=N,448μm,0.8s					
ZKR			AML	AML	08 38 09.2	
	comp=E,1180μm,0.9s					
VAM	**Vamos**	**1.43 328**	P	**Pg**	**08 37 41.0**	**-1.0**
VAM			S	**Sg**	**08 38 00.5**	**-0.2**
	comp=E,550nm,0.8s					
VAM	**Vamos**	**1.43 328**	P	**Pg**	**08 37 41.0**	**-1.0**
KARP	**Karpathos**	**2.16 51**	P	**Pb**	**08 37 54.0**	**+0.8**
EIL	**Elat**	**9.49 116**	Pn	**Pn**	**08 39 28.2**	**-2.3**
	comp=E,0.5nm,0.3s,baz=84,slow=18,SNR=1.8					
EIL			Sn	**Sn**	**08 41 13.6**	**-3.2**
	comp=E,1.2nm,0.3s,baz=124,slow=13,SNR=4.5					
KBZ	**Khabaz**	**16.76 50**	Pn	**Pn**	**08 41 09.2**	**+0.8**
	comp=E,0.2nm,0.3s,baz=270,slow=12,SNR=4.0					
AKASG	**Malin Array Be**	**16.77 9**	Pn	**Pn**	**08 41 08.7**	**+0.1**
	comp=E,0.8nm,0.3s,baz=200,slow=11,SNR=8.0					
GERES	**GERESS Array B**	**16.93 333**	Pn	**Pn**	**08 41 11.6**	**+1.0**
	comp=E,0.2nm,0.3s,baz=141,slow=13,SNR=11					
TORD	**Torodi Ar. Bea**	**29.85 231**	P	**P**	**08 43 22.1**	**+1.0**
	comp=E,0.7nm,0.7s,baz=33,slow=8.6,SNR=6.7					
MKAR	**Makanchi Array**	**44.34 56**	P	**P**	**08 45 24.7**	**+0.9**
	comp=E,0.8nm,0.8s,baz=280,slow=6.5,SNR=7.7					
ZALV	**Zalesovo Beam**	**45.70 45**	P	**P**	**08 45 34.7**	**+0.3**
	comp=E,1.3nm,0.4s,baz=260,slow=6.8,SNR=4.0					

*SOME **07** 08:49:19.5, 42°.93N×76°.95E, h15km*
*NNC **07** 08:49:19.4±1.0, 42°.92N×76°.92E, h12km±5km, mb3.6, mpv2.6, Error ellipse: s-maj=11.7km s-min=2.9km az=164.0*
*KRNET **07** 08:49:19.4±0.1, 42°.92N×76°.97E, h23km, mb2.1*

ISC 07 08:49:19.5±0.9, 42°.91N±0°.03×76°.95E±0°.03, h15km±8km, n17, σ0s23/33, 12C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.27**	**15**	*e*P	**Pg**	**08 49 25.3**	**-0.1**
	baz=13						
MDOK				*e*S	**Sg**	**08 49 29.6**	**+0.2**
	baz=13						
MDOK	**Medeo**	**0.27**	**15**	*e*P	**Pg**	**08 49 25.3**	**-0.1**
	9.1nm,0.1s						
MDOK				*e*S	**Sg**	**08 49 29.6**	**+0.2**
	62nm,0.1s						
MDOK	**Medeo**	**0.27**	**15**	Pg	**Pg**	**08 49 25.3**	**-0.1**
	9.1nm,0.1s						
MDOK				Lg	Lg	08 49 29.6	
	62nm,0.1s						
ANVS	**Anan'yevo**	**0.54**	**103**	⇑*i*P	**Pg**	**08 49 30.2**	**-0.1**
	baz=4.0						
ANVS				⇑*i*S	**Sg**	**08 49 37.7**	**+0.2**
	baz=4.0						
KST	**Kastek**	**0.74**	**281**	*e*P	**Pg**	**08 49 33.9**	**-0.1**
	baz=80						
KST				*e*S	**Sb**	**08 49 44.4**	**+0.3**
	baz=80						
KST	**Kastek**	**0.74**	**281**	*e*P	**Pg**	**08 49 33.9**	**-0.1**
	1.4nm,0.3s						
KST				*e*S	**Sb**	**08 49 44.4**	**+0.3**
	1.7nm,0.5s						
KST	**Kastek**	**0.74**	**281**	P	**Pg**	**08 49 33.9**	**-0.1**
	1.4nm,0.3s						
KST				S	**Sb**	**08 49 44.4**	**+0.3**
	1.7nm,0.5s						
KDJ	**Kajisay**	**0.80**	**168**	⇑*i*P	**Pg**	**08 49 34.8**	**-0.2**
	baz=68						
KDJ				⇑*i*S	**Sb**	**08 49 45.9**	**+0.2**
	baz=68						
ULHL	**Ulahol**	**0.84**	**219**	⇑*i*P	**Pb**	**08 49 35.6**	**-0.4**
	baz=19						
ULHL				⇑*i*S	**Sb**	**08 49 47.2**	**0.0**
	baz=19						
BOOM	**Boomskoye usch**	**0.85**	**241**	⇑*i*P	**Pb**	**08 49 35.8**	**-0.3**
	baz=41						
BOOM				⇑*i*S	**Sg**	**08 49 47.6**	**+0.2**
	baz=41						
DGS	**Degeres**	**0.93**	**292**	*e*P	**Pb**	**08 49 37.0**	**-0.3**
	baz=90						
DGS				*e*S	**Sg**	**08 49 49.5**	**-0.1**
	baz=90						
DGS	**Degeres**	**0.93**	**292**	*e*P	**Pb**	**08 49 37.0**	**-0.3**
	1.3nm,0.3s						
DGS				*e*S	**Sg**	**08 49 49.6**	**-0.1**
	4.2nm,0.2s						
DGS	**Degeres**	**0.93**	**292**	P	**Pb**	**08 49 37.0**	**-0.3**
	1.3nm,0.3s						
DGS				S	**Sg**	**08 49 49.6**	**-0.1**
	4.2nm,0.2s						
TKM2	**Tokmak 2**	**1.00**	**271**	⇑*i*P	**Pb**	**08 49 38.6**	**0.0**
	baz=70						
TKM2				⇑*i*S	**Sg**	**08 49 52.1**	**+0.2**
	baz=70						
TARG	**Taragay, Kyrgy**	**1.34**	**151**	⇑*i*P	**Pn**	**08 49 44.2**	**+0.2**
	baz=52						
TARG				⇑*i*S	**Sn**	**08 50 02.1**	**+0.4**
	baz=52						
KPKS	**Kokpek**	**1.39**	**66**	*e*P	**Pn**	**08 49 44.4**	**+0.1**
	baz=66						
KPKS				*e*S	**Sn**	**08 50 02.2**	**-0.2**
	baz=66						
KPKS	**Kokpek**	**1.39**	**66**	*e*P	**Pn**	**08 49 44.4**	**+0.1**
	1.8nm,0.2s						
KPKS				*e*S	**Sn**	**08 50 02.3**	**-0.2**
	6.2nm,0.3s						

NNC 07 09:00:42.9±6.9, 54°.35N×86°.37E, h0km, mb3.6, mpv2.9, 5C-5D, Error ellipse: s-maj=73.4km s-min=32.8km az=171.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.99**	**247**	⇓P	Pg	09 01 01.6	-0.3
	0.3nm,0.2s						
ZAA0				⇑S	Sg	09 01 15.6	+0.9
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**6.07**	**235**	⇑Pn	Pn	09 02 16.5	+2.8
	1.1nm,0.4s						
KURBB				⇓Lg	Lg	09 03 57.1	
	5.2nm,0.9s						
MK31	**Makanchi Array**	**7.99**	**201**	⇑Pn	Pn	09 02 42.8	+2.6
	0.3nm,0.4s,baz=22,slow=13						
MK31				⇓Sn	Sn	09 04 12.6	+1.4
	0.2nm,0.4s						
MK31				⇓Lg	Lg	09 04 56.3	
	1.5nm,1.0s,baz=32,slow=33						
MAKZ	**Makanchi**	**8.05**	**202**	⇓Pn	Pn	09 02 42.2	+1.3
	1.7nm,0.5s						
MAKZ				⇑Sn	Sn	09 04 16.8	+4.2
	0.3nm,0.4s						
MAKZ				⇑Lg	Lg	09 05 00.4	
	1.0nm,0.8s						

*PDG **07** 09:01:09.9±0.1, 42°.39N×19°.41E, h23km, MD3.2/8, ML3.0/14, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BEO **07** 09:01:10.9±0.2, 42°.42N×19°.45E, h12km±2km, ML2.7/19*
*RHSSO **07** 09:01:10.5±0.4, 42°.39N×19°.47E, h9km±1km, ML2.9/14*
*SKO **07** 09:01:10.4, 42°.41N×19°.42E, h0km*

ISC 07 09:01:10.7±0.8, 42°.41N±0°.02×19°.44E±0°.01, h15km±6km, n87, σ0s82/153, 13C-26D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.14**	**280**	*e*Pg	**Pg**	**09 01 14.3**	**-0.2**
PDG				*e*Sg	**Sb**	**09 01 17.5**	**-0.3**
PDG	**Podgorica**	**0.14**	**280**	⇓P	**Pg**	**09 01 14.0**	**-0.4**
PDG				⇓S	**Sb**	**09 01 17.5**	**-0.3**
PDG	**Podgorica**	**0.14**	**280**	⇓*i*Pg	**Pg**	**09 01 14.3**	**-0.2**
PDG				*e*Sg	**Sb**	**09 01 17.6**	**-0.3**
TTG	**Podgorica**	**0.14**	**280**	⇓*i*Pg	**Pg**	**09 01 14.2**	**-0.2**
TTG				*i* Sg	**Sb**	**09 01 17.7**	**-0.1**
DRME	**Dracevica, Mon**	**0.29**	**220**	⇓*i*Pg	**Pg**	**09 01 16.2**	**-0.7**
DRME				*e*Sg	**Sb**	**09 01 21.8**	**-0.4**
DRME	**Dracevica, Mon**	**0.29**	**220**	⇓*i*Pg	**Pg**	**09 01 16.1**	**-0.8**
DRME				*i* Sg	**Sg**	**09 01 21.3**	**+0.3**
CEME	**Cevo**	**0.41**	**290**	*e*Pg	**Pg**	**09 01 18.1**	**-0.9**
CEME				*i* Sg	**Sg**	**09 01 25.0**	**+0.4**
BUM	**Brajici-Budva**	**0.42**	**255**	*e*Pg	**Pg**	**09 01 18.2**	**-0.9**
BUM				*i* Sg	**Sg**	**09 01 25.0**	**+0.1**
PVY	**Plav**	**0.43**	**64**	⇓*i*Pg	**Pg**	**09 01 19.1**	**-0.3**
PVY				*i* Sg	**Sb**	**09 01 26.9**	**+0.5**
KOME	**Kolasin**	**0.45**	**8**	⇓*i*Pg	**Pg**	**09 01 19.3**	**-0.4**
KOME				*i* Sg	**Sb**	**09 01 27.2**	**+0.3**
ULC	**Ulcinj**	**0.47**	**198**	⇑*i*Pg	**Pg**	**09 01 18.9**	**-1.1**
ULC				*i* Sg	**Sg**	**09 01 26.6**	**+0.3**
NKME	**Niksic**	**0.51**	**315**	⇓*i*Pg	**Pg**	**09 01 20.0**	**-0.8**
NKME				*i* Sg	**Sb**	**09 01 28.5**	**0.0**
NKY	**Niksic**	**0.52**	**321**	⇑*i*Pg	**Pg**	**09 01 20.3**	**-0.8**
NKY				*i* Sg	**Sb**	**09 01 29.0**	**0.0**
IVA	**Berane**	**0.57**	**36**	⇓*i*Pg	**Pg**	**09 01 21.6**	**-0.5**
IVA				*i* Sg	**Sb**	**09 01 31.5**	**+1.0**
HCY	**Herceg Novi**	**0.70**	**274**	⇓*i*Pg	**Pg**	**09 01 23.4**	**-1.0**
HCY				*e*Sg	**Sg**	**09 01 33.8**	**+0.2**
HCY	**Herceg Novi**	**0.70**	**274**	*e*Pg	**Pg**	**09 01 23.0**	**-1.4**
HCY				*i* Sg	**Sb**	**09 01 34.1**	**+0.1**
BRY	**Bratogost**	**0.82**	**307**	⇓*i*Pg	**Pb**	**09 01 25.5**	**-1.3**
BRY				*e*Sg	**Sb**	**09 01 37.6**	**-0.2**
BRY	**Bratogost**	**0.82**	**307**	⇓*i*Pg	**Pb**	**09 01 25.5**	**-1.3**
BRY				*i* Sg	**Sg**	**09 01 38.7**	**+1.0**
TREB	**Trebinje**	**0.86**	**291**	*e*Pg	**Pb**	**09 01 26.4**	**-0.9**
TREB				*e*Sg	**Sg**	**09 01 39.2**	**+0.5**
TREB	**Trebinje**	**0.86**	**291**	⇑*i*Pg	**Pb**	**09 01 26.3**	**-1.0**
TREB				*e*Sg	**Sg**	**09 01 39.5**	**+0.8**
UPM	**Unac-Piva**	**0.89**	**334**	*e*Pg	**Pb**	**09 01 27.1**	**-0.8**
UPM				*e*Sg	**Sg**	**09 01 40.3**	**+0.7**
UPM	**Unac-Piva**	**0.89**	**334**	⇓*i*Pg	**Pb**	**09 01 26.8**	**-1.1**
UPM				*i* Sg	**Sn**	**09 01 41.1**	**-0.4**
PLE	**Pljevlja**	**0.92**	**358**	⇓*i*Pg	**Pb**	**09 01 27.7**	**-0.8**
PLE				*i* Sg	**Sn**	**09 01 42.7**	**+0.4**
SJES	**Sjenica**	**0.94**	**25**	*e*Pg	**Pb**	**09 01 28.0**	**-0.8**
SJES				*e*Sg	**Sg**	**09 01 41.9**	**+0.6**
TIR	**Tirane**	**1.11**	**163**	*e*Pg	**Pb**	**09 01 30.7**	**-0.8**
TIR				*e*Sg	**Sg**	**09 01 46.8**	**+0.3**
TIR	**Tirane**	**1.11**	**163**	⇑P	**Pb**	**09 01 31.3**	**-0.2**
TIR	**Tirane**	**1.11**	**163**	⇓S	**Sg**	**09 01 47.7**	**+1.2**
RUDO	**Rudo**	**1.21**	**358**	⇓*i*Pg	**Pn**	**09 01 32.6**	**-0.5**
RUDO				*e*Sg	**Sg**	**09 01 49.8**	**-0.1**
STON	**Ston**	**1.36**	**290**	*e*Pg	**Pn**	**09 01 35.0**	**-0.2**
STON				*e*Sg	**Sg**	**09 01 54.6**	**-0.1**
STON	**Ston**	**1.36**	**290**	⇑*i*Pg	**Pn**	**09 01 34.9**	**-0.2**
STON				*e*Sg	**Sg**	**09 01 55.3**	**+0.6**
STON	**Ston**	**1.36**	**290**	*e*Pn	**Pn**	**09 01 34.8**	**-0.3**
STON				Sg	**Sg**	**09 01 55.1**	**+0.4**
BBLS	**Lazići**	**1.46**	**359**	*e*Pg	**Pb**	**09 01 37.5**	**-0.1**
BBLS				*e*Sg	**Sg**	**09 01 57.0**	**-0.8**
BBLS	**Lazići**	**1.46**	**359**	*e*Pg	**Pb**	**09 01 37.3**	**-0.3**
BBLS				*e*Sg	**Sg**	**09 01 57.5**	**-0.3**
SELS	**Selova**	**1.48**	**56**	*e*Pg	**Pn**	**09 01 36.9**	**+0.1**
SELS				*e*Sg	**Sb**	**09 01 57.1**	**+0.5**
SKO	**Skopje**	**1.55**	**106**	*e*Pn	**Pn**	**09 01 38.1**	**+0.3**
SKO				*i* Sg	**Sg**	**09 02 00.2**	**-0.5**
OHR	**Ohrid**	**1.65**	**141**	*e*Pn	**Pg**	**09 01 41.8**	**-0.6**
OHR				*i* Sg	**Sg**	**09 02 04.3**	**+0.5**
OHR				*e*Lg	Lg	09 02 06.0	
	comp=E,203nm,0.6s						
OHR				*e*Lg	Lg	09 02 07.0	
	comp=N,178nm,0.6s						
HAPS	**Han Pijesak,BI**	**1.71**	**348**	*e*Pg	**Pb**	**09 01 42.8**	**+0.8**
HAPS				*e*Sg	**Sg**	**09 02 05.7**	**-0.3**
HAPS	**Han Pijesak,BI**	**1.71**	**348**	*e*Pn	**Pb**	**09 01 41.6**	**-0.4**
HAPS				*e*Sn	**Sb**	**09 02 04.1**	**+0.7**
DIVS	**Divibare**	**1.74**	**13**	*e*Pn	**Pn**	**09 01 40.7**	**+0.3**
DIVS				*e*Sn	**Sn**	**09 02 02.8**	**+0.4**
DIVS	**Divibare**	**1.74**	**13**	⇓*i*Pn	**Pn**	**09 01 40.7**	**+0.3**
DIVS				*e*Sn	**Sb**	**09 02 03.9**	**-0.1**
GRUS	**Gruza**	**1.75**	**32**	*e*Pn	**Pn**	**09 01 40.7**	**+0.2**
GRUS				*e*Sn	**Sb**	**09 02 03.5**	**-0.8**
BARS	**Barje**	**1.80**	**76**	*e*Pn	**Pn**	**09 01 42.2**	**+0.9**
BARS	**Barje**	**1.80**	**76**	*e*Pn	**Pb**	**09 01 42.4**	**-1.0**
BARS				*e*Sn	**Sb**	**09 02 04.9**	**-0.9**
LSTV	**Lastovo**	**1.91**	**282**	*e*Pn	**Pn**	**09 01 42.6**	**-0.1**
LSTV				Sn	**Sn**	**09 02 07.1**	**+0.6**
TRUS	**Trudelj**	**1.95**	**21**	*e*Pn	**Pn**	**09 01 43.4**	**+0.2**
TRUS				*e*Sn	**Sn**	**09 02 07.8**	**+0.4**
PRVS	**Prvonek**	**1.96**	**86**	*e*Sn	**Sn**	**09 02 08.1**	**+0.4**
RICI	**Ricice**	**2.01**	**303**	*e*Pn	**Pn**	**09 01 45.4**	**+1.3**
RICI				Sn	**Sn**	**09 02 10.1**	**+1.1**
BOVS	**Bovan**	**2.07**	**53**	*e*Pn	**Pn**	**09 01 44.7**	**-0.1**
BOVS				*e*Sn	**Sn**	**09 02 11.5**	**+1.2**
BOVS	**Bovan**	**2.07**	**53**	⇓P	**Pn**	**09 01 44.8**	**-0.1**
BOVS	**Bovan**	**2.07**	**53**	⇑S	**Sb**	**09 02 12.2**	**-1.3**
STIP	**Stip**	**2.17**	**108**	*e*Pn	**Pb**	**09 01 49.1**	**-0.5**
STIP				*i* Sg	**Sg**	**09 02 19.8**	**-0.6**
BOSS	**Bosilegrad**	**2.25**	**87**	*e*Pn	**Pn**	**09 01 47.3**	**-0.2**
BOSS				*e*Sn	**Sn**	**09 02 14.7**	**-0.3**
HVAR	**Hvar**	**2.33**	**290**	*e*Pn	**Pn**	**09 01 48.7**	**+0.3**
HVAR				Sn	**Sn**	**09 02 17.4**	**+0.7**
ZAGS	**Zajecar**	**2.48**	**55**	*e*Pn	**Pn**	**09 01 50.8**	**+0.2**
ZAGS				*e*Sn	**Sn**	**09 02 21.6**	**+1.0**
ZAPS	**Zavoj**	**2.51**	**69**	*e*Pn	**Pn**	**09 01 51.1**	**+0.2**
ZAPS				*e*Sn	**Sn**	**09 02 21.2**	**0.0**
VAY	**Valandovo**	**2.58**	**114**	*e*Pn	**Pn**	**09 01 53.1**	**+1.2**
VAY				*e*Sg	**Sn**	**09 02 25.4**	**+2.4**
VAY				*e*Lg	Lg	09 02 36.4	
	comp=E,23nm,0.8s						
VAY				*e*Lg	Lg	09 02 38.3	
	comp=N,16nm,0.5s						
MGRS	**Mrkonjic Grad**	**2.64**	**320**	*e*Pn	**Pn**	**09 01 54.3**	**+1.5**
MGRS				*e*Sn	**Sn**	**09 02 26.6**	**+2.1**
BLKB	**Belogradchik**	**2.67**	**62**	⇑S	**Sn**	**09 02 26.9**	**+1.7**
MATE	**Matera**	**2.70**	**230**	⇓P	**Pn**	**09 01 53.4**	**-0.2**
KIJV	**Kijevo**	**2.73**	**307**	*e*Pn	**Pn**	**09 01 56.0**	**+2.0**
KIJV				Sn	**Sn**	**09 02 28.8**	**+2.0**
FRGS	**Fruska Gora**	**2.76**	**6**	*e*Pn	**Pn**	**09 01 54.3**	**-0.1**
FRGS				*e*Sn	**Sn**	**09 02 28.1**	**+0.6**
FRGS	**Fruska Gora**	**2.76**	**6**	⇓P	**Pn**	**09 01 54.5**	**+0.1**
FRGS	**Fruska Gora**	**2.76**	**6**	⇑S	**Sn**	**09 02 26.4**	**-1.1**
FRGS	**Fruska Gora**	**2.76**	**6**	*e*Pn	**Pn**	**09 01 54.5**	**+0.1**
FRGS				*e*Sn	**Sn**	**09 02 29.0**	**+1.5**
VTS	**Vitosha**	**2.82**	**84**	⇑P	**Pn**	**09 01 55.9**	**+0.6**
VTS	**Vitosha**	**2.82**	**84**	⇓S	**Sn**	**09 02 31.0**	**+2.0**
BLY	**Banja Luka**	**2.85**	**326**	*e*Pn	**Pn**	**09 01 56.8**	**+1.1**
BLY				*e*Sn	**Sn**	**09 02 31.6**	**+1.8**
MDVR	**Moldovita**	**2.89**	**34**	⇓P	**Pn**	**09 01 56.2**	**-0.1**
ZIRJ	**Zirje**	**3.05**	**295**	*e*Pn	**Pn**	**09 01 59.0**	**+0.7**
ZIRJ				Sn	**Sn**	**09 02 35.0**	**+0.5**
MORI	**Morici**	**3.09**	**299**	*e*Pn	**Pn**	**09 02 00.4**	**+1.4**
MORI				Sn	**Sn**	**09 02 36.2**	**+0.6**
HERR	**Herculane**	**3.29**	**40**	⇑P	**Pn**	**09 02 01.2**	**-0.4**
UDBI	**Udbina**	**3.41**	**310**	*e*Pn	**Pn**	**09 02 05.7**	**+2.3**
UDBI				Sn	**Sn**	**09 02 45.0**	**+1.5**
DUGI	**Dugi Otok**	**3.57**	**298**	*e*Pn	**Pn**	**09 02 06.2**	**+0.7**
DUGI				Sn	**Sn**	**09 02 47.8**	**+0.4**
BZS	**Buzias**	**3.57**	**25**	⇑P	**Pn**	**09 02 05.8**	**+0.2**
BZS	**Buzias**	**3.57**	**25**	⇓S	**Sn**	**09 02 46.9**	**-0.6**
MOSL	**Moslavina**	**3.74**	**330**	*e*Pn	**Pn**	**09 02 09.3**	**+1.4**
KOVH	**Kovagotottos**	**3.80**	**346**	*e*P	**Pn**	**09 02 09.6**	**+0.8**
KOVH				*e*S	**Sn**	**09 02 53.3**	**+0.2**
MORH	**Mrgy, Hungar**	**3.85**	**352**	⇑P	**Pn**	**09 02 09.3**	**0.0**
MORH	**Mrgy, Hungar**	**3.85**	**352**	*e*P	**Pn**	**09 02 10.1**	**+0.7**
MORH				*e*S	**Sn**	**09 02 54.3**	**+0.1**
MORH	**Mrgy, Hungar**	**3.85**	**352**	*e*Pn	**Pn**	**09 02 09.7**	**+0.4**
MORH				*e*Sn	**Sn**	**09 02 54.3**	**+0.1**
NVLJ	**Novalja**	**3.96**	**305**	*e*Pn	**Pn**	**09 02 11.9**	**+1.1**
NVLJ				Sn	**Sn**	**09 02 58.1**	**+1.2**
SIRR	**Siria**	**4.18**	**22**	⇓P	**Pn**	**09 02 14.5**	**+0.7**
SIRR	**Siria**	**4.18**	**22**	⇓S	**Sn**	**09 03 02.1**	**-0.2**
CRES	**Cresnjev**	**4.46**	**321**	*e*Pn	**Pn**	**09 02 18.2**	**+0.5**
CRES				*e*Sn	**Sn**	**09 03 09.7**	**+0.4**
CEY	**Cerknica**	**4.91**	**314**	*e*Pn	**Pn**	**09 02 24.6**	**+0.6**
CEY				*e*Sn	**Sn**	**09 03 19.6**	**-0.9**
MPLH	**Magyarpolny**	**4.95**	**345**	*e*P	**Pn**	**09 02 25.0**	**+0.5**
MPLH				*e*S	**Sn**	**09 03 21.8**	**+0.5**
VOIR		**5.06**	**51**	⇑P	**Pn**	**09 02 26.7**	**+0.6**

*IDC **07** 09:31:39.2±0.9, 29°.42N×81°.60E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/58, mbtmp3.9/13, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/52, Error ellipse: s-maj=33.6km s-min=17.2km az=56.0*
*NEIC **07** 09:31:41.6±2.5, 29°.61N±0°.09×81°.73E±0°.09, h10km±1km, mb4.2/20, Error ellipse: s-maj=16.5km s-min=11.2km az=215.0*
*NDI **07** 09:31:43.9±1.6, 29°.47N×81°.63E, h7km±12km, ML3.8, mb4.2(NEIC)*
*DMN **07** 09:31:44.5±0.2, 29°.56N×81°.32E, h40km, Ml4.7/10, Error ellipse: s-maj=8.3km s-min=3.5km az=22.0*

ISC 07 09:31:43.0±2.5, 29°.57N±0°.07×81°.64E±0°.05, h19km±10km, n80, σ1s90/106, mb3.9/17, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**1.88**	**141**	*e*Pn	**Pb**	**09 32 16.6**	**-0.3**
PYUN				*e*Sg	**Sb**	**09 32 40.9**	**+0.8**
PYUN	**Piuthan**	**1.88**	**141**	*e*Pn	**Pb**	**09 32 16.6**	**-0.3**
DANN	**Dangsing**	**2.22**	**123**	*e*Pn	**Pb**	**09 32 21.9**	**-0.8**
DANN				*e*Sn	**Sb**	**09 32 49.6**	**-0.3**
DANN	**Dangsing**	**2.22**	**123**	*e*Pg	**Pb**	**09 32 21.9**	**-0.8**
DANN				*e*Sg	**Sb**	**09 32 49.7**	**-0.2**
	592nm,0.3s						
KOLN	**Koldanda**	**2.48**	**136**	*e*Pn	**Pn**	**09 32 24.7**	**+2.1**
KOLN				*e*Sn	**Sn**	**09 32 53.9**	**+1.4**
KOLN	**Koldanda**	**2.48**	**136**	*e*Pn	**Pb**	**09 32 25.2**	**-1.9**
KOLN				*e*Sn	**Sn**	**09 32 54.7**	**+2.2**
	640nm,0.4s						
GKN	**Gorkha**	**3.06**	**120**	*e*Pn	**Pn**	**09 32 32.8**	**+2.4**
GKN				*e*Sn	**Sn**	**09 33 09.7**	**+3.1**
	570nm,0.3s						
GKN	**Gorkha**	**3.06**	**120**	*e*Pn	**Pn**	**09 32 33.1**	**+2.7**
GKN				*e*Sn	**Sn**	**09 33 09.6**	**+3.0**
	550nm,0.3s						
DDI	**Dehra Dun**	**3.20**	**284**	*e*P	**Pn**	**09 32 35.3**	**+3.0**
DMN	**Daman**	**3.62**	**122**	*e*Pn	**Pn**	**09 32 40.5**	**+2.2**
DMN	**Daman**	**3.62**	**122**	*e*Pn	**Pn**	**09 32 40.7**	**+2.4**
KKN	**Kakani**	**3.66**	**118**	*e*Pn	**Pn**	**09 32 41.2**	**+2.5**
KKN				*e*Sn	**Sn**	**09 33 23.5**	**+2.1**
	144nm,0.2s						
KKN	**Kakani**	**3.66**	**118**	*e*Pn	**Pn**	**09 32 41.2**	**+2.5**
KKN				*e*Sn	**Sn**	**09 33 22.8**	**+1.4**
	128nm,0.2s						
PKIN	**Phulchoki**	**3.85**	**120**	*e*Pn	**Pn**	**09 32 43.9**	**+2.5**
PKIN				*e*Sn	**Sn**	**09 33 27.8**	**+1.4**
	203nm,0.3s						
**

SONM IAmb IAmb 09 37 21.7
comp=Z,3.9nm,1.2s
AKTO Aktyubinsk 27.39 326 P **P** **09 37 25.9 -1.2**
comp=Z,1.1nm,0.5s,baz=172,slow=4.1,SNR=3.9
BURAR Bucovina Array 46.57 309 P **P** **09 40 08.0 -1.5**
BURAR IAmb IAmb 09 40 12.5
comp=Z,0.8nm,0.9s
FINES FINESS Array B 48.14 328 P **P** **09 40 22.3 +0.9**
comp=Z,1.9nm,0.4s,baz=112,slow=8.5,SNR=14
TIXI Tiksi 49.23 18 LR LR 10 03 36.3
comp=Z,30nm,19.7s,baz=326,slow=39
ARCES ARCESS Array B 50.93 338 P **P** **09 40 43.4 +0.8**
comp=Z,3.0nm,0.9s,baz=103,slow=7.6,SNR=6.2
ARCES ARCESS Array B 50.93 338 P **P** **09 40 43.4 +0.8**
NC405 NORSAR Array S 54.94 326 P **P** **09 41 12.2 -0.1**
NC303 NORSAR Array S 55.11 326 P **P** **09 41 14.7 +1.1**
NB201 NORSAR Array S 55.15 326 P **P** **09 41 14.3 +0.5**
NOA NORSAR Array B 55.18 326 P **P** **09 41 13.9 -0.2**
comp=Z,0.6nm,0.7s,baz=64,slow=9.3,SNR=1.9
STAL STALIGIAL 55.19 308 P **P** **09 41 15.2 +0.7**
STAL IAmb IAmb 09 41 44.1
comp=Z,3.1nm,0.9s
WB0 Warrumunga Arr 70.64 127 P **P** **09 42 57.4 0.0**
WB0 IAmb IAmb 09 43 16.2
comp=Z,9.2nm,1.5s
WRA Warrumunga Arr 70.72 128 P **P** **09 42 57.0 -0.9**
comp=Z,0.9nm,0.5s,baz=322,slow=6.1,SNR=11
WRA Warrumunga Arr 70.72 128 P **P** **09 42 58.2 +0.3**
WRAB Tennant Creek 70.72 128 P **P** **09 42 57.6 -0.3**
WB2 Warrumunga Arr 70.73 128 P **P** **09 42 57.1 -0.9**
WB2 IAmb IAmb 09 43 12.0
comp=Z,6.3nm,1.1s
AS31 Alice Springs 72.97 131 P **P** **09 43 10.9 -0.6**
AS31 IAmb IAmb 09 43 16.9
comp=Z,0.9nm,1.0s
ASAR Alice Springs 72.97 131 P **P** **09 43 10.4 -1.0**
comp=Z,0.5nm,0.5s,baz=312,slow=6.3,SNR=9.8
ASAR Alice Springs 72.97 131 P **P** **09 43 09.9 -1.5**
TORD Torodi Ar. Bea 74.98 277 P **P** **09 43 22.3 -1.1**
comp=Z,0.4nm,0.8s,baz=50,slow=5.8,SNR=2.2
TORD Torodi Ar. Bea 74.98 277 IAmb IAmb 09 43 39.3
comp=Z,1.3nm,1.0s
ILAR Eielson Array 78.68 19 P **P** **09 43 43.1 -0.3**
comp=Z,0.6nm,0.7s,baz=302,slow=5.0,SNR=8.2

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*DJA **07** 09:33:19.2±0.6,5°S±7°×15°0E±°, h127km±8km, M4.6/10, mB4.7/2, mb4.5/10, MLv4.7/2, Mw(mB)4.0/2*
*IDC **07** 09:33:20.9±2.0,5°.77S×149°.96E, h133km±16km, mb3.7/7, mb1 3.8/9, mb1mx3.5/50, mbtmp4.1/9, Error ellipse: s-maj=22.7km s-min=13.6km az=122.0*
*NEIC **07** 09:33:20.2±1.5,5°.78S±0°.07×150°.11E±0°.08, h119km±6km, mb4.4/16, Error ellipse: s-maj=12.2km s-min=8.7km az=127.0*
ISC 07 09:33:20.7±0.6,5°.80S±0°.06×150°.17E±0°.07, h135km, n37, σ1$29/29, mb4.3/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.55**	**51**	**Pn**	**Pn**	**09 34 00.4**	**-1.5**
RABL				Sn	**Sn**	**09 34 32.5**	**-0.9**
RABL	**Rabaul**	**2.55**	**51**	**P**	**Pn**	**09 34 00.2**	**-1.6**
PMG	**Port Moresby**	**4.66**	**220**	**P**	**Pn**	**09 34 27.6**	**-1.7**
	8.4nm,0.3s,baz=78,slow=5.6,SNR=14						
PMG				S	**Sn**	**09 35 21.0**	**-1.7**
	41nm,0.3s,baz=248,slow=23,SNR=13						
PMG	**Port Moresby**	**4.66**	**220**	Pn	**Pn**	**09 34 28.6**	**-0.7**
PMG				Sn	**Sn**	**09 35 20.8**	**-1.9**
PMG	**Port Moresby**	**4.66**	**220**	P	**Pn**	**09 34 30.4**	**+1.1**
PMG	**Port Moresby**	**4.66**	**220**	P	**Pn**	**09 34 30.4**	**+1.1**
MANU	**Manus Island**	**4.66**	**323**	Pn	**Pn**	**09 34 29.3**	**-0.2**
CTA	**Charters Tower**	**14.70**	**195**	P	**Pn**	**09 36 41.1**	**-1.0**
	0.3nm,0.3s,baz=23,slow=7.7,SNR=2.7						
CTAO	**Charters Tower**	**14.70**	**195**	Pn	**Pn**	**09 36 41.5**	**-0.6**
EIDS	**Eidsvold**	**19.48**	**178**	P	**P**	**09 37 38.5**	**+1.4**
EIDS				IAmb	IAmb	09 37 40.0	
	comp=Z,23nm,0.8s						
MTN	**Manton Dam**	**20.03**	**248**	P	**P**	**09 37 42.3**	**-1.0**
WB0	**Warrumunga Arr**	**20.69**	**226**	P	**P**	**09 37 50.0**	**-0.3**
WR0	**Warrumunga Arr**	**20.71**	**226**	P	**P**	**09 37 50.8**	**+0.4**
WR0				IAmb	IAmb	09 38 09.1	
	comp=Z,8.7nm,1.0s						
WRAB	**Tennant Creek**	**20.83**	**226**	P	**P**	**09 37 51.2**	**-0.6**
WRAB				IAmb	IAmb	09 37 59.4	
	comp=Z,5.3nm,0.6s						
WB2	**Warrumunga Arr**	**20.83**	**226**	P	**P**	**09 37 51.8**	**0.0**
WB2				IAmb	IAmb	09 37 59.6	
	comp=Z,5.7nm,0.7s						
WRA	**Warrumunga Arr**	**20.84**	**226**	P	**P**	**09 37 51.5**	**-0.4**
	comp=Z,2.9nm,0.4s,baz=51,slow=11,SNR=81						
WRA				S	**S**	**09 41 34.4**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=54,slow=40,SNR=2.2						
WRA	**Warrumunga Arr**	**20.84**	**226**	P	**P**	**09 37 51.1**	**-0.8**
DZM	**Mont Dzumac**	**22.57**	**137**	P	**P**	**09 38 11.7**	**+1.8**
	comp=Z,10nm,0.6s,baz=233,slow=20,SNR=15						
DZM	**Mont Dzumac**	**22.57**	**137**	P	**P**	**09 38 11.7**	**+1.8**
DZM				IAmb	IAmb	09 38 12.6	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**23.18**	**243**	P	**P**	**09 38 14.9**	**-0.7**
AS31	**Alice Springs**	**23.67**	**220**	P	**P**	**09 38 21.0**	**+0.8**
ASAR	**Alice Springs**	**23.68**	**220**	P	**P**	**09 38 20.7**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=54,slow=8.3,SNR=32						
ASAR				S	**S**	**09 42 25.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=37,slow=14,SNR=3.4						
ASAR	**Alice Springs**	**23.68**	**220**	P	**P**	**09 38 20.2**	**0.0**
ARMA	**Armidale**	**24.52**	**177**	P	**P**	**09 38 29.8**	**+2.0**
ARMA				IAmb	IAmb	09 38 31.6	
	comp=Z,24nm,0.9s						
SOEI	**Soe**	**25.95**	**260**	P	**P**	**09 38 39.9**	**-1.1**
SOEI				IAmb	IAmb	09 38 54.9	
	comp=Z,20nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.88**	**241**	P	**P**	**09 38 48.5**	**-0.6**
	comp=Z,8.1nm,0.6s,baz=51,slow=8.1,SNR=43						
FITZ	**Fitzroy Crossi**	**26.88**	**241**	P	**P**	**09 38 48.8**	**-0.4**
STKA	**Stephens Creek**	**27.15**	**196**	P	**P**	**09 38 51.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=35,slow=14,SNR=5.9						
STKA	**Stephens Creek**	**27.15**	**196**	P	**P**	**09 38 51.7**	**+0.3**
PSA00	**Pilbara Seismi**	**33.27**	**239**	P	**P**	**09 39 45.7**	**+0.2**
PSA00				IAmb	IAmb	09 39 47.4	
	comp=Z,6.8nm,1.3s						
GIRL	**Giralia**	**38.49**	**241**	P	**P**	**09 40 30.6**	**+0.7**
KSRS	**Korea Array**	**47.78**	**336**	P	**P**	**09 41 44.6**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=161,slow=8.3,SNR=4.9						
HHC	**Hu-ho-hao-te**	**58.37**	**326**	*eP*	**P**	**09 43 04.5**	**+2.4**
HHC				pmax	pmax		
	comp=Z,26nm,0.9s						
HHC				pmax	pmax		
	comp=Z,84nm,5.3s						
WMQ	**Urumqi**	**74.72**	**318**	*eP*	**P**	**09 44 48.2**	**+2.3**
MKAR	**Makanchi Array**	**79.37**	**320**	P	**P**	**09 45 09.4**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=132,slow=4.1,SNR=2.5						
MKAR	**Makanchi Array**	**79.37**	**320**	P	**P**	**09 45 10.2**	**-1.6**
TORD	**Torodi Ar. Bea**	**148.09**	**286**	PKPbc	**PKPbc**	**09 52 50.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=92,slow=2.4,SNR=8.2						

IDC 07 09:35:56.8±3.3,54°.29N×87°.37E, h0km, mb1 3.1/2, mb1mx3.0/61, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=26.9km s-min=18.5km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**258**	*i*		09 44 30.0	
	baz=78,slow=307,SNR=3.5						
ZALV	**Zalesovo Beam**	**1.54**	**258**	Pg	Pn	09 36 23.2	-2.3
	1.9nm,0.3s,baz=80,slow=16,SNR=10						
ZALV				Lg	Lg	09 36 45.7	
	2.3nm,0.3s,baz=89,slow=24,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.53**	**239**	Pn	Pn	09 37 34.8	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=2.2						
KURBB				Lg	Lg	09 39 25.3	
	baz=57,slow=31,SNR=1.4						
MKAR	**Makanchi Array**	**8.17**	**205**	Pn	Pn	09 37 57.9	+1.3
	0.2nm,0.3s,baz=28,slow=14,SNR=5.4						
MKAR				Sn	Sn	09 39 28.7	-0.8
	0.1nm,0.3s,baz=18,slow=26,SNR=2.3						
MKAR				Lg	Lg	09 40 19.0	
	0.1nm,0.3s,baz=27,slow=32,SNR=2.4						

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*IDC **07** 09:38:01.3±1.8,21°.30S×174°.59W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/28, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=89.3km s-min=23.8km az=150.0*
*NEIC **07** 09:38:02.8±2.8,21°.1S±0°.1×174°.01W±0°.09, h10km±1km, mb4.4/6, Error ellipse: s-maj=21.5km s-min=7.3km az=141.0*
ISC 07 09:38:05.5±0.6,21°.05S±0°.10×173°.89W±0°.08, h35km, n25, σ2$41/24, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.21**	**63**	Pn	**Pn**	**09 39 08.0**	**+0.7**
AFI	**Afiamalu**	**7.39**	**16**	Pn	**Pn**	**09 39 50.2**	**-0.8**
	1.0nm,0.3s,baz=300,slow=21,SNR=1.1						
AFI				Sn	**Sn**	**09 41 09.8**	**-3.9**
	3.2nm,0.3s,baz=147,slow=21,SNR=1.6						
AFI	**Afiamalu**	**7.39**	**16**	Pn	**Pn**	**09 39 52.1**	**+1.1**
MSVF	**Nonsavu**	**8.29**	**292**	Pn	**Pn**	**09 40 06.7**	**+3.3**
	0.8nm,0.3s,baz=132,slow=24,SNR=4.5						
MSVF				LR	LR	09 42 59.4	
	comp=Z,245nm,18.4s,baz=166,slow=38						
MSVF	**Nonsavu**	**8.29**	**292**		**Pn**	**09 40 07.3**	**+3.9**
RAR	**Rarotonga**	**13.18**	**93**	Pn	**Pn**	**09 41 08.6**	**-1.6**
	2.4nm,0.3s,baz=238,slow=7.7,SNR=13						
RAR				Sn	Sn	09 43 23.7	-12
	1.1nm,0.3s,baz=104,slow=19,SNR=2.5						
RAR	**Rarotonga**	**13.18**	**93**		**Pn**	**09 41 11.2**	**+1.0**
ASAR	**Alice Springs**	**48.13**	**257**	P	P	09 46 37.6	-4.8
	1.2nm,0.8s,baz=96,slow=7.9,SNR=9.6						
ASAR				PcP	**PcP**	**09 48 09.0**	**-0.8**
	0.5nm,0.7s,baz=107,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**48.13**	**257**	P	**P**	**09 46 39.9**	**-2.6**
WR0	**Warrumunga Arr**	**48.14**	**262**	P	**P**	**09 46 40.1**	**-2.4**
WR0				IAmb	IAmb	09 47 06.3	
	comp=Z,7.4nm,1.3s						
WB0	**Warrumunga Arr**	**48.31**	**262**	P	**P**	**09 46 40.2**	**-3.6**
WB2	**Warrumunga Arr**	**48.31**	**262**	P	**P**	**09 46 40.7**	**-3.2**
WB2				IAmb	IAmb	09 46 44.6	
	comp=Z,5.9nm,1.1s						
WRA	**Warrumunga Arr**	**48.33**	**262**	P	P	09 46 39.1	-4.9
	comp=Z,1.2nm,0.6s,baz=95,slow=7.8,SNR=22						
WRA				PcP	**PcP**	**09 48 10.4**	**0.0**
	comp=Z,2.1nm,1.2s,baz=101,slow=3.3,SNR=3.0						
WRA	**Warrumunga Arr**	**48.33**	**262**	P	**P**	**09 46 40.1**	**-3.8**
FITZ	**Fitzroy Crossi**	**56.76**	**262**	P	**P**	**09 47 42.4**	**-4.0**
	comp=Z,1.3nm,0.9s,baz=90,slow=10,SNR=1.5						
QSPA	**South Pole Qui**	**69.02**	**180**	P	**P**	**09 49 08.2**	**+0.8**
QSPA				IAmb	IAmb	09 49 18.4	
	comp=Z,2.1nm,1.2s						
MJAR	**Matsushiro Arr**	**72.99**	**321**	P	**P**	**09 49 32.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=151,slow=9.2,SNR=2.8						
MJAR	**Matsushiro Arr**	**72.99**	**321**	IAmb	IAmb	09 49 32.6	
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**78.84**	**41**	P	P	09 50 09.7	+4.4
	comp=Z,1.6nm,0.7s,baz=224,slow=8.7,SNR=18						
NVAR	**Mina Array Bea**	**78.84**	**41**	P	**P**	**09 50 05.9**	**+0.6**
ILAR	**Eielson Array**	**88.05**	**11**	P	**P**	**09 50 54.2**	**+2.5**
	comp=Z,0.4nm,0.7s,baz=201,slow=4.8,SNR=3.3						
EKA	**Eskdalemuir Ar**	**145.07**	**9**	PKPbc	**PKPdf**	**09 57 39.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=332,slow=3.2,SNR=4.2						
AKASG	**Malin Array Be**	**145.28**	**334**	PKPbc	**PKPdf**	**09 57 39.6**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=38,slow=4.2,SNR=9.6						
BRTR	**Keskin Array B**	**150.01**	**314**	PKPbc	**PKiKP**	**09 57 53.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=146,slow=2.8,SNR=2.0						
BRTR	**Keskin Array B**	**150.01**	**314**		**PKiKP**	**09 57 53.7**	**+0.1**

NOU 07 10:24:35.5, 15°.81S×167°.92E, h0km, ML4.3, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.78**	**297**	P	Pg	10 24 50.5	0.0
LIFNC	**LIFOU**	**4.98**	**187**	P	Pn	10 25 50.7	-0.9
MARNC	**Mare, Loyalty**	**5.64**	**179**	P	Pn	10 26 00.1	-0.6
KOUNC	**Koumac, New Ca**	**5.84**	**216**	P	Pn	10 26 03.0	-0.5
YATNC	**Mamie plateau,**	**6.29**	**189**	P	Pn	10 26 08.7	-0.9
DZM	**Mont Dzumac**	**6.38**	**192**	P	Pn	10 26 10.9	0.0
NOUC	**Port Laguerre**	**6.44**	**193**	P	Pn	10 26 12.0	+0.3
ONTNC	**Ouen Toro**	**6.61**	**192**	P	Pn	10 26 14.2	+0.2
OUENC	**Ouen Island, N**	**6.65**	**189**	P	Pn	10 26 14.8	+0.2
PINNC	**Pines Island,**	**6.78**	**184**	P	Pn	10 26 16.9	+0.6

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*IDC **07** 10:46:06.0±1.3,6°.28S×146°.86E, h0km, mb3.8/4, mb1 4.2/8, mb1mx3.9/31, mbtmp4.1/8, ML3.3/1, Error ellipse: s-maj=30.3km s-min=25.0km az=115.0*
ISC 07 10:46:11.3±0.9,6°.33S±0°.10×146°.77E±0°.10, h49km, n9, σ1$99/11, mb3.8/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**173**	Pn	**Pn**	**10 46 56.8**	**-0.6**
	3.1nm,0.3s,baz=156,slow=3.1,SNR=3.0						
PMG				Sn	**Sn**	**10 47 33.2**	**+0.1**
	4.7nm,0.3s,baz=162,slow=19,SNR=2.1						
HNR	**Honiara**	**13.41**	**104**	Pn	**Pn**	**10 49 17.9**	**-1.2**
	8.3nm,0.3s,baz=266,slow=19,SNR=1.4						
SIJI	**Sorong**	**16.39**	**289**	Pn	**Pn**	**10 49 59.1**	**+1.0**
	29nm,0.3s,baz=187,slow=14,SNR=33						
SIJI				Sn	**Sn**	**10 52 54.9**	**-4.3**
	1.4nm,0.3s,baz=142,slow=19,SNR=2.4						
WRA	**Warrumunga Arr**	**18.13**	**221**	P	**Pn**	**10 50 19.6**	**-0.1**
	0.1nm,0.3s,baz=45,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**21.22**	**214**	P	**P**	**10 50 54.9**	**+1.7**
	1.5nm,0.7s,baz=52,slow=8.3,SNR=22						
FITZ	**Fitzroy Crossi**	**23.70**	**239**	P	**P**	**10 51 18.8**	**-0.1**
	2.2nm,0.7s,baz=49,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**53.20**	**299**	P	**P**	**10 55 27.2**	**+2.1**
	0.6nm,0.3s,baz=125,slow=5.6,SNR=1.5						
ILAR	**Eielson Array**	**85.87**	**23**	P	**P**	**10 58 46.2**	**+0.7**
	0.4nm,0.5s,baz=252,slow=4.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**144.95**	**284**	PKPbc	**PKiKP**	**11 05 46.4**	**-1.5**
	1.4nm,0.7s,baz=71,slow=3.6,SNR=9.7						

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*ANF **07** 10:53:11.8±0.6,35°.74N×97°.37W, h0km, ML3.7/8, Error ellipse: s-maj=8.9km s-min=3.8km az=161.0*
*IASPEI **07** 10:53:12.2±0.9,35°.75N±0°.02×97°.38W±0°.03, h9km±7km, Error ellipse: s-maj=4.0km s-min=3.2km az=83.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TUL **07** 10:53:12.3±0.9,35°.74N±0°.01×97°.38W±0°.01, h5km±7km, ML3.1, mb_Lg3.0/103(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=179.0*
*NEIC **07** 10:53:12.5±0.9,35°.76N±0°.01×97°.38W±0°.02, h5km±7km, Error ellipse: s-maj=2.5km s-min=2.1km az=79.0*
ISC 07 10:53:12.6±0.9,35°.76N±0°.02×97°.37W±0°.02, h7km±7km, n96, σ0$83/78, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**294**		**Pg**	**10 53 14.4**	**-0.2**
OK029				Sg	**Sg**	**10 53 16.0**	**-0.1**
OK005	**Luther M Schoo**	**0.18**	**128**		**Pg**	**10 53 16.2**	**0.0**
OK005				Sg	**Sg**	**10 53 19.1**	**+0.4**
OK025	**Westminster Rd**	**0.18**	**173**		**Pg**	**10 53 15.9**	**-0.4**
OK025				Sg	**Sg**	**10 53 18.3**	**-0.6**
OK009	**Oakdale Elemen**	**0.19**	**194**		**Pg**	**10 53 15.9**	**-0.5**
OK009				Sg	**Sg**	**10 53 18.4**	**-0.5**
OK001	**Jones High Sch**	**0.21**	**163**	Pg	**Pg**	**10 53 16.5**	**-0.3**
OK001				Sg	**Sg**	**10 53 19.8**	**+0.1**
BCOK	**Bluff Creek, N**	**0.23**	**242**		**Pg**	**10 53 16.6**	**-0.5**
BCOK				Sg	**Sg**	**10 53 20.1**	**-0.1**
OKCFA	**Oklahoma City**	**0.35**	**191**		**Pg**	**10 53 19.0**	**-0.5**
OKCFA				Sg	**Sg**	**10 53 24.0**	**-0.2**
OKCFA	**Oklahoma City**	**0.35**	**191**	P		10 53 19.1	
	baz=10,SNR=42						
OKCFA				S		10 53 24.0	
	baz=10						
OKCSW	**OKLAHOMA CITY**	**0.36**	**189**		**Pg**	**10 53 19.2**	**-0.5**
OK031	**S. Brethren Rd**	**0.47**	**66**		**Pg**	**10 53 21.8**	**+0.1**
OK031				Sg	**Sg**	**10 53 28.7**	**+0.9**
FNO	**Franklin**	**0.51**	**183**		**Pg**	**10 53 21.9**	**-0.5**
FNO				Sg	**Sg**	**10 53 28.8**	**-0.2**
OK011	**Prague**	**0.62**	**116**	Pg	**Pg**	**10 53 24.3**	**-0.2**
QUOK	**Quay**	**0.67**	**52**	Pg	**Pg**	**10 53 25.6**	**0.0**
QUOK				Sg	**Sg**	**10 53 35.0**	**+0.7**
CROK	**Carrier**	**0.89**	**326**		**Pg**	**10 53 29.4**	**-0.4**
CROK				Sg	**Sg**	**10 53 41.9**	**+0.6**
BLOK	**Blackwell**	**1.00**	**7**		**Pg**	**10 53 31.5**	**-0.3**
X34A	**Smith Ranch, M**	**1.22**	**198**	Pg	**Pg**	**10 53 35.2**	**-0.9**
OK032	**Salt Plains WL**	**1.24**	**327**		**Pg**	**10 53 35.8**	**-0.7**
KAN13	**South Haven SW**	**1.25**	**356**		**Pg**	**10 53 36.1**	**-0.5**
TUL1	**Leonard**	**1.29**	**83**	P	**Pn**	**10 53 35.6**	**-1.4**
	baz=264						
TUL1				S	**Sg**	**10 53 53.4**	**-0.6**
	baz=264						
TUL1	**Leonard**	**1.29**	**83**	P		10 53 35.6	
	baz=264						
TUL1				S		10 53 53.4	
	baz=264						
KAN17	**Caldwell West**	**1.32**	**346**		**Pn**	**10 53 37.2**	**-0.2**
T35A	**Sooner Cattle**	**1.34**	**31**		**Pn**	**10 53 37.3**	**-0.5**
T35B	**Sooner Cattle**	**1.34**	**31**	P		10 53 37.2	
	baz=211						
T35B				S		10 53 55.5	
	baz=211						
KAN09	**Caldwell North**	**1.38**	**352**		**Pn**	**10 53 38.3**	**-0.1**
KAN05	**Bluff City Nor**	**1.40**	**343**	Pn	**Pn**	**10 53 38.6**	**0.0**
U32A	**Winter Ranch,**	**1.46**	**295**		**Pn**	**10 53 39.0**	**-0.4**
U32A	**Winter Ranch,**	**1.46**	**295**	P		10 53 38.9	
	baz=115,SNR=16						
U32A				S		10 53 59.0	
	baz=115						
KS20	**Mayfield South**	**1.47**	**354**		**Pn**	**10 53 39.8**	**+0.3**
KS20				IAmb_Lg		10 53 60.0	
	comp=Z,66nm,0.7s						
KAN10	**Anthony SW Sta**	**1.48**	**337**		**Pn**	**10 53 39.8**	**+0.2**
KS21	**Milan North St**	**1.54**	**351**	IAmb_Lg		10 54 04.4	
	comp=Z,120nm,0.8s						
KAN08	**Anthony NE Sta**	**1.54**	**342**		**Pn**	**10 53 40.6**	**+0.1**
KAN08				IAmb_Lg		10 54 03.1	
	comp=Z,64nm,1.0s						
WMOK	**Wichita Mounta**	**1.55**	**229**	P	**Pn**	**10 53 39.9**	**-0.6**
	baz=48						
WMOK				S	**Sn**	**10 54 00.6**	**-0.3**
	baz=48						
WMOK	**Wichita Mounta**	**1.55**	**229**		**Pn**	**10 53 40.0**	**-0.6**
WMOK	**Wichita Mounta**	**1.55**	**229**	P		10 53 39.9	
	baz=48,SNR=136						
WMOK				S		10 54 00.6	
	baz=48						
KAN12	**Harper NE Stat**	**1.61**	**342**		**Pn**	**10 53 42.0**	**+0.5**
LOOK	**Love County**	**1.77**	**175**		**Pn**	**10 53 44.1**	**+0.4**
LOOK				IAmb_Lg		10 54 12.0	
	comp=Z,82nm,1.1s						
X37A	**Clayton**	**2.01**	**125**		**Pn**	**10 53 47.5**	**+0.5**
X37A	**Clayton**	**2.01**	**125**	P		10 53 47.3	
	baz=306,SNR=73						
X37A				S		10 54 14.6	
	baz=306						
Z35A	**Perchaven, San**	**2.43**	**178**		**Pn**	**10 53 52.8**	**+0.1**
Z35A				IAmb_Lg		10 54 34.4	
	comp=Z,46nm,1.1s						
Z35A	**Perchaven, San**	**2.43**	**178**	P		10 53 52.8	
	baz=358,SNR=29						
U38A	**Gravette**	**2.50**	**74**		**Pn**	**10 53 54.4**	**+0.7**
U38A				IAmb_Lg		10 54 38.8	
	comp=Z,37nm,0.7s						
U38A	**Gravette**	**2.50**	**74**	P		10 53 54.4	
	baz=255,SNR=87						
HHAR	**Hobbs**	**2.82**	**78**		**Pn**	**10 53 58.2**	**0.0**
HHAR	**Hobbs**	**2.82**	**78**	P		10 53 58.4	
	baz=260						
R32A	**Long Quarter,**	**2.86**	**338**	Pn	**Pn**	**10 53 59.4**	**+0.7**
R32A				IAmb_Lg		10 54 51.3	
	comp=Z,32nm,0.7s						
W39A	**Magazine**	**2.98**	**100**	P	**Pn**	**10 54 00.5**	**+0.3**
	baz=282						
W39A	**Magazine**	**2.98**	**100**		**Pn**	**10 54 00.7**	**+0.5**
W39A	**Magazine**	**2.98**	**100**	P		10 54 00.5	
	baz=282						
W39A				S		10 54 37.1	
	baz=282						
Z38A	**Mt. Pleasant**	**3.18**	**141**	Pn	**Pn**	**10 54 02.2**	**-0.8**
Z38A				IAmb_Lg		10 54 59.3	
	comp=Z,40nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**110**	P	**Pn**	**10 54 05.9**	**+0.8**
	baz=292						
MIAR	**Mount Ida**	**3.33**	**110**	Pn	**Pn**	**10 54 05.6**	**+0.5**
MIAR				IAmb_Lg		10 55 04.1	
	comp=Z,53nm,1.1s						
MIAR	**Mount Ida**	**3.33**	**110**	P		10 54 05.5	
	baz=292,SNR=37						
MIAR				S		10 54 46.1	
	baz=292						
KSU1	**Kansas State U**	**3.38**	**10**	Pn	**Pn**	**10 54 06.4**	**+0.6**
CBKS	**Cedar Bluff**	**3.58**	**329**	Sb	**Sg**	**10 55 05.0**	**-2.7**
	baz=148						
CBKS	**Cedar Bluff**	**3.58**	**329**	Pn	**Pn**	**10 54 09.4**	**+0.7**
CBKS				IAmb_Lg		10 55 13.8	
	comp=Z,70nm,0.8s						
CBKS	**Cedar Bluff**	**3.58**	**329**	P		10 54 09.0	
	baz=148						
AMTX	**Amarillo**	**3.64**	**257**	P	**Pn**	**10 54 10.9**	**+1.5**
	baz=75						
AMTX	**Amarillo**	**3.64**	**257**		**Pn**	**10 54 10.5**	**+1.2**
ABTX	**Abilene, Hawle**	**3.66**	**212**	Pn	**Pn**	**10 54 10.4**	**+0.8**
U40A	**Yellville**	**3.70**	**80**	Pn	**Pn**	**10 54 09.9**	**-0.3**
U40A				IAmb_Lg		10 55 15.8	
	comp=Z,47nm,0.8s						
U40A	**Yellville**	**3.70**	**80**	P		10 54 09.9	
	baz=262,SNR=17						
U40A				P		10 54 09.9	
	baz=262,SNR=17

comp=Z,31nm,0.7s
JCT Junction City 5.65 202 IAmb_Lg 10 56 22.5
comp=Z,28nm,0.9s
BGNE Belgrade 5.67 354 IAmb_Lg 10 56 23.9
comp=Z,42nm,0.8s
PBMO Poplar Bluff 5.69 78 IAmb_Lg 10 56 20.2
comp=Z,35nm,0.9s
143A Socs Landing, 5.80 120 IAmb_Lg 10 56 23.9
comp=Z,16nm,0.8s
T25A Trinidad 5.84 286 P **Pn 10 54 39.9 +0.1**
baz=102
T25A Trinidad 5.84 286 IAmb_Lg 10 56 30.8
comp=Z,22nm,0.9s
OGNE Ogallala 6.34 326 IAmb_Lg 10 56 35.1
comp=Z,42nm,0.8s
W45A Hickory Valley 6.70 93 IAmb_Lg 10 56 51.5
comp=Z,28nm,0.8s
S44A Carbondale 6.79 71 IAmb_Lg 10 56 51.6
comp=Z,41nm,0.7s
K31A O'Neill 6.93 351 IAmb_Lg 10 56 59.3
comp=Z,29nm,0.7s
SCIA State Center 6.94 27 IAmb_Lg 10 57 00.8
comp=Z,36nm,0.9s
ISCO Idaho Springs 7.67 304 IAmb_Lg 10 57 30.9
comp=Z,12nm,1.1s
K38A Parkersburg 7.74 26 IAmb_Lg 10 57 27.4
comp=Z,33nm,0.9s
WVT Waverly 7.74 85 IAmb_Lg 10 57 34.3
comp=Z,9.9nm,0.8s
MNTX Cornudas Mount 7.81 241 IAmb_Lg 10 57 24.7
comp=Z,12nm,1.1s
L40A Anamosa 7.90 35 IAmb_Lg 10 57 24.2
comp=Z,23nm,0.9s
Y22D IRIS PASSCAL I 8.03 261 IAmb_Lg 10 57 41.3
comp=Z,21nm,1.0s
PHWY Pilot Hill 8.41 314 IAmb_Lg 10 57 58.2
comp=Z,10nm,0.9s
SUSD Miller 8.75 352 IAmb_Lg 10 58 14.8
comp=Z,14nm,0.7s
CLTN Cedars of Leba 8.96 85 IAmb_Lg 10 58 08.6
comp=Z,7.9nm,0.7s
JFWS Jewell Farm 9.02 36 IAmb_Lg 10 57 58.9
comp=Z,22nm,0.8s
SFIN Lafayette 9.31 57 IAmb_Lg 10 58 17.5
comp=Z,24nm,0.7s
I40A Norwalk 9.63 31 IAmb_Lg 10 58 39.9
comp=Z,18nm,1.1s
RWWY Rawlins 9.70 311 IAmb_Lg 10 58 44.8
comp=Z,7.2nm,0.9s
RSSD Black Hills 9.79 331 IAmb_Lg 10 58 26.4
comp=Z,9.7nm,0.9s
W50A Signal Mountai 9.85 90 IAmb_Lg 10 58 31.5
comp=Z,12nm,0.9s
K22A Casper 9.88 317 IAmb_Lg 10 58 38.0
comp=Z,15nm,1.1s

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*NEIC **07** 11:13:37.6±2.0,24°.7S×0°.1×179°.9W±0°.1, h467km±8km, mb4.5/31, Error ellipse: s-maj=17.2km s-min=16.1km az=112.0*
*NOU **07** 11:13:39.7,24°.53S×179°.70W, h533km, MLv4.7, South of Fiji Islands*
*IDC **07** 11:13:40.2±1.0,24°.70S×179°.84E, h497km±11km, mb3.6/10, mb1 3.8/14, mb1mx3.6/29, mbtmp4.4/14, Error ellipse: s-maj=18.4km s-min=13.1km az=162.0*
ISC 07 11:13:39.9±0.5,24°.71S±0°.06×179°.98W±0°.07, h505km, n86, σ1°28/91, mb4.5/30, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.88**	**158**	P	**P**	**11 15 07.2**	**+1.2**
	66nm,0.3s,baz=60,slow=20,SNR=2.3						
RAO				S	**S**	**11 16 17.8**	**+1.4**
	47nm,0.3s,baz=270,slow=20,SNR=1.5						
RAO	**Raoul Island**	**4.88**	**158**		**P**	**11 15 01.9**	**-4.1**
MSVF	**Nonsavu**	**7.18**	**345**	P	**P**	**11 15 27.9**	**-0.4**
	1.4nm,0.3s,baz=150,slow=8.1,SNR=7.3						
MSVF	**Nonsavu**	**7.18**	**345**		**P**	**11 15 27.5**	**-0.8**
MSVF	**Nonsavu**	**7.18**	**345**	P	**P**	**11 15 28.1**	**-0.2**
NIUE	**Niue**	**10.88**	**61**	P	**P**	**11 16 03.2**	**-3.5**
NIUE	**Niue**	**10.88**	**61**	P	**P**	**11 16 03.4**	**-3.3**
MARNC	**Mare, Loyalty**	**11.50**	**284**	P	**P**	**11 16 13.3**	**+0.2**
PINNC	**Pines Island,**	**11.71**	**278**	P	**P**	**11 16 15.8**	**+0.4**
OUENC	**Ouen Island, N**	**12.30**	**278**	P	**P**	**11 16 23.1**	**+1.4**
YATNC	**Mamie plateau,**	**12.35**	**280**	P	**P**	**11 16 23.6**	**+1.4**
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**11 16 26.8**	**+0.3**
	0.7nm,0.3s,baz=87,slow=16,SNR=9.0						
DZM	**Mont Dzumac**	**12.74**	**279**		**P**	**11 16 27.6**	**+1.1**
DZM	**Mont Dzumac**	**12.74**	**279**	P	**P**	**11 16 27.8**	**+1.3**
URZ	**Urewera**	**13.73**	**190**	P	**P**	**11 16 34.9**	**-1.6**
	0.6nm,0.3s,baz=75,slow=14,SNR=1.8						
URZ				S	**S**	**11 19 00.1**	**-2.1**
	1.2nm,0.3s,baz=58,slow=19,SNR=12						
BKZ	**Black Stump Fm**	**14.72**	**191**	P	**P**	**11 16 46.3**	**-0.6**
KOUNC	**Koumac, New Ca**	**15.11**	**283**	P	**P**	**11 16 53.4**	**+2.2**
QRZ	**Quartz Range**	**17.25**	**199**	P	**P**	**11 17 12.7**	**-0.2**
NNZ	**Nelson**	**17.37**	**197**	P	**P**	**11 17 13.2**	**-0.8**
TUWZ	**Tuamarina**	**17.43**	**195**	P	**P**	**11 17 13.6**	**-1.0**
THZ	**Tophouse**	**18.01**	**197**	P	**P**	**11 17 18.8**	**-1.2**
DSZ	**Denniston Nort**	**18.31**	**200**	P	**P**	**11 17 22.3**	**-0.4**
KHZ	**Kahutara**	**18.46**	**195**	P	**P**	**11 17 22.4**	**-1.6**
GVZ	**Greta Valley S**	**19.10**	**196**	P	**P**	**11 17 28.6**	**-1.3**
LTZ	**Lake Taylor**	**19.13**	**198**	P	**P**	**11 17 28.5**	**-1.7**
INZ	**Inchbonnie**	**19.31**	**199**	P	**P**	**11 17 30.9**	**-0.9**
OXZ	**Oxford**	**19.70**	**198**	P	**P**	**11 17 35.1**	**-0.2**
HNR	**Honiara**	**24.42**	**305**	P	**P**	**11 18 16.1**	**-2.1**
ARMA	**Armidale**	**25.77**	**251**	P	**P**	**11 18 29.6**	**-0.4**
ARMA				IAmb	IAmb	11 18 49.7	
	comp=Z,36nm,1.5s						
EIDS	**Eidsvold**	**26.21**	**262**	P	**P**	**11 18 33.8**	**-0.1**
EIDS				IAmb	IAmb	11 18 34.9	
	comp=Z,11nm,0.8s						
CAN	**Canberra**	**28.76**	**241**	P	**P**	**11 18 57.2**	**+1.0**
CAN				IAmb	IAmb	11 19 09.7	
	comp=Z,31nm,1.3s						
CTAO	**Charters Tower**	**31.51**	**272**	P	**P**	**11 19 20.6**	**+0.4**
TOO	**Toolangi**	**32.03**	**238**	P	**P**	**11 19 25.0**	**+0.6**
TOO				IAmb	IAmb	11 19 39.1	
	comp=Z,25nm,1.5s						
TAU	**Tasmania Unive**	**32.40**	**228**	P	**P**	**11 19 27.8**	**+0.4**
TAU				IAmb	IAmb	11 19 54.5	
	comp=Z,51nm,1.4s						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**11 19 44.6**	**-0.3**
	comp=Z,5.9nm,0.4s,baz=95,slow=11,SNR=26						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**11 19 45.1**	**+0.2**
PMG	**Port Moresby**	**34.78**	**290**	P	**P**	**11 19 46.8**	**-1.1**
PMG				IAmb	IAmb	11 19 48.7	
	comp=Z,18nm,0.8s						
BBOO	**Buckleboo**	**39.15**	**248**	P	**P**	**11 20 23.0**	**-0.7**
BBOO				IAmb	IAmb	11 20 23.1	
	comp=Z,12nm,0.5s						
AS31	**Alice Springs**	**41.93**	**261**		**P**	**11 20 45.6**	**-0.4**
AS31				IAmb	IAmb	11 20 46.3	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**11 20 45.5**	**-0.6**
	comp=Z,4.7nm,0.4s,baz=98,slow=7.5,SNR=290						
ASAR				ScP	**ScP**	**11 25 34.0**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.6,SNR=4.1						
ASAR				S	**S**	**11 26 26.1**	**-1.6**
	comp=Z,0.4nm,0.8s,baz=90,slow=15,SNR=0.7						
ASAR	**Alice Springs**	**41.93**	**261**		**P**	**11 20 45.7**	**-0.4**
WR0	**Warramunga Arr**	**42.19**	**267**	P	**P**	**11 20 47.1**	**-1.1**
WR0				IAmb	IAmb	11 20 47.7	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**42.37**	**267**	P	**P**	**11 20 48.6**	**-0.9**
WRAB	**Tennant Creek**	**42.37**	**267**	P	**P**	**11 20 48.5**	**-1.0**
WB0	**Warramunga Arr**	**42.38**	**267**		**P**	**11 20 48.5**	**-1.1**
WRA	**Warramunga Arr**	**42.38**	**267**	P	**P**	**11 20 48.5**	**-1.1**
	comp=Z,22nm,0.5s,baz=101,slow=8.2,SNR=437						
WRA				ScP	**ScP**	**11 25 36.8**	**+2.8**
	comp=Z,4.1nm,0.8s,baz=101,slow=4.2,SNR=14						
WRA	**Warramunga Arr**	**42.38**	**267**		**P**	**11 20 48.2**	**-1.5**
FORT	**Forrest**	**46.05**	**250**	P	**P**	**11 21 16.9**	**-1.0**
MTN	**Manton Dam**	**47.54**	**275**	P	**P**	**11 21 28.5**	**-0.9**
MTN				IAmb	IAmb	11 21 47.1	
	comp=Z,28nm,1.4s						
KNRA	**Kununurra**	**48.71**	**270**	P	**P**	**11 21 37.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**50.79**	**266**	P	**P**	**11 21 53.0**	**-0.4**
FITZ				IAmb	IAmb	11 21 54.5	
	comp=Z,15nm,0.8s						
VNDA	**Vanda**	**53.58**	**185**	P	**P**	**11 22 15.3**	**+2.8**
NWAO	**Narrogin (SRO)**	**54.92**	**246**	P	**P**	**11 22 21.9**	**-0.8**
NWAO				IAmb	IAmb	11 22 35.8	
	comp=Z,40nm,1.5s						
SOEI	**Soe**	**54.94**	**275**	P	**P**	**11 22 23.9**	**+0.6**
SOEI				IAmb	IAmb	11 22 33.9	
	comp=Z,26nm,0.8s						
SOEI	**Soe**	**54.94**	**275**	P	**P**	**11 22 22.9**	**-0.4**
	comp=Z,26nm,1.0s						
PSA00	**Pilbara Seismi**	**55.04**	**260**	P	**P**	**11 22 22.8**	**-1.0**
MBWA	**Marble Bar**	**55.26**	**261**	P	**P**	**11 22 25.7**	**+0.4**
MMRI	**Maumere**	**57.22**	**276**	P	**P**	**11 22 39.1**	**+0.2**
MMRI				IAmb	IAmb	11 22 39.2	
	comp=Z,18nm,0.8s						
EDFI	**Ende, Flores**	**57.67**	**275**	P	**P**	**11 22 41.5**	**-0.6**
	comp=Z,18nm,0.8s						
CASY	**Casey**	**59.40**	**206**	P	**P**	**11 22 52.7**	**-0.1**
CASY				IAmb	IAmb	11 23 17.9	
	comp=Z,5.8nm,1.1s						
PLAI	**Plampang**	**61.19**	**273**	P	**P**	**11 23 05.0**	**-0.6**
QSPA	**South Pole Qui**	**65.38**	**180**	P	**P**	**11 23 32.8**	**+1.0**
MJAR	**Matsushiro Arr**	**72.58**	**326**	P	**P**	**11 24 15.1**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=189,slow=4.4,SNR=5.5						
MJAR	**Matsushiro Arr**	**72.58**	**326**	IAmb	IAmb	11 24 16.3	
	comp=Z,2.3nm,1.1s						
KSRS	**Korea Array**	**78.88**	**320**	P	**P**	**11 24 51.0**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=135,slow=5.9,SNR=7.3						
SNAA	**Sanae**	**83.86**	**179**	P	**P**	**11 25 15.6**	**0.0**
VNA3	**Neumayer Olymp**	**84.07**	**177**	P	**P**	**11 25 16.7**	**+0.1**
VNA1	**Neumayer--Stat**	**84.72**	**177**	P	**P**	**11 25 20.9**	**+1.1**
NVAR	**Mina Array Bea**	**85.32**	**44**	P	**P**	**11 25 24.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.6,SNR=12						
PINE	**Pine Mountain**	**87.01**	**38**		**P**	**11 25 32.2**	**+0.9**
PINE				IAmb	IAmb	11 25 34.3	
	comp=Z,8.0nm,1.2s						
I07A	**Izee**	**88.00**	**39**		**P**	**11 25 37.0**	**+1.1**
I07A				IAmb	IAmb	11 25 38.6	
	comp=Z,3.7nm,0.9s						
ELK	**Elko**	**88.59**	**43**	P	**P**	**11 25 40.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=232,slow=8.4,SNR=2.7						
ELK	**Elko**	**88.59**	**43**	P	**P**	**11 25 39.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**11 25 46.5**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=149,slow=3.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**89.83**	**290**	P	**P**	**11 25 46.1**	**+1.3**
TXAR	**Lajitas Array**	**90.84**	**58**	P	**P**	**11 25 51.4**	**+2.0**
	comp=Z,1.5nm,0.8s,baz=211,slow=6.1,SNR=6.4						
TXAR	**Lajitas Array**	**90.84**	**58**	P	**P**	**11 25 51.0**	**+1.6**
HHC	**Hu-ho-hao-te**	**91.00**	**315**	*eP*	**P**	**11 25 50.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC				pmax	pmax		
	comp=Z,87nm,6.1s						
PDAR	**Pinedale Array**	**93.25**	**44**	P	**P**	**11 26 01.4**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=208,slow=2.5,SNR=4.4						
LZH	**Lanzhou**	**93.89**	**308**	*eP*	**P**	**11 26 04.2**	**+0.9**
LZH				pP	pP	11 27 56.1	+1.4
LZH				sP	sP	11 28 43.1	-2.1
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES	**FINESS Array B**	**139.22**	**341**	PKP	**PKiKP**	**11 32 09.8**	**-1.1**
	comp=Z,4.5nm,1.0s,baz=113,slow=4.4,SNR=5.4						
FINES				SKPbc	**SKPbc**	**11 34 56.4**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=116,slow=3.2,SNR=3.9						
FINES	**FINESS Array B**	**139.22**	**341**		**PKPdf**	**11 32 09.4**	**+0.9**
AKASG	**Malin Array Be**	**145.66**	**327**	PKPbc	**PKPdf**	**11 32 20.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=45,slow=3.3,SNR=4.6						
BRTR	**Keskin Array B**	**148.08**	**306**	PKPbc	**PKPbc**	**11 32 28.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=77,slow=6.4,SNR=1.5						
CRVS	**Cervenica-Dubn**	**150.57**	**331**	*e*PKP	**PKPdf**	**11 32 29.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**168.39**	**188**	PKPab	**PKPab**	**11 34 01.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=194,slow=1.6,SNR=2.3						

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*ECX **07** 11:20:06.9±0.3,27°.32N×111°.50W, h17km±4km, MD3.2*
*MEX **07** 11:20:07.4±0.4,27°.21N×111°.46W, h17km±18km, MD4.0*
ISC 07 11:20:04.9±3.2,27°.4N±0°.2×111°.5W±0°.2, h13km±23km, n6, σ0°30/12, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.70**	**265**	*eP*	**Pg**	**11 20 18.4**	**-0.2**
SRIG				*eS*	**Sg**	**11 20 27.6**	**-0.1**
SRIG	**Santa Rosalia**	**0.70**	**265**	*iP*	**Pg**	**11 20 18.6**	**0.0**
SRIG				*eS*	**Sg**	**11 20 27.9**	**+0.1**
GUYB	**Guaymas**	**0.73**	**45**	*eP*	**Pn**	**11 20 21.0**	**+0.2**
GUYB				*eS*	**Sn**	**11 20 31.2**	**-0.7**
GUYB	**Guaymas**	**0.73**	**45**	*eP*	**Pn**	**11 20 21.1**	**+0.2**
GUYB				*eS*	**Sn**	**11 20 32.0**	**+0.1**
HSIG		**1.69**	**15**	*eP*	**Pb**	**11 20 35.8**	**-0.1**
HSIG				*eS*	**Sb**	**11 20 57.2**	**+0.1**
HSIG		**1.69**	**15**	*eP*	**Pb**	**11 20 36.2**	**+0.3**
HSIG				*eS*	**Sg**	**11 20 59.3**	**-0.1**

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*IDC **07** 11:20:03.3±4.3,25°.53N×143°.49E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/36, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=150.7km s-min=24.9km az=71.0*
ISC 07 11:20:06.0±1.9,25°.7N±0°.2×144°.0E±0°.3, h35km, n10, σ1°18/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.13**	**310**	Pn	**Pn**	**11 20 37.8**	**-1.2**
	7.2nm,0.3s,baz=53,slow=20,SNR=6.2						
JCJ				Sn	**Sn**	**11 21 05.2**	**+0.9**
	77nm,0.3s,baz=107,slow=19,SNR=14						
MJAR	**Matsushiro Arr**	**11.86**	**337**	Pn	**Pn**	**11 22 52.7**	**+0.1**
	0.1nm,0.3s,baz=156,slow=13,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**21.92**	**101**	T	T	11 47 28.3	
	baz=290,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hy**	**21.92**	**101**	T	T	11 47 29.4	
	baz=290,slow=74,SNR=19						
H11N3	**WAKE ISLAND Hy**	**21.94**	**101**	T	T	11 47 28.1	
	baz=290,slow=74,SNR=22						
H11S3	**WAKE ISLAND Hy**	**22.19**	**104**	T	T	11 47 57.2	
	baz=293						
H11S1	**WAKE ISLAND Hy**	**22.19**	**104**	T	T	11 48 18.7	
	baz=293						
H11S2	**WAKE ISLAND Hy**	**22.20**	**104**	T	T	11 48 07.7	
	baz=293						
WRA	**Warramunga Arr**	**46.37**	**193**	P	**P**	**11 28 29.1**	**+0.1**
	0.3nm,0.4s,baz=10,slow=8.2,SNR=2.3						
MKAR	**Makanchi Array**	**52.60**	**310**	P	**P**	**11 29 17.0**	**+0.6**
	0.2nm,0.5s,baz=92,slow=9.3,SNR=2.9						

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*TUL **07** 11:27:37±1.2, 36°.53N±0°.02×98°.99W±0°.04, h5km±2km, ML2.7, mb_Lg2.5/22(NEIC), Error ellipse: s-maj=5.4km s-min=3.1km az=119.0*
NEIC 07 11:27:37.2±1.0,36°.53N±0°.02×99°.00W±0°.03, h7km±6km, Error ellipse: s-maj=4.4km s-min=2.9km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.15**	**181**	Pg	Pg	11 27 40.1	-0.3
U32A				Sg	Sg	11 27 42.5	-0.1
OK032	**Salt Plains WL**	**0.69**	**67**	Pg	Pg	11 27 50.2	-0.2
OK032				Sg	Sg	11 27 59.1	-0.3
CROK	**Carrier**	**0.82**	**92**		Pg	11 27 52.4	-0.5
CROK				Sg	Sg	11 28 03.6	+0.1
KAN10	**Anthony SW Sta**	**0.93**	**51**	Pg	Pg	11 27 54.2	-0.9
KAN10				Sg	Sg	11 28 07.5	+0.2
KAN12	**Harper NE Stat**	**1.11**	**46**	Pg	Pg	11 27 58.0	-0.5
KAN17	**Caldwell West**	**1.11**	**62**	Pg	Pg	11 27 57.7	-0.8
KAN09	**Caldwell North**	**1.26**	**61**	Pg	Pn	11 28 00.8	-0.4
KAN13	**South Haven SW**	**1.31**	**68**	Pn	Pn	11 28 01.4	-0.5
KS20	**Mayfield South**	**1.35**	**59**	Pn	Pn	11 28 02.4	-0.1
KS20				IAmb_Lg		11 28 19.8	
	comp=Z,28nm,0.8s						
BCOK	**Bluff Creek, N**	**1.42**	**127**		Pn	11 28 03.0	-0.4
BLOK	**Blackwell**	**1.45**	**80**		Pn	11 28 03.8	-0.1
OK025	**Westminster Rd**	**1.65**	**125**		Pn	11 28 06.5	0.0
WMOK	**Wichita Mounta**	**1.80**	**174**	Pn	Pn	11 28 09.1	+0.5
FNO	**Franklin**	**1.82**	**134**	Pn	Pn	11 28 08.6	-0.3
FNO				IAmb_Lg		11 28 34.2	
	comp=Z,20nm,1.0s						
OK031	**S. Brethren Rd**	**1.84**	**108**		Pn	11 28 09.2	+0.1
QUOK	**Quay**	**1.88**	**100**		Pn	11 28 09.9	+0.1
R32A	**Long Quarter,**	**1.90**	**7**	Pn	Pb	11 28 11.1	-1.1
T35A	**Sooner Cattle**	**2.03**	**78**		Pn	11 28 12.5	+0.7
CBKS	**Cedar Bluff**	**2.35**	**346**	Pn	Pb	11 28 18.3	-1.6
AMTX	**Amarillo**	**2.73**	**234**	Pn	Pn	11 28 23.1	+1.6
AMTX				IAmb_Lg		11 29 09.8	
	comp=Z,22nm,1.1s						
X37A	**Clayton**	**3.54**	**122**	Pn	Pn	11 28 30.4	-2.0
X37A				IAmb_Lg		11 29 36.6	
	comp=Z,10.0nm,0.8s						
U38A	**Gravette**	**3.72**	**90**	Pn	Pn	11 28 35.8	+0.8
W39A	**Magazine**	**4.44**	**106**	IAmb_Lg		11 30 03.0	
	comp=Z,8.3nm,0.8s						
S39A	**Bolivar**	**4.68**	**74**	IAmb_Lg		11 30 04.5	
	comp=Z,9.5nm,0.7s						
U40A	**Yellville**	**4.96**	**90**	IAmb_Lg		11 30 22.7	
	comp=Z,5.4nm,0.7s						
OGNE	**Ogallala**	**5.00**	**333**	IAmb_Lg		11 30 19.9	
	comp=Z,15nm,0.8s						
P38A	**Dawn**	**5.30**	**53**	IAmb_Lg		11 30 21.8	
	comp=Z,5.9nm,0.8s						
N38A	**Joes South For**	**6.20**	**45**	IAmb_Lg		11 30 54.2	
	comp=Z,10.0nm,0.8s						
P40A	**Paris**	**6.25**	**59**	IAmb_Lg		11 31 00.3	
	comp=Z,11nm,0.9s						
T42A	**Van Buren**	**6.36**	**83**	IAmb_Lg		11 31 08.8	

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*MEX **07** 11:42:37.6±0.4,27°.09N×111°.43W, h17km±999km, MD4.0*
*ECX **07** 11:42:38.5±0.5,27°.31N×111°.49W, h12km±8km, MD3.8*
ISC 07 11:42:35.8±3.4,27°.2N±0°.2×111°.4W±0°.1, h18km±6km, n6, σ0°41/11, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.72**	**280**	*i* P	**Pb**	**11 42 49.7**	**-0.1**
SRIG				*i* S	**Sb**	**11 42 59.0**	**-0.4**
SRIG	**Santa Rosalia**	**0.72**	**280**	*iP*	**Pg**	**11 42 50.3**	**+0.3**
SRIG				*i* S	**Sg**	**11 42 59.4**	**-0.2**
GUYB	**Guaymas**	**0.86**	**36**	*eP*	**Pg**	**11 42 52.5**	**-0.1**
GUYB				*eS*	**Sb**	**11 43 03.2**	**-0.1**
GUYB	**Guaymas**	**0.86**	**36**	*eP*	**Pg**	**11 42 52.5**	**-0.1**
GUYB				*eS*	**Sb**	**11 43 03.5**	**+0.2**
HSIG		**1.86**	**13**	*eP*	**Pn**	**11 43 07.0**	**+0.2**
HSIG				*eS*	**Sn**	**11 43 30.6**	**+0.7**
HSIG		**1.86**	**13**	*eP*	**Pb**	**11 43 08.8**	**-0.5**

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*NOU **07** 11:46:56.4,43°.75S×173°.01E, h9km, ML4.1, Off E. Coast of S. Island, N.Z.*
WEL 07 11:46:57.5,44°.S±3°.×17°.3E±°, h10km±4km, M3.6/35, ML3.8/35, MLv3.6/35, Error ellipse: s-maj=0.0km s-min=0.0km az=80.7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.11**	**207**	P	Pb	11 47 01.6	0.0
MQZ				S	Sg	11 47 03.8	+1.6
OKCZ	**Okains Bay**	**0.27**	**115**	P	Pb	11 47 04.3	-0.2
AKCZ	**Akaroa Harbour**	**0.29**	**152**	P	Pb	11 47 05.0	+0.1
RACZ	**Rakaia**	**0.44**	**254**	P	Pb	11 47 08.3	+1.0
AMCZ	**Amberley**	**0.44**	**353**	P	Pb	11 47 08.0	+0.7
AMCZ				S	Sb	11 47 14.1	+0.2
OXZ	**Oxford**	**0.57**	**300**	P	Pb	11 47 10.3	+0.7
GVZ	**Greta Valley S**	**0.68**	**20**	P	Pb	11 47 12.3	+0.8
GVZ				S	Sn	11 47 22.7	-1.2
WACZ	**Wakanui South**	**0.72**	**242**	P	Pn	11 47 13.8	+0.1
WACZ				S	Sn	11 47 24.8	0.0
MHCZ	**Mount Hutt**	**0.84**	**275**	P	Pn	11 47 15.7	+0.3
MHCZ				S	Sn	11 47 28.0	+0.1
LTZ	**Lake Taylor**	**0.89**	**338**	P	Pn	11 47 16.0	-0.1
LTZ				S	Sn	11 47 28.9	-0.2
ARCZ	**Arundel**	**1.17**	**253**	P	Pg	11 47 20.4	+0.5
RPZ	**Rata Peaks**	**1.21**	**265**	P	Pg	11 47 21.2	+0.4
INZ	**Inchbonnie**	**1.29**	**313**	P	Pg	11 47 22.8	+0.5
KHZ	**Kahutara**	**1.34**	**27**	P	Pn	11 47 21.4	-0.7
TMZ	**Timaru**	**1.46**	**237**	P	Pb	11 47 24.4	-0.3
TMZ				S	Sg	11 47 45.9	+1.5
WVZ	**Waitaha Valley**	**1.54**	**290**	P	Pb	11 47 26.2	0.0
GCSZ	**Gaunt Creek Bo**	**1.77**	**279**	P	Pb	11 47 29.8	-0.2
THZ	**Tophouse**	**1.85**	**4**	P	Pn	11 47 29.2	-0.1
DSZ	**Denniston Nort**	**1.98**	**340**	P	Pn	11 47 32.2	+1.1
LBZ	**Lake Benmore**	**1.99**	**246**	P	Pn	11 47 32.5	-1.2
ODZ	**Otahua Downs**	**2.07**	**225**	P	Pn	11 47 32.6	+0.3
BSWZ	**Blackbirch Sta**	**2.08**	**25**	P	Pn	11 47 32.3	-0.1
FOZ	**Fox Glacier**	**2.11**	**271**	P	Pb	11 47 35.3	-0.6
TUWZ	**Tuamarina**	**2.36**	**23**	P	Pn	11 47 35.7	-0.5
NNZ	**Nelson**	**2.44**	**12**	P	Pn	11 47 37.7	+0.4
TCW	**Tory Channel**	**2.66**	**26**	P	Pn	11 47 40.2	-0.2
PLWZ	**Palliser**	**2.77**	**43**	P	Pn	11 47 40.6	-1.4
WEL	**Wellington**	**2.78**	**34**	P	Pn	11 47 41.3	-0.7
QRZ	**Quartz Range**	**2.79**	**357**	P	Pn	11 47 43.1	+1.0
JCZ	**Jackson Bay**	**2.88**	**259**	P	Pn	11 47 45.2	+1.7
WKZ	**Wanaka**	**2.93**	**244**	P	Pn	11 47 46.0	+1.9
EAZ	**Earnscleugh**	**2.93**	**235**	P	Pn	11 47 45.1	+0.9
DUWZ	**D'Urville Isla**	**2.95**	**18**	P	Pn	11 47 45.1	+0.8
CAW	**Cannon Point**	**3.05**	**36**	P	Pn	11 47 44.6	-1.1
KIW	**Kapiti Island**	**3.19**	**31**	P	Pn	11 47 47.0	-0.8
MTW	**Mount Morrison**	**3.20**	**41**	P	Pn	11 47 46.2	-1.6
TUZ	**Tuapeka**	**3.21**	**222**	P	Pn	11 47 50.0	+2.0
OGWZ	**Otaki Gorge**	**3.33**	**34**	P	Pn	11 47 48.9	-0.7
HOWZ	**Holdsworth Sta**	**3.41**	**38**	P	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSIG				eS	Sn	11 52 22.2	-1.0
HSIG		**1.73**	**16**	eP	Pn	11 52 00.3	-0.7
LPIG	**La Paz**	**3.40**	**162**	Pg	Pb	11 52 30.5	-0.5
	3.5nm,0.3s,baz=308,slow=19,SNR=2.0						
LPIG				Lg	Lg	11 53 12.1	
	3.3nm,0.3s,baz=38,slow=19,SNR=1.2						
TXAR	**Lajitas Array**	**7.17**	**72**	Pn	Pn	11 53 16.4	+0.6
	0.1nm,0.3s,baz=249,slow=13,SNR=6.7						
TXAR				Lg	Lg	11 55 16.0	
	0.3nm,0.3s,baz=243,slow=27,SNR=4.8						
ANMO	**Albuquerque**	**8.71**	**28**	Lg	Lg	11 56 05.5	
	0.1nm,0.3s,baz=171,slow=13,SNR=1.9						
NVAR	**Mina Array Bea**	**12.45**	**334**	Pn	Pn	11 54 29.5	+1.4
	0.1nm,0.3s,baz=150,slow=12,SNR=2.3						
PDAR	**Pinedale Array**	**15.47**	**5**	Pn	P	11 55 14.3	+0.6
	0.0nm,0.3s,baz=188,slow=12,SNR=2.3						

*MEX **07** 11:55:09.0±0.3, 27°.06N×111°.41W, h17km±999km, MD4.2*
*ECX **07** 11:55:09.3±0.4, 27°.25N×111°.47W, h20km±18km, MD4.1*
*IDC **07** 11:55:10.1±1.5, 27°.19N×111°.42W, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.5/35, mbtmp3.1/5, ML3.4/4, MS3.6/10, Ms1 3.6/10, ms1mx3.4/20, Error ellipse: s-maj=23.9km s-min=14.7km az=64.0*

ISC 07 11:55:09.0±1.4, 27°.35N±0°.07×111°.51W±0°.04, h0km±12km, n19, σ1§70/16, MS3.5/4, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**267**	eP	Pg	11 55 21.5	0.0
SRIG				eS	Sg	11 55 31.1	+1.0
SRIG	**Santa Rosalia**	**0.65**	**267**	⇓eP	Pg	11 55 21.6	+0.1
SRIG				eS	Sg	11 55 31.1	+1.0
GUYB	**Guaymas**	**0.78**	**46**	eP	Pg	11 55 23.6	-0.5
GUYB				eS	Sg	11 55 35.7	+1.4
GUYB	**Guaymas**	**0.78**	**46**	⇓eP	Pg	11 55 23.7	-0.4
GUYB				eS	Sg	11 55 35.5	+1.2
HSIG		**1.73**	**16**	eP	Pn	11 55 39.2	-1.2
HSIG				eS	Sg	11 56 05.4	+0.6
HSIG		**1.73**	**16**	⇑eP	Pn	11 55 39.4	-1.0
LPIG	**La Paz**	**3.41**	**161**	Pg	Pb	11 56 09.0	-1.4
	0.5nm,0.3s,baz=0.0,slow=20,SNR=1.5						
LPIG				Lg	Lg	11 56 52.8	
	6.4nm,0.3s,baz=252,slow=20,SNR=1.4						
LPIG				LR	LR	11 57 16.7	
	comp=Z,1μm,19.6s,baz=34,slow=39						
TXAR	**Lajitas Array**	**7.19**	**72**	Pn	Pn	11 56 56.6	+1.1
	0.1nm,0.3s,baz=241,slow=13,SNR=1.3						
TXAR				Lg	Lg	11 58 57.4	
	0.2nm,0.3s,baz=253,slow=24,SNR=3.7						
PFO	**Pinyon Flats O**	**7.56**	**327**	Lg	Lg	11 59 16.5	
	0.1nm,0.3s,baz=75,slow=20,SNR=1.2						
PFO				LR	LR	11 59 47.7	
	comp=Z,462nm,21.2s,baz=150,slow=36						
ANMO	**Albuquerque**	**8.72**	**28**	Lg	Lg	11 59 48.9	
	0.1nm,0.3s,baz=298,slow=22,SNR=6.1						
ANMO				LR	LR	12 00 28.2	
	comp=Z,166nm,18.4s,baz=218,slow=36						
NVAR	**Mina Array Bea**	**12.43**	**334**	Pn	Pn	11 58 13.5	+6.1
	0.0nm,0.3s,baz=150,slow=14,SNR=3.6						
NVAR				LR	LR	12 02 40.0	
	comp=Z,159nm,19.1s,baz=157,slow=36						
ELK	**Elko**	**13.71**	**348**	Pn	P	11 58 30.4	-3.5
	0.1nm,0.3s,baz=163,slow=14,SNR=2.0						
PDAR	**Pinedale Array**	**15.46**	**5**	Pn	P	11 58 54.9	+1.5
	0.1nm,0.3s,baz=150,slow=14,SNR=2.5						
YBH	**Yreka Blue Hor**	**17.03**	**330**	LR	LR	12 05 22.4	
	comp=Z,92nm,20.1s,baz=162,slow=36						
CMIG	**Matias Romero**	**18.45**	**120**	LR	LR	12 06 46.3	
	comp=Z,344nm,20.3s,baz=348,slow=38						
TKL	**Tuckaleechee C**	**24.99**	**64**	LR	LR	12 11 06.3	
	comp=Z,173nm,20.4s,baz=248,slow=38						
BBB	**Bella Bella**	**27.76**	**338**	LR	LR	12 12 23.4	
	comp=Z,121nm,18.2s,baz=156,slow=37						
SCHQ	**Schefferville**	**42.38**	**37**	LR	LR	12 21 31.1	
	comp=Z,114nm,19.8s,baz=162,slow=37						
ILAR	**Eielson Array**	**43.64**	**339**	P	P	12 03 17.8	+2.8
	0.4nm,0.8s,baz=147,slow=5.4,SNR=4.7						
ILAR				LR	LR	12 20 24.1	
	comp=Z,62nm,18.8s,baz=149,slow=35						

NNC 07 12:03:10.1±8.1, 37°.67N×78°.56E, h0km, mb3.8, mpv3.5, 6C-4D, Error ellipse: s-maj=59.5km s-min=51.8km az=28.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.38**	**359**	Pg	Pb	12 04 47.8	+2.7
	7.2nm,1.1s						
SATY				Lg	Lg	12 06 08.5	
	31nm,1.2s						
MDOK	**Medeo**	**5.61**	**349**	Pg	Pg	12 04 53.7	-3.8
	5.9nm,0.9s						
MDOK				Lg	Lg	12 06 05.5	
	13nm,0.7s						
MDOK	**Medeo**	**5.61**	**349**	Pg	Pb	12 04 49.2	+0.3
	1.7nm,0.4s						
MDOK				Lg	Lg	12 06 11.0	
	11nm,0.6s						
PDGK	**Podgornoye**	**5.70**	**7**	⇓Pg	Pb	12 04 51.5	+1.1
	2.9nm,0.5s						
PDGK				⇓Lg	Lg	12 06 11.7	
	24nm,1.1s						
TKM2	**Tokmak 2**	**5.71**	**338**	⇑Pg	Pb	12 04 53.9	+3.2
	1.8nm,0.6s						
TKM2				⇑Lg	Lg	12 06 08.1	
	9.6nm,1.2s						
KST	**Kastek**	**5.72**	**341**	Pg	Pb	12 04 47.0	-3.8
	2.9nm,0.5s						
KST				Lg	Lg	12 06 07.3	
	8.0nm,0.9s						
AAK	**Ala-Archa**	**5.86**	**329**	⇑Pg	Pb	12 04 56.1	+3.0
	2.8nm,0.7s						
AAK				⇓Lg	Lg	12 06 12.2	
	11nm,0.8s						
MAKZ	**Makanchi**	**9.47**	**14**	⇑Pn	Pn	12 05 28.7	+0.9
	1.8nm,0.8s						
MAKZ				⇑Sn	Sn	12 07 18.0	+3.0
	1.7nm,1.1s						
MK31	**Makanchi Array**	**9.53**	**16**	⇑Pn	Pn	12 05 31.8	+3.3
	0.1nm,0.3s,baz=184,slow=11						
MK31				⇓Sn	Sn	12 07 15.6	-0.6
	1.5nm,0.7s,baz=184,slow=19						

SKO 07 12:14:12.8, 41°.73N×22°.30E, h21km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.09**	**247**	*i* Pg	Pb	12 14 17.0	+0.2
STIP				*i* Sg	Sb	12 14 19.4	-0.1
VAY	**Valandovo**	**0.46**	**154**	*i* Pg	Pb	12 14 22.4	+0.3
VAY				*i* Sg	Sb	12 14 28.3	0.0
VAY				eLg	Lg	12 14 28.4	
	comp=E,17nm,0.6s						
VAY				eLg	Lg	12 14 28.8	
	comp=N,25nm,0.7s						
KNT	**Kendrikon**	**0.72**	**141**	ePg	Pn	12 14 27.4	-0.5
KNT				*i* Sg	Sb	12 14 37.1	+0.9
GRG	**Griva**	**0.78**	**174**	ePg	Pn	12 14 28.4	-0.2

*IDC **07** 12:15:00.3±2.9, 37°.63N×86°.65E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.4/50, mbtmp3.7/4, ML3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/40, Error ellipse: s-maj=145.4km s-min=22.3km az=65.0*
*NNC **07** 12:15:07.2±6.2, 38°.02N×86°.48E, h9km±46km, mb4.1, mpv3.9, Error ellipse: s-maj=56.3km s-min=41.7km az=163.0*

ISC 07 12:15:05.4±1.6, 37°.8N±0°.1×86°.8E±0°.1, h35km, n10, σ1§35/15, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.81**	**317**	⇑Pn	Pn	12 16 57.2	+0.6
	2.5nm,0.4s						
PDGK				⇓Sn	Sn	12 18 22.4	-1.5
	12nm,0.7s						
PDGK				⇓Lg	Lg	12 19 06.6	
	13nm,0.9s						
MDOK	**Medeo**	**9.14**	**309**	Pn	Pn	12 17 12.6	-2.2
	2.2nm,0.4s						
MDOK				Sn	Sn	12 18 58.0	+1.5
	7.2nm,0.6s						
MDOK				Lg	Lg	12 19 49.8	
	7.4nm,0.8s						
MK31	**Makanchi Array**	**9.56**	**341**	⇓Pn	Pn	12 17 21.6	+1.1
	1.2nm,0.3s,baz=159,slow=14						
MK31				⇑Sn	Sn	12 19 06.7	+0.1
	2.2nm,0.5s,baz=167,slow=21						
MKAR	**Makanchi Array**	**9.56**	**341**	Pn	Pn	12 17 21.6	+1.1
	1.5nm,0.3s,baz=161,slow=14,SNR=37						
MKAR				Sn	Sn	12 19 07.2	+0.6
	0.7nm,0.3s,baz=159,slow=23,SNR=5.0						
MKAR				Lg	Lg	12 20 07.9	
	baz=159,slow=31,SNR=1.3						
MAKZ	**Makanchi**	**9.66**	**340**	⇑Pn	Pn	12 17 23.1	+1.3
	3.1nm,0.3s						
MAKZ				⇑Sn	Sn	12 19 07.7	-1.3
	4.5nm,0.9s						
TKM2	**Tokmak 2**	**9.94**	**304**	⇓Pn	Pn	12 17 26.7	+0.8
	1.5nm,0.6s						
TKM2				⇑Sn	Sn	12 19 17.6	+1.3
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**14.09**	**338**	Pn	Pn	12 18 20.4	-1.8
	0.1nm,0.3s,baz=155,slow=12,SNR=8.4						
ZALV	**Zalesovo Beam**	**16.18**	**356**	Pn	Pn	12 18 50.4	+0.5
	0.4nm,0.3s,baz=178,slow=14,SNR=4.1						
FINES	**FINESS Array B**	**43.81**	**323**	LR	LR	12 44 31.8	
	comp=Z,40nm,18.2s,baz=10,slow=40						
WRA	**Warramunga Arr**	**72.80**	**133**	P	P	12 26 30.4	0.0
	0.7nm,1.0s,baz=327,slow=6.2,SNR=1.8						

*SOF **07** 12:15:06.0, 41°.73N×24°.26E, h12km, MD2.7*
*ATH **07** 12:15:07.3, 41°.68N×24°.28E, h9km±1km, ML2.6/11, Error ellipse: s-maj=2.1km s-min=0.9km az=192.0*
*THE **07** 12:15:08.0, 41°.64N×24°.29E, h5km±1km, ML2.5/10, Error ellipse: s-maj=1.8km s-min=0.8km az=182.0*
*BEO **07** 12:15:08.3±0.5, 41°.75N×24°.22E, h0km, ML2.5/9*

ISC 07 12:15:06.1±1.0, 41°.74N±0°.02×24°.25E±0°.02, h12km±9km, n64, σ1§09/94, 11C-3D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RZN	**Rozhen**	**0.35**	**99**	*i* P	Pg	12 15 13.4	+0.2
MMB	**Musomiste**	**0.42**	**249**	*i* P	Pg	12 15 14.7	+0.3
NVR	**Nevrokopi**	**0.49**	**217**	P	Pg	12 15 15.6	0.0
NVR				S	Sg	12 15 22.2	0.0
	378nm,0.2s						
NVR	**Nevrokopi**	**0.49**	**217**	P	Pg	12 15 15.6	0.0
NVR				S	Sg	12 15 22.1	-0.1
NVR				AML	AML	12 15 24.9	
	comp=E,767μm,0.2s						
NVR				AML	AML	12 15 25.5	
	comp=N,710μm,0.2s						
PLD	**Plovdiv**	**0.49**	**43**	ePg	Pb	12 15 16.5	-0.2
PLD				eSg	Sb	12 15 24.6	+0.7
PLD	**Plovdiv**	**0.49**	**43**	*i* P	Pb	12 15 17.3	+0.6
KAVA	**Kavala**	**0.77**	**165**	P	Pg	12 15 20.3	-0.6
KAVA				S	Sg	12 15 30.7	-0.3
	comp=N,572nm,0.2s						
KAVA	**Kavala**	**0.77**	**165**	P	Pg	12 15 20.4	-0.6
KAVA				S	Sg	12 15 30.6	-0.4
KAVA				AML	AML	12 15 30.9	
	comp=E,1685μm,0.2s						
KAVA				AML	AML	12 15 30.9	
	comp=N,1103μm,0.2s						
SRS	**Serrai**	**0.80**	**219**	P	Pg	12 15 21.6	+0.2
SRS				S	Sb	12 15 32.9	+0.3
	comp=N,282nm,0.2s						
SRS	**Serrai**	**0.80**	**219**	P	Pg	12 15 21.7	+0.2
SRS				S	Sg	12 15 32.3	+0.4
SRS				AML	AML	12 15 35.9	
	comp=N,406μm,0.2s						
SRS				AML	AML	12 15 38.9	
	comp=E,573μm,0.2s						
KVLA	**Kavala**	**0.81**	**173**	P	Pg	12 15 21.8	0.0
KVLA				S	Sg	12 15 31.8	-0.5
KVLA				AML	AML	12 15 33.8	
	comp=E,1084μm,0.2s						
KVLA				AML	AML	12 15 33.8	
	comp=N,1321μm,0.3s						
PGB	**Panagyurishte**	**0.81**	**356**	*i* P	Pg	12 15 21.6	-0.2
KKB	**Krupnik**	**0.88**	**279**	*i* P	Pg	12 15 23.1	0.0
DIM	**Dimitrovgrad**	**1.00**	**72**	*i* P	Pn	12 15 26.3	+0.3
RDO	**Rodhopi**	**1.13**	**121**	P	Pb	12 15 27.2	-0.4
RDO				S	Sn	12 15 43.1	-0.2
	comp=N,492nm,0.4s						
RDO	**Rodhopi**	**1.13**	**121**	P	Pn	12 15 27.5	-0.3
RDO				S	Sg	12 15 42.6	0.0
RDO				AML	AML	12 15 46.0	
	comp=N,824μm,0.3s						
RDO				AML	AML	12 15 46.6	
	comp=E,925μm,0.2s						
SOH	**Sokhos**	**1.14**	**217**	P	Pn	12 15 27.9	-0.1
SOH	**Sokhos**	**1.14**	**217**	P	Pn	12 15 27.9	-0.1
SOH				S	Sb	12 15 42.7	+0.2
SOH				AML	AML	12 15 46.9	
	comp=N,1840μm,0.6s						
SOH				AML	AML	12 15 47.9	
	comp=E,897μm,0.4s						
VTS	**Vitosha**	**1.16**	**320**	ePg	Pg	12 15 28.4	0.0
VTS				eSg	Sn	12 15 44.1	0.0
VTS	**Vitosha**	**1.16**	**320**	⇑P	Pg	12 15 28.2	-0.2
VTS	**Vitosha**	**1.16**	**320**	*i* P	Pg	12 15 28.4	0.0
KNT	**Kendrikon**	**1.17**	**241**	P	Pg	12 15 29.5	+0.9
KNT	**Kendrikon**	**1.17**	**241**	P	Pg	12 15 29.1	+0.5
KNT				AML	AML	12 15 48.4	
	comp=N,468μm,0.2s						
KNT				AML	AML	12 15 48.7	
	comp=E,542μm,0.3s						
THAS	**Thassos island**	**1.19**	**163**	P	Pg	12 15 29.4	+0.5
THAS				S	Sg	12 15 44.8	+0.5
	comp=E,575nm,0.5s						
THAS	**Thassos island**	**1.19**	**163**	P	Pn	12 15 28.3	-0.2
THAS				S	Sb	12 15 43.3	-0.5
THAS				AML	AML	12 15 48.3	
	comp=N,1148μm,0.3s						
THAS				AML	AML	12 15 48.5	
	comp=E,817μm,0.3s						
VAY	**Valandovo**	**1.33**	**252**	ePg	Pg	12 15 32.7	+1.1
VAY				eSg	Sg	12 15 49.9	+1.0
VAY	**Valandovo**	**1.33**	**252**	ePn	Pg	12 15 32.7	+1.1
VAY				*i* Sg	Sg	12 15 51.5	+2.5
OUR	**Ouranopolis**	**1.42**	**188**	P	Pg	12 15 33.0	-0.3
OUR				S	Sn	12 15 50.1	-0.2
	comp=E,558nm,0.3s						
OUR	**Ouranopolis**	**1.42**	**188**	P	Pb	12 15 32.8	+0.3
OUR				AML	AML	12 15 53.1	
	comp=N,1479μm,0.3s						
OUR				AML	AML	12 15 54.2	
	comp=E,766μm,0.5s						
HORT	**Hortiatis**	**1.44**	**218**	P	Pg	12 15 33.6	-0.1
HORT	**Hortiatis**	**1.44**	**218**	P	Pb	12 15 33.1	+0.3
HORT				AML	AML	12 15 54.5	
	comp=E,526μm,0.6s						
HORT				AML	AML	12 15 55.9	
	comp=N,230μm,0.3s						
THE	**Thessaloniki**	**1.47**	**222**	P	Pb	12 15 33.9	+0.5
PLG	**Polygyros**	**1.50**	**204**	P	Pb	12 15 34.1	+0.3
PLG				S	Sg	12 15 54.0	-0.2
	comp=N,248nm,0.4s						
PLG	**Polygyros**	**1.50**	**204**	P	Pb	12 15 33.8	0.0
BOSS	**Bosilegrad**	**1.52**	**300**	ePg	Pg	12 15 35.7	+0.5
BOSS				eSg	Sg	12 15 56.9	+1.9
STIP	**Stip**	**1.55**	**269**	ePn	Pn	12 15 31.9	-1.6
STIP				*i* Sg	Sn	12 15 50.0	-3.5
ALN	**Alexandroupoli**	**1.59**	**121**	P	Pb	12 15 35.3	-0.1
ALN				S	Sb	12 15 55.9	+0.4
	comp=N,78nm,1.0s						
ALN	**Alexandroupoli**	**1.59**	**121**	P	Pb	12 15 35.3	-0.1
ALN				AML	AML	12 15 58.9	
	comp=E,141μm,0.8s						
ALN				AML	AML	12 16 01.4	
	comp=N,159μm,0.5s						
SMTH	**Samothraki Isl**	**1.59**	**142**	P	Pb	12 15 34.8	-0.7
SMTH				S	Sn	12 15 54.6	-0.1
	comp=N,102nm,0.3s						
SMTH	**Samothraki Isl**	**1.59**	**142**	P	Pb	12 15 34.9	-0.6
SMTH				S	Sb	12 15 55.5	-0.1
GRG	**Griva**	**1.60**	**241**	P	Pb	12 15 35.9	+0.3
GRG				S	Sg	12 15 57.7	+0.2
	comp=N,95nm,0.4s						
ENEZ	**Enez**	**1.75**	**124**	P	Pb	12 15 37.7	-0.4
PRVS	**Prvonek**	**1.79**	**296**	ePg	Pb	12 15 39.4	+0.5
PRVS				eSg	Sg	12 16 02.9	-0.8
ZAPS	**Zavoj**	**1.94**	**323**	ePg	Pg	12 15 43.4	0.0
ZAPS				eSg	Sg	12 16 09.1	+0.5
SZH	**Strazhica**	**1.97**	**39**	*i* P	Pg	12 15 44.2	+0.4
LIA	**Limnos Island**	**1.97**	**159**	P	Pn	12 15 40.4	+1.1
BARS	**Barje**	**2.10**	**302**	ePn	Pb	12 15 43.8	-0.4
BARS				eSn	Sb	12 16 10.6	+0.3
LIT	**Litokhoron**	**2.11**	**220**	P	Pn	12 15 42.6	+1.3
BLKB	**Belogradchik**	**2.21**	**329**	⇑S	Sg	12 16 18.8	+1.7
ZAGS	**Zajecar**	**2.55**	**325**	ePn	Pb	12 15 50.6	-1.1
ZAGS				eSn	Sb	12 16 23.8	+0.8
BOVS	**Bovan**	**2.67**	**316**	ePn	Pb	12 15 51.9	-1.8
BOVS				eSn	Sb	12 16 25.7	-0.7
BOVS	**Bovan**	**2.67**	**316**	⇑P	Pn	12 15 49.2	+0.4
BOVS	**Bovan**	**2.67**	**316**	⇓S	Sg	12 16 30.1	-1.6
SELS	**Selova**	**2.75**	**304**	ePn	Pb	12 15 52.4	-2.8
SELS				eSn	Sb	12 16 26.7	-2.1
HUMR	**Humele**	**2.84**	**11**	⇑P	Pn	12 15 49.1	-2.1
HERR	**Herculane**	**3.41**	**337**	⇑S	Sb	12 16 50.6	+2.7
MDVR	**Moldovita**	**3.56**	**329**	⇑P	Pn	12 16 01.5	+0.3
MDVR	**Moldovita**	**3.56**	**329**	⇑S	Sb	12 16 53.6	+1.4
VOIR		**3.74**	**9**	⇓P	Pn	12 16 02.5	-1.2
GZR	**Gura Zlata**	**3.81**	**344**	⇑P	Pn	12 16 04.5	-0.1
MLR	**Muntele Rosu**	**3.94**	**18**	⇓P	Pn	12 16 04.6	-1.9
MLR	**Muntele Rosu**	**3.94**	**18**	⇑S	Sn	12 16 57.3	+4.5
BZS	**Buzias**	**4.32**	**335**	⇑P	Pn	12 16 12.8	+1.2
BZS	**Buzias**	**4.32**	**335**	⇑S	Sb	12 17 12.2	-1.8

*ECX **07** 12:19:52.2±0.7, 27°.22N×111°.40W, h5km±30km, MD3.3*
*MEX **07** 12:19:54.9±0.4, 27°.24N×111°.46W, h16km±15km, MD3.8*

ISC 07 12:19:52.7±2.0, 27°.4N±0°.2×111°.47W±0°.08, h11km±13km, n6, σ0§67/11, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.69**	**267**	⇓*i* P	Pg	12 20 05.9	-0.2
SRIG				eS	Sg	12 20 14.8	-0.4
SRIG	**Santa Rosalia**	**0.69**	**267**	⇓*i* P	Pg	12 20 05.9	-0.2
SRIG				eS	Sg	12 20 15.6	+0.4
GUYB	**Guaymas**	**0.75**	**44**	eP	Pb	12 20 08.0	+0.2
GUYB				eS	Sb	12 20 18.4	+0.4
GUYB	**Guaymas**	**0.75**	**44**	eP	Pg	12 20 06.5	-0.8
GUYB				eS	Sg	12 20 17.6	+0.5
HSIG		**1.71**	**15**	eP	Pn	12 20 23.0	+0.5
HSIG				eS	Sn	12 20 43.3	-1.1
HSIG		**1.71**	**15**	eS	Sg	12 20 48.4	+0.5

*IDC **07** 12:26:29.3±2.3, 5°.42S×146°.42E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/40, mbtmp3.7/4, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/28, Error ellipse: s-maj=52.3km s-min=40.5km az=112.0*

ISC 07 12:26:43.2±2.2, 6°.2S±0°.2×146°.6E±0°.3, h100km, n7, σ0§60/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**169**	Pn	Pn	12 27 33.1	+0.5
	5.9nm,0.3s,baz=4.6,slow=8.8,SNR=10						
PMG				Sn	Sn	12 28 10.6	-0.2
	12nm,0.3s,baz=342,slow=19,SNR=7.0						
CTA	**Charters Tower**	**13.84**	**181**	Pn	P	12 29 59.6	-0.6
	0.3nm,0.3s,baz=146,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**18.12**	**220**	P	Pn	12 30 48.0	-0.5
	0.3nm,0.3s,baz=43,slow=12,SNR=18						
WRA				PcP	PcP	12 35 17.6	+0.3
	0.0nm,0.3s,baz=37,slow=1.6,SNR=3.0						
ASAR	**Alice Springs**	**21.23**	**214**	P	P	12 31 22.1	+0.8
	0.5nm,0.3s,baz=43,slow=9.0,SNR=12						
BATI	**Baumata**	**23.00**	**258**	LR	LR	12 41 11.9	
	comp=Z,80nm,18.2s,baz=276,slow=38						
FITZ	**Fitzroy Crossi**	**23.60**	**238**	P	P	12 31 45.4	+0.2
	2.6nm,0.5s,baz=60,slow=11,SNR=13						
FITZ				LR	LR	12 40 16.3	
	comp=Z,65nm,20.9s,baz=208,slow=35						
TORD	**Torodi Ar. Bea**	**144.70**	**284**	PKP	PKPab	12 46 07.8	-0.5
	1.2nm,0.7s,baz=68,slow=3.6,SNR=8.2						

*MOS **07** 12:30:23.5±1.0, 55°.25N×113°.91E, h9km, mb4.5/10, MS3.5/5, Error ellipse: s-maj=8.6km s-min=6.2km az=76.9*
*IDC **07** 12:30:23.7±0.6, 55°.30N×113°.87E, h0km, mb3.8/15, mb1 4.0/21, mb1mx3.9/45, mbtmp3.9/21, ML3.5/4, MS3.2/11, Ms1 3.2/11, ms1mx3.0/48, Error ellipse: s-maj=16.5km s-min=12.6km az=153.0*
*NEIC **07** 12:30:24.6±1.2, 55°.31N±0°.08×114°.0E±0°.1, h10km±1km, mb4.2/13, Error ellipse: s-maj=13.2km s-min=12.2km az=327.0*
*BYKL **07** 12:30:25.2±0.1, 55°.34N×113°.85E*
*BJI **07** 12:30:26.0±0.0, 55°.28N×113°.96E, h18km, mB4.6/3, mb4.1/11*

ISC 07 12:30:23.8±0.9, 55°.32N±0°.02×113°.79E±0°.02, h4km±6km, n126, σ2§54/205, mb4.0/23, MS3.3/10, 9C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.81**	**351**	⇑*i* Pg	Pb	12 30 40.7	+0.3
SVKR				Pmax		12 30 48.3	
	2μm,0.3s						
SVKR				eSg	Sb	12 30 52.2	+0.5
SVKR				Smax		12 30 52.7	
	27μm,0.9s						
SVKR	**Severomuysk**	**0.81**	**351**	⇑*i* PG	Pb	12 30 40.7	+0.3
SVKR				*e*		12 30 51.0	
SVKR				pmax	pmax		
	comp=Z,3μm,0.7s						
SVKR				smax	smax		
	comp=N,27μm,0.9s						
YOA	**Uoyan**	**1.42**	**306**	ePg	Pb	12 30 51.4	+0.6
YOA				Pmax		12 30 57.9	
	comp=N,7μm,0.7s						
YOA				eSg	Sg	12 31 11.0	+1.6
YOA				Smax		12 31 34.0	
	comp=N,15μm,1.4s						
YOA	**Uoyan**	**1.42**	**306**	⇑*i* PG	Pb	12 30 51.5	+0.6
YOA				*i*		12 31 11.6	
YOA				pmax	pmax		
	comp=Z,6μm,0.5s						
YOA				smax	smax		
	comp=N,26μm,0.6s						
KMO	**Kumora**	**1.57**	**292**	⇑*i* Pg	Pb	12 30 53.8	+0.3
KMO				Pmax		12 30 54.2	
	comp=N,3μm,0.7s						
KMO				eSg	Sb	12 31 15.0	+1.3
KMO				Smax		12 31 17.7	
	comp=N,11μm,1.0s						
KMO	**Kumora**	**1.57**	**292**	ePN	Pb	12 30 53.7	+0.3
KMO				*e*		12 31 13.6	

SYVR	**Suvo**	**2.77 235**	*e*Pn	**Pn**	**12 31 10.4**	**+1.5**
SYVR			*e*Pg	**Pb**	**12 31 15.3**	**+1.5**
SYVR			*e*PgPg	**Pg**	**12 31 19.0**	**+2.2**
SYVR			max		12 31 19.6	
	comp=E,289nm,0.8s					
SYVR			*e*		12 31 36.1	
SYVR			*e*Sn	**Sn**	**12 31 43.8**	**+1.0**
SYVR			*e*Sg	**Sg**	**12 31 51.8**	**-0.8**
SYVR			*e*SgSg	**SbSb**	**12 31 56.9**	**+3.8**
SYVR			max		12 32 02.7	
	comp=E,4μm,1.1s					
SYVR	**Suvo**	**2.77 235**	*e*PN	**Pn**	**12 31 10.7**	**+1.8**
SYVR			*e*		12 31 52.9	
SYVR			pmax	pmax		
	comp=Z,305nm,0.5s					
SYVR			smax	smax		
	comp=N,4μm,0.9s					
CRS	**Chara**	**2.97 56**	*e*Pn	**Pn**	**12 31 12.3**	**+0.6**
CRS			*e*Pg	**Pb**	**12 31 18.3**	**+1.1**
CRS			*e*PgPg	**Pg**	**12 31 22.7**	**+2.1**
CRS			max		12 31 23.2	
	comp=N,1μm,1.1s					
CRS			*e*Sg	**Sg**	**12 31 56.7**	**-2.3**
CRS			Smax		12 32 02.3	
	comp=N,2μm,1.6s					
CRS	**Chara**	**2.97 56**	*e*PN	**Pn**	**12 31 12.0**	**+0.3**
CRS			*e*		12 31 18.9	
CRS			*e*		12 31 55.8	
CRS			pmax	pmax		
	comp=Z,1μm,1.0s					
CRS			smax	smax		
	comp=E,2μm,1.3s					
CIT	**Chita**	**3.31 183**	*e*Pn	**Pn**	**12 31 17.7**	**+1.3**
CIT			*e*Pg	**Pb**	**12 31 24.4**	**+1.4**
CIT			Pmax		12 31 27.0	
	comp=E,406nm,0.4s					
CIT			*e*Sg	**Sg**	**12 32 08.4**	**-1.6**
CIT			Smax		12 32 12.7	
	comp=E,3μm,0.3s					
CIT	**Chita**	**3.31 183**	*e*PN	**Pb**	**12 31 20.9**	**-2.1**
CIT			*e*S	**Sn**	**12 31 58.1**	**+1.9**
CIT			*e*		12 32 08.9	
CIT			pmax	pmax		
	comp=Z,413nm,0.5s					
CIT			smax	smax		
	comp=E,3μm,0.2s					
MXMB	**Maximikha**	**3.60 237**	*e*Pn	**Pn**	**12 31 21.7**	**+1.3**
MXMB			*e*		12 31 26.9	
MXMB			*e*Pg	**Pb**	**12 31 30.5**	**+2.5**
MXMB			*e*Sn	**Sn**	**12 32 03.6**	**+0.2**
MXMB			*e*Sg	**Sg**	**12 32 18.4**	**-1.0**
MXMB			*e*SgSg	**SbSb**	**12 32 20.1**	**+2.9**
TUP	**Tupik**	**3.67 102**	*e*Pn	**Pn**	**12 31 21.6**	**+0.2**
TUP			*e*		12 31 25.8	
TUP			*e*		12 31 28.2	
TUP			*e*Pg	**Pb**	**12 31 30.8**	**+1.6**
TUP			Pmax		12 31 32.3	
	comp=E,398nm,0.4s					
TUP			*e*		12 31 36.4	
TUP			*e*Sn	**Sn**	**12 32 03.8**	**-1.3**
TUP			*e*Sg	**Sg**	**12 32 17.9**	**-3.8**
TUP			*e*SgSg	**SbSb**	**12 32 19.8**	**+0.6**
TUP			max		12 32 26.4	
	comp=E,3μm,1.4s					
TUP	**Tupik**	**3.67 102**	*e*PN	**Pn**	**12 31 21.8**	**+0.4**
TUP			*e*		12 31 30.8	
TUP			*e*S	**Sn**	**12 32 05.6**	**+0.5**
TUP			*e*		12 32 19.1	
TUP			pmax	pmax		
	comp=Z,399nm,0.3s					
TUP			smax	smax		
	comp=N,3μm,0.6s					
OGRR	**Ongureny**	**3.98 248**	*e*Pn	**Pn**	**12 31 28.2**	**+2.6**
OGRR			*e*		12 31 33.5	
OGRR			*e*Pg	**Pb**	**12 31 37.0**	**+2.5**
OGRR			Pmax		12 31 46.4	
	comp=N,133nm,0.7s					
OGRR			*e*		12 32 07.8	
OGRR			*e*Sg	**Sg**	**12 32 29.6**	**-2.0**
OGRR			Smax		12 32 37.7	
	comp=N,997nm,1.3s					
OGRR	**Ongureny**	**3.98 248**	*e*PN	**Pn**	**12 31 29.4**	**+3.8**
OGRR			*e*		12 31 39.2	
OGRR			*e*S	**Sn**	**12 32 15.4**	**+2.7**
OGRR			*e*		12 32 30.2	
OGRR			pmax	pmax		
	comp=Z,153nm,1.2s					
OGRR			smax	smax		
	comp=N,998nm,1.6s					
VTMR	**Vitim**	**4.18 351**	*e*Pn	**Pn**	**12 31 29.5**	**+1.2**
VTMR			*e*Pg	**Pb**	**12 31 40.0**	**+2.1**
VTMR			*e*Sn	**Sn**	**12 32 15.5**	**-2.1**
VTMR			*e*Sg	**Sb**	**12 32 34.0**	**+5.3**
KELR	**Kotokel**	**4.23 235**	*e*Pn	**Pn**	**12 31 31.2**	**+2.2**
KELR			*e*		12 31 37.6	
KELR			*e*Pg	**Pb**	**12 31 42.5**	**+3.8**
KELR			*e*Sn	**Sn**	**12 32 19.3**	**+0.5**
KELR			*e*Sg	**Sg**	**12 32 38.2**	**-1.3**
YKLR	**Yuktali**	**4.60 71**	*e*Pn	**Pn**	**12 31 34.9**	**+0.8**
YKLR			*e*		12 31 37.6	
YKLR			*e*Pg	**Pb**	**12 31 46.7**	**+1.7**
YKLR			*e*		12 31 49.6	
YKLR			*e*Sn	**Sn**	**12 32 25.8**	**-2.1**
YKLR			*e*Sg	**Sb**	**12 32 45.5**	**+4.8**
ZRHB	**Zarechye**	**4.80 237**	*e*Pn	**Pn**	**12 31 39.5**	**+2.7**
ZRHB			*e*Pg	**Pb**	**12 31 52.8**	**+4.4**
ZRHB			Pmax		12 32 31.8	
	comp=N,315nm,0.9s					
ZRHB			*e*Sn	**Sn**	**12 32 33.1**	**+0.2**
ZRHB			*e*Sg	**Sg**	**12 32 56.0**	**-1.8**
ZRHB			Smax		12 33 08.8	
	comp=N,2μm,1.4s					
UUDB	**Ulan-Yde**	**5.03 229**	*e*Pn	**Pn**	**12 31 41.5**	**+1.5**
UUDB			*e*		12 31 48.0	
UUDB			*e*Pg	**Pb**	**12 31 56.1**	**+3.8**
UUDB			*e*		12 31 59.0	
UUDB			max		12 32 14.5	
	comp=N,143nm,1.1s					
UUDB			*e*Sn	**Sn**	**12 32 38.1**	**-0.4**
UUDB			*e*Sg	**Sg**	**12 33 01.8**	**-3.3**
UUDB			Smax		12 33 36.6	
	comp=N,2μm,1.2s					
TRG	**Tyrgan**	**5.08 243**	*e*Pn	**Pn**	**12 31 42.1**	**+1.4**
TRG			*e*		12 31 48.8	
TRG			*e*Pg	**Pb**	**12 31 56.9**	**+3.7**
TRG			Pmax		12 32 13.5	
	comp=N,39nm,0.6s					
TRG			*e*Sn	**Sn**	**12 32 39.4**	**-0.4**
TRG			*e*		12 32 56.5	
TRG			*e*Sg	**Sg**	**12 33 02.8**	**-4.0**
TRG			Smax		12 33 08.7	
	comp=N,627nm,1.3s					
TRG	**Tyrgan**	**5.08 243**	*e*PN	**Pn**	**12 31 42.2**	**+1.5**
TRG			*e*		12 31 57.0	
TRG			*e*S	**Sn**	**12 32 40.0**	**+0.2**
TRG			*e*		12 33 05.3	
TRG			pmax	pmax		
	comp=Z,57nm,0.5s					
TRG			smax	smax		
	comp=E,629nm,1.0s					
FFNB	**Fofonovo**	**5.31 235**	*e*Pn	**Pn**	**12 31 46.2**	**+2.4**
FFNB			*e*Pg	**Pb**	**12 32 01.6**	**+4.5**
FFNB			*e*		12 32 52.0	
FFNB			*e*Sg	**Sg**	**12 33 11.0**	**-3.1**
KAB	**Kabansk**	**5.36 235**	*e*Pn	**Pn**	**12 31 46.1**	**+1.6**
KAB			*e*Pg	**Pb**	**12 32 01.7**	**+3.8**
KAB			Pmax		12 32 31.8	
	comp=E,261nm,1.2s					
KAB			*e*Sn	**Sn**	**12 32 45.9**	**-0.7**
KAB			*e*Sg	**Sg**	**12 33 11.8**	**-3.9**
KAB			Smax		12 33 36.4	
	comp=E,3μm,1.6s					
HRMR	**Khuramsha**	**5.51 231**	*e*Pn	**Pn**	**12 31 48.1**	**+1.6**
HRMR			*e*Pg	**Pb**	**12 32 04.4**	**+3.9**
HRMR			Pmax		12 32 22.5	
	comp=E,138nm,0.5s					
HRMR			*e*Sn	**Sn**	**12 32 50.5**	**+0.2**
HRMR			*e*Sg	**Sg**	**12 33 17.4**	**-3.1**
HRMR			Smax		12 33 27.2	
	comp=E,3μm,1.1s					
KPC	**Khapcheranga**	**5.69 189**	*e*Pn	**Pn**	**12 31 49.4**	**+0.3**
KPC			*e*		12 31 58.2	
KPC			*e*Pg	**Pb**	**12 32 07.4**	**+3.8**
KPC			*e*		12 32 09.4	
KPC			max		12 32 17.5	
	comp=E,46nm,0.4s					
KPC			*e*Sn	**Sn**	**12 32 54.4**	**-0.5**
KPC			*e*Sg	**Sg**	**12 33 22.5**	**-3.9**
KPC			Smax		12 33 33.4	
	comp=E,774nm,1.0s					
KPC	**Khapcheranga**	**5.69 189**	*e*PN	**Pn**	**12 31 49.5**	**+0.3**
KPC			*e*		12 32 07.5	
KPC			*e*		12 33 21.4	
KPC			pmax	pmax		
	comp=Z,54nm,0.9s					
KPC			smax	smax		
	comp=N,772nm,1.0s					
BGT	**Bolshoye Golou**	**5.96 240**	*e*Pn	**Pn**	**12 31 54.4**	**+1.6**
BGT			*e*Pg	Pb	12 32 13.1	+4.9
BGT			Pmax		12 32 15.1	
	comp=N,197nm,2.1s					
BGT			*e*Sn	**Sn**	**12 33 00.4**	**-1.1**
BGT			*e*Sg	**Sg**	**12 33 30.4**	**-4.7**
BGT			Smax		12 33 43.5	
	comp=N,446nm,1.4s					
IENR	**Iengra**	**6.31 77**	*e*Pn	**Pn**	**12 31 57.9**	**+0.3**
IENR			*e*Pg	**Pb**	**12 32 17.9**	**+3.7**
IENR			*e*Sn	**Sn**	**12 33 06.4**	**-3.8**
IENR			*e*Sg	**Sg**	**12 33 39.0**	**-7.3**
LSTR	**Listvyanka**	**6.35 241**	*e*Pn	**Pn**	**12 31 59.7**	**+1.5**
LSTR			*e*Pg	Pb	12 32 20.5	+5.6
LSTR			Pmax		12 32 34.7	
	comp=N,18nm,0.8s					
LSTR			*e*Sn	**Sn**	**12 33 09.0**	**-2.1**
LSTR			*e*Sg	**Sg**	**12 33 43.0**	**-4.6**
LSTR			Smax		12 33 54.6	
	comp=N,459nm,2.0s					
IRK	**Irkutsk**	**6.43 245**	*e*Sg	**Sg**	**12 33 45.0**	**-5.0**
IRK			Smax		12 33 51.9	
	comp=N,842nm,0.5s					
IRK	**Irkutsk**	**6.43 245**	*e*PG	**Pg**	**12 32 23.1**	**-3.7**
IRK			pmax	pmax		
	comp=Z,88nm,0.2s					
IVK	**Ivanovka**	**6.60 242**	*e*Pn	**Pn**	**12 32 03.6**	**+2.0**
IVK			*e*Pg	Pb	12 32 24.7	+5.6
IVK			Pmax		12 32 42.1	
	comp=Z,24nm,0.7s					
IVK			*e*Sn	**Sn**	**12 33 15.3**	**-2.0**
IVK			*e*		12 33 35.5	
IVK			*e*Sg	**Sg**	**12 33 50.4**	**-5.2**
IVK			Smax		12 33 59.5	
	comp=Z,425nm,1.3s					
TLY	**Talaya**	**7.06 243**	Pn	**Pn**	**12 32 08.5**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=24,slow=10,SNR=3.9					
TLY			Lg	Lg	12 34 03.5	
	comp=Z,0.1nm,0.3s,baz=262,slow=15,SNR=4.8					
TLY			LR	LR	12 35 07.5	
	comp=Z,148nm,20.5s,baz=38,slow=40					
TLY	**Talaya**	**7.06 243**	*e*Pn	**Pn**	**12 32 09.3**	**+1.4**
TLY			*e*Pg	Pb	12 32 32.8	+5.9
TLY			*e*		12 32 34.9	
TLY			max		12 33 11.3	
	comp=Z,23nm,0.9s					
TLY			*e*Sn	**Sn**	**12 33 27.1**	**-1.5**
TLY			*e*		12 33 40.5	
TLY			*e*Sg	**Sg**	**12 34 04.8**	**-5.6**
TLY			Smax		12 34 18.7	
	comp=Z,242nm,1.5s					
TLY	**Talaya**	**7.06 243**	*i* PN	**Pn**	**12 32 09.3**	**+1.4**
TLY	**Talaya**	**7.06 243**		**Pn**	**12 32 08.9**	**+1.0**
HIA	**Hailar**	**7.08 147**	*i* PN	**Pn**	**12 32 06.6**	**-1.5**
HIA	**Hailar**	**7.08 147**		**Pn**	**12 32 06.5**	**-1.6**
HIA			Sn	**Sn**	**12 33 26.3**	**-2.6**
ARS	**Arshan**	**7.57 248**	*e*Pn	**Pn**	**12 32 17.4**	**+2.6**
ARS			*e*Pg	Pb	12 32 42.3	+6.8
ARS			Pmax		12 33 12.4	
	comp=Z,81nm,0.6s					
ARS			*e*Sn	**Sn**	**12 33 39.2**	**-1.8**
ARS			*e*		12 33 56.9	
ARS			*e*Sg	**Sg**	**12 34 19.7**	**-6.8**
ARS			Smax		12 34 34.9	
	comp=Z,1μm,0.9s					
ZEA	**Zeya**	**7.99 96**	*e*PN	**Pn**	**12 32 21.0**	**+0.4**
ZEA			*e*		12 33 48.7	
ZEA			pmax	pmax		
	comp=E,10.0nm,0.6s					
ZEA			pmax	pmax		
	comp=N,10.0nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,20nm,0.7s					
ZEA			MLR	MLR		
	comp=Z,100nm,5.0s					
ZAK	**Zakamensk**	**8.05 236**	*e*Pg	Pg	12 32 51.9	-6.0
ZAK			Pmax		12 33 03.7	
	comp=Z,19nm,1.1s					
ZAK			*e*Sn	**Sn**	**12 33 50.4**	**-2.7**
ZAK			*e*Sg	**Sg**	**12 34 36.5**	**-5.6**
ZAK			Smax		12 35 07.7	
	comp=Z,324nm,1.7s					
ZAK	**Zakamensk**	**8.05 236**	*e*PN	**Pn**	**12 32 23.3**	**+1.7**
ZAK			*e*		12 32 51.9	
ZAK			pmax	pmax		
	comp=Z,19nm,0.6s					
MOY	**Mondy**	**8.46 250**	*e*Pn	**Pn**	**12 32 28.9**	**+1.8**
MOY			max		12 33 28.7	
	comp=Z,40nm,1.1s					
MOY			*e*		12 34 16.8	
MOY			*e*Sg	Sg	12 34 46.8	-8.3
MOY			Smax		12 35 05.2	
	comp=Z,564nm,1.2s					
MOY	**Mondy**	**8.46 250**	*e*PN	**Pn**	**12 32 29.6**	**+2.5**
ULN	**Ulaanbaatar**	**8.56 212**	*i* PN	**Pn**	**12 32 31.1**	**+2.6**
ULN	**Ulaanbaatar**	**8.56 212**	Pn	**Pn**	**12 32 29.2**	**+0.6**
ORL	**Orlik**	**8.71 257**	*e*Pn	**Pn**	**12 32 32.4**	**+2.0**
ORL			max		12 32 49.0	
	comp=Z,45nm,1.3s					
ORL			*e*Sn	**Sn**	**12 34 06.3**	**-2.8**
ORL			*e*		12 34 26.5	
ORL			*e*Sg	**Sg**	**12 34 55.5**	**-7.5**
ORL			Smax		12 35 06.4	
	comp=Z,430nm,1.7s					
ORL	**Orlik**	**8.71 257**	*e*PN	**Pn**	**12 32 32.5**	**+2.0**
ORL			*e*		12 33 02.5	
ORL			*e*S	**Sn**	**12 34 09.7**	**+0.6**
ORL			*e*		12 34 55.4	
ORL			pmax	pmax		
	comp=Z,46nm,1.0s					
ORL			smax	smax		
	comp=N,430nm,1.7s					
SONM	**Songino Array**	**8.79 215**	Pn	**Pn**	**12 32 33.1**	**+1.4**
	comp=N,0.7nm,0.3s,baz=33,slow=11,SNR=4.8					
SONM			Lg	Lg	12 35 02.2	
	comp=N,8.4nm,0.3s,baz=28,slow=25,SNR=11					
SONM			LR	LR	12 36 38.7	
	comp=N,50nm,20.4s,baz=58,slow=43					
SONM	**Songino Array**	**8.79 215**		**Pn**	**12 32 30.8**	**-0.9**
YAK	**Yakutsk**	**10.64 44**	Lg	Lg	12 35 48.2	
	comp=N,0.2nm,0.3s,baz=130,slow=24,SNR=2.0					
YAK			LR	LR	12 37 07.8	
	comp=N,97nm,20.6s,baz=269,slow=38					
KLR	**Kul'dur**	**12.56 112**	Pn	**Pn**	**12 33 23.9**	**+0.8**
	comp=N,0.6nm,0.3s,baz=305,slow=13,SNR=9.9					
KLR			Lg	Lg	12 36 55.9	
	comp=N,0.8nm,0.3s,baz=204,slow=22,SNR=3.7					
KLR			LR	LR	12 38 43.4	
	comp=N,182nm,18.2s,baz=345,slow=40					
KLR	**Kul'dur**	**12.56 112**	*ce*P	**Pn**	**12 33 23.8**	**+0.7**
KLR			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ZAA0	**Zalesovo Array**	**16.78 277**	Pn	**Pn**	**12 34 17.7**	**-1.7**
ZALV	**Zalesovo Beam**	**16.78 277**	Pn	**P**	**12 34 22.2**	**+0.6**
	baz=64,slow=13,SNR=3.1					
ZALV			Lg	Lg	12 39 13.7	
	comp=Z,0.2nm,0.3s,baz=78,slow=28,SNR=6.1					
ZALV	**Zalesovo Beam**	**16.78 277**	Pn	**Pn**	**12 34 20.0**	**+0.6**
DGZ	**Jazzator, Alta**	**16.94 262**	*i* P	**P**	**12 34 24.8**	**+1.1**
DGZ			pmax	pmax		
	comp=Z,2.0nm,0.7s					
TIXI	**Tiksi**	**17.61 16**	P	**Pn**	**12 34 30.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=217,slow=4.0,SNR=8.5					
TIXI			Lg	Lg	12 39 39.4	
	baz=132,slow=9.3,SNR=5.3					
TIXI			LR	LR	12 41 41.0	
	comp=Z,73nm,19.6s,baz=208,slow=38					
TIXI	**Tiksi**	**17.61 16**	*ce*P	**Pn**	**12 34 29.2**	**-0.5**
TIXI	**Tiksi**	**17.61 16**	Pn	**Pn**	**12 34 26.1**	**-3.6**
NRIK	**Noril'sk**	**18.36 330**	P	**P**	**12 34 40.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=122,slow=15,SNR=4.9					
NRIK			Lg	Lg	12 39 58.7	
	comp=Z,0.2nm,0.3s,baz=23,slow=19,SNR=1.8					
NRIK			LR	LR	12 41 12.4	
	comp=Z,56nm,21.4s,baz=62,slow=35					
NRIK	**Noril'sk**	**18.36 330**	P	**P**	**12 34 40.0**	**+1.0**
NRIK	**Noril'sk**	**18.36 330**	P	**Pn**	**12 34 38.0**	**-0.9**
NRIK			IAmb	IAmb	12 34 56.6	
	comp=Z,6.0nm,0.8s					
GTA	**Gaotai**	**18.46 216**	*e*P	**Pn**	**12 34 42.5**	**+2.0**
GTA			pP	sP	12 34 47.2	+4.7
GTA			sP	pP	12 34 49.6	+7.8
GTA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
INCN	**Inchon**	**19.86 149**	P	**P**	**12 34 51.6**	**-4.1**
INCN			pmax	pmax		
	comp=Z,21nm,1.1s					
INCN	**Inchon**	**19.86 149**	P	**P**	**12 34 51.6**	**-4.1**
INCN			IAmb	IAmb	12 34 58.2	
	comp=Z,21nm,1.1s					
MA2	**Magadan**	**20.16 63**	LR	LR	12 42 51.3	
	comp=Z,93nm,19.1s,baz=266,slow=37					
KSRS	**Korea Array**	**20.29 146**	Lg	Lg	12 41 04.2	
	comp=Z,1.2nm,0.9s,baz=338,slow=29,SNR=2.9					
KSRS			LR	LR	12 43 49.2	
	comp=Z,80nm,19.4s,baz=348,slow=40					
LZH	**Lanzhou**	**20.41 204**	*e*P	Pn	12 35 04.4	+0.5
LZH			pmax	pmax		
	comp=Z,25nm,1.1s					
SEY	**Seymchan**	**20.93 53**	P	**P**	**12 35 08.2**	**+1.1**
	comp=Z,4.5nm,0.8s,baz=304,slow=17,SNR=7.4					
SEY			Lg	Lg	12 41 16.3	
	comp=Z,2.1nm,0.8s,baz=16,slow=17,SNR=3.0					
SEY	**Seymchan**	**20.93 53**	*i* P	Pn	12 35 08.6	-1.0
MK31	**Makanchi Array**	**21.40 260**	*i* P	**P**	**12 35 13.7**	**+1.4**
MK31	**Makanchi Array**	**21.40 260**	P	**P**	**12 35 12.0**	**-0.3**
MK31			IAmb	IAmb	12 35 20.3	
	comp=Z,4.5nm,1.1s					
MKAR	**Makanchi Array**	**21.40 260**	P	**P**	**12 35 13.1**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=54,slow=9.9,SNR=14					
MKAR			Lg	Lg	12 41 38.0	
	comp=Z,0.3nm,0.7s,baz=52,slow=26,SNR=2.5					
MKAR	**Makanchi Array**	**21.40 260**	*e*P	**P**	**12 35 13.8**	**+1.5**
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
MKAR	**Makanchi Array**	**21.40 260**	P	**P**	**12 35 13.3**	**+1.0**
KURK	**Kurchatov**	**21.50 272**	P	**P**	**12 35 15.0**	**+1.7**
MAKZ	**Makanchi**	**21.57 260**	P	**P**	**12 35 15.2**	**+1.1**
MAKZ			pmax	pmax		
	comp=Z,6.0nm,0.8s					
MAKZ	**Makanchi**	**21.57 260**	P	**P**	**12 35 15.2**	**+1.1**
MAKZ			IAmb	IAmb	12 35 22.5	
	comp=Z,6.3nm,0.8s					
KURBB	**Kurchatov Arra**	**21.59 272**	P	**P**	**12 35 15.0**	**+0.7**
	comp=Z,5.8nm,0.9s,baz=69,slow=11,SNR=13					
KURBB			Lg	Lg	12 41 46.3	
	comp=Z,0.9nm,0.2s,baz=66,slow=32,SNR=6.4					
BVAR	**Borovoye Array**	**25.20 283**	P	**P**	**12 35 52.2**	**+2.0**
	comp=Z,2.6nm,0.5s,baz=174,slow=13,SNR=14					
BRVK	**Borovoye**	**25.25 283**	P	**P**	**12 35 51.3**	**+0.7**
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.8s					
BRVK	**Borovoye**	**25.25 283**	P	**P**	**12 35 51.3**	**+0.7**
BRVK			IAmb	IAmb	12 35 54.0	
	comp=Z,8.6nm,0.8s					
PETK	**Petropavlovsk-**	**25.46 77**	LR	LR	12 45 45.7	
	comp=Z,55nm,21.6s,baz=314,slow=36					
PET	**Petropavlovsk**	**26.02 76**	*ce*P	**P**	**12 35 59.7**	**+2.1**
PET			pmax	pmax		
	comp=Z,12nm,0.9s					
BILL	**Bilibino**	**26.97 41⇑**	*e*P	**P**	**12 36 10.2**	**+4.1**
BILL			*e*		12 36 53.4	
BILL			pmax	pmax		
	comp=Z,10.0nm,1.3s					
BILL			MLR	MLR		
	comp=Z,197nm,20.0s					
ARU	**Arti**	**30.30 295**	P	**P**	**12 36 39.8**	**+4.0**
ARU					12 37 37.9	
ARU			S	**S**	**12 41 43.3**	**+7.3**
ARU			SS	**SnSn**	**12 43 13.7**	**+4.2**
ARU			MLR	MLR		
	comp=Z,186nm,15.0s					
BTK	**Batken**	**32.11 260**	P	**P**	**12 36 53.5**	**+1.5**
BTK			pmax	pmax		
	comp=Z,6.0nm,0.9s					
BTK	**Batken**	**32.11 260**	P	**P**	**12 36 53.5**	**+1.5**
BTK			IAmb	IAmb	12 36 54.2	
	comp=Z,5.6nm,0.9s					
ABKAR	**Akbulak array**	**32.77 282**	P	**P**	**12 36 58.3**	**+0.7**
GAR	**Garm**	**33.12 259**	P	**P**	**12 37 02.2**	**+1.3**
KIRV	**Kirov**	**34.06 303**	LR	LR	12 52 40.3	
	comp=Z,52nm,18.2s,baz=10,slow=39					
FINES	**FINESS Array B**	**43.06 315**	P	**P**	**12 38 24.5**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=76,slow=8.0,SNR=6.9					
ILAR	**Eielson Array**	**45.44 36**	P	**P**	**12 38 44.2**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=296,slow=6.6,SNR=11					
ILAR	**Eielson Array**	**45.44 36**	P	**P**	**12 38 43.2**	**-0.1**
KIV	**Kislovodsk**	**45.47 287**	*e*P	**P**	**12 38 44.7**	**+0.8**
KIV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,27nm,16.0s					
MNK	**Minsk**	**46.34 306**	*i* P	**P**	**12 38 47.3**	**-3.2**
MNK			*i*		12 40 35.0	
MNK			*i* S	**S**	**12 45 31.8**	**-6.1**
MNK			*i* SS	**SS**	**12 48 57.4**	**-5.5**
MNK			pmax	pmax		
	comp=N,21nm,0.7s					
MNK			pmax	pmax		
	comp=Z,8.0nm,0.8s					
MNK			pmax	pmax		
	comp=E,5.0nm,0.9s					
MNK			MLR	MLR		
	comp=E,36nm,18.0s					
MNK			MLR	MLR		
	comp=N,688nm,23.0s					
MNK			MLR	MLR		
	comp=Z,144nm,23.0s					
MNK	**Minsk**	**46.34 306**	*i* P	**P**	**12 38 47.3**	**-3.1**
	comp=E,5.0nm,0.9s					
MNK			*i* P	**P**	**12 38 47.3**	**-3.1**
	comp=N,21nm,0.7s					
MNK			*i* P	**P**	**12 38 47.3**	**-3.1**
	comp=Z,8.0nm,0.8s,baz=233					
MNK			*i* PP	**PP**	**12 40 35.0**	**-3.8**
MNK			*i* PPP	PPP	12 41 15.3	
MNK			*i* ScP	**ScP**	**12 44 16.1**	**-3.2**
MNK			*i* S	**S**	**12 45 31.9**	**-6.1**
MNK			*i* SS	**SS**	**12 48 57.4**	**-5.4**
MNK			*i* SSS	SSS	12 49 47.5	
MNK			*i* LR	LR	12 57 18.5	
MNK			*i* LRM	MLR	13 00 00.7	
	comp=E,36nm,18.1s					
MNK			*i* LRM	MLR	13 00 00.7	
	comp=N,688nm,23.1s					
MNK			*i* LRM	MLR	13 00 00.7	
	comp=Z,144nm,23.1s					
JMIC	**Jan Mayen**	**47.53 338**	LR	LR	12 59 56.7	
	comp=Z,28nm,19.2s,baz=325,slow=37					
AKASG	**Malin Array Be**	**48.11 302**	P	**P**	**12 39 04.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=45,slow=8.4,SNR=0.8					
N25K	**Chitina, Valde**	**48.26 39**	P	**P**	**12 39 06.6**	**+1.2**
BCAR	**Beaver Creek A**	**48.27 36**	P	**P**	**12 39 05.5**	**+0.1**
NB2	**NORSAR Subarra**	**48.98 321**	P	**P**	**12 39 10.3**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=50,slow=7.9					
NOA	**NORSAR Array B**	**48.98 321**	P	**P**	**12 39 10.7**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=48,slow=7.3,SNR=4.7					
NOA	**NORSAR Array B**	**48.98 321**	*e*P	**P**	**12 39 10.6**	**-0.3**
NOA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BRTR	**Keskin Array B**	**53.29 289**	P	**P**	**12 39 45.4**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=53,slow=19,SNR=5.0					
BRTR	**Keskin Array B**

ASAR	**Alice Springs**	**80.53**	**161**	P	**P**	**12 42 36.3**	**-0.6**
ANMO	**Albuquerque**	**83.71**	**32**	*ce*P	**P**	**12 42 54.6**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**89.78**	**32**	P	**P**	**12 43 24.2**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=326,slow=3.6,SNR=3.9						
TXAR	**Lajitas Array**	**89.78**	**32**	P	**P**	**12 43 22.9**	**-0.7**
STKA	**Stephens Creek**	**90.06**	**157**	P	**P**	**12 43 26.5**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=3.3,slow=7.4,SNR=2.2						

*IDC **07** 12:52:55.0±1.8, 31°.75S×178°.40W, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.8/29, mbtmp4.1/4, ML4.2/2, Error ellipse: s-maj=45.9km s-min=24.2km az=113.0*
*NEIC **07** 12:52:56.5±1.1, 31°.69S±0°.07×178°.3W±0°.2, h10km±2km, mb4.4/8, Error ellipse: s-maj=35.2km s-min=3.9km az=107.0*

ISC 07 12:52:55.6±0.9, **31°.75S**±0°.07×**178°.4W**±0°.2, **h10**km, **n42**, σ1**°68**/54, **mb4.4/6, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.51**	**10**	P	**Pn**	**12 53 37.9**	**+1.4**
GLKZ				S	**Sn**	**12 54 06.7**	**-0.5**
RAO	**Raoul Island**	**2.52**	**10**	Pn	**Pn**	**12 53 38.2**	**+1.5**
	52nm,0.3s,baz=221,slow=19,SNR=2.2						
RAO				Sn	**Sb**	**12 54 09.3**	**-2.8**
	127nm,0.3s,baz=100,slow=22,SNR=2.4						
RAO	**Raoul Island**	**2.52**	**10**	Pn	**Pn**	**12 53 36.0**	**-0.6**
RIZ	**Raoul Island**	**2.53**	**9**	P	**Pb**	**12 53 39.6**	**-1.5**
HAZ	**Te Kaha**	**6.76**	**207**	P	**Pn**	**12 54 33.7**	**-1.2**
HAZ				S	**Sn**	**12 55 51.4**	**-0.6**
PKGZ	**Pakihiroa**	**6.77**	**204**	P	**Pn**	**12 54 33.8**	**-1.4**
PKGZ				S	**Sn**	**12 55 49.7**	**-2.6**
PUZ	**Puketiti**	**6.88**	**203**	P	**Pn**	**12 54 34.5**	**-2.0**
PUZ				S	**Sn**	**12 55 54.0**	**-0.9**
RUGZ	**Raukumara Rang**	**6.99**	**206**	P	**Pn**	**12 54 38.6**	**+0.5**
RUGZ				S	**Sn**	**12 55 57.2**	**-0.5**
TWGZ	**Tauwhareparae**	**7.07**	**204**	P	**Pn**	**12 54 38.6**	**-0.6**
TWGZ				S	**Sn**	**12 55 55.4**	**-4.1**
CNGZ	**Carnagh Statio**	**7.27**	**201**	P	**Pn**	**12 54 41.8**	**-0.1**
CNGZ				S	**Sn**	**12 56 03.0**	**-1.5**
OPRZ	**Ohinepanea**	**7.36**	**213**	P	**Pn**	**12 54 44.7**	**+1.6**
MWZ	**Matawai**	**7.37**	**206**	P	**Pn**	**12 54 42.0**	**-1.3**
MWZ				S	**Sn**	**12 56 04.9**	**-2.1**
URZ	**Urewera**	**7.46**	**208**	Pn	**Pn**	**12 54 45.4**	**+0.9**
	3.1nm,0.3s,baz=338,slow=19,SNR=16						
URZ				Sn	**Sn**	**12 56 06.8**	**-2.4**
	1.7nm,0.3s,baz=25,slow=23,SNR=8.6						
URZ	**Urewera**	**7.46**	**208**		**Pn**	**12 54 45.7**	**+1.2**
URZ	**Urewera**	**7.46**	**208**	P	**Pn**	**12 54 42.8**	**-1.8**
URZ				S	**Sn**	**12 56 07.5**	**-1.8**
RAGZ	**Rawiri**	**7.55**	**206**	P	**Pn**	**12 54 45.5**	**-0.3**
RAGZ				S	**Sn**	**12 56 07.6**	**-3.9**
RIGZ	**Rimuhau**	**7.62**	**203**	P	**Pn**	**12 54 47.7**	**+1.0**
RIGZ				S	**Sn**	**12 56 09.8**	**-3.3**
PRGZ	**Paritu Road**	**7.77**	**202**	P	**Pn**	**12 54 50.7**	**+1.8**
PRGZ				S	**Sn**	**12 56 14.5**	**-2.4**
RTZ	**Ruatahuna**	**7.82**	**208**	P	Pn	12 54 46.6	-3.0
SNGZ	**Shannon Statio**	**7.83**	**205**	P	**Pn**	**12 54 51.5**	**+1.8**
SNGZ				S	**Sn**	**12 56 16.2**	**-2.2**
RAHZ	**Arahi**	**8.04**	**206**	P	**Pn**	**12 54 52.4**	**-0.2**
RAHZ				S	Sn	12 56 17.1	-6.5
MTHZ	**Maungataniwha**	**8.08**	**207**	P	**Pn**	**12 54 53.9**	**+0.9**
NMHZ	**Naumai**	**8.31**	**207**	P	**Pn**	**12 54 54.6**	**-1.6**
ARHZ	**Aropaoanui**	**8.38**	**205**	P	**Pn**	**12 54 56.5**	**-0.6**
MCHZ	**McNeill Hill**	**8.65**	**206**	P	**Pn**	**12 55 01.7**	**+0.9**
BHHZ	**Black Hill Sta**	**8.94**	**209**	P	**Pn**	**12 55 04.5**	**-0.4**
WNVZ	**Wahianoa**	**9.00**	**211**	P	**Pn**	**12 55 07.2**	**+1.4**
PNHZ	**Pukenui**	**9.25**	**207**	P	Pn	12 55 06.0	-3.1
BFZ	**Birch Farm**	**9.90**	**204**	P	Pn	12 55 15.4	-2.6
MRZ	**Mangatainoka R**	**10.13**	**207**	P	**Pn**	**12 55 19.2**	**-1.9**
AS31	**Alice Springs**	**42.71**	**269**	P	**P**	**13 00 54.3**	**+1.3**
ASAR	**Alice Springs**	**42.71**	**269**	P	**P**	**13 00 53.8**	**+0.7**
	1.0nm,0.7s,baz=106,slow=7.5,SNR=21						
WR0	**Warramunga Arr**	**43.64**	**274**	P	**P**	**13 01 01.9**	**+1.3**
WR0				IAmb	IAmb	13 01 28.1	
	comp=Z,7.4nm,1.1s						
WB2	**Warramunga Arr**	**43.81**	**274**	P	**P**	**13 01 02.8**	**+0.8**
WB2				IAmb	IAmb	13 01 15.5	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**43.82**	**274**	P	**P**	**13 01 03.1**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=112,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**43.82**	**274**	P	**P**	**13 01 02.9**	**+0.9**
WB0	**Warramunga Arr**	**43.85**	**274**	P	**P**	**13 01 03.5**	**+1.2**
WB0				IAmb	IAmb	13 01 25.0	
	comp=Z,9.2nm,1.4s						
KNRA	**Kununurra**	**50.48**	**276**	P	**P**	**13 01 53.9**	**-0.1**
CASY	**Casey**	**53.79**	**208**	P	**P**	**13 02 19.1**	**+1.1**
CASY				IAmb	IAmb	13 02 45.1	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**58.37**	**180**	P	**P**	**13 02 53.0**	**+2.1**
FINES	**FINESS Array B**	**146.28**	**339**	PKPbc	**PKPdf**	**13 12 35.8**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=46,slow=4.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**161.49**	**180**	PKPab	**PKPab**	**13 13 41.8**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=188,slow=2.9,SNR=2.3						

*TUL **07** 12:54:27±1.1, 35°.747N±0°.009×97°.38W±0°.01, h6km±4km, ML2.4, mb_Lg2.1/12(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=77.0*

NEIC 07 12:54:27.1±0.7, **35°.763N**±0°.007×**97°.37W**±0°.02, **h10**km±4km, **Error ellipse: s-maj=2.2km s-min=0.9km az=71.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**295**		Pg	12 54 29.1	-0.2
OK029				Sg	Sg	12 54 30.8	-0.2
OK025	**Westminster Rd**	**0.18**	**172**		Pg	12 54 30.7	-0.2
OK025				Sg	Sg	12 54 33.6	0.0
OK001	**Jones High Sch**	**0.21**	**162**	Pg	Pg	12 54 31.3	-0.1
OK001				Sg	Sg	12 54 34.6	+0.2
BCOK	**Bluff Creek, N**	**0.22**	**242**	Pg	Pg	12 54 31.4	-0.3
BCOK				Sg	Sg	12 54 34.7	0.0
OKCFA	**Oklahoma City**	**0.35**	**191**	Pg	Pg	12 54 32.7	-1.4
OKCFA				Sg	Sg	12 54 38.9	+0.2
OKCSW	**OKLAHOMA CITY**	**0.36**	**189**	Pg	Pg	12 54 34.2	0.0
OK031	**S. Brethren Rd**	**0.47**	**66**		Pg	12 54 36.5	+0.3
OK031				Sg	Sg	12 54 43.1	+0.7
FNO	**Franklin**	**0.51**	**183**		Pg	12 54 36.6	-0.3
FNO				Sg	Sg	12 54 43.8	+0.2
QUOK	**Quay**	**0.67**	**53**	Pg	Pg	12 54 40.2	+0.1
QUOK				Sg	Sg	12 54 49.4	+0.5
CROK	**Carrier**	**0.89**	**326**	Pg	Pg	12 54 44.2	0.0
CROK				Sg	Sb	12 54 56.3	-0.4
BLOK	**Blackwell**	**1.00**	**7**	Pg	Pg	12 54 46.0	-0.3
X34A	**Smith Ranch, M**	**1.22**	**198**		Pn	12 54 49.7	-0.5
OK032	**Salt Plains WL**	**1.24**	**327**	Pg	Pn	12 54 50.3	-0.3
KAN13	**South Haven SW**	**1.25**	**356**	Pn	Pn	12 54 50.5	-0.1
KAN17	**Caldwell West**	**1.32**	**346**	Pn	Pb	12 54 51.9	0.0
KAN17				IAmb_Lg		12 55 11.9	
	comp=Z,15nm,0.9s						
T35A	**Sooner Cattle**	**1.34**	**31**	Pn	Pn	12 54 51.8	-0.2
KAN09	**Caldwell North**	**1.39**	**352**	Pn	Pn	12 54 52.8	+0.3
KS20	**Mayfield South**	**1.47**	**354**	Pn	Pb	12 54 54.2	-0.4
WMOK	**Wichita Mounta**	**1.54**	**229**	Pn	Pn	12 54 54.7	0.0
X37A	**Clayton**	**2.01**	**125**	IAmb_Lg		12 55 30.9	
	comp=Z,6.9nm,0.8s						
U38A	**Gravette**	**2.51**	**74**	IAmb_Lg		12 55 51.2	
	comp=Z,7.2nm,0.9s						
HHAR	**Hobbs**	**2.83**	**78**	Pn	Pn	12 55 12.4	0.0
AMTX	**Amarillo**	**3.63**	**257**	Pn	Pn	12 55 24.2	+0.6
AMTX				IAmb_Lg		12 56 30.6	
	comp=Z,5.0nm,0.7s						
X40A	**Basin Creek Fa**	**3.93**	**108**	Pn	Pn	12 55 28.1	+0.6
X40A				IAmb_Lg		12 56 37.9	
	comp=Z,4.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.26**	**87**	IAmb_Lg		12 56 53.8	
	comp=Z,4.4nm,0.7s						
MSTX	**Muleshoe**	**4.79**	**250**	Pn	Pn	12 55 39.5	0.0
CCAR	**Cane Creek**	**4.96**	**110**	Pn	Pn	12 55 41.4	-0.2
LCAR	**Lake Charles**	**5.05**	**85**	Pn	Pn	12 55 41.5	-1.4

*IDC **07** 12:56:16.2±1.0, 36°.83N×142°.16E, h0km, mb3.5/7, mb1 3.8/10, mb1mx3.6/39, mbtmp3.6/10, ML3.4/3, Error ellipse: s-maj=26.5km s-min=21.7km az=92.0*
*JMA **07** 12:56:19.7±0.2, 36°.88N×141°.90E, h51km, M3.5*
*NIED **07** 12:56:19.7, 36°.88N×141°.90E, h51km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-1.44; Mθθ-0.19; Mφφ1.63; Mrθ-0.17; Mθφ0.53; Mφr1.07; Fault plane solution: M0 1.95000×1014 NP1: φs180.00000°, δ63.00000°, λ-106.00000°. NP2: φs33.00000°, δ31.00000°, λ-62.00000°.*

ISC 07 12:56:18.9±0.9, **36°.91N**±0°.05×**141°.94E**±0°.06, **h19**km, **n25**, σ1**°42**/29, **mb3.4/7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**282**	P	**Pb**	**12 56 36.3**	**-0.3**
JFK	**Kawauchi**	**0.97**	**299**	P	**Pb**	**12 56 36.6**	**-0.5**
JFK				*e*S	**Sb**	**12 56 49.6**	**0.0**
JFFD	**Fukushimafurud**	**1.12**	**280**	P	**Pn**	**12 56 38.7**	**-0.9**
JFFD				*e*S	**Sb**	**12 56 52.6**	**-1.3**
JHO	**Hitachi**	**1.14**	**255**	P	**Pn**	**12 56 38.8**	**-1.1**
JMST	**Minamisoumatoc**	**1.17**	**314**	P	**Pn**	**12 56 39.7**	**-0.6**
JMST				*e*S	**Sb**	**12 56 55.1**	**-0.3**
JMM	**Marumori**	**1.32**	**317**	P	**Pn**	**12 56 42.0**	**-0.4**
JMM				*e*S	**Sn**	**12 56 58.4**	**-1.1**
JFT	**Otama**	**1.42**	**296**	P	**Pn**	**12 56 44.3**	**+0.6**
JIO	**Ouri**	**1.61**	**343**	P	**Pn**	**12 56 46.3**	**-0.1**
JOU	**Okura**	**1.77**	**326**	P	**Pn**	**12 56 49.2**	**+0.6**
JYS	**Shiratake**	**1.99**	**312**	P	**Pn**	**12 56 52.8**	**+1.3**
JAG	**Ashikaga**	**2.06**	**257**	P	**Pn**	**12 56 52.5**	**0.0**
MJAR	**Matsushiro Arr**	**3.02**	**264**	Pn	**Pn**	**12 57 07.2**	**+1.5**
	1.5nm,0.3s,baz=102,slow=12,SNR=81						
MAT	**Matsushiro**	**3.02**	**264**	P	**Pn**	**12 57 07.5**	**+1.7**
MAT				*e*S	**Sn**	**12 57 39.3**	**-2.2**
JHJ	**Hachijo jima 2**	**4.17**	**206**	Pn	**Pn**	**12 57 21.9**	**+0.4**
	7.9nm,0.3s,baz=348,slow=21,SNR=12						
JHJ				Sn	**Sn**	**12 58 07.6**	**-2.2**
	8.1nm,0.3s,baz=80,slow=21,SNR=1.2						
ASAJ	**Asahikawa**	**7.22**	**4**	Pn	**Pn**	**12 58 03.2**	**-0.2**
	0.9nm,0.3s,baz=216,slow=20,SNR=12						
ASAJ				Sn	**Sn**	**12 59 20.7**	**-4.1**
	0.2nm,0.3s,baz=11,slow=16,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**27.72**	**121**	T	T	13 31 22.0	
	baz=313,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	13 31 20.8	
	baz=313,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.74**	**121**	T	T	13 31 13.4	
	baz=313,slow=75,SNR=18						
SONM	**Songino Array**	**28.21**	**304**	P	**P**	**13 02 12.2**	**+1.7**
	0.6nm,0.4s,baz=96,slow=7.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**42.31**	**312**	P	**P**	**13 04 13.6**	**+2.4**
	0.6nm,0.4s,baz=89,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**44.55**	**302**	P	**P**	**13 04 30.7**	**+1.3**
	0.3nm,0.6s,baz=96,slow=9.4,SNR=3.2						
WRA	**Warramunga Arr**	**56.99**	**189**	P	**P**	**13 06 02.6**	**-0.7**
	0.3nm,0.8s,baz=6.2,slow=7.0,SNR=1.6						
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**	**13 06 29.1**	**-0.1**
	0.5nm,0.9s,baz=15,slow=7.7,SNR=4.5						
NVAR	**Mina Array Bea**	**74.72**	**53**	P	**P**	**13 07 58.7**	**+0.9**
	0.4nm,1.0s,baz=269,slow=4.5,SNR=1.8						
TXAR	**Lajitas Array**	**89.86**	**53**	P	**P**	**13 09 16.2**	**-0.7**
	0.1nm,0.5s,baz=276,slow=3.4,SNR=2.4						

IDC 07 13:19:36.2±2.4, **10°.75S**×**124°.51E**, **h0**km, **mb3.4/1, mb1 3.6/3, mb1mx3.4/41, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=221.0km s-min=34.3km az=53.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.16**	**135**	Pn	Pn	13 22 44.2	-0.4
	0.1nm,0.3s,baz=306,slow=12,SNR=8.5						
WRA				Sn	Sn	13 25 06.5	-5.4
	0.3nm,0.3s,baz=299,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**15.66**	**146**	Pn	Pn	13 23 19.1	+0.6
	0.2nm,0.3s,baz=323,slow=11,SNR=9.6						
ASAR				Sn	Sn	13 26 06.8	-6.0
	0.1nm,0.3s,baz=318,slow=22,SNR=7.5						
MKAR	**Makanchi Array**	**68.57**	**330**	P	P	13 30 40.9	0.0
	0.2nm,0.6s,baz=134,slow=6.2,SNR=2.4						

*IDC **07** 13:28:58.5±1.3, 34°.22N×25°.15E, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.6/41, mbtmp3.8/7, ML4.0/3, MS2.8/1, Ms1 2.8/1, ms1mx2.0/54, Error ellipse: s-maj=26.6km s-min=13.4km az=77.0*
*ATH **07** 13:29:01.7, 34°.29N×25°.05E, h11km±4km, ML2.8/7, Error ellipse: s-maj=5.4km s-min=1.8km az=341.0*
*THE **07** 13:29:02.1, 34°.34N×25°.06E, h0km±2km, ML2.8/9, Error ellipse: s-maj=3.6km s-min=1.1km az=170.0*

ISC 07 13:28:59.4±1.6, **34°.18N**±0°.06×**25°.08E**±0°.03, **h13**km±9km, **n30**, σ1**°30**/41, **mb3.8**/4, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.87**	**345**	P	**Pg**	**13 29 16.1**	**-0.1**
SIVA				S	**Sg**	**13 29 27.5**	**-0.1**
	3μm,0.7s						
SIVA	**Sivas**	**0.87**	**345**	P	**Pg**	**13 29 15.8**	**-0.4**
SIVA				S	**Sg**	**13 29 26.3**	**-1.2**
SIVA				AML	AML	13 29 28.0	
	comp=N,4963μm,0.4s						
SIVA				AML	AML	13 29 29.9	
	comp=E,7451μm,0.7s						
FRMA	**Ierapetra Chan**	**0.99**	**33**	P	**Pn**	**13 29 20.7**	**+1.6**
LAST	**Lasithi**	**1.03**	**18**	P	**Pb**	**13 29 19.1**	**-0.2**
LAST				S	**Sg**	**13 29 32.8**	**-0.1**
	comp=E,395nm,0.7s						
LAST	**Lasithi**	**1.03**	**18**	P	**Pb**	**13 29 19.1**	**-0.2**
LAST				S	**Sg**	**13 29 32.2**	**-0.7**
LAST				AML	AML	13 29 39.0	
	comp=N,758μm,0.4s						
LAST				AML	AML	13 29 40.4	
	comp=E,678μm,0.6s						
GVD	**Gavdhos**	**1.05**	**309**	P	**Pn**	**13 29 20.0**	**0.0**
GVD				S	**Sn**	**13 29 35.8**	**+1.3**
	comp=E,1μm,0.4s						
GVD	**Gavdhos**	**1.05**	**309**	P	**Pn**	**13 29 19.9**	**0.0**
GVD				AML	AML	13 29 41.6	
	comp=N,1848μm,0.4s						
GVD				AML	AML	13 29 41.9	
	comp=E,2214μm,0.6s						
GVDS	**Gavdos**	**1.05**	**309**	P	**Pn**	**13 29 20.3**	**+0.3**
GVDS				S	**Sb**	**13 29 34.4**	**+1.1**
	comp=E,692nm,0.4s						
IDI	**Anoyia**	**1.12**	**352**	Pg	**Pn**	**13 29 19.9**	**-1.0**
	comp=E,19nm,0.3s,baz=175,slow=12,SNR=85						
IDI				Lg	Lg	13 29 34.7	
	comp=E,54nm,0.3s,baz=101,slow=20,SNR=12						
IDI	**Anoyia**	**1.12**	**352**	P	**Pn**	**13 29 20.2**	**-0.7**
IDI				S	**Sb**	**13 29 34.6**	**-0.7**
	comp=E,375nm,0.5s						
IDI	**Anoyia**	**1.12**	**352**	P	**Pn**	**13 29 20.3**	**-0.6**
IDI				AML	AML	13 29 35.7	
	comp=E,886μm,0.3s						
IDI				AML	AML	13 29 38.5	
	comp=N,656μm,0.5s						
NPS	**Neapolis**	**1.17**	**22**	P	**Pn**	**13 29 21.7**	**+0.1**
NPS				S	**Sb**	**13 29 37.4**	**+0.8**
	comp=N,342nm,0.7s						
NPS	**Neapolis**	**1.17**	**22**	P	**Pn**	**13 29 21.6**	**+0.1**
NPS				AML	AML	13 29 45.3	
	comp=E,793μm,0.4s						
NPS				AML	AML	13 29 46.1	
	comp=N,574μm,0.5s						
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**13 29 25.9**	**+1.0**
ZKR				S	**Sn**	**13 29 41.9**	**+0.7**
	comp=N,248nm,0.5s						
ZKR	**Zakros**	**1.32**	**45**	P	**Pg**	**13 29 25.3**	**+0.4**
ZKR				AML	AML	13 29 48.1	
	comp=N,220μm,0.7s						
ZKR				AML	AML	13 29 50.2	
	comp=E,711μm,0.5s						
VAM	**Vamos**	**1.43**	**330**	P	**Pb**	**13 29 25.9**	**0.0**
VAM				S	**Sn**	**13 29 44.6**	**+0.9**
	comp=E,500nm,0.5s						
VAM	**Vamos**	**1.43**	**330**	P	**Pb**	**13 29 25.9**	**0.0**
VAM				AML	AML	13 29 51.6	
	comp=N,932μm,0.5s						
VAM				AML	AML	13 29 52.2	
	comp=E,1001μm,0.5s						
KNDR	**Palaiochora Ch**	**1.56**	**313**	P	**Pg**	**13 29 28.5**	**-0.9**
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pb**	**13 29 27.9**	**-0.4**
IMMV				S	**Sn**	**13 29 47.9**	**+0.7**
	comp=E,368nm,0.9s						
IMMV	**Iera Moni Meta**	**1.57**	**325**	P	**Pb**	**13 29 27.9**	**-0.4**
KARP	**Karpathos**	**2.19**	**51**	P	**Pb**	**13 29 39.0**	**0.0**
MMAI	**Mount Meron Ar**	**8.69**	**95**	Sn	**Sn**	**13 32 38.4**	**-4.4**
	comp=E,2.2nm,0.3s,baz=272,slow=20,SNR=2.5						
EIL	**Elat**	**9.51**	**115**	Pn	**Pn**	**13 31 17.1**	**+0.9**
	comp=E,0.4nm,0.3s,baz=235,slow=16,SNR=2.3						
EIL				Sn	**Sn**	**13 32 58.4**	**-4.7**
	comp=E,0.4nm,0.3s,baz=202,slow=16,SNR=1.9						
GNI	**Garni**	**16.76**	**63**	LR	LR	13 40 44.8	
	comp=E,29nm,18.6s,baz=204,slow=42						
AKASG	**Malin Array Be**	**16.79**	**9**	Pn	**Pn**	**13 32 54.5**	**+0.3**
	comp=E,0.9nm,0.3s,baz=200,slow=11,SNR=6.8						
GERES	**GERESS Array B**	**16.92**	**333**	Pn	**P**	**13 32 58.2**	**+0.3**
	comp=E,0.3nm,0.3s,baz=143,slow=12,SNR=6.9						
HFS	**Hagfors**	**27.02**	**347**	P	**P**	**13 34 40.0**	**-1.0**
	comp=E,2.4nm,0.8s,baz=148,slow=10,SNR=1.5						
TORD	**Torodi Ar. Bea**	**29.81**	**231**	P	**P**	**13 35 08.3**	**+2.0**
	comp=E,0.6nm,0.5s,baz=31,slow=8.5,SNR=7.4						
MKAR	**Makanchi Array**	**44.38**	**56**	P	**P**	**13 37 10.2**	**+0.7**
	comp=E,0.4nm,0.5s,baz=283,slow=6.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**45.73**	**45**	P	**P**	**13 37 20.2**	**0.0**
	comp=E,1.0nm,0.3s,baz=256,slow=8.6,SNR=3.1						

*SJA **07** 13:35:13.9±0.6, 33°.41S×70°.44W, h117km±2km, ML4.4, MW4.6*
*NEIC **07** 13:35:14.9±1.6, 33°.37S±0°.05×70°.22W±0°.07, h95km±3km, mb4.8/203, Mwr4.7/24, ML5.2(GUC), Error ellipse: s-maj=8.8km s-min=6.7km az=102.0*
*GUC **07** 13:35:14.8±0.5, 33°.42S×70°.39W, h118km±1km, ML5.0*
*NEIC **07** 13:35:15.6, 33°.41S×70°.35W, h91km, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr-0.08; Mθθ-0.38; Mφφ0.46; Mrθ-0.11; Mθφ0.10; Mφr-1.17; Fault plane solution: M0 1.25000×1016 NP1: φs5.03000°, δ83.39000°, λ-91.31000°. NP2: φs196.23000°, δ6.74000°, λ-78.87000°. Principal axes: T 1.3968, Plg38.0000°, Azm96.0000°; N -0.3882, Plg1.0000°, Azm5.0000°; P -1.0086, Plg52.0000°, Azm274.0000°;*
*GCMT **07** 13:35:15.9±0.4, 33°.48S±0°.03×70°.37W±0°.03, h124km±6km, MW4.9/68, Moment Tensor Solution. s21,c21; s68,c87; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-0.94±.13; Mθθ0.08±.13; Mφφ0.85±.18; Mrθ-0.62±.07; Mθφ-0.26±.14; Mφr-2.23±.10; Best double couple: M0 2.49100×1016 NP1: φs148.00000°, δ14.00000°, λ-134.00000°. NP2: φs12.00000°, δ80.00000°, λ-80.00000°. Principal axes: T 2.3710, Plg34.0000°, Azm94.0000°; N 0.2380, Plg10.0000°, Azm191.0000°; P -2.6100, Plg54.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **07** 13:35:16.2±0.5, 33°.40S×70°.17W, h106km±4km, mb4.3/15, mb1 4.4/17, mb1mx4.2/25, mbtmp4.6/17, MS3.3/10, Ms1 3.3/10, ms1mx3.2/20 Error ellipse: s-maj=17.4km s-min=12.3km az=78.0*
*VAO **07** 13:35:19.1±0.3, 33°.27S×69°.88W, h111km, mb4.7*

ISC 07 13:35:15.3±0.4, **33°.40S**±0°.03×**70°.36W**±0°.03, **h102**km±3km, **h102**km:**pP-P, n535**, σ1**°11**/564, **mb4.7**/112, **51C-17D, Fault plane solution: NP1**: φs174.82558°, δ68.16718°, λ78.17287°. **NP2**: φs24.20808°, δ24.69205°, λ117.09361°. **Principal axes:** T Plg64.8807°, Azm64.8630°; N Plg10.9679°, Azm179.2786°; P Plg22.3015°, Azm273.8378°; **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT03	**Universidad Ad**	**0.16**	**233**	⇓*i*P	**Pn**	**13 35 30.1**	**+0.3**
MT03				*i* S	**Sn**	**13 35 41.9**	**+1.2**
MT03	**Universidad Ad**	**0.16**	**233**		**Pn**	**13 35 30.8**	**+0.9**
MT03				Sn	**Sn**	**13 35 41.3**	**+0.6**
MT03	**Universidad Ad**	**0.16**	**233**	*e*P	**Pn**	**13 35 30.5**	**+0.6**
MT03				*e*S	**Sn**	**13 35 42.8**	**+2.1**
MT05	**Renca**	**0.32**	**271**	⇑*i*P	**Pn**	**13 35 30.8**	**+0.4**
MT05				*i* S	**Sn**	**13 35 42.9**	**+1.3**
MT05				IAML		13 35 45.4	
	comp=E,103μm,0.3s						
MT05	**Renca**	**0.32**	**271**		**Pn**	**13 35 30.7**	**+0.4**
MT05				Sn	**Sn**	**13 35 40.4**	**-1.2**
LMEL	**Las Melosas**	**0.47**	**164**	⇓*i*P	**Pn**	**13 35 31.7**	**+0.3**
LMEL				*i* S	**Sn**	**13 35 44.9**	**+1.5**
LMEL				IAML		13 35 47.5	
	comp=E,72μm,0.4s						
MT09	**Talagante**	**0.65**	**234**	⇑*i*P	**Pn**	**13 35 32.8**	**+0.1**
MT09				*i* S	**Sn**	**13 35 46.8**	**+1.0**
MT09	**Talagante**	**0.65**	**234**		**Pn**	**13 35 33.0**	**+0.3**
MT09				Sn	**Sn**	**13 35 46.1**	**+0.4**
VA03	**San Esteban**	**0.65**	**345**	⇑*i*P	**Pn**	**13 35 33.3**	**+0.6**
VA03				*i* S	**Sn**	**13 35 47.1**	**+1.4**
VA03				IAML		13 35 49.2	
	comp=E,84μm,0.5s						
VA03	**San Esteban**	**0.65**	**345**		**Pn**	**13 35 33.1**	**+0.5**
MT02	**Curacav**	**0.67**	**282**	⇑*i*P	**Pn**	**13

ZON IAML 13 36 26.2
comp=Z,1000nm,0.6s
EDS3 Malargue 2.50 162 *eP* **Pn 13 35 55.8 +1.2**
CO03 El Pedregal 2.57 354 *eP* **Pn 13 35 56.1 +0.7**
CO03 *i* S **Sn 13 36 26.8 +0.5**
CO03 IAML 13 36 28.6
comp=N,5µm,0.1s
RTLL Cerro Villicun 2.60 38 *eP* **Pn 13 35 56.8 +0.8**
RTLL *eS* **Sn 13 36 28.9 +1.7**
RTLL IAML 13 36 29.2
comp=Z,2µm,0.9s
ACAN Cantantal 2.89 68 *eP* **Pn 13 36 00.8 +1.1**
ACAN IAML 13 36 38.2
comp=Z,685nm,0.6s
CO06 Fray Jorge 2.92 338 ‖ *iP* **Pn 13 36 00.1 0.0**
CO06 *eS* **Sn 13 36 33.6 -1.0**
CO06 IAML 13 36 36.1
comp=N,5µm,0.2s
ACCO Cerro Coronel 3.01 22 *eP* **Pn 13 36 02.4 +0.8**
ACCO *eS* **Sn 13 36 38.5 +1.4**
ACCO IAML 13 36 41.7
comp=Z,838nm,0.8s
GO04 Tololo Observa 3.24 353 ‖ *iP* **Pn 13 36 04.3 -0.3**
GO04 *i* S **Sn 13 36 42.0 -0.5**
GO04 Tololo Observa 3.24 353 Pn **Pn 13 36 04.2 -0.3**
GO04 Tololo Observa 3.24 353 *eP* **Pn 13 36 04.7 +0.2**
GO04 *eS* **Sn 13 36 42.2 -0.2**
AROD Rodeo 3.31 13 *eP* **Pn 13 36 06.8 +1.3**
ACDV Cuesta del Vie 3.38 18 *eP* **Pn 13 36 07.2 +0.7**
ACDV IAML 13 37 21.8
comp=Z,550nm,1.5s
CO05 La Serena 3.55 348 *eP* **Pn 13 36 07.9 -0.5**
AVFE Valle Fertil 3.68 43 *eP* **Pn 13 36 10.1 -0.2**
AVFE *eS* **Sn 13 36 52.3 -0.5**
AVFE IAML 13 36 53.4
comp=Z,1µm,0.6s
ACHE Chepes 3.84 56 *eP* **Pn 13 36 12.0 -0.5**
MRA San Martin 4.02 77 *eP* **Pn 13 36 15.0 +0.1**
MRA IAML 13 37 20.4
comp=Z,570nm,0.9s
LCO Las Campanas 4.38 356 Pn **Pn 13 36 18.9 -1.0**
APLL PUNTA DE LOS L 4.42 48 *eP* **Pn 13 36 19.7 -0.6**
APLL *eS* **Sn 13 37 10.6 -0.1**
CANA Caviahue 4.52 187 *eP* Pn 13 36 26.8 +5.2
ACLC CERRO LA CRUZ 4.91 37 *eP* **Pn 13 36 25.7 -1.4**
ACLC IAML 13 37 47.1
comp=Z,560nm,0.8s
VCA Vinchina 5.00 22 *eP* **Pn 13 36 28.6 +0.4**
VCA IAML 13 37 31.4
comp=Z,485nm,0.4s
AC04 Llanos de Chal 5.21 353 Pn **Pn 13 36 29.7 -1.2**
GO03 Copiap 5.79 1 Pn **Pn 13 36 37.3 -1.5**
GO03 Copiap 5.79 1 *eP* **Pn 13 36 38.6 -0.2**
CYA Choya 6.30 40 *eP* **Pn 13 36 43.1 -2.6**
CYA IAML 13 38 35.0
comp=Z,174nm,1.0s
AC02 Maricunga 6.62 10 Pn **Pn 13 36 48.9 -1.7**
PLCA Paso Flores 7.32 181 P **Pn 13 36 59.5 -0.2**
comp=Z,0.3nm,0.3s,baz=266,slow=16,SNR=3.7
PLCA Paso Flores 7.32 181 *eP* **Pn 13 37 00.6 +1.0**
LL04 Puerto Octay 7.68 192 Pn **Pn 13 37 01.8 -2.5**
FSA Cafayete 8.20 29 *eP* **Pn 13 37 10.2 -1.4**
GO02 Mina Guanaco 8.23 5 Pn **Pn 13 37 08.1 -4.2**
TRQA Tornquist 8.24 127 Pn **Pn 13 37 10.3 -1.7**
TRQA Tornquist 8.24 127 *eP* **Pn 13 37 11.4 -0.6**
PB14 IPOC Station P 8.74 360 Pn Pn 13 37 14.3 -4.8
PB10 IPOC Station P 9.85 359 Pn **Pn 13 37 31.0 -2.9**
PB15 IPOC Station P 10.18 5 **Pn 13 37 34.6 -4.1**
LVC Limon Verde 10.82 7 P **Pn 13 37 44.4 -3.2**
comp=Z,1.0nm,0.3s,baz=177,slow=3.3,SNR=7.7
LVC LR LR 13 42 36.4
comp=Z,61nm,19.8s,baz=208,slow=41
LVC Limon Verde 10.82 7 Pn Pn 13 37 42.5 -5.0
LVC Limon Verde 10.82 7 *eP* **Pn 13 37 49.2 +1.7**
LVC Limon Verde 10.82 7 *eP* **Pn 13 37 44.8 -2.7**
HJA Humahuaca 11.04 24 *eP* **Pn 13 37 51.0 +0.4**
PB03 IPOC Station P 11.32 3 *eP* P 13 38 16.9 +13
PB09 IPOC Station P 11.60 5 Pn **Pn 13 37 53.1 -4.7**
PB09 IPOC Station P 11.60 5 *eP* P 13 38 12.4 +5.4
PB07 IPOC Station P 11.63 2 *eP* P 13 38 13.9 +6.5
ITQB Itaqui 12.29 76 Pn Pn 13 37 58.9 -7.8
ITQB Itaqui 12.29 76 *eP* **Pn 13 38 04.4 -2.3**
PB01 IPOC Station P 12.33 4 *eP* **Pn 13 38 05.7 -1.7**
TA01 Diego Aracena 12.78 1 Pn Pn 13 38 07.7 -5.6
CPUP Villa Florida 13.31 61 P Pn 13 38 14.8 -5.4
comp=Z,0.3nm,0.3s,baz=214,slow=12,SNR=4.4
CPUP S **Sn 13 40 39.6 -7.0**
comp=Z,0.2nm,0.3s,baz=235,slow=4.6,SNR=1.9
CPUP LR LR 13 43 32.3
comp=Z,86nm,19.0s,baz=242,slow=38
CPUP Villa Florida 13.31 61 *eP* **Pn 13 38 17.1 -3.1**
PSGCX Pisagua 13.75 1 Pn Pn 13 38 20.4 -5.5
PLTB Pedras Altas 14.22 88 Pn **Pn 13 38 28.5 -3.5**
PLTB Pedras Altas 14.22 88 *eP* **Pn 13 38 29.8 -2.2**
CPSB Cacapava Do Su 14.68 83 *eP* **Pn 13 38 35.8 -2.0**
ITAB Concordia 16.88 73 P **P 13 39 05.9 +0.2**
ITAB Concordia 16.88 73 *eP* **Pn 13 39 04.5 -0.9**
LPAZ La Paz 17.15 7 P **P 13 39 10.0 +0.6**
baz=192,slow=8.0,SNR=3.7
LPAZ La Paz 17.15 7 *eP* **P 13 39 10.2 +0.8**
AQDB Aquidauana 18.31 49 **P 13 39 21.1 -0.4**
AQDB Aquidauana 18.31 49 *eP* **P 13 39 20.6 -0.9**
TER01 Tubaro-SC 18.83 81 *eP* **P 13 39 25.7 -1.4**
TRCB Terra Rica 18.84 60 **P 13 39 26.4 -0.8**
TRCB Terra Rica 18.84 60 *eP* **P 13 39 27.4 +0.1**
SIV San Ignacio 19.25 28 LR LR 13 48 31.3
comp=Z,64nm,20.3s,baz=320,slow=41
EFI East Falkland 20.34 158 P **P 13 39 41.4 -1.8**
PTLB Pontes e Lacer 20.55 32 *eP* **P 13 39 45.7 -0.1**
PCMB Pacaembu 20.57 60 *eP* **P 13 39 44.5 -1.5**
FRTB Fartura 20.82 67 *eP* **P 13 39 47.6 -1.1**
PP1B Ponte de Pedra 20.99 45 *eP* **P 13 39 50.0 -0.6**
SALV Santo Antonio 21.89 41 *eP* **P 13 39 58.6 -1.4**
NNA Nana 22.12 343 P **P 13 40 04.7 +2.1**
comp=Z,14nm,0.7s,baz=204,slow=7.9,SNR=5.4
NNA LR LR 13 47 32.4
comp=Z,49nm,20.1s,baz=175,slow=33
NNA Nana 22.12 343 IAmb IAmb 13 40 06.4
comp=Z,20nm,0.9s
PET01 Itanhaem-SP 22.12 72 *eP* **P 13 40 02.1 -0.4**
SPB Sao Paulo 22.35 70 P **P 13 40 04.7 -0.2**
SPB IAmb IAmb 13 40 05.7
comp=Z,40nm,0.9s
SPB Sao Paulo 22.35 70 *eP* **P 13 40 04.6 -0.2**
VILB Vilhena 22.36 27 *eP* **P 13 40 04.8 -0.2**
ITRB Iturama 22.44 58 *eP* **P 13 40 04.3 -1.5**
RCLB Rio Claro- Sao 22.89 67 *eP* **P 13 40 09.5 -1.0**
BB19B Bebedouro 22.91 63 *eP* **P 13 40 09.4 -1.3**
VAO Valinhos 23.02 69 *eP* **P 13 40 10.8 -0.9**
ETMB Extrema 23.77 10 *eP* **P 13 40 19.2 +0.7**
ARAG Araguaiana, MT 24.32 48 *eP* **P 13 40 22.6 -0.8**
ESAR Angra dos Reis 25.01 72 *eP* **P 13 40 29.4 -0.2**
IPMB Ipameri, GO 25.10 58 *eP* **P 13 40 29.4 -1.2**
CZSB Cruzeiro do Su 25.63 355 *eP* **P 13 40 36.7 +1.3**
BSCB Bom Sucesso 25.81 68 *eP* **P 13 40 36.0 -1.1**
CLDB Colider 26.10 34 *eP* **P 13 40 40.6 +1.0**
VAS01 Vassouras-RJ 26.18 72 *eP* **P 13 40 39.7 -0.6**
BDFB Brasilia 26.84 54 P **P 13 40 45.4 -1.0**
comp=Z,23nm,0.9s,baz=228,slow=7.2,SNR=17
BDFB LR LR 13 52 56.3
comp=Z,94nm,20.9s,baz=146,slow=40
BDFB Brasilia 26.84 54 P **P 13 40 45.1 -1.3**
BDFB IAmb IAmb 13 40 46.8
comp=Z,37nm,1.1s
DUB01 Friburgo-RJ 27.13 73 *eP* **P 13 40 49.0 +0.1**
SNDB Serra Nova Dou 27.54 44 *eP* **P 13 40 53.7 +1.1**
DIAM Diamantina, MG 28.22 64 *eP* **P 13 40 57.7 -1.1**
MC01 Montes Claros 29.01 62 *eP* **P 13 41 04.9 -0.8**
PEXB Peixe 29.25 49 *eP* **P 13 41 07.7 -0.1**
NPGB Novo Progresso 29.68 31 *eP* **P 13 41 10.5 -1.1**
JANB Januaria 29.82 59 *eP* **P 13 41 11.7 -1.2**
SJMB Sao Joao De Ma 29.89 68 *eP* **P 13 41 12.7 -0.7**
BSFB Barra de Sao F 30.08 69 *eP* **P 13 41 14.4 -0.6**
RIB01 Linhares ES 30.16 70 *eP* **P 13 41 15.6 -0.2**
NAN01 Guarapari, ES 31.20 68 *eP* **P 13 41 23.9 -1.1**
SDBA SAO DESIDERIO 31.25 54 *eP* **P 13 41 24.9 -0.5**
GUA01 Guaratinga, BA 32.19 66 *eP* **P 13 41 32.3 -1.4**
PRPB Parauapebas 33.13 40 *eP* **P 13 41 40.3 -1.6**
CMC01 Camacan, BA 33.16 65 *eP* **P 13 41 41.5 -0.6**
NBIT Itapeh - BA 33.49 64 *eP* **P 13 41 44.9 -0.1**
GDU01 Guandu, BA 34.15 62 *eP* **P 13 41 50.0 -0.6**
OTAV Otavalo 34.31 346 *eP* **P 13 41 54.5 +2.0**

MALB Monte Alegre 34.82 29 *eP* **P 13 41 56.3 -0.2**
NBPN Ponto Novo - B 35.61 58 *eP* **P 13 42 02.2 -1.1**
BOAV Boa Vista 36.79 17 *eP* **P 13 42 13.4 +0.2**
ROSC El Rosal 38.21 354 LR LR 13 57 57.9
comp=Z,50nm,21.2s,baz=238,slow=36
RUSC La Rusia 39.16 356 P **P 13 42 34.3 +0.6**
NBPS Pedro II - PI 39.48 49 *eP* **P 13 42 35.0 -1.0**
NBPB Pedra_Branca-C 39.82 53 *eP* **P 13 42 38.7 0.0**
RCBR Riachuelo 42.14 57 P **P 13 42 57.3 -0.5**
comp=Z,7.0nm,1.0s,baz=152,slow=14,SNR=1.8
PCRV Puerto La Cruz 43.67 8 P **P 13 43 09.2 -0.8**
comp=Z,4.4nm,0.6s,baz=225,slow=19,SNR=1.7
VNA3 Neumayer Olymp 49.39 158 P **P 13 43 54.8 +0.7**
VNA1 Neumayer--Stat 49.68 157 P **P 13 43 57.9 +1.7**
SNAA Sanae 51.62 158 P **P 13 44 11.1 +0.2**
SNAA Sanae 51.62 158 P **P 13 44 10.9 0.0**
comp=Z,5.6nm,0.5s,baz=272,slow=6.3,SNR=55
SNAA Sanae 51.62 158 P **P 13 44 11.0 0.0**
SNAA IAmb IAmb 13 44 12.5
comp=Z,8.3nm,0.7s
QSPA South Pole Qui 56.84 180 P **P 13 44 49.9 +0.9**
comp=Z,2.7nm,0.5s,baz=188,slow=0.8,SNR=38
QSPA LR LR 14 08 42.2
comp=Z,56nm,18.6s,baz=180,slow=35
QSPA South Pole Qui 56.84 180 P **P 13 44 49.5 +0.6**
QSPA IAmb IAmb 13 44 53.1
comp=Z,13nm,1.5s
833A Chaparral WMA, 67.28 332 P **P 13 46 00.5 +1.6**
baz=154
GOGA Godfrey 67.59 348 P **P 13 46 00.5 -0.2**
baz=168
LRAL Lakeview Retre 67.91 345 P **P 13 46 02.9 +0.2**
baz=165
VBMS Vicksburg 67.98 342 P **P 13 46 04.4 +1.3**
baz=162
Y52A Lilburn 68.14 348 P **P 13 46 04.2 0.0**
Y49A Blount Mountai 68.58 346 P **P 13 46 06.4 -0.6**
Y49A IAmb IAmb 13 46 08.4
comp=Z,7.9nm,0.7s
PAULI Pauline 68.71 350 P **P 13 46 07.8 +0.1**
PAULI IAmb IAmb 13 46 08.8
comp=Z,20nm,1.2s
NATX Nacogdoches 68.75 338 P **P 13 46 09.4 +1.4**
baz=156
435B Jarrell 68.83 335 P **P 13 46 09.5 +0.9**
baz=156
KMSC Kings Mountain 68.95 350 P **P 13 46 09.3 +0.1**
baz=170
X51A Calhoun 68.96 347 P **P 13 46 09.9 +0.6**
BG3 Lake Jocassee 69.05 349 P **P 13 46 09.9 +0.1**
BG3 IAmb IAmb 13 46 11.0
comp=Z,8.1nm,0.8s
W52A Murphy 69.31 348 P **P 13 46 11.7 +0.2**
W52A IAmb IAmb 13 46 12.6
comp=Z,14nm,0.9s
V58A Windy Hill, Pi 69.32 352 P **P 13 46 11.9 +0.5**
V58A IAmb IAmb 13 46 12.4
comp=Z,10nm,0.8s
JCT Junction City 69.36 333 P **P 13 46 12.7 +0.7**
baz=154
JCT Junction City 69.36 333 P **P 13 46 12.9 +0.9**
V55A Taylorsville 69.64 351 P **P 13 46 12.8 -0.6**
V55A IAmb IAmb 13 46 14.6
comp=Z,12nm,0.7s
W50A Signal Mountai 69.66 347 P **P 13 46 13.3 -0.4**
V53A Saluda 69.69 349 P **P 13 46 13.4 -0.4**
V53A IAmb IAmb 13 46 14.7
comp=Z,10nm,0.8s
CPCT Cooper Cave 69.76 348 P **P 13 46 13.8 -0.4**
CPCT IAmb IAmb 13 46 15.2
comp=Z,14nm,0.8s
SWET Sewanee 69.80 346 P **P 13 46 14.2 -0.3**
TKL Tuckaleechee C 69.83 348 P **P 13 46 13.0 -1.6**
TKL IAmb IAmb 13 46 15.3
comp=Z,10nm,0.8s
OXF Oxford 69.88 343 P **P 13 46 15.2 +0.3**
baz=163
WHTX Lake Whitney, 69.88 336 P **P 13 46 15.9 +0.9**
baz=156
TXAR Lajitas Array 69.91 329 P **P 13 46 16.6 +1.2**
comp=Z,5.4nm,0.7s,baz=153,slow=8.6,SNR=58
TXAR pP **pP 13 46 42.6 +1.0**
comp=Z,2.1nm,0.6s,baz=153,slow=8.5,SNR=5.9
TXAR LR LR 14 12 31.5
comp=Z,28nm,19.9s,baz=0.0,slow=32
TXAR Lajitas Array 69.91 329 P **P 13 46 15.9 +0.5**
TX31 Lajitas Ar. Si 69.91 329 P **P 13 46 15.4 -0.1**
TX32 Lajitas Array 69.91 329 P **P 13 46 15.5 +0.1**
TX32 IAmb IAmb 13 46 17.5
comp=Z,6.8nm,0.7s
V52A Sevierville 69.98 349 P **P 13 46 14.7 -0.9**
V52A IAmb IAmb 13 46 16.2
comp=Z,10.0nm,0.8s
U56A King 70.01 351 P **P 13 46 15.6 -0.2**
U56A IAmb IAmb 13 46 17.1
comp=Z,12nm,0.9s
PLAL Pickwick Lake 70.02 345 P **P 13 46 14.8 -1.0**
PLAL IAmb IAmb 13 46 16.7
comp=Z,14nm,0.8s
V51A Loudon 70.08 348 P **P 13 46 15.8 -0.3**
V51A IAmb IAmb 13 46 17.4
comp=Z,12nm,1.0s
U54A Nelsons Funny 70.38 350 P **P 13 46 17.4 -0.7**
V48A Smith Brothers 70.48 346 P **P 13 46 18.3 -0.3**
T57A Hurt 70.52 352 P **P 13 46 18.7 -0.1**
T57A IAmb IAmb 13 46 20.0
comp=Z,9.9nm,0.9s
TZTN Tazewell 70.66 349 P **P 13 46 19.3 -0.4**
baz=168
TZTN Tazewell 70.66 349 P **P 13 46 19.0 -0.7**
CLTN Cedars of Leba 70.72 346 P **P 13 46 19.8 -0.3**
CLTN IAmb IAmb 13 46 21.1
comp=Z,11nm,0.8s
MIAR Mount Ida 71.01 340 P **P 13 46 22.3 +0.4**
U49A Red Boiling Sp 71.03 347 P **P 13 46 21.0 -0.9**
Z35A Perchaven, San 71.03 336 P **P 13 46 22.4 +0.4**
WVT Waverly 71.07 345 P **P 13 46 22.2 0.0**
baz=165
WVT Waverly 71.07 345 P **P 13 46 21.8 -0.4**
JSRW J. Sargeant Re 71.07 354 P **P 13 46 22.7 +0.5**
HALT Halls 71.20 344 P **P 13 46 23.0 +0.1**
ABTX Abilene, Hawle 71.23 334 P **P 13 46 23.6 +0.3**
baz=154,SNR=7.9
ABTX Abilene, Hawle 71.23 334 P **P 13 46 23.0 -0.3**
S57A Dark Hollow, R 71.25 353 P **P 13 46 23.5 +0.4**
S57A IAmb IAmb 13 46 24.7
comp=Z,10nm,0.8s
W39A Magazine 71.68 340 P **P 13 46 26.4 +0.6**
baz=160
W39A Magazine 71.68 340 P **P 13 46 26.6 +0.8**
PPT Papeete 71.72 261 P **P 13 46 28.3 +1.7**
comp=Z,29nm,0.7s,baz=212,slow=15,SNR=4.2
S51A Beattyville 71.74 349 P **P 13 46 24.9 -1.2**
S51A IAmb IAmb 13 46 26.9
comp=Z,13nm,0.8s
T47A Sharon Grove 71.75 346 P **P 13 46 25.5 -0.7**
LCAR Lake Charles 71.79 342 P **P 13 46 26.1 -0.3**
R55A Marlinton 71.89 352 P **P 13 46 27.6 +0.5**
R55A IAmb IAmb 13 46 28.8
comp=Z,14nm,0.8s
PARMO Parma 72.02 344 P **P 13 46 28.2 +0.4**
PBMO Poplar Bluff 72.29 343 P **P 13 46 28.9 -0.5**
X34A Smith Ranch, M 72.39 336 P **P 13 46 29.9 -0.2**
U40A Yellville 72.51 341 P **P 13 46 30.8 0.0**
baz=160
U40A Yellville 72.51 341 P **P 13 46 30.7 0.0**
R49A Shelbyville 72.64 348 P **P 13 46 30.6 -0.9**
Q54A Coxs Mills 72.67 351 P **P 13 46 30.9 -0.8**
SDMD Soldier's Deli 72.69 355 P **P 13 46 32.0 +0.3**
MNTX Cornudas Mount 72.69 329 P **P 13 46 32.0 -0.1**
baz=150
MNTX Cornudas Mount 72.69 329 P **P 13 46 31.5 -0.6**
MNTX IAmb IAmb 13 46 33.3
comp=Z,11nm,0.9s
GDL2 Guadalupe Moun 72.70 330 P **P 13 46 33.0 +0.9**
HHAR Hobbs 72.74 340 P **P 13 46 32.2 +0.1**
HHAR IAmb IAmb 13 46 33.3
comp=Z,14nm,0.7s
USIN University of 72.80 346 P **P 13 46 31.9 -0.6**
WMOK Wichita Mounta 72.83 336 P **P 13 46 32.9 0.0**
baz=156
WMOK Wichita Mounta 72.83 336 P **P 13 46 32.8 0.0**
S44A Carbondale 72.89 344 P **P 13 46 32.6 -0.3**
S44A IAmb IAmb 13 46 33.7
comp=Z,12nm,0.9s

SIUC Southern Illin 72.90 344 P **P 13 46 32.7 -0.3**
SIUC IAmb IAmb 13 46 33.8
comp=Z,12nm,0.8s
TUL1 Leonard 72.94 339 P **P 13 46 33.3 0.0**
baz=158
Q51A Peebles 73.06 349 P **P 13 46 34.1 +0.1**
Q51A IAmb IAmb 13 46 34.9
comp=Z,10nm,0.8s
MGMO Mountain Grove 73.10 342 P **P 13 46 34.6 +0.3**
MGMO IAmb IAmb 13 46 35.6
comp=Z,12nm,0.8s
OK025 Westminster Rd 73.12 337 P **P 13 46 34.6 +0.1**
WUPA West Chester U 73.12 356 P **P 13 46 35.3 +1.0**
LIC Lamto 73.25 71 *eP* **P 13 46 35.5 -0.2**
comp=Z,35nm,1.1s
OK031 S. Brethren Rd 73.30 338 P **P 13 46 35.6 +0.1**
MAW Mawson 73.35 163 P **P 13 46 35.2 -0.2**
comp=Z,2.1nm,0.5s,baz=249,slow=9.2,SNR=3.8
MAW Mawson 73.35 163 P **P 13 46 35.8 +0.4**
OK029 Liberty Lake 73.36 337 P **P 13 46 36.0 +0.2**
QUOK Quay 73.46 338 P **P 13 46 36.7 +0.3**
P52A Corning 73.48 351 P **P 13 46 36.0 -0.4**
baz=170
P52A Corning 73.48 351 P **P 13 46 36.0 -0.4**
P52A IAmb IAmb 13 46 37.1
comp=Z,10nm,0.8s
TIC Toumodi 73.51 70 *eP* **P 13 46 38.6 +1.3**
KIC Kosan Boka 73.56 71 *eP* **P 13 46 38.4 +0.9**
comp=Z,16nm,0.7s
MSTX Muleshoe 73.61 332 P **P 13 46 38.0 +0.6**
baz=152,SNR=11
MSTX Muleshoe 73.61 332 P **P 13 46 37.7 +0.2**
DBIC Dimbokro 73.66 70 P **P 13 46 37.1 -0.9**
O56A Blue Knob Stat 73.69 353 P **P 13 46 37.9 +0.2**
baz=173
CCM Cathedral Cave 73.70 343 P **P 13 46 37.6 -0.1**
baz=162
CCM Cathedral Cave 73.70 343 P **P 13 46 36.4 -1.3**
P48A Milroy 73.83 348 P **P 13 46 37.7 -0.8**
P48A IAmb IAmb 13 46 38.8
comp=Z,17nm,0.9s
S39A Bolivar 73.89 341 P **P 13 46 38.8 0.0**
Q44A Meyer Farm, Va 73.99 345 P **P 13 46 38.9 -0.5**
Q44A IAmb IAmb 13 46 39.8
comp=Z,10nm,0.8s
SSPA Standing Stone 73.99 354 P **P 13 46 40.1 +0.7**
baz=174
SSPA Standing Stone 73.99 354 P **P 13 46 39.5 +0.1**
AMTX Amarillo 74.00 334 P **P 13 46 40.6 +0.9**
baz=153
AMTX Amarillo 74.00 334 P **P 13 46 40.0 +0.2**
PAL Palisades 74.11 357 P **P 13 46 41.0 +0.9**
baz=177
N59A State Game Lan 74.11 356 P **P 13 46 41.2 +1.0**
baz=175
319A Douglas 74.17 326 P **P 13 46 42.5 +1.7**
319A IAmb IAmb 13 46 43.6
comp=Z,15nm,1.0s
R40A Maddies Statio 74.18 342 P **P 13 46 40.2 -0.3**
ACSO Alum Creek Sta 74.19 350 P **P 13 46 40.6 0.0**
baz=169
ACSO Alum Creek Sta 74.19 350 P **P 13 46 40.0 -0.5**
P46A Rosedale 74.31 347 P **P 13 46 40.4 -0.8**
Q49A Covington 74.35 349 P **P 13 46 40.6 -0.9**
O49A IAmb IAmb 13 46 42.1
comp=Z,13nm,0.7s
121A Cookes Peak, D 74.46 328 P **P 13 46 44.0 +1.5**
baz=148
121A Cookes Peak, D 74.46 328 P **P 13 46 43.5 +1.0**
121A IAmb IAmb 13 46 45.4
comp=Z,16nm,0.8s
N54A Moraine State 74.52 352 P **P 13 46 43.2 +0.7**
baz=172
M64A Tiverton 74.58 359 P **P 13 46 42.9 +0.1**
baz=179
M55A Ridgway 74.90 353 P **P 13 46 44.8 +0.1**
M55A IAmb IAmb 13 46 45.9
comp=Z,13nm,0.8s
L63A North Scituate 74.90 359 P **P 13 46 45.6 +1.0**
baz=179
M54A Oil Creek Stat 75.03 353 P **P 13 46 45.4 0.0**
baz=172
M53A Wl Miller and 75.07 352 P **P 13 46 46.3 +0.7**
baz=171
L58A Harry Jones Me 75.24 356 P **P 13 46 46.8 +0.2**
baz=175
P40A Paris 75.29 343 P **P 13 46 46.7 -0.2**
BNM Barren Site 75.33 330 P **P 13 46 49.0 +1.4**
LENM Lemitar 75.49 329 P **P 13 46 49.8 +1.3**
L61B Northampton 75.51 358 P **P 13 46 48.8 +0.8**
baz=178
HRV Adam Dziewonsk 75.54 359 P **P 13 46 49.4 +1.1**
baz=179
TUC Tucson 75.65 325 P **P 13 46 50.7 +1.4**
baz=146
TUC Tucson 75.65 325 P **P 13 46 50.7 +1.4**
P38A Dawn 75.76 342 P **P 13 46 49.0 -0.6**
WVNY West Valley, N 75.81 354 P **P 13 46 50.0 +0.1**
WVNY IAmb IAmb 13 46 51.4
comp=Z,14nm,0.9s
ANMO Albuquerque 75.94 330 P **P 13 46 52.7 +1.7**
baz=150
ANMO Albuquerque 75.94 330 P **P 13 46 52.2 +1.2**
ANMO IAmb IAmb 13 46 53.6
comp=Z,17nm,1.4s
N41A Harden Midland 76.13 344 P **P 13 46 51.3 -0.4**
J62A Henniker 76.27 359 P **P 13 46 53.8 +1.4**
baz=179
214A Organ Pipe Nat 76.34 324 P **P 13 46 55.0 +1.9**
baz=145
214A Organ Pipe Nat 76.34 324 P **P 13 46 54.7 +1.6**
214A IAmb IAmb 13 46 56.1
comp=Z,12nm,1.0s
J61A Chester 76.40 358 P **P 13 46 54.0 +0.9**
baz=178
J58A Remsen 76.52 356 P **P 13 46 55.0 +1.2**
baz=176
J57A Williamstown 76.61 356 P **P 13 46 53.8 -0.5**
J57A IAmb IAmb 13 46 55.7
comp=Z,16nm,1.1s
I58A Old Forge 76.83 357 P **P 13 46 55.7 +0.1**
baz=176
CBKS Cedar Bluff 76.85 337 P **P 13 46 56.8 +0.9**
baz=155
CBKS Cedar Bluff 76.85 337 P **P 13 46 56.8 +0.9**
I62A Tamworth 76.91 359 P **P 13 46 56.4 +0.4**
baz=179
I60A Shoreham 76.92 358 P **P 13 46 56.9 +0.9**
baz=178
I64A Boothbay 76.95 1 P **P 13 46 57.4 +1.2**
baz=181
I61A Oroboro, Fairl 76.98 359 P **P 13 46 57.4 +1.1**
baz=178
T25A Trinidad 77.03 333 P **P 13 46 58.1 +1.0**
baz=151,SNR=18
T25A Trinidad 77.03 333 P **P 13 46 58.3 +1.2**
I63A Otisfield 77.08 360 P **P 13 46 58.6 +1.7**
baz=180
I63A Otisfield 77.08 360 P **P 13 46 58.0 +1.1**
I63A IAmb IAmb 13 46 59.7
comp=Z,12nm,1.0s
X18A Snowflake 77.11 327 P **P 13 46 58.9 +1.4**
I57A Carthage 77.12 356 P **P 13 46 57.9 +0.7**
baz=175
LBNH Lisbon 77.28 359 P **P 13 46 59.6 +1.5**
baz=179
N35A Tabor 77.49 341 P **P 13 46 58.7 -0.6**
L40A Anamosa 77.50 344 P **P 13 46 58.8 -0.5**
W18A Petrified Fore 77.50 328 P **P 13 47 00.9 +1.1**
baz=147,SNR=8.0
W18A Petrified Fore 77.50 328 P **P 13 46 59.9 +0.1**
W18A IAmb IAmb 13 47 02.4
comp=Z,18nm,1.1s
H58A Gabriels 77.52 357 P **P 13 47 00.5 +1.0**
baz=177
H61A Lyndonville 77.58 359 P **P 13 47 00.4 +0.7**
baz=179
H60A Morristown 77.62 358 P **P 13 47 01.8 +1.9**
baz=178
H57A Richville 77.62 356 P **P 13 47 01.0 +1.1**
baz=176
X16A Lo Mia Camp, P 77.70 326 P **P 13 47 02.9 +2.0**
X16A IAmb IAmb 13 47 04.3
comp=Z,19nm,1.2s
H59A Cadyville 77.73 358 P **P 13 47 01.5 +0.9**
baz=177

LONY	Lake Ozonia	77.74	357	P	P	13 47 01.5 +0.9
	baz=176					
H65A	Eastbrook	77.75	2	P	P	13 47 01.7 +1.1
	baz=182					
EMMW	East Machias	77.78	2	P	P	13 47 01.6 +0.8
EMMW				IAmb	IAmb	13 47 03.0
	comp=Z,10nm,0.9s					
H66A	Whiting	77.86	2	P	P	13 47 02.4 +1.2
	baz=183					
FRNY	Flat Rock	77.92	358	P	P	13 47 02.1 +0.5
FRNY				IAmb	IAmb	13 47 03.3
	comp=Z,15nm,1.0s					
SDCO	Great Sand Dun	77.98	332	P	P	13 47 03.9 +1.5
	baz=151,SNR=10					
SDCO	Great Sand Dun	77.98	332	P	P	13 47 03.2 +0.8
KSCO	Kaye Shedlock'	78.02	335	P	P	13 47 03.8 +1.3
	baz=153					
KSCO	Kaye Shedlock'	78.02	335	P	P	13 47 03.6 +1.1
KSCO				IAmb	IAmb	13 47 05.0
	comp=Z,18nm,0.9s					
Y14A	Wickenburg	78.05	325	P	P	13 47 03.8 +1.1
JFWS	Jewell Farm	78.10	345	P	P	13 47 02.4 -0.2
	baz=163					
JFWS	Jewell Farm	78.10	345	P	P	13 47 02.9 +0.3
JFWS				IAmb	IAmb	13 47 03.7
	comp=Z,12nm,0.8s					
G63A	Kingsbury	78.14	1	P	P	13 47 03.4 +0.6
	baz=181					
GLA	Glamis	78.23	323	P	P	13 47 02.2 -1.4
GLA				IAmb	IAmb	13 47 04.0
	comp=Z,9.8nm,0.6s					
G57A	Newington	78.24	357	P	P	13 47 03.8 +0.4
	baz=176					
G62A	West of Eustis	78.25	360	P	P	13 47 04.6 +1.2
	baz=180					
G62A	West of Eustis	78.25	360	P	P	13 47 03.8 +0.4
G62A				IAmb	IAmb	13 47 05.6
	comp=Z,12nm,0.9s					
G58A	Ormstown	78.25	357	P	P	13 47 04.8 +1.4
	baz=177					
G64A	Maxfield	78.29	1	P	P	13 47 04.5 +0.9
	baz=181					
PKME	Peaks-Kenny Pk	78.30	1	P	P	13 47 04.9 +1.3
	baz=181					
PKME	Peaks-Kenny Pk	78.30	1	P	P	13 47 04.6 +0.9
G61A	St-Isidore-de-	78.32	359	P	P	13 47 05.3 +1.5
	baz=179					
IKP	In-Ko-Pah, Jac	78.56	322	P	P	13 47 07.2 +1.6
	baz=142					
WUAZ	Wupatki	78.58	327	P	P	13 47 07.3 +1.7
	baz=146,SNR=8.1					
WUAZ	Wupatki	78.58	327	P	P	13 47 06.2 +0.6
WUAZ				IAmb	IAmb	13 47 08.6
	comp=Z,12nm,1.0s					
MVCO	Mesa Verde	78.73	330	P	P	13 47 07.9 +1.3
	baz=148,SNR=6.0					
MVCO	Mesa Verde	78.73	330	P	P	13 47 07.2 +0.6
MVCO				IAmb	IAmb	13 47 09.0
	comp=Z,11nm,0.9s					
F63A	Nahmakanta, Br	78.74	1	P	P	13 47 07.1 +1.0
	baz=181					
F63A	Nahmakanta, Br	78.74	1	P	P	13 47 06.8 +0.7
F63A				IAmb	IAmb	13 47 08.3
	comp=Z,11nm,1.0s					
I42A	Draeger Farm,	78.76	346	P	P	13 47 06.2 0.0
I42A				IAmb	IAmb	13 47 06.8
	comp=Z,13nm,0.9s					
BAR	Barrett	78.88	322	P	P	13 47 08.9 +1.7
PDMCI	Parker Dam,Lak	78.89	324	P	P	13 47 08.2 +1.0
	baz=144					
Q24A	Divide	78.90	333	P	P	13 47 08.6 +1.0
	baz=151					
F64A	Sherman	78.91	1	P	P	13 47 08.6 +1.6
	baz=182					
MONP2	Monument Peak	78.92	322	P	P	13 47 09.1 +1.4
	baz=142					
F62A	Pittston Farm,	78.92	0	P	P	13 47 08.0 +0.9
F62A				IAmb	IAmb	13 47 08.8
	comp=Z,7.2nm,0.7s					
F60A	Warwick	79.01	359	P	P	13 47 08.5 +0.9
	baz=179					
BC3	Big Chuckawall	79.03	323	P	P	13 47 09.8 +1.7
	baz=143,SNR=6.9					
BOSA	Boshof	79.10	117	P	P	13 47 08.8 -0.1
	comp=Z,6.2nm,0.7s,baz=255,slow=3.2,SNR=8.5					
BOSA				LR	LR	14 18 34.2
	comp=Z,23nm,19.1s,baz=185,slow=33					
BOSA	Boshof	79.10	117	P	P	13 47 08.3 -0.6
BOSA				IAmb	IAmb	13 47 19.9
	comp=Z,11nm,0.8s					
KOWA	Kowa	79.11	65	P	P	13 47 08.0 -0.8
KOWA				IAmb	IAmb	13 47 09.8
	comp=Z,8.0nm,0.7s					
IRM	Iron Mountain	79.27	324	P	P	13 47 10.6 +1.3
	baz=143,SNR=6.7					
ALGO	Algonquin Park	79.29	355	P	P	13 47 09.6 +0.6
	baz=174					
E60A	Ste Agathe de	79.40	359	P	P	13 47 10.4 +0.7
	baz=179					
W13A	Hualapai Mount	79.41	325	P	P	13 47 11.8 +1.4
E58A	La Victoria	79.44	358	P	P	13 47 11.1 +1.2
	baz=178					
E61A	Lac Etchemin	79.46	360	P	P	13 47 11.0 +1.0
	baz=180					
E64A	Bridgewater	79.48	2	P	P	13 47 11.3 +1.2
	baz=182					
TPFO	Pinon Flats	79.50	322	P	P	13 47 12.4 +1.7
	baz=142,SNR=10					
PFO	Pinyon Flats O	79.50	322	P	P	13 47 12.7 +2.0
	baz=142,SNR=8.8					
PFO	Pinyon Flats O	79.50	322	P	P	13 47 12.5 +1.8
PFO				IAmb	IAmb	13 47 13.9
	comp=Z,16nm,0.9s					
PV01	Paradox Valley	79.55	330	P	P	13 47 12.4 +1.4
BELC	Belle Mtn. Jos	79.58	323	P	P	13 47 12.6 +1.5
	baz=143					
E62A	Clayton Lake	79.65	1	P	P	13 47 11.8 +0.7
	baz=181					
E62A	Clayton Lake	79.65	1	P	P	13 47 11.0 -0.1
E62A				IAmb	IAmb	13 47 13.1
	comp=Z,12nm,1.1s					
PV13	Radium Mtn., P	79.67	330	P	P	13 47 12.5 +0.8
PV13				IAmb	IAmb	13 47 13.9
	comp=Z,12nm,0.8s					
PV02	Paradox Valley	79.68	330	P	P	13 47 12.4 +0.7
PV02				IAmb	IAmb	13 47 14.1
	comp=Z,11nm,1.0s					
PV15	Paradox Valley	79.69	330	P	P	13 47 13.2 +1.5
PV15				IAmb	IAmb	13 47 14.3
	comp=Z,11nm,1.0s					
PV05	Paradox Valley	79.72	330	P	P	13 47 12.5 +0.6
PV05				IAmb	IAmb	13 47 14.1
	comp=Z,12nm,0.7s					
U15A	North Rim	79.75	327	P	P	13 47 12.7 +0.5
PV03	Paradox Valley	79.76	330	P	P	13 47 12.9 +0.8
PV18	Skein Mesa, Pa	79.78	330	P	P	13 47 13.3 +1.0
PV18				IAmb	IAmb	13 47 14.3
	comp=Z,10nm,0.8s					
SMCO	Snowmass	79.79	332	P	P	13 47 13.6 +1.1
SMCO				IAmb	IAmb	13 47 15.3
	comp=Z,13nm,0.8s					
PV12	Saucer Basin,	79.80	330	P	P	13 47 13.6 +1.2
ISCO	Idaho Springs	79.81	333	P	P	13 47 13.7 +1.2
	baz=151					
ISCO	Idaho Springs	79.81	333	P	P	13 47 13.6 +1.1
PV11	David Mesa, Pa	79.81	330	P	P	13 47 13.4 +1.0
PV17	East Wray Mesa	79.83	330	P	P	13 47 13.4 +0.9
PV17				IAmb	IAmb	13 47 14.6
	comp=Z,9.3nm,0.8s					
PV07	Paradox Valley	79.84	330	P	P	13 47 14.2 +1.7
PV16	Nyswonger Mesa	79.84	330	P	P	13 47 13.3 +0.8
I37A	Lemond, Waseca	79.86	343	P	P	13 47 12.2 -0.1
PV19	Morning Glory	79.87	330	P	P	13 47 13.1 +0.4
MURC	Murrieta	79.87	322	P	P	13 47 14.3 +1.7
	baz=142					
PV20	West Nyswonger	79.89	330	P	P	13 47 13.2 +0.5
PV20				IAmb	IAmb	13 47 14.9
	comp=Z,18nm,1.4s					
PV10	Paradox Valley	79.95	330	P	P	13 47 12.8 -0.4
PV10				IAmb	IAmb	13 47 14.9
	comp=Z,13nm,0.8s					
GMRC	Granite Mounta	80.03	324	P	P	13 47 15.0 +1.5
	baz=143,SNR=14					
D63A	Stockholm	80.09	2	P	P	13 47 13.9 +0.6
	baz=182					
D62A	Allapoint, All	80.12	1	P	P	13 47 14.4 +0.9
	baz=181					
D58A	Chemin du LacG	80.16	358	P	P	13 47 14.6 +0.9
	baz=178					
D61A	St Aubert, Com	80.23	0	P	P	13 47 15.2 +1.1
	baz=180					
CIS	Catalina Islan	80.36	321	P	P	13 47 15.8 +0.6
	baz=141					
HEC	Hector,Ludlow	80.40	323	P	P	13 47 17.2 +1.8
	baz=142					
ECSD	EROS Data Cent	80.42	341	P	P	13 47 16.0 +0.7
	baz=158					
ECSD	EROS Data Cent	80.42	341	P	P	13 47 14.9 -0.4
ECSD				IAmb	IAmb	13 47 16.5
	comp=Z,18nm,0.9s					
KNB	Kanab	80.47	327	P	P	13 47 17.8 +1.9
KNB				IAmb	IAmb	13 47 18.9
	comp=Z,16nm,0.9s					
BFSC	Mount Baldy Ra	80.61	322	P	P	13 47 18.1 +1.4
	baz=142,SNR=6.4					
LCMT	Little Creek M	80.66	326	P	P	13 47 18.2 +1.3
TUQ	Turquoise Moun	80.68	324	P	P	13 47 18.5 +1.5
	baz=143,SNR=12					
GSC	Goldstone, Bar	81.01	323	P	P	13 47 20.2 +1.5
	baz=142,SNR=7.0					
GSC	Goldstone, Bar	81.01	323	P	P	13 47 20.1 +1.5
MTPU	Mount Pierson	81.03	328	P	P	13 47 20.1 +1.0
PHWY	Pilot Hill	81.06	334	P	P	13 47 19.3 +0.2
PHWY				IAmb	IAmb	13 47 21.1
	comp=Z,11nm,0.9s					
O20A	White River Ci	81.12	332	P	P	13 47 21.1 +1.8
	baz=149					
SHPR	Sheep Range	81.16	325	P	P	13 47 21.0 +1.4
SRU	San Rafael Swe	81.19	329	P	P	13 47 20.0 +0.3
SRU				IAmb	IAmb	13 47 21.6
	comp=Z,11nm,0.8s					
SHOC	Shoshone, Teco	81.22	324	P	P	13 47 21.1 +1.4
	baz=143					
EDW2	Edwards Air Fo	81.28	322	P	P	13 47 21.6 +1.4
	baz=141,SNR=5.3					
MSU	Marysvale	81.41	328	P	P	13 47 22.0 +1.0
P17A	Butcher Ranch,	81.58	330	P	P	13 47 22.4 +0.6
P17A				IAmb	IAmb	13 47 23.9
	comp=Z,14nm,1.2s					
LRMC	Laurel Mtn Rad	81.59	323	P	P	13 47 23.4 +1.6
	baz=142,SNR=6.4					
F36A	Milaca	81.63	344	P	P	13 47 21.0 -0.6
F36A				IAmb	IAmb	13 47 22.2
	comp=Z,8.5nm,0.8s					
TMUT	Trail Mountain	81.64	329	P	P	13 47 23.2 +1.0
MPMC	Manual Prospec	81.95	323	P	P	13 47 25.3 +1.5
	baz=142					
FURC	Furnace Creek,	81.96	324	P	P	13 47 25.7 +2.1
	baz=142					
TPNV	Topopah Spring	82.04	324	P	P	13 47 25.7 +1.5
	baz=143,SNR=12					
RWWY	Rawlins	82.05	333	P	P	13 47 24.9 +0.6
RWWY				IAmb	IAmb	13 47 26.3
	comp=Z,14nm,1.1s					
PSUT	Pine Spring	82.18	327	P	P	13 47 26.1 +1.1
PKM	Mcpherson Peak	82.24	321	P	P	13 47 27.4 +2.1
	baz=140					
LSQQ	Lebel-sur-Quev	82.30	356	P	P	13 47 25.5 +0.5
	baz=174					
CWC	Cottonwood Cre	82.54	323	P	P	13 47 29.0 +2.2
	baz=142					
NLU	North Lily Min	82.56	329	P	P	13 47 27.2 +0.3
VES	Vestal, Richgr	82.59	322	P	P	13 47 28.2 +1.4
	baz=141					
GRAC	Grapevine Rang	82.62	324	P	P	13 47 29.0 +1.9
	baz=142					
K22A	Casper	82.62	334	P	P	13 47 28.1 +0.9
	baz=150					
K22A	Casper	82.62	334	P	P	13 47 28.0 +0.9
K22A				IAmb	IAmb	13 47 29.3
	comp=Z,9.7nm,0.9s					
TOA0	Torodi Ar. Sit	82.69	69	P	P	13 47 27.3 -0.6
TOA0				IAmb	IAmb	13 47 28.8
	comp=Z,16nm,1.2s					
TORD	Torodi Ar. Bea	82.69	69	P	P	13 47 27.2 -0.7
	comp=Z,5.5nm,0.8s,baz=269,slow=5.3,SNR=24					
TORD				pP	pP	13 47 57.1 +1.4
	comp=Z,2.5nm,0.7s,baz=266,slow=4.4,SNR=4.2					
TORD				LR	LR	14 23 30.7
	comp=Z,14nm,18.9s,baz=225,slow=35					
TORD	Torodi Ar. Bea	82.69	69	P	P	13 47 27.1 -0.8
TORD				IAmb	IAmb	13 47 28.7
	comp=Z,12nm,1.2s					
SPR3	Spring Creek 3	82.78	327	P	P	13 47 28.9 +0.7
SPR3				IAmb	IAmb	13 47 30.4
	comp=Z,12nm,1.0s					
JLU	Jordanelle	82.83	330	P	P	13 47 29.2 +0.8
R11A	Troy Canyon, C	82.83	326	P	P	13 47 30.1 +1.7
	baz=143					
R11A	Troy Canyon, C	82.83	326	P	P	13 47 29.4 +1.1
R11A				IAmb	IAmb	13 47 31.2
	comp=Z,7.8nm,0.9s					
CHGQ	Chibougamau	83.02	357	P	P	13 47 30.1 +1.3
	baz=177					
RSSD	Black Hills	83.03	336	P	P	13 47 29.6 +0.4
	baz=152					
RSSD	Black Hills	83.03	336	P	P	13 47 30.0 +0.7
RSSD				IAmb	IAmb	13 47 31.0
	comp=Z,10nm,0.9s					
MATQ	Matagami	83.04	355	P	P	13 47 29.0 +0.2
	baz=174					
DUG	Dugway, Tooele	83.07	329	P	P	13 47 30.7 +1.3
	baz=145					
DUG	Dugway, Tooele	83.07	329	P	P	13 47 30.6 +1.1
TIN	Tinemaha, Big	83.10	323	P	P	13 47 31.5 +1.9
	baz=141					
EYMN	Ely	83.16	346	P	P	13 47 29.3 -0.3
	baz=162					
EYMN	Ely	83.16	346	P	P	13 47 29.2 -0.3
EYMN				IAmb	IAmb	13 47 30.4
	comp=Z,12nm,1.1s					
HWUT	Hardware Ranch	83.71	330	P	P	13 47 32.8 +0.1
HWUT				IAmb	IAmb	13 47 35.2
	comp=Z,7.1nm,0.8s					
BW06	Boulder Array	83.87	332	P	P	13 47 33.8 +0.2
	baz=148					
BW06	Boulder Array	83.87	332	P	P	13 47 33.5 -0.1
PD31	Pinedale Array	83.87	332	P	P	13 47 33.5 -0.2
PDAR	Pinedale Array	83.87	332	P	P	13 47 33.7 +0.1
	comp=Z,2.5nm,0.8s,baz=134,slow=4.3,SNR=18					
PDAR				pP	pP	13 48 01.2 +0.4
	comp=Z,1.0nm,0.7s,baz=130,slow=8.4,SNR=3.3					
PDAR	Pinedale Array	83.87	332	P	P	13 47 33.4 -0.2
MDPB	Devils Postpil	83.97	323	P	P	13 47 35.5 +1.3
B35A	Bob, Littlefor	84.03	345	P	P	13 47 33.6 -0.3
B35A				IAmb	IAmb	13 47 34.8
	comp=Z,6.4nm,0.7s					
LHV	Little Huntoon	84.16	324	P	P	13 47 36.2 +1.3
LHV				IAmb	IAmb	13 47 38.0
	comp=Z,11nm,0.8s					
E28A	Huff	84.18	339	P	P	13 47 34.8 0.0
NVAR	Mina Array Bea	84.20	324	P	P	13 47 36.9 +1.5
	comp=Z,5.4nm,0.7s,baz=154,slow=5.8,SNR=40					
NVAR				pP	pP	13 48 03.3 +0.9
	comp=Z,2.3nm,0.8s,baz=151,slow=6.1,SNR=4.7					
NVAR	Mina Array Bea	84.20	324	P	P	13 47 36.1 +0.7
RYN	Ryan	84.47	324	P	P	13 47 37.6 +1.0
RYN				IAmb	IAmb	13 47 39.2
	comp=Z,9.5nm,1.1s					
AGMN	Agassiz Nation	84.47	343	P	P	13 47 36.5 +0.3
	baz=159					
AHID	Auburn Hatcher	84.48	331	P	P	13 47 36.5 -0.2
AHID				IAmb	IAmb	13 47 38.2
	comp=Z,7.5nm,0.8s					
KVN	Kaiserville	84.59	325	P	P	13 47 37.9 +0.6
KVN				IAmb	IAmb	13 47 39.5
	comp=Z,8.1nm,1.0s					
ELK	Elko	84.60	327	P	P	13 47 37.2 -0.2
ELK				IAmb	IAmb	13 47 39.4
	comp=Z,7.0nm,0.9s					
WAKR	Walker	84.82	323	P	P	13 47 40.1 +1.7
WAKR				IAmb	IAmb	13 47 41.6
	comp=Z,12nm,1.3s					
ECR	Eagle Creek	84.83	331	P	P	13 47 38.8 +0.3
REDW	Red Top Meadow	84.89	332	P	P	13 47 39.2 +0.4
LOHW	Long Hollow	85.00	332	P	P	13 47 39.4 +0.2
MDND	Maddock	85.02	341	P	P	13 47 39.6 +0.6
	baz=156					
MDND	Maddock	85.02	341	P	P	13 47 39.2 +0.2
TPAW	Teton Pass	85.03	332	P	P	13 47 39.7 +0.2
TPAW				IAmb	IAmb	13 47 41.8
	comp=Z,8.7nm,0.9s					
YERR	Yerington	85.10	324	P	P	13 47 41.3 +1.4
YERR				IAmb	IAmb	13 47 42.1
	comp=Z,9.5nm,1.2s					
PNTR	Pine Nut	85.35	324	P	P	13 47 42.7 +1.5
PNTR				IAmb	IAmb	13 47 44.0
	comp=Z,9.1nm,0.8s					
FLWY	Flagg Ranch	85.43	332	P	P	13 47 41.5 +0.1
H17A	Grant Village	85.64	332	P	P	13 47 43.2 +0.7
	baz=147					
PAHR	Pah Rah Range	85.72	324	P	P	13 47 43.9 +1.0
PAHR				IAmb	IAmb	13 47 46.6
	comp=Z,18nm,1.5s					
RLMT	Red Lodge	85.76	334	P	P	13 47 43.7 +0.7
	baz=148					
RLMT	Red Lodge	85.76	334	P	P	13 47 42.8 -0.2
AFDM	Forest Hills D	85.93	323	P	P	13 47 44.1 +0.4
YNE	Yellowstone No	85.94	333	P	P	13 47 44.1 +0.2
YNE				IAmb	IAmb	13 47 45.5
	comp=Z,5.3nm,0.7s					
YMR	Madison River	86.02	332	P	P	13 47 45.5 +1.2
LAO	LASA Array	86.03	336	P	P	13 47 44.9 +0.8
	baz=151					
LAO	LASA Array	86.03	336	P	P	13 47 43.7 -0.3
YHH	Holmes Hill	86.08	332	P	P	13 47 45.3 +0.6
YHH				IAmb	IAmb	13 47 46.9
	comp=Z,10.0nm,0.8s					
ULM	Lac du Bonnet	86.30	344	P	P	13 47 44.4 -0.8
	comp=Z,1.4nm,0.5s,baz=242,slow=1.7,SNR=4.4					
BEKR	Beckworth	86.33	324	P	P	13 47 47.2 +1.3
QLMT	Earthquake Lak	86.34	332	P	P	13 47 47.2 +1.3
GCMT	Greycliff	86.48	334	P	P	13 47 46.7 +0.3
ORV	Oroville	86.66	323	P	P	13 47 48.7 +1.4
ORV				IAmb	IAmb	13 48 17.6
	comp=Z,12nm,1.4s					
MCMT	McKenzie Canyo	86.90	331	P	P	13 47 48.7 0.0
MFID	Camas Ranch	87.00	329	P	P	13 47 49.8 +0.8
BOZ	Bozeman (W)	87.06	332	P	P	13 47 50.3 +1.1
	baz=146					
DLMT	Dillon	87.24	332	P	P	13 47 51.0 +0.8
O03E	Paynes Creek	87.37	323	P	P	13 47 51.8 +1.0
	baz=139					
LRM	Limekiln Ridge	87.57	332	P	P	13 47 52.0 +0.2
LRM				pP	pP	13 48 19.0 -0.2
O02D	Mt. Diablo Mer	87.78	323	P	P	13 47 53.9 +1.2
	baz=138					
KCPM	Cahto Peak	87.82	322	P	P	13 47 55.0 +2.0
KCPM				IAmb	IAmb	13 47 56.3
	comp=Z,11nm,0.9s					
SCHQ	Schefferville	87.92	2	P	P	13 47 53.4 +0.4
	comp=Z,3.1nm,0.8s,baz=148,slow=13,SNR=1.8					
WDC	Whiskeytown Da	87.96	323	P	P	13 47 53.5 0.0
WDC				IAmb	IAmb	13 47 54.7
	comp=Z,6.4nm,0.8s					
J08A	Circle Bar Ran	88.13	327	P	P	13 47 55.5 +1.1
N02D	Trinity Center	88.33	323	P	P	13 47 56.5 +1.2
	baz=139					
EGMT	Eagleton	88.40	335	P	P	13 47 55.4 -0.1
	baz=148					
M04C	Macdoel	88.51	324	P	P	13 47 57.4 +1.1
	baz=139					
M02C	Callahan	88.72	323	P	P	13 47 58.2 +1.1
	baz=138					
YBH	Yreka Blue Hor	88.90	324	P	P	13 47 58.2 +0.2
L04D	Klamath Falls	89.07	324	P	P	13 47 59.3 +0.4
	baz=139					
I07A	Izee	89.17	327	P	P	13 48 00.3 +1.1
J05D	Fort Rock, OR	89.36	325	P	P	13 48 02.2 +2.0
	baz=140					
PINE	Pine Mountain	89.61	326	P	P	13 48 02.4 +1.0
PINE				IAmb	IAmb	13 48 05.2
	comp=Z,5.4nm,0.9s					
K02D	Willamette Mer	90.09	324	P	P	13 48 05.2 +1.7
	baz=138					
I05D	Terrebonne, OR	90.21	326	P	P	13 48 06.3 +2.3
	baz=140					
J01E	Myrtle Point	90.57	324	P	P	13 48 07.9 +2.3
	baz=138					
WALA	Waterton Lakes	90.79	333	P	P	13 48 07.4 +0.7
WALA				IAmb	IAmb	13 48 26.0
	comp=Z,7.5nm,1.4s					
ILAR	Eielson Array	114.30	333	PKP	PKiKP	13 53 42.5 +0.5
	comp=Z,0.3nm,0.8s,baz=191,slow=0.9,SNR=4.1					
ASAR	Alice Springs	118.73	205	PKP	PKPdf	13 53 51.6 -0.4
	comp=Z,0.2nm,0.8s,baz=128,slow=1.7,SNR=1.6					
ASAR				pPKP	pPKPdf	13 54 19.8 -0.6
	comp=Z,0.1nm,0.4s,baz=126,slow=1.5,SNR=1.4					
WRA	Warramunga Arr	121.96	208	PKP	PKPdf	13 53 58.0 -0.3
	comp=Z,0.3nm,0.4s,baz=153,slow=1.9,SNR=15					
WRA				pPKP	pPKPdf	13 54 26.0 -0.7
	comp=Z,0.4nm,0.3s,baz=155,slow=1.9,SNR=2.9					
ARCES	ARCESS Array B	122.88	25	PKP	PKPdf	13 53 58.3 -0.1
	comp=Z,3.0nm,0.8s,baz=235,slow=3.2,SNR=1.9					
BVAR	Borovoye Array	145.88	43	PKPbc	PKPab	13 54 43.1 +0.2
	comp=Z,2.2nm,0.8s,baz=213,slow=21,SNR=6.2					
BVAR				pPKPbc	pPKPab	13 55 11.7 0.0
	comp=Z,1.2nm,0.6s,baz=213,slow=11,SNR=3.4					
YAK	Yakutsk	148.61	342		PKPbc	13 54 49.6 +0.1
KURBB	Kurchatov Arra	151.47	44	PKPbc	PKPbc	13 54 56.9 +0.1
	comp=Z,1.8nm,0.6s,baz=301,slow=3.3,SNR=17					
KURBB				pPKPbc	pPKPbc	13 55 26.2 +0.3
	comp=Z,1.6nm,0.7s,baz=302,slow=2.9,SNR=4.8					
KURK	Kurchatov	151.48	43		PKPbc	13 54 56.9 +0.1
ZAA0	Zalesovo Array	152.96	33		PKPbc	13 54 59.6 -0.4
ZALV	Zalesovo Beam	152.96	33	PKPbc	PKiKP	13 55 00.4 +0.2
	comp=Z,6.2nm,0.6s,baz=302,slow=3.7,SNR=26					
ZALV				pPKPbc	pPKPbc	13 55 29.3 +0.4
	comp=Z,4.3nm,0.5s,baz=306,slow=2.6,SNR=7.3					
ZALV	Zalesovo Beam	152.96	33		PKPbc	13 54 59.3 -0.7
MKAR	Makanchi Array	155.31	49	PKPab	PKPab	13 55 21.7 -0.4
	comp=Z,0.5nm,0.5s,baz=256,slow=2.9,SNR=4.0					
KSRS	Korea Array	164.56	290	PKPab	PKPab	13 56 04.4 +1.9
	comp=Z,2.1nm,0.9s,baz=107,slow=3.7,SNR=7.9					

TUL ***07*** *13:39:49.3±0.7, 36°.199N±0°.010×96°.74W±0°.03, h4km±3km, ML2.5, mb_Lg2.0/6(NEIC) Error ellipse: s-maj=3.8km s-min=1.4km az=96.0*

NEIC 07 13:39:49.2±0.5, 36°.20N±0°.01×96°.75W±0°.03, h5km±3km, Error ellipse: s-maj=3.8km s-min=1.8km az=86.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.04	131	Pg	Pg	13 39 50.8	+0.3
QUOK				Sg	Sg	13 39 51.6	+0.1
OK031	S. Brethren Rd	0.26	196	Sg	Sg	13 39 58.3	+0.6
BLOK	Blackwell	0.67	326	Pg	Pg	13 40 02.4	+0.2
BLOK				Sg	Sg	13 40 11.3	+0.3
OK029	Liberty Lake	0.70	235	Pg	Pg	13 40 02.8	+0.1
T35A	Sooner Cattle	0.74	15		Pg	13 40 03.5	0.0
T35A				Sg	Sg	13 40 12.8	-0.3
OK025	Westminster Rd	0.78	218	Pg	Pg	13 40 04.3	0.0
BCOK	Bluff Creek, N	0.88	232	Pg	Pg	13 40 06.2	0.0
BCOK				Sg	Sg	13 40 18.1	+0.4
OKCFA	Oklahoma City	0.97	216	Pg	Pg	13 40 07.5	-0.4
KAN13	South Haven SW	1.00	324	Sg	Sg	13 40 21.2	-0.2
CROK	Carrier	1.04	287	Pg	Pg	13 40 09.2	0.0
FNO	Franklin	1.08	210	Pg	Pg	13 40 09.5	-0.5
KAN09	Caldwell

U32A Sg Sg 13 43 23.0 -0.3
OK032 Salt Plains WL 0.67 65 Pg Pg 13 43 30.9 0.0
CROK Carrier 0.80 91 Pg 13 43 33.2 -0.1
CROK Sg Sg 13 43 44.0 +0.4
KAN10 Anthony SW Sta 0.93 49 Pg Pg 13 43 35.4 -0.4
KAN10 Sg Sg 13 43 47.8 0.0
KAN05 Bluff City Nor 1.06 56 Pg Pg 13 43 38.2 -0.1
KAN08 Anthony NE Sta 1.07 48 Pg Pg 13 43 38.0 -0.4
KAN08 Sg Sg 13 43 52.5 +0.1
KAN12 Harper NE Stat 1.10 45 Pg Pg 13 43 38.6 -0.5
KAN17 Caldwell West 1.10 61 Pg Pg 13 43 38.7 -0.4
KAN09 Caldwell North 1.25 60 Pg Pn 13 43 41.2 -0.3
KAN13 South Haven SW 1.30 67 Pn Pn 13 43 42.1 -0.2
KS20 Mayfield South 1.34 58 Pn Pn 13 43 42.8 0.0
BCOK Bluff Creek, N 1.40 128 Pn 13 43 43.6 0.0
OK029 Liberty Lake 1.42 120 Pn 13 43 44.0 0.0
BLOK Blackwell 1.43 80 Pn Pn 13 43 44.2 +0.1
OK025 Westminster Rd 1.62 125 Pn Pn 13 43 47.2 +0.5
WMOK Wichita Mounta 1.78 175 Pn Pn 13 43 48.8 -0.2
FNO Franklin 1.79 134 Pn Pn 13 43 49.8 +0.7
FNO IAmb_Lg 13 44 13.4
comp=Z,22nm,0.8s
OK031 S. Brethren Rd 1.81 108 Pn Pn 13 43 49.6 +0.3
QUOK Quay 1.86 100 Pn Pn 13 43 50.5 +0.6
T35A Sooner Cattle 2.01 78 Pn Pn 13 43 53.0 +0.9
X34A Smith Ranch, M 2.13 154 Pn Pn 13 43 54.0 +0.4
AMTX Amarillo 2.74 234 IAmb_Lg 13 44 46.2
comp=Z,13nm,0.8s
X37A Clayton 3.51 122 Pn Pn 13 44 13.4 +0.7
X37A IAmb_Lg 13 45 15.4
comp=Z,9.8nm,0.7s
KSCO Kaye Shedlock' IAmb_Lg 13 45 24.4
comp=Z,7.4nm,0.9s
HHAR Hobbs 4.07 92 IAmb_Lg 13 45 27.3
comp=Z,13nm,1.2s
N33A J Bar K, Exete 4.38 15 IAmb_Lg 13 45 49.2
comp=Z,12nm,0.7s
W39A Magazine 4.41 106 IAmb_Lg 13 45 43.3
comp=Z,9.5nm,0.9s
S39A Bolivar 4.66 74 IAmb_Lg 13 45 46.3
comp=Z,10.0nm,0.8s
JCT Junction City 4.68 187 IAmb_Lg 13 46 39.8
comp=Z,6.9nm,0.8s
P40A Paris 6.24 59 IAmb_Lg 13 46 47.7
comp=Z,18nm,0.8s
ANMO Albuquerque 6.29 258 IAmb_Lg 13 46 54.7
comp=Z,4.5nm,1.0s
LCAR Lake Charles 6.33 92 IAmb_Lg 13 46 37.9
comp=Z,6.1nm,1.1s
CCM Cathedral Cave 6.35 74 IAmb_Lg 13 46 38.5
comp=Z,12nm,0.7s
ECSD EROS Data Cent 7.43 13 IAmb_Lg 13 47 17.7
comp=Z,10nm,1.0s
PV15 Paradox Valley 7.78 286 IAmb_Lg 13 47 18.7
comp=Z,3.3nm,0.8s
PV01 Paradox Valley 7.82 285 IAmb_Lg 13 47 18.9
comp=Z,2.2nm,1.0s

NNC 07 13:51:31.8±2.0, 37.76N×78.05E, h24km±11km, mb4.2, mpv3.9, 6C-4D, Error ellipse: s-maj=16.9km s-min=13.5km az=86.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.30**	**3**	Pg	Pb	13 53 08.8	+5.1
SATY	13nm,0.8s			Lg	Lg	13 54 21.2	
UZB	**Uzynbulak**	**5.43**	**8**	Pg	Pb	13 53 11.6	+5.5
UZB	7.3nm,0.3s			Lg	Lg	13 54 25.9	
MDOK	**Medeo**	**5.45**	**352**	Pg	Pb	13 53 10.5	+4.2
MDOK	13nm,0.6s			Lg	Lg	13 54 26.1	
MDOK	**Medeo**	**5.45**	**352**	Pg	Pb	13 53 11.6	+5.2
MDOK	28nm,0.6s			Lg	Lg	13 54 25.2	
TKM2	**Tokmak 2**	**5.48**	**341**	⇓Pg	Pb	13 53 10.0	+3.0
TKM2	9.9nm,0.7s			⇓Lg	Lg	13 54 25.6	
KST	**Kastek**	**5.51**	**344**	Pg	Pb	13 53 13.7	+6.3
KST	6.5nm,0.4s			Lg	Lg	13 54 29.2	
AAK	**Ala-Archa**	**5.58**	**332**	⇓Pg	Pb	13 53 13.7	+5.2
AAK	5.4nm,0.6s			⇑Lg	Lg	13 54 28.2	
PDGK	**Podgornoye**	**5.67**	**11**	⇑Pg	Pb	13 53 13.1	+3.0
PDGK	51nm,0.9s			⇓Lg	Lg	13 54 27.1	
KURS	**Kuram**	**5.72**	**1**	Pg	Pb	13 53 18.6	+7.7
KURS	15nm,0.4s			Lg	Lg	13 54 37.4	
DGS	**Degeres**	**5.74**	**343**	Pg	Pb	13 53 17.3	+6.0
DGS	8.6nm,0.5s			Lg	Lg	13 54 34.2	
KTBS	**Karatobe**	**6.04**	**351**	Pg	Pb	13 53 21.7	+5.4
KTBS	3.7nm,0.5s			Lg	Lg	13 54 43.8	
CHKK	**Chushkaly**	**6.14**	**353**	Pg	Pb	13 53 23.3	+5.3
CHKK	5.7nm,0.5s			Lg	Lg	13 54 46.1	
MRKS	**Merke**	**6.20**	**325**	Pg	Pb	13 53 23.4	+4.4
MRKS	4.2nm,0.5s			Lg	Lg	13 54 47.2	
SGDS	**Sogindy**	**6.25**	**337**	Pg	Pb	13 53 26.3	+6.4
SGDS	3.7nm,0.4s			Lg	Lg	13 54 52.2	
KUU	**Kurty**	**6.26**	**349**	Pg	Pb	13 53 25.4	+5.3
KUU	2.4nm,0.6s			Lg	Lg	13 54 49.0	
ARXS	**Arharly**	**6.45**	**359**	Pg	Pb	13 53 28.3	+5.0
ARXS	7.4nm,0.5s			Lg	Lg	13 54 54.6	
MAKZ	**Makanchi**	**9.50**	**17**	⇑Pn	Pn	13 53 45.6	-1.4
MAKZ	2.0nm,0.8s			⇑Sn	Sn	13 55 32.7	-0.3
MK31	**Makanchi Array**	**9.56**	**18**	⇑Pn	Pn	13 53 50.3	+2.5
MK31	0.2nm,0.3s,baz=195,slow=14			⇑Sn	Sn	13 55 35.5	+1.0
	1.7nm,0.7s,baz=200,slow=24						

*IDC **07** 13:57:00.4±1.4, 6.08S×151.72E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.7/39, mbtmp4.0/6, ML2.0/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/33, Error ellipse: s-maj=66.8km s-min=23.7km az=127.0*
*NEIC **07** 13:57:05.6±2.8, 6.15S±0.08×151.8E±0.1, h30km±6km, mb4.2/12, Error ellipse: s-maj=19.1km s-min=9.8km az=116.0*
ISC 07 13:57:06.0±0.7, 6.13S±0.09×151.7E±0.1, h41km, n26, σ1§35/24, mb4.0/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.98**	**13**	Pn	**Pn**	**13 57 37.6**	**+0.6**
PMG	**Port Moresby**	**5.56**	**234**	Pn	**Pn**	**13 58 26.8**	**+0.6**
PMG	2.7nm,0.3s,baz=38,slow=8.0,SNR=8.5			Sn	**Sn**	**13 59 25.3**	**-3.6**
	5.4nm,0.3s,baz=155,slow=20,SNR=9.8						
PMG	**Port Moresby**	**5.56**	**234**		**Pn**	**13 58 27.1**	**+0.9**
CTAO	**Charters Tower**	**14.85**	**200**	Pn	**Pn**	**14 00 34.6**	**+1.3**
GUMO	**Guam**	**20.73**	**341**	P	**P**	**14 01 43.6**	**+0.3**
DZM	**Mont Dzumac**	**21.31**	**139**	LR	LR	14 07 19.4	
	comp=Z,58nm,20.1s,baz=352,slow=29						
DZM	**Mont Dzumac**	**21.31**	**139**	P	**P**	**14 01 51.5**	**+1.9**
DZM	comp=Z,17nm,1.4s			IAmb	IAmb	14 01 59.8	
WB0	**Warramunga Arr**	**21.61**	**230**	P	**P**	**14 01 51.9**	**-0.7**
WB0	comp=Z,12nm,1.1s			IAmb	IAmb	14 02 03.8	
WR0	**Warramunga Arr**	**21.61**	**229**	P	**P**	**14 01 51.3**	**-1.4**
WR0	comp=Z,8.6nm,1.0s			IAmb	IAmb	14 02 06.1	
WRAB	**Tennant Creek**	**21.74**	**229**	P	**P**	**14 01 53.1**	**-1.0**
WRAB	comp=Z,6.0nm,0.9s			IAmb	IAmb	14 02 20.1	
WB2	**Warramunga Arr**	**21.74**	**229**	P	**P**	**14 01 53.4**	**-0.8**
WB2	comp=Z,12nm,1.3s			IAmb	IAmb	14 02 10.6	
WRA	**Warramunga Arr**	**21.75**	**229**	P	**P**	**14 01 53.5**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=56,slow=11,SNR=14						
WRA	**Warramunga Arr**	**21.75**	**229**	P	**P**	**14 01 54.9**	**+0.7**
KNRA	**Kununurra**	**24.42**	**245**	P	**P**	**14 02 21.1**	**+0.1**
KNRA	comp=Z,17nm,1.4s			IAmb	IAmb	14 02 42.2	
AS31	**Alice Springs**	**24.44**	**223**	P	**P**	**14 02 20.4**	**-0.8**
ASAR	**Alice Springs**	**24.44**	**223**	P	**P**	**14 02 21.2**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=54,slow=8.9,SNR=57						
ASAR	**Alice Springs**	**24.44**	**223**	P	**P**	**14 02 20.8**	**-0.4**
STKA	**Stephens Creek**	**27.30**	**199**	P	**P**	**14 02 48.0**	**+1.1**
	comp=Z,2.0nm,0.9s,baz=357,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**27.30**	**199**	IAmb	IAmb	14 02 50.1	
	comp=Z,1.5nm,1.2s						
FITZ	**Fitzroy Crossi**	**28.07**	**243**	P	**P**	**14 02 54.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=73,slow=13,SNR=5.3						
KNTN	**Kanton**	**36.61**	**86**	P	**P**	**14 04 05.8**	**-3.0**
MORW	**Morawa**	**40.67**	**232**	P	**P**	**14 04 43.8**	**+1.2**
PLWZ	**Palliser**	**41.06**	**153**	P	**P**	**14 04 44.8**	**-0.8**
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**14 09 31.1**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=246,slow=5.2,SNR=10						
ELK	**Elko**	**96.27**	**50**	LR	LR	14 49 53.0	
	comp=Z,33nm,18.2s,baz=353,slow=33						
TORD	**Torodi Ar. Bea**	**149.64**	**286**	PKPbc	**PKPbc**	**14 16 52.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=60,slow=3.9,SNR=3.3						

*IDC **07** 13:58:20.0±1.1, 54.24S×133.66W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/31, mbtmp4.0/5, MS3.6/5, Ms1 3.5/5, ms1mx3.3/25, Error ellipse: s-maj=39.7km s-min=33.0km az=149.0*
*NEIC **07** 13:58:22.0±1.4, 53.9S±0.3×133.6W±0.1, h15km±4km, mb4.4/11, Error ellipse: s-maj=39.4km s-min=11.7km az=175.0*
ISC 07 13:58:21.4±0.8, 54.2S±0.2×133.5W±0.2, h10km, n35, σ0§74/19, mb4.4/11, MS3.5/7, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.10**	**357**	*e*T	T	14 36 53.7	
	3.4nm,0.3s						
TBI	**Tubuai**	**33.09**	**332**	*e*LR	LR	14 13 18.1	
	comp=Z,149nm,29.8s						
TBI	**Tubuai**	**33.09**	**332**	*e*T	T	14 39 25.3	
	16nm,0.4s						
QSPA	**South Pole Qui**	**35.93**	**180**	P	**P**	**14 05 22.1**	**+0.4**
	2.5nm,1.1s,baz=85,slow=2.4,SNR=5.8						
QSPA	**South Pole Qui**	**35.93**	**180**	P	**P**	**14 05 22.2**	**+0.6**
QSPA				IAmb	IAmb	14 05 28.8	
	comp=Z,5.0nm,1.2s						
PPT2	**Papeete2**	**38.63**	**335**	*e*LR	LR	14 15 52.7	
	comp=Z,169nm,25.2s						
PPT	**Papeete**	**38.65**	**335**	LR	LR	14 17 38.0	
	comp=Z,72nm,21.3s,baz=146,slow=30						
H03S2	**Juan Fernandez**	**42.97**	**85**	T	T	14 52 20.4	
	baz=222,slow=74,SNR=32						
H03S1	**Juan Fernandez**	**42.98**	**85**	T	T	14 52 21.7	
	baz=222,slow=74,SNR=31						
H03S3	**Juan Fernandez**	**42.98**	**85**	T	T	14 52 20.8	
	baz=222,slow=74,SNR=28						
PLCA	**Paso Flores**	**43.20**	**99**	LR	LR	14 20 05.8	
	comp=Z,53nm,18.5s,baz=185,slow=30						
H03N3	**Juan Fernandez**	**43.24**	**84**	T	T	14 52 27.9	
	baz=225,slow=72,SNR=20						
H03N2	**Juan Fernandez**	**43.25**	**84**	T	T	14 52 28.6	
	baz=225,slow=72,SNR=17						
H03N1	**Juan Fernandez**	**43.26**	**84**	T	T	14 52 30.0	
	baz=225,slow=72,SNR=16						
GO04	**Tololo Observa**	**50.37**	**88**	P	**P**	**14 07 18.7**	**-0.1**
PB04	**IPOC Station P**	**56.67**	**82**	P	**P**	**14 08 04.8**	**-0.2**
CPUP	**Villa Florida**	**61.13**	**96**	LR	LR	14 31 12.5	
	comp=Z,34nm,19.0s,baz=198,slow=32						
STKA	**Stephens Creek**	**61.96**	**254**	P	**P**	**14 08 42.2**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=124,slow=7.3,SNR=3.8						
STKA	**Stephens Creek**	**61.96**	**254**	IAmb	IAmb	14 08 42.5	
	comp=Z,0.6nm,1.1s						
LPAZ	**La Paz**	**62.59**	**80**	P	**P**	**14 08 46.1**	**-0.4**
LPAZ				IAmb	IAmb	14 09 03.7	
	comp=Z,1.8nm,1.0s						
AS31	**Alice Springs**	**72.60**	**254**	P	**P**	**14 09 48.1**	**-0.9**
AS31				IAmb	IAmb	14 09 49.6	
	comp=Z,1.4nm,1.0s						
ASAR	**Alice Springs**	**72.60**	**254**	P	**P**	**14 09 48.4**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=141,slow=6.9,SNR=30						
ASAR	**Alice Springs**	**72.60**	**254**	P	**P**	**14 09 48.0**	**-1.0**
WR0	**Warramunga Arr**	**75.16**	**257**	P	**P**	**14 10 03.3**	**-0.6**
WR0				IAmb	IAmb	14 10 27.2	
	comp=Z,5.1nm,1.2s						
WB2	**Warramunga Arr**	**75.28**	**256**	P	**P**	**14 10 04.0**	**-0.6**
WB2				IAmb	IAmb	14 10 32.2	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**75.29**	**256**	P	**P**	**14 10 04.1**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=145,slow=5.2,SNR=26						
WRA	**Warramunga Arr**	**75.29**	**256**	P	**P**	**14 10 03.6**	**-1.1**
WRAB	**Tennant Creek**	**75.29**	**256**	P	**P**	**14 10 04.1**	**-0.6**
WRAB				IAmb	IAmb	14 10 05.2	
	comp=Z,5.4nm,0.9s						
WB0	**Warramunga Arr**	**75.40**	**257**	P	**P**	**14 10 05.0**	**-0.3**
WB0				IAmb	IAmb	14 10 05.8	
	comp=Z,4.3nm,0.8s						
TXAR	**Lajitas Array**	**87.14**	**26**	P	**P**	**14 11 08.5**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=210,slow=7.1,SNR=1.8						
PFO	**Pinyon Flats O**	**88.73**	**14**	LR	LR	14 41 17.1	
	comp=Z,30nm,19.6s,baz=247,slow=29						
ANMO	**Albuquerque**	**91.85**	**22**	LR	LR	14 43 28.8	
	comp=Z,35nm,19.0s,baz=233,slow=30						
ILAR	**Eielson Array**	**119.13**	**353**	PKP	**PKiKP**	**14 17 08.7**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=180,slow=0.3,SNR=8.8						
KEST	**Kesra**	**148.37**	**111**	PKPbc	**PKPbc**	**14 18 06.7**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=218,slow=5.8,SNR=4.7						
MKAR	**Makanchi Array**	**156.25**	**266**	PKPab	**PKPab**	**14 18 43.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=101,slow=3.8,SNR=6.4						

*MOS **07** 14:09:19.5±1.1, 43.87N×148.20E, h55km, mb4.2/1, Error ellipse: s-maj=17.8km s-min=14.3km az=170.6*
*JMA **07** 14:09:20.8±0.3, 43.65N×147.82E, h6km, M3.9*
*SKHL **07** 14:09:22.2±0.3, 43.90N×148.00E, h75km±5km, mb4.4/5*
*IDC **07** 14:09:24.2±4.4, 44.15N×148.01E, h73km±34km, mb3.3/4, mb1 3.6/6, mb1mx3.2/42, mbtmp3.7/6, ML2.7/2, Error ellipse: s-maj=71.6km s-min=30.5km az=162.0*
ISC 07 14:09:19.2±1.5, 43.77N±0.09×148.2E±0.1, h37km±3km, n36, σ1§43/51, mb3.5/4, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**350**	*de*PN	**Pn**	**14 09 44.0**	**+0.8**
KUR				*i* S	**Sn**	**14 10 01.3**	**-0.1**
KUR				pmax	pmax		
	comp=Z,193nm,0.4s						
KUR				pmax	pmax		
	comp=E,104nm,0.2s						
KUR				pmax	pmax		
	comp=N,100nm,0.3s						
KUR				smax	smax		
	comp=N,498nm,0.5s						
KUR				smax	smax		
	comp=E,33nm,0.2s						
KUR	**Kuril'sk**	**1.48**	**350**	*i* P	**Pn**	**14 09 44.0**	**+0.8**
KUR				AMB	AMB	14 09 45.0	
	comp=E,100nm,0.4s						
KUR				AMB	AMB	14 09 45.0	
	comp=E,100nm,0.4s						
KUR				AMB	AMB	14 09 45.0	
	comp=E,190nm,0.4s						
KUR				*i* S	**Sn**	**14 10 00.3**	**-1.1**
KUR				A	A	14 10 06.0	
	comp=E,500nm,0.3s						
KUR				A	A	14 10 06.0	
	comp=E,330nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.73**	**280**	*c i*PN	**Pn**	**14 09 47.5**	**+0.9**
YUK				*e*S	**Sn**	**14 10 06.5**	**-0.8**
YUK				pmax	pmax		
	comp=N,73nm,0.1s						
YUK				pmax	pmax		
	comp=E,58nm,0.1s						
YUK				pmax	pmax		
	comp=Z,225nm,0.1s						
YUK				smax	smax		
	comp=N,338nm,0.1s						
YUK				smax	smax		
	comp=E,920nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.73**	**280**	*i* P	**Pn**	**14 09 47.5**	**+0.9**
YUK				AMB	AMB	14 09 49.5	
	comp=E,70nm,0.2s						
YUK				AMB	AMB	14 09 49.5	
	comp=E,60nm,0.2s						
YUK				AMB	AMB	14 09 49.5	
	comp=E,230nm,0.2s						
YUK				*e*S	**Sn**	**14 10 06.5**	**-0.8**
YUK				A	A	14 10 08.0	
	comp=E,340nm,0.2s						
YUK				A	A	14 10 08.0	
	comp=E,920nm,0.2s						
GRPR	**Tuman**	**1.79**	**278**	*e*PN	**Pn**	**14 09 47.5**	**+0.1**
GRPR				*e*S	**Sn**	**14 10 07.0**	**-1.8**
GRPR				pmax	pmax		
	comp=N,21nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,40nm,0.2s						
GRPR				smax	smax		
	comp=N,606nm,0.3s						
GRPR				smax	smax		
	comp=E,135nm,0.2s						
GRPR	**Tuman**	**1.79**	**278**	*e*P	**Pn**	**14 09 47.7**	**+0.3**
GRPR				AMB	AMB	14 09 51.0	
	comp=E,20nm,0.2s						
GRPR				AMB	AMB	14 09 51.0	
	comp=E,40nm,0.2s						
GRPR				*e*S	**Sn**	**14 10 07.0**	**-1.8**
GRPR				A	A	14 10 10.0	
	comp=E,610nm,0.3s						
GRPR				A	A	14 10 10.0	
	comp=E,140nm,0.3s						
NEM2	**Nemuro 2**	**1.85**	**258**	P	**Pn**	**14 09 48.8**	**+0.6**
NEM2				*e*S	**Sn**	**14 10 09.0**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.86**	**258**	⇑*i*PN	**Pn**	**14 09 48.8**	**+0.5**
NMR				*e*S	**Sn**	**14 10 09.0**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.86**	**258**	*i* P	**Pn**	**14 09 48.8**	**+0.5**
NMR				*e*S	**Sn**	**14 10 09.0**	**-1.5**
GLVR	**Golovnino**	**1.96**	**270**	*e*PN	**Pn**	**14 09 51.1**	**+1.4**
GLVR				*e*S	**Sn**	**14 10 12.9**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,54nm,0.2s						
GLVR				pmax	pmax		
	comp=N,18nm,0.3s						
GLVR				pmax	pmax		
	comp=E,3.0nm,0.2s						
GLVR				smax	smax		
	comp=N,698nm,0.3s						
GLVR				smax	smax		
	comp=E,307nm,0.2s						
GLVR	**Golovnino**	**1.96**	**270**	*e*P	**Pn**	**14 09 50.7**	**+0.9**
GLVR				AMB	AMB	14 09 51.0	
	comp=E,20nm,0.2s						
GLVR				AMB	AMB	14 09 51.0	
	comp=E,50nm,0.2s						
GLVR				*e*S	**Sn**	**14 10 12.0**	**-1.0**
GLVR				A	A	14 10 17.0	
	comp=E,700nm,0.3s						
GLVR				A	A	14 10 17.0	
	comp=E,310nm,0.3s						
RUSJ	**Misakicho**	**2.17**	**280**	⇓*i*PN	**Pn**	**14 09 54.5**	**+1.8**
RUSJ				*e*S	**Sn**	**14 10 19.1**	**+0.7**
JRA	**Rausu**	**2.25**	**275**	P	**Pn**	**14 09 55.0**	**+1.3**
JRA				*e*S	**Sn**	**14 10 20.1**	**-0.1**
JNSB	**Nemuroshibetsu**	**2.33**	**271**	P	**Pn**	**14 09 56.4**	**+1.5**
JNSB				*e*S	**Sn**	**14 10 22.5**	**+0.3**
JNK	**Nakash**	**2.55**	**267**	P	**Pn**	**14 09 59.0**	**+1.1**
JNK				*e*S	**Sn**	**14 10 27.2**	**-0.4**
AKK	**Akkeshi**	**2.58**	**254**	*e*P	**Pn**	**14 09 59.6**	**+1.4**
AKK				*e*S	**Sn**	**14 10 27.3**	**-1.0**
JAK	**Akkeshi**	**2.68**	**254**	P	**Pn**	**14 10 00.5**	**+0.8**
JAK				*e*S	**Sn**	**14 10 29.6**	**-1.3**
JTKR	**Abashiri--Toko**	**3.12**	**275**	P	**Pn**	**14 10 07.7**	**+1.9**
JTKR				*e*S	**Sn**	**14 10 45.0**	**+3.2**
JAR	**Ashorobuto**	**3.27**	**263**	P	**Pn**	**14 10 09.9**	**+2.1**
JAR				*e*S	**Sn**	**14 10 46.2**	**+0.7**
JOB	**Onbets**	**3.32**	**256**	P	**Pn**	**14 10 09.8**	**+1.4**
JOB				*e*S	**Sn**	**14 10 45.8**	**-0.7**
JCH	**Churui**	**3.74**	**254**	P	**Pn**	**14 10 16.0**	**+1.8**
JCH				*e*S	**Sn**	**14 10 55.8**	**-1.1**
JKA	**Kamikawa-asahi**	**4.07**	**277**	*e*P	**Pn**	**14 10 21.9**	**+3.0**
ASAJ	**Asahikawa**	**4.08**	**277**	P	**Pn**	**14 10 21.9**	**+3.0**
	comp=E,0.7nm,0.3s,baz=153,slow=4.5,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**5.00**	**311**	*e*P	**Pn**	**14 10 32.9**	**+1.4**
YSS				AMB	AMB	14 10 33.8	
	comp=E,20nm,0.4s						
PETK	**Petropavlovsk-**	**11.26**	**31**	P	**Pn**	**14 11 57.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=4.1						
EKMR	**Ekimchan**	**13.74**	**318**	*e*P	**Pn**	**14 12 28.0**	**-3.2**
H11N2	**WAKE ISLAND Hy 28.62**	**141**		T	T	14 46 04.3	
	baz=331,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy 28.63**	**141**		T	T	14 46 05.0	
	baz=331,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy 28.64**	**141**		T	T	14 46 06.0	
	baz=331,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy 29.60**	**142**		T	T	14 47 09.0	
	baz=332,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy 29.61**	**143**		T	T	14 47 09.9	
	baz=332,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 29.62**	**142**		T	T	14 47 13.6	
	baz=332,slow=76,SNR=15						
ILAR	**Eielson Array**	**41.01**	**36**	P	**P**	**14 16 58.5**	**+0.3**
	comp=E,0.4nm,0.5s,baz=276,slow=7.9,SNR=5.9						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**14 19 54.4**	**-1.7**
	comp=E,1.8nm,0.8s,baz=58,slow=9.4,SNR=3.5						
NVAR	**Mina Array Bea**	**66.91**	**58**	P	**P**	**14 20 08.0**	**+0.2**
	comp=E,0.2nm,0.6s,baz=308,slow=7.6,SNR=2.1						
TXAR	**Lajitas Array**	**81.99**	**57**	P	**P**	**14 21 35.9**	**+0.5**
	comp=E,0.3nm,0.6s,baz=299,slow=4.0,SNR=5.3						

*BJI **07** 14:15:46.5±0.0, 56.25N×110.47E, h9km, mB4.7/34, mb4.4/53, Ms4.7/45, Ms7 4.5/44*
*IDC **07** 14:15:49.4±0.4, 55.76N×110.27E, h0km, mb4.5/29, mb1 4.7/36, mb1mx4.6/46, mbtmp4.6/36, ML4.5/7, MS3.9/29, Ms1 4.0/29, ms1mx3.8/47, Error ellipse: s-maj=11.6km s-min=8.5km az=148.0*
*MOS **07** 14:15:49.5±0.8, 55.82N×110.23E, h10km, mb5.0/69, MS4.4/21, Error ellipse: s-maj=5.9km s-min=4.5km az=72.2*
MOS Felt (III-IV) at Kichera, Kumora, Novyy Uoyan, (III) at Nizhneangarsk, Severobaykal'sk, (II) at Kirensk, Bodaybo, Ust'-Kut, Chita.
*BYKL **07** 14:15:51.8±0.2, 55.70N×110.39E, Mw4.6/13(IEC), #STATIONS KDAK PET MAJO INCN SSE ENH KMI AAK GNI OBN KEV KBS ALE FELT I=III-IV MSK at Verchnya Zaimka, Kichera, Kumora, Novyy Uoyan, Magistralniy; III at Nizhneangarsk, Severobaikalsk; II-III at Kirensk, Ust-Kut; II at Okunaiskiy, Bubnovka, Bodaibo, Chita, Irkutsk*
*NEIC **07** 14:15:52.1±1.1, 55.99N±0.10×110.1E±0.2, h10km±1km, mb4.9/281, Error ellipse: s-maj=16.8km s-min=15.5km az=173.0*
*GCMT **07** 14:15:53.1±0.4, 55.83N±0.03×110.52E±0.07, h30km±1km, MW4.8/66, Moment Tensor Solution. s28,c30; s66,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.34±.17; $M_{\theta\theta}$1.13±.11; $M_{\phi\phi}$1.21±.11; $M_{r\theta}$-0.75±.14; $M_{\theta\phi}$0.64±.06; $M_{\phi r}$-0.79±.13; Best double couple: $M_0$2.34400×10^{16} NP1:ϕ_s223.00000°, δ31.00000°, λ-90.00000°. NP2: ϕ_s43.00000°, δ59.00000°, λ-90.00000°. Principal axes: T 2.0820, Plg14.0000°, Azm133.0000°; N 0.5250, Plg0.0000°, Azm223.0000°; P -2.6070, Plg76.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **07** 14:16:02.7±0.0, 56.99N×110.07E, h33km, mb4.8, Ms4.2*
ISC 07 14:15:51.5±0.5, 55.84N±0.02×110.28E±0.02, h15km±3km, n872, σ1§50/964, mb4.8/242, MS4.2/44, 73C-78D, Fault plane solution: NP1:ϕ_s189.32097°, δ30.62282°, λ-108.84824°. **NP2:**ϕ_s30.95872°, δ61.17933°, λ-79.17390

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.42**	**261**	⇑*i*Pg		**Pb**	**14 16 00.7**	**0.0**
NIZ				Pmax			14 16 01.0	
	11μm,0.5s							
NIZ				*e*Sg		**Sb**	**14 16 07.4**	**+0.5**
NIZ				Smax			14 16 08.0	
	76μm,0.9s							
NIZ	**Nizh Angarsk**	**0.42**	**261**	⇑*i*PG		**Pb**	**14 16 00.7**	**0.0**
NIZ				*e*			14 16 06.5	
NIZ				pmax	pmax			
	comp=Z,14μm,0.8s							
NIZ				smax	smax			
	comp=N,75μm,2.3s							
KMO	**Kumora**	**0.52**	**85**	⇑*i*Pg		**Pg**	**14 16 01.0**	**-0.8**
KMO				Pmax			14 16 01.3	
	comp=N,8μm,0.1s							
KMO				*e*Sg		**Sg**	**14 16 07.9**	**-0.9**
KMO				Smax			14 16 19.0	
	comp=N,94μm,1.0s							
KMO	**Kumora**	**0.52**	**85**	*e*PG		**Pg**	**14 16 01.0**	**-0.8**
KMO				*e*			14 16 06.9	
KMO				pmax	pmax			
	comp=Z,8μm,0.3s							
KMO				smax	smax			
	comp=N,93μm,1.0s							
YOA	**Uoyan**	**0.86**	**70**	*e*Pg		**Pb**	**14 16 07.8**	**-0.4**
YOA				Pmax			14 16 12.2	
	comp=N,5μm,0.3s							
YOA				*e*Sg		**Sg**	**14 16 19.3**	**-0.3**
YOA				Smax			14 16 26.7	
	comp=N,102μm,0.4s							
YOA	**Uoyan**	**0.86**	**70**	⇑*i*PG		**Pb**	**14 16 07.9**	**-0.3**
YOA				*e*			14 16 21.4	
YOA				pmax	pmax			
	comp=Z,2μm,0.2s							
YOA				smax	smax			
	comp=N,102μm,0.4s							
SVKR	**Severomuysk**	**1.86**	**80**	*e*Pg		**Pn**	**14 16 24.2**	**+1.2**
SVKR				*e*			14 16 31.3	
SVKR				max			14 16 33.5	
	comp=N,10μm,0.5s							
SVKR				*e*Sg		**Sb**	**14 16 49.0**	**+0.6**
SVKR				Smax			14 16 51.7	
	comp=N,141μm,0.7s							
SVKR	**Severomuysk**	**1.86**	**80**	⇓*i*PN		**Pn**	**14 16 24.2**	**+1.2**
SVKR				*e*			14 16 25.1	
SVKR				*e*S		**Sb**	**14 16 48.4**	**-0.1**
SVKR				*e*			14 16 49.4	
SYVR	**Suvo**	**2.19**	**184**	⇓*i*Pg		**Pn**	**14 16 28.6**	**+1.2**
	comp=N,4μm,0.7s							
SYVR				⇓*i*Pg		**Pn**	**14 16 28.6**	**+1.2**
	comp=N,2μm,0.7s							
SYVR				⇑*i*Pg		**Pn**	**14 16 28.6**	**+1.2**
	comp=N,7μm,0.7s							
SYVR				Pmax			14 16 29.5	
	comp=N,13μm,0.6s							
SYVR				*e*Sg		**Sb**	**14 16 56.5**	**-1.3**
SYVR				Smax			14 16 58.9	
	comp=N,68μm,1.0s							
SYVR				*e*			14 17 01.9	
SYVR	**Suvo**	**2.19**	**184**	*e*PN		**Pn**	**14 16 28.6**	**+1.2**
SYVR				*e*			14 16 56.3	
SYVR				pmax	pmax			
	comp=Z,14μm,0.5s							
SYVR				smax	smax			
	comp=N,69μm,0.8s							
OGRR	**Ongureny**	**2.70**	**216**	⇓*i*Pn		**Pn**	**14 16 36.5**	**+2.2**
OGRR				*e*Pg		**Pb**	**14 16 40.0**	**+0.6**
OGRR				*e*PgPg		**Pg**	**14 16 43.9**	**+0.8**
OGRR				max			14 16 47.7	
	comp=N,801nm,0.4s							
OGRR				*e*Sg		**Sb**	**14 17 14.3**	**+2.0**
OGRR				Smax			14 17 24.4	
	comp=N,8μm,0.6s							
OGRR	**Ongureny**	**2.70**	**216**	⇓*i*PN		**Pn**	**14 16 36.5**	**+2.2**
OGRR				*e*			14 16 40.7	
OGRR				*e*S		**Sn**	**14 17 08.0**	**+1.3**
OGRR				*e*			14 17 13.7	
OGRR				pmax	pmax			
	comp=Z,1μm,0.8s							
OGRR				smax	smax			
	comp=E,8μm,0.5s							
MXMB	**Maximikha**	**2.73**	**200**	*e*Pn		**Pn**	**14 16 35.4**	**+0.6**
MXMB				*e*Pg		**Pb**	**14 16 39.5**	**-0.6**
MXMB				*e*			14 16 42.2	
MXMB				*e*Sn		**Sn**	**14 17 07.1**	**-0.5**
MXMB				*e*Sg		**Sb**	**14 17 14.9**	**+1.5**
BOD	**Bodaibo**	**2.85**	**44**	⇓*i*Pn		**Pn**	**14 16 37.9**	**+1.5**
BOD				*e*			14 16 41.9	
BOD				*e*Pg		**Pb**	**14 16 43.6**	**+1.6**
BOD				Pmax			14 16 49.2	
	comp=E,2μm,0.8s							
BOD				*e*Sn		**Sn**	**14 17 13.4**	**+2.9**
BOD				*e*Sg		**Sg**	**14 17 20.5**	**-2.5**
BOD				Smax			14 17 22.1	
	comp=E,10μm,0.5s							
BOD	**Bodaibo**	**2.85**	**44**	*e*PN		**Pn**	**14 16 38.1**	**+1.7**
BOD				*e*			14 16 43.8	
BOD				*e*			14 17 20.6	
BOD				pmax	pmax			
	comp=Z,1μm,0.7s							
BOD				smax	smax			
	comp=N,10μm,0.4s							
NLYR	**Nelyaty**	**3.10**	**76**	⇓*i*Pn		**Pn**	**14 16 40.8**	**+0.9**
NLYR				*e*Pg		**Pb**	**14 16 47.0**	**+0.6**
NLYR				Pmax			14 16 57.5	
	comp=N,2μm,0.8s							
NLYR				*e*Sg		**Sb**	**14 17 27.2**	**+3.2**
NLYR				*e*			14 17 34.7	
NLYR				Smax			14 17 38.7	
	comp=N,17μm,1.2s							
NLYR	**Nelyaty**	**3.10**	**76**	⇓*i*PN		**Pn**	**14 16 40.8**	**+0.9**
NLYR				*e*			14 16 46.5	
NLYR				*e*			14 17 25.9	
NLYR				pmax	pmax			
	comp=Z,2μm,0.7s							
NLYR				smax	smax			
	comp=N,17μm,1.1s							
KELR	**Kotokel**	**3.34**	**204**	*e*Pn		**Pn**	**14 16 42.1**	**-1.1**
KELR				*e*Pg		**Pb**	**14 16 49.8**	**-0.7**
KELR				*e*Sg		**Sb**	**14 17 31.5**	**+0.5**
ZRHB	**Zarechye**	**3.77**	**210**	*e*Pn		**Pn**	**14 16 48.9**	**-0.2**
ZRHB				*e*Pg		**Pb**	**14 16 57.9**	**+0.2**
ZRHB				Pmax			14 17 18.8	
	comp=N,2μm,0.9s							
ZRHB				*e*Sn		**Sn**	**14 17 30.7**	**-2.5**
ZRHB				*e*Sg		**Sb**	**14 17 45.8**	**+2.6**
ZRHB				Smax			14 18 19.2	
	comp=N,20μm,1.4s							
VTMR	**Vitim**	**3.81**	**18**	⇓*i*Pn		**Pn**	**14 16 51.2**	**+1.6**
VTMR				*e*Pg		**Pg**	**14 17 03.1**	**-1.3**
VTMR				*e*Sn		**Sn**	**14 17 37.9**	**+3.8**
VTMR				*e*Sg		**Sg**	**14 17 53.3**	**-0.4**
TRG	**Tyrgan**	**3.85**	**218**	*e*Pn		**Pn**	**14 16 50.5**	**+0.2**
TRG				*e*			14 16 54.9	
TRG				*e*Pg		**Pb**	**14 17 00.2**	**+1.1**
TRG				Pmax			14 17 12.2	
	comp=N,709nm,0.9s							
TRG				*e*Sg		**Sb**	**14 17 48.7**	**+3.2**
TRG				Smax			14 18 03.7	
	comp=N,4μm,0.8s							
TRG	**Tyrgan**	**3.85**	**218**	⇑*i*PN		**Pn**	**14 16 50.4**	**+0.2**
TRG				*e*			14 16 59.0	
TRG				*e*S		**Sn**	**14 17 34.9**	**-0.3**
TRG				*e*			14 17 48.4	
TRG				pmax	pmax			
	comp=Z,426nm,0.5s							
TRG				smax	smax			
	comp=E,3μm,0.5s							
UUDB	**Ulan-Yde**	**4.27**	**202**	*e*Pn		**Pn**	**14 16 55.5**	**-0.5**
UUDB				*e*Pg		**Pb**	**14 17 07.1**	**+0.8**
UUDB				*e*			14 17 11.3	
UUDB				*e*			14 17 17.6	
UUDB				max			14 17 18.2	
	comp=E,1μm,0.9s							
UUDB				*e*Sn		**Sn**	**14 17 44.8**	**-0.8**
UUDB				*e*Sg		**Sb**	**14 18 01.1**	**+3.5**
UUDB				*e*			14 18 06.4	
UUDB				max			14 18 11.5	
	comp=E,6μm,1.1s							
CIT	**Chita**	**4.29**	**152**	*e*Pg		**Pb**	**14 17 06.0**	**-0.6**
CIT				*e*			14 17 11.1	
CIT				max			14 17 12.7	
	comp=E,3μm,1.0s							
CIT				*e*Sg		**Sb**	**14 17 58.5**	**+0.4**
CIT				Smax			14 18 05.7	
	comp=E,6μm,1.1s							
CIT	**Chita**	**4.29**	**152**	*e*PN		**Pn**	**14 16 54.0**	**-2.2**
CIT				*e*			14 17 05.7	
CIT				*e*S		**Sn**	**14 17 42.8**	**-3.2**
CIT				*e*			14 17 57.9	
CIT				pmax	pmax			
	comp=Z,3μm,1.3s							
CIT				smax	smax			
	comp=E,8μm,1.6s							
FFNB	**Fofonovo**	**4.33**	**210**	*e*Pn		**Pn**	**14 16 57.3**	**+0.5**
FFNB				*e*Pg		**Pb**	**14 17 08.3**	**+1.0**
FFNB				*e*			14 17 14.9	
FFNB				*e*Sg		**Sb**	**14 18 01.9**	**+2.6**
KAB	**Kabansk**	**4.36**	**211**	*e*Pg		**Pb**	**14 17 09.4**	**+1.6**
KAB				Pmax			14 17 28.6	
	comp=E,1μm,0.8s							
KAB				*e*Sg		**Sb**	**14 18 04.6**	**+4.5**
KAB				Smax			14 18 34.5	
	comp=E,16μm,1.3s							
CRS	**Chara**	**4.57**	**73**	*e*Pn		**Pn**	**14 17 01.0**	**+0.9**
CRS				*e*			14 17 05.7	
CRS				*e*Pg		**Pb**	**14 17 13.0**	**+1.7**
CRS				Pmax			14 17 16.8	
	comp=E,3μm,1.0s							
CRS				*e*Sg		**Sb**	**14 18 11.7**	**+5.5**
CRS				Smax			14 18 18.4	
	comp=E,9μm,1.4s							
CRS	**Chara**	**4.57**	**73**	*e*PN		**Pn**	**14 17 01.0**	**+0.9**
CRS				*e*			14 17 14.3	
CRS				*e*			14 18 11.9	
CRS				pmax	pmax			
	comp=Z,3μm,1.0s							
CRS				smax	smax			
	comp=E,9μm,1.5s							
HRMR	**Khuramsha**	**4.66**	**206**	⇑*i*Pn		**Pn**	**14 17 01.1**	**-0.2**
HRMR				*e*			14 17 04.8	
HRMR				*e*Pg		**Pb**	**14 17 13.4**	**+0.5**
HRMR				Pmax			14 17 16.3	
	comp=E,1μm,0.5s							
HRMR				*e*Sn		**Sn**	**14 17 51.1**	**-4.0**
HRMR				*e*Sg		**Sb**	**14 18 11.8**	**+3.0**
HRMR				Smax			14 18 22.2	
	comp=E,10μm,1.0s							
BGT	**Bolshoye Golou**	**4.77**	**219**	*e*Pn		**Pn**	**14 17 02.8**	**0.0**
BGT				*e*			14 17 07.1	
BGT				max			14 17 08.2	
	comp=E,751nm,0.6s							
BGT				*e*Pg		**Pb**	**14 17 15.2**	**+0.5**
BGT				*e*Sn		**Sn**	**14 17 57.6**	**-0.2**
BGT				*e*Sg		**Sb**	**14 18 14.9**	**+3.0**
BGT				Smax			14 18 27.0	
	comp=E,3μm,0.9s							
IRK	**Irkutsk**	**5.05**	**227**	*e*Pn		**Pn**	**14 17 07.0**	**+0.3**
IRK				max			14 17 19.6	
	comp=E,641nm,0.6s							
IRK				*e*Sn		**Sn**	**14 18 03.2**	**-1.5**
IRK				*e*Sg		**Sg**	**14 18 27.2**	**-6.3**
IRK				Smax			14 18 38.1	
	comp=E,7μm,0.9s							
IRK	**Irkutsk**	**5.05**	**227**	*e*PN		**Pn**	**14 17 07.0**	**+0.3**
IRK				*e*			14 17 20.2	
IRK				*e*S		**Sn**	**14 18 03.3**	**-1.5**
IRK				*e*			14 18 24.8	
IRK				pmax	pmax			
	comp=Z,544nm,0.4s							
IRK				smax	smax			
	comp=E,8μm,0.7s							
LSTR	**Listvyanka**	**5.12**	**221**	*e*Pn		**Pn**	**14 17 07.5**	**-0.1**
LSTR				*e*			14 17 12.2	
LSTR				max			14 17 12.6	
	comp=E,258nm,0.8s							
LSTR				*e*Sn		**Sn**	**14 18 03.6**	**-2.9**
LSTR				*e*Sg		**Sb**	**14 18 26.7**	**+4.7**
LSTR				Smax			14 18 34.8	
	comp=E,3μm,1.1s							
IVK	**Ivanovka**	**5.33**	**223**	*e*Pn		**Pn**	**14 17 10.4**	**-0.1**
IVK				*e*			14 17 14.6	
IVK				max			14 17 30.6	
	comp=E,258nm,0.7s							
IVK				*e*Sn		**Sn**	**14 18 09.7**	**-2.0**
IVK				*e*Sg		**Sb**	**14 18 33.7**	**+5.6**
IVK				Smax			14 18 42.4	
	comp=E,3μm,1.5s							
TLY	**Talaya**	**5.73**	**226**	Pn		**Pn**	**14 17 14.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=41,slow=10,SNR=24							
TLY				Sn		**Sn**	**14 18 18.0**	**-3.5**
	comp=E,0.4nm,0.3s,baz=259,slow=21,SNR=7.2							
TLY				Lg		Lg	14 18 45.5	
	comp=E,1.2nm,0.3s,baz=67,slow=20,SNR=6.2							
TLY				LR		LR	14 19 48.2	
	comp=E,489nm,20.4s,baz=40,slow=42							
TLY	**Talaya**	**5.73**	**226**	*e*Pn		**Pn**	**14 17 15.2**	**-0.8**
TLY				*e*Pg		**Pb**	**14 17 33.5**	**+2.4**
TLY				Pmax			14 17 37.9	
	comp=E,179nm,0.4s							
TLY				*e*Sn		**Sn**	**14 18 18.4**	**-3.1**
TLY				*e*Sg		**Sb**	**14 18 46.0**	**+6.4**
TLY				Smax			14 18 54.1	
	comp=E,2μm,1.1s							
TLY	**Talaya**	**5.73**	**226**	*e*PN		**Pn**	**14 17 15.2**	**-0.8**
TLY				*e*			14 17 33.6	
TLY				*e*S		**Sn**	**14 18 18.2**	**-3.3**
TLY				*e*			14 18 45.7	
TLY				pmax	pmax			
	comp=Z,376nm,0.5s							
TLY				smax	smax			
	comp=E,2.0nm,0.8s							
TLY	**Talaya**	**5.73**	**226**	Pn		**Pn**	**14 17 14.5**	**-1.5**
TUP	**Tupik**	**5.73**	**100**	⇑*i*Pn		**Pn**	**14 17 15.4**	**-0.6**
TUP				*e*			14 17 19.8	
TUP				*e*Pg		**Pb**	**14 17 33.1**	**+2.0**
TUP				*e*			14 17 40.8	
TUP				max			14 17 42.1	
	comp=E,689nm,0.8s							
TUP				*e*Sn		**Sn**	**14 18 18.1**	**-3.4**
TUP				*e*Sg		**Sb**	**14 18 46.7**	**+7.2**
TUP				Smax			14 19 00.6	
	comp=E,7μm,0.7s							
TUP	**Tupik**	**5.73**	**100**	*e*PN		**Pn**	**14 17 15.2**	**-0.8**
TUP				*e*			14 17 33.0	
TUP				*e*S		**Sn**	**14 18 20.1**	**-1.4**
TUP				*e*			14 18 48.2	
TUP				pmax	pmax			
	comp=Z,686nm,0.7s							
TUP				smax	smax			
	comp=N,7μm,0.8s							
ARS	**Arshan**	**6.08**	**233**	*e*Pn		**Pn**	**14 17 20.7**	**-0.2**
ARS				*e*Pg		**Pb**	**14 17 41.3**	**+4.2**
ARS				Pmax			14 17 56.3	
	comp=N,645nm,0.5s							
ARS				*e*Sn		**Sn**	**14 18 28.4**	**-1.8**
ARS				*e*Sg		**Sg**	**14 18 59.1**	**-7.4**
ARS				Smax			14 19 14.4	
	comp=N,9μm,1.0s							
YKLR	**Yuktali**	**6.39**	**79**	*e*Pn		**Pn**	**14 17 26.3**	**+1.2**
YKLR				*e*Pg		**Pb**	**14 17 44.7**	**+2.3**
YKLR				*e*Sg		Sb	14 19 08.1	+10
ZAK	**Zakamensk**	**6.90**	**220**	*e*Pn		**Pn**	**14 17 32.5**	**+0.4**
ZAK				*e*			14 17 36.0	
ZAK				max			14 17 37.9	
	comp=N,152nm,0.6s							
ZAK				*e*Sg		**Sg**	**14 19 24.4**	**-8.3**
ZAK				Smax			14 19 41.2	
	comp=N,2μm,1.6s							
ZAK	**Zakamensk**	**6.90**	**220**	*e*PN		**Pn**	**14 17 32.6**	**+0.4**
ZAK				*e*S		**Sg**	**14 19 23.9**	**-8.8**
ZAK				smax	smax			
	comp=N,2μm,1.1s							
MOY	**Mondy**	**6.91**	**237**	*e*Pn		**Pn**	**14 17 33.4**	**+1.1**
MOY				*e*			14 17 38.4	
MOY				max			14 17 42.1	
	comp=N,649nm,0.8s							
MOY				*e*Sn		**Sn**	**14 18 49.0**	**-1.7**
MOY				*e*Sg		Sg	14 19 23.2	-10
MOY				Smax			14 19 51.3	
	comp=N,2μm,1.3s							
MOY	**Mondy**	**6.91**	**237**	*e*PN		**Pn**	**14 17 33.3**	**+1.0**
MOY				*e*			14 17 55.3	
MOY				*e*			14 18 49.8	
MOY				*e*			14 19 23.1	
ORL	**Orlik**	**6.97**	**246**	*e*Pn		**Pn**	**14 17 34.5**	**+1.4**
ORL				*e*			14 17 41.4	
ORL				max			14 17 45.7	
	comp=N,489nm,1.1s							
ORL				*e*Pg		Pb	14 17 58.2	+5.8
ORL				*e*Sn		**Sn**	**14 18 51.2**	**-1.1**
ORL				*e*Sg		**Sg**	**14 19 27.8**	**-7.3**
ORL				Smax			14 19 33.8	
	comp=N,3μm,1.2s							
ORL	**Orlik**	**6.97**	**246**	*e*PN		**Pn**	**14 17 34.6**	**+1.4**
ORL				*e*			14 17 57.5	
ORL				*e*S		**Sn**	**14 18 51.4**	**-0.9**
ORL				*e*			14 19 27.2	
ORL				pmax	pmax			
	comp=Z,510nm,0.8s							
ORL				smax	smax			
	comp=N,3μm,1.3s							
IENR	**Iengra**	**8.18**	**81**	*e*Pn		**Pn**	**14 17 50.0**	**+0.4**
IENR				*e*Pg		Pb	14 18 18.0	+5.2
IENR				*e*Sg		Sg	14 20 04.1	-9.5
ULN	**Ulaanbaatar**	**8.23**	**195**	*i* PN		**Pn**	**14 17 50.4**	**-0.1**
ULN				MLR		MLR		
	comp=Z,2μm,11.0s							
ULN	**Ulaanbaatar**	**8.23**	**195**	Pn		**Pn**	**14 17 50.0**	**-0.5**
SONM	**Songino Array**	**8.37**	**198**	Pn		**Pn**	**14 17 52.2**	**-0.1**
	comp=Z,4.1nm,0.3s,baz=14,slow=12,SNR=25							
SONM				Lg		Lg	14 20 13.4	
	comp=Z,34nm,0.3s,baz=17,slow=26,SNR=13							
SONM				LR		LR	14 21 19.9	
	comp=Z,2μm,18.1s,baz=21,slow=40							
SONM	**Songino Array**	**8.37**	**198**	Pn		**Pn**	**14 17 51.5**	**-0.8**
ZEA	**Zeya**	**10.03**	**95**	*e*P		**Pn**	**14 18 14.2**	**-0.7**
ZEA				*e*S		**Sn**	**14 20 01.7**	**-5.3**
ZEA				pmax	pmax			
	comp=E,10.0nm,0.7s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.0s							
ZEA				smax	smax			
	comp=E,70nm,0.7s							
ARDR	**Aradan**	**10.39**	**259**	*e*Pn		**Pn**	**14 18 23.1**	**+3.2**
ARDR				*e*Sg		Sn	14 21 15.2	+59
YAK	**Yakutsk**	**11.76**	**50**	Pn		**Pn**	**14 18 35.9**	**-2.6**
	comp=E,0.5nm,0.3s,baz=239,slow=6.6,SNR=13							
YAK				Sn		**Sn**	**14 20 41.0**	**-8.2**
	comp=E,0.6nm,0.3s,baz=2.3,slow=23,SNR=1.7							
YAK				Lg		Lg	14 21 52.9	
	comp=E,0.7nm,0.3s,baz=326,slow=20,SNR=9.0							
YAK				LR		LR	14 23 06.1	
	comp=E,459nm,19.1s,baz=268,slow=37							
YAK	**Yakutsk**	**11.76**	**50**	*e*P		**Pn**	**14 18 35.2**	**-3.2**
YAK				*e*S		**Sn**	**14 20 47.2**	**-2.0**
YAK				pmax	pmax			
	comp=Z,21nm,0.7s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,12nm,0.9s							
YAK				pmax	pmax			
	comp=Z,116nm,0.8s							
YAK				pmax	pmax			
	comp=N,15nm,0.7s							
YAK				pmax	pmax			
	comp=E,32nm,0.7s							
YAK				smax	smax			
	comp=N,86nm,1.0s							
YAK				smax	smax			
	comp=E,52nm,0.9s							
YAK				MLR	MLR			
	comp=Z,562nm,17.0s							
YAK	**Yakutsk**	**11.76**	**50**	Pn		**Pn**	**14 18 35.2**	**-3.2**
KLR	**Kul'dur**	**14.61**	**108**	Pn		**Pn**	**14 19 16.9**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=306,slow=13,SNR=71							
KLR				Lg		Lg	14 23 26.5	
	comp=Z,2.8nm,0.3s,baz=248,slow=22,SNR=11							
KLR				LR		LR	14 25 22.8	
	comp=Z,808nm,18.5s,baz=300,slow=39							
KLR	**Kul'dur**	**14.61**	**108**	*i* P		**Pn**	**14 19 16.7**	**-0.8**
KLR				pmax	pmax			
	comp=Z,16nm,0.5s							
KLR				MLR	MLR			
	comp=Z,1μm,11.0s							
ZAA0	**Zalesovo Array**	**14.74**	**273**	Pn		**Pn**	**14 19 19.2**	**0.0**
ZALV	**Zalesovo Beam**	**14.74**	**273**	Pn		**Pn**	**14 19 19.7**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=73,slow=12,SNR=70							
ZALV				LR		LR	14 24 38.9	
	comp=Z,133nm,20.6s,baz=80,slow=36							
ZALV	**Zalesovo Beam**	**14.74**	**273**	*i* P		**Pn**	**14 19 20.1**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,23nm,0.6s							
ZALV	**Zalesovo Beam**	**14.74**	**273**	Pn		**Pn**	**14 19 19.1**	**-0.2**
HHC	**Hu-ho-hao-te**	**15.03**	**176**	*e*P		**P**	**14 19 27.9**	**-0.7**
HHC				S		**S**	**14 22 21.0**	**-6.0**
HHC				sS		sS	14 22 25.5	-8.5
HHC				pmax	pmax			
	comp=Z,23nm,0.8s							
HHC				pmax	pmax			
	comp=Z,170nm,5.2s							
HHC				LR	LR			
	comp=Z,2μm,9.6s							
HHC				LR	LR			
	comp=Z,500nm,7.3s							
HHC				LR	LR			
	comp=Z,2μm,9.7s							
DGZ	**Jazzator, Alta**	**15.09**	**256**	*d i*P		**Pn**	**14 19 24.2**	**0.0**
DGZ				MLR	MLR			
	comp=Z,419nm,12.0s							
CN2	**Changchun**	**15.48**	**135**	*e*P		**Pn**	**14 19 27.0**	**-2.1**
CN2				*es*P		P	14 19 33.6	+0.1
CN2				*e*S		**Sn**	**14 22 18.1**	**-2.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CN2				LR	LR			
	comp=Z,1μm,13.0s							
CN2				LR	LR			
	comp=Z,970nm,13.0s							
CN2				LR	LR			
	comp=Z,2μm,14.0s							
BJI	**Beijing**	**16.29**	**164**	P		**P**	**14 19 43.7**	**+1.2**
BJI				pmax	pmax			
	comp=Z,15nm,1.5s							
BJT	**Baijiatuau**	**16.31**	**164**	P		**P**	**14 19 45.0**	**+2.3**
BJT				pmax	pmax			
	comp=Z,17nm,0.9s							
BJT	**Baijiatuau**	**16.31**	**164**	P		**P**	**14 19 45.0**	**+2.3**
GRNR	**Gornyy**	**16.38**	**97**	⇑*i*P		**P**	**14 19 44.6**	**+1.1**
GRNR				*e*S		**S**	**14 22 50.2**	**-4.1**
GRNR				pmax	pmax			
	comp=N,10.0nm,0.9s							
GRNR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GRNR				pmax	pmax			
	comp=E,9.0nm,0.7s							
GRNR				smax	smax			
	comp=N,5.0nm,0.8s							
GRNR				MLR	MLR			
	comp=E,470nm,17.0s							
GRNR				MLR	MLR			
	comp=N,300nm,11.0s							
GRNR				MLR	MLR			
	comp=Z,980nm,11.0s							
MDJ	**Mudanjiang**	**16.63**	**124**	P		**P**	**14 19 47.0**	**+0.7**
MDJ				S		**S**	**14 22 55.6**	**-4.0**
MDJ				ScP		**ScP**	**14 28 03.6**	**-3.4**
MDJ				PcS		**PcS**	**14 28 07.1**	**-1.8**
MDJ				ScS		**ScS**	**14 31 44.7**	**-1.5**
MDJ				pmax	pmax			
	comp=Z,70nm,3.9s							
MDJ				LR	LR			
	comp=Z,2μm,11.1s							
MDJ				LR	LR			
	comp=Z,1μm,12.7s							
MDJ				LR	LR			
	comp=Z,2μm,12.1s							
NRIK	**Noril'sk**	**16.94**	**332**	P		**Pn**	**14 19 44.2**	**-3.4**
	comp=Z,6.2nm,0.3s,baz=138,slow=11,SNR=22							
NRIK				S		**Sn**	**14 22 47.2**	**-8.1**
	comp=Z,3.0nm,0.3s,baz=344,slow=18,SNR=5.8							
NRIK				Lg		Lg	14 24 39.8	
	comp=Z,4.7nm,0.3s,baz=358,slow=8.2,SNR=2.6					

NRIK IAmb IAmb 14 20 07.0
comp=Z,81nm,0.7s
TIXI Tiksi 17.72 19 P Pn 14 19 53.9 -3.4
comp=Z,6.0nm,0.3s,baz=212,slow=8.4,SNR=106
TIXI S **Sn 14 23 04.4 -10**
comp=Z,5.9nm,0.3s,baz=127,slow=20,SNR=3.2
TIXI Lg Lg 14 25 05.0
baz=134,slow=24,SNR=6.4
TIXI LR LR 14 27 11.8
comp=Z,659nm,18.4s,baz=239,slow=38
TIXI Tiksi 17.72 19*ce*P Pn 14 19 54.3 -3.0
TIXI Tiksi 17.72 19 Pn **Pn 14 19 52.2 -5.1**
TIXI IAmb IAmb 14 20 05.8
comp=Z,94nm,0.9s
ZSN Zaisan 17.78 252 *e*P **P 14 19 58.9 -0.2**
baz=252
ZSN Zaisan 17.78 252 *e*P **P 14 19 58.8 -0.2**
GTA Gaotai 17.85 207 *e*P **P 14 20 01.7 +1.7**
GTA pP sP 14 20 05.2 -1.0
GTA sP pP 14 20 08.0 +3.8
GTA S **S 14 23 21.3 -3.3**
GTA sS sS 14 23 27.5 -3.9
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,4.8s
GTA LR LR
comp=Z,980nm,8.4s
GTA LR LR
comp=Z,430nm,10.5s
GTA LR LR
comp=Z,1μm,9.1s
DL2 Dalian 18.56 151 P **P 14 20 07.7 +0.1**
DL2 pP **sP 14 20 15.4 +1.4**
DL2 sP pP 14 20 20.1 +8.1
DL2 S **Sn 14 23 35.7 +0.8**
DL2 pmax pmax
comp=Z,21nm,0.7s
DL2 pmax pmax
comp=Z,120nm,3.7s
DL2 LR LR
comp=Z,1μm,13.7s
DL2 LR LR
comp=Z,790nm,11.5s
DL2 LR LR
comp=Z,1μm,12.3s
WMQ Urumqi 18.79 240 *e*P **Pn 14 20 12.5 +1.9**
WMQ pP sP 14 20 16.8 +0.4
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.3s
WMQ LR LR
comp=Z,620nm,9.7s
WMQ LR LR
comp=Z,750nm,13.9s
WMQ LR LR
comp=Z,420nm,15.7s
VLA Vladivostok 18.85 123 *i* P **Pn 14 20 14.1 +2.8**
VLA pmax pmax
comp=Z,89nm,1.8s
VLA MLR MLR
comp=Z,843nm,13.0s
OKH Okha 18.92 83*de*P P 14 19 57.9 -13
OKH MLR MLR
comp=N,500nm,11.0s
OKH MLR MLR
comp=E,1μm,12.0s
OKH MLR MLR
comp=Z,800nm,15.0s
KURK Kurchatov 19.50 268 P **Pn 14 20 19.4 +0.3**
KURK Kurchatov 19.50 268 P **Pn 14 20 19.4 +0.3**
MK31 Makanchi Array 19.57 254*c i*P **P 14 20 18.3 -0.4**
MK31 Makanchi Array 19.57 254 **P 14 20 17.8 -0.9**
MK31 IAmb IAmb 14 20 29.6
comp=Z,30nm,0.8s
MKAR Makanchi Array 19.58 254 P **P 14 20 18.4 -0.4**
comp=Z,2.7nm,0.3s,baz=48,slow=8.3,SNR=50
MKAR Lg Lg 14 26 03.0
comp=Z,0.1nm,0.3s,baz=42,slow=33,SNR=1.8
MKAR LR LR 14 28 10.8
comp=Z,616nm,20.4s,baz=43,slow=38
MKAR Makanchi Array 19.58 254 P **P 14 20 17.8 -0.9**
KURBB Kurchatov Arra 19.60 268 P **P 14 20 19.4 +0.5**
comp=Z,0.8nm,0.3s,baz=63,slow=12,SNR=108
KURBB Lg Lg 14 26 05.8
baz=67,slow=31,SNR=5.7
MAKZ Makanchi 19.74 255 P **P 14 20 19.2 -1.3**
MAKZ pmax pmax
comp=Z,39nm,0.8s
MAKZ Makanchi 19.74 255 P **P 14 20 19.1 -1.3**
MAKZ IAmb IAmb 14 20 29.1
comp=Z,39nm,0.8s
TIA Tai'an 20.18 164⇓ *i*P Pn 14 20 30.1 +2.8
TIA pmax pmax
comp=Z,12nm,1.2s
LZH Lanzhou 20.24 195 *e*P Pn 14 20 28.5 +0.4
LZH pP sP 14 20 31.8 -0.6
LZH sP pP 14 20 35.0 +4.5
LZH *e*S **S 14 24 11.5 -1.3**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,320nm,4.6s
LZH LR LR
comp=Z,1μm,10.3s
LZH LR LR
comp=Z,780nm,9.2s
LZH LR LR
comp=Z,1μm,12.5s
MA2 Magadan 21.70 63 P **P 14 20 42.1 +0.5**
comp=Z,20nm,1.0s,baz=264,slow=14,SNR=4.3
MA2 LR LR 14 29 15.6
comp=Z,230nm,20.1s,baz=284,slow=37
MA2 Magadan 21.70 63*ce*P **P 14 20 43.0 +1.4**
MA2 pmax pmax
comp=Z,31nm,1.0s
MA2 Magadan 21.70 63 P **P 14 20 42.5 +0.9**
XAN Xi'an 21.82 183 P **P 14 20 46.7 +3.6**
XAN pP sP 14 20 53.6 +4.1
XAN sP pP 14 20 57.1 +10
XAN pmax pmax
comp=Z,45nm,0.8s
KS19 Wonju Array Si 21.84 140 P **P 14 20 47.3 +4.0**
KSAR Wonju Array Be 21.90 140 P **P 14 20 46.6 +2.7**
KSAR Wonju Array Be 21.90 140 P **P 14 20 46.6 +2.7**
KSRS Korea Array 21.91 140 P **P 14 20 43.4 -0.5**
comp=Z,1.6nm,0.8s,baz=337,slow=8.2,SNR=5.0
KSRS Lg Lg 14 27 19.5
comp=Z,7.3nm,1.1s,baz=330,slow=24,SNR=5.6
KSRS LR LR 14 30 20.3
comp=Z,293nm,20.0s,baz=320,slow=40
SEY Seymchan 22.23 54 P **P 14 20 48.3 +1.1**
comp=Z,6.2nm,0.6s,baz=280,slow=6.8,SNR=18
SEY Lg Lg 14 27 26.1
comp=Z,71nm,1.3s,baz=316,slow=7.8,SNR=5.4
SEY Seymchan 22.23 54*d i*P **P 14 20 47.5 +0.3**
BVAR Borovoye Array 23.15 280 P **P 14 20 55.9 -1.1**
comp=Z,12nm,0.5s,baz=153,slow=9.7,SNR=36
BVAR S **S 14 25 07.3 -0.5**
comp=Z,6.1nm,0.7s,baz=88,slow=12,SNR=3.4
BRVK Borovoye 23.19 280*ce*P **P 14 20 56.8 -0.6**
BRVK pmax pmax
comp=Z,44nm,1.3s
BRVK Borovoye 23.19 280 P **P 14 20 57.3 -0.1**
BRVK IAmb IAmb 14 21 11.3
comp=Z,47nm,0.8s
SHLS Shalkode 23.47 250 *e*P **P 14 20 57.7 -2.8**
comp=Z,10nm,0.8s,baz=250
SHLS Shalkode 23.47 250 *e*P **P 14 20 57.6 -2.8**
SHLS pmax pmax
comp=Z,10.0nm,0.8s
ASAJ Asahikawa 23.63 106 LR LR 14 30 52.4
comp=Z,436nm,21.6s,baz=313,slow=38
ARXS Arharly 23.64 254 *e*P **P 14 21 00.5 -1.5**
KPKS Kokpek 23.67 252 *e*P **P 14 21 01.7 -0.7**
comp=Z,5.3nm,0.4s,baz=252
KPKS Kokpek 23.67 252 *e*P **P 14 21 01.7 -0.7**
KPKS pmax pmax
comp=Z,5.0nm,0.4s
UZB Uzynbulak 23.71 251 *e*P **P 14 21 01.9 -1.0**
baz=251
UZB Uzynbulak 23.71 251 *e*P **P 14 21 01.8 -1.0**
SATY Saty 24.10 251 *e*P **P 14 21 07.1 +0.6**
baz=251
SATY Saty 24.10 251 *e*P **P 14 21 07.1 +0.6**

NJ2 Nanjing 24.53 162 *e*P **P 14 21 13.1 +2.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KUU Kurty 24.66 255 *e*P **P 14 21 10.1 -1.4**
baz=255
KUU Kurty 24.66 255 *e*P **P 14 21 10.0 -1.4**
MDOK Medeo 24.76 253 *e*P **P 14 21 12.5 0.0**
baz=253
MDOK Medeo 24.76 253 *e*P **P 14 21 12.5 0.0**
JTM Tenmabayashi 25.14 114 P **P 14 21 14.4 -1.4**
BTLS Baital 25.19 260 *e*P **P 14 21 15.2 -1.0**
baz=260
BTLS Baital 25.19 260 *e*P **P 14 21 15.2 -1.0**
CD2 Chengdu 25.34 193 P **P 14 21 18.7 +1.0**
CD2 S **S 14 25 47.1 +3.7**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,820nm,5.8s
CD2 LR LR
comp=Z,800nm,6.3s
CD2 LR LR
comp=Z,960nm,5.8s
KDJ Kajisay 25.39 251 P **P 14 21 18.2 -0.1**
KDJ pmax pmax
comp=Z,10.0nm,0.8s
KDJ Kajisay 25.39 251 P **P 14 21 18.2 -0.1**
BOOM Boomskoye usch 25.81 253 P **P 14 21 23.2 +1.1**
BOOM pmax pmax
comp=Z,17nm,0.8s
BOOM Boomskoye usch 25.81 253 P **P 14 21 23.2 +1.1**
BOOM IAmb IAmb 14 21 43.4
comp=Z,17nm,0.8s
JSD Sado 25.84 122 P **P 14 21 23.8 +1.6**
SGDS Sogindy 25.88 256 *e*P **P 14 21 21.9 -0.7**
baz=256
SGDS Sogindy 25.88 256 *e*P **P 14 21 21.9 -0.7**
AAK Ala-Archa 26.50 255 P **P 14 21 28.9 +0.6**
comp=Z,1.7nm,0.3s,baz=73,slow=11,SNR=6.1
AAK LR LR 14 32 30.3
comp=Z,479nm,18.6s,baz=34,slow=38
AAK Ala-Archa 26.50 255*ce*P **P 14 21 29.6 +1.3**
AAK pmax pmax
comp=Z,24nm,1.3s
AAK Ala-Archa 26.50 255 P **P 14 21 29.0 +0.8**
MJAR Matsushiro Arr 27.02 124 LR LR 14 32 22.1
comp=Z,279nm,19.4s,baz=320,slow=37
SVE Sverdlovsk 27.05 293 *e*P **P 14 21 33.9 +0.9**
SVE *e*S **S 14 26 09.9 -0.1**
SVE pmax pmax
comp=Z,41nm,0.8s
SVE MLR MLR
comp=Z,634nm,14.0s
PEA0B Petropavlovsk- 27.27 76*ce*P **P 14 21 35.8 +0.9**
PEA0B Petropavlovsk- 27.27 76 P **P 14 21 36.0 +1.1**
PEA0B IAmb IAmb 14 21 37.3
comp=Z,31nm,1.1s
PETK Petropavlovsk- 27.27 76 P **P 14 21 35.8 +0.9**
comp=Z,9.0nm,0.9s,baz=262,slow=4.5,SNR=7.7
PETK LR LR 14 33 02.8
comp=Z,360nm,18.5s,baz=290,slow=38
PETK Petropavlovsk- 27.27 76 P **P 14 21 36.0 +1.1**
PETK Petropavlovsk- 27.27 76 P **P 14 21 36.0 +1.1**
PET Petropavlovsk 27.82 75 *e*P **P 14 21 40.3 +0.4**
PET *e*S **S 14 26 19.7 -2.4**
PET pmax pmax
comp=Z,21nm,1.0s
PET MLR MLR
comp=Z,400nm,20.0s
PET MLR MLR
comp=Z,600nm,19.0s
BILL Bilibino 27.90 42⇑ *e*P **P 14 21 41.9 +1.5**
BILL *e* 14 22 27.0
BILL pmax pmax
comp=Z,12nm,1.5s
BILL MLR MLR
comp=Z,194nm,14.0s
ARU Arti 28.27 293 P **P 14 21 44.3 +0.5**
comp=Z,3.5nm,0.5s,baz=82,slow=1.1,SNR=13
ARU LR LR 14 34 45.4
comp=Z,383nm,21.0s,baz=46,slow=40
ARU Arti 28.27 293*d i*P **P 14 21 44.1 +0.3**
ARU 14 22 31.3
ARU PPP PPP 14 22 40.8
ARU 14 24 54.7
ARU S **S 14 26 33.4 +4.3**
ARU SS **SnSn 14 27 52.1 +6.4**
ARU SSS SSS 14 28 08.2
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU MLR MLR
comp=Z,654nm,16.0s
ARU Arti 28.27 293 P **P 14 21 43.3 -0.5**
ARU IAmb IAmb 14 22 06.5
comp=Z,12nm,0.8s
KKAR Karatay Array 28.39 260 P **P 14 21 45.6 +0.5**
KKAR Karatay Array 28.39 260 P **P 14 21 45.6 +0.5**
KKAR Karatay Array 28.39 260 P **P 14 21 45.5 +0.5**
KKAR IAmb IAmb 14 21 54.3
comp=Z,5.3nm,0.7s
BTK Batken 30.28 255 P **P 14 22 02.1 +0.2**
BTK pmax pmax
comp=Z,12nm,1.1s
BTK Batken 30.28 255 P **P 14 22 02.1 +0.2**
BTK IAmb IAmb 14 22 14.4
comp=Z,12nm,1.1s
ABKAR Akbulak array 30.72 279 P **P 14 22 05.5 -0.1**
ABKAR IAmb IAmb 14 22 06.9
comp=Z,9.7nm,0.9s
ABKAR Akbulak array 30.72 279 P **P 14 22 05.3 -0.2**
KMI Kunming 31.18 193⇑ P P 14 22 15.2 +5.1
KMI pP sP 14 22 21.3 +4.5
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI LR LR
comp=Z,440nm,9.7s
KMI LR LR
comp=Z,570nm,11.3s
KMI LR LR
comp=Z,520nm,15.7s
GAR Garm 31.30 254 P **P 14 22 11.6 +0.6**
GAR IAmb IAmb 14 22 29.1
comp=Z,12nm,1.0s
KIRV Kirov 32.09 301*ce*P **P 14 22 18.1 +0.6**
PRGR Permogore 32.77 307 *e*P **P 14 22 22.7 -0.8**
PRGR *e* 14 23 31.5
PRGR pmax pmax
comp=Z,58nm,1.4s
TAPN Taplejung 32.79 219 *e*P **P 14 22 24.8 +0.5**
JIRN Jiri 33.06 222 *e*P **P 14 22 27.8 +1.0**
comp=Z,39nm,0.7s
KKN Kakani 33.29 223 *e*P **P 14 22 29.6 +1.0**
comp=Z,67nm,0.6s
ODAN Odare 33.35 219 *e*P **P 14 22 29.6 +0.4**
comp=Z,61nm,0.9s
PKIN Phulchoki 33.44 223 *e*P **P 14 22 30.6 +0.7**
comp=Z,9.3nm,0.6s
PKI Pulchoki 33.44 223 *e*P **P 14 22 30.6 +0.6**
DMN Daman 33.52 223 *e*P **P 14 22 32.0 +1.3**
comp=Z,16nm,0.5s
KOLN Koldanda 33.97 225 *e*P **P 14 22 35.4 +0.9**
comp=Z,27nm,0.7s
KLMR Klimovskoe 35.80 308 *e*P **P 14 22 49.4 -0.3**
KLMR *e* 14 24 09.3
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR Klimovskoe 35.80 308 *e*P **P 14 22 49.4 -0.3**
KLMR AMP 14 23 04.0
comp=Z,33nm,1.4s
KLMR *e*PP **PnPn 14 24 09.4 -0.2**
KLMR LR LR 14 37 30.4
KEV Kevo 37.15 325 P **P 14 23 01.4 +0.3**
KEV pmax pmax
comp=Z,85nm,1.4s
KEV Kevo 37.15 325 P **P 14 23 01.4 +0.3**
GAMB Gambell 37.65 45 P **P 14 23 07.5 +2.2**
baz=296
GAMB Gambell 37.65 45 P **P 14 23 06.7 +1.4**
GAMB IAmb IAmb 14 23 20.2
comp=Z,20nm,1.1s
ARA0 ARCESS Array S 37.72 325 *e*P **P 14 23 06.5 +0.6**
ARCES ARCESS Array B 37.72 325 P **P 14 23 06.3 +0.4**
comp=Z,8.2nm,0.6s,baz=68,slow=10,SNR=36
ARCES PcP **PcP 14 25 23.0 +0.4**
comp=Z,3.2nm,0.5s,baz=76,slow=5.7,SNR=3.8

ARCES LR LR 14 42 46.3
comp=Z,281nm,18.2s,baz=45,slow=43
ARCES ARCESS Array B 37.72 325 P **P 14 23 06.1 +0.1**
ARCES IAmb IAmb 14 23 35.2
comp=Z,33nm,1.5s
CMAR Chiang Mai Arr 38.30 198 P **P 14 23 10.8 -0.5**
comp=Z,0.8nm,0.8s,baz=2.1,slow=7.2,SNR=5.4
CMAR LR LR 14 38 36.9
comp=Z,49nm,18.3s,baz=34,slow=36
TNA Tin City 38.34 42 P **P 14 23 12.5 +1.3**
baz=296,SNR=9.7
TNA Tin City 38.34 42 P **P 14 23 12.8 +1.6**
TNA IAmb IAmb 14 23 13.8
comp=Z,21nm,0.8s
KTK1 Kautokeino 38.67 325 *e*P **P 14 23 14.5 +0.5**
GEYT Alibeck 38.82 265 P **P 14 23 16.4 +0.7**
comp=Z,49nm,0.7s,baz=28,slow=6.7,SNR=3.6
GEYT LR LR 14 40 38.0
comp=Z,131nm,18.7s,baz=30,slow=38
RDOG Red Dog Mine 39.02 37 P **P 14 23 18.6 +1.7**
baz=297
JETT Jettan, Norway 39.33 326 *e*P **P 14 23 21.6 +2.0**
VRH Novokhopyorsk 39.50 293 *e*P **P 14 23 20.8 -0.3**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,1μm,14.0s
TRO Tromso 39.75 327 *e*P **P 14 23 23.7 +0.7**
ANM Nome 39.76 42 P **P 14 23 25.0 +1.9**
ANM pmax pmax
comp=Z,24nm,1.0s
ANM Nome 39.76 42 P **P 14 23 24.9 +1.7**
baz=299
ANM Nome 39.76 42 P **P 14 23 24.9 +1.9**
ANM IAmb IAmb 14 23 37.9
comp=Z,24nm,1.0s
OBN Obninsk 39.94 301*ce*P **P 14 23 25.4 +0.7**
OBN pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 40.15 296 *e*P **P 14 23 26.0 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,940nm,15.0s
VSR Storozhevoye 40.82 294 *e*P **P 14 23 30.6 -1.4**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=Z,920nm,15.0s
VORD Divnogorie 40.90 294 *e*P **P 14 23 32.0 -0.7**
VORD pmax pmax
comp=Z,30nm,0.6s
FIA1 FINESS Array S 41.27 314 P **P 14 23 36.0 +0.4**
FINES FINESS Array B 41.28 314 P **P 14 23 36.1 +0.4**
comp=Z,18nm,0.5s,baz=74,slow=9.1,SNR=94
FINES LR LR 14 42 10.3
comp=Z,232nm,20.9s,baz=56,slow=38
MAK Makhachkala 41.40 279 *e*P **P 14 23 35.6 -1.3**
MAK *e*S **S 14 29 50.4 -0.5**
MAK pmax pmax
comp=Z,113nm,1.0s
MAK MLR MLR
comp=Z,338nm,12.0s
STEI Steigen 41.77 326 *e*P **P 14 23 38.4 -1.3**
FAUS Fauske 42.06 325 *e*P **P 14 23 42.5 +0.5**
AKT Akhty 42.25 277 *e*P **P 14 23 45.0 +1.0**
AKT *e* 14 25 36.7
AKT pmax pmax
comp=Z,12nm,0.8s
GOF Gofitskoye 42.51 285⇑ *e*P **P 14 23 46.7 +0.8**
GOF pmax pmax
comp=Z,59nm,0.9s
TOLK Toolik Lake Re 42.95 32 P **P 14 23 50.2 +0.9**
baz=306,SNR=10
TOLK Toolik Lake Re 42.95 32 P **P 14 23 50.4 +1.0**
TOLK IAmb IAmb 14 23 51.4
comp=Z,30nm,1.4s
MOR8 Moi Rana 43.01 324 *e*P **P 14 23 48.5 -1.3**
KONS Konsvik 43.26 325 *e*P **P 14 23 52.4 +0.6**
KIV Kislovodsk 43.41 284⇑ *i*P **P 14 23 55.0 +1.6**
KIV Kislovodsk 43.41 284 *e*P **P 14 23 54.5 +1.1**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,114nm,16.0s
KIV Kislovodsk 43.41 284 P **P 14 23 54.5 +1.1**
KBZ Khabaz 43.44 283 P **P 14 23 54.5 +1.0**
comp=Z,3.2nm,0.6s,baz=349,slow=13,SNR=8.6
SHA1 Shidzhatmaz 43.57 283 *i* P **P 14 23 55.7 +0.9**
COLD Coldfoot 43.59 34 P **P 14 23 55.4 +1.0**
baz=306,SNR=9.8
COLD Coldfoot 43.59 34 P **P 14 23 55.6 +1.2**
EUNU Eureka 44.01 4 P **P 14 23 59.0 +1.2**
EUNU IAmb IAmb 14 24 08.7
comp=Z,14nm,1.0s
I21K Tanana 44.23 37 P **P 14 24 00.9 +1.3**
baz=307,SNR=18
MNK Minsk 44.42 304 *i* P **P 14 24 01.7 +0.5**
MNK *i* 14 25 45.5
MNK *i* PPP PPP 14 26 21.6
MNK *i* S **S 14 30 35.4 +0.4**
MNK *i* SS **ScS 14 33 57.8 -0.4**
MNK *i* SSS SSS 14 34 39.0
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,24nm,0.8s
MNK MLR MLR
comp=E,30nm,14.0s
MNK MLR MLR
comp=Z,569nm,17.0s
MNK MLR MLR
comp=N,336nm,17.0s
MNK Minsk 44.42 304 *i* P **P 14 24 01.8 +0.6**
comp=E,2.0nm,0.8s
MNK *i* P **P 14 24 01.8 +0.6**
comp=N,24nm,0.8s
MNK *i* P **P 14 24 01.8 +0.6**
comp=Z,15nm,0.9s,baz=231
MNK *i* PP **PcP 14 25 45.5 +0.9**
MNK *i* PPP PPP 14 26 21.6
MNK *i* ScP **ScP 14 29 37.4 +1.5**
MNK *i* PcS **PcS 14 29 38.6 +1.0**
MNK *i* S **S 14 30 35.4 +0.4**
MNK *i* SS **ScS 14 33 57.8 -0.4**
MNK *i* SSS SSS 14 34 39.0
MNK *i* LQ LQ 14 39 22.4
MNK *i* LR LR 14 42 45.3
MNK *i* LRM MLR 14 44 51.1
comp=E,30nm,14.5s
MNK *i* LRM MLR 14 44 54.0
comp=Z,569nm,16.6s
MNK *i* LRM MLR 14 45 08.5
comp=N,336nm,17.4s
H23K Yukon River 44.65 35 P **P 14 24 04.5 +1.5**
baz=308,SNR=18
MLY Manley 44.74 37 P **P 14 24 05.2 +1.4**
baz=308,SNR=12
MLY Manley 44.74 37 P **P 14 24 05.0 +1.3**
MLY IAmb IAmb 14 24 06.2
comp=Z,12nm,1.0s
NSS Namsos 44.82 323 *e*P **P 14 24 04.7 +0.4**
CHUM Lake Minchumin 44.91 38 P **P 14 24 06.5 +1.6**
baz=308,SNR=18
L19K White Mountain 45.03 41 P **P 14 24 07.2 +1.1**
baz=308
I23K Minto, Yukon-K 45.13 36 P **P 14 24 08.4 +1.6**
baz=309,SNR=20
I23K Minto, Yukon-K 45.13 36 P **P 14 24 08.3 +1.6**
I23K IAmb IAmb 14 24 09.4
comp=Z,21nm,1.0s
H24K Noodor Dome 45.18 35 P **P 14 24 08.7 +1.5**
baz=309,SNR=14
BPAW Bear Paw Mtn. 45.23 38 P **P 14 24 08.7 +1.0**
baz=309,SNR=8.1
BPAW Bear Paw Mtn. 45.23 38 P **P 14 24 08.9 +1.2**
SOC Sochi 45.28 285 *e*P **P 14 24 08.4 +0.2**
SOC *e* 14 25 52.6
SOC *e*PPP PPP 14 26 30.4
SOC *e*S **S 14 30 51.0 +3.2**
SOC *e*SSS SSS 14 35 01.9
SOC pmax pmax
comp=Z,15nm,0.7s

SOC MLR MLR
comp=Z,254nm,19.0s
SVW2 Sparrevohn 45.42 43 P P 14 24 10.7 +1.6
SVW2 IAmb IAmb 14 24 12.5
comp=Z,15nm,1.2s
FYU Fort Yukon 45.55 33 P P 14 24 11.3 +1.3
N18K Kilae Creek 45.55 43 P P 14 24 11.5 +1.3
baz=308
PPLA Purkeypile 45.56 39 P P 14 24 11.3 +0.9
baz=309
PPLA Purkeypile 45.56 39 P P 14 24 11.8 +1.4
PPLA IAmb IAmb 14 24 20.3
comp=Z,23nm,1.3s
NEA2 Nenana 45.58 36 P P 14 24 11.2 +0.9
baz=309,SNR=5.4
NEA2 Nenana 45.58 36 P P 14 24 11.8 +1.4
KTH Kantishna Hill 45.60 38 P P 14 24 11.9 +1.3
KTH IAmb IAmb 14 24 13.2
comp=Z,19nm,0.9s
MDM Murphy Dome 45.62 36 P P 14 24 11.8 +1.1
MDM IAmb IAmb 14 24 13.1
comp=Z,25nm,1.2s
BWN Browne 45.71 37 P P 14 24 13.4 +2.0
POKR Poker Plat Res 45.78 35 P P 14 24 13.2 +1.2
baz=310
POKR Poker Plat Res 45.78 35 P P 14 24 13.4 +1.4
POKR IAmb IAmb 14 24 14.6
comp=Z,16nm,1.1s
TCOL CIGO, UAF Yank 45.80 36 P P 14 24 13.4 +1.4
baz=310,SNR=8.8
TCOL CIGO, UAF Yank 45.80 36 P P 14 24 13.8 +1.7
COLA College 45.80 36 P P 14 24 13.8 +1.8
COLA pmax pmax
comp=Z,27nm,0.8s
COLA College 45.80 36 P P 14 24 13.4 +1.4
baz=310
COLA College 45.80 36 P P 14 24 13.8 +1.8
TRF Thorofare Moun 45.88 38 P P 14 24 14.1 +1.1
baz=310,SNR=9.8
TRF Thorofare Moun 45.88 38 P P 14 24 14.1 +1.1
CCB Clear Creek Bu 45.96 36 P P 14 24 14.2 +0.8
CCB IAmb IAmb 14 24 15.6
comp=Z,16nm,1.0s
WRH Wood River Hil 45.98 36 P P 14 24 14.5 +1.0
WRH IAmb IAmb 14 24 15.7
comp=Z,19nm,1.0s
AKASG Malin Array Be 46.13 299 P P 14 24 14.8 0.0
comp=Z,3.8nm,0.5s,baz=44,slow=8.8,SNR=34
AKASG LR LR 14 45 38.9
comp=Z,395nm,18.2s,baz=35,slow=39
AKASG Malin Array Be 46.13 299 P P 14 24 15.0 +0.2
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 46.13 299 P P 14 24 15.0 +0.2
AKBB Malin Array Si 46.13 299 *ce*P **P 14 24 14.6 -0.2**
AKBB Malin Array Si 46.13 299 P P 14 24 14.7 -0.2
PRP Porcupine Dome 46.14 34 P P 14 24 16.1 +1.2
baz=311,SNR=30
PRP Porcupine Dome 46.14 34 P P 14 24 16.0 +1.1
MCK McKinley 46.17 37 P P 14 24 16.7 +1.6
MCK pmax pmax
comp=Z,19nm,1.2s
MCK McKinley 46.17 37 P P 14 24 16.6 +1.6
baz=310,SNR=6.2
MCK McKinley 46.17 37 P P 14 24 16.7 +1.6
MCK IAmb IAmb 14 24 17.9
comp=Z,19nm,1.2s
IL31 46.19 35 P P 14 24 16.2 +1.2
ILAR Eielson Array 46.19 35 P P 14 24 16.1 +1.0
comp=Z,22nm,0.9s,baz=302,slow=6.4,SNR=155
ILAR Eielson Array 46.19 35 P P 14 24 16.3 +1.2
ILAR Eielson Array 46.19 35 P P 14 24 16.3 +1.2
SKT Skwentna 46.38 40 P P 14 24 17.5 +0.9
baz=310,SNR=5.5
SKT Skwentna 46.38 40 P P 14 24 18.0 +1.3
SKT IAmb IAmb 14 24 19.6
comp=Z,9.0nm,1.1s
HDA Harding Lake 46.40 36 P P 14 24 17.5 +0.7
baz=311,SNR=13
HDA Harding Lake 46.40 36 P P 14 24 17.6 +0.7
HDA IAmb IAmb 14 24 18.3
comp=Z,14nm,0.7s
O19K Port Alsworth 46.47 43 P P 14 24 18.4 +1.0
baz=310
CUT Chulitna 46.56 39 P P 14 24 17.6 -0.5
baz=310
SPCR Spurr Chakacha 46.63 41 P P 14 24 20.1 +1.4
baz=310
WAT1 Susitna Watana 46.89 38 P P 14 24 21.3 +0.5
baz=311
RSO Redoubt South 46.90 42 P P 14 24 22.8 +1.9
SUA Susitna One 47.00 40 P P 14 24 22.4 +0.7
baz=311,SNR=6.4
SUA Susitna One 47.00 40 P P 14 24 22.4 +0.7
NC405 NORSAR Array S 47.07 319 P P 14 24 21.7 -0.5
NC303 NORSAR Array S 47.13 319 P P 14 24 23.0 +0.5
O20K Slope Mountain 47.19 43 P P 14 24 23.5 +0.4
baz=311
P19K Oil Pt 47.24 43 P P 14 24 23.7 +0.2
baz=311
NB201 NORSAR Array S 47.27 319 P P 14 24 24.1 +0.4
NB2 NORSAR Subarra 47.31 319 P P 14 24 24.1 +0.1
comp=Z,11nm,0.6s,baz=47,slow=7.4
NB2 NORSAR Subarra 47.31 319 P P 14 24 24.1 +0.1
baz=47,slow=7.4
NOA NORSAR Array B 47.31 319 P P 14 24 23.8 -0.2
comp=Z,6.3nm,0.6s,baz=47,slow=7.3,SNR=35
NOA LR LR 14 45 45.7
comp=Z,157nm,19.3s,baz=35,slow=38
NC204 NORSAR Array S 47.32 320 P P 14 24 24.2 +0.1
WAT6 Susitna Watana 47.34 38 P P 14 24 24.6 +0.3
baz=312,SNR=15
NC602 NORSAR Array S 47.38 319 *eP* **P 14 24 24.8 +0.2**
NC602 NORSAR Array S 47.38 319 P P 14 24 24.6 0.0
DOMB Dombas 47.42 321 *eP* **P 14 24 23.2 -1.6**
NBO00 NORSAR Array S 47.47 319 P P 14 24 24.5 -0.8
NAO01 NORSAR Array S 47.56 319 P P 14 24 25.4 -0.5
RC01 Rabbit Creek A 47.61 40 P P 14 24 25.2 -1.1
baz=312
RC01 Rabbit Creek A 47.61 40 P P 14 24 26.9 +0.5
RC01 IAmb IAmb 14 24 29.0
comp=Z,16nm,1.1s
INK Inuvik 47.63 27 P P 14 24 26.4 +0.1
INK pmax pmax
comp=Z,20nm,0.9s
INK Inuvik 47.63 27 P P 14 24 26.2 -0.1
baz=317,SNR=18
INK Inuvik 47.63 27 P P 14 24 26.4 +0.1
SML Sawmill 47.64 39 P P 14 24 26.9 +0.3
baz=312,SNR=7.2
SML Sawmill 47.64 39 P P 14 24 27.2 +0.6
SCRK Sand Creek 47.66 35 P P 14 24 26.1 -0.7
baz=313,SNR=5.7
SCRK Sand Creek 47.66 35 P P 14 24 26.2 -0.6
CHNA Chernabura Isl 47.72 51 P P 14 24 27.9 +0.7
baz=311
HOM Homer 47.84 43 P P 14 24 28.5 +0.4
baz=311
PAX Paxson 47.85 37 P P 14 24 28.3 +0.1
PAX pmax pmax
comp=Z,16nm,0.8s
PAX Paxson 47.85 37 P P 14 24 28.3 +0.1
baz=313
PAX Paxson 47.85 37 P P 14 24 28.3 +0.1
DOT Dot Lake 47.86 35 P P 14 24 28.0 -0.2
TULEG Thule 47.89 360 P P 14 24 28.4 +0.2
SCM Sheep Creek Mo 47.98 39 P P 14 24 29.9 +0.6
SCM pmax pmax
comp=Z,18nm,0.8s
SCM Sheep Creek Mo 47.98 39 P P 14 24 29.9 +0.6
EGAK Eagle 48.00 33 P P 14 24 29.7 +0.5
baz=314,SNR=22
EGAK Eagle 48.00 33 P P 14 24 30.1 +0.8
BRSE Bradley Lake S 48.13 42 P P 14 24 30.6 +0.2
baz=312
EPYK Eagle Plains 48.18 30 P P 14 24 29.7 -0.9
baz=316,SNR=8.0
EPYK Eagle Plains 48.18 30 P P 14 24 31.0 +0.3
EPYK IAmb IAmb 14 24 32.1
comp=Z,11nm,0.8s
M24K Tolsona, Glenn 48.20 38 P P 14 24 31.7 +0.8
baz=313,SNR=5.0
M24K Tolsona, Glenn 48.20 38 P P 14 24 31.6 +0.7
SORM Soroca 48.23 297 ⇑P **P 14 24 31.4 +0.2**
HARP HAARP 48.35 37 P P 14 24 32.4 +0.4
baz=313,SNR=5.6
SEW Seward 48.37 41 P P 14 24 33.0 +0.8
baz=312
MENT Mentasta 48.46 36 P P 14 24 33.4 +0.6
MENT IAmb IAmb 14 24 34.4
comp=Z,13nm,0.8s
SKAR Skarslia 48.61 320 *eP* **P 14 24 35.0 +0.9**
RES Resolute Bay 48.67 9 P P 14 24 34.6 +0.3
RES pmax pmax
comp=Z,18nm,0.8s
RES Resolute Bay 48.67 9 P P 14 24 34.6 +0.3
KLU Klutina 48.70 38 P P 14 24 35.2 +0.4
baz=314,SNR=12
KLU Klutina 48.70 38 P P 14 24 35.6 +0.8
GLI Glacier Island 48.71 39 P P 14 24 34.8 0.0
baz=313
KDAK Kodiak Island 48.72 45 P P 14 24 35.7 +0.8
KDAK pmax pmax
comp=Z,28nm,1.4s
KDAK Kodiak Island 48.72 45 P P 14 24 35.5 +0.6
baz=312
KDAK Kodiak Island 48.72 45 P P 14 24 35.7 +0.8
OHAK Old Harbor 48.81 46 P P 14 24 34.6 -1.0
baz=312,SNR=6.0
OHAK Old Harbor 48.81 46 P P 14 24 36.1 +0.5
L27K Beaver Creek, 48.99 35 P P 14 24 38.1 +1.1
baz=315,SNR=36
L27K Beaver Creek, 48.99 35 P P 14 24 37.9 +0.9
BCAR Beaver Creek A 49.00 35 P P 14 24 38.0 +0.9
MARD Mardin 49.01 278 P P 14 24 38.7 +1.1
FID Port Fidalgo 49.02 39 P P 14 24 38.1 +1.0
HYA Hoyanger 49.03 321 *eP* **P 14 24 38.2 +1.0**
DAWY Dawson 49.05 33 P P 14 24 37.3 -0.1
DAWY IAmb IAmb 14 24 39.0
comp=Z,10nm,0.8s
C36M Paulatuk 49.05 22 P P 14 24 36.9 -0.3
baz=323,SNR=32
C36M Paulatuk 49.05 22 P P 14 24 36.9 -0.3
N25K Chitina, Valde 49.09 38 P P 14 24 39.1 +1.4
baz=314,SNR=15
N25K Chitina, Valde 49.09 38 P P 14 24 38.6 +0.8
EYAK Cordova Ski Ar 49.42 39 P P 14 24 41.0 +0.9
baz=314
EYAK Cordova Ski Ar 49.42 39 P P 14 24 41.7 +1.5
BMRM Bremner River 49.53 38 P P 14 24 41.6 +0.5
baz=315
BMRM Bremner River 49.53 38 P P 14 24 42.3 +1.2
BMRM IAmb IAmb 14 24 43.5
comp=Z,20nm,1.0s
VRDI Verde Repeater 49.74 37 P P 14 24 43.8 +0.8
MCARA McCarthy VSAT 49.78 37 P P 14 24 43.1 +0.1
baz=315
MCARA McCarthy VSAT 49.78 37 P P 14 24 44.2 +1.3
MCARA IAmb IAmb 14 24 45.3
comp=Z,11nm,1.0s
PRAR RASCA 49.81 298 ⇑P **P 14 24 44.1 +0.7**
ASK Askoy 49.86 321 *eP* **P 14 24 44.5 +1.0**
KWP Kalwaria Pacla 49.99 302 *eP* **P 14 24 47.8 +3.0**
KWP Kalwaria Pacla 49.99 302 P P 14 24 45.7 +1.0
KWP Kalwaria Pacla 49.99 302 P P 14 24 45.7 +1.0
SUMG Summit 50.05 348 P P 14 24 45.9 +0.5
SUMG pmax pmax
comp=Z,20nm,1.5s
SUMG Summit 50.05 348 P P 14 24 45.9 +0.5
SUMG IAmb IAmb 14 24 47.2
comp=Z,20nm,1.5s
BURAR Bucovina Array 50.14 299 ⇑P **P 14 24 46.3 +0.2**
CRQM Cirque 50.19 38 P P 14 24 47.5 +1.2
CRQM IAmb IAmb 14 24 58.6
comp=Z,16nm,1.0s
CRQE Cirque 50.21 38 P P 14 24 46.4 +0.1
baz=316
TGL Tana Glacier 50.30 38 P P 14 24 48.0 +1.0
TGL IAmb IAmb 14 24 49.3
comp=Z,17nm,0.8s
TPGR Topolog 50.41 294 ⇑P **P 14 24 48.6 +0.6**
BARN Barnard Glacie 50.48 37 P P 14 24 49.9 +1.4
WAX Waxell Ridge 50.51 38 P P 14 24 49.6 +1.0
WAX IAmb IAmb 14 24 51.2
comp=Z,14nm,0.8s
VRI Vrincioaia 50.58 296 ⇑P **P 14 24 50.0 +0.7**
PLOR Plostina 50.63 296 ⇑P **P 14 24 50.4 +0.7**
SNART Snartemo 50.64 318 *eP* **P 14 24 50.4 +0.9**
CTG Chitna Glacier 50.65 37 P P 14 24 51.1 +1.4
baz=316,SNR=6.2
CTGM Chitina Glacie 50.66 37 P P 14 24 50.8 +1.0
KOLS Kolonicke sedl 50.68 302 *eP* **P 14 24 50.9 +1.0**
KOLS Kolonicke sedl 50.68 302 *eP* **P 14 24 50.9 +1.0**
TIRR Tirgusor 50.69 294 ⇑P **P 14 24 50.7 +0.6**
TIRR Tirgusor 50.69 294 P P 14 24 50.5 +0.5
TIRR pmax pmax
comp=Z,17nm,1.0s
TIRR Tirgusor 50.69 294 P P 14 24 50.5 +0.5
TIRR IAmb IAmb 14 25 04.5
comp=Z,17nm,1.0s
KMY Karmoy 50.74 320 *eP* **P 14 24 51.4 +1.2**
HARR Harsova 50.78 294 ⇑P **P 14 24 51.1 +0.4**
UZH Uzhgorod 50.88 301 *eP* **P 14 24 47.5 -3.9**
UZH *e* 14 26 13.5
BMR Baia Mare 50.95 300 P P 14 24 42.3 -10
BMR pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 50.97 304 P P 14 24 52.4 +0.3
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 50.97 304 P P 14 24 52.4 +0.3
OJC IAmb IAmb 14 24 53.6
comp=Z,9.0nm,0.9s
MESA MESA 51.01 38 P P 14 24 51.5 -1.0
baz=317
DOPR Dopca 51.19 297 ⇑P **P 14 24 55.1 +1.3**
BRTR Keskin Array B 51.23 286 P P 14 24 55.1 +0.7
comp=Z,4.1nm,0.8s,baz=60,slow=7.3,SNR=8.7
BRTR LR LR 14 51 24.7
comp=Z,149nm,18.0s,baz=56,slow=42
BRTR Keskin Array B 51.23 286 *ce*P **P 14 24 55.5 +1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 51.24 296 ⇓P **P 14 24 55.3 +1.0**
MLR Muntele Rosu 51.24 296 P P 14 24 55.0 +0.7
MLR pmax pmax
comp=Z,12nm,1.4s
MLR Muntele Rosu 51.24 296 P P 14 24 55.0 +0.7
PINM Pinnacle 51.66 37 P P 14 24 57.2 0.0
baz=318
VOIR 51.73 297 ⇑P **P 14 24 58.6 +0.7**
LANS Liptovska Anna 51.86 303 *eP* **P 14 25 00.7 +1.8**
LANS Liptovska Anna 51.86 303 *eP* **P 14 25 00.7 +1.8**
DRGR 51.95 299 ⇑P **P 14 25 00.6 +1.0**
ARR Arges 51.99 297 ⇓P **P 14 25 01.3 +1.5**
OKC Ostrava-Krasne 52.00 305 AMS AMS 14 49 10.0
comp=Z,500nm,16.0s
HYT Haines Junctio 52.03 35 P P 14 25 01.5 +1.5
HYT IAmb IAmb 14 25 03.8
comp=Z,15nm,1.2s
KSP Ksiaz 52.14 307 *eP* **P 14 25 01.8 +1.0**
MORC Moravsky Berou 52.32 305 ⇑P **P 14 25 03.4 +1.1**
MORC Moravsky Berou 52.32 305 P P 14 25 03.0 +0.7
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 52.32 305 P P 14 25 03.0 +0.7
MORC Moravsky Berou 52.32 305 *eP* **P 14 25 03.4 +1.1**
OSTC Ostas 52.38 307 AMS AMS 14 49 10.0
comp=Z,300nm,17.4s
CHVC Chvalec 52.43 307 *eP* **P 14 25 05.2 +2.2**
KRLC Kraliky 52.46 306 *eP* **P 14 25 04.4 +1.1**
KRLC Kraliky 52.46 306 *eP* **P 14 25 04.4 +1.1**
DPC Dobruska-Polom 52.48 306 *eP* **P 14 25 04.7 +1.3**
DPC *e* 14 25 11.0
DPC MLR MLR
comp=Z,300nm,19.4s
DPC Dobruska-Polom 52.48 306 *eP* **P 14 25 04.7 +1.3**
DPC *ep*P **sP 14 25 11.0 +0.9**
DPC AMS AMS 14 49 10.0
comp=Z,300nm,19.4s
UPC Upice 52.51 307 *eP* **P 14 25 04.9 +1.3**
UPC MLR MLR
comp=Z,300nm,11.3s
UPC Upice 52.51 307 *eP* **P 14 25 04.9 +1.3**
UPC AMS AMS 14 50 40.0
comp=Z,300nm,11.3s
BSEG Bad Segeberg 52.54 313 *eL* L 14 48 56.7
comp=Z,147nm,19.6s
VYHS Vyhne 52.62 303 *eP* **P 14 25 06.1 +1.6**
VYHS pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 52.62 303 *eP* **P 14 25 06.1 +1.6**
GZR Gura Zlata 52.90 298 ⇑P **P 14 25 06.9 +0.3**
JAVC Velka Javorina 52.91 304 *eP* **P 14 25 08.6 +2.0**
WHY Whitehorse 52.99 34 P P 14 25 07.6 +0.4
baz=320
VRAC Vranov 53.09 305 ⇑P **P 14 25 08.8 +0.8**
VRAC Vranov 53.09 305 *eP* **P 14 25 09.0 +1.1**
PVCC Panska Ves 53.14 307 *eP* **P 14 25 09.6 +1.4**
PVCC MLR MLR
comp=Z,300nm,15.4s
PVCC Panska Ves 53.14 307 *eP* **P 14 25 09.6 +1.4**
PVCC AMS AMS 14 49 50.0
comp=Z,300nm,15.4s
BRG Berggiesshubel 53.17 308 *i* P **P 14 25 09.4 +0.9**
BRG Amp 14 25 10.3
comp=Z,12nm,0.8s
BRG Berggiesshubel 53.17 308 P P 14 25 15.5 +7.0
BRG Amp 14 25 17.6
comp=Z,7.3nm,0.6s
BRG Berggiesshubel 53.17 308 *eP* **P 14 25 09.3 +0.9**
comp=Z,12nm,0.8s,baz=42,slow=7.3
SMOL Smolenice 53.27 304 *eP* **P 14 25 10.8 +1.6**
SMOL pmax pmax
comp=Z,5.0nm,0.8s
SMOL Smolenice 53.27 304 *eP* **P 14 25 10.8 +1.6**
CLL Collm 53.28 309 ⇓*i*P **P 14 25 09.8 +0.6**
comp=Z,8.0nm,0.8s
CLL *i* 14 25 15.9
CLL *e*PP **PP 14 27 10.0 +1.0**
CLL *e*SS **SS 14 36 24.0 +5.3**
CLL Lm MLR 14 49 00.0
comp=Z,300nm,18.0s
CLL Collm 53.28 309 ⇓*i*P **P 14 25 09.8 +0.6**
CLL *i* 14 25 15.9
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,18.0s
CLL Collm 53.28 309 P P 14 25 09.4 +0.2
CLL IAmb IAmb 14 25 10.2
comp=Z,6.3nm,0.7s
CLL Collm 53.28 309 *eP* **P 14 25 09.8 +0.6**
comp=Z,8.4nm,0.8s,baz=42,slow=7.3
CLL *eL* L 14 50 05.7
comp=Z,302nm,18.8s
FLTG Flechtingen 53.30 311 *eP* **P 14 25 09.6 +0.3**
comp=Z,18nm,1.3s,baz=42,slow=7.3
BZS Buzias 53.31 299 ⇑P **P 14 25 10.0 +0.4**
KRUC Moravsky 53.36 305 *eP* **P 14 25 11.0 +1.1**
FBE Freiberg 53.40 308 *eP* **P 14 25 11.1 +1.0**
comp=Z,8.9nm,0.9s,baz=42,slow=7.3
MODS Modra-Piesok 53.44 304 *eP* **P 14 25 14.0 +3.5**
MODS Modra-Piesok 53.44 304 *eP* **P 14 25 14.0 +3.5**
HERR Herculane 53.44 298 ⇑P **P 14 25 10.9 +0.3**
PRU Pruhonice 53.54 307 *eP* **P 14 25 12.3 +1.1**
PRU MLR MLR
comp=Z,300nm,16.3s
PRU Pruhonice 53.54 307 *eP* **P 14 25 12.3 +1.1**
PRU AMS AMS 14 49 50.0
comp=Z,300nm,16.3s
TREC Trest 53.61 306 *eP* P 14 25 19.1 +7.4
TREC Trest 53.61 306 *ep*P pP 14 25 19.1 +2.6
SKAG Skagway 53.77 35 P P 14 25 13.2 +0.4
baz=321
SKAG Skagway 53.77 35 P P 14 25 14.2 +1.5
SKAG IAmb IAmb 14 25 15.5
comp=Z,16nm,1.1s
MDVR Moldovita 53.86 298 ⇑P **P 14 25 13.8 +0.1**
MPLH Magyarpolny 54.18 303 *eP* **P 14 25 17.8 +1.9**
PLN Plauen 54.24 309 *eP* **P 14 25 17.2 +0.9**
comp=Z,27nm,1.6s,baz=42,slow=7.3
GUNZ Gunzen 54.25 309 *eP* **P 14 25 17.4 +0.9**
comp=Z,7.9nm,0.9s,baz=42,slow=7.3
WERN Wernitzgruen 54.29 309 *eP* **P 14 25 17.8 +1.1**
comp=Z,8.1nm,0.8s,baz=42,slow=7.3
NKC Novy Kostel 54.30 308 AMS AMS 14 50 20.0
comp=Z,400nm,16.5s
MORH Mrgy, Hungar 54.34 301 ⇑P **P 14 25 17.5 +0.5**
MORH Mrgy, Hungar 54.34 301 *eP* **P 14 25 18.0 +1.0**
MOX Moxa 54.36 309 *eP* **P 14 25 18.3 +1.1**
comp=Z,12nm,0.8s,baz=42,slow=7.3
MOX *eL* L 14 50 28.6
comp=Z,246nm,18.3s
CONA Conrad Observa 54.42 304 *eP* **P 14 25 19.5 +1.7**
comp=Z,5.7nm,1.0s,SNR=5.5
GTTG Gottingen 54.42 311 *eP* **P 14 25 19.0 +1.4**
comp=Z,28nm,1.2s,baz=42,slow=7.3
CKRC Cesky Krumlov 54.49 306 *eP* **P 14 25 20.5 +2.3**
CKRC *ex* x 14 25 26.7
CKRC AMS AMS 14 50 30.0
comp=Z,300nm,16.1s
KHC Kasperske Hory 54.59 307 *eP* **P 14 25 20.3 +1.4**
KHC *e* 14 25 26.5
KHC MLR MLR
comp=Z,300nm,14.0s
KHC Kasperske Hory 54.59 307 *eP* **P 14 25 20.3 +1.4**
KHC *ep*P **sP 14 25 26.5 +0.9**
KHC AMS AMS 14 51 00.0
comp=Z,300nm,14.0s
KHC Kasperske Hory 54.59 307 P P 14 25 19.8 +0.9
KHC IAmb IAmb 14 25 21.2
comp=Z,7.8nm,0.7s
VTS Vitosha 54.65 295 ⇑P **P 14 25 20.5 +0.9**
VTS Vitosha 54.65 295 P P 14 25 20.1 +0.5
VTS pmax pmax
comp=Z,5.0nm,0.7s
VTS Vitosha 54.65 295 P P 14 25 20.1 +0.5
KOVH Kovagotottos 54.69 302 *eP* **P 14 25 20.2 +0.6**
ROTZ Rotzenmuhle 54.74 308 *eP* **P 14 25 21.2 +1.2**
comp=Z,8.0nm,0.8s,baz=42,slow=7.3
GEC2 GERESS Array S 54.74 307 P P 14 25 20.3 +0.2
GEC2 GERESS Array S 54.74 307 *eL* L 14 50 48.4
comp=Z,262nm,19.0s
GERES GERESS Array B 54.74 307 P P 14 25 20.9 +0.8
comp=Z,1.4nm,0.3s,baz=46,slow=7.6,SNR=15
GERES GERESS Array B 54.74 307 P P 14 25 20.7 +0.6
CSS Mathiatis 54.85 282 P P 14 25 21.5 +0.5
WET Wettzell 54.90 307 *eP* **P 14 25 22.4 +1.3**
comp=Z,9.1nm,0.9s,baz=42,slow=7.3
WET *eL* L 14 50 52.3
comp=Z,274nm,18.1s
ARSA Arzberg 55.07 304 *eP* **P 14 25 23.5 +1.1**
comp=Z,2.2nm,0.6s
DIVS Divibare 55.21 299 P P 14 25 23.3 -0.2
GRF Grafenberg Arr 55.23 309 *eP* **P 14 25 25.2 +1.7**
comp=Z,8.6nm,0.9s,baz=42,slow=7.3
GRF *eL* L 14 51 15.6
comp=Z,333nm,18.2s
SOKA Soboth 55.72 304 *eP* **P 14 25 28.2 +1.1**
comp=Z,6.6nm,0.9s,SNR=6.2
TNS Taunus Mts 56.04 311 *eL* L 14 50 09.5
comp=Z,90nm,20.9s
OBKA Obir 56.06 304 *eP* **P 14 25 31.1 +1.5**
comp=Z,8.0nm,0.6s,SNR=10.0
KBA Koelnbreinsper 56.20 305 *eP* **P 14 25 32.5 +1.8**
comp=Z,10nm,0.8s,SNR=9.2
DLBC Dease Lake 56.27 33 P P 14 25 31.8 +0.9
DLBC IAmb IAmb 14 25 33.3
comp=Z,16nm,1.1s
FUR Furstenfeldbru 56.34 307 *eL* L 14 51 55.0
comp=Z,303nm,18.4s
MYKA Terra Mystica 56.40 305 *eP* **P 14 25 33.2 +1.2**
comp=Z,8.2nm,0.6s,SNR=6.5
SFJD Kangerlussuaq 56.65 351 LR LR 14 52 23.3
comp=Z,87nm,18.2s,baz=22,slow=39
RAYN Ar Rayn 56.75 263 P P 14 25 34.5 -0.2
RAYN pmax pmax
comp=Z,13nm,1.2s
RAYN Ar Rayn 56.75 263 P P 14 25 34.5 -0.2
RAYN IAmb IAmb 14 25 35.9
comp=Z,13nm,1.1s
ZOU Zoufplan 56.76 305 P P 14 25 35.0 +0.3
PDG Podgorica 56.80 298 ⇑P **P 14 25 34.9 +0.1**
PDG Podgorica 56.80 298 P P 14 25 34.9 +0.1
PDG IAmb IAmb 14 25 35.5
comp=Z,5.8nm,0.7s
WATA Walderalm 56.82 307 *eP* **P 14 25 36.3 +1.2**
comp=Z,6.4nm,0.7s
ABTA Abfaltersbach 56.83 306 *eP* **P 14 25 35.9 +0.8**
comp=Z,5.2nm,0.8s
WTTA Wattenberg 56.85 306 *eP* **P 14 25 36.8 +1.5**
comp=Z,3.8nm,0.5s
YKA Yellowknife Ar 56.92 23 P P 14 25 35.0 -0.4

comp=Z,9.2nm,0.8s,baz=332,slow=6.9,SNR=36
YKA LR LR 14 51 41.4
comp=Z,76nm,21.6s,baz=0.0,slow=38
YKA Yellowknife Ar 56.92 23 P P 14 25 35.0 -0.4
MOTA Moosalm 57.03 307 *eP* **P 14 25 37.4 +0.9**
comp=Z,5.9nm,1.0s
SQTA Sankt Quirin 57.07 307 *eP* **P 14 25 38.3 +1.5**
comp=Z,12nm,1.0s
RETA Reutte 57.08 307 *eP* **P 14 25 37.8 +1.0**
comp=Z,2.2nm,0.6s
STAL STALIGIAL 57.10 305 P **P 14 25 36.8 -0.2**
BGES Gesves 57.34 313 *dsP* sP 14 25 41.9 -3.3
FETA Feichten 57.44 307 *eP* **P 14 25 40.5 +1.0**
comp=Z,5.1nm,0.9s
BFO Black Forest 57.52 309 P **P 14 25 40.1 +0.2**
BFO pmax pmax
comp=Z,11nm,1.1s
BFO Black Forest 57.52 309 P **P 14 25 40.1 +0.2**
BFO IAmb IAmb 14 25 41.5
comp=Z,11nm,1.1s
BFO Black Forest 57.52 309 *eP* **P 14 25 40.4 +0.6**
comp=Z,8.3nm,0.8s,baz=42,slow=7.3
BFO *eL* L 14 52 20.9
comp=Z,87nm,20.1s
BMRD Maredsous 57.53 313 *dP* **P 14 25 39.1 -0.7**
AGG Agios Georgios 57.76 293 P **P 14 25 41.3 -0.3**
AGG pmax pmax
comp=Z,14nm,1.3s
AGG Agios Georgios 57.76 293 P **P 14 25 41.3 -0.3**
AGG IAmb IAmb 14 26 04.4
comp=Z,14nm,1.3s
ECH Echery 58.11 310 P **P 14 25 43.9 -0.1**
ECH pmax pmax
comp=Z,14nm,1.1s
ECH Echery 58.11 310 P **P 14 25 43.9 -0.1**
ECH IAmb IAmb 14 25 45.8
comp=Z,14nm,1.1s
TUE Stuetta 58.48 307 P **P 14 25 47.1 +0.3**
TUE IAmb IAmb 14 25 49.8
comp=Z,12nm,0.8s
SENIN Lac Senin/Sane 59.47 308 P **P 14 25 54.2 +0.5**
SENIN IAmb IAmb 14 26 03.3
comp=Z,7.6nm,1.2s
NRCA Norcia 59.49 302 P **P 14 25 53.9 +0.2**
NRCA IAmb IAmb 14 26 19.7
comp=Z,9.1nm,1.0s
VLC Villacollemand 59.77 305 P **P 14 25 56.8 +1.2**
OSSC Osservatorio P 59.85 304 P **P 14 25 56.6 +0.4**
OSSC IAmb IAmb 14 26 07.2
comp=Z,11nm,0.8s
MSSA Maissana 60.05 306 P **P 14 25 57.8 +0.3**
MSSA IAmb IAmb 14 25 58.5
comp=Z,8.7nm,0.9s
CASP Castiglione de 60.59 304 P **P 14 26 01.4 +0.2**
CASP IAmb IAmb 14 26 24.1
comp=Z,13nm,1.0s
BNI Bardonecchia 60.76 308 P **P 14 26 03.1 +0.6**
BNI pmax pmax
comp=Z,20nm,1.3s
BNI Bardonecchia 60.76 308 P **P 14 26 03.1 +0.6**
FCC Fort Churchill 64.09 14 P **P 14 26 24.2 -0.1**
FCC pmax pmax
comp=Z,26nm,1.1s
FCC Fort Churchill 64.09 14 P **P 14 26 24.2 -0.1**
FFC Flin Flon 66.68 20 P **P 14 26 41.0 -0.2**
FFC pmax pmax
comp=Z,6.0nm,0.6s
FFC Flin Flon 66.68 20 P **P 14 26 41.0 -0.2**
FFC IAmb IAmb 14 26 42.4
comp=Z,6.3nm,0.6s
KEST Kesra 66.86 300 P **P 14 26 43.9 +1.2**
comp=Z,2.6nm,0.8s,baz=108,slow=6.4,SNR=4.3
KEST Kesra 66.86 300 P **P 14 26 43.0 +0.3**
KEST IAmb IAmb 14 26 44.7
comp=Z,6.0nm,1.1s
B05A Bryant 67.41 35 P **P 14 26 45.3 -0.6**
baz=331
NLWA Neilton Lookou 67.58 37 P **P 14 26 47.7 +0.7**
NLWA IAmb IAmb 14 26 48.9
comp=Z,9.3nm,0.8s
D03D Eldon 67.72 36 P **P 14 26 47.3 -0.6**
baz=331
D04E Lakebay 68.13 36 P **P 14 26 50.3 -0.2**
baz=331
B08A Colville Reser 68.19 33 P **P 14 26 51.1 +0.2**
B08A IAmb IAmb 14 26 52.6
comp=Z,8.5nm,1.1s
D05A Enumclaw 68.38 35 P **P 14 26 53.4 +1.4**
E03A Lebam 68.42 37 P **P 14 26 53.3 +1.0**
E04D Cinebar 68.75 36 P **P 14 26 54.6 +0.3**
baz=331
LTY Liberty 68.75 35 P **P 14 26 54.5 0.0**
LTY IAmb IAmb 14 26 55.3
comp=Z,4.6nm,0.8s
LON Longmire 68.83 36 P **P 14 26 55.6 +0.7**
LON pmax pmax
comp=Z,4.0nm,0.8s
LON Longmire 68.83 36 P **P 14 26 55.6 +0.7**
LON IAmb IAmb 14 26 56.8
comp=Z,4.4nm,0.8s
NEW Newport 68.95 32 P **P 14 26 55.4 -0.3**
baz=334
PBRG Braganca 69.10 315 *eP* **P 14 26 57.5 +0.8**
comp=Z,20nm,1.5s
WALA Waterton Lakes 69.15 29 P **P 14 26 57.2 +0.2**
WALA IAmb IAmb 14 26 58.0
comp=Z,5.9nm,0.8s
D08A Wollman Farm, 69.48 34 P **P 14 26 59.2 +0.3**
D08A IAmb IAmb 14 27 00.2
comp=Z,7.0nm,0.9s
PGAV Gavieira, Arco 69.57 316 *eP* **P 14 27 00.7 +1.0**
E07A Sunnyside 69.63 34 P **P 14 27 00.8 +1.0**
E07A IAmb IAmb 14 27 01.9
comp=Z,11nm,0.8s
SCHQ Schefferville 69.66 358 P **P 14 27 00.0 +0.1**
comp=Z,5.3nm,1.0s,baz=7.6,slow=10,SNR=3.9
G03D McMinnville, O 69.69 37 P **P 14 26 59.5 -0.7**
baz=331
PCAB Cabril 69.69 315 *eP* **P 14 27 01.5 +1.2**
comp=Z,27nm,0.8s
F05D White Salmon 69.70 36 P **P 14 26 59.6 -0.7**
baz=332
ESBB Sonseca Array 69.74 311 P **P 14 27 01.2 +0.5**
ESDC Sonseca Array 69.74 311 P **P 14 27 01.7 +1.0**
comp=Z,11nm,0.8s,baz=25,slow=6.4,SNR=64
ESDC LR LR 15 01 16.2
comp=Z,133nm,18.9s,baz=20,slow=39
ESDC Sonseca Array 69.74 311 P **P 14 27 01.3 +0.6**
ESDC IAmb IAmb 14 27 02.6
comp=Z,7.1nm,0.8s
MVO Moncorvo 69.75 314 *eP* **P 14 27 01.6 +0.8**
comp=Z,16nm,1.4s
HAWA Hanford 69.88 34 P **P 14 27 01.8 +0.5**
HAWA IAmb IAmb 14 27 04.1
comp=Z,17nm,1.4s
POLO Lamas de Olo 69.88 315 *eP* **P 14 27 02.7 +1.1**
E08A Dider Farm, El 69.94 34 P **P 14 27 02.6 +0.9**
PAB San Pablo 70.01 312 P **P 14 27 02.7 +0.3**
PAB pmax pmax
comp=Z,5.0nm,0.7s
PAB San Pablo 70.01 312 P **P 14 27 02.7 +0.3**
PAB IAmb IAmb 14 27 03.8
comp=Z,4.6nm,0.7s
COR Corvallis 70.22 38 P **P 14 27 04.7 +1.3**
COR pmax pmax
comp=Z,18nm,0.8s
COR Corvallis 70.22 38 P **P 14 27 04.7 +1.3**
JTMT Jette 70.24 30 P **P 14 27 04.6 +0.9**
JTMT IAmb IAmb 14 27 22.4
comp=Z,7.8nm,0.9s
I02D Swisshome 70.45 38 P **P 14 27 04.3 -0.5**
baz=331
H04D Lebanon 70.47 37 P **P 14 27 05.3 +0.3**
baz=332
PVIS Viseu 70.48 315 *eP* **P 14 27 06.2 +1.0**
H04A Detroit Lake 70.52 37 P **P 14 27 06.0 +0.6**
H04A IAmb IAmb 14 27 07.3
comp=Z,12nm,1.1s
MTE Manteigas 70.61 314 *eP* **P 14 27 07.1 +1.1**
comp=Z,23nm,0.8s
MTE Manteigas 70.61 314 P **P 14 27 06.7 +0.6**
F10A Beach Ranch, E 70.97 33 P **P 14 27 09.1 +0.9**
I03D Drain, OR 70.99 38 P **P 14 27 07.1 -1.0**
baz=332,SNR=6.0
G08A Pilot Rock 71.04 34 P **P 14 27 09.4 +0.7**
G08A IAmb IAmb 14 27 11.0

comp=Z,7.7nm,1.1s
PCBR Castelo Branco 71.06 314 *eP* **P 14 27 09.9 +1.3**
MSO Missoula 71.17 30 P **P 14 27 08.5 -0.9**
baz=336,SNR=5.1
MSO Missoula 71.17 30 P **P 14 27 10.1 +0.7**
MSO IAmb IAmb 14 27 11.4
comp=Z,11nm,1.0s
EGMT Eagleton 71.21 27 P **P 14 27 09.2 -0.4**
baz=338
I04A Tendick Farm, 71.22 37 P **P 14 27 09.2 -0.4**
baz=332
J01E Myrtle Point 71.25 39 P **P 14 27 09.8 0.0**
baz=331,SNR=6.3
PCAS Casmilo, Conde 71.29 315 *eP* **P 14 27 11.2 +1.1**
PMRV Marv??o 71.37 314 *eP* **P 14 27 11.3 +0.7**
PINE Pine Mountain 71.73 36 P **P 14 27 14.3 +1.4**
PINE IAmb IAmb 14 27 15.7
comp=Z,9.4nm,0.9s
K02D Willamette Mer 71.75 39 P **P 14 27 12.8 -0.1**
baz=332,SNR=7.7
J04D Umpqua Nationa 71.82 38 P **P 14 27 12.7 -0.7**
baz=332,SNR=15
HRY Holter Researc 71.87 29 P **P 14 27 14.0 +0.4**
PESTR Estremoz 71.93 313 *eP* **P 14 27 14.7 +0.7**
PESTR Estremoz 71.93 313 P **P 14 27 14.2 +0.3**
I07A Izee 71.94 35 P **P 14 27 14.9 +0.8**
I07A IAmb IAmb 14 27 16.8
comp=Z,7.1nm,0.9s
BMO Blue Mountains 71.95 34 P **P 14 27 14.6 +0.5**
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 71.95 34 P **P 14 27 14.6 +0.5**
BMO IAmb IAmb 14 27 16.3
comp=Z,10nm,0.9s
PMTG Montargil 72.02 314 *eP* **P 14 27 15.2 +0.8**
ULM Lac du Bonnet 72.06 17 P **P 14 27 13.4 -1.1**
comp=Z,2.1nm,0.5s,baz=333,slow=4.6,SNR=3.9
ULM Lac du Bonnet 72.06 17 IAmb IAmb 14 27 14.2
comp=Z,4.1nm,0.8s
J05D Fort Rock, OR 72.08 37 P **P 14 27 15.9 +0.9**
baz=333,SNR=6.9
HUMO Hull Mountain 72.08 38 P **P 14 27 15.8 +1.0**
PLID Pearl Lake 72.14 33 P **P 14 27 15.9 +0.5**
L02E Cave Junction 72.25 39 P **P 14 27 17.1 +1.3**
baz=332
LRM Limekiln Ridge 72.51 30 P **P 14 27 18.1 +0.5**
L04D Klamath Falls 72.65 38 P **P 14 27 19.4 +1.0**
baz=332,SNR=10.0
K05A Summer Lake 72.69 37 P **P 14 27 20.1 +1.4**
K05A IAmb IAmb 14 27 20.9
comp=Z,7.5nm,0.8s
KRMB Red Mountain 72.69 40 P **P 14 27 20.0 +1.3**
KRMB IAmb IAmb 14 27 26.1
comp=Z,7.9nm,1.0s
PBEJ Beja 72.76 313 *eP* **P 14 27 20.1 +1.2**
DLMT Dillon 72.89 30 P **P 14 27 20.5 +0.7**
DLMT IAmb IAmb 14 27 21.7
comp=Z,10.0nm,0.8s
J08A Circle Bar Ran 72.92 35 P **P 14 27 21.4 +1.5**
J08A IAmb IAmb 14 27 22.7
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 72.94 39 P **P 14 27 20.8 +0.8**
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 72.94 39 P **P 14 27 20.8 +0.8**
BOZ Bozeman (W) 72.95 29 P **P 14 27 20.1 0.0**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 72.95 29 P **P 14 27 20.1 0.0**
PNCL Nicolau / Gran 72.96 314 *eP* **P 14 27 21.2 +1.2**
comp=Z,35nm,1.6s
PCVE Castro Verde 73.17 313 *eP* **P 14 27 22.4 +1.1**
M02C Callahan 73.19 39 P **P 14 27 22.7 +1.2**
baz=332,SNR=10
PVAQ Vaqueiros 73.23 313 *eP* **P 14 27 22.7 +1.0**
JCC Jacoby Creek, 73.27 40 P **P 14 27 23.0 +1.2**
JCC IAmb IAmb 14 27 33.9
comp=Z,20nm,1.2s
GCMT Greycliff 73.30 28 P **P 14 27 22.9 +0.7**
MCMT McKenzie Canyo 73.31 31 P **P 14 27 23.1 +0.7**
KHMM Horse Mountain 73.33 40 P **P 14 27 23.7 +1.2**
KHMM IAmb IAmb 14 27 24.3
comp=Z,7.2nm,0.9s
N02D Trinity Center 73.61 39 P **P 14 27 24.5 +0.5**
baz=332,SNR=7.3
MOD Modoc Plateau 73.62 37 P **P 14 27 25.3 +1.2**
MOD IAmb IAmb 14 27 26.5
comp=Z,12nm,1.1s
MDND Maddock 73.69 20 P **P 14 27 24.3 0.0**
baz=343
WVOR Wild Horse Val 73.70 36 P **P 14 27 25.5 +1.0**
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 73.70 36 P **P 14 27 25.5 +1.0**
QLMT Earthquake Lak 73.71 30 P **P 14 27 25.5 +0.8**
MFID Camas Ranch 73.71 33 P **P 14 27 25.4 +0.8**
MFID IAmb IAmb 14 27 26.8
comp=Z,12nm,1.2s
YHH Holmes Hill 73.91 29 P **P 14 27 26.4 +0.4**
YNE Yellowstone No 73.93 29 P **P 14 27 26.5 +0.5**
AGMN Agassiz Nation 73.95 18 P **P 14 27 25.1 -0.7**
baz=345
AGMN Agassiz Nation 73.95 18 P **P 14 27 24.9 -0.8**
AGMN IAmb IAmb 14 27 25.9
comp=Z,8.1nm,0.7s
WDC Whiskeytown Da 74.01 39 P **P 14 27 26.6 +0.4**
WDC pmax pmax
comp=Z,4.0nm,0.9s
WDC Whiskeytown Da 74.01 39 P **P 14 27 26.6 +0.4**
RLMT Red Lodge 74.03 28 P **P 14 27 27.1 +0.5**
RLMT IAmb IAmb 14 27 28.4
comp=Z,8.4nm,0.8s
B35A Bob, Littlefor 74.24 16 P **P 14 27 26.8 -0.7**
B35A IAmb IAmb 14 27 27.8
comp=Z,9.3nm,0.7s
O02D Mt. Diablo Mer 74.28 40 P **P 14 27 28.3 +0.3**
baz=332,SNR=9.6
YPP Pitchstone Pla 74.40 29 P **P 14 27 30.6 +1.7**
KCPM Cahto Peak 74.43 40 P **P 14 27 30.0 +1.2**
FLWY Flagg Ranch 74.60 29 P **P 14 27 30.8 +0.9**
FLWY IAmb IAmb 14 27 34.8
comp=Z,5.3nm,0.7s
EYMN Ely 74.98 15 P **P 14 27 31.4 -0.4**
baz=348
EYMN Ely 74.98 15 P **P 14 27 31.1 -0.7**
LOHW Long Hollow 75.06 29 P **P 14 27 33.7 +1.1**
TPAW Teton Pass 75.08 30 P **P 14 27 33.5 +0.7**
TPAW IAmb IAmb 14 27 35.2
comp=Z,11nm,1.0s
HOPS Hopland Field 75.22 40 P **P 14 27 33.9 +0.6**
LSQQ Lebel-sur-Quev 75.30 5 P **P 14 27 32.7 -0.8**
baz=356
PAHR Pah Rah Range 75.89 37 P **P 14 27 38.0 +0.7**
BW06 Boulder Array 76.13 29 P **P 14 27 38.3 -0.5**
baz=338
BW06 Boulder Array 76.13 29 P **P 14 27 38.3 -0.5**
PD31 Pinedale Array 76.13 29 P **P 14 27 38.3 -0.4**
PDAR Pinedale Array 76.13 29 P **P 14 27 38.8 0.0**
comp=Z,1.3nm,0.6s,baz=15,slow=2.9,SNR=15
PDAR LR LR 15 05 58.0
comp=Z,86nm,19.0s,baz=336,slow=40
PDAR Pinedale Array 76.13 29 P **P 14 27 38.4 -0.4**
RSSD Black Hills 76.27 25 P **P 14 27 39.2 -0.3**
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 76.27 25 P **P 14 27 38.7 -0.8**
baz=341
RSSD Black Hills 76.27 25 P **P 14 27 39.2 -0.3**
RSSD IAmb IAmb 14 27 40.6
comp=Z,7.6nm,1.0s
ELK Elko 76.32 34 P **P 14 27 40.3 +0.5**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 76.32 34 P **P 14 27 40.3 +0.5**
PNTR Pine Nut 76.37 38 P **P 14 27 41.0 +0.9**
YERR Yerington 76.59 38 P **P 14 27 41.9 +0.5**
HWUT Hardware Ranch 76.64 31 P **P 14 27 42.3 +0.7**
F36A Milaca 76.70 17 P **P 14 27 41.0 -0.6**
F36A IAmb IAmb 14 27 42.0
comp=Z,6.8nm,0.8s
KVN Kaiserville 76.92 37 P **P 14 27 44.2 +1.0**
KVN pmax pmax
comp=Z,12nm,0.8s
KVN Kaiserville 76.92 37 P **P 14 27 44.2 +1.0**
KVN IAmb IAmb 14 27 45.5

comp=Z,12nm,0.8s
WAKR Walker 76.95 38 P **P 14 27 44.4 +1.0**
K22A Casper 77.05 27 P **P 14 27 43.0 -0.9**
baz=340
SUSD Miller 77.08 21 P **P 14 27 43.5 -0.3**
baz=344,SNR=5.3
SUSD Miller 77.08 21 P **P 14 27 43.8 0.0**
RYN Ryan 77.15 37 P **P 14 27 44.6 +0.1**
RYN IAmb IAmb 14 27 46.7
comp=Z,7.1nm,0.9s
D61A St Aubert, Com 77.33 0 P **P 14 27 45.3 +0.2**
baz=360
D58A Chemin du LacG 77.40 2 P **P 14 27 45.5 0.0**
baz=358
NVAR Mina Array Bea 77.41 37 P **P 14 27 47.2 +1.2**
comp=Z,6.0nm,0.8s,baz=321,slow=4.2,SNR=38
NVAR LR LR 15 02 21.2
comp=Z,58nm,18.1s,baz=312,slow=36
NVAR Mina Array Bea 77.41 37 P **P 14 27 46.6 +0.6**
D62A Allapoint, All 77.45 360 P **P 14 27 46.6 +0.9**
baz=0.5
D62A Allapoint, All 77.45 360 P **P 14 27 46.1 +0.4**
D62A IAmb IAmb 14 27 47.9
comp=Z,7.0nm,0.8s
NV11 Mina Array Sit 77.45 37 P **P 14 27 46.7 +0.5**
LHV Little Huntoon 77.50 37 P **P 14 27 47.5 +1.3**
LHV IAmb IAmb 14 27 48.5
comp=Z,5.9nm,0.8s
PSA00 Pilbara Seismi 77.53 171 P **P 14 27 50.1 +3.7**
PSA00 IAmb IAmb 14 27 52.2
comp=Z,11nm,1.2s
DUG Dugway, Tooele 77.57 32 P **P 14 27 47.8 +1.0**
DUG pmax pmax
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 77.57 32 P **P 14 27 47.7 +0.9**
baz=337
DUG Dugway, Tooele 77.57 32 P **P 14 27 47.8 +1.0**
DUG IAmb IAmb 14 27 49.1
comp=Z,7.3nm,1.1s
JLU Jordanelle 77.60 31 P **P 14 27 48.2 +1.1**
JLU IAmb IAmb 14 27 49.4
comp=Z,7.4nm,1.1s
D60A Saint Jean D'O 77.61 1 P **P 14 27 46.9 +0.3**
baz=359
PQI Presque Isle 77.85 359 P **P 14 27 48.7 +0.7**
PQI IAmb IAmb 14 27 49.7
comp=Z,8.9nm,0.9s
MDPB Devils Postpil 77.86 38 P **P 14 27 49.7 +1.1**
E62A Clayton Lake 77.91 360 P **P 14 27 47.9 -0.5**
baz=0.2
E62A Clayton Lake 77.91 360 P **P 14 27 49.3 +0.9**
E62A IAmb IAmb 14 27 50.1
comp=Z,6.4nm,0.8s
NLU North Lily Min 78.01 32 P **P 14 27 50.0 +0.7**
NLU IAmb IAmb 14 27 51.4
comp=Z,8.5nm,0.9s
MPU Maple Canyon 78.09 32 P **P 14 27 49.9 +0.2**
E64A Bridgewater 78.10 359 P **P 14 27 48.5 -0.9**
baz=1.2
E63A Oxbow 78.10 359 P **P 14 27 49.2 -0.2**
baz=0.8
E63A Oxbow 78.10 359 P **P 14 27 50.0 +0.6**
E63A IAmb IAmb 14 27 50.7
comp=Z,8.1nm,0.8s
E58A La Victoria 78.11 3 P **P 14 27 48.7 -0.8**
baz=358
RDMU Red Mountain 78.17 30 P **P 14 27 50.0 -0.2**
RDMU IAmb IAmb 14 27 52.3
comp=Z,19nm,1.2s
WRAB Tennant Creek 78.19 157 *ceP* **P 14 27 51.9 +1.8**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
SPR3 Spring Creek 3 78.19 34 P **P 14 27 51.7 +1.2**
SPR3 IAmb IAmb 14 27 53.4
comp=Z,8.6nm,1.0s
WRA Warramunga Arr 78.19 157 P **P 14 27 49.1 -1.0**
comp=Z,1.3nm,0.5s,baz=349,slow=6.2,SNR=27
ECSD EROS Data Cent 78.22 20 P **P 14 27 49.5 -0.7**
ECSD IAmb IAmb 14 27 50.6
comp=Z,6.0nm,0.7s
ALGO Algonquin Park 78.33 6 P **P 14 27 50.2 -0.5**
baz=355
R11A Troy Canyon, C 78.39 35 P **P 14 27 52.1 +0.8**
F60A Warwick 78.55 2 P **P 14 27 52.4 +0.5**
baz=359
F61A St Evariste 78.55 1 P **P 14 27 51.4 -0.6**
baz=359
LMN Caledonia Moun 78.59 356 P **P 14 27 52.4 +0.2**
LMN IAmb IAmb 14 28 18.4
comp=Z,16nm,1.4s
F62A Pittston Farm, 78.63 0 P **P 14 27 52.4 0.0**
baz=360
F59A Saint Guilaume 78.65 2 P **P 14 27 51.9 -0.5**
baz=358
F64A Sherman 78.66 359 P **P 14 27 52.6 +0.1**
baz=0.9
PSUT Pine Spring 78.77 34 P **P 14 27 54.1 +0.5**
PSUT IAmb IAmb 14 27 55.6
comp=Z,8.2nm,0.8s
F63A Nahmakanta, Br 78.83 360 P **P 14 27 53.1 -0.4**
baz=0.4
N23A Red Feather La 78.84 27 P **P 14 27 54.3 +0.3**
baz=340
P17A Butcher Ranch, 78.85 31 P **P 14 27 53.9 0.0**
P17A IAmb IAmb 14 27 56.0
comp=Z,9.7nm,1.0s
TMUT Trail Mountain 78.88 32 P **P 14 27 54.0 -0.3**
O20A White River Ci 78.94 29 P **P 14 27 55.4 +0.9**
baz=339,SNR=5.4
O20A White River Ci 78.94 29 P **P 14 27 54.7 +0.3**
O20A IAmb IAmb 14 27 57.1
comp=Z,9.4nm,0.7s
GRAC Grapevine Rang 79.02 37 P **P 14 27 56.5 +1.8**
baz=335,SNR=7.8
I40A Norwalk 79.08 15 P **P 14 27 54.8 -0.1**
I40A IAmb IAmb 14 27 55.8
comp=Z,10nm,0.7s
G61A St-Isidore-de- 79.24 1 P **P 14 27 56.2 +0.5**
baz=359
SRU San Rafael Swe 79.25 31 P **P 14 27 56.4 +0.3**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 79.25 31 P **P 14 27 56.4 +0.3**
PKME Peaks-Kenny Pk 79.27 360 P **P 14 27 56.4 +0.7**
baz=0.3
PKME Peaks-Kenny Pk 79.27 360 P **P 14 27 56.5 +0.7**
PKME IAmb IAmb 14 28 14.3
comp=Z,14nm,1.4s
G64A Maxfield 79.28 359 P **P 14 27 56.1 +0.3**
baz=0.6
CWC Cottonwood Cre 79.28 38 P **P 14 27 55.4 -0.9**
baz=335
PLVO Plevna 79.30 5 P **P 14 27 56.5 +0.4**
PLVO IAmb IAmb 14 27 56.9
comp=Z,9.5nm,0.8s
MSU Marysvale 79.31 33 P **P 14 27 57.4 +0.9**
MSU Marysvale 79.31 33 P **P 14 27 57.4 +0.9**
G62A West of Eustis 79.31 1 P **P 14 27 56.2 +0.1**
baz=360
G65A Princeton 79.31 358 P **P 14 27 56.2 +0.2**
baz=1.3
G65A Princeton 79.31 358 P **P 14 27 57.0 +0.9**
G65A IAmb IAmb 14 28 04.3
comp=Z,18nm,1.4s
I42A Draeger Farm, 79.32 14 P **P 14 27 56.1 -0.1**
I42A IAmb IAmb 14 28 25.1
comp=Z,14nm,1.1s
G57A Newington 79.33 4 P **P 14 27 56.0 -0.1**
baz=357
PRN Pahroc Range 79.42 35 P **P 14 27 57.9 +0.9**
TPNV Topopah Spring 79.44 36 P **P 14 27 56.9 -0.2**
baz=336
SMMC Simmler 79.61 40 P **P 14 27 58.4 +0.4**
baz=334
MTPU Mount Pierson 79.74 33 P **P 14 27 59.7 +0.6**
OGNE Ogallala 79.75 24 P **P 14 27 59.0 +0.3**
baz=342
OGNE Ogallala 79.75 24 P **P 14 27 58.8 +0.1**
CCUT Cedar City 79.82 34 P **P 14 28 00.1 +0.7**
H65A Eastbrook 79.83 359 P **P 14 27 59.4 +0.5**
baz=0.9
LONY Lake Ozonia 79.83 4 P **P 14 27 59.3 +0.4**
baz=357
SZCU Shurtz Canyon 79.87 34 P **P 14 28 00.3 +0.7**
H60A Morristown 79.94 2 P **P 14 27 59.2 -0.3**
baz=358

H62A	Milan	79.95	1	P	P	14 27 59.5	-0.1	
	baz=359							
H57A	Richville	79.95	4	P	P	14 27 58.8	-0.8	
	baz=357							
H61A	Lyndonville	79.98	2	P	P	14 27 59.2	-0.6	
	baz=359							
JFWS	Jewell Farm	80.09	15	P	P	14 27 59.7	-0.7	
JFWS				pmax	pmax			
	comp=Z,19nm,0.7s							
JFWS	Jewell Farm	80.09	15	P	P	14 28 00.1	-0.2	
	baz=349							
JFWS	Jewell Farm	80.09	15	P	P	14 27 59.7	-0.7	
SHPR	Sheep Range	80.20	36	P	P	14 28 02.3	+1.0	
LBNH	Lisbon	80.27	2	P	P	14 28 02.5	+1.2	
	baz=359							
LRMC	Laurel Mtn Rad	80.28	38	P	P	14 28 02.6	+0.9	
	baz=335,SNR=7.0							
PV22	Blue Mesa, Par	80.28	30	P	P	14 28 03.2	+1.4	
PV22				IAmb	IAmb	14 28 04.7		
	comp=Z,8.0nm,0.8s							
LCMT	Little Creek M	80.36	34	P	P	14 28 03.1	+1.0	
PV14	Lion Creek, Pa	80.36	30	P	P	14 28 03.0	+0.7	
PV14				IAmb	IAmb	14 28 09.7		
	comp=Z,8.7nm,0.7s							
SHOC	Shoshone, Teco	80.38	37	P	P	14 28 03.4	+1.3	
	baz=336							
PV20	West Nyswonger	80.41	30	P	P	14 28 02.7	+0.3	
PV07	Paradox Valley	80.41	30	P	P	14 28 03.4	+1.0	
PV07				IAmb	IAmb	14 28 06.7		
	comp=Z,6.4nm,0.7s							
PV16	Nyswonger Mesa	80.45	30	P	P	14 28 03.2	+0.5	
PV17	East Wray Mesa	80.47	30	P	P	14 28 03.1	+0.4	
PV11	David Mesa, Pa	80.48	30	P	P	14 28 03.3	+0.5	
PV11				IAmb	IAmb	14 28 12.7		
	comp=Z,8.1nm,0.8s							
I63A	Otisfield	80.48	1	P	P	14 28 03.7	+1.3	
	baz=360,SNR=5.7							
I63A	Otisfield	80.48	1	P	P	14 28 03.5	+1.1	
I63A				IAmb	IAmb	14 28 04.7		
	comp=Z,14nm,0.8s							
PV12	Saucer Basin,	80.48	30	P	P	14 28 03.3	+0.5	
KNB	Kanab	80.48	34	P	P	14 28 03.8	+1.0	
KNB				pmax	pmax			
	comp=Z,20nm,1.0s							
KNB	Kanab	80.48	34	P	P	14 28 03.8	+1.0	
PV18	Skein Mesa, Pa	80.52	30	P	P	14 28 03.8	+0.8	
PV03	Paradox Valley	80.53	30	P	P	14 28 03.7	+0.6	
PV15	Paradox Valley	80.55	30	P	P	14 28 03.9	+0.6	
PV15				IAmb	IAmb	14 28 05.2		
	comp=Z,11nm,0.9s							
PV02	Paradox Valley	80.60	30	P	P	14 28 04.0	+0.5	
SCIA	State Center	80.60	18	P	P	14 28 03.5	+0.4	
	baz=347							
I64A	Boothbay	80.61	360	P	P	14 28 03.3	+0.2	
	baz=0.1							
PV13	Radium Mtn., P	80.62	30	P	P	14 28 04.2	+0.5	
I62A	Tamworth	80.65	1	P	P	14 28 03.6	+0.3	
	baz=359							
EDW2	Edwards Air Fo	80.71	38	P	P	14 28 04.2	+0.2	
	baz=335							
PV01	Paradox Valley	80.72	30	P	P	14 28 04.7	+0.5	
GSC	Goldstone, Bar	80.74	37	P	P	14 28 04.9	+0.8	
GSC				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GSC	Goldstone, Bar	80.74	37	P	P	14 28 05.0	+0.8	
	baz=336							
GSC	Goldstone, Bar	80.74	37	P	P	14 28 04.9	+0.8	
L40A	Anamosa	80.77	16	P	P	14 28 03.6	-0.4	
Q24A	Divide	80.86	27	P	P	14 28 05.0	0.0	
	baz=341							
TUQ	Turquoise Moun	80.92	37	P	P	14 28 05.0	-0.1	
	baz=336							
J58A	Remsen	81.06	4	P	P	14 28 04.4	-1.2	
	baz=357							
N35A	Tabor	81.18	20	P	P	14 28 06.8	+0.5	
J60A	Lant Hill Farm	81.24	3	P	P	14 28 06.8	+0.3	
	baz=358							
J62A	Henniker	81.29	2	P	P	14 28 06.5	-0.3	
	baz=359							
HEC	Hector,Ludlow	81.33	37	P	P	14 28 08.4	+1.1	
	baz=336							
BFSC	Mount Baldy Ra	81.41	38	P	P	14 28 07.7	-0.1	
	baz=335							
KSCO	Kaye Shedlock'	81.45	25	P	P	14 28 07.3	-0.6	
	baz=342							
KMBO	Kilima Mbogo	81.46	255	P	P	14 28 09.1	+0.8	
	comp=Z,3.7nm,0.8s,baz=42,slow=10,SNR=7.5							
MVCO	Mesa Verde	81.60	30	P	P	14 28 09.3	+0.5	
	baz=339							
MVCO	Mesa Verde	81.60	30	P	P	14 28 09.6	+0.7	
GMRC	Granite Mounta	81.60	37	P	P	14 28 08.9	+0.1	
	baz=336							
K56A	Middlesex	81.62	6	P	P	14 28 08.4	-0.2	
	baz=356							
AS31	Alice Springs	81.70	158	P	P	14 28 12.1	+3.1	
ASAR	Alice Springs	81.71	158	P	P	14 28 08.4	-0.7	
	comp=Z,1.3nm,0.6s,baz=352,slow=5.0,SNR=51							
ASAR	Alice Springs	81.71	158	P	P	14 28 12.1	+3.0	
ASAR	Alice Springs	81.71	158	P	P	14 28 12.1	+3.0	
K62A	Royalston	81.84	2	P	P	14 28 09.2	-0.5	
	baz=359							
W13A	Hualapai Mount	81.90	35	P	P	14 28 11.4	+0.9	
SDCO	Great Sand Dun	81.92	28	P	P	14 28 09.6	-1.0	
	baz=341,SNR=9.1							
SDCO	Great Sand Dun	81.92	28	P	P	14 28 10.8	+0.2	
KIBK	Kibwezi	82.04	254	P	P	14 28 12.1	+0.9	
KIBK				IAmb	IAmb	14 28 12.8		
	comp=Z,11nm,1.0s							
MURC	Murrieta	82.15	38	P	P	14 28 12.4	+0.9	
	baz=336							
BINY	Binghamton	82.19	5	P	P	14 28 11.8	+0.2	
	baz=357							
BELC	Belle Mtn. Jos	82.20	37	P	P	14 28 12.4	+0.5	
	baz=336							
SCI2	San Clemente I	82.23	40	P	P	14 28 12.8	+0.8	
	baz=335							
CBKS	Cedar Bluff	82.31	23	P	P	14 28 12.5	+0.2	
	baz=344							
WUAZ	Wupatki	82.31	33	P	P	14 28 13.0	+0.4	
	baz=338							
WUAZ	Wupatki	82.31	33	P	P	14 28 13.5	+1.0	
WUAZ				IAmb	IAmb	14 28 14.9		
	comp=Z,9.5nm,1.2s							
PFO	Pinyon Flats O	82.39	38	P	P	14 28 13.7	+0.7	
PFO				pmax	pmax			
	comp=Z,13nm,1.2s							
PFO	Pinyon Flats O	82.39	38	P	P	14 28 13.7	+0.7	
	baz=336							
PFO	Pinyon Flats O	82.39	38	P	P	14 28 13.7	+0.7	
PFO				IAmb	IAmb	14 28 14.8		
	comp=Z,13nm,1.2s							
TPFO	Pinon Flats	82.40	38	P	P	14 28 13.4	+0.4	
	baz=336,SNR=5.5							
PDMCI	Parker Dam,Lak	82.55	36	P	P	14 28 14.4	+0.9	
	baz=337							
M53A	Wi Miller and	82.64	8	P	P	14 28 13.6	-0.4	
	baz=354							
BC3	Big Chuckawall	82.70	37	P	P	14 28 14.8	+0.3	
	baz=336							
P38A	Dawn	82.77	18	P	P	14 28 14.5	-0.1	
P38A				IAmb	IAmb	14 28 15.5		
	comp=Z,11nm,0.8s							
T25A	Trinidad	82.78	27	P	P	14 28 14.9	-0.1	
	baz=341							
M64A	Tiverton	82.97	1	P	P	14 28 15.6	0.0	
	baz=359							
SFIN	Lafayette	83.02	13	P	P	14 28 16.0	+0.2	
	baz=350							
MONP2	Monument Peak	83.06	38	P	P	14 28 17.5	+1.0	
	baz=336,SNR=5.5							
P40A	Paris	83.11	17	P	P	14 28 16.4	-0.1	
BAR	Barrett	83.17	38	P	P	14 28 17.6	+0.8	
BAR				IAmb	IAmb	14 28 24.1		
	comp=Z,7.6nm,0.9s							
N54A	Moraine State	83.17	8	P	P	14 28 16.5	-0.2	
	baz=354							
SWSC	Sam W. Stewart	83.23	38	P	P	14 28 17.5	+0.4	
	baz=336							
X16A	Lo Mia Camp, P	83.31	34	P	P	14 28 18.9	+1.1	
X16A				IAmb	IAmb	14 28 20.2		
	comp=Z,4.8nm,0.9s							
IKP	In-Ko-Pah, Jac	83.39	38	P	P	14 28 18.8	+0.7	
	baz=336							
PAL	Palisades	83.46	3	P	P	14 28 18.4	+0.3	
	baz=358							
CBX	Cerro Bola	83.50	39	P	P	14 28 19.5	+0.8	
ACSO	Alum Creek Sta	83.63	10	P	P	14 28 19.1	0.0	
	baz=353							
SSPA	Standing Stone	83.64	6	P	P	14 28 19.1	-0.1	
	baz=356							
O53A	New Philadelph	83.78	9	P	P	14 28 19.7	-0.1	
	baz=354							
O56A	Blue Knob Stat	83.96	7	P	P	14 28 20.2	-0.7	
	baz=355							
P49A	Miami Univ. Ec	84.14	12	P	P	14 28 21.4	-0.3	
	baz=352							
ANMO	Albuquerque	84.29	30	*ce*P	P	14 28 23.8	+1.0	
ANMO				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ANMO	Albuquerque	84.29	30	P	P	14 28 24.0	+1.3	
	baz=340							
ANMO	Albuquerque	84.29	30	P	P	14 28 23.8	+1.0	
ANMO				IAmb	IAmb	14 28 25.2		
	comp=Z,4.5nm,0.8s							
P52A	Corning	84.31	10	P	P	14 28 22.0	-0.6	
	baz=353							
P60A	Greenville	84.58	5	P	P	14 28 23.8	-0.1	
	baz=357							
S39A	Bolivar	84.68	19	P	P	14 28 23.6	-0.8	
CCM	Cathedral Cave	84.69	17	P	P	14 28 23.9	-0.6	
CCM				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CCM	Cathedral Cave	84.69	17	P	P	14 28 23.9	-0.6	
	baz=348							
CCM	Cathedral Cave	84.69	17	P	P	14 28 23.9	-0.6	
CCM				IAmb	IAmb	14 28 24.7		
	comp=Z,6.5nm,0.7s							
BNM	Barren Site	84.99	30	P	P	14 28 27.4	+1.0	
Q54A	Coxs Mills	85.07	9	P	P	14 28 26.4	0.0	
214A	Organ Pipe Nat	85.14	36	P	P	14 28 27.3	+0.4	
	baz=338							
WCI	Wyandotte Cave	85.24	13	P	P	14 28 27.2	0.0	
WCI				pmax	pmax			
	comp=Z,15nm,0.7s							
WCI	Wyandotte Cave	85.24	13	P	P	14 28 27.4	+0.2	
	baz=351							
WCI	Wyandotte Cave	85.24	13	P	P	14 28 27.2	0.0	
SIUC	Southern Illin	85.34	15	P	P	14 28 27.6	-0.1	
MGMO	Mountain Grove	85.39	18	P	P	14 28 27.0	-1.0	
MGMO				IAmb	IAmb	14 28 28.7		
	comp=Z,11nm,1.2s							
TUC	Tucson	85.47	34	P	P	14 28 29.2	+0.6	
	baz=338							
AMTX	Amarillo	85.60	26	P	P	14 28 30.2	+1.0	
	baz=343							
AMTX	Amarillo	85.60	26	P	P	14 28 29.8	+0.6	
AMTX				IAmb	IAmb	14 28 32.3		
	comp=Z,6.9nm,0.8s							
U38A	Gravette	85.70	20	P	P	14 28 29.0	-0.6	
U38A				IAmb	IAmb	14 28 30.0		
	comp=Z,9.4nm,0.9s							
OK025	Westminster Rd	85.94	22	P	P	14 28 30.1	-0.7	
HHAR	Hobbs	85.94	19	P	P	14 28 30.0	-0.8	
HHAR				IAmb	IAmb	14 28 31.3		
	comp=Z,7.1nm,0.9s							
U40A	Yellville	86.07	19	P	P	14 28 31.1	-0.3	
	baz=347							
U40A	Yellville	86.07	19	P	P	14 28 30.6	-0.8	
U40A				IAmb	IAmb	14 28 32.0		
	comp=Z,12nm,1.1s							
121A	Cookes Peak, D	86.17	31	P	P	14 28 33.3	+1.1	
	baz=340							
121A	Cookes Peak, D	86.17	31	P	P	14 28 33.5	+1.2	
121A				IAmb	IAmb	14 28 40.2		
	comp=Z,6.5nm,1.1s							
MSTX	Muleshoe	86.20	27	P	P	14 28 32.3	+0.1	
	baz=342							
WMOK	Wichita Mounta	86.43	24	P	P	14 28 33.5	+0.2	
WMOK				pmax	pmax			
	comp=Z,14nm,1.1s							
WMOK	Wichita Mounta	86.43	24	P	P	14 28 33.6	+0.4	
	baz=344,SNR=13							
WMOK	Wichita Mounta	86.43	24	P	P	14 28 33.5	+0.2	
WMOK				IAmb	IAmb	14 28 35.3		
	comp=Z,14nm,1.1s							
W39A	Magazine	87.02	20	P	P	14 28 36.2	+0.1	
	baz=347							
WVT	Waverly	87.09	15	P	P	14 28 36.6	+0.2	
WVT				pmax	pmax			
	comp=Z,9.0nm,0.8s							
WVT	Waverly	87.09	15	P	P	14 28 36.7	+0.2	
	baz=350							
WVT	Waverly	87.09	15	P	P	14 28 36.6	+0.2	
WVT				IAmb	IAmb	14 28 37.6		
	comp=Z,8.6nm,0.8s							
W41B	Gary Mavity, V	87.33	18	P	P	14 28 37.6	0.0	
	baz=348							
MNTX	Cornudas Mount	87.64	30	P	P	14 28 39.9	+0.7	
	baz=341							
MNTX	Cornudas Mount	87.64	30	P	P	14 28 39.9	+0.7	
MIAR	Mount Ida	87.69	20	P	P	14 28 39.4	0.0	
	baz=347							
X40A	Basin Creek Fa	87.89	19	P	P	14 28 40.6	+0.4	
	baz=347							
ABTX	Abilene, Hawle	88.25	25	P	P	14 28 42.6	+0.5	
	baz=344							
KMSC	Kings Mountain	88.83	9	P	P	14 28 44.9	+0.1	
	baz=354							
TOA0	Torodi Ar. Sit	89.34	293	P	P	14 28 47.3	-0.1	
TOA0				IAmb	IAmb	14 28 48.2		
	comp=Z,7.4nm,0.9s							
TORD	Torodi Ar. Bea	89.34	293	P	P	14 28 47.7	+0.3	
	comp=Z,5.1nm,0.7s,baz=34,slow=4.6,SNR=29							
TORD				LR	LR	15 14 41.2		
	comp=Z,49nm,18.6s,baz=150,slow=40							
TORD	Torodi Ar. Bea	89.34	293	P	P	14 28 47.2	-0.1	
TORD				IAmb	IAmb	14 28 48.2		
	comp=Z,6.1nm,0.8s							
Y52A	Lilburn	89.81	12	P	P	14 28 49.7	+0.3	
NATX	Nacogdoches	90.18	21	P	P	14 28 51.2	+0.1	
	baz=346							
LRAL	Lakeview Retre	90.25	14	P	P	14 28 51.1	-0.4	
	baz=350							
JCT	Junction City	90.27	26	P	P	14 28 51.7	+0.1	
	baz=344							
GOGA	Godfrey	90.33	11	P	P	14 28 52.1	+0.4	
GOGA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GOGA	Godfrey	90.33	11	P	P	14 28 51.2	-0.5	
	baz=352							
GOGA	Godfrey	90.33	11	P	P	14 28 52.1	+0.4	
GOGA				IAmb	IAmb	14 28 53.1		
	comp=Z,8.5nm,0.9s							
TXAR	Lajitas Array	90.35	29	P	P	14 28 52.7	+0.7	
	comp=Z,1.0nm,0.7s,baz=316,slow=2.9,SNR=12							
TXAR				LR	LR	15 12 46.4		
	comp=Z,19nm,18.4s,baz=0.0,slow=38							
STKA	Stephens Creek	91.37	154	P	P	14 28 55.7	-0.6	
	comp=Z,1.0nm,0.4s,baz=336,slow=7.2,SNR=6.1							
LPAZ	La Paz	140.50	358	PKP	PKPdf	14 35 22.0	+1.2	
	comp=Z,1.5nm,0.7s,baz=36,slow=15,SNR=3.6							
SNAA	Sanae	148.58	214	PKPdf	PKPbc	14 35 35.9	-0.3	
CPUP	Villa Florida	149.17	338	PKPbc	PKPbc	14 35 38.3	-0.6	
	comp=Z,11nm,0.8s,baz=24,slow=2.5,SNR=4.3							
CPUP	Villa Florida	149.17	338	PKP2	PKPbc	14 35 38.5	-0.5	
CPUP	Villa Florida	149.17	338		PKPbc	14 35 38.5	-0.5	
VNA1	Neumayer--Stat	150.26	216	PKPdf	PKPbc	14 35 40.6	+0.4	
VNA3	Neumayer Olymp	150.74	215	PKPdf	PKPbc	14 35 41.3	-0.1	
PLCA	Paso Flores	164.87	2	PKPab	PKPab	14 36 50.3	-0.1	
	comp=Z,2.7nm,0.8s,baz=29,slow=13,SNR=4.5							

JMA 07 14:17:49.8±0.4, 25°.20N×122°.72E, h192km±5km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	1.26	133	P	Pn	14 18 21.0	+0.3
IRIF				*e*S	Sn	14 18 43.6	-1.0
JKRS	Kuro-shima	1.51	129	P	Pn	14 18 23.5	+0.6
JKRS				S	Sn	14 18 49.4	+0.8
JIJ	Ishigaki jima	1.54	122	P	Pn	14 18 23.0	-0.2
JIJ				S	Sn	14 18 48.6	-0.4
JISG	Ishigakijimahi	1.57	113	P	Pn	14 18 23.1	-0.3
JISG				*e*S	Sn	14 18 49.3	-0.1
JTJ	Tarama	1.88	107	P	Pn	14 18 27.3	+0.8
JTJ				S	Sn	14 18 55.2	+0.2

TAP 07 14:18:38.0, 24°.42N×121°.73E, h8km±1km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.05	64	P	Pg	14 18 39.8	+0.2
	baz=63						
NDS	Dongshan	0.21	356	*e*P	Pg	14 18 43.1	+0.9
	baz=356						
NDS				*e*S	Sg	14 18 44.2	-0.9
	baz=356						
TWC	Suao	0.21	30	P	Pg	14 18 42.6	+0.3
	baz=26						
NDT	Datong Townshi	0.27	312	*e*P	Pb	14 18 44.5	-0.6
	baz=312						
NACB	Ninganchiao	0.28	207	P	Pg	14 18 44.0	+0.5
	baz=207						
NACB				*i* S	Sg	14 18 48.0	+0.7
	baz=207						
ETLH	Xiulin Townshi	0.31	226	P	Pg	14 18 44.7	+0.5
	baz=227						
ETLH				*e*S	Sg	14 18 49.3	+0.9
	baz=227						
NNSH	Datong	0.32	271	S	Sg	14 18 49.2	+0.7
	baz=271						
NNS	Nan Shan	0.33	273	*e*P	Pb	14 18 46.5	+0.4
	baz=273						
TWD	Chiawan	0.36	200	*e*S	Sg	14 18 48.8	-1.1
	baz=199						
YHNB	Yeheng	0.41	307	*e*P	Pg	14 18 45.9	0.0
	baz=307						
FUSS	Fushou	0.48	249	*e*P	Pg	14 18 44.9	-2.4
	baz=249						
FUSS				*e*S	Sg	14 18 52.4	-1.2
	baz=249						

*IDC **07** 14:30:04.2±2.0, 6°.06S×147°.65E, h50km±17km, mb4.0/11, mb1 4.2/15, mb1mx4.0/44, mbtmp4.3/15, ML4.3/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/31, Error ellipse: s-maj=23.9km s-min=13.6km az=86.0*

*DJA **07** 14:30:07.4±0.4, 6°.5S±4°.×14°.7E±°, h55km±8km, M4.7/9, mB4.9/3, mb4.7/9, MLv4.8/4, Mw(mB)4.2/3*

*NEIC **07** 14:30:07.8±1.3, 6°.18S±0°.06×147°.56E±0°.09, h73km±8km, mb4.6/30, Error ellipse: s-maj=13.6km s-min=9.0km az=95.0*

ISC 07 14:30:07.8±0.5, 6°.22S±0°.04×147°.51E±0°.07, h77km, n59, σ1§41/61, mb4.6/24, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.19	186	P	Pn	14 30 55.3	-0.4
	28nm,0.3s,baz=312,slow=7.6,SNR=116						
PMG				S	Sn	14 31 33.1	+0.5
	43nm,0.3s,baz=221,slow=21,SNR=6.7						
PMG				LR	LR	14 32 02.9	
	comp=Z,221nm,18.1s,baz=14,slow=35						
PMG	Port Moresby	3.19	186		Pn	14 30 55.0	-0.7
PMG	Port Moresby	3.19	186	P	Pn	14 30 55.3	-0.4
PMG	Port Moresby	3.19	186	P	Pn	14 30 55.3	-0.4
MANU	Manus Island	4.15	358		Pn	14 31 08.6	-0.2
RABL	Rabaul	5.06	67		Pn	14 31 20.2	-1.0
GENI	Genyem	8.15	296	P	Pn	14 32 00.3	-3.2
	0.4nm55nm,1.3s						
CTA	Charters Tower	13.84	185	P	Pn	14 33 21.7	+1.1
	0.6nm,0.3s,baz=358,slow=12,SNR=9.4						
CTAO	Charters Tower	13.84	185	Pn	Pn	14 33 20.6	0.0
SIJI	Sorong	17.05	288	P	Pn	14 33 59.4	-2.1
	0.4nm,0.3s,baz=176,slow=17,SNR=1.6						
SIJI				LR	LR	14 41 38.2	
	comp=Z,48nm,18.0s,baz=62,slow=40						
MTN	Manton Dam	17.43	247		Pn	14 34 06.1	0.0
WB0	Warramunga Arr	18.54	222	P	P	14 34 18.2	-0.3
WR0	Warramunga Arr	18.58	221	P	P	14 34 18.8	-0.2
WR0				IAmb	IAmb	14 34 21.8	
	comp=Z,13nm,0.7s						
WRAB	Tennant Creek	18.69	222	P	P	14 34 19.8	-0.3
WRAB				IAmb	IAmb	14 34 23.0	
	comp=Z,13nm,0.7s						
WB2	Warramunga Arr	18.70	222	P	P	14 34 20.1	-0.1
WRA	Warramunga Arr	18.70	222	P	P	14 34 20.3	+0.1
	comp=Z,2.5nm,0.3s,baz=50,slow=11,SNR=149						
WRA				S	S	14 37 44.0	-5.0
	comp=Z,0.2nm,0.3s,baz=54,slow=22,SNR=3.2						
WRA				ScP	ScP	14 42 16.8	+2.1
	comp=Z,0.1nm,0.3s,baz=43,slow=2.3,SNR=7.1						
WRA	Warramunga Arr	18.70	222		P	14 34 19.1	-1.2
EIDS	Eidsvold	19.35	170		P	14 34 27.6	+0.3
EIDS				IAmb	IAmb	14 34 32.5	
	comp=Z,25nm,1.4s						
KNRA	Kununurra	20.64	241	P	P	14 34 41.4	0.0
AS31	Alice Springs	21.73	216	P	P	14 34 53.4	+0.4
AS31				IAmb	IAmb	14 34 54.2	
	comp=Z,7.5nm,0.5s						
ASAR	Alice Springs	21.73	216	P	P	14 34 53.5	+0.6
	comp=Z,13nm,0.5s,baz=48,slow=8.9,SNR=506						
ASAR				S	S	14 38 51.4	+2.0
	comp=Z,1.1nm,0.6s,baz=35,slow=23,SNR=5.4						
ASAR				ScP	ScP	14 42 24.6	+2.8
	comp=Z,1.5nm,0.8s,baz=47,slow=3.5,SNR=9.1						
SOEI	Soe	23.28	260	P	P	14 35 09.9	+0.6
SOEI				IAmb	IAmb	14 35 32.1	
	comp=Z,62nm,1.5s						
BATI	Baumata	23.92	259	P	P	14 35 16.2	+1.2
	comp=Z,11nm,0.7s,baz=124,slow=20,SNR=2.5						
LIFNC	LIFOU	23.99	129	P	P	14 35 15.3	-0.2
DZM	Mont Dzumac	24.15	133	P	P	14 35 16.0	-1.0
	comp=Z,6.2nm,0.7s,baz=340,slow=22,SNR=5.4						
DZM				LR	LR	14 43 59.1	
	comp=Z,240nm,18.5s,baz=38,slow=35						
DZM	Mont Dzumac	24.15	133	P	P	14 35 16.2	-0.8
DZM				IAmb	IAmb	14 35 16.4	
	comp=Z,22nm,1.4s						
FITZ	Fitzroy Crossi	24.38	239	P	P	14 35 20.3	+1.3
	comp=Z,26nm,0.5s,baz=55,slow=8.1,SNR=138						
FITZ	Fitzroy Crossi	24.38	239	P	P	14 35 19.9	+0.9
FITZ				IAmb	IAmb	14 35 21.0	
	comp=Z,27nm,0.6s						
ARMA	Armidale	24.38	171	P	P	14 35 19.3	+0.3
ARMA				IAmb	IAmb	14 35 21.7	
	comp=Z,39nm,1.2s						
STKA	Stephens Creek	26.12	191	P	P	14 35 34.8	+0.1
	comp=Z,6.7nm,0.6s,baz=350,slow=9.4,SNR=18						
STKA				LR	LR	14 45 24.8	
	comp=Z,53nm,21.5s,baz=25,slow=35						
STKA	Stephens Creek	26.12	191	P	P	14 35 34.7	0.0
BBOO	Buckleboo	28.53	200	P	P	14 35 56.6	+0.3
BBOO				IAmb	IAmb	14 36 23.2	
	comp=Z,21nm,1.4s						
FORT	Forrest	30.50	214	P	P	14 36 14.3	+0.6
FORT				IAmb	IAmb	14 36 15.1	
	comp=Z,16nm,0.8s						
PSA00	Pilbara Seismi	30.80	238	P	P	14 36 16.4	-0.1
PSA00	Pilbara Seismi	30.80	238	P	P	14 36 17.0	+0.5
PSA00				IAmb	IAmb	14 36 18.5	
	comp=Z,11nm,0.8s						
SMRI	Semarang	36.82	267	P	P	14 37 09.0	+0.2
MORW	Morawa	37

HHC pmax pmax
comp=Z,180nm,7.5s
PETK Petropavlovsk- 59.73 7 LR LR 15 00 14.3
comp=Z,22nm,21.8s,baz=148,slow=30
CASY Casey 65.18 196 P **P 14 40 40.6 +0.1**
CASY IAmb IAmb 14 40 58.9
comp=Z,7.7nm,1.1s
VNDA Vanda 71.67 177 P **P 14 41 21.7 +0.8**
comp=Z,0.9nm,0.6s,baz=344,slow=6.3,SNR=5.8
VNDA Vanda 71.67 177 IAmb IAmb 14 41 44.8
comp=Z,6.1nm,1.5s
WMQ Urumqi 73.28 319 *eP* **P 14 41 33.2 +2.0**
MKAR Makanchi Array 77.98 320 P **P 14 41 56.6 -1.3**
comp=Z,0.4nm,0.6s,baz=111,slow=6.1,SNR=4.4
ZALV Zalesovo Beam 79.46 328 P **P 14 42 03.5 -2.2**
comp=Z,1.2nm,0.4s,baz=115,slow=6.0,SNR=6.0
ILAR Eielson Array 85.48 23 P **P 14 42 34.8 -2.1**
comp=Z,0.4nm,0.5s,baz=252,slow=4.3,SNR=5.7
TORD Torodi Ar. Bea 145.63 284 PKPbc **PKPdf 14 49 38.1 -0.3**
comp=Z,1.5nm,0.4s,baz=74,slow=3.7,SNR=14

*IDC **07** 14:33:24.4±1.9, 35°.24N×141°.61E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/48, mbtmp3.6/5, ML3.0/3, Error ellipse: s-maj=47.6km s-min=27.4km az=83.0*
*JMA **07** 14:33:27.1±0.3, 35°.17N×141°.63E, h44km±5km, M2.7*
ISC 07 14:33:27.4±1.4, 35°.25N±0°.06×141°.5E±0°.1, h27km, n20, σ1§21/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.71**	**310**	P	**Pn**	**14 33 42.2**	**+0.5**
BSO1	**Boso 1**	**0.74**	**217**	P	**Pn**	**14 33 41.3**	**-0.3**
BSO3	**Boso 3**	**0.94**	**242**	P	**Pb**	**14 33 44.6**	**-0.4**
BSO3				S	**Sn**	**14 33 56.4**	**-0.7**
JSMT	**Sammumatsuo**	**0.96**	**295**	P	**Pb**	**14 33 46.8**	**+1.3**
KTR	**Katsuura**	**0.99**	**265**	P	**Pb**	**14 33 46.1**	**+0.1**
BSO4	**Boso 4**	**1.00**	**256**	P	**Pb**	**14 33 46.6**	**+0.5**
JKUC	**kamogawauchiur**	**1.09**	**266**	P	**Pb**	**14 33 47.4**	**-0.2**
JCN	**Nagara**	**1.09**	**279**	P	**Pb**	**14 33 48.5**	**+0.8**
JIM2	**Oshima 3**	**1.80**	**254**	P	**Pn**	**14 33 56.2**	**-0.5**
JHJ	**Hachijo jima 2**	**2.56**	**215**	Pn	**Pn**	**14 34 07.0**	**-0.2**
	6.1nm,0.3s,baz=99,slow=19,SNR=8.9						
JHJ				Sn	**Sn**	**14 34 35.8**	**-1.7**
	12nm,0.3s,baz=71,slow=23,SNR=1.4						
MJAR	**Matsushiro Arr**	**2.99**	**297**	Pn	**Pn**	**14 34 14.2**	**+1.2**
	0.4nm,0.3s,baz=100,slow=14,SNR=18						
ASAJ	**Asahikawa**	**8.90**	**5**	Pn	**Pn**	**14 35 33.6**	**-0.6**
	0.5nm,0.3s,baz=185,slow=11,SNR=7.2						
ASAJ				Sn	**Sn**	**14 37 10.7**	**-2.8**
	0.3nm,0.3s,baz=74,slow=26,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.19**	**118**	T	T	15 07 51.3	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**27.20**	**118**	T	T	15 08 17.2	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**27.21**	**118**	T	T	15 08 05.0	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**27.85**	**120**	T	T	15 08 45.9	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**27.85**	**120**	T	T	15 09 08.7	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.86**	**120**	T	T	15 09 01.7	
	baz=314						
WRA	**Warramunga Arr**	**55.31**	**188**	P	**P**	**14 42 59.3**	**+0.6**
	0.2nm,0.5s,baz=3.3,slow=7.2,SNR=7.2						
ASAR	**Alice Springs**	**59.03**	**188**	P	**P**	**14 43 26.9**	**+1.9**
	0.6nm,1.1s,baz=2.8,slow=5.6,SNR=1.0						

*TUL **07** 14:46:59.1±0.6, 36°.26N±0°.01×97°.68W±0°.02, h5km±7km, ML2.9, mb_Lg2.7/52(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=48.0*
NEIC 07 14:46:58.9±0.2, 36°.26N±0°.01×97°.68W±0°.02, h16km±4km, Error ellipse: s-maj=3.0km s-min=1.6km az=62.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.35**	**314**	Pg	Pg	14 47 06.1	0.0
CROK				Sg	Sg	14 47 10.9	-0.1
OK029	**Liberty Lake**	**0.50**	**159**	Pg	Pg	14 47 08.8	0.0
BCOK	**Bluff Creek, N**	**0.61**	**175**		Pg	14 47 10.8	0.0
BLOK	**Blackwell**	**0.62**	**37**	Pg	Pg	14 47 11.1	0.0
BLOK				Sg	Sg	14 47 19.2	-0.2
OK032	**Salt Plains WL**	**0.69**	**322**	Pg	Pg	14 47 12.4	-0.1
OK032				Sg	Sg	14 47 21.3	-0.3
OK025	**Westminster Rd**	**0.73**	**158**		Pg	14 47 13.2	0.0
OK031	**S. Brethren Rd**	**0.74**	**114**	Pg	Pb	14 47 13.5	0.0
OK031				Sg	Sg	14 47 23.1	-0.2
KAN13	**South Haven SW**	**0.77**	**12**	Pg	Pg	14 47 13.8	-0.1
KAN17	**Caldwell West**	**0.78**	**355**	Pg	Pg	14 47 14.1	-0.1
QUOK	**Quay**	**0.79**	**96**	Pg	Pb	14 47 14.2	0.0
KAN05	**Bluff City Nor**	**0.86**	**349**	Pg	Pb	14 47 15.3	-0.2
OKCFA	**Oklahoma City**	**0.87**	**169**		Pb	14 47 15.3	-0.2
KAN09	**Caldwell North**	**0.87**	**3**	Pg	Pb	14 47 15.5	-0.2
OKCSW	**OKLAHOMA CITY**	**0.88**	**167**		Pb	14 47 15.8	0.0
KAN10	**Anthony SW Sta**	**0.92**	**339**	Pg	Pb	14 47 16.6	0.0
KS20	**Mayfield South**	**0.97**	**6**	Pg	Pb	14 47 17.2	-0.1
KAN08	**Anthony NE Sta**	**0.99**	**346**	Pg	Pb	14 47 17.7	0.0
FNO	**Franklin**	**1.03**	**167**	Pg	Pb	14 47 18.4	0.0
KAN12	**Harper NE Stat**	**1.06**	**346**	Pg	Pn	14 47 19.1	-0.1
U32A	**Winter Ranch,**	**1.08**	**277**	Pg	Pn	14 47 19.3	-0.1
T35A	**Sooner Cattle**	**1.14**	**55**	Pg	Pg	14 47 20.8	-0.1
WMOK	**Wichita Mounta**	**1.77**	**211**	Pn	Pb	14 47 30.0	-1.0
WMOK				IAmb	Lg	14 47 58.2	
	comp=Z,28nm,0.7s						
LOOK	**Love County**	**2.30**	**170**	IAmb	Lg	14 48 17.8	
	comp=Z,22nm,0.8s						
CBKS	**Cedar Bluff**	**3.03**	**328**	IAmb	Lg	14 48 42.0	
	comp=Z,24nm,0.7s						
W39A	**Magazine**	**3.34**	**107**	IAmb	Lg	14 48 51.9	
	comp=Z,20nm,0.8s						
AMTX	**Amarillo**	**3.54**	**248**	IAmb	Lg	14 48 56.3	
	comp=Z,20nm,0.7s						
MIAR	**Mount Ida**	**3.76**	**116**		Pn	14 47 56.9	+0.7
MIAR				IAmb	Lg	14 49 04.8	
	comp=Z,10nm,0.7s						
S39A	**Bolivar**	**3.77**	**66**	IAmb	Lg	14 49 03.0	
	comp=Z,15nm,0.9s						
U40A	**Yellville**	**3.90**	**87**	IAmb	Lg	14 49 04.6	
	comp=Z,28nm,0.8s						
MGMO	**Mountain Grove**	**4.43**	**77**	IAmb	Lg	14 49 20.9	
	comp=Z,21nm,1.0s						
WHAR	**Wooly Hollow**	**4.49**	**101**	IAmb	Lg	14 49 30.6	
	comp=Z,8.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.51**	**93**	IAmb	Lg	14 49 23.8	
	comp=Z,13nm,1.0s						
P38A	**Dawn**	**4.69**	**43**	IAmb	Lg	14 49 34.3	
	comp=Z,13nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.79**	**306**	IAmb	Lg	14 49 35.8	
	comp=Z,9.7nm,0.8s						
T42A	**Van Buren**	**5.35**	**80**	IAmb	Lg	14 49 59.3	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.44**	**69**	IAmb	Lg	14 49 57.7	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.48**	**281**	IAmb	Lg	14 49 55.7	
	comp=Z,6.4nm,0.9s						
P40A	**Paris**	**5.52**	**52**	IAmb	Lg	14 49 56.4	
	comp=Z,20nm,0.9s						
L34A	**Svendsen Farm,**	**5.78**	**10**	IAmb	Lg	14 50 10.9	
	comp=Z,18nm,1.0s						
PBMO	**Poplar Bluff**	**5.86**	**83**	IAmb	Lg	14 50 08.4	
	comp=Z,18nm,0.8s						
JCT	**Junction City**	**6.04**	**198**	IAmb	Lg	14 50 13.1	
	comp=Z,7.2nm,0.8s						
143A	**Socs Landing,**	**6.28**	**123**	IAmb	Lg	14 50 22.4	
	comp=Z,12nm,0.7s						
S44A	**Carbondale**	**6.89**	**76**	IAmb	Lg	14 50 38.6	
	comp=Z,15nm,0.8s						
PHWY	**Pilot Hill**	**7.89**	**312**	IAmb	Lg	14 51 16.9	
	comp=Z,5.1nm,0.8s						
WVT	**Waverly**	**7.96**	**88**	IAmb	Lg	14 51 33.9	
	comp=Z,5.7nm,1.2s						
121A	**Cookes Peak, D**	**9.14**	**249**	IAmb	Lg	14 51 56.3	
	comp=Z,3.6nm,1.1s						
K22A	**Casper**	**9.35**	**316**	IAmb	Lg	14 52 15.4	
	comp=Z,10nm,1.1s						

*IDC **07** 14:50:23.2±1.6, 52°.18S×139°.79E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, MS3.3/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=144.0km s-min=25.2km az=87.0*
*NEIC **07** 14:50:26.0±1.4, 52°.16S±0°.08×140°.0E±0°.4, h15km±4km, mb4.4/11, Error ellipse: s-maj=31.3km s-min=11.4km az=86.0*
ISC 07 14:50:24.3±0.7, 52°.1S±0°.1×140°.1E±0°.3, h10km, n27, σ0§77/20, mb4.5/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.28**	**4**	LR	LR	15 01 07.4	
	comp=Z,56nm,19.6s,baz=43,slow=32						
H01W1	**Cape Leeuwin H**	**25.30**	**303**	T	T	15 21 47.2	
	baz=140,slow=75,SNR=23						
H01W2	**Cape Leeuwin H**	**25.31**	**303**	T	T	15 21 48.9	
	baz=140,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**25.32**	**303**	T	T	15 21 47.1	
	baz=140,slow=75,SNR=19						
ASAR	**Alice Springs**	**28.82**	**348**	P	**P**	**14 56 23.1**	**+0.5**
	0.7nm,0.7s,baz=163,slow=9.3,SNR=12						
ASAR				PcP	**PcP**	**14 59 32.0**	**-0.1**
	0.3nm,0.6s,baz=162,slow=2.3,SNR=7.3						
AS31	**Alice Springs**	**28.82**	**348**	P	**P**	**14 56 23.2**	**+0.6**
WR0	**Warramunga Arr**	**32.41**	**350**	P	**P**	**14 56 55.7**	**+1.5**
WR0				IAmb	IAmb	14 57 24.2	
	comp=Z,9.7nm,1.4s						
WB2	**Warramunga Arr**	**32.44**	**350**	P	**P**	**14 56 54.4**	**-0.2**
WB2				IAmb	IAmb	14 57 09.6	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.45**	**350**	P	**P**	**14 56 54.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=173,slow=7.1,SNR=15						
WRA				PcP	**PcP**	**14 59 41.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=180,slow=2.2,SNR=6.0						
WRAB	**Tennant Creek**	**32.45**	**350**	P	**P**	**14 56 55.8**	**+1.2**
WRAB				IAmb	IAmb	14 57 03.9	
	comp=Z,14nm,1.4s						
WB0	**Warramunga Arr**	**32.61**	**350**	P	**P**	**14 56 56.5**	**+0.4**
WB0				IAmb	IAmb	14 56 59.7	
	comp=Z,12nm,1.5s						
KNRA	**Kununurra**	**37.48**	**342**	P	**P**	**14 57 37.1**	**-0.9**
KNRA				IAmb	IAmb	14 57 42.3	
	comp=Z,20nm,1.5s						
QSPA	**South Pole Qui**	**37.98**	**180**	P	**P**	**14 57 42.0**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=307,slow=5.5,SNR=1.9						
QSPA	**South Pole Qui**	**37.98**	**180**	IAmb	IAmb	14 58 01.4	
	comp=Z,1.2nm,0.9s						
MAW	**Mawson**	**38.77**	**217**	P	**P**	**14 57 47.4**	**-1.0**
MAW				IAmb	IAmb	14 57 58.3	
	comp=Z,1.7nm,1.4s						
MSVF	**Nonsavu**	**45.45**	**55**	P	**P**	**14 58 42.8**	**-0.7**
H08S2	**Diego Garcia H**	**70.31**	**283**	T	T	16 17 53.4	
	baz=140						
H08S1	**Diego Garcia H**	**70.32**	**283**	T	T	16 17 54.8	
	baz=140						
H08S3	**Diego Garcia H**	**70.33**	**283**	T	T	16 17 52.5	
	baz=140						
HOPE	**Hope Point**	**73.91**	**182**	P	**P**	**15 02 00.5**	**+1.5**
BOSA	**Boshof**	**81.51**	**234**	LR	LR	15 32 01.8	
	comp=Z,29nm,19.3s,baz=60,slow=31						
TORD	**Torodi Ar. Bea**	**128.82**	**236**	PKP	**PKPdf**	**15 09 31.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=143,slow=0.7,SNR=1.4						
ARCES	**ARCESS Array B**	**145.83**	**325**	PKPbc	**PKPbc**	**15 10 02.1**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=89,slow=4.6,SNR=4.6						
GERES	**GERESS Array B**	**146.38**	**286**	PKPbc	**PKPdf**	**15 10 03.9**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=108,slow=3.2,SNR=5.6						
GERES	**GERESS Array B**	**146.38**	**286**	PKPdf	**PKPdf**	**15 10 03.4**	**+0.1**
SPITS	**Spitsbergen Ar**	**147.26**	**342**	PKPbc	**PKPab**	**15 10 07.2**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=57,slow=5.3,SNR=1.5						
ESDC	**Sonseca Array**	**152.35**	**258**	PKPbc	**PKPbc**	**15 10 19.7**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=70,slow=2.3,SNR=4.0						

*NEIC **07** 15:03:34.5±1.7, 10°.29S±0°.09×161°.70E±0°.10, h79km±7km, mb4.6/36, Error ellipse: s-maj=15.5km s-min=10.7km az=53.0*
*IDC **07** 15:03:35.1±2.5, 10°.38S×161°.59E, h87km±18km, mb3.8/11, mb1 4.0/12, mb1mx3.8/30, mbtmp4.2/12, MS3.3/3, Ms1 3.3/3, ms1mx2.8/35, Error ellipse: s-maj=24.0km s-min=18.1km az=80.0*
ISC 07 15:03:34.7±0.5, 10°.35S±0°.06×161°.69E±0°.08, h87km, n71, σ1§22/72, mb4.5/28, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.94**	**298**	P	**Pn**	**15 04 05.1**	**-1.0**
	235nm,0.3s,baz=150,slow=2.7,SNR=199						
HNR				S	**Sn**	**15 04 29.1**	**-0.8**
	600nm,0.3s,baz=222,slow=22,SNR=14						
HNR				LR	LR	15 05 01.3	
	comp=Z,421nm,19.6s,baz=101,slow=46						
HNR	**Honiara**	**1.94**	**298**		**Pn**	**15 04 04.3**	**-1.7**
HNR	**Honiara**	**1.94**	**298**	P	**Pn**	**15 04 05.0**	**-1.0**
SANVU	**Saraoutou**	**7.39**	**134**	P	**Pn**	**15 05 19.5**	**-0.3**
KOUNC	**Koumac, New Ca**	**10.45**	**166**	P	**Pn**	**15 06 02.8**	**+1.2**
	27nm,1.2s						
LIFNC	**LIFOU**	**11.66**	**153**	Pn	**Pn**	**15 06 16.7**	**-1.4**
LIFNC	**LIFOU**	**11.66**	**153**	P	**Pn**	**15 06 18.8**	**+0.7**
NOUC	**Port Laguerre**	**12.49**	**160**	P	**Pn**	**15 06 31.6**	**+2.3**
DZM	**Mont Dzumac**	**12.52**	**159**	P	**Pn**	**15 06 30.4**	**+0.7**
	1.6nm,0.3s,baz=16,slow=9.3,SNR=21						
DZM				S	**Sn**	**15 08 41.8**	**-5.4**
	0.6nm,0.3s,baz=81,slow=23,SNR=2.1						
DZM	**Mont Dzumac**	**12.52**	**159**		**Pn**	**15 06 29.8**	**+0.1**
DZM	**Mont Dzumac**	**12.52**	**159**	P	**Pn**	**15 06 31.9**	**+2.2**
MARNC	**Mare, Loyalty**	**12.63**	**152**	Pn	**Pn**	**15 06 32.6**	**+1.5**
MARNC	**Mare, Loyalty**	**12.63**	**152**	P	**Pn**	**15 06 32.4**	**+1.3**
YATNC	**Mamie plateau,**	**12.67**	**157**	P	**Pn**	**15 06 31.2**	**-0.4**
ONTNC	**Ouen Toro**	**12.74**	**160**	Pn	**Pn**	**15 06 33.0**	**+0.4**
OUENC	**Ouen Island, N**	**12.98**	**158**	Pn	**Pn**	**15 06 36.7**	**+0.9**
OUENC	**Ouen Island, N**	**12.98**	**158**	P	**Pn**	**15 06 38.4**	**+2.7**
PINNC	**Pines Island,**	**13.38**	**156**	Pn	**Pn**	**15 06 41.9**	**+0.9**
PMG	**Port Moresby**	**14.34**	**272**	LR	LR	15 12 09.1	
	comp=Z,117nm,20.0s,baz=126,slow=36						
PATS	**Pohnpei**	**17.40**	**349**	P	**Pn**	**15 07 31.2**	**-0.8**
CTA	**Charters Tower**	**17.75**	**235**	P	**Pn**	**15 07 38.1**	**+1.9**
	0.7nm,0.3s,baz=56,slow=12,SNR=10						
CTAO	**Charters Tower**	**17.75**	**235**	P	**Pn**	**15 07 37.8**	**+1.6**
EIDS	**Eidsvold**	**18.01**	**213**	P	**Pn**	**15 07 40.0**	**+0.7**
ARMA	**Armidale**	**22.05**	**204**	P	**P**	**15 08 24.0**	**+1.5**
ARMA				IAmb	IAmb	15 08 48.4	
	comp=Z,31nm,1.4s						
AFI	**Afiamalu**	**26.18**	**100**	LR	LR	15 17 39.9	
	comp=Z,70nm,18.9s,baz=126,slow=32						
WR0	**Warramunga Arr**	**27.85**	**247**	P	**P**	**15 09 16.5**	**+0.2**
WB0	**Warramunga Arr**	**27.93**	**247**	P	**P**	**15 09 17.1**	**+0.1**
WRAB	**Tennant Creek**	**28.02**	**247**	P	**P**	**15 09 17.1**	**-0.6**
WRAB				IAmb	IAmb	15 09 17.9	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**28.02**	**247**	P	**P**	**15 09 17.4**	**-0.4**
WB2				IAmb	IAmb	15 09 44.0	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**28.03**	**247**	P	**P**	**15 09 17.8**	**0.0**
	comp=Z,2.8nm,0.8s,baz=74,slow=8.8,SNR=21						
WRA				pP	**pP**	**15 09 36.3**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=74,slow=8.9,SNR=5.9						
WRA				PcP	**PcP**	**15 12 30.6**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=71,slow=3.6,SNR=1.5						
WRA	**Warramunga Arr**	**28.03**	**247**	P	**P**	**15 09 17.1**	**-0.8**
STKA	**Stephens Creek**	**28.36**	**218**	LR	LR	15 19 28.9	
	comp=Z,71nm,19.0s,baz=25,slow=34						
AS31	**Alice Springs**	**29.61**	**240**	P	**P**	**15 09 31.3**	**-0.6**
ASAR	**Alice Springs**	**29.61**	**240**	P	**P**	**15 09 31.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=62,slow=10,SNR=9.3						
FAKI	**Fak Fak**	**30.14**	**282**	P	**P**	**15 09 37.6**	**+1.0**
TOO	**Toolangi**	**30.78**	**206**	P	**P**	**15 09 42.1**	**+0.1**
TOO				IAmb	IAmb	15 09 53.0	
	comp=Z,11nm,1.2s						
URZ	**Urewera**	**31.04**	**156**	P	**P**	**15 09 45.0**	**+0.7**
KNRA	**Kununurra**	**32.49**	**257**	P	**P**	**15 09 56.9**	**-0.4**
KNRA				IAmb	IAmb	15 09 58.2	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**32.51**	**223**	P	**P**	**15 09 58.0**	**+0.8**
BBOO				IAmb	IAmb	15 10 26.7	
	comp=Z,21nm,1.5s						
FITZ	**Fitzroy Crossi**	**35.73**	**253**	P	**P**	**15 10 24.5**	**-0.8**
FITZ				IAmb	IAmb	15 10 25.7	
	comp=Z,4.0nm,0.7s						
PSA00	**Pilbara Seismi**	**41.62**	**249**	P	**P**	**15 11 13.8**	**-0.8**
PSA00				IAmb	IAmb	15 11 35.5	
	comp=Z,19nm,1.3s						
MORW	**Morawa**	**46.49**	**240**	P	**P**	**15 11 54.7**	**+1.2**
MORW				IAmb	IAmb	15 12 13.3	
	comp=Z,15nm,1.2s						
UGM	**Wanagama**	**50.53**	**268**	P	**P**	**15 12 23.4**	**-1.4**
INU	**Inuyama**	**51.09**	**334**	P	**P**	**15 12 28.1**	**-0.3**
INU				IAmb	IAmb	15 12 30.1	
	comp=Z,10nm,1.1s						
MJAR	**Matsushiro Arr**	**51.61**	**336**	P	**P**	**15 12 31.6**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=166,slow=8.9,SNR=9.3						
MAJO	**Matsushiro**	**51.61**	**336**	P	**P**	**15 12 31.3**	**-1.0**
MAJO				IAmb	IAmb	15 12 32.6	
	comp=Z,3.6nm,0.7s						
JWT	**Wachi**	**51.75**	**333**	P	**P**	**15 12 33.1**	**-0.3**
JMM	**Marumori**	**51.80**	**339**	P	**P**	**15 12 33.9**	**+0.2**
JSD	**Sado**	**52.89**	**337**	P	**P**	**15 12 41.1**	**-0.6**
JSD				IAmb	IAmb	15 12 42.8	
	comp=Z,5.6nm,0.7s						
JTM	**Tenmabayashi**	**54.33**	**341**	P	**P**	**15 12 52.1**	**-0.1**
JKA	**Kamikawa-asahi**	**56.91**	**344**	P	**P**	**15 13 09.6**	**-1.1**
ASAJ	**Asahikawa**	**56.91**	**344**	P	**P**	**15 13 12.0**	**+1.3**
	comp=Z,9.1nm,0.8s,baz=81,slow=8.5,SNR=4.6						
KSRS	**Korea Array**	**57.12**	**328**	P	**P**	**15 13 12.6**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=139,slow=7.0,SNR=7.0						
NIKH	**Nikolski High**	**67.92**	**19**	P	**P**	**15 14 24.7**	**+0.9**
CM31	**Chiang Mai Arr**	**68.19**	**295**	P	**P**	**15 14 26.2**	**-0.1**
CM31				IAmb	IAmb	15 14 47.4	
	comp=Z,11nm,1.5s						
CMAR	**Chiang Mai Arr**	**68.19**	**295**	P	**P**	**15 14 27.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=127,slow=5.4,SNR=5.4						
CMAR	**Chiang Mai Arr**	**68.19**	**295**	P	**P**	**15 14 26.2**	**-0.1**
ULN	**Ulaanbaatar**	**75.43**	**325**	P	**P**	**15 15 09.1**	**-0.2**
ULN				IAmb	IAmb	15 15 11.2	
	comp=Z,4.7nm,0.8s						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**15 15 11.9**	**+0.6**
	comp=Z,5.3nm,0.7s,baz=145,slow=5.8,SNR=14						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	**15 15 11.5**	**+0.2**
SONM				IAmb	IAmb	15 15 13.0	
	comp=Z,4.8nm,0.7s						
SVW2	**Sparrevohn**	**78.75**	**20**	P	**P**	**15 15 29.6**	**+2.2**
SVW2				IAmb	IAmb	15 15 31.3	
	comp=Z,5.1nm,0.8s						
QSPA	**South Pole Qui**	**79.65**	**180**	P	**P**	**15 15 33.5**	**+1.0**
HDA	**Harding Lake**	**83.92**	**20**	P	**P**	**15 15 55.1**	**+0.5**
HDA				IAmb	IAmb	15 15 57.2	
	comp=Z,5.6nm,1.0s						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**15 15 56.8**	**+0.8**
	comp=Z,1.4nm,1.0s,baz=251,slow=4.6,SNR=8.1						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**15 15 56.2**	**+0.3**
DAWY	**Dawson**	**86.39**	**22**	P	**P**	**15 16 05.8**	**-1.3**
DAWY				IAmb	IAmb	15 16 10.1	
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**88.65**	**51**	P	**P**	**15 16 19.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=259,slow=9.1,SNR=1.5						
MK31	**Makanchi Array**	**90.30**	**318**	P	**P**	**15 16 25.4**	**-0.6**
MKAR	**Makanchi Array**	**90.30**	**318**	P	**P**	**15 16 25.9**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=92,slow=6.6,SNR=21						
MKAR	**Makanchi Array**	**90.30**	**318**	P	**P**	**15 16 25.1**	**-0.9**
ZALV	**Zalesovo Beam**	**90.68**	**325**	P	**P**	**15 16 25.8**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=101,slow=7.5,SNR=2.3						

*DJA **07** 15:42:15.4±2.2, 8°.S±3°.×12°.1E±°, h20km±21km, M3.6/6, MLv3.6/6*
*IDC **07** 15:42:17.9±2.7, 7°.91S×120°.92E, h40km±28km, mb3.3/5, mb1 3.5/8, mb1mx3.3/38, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=87.9km s-min=12.6km az=63.0*
ISC 07 15:42:16.7±0.8, 8°.00S±0°.06×120°.74E±0°.06, h35km, n17, σ1§82/16, mb3.6/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.20**	**128**	P	**Pn**	**15 42 36.8**	**-0.3**
EDFI				S	**Sn**	**15 42 53.4**	**+1.1**
MMRI	**Maumere**	**1.61**	**113**	P	**Pn**	**15 42 43.0**	**+0.3**
MMRI				S	**Sn**	**15 43 03.9**	**+1.6**
WSI	**Waingapu**	**1.71**	**195**	P	**Pn**	**15 42 45.3**	**+1.2**
BSSI	**Bau Bau, Buton**	**1.86**	**352**	P	**Pn**	**15 42 45.6**	**-0.5**
WBSI	**Waikabubak, Su**	**2.10**	**219**	P	**Pn**	**15 42 49.9**	**+0.4**
BKSI	**Bulukumba**	**2.73**	**347**	P	Pn	15 42 58.2	+0.1
PLAI	**Plampang**	**3.04**	**254**	P	**Pn**	**15 43 02.2**	**-0.2**
KAPI	**Kappang**	**3.12**	**342**	P	Pn	15 43 04.9	+1.4
	3.3nm,0.3s,baz=163,slow=7.2,SNR=15						
KAPI				S	**Sn**	**15 43 40.2**	**+0.6**
	5.0nm,0.3s,baz=98,slow=22,SNR=6.9						
BATI	**Baumata**	**3.63**	**127**	P	Pn	15 43 15.6	+5.1
	1.4nm,0.3s,baz=251,slow=21,SNR=3.2						
TWSI	**Taliwang, Sumb**	**3.88**	**259**	P	**Pn**	**15 43 13.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.11**	**155

baz=150
ABTX Abilene, Hawle 15.44 27 P Pn 15 50 45.9 +2.5
baz=211
ABTX Abilene, Hawle 15.44 27 Pn Pn 15 50 44.7 +1.3
ABTX IAmb IAmb 15 50 51.8
comp=Z,22nm,1.2s
Y14A Wickenburg 15.48 344 Pn Pn 15 50 44.3 +0.3
Y14A IAmb IAmb 15 50 50.5
comp=Z,18nm,0.8s
SWSC Sam W. Stewart 15.50 335 P Pn 15 50 46.0 +1.8
baz=152
X18A Snowflake 15.50 354 Pn Pn 15 50 43.5 -0.9
X18A IAmb IAmb 15 50 47.9
comp=Z,19nm,1.2s
MSTX Muleshoe 15.55 16 P Pn 15 50 47.2 +2.2
baz=199,SNR=7.0
MSTX Muleshoe 15.55 16 Pn Pn 15 50 46.0 +1.0
MSTX IAmb IAmb 15 50 51.6
comp=Z,14nm,0.8s
MONP2 Monument Peak 15.71 333 P Pn 15 50 47.7 +0.5
baz=150
ANMO Albuquerque 15.88 5 Pn P 15 50 54.6 +1.6
comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=17
ANMO LR LR 15 55 45.4
comp=Z,102nm,18.6s,baz=190,slow=33
ANMO Albuquerque 15.88 5 P Pn 15 50 50.9 +1.6
baz=186
ANMO Albuquerque 15.88 5 P Pn 15 50 54.3 +5.0
WHTX Lake Whitney, 15.98 34 Pn Pn 15 50 52.5 +2.1
WHTX IAmb IAmb 15 51 13.0
comp=Z,30nm,1.1s
BC3 Big Chuckawall 15.99 337 P Pn 15 50 51.3 +0.6
baz=154,SNR=13
W18A Petrified Fore 16.07 355 P Pn 15 50 53.5 +1.8
baz=175,SNR=5.8
W18A Petrified Fore 16.07 355 Pn Pn 15 50 52.2 +0.5
PDMCI Parker Dam,Lak 16.14 341 P Pn 15 50 53.9 +1.4
baz=159
IRM Iron Mountain 16.33 338 P Pn 15 50 55.7 +0.8
baz=156,SNR=9.7
TPFO Pinon Flats 16.34 334 P Pn 15 50 55.8 +0.6
baz=151
PFO Pinyon Flats O 16.35 334 Pn Pn 15 50 55.4 +0.1
comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=4.4
PFO LR LR 15 56 14.8
comp=Z,314nm,21.3s,baz=160,slow=34
PFO Pinyon Flats O 16.35 334 P Pn 15 50 56.0 +0.8
baz=151
PFO Pinyon Flats O 16.35 334 Pn Pn 15 50 54.4 -0.9
BELC Belle Mtn. Jos 16.50 336 P Pn 15 50 58.8 +1.5
baz=153,SNR=10
MURC Murrieta 16.65 332 P Pn 15 50 59.3 +0.3
baz=149
WUAZ Wupatki 16.66 350 P Pn 15 51 00.9 +1.6
baz=169,SNR=7.8
WUAZ Wupatki 16.66 350 Pn 15 51 00.5 +1.2
WUAZ IAmb IAmb 15 51 04.9
comp=Z,16nm,1.0s
AMTX Amarillo 16.72 18 P Pn 15 51 01.9 +2.0
baz=202
AMTX Amarillo 16.72 18 Pn Pn 15 51 01.1 +1.2
AMTX IAmb IAmb 15 51 04.6
comp=Z,27nm,1.3s
W13A Hualapai Mount 16.81 343 Pn 15 51 01.9 +0.7
W13A IAmb IAmb 15 51 04.2
comp=Z,20nm,1.4s
GMRC Granite Mounta 17.08 338 P Pn 15 51 05.6 +1.1
baz=155,SNR=10
HEC Hector,Ludlow 17.37 336 P Pn 15 51 09.1 +1.0
baz=153,SNR=7.0
BFSC Mount Baldy Ra 17.40 332 P Pn 15 51 09.1 +0.5
baz=149
NATX Nacogdoches 17.43 41 P Pn 15 51 11.1 +2.4
baz=227
SNCC San Nicolas Is 17.50 326 P Pn 15 51 10.3 +0.6
baz=142
WMOK Wichita Mounta 17.62 26 P Pn 15 51 12.9 +1.8
baz=210,SNR=6.7
WMOK Wichita Mounta 17.62 26 P Pn 15 51 11.4 +0.3
U15A North Rim 17.71 348 P Pn 15 51 13.5 +1.0
TUQ Turquoise Moun 17.76 338 P Pn 15 51 14.0 +1.0
baz=155,SNR=9.2
GSC Goldstone, Bar 17.96 336 P Pn 15 51 15.3 -0.2
baz=153,SNR=8.0
GSC Goldstone, Bar 17.96 336 P Pn 15 51 16.4 +1.0
GSC IAmb IAmb 15 51 18.9
comp=Z,22nm,1.4s
MVCO Mesa Verde 18.09 359 P Pn 15 51 17.7 +0.6
baz=179
MVCO Mesa Verde 18.09 359 P Pn 15 51 17.6 +0.5
EDW2 Edwards Air Fo 18.09 333 P Pn 15 51 16.9 -0.1
baz=149
OSI Osito Audit: C 18.20 330 P Pn 15 51 18.7 +0.4
baz=146
T25A Trinidad 18.28 9 P Pn 15 51 20.2 +0.8
baz=191
T25A Trinidad 18.28 9 P Pn 15 51 20.5 +1.1
SHOC Shoshone, Teco 18.30 338 P Pn 15 51 19.0 -0.5
baz=155,SNR=7.5
KNB Kanab 18.38 348 P 15 51 20.9 +0.2
LCMT Little Creek M 18.47 347 P P 15 51 21.7 +0.1
LRMC Laurel Mtn Rad 18.47 334 P P 15 51 21.5 -0.1
baz=150
SHPR Sheep Range 18.49 341 P 15 51 21.6 -0.2
SHPR IAmb IAmb 15 51 24.5
comp=Z,17nm,0.9s
S22A 4UR Ranch, Cre 18.64 3 P P 15 51 24.4 +0.7
baz=184
PKCU Pink Cliffs 18.70 349 P P 15 51 25.1 +0.7
SDCO Great Sand Dun 18.74 6 P P 15 51 25.4 +0.7
baz=188
SDCO Great Sand Dun 18.74 6 P P 15 51 25.1 +0.3
PKM Mcpherson Peak 18.94 329 P P 15 51 25.9 -0.9
baz=144
PV05 Paradox Valley 18.97 357 P P 15 51 26.6 -0.6
SZCU Shurtz Canyon 19.00 347 P P 15 51 26.7 -0.8
CCUT Cedar City 19.01 347 P 15 51 27.0 -0.7
FURC Furnace Creek, 19.02 338 P P 15 51 27.5 0.0
baz=154
PV13 Radium Mtn., P 19.04 358 P P 15 51 26.8 -1.2
OK029 Liberty Lake 19.08 27 P P 15 51 28.1 -0.1
OK029 IAmb IAmb 15 51 36.6
comp=Z,12nm,0.7s
PV02 Paradox Valley 19.09 358 P P 15 51 28.7 +0.2
PV03 Paradox Valley 19.14 358 P P 15 51 28.6 -0.5
PV17 East Wray Mesa 19.17 358 P P 15 51 28.8 -0.6
PV17 IAmb IAmb 15 51 32.4
comp=Z,9.9nm,0.9s
PV11 David Mesa, Pa 19.18 358 P P 15 51 29.3 -0.2
PV11 IAmb IAmb 15 51 36.5
comp=Z,11nm,0.9s
PV19 Morning Glory 19.20 358 P P 15 51 29.8 +0.1
PV19 IAmb IAmb 15 51 32.7
comp=Z,12nm,1.0s
PV12 Saucer Basin, 19.20 358 P P 15 51 30.3 +0.6
PV15 Paradox Valley 19.21 359 P P 15 51 30.3 +0.4
PV15 IAmb IAmb 15 51 33.4
comp=Z,14nm,1.0s
PV20 West Nyswonger 19.23 358 P P 15 51 31.0 +1.0
TPNV Topopah Spring 19.24 340 P P 15 51 31.4 +1.3
baz=156,SNR=16
TPNV Topopah Spring 19.24 340 P P 15 51 30.0 -0.2
TPNV IAmb IAmb 15 51 32.7
comp=Z,14nm,1.1s
MTPU Mount Pierson 19.26 350 P P 15 51 30.6 0.0
PV14 Lion Creek, Pa 19.26 358 P P 15 51 31.1 +0.7
PV14 IAmb IAmb 15 51 33.5
comp=Z,14nm,1.1s
PV10 Paradox Valley 19.27 357 P P 15 51 28.8 -1.6
PV10 IAmb IAmb 15 51 33.1
comp=Z,18nm,1.1s
PV04 Paradox Valley 19.28 358 P P 15 51 31.2 +0.6
PV04 IAmb IAmb 15 51 33.8
comp=Z,13nm,1.1s
PRN Pahroc Range 19.30 343 P P 15 51 30.9 +0.2
PRN IAmb IAmb 15 51 34.9
comp=Z,13nm,1.1s
PV07 Paradox Valley 19.31 358 P P 15 51 31.2 +0.2
PV07 IAmb IAmb 15 51 35.0
comp=Z,13nm,1.0s
VES Vestal, Richgr 19.38 332 P P 15 51 32.3 +0.8
baz=147
PV22 Blue Mesa, Par 19.41 358 P P 15 51 32.5 +0.4
CWC Cottonwood Cre 19.46 335 P P 15 51 33.2 +0.6
baz=151
GRAC Grapevine Rang 19.67 337 P P 15 51 35.7 +1.0
baz=153
MSU Marysvale 19.72 350 P 15 51 36.5 +1.0
Q24A Divide 19.98 6 P P 15 51 39.8 +1.5
baz=188
MIAR Mount Ida 20.04 37 P P 15 51 40.3 +1.6
baz=224
TIN Tinemaha, Big 20.05 335 P P 15 51 40.0 +1.0
baz=151
PSUT Pine Spring 20.06 346 P P 15 51 39.6 +0.4
PSUT IAmb IAmb 15 51 44.6
comp=Z,13nm,0.9s
SMCO Snowmass 20.06 2 P P 15 51 39.8 +0.4
SRU San Rafael Swe 20.10 354 P P 15 51 39.5 0.0
KAN09 Caldwell North 20.16 25 P P 15 51 41.7 +1.6
KAN09 IAmb IAmb 15 51 56.5
comp=Z,18nm,0.9s
R11A Troy Canyon, C 20.32 343 P P 15 51 42.7 +0.7
baz=160,SNR=25
R11A Troy Canyon, C 20.32 343 P P 15 51 41.9 -0.1
R11A IAmb IAmb 15 51 44.3
comp=Z,14nm,1.1s
TMUT Trail Mountain 20.36 353 P P 15 51 43.2 +0.8
W39A Magazine 20.40 35 P P 15 51 44.1 +1.5
baz=222
W39A Magazine 20.40 35 P P 15 51 43.6 +1.0
KSCO Kaye Shedlock' 20.41 12 P P 15 51 44.2 +1.4
baz=195
X40A Basin Creek Fa 20.42 38 P P 15 51 45.0 +2.2
baz=225
T35A Sooner Cattle 20.43 27 P P 15 51 43.7 +0.8
P17A Butcher Ranch, 20.48 354 P P 15 51 43.7 +0.1
P17A IAmb IAmb 15 51 48.8
comp=Z,20nm,1.2s
PMPB Monarch Peak 20.48 329 P P 15 51 44.5 +0.9
PMPB IAmb IAmb 15 52 09.3
comp=Z,18nm,1.1s
TPH Tonopah 20.59 339 P P 15 51 45.3 +0.5
SPR3 Spring Creek 3 20.61 346 P P 15 51 45.2 -0.1
SPR3 IAmb IAmb 15 51 49.6
comp=Z,16nm,1.2s
ISCO Idaho Springs 20.77 5 P P 15 51 47.9 +1.0
baz=187,SNR=6.9
ISCO Idaho Springs 20.77 5 P P 15 51 47.9 +1.0
ISCO IAmb IAmb 15 51 49.4
comp=Z,8.4nm,1.0s
MDPB Devils Postpil 20.89 335 P P 15 51 48.4 +0.2
MDPB IAmb IAmb 15 51 50.1
comp=Z,17nm,0.9s
CBKS Cedar Bluff 20.94 18 P P 15 51 48.6 +0.1
CBKS IAmb IAmb 15 51 49.4
comp=Z,16nm,0.8s
O20A White River Ci 21.00 359 P P 15 51 50.0 +0.7
O20A White River Ci 21.00 359 P P 15 51 49.8 +0.5
O20A IAmb IAmb 15 51 54.8
comp=Z,24nm,1.1s
U38A Gravette 21.04 32 P P 15 51 49.8 +0.3
MPU Maple Canyon 21.12 352 P P 15 51 50.1 -0.5
MPU IAmb IAmb 15 51 52.9
comp=Z,15nm,1.2s
NLU North Lily Min 21.12 351 P P 15 51 50.9 +0.3
HHAR Hobbs 21.14 33 P P 15 51 50.9 +0.3
HHAR IAmb IAmb 15 52 02.0
comp=Z,14nm,1.4s
LHV Little Huntoon 21.20 337 P P 15 51 51.5 +0.2
NV11 Mina Array Sit 21.23 337 P P 15 51 52.1 +0.4
NV11 IAmb IAmb 15 51 53.9
comp=Z,20nm,0.9s
SAO San Andreas Ge 21.23 329 P P 15 51 51.2 -0.4
NVAR Mina Array Bea 21.29 337 P P 15 51 52.7 +0.3
comp=Z,9.8nm,0.8s,baz=164,slow=13,SNR=70
NVAR LR LR 15 59 01.0
comp=Z,148nm,19.8s,baz=147,slow=34
DUG Dugway, Tooele 21.47 350 P P 15 51 55.2 +1.0
baz=168,SNR=15
DUG Dugway, Tooele 21.47 350 P P 15 51 54.3 0.0
DUG IAmb IAmb 15 51 58.8
comp=Z,15nm,0.8s
RDMU Red Mountain 21.48 357 P P 15 51 53.2 -1.2
RDMU IAmb IAmb 15 51 59.2
comp=Z,22nm,1.2s
RYN Ryan 21.54 337 P P 15 51 53.8 -1.3
JLU Jordanelle 21.67 353 P P 15 51 57.1 +0.6
JLU IAmb IAmb 15 52 00.7
comp=Z,14nm,0.9s
KVN Kaiserville 21.76 338 P P 15 51 57.5 0.0
CMB Columbia Colle 21.78 333 P P 15 51 56.6 -0.9
CMB IAmb IAmb 15 51 58.7
comp=Z,8.6nm,1.1s
WAKR Walker 21.78 335 P P 15 51 58.4 +0.6
CTU Camp Tracy 21.80 352 P P 15 51 58.5 +0.7
CTU IAmb IAmb 15 52 01.8
comp=Z,16nm,1.0s
FCAR Ozark Folk Cen 21.83 37 P P 15 51 58.5 +0.5
FCAR IAmb IAmb 15 52 09.4
comp=Z,12nm,0.7s
N23A Red Feather La 21.83 4 P P 15 51 59.5 +1.2
baz=186
YERR Yerington 22.12 336 P P 15 52 01.1 -0.3
BGU Big Grassy Mou 22.21 350 P P 15 52 01.4 -0.9
BGU IAmb IAmb 15 52 05.5
comp=Z,9.3nm,0.9s
PHWY Pilot Hill 22.27 5 P P 15 52 03.1 0.0
PHWY IAmb IAmb 15 52 04.5
comp=Z,7.2nm,0.9s
PNTR Pine Nut 22.35 336 P P 15 52 03.6 -0.2
OGNE Ogallala 22.39 12 P P 15 52 05.4 +1.2
baz=195
ELK Elko 22.49 345 P P 15 52 05.1 -0.3
comp=Z,5.5nm,1.0s,baz=185,slow=8.8,SNR=12
ELK LR LR 16 00 28.9
comp=Z,99nm,19.1s,baz=155,slow=36
ELK Elko 22.49 345 P P 15 52 04.9 -0.4
ELK IAmb IAmb 15 52 08.2
comp=Z,7.6nm,1.1s
S39A Bolivar 22.54 32 P P 15 52 07.0 +1.4
PAHR Pah Rah Range 22.81 337 P P 15 52 07.9 -0.7
PAHR IAmb IAmb 15 52 30.0
comp=Z,8.8nm,1.2s
BEKR Beckworth 23.32 335 P P 15 52 13.4 -0.6
LRAL Lakeview Retre 23.36 49 P P 15 52 14.9 +0.7
baz=239
LRAL Lakeview Retre 23.36 49 P P 15 52 14.7 +0.4
LRAL IAmb IAmb 15 52 22.9
comp=Z,16nm,1.3s
ORV Oroville 23.52 333 P P 15 52 15.5 -0.3
ORV IAmb IAmb 15 52 18.6
comp=Z,13nm,1.4s
R40A Maddies Statio 23.53 32 P P 15 52 16.7 +0.8
R40A IAmb IAmb 15 52 26.8
comp=Z,11nm,1.1s
K22A Casper 23.55 3 P P 15 52 16.2 +0.1
baz=184
K22A Casper 23.55 3 P P 15 52 16.0 -0.1
K22A IAmb IAmb 15 52 17.0
comp=Z,8.6nm,0.8s
BW06 Boulder Array 23.67 357 P P 15 52 17.4 0.0
baz=177
BW06 Boulder Array 23.67 357 P P 15 52 16.0 -1.4
PD31 Pinedale Array 23.67 357 P P 15 52 16.0 -1.4
PDAR Pinedale Array 23.67 357 P P 15 52 17.1 -0.3
comp=Z,1.7nm,0.8s,baz=169,slow=9.9,SNR=16
PDAR LR LR 16 01 13.0
comp=Z,80nm,19.4s,baz=176,slow=36
PDAR Pinedale Array 23.67 357 P P 15 52 16.7 -0.7
PLAL Pickwick Lake 23.71 44 P P 15 52 17.9 +0.3
PLAL IAmb IAmb 15 52 32.6
comp=Z,10.0nm,1.2s
AHID Auburn Hatcher 23.77 354 P P 15 52 17.8 -0.6
AHID IAmb IAmb 15 52 19.8
comp=Z,5.9nm,0.8s
CCM Cathedral Cave 23.89 34 P P 15 52 19.2 -0.1
baz=222
CCM Cathedral Cave 23.89 34 P P 15 52 18.6 -0.7
CCM IAmb IAmb 15 52 28.5
comp=Z,8.7nm,1.1s
ECR Eagle Creek 24.09 354 P P 15 52 21.0 -0.4
X48A Hartselle 24.10 46 P P 15 52 21.0 -0.3
X48A IAmb IAmb 15 52 29.6
comp=Z,9.7nm,1.0s
Y49A Blount Mountai 24.21 48 P P 15 52 22.7 +0.3
Y49A IAmb IAmb 15 52 25.1
comp=Z,5.1nm,0.8s
O03E Paynes Creek 24.27 334 P P 15 52 23.1 +0.2
baz=147
REDW Red Top Meadow 24.34 355 P P 15 52 23.6 -0.2
SNOW Snow King Moun 24.44 355 P P 15 52 24.4 -0.2
TPAW Teton Pass 24.48 355 P P 15 52 24.9 -0.1
LOHW Long Hollow 24.57 355 P P 15 52 25.8 0.0
WDC Whiskeytown Da 24.82 333 P P 15 52 27.1 -0.8
WDC IAmb IAmb 15 52 28.7
comp=Z,5.5nm,1.1s
152A Waverly Hall 24.86 52 P P 15 52 28.4 +0.1
152A IAmb IAmb 15 52 35.0
comp=Z,8.5nm,1.1s
WVOR Wild Horse Val 24.99 341 P P 15 52 28.5 -1.0
FLWY Flagg Ranch 25.05 355 P P 15 52 29.4 -0.7
FLWY IAmb IAmb 15 52 33.0
comp=Z,7.8nm,1.1s
MOD Modoc Plateau 25.07 338 P P 15 52 30.0 -0.2
MOD IAmb IAmb 15 52 33.2
comp=Z,8.6nm,1.0s
FPAL Fort Paine 25.14 48 P P 15 52 31.1 +0.2
FPAL IAmb IAmb 15 52 40.6
comp=Z,9.0nm,0.9s
MFID Camas Ranch 25.16 346 P P 15 52 30.9 -0.2
RSSD Black Hills 25.20 7 P P 15 52 32.2 +0.7
baz=189
N02D Trinity Center 25.22 333 P P 15 52 31.2 -0.3
baz=146
YPP Pitchstone Pla 25.24 355 P P 15 52 31.4 -0.6
M04C Macdoel 25.54 335 P P 15 52 34.6 +0.1
baz=149
W50A Signal Mountai 25.70 47 P P 15 52 35.4 -0.5
Q44A Meyer Farm, Va 25.71 36 P P 15 52 36.0 +0.1
YHH Holmes Hill 25.76 355 P P 15 52 36.7 +0.1
J08A Circle Bar Ran 25.79 342 P P 15 52 36.2 -0.5
YBH Yreka Blue Hor 25.85 334 LR LR 16 02 05.8
comp=Z,92nm,21.0s,baz=166,slow=35
YNE Yellowstone No 25.92 357 P P 15 52 36.2 -1.9
YNE IAmb IAmb 15 52 41.7
comp=Z,7.7nm,1.1s
K05A Summer Lake 26.00 338 P P 15 52 37.5 -1.3
RLMT Red Lodge 26.01 358 P P 15 52 38.3 -0.5
baz=178
RLMT Red Lodge 26.01 358 P P 15 52 39.4 +0.6
MCMT McKenzie Canyo 26.01 352 P P 15 52 38.6 -0.2
L04D Klamath Falls 26.09 335 P P 15 52 38.3 -1.2
baz=148
L02E Cave Junction 26.57 333 P P 15 52 43.2 -0.5
baz=146
J05D Fort Rock, OR 26.61 338 P P 15 52 43.9 -0.3
baz=152,SNR=6.5
BOZ Bozeman (W) 26.63 354 P P 15 52 44.6 +0.2
baz=173,SNR=5.7
BOZ Bozeman (W) 26.63 354 P P 15 52 43.8 -0.6
GCMT Greycliff 26.69 357 P P 15 52 43.9 -1.0
I07A Izee 26.75 341 P P 15 52 44.9 -0.5
HDIL Hopedale 26.75 33 P P 15 52 46.1 +0.8
baz=222
PLID Pearl Lake 26.80 347 P P 15 52 44.5 -1.5
PLID IAmb IAmb 15 52 46.7
comp=Z,6.1nm,0.9s
BMO Blue Mountains 26.86 345 P P 15 52 44.8 -1.7
BMO IAmb IAmb 15 52 46.9
comp=Z,5.7nm,1.1s
J04D Umpqua Nationa 26.89 337 P P 15 52 46.8 0.0
baz=150
PINE Pine Mountain 26.95 339 P P 15 52 46.4 -1.0
PINE IAmb IAmb 15 52 48.6
comp=Z,11nm,1.1s
TKL Tuckaleechee C 27.00 47 LR LR 16 05 30.3
comp=Z,81nm,21.1s,baz=247,slow=41
K02D Willamette Mer 27.04 334 P P 15 52 47.4 -0.6
baz=146
J01E Myrtle Point 27.54 334 P P 15 52 51.6 -0.8
baz=146
I05D Terrebonne, OR 27.57 339 P P 15 52 52.1 -0.7
baz=152
LAO LASA Array 27.59 3 P P 15 52 53.1 +0.3
baz=184
TZTN Tazewell 27.63 46 P P 15 52 53.7 +0.4
baz=238
I03D Drain, OR 27.75 336 P P 15 52 53.3 -0.9
baz=148
SFIN Lafayette 27.80 36 P P 15 52 54.9 +0.2
baz=226
F10A Beach Ranch, E 27.90 346 P P 15 52 54.2 -1.5
F10A IAmb IAmb 15 53 18.6
comp=Z,8.5nm,1.5s
E28A Huff 28.08 11 P P 15 52 57.2 -0.1
JFWS Jewell Farm 28.10 28 P P 15 52 58.0 +0.6
baz=218
MSO Missoula 28.12 351 P P 15 52 57.2 -0.5
baz=168
MSO Missoula 28.12 351 P P 15 52 57.0 -0.6
H04A Detroit Lake 28.16 338 P P 15 52 56.9 -1.1
H04D Lebanon 28.22 337 P P 15 52 57.2 -1.2
baz=150
EGMT Eagleton 28.92 358 P P 15 53 04.4 -0.4
baz=177
LON Longmire 29.86 341 P P 15 53 11.7 -1.4
LON IAmb IAmb 15 53 14.0
comp=Z,4.5nm,1.1s
E04D Cinebar 29.93 340 P P 15 53 13.3 -0.3
baz=152
B08A Colville Reser 30.64 345 P P 15 53 19.5 -0.4
D03D Eldon 30.96 340 P P 15 53 21.6 -1.1
baz=152
B05A Bryant 31.30 342 P P 15 53 24.9 -0.8
baz=154
EYMN Ely 31.78 21 P P 15 53 30.0 +0.1
baz=211
M53A WI Miller and 32.22 40 P P 15 53 33.7 -0.2
baz=234
N54A Moraine State 32.38 42 P P 15 53 35.1 -0.2
baz=236
ULM Lac du Bonnet 32.58 14 P P 15 53 37.2 +0.3
comp=Z,3.6nm,0.7s,baz=231,slow=4.6,SNR=3.4
ULM Lac du Bonnet 32.58 14 IAmb IAmb 15 53 38.0
comp=Z,4.7nm,0.8s
FFC Flin Flon 35.89 6 P P 15 54 04.5 -1.0
MPR Mayaguez 38.64 84 P P 15 54 29.0 -0.4
L65A Cape Cod Natio 39.43 46 P P 15 54 36.1 +0.4
baz=246
E61A Lac Etchemin 41.10 40 P P 15 54 49.5 0.0
baz=241
PKME Peaks-Kenny Pk 41.30 42 P P 15 54 50.8 -0.4
baz=244
WRAK Wrangell Islan 41.52 340 P P 15 54 51.9 -0.9
baz=144
TAOE Nuku Hiva Isla 42.14 232 *e*LR LR 16 06 15.3
comp=Z,226nm,25.3s
TAOE Nuku Hiva Isla 42.14 232 *e*T T 16 39 21.6
comp=Z,80nm,0.2s
D62A Allapoint, All 42.28 40 P P 15 54 58.6 -0.5
baz=242
DLBC Dease Lake 42.50 343 P P 15 55 00.8 -0.1
DLBC IAmb IAmb 15 55 17.2
comp=Z,14nm,1.5s
D63A Stockholm 42.83 40 P P 15 55 02.5 -1.1
baz=243
SIT Sitka 43.03 338 P P 15 55 03.8 -1.3
baz=141
YKA Yellowknife Ar 43.63 356 P P 15 55 08.4 -1.5
comp=Z,1.8nm,0.8s,baz=166,slow=8.2,SNR=7.7
YKA LR LR 16 13 43.7
comp=Z,94nm,18.2s,baz=0.0,slow=37
OBL Observatory Le 44.55 279 P P 15 55 15.5 -2.5
UWE Uwekahuna 44.56 279 P P 15 55 15.9 -2.2
PINM Pinnacle 47.02 339 P P 15 55 35.0 -1.9
baz=137
MESA MESA 47.68 338 P P 15 55 40.3 -1.9
baz=135
CRQE Cirque 48.49 338 P P 15 55 48.0 -0.3
baz=134
MCARA McCarthy VSAT 48.90 338 P P 15 55 51.3 -0.1
baz=134
RKT Rikitea 49.53 213 *e*T T 16 48 47.3
comp=Z,30nm,0.3s
N25K Chitina, Valde 49.61 338 P P 15 55 56.4 -0.5
baz=132
BCAR Beaver Creek A 49.69 341 P P 15 55 57.4 0.0
L27K Beaver Creek, 49.70 341 P P 15 55 57.0 -0.4
baz=137
KLU Klutina 50.01 337 P P 15 55 58.4 -1.4
baz=131
K27K Chicken 50.48 341 P P 15 56 03.6 +0.3
baz=137
M24K Tolsona, Glenn 50.50 338 P P 15 56 03.1 -0.5
baz=131

SEW	Seward baz=126	50.51 335	P	P	15 56 02.3	-1.2
EGAK	Eagle baz=138	50.76 342	P	P	15 56 03.9	-1.5
EGAK	Eagle comp=Z,5.0nm,0.9s	50.76 342	P IAmb	P IAmb	15 56 05.1 15 56 06.2	-0.3
PAX	Paxson baz=132	50.83 339	P	P	15 56 05.6	-0.5
PAX	Paxson comp=Z,6.2nm,1.0s	50.83 339	P IAmb	P IAmb	15 56 05.4 15 56 06.8	-0.7
DOT	Dot Lake comp=Z,7.4nm,1.2s	50.83 340	P IAmb	P IAmb	15 56 05.7 15 56 07.1	-0.3
SCRK	Sand Creek baz=135,SNR=5.9	51.03 341	P	P	15 56 07.3	-0.3
SML	Sawmill baz=128	51.09 337	P	P	15 56 06.7	-1.4
WAT6	Susitna Watana baz=130	51.36 338	P	P	15 56 09.6	-0.6
INK	Inuvik baz=149	51.78 348	P	P	15 56 12.5	-0.4
INK	Inuvik	51.78 348	P	P	15 56 11.9	-1.0
WAT1	Susitna Watana baz=129	51.81 338	P	P	15 56 11.2	-2.2
P19K	Oil Pt baz=122	51.84 333	P	P	15 56 11.5	-2.2
PMOR	Pomariorio Ree comp=Z,2.0nm,0.2s	51.87 232	eT	T	16 51 36.9	
SKT	Skwentna baz=125	52.42 336	P	P	15 56 17.1	-0.8
IL31		52.50 340	P	P	15 56 17.2	-1.2
ILAR	Eielson Array comp=Z,4.4nm,1.1s,baz=148,slow=6.3,SNR=29	52.50 340	P	P	15 56 17.9	-0.5
ILAR	Eielson Array	52.50 340	P	P	15 56 17.1	-1.4
MCK	McKinley baz=129	52.51 338	P	P	15 56 17.8	-0.8
LPAZ	La Paz comp=Z,1.0nm,0.6s,baz=318,slow=12,SNR=4.8	52.63 129	P	P	15 56 28.7	+7.9
O18K	Koktuh Hills baz=120	52.81 332	P	P	15 56 19.8	-1.1
TRF	Thorofare Moun baz=127	52.82 338	P	P	15 56 19.3	-1.7
POKR	Poker Plat Res baz=131	52.90 340	P	P	15 56 19.8	-1.7
N19K	Bonanza Creek baz=121	52.98 334	P	P	15 56 21.2	-1.0
NEA2	Nenana baz=129,SNR=6.3	53.10 339	P	P	15 56 21.7	-1.2
PPLA	Purkeypile baz=125	53.19 336	P	P	15 56 23.1	-0.7
PPLA	Purkeypile	53.19 336	P	P	15 56 23.0	-0.8
BPAW	Bear Paw Mtn. baz=127	53.46 338	P	P	15 56 24.6	-1.0
SDPT	Sand Point baz=111	53.46 326	P	P	15 56 24.4	-1.2
N18K	Kilae Creek baz=120	53.51 333	P	P	15 56 24.8	-1.2
H24K	Noodor Dome baz=131,SNR=5.9	53.52 341	P	P	15 56 25.0	-1.0
I23K	Minto, Yukon-K baz=129,SNR=8.5	53.55 340	P	P	15 56 25.0	-1.2
CHUM	Lake Minchumin baz=125	53.80 337	P	P	15 56 26.8	-1.3
L19K	White Mountain baz=122	53.84 335	P	P	15 56 26.5	-1.9
MLY	Manley baz=128	53.93 339	P	P	15 56 28.2	-0.9
H23K	Yukon River baz=129	54.03 340	P	P	15 56 29.2	-0.6
I21K	Tanana baz=126,SNR=6.0	54.44 339	P	P	15 56 31.6	-1.1
PPT2	Papeete2 comp=Z,212nm,26.0s	54.75 231	eLR	LR	16 12 15.1	
H21K	Melozitna Rive baz=126,SNR=12	55.00 339	P	P	15 56 35.3	-1.5
COLD	Coldfoot	55.13 341	P	P	15 56 36.6	-1.0
TOLK	Toolik Lake Re baz=131	55.86 343	P	P	15 56 40.9	-2.1
LVC	Limon Verde comp=Z,45nm,18.0s,baz=220,slow=32	56.33 136	LR	LR	16 17 17.2	
SIV	San Ignacio comp=Z,63nm,18.9s,baz=289,slow=33	57.82 124	LR	LR	16 19 26.6	
TBI	Tubuai comp=Z,202nm,26.8s	58.45 226	eLR	LR	16 14 08.2	
TBI	Tubuai comp=Z,4.0nm,0.2s	58.45 226	eT	T	16 59 50.8	
H03N2	Juan Fernandez baz=329,slow=77,SNR=780	59.11 152	T	T	17 01 06.3	
H03N1	Juan Fernandez baz=329,slow=77,SNR=585	59.12 152	T	T	17 01 08.0	
H03N3	Juan Fernandez baz=329,slow=77,SNR=672	59.13 152	T	T	17 01 07.2	
BDFB	Brasília comp=Z,4.3nm,0.9s,baz=235,slow=5.9,SNR=4.1	68.34 116	P	P	15 58 14.6	+7.0
SEY	Seymchan comp=Z,1.3nm,0.6s,baz=47,slow=5.7,SNR=2.3	77.51 332	P	P	15 59 02.4	+1.2
H11S1	WAKE ISLAND Hy baz=74,slow=74	79.89 286	T	T	17 26 49.2	
H11S2	WAKE ISLAND Hy baz=74	58.45 226	T	T	17 26 48.8	
H11S3	WAKE ISLAND Hy baz=74,slow=74	79.90 286	T	T	17 26 49.6	
DZM	Mont Dzumac comp=Z,372nm,31.1s	93.08 248	eLR	LR	16 29 59.2	
WRA	Warramunga Arr comp=Z,0.3nm,0.8s,baz=72,slow=2.4,SNR=1.7	121.57 258	PKP	PKPdf	16 06 01.8	+1.6

*IDC **07** 15:50:23.0±1.6, 1°.76N×126°.71E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/38, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=99.8km s-min=22.4km az=69.0*

*NEIC **07** 15:50:30.6±1.6, 1°.53N±0°.08×126°.32E±0°.08, h47km±7km, mb4.3/16, Error ellipse: s-maj=13.3km s-min=9.2km az=221.0*

*DJA **07** 15:50:32.1±1.8, 2°N±4°×12°6E±°, h37km±44km, M3.8/8, mb3.9/1, MLv3.7/8*

ISC 07 15:50:30.6±0.7, 1°.50N±0°.06×126°.33E±0°.06, h50km, n30, σ1°49/32, mb4.1/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.27	125	Pn	Pn	15 50 52.9	+0.9
TNTI	Ternate	1.27	125	P	Pn	15 50 53.6	+1.6
TNTI				S	Sn	15 51 10.4	+2.4
SGSI	Sangihe	2.31	340	P	Pn	15 51 07.6	+1.3
SGSI				S	Sn	15 51 35.4	+1.9
GTOI	Gorontalo	3.42	255	P	Pn	15 51 25.1	+3.5
SANI	Sanana	3.55	185	P	Pn	15 51 24.1	+0.9
LUWI	Luwuk	4.36	235	Pn	Pn	15 51 31.4	-3.0
LUWI	Luwuk	4.36	235	P	Pn	15 51 36.5	+2.1
NLAI	Namlea	4.77	171	P	Pn	15 51 42.2	+2.1
TOLI2	Tolitoli	5.56	266	Pn	Pn	15 51 52.1	+1.3
MTN	Manton Dam	15.03	162	Pn	Pn	15 53 59.3	-0.8
MTN				IAmb	IAmb	15 54 28.1	
	comp=Z,14nm,1.1s						
KNRA	Kununurra	17.24	172		P	15 54 28.4	-0.6
KNRA				IAmb	IAmb	15 54 45.0	
	comp=Z,13nm,1.2s						
FITZ	Fitzroy Crossi	19.49	182	P	P	15 54 53.6	-0.1
	comp=Z,0.1nm,0.3s,baz=5.2,slow=10,SNR=8.5						
FITZ	Fitzroy Crossi	19.49	182	IAmb	IAmb	15 55 02.2	
	comp=Z,6.0nm,1.2s						
TPUB	Ta-pu	22.36	346	P	P	15 55 24.0	-0.7
WB0	Warramunga Arr	22.57	160	P	P	15 55 26.5	-0.5
WB0				IAmb	IAmb	15 55 32.9	
	comp=Z,9.6nm,1.1s						
WRA	Warramunga Arr	22.72	160	P	P	15 55 28.1	-0.4
	comp=Z,4.8nm,0.6s,baz=342,slow=12,SNR=59						
WRA	Warramunga Arr	22.72	160	P	P	15 55 27.0	-1.4
WB2	Warramunga Arr	22.72	160	P	P	15 55 27.6	-0.9
WB2				IAmb	IAmb	15 55 30.2	
	comp=Z,20nm,1.4s						
WR0	Warramunga Arr	22.80	160	P	P	15 55 28.7	-0.7
WR0				IAmb	IAmb	15 55 51.0	
	comp=Z,12nm,1.4s						
PSA00	Pilbara Seismi	23.79	195	P	P	15 55 39.1	+0.2
PSA00				IAmb	IAmb	15 55 40.2	
	comp=Z,23nm,1.5s						
AS31	Alice Springs	26.08	164	P	P	15 55 59.5	-0.3
ASAR	Alice Springs	26.08	164	P	P	15 56 00.3	+0.5
	comp=Z,1.8nm,0.7s,baz=346,slow=8.2,SNR=22						
ASAR				PcP	PcP	15 59 26.9	+0.2
	comp=Z,0.1nm,0.4s,baz=343,slow=2.4,SNR=2.0						
ASAR	Alice Springs	26.08	164	P	P	15 55 59.2	-0.6
FORT	Forrest	32.15	177	P	P	15 56 54.3	+0.8
BBOO	Buckleboo	35.35	166	P	P	15 57 21.7	+0.3
BBOO				IAmb	IAmb	15 57 30.1	
	comp=Z,17nm,1.4s						
ONTNC	Ouen Toro	45.73	124	P	P	15 58 47.6	+0.3
MK31	Makanchi Array	59.16	326	P	P	16 00 25.9	-0.5
MKAR	Makanchi Array	59.16	326	P	P	16 00 25.5	-0.9
	comp=Z,0.2nm,0.3s,baz=121,slow=7.3,SNR=11						
MAKZ	Makanchi	59.34	326	P	P	16 00 24.9	-2.7
MAKZ				IAmb	IAmb	16 00 26.5	
	comp=Z,4.3nm,1.1s						
KNTN	Kanton	62.08	94	P	P	16 00 45.3	-1.5

*MOS **07** 16:08:02.6±1.2, 13°.17S×111°.05W, h10km, mb5.1/44, MS5.3/30, Error ellipse: s-maj=13.9km s-min=7.0km az=90.8*

*IDC **07** 16:08:03.4±0.5, 13°.27S×111°.16W, h0km, mb4.6/17, mb1 4.8/17, mb1mx4.6/29, mbtmp4.6/17, MS5.3/26, Ms1 5.3/26, ms1mx5.2/27, Error ellipse: s-maj=20.7km s-min=13.7km az=54.0*

*NEIC **07** 16:08:03.6±1.6, 13°.4S±0°.1×111°.30W±0°.07, h10km±1km, mb5.0/282, Ms_20 5.4/366, Mww5.7, Mwc5.7(GCMT), Error ellipse: s-maj=17.6km s-min=11.5km az=168.0*

*GCMT **07** 16:08:09.6±0.1, 13°.43S±0°.01×111°.26W±0°.01, h15km, MW5.7/156, Moment Tensor Solution. s139,c271; s156,c324; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr=0.45±.04; Mθθ 1.67±.04; Mφφ=-1.22±.04; Mrθ=-1.62±.11; Mθφ 4.00±.03; Mφr 0.73±.12; Best double couple: M=4.62600×10^17 NP1:φs=191.00000°, δ68.00000°, λ=-173.00000°. NP2:φs=98.00000°, δ83.00000°, λ=-22.00000°. Principal axes: T 4.6470, Plg11.0000°, Azm147.0000°; N -0.0450, Plg67.0000°, Azm262.0000°; P -4.6050, Plg21.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 16:08:09, 13°.47S×111.27W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.25; Mθθ 1.88; Mφφ=-1.63; Mrθ=-0.86; Mθφ 4.50; Mφr 0.11; Fault plane solution: M=4.91000×10^17 NP1:φs=191.00000°, δ80.00000°, λ=-180.00000°. NP2:φs=101.00000°, δ90.00000°, λ=-10.00000°. Principal axes: T 5.0360, Plg7.0000°, Azm146.0000°; N -0.2582, Plg80.0000°, Azm280.0000°; P -4.7778, Plg7.0000°, Azm55.0000°;*

*NEIC **07** 16:08:10, 12°.80S×110°.99W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=1.25; Mθθ 2.02; Mφφ=-0.77; Mrθ 2.16; Mθφ 4.14; Mφr=-0.17; Fault plane solution: M=4.99000×10^17 NP1:φs=10.00000°, δ61.00000°, λ=-171.00000°. NP2:φs=276.00000°, δ82.00000°, λ=-29.00000°. Principal axes: T 5.4149, Plg14.0000°, Azm327.0000°; N -0.9950, Plg60.0000°, Azm83.0000°; P -4.4199, Plg26.0000°, Azm229.0000°;*

ISC 07 16:08:03.4±0.3, 13°.61S±0°.05×111°.33W±0°.06, h10km, n969, σ1°83/895, mb5.0/168, MS5.4/236, 13C-1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	13.58	172	LR	LR	16 15 14.5	
	comp=Z,21μm,18.5s,baz=351,slow=31						
PTCN	Pitcairn Islan	21.03	234	IAms_20	IAms_20	16 18 29.0	
	comp=Z,18μm,22.0s						
RKT	Rikitea	24.32	244	eT	T	16 38 17.4	
	comp=Z,8.1nm,0.3s						
PAYG	Puerto Ayora	24.48	60	IAms_20	IAms_20	16 19 53.8	
	comp=Z,16μm,21.0s						
TAOE	Nuku Hiva Isla	28.64	276	eS	S	16 18 47.5	-2.1
	comp=Z,277nm,23.9s						
TAOE				eLR	LR	16 20 48.3	
	comp=Z,3μm,23.5s						
TAOE	Nuku Hiva Isla	28.64	276	eT	T	16 43 48.7	
	comp=Z,26nm,0.2s						
ATAH	Atahualpa	33.01	82	P	P	16 14 40.6	+1.1
	comp=Z,17nm,1.1s,baz=244,slow=6.0,SNR=8.8						
TLIG	Tlapa	33.43	22	P	P	16 14 41.9	-0.9
TLIG				IAmb	IAmb	16 14 48.6	
	comp=Z,28nm,1.1s						
SNET	Serv Nac Est T	34.85	40	IAms_20	IAms_20	16 25 49.3	
	comp=Z,4μm,18.0s						
PAC1	Pacto, Paraso	35.06	69	eP	P	16 14 59.1	+2.1
CCIG	Comitan	35.24	33	P	P	16 14 56.2	-2.3
CCIG				IAmb	IAmb	16 15 05.3	
	comp=Z,30nm,1.2s						
MTO3	Montecristo	35.32	39	P	P	16 14 57.5	-1.8
JTS	Las Juntas de	35.34	49	LR	LR	16 25 36.7	
	comp=Z,8μm,21.3s,baz=300,slow=30						
JTS	Las Juntas de	35.34	49	i P	P	16 15 00.1	+0.9
JTS				pmax	pmax		
	comp=Z,11nm,1.1s						
JTS	Las Juntas de	35.34	49	IAms_20	IAms_20	16 25 23.8	
	comp=Z,6μm,19.0s						
OTAV	Otavalo	35.36	70	P	P	16 14 58.8	-1.1
OTAV				pmax	pmax		
	comp=Z,34nm,1.4s						
OTAV				MLR	MLR		
	comp=Z,4μm,19.0s						
OTAV	Otavalo	35.36	70	P	P	16 14 58.8	-1.1
OTAV				IAmb	IAmb	16 15 16.5	
	comp=Z,34nm,1.4s						
OTAV	Otavalo	35.36	70	IAms_20	IAms_20	16 25 21.9	
	comp=Z,4μm,19.0s						
OTAV	Otavalo	35.36	70	eP	P	16 15 02.4	+2.5
OTAV	Otavalo	35.36	70	eP	P	16 15 00.3	+0.3
H03N2	Juan Fernandez	35.45	129	T	T	16 52 29.6	
	baz=300,slow=76,SNR=1788						
H03N3	Juan Fernandez	35.46	129	T	T	16 52 34.5	
	baz=300,slow=76,SNR=1622						
H03N1	Juan Fernandez	35.46	129	T	T	16 52 31.5	
	baz=300,slow=76,SNR=1403						
CNGN	Cerro Negro	35.62	44	IAms_20	IAms_20	16 26 31.0	
	comp=Z,7μm,21.0s						
GCUF	Volcan Galeras	36.77	69	eP	P	16 15 19.8	+7.7
PPT	Papeete	37.01	259	LR	LR	16 26 17.2	
	comp=Z,2μm,18.9s,baz=84,slow=29						
PPT2	Papeete2	37.01	259	eS	S	16 20 57.8	-1.7
	comp=Z,602nm,27.2s						
PPT2				eLQ	LQ	16 23 36.5	
	comp=Z,12μm,30.5s						
PPT2				eLR	LR	16 25 09.9	
	comp=Z,10μm,27.2s,baz=91						
ESPN	Las Esperanzas	37.09	47	IAms_20	IAms_20	16 26 21.0	
	comp=Z,6μm,22.0s						
SLBS	Sierra La Lagu	37.09	2	IAms_20	IAms_20	16 26 22.7	
	comp=Z,8μm,20.0s						
ZAIG	Zacatecas	37.16	13	P	P	16 15 12.5	-2.5
BBAC	Balboa, Cauca	37.20	68	eP	P	16 15 14.8	-0.6
TBI	Tubuai	37.34	249	eS	S	16 21 03.5	-0.8
	comp=Z,1μm,29.0s						
TBI				eLQ	LQ	16 23 46.3	
	comp=Z,6μm,31.8s						
TBI				eLR	LR	16 25 18.9	
	comp=Z,11μm,27.2s,baz=77						
TBI	Tubuai	37.34	249	eT	T	16 54 42.7	
	comp=Z,15nm,0.3s						
SOTA	Rioblanco	37.82	68	eP	P	16 15 21.4	+0.4
PCON	Cinco Dias	38.09	68	eP	P	16 15 26.2	+2.8
PTLC	Puerto Leguiza	38.69	72	eP	P	16 15 31.7	+3.9
YOTC	Yotoco, Valle	38.87	66	eP	P	16 15 30.4	+1.0
PLMC	San Jos del P	39.35	64	eP	P	16 15 32.0	-1.4
PB10	IPOC Station P	39.77	110	IAms_20	IAms_20	16 27 23.6	
	comp=Z,5μm,20.0s						
TA01	Diego Aracena	39.86	106	P	P	16 15 37.0	-0.4
TA01				IAmb	IAmb	16 15 49.5	
	comp=Z,46nm,1.4s						
PSGCX	Pisagua	39.87	104	P	P	16 15 38.5	+0.9
PB04	IPOC Station P	40.02	109	P	P	16 15 38.6	-0.4
PB04				IAmb	IAmb	16 15 49.2	
	comp=Z,45nm,1.1s						
PB04				IAms_20	IAms_20	16 27 12.0	
	comp=Z,4μm,21.0s						
CBOC	Ciudad Bolivar	40.05	63	eP	P	16 15 38.7	-0.6
PRAC	Prado	40.05	67	eP	P	16 15 42.6	+3.4
TOLC	Tolima	40.05	66	eP	P	16 15 40.6	+1.1
PB14	IPOC Station P	40.05	112	P	P	16 15 38.9	-0.6
PB14				IAmb	IAmb	16 15 52.0	
	comp=Z,75nm,1.5s						
PB14				IAms_20	IAms_20	16 27 12.3	
	comp=Z,5μm,21.0s						
AC04	Llanos de Chal	40.11	118	P	P	16 15 39.7	+0.2
AC04				IAmb	IAmb	16 15 45.9	
	comp=Z,29nm,1.1s						
PB07	IPOC Station P	40.21	108	P	P	16 15 40.2	-0.4
PB07				IAmb	IAmb	16 15 50.3	
	comp=Z,34nm,1.1s						
GUY2C	Guyana, Caldas	40.31	65	eP	P	16 15 42.6	+0.8
MACC	Macarena, Meta	40.33	70	eP	P	16 15 40.6	-0.8
MNMC	Minye Minye	40.35	104	P	P	16 15 41.5	-0.4
DBBC	Dabeiba	40.45	62	eP	P	16 15 45.6	+3.1
PB01	IPOC Station P	40.53	106	P	P	16 15 43.9	+0.7
PB01				IAmb	IAmb	16 15 54.9	
	comp=Z,54nm,1.5s						
PB06	IPOC Station P	40.59	109	IAMs_20	IAMs_20	16 27 49.0	
	comp=Z,4μm,20.0s						
HELC	Santa Helena	40.62	63	eP	P	16 15 44.7	+0.4
GO03	Copiap	40.71	117	P	P	16 15 45.7	+1.1
GO03				IAmb	IAmb	16 15 48.7	
	comp=Z,48nm,1.3s						
PB15	IPOC Station P	40.73	110	IAMs_20	IAMs_20	16 27 32.9	
	comp=Z,4μm,22.0s						
PB08	IPOC Station P	40.80	105	P	P	16 15 46.8	+1.1
PB08				IAMs_20	IAMs_20	16 28 07.3	
	comp=Z,4μm,20.0s						
PB09	IPOC Station P	40.81	108	P	P	16 15 46.7	+1.1
PB09				IAmb	IAmb	16 15 58.7	
	comp=Z,71nm,1.5s						
GO02	Mina Guanaco	40.86	113	P	P	16 15 47.3	+1.2
GO02				IAmb	IAmb	16 15 50.2	
	comp=Z,69nm,1.5s						
NORC	Norcasia	40.90	65	eP	P	16 15 46.4	+0.1
ROSC	El Rosal	41.06	66	LR	LR	16 30 04.2	
	comp=Z,2μm,18.4s,baz=233,slow=32						
ROSC	El Rosal	41.06	66	eP	P	16 15 49.3	+1.4
LVC	Limon Verde	41.19	109	P	P	16 15 50.8	+2.0
	comp=Z,3.9nm,0.8s,baz=272,slow=6.9,SNR=7.6						
LVC	Limon Verde	41.19	109	P	P	16 15 49.9	+1.0
LVC				pmax	pmax		
	comp=Z,27nm,1.5s						
LVC				MLR	MLR		
	comp=Z,4μm,19.0s						
LVC	Limon Verde	41.19	109	P	P	16 15 49.9	+1.0
LVC	Limon Verde	41.19	109	IAMs_20	IAMs_20	16 28 16.9	
	comp=Z,4μm,19.0s						
LVC	Limon Verde	41.19	109	eP	P	16 15 50.9	+2.0
GO05	Huala	41.39	128	P	P	16 15 51.1	+1.1
CHIC	Chingaza	41.48	67	eP	P	16 15 51.7	+0.2
MT01	Popeta	41.52	126	P	P	16 15 51.8	+0.6
MT01				IAmb	IAmb	16 16 03.0	
	comp=Z,66nm,1.4s						
AC02	Maricunga	41.54	115	P	P	16 15 50.8	-1.0
AC02				IAmb	IAmb	16 16 04.6	
	comp=Z,72nm,1.4s						
LPAZ	La Paz	41.77	99	P	P	16 15 54.5	+0.4
	comp=Z,5.1nm,0.6s,baz=315,slow=6.5,SNR=16						
LPAZ				LR	LR	16 29 52.5	
	comp=Z,1μm,19.2s,baz=264,slow=31						
LPAZ	La Paz	41.77	99	P	P	16 15 53.5	-0.5
LPAZ				pmax	pmax		
	comp=Z,21nm,1.0s						
LPAZ	La Paz	41.77	99	P	P	16 15 53.5	-0.5
LPAZ	La Paz	41.77	99	eP	P	16 15 56.4	+2.3
LPAZ	La Paz	41.77	99	eP	P	16 15 54.7	+0.6
ZARC	Zaragoza, Cauc	41.84	62	eP	P	16 15 54.0	+0.1
HSIG		42.38	0	P	P	16 15 57.2	-0.8
RUSC	La Rusia	42.63	65	P	P	16 15 59.6	-1.2
RUSC	La Rusia	42.63	65	eP	P	16 16 04.5	+3.6
PTGC	Puerto Gaitan,	42.73	68	eP	P	16 16 03.4	+2.2
SJCC	San Jacinto, C	42.81	59	eP	P	16 15 59.8	-2.0
ZON	Zonda	42.93	122	P	P	16 16 03.2	+0.6
ZON				pmax	pmax		
	comp=Z,36nm,1.4s						
ZON	Zonda	42.93	122	P	P	16 16 03.2	+0.6
ZON				IAmb	IAmb	16 16 16.7	
	comp=Z,36nm,1.4s						
SMLC	San Martn de	43.17	61	eP	P	16 16 00.7	-4.0
833A	Chaparral WMA,	43.25	15	P	P	16 16 04.7	-0.4
	baz=197,SNR=6.1						
833A				S	S	16 22 37.4	+5.1
	baz=197						
TX31	Lajitas Ar. Si	43.32	10	P	P	16 16 03.9	-1.9
TX31				IAmb	IAmb	16 16 09.2	
	comp=Z,59nm,1.2s						
TX32	Lajitas Array	43.32	10		P	16 16 03.9	-1.8
TXAR	Lajitas Array	43.32	10	P	P	16 16 06.0	+0.2
	comp=Z,8.4nm,1.1s,baz=192,slow=9.7,SNR=39						
TXAR				LR	LR	16 30 51.9	
	comp=Z,3μm,18.7s,baz=0.0,slow=32						
TXAR	Lajitas Array	43.32	10	P	P	16 16 03.1	-2.7
TXAR	Lajitas Array	43.32	10	P	P	16 16 03.1	-2.7
PAMC	Pamplona, Colo	43.64	64	eP	P	16 16 09.7	+0.7
LL01	San Ignacio de	44.15	138	P	P	16 16 14.3	+2.0
LL01				IAmb	IAmb	16 16 16.8	
	comp=Z,49nm,1.4s						
ETMB	Extrema	44.29	90	eP	P	16 16 13.2	-0.6
PLCA	Paso Flores	44.65	135	P	P	16 16 18.6	+2.2
	comp=Z,6.0nm,0.9s,baz=295,slow=13,SNR=7.1						
PLCA				LR	LR	16 30 23.4	
	comp=Z,11μm,18.8s,baz=272,slow=30						
PLCA	Paso Flores	44.65	135	P	P	16 16 17.6	+1.2
PLCA				pmax	pmax		
	comp=Z,39nm,1.5s						
PLCA	Paso Flores	44.65	135	P	P	16 16 17.6	+1.2
PLCA				IAmb	IAmb	16 16 29.9	
	comp=Z,39nm,1.5s						
PLCA	Paso Flores	44.65	135	eP	P	16 16 18.7	+2.3
319A	Douglas	44.77	2	P	P	16 16 16.9	-0.5
319A				IAmb	IAmb	16 16 29.1	
	comp=Z,33nm,1.2s						
LL02	Futaleuf	44.91	139	P	P	16 16 19.8	+1.5
JCT	Junction City	45.21	14	P	P	16 16 20.2	-0.6
JCT				pmax	pmax		
	comp=Z,28nm,1.0s						
JCT				MLR	MLR		
	comp=Z,3μm,18.0s						
JCT	Junction City	45.21	14	P	P	16 16 20.9	0.0
	baz=196,SNR=11						
JCT				S	S	16 23 05.2	+4.3
	baz=196						
JCT	Junction City	45.21	14		P	16 16 20.2	-0.6
JCT				IAmb	IAmb	16 16 24.3	
	comp=Z,28nm,0.9s						
JCT				IAMs_20	IAMs_20	16 32 16.9	
	comp=Z,3μm,18.0s						
214A	Organ Pipe Nat	45.32	358	P	P	16 16 22.1	+0.5
	baz=178						
214A				S	S	16 23 06.6	+4.2
	baz=178						
EPT	El Paso	45.35	6	IAMs_20	IAMs_20	16 31 29.6	
	comp=Z,4μm,20.0s						
MNTX	Cornudas Mount	45.40	7	P	P	16 16 21.8	-0.5
	baz=188,SNR=50						
MNTX				S	S	16 23 09.7	+6.1
	baz=188						
MNTX	Cornudas Mount	45.40	7		P	16 16 21.8	-0.5
TUC	Tucson	45.66	1	P	P	16 16 22.1	-2.3
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC				MLR	MLR		
	comp=Z,6μm,19.0s						
TUC	Tucson	45.66	1	P	P	16 16 24.8	+0.4
	baz=181						
TUC				S	S	16 23 11.4	+4.0
	baz=181						
TUC	Tucson	45.66	1	P	P	16 16 22.1	-2.3
121A	Cookes Peak, D	46.00	4	P	P	16 16 27.8	+0.6
	baz=185,SNR=22						
121A				S	S	16 23 17.8	+5.3
	baz=185						
121A	Cookes Peak, D	46.00	4	P	P	16 16 26.5	-0.8
435B	Jarrell	46.07	16	P	P	16 16 27.8	+0.2
	baz=199						
435B				S	S	16 23 17.4	+4.3
	baz=199						
435B	Jarrell	46.07	16	I

baz=173
MONP2 S **S** **16 23 24.2 +4.7**
baz=173
GLA Glamis 46.51 356 P **P** **16 16 31.2 +0.2**
baz=175
GLA S **S** **16 23 23.8 +4.2**
baz=175
109C Camp Elliot, M 46.56 353 P **P** **16 16 31.5 +0.1**
baz=172
109C S **S** **16 23 24.3 +4.1**
baz=172
109C Camp Elliot, M 46.56 353 IAMs_20 IAMs_20 16 31 00.7
comp=Z,4μm,20.0s
SCI2 San Clemente I 46.83 352 P **P** **16 16 33.8 +0.3**
baz=170
SCI2 S S 16 23 36.4 +12
baz=170
BC3 Big Chuckawall 47.16 355 P **P** **16 16 35.1 -1.1**
baz=174
BC3 S **S** **16 23 34.4 +5.4**
baz=174
TPFO Pinon Flats 47.20 354 P **P** **16 16 36.3 -0.2**
baz=173
TPFO S **S** **16 23 33.6 +4.1**
baz=173
PFO Pinyon Flats O 47.20 354 LR LR 16 31 28.9
comp=Z,4μm,21.1s,baz=167,slow=30
PFO Pinyon Flats O 47.20 354 P **P** **16 16 34.4 -2.2**
PFO pmax pmax
comp=Z,7.0nm,1.2s
PFO MLR MLR
comp=Z,5μm,22.0s
PFO Pinyon Flats O 47.20 354 P **P** **16 16 36.5 -0.1**
baz=173
PFO S S 16 23 36.5 +6.8
baz=173
PFO Pinyon Flats O 47.20 354 P **P** **16 16 34.4 -2.2**
PFO Pinyon Flats O 47.20 354 IAMs_20 IAMs_20 16 31 04.8
comp=Z,5μm,22.0s
CIS Catalina Islan 47.23 352 P **P** **16 16 36.6 0.0**
baz=171
CIS S S 16 23 36.2 +6.4
baz=171
SNCC San Nicolas Is 47.24 351 P **P** **16 16 36.8 +0.1**
baz=169
WHTX Lake Whitney, 47.25 16 P **P** **16 16 35.1 -1.6**
baz=198
WHTX S **S** **16 23 31.6 +1.6**
baz=198
MURC Murrieta 47.27 353 P **P** **16 16 37.6 +0.6**
baz=172
MURC S **S** **16 23 36.4 +6.0**
baz=172
ABTX Abilene, Hawle 47.31 13 P **P** **16 16 36.5 -0.8**
baz=196,SNR=6.0
ABTX S **S** **16 23 33.3 +2.3**
baz=196
ABTX Abilene, Hawle 47.31 13 P **P** **16 16 35.4 -1.8**
ABTX IAmb IAmb 16 16 54.6
comp=Z,16nm,1.0s
FMP Fort Macarthur 47.52 352 P **P** **16 16 39.3 +0.5**
baz=171
BELC Belle Mtn. Jos 47.55 355 P **P** **16 16 39.8 +0.5**
baz=174
BELC S S 16 23 42.4 +7.9
baz=174
Y22D IRIS PASSCAL I 47.60 5 S **S** **16 23 39.1 +3.8**
baz=186
IRM Iron Mountain 47.63 356 P **P** **16 16 40.3 +0.5**
baz=175
IRM S **S** **16 23 40.8 +5.3**
baz=175
LENM Lemitar 47.69 5 P **P** **16 16 38.9 -1.5**
BNM Barren Site 47.70 5 P **P** **16 16 39.4 -1.2**
PDMCI Parker Dam,Lak 47.72 357 P **P** **16 16 41.3 +1.0**
baz=176
PDMCI S S 16 23 44.7 +8.1
baz=176
X16A Lo Mia Camp, P 47.76 360 P **P** **16 16 39.5 -1.5**
X18A Snowflake 47.88 2 P **P** **16 16 40.7 -1.2**
BBRC Big Bear Solar 47.90 354 P **P** **16 16 42.8 +0.8**
baz=173
PASC Pasadena Art C 47.96 352 IAMs_20 IAMs_20 16 31 22.7
comp=Z,5μm,21.0s
BFSC Mount Baldy Ra 47.96 353 P **P** **16 16 42.7 +0.2**
baz=172
BFSC S **S** **16 23 46.2 +5.9**
baz=172
SCZ2 Santa Cruz Isl 47.99 351 P **P** **16 16 42.7 +0.1**
baz=169
SCZ2 S S 16 23 48.7 +8.2
baz=169
MSTX Muleshoe 48.01 10 P **P** **16 16 41.4 -1.4**
baz=191,SNR=13
MSTX S **S** **16 23 42.1 +1.1**
baz=191
MSTX Muleshoe 48.01 10 P **P** **16 16 41.2 -1.6**
DECC Green Verdugo 48.06 352 P **P** **16 16 43.6 +0.5**
baz=171
XMAS Kiritimati 48.29 285 IAMs_20 IAMs_20 16 32 13.9
comp=Z,4μm,19.0s
GMRC Granite Mounta 48.30 355 P **P** **16 16 45.4 +0.4**
baz=174
GMRC S **S** **16 23 50.4 +5.2**
baz=174
HEC Hector,Ludlow 48.40 354 P **P** **16 16 46.0 +0.2**
baz=173
HEC S **S** **16 23 51.2 +4.7**
baz=173
SBC Santa Barbara 48.44 351 P **P** **16 16 46.6 +0.6**
baz=169
OSI Osito Audit: C 48.46 352 S **S** **16 23 50.1 +2.8**
baz=170
W18A Petrified Fore 48.48 2 P **P** **16 16 46.5 0.0**
baz=182
W18A S **S** **16 23 50.9 +3.2**
baz=182
W13A Hualapai Mount 48.50 357 P **P** **16 16 43.9 -2.8**
ANMO Albuquerque 48.50 5 LR LR 16 33 50.2
comp=Z,5μm,18.3s,baz=192,slow=32
ANMO Albuquerque 48.50 5 *eP* **P** **16 16 47.7 +1.0**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 48.50 5 P **P** **16 16 46.5 -0.2**
baz=186
ANMO S **S** **16 23 51.0 +2.9**
baz=186
ANMO Albuquerque 48.50 5 P **P** **16 16 43.1 -3.7**
ANMO IAmb IAmb 16 16 49.8
comp=Z,20nm,1.4s
ANMO Albuquerque 48.50 5 IAMs_20 IAMs_20 16 33 48.0
comp=Z,5μm,18.0s
RRX Edison Barstow 48.51 354 P **P** **16 16 47.1 +0.5**
baz=173
RRX S S 16 23 55.4 +7.5
baz=173
SIV San Ignacio 48.56 99 P **P** **16 16 47.3 -0.1**
comp=Z,6.8nm,1.0s,baz=270,slow=10,SNR=15
EDW2 Edwards Air Fo 48.63 353 P **P** **16 16 48.4 +0.9**
baz=171
EDW2 S S 16 23 56.9 +7.2
baz=171
GTBY Guantanamo Bay 48.79 48 IAMs_20 IAMs_20 16 33 18.1
comp=Z,3μm,20.0s
WUAZ Wupatki 48.85 360 P **P** **16 16 49.5 +0.1**
baz=180
WUAZ S S 16 23 59.4 +6.4
baz=180
WUAZ Wupatki 48.85 360 P **P** **16 16 47.8 -1.5**
WUAZ IAmb IAmb 16 17 00.2
comp=Z,19nm,1.3s
WUAZ IAMs_20 IAMs_20 16 32 51.3
comp=Z,3μm,21.0s
PKM Mcpherson Peak 48.89 351 P **P** **16 16 49.7 0.0**
baz=169
PKM S S 16 24 02.3 +8.7
baz=169
GSC Goldstone, Bar 48.91 354 P **P** **16 16 48.4 -1.4**
GSC pmax pmax
comp=Z,12nm,1.0s
GSC Goldstone, Bar 48.91 354 P **P** **16 16 50.1 +0.3**
baz=173
GSC S **S** **16 23 57.3 +3.6**
baz=173
GSC Goldstone, Bar 48.91 354 P **P** **16 16 48.4 -1.4**
GSC IAmb IAmb 16 17 13.8
comp=Z,12nm,1.0s
GO09 Cerro Castillo 48.96 148 P **P** **16 16 50.4 +0.5**

TUQ Turquoise Moun 48.97 355 P **P** **16 16 50.5 +0.3**
baz=174
TUQ S S 16 24 03.8 +9.2
baz=174
ARVC Arvin 48.98 352 P **P** **16 16 51.0 +0.9**
baz=170
ARVC S S 16 24 02.9 +8.4
baz=170
AMTX Amarillo 49.08 11 P **P** **16 16 51.0 0.0**
baz=192
AMTX S **S** **16 23 58.1 +1.9**
baz=192
AMTX Amarillo 49.08 11 P **P** **16 16 48.4 -2.7**
AMTX IAmb IAmb 16 16 56.5
comp=Z,27nm,1.1s
AMTX IAMs_20 IAMs_20 16 34 24.4
comp=Z,3μm,18.0s
LRMC Laurel Mtn Rad 49.18 353 P **P** **16 16 52.4 +0.5**
baz=172
LRMC S **S** **16 24 02.8 +5.1**
baz=172
SMMC Simmler 49.34 351 P **P** **16 16 53.0 +0.1**
baz=169
SMMC S **S** **16 24 04.6 +5.0**
baz=169
346A Big Creek Wild 49.42 25 P **P** **16 16 52.1 -1.4**
SHOC Shoshone, Teco 49.46 355 P **P** **16 16 54.4 +0.6**
baz=174
SHOC S S 16 24 08.1 +6.9
baz=174
WMOK Wichita Mounta 49.53 14 P **P** **16 16 50.1 -4.3**
WMOK pmax pmax
comp=Z,8.0nm,1.0s
WMOK MLR MLR
comp=Z,2μm,18.0s
WMOK Wichita Mounta 49.53 14 P **P** **16 16 53.5 -0.9**
baz=196,SNR=6.1
WMOK S **S** **16 24 02.5 +0.2**
baz=196
WMOK Wichita Mounta 49.53 14 P **P** **16 16 50.1 -4.3**
WMOK Wichita Mounta 49.53 14 IAMs_20 IAMs_20 16 34 52.3
comp=Z,3μm,18.0s
VILB Vilhena 49.69 96 *eP* **P** **16 16 56.7 +0.6**
VES Vestal, Richgr 49.72 352 P **P** **16 16 56.1 +0.3**
baz=170
VBMS Vicksburg 49.73 23 P **P** **16 16 55.4 -0.5**
baz=207
VBMS S **S** **16 24 08.2 +3.1**
baz=207
MPMC Manual Prospec 49.73 353 P **P** **16 16 56.3 +0.2**
baz=172
U15A North Rim 49.77 359 P **P** **16 16 54.6 -1.9**
PAGB Antelope Grade 49.79 350 P **P** **16 16 54.0 -2.3**
PAGB IAmb IAmb 16 17 20.4
comp=Z,20nm,1.2s
Z41A Richland Creek 49.84 20 P **P** **16 16 57.0 +0.3**
baz=204
Z41A S **S** **16 24 08.0 +1.4**
baz=204
TRQA Tornquist 49.95 129 P **P** **16 16 57.3 -0.4**
TRQA pmax pmax
comp=Z,12nm,1.0s
TRQA MLR MLR
comp=Z,6μm,18.0s
TRQA Tornquist 49.95 129 P **P** **16 16 57.3 -0.4**
TRQA Tornquist 49.95 129 *eP* **P** **16 16 59.1 +1.4**
FURC Furnace Creek, 50.07 354 S **S** **16 24 13.9 +4.2**
baz=173
CWC Cottonwood Cre 50.18 353 P **P** **16 17 00.1 +0.6**
baz=171
CWC S **S** **16 24 16.9 +5.4**
baz=171
VOG Valley Oaks Go 50.23 352 P **P** **16 17 00.1 +0.4**
baz=170
BRAL Brewton 50.26 27 P **P** **16 16 59.7 -0.3**
baz=211
X37A Clayton 50.27 17 IAMs_20 IAMs_20 16 35 55.9
comp=Z,4μm,18.0s
FNO Franklin 50.36 15 P **P** **16 16 59.4 -1.2**
KNB Kanab 50.37 358 P **P** **16 16 59.5 -1.4**
KNB pmax pmax
comp=Z,19nm,1.3s
KNB Kanab 50.37 358 P **P** **16 16 59.5 -1.4**
KNB IAmb IAmb 16 17 26.8
comp=Z,18nm,1.3s
LCMT Little Creek M 50.38 358 P **P** **16 17 00.3 -0.6**
PTLB Pontes e Lacer 50.46 99 *eP* **P** **16 17 01.9 0.0**
TPNV Topopah Spring 50.49 355 P **P** **16 17 01.7 -0.1**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV MLR MLR
comp=Z,4μm,20.0s
TPNV Topopah Spring 50.49 355 P **P** **16 17 02.1 +0.3**
baz=174
TPNV S **S** **16 24 22.0 +6.0**
baz=174
TPNV Topopah Spring 50.49 355 P **P** **16 17 01.7 -0.1**
TPNV IAMs_20 IAMs_20 16 33 11.9
comp=Z,4μm,20.0s
DWPF Disney Wildern 50.58 35 P **P** **16 17 02.0 -0.4**
baz=219
MVCO Mesa Verde 50.61 3 P **P** **16 17 02.7 -0.1**
baz=184,SNR=8.4
MVCO S **S** **16 24 20.9 +3.2**
baz=184
MVCO Mesa Verde 50.61 3 P **P** **16 16 60.0 -2.9**
MVCO IAmb IAmb 16 17 05.9
comp=Z,22nm,1.1s
MVCO IAMs_20 IAMs_20 16 34 17.9
comp=Z,3μm,18.0s
GRAC Grapevine Rang 50.65 354 P **P** **16 17 03.7 +0.8**
baz=172
GRAC S S 16 24 24.3 +6.5
baz=172
146A Union 50.68 24 P **P** **16 17 00.8 -2.3**
OK025 Westminster Rd 50.68 15 P **P** **16 17 01.0 -2.1**
OK025 IAMs_20 IAMs_20 16 35 50.7
comp=Z,3μm,18.0s
BCOK Bluff Creek, N 50.69 14 P **P** **16 17 01.2 -1.9**
MIAR Mount Ida 50.77 19 P **P** **16 17 01.1 -2.7**
MIAR pmax pmax
comp=Z,43nm,1.3s
MIAR MLR MLR
comp=Z,3μm,18.0s
MIAR Mount Ida 50.77 19 P **P** **16 17 03.0 -0.8**
baz=202,SNR=18
MIAR S **S** **16 24 20.6 +1.0**
baz=202
MIAR Mount Ida 50.77 19 P **P** **16 17 01.1 -2.7**
MIAR IAMs_20 IAMs_20 16 36 50.2
comp=Z,3μm,18.0s
PKCU Pink Cliffs 50.78 359 P **P** **16 17 02.5 -1.8**
CCAR Cane Creek 50.80 21 P **P** **16 17 02.4 -1.6**
TIN Tinemaha, Big 50.80 353 P **P** **16 17 04.9 +0.7**
baz=171
OK029 Liberty Lake 50.86 15 P **P** **16 17 03.1 -1.3**
OK029 IAmb IAmb 16 17 07.2
comp=Z,28nm,0.9s
T25A Trinidad 50.89 7 P **P** **16 17 04.8 -0.1**
baz=189,SNR=14
T25A S **S** **16 24 26.2 +4.6**
baz=189
T25A Trinidad 50.89 7 P **P** **16 17 02.5 -2.4**
T25A IAmb IAmb 16 17 09.8
comp=Z,27nm,1.1s
T25A IAMs_20 IAMs_20 16 34 52.2
comp=Z,2μm,19.0s
SZCU Shurtz Canyon 50.95 358 P **P** **16 17 02.9 -2.5**
X40A Basin Creek Fa 50.96 20 P **P** **16 17 05.1 -0.1**
baz=203
X40A S **S** **16 24 23.1 +1.0**
baz=203
X40A Basin Creek Fa 50.96 20 P **P** **16 17 02.6 -2.5**
X40A IAmb IAmb 16 17 17.3
comp=Z,17nm,1.2s
X40A IAMs_20 IAMs_20 16 36 55.1
comp=Z,3μm,19.0s
SAO San Andreas Ge 51.00 350 P **P** **16 17 03.4 -2.1**
SAO pmax pmax
comp=Z,12nm,1.1s
SAO MLR MLR
comp=Z,5μm,20.0s
SAO San Andreas Ge 51.00 350 P **P** **16 17 03.4 -2.1**
OK031 S. Brethren Rd 51.16 15 P **P** **16 17 04.3 -2.4**
OK031 IAmb IAmb 16 17 08.5
comp=Z,25nm,1.0s
OK031 IAMs_20 IAMs_20 16 36 08.4

comp=Z,3μm,19.0s
250A Grady 51.30 27 P **P** **16 17 05.1 -2.6**
W39A Magazine 51.31 18 P **P** **16 17 08.0 +0.3**
baz=202,SNR=12
W39A S **S** **16 24 26.8 -0.1**
baz=202
W39A Magazine 51.31 18 P **P** **16 17 05.3 -2.5**
W39A IAmb IAmb 16 17 11.4
comp=Z,25nm,1.0s
SDCO Great Sand Dun 51.37 6 P **P** **16 17 08.6 0.0**
baz=187,SNR=56
SDCO S **S** **16 24 32.6 +4.3**
baz=187
SDCO Great Sand Dun 51.37 6 P **P** **16 17 08.1 -0.5**
SDCO IAmb IAmb 16 17 12.2
comp=Z,30nm,0.9s
MTPU Mount Pierson 51.38 359 P **P** **16 17 07.7 -1.1**
TUL1 Leonard 51.39 16 P **P** **16 17 07.9 -0.5**
baz=199
TUL1 S **S** **16 24 26.9 -1.2**
baz=199
QUOK Quay 51.40 15 P **P** **16 17 07.1 -1.4**
QUOK IAmb IAmb 16 17 12.3
comp=Z,26nm,0.9s
MLAC Mammoth, Mammo 51.45 352 P **P** **16 17 09.5 +0.4**
baz=171
352A Blakely 51.49 29 P **P** **16 17 07.6 -1.7**
352A IAmb IAmb 16 17 13.4
comp=Z,22nm,0.8s
PV13 Radium Mtn., P 51.54 3 P **P** **16 17 07.1 -2.7**
PV13 IAmb IAmb 16 17 13.2
comp=Z,18nm,1.0s
Z47A Carrollton 51.57 25 P **P** **16 17 07.6 -2.2**
PV02 Paradox Valley 51.59 3 P **P** **16 17 07.3 -2.9**
PV02 IAmb IAmb 16 17 13.8
comp=Z,22nm,1.1s
PV03 Paradox Valley 51.64 2 P **P** **16 17 08.5 -2.0**
PV17 East Wray Mesa 51.66 2 P **P** **16 17 08.4 -2.3**
PV17 IAmb IAmb 16 17 15.4
comp=Z,18nm,0.9s
PV19 Morning Glory 51.69 2 P **P** **16 17 08.8 -2.1**
PV12 Saucer Basin, 51.70 3 P **P** **16 17 08.8 -2.2**
PV20 West Nyswonger 51.72 2 P **P** **16 17 09.1 -1.9**
PV20 IAmb IAmb 16 17 15.1
comp=Z,20nm,1.2s
PV15 Paradox Valley 51.74 3 P **P** **16 17 10.2 -1.1**
PV15 IAmb IAmb 16 17 14.1
comp=Z,39nm,1.4s
PV14 Lion Creek, Pa 51.75 2 P **P** **16 17 09.4 -1.9**
PV14 IAmb IAmb 16 17 16.0
comp=Z,16nm,1.0s
PV04 Paradox Valley 51.77 2 P **P** **16 17 09.4 -2.1**
PV04 IAmb IAmb 16 17 16.4
comp=Z,21nm,1.1s
W41B Gary Mavity, V 51.78 20 P **P** **16 17 10.9 -0.4**
baz=204,SNR=14
W41B S **S** **16 24 35.3 +1.9**
baz=204
R11A Troy Canyon, C 51.83 356 P **P** **16 17 12.9 +1.0**
baz=175,SNR=6.3
R11A S **S** **16 24 38.6 +4.1**
baz=175
R11A Troy Canyon, C 51.83 356 P **P** **16 17 10.0 -1.9**
WHAR Wooly Hollow 51.87 20 P **P** **16 17 10.8 -1.2**
WHAR IAmb IAmb 16 17 15.1
comp=Z,19nm,1.0s
LRAL Lakeview Retre 51.88 26 P **P** **16 17 11.6 -0.5**
baz=211
LRAL S **S** **16 24 37.0 +2.2**
baz=211
LRAL Lakeview Retre 51.88 26 P **P** **16 17 09.6 -2.4**
LRAL IAmb IAmb 16 17 30.9
comp=Z,22nm,1.2s
PSUT Pine Spring 51.92 357 P **P** **16 17 09.8 -2.8**
PV22 Blue Mesa, Par 51.92 3 P **P** **16 17 10.0 -2.5**
TCRU Three Creeks R 51.95 359 P **P** **16 17 11.0 -1.8**
KAN17 Caldwell West 51.97 14 P **P** **16 17 09.7 -3.0**
CPUP Villa Florida 51.98 113 P **P** **16 17 14.5 +1.4**
comp=Z,3.1nm,0.8s,baz=260,slow=9.6,SNR=5.0
CPUP LR LR 16 34 56.5
comp=Z,3μm,21.8s,baz=277,slow=31
CPUP Villa Florida 51.98 113 P **P** **16 17 12.4 -0.7**
CPUP pmax pmax
comp=Z,23nm,1.5s
CPUP Villa Florida 51.98 113 P **P** **16 17 12.4 -0.7**
CPUP IAmb IAmb 16 17 25.6
comp=Z,23nm,1.5s
PCRV Puerto La Cruz 52.01 65 P **P** **16 17 11.6 -1.9**
comp=Z,20nm,1.2s,baz=266,slow=6.3,SNR=2.9
LHV Little Huntoon 52.02 353 P **P** **16 17 11.0 -2.0**
LHV IAmb IAmb 16 17 37.8
comp=Z,16nm,1.0s
TIGA Tifton 52.10 30 P **P** **16 17 12.9 -0.9**
baz=215
TIGA S **S** **16 24 39.7 +1.7**
baz=215
T35A Sooner Cattle 52.15 15 P **P** **16 17 12.3 -1.8**
T35A IAmb IAmb 16 17 21.0
comp=Z,15nm,0.9s
KAN12 Harper NE Stat 52.16 13 P **P** **16 17 12.4 -1.7**
NVAR Mina Array Bea 52.17 353 P **P** **16 17 15.1 +0.6**
comp=Z,4.4nm,0.7s,baz=181,slow=11,SNR=26
NVAR PcP **PcP** **16 18 28.8 +2.6**
comp=Z,4.6nm,1.0s,baz=185,slow=5.9,SNR=3.7
NVAR LR LR 16 34 13.8
comp=Z,4μm,21.7s,baz=170,slow=30
NVAR Mina Array Bea 52.17 353 P **P** **16 17 12.8 -1.7**
OXF Oxford 52.19 23 P **P** **16 17 14.3 -0.1**
baz=207
KS20 Mayfield South 52.20 14 IAMs_20 IAMs_20 16 36 26.9
comp=Z,3μm,20.0s
HHAR Hobbs 52.27 18 P **P** **16 17 13.3 -1.6**
HHAR IAmb IAmb 16 17 17.9
comp=Z,18nm,0.9s
U38A Gravette 52.28 17 P **P** **16 17 13.1 -2.0**
U38A IAmb IAmb 16 17 17.2
comp=Z,14nm,0.8s
WAKR Walker 52.39 352 P **P** **16 17 13.7 -2.4**
RYN Ryan 52.39 353 P **P** **16 17 14.9 -1.2**
SPR3 Spring Creek 3 52.40 357 P **P** **16 17 13.8 -2.5**
SRU San Rafael Swe 52.45 1 P **P** **16 17 13.9 -2.6**
SRU pmax pmax
comp=Z,17nm,1.0s
SRU San Rafael Swe 52.45 1 P **P** **16 17 13.9 -2.6**
SRU IAmb IAmb 16 17 30.8
comp=Z,17nm,1.0s
152A Waverly Hall 52.58 28 P **P** **16 17 14.9 -2.4**
Q24A Divide 52.61 6 P **P** **16 17 17.7 -0.2**
baz=188,SNR=8.0
TMUT Trail Mountain 52.62 0 P **P** **16 17 16.6 -1.4**
TMUT IAmb IAmb 16 17 22.3
comp=Z,20nm,1.3s
SMCO Snowmass 52.66 4 P **P** **16 17 16.7 -1.6**
SMCO IAmb IAmb 16 17 23.6
comp=Z,18nm,1.1s
SMCO IAMs_20 IAMs_20 16 35 45.2
comp=Z,4μm,21.0s
U40A Yellville 52.67 19 P **P** **16 17 17.0 -1.0**
baz=203,SNR=16
U40A S **S** **16 24 45.2 -0.4**
baz=203
U40A Yellville 52.67 19 P **P** **16 17 16.1 -1.9**
U40A IAmb IAmb 16 17 20.4
comp=Z,19nm,0.9s
KVN Kaiserville 52.76 353 P **P** **16 17 17.0 -1.8**
KVN pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 52.76 353 P **P** **16 17 17.0 -1.8**
P17A Butcher Ranch, 52.80 1 P **P** **16 17 17.7 -1.4**
P17A IAmb IAmb 16 17 22.1
comp=Z,30nm,1.2s
Y49A Blount Mountai 52.83 26 P **P** **16 17 17.5 -1.7**
Y49A IAmb IAmb 16 17 46.4
comp=Z,12nm,0.7s
YERR Yerington 52.83 352 P **P** **16 17 17.8 -1.6**
YERR IAmb IAmb 16 17 43.7
comp=Z,19nm,1.2s
ITQB Itaqui 52.84 117 *eP* **P** **16 17 19.8 +0.4**
LCAR Lake Charles 52.96 20 P **P** **16 17 17.8 -2.2**
LCAR IAmb IAmb 16 17 26.3
comp=Z,28nm,1.4s
KSCO Kaye Shedlock' 52.97 8 P **P** **16 17 20.5 +0.2**
baz=191
KSCO S **S** **16 24 52.1 +2.2**
baz=191
PNTR Pine Nut 52.98 352 P **P** **16 17 18.6 -1.9**

PNTR IAmb IAmb 16 17 44.9
comp=Z,30nm,1.4s
AFDM Forest Hills D 53.05 351 P **P 16 17 18.5 -2.2**
X48A Hartselle 53.08 25 P **P 16 17 19.2 -1.8**
PLAL Pickwick Lake 53.12 24 P **P 16 17 20.1 -1.2**
PLAL IAmb IAmb 16 17 23.6
comp=Z,15nm,0.8s
CBKS Cedar Bluff 53.26 11 P **P 16 17 20.9 -1.4**
baz=194
CBKS S **S 16 24 55.2 +1.5**
baz=194
NLU North Lily Min 53.29 359 P **P 16 17 21.5 -1.2**
NLU IAmb IAmb 16 17 34.7
comp=Z,18nm,1.2s
ISCO Idaho Springs 53.39 5 P **P 16 17 21.0 -2.6**
ISCO pmax pmax
comp=Z,29nm,1.4s
ISCO MLR MLR
comp=Z,5μm,18.0s
ISCO Idaho Springs 53.39 5 P **P 16 17 23.3 -0.3**
baz=187,SNR=12
ISCO S **S 16 24 57.5 +1.5**
baz=187
ISCO Idaho Springs 53.39 5 P **P 16 17 21.0 -2.6**
ISCO IAmb IAmb 16 17 26.4
comp=Z,29nm,1.4s
AQDB Aquidauana 53.42 105 P **P 16 17 23.1 -0.8**
O20A White River Ci 53.54 3 P **P 16 17 24.7 +0.2**
baz=184,SNR=7.2
O20A S **S 16 25 00.8 +3.1**
baz=184
DUG Dugway, Tooele 53.54 359 P **P 16 17 23.6 -0.8**
DUG pmax pmax
comp=Z,15nm,1.1s
DUG MLR MLR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 53.54 359 P **P 16 17 24.8 +0.3**
baz=178,SNR=9.2
DUG S **S 16 25 01.6 +3.9**
baz=178
DUG Dugway, Tooele 53.54 359 P **P 16 17 23.6 -0.8**
PAHR Pah Rah Range 53.56 352 P **P 16 17 21.7 -3.0**
MGMO Mountain Grove 53.58 19 P **P 16 17 23.3 -1.4**
MGMO IAmb IAmb 16 17 27.4
comp=Z,30nm,1.0s
SALV Santo Antonio 53.72 100 *e*P **P 16 17 27.6 +1.4**
ORV Oroville 53.73 350 IAMs_20 IAMs_20 16 34 22.6
comp=Z,4μm,20.0s
S39A Bolivar 53.76 18 P **P 16 17 23.4 -2.6**
S39A IAmb IAmb 16 17 28.1
comp=Z,27nm,1.0s
FPAL Fort Paine 53.76 26 P **P 16 17 24.0 -2.1**
FPAL IAmb IAmb 16 17 29.2
comp=Z,18nm,0.9s
GOGA Godfrey 53.78 29 P **P 16 17 23.7 -2.5**
GOGA pmax pmax
comp=Z,12nm,1.0s
GOGA MLR MLR
comp=Z,3μm,20.0s
GOGA Godfrey 53.78 29 P **P 16 17 25.6 -0.6**
baz=214
GOGA S **S 16 24 58.2 -2.7**
baz=214
GOGA Godfrey 53.78 29 P **P 16 17 23.7 -2.5**
GOGA Godfrey 53.78 29 IAMs_20 IAMs_20 16 38 26.2
comp=Z,3μm,20.0s
BEKR Beckworth 53.85 351 P **P 16 17 25.2 -1.6**
Y52A Lilburn 53.88 28 P **P 16 17 25.1 -1.9**
Y52A IAmb IAmb 16 17 30.9
comp=Z,24nm,1.1s
RDMU Red Mountain 53.92 2 P **P 16 17 24.5 -2.8**
RDMU IAmb IAmb 16 17 30.1
comp=Z,20nm,1.4s
X51A Calhoun 54.11 27 P **P 16 17 26.7 -1.9**
X51A IAmb IAmb 16 17 32.4
comp=Z,26nm,1.1s
ELK Elko 54.19 356 LR LR 16 36 34.8
comp=Z,4μm,18.4s,baz=180,slow=32
ELK Elko 54.19 356 P **P 16 17 26.9 -2.4**
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK MLR MLR
comp=Z,4μm,20.0s
ELK Elko 54.19 356 P **P 16 17 26.9 -2.4**
ELK IAMs_20 IAMs_20 16 35 53.7
comp=Z,4μm,20.0s
SWET Sewanee 54.20 26 P **P 16 17 26.4 -2.9**
SWET IAmb IAmb 16 17 32.4
comp=Z,19nm,1.0s
KSU1 Kansas State U 54.20 14 P **P 16 17 29.0 -0.2**
baz=198
KSU1 S **S 16 25 05.9 -0.5**
baz=198
KSU1 Kansas State U 54.20 14 IAMs_20 IAMs_20 16 37 50.0
comp=Z,2μm,20.0s
WVT Waverly 54.22 23 P **P 16 17 27.5 -1.8**
WVT pmax pmax
comp=Z,22nm,1.5s
WVT MLR MLR
comp=Z,1μm,18.0s
WVT Waverly 54.22 23 P **P 16 17 29.5 +0.2**
baz=208
WVT Waverly 54.22 23 P **P 16 17 27.5 -1.8**
WVT IAmb IAmb 16 17 32.6
comp=Z,22nm,1.5s
CLDB Colider 54.25 94 *e*P **P 16 17 29.8 -0.2**
BGU Big Grassy Mou 54.27 358 P **P 16 17 28.0 -1.9**
V48A Smith Brothers 54.28 25 P **P 16 17 27.6 -2.3**
V48A IAmb IAmb 16 17 32.8
comp=Z,19nm,1.0s
PP1B Ponte de Pedra 54.36 102 *e*P **P 16 17 32.2 +1.4**
W50A Signal Mountai 54.45 26 P **P 16 17 28.8 -2.3**
N23A Red Feather La 54.45 5 P **P 16 17 29.4 -1.8**
baz=186,SNR=8.6
N23A S **S 16 25 11.3 +1.1**
baz=186
O03E Paynes Creek 54.50 350 P **P 16 17 31.4 0.0**
baz=167
O02D Mt. Diablo Mer 54.55 349 P **P 16 17 32.5 +0.7**
baz=166
O02D S **S 16 25 12.0 +0.8**
baz=166
R40A Maddies Statio 54.63 18 P **P 16 17 30.6 -1.6**
R40A IAmb IAmb 16 17 36.0
comp=Z,21nm,1.1s
POHA Pohakuloa 54.69 306 IAMs_20 IAMs_20 16 35 01.4
comp=Z,3μm,19.0s
CCM Cathedral Cave 54.73 19 P **P 16 17 31.1 -1.9**
CCM pmax pmax
comp=Z,18nm,1.0s
CCM MLR MLR
comp=Z,3μm,19.0s
CCM Cathedral Cave 54.73 19 P **P 16 17 32.3 -0.8**
baz=204
CCM S **S 16 25 11.3 -2.3**
baz=204
CCM Cathedral Cave 54.73 19 P **P 16 17 31.1 -1.9**
CCM IAmb IAmb 16 17 35.2
comp=Z,18nm,0.9s
CCM Cathedral Cave 54.73 19 IAMs_20 IAMs_20 16 38 46.1
comp=Z,3μm,19.0s
KMRM Mail Ridge 54.77 348 P **P 16 17 30.4 -3.0**
KMRM IAmb IAmb 16 17 58.6
comp=Z,20nm,1.3s
HUMP Col San Antoni 54.84 56 P **P 16 17 31.5 -2.6**
HUMP IAmb IAmb 16 17 49.0
comp=Z,27nm,1.1s
PHWY Pilot Hill 54.90 5 P **P 16 17 32.2 -2.4**
PHWY IAmb IAmb 16 17 36.9
comp=Z,12nm,1.0s
WDC Whiskeytown Da 54.90 350 IAMs_20 IAMs_20 16 34 58.7
comp=Z,4μm,21.0s
HWUT Hardware Ranch 54.93 360 P **P 16 17 32.0 -2.7**
HWUT IAMs_20 IAMs_20 16 36 27.3
comp=Z,4μm,21.0s
OGNE Ogallala 54.95 9 P **P 16 17 34.2 -0.5**
baz=191
CPCT Cooper Cave 55.00 27 P **P 16 17 32.9 -2.2**
CPCT IAmb IAmb 16 17 38.2
comp=Z,13nm,1.0s
RWWY Rawlins 55.15 4 P **P 16 17 34.0 -2.3**
RWWY IAmb IAmb 16 17 39.1
comp=Z,26nm,1.0s
NHSC New Hope 55.16 32 IAMs_20 IAMs_20 16 38 03.8
comp=Z,3μm,22.0s
T47A Sharon Grove 55.25 24 P **P 16 17 34.6 -2.2**
T47A IAmb IAmb 16 17 54.7
comp=Z,22nm,1.2s
N02D Trinity Center 55.31 350 P **P 16 17 37.0 -0.3**
baz=166
N02D S **S 16 25 24.1 +2.7**
baz=166
NPGB Novo Progresso 55.35 89 *e*P **P 16 17 36.9 -1.2**
U49A Red Boiling Sp 55.37 25 P **P 16 17 34.6 -3.1**
V51A Loudon 55.37 27 P **P 16 17 34.5 -3.2**
V51A IAmb IAmb 16 17 40.9
comp=Z,18nm,1.0s
P38A Dawn 55.49 17 P **P 16 17 36.5 -2.0**
P38A IAmb IAmb 16 17 40.0
comp=Z,20nm,1.2s
TKL Tuckaleechee C 55.51 27 LR LR 16 40 39.0
comp=Z,1μm,18.6s,baz=211,slow=36
TKL Tuckaleechee C 55.51 27 P **P 16 17 37.1 -1.6**
TKL pmax pmax
comp=Z,10.0nm,0.9s
TKL Tuckaleechee C 55.51 27 P **P 16 17 37.1 -1.6**
ITTB Itaituba 55.57 86 *e*P **P 16 17 38.5 -1.1**
PLTB Pedras Altas 55.62 119 P **P 16 17 39.8 0.0**
PLTB Pedras Altas 55.62 119 *e*P **P 16 17 41.5 +1.8**
V52A Sevierville 55.74 27 P **P 16 17 38.4 -2.0**
M02C Callahan 55.75 350 P **P 16 17 40.3 -0.1**
baz=166,SNR=6.2
M02C S **S 16 25 30.0 +2.8**
baz=166
P40A Paris 55.83 18 P **P 16 17 39.3 -1.7**
P40A IAmb IAmb 16 17 42.9
comp=Z,20nm,1.1s
MOD Modoc Plateau 55.84 352 P **P 16 17 38.5 -2.7**
MOD IAmb IAmb 16 18 05.3
comp=Z,20nm,1.3s
MOD IAMs_20 IAMs_20 16 36 11.6
comp=Z,4μm,20.0s
V53A Saluda 55.95 28 P **P 16 17 38.7 -3.2**
V53A IAmb IAmb 16 17 45.2
comp=Z,22nm,1.1s
M04C Macdoel 55.96 351 P **P 16 17 42.0 +0.1**
baz=168
M04C S **S 16 25 32.5 +2.5**
baz=168
YBH Yreka Blue Hor 56.05 350 LR LR 16 36 07.8
comp=Z,5μm,20.4s,baz=174,slow=30
BGNE Belgrade 56.08 12 P **P 16 17 42.4 -0.3**
baz=196
AHID Auburn Hatcher 56.09 0 P **P 16 17 41.9 -1.1**
AHID IAmb IAmb 16 18 01.8
comp=Z,19nm,1.4s
BW06 Boulder Array 56.12 2 P **P 16 17 42.1 -1.1**
baz=182,SNR=11
BW06 S **S 16 25 31.6 -0.8**
baz=182
BW06 Boulder Array 56.12 2 P **P 16 17 40.4 -2.8**
BW06 IAmb IAmb 16 17 56.4
comp=Z,16nm,1.3s
BW06 IAMs_20 IAMs_20 16 37 28.5
comp=Z,3μm,20.0s
PD31 Pinedale Array 56.12 2 P **P 16 17 40.5 -2.7**
PDAR Pinedale Array 56.12 2 P **P 16 17 41.9 -1.3**
comp=Z,4.2nm,0.8s,baz=169,slow=6.2,SNR=27
PDAR LR LR 16 37 50.6
comp=Z,3μm,19.9s,baz=188,slow=32
PDAR Pinedale Array 56.12 2 P **P 16 17 40.7 -2.5**
K22A Casper 56.15 4 P **P 16 17 42.6 -0.8**
baz=186,SNR=14
K22A S **S 16 25 35.1 +2.4**
baz=186
K22A Casper 56.15 4 P **P 16 17 40.9 -2.5**
WVOR Wild Horse Val 56.16 353 P **P 16 17 42.0 -1.4**
WVOR pmax pmax
comp=Z,32nm,1.4s
WVOR MLR MLR
comp=Z,4μm,20.0s
WVOR Wild Horse Val 56.16 353 P **P 16 17 42.0 -1.4**
WVOR IAmb IAmb 16 18 07.7
comp=Z,32nm,1.4s
T50A Nancy 56.20 25 P **P 16 17 40.9 -2.8**
KMSC Kings Mountain 56.21 30 P **P 16 17 42.8 -0.9**
baz=216
BIRD Birdtown, Kers 56.23 31 P **P 16 17 41.1 -2.8**
BIRD IAmb IAmb 16 17 46.3
comp=Z,12nm,1.0s
Q44A Meyer Farm, Va 56.24 21 P **P 16 17 41.9 -2.0**
TZTN Tazewell 56.35 27 P **P 16 17 43.3 -1.4**
baz=213
TZTN S **S 16 25 33.8 -1.4**
baz=213
TZTN Tazewell 56.35 27 P **P 16 17 42.9 -1.8**
TZTN IAmb IAmb 16 17 47.9
comp=Z,23nm,1.0s
L04D Klamath Falls 56.46 350 P **P 16 17 45.3 -0.2**
baz=167
L02E Cave Junction 56.62 349 P **P 16 17 46.8 +0.2**
baz=166
L02E S **S 16 25 44.0 +5.3**
baz=166
WCI Wyandotte Cave 56.65 24 P **P 16 17 45.8 -1.0**
baz=210
WCI S **S 16 25 38.7 -0.4**
baz=210
N38A Joes South For 56.66 16 P **P 16 17 44.0 -2.8**
N38A IAmb IAmb 16 17 49.1
comp=Z,29nm,1.1s
REDW Red Top Meadow 56.69 0 IAMs_20 IAMs_20 16 37 35.7
comp=Z,4μm,22.0s
K05A Summer Lake 56.74 352 P **P 16 17 46.3 -1.2**
K04D Chiloquin, OR 56.77 351 P **P 16 17 48.0 +0.3**
baz=168
SNOW Snow King Moun 56.79 1 IAMs_20 IAMs_20 16 37 39.4
comp=Z,4μm,22.0s
TPAW Teton Pass 56.82 0 P **P 16 17 46.1 -2.1**
TPAW IAmb IAmb 16 17 50.3
comp=Z,16nm,1.2s
TPAW IAMs_20 IAMs_20 16 37 51.1
comp=Z,3μm,21.0s
V55A Taylorsville 56.84 29 P **P 16 17 46.6 -1.6**
V55A IAmb IAmb 16 17 50.0
comp=Z,24nm,1.2s
MFID Camas Ranch 56.89 356 P **P 16 17 46.6 -2.0**
MFID IAmb IAmb 16 17 51.3
comp=Z,21nm,1.4s
MFID IAMs_20 IAMs_20 16 37 21.1
comp=Z,3μm,20.0s
LOHW Long Hollow 56.94 1 IAMs_20 IAMs_20 16 38 06.4
comp=Z,4μm,20.0s
EFI East Falkland 56.98 143 *i* P **P 16 17 51.2 +2.2**
EFI pmax pmax
comp=Z,43nm,1.2s
EFI East Falkland 56.98 143 IAMs_20 IAMs_20 16 38 31.2
comp=Z,3μm,18.0s
J08A Circle Bar Ran 57.06 354 P **P 16 17 48.1 -1.7**
J08A IAmb IAmb 16 18 14.2
comp=Z,30nm,1.2s
R49A Shelbyville 57.15 24 P **P 16 17 47.5 -2.9**
K02D Willamette Mer 57.16 349 P **P 16 17 50.6 +0.1**
baz=166
J05D Fort Rock, OR 57.33 351 P **P 16 17 51.6 -0.1**
baz=168,SNR=6.5
FLWY Flagg Ranch 57.41 1 P **P 16 17 50.0 -2.3**
FLWY IAmb IAmb 16 17 54.9
comp=Z,33nm,1.2s
FLWY IAMs_20 IAMs_20 16 38 10.8
comp=Z,4μm,21.0s
J04D Umpqua Nationa 57.42 351 P **P 16 17 52.5 0.0**
baz=168
ARAG Araguaiana, MT 57.46 100 *e*P **P 16 17 54.9 +1.9**
R50A Paris 57.48 25 P **P 16 17 50.1 -2.6**
R50A IAmb IAmb 16 17 55.1
comp=Z,13nm,0.9s
HDIL Hopedale 57.63 20 P **P 16 17 52.5 -1.2**
baz=206
HDIL Hopedale 57.63 20 IAMs_20 IAMs_20 16 40 25.9
comp=Z,2μm,19.0s
J01E Myrtle Point 57.66 349 P **P 16 17 54.3 +0.5**
baz=165
BCYI Bear Canyon 57.67 358 P **P 16 17 52.6 -1.6**
SCIA State Center 57.71 16 IAMs_20 IAMs_20 16 40 01.7
comp=Z,2μm,19.0s
PINE Pine Mountain 57.79 352 P **P 16 17 53.1 -1.9**
RSSD Black Hills 57.83 6 P **P 16 17 52.5 -2.8**
RSSD pmax pmax
comp=Z,29nm,1.4s
RSSD MLR MLR
comp=Z,6μm,18.0s
RSSD Black Hills 57.83 6 P **P 16 17 54.2 -1.1**
baz=188
RSSD Black Hills 57.83 6 P **P 16 17 52.5 -2.8**
RSSD IAmb IAmb 16 17 57.2
comp=Z,29nm,1.4s
I07A Izee 57.89 353 P **P 16 17 53.8 -1.8**
I07A IAmb IAmb 16 18 20.0
comp=Z,18nm,1.1s
LKWY Lake 57.90 1 IAMs_20 IAMs_20 16 38 30.7
comp=Z,4μm,21.0s
I04A Tendick Farm, 58.01 351 P **P 16 17 56.2 -0.1**
baz=167
I03D Drain, OR 58.07 350 P **P 16 17 57.2 +0.5**
baz=166
YHB Horse Butte 58.08 0 P **P 16 17 55.3 -1.7**
YHH Holmes Hill 58.11 0 P **P 16 17 55.0 -2.4**
MCMT McKenzie Canyo 58.17 359 P **P 16 17 56.0 -1.7**
SFIN Lafayette 58.23 22 P **P 16 17 57.0 -0.9**
baz=208
SFIN S **S 16 25 58.7 -1.1**
baz=208
BLA Blacksburg 58.31 29 P **P 16 17 56.4 -2.2**
BLA pmax pmax
comp=Z,14nm,1.0s
BLA Blacksburg 58.31 29 P **P 16 17 57.5 -1.1**
baz=216
BLA S **S 16 25 58.6 -2.5**
baz=216
BLA Blacksburg 58.31 29 P **P 16 17 56.4 -2.2**
BLA IAmb IAmb 16 18 01.8
comp=Z,14nm,0.9s
BLA IAMs_20 IAMs_20 16 40 54.3
comp=Z,3μm,19.0s
YNE Yellowstone No 58.34 1 P **P 16 17 56.7 -2.2**
I05D Terrebonne, OR 58.38 352 P **P 16 17 59.2 +0.3**
baz=168
I05D S **S 16 26 05.0 +3.2**
baz=168
S54A Dingess, Beckl 58.38 28 P **P 16 17 56.6 -2.5**
S54A IAmb IAmb 16 18 16.3
comp=Z,9.0nm,0.8s
P49A Miami Univ. Ec 58.40 24 P **P 16 17 58.1 -1.0**
baz=211
P49A S **S 16 25 58.7 -3.3**
baz=211
BMO Blue Mountains 58.43 355 P **P 16 17 57.3 -2.1**
BMO pmax pmax
comp=Z,15nm,1.3s
BMO MLR MLR
comp=Z,3μm,20.0s
BMO Blue Mountains 58.43 355 P **P 16 17 57.3 -2.1**
BMO IAmb IAmb 16 18 23.0
comp=Z,15nm,1.2s
BMO IAMs_20 IAMs_20 16 38 07.9
comp=Z,3μm,20.0s
SNDB Serra Nova Dou 58.44 96 *e*P **P 16 17 59.7 -0.3**
ITRB Iturama 58.48 105 *e*P **P 16 18 01.8 +1.6**
RLMT Red Lodge 58.48 2 P **P 16 17 59.3 -0.5**
baz=182
RLMT S **S 16 26 03.7 +0.3**
baz=182
RLMT Red Lodge 58.48 2 P **P 16 17 57.7 -2.1**
RLMT IAMs_20 IAMs_20 16 38 58.0
comp=Z,2μm,20.0s
I02D Swisshome 58.55 349 P **P 16 18 00.5 +0.5**
baz=166
AFI Afiamalu 58.56 262 IAMs_20 IAMs_20 16 37 38.2
comp=Z,2μm,19.0s
ECSD EROS Data Cent 58.62 12 P **P 16 18 00.3 -0.4**
baz=197
ECSD S **S 16 26 05.5 +0.6**
baz=197
DLMT Dillon 58.70 359 P **P 16 17 58.0 -3.2**
DLMT IAMs_20 IAMs_20 16 39 35.9
comp=Z,2μm,19.0s
T57A Hurt 58.70 30 P **P 16 17 59.0 -2.3**
T57A IAmb IAmb 16 18 08.2
comp=Z,15nm,1.2s
H04D Lebanon 58.77 350 P **P 16 18 02.0 +0.4**
baz=167
H04D S **S 16 26 11.1 +4.3**
baz=167
L42A Oliver, Polo 58.82 19 P **P 16 18 00.0 -2.0**
L42A IAmb IAmb 16 18 03.8
comp=Z,17nm,0.8s
SUSD Miller 58.86 10 P **P 16 18 01.8 -0.4**
baz=194
SUSD S **S 16 26 07.7 -0.2**
baz=194
BOZ Bozeman (W) 58.92 360 P **P 16 18 00.1 -2.7**
BOZ pmax pmax
comp=Z,7.0nm,1.2s
BOZ MLR MLR
comp=Z,1μm,22.0s
BOZ Bozeman (W) 58.92 360 P **P 16 18 02.6 -0.3**
baz=180
BOZ S **S 16 26 09.6 +0.6**
baz=180
BOZ Bozeman (W) 58.92 360 P **P 16 18 00.1 -2.7**
Q52A Bidwell 58.92 26 P **P 16 18 00.4 -2.4**
Q52A IAmb IAmb 16 18 19.7
comp=Z,16nm,1.1s
COR Corvallis 58.93 350 IAMs_20 IAMs_20 16 37 27.2
comp=Z,4μm,22.0s
G08A Pilot Rock 59.02 354 P **P 16 18 02.7 -0.8**
G08A IAmb IAmb 16 18 20.5
comp=Z,13nm,1.2s
GCMT Greycliff 59.13 1 P **P 16 18 02.3 -2.0**
LRM Limekiln Ridge 59.16 359 P **P 16 18 03.1 -1.4**
HQIL Hanson Quary C 59.23 20 IAMs_20 IAMs_20 16 41 27.1
comp=Z,2μm,19.0s
G05D Wamic, OR 59.26 352 P **P 16 18 05.4 +0.4**
baz=169
JFWS Jewell Farm 59.48 18 P **P 16 18 06.1 -0.4**
baz=204
JFWS S **S 16 26 14.6 -1.4**
baz=204
G03D McMinnville, O 59.53 350 P **P 16 18 06.5 -0.3**
baz=166
G03D S **S 16 26 19.6 +3.1**
baz=166
P52A Corning 59.54 26 P **P 16 18 05.9 -1.2**
baz=213
P52A S **S 16 26 16.0 -0.9**
baz=213
L44A Lake County Fo 59.55 20 IAMs_20 IAMs_20 16 41 34.5
comp=Z,2μm,19.0s
Q54A Coxs Mills 59.57 27 P **P 16 18 05.0 -2.3**
Q54A IAmb IAmb 16 18 14.2
comp=Z,14nm,0.9s
ACSO Alum Creek Sta 59.69 25 P **P 16 18 07.2 -0.8**
baz=212
ACSO Alum Creek Sta 59.69 25 IAMs_20 IAMs_20 16 43 03.4
comp=Z,2μm,18.0s
F05D White Salmon 59.91 352 S **S 16 26 25.5 +4.0**
baz=169
LAO LASA Array 60.19 4 P **P 16 18 10.4 -1.0**
baz=186,SNR=12
LAO S **S 16 26 25.3 +0.2**
baz=186
LAO LASA Array 60.19 4 P **P 16 18 09.2 -2.2**
LAO IAMs_20 IAMs_20 16 41 03.3
comp=Z,3μm,18.0s
MSO Missoula 60.20 358 P **P 16 18 11.5 -0.1**
baz=177
MSO S **S 16 26 27.2 +1.9**
baz=177
MSO Missoula 60.20 358 IAMs_20 IAMs_20 16 39 52.7
comp=Z,2μm,20.0s
I40A Norwalk 60.26 17 P **P 16 18 09.6 -2.4**
I40A IAmb IAmb 16 18 18.8
comp=Z,12nm,0.8s
F04D Rainier, OR 60.34 351 P **P 16 18 12.9 +0.6**
baz=167
PMSA Palmer Station 60.41 159 P **P 16 18 15.7 +3.1**
comp=Z,6.7nm,1.0s,baz=290,slow=9.0,SNR=5.7
PMSA Palmer Station 60.41 159 P **P 16 18 12.9 +0.2**
PMSA IAmb IAmb 16 18 36.2
comp=Z,20nm,1.4s
PMSA Palmer Station 60.41 159 IAMs_20 IAMs_20 16 37 00.5
comp=Z,4μm,22.0s
PMSA Palmer Station 60.41 159 *e*P **P 16 18 16.1 +3.4**
O53A New Philadelph 60.44 26 P **P 16 18 12.7 -0.5**
baz=214
O53A S **S 16 26 27.1 -1.4**
baz=214
MCWV Mont Chateau 60.56 28 IAMs_20 IAMs_20 16 42 28.6

comp=Z,2µm,19.0s
CBN Corbin Frederi 60.57 30 IAMs_20 IAMs_20 16 41 42.0
comp=Z,3µm,20.0s
IPMB Ipameri, GO 60.65 103 *e*P **P 16 18 15.8 +0.6**
E28A Huff 60.66 8 P **P 16 18 12.5 -2.1**
F33A 5 Mile Ranch, 60.71 12 P **P 16 18 12.4 -2.5**
F33A IAmb IAmb 16 18 15.7
comp=Z,15nm,1.4s
E04D Cinebar 60.73 351 P **P 16 18 15.8 +0.8**
baz=167
E04D S **S 16 26 34.4 +2.5**
baz=167
PRPB Parauapebas 60.92 90 *e*P **P 16 18 17.5 +0.4**
BDFB Brasilia 61.10 100 P **P 16 18 17.4 -1.0**
comp=Z,9.5nm,1.0s,baz=293,slow=5.9,SNR=5.4
BDFB LR LR 16 42 28.0
comp=Z,720nm,18.9s,baz=271,slow=34
D05A Enumclaw 61.26 352 P **P 16 18 17.3 -1.3**
PEXB Peixe 61.32 96 *e*P **P 16 18 21.3 +1.5**
F36A Milaca 61.33 14 P **P 16 18 18.7 -0.5**
EGMT Eagleton 61.37 1 P **P 16 18 19.4 -0.1**
baz=182,SNR=6.2
EGMT Eagleton 61.37 1 P **P 16 18 18.6 -0.8**
EGMT IAmb IAmb 16 18 22.0
comp=Z,15nm,1.1s
EGMT IAMs_20 IAMs_20 16 40 41.5
comp=Z,2µm,20.0s
D04E Lakebay 61.37 351 P **P 16 18 19.4 +0.1**
baz=167
M52A Chesterland 61.45 25 P **P 16 18 18.0 -2.1**
N54A Moraine State 61.56 27 P **P 16 18 19.3 -1.6**
N54A IAMs_20 IAMs_20 16 43 43.0
comp=Z,2µm,19.0s
O56A Blue Knob Stat 61.63 28 P **P 16 18 20.1 -1.3**
baz=217
O56A S **S 16 26 43.5 -0.3**
baz=217
O56A Blue Knob Stat 61.63 28 P **P 16 18 20.1 -1.3**
O56A IAmb IAmb 16 18 22.8
comp=Z,18nm,1.3s
O56A IAMs_20 IAMs_20 16 42 38.1
comp=Z,3µm,20.0s
M53A WI Miller and 61.66 26 P **P 16 18 20.5 -1.0**
baz=214
M53A S **S 16 26 43.1 -0.9**
baz=214
M53A WI Miller and 61.66 26 P **P 16 18 19.2 -2.3**
M53A IAMs_20 IAMs_20 16 44 10.6
comp=Z,2µm,18.0s
NLWA Neilton Lookou 61.75 350 IAMs_20 IAMs_20 16 39 21.8
comp=Z,3µm,20.0s
D03D Eldon 61.76 351 P **P 16 18 22.1 +0.1**
baz=167
D03D S **S 16 26 48.0 +3.0**
baz=167
NEW Newport 61.81 356 LR LR 16 40 36.1
comp=Z,2µm,20.8s,baz=172,slow=32
NEW Newport 61.81 356 P **P 16 18 21.3 -1.1**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 61.81 356 P **P 16 18 22.2 -0.2**
baz=174
NEW S **S 16 26 46.5 +0.8**
baz=174
NEW Newport 61.81 356 P **P 16 18 21.3 -1.1**
NEW Newport 61.81 356 IAMs_20 IAMs_20 16 40 25.2
comp=Z,2µm,20.0s
DGMT Dagmar 62.12 5 IAMs_20 IAMs_20 16 41 39.4
comp=Z,2µm,21.0s
M54A Oil Creek Stat 62.15 26 P **P 16 18 23.3 -1.5**
baz=215
M54A S **S 16 26 53.0 +2.8**
baz=215
SSPA Standing Stone 62.24 28 P **P 16 18 24.1 -1.3**
baz=217
SSPA Standing Stone 62.24 28 IAMs_20 IAMs_20 16 42 44.1
comp=Z,3µm,20.0s
B05A Bryant 62.33 352 P **P 16 18 26.0 +0.1**
baz=168
B05A S **S 16 26 54.0 +1.8**
baz=168
WALA Waterton Lakes 62.43 358 P **P 16 18 24.4 -2.2**
MVL Millersville 62.46 30 P **P 16 18 25.2 -1.7**
MVL IAmb IAmb 16 18 31.1
comp=Z,12nm,1.1s
ERPA Erie 62.51 26 IAMs_20 IAMs_20 16 44 45.0
comp=Z,2µm,18.0s
M55A Ridgway 62.51 27 P **P 16 18 25.9 -1.3**
SMTB Santa Maria do 62.56 93 *e*P **P 16 18 29.8 +1.7**
P60A Greenville 62.67 30 S **S 16 26 57.5 +0.8**
baz=220
P60A Greenville 62.67 30 IAMs_20 IAMs_20 16 43 04.5
comp=Z,2µm,20.0s
COWI Conover 62.71 17 P **P 16 18 27.7 -0.7**
COWI IAMs_20 IAMs_20 16 43 07.1
comp=Z,2µm,20.0s
A04D Lummi Island 62.86 352 S **S 16 27 04.1 +5.4**
baz=168
GLMI Grayling 63.01 21 P **P 16 18 29.7 -0.8**
baz=209
GLMI Grayling 63.01 21 IAMs_20 IAMs_20 16 43 53.2
comp=Z,2µm,18.0s
AGMN Agassiz Nation 63.14 12 P **P 16 18 31.3 0.0**
baz=197
AGMN Agassiz Nation 63.14 12 P **P 16 18 30.8 -0.4**
AGMN IAmb IAmb 16 18 33.2
comp=Z,17nm,1.1s
AGMN IAMs_20 IAMs_20 16 43 10.5
comp=Z,2µm,18.0s
N59A State Game Lan 63.45 30 S **S 16 27 07.7 +1.1**
baz=219
N59A State Game Lan 63.45 30 IAMs_20 IAMs_20 16 43 34.3
comp=Z,2µm,21.0s
L56A Greenwood 63.58 27 P **P 16 18 32.0 -2.4**
B35A Bob, Littlefor 63.65 13 P **P 16 18 31.7 -2.9**
EYMN Ely 63.78 15 P **P 16 18 34.8 -0.6**
baz=202,SNR=8.0
EYMN S **S 16 27 12.2 +1.9**
baz=202
EYMN Ely 63.78 15 P **P 16 18 33.9 -1.6**
EYMN IAmb IAmb 16 18 38.0
comp=Z,12nm,0.9s
EYMN Ely 63.78 15 IAMs_20 IAMs_20 16 43 29.3
comp=Z,2µm,19.0s
MMNY Mt. Morris Dam 63.90 27 P **P 16 18 34.2 -2.2**
K56A Middlesex 64.13 27 P **P 16 18 37.3 -0.6**
baz=217
K56A S **S 16 27 16.1 +1.0**
baz=217
L58A Harry Jones Me 64.29 29 P **P 16 18 38.6 -0.4**
baz=219
BINY Binghamton 64.35 28 P **P 16 18 39.2 -0.2**
baz=219
BINY Binghamton 64.35 28 P **P 16 18 36.8 -2.6**
BINY IAMs_20 IAMs_20 16 43 46.0
comp=Z,3µm,22.0s
PAL Palisades 64.43 31 P **P 16 18 39.1 -0.8**
baz=221
PAL S **S 16 27 20.7 +2.1**
baz=221
PAL Palisades 64.43 31 IAMs_20 IAMs_20 16 44 08.2
comp=Z,2µm,20.0s
K57A Scipio Center 64.52 28 P **P 16 18 37.7 -2.8**
SDBA SAO DESIDERIO 64.55 97 *e*P **P 16 18 42.6 +1.3**
JANB Januaria 64.72 100 *e*P **P 16 18 43.6 +1.2**
JOHN Johnston Islan 64.91 296 IAMs_20 IAMs_20 16 40 07.1
comp=Z,2µm,20.0s
DIAM Diamantina, MG 64.91 104 *e*P **P 16 18 45.0 +1.3**
ULM Lac du Bonnet 65.01 11 P **P 16 18 41.2 -2.3**
comp=Z,10.0nm,1.0s,baz=214,slow=6.1,SNR=7.0
ULM LR LR 16 44 12.1
comp=Z,1µm,18.7s,baz=200,slow=34
ULM Lac du Bonnet 65.01 11 P **P 16 18 41.2 -2.3**
ULM pmax pmax
comp=Z,22nm,1.3s
ULM Lac du Bonnet 65.01 11 P **P 16 18 41.2 -2.3**
ULM IAmb IAmb 16 18 45.9
comp=Z,22nm,1.2s
SADO Sadowa 65.03 25 LR LR 16 45 43.5
comp=Z,2µm,18.3s,baz=224,slow=35
J58A Remsen 65.58 28 P **P 16 18 46.6 -0.8**
baz=219
J58A S **S 16 27 34.8 +2.1**
baz=219
J58A Remsen 65.58 28 P **P 16 18 46.5 -0.9**
J58A IAMs_20 IAMs_20 16 44 46.4
comp=Z,2µm,21.0s
TRY Troy 65.85 30 IAMs_20 IAMs_20 16 44 24.8
comp=Z,2µm,21.0s
I57A Carthage 65.86 27 P **P 16 18 48.6 -0.5**
baz=218
I57A S **S 16 27 36.1 -0.1**
baz=218
I58A Old Forge 65.98 28 P **P 16 18 49.1 -0.8**
baz=219
K61A Williamstown 66.00 30 P **P 16 18 49.7 -0.4**
baz=221
J59A Piesco 66.02 29 P **P 16 18 48.7 -1.5**
J59A IAmb IAmb 16 18 54.0
comp=Z,18nm,1.1s
PLVO Plevna 66.11 26 P **P 16 18 49.6 -1.1**
PLVO IAmb IAmb 16 18 52.6
comp=Z,18nm,1.2s
L61B Northampton 66.12 30 P **P 16 18 50.0 -0.8**
baz=222
L61B S **S 16 27 39.4 0.0**
baz=222
M64A Tiverton 66.20 32 P **P 16 18 50.6 -0.7**
baz=223
M64A S **S 16 27 38.8 -1.5**
baz=223
M64A Tiverton 66.20 32 IAMs_20 IAMs_20 16 45 13.0
comp=Z,3µm,21.0s
L63A North Scituate 66.22 31 P **P 16 18 50.5 -0.9**
baz=223
L63A North Scituate 66.22 31 IAMs_20 IAMs_20 16 44 28.7
comp=Z,2µm,22.0s
BRYW Bryant College 66.30 31 IAMs_20 IAMs_20 16 45 04.7
comp=Z,2µm,22.0s
ACCN Adirondack Com 66.35 29 P **P 16 18 50.1 -2.2**
J60A Lant Hill Farm 66.36 29 P **P 16 18 52.0 -0.3**
baz=221
J60A S **S 16 27 43.1 +0.9**
baz=221
H57A Richville 66.39 27 P **P 16 18 52.3 -0.2**
baz=218
M65A Busby, Falmout 66.50 32 IAMs_20 IAMs_20 16 45 21.0
comp=Z,2µm,20.0s
K62A Royalston 66.50 30 P **P 16 18 52.7 -0.6**
baz=222
K62A S **S 16 27 46.8 +2.8**
baz=222
NCB Newcomb 66.54 28 P **P 16 18 52.2 -1.3**
NCB IAmb IAmb 16 18 57.4
comp=Z,14nm,1.1s
L64A Middleborough 66.67 32 P **P 16 18 53.6 -0.7**
baz=223
L64A S **S 16 27 45.6 -0.3**
baz=223
L64A Middleborough 66.67 32 IAMs_20 IAMs_20 16 45 26.5
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 66.72 31 P **P 16 18 54.5 -0.1**
baz=223
J61A Chester 66.85 30 P **P 16 18 54.3 -1.2**
baz=221
J61A S **S 16 27 49.0 +0.8**
baz=221
K63A Dunstable 66.87 31 P **P 16 18 55.1 -0.5**
baz=223
LONY Lake Ozonia 66.87 28 P **P 16 18 55.2 -0.5**
baz=219
LONY S **S 16 27 48.6 +0.1**
baz=219
LONY Lake Ozonia 66.87 28 IAMs_20 IAMs_20 16 45 36.7
comp=Z,2µm,20.0s
I60A Shoreham 66.88 29 P **P 16 18 55.1 -0.6**
baz=221
H58A Gabriels 66.90 28 P **P 16 18 55.2 -0.6**
baz=220
G57A Newington 67.07 27 P **P 16 18 56.4 -0.4**
baz=219
BBB Bella Bella 67.11 349 LR LR 16 41 02.9
comp=Z,2µm,21.2s,baz=168,slow=30
J62A Henniker 67.12 30 P **P 16 18 56.9 -0.4**
baz=222
J62A S **S 16 27 54.0 +2.5**
baz=222
SJMB Sao Joao De Ma 67.20 105 *e*P **P 16 19 00.3 +1.9**
URZ Urewera 67.28 234 IAMs_20 IAMs_20 16 42 51.5
comp=Z,3µm,20.0s
H59A Cadyville 67.30 28 P **P 16 18 58.1 -0.2**
baz=220
H59A S **S 16 27 54.1 +0.5**
baz=220
VT1 Waterbury 67.50 29 IAMs_20 IAMs_20 16 45 17.1
comp=Z,3µm,22.0s
G58A Ormstown 67.52 28 P **P 16 18 59.8 +0.2**
baz=220
J63A Strafford 67.53 31 P **P 16 18 59.7 0.0**
baz=223
H60A Morristown 67.70 29 P **P 16 19 01.0 +0.2**
baz=221
LBNH Lisbon 67.82 30 P **P 16 19 01.9 +0.3**
baz=222
LBNH Lisbon 67.82 30 IAMs_20 IAMs_20 16 46 14.9
comp=Z,2µm,19.0s
H61A Lyndonville 68.04 29 P **P 16 19 02.9 -0.2**
baz=222
H61A S **S 16 28 06.5 +3.9**
baz=222
G60A Masonville 68.27 29 P **P 16 19 04.2 -0.3**
baz=221
I63A Otisfield 68.34 30 P **P 16 19 05.4 +0.5**
baz=223
I63A S **S 16 28 09.4 +3.4**
baz=223
H62A Milan 68.44 30 P **P 16 19 05.9 +0.4**
baz=222
H62A Milan 68.44 30 IAMs_20 IAMs_20 16 47 54.3
comp=Z,1µm,18.0s
FFC Flin Flon 68.52 6 P **P 16 19 03.8 -2.0**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 68.52 6 P **P 16 19 03.8 -2.0**
FFC IAmb IAmb 16 19 07.4
comp=Z,12nm,1.1s
FFC Flin Flon 68.52 6 IAMs_20 IAMs_20 16 45 56.7
comp=Z,2µm,19.0s
F59A Saint Guilaume 68.64 28 P **P 16 19 06.8 +0.1**
baz=221
I64A Boothbay 68.71 31 P **P 16 19 07.4 +0.2**
baz=224
G61A St-Isidore-de- 68.79 29 P **P 16 19 07.8 +0.2**
baz=222
G61A S **S 16 28 13.9 +2.5**
baz=222
E58A La Victoria 68.81 27 P **P 16 19 07.8 0.0**
baz=220
H02S1 DAWSON INLET T 68.97 347 T T 17 34 22.3
F60A Warwick 69.10 28 P **P 16 19 08.9 -0.7**
baz=221
G62A West of Eustis 69.22 30 P **P 16 19 10.0 -0.3**
baz=223
G62A West of Eustis 69.22 30 IAMs_20 IAMs_20 16 48 43.8
comp=Z,1µm,18.0s
LSQQ Lebel-sur-Quev 69.39 23 P **P 16 19 10.9 -0.4**
baz=216
H64A Troy 69.44 31 P **P 16 19 11.2 -0.5**
baz=224
NBPS Pedro II - PI 69.44 90 *e*P **P 16 19 13.8 +1.3**
D58A Chemin du LacG 69.54 27 P **P 16 19 11.8 -0.5**
baz=220
F61A St Evariste 69.55 29 P **P 16 19 12.3 -0.1**
baz=222
G63A Kingsbury 69.58 30 P **P 16 19 12.7 +0.1**
baz=224
E60A Ste Agathe de 69.64 28 P **P 16 19 12.6 -0.3**
baz=222
MATQ Matagami 69.71 23 P **P 16 19 13.4 +0.1**
baz=215
PKME Peaks-Kenny Pk 69.85 30 P **P 16 19 13.8 -0.4**
baz=224
PKME Peaks-Kenny Pk 69.85 30 P **P 16 19 11.7 -2.5**
PKME IAmb IAmb 16 19 16.8
comp=Z,14nm,1.1s
H65A Eastbrook 69.96 31 P **P 16 19 14.8 -0.1**
baz=225
F62A Pittston Farm, 69.98 29 P **P 16 19 14.8 -0.2**
baz=223
F62A Pittston Farm, 69.98 29 IAMs_20 IAMs_20 16 47 01.1
comp=Z,2µm,21.0s
G64A Maxfield 70.11 31 P **P 16 19 15.6 -0.2**
baz=224
E61A Lac Etchemin 70.13 29 P **P 16 19 15.0 -0.9**
baz=222
OUZ Omahuta 70.17 237 IAMs_20 IAMs_20 16 41 54.9
comp=Z,3µm,22.0s
F63A Nahmakanta, Br 70.26 30 P **P 16 19 16.0 -0.8**
baz=224,SNR=9.0
F63A Nahmakanta, Br 70.26 30 P **P 16 19 16.1 -0.6**
D60A Saint Jean D'O 70.28 28 P **P 16 19 17.0 +0.2**
baz=222
EMMW East Machias 70.37 32 IAMs_20 IAMs_20 16 47 02.5
comp=Z,2µm,21.0s
H66A Whiting 70.50 32 P **P 16 19 17.2 -1.0**
baz=226
G65A Princeton 70.66 31 P **P 16 19 18.5 -0.7**
baz=225
G65A Princeton 70.66 31 IAMs_20 IAMs_20 16 47 13.2
comp=Z,2µm,22.0s
E62A Clayton Lake 70.72 29 P **P 16 19 18.8 -0.8**
baz=223,SNR=6.5
E62A Clayton Lake 70.72 29 P **P 16 19 19.0 -0.5**
E62A IAmb IAmb 16 19 22.6
comp=Z,12nm,0.9s
E62A IAMs_20 IAMs_20 16 47 34.6
comp=Z,2µm,20.0s
F64A Sherman 70.74 30 P **P 16 19 19.3 -0.3**
baz=225
F64A Sherman 70.74 30 P **P 16 19 18.8 -0.8**
F64A IAmb IAmb 16 19 24.2
comp=Z,24nm,1.4s
D61A St Aubert, Com 70.83 28 P **P 16 19 20.0 -0.2**
baz=223
GGN Saint George 70.97 32 P **P 16 19 19.7 -1.4**
GGN IAmb IAmb 16 19 29.1
comp=Z,14nm,1.1s
CHGQ Chibougamau 71.09 24 P **P 16 19 21.1 -0.7**
baz=218
E63A Oxbow 71.10 30 P **P 16 19 21.3 -0.6**
baz=224
D62A Allapoint, All 71.28 29 P **P 16 19 22.2 -0.7**
baz=224
D62A Allapoint, All 71.28 29 IAMs_20 IAMs_20 16 47 20.3
comp=Z,2µm,21.0s
E64A Bridgewater 71.39 30 P **P 16 19 23.3 -0.4**
baz=225
PQI Presque Isle 71.48 30 P **P 16 19 22.7 -1.4**
PQI IAmb IAmb 16 19 26.3
comp=Z,27nm,1.4s
D63A Stockholm 71.69 30 P **P 16 19 24.7 -0.7**
baz=224
WRAK Wrangell Islan 71.94 348 P **P 16 19 27.4 +0.8**
baz=158
WRAK Wrangell Islan 71.94 348 IAMs_20 IAMs_20 16 43 53.5
comp=Z,2µm,19.0s
HAL Halifax 72.35 34 P **P 16 19 27.7 -1.7**
HAL pmax pmax
comp=Z,19nm,1.2s
HAL Halifax 72.35 34 P **P 16 19 27.7 -1.7**
HAL IAmb IAmb 16 19 33.5
comp=Z,19nm,1.2s
SIT Sitka 73.17 347 P **P 16 19 34.6 +0.7**
baz=156
DLBC Dease Lake 73.40 350 P **P 16 19 35.0 -0.5**
DLBC IAmb IAmb 16 19 39.4
comp=Z,15nm,1.1s
YKA Yellowknife Ar 75.90 358 P **P 16 19 49.2 -0.6**
comp=Z,8.9nm,1.0s,baz=171,slow=5.9,SNR=29
YKA LR LR 16 50 18.7
comp=Z,4µm,18.4s,baz=0.0,slow=34
VNDA Vanda 76.12 193 P **P 16 19 55.2 +4.3**
comp=Z,1.5nm,0.8s,baz=101,slow=4.3,SNR=4.9
VNDA LR LR 16 46 41.3
comp=Z,530nm,19.3s,baz=90,slow=30
VNDA Vanda 76.12 193 P **P 16 19 53.3 +2.3**
VNDA pmax pmax
comp=Z,12nm,1.5s
VNDA Vanda 76.12 193 P **P 16 19 53.3 +2.3**
WHY Whitehorse 76.38 348 P **P 16 19 52.9 +0.1**
baz=156
WHY Whitehorse 76.38 348 P **P 16 19 52.8 +0.1**
QSPA South Pole Qui 76.50 180 IAMs_20 IAMs_20 16 49 00.1
comp=Z,2µm,18.0s
BCPM Bancas Point 76.77 346 IAMs_20 IAMs_20 16 46 00.4
comp=Z,2µm,20.0s
PINM Pinnacle 77.05 346 P **P 16 19 56.4 -0.1**
baz=151
PCA Pinnacle 77.05 346 P **P 16 19 56.0 -0.5**
PCA IAmb IAmb 16 20 00.1
comp=Z,13nm,0.9s
HYT Haines Junctio 77.07 347 P **P 16 19 56.0 -0.6**
HYT IAmb IAmb 16 20 00.7
comp=Z,27nm,1.2s
LIFNC LIFOU 77.41 251 P **P 16 19 59.1 -0.2**
MESA MESA 77.54 345 P **P 16 19 59.7 +0.3**
baz=150
MESA MESA 77.54 345 IAMs_20 IAMs_20 16 46 32.7
comp=Z,2µm,20.0s
TABL Table Mountain 77.56 345 IAMs_20 IAMs_20 16 45 52.4
comp=Z,2µm,22.0s
SCHQ Schefferville 77.84 25 P **P 16 20 01.0 +0.1**
comp=Z,6.2nm,0.8s,baz=278,slow=2.9,SNR=5.2
SCHQ LR LR 16 52 58.4
comp=Z,2µm,20.4s,baz=231,slow=35
LOGN Logan Glacier 77.87 346 P **P 16 20 00.1 -1.0**
LOGN IAmb IAmb 16 20 27.0
comp=Z,22nm,1.4s
LOGN IAMs_20 IAMs_20 16 46 14.3
comp=Z,2µm,20.0s
DZM Mont Dzumac 77.92 250 *e*S **S 16 29 54.2 -1.9**
comp=Z,372nm,31.1s
DZM Mont Dzumac 77.92 250 *e*LR LR 16 44 09.2
comp=Z,3µm,27.2s
SUCK Suckling Hills 77.92 344 IAMs_20 IAMs_20 16 45 39.0
comp=Z,2µm,22.0s
WAX Waxell Ridge 78.00 345 P **P 16 20 01.1 -0.6**
WAX IAMs_20 IAMs_20 16 46 47.0
comp=Z,2µm,20.0s
ISLE Juniper Island 78.00 345 P **P 16 20 01.5 -0.4**
ISLE IAmb IAmb 16 20 05.2
comp=Z,28nm,1.4s
ISLE IAMs_20 IAMs_20 16 48 11.0
comp=Z,2µm,18.0s
CTGM Chitina Glacie 78.07 346 IAMs_20 IAMs_20 16 46 19.7
comp=Z,2µm,20.0s
CTG Chitna Glacier 78.07 346 P **P 16 20 02.5 +0.3**
baz=150
BARN Barnard Glacie 78.23 345 P **P 16 20 01.5 -1.7**
BARN IAmb IAmb 16 20 06.8
comp=Z,19nm,1.0s
BARN IAMs_20 IAMs_20 16 46 13.0
comp=Z,2µm,22.0s
TGL Tana Glacier 78.26 345 IAMs_20 IAMs_20 16 47 05.8
comp=Z,1µm,20.0s
HMT Hamilton 78.28 344 IAMs_20 IAMs_20 16 45 30.3
comp=Z,2µm,21.0s
CRQE Cirque 78.32 345 P **P 16 20 04.0 +0.4**
baz=148,SNR=6.1
CRQM Cirque 78.34 345 P **P 16 20 04.1 +0.3**
CRQM IAMs_20 IAMs_20 16 46 57.5
comp=Z,1µm,20.0s
OHAK Old Harbor 78.63 338 P **P 16 20 06.2 +1.0**
baz=138
KDAK Kodiak Island 78.80 339 P **P 16 20 06.5 +0.4**
baz=139
VRDI Verde Repeater 78.82 345 P **P 16 20 05.7 -0.7**
VRDI IAmb IAmb 16 20 09.9
comp=Z,17nm,1.0s
MCARA McCarthy VSAT 78.85 345 P **P 16 20 06.4 +0.1**
baz=149
MCARA McCarthy VSAT 78.85 345 IAMs_20 IAMs_20 16 48 48.3
comp=Z,2µm,18.0s
EYAK Cordova Ski Ar 78.86 343 P **P 16 20 06.5 +0.2**
baz=146
BMRM Bremner River 78.90 344 P **P 16 20 06.8 +0.1**
baz=147
BMRM Bremner River 78.90 344 IAMs_20 IAMs_20 16 46 53.8
comp=Z,2µm,21.0s
GLB Gilahina Butte 79.10 345 P **P 16 20 06.9 -0.9**
GLB IAmb IAmb 16 20 10.5
comp=Z,24nm,1.3s
CHNA Chernabura Isl 79.40 334 P **P 16 20 09.9 +0.4**
baz=132
N25K Chitina, Valde 79.44 345 P **P 16 20 10.0 +0.3**
baz=147
N25K Chitina, Valde 79.44 345 IAMs_20 IAMs_20 16 47 22.0
comp=Z,1µm,20.0s

GLI	Glacier Island	79.51	343	P	P	16 20 09.7	-0.2	
	baz=145							
CNPM	China Poot	79.69	341	P	P	16 20 10.2	-0.8	
KLU	Klutina	79.69	344	P	P	16 20 11.5	+0.4	
	baz=146							
KLU	Klutina	79.69	344	P	P	16 20 09.8	-1.3	
KLU				IAmb	IAmb	16 20 14.1		
	comp=Z,14nm,1.1s							
KLU				IAMs_20	IAMs_20	16 47 16.7		
	comp=Z,2μm,20.0s							
BRSE	Bradley Lake S	79.69	341	P	P	16 20 11.7	+0.7	
	baz=141							
BRLK	Bradley Lake	79.76	341	P	P	16 20 09.9	-1.4	
BCAR	Beaver Creek A	80.00	346	P	P	16 20 11.4	-1.2	
L27K	Beaver Creek,	80.01	346	P	P	16 20 12.7	0.0	
	baz=150,SNR=17							
L27K	Beaver Creek,	80.01	346	P	P	16 20 11.2	-1.5	
L27K				IAMs_20	IAMs_20	16 47 47.9		
	comp=Z,2μm,20.0s							
HARP	HAARP	80.25	345	P	P	16 20 13.6	-0.3	
	baz=147							
M24K	Tolsona, Glenn	80.27	344	P	P	16 20 14.5	+0.4	
	baz=146							
M24K	Tolsona, Glenn	80.27	344	IAMs_20	IAMs_20	16 47 37.0		
	comp=Z,2μm,20.0s							
SCM	Sheep Creek Mo	80.36	344	IAMs_20	IAMs_20	16 47 16.3		
	comp=Z,2μm,20.0s							
DAWY	Dawson	80.36	348	P	P	16 20 13.0	-1.6	
P19K	Oil Pt	80.44	340	P	P	16 20 14.9	-0.1	
	baz=139							
RC01	Rabbit Creek A	80.45	342	P	P	16 20 15.4	+0.4	
	baz=142							
SML	Sawmill	80.61	343	P	P	16 20 16.9	+0.9	
	baz=144							
CAPN	Captain Cook N	80.62	341	P	P	16 20 16.0	0.0	
	baz=141							
PMR	Palmer	80.67	343	P	P	16 20 17.0	+0.8	
	baz=143							
PAX	Paxson	80.81	345	P	P	16 20 16.3	-0.7	
	baz=146							
RSO	Redoubt South	80.89	341	P	P	16 20 16.1	-1.6	
K27K	Chicken	80.91	347	P	P	16 20 16.7	-0.7	
K27K				IAmb	IAmb	16 20 20.9		
	comp=Z,15nm,1.1s							
K27K				IAMs_20	IAMs_20	16 49 04.6		
	comp=Z,2μm,19.0s							
VNA3	Neumayer Olymp	80.93	161	P	P	16 20 19.7	+2.0	
DOT	Dot Lake	81.03	346	P	P	16 20 16.7	-1.5	
DOT				IAmb	IAmb	16 20 21.0		
	comp=Z,18nm,1.0s							
WAT6	Susitna Watana	81.08	344	P	P	16 20 17.8	-0.8	
	baz=144,SNR=7.1							
FALS	False Pass	81.10	333	P	P	16 20 18.3	-0.3	
	baz=129							
SPCR	Spurr Chakacha	81.29	341	P	P	16 20 19.1	-0.5	
	baz=140							
SCRK	Sand Creek	81.30	346	P	P	16 20 19.2	-0.4	
	baz=148,SNR=9.6							
SCRK	Sand Creek	81.30	346	P	P	16 20 18.0	-1.7	
SCRK				IAmb	IAmb	16 20 22.0		
	comp=Z,14nm,1.2s							
SCRK				IAMs_20	IAMs_20	16 48 24.0		
	comp=Z,2μm,22.0s							
EGAK	Eagle	81.36	348	P	P	16 20 20.2	+0.4	
	baz=151							
EGAK	Eagle	81.36	348	P	P	16 20 18.6	-1.2	
WAT1	Susitna Watana	81.50	344	P	P	16 20 20.5	-0.2	
	baz=144							
VNA1	Neumayer--Stat	81.54	161	P	P	16 20 23.3	+2.4	
CUT	Chulitna	81.64	343	P	P	16 20 21.8	+0.5	
	baz=142							
CUT	Chulitna	81.64	343	P	P	16 20 19.9	-1.5	
SKT	Skwentna	81.68	342	P	P	16 20 20.9	-0.7	
	baz=141,SNR=12							
SKT	Skwentna	81.68	342	P	P	16 20 20.0	-1.6	
N19K	Bonanza Creek	81.72	340	P	P	16 20 20.7	-1.3	
	baz=138,SNR=8.0							
EPYK	Eagle Plains	81.94	350	P	P	16 20 22.0	-0.9	
	baz=155,SNR=14							
EPYK	Eagle Plains	81.94	350	P	P	16 20 21.5	-1.4	
N18K	Kilae Creek	82.09	340	P	P	16 20 22.7	-1.1	
	baz=136,SNR=6.6							
SVW2	Sparrevohn	82.30	340	P	P	16 20 23.4	-1.4	
MCK	McKinley	82.33	344	P	P	16 20 23.4	-1.6	
MCK				pmax	pmax			
	comp=Z,45nm,1.1s							
MCK				MLR	MLR			
	comp=Z,2μm,20.0s							
MCK	McKinley	82.33	344	P	P	16 20 24.5	-0.5	
	baz=143,SNR=10							
MCK	McKinley	82.33	344	P	P	16 20 23.4	-1.6	
HDA	Harding Lake	82.37	345	P	P	16 20 24.9	-0.3	
	baz=145							
HDA	Harding Lake	82.37	345	P	P	16 20 24.2	-1.0	
TRF	Thorofare Moun	82.47	343	P	P	16 20 25.3	-0.6	
	baz=142,SNR=11							
TRF	Thorofare Moun	82.47	343	P	P	16 20 24.5	-1.4	
PPLA	Purkeypile	82.58	342	P	P	16 20 25.1	-1.3	
	baz=140,SNR=15							
PPLA	Purkeypile	82.58	342	P	P	16 20 25.0	-1.5	
ILAR	Eielson Array	82.66	345	P	P	16 20 25.7	-0.9	
	comp=Z,4.0nm,1.0s,baz=170,slow=4.8,SNR=21							
ILAR				LR	LR	16 49 52.1		
	comp=Z,918nm,19.7s,baz=142,slow=30							
ILAR	Eielson Array	82.66	345	P	P	16 20 24.9	-1.8	
ILAR	Eielson Array	82.66	345	P	P	16 20 24.9	-1.8	
WRH	Wood River Hil	82.71	345	P	P	16 20 25.3	-1.7	
WRH				IAMs_20	IAMs_20	16 50 48.4		
	comp=Z,2μm,18.0s							
KTH	Kantishna Hill	82.73	343	P	P	16 20 25.3	-1.9	
CCB	Clear Creek Bu	82.78	345	P	P	16 20 26.4	-0.9	
CCB				IAmb	IAmb	16 20 30.2		
	comp=Z,16nm,1.0s							
CCB				IAMs_20	IAMs_20	16 49 50.3		
	comp=Z,1μm,20.0s							
BWN	Browne	82.83	344	P	P	16 20 26.8	-0.7	
BWN				IAMs_20	IAMs_20	16 49 05.4		
	comp=Z,2μm,20.0s							
L19K	White Mountain	82.86	341	P	P	16 20 26.4	-1.4	
	baz=138,SNR=12							
SNAA	Sanae	82.87	162	P	P	16 20 28.9	+1.0	
SNAA	Sanae	82.87	162	*i* P	P	16 20 30.2	+2.3	
SNAA				pmax	pmax			
	comp=Z,12nm,1.4s							
SNAA	Sanae	82.87	162	P	P	16 20 28.1	+0.2	
SNAA				IAmb	IAmb	16 20 41.6		
	comp=Z,12nm,1.2s							
PRP	Porcupine Dome	82.95	346	IAMs_20	IAMs_20	16 50 49.8		
	comp=Z,2μm,19.0s							
COLA	College	82.98	345	P	P	16 20 28.4	+0.2	
	baz=144							
COLA	College	82.98	345	IAMs_20	IAMs_20	16 51 45.5		
	comp=Z,1μm,19.0s							
TCOL	CIGO, UAF Yank	82.98	345	P	P	16 20 27.9	-0.4	
	baz=144							
TCOL	CIGO, UAF Yank	82.98	345	IAMs_20	IAMs_20	16 51 44.5		
	comp=Z,1μm,19.0s							
NEA2	Nenana	83.06	345	P	P	16 20 28.3	-0.5	
	baz=143,SNR=27							
NEA2	Nenana	83.06	345	P	P	16 20 27.3	-1.4	
NEA2				IAMs_20	IAMs_20	16 49 34.7		
	comp=Z,2μm,20.0s							
POKR	Poker Plat Res	83.07	345	P	P	16 20 28.6	-0.3	
	baz=145							
POKR	Poker Plat Res	83.07	345	IAMs_20	IAMs_20	16 51 58.0		
	comp=Z,2μm,18.0s							
MDM	Murphy Dome	83.14	345	P	P	16 20 27.3	-1.9	
MDM				IAMs_20	IAMs_20	16 49 41.9		
	comp=Z,1μm,20.0s							
BPAW	Bear Paw Mtn.	83.18	344	P	P	16 20 28.6	-0.8	
	baz=141,SNR=31							
BPAW	Bear Paw Mtn.	83.18	344	P	P	16 20 27.9	-1.5	
C36M	Paulatuk	83.23	355	P	P	16 20 28.9	-0.5	
	baz=168							
C36M	Paulatuk	83.23	355	P	P	16 20 28.6	-0.8	
C36M				IAMs_20	IAMs_20	16 52 42.6		
	comp=Z,1μm,21.0s							
INK	Inuvik	83.24	352	P	P	16 20 28.7	-0.8	
INK				pmax	pmax			
	comp=Z,21nm,1.0s							
INK	Inuvik	83.24	352	P	P	16 20 28.1	-1.5	
	baz=158,SNR=10							
INK	Inuvik	83.24	352	P	P	16 20 28.7	-0.8	
CHUM	Lake Minchumin	83.38	343	P	P	16 20 29.7	-0.7	
	baz=140,SNR=6.8							
I23K	Minto, Yukon-K	83.58	345	P	P	16 20 31.2	-0.2	
	baz=143,SNR=23							
I23K	Minto, Yukon-K	83.58	345	P	P	16 20 30.4	-1.0	
I23K				IAMs_20	IAMs_20	16 49 14.4		
	comp=Z,1μm,20.0s							
FYU	Fort Yukon	83.77	347	P	P	16 20 32.1	-0.2	
FYU				IAMs_20	IAMs_20	16 49 57.3		
	comp=Z,2μm,21.0s							
H24K	Noodor Dome	83.77	346	P	P	16 20 32.0	-0.5	
	baz=144,SNR=15							
MLY	Manley	83.84	344	P	P	16 20 32.0	-0.9	
	baz=142,SNR=25							
MLY	Manley	83.84	344	P	P	16 20 31.8	-1.0	
H23K	Yukon River	84.17	345	P	P	16 20 33.4	-1.0	
	baz=143,SNR=12							
I21K	Tanana	84.29	344	P	P	16 20 34.7	-0.3	
	baz=140,SNR=22							
COLD	Coldfoot	85.45	346	P	P	16 20 40.2	-0.6	
	baz=142,SNR=15							
COLD	Coldfoot	85.45	346	P	P	16 20 40.0	-0.8	
TOLK	Toolik Lake Re	86.43	347	P	P	16 20 45.9	+0.2	
	baz=143,SNR=5.0							
TOLK	Toolik Lake Re	86.43	347	P	P	16 20 45.1	-0.6	
TOLK				IAmb	IAmb	16 20 48.8		
	comp=Z,13nm,1.2s							
H11S2	WAKE ISLAND Hy	86.83	290	T	T	17 56 45.0		
	baz=106,slow=74,SNR=708							
H11S1	WAKE ISLAND Hy	86.84	290	T	T	17 56 45.6		
	baz=106,slow=74,SNR=484							
H11S3	WAKE ISLAND Hy	86.85	290	T	T	17 56 47.8		
	baz=106,slow=74,SNR=505							
H11N3	WAKE ISLAND Hy	86.97	291	T	T	17 56 48.1		
	baz=106,slow=75,SNR=101							
H11N2	WAKE ISLAND Hy	86.98	291	T	T	17 56 46.2		
	baz=106,slow=75,SNR=100							
H11N1	WAKE ISLAND Hy	86.98	291	T	T	17 56 57.8		
	baz=106,slow=75,SNR=57							
ANM	Nome	87.95	340	P	P	16 20 54.0	+0.9	
	baz=128							
TNA	Tin City	89.42	340	P	P	16 21 00.4	+0.5	
	baz=126							
A21K	Barrow	90.05	347	IAMs_20	IAMs_20	16 57 27.3		
	comp=Z,1μm,18.0s							
NRS	Narsarsuaq	90.69	26	IAMs_20	IAMs_20	16 59 00.5		
	comp=Z,1μm,21.0s							
SFJD	Kangerlussuaq	91.60	20	IAMs_20	IAMs_20	17 00 58.2		
	comp=Z,1μm,18.0s							
ILULI	Ilulissat	92.64	18	IAMs_20	IAMs_20	17 02 02.4		
	comp=Z,2μm,20.0s							
TULEG	Thule	93.40	9	IAMs_20	IAMs_20	16 59 54.3		
	comp=Z,1μm,20.0s							
SYO	Syowa Base	95.06	170‖	*e*pP	pP	16 21 29.0	+0.5	
ANGG	Ammassalik, Gr	95.70	24	IAMs_20	IAMs_20	17 02 37.7		
	comp=Z,1μm,19.0s							
STKA	Stephens Creek	96.89	235	LR	LR	16 57 21.6		
	comp=Z,1μm,21.5s,baz=90,slow=30							
SUMG	Summit	97.85	17	IAMs_20	IAMs_20	17 05 16.2		
	comp=Z,1μm,20.0s							
ALE	Alert	98.50	6	IAMs_20	IAMs_20	17 03 47.1		
	comp=Z,1μm,19.0s							
MAW	Mawson	98.91	178	LR	LR	17 01 04.3		
	comp=Z,1μm,20.8s,baz=192,slow=32							
BILL	Bilibino	99.68	338‖	*e*P	Pdif	16 21 47.3	+0.4	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
PMOZ	Porto Moniz, M	100.67	59	*i* LQ	LQ	16 35 06.6		
PMOZ	Porto Moniz, M	100.67	59	*e*LR	LR	16 55 39.0		
	comp=Z,248nm,22.0s							
PET	Petropavlovsk	100.74	322	IAMs_20	IAMs_20	17 00 51.6		
	comp=Z,1μm,20.0s							
BORG	Borgarnes	102.19	26	IAMs_20	IAMs_20	17 05 41.5		
	comp=Z,980nm,20.0s							
ASAR	Alice Springs	106.27	240	PKiKP	PKiKP	16 26 29.9	+0.8	
	comp=Z,0.5nm,0.9s,baz=115,slow=1.9,SNR=5.7							
ASAR				PKKPbc	PKKPbc	16 37 50.1	+0.1	
	comp=Z,0.9nm,1.0s,baz=274,slow=4.4,SNR=4.5							
WRAB	Tennant Creek	107.31	244	IAMs_20	IAMs_20	17 01 28.2		
	comp=Z,1μm,22.0s							
WRA	Warramunga Arr	107.31	244	PKiKP	PKiKP	16 26 32.0	+1.0	
	comp=Z,0.8nm,0.8s,baz=107,slow=1.8,SNR=7.4							
PGAV	Gavieira, Arco	108.64	50	*i* LQ	LQ	16 37 33.9		
PGAV	Gavieira, Arco	108.64	50	*e*LR	LR	16 59 16.4		
	comp=Z,367nm,18.0s							
PVAQ	Vaqueiros	108.88	55	*i* LQ	LQ	16 36 25.7		
PVAQ	Vaqueiros	108.88	55	*e*LR	LR	16 59 01.6		
	comp=Z,417nm,20.0s							
MTE	Manteigas	109.14	52	*i* LQ	LQ	16 36 31.3		
MTE	Manteigas	109.14	52	*e*LR	LR	16 59 41.4		
	comp=Z,463nm,24.0s							
PMRV	Marv??o	109.22	53	*i* LQ	LQ	16 36 30.2		
PMRV	Marv??o	109.22	53	*e*LR	LR	16 59 37.7		
	comp=Z,375nm,22.0s							
KBS	Kingsbay	109.42	10	IAMs_20	IAMs_20	17 11 32.6		
	comp=Z,936nm,19.0s							
MVO	Moncorvo	109.55	51	*i* LQ	LQ	16 36 35.2		
MVO	Moncorvo	109.55	51	*e*LR	LR	17 00 12.5		
	comp=Z,289nm,18.0s							
KOWA	Kowa	109.78	79	IAMs_20	IAMs_20	17 08 45.3		
	comp=Z,1μm,20.0s							
SFS	San Fernando	110.05	56	IAMs_20	IAMs_20	17 17 44.2		
	comp=Z,668nm,18.0s							
MAJO	Matsushiro	114.35	304	IAMs_20	IAMs_20	17 08 06.5		
	comp=Z,880nm,20.0s							
TORD	Torodi Ar. Bea	115.04	82	PKP	PKiKP	16 26 47.5	+1.7	
	comp=Z,0.8nm,0.9s,baz=286,slow=1.1,SNR=3.7							
TORD				PP	PP	16 27 41.4	-3.8	
	comp=Z,1.4nm,1.1s,baz=288,slow=7.5,SNR=2.5							
TORD				PKKPbc	PKKPbc	16 37 24.5	+3.3	
	comp=Z,0.6nm,0.7s,baz=77,slow=5.1,SNR=4.7							
INU	Inuyama	115.33	303	IAMs_20	IAMs_20	17 05 35.5		
	comp=Z,1μm,20.0s							
CLF	Chambon-Foret	115.75	43	IAMs_20	IAMs_20	17 11 33.1		
	comp=Z,752nm,22.0s							
KLR	Kul'dur	117.71	319	*i* PKIKP	PKiKP	16 26 50.0	+0.1	
KLR				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WLF	Walferdange	117.98	41	IAMs_20	IAMs_20	17 15 00.9		
	comp=Z,643nm,19.0s							
ECH	Echery	118.94	42	IAMs_20	IAMs_20	17 17 57.5		
	comp=Z,927nm,18.0s							
BNI	Bardonecchia	119.25	46	IAMs_20	IAMs_20	17 19 50.0		
	comp=Z,918nm,18.0s							
SENIN	Lac Senin/Sane	119.42	44	IAMs_20	IAMs_20	17 13 10.4		
	comp=Z,715nm,21.0s							
BFO	Black Forest	119.68	42	IAMs_20	IAMs_20	17 15 59.9		
	comp=Z,713nm,19.0s							
STU	Stuttgart	120.13	41	IAMs_20	IAMs_20	17 24 42.8		
	comp=Z,605nm,18.0s							
GRFO	Grafenberg	121.16	40	IAMs_20	IAMs_20	17 11 27.8		
	comp=Z,858nm,22.0s							
GRA1	Grafenberg Arr	121.17	40	IAMs_20	IAMs_20	17 11 27.9		
	comp=Z,844nm,22.0s							
CLL	Collm	121.75	38	*e*PP	PP	16 28 29.0	-1.5	
CLL				*e*SKKSac	SKKSac	16 35 24.0	-6.1	
CLL				*e*PS	PS	16 38 21.0	-3.2	
CLL				*e*PPS	PPS	16 39 51.0		
CLL				*e*SS	SS	16 45 02.0	-5.0	
CLL				*e*SSS	SSS	16 50 00.0		
CLL				*e*(SSSS)		16 53 48.0		
CLL				LmV		17 20 00.0		
	comp=Z,500nm,18.3s							
NKC	Novy Kostel	121.76	39	AMS	AMS	17 12 00.0		
	comp=Z,800nm,21.8s							
KHC	Kasperske Hory	122.80	40	AMS	AMS	17 22 00.0		
	comp=Z,600nm,20.0s							
PVCC	Panska Ves	122.94	38	AMS	AMS	17 12 10.0		
	comp=Z,700nm,21.2s							
GERES	GERESS Array B	122.97	40	PKP	PKiKP	16 27 01.0	+0.6	
	comp=Z,1.0nm,0.9s,baz=336,slow=2.2,SNR=7.8							
GERES	GERESS Array B	122.97	40	PKIKP	PKiKP	16 27 01.0	+0.6	
PRA	Prague	123.02	39	AMS	AMS	17 12 00.0		
	comp=Z,800nm,17.6s							
PRU	Pruhonice	123.11	39	AMS	AMS	17 11 50.0		
	comp=Z,900nm,21.8s							
CKRC	Cesky Krumlov	123.36	40	AMS	AMS	17 22 30.0		
	comp=Z,500nm,16.4s							
INCN	Inchon	123.50	306	IAMs_20	IAMs_20	17 09 02.5		
	comp=Z,730nm,21.0s							
UPC	Upice	123.81	38	AMS	AMS	17 13 00.0		
	comp=Z,800nm,22.6s							
OSTC	Ostas	123.92	38	AMS	AMS	17 16 10.0		
	comp=Z,500nm,19.4s							
DPC	Dobruska-Polom	124.06	38	AMS	AMS	17 13 10.0		
	comp=Z,800nm,20.4s							
KRLC	Kraliky	124.43	38	AMS	AMS	17 13 10.0		
	comp=Z,900nm,21.8s							
OKC	Ostrava-Krasne	125.34	38	AMS	AMS	17 13 40.0		
	comp=Z,700nm,19.6s							
OJC	Ojcow	126.16	37	IAMs_20	IAMs_20	17 22 11.4		
	comp=Z,767nm,20.0s							
MNK	Minsk	128.26	29	*i* PKIKP	PKPdf	16 27 07.3	-2.6	
MNK				*i*		16 29 10.9		
MNK				*i* PPP	PPP	16 31 55.5		
MNK				*i* PS	PS	16 39 17.8	-3.5	
MNK				*i* SS	SS	16 46 27.0	-1.4	
MNK				*i* SSS	SSS	16 51 10.8		
MNK				pmax	pmax			
	comp=N,15nm,0.6s							
MNK				pmax	pmax			
	comp=E,3.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,12nm,0.8s							
MNK				MLR	MLR			
	comp=Z,731nm,22.0s							
MNK				MLR	MLR			
	comp=N,361nm,25.0s							
MNK				MLR	MLR			
	comp=E,42nm,25.0s							
MNK	Minsk	128.26	29	*i* PKP	PKPdf	16 27 07.4	-2.6	
	comp=E,3.0nm,0.9s							
MNK				*i* PKP	PKPdf	16 27 07.4	-2.6	
	comp=N,15nm,0.6s							
MNK				*i* PKP	PKPdf	16 27 07.4	-2.6	
	comp=Z,12nm,0.8s,baz=307							
MNK				*i* PP	PP	16 29 11.0	-2.7	
MNK				*i* SKP		16 30 42.7		
MNK				*i* PKS	PKSdf	16 30 43.9	-2.3	
MNK				*i* PPP	PPP	16 31 55.6		
MNK				*i* SKS	SKSdf	16 34 33.0	+11	
MNK				*i* PS	PS	16 39 17.8	-3.5	
MNK				*i* SKKS	SKKSdf	16 44 28.7	-5.4	
MNK				*i* SS	SS	16 46 27.0	-1.4	
MNK				*i* SSS	SSS	16 51 10.9		
MNK				*i* LQ	LQ	17 14 27.6		
MNK				*i* LR	LR	17 18 43.8		
MNK				*i* LRM	MLR	17 22 26.7		
	comp=Z,731nm,21.7s							
MNK				*i* LRM	MLR	17 22 32.5		
	comp=E,42nm,24.6s							
MNK				*i* LRM	MLR	17 22 32.5		
	comp=N,361nm,24.6s							
KLMR	Klimovskoe	128.28	18	*e*PKIKP	PKPdf	16 27 08.6	-1.2	
KLMR				pmax	pmax			
	comp=Z,12nm,1.2s							
KLMR	Klimovskoe	128.28	18	*e*PKPdf	PKPdf	16 27 08.6	-1.2	
KLMR				AMP		16 27 11.8		
	comp=Z,12nm,1.2s							
KLMR				LQ	LQ	17 09 38.4		
KLMR				LQ	LQ	17 09 38.4		
KLMR				LR	LR	17 15 12.2		
DIVS	Divibare	128.66	44		PKPdf	16 27 10.7	-0.5	
NJ2	Nanjing	130.70	301	*e*PKP	PKPdf	16 27 14.2	-1.1	
BJT	Baijiatuau	130.86	312	IAMs_20	IAMs_20	17 12 49.0		
	comp=Z,633nm,21.0s							
AKASG	Malin Array Be	131.14	32	PKP	PKiKP	16 27 16.2	-0.3	
	comp=Z,0.3nm,0.3s,baz=294,slow=2.4,SNR=9.6							
AKASG				PP	PP	16 29 36.1	+3.6	
	comp=Z,0.1nm,0.2s,baz=300,slow=7.4,SNR=4.0							
AKASG	Malin Array Be	131.14	32*c*	*i* PKIKP	PKiKP	16 27 17.0	+0.5	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	Malin Array Be	131.14	32		PKPdf	16 27 15.2	-0.3	
AKBB	Malin Array Si	131.14	32*c*	*i* PKIKP	PKiKP	16 27 16.8	+0.3	
OBN	Obninsk	131.65	24‖	*e*PKIKP	PKPdf	16 27 16.1	-0.2	
OBN				*e*		16 29 39.9		
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
OBN				MLR	MLR			
	comp=Z,759nm,18.0s							
OBN	Obninsk	131.65	24	IAMs_20	IAMs_20	17 24 51.0		
	comp=Z,930nm,20.0s							
MLR	Muntele Rosu	131.96	40	PKIKP	PKPdf	16 27 14.8	-2.7	
MLR				MLR	MLR			
	comp=Z,600nm,19.0s							
MLR	Muntele Rosu	131.96	40		PKPdf	16 27 14.8	-2.7	
MLR				IAMs_20	IAMs_20	17 29 26.4		
	comp=Z,572nm,19.0s							
ULN	Ulaanbaatar	133.31	325*c*	*i* PKIKP	PKPdf	16 27 19.8	-0.2	
ULN				pmax	pmax			
	comp=Z,8.0nm,2.5s							
SONM	Songino Array	133.70	325	PKP	PKiKP	16 27 22.9	+1.0	
	comp=Z,1.2nm,0.9s,baz=135,slow=1.7,SNR=7.1							
HHC	Hu-ho-hao-te	133.84	314	*e*PKP	PKPdf	16 27 18.7	-2.4	
IDI	Anoyia	135.13	53	PKP	PKiKP	16 27 25.3	+0.1	
	comp=Z,12nm,0.9s,baz=218,slow=12,SNR=2.6							
CISI	Cisompet, Garu	135.81	244	IAMs_20	IAMs_20	17 21 52.8		
	comp=Z,507nm,18.0s							
ARU	Arti	136.56	8	*i* PKIKP	PKiKP	16 27 26.6	-0.7	
ARU						16 30 04.6		
ARU				SS	SS	16 48 03.1	-5.3	
ARU				MLR	MLR			
	comp=Z,1μm,20.0s							
ZALV	Zalesovo Beam	137.78	346	PKP	PKiKP	16 27 28.9	-0.9	
	comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=2.1							
ANN	Anapa	139.11	34	*i* PKIKP	PKPdf	16 27 31.5	+0.9	
ANN				pmax	pmax			
	comp=Z,34nm,1.0s							
ANN				MLR	MLR			
	comp=Z,515nm,17.0s							
BRTR	Keskin Array B	139.71	43	PKhKP	PKPpre	16 27 24.5		
	comp=Z,2.1nm,0.9s,baz=0.0,slow=1.7,SNR=3.9							
BRTR				PKP	PKiKP	16 27 33.2	-1.2	
	comp=Z,4.9nm,1.0s,baz=209,slow=2.3,SNR=7.5							
BRTR	Keskin Array B	139.71	43*c*	*i* PKIKP	PKiKP	16 27 34.0	-0.5	
BRTR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BRVK	Borovoye	140.62	358*c*	*i* PKIKP	PKiKP	16 27 35.0	-0.7	
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRVK	Borovoye	140.62	358		PKPdf	16 27 32.2

comp=Z,26nm,0.9s,baz=297,slow=0.8,SNR=28
SLVN Son La 145.58 288 PKPdf 16 27 41.6 -1.3
LODK Lodwar 145.59 104 IAMs_20 IAMs_20 17 27 53.2
comp=Z,877nm,21.0s
KMBO Kilima Mbogo 145.59 113 PKPbc **PKiKP 16 27 46.5 -0.9**
comp=Z,14nm,1.2s,baz=186,slow=4.2,SNR=12
KMBO Kilima Mbogo 145.59 113*c i* PKIKP **PKiKP 16 27 48.0 +0.6**
KMBO pmax pmax
comp=Z,14nm,1.2s
MARD Mardin 145.72 41 PKPdf 16 27 41.3 -1.5
KIBK Kibwezi 145.75 115 PKPdf **PKPdf 16 27 42.0 -1.4**
WMQ Urumqi 145.75 335 *e*PKPbc **PKPab 16 27 43.5 +0.2**
WMQ AMB AMB
comp=Z,230nm,4.5s
WMQ LR LR
comp=Z,1μm,18.5s
WMQ LR LR
comp=Z,1μm,19.1s
WMQ LR LR
comp=Z,2μm,19.7s
KMI Kunming 145.97 295 ⇑PKPbc **PKPab 16 27 45.6 +0.7**
KMI pPKP PKiKP 16 27 47.9 +0.1
KMI LR LR
comp=Z,550nm,15.9s
KMI LR LR
comp=Z,400nm,22.3s
KMI LR LR
comp=Z,520nm,18.8s
GNI Garni 146.24 34 PKPbc **PKPab 16 27 45.1 -0.3**
comp=Z,24nm,1.0s,baz=327,slow=17,SNR=5.7
GNI Garni 146.24 34*c i* PKP2 **PKPbc 16 27 44.2 -0.5**
GNI pmax pmax
comp=Z,56nm,1.7s
GNI Garni 146.24 34 IAMs_20 IAMs_20 17 46 15.3
comp=Z,474nm,19.0s
NONG Nongkai 146.57 282 PKP **PKiKP 16 27 48.6 -0.3**
CHAI Chaiyaphum 147.72 278 P **PKPab 16 27 52.5 +0.9**
comp=Z,5.2nm,0.8s
UTTA Uttaradit 149.05 282 P **PKPab 16 27 56.3 -0.6**
PHIT Phitsanulok 149.20 281 P **PKPab 16 27 57.5 -0.1**
comp=Z,20nm,1.1s
LAMP Lampang 149.87 283 P **PKiKP 16 27 57.9 +2.2**
comp=Z,264nmcomp=Z,26nm,1.0s
LAMP Lampang 149.87 283 P **PKiKP 16 27 58.0 +2.2**
USP Ospenovka 150.02 351 P **PKiKP 16 27 55.5 +0.1**
SNR=14
TKM2 Tokmak 2 150.18 350 P **PKPdf 16 27 51.8 +1.7**
SNR=13
FURI Furi 150.23 96 IAMs_20 IAMs_20 17 34 16.8
comp=Z,656nm,20.0s
CHMS Chumysh 150.24 351 P **PKiKP 16 27 56.9 +1.0**
SNR=6.0
CM34 Chiang Mai Arr 150.30 284 P **PKiKP 16 27 59.0 +2.4**
CM35 Chiang Mai Arr 150.31 284 P **PKiKP 16 27 57.0 +0.4**
CM36 Chiang Mai Arr 150.38 284 P **PKiKP 16 27 59.0 +2.2**
CM09 Chiang Mai Arr 150.48 283 PKP **PKiKP 16 27 59.7 +2.7**
CM09 Chiang Mai Arr 150.48 283 P **PKiKP 16 27 59.7 +2.7**
comp=Z,205nmcomp=Z,22nm,0.8s
CM09 Chiang Mai Arr 150.48 283 P **PKiKP 16 27 59.8 +2.7**
comp=Z,205nmcomp=Z,22nm,0.8s
CMMT Chiang Mai 150.49 284 P **PKiKP 16 27 58.6 +1.6**
comp=Z,27nm,1.1s
CMMT Chiang Mai 150.49 284 P **PKiKP 16 27 58.6 +1.6**
comp=Z,27nm,1.1s
CM33 Chiang Mai Arr 150.49 284 P **PKiKP 16 27 58.0 +1.0**
CHTO Chiang Mai 150.49 284 PKIKP **PKPbc 16 27 55.5 -0.8**
CHTO MLR MLR
comp=Z,700nm,20.0s
CHTO Chiang Mai 150.49 284 PKP **PKiKP 16 27 58.6 +1.6**
CHTO Chiang Mai 150.49 284 P **PKiKP 16 27 58.6 +1.6**
comp=Z,27nm,1.2s
CHTO Chiang Mai 150.49 284 PKPbc 16 27 55.5 -0.8
CHTO Chiang Mai 150.49 284 IAMs_20 IAMs_20 17 38 20.2
comp=Z,679nm,20.0s
CM04 Chiang Mai Arr 150.50 283 PKP **PKiKP 16 27 59.8 +2.8**
CM04 Chiang Mai Arr 150.50 283 P **PKiKP 16 27 59.8 +2.8**
comp=Z,182nmcomp=Z,22nm,0.8s
CM04 Chiang Mai Arr 150.50 283 P **PKiKP 16 27 59.8 +2.8**
comp=Z,182nmcomp=Z,22nm,0.8s
CM01 Chiang Mai Arr 150.51 283 PKP **PKiKP 16 27 59.8 +2.7**
CM01 Chiang Mai Arr 150.51 283 P **PKiKP 16 27 59.8 +2.7**
comp=Z,214nmcomp=Z,25nm,0.9s
CM01 Chiang Mai Arr 150.51 283 P **PKiKP 16 27 59.9 +2.7**
comp=Z,214nmcomp=Z,25nm,0.9s
CM02 Chiang Mai Arr 150.53 283 PKP **PKiKP 16 27 59.8 +2.7**
CM02 Chiang Mai Arr 150.53 283 P **PKiKP 16 27 59.0 +1.9**
comp=Z,185nmcomp=Z,24nm,0.8s
CM31 Chiang Mai Arr 150.53 283 P **PKiKP 16 27 59.6 +2.5**
comp=Z,5μmcomp=Z,572nm,0.8s
CMAR Chiang Mai Arr 150.53 283 PKP **PKPbc 16 27 54.1 -2.2**
comp=Z,19nm,1.0s,baz=335,slow=1.4,SNR=8.9
CMAR PKPbc **pPKPbc 16 27 58.6 -0.2**
comp=Z,12nm,0.8s,baz=118,slow=0.4,SNR=28
CMAR PKPab **PKPab 16 28 04.1 +1.1**
comp=Z,12nm,0.8s,baz=86,slow=1.0,SNR=15
CMAR Chiang Mai Arr 150.53 283 PKIKP **PKPdf 16 27 49.9 -1.1**
CMAR Chiang Mai Arr 150.53 283 PKPdf **PKPdf 16 27 49.9 -1.1**
CM05 Chiang Mai Arr 150.53 283 PKP **PKiKP 16 27 59.7 +2.6**
CM05 Chiang Mai Arr 150.53 283 P **PKiKP 16 27 59.7 +2.6**
comp=Z,151nmcomp=Z,17nm,0.8s
CM05 Chiang Mai Arr 150.53 283 P **PKiKP 16 27 59.8 +2.6**
comp=Z,151nmcomp=Z,17nm,0.8s
BOOM Boomskoye usch 150.54 349 PKIKP **PKPdf 16 27 49.3 -1.3**
BOOM Boomskoye usch 150.54 349 PKPdf **PKPdf 16 27 49.3 -1.3**
CM15 Chiang Mai Arr 150.54 283 PKP **PKiKP 16 27 59.7 +2.6**
CM15 Chiang Mai Arr 150.54 283 P **PKiKP 16 27 59.7 +2.6**
comp=Z,162nmcomp=Z,21nm,0.8s
CM15 Chiang Mai Arr 150.54 283 P **PKiKP 16 27 59.0 +1.9**
comp=Z,162nmcomp=Z,21nm,0.8s
KBK Karagaybulak 150.55 351 P **PKiKP 16 27 58.0 +1.3**
SNR=5.4
CM13 Chiang Mai Arr 150.56 283 PKP **PKiKP 16 27 59.8 +2.6**
CM13 Chiang Mai Arr 150.56 283 P **PKiKP 16 27 59.8 +2.6**
comp=Z,162nmcomp=Z,21nm,0.8s
CM13 Chiang Mai Arr 150.56 283 P **PKiKP 16 27 59.9 +2.6**
comp=Z,162nmcomp=Z,21nm,0.8s
CM32 Chiang Mai Arr 150.60 284 P **PKiKP 16 28 00.0 +2.8**
AAK Ala-Archa 150.63 351 PKPbc **PKPbc 16 27 55.7 -0.5**
comp=Z,3.1nm,0.5s,baz=34,slow=0.8,SNR=8.7
AAK Ala-Archa 150.63 351*c i* PKIKP **PKiKP 16 27 57.8 +0.9**
AAK pmax pmax
comp=Z,50nm,1.7s
AAK Ala-Archa 150.63 351 PKPbc 16 27 53.6 -2.5
EKS2 Erkin-Say 150.71 352 P **PKiKP 16 27 58.7 +1.8**
SNR=10
ULHL Ulahol 150.72 348 P **PKiKP 16 27 58.8 +1.7**
SNR=13
LSA Lhasa 153.75 311 IAMs_20 IAMs_20 17 37 31.6
comp=Z,701nm,22.0s
GEYT Alibeck 154.02 19 PKPbc **PKiKP 16 28 04.1 +0.3**
comp=Z,4.7nm,0.9s,baz=270,slow=3.0,SNR=5.4

MAN 07 16:12:13.8, 11°.67N×121°.42E, h41km, mb3.9, ML2.6, MS2.1, Panay

IDC ***07*** *16:33:15.5±0.8, 1°.81N×126°.41E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/39, mbtmp3.9/9, ML3.4/1, Error ellipse: s-maj=51.4km s-min=15.2km az=79.0*
DJA ***07*** *16:33:20.2±1.8, 2°.N±5°×12°.7E±°, h12km±17km, M3.9/6, MLv3.9/6*
NEIC ***07*** *16:33:23.0±2.0, 1°.81N±0°.07×126°.51E±0°.04, h56km±7km, mb4.5/26, Error ellipse: s-maj=10.7km s-min=5.2km az=162.0*
ISC 07 16:33:21.6±0.5, 1°.87N±0°.05×126°.59E±0°.07, h47km, n48, σ1§01/49, mb4.2/20, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**145**		**Pn**	**16 33 44.2**	**+0.4**
TNTI	**Ternate**	**1.34**	**145**	P	**Pn**	**16 33 44.3**	**+0.4**
SGSI	**Sangihe**	**2.09**	**330**	P	**Pn**	**16 33 53.6**	**-0.6**
SGSI				S	**Sn**	**16 34 18.8**	**-0.3**
GTOI	**Gorontalo**	**3.78**	**251**	P	**Pn**	**16 34 19.2**	**+1.8**
SANI	**Sanana**	**3.94**	**189**	P	**Pn**	**16 34 19.3**	**-0.2**
LUWI	**Luwuk**	**4.79**	**233**	Pn	**Pn**	**16 34 33.3**	**+2.1**
LUWI	**Luwuk**	**4.79**	**233**	P	**Pn**	**16 34 32.6**	**+1.4**
MRSI	**Marisa**	**4.85**	**253**	P	**Pn**	**16 34 33.1**	**+1.0**
TOLI2	**Tolitoli**	**5.86**	**263**	Pn	**Pn**	**16 34 44.1**	**-1.7**
MTN	**Manton Dam**	**15.30**	**163**	Pn	**Pn**	**16 36 54.9**	**+0.4**
MTN				IAmb	IAmb	16 37 06.6	
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**17.57**	**173**	P	**Pn**	**16 37 22.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.86**	**183**	P	**P**	**16 37 48.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=8.2,SNR=3.1						
FITZ	**Fitzroy Crossi**	**19.86**	**183**	IAmb	IAmb	16 37 55.3	
	comp=Z,9.8nm,1.4s						
TPUB	**Ta-pu**	**22.07**	**345**	P	**P**	**16 38 11.9**	**-0.9**
WB0	**Warramunga Arr**	**22.82**	**161**	P	**P**	**16 38 20.0**	**-0.7**
WB0				IAmb	IAmb	16 38 22.3	
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**22.97**	**161**	P	**P**	**16 38 21.7**	**-0.6**
	comp=Z,7.6nm,0.7s,baz=338,slow=10,SNR=48						
WRA				PcP	**PcP**	**16 42 11.8**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=339,slow=2.5,SNR=2.4						
WRA	**Warramunga Arr**	**22.97**	**161**	P	**P**	**16 38 21.1**	**-1.1**
WB2	**Warramunga Arr**	**22.98**	**161**	P	**P**	**16 38 21.3**	**-1.0**
WB2				IAmb	IAmb	16 38 23.9	
	comp=Z,7.2nm,0.7s						
WR0	**Warramunga Arr**	**23.05**	**161**	P	**P**	**16 38 22.2**	**-0.8**
WR0				IAmb	IAmb	16 38 43.5	
	comp=Z,5.5nm,0.9s						
AS31	**Alice Springs**	**26.36**	**165**	P	**P**	**16 38 53.1**	**-0.4**
ASAR	**Alice Springs**	**26.36**	**165**	P	**P**	**16 38 53.5**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=346,slow=11,SNR=35						
ASAR				PcP	**PcP**	**16 42 19.6**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=336,slow=2.2,SNR=2.3						
ASAR	**Alice Springs**	**26.36**	**165**	P	**P**	**16 38 53.1**	**-0.4**
ASAR					**PcP**	**16 42 19.1**	**+0.5**
MORW	**Morawa**	**32.38**	**197**	P	**P**	**16 39 45.3**	**-1.6**
MORW				IAmb	IAmb	16 39 57.8	
	comp=Z,22nm,1.3s						
FORT	**Forrest**	**32.50**	**178**	P	**P**	**16 39 47.8**	**0.0**
FORT				IAmb	IAmb	16 39 49.9	
	comp=Z,12nm,0.8s						
JWT	**Wachi**	**34.24**	**13**	P	**P**	**16 40 04.2**	**+1.3**
JWT				IAmb	IAmb	16 40 05.2	
	comp=Z,5.2nm,0.6s						
BBOO	**Buckleboo**	**35.63**	**166**	P	**P**	**16 40 14.8**	**-0.2**
BBOO				IAmb	IAmb	16 40 37.8	
	comp=Z,23nm,1.5s						
NWAO	**Narrogin (SRO)**	**35.72**	**194**	P	**P**	**16 40 14.4**	**-1.4**
MJAR	**Matsushiro Arr**	**36.13**	**16**	P	**P**	**16 40 19.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=191,slow=9.3,SNR=5.1						
STKA	**Stephens Creek**	**36.46**	**158**	P	**P**	**16 40 22.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=349,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**36.46**	**158**	IAmb	IAmb	16 40 28.5	
	comp=Z,1.1nm,1.2s						
JSD	**Sado**	**37.55**	**15**	P	**P**	**16 40 31.2**	**-0.1**
JSD				IAmb	IAmb	16 40 32.6	
	comp=Z,3.3nm,0.9s						
JMM	**Marumori**	**38.13**	**18**	P	**P**	**16 40 37.4**	**+1.2**
JMM				IAmb	IAmb	16 40 50.1	
	comp=Z,17nm,1.3s						
SONM	**Songino Array**	**49.01**	**342**	P	**P**	**16 42 04.6**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=158,slow=9.0,SNR=4.3						
SONM	**Songino Array**	**49.01**	**342**	IAmb	IAmb	16 42 06.0	
	comp=Z,1.5nm,1.3s						
PEA0B	**Petropavlovsk-**	**57.20**	**22**	P	**P**	**16 43 05.2**	**+1.5**
PEA0B				IAmb	IAmb	16 43 10.0	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**57.20**	**22**	P	**P**	**16 43 05.8**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=215,slow=1.8,SNR=6.3						
PETK	**Petropavlovsk-**	**57.20**	**22**	P	**P**	**16 43 05.0**	**+1.3**
MK31	**Makanchi Array**	**59.00**	**326**	P	**P**	**16 43 15.9**	**-0.7**
MK31				IAmb	IAmb	16 43 38.5	
	comp=Z,1.9nm,1.2s						
MKAR	**Makanchi Array**	**59.00**	**326**	P	**P**	**16 43 16.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=119,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**59.00**	**326**	P	**P**	**16 43 15.8**	**-0.8**
MA2	**Magadan**	**60.53**	**14**	P	**P**	**16 43 28.6**	**+1.8**
MQZ	**McQueen's Vall**	**61.27**	**143**	P	**P**	**16 43 30.6**	**-1.5**
NIUE	**Niue**	**65.70**	**112**	P	**P**	**16 44 02.3**	**+0.5**
GEYT	**Alibeck**	**71.95**	**309**	P	**P**	**16 44 40.7**	**+0.3**
GYA0B	**ALIBECK ARRAY**	**71.95**	**309**	P	**P**	**16 44 39.6**	**-0.9**
GYA0B				IAmb	IAmb	16 44 40.4	
	comp=Z,4.4nm,0.6s						
NRIK	**Noril'sk**	**72.19**	**346**	P	**P**	**16 44 42.2**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=145,slow=2.3,SNR=1.7						
NRIK	**Noril'sk**	**72.19**	**346**	P	**P**	**16 44 41.2**	**0.0**
NRIK				IAmb	IAmb	16 45 00.3	
	comp=Z,4.5nm,1.2s						
ABKAR	**Akbulak array**	**73.50**	**321**	P	**P**	**16 44 48.6**	**-0.7**

BJI ***07*** *16:41:31.4±0.0, 5°.93S×151°.99E, h68km, mB5.1/30, mb4.9/45, Ms5.2/19, Ms7 4.9/19*
IDC ***07*** *16:41:32.4±2.3, 5°.70S×151°.51E, h29km±15km, mb4.5/19, mb1 4.6/19, mb1mx4.5/31, mbtmp4.7/19, MS4.3/6, Ms1 4.3/6, ms1mx4.0/22, Error ellipse: s-maj=15.2km s-min=11.4km az=115.0*
NEIC ***07*** *16:41:36.1±1.6, 5°.72S±0°.07×151°.50E±0°.07, h63km±5km, mb4.9/79, Error ellipse: s-maj=11.3km s-min=9.4km az=128.0*
DJA ***07*** *16:41:38.6±0.4, 6°.S±3°×15°.2E±°, h100km±4km, M5.2/37, mb5.2/37, mB5.6/18, MLv5.4/3, Mw(mB)5.1/18, MwMwp5.2/1, Mwp5.4/1*
ISC 07 16:41:35.6±0.3, 5°.72S±0°.05×151°.47E±0°.05, h57km, n274, σ1§11/280, mb4.9/86, MS4.6/9, 9C-15D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.67**	**25**		**Pn**	**16 42 02.9**	**+0.3**
RABL	**Rabaul**	**1.67**	**25**	P	**Pn**	**16 42 04.1**	**+1.6**
MANU	**Manus Island**	**5.48**	**312**	Pn	**Pn**	**16 42 56.3**	**+1.5**
PMG	**Port Moresby**	**5.63**	**229**	Pn	**Pn**	**16 42 57.6**	**+0.9**
	33nm,0.3s,baz=58,slow=5.8,SNR=105						
PMG				Sn	**Sn**	**16 43 59.0**	**-1.1**
	67nm,0.3s,baz=40,slow=15,SNR=6.8						
PMG	**Port Moresby**	**5.63**	**229**	P	**Pn**	**16 42 58.5**	**+1.8**
PMG	**Port Moresby**	**5.63**	**229**	P	**Pn**	**16 42 58.3**	**+1.6**
HNR	**Honiara**	**9.18**	**114**	Pn	**Pn**	**16 43 46.4**	**+1.0**
	18nm,0.3s,baz=255,slow=0.7,SNR=21						
HNR				Sn	**Sn**	**16 45 29.4**	**+2.1**
	6.9nm,0.3s,baz=196,slow=15,SNR=4.7						
HNR	**Honiara**	**9.18**	**114**	Pn	**Pn**	**16 43 45.8**	**+0.4**
HNR	**Honiara**	**9.18**	**114**	P	**Pn**	**16 43 47.6**	**+2.2**
GENI	**Genyem**	**11.69**	**285**	P	**Pn**	**16 44 23.9**	**+4.2**
	55nm,1.1s						
MTSU	**Mount Surprise**	**14.18**	**209**	P	**Pn**	**16 44 53.1**	**-0.5**
	baz=14,SNR=8.4						
CTA	**Charters Tower**	**15.16**	**199**	Pn	**P**	**16 45 08.3**	**-2.0**
	0.1nm,0.3s,baz=90,slow=15,SNR=1.6						
SANVU	**Saraoutou**	**18.23**	**123**	P	**Pn**	**16 45 46.4**	**+1.7**
QIS	**Mount Isa**	**18.71**	**217**	P	**P**	**16 45 49.5**	**-0.1**
	baz=19,SNR=27						
FAKI	**Fak Fak**	**19.36**	**277**	P	**P**	**16 45 57.1**	**+0.4**
KDU	**Kakadu**	**19.98**	**248**	P	**P**	**16 46 03.5**	**+0.1**
	baz=20,SNR=89						
SAUI	**Saumlaki**	**20.15**	**262**	Pn	Pn	16 46 07.5	-0.1
SIJI	**Sorong**	**20.73**	**283**	P	**P**	**16 46 12.4**	**+0.8**
	27nm,0.6s,baz=90,slow=8.3,SNR=13						
SWI	**Sorong**	**20.74**	**283**	P	**P**	**16 46 12.4**	**+0.7**
	82nm,0.8s						
RMQ	**Roma**	**20.81**	**187**	P	Pn	16 46 14.6	-0.7
	baz=21,SNR=5.9						
MTN	**Manton Dam**	**21.27**	**249**	P	**P**	**16 46 17.2**	**-0.2**
	baz=21,SNR=35						
MTN	**Manton Dam**	**21.27**	**249**	P	**P**	**16 46 17.4**	**0.0**
LIFNC	**LIFOU**	**21.41**	**136**	P	**P**	**16 46 19.2**	**+0.4**
LIFNC				IAmb	IAmb	16 46 24.2	
	comp=Z,81nm,1.0s						
WB0	**Warramunga Arr**	**21.70**	**228**	P	**P**	**16 46 21.4**	**-0.6**
WR0	**Warramunga Arr**	**21.71**	**228**	P	**P**	**16 46 21.3**	**-0.8**
DZM	**Mont Dzumac**	**21.77**	**140**	P	**P**	**16 46 22.5**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=262,slow=5.7,SNR=8.1						
DZM	**Mont Dzumac**	**21.77**	**140**	P	**P**	**16 46 22.0**	**-0.9**
WRAB	**Tennant Creek**	**21.83**	**228**	P	**P**	**16 46 22.9**	**-0.5**
WB2	**Warramunga Arr**	**21.84**	**228**	P	**P**	**16 46 22.8**	**-0.7**
WRA	**Warramunga Arr**	**21.85**	**228**	P	**P**	**16 46 23.0**	**-0.5**
	comp=Z,142nm,0.8s,baz=53,slow=9.8,SNR=117						
WRA				PcP	**PcP**	**16 50 22.0**	**+0.2**
	comp=Z,9.6nm,0.7s,baz=47,slow=2.1,SNR=8.7						
WRA				ScP	**ScP**	**16 53 57.9**	**+3.5**
	comp=Z,4.4nm,1.1s,baz=46,slow=2.8,SNR=5.2						
WRA	**Warramunga Arr**	**21.85**	**228**	P	**P**	**16 46 22.9**	**-0.7**
QLP	**Quilpie**	**21.87**	**198**	P	**P**	**16 46 24.2**	**+0.5**
	baz=22,SNR=18						
YATNC	**Mamie plateau,**	**22.05**	**139**	P	**P**	**16 46 27.2**	**+1.4**
MARNC	**Mare, Loyalty**	**22.43**	**136**	P	**P**	**16 46 28.9**	**-0.9**
MSAI	**Masohi**	**22.59**	**275**	P	**P**	**16 46 31.7**	**+0.1**
	comp=Z,430nmcomp=Z,8.2nm,0.6s						
PINNC	**Pines Island,**	**22.81**	**139**	P	**P**	**16 46 34.5**	**+0.7**
KNRA	**Kununurra**	**24.38**	**244**	P	**P**	**16 46 48.8**	**+0.2**
	baz=24,SNR=138						
KNRA	**Kununurra**	**24.38**	**244**	P	**P**	**16 46 48.6**	**0.0**
AS31	**Alice Springs**	**24.58**	**222**	P	**P**	**16 46 50.2**	**-0.3**
AS31				IAmb	IAmb	16 46 53.2	
	comp=Z,33nm,1.0s						
ASAR	**Alice Springs**	**24.58**	**222**	P	**P**	**16 46 50.8**	**+0.3**
	comp=Z,76nm,0.8s,baz=57,slow=8.7,SNR=485						
ASAR				PcP	**PcP**	**16 50 27.4**	**0.0**
	comp=Z,3.2nm,0.6s,baz=47,slow=2.7,SNR=6.1						
ASAR				ScP	**ScP**	**16 54 05.6**	**+4.0**
	comp=Z,3.3nm,1.0s,baz=46,slow=2.7,SNR=11						
ASAR	**Alice Springs**	**24.58**	**222**	P	**P**	**16 46 50.2**	**-0.3**
ASAR					**PcP**	**16 50 27.3**	**0.0**
SANI	**Sanana**	**25.68**	**277**	P	**P**	**16 46 58.8**	**-1.7**
	comp=Z,31nm,0.7s						
CMSA	**Cobar Meteorol**	**26.25**	**191**	P	**P**	**16 47 05.6**	**+0.1**
	baz=26,SNR=14						
SOEI	**Soe**	**27.24**	**260**	P	**P**	**16 47 14.4**	**-0.4**
SOEI	**Soe**	**27.24**	**260**	P	**P**	**16 47 15.5**	**+0.7**
	comp=Z,1μmcomp=Z,129nm,0.9s						
STKA	**Stephens Creek**	**27.62**	**198**	P	**P**	**16 47 16.6**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=14,slow=8.7,SNR=14						
STKA	**Stephens Creek**	**27.62**	**198**	P	**P**	**16 47 16.4**	**-1.4**
BATI	**Baumata**	**27.89**	**259**	P	**P**	**16 47 21.8**	**+1.4**
	comp=Z,131nm,0.9s,baz=153,slow=2.1,SNR=26						
BATI				LR	LR	17 01 03.6	
	comp=Z,397nm,20.2s,baz=110,slow=42						
BATI	**Baumata**	**27.89**	**259**	P	**P**	**16 47 21.0**	**+0.6**
	comp=Z,952nmcomp=Z,63nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	**P**	**16 47 21.6**	**-0.1**
	comp=Z,100nm,0.6s,baz=68,slow=7.5,SNR=317						
FITZ				S	**S**	**16 52 06.0**	**+3.2**
	comp=Z,3.5nm,0.8s,baz=127,slow=22,SNR=1.8						
FITZ				LR	LR	16 59 32.4	
	comp=Z,337nm,18.6s,baz=72,slow=38						
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	**P**	**16 47 21.7**	**-0.1**
	baz=28,SNR=167						
FITZ	**Fitzroy Crossi**	**28.05**	**242**	P	**P**	**16 47 20.5**	**-1.4**
MSVF	**Nonsavu**	**28.59**	**117**	LR	LR	16 58 03.3	
	comp=Z,255nm,18.1s,baz=277,slow=35						
MMRI	**Maumere**	**29.14**	**263**	P	**P**	**16 47 29.7**	**-1.9**
MMRI	**Maumere**	**29.14**	**263**	P	**P**	**16 47 30.5**	**-1.0**
	comp=Z,2μmcomp=Z,112nm,0.7s						
WRKA	**Warakurna**	**29.36**	**227**	P	**P**	**16 47 33.0**	**-0.5**
	baz=29,SNR=63						
EDFI	**Ende, Flores**	**29.69**	**262**	P	**P**	**16 47 35.3**	**-1.2**
	comp=Z,653nmcomp=Z,68nm,0.9s						
HTT	**Hallett**	**29.94**	**201**	P	**P**	**16 47 38.1**	**-0.3**
	baz=30,SNR=7.3						
BBOO	**Buckleboo**	**30.54**	**206**	P	**P**	**16 47 43.4**	**-0.3**
	baz=31,SNR=15						
BBOO	**Buckleboo**	**30.54**	**206**	P	**P**	**16 47 42.6**	**-1.2**
BBOO				IAmb	IAmb	16 47 43.5	
	comp=Z,17nm,0.8s						
WBSI	**Waikabubak, Su**	**32.02**	**261**	P	**P**	**16 47 56.6**	**-0.4**
	comp=Z,2μmcomp=Z,280nm,0.8s						
FORT	**Forrest**	**33.24**	**219**	P	**P**	**16 48 07.2**	**-0.3**
	baz=33,SNR=37						
FORT	**Forrest**	**33.24**	**219**	P	**P**	**16 48 06.1**	**-1.4**
PLAI	**Plampang**	**33.55**	**263**	P	**P**	**16 48 09.0**	**-1.4**
	comp=Z,1μmcomp=Z,154nm,0.6s						
PSA00	**Pilbara Seismi**	**34.42**	**240**	P	**P**	**16 48 16.5**	**-1.3**
PSA00				IAmb	IAmb	16 48 22.8	
	comp=Z,31nm,0.9s						
PSA00	**Pilbara Seismi**	**34.42**	**240**	P	**P**	**16 48 16.7**	**-1.1**
PSA00				IAmb	IAmb	16 48 22.8	
	comp=Z,73nm,0.9s						
MEEK	**Meekatharra**	**37.59**	**233**	P	**P**	**16 48 44.9**	**-0.1**
	baz=38,SNR=25						
PWJI	**Pagerwojo**	**39.43**	**264**	P	**P**	**16 48 58.7**	**-1.8**
GIRL	**Giralia**	**39.66**	**241**	P	**P**	**16 49 02.0**	**-0.3**
	baz=40,SNR=8.5						
PCJI	**Pacitan**	**40.06**	**264**	P	**P**	**16 49 05.0**	**-0.7**
	comp=Z,213nm,0.8s						
UGM	**Wanagama**	**40.70**	**265**	P	**P**	**16 49 09.7**	**-1.4**
KLBR	**Kellerberrin**	**40.71**	**227**	P	**P**	**16 49 10.0**	**-0.9**
	baz=41,SNR=16						
MORW	**Morawa**	**40.74**	**231**	P	**P**	**16 49 10.7**	**-0.5**
	baz=41,SNR=12						
MORW	**Morawa**	**40.74**	**231**	P	**P**	**16 49 10.1**	**-1.1**
MORW				IAmb	IAmb	16 49 11.8	
	comp=Z,28nm,0.8s						
BLDU	**Ballidu**	**40.98**	**229**	P	**P**	**16 49 12.4**	**-0.7**
	baz=41,SNR=7.1						
TPUB	**Ta-pu**	**41.70**	**315**	P	**P**	**16 49 17.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**41.80**	**225**	P	**P**	**16 49 18.2**	**-1.6**
	comp=Z,15nm,0.9s,baz=75,slow=7.4,SNR=3.1						
NWAO	**Narrogin (SRO)**	**41.80**	**225**	P	**P**	**16 49 17.7**	**-2.2**
NWAO				IAmb	IAmb	16 49 43.1	
	comp=Z,47nm,1.3s						
MUN	**Mundaring**	**42.04**	**227**	P	**P**	**16 49 21.0**	**-0.7**
	baz=42,SNR=5.1						
KPJI	**Karang Pucung**	**42.28**	**265**	P	**P**	**16 49 23.8**	**-0.2**
	comp=Z,2μmcomp=Z,101nm,0.5s						
CISI	**Cisompet, Garu**	**43.38**	**265**	P	**P**	**16 49 31.7**	**-1.2**
CISI	**Cisompet, Garu**	**43.38**	**265**	P	**P**	**16 49 31.8**	**-1.2**
	comp=Z,1μmcomp=Z,147nm,1.1s						
LEM	**Lembang**	**43.59**	**266**	P	**P**	**16 49 34.9**	**+0.1**
	comp=Z,66nm,0.8s,baz=57,slow=5.0,SNR=14						
MJAR	**Matsushiro Arr**	**43.84**	**345**	P	**P**	**16 49 36.1**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=105,slow=17,SNR=2.1						
MJAR				PcP	**PcP**	**16 51 21.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=168,slow=3.6,SNR=4.1						
CNJI	**Cibinong**	**44.07**

comp=Z,160nm,5.3s
HHC LR LR
comp=Z,720nm,18.4s
HHC LR LR
comp=Z,640nm,16.3s
HHC LR LR
comp=Z,1μm,21.2s
LZH Lanzhou 60.97 317 *e*P **P 16 51 47.8 +4.4**
LZH pP sP 16 52 03.6 -2.3
LZH sP pP 16 52 09.6 +10
LZH pmax pmax
comp=Z,22nm,1.0s
GTA Gaotai 65.44 318 *e*P **P 16 52 13.2 +0.4**
GTA pP pP 16 52 29.6 +0.7
GTA sP sP 16 52 36.5 +1.0
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,73nm,5.1s
GTA LR LR
comp=Z,870nm,18.5s
GTA LR LR
comp=Z,880nm,19.6s
GTA LR LR
comp=Z,1μm,20.4s
SHL Shillong 65.64 301 P **P 16 52 13.5 -1.0**
SHL IAmb IAmb 16 52 15.1
comp=Z,19nm,0.9s
ULN Ulaanbaatar 66.08 329 P **P 16 52 16.8 0.0**
SONM Songino Array 66.40 329 P **P 16 52 19.3 +0.5**
comp=Z,8.1nm,1.0s,baz=134,slow=6.1,SNR=30
SONM Songino Array 66.40 329 P **P 16 52 18.7 -0.1**
SONM IAmb IAmb 16 52 20.6
comp=Z,14nm,1.2s
LSA Lhasa 67.67 305 P **P 16 52 27.7 0.0**
LSA pmax pmax
comp=Z,60nm,0.8s
LSA Lhasa 67.67 305 P **P 16 52 27.6 -0.1**
LSA IAmb IAmb 16 52 29.3
comp=Z,13nm,0.9s
VNDA Vanda 71.97 178 P **P 16 52 53.2 +0.5**
comp=Z,6.1nm,0.8s,baz=338,slow=7.0,SNR=21
SBA Scott Base 72.54 177 P **P 16 52 57.1 +1.1**
SBA IAmb IAmb 16 52 58.8
comp=Z,13nm,1.2s
SDPT Sand Point 72.62 26 P **P 16 52 56.5 -0.3**
WMQ Urumqi 75.52 318 *e*P **P 16 53 14.7 +0.6**
SVW2 Sparrevohn 78.19 23 P **P 16 53 29.5 +0.8**
CNPM China Poot 79.11 26 P **P 16 53 34.2 +0.4**
MK31 Makanchi Array 80.15 319 P **P 16 53 39.0 -0.8**
MKAR Makanchi Array 80.15 319 P **P 16 53 39.4 -0.4**
comp=Z,3.5nm,0.9s,baz=101,slow=6.3,SNR=16
MKAR LR LR 17 27 14.5
comp=Z,861nm,21.9s,baz=17,slow=34
MKAR Makanchi Array 80.15 319 P **P 16 53 38.6 -1.2**
MAKZ Makanchi 80.36 319 P **P 16 53 40.0 -0.8**
ZAA0 Zalesovo Array 81.18 327 P **P 16 53 43.5 -1.6**
ZALV Zalesovo Beam 81.18 327 P **P 16 53 43.7 -1.3**
comp=Z,4.3nm,0.5s,baz=106,slow=6.3,SNR=21
ZALV Zalesovo Beam 81.18 327 P **P 16 53 42.6 -2.4**
KTH Kantishna Hill 81.36 22 P **P 16 53 45.0 -0.9**
RND Reindeer 82.08 23 P **P 16 53 49.0 -0.8**
RND IAmb IAmb 16 53 50.7
comp=Z,10nm,0.8s
MLY Manley 82.21 21 P **P 16 53 50.2 -0.1**
MLY IAmb IAmb 16 53 52.0
comp=Z,10nm,0.6s
MCK McKinley 82.22 23 P **P 16 53 50.0 -0.3**
MCK IAmb IAmb 16 53 51.4
comp=Z,15nm,0.9s
KDJ Kajisay 82.28 314 P **P 16 53 51.1 -0.2**
KDJ IAmb IAmb 16 53 52.8
comp=Z,8.4nm,0.8s
KLU Klutina 82.37 25 P **P 16 53 51.5 +0.2**
KLU IAmb IAmb 16 53 53.6
comp=Z,15nm,1.0s
NEA2 Nenana 82.60 22 P **P 16 53 51.6 -0.7**
NEA2 IAmb IAmb 16 53 53.1
comp=Z,8.0nm,0.8s
WRH Wood River Hil 82.91 22 P **P 16 53 52.6 -1.2**
WRH IAmb IAmb 16 53 54.7
comp=Z,9.1nm,1.0s
CCB Clear Creek Bu 83.10 22 P **P 16 53 53.8 -1.0**
CCB IAmb IAmb 16 53 55.5
comp=Z,7.4nm,0.8s
GLB Gilahina Butte 83.26 26 P **P 16 53 55.7 -0.1**
GLB IAmb IAmb 16 53 58.5
comp=Z,17nm,1.3s
BOOM Boomskoye usch 83.26 314 P **P 16 53 56.2 -0.3**
HDA Harding Lake 83.31 23 P **P 16 53 55.2 -0.7**
VRDI Verde Repeater 83.33 26 P **P 16 53 56.4 0.0**
VRDI IAmb IAmb 16 53 58.4
comp=Z,12nm,1.1s
NIL Nilore 83.40 305 P **P 16 53 55.3 -1.8**
NIL IAmb IAmb 16 53 58.8
comp=Z,18nm,0.7s
IL31 83.51 22 P **P 16 53 55.9 -1.0**
IL31 IAmb IAmb 16 53 57.4
comp=Z,9.1nm,0.8s
ILAR Eielson Array 83.51 22 P **P 16 53 56.0 -1.0**
comp=Z,7.3nm,0.7s,baz=250,slow=5.3,SNR=52
ILAR Eielson Array 83.51 22 P **P 16 53 55.8 -1.2**
DOT Dot Lake 84.10 24 P **P 16 53 58.0 -2.1**
DOT IAmb IAmb 16 54 01.8
comp=Z,12nm,0.8s
CTGM Chitina Glacie 84.16 27 P **P 16 54 00.1 -0.5**
CTGM IAmb IAmb 16 54 03.0
comp=Z,12nm,0.9s
MAW Mawson 84.22 203 P **P 16 54 00.7 +0.1**
comp=Z,3.7nm,0.7s,baz=88,slow=7.6,SNR=11
MAW Mawson 84.22 203 P **P 16 54 00.7 +0.1**
baz=84,SNR=8.6
MAW Mawson 84.22 203 P **P 16 54 00.3 -0.3**
QSPA South Pole Qui 84.25 180 P **P 16 54 00.5 -0.5**
QSPA IAmb IAmb 16 54 02.0
comp=Z,18nm,1.1s
LOGN Logan Glacier 84.26 27 P **P 16 54 00.6 -0.5**
LOGN IAmb IAmb 16 54 03.7
comp=Z,13nm,1.2s
SCRK Sand Creek 84.27 24 P **P 16 54 00.6 -0.4**
BCAR Beaver Creek A 84.79 25 P **P 16 54 03.7 +0.1**
K27K Chicken 85.06 24 P **P 16 54 05.6 +0.8**
EGAK Eagle 85.72 23 P **P 16 54 08.4 +0.3**
EGAK IAmb IAmb 16 54 10.4
comp=Z,12nm,1.1s
DAWY Dawson 86.16 24 P **P 16 54 09.7 -0.7**
DAWY IAmb IAmb 16 54 13.0
comp=Z,14nm,1.2s
NRIK Noril'sk 86.40 341 P **P 16 54 10.3 -1.1**
comp=Z,3.3nm,0.6s,baz=145,slow=4.0,SNR=6.9
NRIK Noril'sk 86.40 341 P **P 16 54 10.5 -0.9**
KK31 Karatay Array 87.30 314 P **P 16 54 15.3 -1.0**
KK31 IAmb IAmb 16 54 18.4
comp=Z,8.0nm,0.9s
KKAR Karatay Array 87.30 314 P **P 16 54 15.1 -1.2**
KKAR IAmb IAmb 16 54 18.4
comp=Z,8.0nm,0.9s
KKAR Karatay Array 87.30 314 P **P 16 54 15.2 -1.2**
EPYK Eagle Plains 88.02 23 P **P 16 54 18.9 -0.4**
EPYK IAmb IAmb 16 54 21.4
comp=Z,14nm,0.9s
INK Inuvik 89.78 21 P **P 16 54 26.0 -1.5**
INK IAmb IAmb 16 54 29.6
comp=Z,13nm,1.1s
K05A Summer Lake 92.10 47 P **P 16 54 36.4 -2.8**
BEKR Beckworth 92.22 50 P **P 16 54 37.6 -2.1**
BEKR IAmb IAmb 16 54 41.3
comp=Z,4.1nm,1.1s
WAKR Walker 92.81 52 P **P 16 54 39.3 -3.3**
I07A Izee 93.24 46 P **P 16 54 42.8 -1.5**
I07A IAmb IAmb 16 54 59.5
comp=Z,6.7nm,1.1s
LHV Little Huntoon 93.52 52 P **P 16 54 44.8 -0.7**
LHV IAmb IAmb 16 54 50.9
comp=Z,5.5nm,1.0s
NVAR Mina Array Bea 93.69 52 P **P 16 54 47.9 +1.3**
comp=Z,3.0nm,0.7s,baz=254,slow=6.2,SNR=26
NVAR LR LR 17 30 24.3
comp=Z,196nm,18.8s,baz=280,slow=31
NVAR Mina Array Bea 93.69 52 P **P 16 54 47.6 +1.0**
G08A Pilot Rock 93.72 45 P **P 16 54 45.8 -0.7**
G08A IAmb IAmb 16 55 02.2
comp=Z,7.2nm,1.3s
NV11 Mina Array Sit 93.81 52 P **P 16 54 46.8 -0.3**
NV11 IAmb IAmb 16 55 03.1
comp=Z,9.7nm,1.4s
KVN Kaiserville 93.90 51 P **P 16 54 47.5 0.0**
KVN IAmb IAmb 16 54 49.3
comp=Z,3.4nm,0.9s
BMO Blue Mountains 94.86 46 P **P 16 54 51.0 -0.7**
BMO IAmb IAmb 16 55 06.5
comp=Z,6.8nm,1.4s
R11A Troy Canyon, C 95.82 52 P **P 16 54 54.8 -1.5**
R11A IAmb IAmb 16 55 13.1
comp=Z,5.4nm,1.4s
GEYT Alibeck 96.12 307 P **P 16 54 54.0 -3.5**
YKA Yellowknife Ar 96.85 28 P **P 16 55 00.9 +0.8**
comp=Z,2.4nm,0.7s,baz=269,slow=4.3,SNR=16
PDAR Pinedale Array 100.44 48 P **Pdif 16 55 17.5 +0.5**
comp=Z,0.9nm,0.9s,baz=283,slow=2.6,SNR=5.8
TXAR Lajitas Array 105.73 61 PKKPab PKKPab 17 11 34.2 +0.2
comp=Z,0.6nm,0.8s,baz=113,slow=6.9,SNR=5.4
ARCES ARCESS Array B 107.35 343 PKiKP **PKiKP 16 59 54.7 -0.5**
comp=Z,4.5nm,0.9s,baz=58,slow=3.4,SNR=2.2
FINES FINESS Array B 111.33 335 PKiKP **PKiKP 17 00 02.9 0.0**
comp=Z,1.7nm,0.6s,baz=174,slow=1.4,SNR=4.2
AKASG Malin Array Be 114.45 324 PKP PKPdf 17 00 08.6 -0.6
comp=Z,1.6nm,0.5s,baz=62,slow=2.2,SNR=9.7
AKASG Malin Array Be 114.45 324 PKPdf 17 00 08.2 -1.0
BRTR Keskin Array B 114.91 311 PKP **PKiKP 17 00 10.5 -0.1**
comp=Z,1.8nm,0.7s,baz=134,slow=3.6,SNR=4.3
TPGR Topolog 117.10 318 ⇑P **PKiKP 17 00 15.1 +0.6**
TIRR Tirgusor 117.24 318 ⇓P **PKiKP 17 00 15.0 +0.3**
NB2 NORSAR Subarra 117.31 339 PKPdf **PKPdf 17 00 13.9 -0.5**
comp=Z,1.6nm,0.7s,baz=42,slow=1.8
NOA NORSAR Array B 117.31 339 PKP **PKPdf 17 00 14.1 -0.3**
comp=Z,1.4nm,0.7s,baz=45,slow=1.8,SNR=5.6
HARR Harsova 117.48 318 ⇓P **PKiKP 17 00 16.0 +0.8**
BOSA Boshof 118.01 233 PKP **PKiKP 17 00 16.9 0.0**
comp=Z,1.3nm,0.6s,baz=166,slow=0.8,SNR=4.3
BURAR Bucovina Array 118.10 322 ⇓P **PKiKP 17 00 18.0 +1.5**
MLR Muntele Rosu 118.49 319 ⇓P **PKPdf 17 00 16.6 -0.7**
MTUR Matau 119.17 319 ⇑P **PKiKP 17 00 19.9 +1.3**
KOLS Kolonicke sedl 119.28 324 *e*PKP **PKiKP 17 00 19.6 +1.0**
ARR Arges 119.39 320 ⇑P **PKiKP 17 00 19.9 +0.9**
HUMR Humele 119.50 319 ⇓P **PKiKP 17 00 19.1 0.0**
CRVS Cervenica-Dubn 119.77 324 *e*PKP **PKiKP 17 00 20.2 +0.6**
DRGR 120.00 322 ⇓P **PKiKP 17 00 20.1 0.0**
BZS Buzias 121.20 321 ⇓P **PKiKP 17 00 22.5 0.0**
VTS Vitosha 121.42 317 ⇓P **PKiKP 17 00 23.3 +0.1**
VYHS Vyhne 121.48 325 *e*PKP **PKiKP 17 00 24.9 +2.0**
MDVR Moldovita 121.51 320 ⇓P **PKiKP 17 00 23.2 0.0**
MORC Moravsky Berou 121.53 327 ⇑P **PKiKP 17 00 23.9 +0.9**
MORC Moravsky Berou 121.53 327 *e*PKP **PKiKP 17 00 23.3 +0.3**
KRLC Kraliky 121.77 327 *e*PKPdf **PKiKP 17 00 23.9 +0.4**
OSTC Ostas 121.80 328 *e*PKPdf **PKiKP 17 00 24.0 +0.5**
DPC Dobruska-Polom 121.86 328 *e*PKPdf **PKiKP 17 00 23.8 +0.1**
JAVC Velka Javorina 121.95 326 *e*PKP **PKiKP 17 00 24.9 +1.0**
BOVS Bovan 122.02 319 ⇑P **PKPdf 17 00 23.6 -0.4**
VRAC Vranov 122.30 327 *e*PKP **PKiKP 17 00 24.5 0.0**
MODS Modra-Piesok 122.43 325 *e*PKP **PKiKP 17 00 25.8 +1.0**
FRGS Fruska Gora 122.54 321 ⇓P **PKiKP 17 00 25.5 +0.4**
KRUC Moravsky 122.54 327 *e*PKP **PKPdf 17 00 24.8 0.0**
BSEG Bad Segeberg 122.55 334 *e*PKPdf **PKiKP 17 00 25.3 +0.5**
comp=Z,51,slow=2.0
MORH Mrgy, Hungar 122.75 323 ⇓P **PKiKP 17 00 25.6 +0.2**
BRG Berggiesshubel 122.79 329 *e*PKP **PKiKP 17 00 25.9 +0.4**
BRG Amp 17 00 27.8
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 122.79 329 *e*PKPdf **PKiKP 17 00 25.7 +0.3**
baz=51,slow=2.0
IDI Anoyia 122.82 309 ⇑P **PKiKP 17 00 26.6 +0.6**
CLL Collm 123.00 330 *i* PKPdf **PKiKP 17 00 25.8 0.0**
comp=Z,9.0nm,0.9s
CLL Collm 123.00 330 *e*PKPdf **PKiKP 17 00 25.8 0.0**
baz=51,slow=2.0
PRU Pruhonice 123.01 328 *e*PKPDF **PKiKP 17 00 26.2 +0.3**
FBE Freiberg 123.06 330 *e*PKPdf **PKiKP 17 00 26.4 +0.5**
baz=51,slow=2.0
CONA Conrad Observa 123.47 326 *i* P **PKiKP 17 00 27.0 0.0**
comp=Z,3.8nm,0.6s
CKRC Cesky Krumlov 123.81 327 *e*PKPDF **PKiKP 17 00 28.8 +1.2**
GUNZ Gunzen 123.92 330 *e*PKPdf **PKiKP 17 00 28.0 +0.3**
baz=51,slow=2.0
CLZ Clausthal 123.92 332 *e*PKPdf **PKiKP 17 00 28.2 +0.5**
baz=51,slow=2.0
WERN Wernitzgruen 123.94 330 *e*PKPdf **PKiKP 17 00 28.1 +0.4**
baz=51,slow=2.0
KHC Kasperske Hory 124.02 328 *e*PKPDF **PKiKP 17 00 28.1 +0.1**
KHC *ep*PKP **pPKPdf 17 00 42.8 -1.5**
ARSA Arzberg 124.03 325 *i* P **PKPdf 17 00 27.7 -0.1**
comp=Z,3.5nm,0.6s
MOX Moxa 124.10 330 *e*PKPdf **PKiKP 17 00 28.1 +0.1**
baz=51,slow=2.0
MOX *e*L L 18 04 36.9
comp=Z,218nm,19.0s
GEC2 GERESS Array S 124.13 328 *e*PKPdf **PKiKP 17 00 28.3 0.0**
baz=51,slow=2.0
GERES GERESS Array B 124.13 328 PKP **PKiKP 17 00 28.4 0.0**
comp=Z,6.2nm,0.7s,baz=76,slow=1.7,SNR=46
PDG Podgorica 124.16 318 ⇑P **PKiKP 17 00 28.4 0.0**
MANZ Manzenberg 124.26 329 *e*PKPdf **PKiKP 17 00 28.7 +0.3**
baz=51,slow=2.0
ROTZ Rotzenmuhle 124.35 329 *e*PKPdf **PKiKP 17 00 28.5 0.0**
baz=51,slow=2.0
WET Wettzell 124.38 328 *e*PKPdf **PKiKP 17 00 28.9 +0.3**
baz=51,slow=2.0
MOA Molln 124.40 326 *e*P **PKPdf 17 00 28.2 -0.2**
comp=Z,2.8nm,0.8s
SOKA Soboth 124.63 325 *i* P **PKPdf 17 00 29.0 0.0**
comp=Z,8.1nm,1.0s,SNR=7.2
GRF Grafenberg Arr 124.90 330 *e*PKPdf **PKiKP 17 00 29.6 0.0**
baz=51,slow=2.0
GRF *e*L L 17 54 31.4
comp=Z,201nm,19.1s
OBKA Obir 125.00 325 *e*P **PKPdf 17 00 29.7 0.0**
comp=Z,3.0nm,1.0s
KBA Koelnbreinsper 125.35 326 *e*P **PKPdf 17 00 29.9 -0.6**
comp=Z,6.1nm,0.9s
MYKA Terra Mystica 125.45 325 *i* P **PKPdf 17 00 30.0 -0.5**
comp=Z,3.0nm,0.5s
ABTA Abfaltersbach 126.01 326 *e*P **PKPdf 17 00 31.4 -0.3**
comp=Z,6.6nm,0.8s,SNR=5.8
WATA Walderalm 126.17 327 *i* P **PKPdf 17 00 32.0 0.0**
comp=Z,13nm,1.1s
WTTA Wattenberg 126.18 327 *i* P **PKiKP 17 00 32.3 -0.2**
comp=Z,11nm,0.9s,SNR=5.7
MOTA Moosalm 126.42 327 *e*P **PKPdf 17 00 32.7 +0.2**
comp=Z,8.3nm,0.7s,SNR=6.1
SQTA Sankt Quirin 126.44 327 *e*P **PKiKP 17 00 32.9 -0.1**
comp=Z,13nm,0.9s
MATE Matera 126.68 318 ⇑P **PKiKP 17 00 33.8 +0.3**
BTNL Ternell 126.73 333 *d*PKP **PKPdf 17 00 32.7 -0.1**
FETA Feichten 126.82 327 *e*P **PKiKP 17 00 33.8 0.0**
comp=Z,7.0nm,0.7s,SNR=9.7
DAVA Damuels 127.11 328 *i* P **PKiKP 17 00 34.1 -0.2**
comp=Z,8.4nm,0.9s
WLF Walferdange 127.37 332 *d*PKP **PKiKP 17 00 35.4 +0.8**
BMRD Maredsous 127.54 334 *d*PKP **PKiKP 17 00 34.9 0.0**
SNF Seneffe 127.60 334 *d*PKP **PKiKP 17 00 35.2 +0.3**
KEST Kesra 134.15 316 PKP **PKiKP 17 00 48.3 -0.5**
comp=Z,11nm,0.9s,baz=292,slow=5.9,SNR=12
LPAZ La Paz 135.14 120 PKP **PKiKP 17 00 51.3 -0.7**
comp=Z,4.7nm,0.9s,baz=359,slow=1.7,SNR=9.1
CPUP Villa Florida 137.64 140 PKP **PKPdf 17 00 54.8 +0.7**
comp=Z,2.4nm,0.9s,baz=249,slow=1.3,SNR=4.0
ESDC Sonseca Array 139.59 330 PKP **PKiKP 17 00 59.3 -0.4**
comp=Z,0.5nm,0.5s,baz=21,slow=1.8,SNR=5.0
PGAV Gavieira, Arco 139.65 336 *e*PKPdf **PKiKP 17 01 00.3 +0.5**
MVO Moncorvo 139.81 335 *e*PKPdf **PKPdf 17 00 58.5 +0.8**
POLO Lamas de Olo 139.96 336 *e*PKPdf **PKiKP 17 00 59.8 -0.7**
MTE Manteigas 140.66 334 *e*PKPdf **PKPdf 17 01 00.2 +0.9**
PCBR Castelo Branco 141.09 334 *e*PKPdf **PKiKP 17 01 03.1 +0.4**
PMRV Marv??o 141.39 333 *e*PKPdf **PKiKP 17 01 04.1 +0.8**
PMTG Montargil 142.06 334 *e*PKPdf **PKPdf 17 01 00.4 -1.3**
MESJ Messejana 143.06 333 *e*PKPdf **PKPdf 17 01 02.9 -0.6**
MORF Marmelete 143.70 333 *e*PKPdf **PKPdf 17 01 03.6 -1.2**
TORD Torodi Ar. Bea 149.31 286 PKPbc **PKPbc 17 01 18.8 -0.3**
comp=Z,59nm,0.8s,baz=48,slow=1.9,SNR=196
TORD Torodi Ar. Bea 149.31 286 PKPbc **PKPbc 17 01 18.2 -0.9**
BDFB Brasilia 151.32 138 PKPbc **PKPbc 17 01 24.0 -0.1**
comp=Z,15nm,0.7s,baz=219,slow=2.4,SNR=15
BDFB Brasilia 151.32 138 **PKPbc 17 01 22.7 -1.3**
KIC Kosan Boka 156.33 273 *e*PKP1 **PKPab 17 01 54.5 +1.0**
comp=Z,29nm,0.8s
TIC Toumodi 156.61 273 *e*PKP1 **PKPab 17 01 55.5 +0.8**
LIC Lamto 156.62 272 *e*PKP1 **PKPab 17 01 54.5 -0.2**
comp=Z,43nm,1.1s

KRNET ***07*** *16:46:27.5±0.1, 40.°70N×77.°89E, mb3.0*
SOME ***07*** *16:46:29.5, 40.°93N×77.°93E, h0km*
NNC ***07*** *16:46:34.2±2.1, 41.°00N×77.°98E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=15.8km s-min=11.2km az=159.0
ISC 07 16:46:28.7±1.9, 40.72N±0.08×77.80E±0.04, h10km, n45,
σ1§69/70, 17C-15D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.48**	**342**	⇓*i*	P		**Pb**	**16 46 56.3**	**-0.2**
KDJ	baz=40			⇓*i*	S		**Sg**	**16 47 17.2**	**+0.8**
ULHL	**Ulahol**	**1.92**	**323**	⇑*e*	P		**Pb**	**16 47 04.2**	**+0.3**
ULHL	baz=22			⇑*i*	S		**Sg**	**16 47 31.7**	**+1.3**
ANVS	**Anan'yevo**	**2.06**	**357**	⇑*i*	P		**Pb**	**16 47 06.4**	**0.0**
ANVS	baz=55			⇑*i*	S		**Sg**	**16 47 34.2**	**-0.8**
BOOM	**Boomskoye usch**	**2.25**	**322**	⇓*e*	P		**Pb**	**16 47 08.9**	**-0.6**
BOOM	baz=21			⇓*i*	S		**Sb**	**16 47 39.6**	**+2.1**
SATY	**Saty**	**2.38**	**11**	*e*	P		**Pg**	**16 47 12.2**	**-2.2**
SATY	13nm,0.3s			*e*	S		**Sg**	**16 47 42.6**	**-2.6**
SATY	**Saty**	**2.38**	**11**	Pg			**Pg**	**16 47 12.2**	**-2.2**
SATY	13nm,0.3s			Lg			Lg	16 47 42.6	
MDOK	**Medeo**	**2.50**	**347**	*e*	P		**Pb**	**16 47 14.6**	**+0.8**
MDOK	18nm,0.3s			*e*	S		**Sg**	**16 47 47.1**	**-2.1**
MDOK	**Medeo**	**2.50**	**347**	Pn			**Pb**	**16 47 14.4**	**+0.6**
MDOK	24nm,0.5s			Lg			Lg	16 47 48.3	
MDOK	**Medeo**	**2.50**	**347**	Pg			**Pb**	**16 47 14.6**	**+0.8**
MDOK	29nm,0.6s			Lg			Lg	16 47 47.9	
KNDC	**Almaty**	**2.57**	**346**	⇑Pn			**Pb**	**16 47 14.5**	**-0.4**
KNDC	21nm,0.6s			⇓Lg			Lg	16 47 51.4	
UZB	**Uzynbulak**	**2.59**	**20**	*e*	P		**Pb**	**16 47 14.9**	**-0.4**
UZB	7.7nm,0.3s			*e*	S		**Sb**	**16 47 47.8**	**+0.5**
UZB	**Uzynbulak**	**2.59**	**20**	Pg			**Pb**	**16 47 14.9**	**-0.4**
UZB	7.7nm,0.3s			Lg			Lg	16 47 47.8	
KST	**Kastek**	**2.69**	**330**	*e*	P		**Pb**	**16 47 18.0**	**+0.9**
KST	8.7nm,0.4s			*e*	S		**Sb**	**16 47 52.4**	**+2.2**
KST	**Kastek**	**2.69**	**330**	Pg			**Pb**	**16 47 18.0**	**+0.9**
KST	8.7nm,0.4s			Lg			Lg	16 47 52.4	
SHLS	**Shalkode**	**2.73**	**26**	*e*	P		**Pg**	**16 47 19.9**	**-1.2**
SHLS	9.1nm,0.3s			*e*	S		**Sg**	**16 47 55.6**	**-0.9**
SHLS	**Shalkode**	**2.73**	**26**	Pg			**Pg**	**16 47 19.9**	**-1.2**
SHLS	9.1nm,0.3s			Lg			Lg	16 47 55.6	
TKM2	**Tokmak 2**	**2.75**	**324**	⇑*i*	P		**Pb**	**16 47 15.5**	**-2.5**
TKM2	baz=23			⇑*i*	S		**Sb**	**16 47 50.7**	**-1.1**
TKM2	**Tokmak 2**	**2.75**	**324**	⇑Pn			**Pb**	**16 47 18.5**	**+0.5**
TKM2	2.1nm,0.3s			⇓Lg			Lg	16 47 58.8	
KURS	**Kuram**	**2.78**	**6**	*e*	P		**Pb**	**16 47 19.1**	**+0.6**
KURS	10nm,0.4s			*e*	S		**Sg**	**16 47 54.6**	**-3.4**
KURS	**Kuram**	**2.78**	**6**	Pg			**Pb**	**16 47 19.1**	**+0.6**
KURS	10nm,0.4s			Lg			Lg	16 47 54.6	
KPKS	**Kokpek**	**2.82**	**13**	*e*	P		**Pb**	**16 47 19.1**	**-0.1**
KPKS	20nm,0.3s			*e*	S		**Sb**	**16 47 54.6**	**+0.7**
KBK	**Karagaybulak**	**2.88**	**313**	⇑*e*	P		**Pb**	**16 47 18.5**	**-1.8**
KBK	baz=12			⇑*i*	S		**Sb**	**16 47 55.7**	**+0.1**
PDGK	**Podgornoye**	**2.90**	**25**	Pg			**Pb**	**16 47 19.7**	**-0.8**
PDGK	4.5nm,0.3s			Lg			Lg	16 47 54.9	
PDGK	**Podgornoye**	**2.90**	**25**	⇓Pn			**Pb**	**16 47 19.0**	**-1.5**
PDGK	9.9nm,0.6s			⇑Lg			Lg	16 47 56.8	
DGS	**Degeres**	**2.94**	**330**	*e*	P		**Pg**	**16 47 23.5**	**-1.5**
DGS	6.8nm,0.7s			*e*	S		**Sg**	**16 48 02.4**	**-0.7**
DGS	**Degeres**	**2.94**	**330**	Pg			**Pg**	**16 47 23.5**	**-1.5**
DGS	6.8nm,0.7s			Lg			Lg	16 48 02.4	
KTBS	**Karatobe**	**3.10**	**345**	*e*	P		**Pb**	**16 47 25.1**	**+1.1**
KTBS	10nm,0.3s			*e*	S		**Sb**	**16 48 04.7**	**+2.8**
KTBS	**Karatobe**	**3.10**	**345**	Pg			**Pb**	**16 47 25.1**	**+1.1**
KTBS	10nm,0.3s			Lg			Lg	16 48 04.7	
AAK	**Ala-Archa**	**3.13**	**309**	⇑*i*	P		**Pb**	**16 47 22.5**	**-2.0**
AAK	baz=8.0			⇑*i*	S		**Sb**	**16 48 02.8**	**+0.1**
AAK	**Ala-Archa**	**3.13**	**309**	⇑Pn			**Pg**	**16 47 28.8**	**+0.2**
AAK	3.9nm,0.6s			⇓Lg			Lg	16 48 11.8	
CHKK	**Chushkaly**	**3.19**	**349**	*e*	P		**Pb**	**16 47 26.8**	**+1.3**
CHKK	4.9nm,0.3s			*e*	S		**Sg**	**16 48 07.7**	**-3.3**
CHKK	**Chushkaly**	**3.19**	**349**	Pg			**Pb**	**16 47 26.4**	**+1.0**
CHKK	4.9nm,0.3s			Lg			Lg	16 48 07.7	
CHMS	**Chumysh**	**3.22**	**316**	⇓*i*	P		**Pb**	**16 47 23.0**	**-2.9**
CHMS	baz=15			⇓*i*	S		**Sb**	**16 48 03.3**	**-1.9**
KUU	**Kurty**	**3.35**	**342**	*e*	P		**Pb**	**16 47 29.5**	**+1.4**
KUU	3.5nm,0.5s			*e*	S		**Sg**	**16 48 13.0**	**-3.2**
KUU	**Kurty**	**3.35**	**342**	Pg			**Pb**	**16 47 29.5**	**+1.4**
KUU	3.5nm,0.5s			Lg			Lg	16 48 13.0	
AML	**Almayashu**	**3.39**	**296**	⇑*i*	P		**Pb**	**16 47 27.4**	**-1.7**
AML	baz=96			⇑*i*	S		**Sb**	**16 48 11.5**	**+1.0**
ARXS	**Arharly**	**3.49**	**0**	*e*	P		**Pb**	**16 47 31.7**	**+1.1**
ARXS	5.6nm,0.3s			*e*	S		**Sb**	**16 48 16.2**	**+3.1**
ARXS	**Arharly**	**3.49**	**0**	Pg			**Pb**	**16 47 31.7**	**+1.1**
ARXS	5.6nm,0.3s			Lg			Lg	16 48 16.2	
USP	**Ospenovka**	**3.54**	**317**	⇓*i*	P		**Pn**	**16 47 27.0**	**+3.3**
USP	baz=16			⇓*i*	S		**Sb**	**16 48 10.6**	**-3.8**
EKS2	**Erkin-Say**	**3.58**	**304**	⇓*e*	P		**Pb**	**16 47 29.2**	**-3.0**
EKS2	baz=4.0			⇓*i*	S		**Sb**	**16 48 14.2**	**-1.5**

baz=4.0
SGDS Sogindy 3.60 320 Pg **Pg 16 47 36.0 -1.8**
0.9nm,0.1s
SGDS Lg Lg 16 48 23.8
3.7nm,0.4s
DJR Jarkent 3.90 22 *e*P **Pb 16 47 37.8 +0.2**
0.9nm,0.4s
DJR *e*S **Sb 16 48 26.3 +1.5**
12nm,0.5s
MRKS Merke 3.97 302 *e*P **Pg 16 47 44.0 -0.8**
2.4nm,0.3s
MRKS *e*S **Sg 16 48 36.7 +0.4**
7.5nm,0.5s
MRKS Merke 3.97 302 Pg **Pg 16 47 44.0 -0.8**
2.4nm,0.3s
MRKS Lg Lg 16 48 36.7
7.5nm,0.5s
KK31 Karatay Array 5.93 296 ⇓Pg **Pg 16 48 24.5 +2.2**
1.0nm,0.7s
KK31 ⇑Lg Lg 16 49 42.5
1.6nm,0.8s,baz=124,slow=24

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*IDC **07** 16:46:52.8±1.6,20°.96S×178°.44W,h586km±17km,mb3.1/6, mb1 3.3/10,mb1mx3.1/27,mbtmp4.1/10,Error ellipse: s-maj=31.2km s-min=18.7km az=132.0*
*NEIC **07** 16:46:52.9±2.0,20°.9S±0°.2×178°.4W±0°.1,h596km±11km, mb4.3/24,Error ellipse: s-maj=22.4km s-min=17.6km az=169.0*

ISC 07 16:46:52.4±0.7,20°.9S±0°.1×178°.46W±0°.09,h579km,n38, σ1§26/40,mb4.1/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53**	**313**	P	**P**	**16 48 22.2**	**+1.8**
2.3nm,0.3s,baz=89,slow=23,SNR=15							
MSVF	**Nonsavu**	**4.53**	**313**	P	**P**	**16 48 21.5**	**+1.1**
NIUE	**Niue**	**8.21**	**79**	P	**P**	**16 48 54.7**	**+1.6**
AFI	**Afiamalu**	**9.39**	**44**	P	**P**	**16 49 05.4**	**+0.5**
2.8nm,0.3s,baz=262,slow=19,SNR=5.0							
AFI				S	**S**	**16 50 50.2**	**-3.4**
1.3nm,0.3s,baz=237,slow=21,SNR=2.2							
AFI	**Afiamalu**	**9.39**	**44**	P	**P**	**16 49 04.9**	**0.0**
DZM	**Mont Dzumac**	**14.11**	**262**	P	**P**	**16 49 54.2**	**+1.4**
0.3nm,0.3s,baz=135,slow=19,SNR=1.6							
OUZ	**Omahuta**	**15.93**	**204**	P	**P**	**16 50 10.6**	**+0.6**
URZ	**Urewera**	**17.77**	**191**	P	**P**	**16 50 25.9**	**-0.7**
1.3nm,0.3s,baz=25,slow=14,SNR=7.4							
URZ	**Urewera**	**17.77**	**191**	P	**P**	**16 50 25.7**	**-0.9**
BKZ	**Black Stump Fm**	**18.77**	**192**	P	**P**	**16 50 34.2**	**-1.6**
BKZ				IAmb	IAmb	16 50 46.5	
comp=Z,18nm,1.2s							
MSWZ	**Moikau Station**	**21.19**	**193**	P	**P**	**16 50 55.8**	**-1.8**
QRZ	**Quartz Range**	**21.34**	**199**	P	**P**	**16 50 59.2**	**+0.2**
NNZ	**Nelson**	**21.45**	**197**	P	**P**	**16 50 59.5**	**-0.5**
THZ	**Tophouse**	**22.09**	**197**	P	**P**	**16 51 05.0**	**-0.7**
KHZ	**Kahutara**	**22.54**	**196**	P	**P**	**16 51 08.8**	**-0.8**
LTZ	**Lake Taylor**	**23.21**	**198**	P	**P**	**16 51 13.9**	**-1.8**
OXZ	**Oxford**	**23.78**	**197**	P	**P**	**16 51 18.9**	**-1.7**
FOZ	**Fox Glacier**	**24.65**	**201**	P	**P**	**16 51 28.3**	**0.0**
MLZ	**Mavora Lakes**	**26.84**	**201**	P	**P**	**16 51 46.5**	**-1.2**
WHZ	**Wether Hill Ro**	**27.36**	**201**	P	**P**	**16 51 52.8**	**+0.7**
CTAO	**Charters Tower**	**33.03**	**265**	P	**P**	**16 52 40.7**	**-0.5**
CTAO				IAmb	IAmb	16 52 51.5	
comp=Z,8.9nm,1.2s							
PMG	**Port Moresby**	**35.01**	**284**	P	**P**	**16 52 57.5**	**-0.3**
TOO	**Toolangi**	**35.35**	**234**	P	**P**	**16 53 01.1**	**+0.8**
TOO				IAmb	IAmb	16 53 08.8	
comp=Z,13nm,1.3s							
MANU	**Manus Island**	**38.20**	**295**	P	**P**	**16 53 24.5**	**+0.5**
MANU				IAmb	IAmb	16 53 27.7	
comp=Z,5.2nm,0.8s							
BBOO	**Buckleboo**	**42.01**	**244**	P	**P**	**16 53 53.4**	**-0.7**
BBOO				IAmb	IAmb	16 53 57.3	
comp=Z,19nm,1.4s							
WR0	**Warramunga Arr**	**43.94**	**263**	P	**P**	**16 54 08.7**	**-0.6**
WR0				IAmb	IAmb	16 54 26.0	
comp=Z,9.2nm,1.4s							
AS31	**Alice Springs**	**44.02**	**257**	P	**P**	**16 54 09.0**	**-0.9**
ASAR	**Alice Springs**	**44.02**	**257**	P	**P**	**16 54 09.6**	**-0.3**
comp=Z,2.2nm,0.5s,baz=91,slow=8.5,SNR=11							
ASAR				PcP	**PcP**	**16 55 42.9**	**+0.3**
comp=Z,0.6nm,0.7s,baz=109,slow=4.2,SNR=2.7							
ASAR				S	**S**	**16 59 58.0**	**-3.0**
comp=Z,0.5nm,0.7s,baz=94,slow=15,SNR=4.2							
WB0	**Warramunga Arr**	**44.11**	**263**	P	**P**	**16 54 09.1**	**-1.5**
WB0				IAmb	IAmb	16 54 10.4	
comp=Z,7.4nm,1.1s							
WB2	**Warramunga Arr**	**44.12**	**262**	P	**P**	**16 54 09.2**	**-1.4**
WB2				IAmb	IAmb	16 54 22.4	
comp=Z,9.1nm,1.1s							
WRA	**Warramunga Arr**	**44.13**	**262**	P	**P**	**16 54 09.9**	**-0.8**
comp=Z,0.7nm,0.3s,baz=97,slow=7.5,SNR=8.8							
WRA	**Warramunga Arr**	**44.13**	**262**	P	**P**	**16 54 09.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**52.56**	**263**	P	**P**	**16 55 13.3**	**+0.1**
comp=Z,1.7nm,0.4s,baz=95,slow=6.0,SNR=1.7							
MJAR	**Matsushiro Arr**	**70.24**	**324**	P	**P**	**16 57 07.7**	**-0.4**
comp=Z,0.8nm,0.6s,baz=148,slow=6.7,SNR=2.9							
PETK	**Petropavlovsk-**	**76.50**	**345**	P	**P**	**16 57 44.6**	**+1.3**
comp=Z,1.0nm,0.6s,baz=151,slow=3.3,SNR=1.5							
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**16 58 44.8**	**+0.3**
comp=Z,0.2nm,0.5s,baz=220,slow=3.5,SNR=1.8							
AKASG	**Malin Array Be**	**143.11**	**331**	PKP	PKPab	17 05 18.5	-0.3
comp=Z,1.5nm,0.5s,baz=41,slow=4.1,SNR=10							
GERES	**GERESS Array B**	**150.42**	**344**	PKPbc	**PKiKP**	**17 05 39.7**	**0.0**
comp=Z,0.3nm,0.5s,baz=35,slow=3.6,SNR=2.8							

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*TUL **07** 17:09:52.5±1.1,35°.75N±0°.01×97°.38W±0°.02,h6km±6km, ML2.7,mb_Lg2.5/21(NEIC),Error ellipse: s-maj=2.3km s-min=0.7km az=134.0*

NEIC 07 17:09:52.8±1.1,35°.76N±0°.01×97°.38W±0°.02,h7km±5km, Error ellipse: s-maj=2.7km s-min=1.6km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**303**		Pg	17 09 54.6	0.0
OK029				Sg	Sg	17 09 56.3	+0.3
OK025	**Westminster Rd**	**0.18**	**169**		Pg	17 09 56.2	-0.2
OK025				Sg	Sg	17 09 59.0	+0.3
OK005	**Luther M Schoo**	**0.18**	**124**	Pg	Pg	17 09 56.4	0.0
OK005				Sg	Sg	17 09 59.3	+0.4
OK001	**Jones High Sch**	**0.21**	**160**	Pg	Pg	17 09 56.8	-0.1
OK001				Sg	Sg	17 10 00.1	+0.3
BCOK	**Bluff Creek, N**	**0.21**	**242**		Pg	17 09 56.9	-0.1
BCOK				Sg	Sg	17 10 00.3	+0.4
OKCFA	**Oklahoma City**	**0.34**	**190**		Pg	17 09 59.2	-0.3
OKCFA				Sg	Sg	17 10 04.3	+0.3
OKCSW	**OKLAHOMA CITY**	**0.35**	**188**		Pg	17 09 59.4	-0.2
OK031	**S. Brethren Rd**	**0.48**	**66**		Pg	17 10 02.0	0.0
OK031				Sg	Sg	17 10 08.8	+0.5
FNO	**Franklin**	**0.50**	**182**		Pg	17 10 02.2	-0.2
FNO				Sg	Sg	17 10 09.3	+0.4
QUOK	**Quay**	**0.68**	**52**		Pg	17 10 05.8	-0.1
QUOK				Sg	Sg	17 10 15.3	+0.4
CROK	**Carrier**	**0.89**	**327**		Pg	17 10 10.0	0.0
CROK				Sg	Sb	17 10 22.3	-0.5
BLOK	**Blackwell**	**1.01**	**7**	Pg	Pg	17 10 11.7	-0.5
BLOK				Sg	Sb	17 10 26.7	+0.5
X34A	**Smith Ranch, M**	**1.21**	**198**		Pg	17 10 15.4	-0.6
X34A					Sn	17 10 32.8	-0.1
OK032	**Salt Plains WL**	**1.24**	**327**		Pb	17 10 16.0	-0.6
OK032				Sg	Sb	17 10 32.9	0.0
KAN13	**South Haven SW**	**1.26**	**356**		Pn	17 10 16.3	-0.5
KAN13				Sn	Sn	17 10 33.8	-0.3
KAN17	**Caldwell West**	**1.32**	**346**		Pn	17 10 17.4	-0.3
T35A	**Sooner Cattle**	**1.35**	**31**		Pn	17 10 17.6	-0.5
KAN09	**Caldwell North**	**1.39**	**352**		Pn	17 10 18.5	+0.1
KAN05	**Bluff City Nor**	**1.41**	**344**	Pn	Pn	17 10 18.9	0.0
U32A	**Winter Ranch,**	**1.46**	**296**	Pn	Pn	17 10 19.6	+0.1
KS20	**Mayfield South**	**1.48**	**355**	Pn	Pn	17 10 20.1	+0.3
KAN10	**Anthony SW Sta**	**1.48**	**337**	Pn	Pn	17 10 20.2	+0.3
WMOK	**Wichita Mounta**	**1.53**	**229**		Pn	17 10 20.1	-0.5
KAN08	**Anthony NE Sta**	**1.54**	**342**	Pn	Pn	17 10 21.0	+0.3
KAN12	**Harper NE Stat**	**1.62**	**342**		Pn	17 10 22.2	+0.4
LOOK	**Love County**	**1.77**	**175**		Pn	17 10 22.9	-1.0
X37A	**Clayton**	**2.01**	**125**	Pn	Pn	17 10 28.1	+0.9
Z35A	**Perchaven, San**	**2.42**	**178**	Pn	Pn	17 10 32.5	-0.3
U38A	**Gravette**	**2.52**	**73**		Pn	17 10 35.8	+1.6
HHAR	**Hobbs**	**2.84**	**78**		Pn	17 10 37.9	-0.6
MIAR	**Mount Ida**	**3.34**	**110**	Pn	Pn	17 10 45.9	+0.5
MIAR				IAmb_Lg		17 11 47.3	
comp=Z,12nm,1.1s							
CBKS	**Cedar Bluff**	**3.58**	**329**	Pn	Pn	17 10 48.2	-0.7
CBKS				IAmb_Lg		17 11 53.6	
comp=Z,13nm,0.7s							
AMTX	**Amarillo**	**3.62**	**257**	Pn	Pn	17 10 48.6	-0.9
ABTX	**Abilene, Hawle**	**3.65**	**212**	Pn	Pn	17 10 49.2	-0.4
U40A	**Yellville**	**3.71**	**79**		Pn	17 10 50.3	-0.3
S39A	**Bolivar**	**3.79**	**58**	Pn	Pn	17 10 52.1	+0.5
S39A				IAmb_Lg		17 11 58.2	
comp=Z,6.0nm,0.7s							
X40A	**Basin Creek Fa**	**3.93**	**107**	Pn	Pn	17 10 54.1	+0.5
X40A				IAmb_Lg		17 12 02.4	
comp=Z,8.1nm,0.7s							
WHAR	**Wooly Hollow**	**4.18**	**95**	Pn	Pn	17 10 56.8	-0.2
FCAR	**Ozark Folk Cen**	**4.27**	**87**	Pn	Pn	17 10 58.7	+0.5
MGMO	**Mountain Grove**	**4.35**	**70**	IAmb_Lg		17 12 14.3	
comp=Z,9.9nm,0.8s							
R40A	**Maddies Statio**	**4.81**	**57**	Pn	Pn	17 11 02.9	-2.7
R40A				IAmb_Lg		17 12 26.4	
comp=Z,8.1nm,0.8s							
N35A	**Tabor**	**5.28**	**14**	IAmb_Lg		17 12 51.8	
comp=Z,18nm,0.8s							
P40A	**Paris**	**5.66**	**47**	Pn	Pn	17 11 17.7	+0.3
P40A				IAmb_Lg		17 12 54.6	
comp=Z,14nm,0.9s							
PBMO	**Poplar Bluff**	**5.71**	**78**	IAmb_Lg		17 13 00.8	
comp=Z,7.6nm,0.8s							
U49A	**Red Boiling Sp**	**9.41**	**82**	IAmb_Lg		17 14 59.6	
comp=Z,4.7nm,0.8s							

IDC 07 17:15:29.6±2.5,7°.57N×92°.74E,h0km,mb3.3/4,mb1 3.5/5, mb1mx3.3/33,mbtmp3.3/5,ML3.5/1,Error ellipse: s-maj=86.5km s-min=26.2km az=64.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.39**	**29**	Pn	Pn	17 18 27.8	+0.4
0.1nm,0.3s,baz=210,slow=14,SNR=4.3							
H08S3	**Diego Garcia H**	**25.22**	**234**	T	T	17 47 59.6	
baz=53,slow=76,SNR=33							
H08S2	**Diego Garcia H**	**25.22**	**234**	T	T	17 47 58.2	
baz=53,slow=76,SNR=28							
H08S1	**Diego Garcia H**	**25.23**	**234**	T	T	17 47 59.0	
baz=53,slow=76,SNR=26							
MKAR	**Makanchi Array**	**40.10**	**349**	P	P	17 23 06.5	-0.5
0.3nm,0.8s,baz=175,slow=7.9,SNR=1.9							
ZALV	**Zalesovo Beam**	**46.69**	**354**	P	P	17 23 59.8	-0.2
0.6nm,0.4s,baz=170,slow=8.1,SNR=4.4							
WRA	**Warramunga Arr**	**49.23**	**124**	P	P	17 24 21.7	+1.4
0.3nm,0.9s,baz=300,slow=9.9,SNR=2.0							
ASAR	**Alice Springs**	**50.80**	**129**	P	P	17 24 30.9	-1.2
0.2nm,0.9s,baz=308,slow=8.0,SNR=1.4							

IDC 07 17:26:19.2±11.0,2°.06N×127°.20E,h270km±109km, mb2.8/3,mb1 3.0/3,mb1mx2.7/35,mbtmp3.4/3,Error ellipse: s-maj=163.2km s-min=25.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.96**	**163**	P	P	17 30 59.8	-0.6
0.2nm,0.4s,baz=340,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**26.39**	**166**	P	P	17 31 31.8	+0.5
0.4nm,0.5s,baz=353,slow=7.7,SNR=22							
ASAR				PcP	PcP	17 34 49.1	-0.3
0.1nm,0.5s,baz=358,slow=2.1,SNR=1.5							
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	17 35 52.1	-0.1
0.4nm,0.5s,baz=123,slow=7.5,SNR=5.3							

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*NEIC **07** 17:28:55.2±1.7,47°.60N±0°.02×92°.62W±0°.04,h0km±2km, mb_Lg2.6/16,Error ellipse: s-maj=5.2km s-min=3.0km az=52.0*
*IDC **07** 17:28:57.9±4.2,47°.63N×92°.70W,h0km,mb1 2.6/1, mb1mx2.5/47,mbtmp2.6/1,Error ellipse: s-maj=76.9km s-min=27.6km az=53.0*

ISC 07 17:28:55.0±1.0,47°.57N±0°.04×92°.62W±0°.05,h0km,n18, σ1§12/17,Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.85**	**63**		**Pg**	**17 29 10.7**	**-0.6**
B35A	**Bob, Littlefor**	**1.09**	**317**		**Pg**	**17 29 15.4**	**-0.4**
E38A	**The Farm, Brul**	**1.21**	**142**		**Pg**	**17 29 17.3**	**-0.9**
F36A	**Milaca**	**1.81**	**200**		**Pn**	**17 29 26.8**	**-0.7**
AGMN	**Agassiz Nation**	**2.30**	**290**		**Sn**	**17 30 02.5**	**-0.6**
AGMN				IAmb_Lg		17 30 07.5	
comp=Z,23nm,0.8s							
SPMN	**Marine on St.**	**2.35**	**183**		**Pn**	**17 29 35.1**	**+0.2**
SPMN					**Sn**	**17 30 05.2**	**+0.9**
SPMN				IAmb_Lg		17 30 08.6	
comp=Z,26nm,0.8s							
D41A	**Chassel**	**2.81**	**99**	IAmb_Lg		17 30 27.4	
comp=Z,21nm,1.0s							
COWI	**Conover**	**2.81**	**120**	Pn	**Pn**	**17 29 42.1**	**+0.9**
G40A	**Rib Lake**	**2.84**	**143**		**Pn**	**17 29 42.6**	**+0.9**
G40A				IAmb_Lg		17 30 33.4	
comp=Z,26nm,1.3s							
D32A	**Dogwood Acres,**	**3.02**	**263**	IAmb_Lg		17 30 39.5	
comp=Z,23nm,0.8s							
F33A	**5 Mile Ranch,**	**3.06**	**237**		**Pn**	**17 29 45.7**	**+1.1**
F33A				IAmb_Lg		17 30 34.4	
comp=Z,25nm,0.9s							
ULM	**Lac du Bonnet**	**3.44**	**323**	Pn	**Pn**	**17 29 50.1**	**+0.2**
baz=190,slow=11,SNR=1.4							
ULM				Pg	**Pb**	**17 29 58.0**	**+1.2**
comp=Z,0.4nm,0.3s,baz=150,slow=13,SNR=1.7							
ULM				Sn	**Sn**	**17 30 28.9**	**-2.3**
comp=Z,0.2nm,0.3s,baz=169,slow=7.3,SNR=1.7							
ULM				Lg	Lg	17 30 41.6	
comp=Z,2.7nm,0.3s,baz=78,slow=1.2,SNR=25							
ULM	**Lac du Bonnet**	**3.44**	**323**		**Pn**	**17 29 50.0**	**+0.2**
I10CA	**LAC DU BONNET**	**3.46**	**321**	*i*		17 49 10.0	
baz=138,slow=315,SNR=9.0							
I40A	**Norwalk**	**3.94**	**158**	Pn	**Pn**	**17 29 54.7**	**-2.0**
I40A				IAmb_Lg		17 31 06.5	
comp=Z,15nm,1.0s							
H43A	**Windswept, Lux**	**4.58**	**131**	Pn	**Pn**	**17 30 06.3**	**+0.7**
ECSD	**EROS Data Cent**	**4.75**	**218**	Pn	**Pn**	**17 30 08.2**	**+0.4**
ECSD				IAmb_Lg		17 31 27.2	
comp=Z,10nm,1.1s							
I56US	**NEWPORT INFRAS**	**16.43**	**282**	*i*		19 07 20.0	
baz=83,slow=308,SNR=1.8							

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*IDC **07** 17:32:34.8±12.0,25°.42S×179°.78W,h636km±80km, mb3.0/3,mb1 3.3/5,mb1mx2.9/33,mbtmp4.3/5,Error ellipse: s-maj=213.9km s-min=53.3km az=61.0*
*NEIC **07** 17:32:46.6±2.9,26°.5S±0°.2×178°.5E±0°.2,h592km±17km, mb4.5/23,Error ellipse: s-maj=34.7km s-min=3.2km az=221.0*
*NOU **07** 17:32:48.8,26°.57S×178°.24E,h565km,mb4.1,South of Fiji Islands*

ISC 07 17:32:47.0±1.2,26°.53S±0°.10×178°.5E±0°.2,h612km,n46, σ1§43/46,mb4.3/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.77**	**357**	P	**P**	**17 34 53.7**	**-0.5**
OUZ	**Omahuta**	**9.64**	**205**	P	**P**	**17 35 06.5**	**+4.3**
PINNC	**Pines Island,**	**10.81**	**289**	P	**P**	**17 35 13.5**	**-0.6**
MARNC	**Mare, Loyalty**	**10.83**	**295**	P	**P**	**17 35 14.1**	**-0.1**
OUENC	**Ouen Island, N**	**11.40**	**289**	P	**P**	**17 35 19.8**	**-0.1**
YATNC	**Mamie plateau,**	**11.51**	**290**	P	**P**	**17 35 21.2**	**+0.3**
URZ	**Urewera**	**11.76**	**185**	P	**P**	**17 35 23.8**	**+0.7**
1.1nm,0.3s,baz=334,slow=15,SNR=1.6							
URZ				S	**S**	**17 37 28.4**	**-2.8**
0.2nm,0.3s,baz=132,slow=14,SNR=2.6							
URZ	**Urewera**	**11.76**	**185**	P	**P**	**17 35 19.7**	**-3.3**
LIFNC	**LIFOU**	**11.82**	**297**	P	**P**	**17 35 23.4**	**-0.6**
DZM	**Mont Dzumac**	**11.88**	**289**	P	**P**	**17 35 24.8**	**+0.1**
1.5nm,0.3s,baz=109,slow=15,SNR=22							
DZM	**Mont Dzumac**	**11.88**	**289**	P	**P**	**17 35 24.4**	**-0.3**
DZM	**Mont Dzumac**	**11.88**	**289**	P	**P**	**17 35 23.9**	**-0.8**
NOUC	**Port Laguerre**	**11.98**	**289**	P	**P**	**17 35 25.8**	**+0.2**
BKZ	**Black Stump Fm**	**12.71**	**187**	P	**P**	**17 35 31.6**	**-0.9**
BFZ	**Birch Farm**	**14.24**	**187**	P	**P**	**17 35 46.8**	**-0.7**
QRZ	**Quartz Range**	**15.10**	**198**	P	**P**	**17 35 58.4**	**+3.1**
PLWZ	**Palliser**	**15.24**	**189**	P	**P**	**17 35 57.0**	**+0.3**
NNZ	**Nelson**	**15.25**	**195**	P	**P**	**17 35 58.2**	**+1.6**
SANVU	**Saraoutou**	**15.27**	**314**	P	**P**	**17 35 57.8**	**+0.6**
TUWZ	**Tuamarina**	**15.33**	**193**	P	**P**	**17 35 58.7**	**+1.3**
AFI	**Afiamalu**	**15.50**	**38**	P	P	17 36 05.7	+6.3
THZ	**Tophouse**	**15.88**	**196**	P	**P**	**17 36 04.5**	**+2.0**
THZ				IAmb	IAmb	17 36 08.3	
comp=Z,20nm,1.1s							
LTZ	**Lake Taylor**	**17.00**	**196**	P	**P**	**17 36 14.1**	**+1.4**
LTZ				IAmb	IAmb	17 36 21.5	
comp=Z,36nm,1.3s							
OXZ	**Oxford**	**17.57**	**196**	P	**P**	**17 36 18.6**	**+0.7**
OXZ				IAmb	IAmb	17 36 21.0	
comp=Z,98nm,1.6s							
RPZ	**Rata Peaks**	**18.19**	**198**	P	**P**	**17 36 24.3**	**+0.8**
FOZ	**Fox Glacier**	**18.38**	**200**	P	**P**	**17 36 26.4**	**+1.2**
WKZ	**Wanaka**	**19.80**	**200**	P	**P**	**17 36 37.4**	**-0.7**
MLZ	**Mavora Lakes**	**20.56**	**201**	P	**P**	**17 36 46.8**	**+1.8**
WHZ	**Wether Hill Ro**	**21.09**	**201**	P	**P**	**17 36 49.0**	**-0.6**
EIDS	**Eidsvold**	**24.69**	**267**	P	**P**	**17 37 21.0**	**-0.9**
EIDS				IAmb	IAmb	17 37 33.1	
comp=Z,24nm,1.6s							
CTAO	**Charters Tower**	**30.27**	**275**	P	**P**	**17 38 10.6**	**+0.1**
CTAO				IAmb	IAmb	17 38 15.9	
comp=Z,31nm,1.6s							
STKA	**Stephens Creek**	**32.57**	**252**	P	**P**	**17 38 30.3**	**+0.5**
comp=Z,1.0nm,0.6s,baz=94,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**32.57**	**252**	P	**P**	**17 38 29.9**	**0.0**
AS31	**Alice Springs**	**40.36**	**264**	P	**P**	**17 39 33.4**	**-0.4**
ASAR	**Alice Springs**	**40.36**	**264**	P	**P**	**17 39 33.3**	**-0.4**
comp=Z,2.0nm,0.5s,baz=88,slow=7.1,SNR=119							
ASAR	**Alice Springs**	**40.36**	**264**	P	**P**	**17 39 32.9**	**-0.8**
WR0	**Warramunga Arr**	**40.79**	**270**	P	**P**	**17 39 36.0**	**-1.1**
WR0				IAmb	IAmb	17 40 03.1	
comp=Z,17nm,1.7s							
WB2	**Warramunga Arr**	**40.97**	**270**	P	**P**	**17 39 37.3**	**-1.2**
WB2				IAmb	IAmb	17 39 37.4	
comp=Z,13nm,1.6s							
WRA	**Warramunga Arr**	**40.98**	**270**	P	**P**	**17 39 37.5**	**-1.1**
comp=Z,2.0nm,0.4s,baz=103,slow=7.9,SNR=43							
WRA	**Warramunga Arr**	**40.98**	**270**	P	**P**	**17 39 36.5**	**-2.1**
WB0	**Warramunga Arr**	**40.98**	**270**	P	**P**	**17 39 37.4**	**-1.3**
WB0				IAmb	IAmb	17 39 42.5	
comp=Z,7.7nm,1.2s							
FORT	**Forrest**	**44.19**	**252**	P	**P**	**17 40 02.5**	**-0.9**
FORT				IAmb	IAmb	17 40 16.8	
comp=Z,12nm,0.8s							
MTN	**Manton Dam**	**46.40**	**278**	P	**P**	**17 40 19.4**	**-1.0**
MTN				IAmb	IAmb	17 40 46.6	
comp=Z,26nm,1.4s							
KNRA	**Kununurra**	**47.41**	**273**	P	**P**	**17 40 27.4**	**-0.5**
KNRA				IAmb	IAmb	17 40 28.3	
comp=Z,13nm,1.1s							
QSPA	**South Pole Qui**	**63.56**	**180**	P	**P**	**17 42 21.1**	**+2.3**
SNAA	**Sanae**	**82.06**	**180**	P	**P**	**17 44 05.2**	**+1.0**

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*IDC **07** 17:45:17.4±4.1,41°.37N×113°.14W,h0km,mb1 2.1/1, mb1mx2.1/41,mbtmp1.7/1,ML2.8/1,Error ellipse: s-maj=105.8km s-min=30.0km az=152.0*
*NEIC **07** 17:45:19.2±1.2,41°.13N±0°.02×112°.86W±0°.03,h0km±2km, ML1.9/34,Error ellipse: s-maj=3.3km s-min=3.0km az=113.0*

ISC 07 17:45:19.0±1.0,41°.09N±0°.04×112°.85W±0°.04,h0km,n24, σ0§61/25,Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.21**	**220**		**Pg**	**17 45 23.5**	**+0.5**
BGU				Sg	**Sg**	**17 45 26.1**	**+0.3**
BGU				IAML		17 45 32.2	
comp=E,235nm,0.5s							
SPUT	**South Promonto**	**0.38**	**54**		**Pg**	**17 45 26.3**	**+0.1**
SPUT				Sg	**Sg**	**17 45 30.5**	**-0.6**
SPUT				IAML		17 45 38.7	
comp=N,86nm,0.4s							
DUG	**Dugway, Tooele**	**0.89**	**178**		**Pb**	**17 45 36.8**	**-0.6**
DUG				IAML		17 45 57.9	
comp=N,62nm,0.5s							
DUG				IAML		17 45 58.4	
comp=N,34nm,0.5s							
CTU	**Camp Tracy**	**0.92**	**115**		**Pb**	**17 45 37.4**	**-0.6**
CTU				IAML		17 45 55.3	
comp=E,33nm,0.6s							
CTU				IAML		17 45 55.0	
comp=N,35nm,0.5s							
HWUT	**Hardware Ranch**	**1.10**	**61**		**Pg**	**17 45 39.9**	**-0.2**
HWUT				IAML		17 46 04.3	
comp=N,22nm,0.4s							
JLU	**Jordanelle**	**1.17**	**114**		**Pg**	**17 45 41.6**	**+0.2**
JLU				IAML		17 46 05.0	
comp=N,16nm,0.6s							
NLU	**North Lily Min**	**1.28**	**152**		**Pg**	**17 45 43.5**	**0.0**
NLU				IAML		17 46 10.2	
comp=N,13nm,0.6s							
MPU	**Maple Canyon**	**1.42**	**139**	Pn	**Pg**	**17 45 45.3**	**-0.8**
ELK	**Elko**	**1.84**	**260**		**Pn**	**17 45 51.6**	**-0.5**
ELK				IAML		17 46 22.3	
comp=N,8.8nm,0.4s							
AHID	**Auburn Hatcher**	**2.13**	**37**	Pn	**Pn**	**17 45 57.0**	**+1.1**
SPR3	**Spring Creek 3**	**2.38**	**209**	Pn	**Pn**	**17 46 00.7**	**+1.2**
SPR3				IAML		17 46 44.3	
comp=E,4.7nm,0.5s							
SPR3				IAML		17 46 49.9	
comp=N,6.0nm,0.6s							
MSU	**Marysvale**

δ85.00000°,λ-2.00000°. NP2:φs13.00000°,δ88.00000°, λ-175.00000°. Principal axes: T 1.3154, Plg3.0000°, Azm147.0000°; N -0.1518, Plg85.0000°, Azm29.0000°; P -1.1636, Plg5.0000°, Azm238.0000°;

GCMT ***07*** *18:04:52.1±0.1,13.43S±0.01×111.34W±0.01,h17km, MW5.3/139,Moment Tensor Solution. s94,c137; s139,c242; Duration: 1!1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.16±.02; $M_{\theta\theta}$0.52±.02; $M_{\phi\phi}$-0.36±.02; $M_{r\theta}$-0.20±.05; $M_{\theta\phi}$0.98±.02; $M_{\phi r}$0.12±.05; Best double couple: $M_0$1.10600×10^{17} NP1:φs193.00000°,δ77.00000°, λ-173.00000°. NP2:φs101.00000°,δ84.00000°, λ-13.00000°. Principal axes: T 1.1640, Plg4.0000°, Azm148.0000°; N -0.1140, Plg76.0000°, Azm255.0000°; P -1.0490, Plg14.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 18:04:46.9±0.5,13.70S±0.09×111.59W±0.09,h11km, n263,σ1!17/229,mb4.7/98,MS4.7/27,2C,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.52**	**171**	LR	LR	18 11 58.8	
	comp=Z,5μm,18.7s,baz=350,slow=32						
RKT	**Rikitea**	**24.05**	**244**	*e*T	T	18 35 00.6	
	4.2nm,0.3s						
TAOE	**Nuku Hiva Isla**	**28.40**	**277**	*e*LR	LR	18 17 41.3	
	comp=Z,968nm,23.6s						
ATAH	**Atahualpa**	**33.27**	**82**	P	**P**	**18 11 25.2**	**+0.1**
	9.4nm,1.1s,baz=278,slow=7.1,SNR=3.6						
ATAH				LR	LR	18 21 47.4	
	comp=Z,1μm,18.6s,baz=312,slow=31						
MTO3	**Montecristo**	**35.55**	**39**	P	**P**	**18 11 43.3**	**-1.3**
MTO3				IAmb	IAmb	18 11 58.9	
	comp=Z,14nm,1.3s						
H03N2	**Juan Fernandez**	**35.58**	**129**	T	T	18 49 13.2	
	baz=300,slow=77,SNR=568						
H03N3	**Juan Fernandez**	**35.59**	**129**	T	T	18 49 14.1	
	baz=300,slow=77,SNR=525						
H03N1	**Juan Fernandez**	**35.60**	**129**	T	T	18 49 14.2	
	baz=300,slow=77,SNR=597						
OTAV	**Otavalo**	**35.63**	**70**	P	**P**	**18 11 45.7**	**+0.1**
PPT	**Papeete**	**36.74**	**259**	LR	LR	18 22 58.5	
	comp=Z,398nm,18.3s,baz=89,slow=30						
PPT2	**Papeete2**	**36.74**	**259**	*e*S	**S**	**18 17 36.7**	**-1.9**
	comp=Z,162nm,28.2s						
PPT2				*e*LQ	LQ	18 20 14.5	
	comp=Z,3μm,31.2s						
PPT2				*e*LR	LR	18 21 46.5	
	comp=Z,2μm,27.5s,baz=96						
TBI	**Tubuai**	**37.07**	**249**	*e*S	**S**	**18 17 42.9**	**-0.5**
	comp=Z,236nm,28.8s						
TBI				*e*LQ	LQ	18 20 22.8	
	comp=Z,1μm,33.0s						
TBI				*e*LR	LR	18 21 55.9	
	comp=Z,2μm,27.2s,baz=78						
TBI	**Tubuai**	**37.07**	**249**	*e*T	T	18 51 16.1	
	comp=Z,5.1nm,0.3s						
ZAIG	**Zacatecas**	**37.31**	**14**	P	**P**	**18 11 59.9**	**+0.3**
YOTC	**Yotoco, Valle**	**39.14**	**66**	*e*P	**P**	**18 12 16.1**	**+1.0**
PLMC	**San Jos del P**	**39.62**	**65**	*e*P	**P**	**18 12 17.5**	**-1.5**
TA01	**Diego Aracena**	**40.07**	**106**	P	**P**	**18 12 23.1**	**+0.5**
TA01				IAmb	IAmb	18 12 34.1	
	comp=Z,28nm,1.2s						
ORTC	**Ortega, Tolima**	**40.09**	**67**	*e*P	**P**	**18 12 23.0**	**+0.2**
PSGCX	**Pisagua**	**40.09**	**104**	P	**P**	**18 12 22.6**	**-0.3**
PSGCX				IAmb	IAmb	18 12 33.7	
	comp=Z,19nm,1.4s						
TA02	**Huaiquique**	**40.11**	**105**	P	**P**	**18 12 22.2**	**-0.7**
CBOC	**Ciudad Bolivar**	**40.32**	**63**	*e*P	**P**	**18 12 22.5**	**-2.4**
TOLC	**Tolima**	**40.33**	**66**	*e*P	**P**	**18 12 25.9**	**+0.7**
MNMC	**Minye Minye**	**40.57**	**103**	P	**P**	**18 12 26.8**	**-0.3**
GUY2C	**Guyana, Caldas**	**40.58**	**65**	*e*P	**P**	**18 12 27.0**	**-0.4**
GUY2C				*e*P	**sP**	**18 12 31.3**	**+0.5**
MACC	**Macarena, Meta**	**40.60**	**70**	*e*P	P	18 12 20.0	-7.1
DBBC	**Dabeiba**	**40.72**	**62**	*e*P	**P**	**18 12 30.6**	**+2.5**
PB01	**IPOC Station P**	**40.75**	**106**	P	**P**	**18 12 25.6**	**-2.7**
PB06	**IPOC Station P**	**40.79**	**109**	P	**P**	**18 12 24.5**	**-4.2**
PB06				IAmb	IAmb	18 12 58.6	
	comp=Z,14nm,0.9s						
HELC	**Santa Helena**	**40.90**	**63**	*e*P	P	18 12 20.0	-10
PB08	**IPOC Station P**	**41.02**	**105**	P	**P**	**18 12 30.5**	**-0.4**
ROSC	**El Rosal**	**41.33**	**66**	LR	LR	18 26 49.3	
	comp=Z,489nm,18.2s,baz=236,slow=32						
LVC	**Limon Verde**	**41.39**	**109**	LR	LR	18 24 54.8	
	comp=Z,1μm,21.6s,baz=276,slow=29						
AC02	**Maricunga**	**41.73**	**115**	P	**P**	**18 12 37.4**	**+0.6**
AC02				IAmb	IAmb	18 12 48.0	
	comp=Z,13nm,1.1s						
BO01	**Tunca**	**41.98**	**127**	P	**P**	**18 12 38.0**	**-0.1**
BO01				IAmb	IAmb	18 13 07.2	
	comp=Z,28nm,1.4s						
LPAZ	**La Paz**	**42.01**	**99**	P	**P**	**18 12 39.2**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=264,slow=4.8,SNR=7.7						
LPAZ				LR	LR	18 26 02.1	
	comp=Z,430nm,19.6s,baz=263,slow=30						
LPAZ	**La Paz**	**42.01**	**99**	P	**P**	**18 12 39.2**	**-0.1**
LPAZ				IAmb	IAmb	18 12 47.9	
	comp=Z,31nm,1.8s						
MOTC	**Monteria, Cord**	**42.08**	**60**	*e*P	**P**	**18 12 36.8**	**-2.4**
BO02	**Sierra Bellavi**	**42.34**	**127**	P	**P**	**18 12 41.5**	**+0.3**
HSIG		**42.48**	**1**	P	**P**	**18 12 43.1**	**+0.9**
HSIG				IAmb	IAmb	18 12 51.2	
	comp=Z,20nm,1.7s						
RUSC	**La Rusia**	**42.90**	**65**	P	**P**	**18 12 45.1**	**-1.4**
RUSC				IAmb	IAmb	18 12 53.7	
	comp=Z,25nm,1.3s						
ZON	**Zonda**	**43.09**	**122**	P	**P**	**18 12 47.0**	**-0.3**
TX31	**Lajitas Ar. Si**	**43.46**	**10**	P	**P**	**18 12 52.0**	**+1.7**
TX32	**Lajitas Array**	**43.46**	**10**	P	**P**	**18 12 52.0**	**+1.7**
TXAR	**Lajitas Array**	**43.46**	**10**	P	**P**	**18 12 49.0**	**-1.3**
	comp=Z,3.7nm,1.2s,baz=191,slow=9.2,SNR=16						
TXAR				LR	LR	18 27 34.9	
	comp=Z,662nm,18.7s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**43.46**	**10**	P	**P**	**18 12 51.7**	**+1.4**
SPX	**San Pedro Mart**	**44.64**	**355**	P	**P**	**18 13 00.1**	**+0.1**
PLCA	**Paso Flores**	**44.76**	**135**	LR	LR	18 27 08.5	
	comp=Z,3μm,18.8s,baz=273,slow=30						
319A	**Douglas**	**44.88**	**3**	P	**P**	**18 13 02.1**	**+0.5**
319A				IAmb	IAmb	18 13 30.1	
	comp=Z,10.0nm,1.0s						
JCT	**Junction City**	**45.37**	**14**	P	**P**	**18 13 05.8**	**+0.4**
214A	**Organ Pipe Nat**	**45.41**	**359**	P	**P**	**18 13 07.8**	**+2.0**
MNTX	**Cornudas Mount**	**45.53**	**7**	P	**P**	**18 13 06.7**	**0.0**
MNTX				IAmb	IAmb	18 13 10.4	
	comp=Z,23nm,1.6s						
TUC	**Tucson**	**45.76**	**1**	P	**P**	**18 13 09.6**	**+1.0**
121A	**Cookes Peak, D**	**46.12**	**4**		**P**	**18 13 12.2**	**+0.7**
121A				IAmb	IAmb	18 13 20.5	
	comp=Z,10.0nm,1.0s						
113A	**Mohawk Valley,**	**46.26**	**357**	P	**P**	**18 13 11.9**	**-0.5**
BAR	**Barrett**	**46.38**	**354**	P	**P**	**18 13 14.3**	**+1.0**
BAR				IAmb	IAmb	18 13 36.0	
	comp=Z,8.7nm,1.2s						
RAR	**Rarotonga**	**46.42**	**254**	LR	LR	18 27 15.0	
	comp=Z,1μm,21.9s,baz=109,slow=29						
Y14A	**Wickenburg**	**47.39**	**358**	P	**P**	**18 13 21.4**	**+0.1**
Y14A				IAmb	IAmb	18 13 30.4	
	comp=Z,9.6nm,1.4s						
ABTX	**Abilene, Hawle**	**47.46**	**14**	P	**P**	**18 13 22.5**	**+0.7**
ABTX				IAmb	IAmb	18 13 24.8	
	comp=Z,12nm,1.1s						
LENM	**Lemitar**	**47.80**	**5**	P	**P**	**18 13 24.3**	**-0.4**
BNM	**Barren Site**	**47.82**	**6**	P	**P**	**18 13 23.6**	**-1.3**
X18A	**Snowflake**	**47.99**	**2**	P	**P**	**18 13 25.6**	**-0.5**
X18A				IAmb	IAmb	18 13 30.8	
	comp=Z,10nm,1.3s						
MSTX	**Muleshoe**	**48.15**	**10**	P	**P**	**18 13 26.9**	**-0.3**
W13A	**Hualapai Mount**	**48.58**	**357**	P	**P**	**18 13 30.8**	**+0.1**
W13A				IAmb	IAmb	18 13 39.9	
	comp=Z,6.3nm,1.2s						
ANMO	**Albuquerque**	**48.63**	**6**	P	**P**	**18 13 30.8**	**-0.2**
GSC	**Goldstone, Bar**	**48.99**	**354**	P	**P**	**18 13 33.5**	**-0.2**
GTBY	**Guantanamo Bay**	**49.04**	**48**	P	**P**	**18 13 34.9**	**+0.6**
AMTX	**Amarillo**	**49.23**	**11**	P	**P**	**18 13 35.1**	**-0.4**
AMTX				IAmb	IAmb	18 13 38.8	
	comp=Z,21nm,1.5s						
WMOK	**Wichita Mounta**	**49.69**	**14**	P	**P**	**18 13 38.4**	**-0.6**
SHPR	**Sheep Range**	**50.05**	**356**		**P**	**18 13 41.6**	**-0.2**
SHPR				IAmb	IAmb	18 13 51.3	
	comp=Z,22nm,1.7s						
LCMT	**Little Creek M**	**50.47**	**358**	P	**P**	**18 13 45.1**	**+0.2**
TPNV	**Topopah Spring**	**50.57**	**355**	P	**P**	**18 13 46.3**	**+0.6**
OKCFA	**Oklahoma City**	**50.66**	**15**	P	**P**	**18 13 47.1**	**+0.8**
MVCO	**Mesa Verde**	**50.72**	**3**	P	**P**	**18 13 44.8**	**-2.2**
MVCO				IAmb	IAmb	18 13 47.6	
	comp=Z,6.1nm,0.7s						
BCOK	**Bluff Creek, N**	**50.84**	**15**	P	**P**	**18 13 47.2**	**-0.5**
PKCU	**Pink Cliffs**	**50.88**	**359**	P	**P**	**18 13 46.4**	**-1.8**
PRN	**Pahroc Range**	**50.94**	**356**	P	**P**	**18 13 48.8**	**+0.3**
PRN				IAmb	IAmb	18 14 00.9	
	comp=Z,9.8nm,1.3s						
MIAR	**Mount Ida**	**50.95**	**19**	P	**P**	**18 13 46.2**	**-2.2**
MIAR				IAmb	IAmb	18 13 51.3	
	comp=Z,8.0nm,1.0s						
CCAR	**Cane Creek**	**50.98**	**21**	P	**P**	**18 13 48.7**	**0.0**
CCUT	**Cedar City**	**51.01**	**358**	P	**P**	**18 13 49.5**	**+0.3**
CCUT				IAmb	IAmb	18 14 17.5	
	comp=Z,11nm,1.5s						
OK029	**Liberty Lake**	**51.02**	**15**	P	**P**	**18 13 47.5**	**-1.5**
T25A	**Trinidad**	**51.02**	**7**	P	**P**	**18 13 49.3**	**+0.1**
T25A				IAmb	IAmb	18 13 53.1	
	comp=Z,18nm,1.6s						
SZCU	**Shurtz Canyon**	**51.04**	**358**	P	**P**	**18 13 49.8**	**+0.4**
SZCU				IAmb	IAmb	18 14 14.2	
	comp=Z,11nm,1.6s						
SAO	**San Andreas Ge**	**51.05**	**350**	P	**P**	**18 13 48.3**	**-0.8**
X40A	**Basin Creek Fa**	**51.13**	**20**	P	**P**	**18 13 50.8**	**+0.9**
X40A				IAmb	IAmb	18 13 52.8	
	comp=Z,15nm,1.6s						
OK031	**S. Brethren Rd**	**51.32**	**15**	P	**P**	**18 13 49.8**	**-1.5**
MTPU	**Mount Pierson**	**51.47**	**359**	P	**P**	**18 13 51.7**	**-1.1**
MTPU				IAmb	IAmb	18 14 02.2	
	comp=Z,14nm,1.8s						
SDCO	**Great Sand Dun**	**51.49**	**6**		**P**	**18 13 52.1**	**-0.8**
SDCO				IAmb	IAmb	18 13 56.8	
	comp=Z,16nm,1.4s						
PV05	**Paradox Valley**	**51.56**	**3**	P	**P**	**18 13 53.6**	**+0.3**
PV05				IAmb	IAmb	18 14 13.5	
	comp=Z,9.8nm,1.1s						
PV01	**Paradox Valley**	**51.64**	**3**	P	**P**	**18 13 53.8**	**-0.1**
PV13	**Radium Mtn., P**	**51.65**	**3**	P	**P**	**18 13 52.8**	**-1.2**
PV13				IAmb	IAmb	18 14 25.7	
	comp=Z,14nm,1.6s						
PV02	**Paradox Valley**	**51.70**	**3**	P	**P**	**18 13 54.5**	**+0.1**
PV02				IAmb	IAmb	18 14 14.2	
	comp=Z,17nm,1.6s						
PV18	**Skein Mesa, Pa**	**51.74**	**3**	P	**P**	**18 13 53.8**	**-0.8**
PV18				IAmb	IAmb	18 14 03.3	
	comp=Z,17nm,1.7s						
PV03	**Paradox Valley**	**51.75**	**3**	P	**P**	**18 13 55.1**	**+0.5**
PV17	**East Wray Mesa**	**51.77**	**3**	P	**P**	**18 13 54.2**	**-0.6**
PV17				IAmb	IAmb	18 14 12.4	
	comp=Z,10nm,1.4s						
TPH	**Tonopah**	**51.77**	**354**	P	**P**	**18 13 54.6**	**-0.3**
PV11	**David Mesa, Pa**	**51.79**	**3**	P	**P**	**18 13 54.8**	**-0.2**
PV11				IAmb	IAmb	18 14 10.3	
	comp=Z,27nm,1.8s						
PV16	**Nyswonger Mesa**	**51.80**	**3**	P	**P**	**18 13 55.4**	**+0.3**
PV04	**Paradox Valley**	**51.88**	**3**	P	**P**	**18 13 56.0**	**+0.4**
PV04				IAmb	IAmb	18 14 09.2	
	comp=Z,15nm,1.5s						
R11A	**Troy Canyon, C**	**51.91**	**356**	P	**P**	**18 13 56.4**	**+0.5**
MVU	**Marysvale**	**51.94**	**359**	P	**P**	**18 13 57.2**	**+1.1**
BLOK	**Blackwell**	**51.99**	**15**	P	**P**	**18 13 55.5**	**-0.8**
PSUT	**Pine Spring**	**52.01**	**358**	P	**P**	**18 13 56.9**	**+0.4**
PV22	**Blue Mesa, Par**	**52.03**	**3**	P	**P**	**18 13 57.8**	**+1.0**
TCRU	**Three Creeks R**	**52.04**	**359**	P	**P**	**18 13 56.4**	**-0.5**
TCRU				IAmb	IAmb	18 14 12.8	
	comp=Z,6.6nm,0.5s						
WHAR	**Wooly Hollow**	**52.05**	**20**	P	**P**	**18 13 57.5**	**+0.8**
WHAR				IAmb	IAmb	18 13 59.9	
	comp=Z,19nm,1.3s						
LRAL	**Lakeview Retre**	**52.08**	**26**	P	**P**	**18 13 55.9**	**-1.1**
LHV	**Little Huntoon**	**52.08**	**353**	P	**P**	**18 13 56.3**	**-0.5**
LHV				IAmb	IAmb	18 14 10.1	
	comp=Z,28nm,1.8s						
CMB	**Columbia Colle**	**52.12**	**351**	P	**P**	**18 13 56.9**	**-0.4**
KAN17	**Caldwell West**	**52.13**	**14**	P	**P**	**18 13 57.9**	**+0.6**
CPUP	**Villa Florida**	**52.17**	**113**	LR	LR	18 31 41.7	
	comp=Z,825nm,21.8s,baz=277,slow=31						
CPUP	**Villa Florida**	**52.17**	**113**	P	**P**	**18 13 56.6**	**-1.3**
CPUP				IAmb	IAmb	18 14 26.2	
	comp=Z,13nm,1.6s						
NV11	**Mina Array Sit**	**52.22**	**353**	P	**P**	**18 13 57.8**	**-0.4**
NVAR	**Mina Array Bea**	**52.24**	**353**	P	**P**	**18 13 58.4**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=179,slow=11,SNR=6.4						
NVAR				LR	LR	18 30 56.2	
	comp=Z,934nm,21.7s,baz=166,slow=30						
NVAR	**Mina Array Bea**	**52.24**	**353**	P	**P**	**18 13 59.1**	**+0.8**
KAN09	**Caldwell North**	**52.25**	**14**	P	**P**	**18 13 56.7**	**-1.5**
KAN09				IAmb	IAmb	18 14 16.9	
	comp=Z,12nm,0.7s						
KAN08	**Anthony NE Sta**	**52.26**	**14**	P	**P**	**18 13 57.2**	**-1.1**
T35A	**Sooner Cattle**	**52.31**	**15**	P	**P**	**18 13 59.8**	**+1.1**
KAN12	**Harper NE Stat**	**52.32**	**14**	P	**P**	**18 13 59.4**	**+0.7**
HHAR	**Hobbs**	**52.44**	**18**	P	**P**	**18 13 59.5**	**-0.1**
U38A	**Gravette**	**52.45**	**18**	P	**P**	**18 13 59.8**	**+0.1**
U38A				IAmb	IAmb	18 14 24.9	
	comp=Z,17nm,1.6s						
RYN	**Ryan**	**52.46**	**353**	P	**P**	**18 13 59.9**	**0.0**
RYN				IAmb	IAmb	18 14 13.5	
	comp=Z,12nm,1.4s						
SPR3	**Spring Creek 3**	**52.49**	**357**		**P**	**18 14 00.2**	**-0.1**
SRU	**San Rafael Swe**	**52.55**	**1**	P	**P**	**18 14 00.8**	**+0.2**
SRU				IAmb	IAmb	18 14 24.5	
	comp=Z,8.5nm,1.1s						
TMUT	**Trail Mountain**	**52.72**	**0**	P	**P**	**18 14 02.0**	**0.0**
SMCO	**Snowmass**	**52.78**	**5**		**P**	**18 14 03.3**	**+0.8**
152A	**Waverly Hall**	**52.79**	**29**	P	**P**	**18 14 02.5**	**+0.2**
152A				IAmb	IAmb	18 14 35.6	
	comp=Z,15nm,1.4s						
U40A	**Yellville**	**52.84**	**19**	P	**P**	**18 14 01.3**	**-1.3**
U40A				IAmb	IAmb	18 14 14.2	
	comp=Z,9.6nm,1.1s						
YERR	**Yerington**	**52.90**	**353**	P	**P**	**18 14 03.2**	**0.0**
YERR				IAmb	IAmb	18 14 11.7	
	comp=Z,18nm,1.6s						
P17A	**Butcher Ranch,**	**52.91**	**1**	P	**P**	**18 14 03.3**	**+0.1**
P17A				IAmb	IAmb	18 14 27.3	
	comp=Z,18nm,1.4s						
ITQB	**Itaqui**	**53.02**	**117**	P	**P**	**18 14 05.7**	**+1.6**
PNTR	**Pine Nut**	**53.05**	**352**	P	**P**	**18 14 05.4**	**+1.1**
PNTR				IAmb	IAmb	18 14 13.6	
	comp=Z,22nm,1.6s						
AFDM	**Forest Hills D**	**53.10**	**351**	P	**P**	**18 14 04.8**	**+0.3**
KSCO	**Kaye Shedlock'**	**53.10**	**9**	P	**P**	**18 14 04.3**	**-0.3**
KSCO				IAmb	IAmb	18 14 07.8	
	comp=Z,12nm,0.8s						
LCAR	**Lake Charles**	**53.14**	**21**	P	**P**	**18 14 04.8**	**0.0**
LCAR				IAmb	IAmb	18 14 07.5	
	comp=Z,10nm,1.2s						
R32A	**Long Quarter,**	**53.24**	**13**	P	**P**	**18 14 06.3**	**+0.9**
R32A				IAmb	IAmb	18 14 08.2	
	comp=Z,11nm,0.8s						
X48A	**Hartselle**	**53.27**	**25**	P	**P**	**18 14 05.8**	**0.0**
X48A				IAmb	IAmb	18 14 17.5	
	comp=Z,14nm,1.4s						
PLAL	**Pickwick Lake**	**53.31**	**24**	P	**P**	**18 14 06.5**	**+0.5**
PLAL				IAmb	IAmb	18 14 17.6	
	comp=Z,9.8nm,1.1s						
NLU	**North Lily Min**	**53.38**	**360**	P	**P**	**18 14 07.2**	**+0.5**
NLU				IAmb	IAmb	18 14 31.4	
	comp=Z,9.4nm,1.3s						
MPU	**Maple Canyon**	**53.44**	**360**	P	**P**	**18 14 08.1**	**+0.9**
MPU				IAmb	IAmb	18 14 16.1	
	comp=Z,24nm,1.7s						
HOPS	**Hopland Field**	**53.51**	**349**	P	**P**	**18 14 09.3**	**+1.9**
HOPS				IAmb	IAmb	18 14 26.7	
	comp=Z,12nm,1.3s						
ISCO	**Idaho Springs**	**53.52**	**6**	P	**P**	**18 14 07.2**	**-0.7**
DUG	**Dugway, Tooele**	**53.63**	**359**	P	**P**	**18 14 09.1**	**+0.6**
DUG				IAmb	IAmb	18 14 33.7	
	comp=Z,8.9nm,1.2s						
MGMO	**Mountain Grove**	**53.76**	**19**	P	**P**	**18 14 09.8**	**+0.5**
MGMO				IAmb	IAmb	18 14 12.8	
	comp=Z,15nm,1.1s						
ORV	**Oroville**	**53.78**	**351**	P	**P**	**18 14 10.8**	**+1.3**
BEKR	**Beckworth**	**53.91**	**352**	P	**P**	**18 14 11.8**	**+1.1**
S39A	**Bolivar**	**53.93**	**18**	P	**P**	**18 14 10.8**	**+0.3**
S39A				IAmb	IAmb	18 14 13.0	
	comp=Z,7.6nm,1.0s						
FPAL	**Fort Paine**	**53.96**	**27**	P	**P**	**18 14 09.1**	**-1.8**
FPAL				IAmb	IAmb	18 14 36.6	
	comp=Z,11nm,1.2s						
JLU	**Jordanelle**	**54.03**	**0**	P	**P**	**18 14 11.9**	**+0.4**
JLU				IAmb	IAmb	18 14 25.3	
	comp=Z,10nm,1.4s						
RDMU	**Red Mountain**	**54.03**	**2**	P	**P**	**18 14 11.3**	**-0.2**
RDMU				IAmb	IAmb	18 14 39.4	
	comp=Z,23nm,1.8s						
ELK	**Elko**	**54.27**	**357**	P	**P**	**18 14 14.5**	**+1.2**
ELK				IAmb	IAmb	18 14 22.4	
	comp=Z,9.4nm,1.5s						
KCPM	**Cahto Peak**	**54.28**	**349**	P	**P**	**18 14 12.7**	**-0.5**
KCPM				IAmb	IAmb	18 14 41.3	
	comp=Z,16nm,1.5s						
BGU	**Big Grassy Mou**	**54.37**	**359**	P	**P**	**18 14 13.4**	**-0.5**
WVT	**Waverly**	**54.41**	**24**	P	**P**	**18 14 13.5**	**-0.6**
V48A	**Smith Brothers**	**54.48**	**25**	P	**P**	**18 14 14.5**	**-0.1**
V48A				IAmb	IAmb	18 14 16.8	
	comp=Z,7.7nm,1.1s						
CCM	**Cathedral Cave**	**54.91**	**20**	P	**P**	**18 14 18.2**	**+0.5**
CCM				IAmb	IAmb	18 14 20.1	
	comp=Z,9.6nm,1.1s						
WDC	**Whiskeytown Da**	**54.95**	**350**	P	**P**	**18 14 18.3**	**+0.4**
WDC				IAmb	IAmb	18 14 29.6	
	comp=Z,13nm,1.6s						
PHWY	**Pilot Hill**	**55.02**	**6**	P	**P**	**18 14 18.6**	**-0.2**
PHWY				IAmb	IAmb	18 14 21.3	
	comp=Z,7.4nm,1.3s						
HODGE	**Hodges**	**55.24**	**30**	P	**P**	**18 14 19.6**	**-0.5**
RWWY	**Rawlins**	**55.26**	**4**	P	**P**	**18 14 19.5**	**-1.0**
RWWY				IAmb	IAmb	18 14 22.8	
	comp=Z,18nm,1.6s						
SIUC	**Southern Illin**	**55.30**	**22**	P	**P**	**18 14 20.3**	**-0.1**
T47A	**Sharon Grove**	**55.45**	**24**	P	**P**	**18 14 21.6**	**+0.1**
P38A	**Dawn**	**55.66**	**17**	P	**P**	**18 14 23.8**	**+0.8**
MOD	**Modoc Plateau**	**55.91**	**352**	P	**P**	**18 14 24.2**	**-0.7**
P40A	**Paris**	**56.01**	**18**	P	**P**	**18 14 24.1**	**-1.4**
P40A				IAmb	IAmb	18 14 26.4	
	comp=Z,6.3nm,0.9s						
YBH	**Yreka Blue Hor**	**56.10**	**350**	P	**P**	**18 14 26.7**	**+0.4**
YBH				IAmb	IAmb	18 14 52.2	
	comp=Z,15nm,1.8s						
BW06	**Boulder Array**	**56.22**	**2**	P	**P**	**18 14 28.4**	**+1.0**
PDAR	**Pinedale Array**	**56.22**	**2**	P	**P**	**18 14 25.5**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=180,slow=9.0,SNR=3.6						
PDAR				LR	LR	18 34 23.0	
	comp=Z,614nm,19.7s,baz=184,slow=32						
PDAR	**Pinedale Array**	**56.22**	**2**	P	**P**	**18 14 25.9**	**-1.4**
WVOR	**Wild Horse Val**	**56.23**	**354**	P	**P**	**18 14 27.8**	**+0.5**
WVOR				IAmb	IAmb	18 14 36.6	
	comp=Z,18nm,1.4s						
K22A	**Casper**	**56.27**	**4**	P	**P**	**18 14 27.3**	**-0.3**
K22A				IAmb	IAmb	18 14 36.3	
	comp=Z,15nm,1.2s						
Q44A	**Meyer Farm, Va**	**56.43**	**21**	P	**P**	**18 14 28.8**	**+0.2**
REDW	**Red Top Meadow**	**56.79**	**1**	P	**P**	**18 14 31.3**	**0.0**
K05A	**Summer Lake**	**56.80**	**352**	P	**P**	**18 14 31.4**	**0.0**
TPAW	**Teton Pass**	**56.92**	**1**	P	**P**	**18 14 29.3**	**-3.0**
TPAW				IAmb	IAmb	18 14 40.2	
	comp=Z,15nm,1.7s						
MFID	**Camas Ranch**	**56.97**	**356**	P	**P**	**18 14 32.3**	**-0.2**
MFID				IAmb	IAmb	18 14 41.1	
	comp=Z,24nm,1.8s						
HUMO	**Hull Mountain**	**57.00**	**350**	P	**P**	**18 14 32.6**	**+0.1**
HUMO				IAmb	IAmb	18 14 40.6	
	comp=Z,13nm,1.7s						
L34A	**Svendsen Farm,**	**57.14**	**13**	P	**P**	**18 14 33.9**	**+0.3**
L34A				IAmb	IAmb	18 14 47.8	
	comp=Z,11nm,1.0s						
KEBM	**Edson Butte**	**57.50**	**349**	P	**P**	**18 14 36.3**	**+0.2**
FLWY	**Flagg Ranch**	**57.51**	**1**	P	**P**	**18 14 36.1**	**-0.4**
YPP	**Pitchstone Pla**	**57.70**	**1**	P	**P**	**18 14 37.5**	**-0.4**
P46A	**Rosedale**	**57.71**	**22**	P	**P**	**18 14 38.1**	**+0.5**
RSSD	**Black Hills**	**57.96**	**6**	P	**P**	**18 14 38.8**	**-0.8**
RSSD				IAmb	IAmb	18 14 50.7	
	comp=Z,14nm,1.6s						
I07A	**Izee**	**57.96**	**353**	P	**P**	**18 14 39.4**	**0.0**
I07A				IAmb	IAmb	18 15 00.1	
	comp=Z,8.3nm,1.3s						
YHH	**Holmes Hill**	**58.22**	**1**	P	**P**	**18 14 41.6**	**+0.2**
MCMT	**McKenzie Canyo**	**58.26**	**359**	P	**P**	**18 14 40.7**	**-1.0**
YNE	**Yellowstone No**	**58.45**	**1**	P	**P**	**18 14 42.4**	**-0.6**
G08A	**Pilot Rock**	**59.09**	**354**	P	**P**	**18 14 48.0**	**+0.6**
G08A				IAmb	IAmb	18 14 57.4	
	comp=Z,7.8nm,1.4s						
S57A	**Dark Hollow, R**	**59.66**	**30**	P	**P**	**18 14 51.5**	**+0.2**
LAO	**LASA Array**	**60

MLY Manley 83.87 344 P **P 18 17 15.5 -0.8**
MLY IAmb IAmb 18 17 17.6
comp=Z,11nm,1.3s
COLD Coldfoot 85.48 346 P **P 18 17 25.2 +0.9**
HNR Honiara 86.33 261 LR LR 18 47 30.6
comp=Z,131nm,21.4s,baz=95,slow=30
H11S2 WAKE ISLAND Hy 86.62 290 T T 19 53 19.0
baz=106,slow=75,SNR=154
H11S1 WAKE ISLAND Hy 86.63 290 T T 19 53 34.0
baz=106,slow=75,SNR=58
H11S3 WAKE ISLAND Hy 86.64 290 T T 19 53 34.8
baz=106,slow=75,SNR=74
H11N3 WAKE ISLAND Hy 86.77 291 T T 19 53 30.9
baz=108,slow=75,SNR=29
H11N1 WAKE ISLAND Hy 86.78 291 T T 19 53 34.4
baz=108,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 86.78 291 T T 19 53 31.2
baz=108,slow=75,SNR=44
SYO Syowa Base 95.01 170 *e*P **P 18 18 07.4 -1.9**
SYO Syowa Base 95.01 170 *e*pP pP 18 18 12.0 +0.1
STKA Stephens Creek 96.63 235 LR LR 18 53 42.3
comp=Z,325nm,21.9s,baz=53,slow=30
MAW Mawson 98.82 178 LR LR 18 58 09.0
comp=Z,224nm,21.0s,baz=218,slow=32
NJ2 Nanjing 130.53 301 *e*PKP **PKPdf 18 23 58.1 -0.2**
HHC Hu-ho-hao-te 133.73 314 *e*P **PKPdf 18 23 58.0 -6.2**
KURK Kurchatov 142.16 349 PKPpre 18 24 13.1
KURBB Kurchatov Arra 142.27 349 PKhKP PKPpre 18 24 13.1
comp=Z,0.4nm,0.7s,baz=22,slow=2.6,SNR=2.6
MKAR Makanchi Array 145.01 343 PKP **PKPbc 18 24 23.3 -0.5**
comp=Z,1.2nm,0.6s,baz=29,slow=2.8,SNR=12
WMQ Urumqi 145.73 335 *e*PKPbc **PKPab 18 24 26.8 +0.2**
NONG Nongkai 146.34 282 P **PKiKP 18 24 38.0 +6.2**
CM35 Chiang Mai Arr 150.09 284 P **PKiKP 18 24 41.0 +1.5**
CM36 Chiang Mai Arr 150.15 283 P **PKPab 18 24 48.0 +3.2**
CMMT Chiang Mai 150.27 284 P **PKiKP 18 24 42.7 +2.8**
CM33 Chiang Mai Arr 150.27 284 P **PKiKP 18 24 42.0 +2.1**
CM02 Chiang Mai Arr 150.30 283 P **PKPab 18 24 48.0 +2.6**
CMAR Chiang Mai Arr 150.30 283 PKPbc **PKiKP 18 24 40.0 +0.1**
comp=Z,2.9nm,0.7s,baz=80,slow=1.2,SNR=17
CMAR Chiang Mai Arr 150.30 283 **PKiKP 18 24 41.2 +1.2**
CM05 Chiang Mai Arr 150.31 283 P **PKPab 18 24 43.2 -2.2**
CM15 Chiang Mai Arr 150.32 283 P **PKiKP 18 24 42.8 +2.7**
CM13 Chiang Mai Arr 150.34 283 P **PKPab 18 24 45.0 -0.6**

IASPEI ***07*** *18:08:26.8±0.8, 38°.25N±0°.02×26°.58E±0°.02, h16km±5km, Error ellipse: s-maj=3.7km s-min=2.7km az=55.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISK ***07*** *18:08:26.3, 38°.24N×26°.57E, h18km, ML2.5/16*
ATH ***07*** *18:08:27.7, 38°.22N×26°.59E, h15km±3km, ML2.7/4, Error ellipse: s-maj=4.1km s-min=1.1km az=216.0*
DDA ***07*** *18:08:27.2, 38°.26N×26°.59E, h13km, ML2.4*
THE ***07*** *18:08:27.0, 38°.24N×26°.57E, h11km±2km, ML2.4/5, Error ellipse: s-maj=2.0km s-min=1.0km az=64.0*
ISC 07 18:08:26.9±0.8, **38°.25N**±0°.02×**26°.58E**±0°.02, **h16**km±4km, **n47**, σ0°**59**/73, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEYE	**Izmir, Urla-Ze**	**0.06**	**260**	*i* P	**Pg**	**18 08 29.9**	**0.0**
ZEYE				*i* S	**Sg**	**18 08 31.9**	**+0.1**
ZEYE				IAML		18 08 32.0	
	comp=N,3μm,0.2s						
URLA	**Izmir**	**0.11**	**6**	*i* P	**Pg**	**18 08 30.6**	**+0.1**
URLA				*i* S	**Sg**	**18 08 32.6**	**-0.2**
URLA	**Izmir**	**0.11**	**6**	PG	**Pg**	**18 08 30.5**	**+0.1**
URLA				SG	**Sg**	**18 08 33.2**	**+0.4**
CESE	**eme**	**0.24**	**290**	PG	**Pg**	**18 08 32.1**	**0.0**
CESE				SG	**Sg**	**18 08 36.1**	**+0.4**
DGB	**zmir**	**0.31**	**130**	*i* P	**Pg**	**18 08 33.6**	**+0.2**
DGB				IAML		18 08 38.0	
	comp=E,541nm,0.2s						
DGB				IAML		18 08 38.0	
	comp=N,464nm,0.2s						
GMLD	**Gumuldur**	**0.32**	**123**	PG	**Pg**	**18 08 33.6**	**+0.1**
GMLD				SG	**Sb**	**18 08 38.7**	**-0.3**
KRBN	**Karaburun**	**0.34**	**356**	PG	**Pg**	**18 08 34.1**	**+0.1**
KRBN				SG	**Sb**	**18 08 40.3**	**+0.4**
BLCB	**Balcova**	**0.39**	**69**	P	**Pg**	**18 08 34.9**	**+0.1**
BLCB				S	**Sg**	**18 08 40.6**	**+0.5**
CHOS	**Chios island**	**0.44**	**288**	P	**Pg**	**18 08 36.1**	**+0.4**
CHOS				S	**Sg**	**18 08 41.0**	**-0.7**
	comp=N,488nm,0.2s						
CHOS	**Chios island**	**0.44**	**288**	P	**Pg**	**18 08 36.1**	**+0.4**
CHOS				S	**Sb**	**18 08 43.5**	**+0.9**
CHOS				AML	AML	18 08 44.1	
	comp=E,1148μm,0.2s						
CHOS				AML	AML	18 08 46.6	
	comp=N,841μm,0.2s						
CHOS	**Chios island**	**0.44**	**288**	PG	**Pg**	**18 08 36.0**	**+0.4**
FOCM	**Foa**	**0.48**	**14**	PG	**Pg**	**18 08 35.9**	**-0.5**
SMG	**Samos**	**0.58**	**159**	P	**Pg**	**18 08 38.3**	**0.0**
SMG				S	**Sb**	**18 08 46.7**	**+0.1**
	comp=N,1μm,0.2s						
SMG	**Samos**	**0.58**	**159**	P	**Pg**	**18 08 38.2**	**0.0**
SMG				S	**Sb**	**18 08 46.4**	**-0.2**
SMG				AML	AML	18 08 49.1	
	comp=N,2498μm,0.2s						
SMG				AML	AML	18 08 49.4	
	comp=E,2110μm,0.2s						
GCAM	**G?zelcaml?**	**0.75**	**137**	*i* P	**Pb**	**18 08 41.8**	**+0.2**
GCAM				*i* S	**Sb**	**18 08 51.8**	**+0.2**
GCAM				IAML		18 08 54.0	
	comp=E,153nm,0.2s						
GCAM				IAML		18 08 54.0	
	comp=N,214nm,0.5s						
GCAM	**G?zelcaml?**	**0.75**	**137**	PG	**Pg**	**18 08 41.3**	**-0.2**
ZEDA	**zmir-Bergama**	**0.81**	**28**	*i* P	**Pb**	**18 08 42.2**	**-0.5**
ZEDA				*i* S	**Sg**	**18 08 53.4**	**0.0**
ZEDA				IAML		18 08 57.0	
	comp=N,148nm,0.2s						
PSRA	**Psara**	**0.85**	**290**	P	**Pb**	**18 08 43.5**	**+0.3**
PSRA				S	**Sg**	**18 08 55.8**	**+1.1**
PSRA				AML	AML	18 08 57.8	
	comp=N,1207μm,0.2s						
PSRA				AML	AML	18 08 58.1	
	comp=E,1550μm,0.2s						
DKL	**Dikili**	**0.86**	**17**	PG	**Pb**	**18 08 43.6**	**+0.2**
DDIM	**Aydin, Didim**	**0.95**	**146**	*i* P	**Pn**	**18 08 46.1**	**+0.6**
DDIM				*i* S	**Sb**	**18 08 57.2**	**0.0**
DDIM				IAML		18 09 01.0	
	comp=E,100nm,0.9s						
DDIM				IAML		18 09 01.0	
	comp=N,121nm,0.5s						
PRK	**Paraskevi**	**1.02**	**346**	P	**Pg**	**18 08 47.2**	**+0.5**
PRK				S	**Sg**	**18 09 00.7**	**+0.6**
	comp=N,382nm,0.6s						
PRK	**Paraskevi**	**1.02**	**346**	P	**Pg**	**18 08 47.2**	**+0.5**
PRK				S	**Sn**	**18 09 01.1**	**+0.5**
PRK				AML	AML	18 09 03.9	
	comp=N,738μm,0.3s						
PRK				AML	AML	18 09 04.4	
	comp=E,610μm,0.4s						
AYVA	**Ayvalik**	**1.06**	**5**	*i* P	**Pb**	**18 08 46.7**	**-0.1**
AYVA				*i* S	**Sg**	**18 09 01.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**106**	PG	**Pb**	**18 08 46.9**	**-0.3**
AKHS	**Akhisar**	**1.15**	**57**	*i* P	**Pg**	**18 08 49.4**	**+0.3**
AKHS				*i* S	**Sb**	**18 09 02.5**	**-0.6**
AYDN	**Tasoluk**	**1.18**	**119**	*i* P	**Pg**	**18 08 50.1**	**+0.4**
AYDN				*i* S	**Sb**	**18 09 03.5**	**-0.6**
KOCA	**Canakkale, Ayv**	**1.30**	**345**	*i* P	**Pn**	**18 08 49.6**	**-0.8**
KOCA				*i* S	**Sb**	**18 09 04.5**	**-2.9**
KOCA				IAML		18 09 10.0	
	comp=E,60nm,0.4s						
BUHA	**Balikesir, Bur**	**1.31**	**17**	*i* P	**Pb**	**18 08 51.8**	**+0.7**
BUHA				IAML		18 09 11.0	
	comp=E,54nm,0.3s						
BUHA				IAML		18 09 13.0	
	comp=N,61nm,0.3s						
BODT	**Bodrum**	**1.32**	**154**	P	**Pn**	**18 08 50.4**	**-0.2**
BODT				S	**Sb**	**18 09 06.9**	**-1.1**
BODT	**Bodrum**	**1.32**	**154**	PN	**Pn**	**18 08 50.5**	**-0.2**
MLSB	**Milas**	**1.34**	**135**	PN	**Pn**	**18 08 50.4**	**-0.6**
BDRM	**Kayabasi**	**1.37**	**150**	*i* P	**Pn**	**18 08 50.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.43**	**38**	*i* P	**Pb**	**18 08 53.9**	**+0.7**
STEP				*i* S	**Sg**	**18 09 13.6**	**+0.5**
STEP				IAML		18 09 16.0	
	comp=N,58nm,0.5s						
STEP				IAML		18 09 19.0	
	comp=E,51nm,0.6s						
APE	**Apeiranthos**	**1.44**	**216**	P	**Pn**	**18 08 51.9**	**-0.5**
APE				S	**Sn**	**18 09 11.4**	**+0.3**
	comp=E,68nm,0.4s						
APE	**Apeiranthos**	**1.44**	**216**	PN	**Pn**	**18 08 52.1**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.49**	**359**	*i* P	**Pn**	**18 08 52.3**	**-0.7**
MANT	**Manisa**	**1.57**	**81**	*i* P	**Pb**	**18 08 56.0**	**+0.3**
MANT				*i* S	**Sb**	**18 09 15.6**	**+0.1**
MANT				IAML		18 09 18.0	
	comp=E,64nm,0.2s						
MANT				IAML		18 09 19.0	
	comp=N,50nm,0.4s						
EZN	**Ezine**	**1.59**	**353**	P	**Pn**	**18 08 53.7**	**-0.6**
EZN	**Ezine**	**1.59**	**353**	PN	**Pn**	**18 08 54.6**	**+0.3**
BOZC	**Bozcaada**	**1.64**	**346**	*i* P	**Pn**	**18 08 54.4**	**-0.7**
BOZC				IAML		18 09 21.0	
	comp=N,34nm,0.3s						
BOZC	**Bozcaada**	**1.64**	**346**	PN	**Pn**	**18 08 54.9**	**-0.2**
KULA	**Kula-Manisa**	**1.66**	**80**	PN	**Pn**	**18 08 55.5**	**+0.1**
BALY	**Balya**	**1.69**	**28**	*i* P	**Pn**	**18 08 56.3**	**+0.4**
BALY				IAML		18 09 24.0	
	comp=N,58nm,0.8s						
DAT	**Datca**	**1.71**	**152**	P	**Pn**	**18 08 55.5**	**-0.7**
BALB	**Balikesir**	**1.72**	**36**	PN	**Pn**	**18 08 56.5**	**+0.4**
LIA	**Limnos Island**	**1.97**	**327**	P	**Pn**	**18 08 59.8**	**+0.2**
LIA				S	**Sn**	**18 09 23.0**	**-1.0**
	comp=N,28nm,1.1s						
GADA	**Gvkgeada**	**2.01**	**345**	P	**Pn**	**18 08 59.5**	**-0.6**

NEIC ***07*** *18:23:18.2±0.9, 21°.2S±0°.2×178°.6W±0°.1, h574km±7km, mb4.4/12, Error ellipse: s-maj=27.3km s-min=16.1km az=152.0*
IDC ***07*** *18:23:18.4±2.2, 21°.14S×178°.64W, h584km±23km, mb2.8/4, mb1 3.2/6, mb1mx2.9/23, mbtmp3.8/6, Error ellipse: s-maj=38.9km s-min=21.8km az=147.0*
ISC 07 18:23:18.3±1.2, **21°.2S**±0°.2×**178°.7W**±0°.2, **h579**km, **n19**, σ0°**46**/19, **mb4.3**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**317**	P	**P**	**18 24 47.1**	**-0.1**
	2.7nm,0.3s,baz=151,slow=5.6,SNR=11						
URZ	**Urewera**	**17.39**	**191**	P	**P**	**18 26 49.1**	**0.0**
	0.6nm,0.3s,baz=18,slow=3.2,SNR=1.4						
BKZ	**Black Stump Fm**	**18.39**	**192**	P	**P**	**18 26 57.8**	**-0.5**
HNR	**Honiara**	**23.69**	**296**	P	**P**	**18 27 45.9**	**-0.3**
CTAO	**Charters Tower**	**32.82**	**266**	P	**P**	**18 29 06.0**	**+0.7**
CTAO				IAmb	IAmb	18 29 24.2	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**43.72**	**263**	P	**P**	**18 30 33.1**	**-0.3**
WR0				IAmb	IAmb	18 30 58.8	
	comp=Z,15nm,1.6s						
AS31	**Alice Springs**	**43.77**	**258**	P	**P**	**18 30 33.9**	**0.0**
ASAR	**Alice Springs**	**43.77**	**258**	P	**P**	**18 30 34.2**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.9,SNR=52						
ASAR				PcP	**PcP**	**18 32 07.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=115,slow=3.7,SNR=6.4						
ASAR	**Alice Springs**	**43.77**	**258**	P	**P**	**18 30 33.1**	**-0.8**
WB0	**Warramunga Arr**	**43.89**	**263**	P	**P**	**18 30 34.2**	**-0.6**
WB0				IAmb	IAmb	18 30 52.3	
	comp=Z,9.7nm,1.6s						
WB2	**Warramunga Arr**	**43.89**	**263**	P	**P**	**18 30 34.5**	**-0.3**
WB2				IAmb	IAmb	18 30 59.4	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**18 30 34.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=97,slow=6.9,SNR=29						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**18 30 34.0**	**-0.9**
FORT	**Forrest**	**48.46**	**247**	P	**P**	**18 31 09.4**	**+0.2**
FORT				IAmb	IAmb	18 31 32.1	
	comp=Z,19nm,1.1s						
MTN	**Manton Dam**	**48.56**	**271**	P	**P**	**18 31 09.7**	**-0.4**
MTN				IAmb	IAmb	18 31 19.5	
	comp=Z,22nm,1.3s						
KNRA	**Kununurra**	**50.01**	**267**	P	**P**	**18 31 20.8**	**+0.1**
KNRA				IAmb	IAmb	18 31 21.0	
	comp=Z,32nm,1.6s						
NVAR	**Mina Array Bea**	**81.95**	**44**	P	**P**	**18 34 38.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=216,slow=5.7,SNR=1.8						
PDAR	**Pinedale Array**	**89.88**	**43**	P	**P**	**18 35 16.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=218,slow=5.7,SNR=2.2						
AKASG	**Malin Array Be**	**143.32**	**330**	PKP	PKPab	18 41 43.8	-1.7
	comp=Z,1.4nm,0.4s,baz=44,slow=4.0,SNR=11						

NOU ***07*** *18:39:27.1, 19°.58S×177°.44W, h514km, MLv5.1, Fiji Islands Region*
IDC ***07*** *18:39:29.1±2.5, 20°.26S×177°.77W, h488km±26km, mb3.7/11, mb1 3.9/13, mb1mx3.7/23, mbtmp4.5/13, Error ellipse: s-maj=22.3km s-min=12.9km az=127.0*
NEIC ***07*** *18:39:29.7±2.8, 20°.2S±0°.1×177°.7W±0°.1, h487km±7km, mb4.4/84, Error ellipse: s-maj=18.8km s-min=13.8km az=134.0*
ISC 07 18:39:29.9±0.5, **20°.26S**±0°.08×**177°.73W**±0°.07, **h500**km, **n161**, σ1°**03**/161, **mb4.3**/53, **11C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**302**	P	**P**	**18 40 56.1**	**+1.5**
	22nm,0.3s,baz=142,slow=5.2,SNR=76						
MSVF				S	**S**	**18 42 07.1**	**+3.5**
	baz=312,slow=22,SNR=0.9						
MSVF	**Nonsavu**	**4.72**	**302**	P	**P**	**18 40 55.7**	**+1.1**
MSVF	**Nonsavu**	**4.72**	**302**	P	**P**	**18 40 51.9**	**-2.7**
NIUE	**Niue**	**7.45**	**82**	P	**P**	**18 41 19.3**	**-1.4**
NIUE	**Niue**	**7.45**	**82**	P	P	18 41 14.9	-5.8
AFI	**Afiamalu**	**8.50**	**43**	S	S	18 43 02.9	-8.8
	27nm,0.3s,baz=200,slow=13,SNR=10.0						
AFI	**Afiamalu**	**8.50**	**43**	P	P	18 41 23.3	-8.5
AFI				S	S	18 43 03.5	-8.1
AFI	**Afiamalu**	**8.50**	**43**	P	P	18 41 21.9	-10
MARNC	**Mare, Loyalty**	**13.37**	**262**	P	**P**	**18 42 22.8**	**-0.2**
MARNC	**Mare, Loyalty**	**13.37**	**262**	P	**P**	**18 42 23.4**	**+0.4**
	0.9nm,0.9s						
PINNC	**Pines Island,**	**14.00**	**258**	P	**P**	**18 42 30.4**	**+0.7**
PINNC	**Pines Island,**	**14.00**	**258**	P	**P**	**18 42 31.4**	**+1.7**
LIFNC	**LIFOU**	**14.09**	**265**	P	**P**	**18 42 29.8**	**-0.8**
LIFNC	**LIFOU**	**14.09**	**265**	P	**P**	**18 42 31.5**	**+0.9**
YATNC	**Mamie plateau,**	**14.46**	**260**	P	**P**	**18 42 36.0**	**+1.5**
OUENC	**Ouen Island, N**	**14.54**	**259**	P	**P**	**18 42 35.6**	**+0.3**
OUENC	**Ouen Island, N**	**14.54**	**259**	P	**P**	**18 42 36.0**	**+0.7**
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**18 42 39.4**	**+0.4**
	0.8nm,0.3s,baz=101,slow=13,SNR=16						
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**18 42 38.1**	**-0.9**
DZM	**Mont Dzumac**	**14.87**	**260**	P	**P**	**18 42 39.7**	**+0.7**
	31nm,0.9s						
ONTNC	**Ouen Toro**	**14.88**	**259**	P	**P**	**18 42 38.6**	**-0.3**
NOUC	**Port Laguerre**	**15.01**	**260**	P	**P**	**18 42 41.0**	**+0.8**
SANVU	**Saraoutou**	**15.12**	**286**	P	**P**	**18 42 40.9**	**-0.6**
OUZ	**Omahuta**	**16.75**	**205**	P	**P**	**18 42 59.9**	**+1.7**
KOUNC	**Koumac, New Ca**	**16.86**	**266**	P	**P**	**18 42 59.1**	**-0.5**
KNTN	**Kanton**	**18.35**	**19**	P	**P**	**18 43 12.2**	**-1.4**
URZ	**Urewera**	**18.48**	**193**	P	**P**	**18 43 13.2**	**-1.3**
	0.5nm,0.3s,baz=24,slow=18,SNR=2.5						
URZ				S	**S**	**18 46 18.9**	**+1.3**
	0.4nm,0.3s,baz=174,slow=17,SNR=1.8						
BKZ	**Black Stump Fm**	**19.48**	**194**	P	**P**	**18 43 23.1**	**-0.7**
QRZ	**Quartz Range**	**22.12**	**200**	P	**P**	**18 43 49.5**	**+2.0**
NNZ	**Nelson**	**22.21**	**198**	P	**P**	**18 43 49.4**	**+1.0**
LTZ	**Lake Taylor**	**23.98**	**198**	P	**P**	**18 44 04.9**	**+0.7**
LTZ				IAmb	IAmb	18 44 33.3	
	comp=Z,25nm,1.4s						
WHZ	**Wether Hill Ro**	**28.15**	**201**	P	**P**	**18 44 42.1**	**+1.2**
EIDS	**Eidsvold**	**29.15**	**254**	P	**P**	**18 44 49.8**	**-0.2**
EIDS				IAmb	IAmb	18 45 07.3	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**29.40**	**244**	P	**P**	**18 44 52.5**	**+0.3**
ARMA				IAmb	IAmb	18 45 14.2	
	comp=Z,15nm,1.1s						
KWAJ	**Kwajalein Atol**	**32.28**	**332**	P	**P**	**18 45 15.4**	**-1.7**
RABL	**Rabaul**	**33.38**	**295**	P	**P**	**18 45 26.9**	**+0.4**
CTAO	**Charters Tower**	**33.77**	**264**		**P**	**18 45 29.4**	**-0.3**
PMG	**Port Moresby**	**35.54**	**282**	P	**P**	**18 45 43.8**	**-0.8**
PATS	**Pohnpei**	**35.78**	**316**	P	**P**	**18 45 48.1**	**+1.5**
TOO	**Toolangi**	**36.24**	**234**	P	**P**	**18 45 50.1**	**-0.1**
TOO				IAmb	IAmb	18 45 51.0	
	comp=Z,9.7nm,0.8s						
JOHN	**Johnston Islan**	**37.64**	**13**	P	**P**	**18 46 00.9**	**-0.9**
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**18 46 05.7**	**0.0**
	comp=Z,3.0nm,0.5s,baz=80,slow=9.2,SNR=8.1						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**18 46 05.7**	**0.0**
MANU	**Manus Island**	**38.59**	**294**	P	**P**	**18 46 09.5**	**-0.2**
MANU				IAmb	IAmb	18 46 26.8	
	comp=Z,23nm,1.4s						
WR0	**Warramunga Arr**	**44.70**	**262**	P	**P**	**18 46 57.0**	**-1.0**
WR0				IAmb	IAmb	18 46 58.3	
	comp=Z,5.0nm,0.6s						
AS31	**Alice Springs**	**44.82**	**256**	P	**P**	**18 46 58.5**	**-0.5**
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**18 46 58.6**	**-0.4**
	comp=Z,22nm,0.8s,baz=97,slow=7.7,SNR=284						
ASAR				PcP	**pP**	**18 48 30.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=102,slow=3.6,SNR=2.8						
ASAR				ScP	**ScP**	**18 51 36.6**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=104,slow=4.8,SNR=5.3						
ASAR				S	**S**	**18 52 57.0**	**-2.6**
	comp=Z,0.7nm,0.7s,baz=93,slow=16,SNR=5.7						
ASAR	**Alice Springs**	**44.82**	**256**	P	**P**	**18 46 58.5**	**-0.5**
WB0	**Warramunga Arr**	**44.86**	**262**	P	**P**	**18 46 58.5**	**-0.9**
WB2	**Warramunga Arr**	**44.87**	**262**	P	**P**	**18 46 57.9**	**-1.5**
WB2				IAmb	IAmb	18 46 59.0	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**18 46 58.5**	**-1.0**
	comp=Z,5.7nm,0.6s,baz=98,slow=7.7,SNR=112						
WRA	**Warramunga Arr**	**44.88**	**262**	P	**P**	**18 46 58.0**	**-1.5**
MTN	**Manton Dam**	**49.41**	**270**	P	**P**	**18 47 33.1**	**-0.6**
MTN				IAmb	IAmb	18 47 33.7	
	comp=Z,18nm,0.9s						
FORT	**Forrest**	**49.62**	**246**	P	**P**	**18 47 34.3**	**-0.8**
KNRA	**Kununurra**	**50.93**	**266**	P	**P**	**18 47 44.3**	**-0.6**
KNRA				IAmb	IAmb	18 47 45.2	
	comp=Z,11nm,0.7s						
SOEI	**Soe**	**56.75**	**271**	P	**P**	**18 48 27.5**	**+1.2**
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**18 48 33.4**	**-1.1**
PSA00				IAmb	IAmb	18 48 34.6	
	comp=Z,21nm,0.8s						
PSA00	**Pilbara Seismi**	**57.97**	**257**	P	**P**	**18 48 33.4**	**-1.1**
NWAO	**Narrogin (SRO)**	**58.70**	**243**	P	**P**	**18 48 39.0**	**-0.2**
MMRI	**Maumere**	**59.00**	**272**	P	**P**	**18 48 39.8**	**-1.7**
MMRI				IAmb	IAmb	18 48 41.8	
	comp=Z,29nm,1.1s						
MORW	**Morawa**	**60.15**	**247**	P	**P**	**18 48 48.3**	**-0.7**
TOLI2	**Tolitoli**	**63.80**	**282**	P	**P**	**18 49 14.0**	**+1.0**
TOLI2				IAmb	IAmb	18 49 14.3	
	comp=Z,19nm,1.3s						
MJAR	**Matsushiro Arr**	**70.17**	**323**	P	**P**	**18 49 52.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=150,slow=5.2,SNR=4.9						
MJAR	**Matsushiro Arr**	**70.17**	**323**	IAmb	IAmb	18 50 01.6	
	comp=Z,4.7nm,1.5s						
UGM	**Wanagama**	**70.22**	**269**	P	**P**	**18 49 52.4**	**-0.3**
PEA0B	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**18 50 25.9**	**+0.4**
PEA0B				IAmb	IAmb	18 50 48.4	
	comp=Z,22nm,1.3s						
PETK	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**18 50 25.8**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=155,slow=5.9,SNR=5.1						
PETK	**Petropavlovsk-**	**76.11**	**345**	P	**P**	**18 50 26.4**	**+0.9**
PMPB	**Monarch Peak**	**77.77**	**44**	P	**P**	**18 50 36.3**	**+1.2**
PMPB				IAmb	IAmb	18 50 38.5	
	comp=Z,21nm,1.4s						
KHMM	**Horse Mountain**	**78.81**	**39**	P	**P**	**18 50 42.7**	**+1.9**
KHMM				IAmb	IAmb	18 50 44.1	
	comp=Z,16nm,1.5s						
KRMB	**Red Mountain**	**79.12**	**38**	P	**P**	**18 50 44.1**	**+1.8**
KRMB				IAmb	IAmb	18 50 56.6	
	comp=Z,16nm,1.5s						
WDC	**Whiskeytown Da**	**79.33**	**40**	P	**P**	**18 50 44.1**	**+0.8**
YBH	**Yreka Blue Hor**	**79.95**	**39**	P	**P**	**18 50 48.1**	**+1.4**
WAKR	**Walker**	**80.00**	**43**	P	**P**	**18 50 48.8**	**+1.5**
BEKR	**Beckworth**	**80.22**	**41**	P	**P**	**18 50 48.2**	**-0.1**
HUMO	**Hull Mountain**	**80.35**	**38**	P	**P**	**18 50 50.3**	**+1.7**
YERR	**Yerington**	**80.40**	**42**	P	**P**	**18 50 50.2**	**+1.0**
KDAK	**Kodiak Island**	**80.53**	**13**	P	**P**	**18 50 49.3**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=329,slow=4.3,SNR=4.1						
KDAK	**Kodiak Island**	**80.53**	**13**	IAmb	IAmb	18 50 51.2	
	comp=Z,19nm,1.1s						
NVAR	**Mina Array Bea**	**80.68**	**43**	P	**P**	**18 50 51.7**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=225,slow=8.8,SNR=6.0						
NVAR	**Mina Array Bea**	**80.68**	**43**	P	**P**	**18 50 51.0**	**+0.3**
KVN	**Kaiserville**	**81.17**	**43**	P	**P**	**18 50 54.3**	**+1.2**
TPNV	**Topopah Spring**	**81.20**	**45**	P	**P**	**18 50 54.7**	**+1.3**
MOD	**Modoc Plateau**	**81.47**	**40**	P	**P**	**18 50 56.0**	**+1.4**
MOD				IAmb	IAmb	18 50 56.7	
	comp=Z,8.3nm,1.1s						
K05A	**Summer Lake**	**81.62**	**39**	P	**P**	**18 50 56.9**	**+1.4**
K05A				IAmb	IAmb	18 50 57.9	
	comp=Z,15nm,1.0s						
H04A	**Detroit Lake**	**82.09**	**36**	P	**P**	**18 50 58.1**	**+0.5**
H04A				IAmb	IAmb	18 50 58.8	
	comp=Z,7.1nm,0.7s						
PINE	**Pine Mountain**	**82.24**	**38**	P	**P**	**18 51 00.1**	**+1.5**
PINE				IAmb	IAmb	18 51 01.1	
	comp=Z,15nm,0.9s						
PRN	**Pahroc Range**	**82.25**	**46**	P	**P**	**18 51 00.2**

EGAK					IAmb	IAmb	18 51 33.1	
	comp=Z,6.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**89.37**	**314**	*e*P		**P**	**18 51 32.4**	**-0.5**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,130nm,5.1s							
COLD	**Coldfoot**	**89.60**	**10**	P		**P**	**18 51 33.5**	**+0.2**
COLD				IAmb		IAmb	18 51 35.8	
	comp=Z,4.2nm,1.2s							
RLMT	**Red Lodge**	**89.95**	**41**	P		**P**	**18 51 33.7**	**-1.9**
RLMT				IAmb		IAmb	18 51 38.2	
	comp=Z,3.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**90.28**	**289**	P		**P**	**18 51 38.9**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=108,slow=2.8,SNR=8.5							
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP		**PKiKP**	**18 57 05.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=64,slow=3.4,SNR=4.1							
KURBB	**Kurchatov Arra**	**114.05**	**317**	PKiKP		**PKiKP**	**18 57 10.7**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=93,slow=1.7,SNR=7.0							
BVAR	**Borovoye Array**	**119.06**	**320**	PKP		**PKPdf**	**18 57 20.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=163,slow=6.2,SNR=4.6							
ARCES	**ARCESS Array B**	**128.74**	**350**	PKP		**PKPdf**	**18 57 39.4**	**+0.1**
	comp=Z,6.3nm,1.1s,baz=318,slow=1.2,SNR=4.2							
FINES	**FINESS Array B**	**135.62**	**344**	PKP		**PKPdf**	**18 57 51.3**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=343,slow=1.5,SNR=3.5							
AKASG	**Malin Array Be**	**142.93**	**331**	PKhKP		PKPpre	18 58 02.9	
	comp=Z,3.5nm,0.4s,baz=42,slow=4.4,SNR=22							
SORM	**Soroca**	**145.13**	**329**	⇑P		**PKPdf**	**18 58 09.9**	**-0.1**
BURAR	**Bucovina Array**	**146.98**	**331**	⇓P		**PKPbc**	**18 58 17.1**	**+0.9**
KOLS	**Kolonicke sedl**	**147.20**	**335**	*e*PKP		**PKPbc**	**18 58 17.3**	**+0.7**
KOLS				*e*			18 58 20.7	
TPGR	**Topolog**	**147.29**	**325**	⇑P		**PKPbc**	**18 58 17.7**	**+0.8**
VRI	**Vrincioaia**	**147.51**	**327**	⇓P		**PKPbc**	**18 58 17.9**	**+0.4**
CRVS	**Cervenica-Dubn**	**147.54**	**336**	*e*PKP		**PKPbc**	**18 58 17.0**	**-0.4**
CLL	**Collm**	**147.89**	**347**	⇑*i*PKPbc		**PKPbc**	**18 58 18.3**	**+0.1**
	comp=Z,10.0nm,0.7s							
CLL				*i* PKPab		**PKPab**	**18 58 22.3**	**-0.2**
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**147.89**	**347**			**PKPbc**	**18 58 17.4**	**-0.8**
DPC	**Dobruska-Polom**	**147.98**	**343**	⇑*e*PKP		**PKPbc**	**18 58 19.3**	**+0.7**
LANS	**Liptovska Anna**	**148.06**	**338**	*e*PKP		**PKPbc**	**18 58 20.0**	**+1.2**
LANS				*e*			18 58 24.8	
BRG	**Berggiesshubel**	**148.09**	**346**	*e*PKP		**PKPbc**	**18 58 19.3**	**+0.6**
BRG				Amp			18 58 20.0	
	comp=Z,8.7nm,1.1s							
KRLC	**Kraliky**	**148.09**	**342**	⇑*e*PKP		**PKPbc**	**18 58 19.0**	**+0.1**
DOPR	**Dopca**	**148.10**	**329**	⇑P		**PKPbc**	**18 58 20.2**	**+1.2**
MORC	**Moravsky Berou**	**148.14**	**341**	⇓P		**PKPbc**	**18 58 18.9**	**-0.1**
MLR	**Muntele Rosu**	**148.16**	**328**	⇑P		**PKPbc**	**18 58 19.5**	**+0.2**
PRU	**Pruhonice**	**148.78**	**345**	⇑*e*PKP		**PKPbc**	**18 58 20.9**	**+0.4**
VRAC	**Vranov**	**148.84**	**342**	*e*PKP		**PKPbc**	**18 58 21.1**	**+0.4**
ARR	**Arges**	**148.90**	**329**	⇑P		**PKiKP**	**18 58 22.6**	**+0.5**
JAVC	**Velka Javorina**	**148.91**	**340**	*e*PKP		**PKPbc**	**18 58 22.0**	**+1.1**
KRUC	**Moravsky**	**149.12**	**342**	*e*PKP		**PKPbc**	**18 58 21.7**	**+0.3**
KRUC				*e*			18 58 28.2	
MODS	**Modra-Piesok**	**149.46**	**340**	*e*PKP		**PKiKP**	**18 58 24.2**	**+1.2**
BTNL	**Ternell**	**149.59**	**355**	*d*PKPbc		**PKPbc**	**18 58 22.4**	**0.0**
GZR	**Gura Zlata**	**149.76**	**331**	⇓P		**PKPbc**	**18 58 22.9**	**-0.3**
KHC	**Kasperske Hory**	**149.81**	**345**	⇑*e*PKP		**PKPbc**	**18 58 23.0**	**-0.1**
KHC				*e*PKPAB		**PKPab**	**18 58 31.2**	**+0.6**
CKRC	**Cesky Krumlov**	**149.91**	**344**	⇑*e*PKP		**PKiKP**	**18 58 24.6**	**+0.6**
GERES	**GERESS Array B**	**150.04**	**345**	PKPbc		**PKPbc**	**18 58 23.4**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=54,slow=2.3,SNR=14							
HERR	**Herculane**	**150.32**	**330**	⇓P		**PKPbc**	**18 58 24.0**	**-0.4**
MORH	**Mrgy, Hungar**	**150.84**	**336**	⇓P		**PKPbc**	**18 58 25.6**	**+0.1**
ESDC	**Sonseca Array**	**159.93**	**14**	PKPab		**PKPab**	**18 59 14.4**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=299,slow=3.5,SNR=4.1							

NORS ***07*** *18:42:55.5±0.0, 42°.67N×45°.85E, h6km, MPVA3.1*
TIF ***07*** *18:42:58.3, 42°.66N×45°.88E, h14km±3km*
ISC 07 18:42:57.2±1.2, 42°.72N±0°.03×45°.89E±0°.03, h4km±11km, n15, σ1§34/26, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.25**	**102**	*e*Pg	**Pg**	**18 43 02.6**	**+0.5**
BTLR				*e*Sg	**Sb**	**18 43 08.3**	**-0.8**
DVE	**Vedeno**	**0.30**	**36**	*e*Pg	**Pg**	**18 43 02.0**	**-0.9**
DVE				*e*Sg	**Sg**	**18 43 07.3**	**+0.5**
GROC	**Groznyy**	**0.49**	**352**	*e*Pg	**Pb**	**18 43 08.9**	**+0.5**
GROC				*e*Sg	**Sb**	**18 43 16.8**	**+0.9**
DBC	**Dubki**	**0.76**	**66**	*e*Pg	**Pn**	**18 43 14.2**	**-0.5**
DBC				*e*Sg	**Sn**	**18 43 26.7**	**+0.1**
LGD	**Lagodekhi**	**0.92**	**163**	P	**Pg**	**18 43 15.0**	**+0.1**
LGD				S	**Sb**	**18 43 28.1**	**-0.3**
PNSH	**Pansheti**	**0.94**	**265**	P	Pn	18 43 26.3	+8.9
PNSH				S	Sn	18 43 39.9	+8.6
GUDG	**Gudauri**	**1.07**	**257**	P	Pg	18 43 12.1	-5.7
GUDG				S	**Sg**	**18 43 27.2**	**-4.5**
LACR	**Lac**	**1.18**	**276**	*e*Pg	**Pb**	**18 43 19.5**	**-0.7**
LACR				*e*Sg	**Sn**	**18 43 36.2**	**-0.8**
ARNR	**Ardon**	**1.27**	**292**	*e*Pg	**Pn**	**18 43 21.5**	**-0.1**
ARNR				*e*Sg	**Sn**	**18 43 39.8**	**+0.7**
DDFL	**Dedoflistskaro**	**1.28**	**172**	P	**Pg**	**18 43 24.4**	**+2.6**
KORR	**Kora**	**1.39**	**286**	*e*Pg	**Pb**	**18 43 23.6**	**-0.1**
KORR				*e*Sg	**Sg**	**18 43 44.1**	**+2.4**
TRLG	**Trialeti**	**1.78**	**229**	P	**Pn**	**18 43 29.1**	**+0.2**
TRLG				S	**Sb**	**18 43 53.6**	**+0.6**
ONI	**Oni**	**1.80**	**267**	P	**Pb**	**18 43 31.4**	**+0.6**
ONI				S	**Sg**	**18 43 55.1**	**0.0**
DMNI	**Dmanisi**	**1.88**	**223**	P	**Pb**	**18 43 31.2**	**-0.9**
DMNI				S	**Sb**	**18 43 56.1**	**+0.1**
BKRG	**Bakuriani**	**2.00**	**242**	P	**Pb**	**18 43 33.9**	**-0.3**
BKRG				S	**Sb**	**18 43 59.1**	**-0.5**

NEIC ***07*** *18:46:25.1±2.0, 34°.00N±0°.05×120°.74W±0°.07, h8km±8km, Error ellipse: s-maj=9.4km s-min=5.1km az=49.0*
ANF ***07*** *18:46:26.6±0.4, 34°.10N×120°.65W, h14km±1km, ML3.6/29, Error ellipse: s-maj=3.5km s-min=2.1km az=77.0*
PAS ***07*** *18:46:27.9±1.4, 34°.10N±0°.06×120°.6W±0°.1, h19km±8km, ML3.6/202, ML3.2/58(NEIC), Error ellipse: s-maj=13.3km s-min=6.4km az=66.0*
SCEDC ***07*** *18:46:27.9, 34°.10N×120°.64W, h19km*
ISC 07 18:46:25.9±1.8, 34°.08N±0°.04×120°.69W±0°.06, h10km±10km, n77, σ0§82/91, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMLM	**Mount Lospe**	**0.82**	**5**		**Pb**	**18 46 42.4**	**+0.1**
SCZ2	**Santa Cruz Isl**	**0.88**	**95**	P	**Pg**	**18 46 42.8**	**-0.1**
	baz=277,SNR=139						
SCZ2				S	**Sb**	**18 46 55.1**	**-0.1**
	baz=277						
SBC	**Santa Barbara**	**0.89**	**66**	P	**Pg**	**18 46 42.9**	**-0.1**
	baz=246						
SBC				S	**Sg**	**18 46 54.8**	**+0.1**
	baz=246						
PKM	**Mcpherson Peak**	**1.09**	**42**	P	**Pb**	**18 46 46.4**	**-0.6**
	baz=221,SNR=165						
PKM				S	**Sg**	**18 47 01.3**	**+0.3**
	baz=221						
SNCC	**San Nicolas Is**	**1.28**	**130**	P	**Pn**	**18 46 49.3**	**-0.5**
	baz=313,SNR=13						
SNCC				S	**Sb**	**18 47 06.5**	**-0.1**
	baz=313						
SNCC	**San Nicolas Is**	**1.28**	**130**		**Pn**	**18 46 49.0**	**-0.8**
SMMC	**Simmler**	**1.36**	**25**	P	**Pn**	**18 46 50.5**	**-0.5**
	baz=204,SNR=24						
SMMC				S	**Sb**	**18 47 08.6**	**-0.4**
	baz=204						
TSCN	**Private Proper**	**1.49**	**11**		**Pb**	**18 46 53.6**	**-0.1**
RAMR	**Ramage Ranch**	**1.56**	**355**		**Pn**	**18 46 53.2**	**-0.6**
TRAM	**Private Proper**	**1.63**	**12**		**Pn**	**18 46 55.3**	**+0.5**
PAGB	**Antelope Grade**	**1.69**	**12**		**Pn**	**18 46 54.6**	**-1.0**
PAGB				IAML		18 47 38.4	
	comp=N,251nm,0.8s						
PAGB				IAML		18 47 41.7	
	comp=E,345nm,0.9s						
OSI	**Osito Audit: C**	**1.71**	**71**	P	**Pn**	**18 46 55.5**	**-0.4**
	baz=252,SNR=7.0						
OSI				S	**Sn**	**18 47 17.0**	**-0.9**
	baz=252						
OSI	**Osito Audit: C**	**1.71**	**71**		**Pn**	**18 46 55.5**	**-0.4**
ARVC	**Arvin**	**1.86**	**55**	P	**Pn**	**18 46 57.5**	**-0.3**
	baz=236						
ARVC				S	**Sn**	**18 47 21.1**	**-0.3**
	baz=236						
DECC	**Green Verdugo**	**1.96**	**84**	P	**Pn**	**18 46 59.0**	**-0.3**
	baz=266,SNR=7.3						
DECC				S	**Sn**	**18 47 23.6**	**-0.4**
	baz=266						

FMP	**Fort Macarthur**	**2.03**	**100**	Pb		**Pb**	**18 47 02.8**	**-0.1**
	baz=282							
FMP				Sb		**Sb**	**18 47 29.3**	**+1.2**
	baz=282							
PASC	**Pasadena Art C**	**2.08**	**87**	Pn		**Pn**	**18 47 00.7**	**-0.2**
PASC				IAML			18 47 27.9	
	comp=N,219nm,0.8s							
SCI2	**San Clemente I**	**2.10**	**121**	P		**Pn**	**18 47 00.9**	**-0.2**
	baz=303,SNR=16							
SCI2				Sb		**Sb**	**18 47 30.8**	**+0.6**
	baz=303							
PMPB	**Monarch Peak**	**2.14**	**358**	Pn		**Pn**	**18 47 01.2**	**-0.5**
PMPB				IAML			18 47 35.6	
	comp=N,221nm,0.8s							
PMPB				IAML			18 48 16.6	
	comp=E,199nm,1.0s							
VES	**Vestal, Richgr**	**2.20**	**36**	P		**Pn**	**18 47 01.6**	**-0.9**
	baz=216							
EDW2	**Edwards Air Fo**	**2.37**	**69**	P		**Pn**	**18 47 04.9**	**0.0**
	baz=251,SNR=117							
EDW2				S		**Sn**	**18 47 33.0**	**-1.1**
	baz=251							
BFSC	**Mount Baldy Ra**	**2.52**	**85**	P		**Pn**	**18 47 07.2**	**+0.2**
	baz=268,SNR=74							
BFSC				S		**Sn**	**18 47 38.3**	**+0.4**
	baz=268							
SAO	**San Andreas Ge**	**2.75**	**347**	Pn		**Pn**	**18 47 09.1**	**-1.0**
MURC	**Murrieta**	**2.95**	**98**	P		**Pn**	**18 47 12.5**	**-0.4**
	baz=281							
MURC				S		**Sn**	**18 47 48.4**	**+0.1**
	baz=281							
BBRC	**Big Bear Solar**	**3.13**	**86**	P		**Pn**	**18 47 15.9**	**+0.3**
	baz=268,SNR=7.6							
BBRC				S		**Sn**	**18 47 53.3**	**+0.2**
	baz=268							
RRX	**Edison Barstow**	**3.15**	**74**	P		**Pn**	**18 47 15.5**	**-0.2**
	baz=256							
109C	**Camp Elliot, M**	**3.22**	**111**	P		**Pn**	**18 47 16.4**	**-0.2**
	baz=293							
109C				S		**Sn**	**18 47 55.9**	**+0.8**
	baz=293							
109C	**Camp Elliot, M**	**3.22**	**111**			**Pn**	**18 47 16.3**	**-0.2**
109C				IAML			18 48 13.2	
	comp=N,54nm,0.7s							
109C				IAML			18 48 16.9	
	comp=E,66nm,0.6s							
GSC	**Goldstone, Bar**	**3.43**	**68**	P		**Pn**	**18 47 19.2**	**-0.2**
	baz=250,SNR=32							
GSC	**Goldstone, Bar**	**3.43**	**68**	Pn		**Pn**	**18 47 19.4**	**-0.1**
PFO	**Pinyon Flats O**	**3.55**	**96**	P		**Pn**	**18 47 21.1**	**-0.2**
	baz=279,SNR=9.7							
PFO	**Pinyon Flats O**	**3.55**	**96**	Pn		**Pn**	**18 47 21.4**	**+0.1**
PFO				IAML			18 48 27.4	
	comp=E,39nm,0.8s							
TPFO	**Pinon Flats**	**3.56**	**96**	P		**Pn**	**18 47 21.2**	**-0.1**
	baz=279,SNR=9.8							
BAR	**Barrett**	**3.64**	**111**	Pn		**Pn**	**18 47 22.4**	**+0.1**
BAR				IAML			18 48 29.5	
	comp=N,34nm,0.5s							
BAR				IAML			18 48 29.6	
	comp=E,37nm,0.7s							
HEC	**Hector,Ludlow**	**3.68**	**77**	P		**Pn**	**18 47 22.9**	**0.0**
	baz=260,SNR=24							
MONP2	**Monument Peak**	**3.76**	**107**	P		**Pn**	**18 47 24.5**	**+0.3**
	baz=290,SNR=8.5							
MDPB	**Devils Postpil**	**3.78**	**20**			**Pn**	**18 47 25.3**	**+0.7**
MDPB				IAML			18 48 19.6	
	comp=E,42nm,0.6s							
MDPB				IAML			18 48 28.1	
	comp=N,29nm,0.7s							
CBX	**Cerro Bola**	**3.81**	**116**			**Pn**	**18 47 25.0**	**+0.2**
CBX				IAML			18 48 30.1	
	comp=N,26nm,0.6s							
CBX				IAML			18 48 42.1	
	comp=E,33nm,0.6s							
BELC	**Belle Mtn. Jos**	**3.90**	**90**	P		**Pn**	**18 47 26.4**	**+0.3**
	baz=273,SNR=16							
CMB	**Columbia Colle**	**3.96**	**4**	Pn		**Pn**	**18 47 27.3**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**4.09**	**109**	P		**Pn**	**18 47 29.2**	**+0.6**
	baz=292,SNR=43							
RMX	**La Rumorosa**	**4.13**	**110**			**Pn**	**18 47 30.0**	**+0.7**
TUQ	**Turquoise Moun**	**4.15**	**70**	P		**Pn**	**18 47 29.3**	**-0.3**
	baz=252,SNR=12							
GMRC	**Granite Mounta**	**4.22**	**79**	P		**Pn**	**18 47 29.9**	**-0.5**
	baz=262,SNR=26							
BC3	**Big Chuckawall**	**4.38**	**94**	P		**Pn**	**18 47 32.1**	**-0.5**
	baz=277							
MCCM	**Marconi Confer**	**4.43**	**337**	Pn		**Pn**	**18 47 35.3**	**+2.1**
MCCM				IAML			18 49 26.7	
	comp=N,16nm,3.4s							
LHV	**Little Huntoon**	**4.53**	**22**			**Pn**	**18 47 35.0**	**+0.5**
LHV				IAML			18 49 07.3	
	comp=E,24nm,1.4s							
LHV				IAML			18 49 26.9	
	comp=N,22nm,1.4s							
WAKR	**Walker**	**4.53**	**13**			**Pn**	**18 47 36.3**	**+1.5**
WAKR				IAML			18 48 50.1	
	comp=E,18nm,0.7s							
WAKR				IAML			18 49 12.8	
	comp=N,16nm,1.8s							
IRM	**Iron Mountain**	**4.60**	**87**	P		**Pn**	**18 47 35.3**	**-0.3**
	baz=271,SNR=6.7							
TPNV	**Topopah Spring**	**4.62**	**50**			**Pn**	**18 47 36.4**	**+0.5**
TPNV				IAML			18 49 09.7	
	comp=N,20nm,1.0s							
TPNV				IAML			18 49 11.3	
	comp=N,14nm,1.0s							
NVAR	**Mina Array Bea**	**4.75**	**23**			**Pn**	**18 47 37.8**	**-0.1**
NV11	**Mina Array Sit**	**4.81**	**25**			**Pn**	**18 47 36.7**	**-1.8**
AFDM	**Forest Hills D**	**4.87**	**357**			**Pn**	**18 47 39.0**	**-0.2**
RYN	**Ryan**	**4.87**	**20**			**Pn**	**18 47 37.2**	**-2.2**
TPH	**Tonopah**	**4.88**	**34**	Pn		**Pn**	**18 47 41.6**	**+2.0**
TPH	**Tonopah**	**4.88**	**34**	IAML			18 49 17.4	
	comp=N,12nm,1.3s							
GLA	**Glamis**	**5.00**	**100**	Pn		**Pn**	**18 47 40.0**	**-1.1**
GLA				IAML			18 48 41.5	
	comp=E,20nm,0.7s							
GLA				IAML			18 49 24.8	
	comp=N,15nm,0.8s							
YERR	**Yerington**	**5.04**	**13**			**Pn**	**18 47 40.1**	**-1.6**
YERR				IAML			18 48 56.2	
	comp=E,18nm,0.8s							
YERR				IAML			18 49 21.8	
	comp=N,12nm,0.8s							
PNTR	**Pine Nut**	**5.08**	**10**			**Pn**	**18 47 41.7**	**-0.6**
PNTR				IAML			18 49 16.4	
	comp=E,20nm,1.3s							
PNTR				IAML			18 49 36.5	
	comp=N,21nm,1.3s							
SHPR	**Sheep Range**	**5.13**	**60**			**Pn**	**18 47 42.5**	**-0.5**
SHPR				IAML			18 49 29.6	
	comp=E,10nm,1.0s							
VCNR	**Virginia City**	**5.28**	**9**	Pn		**Pn**	**18 47 43.2**	**-1.7**
VCNR				IAML			18 50 03.2	
	comp=N,19nm,0.4s							
KVN	**Kaiserville**	**5.38**	**22**			**Pn**	**18 47 46.1**	**-0.3**
PDMCI	**Parker Dam,Lak**	**5.43**	**86**	P		**Pn**	**18 47 47.0**	**0.0**
	baz=270,SNR=18							
ORV	**Oroville**	**5.51**	**353**			**Pn**	**18 47 48.4**	**+0.5**
PRN	**Pahroc Range**	**5.67**	**52**			**Pn**	**18 47 49.8**	**-0.5**
W13A	**Hualapai Mount**	**5.71**	**78**			**Pn**	**18 47 50.8**	**-0.1**
PAHR	**Pah Rah Range**	**5.72**	**10**	Pn		**Pn**	**18 47 53.0**	**+2.0**
BEKR	**Beckworth**	**5.79**	**3**			**Pn**	**18 47 53.4**	**+1.5**
KCPM	**Cahto Peak**	**6.06**	**338**	Pn		**Pn**	**18 47 56.2**	**+0.5**
Y14A	**Wickenburg**	**6.39**	**89**			**Pn**	**18 48 00.0**	**-0.1**
LCMT	**Little Creek M**	**6.74**	**62**			**Pn**	**18 48 06.5**	**+1.4**
KNB	**Kanab**	**7.05**	**63**			**Pn**	**18 48 11.3**	**+1.9**
U15A	**North Rim**	**7.26**	**69**			**Pn**	**18 48 13.7**	**+1.3**
X16A	**Lo Mia Camp, P**	**7.67**	**85**			**Pn**	**18 48 18.2**	**+0.3**
WUAZ	**Wupatki**	**7.80**	**77**			**Pn**	**18 48 21.2**	**+1.5**
KRMB	**Red Mountain**	**7.86**	**342**	Pn		**Pn**	**18 48 20.6**	**+0.2**
MTPU	**Mount Pierson**	**7.94**	**58**	Pn		**Pn**	**18 48 21.2**	**-0.6**

MAN ***07*** *19:03:26.8, 19°.93N×122°.49E, h36km, mb4.5, ML3.4, MS3.2*
JMA 07 19:03:27.2±0.6, 20°.32N×122°.42E, h0km, M3.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**3.93**	**19**	*e*S	Sn	19 05 18.3	+2.5
JKRS	**Kuro-shima**	**4.17**	**20**	P	Pn	19 04 34.5	+2.4
JKRS				*e*S	Sn	19 05 22.1	+0.6
IRIF	**Iriomote-Funau**	**4.18**	**17**	P	Pn	19 04 34.4	+2.2
IRIF				*e*S	Sn	19 05 22.9	+1.2
JIJ	**Ishigaki jima**	**4.33**	**21**	P	Pn	19 04 36.3	+2.0
JIJ				*e*S	Sn	19 05 24.9	-0.6
JISG	**Ishigakijimahi**	**4.59**	**22**	P	Pn	19 04 40.3	+2.4
JISG				*e*S	Sn	19 05 34.2	+2.2
JTJ	**Tarama**	**4.79**	**26**	P	Pn	19 04 42.6	+2.0
JTJ				*e*S	Sn	19 05 37.1	+0.2

CRAAG ***07*** *19:37:19.1, 36°.80N×3°.54E, Ml2.7*
MDD ***07*** *19:37:19.1±0.8, 36°.93N×3°.58E, h0km, mb3.9/4, Error ellipse: s-maj=11.0km s-min=5.4km az=80.0, PRXIMO*
ISC 07 19:37:18.1±1.1, 36°.96N±0°.06×3°.61E±0°.07, h12km, n16, σ1§88/20, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.23**	**207**	P	**Pg**	**19 37 21.9**	**-1.1**
ABMS	**Boumerdes**	**0.23**	**207**	P	**Pg**	**19 37 21.9**	**-1.1**
ABA	**Alger-Bouzarea**	**0.49**	**251**	P	**Pg**	**19 37 28.3**	**+0.7**
ABA	**Alger-Bouzarea**	**0.49**	**251**	P	**Pg**	**19 37 28.3**	**+0.7**
ADJB	**Djebel Djouab**	**0.81**	**190**	P	**Pg**	**19 37 33.2**	**-0.6**
ADJB	**Djebel Djouab**	**0.81**	**190**	P	**Pg**	**19 37 33.2**	**-0.6**
AKET	**Djebel Ketaf**	**0.94**	**166**	P	**Pb**	**19 37 37.4**	**+1.0**
AKET	**Djebel Ketaf**	**0.94**	**166**	P	**Pb**	**19 37 37.4**	**+1.0**
EIBI	**Ibiza**	**2.73**	**320**	P	**Pn**	**19 38 02.8**	**+1.0**
	0.3nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 38 33.6**	**-1.2**
	2.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.87**	**348**	P	**Pn**	**19 38 04.7**	**+1.0**
	1.5nm,0.1s,SNR=20						
ETOS				S	**Sn**	**19 38 35.7**	**-2.5**
	0.4nm,0.1s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.46**	**301**	P	**Pn**	**19 38 13.3**	**+1.5**
	0.8nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**19 38 47.5**	**-5.3**
	1.1nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**4.42**	**294**	P	**Pn**	**19 38 26.8**	**+1.8**
	0.4nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**19 39 14.8**	**-1.6**
	0.1nm,0.1s,SNR=7.9						
ECHE	**Chera**	**4.46**	**307**	P	**Pn**	**19 38 26.9**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**4.88**	**350**	P	**Pn**	**19 38 32.0**	**+0.6**
	1.7nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.51**	**354**	P	**Pn**	**19 38 41.9**	**+1.9**
	1.0nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**5.55**	**354**	P	**Pn**	**19 38 42.0**	**+1.5**
	1.6nm,0.2s,SNR=7.9						

NEIC ***07*** *19:56:49.8±1.9, 19°.1S±0°.3×176°.8W±0°.2, h255km±18km, mb4.3/16, Error ellipse: s-maj=41.7km s-min=19.3km az=198.0*
IDC ***07*** *19:57:12.6±13.0, 19°.55S×177°.67W, h454km±97km, mb3.3/5, mb1 3.5/6, mb1mx3.1/38, mbtmp4.2/6, Error ellipse: s-maj=163.3km s-min=42.7km az=38.0*
ISC 07 19:56:48.0±1.9, 19°.1S±0°.2×176°.6W±0°.2, h250km, n25, σ1§71/23, mb3.9/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.24**	**284**		**Pn**	**19 58 07.0**	**+0.1**
MARNC	**Mare, Loyalty**	**14.62**	**258**	P	**P**	**20 00 05.7**	**+2.0**
PINNC	**Pines Island,**	**15.32**	**254**	P	**Pn**	**20 00 14.6**	**+2.5**
DZM	**Mont Dzumac**	**16.16**	**256**	P	**Pn**	**20 00 24.4**	**+2.2**
	0.6nm,0.3s,baz=74,slow=19,SNR=7.0						
DZM	**Mont Dzumac**	**16.16**	**256**	P	**Pn**	**20 00 24.2**	**+2.1**
DZM				IAmb	IAmb	20 00 42.0	
	comp=Z,22nm,1.5s						
BKZ	**Black Stump Fm**	**20.91**	**195**	P	**P**	**20 01 11.8**	**+0.1**
LTZ	**Lake Taylor**	**25.46**	**199**	P	**P**	**20 01 53.7**	**+0.3**
ARMA	**Armidale**	**30.89**	**242**	P	**P**	**20 02 40.3**	**-1.4**
CTA	**Charters Tower**	**34.97**	**262**	P	**P**	**20 03 16.8**	**-0.1**
	comp=Z,4.8nm,0.4s,baz=89,slow=9.5,SNR=14						
CTAO	**Charters Tower**	**34.97**	**262**	P	**P**	**20 03 16.8**	**-0.1**
CTAO				IAmb	IAmb	20 03 29.8	
	comp=Z,17nm,1.4s						
TOO	**Toolangi**	**37.81**	**233**	P	**P**	**20 03 38.0**	**-2.8**
TOO				IAmb	IAmb	20 03 54.2	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**39.61**	**243**	P	**P**	**20 03 53.9**	**-1.8**
	comp=Z,1.6nm,0.5s,baz=83,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**39.61**	**243**	IAmb	IAmb	20 03 54.6	
	comp=Z,0.7nm

ESL	Shilin	0.77 311	⇓*i*P	Pb	19 59 58.8	+0.3
	baz=311					
ESL			S	Sg	20 00 07.7	-0.7
	baz=311					
EDH	Donghe	0.78 245	P	Pb	19 59 59.3	+0.6
	baz=237					
EDH			S	Sg	20 00 08.9	+0.1
	baz=237					
HWA	Hwalien	0.79 327	*i* P	Pn	19 59 59.9	-0.2
	baz=337					
HWA			S	Sb	20 00 10.3	+0.9
	baz=337					
ECS	Chishang	0.81 255	⇓P	Pn	20 00 00.1	-0.2
	baz=245					
ECS			S	Sn	20 00 11.4	-0.9
	baz=245					
ETM	Tongmen	0.84 321	P	Pb	20 00 00.1	+0.4
	baz=322					
ETM			S	Sg	20 00 10.1	-0.5
	baz=322					
LDUT	Ludao	0.84 221	P	Pb	20 00 00.1	+0.4
	baz=217					
LDUT			S	Sg	20 00 10.2	-0.5
	baz=217					
TWD	Chiawan	0.88 330	*i* P	Pb	20 00 00.8	+0.4
	baz=332					
TWD			*i* S	Sg	20 00 11.4	-0.5
	baz=332					
ETL	Fush Village	0.94 334	P	Pg	20 00 01.8	+0.3
	baz=335					
ETL			*e*S	Sb	20 00 13.0	-0.7
	baz=335					
LONT	Longtian	0.96 245	P	Pn	20 00 02.4	0.0
	baz=237					
LONT			S	Sg	20 00 14.4	+0.1
	baz=237					
NACB	Ninganchiao	0.96 333	P	Pb	20 00 01.8	0.0
	baz=334					
NACB			S	Sb	20 00 13.7	-0.8
	baz=334					
ELDTW	Lidau	0.98 263	*i* P	Pb	20 00 02.1	0.0
	baz=260					
ELDTW			*i* S	Sb	20 00 13.5	-1.4
	baz=260					
TWGBT	Beinan	1.04 242	P	Pb	20 00 03.1	+0.1
	baz=232					
TWGBT			S	Sb	20 00 15.7	-0.8
	baz=232					
OWD	Renai	1.04 308	*e*P	Pb	20 00 03.4	+0.2
	baz=308					
OWD			*e*S	Sb	20 00 15.5	-1.3
	baz=308					
ETLH	Xiulin Townshi	1.04 329	P	Pb	20 00 03.3	+0.1
	baz=330					
ETLH			S	Sb	20 00 16.2	-0.5
	baz=330					
TWG	Pinlang	1.04 242	*i* P	Pb	20 00 03.1	0.0
	baz=232					
TWG			S	Sb	20 00 15.7	-0.9
	baz=232					
YUS	Yu-Shan	1.04 280	P	Pg	20 00 03.9	+0.3
	baz=278					
YUS			S	Sb	20 00 16.6	-0.5
	baz=278					
CHGB	Renai	1.11 312	⇓P	Pb	20 00 04.7	+0.3
	baz=312					
CHGB			S	Sb	20 00 18.5	-0.4
	baz=312					
WHF	Hehuan Shan	1.11 318	⇓*i*P	Pb	20 00 04.5	-0.1
	baz=319					
WHF			*i* S	Sb	20 00 17.9	-1.2
	baz=319					
SSLB	Suanglung	1.13 295	P	Pb	20 00 04.6	0.0
	baz=286					
SSLB			S	Sb	20 00 18.1	-1.2
	baz=286					
EWUT	Wuta	1.16 347	*e*P	Pb	20 00 05.5	+0.3
	baz=348					
EWUT			*e*S	Sb	20 00 19.6	-0.4
	baz=348					
ALS	Alishan	1.18 280	⇓*i*P	Pg	20 00 06.3	+0.2
	baz=278					
ALS			S	Sb	20 00 20.6	-0.3
	baz=278					
WHYT	Xinyi Township	1.18 289	⇓*i*P	Pg	20 00 06.3	+0.2
	baz=288					
WHYT			*i* S	Sb	20 00 20.4	-0.4
	baz=288					
STYH	Taoyuan	1.20 264	P	Pb	20 00 06.1	+0.3
	baz=256					
STYH			*e*S	Sb	20 00 20.0	-1.2
	baz=256					
FUSS	Fushou	1.20 321	P	Pb	20 00 06.2	+0.2
	baz=321					
FUSS			*e*S	Sb	20 00 20.5	-1.0
	baz=321					
SMLT	Sun Moon Lake	1.22 298	*i* P	Pb	20 00 06.3	+0.2
	baz=304					
SMLT			*i* S	Sb	20 00 21.3	-0.5
	baz=304					
STYT	Tauyuan	1.22 263	*i* P	Pb	20 00 06.3	+0.1
	baz=256					
STYT			*i* S	Sb	20 00 21.0	-0.8
	baz=256					
TWT	Tachien	1.25 319	P	Pb	20 00 07.1	+0.4
	baz=318					
TWT			S	Sb	20 00 21.6	-1.2
	baz=318					
ECL	Taimali	1.25 236	*i* P	Pn	20 00 05.8	-0.6
	baz=243					
ECL			S	Sb	20 00 20.7	-2.0
	baz=243					
TDCB	Techi	1.26 318	P	Pb	20 00 07.1	+0.2
	baz=318					
TDCB			*e*S	Sb	20 00 21.4	-1.6
	baz=318					
TYC	Yuchr	1.26 298	P	Pb	20 00 07.1	+0.2
	baz=298					
TYC			S	Sb	20 00 22.9	0.0
	baz=298					
DPDB	Guoxing	1.27 305	P	Pb	20 00 07.4	+0.3
	baz=313					
DPDB			*e*S	Sb	20 00 22.5	-0.9
	baz=313					
NNSB	Datong	1.28 331	P	Pb	20 00 07.4	+0.2
	baz=331					
NNSB			*e*S	Sb	20 00 22.5	-1.1
	baz=331					
NNSH	Datong	1.28 331	*e*P	Pn	20 00 07.1	+0.2
	baz=331					
NNSH			S	Sb	20 00 22.9	-0.7
	baz=331					
NNS	Nan Shan	1.29 330	P	Pn	20 00 07.4	+0.3
	baz=331					
NNS			S	Sb	20 00 22.6	-1.4
	baz=331					
WCS	Beigang Elemen	1.30 305	P	Pb	20 00 07.7	+0.2
	baz=313					
WCS			S	Sb	20 00 22.9	-1.1
	baz=313					
TWC	Suao	1.31 351	P	Pb	20 00 07.9	+0.2
	baz=353					
TWC			S	Sb	20 00 23.8	-0.5
	baz=353					
CHN5	Tsauling	1.31 283	*i* P	Pg	20 00 08.7	+0.1
	baz=291					
CHN5			S	Sg	20 00 25.5	-0.1
	baz=291					
TPUB	Ta-pu	1.33 270	P	Pg	20 00 09.0	+0.2
	baz=268					
TPUB			*e*S	Sn	20 00 25.4	+0.5
	baz=268					
WJS	Zhushan	1.33 293	P	Pg	20 00 09.5	+0.6
	baz=286					
WJS			S	Sg	20 00 26.1	-0.3
	baz=286					
WTP	Ta-pu	1.34 268	*i* P	Pg	20 00 09.0	-0.2
	baz=260					
WTP			S	Sg	20 00 26.2	-0.4
	baz=260					
SLGT	Liugui	1.35 257	P	Pb	20 00 08.5	+0.1
	baz=255					
SLGT			S	Sn	20 00 25.0	-0.5
	baz=255					
NDS	Dongshan	1.36 346	P	Pb	20 00 08.6	+0.1
	baz=340					
NDS			*e*S	Sn	20 00 25.2	-0.5
	baz=340					
CHN4	Tsaushan	1.36 272	P	Pg	20 00 09.6	+0.1
	baz=270					
CHN4			S	Sb	20 00 26.5	+0.7
	baz=270					
NDT	Datong Townshi	1.38 338	*e*P	Pb	20 00 08.9	0.0
	baz=339					
NDT			*e*S	Sn	20 00 25.0	-1.3
	baz=339					
JYNG	Yonagunijimaku	1.39 35	P	Pg	20 00 09.7	-0.3
JYNG			S	Sn	20 00 26.4	0.0
SGST	Jiashian	1.39 261	P	Pn	20 00 08.8	+0.5
	baz=254					
SGST			S	Sn	20 00 26.4	-0.1
	baz=254					
WNT	Mingjian	1.39 294	P	Pg	20 00 10.2	+0.1
	baz=293					
WNT			S	Sb	20 00 26.9	+0.1
	baz=293					
ENTT	Nioudou	1.40 341	P	Pb	20 00 09.2	-0.1
	baz=342					
ENTT			S	Sn	20 00 26.2	-0.6
	baz=342					
WNT1	Nantou City	1.41 295	P	Pg	20 00 10.8	+0.5
	baz=294					
WNT1			S	Sg	20 00 28.1	-0.6
	baz=294					
WHP	Taichung City	1.41 313	*e*P	Pb	20 00 09.8	+0.3
	baz=313					
WHP			*e*S	Sn	20 00 26.6	-0.5
	baz=313					
CHN1	Nanshi	1.43 265	*i* P	Pg	20 00 10.6	-0.1
	baz=259					
CHN1			S	Sg	20 00 28.9	-0.4
	baz=259					
YOJ	Yonaguni jima	1.43 37	P	Pb	20 00 10.1	+0.3
YOJ			S	Sn	20 00 27.8	+0.3
WGK	Gukeng	1.44 285	P	Pg	20 00 10.9	0.0
	baz=284					
WGK			S	Sb	20 00 28.6	+0.6
	baz=284					
TSMG	Majia	1.45 246	P	Pn	20 00 09.4	+0.3
	baz=243					
TSMG			*e*S	Sn	20 00 25.9	-2.0
	baz=243					
SNST	Tainan City	1.45 267	P	Pg	20 00 10.8	-0.3
	baz=265					
SNST			*e*S	Sb	20 00 29.3	+0.9
	baz=265					
TWE	Neicheng	1.45 345	*e*P	Pb	20 00 10.0	-0.1
	baz=337					
TWE			*e*S	Sn	20 00 27.5	-0.5
	baz=337					
WWF	Wufeng	1.46 300	*e*P	Pg	20 00 11.4	+0.2
	baz=300					
TWK	Hsinying	1.46 269	P	Pg	20 00 11.0	-0.3
	baz=267					
TWK			*i* S	Sb	20 00 29.0	+0.4
	baz=267					
WDLH	Douliu	1.46 285	*e*P	Pb	20 00 10.1	-0.1
	baz=284					
WDLH			*e*S	Sn	20 00 28.4	+0.3
	baz=284					
EAST	Anshuo	1.46 231	*e*P	Pn	20 00 09.1	-0.2
	baz=236					
CHN2	Minshiung	1.48 279	*e*S	Sb	20 00 29.5	+0.1
	baz=286					
YHNB	Yeheng	1.50 335	P	Pn	20 00 10.2	+0.4
	baz=335					
YHNB			*e*S	Sn	20 00 27.7	-1.5
	baz=335					
MASBT	Mashibuluo	1.50 243	P	Pn	20 00 10.1	+0.3
	baz=234					
MASBT			S	Sn	20 00 27.2	-1.9
	baz=234					
NSK	Sanguang	1.51 334	P	Pb	20 00 10.8	-0.3
	baz=335					
NSK			S	Sn	20 00 28.4	-1.1
	baz=335					
SCST	Cishan	1.51 254	*e*P	Pg	20 00 12.0	-0.3
	baz=252					
SCST			*e*S	Sg	20 00 31.4	-0.7
	baz=252					
CHY	Chiayi	1.53 277	*e*P	Pb	20 00 11.6	+0.2
	baz=286					
CHY			*e*S	Sb	20 00 30.8	+0.3
	baz=286					
TCU	Taichung	1.53 303	P	Pg	20 00 12.8	+0.2
	baz=303					
TCU			*e*S	Sn	20 00 30.4	+0.5
	baz=303					
NWLT	Wulai	1.55 340	*e*P	Pb	20 00 11.4	-0.3
	baz=330					
NWLT			S	Sn	20 00 30.2	-0.2
	baz=330					
TWQ1	Liyutan	1.57 311	P	Pb	20 00 12.9	+0.7
	baz=319					
TWQ1			*e*S	Sb	20 00 32.6	+0.6
	baz=319					
TSPT	Pingtung City	1.58 247	*e*S	Sb	20 00 32.0	-0.2
	baz=245					
WCHH	Zhanghua	1.58 299	*e*P	Pb	20 00 13.1	+0.7
	baz=298					
WCHH			*e*S	Sb	20 00 32.3	0.0
	baz=298					
CHN3	Shinhua	1.59 262	*e*P	Pg	20 00 14.9	+1.1
	baz=260					
CHN3			*e*S	Sg	20 00 36.2	+1.7
	baz=260					
WTK	Tuku	1.59 284	*e*P	Pn	20 00 11.3	+0.3
	baz=283					
WTK			*e*S	Sb	20 00 32.2	-0.3
	baz=283					
TWM1	Shoushan	1.59 253	*e*P	Pg	20 00 14.4	+0.5
	baz=251					
SSPT	Xinbi	1.61 240	*e*P	Pb	20 00 12.9	+0.1
	baz=232					
NSY	Sanyi	1.63 313	*e*P	Pb	20 00 12.9	-0.2
	baz=326					
NSY			*e*S	Sn	20 00 33.1	+0.7
	baz=326					
SCZT	Fangliau	1.63 235	*e*P	Pn	20 00 12.0	+0.4
	baz=233					
NSTT	Nanjuang	1.64 323	P	Pb	20 00 13.8	+0.5
	baz=333					
NSTT			S	Sn	20 00 33.2	+0.6
	baz=333					
LIOB	Emei	1.64 324	*e*P	Pb	20 00 13.8	+0.4
	baz=324					
LIOB			*e*S	Sn	20 00 33.2	+0.5
	baz=324					
ICHU	Yijhu	1.65 272	*e*P	Pb	20 00 14.3	+0.8
	baz=270					
ICHU			*e*S	Sb	20 00 34.0	-0.2
	baz=270					
TIPB	Shuangxi	1.67 352	*e*P	Pb	20 00 13.7	-0.1
	baz=6.0					
TIPB			*e*S	Sn	20 00 33.6	+0.2
	baz=6.0					
NJD	Zhudong	1.68 328	P	Pg	20 00 15.2	-0.4
	baz=328					
NJD			*e*S	Sb	20 00 35.0	0.0
	baz=328					
CHN8	Yiju	1.71 272	*e*P	Pb	20 00 14.7	+0.2
	baz=270					
CHN8			*e*S	Sb	20 00 36.2	+0.3
	baz=270					
WSF	Szhu	1.73 281	*e*S	Sn	20 00 35.7	+0.9
	baz=280					
HATJ	Hateruma jima	1.75 65	P	Pb	20 00 14.6	-0.6
HATJ			S	Sn	20 00 35.6	+0.2
NWF	Wu-fen Shan	1.77 351	*e*S	Sn	20 00 37.1	+1.1
	baz=352					
WFSB	Wu-fen Shan	1.77 351	*e*S	Sn	20 00 36.8	+0.9
	baz=4.0					
HEN	Hengchun	1.79 224	*e*S	Sn	20 00 36.9	+0.6
	baz=221					
IRIF	Iriomote-Funau	1.83 56	P	Pb	20 00 16.2	-0.3
IRIF			S	Sn	20 00 38.2	+0.9
JKRS	Kuro-shima	2.00 62	P	Pb	20 00 18.4	-1.0
JKRS			S	Sn	20 00 42.1	+0.6
JIJ	Ishigaki jima	2.17 61	P	Pn	20 00 20.3	+1.3
JIJ			S	Sn	20 00 45.2	-0.4
PNG	Penghu	2.33 277	*e*P	Pn	20 00 22.0	+0.9
	baz=275					
PNG			*e*S	Sn	20 00 48.6	-1.0
	baz=275					
JISG	Ishigakijimahi	2.41 58	P	Pn	20 00 23.3	+1.0
JISG			S	Sn	20 00 50.6	-1.0
JTJ	Tarama	2.75 61	P	Pn	20 00 28.5	+1.6
JTJ			S	Sn	20 01 00.4	+0.5

BJI ***07*** *20:03:10.4±0.0,22°.51S×176°.67W,h117km,mB5.8/46, mb5.4/56*

NEIC ***07*** *20:03:13.6,22°.99S×177°.08W,h163km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=2.12; Mθθ=2.42; Mφφ=-0.31; Mrθ=-3.05; Mrφ=1.88; Mθφ=-5.36; Fault plane solution: M0=6.85000×1017 NP1:φs=32.51000°, δ=80.39000°,λ=-107.47000°. NP2:φs=274.58000°, δ=19.87000°,λ=-29.41000°. Principal axes: T 6.8867, Plg=33.0000°, Azm=137.0000°; N -0.0819, Plg=17.0000°, Azm=36.0000°; P -6.8049, Plg=52.0000°, Azm=283.0000°;*

NEIC ***07*** *20:03:14,23°.39S×176°.49W,h170km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=1.14; Mθθ=1.03; Mφφ=0.12; Mrθ=-2.04; Mrφ=2.83; Mθφ=-5.60; Fault plane solution: M0=6.69000×1017 NP1:φs=272.00000°, δ=23.00000°,λ=-17.00000°. NP2:φs=18.00000°,δ=83.00000°, λ=-112.00000°. Principal axes: T 7.1086, Plg=35.0000°, Azm=127.0000°; N -0.9351, Plg=22.0000°, Azm=21.0000°; P -6.1736, Plg=47.0000°, Azm=265.0000°;*

MOS ***07*** *20:03:15.5±1.0,22°.92S×177°.23W,h155km,mb5.5/14 Error ellipse: s-maj=8.4km s-min=6.9km az=87.8*

NOU ***07*** *20:03:16.9,23°.11S×176°.71W,h172km,mB6.1,South of Fiji Islands*

IDC ***07*** *20:03:17.9±0.4,22°.94S×177°.18W,h165km±3km,mb5.1/33, mb1 5.2/34,mb1mx5.2/35,mbtmp5.6/34,MS4.4/20, Ms1 4.4/20,ms1mx4.3/40,Error ellipse: s-maj=8.7km s-min=7.8km az=175.0*

NEIC ***07*** *20:03:19.1±2.3,22°.94S±0°.07×177°.13W±0°.08, h170km±2km,mb5.6/272,Mwb5.8/42,Mww5.8, Mwc5.8(GCMT),Error ellipse: s-maj=11.6km s-min=9.5km az=142.0*

GCMT ***07*** *20:03:20.1±0.1,23°.15S±0°.01×176°.82W,h171km, MW5.8/164,Moment Tensor Solution. s160,c336; s164,c466; Duration: 2s0 Moment tensor: Scale 1017 Nm; Mrr=1.56±.04; Mθθ=1.84±.05; Mφφ=-0.27±.05; Mrθ=-2.79±.04; Mφφ=1.72±.05; Mφr=-5.37±.03; Best double couple: M0=6.52000×1017 NP1:φs=275.00000°,δ=18.00000°, λ=-25.00000°. NP2:φs=29.00000°,δ=83.00000°, λ=-106.00000°. Principal axes: T 6.5930, Plg=36.0000°, Azm=133.0000°; N -0.1420, Plg=16.0000°, Azm=31.0000°; P -6.4480, Plg=50.0000°, Azm=281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *20:03:20,23°.18S×176°.81W,h172km,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=1.65; Mθθ=1.80; Mφφ=-0.15; Mrθ=-2.85; Mφφ=1.73; Mφr=-5.46; Fault plane solution: M0=6.63000×1017 NP1:φs=273.00000°, δ=17.00000°,λ=-27.00000°. NP2:φs=29.00000°,δ=82.00000°, λ=-105.00000°. Principal axes: T 6.7030, Plg=35.0000°, Azm=132.0000°; N -0.1543, Plg=15.0000°, Azm=31.0000°; P -6.5487, Plg=50.0000°, Azm=282.0000°;*

ISC 07 20:03:17.0±0.2,23°.05S±0°.03×177°.06W±0°.03, h164km±1km,h165km:pP-P,n1413,σ1=57/1623,mb5.6/269, 115C-274D,Fault plane solution: NP1:φs=51.18255°, δ=73.22867°,λ=-111.19260°. **NP2:φs=284.52524°,** δ=26.78407°,λ=-39.81665°. **Principal axes: T** Plg=25.2903°, Azm=157.6051°; N Plg=20.2506°, Azm=57.5662°; P Plg=56.6450°, Azm=293.4778°; **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	5.07	341	P	Pn	20 04 33.9	+2.2
RAO	Raoul Island	6.22	187	P	Pn	20 04 47.6	+0.9
	304nm,0.3s,baz=285,slow=15,SNR=9.4						
RAO				S	Sn	20 05 55.7	-1.5
	2μm,0.3s,baz=102,slow=22,SNR=12						
RAO	Raoul Island	6.22	187		Pn	20 04 47.1	+0.4
TAVE	Taveuni	6.86	336	P	Pn	20 04 58.1	+2.8
MSVF	Nonsavu	7.00	318	P	Pn	20 05 00.6	+3.3
	194nm,0.3s,baz=158,slow=4.7,SNR=1204						
MSVF				S	Sn	20 06 22.7	+6.5
	baz=327,slow=16,SNR=4.0						
MSVF				ScP	ScP	20 14 47.5	+1.4
	0.1nm,0.3s,baz=168,slow=3.9,SNR=5.9						
MSVF	Nonsavu	7.00	318	P	Pn	20 04 59.1	+1.8
MSVF	Nonsavu	7.00	318		Pn	20 04 59.1	+1.8
MSVF					ScP	20 14 48.8	+2.7
MSVF	Nonsavu	7.00	318	P	Pn	20 05 00.5	+3.2
DGTI	Dogotuki	7.37	335	P	Pn	20 05 05.0	+2.9
NIUE	Niue	7.74	61	Pn	Pn	20 05 02.5	-4.5
NIUE	Niue	7.74	61	P	Pn	20 05 02.7	-4.3
AFI	Afiamalu	10.38	30	P	Pn	20 05 34.2	-7.8
	50nm,0.3s,baz=283,slow=3.0,SNR=38						
AFI				S	Sn	20 07 18.4	-19
	194nm,0.3s,baz=31,slow=18,SNR=8.9						
AFI				LR	LR	20 09 14.6	
	comp=Z,533nm,20.8s,baz=186,slow=34						
AFI	Afiamalu	10.38	30	P	Pn	20 05 35.1	-6.9
AFI	Afiamalu	10.38	30		Pn	20 05 35.1	-6.9
AFI	Afiamalu	10.38	30	P	Pn	20 05 37.7	-4.3
MARNC	Mare, Loyalty	13.90	274	P	Pn	20 06 28.1	+1.0
PINNC	Pines Island,	14.30	269	P	P	20 06 35.3	+0.8
PINNC	Pines Island,	14.30	269	P	P	20 06 37.0	+2.5
OUZ	Omahuta	14.61	212	P	P	20 06 38.8	+1.0
NFK	Norfolk Island	14.74	243	P	P	20 06 41.3	+1.9
	baz=15,SNR=4.2						
LIFNC	LIFOU	14.75	276		P	20 06 39.2	-0.3
LIFNC	LIFOU	14.75	276	P	P	20 06 42.7	+3.2
YATNC	Mamie plateau,	14.87	271	P	P	20 06 44.6	+3.8
OUENC	Ouen Island, N	14.87	269	P	P	20 06 42.3	+1.4
OUENC	Ouen Island, N	14.87	269	P	P	20 06 44.0	+3.1
FUNA	Funafuti	14.89	345	P	Pn	20 06 39.5	0.0
MXZ	Matakaoa Point	15.00	194	P	Pn	20 06 39.6	-1.1
WMGZ	Waiomatatini S	15.22	194	P	Pn	20 06 39.2	-4.3
ONTNC	Ouen Toro	15.24	270	P	P	20 06 46.8	+1.8
ONTNC	Ouen Toro	15.24	270	P	P	20 06 48.8	+3.8
DZM	Mont Dzumac	15.28	270	P	P	20 06 48.0	+2.5
	10nm,0.3s,baz=113,slow=13,SNR=52						
DZM	Mont Dzumac	15.28	270	*e*P	P	20 06 47.9	+2.5
	2μm,1.6s						
DZM	Mont Dzumac	15.28	270	P	P	20 06 47.3	+1.8
DZM				IAmb	IAmb	20 06 51.9	
	comp=Z,598nm,1.2s						
DZM	Mont Dzumac	15.28	270	P	P	20 06 48.8	+3.3
HAZ	Te Kaha	15.31	196	P	Pn	20 06 39.2	-5.4
HAZ				S	Sn	20 09 16.9	-18
PKGZ	Pakihiroa	15.37	195	P	Pn	20 06 37.1	-8.2
PKGZ				S	Sn	20 09 18.7	-18
NOUC	Port Laguerre	15.40	270	P	P	20 06 50.3	+3.5
PUZ	Puketiti	15.50	194	P	Pn	20 06 40.9	-6.0
RUGZ	Raukumara Rang	15.54	196	P	Pn	20 06 42.4	-5.1
RUGZ				S	Sn	20 09 17.7	-23
TWGZ	Tauwhareparae	15.66	195	P	Pn	20 06 45.5	-3.4
TWGZ				S	Sn	20 09 25.5	-18
OPRZ	Ohinepanea	15.73	199	P	Pn	20 06 49.5	-0.2
CNGZ	Carnagh Statio	15.91	194	P	Pn	20 06 47.3	-4.5
CNGZ				S	S	20 09 26.3	-22
EDRZ	Edgecumbe	15.92	198	P	P	20 06 52.7	+0.2
KMRZ	Kaimai	15.92	201	P	P	20 06 53.8	+1.4
URZ	Urewera	15.96	197	P	Pn	20 06 48.5	-3.9
	comp=Z,65nm,0.3s,baz=22,slow=3.4,SNR=62						
URZ				S	S	20 09 32.8	-17
	comp=Z,9.9nm,0.3s,baz=256,slow=22,SNR=4.4						
URZ				LR	LR	20 12 18.8	
	comp=Z,2μm,21.9s,baz=30,slow=34						
URZ				ScS	ScS	20 18 37.2	+0.2
	comp=Z,0.5nm,0.3s,baz=150,slow=12,SNR=5.1						
URZ	Urewera	15.96	197	P	Pn	20 06 47.9	-4.6
URZ				IAmb	IAmb	20 06 53.5	
	comp=Z,269nm,0.6s						
URZ					ScS	20 18 39.3	+2.3
URZ	Urewera	15.96	197	P	Pn	20 06 48.9	-3.6
KARZ	Kaharoa	15.99	200	P	P	20 06 53.2	+0.1
RAR	Rarotonga	16.12	87	P	Pn	20 06 52.4	-2.2
	comp=Z,13nm,0.3s,baz=252,slow=7.7,SNR=19						
RAR				S	S	20 09 40.6	-13
	comp=Z,18nm,0.3s,baz=58,slow=20,SNR=6.3						
RAR	Rarotonga	16.12	87	P	Pn	20 06 51.5	-3.1
RAR				pmax	pmax		
	comp=Z,650nm,1.1s						
RAR	Rarotonga	16.12	87	P	Pn	20 06 51.5	-3.1
RAR	Rarotonga	16.12	87	P	Pn	20 06 51.4	-3.1
HLRZ	Highlands Stat	16.17	199	P	Pn	20 06 53.0	-2.1

TLZ Tolley Road 16.49 201 P Pn 20 06 58.9 -0.1
KUTZ Kaahu Road 16.55 200 P P 20 06 59.3 0.0
SANVU Saraoutou 16.67 294 P Pn 20 07 04.2 +3.0
WATZ Wairara 16.78 200 P P 20 07 01.2 -0.7
HIZ Hauiti 16.89 202 Pn 20 07 03.2 -0.5
HIZ IAmb IAmb 20 07 07.3
comp=Z,532nm,1.2s
RATZ Rangitukua 16.91 200 P P 20 07 01.7 -1.6
BKZ Black Stump Fm 16.98 197 P 20 06 57.8 -6.3
TWVZ Taurewa 17.20 200 P P 20 07 04.0 -2.6
OTVZ Oturere 17.21 199 P P 20 07 02.2 -4.6
SNVZ South Ngauruho 17.24 199 P P 20 07 04.8 -2.3
TUVZ Tukino 17.31 199 P P 20 07 05.0 -2.8
FWVZ Far West T-bar 17.33 200 P P 20 07 03.9 -4.3
WHVZ Whangaehu Hut 17.35 199 P P 20 07 05.1 -3.2
TRVZ Turoa 17.38 200 P P 20 07 06.5 -2.1
BHHZ Black Hill Sta 17.40 198 P P 20 07 04.3 -4.4
MOVZ Moawhango 17.41 199 P P 20 07 04.7 -4.1
PKVZ Pokaka 17.43 200 P P 20 07 07.7 -1.3
KRHZ Kereru 17.46 197 P P 20 07 03.8 -5.4
MTVZ Mangateitei 17.48 200 P P 20 07 08.4 -1.1
KOUNC Koumac, New Ca 17.50 275 P Pn 20 07 13.9 +2.7
PNHZ Pukenui 17.75 197 P P 20 07 08.0 -4.5
TSZ Takapari Road 17.96 198 P P 20 07 09.9 -4.9
WAZ Wanganui 17.97 200 P P 20 07 12.3 -2.6
POWZ Post Office Ro 18.32 198 P P 20 07 15.7 -3.0
BFZ Birch Farm 18.46 196 P P 20 07 16.0 -4.2
BFZ IAmb IAmb 20 07 30.9
comp=Z,150nm,0.5s
BFZ Birch Farm 18.46 196 P P 20 07 16.7 -3.5
MRZ Mangatainoka R 18.62 198 P P 20 07 17.4 -4.6
TIWZ Tintock 18.64 197 P P 20 07 20.0 -2.3
CPWZ Castlepoint 18.69 196 P P 20 07 20.8 -1.8
HOWZ Holdsworth Sta 18.86 198 P P 20 07 21.1 -3.5
TMWZ Te Maipa 18.95 197 P P 20 07 22.5 -3.1
MTW Mount Morrison 19.11 197 P P 20 07 24.3 -2.9
TRWZ Traveller 19.28 197 P P 20 07 26.5 -2.6
PAWZ Paruwai Farm 19.33 197 P P 20 07 26.7 -3.0
MSWZ Moikau Station 19.41 198 P P 20 07 25.6 -4.9
MSWZ Moikau Station 19.41 198 P P 20 07 27.4 -3.2
WEL Wellington 19.43 199 P P 20 07 29.1 -1.6
SNZO South Karori 19.48 199 P P 20 07 26.3 -4.9
SNZO IAmb IAmb 20 07 45.5
comp=Z,489nm,1.6s
BHW Baring Head 19.52 198 P P 20 07 27.6 -4.0
PLWZ Palliser 19.56 197 P P 20 07 28.9 -3.3
PLWZ Palliser 19.56 197 P P 20 07 29.3 -2.8
QRZ Quartz Range 19.77 204 P P 20 07 30.3 -4.1
QRZ IAmb IAmb 20 07 44.2
comp=Z,120nm,0.7s
NNZ Nelson 19.81 202 P P 20 07 30.2 -4.7
TUWZ Tuamarina 19.82 200 P P 20 07 30.2 -4.7
BSWZ Blackbirch Sta 20.10 200 P P 20 07 33.6 -4.2
THZ Tophouse 20.46 202 P P 20 07 37.8 -4.0
THZ IAmb IAmb 20 07 48.0
comp=Z,122nm,0.5s
KNTN Kanton 20.81 15 P P 20 07 43.3 -2.4
KNTN IAmb IAmb 20 07 47.5
comp=Z,337nm,1.2s
KNTN Kanton 20.81 15 P P 20 07 45.3 -0.4
KHZ Kahutara 20.84 200 P P 20 07 41.8 -4.0
KHZ IAmb IAmb 20 07 51.3
comp=Z,202nm,1.2s
LTZ Lake Taylor 21.58 202 P 20 07 48.3 -5.4
LTZ IAmb IAmb 20 08 01.5
comp=Z,97nm,0.6s
OXZ Oxford 22.14 201 P 20 07 53.7 -5.7
OXZ IAmb IAmb 20 08 03.9
comp=Z,214nm,0.5s
RPZ Rata Peaks 22.83 203 P P 20 08 03.8 -2.0
RPZ IAmb IAmb 20 08 11.5
comp=Z,132nm,0.5s
FOZ Fox Glacier 23.13 205 P P 20 08 07.0 -1.5
LBZ Lake Benmore 23.72 203 P P 20 08 11.7 -2.3
LBZ IAmb IAmb 20 08 18.0
comp=Z,68nm,0.5s
WKZ Wanaka 24.53 204 IAmb IAmb 20 08 46.8
comp=Z,117nm,0.8s
MLZ Mavora Lakes 25.33 205 IAmb IAmb 20 08 32.9
comp=Z,100nm,0.8s
TBI Tubuai 25.35 96 *eP* **P 20 08 28.9 -0.1**
comp=Z,534nm,1.2s
TBI Tubuai 25.35 96 *eT* T 20 33 29.2
comp=Z,65nm,0.3s
WHZ Wether Hill Ro 25.84 205 P P 20 08 32.2 -0.9
WHZ IAmb IAmb 20 08 37.9
comp=Z,127nm,0.5s
HNR Honiara 25.85 298 P P 20 08 32.3 -1.1
comp=Z,418nm,0.7s,baz=157,slow=5.4,SNR=37
HNR Honiara 25.85 298 P P 20 08 33.7 +0.2
HNR pmax pmax
comp=Z,693nm,0.8s
HNR Honiara 25.85 298 P P 20 08 33.7 +0.2
HNR Honiara 25.85 298 P P 20 08 34.9 +1.4
TARA Tarawa 26.15 337 P P 20 08 35.0 -1.2
TARA Tarawa 26.15 337 P P 20 08 35.2 -1.0
comp=Z,455nm,1.3s
PAE Paea 26.29 83 *eP* **P 20 08 37.2 -0.2**
comp=Z,38nm,1.1s
PAE Paea 26.29 83 *eT* T 20 34 09.7
comp=Z,108nm,0.4s
PPT2 Papeete2 26.31 83 *eP* **P 20 08 37.3 -0.5**
comp=Z,186nm,1.0s
PPT2 Papeete2 26.31 83 *eT* T 20 34 10.0
comp=Z,88nm,0.4s
PPT Papeete 26.32 83 P **P 20 08 38.1 +0.4**
comp=Z,98nm,0.6s,baz=250,slow=6.3,SNR=14
TIAR Tiarei 26.53 83 *eP* **P 20 08 39.2 -0.5**
comp=Z,48nm,1.0s
MEH Mehetia 27.62 85 *eP* **P 20 08 49.4 +0.1**
comp=Z,59nm,1.3s
MEH Mehetia 27.62 85 *eT* T 20 35 54.4
comp=Z,130nm,0.3s
PMOR Pomariorio Rea 28.67 79 *eP* **P 20 08 58.5 -0.1**
comp=Z,175nm,1.3s
VAH Vaihoa 28.83 80 *eP* **P 20 08 59.5 -0.5**
comp=Z,161nm,1.4s
VAH Vaihoa 28.83 80 *eT* T 20 37 10.0
comp=Z,21nm,0.3s
ARMA Armidale 28.85 249 P P 20 09 02.0 +1.8
baz=29,SNR=14
ARMA Armidale 28.85 249 P P 20 09 00.4 +0.2
ARMA IAmb IAmb 20 09 03.2
comp=Z,200nm,1.2s
EIDS Eidsvold 29.12 259 P P 20 09 03.7 +1.2
baz=29,SNR=47
EIDS Eidsvold 29.12 259 P P 20 09 03.1 +0.5
MGCD Mangrove Creek 29.74 243 P P 20 09 09.8 +1.9
baz=30,SNR=64
XMAS Kiritimati 31.43 40 P P 20 09 21.9 -1.0
XMAS IAmb IAmb 20 09 59.3
comp=Z,127nm,1.1s
XMAS Kiritimati 31.43 40 P P 20 09 22.1 -0.8
CNB Canberra Magne 31.61 240 P P 20 09 26.0 +1.5
baz=32,SNR=23
YNG Young 32.17 242 P P 20 09 30.3 +0.9
baz=32,SNR=10
MILA Mila 32.22 237 P P 20 09 30.9 +1.1
baz=32,SNR=64
CMSA Cobar Meteorol 34.04 247 P P 20 09 45.6 0.0
baz=34,SNR=124
CTA Charters Tower 34.19 268 P P 20 09 48.8 +1.7
comp=Z,895nm,0.5s,baz=93,slow=12,SNR=381
CTA S S 20 15 01.1 -0.4
comp=Z,31nm,1.2s,baz=253,slow=18,SNR=12
CTA ScP ScP 20 15 52.7 +2.9
comp=Z,21nm,1.1s,baz=45,slow=1.4,SNR=4.3
CTAO Charters Tower 34.19 268 P P 20 09 47.7 +0.6
CTAO S 20 15 00.8 -0.7
CTAO ScP ScP 20 15 53.3 +3.5
KWAJ Kwajalein Atol 35.04 333 P P 20 09 54.6 +0.4
KWAJ pmax pmax
comp=Z,710nm,1.4s
KWAJ Kwajalein Atol 35.04 333 P P 20 09 54.6 +0.4
KWAJ Kwajalein Atol 35.04 333 P P 20 09 55.1 +0.9
RABL Rabaul 35.16 298 P P 20 09 53.9 -1.5
TOO Toolangi 35.17 237 P P 20 09 55.9 +0.6
baz=35,SNR=62
TOO Toolangi 35.17 237 P P 20 09 55.4 +0.1
TOO pmax pmax
comp=Z,463nm,1.9s
TOO Toolangi 35.17 237 P P 20 09 55.4 +0.1
TOO IAmb IAmb 20 09 58.2
comp=Z,462nm,1.9s

QLP Quilpie 35.22 256 P P 20 09 56.0 +0.2
baz=35,SNR=134
MOO Moorlands 35.40 228 P P 20 09 58.6 +1.5
baz=36,SNR=4.9
TAU Tasmania Unive 35.49 227 P P 20 09 58.5 +0.7
TAU pmax pmax
comp=Z,217nm,1.9s
TAU Tasmania Unive 35.49 227 P P 20 09 58.5 +0.7
TAU IAmb IAmb 20 10 00.8
comp=Z,217nm,1.9s
MCQ Macquarie Isla 36.18 204 P P 20 10 03.5 0.0
MCQ pmax pmax
comp=Z,271nm,1.3s
MCQ Macquarie Isla 36.18 204 P P 20 10 03.5 0.0
MCQ IAmb IAmb 20 10 05.6
comp=Z,270nm,1.2s
PMG Port Moresby 36.82 286 P P 20 10 10.1 +0.6
comp=Z,456nm,0.8s,baz=104,slow=5.4,SNR=88
PMG S S 20 15 41.0 -0.7
comp=Z,3.4nm,0.5s,baz=250,slow=18,SNR=3.3
PMG ScP ScP 20 16 01.8 +2.4
comp=Z,36nm,1.0s,baz=161,slow=3.4,SNR=7.6
PMG Port Moresby 36.82 286 P P 20 10 09.4 -0.1
PMG S S 20 15 40.4 -1.3
PMG ScP ScP 20 16 02.3 +2.8
PMG Port Moresby 36.82 286 P P 20 10 10.6 +1.1
PMG Port Moresby 36.82 286 P P 20 10 10.5 +1.1
STKA Stephens Creek 37.54 247 P P 20 10 15.3 -0.1
comp=Z,60nm,0.5s,baz=96,slow=10.0,SNR=226
STKA S S 20 15 49.8 -2.6
comp=Z,2.1nm,0.6s,baz=267,slow=20,SNR=1.5
STKA ScP ScP 20 16 04.3 +2.4
comp=Z,8.0nm,1.0s,baz=28,slow=4.2,SNR=3.5
STKA Stephens Creek 37.54 247 P P 20 10 15.0 -0.4
ARPS Mount Arapiles 37.87 239 P P 20 10 18.2 +0.1
baz=38,SNR=24
TAOE Nuku Hiva Isla 38.06 74 *eP* **P 20 10 19.6 -0.4**
comp=Z,627nm,1.0s
TAOE Nuku Hiva Isla 38.06 74 *eT* T 20 48 54.2
comp=Z,74nm,0.3s
PATS Pohnpei 38.25 318 P P 20 10 22.6 +1.2
baz=38,SNR=9.0
PATS Pohnpei 38.25 318 P P 20 10 21.1 -0.3
RKT Rikitea 38.61 99 *eP* **P 20 10 24.7 +0.3**
comp=Z,183nm,1.2s
RKT Rikitea 38.61 99 *eT* T 20 50 02.6
comp=Z,24nm,0.3s
QIS Mount Isa 40.21 265 P P 20 10 37.4 -0.3
baz=40,SNR=115
MANU Manus Island 40.32 296 P P 20 10 38.2 -0.4
MANU IAmb IAmb 20 10 39.6
comp=Z,334nm,1.6s
PTCN Pitcairn Islan 42.76 103 P P 20 10 59.9 +1.4
MMPI Merauke 43.27 283 P P 20 11 04.0 +1.4
AS31 Alice Springs 44.84 259 P P 20 11 14.7 -0.4
ASAR Alice Springs 44.84 259 P P 20 11 14.9 -0.2
comp=Z,97nm,0.6s,baz=92,slow=6.2,SNR=634
ASAR PcP PcP 20 12 54.6 +0.5
comp=Z,20nm,0.4s,baz=110,slow=4.1,SNR=7.8
ASAR ScP ScP 20 16 32.0 +1.0
comp=Z,6.2nm,0.7s,baz=102,slow=4.2,SNR=6.9
ASAR S S 20 17 37.3 -3.1
comp=Z,3.9nm,0.6s,baz=101,slow=15,SNR=7.3
ASAR ScS ScS 20 20 55.4 -0.2
comp=Z,1.3nm,0.9s,baz=113,slow=8.1,SNR=4.2
ASAR LR LR 20 28 03.9
comp=Z,1µm,18.5s,baz=102,slow=33
ASAR Alice Springs 44.84 259 P P 20 11 14.4 -0.7
ASAR PcP PcP 20 12 54.3 +0.2
WR0 Warramunga Arr 44.98 264 P P 20 11 15.1 -1.1
WAKE Wake Island 44.98 338 P P 20 11 15.4 -0.7
WAKE IAmb IAmb 20 11 16.5
comp=Z,348nm,1.1s
WB2 Warramunga Arr 45.16 264 P P 20 11 16.9 -0.7
WB0 Warramunga Arr 45.16 265 P P 20 11 16.9 -0.8
WRAB Tennant Creek 45.16 264 *de*P **P 20 11 16.8 -0.8**
WRAB pmax pmax
comp=Z,867nm,1.3s
WRAB Tennant Creek 45.16 264 P P 20 11 16.8 -0.8
WRA Warramunga Arr 45.17 264 P P 20 11 17.3 -0.4
comp=Z,282nm,0.5s,baz=104,slow=8.6,SNR=914
WRA PcP PcP 20 12 55.8 +0.6
comp=Z,48nm,1.2s,baz=95,slow=3.8,SNR=5.4
WRA ScP ScP 20 16 33.5 +1.1
comp=Z,9.9nm,0.9s,baz=102,slow=4.6,SNR=9.4
WRA S S 20 17 40.7 -4.4
comp=Z,16nm,0.8s,baz=99,slow=14,SNR=17
WRA ScS ScS 20 20 58.5 +0.8
comp=Z,7.0nm,1.4s,baz=107,slow=7.2,SNR=3.8
WRA Warramunga Arr 45.17 264 P P 20 11 17.0 -0.7
GENI Genyem 46.14 290 P P 20 11 25.0 -0.3
comp=Z,5µmcomp=Z,7µmcomp=Z,417nm,1.3s
KHU Kahuku 46.97 28 P P 20 11 31.1 -0.8
KHU pmax pmax
comp=Z,443nm,1.6s
KHU Kahuku 46.97 28 P P 20 11 31.1 -0.8
KHU IAmb IAmb 20 11 40.1
comp=Z,443nm,1.6s
KHLU Kahalu`u 47.15 28 P P 20 11 33.1 0.0
KHLU IAmb IAmb 20 11 35.0
comp=Z,326nm,1.2s
RIM Rim 47.25 28 P P 20 11 35.1 +1.2
KKO Keanakako`i 47.25 28 P P 20 11 35.4 +1.5
KKO IAmb IAmb 20 11 35.9
comp=Z,309nm,1.1s
PUH Pauahi 47.25 29 P P 20 11 34.7 +0.8
PUH IAmb IAmb 20 11 35.8
comp=Z,214nm,1.1s
HUH Hualalai 47.26 28 P P 20 11 34.7 +0.5
HUH IAmb IAmb 20 11 36.8
comp=Z,476nm,1.6s
MLH Mauna Loa 47.28 28 P P 20 11 34.3 -0.1
MLH IAmb IAmb 20 11 36.3
comp=Z,222nm,1.2s
HMH Humu'ula Sheep 47.34 28 P P 20 11 35.4 +0.6
POHA Pohakuloa 47.45 28 P P 20 11 35.6 -0.1
POHA IAmb IAmb 20 11 37.6
comp=Z,230nm,1.2s
HPAH Hawaii Prepara 47.62 28 P P 20 11 37.4 +0.7
HON Honolulu 47.86 24 P P 20 11 39.1 +0.7
HON pmax pmax
comp=Z,629nm,1.4s
HON Honolulu 47.86 24 P P 20 11 39.1 +0.7
DHH Diamond Head 47.88 25 P P 20 11 39.7 +1.1
DHH Diamond Head 47.88 25 P P 20 11 39.7 +1.1
KIP Kipapa 47.94 24 *ce*P **P 20 11 40.1 +1.0**
KIP pmax pmax
comp=Z,490nm,1.7s
KIP Kipapa 47.94 24 P P 20 11 39.8 +0.7
KIP IAmb IAmb 20 11 41.1
comp=Z,324nm,1.1s
WMR Waimanalo Ridg 47.98 25 P P 20 11 40.2 +0.9
HLK Haleakala 48.04 27 P P 20 11 40.9 +0.7
HLK IAmb IAmb 20 11 42.8
comp=Z,211nm,1.1s
KDU Kakadu 48.92 273 P P 20 11 45.9 -0.8
baz=49,SNR=240
FORT Forrest 49.14 249 P P 20 11 47.2 -1.0
baz=49,SNR=152
FORT Forrest 49.14 249 P P 20 11 47.0 -1.2
FORT IAmb IAmb 20 11 50.5
comp=Z,165nm,0.6s
WRKA Warakurna 49.66 256 P P 20 11 51.5 -0.9
baz=50,SNR=757
SRPI Serui, Papua 49.91 288 P P 20 11 54.7 +0.4
MTN Manton Dam 50.10 272 P P 20 11 55.0 -0.8
baz=50,SNR=115
MTN Manton Dam 50.10 272 P P 20 11 55.2 -0.5
MTN ScP ScP 20 16 56.7 +3.5
BAKI Biak 50.36 289 P P 20 11 58.0 +0.3
KNRA Kununurra 51.41 268 P P 20 12 05.1 -0.4
baz=51,SNR=301
KNRA Kununurra 51.41 268 P P 20 12 04.7 -0.7
FAKI Fak Fak 52.96 284 P P 20 12 16.0 -1.0
FAKI Fak Fak 52.96 284 P P 20 12 17.0 0.0
comp=Z,4µmcomp=Z,4µmcomp=Z,253nm,1.6s
BNDI Bandanaira 54.37 281 P P 20 12 28.0 +0.8
comp=Z,4µmcomp=Z,9µmcomp=Z,777nm,1.3s
SIJI Sorong 54.76 286 P P 20 12 29.1 -1.0
comp=Z,376nm,0.7s,baz=106,slow=4.7,SNR=155
SWI Sorong 54.77 286 P P 20 12 29.6 -0.5
comp=Z,4µmcomp=Z,7µmcomp=Z,874nm,1.1s
SBA Scott Base 55.40 184 P P 20 12 36.0 +2.4
SBA pmax pmax
comp=Z,77nm,0.9s

SBA Scott Base 55.40 184 P P 20 12 36.0 +2.4
SBA IAmb IAmb 20 12 39.0
comp=Z,77nm,0.9s
VNDA Vanda 55.46 185 P P 20 12 36.6 +2.5
comp=Z,22nm,0.9s,baz=348,slow=7.9,SNR=61
VNDA ScP ScP 20 17 17.4 +1.9
comp=Z,2.7nm,0.8s,baz=6.6,slow=4.2,SNR=2.8
VNDA LR LR 20 34 56.8
comp=Z,233nm,18.0s,baz=20,slow=34
VNDA Vanda 55.46 185 P P 20 12 36.2 +2.1
MSAI Masohi 55.75 282 P P 20 12 38.0 +0.9
comp=Z,396nmcomp=Z,33nm,0.7s
NLAI Namlea 57.44 281 P P 20 12 49.5 +0.5
comp=Z,4µmcomp=Z,308nm,1.5s
SOEI Soe 57.48 273 P P 20 12 49.6 +0.1
SOEI Soe 57.48 273 P P 20 12 51.5 +2.0
comp=Z,4µmcomp=Z,13µmcomp=Z,976nm,1.3s
KLBR Kellerberrin 57.80 246 P P 20 12 50.3 -1.1
baz=58,SNR=54
BATI Baumata 57.88 272 P P 20 12 53.1 +0.9
comp=Z,265nm,0.5s,baz=155,slow=2.5,SNR=94
BATI LR LR 20 37 39.7
comp=Z,1µm,19.0s,baz=136,slow=36
BATI Baumata 57.88 272 P P 20 12 54.6 +2.5
comp=Z,2µmcomp=Z,4µmcomp=Z,254nm,0.9s
MEEK Meekatharra 57.94 252 P P 20 12 51.5 -1.0
baz=58,SNR=23
NWAO Narrogin (SRO) 58.04 245 P P 20 12 52.2 -0.8
comp=Z,20nm,0.6s,baz=134,slow=8.4,SNR=13
NWAO Narrogin (SRO) 58.04 245 P P 20 12 52.4 -0.6
baz=58,SNR=11
NWAO Narrogin (SRO) 58.04 245 P P 20 12 52.2 -0.8
BLDU Ballidu 58.85 247 P P 20 12 57.6 -1.1
baz=59,SNR=65
SANI Sanana 58.95 282 P P 20 12 59.4 -0.1
comp=Z,4µmcomp=Z,4µmcomp=Z,252nm,1.4s
TNTI Ternate 58.97 286 P P 20 12 59.3 -0.4
TNTI Ternate 58.97 286 P P 20 12 59.8 +0.1
comp=Z,2µmcomp=Z,5µmcomp=Z,350nm,1.4s
MUN Mundaring 59.04 246 P P 20 12 59.2 -0.7
baz=59,SNR=21
MORW Morawa 59.70 249 P P 20 13 03.7 -0.8
baz=60,SNR=48
MORW Morawa 59.70 249 P P 20 13 03.6 -1.0
MORW IAmb IAmb 20 13 05.7
comp=Z,69nm,0.8s
MMRI Maumere 59.75 273 P P 20 13 04.3 -0.8
MMRI Maumere 59.75 273 P P 20 13 05.3 +0.2
comp=Z,3µmcomp=Z,5µmcomp=Z,167nm,0.6s
EDFI Ende, Flores 60.22 273 P P 20 13 07.2 -1.1
comp=Z,2µmcomp=Z,129nm,0.8s
RPN Rapa Nui 60.80 109 LR LR 20 35 23.7
comp=Z,349nm,20.6s,baz=279,slow=32
RPN Rapa Nui 60.80 109 P P 20 13 12.7 +0.7
RPN pmax pmax
comp=Z,736nm,1.7s
RPN Rapa Nui 60.80 109 P P 20 13 12.7 +0.7
SGSI Sangihe 61.95 288 P P 20 13 20.8 +0.9
comp=Z,3µmcomp=Z,142nm,0.7s
WBSI Waikabubak, Su 62.01 271 P P 20 13 20.8 +0.4
comp=Z,5µmcomp=Z,341nm,1.6s
CASY Casey 62.05 206 P P 20 13 19.9 +0.3
LUWI Luwuk 62.28 282 P P 20 13 21.6 -0.5
LUWI Luwuk 62.28 282 P P 20 13 22.7 +0.6
comp=Z,3µmcomp=Z,6µmcomp=Z,394nm,1.4s
BSSI Bau Bau, Buton 62.29 275 P P 20 13 22.0 -0.2
comp=Z,2µmcomp=Z,145nm,1.6s
GIRL Giralia 62.74 256 P P 20 13 25.9 +0.9
baz=63,SNR=29
GIRL Giralia 62.74 256 P P 20 13 26.0 +0.9
BKSI Bulukumba 62.95 276 P P 20 13 25.9 -0.6
comp=Z,4µmcomp=Z,2µmcomp=Z,141nm,1.8s
BNSI Bone 63.32 277 P P 20 13 28.0 -1.0
comp=Z,3µmcomp=Z,3µmcomp=Z,207nm,1.3s
APSI Ampana 63.35 281 P P 20 13 30.2 +1.0
comp=Z,2µmcomp=Z,2µmcomp=Z,136nm,1.6s
KAPI Kappang 63.41 276 P P 20 13 29.2 -0.3
KAPI pmax pmax
comp=Z,232nm,1.4s
KAPI Kappang 63.41 276 P P 20 13 29.2 -0.3
JCJ Chichijima 63.54 319 P P 20 13 29.8 -0.3
comp=Z,42nm,0.4s,baz=219,slow=10,SNR=4.7
JCJ LR LR 20 36 01.9
comp=Z,438nm,21.1s,baz=133,slow=31
DAV Davao City (W) 63.55 291 P P 20 13 30.3 -0.2
comp=Z,107nm,0.5s,baz=58,slow=9.5,SNR=2.0
DAV Davao City (W) 63.55 291 P P 20 13 30.0 -0.4
MRSI Marisa 63.69 283 P P 20 13 30.6 -0.8
comp=Z,2µmcomp=Z,83nm,1.2s
PLAI Plampang 63.79 271 P P 20 13 30.5 -1.6
comp=Z,3µmcomp=Z,6µmcomp=Z,386nm,1.9s
TTSI Tana Toraja 64.13 278 P P 20 13 34.4 +0.1
comp=Z,1µmcomp=Z,91nm,1.1s
TWSI Taliwang, Sumb 64.65 271 P P 20 13 37.9 +0.3
comp=Z,2µmcomp=Z,3µmcomp=Z,173nm,1.6s
TOLI2 Tolitoli 65.00 283 P P 20 13 39.0 -1.0
MPSI Mapaga 65.47 282 P P 20 13 41.6 -1.3
comp=Z,3µmcomp=Z,2µmcomp=Z,132nm,0.4s
DNP Denpasar 66.21 270 P P 20 13 48.8 +1.1
comp=Z,14µmcomp=Z,255nm,1.2s
QSPA South Pole Qui 67.03 180 P P 20 13 53.8 +1.7
comp=Z,79nm,0.8s,baz=28,slow=1.1,SNR=278
QSPA S S 20 22 34.3 +1.9
comp=Z,4.9nm,1.4s,baz=179,slow=22,SNR=14
QSPA South Pole Qui 67.03 180 P P 20 13 53.9 +1.7
QSPA IAmb IAmb 20 13 55.0
comp=Z,94nm,0.9s
JAGI Jajag, Banyuwa 67.26 270 P P 20 13 54.2 -0.1
KBKI Kotabaru 67.36 276 P P 20 13 57.3 +2.3
comp=Z,719nmcomp=Z,40nm,1.5s
KMMI Kalianget 67.95 272 P P 20 13 59.5 +0.9
comp=Z,5µmcomp=Z,265nm,1.8s
BBKI Banjar Baru 68.52 276 P P 20 14 02.4 +0.2
comp=Z,2µmcomp=Z,98nm,1.2s
JHJ Hachijo jima 2 69.38 322 LR LR 20 43 30.5
comp=Z,163nm,19.8s,baz=142,slow=35
MTKI Muara Teweh, K 69.47 278 P P 20 14 09.7 +1.6
comp=Z,1µmcomp=Z,20nm,0.4s
PWJI Pagerwojo 69.58 270 P P 20 14 09.3 +0.5
comp=Z,107nm,1.1s
JMZ Minamidaito 2 69.78 311 P P 20 14 10.2 +0.5
PCJI Pacitan 70.10 269 P P 20 14 11.9 0.0
comp=Z,7µmcomp=Z,631nm,0.5s
SPMM Sapulut 70.45 284 P P 20 14 14.0 -0.1
UGM Wanagama 70.80 269 P P 20 14 16.3 0.0
SMRI Semarang 71.20 270 P P 20 14 18.1 -0.5
SMRI Semarang 71.20 270 P P 20 14 19.8 +1.2
comp=Z,5µmcomp=Z,203nm,1.7s
JSG Sagara 71.42 322 P P 20 14 19.5 +0.1
JYT Yasato 71.47 325 P P 20 14 18.9 -0.8
JYT pP 20 14 59.0 +0.8
PBKI Pangkalan Bun 71.72 275 P P 20 14 25.1 +3.4
JMM Marumori 72.39 326 P P 20 14 24.6 -0.6
JOW Kunigami 72.47 310 P P 20 14 25.8 -0.1
JOW IAmb IAmb 20 14 29.1
comp=Z,96nm,1.1s
KPJI Karang Pucung 72.48 269 P P 20 14 25.9 -0.3
comp=Z,3µmcomp=Z,239nm,0.5s
JGF Kuroka 72.56 322 P P 20 14 25.0 -1.2
INU Inuyama 72.57 322 P P 20 14 25.1 -1.2
MJAR Matsushiro Arr 72.78 324 P P 20 14 26.3 -1.1
comp=Z,15nm,0.8s,baz=152,slow=7.1,SNR=38
MJAR pP pP 20 15 06.2 -0.3
comp=Z,9.3nm,1.0s,baz=151,slow=6.3,SNR=2.6
MJAR LR LR 20 40 08.1
comp=Z,143nm,21.1s,baz=205,slow=30
MJAR Matsushiro Arr 72.78 324 P P 20 14 26.5 -0.9
MAJO Matsushiro 72.78 324 *d*P **P 20 14 26.2 -1.3**
MAJO pmax pmax
comp=Z,40nm,1.1s
MAJO Matsushiro 72.78 324 P P 20 14 25.9 -1.5
MAT Matsushiro 72.78 324 P P 20 14 26.4 -1.1
MAT S S 20 23 37.8 -2.0
MJB9 Matsu-Tunnel 72.78 324 P P 20 14 26.5 -1.0
STKI Sintang 73.00 277 P P 20 14 29.2 -0.1
comp=Z,3µmcomp=Z,30nm,1.0s
JMN Monobe 73.28 319 P P 20 14 29.8 -0.6
JMN IAmb IAmb 20 14 33.8
comp=Z,217nm,1.5s
SBUM Sibu 73.31 280 P P 20 14 31.0 -0.1
JCJI Jatiwangi 73.40 270 P P 20 14 32.3 +0.7
comp=Z,8µmcomp=Z,488nm,1.4s
CISI Cisompet, Garu 73.43 269 IAmb IAmb 20 14 33.1
comp=Z,142nm,1.3s
CISI Cisompet, Garu 73.43 269 P P 20 14 32.8 +0.9
comp=Z,1µmcomp=Z,83nm,1.1s

JWT	Wachi	73.45	321	P	P	20 14 30.7	-0.7
JSD	Sado	73.85	325	IAmb	IAmb	20 14 36.6	
	comp=Z,211nm,1.7s						
LEM	Lembang	73.88	269	P	P	20 14 34.2	-0.4
	comp=Z,164nm,0.9s,baz=74,slow=5.0,SNR=21						
KIWB	Kanaga Island	74.58	360	P	P	20 14 36.6	-1.0
JHS	Saijyo	74.60	319	IAmb	IAmb	20 14 40.1	
	comp=Z,149nm,1.1s						
ADK	Adak	74.61	0	P	P	20 14 37.1	-0.6
ADK				pmax	pmax		
	comp=Z,363nm,1.7s						
ADK	Adak	74.61	0	P	P	20 14 37.0	-0.6
ADK				IAmb	IAmb	20 14 38.7	
	comp=Z,363nm,1.6s						
KSM	Kuching	74.64	278	P	P	20 14 39.0	+0.2
JNU	Nakatsue	74.73	317	P	P	20 14 38.3	-0.6
	comp=Z,82nm,1.1s,baz=113,slow=2.2,SNR=13						
JNU	Nakatsue	74.73	317	IAmb	IAmb	20 14 41.0	
	comp=Z,95nm,1.1s						
CBJI	Citeko	74.74	269	P	P	20 14 39.0	-0.4
	comp=Z,88nm,0.7s						
DBJI	Dramaga	74.78	269	P	P	20 14 39.9	+0.2
	comp=Z,3µcomp=Z,196nm,1.4s						
YUK	Yuzh-Kuril'sk	74.91	333	*e*P	P	20 14 32.3	-7.3
YUK				*e**PP	pP	20 15 13.9	-4.7
YUK				*e*S	S	20 24 04.0	+0.7
YUK				*e**SS	pS	20 24 51.3	+0.7
YUK				pmax	pmax		
	comp=Z,308nm,1.1s						
ATKA	Atka Island	74.97	2	P	P	20 14 39.7	-0.1
TPI	Tanjungpandan	75.39	273	P	P	20 14 45.4	+2.3
	comp=Z,730nmcomp=Z,43nm,1.4s						
TWG	Pinlang	75.49	303	IAmb	IAmb	20 14 54.5	
	comp=Z,146nm,1.3s						
YULB	Yu-li	75.63	303	IAmb	IAmb	20 15 39.1	
	comp=Z,163nm,1.6s						
NACB	Ninganchiao	75.83	304	P	P	20 14 43.8	-1.5
NACB				IAmb	IAmb	20 14 47.3	
	comp=Z,299nm,1.5s						
JEW	Eniwo	75.90	330	IAmb	IAmb	20 15 39.1	
	comp=Z,127nm,1.1s						
NIKH	Nikolski High	76.04	5	P	P	20 14 45.1	-0.8
	baz=188,SNR=9.0						
NIKH	Nikolski High	76.04	5	P	P	20 14 45.6	-0.2
SSLB	Suanglung	76.11	304	IAmb	IAmb	20 14 47.6	
	comp=Z,47nm,0.6s						
YHNB	Yeheng	76.27	305	P	P	20 14 46.7	-1.2
YHNB				IAmb	IAmb	20 14 56.3	
	comp=Z,190nm,1.4s						
JKA	Kamikawa-asahi	76.38	331	IAmb	IAmb	20 14 49.7	
	comp=Z,124nm,1.4s						
ASAJ	Asahikawa	76.38	331	P	P	20 14 48.9	+0.9
	comp=Z,44nm,1.1s,baz=215,slow=6.4,SNR=18						
BLSI	Bandar Lampung	76.61	270	P	P	20 14 49.0	-1.1
PPBI	Pangkal Pinang	77.02	273	P	P	20 14 51.5	-0.8
	comp=Z,3µcomp=Z,4µcomp=Z,85nm,1.4s						
SKR	Severo-Kuril's	77.15	343	*d i*P	P	20 14 50.4	-1.7
SKR				*e*S	S	20 24 25.5	-1.9
SKR				*e**SS	sS	20 25 31.3	-4.4
SKR				pmax	pmax		
	comp=Z,500nm,3.8s						
SKR				MLR	MLR		
	comp=Z,200nm,18.0s						
SKR				MLR	MLR		
	comp=Z,300nm,18.0s						
KASI	Kota Agung	77.24	269	P	P	20 14 51.2	-2.4
	comp=Z,3µcomp=Z,202nm,0.9s						
LWLI	Liwa	77.83	270	P	P	20 14 55.8	-1.2
	comp=Z,187nm,0.9s						
MDSI	Maura Dua	77.93	270	P	P	20 14 56.3	-1.1
	comp=Z,1µcomp=Z,905nmcomp=Z,38nm,1.1s						
FALS	False Pass	78.47	8	P	P	20 14 58.8	-0.5
	baz=193						
YSS	Yuzh-Sakhalins	78.56	333	*de*P	P	20 14 59.2	-0.8
YSS				*e*		20 17 57.4	
YSS				*e*S	S	20 24 43.4	+0.7
YSS				*e*		20 25 01.4	
YSS				*e**SS	pS	20 25 39.9	+8.8
YSS				pmax	pmax		
	comp=Z,50nm,1.2s						
YSS				pmax	pmax		
	comp=Z,900nm,4.5s						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	Yuzh-Sakhalins	78.56	333	P	P	20 14 59.6	-0.4
PMSA	Palmer Station	78.61	156	P	P	20 15 00.3	+0.1
PMSA	Palmer Station	78.61	156	*e*P	P	20 15 01.3	+1.2
PET	Petropavlovsk	78.65	345	*de*P	P	20 14 59.4	-1.0
PET				*e**SP	pwP	20 15 50.0	+6.7
PET				*i* S	S	20 24 40.3	-3.1
PET				pmax	pmax		
	comp=Z,39nm,1.3s						
PET				pmax	pmax		
	comp=Z,600nm,7.5s						
PET				pmax	pmax		
	comp=Z,500nm,17.1s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PET	Petropavlovsk	78.65	345	P	P	20 14 59.3	-1.0
SCZ2	Santa Cruz Isl	78.73	46	P	P	20 15 03.2	+1.8
	baz=232						
LHSI	Lahat	78.78	271	P	P	20 15 00.8	-1.3
	comp=Z,2µcomp=Z,84nm,1.5s						
PEA0B	Petropavlovsk-	78.95	345	*de*P	P	20 15 01.4	-0.7
PEA0B	Petropavlovsk-	78.95	345	IAmb	IAmb	20 15 03.0	
	comp=Z,227nm,1.6s						
PETK	Petropavlovsk-	78.95	345	P	P	20 15 00.7	-1.4
	comp=Z,38nm,1.0s,baz=120,slow=8.2,SNR=35						
PETK				LR	LR	20 44 14.0	
	comp=Z,291nm,21.7s,baz=150,slow=31						
SBC	Santa Barbara	78.96	45	P	P	20 15 04.6	+2.1
	baz=232						
CHNA	Chernabura Isl	79.00	10	P	P	20 15 02.4	+0.1
	baz=196						
TJN	Taejon	79.03	317	*ce*P	P	20 15 03.1	+0.2
PKM	Mcpherson Peak	79.16	45	P	P	20 15 05.6	+1.7
	baz=232,SNR=21						
CIS	Catalina Islan	79.19	47	P	P	20 15 05.3	+1.4
	baz=233						
SAO	San Andreas Ge	79.30	42	P	P	20 15 05.7	+1.4
SAO				pmax	pmax		
	comp=Z,111nm,1.4s						
SAO	San Andreas Ge	79.30	42	P	P	20 15 05.7	+1.4
SAO				IAmb	IAmb	20 15 07.7	
	comp=Z,111nm,1.4s						
MCCM	Marconi Confer	79.31	41	P	P	20 15 06.0	+1.7
MCCM				IAmb	IAmb	20 15 07.5	
	comp=Z,130nm,1.5s						
SMMC	Simmler	79.31	44	P	P	20 15 06.4	+1.9
	baz=232,SNR=9.6						
PMPB	Monarch Peak	79.36	43	IAmb	IAmb	20 15 08.4	
	comp=Z,174nm,1.5s						
SDPT	Sand Point	79.36	10	P	P	20 15 04.2	0.0
	baz=196						
SDPT	Sand Point	79.36	10	P	P	20 15 03.8	-0.3
KSRS	Korea Array	79.37	318	P	P	20 15 04.9	+0.2
	comp=Z,17nm,1.0s,baz=138,slow=6.0,SNR=49						
KSRS				LR	LR	20 46 51.4	
	comp=Z,372nm,20.9s,baz=137,slow=33						
PAGB	Antelope Grade	79.40	44	P	P	20 15 06.8	+1.8
PAGB				IAmb	IAmb	20 15 08.7	
	comp=Z,200nm,1.7s						
FMP	Fort Macarthur	79.45	46	P	P	20 15 06.7	+1.5
	baz=233						
MAW	Mawson	79.47	200	P	P	20 15 06.4	+1.7
	comp=Z,100nm,0.8s,baz=126,slow=6.5,SNR=141						
MAW				LR	LR	20 50 21.3	
	comp=Z,153nm,18.9s,baz=108,slow=36						
MAW	Mawson	79.47	200	P	P	20 15 06.5	+1.8
	baz=79,SNR=52						
MAW	Mawson	79.47	200	P	P	20 15 06.3	+1.5
JMBI	JAMBI	79.52	273	P	P	20 15 07.2	+1.1
	comp=Z,172nm,0.5s						
KSI	Kapahiang	79.71	270	P	P	20 15 05.7	-1.5
	comp=Z,122nm,1.0s						
OSI	Osito Audit: C	79.71	46	P	P	20 15 08.4	+1.7
	baz=233						
HOPS	Hopland Field	79.74	40	P	P	20 15 08.5	+1.8
HOPS				IAmb	IAmb	20 15 10.0	
	comp=Z,108nm,1.2s						
DECC	Green Verdugo	79.75	46	P	P	20 15 08.2	+1.4
	baz=233						
109C	Camp Elliot, M	79.77	48	P	P	20 15 08.6	+1.7
	baz=234						
SPX	San Pedro Mart	79.84	50	P	P	20 15 09.1	+1.3
KCPM	Cahto Peak	79.90	39	IAmb	IAmb	20 15 11.2	
	comp=Z,164nm,1.5s						
TKX	Tecate	79.92	48	P	P	20 15 08.9	+1.1
TKX					pP	20 15 48.1	+0.5
ARVC	Arvin	79.95	45	P	P	20 15 09.7	+1.9
	baz=233						
SLBS	Sierra La Lagu	80.05	59	P	P	20 15 09.5	+0.8
SLBS				IAmb	IAmb	20 15 57.3	
	comp=Z,156nm,2.0s						
SPIA	Saint Paul Isl	80.12	4	P	P	20 15 11.6	+3.4
	baz=186						
MURC	Murrieta	80.12	47	P	P	20 15 10.3	+1.4
	baz=234,SNR=9.6						
KMRM	Mail Ridge	80.18	39	P	P	20 15 11.3	+2.2
KMRM				pP	pwP	20 15 52.6	+0.7
INCN	Inchon	80.18	318	P	P	20 15 09.1	0.0
INCN				pmax	pmax		
	comp=Z,117nm,1.4s						
INCN	Inchon	80.18	318	P	P	20 15 09.1	0.0
INCN				IAmb	IAmb	20 15 11.3	
	comp=Z,117nm,1.4s						
BFSC	Mount Baldy Ra	80.19	46	P	P	20 15 10.5	+1.1
	baz=234,SNR=13						
VES	Vestal, Richgr	80.22	44	P	P	20 15 10.7	+1.4
	baz=232,SNR=14						
MONP2	Monument Peak	80.24	48	P	P	20 15 11.2	+1.5
	baz=234,SNR=19						
RMX	La Rumorosa	80.31	48	P	P	20 15 11.2	+1.1
RMX					pP	20 15 51.4	+1.6
IKP	In-Ko-Pah, Jac	80.31	48	P	P	20 15 11.5	+1.6
	baz=235,SNR=13						
VOG	Valley Oaks Go	80.32	44	P	P	20 15 11.2	+1.4
	baz=232						
EDW2	Edwards Air Fo	80.35	46	P	P	20 15 11.6	+1.4
	baz=233,SNR=42						
JCC	Jacoby Creek,	80.39	38	IAmb	IAmb	20 15 13.7	
	comp=Z,106nm,1.2s						
KHMM	Horse Mountain	80.60	38	IAmb	IAmb	20 15 15.1	
	comp=Z,114nm,1.3s						
PFO	Pinyon Flats O	80.63	47	P	P	20 15 13.1	+1.4
	comp=Z,18nm,1.0s,baz=244,slow=4.0,SNR=23						
PFO	Pinyon Flats O	80.63	47	P	P	20 15 12.9	+1.2
	baz=234,SNR=14						
PFO	Pinyon Flats O	80.63	47	P	P	20 15 12.9	+1.2
PFO				pP	pP	20 15 52.0	+0.5
TPFO	Pinon Flats	80.63	47	P	P	20 15 12.8	+1.1
	baz=234,SNR=16						
MYKOM	Kota Tinggi	80.67	276	P	P	20 15 13.0	+0.8
O02D	Mt. Diablo Mer	80.68	39	P	P	20 15 14.1	+2.3
	baz=229,SNR=79						
SWSC	Sam W. Stewart	80.69	48	P	P	20 15 13.4	+1.5
	baz=235,SNR=11						
BBRC	Big Bear Solar	80.70	47	P	P	20 15 13.8	+1.6
	baz=234						
MG04	Isla Riesco	80.77	144	P	P	20 15 14.1	+2.1
VLA	Vladivostok	80.87	325	*i* P	P	20 15 12.6	+0.1
VLA				pmax	pmax		
	comp=Z,98nm,1.3s						
MSHR	Mys Shultsa	80.89	324	*de*P	P	20 15 13.0	+0.3
MSHR				pmax	pmax		
	comp=Z,92nm,1.3s						
LRMC	Laurel Mtn Rad	80.91	45	P	P	20 15 14.5	+1.4
	baz=233,SNR=32						
KRMB	Red Mountain	80.93	37	P	P	20 15 14.9	+1.8
KRMB				IAmb	IAmb	20 15 17.0	
	comp=Z,148nm,1.5s						
RRX	Edison Barstow	81.00	46	P	P	20 15 15.3	+1.7
	baz=234						
GO09	Cerro Castillo	81.03	142	IAmb	IAmb	20 15 16.8	
	comp=Z,316nm,1.9s						
ORV	Oroville	81.04	40	P	P	20 15 14.6	+1.0
ORV				pmax	pmax		
	comp=Z,73nm,1.4s						
ORV	Oroville	81.04	40	P	P	20 15 14.6	+1.0
WDC	Whiskeytown Da	81.09	39	P	P	20 15 15.2	+1.4
WDC				pmax	pmax		
	comp=Z,132nm,1.5s						
WDC	Whiskeytown Da	81.09	39	P	P	20 15 15.2	+1.4
WDC				IAmb	IAmb	20 15 17.2	
	comp=Z,132nm,1.4s						
BELC	Belle Mtn. Jos	81.17	47	P	P	20 15 16.0	+1.5
	baz=235,SNR=33						
KBO	Bosley Butte	81.21	37	IAmb	IAmb	20 15 18.4	
	comp=Z,160nm,1.4s						
RGRI	Rengat	81.22	273	P	P	20 15 15.9	+0.7
	comp=Z,240nm,0.4s						
CWC	Cottonwood Cre	81.23	44	P	P	20 15 16.7	+1.9
	baz=233						
N02D	Trinity Center	81.25	39	P	P	20 15 16.8	+2.0
	baz=229,SNR=37						
O03E	Paynes Creek	81.33	39	P	P	20 15 16.8	+1.5
	baz=230,SNR=60						
BC3	Big Chuckawall	81.34	48	P	P	20 15 17.2	+1.7
	baz=235,SNR=24						
GSC	Goldstone, Bar	81.38	46	P	P	20 15 17.1	+1.4
	baz=234,SNR=30						
HEC	Hector,Ludlow	81.42	47	P	P	20 15 17.2	+1.4
	baz=234,SNR=20						
GLA	Glamis	81.43	49	P	P	20 15 17.7	+1.9
	baz=236,SNR=11						
GLA	Glamis	81.43	49	P	P	20 15 17.3	+1.5
GLA				IAmb	IAmb	20 15 19.6	
	comp=Z,121nm,1.3s						
GLA				pP	pwP	20 15 58.3	-0.4
M02C	Callahan	81.44	38	P	P	20 15 17.8	+2.0
	baz=229,SNR=86						
MLAC	Mammoth, Mammo	81.47	43	P	P	20 15 17.8	+1.7
	baz=232						
TIN	Tinemaha, Big	81.50	44	P	P	20 15 17.9	+1.7
	baz=233,SNR=6.0						
L02E	Cave Junction	81.52	37	P	P	20 15 18.1	+2.0
	baz=228,SNR=18						
KEBM	Edson Butte	81.59	36	IAmb	IAmb	20 15 20.2	
	comp=Z,170nm,1.3s						
WAKR	Walker	81.63	42	P	P	20 15 18.4	+1.4
WAKR				IAmb	IAmb	20 15 20.5	
	comp=Z,169nm,1.5s						
YBH	Yreka Blue Hor	81.74	38	P	P	20 15 18.8	+1.4
	comp=Z,44nm,1.1s,baz=180,slow=2.4,SNR=69						
YBH	Yreka Blue Hor	81.74	38	IAmb	IAmb	20 15 20.9	
	comp=Z,109nm,1.4s						
IRM	Iron Mountain	81.83	48	P	P	20 15 19.9	+1.9
	baz=235,SNR=53						
K02D	Willamette Mer	81.84	37	P	P	20 15 19.8	+2.0
	baz=228,SNR=40						
GMRC	Granite Mounta	81.85	47	P	P	20 15 19.7	+1.6
	baz=235,SNR=31						
MG01	Puerto William	81.88	147	P	P	20 15 19.1	+1.2
PNTR	Pine Nut	81.89	42	P	P	20 15 19.9	+1.5
PNTR				IAmb	IAmb	20 15 21.6	
	comp=Z,131nm,1.2s						
BEKR	Beckworth	81.92	41	IAmb	IAmb	20 15 21.5	
	comp=Z,120nm,1.5s						
VCNR	Virginia City	81.99	41	IAmb	IAmb	20 15 22.0	
	comp=Z,113nm,1.4s						
113A	Mohawk Valley,	82.01	49	P	P	20 15 20.1	+1.3
113A				pP	pwP	20 16 01.1	-0.7
J01E	Myrtle Point	82.01	36	P	P	20 15 20.5	+1.9
	baz=228,SNR=23						
GRAC	Grapevine Rang	82.02	44	P	P	20 15 20.9	+2.0
	baz=233						
HSIG		82.02	54	P	P	20 15 19.3	+0.3
HSIG				pP	pwP	20 16 00.7	-1.0
FURC	Furnace Creek,	82.03	45	P	P	20 15 20.6	+1.7
	baz=234						
YERR	Yerington	82.04	42	IAmb	IAmb	20 15 22.2	
	comp=Z,113nm,1.4s						
TUQ	Turquoise Moun	82.05	46	P	P	20 15 20.6	+1.4
	baz=234,SNR=16						
LHV	Little Huntoon	82.05	43	IAmb	IAmb	20 15 22.6	
	comp=Z,126nm,1.5s						
SHOC	Shoshone, Teco	82.08	46	P	P	20 15 20.8	+1.6
	baz=234,SNR=15						
NJ2	Nanjing	82.18	310	‖ *i* P	P	20 15 19.8	+0.1
NJ2				pmax	pmax		
	comp=Z,51nm,1.0s						
HUMO	Hull Mountain	82.18	37	IAmb	IAmb	20 15 23.3	
	comp=Z,138nm,1.3s						
214A	Organ Pipe Nat	82.23	51	P	P	20 15 21.8	+1.7
	baz=237						
M04C	Macdoel	82.27	38	P	P	20 15 21.8	+1.7
	baz=230,SNR=34						
NVAR	Mina Array Bea	82.28	43	P	P	20 15 21.5	+1.1
	comp=Z,46nm,1.1s,baz=222,slow=7.2,SNR=83						
NVAR				pP	pwP	20 16 02.5	-0.9
	comp=Z,7.4nm,0.7s,baz=220,slow=8.3,SNR=2.6						
NVAR				PKKPbc	PKKPbc	20 33 49.4	+0.9
	comp=Z,0.6nm,0.7s,baz=112,slow=2.4,SNR=3.9						
NVAR				PKPPKP	P'P'df	20 41 51.4	+0.2
	comp=Z,1.2nm,0.9s,baz=90,slow=4.5,SNR=3.3						
NVAR				LR	LR	20 45 54.2	
	comp=Z,103nm,18.2s,baz=249,slow=31						
L04D	Klamath Falls	82.29	38	P	P	20 15 22.0	+1.7
	baz=229,SNR=38						
NV11	Mina Array Sit	82.38	43	P	P	20 15 21.9	+1.1
NV11				IAmb	IAmb	20 15 24.0	
	comp=Z,113nm,1.4s						
NV11					pP	20 16 02.1	+1.4
PAHR	Pah Rah Range	82.40	41	P	P	20 15 22.2	+1.3
PAHR				pP	pwP	20 16 02.8	-1.0
PDMCI	Parker Dam,Lak	82.60	48	P	P	20 15 23.7	+1.9
	baz=236,SNR=23						
BKNI	Bangkinang	82.67	273	P	P	20 15 22.3	-0.5
	comp=Z,2µcomp=Z,90nm,1.3s						
I03D	Drain, OR	82.68	36	P	P	20 15 24.0	+2.0
	baz=228,SNR=37						
I02D	Swisshome	82.68	36	P	P	20 15 24.2	+2.1
	baz=228,SNR=13						
TPNV	Topopah Spring	82.71	45	P	P	20 15 24.0	+1.4
TPNV				*PP	pwP	20 16 04.6	-1.1
TPNV				pmax	pmax		
	comp=Z,81nm,1.5s						
TPNV	Topopah Spring	82.71	45	P	P	20 15 24.0	+1.4
	baz=234,SNR=26						
TPNV	Topopah Spring	82.71	45	P	P	20 15 23.9	+1.4
TPNV					pwP	20 16 04.6	-1.1
TPH	Tonopah	82.75	43	P	P	20 15 23.7	+0.9
TPH				pmax	pmax		
	comp=Z,534nm,1.4s						
TPH	Tonopah	82.75	43	P	P	20 15 23.7	+0.9
KVN	Kaiserville	82.79	42	IAmb	IAmb	20 15 25.9	
	comp=Z,95nm,1.4s						
K04D	Chiloquin, OR	82.86	38	P	P	20 15 25.0	+1.8
	baz=230,SNR=5.7						
J04D	Umpqua Nationa	83.06	37	P	P	20 15 26.3	+2.0
	baz=229,SNR=5.9						
KDAK	Kodiak Island	83.09	13	LR	LR	20 43 33.0	
	comp=Z,171nm,21.9s,baz=232,slow=29						
KDAK	Kodiak Island	83.09	13	P	P	20 15 24.4	+0.6
KDAK				pmax	pmax		
	comp=Z,291nm,1.5s						
KDAK	Kodiak Island	83.09	13	P	P	20 15 24.4	+0.6
	baz=203						
KDAK	Kodiak Island	83.09	13	P	P	20 15 24.4	+0.6
MDJ	Mudanjiang	83.10	325	P	P	20 15 24.2	0.0
MDJ				pP	pP	20 15 55.5	-8.5
MDJ				sP	pwP	20 16 08.3	+0.4
MDJ				S	S	20 25 33.6	+3.6
MDJ				sS	pS	20 26 27.0	+7.4
MDJ				pmax	pmax		
	comp=Z,87nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,940nm,6.0s						
BUCK	Buck Mountain	83.21	36	IAmb	IAmb	20 15 28.4	
	comp=Z,240nm,1.3s						
MOD	Modoc Plateau	83.23	39	P	P	20 15 26.3	+1.1
MOD				IAmb	IAmb	20 15 28.1	
	comp=Z,119nm,1.4s						
I04A	Tendick Farm,	83.26	36	P	P	20 15 26.5	+1.4
	baz=229,SNR=50						
COR	Corvallis	83.30	35	P	P	20 15 27.1	+1.9
COR				pmax	pmax		
	comp=Z,167nm,1.4s						
COR	Corvallis	83.30	35	P	P	20 15 27.1	+1.9
COR				IAmb	IAmb	20 15 28.8	
	comp=Z,167nm,1.4s						
K05A	Summer Lake	83.41	38	P	P	20 15 27.7	+1.6
K05A				IAmb	IAmb	20 15 29.5	
	comp=Z,170nm,1.2s						
K05A				pP	pwP	20 16 07.8	-1.1
H04D	Lebanon	83.56	36	P	P	20 15 28.6	+2.0
	baz=229,SNR=26						
J05D	Fort Rock, OR	83.58	37	P	P	20 15 28.8	+2.0
	baz=230,SNR=82						
G03D	McMinnville, O	83.73	35	P	P	20 15 29.5	+2.1
	baz=228,SNR=15						
PRN	Pahroc Range	83.76	45	P	P	20 15 30.0	+2.1
PRN				IAmb	IAmb	20 15 31.6	
	comp=Z,142nm,1.4s						
PRN				pP	pwP	20 16 09.8	-1.3
H03S2	Juan Fernandez	83.83	124	T	T	21 47 58.0	
	baz=246,slow=74,SNR=129						
H03S1	Juan Fernandez	83.85	124	T	T	21 47 58.8	
	baz=246,slow=74,SNR=119						
H03S3	Juan Fernandez	83.85	124	T	T	21 47 57.9	
	baz=246,slow=74,SNR=105						
TUC	Tucson	83.87	51	P	P	20 15 30.5	+1.9
TUC				*PP	pwP	20 16 10.6	-0.7
TUC				pmax	pmax		
	comp=Z,69nm,1.1s						
TUC	Tucson	83.87	51	P	P	20 15 30.5	+1.9
	baz=238						
TUC	Tucson	83.87	51	P	P	20 15 30.5	+1.9
TUC					pwP	20 16 10.6	-0.7
R11A	Troy Canyon, C	83.95	44	P	P	20 15 30.2	+1.2
	baz=234,SNR=12						
H04A	Detroit Lake	83.96	36	P	P	20 15 29.8	+1.1
H04A				IAmb	IAmb	20 15 31.5	
	comp=Z,285nm,1.6s						
H04A					pwP	20 16 11.6	-0.1
H03N2	Juan Fernandez	83.99	124	T	T	21 48 02.3	
	baz=251,slow=72,SNR=132						
H03N3	Juan Fernandez	83.99	124	T	T	21 48 00.5	
	baz=251,slow=72,SNR=214						
H03N1	Juan Fernandez	84.00	124	T	T	21 47 47.1	
	baz=251,slow=72,SNR=146						
PINE	Pine Mountain	84.07	37	IAmb	IAmb	20 15 32.9	
	comp=Z,176nm,1.3s						
GRNR	Gornyy	84.17	332	‖ *i*P	P	20 15 29.9	+0.4
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
GRNR				MLR	MLR		
	comp=E,120nm,13.0s						
GRNR				MLR	MLR		
	comp=N,140nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,200nm,16.0s						
DL2	Dalian	84.18	317	P	P	20 15 29.2	-0.6
DL2				S	S	20 25 39.0	-2.0
DL2				sS	sS	20 26 41.2	-10
DL2				pmax	pmax		
	comp=Z,51nm,1.5s						
DL2				pmax	pmax		
	comp=Z,660nm,5.7s						
I05D	Terrebonne, OR	84.20	37	P	P	20 15 31.7	+1.8
	baz=230,SNR=22						
MNSI	Mandailing Nat	84.20	273	P	P	20 15 29.3	-1.2
	comp=Z,57nm,0.6s						
IPM	Ipoh	84.33	277	P	P	20 15 32.0	+0.8
SYO	Syowa Base	84.44	192	‖ *e*P	P	20 15 31.4	+0.7
SYO	Syowa Base	84.44	192	‖ *e*PcP	PcP	20 15 35.8	+1.8
SYO	Syowa Base	84.44	192	‖ *e*pP	pP	20 16 13.5	+2.6
F04D	Rainier, OR	84.44	34	P	P	20 15 32.9	+1.9
	baz=228						
WVOR	Wild Horse Val	84.53	39	P	P	20 15 33.1	+1.4
WVOR				*PP	pP	20 16 13.0	+1.1
WVOR				pmax	pmax		
	comp=Z,94nm,1.2s						
WVOR	Wild Horse Val	84.53	39	P	P	20 15 33.1	+1.4
WVOR				IAmb	IAmb	20 15

LL02	**Futaleuf**	84.90	135	P	P	20 15 35.0	+1.4
LL02				IAmb	IAmb	20 15 37.5	
	comp=Z,137nm,1.7s						
LL02				pP	pwP	20 16 15.8	-0.3
E04D	**Cinebar**	84.99	34	P	P	20 15 35.8	+2.1
	baz=229,SNR=30						
KULM	**Kulim**	84.99	278	P	P	20 15 36.0	+1.5
KNB	**Kanab**	85.00	46	IAmb	IAmb	20 15 38.0	
	comp=Z,140nm,1.5s						
HOM	**Homer**	85.01	13	P	P	20 15 34.3	+0.8
	baz=203						
U15A	**North Rim**	85.04	47	P	P	20 15 36.4	+1.8
U15A				IAmb	IAmb	20 15 38.3	
	comp=Z,161nm,1.6s						
U15A					pwP	20 16 16.7	-1.3
F05D	**White Salmon**	85.13	35	P	P	20 15 35.9	+1.5
	baz=230,SNR=6.4						
SPR3	**Spring Creek 3**	85.13	44	P	P	20 15 35.5	+0.5
SPR3					pP	20 16 16.6	+1.4
SZCU	**Shurtz Canyon**	85.15	46	IAmb	IAmb	20 15 38.6	
	comp=Z,113nm,1.5s						
KLR	**Kul'dur**	85.16	329	LR	LR	20 48 57.9	
	comp=Z,219nm,20.9s,baz=146,slow=32						
KLR	**Kul'dur**	85.16	329	*de*P	P	20 15 34.7	+0.2
KLR				pmax	pmax		
	comp=Z,66nm,1.5s						
WUAZ	**Wupatki**	85.17	48	P	P	20 15 36.8	+1.7
	baz=237						
WUAZ	**Wupatki**	85.17	48	P	P	20 15 36.4	+1.3
WUAZ					pwP	20 16 17.1	-1.2
J08A	**Circle Bar Ran**	85.19	39	IAmb	IAmb	20 15 37.9	
	comp=Z,87nm,1.2s						
N18K	**Kilae Creek**	85.19	10	P	P	20 15 34.7	+0.3
	baz=200,SNR=13						
DIB	**Dawson Inlet,**	85.20	25	IAmb	IAmb	20 15 37.9	
	comp=Z,92nm,1.2s						
O20K	**Slope Mountain**	85.21	12	P	P	20 15 34.7	+0.1
	baz=202,SNR=8.7						
BRSE	**Bradley Lake S**	85.28	13	P	P	20 15 35.4	+0.6
	baz=204,SNR=13						
D04E	**Lakebay**	85.29	34	P	P	20 15 37.8	+2.7
	baz=229,SNR=9.3						
D03D	**Eldon**	85.36	33	P	P	20 15 37.5	+2.0
	baz=228,SNR=32						
SNAA	**Sanae**	85.44	178	P	P	20 15 35.9	+0.1
SNAA	**Sanae**	85.44	178	sP	sP	20 16 20.0	-13
SNAA	**Sanae**	85.44	178	P	P	20 15 35.8	0.0
	comp=Z,25nm,0.7s,baz=206,slow=8.5,SNR=155						
SNAA				pP	pwP	20 16 18.4	-1.0
	comp=Z,31nm,0.9s,baz=149,slow=2.2,SNR=5.4						
SNAA	**Sanae**	85.44	178	P	P	20 15 35.8	0.0
SNAA					pP	20 16 17.4	+1.6
VNA3	**Neumayer Olymp**	85.55	176	P	P	20 15 36.5	+0.3
VNA3	**Neumayer Olymp**	85.55	176	sP	sP	20 16 20.3	-13
N19K	**Bonanza Creek**	85.56	11	P	P	20 15 36.1	-0.2
	baz=201,SNR=31						
ELK	**Elko**	85.56	42	P	P	20 15 37.6	+0.6
ELK				*PP	pP	20 16 18.5	+1.3
ELK				pmax	pmax		
	comp=Z,52nm,1.5s						
ELK	**Elko**	85.56	42	P	P	20 15 37.6	+0.6
ELK					pP	20 16 18.5	+1.3
TIA	**Tai'an**	85.64	312	⇑*i*P	P	20 15 37.2	0.0
TIA				pmax	pmax		
	comp=Z,44nm,1.2s						
SEW	**Seward**	85.88	13	P	P	20 15 38.0	+0.2
	baz=205,SNR=6.3						
SEW	**Seward**	85.88	13	P	P	20 15 38.2	+0.5
SEW				IAmb	IAmb	20 15 39.5	
	comp=Z,175nm,1.5s						
PGC	**Sidney**	85.93	32	IAmb	IAmb	20 15 41.4	
	comp=Z,182nm,1.4s						
F07A	**Phinny Hill Vi**	85.96	36	P	P	20 15 40.1	+1.6
F07A				IAmb	IAmb	20 15 41.6	
	comp=Z,101nm,1.5s						
W18A	**Petrified Fore**	86.09	49	P	P	20 15 40.9	+1.2
	baz=238						
G08A	**Pilot Rock**	86.11	37	IAmb	IAmb	20 15 42.5	
	comp=Z,102nm,1.4s						
CAPN	**Captain Cook N**	86.13	12	P	P	20 15 40.1	+1.1
	baz=204						
121A	**Cookes Peak, D**	86.16	52	P	P	20 15 41.7	+1.7
	baz=240						
O22K	**Cooper Landing**	86.16	13	P	P	20 15 39.3	+0.2
	baz=205						
TSI	**Tuntungan**	86.19	275	P	P	20 15 39.8	-0.6
	comp=Z,88nm,0.5s						
VNA1	**Neumayer--Stat**	86.22	176	P	P	20 15 40.1	+0.6
VNA1	**Neumayer--Stat**	86.22	176	sP	sP	20 16 23.4	-13
GSI	**Gunungsitoli**	86.24	273	P	P	20 15 41.1	+0.4
GSI				IAmb	IAmb	20 15 42.7	
	comp=Z,224nm,1.4s						
GSI	**Gunungsitoli**	86.24	273	P	P	20 15 40.9	+0.2
	comp=Z,128nm,1.3s						
SPCR	**Spurr Chakacha**	86.33	12	P	P	20 15 39.9	-0.2
	baz=203,SNR=14						
A04D	**Lummi Island**	86.34	33	P	P	20 15 42.2	+2.0
	baz=229,SNR=13						
B05A	**Bryant**	86.35	33	P	P	20 15 42.1	+1.8
	baz=229,SNR=26						
E07A	**Sunnyside**	86.42	36	P	P	20 15 41.8	+1.0
E07A				IAmb	IAmb	20 15 44.0	
	comp=Z,168nm,1.4s						
E07A				pP	pwP	20 16 23.4	-0.8
MA2	**Magadan**	86.47	344	*de*P	P	20 15 39.5	-1.2
MA2				pmax	pmax		
	comp=Z,72nm,1.7s						
HAWA	**Hanford**	86.49	36	P	P	20 15 42.4	+1.3
HAWA				IAmb	IAmb	20 15 44.3	
	comp=Z,128nm,1.4s						
HAWA				pP	pP	20 16 22.9	+1.5
GAMB	**Gambell**	86.64	2	P	P	20 15 42.3	+0.9
	baz=185						
RC01	**Rabbit Creek A**	86.71	13	P	P	20 15 42.3	+0.4
	baz=205,SNR=11						
C06D	**Leavenworth**	86.74	34	P	P	20 15 43.8	+1.5
	baz=230						
MFID	**Camas Ranch**	86.77	40	P	P	20 15 43.5	+0.8
DUG	**Dugway, Tooele**	86.77	44	P	P	20 15 43.6	+0.7
	baz=236						
L19K	**White Mountain**	86.78	10	P	P	20 15 43.0	+0.8
	baz=200,SNR=75						
E08A	**Dider Farm, El**	86.80	36	P	P	20 15 44.0	+1.4
E08A				IAmb	IAmb	20 15 45.6	
	comp=Z,112nm,1.6s						
SUA	**Susitna One**	86.85	12	P	P	20 15 42.9	+0.3
	baz=204,SNR=8.1						
PLCA	**Paso Flores**	86.89	133	P	P	20 15 45.1	+1.6
	comp=Z,23nm,1.1s,baz=234,slow=4.6,SNR=15						
PLCA				pP	pwP	20 16 26.5	+0.4
	comp=Z,9.4nm,1.0s,baz=226,slow=6.7,SNR=2.6						
PLCA				LR	LR	20 48 45.3	
	comp=Z,284nm,18.4s,baz=248,slow=31						
PLCA	**Paso Flores**	86.89	133	IAmb	IAmb	20 15 46.7	
	comp=Z,153nm,1.8s						
PLCA	**Paso Flores**	86.89	133	*e*P	P	20 15 45.1	+1.6
GLI	**Glacier Island**	87.09	14	P	P	20 15 44.0	+0.3
	baz=207,SNR=7.3						
EYAK	**Cordova Ski Ar**	87.11	15	P	P	20 15 44.3	+0.6
	baz=209,SNR=7.4						
NLU	**North Lily Min**	87.11	44	P	P	20 15 45.5	+0.9
SIT	**Sitka**	87.17	21	P	P	20 15 45.4	+1.4
	baz=218						
SKT	**Skwentna**	87.17	12	P	P	20 15 43.3	-0.8
	baz=203,SNR=27						
D08A	**Wollman Farm,**	87.23	36	IAmb	IAmb	20 15 47.8	
	comp=Z,198nm,1.5s						
SRAK	**Srakaew**	87.27	286	P	P	20 15 45.6	+0.1
	comp=Z,5μmcomp=Z,297nm,1.4s						
KNK	**Knik Glacier**	87.27	13	P	P	20 15 45.0	+0.5
	baz=206,SNR=11						
PMR	**Palmer**	87.29	13	P	P	20 15 45.0	+0.5
	baz=206,SNR=9.5						
TPTI		87.37	275	P	P	20 15 45.2	-0.9
	comp=Z,19nm,1.1s						
MNTX	**Cornudas Mount**	87.52	54	P	P	20 15 48.1	+1.6
	baz=241						
MNTX	**Cornudas Mount**	87.52	54	P	P	20 15 47.5	+1.0
MNTX				pP	pwP	20 16 28.5	-1.1
MNTX					PKKPbc	20 33 32.8	-2.5
Y22D	**IRIS PASSCAL I**	87.56	51	P	P	20 15 48.0	+1.3
	baz=240						
PLID	**Pearl Lake**	87.65	38	IAmb	IAmb	20 15 49.6	
	comp=Z,92nm,1.6s						
SML	**Sawmill**	87.65	13	P	P	20 15 46.8	+0.4
	baz=206,SNR=12						
SRU	**San Rafael Swe**	87.67	46	P	P	20 15 48.3	+1.1
SRU				pmax	pmax		
	comp=Z,70nm,1.1s						
SRU	**San Rafael Swe**	87.67	46	P	P	20 15 48.3	+1.1
SRU				IAmb	IAmb	20 15 49.9	
	comp=Z,70nm,1.1s						
TXAR	**Lajitas Array**	87.70	57	P	P	20 15 48.9	+1.4
	comp=Z,15nm,0.9s,baz=214,slow=7.5,SNR=133						
TXAR				pP	pwP	20 16 30.1	-0.3
	comp=Z,14nm,0.8s,baz=215,slow=7.6,SNR=5.7						
TXAR				PKKPbc	PKKPbc	20 33 34.1	-0.8
	comp=Z,0.8nm,0.8s,baz=104,slow=5.3,SNR=6.5						
TXAR				LR	LR	20 48 30.7	
	comp=Z,99nm,21.2s,baz=0.0,slow=31						
WRAK	**Wrangell Islan**	87.70	23	P	P	20 15 48.4	+1.8
	baz=220,SNR=8.0						
MESA	**MESA**	87.74	17	P	P	20 15 48.3	+1.3
	baz=212,SNR=8.0						
BMRM	**Bremner River**	87.75	15	P	P	20 15 47.5	+0.6
	baz=210,SNR=11						
ANM	**Nome**	87.80	5	P	P	20 15 47.5	+0.5
	baz=191						
BNM	**Barren Site**	87.80	51	P	P	20 15 49.1	+1.1
CUT	**Chulitna**	87.80	12	P	P	20 15 47.4	+0.5
	baz=205,SNR=13						
B08A	**Colville Reser**	87.83	34	IAmb	IAmb	20 15 49.8	
	comp=Z,154nm,1.5s						
PATY	**Pattaya**	87.87	285	P	P	20 15 51.7	+3.3
	comp=Z,89nm,1.0s						
KLU	**Klutina**	87.90	14	P	P	20 15 48.3	+0.7
	baz=208,SNR=16						
CRQE	**Cirque**	87.94	16	P	P	20 15 48.8	+0.9
	baz=211,SNR=11						
NONG	**Nongkai**	87.98	290	P	P	20 15 49.8	+0.9
	comp=Z,8μmcomp=Z,161nm,1.4s						
MVCO	**Mesa Verde**	88.03	48	P	P	20 15 50.4	+1.4
	baz=239						
C09A	**Chrisman Ranch**	88.03	35	IAmb	IAmb	20 15 51.2	
	comp=Z,169nm,1.4s						
CHAI	**Chaiyaphum**	88.09	288	P	P	20 15 51.0	+1.5
	comp=Z,448nmcomp=Z,40nm,1.3s						
PINM	**Pinnacle**	88.13	17	P	P	20 15 49.6	+0.8
	baz=214,SNR=8.0						
SURT	**Suratani**	88.14	280	P	P	20 15 54.9	+5.2
	comp=Z,3.3nm,1.2s						
N25K	**Chitina, Valde**	88.31	15	P	P	20 15 50.4	+0.9
	baz=210,SNR=30						
BJI	**Beijing**	88.31	315	P	P	20 15 50.0	+0.1
BJI				PP	PP	20 19 16.3	-3.9
BJI				SKS	SKSac	20 26 00.4	-2.8
BJI				S	S	20 26 22.6	+1.6
BJI				pmax	pmax		
	comp=Z,41nm,1.8s						
BJI				pmax	pmax		
	comp=Z,730nm,5.4s						
ANMO	**Albuquerque**	88.32	51	P	P	20 15 51.8	+1.3
	comp=Z,17nm,1.0s,baz=220,slow=4.9,SNR=53						
ANMO	**Albuquerque**	88.32	51	*ce*P	P	20 15 51.7	+1.3
ANMO				pmax	pmax		
	comp=Z,50nm,1.3s						
ANMO	**Albuquerque**	88.32	51	P	P	20 15 51.6	+1.2
	baz=240						
ANMO	**Albuquerque**	88.32	51	P	P	20 15 51.4	+1.0
ANMO				IAmb	IAmb	20 15 53.6	
	comp=Z,69nm,1.4s						
ANMO				pP	pP	20 16 31.4	+0.6
M24K	**Tolsona, Glenn**	88.39	14	P	P	20 15 51.0	+1.2
	baz=208,SNR=16						
EFI	**East Falkland**	88.47	147	P	P	20 15 51.1	+0.5
EFI				*PP	pwP	20 16 33.6	+2.2
EFI				pmax	pmax		
	comp=Z,228nm,1.8s						
EFI	**East Falkland**	88.47	147	P	P	20 15 51.1	+0.5
EFI				IAmb	IAmb	20 15 53.8	
	comp=Z,228nm,1.8s						
EFI					pwP	20 16 33.6	+2.2
WAT6	**Susitna Watana**	88.47	13	P	P	20 15 50.9	+0.5
	baz=207,SNR=46						
MCARA	**McCarthy VSAT**	88.50	16	P	P	20 15 51.4	+1.1
	baz=211,SNR=13						
BESE	**Bessie Mountai**	88.52	21	IAmb	IAmb	20 15 53.7	
	comp=Z,139nm,1.4s						
WAT1	**Susitna Watana**	88.53	13	P	P	20 15 50.6	+0.1
	baz=206						
CTG	**Chitna Glacier**	88.57	17	P	P	20 15 51.9	+1.0
	baz=213,SNR=15						
TNA	**Tin City**	88.61	4	P	P	20 15 51.1	+0.4
	baz=186						
GYA	**Guiyang**	88.67	299	⇑P	P	20 15 52.9	+0.8
GYA				sP	pwP	20 16 40.0	+3.9
KTH	**Kantishna Hill**	88.73	11	IAmb	IAmb	20 15 52.4	
	comp=Z,120nm,1.2s						
TRF	**Thorofare Moun**	88.75	12	P	P	20 15 51.7	0.0
	baz=205,SNR=77						
TRF	**Thorofare Moun**	88.75	12	P	P	20 15 50.7	-1.0
TRF					pwP	20 16 34.5	-1.2
HARP	**HAARP**	88.87	14	P	P	20 15 53.1	+1.1
	baz=209,SNR=7.0						
NEW	**Newport**	88.93	35	P	P	20 15 53.6	+0.9
	baz=233						
PHET	**Kaeng Krachan**	88.96	284	P	P	20 15 56.3	+2.7
	comp=Z,1μmcomp=Z,155nm,1.2s						
SEY	**Seymchan**	89.05	347	*di*P	P	20 15 52.2	-0.6
BPAW	**Bear Paw Mtn.**	89.22	11	P	P	20 15 52.9	-0.8
	baz=204,SNR=28						
BPAW	**Bear Paw Mtn.**	89.22	11	IAmb	IAmb	20 15 54.6	
	comp=Z,215nm,1.9s						
PBKT	**Sadao Pong**	89.26	288	P	P	20 16 01.4	+6.5
MCK	**McKinley**	89.27	12	P	P	20 15 54.2	+0.3
	baz=206,SNR=13						
PAX	**Paxson**	89.31	14	P	P	20 15 54.3	+0.2
	baz=209						
HYT	**Haines Junctio**	89.51	18	P	P	20 15 55.9	+0.7
HYT				IAmb	IAmb	20 15 58.2	
	comp=Z,118nm,1.6s						
TIY	**Taiyuan**	89.62	312	*e*P	P	20 15 56.8	+0.5
TIY				SKS	SKSac	20 26 09.1	-2.2
TIY				S	S	20 26 29.9	-3.7
TIY				pmax	pmax		
	comp=Z,41nm,0.9s						
TIY				pmax	pmax		
	comp=Z,480nm,4.6s						
TIY				LR	LR		
	comp=Z,240nm,4.7s						
TIY				LR	LR		
	comp=Z,200nm,5.5s						
TIY				LR	LR		
	comp=Z,300nm,6.0s						
CMIG	**Matias Romero**	89.64	71	P	P	20 15 57.7	+1.0
	comp=Z,5.2nm,0.8s,baz=279,slow=10,SNR=8.7						
O20A	**White River Ci**	89.70	46	P	P	20 15 57.6	+0.9
	baz=239,SNR=8.6						
REDW	**Red Top Meadow**	89.73	42	IAmb	IAmb	20 15 59.8	
	comp=Z,92nm,1.4s						
MSO	**Missoula**	89.83	38	P	P	20 15 57.8	+0.7
	baz=235,SNR=19						
MSO	**Missoula**	89.83	38	P	P	20 15 57.2	+0.1
SRDT	**SRDT**	89.99	286	P	P	20 16 01.5	+3.1
	comp=Z,78nm,1.2s						
PHIT	**Phitsanulok**	89.99	289	P	P	20 16 00.7	+2.4
	comp=Z,2μmcomp=Z,152nm,1.1s						
NEA2	**Nenana**	90.02	12	P	P	20 15 56.9	-0.4
	baz=206,SNR=14						
I21K	**Tanana**	90.05	10	P	P	20 15 57.8	+0.4
	baz=203,SNR=44						
SMCO	**Snowmass**	90.06	47	P	P	20 15 59.4	+0.7
SMCO					PKKPbc	20 33 28.9	-1.0
UTTA	**Uttaradit**	90.10	289	P	P	20 16 00.6	+1.8
	comp=Z,590nmcomp=Z,54nm,1.4s						
MLY	**Manley**	90.12	11	P	P	20 15 57.6	-0.3
	baz=204,SNR=49						
MLY	**Manley**	90.12	11	IAmb	IAmb	20 15 59.0	
	comp=Z,76nm,1.4s						
WHY	**Whitehorse**	90.15	19	P	P	20 15 59.7	+1.4
	baz=218,SNR=23						
UTHA	**Uthaitani**	90.19	287	P	P	20 16 01.6	+2.3
	comp=Z,631nmcomp=Z,81nm,1.3s						
BW06	**Boulder Array**	90.22	43	P	P	20 15 60.0	+0.8
	baz=238,SNR=30						
PDAR	**Pinedale Array**	90.22	43	P	P	20 15 60.0	+0.8
	comp=Z,16nm,1.0s,baz=204,slow=3.3,SNR=72						
PDAR				pP	pwP	20 16 41.5	-1.6
	comp=Z,5.5nm,0.9s,baz=205,slow=3.9,SNR=1.6						
PDAR				PKKPbc	PKKPdf	20 33 26.9	+1.0
	comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=5.7						
PDAR				LR	LR	20 50 56.5	
	comp=Z,94nm,19.4s,baz=258,slow=32						
PDAR	**Pinedale Array**	90.22	43	P	P	20 15 58.8	-0.3
PDAR					PKKPdf	20 33 26.0	+0.2
L27K	**Beaver Creek,**	90.23	15	P	P	20 15 59.5	+1.1
	baz=212,SNR=31						
HDA	**Harding Lake**	90.27	13	P	P	20 15 58.8	+0.3
	baz=208,SNR=29						
ZEA	**Zeya**	90.28	331	*de*P	P	20 15 59.0	+0.2
ZEA				*e*S	S	20 26 44.4	+5.8
ZEA				pmax	pmax		
	comp=N,10.0nm,1.7s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.4s						
ZEA				pmax	pmax		
	comp=N,100nm,5.0s						
ZEA				pmax	pmax		
	comp=Z,100nm,10.2s						
ZEA				smax	smax		
	comp=N,200nm,13.3s						
H21K	**Melozitna Rive**	90.36	10	P	P	20 15 59.7	+0.8
	baz=202,SNR=85						
SDCO	**Great Sand Dun**	90.36	49	P	P	20 16 01.2	+1.2
	baz=241,SNR=23						
I23K	**Minto, Yukon-K**	90.47	11	P	P	20 15 59.4	0.0
	baz=205,SNR=35						
BOZ	**Bozeman (W)**	90.48	40	P	P	20 16 01.9	+1.8
	baz=237,SNR=54						
YHH	**Holmes Hill**	90.50	41	IAmb	IAmb	20 16 04.8	
	comp=Z,84nm,1.4s						
TCOL	**CIGO, UAF Yank**	90.50	12	P	P	20 15 59.7	+0.1
	baz=207,SNR=14						
COLA	**College**	90.51	12	*di*P	P	20 15 59.5	-0.1
COLA				pmax	pmax		
	comp=Z,165nm,1.4s						
COLA	**College**	90.51	12	P	P	20 15 59.3	-0.2
	baz=207						
SCRK	**Sand Creek**	90.51	14	P	P	20 16 00.7	+0.9
	baz=210,SNR=31						
SCRK	**Sand Creek**	90.51	14	P	P	20 16 00.3	+0.4
SCRK				IAmb	IAmb	20 16 01.4	
	comp=Z,54nm,1.2s						
MSTX	**Muleshoe**	90.53	53	P	P	20 16 01.4	+0.7
	baz=242,SNR=11						
MSTX	**Muleshoe**	90.53	53	P	P	20 16 01.3	+0.7
MSTX				IAmb	IAmb	20 16 02.6	
	comp=Z,52nm,1.1s						
MSTX				pP	pP	20 16 41.6	+0.4
833A	**Chaparral WMA,**	90.59	59	P	P	20 16 02.0	+1.1
	baz=244						
ILAR	**Eielson Array**	90.60	12	P	P	20 15 60.0	-0.1
	comp=Z,32nm,1.1s,baz=222,slow=4.6,SNR=114						
ILAR				pP	pP	20 16 42.2	+1.7
	comp=Z,19nm,1.1s,baz=229,slow=4.6,SNR=3.6						
ILAR				PP	PP	20 19 38.9	+1.1
	comp=Z,5.1nm,1.0s,baz=222,slow=6.2,SNR=4.0						
ILAR				PKiKP	PKiKP	20 20 53.2	-0.2
	comp=Z,0.4nm,0.3s,baz=286,slow=2.9,SNR=6.1						
ILAR				S	SKSac	20 26 17.2	+1.7
	comp=Z,0.3nm,0.7s,baz=224,slow=5.0,SNR=2.1						
ILAR				ScS	S	20 26 41.0	-0.2
	comp=Z,7.0nm,1.1s,baz=216,slow=9.0,SNR=17						
ILAR				PKKPbc	PKKPdf	20 33 27.2	+1.5
	comp=Z,0.5nm,0.7s,baz=331,slow=1.2,SNR=3.2						
KHLT	**Khaolaem Dam**	90.64	286	P	P	20 16 06.3	+4.9
	comp=Z,39nm,1.3s						
POKR	**Poker Plat Res**	90.80	12	P	P	20 16 00.9	-0.1
	baz=207,SNR=11						
T25A	**Trinidad**	90.83	50	P	P	20 16 03.3	+1.2
	baz=242,SNR=5.6						
UMPA	**Umpang Tak**	90.96	287	P	P	20 16 06.2	+3.3
	comp=Z,509nmcomp=Z,43nm,1.2s						
H23K	**Yukon River**	91.05	11	P	P	20 16 02.1	-0.1
	baz=205,SNR=7.7						
WALA	**Waterton Lakes**	91.12	36	P	P	20 16 04.0	+1.0
WALA				IAmb	IAmb	20 16 05.6	
	comp=Z,76nm,1.4s						
WALA				pP	pwP	20 16 45.4	-1.3
Q24A	**Divide**	91.19	48	P	P	20 16 05.4	+1.5
	baz=241,SNR=10.0						
JCT	**Junction City**	91.21	57	P	P	20 16 04.5	+0.7
	baz=244						
JCT	**Junction City**	91.21	57	IAmb	IAmb	20 16 49.5	
	comp=Z,52nm,1.4s						
LAMP	**Lampang**	91.21	290	P	P	20 16 05.7	+1.7
	comp=Z,977nmcomp=Z,100nm,1.4s						
KMI	**Kunming**	91.28	297	⇓P	P	20 16 05.7	+1.2
KMI				sP	pwP	20 16 50.7	+2.1
KMI				pmax	pmax		
	comp=Z,45nm,1.5s						
KMI				pmax	pmax		
	comp=Z,490nm,3.7s						
ISCO	**Idaho Springs**	91.28	47	P	P	20 16 05.8	+1.5
	baz=241,SNR=6.5						
H24K	**Noodor Dome**	91.36	12	P	P	20 16 02.6	-1.0
	baz=207,SNR=5.4						
RDOG	**Red Dog Mine**	91.44	5	P	P	20 16 06.1	+2.2
	baz=193						
PRP	**Porcupine Dome**	91.53	13	P	P	20 16 04.8	+0.2
	baz=209,SNR=7.8						
N23A	**Red Feather La**	91.60	46	P	P	20 16 06.6	+1.0
	baz=241						
RLMT	**Red Lodge**	91.63	41	P	P	20 16 07.2	+1.6
	baz=239,SNR=15						
GO04	**Tololo Observa**	91.64	124	IAmb	IAmb	20 16 08.1	
	comp=Z,154nm,1.8s						
BILL	**Bilibino**	91.66	354	*ci*P	P	20 16 05.0	+0.1
BILL				*e*PP	pP	20 16 40.0	-5.4
BILL				*e*	PP	20 19 51.5	+5.5
BILL				*e*S	SKSac	20 26 20.5	-0.9
BILL				pmax	pmax		
	comp=Z,143nm,1.5s						
BILL	**Bilibino**	91.66	354	P	P	20 16 04.7	-0.1
DAWY	**Dawson**	91.67	16	P	P	20 16 05.9	+0.8
DAWY				IAmb	IAmb	20 16 07.7	
	comp=Z,119nm,1.5s						
DAWY				pP	pwP	20 16 47.8	-1.2
DAWY				PP	PP	20 19 48.3	+2.0
CM04	**Chiang Mai Arr**	91.73	289	P	P	20 16 08.3	+1.9
	comp=Z,609nmcomp=Z,69nm,1.3s						
CM09	**Chiang Mai Arr**	91.74	289	P	P	20 16 08.9	+2.5
	comp=Z,500nmcomp=Z,58nm,1.2s						
AMTX	**Amarillo**	91.75	53	P	P	20 16 06.9	+0.7
	baz=243						
HHC	**Hu-ho-hao-te**	91.75	314	*e*P	P	20 16 07.3	+1.2
HHC				PP	PP	20 19 44.6	-3.0
HHC				S	S	20 26 56.6	+3.7
HHC				pmax	pmax		
	comp=Z,52nm,1.4s						
HHC				pmax	pmax		
	comp=Z,210nm,5.6s						
CM01	**Chiang Mai Arr**	91.76	289	P	P	20 16 08.4	+1.9
	comp=Z,606nmcomp=Z,70nm,1.3s						
CM05	**Chiang Mai Arr**	91.76	289	P	P	20 16 08.4	+1.8
	comp=Z,407nmcomp=Z,47nm,1.2s						
CM02	**Chiang Mai Arr**	91.77	289

MHMT	Maesarieng	92.56	289	P	P	20 16 12.8	+2.6
	comp=Z,58nm,1.3s						
EGMT	Eagleton	92.87	38	P	P	20 16 12.1	+1.0
	baz=238,SNR=5.5						
CD2	Chengdu	92.89	302	eP	P	20 16 13.5	+1.9
KSCO	Kaye Shedlock'	92.95	49	P	P	20 16 13.1	+1.3
	baz=243						
435B	Jarrell	93.06	58	P	P	20 16 13.0	+0.7
	baz=245						
TOLK	Toolik Lake Re	93.61	10	P	P	20 16 14.7	+0.8
	baz=205						
WHTX	Lake Whitney,	93.67	57	P	P	20 16 15.5	+0.5
	baz=245						
WMOK	Wichita Mounta	93.83	54	P	P	20 16 16.2	+0.5
	baz=245						
TRQA	Tornquist	93.97	134	P	P	20 16 17.4	+0.9
TRQA				pmax	pmax		
	comp=Z,44nm,1.7s						
TRQA	Tornquist	93.97	134	P	P	20 16 17.4	+0.9
TRQA	Tornquist	93.97	134	eP	P	20 16 17.2	+0.7
EPYK	Eagle Plains	94.20	15	P	P	20 16 17.4	+0.7
	baz=217,SNR=11						
EPYK	Eagle Plains	94.20	15	IAmb	IAmb	20 16 19.0	
	comp=Z,82nm,1.5s						
OGNE	Ogallala	94.24	47	P	P	20 16 18.6	+1.0
	baz=243						
OGNE	Ogallala	94.24	47	IAmb	IAmb	20 16 19.9	
	comp=Z,34nm,1.1s						
LAO	LASA Array	94.26	41	P	P	20 16 19.2	+1.7
	baz=241						
RSSD	Black Hills	94.38	44	P	P	20 16 18.8	+0.5
RSSD				pmax	pmax		
	comp=Z,59nm,1.1s						
RSSD	Black Hills	94.38	44	P	P	20 16 18.6	+0.3
	baz=242						
RSSD	Black Hills	94.38	44	P	P	20 16 18.8	+0.5
RSSD				IAmb	IAmb	20 16 20.4	
	comp=Z,59nm,1.1s						
X34A	Smith Ranch, M	94.47	54	P	P	20 16 20.1	+1.4
X34A				pP	pP	20 17 00.4	+1.1
X34A				IAmb	IAmb	20 17 07.4	
	comp=Z,34nm,1.0s						
AC02	Maricunga	94.50	121	P	P	20 16 19.3	-0.4
YAK	Yakutsk	94.80	338	d iP	P	20 16 18.3	-1.1
YAK				e	PP	20 20 09.4	-1.3
YAK				ePPP	PPP	20 22 12.6	
YAK				eS	SKSac	20 26 33.9	-4.9
YAK				e	S	20 27 12.6	-5.7
YAK				eSSS	SSS	20 37 28.9	
YAK				pmax	pmax		
	comp=Z,38nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,13nm,1.3s						
YAK				pmax	pmax		
	comp=Z,49nm,2.2s						
YAK				pmax	pmax		
	comp=N,42nm,2.2s						
YAK				pmax	pmax		
	comp=E,44nm,2.2s						
YAK				smax	smax		
	comp=N,147nm,2.0s						
YAK				smax	smax		
	comp=E,76nm,2.0s						
YAK	Yakutsk	94.80	338	P	P	20 16 17.9	-1.5
LZH	Lanzhou	95.01	307	eP	P	20 16 21.9	+0.6
LZH				SKS	SKSac	20 26 40.3	-1.2
LZH				S	ScS	20 27 25.1	+2.5
LZH				pmax	pmax		
	comp=E,25nm,1.2s						
LZH				pmax	pmax		
	comp=E,230nm,5.4s						
FNO	Franklin	95.07	54	P	P	20 16 22.5	+1.1
ATAH	Atahualpa	95.14	100	PP	PP	20 20 16.0	+1.4
	comp=E,1.6nm,0.4s,baz=236,slow=3.6,SNR=1.3						
CIT	Chita	96.07	324	eP	P	20 16 24.0	-1.6
CIT				e		20 17 00.0	
CIT				pmax	pmax		
	comp=Z,66nm,2.0s						
INK	Inuvik	96.50	15	P	P	20 16 27.2	+0.2
INK				pP	pP	20 17 08.7	+1.0
INK				IAmb	IAmb	20 17 13.9	
	comp=Z,25nm,1.2s						
LVC	Limon Verde	96.67	118	P	P	20 16 32.0	+2.5
	comp=Z,2.5nm,0.4s,baz=257,slow=5.5						
LVC				PP	PP	20 20 26.9	+0.9
	comp=Z,7.5nm,1.1s,baz=222,slow=8.0,SNR=6.9						
LVC				PKKPbc	PKKPbc	20 33 11.2	-0.3
	comp=Z,21nm,0.8s,baz=185,slow=11,SNR=4.2						
LVC	Limon Verde	96.67	118	P	P	20 16 32.0	+2.5
LVC	Limon Verde	96.67	118	IAmb	IAmb	20 16 33.6	
	comp=Z,27nm,1.4s						
LVC					PP	20 20 27.4	+1.4
LVC	Limon Verde	96.67	118	eP	P	20 16 31.8	+2.2
PSGCX	Pisagua	97.07	115	IAmb	IAmb	20 16 36.2	
	comp=Z,21nm,1.2s						
ULN	Ulaanbaatar	97.86	319	ceP	P	20 16 33.4	-0.5
ULN				pmax	pmax		
	comp=Z,17nm,1.6s						
ULN	Ulaanbaatar	97.86	319	P	P	20 16 33.2	-0.7
ULN				IAmb	IAmb	20 20 00.5	
	comp=Z,36nm,1.8s						
SONM	Songino Array	98.24	319	P	P	20 16 34.5	-1.1
	comp=Z,0.6nm,0.4s,baz=112,slow=3.5,SNR=9.6						
SONM				PP	PP	20 20 36.9	-0.9
	comp=Z,8.6nm,1.2s,baz=134,slow=6.2,SNR=7.4						
SONM				PKKPbc	PKKPbc	20 33 07.6	-0.6
	comp=Z,0.6nm,0.6s,baz=261,slow=3.5,SNR=3.9						
SONM				LR	LR	20 56 53.3	
	comp=Z,142nm,21.9s,baz=128,slow=33						
SONM	Songino Array	98.24	319	IAmb	IAmb	20 16 44.4	
	comp=Z,26nm,1.8s						
YKA	Yellowknife Ar	98.46	25	P	Pdif	20 16 36.5	+0.5
	comp=Z,9.6nm,1.1s,baz=230,slow=4.4,SNR=19						
YKA				PP	PP	20 20 37.3	-1.5
	comp=Z,1.8nm,0.9s,baz=233,slow=7.4,SNR=4.5						
YKA				PKKPbc	PKKPbc	20 33 06.2	-1.9
	comp=Z,0.8nm,0.4s,baz=353,slow=4.9,SNR=7.8						
YKA				PKKP	PKKPdf	20 33 12.2	+0.9
	comp=Z,1.3nm,0.5s,baz=47,slow=2.6,SNR=9.9						
YKA				LR	LR	20 57 10.7	
	comp=Z,91nm,18.8s,baz=0.0,slow=33						
W41B	Gary Mavity, V	98.92	56	Pdiff	Pdif	20 16 38.9	+0.2
	baz=248						
ECSD	EROS Data Cent	99.05	46	Pdiff	Pdif	20 16 40.5	+1.4
	baz=247						
ECSD	EROS Data Cent	99.05	46		Pdif	20 16 40.1	+0.9
ECSD				IAmb	IAmb	20 16 41.5	
	comp=Z,39nm,1.4s						
ECSD				pP	pP	20 17 19.1	-0.7
ECSD					PKKPbc	20 33 04.7	-1.0
GTA	Gaotai	99.26	309	⇑P	Pdif	20 16 40.5	+0.2
GTA				pP	pP	20 17 13.6	-7.3
GTA				sP	pwP	20 17 24.5	-0.2
GTA				PP	PP	20 20 43.3	-2.4
GTA				SKS	SKSac	20 27 00.9	-2.3
GTA				sS	pS	20 28 58.8	+8.1
GTA				SS	SS	20 34 48.8	-2.5
GTA				pmax	pmax		
	comp=Z,10.0nm,2.0s						
GTA				pmax	pmax		
	comp=Z,170nm,6.5s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,240nm,21.8s						
GTA				LR	LR		
	comp=Z,200nm,18.2s						
LPAZ	La Paz	100.28	113	P	Pdif	20 16 49.2	+3.2
	comp=Z,6.2nm,0.9s,baz=257,slow=3.8,SNR=12						
LPAZ				PP	PP	20 20 53.9	0.0
	comp=Z,9.0nm,1.2s,baz=251,slow=6.8,SNR=10						
LPAZ				PKKPbc	PKKPbc	20 33 01.4	-0.3
	comp=Z,1.6nm,0.6s,baz=13,slow=3.5,SNR=3.9						
LPAZ				PKKP	PKKPdf	20 33 06.1	-0.1
	comp=Z,1.0nm,0.8s,baz=338,slow=4.7,SNR=3.6						
LPAZ	La Paz	100.28	113	P	Pdif	20 16 48.4	+2.4
LPAZ	La Paz	100.28	113	Pdif	Pdif	20 16 48.4	+2.4
LPAZ				PP	PP	20 20 52.8	-1.1
SHL	Shillong	100.52	293	P	Pdif	20 16 46.3	0.0
SHL	Shillong	100.52	293		Pdif	20 16 46.3	0.0
SHL				PP	PP	20 20 53.3	-2.3
ZAK	Zakamensk	101.15	320	eP	Pdif	20 16 47.2	-1.2
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TIXI	Tiksi	101.43	345	d iP	Pdif	20 16 48.1	-0.9
TIXI	Tiksi	101.43	345	Pdif	Pdif	20 16 47.4	-1.6
TLY	Talaya	101.43	321	eP	Pdif	20 16 59.2	+10
TLY				e	PP	20 21 04.6	+2.9
TLY				e	SKSac	20 27 14.4	+1.5
TLY				ePS	PS	20 30 02.8	-6.0
TLY				ePPS	PPS	20 31 04.1	
TLY				eSS	SS	20 35 24.3	+3.5
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,477nm,18.0s						
F36A	Milaca	101.89	45	Pdif	Pdif	20 16 51.2	-0.5
ULM	Lac du Bonnet	102.00	40	PP	PP	20 21 05.4	-0.5
	comp=Z,2.5nm,0.7s,baz=270,slow=7.9,SNR=3.5						
ULM				PKKP	PKKPdf	20 33 02.6	-1.7
	comp=Z,2.6nm,0.4s,baz=80,slow=5.1,SNR=4.9						
SIV	San Ignacio	106.35	116	PP	PP	20 21 36.5	-2.0
	comp=Z,1.3nm,0.5s,baz=244,slow=6.0,SNR=6.5						
SIV				PKKPbc	PKKPbc	20 32 43.2	0.0
	comp=Z,2.1nm,0.6s,baz=79,slow=10,SNR=4.1						
MCWV	Mont Chateau	109.68	54	Pdiff	Pdif	20 17 29.5	+3.0
	baz=256						
ZALV	Zalesovo Beam	113.02	321	Pdiff	Pdif	20 17 40.8	-0.2
	comp=Z,0.3nm,0.3s,baz=41,slow=4.6,SNR=1.5						
ZALV				PKiKP	PKiKP	20 21 33.8	-0.5
	comp=Z,5.4nm,0.5s,baz=128,slow=0.7,SNR=18						
NRIK	Noril'sk	113.25	337	PKiKP	PKiKP	20 21 33.9	-0.4
	comp=Z,3.2nm,0.6s,baz=126,slow=5.7,SNR=4.1						
NRIK				PP	PP	20 22 24.9	-2.4
	comp=Z,3.7nm,0.6s,baz=91,slow=6.4,SNR=5.0						
MKAR	Makanchi Array	113.57	313	Pdiff	Pdif	20 17 45.7	+2.0
	comp=Z,1.2nm,0.8s,baz=93,slow=5.9,SNR=7.5						
MKAR				PKiKP	PKiKP	20 21 34.9	-0.7
	comp=Z,2.2nm,0.4s,baz=136,slow=0.9,SNR=35						
MKAR				PKKPbc	PKKPbc	20 32 20.7	-0.1
	comp=Z,1.8nm,0.6s,baz=281,slow=4.0,SNR=12						
MKAR				PKKPab	PKKPab	20 32 26.9	+1.0
	comp=Z,1.5nm,0.7s,baz=277,slow=3.2,SNR=6.2						
MKAR	Makanchi Array	113.57	313	Pdif	Pdif	20 17 43.2	-0.4
PTGA	Pitinga	114.49	102	PP	PP	20 22 36.1	-1.1
	comp=Z,0.9nm,0.2s,baz=264,slow=8.9,SNR=4.4						
SHLS	Shalkode	114.99	308	ePKiKP	PKPdf	20 21 37.1	-1.5
	baz=308						
SHLS				ePP	PP	20 22 34.4	-6.2
	baz=308						
SHLS	Shalkode	114.99	308	i PKIKP	PKPdf	20 21 37.0	-1.6
SHLS				e		20 22 34.3	
UZB	Uzynbulak	115.31	308	ePKiKP	PKPdf	20 21 38.2	-1.0
	baz=308						
UZB				ePP	PP	20 22 40.5	-2.4
	baz=308						
UZB	Uzynbulak	115.31	308	i PKIKP	PKPdf	20 21 38.2	-1.0
UZB				e		20 22 40.4	
SEM	Semipalatinsk	115.39	316	ePKiKP	PKPdf	20 21 33.0	-6.3
	baz=316						
SEM				ePP	PP	20 22 36.9	-6.3
	baz=316						
SEM	Semipalatinsk	115.39	316	i PKIKP	PKPdf	20 21 32.9	-6.3
KPKS	Kokpek	115.60	309	ePKiKP	PKPdf	20 21 38.6	-1.1
	baz=308						
KPKS				ePP	PP	20 22 42.0	-2.8
	baz=308						
KPKS	Kokpek	115.60	309	i PKIKP	PKPdf	20 21 38.6	-1.1
KPKS				e		20 22 42.0	
SATY	Saty	115.74	308	ePKiKP	PKPdf	20 21 36.4	-3.7
	baz=308						
SATY				ePP	PP	20 22 42.9	-2.9
	baz=308						
SATY	Saty	115.74	308	i PKIKP	PKPdf	20 21 36.3	-3.7
SATY				e		20 22 42.9	
TDK	Taldyqorghan	116.00	310	ePKiKP	PKPdf	20 21 38.9	-1.4
	baz=310						
TDK				ePP	PP	20 22 44.0	-3.5
	baz=310						
TDK	Taldyqorghan	116.00	310	i PKIKP	PKPdf	20 21 38.9	-1.4
TDK				e		20 22 44.0	
L63A	North Scituate	116.24	53	Pdiff	Pdif	20 17 54.2	-1.4
	baz=262						
J62A	Henniker	116.28	52	Pdiff	Pdif	20 17 55.4	-0.3
	baz=262						
KURBB	Kurchatov Arra	116.50	316	PKKPbc	PKKPbc	20 32 09.9	-0.9
	comp=Z,1.2nm,0.8s,baz=264,slow=4.2,SNR=9.7						
KDJ	Kajisay	116.51	307	PKIKP	PKPdf	20 21 41.1	-0.6
KDJ	Kajisay	116.51	307	PKPdf	PKPdf	20 21 41.0	-0.6
KDJ				PP	PP	20 22 49.8	-1.5
F60A	Warwick	116.52	49	PKiKP	PKiKP	20 21 42.2	+1.0
	baz=264						
I62A	Tamworth	116.70	51	PKiKP	PKiKP	20 21 42.5	+0.8
	baz=263						
G61A	St-Isidore-de-	116.73	50	PKiKP	PKiKP	20 21 42.9	+1.2
	baz=264						
MDOK	Medeo	116.74	308	ePKiKP	PKPdf	20 21 40.4	-1.6
	baz=308						
MDOK				ePP	PP	20 22 50.7	-2.1
	baz=308						
MDOK	Medeo	116.74	308	i PKIKP	PKPdf	20 21 40.3	-1.7
MDOK				e		20 22 50.7	
J63A	Strafford	116.82	52	PKiKP	PKiKP	20 21 42.9	+1.0
	baz=263						
E60A	Ste Agathe de	116.91	48	PKiKP	PKiKP	20 21 42.3	+0.3
	baz=264						
H62A	Milan	116.92	50	PKiKP	PKiKP	20 21 42.7	+0.6
	baz=264						
KSH	Kashi	117.05	304	PKP	PKPdf	20 21 42.4	-0.3
KSH				sPKP		20 22 24.5	
KSH				PP	PP	20 23 03.9	+8.8
KSH				SKKS		20 29 41.8	
KSH				LR	LR		
	comp=Z,170nm,5.2s						
KSH				LR	LR		
	comp=Z,220nm,5.9s						
KSH				LR	LR		
	comp=Z,130nm,4.6s						
F61A	St Evariste	117.18	49	PKiKP	PKiKP	20 21 43.5	+0.9
	baz=264						
ULHL	Ulahol	117.22	307	P	PKiKP	20 21 43.1	+0.1
	SNR=19						
M66A	Nantucket	117.25	54	PKiKP	PKiKP	20 21 43.4	+0.6
	baz=262						
I63A	Otisfield	117.27	51	PKiKP	PKiKP	20 21 43.5	+0.8
	baz=264						
D60A	Saint Jean D'O	117.32	48	PKiKP	PKiKP	20 21 43.8	+1.0
	baz=265						
KUU	Kurty	117.34	309	ePKiKP	PKPdf	20 21 41.1	-1.9
	baz=309						
KUU				ePP	PP	20 22 54.8	-2.1
	baz=309						
KUU	Kurty	117.34	309	i PKIKP	PKPdf	20 21 41.1	-1.9
KUU				e		20 22 54.7	
G62A	West of Eustis	117.43	50	PKiKP	PKPdf	20 21 42.8	-0.3
	baz=264						
E61A	Lac Etchemin	117.57	48	PKiKP	PKPdf	20 21 43.3	0.0
	baz=265						
TKM2	Tokmak 2	117.77	308	P	PKPdf	20 21 43.5	-0.5
	SNR=18						
D61A	St Aubert, Com	117.84	48	PKiKP	PKiKP	20 21 44.6	+0.9
	baz=266						
F62A	Pittston Farm,	117.89	49	PKiKP	PKiKP	20 21 44.3	+0.4
	baz=265						
I64A	Boothbay	117.93	51	PKiKP	PKiKP	20 21 44.9	+0.9
	baz=264						
G63A	Kingsbury	118.06	50	PKiKP	PKiKP	20 21 44.7	+0.4
	baz=265						
KBK	Karagaybulak	118.22	307	P	PKiKP	20 21 45.2	+0.2
	SNR=7.2						
E62A	Clayton Lake	118.25	48	PKiKP	PKiKP	20 21 45.0	+0.4
	baz=266						
NIL	Nilore	118.27	297	PKIKP	PKPdf	20 21 44.7	-0.4
NIL	Nilore	118.27	297	PKPdf	PKPdf	20 21 44.7	-0.4
NIL				PP	PP	20 22 57.6	-6.0
H64A	Troy	118.30	51	PKiKP	PKiKP	20 21 45.4	+0.6
	baz=265						
PKME	Peaks-Kenny Pk	118.30	50	PKiKP	PKiKP	20 21 45.2	+0.5
	baz=265						
CHMS	Chumysh	118.40	308	P	PKPdf	20 21 44.6	-0.4
	SNR=17						
F63A	Nahmakanta, Br	118.47	49	PKiKP	PKiKP	20 21 45.4	+0.4
	baz=266						
SGDS	Sogindy	118.53	308	ePKP	PKPdf	20 21 44.2	-1.1
	baz=308						
SGDS				ePP	PP	20 23 02.2	-2.9
	baz=308						
SGDS	Sogindy	118.53	308	ePKIKP	PKPdf	20 21 44.2	-1.1
SGDS				e		20 23 02.2	
AAK	Ala-Archa	118.55	307	PKPdf	PKPdf	20 21 45.3	-0.2
AAK	Ala-Archa	118.55	307	PKIKP	PKPdf	20 21 45.5	0.0
AAK	Ala-Archa	118.55	307	PKPdf	PKPdf	20 21 45.5	0.0
USP	Ospenovka	118.61	308	P	PKPdf	20 21 45.0	-0.5
	SNR=18						
D62A	Allapoint, All	118.61	48	PKiKP	PKPdf	20 21 44.9	-0.3
	baz=266						
G64A	Maxfield	118.68	50	PKiKP	PKPdf	20 21 45.0	-0.4
	baz=266						
E63A	Oxbow	119.00	49	PKiKP	PKiKP	20 21 46.4	+0.4
	baz=266						
F64A	Sherman	119.01	49	PKiKP	PKiKP	20 21 46.2	+0.1
	baz=266						
EKS2	Erkin-Say	119.08	307	P	PKiKP	20 21 46.8	+0.3
	SNR=15						
BTLS	Baital	119.08	310⇓	iPKP	PKPdf	20 21 44.7	-1.6
	baz=310						
BTLS				i PP	PP	20 23 06.1	-2.7
	baz=310						
BTLS	Baital	119.08	310	d iPKIKP	PKPdf	20 21 44.6	-1.6
BTLS				i		20 23 06.1	
AML	Almayashu	119.09	307	P	PKPdf	20 21 46.9	0.0
	SNR=13						
AML	Almayashu	119.09	307	i PKPdf	PKPdf	20 21 46.8	0.0
	SNR=13						
AML	Almayashu	119.09	307	P	PKPdf	20 21 45.4	-1.5
D63A	Stockholm	119.25	48	PKiKP	PKPdf	20 21 46.3	-0.2
	baz=267						
E64A	Bridgewater	119.41	49	PKiKP	PKiKP	20 21 47.0	+0.1
	baz=267						
G65A	Princeton	119.52	50	PKiKP	PKPdf	20 21 46.6	-0.4
	baz=266						
H66A	Whiting	119.67	50	PKiKP	PKiKP	20 21 47.6	+0.2
	baz=266						
KULLO	Kullorsuaq	119.85	16⇓	iP	PKPdf	20 21 46.1	-0.7
KULLO				IAmb	IAmb	20 21 47.6	
	comp=Z,16nm,0.6s						
KULLO	Kullorsuaq	119.85	16⇓	iPKIKP	PKPdf	20 21 46.1	-0.7
KULLO				pmax	pmax		
	comp=Z,16nm,0.6s						
NEEM	North Greenlan	119.89	12	i P	PKPdf	20 21 47.0	-0.3
NEEM				IAmb	IAmb	20 21 49.4	
	comp=Z,15nm,0.5s						
NEEM				i		20 23 09.0	
SCHQ	Schefferville	120.12	39	PKP	PKPdf	20 21 47.5	-0.4
	comp=Z,2.5nm,0.4s,baz=346,slow=2.8,SNR=8.3						
SCHQ				PKKPbc	PKKPbc	20 31 58.1	+0.2
	comp=Z,4.8nm,0.7s,baz=63,slow=3.2,SNR=5.1						
NOR	Nord	120.84	3	i P	PKPdf	20 21 48.4	-0.3
NOR	Nord	120.84	3	i PKIKP	PKPdf	20 21 48.3	-0.3
GAR	Garm	121.34	303	PKPdf	PKPdf	20 21 50.6	-0.3
LMN	Caledonia Moun	121.48	49	PKPdf	PKPdf	20 21 50.3	-0.5
KKAR	Karatay Array	121.50	307	PKIKP	PKPdf	20 21 50.3	-0.7
KKAR	Karatay Array	121.50	307	PKPdf	PKPdf	20 21 50.3	-0.7
BRVK	Borovoye	121.64	319	PKIKP	PKPdf	20 21 50.1	-0.8
BRVK	Borovoye	121.64	319	PKPdf	PKPdf	20 21 50.1	-0.8
BRVK	Borovoye	121.64	319	P	PKPdf	20 21 50.4	-0.5
KBL	Kabul	121.86	297	PKIKP	PKPdf	20 21 52.2	0.0
KBL	Kabul	121.86	297	PKPdf	PKPdf	20 21 52.2	0.0
SUR	Sutherland	122.29	198	PKPdf	PKPdf	20 21 52.6	-0.6
MDP	Montagnes des	123.57	100	PKP	PKiKP	20 21 56.1	0.0
	comp=Z,6.4nm,0.8s,baz=247,slow=3.8,SNR=6.5						
GBN	Guysborough	123.79	50	PKPdf	PKPdf	20 21 53.9	-1.3
ILULI	Ilulissat	123.83	20⇓	iP	PKPdf	20 21 54.2	-0.4
ILULI				IAmb	IAmb	20 21 55.1	
	comp=Z,32nm,1.0s						
ILULI	Ilulissat	123.83	20⇓	iPKIKP	PKPdf	20 21 54.1	-0.4
ILULI				pmax	pmax		
	comp=Z,32nm,1.0s						
KBS	Kingsbay	123.91	358	ePKPdf	PKiKP	20 21 55.5	+0.7
BOSA	Boshof	124.31	204	PKP	PKiKP	20 21 58.4	+1.0
	comp=Z,27nm,1.1s,baz=130,slow=1.2,SNR=13						
BOSA				PKKPbc	PKKPbc	20 31 40.7	-1.0
	comp=Z,6.6nm,1.1s,baz=332,slow=5.1,SNR=7.7						
BOSA	Boshof	124.31	204	PKPdf	PKPdf	20 21 55.4	-1.7
SPA0	Spitsbergen Ar	124.45	357	ePKPdf	PKiKP	20 21 56.2	+0.2
DAG	Danmarks Havn	125.18	6⇓	iP	PKPdf	20 21 55.9	-1.2
DAG	Danmarks Havn	125.18	6⇓	iPKIKP	PKPdf	20 21 55.8	-1.2
SUMG	Summit	125.41	14	i P	PKiKP	20 21 58.4	-0.1
SUMG				IAmb	IAmb	20 21 59.7	
	comp=Z,64nm,1.2s						
SUMG	Summit	125.41	14	i PKIKP	PKiKP	20 21 58.4	-0.1
SUMG				pmax	pmax		
	comp=Z,65nm,1.2s						
SUMG	Summit	125.41	14	PKPdf	PKPdf	20 21 57.7	-0.4
NUUK	Nuuk	125.68	26	i P	PKiKP	20 21 58.5	-0.1
NUUK				IAmb	IAmb	20 21 59.6	
	comp=Z,44nm,1.1s						
SVE	Sverdlovsk	126.58	325	ePKIKP	PKPdf	20 22 00.1	-0.1
SVE				pmax	pmax		
	comp=Z,79nm,1.5s						
DY2G	Dye2	126.74	22⇓	iP	PKPdf	20 22 00.1	-0.4
DBG	Daneborg	127.24	8⇓	iP	PKPdf	20 22 00.7	-0.3
ICESG	Greenland Ices	127.36	18	i P	PKPdf	20 22 01.1	-0.7
ROSB	Rosrio	127.38	113	eP	PKiKP	20 22 05.6	+2.0
LBTB	Lobatse	127.41	206	PKIKP	PKPdf	20 22 00.9	-2.2
LBTB	Lobatse	127.41	206		PKPdf	20 22 00.9	-2.2
ARU	Arti	127.79	325	d iPKIKP	PKPdf	20 22 02.2	-0.3
ARU				pmax	pmax		
	comp=Z,99nm,1.2s						
ARU	Arti	127.79	325	PKPdf	PKPdf	20 22 01.7	-0.8
ABKAR	Akbulak array	128.52	315	PKPdf	PKPdf	20 22 03.6	-0.6
MHTO	MHTO	129.20	279	P	PKPdf	20 22 05.9	-0.4
JMDO	Jabal Madar	129.38	281	P	PKiKP	20 22 07.5	+0.1
SMDO	Samad	129.57	281	P	PKPdf	20 22 06.6	-0.5
ISOG	Isortoq, Green	129.74	21	i P	PKPdf	20 22 06.3	+0.3
BSY	Bisya	130.27	281	P	PKPdf	20 22 08.6	+0.2
HOQ	Hoqain	130.33	282	P	PKPdf	20 22 08.8	+0.3
GEYT	Alibeck	130.87	301	PKP	PKiKP	20 22 09.7	-0.3
	comp=Z,54nm,0.7s,baz=242,slow=3.2,SNR=22						
GEYT				PP	PP	20 24 25.6	-2.0
	comp=Z,3.3nm,0.8s,baz=32,slow=8.9,SNR=3.7						
GEYT				SKPbc	SKPab	20 25 18.6	+0.2
	comp=Z,26nm,0.9s,baz=204,slow=3.3,SNR=20						
GYA0B	ALIBECK ARRAY	130.87	301	PKPdf	PKPdf	20 22 09.1	0.0
ARQ	Araqi	131.00	281	P	PKPdf	20 22 08.7	-1.0
SOHO	SOHO	131.13	283	i PKPdf	PKPdf	20 22 10.0	+0.1
	SN

SNR=8.4
FAQ Al Faqa, Dubai 132.08 283 P **PKiKP 20 22 12.7 -0.1**
ASUD Al Ashush, Dub 132.30 283 PKPdf **PKiKP 20 22 13.2 0.0**
TRO Tromso 132.43 352 *e*PKPdf **PKiKP 20 22 11.9 -0.2**
KLMR Klimovskoe 134.56 336 *e*PKIKP **PKPdf 20 22 14.4 -0.8**
KLMR *e*PPP PPP 20 27 45.8
KLMR pmax pmax
comp=Z,48nm,1.2s
KLMR Klimovskoe 134.56 336 *e*PKPdf **PKPdf 20 22 14.5 -0.8**
KLMR AMP 20 22 17.8
comp=Z,48nm,1.2s
KLMR *e*SKPbc **SKPbc 20 25 31.6 +1.7**
KLMR *e*PPP PPP 20 27 45.8
TSUM Tsumeb 135.64 200 PKPdf **PKPdf 20 22 14.4 -4.4**
MAK Makhachkala 138.26 309 *i* P **Pdif 20 19 31.2 -2.3**
MAK *i* 20 22 22.8
MAK *e* 20 25 09.4
MAK *e*PPP PPP 20 28 13.7
MAK *e* 20 29 22.4
MAK *e*SS SS 20 43 07.2 -5.8
MAK pmax pmax
comp=Z,98nm,0.9s
AKT Akhty 138.43 307 *e*PKIKP **PKPdf 20 22 23.6 +0.4**
AKT *e* 20 25 15.6
AKT pmax pmax
comp=Z,61nm,1.1s
FIA1 FINESS Array S 138.46 343 PKPdf **PKPdf 20 22 17.7 -4.7**
FINES FINESS Array B 138.46 343 PKhKP PKPpre 20 22 11.8
comp=Z,1.7nm,0.3s,baz=37,slow=4.8,SNR=33
FINES SKPbc **SKPbc 20 25 42.5 +0.9**
comp=Z,16nm,1.0s,baz=86,slow=5.9,SNR=7.7
MOS Moscow 138.55 331 *i* PKIKP **PKPdf 20 22 21.9 -0.8**
MOS *e* 20 23 06.8
MOS pmax pmax
comp=Z,91nm,1.3s
KMBO Kilima Mbogo 138.86 239 PKhKP PKPpre 20 22 15.7
comp=Z,5.5nm,1.0s,baz=14,slow=1.7,SNR=6.4
KMBO PKP **PKiKP 20 22 26.5 -0.7**
comp=Z,11nm,1.0s,baz=46,slow=4.4,SNR=8.2
KMBO SKPbc **SKiKP 20 25 46.8 -1.2**
comp=Z,15nm,1.1s,baz=43,slow=2.0,SNR=8.5
VRH Novokhopyorsk 138.97 323 *e*PKIKP **PKPdf 20 22 24.5 +0.8**
VRH pmax pmax
comp=Z,40nm,0.8s
OBN Obninsk 139.41 331*c* *i*PKIKP **PKPdf 20 22 24.5 +0.2**
OBN *e*SS SS 20 43 53.2 +28
OBN pmax pmax
comp=Z,85nm,1.5s
GROC Groznyy 139.41 310 *e*PKIKP **PKPdf 20 22 19.6 -5.1**
GROC *e* 20 29 17.1
GROC pmax pmax
comp=Z,69nm,1.4s
LPSR Galich'ya Gora 139.74 326 *e*PKIKP **PKPdf 20 22 24.7 -0.3**
LPSR pmax pmax
comp=Z,40nm,1.2s
RAF Rauma 139.87 346 *e*P PKPdf 20 22 11.3 -14
VORR Voronezh 140.10 325 *e*PKIKP **PKPdf 20 22 24.0 -1.7**
VORR pmax pmax
comp=Z,250nm,1.4s
VSR Storozhevoye 140.36 324 *e*PKIKP **PKPdf 20 22 25.8 -0.4**
VSR pmax pmax
comp=Z,80nm,1.3s
VORD Divnogorie 140.42 324 *e*PKIKP **PKPdf 20 22 26.5 +0.2**
VORD pmax pmax
comp=Z,60nm,1.3s
GOF Gofitskoye 140.72 314⇑*e*PKIKP **PKiKP 20 22 31.4 +1.7**
GOF pmax pmax
comp=Z,33nm,0.9s
VSU Vasula 140.74 340 *e*P PKPdf 20 22 18.5 -8.1
AKN Aaknes 140.80 357 *e*PKPdf **PKPdf 20 22 25.6 -1.1**
DOMB Dombas 140.81 355 *e*PKPdf **PKPdf 20 22 27.4 +0.6**
ZEI Tsey 140.86 310 *i* PKIKP **PKiKP 20 22 33.1 +2.7**
ZEI pmax pmax
comp=Z,26nm,1.1s
GNI Garni 140.93 306 PKPdf **PKPdf 20 22 28.1 +0.2**
GNI Garni 140.93 306 PKIKP **PKPdf 20 22 26.8 -1.0**
GNI Garni 140.93 306 PKPdf **PKPdf 20 22 26.8 -1.0**
RAYN Ar Rayn 141.01 279 *i* PKPdf **PKPdf 20 22 23.0 -5.3**
SNR=8.4
RAYN Ar Rayn 141.01 279 PKHKP PKPpre 20 22 19.9
RAYN 20 22 27.9
RAYN Ar Rayn 141.01 279 PKPpre 20 22 19.9
RAYN PKPdf **PKPdf 20 22 27.9 -0.4**
ONI Oni 141.23 310 PKHKP PKPpre 20 22 23.3
ONI Oni 141.23 310 PKPdf **PKPdf 20 22 23.3 -4.9**
KBZ Khabaz 141.27 312 PKhKP PKPpre 20 22 22.8
comp=Z,1.4nm,0.5s,baz=56,slow=7.1,SNR=5.4
KBZ SKPbc **SKiKP 20 25 51.3 -0.3**
comp=Z,6.1nm,1.0s,baz=78,slow=4.9,SNR=5.5
KBZ Khabaz 141.27 312*d* *i*PKIKP **PKPdf 20 22 28.3 +0.2**
KBZ pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 141.34 312 ⇓P **PKPdf 20 22 28.3 -0.1**
KIV Kislovodsk 141.34 312 *i* PKPdf **PKPdf 20 22 29.5 +1.2**
SNR=6.3
KIV Kislovodsk 141.34 312 *e*PKHKP PKPpre 20 22 22.7
KIV *i* 20 22 27.6
KIV *e* 20 25 28.9
KIV *e*SS SS 20 43 48.5 -0.5
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 141.34 312 PKPdf **PKPdf 20 22 21.6 -6.8**
MTSE Matsula 141.38 343 *e*P PKPdf 20 22 17.8 -10
SHA1 Shidzhatmaz 141.43 312*d* *i*PKIKP **PKPdf 20 22 29.2 +0.5**
NB2 NORSAR Subarra141.61 354 PKP **PKPdf 20 22 22.7 -5.5**
comp=Z,93nm,2.0s,baz=17,slow=2.6
NB2 NORSAR Subarra141.61 354 PKPab **PKPdf 20 22 22.7 -5.5**
baz=17,slow=2.6
NOA NORSAR Array B141.61 354 PKhKP PKPpre 20 22 22.7
comp=Z,1.4nm,0.4s,baz=62,slow=1.9,SNR=35
NOA pPKP pPKPdf 20 23 12.2 +1.5
comp=Z,4.7nm,0.8s,baz=16,slow=5.0,SNR=3.0
NOA SKPbc **SKiKP 20 25 51.2 -0.7**
comp=Z,5.7nm,1.1s,baz=12,slow=4.1,SNR=5.7
NA001 NORSAR Array S 141.83 354 PKPdf **PKPdf 20 22 23.3 -5.3**
SUR Sulen 142.00 359 *e*PKPdf **PKPdf 20 22 28.4 -0.5**
KARS Kars 142.05 307 PKHKP PKPpre 20 22 25.3
KARS Kars 142.05 307 PKPpre 20 22 25.3
SKAR Skarslia 142.21 356 *e*PKPdf **PKPdf 20 22 29.6 +0.3**
ASK Askoy 142.56 358 *e*PKPdf **PKPdf 20 22 27.5 -2.3**
BER Bergen 142.66 358 *e*PKPdf **PKPdf 20 22 29.3 -0.7**
OSL Oslo 142.74 354 *e*PKPdf **PKPdf 20 22 30.7 +0.5**
LODK Lodwar 143.06 243 PKPdf PKPab 20 22 28.4 +0.4
KONO Kongsberg 143.13 354 PKIKP PKPab 20 22 27.5 +0.7
KONO Kongsberg 143.13 354 *e*PKPdf PKPab 20 22 27.6 +0.8
KONO Kongsberg 143.13 354 PKPpre 20 22 27.5
ISAL Salakas 143.26 338 *e*P PKPbc 20 22 29.9 +1.2
IIGN Ignalina 143.40 338 *e*P **PKPdf 20 22 30.6 -0.9**
MNK Minsk 143.46 336 *i* PKIKP PKPbc 20 22 29.6 +0.2
MNK *i* 20 23 14.6
MNK *i* 20 25 42.7
MNK *i* PPP PPP 20 28 52.8
MNK *i* 20 29 27.9
MNK *i* SS SS 20 44 14.5 +2.6
MNK *i* SSS SSS 20 49 37.7
MNK pmax pmax
comp=Z,100nm,1.1s
MNK pmax pmax
comp=N,62nm,1.4s
MNK pmax pmax
comp=E,16nm,1.5s
MNK MLR MLR
comp=Z,115nm,21.0s
MNK MLR MLR
comp=E,6.0nm,18.0s
MNK MLR MLR
comp=N,84nm,21.0s
MNK Minsk 143.46 336 *i* PKP PKPbc 20 22 29.6 +0.3
comp=E,16nm,1.6s
MNK *i* PKP PKPbc 20 22 29.6 +0.3
comp=N,62nm,1.4s
MNK *i* PKP PKPbc 20 22 29.6 +0.3
comp=Z,100nm,1.1s,baz=40
MNK *i* pPKP pPKPdf 20 23 02.0 -12
MNK *i* sPKP 20 23 14.7
MNK *i* PP **PP 20 25 42.8 -1.9**
MNK *i* PPP PPP 20 28 52.9
MNK *i* SKS **SKSdf 20 29 27.9 +2.3**
MNK *i* SKKS **SKKSdf 20 38 43.0 +0.5**
MNK *i* PPS PPS 20 42 04.2
MNK *i* SS **SS 20 44 14.5 +2.6**
MNK *i* SSS SSS 20 49 37.7
MNK *i* LRM MLR 21 25 51.9
comp=Z,115nm,21.0s
MNK *i* LRM MLR 21 26 15.3
comp=E,6.0nm,18.1s
MNK *i* LRM MLR 21 26 26.7
comp=N,84nm,21.0s
SOC Sochi 143.48 313*c* *i*PKIKP PKPbc 20 22 29.3 -0.5
SOC *e*PPP PPP 20 28 54.4
SOC *e*SS SS 20 44 09.2 -4.3
SOC *e*SSS SSS 20 49 38.2
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC pmax pmax
comp=Z,26nm,1.0s
STRU Stroemstad 143.57 353 *i* P PKPab 20 22 28.9 +0.4
BLS5 Blasjo 143.58 357 *e*PKPdf **PKPdf 20 22 31.9 +0.2**
PABE Paberze 144.03 340 *e*P **PKPdf 20 22 32.0 -0.6**
PABE Paberze 144.03 340 PKPdf **PKPab 20 22 30.7 +0.3**
MBAR Mbarara 144.16 233 P PKPbc 20 22 33.1 +0.2
PBUR Paburge 144.21 342 *e*P PKPbc 20 22 31.9 +0.4
LEWI Lewis, Hebride 144.24 9 *e*P **PKPab 20 22 30.9 -0.2**
BIGH Upper Bighouse 144.25 6 *e*P PKPbc 20 22 31.5 0.0
KTUT Trabzon 144.35 309 ⇓P PKPbc 20 22 32.4 -0.1
LINV Loch Inver, As 144.45 7 *e*P **PKPab 20 22 31.9 -0.1**
ANN Anapa 144.48 316*d* *i*PKIKP **PKPab 20 22 31.8 -0.7**
ANN *e* 20 29 29.5
ANN pmax pmax
comp=Z,330nm,1.5s
ANN pmax pmax
comp=Z,166nm,1.4s
MLA1 Latheron 144.49 6 *e*P **PKPab 20 22 31.8 -0.3**
TJOU Tjoern 144.50 352 *i* P **PKPab 20 22 31.7 -0.4**
HOMB Homborsund 144.59 355 *i* P **PKPab 20 22 32.0 -0.4**
HOMB *i* P PKPbc 20 22 32.4 -0.2
HOMB Homborsund 144.59 355 *e*PKPbc **PKPdf 20 22 33.1 -0.3**
SNART Snartemo 144.62 356 *i* P **PKPab 20 22 32.0 -0.6**
SNART *i* P PKPbc 20 22 32.9 +0.2
SNART Snartemo 144.62 356 *e*PKPbc PKPbc 20 22 32.8 +0.1
KAC Achnashellach 145.07 8 *e*P **PKPbc 20 22 34.0 -0.2**
ONAU Onsala 145.08 352 ⇓*i*P **PKPbc 20 22 33.7 -0.4**
KPL Plockton 145.18 8 *e*P **PKPbc 20 22 33.7 -0.8**
MDO Dochfour 145.24 7 *e*P **PKPdf 20 22 34.4 -0.3**
FABU Falkenberg 145.35 351 *i* P **PKPdf 20 22 34.7 -0.1**
FABU *i* 20 23 20.6
BLEU Blekinge 145.46 347 *i* P **PKPdf 20 22 34.7 -0.4**
SUW Suwalki 145.53 339 *e*PKP **PKPbc 20 22 35.8 +0.1**
SUW Suwalki 145.53 339 *e*P **PKPab 20 22 36.6 +0.5**
AKASG Malin Array Be 145.66 330 PKPbc **PKPdf 20 22 35.6 0.0**
comp=Z,40nm,0.4s,baz=42,slow=3.7,SNR=326
AKASG pPKPbc pPKPab 20 23 19.2 +1.2
comp=Z,33nm,0.8s,baz=38,slow=4.0,SNR=1.2
AKASG SKPbc **SKPbc 20 26 00.2 +0.3**
comp=Z,6.8nm,0.9s,baz=40,slow=2.4,SNR=5.2
AKASG SKKPbc **SKKPab 20 33 55.9 +0.4**
comp=Z,0.2nm,0.2s,baz=232,slow=4.2,SNR=4.2
AKASG Malin Array Be 145.66 330 PKPdf **PKPdf 20 22 34.9 -0.7**
AKASG **PP 20 25 56.5 -1.3**
DEL Delary 145.67 349 *i* P **PKPdf 20 22 35.0 -0.4**
DEL *i* P **PKPbc 20 22 35.9 -0.1**
DEL *i* 20 23 21.5
GOET G??ttrup 145.75 354 ⇓*i*P **PKPab 20 22 37.0 +0.2**
GOET IAmb IAmb 20 22 38.2
comp=Z,566nm,1.1s
BJUU Bjuv 146.19 350 *i* P **PKPdf 20 22 36.8 +0.5**
EDU Dundee 146.26 6 *e*P **PKPbc 20 22 37.7 -0.1**
LAWE Loch Awe, Argy 146.27 8 *e*P **PKPbc 20 22 37.5 -0.3**
INVG Invergeldie, C 146.27 7 *e*P **PKPbc 20 22 37.6 -0.2**
EAB Aberfoyle 146.47 7 *e*P **PKPbc 20 22 37.9 -0.5**
SIM Simferopol' 146.49 318*d* *i*PKIKP **PKPdf 20 22 36.2 -1.0**
SIM pmax pmax
comp=Z,638nm,0.6s
LUNU Lund 146.54 349 *i* P **PKPbc 20 22 38.0 -0.6**
LUNU *i* P **PKPdf 20 22 38.3 +1.4**
COP Copenhagen 146.66 350 ⇓*i*P **PKPbc 20 22 39.3 +0.4**
COP IAmb IAmb 20 22 40.5
comp=Z,116nm,0.7s
COP *i* 20 23 22.0
COP Copenhagen 146.66 350 ⇓*i*PKP2 **PKPbc 20 22 39.3 +0.4**
COP pmax pmax
comp=Z,120nm,0.7s
BSD Bornholm Skovb 146.76 347 *e*P **PKPbc 20 22 40.0 +0.8**
BSD Bornholm Skovb 146.76 347 ⇓*i*P **PKPbc 20 22 39.2 0.0**
BSD IAmb IAmb 20 22 40.5
comp=Z,259nm,1.0s
BSD Bornholm Skovb 146.76 347 ⇓*i*PKP2 **PKPbc 20 22 39.2 0.0**
BSD pmax pmax
comp=Z,260nm,1.0s
H07N1 FLORES T-PHASB 146.77 52 *e*PKP **PKPbc 20 22 39.9 0.0**
H07S1 FLORES T-PHASB 146.81 53 *e*PKP **PKPbc 20 22 39.9 -0.1**
PGBU Glenifferbraes 146.82 8 *e*P **PKPbc 20 22 39.3 -0.2**
ESY Stoneypath 146.92 6 *e*P **PKPbc 20 22 39.3 -0.4**
DIKM Dikmen 147.26 312 ⇑P **PKPbc 20 22 42.2 +1.0**
GAZ Gaziantep 147.38 303 PKPdf **PKPdf 20 22 38.7 -0.3**
GAZ PKPbc **PKPbc 20 22 42.1 +0.4**
ESK Eskdalemuir 147.46 7 *e*P **PKPbc 20 22 41.1 -0.1**
ESK Eskdalemuir 147.46 7 PKP2 **PKPbc 20 22 40.9 -0.3**
ESK Eskdalemuir 147.46 7 **PKPbc 20 22 40.9 -0.3**
RGN Rugen 147.60 349 **PKPdf 20 22 39.6 +1.0**
RGN Rugen 147.60 349 *e*PKPbc **PKPbc 20 22 42.0 +0.4**
baz=17,slow=2.3
SORM Soroca 147.82 327 ⇓P **PKPbc 20 22 42.4 0.0**
SORM Soroca 147.82 327 ⇓PKP2 **PKPbc 20 22 42.4 0.0**
GKP Gorka Klasztor 147.93 344 *e*PKP **PKPbc 20 22 43.1 +0.6**
GKP Gorka Klasztor 147.93 344 *e*P **PKiKP 20 22 44.1 -0.2**
BZK Bozkurt 147.98 313 ⇑P **PKiKP 20 22 44.1 -0.6**
SKMB Sankelmark Bun 148.01 353 *e*PKPbc **PKiKP 20 22 44.0 -0.4**
baz=17,slow=2.3
EDMD Edmundbyers 148.05 5 *e*P **PKPbc 20 22 42.9 +0.1**
PURM Purcari 148.06 324 ⇓P **PKPbc 20 22 43.5 +0.4**
BEL Belsk 148.14 339 *e*PKP **PKPbc 20 22 43.9 +0.8**
KESW Keswick, Cumbr 148.18 7 *e*P **PKPbc 20 22 42.8 -0.4**
IOMK Kirk Michael 148.33 8 *e*P **PKPbc 20 22 43.6 +0.1**
KIS Kishinev 148.33 325 ⇓*i*PKP **PKPbc 20 22 43.5 -0.3**
comp=Z,300nm,3.1s
KIS Kishinev 148.33 325 ⇓P **PKPbc 20 22 43.7 -0.1**
KIS Kishinev 148.33 325*d* *i*PKP2 **PKPbc 20 22 43.5 -0.3**
LNIZ Loecknitz 148.43 347 *e*PKPbc **PKiKP 20 22 44.8 -0.4**
baz=17,slow=2.3
GDLE Glaisdale, N Y 148.55 4 *e*P **PKPbc 20 22 43.3 -0.8**
LVV L'vov 148.57 333 *e*PKP2 **PKPbc 20 22 44.5 +0.2**
LVV MLR MLR
comp=E,200nm,22.0s
LVV MLR MLR
comp=Z,300nm,22.0s
BSEG Bad Segeberg 148.66 352 *e*PKPdf **PKPdf 20 22 41.3 +0.8**
baz=17,slow=2.3
BSEG *e*PKPbc **PKiKP 20 22 45.4 -0.3**
baz=17,slow=2.3
HLG Helgoland 148.69 354 *e*PKPbc **PKiKP 20 22 45.7 -0.1**
baz=17,slow=2.3
IAS Iasi 148.85 327 ⇓P **PKPbc 20 22 45.3 +0.2**
IAS Iasi 148.85 327 ⇓PKP2 **PKPbc 20 22 45.3 +0.2**
PCED Cedros 148.90 53 *e*PKP **PKPbc 20 22 43.6 -1.9**
CALA Caldeira 148.91 53 *e*PKP **PKiKP 20 22 47.2 +0.3**
HPK Haverah Park 148.95 5 *e*P **PKPbc 20 22 45.5 +0.4**
HWQ Hawqa 149.09 299 *e*P **PKPbc 20 22 46.4 +0.1**
VASR Vaslui 149.10 326 ⇑P **PKPbc 20 22 46.2 +0.5**
PCAN Candelaria 149.11 53 *e*PKP **PKPbc 20 22 45.2 -0.9**
PICO Pico 149.14 53 *e*PKP **PKPdf 20 22 43.4 +1.5**
BRTR Keskin Array B 149.17 310 PKPbc **PKPbc 20 22 46.4 0.0**
comp=Z,23nm,0.5s,baz=155,slow=2.9,SNR=48
BRTR pPKPbc **pPKPab 20 23 30.8 -1.5**
comp=Z,18nm,0.9s,baz=108,slow=4.0,SNR=2.1
WPS Cemaes, Angles 149.18 9 *e*P **PKPbc 20 22 45.2 -0.4**
ROSA Rosais 149.20 52 *e*PKP **PKPdf 20 22 43.2 +1.3**
ROSA Rosais 149.20 52 PKPdf **PKPdf 20 22 42.6 +0.7**
SRBC Serra Branca 149.23 52 *e*PKP **PKPbc 20 22 46.9 +0.6**
KWP Kalwaria Pacla 149.25 335 *e*PKP **PKiKP 20 22 46.7 -0.5**
PGRA Graciosa 149.28 52 *e*PKP **PKPdf 20 22 43.3 +1.3**
RCY Rachaya 149.34 297 *e*P **PKiKP 20 22 47.6 -0.5**
PMAN Manadas 149.34 52 *e*PKP **PKPbc 20 22 45.4 -1.2**
PRAR RASCA 149.40 328 ⇑P **PKPbc 20 22 46.9 +0.4**
BHL Bhannes 149.40 298 *e*P **PKPbc 20 22 47.5 +0.5**
BIR Birlad 149.43 325 ⇑P **PKiKP 20 22 47.4 -0.2**
BIR Birlad 149.43 325 ⇑PKP2 **PKiKP 20 22 47.4 -0.2**
RUE Ruedersdorf 149.47 347 *e*PKPdf **PKPdf 20 22 42.6 +0.9**
baz=17,slow=2.3
RUE *e*PKPbc **PKiKP 20 22 47.4 -0.1**
baz=17,slow=2.3
TLCR 149.47 323 ⇓P **PKPbc 20 22 47.0 +0.3**
TLCR 149.47 323 ⇓PKP2 **PKPbc 20 22 47.0 +0.3**
LMK Market Rasen 149.54 4 *e*P **PKPbc 20 22 47.1 +0.5**
VARL Varlezi 149.55 325 ⇑P **PKiKP 20 22 47.6 -0.2**
GHRR 149.68 325 ⇓P **PKiKP 20 22 48.0 -0.1**
JURR Jurilovca 149.69 322 ⇓P **PKPbc 20 22 47.6 +0.3**
BURAR Bucovina Array 149.70 329 ⇓P **PKiKP 20 22 48.3 0.0**
ANTO Ankara 149.71 311 PKHKP PKPpre 20 22 42.5
ANTO Ankara 149.71 311 PKPdf **PKPdf 20 22 42.5 -0.2**
ANTO PKPbc **PKPbc 20 22 48.0 +0.4**
SCHL Schela 149.82 324 ⇑P **PKiKP 20 22 48.3 -0.1**
OJC Ojcow 149.85 338 *e*PKP **PKiKP 20 22 48.0 -0.3**
CFR Carcaliu 149.85 323 ⇓P **PKPbc 20 22 47.9 +0.3**
CFR Carcaliu 149.85 323 ⇓PKP2 **PKPbc 20 22 47.9 +0.3**
TPGR Topolog 149.90 322 ⇓P **PKiKP 20 22 48.4 -0.3**
KOLS Kolonicke sedl 149.98 334 *e*PKHKP PKPpre 20 22 43.5
KOLS Kolonicke sedl 149.98 334 *e*PKP **PKPdf 20 22 43.5 +0.7**
KOLS *e* 20 22 49.2
STHS Stebnicka Huta 149.99 336 *e*PKP2 **PKiKP 20 22 48.7 0.0**
STHS Stebnicka Huta 149.99 336 *e*PKP **PKiKP 20 22 48.7 0.0**
PETR Petresti 150.00 325 ⇑P **PKiKP 20 22 49.4 +0.7**
PSCM Serra do Cume 150.02 52 *e*PKP **PKPbc 20 22 48.3 0.0**
ODBI Odobesti 150.06 325 ⇓P **PKiKP 20 22 49.2 +0.3**
FLTG Flechtingen 150.09 350 *e*PKPdf **PKPdf 20 22 43.0 +0.3**
baz=17,slow=2.3
FLTG *e*PKPbc **PKiKP 20 22 48.6 -0.1**
baz=17,slow=2.3
NRDL Niedersach Rie 150.10 351 *e*PKPdf **PKPdf 20 22 43.3 +0.6**
baz=17,slow=2.3
NRDL *e*PKPbc **PKiKP 20 22 48.9 +0.2**
baz=17,slow=2.3
TIRR Tirgusor 150.14 322 ⇓P **PKPbc 20 22 48.7 +0.4**
TIRR Tirgusor 150.14 322 PKIKP **PKPdf 20 22 42.9 -0.2**
TIRR Tirgusor 150.14 322 PKPdf **PKPdf 20 22 42.9 -0.2**
TIRR PKPbc **PKPbc 20 22 48.1 -0.2**
VRI Vrincioaia 150.17 325 ⇓P **PKPbc 20 22 48.5 +0.1**
VRI Vrincioaia 150.17 325 ⇓PKP2 **PKPbc 20 22 48.5 +0.1**
UZH Uzhgorod 150.21 334 *e*PKIKP **PKPdf 20 22 45.7 +2.6**
UZH *e* 20 22 52.7
PLOR Plostina 150.22 326 ⇓P **PKPbc 20 22 48.6 0.0**
PLOR Plostina 150.22 326 ⇓PKIKP **PKPbc 20 22 48.6 0.0**
EFOR EFORIE 150.24 321 ⇑P **PKiKP 20 22 49.3 0.0**
HLM1 Long Mynd 150.25 7 *e*P **PKPbc 20 22 48.3 -0.1**
HARR Harsova 150.27 323 ⇓P **PKPbc 20 22 49.0 +0.4**
HARR Harsova 150.27 323 ⇓PKIKP **PKPbc 20 22 49.0 +0.4**
TLBR Topalu 150.30 322 ⇑P **PKiKP 20 22 49.3 -0.1**
MFTR Murfatlar 150.31 321 ⇑P **PKiKP 20 22 49.2 -0.3**
WACR West Acre 150.32 3 *e*P **PKPbc 20 22 46.5 -1.9**
CRVS Cervenica-Dubn 150.33 335 *e*PKIKP **PKPdf 20 22 43.8 +0.5**
CRVS Cervenica-Dubn 150.33 335 *e*PKP **PKPdf 20 22 43.8 +0.5**
CRVS *e* 20 22 49.8
NIE Niedzica 150.34 337 *e*PKP **PKiKP 20 22 50.1 +0.6**
GRER 150.36 325 ⇓P **PKiKP 20 22 49.5 0.0**
ASSE Asse, Remlinge 150.37 350 *e*PKPbc **PKiKP 20 22 49.5 +0.2**
baz=17,slow=2.3
KSP Ksiaz 150.38 343 *e*PKP **PKiKP 20 22 49.9 +0.4**
BISRR Bisoca 150.39 325 ⇑P **PKiKP 20 22 49.6 -0.1**
TSMN Mangalia Port- 150.43 321 ⇑P **PKPbc 20 22 49.3 +0.3**
CVDA Cernavoda 150.43 322 ⇑P **PKPbc 20 22 48.7 -0.4**
BMR Baia Mare 150.44 331 ⇓P **PKiKP 20 22 49.7 +0.1**
BMR Baia Mare 150.44 331 ⇓PKIKP **PKiKP 20 22 49.7 +0.1**
ARCR ARCALIA 150.49 330 ⇑P **PKiKP 20 22 50.1 +0.4**
OZUR 150.50 327 ⇑P **PKPbc 20 22 49.5 +0.3**
RSBS Rosebush, Pemb 150.55 10 *e*P **PKPbc 20 22 49.1 +0.1**
IBBN Ibbenburen 150.56 354 *e*PKPdf **PKPdf 20 22 44.3 +0.8**
baz=17,slow=2.3
IBBN *e*PKPbc **PKiKP 20 22 50.1 +0.4**
baz=17,slow=2.3
IBBN *e*PKPab **PKPab 20 22 57.2 +0.9**
baz=17,slow=2.3
AMRR Amara 150.65 323 ⇑P **PKiKP 20 22 50.0 -0.1**
AMRR Amara 150.65 323 ⇑PKIKP **PKiKP 20 22 50.0 -0.1**
OSTC Ostas 150.66 343⇑*e*PKP **PKiKP 20 22 50.7 +0.7**
OSTC *es*PKP 20 23 36.2
PGOR Pogoanele 150.66 324 ⇑P **PKiKP 20 22 50.0 -0.1**
CHVC Chvalec 150.67 343 *e*PKPDF **PKPdf 20 22 45.8 +2.0**
CHVC ⇑*e*PKP **PKiKP 20 22 51.4 +1.3**
CHVC *ep*PKP **pPKPab 20 23 37.0 -0.8**
NEHR Nehoiu 150.69 325 ⇑P **PKiKP 20 22 50.3 0.0**
CLZ Clausthal 150.69 351 *e*PKPdf **PKPdf 20 22 44.4 +0.6**
baz=17,slow=2.3
CLZ *e*PKPbc **PKiKP 20 22 50.5 +0.4**
baz=17,slow=2.3
CLZ *e*PKPab **PKPab 20 22 57.8 +0.8**
baz=17,slow=2.3
ICOR Ion Corvin 150.70 322 ⇑P **PKPbc 20 22 49.9 +0.3**
OKC Ostrava-Krasne 150.72 340 *e*PKIKP **PKiKP 20 22 50.7 +0.5**
OKC Ostrava-Krasne 150.72 340⇑*e*PKP **PKiKP 20 22 50.7 +0.5**
CLL Collm 150.74 347 *e*PKPdf **PKPdf 20 22 44.0 +0.2**
CLL ⇓*i*PKPbc **PKiKP 20 22 50.3 +0.2**
comp=Z,672nm,1.6s
CLL *e* 20 22 55.0
CLL *e*PKPab **PKPab 20 22 57.0 -0.1**
comp=Z,165nm,1.2s
CLL *ep*PKPbc **pPKPab 20 23 36.0 -2.1**
CLL *ep*PKPab **sPKPdf 20 23 42.0 -0.8**
CLL *e*PP **PP 20 26 25.0 -2.0**
CLL *es*PKSdf 20 27 18.0
CLL *e*SKKSac SKKSac 20 33 00.0 -2.1
CLL *e*SKSP 20 36 29.0
CLL *e*PSKS 20 36 44.0
CLL *es*PSKS 20 37 45.0
CLL *e*PPS PPS 20 39 24.0
CLL *e* 20 42 56.0
CLL *e* 20 44 42.0
CLL *e*SS **SS 20 45 36.0 +2.6**
CLL *e*SSS SSS 20 51 12.0
CLL *e*SSSS 20 55 12.0
CLL Collm 150.74 347⇓*e*PKIKP **PKPdf 20 22 44.0 +0.2**
CLL *e* 20 22 57.0
CLL *e* 20 23 36.0
CLL pmax pmax
comp=Z,672nm,1.6s
CLL pmax pmax
comp=Z,165nm,1.2s
CLL Collm 150.74 347 PKPdf **PKPdf 20 22 44.1 +0.3**
CLL PKPbc **PKiKP 20 22 50.0 -0.1**
CLL Collm 150.74 347 *e*PKPdf **PKPdf 20 22 44.1 +0.2**
baz=17,slow=2.3
CLL *e*PKPbc **PKiKP 20 22 50.4 +0.2**
baz=17,slow=2.3
MCH1 Michaelchurch 150.74 8 *e*P **PKPbc 20 22 49.4 -0.1**
UPC Upice 150.76 343 *e*PKIKP **PKiKP 20 22 50.4 +0.2**
UPC Upice 150.76 343⇑*e*PKP **PKiKP 20 22 50.4 +0.2**
ISR Istrita 150.76 325 ⇑P **PKPbc 20 22 50.1 +0.2**
ISR Istrita 150.76 325 ⇑PKIKP **PKPbc 20 22 50.1 +0.2**
DOPR Dopca 150.78 327 ⇓P **PKiKP 20 22 50.7 +0.2**
DPC Dobruska-Polom 150.81 342 *e*PKIKP **PKPdf 20 22 45.1 +1.0**
DPC Dobruska-Polom 150.81 342 *e*PKPDF **PKPdf 20 22 45.1 +1.0**
DPC ⇑*e*PKP **PKiKP 20 22 50.9 +0.5**
DPC *es*PKP 20 23 36.6
MLR Muntele Rosu 150.83 326 ⇓P **PKiKP 20 22 50.5 -0.2**
MLR Muntele Rosu 150.83 326 ⇓PKIKP **PKiKP 20 22 50.5 -0.2**
LANS Liptovska Anna 150.87 337 *e*PKIKP **PKiKP 20 22 51.9 +1.4**
LANS Liptovska Anna 150.87 337 *e*PKP **PKiKP 20 22 51.9 +1.4**
MONM Monmouth 150.92 7 *e*P **PKPbc 20 22 49.9 0.0**
KRLC Kraliky 150.93 342 *e*PKIKP **PKPdf 20 22 45.5 +1.2**
KRLC Kraliky 150.93 342 *e*PKPDF **PKPdf 20 22 45.5 +1.2**
KRLC ⇑*e*PKP **PKiKP 20 22 50.9 +0.3**
KRLC ⇑*e*PKP **PKiKP 20 22 51.0 +0.3**
KRLC *es*PKP 20 23 36.8
BRG Berggiesshubel 150.94 346⇓*i*PKPf **PKPdf 20 22 44.6 +0.4**
BRG Amp 20 22 46.2
comp=Z,53nm,1.5s
BRG ⇑*i*PKP **PKiKP 20 22 50.9 +0.3**
BRG Amp 20 22 52.8
comp=Z,247nm,1.0s
BRG *i* PKPab **PKPab 20 22 56.8 -1.1**
BRG Amp 20 22 58.8
comp=Z,227nm,1.3s
BRG Berggiesshubel 150.94 346 *e*PKPdf **PKPdf 20 22 44.6 +0.4**
baz=17,slow=2.3
BRG *e*PKPbc **PKiKP 20 22 50.9 +0.3**
baz=17,slow=2.3
MORC Moravsky Berou 150.96 340 ⇓P **PKiKP 20 22 51.5 +0.7**
MORC Moravsky Berou 150.96 340 PKIKP **PKPdf 20 22 44.8 +0.4**
MORC Moravsky Berou 150.96 340 PKPdf **PKPdf 20 22 44.8 +0.4**
MORC PKPbc **PKiKP 20 22 50.8 0.0**
MORC Moravsky Berou 150.96 340 *e*PKP **PKPdf 20 22 44.4 +0.1**
MORC *e*PKIKP **PKiKP 20 22 50.9 +0.2**
RASA Rasa 151.01 323 ⇑P **PKPbc 20 22 50.2 -0.2**
FBE Freiberg 151.03 346 *e*PKPdf **PKPdf 20 22 45.0 +0.7**
baz=17,slow=2.3
FBE *e*PKPbc **PKiKP 20 22 51.6 +0.9**
baz=17,slow=2.3
LEHL Lehliu 151.03 323 ⇓P **PKPbc 20 22 50.6 +0.1**
GTTG Gottingen 151.04 351 *e*PKPdf **PKPdf 20 22 44.7 +0.4**

baz=17,slow=2.3
GTTG *e*PKPbc **PKiKP** **20 22 51.2 +0.4**
baz=17,slow=2.3
KECS Kecovo 151.05 336 *e*PKIKP **PKiKP** **20 22 51.6 +0.7**
KECS Kecovo 151.05 336 *e*PKP **PKiKP** **20 22 51.6 +0.7**
NEUB Neuenburg 151.07 348 *e*PKPdf **PKPdf** **20 22 44.8 +0.4**
baz=17,slow=2.3
NEUB *e*PKPbc **PKiKP** **20 22 51.3 +0.5**
baz=17,slow=2.3
MESR Meseseni 151.08 331 ⇑P **PKiKP** **20 22 51.6 +0.6**
PVCC Panska Ves 151.11 345 *e*PKIKP **PKiKP** **20 22 51.4 +0.5**
PVCC Panska Ves 151.11 345⇑*e*PKP **PKiKP** **20 22 51.4 +0.5**
CJR Cluj-Napoca 151.11 330 ⇓P **PKPbc** **20 22 50.8 +0.1**
CJR Cluj-Napoca 151.11 330 ⇓PKIKP **PKPbc** **20 22 50.8 +0.1**
SULR 151.20 324 ⇑P **PKPbc** **20 22 50.8 0.0**
LEF Lefka 151.31 302 ⇑P **PKPbc** **20 22 49.2 -2.2**
VOIR 151.32 326 ⇑P **PKiKP** **20 22 51.5 -0.2**
VOIR 151.32 326 ⇑PKIKP **PKiKP** **20 22 51.5 -0.2**
LTVH Ltavrtes, Hu 151.36 333 ⇑P **PKiKP** **20 22 52.4 +0.9**
DRGR 151.46 331 ⇑P **PKPbc** **20 22 51.3 -0.2**
DRGR 151.46 331 ⇑PKIKP **PKPbc** **20 22 51.3 -0.2**
BUG Bochum--Univer 151.47 354 *e*PKPbc **PKiKP** **20 22 51.8 +0.2**
baz=17,slow=2.3
BUG *e*PKPab **PKPab** **20 23 00.1 +0.1**
baz=17,slow=2.3
GRON Grota Negra 151.53 52 *e*PKP **PKPdf** **20 22 48.6 +3.0**
CMLA Cha da Macela 151.54 52 *e*PKP **PKPdf** **20 22 46.8 +1.3**
PRA Prague 151.57 344 *e*PKIKP **PKiKP** **20 22 52.5 +0.6**
PRA *e* 20 23 38.4
PRA Prague 151.57 344⇑*e*PKP **PKiKP** **20 22 52.5 +0.6**
PRA *es*PKP 20 23 38.4
KASTN Kahler Asten 151.58 353 *e*PKPdf **PKPdf** **20 22 45.5 +0.3**
baz=17,slow=2.3
KASTN *e*PKPbc **PKiKP** **20 22 52.4 +0.4**
baz=17,slow=2.3
KASTN *e*PKPab **PKPab** **20 23 00.8 +0.1**
baz=17,slow=2.3
ARR Arges 151.58 327 ⇓P **PKPbc** **20 22 52.0 +0.2**
PRU Pruhonice 151.62 344 *e*PKIKP **PKiKP** **20 22 52.2 +0.2**
PRU *e* 20 23 35.4
PRU Pruhonice 151.62 344⇑*e*PKP **PKiKP** **20 22 52.2 +0.2**
PRU *es*PKP 20 23 35.4
MOX Moxa 151.64 348 *e*PKPdf **PKPdf** **20 22 45.6 +0.3**
baz=17,slow=2.3
MOX *e*PKPbc **PKiKP** **20 22 52.3 +0.2**
baz=17,slow=2.3
MOX *e*PKPab **PKPab** **20 23 01.1 +0.2**
baz=17,slow=2.3
MOX *e*L L 21 36 44.8
comp=Z,129nm,20.5s
VYHS Vyhne 151.64 337 *e*PKIKP **PKPdf** **20 22 45.7 +0.3**
VYHS Vyhne 151.64 337 *e*PKP **PKPdf** **20 22 45.7 +0.3**
VYHS *e* **PKiKP** **20 22 52.6 +0.5**
VRAC Vranov 151.67 341 ⇓P **PKiKP** **20 22 52.7 +0.5**
VRAC Vranov 151.67 341 *e*PKP **PKPdf** **20 22 45.2 -0.2**
VRAC *e*PKIKP **PKiKP** **20 22 52.4 +0.2**
PLN Plauen 151.69 348 *e*PKPdf **PKPdf** **20 22 45.7 +0.4**
baz=17,slow=2.3
PLN *e*PKPbc **PKiKP** **20 22 52.5 +0.3**
baz=17,slow=2.3
PLN *e*PKPab **PKPab** **20 23 01.5 +0.4**
baz=17,slow=2.3
WERD Werda 151.69 347 *e*PKPdf **PKPdf** **20 22 45.7 +0.3**
baz=17,slow=2.3
WERD *e*PKPbc **PKiKP** **20 22 52.6 +0.4**
baz=17,slow=2.3
WERD *e*PKPab **PKPab** **20 23 01.6 +0.5**
baz=17,slow=2.3
JAVC Velka Javorina 151.73 339 *e*PKP **PKPdf** **20 22 46.8 +1.3**
JAVC *e*PKIKP **PKiKP** **20 22 53.6 +1.2**
PSZ Piszkesteto 151.74 336 ⇓P **PKiKP** **20 22 52.6 +0.2**
PSZ Piszkesteto 151.74 336 ⇓PKIKP **PKiKP** **20 22 52.6 +0.2**
PSZ Piszkesteto 151.74 336 PKPdf **PKPdf** **20 22 45.6 +0.1**
PSZ PKPbc **PKiKP** **20 22 52.6 +0.2**
UBBA Unterbreizbach 151.74 351 *e*PKPdf **PKPdf** **20 22 45.5 +0.3**
baz=17,slow=2.3
UBBA *e*PKPbc **PKiKP** **20 22 52.5 +0.4**
baz=17,slow=2.3
UBBA *e*PKPab **PKPab** **20 23 01.5 +0.4**
baz=17,slow=2.3
GUNZ Gunzen 151.77 347 *e*PKPdf **PKPdf** **20 22 46.0 +0.5**
baz=17,slow=2.3
GUNZ *e*PKPbc **PKiKP** **20 22 53.0 +0.6**
baz=17,slow=2.3
GUNZ *e*PKPab **PKPab** **20 23 02.0 +0.5**
baz=17,slow=2.3
WERN Wernitzgruen 151.83 347 *e*PKPdf **PKPdf** **20 22 46.0 +0.4**
baz=17,slow=2.3
WERN *e*PKPbc **PKiKP** **20 22 53.1 +0.6**
baz=17,slow=2.3
WERN *e*PKPab **PKPab** **20 23 02.5 +0.7**
baz=17,slow=2.3
NKC Novy Kostel 151.87 347 *e*PKIKP **PKiKP** **20 22 53.0 +0.4**
NKC Novy Kostel 151.87 347⇑*e*PKP **PKiKP** **20 22 53.0 +0.4**
KRUC Moravsky 151.95 341 *e*PKP **PKPdf** **20 22 45.7 -0.1**
KRUC *e*PKIKP **PKiKP** **20 22 52.9 +0.2**
HUMR Humele 151.98 325 ⇑P **PKPbc** **20 22 52.6 0.0**
TREC Trest 152.00 342 *e*PKIKP **PKiKP** **20 22 53.3 +0.4**
TREC Trest 152.00 342⇑*e*PKP **PKiKP** **20 22 53.3 +0.4**
PBCC Pribram 152.03 345⇑*e*PKP **PKiKP** **20 22 53.2 +0.3**
DEV Deva 152.05 329 ⇓P **PKiKP** **20 22 53.5 +0.5**
DEV Deva 152.05 329 ⇓PKIKP **PKiKP** **20 22 53.5 +0.5**
BSZH Besenyszg 152.10 334 ⇓P **PKiKP** **20 22 53.6 +0.5**
SMOL Smolenice 152.10 339 *e*PKIKP **PKiKP** **20 22 54.2 +1.1**
SMOL Smolenice 152.10 339 *e*PKP **PKiKP** **20 22 54.2 +1.1**
COPA Copaceanca 152.12 324 ⇑P **PKPbc** **20 22 52.8 -0.1**
DYA Yadsworthy 152.15 9 *e*P **PKiKP** **20 22 53.0 -0.1**
PSMN Pico do Norte, 152.17 54 *e*PKP **PKPdf** **20 22 46.8 +0.3**
MANZ Manzenberg 152.17 347 *e*PKPdf **PKPdf** **20 22 46.3 +0.2**
baz=17,slow=2.3
MANZ *e*PKPbc **PKiKP** **20 22 53.6 +0.4**
baz=17,slow=2.3
MANZ *e*PKPab **PKPab** **20 23 03.5 +0.3**
baz=17,slow=2.3
BEBN Eben Emael 152.22 356 *d*PKPdf **PKPdf** **20 22 47.2 +1.2**
BEBN *d*PKPbc **PKiKP** **20 22 53.3 +0.1**
BEBN *d*PKPab **PKPab** **20 23 03.0 -0.2**
MODS Modra-Piesok 152.28 339 *e*PKIKP **PKPdf** **20 22 47.9 +1.6**
MODS Modra-Piesok 152.28 339 *e*PKP **PKPdf** **20 22 47.9 +1.6**
MODS *e* 20 22 55.0
UCC Uccle 152.28 358 *d*PKPbc **PKiKP** **20 22 53.5 +0.2**
UCC *d*PKPab **PKPab** **20 23 03.8 +0.3**
SIRR Siria 152.33 331 ⇑P **PKiKP** **20 22 53.7 +0.1**
ZIMR 152.35 323 ⇑P **PKPbc** **20 22 52.9 -0.5**
ZIMR 152.35 323 ⇑PKIKP **PKPbc** **20 22 52.9 -0.5**
ROTZ Rotzenmuhle 152.36 347 *e*PKPdf **PKPdf** **20 22 46.4 0.0**
baz=17,slow=2.3
ROTZ *e*PKPbc **PKiKP** **20 22 54.0 +0.5**
baz=17,slow=2.3
ROTZ *e*PKPab **PKPab** **20 23 04.5 +0.5**
baz=17,slow=2.3
AHRW Bad Neuenahr-A 152.37 354 *e*PKPbc **PKiKP** **20 22 53.9 +0.3**
baz=17,slow=2.3
AHRW *e*PKPab **PKPab** **20 23 04.4 +0.5**
baz=17,slow=2.3
MEM Membach 152.39 356 *d*PKPdf **PKPdf** **20 22 46.1 -0.2**
MEM *d*PKPbc **PKPbc** **20 22 53.4 +0.1**
MEM *d*PKPab **PKPab** **20 23 04.2 +0.2**
MEM *dp*PKPbc **pPKPbc** **20 23 37.8 +2.2**
BTNL Ternell 152.41 356 *d*PKPdf **PKPdf** **20 22 46.8 +0.4**
BTNL *d*PKPbc **PKPbc** **20 22 53.3 -0.1**
BTNL *d*PKPab **PKPab** **20 23 03.7 -0.4**
BTNL *dp*PKPbc **pPKPbc** **20 23 37.7 +2.0**
SRO Srobarova 152.41 337 *e*PKIKP **PKiKP** **20 22 54.7 +1.0**
SRO Srobarova 152.41 337 *e*PKP **PKiKP** **20 22 54.7 +1.0**
SRO2 Moca 152.42 337 *e*PKIKP **PKiKP** **20 22 54.3 +0.6**
SRO2 Moca 152.42 337 *e*PKP **PKiKP** **20 22 54.3 +0.6**
BSTI Sart Tilman 152.44 356 *d*PKPdf **PKPdf** **20 22 46.8 +0.4**
BSTI *d*PKPbc **PKiKP** **20 22 54.1 +0.4**
BSTI *d*PKPab **PKPab** **20 23 04.6 +0.4**
ZST Bratislava 152.49 339 *e*PKIKP **PKPdf** **20 22 48.3 +1.7**
ZST Bratislava 152.49 339 *e*PKP **PKPdf** **20 22 48.3 +1.7**
ZST *e* **PKiKP** **20 22 55.6 +1.7**
ZST *e* **PKPab** **20 23 06.0 +1.5**
TNS Taunus Mts 152.54 352 *e*PKPdf **PKPdf** **20 22 47.0 +0.3**
baz=17,slow=2.3
TNS *e*PKPbc **PKiKP** **20 22 54.3 +0.3**
baz=17,slow=2.3
TNS *e*PKPab **PKPab** **20 23 05.1 +0.3**
baz=17,slow=2.3
SNF Seneffe 152.57 358 *d*PKPdf **PKPdf** **20 22 47.3 +0.7**
SNF *d*PKPbc **PKiKP** **20 22 54.4 +0.4**
SNF *d*PKPab **PKPab** **20 23 04.4 -0.4**

BCLA Clavier 152.62 357 *d*PKPdf **PKPdf** **20 22 47.3 +0.6**
BCLA *d*PKPbc **PKPbc** **20 22 53.5 -0.3**
BCLA *d*PKiKP **PKiKP** **20 22 54.9 +0.9**
BCLA *d*PKPab **PKPab** **20 23 05.0 0.0**
GRF Grafenberg Arr 152.63 348 *e*PKPdf **PKPdf** **20 22 47.0 +0.2**
baz=17,slow=2.3
GRF *e*PKPab **PKPab** **20 23 05.8 +0.8**
baz=17,slow=2.3
GRF *e*L L 21 39 12.5
comp=Z,136nm,21.8s
GRFO Grafenberg 152.63 348 PKIKP **PKPdf** **20 22 47.1 +0.3**
GRFO 20 23 05.5
GRFO Grafenberg 152.63 348 PKPdf **PKPdf** **20 22 47.1 +0.3**
GRFO PKPbc **PKiKP** **20 22 54.4 +0.2**
GRFO PKPab **PKPab** **20 23 05.5 +0.5**
BHOU Houvegnez 152.65 356 *d*PKPbc **PKiKP** **20 22 54.5 +0.3**
BHOU *d*PKPab **PKPab** **20 23 04.6 -0.5**
VLAD Vladila 152.65 325 ⇓P **PKPbc** **20 22 53.8 -0.3**
KHC Kasperske Hory 152.65 345 PKIKP **PKPdf** **20 22 46.7 -0.1**
KHC Kasperske Hory 152.65 345 *e*PKPDF **PKPdf** **20 22 47.3 +0.4**
KHC ⇑*e*PKP **PKiKP** **20 22 54.7 +0.5**
KHC *e*PKPAB **PKPab** **20 23 05.2 0.0**
KHC Kasperske Hory 152.65 345 PKPdf **PKPdf** **20 22 46.7 -0.1**
KHC PKPbc **PKiKP** **20 22 54.2 0.0**
KHC PKPab **PKPab** **20 23 06.1 +0.9**
AMBH Ambrzfalva 152.67 333 ⇑P **PKiKP** **20 22 54.6 +0.4**
BGES Gesves 152.67 357 *d*PKPdf **PKPdf** **20 22 48.2 +1.4**
BGES *d*PKPbc **PKiKP** **20 22 54.2 +0.1**
BGES *d*PKPab **PKPab** **20 23 05.0 -0.2**
CKRC Cesky Krumlov 152.75 343 *e*PKPDF **PKPdf** **20 22 48.7 +1.7**
CKRC ⇑*e*PKP **PKiKP** **20 22 56.0 +1.6**
BMRD Maredsous 152.76 357 *d*PKPdf **PKPdf** **20 22 46.0 -0.9**
BMRD *d*PKPbc **PKiKP** **20 22 54.6 +0.2**
BMRD *d*PKPab **PKPab** **20 23 05.2 -0.4**
SRE Strehaia 152.80 327 ⇑P **PKPbc** **20 22 53.9 -0.6**
SRE Strehaia 152.80 327 ⇑PKIKP **PKPbc** **20 22 53.9 -0.6**
WET Wettzell 152.80 346 *e*PKPdf **PKPdf** **20 22 47.3 +0.2**
baz=17,slow=2.3
WET *e*PKPbc **PKiKP** **20 22 55.1 +0.6**
baz=17,slow=2.3
WET *e*PKPab **PKPab** **20 23 06.5 +0.7**
baz=17,slow=2.3
MILB Miltenberg 152.81 351 *e*PKPdf **PKPdf** **20 22 47.4 +0.4**
baz=17,slow=2.3
MILB *e*PKPab **PKPab** **20 23 06.2 +0.4**
baz=17,slow=2.3
BZS Buzias 152.85 331 ⇑P **PKiKP** **20 22 55.0 +0.3**
BZS Buzias 152.85 331 ⇑PKIKP **PKiKP** **20 22 55.0 +0.3**
GEC2 GERESS Array S 152.88 344 *e*PKPdf **PKPdf** **20 22 47.2 -0.1**
baz=17,slow=2.3
GEC2 *e*PKPbc **PKiKP** **20 22 55.2 +0.4**
baz=17,slow=2.3
GEC2 *e*PKPab **PKPab** **20 23 06.6 +0.3**
baz=17,slow=2.3
GERES GERESS Array B 152.88 344 PKP **PKPdf** **20 22 47.6 +0.3**
comp=Z,7.9nm,1.1s,baz=73,slow=1.3,SNR=28
GERES PKPbc **PKiKP** **20 22 55.1 +0.3**
comp=Z,13nm,0.8s,baz=25,slow=1.8,SNR=25
GERES pPKPbc **pPKPbc** **20 23 38.3 +1.4**
comp=Z,9.5nm,0.8s,baz=32,slow=3.3,SNR=2.9
RCHB Rochefort 152.89 357 *d*PKPbc **PKiKP** **20 22 54.8 +0.2**
RCHB *d*PKPab **PKPab** **20 23 05.7 -0.4**
TIM Timisoara 152.93 331 ⇓P **PKiKP** **20 22 55.3 +0.5**
TIM Timisoara 152.93 331 ⇓PKIKP **PKiKP** **20 22 55.3 +0.5**
DOU Dourbes 152.98 358 *d*PKPbc **PKiKP** **20 22 54.8 0.0**
DOU *d*PKPab **PKPab** **20 23 06.1 -0.4**
DOU *dp*PKPdf **pPKPdf** **20 23 32.8 +3.0**
CONA Conrad Observa 153.12 341 *e*P **PKPdf** **20 22 47.4 -0.2**
comp=Z,23nm,1.5s,SNR=12
CONA *e*P **PKPab** **20 23 07.8 +0.5**
comp=Z,90nm,1.3s
PUNG Punghina 153.21 327 ⇓P **PKPbc** **20 22 55.3 0.0**
WLF Walferdange 153.32 355 *d*PKPdf **PKPdf** **20 22 48.1 +0.4**
WLF *d*PKPbc **PKiKP** **20 22 56.3 +0.8**
WLF *d*PKPab **PKPab** **20 23 07.5 -0.4**
WLF *dp*PKPbc **pPKPbc** **20 23 39.9 +2.2**
WLF Walferdange 153.32 355 PKIKP **PKPdf** **20 22 47.0 -0.7**
WLF 20 23 07.7
WLF Walferdange 153.32 355 PKPdf **PKPdf** **20 22 47.0 -0.7**
WLF PKPbc **PKiKP** **20 22 56.5 +0.9**
WLF PKPab **PKPab** **20 23 07.7 -0.3**
WLF Walferdange 153.32 355 *e*PKPdf **PKPdf** **20 22 48.3 +0.6**
baz=17,slow=2.3
WLF *e*PKPbc **PKiKP** **20 22 56.8 +1.2**
baz=17,slow=2.3
WLF *e*PKPab **PKPab** **20 23 08.4 +0.5**
baz=17,slow=2.3
KSL Kastellorizon 153.51 306 P **PKPdf** **20 22 46.2 -2.2**
MORH Mrgy, Hungar 153.63 335 ⇓P **PKPbc** **20 22 56.1 -0.1**
MORH Mrgy, Hungar 153.63 335 *e*P **PKPdf** **20 22 47.9 -0.4**
MOA Molln 153.65 343 *e*P **PKPdf** **20 22 48.3 -0.1**
comp=Z,11nm,1.4s,SNR=7.3
MOA *e*P **PKPab** **20 23 09.7 +0.2**
comp=Z,116nm,1.4s
ALN Alexandroupoli 153.66 318 P PKPdf 20 22 39.5 -9.0
ENEZ Enez 153.69 318 P **PKPdf** **20 22 47.1 -1.4**
FETY Fethiye 153.69 307 P **PKPdf** **20 22 47.1 -1.7**
RDO Rodhopi 153.82 319 P **PKPdf** **20 22 45.8 -2.9**
ARSA Arzberg 153.83 340 *e*P **PKPdf** **20 22 48.2 -0.4**
comp=Z,19nm,1.4s
ARSA *e*P **PKPab** **20 23 10.4 +0.2**
comp=Z,40nm,1.7s
STU Stuttgart 153.86 351 *e*PKPdf **PKPdf** **20 22 49.2 +0.6**
baz=17,slow=2.3
STU *e*PKPbc **PKiKP** **20 22 57.2 +0.5**
baz=17,slow=2.3
STU *e*PKPab **PKPab** **20 23 10.6 +0.3**
baz=17,slow=2.3
FRGS Fruska Gora 154.00 332 ⇑P **PKPbc** **20 22 56.9 -0.2**
FRGS Fruska Gora 154.00 332 *e*P **PKPdf** **20 22 48.9 0.0**
FUR Furstenfeldbru 154.07 347 *e*PKPdf **PKPdf** **20 22 49.1 +0.2**
baz=17,slow=2.3
FUR *e*PKPab **PKPab** **20 23 11.7 +0.5**
baz=17,slow=2.3
RJOB Jochberg 154.14 345 *e*PKPdf **PKPdf** **20 22 48.8 -0.2**
baz=17,slow=2.3
RJOB *e*PKPab **PKPab** **20 23 12.5 +0.9**
baz=17,slow=2.3
GADA Gvkgeada 154.16 317 P **PKPdf** **20 22 48.8 -0.4**
VTS Vitosha 154.21 324 ⇓P **PKPbc** **20 22 55.9 -1.9**
VTS Vitosha 154.21 324 ⇓PKIKP **PKPbc** **20 22 55.9 -1.9**
KOGS Kog 154.30 338 *i* PKPdf **PKPdf** **20 22 48.9 -0.4**
KOGS *e* 20 22 57.3
KOGS *i* PKPab **PKPab** **20 23 11.9 -0.3**
BLCB Balcova 154.36 312 P **PKPdf** **20 22 48.2 -1.4**
BFO Black Forest 154.41 352 PKIKP **PKPbc** **20 22 56.9 -0.9**
BFO 20 23 12.7
BFO Black Forest 154.41 352 **PKPdf** **20 22 48.9 -0.5**
BFO **PKPbc** **20 22 56.9 -0.9**
BFO PKPab **PKPab** **20 23 12.7 0.0**
BFO Black Forest 154.41 352 *e*PKPdf **PKPdf** **20 22 49.2 -0.2**
baz=17,slow=2.3
BFO *e*PKPbc **PKiKP** **20 22 58.3 +0.4**
baz=17,slow=2.3
BFO *e*PKPab **PKPab** **20 23 12.9 +0.2**
baz=17,slow=2.3
SOKA Soboth 154.49 340 *i* P **PKPdf** **20 22 49.0 -0.6**
comp=Z,27nm,1.4s,SNR=17
SOKA *e*P **PKPab** **20 23 13.0 -0.2**
comp=Z,44nm,1.3s
PERS Pernice 154.50 340 *i* PKPdf **PKPdf** **20 22 48.8 -0.8**
PERS *i* 20 22 57.7
PERS *e*PKPab **PKPab** **20 23 12.8 -0.3**
PERS *e* 20 23 59.7
ARG Arkhangelos 154.57 307 P **PKPdf** **20 22 50.2 +0.3**
KBA Koelnbreinsper 154.61 343 *e*P **PKPdf** **20 22 49.0 -0.9**
comp=Z,18nm,1.3s,SNR=12
KBA *e*P **PKPab** **20 23 13.9 +0.1**
comp=Z,48nm,0.9s
THAS Thassos island 154.65 319 P **PKPdf** **20 22 48.1 -1.8**
ECH Echery 154.67 353 PKIKP **PKPdf** **20 22 49.9 +0.1**
ECH 20 23 13.4
ECH Echery 154.67 353 PKPdf **PKPdf** **20 22 49.9 +0.1**
ECH PKPab **PKPab** **20 23 13.4 -0.4**
NVR Nevrokopi 154.69 321 P **PKPdf** **20 22 47.7 -2.3**
DIVS Divibare 154.75 330 *e*P **PKPdf** **20 22 49.6 -0.5**
DAT Datca 154.75 308 P **PKPdf** **20 22 49.9 -0.4**
UBR Ueberruh 154.76 349 *e*PKPdf **PKPdf** **20 22 49.9 0.0**
baz=17,slow=2.3
UBR *e*PKPab **PKPab** **20 23 14.4 +0.1**
baz=17,slow=2.3
OBKA Obir 154.79 341 *e*P **PKPdf** **20 22 49.2 -0.9**
comp=Z,11nm,1.6s,SNR=6.5
OBKA *e*P **PKPab** **20 23 13.9 -0.5**

comp=Z,30nm,1.4s
WATA Walderalm 154.80 346 *i* P **PKPdf** **20 22 49.6 -0.5**
comp=Z,29nm,1.3s,SNR=12
WATA *e*P **PKPab** **20 23 14.4 -0.1**
comp=Z,58nm,1.1s
BODT Bodrum 154.80 309 P **PKPdf** **20 22 48.1 -2.2**
RETA Reutte 154.83 347 *e*P **PKPdf** **20 22 49.8 -0.3**
comp=Z,14nm,1.3s,SNR=7.3
RETA *e*P **PKPab** **20 23 14.4 -0.2**
comp=Z,114nm,1.3s
WTTA Wattenberg 154.85 346 *i* P **PKPdf** **20 22 50.0 -0.2**
comp=Z,42nm,1.4s,SNR=17
WTTA *e*P **PKPab** **20 23 14.9 0.0**
comp=Z,58nm,0.8s
GOLS Golise 154.89 339 *i* PKPdf **PKPdf** **20 22 50.0 -0.1**
MOTA Moosalm 154.89 347 *i* P **PKPdf** **20 22 49.7 -0.6**
comp=Z,38nm,1.3s,SNR=13
MOTA *e*P **PKPab** **20 23 15.0 +0.1**
comp=Z,114nm,1.5s
MYKA Terra Mystica 154.94 342 *e*P **PKPdf** **20 22 49.3 -0.9**
comp=Z,17nm,1.6s,SNR=8.9
MYKA *i* P **PKPab** **20 23 14.3 -0.8**
comp=Z,32nm,0.9s
SQTA Sankt Quirin 154.99 347 *e*P **PKPdf** **20 22 50.1 -0.2**
comp=Z,27nm,1.3s,SNR=12
SQTA *e*P **PKPab** **20 23 15.3 0.0**
comp=Z,49nm,1.1s
SRS Serrai 155.00 321 P **PKPdf** **20 22 45.5 -4.9**
CRES Cresnjev 155.11 339 *e*P **PKPdf** **20 22 49.3 -1.1**
ABTA Abfaltersbach 155.13 344 *i* P **PKPdf** **20 22 49.8 -0.7**
comp=Z,49nm,1.3s,SNR=23
ABTA *e*P **PKPab** **20 23 15.2 -0.7**
comp=Z,68nm,1.5s
DAVA Damuels 155.19 349 *e*P **PKPdf** **20 22 50.7 +0.1**
comp=Z,26nm,1.6s,SNR=6.1
DAVA *e*P **PKPab** **20 23 15.8 -0.4**
comp=Z,38nm,1.0s
ZOU Zoufplan 155.19 343 PKPdf **PKPdf** **20 22 49.6 -1.1**
ZOU PKPab **PKPab** **20 23 15.4 -0.9**
BBLS Lazići 155.20 331 *e*P **PKPdf** **20 22 50.2 -0.5**
LJU Ljubljana 155.21 341 *i* PKPdf **PKPdf** **20 22 50.5 0.0**
LJU *i* 20 22 59.7
LJU *i* 20 23 34.6
FETA Feichten 155.28 347 *e*P **PKPdf** **20 22 50.8 0.0**
comp=Z,30nm,1.2s
FETA *e*P **PKPab** **20 23 16.6 0.0**
comp=Z,59nm,1.3s
GBAS Gorenja Brezov 155.34 341 *e*PKPdf **PKPdf** **20 22 50.4 -0.4**
GBAS *e*PKPab **PKPab** **20 23 15.8 -1.0**
STIP Stip 155.41 324 *e*PKP PKPdf 20 23 01.0 +10
STIP *e*PKP PKPdf 20 23 04.1 +13
STIP *e*PKP **PKPab** **20 23 16.7 -0.5**
RUDO Rudo 155.41 330 *e*P **PKPdf** **20 22 49.8 -1.1**
BLY Banja Luka 155.41 335 *e*P PKPdf 20 23 00.6 +10
VAY Valandovo 155.45 322 *e*PKP **PKPdf** **20 22 54.6 +3.6**
VAY *e*PKP PKPdf 20 23 04.3 +13
VAY *e*PKP **PKPab** **20 23 17.0 -0.3**
CEY Cerknica 155.52 340 *e*P **PKPdf** **20 22 50.7 -0.3**
PLG Polygyros 155.55 320 P **PKPdf** **20 22 48.8 -2.4**
SKO Skopje 155.62 325 *e*PKP **PKPdf** **20 22 51.2 0.0**
SKO *e*PKP PKPdf 20 23 01.0 +10
SKO *e*PKP **PKPab** **20 23 18.6 +0.5**
PAIG Paliouri 155.69 319 P **PKPdf** **20 22 47.8 -3.5**
MGRS Mrkonjic Grad 155.73 335 *e*P **PKPab** **20 23 18.8 +0.3**
LIT Litokhoron 156.29 320 P **PKPdf** **20 22 50.6 -1.6**
BRY Bratogost 156.35 331 *e*P **PKPdf** **20 22 51.6 -0.7**
PDG Podgorica 156.38 329 *e*P **PKPdf** **20 22 51.6 -0.6**
PDG Podgorica 156.38 329 PKPdf **PKPdf** **20 22 51.0 -1.2**
PDG PKPab **PKPab** **20 23 20.8 -0.4**
FNA Florina 156.48 323 P **PKPdf** **20 22 50.9 -1.5**
OHR Ohrid 156.56 324 *e*PKP **PKPdf** **20 22 52.3 -0.2**
OHR *e*PKP PKPdf 20 23 01.6 +9.1
OHR *e*PKP **PKPab** **20 23 21.9 -0.3**
DRME Dracevica, Mon 156.60 328 *e*P **PKPdf** **20 22 52.3 -0.2**
TEOL Teolo 156.64 344 PKPdf **PKPdf** **20 22 51.8 -0.6**
TEOL PKPab **PKPab** **20 23 22.1 -0.2**
HCY Herceg Novi 156.72 330 *e*P **PKPdf** **20 22 51.2 -1.4**
STON Ston 156.75 332 *e*P **PKPdf** **20 22 51.9 -0.7**
NEST Nestorio 156.91 323 P **PKPdf** **20 22 51.1 -2.0**
KBN Korca 156.91 324 P **PKPdf** **20 22 51.9 -1.1**
AGG Agios Georgios 157.07 318 P **PKPdf** **20 22 51.5 -1.7**
PRMA PARMA 157.52 346 PKPdf **PKPdf** **20 22 52.5 -1.0**
PRMA PKPab **PKPab** **20 23 26.2 +0.2**
ANX Ano Chora 157.59 318 P **PKPdf** **20 22 48.0 -6.0**
TRIZ Trizonia 157.63 317 P **PKPdf** **20 22 52.4 -1.5**
EFP Efpalio 157.70 318 P **PKPdf** **20 22 53.5 -0.5**
KLV Kalavryta, Ach 157.78 317 P **PKPdf** **20 22 52.1 -2.1**
VLX Vlachokerasia 158.02 315 P **PKPdf** **20 22 47.8 -6.8**
DRO Drossia 158.11 317 P **PKPdf** **20 22 53.8 -0.7**
LKD2 Lefkada island 158.22 320 P **PKPdf** **20 22 53.8 -0.9**
AMT Artemida-Makis 158.36 316 P **PKPdf** **20 22 54.5 -0.4**
SGRT San Giovanni R 158.49 333 PKPdf **PKPdf** **20 22 54.0 -1.0**
SGRT PKPab **PKPab** **20 23 29.4 -1.2**
SCTE Santa Cesarea 158.54 326 PKPdf **PKPdf** **20 22 54.9 -0.1**
SCTE PKPab **PKPab** **20 23 28.7 -2.0**
PSDA Pessada-Kefalo 158.70 319 P **PKPdf** **20 22 53.1 -2.1**
PYL PYLOS 158.71 315 P **PKPdf** **20 22 52.5 -2.8**
AQU L'Aquila 158.87 338 *e*P **PKPab** **20 23 31.9 -0.2**
PGAV Gavieira, Arco 158.94 24 *e*PKPdf **PKPdf** **20 22 56.4 +0.9**
PGAV Gavieira, Arco 158.94 24 *e*SS SS 20 47 10.0 +7.3
INTR Introdacqua 158.99 337 PKPdf **PKPdf** **20 22 54.3 -1.2**
INTR PKPab **PKPab** **20 23 31.7 -1.0**
PCAB Cabril 159.25 24 *e*PKPdf **PKPdf** **20 22 56.8 +1.0**
PCAB Cabril 159.25 24 *e*PKPab **PKPab** **20 23 34.5 +0.7**
PBRG Braganca 159.62 21 *e*PKPdf **PKPdf** **20 22 56.6 +0.4**
PBRG Braganca 159.62 21 *e*PKPab **PKPab** **20 23 37.2 +1.8**
POLO Lamas de Olo 159.63 24 *e*PKPdf **PKPdf** **20 22 57.0 +0.7**
POLO Lamas de Olo 159.63 24 *e*PKPab **PKPab** **20 23 36.3 +0.8**
PVRL Vila Real 159.74 24 *e*PKPdf **PKPdf** **20 22 58.0 +1.6**
PVRL Vila Real 159.74 24 *e*PKPab **PKPab** **20 23 36.8 +0.9**
PMOZ Porto Moniz, M 159.75 57 *e*SS SS 20 47 28.0 +15
PMAR Madeira 160.01 57 *e*PKPdf **PKPdf** **20 22 59.3 +2.2**
MVO Moncorvo 160.09 23 *e*PKPdf **PKPdf** **20 22 57.9 +1.1**
MVO Moncorvo 160.09 23 *e*PKPab **PKPab** **20 23 37.8 +0.3**
MVO Moncorvo 160.09 23 *e*SS SS 20 47 22.0 +7.3
PVIS Viseu 160.16 25 *e*PKPdf **PKPdf** **20 22 57.4 +0.5**
PVIS Viseu 160.16 25 *e*PKPab **PKPab** **20 23 38.4 +0.6**
COI Coimbra 160.38 27 *e*PKPab **PKPab** **20 23 40.4 +1.7**
PCAS Casmilo, Conde 160.48 27 *e*PKPdf **PKPdf** **20 22 58.1 +0.9**
PCAS Casmilo, Conde 160.48 27 *e*PKPab **PKPab** **20 23 39.9 +0.8**
MTE Manteigas 160.57 25 *e*PKPdf **PKPdf** **20 22 57.9 +0.5**
MTE Manteigas 160.57 25 *e*PKPab **PKPab** **20 23 39.7 +0.1**
MTE Manteigas 160.57 25 *e*SS SS 20 47 28.2 +8.4
PSBE So Bento 160.80 29 *e*PKPdf **PKPdf** **20 22 56.3 -1.3**
PSBE So Bento 160.80 29 *e*PKPab **PKPab** **20 23 41.4 +0.8**
PCBR Castelo Branco 161.07 25 *e*PKPdf **PKPdf** **20 22 59.5 +1.7**
PCBR Castelo Branco 161.07 25 *e*PKPab **PKPab** **20 23 43.0 +1.3**
LIS Lisbon 161.28 31 *e*PKPdf **PKPdf** **20 22 58.9 +0.8**
PMTG Montargil 161.41 28 *e*PKPab **PKPab** **20 23 43.6 +0.4**
PMRV Marv??o 161.46 26 *e*PKPdf **PKPdf** **20 22 59.4 +1.1**
PMRV Marv??o 161.46 26 *e*PKPab **PKPab** **20 23 43.9 +0.4**
PMRV Marv??o 161.46 26 *e*SS SS 20 47 34.9 +5.8
LIC Lamto 161.59 154 *e*PKP1 **PKPdf** **20 22 58.7 -0.4**
comp=Z,85nm,1.5s
LIC Lamto 161.59 154 *e*P **PKPab** **20 23 45.2 +0.6**
comp=Z,87nm,1.0s
KIC Kosan Boka 161.83 155 *e*PKP1 **PKPdf** **20 22 59.5 +0.1**
comp=Z,50nm,1.4s
KIC Kosan Boka 161.83 155 *e*P **PKPab** **20 23 47.4 +1.8**
comp=Z,58nm,0.8s
PESTR Estremoz 161.85 27 *e*PKPdf **PKPdf** **20 22 59.5 +0.8**
PESTR Estremoz 161.85 27 *e*PKPab **PKPab** **20 23 45.8 +0.6**
PESTR Estremoz 161.85 27

ESDC				PP		**PP**	**20 27 31.3**	**-0.3**
	comp=Z,3.4nm,1.2s,baz=336,slow=4.2,SNR=4.4							
PAB	**San Pablo**	**162.43**	**19**	PKIKP		**PKPdf**	**20 22 59.2**	**-0.2**
PAB							20 23 44.6	
PAB	**San Pablo**	**162.43**	**19**	PKPdf		**PKPdf**	**20 22 59.2**	**-0.2**
PAB				PKPab		**pPKPdf**	**20 23 44.6**	**+2.5**
PBEJ	**Beja**	**162.43**	**29**	*e*PKPdf		**PKPdf**	**20 23 00.2**	**+0.9**
PBEJ	**Beja**	**162.43**	**29**	*e*PKPab		**PKPab**	**20 23 44.8**	**-2.9**
MORF	**Marmelete**	**162.64**	**32**	*e*PKPdf		**PKPdf**	**20 23 00.3**	**+0.7**
MORF				*e*SS		SS	20 47 48.5	+6.7
MORF	**Marmelete**	**162.64**	**32**	*e*PKPdf		**PKPdf**	**20 23 00.6**	**+1.0**
PCVE	**Castro Verde**	**162.67**	**31**	*e*PKPdf		**PKPdf**	**20 23 01.3**	**+1.8**
PCVE	**Castro Verde**	**162.67**	**31**	*e*PKPab		**PKPab**	**20 23 44.9**	**-3.9**
VSL	**Villasalto**	**162.72**	**343**	PKPdf		**PKPdf**	**20 22 59.4**	**-0.1**
VSL				PKPab		**PKPab**	**20 23 47.3**	**-1.6**
PVAQ	**Vaqueiros**	**163.01**	**30**	*e*PKPdf		**PKPdf**	**20 23 01.5**	**+1.6**
PVAQ	**Vaqueiros**	**163.01**	**30**	*e*PKPab		**PKPab**	**20 23 50.8**	**+0.5**
PBDV	**Barranco-do-Ve**	**163.04**	**31**	*e*PKPdf		**PKPdf**	**20 23 01.5**	**+1.6**
KEST	**Kesra**	**166.19**	**338**	PKP		**PKPdf**	**20 23 03.2**	**+0.4**
	comp=Z,6.3nm,1.1s,baz=192,slow=3.5,SNR=8.7							
KEST				PKPab		**PKPab**	**20 24 04.1**	**-0.3**
	comp=Z,10nm,0.9s,baz=86,slow=2.0,SNR=10							
KEST	**Kesra**	**166.19**	**338**			**PKPdf**	**20 23 02.0**	**-0.8**
KEST				PKPab		**PKPab**	**20 24 03.6**	**-0.8**
KOWA	**Kowa**	**169.24**	**141**			**PKPdf**	**20 23 04.4**	**-1.0**
KOWA				PKPab		**PKPab**	**20 24 18.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**170.08**	**173**	PKP		**PKPdf**	**20 23 05.5**	**-0.4**
	comp=Z,13nm,0.9s,baz=355,slow=0.4,SNR=59							
TORD				pPKP		**pPKPdf**	**20 23 49.2**	**+0.6**
	comp=Z,7.5nm,1.0s,baz=179,slow=0.9,SNR=3.1							
TORD				PKPab		**PKPab**	**20 24 22.4**	**+0.5**
	comp=Z,26nm,1.0s,baz=166,slow=3.8,SNR=5.4							
TORD				pPKPab		**pPKPab**	**20 25 05.1**	**+2.6**
	comp=Z,11nm,0.9s,baz=195,slow=3.2,SNR=2.9							
TORD				PP		**PP**	**20 28 10.5**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=161,slow=4.6,SNR=3.7							

*IDC **07** 20:23:05.8±51.0, 22°.07S×176°.11W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/34, mbtmp4.3/3 Error ellipse: s-maj=955.7km s-min=157.5km az=86.0*
*NEIC **07** 20:24:19.7±0.8, 23°.05S±0°.2×179°.1W±0°.6, h554km±57km, mb4.5/15, Error ellipse: s-maj=77.9km s-min=7.9km az=72.0*

ISC 07 20:24:19.7±9.6, 23°.1S±0°.7×17°9W±°, h550km, n20, σ0°48/19, mb4.5/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**19.02**	**200**	P	**P**	**20 28 07.1**	**+0.4**
LTZ	**Lake Taylor**	**20.89**	**198**	P	**P**	**20 28 23.0**	**-0.7**
WHZ	**Wether Hill Ro**	**25.04**	**201**	P	**P**	**20 29 01.3**	**+0.7**
EIDS	**Eidsvold**	**27.15**	**259**	P	**P**	**20 29 19.8**	**+0.3**
EIDS				IAmb	IAmb	20 29 33.0	
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**32.19**	**269**	P	**P**	**20 30 03.7**	**+0.6**
CTAO				IAmb	IAmb	20 30 36.1	
	comp=Z,25nm,1.6s						
STKA	**Stephens Creek**	**35.70**	**247**	P	**P**	**20 30 32.1**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=100,slow=12,SNR=8.2						
STKA	**Stephens Creek**	**35.70**	**247**	P	**P**	**20 30 32.1**	**-0.1**
AS31	**Alice Springs**	**42.88**	**260**	P	**P**	**20 31 29.7**	**-0.5**
ASAR	**Alice Springs**	**42.88**	**260**	P	**P**	**20 31 30.1**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=96,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**42.88**	**260**	P	**P**	**20 31 30.1**	**-0.1**
WR0	**Warramunga Arr**	**42.99**	**265**	P	**P**	**20 31 30.5**	**-0.6**
WR0				IAmb	IAmb	20 31 43.0	
	comp=Z,19nm,1.7s						
WB2	**Warramunga Arr**	**43.17**	**265**	P	**P**	**20 31 32.1**	**-0.4**
WB2				IAmb	IAmb	20 31 32.8	
	comp=Z,5.8nm,0.9s						
WB0	**Warramunga Arr**	**43.17**	**265**	P	**P**	**20 31 32.0**	**-0.5**
WB0				IAmb	IAmb	20 31 59.0	
	comp=Z,30nm,1.8s						
WRA	**Warramunga Arr**	**43.18**	**265**	P	**P**	**20 31 32.1**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=102,slow=8.3,SNR=72						
WRA	**Warramunga Arr**	**43.18**	**265**	P	**P**	**20 31 32.1**	**-0.4**
WRA	**Warramunga Arr**	**43.18**	**265**	IAmb	IAmb	20 31 32.7	
	comp=Z,0.3nm,0.7s						
FORT	**Forrest**	**47.27**	**249**	P	**P**	**20 32 03.1**	**-0.6**
FORT				IAmb	IAmb	20 33 04.4	
	comp=Z,19nm,0.9s						
KNRA	**Kununurra**	**49.41**	**269**	P	**P**	**20 32 20.2**	**+0.4**
KNRA				IAmb	IAmb	20 34 00.7	
	comp=Z,23nm,1.4s						
NWAO	**Narrogin (SRO)**	**56.23**	**245**	P	**P**	**20 33 08.0**	**-0.2**
NWAO				IAmb	IAmb	20 33 39.9	
	comp=Z,47nm,1.3s						
MORW	**Morawa**	**57.83**	**249**	P	**P**	**20 33 19.3**	**+0.1**
MORW				IAmb	IAmb	20 34 42.2	
	comp=Z,77nm,1.8s						

NNC 07 20:33:07.1±11.0, 37°.15N×70°.97E, h0km, mb3.9, mpv3.5, 4C-2D, Error ellipse: s-maj=91.4km s-min=76.1km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.96**	**357**	⇑P	Pn	20 34 38.3	+1.7
	2.7nm,0.3s,baz=177,slow=12,SNR=43						
KK31				⇑S	Sn	20 35 48.3	+2.8
	4.8nm,0.5s,baz=184,slow=25,SNR=13						
AAK	**Ala-Archa**	**6.11**	**25**	⇓P	Pn	20 34 38.7	-0.1
AAK				⇑S	Sn	20 35 49.5	0.0
	2.0nm,0.4s						
	4.3nm,0.6s						
TKM2	**Tokmak 2**	**6.76**	**30**	⇑P	Pn	20 34 47.2	-0.6
TKM2				⇓S	Sn	20 36 05.0	-0.7
	1.4nm,0.5s						
	0.6nm,0.4s						

*IDC **07** 20:37:30.4±4.0, 20°.78N×144°.77E, h104km±35km, mb3.6/13, mb1 3.8/15, mb1mx3.6/51, mbtmp4.0/15, Error ellipse: s-maj=26.4km s-min=16.8km az=93.0*
*NEIC **07** 20:37:32.2±1.2, 20°.9N±0°.1×144°.7E±0°.1, h109km±7km, mb4.3/38, Error ellipse: s-maj=20.1km s-min=11.5km az=223.0*

ISC 07 20:37:30.9±0.7, 20°.88N±0°.10×144°.7E±0°.1, h100km, n61, σ0°93/55, mb4.2/32, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.60**	**340**	P	**Pn**	**20 39 06.0**	**+0.7**
	1.7nm,0.3s,baz=173,slow=17,SNR=1.1						
JCJ				S	**Sn**	**20 40 15.7**	**-3.3**
	5.0nm,0.3s,baz=253,slow=19,SNR=1.7						
JWT	**Wachi**	**16.51**	**332**	P	**P**	**20 41 19.6**	**+2.3**
MJAR	**Matsushiro Arr**	**16.60**	**341**	P	**P**	**20 41 18.5**	**+0.2**
	0.0nm,0.3s,baz=147,slow=12,SNR=2.0						
JHS	**Saijyo**	**17.37**	**327**		**Pn**	**20 41 27.9**	**+0.9**
JHS				IAmb	IAmb	20 41 54.3	
	comp=Z,17nm,1.3s						
JSD	**Sado**	**17.98**	**343**	P	**Pn**	**20 41 34.6**	**+0.3**
H11S3	**WAKE ISLAND Hy**	**20.85**	**93**	T	T	21 03 06.0	
	baz=280,slow=75,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**20.86**	**89**	T	T	21 03 07.2	
	baz=276,slow=74,SNR=60						
H11S1	**WAKE ISLAND Hy**	**20.86**	**93**	T	T	21 03 05.1	
	baz=280,slow=75,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**20.87**	**89**	T	T	21 03 07.4	
	baz=276,slow=74,SNR=26						
H11S2	**WAKE ISLAND Hy**	**20.87**	**93**	T	T	21 03 11.5	
	baz=280,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**20.88**	**89**	T	T	21 03 08.4	
	baz=276,slow=74,SNR=48						
KSRS	**Korea Array**	**22.01**	**322**	P	**P**	**20 42 17.9**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=142,slow=8.4,SNR=7.5						
KLR	**Kul'dur**	**30.12**	**343**	P	**P**	**20 43 31.4**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=161,slow=8.4,SNR=18						
SONM	**Songino Array**	**40.86**	**320**	P	**P**	**20 45 03.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=108,slow=7.9,SNR=2.6						
SONM	**Songino Array**	**40.86**	**320**	IAmb	IAmb	20 45 08.1	
	comp=Z,2.0nm,1.2s						
WB0	**Warramunga Arr**	**41.63**	**195**	P	**P**	**20 45 09.4**	**0.0**
WB0				IAmb	IAmb	20 45 13.5	
	comp=Z,8.3nm,1.2s						
WR0	**Warramunga Arr**	**41.78**	**194**	P	**P**	**20 45 09.6**	**-1.0**
WR0				IAmb	IAmb	20 45 18.6	
	comp=Z,9.1nm,1.4s						
WB2	**Warramunga Arr**	**41.81**	**195**	P	**P**	**20 45 10.4**	**-0.5**
WRA	**Warramunga Arr**	**41.81**	**195**	P	**P**	**20 45 09.6**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=16,slow=8.6,SNR=2.7						
SEY	**Seymchan**	**42.35**	**5**	P	**P**	**20 45 14.8**	**0.0**
	comp=Z,2.5nm,0.6s,baz=202,slow=8.1,SNR=9.2						
ASAR	**Alice Springs**	**45.50**	**194**	P	**P**	**20 45 38.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=14,slow=8.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**55.72**	**322**	P	**P**	**20 46 56.4**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=104,slow=6.1,SNR=2.7						
MKAR	**Makanchi Array**	**56.28**	**313**	P	**P**	**20 47 01.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=90,slow=6.9,SNR=5.2						
SVW2	**Sparrevohn**	**57.41**	**30**	P	**P**	**20 47 09.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**60.25**	**27**	P	**P**	**20 47 28.5**	**+0.1**
TRF	**Thorofare Moun**	**60.40**	**28**	P	**P**	**20 47 29.0**	**-0.7**
I23K	**Minto, Yukon-K**	**61.18**	**26**	P	**P**	**20 47 35.4**	**+0.8**
SCM	**Sheep Creek Mo**	**61.43**	**30**	P	**P**	**20 47 36.4**	**-0.2**
ILAR	**Eielson Array**	**62.13**	**27**	P	**P**	**20 47 39.5**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=262,slow=5.0,SNR=12						
DOT	**Dot Lake**	**63.18**	**28**	P	**P**	**20 47 48.0**	**-0.2**
DOT				IAmb	IAmb	20 47 48.4	
	comp=Z,2.5nm,0.7s						
SCRK	**Sand Creek**	**63.26**	**28**	P	**P**	**20 47 47.7**	**-1.1**
SCRK				IAmb	IAmb	20 47 49.0	
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**64.26**	**320**	P	**P**	**20 47 55.6**	**+0.2**
BRVK				IAmb	IAmb	20 47 57.0	
	comp=Z,4.6nm,0.9s						
KK31	**Karatay Array**	**64.66**	**309**		**P**	**20 47 58.3**	**+0.2**
KK31				IAmb	IAmb	20 48 00.3	
	comp=Z,2.8nm,1.0s						
KKAR	**Karatay Array**	**64.66**	**309**	P	**P**	**20 47 58.8**	**+0.6**
KKAR	**Karatay Array**	**64.66**	**309**	P	**P**	**20 47 57.9**	**-0.2**
KKAR				IAmb	IAmb	20 48 00.3	
	comp=Z,2.8nm,1.0s						
HYT	**Haines Junctio**	**66.07**	**32**	P	**P**	**20 48 07.8**	**+0.8**
HYT				IAmb	IAmb	20 48 08.7	
	comp=Z,3.9nm,0.9s						
ABKAR	**Akbulak array**	**71.11**	**316**	P	**P**	**20 48 38.4**	**-0.1**
YKA	**Yellowknife Ar**	**76.52**	**28**	P	**P**	**20 49 09.8**	**0.0**
	comp=Z,1.2nm,0.6s,baz=294,slow=5.4,SNR=4.8						
HUMO	**Hull Mountain**	**77.85**	**49**	P	**P**	**20 49 19.7**	**+2.1**
KCPM	**Cahto Peak**	**78.26**	**52**	P	**P**	**20 49 20.0**	**-0.1**
YBH	**Yreka Blue Hor**	**78.28**	**50**	P	**P**	**20 49 20.4**	**+0.2**
PINE	**Pine Mountain**	**78.89**	**47**	P	**P**	**20 49 23.7**	**+0.1**
K05A	**Summer Lake**	**79.26**	**48**	P	**P**	**20 49 26.1**	**+0.5**
ARCES	**ARCESS Array B**	**80.14**	**342**	P	**P**	**20 49 29.6**	**0.0**
	comp=Z,2.6nm,0.8s,baz=61,slow=7.5,SNR=7.9						
ARCES	**ARCESS Array B**	**80.14**	**342**	P	**P**	**20 49 29.7**	**+0.1**
BEKR	**Beckworth**	**80.56**	**51**	P	**P**	**20 49 31.6**	**-1.1**
BEKR				IAmb	IAmb	20 49 33.1	
	comp=Z,3.7nm,0.7s						
BMO	**Blue Mountains**	**81.01**	**45**	P	**P**	**20 49 34.3**	**-0.6**
BMO				IAmb	IAmb	20 49 35.6	
	comp=Z,3.8nm,0.7s						
CMB	**Columbia Colle**	**81.15**	**53**	P	**P**	**20 49 35.0**	**-0.7**
CMB				IAmb	IAmb	20 49 36.2	
	comp=Z,3.3nm,0.8s						
WAKR	**Walker**	**81.69**	**52**	P	**P**	**20 49 38.4**	**-0.3**
WAKR				IAmb	IAmb	20 49 39.7	
	comp=Z,3.1nm,0.7s						
PLID	**Pearl Lake**	**81.79**	**45**	P	**P**	**20 49 38.7**	**-0.4**
RYN	**Ryan**	**82.32**	**52**	P	**P**	**20 49 41.6**	**-0.4**
RYN				IAmb	IAmb	20 49 42.7	
	comp=Z,3.2nm,0.8s						
LHV	**Little Huntoon**	**82.47**	**52**	P	**P**	**20 49 43.0**	**+0.6**
LHV				IAmb	IAmb	20 49 43.8	
	comp=Z,3.8nm,0.8s						
KVN	**Kaiserville**	**82.48**	**51**	P	**P**	**20 49 42.3**	**-0.6**
KVN				IAmb	IAmb	20 49 43.5	
	comp=Z,3.5nm,0.7s						
MFID	**Camas Ranch**	**82.51**	**46**	P	**P**	**20 49 42.3**	**-0.5**
MFID				IAmb	IAmb	20 49 43.7	
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**82.55**	**52**	P	**P**	**20 49 43.2**	**0.0**
	comp=Z,3.2nm,0.7s,baz=275,slow=5.3,SNR=25						
NVAR	**Mina Array Bea**	**82.55**	**52**	P	**P**	**20 49 42.2**	**-1.0**
NV11	**Mina Array Sit**	**82.66**	**52**	P	**P**	**20 49 43.5**	**-0.3**
NV11				IAmb	IAmb	20 49 44.5	
	comp=Z,2.8nm,0.8s						
ELK	**Elko**	**83.91**	**49**	P	**P**	**20 49 49.9**	**-0.3**
ELK				IAmb	IAmb	20 49 51.1	
	comp=Z,2.7nm,0.7s						
FINES	**FINESS Array B**	**84.52**	**335**	P	**P**	**20 49 51.2**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=79,slow=4.3,SNR=15						
U15A	**North Rim**	**87.74**	**52**	P	**P**	**20 50 09.2**	**-0.1**
U15A				IAmb	IAmb	20 50 10.3	
	comp=Z,2.7nm,0.8s						
LPAZ	**La Paz**	**148.60**	**87**	PKPbc	**PKPdf**	**20 57 05.5**	**+1.4**
	comp=Z,1.1nm,0.8s,baz=254,slow=7.4,SNR=3.9						

*NEIC **07** 20:46:29.5±2.5, 6°.1S±0°.1×152°.1E±0°.2, h37km±11km, mb4.1/6, Error ellipse: s-maj=26.0km s-min=11.9km az=119.0*
*IDC **07** 20:46:35.0±6.5, 5°.92S×151°.41E, h65km±52km, mb3.5/3, mb1 3.9/4, mb1mx3.3/27, mbtmp3.9/4, ML2.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/26, Error ellipse: s-maj=102.5km s-min=35.6km az=127.0*

ISC 07 20:46:30.2±1.3, 6°.1S±0°.1×152°.0E±0°.2, h36km, n14, σ1°38/14, mb3.9/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.93**	**6**	Pn	**Pn**	**20 47 00.1**	**-0.3**
PMG	**Port Moresby**	**5.77**	**235**	P	**Pn**	**20 47 54.9**	**+1.7**
	3.8nm,0.3s,baz=52,slow=8.5,SNR=8.6						
PMG				S	**Sn**	**20 48 55.4**	**-2.9**
	1.0nm,0.3s,baz=193,slow=12,SNR=1.4						
PMG	**Port Moresby**	**5.77**	**235**		**Pn**	**20 47 54.5**	**+1.2**
MANU	**Manus Island**	**6.11**	**311**	Pn	**Pn**	**20 47 59.5**	**+1.5**
WB0	**Warramunga Arr**	**21.81**	**230**	P	**P**	**20 51 18.5**	**-0.8**
WB0				IAmb	IAmb	20 51 34.7	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**21.81**	**229**	P	**P**	**20 51 18.9**	**-0.5**
WR0				IAmb	IAmb	20 51 33.3	
	comp=Z,16nm,1.6s						
WB2	**Warramunga Arr**	**21.94**	**230**	P	**P**	**20 51 20.2**	**-0.6**
WB2				IAmb	IAmb	20 51 32.5	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**21.95**	**230**	P	**P**	**20 51 19.9**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=54,slow=10.0,SNR=21						
AS31	**Alice Springs**	**24.61**	**223**	P	**P**	**20 51 48.1**	**+0.7**
AS31				IAmb	IAmb	20 51 48.9	
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**24.62**	**223**	P	**P**	**20 51 47.5**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=55,slow=8.6,SNR=28						
KNRA	**Kununurra**	**24.65**	**245**	P	**P**	**20 51 46.1**	**-1.6**
BATI	**Baumata**	**28.29**	**260**	LR	LR	21 05 04.3	
	comp=Z,173nm,18.6s,baz=220,slow=40						
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**20 58 55.7**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=252,slow=5.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.88**	**286**	PKPbc	**PKPbc**	**21 06 17.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=64,slow=2.7,SNR=7.9						

*SOME **07** 21:03:13.0, 40°.60N×77°.77E, h10km*
*NNC **07** 21:03:13.8±0.9, 40°.61N×77°.81E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=5.9km s-min=3.9km az=170.0*
*KRNET **07** 21:03:13.8±0.1, 40°.60N×77°.80E, mb2.6*

ISC 07 21:03:13.5±2.5, 40°.6N±0°.1×77°.75E±0°.05, h10km, n37, σ1°51/56, 14C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.61**	**345**	⇑*i*P	**Pb**	**21 03 43.8**	**+0.4**
	baz=44						
KDJ				⇑*i*S	**Sg**	**21 04 05.9**	**+0.6**
	baz=44						
ULHL	**Ulahol**	**2.02**	**326**	⇑*e*P	**Pb**	**21 03 51.2**	**+0.8**
	baz=25						
ULHL				⇑*i*S	**Sg**	**21 04 18.7**	**+0.4**
	baz=25						
ANVS	**Anan'yevo**	**2.21**	**358**	⇑*i*P	**Pb**	**21 03 53.9**	**+0.3**
	baz=57						
ANVS				⇑*i*S	**Sg**	**21 04 22.7**	**-1.7**
	baz=57						
BOOM	**Boomskoye usch**	**2.35**	**325**	⇑*i*P	**Pb**	**21 03 56.2**	**+0.3**
	baz=24						
BOOM				⇑*i*S	**Sb**	**21 04 26.9**	**+1.9**
	baz=24						
SATY	**Saty**	**2.53**	**11**	*e*P	**Pb**	**21 03 59.9**	**+0.8**
	12nm,0.4s						
SATY				*e*S	**Sg**	**21 04 33.9**	**-0.9**
	8.6nm,0.4s						
SATY	**Saty**	**2.53**	**11**	Pg	**Pb**	**21 03 59.9**	**+0.8**
	12nm,0.4s						
SATY				Lg	Lg	21 04 33.8	
	8.6nm,0.4s						
MDOK	**Medeo**	**2.64**	**349**	*e*P	**Pb**	**21 04 02.1**	**+1.2**
	7.3nm,0.3s						
MDOK				*e*S	**Sg**	**21 04 37.6**	**-0.6**
	15nm,0.4s						
MDOK	**Medeo**	**2.64**	**349**	Pg	**Pb**	**21 04 01.5**	**+0.6**
	7.7nm,0.5s						
MDOK				Lg	Lg	21 04 37.7	
	10nm,0.5s						
MDOK	**Medeo**	**2.64**	**349**	Pg	**Pb**	**21 04 02.1**	**+1.2**
	7.3nm,0.3s						
MDOK				Lg	Lg	21 04 37.6	
	15nm,0.4s						
UZB	**Uzynbulak**	**2.74**	**20**	*e*P	**Pb**	**21 04 03.3**	**+0.6**
	2.9nm,0.3s						
UZB				*e*S	**Sg**	**21 04 40.0**	**-1.4**
	8.4nm,0.3s						
UZB	**Uzynbulak**	**2.74**	**20**	Pg	**Pb**	**21 04 03.3**	**+0.6**
	2.9nm,0.3s						
UZB				Lg	Lg	21 04 40.0	
	8.4nm,0.3s						
KST	**Kastek**	**2.80**	**332**	*e*P	**Pb**	**21 04 05.5**	**+1.7**
	6.8nm,0.3s						
KST				*e*S	**Sg**	**21 04 43.7**	**+0.1**
	6.7nm,0.8s						
KST	**Kastek**	**2.80**	**332**	Pg	**Pb**	**21 04 05.5**	**+1.7**
	6.8nm,0.3s						
KST				Lg	Lg	21 04 43.7	
	6.7nm,0.8s						
TKM2	**Tokmak 2**	**2.84**	**326**	⇑*e*P	**Pb**	**21 04 03.0**	**-1.4**
	baz=25						
TKM2				⇑*i*S	**Sb**	**21 04 38.7**	**-0.7**
	baz=25						
TKM2	**Tokmak 2**	**2.84**	**326**	⇓Pg	**Pb**	**21 04 04.4**	**0.0**
	1.7nm,0.5s						
TKM2				⇑Lg	Lg	21 04 44.4	
	4.0nm,0.7s						
SHLS	**Shalkode**	**2.88**	**26**	*e*P	**Pg**	**21 04 08.3**	**-0.3**
	4.9nm,0.3s						
SHLS				*e*S	**Sg**	**21 04 48.3**	**+2.3**
	9.7nm,0.4s						
SHLS	**Shalkode**	**2.88**	**26**	Pg	**Pg**	**21 04 08.3**	**-0.3**
	4.9nm,0.3s						
SHLS				Lg	Lg	21 04 48.3	
	9.7nm,0.4s						
ARLS	**Aral**	**2.89**	**298**	⇓*i*P	**Pb**	**21 04 03.7**	**-1.4**
	baz=97						
ARLS				⇓*i*S	**Sb**	**21 04 40.3**	**-0.3**
	baz=97						
KURS	**Kuram**	**2.93**	**6**	*e*P	**Pb**	**21 04 07.4**	**+1.7**
	4.2nm,0.3s						
KURS				*e*S	**Sg**	**21 04 46.7**	**-0.8**
	8.2nm,0.7s						
KURS	**Kuram**	**2.93**	**6**	Pg	**Pb**	**21 04 07.4**	**+1.7**
	4.2nm,0.3s						
KURS				Lg	Lg	21 04 46.7	
	8.2nm,0.7s						
KPKS	**Kokpek**	**2.97**	**13**	*e*P	**Pb**	**21 04 07.7**	**+1.1**
	16nm,0.2s						
KPKS				*e*S	**Sg**	**21 04 47.1**	**-1.8**
	12nm,0.4s						
PDGK	**Podgornoye**	**3.04**	**25**	Pg	**Pb**	**21 04 08.1**	**+0.3**
	3.8nm,0.3s						
PDGK				Lg	Lg	21 04 48.0	
	4.5nm,0.4s						
PDGK	**Podgornoye**	**3.04**	**25**	⇑Pg	**Pb**	**21 04 07.0**	**-0.8**
	4.0nm,0.4s						
PDGK				⇑Lg	Lg	21 04 48.0	
	6.8nm,0.8s						
DGS	**Degeres**	**3.04**	**332**	*e*P	**Pb**	**21 04 09.8**	**+1.9**
	4.3nm,0.4s						
DGS				*e*S	**Sg**	**21 04 50.7**	**-0.5**
	8.9nm,0.4s						
DGS	**Degeres**	**3.04**	**332**	Pg	**Pb**	**21 04 09.8**	**+1.9**
	4.3nm,0.4s						
DGS				Lg	Lg	21 04 50.7	
	8.9nm,0.4s						
AAK	**Ala-Archa**	**3.19**	**311**	⇓Pg	**Pb**	**21 04 12.6**	**+2.2**
	1.6nm,0.4s						
AAK				⇑Lg	Lg	21 04 55.4	
	12nm,0.8s						
KTBS	**Karatobe**	**3.23**	**346**	*e*P	**Pb**	**21 04 12.3**	**+1.3**
	5.5nm,0.4s						
KTBS				*e*S	**Sg**	**21 04 55.2**	**-2.1**
	11nm,0.5s						
KTBS	**Karatobe**	**3.23**	**346**	Pg	**Pb**	**21 04 12.3**	**+1.3**
	5.5nm,0.4s						
KTBS				Lg	Lg	21 04 55.2	
	11nm,0.5s						
CHKK	**Chushkaly**	**3.32**	**350**	*e*P	**Pb**	**21 04 13.9**	**+1.3**
	2.6nm,0.2s						
CHKK				*e*S	**Sg**	**21 04 57.3**	**-2.9**
	5.3nm,0.3s						
CHKK	**Chushkaly**	**3.32**	**350**	Pg	**Pb**	**21 04 13.9**	**+1.3**
	2.6nm,0.2s						
CHKK				Lg	Lg	21 04 57.3	
	5.3nm,0.3s						
KUU	**Kurty**	**3.48**	**343**	*e*P	**Pb**	**21 04 16.5**	**+1.4**
	1.0nm,0.2s						
KUU				*e*S	**Sg**	**21 05 02.0**	**-3.1**
	6.3nm,0.5s						
KUU	**Kurty**	**

FNO	Franklin	1.53	170	Pn	Pn	21 15 24.9	+0.3
R32A	Long Quarter,	1.83	335	Pn	Pn	21 15 29.4	+0.6
X34A	Smith Ranch, M	2.17	182	Pn	Pn	21 15 34.3	+0.9
WMOK	Wichita Mounta	2.20	203		Pn	21 15 34.2	+0.2
CBKS	Cedar Bluff	2.59	323	IAmb_Lg		21 16 16.3	
	comp=Z,5.6nm,0.8s						
U38A	Gravette	2.70	96	Pn	Pn	21 15 42.2	+1.5
U38A				IAmb_Lg		21 16 21.9	
	comp=Z,8.6nm,0.8s						
X37A	Clayton	2.90	138	Pn	Pn	21 15 45.3	+1.9
HHAR	Hobbs	3.08	98	IAmb_Lg		21 16 38.7	
	comp=Z,5.4nm,0.8s						
AMTX	Amarillo	3.73	241	IAmb_Lg		21 16 58.7	
	comp=Z,4.5nm,0.7s						
U40A	Yellville	3.94	95	IAmb_Lg		21 17 05.2	
	comp=Z,7.2nm,0.9s						
MGMO	Mountain Grove	4.38	83	IAmb_Lg		21 17 13.9	
	comp=Z,5.9nm,0.7s						
LCAR	Lake Charles	5.34	96	IAmb_Lg		21 17 49.2	
	comp=Z,3.6nm,1.0s						

*IDC **07** 21:15:32.8±2.9, 36.°89N×69.°84E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/44, mbtmp3.7/7, ML3.0/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/44, Error ellipse: s-maj=70.7km s-min=19.4km az=141.0*
*NEIC **07** 21:15:36.3±1.8, 37.°02N±0.°05×69.°83E±0.°04, h8km±7km, mb4.1/6, Error ellipse: s-maj=7.2km s-min=4.3km az=163.0*
*NNC **07** 21:15:38.1±3.0, 37.°20N×69.°75E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=26.9km s-min=21.5km az=94.0*
ISC 07 21:15:38.8±0.8, 37.°00N±0.°07×69.°76E±0.°07, h36km, n36, σ1§37/35, mb4.1/5, MS3.3/3, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	1.72	344		Pn	21 16 07.1	+0.8
GAR	Garm	2.04	12	Pn	Pn	21 16 12.4	+1.7
KBL	Kabul	2.52	194		Pn	21 16 19.9	+2.4
DRK	Karamyk	2.95	32		Pn	21 16 23.8	+0.4
BTK	Batken	3.16	15	Pn	Pn	21 16 27.7	+1.6
NIL	Nilore	4.39	139	Pn	Pn	21 16 43.2	+0.2
KK31	Karatay Array	6.12	5	⇓Pn	Pn	21 17 07.4	+0.7
	1.0nm,0.2s,baz=201,slow=11,SNR=11						
KK31				⇓Sn	Sn	21 18 16.4	+1.0
	1.4nm,0.3s,baz=194,slow=22,SNR=4.3						
KK31				⇑Lg	Lg	21 18 50.2	
	12nm,0.8s						
KK31	Karatay Array	6.12	5	Pn	Pn	21 17 06.9	+0.3
KKAR	Karatay Array	6.12	5		Pn	21 17 07.1	+0.4
KKAR	Karatay Array	6.12	5	Pn	Pn	21 17 07.2	+0.5
HRA	Herat	6.65	249	Pn	Pn	21 17 15.8	+1.6
AAK	Ala-Archa	6.70	31	Pn	Pn	21 17 16.6	+1.8
	1.6nm,0.3s,baz=224,slow=5.2,SNR=5.1						
AAK				Sn	Sn	21 18 30.9	+1.0
	0.3nm,0.3s,baz=287,slow=21,SNR=1.4						
AAK				Lg	Lg	21 19 07.4	
	0.5nm,0.3s,baz=303,slow=21,SNR=1.8						
AAK	Ala-Archa	6.70	31	⇑Pn	Pn	21 17 15.9	+1.1
	5.3nm,0.6s						
AAK				⇑Sn	Sn	21 18 32.1	+2.2
	5.7nm,0.8s						
AAK				⇑Lg	Lg	21 19 06.9	
	7.1nm,0.7s						
AAK	Ala-Archa	6.70	31	Pn	Pn	21 17 15.3	+0.5
FRU1	Bishkek	6.90	31	Pn	Pn	21 17 17.8	+0.3
TKM2	Tokmak 2	7.42	35	⇓Pn	Pn	21 17 25.5	+0.9
	4.8nm,0.6s						
TKM2				⇓Lg	Lg	21 19 27.4	
	3.1nm,0.8s						
SMLA	Simla	8.48	132	eP	Pn	21 17 47.0	+7.9
SMLA				eS	Sn	21 19 14.2	+0.6
GYA0B	ALIBECK ARRAY	9.31	279	Pn	Pn	21 17 49.5	-0.9
MK31	Makanchi Array	13.50	40	Pn	Pn	21 18 47.1	-0.7
MKAR	Makanchi Array	13.50	40	Pn	Pn	21 18 47.3	-0.4
	0.1nm,0.3s,baz=225,slow=14,SNR=1.4						
MKAR	Makanchi Array	13.50	40		Pn	21 18 44.1	-3.7
ABKAR	Akbulak array	14.18	333	Pn	Pn	21 18 55.1	-1.7
KURBB	Kurchatov Arra	15.00	22	Pn	Pn	21 19 02.7	-5.2
	0.0nm,0.3s,baz=213,slow=12,SNR=1.5						
BRVK	Borovoye	16.06	1	Pn	Pn	21 19 19.4	-2.3
ZAA0	Zalesovo Array	19.89	27	P	P	21 20 05.1	-1.8
ZAA0				IAmb	IAmb	21 20 06.3	
	comp=Z,1.7nm,0.5s						
ZALV	Zalesovo Beam	19.89	27	P	P	21 20 05.4	-1.5
	comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=8.3						
BELG	Belogornoye	21.88	322	LR	LR	21 31 54.1	
	comp=Z,105nm,18.2s,baz=70,slow=45						
PALK	Pallekele	31.23	159	LR	LR	21 35 42.4	
	comp=Z,74nm,20.9s,baz=41,slow=39						
AKASG	Malin Array Be	31.86	308	P	P	21 22 01.4	+1.2
AKASG				IAmb	IAmb	21 22 28.5	
	comp=Z,6.2nm,2.0s						
ARCES	ARCESS Array B	40.30	338	P	P	21 23 12.7	+0.6
	comp=Z,2.8nm,0.8s,baz=103,slow=6.6,SNR=4.9						
NC303	NORSAR Array S	43.33	323	P	P	21 23 37.8	+0.8
NOA	NORSAR Array B	43.38	323	P	P	21 23 37.5	+0.1
	comp=Z,0.8nm,0.8s,baz=98,slow=7.7,SNR=1.9						
TIXI	Tiksi	45.68	22	P	P	21 23 55.5	-0.1
	comp=Z,1.0nm,0.3s,baz=246,slow=6.4,SNR=3.7						
TIXI	Tiksi	45.68	22	P	P	21 23 55.9	+0.3
TIXI				IAmb	IAmb	21 23 57.0	
	comp=Z,2.1nm,0.9s						
MJAR	Matsushiro Arr	53.69	68	LR	LR	21 50 23.3	
	comp=Z,38nm,18.9s,baz=5.0,slow=39						
TORD	Torodi Ar. Bea	64.74	268	P	P	21 26 13.4	-0.3
	comp=Z,0.3nm,0.5s,baz=47,slow=6.3,SNR=4.5						

*IDC **07** 21:24:55.0±2.5, 19.°84S×69.°99W, h0km, mb3.8/1, mb1 3.6/2, mb1mx3.4/21, mbtmp3.5/2, ML3.0/1, Error ellipse: s-maj=112.7km s-min=50.7km az=119.0*
*NEIC **07** 21:24:59.4±1.5, 18.°60S±0.°06×70.°76W±0.°09, h31km±7km, Error ellipse: s-maj=13.4km s-min=6.2km az=122.0*
*ARE **07** 21:24:59±2.3, 18.°67S±0.°05×70.°98W±0.°08, h35km±7km, Error ellipse: s-maj=11.1km s-min=5.4km az=114.0*
*GUC **07** 21:25:00.7±0.9, 18.°68S×70.°72W, h34km±4km, ML4.2*
ISC 07 21:24:55.4±2.5, 18.°64S±0.°05×70.°82W±0.°08, h4km±14km, n47, σ1§13/50, mb4.3/3, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	0.52	59	⇓eP	Pn	21 25 10.0	+0.4
AP01				eS	Sb	21 25 17.2	+2.2
AP01				IAML		21 25 17.6	
	comp=N,20μm,0.4s						
AP01	Chacalluta	0.52	59	Pn	Pn	21 25 10.0	+0.4
AP01					Sb	21 25 16.9	+1.9
PSGC	Pisagua	1.15	146	eP	Pn	21 25 18.4	0.0
PSGC				eS	Sg	21 25 32.1	-0.4
PSGCX	Pisagua	1.15	146	Pn	Pb	21 25 18.2	+0.3
PSGCX				Sn	Sg	21 25 31.9	-0.6
MNMC	Minye Minye	1.25	113	⇓eP	Pn	21 25 20.8	+0.9
MNMC				eS	Sn	21 25 36.0	-1.4
MNMC				IAML		21 25 41.1	
	comp=N,14μm,0.2s						
MNMC	Minye Minye	1.25	113		Pn	21 25 20.1	+0.1
MNMC				Sn	Sn	21 25 36.0	-1.4
TA02	Huaiquique	1.74	158	⇑eP	Pb	21 25 28.0	0.0
TA02				eS	Sn	21 25 48.5	-0.6
TA02	Huaiquique	1.74	158		Pb	21 25 27.8	-0.1
HMBC	Humberstone	1.85	152	⇓eP	Pb	21 25 29.2	-0.6
HMBC				eS	Sn	21 25 50.9	-1.0
HMBC				IAML		21 25 56.3	
	comp=E,3μm,0.2s						
TA01	Diego Aracena	2.00	163	eP	Pn	21 25 31.4	+1.4
TA01				eS	Sn	21 25 55.4	-0.2
TA01	Diego Aracena	2.00	163	Pn	Pn	21 25 31.6	+1.6
PB08	IPOC Station P	2.16	134	eP	Pb	21 25 34.1	-1.2
PB08				eS	Sn	21 25 59.8	-0.3
PB08				IAML		21 26 02.5	
	comp=E,3μm,0.2s						
PB08	IPOC Station P	2.16	134		Pb	21 25 34.6	-0.8
PB01	IPOC Station P	2.70	153	⇑eP	Pn	21 25 41.0	+1.4
PB01				i S	Sn	21 26 13.1	+0.3
PB01				IAML		21 26 21.9	
	comp=E,726nm,0.4s						
PB01	IPOC Station P	2.70	153		Pn	21 25 41.1	+1.4
PB07	IPOC Station P	3.19	164	eP	Pn	21 25 48.0	+1.5
PB07				eS	Sn	21 26 24.4	-0.7
PB07				IAML		21 26 43.9	
	comp=E,516nm,0.6s						
PB07	IPOC Station P	3.19	164		Pn	21 25 48.0	+1.5
PB09	IPOC Station P	3.47	155		Pn	21 25 52.8	+2.5
LPAZ	La Paz	3.47	48	Pn	Pb	21 25 58.0	+0.2
	comp=E,0.6nm,0.3s,baz=210,slow=12,SNR=11						
LPAZ	La Paz	3.47	48	Pn	Pb	21 25 56.5	-1.2
PB04	IPOC Station P	3.73	170		Pn	21 25 54.7	+0.8
PB06	IPOC Station P	4.21	164		Pn	21 26 01.4	+0.9
LVC	Limon Verde	4.33	156		Pn	21 26 04.6	+2.2
PB15	IPOC Station P	4.71	165		Pn	21 26 08.2	+0.7
PB10	IPOC Station P	4.85	177	Pn	Pn	21 26 08.8	-0.5
PB14	IPOC Station P	5.97	176	Pn	Pn	21 26 24.1	-0.7
GO02	Mina Guanaco	6.59	170	Pn	Pn	21 26 33.6	+0.3
AC02	Maricunga	8.30	170	Pn	Pn	21 26 57.2	+0.2
GO03	Copiap	8.93	177	Pn	Pn	21 27 04.9	-0.3
H03N1	Juan Fernandez	16.42	205	T	T	21 45 42.3	
	baz=31,slow=74						
H03N2	Juan Fernandez	16.43	205	T	T	21 45 59.2	
	baz=31,slow=74						
H03N3	Juan Fernandez	16.44	205	T	T	21 45 59.3	
	baz=31						
ITAB	Concordia	19.20	120	P	P	21 29 20.3	0.0
ITAB				IAmb	IAmb	21 29 39.9	
	comp=Z,30nm,1.5s						
TRQA	Tornquist	20.83	160	P	P	21 29 38.4	+0.4
TRQA				IAmb	IAmb	21 29 53.5	
	comp=Z,16nm,1.5s						
SNAA	Sanae	65.55	161	P	P	21 35 39.6	-0.2
SNAA				IAmb	IAmb	21 35 40.9	
	comp=Z,2.2nm,1.0s						
QSPA	South Pole Qui	71.53	180	P	P	21 36 18.3	+0.9
TOA0	Torodi Ar. Sit	78.12	72	P	P	21 36 54.1	-2.1
TOA0				IAmb	IAmb	21 37 01.4	
	comp=Z,5.2nm,1.4s						
TORD	Torodi Ar. Bea	78.12	72	P	P	21 36 54.8	-1.5
	comp=Z,0.4nm,0.4s,baz=255,slow=4.0,SNR=5.4						
TORD	Torodi Ar. Bea	78.12	72	P	P	21 36 54.5	-1.7
H11S2	WAKE ISLAND Hyl	25.69	280	T	T	00 02 52.4	
	baz=101,slow=75,SNR=135						
H11S1	WAKE ISLAND Hyl	25.70	280	T	T	00 02 54.0	
	baz=101,slow=75,SNR=72						
H11N3	WAKE ISLAND Hyl	25.70	281	T	T	00 02 55.1	
	baz=100,slow=74,SNR=8.9						
H11S3	WAKE ISLAND Hyl	25.70	280	T	T	00 02 54.7	
	baz=101,slow=75,SNR=58						
H11N2	WAKE ISLAND Hyl	25.72	281	T	T	00 03 09.7	
	baz=100,slow=74,SNR=9.4						
H11N1	WAKE ISLAND Hyl	25.72	281	T	T	00 02 56.9	
	baz=100,slow=74,SNR=9.1						
WRA	Warramunga Arr	134.40	214	PKP	PKPdf	21 44 15.9	+0.3
	comp=Z,0.9nm,1.2s,baz=137,slow=2.2,SNR=1.8						
MKAR	Makanchi Array	144.28	32	PKP	PKPab	21 44 31.3	+0.7
	comp=Z,0.4nm,0.8s,baz=289,slow=0.9,SNR=1.6						

NNC 07 21:26:56.5±9.0, 37.°62N×78.°92E, h0km, mb3.8, mpv3.4, 9C-1D, Error ellipse: s-maj=66.8km s-min=51.2km az=11.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	Medeo	5.72	346	Pg	Pg	21 28 41.8	-4.2
	4.9nm,0.6s						
MDOK				Lg	Lg	21 29 57.7	
	13nm,1.2s						
PDGK	Podgornoye	5.72	4	⇑Pg	Pb	21 28 40.6	+3.4
	2.5nm,0.6s						
PDGK				⇑Lg	Lg	21 29 57.4	
	5.8nm,0.8s						
TKM2	Tokmak 2	5.87	335	⇑Pg	Pb	21 28 40.8	+1.0
	0.9nm,0.4s						
TKM2				⇓Lg	Lg	21 30 00.5	
	2.4nm,0.6s						
AAK	Ala-Archa	6.05	327	⇑Pg	Pb	21 28 44.3	+1.5
	2.5nm,0.6s						
AAK				⇑Lg	Lg	21 30 06.1	
	4.5nm,0.6s						
MAKZ	Makanchi	9.46	13	⇑Pn	Pn	21 29 15.4	+1.5
	1.5nm,0.9s						
MAKZ				⇑Sn	Sn	21 31 01.6	+0.7
	1.9nm,1.0s						
MK31	Makanchi Array	9.50	14	⇑Pn	Pn	21 29 16.3	+1.8
	1.0nm,0.7s,baz=192,slow=13,SNR=13						
MK31				⇑Sn	Sn	21 31 05.2	+3.3
	1.1nm,0.6s,baz=188,slow=28						

*FUNV **07** 22:06:32.4, 10.°42N×62.°48W, h26km, MW3.3*
*TRN **07** 22:06:32.5, 10.°67N×62.°48W, h61km, MD3.9*
TRN Felt in Trinidad, MMI II.
ISC 07 22:06:29.8±1.2, 10.°57N±0.°04×62.°52W±0.°03, h85km±16km, n49, σ1§93/72, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.71	278	eS	Sn	22 06 57.0	-1.0
TPP	Pointe-a-Pierr	1.08	103	eP	Pn	22 06 52.8	+2.7
TPP				eS	Sn	22 07 06.0	+0.6
TRN	Trinidad (W)	1.10	86	⇑iP	Pn	22 06 51.2	+0.9
TRN				eS	Sn	22 07 05.0	-0.7
TBH	Brigand Hill	1.43	93	eP	Pn	22 06 56.7	+2.2
GRGR	Grenville	1.77	29	eP	Pn	22 06 59.3	+0.5
GRGR				eS	Sn	22 07 20.3	-0.5
TPR	Prospect	1.82	70	eP	Pn	22 07 01.1	+1.6
TPR				eS	Sn	22 07 21.3	-0.7
BOT	Bacolet	1.87	71	eP	Pn	22 07 01.5	+1.4
TOSP	Speyside	2.08	69	eP	Pn	22 07 03.0	+0.1
TOSP				eS	Sn	22 07 27.6	-0.6
PCRV	Puerto La Cruz	2.12	260	eP	Pn	22 07 05.6	+2.1
PCRV				eS	Sn	22 07 29.2	0.0
GCMP	Grenada, Carri	2.18	29	eP	Pn	22 07 04.9	+0.6
GCMP				eS	Sn	22 07 30.2	-0.4
RIOV	Rio Grande	2.58	164	eS	Sn	22 07 37.9	-2.3
PRGV	PARIAGUAN	2.76	230	eP	Pn	22 07 13.8	+1.7
PRGV				eS	Sn	22 07 43.7	-0.9
SVB	Belmont	2.96	25	eP	Pn	22 07 15.8	+1.1
SVB				eS	Sn	22 07 49.3	0.0
SVV	Soufriere Volc	3.01	25	eP	Pn	22 07 17.3	+1.8
SVV				eS	Sn	22 07 49.3	-1.3
SSV	Crater Summit	3.03	25	eP	Pn	22 07 17.6	+1.9
SSV				eS	Sn	22 07 49.8	-1.3
SFAN	Fancy Village	3.09	25	eP	Pn	22 07 17.6	+1.1
MCLT	Moule a Chique	3.48	26	eP	Pn	22 07 22.7	+1.0
MCLT				eS	Sn	22 08 00.1	-1.9
SLB	Belfond	3.54	24	eP	Pn	22 07 24.8	+2.1
SLB				eS	Sn	22 08 02.1	-1.4
BIRV	Birongo	3.69	269	eP	Pn	22 07 27.4	+2.8
BIRV				eS	Sn	22 08 08.1	+1.1
SLBI	Saint Lucia, B	3.75	24	eP	Pn	22 07 25.9	+0.6
SLBI				eS	Sn	22 08 07.5	-0.9
BBGH	Gun Hill	3.86	48	eP	Pn	22 07 29.1	+2.2
BBGH				eS	Sn	22 08 10.5	-0.8
BBSP	Saint Philip	3.91	50	eP	Pn	22 07 30.0	+2.4
BBSP				eS	Sn	22 08 11.6	-0.8
MERV	Las Mercedes	3.95	251	eP	Pn	22 07 29.2	+1.1
MERV				eS	Sn	22 08 11.9	-1.3
BIM	Bigot	4.17	20	eP	Pn	22 07 31.9	+0.7
BIM				eS	Sn	22 08 15.9	-2.8
MPOM	Morne Pois Mar	4.18	23	eP	Pn	22 07 32.5	+1.3
MPOM				eS	Sn	22 08 16.9	-1.9
FDF	Fort de France	4.35	18	eP	Pn	22 07 34.6	+1.0
FDF	Fort de France	4.35	18	eS	Sn	22 08 20.1	-2.9
TACV	Tcata	4.46	265	eP	Pn	22 07 36.7	+1.6
TACV				eS	Sn	22 08 26.3	+0.5
ILAM	Ilet Lapin Mar	4.48	21	eP	Pn	22 07 36.8	+1.5
ILAM	Ilet Lapin Mar	4.48	21	eS	Sn	22 08 24.6	-1.5
LUEV	Luepa	4.81	167	eP	Pn	22 07 39.8	-0.3
LUEV				eS	Sn	22 08 30.2	-4.5
DSLB	Salisbury	4.95	12	eP	Pn	22 07 43.5	+1.7
DSLB	Salisbury	4.95	12	eS	Sn	22 08 34.8	-3.0
CACV	CAICARA DEL OR	4.97	233	eP	Pn	22 07 37.5	-4.5
CACV				eS	Sn	22 08 25.8	-12
BENV	Beln	5.04	264	eS	Sn	22 08 38.6	-1.3
TURV	Turiamo	5.23	269	eP	Pn	22 07 46.8	+1.2
TURV				eS	Sn	22 08 44.0	-0.7
MAGL	Barre de l'ile	5.48	13	eP	Pn	22 07 51.2	+2.3
MAGL	Barre de l'ile	5.48	13	eS	Sn	22 08 48.5	-2.2
CBE	Ff, Capester	5.54	9	eP	Pn	22 07 51.7	+1.9
CBE	Ff, Capester	5.54	9	eS	Sn	22 08 48.9	-3.2
BAUV	El Baul	5.68	254	eP	Pn	22 07 52.4	+0.7
BAUV				eS	Sn	22 08 52.9	-2.6
ABD	La Joyeuse, An	5.95	10	eP	Pn	22 07 58.4	+3.0
ABD	La Joyeuse, An	5.95	10	eS	Sn	22 09 01.2	-1.0
BPA	Boggy Peak	6.47	6	eP	Pn	22 08 04.5	+2.1
BPA	Boggy Peak	6.47	6	eS	Sn	22 09 10.9	-3.9
ANBD	Bethesda, Anti	6.48	6	eP	Pn	22 08 04.2	+1.6
ANOC	Antigua Open C	6.54	6	eS	Sn	22 09 14.7	-1.9
ANWB	Willy Bob	7.09	6	e	Pn	22 08 08.9	-2.0
PAYV	Puerto Ayacuch	7.21	225	eP	Pn	22 08 13.1	+0.4
PAYV				eS	Sn	22 09 27.3	-5.9

*IDC **07** 22:06:37.0±6.0, 37.°36N×78.°49E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=140.8km s-min=32.1km az=122.0*
*NNC **07** 22:06:41.4±3.7, 37.°67N×78.°25E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=29.1km s-min=24.3km az=85.0*
ISC 07 22:06:39.7±2.2, 37.°5N±0.°1×78.°5E±0.°2, h10km, n12, σ2§69/12, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.56	359	Pg	Pg	22 08 22.5	-3.7
	5.3nm,0.3s						
SATY				Lg	Lg	22 09 36.8	
	11nm,0.9s						
MDOK	Medeo	5.78	349	Pg	Pb	22 08 24.2	+3.7
	2.1nm,0.4s						
MDOK				Lg	Lg	22 09 39.1	
	9.6nm,0.7s						
MDOK	Medeo	5.78	349	Pg	Pb	22 08 22.4	+1.9
	2.9nm,0.3s						
MDOK				Lg	Lg	22 09 36.7	
	6.0nm,0.5s						
TKM2	Tokmak 2	5.86	339	⇓Pg	Pb	22 08 22.2	+0.1
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	22 09 38.3	
	1.9nm,0.7s						
PDGK	Podgornoye	5.88	7	Pg	Pb	22 08 25.5	+3.1
	1.3nm,0.3s						
PDGK				Lg	Lg	22 09 42.5	
	3.6nm,0.7s						
PDGK	Podgornoye	5.88	7	⇓Pg	Pb	22 08 22.2	-0.2
	1.9nm,0.8s						
PDGK				⇑Lg	Lg	22 09 41.9	
	9.1nm,0.8s						
AAK	Ala-Archa	5.99	330	⇓Pg	Pb	22 08 26.1	+1.9
	2.1nm,0.5s						
AAK				⇑Lg	Lg	22 09 41.9	
	4.0nm,0.6s						
KTBS	Karatobe	6.37	348	Pg	Pb	22 08 34.8	+4.2
	2.2nm,0.3s						
KTBS				Lg	Lg	22 09 58.4	
	6.3nm,0.5s						
KRBS	Karabastau	6.56	342	Pg	Pb	22 08 37.3	+3.4
	2.2nm,0.3s						
KRBS				Lg	Lg	22 10 02.6	
	1.1nm,0.5s						
MKAR	Makanchi Array	9.71	16	Pn	Pn	22 09 01.9	+2.4
	0.1nm,0.3s,baz=205,slow=13,SNR=5.9						
MKAR				Sn	Sn	22 10 47.5	-1.2
	0.2nm,0.3s,baz=196,slow=25,SNR=2.8						
FINES	FINESS Array B	40.13	324	P	P	22 14 15.4	+0.1
	2.6nm,0.9s,baz=120,slow=13,SNR=2.0						
TORD	Torodi Ar. Bea	71.70	273	P	P	22 18 00.8	-1.4
	0.2nm,0.5s,baz=46,slow=6.1,SNR=5.5						

IDC 07 22:07:47.8±2.3, 10.°66S×124.°51E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.4/31, mbtmp3.4/3, ML3.0/2, MS2.9/1, Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=198.0km s-min=34.2km az=54.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.23	135	Pn	Pn	22 10 57.3	+0.1
	0.1nm,0.3s,baz=310,slow=15,SNR=1.5						
WRA				Sn	Sn	22 13 18.8	-6.3
	0.1nm,0.3s,baz=306,slow=23,SNR=2.9						
ASAR	Alice Springs	15.74	146	Pn	Pn	22 11 30.9	-0.1
	0.1nm,0.3s,baz=323,slow=11,SNR=7.3						
ASAR				Sn	Sn	22 14 18.7	-7.6
	0.1nm,0.3s,baz=311,slow=20,SNR=2.7						
CMAR	Chiang Mai Arr	38.38	319	LR	LR	22 33 24.1	
	comp=Z,17nm,18.1s,baz=275,slow=40						
MKAR	Makanchi Array	68.49	330	P	P	22 18 52.0	0.0
	0.7nm,0.7s,baz=134,slow=6.2,SNR=4.0						

*TUL **07** 22:10:40.6±1.4, 36.°75N±0.°02×97.°59W±0.°02, h6km±6km, ML2.9, mb_Lg2.5/23(NEIC), Error ellipse: s-maj=3.3km s-min=1.6km az=221.0*
NEIC 07 22:10:40.6±0.5, 36.°73N±0.°02×97.°59W±0.°02, h2km±6km, Error ellipse: s-maj=3.2km s-min=1.7km az=222.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	South Haven SW	0.30	17	Pg	Pg	22 10 46.4	0.0
BLOK	Blackwell	0.30	83		Pg	22 10 46.7	+0.2
KAN17	Caldwell West	0.35	336	Pg	Pg	22 10 47.3	0.0
CROK	Carrier	0.39	235		Pg	22 10 48.5	+0.5
KAN09	Caldwell North	0.41	357	Pg	Pg	22 10 48.4	-0.1
KAN05	Bluff City Nor	0.45	329	Pg	Pg	22 10 49.1	-0.1
KS20	Mayfield South	0.50	3		Pg	22 10 50.1	-0.2
OK032	Salt Plains WL	0.51	279		Pg	22 10 50.4	+0.1
KAN10	Anthony SW Sta	0.57	314	Pg	Pg	22 10 51.4	-0.1
KAN08	Anthony NE Sta	0.59	329	Pg	Pg	22 10 51.8	-0.1
KAN12	Harper NE Stat	0.66	330	Pg	Pg	22 10 53.0	-0.3
T35A	Sooner Cattle	0.88	77		Pg	22 10 57.3	-0.3
QUOK	Quay	0.90	128		Pg	22 10 57.9	0.0
OK029	Liberty Lake	0.93	173		Pg	22 10 58.7	+0.1
OK031	S. Brethren Rd	0.98	142	Pg	Pg	22 10 59.5	+0.1
BCOK	Bluff Creek, N	1.07	181		Pg	22 11 01.1	0.0
OK

s-min=24.2km az=95.0
*NEIC **07** 22:29:53.8±2.0, 2°.17S±0°.09×139°.25E±0°.09, h37km±8km, mb4.2/9, Error ellipse: s-maj=18.0km s-min=3.9km az=137.0*
ISC 07 22:29:51.4±0.8, 2°.18S±0°.09×139°.3E±0°.1, h27km, n32, σ0°80/23, mb4.0/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**7.10**	**264**	Pn	**Pn**	**22 31 34.6**	**+1.0**
SIJI	**Sorong**	**8.15**	**279**	LR	LR	22 35 39.3	
	comp=Z,270nm,19.2s,baz=76,slow=43						
PMG	**Port Moresby**	**10.60**	**133**	LR	LR	22 36 21.6	
	comp=Z,50nm,19.9s,baz=131,slow=38						
MTN	**Manton Dam**	**13.34**	**217**	Pn	**Pn**	**22 32 58.8**	**-0.3**
KNRA	**Kununurra**	**16.97**	**217**		**P**	**22 33 48.5**	**-0.4**
KNRA				IAmb	IAmb	22 34 09.4	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**18.28**	**194**	P	**P**	**22 34 04.2**	**+0.9**
WR0				IAmb	IAmb	22 34 07.1	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**18.31**	**195**	P	**P**	**22 34 02.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=19,slow=12,SNR=11						
WRA	**Warramunga Arr**	**18.31**	**195**	P	**P**	**22 34 03.1**	**-0.5**
AS31	**Alice Springs**	**21.99**	**193**	P	**P**	**22 34 44.2**	**+0.5**
ASAR	**Alice Springs**	**22.00**	**193**	P	**P**	**22 34 42.4**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=32,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**22.00**	**193**	P	**P**	**22 34 43.5**	**-0.2**
EIDS	**Eidsvold**	**25.69**	**155**	P	**P**	**22 35 20.5**	**+1.1**
EIDS				IAmb	IAmb	22 35 24.2	
	comp=Z,18nm,1.1s						
PSA00	**Pilbara Seismi**	**27.03**	**223**	P	**P**	**22 35 32.3**	**+0.7**
PSA00				IAmb	IAmb	22 35 57.9	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**29.62**	**176**	LR	LR	22 48 19.6	
	comp=Z,135nm,18.7s,baz=8.2,slow=38						
TWG	**Pinlang**	**30.56**	**325**	P	**P**	**22 36 01.4**	**-1.6**
H11S3	**WAKE ISLAND Hy**	**33.88**	**52**	T	T	23 12 07.6	
	baz=236,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**33.89**	**52**	T	T	23 12 08.7	
	baz=236,slow=76,SNR=26						
H11S1	**WAKE ISLAND Hy**	**33.89**	**52**	T	T	23 12 08.3	
	baz=236,slow=76,SNR=22						
H11N1	**WAKE ISLAND Hy**	**34.73**	**50**	T	T	23 13 16.8	
	baz=233,slow=75						
MORW	**Morawa**	**34.73**	**217**	P	**P**	**22 36 38.6**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**34.74**	**50**	T	T	23 13 16.9	
	baz=233,slow=75						
H11N3	**WAKE ISLAND Hy**	**34.75**	**50**	T	T	23 13 12.5	
	baz=233,slow=75						
KLR	**Kul'dur**	**51.62**	**354**	P	**P**	**22 38 56.1**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=138,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**69.74**	**322**	P	**P**	**22 40 58.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=125,slow=7.6,SNR=3.8						
MKAR	**Makanchi Array**	**69.74**	**322**	P	**P**	**22 40 59.1**	**-0.1**
BRVK	**Borovoye**	**79.30**	**325**	P	**P**	**22 41 55.1**	**+0.6**
BRVK				IAmb	IAmb	22 41 58.4	
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**85.10**	**24**	P	**P**	**22 42 24.2**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=269,slow=3.6,SNR=7.2						
BCAR	**Beaver Creek A**	**86.90**	**27**	P	**P**	**22 42 34.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**136.69**	**287**	PKP	**PKPdf**	**22 49 12.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=69,slow=2.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**136.69**	**287**		**PKPdf**	**22 49 12.5**	**+0.2**
LPAZ	**La Paz**	**147.26**	**125**	PKPbc	**PKPbc**	**22 49 33.4**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=233,slow=5.1,SNR=2.5						
LPAZ	**La Paz**	**147.26**	**125**	PKPbc	**PKPbc**	**22 49 33.6**	**-0.6**

*SKHL **07** 23:43:09.7±0.3, 43°.00N×145°.30E, h46km±1km, mb4.3/6*
*JMA **07** 23:43:09.1±0.1, 42°.98N×145°.29E, h49km±1km, M3.2*
JMA Felt I J1.
ISC 07 23:43:08.9±1.6, 42°.98N±0°.08×145°.30E±0°.06, h50km, n15, σ0°48/26, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.14**	**316**	P	**Pn**	**23 43 17.0**	**+0.1**
JKHN				eS	**Sn**	**23 43 22.8**	**+0.2**
AKK	**Akkeshi**	**0.34**	**277**	eP	**Pn**	**23 43 18.3**	**0.0**
AKK				AMB	AMB	23 43 18.4	
	540nm,0.2s						
AKK				eS	**Sn**	**23 43 24.7**	**-0.4**
AKK				A	A	23 43 25.3	
	1μm,0.2s						
AKK				A	A	23 43 25.3	
	2μm,0.2s						
JAK	**Akkeshi**	**0.44**	**273**	P	**Pn**	**23 43 19.4**	**0.0**
JAK				eS	**Sn**	**23 43 27.0**	**0.0**
NMR	**Nemuro--Hokkai**	**0.50**	**39**	eP	**Pn**	**23 43 20.3**	**+0.2**
NEM2	**Nemuro 2**	**0.51**	**40**	P	**Pn**	**23 43 19.9**	**-0.3**
NEM2				eS	**Sn**	**23 43 27.4**	**-0.9**
JNK	**Nakash**	**0.74**	**325**	P	**Pn**	**23 43 23.0**	**-0.1**
JNK				eS	**Sn**	**23 43 32.8**	**-0.7**
GLVR	**Golovnino**	**0.78**	**12**	eP	**Pn**	**23 43 23.5**	**-0.1**
GLVR				AMB	AMB	23 43 25.0	
	240nm,0.2s						
GLVR				eS	**Sn**	**23 43 34.0**	**-0.3**
GLVR				A	A	23 43 36.0	
	1μm,0.2s						
GLVR				A	A	23 43 36.0	
	1μm,0.2s						
JRA	**Rausu**	**0.97**	**352**	P	**Pn**	**23 43 26.3**	**+0.2**
JRA				eS	**Sn**	**23 43 38.7**	**-0.1**
GRPR	**Tuman**	**1.07**	**19**	eP	**Pn**	**23 43 27.3**	**-0.2**
GRPR				eS	**Sn**	**23 43 40.5**	**-0.9**
GRPR				A	A	23 43 41.0	
	750nm,0.2s						
JOB	**Onbets**	**1.08**	**267**	P	**Pn**	**23 43 27.6**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.13**	**21**	eP	**Pn**	**23 43 28.7**	**+0.3**
YUK				AMB	AMB	23 43 30.0	
	60nm,0.3s						
YUK				*i* S	**Sn**	**23 43 42.5**	**-0.3**
YUK				A	A	23 43 46.0	
	560nm,0.3s						
YUK				A	A	23 43 46.0	
	500nm,0.3s						
JAR	**Ashorobuto**	**1.16**	**286**	P	**Pn**	**23 43 29.1**	**+0.3**
JAR				eS	**Sn**	**23 43 43.9**	**+0.3**
JTKR	**Abashiri--Toko**	**1.42**	**315**	P	**Pn**	**23 43 33.0**	**+0.8**
JCH	**Churui**	**1.47**	**256**	P	**Pn**	**23 43 32.7**	**-0.3**
KUR	**Kuril'sk**	**2.92**	**38**	eP	**Pn**	**23 43 54.0**	**+1.3**
KUR				AMB	AMB	23 43 55.7	
	80nm,0.7s						
KUR				eS	**Sn**	**23 44 26.5**	**0.0**
KUR				A	A	23 44 43.0	
	30nm,0.7s						
KUR				A	A	23 44 43.0	
	90nm,0.7s						

*IDC **08** 00:06:22.9±2.5, 71°.91N×0°.08W, h0km, mb3.4/3, mb1 3.5/7, mb1mx3.3/41, mbtmp3.4/7, ML2.8/4, MS3.0/13, Ms1 3.0/13, ms1mx2.8/44, Error ellipse: s-maj=44.9km s-min=25.3km az=105.0*
ISC 08 00:06:25.7±1.4, 72°.0N±0°.1×0°.9E±0°.1, h11km, n18, σ1°78/9, mb3.5/3, MS2.9/7, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**7.35**	**26**	Pn	**Pn**	**00 08 13.3**	**+0.5**
	baz=226,slow=16,SNR=7.6						
ARCES	**ARCESS Array B**	**8.47**	**95**	Pn	**Pn**	**00 08 28.9**	**+0.9**
	baz=304,slow=12,SNR=5.2						
ARCES				Sn	**Sn**	**00 10 01.5**	**-1.9**
	baz=296,slow=21,SNR=1.7						
ARCES				LR	LR	00 11 37.0	
	comp=Z,30nm,21.3s,baz=45,slow=36						
BORG	**Borgarnes**	**10.87**	**239**	LR	LR	00 11 59.6	
	comp=Z,28nm,18.2s,baz=327,slow=32						
NOA	**NORSAR Array B**	**11.72**	**154**	Pn	**Pn**	**00 09 13.5**	**+0.8**
	0.0nm,0.3s,baz=331,slow=13,SNR=1.8						
NOA				LR	LR	00 13 45.6	
	comp=Z,50nm,19.3s,baz=340,slow=38						
HFS	**Hagfors**	**12.95**	**150**	Pn	**Pn**	**00 09 30.1**	**+0.8**
	0.3nm,0.3s,baz=347,slow=12,SNR=10						
HFS				LR	LR	00 14 24.2	
	comp=Z,68nm,18.1s,baz=342,slow=37						
FINES	**FINESS Array B**	**14.38**	**124**	LR	LR	00 14 59.0	
	comp=Z,72nm,18.5s,baz=320,slow=35						
EKA	**Eskdalemuir Ar**	**16.81**	**188**	Pn	**Pn**	**00 10 21.8**	**+1.1**
	baz=8.0,slow=13,SNR=2.3						
SFJD	**Kangerlussuaq**	**18.18**	**280**	LR	LR	00 16 41.5	
	comp=Z,39nm,18.3s,baz=18,slow=34						
VRAC	**Vranov**	**23.87**	**154**	LR	LR	00 20 39.5	
	comp=Z,35nm,18.9s,baz=314,slow=36						
GERES	**GERESS Array B**	**23.96**	**159**	P	**P**	**00 11 40.4**	**+0.7**
	1.0nm,0.8s,baz=350,slow=9.0,SNR=8.3						
AKASG	**Malin Array Be**	**24.84**	**134**	P	**P**	**00 11 48.3**	**+0.8**
	0.2nm,0.3s,baz=336,slow=10,SNR=1.6						
DAVOX	**Davos/Dischmat**	**25.64**	**166**	LR	LR	00 22 05.3	
	comp=Z,29nm,19.0s,baz=78,slow=37						
MLR	**Muntele Rosu**	**29.11**	**142**	LR	LR	00 24 30.1	
	comp=Z,43nm,19.4s,baz=15,slow=37						
ESDC	**Sonseca Array**	**32.48**	**187**	LR	LR	00 24 18.0	
	comp=Z,9.8nm,18.2s,baz=325,slow=33						
BRTR	**Keskin Array B**	**36.23**	**135**	LR	LR	00 29 11.9	
	comp=Z,18nm,18.3s,baz=356,slow=38						
ZALV	**Zalesovo Beam**	**38.20**	**72**	LR	LR	00 35 33.2	
	comp=Z,19nm,18.8s,baz=42,slow=46						
ASF	**Jabal al Asfar**	**44.20**	**134**	LR	LR	00 32 09.5	
	comp=Z,176nm,21.6s,baz=110,slow=35						
TORD	**Torodi Ar. Bea**	**58.82**	**179**	P	**P**	**00 16 20.5**	**-3.2**
	0.4nm,0.8s,baz=358,slow=6.5,SNR=2.0						

IDC 08 00:06:54.9±6.8, 28°.79S×178°.05W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=404.8km s-min=92.1km az=165.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.18**	**265**	P	P	00 14 59.1	+1.3
	0.2nm,0.3s,baz=105,slow=7.2,SNR=2.0						
WRA	**Warramunga Arr**	**44.02**	**271**	P	P	00 15 02.9	-1.6
	0.3nm,0.4s,baz=111,slow=8.1,SNR=2.5						
FINES	**FINESS Array B**	**143.62**	**341**	PKP	PKPdf	00 26 30.5	-0.5
	1.2nm,0.7s,baz=35,slow=5.1,SNR=6.6						

IDC 08 00:18:33.8±4.2, 5°.60S×150°.86E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/39, mbtmp3.4/2, Error ellipse: s-maj=178.8km s-min=51.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.48**	**227**	P	P	00 23 25.0	+0.7
	0.4nm,0.4s,baz=52,slow=9.9,SNR=4.8						
ASAR	**Alice Springs**	**24.27**	**221**	P	P	00 23 52.9	-0.1
	1.3nm,0.8s,baz=51,slow=9.6,SNR=11						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	00 38 23.3	-0.9
	0.4nm,0.7s,baz=66,slow=4.0,SNR=4.8						

*IDC **08** 00:30:31.6±1.4, 9°.35N×126°.86E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/34, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=52.4km s-min=23.2km az=84.0*
*MAN **08** 00:30:36.9, 9.09N×125.62E, h5km, mb4.6, ML3.5, MS3.4*
ISC 08 00:30:38.0±0.8, 9°.07N±0°.05×125°.50E±0°.07, h19km, n14, σ2°41/14, mb3.6/4, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.00**	**233⇑**	eP	**Pg**	**00 30 57.1**	**-0.4**
CGP				*i* S	**Sn**	**00 31 12.6**	**+1.9**
LLP	**Lapu-Lapu**	**1.96**	**309⇑**	*i* P	**Pb**	**00 31 12.3**	**-0.7**
LLP				*i* S	**Sb**	**00 31 39.2**	**+2.2**
DAV	**Davao City (W)**	**1.99**	**178**	Pn	**Pg**	**00 31 15.6**	**-0.6**
	101nm,0.3s,baz=72,slow=6.4,SNR=2.3						
DAV				Sn	**Sg**	**00 31 47.0**	**+4.9**
	29nm,0.3s,baz=240,slow=20,SNR=6.2						
KCP	**Kidapawan**	**2.09**	**191⇑**	eP	**Pb**	**00 31 14.1**	**-1.2**
DCPH	**Dipolog City**	**2.18**	**257⇓**	*i* P	**Pb**	**00 31 16.3**	**-0.5**
DCPH				*i* S	**Sg**	**00 31 45.3**	**-2.9**
RCP	**Roxas**	**3.67**	**313⇑**	eP	**Pn**	**00 31 36.9**	**+3.1**
WRA	**Warramunga Arr**	**30.11**	**163**	P	**P**	**00 36 43.7**	**-3.0**
	0.4nm,0.8s,baz=347,slow=9.5,SNR=1.4						
ASAR	**Alice Springs**	**33.56**	**166**	P	P	00 37 11.7	-5.3
	0.2nm,0.5s,baz=357,slow=7.7,SNR=1.6						
H11S3	**WAKE ISLAND Hy**	**41.00**	**72**	T	T	01 21 19.4	
	baz=261,slow=74						
H11S1	**WAKE ISLAND Hy**	**41.01**	**72**	T	T	01 21 19.9	
	baz=261,slow=74						
H11S2	**WAKE ISLAND Hy**	**41.01**	**72**	T	T	01 21 22.3	
	baz=261,slow=74						
MKAR	**Makanchi Array**	**52.53**	**324**	P	**P**	**00 39 50.5**	**+0.4**
	1.0nm,0.8s,baz=122,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**86.58**	**332**	P	**P**	**00 43 19.1**	**-0.7**
	3.9nm,1.0s,baz=96,slow=4.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**119.99**	**291**	PKP	**PKPdf**	**00 49 27.3**	**-1.2**
	0.4nm,0.8s,baz=63,slow=3.0,SNR=2.1						

*IDC **08** 00:31:16.8±1.9, 44°.08N×81°.92E, h0km, mb3.9/1, mb1 3.2/4, mb1mx3.1/43, mbtmp3.2/4, ML2.5/3, Error ellipse: s-maj=26.9km s-min=15.1km az=105.0*
*SOME **08** 00:31:18.1, 43°.95N×82°.27E, h15km*
*NNC **08** 00:31:20.2±1.3, 44°.17N×82°.05E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=14.3km s-min=4.1km az=125.0*
ISC 08 00:31:18.3±1.7, 44°.08N±0°.05×82°.10E±0°.06, h2km±11km, n36, σ1°56/58, 10C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.41**	**244**	eP	**Pb**	**00 31 46.6**	**+1.0**
	6.8nm,0.1s						
KTMS				eS	**Sn**	**00 32 07.3**	**+2.8**
	299nm,0.1s						
KTMS	**Ketmen**	**1.41**	**244**	P	**Pb**	**00 31 46.5**	**+1.0**
	6.8nm,0.1s						
KTMS				S	**Sn**	**00 32 07.3**	**+2.8**
	299nm,0.1s						
DJR	**Jarkent**	**1.68**	**280**	eP	**Pg**	**00 31 51.9**	**+1.3**
	41nm,0.1s						
DJR				eS	**Sg**	**00 32 16.3**	**+4.0**
	297nm,0.4s						
PDGK	**Podgornoye**	**2.03**	**249**	Pg	**Pg**	**00 31 56.8**	**-0.5**
	6.8nm,0.2s						
PDGK				Lg	Lg	00 32 25.3	
	36nm,0.3s						
PDGK	**Podgornoye**	**2.03**	**249**	⇑Pn	**Pg**	**00 31 56.1**	**-1.3**
	6.8nm,0.4s						
PDGK				⇑Lg	Lg	00 32 24.8	
	75nm,0.7s						
SHLS	**Shalkode**	**2.12**	**245**	eP	**Pn**	**00 31 54.2**	**-0.8**
	24nm,0.1s						
SHLS				eS	**Sn**	**00 32 20.7**	**-1.3**
	542nm,0.2s						
SHLS	**Shalkode**	**2.12**	**245**	Pg	**Pn**	**00 31 54.2**	**-0.8**
	24nm,0.1s						
SHLS				Lg	Lg	00 32 20.7	
	542nm,0.2s						
UZB	**Uzynbulak**	**2.42**	**249**	eP	**Pg**	**00 32 03.5**	**-1.2**
	3.9nm,0.1s						
UZB				eS	**Sg**	**00 32 36.7**	**+0.6**
	58nm,0.2s						
UZB	**Uzynbulak**	**2.42**	**249**	Pg	**Pg**	**00 32 03.5**	**-1.2**
	3.9nm,0.1s						
UZB				Lg	Lg	00 32 36.7	
	58nm,0.2s						
KPKS	**Kokpek**	**2.55**	**257**	eP	**Pg**	**00 32 06.2**	**-0.9**
	19nm,0.1s						
KPKS				eS	**Sg**	**00 32 40.7**	**+0.5**
	198nm,0.3s						
MK31	**Makanchi Array**	**2.72**	**3**	⇑Pn	**Pn**	**00 32 04.1**	**+1.0**
	0.4nm,0.3s,baz=178,slow=15						
MK31				⇑Pg	**Pb**	**00 32 08.7**	**+0.9**
	2.1nm,0.3s						
MK31				⇑Sn	**Sn**	**00 32 39.0**	**+2.4**
	22nm,0.6s,baz=180,slow=26						
MKAR	**Makanchi Array**	**2.72**	**3**	Pn	**Pn**	**00 32 03.6**	**+0.5**
	1.1nm,0.3s,baz=185,slow=16,SNR=32						
MKAR				Pg	**Pb**	**00 32 08.1**	**+0.4**
	1.8nm,0.3s,baz=182,slow=14,SNR=11						
MKAR				Sn	**Sn**	**00 32 37.5**	**+0.9**
	3.8nm,0.3s,baz=185,slow=26,SNR=11						
MKAR				Lg	Lg	00 32 44.0	
	5.2nm,0.3s,baz=188,slow=30,SNR=4.8						
MAKZ	**Makanchi**	**2.73**	**358**	⇓Pn	**Pn**	**00 32 03.4**	**+0.1**
	2.1nm,0.7s						
MAKZ				⇑Pg	**Pg**	**00 32 10.1**	**-0.6**
	5.3nm,0.5s						
MAKZ				⇓Sn	**Sn**	**00 32 36.7**	**-0.3**
	8.5nm,0.6s						
TDK	**Taldyqorghan**	**2.80**	**291**	eP	**Pg**	**00 32 11.4**	**-0.6**
	20nm,0.4s						
TDK				eS	**Sg**	**00 32 49.4**	**+1.2**
	93nm,0.3s						
TDK	**Taldyqorghan**	**2.80**	**291**	Pg	**Pb**	**00 32 07.4**	**-1.6**
	44nm,0.3s						
TDK				Lg	Lg	00 32 43.9	
	93nm,0.3s						
SATY	**Saty**	**2.87**	**251**	eP	**Pg**	**00 32 11.9**	**-1.4**
	5.5nm,0.1s						
SATY				eS	**Sg**	**00 32 50.6**	**+0.1**
	88nm,0.1s						
ARXS	**Arharly**	**3.08**	**274**	eP	**Pg**	**00 32 15.7**	**-1.7**
	6.9nm,0.2s						
ARXS				eS	**Sg**	**00 32 57.4**	**+0.1**
	52nm,0.3s						
CHKK	**Chushkaly**	**3.70**	**268**	eP	**Pb**	**00 32 25.9**	**+1.5**
	1.9nm,0.2s						
CHKK				eS	**Sg**	**00 33 14.4**	**-2.6**
	30nm,0.2s						
MDOK	**Medeo**	**3.78**	**258**	eP	**Pg**	**00 32 29.8**	**-1.0**
	2.2nm,0.2s						
MDOK				eS	**Sg**	**00 33 21.2**	**+1.5**
	17nm,0.6s						
MDOK	**Medeo**	**3.78**	**258**	Pg	**Pg**	**00 32 30.4**	**-0.3**
	3.5nm,0.4s						
MDOK				⇓Lg	Lg	00 33 20.6	
	14nm,0.7s						
MDOK	**Medeo**	**3.78**	**258**	Pg	**Pg**	**00 32 29.0**	**-1.8**
	1.9nm,0.3s						
MDOK				Lg	Lg	00 33 20.6	
	17nm,0.6s						
ZSN	**Zaisan**	**3.89**	**29**	eP	**Pb**	**00 32 27.4**	**-0.2**
	2.7nm,0.3s						
ZSN				eS	**Sb**	**00 33 17.8**	**+2.5**
	21nm,0.5s						
KTBS	**Karatobe**	**3.93**	**267**	eP	**Pg**	**00 32 31.9**	**-1.7**
	1.0nm,0.3s						
KTBS				eS	**Sg**	**00 33 24.9**	**+0.3**
	41nm,0.5s						
KTBS	**Karatobe**	**3.93**	**267**	Pg	**Pb**	**00 32 30.1**	**+1.7**
	1.0nm,0.2s						
KTBS				Lg	Lg	00 33 22.6	
	41nm,0.5s						
KUU	**Kurty**	**4.16**	**269**	eP	**Pg**	**00 32 36.4**	**-1.7**
	2.0nm,0.2s						
KUU				eS	**Sg**	**00 33 32.4**	**+0.4**
	24nm,0.2s						
KUU	**Kurty**	**4.16**	**269**	Pg	**Pb**	**00 32 33.3**	**+1.0**
	0.9nm,0.1s						
KUU				Lg	Lg	00 33 27.6	
	24nm,0.2s						
KST	**Kastek**	**4.58**	**259**	eP	**Pg**	**00 32 44.7**	**-1.4**
	3.4nm,0.5s						
KST				eS	**Sg**	**00 33 46.7**	**+1.3**
	13nm,0.5s						
DGS	**Degeres**	**4.67**	**262**	eP	**Pg**	**00 32 45.9**	**-1.8**
	2.3nm,0.4s						
DGS				eS	**Sg**	**00 33 48.9**	**+0.7**
	18nm,0.2s						
TKM2	**Tokmak 2**	**4.87**	**259**	⇓Pg	**Pg**	**00 32 51.3**	**-0.3**
	3.9nm,0.9s						
TKM2				⇓Lg	Lg	00 33 57.6	
	8.3nm,0.7s						
SGDS	**Sogindy**	**5.45**	**266**	Pg	**Pg**	**00 32 59.2**	**-3.4**
	0.5nm,0.1s						
SGDS				Lg	Lg	00 34 11.9	
	4.5nm,0.3s						
AAK	**Ala-Archa**	**5.73**	**258**	Lg	Lg	00 34 17.2	
	0.5nm,0.3s,baz=171,slow=21,SNR=1.4						
AAK	**Ala-Archa**	**5.73**	**258**	⇑Lg	Lg	00 34 23.2	
	3.8nm,0.5s						
KURBB	**Kurchatov Arra**	**6.98**	**341**	Pn	**Pn**	**00 33 00.9**	**-0.6**
	0.1nm,0.3s,baz=166,slow=12,SNR=6.9						
KURBB				Sn	**Sn**	**00 34 18.2**	**-3.4**
	0.3nm,0.3s,baz=170,slow=22,SNR=14						
KURBB				Lg	Lg	00 34 59.0	
	0.1nm,0.3s,baz=153,slow=32,SNR=1.9						
KURBB	**Kurchatov Arra**	**6.98**	**341**	⇑Pn	**Pn**	**00 33 01.2**	**-0.4**
	0.7nm,0.4s						
KURBB				⇑Sn	**Sn**	**00 34 22.6**	**+1.0**
	5.4nm,0.6s						
KURBB				⇑Lg	Lg	00 35 01.9	
	6.8nm,0.7s						
ZALV	**Zalesovo Beam**	**10.04**	**9**	Pn	**Pn**	**00 33 42.6**	**-0.9**
	0.2nm,0.3s,baz=191,slow=15,SNR=2.4						
TORD	**Torodi Ar. Bea**	**74.12**	**273**	P	**P**	**00 42 54.5**	**-1.9**
	0.4nm,0.5s,baz=45,slow=5.5,SNR=6.6						

IDC 08 00:32:40.9±4.5, 23°.45N×44°.85W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.7/3, MS3.2/5, Ms1 3.3/5, ms1mx2.9/32, Error ellipse: s-maj=213.6km s-min=32.4km az=24.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**20.60**	**259**	LR	LR	00 44 49.5	
	comp=Z,28nm,19.3s,baz=99,slow=35						
ESDC	**Sonseca Array**	**38.05**	**55**	LR	LR	00 53 14.5	
	comp=Z,20nm,18.7s,baz=320,slow=32						
H10N2	**ASCENSION HYDR**	**42.98**	**133**	T	T	01 26 24.2	
	baz=317,slow=75,SNR=26						
H10N3	**ASCENSION HYDR**	**42.98**	**133**	T	T	01 26 24.2	
	baz=317,slow=75,SNR=35						
H10N1	**ASCENSION HYDR**	**43.00**	**133**	T	T	01 26 17.9	
	baz=317,slow=75,SNR=32						
H10S3	**ASCENSION HYDR**	**43.69**	**134**	T	T	01 27 13.8	
	baz=316,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	**43.70**	**134**	T	T	01 27 17.4	
	baz=264,slow=74,SNR=6.5						
TORD	**Torodi Ar. Bea**	**45.19**	**95**	P	P	00 40 59.9	-0.1
	1.1nm,0.9s,baz=299,slow=7.6,SNR=5.8						
TORD				LR	LR	00 57 42.4	
	comp=Z,55nm,21.1s,baz=295,slow=33						
NOA	**NORSAR Array B**	**53.48**	**30**	LR	LR	01 00 26.0	
	comp=Z,21nm,21.2s,baz=110,slow=31						
PDAR	**Pinedale Array**	**56.17**	**307**	P	P	00 42 22.7	-0.2
	0.2nm,0.6s,baz=84,slow=9.2,SNR=2.0						
NVAR	**Mina Array Bea**	**63.23**	**303**	LR	LR	01 07 59.2	
	comp=Z,73nm,21.1s,baz=247,slow=34						
ILAR	**Eielson Array**	**74.01**	**334**	P	P	00 44 18.3	+0.1
	1.2nm,0.8s,baz=59,slow=4.3,SNR=8.8						

*TRN **08** 00:33:23.6, 10°.10N×

GWYB	**Gwangyang**	**0.94**	**282**	P	Pg	00 39 06.5 -0.4
	SNR=13					
GWYB				S	Sn	00 39 22.1 +1.1
GWYB	**Gwangyang**	**0.94**	**282**	P	Pg	00 39 06.6 -0.3
KSUSN	**Ulsan**	**0.98**	**15**	P	Pb	00 39 07.5 -0.1
	SNR=12					
KSUSN	**Ulsan**	**0.98**	**15**	P	Pb	00 39 07.5 -0.1
	SNR=12					
KSDAG	**Daegu**	**1.02**	**4**	P	Pb	00 39 08.3 0.0
	SNR=12					
KSDAG	**Daegu**	**1.02**	**4**	P	Pb	00 39 08.3 0.0
	SNR=12					
KSKCH	**Geochang**	**1.13**	**320**	P	Pb	00 39 10.3 +0.1
	SNR=6.3					
KSKCH	**Geochang**	**1.13**	**320**	P	Pb	00 39 10.2 0.0
BOSB	**Boseong-gun**	**1.32**	**271**	P	Pn	00 39 13.1 +0.2
	SNR=30					
BOSB	**Boseong-gun**	**1.32**	**271**	P	Pn	00 39 12.9 +0.1

BGR ***08*** *00:38:51.7±0.0, 4.˙22N×94.˙88E, h33km, mb5.4, Ms3.9*
BJI ***08*** *00:38:53.3±0.0, 4.˙79N×94.˙73E, h48km, mB5.2/46, mb5.2/71, Ms4.7/48, Ms7 4.5/49*
MOS ***08*** *00:38:54.4±1.1, 5.˙11N×94.˙80E, h44km, mb5.5/82, MS4.3/6, Error ellipse: s-maj=8.0km s-min=4.0km az=116.7*
NEIC ***08*** *00:38:56.0±2.7, 5.˙00N±0.˙08×94.˙74E±0.˙07, h34km±3km, mb5.3/161, Error ellipse: s-maj=12.0km s-min=9.6km az=208.0*
DJA ***08*** *00:38:56.8±0.4, 5.˚N±3.˚×9.˚5E±.˚, h57km±4km, M5.3/32, mB5.8/14, mb5.1/32, MLv5.3/7, Mw(mB)5.3/14*
IDC ***08*** *00:38:57.1±1.7, 5.˚11N×94.˙88E, h56km±14km, mb4.6/26, mb1 4.7/26, mb1mx4.7/29, mbtmp4.9/26, MS4.0/20, Ms1 4.0/20, ms1mx3.9/32, Error ellipse: s-maj=14.9km s-min=9.5km az=50.0*
GCMT ***08*** *00:38:57.0±0.3, 4.˙91N±0.˙02×94.˙65E±0.˙02, h40km±1km, MW5.0/78, Moment Tensor Solution. s52,c67; s78,c110; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.23±.15; Mθθ-0.95±.10; Mφφ-2.28±.12; Mre1.75±.10; Mθφ1.61±.08; Mφr-1.25±.11; Best double couple: M0 3.93500×1016 NP1:φs337.00000°, δ30.00000°, λ109.00000°. NP2: φs135.00000°, δ62.00000°, λ79.00000°. Principal axes: T 3.9370, Plg71.0000°, Azm20.0000°; N -0.0020, Plg10.0000°, Azm140.0000°; P -3.9330, Plg16.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 00:38:56.5±0.4, 5.˙00N±0.˙04×94.˙72E±0.˙04, h51km±2km, h51km:pP-P, n786, σ1§26/803, mb5.2/224, MS4.2/41, 251C-79D, Fault plane solution: NP1:φs136.03574°, δ55.72622°, λ68.29062°. **NP2:φs**351.29553°, δ39.84824°, λ118.49244°. **Principal axes:** T Plg70.2342°, Azm355.3721°; N Plg17.7984°, Azm148.6731°; P Plg8.3183°, Azm241.3634°; **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.23**	**84**	Pn	**Pn**	**00 39 32.5**	**+1.5**
LHMI	**Lhok Sumawe**	**2.23**	**84**	P	**Pn**	**00 39 32.5**	**+1.5**
LHMI				S	**Sn**	**00 40 01.5**	**+4.1**
TPTI		**3.00**	**125**	P	**Pn**	**00 39 41.3**	**-0.3**
TPTI				S	**Sn**	**00 40 17.7**	**+1.3**
TSI	**Tuntungan**	**4.12**	**111**	P	**Pn**	**00 39 58.1**	**+1.2**
PKDT	**Phuket**	**4.60**	**51**	P	**Pn**	**00 40 05.2**	**+1.7**
PKDT	**Phuket**	**4.60**	**51**	P	**Pn**	**00 40 05.3**	**+1.7**
	12nm43μm838nm,0.7s						
GSI	**Gunungsitoli**	**4.65**	**142**	Pn	**Pn**	**00 40 02.6**	**-1.6**
GSI	**Gunungsitoli**	**4.65**	**142**	P	**Pn**	**00 40 03.6**	**-0.6**
PSI	**Prapat**	**4.73**	**117**	P	**Pn**	**00 40 08.6**	**+3.1**
	5μm,0.3s,baz=26,slow=0.0,SNR=13						
PSI				S	**Sn**	**00 40 58.1**	**-1.0**
	2μm,0.3s,baz=349,slow=0.0,SNR=1.4						
PSI	**Prapat**	**4.73**	**117**	P	**Pn**	**00 40 07.2**	**+1.8**
RPSI	**Rantau Prapat**	**4.78**	**118**		**Pn**	**00 40 08.6**	**+2.6**
RPSI					**Sn**	**00 40 58.1**	**-2.0**
RPSI	**Rantau Prapat**	**4.78**	**118**		**Pn**	**00 40 07.2**	**+1.2**
SURT	**Suratani**	**5.64**	**46**	P	**Pn**	**00 40 22.2**	**+4.5**
	0.1nm254nm29nm,1.1s						
SURT	**Suratani**	**5.64**	**46**	P	**Pn**	**00 40 22.3**	**+4.5**
	0.1nm254nm29nm,1.1s						
MNSI	**Mandailing Nat**	**6.41**	**131**	P	**Pn**	**00 40 29.4**	**+1.1**
	1.1nm4μm138nm,0.8s						
BKNI	**Bangkinang**	**7.84**	**126**	Pn	**Pn**	**00 40 47.8**	**-0.2**
BKNI	**Bangkinang**	**7.84**	**126**	P	**Pn**	**00 40 49.1**	**+1.1**
	0.8nm157nm,0.6s						
DGPR	**DIGLIPUR**	**8.31**	**348**	*e*P	**Pn**	**00 40 53.8**	**-0.7**
DGPR				*e*S	**Sn**	**00 42 22.9**	**-4.0**
PHET	**Kaeng Krachan**	**9.23**	**31**	P	**Pn**	**00 41 10.9**	**+3.9**
	2μm108nm,0.7s						
PHET	**Kaeng Krachan**	**9.23**	**31**	P	**Pn**	**00 41 10.0**	**+3.0**
	42nm28nm,0.7s						
PATY	**Pattaya**	**9.94**	**37**	P	Pn	00 41 22.0	+5.3
	6μm59nm,0.6s						
PATY	**Pattaya**	**9.94**	**37**	P	Pn	00 41 22.0	+5.3
	2μm15nm,0.6s						
UTHA	**Uthaitani**	**11.47**	**24**	P	**Pn**	**00 41 41.0**	**+3.3**
	142nm18nm,0.8s						
SRAK	**Srakaew**	**11.50**	**38**	P	Pn	00 41 47.1	+9.0
	42μm4μm,0.5s						
UMPA	**Umpang Tak**	**11.85**	**20**	P	**Pn**	**00 41 47.0**	**+4.1**
	4μm108nm,0.7s						
UMPA	**Umpang Tak**	**11.85**	**20**	P	**Pn**	**00 41 47.0**	**+4.1**
	994nm27nm,0.7s						
LHSI	**Lahat**	**12.42**	**135**	P	**Pn**	**00 41 49.6**	**-1.1**
	3μm54nm,0.9s						
CHAI	**Chaiyaphum**	**12.97**	**33**	P	**P**	**00 42 03.6**	**-3.7**
	753nm70nm,0.9s						
CHAI	**Chaiyaphum**	**12.97**	**33**	P	**P**	**00 42 03.0**	**-4.3**
	188nm18nm,0.9s						
PBKT	**Sadao Pong**	**13.03**	**28**	P	**P**	**00 42 11.4**	**+3.5**
PBKT	**Sadao Pong**	**13.03**	**28**	P	**P**	**00 42 11.4**	**+3.5**
PBKT	**Sadao Pong**	**13.03**	**28**	Pn	**Pn**	**00 42 01.1**	**+2.2**
PHIT	**Phitsanulok**	**13.34**	**24**	P	**P**	**00 42 08.5**	**-2.8**
	2μm274nm,0.8s						
PHIT	**Phitsanulok**	**13.34**	**24**	P	**P**	**00 42 08.5**	**-2.8**
	495nm68nm,0.8s						
MDSI	**Maura Dua**	**13.35**	**135**	P	**Pn**	**00 42 02.1**	**-1.2**
	23nm,0.9s						
MHMT	**Maesarieng**	**13.46**	**13**	P	**P**	**00 42 10.3**	**-2.4**
	2μm122nm,0.7s						
MHMT	**Maesarieng**	**13.46**	**13**	P	**P**	**00 42 10.4**	**-2.4**
	2μm122nm,0.7s						
UTTA	**Uttaradit**	**13.89**	**24**	P	**P**	**00 42 14.7**	**-2.8**
	1μm122nm,0.7s						
UTTA	**Uttaradit**	**13.89**	**24**	P	**P**	**00 42 14.8**	**-2.8**
	279nm30nm,0.7s						
CM05	**Chiang Mai Arr**	**13.94**	**17**	P	**Pn**	**00 42 14.8**	**+3.4**
	700nm100nm,0.9s						
CM05	**Chiang Mai Arr**	**13.94**	**17**	P	**Pn**	**00 42 14.8**	**+3.4**
	700nm100nm,0.9s						
CM04	**Chiang Mai Arr**	**13.95**	**17**	P	**P**	**00 42 15.5**	**-2.7**
	974nm126nm,0.9s						
CM04	**Chiang Mai Arr**	**13.95**	**17**	P	**Pn**	**00 42 15.0**	**+3.5**
	974nm126nm,0.9s						
CM13	**Chiang Mai Arr**	**13.95**	**17**	P	**P**	**00 42 15.4**	**-2.8**
	581nm77nm,1.0s						
CM13	**Chiang Mai Arr**	**13.95**	**17**	P	**Pn**	**00 42 15.0**	**+3.5**
	581nm77nm,1.0s						
CM01	**Chiang Mai Arr**	**13.96**	**17**	P	**P**	**00 42 16.0**	**-2.3**
	923nm118nm,1.0s						
CM01	**Chiang Mai Arr**	**13.96**	**17**	P	**P**	**00 42 16.0**	**-2.3**
	923nm118nm,1.0s						
CM02	**Chiang Mai Arr**	**13.97**	**17**	P	**P**	**00 42 15.6**	**-2.9**
	766nm109nm,0.9s						
CM02	**Chiang Mai Arr**	**13.97**	**17**	P	**P**	**00 42 15.7**	**-2.8**
	766nm109nm,0.9s						
CM15	**Chiang Mai Arr**	**13.98**	**17**	P	**P**	**00 42 15.8**	**-2.8**
	753nm91nm,0.9s						
CM15	**Chiang Mai Arr**	**13.98**	**17**	P	**Pn**	**00 42 15.0**	**+3.0**
	753nm91nm,0.9s						
CM31	**Chiang Mai Arr**	**13.99**	**17**	P	**P**	**00 42 16.0**	**-2.7**
	22μm3μm,0.9s						
CM31	**Chiang Mai Arr**	**13.99**	**17**	Pn	**Pn**	**00 42 14.8**	**+2.7**
CMAR	**Chiang Mai Arr**	**13.99**	**17**	P	**Pn**	**00 42 13.8**	**+1.7**
	2.4nm,0.3s,baz=207,slow=12,SNR=44						
CMAR				LR	LR	00 47 25.3	
	comp=Z,700nm,21.2s,baz=247,slow=37						
CMAR				ScP	**ScP**	**00 51 00.7**	**+0.7**
	baz=235,slow=3.2,SNR=13						
CMAR	**Chiang Mai Arr**	**13.99**	**17**	P	**Pn**	**00 42 13.4**	**+1.3**
CMAR	**Chiang Mai Arr**	**13.99**	**17**	Pn	**Pn**	**00 42 13.4**	**+1.3**
CM09	**Chiang Mai Arr**	**14.00**	**17**	P	**P**	**00 42 16.0**	**-2.7**
	969nm130nm,0.9s						
CM09	**Chiang Mai Arr**	**14.00**	**17**	P	**P**	**00 42 16.0**	**-2.7**
	969nm130nm,0.9s						
CM36	**Chiang Mai Arr**	**14.10**	**17**	P	**P**	**00 42 20.0**	**+0.2**
PALK	**Pallekele**	**14.12**	**280**	P	**Pn**	**00 42 13.4**	**-0.5**
	3.3nm,0.3s,baz=206,slow=16,SNR=14						
PALK				S	Sn	00 44 35.5	-14
	7.7nm,0.3s,baz=275,slow=22,SNR=9.1						
PALK				LR	LR	00 47 04.6	
	comp=Z,1μm,21.1s,baz=210,slow=34						
PALK	**Pallekele**	**14.12**	**280**	P	**Pn**	**00 42 13.2**	**-0.6**
PALK	**Pallekele**	**14.12**	**280**	Pn	**Pn**	**00 42 13.2**	**-0.6**
CM32	**Chiang Mai Arr**	**14.15**	**16**	P	**P**	**00 42 21.0**	**+0.5**
CM35	**Chiang Mai Arr**	**14.27**	**17**	P	**Pn**	**00 42 18.0**	**+2.3**
LAMP	**Lampang**	**14.27**	**19**	P	**P**	**00 42 22.4**	**+0.7**
	2μm242nm,0.8s						
LAMP	**Lampang**	**14.27**	**19**	P	**P**	**00 42 22.4**	**+0.7**
	482nm60nm,0.8s						
KASI	**Kota Agung**	**14.31**	**137**	P	**Pn**	**00 42 16.3**	**0.0**
	72nm,1.1s						
CHTO	**Chiang Mai**	**14.33**	**16**	P	**Pn**	**00 42 18.1**	**+1.5**
CHTO	**Chiang Mai**	**14.33**	**16**	P	**Pn**	**00 42 18.8**	**+2.1**
	975nm118nm,1.0s						
CHTO	**Chiang Mai**	**14.33**	**16**	Pn	**Pn**	**00 42 18.1**	**+1.5**
CMMT	**Chiang Mai**	**14.33**	**16**	P	**Pn**	**00 42 18.8**	**+2.1**
	1μm118nm,1.0s						
CMMT	**Chiang Mai**	**14.33**	**16**	P	**Pn**	**00 42 18.0**	**+1.3**
	1μm118nm,1.0s						
CM33	**Chiang Mai Arr**	**14.34**	**16**	P	**Pn**	**00 42 18.0**	**+1.3**
CM34	**Chiang Mai Arr**	**14.43**	**17**	P	**P**	**00 42 21.0**	**-2.5**
NONG	**Nongkai**	**15.37**	**32**	P	**Pn**	**00 42 32.3**	**+2.1**
	6μm110nm,1.0s						
NONG	**Nongkai**	**15.37**	**32**	P	**Pn**	**00 42 32.3**	**+2.1**
	5μm109nm,1.0s						
MDRS	**Chennai**	**16.38**	**300**	*ex*	x	00 45 31.3	
MDRS				IAmb	IAmb	00 45 38.3	
	comp=Z,36nm,0.7s						
VIS	**Vishakhapatnam**	**16.85**	**320**	*e*P	**P**	**00 42 51.8**	**+1.4**
LEM	**Lembang**	**17.43**	**132**	LR	LR	00 50 09.3	
	comp=Z,549nm,21.9s,baz=312,slow=39						
STKI	**Sintang**	**17.44**	**106**	P	**Pn**	**00 42 56.7**	**+0.4**
	comp=Z,46nm,0.6s						
BRDH	**Bariadhala**	**17.82**	**351**	LR	LR	00 50 56.8	
	comp=Z,1μm,21.9s,baz=156,slow=41						
SLVN	**Son La**	**18.52**	**28**	P	**Pn**	**00 43 09.5**	**0.0**
SMRI	**Semarang**	**19.74**	**127**	P	**P**	**00 43 22.2**	**0.0**
	comp=Z,5μmcomp=Z,84nm,1.0s						
HYB	**Hyderabad**	**20.07**	**309**	*i* P	Pn	00 43 27.0	-0.9
HYB				*e*PP	sP	00 43 43.0	+0.2
HYB				*e*S	Sn	00 47 17.0	+3.9
HYB	**Hyderabad**	**20.07**	**309**	*e*P	Pn	00 43 27.4	-0.5
HYB				IAmb	IAmb	00 43 29.7	
	comp=Z,15nm,0.5s						
QIZ	**Qiongzhong**	**20.30**	**45**	P	**P**	**00 43 29.2**	**+0.9**
QIZ				S	Sn	00 47 16.4	-2.2
QIZ				pmax	pmax		
	comp=Z,25nm,2.6s						
QIZ				LR	LR		
	comp=Z,540nm,29.7s						
QIZ				LR	LR		
	comp=Z,940nm,18.4s						
QIZ				LR	LR		
	comp=Z,950nm,19.3s						
QIZ	**Qiongzhong**	**20.30**	**45**		Pn	00 43 29.8	-0.9
KOHI	**KOHIMA**	**20.61**	**358**	*e*P	**P**	**00 43 28.9**	**-2.8**
KOHI				IAmb	IAmb	00 43 33.2	
	comp=Z,118nm,0.4s						
SHL	**Shillong**	**20.63**	**353**	P	**P**	**00 43 28.3**	**-3.7**
SHL				pmax	pmax		
	comp=Z,58nm,0.8s						
SHL	**Shillong**	**20.63**	**353**	*e*P	**P**	**00 43 28.8**	**-3.2**
SHL				IAmb	IAmb	00 43 32.0	
	comp=Z,26nm,0.7s						
SHL	**Shillong**	**20.63**	**353**	P	**P**	**00 43 28.2**	**-3.7**
MTKI	**Muara Teweh, K**	**21.00**	**106**	P	**P**	**00 43 36.2**	**+0.3**
	comp=Z,11μmcomp=Z,50nm,0.8s						
MOKO	**MOKOCHONG**	**21.20**	**359**	*e*P	**P**	**00 43 34.8**	**-3.2**
MOKO				IAmb	IAmb	00 43 39.3	
	comp=Z,170nm,0.7s						
KMI	**Kunming**	**21.44**	**20**	⇑P	**P**	**00 43 42.2**	**+1.5**
KMI				pP	sP	00 43 56.3	-2.3
KMI				pmax	pmax		
	comp=Z,42nm,0.9s						
KMI				LR	LR		
	comp=Z,820nm,14.7s						
KMI				LR	LR		
	comp=Z,780nm,14.9s						
KMI				LR	LR		
	comp=Z,830nm,21.8s						
BBKI	**Banjar Baru**	**21.79**	**112**	P	**P**	**00 43 44.7**	**+0.3**
	comp=Z,5μmcomp=Z,156nm,0.9s						
ITAN	**ITANAGAR**	**22.04**	**358**	*e*P	**P**	**00 43 43.4**	**-3.5**
ITAN				IAmb	IAmb	00 43 45.3	
	comp=Z,232nm,0.5s						
KMMI	**Kalianget**	**22.64**	**122**	P	**P**	**00 43 56.5**	**+3.1**
GYA	**Guiyang**	**24.20**	**27**	⇑P	**P**	**00 44 09.4**	**+0.9**
GYA				pP	pP	00 44 21.1	-0.2
GYA				pmax	pmax		
	comp=Z,34nm,0.7s						
GYA				LR	LR		
	comp=Z,240nm,18.1s						
SRBI	**Singaraja**	**24.23**	**122**	P	**P**	**00 44 10.1**	**+1.4**
	comp=Z,2μmcomp=Z,266nm,1.1s						
BHPL	**Bhopal**	**24.64**	**319**	*e*P	**P**	**00 44 13.6**	**+1.1**
BHPL				IAmb	IAmb	00 44 18.8	
LSA	**Lhasa**	**24.80**	**353**	P	**P**	**00 44 15.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,350nm,0.6s						
LSA	**Lhasa**	**24.80**	**353**	P	**P**	**00 44 14.3**	**0.0**
LSA				pmax	pmax		
	comp=Z,66nm,0.6s						
LSA	**Lhasa**	**24.80**	**353**	P	**P**	**00 44 14.3**	**0.0**
LSA				IAmb	IAmb	00 44 16.2	
	comp=Z,66nm,0.6s						
H08S2	**Diego Garcia H**	**25.49**	**241**	T	T	01 10 31.9	
	baz=61,slow=76,SNR=1046						
H08S3	**Diego Garcia H**	**25.49**	**241**	T	T	01 10 07.1	
	baz=61,slow=76,SNR=1057						
H08S1	**Diego Carcia H**	**25.50**	**241**	T	T	01 10 09.4	
	baz=61,slow=76,SNR=958						
MPSI	**Mapaga**	**25.57**	**100**	P	**P**	**00 44 22.5**	**+1.5**
	comp=Z,51nm,0.9s						
TWSI	**Taliwang, Sumb**	**25.98**	**122**	P	**P**	**00 44 26.1**	**+1.5**
	comp=Z,23nm,1.4s						
TOLI2	**Tolitoli**	**26.31**	**98**	P	**P**	**00 44 27.7**	**0.0**
TTSI	**Tana Toraja**	**26.32**	**107**	P	**P**	**00 44 29.4**	**+1.6**
	comp=Z,3μmcomp=Z,32nm,0.9s						
KAPI	**Kappang**	**26.91**	**111**	P	**P**	**00 44 32.2**	**-0.8**
	comp=Z,6.5nm,0.4s,baz=277,slow=9.5,SNR=7.5						
KAPI				LR	LR	00 55 45.7	
	comp=Z,334nm,20.3s,baz=292,slow=38						
KAPI	**Kappang**	**26.91**	**111**	P	**P**	**00 44 32.4**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,70nm,1.4s						
KAPI	**Kappang**	**26.91**	**111**	P	**P**	**00 44 32.4**	**-0.7**
KAPI				IAmb	IAmb	00 44 34.4	
	comp=Z,70nm,1.4s						
BNSI	**Bone**	**27.02**	**110**	P	**P**	**00 44 34.9**	**+0.8**
	comp=Z,44nm,1.3s						
CD2	**Chengdu**	**27.14**	**17**	P	**P**	**00 44 34.2**	**-0.8**
CD2				S	**S**	**00 49 11.3**	**+1.3**
CD2				pmax	pmax		
	comp=Z,90nm,0.7s						
CD2				LR	LR		
	comp=Z,1μm,13.7s						
CD2				LR	LR		
	comp=Z,640nm,10.8s						
BKSI	**Bulukumba**	**27.36**	**112**	P	**P**	**00 44 38.1**	**+0.9**
	comp=Z,745nmcomp=Z,47nm,1.3s						
APSI	**Ampana**	**27.54**	**102**	P	P	00 44 48.2	+9.5
GTOI	**Gorontalo**	**28.58**	**98**	P	**P**	**00 44 47.4**	**-0.6**
	comp=Z,18nm,0.8s						
ENH	**Enshi**	**28.74**	**27**	P	**P**	**00 44 48.0**	**-1.3**
ENH				IAmb	IAmb	00 44 49.5	
	comp=Z,38nm,0.6s						
WHN	**Wuhan**	**31.42**	**34**	⇓P	**P**	**00 45 14.0**	**+1.0**
WHN				pmax	pmax		
	comp=Z,98nm,0.8s						
YULB	**Yu-li**	**31.48**	**52**	P	**P**	**00 45 13.9**	**+0.2**
YULB				IAmb	IAmb	00 45 15.7	
	comp=Z,136nm,1.9s						
XAN	**Xi'an**	**31.76**	**23**	P	**P**	**00 45 15.0**	**-1.0**
XAN				S	**S**	**00 50 19.0**	**-3.6**
XAN				pmax	pmax		
	comp=Z,160nm,0.9s						
XAN				pmax	pmax		
	comp=Z,680nm,5.6s						
XAN				LR	LR		
	comp=Z,760nm,7.5s						
XAN				LR	LR		
	comp=Z,780nm,9.8s						
XAN				LR	LR		
	comp=Z,870nm,10.7s						
SANI	**Sanana**	**32.02**	**102**	P	**P**	**00 45 17.5**	**-0.9**
	comp=Z,38nm,1.0s						
LZH	**Lanzhou**	**32.05**	**14**	*e*P	**P**	**00 45 18.1**	**-0.6**
LZH				pmax	pmax		
	comp=Z,35nm,1.1s						
LZH				pmax	pmax		
	comp=Z,190nm,6.0s						
LZH				LR	LR		
	comp=Z,610nm,17.4s						
LZH				LR	LR		
	comp=Z,550nm,15.7s						
LZH				LR	LR		
	comp=Z,650nm,18.4s						
NLAI	**Namlea**	**33.37**	**104**	P	**P**	**00 45 29.3**	**-1.0**
	comp=Z,2μmcomp=Z,41nm,0.9s						
GTA	**Gaotai**	**34.56**	**7**	⇑P	**P**	**00 45 40.0**	**-0.4**
GTA				pP	pP	00 45 52.8	-0.5
GTA				sP	sP	00 45 57.7	-1.5
GTA				PcP	**PcP**	**00 48 15.5**	**+1.2**
GTA				pmax	pmax		
	comp=Z,51nm,1.1s						
GTA				pmax	pmax		
	comp=Z,180nm,5.8s						
GTA				LR	LR		
	comp=Z,250nm,19.6s						
GTA				LR	LR		
	comp=Z,180nm,17.5s						
GTA				LR	LR		
	comp=Z,290nm,17.4s						
NIL	**Nilore**	**34.80**	**328**	P	**P**	**00 45 41.8**	**-0.7**
NIL				pmax	pmax		
	comp=Z,26nm,0.8s						
NIL	**Nilore**	**34.80**	**328**	P	**P**	**00 45 41.8**	**-0.7**
NIL				IAmb	IAmb	00 45 43.1	
	comp=Z,26nm,0.8s						
NJ2	**Nanjing**	**35.14**	**37**	⇑P	**P**	**00 45 45.9**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,60nm,0.9s						
SWI	**Sorong**	**36.96**	**98**	P	**P**	**00 46 00.5**	**-0.7**
	comp=Z,98nm,1.0s						
TIA	**Tai'an**	**37.27**	**31**	P	**P**	**00 46 03.6**	**+0.1**
TIA				S	**S**	**00 51 52.0**	**+4.7**
TIA				pmax	pmax		
	comp=Z,36nm,0.7s						
TIA				pmax	pmax		
	comp=Z,190nm,3.9s						
TIA				LR	LR		
	comp=Z,590nm,17.8s						
TIA				LR	LR		
	comp=Z,490nm,10.0s						
TIA				LR	LR		
	comp=Z,900nm,15.0s						
KBL	**Kabul**	**37.81**	**324**	P	**P**	**00 46 07.5**	**-0.8**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBL	**Kabul**	**37.81**	**324**	P	**P**	**00 46 07.5**	**-0.8**
BTO	**Baotou**	**38.02**	**19**	*e*P	**P**	**00 46 09.8**	**-0.1**
FAKI	**Fak Fak**	**38.31**	**101**	P	**P**	**00 46 11.4**	**-1.2**
FAKI				IAmb	IAmb	00 46 23.3	
	comp=Z,37nm,0.9s						
KSH	**Kashi**	**38.31**	**336**	P	**P**	**00 46 11.0**	**-1.4**
KSH				pP	pP	00 46 25.1	0.0
KSH				S	**S**	**00 52 06.0**	**+2.7**
KSH				pmax	pmax		
	comp=Z,14nm,0.5s						
KSH				pmax	pmax		
	comp=Z,170nm,5.7s						
KSH				LR	LR		
	comp=Z,130nm,4.7s						
KSH				LR	LR		
	comp=Z,150nm,5.0s						
KSH				LR	LR		
	comp=Z,140nm,3.7s						
JOW	**Kunigami**	**38.67**	**52**	P	**P**	**00 46 16.4**	**+0.9**
HHC	**Hu-ho-hao-te**	**38.76**	**21**	*e*P	**P**	**00 46 16.6**	**+0.5**
HHC				S	**S**	**00 52 13.7**	**+3.7**
HHC				pmax	pmax		
	comp=Z,41nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.6s						
HHC				LR	LR		
	comp=Z,690nm,15.3s						
HHC				LR	LR		
	comp=Z,480nm,14.2s						
HHC				LR	LR		
	comp=Z,740nm,16.2s						
WMQ	**Urumqi**	**39.15**	**352**	*e*P	**P**	**00 46 19.9**	**+0.6**
WMQ				pP	pP	00 46 31.7	-0.5
WMQ				sP	sP	00 46 37.0	-1.0
WMQ				pmax	pmax		
	comp=Z,41nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.1s						
KNRA	**Kununurra**	**39.47**	**122**	P	**P**	**00 46 20.6**	**-1.7**
TARG	**Taragay, Kyrgy**	**39.57**	**340**	P	**P**	**00 46 24.3**	**+1.1**
TARG				IAmb	IAmb	00 46 26.5	
	comp=Z,43nm,0.8s						
BJT	**Baijiatuau**	**39.86**	**26**	P	**P**	**00 46 26.3**	**+1.1**
BJT				pmax	pmax		
	comp=Z,71nm,0.9s						
BJT	**Baijiatuau**	**39.86**	**26**	P	**P**	**00 46 26.3**	**+1.1**
BJT				IAmb	IAmb	00 46 27.6	
	comp=Z,70nm,0.9s						
BJI	**Beijing**	**39.88**	**26**	P	**P**	**00 46 26.7**	**+1.3**
BJI				pP	**pP**	**00 46 37.7**	**-0.9**
BJI				sP	**sP**	**00 46 44.0**	**-0.5**
BJI				pmax	pmax		
	comp=Z,100nm,0.9s						
BJI				LR	LR		
	comp=Z,420nm,17.6s						
BJI				LR	LR		
	comp=Z,370nm,18.8s						
BJI				LR	LR		
	comp=Z,520nm,21.8s						
DRK	**Karamyk**	**40.09**	**332**	P	**P**	**00 46 28.1**	**+0.6**
KDJ	**Kajisay**	**40.14**	**340**	P	**P**	**00 46 28.7**	**+1.0**
KDJ				pmax	pmax		
	comp=Z,62nm,1.0s						
KDJ	**Kajisay**	**40.14**	**340**	P	**P**	**00 46 28.7**	**+1.0**
KDJ				IAmb	IAmb	00 46 31.0	
	comp=Z,62nm,1.0s						
MTN	**Manton Dam**	**40.29**	**116**	P	**P**	**00 46 27.9**	**-1.2**
	baz=40,SNR=8.8						
MTN	**Manton Dam**	**40.29**	**116**	P	**P**	**00 46 27.9**	**-1.2**
SHLS	**Shalkode**	**40.33**	**343**	⇑*i*P	**P**	**00 46 29.7**	**+0.6**
	comp=Z,46nm,0.7s,baz=344						
SHLS				*e*S	**S**	**00 52 34.2**	**

KPKS Kokpek 40.84 342⇑ *i*P P 00 46 34.3 +0.9
comp=Z,60nm,0.8s,baz=343
KPKS *e*S **S 00 52 42.7 +1.6**
baz=343
KPKS Kokpek 40.84 342*c i*P P 00 46 34.3 +0.9
KPKS *e*S **S 00 52 42.6 +1.5**
KPKS pmax pmax
comp=Z,60nm,0.8s
BOOM Boomskoye usch 40.89 339 IAmb IAmb 00 46 35.7
comp=Z,33nm,0.7s
BTK Batken 41.01 332 IAmb IAmb 00 46 39.8
comp=Z,64nm,1.2s
MDOK Medeo 41.10 340 *i* P **P 00 46 36.8 +1.3**
baz=341
MDOK *e*S **S 00 52 46.6 +1.5**
baz=341
MDOK Medeo 41.10 340 *i* P **P 00 46 36.8 +1.3**
MDOK *e*S **S 00 52 46.5 +1.5**
AAA Alma-Ata 41.18 340 *e*P **P 00 46 36.7 +0.6**
baz=341
AAA *e*S **S 00 52 45.6 -0.5**
baz=341
AAA Alma-Ata 41.18 340 *e*P **P 00 46 36.7 +0.6**
AAA *e*S **S 00 52 45.6 -0.5**
TKM2 Tokmak 2 41.39 339 P **P 00 46 39.1 +1.1**
SNR=22
KBK Karagaybulak 41.40 338 P **P 00 46 39.9 +1.8**
SNR=34
KDU Kakadu 41.43 115 P **P 00 46 37.7 -0.8**
baz=42,SNR=3.3
AML Almayashu 41.44 336 P **P 00 46 39.8 +1.1**
SNR=59
AAK Ala-Archa 41.56 337 P **P 00 46 41.2 +1.9**
SNR=12
AAK Ala-Archa 41.56 337*ce*P P 00 46 40.4 +1.0
AAK pmax pmax
comp=Z,79nm,0.8s
AAK Ala-Archa 41.56 337 P **P 00 46 40.4 +1.0**
DL2 Dalian 41.64 32 P **P 00 46 40.7 +0.8**
DL2 pmax pmax
comp=Z,110nm,0.8s
DL2 LR LR
comp=Z,470nm,22.4s
DL2 LR LR
comp=Z,300nm,20.8s
DL2 LR LR
comp=Z,460nm,21.6s
FRU1 Bishkek 41.65 338 P **P 00 46 41.5 +1.5**
FRU1 pmax pmax
comp=Z,32nm,0.9s
FRU1 Bishkek 41.65 338 P **P 00 46 41.5 +1.5**
FRU1 IAmb IAmb 00 46 43.2
comp=Z,32nm,0.8s
CHKK Chushkaly 41.73 341 *e*P **P 00 46 39.5 -1.0**
baz=341
CHKK Chushkaly 41.73 341 *e*P **P 00 46 39.5 -1.0**
CHMS Chumysh 41.77 338 P **P 00 46 41.8 +0.9**
SNR=8.9
BAKI Biak 41.80 97 P **P 00 46 40.4 -1.2**
comp=Z,56nm,1.0s
EKS2 Erkin-Say 41.86 337 P **P 00 46 43.3 +1.5**
SNR=36
HRA Herat 41.95 318 P **P 00 46 42.8 +0.1**
KUU Kurty 41.98 340⇑ *i*P **P 00 46 43.0 +0.3**
comp=Z,86nm,1.4s,baz=341
KUU *e*S **S 00 52 58.8 +1.0**
baz=341
KUU Kurty 41.98 340*c i*P P 00 46 42.9 +0.3
KUU *e*S **S 00 52 58.8 +1.0**
KUU pmax pmax
comp=Z,86nm,1.4s
USP Ospenovka 42.09 338 P **P 00 46 44.5 +0.9**
SNR=42
SGDS Sogindy 42.20 338⇑ *i*P **P 00 46 45.1 +0.5**
baz=339
SGDS Sogindy 42.20 338*c i*P P 00 46 45.0 +0.5
TDK Taldyqorghan 42.32 343 *e*P **P 00 46 45.6 +0.2**
comp=Z,67nm,1.2s,baz=343
TDK Taldyqorghan 42.32 343 *e*P **P 00 46 45.6 +0.2**
TDK pmax pmax
comp=Z,67nm,1.2s
TAS Tashkent 42.72 332 P **P 00 46 49.9 +1.2**
TAS pmax pmax
comp=Z,63nm,0.9s
TAS Tashkent 42.72 332 P **P 00 46 49.9 +1.2**
TAS IAmb IAmb 00 46 53.3
comp=Z,63nm,0.9s
MK31 Makanchi Array 43.00 347*c i*P P 00 46 50.5 -0.3
MK31 Makanchi Array 43.00 347 P **P 00 46 50.7 -0.2**
MK31 IAmb IAmb 00 46 52.3
comp=Z,46nm,0.8s
MKAR Makanchi Array 43.00 347 P **P 00 46 50.9 +0.1**
comp=Z,49nm,0.7s,baz=166,slow=8.3,SNR=226
MKAR PcP **PcP 00 48 41.2 +0.7**
comp=Z,5.3nm,0.9s,baz=143,slow=3.6,SNR=2.5
MKAR LR LR 01 10 15.6
comp=Z,58nm,18.5s,baz=156,slow=44
MKAR Makanchi Array 43.00 347 *i* P **P 00 46 51.0 +0.2**
MKAR pmax pmax
comp=Z,49nm,0.7s
MKAR Makanchi Array 43.00 347 P **P 00 46 51.1 +0.2**
DZA Taraz 43.05 335 *e*P **P 00 46 50.7 -0.6**
baz=335
DZA Taraz 43.05 335 *e*P **P 00 46 50.7 -0.6**
MAKZ Makanchi 43.08 347 P **P 00 46 51.4 -0.1**
MAKZ pmax pmax
comp=Z,47nm,0.7s
MAKZ Makanchi 43.08 347 P **P 00 46 51.4 -0.1**
MAKZ IAmb IAmb 00 46 52.7
comp=Z,47nm,0.7s
ZSN Zaisan 43.13 350⇑ *i*P **P 00 46 52.5 +0.6**
comp=Z,18nm,0.8s,baz=351
ZSN Zaisan 43.13 350*c i*P P 00 46 52.5 +0.6
ZSN pmax pmax
comp=Z,18nm,0.8s
TJN Taejon 43.27 39*ce*P P 00 46 53.3 +0.2
KKAR Karatay Array 43.58 334 P **P 00 46 55.7 +0.1**
KKAR Karatay Array 43.58 334 P **P 00 46 55.6 +0.1**
H01W3 Cape Leeuwin H 43.69 157 T T 01 33 52.3
baz=331,slow=75,SNR=4.8
H01W2 Cape Leeuwin H 43.70 157 T T 01 33 46.6
baz=331,slow=75,SNR=4.1
H01W1 Cape Leeuwin H 43.70 157 T T 01 34 02.4
baz=331,slow=75,SNR=3.7
JNU Nakatsue 43.77 46 IAmb IAmb 00 46 58.5
comp=Z,35nm,0.9s
BTLS Baital 43.79 339⇑ *i*P **P 00 46 57.7 +0.5**
comp=Z,11nm,0.8s,baz=339
BTLS Baital 43.79 339*c i*P P 00 46 57.6 +0.5
BTLS pmax pmax
comp=Z,11nm,0.8s
SONM Songino Array 43.84 11 P **P 00 46 57.0 -0.7**
comp=Z,25nm,0.8s,baz=191,slow=8.6,SNR=125
SONM PcP **PcP 00 48 43.7 +0.3**
comp=Z,11nm,0.8s,baz=195,slow=3.9,SNR=10.0
SONM ScP **ScP 00 52 30.3 -0.7**
comp=Z,3.1nm,1.1s,baz=208,slow=2.5,SNR=6.6
SONM LR LR 01 07 28.9
comp=Z,281nm,18.4s,baz=199,slow=39
SONM Songino Array 43.84 11 P **P 00 46 57.0 -0.7**
SONM IAmb IAmb 00 46 58.2
comp=Z,30nm,0.8s
SONM **PcP 00 48 43.3 -0.1**
ULN Ulaanbaatar 44.00 12*ce*P P 00 46 58.3 -0.7
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 44.00 12 P **P 00 46 58.0 -1.0**
ULN **PcP 00 48 44.4 +0.5**
WRKA Warakurna 44.24 134 P **P 00 47 01.2 0.0**
baz=44,SNR=5.5
KSAR Wonju Array Be 44.26 39 P **P 00 47 01.1 0.0**
KSAR Wonju Array Be 44.26 39 P **P 00 47 01.1 0.0**
KS19 Wonju Array Si 44.28 39 P **P 00 47 00.6 -0.7**
KS19 IAmb IAmb 00 47 02.6
comp=Z,27nm,0.8s
KSRS Korea Array 44.29 39 P **P 00 47 00.2 -1.1**
comp=Z,18nm,0.8s,baz=218,slow=8.9,SNR=70
KSRS LR LR 01 07 09.5
comp=Z,152nm,19.6s,baz=228,slow=38
DGZ Jazzator, Alta 44.97 353*c i*P P 00 47 07.3 +0.6
DGZ pmax pmax
comp=Z,12nm,0.6s
ZAK Zakamensk 45.79 8 *e*P **P 00 47 11.8 -1.4**
ZAK *e* 00 47 25.0
ZAK pmax pmax
comp=Z,13nm,1.1s
ZAK pmax pmax
comp=Z,14nm,1.2s
WB0 Warramunga Arr 46.13 123 IAmb IAmb 00 47 17.3
comp=Z,46nm,0.9s
WRA Warramunga Arr 46.17 124 P **P 00 47 16.2 -0.3**
comp=Z,49nm,0.9s,baz=302,slow=9.1,SNR=173
WRA ScP **ScP 00 52 40.6 -0.5**
comp=Z,0.8nm,0.8s,baz=300,slow=4.3,SNR=3.5
WRA LR LR 01 08 07.2
comp=Z,188nm,21.1s,baz=295,slow=38
WRA Warramunga Arr 46.17 124 *i* P **P 00 47 16.6 +0.1**
WRA pmax pmax
comp=Z,53nm,0.8s
WRA Warramunga Arr 46.17 124 P **P 00 47 15.8 -0.7**
WRAB Tennant Creek 46.17 124*ce*P P 00 47 16.1 -0.4
WRAB pmax pmax
comp=Z,79nm,0.9s
WRAB Tennant Creek 46.17 124 P **P 00 47 16.4 -0.1**
JMN Monobe 46.24 47 P **P 00 47 17.5 +0.6**
JHS Saijyo 46.33 45 P **P 00 47 18.1 +0.5**
WR0 Warramunga Arr 46.34 124 P **P 00 47 17.6 -0.2**
GEYT Alibeck 46.73 320 P **P 00 47 21.7 +1.0**
comp=Z,30nm,0.7s,baz=149,slow=10,SNR=56
TLY Talaya 47.11 8 *e*P **P 00 47 23.9 +0.5**
TLY pmax pmax
comp=Z,47nm,0.8s
TLY MLR MLR
comp=Z,733nm,18.0s
TLY Talaya 47.11 8 P **P 00 47 23.6 +0.2**
TLY IAmb IAmb 00 47 24.9
comp=Z,20nm,0.8s
CN2 Changchun 47.17 30 *e*P **P 00 47 23.6 -0.4**
CN2 *e*S **S 00 54 12.3 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,19.0s
ASAR Alice Springs 47.67 128 P **P 00 47 27.7 -0.5**
comp=Z,17nm,0.9s,baz=305,slow=7.5,SNR=88
ASAR PcP **PcP 00 48 57.3 +0.2**
comp=Z,4.5nm,0.9s,baz=316,slow=2.6,SNR=4.7
ASAR ScP **ScP 00 52 46.4 -1.0**
comp=Z,2.0nm,1.0s,baz=285,slow=4.7,SNR=4.8
ASAR S **S 00 54 18.6 -2.1**
comp=Z,1.0nm,0.8s,baz=291,slow=13,SNR=5.9
ASAR Alice Springs 47.67 128 P **P 00 47 28.0 -0.2**
ASAR PcP **PcP 00 48 57.4 +0.3**
JWT Wachi 48.09 46 P **P 00 47 30.8 -0.5**
JWT IAmb IAmb 00 47 55.9
comp=Z,25nm,1.3s
HIA Hailar 48.94 22 P **P 00 47 37.6 -0.1**
HIA pmax pmax
comp=Z,21nm,0.8s
HIA Hailar 48.94 22 P **P 00 47 37.5 -0.1**
HIA IAmb IAmb 00 47 38.5
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 49.46 352 P **P 00 47 41.5 +0.1**
comp=Z,56nm,0.7s,baz=184,slow=6.7,SNR=255
ZALV ScP **ScP 00 52 53.6 -0.7**
comp=Z,1.8nm,0.8s,baz=116,slow=3.4,SNR=3.4
ZALV S **S 00 54 44.3 -0.7**
comp=Z,0.9nm,0.6s,baz=173,slow=13,SNR=3.8
ZALV LR LR 01 12 47.4
comp=Z,96nm,20.7s,baz=195,slow=41
ZALV Zalesovo Beam 49.46 352 P **P 00 47 41.7 +0.3**
JGF Kuroka 49.65 46 IAmb IAmb 00 47 44.0
comp=Z,25nm,0.8s
MDJ Mudanjiang 49.88 32 P **P 00 47 45.8 +1.0**
MDJ pP pP 00 47 55.0 -3.3
MDJ sP sP 00 48 02.9 -1.2
MDJ S **S 00 54 49.3 -1.9**
MDJ pmax pmax
comp=Z,39nm,1.1s
MDJ pmax pmax
comp=Z,170nm,4.0s
MDJ LR LR
comp=Z,2μm,35.6s
MDJ Mudanjiang 49.88 32 IAmb IAmb 00 47 46.8
comp=Z,27nm,0.9s
MJB9 Matsu-Tunnel 50.70 46 P **P 00 47 51.3 +0.1**
MAJO Matsushiro 50.70 46 P **P 00 47 50.7 -0.4**
MAJO pmax pmax
comp=Z,13nm,0.8s
MAJO Matsushiro 50.70 46 P **P 00 47 50.7 -0.4**
MAT Matsushiro 50.70 46 P **P 00 47 51.1 -0.1**
MAT *e*S S 00 55 14.0 +11
MJAR Matsushiro Arr 50.70 46 P **P 00 47 50.0 -1.2**
comp=Z,8.4nm,0.7s,baz=240,slow=8.1,SNR=15
MJAR PcP **PcP 00 49 08.3 +0.4**
comp=Z,1.6nm,0.5s,baz=230,slow=3.0,SNR=5.3
MJAR LR LR 01 11 19.1
comp=Z,287nm,19.0s,baz=265,slow=38
MJAR Matsushiro Arr 50.70 46 P **P 00 47 50.6 -0.6**
MJAR IAmb IAmb 00 47 52.2
comp=Z,37nm,1.8s
MJAR PcP **PcP 00 49 07.4 -0.5**
RAYN Ar Rayn 50.83 296 P **P 00 47 53.8 +1.4**
RAYN pmax pmax
comp=Z,17nm,1.3s
RAYN Ar Rayn 50.83 296 P **P 00 47 53.8 +1.4**
QIS Mount Isa 50.86 122 P **P 00 47 52.7 +0.1**
baz=51,SNR=15
JSD Sado 51.44 44 IAmb IAmb 00 47 57.1
comp=Z,27nm,0.8s
BRVK Borovoye 51.94 342 P **P 00 48 00.1 0.0**
BRVK pmax pmax
comp=Z,43nm,0.8s
BRVK Borovoye 51.94 342 P **P 00 48 00.1 0.0**
BRVK IAmb IAmb 00 48 01.4
comp=Z,43nm,0.8s
ABKAR Akbulak array 53.02 332 P **P 00 48 08.7 +0.5**
MANU Manus Island 53.06 96 P **P 00 48 09.4 +0.3**
JMM Marumori 53.13 45 **P 00 48 08.4 -0.8**
JMM IAmb IAmb 00 48 10.1
comp=Z,36nm,0.8s
KLR Kul'dur 54.07 29*ce*P P 00 48 16.1 +0.2
KLR pmax pmax
comp=Z,30nm,1.1s
BOD Bodaibo 54.80 12 *e*P **P 00 48 20.4 -0.6**
BOD pmax pmax
comp=Z,33nm,1.1s
AKT Akhty 55.40 318 *e*P **P 00 48 25.8 -0.1**
AKT *e* 00 49 26.1
AKT *e* 00 50 32.6
AKT pmax pmax
comp=Z,30nm,1.2s
JEW Eniwo 55.88 40 P **P 00 48 29.2 +0.1**
CTAO Charters Tower 56.44 118 P **P 00 48 33.4 0.0**
CTAO pmax pmax
comp=Z,25nm,1.1s
CTAO Charters Tower 56.44 118 P **P 00 48 33.4 0.0**
CTAO IAmb IAmb 00 48 34.4
comp=Z,25nm,1.1s
GNI Garni 56.86 315*ce*P P 00 48 37.3 +1.0
GNI pmax pmax
comp=Z,38nm,1.3s
GNI Garni 56.86 315 P **P 00 48 36.4 +0.1**
GNI IAmb IAmb 00 48 42.3
comp=Z,31nm,1.1s
BTLR Botlikh 56.95 319*c i*P P 00 48 36.7 -0.1
BTLR pmax pmax
comp=Z,57nm,0.8s
GEVA Gevas 57.34 313 P **P 00 48 40.1 +0.3**
GRNR Gornyy 57.37 30⇑ *i*P **P 00 48 39.6 +0.1**
GRNR pmax pmax
comp=Z,5.0nm,0.8s
GRNR MLR MLR
comp=E,180nm,14.0s
GRNR MLR MLR
comp=N,140nm,16.0s
GRNR MLR MLR
comp=Z,230nm,18.0s
GROC Groznyy 57.47 319 *e*P **P 00 48 39.7 -0.7**
GROC *e* 00 49 34.0
GROC *e* 00 50 43.0
GROC *e*S **S 00 56 31.8 -2.2**
GROC pmax pmax
comp=Z,63nm,0.8s
KMBO Kilima Mbogo 57.73 266 P **P 00 48 45.6 +2.6**
comp=Z,1.6nm,0.7s,baz=55,slow=9.3,SNR=3.7
STKA Stephens Creek 57.73 133 P **P 00 48 42.4 -0.1**
comp=Z,9.2nm,0.9s,baz=295,slow=8.1,SNR=13
STKA LR LR 01 16 19.5
comp=Z,80nm,20.7s,baz=2.2,slow=39
STKA Stephens Creek 57.73 133 P **P 00 48 42.3 -0.1**
SVE Sverdlovsk 58.27 339*de*P P 00 48 46.0 +0.3
SVE pmax pmax
comp=Z,56nm,1.0s
ZEI Tsey 58.53 318 *e*P **P 00 48 48.2 +0.1**
ZEI pmax pmax
comp=Z,15nm,0.8s
MARD Mardin 58.68 311 P **P 00 48 49.3 +0.2**
MARD IAmb IAmb 00 48 51.1
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 58.70 37*ce*P P 00 48 49.6 +0.7
YSS pmax pmax
comp=Z,56nm,1.3s
YSS Yuzh-Sakhalins 58.70 37 P **P 00 48 49.1 +0.2**
ARU Arti 58.74 337*c i*P P 00 48 48.9 -0.1
ARU *PP **pP 00 49 03.3 +1.0**
ARU 00 49 33.7
ARU 00 50 59.4
ARU S **S 00 56 55.3 +5.1**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 58.74 337 P **P 00 48 48.3 -0.7**
ARU IAmb IAmb 00 48 50.1
comp=Z,29nm,1.0s
KBZ Khabaz 59.60 319 P **P 00 48 55.0 -0.1**
comp=Z,13nm,0.9s,baz=139,slow=5.2,SNR=23
KBZ Khabaz 59.60 319*ce*P P 00 48 55.2 +0.1
KBZ pmax pmax
comp=Z,17nm,0.9s
SHA1 Shidzhatmaz 59.76 319*c i*P P 00 48 56.8 +0.2
KIV Kislovodsk 59.83 319 *e*P **P 00 48 56.5 -0.4**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,23nm,17.0s
KIV Kislovodsk 59.83 319 P **P 00 48 57.1 +0.2**
KIV IAmb IAmb 00 48 58.2
comp=Z,24nm,0.9s
GOF Gofitskoye 60.07 320⇑ *i*P **P 00 48 58.2 -0.2**
GOF pmax pmax
comp=Z,32nm,0.9s
CMSA Cobar Meteorol 60.62 130 P **P 00 49 03.1 +0.7**
baz=61,SNR=14
SOC Sochi 61.66 317 *e*P **P 00 49 07.4 -1.8**
SOC *e* 00 51 23.5
SOC *e*S **S 00 57 30.6 +2.6**
SOC *e*SS **SS 01 01 32.8 +2.6**
SOC pmax pmax
comp=Z,21nm,0.8s
YAK Yakutsk 62.53 18*c i*P P 00 49 13.6 -1.1
YAK *e*PP **pP 00 49 26.4 -2.0**
YAK *e* 00 51 29.8
YAK *e*S **S 00 57 37.4 -0.9**
YAK pmax pmax
comp=Z,71nm,1.1s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,117nm,3.5s
YAK pmax pmax
comp=N,58nm,4.1s
YAK pmax pmax
comp=E,65nm,3.5s
YAK smax smax
comp=N,32nm,2.9s
YAK smax smax
comp=E,62nm,4.9s
YAK Yakutsk 62.53 18 P **P 00 49 13.4 -1.2**
TOO Toolangi 63.38 136 P **P 00 49 21.3 +0.4**
baz=64,SNR=4.5
TOO Toolangi 63.38 136 P **P 00 49 22.4 +1.5**
TOO pmax pmax
comp=Z,18nm,1.1s
TOO Toolangi 63.38 136 P **P 00 49 22.4 +1.5**
TOO IAmb IAmb 00 49 23.6
comp=Z,18nm,1.1s
VRH Novokhopyorsk 63.60 326 *e*P **P 00 49 20.7 -1.3**
VRH pmax pmax
comp=Z,50nm,0.8s
CSS Mathiatis 63.82 307 IAmb IAmb 00 49 42.2
comp=Z,34nm,1.0s
KIRV Kirov 63.84 335*ce*P P 00 49 23.6 +0.2
NRIK Noril'sk 64.42 357 P **P 00 49 26.5 -0.5**
comp=Z,43nm,0.8s,baz=159,slow=6.6,SNR=68
NRIK LR LR 01 22 09.6
comp=Z,66nm,18.3s,baz=128,slow=40
NRIK Noril'sk 64.42 357*ce*P P 00 49 26.7 -0.3
NRIK pmax pmax
comp=Z,60nm,0.9s
BR131 Keskin Array S 64.74 312 IAmb IAmb 00 49 30.9
comp=Z,31nm,0.9s
BRTR Keskin Array B 64.74 312 P **P 00 49 29.8 -0.1**
comp=Z,12nm,0.8s,baz=126,slow=6.4,SNR=29
BRTR LR LR 01 18 29.0
comp=Z,71nm,21.8s,baz=113,slow=37
VORD Divnogorie 64.88 325 *e*P **P 00 49 28.9 -1.4**
VORD pmax pmax
comp=Z,30nm,0.8s
ILGA Ilgaz 65.04 313 P **P 00 49 32.7 +0.7**
VSR Storozhevoye 65.05 325 *e*P **P 00 49 30.1 -1.4**
VSR pmax pmax
comp=Z,30nm,0.9s
ANTO Ankara 65.41 312 P **P 00 49 33.8 -0.4**
ANTO pmax pmax
comp=Z,27nm,1.0s
ANTO Ankara 65.41 312 P **P 00 49 33.8 -0.4**
ANTO IAmb IAmb 00 49 35.4
comp=Z,27nm,1.0s
BR231 Keskin MP Arra 65.41 312 P **P 00 49 34.1 -0.2**
BR231 IAmb IAmb 00 49 35.5
comp=Z,26nm,0.9s
LPSR Galich'ya Gora 65.78 326 *e*P **P 00 49 35.5 -0.7**
LPSR pmax pmax
comp=Z,30nm,0.8s
SIM Simferopol' 65.91 317*de*P P 00 49 36.1 -1.1
SIM *e*PP **pP 00 49 50.0 -0.6**
SIM *e*SS SS 01 02 32.7 -3.8
SIM pmax pmax
comp=Z,32nm,1.0s
ISP Isparta 66.65 309 P **P 00 49 43.1 +0.8**
ISP pmax pmax
comp=Z,40nm,1.2s
ISP Isparta 66.65 309 P **P 00 49 43.1 +0.8**
ISP IAmb IAmb 00 49 44.4
comp=Z,40nm,1.2s
PRGR Permogore 67.19 337 *e*P **P 00 49 42.0 -3.0**
PRGR *e*PP **pP 00 49 57.1 -1.4**
PRGR pmax pmax
comp=Z,51nm,0.9s
MOS Moscow 67.82 329 *e*P **P 00 49 48.1 -1.0**
MOS *e* 00 50 00.9
MOS pmax pmax
comp=Z,50nm,1.2s
OBN Obninsk 68.10 328*ce*P P 00 49 50.8 -0.1
OBN *i* 00 50 10.5
OBN *e* 00 50 15.8
OBN *e*S **S 00 58 43.1 -3.7**
OBN *e*SS **SS 01 03 09.1 -0.9**
OBN pmax pmax
comp=Z,68nm,1.7s
OBN MLR MLR
comp=Z,74nm,19.0s
OBN Obninsk 68.10 328 P **P 00 49 50.4 -0.4**
KULA Kula-Manisa 68.23 309 P **P 00 49 52.5 +0.3**
MA2 Magadan 69.04 27 LR LR 01 23 14.0
comp=Z,95nm,19.2s,baz=254,slow=39
MA2 Magadan 69.04 27*ce*P P 00 49 56.6 -0.1
MA2 pmax pmax
comp=Z,38nm,1.7s
KLMR Klimovskoe 69.28 335 *e*P **P 00 49 55.9 -2.2**
KLMR *e*PP **pP 00 50 12.0 +0.4**
KLMR *e* 00 52 28.6
KLMR pmax pmax
comp=Z,33nm,1.2s
KLMR Klimovskoe 69.28 335 *e*P **P 00 49 55.9 -2.2**
KLMR AMP 00 49 59.0
comp=Z,33nm,1.2s
KLMR *e*pP **pP 00 50 12.1 +0.4**

KLMR *e*PP **PP** **00 52 28.6 -3.0**
JURR Jurilovca 69.44 316 ⇓P **P** **00 49 60.0 +0.6**
TIRR Tirgusor 69.69 316 ⇓P **P** **00 50 01.1 +0.1**
TIRR Tirgusor 69.69 316 P **P** **00 50 00.6 -0.4**
TIRR pmax pmax
comp=Z,70nm,1.0s
TIRR Tirgusor 69.69 316 P **P** **00 50 00.6 -0.4**
TPGR Topolog 69.78 316 ⇑P **P** **00 50 01.7 +0.1**
TIXI Tiksi 69.92 11 *c*eP **P** **00 50 00.6 -1.2**
TIXI Tiksi 69.92 11 P **P** **00 50 00.6 -1.2**
PETK Petropavlovsk- 70.00 35 P **P** **00 50 00.8 -2.0**
comp=Z,6.8nm,1.0s,baz=262,slow=8.3,SNR=4.7
PETK LR LR 01 21 05.6
comp=Z,185nm,21.6s,baz=242,slow=36
ICOR Ion Corvin 70.04 315 ⇓P **P** **00 50 03.7 +0.6**
CFR Carcaliu 70.05 316 ⇓P **P** **00 50 03.6 +0.5**
HARR Harsova 70.08 316 ⇓P **P** **00 50 03.9 +0.5**
VARL Varlezi 70.41 317 ⇓P **P** **00 50 06.2 +0.8**
PET Petropavlovsk 70.52 35 *e*P **P** **00 50 04.8 -1.1**
PET *e*S **S** **00 59 14.5 -0.9**
PET pmax pmax
comp=Z,36nm,0.8s
PET MLR MLR
comp=Z,300nm,20.0s
PET Petropavlovsk 70.52 35 P **P** **00 50 04.5 -1.4**
PET IAmb IAmb 00 50 05.9
comp=Z,18nm,0.7s
SORM Soroca 70.62 319 ⇑P **P** **00 50 06.5 -0.1**
VASR Vaslui 70.62 318 ⇓P **P** **00 50 07.2 +0.6**
ALN Alexandroupoli 70.66 312 P **P** **00 50 07.3 +0.3**
ALN Alexandroupoli 70.66 312 P **P** **00 50 07.2 +0.3**
ALN pmax pmax
comp=Z,35nm,1.1s
ALN Alexandroupoli 70.66 312 P **P** **00 50 07.2 +0.2**
ALN IAmb IAmb 00 50 08.6
comp=Z,35nm,1.1s
IDI Anoyia 70.68 306 P **P** **00 50 08.0 +0.7**
IDI Anoyia 70.68 306 IAmb IAmb 00 50 09.6
comp=Z,30nm,0.9s
GHRR 70.75 317 ⇑P **P** **00 50 08.6 +1.2**
AKASG Malin Array Be 70.75 322 P **P** **00 50 06.0 -1.3**
comp=Z,5.0nm,0.7s,baz=92,slow=4.7,SNR=44
AKASG Malin Array Be 70.75 322 *i* P **P** **00 50 06.5 -0.9**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 70.75 322 P **P** **00 50 06.2 -1.2**
AKBB Malin Array Si 70.75 322 *c*eP **P** **00 50 06.7 -0.7**
AKBB Malin Array Si 70.75 322 P **P** **00 50 06.0 -1.4**
ODBI Odobesti 70.92 317 ⇑P **P** **00 50 10.2 +1.7**
RDO Rodhopi 71.08 312 P **P** **00 50 09.6 0.0**
BISRR Bisoca 71.11 316 ⇑P **P** **00 50 10.7 +1.0**
VRI Vrincioaia 71.17 317 ⇑P **P** **00 50 11.4 +1.4**
PLOR Plostina 71.22 317 ⇑P **P** **00 50 11.4 +1.1**
VAM Vamos 71.25 306 P **P** **00 50 12.0 +1.3**
SEY Seymchan 71.29 24 *i* P **P** **00 50 09.4 -1.0**
SGRR Singureni 71.34 315 ⇑P **P** **00 50 12.3 +1.2**
IMMV Iera Moni Meta 71.44 306 P **P** **00 50 12.1 +0.3**
SECR 71.44 316 ⇓P **P** **00 50 13.4 +1.7**
MLR Muntele Rosu 71.62 316 ⇑P **P** **00 50 14.0 +1.1**
MLR Muntele Rosu 71.62 316 P **P** **00 50 13.8 +0.9**
MLR pmax pmax
comp=Z,53nm,1.0s
MLR Muntele Rosu 71.62 316 P **P** **00 50 13.8 +0.9**
ZIMR 71.67 314 ⇓P **P** **00 50 14.0 +1.0**
KAVA Kavala 71.82 311 P **P** **00 50 14.2 +0.2**
DION Dionisos Attik 71.82 308 P **P** **00 50 13.0 -1.1**
PRAR RASCA 71.83 318 ⇓P **P** **00 50 14.3 +0.4**
DOPR Dopca 72.10 317 ⇑P **P** **00 50 16.2 +0.5**
HUMR Humele 72.10 315 ⇑P **P** **00 50 15.9 +0.3**
OUR Ouranopolis 72.12 311 P **P** **00 50 15.8 0.0**
VOIR 72.23 316 ⇓P **P** **00 50 16.6 +0.1**
PAIG Paliouri 72.28 310 P **P** **00 50 16.1 -0.7**
NVR Nevrokopi 72.36 312 P **P** **00 50 17.3 0.0**
ARR Arges 72.50 316 ⇑P **P** **00 50 18.2 +0.1**
BURAR Bucovina Array 72.55 318 ⇑P **P** **00 50 19.6 +1.2**
BURAR Bucovina Array 72.55 318 P **P** **00 50 18.9 +0.5**
MNK Minsk 72.61 326 *i* P **P** **00 50 17.4 -1.0**
MNK *i* *PP **pP** **00 50 31.6 -0.4**
MNK *i* 00 50 34.3
MNK *i* *SP **sP** **00 50 38.5 +1.1**
MNK *i* 00 52 57.2
MNK *i* PPP PPP 00 54 43.7
MNK *i* S **S** **00 59 38.7 -0.7**
MNK *i* *SS **sS** **01 00 03.8 +1.4**
MNK *i* 01 00 24.3
MNK pmax pmax
comp=N,4.0nm,1.0s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK pmax pmax
comp=Z,37nm,1.0s
MNK MLR MLR
comp=N,40nm,19.0s
MNK MLR MLR
comp=Z,64nm,19.0s
MNK MLR MLR
comp=E,4.0nm,19.0s
MNK Minsk 72.61 326 *i* P **P** **00 50 17.4 -1.0**
comp=E,5.0nm,1.0s
MNK *i* P **P** **00 50 17.4 -1.0**
comp=N,4.0nm,1.0s
MNK *i* P **P** **00 50 17.4 -1.0**
comp=Z,37nm,1.0s,baz=286
MNK *i* pP **pP** **00 50 31.7 -0.4**
MNK *i* PcP **pwP** **00 50 34.3 -1.2**
MNK *i* sP **sP** **00 50 38.6 +1.1**
MNK *i* PP **PP** **00 52 57.2 -3.2**
MNK *i* PPP PPP 00 54 43.8
MNK *i* S **S** **00 59 38.7 -0.7**
MNK *i* sS **sS** **01 00 03.9 +1.5**
MNK *i* SSS SSS 01 07 41.1
MNK *i* LQ LQ 01 17 24.0
MNK *i* LR LR 01 19 28.8
MNK *i* LRM MLR 01 24 10.6
comp=N,40nm,18.7s
MNK *i* LRM MLR 01 24 13.2
comp=Z,64nm,18.7s
MNK *i* LRM MLR 01 24 13.8
comp=E,4.0nm,18.7s
VTS Vitosha 73.02 313 ⇑P **P** **00 50 21.6 +0.2**
VTS Vitosha 73.02 313 IAmb IAmb 00 50 22.7
comp=Z,21nm,1.0s
KNT Kendrikon 73.05 311 P **P** **00 50 21.0 -0.4**
LOT Lotru 73.12 316 ⇓P **P** **00 50 21.9 +0.1**
BAIL Bailesti 73.17 314 ⇑P **P** **00 50 23.1 +1.2**
LIT Litokhoron 73.21 310 P **P** **00 50 21.5 -0.9**
LIT Litokhoron 73.21 310 IAmb IAmb 00 50 22.7
comp=Z,26nm,0.8s
KLV Kalavryta, Ach 73.21 308 P **P** **00 50 21.4 -1.1**
ITM Ithomi 73.29 307 P **P** **00 50 22.5 -0.4**
ITM Ithomi 73.29 307 IAmb IAmb 00 50 39.8
comp=Z,36nm,0.9s
TRIZ Trizonia 73.31 308 P **P** **00 50 22.0 -0.9**
VAY Valandovo 73.32 312 *i* P **P** **00 50 22.2 -0.7**
SERG Sergoula 73.33 308 P **P** **00 50 22.0 -1.1**
GRG Griva 73.40 311 P **P** **00 50 22.8 -0.7**
EFP Efpalio 73.45 308 P **P** **00 50 23.3 -0.5**
ANX Ano Chora 73.46 309 P **P** **00 50 23.3 -0.6**
CJR Cluj-Napoca 73.46 317 ⇓P **P** **00 50 25.1 +1.4**
IDID Didziasalis 73.47 326 *e*P **P** **00 50 24.1 +0.6**
CBBR Cluj-Babes-Bol 73.50 317 ⇑P **P** **00 50 25.4 +1.5**
PUNG Punghina 73.53 315 ⇑P **P** **00 50 24.3 +0.3**
KTI Kastanea 73.53 311 P **P** **00 50 23.8 -0.6**
DRO Drossia 73.55 308 P **P** **00 50 24.6 +0.2**
STIP Stip 73.66 312 ⇑*i*P **P** **00 50 23.4 -1.6**
BMR Baia Mare 73.71 318 ⇑P **P** **00 50 26.5 +1.4**
IIGN Ignalina 73.76 326 *e*P **P** **00 50 25.9 +0.7**
DEV Deva 73.79 316 ⇑P **P** **00 50 26.9 +1.3**
GZR Gura Zlata 73.80 316 ⇑P **P** **00 50 26.7 +1.0**
HERR Herculane 73.97 315 ⇑P **P** **00 50 27.4 +0.8**
MESR Meseseni 73.98 318 ⇓P **P** **00 50 28.2 +1.6**
KPRO Kipourio 74.05 310 P **P** **00 50 25.9 -1.5**
DRGR 74.08 317 ⇓P **P** **00 50 28.2 +0.8**
FNA Florina 74.14 311 P **P** **00 50 26.7 -1.2**
FNA pmax pmax
comp=Z,13nm,1.1s
FNA Florina 74.14 311 P **P** **00 50 26.7 -1.2**
LTHK Lithakia 74.21 308 P **P** **00 50 27.5 -0.7**
SKO Skopje 74.25 312 *i* P **P** **00 50 27.4 -0.9**
BOVS Bovan 74.28 314 ⇑P **P** **00 50 28.3 -0.3**
TRPA Tarpa 74.42 319 ⇓P **P** **00 50 30.4 +1.2**
NYDR Nydri-Lefkada 74.42 309 P **P** **00 50 29.1 -0.3**

MDVR Moldovita 74.44 315 ⇓P **P** **00 50 30.0 +0.5**
LKD2 Lefkada island 74.46 309 P **P** **00 50 29.5 -0.2**
TSLK Tsoukalades, L 74.47 309 P **P** **00 50 29.5 -0.2**
BOSA Boshof 74.57 239 P **P** **00 50 31.1 +0.4**
comp=Z,4.0nm,1.0s,baz=57,slow=3.8,SNR=8.5
KWP Kalwaria Pacla 74.58 320 *e*P **P** **00 50 30.9 +0.7**
KWP *e*PcP **pP** **00 50 41.2 -2.6**
KWP Kalwaria Pacla 74.58 320 P **P** **00 50 30.3 +0.1**
KWP pmax pmax
comp=Z,426nm,1.0s
KWP Kalwaria Pacla 74.58 320 P **P** **00 50 30.3 +0.1**
BZS Buzias 74.64 316 ⇓P **P** **00 50 31.2 +0.7**
UZH Uzhgorod 74.67 319 *c i*P **P** **00 50 30.2 -0.4**
UZH *e* 00 50 38.9
UZH *e* 00 50 48.1
SIRR Siria 74.71 317 ⇓P **P** **00 50 32.1 +1.1**
LTVH Ltavrtes, Hu 74.72 318 ⇑P **P** **00 50 32.5 +1.5**
LTVH Ltavrtes, Hu 74.72 318 *e*P **P** **00 50 32.7 +1.8**
APA Apatity 74.72 340 ⇑*i*P **P** **00 50 29.2 -1.4**
APA *i* 00 50 44.6
APA pmax pmax
comp=Z,22nm,0.9s
APA MLR MLR
comp=Z,700nm,20.0s
KOLS Kolonicke sedl 74.74 319 *e*P **P** **00 50 32.3 +1.2**
KOLS Kolonicke sedl 74.74 319 *e*P **P** **00 50 32.3 +1.2**
IGT Igoumenitsa 74.79 309 P **P** **00 50 30.8 -0.8**
PHP Peshkopia 74.95 312 P **P** **00 50 31.1 -1.4**
PABE Paberze 75.04 326 *e*P **P** **00 50 33.1 +0.5**
PABE Paberze 75.04 326 P **P** **00 50 32.8 +0.2**
PABE IAmb IAmb 00 50 33.8
comp=Z,38nm,1.0s
DZM Mont Dzumac 75.08 114 *e*P **P** **00 50 31.0 -2.7**
comp=Z,64nm,1.4s
DZM Mont Dzumac 75.08 114 *e*LR LR 01 13 43.4
comp=Z,185nm,23.6s
SUW Suwalki 75.16 325 *e*P **P** **00 50 33.0 -0.3**
SUW Suwalki 75.16 325 *e*P **P** **00 50 33.6 +0.2**
KEK Kerkira 75.22 310 P **P** **00 50 33.4 -0.7**
CRVS Cervenica-Dubn 75.26 319 *e*P **P** **00 50 35.3 +1.2**
CRVS pmax pmax
comp=Z,58nm,1.1s
CRVS Cervenica-Dubn 75.26 319 *e*P **P** **00 50 35.3 +1.2**
PUK Puka 75.40 312 IAmb IAmb 00 50 36.3
comp=Z,25nm,1.1s
FIA1 FINESS Array S 75.50 332 P **P** **00 50 35.0 -0.2**
FIA1 IAmb IAmb 00 50 36.0
comp=Z,26nm,1.1s
FINES FINESS Array B 75.50 332 P **P** **00 50 34.8 -0.4**
comp=Z,6.1nm,0.7s,baz=98,slow=5.1,SNR=23
FINES LR LR 01 28 04.6
comp=Z,69nm,20.1s,baz=105,slow=39
FINES FINESS Array B 75.50 332 *i* P **P** **00 50 35.2 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 75.50 332 P **P** **00 50 35.1 -0.1**
DIVS Divibare 75.57 314 ⇑*i*P **P** **00 50 36.1 0.0**
KECS Kecovo 75.83 319 *e*P **P** **00 50 38.3 +0.9**
KECS pmax pmax
comp=Z,18nm,0.8s
KECS Kecovo 75.83 319 *e*P **P** **00 50 38.3 +0.9**
FRGS Fruska Gora 75.83 315 ⇑*i*P **P** **00 50 37.2 -0.3**
PDG Podgorica 75.92 312 ⇑P **P** **00 50 37.6 -0.3**
PDG Podgorica 75.92 312 ⇑*i*P **P** **00 50 37.4 -0.5**
PDG Podgorica 75.92 312 IAmb IAmb 00 50 38.7
comp=Z,23nm,1.0s
DRME Dracevica, Mon 75.94 312 ⇑*i*P **P** **00 50 37.8 -0.3**
RUDO Rudo 75.96 314 *e*P **P** **00 50 35.6 -2.6**
BBLS Lazići 75.97 314 ⇑*i*P **P** **00 50 38.8 +0.5**
NIE Niedzica 76.09 320 *e*P **P** **00 50 40.3 +1.4**
PSZ Piszkesteto 76.14 318 ⇓P **P** **00 50 39.8 +0.6**
PSZ Piszkesteto 76.14 318 *e*P **P** **00 50 39.9 +0.7**
PSZ Piszkesteto 76.14 318 P **P** **00 50 39.7 +0.5**
PSZ pmax pmax
comp=Z,32nm,0.9s
PSZ Piszkesteto 76.14 318 P **P** **00 50 39.7 +0.5**
PSZ IAmb IAmb 00 50 41.0
comp=Z,32nm,0.9s
BEL Belsk 76.17 322 *e*P **P** **00 50 40.1 +0.9**
UPM Unac-Piva 76.25 313 *e*P **P** **00 50 39.6 -0.5**
SCTE Santa Cesarea 76.28 310 P **P** **00 50 39.8 -0.3**
SCTE IAmb IAmb 00 50 40.9
comp=Z,24nm,0.9s
PBUR Paburge 76.28 326 *e*P **P** **00 50 40.4 +0.7**
HAPS Han Pijesak,BI 76.32 314 *e*P **P** **00 50 38.1 -2.3**
HCY Herceg Novi 76.48 312 *e*P **P** **00 50 40.5 -0.7**
BRY Bratogost 76.49 313 ⇑*i*P **P** **00 50 40.7 -0.7**
OJC Ojcow 76.53 320 *e*P **P** **00 50 41.9 +0.6**
OJC Ojcow 76.53 320 P **P** **00 50 41.8 +0.5**
OJC pmax pmax
comp=Z,54nm,0.8s
OJC Ojcow 76.53 320 P **P** **00 50 41.8 +0.5**
LANS Liptovska Anna 76.59 319 *e*P **P** **00 50 42.8 +1.1**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 76.59 319 *e*P **P** **00 50 42.8 +1.1**
BUD Budapest 76.67 318 *e*P **P** **00 50 44.3 +2.2**
MORH Mrgy, Hungar 76.77 316 ⇑P **P** **00 50 42.9 +0.2**
MORH Mrgy, Hungar 76.77 316 *e*P **P** **00 50 42.9 +0.2**
MORH Mrgy, Hungar 76.77 316 ⇑*i*P **P** **00 50 43.0 +0.2**
VYHS Vyhne 76.92 319 *e*P **P** **00 50 44.1 +0.6**
VYHS pmax pmax
comp=Z,21nm,0.9s
VYHS Vyhne 76.92 319 *e*P **P** **00 50 44.1 +0.6**
STON Ston 77.10 313 ⇑*i*P **P** **00 50 44.0 -0.6**
SRO2 Moca 77.12 318 *e*P **P** **00 50 45.1 +0.4**
KOVH Kovagotottos 77.13 316 *e*P **P** **00 50 44.9 +0.2**
CSKK Cskako 77.17 317 *e*P **P** **00 50 46.2 +1.3**
SRO Srobarova 77.18 318 *e*P **P** **00 50 46.5 +1.5**
SRO pmax pmax
comp=Z,45nm,1.0s
SRO Srobarova 77.18 318 *e*P **P** **00 50 46.5 +1.5**
OKC Ostrava-Krasne 77.54 320 *e*P **P** **00 50 48.3 +1.4**
OKC Ostrava-Krasne 77.54 320 ⇑*e*P **P** **00 50 48.3 +1.4**
MPLH Magyarpolny 77.63 317 *e*P **P** **00 50 48.5 +1.0**
BLY Banja Luka 77.64 315 ⇑*i*P **P** **00 50 48.0 +0.3**
MATE Matera 77.67 310 ⇑P **P** **00 50 48.2 +0.4**
MGRS Mrkonjic Grad 77.68 314 *e*P **P** **00 50 48.8 +0.9**
JAVC Velka Javorina 77.73 319 *e*P **P** **00 50 49.6 +1.5**
EGYH Egyhazaskeszo 77.80 317 *e*P **P** **00 50 46.2 -2.3**
SMOL Smolenice 77.85 318 *e*P **P** **00 50 49.3 +0.6**
SMOL pmax pmax
comp=Z,7.0nm,1.1s
SMOL Smolenice 77.85 318 *e*P **P** **00 50 49.3 +0.6**
MORC Moravsky Berou 77.92 320 ⇓P **P** **00 50 50.2 +1.1**
MORC Moravsky Berou 77.92 320 *e*P **P** **00 50 50.1 +1.0**
MODS Modra-Piesok 77.94 318 *e*P **P** **00 50 51.0 +1.8**
MODS pmax pmax
comp=Z,104nm,2.0s
MODS Modra-Piesok 77.94 318 *e*P **P** **00 50 51.0 +1.8**
ZST Bratislava 78.03 318 *e*P **P** **00 50 51.0 +1.3**
ZST pmax pmax
comp=Z,161nm,0.9s
ZST Bratislava 78.03 318 *e*P **P** **00 50 51.0 +1.3**
ARA0 ARCESS Array S 78.14 340 *e*P **P** **00 50 49.1 -0.8**
ARCES ARCESS Array B 78.14 340 P **P** **00 50 49.4 -0.5**
comp=Z,16nm,0.9s,baz=94,slow=6.2,SNR=17
ARCES LR LR 01 28 49.1
comp=Z,81nm,18.1s,baz=105,slow=38
ARCES ARCESS Array B 78.14 340 IAmb IAmb 00 51 06.5
comp=Z,41nm,1.1s
CEL Celeste 78.15 308 P **P** **00 50 51.3 +0.6**
CEL IAmb IAmb 00 51 08.6
comp=Z,42nm,1.0s
SOP Sopron 78.35 318 *e*P **P** **00 50 52.7 +1.2**
KRLC Kraliky 78.44 320 *e*P **P** **00 50 53.2 +1.2**
KRLC Kraliky 78.44 320 ⇑*e*P **P** **00 50 53.2 +1.2**
KOGS Kog 78.45 316 *i* P **P** **00 50 52.8 +0.7**
VRAC Vranov 78.48 319 ⇑P **P** **00 50 53.3 +1.1**
VRAC Vranov 78.48 319 *e*P **P** **00 50 52.9 +0.7**
GKP Gorka Klasztor 78.52 323 *e*P **P** **00 50 52.4 0.0**
BILL Bilibino 78.53 21 *i* P **P** **00 50 51.2 -0.9**
BILL *i* 00 51 02.0
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,388nm,17.0s
BILL Bilibino 78.53 21 P **P** **00 50 51.2 -0.9**
BILL IAmb IAmb 00 50 52.4
comp=Z,21nm,1.1s
KRUC Moravsky 78.59 319 *e*P **P** **00 50 53.4 +0.6**
DPC Dobruska-Polom 78.76 320 ⇑*i*P **P** **00 50 55.2 +1.4**
DPC Dobruska-Polom 78.76 320 ⇑*i*P **P** **00 50 55.2 +1.4**

KTK1 Kautokeino 78.77 340 *e*P **P** **00 50 53.7 +0.4**
KSP Ksiaz 78.83 321 *e*P **P** **00 50 55.2 +1.1**
CONA Conrad Observa 78.84 318 *e*P **P** **00 50 54.8 +0.5**
comp=Z,16nm,0.9s,SNR=11
OSTC Ostas 78.85 320 ⇑*i*P **P** **00 50 55.3 +1.1**
CRES Cresnjev 78.95 316 ⇑*i*P **P** **00 50 55.2 +0.3**
CHVC Chvalec 78.95 320 *e*P **P** **00 50 57.1 +2.3**
GROS Grobnik 78.96 316 *i* P **P** **00 50 55.7 +0.7**
ARSA Arzberg 79.01 317 *e*P **P** **00 50 56.1 +0.9**
comp=Z,29nm,1.0s,SNR=23
HAMF Hammerfest 79.07 341 *e*P **P** **00 50 55.8 +0.9**
PERS Pernice 79.24 316 *i* P **P** **00 50 57.4 +0.9**
SOKA Soboth 79.30 316 *e*P **P** **00 50 57.7 +0.8**
comp=Z,44nm,1.0s,SNR=56
PAOL Paolisi 79.31 311 P **P** **00 50 56.7 -0.3**
RAFF Raffo Rosso 79.32 307 P **P** **00 50 57.8 +0.7**
LJU Ljubljana 79.61 316 *e*P **P** **00 50 59.4 +0.9**
OBKA Obir 79.62 316 *i* P **P** **00 50 59.5 +0.8**
comp=Z,24nm,1.0s,SNR=16
CEY Cerknica 79.66 315 ⇑*i*P **P** **00 50 59.0 +0.2**
PRU Pruhonice 79.87 320 ⇑*i*P **P** **00 51 00.7 +0.9**
PRU Pruhonice 79.87 320 ⇑*i*P **P** **00 51 00.7 +0.9**
PVCC Panska Ves 79.89 320 *e*P **P** **00 51 01.1 +1.2**
PVCC Panska Ves 79.89 320 ⇑*e*P **P** **00 51 01.1 +1.2**
MOA Molln 79.90 318 *e*P **P** **00 51 00.3 +0.3**
comp=Z,16nm,0.9s,SNR=12
CKRC Cesky Krumlov 79.94 319 ⇑*i*P **P** **00 51 02.2 +2.0**
CKRC *ex* x 00 51 18.3
PRA Prague 79.95 320 *e*P **P** **00 51 01.6 +1.4**
PRA Prague 79.95 320 ⇑*e*P **P** **00 51 01.6 +1.4**
PBCC Pribram 80.20 319 ⇑*e*P **P** **00 51 02.7 +1.1**
AQU L'Aquila 80.23 312 P **P** **00 51 01.8 -0.2**
AQU pmax pmax
comp=Z,34nm,1.0s
AQU L'Aquila 80.23 312 ⇑*i*P **P** **00 51 02.6 +0.6**
AQU L'Aquila 80.23 312 P **P** **00 51 01.8 -0.2**
AQU IAmb IAmb 00 51 03.9
comp=Z,34nm,1.0s
MYKA Terra Mystica 80.25 316 *e*P **P** **00 51 02.6 +0.5**
comp=Z,16nm,0.9s,SNR=10.0
BRG Berggiesshubel 80.32 321 *e*P **P** **00 51 03.1 +0.9**
BRG Amp 00 51 04.3
comp=Z,24nm,1.1s
BRG Berggiesshubel 80.32 321 *e*P **P** **00 51 03.0 +0.9**
comp=Z,24nm,1.1s,baz=92,slow=5.2
GEC2 GERESS Array S 80.34 319 *e*P **P** **00 51 03.4 +0.9**
comp=Z,64nm,0.9s,baz=92,slow=5.2
GERES GERESS Array B 80.34 319 P **P** **00 51 03.4 +0.9**
comp=Z,37nm,0.8s,baz=93,slow=5.5,SNR=53
LNIZ Loecknitz 80.35 323 *e*P **P** **00 51 03.1 +0.9**
comp=Z,117nm,1.0s,baz=92,slow=5.2
TRO Tromso 80.40 340 *e*P **P** **00 51 01.1 -1.1**
KHC Kasperske Hory 80.44 319 ⇑*i*P **P** **00 51 03.6 +0.7**
KHC Kasperske Hory 80.44 319 ⇑*i*P **P** **00 51 03.6 +0.7**
NRCA Norcia 80.46 312 P **P** **00 51 03.5 +0.2**
NRCA IAmb IAmb 00 51 05.0
comp=Z,27nm,1.1s
KBA Koelnbreinsper 80.48 317 *e*P **P** **00 51 03.5 +0.1**
comp=Z,17nm,1.0s,SNR=6.3
RUE Ruedersdorf 80.53 322 *e*P **P** **00 51 04.1 +0.9**
comp=Z,69nm,0.9s,baz=92,slow=5.2
FBE Freiberg 80.69 321 *e*P **P** **00 51 05.3 +1.2**
comp=Z,41nm,1.0s,baz=92,slow=5.2
ZOU Zoufplan 80.71 316 IAmb IAmb 00 51 06.3
comp=Z,37nm,1.1s
RJOB Jochberg 80.89 317 *e*P **P** **00 51 05.5 +0.2**
comp=Z,116nm,1.1s,baz=92,slow=5.2
WET Wettzell 80.90 319 *e*P **P** **00 51 06.3 +0.9**
comp=Z,31nm,1.0s,baz=92,slow=5.2
MURB Monte Urbino 80.91 313 IAmb IAmb 00 51 30.3
comp=Z,28nm,1.1s
CLL Collm 80.94 321 *i* P **P** **00 51 05.6 +0.1**
comp=Z,20nm,1.1s
CLL *es*P **pP** **00 51 20.0 +0.7**
CLL Collm 80.94 321 *i* P **P** **00 51 05.6 +0.1**
CLL *e* 00 51 20.0
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 80.94 321 *e*P **P** **00 51 05.9 +0.4**
comp=Z,20nm,1.1s,baz=92,slow=5.2
ABTA Abfaltersbach 81.04 316 *e*P **P** **00 51 06.0 -0.2**
comp=Z,18nm,1.0s,SNR=13
WERN Wernitzgruen 81.28 320 *e*P **P** **00 51 08.3 +0.9**
comp=Z,13nm,1.0s,baz=92,slow=5.2
WERD Werda 81.33 320 *e*P **P** **00 51 08.4 +0.8**
comp=Z,18nm,1.0s,baz=92,slow=5.2
FAUS Fauske 81.34 337 *e*P **P** **00 51 07.5 +0.2**
ROTZ Rotzenmuhle 81.36 319 *e*P **P** **00 51 09.0 +1.2**
comp=Z,28nm,1.0s,baz=92,slow=5.2
PLN Plauen 81.43 320 *e*P **P** **00 51 08.8 +0.7**
comp=Z,15nm,1.1s,baz=92,slow=5.2
STEI Steigen 81.43 338 *e*P **P** **00 51 07.5 -0.2**
MANZ Manzenberg 81.44 320 *e*P **P** **00 51 09.5 +1.3**
comp=Z,41nm,1.0s,baz=92,slow=5.2
MOR8 Moi Rana 81.52 336 *e*P **P** **00 51 07.8 -0.5**
TEOL Teolo 81.58 315 IAmb IAmb 00 51 10.8
comp=Z,30nm,1.0s
WTTA Wattenberg 81.65 317 *e*P **P** **00 51 09.6 0.0**
comp=Z,36nm,0.8s,SNR=23
WATA Walderalm 81.70 317 *e*P **P** **00 51 09.3 -0.5**
comp=Z,24nm,0.9s,SNR=14
MOX Moxa 81.78 320 *e*P **P** **00 51 10.6 +0.7**
comp=Z,14nm,1.0s,baz=92,slow=5.2
MOX *e*L L 01 34 11.1
comp=Z,45nm,21.8s
OSSC Osservatorio P 81.85 313 P **P** **00 51 09.9 -0.6**
FUR Furstenfeldbru 81.92 318 *e*P **P** **00 51 11.3 +0.5**
comp=Z,20nm,1.0s,baz=92,slow=5.2
SQTA Sankt Quirin 81.94 317 *e*P **P** **00 51 11.1 +0.1**
comp=Z,12nm,0.7s,SNR=16
GRA1 Grafenberg Arr 82.00 319 IAmb IAmb 00 51 13.4
comp=Z,34nm,1.0s
GRF Grafenberg Arr 82.00 319 *e*P **P** **00 51 12.3 +1.2**
comp=Z,40nm,1.1s,baz=92,slow=5.2
GRF *e*L L 01 34 17.9
comp=Z,56nm,19.0s
GRFO Grafenberg 82.00 319 P **P** **00 51 12.2 +1.1**
GRFO pmax pmax
comp=Z,35nm,1.1s
GRFO Grafenberg 82.00 319 P **P** **00 51 12.2 +1.1**
GRFO IAmb IAmb 00 51 13.3
comp=Z,35nm,1.1s
MOTA Moosalm 82.02 317 *i* P **P** **00 51 11.0 -0.5**
comp=Z,32nm,0.9s,SNR=25
ZCCA Zocca 82.05 314 IAmb IAmb 00 51 19.1
comp=Z,43nm,1.0s
LOF Lofoten 82.09 338 *e*P **P** **00 51 11.9 +0.7**
CASP Castiglione de 82.12 312 P **P** **00 51 10.9 -1.1**
CASP IAmb IAmb 00 51 13.1
comp=Z,28nm,1.5s
RETA Reutte 82.25 317 *e*P **P** **00 51 12.8 +0.1**
comp=Z,34nm,0.8s,SNR=17
FETA Feichten 82.27 317 *e*P **P** **00 51 13.2 +0.3**
comp=Z,21nm,0.9s,SNR=13
NC602 NORSAR Array S 82.32 331 *e*P **P** **00 51 12.7 +0.2**
NSS Namsos 82.39 334 *e*P **P** **00 51 15.0 +2.2**
SALO Salr 82.39 315 P **P** **00 51 14.7 +1.4**
NB2 NORSAR Subarra 82.50 331 P **P** **00 51 12.7 -0.9**
comp=Z,2.4nm,0.8s,baz=96,slow=5.3
NB2 NORSAR Subarra 82.50 331 P **P** **00 51 12.7 -0.9**
baz=96,slow=5.3
NOA NORSAR Array B 82.50 331 P **P** **00 51 12.7 -0.9**
comp=Z,4.4nm,0.9s,baz=94,slow=5.5,SNR=11
NOA LR LR 01 33 36.9
comp=Z,37nm,18.3s,baz=100,slow=40
PRMA PARMA 82.53 314 P **P** **00 51 15.7 +1.7**
CLZ Clausthal 82.60 321 *e*P **P** **00 51 15.1 +0.8**
comp=Z,31nm,1.0s,baz=92,slow=5.2
BSEG Bad Segeberg 82.69 324 *e*P **P** **00 51 15.6 +1.0**
comp=Z,43nm,1.0s,baz=92,slow=5.2
OSL Oslo 82.69 330 *e*P **P** **00 51 15.1 +0.7**
SPA0 Spitsbergen Ar 82.75 348 *e*P **P** **00 51 14.9 +0.4**
NRDL Niedersach Rie 82.78 322 *e*P **P** **00 51 16.1 +1.1**
comp=Z,38nm,1.3s,baz=92,slow=5.2
GTTG Gottingen 82.85 321 *e*P **P** **00 51 16.3 +0.8**
comp=Z,35nm,1.2s,baz=92,slow=5.2
DAVA Damuels 82.85 317 *e*P **P** **00 51 16.3 +0.5**
comp=Z,26nm,1.0s,SNR=9.4
MSSA Maissana 83.10 314 IAmb IAmb 00 51 18.0
comp=Z,27nm,1.1s
BRBA Barentsburg A 83.17 348 *e*P **P** **00 51 18.9 +2.2**
TUE Stuetta 83.21 316 P **P** **00 51 17.1 -0.7**
TUE IAmb IAmb 00 51 22.4
comp=Z,23nm,0.9s
KONO Kongsberg 83.24 329 *e*P **P** **00 51 18.3 +1.0**
VSL Villasalto 83.25 309 IAmb IAmb 00 51 34.7

comp=Z,24nm,1.0s
MILB Miltenberg 83.25 319 *e*P **P 00 51 18.4 +0.7**
comp=Z,34nm,0.9s,baz=92,slow=5.2
KEST Kesra 83.35 305 P **P 00 51 19.9 +1.3**
comp=Z,15nm,0.8s,baz=321,slow=1.3,SNR=33
KEST Kesra 83.35 305 IAmb IAmb 00 51 37.2
comp=Z,47nm,1.2s
DOMB Dombas 83.57 332 *e*P **P 00 51 19.8 +0.8**
KBS Kingsbay 83.73 349 *e*P **P 00 51 20.1 +0.6**
TNS Taunus Mts 83.80 320 *e*P **P 00 51 21.4 +0.9**
comp=Z,26nm,1.0s,baz=92,slow=5.2
KASTN Kahler Asten 83.81 321 *e*P **P 00 51 21.1 +0.6**
comp=Z,19nm,1.2s,baz=92,slow=5.2
BFO Black Forest 83.89 318 P **P 00 51 20.8 -0.2**
BFO pmax pmax
comp=Z,17nm,0.8s
BFO Black Forest 83.89 318 P **P 00 51 20.8 -0.2**
BFO IAmb IAmb 00 51 22.2
comp=Z,16nm,0.8s
BFO Black Forest 83.89 318 *e*P **P 00 51 21.2 +0.2**
comp=Z,21nm,0.9s,baz=92,slow=5.2
SKAR Skarslia 83.91 330 *e*P **P 00 51 21.7 +0.8**
IBBN Ibbenburen 84.22 322 *e*P **P 00 51 23.5 +1.0**
comp=Z,62nm,1.2s,baz=92,slow=5.2
BUG Bochum--Univer 84.53 321 *e*P **P 00 51 24.9 +0.8**
comp=Z,31nm,1.0s,baz=92,slow=5.2
SENIN Lac Senin/Sane 84.63 316 IAmb IAmb 00 51 27.8
comp=Z,18nm,0.8s
AHRW Bad Neuenahr-A 84.67 320 *e*P **P 00 51 25.9 +1.1**
comp=Z,23nm,1.0s,baz=92,slow=5.2
ECH Echery 84.68 318 P **P 00 51 26.2 +1.2**
ECH Echery 84.68 318 P **P 00 51 26.2 +1.2**
BLS5 Blasjo 84.84 329 *e*P **P 00 51 26.2 +0.6**
ABSA Djebel Ababsia 84.85 306 P **P 00 51 27.9 +1.7**
CMAH Djebel Manchou 84.88 306 P **P 00 51 27.6 +1.3**
BNI Bardonecchia 85.11 315 IAmb IAmb 00 51 31.7
comp=Z,17nm,1.0s
BTNL Ternell 85.27 320 *d*P **P 00 51 28.0 +0.1**
WLF Walferdange 85.29 319 *d*P **P 00 51 27.9 -0.1**
WLF Walferdange 85.29 319 IAmb IAmb 00 51 30.2
comp=Z,28nm,1.1s
MEM Membach 85.35 320 *b*P **P 00 51 28.8 +0.6**
CKFL Kef-Lekhel 85.45 306 P **P 00 51 30.4 +1.1**
CTEI Djebel Teioual 85.72 306 P **P 00 51 32.3 +1.7**
BCLA Clavier 85.81 320 *d*P **P 00 51 31.1 +0.6**
BGES Gesves 85.95 320 *b*P **P 00 51 30.3 -0.9**
DFRA Djebel Bou Aff 86.12 306 P **P 00 51 34.1 +1.5**
BMRD Maredsous 86.16 320 *d*P **P 00 51 32.1 -0.2**
SET Setif 86.53 306 P P 00 51 41.0 +6.4
NOR Nord 88.15 352 ⇑*i*P **P 00 51 40.9 -0.4**
NOR IAmb IAmb 00 51 41.8
comp=Z,17nm,0.9s
i 00 51 55.1
NOR Nord 88.15 352 ⇑*i*P **P 00 51 40.9 -0.4**
NOR *i* 00 51 55.1
NOR pmax pmax
comp=Z,17nm,0.9s
VNDA Vanda 90.02 168 P **P 00 51 50.6 +0.5**
comp=Z,3.2nm,1.2s,baz=295,slow=6.1,SNR=4.8
VNDA Vanda 90.02 168 P **P 00 51 51.4 +1.3**
VNDA pmax pmax
comp=Z,20nm,1.9s
VNDA Vanda 90.02 168 P **P 00 51 51.4 +1.3**
VNDA IAmb IAmb 00 52 09.7
comp=Z,20nm,1.9s
DAG Danmarks Havn 90.39 348 *i*P **P 00 51 51.2 -0.6**
DAG IAmb IAmb 00 51 51.5
comp=Z,5.6nm,0.9s
DAG *i* 00 52 06.0
DAG Danmarks Havn 90.39 348 *i*P **P 00 51 51.2 -0.6**
DAG *i* 00 52 05.9
DAG pmax pmax
comp=Z,6.0nm,0.9s
SBA Scott Base 91.12 168 P **P 00 51 57.0 +1.8**
SBA pmax pmax
comp=Z,25nm,2.0s
SBA Scott Base 91.12 168 P **P 00 51 57.0 +1.8**
SBA IAmb IAmb 00 52 16.4
comp=Z,25nm,1.9s
TORD Torodi Ar. Bea 91.81 283 P **P 00 52 00.5 +0.7**
comp=Z,2.9nm,0.9s,baz=79,slow=4.6,SNR=13
ESDC Sonseca Array 93.50 310 P **P 00 52 07.3 +0.2**
comp=Z,1.3nm,0.7s,baz=48,slow=4.0,SNR=8.9
TOLK Toolik Lake Re 94.46 19 P **P 00 52 11.3 +0.4**
baz=296
TOLK Toolik Lake Re 94.46 19 IAmb IAmb 00 52 12.3
comp=Z,12nm,0.9s
H21K Melozitna Rive 94.53 23 P **P 00 52 11.7 +0.5**
baz=293
J20K Nowinta River 94.56 24 P **P 00 52 12.1 +0.7**
baz=291
COLD Coldfoot 94.85 21 P **P 00 52 12.8 +0.1**
baz=295
K20K Telida 94.89 25 P **P 00 52 13.6 +0.6**
baz=291
L19K White Mountain 94.97 26 P **P 00 52 13.9 +0.6**
baz=290
N18K Kilae Creek 95.01 28 P **P 00 52 14.2 +0.6**
baz=289
EUNU Eureka 95.04 0 IAmb IAmb 00 52 14.8
comp=Z,11nm,1.1s
NEEM North Greenlan 95.49 353 *i*P **P 00 52 15.8 0.0**
NEEM IAmb IAmb 00 52 16.5
comp=Z,9.7nm,0.8s
NEEM *i* 00 52 30.8
MLY Manley 95.58 23 P **P 00 52 17.0 +0.9**
baz=294
O18K Koktuh Hills 95.61 28 P **P 00 52 16.9 +0.6**
baz=290
N19K Bonanza Creek 95.62 27 P **P 00 52 16.9 +0.5**
baz=291
H23K Yukon River 95.69 22 P **P 00 52 17.9 +1.3**
baz=296
BPAW Bear Paw Mtn. 95.86 24 P **P 00 52 17.9 +0.5**
baz=294
BPAW Bear Paw Mtn. 95.86 24 P **P 00 52 17.9 +0.5**
O19K Port Alsworth 95.91 28 P **P 00 52 18.2 +0.7**
baz=291
SKT Skwentna 96.50 26 P **P 00 52 20.2 -0.1**
baz=293
SKT Skwentna 96.50 26 IAmb IAmb 00 52 20.6
comp=Z,14nm,1.1s
SUMG Summit 97.05 347 *i*P **P 00 52 23.0 0.0**
SUMG IAmb IAmb 00 52 25.6
comp=Z,5.0nm,0.8s
SUMG Summit 97.05 347 *i*P **P 00 52 23.0 0.0**
SUMG pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 97.05 347 IAmb IAmb 00 52 25.9
comp=Z,16nm,1.4s
ILAR Eielson Array 97.17 22 P **P 00 52 21.8 -1.4**
comp=Z,1.0nm,0.8s,baz=284,slow=3.9,SNR=10
ILAR PP **PP 00 56 17.0 -2.5**
comp=Z,0.6nm,0.9s,baz=289,slow=5.6,SNR=4.4
ILAR LR LR 01 38 56.7
comp=Z,80nm,20.9s,baz=297,slow=37
SCRK Sand Creek 98.66 22 P **P 00 52 29.8 -0.3**
TBI Tubuai 115.65 113 *e*LR LR 01 32 31.7
comp=Z,148nm,34.2s
PPT2 Papeete2 115.99 107 *e*LR LR 01 32 45.3
comp=Z,88nm,25.8s
B05A Bryant 117.94 27 P **PKiKP 00 57 38.2 +0.6**
baz=318
H04D Lebanon 120.34 30 P **PKiKP 00 57 43.8 +1.3**
baz=316
HAWA Hanford 120.49 27 **PKiKP 00 57 42.9 +0.2**
E08A Dider Farm, El 120.63 27 PKPdf **PKiKP 00 57 43.6 +0.6**
I04A Tendick Farm, 121.03 31 P **PKiKP 00 57 44.3 +0.4**
baz=316
HUMO Hull Mountain 121.58 32 PKPdf **PKiKP 00 57 45.3 +0.3**
PINE Pine Mountain 121.77 30 PKPdf **PKiKP 00 57 46.0 +0.5**
L04D Klamath Falls 122.20 32 P **PKPdf 00 57 46.2 0.0**
baz=315
I07A Izee 122.25 29 PKPdf **PKiKP 00 57 46.8 +0.4**
M02C Callahan 122.48 33 P **PKiKP 00 57 47.7 +0.8**
baz=314
MSO Missoula 122.50 23 P **PKPdf 00 57 46.6 0.0**
baz=326
MSO Missoula 122.50 23 PKPdf **PKPdf 00 57 45.9 -0.7**
N02D Trinity Center 122.85 33 P **PKiKP 00 57 48.3 +0.6**
baz=314
EGMT Eagleton 122.99 19 P **PKiKP 00 57 48.0 +0.3**
baz=331
PLID Pearl Lake 123.06 26 PKPdf **PKPdf 00 57 47.9 -0.1**
J08A Circle Bar Ran 123.28 29 PKPdf **PKiKP 00 57 48.7 +0.2**
O02D Mt. Diablo Mer 123.36 34 P **PKiKP 00 57 49.5 +0.8**
baz=314
LRM Limekiln Ridge 123.91 23 PKPdf **PKPdf 00 57 49.0 -0.5**
ULM Lac du Bonnet 124.21 8 PKP **PKPdf 00 57 48.5 -1.1**
comp=Z,4.4nm,0.7s,baz=333,slow=4.5,SNR=4.7
DLMT Dillon 124.24 23 PKPdf **PKiKP 00 57 50.4 0.0**
BOZ Bozeman (W) 124.41 22 P **PKiKP 00 57 50.9 +0.2**
baz=328
MCMT McKenzie Canyo 124.58 24 PKPdf **PKiKP 00 57 51.7 +0.5**
GCMT Greycliff 124.96 21 PKPdf **PKiKP 00 57 52.0 +0.3**
AFDM Forest Hills D 125.22 34 PKPdf **PKiKP 00 57 52.1 +0.1**
LAO LASA Array 125.29 18 PKPdf **PKiKP 00 57 53.5 +1.2**
PAHR Pah Rah Range 125.54 32 PKPdf **PKiKP 00 57 53.1 0.0**
LSQQ Lebel-sur-Quev 125.68 353 P **PKiKP 00 57 52.8 -0.1**
baz=10
RLMT Red Lodge 125.68 21 P **PKiKP 00 57 54.2 +0.9**
baz=330
RLMT Red Lodge 125.68 21 PKPdf **PKiKP 00 57 53.8 +0.5**
VCNR Virginia City 125.69 33 PKPdf **PKiKP 00 57 53.7 +0.2**
PNTR Pine Nut 125.87 33 PKPdf **PKiKP 00 57 54.3 +0.4**
WAKR Walker 126.38 33 PKPdf **PKiKP 00 57 55.4 +0.6**
LOHW Long Hollow 126.48 23 PKPdf **PKiKP 00 57 54.8 -0.2**
SNOW Snow King Moun 126.55 23 PKPdf **PKiKP 00 57 55.5 +0.3**
REDW Red Top Meadow 126.59 23 PKPdf **PKPdf 00 57 54.6 -0.1**
ELK Elko 126.83 28 PKiKP **PKPdf 00 57 55.3 0.0**
ELK Elko 126.83 28 PKPdf **PKPdf 00 57 55.3 0.0**
NVAR Mina Array Bea 127.04 32 PKP **PKiKP 00 57 56.3 0.0**
comp=Z,2.7nm,0.8s,baz=286,slow=1.7,SNR=18
NV11 Mina Array Sit 127.12 32 PKPdf **PKiKP 00 57 56.6 +0.3**
E61A Lac Etchemin 127.13 347 P **PKiKP 00 57 56.4 +0.4**
baz=18
BW06 Boulder Array 127.60 22 P **PKiKP 00 57 57.2 0.0**
baz=329
PDAR Pinedale Array 127.60 22 PKP **PKPdf 00 57 56.1 -0.6**
comp=Z,3.9nm,0.9s,baz=42,slow=2.4,SNR=23
F61A St Evariste 127.67 347 P **PKiKP 00 57 57.3 +0.4**
baz=18
HWUT Hardware Ranch 127.78 25 PKPdf **PKiKP 00 57 57.6 0.0**
F60A Warwick 127.88 348 P **PKiKP 00 57 57.5 +0.1**
baz=17
RSSD Black Hills 128.26 17 PKIKP **PKPdf 00 57 57.4 -0.5**
RSSD Black Hills 128.26 17 P **PKPdf 00 57 58.1 +0.2**
baz=336
RSSD Black Hills 128.26 17 **PKPdf 00 57 57.4 -0.5**
DUG Dugway, Tooele 128.39 27 P **PKiKP 00 57 58.9 +0.1**
baz=324
R11A Troy Canyon, C 128.52 30 P **PKiKP 00 57 59.3 +0.1**
baz=320
R11A Troy Canyon, C 128.52 30 PKPdf **PKiKP 00 57 59.2 +0.1**
K22A Casper 128.80 20 P **PKiKP 00 57 59.5 -0.1**
baz=332
MPMC Manual Prospec 129.22 34 P **PKiKP 00 58 01.4 +0.7**
baz=317
PSUT Pine Spring 129.23 29 PKPdf **PKiKP 00 58 00.9 +0.3**
PRN Pahroc Range 129.51 31 PKPdf **PKiKP 00 58 02.1 +1.0**
TMUT Trail Mountain 129.84 26 PKPdf **PKiKP 00 58 02.0 +0.1**
Q16A Castle Valley 130.16 26 PKPdf **PKiKP 00 58 03.4 +0.9**
O20A White River Ci 130.36 23 P **PKiKP 00 58 03.2 +0.4**
baz=329
O20A White River Ci 130.36 23 PKPdf **PKPdf 00 58 01.9 -0.1**
ECSD EROS Data Cent 130.42 11 P **PKiKP 00 58 02.5 0.0**
baz=345
K31A O'Neill 131.04 13 PKPdf **PKiKP 00 58 04.0 +0.1**
PV22 Blue Mesa, Par 131.51 25 PKPdf **PKiKP 00 58 06.3 +1.1**
PV15 Paradox Valley 131.80 25 PKPdf **PKiKP 00 58 06.2 +0.3**
W13A Hualapai Mount 131.88 32 PKPdf **PKiKP 00 58 07.2 +1.1**
X16A Lo Mia Camp, P 133.67 30 PKPdf **PKiKP 00 58 10.1 +0.4**
T25A Trinidad 134.43 22 PKPdf **PKiKP 00 58 10.6 -0.6**
ANMO Albuquerque 135.54 25 PKIKP **PKPdf 00 58 12.6 +0.7**
ANMO Albuquerque 135.54 25 P **PKiKP 00 58 13.1 -0.3**
baz=329
ANMO Albuquerque 135.54 25 PKPdf **PKPdf 00 58 12.6 +0.7**
BNM Barren Site 136.15 26 PKPdf **PKPdf 00 58 13.6 +0.5**
R40A Maddies Statio 136.44 8 PKPdf **PKPdf 00 58 13.3 +0.1**
S39A Bolivar 136.87 9 PKPdf **PKPdf 00 58 13.6 -0.4**
MSTX Muleshoe 137.86 22 P **PKPdf 00 58 16.7 +0.6**
baz=334
FCAR Ozark Folk Cen 138.82 8 PKPpre 00 58 08.0
V53A Saluda 139.48 357 **PKPdf 00 58 18.8 -0.2**
MIAR Mount Ida 139.89 11 PKHKP PKPpre 00 58 10.8
MIAR Mount Ida 139.89 11 PKPpre 00 58 10.8
ABTX Abilene, Hawle 140.17 19 P **PKPdf 00 58 21.3 +1.0**
baz=337
ABTX Abilene, Hawle 140.17 19 PKPdf **PKPdf 00 58 20.6 +0.3**
TXAR Lajitas Array 141.56 26 PKHKP PKPpre 00 58 17.3
comp=Z,1.0nm,0.6s,baz=336,slow=1.1,SNR=15
TXAR PP **PP 01 01 24.3 -1.1**
comp=Z,0.8nm,0.9s,baz=14,slow=4.1,SNR=4.6
TXAR SKPbc **SKPbc 01 01 55.2 -0.9**
comp=Z,1.1nm,0.8s,baz=247,slow=1.9,SNR=5.1
TXAR Lajitas Array 141.56 26 PKIKP **PKPdf 00 58 20.1 -2.9**
TXAR Lajitas Array 141.56 26 PKPdf **PKPdf 00 58 20.1 -2.9**
JCT Junction City 142.08 21 PKHKP PKPpre 00 58 17.0
JCT Junction City 142.08 21 PKPpre PKPpre 00 58 16.9
146A Union 142.40 5 PKPpre PKPpre 00 58 18.5
352A Blakely 143.72 359 PKPdf PKPab 00 58 23.7 +0.4
TIGA Tifton 143.73 358 P PKPbc 00 58 24.4 +0.3
baz=2.8
ARAG Araguaiana, MT 145.46 250 *e*P **PKPdf 00 58 29.9 0.0**
656A Willston 145.72 356 PKPdf **PKPab 00 58 30.8 0.0**
CPUP Villa Florida 145.89 229 PKPbc **PKPbc 00 58 31.0 0.0**
comp=Z,7.3nm,0.9s,baz=94,slow=3.3,SNR=13
CPUP Villa Florida 145.89 229 *e*P **PKPbc 00 58 31.1 0.0**
MCPB Macapa, AP 146.50 277 *e*P **PKPab 00 58 34.2 -0.1**
DWPF Disney Wildern 146.87 354 PKPbc **PKPbc 00 58 34.0 +0.1**
ZAIG Zacatecas 147.63 31 PKPbc **PKPbc 00 58 35.8 -0.8**
VA03 San Esteban 149.14 205 **PKiKP 00 58 40.8 -0.4**
MTP Monte Pirata 149.91 320 PKPbc **PKPbc 00 58 42.2 +0.1**
CBYP Canovanas 149.97 321 PKPbc **PKPbc 00 58 41.9 -0.5**
GCPR Guaynabo City 150.08 321 PKPbc **PKPbc 00 58 42.4 -0.2**
CLDB Colider 150.24 257 *e*P **PKPdf 00 58 39.9 +2.0**
ITTB Itaituba 150.55 270 *e*P **PKPdf 00 58 39.0 +0.6**
OBIP Obispado Ponce 150.61 322 PKPbc **PKiKP 00 58 44.3 -0.2**
PTLB Pontes e Lacer 152.29 246 *e*P **PKPdf 00 58 41.3 +0.4**
LPAZ La Paz 159.78 235 PKP **PKPdf 00 58 52.0 +0.4**
comp=Z,1.9nm,0.9s,baz=198,slow=2.7,SNR=5.8
LPAZ PKPab **PKPab 00 59 32.6 +2.1**
comp=Z,1.5nm,0.8s,baz=170,slow=6.1,SNR=2.6
LPAZ La Paz 159.78 235 **PKPdf 00 58 51.4 -0.2**
MTO3 Montecristo 160.30 12 **PKPab 00 59 31.4 -0.7**
SJCC San Jacinto, C 162.10 326 PKPab **PKPab 00 59 41.2 +1.3**
OTAV Otavalo 171.42 307 PKIKP **PKPdf 00 59 01.6 +0.5**
OTAV 01 00 21.8
OTAV Otavalo 171.42 307 PKPdf **PKPdf 00 59 01.6 +0.5**
OTAV PKPab **PKPab 01 00 21.8 0.0**

IDC 08 00:53:36.1±2.1, 8°43S×124°68E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/25, mbtmp3.4/3, ML3.1/2 Error ellipse: s-maj=182.0km s-min=33.7km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.78**	**142**	Pn	Pn	00 57 05.7	-0.9
	0.1nm,0.3s,baz=316,slow=12,SNR=2.2						
WRA				Sn	Sn	00 59 35.7	-15
	0.2nm,0.3s,baz=317,slow=25,SNR=2.4						
ASAR	**Alice Springs**	**17.54**	**151**	P	Pn	00 57 42.6	+0.4
	0.1nm,0.3s,baz=319,slow=11,SNR=5.9						
ASAR				S	Sn	01 00 41.0	-17
	0.1nm,0.3s,baz=327,slow=23,SNR=4.3						
MKAR	**Makanchi Array**	**66.66**	**330**	P	P	01 04 28.7	0.0
	0.7nm,0.8s,baz=144,slow=7.9,SNR=2.6						

*IDC **08** 01:05:34.2±0.5, 36°08S×52°68E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.3/30, mbtmp4.4/20, MS4.0/16, Ms1 4.0/16, ms1mx3.8/37, Error ellipse: s-maj=17.6km s-min=14.4km az=24.0*

*NEIC **08** 01:05:37.2±1.7, 36°25±0°1×52°7E±0°1, h10km±1km, mb4.8/37, Error ellipse: s-maj=21.2km s-min=17.4km az=242.0*

*GCMT **08** 01:05:38.2±0.3, 36°06S±0°02×52°80E±0°05, h15km±1km, MW4.9/78, Moment Tensor Solution. s18,c23; s78,c103; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.19; $M_{\theta\theta}$2.76±.14; $M_{\phi\phi}$-0.32±.13; $M_{r\theta}$-0.25±.22; $M_{\theta\phi}$0.47±.09; $M_{\phi r}$-0.07±.37; Best double couple: $M_0$2.64700×10^{16} NP1:ϕ_s263.00000°, δ42.00000°, λ-88.00000°. NP2: ϕ_s81.00000°, δ48.00000°, λ-91.00000°. Principal axes: T 2.8420, Plg3.0000°, Azm172.0000°; N -0.3950, Plg1.0000°, Azm81.0000°; P -2.4530, Plg87.0000°,*

Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 08 01:05:37.6±0.4, 36°16S±0°08×52°64E±0°10, h18km, n187, σ0°95/175, mb4.7/36, MS4.1/16, 4C-5D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**15.09**	**339**		**Pn**	**01 09 08.6**	**-1.5**
VOI				IAmb	IAmb	01 09 19.4	
	comp=Z,32nm,0.9s						
ABPO	**Ambohimpanom**	**17.73**	**343**		**Pn**	**01 09 43.5**	**-0.4**
OPO	**Ambohidratompo**	**18.17**	**343**	P	**P**	**01 09 50.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=154,slow=15,SNR=2.3						
OPO				LR	LR	01 15 24.2	
	comp=Z,354nm,19.8s,baz=9.5,slow=33						
BOSA	**Boshof**	**24.27**	**280**	P	**P**	**01 10 53.1**	**-0.8**
	comp=Z,24nm,0.8s,baz=118,slow=9.5,SNR=29						
BOSA	**Boshof**	**24.27**	**280**	P	**P**	**01 10 52.9**	**-1.1**
BOSA				IAmb	IAmb	01 10 55.1	
	comp=Z,26nm,0.8s						
LBTB	**Lobatse**	**25.71**	**288**	P	**P**	**01 11 05.8**	**-1.3**
	comp=Z,7.7nm,0.9s,baz=121,slow=7.6,SNR=7.5						
LBTB	**Lobatse**	**25.71**	**288**	P	**P**	**01 11 06.1**	**-0.9**
LBTB				IAmb	IAmb	01 11 06.6	
	comp=Z,12nm,1.0s						
MATP	**Matopo**	**26.31**	**300**	P	**P**	**01 11 10.9**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=131,slow=7.5,SNR=7.2						
SUR	**Sutherland**	**26.51**	**269**	P	**P**	**01 11 14.1**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=124,slow=15,SNR=1.6						
SUR	**Sutherland**	**26.51**	**269**	P	**P**	**01 11 14.3**	**-0.1**
MAW	**Mawson**	**32.02**	**173**	LR	LR	01 21 40.0	
	comp=Z,602nm,21.5s,baz=22,slow=30						
H08S1	**Diego Carcia H**	**33.67**	**37**	T	T	01 48 23.7	
	baz=214,slow=76						
H08S2	**Diego Garcia H**	**33.68**	**37**	T	T	01 48 20.2	
	baz=214						
H08S3	**Diego Garcia H**	**33.70**	**37**	T	T	01 48 25.9	
	baz=214,slow=76						
SNAA	**Sanae**	**45.38**	**201**	P	**P**	**01 13 55.2**	**+0.5**
SNAA	**Sanae**	**45.38**	**201**	P	**P**	**01 13 54.3**	**-0.3**
	comp=Z,7.1nm,0.9s,baz=135,slow=7.7,SNR=19						
SNAA	**Sanae**	**45.38**	**201**	P	**P**	**01 13 55.1**	**+0.5**
SNAA				IAmb	IAmb	01 13 59.0	
	comp=Z,8.7nm,0.9s						
VNA1	**Neumayer--Stat**	**46.76**	**204**	P	**P**	**01 14 08.0**	**+2.7**
VNA3	**Neumayer Olymp**	**47.35**	**203**	P	**P**	**01 14 10.7**	**+0.6**
H01W2	**Cape Leeuwin H**	**49.30**	**108**	T	T	02 07 29.8	
	baz=249,slow=75,SNR=30						
H01W3	**Cape Leeuwin H**	**49.31**	**108**	T	T	02 07 44.0	
	baz=249,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**49.32**	**108**	T	T	02 07 41.9	
	baz=249,slow=75,SNR=26						
PALK	**Pallekele**	**50.61**	**37**	P	**P**	**01 14 33.7**	**-2.0**
	comp=Z,7.2nm,0.8s,baz=244,slow=8.2,SNR=1.9						
QSPA	**South Pole Qui**	**54.02**	**180**	P	**P**	**01 14 59.7**	**-0.9**
	comp=Z,5.9nm,1.0s,baz=258,slow=2.3,SNR=17						
QSPA	**South Pole Qui**	**54.02**	**180**	P	**P**	**01 14 59.9**	**-0.7**
QSPA				IAmb	IAmb	01 15 01.5	
	comp=Z,14nm,1.2s						
GIRL	**Giralia**	**54.51**	**94**	P	**P**	**01 15 04.9**	**+0.3**
VNDA	**Vanda**	**58.97**	**166**	P	**P**	**01 15 35.1**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=258,slow=10,SNR=4.1						
VNDA				LR	LR	01 39 10.4	
	comp=Z,180nm,18.1s,baz=242,slow=34						
VNDA	**Vanda**	**58.97**	**166**	P	**P**	**01 15 33.9**	**-1.6**
RAYN	**Ar Rayn**	**59.74**	**352**	P	**P**	**01 15 41.7**	**+0.3**
RAYN				IAmb	IAmb	01 15 43.0	
	comp=Z,7.4nm,1.1s						
TOA0	**Torodi Ar. Sit**	**68.66**	**306**	P	**P**	**01 16 40.5**	**+0.4**
TOA0				IAmb	IAmb	01 16 41.6	
	comp=Z,14nm,1.4s						
TORD	**Torodi Ar. Bea**	**68.66**	**306**	P	**P**	**01 16 40.0**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=106,slow=6.0,SNR=13						
TORD				LR	LR	01 47 03.0	
	comp=Z,113nm,19.4s,baz=140,slow=36						
ASAR	**Alice Springs**	**69.68**	**105**	P	**P**	**01 16 46.2**	**-0.3**
	comp=Z,4.8nm,0.6s,baz=231,slow=5.9,SNR=52						
ASAR	**Alice Springs**	**69.68**	**105**	P	**P**	**01 16 45.8**	**-0.7**
AS31	**Alice Springs**	**69.69**	**105**	P	**P**	**01 16 46.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**69.77**	**47**	P	**P**	**01 16 46.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=228,slow=6.4,SNR=5.9						
CMAR				LR	LR	01 43 18.5	
	comp=Z,50nm,19.2s,baz=220,slow=32						
CMAR	**Chiang Mai Arr**	**69.77**	**47**	P	**P**	**01 16 45.9**	**-0.9**
KNRA	**Kununurra**	**69.83**	**95**	P	**P**	**01 16 47.8**	**+0.3**
STKA	**Stephens Creek**	**71.26**	**116**	P	**P**	**01 16 54.9**	**-1.0**
	comp=Z,4.3nm,1.1s,baz=193,slow=6.0,SNR=3.6						
STKA				LR	LR	01 40 44.1	
	comp=Z,106nm,19.2s,baz=206,slow=30						
STKA	**Stephens Creek**	**71.26**	**116**	P	**P**	**01 16 55.2**	**-0.8**
WRA	**Warramunga Arr**	**71.99**	**102**	P	**P**	**01 17 00.2**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=232,slow=5.4,SNR=32						
WRA	**Warramunga Arr**	**71.99**	**102**	P	**P**	**01 17 00.3**	**-0.3**
WB2	**Warramunga Arr**	**72.00**	**102**	P	**P**	**01 17 00.3**	**-0.3**
WB0	**Warramunga Arr**	**72.13**	**102**	P	**P**	**01 17 01.3**	**-0.1**
WR0	**Warramunga Arr**	**72.14**	**102**	P	**P**	**01 17 01.5**	**0.0**
WR0				IAmb	IAmb	01 17 02.2	
	comp=Z,16nm,1.5s						
GEVA	**Gevas**	**74.63**	**352**	P	**P**	**01 17 16.6**	**+0.9**
GEVA				IAmb	IAmb	01 17 23.5	
	comp=Z,11nm,0.9s						
CHGR	**Chuyangaron**	**76.00**	**13**	P	**P**	**01 17 23.9**	**+0.5**
DRK	**Karamyk**	**77.32**	**15**	P	**P**	**01 17 31.8**	**+0.7**
DRK				IAmb	IAmb	01 17 44.8	
	comp=Z,15nm,1.2s						
BRTR	**Keskin Array B**	**77.52**	**345**	P	**P**	**01 17 29.7**	**-2.4**
	comp=Z,3.0nm,1.1s,baz=181,slow=8.5,SNR=3.6						
BRTR				LR	LR	01 50 30.2	
	comp=Z,74nm,19.6s,baz=126,slow=35						
KBZ	**Khabaz**	**80.01**	**353**	P	**P**	**01 17 45.2**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=169,slow=5.1,SNR=3.8						
KBZ				LR	LR	01 50 44.5	
	comp=Z,62nm,21.8s,baz=152,slow=34						
KIV	**Kislovodsk**	**80.25**	**353**	P	**P**	**01 17 47.4**	**+0.4**
KIV				IAmb	IAmb	01 17 53.9	
	comp=Z,11nm,1.1s						
KK31	**Karatay Array**	**80.56**	**13**	P	**P**	**01 17 48.8**	**+0.2**
KKAR	**Karatay Array**	**80.56**	**13**	P	**P**	**01 17 48.9**	**+0.4**
AAK	**Ala-Archa**	**80.92**	**16**	P	**P**	**01 17 51.4**	**+0.7**
AAK				IAmb	IAmb	01 17 52.8	
	comp=Z,7.2nm,1.0s						
KDJ	**Kajisay**	**81.09**	**18**	P	**P**	**01 17 51.5**	**-0.1**
KDJ				IAmb	IAmb	01 17 59.5	
	comp=Z,10.0nm,1.1s						
FRU1	**Bishkek**	**81.12**	**16**	P	**P**	**01 17 52.7**	**+1.1**
BOOM	**Boomskoye usch**	**81.12**	**17**	P	**P**	**01 17 51.8**	**0.0**
BOOM				IAmb	IAmb	01 17 53.3	
	comp=Z,7.9nm,1.2s						
KEST	**Kesra**	**82.09**	**326**	P	**P**	**01 17 58.7**	**+1.8**
	comp=Z,3.0nm,1.0s,baz=113,slow=5.0,SNR=4.8						
KEST				LR	LR	01 56 11.9	
	comp=Z,141nm,18.8s,baz=210,slow=37						
KEST	**Kesra**	**82.09**	**326**	P	**P**	**01 17 58.2**	**+1.3**
KEST				IAmb	IAmb	01 18 09.2	
	comp=Z,13nm,1.4s						
VTS	**Vitosha**	**82.88**	**339**	P	**P**	**01 18 00.5**	**-0.4**
VTS				IAmb	IAmb	01 18 09.6	
	comp=Z,5.4nm,1.3s						
TIRR	**Tirgusor**	**83.20**	**343**	P	**P**	**01 18 01.7**	**-0.7**
PUK	**Puka**	**83.40**	**336**	P	**P**	**01 18 03.9**	**+0.4**
PUK				IAmb	IAmb	01 18 13.6	
	comp=Z,6.1nm,1.1s						
CFR	**Carcaliu**	**83.94**	**343**	⇓P	**P**	**01 18 06.1**	**0.0**
MLR	**Muntele Rosu**	**84.78**	**341**	⇑P	**P**	**01 18 10.6**	**0.0**
MLR	**Muntele Rosu**	**84.78**	**341**	P	**P**	**01 18 09.9**	**-0.7**
MLR				IAmb	IAmb	01 18 21.3	
	comp=Z,6.7nm,1.2s						
VRI	**Vrincioaia**	**84.93**	**342**	⇓P	**P**	**01 18 11.0**	**-0.2**
PLOR	**Plostina**	**84.94**	**342**	⇑P

GTA pP PcP 01 18 24.0 +0.7
GTA sP sP 01 18 27.1 -0.1
GTA pmax pmax
comp=Z,5.0nm,1.3s
BURAR Bucovina Array 86.94 342 P P 01 18 20.8 -0.4
AKASG Malin Array Be 88.92 345 P P 01 18 29.6 -0.8
comp=Z,2.0nm,0.7s,baz=173,slow=4.5,SNR=10.0
AKASG Malin Array Be 88.92 345 P P 01 18 29.3 -1.2
BDFB Brasilia 89.24 251 P P 01 18 34.0 +0.9
comp=Z,3.0nm,0.7s,baz=171,slow=3.9,SNR=4.6
CPUP Villa Florida 89.36 238 P P 01 18 34.0 +0.7
comp=Z,2.6nm,0.9s,baz=83,slow=8.4,SNR=4.1
CPUP LR LR 01 54 07.6
comp=Z,71nm,18.3s,baz=132,slow=33
URZ Urewera 89.90 140 LR LR 01 52 00.5
comp=Z,109nm,19.7s,baz=171,slow=31
ESDC Sonseca Array 91.71 320 P **P 01 18 44.2 +0.4**
comp=Z,1.3nm,1.0s,baz=156,slow=4.3,SNR=5.5
ESDC LR LR 02 02 30.6
comp=Z,72nm,18.8s,baz=155,slow=37
ESDC Sonseca Array 91.71 320 P **P 01 18 44.7 +0.9**
ESDC IAmb IAmb 01 18 45.5
comp=Z,6.6nm,1.5s
NJ2 Nanjing 91.90 51 *eP* **P 01 18 47.1 +2.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
BRG Berggiesshubel 93.12 337 *eP* **P 01 18 51.1 +1.1**
BRG Amp 01 18 52.0
comp=Z,6.2nm,1.3s
BRG Berggiesshubel 93.12 337 P P 01 19 00.4 +10
BRG Amp 01 19 02.4
comp=Z,3.4nm,1.1s
HHC Hu-ho-hao-te 93.78 41 *eP* **P 01 18 56.4 +3.0**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,150nm,5.9s
CLL Collm 93.80 336 *eP* **P 01 18 53.0 0.0**
CLL Lm MLR 02 01 00.0
comp=Z,100nm,19.6s
ZALV Zalesovo Beam 93.96 18 LR LR 01 57 42.1
comp=Z,55nm,21.1s,baz=259,slow=33
SONM Songino Array 96.42 33 LR LR 01 59 17.0
comp=Z,112nm,21.1s,baz=154,slow=34
FINES FINESS Array B 99.64 347 LR LR 02 03 05.2
comp=Z,20nm,21.6s,baz=153,slow=35
GOGA Godfrey 144.07 279 PKPab 01 25 09.4 -0.3
BG3 Lake Jocassee 144.08 282 PKPdf **PKPab 01 25 09.4 -0.4**
V53A Saluda 144.16 283 PKPdf **PKPab 01 25 09.7 -0.4**
352A Blakely 144.65 275 PKPdf **PKPab 01 25 11.7 -0.2**
Y52A Lilburn 144.68 279 PKPdf **PKPab 01 25 11.2 -0.7**
V52A Sevierville 144.82 283 PKPdf **PKPab 01 25 11.3 -1.1**
W52A Murphy 144.90 281 PKPdf **PKPab 01 25 12.2 -0.6**
TZTN Tazewell 144.94 284 PKPdf **PKPab 01 25 12.4 -0.5**
P51A Williamsport 145.11 289 PKPbc 01 25 12.6 -0.7
TOLK Toolik Lake Re 145.19 14 PKPdf 01 25 13.4 +0.3
S51A Beattyville 145.21 286 PKPbc 01 25 13.2 -0.5
V51A Loudon 145.41 282 PKPbc 01 25 14.3 -0.1
CPCT Cooper Cave 145.46 282 PKPdf **PKPdf 01 25 13.8 -0.7**
X51A Calhoun 145.50 280 PKPdf **PKPdf 01 25 13.8 -0.8**
250A Grady 145.89 275 PKPdf **PKPdf 01 25 15.3 -0.1**
T50A Nancy 146.06 284 PKPdf 01 25 15.8 +0.3
FPAL Fort Paine 146.10 280 PKPdf 01 25 16.2 +0.5
P49A Miami Univ. Ec 146.39 289 PKPdf **PKPdf 01 25 16.2 +0.3**
SWET Sewanee 146.52 281 PKPdf **PKPdf 01 25 16.5 +0.1**
Y49A Blount Mountai 146.56 278 PKPdf **PKPdf 01 25 17.2 +0.8**
U49A Red Boiling Sp 146.69 283 PKPdf **PKPdf 01 25 15.8 -0.8**
LRAL Lakeview Retre 146.80 277 PKPdf **PKPdf 01 25 17.1 +0.2**
CLTN Cedars of Leba 147.04 282 PKPbc 01 25 19.1 -0.2
X48A Hartselle 147.22 279 PKPdf **PKPdf 01 25 17.0 -0.6**
V48A Smith Brothers 147.35 281 PKPdf **PKPdf 01 25 18.4 +0.7**
WCI Wyandotte Cave 147.41 286 PKPdf 01 25 19.4 +1.7
INK Inuvik 147.62 4 PKPbc **PKPbc 01 25 19.7 -0.1**
Z47A Carrollton 147.71 276 PKPdf **PKPdf 01 25 18.0 -0.3**
BLO Bloomington 147.73 288 PKPbc **PKPdf 01 25 19.5 +1.2**
T47A Sharon Grove 147.83 284 PKPbc **PKPdf 01 25 20.5 +2.0**
MLY Manley 147.91 18 PKPbc **PKPbc 01 25 20.1 -0.7**
I23K Minto, Yukon-K 148.16 17 PKPbc **PKPbc 01 25 22.0 +0.7**
WVT Waverly 148.23 282 PKPbc **PKPdf 01 25 21.4 +2.3**
BPAW Bear Paw Mtn. 148.58 20 PKPbc 01 25 21.4 -1.2
MDM Murphy Dome 148.59 17 PKPbc **PKPbc 01 25 21.9 -0.7**
TCOL CIGO, UAF Yank 148.75 17 PKPbc **PKPbc 01 25 22.6 -0.3**
COLA College 148.75 17 PKPbc **PKPbc 01 25 22.6 -0.3**
CCB Clear Creek Bu 148.95 17 PKPbc **PKPbc 01 25 21.9 -1.5**
WRH Wood River Hil 149.03 17 PKPbc **PKPbc 01 25 23.3 -0.4**
KTH Kantishna Hill 149.03 20 PKPbc 01 25 23.7 -0.1
IL31 149.06 16 PKPbc **PKPbc 01 25 22.6 -1.0**
ILAR Eielson Array 149.06 16 PKPbc **PKPbc 01 25 22.8 -1.0**
comp=Z,4.6nm,0.8s,baz=315,slow=3.2,SNR=32
Y45A Yeager Farm, C 149.07 277 PKPbc **PKPbc 01 25 24.0 -0.7**
W45A Hickory Valley 149.10 280 PKPbc **PKPbc 01 25 24.5 -0.3**
EPYK Eagle Plains 149.26 7 PKPbc 01 25 22.8 -1.4
TRF Thorofare Moun 149.29 20 PKPdf **PKPdf 01 25 19.5 -0.7**
O44A Mansfield 149.33 289 PKPbc **PKPbc 01 25 24.6 -0.6**
HDA Harding Lake 149.35 17 PKPdf **PKPdf 01 25 22.1 +2.1**
SIUC Southern Illin 149.61 284 PKPbc **PKPbc 01 25 25.3 -0.6**
S44A Carbondale 149.64 284 PKPbc **PKPbc 01 25 24.5 -1.5**
COWI Conover 149.81 301 PKPbc **PKPbc 01 25 25.5 -0.7**
SKT Skwentna 150.05 23 PKPbc **PKPbc 01 25 25.3 -0.9**
EGAK Eagle 150.18 12 PKPbc **PKPbc 01 25 25.7 -0.8**
L42A Oliver, Polo 150.34 293 PKPbc **PKPbc 01 25 26.9 -0.7**
PBMO Poplar Bluff 150.41 282 PKPbc **PKPbc 01 25 27.0 -0.9**
SLM Saint Louis 150.53 286 PKPbc **PKPbc 01 25 27.9 -0.3**
342A Flagon Creek P 150.59 271 PKPbc **PKPbc 01 25 29.5 +1.0**
JFWS Jewell Farm 150.77 295 PKPbc **PKPbc 01 25 28.4 -0.2**
LCAR Lake Charles 150.86 281 PKPbc **PKPbc 01 25 28.5 -0.5**
DAWY Dawson 151.12 11 PKPbc **PKPbc 01 25 28.9 +0.2**
EYMN Ely 151.14 305 PKPbc **PKPbc 01 25 29.0 -0.3**
CCM Cathedral Cave 151.25 285 PKPbc **PKPbc 01 25 28.6 -1.3**
FCAR Ozark Folk Cen 151.59 280 PKPbc **PKPbc 01 25 30.0 -0.7**
WHAR Wooly Hollow 151.61 279 PKPbc **PKPbc 01 25 30.1 -0.7**
L27K Beaver Creek, 151.63 14 PKPbc **PKPbc 01 25 28.8 -1.2**
BCAR Beaver Creek A 151.63 14 PKPdf **PKPdf 01 25 23.2 -0.5**
BCAR PKPbc **PKPbc 01 25 30.1 +0.1**
WLAR White Oak Lake 151.90 275 PKPbc **PKPbc 01 25 31.3 -0.1**
P40A Paris 152.02 288 PKPbc **PKPbc 01 25 31.2 -0.3**
R40A Maddies Statio 152.08 285 PKPbc **PKPbc 01 25 30.4 -1.4**
U40A Yellville 152.26 281 PKPbc **PKPbc 01 25 31.7 -0.5**
SPMN Marine on St. 152.46 300 PKPbc **PKPbc 01 25 31.5 -0.9**
YKA Yellowknife Ar 152.47 347 PKPbc **PKPbc 01 25 30.5 -1.3**
comp=Z,3.4nm,1.0s,baz=39,slow=2.0,SNR=3.8
S39A Bolivar 152.83 283 PKPbc **PKPbc 01 25 33.1 -0.3**
P38A Dawn 153.18 288 PKPbc **PKPbc 01 25 33.8 -0.4**
ULM Lac du Bonnet 153.31 312 PKPbc **PKPbc 01 25 32.7 -1.4**
comp=Z,2.5nm,0.5s,baz=123,slow=2.3,SNR=4.0
ZAIG Zacatecas 154.71 245 PKPdf **PKPdf 01 25 28.4 -1.3**
TX31 Lajitas Ar. Si 158.97 258 PKPdf **PKPdf 01 25 35.1 +0.3**
TX32 Lajitas Array 158.97 258 PKPdf **PKPdf 01 25 35.4 +0.6**
TXAR Lajitas Array 158.97 258 PKP **PKPdf 01 25 34.8 0.0**
comp=Z,0.7nm,0.8s,baz=114,slow=1.5,SNR=4.7
TXAR PKPab **PKPab 01 26 11.5 +0.3**
comp=Z,0.7nm,0.9s,baz=112,slow=4.3,SNR=3.4
TXAR Lajitas Array 158.97 258 PKPdf **PKPdf 01 25 35.0 +0.2**
EGMT Eagleton 162.41 318 PKPdf **PKPdf 01 25 38.4 +0.4**
ANMO Albuquerque 162.95 272 PKP **PKPdf 01 25 39.4 +0.4**
comp=Z,1.6nm,1.0s,baz=85,slow=1.3,SNR=4.2
ANMO Albuquerque 162.95 272 PKPdf **PKPdf 01 25 39.1 +0.1**
LENM Lemitar 163.21 269 PKPdf **PKPdf 01 25 41.2 +1.9**
BW06 Boulder Array 164.76 301 PKPdf **PKPdf 01 25 39.4 -1.1**
PDAR Pinedale Array 164.76 301 PKP **PKPdf 01 25 38.8 -1.7**
comp=Z,2.9nm,1.1s,baz=157,slow=2.9,SNR=12
PDAR Pinedale Array 164.76 301 PKPdf **PKPdf 01 25 38.6 -1.9**
REDW Red Top Meadow 165.42 305 PKPdf **PKPdf 01 25 40.6 -0.5**
NLU North Lily Min 167.38 292 PKPdf **PKPdf 01 25 43.0 +0.4**
MSU Marysvale 167.69 286 PKPdf **PKPdf 01 25 45.1 +2.1**
ELK Elko 169.46 299 PKP **PKPdf 01 25 44.4 +0.4**
comp=Z,1.2nm,0.7s,baz=170,slow=1.4,SNR=4.2
ELK Elko 169.46 299 PKPdf 01 25 43.6 -0.5
NVAR Mina Array Bea 172.44 290 PKP **PKPdf 01 25 46.8 +1.1**
comp=Z,1.7nm,0.8s,baz=156,slow=2.0,SNR=6.6

*TUL **08** 01:13:20.5±1.2, 36°.843N±0°.010×97°.88W±0°.01, h5^{km}±5^{km}, ML3.0, mb_Lg2.4/27(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=200.0*

NEIC 08 01:13:20.9±0.7, 36°.826N±0°.005×97°.88W±0°.02, h6^{km}±5^{km}, Error ellipse: s-maj=1.9km s-min=0.7km az=85.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.23**	**22**		Pg	01 13 25.5	0.0
KAN17					Sg	01 13 28.8	+0.1
OK032	**Salt Plains WL**	**0.27**	**266**		Pg	01 13 26.1	0.0
OK032					Sg	01 13 29.9	+0.2
KAN05	**Bluff City Nor**	**0.28**	**0**		Pg	01 13 26.3	-0.2
KAN05					Sg	01 13 30.2	0.0
CROK	**Carrier**	**0.33**	**195**		Pg	01 13 27.6	+0.3
CROK					Sg	01 13 32.5	+0.8
KAN10	**Anthony SW Sta**	**0.35**	**329**		Pg	01 13 27.4	-0.2
KAN10					Sg	01 13 32.1	-0.1
KAN13	**South Haven SW**	**0.37**	**59**		Pg	01 13 28.0	-0.1
KAN13					Sg	01 13 33.2	+0.3
KAN09	**Caldwell North**	**0.37**	**33**		Pg	01 13 28.0	-0.2
KAN09					Sg	01 13 33.1	0.0
KAN08	**Anthony NE Sta**	**0.41**	**349**		Pg	01 13 28.5	-0.3
KAN08					Sg	01 13 34.2	0.0
KS20	**Mayfield South**	**0.48**	**32**		Pg	01 13 29.9	-0.2
KS20					Sg	01 13 36.5	+0.1
KAN12	**Harper NE Stat**	**0.48**	**348**		Pg	01 13 29.9	-0.3
KAN12					Sg	01 13 36.4	-0.1
BLOK	**Blackwell**	**0.53**	**97**		Pg	01 13 31.1	0.0
BLOK					Sg	01 13 38.4	+0.3
U32A	**Winter Ranch,**	**1.01**	**244**		Pg	01 13 39.6	-0.6
U32A					Sg	01 13 53.3	-0.1
OK029	**Liberty Lake**	**1.08**	**162**		Pg	01 13 41.2	-0.4
OK029					Sg	01 13 55.9	+0.2
T35A	**Sooner Cattle**	**1.10**	**85**		Pg	01 13 41.3	-0.6
T35A					Sg	01 13 56.0	-0.2
QUOK	**Quay**	**1.15**	**124**		Pg	01 13 42.5	-0.3
QUOK					Sg	01 13 57.5	-0.2
BCOK	**Bluff Creek, N**	**1.19**	**169**		Pg	01 13 42.9	-0.7
BCOK					Sg	01 13 59.3	-0.1
OK031	**S. Brethren Rd**	**1.21**	**136**		Pg	01 13 43.5	-0.6
OK031					Sg	01 13 59.7	0.0
OK025	**Westminster Rd**	**1.32**	**161**		Pn	01 13 45.4	-0.4
OKCFA	**Oklahoma City**	**1.45**	**166**	Pn	Pn	01 13 47.5	-0.1
OKCSW	**OKLAHOMA CITY**	**1.46**	**166**	Pn	Pn	01 13 47.8	0.0
FNO	**Franklin**	**1.61**	**166**	Pn	Pn	01 13 50.1	+0.2
WMOK	**Wichita Mounta**	**2.21**	**200**	Pn	Pn	01 13 58.0	-0.1
CBKS	**Cedar Bluff**	**2.47**	**324**	IAmb_Lg		01 14 44.7	
X37A	**Clayton**	**3.02**	**137**	Pn	Pn	01 14 08.9	-0.3
X37A				IAmb_Lg		01 15 02.4	
comp=Z,15nm,0.7s							
HHAR	**Hobbs**	**3.21**	**99**	Pn	Pn	01 14 12.6	+0.6
W39A	**Magazine**	**3.69**	**115**	IAmb_Lg		01 15 26.3	
comp=Z,9.9nm,0.8s							
S39A	**Bolivar**	**3.73**	**75**	Pn	Pn	01 14 20.4	+1.4
U40A	**Yellville**	**4.07**	**95**	Pn	Pn	01 14 25.0	+1.3
U40A				IAmb_Lg		01 15 31.5	
comp=Z,9.5nm,0.8s							
MIAR	**Mount Ida**	**4.17**	**122**	Pn	Pn	01 14 26.2	+1.2
MIAR				IAmb_Lg		01 15 37.8	
comp=Z,11nm,1.0s							
KSCO	**Kaye Shedlock'**	**4.34**	**302**	IAmb_Lg		01 15 48.8	
comp=Z,7.2nm,0.8s							
P38A	**Dawn**	**4.42**	**49**	IAmb_Lg		01 15 42.7	
comp=Z,12nm,0.8s							
MGMO	**Mountain Grove**	**4.50**	**84**	Pn	Pn	01 14 31.6	+2.1
MGMO				IAmb_Lg		01 15 42.7	
comp=Z,8.3nm,0.7s							
R40A	**Maddies Statio**	**4.69**	**70**	IAmb_Lg		01 15 49.1	
comp=Z,9.7nm,0.8s							
X40A	**Basin Creek Fa**	**4.72**	**118**	IAmb_Lg		01 15 57.0	
comp=Z,7.4nm,1.1s							
WHAR	**Wooly Hollow**	**4.78**	**107**	IAmb_Lg		01 16 02.1	
comp=Z,7.2nm,0.8s							
T25A	**Trinidad**	**5.24**	**275**	IAmb_Lg		01 16 15.2	
comp=Z,6.7nm,0.9s							
P40A	**Paris**	**5.33**	**58**	IAmb_Lg		01 16 16.9	
comp=Z,7.3nm,0.8s							
PBMO	**Poplar Bluff**	**5.97**	**88**	IAmb_Lg		01 16 36.7	
comp=Z,6.9nm,0.8s							
SDCO	**Great Sand Dun**	**6.15**	**281**	Pn	Pn	01 14 53.1	+0.6
ISCO	**Idaho Springs**	**6.77**	**298**	Pn	Pn	01 15 00.5	-0.6
ECSD	**EROS Data Cent**	**6.97**	**8**	Pn	Pn	01 15 03.6	+0.1
UTMT	**University of**	**7.27**	**91**	Pn	Pn	01 15 08.7	+1.1
PHWY	**Pilot Hill**	**7.40**	**309**	IAmb_Lg		01 17 16.9	
comp=Z,4.3nm,0.9s							

NNC 08 01:17:08.0±1.2, 37°.75N×77°.97E, h0^{km}, mb3.9, mpv3.6, 5C-2D, Error ellipse: s-maj=10.5km s-min=8.2km az=86.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.31**	**3**	Pg	Pb	01 18 45.3	+3.5
3.0nm,0.3s							
SATY				Lg	Lg	01 19 57.5	
11nm,0.5s							
UZB	**Uzynbulak**	**5.45**	**8**	Pg	Pb	01 18 47.2	+3.0
2.4nm,0.2s							
UZB				Lg	Lg	01 20 00.4	
7.4nm,0.7s							
MDOK	**Medeo**	**5.45**	**353**	⇑Pg	Pb	01 18 47.4	+3.2
3.0nm,0.5s							
MDOK				Lg	Lg	01 20 02.1	
25nm,1.2s							
MDOK	**Medeo**	**5.45**	**353**	Pg	Pb	01 18 48.1	+3.9
1.9nm,0.3s							
MDOK				Lg	Lg	01 20 02.4	
7.9nm,0.5s							
TKM2	**Tokmak 2**	**5.47**	**341**	⇓Pg	Pb	01 18 47.8	+3.2
4.1nm,0.9s							
TKM2				⇑Lg	Lg	01 20 01.1	
0.7nm,0.2s							
KST	**Kastek**	**5.50**	**344**	Pg	Pg	01 18 49.6	-3.8
0.3nm,0.1s							
KST				Lg	Lg	01 20 04.9	
3.8nm,0.5s							
AAK	**Ala-Archa**	**5.56**	**332**	⇓Pg	Pb	01 18 48.5	+2.4
3.8nm,0.8s							
AAK				⇑Lg	Lg	01 20 04.7	
1.8nm,0.6s							
PDGK	**Podgornoye**	**5.69**	**11**	Pg	Pg	01 18 52.9	-4.2
1.6nm,0.4s							
PDGK				Lg	Lg	01 20 10.3	
3.2nm,0.6s							
PDGK	**Podgornoye**	**5.69**	**11**	⇑Pg	Pb	01 18 51.5	+3.2
3.1nm,0.7s							
PDGK				⇑Lg	Lg	01 20 10.0	
7.2nm,0.8s							
DGS	**Degeres**	**5.73**	**344**	Pg	Pb	01 18 53.0	+4.0
1.7nm,0.4s							
DGS				Lg	Lg	01 20 10.5	
5.8nm,0.7s							
KTBS	**Karatobe**	**6.03**	**351**	Pg	Pb	01 18 58.6	+4.6
2.0nm,0.4s							
KTBS				Lg	Lg	01 20 20.3	
9.9nm,0.4s							
CHKK	**Chushkaly**	**6.14**	**353**	Pg	Pg	01 19 00.8	-4.9
0.8nm,0.1s							
CHKK				Lg	Lg	01 20 24.0	
4.4nm,0.2s							
KUU	**Kurty**	**6.26**	**349**	Pg	Pb	01 19 01.2	+3.3
0.5nm,0.1s							
KUU				Lg	Lg	01 20 24.6	
5.3nm,0.8s							
ARXS	**Arharly**	**6.46**	**359**	Pg	Pb	01 19 04.8	+3.5
3.0nm,0.2s							
ARXS				Lg	Lg	01 20 30.7	
6.9nm,0.5s							

*IDC **08** 01:23:15.4±1.0, 17°.12N×94°.36W, h85^{km}±16^{km}, mb3.6/7, mb1 3.9/8, mb1mx3.5/34, mbtmp3.9/8, Error ellipse: s-maj=44.1km s-min=21.2km az=58.0*

*NEIC **08** 01:23:16.0±3.7, 16°.86N±0°.05×94°.78W±0°.05, h98^{km}±7^{km}, Error ellipse: s-maj=7.8km s-min=7.0km az=164.0*

*MEX **08** 01:23:17.2±0.7, 16°.73N×94°.82W, h104^{km}±4^{km}, MD4.5*

ISC 08 01:23:15.7±0.7, 16°.78N±0°.04×94°.81W±0°.03, h105^{km}±6^{km}, n120, σ1^{s}53/128, mb4.0/23, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**348**	P	**Pn**	**01 23 30.8**	**-0.1**
189nm,0.3s,baz=153,slow=3.0,SNR=2625							
CMIG				S	**Sn**	**01 23 42.2**	**-0.1**
446nm,0.3s,baz=41,slow=20,SNR=35							
CMIG	**Matias Romero**	**0.32**	**348**	*i* P	**Pn**	**01 23 31.2**	**+0.3**
CMIG				*i* S	**Sn**	**01 23 42.2**	**-0.1**
CMIG	**Matias Romero**	**0.32**	**348**		**Pn**	**01 23 31.2**	**+0.3**
CMIG					**Sn**	**01 23 42.2**	**-0.1**
TUIG	**Tuzandepetl**	**1.30**	**17**	*i* P	**Pn**	**01 23 40.3**	**+0.5**
TUIG				*e*S	**Sn**	**01 23 56.5**	**-1.6**
TUIG	**Tuzandepetl**	**1.30**	**17**		**Pn**	**01 23 40.3**	**+0.5**
TUIG					**Sn**	**01 23 56.5**	**-1.6**
HUIG	**Huatulco**	**1.60**	**231**	*i* P	**Pn**	**01 23 41.6**	**-1.9**
HUIG				*i* S	**Sn**	**01 24 03.2**	**-1.3**
HUIG	**Huatulco**	**1.60**	**231**		**Pn**	**01 23 41.6**	**-1.9**
HUIG					**Sn**	**01 24 03.2**	**-1.3**
TGIG		**1.62**	**90**	*e*P	**Pn**	**01 23 44.4**	**+0.7**
TGIG				*i* S	**Sn**	**01 24 05.0**	**-0.1**
TGIG		**1.62**	**90**		**Pn**	**01 23 44.4**	**+0.7**
TGIG					**Sn**	**01 24 05.0**	**-0.1**
OXBJ	**Oaxaca**	**1.85**	**279**	*i* P	**Pn**	**01 23 47.6**	**+0.9**
OXBJ	**Oaxaca**	**1.85**	**279**		**Pn**	**01 23 47.6**	**+0.9**
VHO	**Vista Hermosa**	**1.86**	**279**	*i* P	**Pn**	**01 23 47.6**	**+0.7**
VHO				*i* S	**Sn**	**01 24 10.6**	**0.0**
PEIG	**Puerto Escondi**	**2.37**	**251**	*e*P	**Pn**	**01 23 51.1**	**-2.2**
TOIG	**Toxpalan**	**2.52**	**302**	*e*P	**Pn**	**01 23 55.5**	**+0.2**
CCIG	**Comitan**	**2.62**	**101**	*i* P	**Pn**	**01 23 58.4**	**+1.7**
CCIG	**Comitan**	**2.62**	**101**		**Pn**	**01 23 57.8**	**+1.2**
CCIG				Sn	**Sn**	**01 24 23.7**	**-4.4**
YOIG	**Yosondua**	**2.62**	**272**	*e*P	**Pn**	**01 23 56.4**	**-0.3**
TPIG	**Tehuac#an**	**2.93**	**304**	*e*P	**Pn**	**01 24 01.5**	**+0.8**
TPIG	**Tehuac#an**	**2.93**	**304**		**Pn**	**01 24 01.5**	**+0.8**
HLIG	**Huajuapan de L**	**3.04**	**291**	*i* P	**Pn**	**01 24 03.3**	**+1.0**
LVIG	**Laguna Verde**	**3.30**	**333**	*i* P	**Pn**	**01 24 03.6**	**-1.9**
LVIG	**Laguna Verde**	**3.30**	**333**		**Pn**	**01 24 03.6**	**-1.9**
HUEH	**Huehuetenango**	**3.50**	**114**	Pn	**Pn**	**01 24 08.1**	**-0.4**
TLIG	**Tlapa**	**3.67**	**283**	*i* P	**Pn**	**01 24 11.3**	**+0.6**
TLIG	**Tlapa**	**3.67**	**283**		**Pn**	**01 24 11.2**	**+0.6**
RTAL	**Retalhuleu**	**3.75**	**126**	Pn	**Pn**	**01 24 13.4**	**+1.8**
PETF	**Flores**	**4.74**	**88**	Pn	**Pn**	**01 24 24.6**	**-0.4**
MTO3	**Montecristo**	**5.76**	**114**	Pn	**Pn**	**01 24 39.1**	**+0.1**
SNET	**Serv Nac Est T**	**6.20**	**119**	Pn	**Pn**	**01 24 44.8**	**-0.1**
MOIG	**Morelia**	**6.71**	**296**	Pn	**Pn**	**01 24 54.1**	**+2.3**
JTS	**Las Juntas de**	**11.55**	**123**	Pn	**Pn**	**01 25 56.5**	**-1.0**
JACO	**JACO, Garabito**	**12.15**	**124**	Pn	**Pn**	**01 26 07.7**	**+2.3**
435B	**Jarrell**	**14.17**	**350**	P	**P**	**01 26 36.7**	**+0.8**
JCT	**Junction City**	**14.38**	**342**		**P**	**01 26 39.9**	**+1.7**
TXAR	**Lajitas Array**	**14.91**	**329**	P	**P**	**01 26 42.4**	**-1.8**
0.3nm,0.3s,baz=154,slow=13,SNR=14							
TXAR	**Lajitas Array**	**14.91**	**329**	Pn	**P**	**01 26 43.0**	**-1.2**
TX31	**Lajitas Ar. Si**	**14.91**	**329**	Pn	**P**	**01 26 42.9**	**-1.3**
TX32	**Lajitas Array**	**14.91**	**329**	Pn	**P**	**01 26 42.6**	**-1.5**
WHTX	**Lake Whitney,**	**15.33**	**351**	P	**P**	**01 26 50.1**	**+1.3**
ABTX	**Abilene, Hawle**	**16.37**	**345**	P	**P**	**01 27 01.0**	**+0.7**
ABTX				IAmb	IAmb	01 27 07.9	
comp=Z,8.8nm,0.8s							
553A	**Crawfordville**	**16.38**	**34**	Pn	**Pn**	**01 26 58.9**	**-0.6**
Z47A	**Carrollton**	**17.44**	**19**	P	**Pn**	**01 27 12.2**	**-0.2**
Z47A				IAmb	IAmb	01 27 12.9	
comp=Z,10nm,0.6s							
LRAL	**Lakeview Retre**	**17.66**	**22**	P	**Pn**	**01 27 14.1**	**-0.8**
LRAL				IAmb	IAmb	01 27 14.8	
comp=Z,4.3nm,0.5s							
MNTX	**Cornudas Mount**	**17.68**	**329**		**Pn**	**01 27 16.3**	**+1.0**
MIAR	**Mount Ida**	**17.73**	**3**	P	**Pn**	**01 27 15.4**	**-0.4**
MIAR				IAmb	IAmb	01 27 16.5	
comp=Z,5.8nm,0.7s							
X37A	**Clayton**	**17.74**	**358**	P	**Pn**	**01 27 16.8**	**+0.8**
X37A				IAmb	IAmb	01 27 25.4	
comp=Z,13nm,0.6s							
X34A	**Smith Ranch, M**	**17.95**	**352**	P	**Pn**	**01 27 20.5**	**+1.9**
X34A				IAmb	IAmb	01 27 29.4	
comp=Z,24nm,0.9s							
WMOK	**Wichita Mounta**	**18.23**	**350**	P	**Pn**	**01 27 21.5**	**-0.4**
W39A	**Magazine**	**18.36**	**3**	P	**Pn**	**01 27 23.0**	**-0.5**
W39A				IAmb	IAmb	01 27 34.4	
comp=Z,6.8nm,0.5s							
FNO	**Franklin**	**18.55**	**353**	P	**Pn**	**01 27 25.5**	**-0.1**
MSTX	**Muleshoe**	**18.55**	**339**	P	**Pn**	**01 27 26.4**	**+0.6**
MSTX				IAmb	IAmb	01 27 27.3	
comp=Z,24nm,1.3s							
WHAR	**Wooly Hollow**	**18.57**	**6**	P	**Pn**	**01 27 24.8**	**-1.1**
WHAR				IAmb	IAmb	01 27 25.4	
comp=Z,9.3nm,1.1s							
Y49A	**Blount Mountai**	**18.61**	**22**	P	**P**	**01 27 23.7**	**-1.2**
OK025	**Westminster Rd**	**18.86**	**354**	P	**Pn**	**01 27 28.2**	**-1.1**
OK025				IAmb	IAmb	01 27 29.3	
comp=Z,10nm,0.5s							
X48A	**Hartselle**	**18.93**	**20**	P	**P**	**01 27 27.2**	**-1.1**
BCOK	**Bluff Creek, N**	**18.96**	**353**	P	**Pn**	**01 27 29.3**	**-1.3**
AMTX	**Amarillo**	**19.05**	**342**	P	**Pn**	**01 27 30.3**	**-1.3**
PLAL	**Pickwick Lake**	**19.10**	**17**	P	**P**	**01 27 28.8**	**-1.4**
OK031	**S. Brethren Rd**	**19.18**	**355**	P	**P**	**01 27 31.1**	**0.0**
QUOK	**Quay**	**19.39**	**355**	P	**P**	**01 27 33.2**	**-0.1**
HHAR	**Hobbs**	**19.44**	**2**	P	**P**	**01 27 33.5**	**-0.4**
U40A	**Yellville**	**19.58**	**5**	P	**P**	**01 27 35.2**	**-0.2**
U40A				IAmb	IAmb	01 27 35.8	
comp=Z,8.5nm,0.8s							
121A	**Cookes Peak, D**	**19.59**	**326**	P	**Pn**	**01 27 37.4**	**-0.7**
121A				IAmb	IAmb	01 27 38.7	
comp=Z,7.5nm,0.9s							
SWET	**Sewanee**	**20.00**	**22**	P	**P**	**01 27 38.0**	**-2.1**
SWET				IAmb	IAmb	01 27 38.6	
comp=Z,8.0nm,0.6s							
T35A	**Sooner Cattle**	**20.11**	**356**	P	**P**	**01

O49A IAmb IAmb 01 28 27.9
comp=Z,9.3nm,0.6s
N47A Urbana 25.28 16 P **P 01 28 30.7 -1.5**
L40A Anamosa 25.39 6 P **P 01 28 32.1 -1.1**
L42A Oliver, Polo 25.52 9 P **P 01 28 32.8 -1.7**
JFWS Jewell Farm 26.34 8 P **P 01 28 40.0 -1.8**
ECSD EROS Data Cent 26.91 357 P **P 01 28 47.8 +0.9**
SPMN Marine on St. 28.41 3 P **P 01 28 59.1 -1.2**
SPMN IAmb IAmb 01 29 00.4
comp=Z,6.7nm,0.6s
F36A Milaca 29.02 2 P **P 01 29 04.0 -1.7**
F36A IAmb IAmb 01 29 31.6
comp=Z,5.7nm,1.4s
NVAR Mina Array Bea 29.82 321 P **P 01 29 14.7 +1.6**
comp=Z,0.5nm,0.5s,baz=125,slow=7.8,SNR=3.8
E43A Lone Tree Farm 30.22 11 P **P 01 29 13.9 -2.4**
EYMN Ely 31.20 4 P **P 01 29 22.9 -2.0**
EYMN IAmb IAmb 01 29 23.4
comp=Z,3.2nm,0.6s
FFC Flin Flon 38.27 353 P **P 01 30 26.6 +1.0**
LPAZ La Paz 42.09 140 P **P 01 31 00.7 +2.3**
comp=Z,1.3nm,0.6s,baz=306,slow=7.7,SNR=5.5
LPAZ La Paz 42.09 140 P **P 01 31 00.9 +2.6**
LPAZ IAmb IAmb 01 31 02.2
comp=Z,1.7nm,0.7s
ITAB Concordia 60.24 136 P **P 01 33 14.9 +1.8**
SUMG Summit 64.31 16 P **P 01 33 41.1 +0.9**
SUMG IAmb IAmb 01 33 49.8
comp=Z,2.2nm,1.2s
PAB San Pablo 79.87 52 P **P 01 35 12.5 -0.6**
PAB IAmb IAmb 01 35 39.1
comp=Z,6.4nm,1.2s
ESDC Sonseca Array 80.13 52 P **P 01 35 12.5 -2.0**
comp=Z,1.0nm,0.8s,baz=297,slow=4.5,SNR=6.2
ESDC Sonseca Array 80.13 52 P **P 01 35 14.1 -0.4**
ARCES ARCESS Array B 84.35 18 P **P 01 35 35.5 -0.3**
comp=Z,2.5nm,0.8s,baz=316,slow=5.0,SNR=4.9
ARCES ARCESS Array B 84.35 18 P **P 01 35 35.3 -0.5**
TORD Torodi Ar. Bea 92.35 76 P **P 01 36 14.1 -0.9**
comp=Z,0.2nm,0.5s,baz=287,slow=4.9,SNR=5.2
TORD Torodi Ar. Bea 92.35 76 P **P 01 36 13.8 -1.3**
TORD IAmb IAmb 01 36 35.0
comp=Z,0.9nm,1.1s

*KRNET **08** 01:40:16.6±0.1, 42°.69N×80°.29E, h20km, mb3.3*
*NNC **08** 01:40:16.8±0.8, 42°.71N×80°.23E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=4.8km s-min=4.2km az=144.0
*SOME **08** 01:40:16.4, 42°.67N×80°.23E, h15km*
ISC 08 01:40:18.0±1.2, 42°.73N±0°.05×80°.17E±0°.04, h10km, n46,
σ1s57/75, 21C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.67**	**310**	⇑*e*P			**Pg**	**01 40 27.6**	**-3.4**
	baz=28								
SHLS				⇑*e*S			**Sg**	**01 40 35.9**	**-4.0**
	baz=28								
SHLS	**Shalkode**	**0.67**	**310**	⇑*e*P			**Pg**	**01 40 27.6**	**-3.4**
	163nm,0.1s								
SHLS				*e*S			**Sg**	**01 40 35.9**	**-4.0**
	1μm,0.2s								
SHLS	**Shalkode**	**0.67**	**310**	P			**Pg**	**01 40 27.6**	**-3.4**
	163nm,0.1s								
SHLS				S			**Sg**	**01 40 35.6**	**-4.3**
	1μm,0.2s								
KTMS	**Ketmen**	**0.73**	**11**	⇓*e*P			**Pg**	**01 40 30.8**	**-1.3**
	baz=4.0								
KTMS				⇓*e*S			**Sg**	**01 40 41.2**	**-0.5**
	baz=4.0								
KTMS	**Ketmen**	**0.73**	**11**	⇓*e*P			**Pg**	**01 40 30.8**	**-1.3**
	12nm,0.1s								
KTMS				*e*S			**Sg**	**01 40 41.1**	**-0.5**
	160nm,0.1s								
KTMS	**Ketmen**	**0.73**	**11**	P			**Pg**	**01 40 30.8**	**-1.3**
	12nm,0.1s								
KTMS				S			**Sg**	**01 40 41.1**	**-0.5**
	160nm,0.1s								
PDGK	**Podgornoye**	**0.78**	**321**	P			**Pg**	**01 40 32.6**	**-0.5**
	6.5nm,0.1s								
PDGK				S			**Sb**	**01 40 44.1**	**-0.3**
	16nm,0.2s								
PDGK	**Podgornoye**	**0.78**	**321**	⇑P			**Pg**	**01 40 32.4**	**-0.6**
	8.8nm,0.5s								
PDGK				⇑S			**Sb**	**01 40 44.5**	**0.0**
	8.7nm,0.2s								
UZB	**Uzynbulak**	**0.94**	**297**	*e*P			**Pg**	**01 40 35.5**	**-0.6**
	baz=97								
UZB				*e*S			**Sb**	**01 40 49.3**	**+0.3**
	baz=97								
UZB	**Uzynbulak**	**0.94**	**297**	*e*P			**Pg**	**01 40 35.5**	**-0.6**
	8.4nm,0.1s								
UZB				*e*S			**Sb**	**01 40 49.4**	**+0.3**
	24nm,0.1s								
UZB	**Uzynbulak**	**0.94**	**297**	P			**Pg**	**01 40 35.5**	**-0.6**
	8.4nm,0.1s								
UZB				S			**Sb**	**01 40 49.2**	**+0.1**
	50nm,0.1s								
KPKS	**Kokpek**	**1.31**	**305**	⇑*e*P			**Pn**	**01 40 42.2**	**-0.3**
	baz=4.0								
KPKS				⇑*e*S			**Sg**	**01 41 00.8**	**+0.5**
	baz=4.0								
KPKS	**Kokpek**	**1.31**	**305**	⇑*e*P			**Pn**	**01 40 42.2**	**-0.3**
	67nm,0.2s								
KPKS				*e*S			**Sg**	**01 41 00.8**	**+0.5**
	312nm,0.2s								
SATY	**Saty**	**1.34**	**285**	*e*P			**Pb**	**01 40 43.1**	**-0.1**
	baz=86								
SATY				*e*S			**Sg**	**01 41 02.7**	**+1.7**
	baz=86								
SATY	**Saty**	**1.34**	**285**	*e*P			**Pb**	**01 40 43.1**	**-0.1**
	8.3nm,0.1s								
SATY				*e*S			**Sg**	**01 41 02.7**	**+1.7**
	69nm,0.1s								
SATY	**Saty**	**1.34**	**285**	P			**Pb**	**01 40 43.1**	**-0.1**
	8.3nm,0.1s								
SATY				S			**Sg**	**01 41 02.7**	**+1.7**
	69nm,0.1s								
DJR	**Jarkent**	**1.63**	**350**	*e*P			**Pb**	**01 40 47.8**	**-0.4**
	3.9nm,0.1s								
DJR				*e*S			**Sg**	**01 41 10.2**	**-0.1**
	53nm,0.2s								
DJR	**Jarkent**	**1.63**	**350**	P			**Pb**	**01 40 47.8**	**-0.4**
	3.9nm,0.1s								
DJR				S			**Sg**	**01 41 10.2**	**-0.1**
	53nm,0.2s								
TARG	**Taragay, Kyrgy**	**2.02**	**241**	⇑*i*P			**Pb**	**01 40 53.4**	**-1.6**
	baz=43								
TARG				⇑*i*S			**Sb**	**01 41 19.4**	**-1.0**
	baz=43								
ARXS	**Arharly**	**2.26**	**312**	*e*P			**Pb**	**01 40 58.2**	**-0.7**
	16nm,0.2s								
ARXS				*e*S			**Sb**	**01 41 28.8**	**+1.8**
	24nm,0.3s								
KDJ	**Kajisay**	**2.29**	**256**	⇓*e*P			**Pb**	**01 40 57.3**	**-2.2**
	baz=57								
KDJ				⇓*i*S			**Sb**	**01 41 26.9**	**-1.1**
	baz=57								
MDOK	**Medeo**	**2.33**	**282**	*e*P			**Pb**	**01 40 59.9**	**-0.3**
	7.4nm,0.2s								
MDOK				*e*S			**Sb**	**01 41 31.0**	**+1.9**
	15nm,0.4s								
MDOK	**Medeo**	**2.33**	**282**	⇓Pn			**Pb**	**01 40 59.6**	**-0.6**
	11nm,0.6s								
MDOK				Lg			Lg	01 41 31.4	
	18nm,0.7s								
MDOK	**Medeo**	**2.33**	**282**	Pg			**Pb**	**01 40 59.9**	**-0.3**
	7.4nm,0.2s								
MDOK				Lg			Lg	01 41 31.0	
	15nm,0.4s								
CHKK	**Chushkaly**	**2.58**	**297**	*e*P			**Pb**	**01 41 04.3**	**-0.1**
	5.9nm,0.2s								
CHKK				*e*S			**Sg**	**01 41 39.1**	**-1.7**
	22nm,0.3s								
CHKK	**Chushkaly**	**2.58**	**297**	Pg			**Pb**	**01 41 04.3**	**-0.1**
	5.9nm,0.2s								
CHKK				Lg			Lg	01 41 39.1	
	22nm,0.3s								
IZV	**Izvestkoviy**	**2.63**	**278**	*e*P			**Pb**	**01 41 06.0**	**+0.7**
	7.9nm,0.2s								
IZV				*e*S			**Sg**	**01 41 41.9**	**-0.6**
	35nm,0.4s								
IZV	**Izvestkoviy**	**2.63**	**278**	Pg			**Pb**	**01 41 06.0**	**+0.7**
	7.9nm,0.2s								
IZV				Lg			Lg	01 41 41.9	
	35nm,0.4s								
KTBS	**Karatobe**	**2.73**	**292**	*e*P			**Pb**	**01 41 06.2**	**-0.7**
	1.9nm,0.1s								
KTBS				*e*S			**Sb**	**01 41 41.9**	**+1.4**
	11nm,0.2s								
KTBS	**Karatobe**	**2.73**	**292**	Pg			**Pb**	**01 41 06.2**	**-0.7**
	1.9nm,0.1s								
KTBS				Lg			Lg	01 41 41.9	
	11nm,0.2s								
ULHL	**Ulahol**	**2.94**	**262**	⇑*e*P			**Pn**	**01 41 06.6**	**+1.6**
	baz=63								
ULHL				⇑*i*S			**Sn**	**01 41 43.1**	**+2.6**
	baz=63								
KUU	**Kurty**	**3.03**	**294**	*e*P			**Pb**	**01 41 12.7**	**+0.7**
	0.5nm,0.1s								
KUU				*e*S			**Sg**	**01 41 53.0**	**-2.2**
	13nm,0.3s								
KUU	**Kurty**	**3.03**	**294**	Pg			**Pb**	**01 41 12.7**	**+0.7**
	0.5nm,0.1s								
KUU				Lg			Lg	01 41 53.0	
	13nm,0.3s								
KST	**Kastek**	**3.11**	**277**	*e*P			**Pb**	**01 41 13.8**	**+0.4**
	6.6nm,0.2s								
KST				*e*S			**Sg**	**01 41 55.0**	**-2.8**
	17nm,0.5s								
KST	**Kastek**	**3.11**	**277**	Pg			**Pb**	**01 41 13.8**	**+0.4**
	6.6nm,0.2s								
KST				Lg			Lg	01 41 55.0	
	17nm,0.5s								
BOOM	**Boomskoye usch**	**3.13**	**267**	⇑*e*P			**Pn**	**01 41 09.2**	**+1.6**
	baz=68								
BOOM				⇑*i*S			**Sn**	**01 41 47.5**	**+2.4**
	baz=68								
DGS	**Degeres**	**3.27**	**281**	*e*P			**Pb**	**01 41 16.7**	**+0.6**
	3.1nm,0.2s								
DGS				*e*S			**Sg**	**01 42 00.4**	**-2.5**
	16nm,0.3s								
DGS	**Degeres**	**3.27**	**281**	Pg			**Pb**	**01 41 16.7**	**+0.6**
	3.1nm,0.2s								
DGS				Lg			Lg	01 42 00.4	
	16nm,0.3s								
TKM2	**Tokmak 2**	**3.37**	**275**	⇑*e*P			**Pn**	**01 41 12.8**	**+1.9**
	baz=75								
TKM2				⇑*i*S			**Sn**	**01 41 53.4**	**+2.4**
	baz=75								
TKM2	**Tokmak 2**	**3.37**	**275**	⇓Pg			**Pb**	**01 41 18.3**	**+0.4**
	2.1nm,0.4s								
TKM2				⇑Lg			Lg	01 42 05.7	
	3.1nm,0.3s								
SGDS	**Sogindy**	**4.12**	**282**	Pg			**Pb**	**01 41 31.5**	**+0.9**
	0.6nm,0.1s								
SGDS				Lg			Lg	01 42 25.2	
	3.7nm,0.2s								
AAK	**Ala-Archa**	**4.18**	**271**	⇓Lg			Lg	01 42 32.8	
	2.3nm,0.5s								
MAKZ	**Makanchi**	**4.28**	**17**	⇓Lg			Lg	01 42 33.5	
	3.6nm,1.1s								
MK31	**Makanchi Array**	**4.34**	**20**	⇑Pn			**Pn**	**01 41 24.6**	**+0.6**
	0.2nm,0.2s,baz=202,slow=13,SNR=18								
MK31				⇑Pg			**Pb**	**01 41 34.5**	**+0.2**
	0.6nm,0.4s,baz=191,slow=15,SNR=4.2								
MK31				⇑Lg			Lg	01 42 35.6	
	0.5nm,0.3s,baz=199,slow=27								
WMQ	**Urumqi**	**5.60**	**76**	*e*P			**Pb**	**01 41 55.6**	**-0.3**
KURBB	**Kurchatov Arra**	**7.98**	**352**	⇑Lg			Lg	01 44 29.1	
	3.6nm,0.8s								

*IDC **08** 01:44:07.5±3.0, 35°.10S×179°.75W, h0km, mb3.7/2,*
mb1 4.0/3, mb1mx3.8/18, mbtmp3.8/3, ML3.6/1, Error
ellipse: s-maj=70.8km s-min=45.4km az=126.0
*NEIC **08** 01:44:08.4±2.1, 35°.4S±0°.1×179°.4W±0°.2, h10km±2km,*
mb4.1/5, Error ellipse: s-maj=25.1km s-min=20.2km
az=114.0
ISC 08 01:44:11.3±1.9, 35°.4S±0°.1×179°.4W±0°.2, h41km, n17,
σ0s72/18, mb3.8/5, East of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.83**	**220**		Pn		**Pn**	**01 44 54.1**	**+0.2**
URZ	**Urewera**	**3.99**	**223**		Pn		**Pn**	**01 45 09.8**	**0.0**
	3.5nm,0.3s,baz=32,slow=17,SNR=21								
URZ					Sn		**Sn**	**01 45 54.7**	**-0.5**
	4.4nm,0.3s,baz=135,slow=13,SNR=6.2								
URZ	**Urewera**	**3.99**	**223**		Pn		**Pn**	**01 45 10.3**	**+0.5**
BKZ	**Black Stump Fm**	**4.97**	**220**		Pn		**Pn**	**01 45 24.1**	**+0.7**
OUZ	**Omahuta**	**5.72**	**270**		Pn		**Pn**	**01 45 34.2**	**+0.5**
BSWZ	**Blackbirch Sta**	**8.20**	**218**		Pn		**Pn**	**01 46 06.8**	**-0.9**
LTZ	**Lake Taylor**	**9.79**	**219**		Pn		**Pn**	**01 46 31.2**	**+1.7**
AS31	**Alice Springs**	**41.92**	**273**		P		**P**	**01 51 58.3**	**+0.3**
AS31					IAmb		IAmb	01 52 19.4	
	comp=Z,2.6nm,1.4s								
ASAR	**Alice Springs**	**41.92**	**273**		P		**P**	**01 51 57.7**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=116,slow=7.5,SNR=8.4								
ASAR	**Alice Springs**	**41.92**	**273**		P		**P**	**01 51 58.4**	**+0.3**
WR0	**Warramunga Arr**	**43.19**	**278**		P		**P**	**01 52 07.9**	**-0.5**
WR0					IAmb		IAmb	01 52 11.8	
	comp=Z,6.5nm,1.3s								
WB2	**Warramunga Arr**	**43.35**	**278**		P		**P**	**01 52 09.3**	**-0.4**
WB2					IAmb		IAmb	01 52 18.6	
	comp=Z,6.7nm,1.4s								
WRA	**Warramunga Arr**	**43.36**	**278**		P		**P**	**01 52 08.9**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=118,slow=7.6,SNR=21								
WRA	**Warramunga Arr**	**43.36**	**278**		P		**P**	**01 52 08.7**	**-1.1**
WB0	**Warramunga Arr**	**43.41**	**278**		P		**P**	**01 52 09.8**	**-0.3**
FINES	**FINESS Array B**	**149.33**	**336**		PKPbc		**PKiKP**	**02 03 55.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.1,SNR=5.7								
FINES	**FINESS Array B**	**149.33**	**336**				**PKiKP**	**02 03 56.0**	**+0.1**

*TUL **08** 01:48:23.6±0.7, 36°.73N±0°.01×98°.44W±0°.02, h4km±7km,*
ML2.8, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=2.7km
s-min=1.2km az=134.0
NEIC 08 01:48:23.9±0.9, 36°.73N±0°.02×98°.43W±0°.02, h12km±2km,
Error ellipse: s-maj=2.8km s-min=1.8km az=135.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.20**	**66**				Pg	01 48 28.0	-0.2
OK032					Sg		Sg	01 48 31.1	0.0
CROK	**Carrier**	**0.42**	**121**		Pg		Pg	01 48 32.2	-0.1
CROK					Sg		Sg	01 48 38.2	+0.3
KAN10	**Anthony SW Sta**	**0.48**	**34**				Pg	01 48 33.2	-0.2
U32A	**Winter Ranch,**	**0.57**	**233**		Pg		Pg	01 48 34.7	-0.4
U32A					Sg		Sg	01 48 43.1	+0.4
KAN05	**Bluff City Nor**	**0.59**	**49**		Pg		Pg	01 48 35.4	0.0
KAN05					Sg		Sg	01 48 43.4	+0.2
KAN08	**Anthony NE Sta**	**0.62**	**36**		Pg		Pg	01 48 35.8	-0.3
KAN08					Sg		Sg	01 48 44.3	+0.1
KAN17	**Caldwell West**	**0.62**	**59**		Pg		Pg	01 48 35.8	-0.2
KAN17					Sg		Sg	01 48 44.2	-0.1
KAN12	**Harper NE Stat**	**0.67**	**31**		Pg		Pg	01 48 36.6	-0.3
KAN09	**Caldwell North**	**0.77**	**58**		Pg		Pg	01 48 38.5	-0.4
KAN09					Sg		Sg	01 48 48.9	0.0
KAN13	**South Haven SW**	**0.82**	**69**		Pg		Pg	01 48 39.4	-0.3
KS20	**Mayfield South**	**0.86**	**54**		Pg		Pg	01 48 40.1	-0.5
KS20					Sg		Sg	01 48 51.8	-0.1
BLOK	**Blackwell**	**0.98**	**88**		Pg		Pg	01 48 42.3	-0.5
OK029	**Liberty Lake**	**1.22**	**139**		Pg		Pn	01 48 46.2	-0.6
OK029					Sg		Sn	01 49 03.2	0.0
BCOK	**Bluff Creek, N**	**1.26**	**148**		Pg		Pb	01 48 47.5	-0.1
OK025	**Westminster Rd**	**1.45**	**142**		Pn		Pn	01 48 50.2	+0.2
QUOK	**Quay**	**1.50**	**111**		Pn		Pb	01 48 51.2	-0.4
OK031	**S. Brethren Rd**	**1.50**	**120**		Pn		Pb	01 48 51.4	-0.3
T35A	**Sooner Cattle**	**1.55**	**82**				Pb	01 48 52.3	-0.4
FNO	**Franklin**	**1.69**	**150**		Pn		Pb	01 48 54.2	-0.8
WMOK	**Wichita Mounta**	**2.00**	**188**		Pn		Pn	01 48 58.8	+1.2
X34A	**Smith Ranch, M**	**2.17**	**167**		Pn		Pb	01 49 02.7	-0.6
AMTX	**Amarillo**	**3.22**	**236**		IAmb_Lg			01 50 07.0	
	comp=Z,8.6nm,0.8s								
X37A	**Clayton**	**3.28**	**130**		IAmb_Lg			01 50 14.4	
	comp=Z,9.7nm,0.9s								
HHAR	**Hobbs**	**3.65**	**96**		Pn		Pn	01 49 21.7	+1.5
HHAR					IAmb_Lg			01 50 21.9	
	comp=Z,4.9nm,0.8s								
S39A	**Bolivar**	**4.19**	**75**		IAmb_Lg			01 50 40.4	
	comp=Z,4.8nm,0.8s								
U40A	**Yellville**	**4.51**	**93**		IAmb_Lg			01 50 56.3	
	comp=Z,5.6nm,0.9s								
T25A	**Trinidad**	**4.81**	**277**		IAmb_Lg			01 51 08.3	
	comp=Z,5.1nm,0.9s								
P38A	**Dawn**	**4.83**	**52**		IAmb_Lg			01 50 59.3	
	comp=Z,4.1nm,0.8s								
R40A	**Maddies Statio**	**5.14**	**70**		IAmb_Lg			01 51 13.3	
	comp=Z,6.3nm,1.0s								
CCM	**Cathedral Cave**	**5.88**	**75**		IAmb_Lg			01 51 34.7	
	comp=Z,5.3nm,1.0s								
RSSD	**Black Hills**	**8.53**	**332**		IAmb_Lg			01 53 06.7	
	comp=Z,2.2nm,0.8s								

*THR **08** 01:48:53.9±1.1, 32°.27N×49°.43E, h18km±8km, ML4.1*
*MOS **08** 01:48:53.9±1.6, 32°.22N×49°.41E, h33km, mb4.4/20, Error*
ellipse: s-maj=8.6km s-min=5.6km az=102.3
*TEH **08** 01:48:53.6, 32°.27N×49°.44E, h8km, ML4.2*
*NEIC **08** 01:48:54±3.2, 32°.23N±0°.05×49°.37E±0°.05, h10km±1km,*
Error ellipse: s-maj=8.1km s-min=6.9km az=170.0
*IDC **08** 01:48:55.5±4.0, 32°.18N×49°.32E, h33km±33km, mb3.8/20,*
mb1 4.0/27, mb1mx3.8/46, mbtmp4.0/27, ML3.7/7, MS3.1/6,
Ms1 3.1/6, ms1mx2.9/27, Error ellipse: s-maj=18.0km
s-min=12.7km az=167.0
*OMAN **08** 01:49:04.6±2.6, 31°.98N×50°.10E, h211km±74km, mb4.6/10,*
Error ellipse: s-maj=65.6km s-min=20.4km az=65.0
ISC 08 01:48:53.7±0.3, 32°.24N±0°.03×49°.42E±0°.02, h20km, n262,
σ2s39/283, mb4.2/52, MS3.3/7, 29C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.54**	**256**	*e*Pg			**Pb**	**01 49 04.8**	**+0.3**
SHGR					IAML			01 49 19.7	
	comp=E,11μm,0.7s								
AHWZ	**Ahwaz**	**1.12**	**216**				**Pb**	**01 49 16.8**	**+2.4**
AHWZ					Sg		**Sn**	**01 49 34.4**	**+5.3**
AHWZ	**Ahwaz**	**1.12**	**216**	*e*Pg			**Pb**	**01 49 16.4**	**+2.0**
AHWZ				*e*Sg			**Sn**	**01 49 32.7**	**+3.6**
SHK1	**Shahrekord**	**1.25**	**86**	*e*Pg			**Pb**	**01 49 17.2**	**+0.5**
SHK1				*e*Sg			**Sn**	**01 49 35.0**	**+2.4**
SHK1				*e*				01 49 44.4	
	comp=Z,22μm,0.6s								
IPIR	**Pirpir**	**1.32**	**70**				**Pb**	**01 49 18.5**	**+0.5**
IPIR	**Pirpir**	**1.32**	**70**	*e*Pg			**Pb**	**01 49 18.6**	**+0.5**
IPIR				*e*				01 49 41.5	
	comp=Z,28μm,0.4s								
KHMZ	**Khomeyn**	**1.56**	**17**	*e*Pg			**Pb**	**01 49 22.8**	**+0.7**
ABEH	**Behbahan**	**1.78**	**156**	*e*Pg			**Pb**	**01 49 27.0**	**+1.3**
IKFM	**Kafar-mosalman**	**1.84**	**315**	Pg			**Pb**	**01 49 26.8**	**+0.1**
IKFM	**Kafar-mosalman**	**1.84**	**315**	*e*Pn			**Pb**	**01 49 27.1**	**+0.4**
DHL1	**Dehloran**	**1.86**	**284**	*e*Pn			**Pb**	**01 49 27.4**	**+0.4**
IDOB	**Doab**	**1.86**	**326**	Pg			**Pb**	**01 49 27.2**	**0.0**
IDOB	**Doab**	**1.86**	**326**	*e*Pn			**Pb**	**01 49 27.1**	**-0.1**
HSAM	**Samen**	**2.08**	**341**	Pg			**Pb**	**01 49 30.6**	**-0.4**
HSAM	**Samen**	**2.08**	**341**	*e*Pn			**Pb**	**01 49 30.5**	**-0.4**
IKLH	**Kolahrood**	**2.12**	**59**	Pg			**Pb**	**01 49 32.3**	**+0.7**
IKLH	**Kolahrood**	**2.12**	**59**	*e*Pn			**Pb**	**01 49 32.3**	**+0.7**
IKLH				*e*				01 50 07.8	
	comp=Z,15μm,0.4s								
KLNJ	**Kolanjah**	**2.22**	**123**	*e*Pn			**Pb**	**01 49 33.8**	**+0.3**
KLNJ				*e*				01 50 12.5	
	comp=Z,16μm,1.0s								
IGAR	**Gharneh**	**2.23**	**85**	Pn			**Pb**	**01 49 33.0**	**-0.5**
IGAR	**Gharneh**	**2.23**	**85**	*e*Pn			**Pb**	**01 49 33.0**	**-0.5**
IGAR				*e*				01 50 07.5	
	comp=Z,13μm,0.2s								
QAMS	**Qamsar**	**2.23**	**48**	*e*Pn			**Pb**	**01 49 32.3**	**-1.3**
IZEF	**Zefreh**	**2.54**	**74**	*e*Pn			**Pb**	**01 49 37.4**	**-1.5**
IZEF				*e*				01 50 20.0	
	comp=Z,6μm,0.3s								
IRAM	**Ramesheh**	**2.55**	**99**	Pn			**Pb**	**01 49 37.3**	**-1.7**
IRAM	**Ramesheh**	**2.55**	**99**	*e*Pn			**Pb**	**01 49 37.3**	**-1.7**
IBZA	**Bozab**	**2.58**	**330**	Pn			**Pn**	**01 49 36.9**	**+2.3**
IBZA	**Bozab**	**2.58**	**330**	*e*Pn			**Pn**	**01 49 36.7**	**+2.1**
HAGD	**Aghdareh**	**2.59**	**355**	Pn			**Pn**	**01 49 37.0**	**+2.3**
HAGD	**Aghdareh**	**2.59**	**355**	*e*Pn			**Pb**	**01 49 38.1**	**-1.5**
HAGD				*e*				01 50 18.9	
	comp=Z,9μm,0.5s								
IALM	**Almabolaq**	**2.81**	**339**	*e*Pn			**Pn**	**01 49 40.6**	**+2.7**
KCHF	**Cheshme Sefid,**	**2.84**	**316**	Pn			**Pn**	**01 49 40.0**	**+1.8**
KCHF	**Cheshme Sefid,**	**2.84**	**316**	*e*Pn			**Pn**	**01 49 40.0**	**+1.8**
KCHF				*e*				01 50 32.0	
	comp=Z,7μm,0.4s								
KRSH	**Karshahi**	**2.86**	**52**	Pn			**Pb**	**01 49 41.9**	**-2.3**
KRSH	**Karshahi**	**2.86**	**52**	*e*Pn			**Pb**	**01 49 42.0**	**-2.3**
KRSH				*e*				01 50 31.8	
	comp=Z,6μm,0.5s								
KER	**Kermanshah**	**2.87**	**319**	*e*Pn			**Pn**	**01 49 41.4**	**+2.9**
NASN	**Na'in**	**2.92**	**78**	*e*Sg			**Sb**	**01 50 24.6**	**+3.9**
IQOM	**Qom**	**2.94**	**28**	*e*Pn			**Pn**	**01 49 42.8**	**+3.2**
IQOM				*e*				01 49 44.0	
	comp=Z,9μm,0.3s								
MIB	**Mutribah**	**3.01**	**217**	*e*P			**Pn**	**01 49 42.9**	**+2.6**
UMR	**Umm Al-Rimmam**	**3.05**	**209**	*e*P			**Pn**	**01 49 43.2**	**+2.3**
ISFB	**Sefidab**	**3.17**	**48**	*e*Pn			**Pn**	**01 49 45.5**	**+3.0**
ISFB				*e*				01 50 43.8	
	comp=Z,3μm,0.4s								
IGHG	**Ghaleghazi**	**3.17**	**312**	*e*Pn			**Pn**	**01 49 44.8**	**+2.1**
IGHG				*e*				01 50 47.8	
	comp=Z,7μm,0.9s								
IRAZ	**Razeghan**	**3.19**	**8**	*e*Pn			**Pn**	**01 49 46.2**	**+3.3**
IRAZ				*e*				01

comp=Z,189nm,18.8s,baz=225,slow=40
GEYT Alibeck 9.11 49 Pn Pn 01 51 07.6 +3.5
GYA0B ALIBECK ARRAY 9.11 49 Pn Pn 01 51 07.3 +3.2
MDH Madha 9.18 137 P **Pn** 01 51 05.5 +0.5
MDH S **Sn** 01 52 42.3 -5.4
ASUD Al Ashush, Dub 9.20 144 P **Pn** 01 51 06.8 +1.6
SNR=15
RAYN Ar Rayn 9.35 203 P **Pn** 01 51 06.0 -1.4
RAYN Ar Rayn 9.35 203 Pn 01 51 06.0 -1.4
UOSS Minazif 9.40 139 Pn 01 51 08.3 +0.2
UOSS Minazif 9.40 139 P **Pn** 01 51 09.1 +1.0
UOSS S **Sn** 01 52 47.1 -6.1
HATD Hatta, Dubai 9.45 140 P **Pn** 01 51 08.7 -0.1
HATD S **Sn** 01 52 49.9 -4.6
IKRD Kardeh 9.48 59 *e*Pn **Pn** 01 51 12.7 +3.3
ASHO Ashiyiah 9.53 141 P **Pn** 01 51 10.2 +0.3
ASHO S **Sn** 01 52 51.5 -4.9
SNR=9.6
SOHO SOHO 10.22 140 P **Pn** 01 51 18.2 -1.1
SOHO S **Sn** 01 53 09.4 -4.1
ASF Jabal al Asfar 10.61 273 Pn **Pn** 01 51 22.2 -2.4
comp=Z,0.8nm,0.3s,baz=90,slow=5.6,SNR=6.2
ASF Sn **Sn** 01 53 15.3 -7.7
comp=Z,0.3nm,0.3s,baz=236,slow=5.9,SNR=1.9
MAK Makhachkala 10.81 352 *e*P Pn 01 51 22.9 -4.4
MAK *e*S **Sn** 01 53 23.3 -4.3
MAK pmax pmax
comp=Z,33nm,0.8s
MAK MLR MLR
comp=Z,107nm,10.0s
ARQ Araqi 10.87 143 P **Pn** 01 51 28.7 +0.5
ARQ S **Sn** 01 53 25.0 -4.2
HOQ Hoqain 11.09 139 P **Pn** 01 51 32.8 +1.5
HOQ S **Sn** 01 53 31.2 -3.6
MMAI Mount Meron Ar 11.84 277 Pn **Pn** 01 51 42.5 +1.0
comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=1.6
MMAI Sn **Sn** 01 53 46.0 -7.2
comp=Z,0.7nm,0.3s,baz=92,slow=24,SNR=1.5
WSAR Wadi Sarin 12.12 135 Pn **Pn** 01 51 44.7 -0.6
comp=Z,1.6nm,0.3s,baz=323,slow=7.5,SNR=17
WSAR Sn **Sn** 01 53 51.5 -8.3
comp=Z,0.8nm,0.3s,baz=156,slow=21,SNR=5.7
KBZ Khabaz 12.56 338 *i* P **Pn** 01 51 50.9 -0.4
EIL Elat 12.68 262 Pn **Pn** 01 51 51.0 -1.9
comp=Z,0.2nm,0.3s,baz=82,slow=8.8,SNR=3.5
KIV Kislovodsk 12.84 338 *e*P **Pn** 01 51 55.0 -0.1
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,40nm,11.0s
SOC Sochi 13.66 329 *e*P Pn 01 52 02.0 -4.2
SOC *e* 01 54 33.9
SOC MLR MLR
comp=Z,58nm,14.0s
BR131 Keskin Array S 14.79 305 P **P** 01 52 28.6 +1.0
BR131 Keskin Array S 14.79 305 P **P** 01 52 28.6 +1.0
BRTR Keskin Array B 14.79 305 Pn **Pn** 01 52 23.8 +2.0
comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=1.8
BRTR LR LR 02 00 12.1
comp=Z,17nm,22.0s,baz=96,slow=46
BRTR Keskin Array B 14.79 305 P **P** 01 52 28.1 +0.4
WHFO Wadi Hawf 14.79 164 P **Pn** 01 52 19.5 -2.4
SNR=26
ILGA Ilgaz 15.35 309 P **P** 01 52 38.3 +4.3
ILGA IAmb IAmb 01 52 43.8
comp=Z,19nm,1.3s
MDUB Mudurnu 16.80 304 P **P** 01 52 51.5 +1.6
MDUB IAmb IAmb 01 52 52.0
comp=Z,27nm,0.8s
CHGR Chuyangaron 17.30 63 P **P** 01 52 58.2 +2.7
CHGR IAmb IAmb 01 53 14.7
comp=Z,28nm,1.3s
GAR Garm 18.26 63 P 01 53 09.3 +3.1
ABKAR Akbulak array 18.74 22 P **Pn** 01 53 13.0 +1.4
AKTO Aktyubinsk 19.27 17 P **P** 01 53 17.6 +0.6
comp=Z,0.4nm,0.3s,baz=192,slow=14,SNR=2.6
VRH Novokhopyorsk 19.78 346 *e*P **P** 01 53 21.2 -1.3
VRH pmax pmax
comp=Z,20nm,0.7s
KK31 Karatay Array 19.86 51 P **Pn** 01 53 25.1 0.0
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KK31 Karatay Array 19.86 51 P **Pn** 01 53 25.1 0.0
KKAR Karatay Array 19.86 51 P **P** 01 53 24.0 +0.5
KKAR pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 19.86 51 P **P** 01 53 23.9 +0.5
KKAR Karatay Array 19.86 51 P **Pn** 01 53 25.1 -0.1
KKAR IAmb IAmb 01 53 31.9
comp=Z,3.3nm,1.1s
NIL Nilore 20.05 80 P **P** 01 53 25.4 -0.2
NIL pmax pmax
comp=Z,11nm,1.2s
NIL Nilore 20.05 80 P **P** 01 53 25.4 -0.2
NIL IAmb IAmb 01 53 34.3
comp=Z,11nm,1.1s
BELG Belogornoye 20.18 357 P **P** 01 53 26.9 +0.1
comp=Z,27nm,0.9s,baz=181,slow=5.1,SNR=6.8
BELG Belogornoye 20.18 357 P **P** 01 53 27.0 +0.1
VSR Storozhevoye 20.41 341 *e*P **P** 01 53 28.5 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.3s
TIRR Tirgusor 20.43 313 ⇑P **P** 01 53 30.3 +0.7
TIRR Tirgusor 20.43 313 P **P** 01 53 29.8 +0.1
TIRR pmax pmax
comp=Z,17nm,1.0s
TIRR Tirgusor 20.43 313 P **P** 01 53 29.8 +0.1
TIRR IAmb IAmb 01 53 31.5
comp=Z,17nm,1.0s
IDI Anoyia 20.60 285 P **P** 01 53 32.5 +0.8
comp=Z,5.1nm,0.6s,baz=91,slow=9.4,SNR=8.8
IDI Anoyia 20.60 285 ⇑P Pn 01 53 33.4 -0.6
ALN Alexandroupoli 20.62 301 P **P** 01 53 33.1 +1.4
ALN pmax pmax
comp=Z,12nm,0.8s
ALN Alexandroupoli 20.62 301 P **P** 01 53 33.0 +1.4
ALN IAmb IAmb 01 53 39.4
comp=Z,12nm,0.8s
TPGR Topolog 20.63 314 ⇑P **P** 01 53 32.4 +0.6
HARR Harsova 20.84 313 ⇑P **P** 01 53 35.1 +0.9
CFR Carcaliu 20.96 314 ⇑P **P** 01 53 35.1 -0.3
LPSR Galich'ya Gora 21.73 343 *e*P **P** 01 53 41.4 -2.1
LPSR pmax pmax
comp=Z,20nm,0.8s
VASR Vaslui 21.94 317 ⇑P **P** 01 53 49.0 +3.1
VRI Vrincioaia 22.16 314 ⇑P **P** 01 53 48.6 +0.3
PLOR Plostina 22.20 314 ⇑P **P** 01 53 49.6 +0.8
NEHR Nehoiu 22.22 313 ⇑P **P** 01 53 50.5 +1.6
AAK Ala-Archa 22.38 55 P **P** 01 53 52.8 +2.0
comp=Z,1.6nm,0.4s,baz=247,slow=14,SNR=1.5
MLR Muntele Rosu 22.46 313 P **P** 01 53 52.9 +1.3
comp=Z,6.4nm,0.8s,baz=166,slow=17,SNR=4.5
MLR Muntele Rosu 22.46 313 ⇑P **P** 01 53 53.6 +1.9
MLR Muntele Rosu 22.46 313 P **P** 01 53 53.1 +1.4
MLR IAmb IAmb 01 53 57.2
comp=Z,8.8nm,0.9s
SORM Soroca 22.50 321 ⇑P **P** 01 53 51.0 -0.8
AGG Agios Georgios 22.98 295 P **P** 01 53 57.7 +0.6
AGG pmax pmax
comp=Z,8.0nm,1.0s
AGG Agios Georgios 22.98 295 P **P** 01 53 57.6 +0.6
AGG IAmb IAmb 01 54 03.8
comp=Z,8.3nm,1.0s
VOIR 23.00 312 ⇑P **P** 01 53 58.4 +1.2
LIT Litokhoron 23.05 297 P **P** 01 53 59.7 +1.9
LIT pmax pmax
comp=Z,3.0nm,0.6s
LIT Litokhoron 23.05 297 P **P** 01 53 59.7 +1.9
ITM Ithomi 23.09 290 P **P** 01 53 58.0 -0.3
ARR Arges 23.23 311 ⇑P **P** 01 53 59.6 0.0
AKASG Malin Array Be 23.72 327 P **P** 01 54 03.6 -0.6
comp=Z,1.1nm,0.4s,baz=136,slow=9.4,SNR=16
AKASG Malin Array Be 23.72 327 P **P** 01 54 02.7 -1.6
AKBB Malin Array Si 23.72 327 *ce*P **P** 01 54 03.9 -0.4
AKBB Malin Array Si 23.72 327 P **P** 01 54 03.7 -0.6
SRE Strehaia 23.87 309 ⇑P **P** 01 54 05.0 -0.7
BURAR Bucovina Array 23.95 317 ⇑P **P** 01 54 06.7 0.0
BURAR Bucovina Array 23.95 317 P **P** 01 54 06.9 +0.3
FNA Florina 24.02 299 P **P** 01 54 08.2 +0.9
FNA pmax pmax
comp=Z,6.0nm,0.6s
FNA Florina 24.02 299 P **P** 01 54 08.2 +0.9
FNA IAmb IAmb 01 54 10.0
comp=Z,6.0nm,0.6s

KDJ Kajisay 24.13 58 P **P** 01 54 11.0 +2.5
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ Kajisay 24.13 58 P **P** 01 54 11.0 +2.5
KBN Korca 24.43 298 P **P** 01 54 12.2 +1.1
KBN pmax pmax
comp=Z,9.0nm,0.7s
KBN Korca 24.43 298 P **P** 01 54 12.2 +1.1
GZR Gura Zlata 24.43 310 ⇓P **P** 01 54 11.5 +0.4
HERR Herculane 24.47 309 ⇑P **P** 01 54 12.1 +0.8
TARG Taragay, Kyrgy 24.48 59 P **P** 01 54 13.9 +1.9
TARG IAmb IAmb 01 54 15.1
comp=Z,6.6nm,0.8s
BOVS Bovan 24.53 306 ⇑P **P** 01 54 12.8 +0.9
OBN Obninsk 24.60 342 *e*P **P** 01 54 12.2 -0.2
OBN *e*S **S** 01 58 31.4 -0.9
OBN pmax pmax
comp=Z,19nm,1.4s
OBN MLR MLR
comp=Z,70nm,21.0s
MDVR Moldovita 24.90 308 ⇑P **P** 01 54 16.0 +0.7
MOS Moscow 24.91 344 *e*P **P** 01 54 14.9 -0.2
ARU Arti 25.01 12 P **P** 01 54 17.5 +1.5
comp=Z,0.6nm,0.4s,baz=191,slow=16,SNR=2.2
ARU Arti 25.01 12 P P 01 54 09.2 -6.9
ARU Arti 25.01 12 P **P** 01 54 18.9 +2.8
ARU IAmb IAmb 01 54 45.0
comp=Z,8.9nm,1.2s
DRGR 25.06 313 ⇑P **P** 01 54 17.9 +1.2
BZS Buzias 25.27 310 ⇑P **P** 01 54 17.3 -1.3
PUK Puka 25.38 301 P **P** 01 54 20.0 +0.3
PUK IAmb IAmb 01 54 22.5
comp=Z,7.8nm,1.1s
SIRR Siria 25.50 311 ⇑P **P** 01 54 22.3 +1.6
BVAR Borovoye Array 25.70 30 P **P** 01 54 22.5 +0.2
comp=Z,0.8nm,0.6s,baz=209,slow=17,SNR=3.7
TRPA Tampa 25.77 316 *e*P **P** 01 54 25.3 +2.3
DIVS Divibare 25.85 306 P **P** 01 54 25.8 +1.9
DIVS IAmb IAmb 01 54 26.6
comp=Z,3.2nm,0.7s
PDG Podgorica 25.93 302 P **P** 01 54 26.4 +1.8
PDG IAmb IAmb 01 54 47.0
comp=Z,3.1nm,0.7s
SCTE Santa Cesarea 26.09 296 P **P** 01 54 27.6 +1.5
SCTE IAmb IAmb 01 54 56.6
comp=Z,8.2nm,0.9s
KOLS Kolonicke sedl 26.31 317 *e*P **P** 01 54 32.1 +4.1
KOLS Kolonicke sedl 26.31 317 *e*P **P** 01 54 32.1 +4.1
KIRV Kirov 26.35 360 P **P** 01 54 28.0 -0.1
comp=Z,4.9nm,0.7s,baz=202,slow=19,SNR=2.1
KIRV Kirov 26.35 360 P **P** 01 54 28.0 -0.1
CRVS Cervenica-Dubn 26.77 317 *e*P **P** 01 54 35.6 +3.5
CRVS Cervenica-Dubn 26.77 317 *e*P **P** 01 54 35.6 +3.5
MNK Minsk 27.00 332 *i* P **P** 01 54 35.7 +1.6
MNK *i* 01 55 18.0
MNK *i* PPP PPP 01 55 26.1
MNK *i* 01 57 56.8
MNK *i* S **S** **01 59 15.8 +5.4**
MNK *i* SSS SSS 02 00 45.1
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=N,40nm,17.0s
MNK MLR MLR
comp=E,4.0nm,17.0s
MNK MLR MLR
comp=Z,72nm,17.0s
MNK Minsk 27.00 332 *i* P **P** 01 54 35.7 +1.7
comp=E,1.0nm,0.9s
MNK *i* P **P** 01 54 35.7 +1.7
comp=N,7.0nm,0.9s
MNK *i* P **P** 01 54 35.7 +1.7
comp=Z,14nm,0.9s,baz=317
MNK *i* PP **PnPn** **01 55 18.0 +1.4**
MNK *i* PPP PPP 01 55 26.2
MNK *i* PcP **PcP** **01 57 56.9 +1.7**
MNK *i* S **S** **01 59 15.8 +5.5**
MNK *i* SS **SnSn** **02 00 04.0 -13**
MNK *i* SSS SSS 02 00 45.2
MNK *i* ScP **ScP** **02 01 32.2 -2.1**
MNK *i* PcS **PcS** **02 01 38.4 +2.1**
MNK *i* LQ LQ 02 03 11.3
MNK *i* LR LR 02 05 14.6
MNK *i* LRM MLR 02 07 53.9
comp=N,40nm,17.2s
MNK *i* LRM MLR 02 07 57.4
comp=E,4.0nm,17.2s
MNK *i* LRM MLR 02 08 21.3
comp=Z,72nm,17.2s
MORH Mrgy, Hungar 27.42 310 *e*P **P** 01 54 38.2 +0.2
KURBB Kurchatov Arra 28.25 41 P **P** 01 54 46.8 +1.4
comp=Z,0.4nm,0.2s,baz=242,slow=9.6,SNR=1.8
KURK Kurchatov 28.35 41 P **P** 01 54 46.8 +0.6
MK31 Makanchi Array 28.98 50 P **P** 01 54 53.7 +1.8
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 28.98 50 P **P** 01 54 53.7 +1.8
MKAR Makanchi Array 28.98 50 P **P** 01 54 53.5 +1.6
comp=Z,2.0nm,0.6s,baz=250,slow=8.0,SNR=12
MKAR LR LR 02 08 18.6
comp=Z,74nm,18.8s,baz=254,slow=40
MKAR Makanchi Array 28.98 50 *ce*P **P** 01 54 53.7 +1.7
MKAR pmax pmax
comp=Z,2.0nm,0.6s
PABE Paberze 29.32 330 P **P** 01 54 55.3 +0.6
KLMR Klimovskoe 29.35 350 *e*P **P** 01 54 51.9 -3.1
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 29.35 350 *e*P **P** 01 54 51.9 -3.1
KLMR AMP 01 54 55.1
comp=Z,9.0nm,1.1s
GERES GERESS Array B 31.45 312 P **P** 01 55 13.7 -0.1
comp=Z,0.3nm,0.5s,baz=113,slow=9.0,SNR=0.8
WMQ Urumqi 32.02 58 *e*P **P** 01 55 23.4 +4.5
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,76nm,4.9s
WTTA Wattenberg 32.34 309 *i* P **P** 01 55 21.7 -0.1
comp=Z,2.6nm,0.5s
WATA Walderalm 32.40 309 *e*P **P** 01 55 21.3 -0.9
comp=Z,2.3nm,0.7s
SQTA Sankt Quirin 32.61 309 *e*P **P** 01 55 23.8 -0.3
comp=Z,2.6nm,0.5s
MOTA Moosalm 32.71 309 *e*P **P** 01 55 24.7 -0.3
comp=Z,2.7nm,0.8s
CLL Collm 32.72 316 *e*P **P** 01 55 26.0 +1.2
CLL *e* 01 55 32.0
CLL Collm 32.72 316 *e*P **P** 01 55 26.0 +1.2
CLL *e* 01 55 32.0
FETA Feichten 32.89 308 *e*P **P** 01 55 26.4 -0.1
comp=Z,1.8nm,0.6s
FINES FINESS Array B 32.92 339 P **P** 01 55 26.4 +0.1
comp=Z,0.6nm,0.4s,baz=139,slow=8.1,SNR=6.5
FINES FINESS Array B 32.92 339 *ce*P **P** 01 55 29.3 +2.9
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 32.92 339 P **P** 01 55 27.9 +1.5
RETA Reutte 32.97 309 *e*P **P** 01 55 27.0 -0.1
comp=Z,0.6nm,0.4s
VSL Villasalto 33.04 294 P **P** 01 55 29.6 +1.9
VSL IAmb IAmb 01 55 30.4
comp=Z,4.0nm,0.8s
DGZ Jazzator, Alta 33.15 47 *i* P **P** 01 55 29.5 +0.7
DGZ pmax pmax
comp=Z,6.0nm,2.2s
ZALV Zalesovo Beam 33.23 39 P **P** 01 55 29.3 +0.1
comp=Z,1.0nm,0.4s,baz=258,slow=12,SNR=5.4
ZALV Zalesovo Beam 33.23 39 P **P** 01 55 30.3 +1.1
ZALV Zalesovo Beam 33.23 39 P **P** 01 55 30.3 +1.1
DAVA Damuels 33.51 308 *e*P **P** 01 55 31.4 -0.6
comp=Z,4.1nm,0.5s
BNI Bardonecchia 35.35 304 P **P** 01 55 48.2 +0.3
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 35.35 304 P **P** 01 55 48.2 +0.3
NB2 NORSAR Subarra 38.01 331 P **P** 01 56 09.2 -1.0
comp=Z,3.3nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 38.01 331 P **P** 01 56 09.7 -0.6
comp=Z,1.7nm,0.7s,baz=122,slow=8.4,SNR=6.4
NC303 NORSAR Array S 38.05 331 P **P** 01 56 10.2 -0.3

NC303 IAmb IAmb 01 56 31.1
comp=Z,6.1nm,1.0s
ARCES ARCESS Array B 39.70 347 P **P** 01 56 23.8 -0.4
comp=Z,4.8nm,1.1s,baz=130,slow=11,SNR=2.0
ARCES ARCESS Array B 39.70 347 P **P** 01 56 24.3 +0.1
ARCES pmax pmax
comp=Z,21nm,1.4s
ARCES ARCESS Array B 39.70 347 P **P** 01 56 24.3 +0.1
NRIK Noril'sk 42.87 19 *ce*P **P** 01 56 51.4 +1.2
NRIK pmax pmax
comp=Z,4.0nm,1.2s
ESDC Sonseca Array 43.30 295 P **P** 01 56 53.8 -0.5
comp=Z,0.6nm,0.8s,baz=75,slow=8.1,SNR=4.8
ULN Ulaanbaatar 45.74 53 *ce*P **P** 01 57 14.5 +0.8
ULN pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 46.43 95 P **P** 01 57 19.8 +0.4
comp=Z,1.3nm,0.3s,baz=300,slow=7.8,SNR=4.7
CMAR Chiang Mai Arr 46.43 95 *ce*P **P** 01 57 18.7 -0.7
CMAR pmax pmax
comp=Z,1.0nm,0.4s
TOA0 Torodi Ar. Sit 47.52 258 P **P** 01 57 28.5 +0.6
TORD Torodi Ar. Bea 47.52 258 P **P** 01 57 27.7 -0.1
comp=Z,2.8nm,1.0s,baz=70,slow=7.7,SNR=15
TORD LR LR 02 20 17.3
comp=Z,47nm,21.2s,baz=5.0,slow=40
TORD Torodi Ar. Bea 47.52 258 P **P** 01 57 28.4 +0.5
TORD IAmb IAmb 01 57 34.6
comp=Z,2.8nm,0.9s
HHC Hu-ho-hao-te 49.74 62 *e*P **P** 01 57 46.7 +1.9
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,170nm,6.5s
KOWA Kowa 51.61 263 P **P** 01 57 59.5 +0.4
TIXI Tiksi 56.45 22 *ce*P **P** 01 58 33.8 +0.2
KLR Kul'dur 61.64 48 *ce*P **P** 01 59 08.7 -1.2
KLR pmax pmax
comp=Z,6.0nm,2.0s
KSRS Korea Array 62.88 61 LR LR 02 31 03.8
comp=Z,24nm,19.8s,baz=230,slow=40
BOSA Boshof 64.73 203 P **P** 01 59 29.4 -1.2
comp=Z,1.7nm,0.8s,baz=100,slow=14,SNR=1.3
BILL Bilibino 69.64 21 *i* P **P** 01 59 57.3 -4.0
BILL *i* 02 00 17.5
BILL pmax pmax
comp=Z,6.0nm,0.5s
BILL MLR MLR
comp=Z,773nm,16.0s
MLY Manley 81.78 8 P **P** 02 01 11.6 +0.8
MDM Murphy Dome 82.14 7 P **P** 02 01 13.0 +0.3
ILAR Eielson Array 82.47 7 P **P** 02 01 14.2 -0.2
comp=Z,0.8nm,0.8s,baz=327,slow=4.0,SNR=7.6
ILAR Eielson Array 82.47 7 P **P** 02 01 14.6 +0.2
ILAR Eielson Array 82.47 7 P **P** 02 01 14.6 +0.2
SCRK Sand Creek 83.52 6 P **P** 02 01 21.0 +1.0
SCRK IAmb IAmb 02 01 31.6
comp=Z,2.5nm,0.9s
BCAR Beaver Creek A 84.60 5 P **P** 02 01 26.3 +0.8

TIR ***08*** *01:52:07.8, 42°.43N×19°.38E, h2km±1km, Md2.8, Ml2.7*
PDG ***08*** *01:52:09.0±0.1, 42°.39N×19°.39E, h22km, MD2.5/2,*
ML2.2/13, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0
RHSSO ***08*** *01:52:09.5±0.5, 42°.41N×19°.46E, h9km±3km, ML2.1/9*
BEO ***08*** *01:52:10.0±0.2, 42°.43N×19°.47E, h6km±2km, ML1.9/10*
ISC 08 01:52:09.9±0.8,**42°.42N**±0°.02×**19°.45E**±0°.02,**h15**km±5km,
n53,σ0°**93**/101,**8C-6D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.14**	**276**	*e*Pg	**Pg**	**01 52 13.1**	**-0.6**
PDG				*e*Sg	**Sg**	**01 52 16.4**	**+0.1**
PDG	**Podgorica**	**0.14**	**276**	⇑P	**Pg**	**01 52 13.3**	**-0.4**
PDG				⇑S	**Sg**	**01 52 16.4**	**+0.1**
PDG	**Podgorica**	**0.14**	**276**	⇑*i*Pg	**Pg**	**01 52 13.2**	**-0.5**
PDG				*e*Sg	**Sg**	**01 52 16.4**	**+0.1**
TTG	**Podgorica**	**0.14**	**276**	⇓*i*Pg	**Pg**	**01 52 13.1**	**-0.6**
TTG				*i* Sg	**Sg**	**01 52 16.6**	**+0.3**
DRME	**Dracevica, Mon**	**0.30**	**221**	*e*Pg	**Pg**	**01 52 15.2**	**-1.0**
DRME				*e*Sg	**Sg**	**01 52 20.7**	**+0.2**
DRME	**Dracevica, Mon**	**0.30**	**221**	*e*Pg	**Pg**	**01 52 15.0**	**-1.2**
DRME				*i* Sg	**Sg**	**01 52 20.0**	**-0.5**
CEME	**Cevo**	**0.41**	**289**	⇑*i*Pg	**Pg**	**01 52 17.0**	**-1.2**
CEME				*i* Sg	**Sg**	**01 52 23.7**	**-0.2**
PVY	**Plav**	**0.42**	**65**	⇓*i*Pg	**Pb**	**01 52 18.4**	**-0.6**
PVY				*i* Sg	**Sb**	**01 52 26.1**	**+0.9**
BUM	**Brajici-Budva**	**0.43**	**255**	⇓*i*Pg	**Pg**	**01 52 16.9**	**-1.6**
BUM				*i* Sg	**Sg**	**01 52 23.6**	**-0.7**
KOME	**Kolasin**	**0.44**	**7**	*e*Pg	**Pg**	**01 52 18.4**	**-0.3**
KOME				*i* Sg	**Sb**	**01 52 26.3**	**+0.5**
BCI	**Bajram Curri**	**0.46**	**96**	P	**Pg**	**01 52 18.6**	**-0.5**
baz=96							
BCI				S	**Sb**	**01 52 25.8**	**-0.6**
baz=96							
BCI				AMP			
comp=N,2.4nm,0.5s,baz=96							
ULC	**Ulcinj**	**0.48**	**198**	⇓*i*Pg	**Pg**	**01 52 17.9**	**-1.5**
ULC				*i* Sg	**Sg**	**01 52 25.5**	**-0.3**
PUK	**Puka**	**0.50**	**138**	P	**Pg**	**01 52 19.0**	**-0.8**
baz=134							
PUK				S	**Sg**	**01 52 26.7**	**+0.2**
baz=134							
NKME	**Niksic**	**0.51**	**314**	*e*Pg	**Pg**	**01 52 18.8**	**-1.2**
NKME				*i* Sg	**Sg**	**01 52 27.1**	**+0.3**
NKY	**Niksic**	**0.52**	**320**	*e*Pg	**Pg**	**01 52 19.2**	**-1.0**
NKY				*i* Sg	**Sb**	**01 52 27.7**	**-0.4**
IVA	**Berane**	**0.56**	**36**	⇓*i*Pg	**Pb**	**01 52 20.9**	**-0.6**
IVA				*i* Sg	**Sb**	**01 52 30.7**	**+1.4**
HCY	**Herceg Novi**	**0.71**	**273**	⇑*i*Pg	**Pg**	**01 52 22.2**	**-1.5**
HCY				*e*Sg	**Sg**	**01 52 33.1**	**+0.1**
HCY	**Herceg Novi**	**0.71**	**273**	*e*Pg	**Pg**	**01 52 21.8**	**-1.9**
HCY				*i* Sg	**Sg**	**01 52 32.7**	**-0.3**
BRY	**Bratogost**	**0.83**	**306**	*e*Pg	**Pg**	**01 52 24.5**	**-1.6**
BRY				*e*Sg	**Sg**	**01 52 36.5**	**-0.4**
BRY	**Bratogost**	**0.83**	**306**	⇑*i*Pg	**Pg**	**01 52 24.4**	**-1.6**
BRY				*i* Sg	**Sb**	**01 52 37.3**	**+0.3**
TREB	**Trebinje**	**0.86**	**291**	*e*Pg	**Pg**	**01 52 25.1**	**-1.6**
TREB				*e*Sg	**Sb**	**01 52 38.3**	**+0.4**
TREB	**Trebinje**	**0.86**	**291**	*e*Pg	**Pg**	**01 52 25.2**	**-1.5**
TREB				*e*Sg	**Sg**	**01 52 37.9**	**-0.1**
UPM	**Unac-Piva**	**0.88**	**333**	*e*Pg	**Pg**	**01 52 25.6**	**-1.5**
UPM				*e*Sg	**Sg**	**01 52 38.0**	**-0.7**
UPM	**Unac-Piva**	**0.88**	**333**	⇑*i*Pg	**Pg**	**01 52 25.8**	**-1.3**
UPM				*i* Sg	**Sb**	**01 52 39.9**	**+1.3**
SJES	**Sjenica**	**0.93**	**24**	*e*Pg	**Pg**	**01 52 27.0**	**-0.9**
SJES				*e*Sg	**Sg**	**01 52 39.2**	**-1.0**
PHP	**Peshkopia**	**1.04**	**134**	P	**Pg**	**01 52 29.2**	**-0.7**
baz=132							
PHP				S	**Sn**	**01 52 45.8**	**+1.6**
baz=132							
PHP				AMP			
comp=N,0.2nm,0.5s,baz=132							
TIR	**Tirane**	**1.11**	**164**	*e*Pg	**Pg**	**01 52 29.8**	**-1.6**
TIR				*e*Sg	**Sb**	**01 52 45.7**	**+0.7**
TIR	**Tirane**	**1.11**	**164**	P	**Pg**	**01 52 29.7**	**-1.6**
baz=161							
TIR				S	**Sn**	**01 52 47.0**	**+1.2**
baz=161							
RUDO	**Rudo**	**1.20**	**357**	*e*Pg	**Pb**	**01 52 31.4**	**-0.9**
RUDO				*e*Sg	**Sg**	**01 52 48.0**	**-0.8**
STON	**Ston**	**1.37**	**290**	*e*Pg	**Pb**	**01 52 35.6**	**+0.5**
STON				*e*Sg	**Sg**	**01 52 54.6**	**+0.6**
STON	**Ston**	**1.37**	**290**	*e*Pg	**Pn**	**01 52 33.6**	**-0.7**
STON				*e*Sg	**Sg**	**01 52 53.9**	**0.0**
STON	**Ston**	**1.37**	**290**	*e*Pn	**Pn**	**01 52 33.8**	**-0.6**
STON				Sg	**Sg**	**01 52 54.0**	**0.0**
BBLS	**Lazići**	**1.45**	**359**	*e*Pg	**Pb**	**01 52 36.3**	**-0.3**
BBLS				*e*Sg	**Sg**	**01 52 56.2**	**-0.5**
BBLS	**Lazići**	**1.45**	**359**	⇑*i*Pg	**Pn**	**01 52 36.1**	**+0.5**
BBLS				*e*Sg	**Sg**	**01 52 55.9**	**-0.8**
SELS	**Selova**	**1.47**	**56**	*e*Pg	**Pn**	**01 52 35.4**	**-0.4**
SELS				*e*Sg	**Sg**	**01 52 56.3**	**-1.0**
HAPS	**Han Pijesak,Bl**	**1.71**	**348**	*e*Pg	**Pn**	**01 52 40.2**	**+1.0**
HAPS				*e*Sg	**Sb**	**01 53 02.9**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.71**	**348**	*e*Pn	**Pn**	**01 52 39.8**	**+0.6**
HAPS				*e*Sn	**Sn**	**01 53 02.0**	**+1.2**
DIVS	**Divibare**	**1.73**	**13**	*e*Pn	**Pn**	**01 52 39.3**	**-0.1**
DIVS				*e*Sn	**Sn**	**01 53 02.3**	**+1.1**
DIVS	**Divibare**	**1.73**	**13**	⇓*i*Pn	**Pn**	**01 52 39.7**	**+0.3**
DIVS				*e*Sn	**Sn**	**01 53 02.3**	**+1.1**
GRUS	**Gruza**	**1.74**	**32**	*e*Pn	**Pn**	**01 52 39.9**	**+0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS				eSn	**Sg**	**01 53 04.4**	**-1.5**
BARS	**Barje**	**1.79**	**76**	ePn	**Pn**	**01 52 41.2**	**+1.0**
BARS				eSn	**Sb**	**01 53 04.5**	**-0.2**
LSTV	**Lastovo**	**1.92**	**281**	ePn	**Pn**	**01 52 41.3**	**-0.6**
TRUS	**Trudelj**	**1.94**	**21**	ePn	**Pn**	**01 52 42.7**	**+0.5**
PRVS	**Prvonek**	**1.95**	**86**	ePn	**Pn**	**01 52 43.0**	**+0.6**
PRVS				eSn	**Sn**	**01 53 08.1**	**+1.5**
RICI	**Ricice**	**2.01**	**303**	ePn	**Pn**	**01 52 45.0**	**+1.7**
RICI				Sn	**Sn**	**01 53 10.3**	**+2.2**
BOSS	**Bosilegrad**	**2.25**	**87**	ePn	**Pn**	**01 52 46.5**	**0.0**
HVAR	**Hvar**	**2.33**	**290**	ePn	**Pn**	**01 52 47.9**	**+0.3**
HVAR				Sn	**Sn**	**01 53 17.1**	**+1.1**
ZAGS	**Zajecar**	**2.47**	**55**	ePn	**Pn**	**01 52 49.7**	**+0.2**
ZAPS	**Zavoj**	**2.50**	**69**	ePn	**Pn**	**01 52 50.7**	**+0.8**
FRGS	**Fruska Gora**	**2.75**	**5**	ePn	**Pn**	**01 52 53.6**	**+0.1**
FRGS				eSn	**Sn**	**01 53 26.9**	**+0.5**
ZIRJ	**Zirje**	**3.05**	**295**	ePn	**Pn**	**01 52 57.9**	**+0.5**
ZIRJ				Sn	**Sn**	**01 53 34.6**	**+1.0**
MORI	**Morici**	**3.10**	**299**	ePn	**Pn**	**01 52 59.1**	**+1.0**
MORI				Sn	**Sn**	**01 53 35.5**	**+0.7**
DUGI	**Dugi Otok**	**3.58**	**298**	ePn	**Pn**	**01 53 05.1**	**+0.4**
DUGI				Sn	**Sn**	**01 53 47.5**	**+0.8**

*IDC **08** 01:55:34.3±2.0, 35°.50S×179°.37W, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.9/22, mbtmp4.1/3, ML3.6/1, Error ellipse: s-maj=48.3km s-min=43.7km az=158.0*
*WEL **08** 01:55:39.5±1.3, 36°.S±10°.×17°.9W±1°.5, h33km, M4.2/12, ML4.3/12, MLv4.2/12, Error ellipse: s-maj=0.0km s-min=0.0km az=119.1*

ISC 08 01:55:39.4±1.6, 35°.6S±0°.1×179°.3W±0°.1, h41km, n23, σ0°62/30, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.79**	**224**	P	**Pn**	**01 56 20.8**	**-0.7**
WMGZ	**Waiomatatini S**	**2.92**	**219**	P	**Pn**	**01 56 23.9**	**+0.6**
WMGZ				S	**Sn**	**01 56 58.5**	**+1.4**
PKGZ	**Pakihiroa**	**3.15**	**222**	P	**Pn**	**01 56 26.6**	**+0.1**
PKGZ				S	**Sn**	**01 57 03.5**	**+0.7**
PUZ	**Puketiti**	**3.19**	**218**	P	**Pn**	**01 56 26.7**	**-0.4**
PUZ				S	**Sn**	**01 57 04.2**	**+0.3**
HAZ	**Te Kaha**	**3.22**	**226**	P	**Pn**	**01 56 28.0**	**+0.5**
TWGZ	**Tauwhareparae**	**3.41**	**219**	P	**Pn**	**01 56 30.0**	**-0.1**
TWGZ				S	**Sn**	**01 57 10.3**	**+1.0**
RUGZ	**Raukumara Rang**	**3.42**	**225**	P	**Pn**	**01 56 30.7**	**+0.3**
CNGZ	**Carnagh Station**	**3.54**	**214**	P	**Pn**	**01 56 32.2**	**+0.3**
TKGZ	**Te Karaka**	**3.68**	**218**	S	**Sn**	**01 57 16.1**	**+0.2**
MWZ	**Matawai**	**3.77**	**222**	P	**Pn**	**01 56 34.4**	**-0.6**
MWZ				S	**Sn**	**01 57 17.9**	**-0.2**
RIGZ	**Rimuhau**	**3.93**	**216**	P	**Pn**	**01 56 37.2**	**-0.1**
RIGZ				S	**Sn**	**01 57 21.5**	**-0.5**
URZ	**Urewera**	**3.95**	**226**	Pn	**Pn**	**01 56 36.8**	**-0.7**
	4.5nm,0.3s,baz=29,slow=9.8,SNR=16						
URZ				Sn	**Sn**	**01 57 20.9**	**-1.7**
	7.2nm,0.3s,baz=163,slow=14,SNR=2.1						
URZ	**Urewera**	**3.95**	**226**	P	**Pn**	**01 56 37.0**	**-0.5**
PRGZ	**Paritu Road**	**4.05**	**213**	P	**Pn**	**01 56 38.5**	**-0.3**
OPRZ	**Ohinepanea**	**4.05**	**235**	P	**Pn**	**01 56 39.0**	**+0.2**
SNGZ	**Shannon Statio**	**4.20**	**219**	P	**Pn**	**01 56 41.2**	**+0.3**
KUZ	**Kuaotunu**	**4.22**	**252**	P	**Pn**	**01 56 41.0**	**-0.1**
MHGZ	**Mahia Peninsul**	**4.23**	**211**	P	**Pn**	**01 56 41.2**	**-0.1**
WIAZ	**Waiheke Island**	**4.69**	**253**	P	**Pn**	**01 56 48.3**	**+0.7**
ASAR	**Alice Springs**	**42.05**	**273**	P	**P**	**02 03 26.8**	**-0.4**
	1.2nm,0.5s,baz=115,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**43.50**	**278**	P	**P**	**02 03 38.6**	**-0.3**
	3.4nm,0.5s,baz=119,slow=7.6,SNR=46						
FINES	**FINESS Array B**	**149.53**	**336**	PKPbc	**PKiKP**	**02 15 24.9**	**+0.5**
	3.8nm,0.9s,baz=73,slow=2.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**157.66**	**182**	PKPab	**PKPab**	**02 16 04.0**	**0.0**
	0.4nm,0.9s,baz=180,slow=2.9,SNR=1.8						

KMA 08 02:01:46.5±0.3, 37°.63N×125°.90E, h19km±5km, Error ellipse: s-maj=2.6km s-min=1.9km az=13.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDEI	**Deokjeokdo**	**0.41**	**156**	P	Pg	02 01 54.9	-0.1
	SNR=23						
KSDEI	**Deokjeokdo**	**0.41**	**156**	P	Pg	02 01 54.9	-0.1
	SNR=23						
KSDEI	**Deokjeokdo**	**0.41**	**156**	P	Pg	02 01 54.9	-0.1
	SNR=23						
KSGAH	**Ganghwa**	**0.44**	**79**	P	Pg	02 01 55.6	-0.1
	SNR=45						
KSGAH	**Ganghwa**	**0.44**	**79**	P	Pg	02 01 55.6	-0.1
	SNR=45						
KSGAH	**Ganghwa**	**0.44**	**79**	P	Pg	02 01 55.6	-0.1
	SNR=45						
KSINC	**Incheon**	**0.60**	**104**	P	Pg	02 01 58.4	-0.1
KSMUS	**Musan**	**0.73**	**69**	P	Pg	02 02 01.0	0.0
	SNR=18						
KSMUS	**Musan**	**0.73**	**69**	P	Pg	02 02 01.0	0.0
	SNR=18						
KSMUS	**Musan**	**0.73**	**69**	P	Pg	02 02 01.0	0.0
	SNR=18						
KSMUS				S	Sg	02 02 10.8	+0.1
KSMUS	**Musan**	**0.73**	**69**	P	Pg	02 02 01.0	0.0
	SNR=18						
KSMUS				S	Sg	02 02 10.8	+0.1
HAWB	**Hwaseong-si**	**0.89**	**127**	P	Pb	02 02 03.5	+0.2
	SNR=8.9						
HAWB	**Hwaseong-si**	**0.89**	**127**	P	Pb	02 02 03.5	+0.2
	SNR=8.9						
HAWB	**Hwaseong-si**	**0.89**	**127**	P	Pb	02 02 03.5	+0.2
	SNR=8.9						
HAWB	**Hwaseong-si**	**0.89**	**127**	P	Pb	02 02 03.5	+0.2
	SNR=8.9						
HAWB				S	Sg	02 02 15.1	-0.4
YNCB	**YEONCHEON**	**0.91**	**63**	P	Pn	02 02 04.1	-0.2
	SNR=22						
YNCB	**YEONCHEON**	**0.91**	**63**	P	Pn	02 02 04.1	-0.2
	SNR=22						
YNCB	**YEONCHEON**	**0.91**	**63**	P	Pn	02 02 04.1	-0.2
	SNR=22						
YNCB	**YEONCHEON**	**0.91**	**63**	P	Pn	02 02 04.1	-0.2
	SNR=22						
KSSES	**Seosan**	**0.95**	**152**	P	Pn	02 02 04.7	-0.1
	SNR=18						
KSSES	**Seosan**	**0.95**	**152**	P	Pn	02 02 04.7	-0.1
	SNR=18						
KSSES	**Seosan**	**0.95**	**152**	P	Pn	02 02 04.7	-0.1
	SNR=18						
DACB	**Daecheong-do R**	**0.96**	**283**	P	Pb	02 02 04.2	-0.4
	SNR=12						
DACB	**Daecheong-do R**	**0.96**	**283**	P	Pb	02 02 04.2	-0.4
	SNR=12						
DACB	**Daecheong-do R**	**0.96**	**283**	P	Pb	02 02 04.2	-0.4
	SNR=12						
KSBAR	**Backryungdo**	**1.00**	**291**	P	Pn	02 02 05.4	0.0
	SNR=10						
KSGBI	**Gyogryolbido**	**1.04**	**195**	P	Pn	02 02 06.1	+0.1
KSCEA	**Cheonan**	**1.35**	**126**	P	Pb	02 02 11.8	+0.6
	SNR=6.6						
KSCEA	**Cheonan**	**1.35**	**126**	P	Pb	02 02 11.8	+0.6
	SNR=6.6						
KSCWO	**Cheorwon**	**1.36**	**70**	P	Pg	02 02 12.3	-0.5
	SNR=12						
KSCWO	**Cheorwon**	**1.36**	**70**	P	Pg	02 02 12.3	-0.5
	SNR=12						
KSCHC	**Chuncheon**	**1.53**	**84**	P	Pb	02 02 15.0	+0.8
	SNR=17						
KSCHC	**Chuncheon**	**1.53**	**84**	P	Pb	02 02 15.0	+0.8
	SNR=17						
KSWJU	**Wonju**	**1.73**	**97**	P	Pg	02 02 19.0	-0.8
	SNR=6.9						
SEHB	**SEOHWA**	**1.97**	**70**	P	Pb	02 02 22.5	+0.8
	SNR=12						
KSJEO	**Jeonju**	**2.02**	**146**	P	Pg	02 02 25.0	-0.5
	SNR=6.2						

*NEIC **08** 02:15:28.9±1.0, 28°.8N±0°.2×34°.7E±0°.2, h14km±9km, mb3.7/5, Error ellipse: s-maj=22.8km s-min=19.1km az=150.0*
*GII **08** 02:15:30.1±0.0, 28°.92N×34°.67E, h5km, mb4.4/4, MD4.3/4, Mm4.0/3*
*SGS **08** 02:15:32.8, 28°.95N×34°.67E, h16km, Ml3.9*

ISC 08 02:15:32.0±1.1, 28°.94N±0°.02×34°.67E±0°.07, h18km±7km, n72, σ0°93/86, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAQS	**Haql**	**0.24**	**62**	P	**Pg**	**02 15 38.3**	**+0.7**
HAQS				S	**Sg**	**02 15 42.1**	**+0.7**
BDAS	**Al Bad`**	**0.63**	**143**	P	**Pg**	**02 15 44.6**	**+0.2**
BDAS				S	**Sg**	**02 15 53.0**	**+0.2**
RSHS		**0.64**	**170**	P	**Pg**	**02 15 45.1**	**+0.4**
RSHS				S	**Sg**	**02 15 53.9**	**+0.6**
EIL	**Elat**	**0.77**	**18**	Pg	**Pg**	**02 15 45.5**	**-1.6**
EIL				Sg	**Sg**	**02 15 56.8**	**-0.6**
EIL	**Elat**	**0.77**	**18**	Pg	**Pg**	**02 15 46.6**	**-0.5**
EIL				Sg	**Sg**	**02 15 57.1**	**-0.3**
MBRI	**Mt Berech**	**0.88**	**14**	Pg	**Pb**	**02 15 48.2**	**-0.7**
MBRI				Sg	**Sb**	**02 16 00.8**	**+0.4**
MBRI	**Mt Berech**	**0.88**	**14**	Pg	**Pb**	**02 15 48.9**	**0.0**
MBRI				Sg	**Sg**	**02 16 01.2**	**+0.3**
KRABS	**KRABS**	**0.98**	**148**	P	**Pb**	**02 15 49.8**	**-0.6**
HRFI	**Mount Harif**	**1.14**	**16**	Pg	**Pb**	**02 15 51.7**	**-1.6**
HRFI				Sg	**Sb**	**02 16 08.2**	**+0.4**
HRFI	**Mount Harif**	**1.14**	**16**	Pg	**Pb**	**02 15 53.1**	**-0.2**
HRFI				Sg	**Sn**	**02 16 09.2**	**+0.8**
KRMI	**Paran Flat**	**1.18**	**2**	Pg	**Pn**	**02 15 53.3**	**-0.4**
KRMI				Sg	**Sb**	**02 16 09.1**	**+0.2**
KRMI	**Paran Flat**	**1.18**	**2**	Pg	**Pn**	**02 15 53.6**	**-0.1**
KRMI				Sg	**Sb**	**02 16 09.4**	**+0.5**
MWLHS	**Almuwaylih**	**1.40**	**148**	P	**Pn**	**02 15 55.4**	**-1.3**
PRNI	**Paran**	**1.44**	**11**	Pn	**Pn**	**02 15 56.6**	**-0.7**
PRNI				Sn	**Sb**	**02 16 17.6**	**+1.2**
ZFRI	**Zfri**	**1.67**	**15**	Pn	**Pn**	**02 15 59.8**	**-0.6**
ZFRI				Sn	**Sn**	**02 16 22.9**	**+1.5**
ZFRI	**Zfri**	**1.67**	**15**	Pn	**Pn**	**02 16 00.5**	**+0.1**
TBKS	**Tabuk**	**1.79**	**113**	P	**Pn**	**02 16 01.9**	**-0.2**
KZIT	**Kziot**	**1.98**	**353**	Pn	**Pn**	**02 16 04.8**	**+0.1**
KZIT	**Kziot**	**1.98**	**353**	Pn	**Pn**	**02 16 05.4**	**+0.7**
URD07	**Al Anba**	**2.10**	**126**	P	**Pn**	**02 16 06.5**	**-0.1**
URD10	**Hayder**	**2.26**	**109**	P	**Pn**	**02 16 08.3**	**-0.4**
URD06	**Shuwaq**	**2.36**	**128**	P	**Pn**	**02 16 09.9**	**-0.3**
URD12	**Shuwaq**	**2.41**	**119**	P	**Pn**	**02 16 10.3**	**-0.4**
MDBI	**Mazsada**	**2.44**	**14**	Pn	**Pn**	**02 16 10.9**	**-0.1**
	40nm0.0nm,0.1s						
YTIR	**Yattir**	**2.45**	**9**	Pn	**Pn**	**02 16 11.2**	**0.0**
YTIR				Sn	**Sn**	**02 16 42.7**	**+1.9**
YTIR	**Yattir**	**2.45**	**9**	Pn	**Pn**	**02 16 11.9**	**+0.7**
GHAJ	**Ghor Haditha**	**2.48**	**18**	Pn	**Pn**	**02 16 11.0**	**-0.6**
GHAJ	**Ghor Haditha**	**2.48**	**18**		**Pn**	**02 16 10.9**	**-0.6**
GHAJ	**Ghor Haditha**	**2.48**	**18**	Pn	**Pn**	**02 16 11.9**	**+0.3**
AMAZ	**Amatzia**	**2.60**	**5**	Pn	**Pn**	**02 16 13.1**	**-0.1**
AMAZ	**Amatzia**	**2.60**	**5**	Pn	**Pn**	**02 16 13.5**	**+0.3**
WJHS		**2.67**	**145**	P	**Pn**	**02 16 13.5**	**-0.7**
DSI	**Dead Sea**	**2.69**	**13**	Pn	**Pn**	**02 16 13.0**	**-1.5**
DSI	**Dead Sea**	**2.69**	**13**	Pn	**Pn**	**02 16 13.1**	**-1.5**
BIDS	**Bi'r al Bayda'**	**2.89**	**135**	P	**Pn**	**02 16 16.8**	**-0.3**
URD04	**Abu Rakah**	**2.94**	**128**	P	**Pn**	**02 16 18.0**	**0.0**
QLABS	**Al Qalibar**	**3.06**	**110**	P	**Pn**	**02 16 19.4**	**-0.3**
URD14	**Abu Rakah**	**3.09**	**118**	P	**Pn**	**02 16 19.9**	**-0.2**
EWJHS	**Al Wajh**	**3.28**	**147**	P	**Pn**	**02 16 21.7**	**-0.9**
SLTI	**Sal'it**	**3.31**	**5**	Pn	**Pn**	**02 16 23.1**	**+0.1**
SLTI	**Sal'it**	**3.31**	**5**	Pn	**Pn**	**02 16 23.1**	**+0.1**
URD03	**Al Ula**	**3.34**	**132**	P	**Pn**	**02 16 23.5**	**+0.1**
HMDT	**Nahal Hemdat**	**3.39**	**12**	Pn	**Pn**	**02 16 24.0**	**0.0**
HMDT	**Nahal Hemdat**	**3.39**	**12**	Pn	**Pn**	**02 16 24.1**	**0.0**
JOFS	**JOFS**	**3.47**	**81**	P	**Pn**	**02 16 24.7**	**-0.6**
MMLI	**Mount Malkishu**	**3.55**	**10**	Pn	**Pn**	**02 16 26.0**	**-0.3**
QREAT	**Al Qurrayyat**	**3.58**	**44**	P	**Pn**	**02 16 25.8**	**-0.9**
OFRI	**`Ofer**	**3.68**	**4**	Pn	**Pn**	**02 16 28.3**	**+0.2**
OFRI				Sn	**Sn**	**02 17 12.9**	**+1.7**
OFRI	**`Ofer**	**3.68**	**4**	Pn	**Pn**	**02 16 30.0**	**+1.9**
HANO	**Al Hamad**	**4.00**	**51**	P	**Pn**	**02 16 30.4**	**-2.2**
NUMJS	**Khuff**	**4.02**	**144**	P	**Pn**	**02 16 32.1**	**-0.8**
GEM	**Giv'at Ha'Em**	**4.34**	**11**	Pn	**Pn**	**02 16 37.3**	**+0.1**
UMJS	**Umm Lajj**	**4.37**	**147**	P	**Pn**	**02 16 36.5**	**-1.2**
NATI	**Neve Ativ**	**4.41**	**12**	Pn	**Pn**	**02 16 38.7**	**+0.7**
NATI	**Neve Ativ**	**4.41**	**12**	Pn	**Pn**	**02 16 39.3**	**+1.3**
RCY	**Rachaya**	**4.65**	**12**	eP	**Pb**	**02 16 51.9**	**-1.3**
TRAF	**Turaif**	**4.67**	**59**	P	**Pn**	**02 16 40.5**	**-1.3**
DQRL	**Deir Qamar**	**4.82**	**9**	eP	**Pb**	**02 16 59.0**	**+3.0**
BHL	**Bhannes**	**5.02**	**9**	eP	**Pb**	**02 17 01.3**	**+1.8**
CSS	**Mathiatis**	**6.12**	**350**	Pn	**Pn**	**02 17 01.1**	**-0.5**
CSS	**Mathiatis**	**6.12**	**350**	Pn	**Pn**	**02 17 00.5**	**-1.1**
AKAS	**Kas**	**8.44**	**331**	Pn	**Pn**	**02 17 33.3**	**-0.2**
ELL	**Elmali**	**8.76**	**334**	Pn	**Pn**	**02 17 37.8**	**-0.2**
KARP	**Karpathos**	**9.16**	**318**	Pn	**Pn**	**02 17 42.1**	**-1.3**
IDI	**Anoyia**	**10.43**	**310**	Pn	**Pn**	**02 17 59.9**	**-0.9**
ITM	**Ithoni**	**13.48**	**311**	Pn	**Pn**	**02 18 41.3**	**-1.1**
AGG	**Agios Georgios**	**14.34**	**318**	Pn	**Pn**	**02 18 52.3**	**-2.0**
LIT	**Litokhoron**	**14.98**	**321**	Pn	**Pn**	**02 19 02.2**	**-0.7**
LIT				IAmb	IAmb	02 19 26.5	
	comp=Z,2.2nm,0.6s						
TIRR	**Tirgusor**	**16.28**	**344**	P	**P**	**02 19 23.2**	**+0.6**
TIRR				IAmb	IAmb	02 19 36.5	
	comp=Z,9.0nm,1.1s						
SCTE	**Santa Cesarea**	**17.34**	**314**		**Pn**	**02 19 32.4**	**-0.8**
PUK	**Puka**	**17.74**	**321**	P	**Pn**	**02 19 37.6**	**-0.6**
BURAR	**Bucovina Array**	**20.04**	**341**	P	Pn	02 20 06.1	+0.1
BURAR				IAmb	IAmb	02 20 07.5	
	comp=Z,1.7nm,0.8s						

*NNC **08** 02:21:57.8±0.7, 45°.41N×82°.57E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=6.9km s-min=2.3km az=109.0*
*SOME **08** 02:22:00.5, 45°.32N×82°.57E, h20km*

ISC 08 02:21:58.9±1.0, 45°.35N±0°.04×82°.52E±0°.05, h6km, n40, σ2°47/61, 7C-6D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.45**	**354**	⇓P	**Pn**	**02 22 23.4**	**-2.3**
	26nm,0.3s,baz=168,slow=16,SNR=1365						
MK31				⇓S	**Sn**	**02 22 42.8**	**-2.3**
	31nm,0.2s,baz=174,slow=28,SNR=16						
MAKZ	**Makanchi**	**1.51**	**346**	⇑P	**Pn**	**02 22 24.8**	**-1.7**
	102nm,0.4s						
MAKZ				⇓S	**Sn**	**02 22 44.9**	**-1.5**
	257nm,0.6s						
DJR	**Jarkent**	**2.19**	**243**	eP	**Pg**	**02 22 40.4**	**-0.4**
	55nm,0.3s						
DJR				eS	**Sg**	**02 23 09.5**	**+0.2**
	93nm,0.3s						
DJR	**Jarkent**	**2.19**	**243**	Pg	**Pg**	**02 22 40.4**	**-0.4**
	55nm,0.3s						
DJR				Lg	Lg	02 23 10.0	
	93nm,0.3s						
KTMS	**Ketmen**	**2.46**	**220**	eP	**Pb**	**02 22 44.2**	**+0.7**
	6.2nm,0.1s						
KTMS				eS	**Sb**	**02 23 15.6**	**+1.5**
	179nm,0.2s						
KTMS	**Ketmen**	**2.46**	**220**	Pg	**Pb**	**02 22 44.2**	**+0.7**
	6.2nm,0.1s						
KTMS				Lg	Lg	02 23 15.6	
	179nm,0.2s						
ZSN	**Zaisan**	**2.66**	**37**	eP	**Pn**	**02 22 44.4**	**+2.1**
	23nm,0.2s						
ZSN				eS	**Sn**	**02 23 15.3**	**+0.5**
	143nm,0.3s						
TDK	**Taldyqorghan**	**2.93**	**265**	eP	**Pg**	**02 22 54.8**	**-0.2**
	143nm,0.2s						
TDK				eS	**Sg**	**02 23 33.6**	**+0.6**
	314nm,0.3s						
TDK	**Taldyqorghan**	**2.93**	**265**	Pg	**Pg**	**02 22 54.8**	**-0.2**
	143nm,0.2s						
TDK				Lg	Lg	02 23 33.6	
	314nm,0.3s						
PDGK	**Podgornoye**	**2.97**	**228**	Pg	**Pb**	**02 22 54.2**	**+1.9**
	6.1nm,0.2s						
PDGK				Lg	Lg	02 23 32.8	
	52nm,0.3s						
PDGK	**Podgornoye**	**2.97**	**228**	⇑Pn	**Pn**	**02 22 45.8**	**-0.8**
	2.9nm,0.2s						
PDGK				⇑Pg	**Pg**	**02 22 54.6**	**-1.1**
	10nm,0.5s						
PDGK				⇓Lg	Lg	02 23 32.8	
	179nm,1.0s						
SHLS	**Shalkode**	**3.10**	**226**	eP	**Pb**	**02 22 52.1**	**-2.4**
	11nm,0.2s						
SHLS				eS	**Sn**	**02 23 29.3**	**+3.4**
	240nm,0.4s						
SHLS	**Shalkode**	**3.10**	**226**	Pg	**Pb**	**02 22 52.2**	**-2.4**
	11nm,0.2s						
SHLS				Lg	Lg	02 23 29.3	
	240nm,0.4s						
KPKS	**Kokpek**	**3.33**	**237**	eP	**Pb**	**02 23 00.2**	**+1.8**
	33nm,0.2s						
KPKS				eS	**Sg**	**02 23 44.0**	**-1.9**
	380nm,0.5s						
UZB	**Uzynbulak**	**3.34**	**230**	eP	**Pb**	**02 22 59.7**	**+1.1**
	9.1nm,0.2s						
UZB				eS	**Sb**	**02 23 42.5**	**+3.0**
	84nm,0.3s						
UZB	**Uzynbulak**	**3.34**	**230**	Pg	**Pb**	**02 22 59.7**	**+1.1**
	9.1nm,0.2s						
UZB				Lg	Lg	02 23 42.5	
	84nm,0.3s						
ARXS	**Arharly**	**3.53**	**253**	eP	**Pg**	**02 23 05.5**	**-1.0**
	60nm,0.3s						
ARXS				eS	**Sg**	**02 23 52.1**	**0.0**
	78nm,0.3s						
ARXS	**Arharly**	**3.53**	**253**	Pg	**Pg**	**02 23 05.5**	**-1.0**
	60nm,0.3s						
ARXS				Lg	Lg	02 23 52.1	
	78nm,0.3s						
SATY	**Saty**	**3.74**	**234**	eP	**Pb**	**02 23 08.0**	**+2.6**
	11nm,0.1s						
SATY				eS	**Sg**	**02 23 56.4**	**-2.6**
	155nm,0.2s						
SATY	**Saty**	**3.74**	**234**	Pg	**Pb**	**02 23 08.0**	**+2.6**
	11nm,0.1s						
SATY				Lg	Lg	02 23 56.4	
	155nm,0.2s						
WMQ	**Urumqi**	**4.00**	**111**	eP	**Pn**	**02 23 00.8**	**0.0**
WMQ				smax	smax		
	comp=N,78nm,0.9s						
WMQ				smax	smax		
	comp=E,71nm,0.7s						
CHKK	**Chushkaly**	**4.22**	**251**	eP	**Pb**	**02 23 16.4**	**+2.9**
	comp=E,11nm,0.1s						
CHKK				eS	**Sg**	**02 24 11.0**	**-3.5**
	comp=E,70nm,0.2s						
CHKK	**Chushkaly**	**4.22**	**251**	Pg	**Pb**	**02 23 16.4**	**+2.9**
	comp=E,11nm,0.1s						
CHKK				Lg	Lg	02 24 11.0	
	comp=E,70nm,0.2s						
KTBS	**Karatobe**	**4.48**	**251**	eP	**Pb**	**02 23 21.9**	**+3.9**
	comp=E,5.5nm,0.3s						
KTBS				eS	**Sg**	**02 24 20.4**	**-2.4**
	comp=E,62nm,0.6s						
KTBS	**Karatobe**	**4.48**	**251**	Pg	**Pb**	**02 23 21.9**	**+3.9**
	comp=E,5.5nm,0.3s						
KTBS				Lg	Lg	02 24 20.4	
	comp=E,62nm,0.6s						
MDOK	**Medeo**	**4.50**	**243**	eP	**Pg**	**02 23 23.3**	**-1.7**
	comp=E,12nm,0.4s						
MDOK				eS	**Sg**	**02 24 22.8**	**-0.5**
	comp=E,42nm,0.5s						
MDOK	**Medeo**	**4.50**	**243**	⇓Pg	**Pb**	**02 23 20.6**	**+2.3**
	comp=E,7.6nm,0.5s						
MDOK				Lg	Lg	02 24 22.0	
	comp=E,35nm,0.6s						
MDOK	**Medeo**	**4.50**	**243**	Pg	**Pg**	**02 23 23.3**	**-1.7**
	comp=E,12nm,0.4s						
MDOK				Lg	Lg	02 24 22.8	
	comp=E,42nm,0.5s						
KUU	**Kurty**	**4.65**	**254**	eP	**Pb**	**02 23 24.0**	**+3.2**
	comp=E,1.7nm,0.1s						
KUU				eS	**Sg**	**02 24 24.8**	**-3.3**
	comp=E,44nm,0.3s						
KUU	**Kurty**	**4.65**	**254**	Pg	**Pb**	**02 23 24.0**	**+3.2**
	comp=E,1.7nm,0.1s						
KUU				Lg	Lg	02 24 24.8	
	comp=E,44nm,0.3s						
IZV	**Izvestkoviy**	**4.83**	**244**	eP	**Pg**	**02 23 29.5**	**-2.0**
	comp=E,7.5nm,0.3s						
IZV				eS	**Sg**	**02 24 33.5**	**-0.6**
	comp=E,33nm,0.4s						
IZV	**Izvestkoviy**	**4.83**	**244**	Pg	**Pg**	**02 23 29.5**	**-2.0**
	comp=E,7.5nm,0.3s						
IZV				Lg	Lg	02 24 33.5	
	comp=E,33nm,0.4s						
KST	**Kastek**	**5.25**	**246**	eP	**Pb**	**02 23 35.3**	**+4.2**
	comp=E,11nm,0.5s						
KST				eS	**Sg**	**02 24 43.3**	**-4.0**
	comp=E,18nm,0.4s						
KST	**Kastek**	**5.25**	**246**	Pg	**Pb**	**02 23 35.3**	**+4.2**
	comp=E,11nm,0.5s						
KST				Lg	Lg	02 24 43.3	
	comp=E,18nm,0.4s						
DGS	**Degeres**	**5.28**	**249**	eP	**Pb**	**02 23 35.7**	**+4.1**
	comp=E,9.5nm,0.4s						
DGS				eS	**Sg**	**02 24 44.0**	**-4.4**
	comp=E,29nm,0.5s						
DGS	**Degeres**	**5.28**	**249**	Pg	**Pb**	**02 23 35.7**	**+4.1**
	comp=E,9.5nm,0.4s						
DGS				Lg	Lg	02 24 44.0	
	comp=E,29nm,0.5s						
TKM2	**Tokmak 2**	**5.54**	**246**	⇓Pg	**Pg**	**02 23 42.0**	**-3.0**
	comp=E,3.8nm,0.5s						
TKM2				⇑Lg	Lg	02 24 54.5	
	comp=E,12nm,0.7s						
KURBB	**Kurchatov Arra**	**5.92**	**335**	⇑Pn	**Pn**	**02 23 24.5**	**-2.4**
	comp=E,1.0nm,0.4s						
KURBB				⇑Sn	**Sn**	**02 24 34.9**	**-0.1**
	comp=E,

KDJ	Kajisay	2.14 349	⇑iP		Pb	02 44 11.3 -1.2
	baz=44					
KDJ			⇑iS		Sb	02 44 40.7 +1.5
	baz=44					
KDJ	Kajisay	2.14 349	PN		Pb	02 44 12.4 -0.1
KDJ	Kajisay	2.14 349			Pb	02 44 12.4 -0.1
ULHL	Ulahol	2.48 334	⇑iP		Pb	02 44 17.5 -0.7
	baz=31					
ULHL			⇑iS		Sb	02 44 50.5 +1.5
	baz=31					
ULHL	Ulahol	2.48 334	P		Pb	02 44 17.6 -0.7
	SNR=356					
ANVS	Anan'yevo	2.76 359	⇓eP		Pn	02 44 20.1 +2.1
	baz=55					
ANVS			⇓iS		Sb	02 44 54.8 -2.1
	baz=55					
BOOM	Boomskoye usch	2.80 332	⇑eP		Pb	02 44 21.9 -1.8
	baz=29					
BOOM			⇑iS		Sb	02 44 58.2 0.0
	baz=29					
BOOM	Boomskoye usch	2.80 332	PN		Pb	02 44 22.2 -1.5
BOOM	Boomskoye usch	2.80 332			Pb	02 44 22.2 -1.5
SATY	Saty	3.08 10	eP		Pb	02 44 29.1 +0.7
	1µm,0.5s					
SATY			eS		Sg	02 45 10.1 -2.3
	2µm,0.4s					
SATY	Saty	3.08 10	Pg		Pb	02 44 29.1 +0.7
	1µm,0.5s					
SATY			Lg		Lg	02 45 10.1
	2µm,0.4s					
SATY	Saty	3.08 10	ePN		Pb	02 44 29.2 +0.7
SATY			eS		Sg	02 45 10.1 -2.3
IZV	Izvestkoviy	3.12 345	eP		Pb	02 44 30.7 +1.5
	650nm,0.3s					
IZV			eS		Sg	02 45 12.2 -1.5
	2µm,0.3s					
IZV	Izvestkoviy	3.12 345	Pg		Pb	02 44 30.7 +1.5
	650nm,0.5s					
IZV			Lg		Lg	02 45 12.7
	2µm,0.3s					
IZV	Izvestkoviy	3.12 345	ePN		Pb	02 44 30.7 +1.5
IZV			eS		Sg	02 45 12.2 -1.5
ARLS	Aral	3.15 307	⇑eP		Pn	02 44 26.5 +3.2
	baz=6.0					
ARLS			⇑iS		Sb	02 45 07.4 -0.8
	baz=6.0					
MDOK	Medeo	3.18 351	eP		Pb	02 44 31.2 +1.1
	2µm,0.6s					
MDOK			eS		Sg	02 45 13.8 -1.7
	6µm,0.5s					
MDOK	Medeo	3.18 351	⇑Pg		Pb	02 44 31.1 +1.1
	1µm,0.6s					
MDOK			⇓Lg		Lg	02 45 13.7
	6µm,0.6s					
MDOK	Medeo	3.18 351	Pg		Pb	02 44 31.2 +1.1
	2µm,0.6s					
MDOK			Lg		Lg	02 45 13.8
	6µm,0.5s					
MDOK	Medeo	3.18 351	ePN		Pb	02 44 31.2 +1.1
MDOK			eS		Sg	02 45 13.8 -1.7
AAA	Alma-Ata	3.24 350	eP		Pb	02 44 33.0 +1.9
	3µm,0.4s					
AAA			eS		Sg	02 45 16.2 -1.3
	12µm,0.6s					
AAA	Alma-Ata	3.24 350	ePN		Pn	02 44 27.8 +3.4
KNDC	Almaty	3.24 350	⇑Pg		Pb	02 44 32.7 +1.6
	2µm,0.8s					
KNDC			⇓Lg		Lg	02 45 16.1
	5µm,0.5s					
UZB	Uzynbulak	3.27 17	eP		Pb	02 44 32.3 +0.5
	554nm,0.2s					
UZB			eS		Sg	02 45 15.7 -3.0
	976nm,0.3s					
UZB	Uzynbulak	3.27 17	Pg		Pb	02 44 32.4 +0.6
	554nm,0.2s					
UZB			Lg		Lg	02 45 15.6
	976nm,0.3s					
UZB	Uzynbulak	3.27 17	ePN		Pb	02 44 32.3 +0.5
UZB			eS		Sg	02 45 15.7 -3.0
KST	Kastek	3.29 337	eP		Pb	02 44 33.4 +1.4
	323nm,0.3s					
KST			eS		Sg	02 45 17.4 -1.7
	2µm,0.5s					
KST	Kastek	3.29 337	ePN		Pb	02 44 33.4 +1.4
KST			eS		Sg	02 45 17.4 -1.7
TKM2	Tokmak 2	3.30 332	⇑eP		Pn	02 44 28.9 +3.5
	baz=30					
TKM2			⇑iS		Sb	02 45 10.5 -2.1
	baz=30					
TKM2	Tokmak 2	3.30 332	P		Pn	02 44 29.0 +3.5
	SNR=171					
TKM2	Tokmak 2	3.30 332	⇑Pg		Pb	02 44 33.9 +1.6
	124nm,0.5s					
TKM2			⇑Lg		Lg	02 45 18.4
	2µm,0.8s					
TKM2	Tokmak 2	3.30 332	ePN		Pn	02 44 28.9 +3.5
KBK	Karagaybulak	3.35 323	⇑eP		Pn	02 44 29.8 +3.7
	baz=21					
KBK			⇑iS		Sb	02 45 12.3 -1.7
	baz=21					
KBK	Karagaybulak	3.35 323	P		Pb	02 44 30.6 -2.5
	SNR=20					
SHLS	Shalkode	3.40 22	eP		Pg	02 44 37.9 -0.7
	732nm,0.4s					
SHLS			eS		Sg	02 45 25.2 +2.6
	3µm,0.5s					
SHLS	Shalkode	3.40 22	Pg		Pg	02 44 37.9 -0.7
	732nm,0.4s					
SHLS			Lg		Lg	02 45 25.2
	3µm,0.5s					
SHLS	Shalkode	3.40 22	ePN		Pg	02 44 37.9 -0.7
SHLS			eS		Sg	02 45 25.2 +2.6
KURS	Kuram	3.48 6	eP		Pb	02 44 36.6 +1.4
	1µm,0.7s					
KURS			eS		Sg	02 45 22.6 -2.6
	874nm,0.6s					
KURS	Kuram	3.48 6	ePN		Pb	02 44 36.6 +1.4
KURS			eS		Sg	02 45 22.6 -2.6
KPKS	Kokpek	3.52 12	eP		Pb	02 44 37.0 +1.1
	2µm,0.4s					
KPKS			eS		Sg	02 45 23.9 -2.5
	8µm,6.9s					
KPKS	Kokpek	3.52 12	ePN		Pb	02 44 37.0 +1.1
KPKS			eS		Sg	02 45 23.9 -2.5
DGS	Degeres	3.53 336	eP		Pb	02 44 34.7 -1.3
	73nm,0.5s					
DGS			eS		Sb	02 45 19.4 +0.4
	2µm,0.4s					
DGS	Degeres	3.53 336	Pg		Pb	02 44 34.8 -1.3
	63nm,0.6s					
DGS			Lg		Lg	02 45 20.3
	2µm,0.4s					
DGS	Degeres	3.53 336	ePN		Pb	02 44 34.7 -1.3
DGS			eS		Sb	02 45 19.4 +0.4
AAK	Ala-Archa	3.56 318	Pn		Pn	02 44 32.7 +3.7
	16nm,0.3s,baz=140,slow=8.6,SNR=26					
AAK			Pg		Pb	02 44 38.2 +1.6
	127nm,0.3s,baz=137,slow=8.0,SNR=52					
AAK			Lg		Lg	02 45 25.9
	115nm,0.3s,baz=180,slow=20,SNR=15					
AAK			LR		LR	02 46 04.1
	comp=Z,1µm,20.4s,baz=151,slow=42					
AAK	Ala-Archa	3.56 318	⇑eP		Pn	02 44 32.6 +3.7
	baz=17					
AAK			⇑iS		Sb	02 45 17.3 -2.7
	baz=17					
AAK	Ala-Archa	3.56 318	P		Pn	02 44 32.7 +3.7
	SNR=27					
AAK	Ala-Archa	3.56 318	⇑Pn		Pn	02 44 32.5 +3.6
	32nm,0.5s					
AAK			⇑Pg		Pb	02 44 38.3 +1.6
	236nm,0.6s					
AAK			⇓Lg		Lg	02 45 25.8
	1µm,0.6s					
AAK	Ala-Archa	3.56 318	c iPN		Pn	02 44 32.4 +3.5
AAK	Ala-Archa	3.56 318	Pn		Pn	02 44 32.5 +3.6
PDGK	Podgornoye	3.56 21	Pg		Pb	02 44 37.5 +0.8
	296nm,0.4s					
PDGK			Lg		Lg	02 45 24.4
	598nm,0.6s					
PDGK	Podgornoye	3.56 21	⇓Pn		Pn	02 44 31.2 +2.2
	316nm,0.3s					
PDGK			⇑Lg		Lg	02 45 25.3
	1µm,0.7s					
FRU1	Bishkek	3.62 321	⇑iP		Pb	02 44 34.0 -3.6
	baz=20					
FRU1			⇑iS		Sb	02 45 18.9 -2.7
	baz=20					
FRU1	Bishkek	3.62 321	PN		Pn	02 44 32.7 +3.0
FRU1	Bishkek	3.62 321	Pn		Pn	02 44 32.7 +3.0
AML	Almayashu	3.69 306	⇓eP		Pb	02 44 35.6 -3.4
	baz=6.0					
AML			⇓iS		Sb	02 45 21.6 -2.4
	baz=6.0					
AML	Almayashu	3.69 306	P		Pn	02 44 34.7 +3.7
	SNR=131					
CHMS	Chumysh	3.71 324	⇑eP		Pn	02 44 34.4 +3.5
	baz=23					
CHMS			⇑iS		Sb	02 45 20.2 -3.9
	baz=23					
CHMS	Chumysh	3.71 324	P		Pn	02 44 34.5 +3.7
	SNR=20					
CHMS	Chumysh	3.71 324	ePN		Pn	02 44 34.4 +3.5
KTBS	Karatobe	3.77 349	eP		Pb	02 44 41.5 +1.5
	230nm,0.4s					
KTBS			eS		Sg	02 45 31.6 -2.8
	4µm,0.5s					
KTBS	Karatobe	3.77 349	Pg		Pb	02 44 41.5 +1.5
	230nm,0.4s					
KTBS			Lg		Lg	02 45 31.6
	4µm,0.5s					
KTBS	Karatobe	3.77 349	ePN		Pb	02 44 41.5 +1.5
KTBS			eS		Sg	02 45 31.6 -2.8
CHKK	Chushkaly	3.87 352	eP		Pb	02 44 43.3 +1.5
	436nm,0.4s					
CHKK			eS		Sg	02 45 34.9 -2.7
	2µm,0.2s					
CHKK	Chushkaly	3.87 352	Pg		Pb	02 44 43.3 +1.5
	436nm,0.4s					
CHKK			Lg		Lg	02 45 34.9
	2µm,0.2s					
CHKK	Chushkaly	3.87 352	ePN		Pb	02 44 43.3 +1.5
CHKK			eS		Sg	02 45 34.9 -2.7
KTMS	Ketmen	3.95 29	eP		Pb	02 44 43.9 +0.5
	237nm,0.4s					
KTMS			eS		Sb	02 45 35.5 +4.3
	658nm,0.4s					
KTMS	Ketmen	3.95 29	Pg		Pb	02 44 43.9 +0.5
	237nm,0.4s					
KTMS			Lg		Lg	02 45 35.5
	658nm,0.4s					
KTMS	Ketmen	3.95 29	ePN		Pb	02 44 43.9 +0.5
KTMS			eS		Sb	02 45 35.5 +4.3
EKS2	Erkin-Say	3.96 313	P		Pn	02 44 38.7 +4.2
	SNR=99					
KUU	Kurty	4.00 346	eP		Pb	02 44 45.2 +1.1
	185nm,0.6s					
KUU			eS		Sg	02 45 37.8 -4.1
	4µm,4.7s					
KUU	Kurty	4.00 346	Pg		Pb	02 44 45.2 +1.1
	185nm,0.6s					
KUU			Lg		Lg	02 45 37.8
	2µm,0.6s					
KUU	Kurty	4.00 346	ePN		Pb	02 44 45.2 +1.1
KUU			eS		Sg	02 45 37.8 -4.1
USP	Ospenovka	4.03 325	P		Pn	02 44 39.1 +3.8
	SNR=17					
SGDS	Sogindy	4.13 327	Pg		Pb	02 44 48.3 +2.0
	272nm,0.5s					
SGDS			Lg		Lg	02 45 43.4
	494nm,0.6s					
ARXS	Arharly	4.19 1	eP		Pb	02 44 49.8 +2.5
	670nm,0.5s					
ARXS			eS		Sg	02 45 45.9 -2.1
	877nm,0.6s					
ARXS	Arharly	4.19 1	Pg		Pb	02 44 49.8 +2.5
	670nm,0.5s					
ARXS			Lg		Lg	02 45 45.9
	877nm,0.6s					
ARXS	Arharly	4.19 1	ePN		Pb	02 44 49.8 +2.5
ARXS			eS		Sg	02 45 45.9 -2.1
MRKS	Merke	4.33 310	eP		Pb	02 44 52.3 +2.6
	82nm,0.6s					
MRKS			eS		Sg	02 45 50.0 -2.6
	446nm,0.7s					
MRKS	Merke	4.33 310	Pg		Pb	02 44 52.3 +2.6
	82nm,0.6s					
MRKS			Lg		Lg	02 45 49.9
	446nm,0.7s					
DJR	Jarkent	4.58 19	eP		Pb	02 44 55.5 +1.6
	122nm,0.5s					
DJR			eS		Sg	02 45 55.8 -4.6
	444nm,0.5s					
DJR	Jarkent	4.58 19	Pg		Pb	02 44 55.5 +1.6
	122nm,0.5s					
DJR			Lg		Lg	02 45 55.8
	444nm,0.5s					
DJR	Jarkent	4.58 19	ePN		Pb	02 44 55.5 +1.6
DJR			eS		Sg	02 45 55.8 -4.6
DRK	Karamyk	4.58 265	⇑eP		Pn	02 44 47.0 +3.9
	baz=67					
DRK			⇑iS		Sn	02 45 41.2 +4.6
	baz=67					
DRK	Karamyk	4.58 265			Pn	02 44 45.9 +2.8
MNAS	Manas	4.63 304	⇑eP		Pn	02 44 48.1 +4.5
	baz=4.0					
MNAS			⇑iS		Sn	02 45 43.7 +6.2
	baz=4.0					
TDK	Taldyqorghan	5.00 6	eP		Pb	02 45 04.3 +3.1
	638nm,0.5s					
TDK			eS		Sg	02 46 10.3 -3.7
	1µm,0.6s					
TDK	Taldyqorghan	5.00 6	Pg		Pb	02 45 04.3 +3.1
	638nm,0.5s					
TDK			Lg		Lg	02 46 10.3
	1µm,0.6s					
TRKS	Terek-Say	5.21 289	⇑eP		Pn	02 44 56.3 +4.7
	baz=89					
TRKS			⇑iS		Sn	02 45 57.0 +5.2
	baz=89					
DZA	Taraz	5.58 303	eP		Pb	02 45 15.8 +4.8
	173nm,0.1s					
DZA			eS		Sg	02 46 30.4 -2.2
	793nm,0.5s					
BTLS	Baital	5.70 333	eP		Pb	02 45 16.4 +3.5
	88nm,0.4s					
BTLS			eS		Sg	02 46 31.3 -5.0
	473nm,0.5s					
BTLS	Baital	5.70 333	Pg		Pb	02 45 16.0 +3.0
	88nm,0.4s					
BTLS			Lg		Lg	02 46 31.3
	473nm,0.5s					
GAR	Garm	5.80 262	Pn		Pn	02 45 01.4 +1.6
KK31	Karatay Array	6.21 302	⇓Pn		Pn	02 45 09.3 +4.0
	9.3nm,0.6s,baz=114,slow=27,SNR=74					
KK31			⇓Pg		Pb	02 45 25.6 +3.8
	24nm,0.5s,baz=117,slow=16,SNR=14					
KK31			⇑Lg		Lg	02 46 51.4
	269nm,1.1s,baz=114,slow=27,SNR=7.1					
KK31	Karatay Array	6.21 302	PN		Pn	02 45 07.7 +2.5
KK31	Karatay Array	6.21 302	Pn		Pn	02 45 07.7 +2.5
KKAR	Karatay Array	6.21 302	PN		Pn	02 45 07.0 +1.8
KKAR	Karatay Array	6.21 302	Pn		Pn	02 45 07.4 +2.2
KKAR	Karatay Array	6.21 302	Pn		Pn	02 45 07.0 +1.8
CHGR	Chuyangaron	6.76 261			Pn	02 45 13.4 +0.5
CHCP	Chirah Chowk	7.28 211	P		Pn	02 45 22.4 +2.4
NIL	Nilore	7.29 211	P		Pn	02 45 22.6 +2.5
NIL	Nilore	7.29 211	Pn		Pn	02 45 22.6 +2.5
MAKZ	Makanchi	7.46 23	⇓Pn		Pn	02 45 23.4 +1.1
	9.3nm,0.6s					
MAKZ			⇓Lg		Lg	02 47 30.1
	152nm,1.4s					
MAKZ	Makanchi	7.46 23	P		Pn	02 45 23.5 +1.1
MAKZ	Makanchi	7.46 23			Pn	02 45 23.5 +1.1
MK31	Makanchi Array	7.54 25	⇑Pn		Pn	02 45 24.6 +1.0
	10nm,0.6s,baz=206,slow=13,SNR=152					
MK31			⇑Pg		Pg	02 45 53.0 -4.9
	18nm,0.5s,baz=202,slow=15,SNR=4.2					
MK31			⇓Lg		Lg	02 47 30.1
	50nm,0.6s					
MK31	Makanchi Array	7.54 25	i P		Pn	02 45 24.2 +0.7
MK31	Makanchi Array	7.54 25	Pn		Pn	02 45 24.5 +1.0
MKAR	Makanchi Array	7.54 25	Pn		Pn	02 45 24.5 +1.0
	3.5nm,0.3s,baz=207,slow=14,SNR=98					
MKAR			Sn		Sn	02 46 51.3 +2.2
	5.3nm,0.3s,baz=213,slow=26,SNR=5.2					
MKAR			Lg		Lg	02 47 31.9
	4.1nm,0.3s,baz=202,slow=18,SNR=3.8					
MKAR	Makanchi Array	7.54 25	Pn		Pn	02 45 24.7 +1.1
CEP	Cherat	7.73 219	P		Pn	02 45 27.9 +1.6
WMQ	Urumqi	8.36 60	eP		Pn	02 45 35.3 +0.6
WMQ			S		Sn	02 47 07.8 -1.4
WMQ			smax		smax	
	comp=N,210nm,0.9s					
WMQ			smax		smax	
	comp=E,220nm,1.1s					
THW	Thamme Wali	8.66 216	P		Pn	02 45 41.0 +2.1
KBL	Kabul	8.81 234	P		Pn	02 45 41.9 +0.8
KBL	Kabul	8.81 234	Pn		Pn	02 45 41.9 +0.8
KURBB	Kurchatov Arra	10.62 3	Pn		Pn	02 46 05.9 +0.3
	0.5nm,0.3s,baz=190,slow=12,SNR=41					
KURBB			Sn		Sn	02 47 57.0 -7.4
	0.4nm,0.3s,baz=182,slow=30,SNR=4.3					
KURBB			Lg		Lg	02 49 10.1
	0.7nm,0.3s,baz=194,slow=30,SNR=8.7					
KURBB	Kurchatov Arra	10.62 3	⇑Pn		Pn	02 46 05.8 +0.2
	13nm,0.7s					
KURBB			⇑Lg		Lg	02 49 10.0
	158nm,0.8s					
KURK	Kurchatov	10.71 3	P		Pn	02 46 05.9 -1.0
KURK	Kurchatov	10.71 3			Pn	02 46 05.9 -1.0
DGZ	Jazzator, Alta	11.87 32	i P		Pn	02 46 23.2 +0.3
DGZ			pmax		pmax	
	comp=Z,8.0nm,0.4s					
PYUN	Piuthan	12.67 158	eP		Pn	02 46 31.0 -3.0
	comp=Z,43nm,0.5s					
DANN	Dangsing	12.67 155	eP		Pn	02 46 30.1 -3.9
	comp=Z,15nm,0.4s					
KOLN	Koldanda	13.16 156	eP		Pn	02 46 37.7 -2.9
	comp=Z,18nm,0.4s					
GKN	Gorkha	13.29 152	eP		Pn	02 46 38.3 -4.1
	comp=Z,22nm,0.4s					
HRA	Herat	13.54 250			Pn	02 46 47.0 +1.1
KKN	Kakani	13.72 150	eP		Pn	02 46 44.2 -4.1
	comp=Z,22nm,0.4s					
DMN	Daman	13.82 151	eP		Pn	02 46 45.3 -4.4
	comp=Z,15nm,0.4s					
GUN	Gumba	13.85 148	eP		Pn	02 46 47.7 -2.4
BVAR	Borovoye Array	13.94 341	Pn		Pn	02 46 49.9 -1.0
	comp=Z,0.5nm,0.3s,baz=166,slow=26,SNR=7.3					
BVAR			Lg		Lg	02 50 49.7
	comp=Z,0.9nm,0.3s,baz=151,slow=34,SNR=7.2					
PKI	Pulchoki	13.96 150	eP		Pn	02 46 47.5 -4.2
	comp=Z,33nm,0.5s					
BRVK	Borovoye	13.99 341	P		Pn	02 46 51.6 -0.1
BRVK	Borovoye	13.99 341	Pn		Pn	02 46 51.6 -0.1
JIRN	Jiri	14.19 148	eP		Pn	02 46 52.0 -2.9
	comp=Z,33nm,0.4s					
ZAA0	Zalesovo Array	14.74 17	Pn		Pn	02 46 59.7 -2.2
ZALV	Zalesovo Beam	14.74 17	Pn		Pn	02 47 00.2 -1.6
	comp=Z,0.7nm,0.3s,baz=202,slow=11,SNR=16					
ZALV			Lg		Lg	02 51 15.8
	comp=Z,0.5nm,0.3s,baz=194,slow=24,SNR=2.3					
ZALV			LR		LR	02 52 56.5
	comp=Z,309nm,19.1s,baz=240,slow=38					
ZALV	Zalesovo Beam	14.74 17	i P		Pn	02 47 00.4 -1.5
ZALV			pmax		pmax	
	comp=Z,6.0nm,0.6s					
ZALV	Zalesovo Beam	14.74 17	Pn		Pn	02 46 59.7 -2.2
GEYT	Alibeck	15.38 268	Pn		Pn	02 47 07.4 -3.2
	comp=Z,0.7nm,0.3s,baz=81,slow=9.3,SNR=4.4					
GEYT			Sn		Sn	02 49 55.1 -5.8
	comp=Z,0.4nm,0.3s,baz=110,slow=11,SNR=2.0					
GEYT	Alibeck	15.38 268			Pn	02 47 12.3 +1.7
GYA0B	ALIBECK ARRAY	15.38 268	Pn		Pn	02 47 10.7 +0.1
AB31	Akbulak array	15.62 312	⇑Pn		Pn	02 47 14.9 +1.3
	comp=Z,22nm,1.1s,baz=118,slow=12,SNR=81					
ABKAR	Akbulak array	15.62 312	Pn		Pn	02 47 12.8 -0.8
GTA	Gaotai	17.02 85	eP		Pn	02 47 29.3 -2.4
GTA			pP		P	02 47 33.1 -0.5
GTA			sP		pP	02 47 36.2 -0.6
GTA			pmax		pmax	
	comp=Z,5.0nm,1.4s					
GTA			pmax		pmax	
	comp=Z,81nm,5.2s					
GTA			LR		LR	
	comp=Z,380nm,16.7s					
GTA			LR		LR	
	comp=Z,320nm,14.2s					
GTA			LR		LR	
	comp=Z,380nm,16.0s					
AKTO	Aktyubinsk	17.29 314	P		Pn	02 47 35.1 +0.3
	comp=Z,0.4nm,0.3s,baz=125,slow=14,SNR=10					
AKTO			Lg		Lg	02 52 38.2
	comp=Z,0.1nm,0.3s,baz=186,slow=17,SNR=1.8					
AKTO			LR		LR	02 54 47.0
	comp=Z,242nm,21.3s,baz=126,slow=39					
AKTO	Aktyubinsk	17.29 314	⇓Pn		Pn	02 47 34.9 +0.1
	comp=Z,12nm,1.1s					
SHL	Shillong	18.67 136	P		P	02 47 50.7 -1.2
SHL			pmax		pmax	
	comp=Z,32nm,1.0s					
SHL	Shillong	18.67 136	P		P	02 47 50.6 -1.2
SHL			IAmb		IAmb	02 47 56.3
	comp=Z,32nm,1.0s					
MOY	Mondy	19.87 46	eP		Pn	02 48 06.8 +0.4
ARU	Arti	20.67 329	P		P	02 48 11.7 -1.6
	comp=Z,0.7nm,0.3s,baz=135,slow=4.7,SNR=14					
ARU			Lg		Lg	02 54 11.9
	comp=Z,1.1nm,0.5s,baz=11,slow=21,SNR=3.6					
ARU	Arti	20.67 329	d iP		Pn	02 48 14.9 -0.7
ARU						02 48 35.0
ARU			S		Sn	02 52 08.5 -0.1
ARU			SS		SnSn	02 52 28.3 +5.1
ARU			pmax		pmax	
	comp=Z,12nm,0.6s					
ARU			MLR		MLR	
	comp=Z,223nm,16.0s					
ARU	Arti	20.67 329	P		P	02 48 13.6 +0.3
ARU			IAmb		IAmb	02 48 18.7
	comp=Z,14nm,0.6s					
ZAK	Zakamensk	20.69 51	eP		P	02 48 13.1 -0.5
ZAK			pmax		pmax	
	comp=Z,7.0nm,1.3s					
LZH	Lanzhou	20.93 92	eP		Pn	02 48 18.2 -0.8
LZH			pP		sP	02 48 22.4 +1.2
LZH			sP		pP	02 48 25.4 +5.7
LZH			pmax		pmax	
	comp=Z,21nm,1.0s					
LZH			pmax		pmax	
	comp=Z,140nm,6.5s					
LZH			LR		LR	
	comp=Z,540nm,15.7s					
LZH			LR		LR	
	comp=Z,660nm,15.7s					
LZH			LR		LR	
	comp=Z,670nm,16.3s					
BRDH	Bariadhala	20.95 142	LR		LR	02 58 40.3
	comp=Z,128nm,21.2s,baz=234,slow=44					
TLY	Talaya	21.38 48	i P		P	02 48 20.2 -0.8
TLY			pmax		pmax	
	comp=Z,4.0nm,0.8s					
SONM	Songino Array	22.00 60	P		P	02 48 27.9 +0.1
	comp=Z,6.3nm,0.8s,baz=257,slow=10,SNR=18					
SONM			LR		LR	02 57 28.0
	comp=Z,163nm,20.1s,baz=220,slow=38					
SONM	Songino Array	22.00 60	P		P	02 48 27.5 -0.3
SONM			pmax		pmax	
	comp=Z,6.0nm,1.0s					
SONM	Songino Array	22.00 60	P		P	02 48 27.5 -0.3
ULN	Ulaanbaatar	22.44 60	ceP		P	02 48 34.5 +1.9
ULN			pmax		pmax	
	comp=Z,5.0nm,0.9s					
ULN	Ulaanbaatar	22.44 60	P		P	02 48 33.6 +1.1
HYB	Hyderabad	22.54 178	i P		P	02 48 33.0 -0.7
AKT	Akhty	22.71 283	eP		P	02 48 37.2 +1.8
AKT			e			02 49 02.8
AKT			pmax		pmax	
	comp=Z,12nm,1.0s					
MAK	Makhachkala	22.75 287	eP		P	02 48 32.9 -2.8
MAK			eS		S	02 52 39.6 -4.8
MAK			eSS		SnSn	02 53 21.0 +6.6
MAK			pmax		pmax	
	comp=Z,18nm,0.6s					
MAK			MLR		MLR	
	comp=Z,395nm,17.0s					
WSAR	Wadi Sarin	23.24 230	P		P	02 48 40.1 -0.8
	comp=Z,7.4nm,0.8s,baz=109,slow=13,SNR=2.2					
WSAR			LR		LR	02 59 41.6
	comp=Z,107nm,19.3s,baz=34,slow=42					
GROC	Groznyy	23.99 288	eP		P	02 48 49.2 +1.1
GROC			e			02 49 18.5
GROC			e			02 52 35.6
GROC			pmax		pmax	
	comp=Z,17nm,0.6s					
BELG	Belogornoye	24.02 311	P		P	02 48 48.2 -0.1
	comp=Z,19nm,1.0s,baz=110,slow=3.2,SNR=6.2					
BELG			LR		LR	02 58 52.5
	comp=Z,283nm,18.1s,baz=100,slow=38					
GNI	Garni	25.14 281	P		P	02 48 59.2 +0.3

comp=Z,2.5nm,0.4s,baz=191,slow=19,SNR=1.2
GNI LR LR 03 00 38.8
comp=Z,72nm,20.6s,baz=54,slow=41
GNI Garni 25.14 281 *i* P **P 02 48 59.9 +1.0**
GNI pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 25.55 94 P **P 02 49 03.8 +1.4**
XAN pP sP 02 49 14.2 +6.8
XAN pmax pmax
comp=Z,27nm,0.9s
KMI Kunming 25.69 118 ⇑P **P 02 49 06.1 +2.1**
KMI pP sP 02 49 10.6 +1.7
KMI pmax pmax
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 25.70 77 *e*P **P 02 49 05.3 +1.5**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,190nm,6.7s
KIRV Kirov 25.86 325 P **P 02 49 04.2 -0.7**
comp=Z,7.4nm,0.5s,baz=109,slow=1.9,SNR=5.4
KIRV LR LR 02 59 10.8
comp=Z,82nm,18.7s,baz=241,slow=36
KIRV Kirov 25.86 325*ce*P **P 02 49 06.3 +1.3**
KBZ Khabaz 26.06 290 P **P 02 49 08.2 +1.3**
comp=Z,1.0nm,0.6s,baz=101,slow=17,SNR=2.1
KBZ LR LR 03 01 25.2
comp=Z,176nm,19.3s,baz=81,slow=41
KVAR Kislovodsk Arr 26.20 290 LR LR 03 01 24.1
comp=Z,128nm,18.1s,baz=292,slow=41
KIV Kislovodsk 26.20 290 *e*P **P 02 49 07.9 -0.5**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,126nm,15.0s
SHA1 Shidzhatmaz 26.24 290 *i* P **P 02 49 08.9 +0.1**
CMAR Chiang Mai Arr 28.24 133 P **P 02 49 27.1 +0.4**
comp=Z,0.8nm,0.3s,baz=318,slow=9.1,SNR=1.6
CMAR LR LR 03 02 21.0
comp=Z,53nm,18.2s,baz=340,slow=40
SOC Sochi 28.38 290 *e*P **P 02 49 28.4 +0.6**
SOC *e*PPP PPP 02 50 29.5
SOC *e*S **S 02 54 17.1 +2.6**
SOC *e*SS **SnSn 02 55 34.4 +2.5**
SOC MLR MLR
comp=Z,67nm,13.0s
PRGR Permogore 29.13 329 *e*P **P 02 49 31.8 -2.4**
PRGR pmax pmax
comp=Z,23nm,1.4s
BJI Beijing 29.30 77 P **P 02 49 36.0 0.0**
BJI pmax pmax
comp=Z,8.0nm,0.7s
NRIK Noril'sk 29.84 7 LR LR 03 03 00.5
comp=Z,122nm,18.1s,baz=167,slow=39
NRIK Noril'sk 29.84 7*ce*P **P 02 49 41.3 +0.8**
NRIK pmax pmax
comp=Z,9.0nm,1.5s
OBN Obninsk 31.07 313 LR LR 03 02 50.3
comp=Z,30nm,19.0s,baz=169,slow=37
OBN Obninsk 31.07 313 *e*P **P 02 49 51.6 +0.2**
OBN pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 31.35 324 *e*P **P 02 49 53.0 -0.8**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 31.35 324 *e*P **P 02 49 53.1 -0.8**
KLMR AMP 02 49 55.9
comp=Z,15nm,1.3s
RAYN Ar Rayn 31.72 248 P **P 02 49 58.5 +0.9**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 31.72 248 P **P 02 49 58.5 +0.9**
RAYN IAmb IAmb 02 50 01.3
comp=Z,9.1nm,0.9s
BRTR Keskin Array B 33.56 284 P **P 02 50 14.8 +1.1**
comp=Z,3.1nm,0.7s,baz=92,slow=9.1,SNR=7.6
BRTR LR LR 03 05 48.2
comp=Z,62nm,18.2s,baz=101,slow=40
BRTR Keskin Array B 33.56 284 P **P 02 50 13.7 0.0**
BRTR Keskin Array B 33.56 284 P **P 02 50 13.7 0.0**
NJ2 Nanjing 33.97 90 *e*P **P 02 50 17.6 +0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 35.11 304 P **P 02 50 27.2 +0.4**
comp=Z,0.2nm,0.2s,baz=74,slow=8.6,SNR=7.0
AKASG LR LR 03 06 02.6
comp=Z,167nm,18.6s,baz=85,slow=38
AKASG Malin Array Be 35.11 304*ce*P **P 02 50 26.7 -0.1**
AKBB Malin Array Si 35.11 304*ce*P **P 02 50 26.4 -0.4**
AKBB Malin Array Si 35.11 304 P **P 02 50 26.4 -0.4**
AKBB IAmb IAmb 02 50 33.7
comp=Z,3.6nm,0.8s
ZEA Zeya 35.78 51 *e*P **P 02 50 34.0 +1.5**
EIL Elat 36.27 267 P **P 02 50 37.8 +0.8**
comp=Z,3.0nm,0.8s,baz=122,slow=10,SNR=3.1
LVZ Lovozero 36.36 334 P **P 02 50 38.1 +0.7**
LVZ pmax pmax
comp=Z,36nm,1.2s
LVZ Lovozero 36.36 334 P **P 02 50 38.1 +0.7**
FIA1 FINESS Array S 37.74 322 P **P 02 50 49.6 +0.6**
FIA1 IAmb IAmb 02 51 15.6
comp=Z,22nm,1.4s
FINES FINESS Array B 37.74 322 P **P 02 50 49.8 +0.7**
comp=Z,2.7nm,0.5s,baz=106,slow=8.4,SNR=24
FINES LR LR 03 06 51.9
comp=Z,152nm,19.4s,baz=98,slow=37
MLR Muntele Rosu 37.85 296 P **P 02 50 51.0 +0.6**
comp=Z,1.6nm,0.4s,baz=171,slow=7.0,SNR=4.9
MLR Muntele Rosu 37.85 296 P **P 02 50 51.0 +0.6**
BURAR Bucovina Array 38.00 299 P **P 02 50 51.1 -0.4**
YAK Yakutsk 38.01 37 LR LR 03 05 57.8
comp=Z,32nm,19.8s,baz=269,slow=35
KLR Kul'dur 38.80 58 LR LR 03 06 46.0
comp=Z,47nm,20.0s,baz=274,slow=36
KLR Kul'dur 38.80 58*ce*P **P 02 50 58.3 +0.1**
KLR pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 38.84 77 P **P 02 50 59.0 +0.3**
comp=Z,1.7nm,0.6s,baz=280,slow=7.5,SNR=6.3
KSRS LR LR 03 09 21.4
comp=Z,99nm,20.3s,baz=280,slow=40
KSRS Korea Array 38.84 77 P **P 02 50 59.0 +0.3**
KEV Kevo 39.66 335 P **P 02 51 05.8 +0.7**
KEV pmax pmax
comp=Z,24nm,1.2s
KEV Kevo 39.66 335 P **P 02 51 05.8 +0.7**
KEV IAmb IAmb 02 51 09.3
comp=Z,24nm,1.2s
ARCES ARCESS Array B 40.08 334 P **P 02 51 09.3 +0.7**
comp=Z,7.0nm,0.6s,baz=99,slow=8.0,SNR=43
ARCES LR LR 03 07 03.2
comp=Z,32nm,21.5s,baz=115,slow=35
ARCES ARCESS Array B 40.08 334 P **P 02 51 09.5 +0.9**
ARCES IAmb IAmb 02 51 10.0
comp=Z,7.3nm,0.7s
TIXI Tiksi 40.53 22*ce*P **P 02 51 11.4 -0.9**
TIXI Tiksi 40.53 22 P **P 02 51 12.2 0.0**
TIXI IAmb IAmb 02 51 12.6
comp=Z,9.7nm,0.9s
NIE Niedzica 40.95 303 *e*P **P 02 51 17.3 +1.2**
IDI Anoyia 41.58 281 P **P 02 51 22.2 +0.7**
comp=Z,4.1nm,0.8s,baz=59,slow=18,SNR=1.3
IDI Anoyia 41.58 281 P **P 02 51 22.9 +1.4**
IDI IAmb IAmb 02 51 34.9
comp=Z,18nm,1.2s
DIVS Divibare 42.29 295 P **P 02 51 27.5 +0.2**
PUK Puka 42.94 292 P **P 02 51 32.6 +0.1**
ITM Ithomi 43.08 285 P **P 02 51 34.5 +0.8**
ITM IAmb IAmb 02 52 02.6
comp=Z,14nm,1.3s
PDG Podgorica 43.27 293 P **P 02 51 35.9 +0.7**
DPC Dobruska-Polom 43.33 305 *e*P **P 02 51 35.3 -0.2**
DPC Dobruska-Polom 43.33 305 *e*P **P 02 51 35.3 -0.2**
HFS Hagfors 43.70 319 P **P 02 51 38.6 +0.3**
comp=Z,2.5nm,0.7s,baz=102,slow=6.5,SNR=8.0
CONA Conrad Observa 44.13 302 *e*P **P 02 51 42.9 +0.8**
comp=Z,4.9nm,1.0s
PVCC Panska Ves 44.39 306 AMS AMS 03 11 10.0
comp=Z,200nm,20.2s
PRU Pruhonice 44.52 305 AMS AMS 03 11 20.0
comp=Z,200nm,13.8s
NC405 NORSAR Array S 44.63 321 P **P 02 51 45.3 -0.4**
NB2 NORSAR Subarra 44.87 321 P **P 02 51 47.6 -0.2**
comp=Z,5.4nm,1.0s,baz=88,slow=7.9
NOA NORSAR Array B 44.87 321 P **P 02 51 47.5 -0.2**
comp=Z,1.5nm,0.6s,baz=87,slow=7.9,SNR=5.2
NOA LR LR 03 11 03.4
comp=Z,122nm,19.2s,baz=95,slow=37
CKRC Cesky Krumlov 44.93 303 *e*P **P 02 51 50.5 +2.2**
SOKA Soboth 44.99 300 *e*P **P 02 51 49.3 +0.4**
comp=Z,6.1nm,1.3s
MOA Molln 45.19 302 *e*P **P 02 51 50.4 -0.1**
comp=Z,4.2nm,1.1s
CLL Collm 45.20 307 *e*P **P 02 51 50.0 -0.4**
CLL *e*S **S 02 58 26.0 -4.1**
CLL *e* 02 59 26.0
CLL *e* 03 00 57.0
CLL LmV 03 12 00.0
comp=Z,100nm,19.2s
CLL Collm 45.20 307 *e*P **P 02 51 50.0 -0.4**
CLL *e*S **S 02 58 26.0 -4.1**
GEC2 GERESS Array S 45.31 303 P **P 02 51 51.5 0.0**
GEC2 IAmb IAmb 02 51 53.4
comp=Z,5.7nm,0.9s
GERES GERESS Array B 45.31 303 P **P 02 51 52.1 +0.6**
comp=Z,2.7nm,0.8s,baz=79,slow=6.9,SNR=11
GERES LR LR 03 12 13.2
comp=Z,116nm,18.5s,baz=1.5,slow=38
GERES GERESS Array B 45.31 303 P **P 02 51 52.4 +0.9**
KHC Kasperske Hory 45.32 304 *e*P **P 02 51 52.7 +1.2**
KHC MLR MLR
comp=Z,200nm,19.3s
KHC Kasperske Hory 45.32 304 *e*P **P 02 51 52.7 +1.2**
KHC AMS AMS 03 11 50.0
comp=Z,200nm,19.3s
OBKA Obir 45.35 300 *e*P **P 02 51 52.6 +0.7**
comp=Z,5.5nm,1.4s
NKC Novy Kostel 45.78 306 AMS AMS 03 12 00.0
comp=Z,300nm,15.3s
MJAR Matsushiro Arr 46.83 74 P **P 02 52 04.6 +1.1**
comp=Z,2.4nm,0.8s,baz=286,slow=7.8,SNR=5.2
MJAR Matsushiro Arr 46.83 74 P **P 02 52 02.7 -0.8**
MJAR pmax pmax
comp=Z,3.0nm,1.3s
MJAR Matsushiro Arr 46.83 74 P **P 02 52 02.7 -0.8**
WTTA Wattenberg 47.06 302 *e*P **P 02 52 04.7 -0.7**
comp=Z,5.2nm,1.0s
WATA Walderalm 47.08 302 *e*P **P 02 52 06.7 +1.2**
comp=Z,2.6nm,0.8s
ASAJ Asahikawa 47.23 63 LR LR 03 14 48.3
comp=Z,104nm,18.5s,baz=176,slow=40
SQTA Sankt Quirin 47.36 302 *e*P **P 02 52 07.5 -0.1**
comp=Z,2.5nm,0.8s
RETA Reutte 47.57 302 *e*P **P 02 52 08.6 -0.7**
comp=Z,6.0nm,1.0s
TEOL Teolo 47.61 299 P **P 02 52 09.7 +0.3**
FETA Feichten 47.73 302 *e*P **P 02 52 09.5 -1.1**
comp=Z,3.9nm,1.2s
DAVA Damuels 48.20 302 *e*P **P 02 52 15.0 +0.8**
comp=Z,11nm,1.4s
DAVOX Davos/Dischmat 48.36 302 P **P 02 52 15.5 0.0**
comp=Z,1.4nm,0.4s,baz=139,slow=6.7,SNR=3.9
VLC Villacollemand 48.87 298 P **P 02 52 20.7 +1.5**
BNI Bardonecchia 51.04 300 P **P 02 52 35.6 -0.3**
BNI pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 51.04 300 P **P 02 52 35.5 -0.3**
BNI IAmb IAmb 02 52 38.1
comp=Z,13nm,1.2s
DAG Danmarks Havn 52.86 343 *i* P **P 02 52 48.7 -0.1**
DAG IAmb IAmb 02 52 49.7
comp=Z,14nm,0.9s
DAG Danmarks Havn 52.86 343 *i* P **P 02 52 48.7 -0.1**
DAG pmax pmax
comp=Z,14nm,0.9s
KEST Kesra 52.93 289 LR LR 03 19 50.6
comp=Z,49nm,18.4s,baz=186,slow=41
BILL Bilibino 53.08 28 *i* P **P 02 52 51.2 +0.7**
BILL *i* 02 53 57.6
BILL pmax pmax
comp=Z,7.0nm,1.2s
EKA Eskdalemuir Ar 53.46 315 P **P 02 52 53.7 +0.2**
comp=Z,2.4nm,0.8s,baz=76,slow=7.4,SNR=5.5
NEEM North Greenlan 58.68 348 ⇑*i*P **P 02 53 30.9 +0.1**
NEEM IAmb IAmb 02 53 31.4
comp=Z,8.2nm,0.7s
SUMG Summit 59.42 342 *i* P **P 02 53 36.4 +0.2**
SUMG IAmb IAmb 02 53 37.5
comp=Z,4.9nm,0.9s
SUMG Summit 59.42 342 P **P 02 53 36.3 +0.2**
SUMG pmax pmax
comp=Z,12nm,1.3s
SUMG Summit 59.42 342 P **P 02 53 36.3 +0.2**
EUNU Eureka 59.84 357 P **P 02 53 38.7 +0.1**
EUNU IAmb IAmb 02 53 42.0
comp=Z,3.5nm,0.8s
ESBB Sonseca Array 60.45 299 P **P 02 53 43.0 -0.3**
ESBB IAmb IAmb 02 53 44.2
comp=Z,6.7nm,1.2s
ESDC Sonseca Array 60.45 299 P **P 02 53 43.1 -0.3**
comp=Z,1.3nm,0.5s,baz=54,slow=6.9,SNR=23
ESDC LR LR 03 24 55.8
comp=Z,33nm,18.4s,baz=10.0,slow=41
ESDC Sonseca Array 60.45 299 P **P 02 53 43.2 -0.1**
ESDC IAmb IAmb 02 53 44.1
comp=Z,3.6nm,1.3s
PAB San Pablo 60.77 299 P **P 02 53 45.5 -0.1**
PAB pmax pmax
comp=Z,7.0nm,1.2s
PAB San Pablo 60.77 299 P **P 02 53 45.5 -0.1**
PAB IAmb IAmb 02 54 01.2
comp=Z,7.2nm,1.1s
ICESG Greenland Ices 61.89 339 ⇑*i*P **P 02 53 53.5 +0.5**
ICESG IAmb IAmb 02 53 53.8
comp=Z,15nm,0.7s
MDT Midelt 64.41 292 P **P 02 54 10.3 +0.3**
comp=Z,0.9nm,0.8s,baz=82,slow=6.5,SNR=1.9
KTH Kantishna Hill 69.79 21 P **P 02 54 43.1 -0.5**
IL31 69.86 19 P **P 02 54 42.7 -1.2**
IL31 IAmb IAmb 02 54 47.5
comp=Z,7.2nm,1.4s
ILAR Eielson Array 69.86 19 P **P 02 54 42.8 -1.1**
comp=Z,1.7nm,0.9s,baz=315,slow=4.8,SNR=16
ILAR LR LR 03 29 25.3
comp=Z,63nm,19.5s,baz=254,slow=39
ILAR Eielson Array 69.86 19 P **P 02 54 42.7 -1.3**
ILAR Eielson Array 69.86 19 P **P 02 54 42.7 -1.3**
TOA0 Torodi Ar. Sit 71.00 271 P **P 02 54 51.2 -0.5**
TOA0 IAmb IAmb 02 54 57.0
comp=Z,5.8nm,0.8s
TORD Torodi Ar. Bea 71.00 271 P **P 02 54 50.9 -0.8**
comp=Z,2.8nm,0.4s,baz=47,slow=5.5,SNR=53
TORD Torodi Ar. Bea 71.00 271 P **P 02 54 50.9 -0.8**
TORD IAmb IAmb 02 54 57.0
comp=Z,4.4nm,0.8s
SCM Sheep Creek Mo 72.16 21 P **P 02 54 57.1 -1.0**
SCM pmax pmax
comp=Z,21nm,1.2s
SCM Sheep Creek Mo 72.16 21 P **P 02 54 57.1 -1.0**
BCAR Beaver Creek A 72.52 18 P **P 02 55 00.2 0.0**
KOWA Kowa 74.55 276 P **P 02 55 12.2 -0.6**
comp=Z,1.5nm,0.5s,baz=48,slow=6.3,SNR=7.7
YKA Yellowknife Ar 77.35 6 P **P 02 55 27.1 -0.8**
comp=Z,3.5nm,0.7s,baz=348,slow=5.4,SNR=7.5
YKA Yellowknife Ar 77.35 6*ce*P **P 02 55 26.6 -1.4**
YKA pmax pmax
comp=Z,4.0nm,0.7s
WB0 Warramunga Arr 79.52 127 P **P 02 55 41.3 +0.8**
WRA Warramunga Arr 79.62 127 P **P 02 55 40.3 -0.8**
comp=Z,6.3nm,0.9s,baz=325,slow=4.9,SNR=22
WRA Warramunga Arr 79.62 127*ce*P **P 02 55 42.5 +1.4**
WRA pmax pmax
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 79.62 127 P **P 02 55 42.0 +0.9**
WRAB Tennant Creek 79.62 127*ce*P **P 02 55 43.0 +1.9**
WRAB pmax pmax
comp=Z,18nm,1.7s
WB2 Warramunga Arr 79.63 127 P **P 02 55 41.5 +0.3**
WR0 Warramunga Arr 79.76 127 P **P 02 55 41.9 +0.1**
WR0 IAmb IAmb 02 55 44.8
comp=Z,8.7nm,0.9s
AS31 Alice Springs 82.18 130 P **P 02 55 56.0 +1.2**
AS31 IAmb IAmb 02 55 57.8
comp=Z,2.1nm,0.7s
ASAR Alice Springs 82.18 130 P **P 02 55 53.9 -0.8**
comp=Z,8.8nm,0.8s,baz=323,slow=5.3,SNR=41
ASAR Alice Springs 82.18 130 P **P 02 55 54.7 -0.1**
ULM Lac du Bonnet 89.93 356 LR LR 03 38 43.7
comp=Z,42nm,21.7s,baz=317,slow=37
TXAR Lajitas Array 110.98 1 Pdiff **Pdif 02 58 08.6 +0.5**
comp=Z,0.0nm,0.3s,baz=16,slow=7.9,SNR=1.6
TRQA Tornquist 148.81 260 PKIKP **PKPdf 03 03 16.5 -0.7**
TRQA Tornquist 148.81 260 PKPdf **PKPdf 03 03 16.5 -0.7**

GUC ***08*** *02:44:40.2±0.7, 19°.98S×69°.13W, h95km±3km, ML3.8*
IDC ***08*** *02:44:42.7±2.6, 19°.88S×68°.84W, h123km±27km, mb3.4/3, mb1 3.5/5, mb1mx3.3/31, mbtmp3.8/5, Error ellipse: s-maj=46.6km s-min=21.7km az=97.0*
ISC 08 02:44:39.0±0.9, 20°.00S±0°.03×69°.20W±0°.07, h101km±8km, n18, σ1°.07/31, 7C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PB08	**IPOC Station P**	**0.15**	**163**	⇓*i*P		**Pn**	**02 44 53.9**	**+0.2**
PB08				*i* S		**Sn**	**02 45 04.7**	**0.0**
PB08				IAML			02 45 06.5	
comp=N,6μm,0.2s								
TA02	**Huaiquique**	**0.92**	**253**	⇑*i*P		**Pn**	**02 44 59.2**	**+0.6**
TA02				*i* S		**Sn**	**02 45 14.1**	**+0.7**
TA02				IAML			02 45 17.9	
comp=N,7μm,0.2s								
MNMC	**Minye Minye**	**0.94**	**337**	⇓*i*P		**Pn**	**02 44 59.9**	**+0.6**
MNMC				*i* S		**Sn**	**02 45 15.2**	**+0.9**
PSGC	**Pisagua**	**0.96**	**295**	⇑*i*P		**Pn**	**02 44 59.4**	**+0.2**
PSGC				*i* S		**Sn**	**02 45 14.4**	**+0.1**
PSGC				IAML			02 45 18.2	
comp=N,2μm,0.3s								
PB01	**IPOC Station P**	**1.07**	**195**	⇑*i*P		**Pn**	**02 45 01.1**	**+0.6**
PB01				*i* S		**Sn**	**02 45 17.1**	**+0.5**
PB01				IAML			02 45 19.5	
comp=N,2μm,0.3s								
TA01	**Diego Aracena**	**1.08**	**238**	⇑*i*P		**Pn**	**02 45 00.8**	**+0.4**
TA01				*i* S		**Sn**	**02 45 16.9**	**+0.4**
PB07	**IPOC Station P**	**1.83**	**200**	⇓*i*P		**Pn**	**02 45 10.3**	**+0.6**
PB07				*e*S		**Sn**	**02 45 34.3**	**+1.3**
PB07				IAML			02 45 41.6	
comp=E,1μm,0.3s								
AP01	**Chacalluta**	**1.95**	**326**	⇑*i*P		**Pn**	**02 45 11.4**	**+0.5**
AP01				*e*S		**Sn**	**02 45 36.4**	**+1.1**
PB03	**IPOC Station P**	**2.10**	**194**	⇓*i*P		**Pn**	**02 45 13.6**	**+0.4**
PB03				*e*S		**Sn**	**02 45 40.1**	**+0.8**
PB03				IAML			02 45 48.5	
comp=E,767nm,0.3s								
PB04	**IPOC Station P**	**2.49**	**201**	⇑*i*P		**Pn**	**02 45 19.1**	**+0.9**
PB04				*e*S		**Sn**	**02 45 49.6**	**+1.4**
PB04				IAML			02 46 00.5	
comp=E,649nm,0.5s								
LVC	**Limon Verde**	**2.61**	**174**	*e*P		**Pn**	**02 45 21.6**	**+1.6**
LVC				*e*S		**Sn**	**02 45 53.4**	**+2.0**
PB06	**IPOC Station P**	**2.72**	**187**	⇓*i*P		**Pn**	**02 45 21.8**	**+0.6**
PB06				*e*S		**Sn**	**02 45 53.1**	**-0.5**
PB06				IAML			02 46 04.3	
comp=N,418nm,0.3s								
PB05	**IPOC Station P**	**2.99**	**198**	⇑*i*P		**Pn**	**02 45 25.4**	**+0.6**
PB05				*e*S		**Sn**	**02 46 01.3**	**+1.3**
PB05				IAML			02 46 11.9	
comp=N,262nm,0.3s								
LPAZ	**La Paz**	**3.83**	**16**	P		**Pn**	**02 45 39.4**	**+2.8**
comp=N,5.3nm,0.3s,baz=193,slow=7.0,SNR=201								
LPAZ				S		**Sn**	**02 46 20.7**	**-0.2**
comp=N,0.3nm,0.3s,baz=248,slow=8.6,SNR=1.2								
CPUP	**Villa Florida**	**12.60**	**122**	P		**Pn**	**02 47 33.2**	**-1.5**
comp=N,0.1nm,0.3s,baz=297,slow=13,SNR=4.5								
BDFB	**Brasília**	**20.62**	**81**	P		**P**	**02 49 10.2**	**-0.4**
comp=N,3.2nm,0.8s,baz=245,slow=14,SNR=2.2								
PLCA	**Paso Flores**	**20.70**	**183**	P		Pn	02 49 14.8	+0.4
comp=N,1.9nm,0.8s,baz=352,slow=12,SNR=4.2								
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P		**P**	**02 56 20.9**	**-1.0**
comp=N,0.4nm,0.4s,baz=252,slow=5.0,SNR=6.2								

SKO ***08*** *02:52:39.1, 41°.98N×23°.16E, h22km*
BEO ***08*** *02:52:41.1±0.3, 42°.01N×23°.12E, h0km, ML1.8/9*
ISC 08 02:52:38.8±1.3, 41°.95N±0°.03×23°.11E±0°.04, h1km±13km, n17, σ1°.12/31, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
VTS	**Vitosha**	**0.68**	**8**	*e*Pg		**Pg**	**02 52 51.2**	**-0.6**
VTS				*e*Sg		**Sg**	**02 52 59.4**	**-1.1**
VTS	**Vitosha**	**0.68**	**8**	⇑*i*Pg		**Pg**	**02 52 51.5**	**-0.3**
VTS				*i* Sg		**Sg**	**02 52 59.4**	**-1.1**
BOSS	**Bosilegrad**	**0.72**	**320**	*e*Pg		**Pg**	**02 52 52.7**	**+0.1**
BOSS				*e*Sg		**Sg**	**02 53 02.7**	**+0.8**
STIP	**Stip**	**0.73**	**250**	*i* Pg		**Pg**	**02 52 50.6**	**-2.3**
STIP				*i* Sg		**Sg**	**02 52 58.8**	**-3.6**
VAY	**Valandovo**	**0.74**	**213**	*e*Pg		**Pn**	**02 52 56.1**	**-0.3**
VAY				*e*Sg		**Sb**	**02 53 05.9**	**+0.7**
VAY	**Valandovo**	**0.74**	**213**	*i* Pg		**Pn**	**02 52 55.8**	**-0.6**
VAY				*i* Sg		**Sb**	**02 53 06.4**	**+1.2**
VAY				*e*Lg		Lg	02 53 09.9	
comp=N,40nm,0.6s								
VAY				*e*Lg		Lg	02 53 09.9	
comp=E,26nm,0.3s								
KNT	**Kendrikon**	**0.80**	**191**	*i* Pg		**Pb**	**02 52 56.1**	**+0.6**
KNT				*i* Sg		**Sb**	**02 53 06.9**	**+0.1**
SRS	**Serrai**	**0.91**	**156**	*i* Pg		**Pb**	**02 52 57.5**	**+0.2**
PRVS	**Prvonek**	**0.95**	**306**	*e*Pg		**Pb**	**02 52 57.8**	**-0.3**
PRVS				*e*Sg		**Sg**	**02 53 10.1**	**+0.8**
GRG	**Griva**	**1.12**	**208**	*i* Pg		**Pg**	**02 53 02.0**	**+1.7**
GRG				*e*Sg		**Sn**	**02 53 17.9**	**+0.1**
SOH	**Sokhos**	**1.14**	**171**	*i* Pg		**Pn**	**02 53 02.1**	**+0.2**
SOH				*i* Sg		**Sn**	**02 53 17.8**	**-0.3**
PLD	**Plovdiv**	**1.20**	**82**	*e*Pg		**Pn**	**02 53 02.7**	**+0.1**
PLD				*e*Sg		**Sn**	**02 53 18.4**	**-1.1**
BARS	**Barje**	**1.29**	**313**	*e*Pg		**Pg**	**02 53 04.3**	**+0.7**
BARS				*e*Sg		**Sg**	**02 53 21.3**	**+1.0**
BARS	**Barje**	**1.29**	**313**	*i* Pg		**Pg**	**02 53 04.3**	**+0.7**
BARS				*e*Sg		**Sg**	**02 53 21.4**	**+1.1**
ZAPS	**Zavoj**	**1.37**	**345**	*e*Pg		**Pg**	**02 53 05.2**	**+0.1**
ZAPS				*e*Sg		**Sg**	**02 53 23.5**	**+0.7**
SELS	**Selova**	**1.94**	**312**	*e*Pn		**Pb**	**02 53 15.6**	**+0.6**
BOVS	**Bovan**	**1.98**	**329**	*e*Pn		**Pb**	**02 53 15.0**	**-0.5**

BGR ***08*** *02:53:16.4±0.8, 41°.83N×15°.82E, h10km, ML4.2, Error ellipse: s-maj=21.1km s-min=11.1km az=91.0*
IDC ***08*** *02:53:17.0±1.1, 42°.15N×15°.36E, h0km, mb3.5/5, mb1 3.8/11, mb1mx3.5/60, mbtmp3.6/11, ML3.5/6, Error ellipse: s-maj=22.2km s-min=15.1km az=88.0*
PDG ***08*** *02:53:19.5±0.5, 42°.06N×15°.45E, h23km, ML3.7/14, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
ROM ***08*** *02:53:19.3±0.1, 42°.091N±0°.004×15°.521E±0°.007, h22km, ML3.8/53, Mw3.6, Error ellipse: s-maj=0.5km s-min=0.4km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; M_{rr}3.19; $M_{\theta\theta}$-2.65; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.59; $M_{\theta\phi}$-1.09; $M_{\phi r}$1.13; Fault plane solution: $M_0$3.39278×10^14 NP1:φ259.00000°, δ38.00000°, λ110.00000°. NP2:φ54.00000°, δ55.00000°, λ75.00000°.*
PRU ***08*** *02:53:21.7±0.0, 42°.17N×15°.15E, h20km*
LDG ***08*** *02:53:23.9, 42°.17N×15°.37E, h26km*
THE ***08*** *02:53:26.1, 41°.79N×16°.02E, h8km±26km, ML3.6/6, Error ellipse: s-maj=34.8km s-min=1.9km az=295.0*
ISC 08 02:53:19.5±0.8, 42°.07N±0°.02×15°.54E±0°.02, h26km±5km, n359, σ2°.38/462, mb3.6/4, 35C-36D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TREM	**Isole Tremiti**	**0.06**	**340**	P		**Pb**	**02 53 23.2**	**-0.9**
TREM				S		**Sb**	**02 53 26.1**	**-1.2**
TREM				AML		AML		
TREM				AML		AML		
SGRT	**San Giovanni R**	**0.35**	**154**	⇓P		**Pb**	**02 53 27.4**	**-0.1**
SGRT				S		**Sn**	**02 53 34.6**	**-0.6**
SGRT				AML		AML		
comp=N,30300μm,0.2s								
SGRT				AML		AML		
comp=E,25800μm,0.2s								
MSAG	**Monte S. Angel**	**0.45**	**142**	⇓P		**Pb**	**02 53 29.5**	**+0.4**
MSAG				S		**Sn**	**02 53 38.1**	**+0.4**
MSAG				AML		AML		
comp=E,12400μm,1.3s								
MSAG				AML		AML		
comp=N,25050μm,0.4s								
MSAG				AML		AML		
comp=N,26200μm,0.4s								
MSAG				AML		AML		
comp=N,26150μm,0.4s								
MSAG				AML		AML		
comp=E,13450μm,1.3s								
MSAG				AML		AML		
comp=N,26150μm,0.4s								

MELA	**Melanico ??? S**	**0.47 220**	P	**Pb**	**02 53 28.3**	**-1.1**
MELA			S	**Sb**	**02 53 35.6**	**-0.5**
MELA			AML	AML		
	comp=N,13250µm,0.7s					
MELA			AML	AML		
	comp=E,17650µm,0.5s					
MELA			AML	AML		
	comp=E,16800µm,0.5s					
MELA			AML	AML		
	comp=N,13250µm,0.7s					
MELA			AML	AML		
	comp=N,13900µm,0.7s					
FRES	**Fresagrandinar**	**0.65 262**	⇓P	**Pb**	**02 53 30.6**	**-1.8**
FRES			AML	AML		
	comp=N,2495µm,0.5s					
FRES			AML	AML		
	comp=E,4480µm,0.6s					
GATE	**Gambatesa**	**0.73 220**	P	**Pn**	**02 53 33.8**	**-0.3**
GATE			AML	AML		
	comp=N,5525µm,0.6s					
GATE			AML	AML		
	comp=E,2275µm,0.7s					
GATE			AML	AML		
	comp=E,5140µm,0.6s					
GATE			AML	AML		
	comp=N,5525µm,0.6s					
GATE			AML	AML		
	comp=N,5730µm,0.6s					
GATE			AML	AML		
	comp=E,5140µm,0.6s					
MOCO	**Biccari - m.te**	**0.75 202**	P	**Pb**	**02 53 34.0**	**-0.2**
MOCO			S	**Sn**	**02 53 45.8**	**+0.6**
MOCO			AML	AML		
	comp=N,3995µm,0.9s					
MOCO			AML	AML		
	comp=N,4210µm,0.9s					
MOCO			AML	AML		
	comp=N,3990µm,0.9s					
MOCO			AML	AML		
	comp=E,4700µm,1.1s					
MOCO			AML	AML		
	comp=E,4805µm,1.1s					
TRIV	**Trivento**	**0.80 248**	P	**Pb**	**02 53 34.3**	**-0.5**
TRIV			S	**Sn**	**02 53 46.0**	**-0.1**
TRIV			AML	AML		
	comp=N,4725µm,1.0s					
TRIV			AML	AML		
	comp=E,5160µm,0.6s					
TRIV			AML	AML		
	comp=N,5180µm,1.3s					
TRIV			AML	AML		
	comp=E,5210µm,0.4s					
TRIV			AML	AML		
	comp=N,5175µm,1.3s					
TRIV			AML	AML		
	comp=E,5155µm,0.6s					
BSSO	**Busso**	**0.88 234**	P	**Pb**	**02 53 35.3**	**-0.9**
BSSO			S	**Sn**	**02 53 48.9**	**+0.7**
BSSO			AML	AML		
	comp=N,1420µm,0.5s					
BSSO			AML	AML		
	comp=E,3075µm,0.4s					
BSSO			AML	AML		
	comp=N,3320µm,0.5s					
BSSO			AML	AML		
	comp=E,1270µm,0.3s					
BSSO			AML	AML		
	comp=N,1425µm,0.5s					
SACR	**S. Croce Del S**	**0.92 223**	P	**Pn**	**02 53 35.9**	**-0.9**
SACR			S	**Sn**	**02 53 49.4**	**+0.3**
SACR			AML	AML		
	comp=E,2800µm,1.1s					
SACR			AML	AML		
	comp=N,2685µm,0.5s					
SACR			AML	AML		
	comp=N,2625µm,0.5s					
SACR			AML	AML		
	comp=E,2695µm,1.1s					
SACR			AML	AML		
	comp=E,2795µm,1.1s					
CAPA	**Cerignola FG**	**0.93 167**	P	**Pb**	**02 53 37.3**	**+0.2**
CAPA			S	**Sn**	**02 53 51.5**	**+2.1**
CAPA			AML	AML		
	comp=N,10105µm,1.1s					
CAPA			AML	AML		
	comp=E,13150µm,0.8s					
PSB1	**Pescosannita**	**1.00 213**	P	**Pn**	**02 53 37.6**	**-0.4**
PSB1			S	**Sn**	**02 53 52.7**	**+1.4**
PSB1			AML	AML		
	comp=E,2230µm,0.8s					
PSB1			AML	AML		
	comp=N,2945µm,1.0s					
PSB1			AML	AML		
	comp=N,3195µm,1.0s					
PSB1			AML	AML		
	comp=E,2215µm,0.8s					
PSB1			AML	AML		
	comp=N,2950µm,1.0s					
PSB1			AML	AML		
	comp=E,2235µm,0.8s					
LPEL	**Lama dei Pelig**	**1.01 269**	P	**Pn**	**02 53 36.6**	**-1.4**
LPEL			AML	AML		
	comp=E,7995µm,0.2s					
LPEL			AML	AML		
	comp=N,8855µm,0.9s					
MRB1	**Monte Rocchett**	**1.03 204**	P	**Pb**	**02 53 38.8**	**0.0**
MRB1			S	**Sn**	**02 53 54.4**	**+2.4**
MRB1			AML	AML		
	comp=E,7795µm,0.7s					
MRB1			AML	AML		
	comp=N,7550µm,0.7s					
MRB1			AML	AML		
	comp=N,7555µm,0.7s					
MRB1			AML	AML		
	comp=N,7840µm,0.7s					
MRB1			AML	AML		
	comp=E,7800µm,0.7s					
MRB1			AML	AML		
	comp=E,8015µm,0.7s					
MIDA	**Miranda**	**1.05 246**	P	**Pn**	**02 53 37.6**	**-1.0**
MIDA			S	**Sn**	**02 53 53.3**	**+0.9**
MIDA			AML	AML		
	comp=N,3290µm,1.1s					
MIDA			AML	AML		
	comp=E,3830µm,1.2s					
MIDA			AML	AML		
	comp=N,3295µm,1.1s					
MIDA			AML	AML		
	comp=E,3725µm,1.2s					
MIDA			AML	AML		
	comp=N,3520µm,1.0s					
CAFE	**Carife**	**1.06 192**	P	**Pb**	**02 53 39.1**	**-0.2**
CAFE			S	**Sb**	**02 53 55.0**	**+2.1**
CAFE			AML	AML		
	comp=E,5935µm,1.6s					
CAFE			AML	AML		
	comp=N,3135µm,1.3s					
CAFE			AML	AML		
	comp=E,6060µm,1.6s					
CAFE			AML	AML		
	comp=N,3265µm,1.6s					
CAFE			AML	AML		
	comp=N,3135µm,1.3s					
CAFE			AML	AML		
	comp=E,5935µm,1.6s					
RNI2	**Rionero Sannit**	**1.10 251**	P	**Pn**	**02 53 38.8**	**-0.5**
RNI2			S	**Sb**	**02 53 54.9**	**+1.0**
RNI2			AML	AML		
	comp=E,4315µm,1.1s					
RNI2			AML	AML		
	comp=E,4510µm,1.0s					
RNI2			AML	AML		
	comp=N,4720µm,1.6s					
RNI2			AML	AML		
	comp=N,4520µm,1.6s					
SGG	**Gregorio Mates**	**1.10 232**	⇑P	**Pn**	**02 53 39.4**	**0.0**
SGG			S	**Sb**	**02 53 54.9**	**+0.9**
VULT	**Monte Vulture**	**1.11 177**	⇓P	**Pb**	**02 53 40.4**	**+0.2**
VULT			AML	AML		
	comp=E,8550µm,0.7s					
VULT			AML	AML		
	comp=N,9295µm,0.9s					
VULT			AML	AML		
	comp=E,8770µm,0.7s					
VULT			AML	AML		
	comp=N,9725µm,0.5s					
VULT			AML	AML		
	comp=E,8580µm,0.7s					
VITU	**Vitulano (BN)**	**1.12 218**	P	**Pn**	**02 53 39.6**	**+0.1**
VITU			S	**Sb**	**02 53 55.8**	**+1.4**
VITU			AML	AML		
	comp=E,1490µm,1.4s					
VITU			AML	AML		
	comp=N,4705µm,0.6s					
VITU			AML	AML		
	comp=E,4295µm,0.5s					
VITU			AML	AML		
	comp=N,4710µm,0.6s					
VITU			AML	AML		
	comp=N,4885µm,0.6s					
VITU			AML	AML		
	comp=E,1495µm,1.4s					
MRVN	**Minervino Murg**	**1.12 154**	⇓P	**Pb**	**02 53 40.4**	**+0.1**
MRVN			S	**Sb**	**02 53 55.6**	**+1.1**
MRVN			AML	AML		
	comp=E,3170µm,0.6s					
MRVN			AML	AML		
	comp=N,2580µm,0.7s					
PALZ	**Palazzo San Ge**	**1.17 164**	⇓P	**Pb**	**02 53 41.1**	**+0.1**
PALZ			AML	AML		
	comp=N,7005µm,0.8s					
PALZ			AML	AML		
	comp=N,7000µm,0.8s					
PALZ			AML	AML		
	comp=E,7970µm,0.5s					
SNAL	**S. Angelo Dei**	**1.17 192**	⇓P	**Pb**	**02 53 40.7**	**-0.5**
SNAL			S	**Sb**	**02 53 57.5**	**+1.6**
SNAL			AML	AML		
	comp=E,4150µm,0.9s					
SNAL			AML	AML		
	comp=N,6090µm,0.9s					
SNAL			AML	AML		
	comp=N,6095µm,0.9s					
SNAL			AML	AML		
	comp=N,6095µm,0.9s					
SNAL			AML	AML		
	comp=E,4075µm,0.9s					
VAGA	**Valle Agricola**	**1.17 237**	P	**Pn**	**02 53 40.3**	**0.0**
VAGA			AML	AML		
	comp=E,2160µm,0.5s					
VAGA			AML	AML		
	comp=N,3525µm,0.7s					
VAGA			AML	AML		
	comp=E,2285µm,0.4s					
VAGA			AML	AML		
	comp=N,3680µm,0.7s					
INTR	**Introdacqua**	**1.22 268**	P	**Pn**	**02 53 39.7**	**-1.2**
INTR			S	**Sb**	**02 53 58.2**	**+0.9**
INTR			AML	AML		
	comp=E,8755µm,0.6s					
INTR			AML	AML		
	comp=N,14000µm,0.5s					
LSTV	**Lastovo**	**1.22 55**	*e*Pg	**Pb**	**02 53 42.2**	**+0.2**
LSTV			Sg	**Sb**	**02 53 57.9**	**+0.6**
CERA	**Filignano**	**1.23 248**	⇑P	**Pn**	**02 53 41.0**	**0.0**
CERA			AML	AML		
	comp=E,2930µm,0.5s					
CERA			AML	AML		
	comp=N,3675µm,0.8s					
CERA			AML	AML		
	comp=E,3080µm,0.5s					
CERA			AML	AML		
	comp=N,3820µm,0.8s					
CERA			AML	AML		
	comp=N,3670µm,0.8s					
CERA			AML	AML		
	comp=E,2925µm,0.5s					
PAOL	**Paolisi**	**1.27 215**	⇑P	**Pb**	**02 53 42.3**	**-0.5**
PAOL			AML	AML		
	comp=N,1895µm,0.7s					
PAOL			AML	AML		
	comp=N,1955µm,0.7s					
PAOL			AML	AML		
	comp=E,1900µm,0.7s					
PAOL			AML	AML		
	comp=E,1970µm,0.7s					
HVAR	**Hvar**	**1.30 31**	*e*Pg	**Pb**	**02 53 42.8**	**-0.5**
HVAR			Sg	**Sn**	**02 53 58.8**	**+0.4**
MRLC	**Muro Lucano**	**1.31 182**	⇓P	**Pn**	**02 53 42.6**	**+0.5**
MRLC			AML	AML		
	comp=N,3165µm,1.5s					
MRLC			AML	AML		
	comp=E,3215µm,0.5s					
MRLC			AML	AML		
	comp=N,3375µm,0.4s					
MRLC			AML	AML		
	comp=E,3115µm,0.4s					
MCRV	**Calabrutti - M**	**1.31 192**	P	**Pn**	**02 53 42.8**	**+0.5**
MCRV			AML	AML		
	comp=E,5910µm,0.3s					
MCRV			AML	AML		
	comp=N,5485µm,0.7s					
ACER	**Acerenza**	**1.32 166**	⇓P	**Pb**	**02 53 43.1**	**-0.5**
ACER			S	**Sb**	**02 54 04.1**	**+4.0**
ACER			AML	AML		
	comp=N,9505µm,1.6s					
ACER			AML	AML		
	comp=E,7520µm,0.5s					
ACER			AML	AML		
	comp=N,9010µm,1.6s					
ACER			AML	AML		
	comp=E,7060µm,0.5s					
T0110	**Collepietro**	**1.32 277**	P	**Pn**	**02 53 42.6**	**+0.3**
T0110			S	**Sb**	**02 54 01.1**	**+0.9**
T0110			AML	AML		
	comp=N,5920µm,1.3s					
T0110			AML	AML		
	comp=E,6665µm,0.6s					
PIGN	**Pignataro Magg**	**1.34 230**	⇑P	**Pn**	**02 53 43.0**	**+0.4**
PIGN			AML	AML		
	comp=N,1490µm,1.4s					
PIGN			AML	AML		
	comp=E,1235µm,0.9s					
PIGN			AML	AML		
	comp=E,1210µm,0.9s					
PIGN			AML	AML		
	comp=N,1395µm,1.4s					
POFI	**Posta Fibreno**	**1.41 256**	P	**Pn**	**02 53 43.2**	**-0.3**
POFI			AML	AML		
	comp=E,1580µm,0.6s					
POFI			AML	AML		
	comp=N,1030µm,0.7s					
POFI			AML	AML		
	comp=N,1092µm,0.7s					
POFI			AML	AML		
	comp=E,1650µm,0.6s					
AMUR	**Altamura**	**1.41 145**	⇓P	**Pb**	**02 53 44.7**	**-0.5**
AMUR			AML	AML		
	comp=E,2885µm,0.6s					
AMUR			AML	AML		
	comp=N,3135µm,1.1s					
AMUR			AML	AML		
	comp=E,2890µm,0.6s					
AMUR			AML	AML		
	comp=N,3140µm,1.1s					
TRTR	**Tortoreto Alta**	**1.41 302**	⇑P	**Pb**	**02 53 46.1**	**+0.9**
TRTR			S	**Sb**	**02 54 07.1**	**+4.3**
TRTR			AML	AML		
	comp=N,17950µm,0.5s					
TRTR			AML	AML		
	comp=E,25250µm,0.6s					
TRTR			AML	AML		
	comp=N,17950µm,0.5s					
VVLD	**Villa Vallelon**	**1.44 263**	P	**Pn**	**02 53 43.3**	**-0.7**
VVLD			AML	AML		
	comp=N,1008µm,1.2s					
VVLD			AML	AML		
	comp=N,1008µm,1.2s					
VVLD			AML	AML		
	comp=E,944µm,0.6s					
FAGN	**Fagnano**	**1.47 278**	P	**Pn**	**02 53 44.5**	**+0.2**
FAGN			AML	AML		
	comp=E,7630µm,0.4s					
FAGN			AML	AML		
	comp=N,6515µm,0.5s					
GIGS	**Gran Sasso**	**1.51 285**	P	**Pn**	**02 53 45.5**	**+0.6**
GIGS			AML	AML		
	comp=N,226µm,0.7s					
GIGS			AML	AML		
	comp=E,172µm,0.7s					
TERO	**Teramo**	**1.54 292**	P	**Pn**	**02 53 45.8**	**+0.5**
TERO			S	**Sb**	**02 54 08.0**	**+1.6**
TERO			AML	AML		
	comp=E,2470µm,0.5s					
TERO			AML	AML		
	comp=E,1034µm,0.5s					
TERO			AML	AML		
	comp=N,1110µm,0.7s					
TERO			AML	AML		
	comp=N,2665µm,0.7s					
GUMA	**Gualdo di Mace**	**1.54 311**	P	**Pb**	**02 53 51.8**	**+4.3**
GUMA			AML	AML		
	comp=N,4915µm,0.5s					
GUMA			AML	AML		
	comp=N,6885µm,0.5s					
GUMA			AML	AML		
	comp=E,4510µm,0.6s					
GUMA			AML	AML		
	comp=E,5875µm,0.5s					
MODR	**Mondragone**	**1.55 234**	P	**Pn**	**02 53 45.5**	**0.0**
MODR			AML	AML		
	comp=N,1695µm,0.7s					
MODR			AML	AML		
	comp=E,1320µm,0.7s					
LIK	**San Giovanni I**	**1.58 250**	P	**Pb**	**02 53 47.0**	**-1.1**
LIK	**San Giovanni I**	**1.58 250**	AML	AML		
	comp=E,2032µm,0.8s					
LIK			AML	AML		
	comp=N,2276µm,0.5s					
ZIRJ	**Zirje**	**1.59 3**	*e*Pn	**Pn**	**02 53 45.8**	**-0.1**
CDRU	**Civita di Ruta**	**1.59 186**	P	**Pn**	**02 53 46.5**	**+0.5**
CDRU			AML	AML		
	comp=E,1775µm,1.5s					
CDRU			AML	AML		
	comp=N,1114µm,1.3s					
AQU	**L'Aquila**	**1.61 281**	*e*Pn	**Pn**	**02 53 46.6**	**+0.3**
AQU	**L'Aquila**	**1.61 281**	P	**Pb**	**02 53 47.4**	**-1.3**
AQU			AML	AML		
	comp=E,2325µm,1.6s					
AQU			AML	AML		
	comp=N,2185µm,0.6s					
AQU			AML	AML		
	comp=E,2235µm,1.6s					
AQU			AML	AML		
	comp=N,2180µm,0.6s					
MIGL	**Miglionico**	**1.61 155**	⇓P	**Pb**	**02 53 47.6**	**-1.1**
OFFI	**Offida**	**1.62 303**	P	**Pb**	**02 53 47.8**	**-1.0**
OFFI			S	**Sb**	**02 54 13.4**	**+4.6**
OFFI			AML	AML		
	comp=N,12450µm,0.6s					
OFFI			AML	AML		
	comp=E,8455µm,0.7s					
CAMP	**Campotosto**	**1.65 287**	P	**Pn**	**02 53 47.3**	**+0.4**
CAMP			S	**Sb**	**02 54 09.8**	**+0.1**
CAMP			AML	AML		
	comp=N,2035µm,1.1s					
CAMP			AML	AML		
	comp=E,1860µm,0.7s					
MATE	**Matera**	**1.67 148**	⇑P	**Pn**	**02 53 48.1**	**+1.1**
MATE	**Matera**	**1.67 148**	P	**Pn**	**02 53 48.3**	**+1.3**
MATE			S	**Sn**	**02 54 08.6**	**+1.1**
MATE			AML	AML		
	comp=E,3430µm,0.4s					
MATE			AML	AML		
	comp=N,4040µm,1.1s					
NOCI	**Noci**	**1.72 138**	P	**Pn**	**02 53 49.1**	**+1.3**
SMA1	**SAN MARTINO**	**1.73 290**	P	**Pn**	**02 53 48.4**	**+0.4**
SMA1			AML	AML		
	comp=N,3225µm,0.5s					
SMA1			AML	AML		
	comp=E,2860µm,0.7s					
LTRZ	**Laterza**	**1.75 146**	⇓P	**Pn**	**02 53 49.5**	**+1.3**
MCEL	**Monticello**	**1.75 173**	P	**Pn**	**02 53 48.6**	**+0.3**
MCEL			AML	AML		
	comp=E,1975µm,0.6s					
MCEL			AML	AML		
	comp=N,1455µm,0.5s					
MCEL			AML	AML		
	comp=N,1405µm,0.5s					
MCEL			AML	AML		
	comp=E,2020µm,0.6s					
CMPR	**Campora**	**1.76 186**	P	**Pn**	**02 53 49.5**	**+1.2**
CMPR			AML	AML		
	comp=N,2150µm,0.6s					
CMPR			AML	AML		
	comp=E,1460µm,0.4s					
RM33	**Pellescritta (**	**1.78 285**	P	**Pn**	**02 53 49.3**	**+0.7**
RM33			AML	AML		
	comp=E,2495µm,1.2s					
RM33			AML	AML		
	comp=N,2085µm,0.7s					
GIUL	**Giuliano Di Ro**	**1.78 254**	P	**Pn**	**02 53 48.7**	**0.0**
GIUL			AML	AML		
	comp=N,733µm,0.8s					
GIUL			AML	AML		
	comp=E,573µm,1.1s					
STON	**Ston**	**1.79 63**	*e*Pn	**Pn**	**02 53 49.7**	**+1.0**
STON	**Ston**	**1.79 63**	*e*Pn	**Pn**	**02 53 50.2**	**+1.5**
STON			Sn	**Sb**	**02 54 12.3**	**-1.3**
STON	**Ston**	**1.79 63**	P	**Pn**	**02 53 50.1**	**+1.5**
STON			AML	AML		
	comp=N,1199µm,0.6s					
STON			AML	AML		
	comp=E,1049µm,0.4s					
MORI	**Morici**	**1.80 4**	*e*Pn	**Pn**	**02 53 49.3**	**+0.4**
MORI			Sn	**Sn**	**02 54 11.3**	**+0.4**
MTSN	**Montesano sull**	**1.81 175**	P	**Pn**	**02 53 49.8**	**+0.7**
MTSN			AML	AML		
	comp=N,1440µm,0.4s					
MTSN			AML	AML		
	comp=E,1210µm,0.9s					
FIAM	**Fiamignano**	**1.81 277**	P	**Pn**	**02 53 50.1**	**+1.0**
FIAM			AML	AML		
	comp=E,1780µm,1.6s					
FIAM			AML	AML		
	comp=N,1280µm,1.1s					
CRAC	**Craco**	**1.83 158**	P	**Pn**	**02 53 50.5**	**+1.2**
CRAC			AML	AML		
	comp=E,6145µm,0.8s					
CRAC			AML	AML		
	comp=N,4485µm,0.6s					
RICI	**Ricice**	**1.85 39**	*e*Pn	**Pn**	**02 53 51.0**	**+1.4**
RICI			Sn	**Sn**	**02 54 13.1**	**+1.1**
SIRI	**Monte Sirino -**	**1.90 172**	P	**Pn**	**02 53 51.1**	**+0.7**
SIRI			AML	AML		
	comp=N,1250µm,0.9s					
SIRI			AML	AML		
	comp=N,1285µm,0.9s					
SIRI			AML	AML		
	comp=E,1385µm,0.4s					
SIRI			AML	AML		
	comp=E,1445µm,0.4s					
CERT	**Cerreto**	**1.91 267**	P	**Pn**	**02 53 50.8**	**+0.4**
CERT			AML	AML		
	comp=E,1345µm,0.9s					
CERT			AML	AML		
	comp=N,822µm,0.7s					
SCHR	**S. Chirico Rap**	**1.91 168**	P	**Pn**	**02 53 51.2**	**+0.7**
SCHR			AML	AML		
	comp=E,909µm,0.3s					
SCHR			AML	AML		
	comp=N,700µm,1.5s					
LNSS	**Leonessa**	**1.93 287**	P	**Pn**	**02 53 51.7**	**+1.0**
LNSS			AML	AML		
	comp=N,2105µm,0.4s					
LNSS			AML	AML		
	comp=E,2895µm,0.7s					
MGR	**Morigerati**	**1.93 180**	P	**Pn**	**02 53 51.4**	**+0.8**
MGR			AML	AML		
	comp=N,1030µm,0.8s					
MGR			AML	AML		
	comp=E,863µm,0.7s					
PP3	**Marolino**	**1.93 313**	P	**Pn**	**02 53 51.7**	**+1.0**
PP3			AML	AML		
	comp=N,5680µm,0.6s					
PP3			AML	AML		
	comp=E,4805µm,0.6s					
PP3			AML	AML		
	comp=N,5445µm,0.6s					
PP3			AML	AML		
	comp=E,4200µm,0.7s					
RCAV	**Rocca di Cave**	**1.95 264**	P	**Pn**	**02 53 51.1**	**+0.2**
RCAV			AML	AML		
	comp=E,642µm,0.8s					
RCAV			AML	AML		
	comp=N,606µm,1.1s					
DUGI	**Dugi Otok**	**1.95 350**	*e*Pn	**Pn**	**02 53 50.8**	**-0.2**
DUGI			Sn	**Sn**	**02 54 14.0**	**-0.6**
BULG	**Bulgheria - Ca**	**1.99 184**	P	**Pn**	**02 53 52.9**	**+1.3**
BULG			AML	AML		

comp=E,1340µm,0.7s
BULG AML AML
comp=E,1415µm,0.8s
BULG AML AML
comp=N,1590µm,0.7s
BULG AML AML
comp=N,1675µm,0.7s
LATB Latina 2.01 254 P Pn 02 53 51.5 -0.2
LATB AML AML
comp=E,289µm,1.0s
LATB AML AML
comp=N,155µm,0.9s
KIJV Kijevo 2.04 18 ePn Pn 02 53 53.4 +1.3
KIJV Sn Sn 02 54 17.6 +0.9
MTCE Montecelio 2.08 270 AML AML
comp=N,576µm,0.8s
MTCE AML AML
comp=E,816µm,0.8s
CUC Castrocucco 2.08 174 P Pn 02 53 53.9 +1.0
CUC AML AML
comp=N,686µm,0.5s
CUC AML AML
comp=E,976µm,0.6s
CUC AML AML
comp=E,794µm,0.6s
CUC AML AML
comp=N,844µm,0.5s
ORI Oriolo Calabro 2.12 161 P Pb 02 53 55.6 -1.7
ORI AML AML
comp=N,2500µm,0.5s
ORI AML AML
comp=E,3670µm,0.4s
RMP Rome, Mte Porz 2.13 264 P Pn 02 53 53.9 +0.4
RMP AML AML
comp=N,1052µm,0.7s
RMP AML AML
comp=E,989µm,0.6s
CESI CESI - Serrava 2.16 297 P Pn 02 53 55.3 +1.4
CESI AML AML
comp=E,1335µm,1.1s
CESI AML AML
comp=N,1024µm,0.6s
CING Cingoli 2.16 308 P Pn 02 53 54.3 +0.4
CING AML AML
comp=E,1455µm,0.8s
CING AML AML
comp=N,1765µm,0.6s
TREB Trebinje 2.18 72 ePn Pn 02 53 55.8 +1.7
EL6 Elcito 2.19 306 P Pn 02 53 54.8 +0.5
EL6 AML AML
comp=N,4370µm,0.6s
EL6 AML AML
comp=E,2665µm,0.6s
MMN Mormanno 2.20 171 P Pb 02 53 57.1 -1.6
MMN AML AML
comp=N,384µm,0.6s
MMN AML AML
comp=E,298µm,1.0s
HCY Herceg Novi 2.23 79 ePn Pn 02 53 56.8 +2.1
HCY Herceg Novi 2.23 79 ePn Pb 02 53 57.0 -2.1
HCY *i* Sn Sb 02 54 25.3 -0.9
SNTG Esanatoglia 2.25 303 P Pn 02 53 56.1 +0.9
SNTG AML AML
comp=E,1165µm,0.8s
SNTG AML AML
comp=N,1480µm,1.6s
SRES S.Oreste - Sor 2.26 275 P Pn 02 53 56.1 +1.0
SRES AML AML
comp=N,530µm,0.6s
SRES AML AML
comp=E,416µm,1.2s
CESX Cesi 2.26 285 P Pn 02 53 56.1 +0.9
CESX AML AML
comp=N,1026µm,0.7s
CESX AML AML
comp=E,1018µm,0.6s
SALB San Lorenzo Be 2.27 164 P Pn 02 53 56.6 +1.1
SALB AML AML
comp=E,712µm,0.8s
SALB AML AML
comp=N,554µm,0.7s
MOMA Monte Martano 2.32 289 P Pn 02 53 57.5 +1.5
MOMA AML AML
comp=N,1205µm,0.6s
MOMA AML AML
comp=E,1029µm,0.7s
ASSB Assisi San Ben 2.34 296 P Pn 02 53 57.6 +1.2
ASSB AML AML
comp=E,908µm,1.4s
ASSB AML AML
comp=N,1225µm,0.7s
BRY Bratogost 2.37 68 ePn Pn 02 53 58.4 +1.6
BRY Bratogost 2.37 68 ePn Pn 02 53 59.2 +2.4
BRY *i* Sn Sb 02 54 28.9 -1.6
ARVD Arcevia 2.39 308 P Pn 02 53 57.2 +0.3
ARVD AML AML
comp=E,576µm,0.8s
ARVD AML AML
comp=N,720µm,0.8s
FOSV Fossato di Vic 2.39 302 P Pn 02 53 57.7 +0.8
FOSV AML AML
comp=N,1260µm,0.6s
FOSV AML AML
comp=E,1640µm,0.7s
ATCC AVT- Casa Cast 2.41 299 P Pn 02 53 58.4 +1.1
ATCC AML AML
comp=E,2175µm,0.7s
ATCC AML AML
comp=N,1455µm,1.0s
COR1 Corinaldo 2.43 311 P Pn 02 53 58.7 +1.1
COR1 AML AML
comp=E,3475µm,0.7s
COR1 AML AML
comp=N,2235µm,0.6s
SSFR Montelago di S 2.45 305 P Pn 02 53 58.4 +0.6
SSFR AML AML
comp=E,1154µm,0.7s
SSFR AML AML
comp=N,1035µm,0.3s
SSFR AML AML
comp=E,1028µm,0.3s
SSFR AML AML
comp=N,1130µm,0.3s
UDBI Udbina 2.46 4 ePn Pn 02 53 59.5 +1.5
UDBI Sn Sn 02 54 26.8 -0.5
TDS Terranova Siba 2.48 166 P Pb 02 54 00.9 -2.6
TDS AML AML
comp=E,272µm,1.0s
TDS AML AML
comp=N,380µm,1.0s
BUM Brajici-Budva 2.50 84⇑*i*Pn Pn 02 54 01.2 +2.6
BUM *i* Sn Sb 02 54 32.1 -2.2
FRON Frontone 2.53 306 P Pn 02 53 59.4 +0.5
FRON AML AML
comp=N,980µm,0.7s
FRON AML AML
comp=E,770µm,0.9s
NVLJ Novalja 2.54 349 ePn Pn 02 53 59.5 +0.5
NVLJ Sn Sn 02 54 29.6 +0.5
ATFO Monte Foce - G 2.54 302 ⇑P Pn 02 54 00.1 +0.9
ATFO AML AML
comp=N,1012µm,0.7s
ATFO AML AML
comp=E,1105µm,0.8s
CEME Cevo 2.55 78⇓*i*Pn Pn 02 54 01.8 +2.5
CEME *i* Sn Sb 02 54 33.3 -2.3
MPAG Monte Paganucc 2.57 308 P Pn 02 53 59.8 +0.2
MPAG AML AML
comp=E,805µm,0.7s
MPAG AML AML
comp=N,664µm,1.5s
FSSB Fossombrone 2.60 310 P Pn 02 54 00.7 +0.8
FSSB AML AML
comp=N,1530µm,0.5s
FSSB AML AML
comp=E,1415µm,0.4s
MGRS Mrkonjic Grad 2.60 25 ePn Pb 02 54 03.4 -2.2
NKME Niksic 2.62 73⇓*i*Pn Pn 02 54 02.8 +2.6
NKME *i* Sn Sb 02 54 34.9 -2.8
TOLF Tolfa 2.63 271 ⇑P Pn 02 54 00.9 +0.6
TOLF AML AML
comp=N,304µm,1.1s
TOLF AML AML
comp=E,390µm,0.8s
PIEI Pieia 2.65 305 P Pn 02 54 01.1 +0.5
PIEI AML AML
comp=E,420µm,1.0s
PIEI AML AML
comp=N,474µm,1.0s
ATVO AVT- Monte Val 2.65 301 P Pn 02 54 02.0 +1.4
ATVO AML AML
comp=E,686µm,0.8s
ATVO AML AML
comp=N,804µm,0.7s
NKY Niksic 2.66 73 ePn Pn 02 54 03.3 +2.5
NKY *i* Sn Sb 02 54 35.9 -3.0
NARO Abbazia di Nar 2.67 306 P Pn 02 54 01.2 +0.5
NARO AML AML
comp=E,519µm,0.9s
NARO AML AML
comp=N,452µm,0.7s
MGAB Montegabbione 2.67 290 P Pn 02 54 01.7 +0.8
MGAB AML AML
comp=N,761µm,0.6s
MGAB AML AML
comp=N,868µm,0.7s
MGAB AML AML
comp=E,828µm,0.7s
MGAB AML AML
comp=E,748µm,0.7s
ATPI Pietralunga - 2.69 302 P Pn 02 54 02.4 +1.2
ATPI AML AML
comp=E,795µm,0.8s
ATPI AML AML
comp=N,708µm,1.1s
DRME Dracevica, Mon 2.71 86 ePn Pn 02 54 04.3 +2.9
DRME Dracevica, Mon 2.71 86⇑*i*Pn Pn 02 54 04.0 +2.6
DRME *i* Sn Sb 02 54 37.2 -3.1
ATMI Monte Miggiano 2.72 299 P Pb 02 54 05.1 -2.4
PESA Pesaro 2.72 314 P Pn 02 54 02.4 +0.9
PESA AML AML
comp=N,1135µm,1.0s
PESA AML AML
comp=E,1080µm,1.0s
UPM Unac-Piva 2.73 64 ePn Pn 02 54 04.5 +2.7
UPM Unac-Piva 2.73 64⇓*i*Pn Pn 02 54 04.2 +2.4
UPM *i* Sn Sn 02 54 37.5 +3.4
APEC Apecchio 2.73 304 P Pn 02 54 03.1 +1.4
APEC AML AML
comp=N,995µm,0.7s
APEC AML AML
comp=E,1410µm,0.7s
RABC Rab 2.74 349 ePn Pn 02 54 02.2 +0.5
RABC Sn Sn 02 54 33.4 -0.5
PIPA Pietrapaola 2.76 159 P Pn 02 54 04.3 +2.3
PIPA AML AML
comp=E,428µm,1.4s
PIPA AML AML
comp=N,392µm,0.8s
CELI Celico 2.76 164⇓P Pn 02 54 04.9 +2.6
PE3 Peglio 2.76 307 P Pn 02 54 03.3 +1.1
PE3 AML AML
comp=N,2350µm,0.6s
PE3 AML AML
comp=E,1745µm,1.6s
ULC Ulcinj 2.76 91 ePn Pn 02 54 04.5 +2.4
ULC *i* Sn Sn 02 54 38.3 +3.6
PDG Podgorica 2.78 81⇓P Pn 02 54 05.0 +2.6
PDG Podgorica 2.78 81⇑S Sb 02 54 39.3 -2.9
PDG Podgorica 2.78 81 ePn Pn 02 54 04.9 +2.6
PDG Podgorica 2.78 81 AML AML
comp=N,660µm,0.5s
PDG AML AML
comp=E,618µm,0.6s
PDG AML AML
comp=E,485µm,0.5s
PDG AML AML
comp=N,516µm,0.7s
TTG Podgorica 2.78 81⇑*i*Pn Pn 02 54 04.9 +2.6
TTG *i* Sn Sn 02 54 38.8 +3.7
SACS San Casciano d 2.79 287 P Pn 02 54 03.8 +1.1
SACS AML AML
comp=E,478µm,0.9s
SACS AML AML
comp=N,432µm,1.5s
SACS AML AML
comp=E,492µm,0.9s
SACS AML AML
comp=N,412µm,1.4s
BADI Badiali 2.82 302 P Pn 02 54 05.3 +2.4
BADI AML AML
comp=E,650µm,0.5s
BADI AML AML
comp=N,746µm,0.6s
SPS2 Spezzano della 2.84 167 P Pn 02 54 05.3 +2.1
SPS2 AML AML
comp=E,71µm,0.4s
SPS2 AML AML
comp=N,99µm,0.5s
CAR1 CAROLEI 2.86 169 P Pn 02 54 04.4 +0.9
CAR1 AML AML
comp=N,660µm,0.7s
CAR1 AML AML
comp=E,484µm,0.6s
PARC Parchiule 2.89 304 P Pn 02 54 05.0 +1.1
PARC AML AML
comp=N,418µm,1.0s
PARC AML AML
comp=E,421µm,0.7s
CAFI Castiglion Fio 2.92 297 P Pn 02 54 05.3 +1.1
CAFI AML AML
comp=E,291µm,0.7s
CAFI AML AML
comp=N,380µm,0.9s
SSP9 Sansepolcro 2.92 302 P Pn 02 54 06.4 +2.1
BLY Banja Luka 2.94 24 ePn Pn 02 54 06.8 +2.3
SCTE Santa Cesarea 2.98 131 P Pn 02 54 06.8 +1.7
SCTE AML AML
comp=E,1115µm,0.6s
SCTE AML AML
comp=N,970µm,0.5s
PRIJ Prijedor 3.03 16 ePn Pb 02 54 13.2 +0.4
KOME Kolasin 3.04 74⇓*i*Pn Pn 02 54 08.7 +2.6
KOME *i* Sn Sn 02 54 45.2 +3.5
CRE Caprese Michel 3.06 302 P Pn 02 54 07.3 +1.0
CRE AML AML
comp=N,267µm,0.7s
CRE AML AML
comp=E,258µm,0.7s
PLE Pljevlja 3.11 65⇓*i*Pn Pn 02 54 09.5 +2.6
PLE *i* Sn Sn 02 54 46.7 +3.5
SERS Sersale 3.15 163 ⇑P Pn 02 54 10.6 +3.0
HAPS Han Pijesak,Bl 3.21 50 ePn Pn 02 54 11.2 +2.8
RUDO Rudo 3.21 60 ePn Pn 02 54 11.3 +3.0
PUK Puka 3.24 89 ⇓P Pn 02 54 12.1 +3.4
PUK AML AML
comp=E,338µm,0.7s
PUK AML AML
comp=N,448µm,0.8s
ASQU Asqua 3.25 303 P Pn 02 54 10.0 +1.2
ASQU AML AML
comp=E,248µm,1.2s
ASQU AML AML
comp=N,258µm,0.7s
DOB Doboj 3.25 34 ePn Pn 02 54 10.0 +1.2
SFI Santa Sofia 3.27 305 P Pn 02 54 11.0 +1.9
SFI AML AML
comp=E,260µm,0.9s
SFI AML AML
comp=N,378µm,1.0s
TIR Tirane 3.32 101 ⇑P Pn 02 54 12.0 +2.2
TIR Tirane 3.32 101 ⇑S Sn 02 54 50.2 +1.9
TIR Tirane 3.32 101 P Pn 02 54 12.4 +2.7
TIR S Sn 02 54 48.5 +0.2
comp=N,132nm,0.4s
TIR Tirane 3.32 101 P Pn 02 54 12.2 +2.5
TIR AML AML
comp=E,476µm,0.4s
TIR AML AML
comp=N,350µm,0.6s
IVA Berane 3.32 75 ePn Pn 02 54 12.4 +2.6
IVA *i* Sn Sn 02 54 52.0 +3.5
PVY Plav 3.32 79 ePn Pn 02 54 12.5 +2.6
PVY *i* Sn Sn 02 54 52.0 +3.5
RIY Rijeka 3.34 347 ePn Pn 02 54 10.7 +0.7
RIY Sn Sn 02 54 48.5 -0.4
BBLS Lazići 3.36 56 ePn Pn 02 54 13.9 +3.5
BOJS Bojanci 3.44 357 P Pn 02 54 12.7 +1.3
BOJS AML AML
comp=E,1770µm,0.7s
BOJS AML AML
comp=N,1044µm,0.6s
RUFI Rufina 3.45 302 P Pn 02 54 12.5 +1.0
RUFI AML AML
comp=E,258µm,0.9s
RUFI AML AML
comp=N,290µm,1.3s
LMD Lutirano 3.45 307 P Pn 02 54 12.9 +1.3
LMD AML AML
comp=E,248µm,1.5s
LMD AML AML
comp=N,222µm,0.6s
JOPP Joppolo 3.47 175 ⇓P Pn 02 54 12.8 +0.9
JOPP AML AML
comp=N,236µm,0.6s
JOPP AML AML
comp=E,190µm,0.6s
OSSC Osservatorio P 3.48 296 P Pn 02 54 13.2 +1.3
OSSC AML AML
comp=E,145µm,0.7s
OSSC AML AML
comp=N,188µm,1.1s
OZLJ Ozalj 3.55 359 Sn Sn 02 54 52.8 -1.0
KNDS Knezji Dol 3.56 347 *i* Pn Pn 02 54 13.4 +0.3
KNDS *i* Sn Sn 02 54 54.2 -0.1
KNDS IAML 02 55 23.0
comp=Z,244nm,0.7s
BRIS BRISIGHELLA 3.61 307 P Pn 02 54 13.3 -0.4
BRIS AML AML
comp=E,40700µm,1.6s
BRIS AML AML
comp=N,40600µm,1.6s
BRIS AML AML
comp=N,339µm,0.8s
BRIS AML AML
comp=E,40700µm,1.6s
BRIS AML AML
comp=N,40600µm,1.6s
BRIS AML AML
comp=E,475µm,1.5s
SEI Scarperia 3.65 304 P Pn 02 54 16.4 +2.1
SEI AML AML
comp=N,434µm,0.6s
SEI AML AML
comp=E,297µm,0.5s
MOSL Moslavina 3.65 14 ePn Pn 02 54 15.7 +1.4
MOSL Sn Sn 02 54 56.4 -0.2
PLAC Placanica 3.68 169 P Pn 02 54 17.5 +2.7
CEY Cerknica 3.76 348 ePn Pn 02 54 15.9 +0.1
CRES Cresnjev 3.76 359 ePn Pn 02 54 16.9 +1.1
VISS Visnje 3.77 353 *i* Pn Pn 02 54 16.7 +0.8
VISS *e*Sn Sn 02 54 59.4 0.0
VISS IAML 02 55 33.8
comp=Z,220nm,1.0s
CRMI Carmignano 3.77 299 P Pn 02 54 16.6 +0.7
CRMI AML AML
comp=E,43µm,1.4s
CRMI AML AML
comp=N,39µm,1.6s
ZAG Zagreb 3.77 5 ePn Pn 02 54 17.0 +1.0
ZAG Sn Sn 02 54 58.1 -1.3
GCIS Gornji Cirnik 3.80 1 *i* Pn Pn 02 54 17.4 +1.1
MSRU Castanea 3.80 180 P Pn 02 54 17.3 +0.9
MSRU AML AML
comp=N,172µm,0.6s
MSRU AML AML
comp=E,306µm,0.6s
TEKS Tekeris 3.83 48 ePn Pn 02 54 19.3 +2.6
DIVS Divibare 3.84 57 ePn Pn 02 54 19.7 +2.7
DIVS Divibare 3.84 57 P Pn 02 54 20.2 +3.2
PTJ Puntijarka 3.85 4 ePn Pn 02 54 18.3 +1.1
PTJ Sn Sn 02 55 00.6 -1.0
GMB Gambarie 3.90 177 P Pn 02 54 19.0 +1.1
GMB AML AML
comp=N,489µm,0.6s
GMB AML AML
comp=E,474µm,1.2s
MPNC Port Mandanici 3.92 182 S Sn 02 55 02.0 -1.2
KEK Kerkira 4.00 125 P Pn 02 54 21.2 +2.2
KEK Kerkira 4.00 125 P Pn 02 54 21.2 +2.2
KEK AML AML
comp=N,62µm,0.4s
KEK AML AML
comp=E,74µm,0.6s
POPM Popiglio 4.02 301 P Pn 02 54 20.0 +0.6
POPM AML AML
comp=E,112µm,0.3s
POPM AML AML
comp=N,126µm,0.9s
SRN Sarande 4.02 121 P Pn 02 54 21.7 +2.3
PII Pisa 4.04 296 P Pn 02 54 20.9 +1.3
PII AML AML
comp=N,132µm,0.5s
PII AML AML
comp=E,158µm,0.4s
OHR Ohrid 4.06 102 *i* Pn Pn 02 54 23.6 +3.6
OHR *e*Sn Sn 02 55 09.5 +2.8
LOBO Lobor 4.10 5 ePn Pn 02 54 21.5 +1.0
LOBO Sn Sn 02 55 06.5 -1.1
CRNS Crni Vrh 4.12 348 *i* Pn Pn 02 54 21.2 +0.5
CRNS *e*Sn Sn 02 55 07.2 -0.8
KALN Kalnik 4.12 9 ePn Pn 02 54 21.2 +0.5
KALN Sn Sn 02 55 07.4 -0.6
MPAZ Palizzi 4.13 175 P Pn 02 54 22.7 +1.8
MPAZ AML AML
comp=E,105µm,0.8s
MPAZ AML AML
comp=N,133µm,0.5s
BDI Bagni Di Lucca 4.13 300 P Pn 02 54 21.4 +0.4
BDI AML AML
comp=E,176µm,0.6s
BDI AML AML
comp=N,135µm,0.8s
SABO M.te Sabotino 4.15 341 ⇑P Pn 02 54 21.1 -0.1
MNO Monte Soro 4.18 189 ⇑P Pn 02 54 24.3 +2.5
CSLB Castelbuono 4.28 196 P Pn 02 54 25.0 +2.0
VLC Villacollemand 4.31 301 P Pn 02 54 24.6 +1.2
VLC AML AML
comp=E,63µm,1.3s
VLC AML AML
comp=N,76µm,1.5s
FRGS Fruska Gora 4.38 44 ⇓P Pn 02 54 27.4 +3.0
FRGS Fruska Gora 4.38 44 ePn Pn 02 54 27.3 +3.0
KOGS Kog 4.41 6 ⇑P Pn 02 54 25.7 +1.0
KOGS AML AML
comp=E,2185µm,1.1s
KOGS AML AML
comp=N,1645µm,1.0s
KOVH Kovagotottos 4.42 24 eP Pn 02 54 26.6 +1.7
KOVH *e*S Sn 02 55 14.5 -1.0
IGT Igoumenitsa 4.43 123 P Pn 02 54 27.5 +2.4
IGT S Sn 02 55 14.8 -1.0
OBKA Obir 4.50 351 *i* Pn Pn 02 54 26.6 +0.6
comp=N,13nm,0.2s
OBKA Pg Pb 02 54 45.5 +7.7
comp=N,32nm,0.5s
OBKA *e*Sn Sn 02 55 16.8 -0.6
comp=N,23nm,0.2s
OBKA Obir 4.50 351 ePn Pn 02 54 26.4 +0.4
SNR=46
OBKA *e*Sn Sn 02 55 17.0 -0.5
SNR=1.8
CORL Corleone 4.51 203 P Pn 02 54 27.3 +1.1
FNA Florina 4.57 104 P Pn 02 54 29.6 +2.6
FNA S Sn 02 55 19.9 +0.6
comp=N,168nm,0.5s
PTCC Patocco-Chiusa 4.61 341 P Pn 02 54 27.4 -0.1
STAL STALIGIAL 4.66 335 P Pn 02 54 27.9 -0.2
VAE Valguarnera 4.67 191 Pn Pn 02 54 31.4 +3.1
comp=N,2.8nm,0.3s,baz=2.0,slow=15,SNR=5.5
CGRP Cima Grappa 4.67 326 ⇑P Pn 02 54 27.6 -0.9
CGRP S Sn 02 55 19.0 -2.8
ACOM Acomizza, Ital 4.71 343 ⇑P Pn 02 54 29.8 +0.8
MORH Mrgy, Hungar 4.71 27 ⇓P Pn 02 54 32.9 +4.1
MORH Mrgy, Hungar 4.71 27 eP Pn 02 54 34.3 +5.5
MORH Mrgy, Hungar 4.71 27 ePn Pn 02 54 31.1 +2.3
MYKA Terra Mystica 4.76 344 *i* Pn Pn 02 54 29.9 +0.4
comp=N,4.6nm,0.2s
MYKA *e*Sn Sn 02 55 22.4 -1.5
comp=N,19nm,0.4s
ROVR Rover Verones 4.82 319 ⇓P Pn 02 54 29.7 -0.8
PGF Pioggiola 4.87 278 ePn Pn 02 54 32.1 +0.9
PGF *e*Sn Sn 02 55 20.6 -6.2
comp=N,7.4nm,0.6s
KPRO Kipourio 4.89 114 P Pn 02 54 34.9 +3.5
MSSA Maissana 4.94 299 ⇓P Pn 02 54 33.6 +1.5

STIP	Stip	4.98	92	*i* Pn	Pn	02 54 37.8	+5.2
STIP				*e*Sn	Sn	02 55 34.1	+4.9
MEU	Monte Lauro	4.98	186	⇑P	Pn	02 54 34.8	+2.1
SALO	Salr	5.07	316	⇑P	Pn	02 54 33.6	-0.2
TSLK	Tsoukalades, L	5.07	128	P	Pn	02 54 36.6	+2.7
TSLK				S	Sn	02 55 31.7	+0.1
	comp=N,172nm,0.4s						
LKD2	Lefkada island	5.10	128	P	Pn	02 54 36.5	+2.3
TIH	Tihany	5.12	18	*e*P	Pn	02 54 38.6	+4.2
DRAG	Dragano-Lefkad	5.12	130	P	Pn	02 54 36.8	+2.3
MAGA	Magasa	5.13	318	⇑P	Pn	02 54 33.8	-0.9
ABTA	Abfaltersbach	5.16	336	*i* Pn	Pn	02 54 35.0	0.0
	comp=N,2.7nm,0.2s						
ABTA				*e*Sn	Sn	02 55 31.1	-2.6
	comp=N,17nm,0.5s						
ARSA	Arzberg	5.18	360	*i* Pn	Pn	02 54 35.9	+0.6
	comp=N,1.8nm,0.2s						
ARSA	Arzberg	5.18	360	*e*Sn	Sn	02 55 32.9	-1.3
	SNR=2.2						
ARSA	Arzberg	5.18	360	⇑P	Pn	02 54 35.9	+0.6
LEOD	Capriano del C	5.18	313	P	Pb	02 54 43.0	-6.4
BOB	Bobbio (Coli)	5.19	303	⇓P	Pn	02 54 37.3	+1.7
EVGI	Lefkada island	5.21	130	P	Pn	02 54 37.9	+2.2
GORR	Gorreto	5.21	301	P	Pn	02 54 38.5	+2.7
KBA	Koelnbreinsper	5.25	343	*i* Pn	Pn	02 54 36.9	+0.5
	comp=N,5.6nm,0.2s						
KBA				*e*Sn	Sn	02 55 36.3	+0.2
	comp=N,11nm,0.5s						
KBA	Koelnbreinsper	5.25	343	*e*Pn	Pn	02 54 37.1	+0.7
	SNR=2.7						
KBA				*e*Sn	Sn	02 55 35.3	-0.8
	SNR=2.4						
MDVR	Moldovita	5.25	57	⇑P	Pn	02 54 40.1	+3.7
FSK	Fiskardo	5.27	132	P	Pn	02 54 38.3	+1.8
MPLH	Magyarpolny	5.30	15	*e*P	Pn	02 54 39.4	+2.5
KOSI	Kohlern	5.31	327	⇑P	Pn	02 54 37.3	0.0
VAY	Valandovo	5.32	96	*i* Pn	Pn	02 54 39.4	+2.2
VSL	Villasalto	5.33	243	⇓P	Pn	02 54 40.1	+2.7
VSL				S	Sn	02 55 39.0	+0.9
KEF3	Kipouria, Keph	5.34	135	P	Pn	02 54 39.6	+2.1
KEF3				S	Sn	02 55 37.1	-1.0
	comp=N,478nm,0.3s						
MABI	Malga Bissina	5.38	319	⇓P	Pn	02 54 37.9	-0.4
RISI	Rein	5.47	334	⇑P	Pn	02 54 40.0	+0.6
VLS	Valsamata	5.49	133	P	Pn	02 54 41.4	+1.9
VLS	Valsamata	5.49	133	⇑P	Pn	02 54 41.7	+2.1
EGYH	Egyhazaskeszo	5.50	13	*e*P	Pn	02 54 43.4	+3.7
THL	Klokotos Trika	5.51	115	P	Pn	02 54 42.6	+2.7
THL				S	Sn	02 55 41.9	-0.5
	comp=N,95nm,0.6s						
PSDA	Pessada-Kefalo	5.53	134	P	Pn	02 54 41.9	+1.8
PSDA				S	Sn	02 55 42.2	-0.6
	comp=N,32nm,0.3s						
ABSI	Aberstueckl	5.55	328	⇓P	Pn	02 54 40.5	-0.1
LIT	Litokhoron	5.61	108	P	Pn	02 54 43.2	+2.0
BZS	Buzias	5.65	49	⇑P	Pn	02 54 44.6	+2.9
SOP	Sopron	5.66	7	*e*P	Pn	02 54 44.3	+2.4
ROSI	Rosskopf	5.68	330	⇓P	Pn	02 54 43.1	+0.7
EVR	Evrytania	5.72	121	P	Pn	02 54 46.5	+3.6
HERR	Herculane	5.74	58	⇓P	Pn	02 54 45.6	+2.6
BRMO	Bormio	5.76	322	P	Pn	02 54 44.7	+1.3
MOSI	Grossmontoni	5.78	324	⇓P	Pn	02 54 45.4	+1.6
MOA	Molln	5.85	352	*i* Pn	Pn	02 54 45.1	+0.5
	comp=N,6.5nm,0.3s						
MOA				*e*Sn	Sn	02 55 49.3	-1.4
	comp=N,62nm,0.7s						
MOA	Molln	5.85	352	*e*Pn	Pn	02 54 45.5	+0.9
	SNR=20						
MOA				*e*Sn	Sn	02 55 49.7	-1.1
	SNR=10						
CONA	Conrad Observa	5.86	2	*i* Pn	Pn	02 54 45.4	+0.6
	comp=N,0.7nm,0.2s,SNR=5.1						
MAKR	Makrakomi, Fth	5.88	119	P	Pn	02 54 48.5	+3.6
WTTA	Wattenberg	5.89	333	*i* Pn	Pn	02 54 45.8	+0.6
	comp=N,2.4nm,0.2s,SNR=12						
WTTA	Wattenberg	5.89	333	*e*Pn	Pn	02 54 46.1	+0.8
	SNR=11						
WTTA				*e*Sn	Sn	02 55 53.7	+1.7
	SNR=3.5						
WTTA	Wattenberg	5.89	333	⇓P	Pn	02 54 46.4	+1.2
WATA	Walderalm	5.97	333	*i* Pn	Pn	02 54 47.3	+1.0
	comp=N,5.7nm,0.2s						
WATA				*e*Sn	Sn	02 55 53.0	-0.9
	comp=N,14nm,0.4s						
ANX	Ano Chora	5.99	123	P	Pn	02 54 49.8	+3.3
AGG	Agios Georgios	6.00	118	P	Pn	02 54 49.8	+3.2
SQTA	Sankt Quirin	6.00	331	*i* Pn	Pn	02 54 47.4	+0.6
	comp=N,7.1nm,0.2s						
SQTA				*e*Sn	Sn	02 55 53.6	-1.0
	comp=N,22nm,0.3s						
FETA	Feichten	6.03	327	*i* Pn	Pn	02 54 47.3	+0.2
	comp=N,3.5nm,0.2s,SNR=16						
SRO	Srobarova	6.07	18	*e*PN	Pn	02 54 49.7	+2.2
EFP	Efpalio	6.08	125	P	Pn	02 54 51.1	+3.4
MOTA	Moosalm	6.15	331	*i* Pn	Pn	02 54 49.4	+0.6
	comp=N,1.0nm,0.2s						
MOTA				*e*Sn	Sn	02 55 57.8	-0.4
	comp=N,24nm,0.4s						
SERG	Sergoula	6.18	124	P	Pn	02 54 52.5	+3.4
SBF	Sospel	6.21	290	*e*Pn	Pn	02 54 50.1	+0.6
SBF				*e*Sn	Sn	02 55 52.6	-7.0
	comp=N,14nm,0.4s						
DAVOX	Davos/Dischmat	6.21	321	Pn	Pn	02 54 51.5	+1.8
	comp=N,3.2nm,0.3s,baz=143,slow=15,SNR=26						
DAVOX				Sn	Sn	02 55 57.5	-2.4
	comp=N,1.2nm,0.3s,baz=162,slow=20,SNR=1.1						
DAVOX	Davos/Dischmat	6.21	321	⇑P	Pn	02 54 52.0	+2.3
TRIZ	Trizonia	6.22	124	P	Pn	02 54 53.0	+3.4
LAKA	Lakka	6.24	126	P	Pn	02 54 52.7	+2.8
TUE	Stuetta	6.25	317	⇓P	Pn	02 54 50.7	+0.5
NVR	Nevrokopi	6.27	94	P	Pn	02 54 53.1	+2.8
DRO	Drossia	6.27	129	P	Pn	02 54 53.3	+2.9
MONC	Moncucco Torin	6.29	301	⇓P	Pn	02 54 52.2	+1.6
RETA	Reutte	6.39	330	*i* Pn	Pn	02 54 52.8	+0.8
	comp=N,2.6nm,0.2s						
XOR	Xorichti	6.41	112	P	Pn	02 54 54.1	+1.8
MODS	Modra-Piesok	6.42	10	*e*PN	Pn	02 54 54.3	+1.9
KLV	Kalavryta, Ach	6.47	126	P	Pn	02 54 56.2	+3.1
KLV	Kalavryta, Ach	6.47	126	⇑P	Pn	02 54 56.3	+3.2
DAVA	Damuels	6.59	324	*i* Pn	Pn	02 54 56.1	+1.2
	comp=N,7.5nm,0.2s						
DAVA	Damuels	6.59	324	*e*Pn	Pn	02 54 56.4	+1.5
	SNR=12						
PSZ	Piszkesteto	6.61	26	⇑P	Pn	02 54 58.3	+3.2
PSZ	Piszkesteto	6.61	26	*e*P	Pn	02 55 01.2	+6.2
FRF	La Foret Royal	6.71	286	*e*Pn	Pn	02 54 57.4	+1.1
FRF				*e*Sn	Sn	02 56 04.7	-7.1
	comp=N,1.0nm,0.2s						
LMR	La Mourre	6.77	284	*e*Pn	Pn	02 54 57.9	+0.8
LMR				*e*Sn	Sn	02 56 05.9	-7.4
	comp=N,0.9nm,0.2s						
CKRC	Cesky Krumlov	6.81	353	*e*PN	Pn	02 54 58.4	+0.8
CKRC				*e*SN	Sn	02 56 10.8	-3.4
CKRC	Cesky Krumlov	6.81	353	*e*Pn	Pn	02 54 58.8	+1.2
	SNR=4.3						
CKRC				*e*Sn	Sn	02 56 12.3	-2.0
	SNR=2.2						
KOLL	Kolacno	6.81	16	*e*PN	Pn	02 55 01.2	+3.5
VYHS	Vyhne	6.83	19	*e*PN	Pn	02 55 00.1	+2.1
VYHS				*e*SN	Sn	02 56 14.7	-0.2
GEC2	GERESS Array S	6.90	350	*e*Pn	Pn	02 54 59.1	+0.1
	SNR=5.9						
GEC2				*e*Sn	Sn	02 56 12.8	-3.8
	SNR=6.0						
GERES	GERESS Array B	6.90	350	Pn	Pn	02 54 59.2	+0.2
	comp=N,1.2nm,0.3s,baz=174,slow=13,SNR=28						
GERES				Sn	Sn	02 56 13.1	-3.5
	comp=N,7.3nm,0.3s,baz=166,slow=23,SNR=22						
MBDF	Montbardon	6.92	296	*e*Pn	Pn	02 54 59.3	0.0
MBDF				*e*Sn	Sn	02 56 09.7	-7.4
	comp=N,5.3nm,0.4s						
DRGR		6.97	45	⇑P	Pn	02 55 04.0	+4.0
KRUC	Moravsky	7.02	5	*e*PN	Pn	02 55 01.0	+0.5
KRUC				*e*SN	Sn	02 56 16.7	-2.7
KHC	Kasperske Hory	7.20	350	*e*PN	Pn	02 55 02.9	0.0
KHC				*ex*	x	02 55 11.5	
KHC				*e*SN	Sn	02 56 19.1	-4.7
KHC	Kasperske Hory	7.20	350	*e*Pn	Pn	02 55 03.0	0.0
	SNR=7.2						
KHC				*e*Sn	Sn	02 56 19.7	-4.1
	SNR=2.9						
LPG	La Plagne	7.22	301	*e*Pn	Pn	02 55 02.5	-1.1
LPG				*e*Sn	Sn	02 56 17.1	-7.8
	comp=N,16nm,0.4s						
LPL	La Plagne	7.24	301	*e*Pn	Pn	02 55 02.9	-0.9
LPL				*e*Sn	Sn	02 56 17.3	-8.0
	comp=N,20nm,0.5s						
VRAC	Vranov	7.28	5	Pn	Pn	02 55 05.4	+1.3
	comp=N,0.3nm,0.3s,baz=199,slow=16,SNR=1.8						
VRAC				Sn	Sn	02 56 21.2	-4.6
	comp=N,0.3nm,0.3s,baz=245,slow=19,SNR=1.4						
WET	Wettzell	7.32	346	*e*Pn	Pn	02 55 04.2	-0.4
	SNR=5.6						
WET				*e*Sn	Sn	02 56 22.0	-4.8
	SNR=5.7						
SMRF	Simiane la Rot	7.55	288	*e*Pn	Pn	02 55 09.7	+1.9
ORIF	Oris-en-Rattie	7.58	295	*e*Pn	Pn	02 55 08.2	-0.1
ORIF				*e*Sn	Sn	02 56 25.2	-8.1
	comp=N,9.1nm,0.6s						
MORC	Moravsky Berou	7.83	10	⇑P	Pn	02 55 15.1	+3.3
PRU	Pruhonice	7.95	355	*e*SN	Sn	02 56 37.7	-4.6
KEST	Kesra	7.96	219	Pn	Pn	02 55 17.7	+4.2
	comp=N,0.3nm,0.3s,baz=45,slow=4.3,SNR=6.8						
ROTZ	Rotzenmuhle	8.04	344	*e*Pn	Pn	02 55 13.1	-1.5
	SNR=6.2						
ROTZ				*e*Sn	Sn	02 56 38.8	-5.7
	SNR=3.7						
BFO	Black Forest	8.07	323	*e*Pn	Pn	02 55 14.7	-0.2
	SNR=2.7						
CABF	La Chapelle	8.15	307	*e*Pn	Pn	02 55 16.3	+0.1
CABF				*e*Sn	Sn	02 56 39.1	-8.4
	comp=N,6.3nm,0.4s						
MLR	Muntele Rosu	8.27	62	Pn	Pn	02 55 20.9	+3.1
	comp=N,0.2nm,0.3s,baz=215,slow=16,SNR=1.7						
MLR	Muntele Rosu	8.27	62	⇑P	Pn	02 55 20.3	+2.5
VIVF	Saint-Julien-l	8.38	293	*e*Pn	Pn	02 55 19.7	+0.4
VIVF				*e*Sn	Sn	02 56 44.3	-8.7
	comp=N,1.8nm,0.4s						
HINF	Hinteralfeld	8.42	316	*e*Pn	Pn	02 55 19.3	-0.5
HINF				*e*Sn	Sn	02 56 45.5	-8.5
	comp=N,20nm,0.4s						
NKC	Novy Kostel	8.44	346	*e*SN	Sn	02 56 47.3	-7.1
WERN	Wernitzgruen	8.51	346	*e*Pn	Pn	02 55 20.2	-0.8
	SNR=1.8						
CDF	Champ du Feu	8.61	320	*e*Pn	Pn	02 55 21.9	-0.6
CDF				*e*Sn	Sn	02 56 50.7	-8.0
	comp=N,13nm,0.4s						
HAU	Haudompre	8.80	316	*e*Pn	Pn	02 55 24.4	-0.6
HAU				*e*Sn	Sn	02 56 54.8	-8.5
	comp=N,34nm,0.4s						
BRG	Berggiesshubel	8.88	353	*e*P	Pn	02 55 29.8	+3.8
BRG				Amp		02 55 31.8	
	comp=Z,2.3nm,0.9s						
BRG				r		02 55 47.3	
BRG				r		02 56 58.9	
BRG				r		02 58 15.3	
BRG				Amp		02 58 33.4	
	comp=Z,42nm,1.8s						
BRG				Amp		03 11 37.0	
	comp=Z,0.2nm,16.1s						
BRG				Amp		03 11 41.0	
	comp=E,0.2nm,16.4s						
MOX	Moxa	8.99	344	*e*Pn	Pn	02 55 26.7	-1.0
	SNR=3.1						
CLL	Collm	9.40	350	*e*Pn	Pn	02 55 33.0	-0.2
CLL				*e*Sn	Sn	02 57 10.0	-8.0
SMF	Signal de Mont	9.54	303	*e*Pn	Pn	02 55 33.6	-1.6
SMF				*e*Sn	Sn	02 57 12.4	-9.1
	comp=E,6.4nm,0.3s						
SFTF	Sexfontaines	9.62	313	*e*Pn	Pn	02 55 35.8	-0.4
	baz=133						
SFTF				*e*Sn	Sn	02 57 14.3	-9.1
	comp=E,5.7nm,0.4s						
MEZF	Maizieres J'vi	9.79	315	*e*Pn	Pn	02 55 38.8	+0.3
MEZF				*e*Sn	Sn	02 57 18.3	-9.2
	comp=E,9.9nm,0.5s						
LOR	Lormes	9.81	306	*e*Pn	Pn	02 55 36.9	-1.9
	baz=125						
LOR				*e*Sn	Sn	02 57 18.9	-9.1
	comp=E,7.4nm,0.3s						
MTLF	Montolieu	9.89	282	*e*Pn	Pn	02 55 42.1	+2.2
AVF	Avril sur Loir	9.91	303	*e*Pn	Pn	02 55 38.8	-1.4
AVF				*e*Sn	Sn	02 57 20.9	-10
	comp=E,1.9nm,0.4s						
IDI	Anoyia	9.96	130	Pn	Pn	02 55 41.9	+1.0
	comp=E,0.5nm,0.3s,baz=288,slow=8.1,SNR=1.6						
IDI				Sn	Sn	02 57 24.7	-7.2
	comp=E,1.1nm,0.3s,baz=315,slow=20,SNR=1.4						
IDI	Anoyia	9.96	130	⇓P	Pn	02 55 42.3	+1.4
BGF	Bois d'Agland	10.14	301	*e*Pn	Pn	02 55 42.6	-0.7
BGF				*e*Sn	Sn	02 57 27.8	-8.3
	comp=E,6.7nm,0.4s						
CAF	Calviac	10.20	291	*e*Pn	Pn	02 55 44.4	+0.2
TCF	Toulx Ste Croi	10.46	298	*e*Sn	Sn	02 57 36.0	-8.0
	comp=E,1.9nm,0.4s						
HYF	Humbligny	10.55	304	*e*Pn	Pn	02 55 48.4	-0.6
LDF	La Druitiere	12.79	306	*e*Sn	Sn	02 58 29.4	-12
	comp=E,0.7nm,0.3s						
GRR	Gorron	13.16	304	*e*Pn	Pn	02 56 24.2	-0.4
GRR				*e*Sn	Sn	02 58 39.4	-11
	comp=E,1.0nm,0.2s						
HFS	Hagfors	18.12	357	P	P	02 57 30.0	+0.7
	comp=E,0.1nm,0.3s,baz=173,slow=13,SNR=2.5						
FINES	FINESS Array B	20.42	15	P	P	02 57 54.9	+0.6
	comp=E,1.1nm,0.5s,baz=190,slow=9.6,SNR=9.5						
TORD	Torodi Ar. Bea	31.23	207	P	P	02 59 38.4	+1.5
	comp=E,0.3nm,0.6s,baz=11,slow=8.8,SNR=6.0						
MKAR	Makarchi Array	46.61	60	P	P	03 01 46.6	+1.4
	comp=E,0.7nm,0.8s,baz=290,slow=6.7,SNR=4.4						
SONM	Songino Array	60.94	50	P	P	03 03 32.5	+2.3
	comp=E,0.3nm,0.4s,baz=304,slow=10,SNR=2.1						
PDAR	Pinedale Array	82.16	323	P	P	03 05 38.5	+0.3
	comp=E,0.3nm,0.8s,baz=32,slow=5.3,SNR=2.6						

IDC 08 02:57:49.1±3.1, 18°.20S×174°.45W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/36, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=150.9km s-min=28.3km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.98	31	Pn	Pn		02 59 05.1	-0.1
	2.4nm,0.3s,baz=204,slow=20,SNR=2.7							
AFI				Sn	Sn		02 59 52.9	-11
	1.2nm,0.3s,baz=282,slow=19,SNR=1.4							
WRA	Warramunga Arr	48.28	259	P	P		03 06 32.0	-0.4
	0.4nm,0.7s,baz=97,slow=7.5,SNR=5.0							
ASAR	Alice Springs	48.34	254	P	P		03 06 32.9	+0.1
	1.6nm,0.8s,baz=90,slow=7.8,SNR=14							
PDAR	Pinedale Array	85.01	42	P	P		03 10 26.8	0.0
	0.2nm,0.6s,baz=232,slow=1.0,SNR=2.1							

*IDC **08** 03:39:04.8±1.0, 17°.58S×178°.96W, h570km±10km, mb3.1/11, mb1 3.3/13, mb1mx3.2/31, mbtmp4.0/13, Error ellipse: s-maj=30.9km s-min=14.8km az=158.0*

ISC 08 03:39:03.1±0.8, 17°.5S±0°.2×178°.8W±0°.1, h550km, n15, σ1§68/16, mb3.5/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.01	266	P	P		03 40 20.2	+1.9
	1.3nm,0.3s,baz=116,slow=3.5,SNR=8.7							
MSVF				S	S		03 41 23.6	+4.1
	0.3nm,0.3s,baz=137,slow=22,SNR=2.1							
AFI	Afiamalu	7.66	63	P	P		03 40 56.1	-1.6
	2.1nm,0.3s,baz=319,slow=17,SNR=4.3							
DZM	Mont Dzumac	14.60	250	P	P		03 42 07.0	-1.6
	0.6nm,0.3s,baz=84,slow=19,SNR=6.5							
PPT	Papeete	27.85	95	P	P		03 44 11.5	+2.4
	33nm,1.1s,baz=184,slow=18,SNR=2.4							
STKA	Stephens Creek	38.49	241	P	P		03 45 37.6	-1.0
	1.1nm,0.5s,baz=101,slow=14,SNR=3.9							
WRA	Warramunga Arr	44.33	259	P	P		03 46 23.4	-1.6
	0.8nm,0.7s,baz=96,slow=6.9,SNR=12							
ASAR	Alice Springs	44.53	254	P	P		03 46 25.8	-0.8
	5.6nm,0.6s,baz=89,slow=8.2,SNR=77							
MJAR	Matsushiro Arr	67.38	323	P	P		03 49 03.9	-0.2
	0.7nm,0.5s,baz=145,slow=8.3,SNR=4.4							
PETK	Petropavlovsk-	73.22	345	P	P		03 49 38.5	+0.3
	3.2nm,0.8s,baz=111,slow=12,SNR=4.0							
NVAR	Mina Array Bea	79.41	44	P	P		03 50 12.9	0.0
	0.2nm,0.4s,baz=231,slow=10,SNR=4.1							
ILAR	Eielson Array	85.61	13	P	P		03 50 42.3	-0.9
	0.2nm,0.4s,baz=222,slow=6.1,SNR=2.6							
TXAR	Lajitas Array	86.11	58	P	P		03 50 47.4	+0.8
	0.6nm,0.8s,baz=207,slow=5.2,SNR=6.6							
PDAR	Pinedale Array	87.34	44	P	P		03 50 52.0	-0.2
	0.3nm,0.5s,baz=180,slow=1.5,SNR=3.9							
SONM	Songino Array	93.02	319	P	P		03 51 18.6	+0.3
	0.2nm,0.4s,baz=90,slow=2.9,SNR=1.7							
GERES	GERESS Array B	147.15	345	PKPbc	PKPbc		03 57 44.6	-0.2
	0.8nm,0.5s,baz=58,slow=3.3,SNR=7.0							

*IDC **08** 03:45:36.2±0.6, 29°.57S×178°.06W, h116km±8km, mb3.8/6, mb1 3.9/7, mb1mx3.7/27, mbtmp4.2/7, Error ellipse: s-maj=30.8km s-min=23.0km az=42.0*

*NEIC **08** 03:45:37.4±1.8, 29°.68S±0°.07×178°.2W±0°.2, h119km±6km, mb4.4/13, Error ellipse: s-maj=24.3km s-min=4.1km az=113.0*

ISC 08 03:45:36.5±0.6, 29°.73S±0°.06×178°.4W±0°.1, h100km, n62, σ1§76/47, mb4.4/13, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.63	43	P	Pn		03 45 53.9	+0.6
GLKZ				S	Sn		03 46 06.3	+0.5
RIZ	Raoul Island	0.64	41	P	Pn		03 45 54.2	+0.9
RIZ				S	Sn		03 46 07.9	+1.9
RAO	Raoul Island	0.64	42	P	Pn		03 45 54.2	+0.8
	2μm,0.3s,baz=198,slow=20,SNR=65							
RAO				S	Sn		03 46 07.1	+1.1
	1μm,0.3s,baz=252,slow=20,SNR=18							
RAO	Raoul Island	0.64	42	Pn	Pn		03 45 54.2	+0.8
RAO				Sn	Sn		03 46 07.5	+1.5
MXZ	Matakaoa Point	8.28	198	P	Pn		03 47 32.1	-1.6
MXZ				S	Sn		03 49 06.1	+0.6
WMGZ	Waiomatatini S	8.49	197	P	Pn		03 47 34.7	-1.8
WMGZ				S	Sn		03 49 14.3	+3.7
HAZ	Te Kaha	8.61	201	P	Pn		03 47 37.0	-1.2
PKGZ	Pakihiroa	8.65	199	P	Pn		03 47 36.5	-2.3
PKGZ				S	Sn		03 49 16.1	+1.6
PUZ	Puketiti	8.77	198	P	Pn		03 47 37.5	-2.9
PUZ				S	Sn		03 49 14.3	-3.2
RUGZ	Raukumara Rang	8.84	201	P	Pn		03 47 39.1	-2.3
TWGZ	Tauwhareparae	8.95	199	P	Pn		03 47 40.3	-2.5
CNGZ	Carnagh Statio	9.17	197	P	Pn		03 47 43.5	-2.4
MWZ	Matawai	9.22	200	P	Pn		03 47 43.8	-2.8
TKGZ	Te Karaka	9.23	199	P	Pn		03 47 43.4	-3.2
URZ	Urewera	9.29	202	P	Pn		03 47 45.2	-2.2
	1.9nm,0.3s,baz=54,slow=17,SNR=22							
URZ				S	Sn		03 49 30.1	+0.1
	6.6nm,0.3s,baz=180,slow=3.4,SNR=18							
URZ	Urewera	9.29	202		Pn		03 47 45.3	-2.1
URZ					Sn		03 49 32.9	+3.0
URZ	Urewera	9.29	202	P	Pn		03 47 45.2	-2.1
RIGZ	Rimuhau	9.50	198	P	Pn		03 47 46.8	-3.5
PRGZ	Paritu Road	9.67	197	P	Pn		03 47 49.1	-3.6
MHGZ	Mahia Peninsul	9.88	197	P	Pn		03 47 52.0	-3.4
RAHZ	Arahi	9.89	201	P	Pn		03 47 52.5	-3.1
NMHZ	Naumai	10.15	202	P	Pn		03 47 56.1	-3.1
ARHZ	Aropaoanui	10.24	200	P	Pn		03 47 56.9	-3.4
SNVZ	South Ngauruho	10.63	206	P	Pn		03 48 03.9	-2.0
MSVF	Nonsavu	12.37	344	P	Pn		03 48 28.5	-0.6
	baz=164,slow=23,SNR=1.2							
MSVF	Nonsavu	12.37	344		Pn		03 48 27.4	-1.8
EIDS	Eidsvold	27.35	272	P	P		03 51 14.6	+2.3
EIDS				IAmb	IAmb		03 51 24.3	
	comp=Z,17nm,1.3s							
CTA	Charters Tower	33.34	279	P	P		03 52 06.7	+1.5
	comp=Z,3.3nm,0.5s,baz=112,slow=10,SNR=2.9							
CTAO	Charters Tower	33.34	279	P	P		03 52 06.9	+1.7
STKA	Stephens Creek	34.29	256	P	P		03 52 15.4	+2.2
	comp=Z,3.8nm,0.5s,baz=98,slow=12,SNR=8.8							
STKA	Stephens Creek	34.29	256	P	P		03 52 15.2	+2.0
ASAR	Alice Springs	42.79	266	P	P		03 53 24.3	-0.2
	comp=Z,1.5nm,0.6s,baz=103,slow=7.3,SNR=14							
ASAR				PcP	PcP		03 55 14.3	+0.1
	comp=Z,0.6nm,0.5s,baz=117,slow=4.0,SNR=6.1							
ASAR	Alice Springs	42.79	266	P	P		03 53 24.6	+0.1
WR0	Warramunga Arr	43.54	272	P	P		03 53 30.6	+0.1
WR0				IAmb	IAmb		03 53 50.0	
	comp=Z,3.7nm,1.1s							
WB2	Warramunga Arr	43.71	272	P	P		03 53 31.8	0.0
WB2				IAmb	IAmb		03 53 34.1	
	comp=Z,10nm,1.4s							
WRAB	Tennant Creek	43.71	272	P	P		03 53 32.1	+0.1
WRAB				IAmb	IAmb		03 53 47.7	
	comp=Z,5.0nm,1.0s							
WRA	Warramunga Arr	43.72	272	P	P		03 53 31.2	-0.8
	comp=Z,2.8nm,0.5s,baz=109,slow=6.2,SNR=47							
WRA

CROK	**Carrier**	**0.93**	**283**	Pg	Pg	03 58 33.8	-0.2
CROK				Sg	Sg	03 58 46.1	0.0
OKCFA	**Oklahoma City**	**1.01**	**209**		Pg	03 58 34.5	-1.0
OKCFA				Sg	Sg	03 58 48.6	0.0
OKCSW	**OKLAHOMA CITY**	**1.01**	**208**		Pg	03 58 34.6	-0.9
KAN09	**Caldwell North**	**1.03**	**324**	Pg	Pg	03 58 35.5	-0.5
KAN17	**Caldwell West**	**1.04**	**316**		Pg	03 58 35.1	-1.1
KS20	**Mayfield South**	**1.08**	**329**		Pg	03 58 36.4	-0.5
FNO	**Franklin**	**1.13**	**203**		Pg	03 58 36.1	-1.7
KAN05	**Bluff City Nor**	**1.15**	**315**	Pg	Pg	03 58 37.6	-0.5
OK032	**Salt Plains WL**	**1.20**	**295**		Pb	03 58 38.3	-0.8
KAN08	**Anthony NE Sta**	**1.29**	**316**	Pn	Pb	03 58 40.7	+0.1
KAN10	**Anthony SW Sta**	**1.29**	**310**		Pn	03 58 40.2	-0.3
KAN12	**Harper NE Stat**	**1.35**	**318**		Pn	03 58 41.4	0.0
U32A	**Winter Ranch,**	**1.73**	**273**	Pn	Pn	03 58 47.3	+0.6
U32A				IAmb_Lg		03 59 13.2	
	comp=Z,20nm,0.7s						
X34A	**Smith Ranch, M**	**1.88**	**205**		Pn	03 58 48.5	0.0
X34A				IAmb_Lg		03 59 18.2	
	comp=Z,17nm,0.8s						
U38A	**Gravette**	**2.00**	**85**		Pn	03 58 50.7	+0.4
X37A	**Clayton**	**2.10**	**144**		Pn	03 58 52.4	+0.8
X37A				IAmb_Lg		03 59 25.5	
	comp=Z,12nm,0.7s						
WMOK	**Wichita Mounta**	**2.21**	**226**	Pn	Pn	03 58 52.9	-0.3
HHAR	**Hobbs**	**2.36**	**90**	Pn	Pn	03 58 55.6	+0.4
R32A	**Long Quarter,**	**2.58**	**326**	Pn	Pn	03 58 59.3	+1.0
R32A				IAmb_Lg		03 59 37.7	
	comp=Z,11nm,1.1s						
MIAR	**Mount Ida**	**3.20**	**122**	Pn	Pn	03 59 06.3	-0.5
U40A	**Yellville**	**3.23**	**88**	Pn	Pn	03 59 07.4	+0.1
CBKS	**Cedar Bluff**	**3.40**	**318**	IAmb_Lg		04 00 05.9	
	comp=Z,8.0nm,1.0s						
MGMO	**Mountain Grove**	**3.78**	**76**	Pn	Pn	03 59 15.8	+1.0
MGMO				IAmb_Lg		04 00 20.5	
	comp=Z,9.8nm,0.8s						
R40A	**Maddies Statio**	**4.16**	**60**	Pn	Pn	03 59 19.2	-0.8
AMTX	**Amarillo**	**4.18**	**252**	Pn	Pn	03 59 20.3	0.0
AMTX				IAmb_Lg		04 00 30.5	
	comp=Z,9.6nm,0.8s						
P38A	**Dawn**	**4.23**	**37**	Pn	Pn	03 59 21.2	+0.3
T25A	**Trinidad**	**6.13**	**280**	IAmb_Lg		04 01 35.9	
	comp=Z,4.1nm,1.0s						

*ISK **08** 03:58:45.6, 36°.19N×29°.43E, h8km, ML3.4/25*
*DDA **08** 03:58:46.2, 36°.22N×29°.44E, h25km±1km, ML3.3*
*NIC **08** 03:58:46.2±0.0, 36°.25N×29°.52E, h28km, Ml3.4/4*
ISC 08 03:58:46.9±0.9, **36°.24N**±0°.03×**29°.46E**±0°.02, **h24**km±6km, **n75**, σ1°**44**/104, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.12**	**93**	*i* P	**Pb**	**03 58 51.2**	**-0.5**
AKAS				*i* S	**Sb**	**03 58 54.8**	**-0.2**
AKAS				IAML		03 58 56.0	
	comp=E,9μm,0.6s						
AKAS				IAML		03 58 57.0	
	comp=N,13μm,0.6s						
KSL	**Kastellorizon**	**0.14**	**131**	P	**Pb**	**03 58 51.4**	**-0.3**
KSL				AML	AML	03 58 55.8	
	comp=N,13nm,0.3s						
KSL				AML	AML	03 58 55.8	
	comp=N,13nm,0.3s						
KSL				S	**Sb**	**03 58 55.8**	**+0.9**
KSL				AML	AML	03 58 56.0	
	comp=N,22nm,0.3s						
KSL				AML	AML	03 58 56.0	
	comp=N,22nm,0.3s						
DEMR	**Demre-Antalya**	**0.36**	**90**	PG	**Pb**	**03 58 53.4**	**-1.4**
DEMR				SG	**Sb**	**03 58 59.9**	**-0.3**
FETY	**Fethiye**	**0.50**	**323**	PG	**Pb**	**03 58 56.5**	**-0.6**
FETY				SG	**Sb**	**03 59 04.5**	**+0.6**
ELL	**Elmali**	**0.62**	**36**	PG	**Pb**	**03 58 58.0**	**-1.3**
ELL				SG	**Sn**	**03 59 09.1**	**-0.6**
ELL	**Elmali**	**0.62**	**36**	P	**Pb**	**03 58 57.7**	**-1.6**
ELL				S	**Sb**	**03 59 07.8**	**+0.1**
CAME	**Cameli-Denizli**	**0.71**	**350**	PG	**Pb**	**03 59 00.4**	**-0.4**
AKUM	**Antalya-Kumluc**	**0.72**	**83**	*i* P	**Pb**	**03 58 59.9**	**-0.9**
AKUM				*i* S	**Sn**	**03 59 12.2**	**+0.3**
DALY	**Dalyan (Mula)**	**0.87**	**312**	*i* P	**Pn**	**03 59 03.0**	**-0.6**
DALY				*i* S	**Sn**	**03 59 16.1**	**+0.7**
DALY				IAML		03 59 17.0	
	comp=E,746nm,0.6s						
DALY				IAML		03 59 18.0	
	comp=N,844nm,0.4s						
DALY	**Dalyan (Mula)**	**0.87**	**312**	PG	**Pn**	**03 59 03.2**	**-0.4**
CAEL	**Denizli, Camel**	**0.89**	**353**	*i* P	**Pb**	**03 59 03.1**	**-0.7**
CAEL				*i* S	**Sn**	**03 59 16.2**	**0.0**
CAEL				IAML		03 59 26.0	
	comp=N,891nm,0.5s						
CAEL				IAML		03 59 32.0	
	comp=E,1μm,0.7s						
GOLH	**Golhisar**	**1.00**	**5**	*i* P	**Pb**	**03 59 06.2**	**+0.5**
GOLH				IAML		03 59 25.0	
	comp=N,785nm,0.9s						
KORT	**Korkueli**	**1.05**	**43**	*i* P	**Pb**	**03 59 06.7**	**+0.3**
KORT				*i* S	**Sn**	**03 59 22.0**	**+1.9**
KORT				IAML		03 59 24.0	
	comp=N,608nm,0.4s						
KORT				IAML		03 59 29.0	
	comp=E,762nm,0.5s						
KORT	**Korkueli**	**1.05**	**43**	PN	**Pb**	**03 59 07.1**	**+0.7**
ARG	**Arkhangelos**	**1.08**	**269**	PG	**Pb**	**03 59 06.3**	**-0.6**
ARG	**Arkhangelos**	**1.08**	**269**	P	**Pb**	**03 59 06.2**	**-0.6**
ARG				S	**Sn**	**03 59 21.3**	**+0.6**
TURN	**Turunc**	**1.11**	**299**	*i* P	**Pb**	**03 59 07.3**	**-0.1**
TURN				*i* S	**Sb**	**03 59 20.9**	**-0.6**
TURN	**Turunc**	**1.11**	**299**	PN	**Pb**	**03 59 07.3**	**-0.1**
MRSB	**Marmaris-Mugla**	**1.12**	**295**	PN	**Pb**	**03 59 07.6**	**0.0**
ANTB	**Antalya**	**1.17**	**55**	PN	**Pb**	**03 59 09.4**	**+1.0**
TAVA	**DENİZLİ_Tavas**	**1.30**	**341**	*i* P	**Pb**	**03 59 09.9**	**-0.8**
TAVA				*i* S	**Sb**	**03 59 27.7**	**+0.7**
TAVA				IAML		03 59 30.0	
	comp=N,438nm,0.4s						
TAVA				IAML		03 59 31.0	
	comp=E,521nm,0.4s						
YER	**Yerkesik**	**1.30**	**314**	PN	**Pb**	**03 59 10.6**	**-0.1**
MULA	**Mugla, Merkez-**	**1.36**	**318**	*i* P	**Pb**	**03 59 12.0**	**+0.2**
MULA				*i* S	**Sb**	**03 59 28.3**	**-0.6**
MULA				IAML		03 59 34.0	
	comp=N,349nm,0.8s						
MULA				IAML		03 59 38.0	
	comp=E,523nm,0.7s						
BUCA	**Burdur, Bucak-**	**1.40**	**39**	*i* P	**Pb**	**03 59 12.1**	**-0.3**
BUCA				*i* S	**Sb**	**03 59 32.3**	**+2.4**
BUCA				IAML		03 59 42.0	
	comp=E,411nm,0.9s						
BCK	**Bucak**	**1.52**	**36**	PN	**Pb**	**03 59 14.3**	**-0.2**
DAT	**Datca**	**1.59**	**288**	PN	**Pb**	**03 59 14.3**	**-1.4**
MLSB	**Milas**	**1.71**	**308**	PN	**Pb**	**03 59 16.6**	**-1.1**
BASM	**Basmaki-Afyon**	**1.74**	**16**	PN	**Pb**	**03 59 18.1**	**-0.2**
ISP	**Isparta**	**1.79**	**28**	PN	**Pb**	**03 59 18.8**	**-0.4**
BDRM	**Kayabasi**	**1.81**	**298**	*i* P	**Pn**	**03 59 17.0**	**+0.3**
BDRM				*i* S	**Sn**	**03 59 38.8**	**-0.1**
KEPZ	**Antalya-Kepez**	**1.85**	**68**	*i* P	**Pn**	**03 59 17.2**	**+0.1**
KEPZ				*i* S	**Sn**	**03 59 40.9**	**+1.1**
AYDN	**Tasoluk**	**1.90**	**319**	*i* P	**Pb**	**03 59 20.2**	**-0.7**
AYDN				*i* S	**Sn**	**03 59 41.6**	**+0.6**
BODT	**Bodrum**	**1.91**	**296**	PN	**Pb**	**03 59 19.5**	**-1.6**
KARP	**Karpathos**	**1.99**	**250**	PN	**Pn**	**03 59 19.5**	**+0.4**
BAGO	**Egridir - ISPA**	**2.05**	**31**	*i* P	**Pn**	**03 59 20.9**	**+1.0**
KZIL	**AFYON_Kizioren**	**2.09**	**15**	*i* P	**Pn**	**03 59 20.6**	**+0.1**
PASA	**Karahallı, USA**	**2.10**	**1**	*i* P	**Pn**	**03 59 20.4**	**-0.3**
PASA				*i* S	**Sn**	**03 59 47.2**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.11**	**324**	PN	**Pb**	**03 59 22.5**	**-2.1**
DDIM	**Aydin, Didim**	**2.15**	**305**	*i* P	**Pn**	**03 59 21.7**	**+0.5**
DDIM				*i* S	**Sn**	**03 59 48.0**	**+0.8**
DDIM				IAML		04 00 02.0	
	comp=N,250nm,1.0s						
DDIM				IAML		04 00 06.0	
	comp=E,279nm,0.7s						
SEDI	**Konya, Seydise**	**2.21**	**56**	*i* P	**Pb**	**03 59 23.8**	**-2.4**
SEDI				*i* S	**Sb**	**03 59 52.4**	**-0.7**
SEDI				IAML		03 59 58.0	
	comp=N,168nm,0.4s						
SEYD	**Seydisehir-KON**	**2.24**	**58**	PN	**Pb**	**03 59 24.8**	**-1.9**
GCAM	**G?zelcaml?**	**2.30**	**310**	*i* P	**Pn**	**03 59 23.7**	**+0.4**
GCAM				*i* S	**Sn**	**03 59 48.6**	**-2.2**
GCAM	**G?zelcaml?**	**2.30**	**310**	PN	**Pb**	**03 59 25.3**	**-2.4**
GAZI	**Gazipasa**	**2.31**	**89**	*i* P	**Pn**	**03 59 21.9**	**-1.6**
GAZI				*i* S	**Sn**	**03 59 47.4**	**-3.8**
MANT	**Manisa**	**2.36**	**343**	*i* P	**Pn**	**03 59 24.0**	**-0.4**
YVAC	**Isparta, Yalva**	**2.48**	**35**	*i* P	**Pn**	**03 59 26.0**	**+0.2**
YVAC				*i* S	**Sn**	**03 59 57.0**	**+1.5**
USAK	**Uak-Merkez**	**2.50**	**352**	*i* P	**Pn**	**03 59 25.5**	**-0.5**
USAK				*i* S	**Sn**	**03 59 52.3**	**-3.5**
USAK				IAML		04 00 13.0	
	comp=N,135nm,1.0s						
USAK				IAML		04 00 13.0	
	comp=E,170nm,0.9s						
DOGA	**KONYA_Doganhis**	**2.57**	**43**	*i* P	**Pn**	**03 59 28.9**	**+1.8**
DOGA				*i* S	**Sn**	**03 59 59.7**	**+2.0**
DOGA				IAML		04 00 08.0	
	comp=N,115nm,0.8s						
AKMS	**Akamas**	**2.64**	**117**	P	**Pn**	**03 59 26.5**	**-1.6**
AKMS				AML	AML	03 59 55.5	
	comp=N,0.4nm,0.4s						
AKMS				AML	AML	03 59 55.9	
	comp=N,0.4nm,0.2s						
DGB	**zmir**	**2.74**	**312**	*i* P	**Pn**	**03 59 28.7**	**-0.6**
DGB				*i* S	**Sn**	**03 59 58.3**	**-3.4**
ALFC	**Alefka**	**2.78**	**112**	P	**Pn**	**03 59 28.2**	**-1.7**
ALFC				AML	AML	03 59 59.0	
	comp=N,0.4nm,0.2s						
ALFC				AML	AML	03 59 59.1	
	comp=N,0.3nm,0.3s						
ERMK	**Ermenek**	**2.82**	**81**	*i* P	**Pn**	**03 59 32.0**	**+1.4**
GDZ	**Gediz**	**2.84**	**0**	*i* P	**Pn**	**03 59 29.9**	**-1.0**
DEMI	**Demirci**	**2.86**	**348**	*i* P	**Pn**	**03 59 31.8**	**+0.7**
ZKR	**Zakros**	**2.87**	**248**	PN	**Pn**	**03 59 32.1**	**+1.0**
ZKR	**Zakros**	**2.87**	**248**	S	**Sn**	**04 00 05.5**	**+0.7**
KONT	**Konya--Tatoy**	**2.88**	**53**	*i* P	**Pn**	**03 59 32.2**	**+0.9**
NATA	**Nata**	**2.93**	**119**	P	**Pn**	**03 59 30.8**	**-1.2**
NATA				S	**Sn**	**04 00 05.5**	**-1.0**
KKBE	**Karaman, Kazim**	**2.96**	**70**	*i* P	**Pn**	**03 59 32.9**	**+0.3**
KKBE				*i* S	**Sn**	**04 00 06.2**	**-1.3**
BERE	**Bereket-Mersin**	**3.04**	**87**	PN	**Pn**	**03 59 35.9**	**+2.2**
KDHN	**Kadinhani**	**3.11**	**42**	*i* P	**Pn**	**03 59 35.4**	**+0.8**
URLA	**Izmir**	**3.11**	**314**	PN	**Pn**	**03 59 36.7**	**+2.2**
OSC1	**CSNet OBS 1**	**3.12**	**151**	S	**Sn**	**04 00 13.0**	**+2.0**
SZAC	**Souni**	**3.16**	**117**	P	**Pn**	**03 59 33.6**	**-1.7**
SZAC				AML	AML	04 00 10.0	
	comp=N,0.5nm,0.3s						
SZAC				AML	AML	04 00 10.0	
	comp=N,0.5nm,0.3s						
TEVE	**Tevekalti-Mers**	**3.23**	**85**	PN	**Pn**	**03 59 38.9**	**+2.8**
CSS	**Mathiatis**	**3.41**	**111**	PN	**Pn**	**03 59 41.4**	**+2.9**
CSS	**Mathiatis**	**3.41**	**111**	S	**Sn**	**04 00 16.6**	**-1.6**
ASGA	**Asgata**	**3.42**	**114**	P	**Pn**	**03 59 38.1**	**-0.6**
KEBE	**Keben-Mersin**	**3.44**	**85**	PN	**Pn**	**03 59 41.5**	**+2.4**
LFK	**Lefkose**	**3.45**	**105**	PN	**Pn**	**03 59 41.6**	**+2.4**
CHOS	**Chios island**	**3.46**	**309**	PN	**Pn**	**03 59 41.8**	**+2.5**
SILI	**Silifke-Mersin**	**3.61**	**87**	PN	**Pn**	**03 59 44.4**	**+3.1**
IDI	**Anoyia**	**3.83**	**257**	PN	**Pn**	**03 59 46.4**	**+1.9**
EREN	**Erenkoy**	**3.89**	**99**	PN	**Pn**	**03 59 47.9**	**+2.7**
GVD	**Gavdhos**	**4.59**	**254**	PN	**Pn**	**03 59 57.2**	**+2.3**

*NEIC **08** 04:01:48.0±2.2, 18°.54N±0°.04×101°.55W±0°.05, h66km±6km,*
Error ellipse: s-maj=7.0km s-min=5.5km az=74.0
*MEX **08** 04:01:48.4±2.1, 18°.53N×101°.56W, h75km±21km, MD4.5*
*IDC **08** 04:01:53.2±3.0, 18°.85N×101°.27W, h111km±25km,*
mb3.8/14, mb1 4.0/17, mb1mx3.8/38, mbtmp4.1/17,
MS3.5/13, Ms1 3.5/13, ms1mx3.4/21, Error ellipse:
s-maj=29.7km s-min=12.1km az=51.0
ISC 08 04:01:47.5±0.7, **18°.53N**±0°.03×**101°.55W**±0°.04, **h67**km±7km, **n386**, σ1°**19**/389, **mb4.3**/64, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	**La Union**	**0.61**	**204**	*eP*	**Pn**	**04 02 01.0**	**-0.2**
UON				*eS*	**Sn**	**04 02 11.2**	**0.0**
ZIIG	**Zihuatanejo**	**0.93**	**175**	*eP*	**Pn**	**04 02 04.6**	**-0.3**
ZIIG				*i* S	**Sn**	**04 02 18.8**	**+1.0**
ZIIG	**Zihuatanejo**	**0.93**	**175**		**Pn**	**04 02 04.6**	**-0.3**
ZIIG					**Sn**	**04 02 18.8**	**+1.0**
ARIG	**Puente Sto Nin**	**1.17**	**102**	*eP*	**Pn**	**04 02 08.5**	**+0.4**
ARIG				*eS*	**Sn**	**04 02 22.5**	**-1.0**
ARIG	**Puente Sto Nin**	**1.17**	**102**		**Pn**	**04 02 08.5**	**+0.4**
ARIG					**Sn**	**04 02 22.5**	**-1.0**
MOIG	**Morelia**	**1.19**	**17**	*eP*	**Pn**	**04 02 08.2**	**-0.3**
MOIG				*eS*	**Sn**	**04 02 23.5**	**-0.7**
MOIG	**Morelia**	**1.19**	**17**		**Pn**	**04 02 07.9**	**-0.6**
MOIG					**Sn**	**04 02 23.6**	**-0.7**
MMIG	**Aquila**	**1.72**	**262**	*eP*	**Pn**	**04 02 14.5**	**-0.8**
MMIG	**Aquila**	**1.72**	**262**		**Pn**	**04 02 14.5**	**-0.8**
CAIG	**El Cayaco**	**1.92**	**140**	*i* P	**Pn**	**04 02 18.3**	**+0.2**
CAIG	**El Cayaco**	**1.92**	**140**		**Pn**	**04 02 18.3**	**+0.2**
MEIG	**Mezcala**	**1.94**	**108**	*eP*	**Pn**	**04 02 19.4**	**+1.1**
MEIG	**Mezcala**	**1.94**	**108**		**Pn**	**04 02 19.4**	**+1.1**
PLIG	**Platanillo**	**1.95**	**94**	*eP*	**Pn**	**04 02 19.8**	**+1.3**
PLIG	**Platanillo**	**1.95**	**94**		**Pn**	**04 02 19.8**	**+1.3**
MAVM	**Malinalco, Edo**	**2.00**	**77**	*eP*	**Pn**	**04 02 20.5**	**+1.2**
MAVM	**Malinalco, Edo**	**2.00**	**77**		**Pn**	**04 02 20.5**	**+1.2**
COIG	**Colima**	**2.12**	**288**	*eP*	**Pn**	**04 02 21.7**	**+0.9**
ACIG	**Acambay**	**2.14**	**47**	*eP*	**Pn**	**04 02 22.0**	**+0.9**
EZ5V		**2.15**	**296**	*eP*	**Pn**	**04 02 23.1**	**+1.7**
EZ5V		**2.15**	**296**		**Pn**	**04 02 23.1**	**+1.7**
YAIG	**Yautepec**	**2.38**	**82**	*eP*	**Pn**	**04 02 26.2**	**+1.8**
YAIG	**Yautepec**	**2.38**	**82**		**Pn**	**04 02 26.2**	**+1.8**
R15V		**2.39**	**286**	*eP*	**Pn**	**04 02 25.7**	**+1.3**
R15V		**2.39**	**286**		**Pn**	**04 02 25.7**	**+1.3**
JRQG	**Juriquilla Cam**	**2.40**	**26**	*i* P	**Pn**	**04 02 25.2**	**+0.4**
JRQG	**Juriquilla Cam**	**2.40**	**26**		**Pn**	**04 02 25.2**	**+0.4**
PBVM	**Pinon**	**2.50**	**68**	*eP*	**Pn**	**04 02 25.9**	**0.0**
PBVM	**Pinon**	**2.50**	**68**		**Pn**	**04 02 25.9**	**0.0**
PTVM	**Pico Tres Padr**	**2.54**	**65**	*eP*	**Pn**	**04 02 27.7**	**+1.1**
PTVM	**Pico Tres Padr**	**2.54**	**65**		**Pn**	**04 02 27.7**	**+1.1**
ZUVM	**ZUMPANGO**	**2.67**	**61**	*eP*	**Pn**	**04 02 30.1**	**+1.6**
ZUVM	**ZUMPANGO**	**2.67**	**61**		**Pn**	**04 02 30.1**	**+1.6**
AMVM	**AMECAMECA**	**2.69**	**77**	*eP*	**Pn**	**04 02 31.7**	**+2.9**
AMVM	**AMECAMECA**	**2.69**	**77**		**Pn**	**04 02 31.7**	**+2.9**
VTVM	**Tizayuca**	**2.90**	**64**	*eP*	**Pn**	**04 02 32.8**	**+1.2**
VTVM	**Tizayuca**	**2.90**	**64**		**Pn**	**04 02 32.8**	**+1.2**
CRIG	**Cruz Grande**	**2.92**	**127**	*eP*	**Pn**	**04 02 32.6**	**+0.9**
CRIG	**Cruz Grande**	**2.92**	**127**		**Pn**	**04 02 32.6**	**+0.9**
TLIG	**Tlapa**	**3.00**	**108**	*eP*	**Pn**	**04 02 34.9**	**+2.0**
MGIG	**Malinaltepec**	**3.07**	**114**	*i* P	**Pn**	**04 02 35.7**	**+1.9**
CJM	**Chamela**	**3.44**	**287**	*eP*	**Pn**	**04 02 42.3**	**+3.7**
HLIG	**Huajuapan de L**	**3.63**	**101**	*eP*	**Pn**	**04 02 43.7**	**+2.1**
RPIG	**Rio Verde**	**3.65**	**24**	*eP*	**Pn**	**04 02 42.5**	**+0.9**
TPIG	**Tehuac#an**	**3.98**	**91**	*eP*	**Pn**	**04 02 48.9**	**+2.7**
TPIG	**Tehuac#an**	**3.98**	**91**		**Pn**	**04 02 48.9**	**+2.7**
YOIG	**Yosondua**	**4.17**	**113**	*i* P	**Pn**	**04 02 51.5**	**+2.5**
TOIG	**Toxpalan**	**4.29**	**95**	*eP*	**Pn**	**04 02 52.7**	**+2.3**
ZAIG	**Zacatecas**	**4.32**	**347**	*eP*	**Pn**	**04 02 51.3**	**+0.3**
ZAIG	**Zacatecas**	**4.32**	**347**		**Pn**	**04 02 51.3**	**+0.3**
VHO	**Vista Hermosa**	**4.82**	**107**	*eP*	**Pn**	**04 03 00.7**	**+3.0**
PEIG	**Puerto Escondi**	**4.91**	**120**	*eP*	**Pn**	**04 03 00.7**	**+1.9**
HUIG	**Huatulco**	**5.89**	**117**	*eP*	**Pn**	**04 03 14.6**	**+2.4**
HUIG	**Huatulco**	**5.89**	**117**		**Pn**	**04 03 14.6**	**+2.4**
CMIG	**Matias Romero**	**6.51**	**102**	P	**Pn**	**04 03 23.3**	**+2.6**
	1.8nm,0.3s,baz=271,slow=24,SNR=43						
CMIG				S	**Sn**	**04 04 29.3**	**-4.4**
	2.0nm,0.3s,baz=236,slow=12,SNR=1.8						
CMIG	**Matias Romero**	**6.51**	**102**	*i* P	**Pn**	**04 03 23.3**	**+2.6**
LNIG	**Linares**	**6.62**	**17**	*eP*	**Pn**	**04 03 22.9**	**+0.6**
LNIG	**Linares**	**6.62**	**17**		**Pn**	**04 03 22.9**	**+0.6**
HPIG		**9.18**	**336**		**Pn**	**04 03 59.9**	**+2.4**
CCIG	**Comitan**	**9.26**	**103**	Pn	**Pn**	**04 03 58.9**	**+0.3**
SLBS	**Sierra La Lagu**	**9.36**	**305**	Pn	**Pn**	**04 04 01.2**	**+1.5**
LPIG	**La Paz**	**9.86**	**306**	LR	LR	04 07 44.0	
	comp=Z,200nm,21.9s,baz=164,slow=35						
833A	**Chaparral WMA,**	**9.95**	**11**	P	**Pn**	**04 04 08.5**	**+0.8**
	baz=191,SNR=5.3						
TX32	**Lajitas Array**	**10.92**	**350**		**Pn**	**04 04 22.6**	**+1.5**
TXAR	**Lajitas Array**	**10.92**	**350**	P	**Pn**	**04 04 23.4**	**+2.3**
	0.5nm,0.3s,baz=174,slow=13,SNR=24						
TXAR				LR	LR	04 09 05.8	
	comp=Z,426nm,18.8s,baz=0.0,slow=41						
TXAR	**Lajitas Array**	**10.92**	**350**	Pn	**Pn**	**04 04 22.4**	**+1.3**
TX31	**Lajitas Ar. Si**	**10.93**	**350**		**Pn**	**04 04 21.9**	**+0.7**
JCT	**Junction City**	**12.00**	**7**	P	**Pn**	**04 04 36.4**	**+0.6**
	baz=188						
JCT	**Junction City**	**12.00**	**7**	Pn	**Pn**	**04 04 36.0**	**+0.2**
435B	**Jarrell**	**12.72**	**16**		**Pn**	**04 04 45.8**	**+0.3**
SRIG	**Santa Rosalia**	**13.16**	**314**	Pn	**Pn**	**04 04 53.9**	**+2.3**
HSIG		**13.52**	**322**	Pn	**Pn**	**04 04 56.2**	**-0.1**
MNTX	**Cornudas Mount**	**13.56**	**346**	P	**Pn**	**04 04 57.6**	**+0.8**
	baz=164,SNR=18						
MNTX	**Cornudas Mount**	**13.56**	**346**	Pn	**Pn**	**04 04 57.8**	**+0.9**
WHTX	**Lake Whitney,**	**13.90**	**15**	P	**Pn**	**04 05 01.2**	**-0.2**
	baz=196						
WHTX	**Lake Whitney,**	**13.90**	**15**	Pn	**Pn**	**04 05 01.5**	**+0.1**
ABTX	**Abilene, Hawle**	**14.14**	**7**	P	**Pn**	**04 05 04.5**	**0.0**
	baz=187,SNR=11						
ABTX	**Abilene, Hawle**	**14.14**	**7**		**Pn**	**04 05 04.3**	**-0.2**
NATX	**Nacogdoches**	**14.57**	**24**	Pn	**Pn**	**04 05 08.2**	**-1.9**
319A	**Douglas**	**14.57**	**333**	Pn	**Pn**	**04 05 10.7**	**+0.4**
121A	**Cookes Peak, D**	**15.03**	**339**	P	**Pn**	**04 05 15.8**	**-0.4**
	baz=156,SNR=13						
121A	**Cookes Peak, D**	**15.03**	**339**	Pn	**Pn**	**04 05 15.9**	**-0.4**
121A				IAmb	IAmb	04 05 23.9	
	comp=Z,19nm,0.9s						
Z35A	**Perchaven, San**	**15.23**	**14**	Pn	**Pn**	**04 05 16.3**	**-2.4**
342A	**Flagon Creek P**	**15.27**	**31**		**Pn**	**04 05 18.6**	**-0.5**
342A				IAmb	IAmb	04 05 19.5	
	comp=Z,28nm,0.9s						
MSTX	**Muleshoe**	**15.41**	**356**	P	**Pn**	**04 05 20.5**	**-0.6**
	baz=175,SNR=34						
MSTX	**Muleshoe**	**15.41**	**356**	Pn	**Pn**	**04 05 20.8**	**-0.3**
Z38A	**Mt. Pleasant**	**15.80**	**21**	Pn	**Pn**	**04 05 24.9**	**-1.0**
Z38A				IAmb	IAmb	04 05 26.8	
	comp=Z,25nm,0.9s						
LOOK	**Love County**	**15.88**	**13**	Pn	**Pn**	**04 05 25.9**	**-1.0**
LOOK				IAmb	IAmb	04 05 33.9	
	comp=Z,20nm,0.8s						
TUC	**Tucson**	**16.04**	**331**	P	**Pn**	**04 05 29.9**	**+0.8**
	baz=146						
TUC	**Tucson**	**16.04**	**331**		**P**	**04 05 30.8**	**-0.5**
344A	**Westbrook Farm**	**16.16**	**35**	Pn	**Pn**	**04 05 30.5**	**0.0**
344A				IAmb	IAmb	04 05 31.3	
	comp=Z,22nm,0.8s						
BNM	**Barren Site**	**16.20**	**345**	Pn	**Pn**	**04 05 31.4**	**+0.2**
AMTX	**Amarillo**	**16.29**	**360**	P	**Pn**	**04 05 31.5**	**-0.6**
	baz=179						
AMTX	**Amarillo**	**16.29**	**360**	Pn	**Pn**	**04 05 32.0**	**-0.1**
WMOK	**Wichita Mounta**	**16.33**	**8**	P	**Pn**	**04 05 31.1**	**-1.5**
	baz=189,SNR=8.5						
WMOK	**Wichita Mounta**	**16.33**	**8**	Pn	**Pn**	**04 05 31.6**	**-1.0**
WMOK				IAmb	IAmb	04 05 50.5	
	comp=Z,19nm,1.0s						
X34A	**Smith Ranch, M**	**16.34**	**11**		**Pn**	**04 05 32.5**	**-0.3**
Z41A	**Richland Creek**	**16.63**	**26**	P	**Pn**	**04 05 35.8**	**-0.5**
	baz=210						
214A	**Organ Pipe Nat**	**16.79**	**325**	P	**Pn**	**04 05 38.9**	**+0.6**
	baz=140						
143A	**Socs Landing,**	**16.80**	**31**	Pn	**Pn**	**04 05 36.7**	**-1.8**
VBMS	**Vicksburg**	**16.87**	**34**	P	**Pn**	**04 05 38.5**	**-0.7**
	baz=218						
WLAR	**White Oak Lake**	**16.88**	**25**		**Pn**	**04 05 39.2**	**-0.1**
X37A	**Clayton**	**16.91**	**18**		**Pn**	**04 05 40.4**	**+0.6**
X37A				IAmb	IAmb	04 05 49.7	
	comp=Z,29nm,1.3s						
ANMO	**Albuquerque**	**16.92**	**346**	P	**P**	**04 05 41.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=8.5						

PFO	Pinyon Flats O	20.08	321	P	P	04 06 16.8	+1.1
	baz=134						
PFO	Pinyon Flats O	20.08	321	P	P	04 06 17.0	+1.2
BELC	Belle Mtn. Jos	20.09	323	P	P	04 06 15.7	-0.1
	baz=136,SNR=6.5						
U15A	North Rim	20.18	334	P	P	04 06 16.7	-0.3
MGMO	Mountain Grove	20.26	22	P	P	04 06 16.5	-1.1
MGMO				IAmb	IAmb	04 06 17.8	
	comp=Z,16nm,0.8s						
CBKS	Cedar Bluff	20.27	4	P	P	04 06 17.2	-0.5
	baz=185						
CBKS	Cedar Bluff	20.27	4	P	P	04 06 17.2	-0.5
PLAL	Pickwick Lake	20.29	33	P	P	04 06 17.6	-0.3
PLAL				IAmb	IAmb	04 06 21.5	
	comp=Z,22nm,0.9s						
Y49A	Blount Mountai	20.39	39	P	P	04 06 20.2	+1.2
Y49A				IAmb	IAmb	04 06 22.9	
	comp=Z,15nm,0.8s						
HALT	Halls	20.40	30	P	P	04 06 19.8	+0.8
KSCO	Kaye Shedlock'	20.43	358	P	P	04 06 19.8	+0.3
	baz=177,SNR=8.5						
KSCO	Kaye Shedlock'	20.43	358	P	P	04 06 19.1	-0.4
PV01	Paradox Valley	20.47	344	P	P	04 06 20.4	+0.4
GMRC	Granite Mounta	20.48	325	P	P	04 06 21.3	+1.2
	baz=138						
MURC	Murrieta	20.52	320	P	P	04 06 21.5	+1.2
	baz=133						
PV13	Radium Mtn., P	20.56	344	P	P	04 06 21.4	+0.5
PV13				IAmb	IAmb	04 06 25.1	
	comp=Z,6.7nm,0.7s						
PV05	Paradox Valley	20.56	343	P	P	04 06 21.2	+0.2
PV05				IAmb	IAmb	04 06 23.8	
	comp=Z,8.4nm,0.9s						
PV02	Paradox Valley	20.58	344	P	P	04 06 20.6	-0.6
PV15	Paradox Valley	20.64	344	P	P	04 06 23.0	+1.1
PV15				IAmb	IAmb	04 06 24.3	
	comp=Z,12nm,0.8s						
PBMO	Poplar Bluff	20.64	26	P	P	04 06 21.1	-0.6
PBMO				IAmb	IAmb	04 06 37.3	
	comp=Z,20nm,1.2s						
PV03	Paradox Valley	20.66	344	P	P	04 06 22.4	+0.3
PV20	West Nyswonger	20.77	343	P	P	04 06 22.1	-1.1
PARMO	Parma	20.84	28	P	P	04 06 22.9	-0.8
HEC	Hector,Ludlow	20.88	324	P	Pn	04 06 26.7	-0.8
	baz=137						
KNB	Kanab	20.91	334	P	P	04 06 26.0	+1.3
KNB				IAmb	IAmb	04 06 43.2	
	comp=Z,10.0nm,1.1s						
PKCU	Pink Cliffs	21.07	336	P	P	04 06 27.9	+1.3
PKCU				IAmb	IAmb	04 06 29.4	
	comp=Z,10.0nm,1.0s						
LCMT	Little Creek M	21.08	333	P	P	04 06 27.8	+1.2
SMCO	Snowmass	21.10	348	P	P	04 06 28.2	+1.2
SMCO				IAmb	IAmb	04 06 31.5	
	comp=Z,11nm,0.8s						
BFSC	Mount Baldy Ra	21.23	321	P	P	04 06 29.4	+1.3
	baz=133						
R40A	Maddies Statio	21.29	20	P	P	04 06 27.0	-1.6
R40A				IAmb	IAmb	04 06 44.0	
	comp=Z,15nm,0.9s						
WVT	Waverly	21.31	32	P	P	04 06 29.6	+0.8
	baz=218						
WVT	Waverly	21.31	32	P	P	04 06 26.9	-1.9
WVT				IAmb	IAmb	04 06 32.8	
	comp=Z,14nm,0.8s						
CCM	Cathedral Cave	21.43	23	P	P	04 06 28.5	-1.6
	baz=207						
CCM	Cathedral Cave	21.43	23	P	P	04 06 28.1	-2.0
CCM				IAmb	IAmb	04 06 29.5	
	comp=Z,9.3nm,0.7s						
ISCO	Idaho Springs	21.48	351	P	P	04 06 30.7	-0.3
	baz=169,SNR=18						
ISCO	Idaho Springs	21.48	351	P	P	04 06 30.7	-0.3
ISCO				IAmb	IAmb	04 06 34.2	
	comp=Z,11nm,0.8s						
GSC	Goldstone, Bar	21.49	324	P	P	04 06 31.8	+0.9
	baz=137						
SZCU	Shurtz Canyon	21.51	334	P	P	04 06 33.9	+2.7
V48A	Smith Brothers	21.53	34	P	P	04 06 32.2	+1.0
V48A				IAmb	IAmb	04 06 36.0	
	comp=Z,13nm,0.9s						
MTPU	Mount Pierson	21.54	337	P	P	04 06 33.3	+1.7
MTPU				IAmb	IAmb	04 06 33.9	
	comp=Z,9.1nm,0.9s						
SHPR	Sheep Range	21.55	329	P	P	04 06 31.1	-0.4
CCUT	Cedar City	21.59	334	P	P	04 06 35.0	+3.0
SWET	Sewanee	21.64	37	P	P	04 06 33.8	+1.4
SWET				IAmb	IAmb	04 06 49.9	
	comp=Z,8.0nm,1.0s						
EDW2	Edwards Air Fo	21.88	321	P	P	04 06 36.0	+1.0
	baz=134						
GOGA	Godfrey	21.95	44	P	P	04 06 36.0	+0.4
MVU	Marysvale	21.96	337	P	P	04 06 37.1	+1.1
CLTN	Cedars of Leba	22.06	34	P	P	04 06 37.9	+1.1
CLTN				IAmb	IAmb	04 06 42.6	
	comp=Z,14nm,1.1s						
PRN	Pahroc Range	22.22	331	P	P	04 06 39.8	+1.1
O20A	White River Ci	22.29	346	P	P	04 06 39.5	0.0
	baz=163,SNR=9.9						
O20A	White River Ci	22.29	346	P	P	04 06 40.2	+0.7
O20A				IAmb	IAmb	04 06 41.5	
	comp=Z,8.1nm,0.8s						
TMUT	Trail Mountain	22.32	340	P	P	04 06 40.7	+0.7
TMUT				IAmb	IAmb	04 06 41.9	
	comp=Z,7.2nm,0.8s						
P17A	Butcher Ranch,	22.33	341	P	P	04 06 40.7	+0.7
OGNE	Ogallala	22.34	359	P	P	04 06 39.3	-0.6
	baz=178						
OGNE	Ogallala	22.34	359	P	P	04 06 40.0	+0.1
T47A	Sharon Grove	22.34	32	P	P	04 06 37.9	-2.0
FURC	Furnace Creek,	22.39	326	P	P	04 06 40.0	-0.3
	baz=139						
MPMC	Manual Prospec	22.42	324	P	P	04 06 40.2	-0.8
	baz=137,SNR=6.5						
TPNV	Topopah Spring	22.44	328	P	P	04 06 41.1	0.0
	baz=141,SNR=10						
TPNV	Topopah Spring	22.44	328	P	P	04 06 42.2	+1.1
TPNV				IAmb	IAmb	04 07 01.7	
	comp=Z,8.5nm,1.1s						
P40A	Paris	22.48	20	P	P	04 06 39.2	-2.1
P40A				IAmb	IAmb	04 06 57.2	
	comp=Z,12nm,0.9s						
N23A	Red Feather La	22.60	351	P	P	04 06 42.6	-0.3
	baz=169,SNR=11						
PSUT	Pine Spring	22.63	334	P	P	04 06 44.4	+1.2
USIN	University of	22.85	29	P	P	04 06 44.2	-1.0
PHWY	Pilot Hill	22.94	352	P	P	04 06 45.1	-1.3
PHWY				IAmb	IAmb	04 06 47.0	
	comp=Z,12nm,0.8s						
PKM	Mcpherson Peak	22.99	319	P	P	04 06 47.5	+0.6
	baz=130						
RDMU	Red Mountain	23.02	344	P	P	04 06 46.8	-0.4
RDMU				IAmb	IAmb	04 06 48.7	
	comp=Z,5.3nm,0.8s						
CWC	Cottonwood Cre	23.03	324	P	P	04 06 47.6	+0.4
	baz=136						
MPU	Maple Canyon	23.11	340	P	P	04 06 48.3	+0.2
TKL	Tuckaleechee C	23.20	39	P	P	04 06 45.4	-3.4
	comp=Z,2.0nm,0.7s,baz=213,slow=12,SNR=5.3						
SPR3	Spring Creek 3	23.22	334	P	P	04 06 48.9	-0.3
R11A	Troy Canyon, C	23.23	331	P	P	04 06 46.6	-2.6
OLIL	Olney	23.28	27	P	P	04 06 47.7	-1.8
OLIL				IAmb	IAmb	04 06 48.4	
	comp=Z,15nm,1.0s						
P43A	Skaggs, Pawnee	23.47	24	P	P	04 06 49.6	-1.6
T50A	Nancy	23.55	35	P	P	04 06 49.7	-2.3
T50A				IAmb	IAmb	04 07 06.4	
	comp=Z,5.4nm,0.8s						
RWWY	Rawlins	23.58	349	P	P	04 06 52.1	-0.4
RWWY				IAmb	IAmb	04 06 54.4	
	comp=Z,12nm,0.8s						
DUG	Dugway, Tooele	23.67	338	P	P	04 06 53.3	+0.1
	baz=152						
DUG	Dugway, Tooele	23.67	338	P	P	04 06 53.8	+0.6
WCI	Wyandotte Cave	23.71	31	P	P	04 06 52.8	-0.7
	baz=218						
WCI	Wyandotte Cave	23.71	31	P	P	04 06 53.2	-0.2
WCI				IAmb	IAmb	04 06 54.7	
	comp=Z,13nm,0.8s						
L34A	Svendsen Farm,	23.77	10	P	P	04 06 52.6	-1.3
TPH	Tonopah	23.80	328	P	P	04 06 55.5	+1.1
TPH				IAmb	IAmb	04 06 56.1	
	comp=Z,13nm,0.7s						
V53A	Saluda	23.80	40	P	P	04 06 52.8	-1.5
V53A				IAmb	IAmb	04 07 12.4	
	comp=Z,7.1nm,0.8s						
N41A	Harden Midland	23.94	20	P	P	04 06 53.4	-2.0
TZTN	Tazewell	23.94	38	P	P	04 06 55.3	-0.2
	baz=226						
K31A	O'Neill	24.13	5	P	P	04 06 57.9	+0.7
O44A	Mansfield	24.32	25	P	P	04 06 57.8	-1.1
HDIL	Hopedale	24.35	23	P	P	04 06 57.3	-1.9
	baz=209,SNR=7.7						
HDIL	Hopedale	24.35	23	P	P	04 06 57.8	-1.3
SCIA	State Center	24.36	15	P	P	04 06 58.6	-0.7
SCIA				IAmb	IAmb	04 06 59.4	
	comp=Z,12nm,0.8s						
BGU	Big Grassy Mou	24.39	339	P	P	04 06 60.0	+0.2
KMSC	Kings Mountain	24.40	43	P	P	04 06 58.1	-1.5
	baz=232						
KMSC	Kings Mountain	24.40	43	P	P	04 06 58.2	-1.5
KMSC				IAmb	IAmb	04 07 01.7	
	comp=Z,11nm,1.4s						
K22A	Casper	24.41	351	P	P	04 07 00.2	+0.3
	baz=168,SNR=32						
K22A	Casper	24.41	351	P	P	04 07 00.0	+0.1
MDPB	Devils Postpil	24.44	325	P	P	04 07 01.6	+1.3
MDPB				IAmb	IAmb	04 07 02.6	
	comp=Z,5.7nm,0.8s						
HWUT	Hardware Ranch	24.54	342	P	P	04 07 01.2	+0.1
HWUT				IAmb	IAmb	04 07 03.8	
	comp=Z,11nm,0.8s						
NV11	Mina Array Sit	24.54	327	P	P	04 07 02.3	+1.1
NV11				IAmb	IAmb	04 07 03.6	
	comp=Z,9.1nm,1.1s						
LHV	Little Huntoon	24.59	327	P	P	04 07 03.6	+2.3
NVAR	Mina Array Bea	24.62	327	P	P	04 07 03.2	+1.4
	comp=Z,3.3nm,0.6s,baz=153,slow=9.4,SNR=33						
NVAR				PcP	PcP	04 10 38.6	+0.5
	comp=Z,0.3nm,0.3s,baz=150,slow=3.1,SNR=3.8						
NVAR				LR	LR	04 18 07.1	
	comp=Z,44nm,19.6s,baz=142,slow=40						
NVAR	Mina Array Bea	24.62	327	P	P	04 07 01.6	-0.3
NVAR					PcP	04 10 36.9	-1.2
S51A	Beattyville	24.69	36	P	P	04 07 02.3	+0.1
S51A				IAmb	IAmb	04 07 22.1	
	comp=Z,11nm,0.9s						
RYN	Ryan	24.88	327	P	P	04 07 05.6	+1.4
KVN	Kaiserville	24.99	328	P	P	04 07 06.4	+1.2
ELK	Elko	25.07	335	P	P	04 07 07.8	+1.8
	comp=Z,0.7nm,0.5s,baz=177,slow=13,SNR=3.7						
SFIN	Lafayette	25.08	27	P	P	04 07 04.9	-0.9
	baz=214,SNR=5.7						
SFIN	Lafayette	25.08	27	P	P	04 07 05.6	-0.2
BW06	Boulder Array	25.09	346	P	P	04 07 05.6	-0.6
	baz=162,SNR=18						
BW06	Boulder Array	25.09	346	P	P	04 07 05.8	-0.4
BW06				IAmb	IAmb	04 07 08.7	
	comp=Z,13nm,0.8s						
PD31	Pinedale Array	25.09	346	P	P	04 07 05.8	-0.4
PD31				IAmb	IAmb	04 07 08.7	
	comp=Z,12nm,0.8s						
PDAR	Pinedale Array	25.09	346	P	P	04 07 05.7	-0.5
	comp=Z,10nm,0.7s,baz=144,slow=11,SNR=72						
PDAR				PcP	PcP	04 10 38.8	-0.4
	comp=Z,0.7nm,0.8s,baz=123,slow=4.1,SNR=4.2						
PDAR				LR	LR	04 18 04.1	
	comp=Z,131nm,19.7s,baz=175,slow=39						
WAKR	Walker	25.27	326	P	P	04 07 09.4	+1.6
CMB	Columbia Colle	25.45	324	P	P	04 07 10.1	+0.8
ECSD	EROS Data Cent	25.47	8	P	P	04 07 09.2	0.0
	baz=191						
ECSD	EROS Data Cent	25.47	8	P	P	04 07 09.3	0.0
ECSD				IAmb	IAmb	04 07 10.9	
	comp=Z,6.8nm,0.7s						
P49A	Miami Univ. Ec	25.50	31	P	P	04 07 08.8	-0.8
	baz=219						
P49A	Miami Univ. Ec	25.50	31	P	P	04 07 09.3	-0.4
P49A				IAmb	IAmb	04 07 09.9	
	comp=Z,12nm,1.1s						
YERR	Yerington	25.52	327	P	P	04 07 11.2	+1.2
RSSD	Black Hills	25.60	356	P	P	04 07 11.5	+0.7
	baz=174						
RSSD	Black Hills	25.60	356	P	P	04 07 10.4	-0.3
RSSD				IAmb	IAmb	04 07 13.3	
	comp=Z,4.4nm,0.7s						
ECR	Eagle Creek	25.82	343	P	P	04 07 12.4	-0.3
Q51A	Peebles	25.82	34	P	P	04 07 12.5	0.0
Q51A				IAmb	IAmb	04 07 13.0	
	comp=Z,11nm,0.8s						
REDW	Red Top Meadow	25.97	344	P	P	04 07 14.1	0.0
REDW				IAmb	IAmb	04 07 14.8	
	comp=Z,6.8nm,1.0s						
SNOW	Snow King Moun	26.04	345	P	P	04 07 15.5	+0.7
SNOW				IAmb	IAmb	04 07 18.6	
	comp=Z,11nm,0.8s						
TPAW	Teton Pass	26.11	344	P	P	04 07 16.9	+1.4
TPAW				IAmb	IAmb	04 07 19.0	
	comp=Z,11nm,0.8s						
JFWS	Jewell Farm	26.12	19	P	P	04 07 13.7	-1.5
	baz=205						
LOHW	Long Hollow	26.14	345	P	P	04 07 15.7	+0.1
LOHW				IAmb	IAmb	04 07 19.0	
	comp=Z,8.8nm,0.7s						
I37A	Lemond, Waseca	26.31	13	P	P	04 07 14.2	-2.7
Q52A	Bidwell	26.36	35	P	P	04 07 17.3	-0.1
BEKR	Beckworth	26.75	327	P	P	04 07 21.0	-0.2
P52A	Corning	26.91	35	P	P	04 07 21.5	-0.9
	baz=224						
DBBC	Dabeiba	27.19	112	eP	P	04 07 29.1	+3.9
YMR	Madison River	27.22	345	P	P	04 07 24.7	-0.6
YMR				IAmb	IAmb	04 07 27.7	
	comp=Z,9.9nm,1.3s						
YHH	Holmes Hill	27.31	345	P	P	04 07 30.0	+3.7
YNE	Yellowstone No	27.32	347	P	P	04 07 30.4	+4.1
YNE				IAmb	IAmb	04 07 31.4	
	comp=Z,4.6nm,0.7s						
SPMN	Marine on St.	27.60	13	P	P	04 07 27.7	-0.8
	baz=198						
O03E	Paynes Creek	27.83	325	P	P	04 07 30.4	-0.3
	baz=135						
MCMT	McKenzie Canyo	27.87	343	P	P	04 07 32.4	+1.2
BOZ	Bozeman (W)	28.26	345	P	P	04 07 34.5	-0.1
	baz=159						
BOZ	Bozeman (W)	28.26	345	P	P	04 07 35.3	+0.8
DLMT	Dillon	28.29	343	P	P	04 07 35.5	+0.7
DLMT				IAmb	IAmb	04 07 36.6	
	comp=Z,9.2nm,1.0s						
J08A	Circle Bar Ran	28.57	334	P	P	04 07 38.2	+0.9
LRM	Limekiln Ridge	28.68	344	P	P	04 07 39.1	+0.8
GUY2C	Guyana, Caldas	28.78	114	eP	P	04 07 43.7	+3.9
TOLC	Tolima	29.14	115	eP	P	04 07 44.6	+1.8
SC01	Santiago de lo	29.15	83	P	P	04 07 42.0	-0.5
YBH	Yreka Blue Hor	29.33	327	P	P	04 07 42.8	-1.2
	comp=Z,1.3nm,0.8s,baz=79,slow=5.5,SNR=5.2						
L04D	Klamath Falls	29.47	328	P	P	04 07 45.2	-0.2
	baz=137						
MSO	Missoula	30.01	343	P	P	04 07 49.6	-0.4
	baz=156						
AGMN	Agassiz Nation	30.05	8	P	P	04 07 48.2	-1.9
	baz=191,SNR=6.8						
AGMN	Agassiz Nation	30.05	8	P	P	04 07 48.2	-1.9
F10A	Beach Ranch, E	30.29	338	P	P	04 07 52.2	-0.2
F10A				IAmb	IAmb	04 07 52.7	
	comp=Z,6.5nm,1.1s						
G08A	Pilot Rock	30.36	335	P	P	04 07 52.5	-0.6
RUSC	La Rusia	30.47	111		P	04 07 55.5	+0.7
RUSC	La Rusia	30.47	111	eP	P	04 07 56.3	+1.5
K02D	Willamette Mer	30.52	327	P	P	04 07 54.6	+0.1
	baz=135						
J01E	Myrtle Point	30.98	327	P	P	04 07 58.9	+0.4
	baz=135						
I03D	Drain, OR	31.08	329	P	P	04 07 59.3	0.0
	baz=137						
H04D	Lebanon	31.39	330	P	P	04 08 02.8	+0.7
	baz=139						
K56A	Middlesex	31.65	35	P	P	04 08 03.2	-1.2
	baz=228						
F05D	White Salmon	31.87	333	P	P	04 08 06.9	+0.6
	baz=142						
ULM	Lac du Bonnet	31.97	7	P	P	04 08 04.5	-2.5
	comp=Z,5.7nm,0.8s,baz=194,slow=9.0,SNR=4.5						
ULM				LR	LR	04 22 06.9	
	comp=Z,142nm,19.1s,baz=166,slow=38						
WALA	Waterton Lakes	32.05	345	P	P	04 08 08.2	+0.3
WALA				IAmb	IAmb	04 08 09.4	
	comp=Z,2.9nm,0.8s						
NEW	Newport	32.25	340	P	P	04 08 08.9	-0.7
	baz=151						
LON	Longmire	32.71	334	P	P	04 08 13.4	-0.2
LON				IAmb	IAmb	04 08 14.4	
	comp=Z,3.0nm,0.9s						
B08A	Colville Reser	33.07	338	P	P	04 08 17.1	+0.3
B08A				IAmb	IAmb	04 08 23.2	
	comp=Z,4.1nm,1.2s						
ALGO	Algonquin Park	33.56	30	P	P	04 08 19.7	-1.2
	baz=223						
D03D	Eldon	33.86	333	P	P	04 08 23.3	-0.3
	baz=141						
H57A	Richville	33.87	35	P	P	04 08 22.8	-0.9
	baz=228						
B06A	Marblemount	34.00	336		S	04 13 48.1	+3.0
D62A	Allapoint, All	38.97	36	P	P	04 09 07.7	+0.6
	baz=234						
YKA	Yellowknife Ar	44.85	351	LR	LR	04 30 14.6	
	comp=Z,113nm,20.3s,baz=0.0,slow=38						
SCHQ	Schefferville	44.86	28	LR	LR	04 29 47.5	
	comp=Z,51nm,18.2s,baz=86,slow=38						
DLBC	Dease Lake	44.98	339	P	P	04 09 56.7	+0.7
DLBC				IAmb	IAmb	04 09 58.2	
	comp=Z,4.1nm,0.8s						
LPAZ	La Paz	47.74	134	P	P	04 10 20.0	+1.1
	comp=Z,1.3nm,0.9s,baz=350,slow=2.7,SNR=3.5						
CRQE	Cirque	51.39	335	P	P	04 10 46.0	+0.5
	baz=126						
BCAR	Beaver Creek A	52.33	338	P	P	04 10 52.0	-0.3
L27K	Beaver Creek,	52.34	338	P	P	04 10 53.2	+0.8
	baz=129						
N25K	Chitina, Valde	52.49	336	P	P	04 10 53.7	+0.1
	baz=125						
K27K	Chicken	53.04	339	P	P	04 10 58.4	+0.8
	baz=129						
K27K	Chicken	53.04	339	P	P	04 10 58.7	+1.2
K27K				IAmb	IAmb	04 10 59.8	
	comp=Z,3.6nm,0.8s						
EGAK	Eagle	53.22	340	P	P	04 10 58.2	-0.6
	baz=131						
EGAK	Eagle	53.22	340	P	P	04 10 58.8	-0.1
EGAK				IAmb	IAmb	04 10 59.3	
	comp=Z,3.6nm,0.9s						
PAX	Paxson	53.61	337	P	P	04 11 01.3	-0.5
	baz=125						
INK	Inuvik	53.66	346	P	P	04 11 01.2	-0.8
	baz=141						
INK	Inuvik	53.66	346	P	P	04 11 01.5	-0.5
SCRK	Sand Creek	53.67	338	P	P	04 11 02.7	+0.5
	baz=127						
RC01	Rabbit Creek A	54.30	334	P	P	04 11 06.5	-0.2
	baz=119						
HDA	Harding Lake	54.97	338	P	P	04 11 11.4	-0.2
	baz=124						
HDA	Harding Lake	54.97	338	P	P	04 11 11.9	+0.4
HDA				IAmb	IAmb	04 11 12.0	
	comp=Z,3.3nm,0.7s						
IL31		55.16	338	P	P	04 11 13.7	+0.9
IL31				IAmb	IAmb	04 11 14.1	
	comp=Z,3.3nm,0.9s						
ILAR	Eielson Array	55.16	338	P	P	04 11 12.4	-0.6
	comp=Z,2.4nm,0.8s,baz=146,slow=6.5,SNR=21						
ILAR				LR	LR	04 37 03.4	
	comp=Z,69nm,18.2s,baz=164,slow=38						
ILAR	Eielson Array	55.16	338	P	P	04 11 12.6	-0.3
SKT	Skwentna	55.48	334	P	P	04 11 15.6	+0.3
TRF	Thorofare Moun	55.71	336	P	P	04 11 16.0	-1.1
	baz=120						
TRF	Thorofare Moun	55.71	336	P	P	04 11 17.2	+0.1
H24K	Noodor Dome	56.11	339	P	P	04 11 19.2	-0.5
	baz=124,SNR=6.4						
M20K	Styx River	56.11	333	P	P	04 11 19.7	-0.2
	baz=116						
N19K	Bonanza Creek	56.24	332	P	P	04 11 20.1	-0.8
	baz=114						
I23K	Minto, Yukon-K	56.24	338	P	P	04 11 20.0	-0.6
	baz=122						
I23K	Minto, Yukon-K	56.24	338	P	P	04 11 20.9	+0.3
I23K				IAmb	IAmb	04 11 21.5	
	comp=Z,3.5nm,1.0s						
BPAW	Bear Paw Mtn.	56.30	336	P	P	04 11 20.7	-0.5
	baz=120						
M19K	Big River Lodg	56.66	333	P	P	04 11 23.4	-0.3
	baz=115						
MLY	Manley	56.68	337	P	P	04 11 23.1	-0.7
	baz=121						
MLY	Manley	56.68	337	P	P	04 11 23.9	0.0
MLY				IAmb	IAmb	04 11 25.0	
	comp=Z,3.7nm,1.0s						
N18K	Kilae Creek	56.82	331	P	P	04 11 24.6	-0.3
	baz=113						
L19K	White Mountain	56.98	333	P	P	04 11 25.4	-0.5
	baz=115						
COLD	Coldfoot	57.65	340	P	P	04 11 30.1	-0.5
	baz=122						
H21K	Melozitna Rive	57.75	338	P	P	04 11 30.8	-0.5
	baz=119						
TOLK	Toolik Lake Re	58.23	341	P	P	04 11 33.8	-0.9
	baz=124						
MT05	Renca	59.43	150	P	P	04 11 42.6	-0.8
CPUP	Villa Florida	61.91	135	P	P	04 12 01.3	+0.9
	comp=Z,5.3nm,1.0s,baz=312,slow=7.0,SNR=8.5						
CPUP	Villa Florida	61.91	135	P	P	04 12 00.6	+0.2
BDFB	Brasilia	62.71	119	P	P	04 12 07.4	+1.4
	comp=Z,3.5nm,0.7s,baz=286,slow=8.3,SNR=5.9						
BDFB	Brasilia	62.71	119	P	P	04 12 06.3	+0.3
PETK	Petropavlovsk-	81.64	323	P	P	04 13 57.5	-0.8
	comp=Z,2.2nm,0.7s,baz=85,slow=7.8,SNR=2.5						
PETK				LR	LR	04 49 50.6	
	comp=Z,18nm,18.2s,baz=60,slow=35						
ESDC	Sonseca Array	84.02	50	P	P	04 14 09.4	-1.7
	comp=Z,0.7nm,0.7s,baz=282,slow=7.2,SNR=4.8						
NOA	NORSAR Array B	84.42	27	LR	LR	04 52 55.8	
	comp=Z,12nm,19.6s,baz=355,slow=36						
ARCES	ARCESS Array B	84.57	16	P	P	04 14 12.6	-0.6
	comp=Z,2.9nm,1.0s,baz=316,slow=5.0,SNR=4.8						
ARCES				LR	LR	04 52 10.8	
	comp=Z,25nm,19.9s,baz=80,slow=36						
FINES	FINESS Array B	90.07	22	LR	LR	04 56 10.3	
	comp=Z,17nm,19.1s,baz=322,slow=36						
NRIK	Noril'sk	92.13	357	LR	LR	04 57 23.5	
	comp=Z,26nm,20.5s,baz=4.0,slow=36						
STKA	Stephens Creek	122.05	244	PKP	PKPdf	04 20 34.3	-0.7
	comp=Z,3.7nm,0.9s,baz=40,slow=6.5,SNR=5.5						
WRA	Warramunga Arr	127.42	259	PKP	PKPdf	04 20 45.2	-0.3
	comp=Z,1.8nm,0.7s,baz=83,slow=2.5,SNR=12						
WRA	Warramunga Arr	127.42	259		PKPdf	04 20 43.8	-1.8
ASAR	Alice Springs	128.27	254	PKP	PKiKP	04 20 47.5	-0.2
	comp=Z,1.4nm,0.8s,baz=79,slow=1.9,SNR=10						
MAW	Mawson	129.94	172	PKP	PKiKP	04 20 50.2

JYN	Shimob	9.21	335	P	Pn	04 15 37.6 +1.3
JYT	Yasato	9.37	344	Pn	Pn	04 15 37.7 -0.7
JRY	Ryogami san	9.55	338	P	Pn	04 15 40.6 -0.3
JRY				S	Sn	04 17 23.7 -3.3
INU	Inuyama	9.74	328	Pn	Pn	04 15 44.6 +1.0
JAG	Ashikaga	9.75	341	P	Pn	04 15 42.1 -1.5
MJAR	Matsushiro Arr	10.26	336	Pn	Pn	04 15 50.4 -0.3
	0.6nm,0.3s,baz=153,slow=11,SNR=20					
MJAR				Sn	Sn	04 17 42.7 -1.8
	0.2nm,0.3s,baz=348,slow=17,SNR=6.4					
MAJO	Matsushiro	10.26	336		Pn	04 15 50.2 -0.5
MAT	Matsushiro	10.26	336	P	Pn	04 15 50.7 0.0
MAT				S	Sn	04 17 42.1 -2.4
MAT	Matsushiro	10.26	336	P	Pn	04 15 50.8 0.0
JWT	Wachi	10.52	322		Pn	04 15 54.6 +0.3
JMM	Marumori	10.82	349		Pn	04 15 56.7 -1.6
JSD	Sado	11.60	340	Pn	Pn	04 16 06.8 -2.1
JOW	Kunigami	13.46	272	LR	LR	04 21 20.0
	comp=Z,106nm,18.1s,baz=162,slow=35					
GUMO	Guam	13.65	174	LR	LR	04 20 52.4
	comp=Z,87nm,20.1s,baz=6.5,slow=34					
KSRS	Korea Array	16.54	312	Pn	P	04 17 17.6 +0.2
	0.8nm,0.3s,baz=121,slow=11,SNR=20					
KSRS				LR	LR	04 23 27.3
	comp=Z,117nm,18.8s,baz=124,slow=36					
YSS	Yuzh-Sakhalins	19.69	359	P	P	04 17 51.3 -0.7
MDJ	Mudanjiang	20.57	331	P	P	04 18 03.3 +1.7
MDJ				pmax	pmax	
	comp=Z,25nm,1.0s					
MDJ				pmax	pmax	
	comp=Z,170nm,4.4s					
MDJ	Mudanjiang	20.57	331	P	P	04 17 59.8 -1.8
MDJ				IAmb	IAmb	04 18 05.3
	comp=Z,32nm,1.2s					
DL2	Dalian	21.56	308	P	P	04 18 11.4 -0.9
DL2				pmax	pmax	
	comp=Z,17nm,0.7s					
NJ2	Nanjing	21.82	289	*e*P	P	04 18 14.9 -0.3
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
CN2	Changchun	21.97	323	*e*P	P	04 18 17.7 +1.0
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
KLR	Kul'dur	23.73	341	P	P	04 18 36.3 +1.6
	comp=Z,16nm,0.6s,baz=150,slow=8.1,SNR=67					
PETK	Petropavlovsk-	27.86	19	LR	LR	04 32 01.8
	comp=Z,21nm,19.8s,baz=179,slow=40					
HIA	Hailar	28.56	327	P	P	04 19 18.0 -0.4
HIA				IAmb	IAmb	04 19 24.8
	comp=Z,20nm,0.8s					
HHC	Hu-ho-hao-te	29.47	306	*e*P	P	04 19 27.3 +0.6
HHC				pmax	pmax	
	comp=Z,9.0nm,0.7s					
HHC				pmax	pmax	
	comp=Z,180nm,6.7s					
XAN	Xi'an	30.30	291	P	P	04 19 33.4 -0.7
XAN				pP	pP	04 19 39.8 -1.8
XAN				sP	sP	04 19 46.8 +2.0
XAN				pmax	pmax	
	comp=Z,18nm,0.8s					
XAN	Xi'an	30.30	291	P	P	04 19 33.6 -0.4
LZH	Lanzhou	34.59	295	*e*P	P	04 20 11.0 -0.7
LZH				pP	pP	04 20 16.2 -3.1
LZH				pmax	pmax	
	comp=Z,17nm,1.1s					
LZH				pmax	pmax	
	comp=Z,210nm,4.3s					
CD2	Chengdu	34.69	286	P	P	04 20 12.2 -0.3
ULN	Ulaanbaatar	34.95	316	P	P	04 20 14.7 -0.1
ULN				IAmb	IAmb	04 20 17.4
	comp=Z,5.7nm,0.8s					
SONM	Songino Array	35.35	316	P	P	04 20 18.3 +0.2
	comp=Z,4.4nm,0.9s,baz=117,slow=8.5,SNR=21					
SONM	Songino Array	35.35	316	P	P	04 20 18.6 +0.5
SEY	Seymchan	36.19	7	P	P	04 20 25.4 +0.5
	comp=Z,2.5nm,0.9s,baz=200,slow=12,SNR=4.9					
KMI	Kunming	36.41	276	↑P	P	04 20 27.8 +0.2
KMI				pP	pP	04 20 31.8 -3.4
KMI				pmax	pmax	
	comp=Z,10.0nm,0.8s					
GTA	Gaotai	38.02	300	*e*P	P	04 20 41.2 +0.2
GTA				pmax	pmax	
	comp=Z,7.0nm,0.9s					
NONG	Nongkai	38.09	265	P	P	04 20 42.7 +1.1
	comp=Z,21μmcomp=Z,31nm,1.1s					
TLY	Talaya	38.50	320	P	P	04 20 44.7 0.0
	comp=Z,6.5nm,0.6s,baz=108,slow=2.1,SNR=7.8					
TLY	Talaya	38.50	320	P	P	04 20 45.3 +0.6
TLY				IAmb	IAmb	04 20 47.9
	comp=Z,11nm,0.7s					
CMMT	Chiang Mai	41.56	268	P	P	04 21 11.2 +0.8
	comp=Z,9.0nm,1.0s					
CHTO	Chiang Mai	41.56	268	P	P	04 21 11.2 +0.7
	comp=Z,9.2nm,1.0s					
CM31	Chiang Mai Arr	41.68	268	P	P	04 21 09.2 -2.2
CM31				IAmb	IAmb	04 21 24.4
	comp=Z,8.0nm,0.6s					
CMAR	Chiang Mai Arr	41.68	268	P	P	04 21 11.6 +0.1
	comp=Z,3.0nm,0.9s,baz=64,slow=8.3,SNR=9.2					
CMAR				LR	LR	04 39 27.4
	comp=Z,23nm,18.1s,baz=65,slow=38					
TIXI	Tiksi	45.19	354	P	P	04 21 38.6 -0.3
TIXI				IAmb	IAmb	04 21 40.9
	comp=Z,8.4nm,0.7s					
SHL	Shillong	45.88	280	P	P	04 21 44.1 -1.2
SHL				IAmb	IAmb	04 21 45.5
	comp=Z,15nm,1.0s					
WMQ	Urumqi	47.35	306	*e*P	P	04 21 58.3 +1.8
WR0	Warramunga Arr	47.69	191	P	P	04 21 57.8 -1.4
WR0				IAmb	IAmb	04 22 15.3
	comp=Z,9.3nm,1.1s					
WB2	Warramunga Arr	47.70	191	P	P	04 21 57.6 -1.7
WRA	Warramunga Arr	47.71	192	P	P	04 21 57.8 -1.5
	comp=Z,7.6nm,0.8s,baz=12,slow=8.5,SNR=28					
ZAA0	Zalesovo Array	50.08	319	P	P	04 22 16.9 -0.3
ZAA0				IAmb	IAmb	04 22 19.0
	comp=Z,6.3nm,0.9s					
ZALV	Zalesovo Beam	50.08	319	P	P	04 22 18.3 +1.1
	comp=Z,4.2nm,0.8s,baz=96,slow=6.6,SNR=17					
ZALV				PcP	PcP	04 23 35.9 -0.6
	comp=Z,2.5nm,0.7s,baz=99,slow=5.2,SNR=5.2					
ZALV				LR	LR	04 44 05.8
	comp=Z,26nm,19.3s,baz=316,slow=37					
ZALV	Zalesovo Beam	50.08	319	P	P	04 22 16.9 -0.2
ZALV				PcP	PcP	04 23 36.8 +0.3
MK31	Makanchi Array	51.20	309	P	P	04 22 25.1 -0.7
MKAR	Makanchi Array	51.20	309	P	P	04 22 26.5 +0.7
	comp=Z,1.5nm,0.5s,baz=88,slow=10,SNR=13					
MKAR				PcP	PcP	04 23 40.7 -0.2
	comp=Z,0.9nm,0.7s,baz=90,slow=4.3,SNR=2.8					
MKAR				LR	LR	04 44 02.6
	comp=Z,43nm,20.6s,baz=81,slow=36					
MKAR	Makanchi Array	51.20	309	P	P	04 22 26.0 +0.2
ASAR	Alice Springs	51.42	191	P	P	04 22 26.0 -1.6
	comp=Z,0.7nm,0.6s,baz=3.9,slow=5.5,SNR=8.4					
ASAR				PcP	PcP	04 23 41.3 -0.6
	comp=Z,0.7nm,0.8s,baz=0.0,slow=5.6,SNR=2.6					
ASAR	Alice Springs	51.42	191		PcP	04 23 41.4 -0.4
NRIK	Noril'sk	52.91	338	P	P	04 22 39.4 +1.3
	comp=Z,9.6nm,0.9s,baz=108,slow=10.0,SNR=8.3					
NRIK	Noril'sk	52.91	338	P	P	04 22 39.0 +0.9
NRIK				IAmb	IAmb	04 22 40.2
	comp=Z,10nm,0.9s					
KDAK	Kodiak Island	53.62	37	P	P	04 22 43.8 +0.3
	comp=Z,5.0nm,0.7s,baz=122,slow=21,SNR=10					
KDAK	Kodiak Island	53.62	37	P	P	04 22 43.5 0.0
MLY	Manley	55.49	28	P	P	04 22 58.3 +1.2
AAK	Ala-Archa	57.04	305	P	P	04 23 09.0 +0.3
	comp=Z,1.9nm,0.4s,baz=111,slow=14,SNR=1.6					
AAK	Ala-Archa	57.04	305	P	P	04 23 08.2 -0.5
IL31		57.09	29	P	P	04 23 07.5 -0.9
IL31				IAmb	IAmb	04 23 09.2
	comp=Z,6.3nm,1.2s					
ILAR	Eielson Array	57.09	29	P	P	04 23 08.4 +0.1
	comp=Z,1.9nm,0.9s,baz=259,slow=5.7,SNR=16					
ILAR	Eielson Array	57.09	29	P	P	04 23 08.2 -0.1
SCRK	Sand Creek	58.29	30	P	P	04 23 17.2 +0.2
SCRK				IAmb	IAmb	04 23 18.4
	comp=Z,3.1nm,0.8s					
BRVK	Borovoye	58.72	317	P	P	04 23 20.7 +0.7
KK31	Karatay Array	59.86	306	P	P	04 23 28.7 +0.5
KKAR	Karatay Array	59.86	306	P	P	04 23 28.7 +0.6
GAR	Garm	60.82	301	P	P	04 23 35.0 +0.1
CHGR	Chuyangaron	61.78	301	P	P	04 23 40.7 -0.7
KBL	Kabul	62.90	297	P	P	04 23 48.0 -1.0
KBL				IAmb	IAmb	04 23 51.6
	comp=Z,8.1nm,1.1s					
ARU	Arti	64.96	322	P	P	04 24 02.8 +0.8
	comp=Z,2.7nm,0.5s,baz=77,slow=2.1,SNR=13					
ARU	Arti	64.96	322	P	P	04 24 02.5 +0.5
ABKAR	Akbulak array	65.75	314	P	P	04 24 07.0 -0.2
AKTO	Aktyubinsk	66.67	316	P	P	04 24 13.8 +0.8
	comp=Z,3.6nm,0.7s,baz=76,slow=6.0,SNR=15					
HRA	Herat	68.31	298	P	P	04 24 24.2 +0.2
HRA				IAmb	IAmb	04 24 27.4
	comp=Z,5.8nm,1.1s					
KIRV	Kirov	69.17	326	P	P	04 24 29.8 +1.2
	comp=Z,16nm,0.6s,baz=312,slow=1.6,SNR=5.7					
YKA	Yellowknife Ar	71.52	29	P	P	04 24 43.6 +0.7
	comp=Z,1.2nm,0.7s,baz=286,slow=5.7,SNR=4.2					
KLMR	Klimovskoe	72.99	330	*e*P	P	04 24 50.8 -0.9
KLMR				AMP		04 24 53.0
	comp=Z,12nm,0.8s					
ARCES	ARCESS Array B	73.75	341	P	P	04 24 56.9 +0.7
	comp=Z,4.8nm,0.8s,baz=64,slow=8.2,SNR=5.0					
PINE	Pine Mountain	75.53	48	P	P	04 25 07.7 +0.6
WDC	Whiskeytown Da	75.72	52	P	P	04 25 08.6 +0.5
K05A	Summer Lake	75.99	49	P	P	04 25 10.8 +1.1
K05A				IAmb	IAmb	04 25 12.8
	comp=Z,10nm,1.2s					
MOD	Modoc Plateau	76.73	50	P	P	04 25 13.9 0.0
MOD				IAmb	IAmb	04 25 14.8
	comp=Z,4.0nm,0.5s					
BMO	Blue Mountains	77.45	46	P	P	04 25 18.1 +0.3
BEKR	Beckworth	77.54	52	P	P	04 25 18.8 +0.2
FINES	FINESS Array B	78.29	334	P	P	04 25 22.8 +0.8
	comp=Z,1.7nm,0.4s,baz=76,slow=3.7,SNR=16					
FINES	FINESS Array B	78.29	334	P	P	04 25 21.0 -1.0
CMB	Columbia Colle	78.30	53	P	P	04 25 23.2 +0.5
KBZ	Khabaz	78.68	313	P	P	04 25 26.1 +1.6
	comp=Z,11nm,0.9s,baz=107,slow=0.9,SNR=20					
KVAR	Kislovodsk Arr	78.71	314	P	P	04 25 28.7 +3.8
	comp=Z,5.1nm,0.8s,baz=347,slow=18,SNR=2.2					
KIV	Kislovodsk	78.72	314	P	P	04 25 25.3 +0.4
KIV				IAmb	IAmb	04 25 29.0
	comp=Z,15nm,1.2s					
ONI	Oni	78.83	312	P	P	04 25 25.7 +0.2
ONI				IAmb	IAmb	04 25 29.5
	comp=Z,7.3nm,1.0s					
NVAR	Mina Array Bea	79.60	52	P	P	04 25 31.1 +1.1
	comp=Z,1.1nm,0.7s,baz=297,slow=5.3,SNR=8.0					
NVAR	Mina Array Bea	79.60	52	P	P	04 25 30.7 +0.7
BCYI	Bear Canyon	80.18	45	P	P	04 25 33.0 0.0
SUMG	Summit	80.45	1	P	P	04 25 35.2 +1.1
SUMG				IAmb	IAmb	04 25 36.8
	comp=Z,5.1nm,1.0s					
BOZ	Bozeman (W)	80.66	43	P	P	04 25 35.6 +0.1
MNK	Minsk	81.59	328	*i* P	P	04 25 40.5 +0.5
	comp=E,1.0nm,0.9s					
MNK				*i* P	P	04 25 40.5 +0.5
	comp=N,4.0nm,0.9s					
MNK				*i* P	P	04 25 40.5 +0.5
	comp=Z,14nm,0.9s,baz=54					
MNK				*i* PcP	PcP	04 25 46.1 +0.2
MNK				*i* PP	PP	04 28 47.1 +0.9
MNK				*i* PPP	PPP	04 30 37.7
MNK				*i* S	S	04 35 51.5 +2.0
MNK				*i* SS	SS	04 41 17.6 +12
MNK				*i* SSS	SSS	04 45 19.7
MNK				*i* LQ	LQ	04 50 05.3
MNK				*i* LR	LR	04 57 46.6
MNK				*i* LRM	MLR	05 03 18.5
	comp=N,23nm,18.4s					
MNK				*i* LRM	MLR	05 03 19.4
	comp=E,8.0nm,18.4s					
MNK				*i* LRM	MLR	05 03 19.4
	comp=Z,40nm,18.4s					
DUG	Dugway, Tooele	82.55	49	P	P	04 25 45.5 -0.1
DUG				IAmb	IAmb	04 25 47.2
	comp=Z,3.0nm,0.7s					
MARD	Mardin	83.11	308	P	P	04 25 49.2 +0.7
AKASG	Malin Array Be	83.12	324	P	P	04 25 48.4 +0.3
	comp=Z,7.9nm,0.8s,baz=51,slow=5.4,SNR=14					
AKASG	Malin Array Be	83.12	324	P	P	04 25 48.5 +0.4
AKBB	Malin Array Si	83.12	324	P	P	04 25 48.1 0.0
PDAR	Pinedale Array	83.37	45	P	P	04 25 50.4 +0.5
	comp=Z,0.9nm,0.9s,baz=330,slow=5.1,SNR=5.5					
HFS	Hagfors	83.71	337	P	P	04 25 51.1 +0.2
	comp=Z,2.2nm,0.7s,baz=2.9,slow=3.0,SNR=7.3					
NOA	NORSAR Array B	83.87	339	P	P	04 25 52.3 +0.5
	comp=Z,1.2nm,0.9s,baz=58,slow=7.2,SNR=2.9					
SUW	Suwalki	84.08	329	P	P	04 25 52.8 -0.1
P17A	Butcher Ranch,	84.29	48	P	P	04 25 54.9 +0.3
P17A				IAmb	IAmb	04 25 58.7
	comp=Z,5.9nm,1.4s					
RDMU	Red Mountain	84.50	47	P	P	04 25 56.0 +0.4
RDMU				IAmb	IAmb	04 25 57.3
	comp=Z,5.5nm,1.0s					
U15A	North Rim	84.76	52	P	P	04 25 57.8 +0.6
SFJD	Kangerlussuaq	85.47	5	P	P	04 26 00.7 +1.0
Y14A	Wickenburg	85.50	54	P	P	04 26 01.1 +0.5
Y14A				IAmb	IAmb	04 26 02.1
	comp=Z,3.1nm,1.0s					
PV14	Lion Creek, Pa	86.00	49	P	P	04 26 03.0 -0.3
PV14				IAmb	IAmb	04 26 04.5
	comp=Z,4.7nm,0.8s					
RAYN	Ar Rayn	86.05	294	P	P	04 26 03.8 +0.2
BRTR	Keskin Array B	86.68	313	P	P	04 26 06.7 +0.2
	comp=Z,1.9nm,0.8s,baz=146,slow=2.4,SNR=4.2					
BRTR				LR	LR	05 09 19.4
	comp=Z,22nm,18.1s,baz=26,slow=39					
BRTR	Keskin Array B	86.68	313	P	P	04 26 06.2 -0.3
SMCO	Snowmass	86.93	47	P	P	04 26 08.7 +0.7
SMCO				IAmb	IAmb	04 26 13.2
	comp=Z,4.0nm,1.1s					
CRVS	Cervenica-Dubn	88.19	326	*e*P	P	04 26 13.9 +0.5
VYHS	Vyhne	89.76	327	*e*P	P	04 26 20.9 +0.2
GERES	GERESS Array B	91.93	329	P	P	04 26 30.6 -0.3
	comp=Z,0.6nm,0.7s,baz=353,slow=5.8,SNR=3.7					
GERES	GERESS Array B	91.93	329	P	P	04 26 30.0 -0.9
TXAR	Lajitas Array	94.67	54	P	P	04 26 42.3 -1.7
	comp=Z,0.2nm,0.5s,baz=288,slow=3.7,SNR=3.5					
TORD	Torodi Ar. Bea	125.28	312	PKP	PKPdf	04 32 23.1 -0.6
	comp=Z,1.2nm,1.1s,baz=46,slow=4.2,SNR=3.2					
TORD	Torodi Ar. Bea	125.28	312		PKPdf	04 32 23.0 -0.8
LPAZ	La Paz	148.87	76	PKPbc	PKPbc	04 33 12.0 +0.6
	comp=Z,3.3nm,0.7s,baz=316,slow=1.9,SNR=16					
LPAZ	La Paz	148.87	76		PKPbc	04 33 10.5 -0.9

*IDC **08** 04:14:29.3±0.8, 59.°54S×29.°73W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.0/20, mbtmp4.0/8, ML2.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/14, Error ellipse: s-maj=31.7km s-min=21.4km az=76.0*
*NEIC **08** 04:14:30.6±1.2, 59.°5S±0.°1×28.°97W±0.°06, h10km±1km, mb4.6/20, Error ellipse: s-maj=17.9km s-min=4.8km az=1.0*
ISC 08 04:14:30.5±0.5, 59.°50S±0.°09×29.°1W±0.°1, h10km, n40, σ1°29/34, mb4.3/12, MS3.5/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	16.13	150	Pn	P	04 18 20.4	+0.1
	0.0nm,0.3s,baz=319,slow=12,SNR=2.7						
SNAA				LR	LR	04 23 17.3	
	comp=Z,219nm,18.8s,baz=296,slow=32						
SNAA	Sanae	16.13	150	Pn	Pn	04 18 16.8	-0.3
PMSA	Palmer Station	17.00	237	Pn	Pn	04 18 28.9	+0.8
	0.2nm,0.3s,baz=108,slow=10.0,SNR=4.2						
PMSA				LR	LR	04 23 52.7	
	comp=Z,129nm,19.5s,baz=88,slow=34						
PMSA	Palmer Station	17.00	237	Pn	Pn	04 18 28.9	+0.8
MG01	Puerto William	21.14	265	P	P	04 19 13.9	-1.3
MG01				IAmb	IAmb	04 19 21.0	
	comp=Z,29nm,1.0s						
QSPA	South Pole Qui	30.75	180	P	P	04 20 45.9	+0.2
	comp=Z,1.8nm,0.9s,baz=230,slow=3.8,SNR=3.7						
QSPA	South Pole Qui	30.75	180	P	P	04 20 45.2	-0.4
QSPA				IAmb	IAmb	04 20 54.1	
	comp=Z,14nm,1.5s						
MAW	Mawson	38.03	142	P	P	04 21 50.4	+2.1
	comp=Z,2.8nm,0.8s,baz=245,slow=9.6,SNR=3.7						
MAW				LR	LR	04 35 44.8	
	comp=Z,82nm,18.4s,baz=248,slow=33						
MAW	Mawson	38.03	142	P	P	04 21 46.0	-2.2
CPUP	Villa Florida	38.48	317	P	P	04 21 52.6	+0.1
SBA	Scott Base	42.56	185	P	P	04 22 25.9	+0.3
SBA				IAmb	IAmb	04 22 39.6	
	comp=Z,8.7nm,1.5s						
VNDA	Vanda	43.07	183	P	P	04 22 30.4	+0.6
	comp=Z,1.1nm,0.9s,baz=201,slow=4.5,SNR=5.0						
VNDA	Vanda	43.07	183	P	P	04 22 30.4	+0.6
SHEL	Horse Pasture	46.72	32	P	P	04 22 59.3	-0.3
BOSA	Boshof	47.84	75	P	P	04 23 10.0	+1.6
	comp=Z,2.8nm,0.9s,baz=194,slow=8.3,SNR=2.2						
BOSA				LR	LR	04 39 59.1	
	comp=Z,43nm,18.8s,baz=184,slow=32						
BOSA	Boshof	47.84	75	P	P	04 23 06.8	-1.6
BOSA				IAmb	IAmb	04 23 18.0	
	comp=Z,16nm,1.4s						
PSGCX	Pisagua	49.49	306	P	P	04 23 21.4	+0.4
MNMC	Minye Minye	49.69	306	P	P	04 23 22.5	-0.3
MNMC				IAmb	IAmb	04 23 30.5	
	comp=Z,8.7nm,1.1s						
CASY	Casey	51.00	160	P	P	04 23 32.9	+1.1
CASY				IAmb	IAmb	04 23 45.7	
	comp=Z,16nm,1.4s						
H10S2	ASCENSION HYDR	51.60	18	T	T	05 19 45.2	
	baz=189,slow=74,SNR=4.8						
H10S3	ASCENSION HYDR	51.60	18	T	T	05 19 47.0	
	baz=31,slow=74,SNR=18						
LPAZ	La Paz	51.66	310	P	P	04 23 38.7	+0.6
	comp=Z,0.9nm,0.5s,baz=123,slow=9.6,SNR=9.0						
LPAZ				LR	LR	04 48 04.6	
	comp=Z,31nm,19.3s,baz=162,slow=39						
LPAZ	La Paz	51.66	310	P	P	04 23 37.9	-0.1
LPAZ				IAmb	IAmb	04 23 45.1	
	comp=Z,4.9nm,1.1s						
H10N1	ASCENSION HYDR	52.72	18	T	T	05 21 07.7	
	baz=189,slow=75,SNR=6.5						
H10N3	ASCENSION HYDR	52.72	18	T	T	05 21 10.9	
	baz=189,slow=75,SNR=27						
H10N2	ASCENSION HYDR	52.74	18	T	T	05 21 06.6	
	baz=189,slow=75,SNR=12						
ROSC	El Rosal	73.38	312	LR	LR	04 58 26.1	
	comp=Z,52nm,21.1s,baz=39,slow=36						
TOA0	Torodi Ar. Sit	76.56	31	P	P	04 26 20.6	-0.2
TOA0				IAmb	IAmb	04 26 29.4	
	comp=Z,2.7nm,1.1s						
TORD	Torodi Ar. Bea	76.56	31	P	P	04 26 22.4	+1.6
	comp=Z,0.9nm,0.5s,baz=202,slow=5.8,SNR=11						
TORD	Torodi Ar. Bea	76.56	31	P	P	04 26 20.6	-0.1
TORD				IAmb	IAmb	04 26 29.3	
	comp=Z,2.4nm,1.1s						
TAU	Tasmania Unive	77.91	177	P	P	04 26 26.4	-1.8
SEUS	St. Eustatius	81.53	327	P	P	04 26 46.5	-1.4
ASAR	Alice Springs	95.97	164	P	P	04 27 57.4	-0.4
	comp=Z,0.4nm,0.5s,baz=176,slow=3.6,SNR=6.3						
ASAR	Alice Springs	95.97	164	P	P	04 27 55.6	-2.2
ZALV	Zalesovo Beam	144.69	69	PKPbc	PKPab	04 34 03.9	-0.9
	comp=Z,0.9nm,0.4s,baz=241,slow=3.0,SNR=4.2						
ZALV	Zalesovo Beam	144.69	69		PKPab	04 34 04.7	-0.1
ILAR	Eielson Array	151.53	307	PKPbc	PKPdf	04 34 20.6	+3.6
	comp=Z,1.3nm,0.9s,baz=172,slow=1.5,SNR=10						
ILAR	Eielson Array	151.53	307	PKPdf	PKPdf	04 34 18.9	+1.9
SONM	Songino Array	151.73	94	PKPbc	PKPbc	04 34 24.6	+0.3
	comp=Z,0.5nm,0.5s,baz=22,slow=1.6,SNR=3.0						
SONM	Songino Array	151.73	94	PKPdf	PKPdf	04 34 18.9	+0.9

*PRU **08** 04:19:19.7±0.0, 51.°53N×16.°05E, h0km*
*VIE **08** 04:19:19.2±0.9, 51.°50N×16.°08E, h0km, mb2.3/5, ml2.8/5, Error ellipse: s-maj=9.5km s-min=6.3km az=57.0 79 km NW of Wroclaw Suspected Mining induced.*
ISC 08 04:19:18.1±1.2, 51.°59N±0.°05×16.°08E±0.°03, h0km, n25, σ0°96/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.76	170	*e*Pg	Pg	04 19 32.8	+0.1
KSP				*e*Sg	Sg	04 19 42.6	+0.3
CHVC	Chvalec	1.00	181	*e*PG	Pb	04 19 38.5	+0.2
CHVC				*e*SG	Sg	04 19 49.7	-0.5
OSTC	Ostas	1.04	175	*e*PG	Pb	04 19 38.2	-0.7
OSTC				*e*SG	Sg	04 19 51.4	+0.1
	comp=Z,69nm,0.6s						
UPC	Upice	1.08	182	*e*PG	Pg	04 19 38.9	+0.1
UPC				*e*SG	Sg	04 19 52.7	-0.1
DPC	Dobruska-Polom	1.25	173	*e*PG	Pg	04 19 41.5	-0.5
DPC				*e*SG	Sg	04 19 56.9	-1.3
	comp=Z,29nm,0.5s						
PVCC	Panska Ves	1.43	222	*e*PG	Pn	04 19 45.0	-0.2
PVCC				*e*SG	Sb	04 20 04.6	+0.4
	comp=Z,127nm,0.2s						
BRG	Berggiesshubel	1.52	243	Pn	Pn	04 19 46.0	-0.6
BRG				Pg	Pg	04 19 47.6	+0.4
BRG				Sg	Sg	04 20 07.5	+0.6
BRG				Amp		04 20 07.9	
	comp=Z,58nm,0.5s						
PRU	Pruhonice	1.87	212	*e*PG	Pn	04 19 51.7	+0.3
PRU				*e*SG	Sb	04 20 16.8	-0.3
	comp=Z,27nm,0.4s						
CLL	Collm	1.94	263	*e*Pn	Pn	04 19 52.0	-0.4
CLL				*i* Pg	Pg	04 19 54.8	-0.5
CLL				*i*		04 19 58.7	
CLL				*e*Sg	Sg	04 20 21.0	+0.5
	comp=Z,27nm,0.6s						
MORC	Moravsky Berou	2.04	152	*e*PN	Pn	04 19 52.9	-0.8
MORC				*e*SG	Sb	04 20 21.1	-0.8
OKC	Ostrava-Krasne	2.19	142	*e*PG	Pg	04 19 59.3	-0.8
OKC				*e*SG	Sb	04 20 26.0	-0.3
VRAC	Vranov	2.31	172	*e*PN	Pn	04 19 57.5	+0.1
VRAC				*e*SG	Sb	04 20 29.8	+0.2
TREC	Trest	2.33	190	*e*SG	Sb	04 20 31.5	+1.3
	comp=Z,22nm,0.6s						
KRUC	Moravsky	2.54	175	*e*SG	Sb	04 20 37.1	+0.9
NKC	Novy Kostel	2.67

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.71**	**165**	P	P	05 02 49.1	+0.7
	0.2nm,0.5s,baz=346,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**30.20**	**168**	P	P	05 03 18.6	-0.9
	0.1nm,0.3s,baz=345,slow=7.0,SNR=2.3						
MKAR	**Makanchi Array**	**56.04**	**324**	P	P	05 06 47.9	-0.1
	0.8nm,0.4s,baz=124,slow=7.1,SNR=11						

*IDC **08** 05:01:07.7±1.7,24°.59N×141°.51E,h157km±22km,mb3.3/4, mb1 3.4/6,mb1mx3.2/47,mbtmp3.8/6,Error ellipse: s-maj=38.9km s-min=19.7km az=83.0*
*JMA **08** 05:01:10.6±0.2,24°.91N×140°.69E,h110km,M4.6*
ISC 08 05:01:07.8±1.2,24°.71N±0°.10×141°.1E±0°.2,h150km,n14, σ2°29/15,mb3.6/6,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.14**	**26**	P	**Pn**	**05 01 46.2**	**+1.6**
JHH2				S	**Sn**	**05 02 13.4**	**+0.5**
CBIJ	**Chichi jima**	**2.56**	**22**	P	**Pn**	**05 01 51.4**	**+1.7**
CBIJ				S	**Sn**	**05 02 22.5**	**+0.4**
JCJ	**Chichijima**	**2.56**	**22**	P	**Pn**	**05 01 51.6**	**+1.9**
	48nm,0.3s,baz=273,slow=23,SNR=17						
JCJ				S	**Sn**	**05 02 22.9**	**+0.8**
	130nm,0.3s,baz=255,slow=22,SNR=28						
BSO3	**Boso 3**	**10.07**	**357**	P	**Pn**	**05 03 27.7**	**-0.8**
BSO3				S	**Sn**	**05 05 15.0**	**-4.9**
BSO4	**Boso 4**	**10.27**	**356**	P	**Pn**	**05 03 31.4**	**+0.1**
JAG	**Ashikaga**	**11.77**	**353**	P	**Pn**	**05 03 49.0**	**-2.0**
JHO	**Hitachi**	**11.88**	**358**	P	**Pn**	**05 03 51.5**	**-0.9**
KSRS	**Korea Array**	**16.99**	**322**	P	**Pn**	**05 05 00.7**	**+4.2**
	0.4nm,0.3s,baz=135,slow=13,SNR=7.0						
WRA	**Warramunga Arr**	**44.87**	**189**	P	P	05 09 05.9	-1.5
	8.8nm,0.4s,baz=8.7,slow=8.6,SNR=140						
ASAR	**Alice Springs**	**48.59**	**189**	P	P	05 09 34.4	-1.9
	0.7nm,0.5s,baz=18,slow=12,SNR=10						
MKAR	**Makanchi Array**	**51.29**	**311**	P	**P**	**05 09 57.5**	**+1.0**
	0.4nm,0.4s,baz=88,slow=9.5,SNR=4.7						
STKA	**Stephens Creek**	**56.27**	**180**	P	**P**	**05 10 31.3**	**-1.3**
	2.2nm,0.7s,baz=359,slow=9.1,SNR=5.1						
ILAR	**Eielson Array**	**60.26**	**28**	pP	pP	05 11 37.0	+2.5
	0.1nm,0.4s,baz=264,slow=7.2,SNR=4.1						
NVAR	**Mina Array Bea**	**82.75**	**51**	P	**P**	**05 13 13.7**	**-1.7**
	0.3nm,0.6s,baz=302,slow=5.2,SNR=2.5						

*IDC **08** 05:05:37.4±6.0,4°.54S×153°.66E,h105km±47km,mb3.8/7, mb1 4.0/8,mb1mx3.6/37,mbtmp4.2/8,MS3.6/1,Ms1 3.6/1, ms1mx2.7/33,Error ellipse: s-maj=51.6km s-min=26.1km az=97.0*
*NEIC **08** 05:05:37.8±0.7,4°.52S±0°.08×153°.7E±0°.1,h103km±6km, mb4.2/9,Error ellipse: s-maj=19.8km s-min=10.5km az=109.0*
ISC 08 05:05:37.0±0.9,4°.5S±0°.1×153°.7E±0°.1,h100km,n22, σ1°52/21,mb4.1/10,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.52**	**283**	Pn	**Pn**	**05 06 04.4**	**+0.8**
PMG	**Port Moresby**	**8.05**	**233**	P	**Pn**	**05 07 31.9**	**+0.7**
	8.8nm,0.3s,baz=37,slow=6.0,SNR=23						
PMG				S	**Sn**	**05 08 57.8**	**-2.8**
	2.3nm,0.3s,baz=183,slow=16,SNR=1.4						
PMG	**Port Moresby**	**8.05**	**233**		**Pn**	**05 07 32.7**	**+1.5**
WB0	**Warramunga Arr**	**24.10**	**230**	P	**P**	**05 10 43.5**	**-0.1**
WB0				IAmb	IAmb	05 10 45.3	
	comp=Z,10nm,0.7s						
WR0	**Warramunga Arr**	**24.10**	**229**	P	**P**	**05 10 44.1**	**+0.5**
WR0				IAmb	IAmb	05 10 45.3	
	comp=Z,12nm,0.8s						
WB2	**Warramunga Arr**	**24.24**	**229**	P	**P**	**05 10 44.8**	**-0.1**
WB2				IAmb	IAmb	05 10 46.6	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**05 10 45.1**	**+0.1**
	comp=Z,11nm,0.7s,baz=54,slow=10.0,SNR=47						
WRA				pP	**pwP**	**05 11 11.3**	**+5.2**
	comp=Z,5.6nm,0.9s,baz=53,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**24.25**	**229**	P	**P**	**05 10 44.6**	**-0.3**
ASAR	**Alice Springs**	**26.91**	**223**	P	**P**	**05 11 08.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=55,slow=8.8,SNR=12						
ASAR				PcP	**PcP**	**05 14 28.6**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=36,slow=4.8,SNR=2.4						
STKA	**Stephens Creek**	**29.45**	**201**	P	**P**	**05 11 31.0**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=22,slow=14,SNR=7.4						
STKA	**Stephens Creek**	**29.45**	**201**	IAmb	IAmb	05 11 32.3	
	comp=Z,0.8nm,0.7s						
FORT	**Forrest**	**35.52**	**220**	P	**P**	**05 12 24.5**	**0.0**
PSA00	**Pilbara Seismi**	**36.88**	**240**	P	**P**	**05 12 35.7**	**-0.5**
URZ	**Urewera**	**39.79**	**151**	LR	LR	05 27 37.2	
	comp=Z,75nm,20.2s,baz=5.0,slow=33						
VNDA	**Vanda**	**73.06**	**178**	P	**P**	**05 16 56.4**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=345,slow=8.0,SNR=4.1						
VNDA	**Vanda**	**73.06**	**178**	IAmb	IAmb	05 16 57.0	
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**80.69**	**319**	P	**P**	**05 17 39.3**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=108,slow=6.4,SNR=4.9						
ILAR	**Eielson Array**	**81.61**	**22**	P	**P**	**05 17 43.1**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=261,slow=4.5,SNR=2.9						
MAW	**Mawson**	**86.13**	**203**	P	**P**	**05 18 05.8**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=9.5,slow=6.1,SNR=7.0						
MAW	**Mawson**	**86.13**	**203**	IAmb	IAmb	05 18 07.2	
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.02**	**289**	PKPbc	**PKPbc**	**05 25 18.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=61,slow=2.5,SNR=9.5						
TORD	**Torodi Ar. Bea**	**151.02**	**289**		**PKPbc**	**05 25 18.5**	**-1.0**

*IDC **08** 05:28:53.9±0.7,33°.82N×141°.56E,h0km,mb4.1/17, mb1 4.2/21,mb1mx4.1/37,mbtmp4.1/21,ML4.0/4,MS3.3/8, Ms1 3.4/8,ms1mx3.0/34,Error ellipse: s-maj=17.3km s-min=13.7km az=117.0*
*NEIC **08** 05:28:55.3±1.3,33°.81N±0°.06×141°.70E±0°.09,h10km±1km, mb4.3/12,Error ellipse: s-maj=13.4km s-min=9.3km az=108.0*
*MOS **08** 05:28:55.0±1.1,33°.88N×141°.67E,h23km,mb4.4/10,Error ellipse: s-maj=15.0km s-min=7.1km az=109.9*
*JMA **08** 05:28:58.9±0.5,33°.91N×141°.42E,h33km,M3.8*
*NIED **08** 05:28:58.9,33°.91N×141°.42E,h33km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.93; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-1.05; $M_{r\theta}$0.28; $M_{\theta\phi}$0.09; $M_{r\phi}$0.73; Fault plane solution: $M_0$1.27000×10^{15} NP1:ϕ_s12.00000°, δ65.00000°,λ106.00000°. NP2:ϕ_s158.00000°,δ30.00000°, λ60.00000°.*
ISC 08 05:28:57.3±0.6,33°.84N±0°.05×141°.62E±0°.07,h24km,n86, σ1°06/81,mb4.2/30,MS3.4/6,5C-2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.97**	**327**	P	**Pn**	**05 29 14.3**	**-0.6**
BSO3	**Boso 3**	**1.33**	**317**	P	**Pn**	**05 29 19.3**	**-0.8**
BSO4	**Boso 4**	**1.56**	**318**	P	**Pb**	**05 29 23.8**	**-1.6**
JHJ2	**Mitsune**	**1.67**	**245**	P	**Pn**	**05 29 25.0**	**-0.1**
JHJ2	**Mitsune**	**1.67**	**245**	Pn	**Pn**	**05 29 25.4**	**+0.4**
JMKN	**Mikurajimanish**	**1.69**	**272**	P	**Pn**	**05 29 24.8**	**-0.5**
JHJ	**Hachijo jima 2**	**1.69**	**245**	Pn	**Pn**	**05 29 25.4**	**+0.1**
	165nm,0.3s,baz=99,slow=8.6,SNR=48						
JHJ				Sn	**Sn**	**05 29 45.5**	**-0.8**
	275nm,0.3s,baz=58,slow=23,SNR=10						
JIM2	**Oshima 3**	**2.01**	**296**	P	**Pn**	**05 29 28.9**	**-0.9**
JSMT	**Sammumatsuo**	**2.04**	**332**	P	**Pn**	**05 29 30.7**	**+0.6**
JTHY	**Toshimahigashi**	**2.05**	**290**	P	**Pn**	**05 29 29.8**	**-0.5**
JAOM	**Aogashimamukai**	**2.08**	**229**	P	**Pn**	**05 29 31.1**	**+0.5**
JKO	**Kozu shima**	**2.09**	**280**	P	**Pn**	**05 29 30.5**	**-0.3**
JYT	**Yasato**	**2.66**	**334**	Pn	**Pn**	**05 29 38.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.88**	**315**	Pn	**Pn**	**05 29 55.2**	**-0.3**
	1.7nm,0.3s,baz=146,slow=14,SNR=36						
MJAR				Sn	**Sn**	**05 30 37.4**	**-2.9**
	0.7nm,0.3s,baz=124,slow=12,SNR=5.8						
MJAR	**Matsushiro Arr**	**3.88**	**315**	Pn	**Pn**	**05 29 55.6**	**+0.1**
MAJO	**Matsushiro**	**3.88**	**315**	*d* P	**Pn**	**05 29 56.5**	**+1.0**
MAJO	**Matsushiro**	**3.88**	**315**	Pn	**Pn**	**05 29 55.7**	**+0.2**
MAT	**Matsushiro**	**3.88**	**315**	P	**Pn**	**05 29 56.4**	**+0.9**
MAT				S	**Sn**	**05 30 41.6**	**+1.2**
MJB9	**Matsu-Tunnel**	**3.89**	**315**		**Pn**	**05 29 55.4**	**-0.1**
JGF	**Kuroka**	**3.93**	**298**	Pn	**Pn**	**05 29 56.8**	**+0.7**
JMM	**Marumori**	**4.07**	**351**		**Pn**	**05 29 56.7**	**-1.3**
INU	**Inuyama**	**4.08**	**293**		**Pn**	**05 29 58.5**	**+0.2**
JSD	**Sado**	**5.00**	**328**	Pn	**Pn**	**05 30 10.3**	**-0.4**
JWT	**Wachi**	**5.33**	**287**	Pn	**Pn**	**05 30 15.7**	**+0.4**
JCJ	**Chichijima**	**6.74**	**176**	Pn	**Pn**	**05 30 32.9**	**-1.8**
	12nm,0.3s,baz=284,slow=19,SNR=1.6						
JCJ				Sn	Sn	05 31 39.7	-11
	3.5nm,0.3s,baz=142,slow=21,SNR=1.1						
JCJ	**Chichijima**	**6.74**	**176**		**Pn**	**05 30 32.6**	**-2.2**
JTM	**Tenmabayashi**	**6.95**	**357**	Pn	**Pn**	**05 30 36.7**	**-0.8**
JHS	**Saijyo**	**7.12**	**282**	Pn	**Pn**	**05 30 41.3**	**+1.3**
ERM	**Erimo**	**8.25**	**8**	*i* P	**Pn**	**05 30 53.1**	**-2.3**
ERM	**Erimo**	**8.25**	**8**	Pn	**Pn**	**05 30 53.1**	**-2.3**
JKA	**Kamikawa-asahi**	**10.29**	**4**		**Pn**	**05 31 21.4**	**-1.9**
ASAJ	**Asahikawa**	**10.29**	**4**	Pn	**Pn**	**05 31 21.4**	**-1.9**
	1.6nm,0.3s,baz=212,slow=13,SNR=4.3						
KSRS	**Korea Array**	**11.71**	**292**	Pn	Pn	05 31 47.7	+4.9
	0.3nm,0.3s,baz=109,slow=15,SNR=2.3						
KSRS				LR	LR	05 36 08.7	
	comp=Z,112nm,18.4s,baz=100,slow=37						
YSS	**Yuzh-Sakhalins**	**13.13**	**3**	*eP*	**Pn**	**05 32 01.1**	**-1.0**
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
JOW	**Kunigami**	**13.47**	**242**	LR	LR	05 37 19.8	
	comp=Z,197nm,18.3s,baz=138,slow=38						
KLR	**Kul'dur**	**17.04**	**337**	Pn	**P**	**05 32 54.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=117,slow=14,SNR=2.7						
KLR				LR	LR	05 40 06.5	
	comp=Z,106nm,18.3s,baz=131,slow=40						
KLR	**Kul'dur**	**17.04**	**337**	*i* P	**Pn**	**05 32 54.1**	**+0.3**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**26.49**	**116**	T	T	06 02 56.8	
	baz=295						
H11N1	**WAKE ISLAND Hy**	**26.50**	**116**	T	T	06 02 32.3	
	baz=295						
H11N3	**WAKE ISLAND Hy**	**26.51**	**116**	T	T	06 03 01.3	
	baz=295						
ULN	**Ulaanbaatar**	**29.39**	**309**	*ceP*	**P**	**05 34 58.3**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**29.81**	**309**	P	**P**	**05 35 03.1**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=112,slow=10,SNR=5.7						
SONM	**Songino Array**	**29.81**	**309**	IAmb	IAmb	05 35 07.5	
	comp=Z,3.3nm,1.2s						
SEY	**Seymchan**	**29.89**	**10**	P	**P**	**05 35 04.1**	**+1.3**
	comp=Z,2.2nm,0.2s,baz=0.0,slow=20,SNR=1.3						
BILL	**Bilibino**	**37.05**	**15**	*i* P	**P**	**05 36 05.5**	**+0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**40.95**	**259**	P	**P**	**05 36 36.0**	**-2.2**
	comp=Z,1.6nm,0.6s,baz=47,slow=7.7,SNR=6.2						
CMAR				LR	LR	05 56 28.7	
	comp=Z,24nm,18.8s,baz=70,slow=40						
DGZ	**Jazzator, Alta**	**42.46**	**309**	*i* P	**P**	**05 36 51.2**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**44.24**	**315**	P	**P**	**05 37 04.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=86,slow=6.4,SNR=2.6						
MK31	**Makanchi Array**	**46.02**	**305**	*i* P	**P**	**05 37 18.2**	**-0.6**
MK31	**Makanchi Array**	**46.02**	**305**	P	**P**	**05 37 18.9**	**+0.1**
MK31				IAmb	IAmb	05 37 22.1	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**46.02**	**305**	P	**P**	**05 37 18.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=90,slow=9.5,SNR=9.2						
NRIK	**Noril'sk**	**46.25**	**337**	P	**P**	**05 37 20.8**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=102,slow=6.1,SNR=2.3						
NRIK	**Noril'sk**	**46.25**	**337**	*ceP*	**P**	**05 37 20.6**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NRIK	**Noril'sk**	**46.25**	**337**	IAmb	IAmb	05 37 21.8	
	comp=Z,8.2nm,1.3s						
KDAK	**Kodiak Island**	**49.39**	**40**	P	**P**	**05 37 45.2**	**+0.5**
	comp=Z,3.9nm,0.5s,baz=278,slow=6.6,SNR=9.3						
KDAK	**Kodiak Island**	**49.39**	**40**	IAmb	IAmb	05 37 45.3	
	comp=Z,16nm,1.4s						
MDM	**Murphy Dome**	**51.55**	**31**	P	**P**	**05 38 02.1**	**+1.2**
MDM				IAmb	IAmb	05 38 04.7	
	comp=Z,3.7nm,0.9s						
IL31		**52.12**	**31**	P	**P**	**05 38 05.6**	**+0.5**
IL31				IAmb	IAmb	05 38 07.3	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**52.12**	**31**	P	**P**	**05 38 05.8**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=265,slow=5.8,SNR=22						
AAK	**Ala-Archa**	**52.21**	**301**	*i* P	**P**	**05 38 05.1**	**-1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
WRA	**Warramunga Arr**	**53.93**	**188**	P	**P**	**05 38 18.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=5.0,slow=7.5,SNR=17						
WRA	**Warramunga Arr**	**53.93**	**188**	P	**P**	**05 38 18.0**	**-1.0**
K27K	**Chicken**	**54.24**	**32**	P	**P**	**05 38 22.1**	**+1.4**
KK31	**Karatay Array**	**54.92**	**302**	P	**P**	**05 38 26.5**	**+0.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	**Karatay Array**	**54.92**	**302**	P	**P**	**05 38 26.5**	**+0.4**
KK31				IAmb	IAmb	05 38 27.0	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**54.92**	**302**	P	**P**	**05 38 26.4**	**+0.3**
KKAR	**Karatay Array**	**54.92**	**302**	P	**P**	**05 38 26.4**	**+0.3**
KKAR	**Karatay Array**	**54.92**	**302**	IAmb	IAmb	05 38 27.0	
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**57.66**	**188**	P	**P**	**05 38 47.5**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=0.9,slow=6.6,SNR=8.3						
ARU	**Arti**	**58.88**	**320**	*d* P	**P**	**05 38 53.5**	**-0.4**
ARU						05 41 00.8	
ARU				S	**S**	**05 47 00.2**	**+2.1**
ARU				SS	**SS**	**05 50 53.4**	**+2.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ABKAR	**Akbulak array**	**60.15**	**312**	P	**P**	**05 39 02.3**	**-0.5**
ABKAR				IAmb	IAmb	05 39 03.2	
	comp=Z,2.1nm,0.5s						
KIRV	**Kirov**	**62.91**	**324**	*ceP*	**P**	**05 39 21.7**	**+0.5**
YKA	**Yellowknife Ar**	**66.49**	**29**	LR	LR	06 10 02.2	
	comp=Z,20nm,20.5s,baz=0.0,slow=37						
ARCES	**ARCESS Array B**	**67.04**	**340**	P	**P**	**05 39 48.2**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=60,slow=7.6,SNR=1.4						
ARCES				LR	LR	06 13 10.1	
	comp=Z,28nm,20.5s,baz=75,slow=40						
OBN	**Obninsk**	**70.76**	**324**	*eP*	**P**	**05 40 11.3**	**0.0**
OBN				pmax	pmax		
	comp=Z,16nm,0.5s						
FINES	**FINESS Array B**	**71.72**	**333**	P	**P**	**05 40 17.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=56,slow=7.4,SNR=8.4						
FINES	**FINESS Array B**	**71.72**	**333**	*ceP*	**P**	**05 40 15.6**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**73.12**	**312**	P	**P**	**05 40 25.8**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=49,slow=3.4,SNR=5.4						
KIV	**Kislovodsk**	**73.14**	**312**	*eP*	**P**	**05 40 25.4**	**-0.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,21nm,18.0s						
NVAR	**Mina Array Bea**	**76.78**	**53**	P	**P**	**05 40 48.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=293,slow=4.7,SNR=1.2						
AKASG	**Malin Array Be**	**76.93**	**323**	P	**P**	**05 40 47.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=48,slow=6.1,SNR=6.3						
AKBB	**Malin Array Si**	**76.93**	**323**	*ceP*	**P**	**05 40 47.8**	**+0.3**
NOA	**NORSAR Array B**	**77.19**	**338**	P	**P**	**05 40 49.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=39,slow=5.7,SNR=2.5						
NOA				LR	LR	06 18 37.0	
	comp=Z,25nm,18.5s,baz=330,slow=39						
PDAR	**Pinedale Array**	**79.79**	**45**	P	**P**	**05 41 05.0**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=304,slow=3.4,SNR=4.2						
PDAR				LR	LR	06 14 14.8	
	comp=Z,14nm,20.3s,baz=263,slow=34						
TORD	**Torodi Ar. Bea**	**119.68**	**314**	PKP	**PKPdf**	**05 47 45.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=4.5,slow=1.9,SNR=2.0						
LPAZ	**La Paz**	**148.05**	**64**	PKPbc	**PKPbc**	**05 48 42.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=359,slow=12,SNR=4.1						

*IDC **08** 06:09:34.8±1.9,3°.50N×122°.67E,h560km±22km,mb3.1/6, mb1 3.2/6,mb1mx2.8/51,mbtmp4.1/6,Error ellipse: s-maj=100.8km s-min=12.3km az=64.0*
ISC 08 06:09:33.9±1.0,3°.6N±0°.2×122°.7E±0°.6,h550km,n7, σ0°96/10,mb3.6/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**13.69**	**176**	P	**P**	**06 12 30.4**	**+0.4**
	7.0nm,0.3s,baz=0.0,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**25.97**	**154**	P	**P**	**06 14 23.2**	**-0.2**
	3.6nm,0.4s,baz=336,slow=9.6,SNR=41						
WRA				ScP	**ScP**	**06 20 19.9**	**-1.3**
	0.9nm,0.8s,baz=342,slow=3.0,SNR=5.7						
ASAR	**Alice Springs**	**29.15**	**159**	P	**P**	**06 14 51.7**	**+0.6**
	1.7nm,0.5s,baz=337,slow=7.3,SNR=31						
ASAR				ScP	**ScP**	**06 20 29.6**	**-1.4**
	0.7nm,0.6s,baz=345,slow=3.7,SNR=5.4						
SONM	**Songino Array**	**46.31**	**345**	P	**P**	**06 17 11.5**	**+1.0**
	0.2nm,0.3s,baz=156,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**55.49**	**327**	P	**P**	**06 18 17.4**	**+0.3**
	1.1nm,0.4s,baz=127,slow=7.9,SNR=19						
MKAR				PcP	**PcP**	**06 19 07.8**	**-1.2**
	0.7nm,0.7s,baz=130,slow=5.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**59.80**	**329**	P	**P**	**06 18 46.2**	**0.0**
	0.5nm,0.4s,baz=130,slow=6.2,SNR=8.4						
AKTO	**Aktyubinsk**	**71.35**	**322**	P	**P**	**06 19 58.0**	**-0.3**
	1.2nm,0.5s,baz=108,slow=7.1,SNR=6.4						

IDC 08 06:14:59.9±3.6,30°.30S×138°.45E,h0km,mb1 3.1/3, mb1mx3.1/44,mbtmp2.9/3,ML2.8/3,Error ellipse: s-maj=95.1km s-min=16.1km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.13**	**121**	Pn	Pn	06 15 51.3	+0.9
	0.5nm,0.3s,baz=298,slow=12,SNR=4.0						
STKA				Pg	Pb	06 15 57.4	+1.0
	1.4nm,0.3s,baz=294,slow=12,SNR=10.0						
STKA				Sn	Sn	06 16 28.1	-0.4
	1.6nm,0.3s,baz=238,slow=14,SNR=4.9						
STKA				Lg	Lg	06 16 38.6	
	2.3nm,0.3s,baz=69,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**7.75**	**327**	Pn	Pn	06 16 54.3	+0.3
	0.1nm,0.3s,baz=147,slow=12,SNR=4.8						
ASAR				Sn	Sn	06 18 24.0	+1.4
	0.1nm,0.3s,baz=154,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**10.96**	**339**	Pn	Pn	06 17 37.0	-1.0
	0.1nm,0.3s,baz=154,slow=12,SNR=2.2						

*IDC **08** 06:16:48.0±0.8,59°.57S×29°.32W,h0km,mb4.0/7, mb1 4.0/9,mb1mx3.9/26,mbtmp3.9/9,ML3.0/2,MS3.5/12, Ms1 3.5/12,ms1mx3.4/21,Error ellipse: s-maj=26.3km s-min=23.4km az=44.0*
*NEIC **08** 06:16:50.7±0.9,59°.6S±0°.1×29°.1W±0°.3,h19km±4km, mb4.4/10,Error ellipse: s-maj=24.6km s-min=18.6km az=62.0*
ISC 08 06:16:49.4±0.7,59°.5S±0°.1×29°.3W±0°.1,h10km,n36, σ0°78/23,mb4.2/9,MS3.5/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.11**	**151**	P	**Pn**	**06 20 09.1**	**+0.1**
VNA3	**Neumayer Olymp**	**14.19**	**154**	P	**Pn**	**06 20 09.6**	**-0.5**
SNAA	**Sanae**	**16.13**	**150**	P	**Pn**	**06 20 36.9**	**+1.0**
SNAA	**Sanae**	**16.13**	**150**	Pn	**Pn**	**06 20 36.1**	**+0.2**
	0.0nm,0.3s,baz=306,slow=16,SNR=2.4						
SNAA				LR	LR	06 25 34.8	
	comp=Z,190nm,19.3s,baz=293,slow=33						
SNAA	**Sanae**	**16.13**	**150**	Pn	**Pn**	**06 20 34.7**	**-1.2**
PMSA	**Palmer Station**	**16.90**	**237**	Pn	**Pn**	**06 20 46.3**	**+0.7**
	0.1nm,0.3s,baz=69,slow=11,SNR=7.1						
PMSA				LR	LR	06 26 10.6	
	comp=Z,103nm,19.3s,baz=91,slow=33						
PMSA	**Palmer Station**	**16.90**	**237**		**Pn**	**06 20 45.1**	**-0.5**
QSPA	**South Pole Qui**	**30.70**	**180**	P	**P**	**06 23 05.3**	**+1.2**
	1.0nm,0.7s,baz=164,slow=2.0,SNR=2.8						
QSPA	**South Pole Qui**	**30.70**	**180**	P	**P**	**06 23 04.9**	**+0.8**
QSPA				IAmb	IAmb	06 23 18.1	
	comp=Z,13nm,1.4s						
PLCA	**Paso Flores**	**31.76**	**288**	LR	LR	06 35 38.2	
	comp=Z,86nm,18.5s,baz=180,slow=36						
MAW	**Mawson**	**38.05**	**142**	LR	LR	06 37 31.0	
	comp=Z,71nm,21.8s,baz=249,slow=33						
CPUP	**Villa Florida**	**38.46**	**317**	P	**P**	**06 24 11.3**	**+0.1**
	comp=Z,1.6nm,1.0s,baz=141,slow=4.4,SNR=3.2						
CPUP				LR	LR	06 38 34.3	
	comp=Z,75nm,21.3s,baz=164,slow=34						
CPUP	**Villa Florida**	**38.46**	**317**	IAmb	IAmb	06 24 13.8	
	comp=Z,8.6nm,1.5s						
VNDA	**Vanda**	**43.02**	**184**	LR	LR	06 41 40.1	
	comp=Z,29nm,18.7s,baz=214

BKI Bering 0.52 351 *eP* **Pg 06 39 57.2 +0.9**
BKI *eS* **Sg 06 40 03.2 +0.1**
KBTR Krutoberegovo 2.42 310 *eP* **Pn 06 40 24.9 -0.8**
KBTR *eS* **Sn 06 40 52.6 -2.7**
MKZ Mys Kozlova 2.55 269 *i* P **Pn 06 40 28.3 +0.7**
MKZ *eS* **Sn 06 40 56.2 -2.5**
SMKR Semkarok 3.24 308 *eP* **Pn 06 40 38.5 +1.3**
TUMD Tumrok D 3.34 281 *eP* **Pn 06 40 39.6 +1.2**
TUMD *eS* **Sn 06 41 15.7 -2.4**
BZGR Bezymyannyi-Gr 3.34 294 *eP* **Pn 06 40 39.8 +1.3**
BZGR *eS* **Sn 06 41 16.7 -1.6**
BDR Baidarnaya 3.36 306 P **Pn 06 40 40.7 +2.0**
KZV Kizimen 3.39 280 *i* P **Pn 06 40 40.1 +0.9**
KZV S **Sn 06 41 17.4 -2.1**
LGNR Loginova 3.39 296 P **Pn 06 40 42.1 +2.7**
SRKR Sorokina 3.42 307 P **Pn 06 40 42.3 +2.7**
BZWR Bezymyannyi-We 3.45 294 *eP* **Pn 06 40 41.5 +1.3**
BZWR S **Sn 06 41 21.5 +0.3**
TUMR Tumrok 3.49 282 *i* P **Pn 06 40 41.9 +1.3**
TUMR *eS* **Sn 06 41 22.0 0.0**
KLY Klyuchi 3.51 300 S **Sn 06 41 18.4 -3.8**
KIRR Kirishev 3.53 293 *eP* **Pn 06 40 42.6 +1.4**
KMNR Kamenistaya 3.53 290 *eP* **Pn 06 40 42.7 +1.5**
KMNR *eS* **Sn 06 41 22.7 -0.3**
KPT Kopyto 3.60 293 P **Pn 06 40 43.8 +1.7**
KPT S **Sn 06 41 24.2 -0.5**
KOZ Kozyrevsk 3.82 294 P **Pn 06 40 47.4 +2.4**
SPN Mys Shipunski 3.94 249 *eP* **Pn 06 40 47.7 +1.0**
SPN *eS* **Sn 06 41 30.0 -3.0**
KII Karymskiy 3.96 263 *eP* **Pn 06 40 48.5 +1.5**
SRDR Sredinnyy 3.99 297 *eP* **Pn 06 40 49.3 +1.9**
NLC Nalytchevo 4.28 252 *eP* **Pn 06 40 52.5 +1.2**
NLC *eS* **Sn 06 41 38.6 -2.7**
ESO Esso 4.41 289 *eP* **Pn 06 40 56.1 +2.9**
SDLR Sedlovina 4.50 255 *i* P **Pn 06 40 56.1 +1.6**
SDLR *eS* **Sn 06 41 46.5 -0.3**
SMAR Somma 4.55 255 *eP* **Pn 06 40 57.6 +2.4**
SMAR *eS* **Sn 06 41 46.6 -1.6**
UGLR Uglovaya 4.56 254 *i* P **Pn 06 40 57.3 +2.0**
KRER Koryakskii 4.56 255 *eP* **Pn 06 40 57.5 +2.1**
KRER *eS* **Sn 06 41 47.0 -1.6**
AVH Avacha 4.58 255 *eP* **Pn 06 40 57.7 +2.1**
AVH *eS* **Sn 06 41 47.5 -1.4**
KRX Arik 4.60 256 *eP* **Pn 06 40 57.8 +1.9**
KRX *eS* **Sn 06 41 46.8 -2.6**
KOK Koryaka 4.63 255 *i* P **Pn 06 40 58.2 +1.9**
KOK *eS* **Sn 06 41 47.9 -2.2**
DALK Dalny 4.67 252 P **Pn 06 40 58.1 +1.5**
DALK S **Sn 06 41 47.7 -3.0**
PET Petropavlovsk 4.72 252 *eP* **Pn 06 40 59.1 +1.7**
PET *eS* **Sn 06 41 50.2 -2.0**
OSSR Ossora 4.87 341 *eP* **Pn 06 40 59.3 0.0**
GNL Ganaly 4.90 262 *eP* **Pn 06 41 02.5 +2.5**
GNL *eS* **Sn 06 41 57.8 +1.0**
RUS Russkaya 5.07 247 *eP* **Pn 06 41 03.7 +1.6**
RUS *eS* **Sn 06 41 57.5 -3.1**
KRMR Karymshinskiy 5.09 252 *eP* **Pn 06 41 04.3 +1.8**
KRMR *eS* **Sn 06 42 00.0 -1.3**
MTVR Mutnovka 5.22 248 *eP* **Pn 06 41 06.5 +2.1**
MTVR *eS* **Sn 06 42 02.5 -2.1**
PETK Petropavlovsk- 5.22 256 Pn **Pn 06 41 06.1 +1.8**
1.8nm,0.3s,baz=92,slow=17,SNR=8.5
PETK Sn **Sn 06 42 03.2 -1.4**
3.5nm,0.3s,baz=1.1,slow=30,SNR=6.8
GRL Gorelyy 5.25 249 *i* P **Pn 06 41 07.3 +2.6**
KDTR Khodutka, Kamc 5.62 242 *eP* **Pn 06 41 11.0 +1.2**
ALID Alaid 7.46 243 *eP* **Pn 06 41 38.1 +2.9**
KLR Kul'dur 21.72 270 P **P 06 44 38.3 +1.1**
0.9nm,0.6s,baz=56,slow=12,SNR=4.5
KLR LR LR 06 53 18.9
comp=Z,40nm,18.4s,baz=132,slow=38
KDAK Kodiak Island 22.90 65 P **P 06 44 48.9 -0.8**
5.9nm,0.8s,baz=179,slow=0.6,SNR=9.6
ILAR Eielson Array 25.13 48 P **P 06 45 09.6 -1.3**
2.4nm,0.6s,baz=254,slow=8.2,SNR=34
H11N2 WAKE ISLAND Hy 34.91 179 T T 07 23 56.4
baz=360,slow=76,SNR=304
H11N3 WAKE ISLAND Hy 34.92 179 T T 07 24 00.9
baz=360,slow=76,SNR=322
H11N1 WAKE ISLAND Hy 34.92 179 T T 07 24 01.2
baz=360,slow=76,SNR=265
H11S1 WAKE ISLAND Hy 36.12 179 T T 07 25 32.6
baz=359,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 36.13 179 T T 07 25 41.4
baz=359,slow=76,SNR=9.2
H11S2 WAKE ISLAND Hy 36.14 179 T T 07 25 27.8
baz=359,slow=76,SNR=29
MKAR Makanchi Array 50.62 298 P **P 06 48 43.7 -1.3**
0.2nm,0.5s,baz=60,slow=8.5,SNR=1.7
NVAR Mina Array Bea 51.86 75 P **P 06 48 55.2 +0.5**
0.2nm,0.5s,baz=99,slow=9.4,SNR=3.6
PDAR Pinedale Array 53.62 66 P **P 06 49 07.9 +0.3**
0.1nm,0.4s,baz=323,slow=2.3,SNR=2.7
TXAR Lajitas Array 66.74 72 P **P 06 50 37.5 0.0**
0.3nm,0.5s,baz=305,slow=4.8,SNR=9.7
WRA Warramunga Arr 79.15 210 P **P 06 51 51.3 +0.4**
0.5nm,0.9s,baz=26,slow=6.1,SNR=1.7
ASAR Alice Springs 82.80 210 P **P 06 52 10.3 0.0**
0.5nm,0.6s,baz=16,slow=4.9,SNR=6.8

IDC 08 06:46:22.1±56.0**, 20°.66S**×**177°.47W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.6**/25**, mbtmp3.8**/3**, Error ellipse: s-maj=1029.0km s-min=170.3km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.17 244**		P	P	06 53 42.5	-0.9
	0.7nm,0.3s,baz=70,slow=15,SNR=1.6						
ASAR	**Alice Springs**	**44.97 257**		P	P	06 54 39.7	+0.3
	0.8nm,0.5s,baz=98,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**45.07 262**		P	P	06 54 40.1	-0.1
	0.3nm,0.3s,baz=96,slow=7.5,SNR=23						

BGS ***08*** *06:53:15.0*±*2.4, 51°.49N*×*16°.17E, h5km*
LDG ***08*** *06:53:16.5*±*0.1, 51°.59N*×*16°.14E, h1km, Ml4.9/37, Error ellipse: s-maj=2.8km s-min=1.7km az=1.0, Suspected Mining induced.*
IPEC ***08*** *06:53:17.9*±*0.2, 51°.56N*×*16°.26E, h0km, ML4.3/3, Error ellipse: s-maj=3.0km s-min=1.7km az=69.0*
MOS ***08*** *06:53:18.2*±*1.1, 51°.53N*×*16°.14E, h10km, mb4.7/21, Error ellipse: s-maj=6.0km s-min=4.0km az=83.7*
VIE ***08*** *06:53:18.4*±*0.5, 51°.49N*×*16°.17E, h0km, mb3.7/8, ml4.2/8, Error ellipse: s-maj=3.6km s-min=2.0km az=18.0 74 km NW of Wroclaw Suspected Mining induced.*
PRU ***08*** *06:53:19.5*±*0.0, 51°.53N*×*16°.14E, h0km, M4.7*
NEIC ***08*** *06:53:19.3*±*2.7, 51°.59N*±*0°.05*×*16°.07E*±*0°.07, h5km*±*1km, mb4.7/138, ML4.2/8(VIE), Error ellipse: s-maj=9.8km s-min=6.3km az=146.0*
BGR ***08*** *06:53:19.2*±*0.3, 51°.52N*×*16°.20E, h1km, ML4.4, Error ellipse: s-maj=3.3km s-min=2.2km az=38.0*
DNK ***08*** *06:53:19.4*±*1.9, 51°.66N*×*16°.01E, h0km*±*120km, ML3.2, Suspected explosion*
IDC ***08*** *06:53:19.2*±*0.3, 51°.54N*×*16°.08E, h0km, mb4.3/26, mb1 4.4/40, mb1mx4.3/51, mbtmp4.3/40, ML3.7/13, MS4.0/2, Ms1 4.0/2, ms1mx2.6/54, Error ellipse: s-maj=7.2km s-min=5.0km az=100.0*
BNS ***08*** *06:53:21.7*±*0.9, 51°.66N*×*16°.03E, h10km, ML4.2*
UPP ***08*** *06:53:23.0*±*3.1, 51°.81N*×*15°.89E, h0km, ML3.6, Suspected explosion*

ISC 08 06:53:18.1±0.3**, 51°.52N**±0°.02×**16°.09E**±0°.02**, h0km, n542,** σ1°**90**/607**, mb4.7**/102**, 34C-12D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69 169**		*ePg*	**Pg**	**06 53 32.0**	**+0.8**
KSP				*eSg*	**Sg**	**06 53 40.3**	**+0.1**
KSP	**Ksiaz**	**0.69 169**		*ePg*	**Pg**	**06 53 32.1**	**+0.8**
KSP				*eSg*	**Sg**	**06 53 41.1**	**+0.9**
	SNR=5.5						
KSP	**Ksiaz**	**0.69 169**		*ePg*	**Pg**	**06 53 32.1**	**+0.8**
KSP				*eSg*	**Sg**	**06 53 41.1**	**+0.9**
	SNR=5.5						
CHVC	**Chvalec**	**0.93 182**		*ePG*	**Pn**	**06 53 38.0**	**-0.5**
CHVC				*eSG*	**Sb**	**06 53 50.4**	**+0.3**
OSTC	**Ostas**	**0.97 175**		*ePG*	**Pb**	**06 53 37.7**	**0.0**
OSTC				*eSG*	**Sb**	**06 53 50.7**	**-0.4**
UPC	**Upice**	**1.01 183**		*eP*	**Pb**	**06 53 38.3**	**-0.2**
UPC				*e*		06 53 51.8	
UPC				smax	smax		
	comp=N,3μm,0.6s						
UPC				MLR	MLR		
	comp=Z,5μm,5.3s						
UPC	**Upice**	**1.01 183**		*ePG*	**Pb**	**06 53 38.3**	**-0.2**
UPC				AMS	AMS	06 53 50.0	
	comp=Z,5μm,5.3s						
UPC				*eSG*	**Sb**	**06 53 51.8**	**-0.6**
	comp=Z,3μm,0.6s						
DPC	**Dobruska-Polom**	**1.18 173**		*eP*	**Pb**	**06 53 41.1**	**-0.3**
DPC				*e*		06 53 56.7	
DPC				smax	smax		
	comp=N,2μm,0.8s						
DPC				MLR	MLR		
	comp=Z,6μm,4.6s						
DPC	**Dobruska-Polom**	**1.18 173**		*ePG*	**Pb**	**06 53 41.1**	**-0.3**
DPC				*eSG*	**Sb**	**06 53 56.7**	**-0.5**
	comp=Z,2μm,0.8s						
DPC				AMS	AMS	06 54 00.0	
	comp=Z,6μm,4.6s						
DPC	**Dobruska-Polom**	**1.18 173**		*ePg*	**Pb**	**06 53 41.1**	**-0.3**
DPC				*eSg*	**Sg**	**06 53 55.8**	**-0.2**
	SNR=2.8						
DPC	**Dobruska-Polom**	**1.18 173**		*ePg*	**Pb**	**06 53 41.1**	**-0.3**
DPC				*eSg*	**Sg**	**06 53 55.8**	**-0.2**
	SNR=2.8						
PVCC	**Panska Ves**	**1.38 225**		*eP*	**Pb**	**06 53 45.2**	**+0.4**
PVCC				*e*		06 54 04.5	
PVCC				smax	smax		
	comp=N,8μm,1.0s						
PVCC	**Panska Ves**	**1.38 225**		*ePG*	**Pb**	**06 53 45.2**	**+0.4**
PVCC				*eSG*	**Sn**	**06 54 04.5**	**+0.9**
	comp=N,8μm,1.0s						
PVCC	**Panska Ves**	**1.38 225**		*ePg*	**Pb**	**06 53 45.3**	**+0.5**
PVCC				*eSg*	**Sn**	**06 54 06.2**	**+2.6**
	SNR=4.0						
PVCC	**Panska Ves**	**1.38 225**		*ePg*	**Pb**	**06 53 45.3**	**+0.5**
PVCC				*eSg*	**Sn**	**06 54 06.2**	**+2.6**
	SNR=4.0						
BRG	**Berggiesshubel**	**1.50 245**		Pn	**Pn**	**06 53 46.3**	**0.0**
BRG				Pg	**Pg**	**06 53 47.5**	**+0.7**
BRG				Sg	**Sn**	**06 54 08.5**	**+1.9**
BRG				Amp		06 54 11.1	
	comp=Z,3μm,1.1s						
BRG				Amp		06 54 20.0	
	comp=Z,4.8nm,5.0s						
BRG				Amp		06 54 22.0	
	comp=E,4.9nm,3.1s						
BRG				Amp		06 54 22.0	
	comp=N,4.8nm,2.9s						
BRG	**Berggiesshubel**	**1.50 245**		*ePn*	**Pn**	**06 53 46.3**	**0.0**
	SNR=13						
BRG				*ePg*	**Pg**	**06 53 48.2**	**+1.4**
BRG				*eSg*	**Sn**	**06 54 08.3**	**+1.8**
	SNR=8.1						
BRG	**Berggiesshubel**	**1.50 245**		*ePn*	**Pn**	**06 53 46.3**	**0.0**
	SNR=13						
BRG				*ePg*	**Pg**	**06 53 48.2**	**+1.4**
BRG				*eSg*	**Sn**	**06 54 08.3**	**+1.8**
	SNR=8.1						
RUE	**Ruedersdorf**	**1.72 305**		*ePn*	**Pn**	**06 53 49.5**	**+0.2**
	SNR=8.3						
RUE				*eSg*	**Sg**	**06 54 16.3**	**+2.9**
	SNR=3.3						
RUE	**Ruedersdorf**	**1.72 305**		*ePn*	**Pn**	**06 53 49.5**	**+0.2**
	SNR=8.3						
RUE				*eSg*	**Sg**	**06 54 16.3**	**+2.9**
	SNR=3.3						
PRA	**Prague**	**1.79 217**		*eP*	**Pn**	**06 53 50.8**	**+0.5**
PRA				*e*		06 54 15.5	
PRA				smax	smax		
	comp=N,2μm,0.9s						
PRA				MLR	MLR		
	comp=Z,4μm,5.9s						
PRA	**Prague**	**1.79 217**		*ePN*	**Pn**	**06 53 50.8**	**+0.5**
PRA				*ePG*	**Pg**	**06 53 52.8**	**+0.3**
PRA				*eSG*	**Sg**	**06 54 15.5**	**-0.2**
	comp=Z,2μm,0.9s						
PRA				AMS	AMS	06 54 20.0	
	comp=Z,4μm,5.9s						
PRU	**Pruhonice**	**1.82 213**		*eP*	**Pn**	**06 53 50.9**	**+0.2**
PRU				*e*		06 54 18.1	
PRU				smax	smax		
	comp=N,2μm,0.9s						
PRU				MLR	MLR		
	comp=Z,6μm,4.5s						
PRU	**Pruhonice**	**1.82 213**		*ePN*	**Pn**	**06 53 50.9**	**+0.2**
PRU				*ePG*	**Pg**	**06 53 52.9**	**-0.1**
PRU				*eSG*	**Sg**	**06 54 18.1**	**+1.5**
	comp=Z,2μm,0.9s						
PRU				AMS	AMS	06 54 30.0	
	comp=Z,6μm,4.5s						
PRU	**Pruhonice**	**1.82 213**		*ePn*	**Pn**	**06 53 50.9**	**+0.2**
	SNR=13						
PRU	**Pruhonice**	**1.82 213**		*ePn*	**Pn**	**06 53 50.9**	**+0.2**
	SNR=13						
FBE	**Freiberg**	**1.82 252**		*ePn*	**Pn**	**06 53 51.1**	**+0.4**
	SNR=5.7						
FBE				*eSg*	**Sg**	**06 54 17.6**	**+0.9**
	SNR=4.1						
FBE	**Freiberg**	**1.82 252**		*ePn*	**Pn**	**06 53 51.1**	**+0.4**
	SNR=5.7						
FBE				*eSg*	**Sg**	**06 54 17.6**	**+0.9**
	SNR=4.1						
GKP	**Gorka Klasztor**	**1.89 21**		*ePn*	**Pb**	**06 53 53.0**	**-0.4**
GKP				*ePg*	**Pg**	**06 53 58.7**	**+4.4**
GKP				*eSg*	**Sg**	**06 54 22.0**	**+3.3**
GKP	**Gorka Klasztor**	**1.89 21**		*eP*	**Pb**	**06 53 53.5**	**+0.1**
GKP	**Gorka Klasztor**	**1.89 21**		*ePn*	**Pb**	**06 53 53.2**	**-0.3**
	SNR=3.2						
GKP	**Gorka Klasztor**	**1.89 21**		*ePn*	**Pb**	**06 53 53.2**	**-0.3**
	SNR=3.2						
CLL	**Collm**	**1.95 265**		*ePn*	**Pn**	**06 53 52.0**	**-0.4**
CLL				*ePg*	**Pg**	**06 53 56.0**	**+0.6**
CLL				*i*		06 53 58.4	
CLL				*i* Sg	**Sg**	**06 54 23.0**	**+2.4**
	comp=Z,1μm,0.8s						
CLL	**Collm**	**1.95 265**		*eP*	**Pn**	**06 53 52.0**	**-0.4**
CLL				*i*		06 54 23.0	
CLL	**Collm**	**1.95 265**		Pn	**Pn**	**06 53 52.1**	**-0.4**
CLL	**Collm**	**1.95 265**		*ePn*	**Pn**	**06 53 52.5**	**+0.1**
	SNR=24						
CLL				*eSg*	**Sg**	**06 54 23.2**	**+2.6**
	SNR=2.5						
CLL	**Collm**	**1.95 265**		*ePn*	**Pn**	**06 53 52.5**	**+0.1**
	SNR=24						
CLL				*eSg*	**Sg**	**06 54 23.2**	**+2.6**
	SNR=2.5						
RAC	**Raciborz**	**1.96 136**		*ePN*	**Pn**	**06 53 51.8**	**-0.8**
RAC				*ePG*	**Pg**	**06 53 55.5**	**-0.2**
RAC				*eSG*	**Sg**	**06 54 22.8**	**+1.8**
RAC	**Raciborz**	**1.96 136**		*eP*	**Pn**	**06 53 51.8**	**-0.8**
RAC				*e*		06 54 22.8	
MORC	**Moravsky Berou**	**1.97 152**		⇓P	**Pn**	**06 53 52.4**	**-0.4**
MORC	**Moravsky Berou**	**1.97 152**		*ePn*	**Pn**	**06 53 52.4**	**-0.4**
	baz=336						
MORC				*eSg*	**Sb**	**06 54 19.5**	**-0.5**
	comp=Z,2μm,1.3s,baz=336						
MORC	**Moravsky Berou**	**1.97 152**		*ePN*	**Pn**	**06 53 52.4**	**-0.4**
MORC				*eSG*	**Sb**	**06 54 19.6**	**-0.5**
OKC	**Ostrava-Krasne**	**2.13 141**		*ePn*	**Pn**	**06 53 54.2**	**-0.7**
	SNR=4.7						
OKC				*eSg*	**Sg**	**06 54 26.0**	**-0.5**
	SNR=6.4						
OKC	**Ostrava-Krasne**	**2.13 141**		*ePn*	**Pn**	**06 53 54.2**	**-0.7**
	SNR=4.7						
OKC				*eSg*	**Sg**	**06 54 26.0**	**-0.5**
	SNR=6.4						
VRAC	**Vranov**	**2.24 172**		Pn	**Pn**	**06 53 56.9**	**+0.5**
	comp=Z,12nm,0.3s,baz=355,slow=14,SNR=53						
VRAC				Pg	**Pg**	**06 54 01.9**	**+0.9**
	comp=Z,34nm,0.3s,baz=353,slow=16,SNR=30						
VRAC				Lg	Lg	06 54 29.3	
	comp=Z,74nm,0.3s,baz=96,slow=20,SNR=14						
VRAC				LR	LR	06 54 59.2	
	comp=Z,193nm,18.6s,baz=326,slow=44						
VRAC	**Vranov**	**2.24 172**		⇑P	**Pn**	**06 53 57.1**	**+0.7**
VRAC	**Vranov**	**2.24 172**		*ePn*	**Pn**	**06 53 56.5**	**+0.1**
	baz=355						
VRAC				*eSg*	**Sb**	**06 54 28.6**	**+1.0**
	comp=Z,2μm,1.4s,baz=355						
VRAC	**Vranov**	**2.24 172**		*ePN*	**Pn**	**06 53 56.5**	**+0.1**
VRAC				*eSG*	**Sb**	**06 54 28.7**	**+1.1**
VRAC	**Vranov**	**2.24 172**		*ePn*	**Pn**	**06 53 56.6**	**+0.1**
	SNR=5.1						
VRAC				*eSg*	**Sg**	**06 54 29.8**	**-0.1**
	SNR=4.4						
VRAC	**Vranov**	**2.24 172**		*ePn*	**Pn**	**06 53 56.6**	**+0.1**
	SNR=5.1						
VRAC				*eSg*	**Sg**	**06 54 29.8**	**-0.1**
	SNR=4.4						
TREC	**Trest**	**2.26 190**		*eP*	**Pn**	**06 53 57.4**	**+0.6**
TREC				MLR	MLR		
	comp=Z,4μm,4.1s						
TREC	**Trest**	**2.26 190**		*ePN*	**Pn**	**06 53 57.4**	**+0.6**
TREC				*ePG*	**Pg**	**06 54 01.4**	**0.0**
TREC				AMS	AMS	06 54 40.0	
	comp=Z,4μm,4.1s						
TREC	**Trest**	**2.26 190**		*ePn*	**Pn**	**06 53 57.3**	**+0.6**
	SNR=5.7						
TREC				*eSg*	**Sg**	**06 54 30.9**	**+0.2**
	SNR=6.0						
TREC	**Trest**	**2.26 190**		*ePn*	**Pn**	**06 53 57.3**	**+0.6**
	SNR=5.7						
TREC				*eSg*	**Sg**	**06 54 30.9**	**+0.2**
	SNR=6.0						
PBCC	**Pribram**	**2.27 217**		*ePN*	**Pn**	**06 53 56.8**	**-0.1**
PBCC				*ePG*	**Pg**	**06 54 01.4**	**-0.2**
LNIZ	**Loecknitz**	**2.29 331**		*ePn*	**Pn**	**06 53 56.7**	**-0.3**
	SNR=16						
LNIZ	**Loecknitz**	**2.29 331**		*ePn*	**Pn**	**06 53 56.7**	**-0.3**
	SNR=16						
KRUC	**Moravsky**	**2.47 175**		*ePn*	**Pn**	**06 53 59.5**	**0.0**
	baz=358						
KRUC				*eSg*	**Sg**	**06 54 36.0**	**-1.3**
	comp=Z,2μm,1.3s,baz=358						
KRUC	**Moravsky**	**2.47 175**		*ePN*	**Pn**	**06 53 59.6**	**0.0**
KRUC				*eSG*	**Sg**	**06 54 36.0**	**-1.3**
KRUC	**Moravsky**	**2.47 175**		*ePn*	**Pn**	**06 54 00.1**	**+0.5**
	SNR=6.5						
KRUC				*eSg*	**Sg**	**06 54 38.0**	**+0.6**
	SNR=3.7						
KRUC	**Moravsky**	**2.47 175**		*ePn*	**Pn**	**06 54 00.1**	**+0.5**
	SNR=6.5						
KRUC				*eSg*	**Sg**	**06 54 38.0**	**+0.6**
	SNR=3.7						
WERD	**Werda**	**2.62 247**		*ePn*	**Pn**	**06 54 02.4**	**+0.7**
	SNR=14						
WERD				*eSg*	**Sg**	**06 54 44.8**	**+2.5**
	SNR=6.2						
WERD	**Werda**	**2.62 247**		*ePn*	**Pn**	**06 54 02.4**	**+0.7**
	SNR=14						
WERD				*eSg*	**Sg**	**06 54 44.8**	**+2.5**
	SNR=6.2						
NKC	**Novy Kostel**	**2.64 242**		*eP*	**Pg**	**06 54 09.3**	**+0.5**
NKC				MLR	MLR		
	comp=Z,3μm,5.8s						
NKC	**Novy Kostel**	**2.64 242**		*ePG*	**Pg**	**06 54 09.3**	**+0.5**
NKC				*eSG*	**Sg**	**06 54 45.4**	**+2.4**
	comp=Z,1μm,0.5s						
NKC				AMS	AMS	06 55 00.0	
	comp=Z,3μm,5.8s						
NKC	**Novy Kostel**	**2.64 242**		*ePn*	**Pn**	**06 54 02.8**	**+0.7**
	SNR=29						
NKC				*eSg*	**Sg**	**06 54 47.2**	**+4.2**
	SNR=6.8						
NKC	**Novy Kostel**	**2.64 242**		*ePn*	**Pn**	**06 54 02.8**	**+0.7**
	SNR=29						
NKC				*eSg*	**Sg**	**06 54 47.2**	**+4.2**
	SNR=6.8						
WERN	**Wernitzgruen**	**2.66 244**		*ePn*	**Pn**	**06 54 03.0**	**+0.8**
	SNR=20						
WERN	**Wernitzgruen**	**2.66 244**		*ePn*	**Pn**	**06 54 03.0**	**+0.8**
	SNR=20						
OJC	**Ojcow**	**2.68 118**		*ePn*	**Pn**	**06 54 00.7**	**-1.9**
OJC				*ePg*	**Pg**	**06 54 09.6**	**+0.1**
OJC				*eSg*	**Sg**	**06 54 44.4**	**+0.1**
OJC	**Ojcow**	**2.68 118**	P		**Pn**	**06 54 02.7**	**+0.2**
OJC	**Ojcow**	**2.68 118**	Pn		**Pn**	**06 54 02.7**	**+0.2**
OJC	**Ojcow**	**2.68 118**		*ePn*	**Pn**	**06 54 01.0**	**-1.6**
	SNR=12						
OJC	**Ojcow**	**2.68 118**		*ePn*	**Pn**	**06 54 01.0**	**-1.6**
	SNR=12						
PLN	**Plauen**	**2.69 249**		*ePn*	**Pn**	**06 54 03.3**	**+0.6**
	SNR=15						
PLN	**Plauen**	**2.69 249**		*ePn*	**Pn**	**06 54 03.3**	**+0.6**
	SNR=15						
NEUB	**Neuenburg**	**2.73 265**		*eSg*	**Sg**	**06 54 48.1**	**+2.5**
	SNR=4.5						
NEUB	**Neuenburg**	**2.73 265**		*eSg*	**Sg**	**06 54 48.1**	**+2.5**
	SNR=4.5						
JAVC	**Velka Javorina**	**2.85 159**		*ePn*	**Pn**	**06 54 04.5**	**-0.3**
	baz=342						
JAVC	**Velka Javorina**	**2.85 159**		*ePN*	**Pn**	**06 54 04.6**	**-0.3**
KHC	**Kasperske Hory**	**2.88 215**		*eP*	**Pn**	**06 54 05.6**	**+0.3**
KHC				*e*		06 54 40.5	
KHC				smax	smax		
	comp=N,508nm,0.7s						
KHC				MLR	MLR		
	comp=Z,2μm,4.9s						
KHC	**Kasperske Hory**	**2.88 215**		*ePN*	**Pn**	**06 54 05.6**	**+0.3**
KHC				*ePG*	**Pb**	**06 54 11.9**	**+1.5**
KHC				*eSN*	**Sn**	**06 54 40.5**	**-0.2**
KHC				*eSG*	**Sg**	**06 54 50.8**	**+0.1**
	comp=Z,508nm,0.7s						
KHC				AMS	AMS	06 55 00.0	
	comp=Z,2μm,4.9s						
KHC	**Kasperske Hory**	**2.88 215**	Pn		**Pn**	**06 54 05.4**	**+0.1**
KHC	**Kasperske Hory**	**2.88 215**		*ePn*	**Pn**	**06 54 05.4**	**+0.1**
	SNR=23						
KHC	**Kasperske Hory**	**2.88 215**		*ePn*	**Pn**	**06 54 05.4**	**+0.1**
	SNR=23						
CKRC	**Cesky Krumlov**	**2.94 204**		*ePN*	**Pn**	**06 54 07.4**	**+1.4**
CKRC				*ePG*	**Pg**	**06 54 14.0**	**-0.3**
CKRC				*eSG*	**Sg**	**06 54 53.0**	**+0.6**
	comp=Z,761nm,0.8s						
CKRC				AMS	AMS	06 55 10.0	
	comp=Z,2μm,5.4s						
MOX	**Moxa**	**2.96 255**		*ePn*	**Pn**	**06 54 06.8**	**+0.5**
	SNR=10						
MOX				*eSg*	**Sg**	**06 54 55.7**	**+2.6**
	SNR=5.7						
MOX	**Moxa**	**2.96 255**		*ePn*	**Pn**	**06 54 06.8**	**+0.5**
	SNR=10						
MOX				*eSg*	**Sg**	**06 54 55.7**	**+2.6**
	SNR=5.7						
MANZ	**Manzenberg**	**2.96 240**		*ePn*	**Pn**	**06 54 07.3**	**+1.0**
	SNR=13						
MANZ	**Manzenberg**	**2.96 240**		*ePn*	**Pn**	**06 54 07.3**	**+1.0**
	SNR=13						
ROTZ	**Rotzenmuhle**	**3.03 236**		*ePn*	**Pn**	**06 54 08.0**	**+0.6**
	SNR=32						
ROTZ	**Rotzenmuhle**	**3.03 236**		*ePn*	**Pn**	**06 54 08.0**	**+0.6**
	SNR=32						
I26DE	**FREYUNG INFRAS**	**3.08 211**		*i*		07 12 10.0	
	baz=28,slow=324,SNR=1.8						
GEC2	**GERESS Array S**	**3.09 211**			**Pn**	**06 54 08.6**	**+0.4**
GEC2	**GERESS Array S**	**3.09 211**		*ePn*	**Pn**	**06 54 08.6**	**+0.4**
	SNR=20						
GEC2	**GERESS Array S**	**3.09 211**		*ePn*	**Pn**	**06 54 08.6**	**+0.4**
	SNR=20						
GERES	**GERESS Array B**	**3.09 211**	Pn		**Pn**	**06 54 09.6**	**+1.4**
	comp=Z,8.0nm,0.3s,baz=34,slow=15,SNR=138						
GERES	

ZST eSG Sg 06 55 07.3 +0.3
NIE Niedzica 3.41 126 ePn Pn 06 54 12.6 0.0
NIE ePg Pg 06 54 23.0 -0.5
NIE eSg Sg 06 55 07.5 -0.2
VYHS Vyhne 3.51 149 eP Pn 06 54 13.7 -0.2
VYHS Vyhne 3.51 149 ePN Pn 06 54 13.7 -0.2
VYHS ePG Pg 06 54 26.4 +1.1
VYHS eSG Sg 06 55 14.0 +3.3
CONA Conrad Observa 3.60 182 i Pn Pn 06 54 15.7 +0.5
comp=Z,25nm,0.5s,SNR=84
CONA Sg Sg 06 55 14.9 +1.3
comp=Z,220nm,0.5s
CONA Conrad Observa 3.60 182 Pn 06 54 15.7 +0.5
CONA Sg 06 55 14.9 +1.3
GRA1 Grafenberg Arr 3.60 241 Pn 06 54 16.0 +0.8
GRF Grafenberg Arr 3.60 241 P Pn 06 54 16.0 +0.8
GRFO Grafenberg 3.60 241 P Pn 06 54 15.6 +0.4
GRFO Grafenberg 3.60 241 Pn Pn 06 54 15.6 +0.4
BSD Bornholm Skovb 3.67 349 eP Pn 06 54 15.8 -0.3
BSD Bornholm Skovb 3.67 349 i P Pn 06 54 16.1 0.0
BSD i S Sn 06 54 56.7 -3.3
BSD IAML 06 55 27.4
comp=Z,32nm,0.4s
BSD Bornholm Skovb 3.67 349 i P Pn 06 54 16.0 0.0
BSD i S Sn 06 54 56.6 -3.3
SOP Sopron 3.85 175 eP Pn 06 54 19.3 +0.8
SOP Sopron 3.85 175 ePB Pb 06 54 28.1 +1.2
SOP eSB Sb 06 55 17.2 +3.2
MOA Molln 3.86 199 i Pn Pn 06 54 19.2 +0.5
comp=Z,42nm,0.6s,SNR=72
MOA Sg Sg 06 55 23.7 +1.6
comp=Z,816nm,0.8s
MOA Molln 3.86 199 Pn 06 54 19.2 +0.5
MOA LR 06 55 23.7
STHS Stebnicka Huta 3.91 121 eP Pn 06 54 19.1 -0.2
STHS Stebnicka Huta 3.91 121 ePN Pn 06 54 19.1 -0.2
STHS ePG Pg 06 54 32.8 -0.1
KECS Kecovo 4.16 135 eP Pn 06 54 22.9 +0.2
KECS Kecovo 4.16 135 ePN Pn 06 54 22.9 +0.2
KECS ePG Pg 06 54 38.3 +0.6
EGYH Egyhazaskeszo 4.18 168 eP Pn 06 54 22.4 -0.8
EGYH Egyhazaskeszo 4.18 168 ePG Pg 06 54 37.6 -0.6
ARSA Arzberg 4.29 185 ePn Pn 06 54 25.2 +0.6
comp=Z,14nm,0.7s,SNR=22
ARSA Arzberg 4.29 185 Pn 06 54 25.2 +0.6
PSZ Piszkesteto 4.37 144 ⇑P Pn 06 54 26.2 +0.5
PSZ Piszkesteto 4.37 144 eP Pn 06 54 26.3 +0.5
PSZ Piszkesteto 4.37 144 ePG Pg 06 54 44.0 +2.3
PSZ Piszkesteto 4.37 144 P Pn 06 54 25.8 +0.1
PSZ Piszkesteto 4.37 144 Pn Pn 06 54 25.8 +0.1
CSKK Cskako 4.39 160 eP Pn 06 54 28.2 +2.1
LUNU Lund 4.41 340 i P Pn 06 54 24.9 -1.3
MPLH Magyarpolny 4.46 167 eP Pn 06 54 27.6 +0.7
BUD Budapest 4.47 154 eP Pn 06 54 28.8 +1.8
KWP Kalwaria Pacla 4.62 112 P Pn 06 54 29.3 +0.2
KWP Kalwaria Pacla 4.62 112 Pn 06 54 29.3 +0.2
KOLS Kolonicke sedl 4.74 121 eP Pn 06 54 30.7 -0.1
KOLS Kolonicke sedl 4.74 121 ePN Pn 06 54 30.7 -0.1
KOLS ePG Pg 06 54 48.5 -0.3
TIH Tihany 4.77 165 eP Pn 06 54 32.5 +1.3
KBA Koelnbreinsper 4.79 203 i Pn Pn 06 54 32.5 +0.8
comp=Z,50nm,0.6s,SNR=62
KBA Koelnbreinsper 4.79 203 P Pn 06 54 32.5 +0.8
KBA Koelnbreinsper 4.79 203 Pn 06 54 32.5 +0.8
BLEU Blekinge 4.80 358 i P Pn 06 54 31.3 -0.2
BLEU i S Sn 06 55 23.9 -3.8
SOKA Soboth 4.90 189 ePn Pn 06 54 33.3 +0.3
comp=Z,4.2nm,0.3s,SNR=12
SOKA Soboth 4.90 189 Pn 06 54 33.3 +0.3
BJUU Bjuv 4.91 339 i P Pn 06 54 31.8 -1.3
BJUU i S Sn 06 55 26.5 -4.1
UZH Uzhgorod 4.93 124 eP Pn 06 54 35.0 +1.6
UZH eS Sn 06 55 32.7 +1.7
UZH MLR MLR
comp=N,120nm,1.0s
UZH MLR MLR
comp=E,100nm,1.0s
UZH MLR MLR
comp=Z,70nm,1.0s
SUW Suwalki 4.97 57 eP Pn 06 54 34.3 +0.3
SUW Suwalki 4.97 57 P Pn 06 54 33.7 -0.3
SUW Suwalki 4.97 57 Pn 06 54 33.6 -0.3
BEHE Becsehely 5.07 175 eP Pn 06 54 36.4 +1.0
BEHE Becsehely 5.07 175 ePn Pn 06 54 36.4 +1.0
GROS Grobnik 5.08 185 i Pn Pn 06 54 36.6 +1.1
OBKA Obir 5.12 192 ePn Pn 06 54 36.5 +0.5
comp=Z,12nm,0.7s,SNR=13
OBKA Pg Pg 06 54 56.3 +0.2
comp=Z,62nm,0.7s
OBKA Obir 5.12 192 Pn 06 54 36.5 +0.5
OBKA Pg 06 54 56.3 +0.2
WATA Walderalm 5.12 217 i Pn Pn 06 54 37.4 +1.2
comp=Z,46nm,0.6s,SNR=28
WATA Walderalm 5.12 217 P Pn 06 54 37.4 +1.2
WATA Walderalm 5.12 217 Pn 06 54 37.4 +1.2
DEL Delary 5.13 346 i P Pn 06 54 35.2 -0.9
DEL i S Sn 06 55 31.9 -4.1
DEL IAML 06 55 35.9
comp=Z,15nm,0.4s
MYKA Terra Mystica 5.15 199 ePn Pn 06 54 36.4 -0.1
comp=Z,2.5nm,0.4s
MYKA Pg Pb 06 54 49.5 +0.4
comp=Z,25nm,0.6s
MYKA Sg Sg 06 56 04.7 +1.2
comp=Z,362nm,0.9s
MYKA Terra Mystica 5.15 199 Pn 06 54 36.4 -0.1
MYKA Pb 06 54 49.5 +0.4
MYKA LR 06 56 04.7
WTTA Wattenberg 5.16 216 ePn Pn 06 54 37.9 +1.2
comp=Z,50nm,0.7s,SNR=27
WTTA Wattenberg 5.16 216 P Pn 06 54 37.9 +1.2
WTTA Wattenberg 5.16 216 Pn 06 54 37.9 +1.2
STU Stuttgart 5.22 241 P Pn 06 54 36.6 -0.8
STU Stuttgart 5.22 241 Pn 06 54 36.6 -0.8
MOTA Moosalm 5.30 220 ePn Pn 06 54 39.0 +0.4
comp=Z,4.8nm,0.3s,SNR=13
MOTA eSn Sn 06 55 42.9 +2.5
comp=Z,53nm,0.7s
MOTA Moosalm 5.30 220 Pn 06 54 39.0 +0.4
MOTA Sn 06 55 42.9 +2.5
ABTA Abfaltersbach 5.32 208 ePn Pn 06 54 40.3 +1.4
comp=Z,46nm,0.6s,SNR=48
ABTA Abfaltersbach 5.32 208 Pn 06 54 40.3 +1.4
RETA Reutte 5.32 223 ePn Pn 06 54 39.2 +0.3
comp=Z,37nm,0.8s,SNR=17
RETA Reutte 5.32 223 Pn 06 54 39.2 +0.3
LVV L'vov 5.33 106 eP Pn 06 54 39.0 +0.2
LVV eS Sn 06 55 39.7 -1.2
LVV pmax pmax
comp=Z,300nm,1.4s
LVV MLR MLR
comp=Z,1µm,1.9s
SQTA Sankt Quirin 5.36 218 ePn Pn 06 54 40.7 +1.4
comp=Z,13nm,0.2s,SNR=15
SQTA Sankt Quirin 5.36 218 P Pn 06 54 40.8 +1.4
SQTA Sankt Quirin 5.36 218 Pn 06 54 40.8 +1.4
ZOU Zoufplan 5.37 204 Pn Pn 06 54 41.3 +1.6
TRPA Tarpa 5.38 127 ⇓P Pn 06 54 39.7 +0.2
KOE Koeppel 5.40 262 ePn Pn 06 54 40.6 +0.8
VXJU Vaexsjoe 5.46 353 P Pn 06 54 40.2 -0.4
VXJU S Sn 06 55 39.1 -4.8
VXJU Vaexsjoe 5.46 353 P Pn 06 54 40.2 -0.4
VXJU S Sn 06 55 39.1 -4.8
HOBG Hohbusch 5.53 268 ePn Pn 06 54 42.7 +1.1
MORH Mrgy, Hungar 5.57 161 ⇑P Pn 06 54 43.4 +1.2
MORH Mrgy, Hungar 5.57 161 eP Pn 06 54 43.4 +1.2
MORH Mrgy, Hungar 5.57 161 ePn Pn 06 54 42.6 +0.4
KOVH Kovagotottos 5.59 166 eP Pn 06 54 43.2 +0.7
LTVH Ltavrtes, Hu 5.61 135 eP Pn 06 54 45.2 +2.5
OSKU Oskarshamn 5.69 0 P Pn 06 54 43.5 -0.3
OSKU S Sn 06 55 45.3 -4.3
OSKU Oskarshamn 5.69 0 P Pn 06 54 43.5 -0.3
OSKU S Sn 06 55 45.3 -4.3
BGG Burgeitz 5.70 260 ePn Pn 06 54 44.5 +0.6
BGG eSn Sn 06 55 48.3 -1.7
comp=Z,102nm,1.0s
FETA Feichten 5.71 220 ePn Pn 06 54 44.9 +0.7
comp=Z,10nm,0.6s,SNR=10
FETA Feichten 5.71 220 Pn 06 54 44.9 +0.7
CRES Cresnjev 5.71 184 ePn Pn 06 54 45.0 +0.8
CRES Cresnjev 5.71 184 ePn Pn 06 54 45.2 +1.0
STAL STALIGIAL 5.72 204 Pn 06 54 45.2 +0.9

BYXU Byxelkrok 5.81 5 P Pn 06 54 45.4 0.0
BYXU S Sn 06 55 48.4 -4.2
BYXU Byxelkrok 5.81 5 P Pn 06 54 45.4 0.0
BYXU S Sn 06 55 48.4 -4.2
DAVA Damuels 5.86 226 ePn Pn 06 54 45.9 -0.5
comp=Z,7.6nm,0.3s,SNR=8.2
DAVA Damuels 5.86 226 Pn 06 54 45.9 -0.5
CEY Cerknica 5.89 191 ePn Pn 06 54 46.7 +0.1
STB Steinbach 5.91 265 ePn Pn 06 54 48.2 +1.4
GNOU Gnosjoe 5.94 348 P Pn 06 54 46.8 -0.4
GNOU Gnosjoe 5.94 348 P Pn 06 54 46.8 -0.4
BFO Black Forest 5.94 241 P Pn 06 54 46.4 -1.0
BFO Black Forest 5.94 241 Pn Pn 06 54 46.4 -1.0
BOJS Bojanci 6.05 186 ePn Pn 06 54 49.8 +1.1
GBRS Gornja Briga 6.05 189 i Pn Pn 06 54 49.4 +0.5
HILG Hillesheim 6.08 262 ePn Pn 06 54 51.4 +2.2
PABE Paberze 6.16 47 eP Pn 06 54 51.0 +0.8
PABE Paberze 6.16 47 Pn Pn 06 54 49.9 -0.4
KLL Kalltalsperre 6.23 266 ePn Pn 06 54 51.7 +0.5
DAVOX Davos/Dischmat 6.25 223 Pn Pn 06 54 52.8 +1.1
comp=Z,2.5nm,0.3s,baz=14,slow=11,SNR=25
DAVOX Sn Sn 06 56 02.4 -1.5
comp=Z,1.6nm,0.3s,baz=148,slow=21,SNR=1.3
DAVOX Lg Lg 06 56 41.0
comp=Z,4.2nm,0.3s,baz=238,slow=20,SNR=5.9
DREG Dreilaegerbach 6.27 266 ePn Pn 06 54 52.0 +0.2
ONAU Onsala 6.37 339 eP Pn 06 54 53.3 +0.1
SIRR Siria 6.41 143 ⇓P Pn 06 54 54.6 +0.9
DRGR 6.42 135 ⇑P Pn 06 54 53.6 -0.3
HGN Heimansgroeve 6.44 267 eP Pn 06 54 51.3 -2.8
CDF Champ du Feu 6.48 245 eP Pn 06 54 54.6 -0.2
CDF Champ du Feu 6.48 245 ePg Pg 06 55 17.7 -4.6
CDF eSg Sg 06 56 41.6 -4.6
comp=Z,879nm,1.1s
ECH Echery 6.65 244 P Pn 06 54 56.3 -0.8
ECH Echery 6.65 244 Pn Pn 06 54 56.3 -0.8
TUE Stuetta 6.72 224 Pn Pn 06 54 59.0 +0.8
BLY Banja Luka 6.81 173 ePn Pn 06 54 59.8 +0.5
TEOL Teolo 6.83 207 Pn Pn 06 55 00.3 +0.8
FRGS Fruska Gora 6.83 157 ⇑P Pn 06 55 00.8 +1.3
FRGS Fruska Gora 6.83 157 ePn Pn 06 54 59.3 -0.2
CJR Cluj-Napoca 6.88 131 ⇑P Pn 06 55 01.3 +1.0
BZS Buzias 6.95 146 ⇑P Pn 06 55 01.5 +0.4
SALO Salr 6.96 214 Pn Pn 06 55 01.2 -0.2
ARCR ARCALIA 6.99 126 ⇓P Pn 06 55 01.8 +0.1
TJOU Tjoern 7.02 340 eP Pn 06 55 02.1 +0.1
HINF Hinteralfeld 7.05 242 eP Pn 06 55 03.6 +1.1
HINF eSg Sg 06 56 58.7 -5.6
comp=Z,553nm,1.2s
SLIT Slitere, Latvi 7.10 28 eP Pn 06 55 04.8 +1.7
BURAR Bucovina Array 7.10 120 ⇓P Pn 06 55 04.0 +0.7
BURAR Bucovina Array 7.10 120 Pn Pn 06 55 03.6 +0.3
IIGN Ignalina 7.16 54 IAML 06 55 36.2
comp=Z,13nm,0.5s
ISAL Salakas 7.22 52 eP Pn 06 55 11.9 +7.1
ISAL IAML 06 55 47.1
comp=Z,9.4nm,0.5s
HAU Haudompre 7.22 245 eP Pn 06 55 05.9 +1.0
HAU eSg Sg 06 57 04.5 -5.5
comp=Z,392nm,0.9s
NACGM Naroch 7.26 58 i P Pn 06 55 06.4 +1.1
NACGM i P Pn 06 55 06.4 +1.1
NACGM i P Pn 06 55 06.4 +1.1
baz=196
NACGM i Pb Pb 06 55 10.4 -14
NACGM i PP PgPg 06 55 38.2 +1.1
NACGM i S Sn 06 56 33.3 +5.0
NACGM i SS Sb 06 56 48.6 -3.3
NACGM i LQ LQ 06 57 16.2
NACGM i LR LR 06 57 56.0
NACGM i Sb Sb 06 58 22.0 +90
GIVF Givet 7.28 263 eP Pn 06 55 07.1 +1.4
GIVF eSg Sg 06 57 05.4 -6.4
comp=Z,689nm,1.2s
IDID Didziasalis 7.41 55 IAML 06 55 45.8
comp=Z,8.7nm,0.8s
DOU Dourbes 7.42 263 eP Pn 06 55 05.8 -1.9
GZR Gura Zlata 7.57 141 ⇑P Pn 06 55 10.0 +0.3
SAVF Savonnieres en 7.63 252 eP Pn 06 55 12.5 +2.0
baz=78
SAVF eSg Sg 06 57 16.8 -6.3
comp=Z,827nm,1.5s
BAIF Baives 7.68 264 eP Pn 06 55 12.6 +1.5
BAIF eSg Sg 06 57 18.1 -6.3
comp=Z,249nm,1.1s
MNK Minsk 7.71 63 i P Pn 06 55 07.9 -3.7
MNK i S Sn 06 56 35.6 -3.9
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,12nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK Minsk 7.71 63 i P Pn 06 55 08.0 -3.6
comp=E,1.0nm,0.8s
MNK i P Pn 06 55 08.0 -3.6
comp=N,12nm,0.8s
MNK i P Pn 06 55 08.0 -3.6
comp=Z,8.0nm,0.8s,baz=73
MNK i S Sn 06 56 35.6 -3.9
MNK i LQ LQ 06 57 24.4
MNK i LR LR 06 57 39.4
MDVR Moldovita 7.72 149 ⇑P Pn 06 55 12.8 +1.1
SENIN Lac Senin/Sane 7.75 232 Pn Pn 06 55 13.2 +0.9
HERR Herculane 7.87 145 ⇓P Pn 06 55 13.4 -0.4
DIVS Divibare 7.87 159 ePn Pn 06 55 18.0 +4.1
DIVS Divibare 7.87 159 Pn Pn 06 55 17.6 +3.7
SFTF Sexfontaines 7.88 249 eP Pn 06 55 14.5 +0.7
baz=77
SFTF eSg Sg 06 57 24.6 -6.3
comp=Z,988nm,1.4s
LOT Lotru 7.93 137 ⇑P Pn 06 55 15.5 +0.9
BBLS Lazići 7.98 162 ePn Pn 06 55 17.3 +2.0
CABF La Chapelle 8.20 237 eP Pn 06 55 18.8 +0.4
CABF eSg Sg 06 57 35.9 -5.4
comp=Z,768nm,1.2s
DOPR Dopca 8.28 129 ⇑P Pn 06 55 18.6 -0.8
VLC Villacollemand 8.30 210 Pn 06 55 20.1 +0.4
AKASG Malin Array Be 8.31 91 Pn Pn 06 55 18.0 -1.7
comp=Z,10nm,0.3s,baz=279,slow=12,SNR=44
AKASG Sn Sn 06 56 48.9 -5.2
comp=Z,6.3nm,0.3s,baz=268,slow=23,SNR=6.1
AKASG Lg Lg 06 57 42.1
baz=275,slow=26,SNR=1.8
AKASG Malin Array Be 8.31 91 P Pn 06 55 18.4 -1.3
AKASG Malin Array Be 8.31 91 Pn Pn 06 55 18.4 -1.3
AKBB Malin Array Si 8.31 91 c i P Pn 06 55 17.6 -2.1
AKBB Malin Array Si 8.31 91 Pn Pn 06 55 17.8 -1.9
ARR Arges 8.37 134 ⇑P Pn 06 55 20.6 -0.1
MSSA Maissana 8.45 214 Pn 06 55 22.6 +0.9
MTSE Matsula 8.45 28 eP Pn 06 55 22.0 +0.3
VOIR 8.51 132 ⇓P Pn 06 55 22.7 +0.2
MURB Monte Urbino 8.61 198 Pn 06 55 24.4 +0.5
SORM Soroca 8.62 108 ⇑P Pn 06 55 25.0 +1.0
LPL La Plagne 8.64 230 eP Pn 06 55 26.6 +2.1
LPL eSg Sg 06 57 49.0 -6.3
comp=Z,398nm,1.5s
LPG La Plagne 8.64 229 eP Pn 06 55 26.8 +2.2
LPG eSg Sg 06 57 49.4 -6.1
comp=Z,520nm,1.3s
STON Ston 8.72 172 ePn Pn 06 55 27.3 +1.9
HFS Hagfors 8.74 352 Pn Pn 06 55 25.0 -0.6
comp=Z,0.6nm,0.3s,baz=164,slow=14,SNR=21
HFS Sn Sn 06 56 58.4 -6.3
comp=Z,0.5nm,0.3s,baz=171,slow=19,SNR=2.3
HFS Lg Lg 06 57 56.1
comp=Z,0.6nm,0.3s,baz=163,slow=21,SNR=1.7
BOVS Bovan 8.75 152 ⇑P Pn 06 55 26.1 +0.3
MLR Muntele Rosu 8.89 129 Pn Pn 06 55 29.2 +1.4
comp=Z,0.3nm,0.3s,baz=281,slow=6.0,SNR=1.7
MLR Sn Sn 06 57 00.4 -8.3
comp=Z,0.3nm,0.3s,baz=213,slow=0.5,SNR=3.3
BNI Bardonecchia 9.01 228 P Pn 06 55 30.5 +1.0
BNI Bardonecchia 9.01 228 Pn Pn 06 55 30.5 +1.0
LOR Lormes 9.04 247 eP Pn 06 55 29.1 -0.7
baz=66
LOR eSg Sn 06 58 00.8 +49
comp=Z,362nm,1.3s
MBDF Montbardon 9.22 226 eP Pn 06 55 34.0 +1.6
MBDF eSg Sn 06 58 07.4 +51
comp=Z,176nm,1.2s
VSU Vasula 9.25 37 eP Pn 06 55 32.9 +0.3
VSU Vasula 9.25 37 ⇑ eP Pn 06 55 33.0 +0.3

SSF Saint Saulge 9.36 246 eP Pn 06 55 33.8 -0.3
SSF eSg Sn 06 58 11.1 +51
comp=Z,226nm,1.1s
SMF Signal de Mont 9.40 244 ePn Pn 06 55 30.2 -4.5
SMF eSg Sn 06 58 12.4 +51
comp=Z,342nm,1.2s
ORIF Oris-en-Rattie 9.49 230 eP Pn 06 55 37.4 +1.4
ORIF eSg Sn 06 58 15.2 +52
comp=Z,430nm,1.4s
DRME Dracevica, Mon 9.57 166 ePn Pn 06 55 39.5 +2.4
NC602 NORSAR Array S 9.58 346 eP Pn 06 55 35.7 -1.4
NC602 NORSAR Array S 9.58 346 Pn 06 55 34.9 -2.2
AVF Avril sur Loir 9.59 245 eP Pn 06 55 37.1 -0.2
AVF eSg Sn 06 58 18.2 +52
comp=Z,227nm,1.1s
SBF Sospel 9.62 221 eP Pn 06 55 38.3 +0.4
SBF eSn Sn 06 57 18.5 -8.2
comp=Z,147nm,1.2s
HYF Humbligny 9.75 249 eP Pn 06 55 41.0 +1.5
NAO01 NORSAR Array S 9.78 345 Pn 06 55 37.4 -2.5
MEF Metsahovi 9.88 25 eP Pn 06 55 38.2 -3.0
NB201 NORSAR Array S 9.92 346 Pn Pn 06 55 40.0 -1.7
NOA NORSAR Array B 9.92 346 Pn Pn 06 55 39.2 -2.6
comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=8.0
NOA Sn Sn 06 57 24.8 -8.9
comp=Z,0.0nm,0.3s,baz=178,slow=8.9,SNR=2.8
NOA Lg Lg 06 58 29.4
comp=Z,0.1nm,0.3s,baz=306,slow=19,SNR=4.6
NOA LR LR 06 59 52.0
comp=Z,36nm,19.6s,baz=65,slow=40
NBO00 NORSAR Array S 9.98 345 Pn 06 55 39.8 -2.8
BGF Bois d'Agland 10.01 245 eP Pn 06 55 45.1 +2.0
BGF eSg Sn 06 58 31.3 +55
comp=Z,126nm,0.8s
RAF Rauma 10.03 16 eP Pn 06 55 38.9 -4.4
VIVF Saint-Julien-l 10.12 233 eP Pn 06 55 45.0 +0.4
VIVF eSg Sn 06 58 35.7 +57
comp=Z,153nm,1.2s
PGF Pioggiola 10.19 211 ePn Pn 06 55 43.1 -2.6
PGF eSn Sn 06 57 31.7 -9.0
comp=Z,26nm,0.9s
FRF La Foret Royal 10.20 222 eP Pn 06 55 47.0 +1.3
FRF eSn Sn 06 57 31.7 -9.0
comp=Z,5.2nm,0.3s
SMRF Simiane la Rot 10.34 227 eP Pn 06 55 48.8 +1.1
SMRF eSg Sn 06 58 42.2 +58
comp=Z,427nm,2.0s
LMR La Mourre 10.44 222 eP Pn 06 55 48.7 -0.3
TCF Toulx Ste Croi 10.53 246 eP Pn 06 55 52.3 +2.1
TCF eSg Sn 06 58 47.5 +59
comp=Z,246nm,1.4s
LDF La Druitiere 10.83 261 eSg 06 58 56.5
comp=Z,97nm,1.0s
FLN La Foliniere 10.99 262 ePn Pn 06 55 55.0 -1.5
FLN eSg 06 59 01.2
comp=Z,187nm,1.3s
LASF Ste Croix 11.09 233 eP Pn 06 55 59.8 +1.9
LASF eSg 06 59 05.3
comp=Z,273nm,1.6s
EDMD Edmundbyers 11.33 294 eP Pn 06 55 58.3 -2.7
FINES FINESS Array B 11.36 25 Pn Pn 06 55 59.4 -2.1
comp=Z,1.3nm,0.3s,baz=202,slow=10,SNR=39
FINES Sn Sn 06 57 55.9 -13
comp=Z,0.6nm,0.3s,baz=217,slow=23,SNR=1.9
FINES Lg Lg 06 59 13.8
comp=Z,0.4nm,0.3s,baz=216,slow=26,SNR=1.8
FINES FINESS Array B 11.36 25 Pn Pn 06 55 59.1 -2.4
FIA1 FINESS Array S 11.36 25 Pn Pn 06 55 59.5 -2.0
GRR Gorron 11.36 261 ePn Pn 06 55 56.7 -4.8
CAF Calviac 11.44 240 eP Pn 06 56 05.1 +2.4
CAF eSg 06 59 15.9
comp=Z,106nm,1.3s
RJF Les Rejaudoux 11.50 243 eP Pn 06 56 04.1 +0.6
RJF eSg 06 59 17.7
comp=Z,164nm,1.2s
PUL Pulkovo 11.51 39 c eP Pn 06 56 01.9 -1.6
MFF Saint Martin d 11.73 252 eP Pn 06 56 07.1 +0.5
MFF eSg 06 59 24.8
comp=Z,160nm,1.3s
HLM1 Long Mynd 11.73 282 eP Pn 06 56 04.2 -2.4
MCH1 Michaelchurch 11.84 280 eP Pn 06 56 06.8 -1.2
KESW Keswick, Cumbr 11.95 292 eP Pn 06 56 06.6 -3.0
EKA Eskdalemuir Ar 12.09 296 Pn Pn 06 56 08.0 -3.5
baz=99,slow=13,SNR=12
EKA Sn Sn 06 58 16.3 -11
baz=102,slow=26,SNR=3.6
ESK Eskdalemuir 12.12 296 P Pn 06 56 08.9 -2.9
ESK Eskdalemuir 12.12 296 Pn Pn 06 56 08.9 -2.9
EBL Broad Law 12.12 298 eP Pn 06 56 09.6 -2.3
DRUM Mains of Drumt 12.12 304 eP Pn 06 56 08.7 -3.2
LFF La Frestale 12.16 243 eP Pn 06 56 15.3 +2.8
LFF eSg 06 59 38.3
comp=Z,147nm,1.1s
EDI Edinburgh 12.23 299 eP Pn 06 56 10.8 -2.5
MTLF Montolieu 12.44 234 eP Pn 06 56 19.5 +3.2
MTLF eSg 06 59 47.6
comp=Z,160nm,1.4s
EBH Black Hill 12.48 300 eP Pn 06 56 13.6 -3.2
OBN Obninsk 12.75 66 Pn Pn 06 56 15.7 -4.8
comp=Z,1.9nm,0.3s,baz=248,slow=20,SNR=6.9
OBN Sn Sn 06 58 33.6 -9.4
comp=Z,1.4nm,0.3s,baz=41,slow=19,SNR=1.8
OBN Lg Lg 07 00 01.1
comp=Z,2.0nm,0.3s,baz=81,slow=22,SNR=1.4
OBN Obninsk 12.75 66 ⇑ eP Pn 06 56 16.0 -4.4
OBN eSS Sn 06 58 49.2 +6.3
OBN pmax pmax
comp=Z,68nm,1.4s
OBN MLR MLR
comp=Z,39nm,13.0s
INVG Invergeldie, C 12.81 300 eP Pn 06 56 17.8 -3.6
EAB Aberfoyle 12.92 299 eP Pn 06 56 19.5 -3.3
MOS Moscow 13.44 63 eP Pn 06 56 24.2 -5.6
MOS pmax pmax
comp=Z,63nm,1.2s
EPF Esparros 13.63 238 eSg S 07 00 24.8 +57
comp=Z,66nm,1.3s
SIM Simferopol' 13.68 112 P Pn 06 56 31.1 -2.0
SIM eS Sn 06 59 02.0 -3.7
SIM pmax pmax
comp=Z,31nm,0.3s
KAC Achnashellach 13.76 304 eP Pn 06 56 29.8 -4.5
KPL Plockton 13.90 303 eP Pn 06 56 31.8 -4.3
LPSR Galich'ya Gora 14.08 77 eP Pn 06 56 32.9 -5.7
LPSR pmax pmax
comp=Z,40nm,0.8s
ETSF Etsaut 14.20 239 eSg 07 00 42.6
comp=Z,107nm,1.4s
VSR Storozhevoye 14.41 82 eP Pn 06 56 36.0 -7.1
VSR pmax pmax
comp=Z,30nm,1.5s
SJPF Ste Jean 14.42 241 eSg 07 00 49.1
comp=Z,110nm,1.4s
VORD Divnogorie 14.53 83 eP Pn 06 56 36.4 -8.4
VORD pmax pmax
comp=Z,10.0nm,0.4s
MOR8 Moi Rana 14.72 357 eP Pn 06 56 46.4 -0.9
STOK Stokkvaagen 14.94 355 eP Pn 06 56 49.8 -0.5
KONS Konsvik 15.10 355 eP Pn 06 56 50.8 -1.6
ANN Anapa 15.71 107 eP Pn 06 56 57.7 -2.9
ANN eS Sn 06 59 51.8 -3.5
ANN pmax pmax
comp=Z,29nm,1.6s
FAUS Fauske 15.92 359 eP Pn 06 57 03.0 -0.2
VRH Novokhopyorsk 15.99 81 eP Pn 06 56 56.9 -7.3
VRH pmax pmax
comp=Z,60nm,1.0s
STEI Steigen 16.47 359 eP Pn 06 57 09.7 -0.5
KEST Kesra 16.51 200 Pn P 06 57 14.7 +0.9
comp=Z,0.2nm,0.3s,baz=91,slow=1.1,SNR=7.8
KEST Kesra 16.51 200 P P 06 57 14.5 +0.7
LOF Lofoten 16.71 357 eP Pn 06 57 11.8 -1.5
BRTR Keskin Array B 16.97 127 Pn P 06 57 19.1 +0.2
comp=Z,0.2nm,0.3s,baz=305,slow=7.4,SNR=5.3
BRTR Keskin Array B 16.97 127 c eP P 06 57 20.5 +1.6
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 16.97 127 P P 06 57 20.1 +1.2
KTK1 Kautokeino 17.88 8 eP Pn 06 57 24.9 -3.0
JETT Jettan, Norway 18.21 5 eP Pn 06 57 29.9 -2.1
TRO Tromso 18.22 3 eP Pn 06 57 29.4 -2.7
ESDC Sonseca Array 18.29 237 P P 06 57 35.6 +2.2
comp=Z,0.2nm,0.3s,baz=38,slow=6.9,SNR=4.9
ESDC Sonseca Array 18.29 237 IAmb IAmb 06 57 37.1

comp=Z,4.7nm,1.4s
ARA0 ARCESS Array S 18.61 10 *e*P **P 06 57 33.8 -3.0**
ARCES ARCESS Array B 18.61 10 Pn **P 06 57 32.9 -3.8**
baz=194,slow=11,SNR=29
ARCES Lg Lg 07 03 05.9
baz=198,slow=26,SNR=2.9
ARCES ARCESS Array B 18.61 10 P **P 06 57 33.3 -3.4**
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES ARCESS Array B 18.61 10 P **P 06 57 33.3 -3.4**
LVZ Lovozero 18.76 22 P **P 06 57 35.1 -3.3**
LVZ pmax pmax
comp=Z,33nm,1.0s
LVZ Lovozero 18.76 22 P **P 06 57 35.1 -3.3**
PRGR Permogore 18.98 46 *e*P P 06 57 33.6 -7.2
PRGR *e* 07 01 10.1
PRGR pmax pmax
comp=Z,12nm,0.6s
GOF Gofitskoye 19.00 99⇑ *e*P **Pn 06 57 41.8 +0.1**
DOMR Dombai 19.07 106⇑ *e*P **Pn 06 57 42.6 -0.1**
DOMR pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 19.34 103 *e*P **Pn 06 57 46.6 +0.6**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,13nm,14.0s
KVAR Kislovodsk Arr 19.35 103 Lg Lg 07 03 28.6
baz=330,slow=4.9,SNR=3.3
BELG Belogornoye 19.38 75 P **P 06 57 44.7 -0.4**
comp=Z,0.2nm,0.3s,baz=80,slow=8.7,SNR=3.6
BELG Lg Lg 07 03 24.6
comp=Z,0.2nm,0.3s,baz=1.7,slow=9.1,SNR=3.6
SHA1 Shidzhatmaz 19.44 103⇑ *e*P **P 06 57 44.5 -1.7**
HAMF Hammerfest 19.51 8 *e*P **P 06 57 44.5 -1.9**
PYA1 Pyatigorsk 19.54 102⇑ *e*P **P 06 57 46.3 -0.8**
KBZ Khabaz 19.59 103 P **Pn 06 57 48.5 -0.4**
comp=Z,0.1nm,0.3s,baz=299,slow=23,SNR=4.4
KBZ S **Sn 07 01 24.8 -4.5**
comp=Z,0.1nm,0.3s,baz=37,slow=20,SNR=1.1
KBZ Lg Lg 07 03 39.0
comp=Z,0.1nm,0.3s,baz=255,slow=17,SNR=3.7
KBZ Khabaz 19.59 103⇓ *e*P **Pn 06 57 49.2 +0.3**
KBZ pmax pmax
comp=Z,7.0nm,1.3s
KIRV Kirov 20.19 56 P **P 06 57 53.3 -0.6**
comp=Z,17nm,0.8s,baz=294,slow=13,SNR=6.0
KIRV Lg Lg 07 03 57.6
comp=Z,7.9nm,0.6s,baz=356,slow=20,SNR=0.5
ZEI Tsey 20.73 104 *e*P **P 06 58 01.1 +0.9**
ZEI pmax pmax
comp=Z,17nm,1.4s
PVAQ Vaqueiros 21.96 239 P **P 06 58 14.7 +1.5**
PVAQ IAmb IAmb 06 58 17.3
comp=Z,53nm,1.3s
DVE Vedeno 21.99 101⇓ *e*P **P 06 58 13.4 -0.2**
DVE pmax pmax
comp=Z,34nm,1.3s
BTLR Botlikh 22.21 102⇑ *e*P **P 06 58 16.5 +0.5**
BTLR pmax pmax
comp=Z,66nm,1.1s
GURO Guroymak-BITLI 22.31 115 P **P 06 58 17.7 +0.5**
GNI Garni 22.82 109⇑ *e*P **P 06 58 25.5 +2.9**
GNI pmax pmax
comp=Z,43nm,1.7s
MMAI Mount Meron Ar 23.24 135 P **P 06 58 26.8 -0.2**
comp=Z,1.8nm,0.6s,baz=312,slow=9.5,SNR=1.7
ASF Jabal al Asfar 24.62 134 P **P 06 58 40.7 +0.5**
comp=Z,2.0nm,0.8s,baz=338,slow=4.5,SNR=6.2
ARU Arti 25.14 62 P **P 06 58 44.4 -0.1**
comp=Z,2.9nm,0.2s,baz=268,slow=6.5,SNR=16
ARU Lg Lg 07 06 34.5
comp=Z,2.2nm,0.2s,baz=276,slow=7.9,SNR=1.1
ARU Arti 25.14 62 *d iP* **P 06 58 44.1 -0.4**
ARU PPP PPP 06 59 26.2
ARU S **S 07 03 11.9 +1.8**
ARU SS 07 04 02.8
ARU SSS SSS 07 04 21.9
ARU pmax pmax
comp=Z,25nm,1.3s
ARU Arti 25.14 62 P **P 06 58 44.3 -0.3**
ARU IAmb IAmb 06 58 53.5
comp=Z,34nm,1.3s
EIL Elat 25.96 140 P **P 06 58 53.0 +0.9**
comp=Z,5.1nm,0.8s,baz=76,slow=17,SNR=2.7
AKTO Aktyubinsk 26.16 76 P **P 06 58 54.2 +0.3**
comp=Z,7.0nm,0.7s,baz=289,slow=8.8,SNR=25
SUMG Summit 31.39 332 P **P 06 59 41.9 +1.3**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 31.39 332 P **P 06 59 41.9 +1.3**
SUMG IAmb IAmb 06 59 46.2
comp=Z,8.6nm,1.1s
GEYT Alibeck 32.33 98 P **P 06 59 51.3 +2.4**
comp=Z,10nm,0.9s,baz=300,slow=20,SNR=1.7
BRVK Borovoye 32.52 66 *d iP* **P 06 59 51.2 +0.9**
BRVK pmax pmax
comp=Z,18nm,1.7s
NRIK Noril'sk 36.83 34 P **P 07 00 28.3 +1.0**
comp=Z,2.2nm,0.7s,baz=247,slow=6.2,SNR=4.7
NRIK Noril'sk 36.83 34 *ce*P **P 07 00 28.8 +1.5**
NRIK pmax pmax
comp=Z,11nm,1.5s
NRIK Noril'sk 36.83 34 P **P 07 00 26.4 -0.9**
NRIK IAmb IAmb 07 00 29.8
comp=Z,14nm,1.4s
KK31 Karatay Array 37.07 81 P **P 07 00 29.0 -0.7**
KK31 pmax pmax
comp=Z,16nm,1.5s
KK31 Karatay Array 37.07 81 P **P 07 00 29.0 -0.7**
KK31 IAmb IAmb 07 00 32.8
comp=Z,16nm,1.4s
KKAR Karatay Array 37.07 81 P **P 07 00 29.0 -0.7**
KKAR Karatay Array 37.07 81 P **P 07 00 29.0 -0.7**
KKAR Karatay Array 37.07 81 IAmb IAmb 07 00 32.8
comp=Z,16nm,1.4s
GAR Garm 39.29 87 P **P 07 00 49.1 +0.5**
AAK Ala-Archa 39.78 79 *ce*P **P 07 00 54.7 +2.0**
AAK pmax pmax
comp=Z,65nm,1.7s
AAK Ala-Archa 39.78 79 P **P 07 00 54.9 +2.2**
TOA0 Torodi Ar. Sit 40.01 202 P **P 07 00 55.2 +0.6**
TORD Torodi Ar. Bea 40.01 202 P **P 07 00 54.9 +0.3**
comp=Z,5.6nm,0.8s,baz=8.3,slow=8.0,SNR=31
TORD Torodi Ar. Bea 40.01 202 P **P 07 00 55.1 +0.5**
ZALV Zalesovo Beam 40.20 59 P **P 07 00 56.6 +0.8**
comp=Z,2.5nm,0.7s,baz=297,slow=9.8,SNR=8.6
ZALV PP **PP 07 02 26.9 -1.1**
comp=Z,0.6nm,0.4s,baz=311,slow=12,SNR=3.6
ZALV Zalesovo Beam 40.20 59 *i* P **P 07 00 56.5 +0.7**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 40.20 59 P **P 07 00 55.9 0.0**
KOWA Kowa 40.31 211 P **P 07 00 56.0 -1.1**
KDJ Kajisay 41.71 78 P **P 07 01 10.4 +1.7**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 41.71 78 P **P 07 01 10.4 +1.7**
MK31 Makanchi Array 42.22 69 *ce*P **P 07 01 13.3 +0.7**
MKAR Makanchi Array 42.22 69 P **P 07 01 13.5 +0.9**
comp=Z,1.7nm,0.7s,baz=298,slow=6.9,SNR=13
MKAR PP **PP 07 02 49.9 -0.1**
comp=Z,1.1nm,0.8s,baz=302,slow=8.3,SNR=3.5
DGZ Jazzator, Alta 43.65 63 *ce*P **P 07 01 25.8 +1.5**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
SCHQ Schefferville 47.05 308 P **P 07 01 50.1 -0.9**
comp=Z,3.4nm,0.7s,baz=110,slow=2.8,SNR=3.8
SCHQ Schefferville 47.05 308 IAmb IAmb 07 01 53.5
comp=Z,23nm,1.5s
TIXI Tiksi 48.40 23⇑ *e*P **P 07 02 02.1 +0.9**
TIXI Tiksi 48.40 23 P **P 07 02 01.8 +0.6**
TLY Talaya 51.13 53 *ce*P **P 07 02 24.0 +1.7**
TLY pmax pmax
comp=Z,16nm,1.5s
ZAK Zakamensk 51.73 55 *e*P **P 07 02 26.5 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.5s
SONM Songino Array 54.92 55 P **P 07 02 52.0 +1.5**
comp=Z,3.2nm,0.9s,baz=287,slow=8.0,SNR=19
SONM Songino Array 54.92 55 P **P 07 02 52.0 +1.5**
SONM Songino Array 54.92 55 P **P 07 02 51.2 +0.8**
SONM IAmb IAmb 07 02 54.3
comp=Z,8.6nm,1.2s
YAK Yakutsk 55.20 32 *de*P **P 07 02 52.3 +0.2**
YAK pmax pmax
comp=Z,10.0nm,0.4s
ULN Ulaanbaatar 55.24 55⇑ *e*P **P 07 02 54.4 +1.6**
ULN pmax pmax
comp=Z,11nm,1.7s
YKA Yellowknife Ar 59.84 336 P **P 07 03 24.1 -0.7**
comp=Z,4.4nm,0.8s,baz=34,slow=6.6,SNR=9.0
YKA Yellowknife Ar 59.84 336 *i* P **P 07 03 26.0 +1.2**
YKA pmax pmax
comp=Z,4.0nm,0.7s
SHL Shillong 61.73 84 P **P 07 03 38.9 +0.5**
SHL pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 61.73 84 P **P 07 03 38.9 +0.5**
FFC Flin Flon 62.26 325 P **P 07 03 42.6 +1.2**
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC Flin Flon 62.26 325 P **P 07 03 42.6 +1.2**
FFC IAmb IAmb 07 03 43.3
comp=Z,5.7nm,0.9s
DAWY Dawson 63.17 348 IAmb IAmb 07 03 50.7
comp=Z,5.6nm,1.1s
MDM Murphy Dome 63.22 353 IAmb IAmb 07 03 51.0
comp=Z,4.3nm,1.1s
ILAR Eielson Array 63.30 352 P **P 07 03 48.4 +0.3**
comp=Z,0.5nm,0.7s,baz=5.4,slow=5.9,SNR=7.5
ULM Lac du Bonnet 63.35 318 P **P 07 03 48.5 -0.2**
comp=Z,5.1nm,1.1s,baz=52,slow=4.1,SNR=4.0
K27K Chicken 63.53 349 P **P 07 03 51.3 +1.6**
K27K IAmb IAmb 07 03 53.7
comp=Z,7.2nm,1.1s
G40A Rib Lake 64.59 311 IAmb IAmb 07 03 58.4
comp=Z,4.3nm,0.9s
AGMN Agassiz Nation 64.84 317 IAmb IAmb 07 03 59.5
comp=Z,7.0nm,1.2s
KLR Kul'dur 65.65 40⇑ *e*P **P 07 04 04.3 +0.6**
KLR pmax pmax
comp=Z,7.0nm,1.1s
F36A Milaca 65.67 314 P **P 07 04 03.6 -0.4**
F36A IAmb IAmb 07 04 05.5
comp=Z,8.9nm,1.1s
ECSD EROS Data Cent 68.71 314 P **P 07 04 24.5 +1.2**
ECSD IAmb IAmb 07 04 26.5
comp=Z,8.3nm,1.1s
LAO LASA Array 70.34 322 P **P 07 04 34.2 +0.8**
CMAR Chiang Mai Arr 71.37 84 P **P 07 04 40.7 +0.8**
comp=Z,2.5nm,0.7s,baz=315,slow=7.1,SNR=9.4
LRAL Lakeview Retre 72.26 301 IAmb IAmb 07 04 45.8
comp=Z,4.3nm,1.0s
JTMT Jette 72.36 327 IAmb IAmb 07 04 47.8
comp=Z,5.7nm,0.9s
RLMT Red Lodge 72.82 323 IAmb IAmb 07 04 52.0
comp=Z,7.7nm,1.1s
YNE Yellowstone No 73.19 323 IAmb IAmb 07 04 53.3
comp=Z,6.8nm,0.9s
KSRS Korea Array 73.27 50 P **P 07 04 51.4 +0.4**
comp=Z,0.6nm,0.4s,baz=356,slow=9.8,SNR=2.6
BOZ Bozeman (W) 73.29 325 IAmb IAmb 07 04 54.4
comp=Z,13nm,1.2s
U38A Gravette 73.41 308 IAmb IAmb 07 04 53.9
comp=Z,5.4nm,1.1s
C09A Chrisman Ranch 73.61 330 IAmb IAmb 07 04 54.9
comp=Z,4.5nm,0.8s
K22A Casper 73.82 320 IAmb IAmb 07 04 55.9
comp=Z,9.1nm,0.9s
DLMT Dillon 73.84 325 IAmb IAmb 07 04 57.0
comp=Z,7.1nm,0.9s
YMR Madison River 73.84 324 IAmb IAmb 07 04 58.3
comp=Z,11nm,1.4s
CBKS Cedar Bluff 74.06 313 IAmb IAmb 07 04 57.9
comp=Z,15nm,1.1s
T35A Sooner Cattle 74.07 310 IAmb IAmb 07 04 57.4
comp=Z,7.7nm,0.9s
KAN13 South Haven SW 74.45 310 IAmb IAmb 07 05 00.1
comp=Z,11nm,1.2s
D08A Wollman Farm, 74.48 330 P **P 07 04 59.0 +1.1**
D08A IAmb IAmb 07 05 00.4
comp=Z,11nm,1.0s
LOHW Long Hollow 74.61 323 P **P 07 05 00.5 +1.5**
LOHW IAmb IAmb 07 05 03.6
comp=Z,12nm,1.3s
LTY Liberty 74.84 331 IAmb IAmb 07 05 02.5
comp=Z,9.4nm,1.4s
TPAW Teton Pass 74.84 323 P **P 07 05 02.7 +2.2**
F10A Beach Ranch, E 74.89 328 IAmb IAmb 07 05 03.0
comp=Z,7.8nm,1.2s
REDW Red Top Meadow 74.91 323 IAmb IAmb 07 05 06.3
comp=Z,13nm,1.5s
PDAR Pinedale Array 74.93 322 P **P 07 05 01.9 +1.0**
comp=Z,1.7nm,0.8s,baz=51,slow=4.9,SNR=19
PDAR Pinedale Array 74.93 322 P **P 07 05 01.1 +0.1**
E08A Dider Farm, El 75.02 330 IAmb IAmb 07 05 04.5
comp=Z,14nm,1.2s
HAWA Hanford 75.26 330 IAmb IAmb 07 05 05.2
comp=Z,7.3nm,1.1s
F07A Phinny Hill Vi 75.83 330 P **P 07 05 08.7 +3.0**
PCRV Puerto La Cruz 76.34 269 LR LR 07 37 06.1
comp=Z,162nm,19.4s,slow=34
O20A White River Ci 76.64 319 IAmb IAmb 07 05 13.3
comp=Z,9.0nm,0.9s
LBTB Lobatse 76.66 171 P **P 07 05 12.5 +1.9**
comp=Z,3.4nm,0.7s,baz=344,slow=8.6,SNR=3.3
MFID Camas Ranch 76.67 326 IAmb IAmb 07 05 12.8
comp=Z,5.0nm,0.8s
HWUT Hardware Ranch 76.69 322 IAmb IAmb 07 05 13.5
comp=Z,13nm,1.2s
RDMU Red Mountain 76.80 321 P **P 07 05 12.6 +0.9**
WMOK Wichita Mounta 76.91 310 P **P 07 05 12.5 +0.4**
WMOK pmax pmax
comp=Z,3.0nm,1.1s
WMOK Wichita Mounta 76.91 310 P **P 07 05 12.5 +0.4**
SMCO Snowmass 76.92 318 IAmb IAmb 07 05 16.7
comp=Z,5.7nm,1.4s
SDCO Great Sand Dun 77.50 316 IAmb IAmb 07 05 19.7
comp=Z,6.8nm,1.2s
JLU Jordanelle 77.51 322 IAmb IAmb 07 05 19.1
comp=Z,7.5nm,1.2s
T25A Trinidad 77.53 315 IAmb IAmb 07 05 19.6
comp=Z,8.3nm,1.1s
CTU Camp Tracy 77.55 322 IAmb IAmb 07 05 18.2
comp=Z,5.7nm,1.0s
H04A Detroit Lake 77.61 331 IAmb IAmb 07 05 18.2
comp=Z,14nm,1.5s
PINE Pine Mountain 78.03 330 IAmb IAmb 07 05 22.0
comp=Z,9.5nm,1.0s
MPU Maple Canyon 78.09 322 IAmb IAmb 07 05 21.7
comp=Z,11nm,1.1s
PV07 Paradox Valley 78.24 319 P **P 07 05 21.8 +2.0**
PV15 Paradox Valley 78.26 319 P **P 07 05 21.4 +1.5**
SRU San Rafael Swe 78.43 320 IAmb IAmb 07 05 22.8
comp=Z,8.9nm,0.9s
PV20 West Nyswonger 78.46 319 IAmb IAmb 07 05 25.0
comp=Z,8.9nm,0.9s
PV01 Paradox Valley 78.47 319 IAmb IAmb 07 05 23.7
comp=Z,7.3nm,1.0s
WVOR Wild Horse Val 78.50 328 P **P 07 05 21.8 +0.8**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 78.50 328 P **P 07 05 21.8 +0.8**
WVOR IAmb IAmb 07 05 23.5
comp=Z,4.9nm,1.1s
PV17 East Wray Mesa 78.51 319 P **P 07 05 21.6 +0.4**
TMUT Trail Mountain 78.54 321 IAmb IAmb 07 05 23.9
comp=Z,5.1nm,1.0s
PV13 Radium Mtn., P 78.55 319 IAmb IAmb 07 05 24.2
comp=Z,7.7nm,1.0s
MJAR Matsushiro Arr 78.73 44 P **P 07 05 22.8 +0.6**
comp=Z,0.8nm,0.3s,baz=324,slow=5.4,SNR=5.5
MJAR Matsushiro Arr 78.73 44 IAmb IAmb 07 05 24.4
comp=Z,5.7nm,1.3s
PV05 Paradox Valley 78.73 319 IAmb IAmb 07 05 26.0
comp=Z,7.6nm,0.9s
ELK Elko 78.81 324 IAmb IAmb 07 05 26.2
comp=Z,7.1nm,1.0s
K05A Summer Lake 78.98 329 P **P 07 05 25.4 +1.7**
ABTX Abilene, Hawle 79.05 309 IAmb IAmb 07 05 27.5
comp=Z,9.6nm,1.4s
MOD Modoc Plateau 79.53 328 IAmb IAmb 07 05 29.6
comp=Z,7.5nm,1.0s
MVU Marysvale 79.62 321 P **P 07 05 26.4 -0.9**
BOSA Boshof 80.19 172 P **P 07 05 31.8 +1.7**
comp=Z,2.8nm,0.7s,baz=340,slow=3.6,SNR=4.9
BOSA Boshof 80.19 172 IAmb IAmb 07 05 34.9
comp=Z,17nm,1.4s
PSUT Pine Spring 80.23 322 IAmb IAmb 07 05 35.4
comp=Z,12nm,1.2s
ANMO Albuquerque 80.27 315 *ce*P **P 07 05 33.1 +2.3**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 80.27 315 P **P 07 05 33.1 +2.3**
PKCU Pink Cliffs 80.57 321 IAmb IAmb 07 05 36.9
comp=Z,13nm,1.1s
SZCU Shurtz Canyon 80.75 321 IAmb IAmb 07 05 37.8
comp=Z,5.6nm,1.0s
CCUT Cedar City 80.89 322 IAmb IAmb 07 05 37.5
comp=Z,5.4nm,0.9s
R11A Troy Canyon, C 81.04 324 P **P 07 05 33.4 -1.6**
R11A IAmb IAmb 07 05 39.2
comp=Z,10nm,1.5s
SDV Santo Domingo 81.08 273 LR LR 07 38 26.1
comp=Z,38nm,20.3s,baz=92,slow=33
U15A North Rim 81.45 320 P **P 07 05 37.2 0.0**
U15A IAmb IAmb 07 05 39.4
comp=Z,6.1nm,1.0s
PRN Pahroc Range 81.67 323 P **P 07 05 40.0 +1.7**
PRN IAmb IAmb 07 05 41.8
comp=Z,9.2nm,1.1s
YERR Yerington 81.79 326 IAmb IAmb 07 05 43.2
comp=Z,11nm,1.2s
WUAZ Wupatki 81.86 319 P **P 07 05 39.4 0.0**
WUAZ IAmb IAmb 07 05 42.2
comp=Z,4.6nm,0.9s
NVAR Mina Array Bea 81.95 325 P **P 07 05 41.7 +1.9**
comp=Z,2.3nm,1.1s,baz=43,slow=5.4,SNR=9.9
LHV Little Huntoon 82.18 326 IAmb IAmb 07 05 44.7
comp=Z,8.2nm,1.3s
SHPR Sheep Range 82.50 322 P **P 07 05 44.9 +2.2**
TPNV Topopah Spring 82.52 323 IAmb IAmb 07 05 51.9
comp=Z,4.7nm,1.1s
SUR Sutherland 83.64 176 P **P 07 05 50.2 +2.0**
comp=Z,6.9nm,0.9s,baz=26,slow=18,SNR=2.2
TXAR Lajitas Array 83.70 310 P **P 07 05 50.3 +1.5**
comp=Z,0.8nm,0.8s,baz=33,slow=4.8,SNR=13
TXAR Lajitas Array 83.70 310 P **P 07 05 49.9 +1.0**
TXAR Lajitas Array 83.70 310 P **P 07 05 49.9 +1.0**
Y14A Wickenburg 83.90 320 P **P 07 05 51.8 +2.0**
BDFB Brasilia 86.92 240 P **P 07 06 07.0 +2.0**
comp=Z,2.9nm,0.7s,baz=263,slow=3.7,SNR=4.5
BDFB Brasilia 86.92 240 P **P 07 06 07.0 +2.0**
ASAR Alice Springs 125.38 84 PKP **PKPdf 07 12 19.1 -1.7**
comp=Z,0.7nm,0.8s,baz=352,slow=2.6,SNR=6.1
VNDA Vanda 150.98 165 PKPbc **PKPbc 07 13 11.4 +0.3**
comp=Z,1.5nm,1.1s,baz=320,slow=5.9,SNR=3.2

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*IDC **08** 06:55:50.7±0.6, 59°.48S×29°.62W, h0km, mb4.2/11, mb1 4.2/12, mb1mx4.1/26, mbtmp4.2/12, ML2.6/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/24, Error ellipse: s-maj=23.7km s-min=17.4km az=52.0*
*NEIC **08** 06:55:52.1±2.4, 59°.53S±0°.07×29°.5W±0°.3, h10km±1km, mb4.5/6, Error ellipse: s-maj=23.9km s-min=11.1km az=266.0*
ISC 08 06:55:52.4±0.6, 59°.5S±0°.1×29°.4W±0°.1, h10km, n28, σ1§22/25, mb4.1/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.18**	**151**	P	**Pn**	**06 59 12.1**	**-0.8**
VNA3	**Neumayer Olymp**	**14.25**	**154**	P	**Pn**	**06 59 12.6**	**-1.4**
SNAA	**Sanae**	**16.20**	**150**	P	**Pn**	**06 59 39.9**	**0.0**
SNAA	**Sanae**	**16.20**	**150**	Pn	**Pn**	**06 59 39.8**	**0.0**
	0.0nm,0.3s,baz=314,slow=7.5,SNR=3.8						
SNAA				LR	LR	07 04 28.3	
	comp=Z,124nm,20.1s,baz=158,slow=32						
SNAA	**Sanae**	**16.20**	**150**	Pn	**Pn**	**06 59 39.3**	**-0.5**
SNAA				IAmb	IAmb	06 59 50.7	
	comp=Z,14nm,1.4s						
PMSA	**Palmer Station**	**16.87**	**237**	Pn	**P**	**06 59 51.8**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=96,slow=15,SNR=2.1						
PMSA				LR	LR	07 05 02.9	
	comp=Z,97nm,18.6s,baz=108,slow=33						
USHA	**Ushuaia**	**21.44**	**265**	P	**P**	**07 00 39.9**	**-0.5**
	comp=Z,23nm,0.3s,baz=20,slow=0.7,SNR=4.0						
TRQA	**Tornquist**	**29.86**	**301**	P	P	07 01 54.3	-5.4
TRQA				IAmb	IAmb	07 02 13.6	
	comp=Z,9.1nm,1.4s						
QSPA	**South Pole Qui**	**30.73**	**180**	P	**P**	**07 02 08.7**	**+1.2**
	comp=Z,2.5nm,1.0s,baz=142,slow=4.5,SNR=4.0						
ITQB	**Itaqui**	**35.08**	**316**	P	**P**	**07 02 45.7**	**+0.3**
MAW	**Mawson**	**38.12**	**142**	P	**P**	**07 03 10.3**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=255,slow=13,SNR=4.2						
MAW	**Mawson**	**38.12**	**142**	IAmb	IAmb	07 03 19.3	
	comp=Z,1.6nm,1.2s						
CPUP	**Villa Florida**	**38.38**	**317**	P	**P**	**07 03 10.8**	**-2.8**
	comp=Z,2.2nm,1.1s,baz=231,slow=6.1,SNR=3.8						
VNDA	**Vanda**	**43.05**	**184**	P	**P**	**07 03 52.4**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=180,slow=5.8,SNR=5.1						
BOSA	**Boshof**	**48.00**	**75**	P	**P**	**07 04 31.6**	**+0.1**
	comp=Z,5.7nm,1.0s,baz=198,slow=6.4,SNR=4.0						
SIV	**San Ignacio**	**49.23**	**318**	P	**P**	**07 04 39.9**	**-1.0**
	comp=Z,1.9nm,0.9s,baz=153,slow=7.0,SNR=8.9						
MNMC	**Minye Minye**	**49.57**	**307**	P	**P**	**07 04 45.5**	**+1.8**
MNMC				IAmb	IAmb	07 04 45.8	
	comp=Z,5.6nm,0.7s						
LPAZ	**La Paz**	**51.55**	**310**	P	**P**	**07 04 59.2**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=178,slow=7.8,SNR=4.5						
PTGA	**Pitinga**	**63.26**	**325**	LR	LR	07 37 04.1	
	comp=Z,21nm,18.5s,baz=166,slow=39						
TORD	**Torodi Ar. Bea**	**76.64**	**31**	P	**P**	**07 07 44.1**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=196,slow=6.3,SNR=7.3						
KMBO	**Kilima Mbogo**	**77.36**	**70**	P	**P**	**07 07 49.9**	**+2.2**
	comp=Z,2.1nm,0.3s,baz=227,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**96.00**	**165**	P	**P**	**07 09 18.1**	**-1.7**
	comp=Z,1.1nm,1.0s,baz=184,slow=6.6,SNR=5.9						
MKAR	**Makanchi Array**	**138.98**	**77**	PKP	**PKPdf**	**07 15 17.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=276,slow=2.8,SNR=2.5						
ZALV	**Zalesovo Beam**	**144.84**	**69**	PKP	**PKPab**	**07 15 26.7**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=259,slow=2.9,SNR=4.9						
INK	**Inuvik**	**147.65**	**318**	PKPbc	**PKPdf**	**07 15 33.5**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=76,slow=2.4,SNR=3.9						
ILAR	**Eielson Array**	**151.41**	**307**	PKPbc	**PKPbc**	**07 15 44.2**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=155,slow=1.9,SNR=21						
ILAR	**Eielson Array**	**151.41**	**307**		**PKPbc**	**07 15 43.7**	**-1.1**
SONM	**Songino Array**	**151.88**	**95**	PKPbc	**PKPbc**	**07 15 45.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=204,slow=3.3,SNR=4.0						

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*BGR **08** 06:57:11.5±0.6, 51°.47N×16°.14E, h1km, ML3.3/6, Error ellipse: s-maj=6.7km s-min=2.2km az=35.0*
ISC 08 06:57:10.1±1.1, 51°.53N±0°.05×16°.14E±0°.03, h0km, n21, σ1§09/34, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**06 57 23.2**	**-0.1**
	SNR=7.5						
KSP				*e*Sg	**Sg**	**06 57 32.3**	**+0.1**
	SNR=2.7						
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*Pg	**Pg**	**06 57 32.1**	**-0.6**
	SNR=3.5						
DPC				*e*Sg	**Sg**	**06 57 47.1**	**-0.9**
	SNR=3.7						
PVCC	**Panska Ves**	**1.41**	**225**	*e*Pg	**Pn**	**06 57 36.8**	**-0.2**
	SNR=11						
BRG	**Berggiesshubel**	**1.53**	**246**	*e*Pg	**Pb**	**06 57 39.0**	**-0.3**
	SNR=8.9						
BRG				*e*Sg	**Sg**	**06 57 59.5**	**+0.4**
	SNR=5.6						
RUE	**Ruedersdorf**	**1.75**	**304**	*e*Sg	**Sg**	**06 58 07.5**	**+1.4**
	SNR=3.0						
PRU	**Pruhonice**	**1.84**	**214**	*e*Pn	**Pn**	**06 57 43.0**	**0.0**
	SNR=4.5						
FBE	**Freiberg**	**1.85**	**252**	*e*Pn	**Pb**	**06 57 45.0**	**+0.2**
	SNR=3.0						
FBE				*e*Sg	**Sg**	**06 58 09.4**	**-0.1**
	SNR=4.0						
CLL	**Collm**	**1.98**	**265**	*e*Pg	**Pb**	**06 57 47.0**	**+0.1**
CLL				*e*		06 57 50.0	
CLL				*e*Sg	**Sg**	**06 58 13.0**	**-0.6**
	comp=Z,170nm,0.7s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Sg	**Sg**	**06 58 17.0**	**-1.1**
	SNR=3.8						
VRAC	**Vranov**	**2.24**	**172**	*e*Pn	**Pn**	**06 57 48.5**	**+0.1**
	SNR=2.9						
VRAC				*e*Pg	**Pg**	**06 57 52.5**	**-0.5**
	SNR=2.7						
TREC	**Trest**	**2.27**	**191**	*e*Sg	**Sb**	**06 58 21.5**	**+0.9**
	SNR=4.0						
WERD	**Werda**	**2.65**	**247**	*e*Pg	**Pg**	**06 57 60.0**	**-0.9**
	SNR=3.0						
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**06 58 00.2**	**-0.8**
OJC				*e*Sg	**Sg**	**06 58 35.2**	**-0.3**
WERN	**Wernitzgruen**	**2.69**	**244**	*e*Pg	**Pg**	**06 58 01.4**	**-0.1**

SNR=3.6

MOX	**Moxa**	**2.99**	**255**	*e*Sg	**Sg**	**06 58 46.5**	**+0.5**
SMOL	**Smolenice**	**3.13**	**164**	*e*SG	**Sg**	**06 58 49.4**	**-1.1**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PG	**Pg**	**06 58 11.9**	**+0.6**
LANS				*e*SG	**Sg**	**06 58 52.4**	**-0.2**
MODS	**Modra-Piesok**	**3.24**	**166**	*e*PG	**Pg**	**06 58 12.3**	**+0.2**
MODS				*e*SG	**Sg**	**06 58 54.5**	**+0.4**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**06 58 13.7**	**-1.4**
NIE				*e*S	**Sg**	**06 58 58.7**	**-0.3**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**06 58 04.9**	**-0.8**
VYHS				*e*PG	**Pg**	**06 58 17.3**	**+0.2**
VYHS				*e*SG	**Sg**	**06 59 06.4**	**+4.0**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PG	**Pg**	**06 58 23.7**	**-0.8**
STHS				*e*SG	**Sg**	**06 59 17.5**	**+2.7**

*IDC **08** 07:08:29.0±0.4,58°.82S×23°.49W,h0km,mb4.7/11, mb1 4.7/12,mb1mx4.6/23,mbtmp4.7/12,ML4.0/1,MS4.2/2, Ms1 4.2/2,ms1mx3.5/23,Error ellipse: s-maj=17.2km s-min=14.9km az=39.0*

*NEIC **08** 07:08:32.5±1.8,58°.9S±0°.1×23°.5W±0°.2,h25km±4km, mb4.9/51,Error ellipse: s-maj=17.4km s-min=11.6km az=220.0*

*GCMT **08** 07:08:34.5±0.4,59°.11S±0°.05×23°.11W±0°.04,h20km±1km, MW4.9/73,Moment Tensor Solution. s35,c37; s73,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.24; $M_{\theta\theta}$-0.94±.18; $M_{\phi\phi}$3.35±.15; $M_{r\theta}$-0.19±.47; $M_{\theta\phi}$0.75±.12; $M_{\phi r}$0.80±.27; Best double couple: $M_0$3.07700×10^{16} NP1:φ22.00000°,δ39.00000°,λ-71.00000°. NP2: φ179.00000°,δ53.00000°,λ-105.00000°. Principal axes: T 3.5720, Plg7.0000°, Azm279.0000°; N -0.9950, Plg12.0000°, Azm188.0000°; P -2.5820, Plg76.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 07:08:30.4±0.3,**59°.00S**±0°.07×**23°.46W**±0°.08,**h10km,n256,** σ0**.98**/250,**mb4.8**/29,**2D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.59**	**298**	Pn	**Pn**	**07 10 35.9**	**+1.4**
VNA1	**Neumayer--Stat**	**13.30**	**158**	P	**Pn**	**07 11 39.4**	**+0.5**
VNA3	**Neumayer Olymp**	**13.54**	**161**	P	**Pn**	**07 11 42.0**	**-0.2**
VNA3				S	Sn	07 14 01.4	-11
SNAA	**Sanae**	**15.22**	**155**	P	**Pn**	**07 12 04.6**	**-0.5**
SNAA				S	**Sn**	**07 14 45.7**	**-7.8**
SNAA	**Sanae**	**15.22**	**155**	Pn	**Pn**	**07 12 04.2**	**-0.9**
	15nm,0.3s,baz=323,slow=13,SNR=278						
SNAA				Sn	Sn	07 14 42.9	-11
	3.9nm,0.3s,baz=308,slow=16,SNR=6.7						
SNAA	**Sanae**	**15.22**	**155**	*d*iPKIKP	**Pn**	**07 12 04.2**	**-0.9**
SNAA	**Sanae**	**15.22**	**155**	Pn	**Pn**	**07 12 04.9**	**-0.2**
SNAA	**Sanae**	**15.22**	**155**	pmax	pmax		
	comp=Z,31nm,0.9s						
PMSA	**Palmer Station**	**19.69**	**236**	P	**P**	**07 12 58.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=2.6,slow=20,SNR=10.0						
PMSA	**Palmer Station**	**19.69**	**236**	P	**P**	**07 12 55.0**	**-4.3**
PMSA	**Palmer Station**	**19.69**	**236**	*e*P	**P**	**07 12 57.6**	**-1.7**
EFI	**East Falkland**	**20.80**	**275**	P	**P**	**07 13 12.3**	**+0.8**
MG01	**Puerto William**	**24.07**	**260**	P	**P**	**07 13 46.0**	**+0.5**
USHA	**Ushuaia**	**24.53**	**260**	P	**P**	**07 13 51.1**	**+1.5**
	comp=Z,24nm,0.6s,baz=39,slow=1.9,SNR=16						
MG02	**Cerro Sombrero**	**25.97**	**264**	P	**P**	**07 14 01.7**	**-1.0**
SYO	**Syowa Base**	**28.04**	**137**	*j*eP	**P**	**07 14 21.0**	**-0.2**
GO09	**Cerro Castillo**	**28.41**	**264**	P	**P**	**07 14 23.9**	**-0.8**
QSPA	**South Pole Qui**	**31.25**	**180**	P	**P**	**07 14 52.1**	**+2.2**
	comp=Z,12nm,0.6s,baz=212,slow=2.6,SNR=41						
QSPA				PcP	**PcP**	**07 17 44.5**	**+0.7**
	comp=Z,5.6nm,1.1s,baz=176,slow=5.3,SNR=3.3						
QSPA	**South Pole Qui**	**31.25**	**180**	P	**P**	**07 14 52.4**	**+2.5**
QSPA				IAmb	IAmb	07 14 55.5	
	comp=Z,15nm,0.8s						
TRQA	**Tornquist**	**32.33**	**293**	P	**P**	**07 14 57.5**	**-2.0**
TRQA	**Tornquist**	**32.33**	**293**	*e*P	**P**	**07 14 59.6**	**+0.1**
PLTB	**Pedras Altas**	**33.95**	**310**	P	**P**	**07 15 12.3**	**-1.4**
PLTB				IAmb	IAmb	07 15 24.5	
	comp=Z,30nm,1.5s						
PLTB	**Pedras Altas**	**33.95**	**310**	*e*P	**P**	**07 15 13.8**	**+0.2**
PLCA	**Paso Flores**	**34.51**	**281**	P	**P**	**07 15 17.8**	**-0.7**
	comp=Z,5.2nm,0.6s,baz=149,slow=7.2,SNR=13						
PLCA	**Paso Flores**	**34.51**	**281**	IAmb	IAmb	07 15 27.8	
	comp=Z,17nm,1.1s						
PLCA	**Paso Flores**	**34.51**	**281**	*e*P	**P**	**07 15 18.2**	**-0.4**
CPSB	**Cacapava Do Su**	**35.09**	**311**	*e*P	**P**	**07 15 23.7**	**+0.2**
TER01	**Tubaro-SC**	**35.20**	**319**	*e*P	**P**	**07 15 25.0**	**+0.5**
MAW	**Mawson**	**36.59**	**140**	P	**P**	**07 15 37.3**	**+1.4**
	comp=Z,7.7nm,0.7s,baz=230,slow=9.6,SNR=16						
MAW				PcP	**PcP**	**07 17 59.7**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=279,slow=8.5,SNR=3.9						
MAW	**Mawson**	**36.59**	**140**	P	**P**	**07 15 37.1**	**+1.2**
ITQB	**Itaqui**	**37.01**	**308**	P	**P**	**07 15 38.0**	**-1.9**
ITQB				IAmb	IAmb	07 15 52.5	
	comp=Z,13nm,0.8s						
ITQB	**Itaqui**	**37.01**	**308**	*e*P	**P**	**07 15 40.2**	**+0.3**
ITAB	**Concordia**	**37.45**	**315**	P	**P**	**07 15 42.7**	**-1.0**
ESAR	**Angra dos Reis**	**38.92**	**328**	*e*P	**P**	**07 15 56.7**	**+0.6**
BO02	**Sierra Bellavi**	**39.21**	**287**	P	**P**	**07 15 57.2**	**-1.4**
SPB	**Sao Paulo**	**39.25**	**324**	*e*P	**P**	**07 15 59.7**	**+0.9**
DUB01	**Friburgo-RJ**	**39.29**	**332**	*e*P	**P**	**07 15 59.9**	**+0.7**
CAM01	**Campos-RJ**	**39.36**	**333**	*e*P	**P**	**07 16 00.8**	**+1.1**
GO05	**Huala**	**39.61**	**285**	P	**P**	**07 16 00.7**	**-1.1**
GO05				IAmb	IAmb	07 16 22.2	
	comp=Z,17nm,0.9s						
BO01	**Tunca**	**39.68**	**287**	P	**P**	**07 16 01.1**	**-1.3**
BO01				IAmb	IAmb	07 16 07.3	
	comp=Z,28nm,1.4s						
SUR	**Sutherland**	**39.68**	**68**	LR	LR	07 28 36.8	
	comp=Z,287nm,18.6s,baz=218,slow=30						
MT09	**Talagante**	**40.13**	**288**	P	**P**	**07 16 05.3**	**-1.0**
MT09				IAmb	IAmb	07 16 07.0	
	comp=Z,26nm,1.1s						
MT01	**Popeta**	**40.19**	**287**	P	**P**	**07 16 05.4**	**-1.2**
MT01				IAmb	IAmb	07 16 27.3	
	comp=Z,42nm,1.5s						
CPUP	**Villa Florida**	**40.25**	**309**	P	**P**	**07 16 05.6**	**-1.5**
	comp=Z,2.3nm,0.7s,baz=147,slow=6.8,SNR=6.5						
CPUP	**Villa Florida**	**40.25**	**309**	P	**P**	**07 16 05.3**	**-1.8**
MT05	**Renca**	**40.31**	**288**	P	**P**	**07 16 07.4**	**-0.3**
MT02	**Curacav**	**40.62**	**288**	P	**P**	**07 16 09.2**	**-1.0**
MT02				IAmb	IAmb	07 16 23.2	
	comp=Z,24nm,1.1s						
VA03	**San Esteban**	**40.73**	**289**	P	**P**	**07 16 11.4**	**+0.2**
TRCB	**Terra Rica**	**41.69**	**317**	P	**P**	**07 16 17.6**	**-1.5**
TRCB				IAmb	IAmb	07 16 19.6	
	comp=Z,25nm,0.9s						
BSFB	**Barra de Sao F**	**42.06**	**335**	*e*P	**P**	**07 16 23.0**	**+0.9**
PCMB	**Pacaembu**	**42.32**	**320**	*e*P	**P**	**07 16 24.9**	**+0.7**
NAN01	**Guarapari, ES**	**42.87**	**336**	*e*P	**P**	**07 16 29.5**	**+0.8**
DIAM	**Diamantina, MG**	**43.24**	**331**	*e*P	**P**	**07 16 32.1**	**+0.3**
SBA	**Scott Base**	**43.26**	**183**	P	**P**	**07 16 32.6**	**+1.4**
VNDA	**Vanda**	**43.70**	**182**	P	**P**	**07 16 37.6**	**+2.8**
	comp=Z,8.9nm,1.1s,baz=186,slow=6.9,SNR=20						
VNDA	**Vanda**	**43.70**	**182**	P	**P**	**07 16 36.7**	**+1.9**
VNDA				IAmb	IAmb	07 16 38.8	
	comp=Z,17nm,1.3s						
GUA01	**Guaratinga, BA**	**44.03**	**337**	*e*P	**P**	**07 16 35.5**	**-2.5**
IPMB	**Ipameri, GO**	**44.77**	**326**	*e*P	**P**	**07 16 44.6**	**+0.6**
MC01	**Montes Claros**	**44.83**	**332**	*e*P	**P**	**07 16 43.9**	**-0.6**
AQDB	**Aquidauana**	**44.92**	**315**	P	**P**	**07 16 42.4**	**-2.8**
AQDB				IAmb	IAmb	07 17 05.0	
	comp=Z,18nm,1.5s						
BOSA	**Boshof**	**44.94**	**69**	P	**P**	**07 16 44.9**	**-0.5**
	comp=Z,8.5nm,0.6s,baz=211,slow=7.2,SNR=24						
BOSA	**Boshof**	**44.94**	**69**	IAmb	IAmb	07 16 54.8	
	comp=Z,11nm,0.8s						
AC02	**Maricunga**	**44.98**	**295**	P	**P**	**07 16 44.7**	**-1.5**
CMC01	**Camacan, BA**	**45.16**	**338**	*e*P	**P**	**07 16 47.1**	**+0.1**
NBIT	**Itapeh - BA**	**45.56**	**338**	*e*P	**P**	**07 16 51.1**	**+0.9**
JANB	**Januaria**	**46.51**	**332**	*e*P	**P**	**07 16 58.1**	**+0.3**
GO02	**Mina Guanaco**	**46.61**	**296**	P	**P**	**07 16 57.0**	**-1.8**
GO02				IAmb	IAmb	07 17 00.6	
	comp=Z,16nm,1.1s						
GDU01	**Guandu, BA**	**46.77**	**338**	*e*P	**P**	**07 16 59.8**	**+0.1**
BDFB	**Brasilia**	**46.93**	**327**	P	**P**	**07 17 00.7**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=169,slow=7.5,SNR=7.0						
BDFB	**Brasilia**	**46.93**	**327**	P	**P**	**07 17 02.0**	**+0.9**
BDFB				IAmb	IAmb	07 17 03.0	
	comp=Z,17nm,1.2s						
PP1B	**Ponte de Pedra**	**47.27**	**317**	*e*P	**P**	**07 17 03.8**	**+0.1**
ARAG	**Araguaiana, MT**	**48.01**	**322**	*e*P	**P**	**07 17 10.1**	**+0.6**
LBTB	**Lobatse**	**48.12**	**67**	P	**P**	**07 17 09.2**	**-1.2**
LVC	**Limon Verde**	**48.50**	**298**	P	**P**	**07 17 12.7**	**-0.9**
LVC				IAmb	IAmb	07 17 31.4	
	comp=Z,21nm,1.4s						
SALV	**Santo Antonio**	**49.13**	**317**	*e*P	**P**	**07 17 18.2**	**+0.1**
SDBA	**SAO DESIDERIO**	**49.20**	**332**	*e*P	**P**	**07 17 19.9**	**+1.3**
NBPN	**Ponto Novo - B**	**49.69**	**338**	*e*P	**P**	**07 17 21.4**	**-0.9**
PB07	**IPOC Station P**	**49.71**	**298**	P	**P**	**07 17 21.6**	**-1.1**
PB07				IAmb	IAmb	07 17 41.8	
	comp=Z,17nm,1.1s						
NBAN	**Anadia - AL**	**50.17**	**343**	*e*P	**P**	**07 17 25.8**	**-0.2**
PEXB	**Peixe**	**50.38**	**328**	*e*P	**P**	**07 17 27.9**	**+0.3**
CASY	**Casey**	**50.43**	**158**	P	**P**	**07 17 29.2**	**+1.8**
CASY				IAmb	IAmb	07 17 33.0	
	comp=Z,12nm,0.8s						
PTLB	**Pontes e Lacer**	**50.80**	**313**	*e*P	**P**	**07 17 30.6**	**-0.2**
NBRF	**Rio Formoso -**	**50.99**	**345**	*e*P	**P**	**07 17 32.1**	**-0.1**
SNDB	**Serra Nova Dou**	**51.37**	**324**	*e*P	**P**	**07 17 34.7**	**-0.3**
H10N1	**ASCENSION HYDR**	**51.49**	**11**	T	T	08 13 06.6	
	baz=192,slow=74						
H10N3	**ASCENSION HYDR**	**51.50**	**11**	T	T	08 13 11.6	
	baz=192						
H10N2	**ASCENSION HYDR**	**51.51**	**11**	T	T	08 13 16.5	
	baz=192,slow=74						
PSGCX	**Pisagua**	**51.67**	**299**	P	**P**	**07 17 36.0**	**-1.4**
PSGCX				IAmb	IAmb	07 17 50.2	
	comp=Z,18nm,1.3s						
MNMC	**Minye Minye**	**51.84**	**300**	IAmb	IAmb	07 17 53.0	
	comp=Z,8.9nm,0.6s						
NBPV	**Pedro Velho**	**53.24**	**345**	*e*P	**P**	**07 17 48.8**	**-0.1**
SMTB	**Santa Maria do**	**53.29**	**330**	*e*P	**P**	**07 17 49.5**	**+0.2**
VILB	**Vilhena**	**53.49**	**313**	*e*P	**P**	**07 17 49.5**	**-1.3**
LPAZ	**La Paz**	**53.70**	**303**	P	**P**	**07 17 52.3**	**-0.7**
	comp=Z,4.6nm,0.4s,baz=110,slow=4.8,SNR=67						
LPAZ	**La Paz**	**53.70**	**303**	P	**P**	**07 17 52.3**	**-0.7**
LPAZ				IAmb	IAmb	07 17 53.6	
	comp=Z,11nm,1.2s						
LPAZ	**La Paz**	**53.70**	**303**	*e*P	**P**	**07 17 52.5**	**-0.5**
CLDB	**Colider**	**53.84**	**319**	*e*P	**P**	**07 17 52.9**	**-0.4**
RCBR	**Riachuelo**	**53.90**	**345**	*e*P	**P**	**07 17 54.4**	**+0.7**
NBPA	**Parau_RN**	**54.15**	**343**	*e*P	**P**	**07 17 55.6**	**0.0**
NBPB	**Pedra_Branca-C**	**54.75**	**340**	*e*P	**P**	**07 17 59.4**	**-0.6**
NBPS	**Pedro II - PI**	**56.22**	**338**	*e*P	**P**	**07 18 11.1**	**+0.6**
PRPB	**Parauapebas**	**56.45**	**328**	*e*P	**P**	**07 18 13.0**	**+0.8**
NBMO	**Morrinhos-CE**	**57.02**	**340**	*e*P	**P**	**07 18 16.4**	**+0.3**
ROSB	**Rosrio**	**58.22**	**336**	*e*P	**P**	**07 18 24.2**	**-0.4**
ETMB	**Extrema**	**58.70**	**308**	*e*P	**P**	**07 18 27.4**	**-0.5**
TMAB	**Tom-Au,PA,Br**	**59.65**	**331**	*e*P	**P**	**07 18 36.2**	**+1.6**
ITTB	**Itaituba**	**59.92**	**322**	*e*P	**P**	**07 18 36.5**	**+0.1**
MCPB	**Macapa, AP**	**62.62**	**327**	*e*P	**P**	**07 18 55.5**	**+0.8**
MACA	**Manacapuru-AM**	**62.71**	**317**	*e*P	**P**	**07 18 55.1**	**-0.2**
LIC	**Lamto**	**66.67**	**20**	*e*P	**P**	**07 19 20.7**	**-0.4**
	comp=Z,95nm,1.3s						
KIC	**Kosan Boka**	**66.85**	**20**	*e*P	**P**	**07 19 22.8**	**+0.5**
	comp=Z,61nm,1.2s						
TIC	**Toumodi**	**67.08**	**20**	*e*P	**P**	**07 19 24.1**	**+0.4**
DBIC	**Dimbokro**	**67.13**	**20**	P	**P**	**07 19 23.6**	**-0.4**
BOAV	**Boa Vista**	**67.84**	**319**	*e*P	**P**	**07 19 28.0**	**-0.6**
OTAV	**Otavalo**	**72.93**	**301**	P	**P**	**07 20 00.5**	**+0.2**
OTAV				IAmb	IAmb	07 20 04.5	
	comp=Z,12nm,1.2s						
OTAV	**Otavalo**	**72.93**	**301**	*e*P	**P**	**07 19 59.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**74.75**	**25**	P	**P**	**07 20 10.2**	**0.0**
	comp=Z,20nm,0.7s,baz=193,slow=6.0,SNR=116						
TORD	**Torodi Ar. Bea**	**74.75**	**25**	P	**P**	**07 20 10.0**	**-0.3**
KOWA	**Kowa**	**74.93**	**20**	P	**P**	**07 20 11.4**	**+0.1**
RUSC	**La Rusia**	**75.74**	**309**	P	**P**	**07 20 14.5**	**-2.1**
SJCC	**San Jacinto, C**	**80.22**	**308**	P	**P**	**07 20 41.1**	**+0.2**
RAR	**Rarotonga**	**92.38**	**220**	LR	LR	07 52 32.2	
	comp=Z,107nm,21.5s,baz=279,slow=29						
ASAR	**Alice Springs**	**95.54**	**159**	P	**P**	**07 21 55.2**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=194,slow=5.1,SNR=10						
ASAR				PP	**PP**	**07 25 48.1**	**+2.5**
	comp=Z,0.3nm,0.5s,baz=190,slow=6.4,SNR=4.3						
HRV	**Adam Dziewonsk**	**108.68**	**324**	P	**PKiKP**	**07 26 59.3**	**+0.8**
	baz=156						
WVT	**Waverly**	**108.72**	**310**	P	**PKiKP**	**07 26 59.2**	**+0.4**
	baz=151						
I62A	**Tamworth**	**109.86**	**325**	P	**PKiKP**	**07 27 01.2**	**+0.5**
	baz=156						
G65A	**Princeton**	**110.01**	**328**	P	**PKiKP**	**07 27 01.7**	**+0.8**
	baz=158						
K56A	**Middlesex**	**110.67**	**320**	P	**PKiKP**	**07 27 02.6**	**+0.3**
	baz=154						
U40A	**Yellville**	**110.97**	**306**	P	**PKiKP**	**07 27 03.4**	**+0.4**
	baz=149						
ERPA	**Erie**	**111.05**	**318**	P	**PKiKP**	**07 27 03.8**	**+0.8**
	baz=152						
G60A	**Masonville**	**111.27**	**325**	P	**PKiKP**	**07 27 04.3**	**+1.0**
	baz=155						
F62A	**Pittston Farm,**	**111.32**	**327**	P	**PKiKP**	**07 27 04.3**	**+0.9**
	baz=156						
F61A	**St Evariste**	**111.68**	**326**	P	**PKiKP**	**07 27 04.8**	**+0.7**
	baz=156						
E61A	**Lac Etchemin**	**111.95**	**327**	P	**PKiKP**	**07 27 05.8**	**+1.1**
	baz=156						
AMTX	**Amarillo**	**113.59**	**299**	P	**PKiKP**	**07 27 08.7**	**+0.5**
	baz=146						
SDCO	**Great Sand Dun**	**117.69**	**298**	P	**PKiKP**	**07 27 16.6**	**+0.3**
	baz=145						
S22A	**4UR Ranch, Cre**	**118.30**	**297**	P	**PKiKP**	**07 27 18.0**	**+0.5**
	baz=144						
WUAZ	**Wupatki**	**118.65**	**292**	P	**PKiKP**	**07 27 18.4**	**+0.3**
	baz=144						
ECSD	**EROS Data Cent**	**118.73**	**308**	P	**PKiKP**	**07 27 17.9**	**+0.2**
	baz=146						
OGNE	**Ogallala**	**118.74**	**302**	P	**PKiKP**	**07 27 18.7**	**+0.8**
	baz=145						
ISCO	**Idaho Springs**	**119.41**	**299**	P	**PKiKP**	**07 27 20.0**	**+0.4**
	baz=144						
TPFO	**Pinon Flats**	**119.60**	**287**	P	**PKiKP**	**07 27 20.4**	**+0.5**
	baz=144						
PFO	**Pinyon Flats O**	**119.60**	**287**	P	**PKiKP**	**07 27 20.4**	**+0.5**
	baz=144						
BELC	**Belle Mtn. Jos**	**119.69**	**287**	P	**PKiKP**	**07 27 20.7**	**+0.6**
	baz=144						
CIS	**Catalina Islan**	**120.41**	**285**	P	**PKPdf**	**07 27 21.5**	**+0.2**
	baz=143						
N23A	**Red Feather La**	**120.44**	**299**	P	**PKPdf**	**07 27 21.4**	**0.0**
	baz=144						
O20A	**White River Ci**	**120.88**	**297**	P	**PKiKP**	**07 27 22.7**	**+0.4**
	baz=143						
EDW2	**Edwards Air Fo**	**121.38**	**286**	P	**PKPdf**	**07 27 23.4**	**+0.2**
	baz=143						
MPMC	**Manual Prospec**	**122.06**	**287**	P	**PKiKP**	**07 27 25.0**	**+0.2**
	baz=142						
FURC	**Furnace Creek,**	**122.08**	**288**	P	**PKiKP**	**07 27 25.3**	**+0.8**
	baz=142						
K22A	**Casper**	**122.10**	**300**	P	**PKPdf**	**07 27 24.3**	**-0.1**
	baz=143						
TPNV	**Topopah Spring**	**122.16**	**289**	P	**PKiKP**	**07 27 25.0**	**+0.1**
	baz=142						
RSSD	**Black Hills**	**122.17**	**303**	P	**PKPdf**	**07 27 24.4**	**-0.2**
	baz=143						
CMAR	**Chiang Mai Arr**	**122.18**	**109**	PKP	**PKPdf**	**07 27 24.9**	**-0.3**
	comp=Z,1.9nm,0.3s,baz=216,slow=4.0,SNR=7.2						
CWC	**Cottonwood Cre**	**122.66**	**287**	P	**PKiKP**	**07 27 26.0**	**+0.1**
	baz=142						
NOA	**NORSAR Array B**	**122.70**	**19**	PKP	**PKPdf**	**07 27 24.4**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=196,slow=1.8,SNR=3.6						
DUG	**Dugway, Tooele**	**123.06**	**294**	P	**PKiKP**	**07 27 26.9**	**+0.4**
	baz=142						
BW06	**Boulder Array**	**123.56**	**298**	P	**PKPdf**	**07 27 27.2**	**-0.1**
	baz=142						
PDAR	**Pinedale Array**	**123.56**	**298**	PKP	**PKPdf**	**07 27 26.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=135,slow=5.6,SNR=8.3						
ULM	**Lac du Bonnet**	**123.75**	**313**	PKP	**PKPdf**	**07 27 26.1**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=192,slow=5.5,SNR=3.0						
NVAR	**Mina Array Bea**	**124.33**	**289**	PKP	**PKiKP**	**07 27 30.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=150,slow=3.3,SNR=7.4						
RLMT	**Red Lodge**	**125.27**	**300**	P	**PKiKP**	**07 27 30.8**	**0.0**
	baz=141						
FINES	**FINESS Array B**	**126.08**	**27**	PKP	**PKPdf**	**07 27 30.8**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=145,slow=4.5,SNR=14						
BOZ	**Bozeman (W)**	**126.70**	**299**	P	**PKiKP**	**07 27 33.9**	**+0.3**
	baz=140						
O03E	**Paynes Creek**	**127.49**	**287**	P	**PKiKP**	**07 27 35.2**	**-0.1**
	baz=140						
AKTO	**Aktyubinsk**	**127.50**	**53**	PKP	**PKPdf**	**07 27 34.3**	**0.0**
	comp=Z,6.6nm,1.0s,baz=188,slow=3.1,SNR=15						
EGMT	**Eagleton**	**127.71**	**302**	P	**PKiKP**	**07 27 35.5**	**0.0**
	baz=139						
N02D	**Trinity Center**	**128.45**	**287**	P	**PKiKP**	**07 27 37.1**	**0.0**
	baz=139						
M04C	**Macdoel**	**128.63**	**289**	P	**PKiKP**	**07 27 37.6**	**0.0**
	baz=139						
MSO	**Missoula**	**128.68**	**298**	P	**PKPdf**	**07 27 37.1**	**+0.2**
	baz=138						
M02C	**Callahan**	**128.84**	**288**	P	**PKPdf**	**07 27 37.5**	**+0.3**
	baz=139						
AAK	**Ala-Archa**	**129.07**	**70**	PKP	**PKPdf**	**07 27 37.5**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=190,slow=6.2,SNR=5.0						
L04D	**Klamath Falls**	**129.19**	**289**	P	**PKPdf**	**07 27 38.3**	**+0.3**
	baz=139						
J05D	**Fort Rock, OR**	**129.47**	**290**	P	**PKiKP**	**07 27 39.2**	**0.0**
	baz=138						
L02E	**Cave Junction**	**129.78**	**288**	P	**PKiKP**	**07 27 39.9**	**+0.2**
	baz=138						
K02D	**Willamette Mer**	**130.22**	**288**	P	**PKiKP**	**07 27 40.5**	**-0.2**
	baz=138						
I05D	**Terrebonne, OR**	**130.30**	**291**	P	**PKiKP**	**07 27 40.8**	**0.0**
	baz=138						
I04A	**Tendick Farm,**	**130.42**	**290**	P	**PKPdf**	**07 27 40.6**	**+0.5**
	baz=138						
J01E	**Myrtle Point**	**130.69**	**288**	P	**PKiKP**	**07 27 41.3**	**-0.2**
	baz=138						
I03D	**Drain, OR**	**130.80**	**289**	P	**PKiKP**	**07 27 41.7**	**0.0**
	baz=138						
G05D	**Wamic, OR**	**130.96**	**292**	P	**PKiKP**	**07 27 42.0**	**0.0**
	baz=137						
H04D	**Lebanon**	**131.11**	**290**	P	**PKiKP**	**07 27 42.5**	**+0.2**
	baz=137						
NEW	**Newport**	**131.19**	**298**	P	**PKiKP**	**07 27 42.1**	**-0.3**
	baz=137						
ARCES	**ARCESS Array B**	**132.96**	**21**	PKP	**PKPdf**	**07 27 43.0**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=229,slow=1.3,SNR=10						
D03D	**Eldon**	**133.46**	**293**	P	**PKiKP**	**07 27 47.0**	**+0.1**
	baz=135						
BVAR	**Borovoye Array**	**134.66**	**58**	PKP	**PKPdf**	**07 27 47.4**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=202,slow=19,SNR=9.8						
MKAR	**Makanchi Array**	**135.91**	**72**	PKP	**PKPdf**	**07 27 49.3**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=277,slow=2.1,SNR=7.7						
YKA	**Yellowknife Ar**	**139.69**	**314**	PKP	**PKPdf**	**07 27 56.4**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=121,slow=2.9,SNR=7.2						
ZALV	**Zalesovo Beam**	**141.82**	**65**	PKhKP	PKPpre	07 27 55.2	
	comp=Z,0.7nm,0.4s,baz=252,slow=5.0,SNR=3.9						
SIT	**Sitka**	**145.28**	**297**	P	**PKPdf**	**07 28 07.4**	**+0.6**
	baz=122						
SKAG	**Skagway**	**146.52**	**301**	P	**PKPab**	**07 28 11.4**	**0.0**
	baz=119						
WHY	**Whitehorse**	**146.90**	**303**	P	**PKPbc**	**07 28 11.8**	**+0.2**
	baz=118						
BJI	**Beijing**	**148.33**	**109**	PKPbc	**PKPbc**	**07 28 16.1**	**+0.2**
SONM	**Songino Array**	**148.85**	**89**	PKPbc	**PKPbc**	**07 28 16.9**	**-0.3**
	comp=Z,14nm,0.9s,baz=196,slow=1.6,SNR=4.3						
PINM	**Pinnacle**	**149.02**	**300**	P	**PKPbc**	**07 28 17.8**	**+0.6**
	baz=116						
INK	**Inuvik**	**149.35**	**317**	PKPbc	**PKPbc**	**07 28 17.3**	**-0.4**
	comp=Z,28nm,1.0s,baz=130,slow=4.0,SNR=3.3						
INK	**Inuvik**	**149.35**	**317**	P	**PKPbc**	**07 28 17.2**	**-0.4**
	baz=108,SNR=12						
INK	**Inuvik**	**149.35**	**317**	PKPdf	**PKPdf**	**07 28 13.0**	**-0.2**
TLY	**Talaya**	**149.77**	**80**	PKPbc	**PKPbc**	**07 28 17.9**	**-1.3**
	comp=Z,6.1nm,0.6s,baz=196,slow=4.0,SNR=5.0						
EPYK	**Eagle Plains**	**149.

SDPT	Sand Point	156.72	280	P	PKPab	07 28 53.7	-0.2
	baz=117						
TIXI	Tiksi	163.09	30	PKPab	PKPab	07 29 21.4	+0.1
	comp=Z,4.5nm,0.8s,baz=321,slow=3.2,SNR=11						

IDC ***08*** *07:15:53.0±0.5, 59°.51S×29°.35W, h0km, mb4.5/12, mb1 4.6/13, mb1mx4.5/20, mbtmp4.5/13, ML3.5/1, MS4.5/11, Ms1 4.5/11, ms1mx4.3/14, Error ellipse: s-maj=24.3km s-min=14.8km az=62.0*

NEIC ***08*** *07:15:54.7±2.8, 59°.5S±0°.1×29°.1W±0°.2, h10km±1km, mb5.2/49, Error ellipse: s-maj=19.7km s-min=14.7km az=219.0*

GCMT ***08*** *07:15:57.7±0.2, 59°.98S±0°.02×29°.30W±0°.03, h14km, MW5.1/125, Moment Tensor Solution. s33, c38; s125, c174; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=4.15±.21; Mθθ0.40±.12; Mφφ3.75±.15; Mrθ-2.42±.38; Mrφ1.23±.09; Mθφ1.66±.30; Best double couple: M0=4.94300×1016 NP1:φs=40.00000°, δ44.00000°, λ-51.00000°. NP2:φs=172.00000°, δ57.00000°, λ-121.00000°. Principal axes: T 4.2570, Plg7.0000°, Azm283.0000°; N 1.3720, Plg26.0000°, Azm190.0000°; P -5.6300, Plg63.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 07:15:54.7±0.3, 59°.52S±0°.07×29°.13W±0°.08, h10km, n168, σ1°15/162, mb5.1/29, MS4.6/9, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.10	151	P	Pn	07 19 14.7	+0.7
VNA3	Neumayer Olymp	14.18	154	P	Pn	07 19 14.1	-1.1
SNAA	Sanae	16.11	150	P	Pn	07 19 42.7	+1.7
SNAA	Sanae	16.11	150	Pn	Pn	07 19 42.7	+1.7
	0.2nm,0.3s,baz=307,slow=13,SNR=9.2						
SNAA				LR	LR	07 24 31.0	
	comp=Z,2μm,21.1s,baz=302,slow=32						
SNAA				PcP	PcP	07 24 35.9	0.0
	0.1nm,0.3s,baz=230,slow=1.9,SNR=3.7						
SNAA	Sanae	16.11	150	Pn	Pn	07 19 40.7	-0.3
PMSA	Palmer Station	16.97	237	Pn	P	07 19 53.1	-0.6
	0.1nm,0.3s,baz=91,slow=12,SNR=14						
PMSA				LR	LR	07 25 16.4	
	comp=Z,1μm,19.6s,baz=90,slow=33						
PMSA	Palmer Station	16.97	237		Pn	07 19 51.7	-0.1
PMSA	Palmer Station	16.97	237	eP	Pn	07 19 51.7	-0.1
MG01	Puerto William	21.12	266	P	P	07 20 40.3	+1.1
USHA	Ushuaia	21.58	265	P	P	07 20 46.2	+2.2
	42nm,1.0s,baz=118,slow=8.6,SNR=4.4						
USHA				LR	LR	07 27 21.3	
	comp=Z,2μm,19.3s,baz=148,slow=32						
MG04	Isla Riesco	24.19	267	P	P	07 21 15.1	+4.2
MG04				IAmb	IAmb	07 21 17.4	
	comp=Z,109nm,1.4s						
GO09	Cerro Castillo	25.47	270	P	P	07 21 22.4	-0.2
GO09				IAmb	IAmb	07 21 29.5	
	comp=Z,82nm,1.3s						
SYO	Syowa Base	29.64	137	eSP	P	07 22 01.1	+1.5
TRQA	Tornquist	29.98	301	P	P	07 22 03.0	0.0
TRQA	Tornquist	29.98	301	eP	P	07 22 03.2	+0.1
QSPA	South Pole Qui	30.72	180	P	P	07 22 10.3	+0.8
	comp=Z,5.1nm,0.8s,baz=183,slow=3.0,SNR=11						
QSPA				PcP	PcP	07 25 05.8	-0.9
	comp=Z,6.1nm,1.2s,baz=210,slow=3.3,SNR=2.8						
QSPA	South Pole Qui	30.72	180	P	P	07 22 10.8	+1.2
PLCA	Paso Flores	31.82	288	P	P	07 22 17.7	-1.6
	comp=Z,3.9nm,1.1s,baz=120,slow=12,SNR=3.3						
PLCA				LR	LR	07 34 15.0	
	comp=Z,830nm,19.8s,baz=145,slow=35						
PLCA	Paso Flores	31.82	288	eP	P	07 22 19.3	0.0
PLTB	Pedras Altas	32.23	319	P	P	07 22 23.3	+0.4
PLTB	Pedras Altas	32.23	319	eP	P	07 22 23.6	+0.6
CPSB	Cacapava Do Su	33.42	320	eP	P	07 22 35.2	+1.8
ITQB	Itaqui	35.19	316	P	P	07 22 49.1	+0.5
ITQB	Itaqui	35.19	316	eP	P	07 22 48.7	+0.1
GO05	Huala	37.02	292	P	P	07 23 02.3	-2.0
GO05				IAmb	IAmb	07 23 10.6	
	comp=Z,31nm,1.2s						
MT09	Talagante	37.60	294	P	P	07 23 08.0	-1.4
MT01	Popeta	37.65	294	P	P	07 23 08.2	-1.4
MT05	Renca	37.80	295	P	P	07 23 11.6	+0.6
MT05				IAmb	IAmb	07 23 17.6	
	comp=Z,85nm,1.5s						
VA05	Santo Domingo	37.99	294	P	P	07 23 11.8	-0.6
MAW	Mawson	38.02	142	P	P	07 23 14.2	+1.9
	comp=Z,8.4nm,0.8s,baz=234,slow=8.4,SNR=14						
MAW				LR	LR	07 37 18.2	
	comp=Z,557nm,18.9s,baz=244,slow=34						
MAW	Mawson	38.02	142	P	P	07 23 13.1	+0.8
MT02	Curacav	38.09	295	P	P	07 23 12.1	-1.3
MT02				IAmb	IAmb	07 23 19.5	
	comp=Z,47nm,1.1s						
SPB	Sao Paulo	38.15	332	eP	P	07 23 13.5	-0.4
VA03	San Esteban	38.24	296	P	P	07 23 13.3	-1.4
VA03				IAmb	IAmb	07 23 21.7	
	comp=Z,48nm,1.1s						
CPUP	Villa Florida	38.49	317	P	P	07 23 16.2	-0.5
	comp=Z,4.4nm,0.9s,baz=167,slow=8.5,SNR=8.1						
CPUP				LR	LR	07 37 29.3	
	comp=Z,781nm,21.7s,baz=160,slow=34						
CPUP	Villa Florida	38.49	317	P	P	07 23 15.0	-1.7
CPUP				IAmb	IAmb	07 23 23.7	
	comp=Z,41nm,1.4s						
CPUP	Villa Florida	38.49	317	eP	P	07 23 17.2	+0.5
RCLB	Rio Claro- Sao	39.30	333	eP	P	07 23 25.2	+1.5
SJMB	Sao Joao De Ma	41.69	343	eP	P	07 23 44.6	+1.3
AC04	Llanos de Chal	42.34	299	P	P	07 23 48.3	-0.3
AC04				IAmb	IAmb	07 23 55.6	
	comp=Z,67nm,1.2s						
NAN01	Guarapari, ES	42.38	344	eP	P	07 23 50.4	+1.4
DIAM	Diamantina, MG	42.50	339	eP	P	07 23 51.6	+1.5
SBA	Scott Base	42.53	185	P	P	07 23 52.1	+2.5
SBA				IAmb	IAmb	07 23 58.2	
	comp=Z,35nm,1.5s						
AC02	Maricunga	42.67	302	P	P	07 23 51.7	-0.2
AC02				IAmb	IAmb	07 23 59.7	
	comp=Z,47nm,1.3s						
VNDA	Vanda	43.04	183	P	P	07 23 55.0	+1.2
	comp=Z,3.0nm,0.9s,baz=195,slow=5.8,SNR=14						
VNDA	Vanda	43.04	183	P	P	07 23 55.2	+1.4
AQDB	Aquidauana	43.39	322	P	P	07 23 56.9	-0.3
AQDB	Aquidauana	43.39	322	eP	P	07 23 58.5	+1.3
GO02	Mina Guanaco	44.34	303	P	P	07 24 04.9	-0.2
GO02				IAmb	IAmb	07 24 12.1	
	comp=Z,50nm,1.2s						
JANB	Januaria	45.78	339	eP	P	07 24 17.2	+0.9
PP1B	Ponte de Pedra	45.85	325	eP	P	07 24 18.4	+1.5
BDFB	Brasilia	45.96	334	P	P	07 24 18.5	+0.8
	comp=Z,3.0nm,0.9s,baz=184,slow=8.1,SNR=3.3						
BDFB				PcP	PcP	07 25 54.6	+0.1
	comp=Z,2.5nm,0.8s,baz=142,slow=3.3,SNR=3.8						
LVC	Limon Verde	46.30	305	eP	P	07 24 21.3	+0.6
PB04	IPOC Station P	47.07	304	P	P	07 24 25.0	-1.6
SALV	Santo Antonio	47.70	324	eP	P	07 24 32.4	+1.1
BOSA	Boshof	47.87	75	P	P	07 24 34.0	+1.3
	comp=Z,9.6nm,1.1s,baz=203,slow=10.0,SNR=6.4						
BOSA	Boshof	47.87	75	P	P	07 24 31.9	-0.8
PB01	IPOC Station P	47.94	305	P	P	07 24 32.8	-0.4
PB08	IPOC Station P	48.60	306	IAmb	IAmb	07 24 45.8	
	comp=Z,30nm,1.3s						
PTLB	Pontes e Lacer	49.20	320	eP	P	07 24 42.5	-0.4
NBPN	Ponto Novo - B	49.28	346	eP	P	07 24 44.1	+0.5
MNMC	Minye Minye	49.69	306	P	P	07 24 46.9	0.0
SNDB	Serra Nova Dou	50.26	331	eP	P	07 24 51.6	+0.7
CASY	Casey	50.98	160	P	P	07 24 57.8	+2.0
CASY				IAmb	IAmb	07 25 05.0	
	comp=Z,50nm,1.3s						
LBTB	Lobatse	51.03	72	P	P	07 24 57.6	+0.7
H10S2	ASCENSION HYDR	51.63	18	T	T	08 21 18.7	
	baz=31,slow=74,SNR=11						
H10S3	ASCENSION HYDR	51.63	18	T	T	08 21 14.2	
	baz=189,slow=74,SNR=30						
LPAZ	La Paz	51.66	310	P	P	07 25 02.4	+0.1
	comp=Z,3.1nm,0.6s,baz=126,slow=6.1,SNR=21						
LPAZ	La Paz	51.66	310	P	P	07 25 01.8	-0.4
LPAZ				IAmb	IAmb	07 25 09.7	
	comp=Z,26nm,1.2s						
LPAZ	La Paz	51.66	310	eP	P	07 25 02.3	+0.1
VILB	Vilhena	51.88	320	eP	P	07 25 02.7	-0.5
SMTB	Santa Maria do	52.45	337	eP	P	07 25 08.3	+0.9
CLDB	Colider	52.50	326	eP	P	07 25 07.5	-0.2
H10N1	ASCENSION HYDR	52.75	18	T	T	08 22 34.9	
	baz=188,slow=80						
H10N3	ASCENSION HYDR	52.75	18	T	T	08 22 31.5	
	baz=188,slow=80						
H10N2	ASCENSION HYDR	52.77	18	T	T	08 22 41.8	
	baz=188,slow=80						
PRPB	Parauapebas	55.52	335	eP	P	07 25 31.1	+1.3
NPGB	Novo Progresso	56.03	328	eP	P	07 25 33.2	-0.2
ETMB	Extrema	56.87	315	eP	P	07 25 38.7	-0.8
ITTB	Itaituba	58.70	328	eP	P	07 25 51.3	-1.0
TMAB	Tom-Au,PA,Br	58.87	338	eP	P	07 25 54.2	+0.8
MALB	Monte Alegre	60.73	331	eP	P	07 26 05.8	-0.4
CZSB	Cruzeiro do Su	61.25	309	eP	P	07 26 08.7	-1.1
MACA	Manacapuru-AM	61.26	323	eP	P	07 26 09.1	-0.8
MCPB	Macapa, AP	61.65	334	eP	P	07 26 13.3	+0.8
BOAV	Boa Vista	66.48	325	eP	P	07 26 43.4	-0.8
LIC	Lamto	68.29	26	eP	P	07 26 56.4	+0.8
	comp=Z,73nm,1.5s						
KIC	Kosan Boka	68.48	26	eP	P	07 26 59.1	+2.3
	comp=Z,34nm,1.2s						
TIC	Toumodi	68.69	26	eP	P	07 27 00.0	+1.8
OTAV	Otavalo	70.81	307	P	P	07 27 12.8	+1.0
OTAV				IAmb	IAmb	07 27 19.8	
	comp=Z,20nm,1.2s						
OTAV	Otavalo	70.81	307	eP	P	07 27 11.4	-0.4
ROSC	El Rosal	73.39	312	LR	LR	08 00 02.4	
	comp=Z,456nm,21.4s,baz=206,slow=36						
KOWA	Kowa	76.52	25	P	P	07 27 46.5	+1.8
TOA0	Torodi Ar. Sit	76.58	31	P	P	07 27 45.5	+0.5
TOA0				IAmb	IAmb	07 27 53.3	
	comp=Z,24nm,1.1s						
TORD	Torodi Ar. Bea	76.58	31	P	P	07 27 46.2	+1.2
	comp=Z,5.5nm,0.7s,baz=197,slow=6.0,SNR=24						
TORD				LR	LR	07 56 04.5	
	comp=Z,76nm,20.7s,baz=140,slow=32						
TORD	Torodi Ar. Bea	76.58	31	P	P	07 27 46.5	+1.5
TORD				IAmb	IAmb	07 27 53.2	
	comp=Z,23nm,1.2s						
BCIP	Isla Barro Col	79.48	309	P	P	07 28 02.7	+1.5
ABVI	Anegada Island	83.10	327	P	P	07 28 21.8	+1.6
MTO3	Montecristo	88.13	303	IAmb	IAmb	07 28 52.2	
	comp=Z,13nm,1.1s						
STKA	Stephens Creek	88.62	172	P	P	07 28 47.0	-0.7
	comp=Z,2.4nm,0.6s,baz=149,slow=6.5,SNR=7.0						
STKA				LR	LR	08 05 47.9	
	comp=Z,240nm,21.9s,baz=202,slow=34						
STKA	Stephens Creek	88.62	172	P	P	07 28 46.9	-0.7
PPT	Papeete	89.33	235	LR	LR	08 01 06.7	
	comp=Z,188nm,18.1s,baz=168,slow=30						
ASAR	Alice Springs	95.95	164	P	P	07 29 20.8	-1.0
	comp=Z,2.2nm,0.7s,baz=182,slow=4.1,SNR=21						
ASAR				PP	PP	07 33 12.4	-0.6
	comp=Z,0.7nm,1.0s,baz=187,slow=6.5,SNR=2.3						
ASAR	Alice Springs	95.95	164	P	P	07 29 20.5	-1.2
AS31	Alice Springs	95.95	164	P	P	07 29 20.9	-0.8
WRA	Warramunga Arr	99.67	164	P	Pdif	07 29 37.4	-1.2
	comp=Z,1.1nm,1.0s,baz=196,slow=3.8,SNR=3.8						
WRA				LR	LR	08 13 27.7	
	comp=Z,210nm,18.0s,baz=195,slow=35						
PDAR	Pinedale Array	121.31	302	PKP	PKPdf	07 34 45.8	-1.5
	comp=Z,0.3nm,0.8s,baz=64,slow=4.1,SNR=2.6						
MSO	Missoula	126.43	302	P	PKPdf	07 34 56.5	-0.3
	baz=141						
MSO	Missoula	126.43	302		PKPdf	07 34 55.0	-1.7
G08A	Pilot Rock	127.47	297	PKPdf	PKPdf	07 34 58.9	+0.1
FINES	FINESS Array B	127.93	30	PKP	PKPdf	07 34 58.2	-0.8
	comp=Z,2.1nm,0.8s,baz=126,slow=9.7,SNR=3.9						
ABKAR	Abkulak array	130.13	59		PKPdf	07 35 01.7	-1.9
ABKAR	Abkulak array	130.13	59	PKPdf	PKPdf	07 35 01.9	-1.6
ARCES	ARCESS Array B	134.55	24	PKP	PKPdf	07 35 10.1	-1.2
	comp=Z,3.1nm,0.9s,baz=191,slow=1.8,SNR=4.1						
CD2	Chengdu	137.56	111	PKP	PKPdf	07 35 19.0	+0.8
YKA	Yellowknife Ar	138.01	316	PKP	PKPdf	07 35 17.6	-0.4
	comp=Z,2.2nm,0.8s,baz=130,slow=2.7,SNR=3.9						
MKAR	Makanchi Array	138.85	76	PKP	PKPdf	07 35 18.2	-1.9
	comp=Z,0.9nm,0.7s,baz=232,slow=1.4,SNR=5.5						
MKAR	Makanchi Array	138.85	76		PKPdf	07 35 19.8	-0.3
WMQ	Urumqi	139.47	84	ePKP	PKiKP	07 35 23.0	-0.7
SKAG	Skagway	144.32	303	P	PKiKP	07 35 33.0	+0.1
	baz=123						
ZAA0	Zalesovo Array	144.71	69	PKPdf	PKPab	07 35 28.3	-0.7
ZALV	Zalesovo Beam	144.71	69	PKP	PKPab	07 35 28.2	-0.9
	comp=Z,5.0nm,0.7s,baz=247,slow=4.0,SNR=18						
WHY	Whitehorse	144.77	305	P	PKPbc	07 35 29.7	+0.3
	baz=122						
WHY	Whitehorse	144.77	305		PKPab	07 35 28.3	-1.0
NJ2	Nanjing	145.22	128	ePKPbc	PKPab	07 35 31.8	+0.2
HYT	Haines Junctio	145.97	304	PKPdf	PKPdf	07 35 32.4	0.0
PINM	Pinnacle	146.78	301	P	PKPbc	07 35 35.4	-0.1
	baz=120						
CTG	Chitna Glacier	147.67	302	P	PKPbc	07 35 37.6	-0.4
	baz=118						
INK	Inuvik	147.75	318	PKPbc	PKPbc	07 35 37.0	-0.8
	comp=Z,13nm,1.0s,baz=143,slow=2.6,SNR=8.8						
INK	Inuvik	147.75	318	P	PKPbc	07 35 37.3	-0.5
	baz=112						
INK	Inuvik	147.75	318		PKPbc	07 35 37.3	-0.5
BARN	Barnard Glacie	147.85	302		PKPbc	07 35 37.5	-1.1
ISLE	Juniper Island	147.93	301		PKPbc	07 35 39.5	+0.8
EPYK	Eagle Plains	148.15	313	P	PKPbc	07 35 38.3	-0.8
	baz=113						
DAWY	Dawson	148.24	308		PKPbc	07 35 37.8	-1.5
BCAR	Beaver Creek A	148.80	306		PKPbc	07 35 39.5	-1.3
L27K	Beaver Creek,	148.81	306	P	PKPbc	07 35 40.0	-0.8
	baz=115						
HHC	Hu-ho-hao-te	149.29	110	ePKPbc	PKPdf	07 35 36.1	-2.4
K27K	Chicken	149.31	307	P	PKPbc	07 35 42.2	+0.2
	baz=113						
KLU	Klutina	149.89	301	P	PKPbc	07 35 43.6	+0.1
	baz=115						
KLU	Klutina	149.89	301		PKPbc	07 35 42.7	-0.9
SCRK	Sand Creek	150.07	307	P	PKPbc	07 35 43.7	-0.3
	baz=112						
SCRK	Sand Creek	150.07	307		PKPbc	07 35 43.1	-0.9
M24K	Tolsona, Glenn	150.25	302	P	PKPbc	07 35 44.3	-0.1
	baz=114						
PAX	Paxson	150.30	304	P	PKPbc	07 35 44.1	-0.5
	baz=113						
JNU	Nakatsue	150.45	144	PKPab	PKPab	07 35 51.1	-1.2
BJI	Beijing	150.82	116	PKPbc	PKPab	07 35 51.9	-1.7
SML	Sawmill	151.07	301	P	PKPbc	07 35 44.9	-1.5
	baz=113						
WAT6	Susitna Watana	151.11	303	P	PKPbc	07 35 46.5	-0.1
	baz=112						
PMR	Palmer	151.34	300	P	PKPbc	07 35 46.4	-0.4
	baz=113						
HDA	Harding Lake	151.43	307	P	PKiKP	07 35 47.5	0.0
	baz=110						
ILAR	Eielson Array	151.53	307	PKPbc	PKPbc	07 35 46.1	-1.1
	comp=Z,9.9nm,1.1s,baz=155,slow=2.0,SNR=34						
SONM	Songino Array	151.74	94	PKPbc	PKPbc	07 35 47.8	-0.7
	comp=Z,2.2nm,0.8s,baz=220,slow=2.4,SNR=7.9						
SONM	Songino Array	151.74	94		PKiKP	07 35 49.5	+0.7
CCB	Clear Creek Bu	151.86	307		PKPbc	07 35 46.6	-1.4
RND	Reindeer	151.88	304		PKPbc	07 35 47.5	-0.7
COLA	College	151.95	307		PKiKP	07 35 48.8	+0.3
MCK	McKinley	152.03	305	P	PKPbc	07 35 48.2	-0.2
	baz=110						
H24K	Noodor Dome	152.25	309	P	PKPbc	07 35 48.3	-0.6
	baz=106						
NRIK	Noril'sk	152.32	43	PKPbc	PKPbc	07 35 48.3	-0.6
	comp=Z,1.0nm,0.3s,baz=270,slow=2.0,SNR=1.4						
NEA2	Nenana	152.36	306	P	PKPbc	07 35 48.2	-0.9
	baz=108						
SKT	Skwentna	152.54	300	P	PKPbc	07 35 49.0	-0.7
	baz=111						
KTH	Kantishna Hill	152.81	304		PKPbc	07 35 48.2	-2.1
BPAW	Bear Paw Mtn.	153.01	305	P	PKPbc	07 35 49.7	-1.0
	baz=108						
KSRS	Korea Array	153.45	136	PKPbc	PKPbc	07 35 50.6	-1.8
	comp=Z,1.6nm,0.8s,baz=216,slow=3.9,SNR=3.2						
TOLK	Toolik Lake Re	153.52	315	P	PKPbc	07 35 51.4	-0.3
	baz=100						
TOLK	Toolik Lake Re	153.52	315		PKPbc	07 35 48.8	-2.9
MDJ	Mudanjiang	160.29	130	PKP	PKPdf	07 35 50.6	-2.7

NEIC ***08*** *07:18:50.0±1.3, 15°.91N±0°.05×93°.54W±0°.05, h100km±5km, Error ellipse: s-maj=8.2km s-min=5.7km az=53.0*

MEX ***08*** *07:18:50.8±1.1, 15°.90N×93°.55W, h105km±7km, MD4.3*

ISC 08 07:18:49.7±0.9, 15°.88N±0°.06×93°.56W±0°.05, h100km±9km, n32, σ0°73/42, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG				0.38 118	eP	Pn	07 19 04.8	0.0
PCIG					eS	Sn	07 19 16.3	+0.3
PCIG				0.38 118		Pn	07 19 04.8	0.0
PCIG						Sn	07 19 16.3	+0.3
TGIG				0.99 25	eP	Pn	07 19 10.0	-0.2
TGIG					eS	Sn	07 19 24.6	-0.8
TGIG				0.99 25		Pn	07 19 10.0	-0.2
TGIG						Sn	07 19 24.6	-0.8
CCIG	Comitan	1.43	74	i P		Pn	07 19 15.5	+0.2
CCIG					eS	Sn	07 19 34.9	+0.2
CCIG	Comitan	1.43	74			Pn	07 19 15.5	+0.2
CCIG						Sn	07 19 34.9	+0.2
THIG				1.58 128	i P	Pn	07 19 17.4	+0.3
THIG					eS	Sn	07 19 38.2	+0.4
THIG				1.58 128		Pn	07 19 17.4	+0.3
THIG						Sn	07 19 38.2	+0.4
CMIG	Matias Romero	1.75	314	eP		Pn	07 19 19.4	+0.3
CMIG					eS	Sn	07 19 41.8	+0.4
CMIG	Matias Romero	1.75	314			Pn	07 19 19.4	+0.3
CMIG						Sn	07 19 41.8	+0.4
HUEH	Huehuetenango	2.06	105			Pn	07 19 23.4	0.0
RTAL	Retalhuleu	2.25	127	Pn		Pn	07 19 26.2	+0.6
HUIG	Huatulco	2.45	268	i P		Pn	07 19 27.0	-1.2
HUIG	Huatulco	2.45	268			Pn	07 19 27.0	-1.2
VHO	Vista Hermosa	3.26	292	eP		Pn	07 19 40.9	+1.7
PEIG	Puerto Escondi	3.45	272	i P		Pn	07 19 40.6	-1.0
PETF	Flores	3.69	73			Pn	07 19 44.1	-0.8
ESQI	Esquipulas	4.28	107			Pn	07 19 52.0	-0.9
MTO3	Montecristo	4.32	109			Pn	07 19 52.2	-1.3
TLIG	Tlapa	5.08	290			Pn	07 20 05.2	+1.6
CRIG	Cruz Grande	5.41	280	i P		Pn	07 20 08.0	-0.1
CRIG	Cruz Grande	5.41	280			Pn	07 20 08.0	-0.1
HZTE	Horizontes, Gu	9.30	123	Pn		Pn	07 21 01.4	+0.4
JTS	Las Juntas de	10.06	122	Pn		Pn	07 21 10.8	-0.6
JACO	JACO, Garabito	10.66	124	Pn		Pn	07 21 20.1	+0.6
RIMA	Rio Macho	11.24	122	Pn		Pn	07 21 26.9	-0.7
PEZE	Perez Zeledon,	11.61	123	Pn		Pn	07 21 31.9	-0.5
DRK0	Durika	12.03	122			Pn	07 21 37.6	-0.4
TX31	Lajitas Ar. Si	16.30	327			P	07 22 33.2	-0.8
TX31					IAmb	IAmb	07 22 46.8	
	comp=Z,10nm,1.4s						
TXAR	Lajitas Array	16.30	327			P	07 22 33.1	-0.9
AMTX	Amarillo	20.28	340	P		P	07 23 17.7	+0.2
AMTX					IAmb	IAmb	07 23 21.2	
	comp=Z,5.9nm,0.6s						
BNM	Barren Site	21.66	329	P		P	07 23 33.8	+1.3

IDC ***08*** *07:29:22.6±2.2, 23°.96S×66°.84W, h195km±18km, mb2.8/2, mb1 3.1/6, mb1mx3.0/27, mbtmp3.5/6, Error ellipse: s-maj=33.0km s-min=22.3km az=165.0*

GUC ***08*** *07:29:23.7±0.5, 24°.02S×67°.35W, h237km±7km, ML4.0*

ISC 08 07:29:22.3±1.2, 24°.09S±0°.07×67°.1W±0°.1, h212km±11km, n21, σ1°10/34, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.51	318	i P		Pn	07 29 58.2	+0.8
LVC	Limon Verde	2.23	311	P		Pn	07 30 05.2	+0.8
	32nm,0.3s,baz=117,slow=8.3,SNR=450						
LVC				S		S	07 30 37.4	+0.5
	12nm,0.3s,baz=285,slow=22,SNR=14						
LVC	Limon Verde	2.23	311	eP		Pn	07 30 05.2	+0.8
LVC				i S		S	07 30 37.3	+0.5
PB15	IPOC Station P	2.35	291	i P		Pn	07 30 06.3	+0.8
PB15				i S		S	07 30 38.7	-0.1
GO02	Mina Guanaco	2.51	244	i P		Pn	07 30 07.1	-0.3
GO02				i S		S	07 30 41.1	-1.0
GO02				IAML			07 30 42.8	
	comp=N,498nm,0.5s						
PB06	IPOC Station P	2.66	301	i P		Pn	07 30 09.7	+0.8
PB06				i S		S	07 30 44.2	-0.7
PB06				IAML			07 30 49.2	
	comp=N,215nm,0.3s						
PB05	IPOC Station P	3.11	293	i P		Pn	07 30 14.5	+0.6
PB05				i S		S	07 30 52.1	-1.8
PB03	IPOC Station P	3.18	309	i P		Pn	07 30 15.4	+0.6
PB03				i S		S	07 30 54.4	-1.2
PB03				IAML			07 30 58.8	
	comp=N,122nm,0.1s						
PB10	IPOC Station P	3.22	280	i P		Pn	07 30 15.6	+0.4
PB10				i S		S	07 30 54.8	-1.3
PB10				IAML			07 31 02.6	
	comp=N,150nm,0.2s						
PB04	IPOC Station P	3.31	301	i P		Pn	07 30 16.8	+0.5
PB04				i S		S	07 30 57.2	-1.1
PB07	IPOC Station P	3.49	312	i P		Pn	07 30 19.0	+0.5
PB07				i S		S	07 31 00.9	-1.2
PB07				IAML			07 31 02.9	
	comp=N,166nm,0.2s						
PB01	IPOC Station P	3.75	323	i P		Pn	07 30 21.8	+0.2

KAPI LR LR 08 34 03.5
comp=Z,145nm,19.1s,baz=7.5,slow=41
BKSI Bulukumba 4.06 183 P **Pn 08 32 35.4 +0.9**
KBKI Kotabaru 4.61 244 P **Pn 08 32 41.9 -0.2**
BBKI Banjar Baru 5.89 248 P **Pn 08 33 00.3 +0.6**
BATI Baumata 9.51 160 LR LR 08 37 34.0
comp=Z,115nm,21.6s,baz=269,slow=39
WRA Warramunga Arr 23.11 144 P **P 08 36 36.4 -1.6**
4.2nm,0.9s,baz=321,slow=10,SNR=18
ASAR Alice Springs 25.90 150 P **P 08 37 03.7 -0.2**
1.2nm,0.8s,baz=345,slow=15,SNR=10
STKA Stephens Creek 36.50 149 P **P 08 38 36.5 -0.5**
3.5nm,0.8s,baz=312,slow=7.9,SNR=8.2
MKAR Makanchi Array 58.29 330 P P 08 41 31.7 +5.5
0.5nm,0.7s,baz=120,slow=8.5,SNR=2.5
MKAR LR LR 09 09 59.7
comp=Z,32nm,18.3s,baz=21,slow=39

*NEIC **08** 08:34:48.5±2.0, 5°.9S±0°.1×147°.8E±0°.1, h72km±9km, mb4.3/11, Error ellipse: s-maj=24.0km s-min=11.2km az=127.0*
*IDC **08** 08:34:50.7±2.4, 6°.00S×147°.64E, h93km±24km, mb3.7/4, mb1 4.0/6, mb1mx3.6/32, mbtmp4.2/6, Error ellipse: s-maj=52.3km s-min=14.0km az=111.0*
ISC 08 08:34:50.5±0.8, 6°.01S±0°.09×147°.9E±0°.1, h100km, n23, σ1§08/25, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.45**	**192**	P	**Pn**	**08 35 42.1**	**-0.2**
PMG	20nm,0.3s,baz=6.3,slow=9.2,SNR=30			S	**Sn**	**08 36 22.0**	**-0.4**
	26nm,0.3s,baz=223,slow=22,SNR=6.3						
PMG	**Port Moresby**	**3.45**	**192**	Pn	**Pn**	**08 35 41.9**	**-0.4**
PMG	**Port Moresby**	**3.45**	**192**	P	**Pn**	**08 35 42.1**	**-0.2**
PMG	**Port Moresby**	**3.45**	**192**	P	**Pn**	**08 35 42.1**	**-0.2**
RABL	**Rabaul**	**4.62**	**67**	Pn	**Pn**	**08 35 57.1**	**-1.1**
WB0	**Warramunga Arr**	**18.96**	**223**	P	**P**	**08 39 02.7**	**-1.3**
WB0				IAmb	IAmb	08 39 05.8	
	comp=Z,15nm,0.7s						
WR0	**Warramunga Arr**	**18.99**	**222**	P	**P**	**08 39 03.3**	**-1.1**
WR0				IAmb	IAmb	08 39 06.4	
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**19.10**	**222**	P	**P**	**08 39 04.2**	**-1.4**
WRAB				IAmb	IAmb	08 39 07.1	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**19.11**	**222**	P	**P**	**08 39 04.3**	**-1.4**
WB2				IAmb	IAmb	08 39 07.3	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**19.11**	**222**	P	**P**	**08 39 04.3**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=45,slow=11,SNR=74						
WRA	**Warramunga Arr**	**19.11**	**222**	P	**P**	**08 39 03.3**	**-2.4**
EIDS	**Eidsvold**	**19.49**	**171**	P	**P**	**08 39 10.2**	**+0.5**
EIDS				IAmb	IAmb	08 39 26.8	
	comp=Z,26nm,1.5s						
KNRA	**Kununurra**	**21.08**	**241**	P	**P**	**08 39 25.7**	**-1.2**
KNRA				IAmb	IAmb	08 39 31.7	
	comp=Z,33nm,1.4s						
AS31	**Alice Springs**	**22.12**	**216**	P	**P**	**08 39 37.6**	**-0.5**
ASAR	**Alice Springs**	**22.12**	**216**	P	**P**	**08 39 37.5**	**-0.5**
	comp=Z,6.3nm,0.5s,baz=48,slow=9.2,SNR=112						
ASAR				S	**S**	**08 43 35.3**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=38,slow=20,SNR=7.5						
ASAR	**Alice Springs**	**22.12**	**216**	P	**P**	**08 39 37.9**	**-0.1**
ARMA	**Armidale**	**24.54**	**172**	P	**P**	**08 40 02.1**	**+1.2**
ARMA				IAmb	IAmb	08 40 11.8	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**26.40**	**192**	P	**P**	**08 40 19.3**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=355,slow=7.5,SNR=5.6						
STKA	**Stephens Creek**	**26.40**	**192**	P	**P**	**08 40 19.1**	**+1.4**
FORT	**Forrest**	**30.89**	**215**	P	**P**	**08 40 57.7**	**+0.1**
KSRS	**Korea Array**	**47.08**	**338**	P	**P**	**08 43 12.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=146,slow=9.6,SNR=2.4						
ILAR	**Eielson Array**	**85.14**	**23**	P	**P**	**08 47 16.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=252,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**145.95**	**285**	PKPbc	**PKPbc**	**08 54 19.2**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=72,slow=3.7,SNR=7.6						

*IDC **08** 08:53:56.7±1.9, 26°.05S×178°.30E, h598km±23km, mb3.0/5, mb1 3.3/8, mb1mx3.1/22, mbtmp4.2/8, Error ellipse: s-maj=25.3km s-min=18.5km az=142.0*
*NOU **08** 08:53:56.8, 26°.17S×178°.65E, h553km, MLv5.0, South of Fiji Islands*
*NEIC **08** 08:53:57.1±1.7, 26°.1S±0°.1×178°.4E±0°.2, h599km±5km, mb4.6/24, Error ellipse: s-maj=23.3km s-min=14.9km az=105.0*
ISC 08 08:53:57.1±0.6, 26°.16S±0°.08×178°.34E±0°.10, h600km, n61, σ1§77/59, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.39**	**358**	P	**P**	**08 55 59.2**	**-1.3**
	4.5nm,0.3s,baz=228,slow=15,SNR=18						
MSVF	**Nonsavu**	**8.39**	**358**	P	**P**	**08 55 59.1**	**-1.3**
	21nm,0.8s						
NFK	**Norfolk Island**	**9.66**	**250**	P	**P**	**08 56 14.8**	**+2.3**
OUZ	**Omahuta**	**9.91**	**203**	P	**P**	**08 56 18.5**	**+3.8**
KUZ	**Kuaotunu**	**10.79**	**191**	P	**P**	**08 56 26.5**	**+3.0**
HAZ	**Te Kaha**	**11.57**	**182**	P	**P**	**08 56 31.1**	**-0.2**
NOUC	**Port Laguerre**	**11.71**	**288**	P	**P**	**08 56 34.4**	**+1.4**
TOZ	**Tahuroa Road**	**11.78**	**191**	P	**P**	**08 56 36.4**	**+2.9**
TWGZ	**Tauwhareparae**	**11.98**	**181**	P	**P**	**08 56 35.5**	**0.0**
URZ	**Urewera**	**12.11**	**185**	P	**P**	**08 56 35.8**	**-0.9**
	1.2nm,0.3s,baz=15,slow=16,SNR=5.8						
URZ				S	**S**	**08 58 43.4**	**-4.5**
	0.2nm,0.3s,baz=61,slow=19,SNR=1.6						
URZ	**Urewera**	**12.11**	**185**	P	**P**	**08 56 36.4**	**-0.3**
MWZ	**Matawai**	**12.16**	**183**	P	**P**	**08 56 37.0**	**-0.2**
CNGZ	**Carnagh Statio**	**12.29**	**180**	P	**P**	**08 56 38.9**	**+0.4**
HIZ	**Hauiti**	**12.66**	**193**	P	**P**	**08 56 43.4**	**+1.1**
BKZ	**Black Stump Fm**	**13.06**	**186**	P	**P**	**08 56 45.2**	**-1.2**
BKZ	**Black Stump Fm**	**13.06**	**186**	P	**P**	**08 56 44.9**	**-1.5**
VRZ	**Vera Road**	**13.27**	**192**	P	**P**	**08 56 52.2**	**+3.7**
BHHZ	**Black Hill Sta**	**13.43**	**188**	P	**P**	**08 56 48.6**	**-1.6**
PKE	**Pukeiti**	**13.50**	**195**	P	**P**	**08 56 54.1**	**+3.2**
KHEZ	**Kahui Hut**	**13.59**	**194**	P	P	08 56 57.7	+5.9
NBEZ	**Newall Road No**	**13.60**	**195**	P	**P**	**08 56 55.1**	**+3.3**
DVHZ	**Dannevirke**	**14.22**	**187**	P	**P**	**08 56 58.3**	**+0.4**
BFZ	**Birch Farm**	**14.59**	**186**	P	**P**	**08 57 00.5**	**-0.7**
AFI	**Afiamalu**	**15.31**	**39**	P	**P**	**08 57 05.8**	**-2.6**
	1.0nm,0.3s,baz=231,slow=6.5,SNR=2.4						
AFI	**Afiamalu**	**15.31**	**39**	IAmb	IAmb	08 57 32.2	
	comp=Z,66nm,1.2s						
QRZ	**Quartz Range**	**15.40**	**197**	P	**P**	**08 57 10.4**	**+1.7**
SNZO	**South Karori**	**15.41**	**190**	P	**P**	**08 57 07.3**	**-1.4**
NNZ	**Nelson**	**15.57**	**194**	P	**P**	**08 57 11.5**	**+1.3**
NNZ				IAmb	IAmb	08 57 11.9	
	comp=Z,24nm,0.6s						
PLWZ	**Palliser**	**15.58**	**189**	P	**P**	**08 57 08.6**	**-1.8**
TUWZ	**Tuamarina**	**15.66**	**192**	P	**P**	**08 57 11.8**	**+0.7**
BSWZ	**Blackbirch Sta**	**15.95**	**192**	P	**P**	**08 57 15.4**	**+1.7**
THZ	**Tophouse**	**16.20**	**195**	P	**P**	**08 57 16.2**	**+0.1**
LTZ	**Lake Taylor**	**17.31**	**195**	P	**P**	**08 57 26.5**	**+0.3**
LTZ				IAmb	IAmb	08 57 30.9	
	comp=Z,21nm,0.6s						
OXZ	**Oxford**	**17.88**	**195**	P	**P**	**08 57 31.6**	**+0.2**
OXZ				IAmb	IAmb	08 57 36.8	
	comp=Z,29nm,0.8s						
WKZ	**Wanaka**	**20.09**	**200**	P	**P**	**08 57 51.8**	**+0.4**
WHZ	**Wether Hill Ro**	**21.37**	**200**	P	**P**	**08 58 03.8**	**+0.9**
EIDS	**Eidsvold**	**24.55**	**266**	P	**P**	**08 58 31.0**	**-0.5**
EIDS				IAmb	IAmb	08 58 34.9	
	comp=Z,23nm,1.4s						
CTAO	**Charters Tower**	**30.07**	**275**	P	**P**	**08 59 20.1**	**+0.4**
CTAO				IAmb	IAmb	08 59 20.6	
	comp=Z,8.5nm,0.6s						
STKA	**Stephens Creek**	**32.53**	**251**	P	**P**	**08 59 40.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=87,slow=11,SNR=6.3						
AS31	**Alice Springs**	**40.23**	**264**	P	**P**	**09 00 43.2**	**-0.4**
ASAR	**Alice Springs**	**40.24**	**264**	P	**P**	**09 00 43.2**	**-0.4**
	comp=Z,3.2nm,0.5s,baz=90,slow=7.1,SNR=77						
ASAR				PcP	**pwP**	**09 02 30.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=113,slow=3.3,SNR=2.8						
ASAR				S	**S**	**09 06 04.4**	**-4.7**
	comp=Z,0.1nm,0.6s,baz=97,slow=15,SNR=1.5						
WR0	**Warramunga Arr**	**40.63**	**269**	P	**P**	**09 00 45.9**	**-0.8**
WR0				IAmb	IAmb	09 00 54.0	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**40.80**	**269**	P	**P**	**09 00 46.8**	**-1.3**
WB2				IAmb	IAmb	09 01 07.1	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**40.81**	**269**	P	**P**	**09 00 46.8**	**-1.4**
WRAB				IAmb	IAmb	09 00 47.9	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**40.81**	**269**	P	**P**	**09 00 47.2**	**-0.9**
	comp=Z,3.1nm,0.4s,baz=103,slow=7.6,SNR=79						
WRA	**Warramunga Arr**	**40.81**	**269**	P	**P**	**09 00 47.3**	**-0.9**
WB0	**Warramunga Arr**	**40.82**	**270**	P	**P**	**09 00 47.1**	**-1.2**
FORT	**Forrest**	**44.15**	**252**	P	**P**	**09 01 11.9**	**-2.1**
FORT				IAmb	IAmb	09 01 12.8	
	comp=Z,18nm,0.9s						
KNRA	**Kununurra**	**47.23**	**273**	P	**P**	**09 01 37.4**	**-0.2**
KNRA				IAmb	IAmb	09 01 37.5	
	comp=Z,11nm,0.7s						
VNDA	**Vanda**	**52.01**	**184**	P	**P**	**09 02 12.7**	**+1.1**
	comp=Z,0.8nm,1.1s,baz=15,slow=10,SNR=1.9						
QSPA	**South Pole Qui**	**63.93**	**180**	P	**P**	**09 03 33.4**	**+1.1**
PMSA	**Palmer Station**	**77.42**	**157**		**PcP**	**09 05 00.7**	**+2.0**
NVAR	**Mina Array Bea**	**87.41**	**45**	P	**P**	**09 05 42.9**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=238,slow=5.2,SNR=2.0						
SCM	**Sheep Creek Mo**	**91.94**	**16**	P	**P**	**09 06 04.3**	**+2.1**
SCM				IAmb	IAmb	09 06 07.5	
	comp=Z,6.3nm,0.7s						
ILULI	**Ilulissat**	**128.19**	**20**		PKPpre	09 11 44.0	
ARCES	**ARCESS Array B**	**133.77**	**347**	PKP	**PKPdf**	**09 12 05.8**	**-0.1**
	comp=Z,3.9nm,1.0s,baz=80,slow=2.1,SNR=4.7						
FINES	**FINESS Array B**	**140.07**	**340**	PKhKP	PKPpre	09 12 09.1	
	comp=Z,0.9nm,0.6s,baz=12,slow=4.5,SNR=4.7						
FINES				PKP	**PKPdf**	**09 12 18.3**	**+0.6**
	comp=Z,2.6nm,1.1s,baz=76,slow=1.7,SNR=4.3						
NB2	**NORSAR Subarra**	**144.05**	**349**	PKP	PKPbc	09 12 23.1	-1.3
	comp=Z,1.7nm,0.6s,baz=25,slow=4.1						
NOA	**NORSAR Array B**	**144.05**	**349**	PKP	PKPbc	09 12 22.9	-1.5
	comp=Z,1.6nm,0.8s,baz=19,slow=2.9,SNR=7.4						
AKASG	**Malin Array Be**	**145.99**	**324**	PKPbc	**PKPdf**	**09 12 28.8**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=42,slow=3.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**166.68**	**194**	PKPab	**PKPab**	**09 14 01.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=144,slow=2.6,SNR=2.5						

*IDC **08** 09:10:36.2±2.7, 42°.81S×74°.36W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/16, mbtmp3.7/3, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/15, Error ellipse: s-maj=93.1km s-min=30.6km az=156.0*
*GUC **08** 09:10:44.6±0.6, 42°.45S×74°.06W, h39km±3km, ML3.7*
ISC 08 09:10:41.2±1.9, 42°.50S±0°.05×74°.13W±0°.07, h15km±12km, n19, σ1§20/23, 2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.71**	**151**	↓↓*i*P	**Pn**	**09 10 57.9**	**+1.3**
GO07				*i* S	**Sn**	**09 11 08.0**	**+0.7**
GO07				IAML		09 11 09.0	
	comp=E,7μm,0.4s						
LL05	**Los Muermos**	**1.19**	**24**	↓↓*i*P	**Pg**	**09 11 03.9**	**-0.2**
LL05				*i* S	**Sb**	**09 11 18.9**	**+0.2**
LL05				IAML		09 11 21.9	
	comp=N,2μm,0.3s						
LL01	**San Ignacio de**	**1.27**	**85**	*e*P	**Pg**	**09 11 05.6**	**-0.2**
LL01				*i* S	**Sb**	**09 11 21.1**	**0.0**
LL02	**Futaleuf**	**1.81**	**113**	*e*P	**Pb**	**09 11 14.0**	**-0.1**
LL02				*i* S	**Sb**	**09 11 36.9**	**+0.2**
LL03	**Petrohue**	**1.87**	**44**	*e*P	**Pn**	**09 11 13.4**	**+0.8**
LL03				*i* S	**Sn**	**09 11 35.7**	**-0.2**
LL03				IAML		09 11 38.9	
	comp=E,2μm,0.4s						
PLCA	**Paso Flores**	**3.21**	**58**	Pn	**Pn**	**09 11 33.8**	**+2.6**
	comp=E,2.3nm,0.3s,baz=239,slow=16,SNR=71						
PLCA				Pg	**Pg**	**09 11 41.1**	**-1.6**
	comp=E,6.3nm,0.3s,baz=238,slow=16,SNR=16						
PLCA				Sn	**Sb**	**09 12 16.1**	**-0.7**
	comp=E,5.7nm,0.3s,baz=323,slow=19,SNR=5.0						
PLCA				LR	LR	09 13 11.1	
	comp=E,192nm,21.7s,baz=177,slow=44						
PLCA	**Paso Flores**	**3.21**	**58**	*e*P	**Pn**	**09 11 33.7**	**+2.6**
H03S1	**Juan Fernandez**	**9.42**	**335**	Pn	**Pn**	**09 12 56.7**	**+0.6**
	baz=138,slow=7.8,SNR=19						
H03S1				T	T	09 22 07.6	
	baz=154,slow=74,SNR=17						
H03S2	**Juan Fernandez**	**9.43**	**335**	Pn	**Pn**	**09 12 56.6**	**+0.4**
	baz=138,slow=7.8,SNR=17						
H03S2				T	T	09 22 08.2	
	baz=154,slow=74,SNR=15						
H03S3	**Juan Fernandez**	**9.44**	**335**	Pn	**Pn**	**09 12 56.7**	**+0.4**
	baz=138,slow=7.8,SNR=14						
H03S3				T	T	09 22 09.6	
	baz=154,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**9.78**	**336**	Pn	**Pn**	**09 13 02.1**	**+1.0**
	baz=322,slow=29,SNR=16						
H03N1	**Juan Fernandez**	**9.79**	**336**	Pn	**Pn**	**09 13 01.6**	**+0.4**
	baz=322,slow=29,SNR=15						
H03N2	**Juan Fernandez**	**9.80**	**336**	Pn	**Pn**	**09 13 02.0**	**+0.7**
	baz=322,slow=29,SNR=14						
CPUP	**Villa Florida**	**21.20**	**46**	P	**P**	**09 15 25.4**	**-0.7**
	comp=E,0.8nm,0.4s,baz=217,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**90.66**	**335**	P	**P**	**09 23 42.0**	**-1.0**
	comp=E,0.4nm,0.6s,baz=131,slow=4.9,SNR=5.2						
H11S2	**WAKE ISLAND Hyd**	**23.66**	**265**	T	T	11 45 17.6	
	baz=129,slow=75,SNR=6.6						
H11S1	**WAKE ISLAND Hyd**	**23.67**	**265**	T	T	11 45 18.6	
	baz=129,slow=75,SNR=5.7						
H11S3	**WAKE ISLAND Hyd**	**23.67**	**265**	T	T	11 45 19.0	
	baz=129,slow=75,SNR=8.0						
MKAR	**Makanchi Array**	**162.70**	**68**	PKPab	**PKPab**	**09 31 28.9**	**-1.9**
	comp=E,0.7nm,0.7s,baz=278,slow=5.1,SNR=5.0						

*IDC **08** 09:16:18.3±7.0, 26°.52N×111°.70W, h0km, mb1 3.4/3, mb1mx3.3/34, mbtmp2.9/3, ML3.5/3, Error ellipse: s-maj=85.4km s-min=26.6km az=10.0*
*ECX **08** 09:16:26.4±0.3, 27°.41N×111°.53W, h5km±4km, MD4.0*
ISC 08 09:16:25.6±1.4, 27°.5N±0°.2×111°.57W±0°.10, h10km, n6, σ1§52/7, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.61**	**258**	↑*e*P	**Pb**	**09 16 37.6**	**-0.7**
SRIG				*i* S	**Sb**	**09 16 46.5**	**-0.5**
GUYB	**Guaymas**	**0.76**	**54**	*e*P	**Pg**	**09 16 39.7**	**-0.6**
GUYB				*e*S	**Sg**	**09 16 49.9**	**-0.4**
HSIG		**1.66**	**19**	*e*P	**Pb**	**09 16 55.2**	**-1.0**
TXAR	**Lajitas Array**	**7.21**	**73**	Pn	**Pn**	**09 18 11.6**	**+0.4**
	0.1nm,0.3s,baz=247,slow=13,SNR=2.7						
TXAR				Lg	Lg	09 20 20.6	
	0.1nm,0.3s,baz=246,slow=33,SNR=5.8						
NVAR	**Mina Array Bea**	**12.32**	**334**	Pn	Pn	09 19 29.4	+8.1
	0.1nm,0.3s,baz=163,slow=13,SNR=2.2						
PDAR	**Pinedale Array**	**15.37**	**6**	Pn	**P**	**09 20 10.1**	**+2.6**
	0.1nm,0.3s,baz=175,slow=12,SNR=5.0						

*TUL **08** 09:53:23.5±1.5, 36°.75N±0°.01×97°.59W±0°.02, h7km±6km, ML2.8, mb_Lg2.4/12(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=111.0*
NEIC 08 09:53:23.7±0.8, 36°.74N±0°.01×97°.57W±0°.02, h6km±7km, Error ellipse: s-maj=2.2km s-min=1.8km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.28**	**15**		Pg	09 53 29.4	+0.2
KAN13				Sg	Sg	09 53 33.5	+0.5
BLOK	**Blackwell**	**0.29**	**86**		Pg	09 53 29.7	+0.4
KAN17	**Caldwell West**	**0.34**	**333**		Pg	09 53 30.3	-0.1
KAN17				Sg	Sg	09 53 35.1	+0.3
KAN09	**Caldwell North**	**0.40**	**355**		Pg	09 53 31.4	0.0
CROK	**Carrier**	**0.41**	**235**		Pg	09 53 31.6	0.0
CROK				Sg	Sg	09 53 37.5	+0.7
KAN05	**Bluff City Nor**	**0.44**	**327**		Pg	09 53 32.0	-0.2
KAN05				Sg	Sg	09 53 38.1	+0.2
KS20	**Mayfield South**	**0.49**	**2**		Pg	09 53 33.0	-0.1
KS20				Sg	Sg	09 53 39.9	+0.4
OK032	**Salt Plains WL**	**0.52**	**277**		Pg	09 53 33.4	-0.3
OK032				Sg	Sg	09 53 40.6	+0.2
KAN10	**Anthony SW Sta**	**0.57**	**313**		Pg	09 53 34.4	-0.2
KAN10				Sg	Sg	09 53 42.2	+0.2
KAN08	**Anthony NE Sta**	**0.58**	**327**		Pg	09 53 34.5	-0.4
KAN12	**Harper NE Stat**	**0.65**	**329**		Pg	09 53 35.9	-0.3
T35A	**Sooner Cattle**	**0.87**	**78**		Pg	09 53 40.2	-0.1
QUOK	**Quay**	**0.90**	**129**		Pg	09 53 40.9	0.0
OK031	**S. Brethren Rd**	**0.98**	**143**		Pg	09 53 42.4	-0.2
BCOK	**Bluff Creek, N**	**1.08**	**182**		Pg	09 53 44.0	-0.4
OK025	**Westminster Rd**	**1.17**	**171**		Pg	09 53 45.7	-0.4
U32A	**Winter Ranch,**	**1.21**	**253**	Pg	Pg	09 53 46.0	-0.8
OKCFA	**Oklahoma City**	**1.33**	**176**		Pn	09 53 48.2	-0.7
OKCSW	**OKLAHOMA CITY**	**1.34**	**175**		Pn	09 53 48.5	-0.4
FNO	**Franklin**	**1.49**	**175**		Pn	09 53 51.2	+0.2
X37A	**Clayton**	**2.80**	**139**	Pn	Pn	09 54 09.6	+0.6
HHAR	**Hobbs**	**2.96**	**98**	Pn	Pn	09 54 12.3	+1.0
AMTX	**Amarillo**	**3.82**	**242**	IAmb_Lg		09 55 31.4	
	comp=Z,10.0nm,0.9s						
U40A	**Yellville**	**3.82**	**94**		Pn	09 54 23.4	+0.3
U40A				IAmb_Lg		09 55 24.1	
	comp=Z,8.9nm,0.7s						
MIAR	**Mount Ida**	**3.92**	**123**	IAmb_Lg		09 55 30.8	
	comp=Z,10nm,0.8s						
Z38A	**Mt. Pleasant**	**4.07**	**148**	IAmb_Lg		09 55 41.9	
	comp=Z,11nm,0.9s						
P38A	**Dawn**	**4.29**	**47**	IAmb_Lg		09 55 39.0	
	comp=Z,9.0nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.60**	**301**	IAmb_Lg		09 55 59.6	
	comp=Z,7.6nm,0.8s						

DJA 08 10:56:16.2±0.3, 3°.S±3°.×12°.8E±°, h10km, M3.8/8, mb4.5/1, MLv3.5/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.54**	**113**	P	Pb	10 56 27.3	-0.5
NLAI	**Namlea**	**1.33**	**265**	P	Pn	10 56 40.5	-0.4
SANI	**Sanana**	**2.67**	**294**	P	Pn	10 56 58.0	-1.2
SWI	**Sorong**	**3.62**	**52**	P	Pn	10 57 12.9	+0.6
FAKI	**Fak Fak**	**3.82**	**87**	P	Pn	10 57 15.5	+0.4
APSI	**Ampana**	**7.13**	**288**	P	Pn	10 58 02.6	+2.0

*IDC **08** 11:00:10.8±0.7, 59°.43S×29°.24W, h0km, mb4.4/8, mb1 4.4/10, mb1mx4.2/21, mbtmp4.3/10, ML3.3/2, MS3.6/5, Ms1 3.5/5, ms1mx3.3/14, Error ellipse: s-maj=26.4km s-min=19.1km az=80.0*
*NEIC **08** 11:00:15.6±2.2, 59°.5S±0°.1×29°.4W±0°.2, h27km±4km, mb4.5/19, Error ellipse: s-maj=18.6km s-min=12.0km az=47.0*
ISC 08 11:00:12.6±0.5, 59°.49S±0°.10×29°.3W±0°.1, h10km, n48, σ0§99/39, mb4.5/14, MS3.5/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.15**	**151**	P	**Pn**	**11 03 32.1**	**-0.7**
VNA3	**Neumayer Olymp**	**14.23**	**154**	P	**Pn**	**11 03 32.2**	**-1.8**
SNAA	**Sanae**	**16.17**	**150**	P	**Pn**	**11 04 00.2**	**+0.5**
SNAA	**Sanae**	**16.17**	**150**	Pn	**Pn**	**11 03 59.5**	**-0.2**
	0.1nm,0.3s,baz=304,slow=13,SNR=9.0						
SNAA	**Sanae**	**16.17**	**150**	Pn	**Pn**	**11 03 59.8**	**+0.2**
PMSA	**Palmer Station**	**16.93**	**237**	Pn	**Pn**	**11 04 09.3**	**0.0**
	0.1nm,0.3s,baz=68,slow=10.0,SNR=7.0						
PMSA	**Palmer Station**	**16.93**	**237**		**Pn**	**11 04 08.2**	**-1.1**
LL02	**Futaleuf**	**30.54**	**283**	P	**P**	**11 06 25.5**	**-0.4**
LL02				IAmb	IAmb	11 06 54.5	
	comp=Z,9.9nm,1.3s						
QSPA	**South Pole Qui**	**30.75**	**180**	P	**P**	**11 06 28.3**	**+0.6**
	comp=Z,5.1nm,1.0s,baz=214,slow=3.8,SNR=15						
QSPA	**South Pole Qui**	**30.75**	**180**	P	**P**	**11 06 28.5**	**+0.7**
QSPA				IAmb	IAmb	11 06 29.0	
	comp=Z,7.7nm,1.0s						
QSPA	**South Pole Qui**	**30.75**	**180**		**P**	**11 06 28.8**	**+1.1**
PLCA	**Paso Flores**	**31.75**	**288**	LR	LR	11 18 32.2	
	comp=Z,91nm,18.0s,baz=164,slow=35						
BO01	**Tunca**	**37.06**	**294**	P	**P**	**11 07 22.9**	**+0.3**
BO01				IAmb	IAmb	11 07 23.5	
	comp=Z,15nm,1.4s						
MAW	**Mawson**	**38.08**	**142**	P	**P**	**11 07 31.5**	**+0.7**
	comp=Z,8.6nm,0.9s,baz=244,slow=8.9,SNR=14						
MAW				LR	LR	11 22 26.1	
	comp=Z,99nm,18.1s,baz=247,slow=35						
MAW	**Mawson**	**38.08**	**142**	P	**P**	**11 07 31.3**	**+0.5**
VA03	**San Esteban**	**38.16**	**296**	P	**P**	**11 07 31.9**	**-0.2**
VA03				IAmb	IAmb	11 07 37.9	
	comp=Z,12nm,1.0s						
CPUP	**Villa Florida**	**38.42**	**317**	LR	LR	11 21 56.4	
	comp=Z,59nm,21.9s,baz=164,slow=34						
VNDA	**Vanda**	**43.07**	**184**	P	**P**	**11 08 13.1**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=194,slow=6.4,SNR=15						
VNDA	**Vanda**	**43.07**	**184**	P	**P**	**11 08 12.9**	**+1.0**
GO02	**Mina Guanaco**	**44.26**	**303**	P	**P**	**11 08 22.8**	**+0.3**
BOSA	**Boshof**	**47.92**	**75**	P	**P**	**11 08 51.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=212,slow=7.2,SNR=5

0.3nm,0.3s,baz=319,slow=17,SNR=6.0
STKA Stephens Creek 26.95 157 P **P 11 16 14.2 +2.0**
1.9nm,0.9s,baz=337,slow=8.6,SNR=3.8
MKAR Makanchi Array 68.18 327 P **P 11 21 29.1 +0.3**
0.4nm,0.6s,baz=121,slow=7.9,SNR=4.5
SEY Seymchan 72.17 11 P **P 11 21 53.4 +0.7**
0.2nm,0.3s,baz=178,slow=5.2,SNR=4.5

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*TAP **08** 11:44:16.9,24°.63N×122°.60E,h101km,ML2.8,C*
*JMA **08** 11:44:17.2±0.1,24°.49N×122°.58E,h103km±1km,M1.6*
ISC 08 11:44:18.3±1.7,**24°.60N**±0°.05×**122°.58E**±0°.03,**h90**km±11km,
n54,σ0**°71**/100,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.36**	**113**	P	**Pn**	**11 44 32.3**	**+0.2**
JYNG				S	**Sn**	**11 44 43.8**	**+1.4**
YOJ	**Yonaguni jima**	**0.41**	**109**	P	**Pn**	**11 44 32.7**	**+0.3**
YOJ				S	**Sn**	**11 44 44.5**	**+1.5**
TWC	**Suao**	**0.67**	**271**	*i* P	**Pn**	**11 44 33.6**	**-0.9**
baz=266							
TWC				*i* S	**Sn**	**11 44 46.3**	**-0.3**
baz=266							
NTC	**Toucheng**	**0.73**	**291**	*e*P	**Pn**	**11 44 34.2**	**-0.9**
baz=284							
EWUT	**Wuta**	**0.75**	**259**	*e*P	**Pn**	**11 44 35.4**	**+0.1**
baz=252							
ENA	**Nanau**	**0.78**	**258**	*e*P	**Pn**	**11 44 36.3**	**+0.6**
baz=252							
ENA				*e*S	**Sn**	**11 44 49.8**	**+1.1**
baz=252							
TIPB	**Shuangxi**	**0.78**	**299**	*i* P	**Pn**	**11 44 35.3**	**-0.4**
baz=293							
TIPB				*i* S	**Sn**	**11 44 48.3**	**-0.4**
baz=293							
NDS	**Dongshan**	**0.79**	**273**	P	**Pn**	**11 44 35.6**	**-0.1**
baz=274							
NDS				*e*S	**Sn**	**11 44 48.9**	**+0.1**
baz=274							
TWE	**Neicheng**	**0.84**	**279**	P	**Pn**	**11 44 35.9**	**-0.4**
baz=274							
TWE				S	**Sn**	**11 44 50.2**	**+0.5**
baz=274							
ENTT	**Nioudou**	**0.93**	**273**	*i* P	**Pn**	**11 44 37.6**	**+0.4**
baz=269							
ENTT				*i* S	**Sn**	**11 44 52.0**	**+0.6**
baz=269							
NDT	**Datong Townshi**	**0.97**	**271**	*i* P	**Pn**	**11 44 38.6**	**+0.8**
baz=267							
NDT				*i* S	**Sn**	**11 44 52.9**	**+0.6**
baz=267							
ETL	**Fush Village**	**0.97**	**244**	*e*P	**Pn**	**11 44 37.2**	**-0.6**
baz=242							
TWA	**Mucha**	**0.98**	**293**	*e*P	**Pn**	**11 44 37.5**	**-0.4**
baz=283							
NACB	**Ninganchiao**	**0.99**	**245**	P	**Pn**	**11 44 37.3**	**-0.6**
baz=244							
NACB				S	**Sn**	**11 44 52.5**	**-0.2**
baz=244							
NWLT	**Wulai**	**1.00**	**281**	*i* P	**Pn**	**11 44 37.7**	**-0.3**
baz=285							
NWLT				*i* S	**Sn**	**11 44 52.6**	**-0.2**
baz=285							
TWD	**Chiawan**	**1.03**	**241**	*e*P	**Pn**	**11 44 37.6**	**-0.8**
baz=234							
TWD				*e*S	**Sn**	**11 44 53.3**	**-0.2**
baz=234							
YM01	**YM01**	**1.07**	**301**	*e*P	**Pn**	**11 44 38.4**	**-0.5**
baz=289							
YM01				*e*S	**Sn**	**11 44 53.5**	**-0.8**
baz=289							
ETLH	**Xiulin Townshi**	**1.07**	**249**	P	**Pn**	**11 44 38.6**	**-0.4**
baz=248							
ETLH				S	**Sn**	**11 44 54.3**	**-0.2**
baz=248							
YM08	**YM08**	**1.08**	**303**	*e*P	**Pn**	**11 44 38.3**	**-0.7**
baz=296							
IRIF	**Iriomote-Funau**	**1.08**	**104**	P	**Pn**	**11 44 38.8**	**-0.1**
IRIF				S	**Sn**	**11 44 54.5**	**+0.1**
YHNB	**Yeheng**	**1.10**	**274**	P	**Pn**	**11 44 39.3**	**0.0**
baz=266							
YHNB				S	**Sn**	**11 44 55.1**	**+0.1**
baz=266							
NNSB	**Datong**	**1.10**	**262**	*i* P	**Pn**	**11 44 39.1**	**-0.2**
baz=254							
NNSB				S	**Sn**	**11 44 55.0**	**-0.2**
baz=254							
NNSH	**Datong**	**1.10**	**262**	*i* P	**Pn**	**11 44 39.0**	**-0.3**
baz=254							
NNSH				*i* S	**Sn**	**11 44 55.1**	**-0.1**
baz=254							
NNS	**Nan Shan**	**1.11**	**262**	*i* P	**Pn**	**11 44 39.2**	**-0.2**
baz=254							
NNS				*i* S	**Sn**	**11 44 55.4**	**+0.1**
baz=254							
NSK	**Sanguang**	**1.12**	**274**	*e*P	**Pn**	**11 44 39.2**	**-0.2**
baz=266							
NSK				*e*S	**Sn**	**11 44 55.1**	**-0.3**
baz=266							
ETM	**Tongmen**	**1.17**	**238**	P	**Pn**	**11 44 39.4**	**-0.7**
baz=231							
ETM				S	**Sn**	**11 44 56.2**	**-0.2**
baz=231							
FUSS	**Fushou**	**1.27**	**254**	P	**Pn**	**11 44 41.4**	**0.0**
baz=249							
FUSS				S	**Sn**	**11 44 58.5**	**-0.4**
baz=249							
WHF	**Hehuan Shan**	**1.28**	**250**	*i* P	**Pn**	**11 44 41.5**	**-0.3**
baz=248							
WHF				*i* S	**Sn**	**11 44 59.3**	**-0.1**
baz=248							
ESL	**Shilin**	**1.30**	**234**	*i* P	**Pn**	**11 44 40.9**	**-0.8**
baz=228							
ESL				*i* S	**Sn**	**11 44 58.2**	**-1.1**
baz=228							
TWT	**Tachien**	**1.32**	**255**	P	**Pn**	**11 44 42.4**	**+0.3**
baz=254							
TWT				*e*S	**Sn**	**11 45 00.2**	**+0.2**
baz=254							
TDCB	**Techi**	**1.34**	**256**	*e*P	**Pn**	**11 44 42.4**	**+0.1**
baz=254							
TDCB				S	**Sn**	**11 45 00.2**	**-0.1**
baz=254							
JKRS	**Kuro-shima**	**1.35**	**105**	S	**Sn**	**11 44 59.7**	**-0.5**
CHGB	**Renai**	**1.39**	**248**	P	**Pn**	**11 44 42.9**	**0.0**
baz=241							
CHGB				S	**Sn**	**11 45 01.2**	**-0.2**
baz=241							
EGFH	**Guangfu**	**1.40**	**229**	*e*P	**Pn**	**11 44 42.4**	**-0.4**
baz=229							
EGFH				S	**Sn**	**11 45 00.6**	**-0.8**
baz=229							
LIOB	**Emei**	**1.43**	**272**	*i* P	**Pn**	**11 44 43.1**	**-0.1**
baz=271							
LIOB				*i* S	**Sn**	**11 45 01.8**	**-0.2**
baz=271							
OWD	**Renai**	**1.43**	**244**	*i* P	**Pn**	**11 44 43.1**	**-0.3**
baz=238							
OWD				*i* S	**Sn**	**11 45 01.3**	**-1.0**
baz=238							
NSTT	**Nanjuang**	**1.44**	**272**	*i* P	**Pn**	**11 44 43.0**	**-0.3**
baz=270							
NSTT				*i* S	**Sn**	**11 45 02.1**	**-0.1**
baz=270							
JIJ	**Ishigaki jima**	**1.44**	**99**	S	**Sn**	**11 45 01.6**	**-0.7**
HGSD	**Ruisui**	**1.52**	**224**	P	**Pn**	**11 44 43.9**	**-0.5**
baz=230							
HGSD				*e*S	**Sn**	**11 45 04.0**	**-0.2**
baz=230							
WHP	**Taichung City**	**1.52**	**258**	*i* P	**Pn**	**11 44 45.0**	**+0.6**
baz=255							
WHP				*i* S	**Sn**	**11 45 05.2**	**+0.9**
baz=255							
JISG	**Ishigakijimahi**	**1.57**	**90**	*e*S	**Sn**	**11 45 05.1**	**-0.1**
EHY	**Hungye**	**1.58**	**227**	*i* P	**Pn**	**11 44 44.1**	**-1.1**
baz=227							
EHY				*i* S	**Sn**	**11 45 03.8**	**-1.7**
baz=227							
YULB	**Yu-li**	**1.68**	**225**	P	**Pn**	**11 44 45.2**	**-1.2**
baz=231							
YULB				S	**Sn**	**11 45 06.0**	**-1.6**
baz=231							
SSLB	**Suanglung**	**1.69**	**242**	*e*P	**Pn**	**11 44 46.8**	**+0.2**
baz=239							
SSLB				S	**Sn**	**11 45 07.8**	**-0.1**
baz=239							
SMLT	**Sun Moon Lake**	**1.69**	**246**	P	**Pn**	**11 44 47.1**	**+0.5**
baz=239							
SMLT				S	**Sn**	**11 45 08.7**	**+0.6**
baz=239							
TWF1	**Yuli**	**1.71**	**224**	*e*P	**Pn**	**11 44 45.6**	**-1.1**
baz=231							
TWF1				S	**Sn**	**11 45 07.1**	**-1.2**
baz=231							
TYC	**Yuchr**	**1.72**	**247**	*i* P	**Pn**	**11 44 47.5**	**+0.7**
baz=241							
TYC				*e*S	**Sn**	**11 45 09.0**	**+0.5**
baz=241							
FULB	**Fuli**	**1.82**	**221**	*i* P	**Pn**	**11 44 47.7**	**-0.5**
baz=214							
FULB				S	**Sn**	**11 45 11.5**	**+0.5**
baz=214							
WJS	**Zhushan**	**1.86**	**246**	*e*P	**Pn**	**11 44 49.0**	**+0.3**
baz=239							
WJS				*e*S	**Sn**	**11 45 13.8**	**+2.0**
baz=239							
ALS	**Alishan**	**1.95**	**237**	*i* P	**Pn**	**11 44 50.8**	**+0.6**
baz=236							
ALS				S	**Sn**	**11 45 15.0**	**+0.6**
baz=236							
CHN5	**Tsauling**	**2.00**	**241**	*e*P	**Pn**	**11 44 50.9**	**+0.3**
baz=233							
CHN5				*e*S	**Sn**	**11 45 16.1**	**+0.8**
baz=233							
CHN4	**Tsaushan**	**2.20**	**236**	*i* P	**Pn**	**11 44 54.1**	**+0.9**
baz=236							
CHN4				*i* S	**Sn**	**11 45 21.9**	**+2.0**
baz=236							
TPUB	**Ta-pu**	**2.20**	**235**	P	**Pn**	**11 44 53.7**	**+0.4**
baz=234							
TPUB				S	**Sn**	**11 45 20.9**	**+0.9**
baz=234							
WTP	**Ta-pu**	**2.25**	**234**	*e*P	**Pn**	**11 44 54.5**	**+0.7**
baz=233							
WTP				S	**Sn**	**11 45 22.4**	**+1.5**
baz=233							

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*IDC **08** 11:49:22.5±2.4,7°.23S×129°.63E,h105km±29km,mb3.7/1,*
mb1 3.6/5,mb1mx3.3/28,mbtmp4.0/5,Error ellipse:
s-maj=37.7km s-min=24.0km az=94.0
*DJA **08** 11:49:23.4±0.3,7°.5S±3°.×13°.0E±°.,h205km±8km,M4.3/9,*
mb4.1/9,mB4.8/4,MLv4.5/9,Mw(mB)4.1/4
ISC 08 11:49:23.4±0.8,**7°.27S**±0°.06×**129°.48E**±0°.06,**h150**km,**n16,**
σ3**°15**/20,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.94**	**111**	P	**Pn**	**11 49 59.7**	**+1.9**
SAUI				S	**Sn**	**11 50 29.0**	**+4.8**
BNDI	**Bandanaira**	**2.77**	**9**	P	**Pn**	**11 50 10.7**	**+2.9**
MSAI	**Masohi**	**3.94**	**352**	P	Pn	11 50 28.3	+5.4
FAKI	**Fak Fak**	**5.13**	**33**	P	**Pn**	**11 50 37.4**	**-1.1**
0.2nm31nm,0.6s							
KMPI	**Kaimana, Papua**	**5.53**	**50**	P	**Pn**	**11 50 43.4**	**-0.4**
1.2nm4μm192nm,0.7s							
SOEI	**Soe**	**5.71**	**244**	P	**Pn**	**11 50 47.9**	**+1.5**
0.4nm2μm41nm,0.7s							
BATI	**Baumata**	**6.45**	**243**	P	**Pn**	**11 50 57.5**	**+1.4**
11nm,0.3s,baz=56,slow=7.3,SNR=7.9							
BATI				S	**Sn**	**11 52 07.8**	**-0.9**
14nm,0.3s,baz=289,slow=19,SNR=13							
BATI	**Baumata**	**6.45**	**243**	P	**Pn**	**11 50 57.2**	**+1.1**
0.2nm16nm,0.5s							
SIJI	**Sorong**	**6.61**	**16**	P	**Pn**	**11 50 56.5**	**-1.7**
4.8nm,0.3s,baz=220,slow=16,SNR=22							
SIJI				S	**Sn**	**11 52 06.9**	**-5.6**
3.8nm,0.3s,baz=235,slow=23,SNR=6.9							
SWI	**Sorong**	**6.61**	**16**	P	**Pn**	**11 50 57.3**	**-1.0**
0.2nm27nm,0.7s							
EDFI	**Ende, Flores**	**7.85**	**259**	P	**Pn**	**11 51 17.7**	**+2.8**
4.7nm,1.7s							
WBSI	**Waikabubak, Su**	**10.25**	**256**	P	**Pn**	**11 51 47.9**	**+1.1**
18nm,1.0s							
PLAI	**Plampang**	**11.69**	**262**	P	**Pn**	**11 52 06.5**	**+0.8**
WRA	**Warramunga Arr**	**13.45**	**160**	P	**Pn**	**11 52 28.5**	**+0.2**
0.5nm,0.3s,baz=339,slow=14,SNR=45							
WRA				S	**Sn**	**11 54 51.5**	**-5.8**
1.6nm,0.3s,baz=329,slow=22,SNR=12							
ASAR	**Alice Springs**	**16.84**	**166**	P	**Pn**	**11 53 12.7**	**+2.3**
0.3nm,0.3s,baz=333,slow=9.6,SNR=20							
ASAR				S	**S**	**11 56 12.8**	**-5.1**
0.5nm,0.3s,baz=352,slow=27,SNR=7.8							
MKAR	**Makanchi Array**	**68.17**	**327**	P	**P**	**12 00 11.4**	**+4.0**
0.7nm,0.4s,baz=141,slow=7.8,SNR=5.1							

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*IDC **08** 12:01:17.0±4.2,9°.91N×125°.97E,h17km±25km,mb4.6/40,*
mb1 4.7/40,mb1mx4.6/47,mbtmp4.7/40,MS3.8/21,
Ms1 3.8/21,ms1mx3.6/38,Error ellipse: s-maj=16.4km
s-min=8.5km az=71.0
*BJI **08** 12:01:18.8±0.0,9°.70N×126°.25E,h65km,mB5.2/30,*
mb4.8/47,Ms4.5/16,Ms7 4.3/16
*MAN **08** 12:01:19.2,10°.00N×126°.28E,h13km,mb5.7,ML4.8,*
MS5.1
*NEIC **08** 12:01:23.0±1.2,9°.96N±0°.07×126°.0E±0°.1,h62km±7km,*
mb4.8/99,Error ellipse: s-maj=16.0km s-min=10.5km
az=76.0
*DJA **08** 12:01:24.8±0.7,10°.N±4°.×12°.6E±°.,h90km±6km,M5.3/29,*
mB5.5/6,mb4.8/29,MLv5.8/2,Mw(mB)5.0/6
ISC 08 12:01:21.9±0.3,**9°.97N**±0°.04×**126°.19E**±0°.05,**h54**km,**n313,**
σ1**°26**/315,**mb4.7**/104,**MS3.9**/24,**3C-9D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.11**	**225**	⇑*i*P	**Pn**	**12 01 55.3**	**+0.5**
CGP				*i* S	**Sn**	**12 02 21.4**	**+1.5**
LLP	**Lapu-Lapu**	**2.22**	**279**	⇓*i*P	**Pn**	**12 01 58.0**	**+1.7**
LLP				*i* S	**Sn**	**12 02 27.9**	**+5.4**
DAV	**Davao City (W)**	**2.94**	**192**	Pn	**Pn**	**12 02 08.6**	**+2.4**
216nm,0.3s,baz=61,slow=7.8,SNR=5.3							
DAV				Sn	**Sn**	**12 02 41.3**	**+0.9**
78nm,0.3s,baz=234,slow=20,SNR=4.2							
DAV	**Davao City (W)**	**2.94**	**192**	Pn	**Pn**	**12 02 07.4**	**+1.2**
SNPH	**Sibulan**	**2.98**	**258**	⇓*i*P	**Pn**	**12 02 08.4**	**+1.7**
SNPH				*i* S	Sn	12 02 54.8	+13
DCPH	**Dipolog City**	**3.12**	**244**	⇓*e*P	**Pn**	**12 02 11.1**	**+2.5**
KCP	**Kidapawan**	**3.14**	**200**	⇓*e*P	**Pn**	**12 02 10.1**	**+1.1**
RCP	**Roxas**	**3.74**	**295**	⇓*e*P	**Pn**	**12 02 19.2**	**+2.1**
JAP	**San Jose, Anti**	**4.25**	**281**	⇓*e*P	**Pn**	**12 02 25.3**	**+1.2**
LQP	**Lukban**	**6.14**	**313**	⇓*e*P	**Pn**	**12 02 51.6**	**+1.4**
SGSI	**Sangihe**	**6.28**	**186**	P	**Pn**	**12 02 56.1**	**+4.2**
19nm239nm,0.6s							
TNTI	**Ternate**	**9.21**	**173**	Pn	**Pn**	**12 03 31.9**	**-0.2**
GTOI	**Gorontalo**	**9.80**	**199**	P	**Pn**	**12 03 41.9**	**+1.7**
54nm,0.8s							
MRSI	**Marisa**	**10.34**	**204**	P	**Pn**	**12 03 52.0**	**+4.5**
LUWI	**Luwuk**	**11.46**	**197**	Pn	**Pn**	**12 04 03.0**	**+0.2**
APSI	**Ampana**	**11.72**	**203**	P	Pn	12 04 12.1	+5.7
32nm,1.2s							
SIJI	**Sorong**	**11.89**	**155**	Pn	**Pn**	**12 04 08.8**	**0.0**
1.6nm,0.3s,baz=211,slow=18,SNR=2.7							
SIJI				LR	LR	12 09 23.5	
comp=Z,224nm,19.5s,baz=355,slow=41							
SANI	**Sanana**	**11.94**	**181**	P	**Pn**	**12 04 14.2**	**+4.7**
39nm,0.8s							
MSAI	**Masohi**	**13.51**	**168**	P	**P**	**12 04 35.4**	**-3.0**
761nm13nm,0.5s							
FAKI	**Fak Fak**	**14.15**	**154**	Pn	**Pn**	**12 04 39.5**	**-0.1**
FAKI	**Fak Fak**	**14.15**	**154**	P	**Pn**	**12 04 39.1**	**-0.5**
58nm,1.0s							
TPUB	**Ta-pu**	**14.28**	**339**		**Pn**	**12 04 41.2**	**-0.1**
TTSI	**Tana Toraja**	**14.40**	**206**	P	**P**	**12 04 47.0**	**-1.4**
2μm46nm,0.8s							
SRPI	**Serui, Papua**	**15.44**	**139**	P	**Pn**	**12 04 56.2**	**-0.2**
BNSI	**Bone**	**15.51**	**203**	P	**Pn**	**12 04 58.3**	**+1.1**
960nm50nm,1.5s							
JOW	**Kunigami**	**16.89**	**6**	LR	LR	12 10 14.0	
comp=Z,530nm,21.9s,baz=36,slow=32							
BBKI	**Banjar Baru**	**17.49**	**221**	P	**P**	**12 05 24.1**	**+1.4**
QIZ	**Qiongzhong**	**18.20**	**301**	P	**P**	**12 05 29.9**	**-0.6**
QIZ				S	**Sn**	**12 08 51.7**	**-1.6**
QIZ				LR	LR		
comp=N,550nm,4.7s							
QIZ				LR	LR		
comp=E,510nm,4.7s							
QIZ				LR	LR		
comp=Z,610nm,16.4s							
GENI	**Genyem**	**18.69**	**131**	P	**Pn**	**12 05 37.9**	**+1.1**
57nm,1.2s							
MMRI	**Maumere**	**18.90**	**192**	P	**P**	**12 05 38.0**	**-0.2**
MMRI				IAmb	IAmb	12 05 53.8	
comp=Z,28nm,0.7s							
MMRI	**Maumere**	**18.90**	**192**	P	**P**	**12 05 38.6**	**+0.5**
comp=Z,43nm,1.0s							
EDFI	**Ende, Flores**	**19.13**	**194**	P	**Pn**	**12 05 42.7**	**+0.6**
comp=Z,10nm,1.3s							
SOEI	**Soe**	**19.69**	**186**	P	**P**	**12 05 44.8**	**-2.1**
SOEI				IAmb	IAmb	12 06 08.5	
comp=Z,70nm,1.0s							
BATI	**Baumata**	**20.20**	**187**	P	**P**	**12 05 49.9**	**-2.5**
comp=Z,17nm,0.6s,baz=163,slow=14,SNR=1.4							
BATI	**Baumata**	**20.20**	**187**	P	Pn	12 05 53.8	-0.9
comp=Z,85nm,1.0s							
WSI	**Waingapu**	**20.37**	**197**	P	**P**	**12 05 55.1**	**+0.9**
JCJ	**Chichijima**	**22.76**	**39**	LR	LR	12 13 17.4	
comp=Z,180nm,20.6s,baz=110,slow=31							
NJ2	**Nanjing**	**23.00**	**344**	⇑P	**P**	**12 06 22.0**	**-0.2**
NJ2				pmax	pmax		
comp=Z,47nm,1.0s							
MTN	**Manton Dam**	**23.19**	**168**	P	**P**	**12 06 23.4**	**-0.7**
MTN				IAmb	IAmb	12 06 29.7	
comp=Z,26nm,0.8s							
JNU	**Nakatsue**	**23.44**	**10**	P	**P**	**12 06 23.6**	**-2.9**
comp=Z,8.8nm,0.8s,baz=69,slow=4.0,SNR=1.8							
JNU	**Nakatsue**	**23.44**	**10**	P	**P**	**12 06 26.1**	**-0.4**
JNU				IAmb	IAmb	12 06 27.1	
comp=Z,39nm,1.1s							
NONG	**Nongkai**	**23.74**	**292**	P	**P**	**12 06 28.8**	**-0.6**
comp=Z,50nm,1.1s							
NONG	**Nongkai**	**23.74**	**292**	P	**P**	**12 06 28.8**	**-0.6**
comp=Z,50nm,1.1s							
CHAI	**Chaiyaphum**	**24.30**	**287**	P	**P**	**12 06 34.9**	**+0.4**
comp=Z,34nm,0.8s							
CHAI	**Chaiyaphum**	**24.30**	**287**	P	**P**	**12 06 35.0**	**+0.4**
comp=Z,8.4nm,0.8s							
JMN	**Monobe**	**24.68**	**15**	P	**P**	**12 06 38.1**	**+0.2**
LEM	**Lembang**	**24.91**	**229**	LR	LR	12 17 57.4	
comp=Z,335nm,18.4s,baz=54,slow=40							
ENH	**Enshi**	**25.51**	**325**	P	**P**	**12 06 42.6**	**-2.8**
KNRA	**Kununurra**	**25.61**	**174**	P	**P**	**12 06 45.8**	**-0.5**
JHS	**Saijyo**	**25.70**	**13**	P	**P**	**12 06 47.7**	**+0.6**
JHS				IAmb	IAmb	12 06 50.7	
comp=Z,42nm,1.3s							
RGRI	**Rengat**	**25.86**	**248**	P	**P**	**12 06 46.8**	**-1.9**
PHIT	**Phitsanulok**	**26.04**	**289**	P	**P**	**12 06 52.3**	**+2.0**
comp=Z,88nm,0.9s							
PHIT	**Phitsanulok**	**26.04**	**289**	P	**P**	**12 06 52.3**	**+2.0**
comp=Z,22nm,0.9s							
JHJ	**Hachijo jima 2**	**26.22**	**27**	LR	LR	12 17 17.5	
comp=Z,146nm,19.8s,baz=328,slow=36							
JWT	**Wachi**	**26.56**	**17**	P	**P**	**12 06 55.0**	**+0.2**
UTHA	**Uthaitani**	**26.66**	**285**	P	**P**	**12 07 01.9**	**+6.0**
comp=Z,7.0nm,1.0s							
KMI	**Kunming**	**26.90**	**307**	⇓P	**P**	**12 06 58.5**	**+0.3**
KMI				pmax	pmax		
comp=Z,11nm,0.6s							
LAMP	**Lampang**	**27.08**	**291**	P	**P**	**12 07 00.7**	**+1.0**
comp=Z,18nm,0.9s							
LAMP	**Lampang**	**27.08**	**291**	P	**P**	**12 07 00.8**	**+1.0**
comp=Z,4.4nm,0.9s							
KSRS	**Korea Array**	**27.41**	**3**	P	**P**	**12 07 01.5**	**-0.8**
comp=Z,4.6nm,0.9s,baz=183,slow=11,SNR=14							
KSRS				LR	LR	12 20 30.9	
comp=Z,87nm,18.5s,baz=184,slow=42							
CM04	**Chiang Mai Arr**	**27.65**	**291**	P	**P**	**12 07 06.4**	**+1.6**
comp=Z,12nm,1.1s							
CM04	**Chiang Mai Arr**	**27.65**	**291**	P	**P**	**12 07 06.5**	**+1.6**
comp=Z,12nm,1.1s							
CM09	**Chiang Mai Arr**	**27.65**	**291**	P	**P**	**12 07 05.9**	**+1.1**
comp=Z,13nm,1.0s							
CM01	**Chiang Mai Arr**	**27.68**	**291**	P	**P**	**12 07 06.5**	**+1.5**
comp=Z,15nm,1.1s							
CM05	**Chiang Mai Arr**	**27.68**	**291**	P	**P**	**12 07 07.1**	**+2.0**
comp=Z,6.5nm,1.1s							
CM02	**Chiang Mai Arr**	**27.69**	**291**	P	**P**	**12 07 06.7**	**+1.5**
comp=Z,115nmcomp=Z,12nm,1.0s							
CM31	**Chiang Mai Arr**	**27.70**	**291**	P	**P**	**12 07 06.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**27.70**	**291**	P	**P**	**12 07 03.3**	**-1.9**
comp=Z,8.2nm,1.0s,baz=104,slow=7.0,SNR=26							
CMAR				PcP	**PcP**	**12 10 21.9**	**+0.6**
comp=Z,1.5nm,0.3s,baz=111,slow=3.2,SNR=4.7							
CMAR				LR	LR	12 18 28.1	
comp=Z,158nm,18.9s,baz=115,slow=38							
CMAR	**Chiang Mai Arr**	**27.70**	**291**	P	**P**	**12 07 04.3**	**-0.9**
CM15	**Chiang Mai Arr**	**27.71**	**291**	P	**P**	**12 07 06.7**	**+1.3**
comp=Z,233nmcomp=Z,7.2nm,0.9s							
CM13	**Chiang Mai Arr**	**27.72**	**291**	P	**P**	**12 07 07.3**	**+1.8**
comp=Z,6.7nm,0.8s							
CMMT	**Chiang Mai**	**27.78**	**292**	P	**P**	**12 07 06.6**	**+0.6**
comp=Z,10nm,1.0s							
CHTO	**Chiang Mai**	**27.79**	**292**	P	**P**	**12 07 06.6**	**+0.6**
comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**27.79**	**292**	P	**P**	**12 07 04.2**	**-1.8**
MNSI	**Mandailing Nat**	**27.99**	**253**	P	**P**	**12 07 09.0**	**+1.1**
PMG	**Port Moresby**	**28.39**	**132**	P	**P**	**12 07 11.1**	**-0.3**
comp=Z,12nm,0.7s,baz=349,slow=13,SNR=3.7							
PMG	**Port Moresby**	**28.39**	**132**	P	**P**	**12 07 11.4**	**0.0**
PMG				IAmb	IAmb	12 07 15.0	
comp=Z,20nm,0.9s							
MAT	**Matsushiro**	**28.61**	**20**	P	**P**	**12 07 11.6**	**-1.5**
MJAR	**Matsushiro Arr**	**28.61**	**20**	P	**P**	**12 07 10.2**	**-2.9**
comp=Z,2.8nm,0.9s,baz=194,slow=9.3,SNR=7.5							
MJAR				LR	LR	12 16 39.4	
comp=Z,178nm,21.5s,baz=205,slow=32							
MJAR	**Matsushiro Arr**	**28.61**	**20**	P	**P**	**12 07 12.5**	**-0.7**
XAN	**Xi'an**	**28.72**	**329**	P	**P**	**12 07 13.2**	**-1.0**
XAN				pmax	pmax		
comp=Z,42nm,1.0s							
XAN	**Xi'an**	**28.72**	**329**	P	**P**	**12 07 13.3**	**-1.0**
DL2	**Dalian**	**29.10**	**353**	P	**P**	**12 07 19.3**	**+1.9**
DL2				pmax	pmax		
comp=Z,15nm,1.0s							
CD2	**Chengdu**	**29.48**	**318**	P	**P**	**12 07 19.6**	**-1.4**
CD2				S	**S**	**12 12 09.8**	**-2.0**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CD2				LR	LR		
comp=Z,790nm,7.7s							
CD2				LR	LR		
comp=Z,900nm,6.7s							
WB0	**Warramunga Arr**	**30.63**	**165**	P	**P**	**12 07 29.4**	**-1.8**
WB0				IAmb	IAmb	12 07 46.5	
comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	**30.78**	**165**	P

CTAO IAmb IAmb 12 08 17.6
comp=Z,12nm,0.8s
SHL Shillong 36.03 300 P P 12 08 17.0 -1.4
ASAJ Asahikawa 36.87 20 P P 12 08 26.1 +1.0
comp=Z,6.3nm,0.7s,baz=226,slow=14,SNR=7.2
ASAJ LR LR 12 23 53.2
comp=Z,86nm,19.0s,baz=198,slow=37
JKA Kamikawa-asahi 36.88 20 P P 12 08 25.0 -0.1
JKA IAmb IAmb 12 08 28.6
comp=Z,12nm,1.0s
GTA Gaotai 37.59 326 ⇓P P 12 08 31.3 -0.1
GTA pP pP 12 08 48.0 +3.0
GTA sP sP 12 08 57.8 +6.5
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,160nm,5.5s
GTA LR LR
comp=Z,130nm,17.1s
GTA LR LR
comp=Z,260nm,15.6s
GTA LR LR
comp=Z,250nm,17.4s
HNR Honiara 38.73 119 LR LR 12 22 25.2
comp=Z,105nm,21.5s,baz=272,slow=33
KLR Kul'dur 39.41 6 PcP **PcP 12 10 54.3 +0.7**
comp=Z,1.9nm,0.9s,baz=205,slow=4.6,SNR=3.8
YSS Yuzh-Sakhalins 39.45 18 P P 12 08 46.9 +0.1
HIA Hailar 39.54 353 P P 12 08 48.0 +0.5
HIA IAmb IAmb 12 08 48.9
comp=Z,13nm,1.3s
MORW Morawa 40.03 194 P P 12 08 50.8 -1.0
MORW IAmb IAmb 12 09 03.5
comp=Z,26nm,1.3s
H11N1 WAKE ISLAND Hy 40.42 71 T T 12 52 17.6
baz=265,slow=74,SNR=221
H11N2 WAKE ISLAND Hy 40.43 71 T T 12 52 14.7
baz=265,slow=74,SNR=155
H11N3 WAKE ISLAND Hy 40.44 71 T T 12 52 17.8
baz=265,slow=74,SNR=238
FORT Forrest 40.55 178 P P 12 08 55.9 -0.1
ULN Ulaanbaatar 41.08 340 P P 12 09 00.8 +0.4
ULN IAmb IAmb 12 09 01.9
comp=Z,15nm,0.9s
SONM Songino Array 41.27 340 P P 12 09 01.8 -0.2
comp=Z,6.2nm,0.8s,baz=158,slow=9.3,SNR=15
SONM PcP **PcP 12 10 59.9 0.0**
comp=Z,0.6nm,0.8s,baz=158,slow=4.7,SNR=2.8
SONM ScP **ScP 12 14 48.3 +2.9**
comp=Z,2.0nm,0.6s,baz=162,slow=4.5,SNR=5.6
SONM LR LR 12 28 17.4
comp=Z,120nm,18.5s,baz=159,slow=39
NWAO Narrogin (SRO) 43.50 191 P P 12 09 19.1 -1.0
comp=Z,43nm,0.8s,baz=13,slow=7.5,SNR=21
NWAO Narrogin (SRO) 43.50 191 P P 12 09 19.8 -0.3
BBOO Buckleboo 43.57 168 P P 12 09 20.5 -0.1
STKA Stephens Creek 44.14 161 P P 12 09 24.7 -0.6
comp=Z,9.2nm,0.8s,baz=338,slow=8.8,SNR=16
STKA Stephens Creek 44.14 161 P P 12 09 24.6 -0.6
TLY Talaya 45.49 340 P P 12 09 36.6 +0.9
comp=Z,9.5nm,0.7s,baz=191,slow=5.9,SNR=12
TLY Talaya 45.49 340 P P 12 09 35.9 +0.1
TLY IAmb IAmb 12 09 37.5
comp=Z,20nm,1.0s
ARMA Armidale 47.01 150 P P 12 09 49.2 +1.0
ARMA IAmb IAmb 12 10 06.9
comp=Z,13nm,1.2s
WMQ Urumqi 47.41 322 *e*P **P 12 09 52.7 +1.6**
WMQ LR LR
comp=Z,330nm,19.3s
WMQ LR LR
comp=Z,290nm,16.1s
WMQ LR LR
comp=Z,270nm,14.1s
CAN Canberra 49.94 156 P P 12 10 10.7 +0.2
CAN IAmb IAmb 12 10 12.4
comp=Z,17nm,1.0s
PEA0B Petropavlovsk- 49.94 24 P P 12 10 10.7 +0.4
PETK Petropavlovsk- 49.94 24 P P 12 10 10.7 +0.5
comp=Z,5.8nm,0.8s,baz=212,slow=5.8,SNR=11
PETK PcP **PcP 12 11 30.4 +0.6**
comp=Z,4.8nm,0.9s,baz=224,slow=3.9,SNR=2.8
PETK LR LR 12 29 41.5
comp=Z,72nm,21.1s,baz=217,slow=34
PETK Petropavlovsk- 49.94 24 P P 12 10 10.8 +0.6
PET Petropavlovsk 50.27 25 P P 12 10 12.9 +0.2
LIFNC LIFOU 50.61 127 P P 12 10 16.8 +1.1
TOO Toolangi 50.63 160 P P 12 10 16.1 +0.5
TOO IAmb IAmb 12 10 17.0
comp=Z,9.1nm,0.8s
PINNC Pines Island, 51.79 129 P P 12 10 25.6 +1.1
YAK Yakutsk 52.03 2 P P 12 10 26.6 +0.9
comp=Z,14nm,0.3s,baz=291,slow=3.3,SNR=5.1
YAK Yakutsk 52.03 2 P P 12 10 25.8 +0.1
MK31 Makanchi Array 52.22 323 Sn **P 12 10 26.7 -0.7**
comp=Z,9.3nm,0.8s,baz=170,slow=27,SNR=8.9
MK31 Makanchi Array 52.22 323 P P 12 10 26.7 -0.7
MK31 IAmb IAmb 12 10 28.2
comp=Z,10nm,0.8s
MKAR Makanchi Array 52.22 323 P P 12 10 27.2 -0.2
comp=Z,13nm,0.7s,baz=122,slow=8.3,SNR=72
MKAR PcP **PcP 12 11 38.3 -0.1**
comp=Z,3.7nm,0.8s,baz=104,slow=5.1,SNR=3.6
MKAR LR LR 12 34 22.3
comp=Z,132nm,19.9s,baz=113,slow=38
MKAR Makanchi Array 52.22 323 P P 12 10 26.8 -0.7
MAKZ Makanchi 52.41 323 ⇓Sn **P 12 10 28.1 -0.8**
comp=Z,6.1nm,1.1s
MAKZ Makanchi 52.41 323 P P 12 10 28.0 -0.9
MAKZ IAmb IAmb 12 10 29.2
comp=Z,8.9nm,0.8s
MA2 Magadan 52.84 15 P P 12 10 32.3 +0.5
comp=Z,7.9nm,0.8s,baz=48,slow=0.7,SNR=4.6
KDJ Kajisay 53.45 316 P P 12 10 36.1 -0.7
NIL Nilore 53.84 304 P P 12 10 38.1 -1.5
ZAA0 Zalesovo Array 54.85 331 P P 12 10 44.7 -1.9
ZAA0 IAmb IAmb 12 10 46.2
comp=Z,5.6nm,0.9s
ZALV Zalesovo Beam 54.85 331 P P 12 10 45.6 -1.0
comp=Z,2.4nm,0.4s,baz=121,slow=7.1,SNR=12
ZALV PcP **PcP 12 11 47.3 -0.9**
comp=Z,1.2nm,0.5s,baz=180,slow=2.5,SNR=1.6
ZALV LR LR 12 36 47.1
comp=Z,99nm,18.7s,baz=143,slow=39
ZALV Zalesovo Beam 54.85 331 P P 12 10 45.1 -1.5
SEY Seymchan 56.13 14 P P 12 10 56.7 +1.1
comp=Z,4.6nm,0.8s,baz=233,slow=7.2,SNR=11
SEY PcP **PcP 12 11 54.3 +1.3**
comp=Z,3.9nm,0.8s,baz=172,slow=5.2,SNR=4.1
KURBB Kurchatov Arra 56.28 326 P P 12 10 55.9 -0.9
comp=Z,10.0nm,0.7s,baz=126,slow=6.8,SNR=29
MSVF Nonsavu 58.14 118 P P 12 11 11.5 +0.9
comp=Z,17nm,1.1s,baz=260,slow=9.6,SNR=7.1
MSVF Nonsavu 58.14 118 P P 12 11 10.9 +0.3
KK31 Karatay Array 58.41 315 P P 12 11 10.7 -1.3
KKAR Karatay Array 58.41 315 P P 12 11 10.7 -1.3
KKAR Karatay Array 58.41 315 P P 12 11 11.0 -1.1
KKAR IAmb IAmb 12 11 11.6
comp=Z,4.1nm,0.9s
TIXI Tiksi 61.65 1 P P 12 11 34.0 +0.3
comp=Z,21nm,1.0s,baz=140,slow=6.3,SNR=26
TIXI Tiksi 61.65 1 P P 12 11 33.3 -0.4
BVAR Borovoye Array 61.87 325 P P 12 11 34.5 -1.0
comp=Z,3.7nm,0.8s,baz=190,slow=17,SNR=14
BVAR PcP **PcP 12 12 15.6 -0.5**
comp=Z,3.8nm,0.8s,baz=191,slow=15,SNR=5.8
BRVK Borovoye 61.94 325 P P 12 11 35.4 -0.6
BRVK IAmb IAmb 12 11 36.2
comp=Z,10nm,0.9s
BILL Bilibino 63.71 16 P P 12 11 46.9 -0.6
NRIK Noril'sk 64.29 346 P P 12 11 51.1 -0.1
comp=Z,5.4nm,0.8s,baz=120,slow=6.3,SNR=5.1
NRIK PcP **PcP 12 12 25.7 +0.2**
comp=Z,2.1nm,0.5s,baz=120,slow=2.1,SNR=3.7
NRIK LR LR 12 43 26.9
comp=Z,170nm,18.1s,baz=171,slow=39
GEYT Alibeck 66.66 307 P P 12 12 06.7 -0.6
comp=Z,6.6nm,0.8s,baz=198,slow=9.3,SNR=8.2
GYA0B ALIBECK ARRAY 66.66 307 P P 12 12 06.6 -0.7
GYA0B IAmb IAmb 12 12 08.2
comp=Z,12nm,0.9s
ABKAR Abkulak array 67.05 319 P P 12 12 07.6 -1.9
ABKAR Abkulak array 67.05 319 P P 12 12 07.5 -2.0
TUWZ Tuamarina 67.38 143 P P 12 12 11.2 -0.3
URZ Urewera 67.49 139 P P 12 12 13.6 +1.3
comp=Z,11nm,0.9s,baz=135,slow=22,SNR=2.8

ARU Arti 69.44 327 P P 12 12 22.8 -1.4
comp=Z,3.4nm,0.4s,baz=83,slow=1.3,SNR=10
ARU Arti 69.44 327 P P 12 12 21.9 -2.3
ARU IAmb IAmb 12 12 23.7
comp=Z,11nm,0.6s
SDPT Sand Point 72.39 35 P P 12 12 43.0 +0.9
baz=262
N18K Kilae Creek 75.45 30 P P 12 13 01.3 +1.3
baz=264
SVW2 Sparrevohn 75.64 29 P P 12 13 01.8 +0.7
SVW2 IAmb IAmb 12 13 03.6
comp=Z,13nm,1.1s
O18K Koktuh Hills 75.71 31 P P 12 13 02.7 +1.2
baz=265,SNR=12
L19K White Mountain 76.09 28 P P 12 13 04.8 +1.2
baz=265,SNR=6.5
N19K Bonanza Creek 76.15 30 P P 12 13 05.4 +1.3
baz=266
O19K Port Alsworth 76.19 30 P P 12 13 05.4 +1.3
baz=266
M19K Big River Lodg 76.28 29 P P 12 13 06.3 +1.6
baz=266
OHAK Old Harbor 76.55 33 P P 12 13 07.0 +0.8
baz=268
P19K Oil Pt 76.70 31 P P 12 13 07.8 +0.7
baz=267
M20K Styx River 76.88 29 P P 12 13 09.3 +1.1
baz=267
CASY Casey 76.91 186 P P 12 13 08.4 +0.4
CASY IAmb IAmb 12 13 09.2
comp=Z,13nm,1.3s
H21K Melozitna Rive 77.27 25 P P 12 13 11.6 +1.4
baz=266
CHUM Lake Minchumin 77.36 27 P P 12 13 11.5 +0.8
baz=267
PPLA Purkeypile 77.37 28 P P 12 13 11.7 +0.7
baz=267
I21K Tanana 77.58 25 P P 12 13 13.2 +1.2
baz=267
RAYN Ar Rayn 77.61 292 P P 12 13 11.5 -1.5
SKT Skwentna 77.64 29 P P 12 13 12.7 +0.4
baz=268
SKT Skwentna 77.64 29 P P 12 13 12.3 0.0
SKT IAmb IAmb 12 13 13.3
comp=Z,12nm,1.3s
CAPN Captain Cook N 77.78 30 P P 12 13 13.6 +0.5
baz=269
BPAW Bear Paw Mtn. 77.96 26 P P 12 13 14.8 +0.7
baz=268,SNR=15
BPAW Bear Paw Mtn. 77.96 26 P P 12 13 14.7 +0.5
BRSE Bradley Lake S 77.96 31 P P 12 13 14.5 +0.3
baz=269
MLY Manley 78.10 26 P P 12 13 15.9 +1.0
baz=268,SNR=13
MLY Manley 78.10 26 P P 12 13 15.6 +0.6
MLY IAmb IAmb 12 13 16.4
comp=Z,7.8nm,0.9s
TRF Thorofare Moun 78.25 27 P P 12 13 16.2 +0.3
baz=269
KBZ Khabaz 78.36 313 P P 12 13 16.0 -0.7
comp=Z,6.0nm,1.0s,baz=107,slow=1.7,SNR=9.8
COLD Coldfoot 78.40 23 P P 12 13 18.0 +1.5
baz=268,SNR=12
RC01 Rabbit Creek A 78.48 30 P P 12 13 18.4 +1.4
baz=270
SEW Seward 78.61 31 P P 12 13 18.0 +0.3
baz=270
H23K Yukon River 78.62 25 P P 12 13 18.4 +0.7
baz=269,SNR=8.6
TOLK Toolik Lake Re 78.68 22 P P 12 13 18.9 +0.9
baz=268,SNR=7.6
I23K Minto, Yukon-K 78.69 25 P P 12 13 18.7 +0.6
baz=269,SNR=9.8
I23K Minto, Yukon-K 78.69 25 P P 12 13 18.7 +0.6
I23K IAmb IAmb 12 13 21.0
comp=Z,7.5nm,0.8s
PMR Palmer 78.77 29 P P 12 13 18.2 -0.2
baz=270
PMR Palmer 78.77 29 P P 12 13 18.3 -0.2
PMR IAmb IAmb 12 13 19.5
comp=Z,11nm,1.0s
NEA2 Nenana 78.81 26 P P 12 13 19.2 +0.5
baz=270,SNR=7.6
NEA2 Nenana 78.81 26 P P 12 13 19.2 +0.5
NEA2 IAmb IAmb 12 13 20.5
comp=Z,6.6nm,0.8s
MCK McKinley 78.86 27 P P 12 13 19.0 0.0
baz=270,SNR=8.5
MCK McKinley 78.86 27 P P 12 13 19.2 +0.1
MCK IAmb IAmb 12 13 20.3
comp=Z,19nm,0.9s
RND Reindeer 78.90 27 P P 12 13 19.1 -0.2
RND IAmb IAmb 12 13 20.4
comp=Z,21nm,1.4s
WAT1 Susitna Watana 79.04 28 P P 12 13 20.0 -0.1
baz=270
KNK Knik Glacier 79.09 29 P P 12 13 20.7 +0.3
baz=271
SML Sawmill 79.15 29 P P 12 13 20.6 -0.1
baz=271,SNR=5.5
SML Sawmill 79.15 29 P P 12 13 21.4 +0.6
SML IAmb IAmb 12 13 23.5
comp=Z,17nm,1.1s
PWL Port Wells 79.16 30 P P 12 13 20.2 -0.6
MDM Murphy Dome 79.17 26 P P 12 13 20.7 0.0
WRH Wood River Hil 79.23 26 P P 12 13 21.2 +0.2
WRH IAmb IAmb 12 13 22.3
comp=Z,11nm,1.2s
H24K Noodor Dome 79.31 25 P P 12 13 21.9 +0.4
baz=270,SNR=8.9
TCOL CIGO, UAF Yank 79.32 26 P P 12 13 21.7 +0.2
COLA College 79.33 26 P P 12 13 21.7 +0.2
CCB Clear Creek Bu 79.35 26 P P 12 13 21.2 -0.5
WAT6 Susitna Watana 79.41 28 P P 12 13 22.1 -0.2
baz=271,SNR=10
POKR Poker Plat Res 79.50 25 P P 12 13 23.2 +0.7
baz=271
HDA Harding Lake 79.72 26 P P 12 13 23.2 -0.6
baz=272,SNR=5.7
HDA Harding Lake 79.72 26 P P 12 13 23.0 -0.8
IL31 79.74 26 P P 12 13 23.7 0.0
ILAR Eielson Array 79.74 26 P P 12 13 23.1 -0.7
comp=Z,2.6nm,0.8s,baz=241,slow=6.3,SNR=31
ILAR LR LR 12 47 20.3
comp=Z,24nm,21.7s,baz=292,slow=35
KLMR Klimovskoe 79.75 330 *e*P **P 12 13 21.8 -2.1**
KLMR AMP 12 13 23.4
comp=Z,10.0nm,0.9s
KLMR *e*S **S 12 23 19.8 -2.6**
KLMR *e*S **S 12 23 19.8 -2.6**
GLI Glacier Island 79.77 30 P P 12 13 24.1 +0.1
baz=272
M24K Tolsona, Glenn 80.16 28 P P 12 13 26.8 +0.5
baz=273
KLU Klutina 80.31 29 P P 12 13 27.5 +0.4
baz=273
PAX Paxson 80.44 28 P P 12 13 28.3 +0.5
baz=273
EYAK Cordova Ski Ar 80.44 30 P P 12 13 28.2 +0.5
baz=273
HARP HAARP 80.62 28 P P 12 13 29.3 +0.7
baz=274
N25K Chitina, Valde 80.93 29 P P 12 13 31.2 +0.8
baz=274
N25K Chitina, Valde 80.93 29 P P 12 13 31.0 +0.6
N25K IAmb IAmb 12 13 34.3
comp=Z,15nm,1.4s
BMRM Bremner River 80.98 30 P P 12 13 32.1 +1.5
baz=274
BMRM Bremner River 80.98 30 P P 12 13 32.2 +1.5
BMRM IAmb IAmb 12 13 38.2
comp=Z,22nm,1.4s
SCRK Sand Creek 81.04 27 P P 12 13 31.0 0.0
baz=274,SNR=6.2
SCRK Sand Creek 81.04 27 P P 12 13 31.2 +0.3
GLB Gilahina Butte 81.32 29 P P 12 13 33.2 +0.7
GLB IAmb IAmb 12 13 35.8
comp=Z,12nm,1.0s
VRDI Verde Repeater 81.51 29 P P 12 13 33.9 +0.3
VRDI IAmb IAmb 12 13 36.7
comp=Z,8.0nm,1.0s
CRQE Cirque 81.73 30 P P 12 13 35.6 +0.8
baz=276
K27K Chicken 81.88 26 P P 12 13 36.7 +1.5
baz=276
K27K Chicken 81.88 26 P P 12 13 36.3 +1.1
L27K Beaver Creek, 82.09 27 P P 12 13 37.5 +1.1
baz=276
L27K Beaver Creek, 82.09 27 P P 12 13 37.2 +0.8
L27K IAmb IAmb 12 13 39.6
comp=Z,18nm,1.2s
BCAR Beaver Creek A 82.11 27 P P 12 13 37.0 +0.5
ISLE Juniper Island 82.12 30 P P 12 13 38.3 +1.6
ISLE IAmb IAmb 12 13 39.5
comp=Z,11nm,0.9s
EGAK Eagle 82.19 26 P P 12 13 38.0 +1.1
baz=277
EGAK Eagle 82.19 26 P P 12 13 37.6 +0.7
EGAK IAmb IAmb 12 13 40.1
comp=Z,6.9nm,1.0s
MESA MESA 82.36 30 P P 12 13 39.0 +0.9
baz=277
BARN Barnard Glacie 82.40 29 P P 12 13 39.6 +1.4
YAH Yahtse 82.44 30 P P 12 13 39.0 +0.5
YAH IAmb IAmb 12 13 41.8
comp=Z,14nm,0.9s
CTG Chitna Glacier 82.56 29 P P 12 13 40.4 +1.4
baz=277
CTGM Chitina Glacie 82.56 29 P P 12 13 39.4 +0.3
DAWY Dawson 83.04 26 P P 12 13 42.0 +0.6
DAWY IAmb IAmb 12 13 44.6
comp=Z,11nm,1.1s
PINM Pinnacle 83.21 30 P P 12 13 43.5 +1.2
baz=278
EPYK Eagle Plains 83.78 24 P P 12 13 45.9 +0.8
baz=281
EPYK Eagle Plains 83.78 24 P P 12 13 45.7 +0.6
EPYK IAmb IAmb 12 13 46.9
comp=Z,18nm,1.1s
HYT Haines Junctio 84.44 29 P P 12 13 49.4 +0.8
ARCES ARCESS Array B 84.45 340 P P 12 13 48.0 -0.4
comp=Z,6.8nm,0.9s,baz=84,slow=6.5,SNR=13
ARCES ARCESS Array B 84.45 340 P P 12 13 47.8 -0.6
ARCES IAmb IAmb 12 13 54.4
comp=Z,14nm,1.2s
INK Inuvik 84.59 22 P P 12 13 49.8 +0.7
baz=283
INK Inuvik 84.59 22 P P 12 13 49.7 +0.6
INK IAmb IAmb 12 13 50.9
comp=Z,16nm,1.1s
BRTR Keskin Array B 85.66 309 P P 12 13 54.2 -1.1
comp=Z,3.4nm,0.8s,baz=115,slow=5.6,SNR=7.3
BRTR LR LR 12 57 18.4
comp=Z,44nm,20.3s,baz=98,slow=39
BRTR Keskin Array B 85.66 309 P P 12 13 53.9 -1.4
WHY Whitehorse 85.73 29 P P 12 13 56.6 +1.5
baz=283
WHY Whitehorse 85.73 29 P P 12 13 56.6 +1.5
SKAG Skagway 85.77 30 P P 12 13 56.8 +1.7
baz=282
FINES FINESS Array B 86.12 332 P P 12 13 55.8 -1.0
comp=Z,2.4nm,0.4s,baz=70,slow=4.1,SNR=32
FINES LR LR 12 57 52.8
comp=Z,39nm,19.4s,baz=58,slow=40
SIT Sitka 86.29 33 P P 12 13 59.1 +1.3
baz=283
AKASG Malin Array Be 86.75 321 P P 12 13 58.9 -1.3
comp=Z,5.1nm,0.7s,baz=63,slow=4.5,SNR=17
AKASG Malin Array Be 86.75 321 P P 12 13 58.8 -1.4
AKASG IAmb IAmb 12 14 00.3
comp=Z,10nm,1.2s
AKBB Malin Array Si 86.75 321 P P 12 13 58.9 -1.3
AKBB IAmb IAmb 12 14 00.0
comp=Z,14nm,1.2s
PPT Papeete 87.54 108 P P 12 14 07.5 +2.9
comp=Z,18nm,0.9s,baz=75,slow=21,SNR=2.6
PPT LR LR 12 45 53.2
comp=Z,62nm,21.2s,baz=292,slow=30
PPT2 Papeete2 87.55 108 *e*LR LR 12 41 45.7
comp=Z,121nm,22.5s
C36M Paulatuk 87.55 20 P P 12 14 04.0 +0.3
EUNU Eureka 88.56 5 P P 12 14 08.7 +0.3
TBI Tubuai 88.77 114 *e*LR LR 12 42 25.8
comp=Z,139nm,24.2s
KMBO Kilima Mbogo 89.15 269 P P 12 14 12.8 +0.1
comp=Z,2.6nm,0.8s,baz=105,slow=4.2,SNR=4.7
MAW Mawson 89.39 200 P P 12 14 12.3 +0.1
comp=Z,7.4nm,0.7s,baz=72,slow=4.9,SNR=18
MAW Mawson 89.39 200 P P 12 14 12.6 +0.3
VNDA Vanda 89.64 173 P P 12 14 13.7 +0.4
comp=Z,1.9nm,0.8s,baz=313,slow=5.8,SNR=11
VNDA Vanda 89.64 173 P P 12 14 13.5 +0.2
VNDA IAmb IAmb 12 14 21.3
comp=Z,3.3nm,0.9s
BURAR Bucovina Array 90.01 318 P P 12 14 15.2 -0.7
BURAR IAmb IAmb 12 14 17.2
comp=Z,4.1nm,0.8s
NB2 NORSAR Subarra 92.99 334 P P 12 14 27.3 -2.0
comp=Z,4.9nm,1.1s,baz=64,slow=4.8
NOA NORSAR Array B 92.99 334 P P 12 14 27.5 -1.9
comp=Z,1.6nm,0.8s,baz=62,slow=4.6,SNR=5.0
NOA LR LR 12 59 14.6
comp=Z,54nm,21.2s,baz=60,slow=37
YKA Yellowknife Ar 94.06 24 P P 12 14 34.8 +0.7
comp=Z,6.5nm,0.7s,baz=299,slow=4.4,SNR=8.3
TAOE Nuku Hiva Isla 95.07 98 *e*LR LR 12 45 19.9
comp=Z,102nm,22.2s
D03D Eldon 96.30 40 P P 12 14 45.7 +1.0
baz=292
GERES GERESS Array B 96.88 322 P P 12 14 47.1 -0.4
comp=Z,1.2nm,0.7s,baz=46,slow=3.9,SNR=6.8
I03D Drain, OR 97.55 43 P Pdif 12 14 50.8 +0.3
baz=292
QSPA South Pole Qui 99.83 180 P Pdif 12 14 58.9 -1.3
comp=Z,0.8nm,0.9s,baz=201,slow=7.2,SNR=2.0
NVAR Mina Array Bea 103.10 47 Pdiff **Pdif 12 15 16.1 +0.4**
comp=Z,0.5nm,0.8s,baz=274,slow=6.6,SNR=4.2
TXAR Lajitas Array 118.08 49 PKP **PKiKP 12 20 04.1 +0.5**
comp=Z,0.4nm,0.6s,baz=293,slow=0.7,SNR=3.7
JCT Junction City 120.27 46 P PKiKP 12 20 08.0 +0.2
baz=305
TORD Torodi Ar. Bea 120.31 292 PKP **PKPdf 12 20 07.3 -0.8**
comp=Z,1.5nm,0.8s,baz=55,slow=2.1,SNR=6.6
D58A Chemin du LacG 120.70 15 P PKiKP 12 20 08.2 +0.1
baz=338
U40A Yellville 121.07 36 P PKiKP 12 20 09.2 0.0
baz=314
W39A Magazine 121.30 38 P PKPdf 12 20 09.6 +0.1
baz=312
MIAR Mount Ida 121.86 38 P PKiKP 12 20 11.0 +0.2
baz=312
E64A Bridgewater 122.48 11 P PKiKP 12 20 11.7 0.0
baz=344
WVT Waverly 124.06 33 P PKPdf 12 20 14.8 0.0
baz=319
J63A Strafford 124.72 15 P PKPdf 12 20 15.5 -0.3
baz=339
SSPA Standing Stone 124.95 22 P PKPdf 12 20 15.8 -0.6
baz=331
TZTN Tazewell 125.93 30 P PKPdf 12 20 18.1 -0.3
baz=323
LRAL Lakeview Retre 126.81 35 P PKPdf 12 20 19.7 -0.5
baz=318
KMSC Kings Mountain 128.12 29 P PKPdf 12 20 22.2 -0.4
baz=325
GOGA Godfrey 128.44 32 P PKPdf 12 20 23.3 +0.1
baz=322
PLCA Paso Flores 145.96 157 PKPbc **PKPab 12 20 57.1 +0.6**
comp=Z,6.8nm,1.0s,baz=201,slow=9.1,SNR=4.6
LPAZ La Paz 164.71 116 PKP **PKPdf 12 21 21.7 +0.2**
comp=Z,1.6nm,1.1s,baz=22,slow=4.2,SNR=4.7
LPAZ PKPab **PKPab 12 22 19.3 +2.1**
comp=Z,2.3nm,0.9s,baz=268,slow=4.0,SNR=5.7

NEIC ***08*** *12:05:29.8±1.1, 1°.12N±0°.07×127°.07E±0°.03, h127km±5km, mb4.7/45, Error ellipse: s-maj=10.2km s-min=4.1km az=165.0*

DJA ***08*** *12:05:29.7±0.3, 1°N±3°×12°7E±°, h135km±2km, M4.8/43, mb5.0/43, mB5.3/12, MLv4.9/16, Mw(mB)4.7/12, MwMwp4.8/2, Mwp5.1/2*

IDC ***08*** *12:05:30.8±1.1, 1°.09N×127°.13E, h145km±10km, mb4.1/22, mb1 4.2/26, mb1mx4.0/51, mbtmp4.6/26, Error ellipse: s-maj=13.3km s-min=7.0km az=66.0*

KLM ***08*** *12:05:32, 1°.03N×127°.38E, h164km, mb4.9*

ISC 08 12:05:31.6±0.3, 1°.04N±0°.04×127°.06E±0°.05, h150km, n157, σ1°**36**/168, **mb4.6**/49, **1C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.40**	**131**	Pn	**Pn**	**12 05 49.3**	**-3.1**
TNTI				Sn	**Sn**	**12 06 02.1**	**-6.3**
TNTI	**Ternate**	**0.40**	**131**	P	**Pn**	**12 05 49.4**	**-3.1**

SGSI Sangihe 3.05 330 P **Pn 12 06 15.8 -3.8**
SANI Sanana 3.25 199 P **Pn 12 06 20.4 -1.7**
GTOI Gorontalo 4.07 264 P **Pn 12 06 32.9 +0.1**
NLAI Namlea 4.25 180 P **Pn 12 06 34.6 -0.5**
SWI Sorong 4.60 114 P **Pn 12 06 39.2 -0.5**
SIJI Sorong 4.61 114 P **Pn 12 06 38.1 -1.7**
7.1nm,0.3s,baz=310,slow=9.5,SNR=13
SIJI S **Sn 12 07 31.2 -1.8**
1.5nm,0.3s,baz=149,slow=21,SNR=1.3
MSAI Masohi 4.73 157 P **Pn 12 06 42.8 +1.3**
LUWI Luwuk 4.76 244 Pn **Pn 12 06 40.0 -1.9**
LUWI Luwuk 4.76 244 P **Pn 12 06 41.5 -0.4**
MRSI Marisa 5.15 264 P **Pn 12 06 45.0 -2.0**
2.3nm5μm7μm481nm,0.5s
APSI Ampana 5.75 250 P **Pn 12 06 53.5 -1.5**
2.2nm4μm415nm,0.6s
DAV Davao City (W) 6.17 346 P **Pn 12 07 00.6 -0.1**
59nm,0.3s,baz=100,slow=15,SNR=2.0
DAV S **Sn 12 08 07.9 -2.5**
47nm,0.3s,baz=36,slow=3.1,SNR=1.7
DAV Davao City (W) 6.17 346 **Pn 12 06 58.5 -2.2**
KCP Kidapawan 6.25 342‖ *e*P **Pn 12 06 58.2 -3.5**
TOLI2 Tolitoli 6.28 271 Pn **Pn 12 07 00.0 -2.1**
FAKI Fak Fak 6.50 127 **Pn 12 07 04.4 -0.7**
FAKI Fak Fak 6.50 127 P **Pn 12 07 04.8 -0.3**
0.2nm40nm,0.7s
MPSI Mapaga 7.20 265 P **Pn 12 07 12.7 -1.6**
0.3nm4μm1μm104nm,0.7s
TTSI Tana Toraja 8.30 241 P **Pn 12 07 27.9 -1.1**
3μm372nm,0.8s
BNSI Bone 8.80 232 P **Pn 12 07 35.4 -0.3**
2μm225nm,0.8s
BKSI Bulukumba 9.38 228 P **Pn 12 07 44.7 +1.3**
894nm84nm,0.5s
KAPI Kappang 9.46 230 P **Pn 12 07 44.2 -0.3**
16nm,0.3s,baz=77,slow=6.6,SNR=17
KAPI S **Sn 12 09 26.3 -3.1**
15nm,0.3s,baz=218,slow=22,SNR=15
KAPI Kappang 9.46 230 Pn **Pn 12 07 43.4 -1.0**
BSSI Bau Bau, Buton 9.69 223 P **Pn 12 07 49.6 +2.0**
33nm,0.7s
SOEI Soe 11.07 194 P **Pn 12 08 07.7 +1.7**
37nm,0.7s
EDFI Ende, Flores 11.10 209 P **Pn 12 08 07.8 +1.6**
11nm,0.7s
SPMM Sapulut 11.20 289 P **Pn 12 08 08.0 +0.5**
BATI Baumata 11.67 197 P **Pn 12 08 15.5 +1.9**
3.7nm,0.3s,baz=75,slow=12,SNR=2.4
KBKI Kotabaru 11.71 248 P **Pn 12 08 13.0 -1.2**
52nm,0.8s
MTKI Muara Teweh, K 12.32 261 P **Pn 12 08 20.8 -1.4**
4μm26nm,0.5s
BBKI Banjar Baru 13.01 250 P **Pn 12 08 31.1 +0.1**
1μm67nm,0.9s
PLAI Plampang 13.48 223 P **Pn 12 08 38.7 +1.7**
41nm,1.0s
TWSI Taliwang, Sumb 14.04 226 P **P 12 08 46.3 -1.0**
32nm,0.9s
MTN Manton Dam 14.37 164 P **Pn 12 08 47.0 -1.2**
baz=14,SNR=6.9
MTN Manton Dam 14.37 164 Pn **Pn 12 08 46.8 -1.4**
KDU Kakadu 14.65 159 P **Pn 12 08 49.6 -2.1**
baz=14,SNR=5.0
SBUM Sibu 14.90 276 P **P 12 08 59.0 +2.2**
KMMI Kalianget 15.34 238 P **P 12 09 02.3 +0.6**
122nm,1.0s
STKI Sintang 15.62 267 P **Pn 12 09 03.7 0.0**
KNRA Kununurra 16.69 174 P **Pn 12 09 16.6 -0.2**
baz=16,SNR=22
KNRA Kununurra 16.69 174 **P 12 09 16.4 -0.1**
KSM Kuching 16.76 272 P **Pn 12 09 19.0 +1.3**
PWJI Pagerwojo 17.68 239 P **P 12 09 27.3 -0.1**
125nm,0.9s
PCJI Pacitan 18.30 240 P **Pn 12 09 35.9 -0.2**
3μm221nm,0.9s
UGM Wanagama 18.74 241 P **Pn 12 09 41.5 +0.3**
112nm,0.7s
KPJI Karang Pucung 19.91 245 P **P 12 09 53.3 +1.6**
2μm172nm,0.9s
LEM Lembang 20.92 248 P **P 12 10 03.5 +0.7**
17nm,0.6s,baz=142,slow=18,SNR=4.5
CISI Cisompet, Garu 21.01 246 P **P 12 10 03.6 0.0**
CISI IAmb IAmb 12 10 04.7
comp=Z,24nm,0.8s
CISI Cisompet, Garu 21.01 246 P **P 12 10 03.3 -0.3**
comp=Z,30nm,0.8s
CNJI Cibinong 21.55 247 P **P 12 10 09.2 -0.1**
comp=Z,76nm,0.9s
WB0 Warramunga Arr 21.89 161 P **P 12 10 12.2 -0.6**
WRAB Tennant Creek 22.03 161 P **P 12 10 13.6 -0.7**
WRA Warramunga Arr 22.04 161 P **P 12 10 13.6 -0.7**
comp=Z,59nm,0.7s,baz=340,slow=11,SNR=82
WRA S **S 12 14 07.1 +0.1**
comp=Z,2.4nm,0.8s,baz=340,slow=20,SNR=5.2
WRA Warramunga Arr 22.04 161 P **P 12 10 12.3 -1.9**
WB2 Warramunga Arr 22.04 161 P **P 12 10 13.6 -0.7**
WR0 Warramunga Arr 22.11 161 P **P 12 10 14.0 -1.1**
WR0 IAmb IAmb 12 10 15.2
comp=Z,35nm,0.8s
PMG Port Moresby 22.54 118 P **P 12 10 18.9 -0.4**
comp=Z,17nm,0.8s,baz=274,slow=7.3,SNR=3.6
PMG Port Moresby 22.54 118 P **P 12 10 19.2 -0.1**
PMG IAmb IAmb 12 10 20.5
comp=Z,20nm,0.8s
CGJI Cibinong 22.64 250 P **P 12 10 20.2 0.0**
comp=Z,63nm,0.4s
TPUB Ta-pu 23.00 345 P **P 12 10 21.7 -1.7**
MYKOM Kota Tinggi 23.22 272 P **P 12 10 26.0 +0.4**
KASI Kota Agung 23.46 254 P **P 12 10 27.5 -0.3**
comp=Z,76nm,0.7s
MDSI Maura Dua 23.51 256 P **P 12 10 28.6 +0.3**
comp=Z,22nm,1.3s
PSA00 Pilbara Seismi 23.55 197 P **P 12 10 28.9 +0.4**
PSA00 IAmb IAmb 12 10 52.6
comp=Z,12nm,1.0s
QIS Mount Isa 24.73 151 P **P 12 10 39.7 +0.5**
baz=25,SNR=39
AS31 Alice Springs 25.44 165 P **P 12 10 45.8 +0.2**
AS31 IAmb IAmb 12 10 52.2
comp=Z,7.6nm,0.4s
ASAR Alice Springs 25.44 165 P **P 12 10 45.5 -0.1**
comp=Z,3.9nm,0.3s,baz=347,slow=11,SNR=48
ASAR PcP **PcP 12 14 12.8 -1.1**
comp=Z,0.6nm,0.5s,baz=354,slow=1.5,SNR=2.2
ASAR S **S 12 15 02.4 +0.8**
comp=Z,1.4nm,0.8s,baz=354,slow=20,SNR=3.7
ASAR Alice Springs 25.44 165 P **P 12 10 45.8 +0.1**
WRKA Warakurna 25.95 177 P **P 12 10 50.6 +0.4**
baz=26,SNR=22
CTA Charters Tower 28.19 139 P **P 12 11 10.8 +0.5**
comp=Z,9.1nm,0.9s,baz=350,slow=13,SNR=3.9
CTAO Charters Tower 28.19 139 P **P 12 11 10.6 +0.3**
CTAO IAmb IAmb 12 11 12.2
comp=Z,28nm,1.2s
MEEK Meekatharra 28.69 196 P **P 12 11 15.6 +0.9**
baz=29,SNR=5.0
CHAI Chaiyaphum 28.80 302 P **P 12 11 15.6 -0.2**
GSI Gunungsitoli 29.48 271 P **P 12 11 21.0 -0.8**
GSI IAmb IAmb 12 11 45.7
comp=Z,44nm,1.3s
GSI Gunungsitoli 29.48 271 P **P 12 11 20.5 -1.3**
comp=Z,31nm,1.2s
TPTI 29.94 275 P **P 12 11 25.1 -0.8**
comp=Z,9.8nm,1.2s
FORT Forrest 31.65 178 P **P 12 11 40.7 +0.1**
baz=32,SNR=18
FORT Forrest 31.65 178 P **P 12 11 40.4 -0.3**
MORW Morawa 31.74 199 P **P 12 11 42.0 +0.6**
baz=32,SNR=4.5
MORW Morawa 31.74 199 P **P 12 11 41.9 +0.4**
MORW IAmb IAmb 12 11 56.2
comp=Z,47nm,1.4s
NJ2 Nanjing 31.81 347 *e*P **P 12 11 43.2 +1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
QLP Quilpie 32.06 150 P **P 12 11 44.3 -0.1**
baz=32,SNR=11
CMAR Chiang Mai Arr 32.58 304 P **P 12 11 49.3 +0.3**
comp=Z,1.1nm,0.3s,baz=116,slow=6.1,SNR=7.6
CMAR Chiang Mai Arr 32.58 304 P **P 12 11 48.5 -0.5**
CHTO Chiang Mai 32.75 304 P **P 12 11 50.4 -0.1**
CHTO IAmb IAmb 12 11 51.2
comp=Z,5.7nm,0.8s
BLDU Ballidu 32.98 197 P **P 12 11 53.1 +0.8**
baz=33,SNR=8.7
KLBR Kellerberrin 33.63 194 P **P 12 11 58.6 +0.7**
baz=34,SNR=12
MUN Mundaring 34.41 196 P **P 12 12 05.6 +1.0**
baz=34,SNR=13
NWAO Narrogin (SRO) 35.03 194 P **P 12 12 10.0 0.0**
comp=Z,7.7nm,0.5s,baz=22,slow=9.6,SNR=15
NWAO Narrogin (SRO) 35.03 194 P **P 12 12 10.8 +0.9**
baz=35,SNR=14
NWAO Narrogin (SRO) 35.03 194 P **P 12 12 10.9 +0.9**
EIDS Eidsvold 35.06 140 P **P 12 12 10.6 +0.3**
baz=35,SNR=3.3
EIDS Eidsvold 35.06 140 P **P 12 12 10.7 +0.3**
EIDS IAmb IAmb 12 12 11.1
comp=Z,17nm,1.1s
STKA Stephens Creek 35.51 158 P **P 12 12 13.7 -0.4**
comp=Z,13nm,0.8s,baz=332,slow=9.0,SNR=20
STKA PP **PP 12 13 35.2 -2.7**
comp=Z,9.2nm,0.9s,baz=335,slow=9.3,SNR=4.2
STKA Stephens Creek 35.51 158 P **P 12 12 14.4 +0.3**
MJAR Matsushiro Arr 36.81 15 P **P 12 12 22.4 -2.7**
comp=Z,0.7nm,0.5s,baz=166,slow=9.1,SNR=4.1
CMSA Cobar Meteorol 36.90 153 P **P 12 12 26.4 +0.5**
baz=37,SNR=17
XAN Xi'an 36.97 335 P **P 12 12 25.8 -0.7**
XAN pmax pmax
comp=Z,16nm,0.6s
XAN Xi'an 36.97 335 P **P 12 12 26.4 -0.1**
ARMA Armidale 39.06 145 P **P 12 12 45.4 +1.3**
baz=39,SNR=27
ARMA Armidale 39.06 145 P **P 12 12 45.5 +1.3**
ARPS Mount Arapiles 40.04 161 P **P 12 12 52.9 +0.8**
baz=40,SNR=11
YNG Young 40.45 152 P **P 12 12 57.0 +1.5**
baz=40,SNR=8.4
LZH Lanzhou 40.99 331 *e*P **P 12 13 00.8 +0.7**
LZH pmax pmax
comp=Z,14nm,0.9s
CAN Canberra 41.57 153 P **P 12 13 06.1 +1.4**
CNB Canberra Magne 41.74 152 P **P 12 13 07.3 +1.3**
baz=42,SNR=20
SHL Shillong 41.77 309 P **P 12 13 05.7 -1.0**
SHL IAmb IAmb 12 13 07.0
comp=Z,8.6nm,0.6s
TOO Toolangi 42.03 158 P **P 12 13 10.0 +1.7**
baz=42,SNR=7.2
TOO Toolangi 42.03 158 P **P 12 13 08.5 +0.2**
TOO IAmb IAmb 12 14 30.2
comp=Z,17nm,1.5s
HHC Hu-ho-hao-te 42.05 342 *e*P **P 12 13 11.4 +2.9**
HHC S **S 12 19 22.2 +5.7**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,170nm,6.1s
GTA Gaotai 45.58 330 *e*P **P 12 13 37.4 +0.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 49.77 342 P **P 12 14 09.1 +0.2**
ULN IAmb IAmb 12 14 49.7
comp=Z,5.2nm,0.9s
SONM Songino Array 49.94 342 P **P 12 14 09.3 -1.0**
comp=Z,1.1nm,0.6s,baz=37,slow=45,SNR=4.2
SONM ScP **ScP 12 19 10.5 +0.5**
comp=Z,0.3nm,0.3s,baz=147,slow=2.9,SNR=1.5
SONM Songino Array 49.94 342 P **P 12 14 09.6 -0.6**
MSVF Nonsavu 53.53 113 P **P 12 14 38.7 +1.4**
comp=Z,12nm,0.9s,baz=259,slow=8.9,SNR=8.9
MSVF Nonsavu 53.53 113 P **P 12 14 38.1 +0.8**
MSVF IAmb IAmb 12 14 40.0
comp=Z,12nm,0.8s
WMQ Urumqi 55.12 326 *e*P **P 12 14 50.6 +2.2**
WMQ LR LR
comp=N,340nm,18.7s
WMQ LR LR
comp=E,300nm,17.7s
WMQ LR LR
comp=Z,290nm,17.7s
PEA0B Petropavlovsk- 57.79 21 P **P 12 15 06.7 -0.3**
PEA0B IAmb IAmb 12 16 42.4
comp=Z,18nm,1.1s
PETK Petropavlovsk- 57.79 21 P **P 12 15 06.1 -0.9**
comp=Z,1.3nm,0.6s,baz=173,slow=2.9,SNR=7.6
QRZ Quartz Range 58.64 141 P **P 12 15 13.6 +0.5**
LBZ Lake Benmore 59.29 145 P **P 12 15 17.8 +0.3**
MK31 Makanchi Array 59.95 326 **P 12 15 22.2 +0.2**
MK31 IAmb IAmb 12 15 22.9
comp=Z,3.4nm,0.8s
MKAR Makanchi Array 59.95 326 P **P 12 15 22.2 +0.2**
comp=Z,3.7nm,0.3s,baz=116,slow=7.7,SNR=57
MKAR ScP **ScP 12 19 53.8 0.0**
comp=Z,0.5nm,0.6s,baz=101,slow=5.1,SNR=3.8
MKAR Makanchi Array 59.95 326 P **P 12 15 22.1 0.0**
MAKZ Makanchi 60.14 326 P **P 12 15 22.8 -0.5**
MAKZ IAmb IAmb 12 15 23.6
comp=Z,4.2nm,0.8s
URZ Urewera 60.37 136 P **P 12 15 24.4 -0.6**
comp=Z,4.9nm,0.5s,baz=4.3,slow=13,SNR=1.6
KDJ Kajisay 60.58 319 **P 12 15 27.4 +0.8**
KDJ IAmb IAmb 12 15 28.0
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 63.13 334 P **P 12 15 42.6 -0.6**
comp=Z,0.3nm,0.3s,baz=138,slow=5.4,SNR=2.0
KBL Kabul 63.43 308 P **P 12 15 45.4 -0.5**
KBL IAmb IAmb 12 15 47.0
comp=Z,6.5nm,0.7s
GAR Garm 63.99 314 P **P 12 15 48.5 -0.9**
GAR IAmb IAmb 12 15 51.2
comp=Z,13nm,0.6s
KURBB Kurchatov Arra 64.18 328 P **P 12 15 49.8 -0.3**
comp=Z,5.9nm,0.7s,baz=128,slow=6.2,SNR=27
KURK Kurchatov 64.18 328 P **P 12 15 49.8 -0.4**
SEY Seymchan 64.57 13 P **P 12 15 52.4 0.0**
comp=Z,1.3nm,0.8s,baz=192,slow=21,SNR=2.4
NIUE Niue 64.95 112 P **P 12 15 57.7 +2.0**
baz=65,SNR=3.2
KK31 Karatay Array 65.43 318 **P 12 15 58.0 -0.4**
KKAR Karatay Array 65.43 318 P **P 12 15 58.1 -0.4**
KKAR Karatay Array 65.43 318 P **P 12 15 58.2 -0.2**
KKAR IAmb IAmb 12 15 59.2
comp=Z,2.3nm,0.8s
CASY Casey 68.20 187 P **P 12 16 16.3 +0.8**
CASY IAmb IAmb 12 16 16.6
comp=Z,6.1nm,0.7s
BVAR Borovoye Array 69.75 327 P **P 12 16 24.7 -0.6**
comp=Z,0.7nm,0.3s,baz=203,slow=22,SNR=5.0
BRVK Borovoye 69.82 327 P **P 12 16 25.5 -0.3**
ABKAR Akbulak array 74.44 321 P **P 12 16 52.9 -0.4**
ABKAR Akbulak array 74.44 321 P **P 12 16 52.7 -0.5**
ABKAR IAmb IAmb 12 19 06.3
comp=Z,2.2nm,1.0s
VNDA Vanda 80.73 173 P **P 12 17 27.9 +0.3**
comp=Z,5.5nm,0.5s,baz=316,slow=6.8,SNR=41
VNDA Vanda 80.73 173 P **P 12 17 28.1 +0.5**
VNDA IAmb IAmb 12 17 28.5
comp=Z,5.1nm,0.6s
MAW Mawson 81.36 200 P **P 12 17 31.8 +0.7**
comp=Z,3.0nm,0.7s,baz=71,slow=4.4,SNR=11
MAW Mawson 81.36 200 P **P 12 17 32.0 +0.9**
baz=81,SNR=11
MAW Mawson 81.36 200 P **P 12 17 32.0 +0.9**
SBA Scott Base 81.64 172 P **P 12 17 33.8 +1.4**
RAYN Ar Rayn 81.85 293 P **P 12 17 34.8 +0.1**
I23K Minto, Yukon-K 86.36 25 P **P 12 17 57.0 +0.5**
SYO Syowa Base 90.05 201‖ *e*P **P 12 18 16.7 +2.8**
QSPA South Pole Qui 90.96 180 P **P 12 18 19.0 +0.6**
comp=Z,1.2nm,0.4s,baz=44,slow=0.3,SNR=22
ARCES ARCESS Array B 93.08 340 P **P 12 18 26.4 -1.6**
comp=Z,4.1nm,1.1s,baz=76,slow=4.7,SNR=1.5
TORD Torodi Ar. Bea 124.04 287 PKP **PKiKP 12 24 13.3 -0.2**
comp=Z,0.5nm,0.7s,baz=64,slow=1.8,SNR=3.1
TORD Torodi Ar. Bea 124.04 287 **PKiKP 12 24 13.1 -0.4**

DJA ***08*** *12:11:58.8*±*1.5,3°N*±*9°×12°6E*±*°, h12km*±*19km, M4.6/12, mb4.7/8, mB5.2/5, MLv4.5/12, Mw(mB)4.6/5*
NEIC ***08*** *12:11:59.0*±*1.8, 2°93N*±*0°09×125°84E*±*0°09, h27km*±*5km, mb4.6/29, Error ellipse: s-maj=14.6km s-min=10.7km az=51.0*
IDC ***08*** *12:11:59.8*±*2.5, 2°84N×125°78E, h37km*±*20km, mb4.1/16, mb1 4.2/17, mb1mx4.0/39, mbtmp4.2/17, ML3.7/1, Error ellipse: s-maj=27.6km s-min=11.6km az=80.0*
ISC 08 12:11:59.9±0.4,**2°87N**±0°05×**125°92E**±0°08,**h35**km,**n75**, σ1°**69**/79,**mb4.5**/31,**1C,Talaud Islands**

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

SGSI Sangihe 0.90 334 P **Pn 12 12 14.9 -1.1**
SGSI S **Sn 12 12 27.2 -0.6**
TNTI Ternate 2.54 145 Pn **Pn 12 12 38.8 +0.1**
TNTI Ternate 2.54 145 P **Pn 12 12 41.0 +2.3**
GTOI Gorontalo 3.66 233 P **Pn 12 12 54.5 +0.5**
DAV Davao City (W) 4.18 355 Pn Pn 12 13 08.0 +6.8
86nm,0.3s,baz=306,slow=2.6,SNR=2.6
DAV Sn **Sn 12 13 55.3 +6.4**
13nm,0.3s,baz=120,slow=19,SNR=1.0
KCP Kidapawan 4.19 349‖ *e*P **Pn 12 13 03.7 +2.3**
MRSI Marisa 4.63 239 P **Pn 12 13 08.7 +1.2**
SANI Sanana 4.89 179 P **Pn 12 13 11.2 +0.2**
LUWI Luwuk 5.00 219 Pn **Pn 12 13 12.0 -0.6**
LUWI Luwuk 5.00 219 P **Pn 12 13 15.6 +3.1**
0.8nm2μm166nm,0.7s
TOLI2 Tolitoli 5.42 251 **Pn 12 13 16.7 -1.6**
APSI Ampana 5.69 229 P **Pn 12 13 25.5 +3.6**
0.9nm2μm229nm,0.9s
NLAI Namlea 6.19 169 P **Pn 12 13 29.8 +1.0**
SIJI Sorong 6.51 125 Pn **Pn 12 13 35.2 +1.8**
1.5nm,0.3s,baz=321,slow=24,SNR=1.9
MPSI Mapaga 6.52 247 P **Pn 12 13 33.7 +0.3**
0.2nm44nm,0.6s
TTSI Tana Toraja 8.47 226 P **Pn 12 14 02.9 +2.7**
1μm55nm,0.9s
BNSI Bone 9.27 219 P **Pn 12 14 14.6 +3.4**
39nm,0.9s
KAPI Kappang 9.97 218 Pn **Pn 12 14 24.5 +3.8**
2.4nm,0.3s,baz=328,slow=2.6,SNR=5.8
BKSI Bulukumba 9.99 215 P **Pn 12 14 24.2 +3.2**
12nm,0.7s
BSSI Bau Bau, Buton 10.47 211 P **Pn 12 14 31.6 +4.0**
29nm,0.6s
EDFI Ende, Flores 12.29 200 P **Pn 12 14 56.0 +3.3**
BATI Baumata 13.19 190 Pn **P 12 15 13.8 -0.6**
3.7nm,0.3s,baz=151,slow=6.7,SNR=2.7
MTN Manton Dam 16.45 162 **Pn 12 15 47.1 -1.1**
KNRA Kununurra 18.64 171 **P 12 16 14.8 0.0**
KNRA IAmb IAmb 12 16 15.8
comp=Z,22nm,0.7s
TPUB Ta-pu 20.94 346 P **P 12 16 37.9 -2.0**
WB0 Warramunga Arr 23.99 160 P **P 12 17 11.2 -0.3**
WB0 IAmb IAmb 12 17 11.5
comp=Z,32nm,0.8s
WRAB Tennant Creek 24.13 160 P **P 12 17 12.1 -0.6**
WRAB IAmb IAmb 12 17 13.4
comp=Z,24nm,0.7s
WRA Warramunga Arr 24.14 160 P **P 12 17 12.1 -0.7**
comp=Z,20nm,0.7s,baz=340,slow=10,SNR=88
WRA PcP **PcP 12 20 53.4 -0.1**
comp=Z,0.6nm,0.6s,baz=337,slow=2.0,SNR=2.6
WRA S **S 12 21 25.1 -3.4**
comp=Z,2.1nm,0.8s,baz=343,slow=17,SNR=4.7
WRA ScP **ScP 12 24 28.7 -0.8**
comp=Z,0.9nm,0.9s,baz=333,slow=2.8,SNR=3.6
WRA Warramunga Arr 24.14 160 P **P 12 17 11.0 -1.8**
WB2 Warramunga Arr 24.14 160 P **P 12 17 12.3 -0.5**
WR0 Warramunga Arr 24.22 160 P **P 12 17 13.0 -0.5**
WR0 IAmb IAmb 12 17 13.8
comp=Z,14nm,0.7s
PSA00 Pilbara Seismi 25.01 193 P **P 12 17 20.2 -0.5**
PSA00 IAmb IAmb 12 17 20.9
comp=Z,20nm,0.8s
AS31 Alice Springs 27.50 164 P **P 12 17 43.0 -0.3**
ASAR Alice Springs 27.50 164 P **P 12 17 41.6 -1.7**
comp=Z,5.4nm,0.4s,baz=340,slow=9.3,SNR=37
ASAR PcP **PcP 12 21 01.1 -0.1**
comp=Z,1.6nm,0.6s,baz=348,slow=2.5,SNR=7.5
ASAR S **S 12 22 19.6 -2.4**
comp=Z,0.6nm,0.7s,baz=331,slow=13,SNR=4.8
ASAR ScP **ScP 12 24 38.3 -0.9**
comp=Z,0.2nm,0.7s,baz=29,slow=2.1,SNR=2.0
ASAR Alice Springs 27.50 164 P **P 12 17 41.2 -2.0**
GIRL Giralia 27.81 204 P **P 12 17 46.9 +1.0**
CMAR Chiang Mai Arr 30.62 302 P **P 12 18 10.2 -0.9**
comp=Z,0.6nm,0.3s,baz=110,slow=7.8,SNR=1.7
ENH Enshi 31.38 332 P P 12 18 15.2 -2.4
ENH IAmb IAmb 12 18 16.8
comp=Z,9.7nm,1.1s
MORW Morawa 33.14 196 P **P 12 18 32.8 -0.3**
FORT Forrest 33.53 177 P **P 12 18 36.5 +0.2**
KSRS Korea Array 34.46 3 P **P 12 18 44.0 -0.3**
comp=Z,1.7nm,0.8s,baz=183,slow=9.7,SNR=6.5
NWAO Narrogin (SRO) 36.54 192 P **P 12 19 02.2 -0.1**
comp=Z,14nm,1.1s,baz=34,slow=8.0,SNR=6.2
NWAO Narrogin (SRO) 36.54 192 P **P 12 19 02.2 -0.1**
STKA Stephens Creek 37.63 158 P **P 12 19 11.7 +0.1**
comp=Z,8.2nm,0.7s,baz=329,slow=9.1,SNR=16
STKA Stephens Creek 37.63 158 P **P 12 19 11.9 +0.3**
ARMA Armidale 41.22 145 P **P 12 19 42.4 +0.7**
ARMA IAmb IAmb 12 19 43.3
comp=Z,27nm,1.4s
ASAJ Asahikawa 43.64 17 P **P 12 20 01.8 +0.7**
comp=Z,4.0nm,0.7s,baz=212,slow=9.5,SNR=7.5
JKA Kamikawa-asahi 43.64 17 P **P 12 20 02.0 +0.9**
JKA IAmb IAmb 12 20 02.5
comp=Z,7.5nm,0.9s
CAN Canberra 43.72 152 P **P 12 20 03.6 +1.7**
CAN IAmb IAmb 12 20 08.5
comp=Z,10nm,1.2s
TOO Toolangi 44.15 158 P **P 12 20 06.3 +1.0**
TOO IAmb IAmb 12 20 13.8
comp=Z,14nm,1.4s
SONM Songino Array 47.85 342 P **P 12 20 34.2 -0.3**
comp=Z,0.4nm,0.4s,baz=140,slow=5.1,SNR=2.1
SONM PcP **PcP 12 22 02.2 -0.6**
comp=Z,0.5nm,0.4s,baz=172,slow=2.9,SNR=2.0
PEA0B Petropavlovsk- 56.52 22 P **P 12 21 39.3 +0.7**
PETK Petropavlovsk- 56.52 22 P **P 12 21 39.1 +0.5**
comp=Z,2.2nm,0.6s,baz=198,slow=4.1,SNR=12
PETK Petropavlovsk- 56.52 22 P **P 12 21 39.3 +0.6**
MK31 Makanchi Array 57.80 326 P **P 12 21 47.0 -0.8**
MKAR Makanchi Array 57.80 326 P **P 12 21 46.7 -1.1**
comp=Z,0.5nm,0.5s,baz=123,slow=7.4,SNR=7.3
MKAR PcP **PcP 12 22 38.5 -1.7**
comp=Z,1.6nm,0.6s,baz=140,slow=3.2,SNR=9.0
MA2 Magadan 59.73 14 P **P 12 22 00.9 0.0**
comp=Z,5.8nm,0.8s,baz=270,slow=9.1,SNR=2.9
ZALV Zalesovo Beam 60.98 334 P **P 12 22 10.6 +1.0**
comp=Z,0.9nm,0.5s,baz=76,slow=36,SNR=2.1
SEY Seymchan 63.05 13 P **P 12 22 23.9 +0.6**
comp=Z,0.5nm,0.3s,baz=191,slow=5.0,SNR=4.1
TIXI Tiksi 68.70 1 P **P 12 22 58.3 -1.2**
CASY Casey 69.88 187 P **P 12 23 07.3 +0.5**
CASY IAmb IAmb 12 23 07.7
comp=Z,3.7nm,0.7s
ABKAR Akbulak array 72.30 321 P P 12 23 20.0 -1.9
VNDA Vanda 82.69 173 P **P 12 24 19.6 +0.1**
comp=Z,1.8nm,0.4s,baz=320,slow=6.4,SNR=20
VNDA Vanda 82.69 173 P **P 12 24 19.7 +0.3**
SBA Scott Base 83.61 172 P **P 12 24 25.4 +1.3**
MLY Manley 84.59 25 P **P 12 24 30.1 +0.6**
MLY IAmb IAmb 12 24 30.6
comp=Z,2.3nm,0.6s
COLD Coldfoot 84.99 23 P **P 12 24 32.5 +1.1**
COLD IAmb IAmb 12 24 33.6
comp=Z,4.1nm,0.8s
PMR Palmer 85.08 29 P **P 12 24 31.6 -0.3**
PMR IAmb IAmb 12 24 36.2
comp=Z,2.5nm,0.9s
I23K Minto, Yukon-K 85.18 25 P **P 12 24 33.0 +0.6**
I23K IAmb IAmb 12 24 44.2
comp=Z,5.1nm,1.4s
ILAR Eielson Array 86.22 25 P P 12 24 36.3 -1.3
comp=Z,0.3nm,0.5s,baz=239,slow=5.5,SNR=8.8
ARCES ARCESS Array B 90.97 340 P P 12 24 58.0 -2.0
comp=Z,2.6nm,0.8s,baz=101,slow=4.7,SNR=5.6
FINES FINESS Array B 92.20 332 P P 12 25 01.8 -4.0
comp=Z,1.6nm,0.9s,baz=65,slow=7.8,SNR=4.0
PDAR Pinedale Array 112.53 41 PKiKP **PKiKP 12 30 33.1 -0.1**
comp=Z,0.2nm,0.5s,baz=186,slow=1.5,SNR=3.9
TORD Torodi Ar. Bea 122.41 287 PKP **PKPdf 12 30 50.5 -2.1**
comp=Z,0.7nm,0.6s,baz=77,slow=1.4,SNR=4.9
TXAR Lajitas Array 122.76 52 PKP **PKPdf 12 30 53.3 +0.3**
comp=Z,0.2nm,0.5s,baz=74,slow=1.8,SNR=4.2

IDC ***08*** *12:41:38.6*±*0.8, 21°76S×68°32W, h106km*±*11km, mb3.7/6, mb1 3.8/8, mb1mx3.6/23, mbtmp4.1/8, Error ellipse: s-maj=25.5km s-min=15.9km az=150.0*
SJA ***08*** *12:41:38.6*±*0.6, 21°87S×68°66W, h139km*±*3km, ML4.0, MW4.0*
NEIC ***08*** *12:41:39.7*±*1.3, 21°87S*±*0°05×68°62W*±*0°10, h124km*±*5km, Error ellipse: s-maj=13.4km s-min=7.0km az=94.0*

*VAO **08** 12:41:39.2±0.3,21.°95S×68.°83W,h163km,mb4.4*
*GUC **08** 12:41:40.4±0.7,21.°88S×68.°58W,h120km±4km,ML4.1*
ISC 08 12:41:39.0±0.6,21.°88S±0.°03×68.°62W±0.°04,h135km±5km,
n144,σ1°41/165,mb4.1/9,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**278**	⇑*iP*	**Pn**	**12 41 59.4**	**0.0**
PB09				*eS*	**Sn**	**12 42 13.9**	**-0.8**
PB09	**IPOC Station P**	**0.58**	**278**		**Pn**	**12 41 58.9**	**-0.4**
PB09	**IPOC Station P**	**0.58**	**278**	*eP*	**Pn**	**12 41 59.6**	**+0.3**
PB09				*eS*	**Sn**	**12 42 14.8**	**+0.1**
PB09				IAML		12 42 16.5	
	comp=Z,2μm,0.2s						
LVC	**Limon Verde**	**0.77**	**200**	P	**Pn**	**12 42 00.8**	**-0.1**
	baz=39,slow=10.0						
LVC				S	**Sn**	**12 42 16.2**	**-1.3**
	comp=Z,595nm,0.3s,baz=236,slow=21,SNR=20						
LVC	**Limon Verde**	**0.77**	**200**	⇑*iP*	**Pn**	**12 42 00.5**	**-0.4**
LVC				*eS*	**Sn**	**12 42 16.2**	**-1.3**
LVC	**Limon Verde**	**0.77**	**200**	*eP*	**Pn**	**12 42 00.6**	**-0.3**
LVC				IAML		12 42 19.7	
	comp=Z,927nm,0.3s						
AF01	**San Pedro de A**	**1.14**	**159**	*eP*	**Pn**	**12 42 04.1**	**0.0**
AF01				*eS*	**Sn**	**12 42 22.7**	**-0.4**
AF01				IAML		12 42 39.2	
	comp=N,4μm,0.5s						
PB01	**IPOC Station P**	**1.16**	**316**	⇑*iP*	**Pn**	**12 42 03.8**	**-0.2**
PB01				*eS*	**Sn**	**12 42 21.9**	**-1.2**
PB01				IAML		12 42 23.9	
	comp=E,6μm,0.2s						
PB01	**IPOC Station P**	**1.16**	**316**		**Pn**	**12 42 03.8**	**-0.2**
PB01	**IPOC Station P**	**1.16**	**316**	*eP*	**Pn**	**12 42 04.0**	**0.0**
PB01				*eS*	**Sn**	**12 42 23.2**	**+0.1**
PB01				IAML		12 42 23.8	
	comp=Z,3μm,0.2s						
PB07	**IPOC Station P**	**1.19**	**277**	⇑*iP*	**Pn**	**12 42 04.5**	**+0.2**
PB07				*eS*	**Sn**	**12 42 23.1**	**-0.5**
PB07				IAML		12 42 24.7	
	comp=N,6μm,0.2s						
PB07	**IPOC Station P**	**1.19**	**277**		**Pn**	**12 42 04.6**	**+0.2**
PB07	**IPOC Station P**	**1.19**	**277**	*eP*	**Pn**	**12 42 04.6**	**+0.3**
PB07				*eS*	**Sn**	**12 42 23.8**	**+0.2**
PB07				IAML		12 42 25.0	
	comp=Z,3μm,0.2s						
PB06	**IPOC Station P**	**1.20**	**227**	⇑*iP*	**Pn**	**12 42 05.0**	**+0.5**
PB06				*eS*	**Sn**	**12 42 23.7**	**-0.2**
PB06				IAML		12 42 25.0	
	comp=N,6μm,0.2s						
PB06	**IPOC Station P**	**1.20**	**227**		**Pn**	**12 42 04.5**	**0.0**
PB06	**IPOC Station P**	**1.20**	**227**	*eP*	**Pn**	**12 42 05.0**	**+0.5**
PB06				*eS*	**Sn**	**12 42 24.6**	**+0.7**
PB06				IAML		12 42 26.4	
	comp=Z,2μm,0.8s						
PB04	**IPOC Station P**	**1.49**	**252**	⇑*iP*	**Pn**	**12 42 07.8**	**+0.4**
PB04				*eS*	**Sn**	**12 42 28.6**	**-0.6**
PB04				IAML		12 42 36.1	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**1.49**	**252**		**Pn**	**12 42 07.4**	**0.0**
PB04	**IPOC Station P**	**1.49**	**252**	*eP*	**Pn**	**12 42 07.8**	**+0.4**
PB04				*eS*	**Sn**	**12 42 29.0**	**-0.2**
PB04				IAML		12 42 32.2	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**1.54**	**211**	⇑*iP*	**Pn**	**12 42 08.6**	**+0.6**
PB15				*eS*	**Sn**	**12 42 31.0**	**+0.7**
PB15	**IPOC Station P**	**1.54**	**211**		**Pn**	**12 42 08.7**	**+0.6**
PB15	**IPOC Station P**	**1.54**	**211**	*eP*	**Pn**	**12 42 08.6**	**+0.6**
PB15				*eS*	**Sn**	**12 42 31.2**	**+0.9**
PB05	**IPOC Station P**	**1.75**	**236**	⇑*iP*	**Pn**	**12 42 10.8**	**+0.4**
PB05				*eS*	**Sn**	**12 42 34.0**	**-0.5**
PB05				IAML		12 42 34.9	
	comp=N,2μm,0.3s						
PB05	**IPOC Station P**	**1.75**	**236**	*eP*	**Pn**	**12 42 10.8**	**+0.4**
PB05				*eS*	**Sn**	**12 42 34.8**	**+0.3**
PB05				IAML		12 42 35.6	
	comp=Z,1μm,0.5s						
PB08	**IPOC Station P**	**1.80**	**344**	⇑*iP*	**Pn**	**12 42 12.0**	**+0.7**
PB08				*eS*	**Sn**	**12 42 35.9**	**-0.1**
PB08	**IPOC Station P**	**1.80**	**344**		**Pn**	**12 42 11.5**	**+0.1**
PB08	**IPOC Station P**	**1.80**	**344**	*eP*	**Pn**	**12 42 12.1**	**+0.7**
PB08				*eS*	**Sn**	**12 42 36.6**	**+0.6**
PB08				IAML		12 42 38.1	
	comp=Z,710nm,0.2s						
TA01	**Diego Aracena**	**1.96**	**312**	*eP*	**Pn**	**12 42 12.2**	**-0.5**
TA01				*eS*	**Sn**	**12 42 37.7**	**-0.9**
TA01				IAML		12 42 40.0	
	comp=N,2μm,0.3s						
TA01	**Diego Aracena**	**1.96**	**312**	Pn	**Pn**	**12 42 12.6**	**-0.2**
TA02	**Huaiquique**	**2.14**	**318**	*eP*	**Pn**	**12 42 14.3**	**-0.6**
TA02				*eS*	**Sn**	**12 42 41.4**	**-1.0**
TA02	**Huaiquique**	**2.14**	**318**		**Pn**	**12 42 14.3**	**-0.6**
PB10	**IPOC Station P**	**2.41**	**227**	*eP*	**Pn**	**12 42 18.5**	**+0.2**
PB10				*eS*	**Sn**	**12 42 45.6**	**-3.0**
PB10				IAML		12 42 55.0	
	comp=N,583nm,0.4s						
PB10	**IPOC Station P**	**2.41**	**227**		**Pn**	**12 42 18.6**	**+0.4**
PB10	**IPOC Station P**	**2.41**	**227**	*eP*	**Pn**	**12 42 18.8**	**+0.4**
PB10				*eS*	**Sn**	**12 42 47.6**	**-1.0**
PB10				IAML		12 42 59.9	
	comp=Z,242nm,0.3s						
PSGC	**Pisagua**	**2.67**	**328**	*eP*	**Pn**	**12 42 20.4**	**-1.4**
PSGC				*eS*	**Sn**	**12 42 51.9**	**-2.8**
PSGC				IAML		12 43 01.6	
	comp=N,618nm,0.3s						
PSGCX	**Pisagua**	**2.67**	**328**	Pn	**Pn**	**12 42 21.0**	**-0.7**
PSGCX	**Pisagua**	**2.67**	**328**	*eP*	**Pn**	**12 42 20.6**	**-1.1**
PSGCX				IAML		12 43 00.8	
	comp=Z,371nm,0.5s						
MNMC	**Minye Minye**	**2.89**	**341**	*eP*	**Pn**	**12 42 24.6**	**-0.1**
MNMC	**Minye Minye**	**2.89**	**341**		**Pn**	**12 42 24.6**	**-0.1**
MNMCX	**Minye Minye**	**2.89**	**341**	*eP*	**Pn**	**12 42 24.8**	**+0.2**
MNMCX				*eP*	**Pn**	**12 42 25.1**	**+0.4**
MNMCX				*eS*	**Sn**	**12 43 00.4**	**+0.6**
MNMCX				IAML		12 43 02.0	
	comp=Z,683nm,0.3s						
YJA	**Yavi**	**2.90**	**96**	*eP*	**Pn**	**12 42 26.8**	**+1.9**
YJA				*eS*	**Sn**	**12 43 02.1**	**+1.9**
PB14	**IPOC Station P**	**3.18**	**211**	Pn	**Pn**	**12 42 28.6**	**+0.2**
PB14	**IPOC Station P**	**3.18**	**211**	*eP*	**Pn**	**12 42 29.0**	**+0.5**
PB14				*eS*	**Sn**	**12 43 01.0**	**-5.7**
PB14				IAML		12 43 06.8	
	comp=Z,276nm,0.3s						
HJA	**Humahuaca**	**3.25**	**115**	*eP*	**Pn**	**12 42 31.4**	**+2.0**
GO02	**Mina Guanaco**	**3.38**	**195**	*eP*	**Pn**	**12 42 31.1**	**+0.1**
GO02	**Mina Guanaco**	**3.38**	**195**	Pn	**Pn**	**12 42 31.2**	**+0.1**
SLA	**San Lorenzo**	**4.02**	**135**	*eP*	**Pn**	**12 42 41.3**	**+2.0**
AC02	**Maricunga**	**4.95**	**185**	Pn	**Pn**	**12 42 52.1**	**+0.1**
LPAZ	**La Paz**	**5.59**	**5**	P	**Pn**	**12 43 03.0**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=162,slow=2.8,SNR=34						
LPAZ	**La Paz**	**5.59**	**5**	Pn	**Pn**	**12 43 00.8**	**+0.1**
LPAZ	**La Paz**	**5.59**	**5**	*eP*	**Pn**	**12 43 02.2**	**+1.5**
LPAZ	**La Paz**	**5.59**	**5**	*eP*	**Pn**	**12 43 02.9**	**+2.2**
GO03	**Copiap**	**5.87**	**194**	Pn	**Pn**	**12 43 02.4**	**-1.4**
GO03	**Copiap**	**5.87**	**194**	*eP*	**Pn**	**12 43 02.1**	**-1.7**
GO03				*eP*	**Pn**	**12 43 02.6**	**-1.3**
AC04	**Llanos de Chal**	**6.67**	**199**	Pn	**Pn**	**12 43 11.3**	**-3.3**
AGUA	**GUANDACOL**	**7.57**	**179**	*eP*	**Pn**	**12 43 26.8**	**+0.1**
AGUA				IAML		12 44 59.0	
	comp=Z,21nm,3.5s						
ACDV	**Cuesta del Vie**	**8.27**	**183**	*eP*	**Pn**	**12 43 36.3**	**+0.2**
ACDV				IAML		12 45 57.5	
	comp=Z,9.9nm,4.0s						
GO04	**Tololo Observa**	**8.48**	**193**	Pn	**Pn**	**12 43 36.6**	**-2.5**
GO04	**Tololo Observa**	**8.48**	**193**	*eP*	**Pn**	**12 43 37.2**	**-1.9**
SIV	**San Ignacio**	**9.24**	**52**	P	**Pn**	**12 43 45.7**	**-3.5**
	comp=Z,3.0nm,0.3s,baz=252,slow=11,SNR=37						
SIV				S	**Sn**	**12 45 24.0**	**-7.5**
	comp=Z,0.7nm,0.3s,baz=331,slow=22,SNR=5.7						
AUSP	**Usapallata**	**10.32**	**184**	*eP*	**Pn**	**12 44 03.9**	**+0.2**
MRA	**San Martin**	**10.81**	**167**	*eP*	**Pn**	**12 44 13.7**	**+3.6**
CPUP	**Villa Florida**	**11.22**	**115**	P	**Pn**	**12 44 13.2**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=278,slow=10.0,SNR=5.7						
CPUP	**Villa Florida**	**11.22**	**115**		**Pn**	**12 44 13.7**	**-1.8**
VILB	**Vilhena**	**11.97**	**43**	*eP*	**Pn**	**12 44 27.0**	**+1.5**
AQDB	**Aquidauana**	**12.14**	**86**	*eP*	**Pn**	**12 44 28.8**	**+1.3**
ETMB	**Extrema**	**12.22**	**11**	*eP*	**Pn**	**12 44 29.1**	**+0.5**
ITQB	**Itaqui**	**13.29**	**128**	*eP*	**Pn**	**12 44 43.0**	**+0.5**
PP1B	**Ponte de Pedra**	**13.62**	**74**	*eP*	**Pn**	**12 44 48.4**	**+1.7**
H03N1	**Juan Fernandez**	**14.67**	**216**	T	T	12 59 49.7	
	baz=36,SNR=6.8						
H03N2	**Juan Fernandez**	**14.68**	**216**	T	T	12 59 36.3	
	baz=36,slow=74						
H03N3	**Juan Fernandez**	**14.69**	**216**	T	T	12 59 19.2	
	baz=36,slow=74						
TRCB	**Terra Rica**	**14.82**	**97**	*eP*	**P**	**12 45 05.5**	**+1.1**
ITAB	**Concordia**	**15.91**	**113**	P	**P**	**12 45 16.6**	**+0.3**
ITAB	**Concordia**	**15.91**	**113**	*eP*	**P**	**12 45 17.0**	**+0.6**
CPSB	**Cacapava Do Su**	**16.05**	**125**	*eP*	**Pn**	**12 45 15.7**	**-1.3**
PCMB	**Pacaembu**	**16.13**	**92**	*eP*	**P**	**12 45 19.2**	**+0.4**
CLDB	**Colider**	**16.46**	**50**	*eP*	**P**	**12 45 22.6**	**+0.1**
PLTB	**Pedras Altas**	**16.61**	**129**		**P**	**12 45 24.1**	**+0.1**
PLTB				IAmb	IAmb	12 45 34.2	
	comp=Z,23nm,1.4s						
PLTB	**Pedras Altas**	**16.61**	**129**	*eP*	**P**	**12 45 24.0**	**0.0**
ARAG	**Araguaiana, MT**	**17.05**	**72**	*eP*	**P**	**12 45 29.1**	**+0.1**
TRQA	**Tornquist**	**17.11**	**162**	P	**Pn**	**12 45 30.9**	**+1.0**
TRQA	**Tornquist**	**17.11**	**162**	*eP*	**P**	**12 45 28.4**	**-1.0**
ITRB	**Iturama**	**17.21**	**86**	*eP*	**Pn**	**12 45 31.4**	**0.0**
FRTB	**Fartura**	**17.66**	**98**	*eP*	**Pn**	**12 45 36.2**	**-0.4**
BB19B	**Bebedouro**	**18.72**	**91**	*eP*	**P**	**12 45 47.1**	**-0.1**
TER01	**Tubaro-SC**	**18.83**	**115**	*eP*	**P**	**12 45 48.4**	**0.0**
SNDB	**Serra Nova Dou**	**19.27**	**62**	*eP*	**P**	**12 45 52.2**	**-1.0**
RCLB	**Rio Claro- Sao**	**19.54**	**96**	*eP*	**P**	**12 45 55.9**	**-0.4**
IPMB	**Ipameri, GO**	**19.57**	**82**	*eP*	**P**	**12 45 56.0**	**-0.6**
SPB	**Sao Paulo**	**19.62**	**99**	*eP*	**P**	**12 45 57.2**	**+0.2**
PET01	**Itanhaem-SP**	**19.78**	**101**	*eP*	**P**	**12 45 57.5**	**-1.2**
VAO	**Valinhos**	**20.05**	**97**	*eP*	**P**	**12 46 01.4**	**-0.3**
MACA	**Manacapuru-AM**	**20.14**	**24**	*eP*	**P**	**12 46 02.4**	**-0.3**
BDFB	**Brasilia**	**20.47**	**76**	P	**P**	**12 46 05.3**	**-1.0**
	comp=Z,6.0nm,0.5s,baz=254,slow=11,SNR=7.5						
BDFB	**Brasilia**	**20.47**	**76**	P	**P**	**12 46 06.3**	**0.0**
PARB	**Paraibuna**	**21.28**	**98**	*eP*	**P**	**12 46 14.0**	**-0.9**
ITTB	**Itaituba**	**21.43**	**37**	*eP*	**P**	**12 46 15.2**	**-1.3**
PEXB	**Peixe**	**21.70**	**67**	*eP*	**P**	**12 46 18.8**	**-0.6**
BSCB	**Bom Sucesso**	**22.21**	**92**	*eP*	**P**	**12 46 24.6**	**-0.1**
ESAR	**Angra dos Reis**	**22.37**	**98**	*eP*	**P**	**12 46 26.2**	**+0.1**
PTGA	**Pitinga**	**22.65**	**23**	P	**P**	**12 46 28.4**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=253,slow=23,SNR=10						
VAS01	**Vassouras-RJ**	**23.33**	**96**	*eP*	**P**	**12 46 34.1**	**-1.1**
DIAM	**Diamantina, MG**	**23.69**	**86**	*eP*	**P**	**12 46 38.3**	**-0.4**
MC01	**Montes Claros**	**23.84**	**82**	*eP*	**P**	**12 46 38.6**	**-1.3**
PRPB	**Parauapebas**	**23.97**	**52**	*eP*	**P**	**12 46 40.8**	**-0.2**
OTAV	**Otavalo**	**23.99**	**335**	*eP*	**P**	**12 46 38.5**	**-3.2**
JANB	**Januaria**	**24.02**	**78**	*eP*	**P**	**12 46 40.7**	**-0.9**
SMTB	**Santa Maria do**	**24.02**	**61**	*eP*	**P**	**12 46 41.7**	**+0.2**
MALB	**Monte Alegre**	**24.32**	**37**	*eP*	**P**	**12 46 44.4**	**+0.1**
DUB01	**Friburgo-RJ**	**24.33**	**95**	*eP*	**P**	**12 46 42.7**	**-1.7**
SDBA	**SAO DESIDERIO**	**24.51**	**71**	*eP*	**P**	**12 46 45.7**	**-0.3**
CAM01	**Campos-RJ**	**25.02**	**95**	*eP*	**P**	**12 46 49.9**	**-0.6**
SJMB	**Sao Joao De Ma**	**25.91**	**88**	*eP*	**P**	**12 46 59.2**	**+0.5**
MCPB	**Macapa, AP**	**26.80**	**39**	*eP*	**P**	**12 47 06.7**	**+0.1**
NAN01	**Guarapari, ES**	**27.08**	**87**	*eP*	**P**	**12 47 09.1**	**-0.1**
GUA01	**Guaratinga, BA**	**27.69**	**84**	*eP*	**P**	**12 47 13.6**	**-1.0**
NBIT	**Itapeh - BA**	**28.51**	**81**	*eP*	**P**	**12 47 22.6**	**+0.7**
GDU01	**Guandu, BA**	**28.78**	**79**	*eP*	**P**	**12 47 23.4**	**-0.9**
NBPS	**Pedro II - PI**	**31.56**	**60**	*eP*	**P**	**12 47 48.1**	**-0.8**
NBMA	**Muriti-CE**	**32.20**	**68**	*eP*	**P**	**12 47 54.2**	**-0.3**
NBAN	**Anadia - AL**	**33.33**	**74**	*eP*	**P**	**12 48 04.2**	**-0.1**
NBPV	**Pedro Velho**	**35.67**	**69**	*eP*	**P**	**12 48 24.2**	**-0.2**
PMSA	**Palmer Station**	**42.98**	**177**	*eP*	**P**	**12 49 20.3**	**-4.1**
SNAA	**Sanae**	**61.83**	**161**	P	**P**	**12 51 45.9**	**+2.6**
SNAA				IAmb	IAmb	12 51 46.5	
	comp=Z,2.5nm,0.8s						
LIC	**Lamto**	**68.24**	**73**	*eP*	**P**	**12 52 25.7**	**+0.2**
	comp=Z,28nm,1.4s						
TIC	**Toumodi**	**68.43**	**73**	*eP*	**P**	**12 52 26.0**	**-0.8**
KIC	**Kosan Boka**	**68.55**	**73**	*eP*	**P**	**12 52 29.2**	**+1.7**
	comp=Z,14nm,0.6s						
PD31	**Pinedale Array**	**74.58**	**330**	P	**P**	**12 53 04.7**	**+1.5**
PDAR	**Pinedale Array**	**74.58**	**330**	P	**P**	**12 53 06.3**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=124,slow=7.4,SNR=3.7						
PDAR	**Pinedale Array**	**74.58**	**330**	P	**P**	**12 53 05.3**	**+2.0**
NVAR	**Mina Array Bea**	**75.96**	**322**	P	**P**	**12 53 14.6**	**+3.3**
	comp=Z,0.4nm,0.7s,baz=147,slow=8.0,SNR=5.1						
TOA0	**Torodi Ar. Sit**	**77.23**	**70**	P	**P**	**12 53 19.6**	**+0.9**
TOA0				IAmb	IAmb	12 53 19.8	
	comp=Z,3.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**12 53 19.4**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=255,slow=5.3,SNR=18						
TORD	**Torodi Ar. Bea**	**77.23**	**70**	P	**P**	**12 53 19.6**	**+1.0**
TORD				IAmb	IAmb	12 53 20.3	
	comp=Z,2.9nm,1.0s						
BOSA	**Boshof**	**83.03**	**118**	P	**P**	**12 53 51.8**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=230,slow=7.9,SNR=2.0						
H11S2	**WAKE ISLAND Hyl**	**28.19**	**277**	T	T	15 20 51.6	
	baz=107,SNR=3.6						
H11S1	**WAKE ISLAND Hyl**	**28.20**	**277**	T	T	15 20 51.7	
	baz=107						
H11S3	**WAKE ISLAND Hyl**	**28.21**	**277**	T	T	15 20 47.2	
	baz=107						
H11N3	**WAKE ISLAND Hyl**	**28.28**	**278**	T	T	15 21 08.9	
	baz=103						
H11N2	**WAKE ISLAND Hyl**	**28.29**	**278**	T	T	15 21 04.6	
	baz=103						
H11N1	**WAKE ISLAND Hyl**	**28.30**	**278**	T	T	15 21 02.6	
	baz=103						
MKAR	**Makanchi Array**	**145.78**	**36**	PKPbc	**PKiKP**	**13 01 04.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=327,slow=3.9,SNR=7.6						
MKAR	**Makanchi Array**	**145.78**	**36**	PKPdf	**PKPab**	**13 01 04.1**	**+1.3**

*SOME **08** 12:42:05.2,44.°72N×82.°18E,h10km*
NNC 08 12:42:08.6±1.7,44.°72N×82.°05E,h0km,mb3.3,mpv3.2,
4C-2D,Error ellipse: s-maj=21.5km s-min=5.2km
az=120.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.66**	**257**	*eP*	Pn	12 42 39.4	+0.2
	0.4nm,0.1s						
DJR				*eS*	Sg	12 43 03.7	+1.7
	0.8nm,0.2s						
KTMS	**Ketmen**	**1.76**	**225**	*eP*	Pn	12 42 40.1	-0.4
	2.7nm,0.2s						
KTMS				*eS*	Sg	12 43 05.8	+0.5
	18nm,0.4s						
MK31	**Makanchi Array**	**2.09**	**4**	⇑Pn	Pn	12 42 44.7	-0.2
	2.5nm,0.2s,baz=183,slow=14,SNR=104						
MK31				⇑Sn	Sb	12 43 12.7	-1.1
	1.6nm,0.2s,baz=182,slow=26,SNR=16						
MAKZ	**Makanchi**	**2.09**	**359**	⇑Pn	Pn	12 42 44.7	-0.3
	0.9nm,0.3s						
MAKZ				⇑Sn	Sb	12 43 13.0	-1.0
	5.2nm,0.5s						
PDGK	**Podgornoye**	**2.31**	**234**	Pg	Pn	12 42 49.4	+1.3
	2.1nm,0.2s						
PDGK				Lg	Lg	12 43 20.8	
	5.7nm,0.6s						
PDGK	**Podgornoye**	**2.31**	**234**	⇓Pn	Pn	12 42 49.2	+1.2
	1.1nm,0.3s						
PDGK				⇓Sn	Sb	12 43 20.6	+0.2
	7.3nm,0.5s						
SHLS	**Shalkode**	**2.44**	**231**	*eP*	Pn	12 42 47.9	-1.8
	5.7nm,0.2s						
SHLS				*eS*	Sn	12 43 18.6	-1.7
	17nm,0.4s						
SHLS	**Shalkode**	**2.44**	**231**	Pg	Pn	12 42 47.9	-1.8
	5.6nm,0.1s						
SHLS				Lg	Lg	12 43 18.6	
	17nm,0.4s						
UZB	**Uzynbulak**	**2.69**	**235**	*eP*	Pb	12 42 55.5	-2.2
	3.4nm,0.2s						
UZB				*eS*	Sb	12 43 31.9	+0.5
	3.8nm,0.3s						
UZB	**Uzynbulak**	**2.69**	**235**	Pg	Pb	12 42 55.6	-2.2
	3.4nm,0.2s						
UZB				Lg	Lg	12 43 31.9	
	3.8nm,0.3s						
KPKS	**Kokpek**	**2.73**	**244**	*eP*	Pb	12 42 56.5	-1.9
	9.3nm,0.1s						
KPKS				*eS*	Sb	12 43 33.2	+0.8
	14nm,0.3s						
ARXS	**Arharly**	**3.07**	**262**	*eP*	Pb	12 43 03.5	-0.6
	5.6nm,0.3s						
ARXS				*eS*	Sg	12 43 45.6	-1.5
	9.0nm,0.4s						
ARXS	**Arharly**	**3.07**	**262**	Pg	Pb	12 43 03.5	-0.6
	5.6nm,0.3s						
ARXS				Lg	Lg	12 43 45.6	
	9.0nm,0.4s						
SATY	**Saty**	**3.11**	**239**	*eP*	Pb	12 43 02.8	-2.1
	2.4nm,0.3s						
SATY				*eS*	Sb	12 43 44.8	+1.3
	6.9nm,0.2s						
SATY	**Saty**	**3.11**	**239**	Pg	Pb	12 43 02.8	-2.1
	2.4nm,0.3s						
SATY				Lg	Lg	12 43 44.8	
	6.9nm,0.2s						
KTBS	**Karatobe**	**3.99**	**257**	*eP*	Pb	12 43 21.9	+2.0
	1.5nm,0.4s						

*SOME **08** 12:44:00.6,43.°93N×76.°07E,h5km*
NNC 08 12:44:01.2±0.4,43.°90N×76.°07E,h0km,mb1.8,mpv2.3,
5C-4D,Error ellipse: s-maj=2.6km s-min=1.1km
az=171.0,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUU	**Kurty**	**0.19**	**92**	*eP*	Pg	12 44 04.7	-0.2
	2.1nm,0.1s						
KUU				*eS*	Sg	12 44 07.7	+0.3
	26nm,0.3s						
KUU	**Kurty**	**0.19**	**92**	P	Pg	12 44 04.7	-0.2
	2.1nm,0.1s						
KUU				S	Sg	12 44 07.7	+0.3
	26nm,0.3s						
KRBS	**Karabastau**	**0.35**	**235**	⇑*eP*	Pg	12 44 08.1	+0.1
	3.4nm,0.1s						
KRBS				*eS*	Sg	12 44 13.5	+1.0
	5.2nm,0.2s						
KRBS	**Karabastau**	**0.35**	**235**	P	Pg	12 44 08.1	+0.1
	3.4nm,0.1s						
KRBS				S	Sg	12 44 13.5	+1.0
	5.2nm,0.2s						
KTBS	**Karatobe**	**0.48**	**113**	*eP*	Pg	12 44 10.2	-0.1
	0.5nm,0.1s						
KTBS				*eS*	Sg	12 44 17.2	+0.6
	6.4nm,0.3s						
KTBS	**Karatobe**	**0.48**	**113**	P	Pg	12 44 10.2	-0.1
	0.5nm,0.1s						
KTBS				S	Sg	12 44 17.2	+0.6
	6.4nm,0.3s						
KTBS	**Karatobe**	**0.48**	**113**	*eS*	Sg	12 44 17.1	+0.6
	6.2nm,0.3s						
DGS	**Degeres**	**0.69**	**199**	*eP*	Pg	12 44 14.6	+0.2
	0.8nm,0.2s						
DGS				*eS*	Sg	12 44 24.7	+1.3
	4.7nm,0.3s						
DGS	**Degeres**	**0.69**	**199**	P	Pg	12 44 14.6	+0.2
	0.8nm,0.2s						
DGS				S	Sg	12 44 24.8	+1.4
	4.7nm,0.3s						
KNDC	**Almaty**	**0.94**	**136**	⇑P	Pg	12 44 19.3	+0.1
	16nm,0.5s						
KNDC				⇓S	Sb	12 44 32.6	-0.9
	8.5nm,0.2s						
MDOK	**Medeo**	**1.02**	**136**	⇓P	Pg	12 44 20.9	+0.1
	0.7nm,0.4s						
MDOK				⇑S	Sb	12 44 35.2	-0.7
	1.9nm,0.7s						
TKM2	**Tokmak 2**	**1.04**	**200**	⇓P	Pg	12 44 21.3	+0.2
	3.7nm,1.5s						
TKM2				⇑S	Sg	12 44 35.3	+0.8
	0.9nm,0.5s						
AAK	**Ala-Archa**	**1.71**	**223**	⇑P	Pn	12 44 32.2	-0.2
	0.8nm,0.3s						
AAK				⇓S	Sb	12 44 55.8	+0.1
	0.8nm,0.3s						

*NNC **08** 12:45:36.1±4.6,38.°05N×79.°22E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=35.8km s-min=27.4km az=24.0
*IDC **08** 12:45:38.3±1.5,38.°39N×78.°42E,h0km,mb3.5/4,*
mb1 3.7/9,mb1mx3.5/47,mbtmp3.6/9,ML3.0/5,MS3.2/4,
Ms1 3.2/4,ms1mx2.7/45,Error ellipse: s-maj=32.2km
s-min=16.0km az=58.0
ISC 08 12:45:38.5±1.2,38.°25N±0.°08×78.°51E±0.°07,h10km,n29,
σ1°85/27,mb3.5/4,MS3.4/3,5C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**5.03**	**348**	Pg	**Pg**	**12 47 15.3**	**+0.5**
	11nm,0.6s						
MDOK				Lg	Lg	12 48 30.8	
	29nm,1.2s						
PDGK	**Podgornoye**	**5.13**	**8**	Pg	**Pg**	**12 47 16.8**	**+0.1**
	4.2nm,0.6s						
PDGK				Lg	Lg	12 48 33.2	
	9.9nm

CMAR	Chiang Mai Arr	26.58	132	P	P	12 51 19.1	+2.2
	comp=Z,0.8nm,0.8s,baz=319,slow=9.5,SNR=4.7						
PALK	Pallekele	30.90	176	LR	LR	13 03 27.9	
	comp=Z,72nm,18.0s,baz=262,slow=34						
JHJ	Hachijo jima 2	49.25	76	LR	LR	13 17 50.8	
	comp=Z,111nm,18.1s,baz=86,slow=39						
ILAR	Eielson Array	71.33	19	P	P	12 56 57.3	-0.7
	comp=Z,0.8nm,0.9s,baz=318,slow=5.1,SNR=6.9						
ASAR	Alice Springs	80.57	130	P	P	12 57 55.4	+4.2
	comp=Z,0.3nm,0.7s,baz=311,slow=5.7,SNR=2.6						

*NEIC **08** 12:55:21.0±1.7,56°.84N±0°.07×157°.6W±0°.1,h92km±9km, Error ellipse: s-maj=13.4km s-min=6.3km az=134.0*
*AEIC **08** 12:55:22.2±1.8,56°.78N±0°.07×157°.6W±0°.1,h85km±7km, ML3.2/78,ML3.3/14(NEIC),Error ellipse: s-maj=12.7km s-min=6.6km az=132.0*
*IDC **08** 12:55:23.4±5.9,57°.15N×157°.45W,h96km±38km,mb3.4/4, mb1 3.7/7,mb1mx3.3/51,mbtmp3.7/7,Error ellipse: s-maj=50.3km s-min=28.3km az=58.0*

ISC 08 12:55:21.1±1.0,56°.86N±0°.06×157°.65W±0°.05, h93km±10km,n117,σ1§03/124,mb3.5/4,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBLL	Peulik Blue Cr	0.96	28		Pn	12 55 40.7	+0.2
PLBL					Sn	12 55 55.5	+0.4
VNHG	Veniaminof 1	1.05	233		Pn	12 55 41.7	0.0
VNSG	Veniaminof 6	1.08	228		Pn	12 55 41.7	-0.3
PLK1	Peulik 1	1.10	30		Pn	12 55 42.4	+0.2
PLK3	Peulik 3	1.12	41		Pn	12 55 43.0	+0.6
PLK3					Sn	12 55 59.6	+1.2
VNFG	Fog Glacier, M	1.20	242	P	Pn	12 55 43.3	-0.1
	baz=65						
VNFG	Fog Glacier, M	1.20	242		Pn	12 55 43.3	-0.1
PLK5	Peulik 5	1.22	20		Pn	12 55 44.0	+0.5
KJL	Kejulik	1.64	42		Pn	12 55 49.0	+0.2
CAHL	Cahill	1.74	46		Pn	12 55 50.4	+0.3
ANCK	Angle Creek	1.78	40		Pn	12 55 50.9	+0.4
KELA	Mount Kelaz	1.89	32		Pn	12 55 52.0	-0.1
KABU	Katmai Buttres	1.91	41		Pn	12 55 52.7	+0.4
KABU					Sn	12 56 15.4	-0.5
KABR	Katmai Barrier	1.93	47		Pn	12 55 53.3	+0.8
KVTA	Katmai Vly 10	1.98	39		Pn	12 55 53.6	+0.4
SDPT	Sand Point	2.19	228	P	Pn	12 55 54.6	-1.2
	baz=47						
SDPT				S	Sn	12 56 21.9	-0.5
	baz=47						
SDPT	Sand Point	2.19	228		Pn	12 55 55.5	-0.4
SDPT				IAML		12 56 27.8	
	comp=N,195nm,0.8s						
SDPT				IAML		12 56 31.9	
	comp=E,183nm,0.6s						
CHNA	Chernabura Isl	2.31	209	P	Pn	12 55 56.3	-1.1
	baz=29						
CNBA	Chernabura Isl	2.32	209		Pn	12 55 57.0	-0.5
CNBA				IAML		12 56 33.4	
	comp=E,192nm,0.3s						
CNBA				IAML		12 56 34.9	
	comp=N,260nm,0.5s						
OHAK	Old Harbor	2.41	79	P	Pn	12 55 58.4	-0.4
	baz=261						
OHAK				S	Sn	12 56 26.3	-1.3
	baz=261						
OHAK	Old Harbor	2.41	79		Pn	12 55 58.6	-0.2
OHAK				Sn	Sn	12 56 26.5	-1.1
OHAK				IAML		12 56 27.1	
	comp=E,174nm,0.7s						
KDAK	Kodiak Island	2.90	69	P	Pn	12 56 05.0	-0.2
	comp=E,5.1nm,0.3s,baz=263,slow=11,SNR=462						
KDAK				S	Sn	12 56 37.6	-1.6
	comp=E,11nm,0.3s,baz=245,slow=18,SNR=13						
KDAK	Kodiak Island	2.90	69		Pn	12 56 05.2	-0.1
KDAK	Kodiak Island	2.90	69	IAML		12 56 39.9	
	comp=E,81nm,0.5s						
DT1	Dutton Round H	3.14	238		Pn	12 56 08.0	-0.5
O18K	Koktuh Hills	3.27	22	P	Pn	12 56 10.5	+0.3
	baz=203						
O18K	Koktuh Hills	3.27	22		Pn	12 56 10.5	+0.3
AGU	Augustine-Summ	3.36	40		Pn	12 56 11.4	-0.1
AUL	Augustine Lava	3.38	40		Pn	12 56 12.6	+0.9
P19K	Oil Pt	3.65	38	P	Pn	12 56 16.2	+0.8
	baz=220						
P19K	Oil Pt	3.65	38		Pn	12 56 16.2	+0.8
O19K	Port Alsworth	3.77	26	P	Pn	12 56 17.4	+0.4
	baz=208						
O19K	Port Alsworth	3.77	26		Pn	12 56 17.4	+0.4
N18K	Kilae Creek	3.94	13	P	Pn	12 56 19.4	0.0
	baz=193						
N18K	Kilae Creek	3.94	13		Pn	12 56 19.4	0.0
ISLZ	Isanotski Laza	4.04	241		Pn	12 56 19.6	-1.1
O20K	Slope Mountain	4.17	37	P	Pn	12 56 23.2	+0.7
	baz=220						
O20K	Slope Mountain	4.17	37		Pn	12 56 23.2	+0.7
HOM	Homer	4.24	46	P	Pn	12 56 24.1	+0.9
	baz=230						
HOM	Homer	4.24	46	Pn	Pn	12 56 23.8	+0.6
N19K	Bonanza Creek	4.29	21	P	Pn	12 56 25.1	+0.9
	baz=203						
N19K	Bonanza Creek	4.29	21		Pn	12 56 25.1	+0.9
CNPM	China Poot	4.32	49		Pn	12 56 25.0	+0.5
CNPM				IAML		12 57 17.4	
	comp=N,24nm,0.4s						
CNPM				IAML		12 57 25.6	
	comp=E,20nm,0.8s						
SVW2	Sparrevohn	4.39	13		Pn	12 56 25.3	0.0
BRSE	Bradley Lake S	4.65	49	P	Pn	12 56 28.1	-0.8
	baz=234						
BRSE	Bradley Lake S	4.65	49		Pn	12 56 28.1	-0.8
SPCP	Crater Peak Br	5.25	30		Pn	12 56 36.6	-0.6
M19K	Big River Lodg	5.33	17	P	Pn	12 56 38.7	+0.6
	baz=199						
M19K	Big River Lodg	5.33	17		Pn	12 56 38.7	+0.6
SLKM	Skilak Lake	5.33	44		Pn	12 56 38.3	+0.2
SEW	Seward	5.39	49	P	Pn	12 56 38.9	-0.1
	baz=236						
SEW	Seward	5.39	49		Pn	12 56 39.7	+0.8
O22K	Cooper Landing	5.50	45	Pn	Pn	12 56 42.0	+1.5
L19K	White Mountain	5.53	14	P	Pn	12 56 40.9	+0.1
	baz=196						
L19K	White Mountain	5.53	14		Pn	12 56 40.9	+0.1
RC01	Rabbit Creek A	5.89	41	P	Pn	12 56 45.4	-0.4
	baz=227						
RC01	Rabbit Creek A	5.89	41		Pn	12 56 46.0	+0.2
SKT	Skwentna	6.01	29	P	Pn	12 56 47.8	+0.6
	baz=213						
SKT	Skwentna	6.01	29		Pn	12 56 49.2	+1.8
TT01	Tatalina	6.12	7		Pn	12 56 48.5	-0.4
PWL	Port Wells	6.28	46		Pn	12 56 50.9	-0.1
PPLA	Purkeypile	6.65	22	Pn	Pn	12 56 58.1	+2.0
CUT	Chulitna	6.70	31	Pn	Pn	12 56 57.6	+0.9
GLI	Glacier Island	6.79	49	P	Pn	12 56 56.4	-1.6
	baz=238						
GLI	Glacier Island	6.79	49		Pn	12 56 57.2	-0.9
HIN	Hinchinbrook I	6.81	54		Pn	12 56 57.5	-0.8
SML	Sawmill	6.88	40	Pn	Pn	12 56 59.0	-0.2
FID	Port Fidalgo	6.99	51		Pn	12 56 59.1	-1.6
JPK	Jack Peak	7.09	49		Pn	12 57 01.3	-0.8
EYAK	Cordova Ski Ar	7.21	54	P	Pn	12 57 02.8	-0.9
	baz=244						
EYAK	Cordova Ski Ar	7.21	54		Pn	12 57 03.1	-0.6
SCM	Sheep Creek Mo	7.26	42		Pn	12 57 03.5	-0.9
WAT7	Susitna Watana	7.45	33		Pn	12 57 06.1	-0.9
DIV	Divide	7.48	50		Pn	12 57 06.2	-1.1
KTH	Kantishna Hill	7.50	24	Pn	Pn	12 57 09.4	+1.8
WAT1	Susitna Watana	7.54	34	P	Pn	12 57 07.0	-1.2
	baz=221						
WAT1	Susitna Watana	7.54	34		Pn	12 57 07.0	-1.2
TRF	Thorofare Moun	7.56	26	P	Pn	12 57 08.1	-0.5
	baz=212						
TRF	Thorofare Moun	7.56	26		Pn	12 57 09.1	+0.5
KLU	Klutina	7.60	47	P	Pn	12 57 07.8	-1.3
	baz=237						
KLU	Klutina	7.60	47		Pn	12 57 08.4	-0.7
WAT6	Susitna Watana	7.61	37	P	Pn	12 57 07.5	-1.8
	baz=225						
WAT6	Susitna Watana	7.61	37		Pn	12 57 07.5	-1.8
HMT	Hamilton	7.81	58		Pn	12 57 11.4	-0.5
M24K	Tolsona, Glenn	7.86	43	P	Pn	12 57 11.4	-1.1
	baz=232						
M24K	Tolsona, Glenn	7.86	43		Pn	12 57 11.8	-0.7
BMRM	Bremner River	7.90	53	P	Pn	12 57 11.9	-1.3
	baz=244						
BMRM	Bremner River	7.90	53		Pn	12 57 12.9	-0.3
NICHA	Nichawak Mount	7.91	59		Pn	12 57 12.6	-0.7
BPAW	Bear Paw Mtn.	7.97	22	Pn	Pn	12 57 14.8	+0.8
N25K	Chitina, Valde	8.20	49	P	Pn	12 57 16.1	-1.2
	baz=240						
N25K	Chitina, Valde	8.20	49		Pn	12 57 16.7	-0.6
GLB	Gilahina Butte	8.46	51		Pn	12 57 20.0	-0.8
CRQM	Cirque	8.48	57	Pn	Pn	12 57 21.5	+0.4
WAX	Waxell Ridge	8.51	59		Pn	12 57 20.9	-0.5
VRDI	Verde Repeater	8.52	53	Pn	Pn	12 57 21.5	-0.2
ISLE	Juniper Island	8.80	58		Pn	12 57 25.1	-0.3
KIAG	Kiagna River	8.90	56		Pn	12 57 26.1	-0.6
PTPK	Patty Peak	8.94	55		Pn	12 57 26.7	-0.7
YAH	Yahtse	9.01	60		Pn	12 57 28.2	-0.2
H21K	Melozitna Rive	9.13	13	P	Pn	12 57 29.6	-0.1
	baz=197						
H21K	Melozitna Rive	9.13	13		Pn	12 57 29.6	-0.1
HDA	Harding Lake	9.21	30	P	Pn	12 57 29.2	-1.6
	baz=219						
I23K	Minto, Yukon-K	9.23	22	Pn	Pn	12 57 30.9	-0.2
TABL	Table Mountain	9.32	60	Pn	Pn	12 57 33.0	+0.5
PS08	TAPS Pump Stn8	9.35	30		Pn	12 57 31.0	-1.7
ILAR	Eielson Array	9.51	29	P	Pn	12 57 32.5	-2.3
	comp=E,0.6nm,0.3s,baz=213,slow=14,SNR=23						
ILAR				S	Sn	12 59 14.1	-5.6
	comp=E,0.4nm,0.3s,baz=222,slow=22,SNR=7.3						
PNL	Peninsula	10.01	66		Pn	12 57 40.6	-1.2
L27K	Beaver Creek,	10.06	45	Pn	Pn	12 57 41.9	-0.5
BC03		10.08	45		Pn	12 57 40.6	-2.0
BCAR	Beaver Creek A	10.08	45	Pn	Pn	12 57 41.9	-0.8
DAWY	Dawson	11.51	44	Pn	Pn	12 58 01.9	-0.2
INK	Inuvik	15.82	34	P	Pn	12 58 57.5	-0.6
	comp=E,0.2nm,0.3s,baz=221,slow=9.3,SNR=1.5						
NVAR	Mina Array Bea	31.69	109	P	P	13 01 37.9	+2.1
	comp=E,0.6nm,0.6s,baz=315,slow=8.3,SNR=7.0						
PDAR	Pinedale Array	33.33	94	P	P	13 01 51.2	+1.1
	comp=E,0.2nm,0.6s,baz=328,slow=3.3,SNR=2.8						
ULM	Lac du Bonnet	36.15	74	P	P	13 02 14.3	+0.3
	comp=E,1.5nm,0.4s,baz=307,slow=10,SNR=1.8						
TXAR	Lajitas Array	46.42	103	P	P	13 03 39.6	+1.3
	comp=E,0.6nm,0.7s,baz=324,slow=6.2,SNR=4.7						

DJA 08 12:58:55.8±0.4,10°.S±6°×11°.6E±°,h53km±33km,M4.2/17, mb4.3/6,MLv4.1/17,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.62	31	P	Pn	12 59 22.2	+0.2
TWSI				S	Sn	12 59 41.2	-0.5
DNP	Denpasar	1.67	330	P	Pn	12 59 22.7	0.0
DNP				S	Sn	12 59 42.8	-0.3
PLAI	Plampang	2.15	53	P	Pn	12 59 29.5	+0.3
PLAI				S	Sn	12 59 55.3	+0.6
SRBI	Singaraja	2.20	338	P	Pn	12 59 30.1	+0.1
SRBI				S	Sn	12 59 56.7	+0.6
JAGI	Jajag, Banyuwa	2.50	311	P	Pn	12 59 33.6	-0.5
JAGI				S	Sn	13 00 03.3	-0.1
ABJI	Asem Bagus	2.94	322	P	Pn	12 59 39.7	-0.4
ABJI				S	Sn	13 00 14.5	+0.3
WBSI	Waikabubak, Su	3.33	82	P	Pn	12 59 44.7	-0.8
WBSI				S	Sn	13 00 24.1	+0.3
KMMI	Kalianget	3.70	326	P	Pn	12 59 51.2	+0.7
PWJI	Pagerwojo	4.69	296	P	Pn	13 00 03.9	-0.2
PCJI	Pacitan	5.18	291	P	Pn	13 00 11.3	+0.4
	0.3nm53nm,1.6s						
TBJI	Tambak Boyo	5.31	308	P	Pn	13 00 12.5	-0.1
	0.4nm94nm,0.9s						
EDFI	Ende, Flores	5.73	77	P	Pn	13 00 18.0	-0.5
	0.0nm4.4nm,0.6s						
UGM	Wanagama	5.89	292	P	Pn	13 00 21.1	+0.5
	0.6nm92nm,1.3s						
BSSI	Bau Bau, Buton	5.92	48	P	Pn	13 00 21.3	+0.3
	0.1nm22nm,1.1s						
BKSI	Bulukumba	6.26	40	P	Pn	13 00 25.7	+0.1
	0.1nm12nm,0.5s						
MMRI	Maumere	6.29	77	P	Pn	13 00 25.4	-0.6

*IDC **08** 13:13:59.8±0.7,38°.63N×142°.57E,h0km,mb3.8/10, mb1 4.0/14,mb1mx3.8/36,mbtmp3.8/14,ML3.5/4,MS3.0/5, Ms1 3.0/5,ms1mx2.7/55,Error ellipse: s-maj=24.0km s-min=14.8km az=109.0*
*JMA **08** 13:14:02.4±0.1,38°.79N×142°.45E,h28km±2km,M4.1*
JMA Felt I J1.
*NIED **08** 13:14:02.4,38°.79N×142°.45E,h28km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.36; $M_{\theta\theta}$4.96; $M_{\phi\phi}$-3.60; $M_{r\theta}$-3.00; $M_{\theta r}$-2.85; $M_{\phi r}$4.78; Fault plane solution: $M_0$7.71000×10^{14} NP1: ϕ_s=147.00000°,δ84.00000°,λ-49.00000°. NP2: ϕ_s=244.00000°,δ41.00000°,λ-170.00000°.*
*NEIC **08** 13:14:05.4±1.9,38°.64N±0°.06×142°.5E±0°.1,h35km±2km, mb4.5/40 Error ellipse: s-maj=14.1km s-min=9.1km az=294.0*

ISC 08 13:14:02.0±1.7,38°.72N±0°.04×142°.43E±0°.05,h12km±10km, n94,σ1§21/98,mb4.4/29,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.70	301	P	Pg	13 14 15.5	-0.1
OFUJ				S	Sg	13 14 24.4	-0.3
JKMT	Kesennumamotoy	0.76	277	P	Pg	13 14 16.8	+0.1
JKMT				S	Sg	13 14 26.4	-0.2
JIO	Ouri	0.89	253	P	Pb	13 14 19.1	-0.2
JIO				S	Sb	13 14 30.7	-0.4
JMK	Ichinoseki	0.97	284	P	Pb	13 14 20.2	-0.6
JMK				S	Sb	13 14 32.7	-0.9
JOM	Ohasama	1.16	311	P	Pn	13 14 22.6	-1.5
JOM				S	Sb	13 14 37.2	-1.9
JTH	Tanohata	1.30	340	P	Pn	13 14 23.3	-2.6
JTH				eS	Sn	13 14 39.3	-3.9
JOU	Okura	1.43	256	P	Pn	13 14 27.4	-0.4
JOU				S	Sn	13 14 46.1	-0.4
JMM	Marumori	1.54	237	P	Pn	13 14 28.4	-0.9
JMM				S	Sn	13 14 49.1	-0.2
JMM	Marumori	1.54	237		Pn	13 14 28.4	-0.9
JRG	Rokugo	1.56	296	P	Pn	13 14 29.3	-0.2
JRG				S	Sn	13 14 49.5	0.0
JYK	Kaneyama	1.63	278	P	Pn	13 14 30.3	-0.2
JYK				S	Sn	13 14 51.1	-0.3
JANG	Nango	1.80	337	P	Pn	13 14 31.2	-1.6
JTM	Tenmabayashi	2.32	333		Pn	13 14 40.1	+0.2
JYT	Yasato	3.06	216		Pn	13 14 48.9	-1.2
ERM	Erimo	3.34	9		Pn	13 14 53.2	-0.7
JSD	Sado	3.35	260		Pn	13 14 54.0	-0.2
MJAR	Matsushiro Arr	4.00	238	Pn	Pn	13 15 04.1	+1.0
	1.3nm,0.3s,baz=28,slow=12,SNR=40						
MJAR				Lg	Lg	13 16 03.4	
	baz=44,slow=32,SNR=1.2						
MJAR				LR	LR	13 16 50.0	
	comp=Z,218nm,19.0s,baz=45,slow=42						
MJAR	Matsushiro Arr	4.00	238		Pn	13 15 03.0	-0.1
MAJO	Matsushiro	4.00	238		Pn	13 15 03.7	+0.7
MAT	Matsushiro	4.00	238	P	Pn	13 15 04.8	+1.7
MAT				eS	Sn	13 15 51.3	+1.5
MJB9	Matsu-Tunnel	4.00	238		Pn	13 15 03.7	+0.7
JEW	Eniwo	4.18	350		Pn	13 15 08.9	+3.3
JGF	Kuroka	5.11	234		Pn	13 15 20.5	+2.1
ASAJ	Asahikawa	5.39	1	Pn	Pn	13 15 22.5	+0.3
	1.2nm,0.3s,baz=216,slow=11,SNR=14						
ASAJ				Sn	Sn	13 16 27.4	+3.2
	1.3nm,0.3s,baz=8.1,slow=31,SNR=3.9						
ASAJ				LR	LR	13 17 45.2	
	comp=Z,75nm,19.8s,baz=330,slow=41						
JKA	Kamikawa-asahi	5.39	1		Pn	13 15 22.4	+0.2
INU	Inuyama	5.48	234		Pn	13 15 24.3	+0.9
JHJ2	Mitsune	5.98	202	Pn	Pn	13 15 29.9	-0.5
JHJ	Hachijo jima 2	5.99	202	Pn	Pn	13 15 30.2	-0.2
	29nm,0.3s,baz=106,slow=24,SNR=11						
JHJ				Sn	Sn	13 16 36.4	-2.4
	8.1nm,0.3s,baz=226,slow=23,SNR=1.3						
JWT	Wachi	6.59	241		Pn	13 15 41.5	+2.9
JMN	Monobe	8.52	237	Pn	Pn	13 16 06.5	+1.3
JNU	Nakatsue	10.90	243	Pn	Pn	13 16 40.5	+2.7
KSRS	Korea Array	11.51	268	Pn	Pn	13 16 48.3	+2.3
	0.1nm,0.3s,baz=79,slow=15,SNR=4.1						
KSRS				LR	LR	13 21 07.8	
	comp=Z,88nm,18.0s,baz=180,slow=37						
JMZ	Minamidaito 2	15.96	220	Pn	Pn	13 17 47.2	+0.8
MA2	Magadan	21.54	12	LR	LR	13 26 54.1	
	comp=Z,18nm,19.3s,baz=62,slow=36						
SEY	Seymchan	24.99	11	P	P	13 19 26.9	+1.7
	1.5nm,0.6s,baz=180,slow=16,SNR=4.5						
H11N2	WAKE ISLAND Hy	28.38	125	T	T	13 49 56.6	
	baz=320,slow=75						
H11N1	WAKE ISLAND Hy	28.39	125	T	T	13 49 43.5	
	baz=320						
H11N3	WAKE ISLAND Hy	28.40	125	T	T	13 50 17.5	
	baz=320,slow=75						
H11S1	WAKE ISLAND Hy	29.16	127	T	T	13 50 44.1	
	baz=319,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	29.16	127	T	T	13 50 44.9	
	baz=319,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	29.18	127	T	T	13 50 45.3	
	baz=319,slow=76,SNR=20						
BILL	Bilibino	32.19	17	P	P	13 20 32.3	+2.9
TIXI	Tiksi	33.72	352	P	P	13 20 44.9	+2.2
TIXI				IAmb	IAmb	13 20 49.7	
	comp=Z,3.6nm,0.5s						
ZAA0	Zalesovo Array	41.40	311	P	P	13 21 46.8	-1.1
ZALV	Zalesovo Beam	41.40	311	P	P	13 21 48.0	+0.1
	comp=Z,0.8nm,0.5s,baz=92,slow=7.4,SNR=3.6						
ZALV	Zalesovo Beam	41.40	311	P	P	13 21 46.9	-0.9
TOLI2	Tolitoli	42.36	213	P	P	13 21 55.5	-0.6
TOLI2				IAmb	IAmb	13 22 22.7	
	comp=Z,10nm,0.9s						
MK31	Makanchi Array	43.93	301	P	P	13 22 08.9	+0.3
MK31				IAmb	IAmb	13 22 17.7	
	comp=Z,3.5nm,0.7s						
MKAR	Makanchi Array	43.93	301	P	P	13 22 09.1	+0.5
	comp=Z,0.7nm,0.7s,baz=88,slow=9.5,SNR=6.7						
MKAR	Makanchi Array	43.93	301	P	P	13 22 08.9	+0.3
MAKZ	Makanchi	44.14	301	P	P	13 22 10.4	+0.2
MAKZ				IAmb	IAmb	13 22 19.1	
	comp=Z,3.7nm,0.7s						
KDAK	Kodiak Island	45.31	43	P	P	13 22 19.3	-0.1
KDAK				IAmb	IAmb	13 22 26.5	
	comp=Z,13nm,1.4s						
BPAW	Bear Paw Mtn.	45.88	34	P	P	13 22 24.5	+0.7
CNPM	China Poot	45.89	41	P	P	13 22 24.8	+0.8
KTH	Kantishna Hill	45.91	35	P	P	13 22 24.6	+0.4
KTH				IAmb	IAmb	13 22 35.3	
	comp=Z,4.9nm,1.1s						
MLY	Manley	46.00	33	P	P	13 22 25.3	+0.5
MLY				IAmb	IAmb	13 22 38.3	
	comp=Z,5.1nm,1.4s						
COLD	Coldfoot	46.29	30	P	P	13 22 27.8	+0.8
I23K	Minto, Yukon-K	46.58	33	P	P	13 22 30.3	+1.0
TOLK	Toolik Lake Re	46.61	28	P	P	13 22 30.1	+0.6
TOLK				IAmb	IAmb	13 22 34.1	
	comp=Z,8.2nm,1.5s						
GHO	Glory Hole Cre	46.88	37	P	P	13 22 31.3	-0.5
GHO				IAmb	IAmb	13 22 47.5	
	comp=Z,10nm,1.3s						
MDM	Murphy Dome	47.06	33	P	P	13 22 32.2	-0.9
MDM				IAmb	IAmb	13 22 34.5	
	comp=Z,5.3nm,1.4s						
PWL	Port Wells	47.24	39	P	P	13 22 36.6	+2.1
PWL				IAmb	IAmb	13 22 43.8	
	comp=Z,12nm,1.3s						
SCM	Sheep Creek Mo	47.64	37	P	P	13 22 38.1	+0.4
ILAR	Eielson Array	47.64	33	P	P	13 22 37.4	-0.2
	comp=Z,1.2nm,0.7s,baz=269,slow=6.7,SNR=15						
VRDI	Verde Repeater	49.55	38	P	P	13 22 51.4	-1.2
VRDI				IAmb	IAmb	13 23 01.2	
	comp=Z,5.4nm,1.3s						
K27K	Chicken	49.79	34	P	P	13 22 54.6	+0.5
L27K	Beaver Creek,	50.03	35	P	P	13 22 56.8	+0.7
L27K				IAmb	IAmb	13 23 17.9	
	comp=Z,4.0nm,1.4s						
BCAR	Beaver Creek A	50.05	35	P	P	13 22 57.0	+0.8
BCPM	Bancas Point	51.64	39	P	P	13 23 08.9	+0.8
MTN	Manton Dam	52.37	194	P	P	13 23 14.1	+0.1
INK	Inuvik	52.52	28	P	P	13 23 14.7	+0.2
	comp=Z,1.8nm,0.7s,baz=250,slow=5.0,SNR=4.4						
INK	Inuvik	52.52	28	P	P	13 23 14.3	-0.2
INK				IAmb	IAmb	13 23 37.8	
	comp=Z,10nm,1.5s						
KNRA	Kununurra	55.60	196	P	P	13 23 37.3	-0.3
ARU	Arti	55.64	318	P	P	13 23 37.0	-0.5
ARU				IAmb	IAmb	13 23 46.3	
	comp=Z,7.0nm,0.8s						
HPAH	Hawaii Prepara	56.02	91	P	P	13 23 39.7	-1.1
ABKAR	Akbulak array	57.48	310	P	P	13 23 50.5	-0.1
ABKAR				IAmb	IAmb	13 23 58.8	
	comp=Z,4.7nm,0.6s						
WB0	Warramunga Arr	58.66	189	P	P	13 23 58.3	-0.9
WRAB	Tennant Creek	58.83	189	P	P	13 23 58.9	-1.5
WRAB				IAmb	IAmb	13 24 27.1	
	comp=Z,5.8nm,1.2s						
WR0	Warramunga Arr	58.84	189	P	P	13 23 59.2	-1.1
WR0				IAmb	IAmb	13 24 04.8	
	comp=Z,6.3nm,1.2s						
WB2	Warramunga Arr	58.84	189	P	P	13 23 59.7	-0.7
WB2				IAmb	IAmb	13 24 14.6	
	comp=Z,7.0nm,1.4s						
WRA	Warramunga Arr	58.84	189	P	P	13 23 59.4	-1.1
	comp=Z,0.7nm,0.5s,baz=7,3,slow=7.2,SNR=17						
AS31	Alice Springs	62.57	189	P	P	13 24 25.7	-0.1
ASAR	Alice Springs	62.57	189	P	P	13 24 25.0	-0.8
	comp=Z,0.6nm,0.6s,baz=358,slow=5.4,SNR=17						
FORT	Forrest	70.43	193	P	P	13 25 15.9	0.0
NVAR	Mina Array Bea	73.34	54	P	P	13 25 32.8

KNRA IAmb IAmb 13 38 13.4
comp=Z,25nm,1.3s
STKA Stephens Creek 29.31 202 P P 13 38 20.4 +0.2
comp=Z,1.7nm,0.7s,baz=21,slow=15,SNR=5.1
STKA Stephens Creek 29.31 202 P P 13 38 19.3 -1.0
CAN Canberra 30.69 188 P P 13 38 31.9 -0.6
CAN IAmb IAmb 13 38 34.6
comp=Z,21nm,1.4s
FORT Forrest 35.53 220 P P 13 39 14.3 -0.2
PSA00 Pilbara Seismi 37.05 240 P P 13 39 28.1 +0.4
NIUE Niue 37.91 115 P P 13 39 33.1 -1.9
MORW Morawa 43.26 232 P P 13 40 18.4 -0.5
MORW IAmb IAmb 13 40 39.3
comp=Z,28nm,1.4s
SONM Songino Array 67.00 327 P P 13 43 10.8 +1.5
comp=Z,0.5nm,0.4s,baz=112,slow=6.4,SNR=2.3
SONM Songino Array 67.00 327 P P 13 43 09.7 +0.3
MKAR Makanchi Array 81.14 319 P P 13 44 32.5 +0.9
comp=Z,0.3nm,0.4s,baz=88,slow=6.9,SNR=5.0
ILAR Eielson Array 81.74 22 P P 13 44 34.8 +0.5
comp=Z,0.2nm,0.6s,baz=241,slow=5.3,SNR=2.3
MAW Mawson 86.00 203 P P 13 44 56.1 +0.2
comp=Z,1.3nm,0.6s,baz=91,slow=8.0,SNR=2.4
MAW Mawson 86.00 203 IAmb IAmb 13 45 04.9
comp=Z,0.9nm,1.1s
TORD Torodi Ar. Bea 151.46 289 PKPbc **PKPbc 13 52 10.6 +0.3**
comp=Z,0.7nm,0.6s,baz=75,slow=2.0,SNR=5.8
TORD pPKPbc **sPKPdf 13 52 42.1 0.0**
comp=Z,0.5nm,0.6s,baz=52,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 151.46 289 PKPbc **PKPbc 13 52 09.9 -0.4**

*IDC **08** 13:36:07.0±1.6, 35°.27S×179°.51W, h0km, mb4.6/4, mb1 4.7/5, mb1mx4.1/36, mbtmp4.6/5, ML4.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/20, Error ellipse: s-maj=41.3km s-min=34.8km az=146.0*
*NEIC **08** 13:36:08.3±1.6, 35°.45S±0°.06×179°.5W±0°.2, h10km±1km, mb4.8/19, Error ellipse: s-maj=23.0km s-min=10.9km az=93.0*
*WEL **08** 13:36:10.0±0.9, 35°.S±9°×17°9W±1°3, h33km, M4.3/30, mB4.7/4, ML4.7/31, MLv4.4/30, Mw(mB)3.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.3*
ISC 08 13:36:10.4±0.8, 35°.49S±0°.07×179°.16W±0°.10, h35km, n85, σ1§46/94, mb4.7/14, 1D, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.90 224**			**Pn**	**13 36 53.5**	**-0.5**
MXZ	**Matakaoa Point**	**2.90 224**		P	**Pn**	**13 36 53.8**	**-0.3**
MXZ				S	**Sn**	**13 37 28.4**	**+0.7**
WMGZ	**Waiomatatini S**	**3.03 219**		P	**Pn**	**13 36 57.0**	**+1.2**
WMGZ				S	**Sn**	**13 37 33.5**	**+2.7**
PKGZ	**Pakihiroa**	**3.26 222**		P	**Pn**	**13 36 59.6**	**+0.6**
PKGZ				S	**Sn**	**13 37 37.7**	**+1.0**
PUZ	**Puketiti**	**3.30 218**		P	**Pn**	**13 37 00.3**	**+0.7**
PUZ				S	**Sn**	**13 37 38.3**	**+0.7**
HAZ	**Te Kaha**	**3.34 226**		P	**Pn**	**13 37 00.2**	**+0.2**
HAZ				S	**Sn**	**13 37 40.9**	**+2.5**
TWGZ	**Tauwhareparae**	**3.53 220**		P	**Pn**	**13 37 03.5**	**+0.8**
TWGZ				S	**Sn**	**13 37 45.4**	**+2.2**
RUGZ	**Raukumara Rang**	**3.54 225**		P	**Pn**	**13 37 03.4**	**+0.5**
CNGZ	**Carnagh Statio**	**3.65 214**		P	**Pn**	**13 37 05.4**	**+1.0**
CNGZ				S	**Sn**	**13 37 49.7**	**+3.5**
TKGZ	**Te Karaka**	**3.79 218**		P	**Pn**	**13 37 06.8**	**+0.6**
TKGZ				S	**Sn**	**13 37 50.1**	**+0.4**
MWZ	**Matawai**	**3.88 222**		P	**Pn**	**13 37 07.7**	**+0.2**
MWZ				S	**Sn**	**13 37 52.2**	**+0.3**
RIGZ	**Rimuhau**	**4.04 217**		P	**Pn**	**13 37 11.0**	**+1.2**
RAGZ	**Rawiri**	**4.06 221**		P	**Pn**	**13 37 11.0**	**+0.9**
URZ	**Urewera**	**4.07 226**	Pn		**Pn**	**13 37 09.6**	**-0.4**
	12nm,0.3s,baz=257,slow=3.7,SNR=70						
URZ				Sn	**Sn**	**13 37 56.7**	**+0.3**
	18nm,0.3s,baz=205,slow=13,SNR=9.7						
URZ	**Urewera**	**4.07 226**			**Pn**	**13 37 09.5**	**-0.6**
URZ	**Urewera**	**4.07 226**		P	**Pn**	**13 37 09.8**	**-0.3**
URZ				S	**Sn**	**13 37 57.1**	**+0.7**
PRGZ	**Paritu Road**	**4.16 214**		P	**Pn**	**13 37 11.9**	**+0.5**
OPRZ	**Ohinepanea**	**4.17 234**		P	**Pn**	**13 37 11.0**	**-0.4**
TGRZ	**Tauranga**	**4.30 237**		P	**Pn**	**13 37 13.1**	**-0.3**
SNGZ	**Shannon Statio**	**4.31 219**		P	**Pn**	**13 37 14.1**	**+0.6**
MUGZ	**Murupara**	**4.41 226**		P	**Pn**	**13 37 14.1**	**-0.7**
OMRZ	**Omania**	**4.43 233**		P	**Pn**	**13 37 15.0**	**-0.1**
KARZ	**Kaharoa**	**4.47 234**		P	**Pn**	**13 37 15.3**	**-0.3**
RRRZ	**Republican Roa**	**4.48 229**		P	**Pn**	**13 37 15.8**	**0.0**
RAHZ	**Arahi**	**4.54 220**		P	**Pn**	**13 37 17.6**	**+1.0**
KMRZ	**Kaimai**	**4.58 238**		P	**Pn**	**13 37 17.4**	**+0.2**
HSRZ	**Hossack Road**	**4.63 231**		P	**Pn**	**13 37 18.4**	**+0.5**
PRRZ	**Plateau Road**	**4.65 229**		P	**Pn**	**13 37 18.1**	**0.0**
NMHZ	**Naumai**	**4.82 221**		P	**Pn**	**13 37 21.0**	**+0.4**
TOZ	**Tahuroa Road**	**4.84 241**		P	**Pn**	**13 37 20.8**	**+0.1**
MRHZ	**Matea Rd**	**4.86 225**		P	**Pn**	**13 37 20.7**	**-0.3**
BKZ	**Black Stump Fm**	**5.04 222**			**Pn**	**13 37 22.5**	**-1.1**
MCHZ	**McNeill Hill**	**5.14 219**		P	**Pn**	**13 37 25.2**	**+0.4**
WTAZ	**Waiatarua**	**5.26 252**		P	**Pn**	**13 37 30.4**	**+3.9**
KWHZ	**Kaweka Forest**	**5.27 220**		P	**Pn**	**13 37 25.5**	**-1.1**
WCZ	**Waipu Caves**	**5.30 263**		P	**Pn**	**13 37 27.0**	**0.0**
KAHZ	**Kahuranaki**	**5.32 215**		P	**Pn**	**13 37 25.7**	**-1.6**
KATZ	**Kakaramea**	**5.38 228**		P	**Pn**	**13 37 28.5**	**+0.3**
TMVZ	**Te Maari**	**5.46 227**		P	**Pn**	**13 37 29.1**	**-0.2**
WTVZ	**West Tongariro**	**5.53 228**		P	**Pn**	**13 37 30.5**	**+0.2**
SNVZ	**South Ngauruho**	**5.54 227**		P	**Pn**	**13 37 29.4**	**-1.1**
MOVZ	**Moawhango**	**5.62 224**		P	**Pn**	**13 37 29.9**	**-1.7**
WHVZ	**Whangaehu Hut**	**5.64 226**		P	**Pn**	**13 37 31.2**	**-0.6**
FWVZ	**Far West T-bar**	**5.64 227**		P	**Pn**	**13 37 31.4**	**-0.4**
HIZ	**Hauiti**	**5.66 236**	Pn	P	**Pn**	**13 37 32.3**	**+0.4**
HIZ	**Hauiti**	**5.66 236**		P	**Pn**	**13 37 32.5**	**+0.6**
PNHZ	**Pukenui**	**5.74 218**		P	**Pn**	**13 37 31.7**	**-1.5**
OUZ	**Omahuta**	**5.92 271**	Pn	Pn	**Pn**	**13 37 34.9**	**-0.6**
VRZ	**Vera Road**	**6.05 231**		P	**Pn**	**13 37 37.6**	**+0.3**
BFZ	**Birch Farm**	**6.32 214**	Pn	Pn	**Pn**	**13 37 37.6**	**-3.4**
TUWZ	**Tuamarina**	**8.02 220**	Pn	Pn	**Pn**	**13 38 00.6**	**-3.8**
BSWZ	**Blackbirch Sta**	**8.26 219**	Pn	Pn	**Pn**	**13 38 04.1**	**-3.5**
LTZ	**Lake Taylor**	**9.86 220**	Pn	Pn	**Pn**	**13 38 26.0**	**-3.5**
ODZ	**Otahua Downs**	**12.30 216**	Pn	Pn	Pn	13 38 58.1	-4.8
MSVF	**Nonsavu**	**17.86 351**	LR	LR	LR	13 45 12.6
	comp=Z,140nm,18.5s,baz=346,slow=31						
MSVF	**Nonsavu**	**17.86 351**			**P**	**13 40 16.1**	**-0.4**
ARMA	**Armidale**	**24.98 273**		P	**P**	**13 41 28.8**	**-2.0**
ARMA				IAmb	IAmb	13 41 31.4
	comp=Z,20nm,1.4s						
EIDS	**Eidsvold**	**27.48 283**		P	**P**	**13 41 53.8**	**+0.5**
EIDS				IAmb	IAmb	13 42 15.2
	comp=Z,26nm,1.3s						
CTA	**Charters Tower**	**34.02 288**		P	**P**	**13 42 51.0**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=107,slow=11,SNR=7.2						
CTAO	**Charters Tower**	**34.02 288**		P	**P**	**13 42 50.7**	**-0.4**
CTAO				IAmb	IAmb	13 42 58.2
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**42.13 273**		P	**P**	**13 43 57.9**	**-1.5**
ASAR	**Alice Springs**	**42.13 273**		P	**P**	**13 43 58.5**	**-0.9**
	comp=Z,7.1nm,0.8s,baz=113,slow=7.9,SNR=101						
ASAR				PcP	**PcP**	**13 45 53.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=112,slow=3.9,SNR=1.4						
ASAR				LR	LR	14 01 30.3
	comp=Z,152nm,19.1s,baz=140,slow=36						
ASAR	**Alice Springs**	**42.13 273**		P	**P**	**13 43 57.6**	**-1.9**
WR0	**Warramunga Arr**	**43.41 278**		P	**P**	**13 44 08.4**	**-1.4**
WR0				IAmb	IAmb	13 44 09.3
	comp=Z,5.6nm,0.7s						
WB2	**Warramunga Arr**	**43.57 278**		P	**P**	**13 44 09.7**	**-1.4**
WB2				IAmb	IAmb	13 44 10.9
	comp=Z,13nm,0.5s						
WRAB	**Tennant Creek**	**43.57 278**		P	**P**	**13 44 09.8**	**-1.3**
WRAB				IAmb	IAmb	13 44 10.9
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**43.58 278**		P	**P**	**13 44 10.0**	**-1.2**
	comp=Z,8.2nm,0.5s,baz=119,slow=7.6,SNR=176						
WRA	**Warramunga Arr**	**43.58 278**		P	**P**	**13 44 09.1**	**-2.1**
WB0	**Warramunga Arr**	**43.62 278**		P	**P**	**13 44 09.8**	**-1.7**
WB0				IAmb	IAmb	13 44 11.0
	comp=Z,14nm,1.1s						
FORT	**Forrest**	**44.02 261**		P	**P**	**13 44 13.8**	**-0.7**
FORT				IAmb	IAmb	13 44 16.7
	comp=Z,20nm,1.0s						
MTN	**Manton Dam**	**50.03 284**		P	**P**	**13 45 00.0**	**-1.6**
KNRA	**Kununurra**	**50.33 279**		P	**P**	**13 45 02.3**	**-1.6**
KNRA				IAmb	IAmb	13 45 26.6
	comp=Z,19nm,1.3s						
NWAO	**Narrogin (SRO)**	**51.84 253**		P	**P**	**13 45 14.0**	**-1.1**
PSA00	**Pilbara Seismi**	**54.57 267**		P	**P**	**13 45 34.0**	**-1.3**
PSA00				IAmb	IAmb	13 45 48.9
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**54.63 180**		P	**P**	**13 45 37.4**	**+2.0**
SOEI	**Soe**	**57.28 282**		P	**P**	**13 45 56.9**	**+1.9**
GIRL	**Giralia**	**58.62 263**		P	**P**	**13 46 04.3**	**+0.1**
SYO	**Syowa Base**	**71.95 194**	‖eX		**P**	**13 47 27.0**	**-2.7**
SNAA	**Sanae**	**73.10 179**		P	**P**	**13 47 39.3**	**+2.7**
SNAA				IAmb	IAmb	13 47 57.1
	comp=Z,7.8nm,1.5s						
KSRS	**Korea Array**	**87.61 321**		LR	LR	14 25 54.2
	comp=Z,43nm,18.4s,baz=188,slow=34						
PETK	**Petropavlovsk-**	**90.50 346**		P	**P**	**13 49 08.9**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=160,slow=8.9,SNR=5.2						
PETK	**Petropavlovsk-**	**90.50 346**		P	**P**	**13 49 09.6**	**+1.6**
FINES	**FINESS Array B**	**149.49 336**		PKPbc	**PKiKP**	**13 55 56.2**	**+0.2**
	comp=Z,23nm,1.1s,baz=56,slow=3.5,SNR=28						
FINES	**FINESS Array B**	**149.49 336**			**PKiKP**	**13 55 55.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**157.74 182**		PKPab	**PKPab**	**13 56 39.1**	**+3.1**
	comp=Z,0.5nm,0.5s,baz=160,slow=3.9,SNR=2.2						

*DJA **08** 13:43:53.9±0.3, 4°N±2°×12°6E±°, h119km±3km, M4.9/37, mB5.3/12, mb4.8/37, MLv5.2/14, Mw(mB)4.8/12*
*KLM **08** 13:43:53, 4°.40N×126°.31E, h108km, mb5.0*
*NEIC **08** 13:43:53.9±2.2, 4°.21N±0°.06×126°.09E±0°.07, h113km±5km, mb4.9/117, Error ellipse: s-maj=11.2km s-min=8.0km az=53.0*
*BJI **08** 13:43:53.0±0.0, 4°.29N×125°.96E, h118km, mB5.0/18, mb4.9/32*
*MAN **08** 13:43:53.9, 4°.61N×126°.00E, h114km, mb5.2, ML4.2, MS4.3*
*IDC **08** 13:43:56.6±0.7, 4°.15N×125°.95E, h144km±5km, mb4.3/32, mb1 4.4/34, mb1mx4.3/51, mbtmp4.7/34, MS3.3/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=17.2km s-min=7.3km az=78.0*
ISC 08 13:43:54.8±0.5, 4°.16N±0°.03×126°.15E±0°.06, h129km±4km, h130km: pP-P, n368, σ1§32/394, mb4.8/115, 43C-21D, Fault plane solution: NP1: φ≈316.63898°, δ89.30714°, λ-14.37115°. NP2: φ≈46.81651°, δ75.62992°, λ-179.28476°. Principal axes: T Plg9.6101°, Azm2.6333°; N Plg75.6125°, Azm133.9369°; P Plg10.6054°, Azm270.8165°; Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.78 233**		P	**Pn**	**13 44 15.3**	**-0.4**
SGSI				S	**Sn**	**13 44 30.9**	**-0.6**
DAV	**Davao City (W)**	**2.95 349**		P	**Pn**	**13 44 43.8**	**+3.0**
	100nm,0.3s,baz=135,slow=1.4,SNR=2.7						
DAV				S	**Sn**	**13 45 20.7**	**+4.4**
	211nm,0.3s,baz=162,slow=20,SNR=8.1						
DAV				LR	LR	13 45 25.2
	comp=Z,13nm,21.5s,baz=68,slow=30						
DAV	**Davao City (W)**	**2.95 349**	Pn		**Pn**	**13 44 38.5**	**-2.3**
KCP	**Kidapawan**	**3.02 340**	‖	iP	**Pn**	**13 44 42.4**	**+0.6**
KCP				i S	**Sn**	**13 45 19.2**	**+1.2**
TNTI	**Ternate**	**3.58 160**			**Pn**	**13 44 48.4**	**-0.6**
TNTI	**Ternate**	**3.58 160**		P	**Pn**	**13 44 48.6**	**-0.4**
TNTI				S	**Sn**	**13 45 29.6**	**-1.4**
CGP	**Cagayan de Oro**	**4.51 341**	‖	eP	**Pn**	**13 44 59.8**	**-1.6**
CGP				eS	**Sn**	**13 45 54.5**	**+1.4**
GTOI	**Gorontalo**	**4.70 222**		P	**Pn**	**13 45 05.0**	**+1.1**
MRSI	**Marisa**	**5.57 229**		P	**Pn**	**13 45 16.9**	**+1.3**
	7.2nm16μm2μm,0.6s						
SNPH	**Sibulan**	**5.91 331**		eP	**Pn**	**13 45 19.3**	**-0.9**
TOLI2	**Tolitoli**	**6.16 241**		Pn	**Pn**	**13 45 23.3**	**-0.2**
SANI	**Sanana**	**6.17 181**		P	**Pn**	**13 45 21.5**	**-2.2**
	1.7nm4μm140nm,0.9s						
LUWI	**Luwuk**	**6.17 213**			**Pn**	**13 45 23.3**	**-0.4**
LUWI	**Luwuk**	**6.17 213**		P	**Pn**	**13 45 25.8**	**+2.1**
	3.0nm5μm346nm,0.9s						
APSI	**Ampana**	**6.75 222**		P	**Pn**	**13 45 33.5**	**+2.0**
	1.0nm2μm138nm,0.8s						
SWI	**Sorong**	**7.14 134**		P	**Pn**	**13 45 35.0**	**-1.7**
	0.4nm86nm,1.0s						
SIJI	**Sorong**	**7.15 134**		P	**Pn**	**13 45 36.2**	**-0.7**
	8.3nm,0.3s,baz=218,slow=22,SNR=16						
SIJI				S	**Sn**	**13 46 53.4**	**-3.4**
	4.0nm,0.3s,baz=233,slow=20,SNR=7.1						
MPSI	**Mapaga**	**7.31 239**		P	**Pn**	**13 45 40.7**	**+1.7**
	0.5nm2μm179nm,0.9s						
NLAI	**Namlea**	**7.41 173**		P	**Pn**	**13 45 38.5**	**-1.9**
	3.4nm16μm224nm,0.7s						
MSAI	**Masohi**	**7.96 160**		P	**Pn**	**13 45 48.3**	**+0.5**
	0.1nm435nm10nm,0.5s						
FAKI	**Fak Fak**	**9.31 139**		Pn	**Pn**	**13 46 06.6**	**+0.7**
FAKI	**Fak Fak**	**9.31 139**		P	**Pn**	**13 46 06.8**	**+0.9**
	75nm,0.9s						
TTSI	**Tana Toraja**	**9.55 222**		P	**Pn**	**13 46 10.6**	**+1.4**
	1μm109nm,0.9s						
SPMM	**Sapulut**	**9.67 274**		P	**Pn**	**13 46 14.0**	**+3.1**
BNSI	**Bone**	**10.43 215**		P	**Pn**	**13 46 21.9**	**+0.9**
	35nm,1.1s						
BKB	**Balikpapan**	**10.70 240**		P	**Pn**	**13 46 23.4**	**-1.2**
	200nm,1.3s						
LQP	**Lukban**	**10.88 336**	‖	eP	**Pn**	**13 46 26.2**	**-1.1**
KAPI	**Kappang**	**11.13 215**		P	**Pn**	**13 46 30.9**	**+0.6**
	1.7nm,0.3s,baz=7.2,slow=14,SNR=24						
KAPI				LR	LR	13 51 04.4
	comp=Z,138nm,18.8s,baz=42,slow=39						
KAPI	**Kappang**	**11.13 215**	Pn		**Pn**	**13 46 30.7**	**+0.3**
BKSI	**Bulukumba**	**11.18 213**		P	**Pn**	**13 46 30.7**	**-0.3**
	16nm,0.8s						
BAKI	**Biak**	**11.28 118**		P	**Pn**	**13 46 30.6**	**-1.8**
MTKI	**Muara Teweh, K**	**12.33 246**		P	**Pn**	**13 46 47.6**	**+1.4**
	3μm190nm,0.6s						
KBKI	**Kotabaru**	**12.42 234**		P	**Pn**	**13 46 48.5**	**+1.1**
	35nm,1.0s						
SAUI	**Saumlaki**	**13.11 157**		P	**Pn**	**13 46 57.6**	**+1.3**
	256nm,1.1s						
MMRI	**Maumere**	**13.29 197**		P	**P**	**13 47 05.4**	**+1.7**
MMRI	**Maumere**	**13.29 197**		P	**Pn**	**13 47 00.2**	**+1.5**
	61nm,0.8s						
EDFI	**Ende, Flores**	**13.57 199**		P	**Pn**	**13 47 02.3**	**0.0**
	9.8nm,0.7s						
BBKI	**Banjar Baru**	**13.60 236**		P	**P**	**13 47 05.0**	**-2.1**
	110nm,1.1s						
SOEI	**Soe**	**13.95 188**		P	**P**	**13 47 13.1**	**+2.0**
SOEI	**Soe**	**13.95 188**		P	**Pn**	**13 47 07.8**	**+0.6**
	32nm,1.2s						
SBUM	**Sibu**	**14.01 263**		P	**P**	**13 47 15.0**	**+3.4**
BATI	**Baumata**	**14.48 190**		P	**P**	**13 47 18.0**	**+1.1**
	3.1nm,0.3s,baz=63,slow=1.2,SNR=10						
BATI				S	**S**	**13 50 02.0**	**-2.7**
	2.8nm,0.3s,baz=69,slow=18,SNR=3.3						
BATI	**Baumata**	**14.48 190**		P	**P**	**13 47 15.9**	**-1.0**
	29nm,0.7s						
STKI	**Sintang**	**15.21 255**		P	**P**	**13 47 24.5**	**-0.5**
	18nm,0.5s						
WBSI	**Waikabubak, Su**	**15.27 206**		P	**Pn**	**13 47 24.3**	**+0.5**
PLAI	**Plampang**	**15.37 213**		P	**Pn**	**13 47 25.6**	**+0.7**
	26nm,0.8s						
GENI	**Genyem**	**15.53 115**		P	**Pn**	**13 47 25.9**	**-1.1**
	75nm,0.9s						
KSM	**Kuching**	**16.04 261**		P	**P**	**13 47 37.0**	**+2.8**
JAGI	**Jajag, Banyuwa**	**17.34 224**		P	**Pn**	**13 47 51.6**	**+2.6**
	152nm,1.1s						
MTN	**Manton Dam**	**17.60 164**		P	**P**	**13 47 51.2**	**-0.2**
TWG	**Pinlang**	**19.19 346**		P	**P**	**13 48 06.8**	**-1.9**
TWG				IAmb	IAmb	13 48 08.7
	comp=Z,57nm,1.0s						
YULB	**Yu-li**	**19.69 347**		P	**P**	**13 48 11.0**	**-3.0**
TPUB	**Ta-pu**	**19.76 345**		P	**P**	**13 48 12.2**	**-2.7**
KNRA	**Kununurra**	**19.88 173**		P	**P**	**13 48 16.2**	**+0.1**
SSLB	**Suanglung**	**20.15 346**		P	**P**	**13 48 16.5**	**-2.6**
SSLB				IAmb	IAmb	13 48 19.0
	comp=Z,79nm,1.2s						
NACB	**Ninganchiao**	**20.38 348**		P	**P**	**13 48 19.2**	**-2.3**
NACB				IAmb	IAmb	13 48 41.2
	comp=Z,54nm,1.4s						
YHNB	**Yeheng**	**20.90 348**		P	**P**	**13 48 25.3**	**-1.9**
YHNB				IAmb	IAmb	13 48 39.8
	comp=Z,139nm,1.5s						
KNMB	**Chin-men Tao**	**21.53 340**		P	**P**	**13 48 33.8**	**0.0**
KNMB				IAmb	IAmb	13 48 35.8
	comp=Z,67nm,0.9s						
CBJI	**Citeko**	**21.95 241**		P	**P**	**13 48 40.4**	**+2.1**
JOW	**Kunigami**	**22.64 5**		P	**P**	**13 48 46.9**	**+1.8**
JOW				IAmb	IAmb	13 48 48.4
	comp=Z,82nm,1.0s						
MDSI	**Maura Dua**	**23.57 249**		P	**P**	**13 48 55.0**	**+1.1**
	comp=Z,11nm,1.5s						
IPM	**Ipoh**	**25.05 272**		P	**P**	13 49 18.0	+11
WB0	**Warramunga Arr**	**25.12 161**		P	**P**	**13 49 07.7**	**-0.2**
WRA	**Warramunga Arr**	**25.27 162**		P	**P**	**13 49 09.2**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=338,slow=10,SNR=31						
WRA				PcP	**PcP**	**13 52 39.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=336,slow=2.6,SNR=1.2						
WRA				ScP	**ScP**	**13 56 07.3**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=338,slow=2.6,SNR=2.1						
WRA	**Warramunga Arr**	**25.27 162**		P	**P**	**13 49 08.1**	**-1.2**
WB2	**Warramunga Arr**	**25.27 162**		P	**P**	**13 49 08.7**	**-0.6**
WR0	**Warramunga Arr**	**25.35 161**		P	**P**	**13 49 09.4**	**-0.6**
PSA00	**Pilbara Seismi**	**26.31 193**		P	**P**	**13 49 18.8**	**+0.2**
PSA00				IAmb	IAmb	13 49 44.8
	comp=Z,47nm,1.4s						
NONG	**Nongkai**	**26.41 303**		P	**P**	**13 49 19.3**	**-0.3**
	comp=Z,35nm,1.1s						
NONG	**Nongkai**	**26.41 303**		P	**P**	**13 49 19.3**	**-0.3**
CHAI	**Chaiyaphum**	**26.46 298**		P	**P**	**13 49 22.6**	**+2.6**
	comp=Z,18nm,0.9s						
CHAI	**Chaiyaphum**	**26.46 298**		P	**P**	**13 49 22.7**	**+2.6**
JSU	**Suzuyama**	**27.50 8**		P	**P**	**13 49 29.2**	**0.0**
JSU				IAmb	IAmb	13 49 51.7
	comp=Z,61nm,1.3s						
SLVN	**Son La**	**27.53 310**		P	**P**	**13 49 28.9**	**-0.8**
PHIT	**Phitsanulok**	**28.36 299**		P	**P**	**13 49 38.6**	**+1.6**
	comp=Z,75nm,1.0s						
PHIT	**Phitsanulok**	**28.36 299**		P	**P**	**13 49 38.6**	**+1.6**
	comp=Z,0.1nmcomp=Z,19nm,1.0s						
ASAR	**Alice Springs**	**28.67 165**		P	**P**	**13 49 39.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=343,slow=6.9,SNR=24						
ASAR				pP	**pwP**	**13 50 11.3**	**+1.6**
	comp=Z,4.2nm,0.7s,baz=338,slow=9.2,SNR=7.5						
ASAR				PcP	**PcP**	**13 52 47.9**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=347,slow=2.2,SNR=4.8						
ASAR				ScP	**ScP**	**13 56 16.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=343,slow=3.2,SNR=4.4						
JNU	**Nakatsue**	**29.15 8**		P	**P**	**13 49 44.7**	**+0.8**
	comp=Z,22nm,0.8s,baz=108,slow=2.4,SNR=3.4						
JNU				PcP	**PcP**	**13 52 50.4**	**+1.9**
	comp=Z,11nm,0.4s,baz=188,slow=4.7,SNR=3.8						
LAMP	**Lampang**	**29.59 301**		P	**P**	**13 49 48.8**	**+0.9**
	comp=Z,15nm,1.0s						
CM36	**Chiang Mai Arr**	**30.05 300**		P	**P**	**13 49 52.0**	**0.0**
CM04	**Chiang Mai Arr**	**30.10 300**		P	**P**	**13 49 54.1**	**+1.7**
	comp=Z,9.7nm,0.9s						
CM04	**Chiang Mai Arr**	**30.10 300**		P	**P**	**13 49 54.1**	**+1.7**
	comp=Z,0.0nmcomp=Z,9.7nm,0.9s						
CM09	**Chiang Mai Arr**	**30.11 300**		P	**P**	**13 49 54.0**	**+1.5**
	comp=Z,11nm,0.8s						
CM09	**Chiang Mai Arr**	**30.11 300**		P	**P**	**13 49 54.1**	**+1.5**
	comp=Z,0.0nmcomp=Z,11nm,0.8s						
CM01	**Chiang Mai Arr**	**30.13 300**		P	**P**	**13 49 54.2**	**+1.6**
	comp=Z,10nm,0.8s						
CM01	**Chiang Mai Arr**	**30.13 300**		P	**P**	**13 49 54.3**	**+1.6**
	comp=Z,0.0nmcomp=Z,10nm,0.8s						
CM05	**Chiang Mai Arr**	**30.13 300**		P	**P**	**13 49 54.4**	**+1.7**
	comp=Z,7.2nm,0.9s						
CM05	**Chiang Mai Arr**	**30.13 300**		P	**P**	**13 49 54.4**	**+1.7**
	comp=Z,0.0nmcomp=Z,7.2nm,0.9s						
CM02	**Chiang Mai Arr**	**30.14 300**		P	**P**	**13 49 54.2**	**+1.4**
	comp=Z,95nmcomp=Z,11nm,0.8s						
CM02	**Chiang Mai Arr**	**30.14 300**		P	**P**	**13 49 54.2**	**+1.4**
	comp=Z,0.0nmcomp=Z,95nmcomp=Z,11nm,0.8s						
CM31	**Chiang Mai Arr**	**30.16 300**		P	**P**	**13 49 55.0**	**+2.1**
	comp=Z,0.8nmcomp=Z,186nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.16 300**		P	**P**	**13 49 53.6**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=109,slow=6.8,SNR=31						
CMAR				PcP	**PcP**	**13 52 52.6**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=151,slow=2.1,SNR=5.3						
CMAR				ScP	**ScP**	**13 56 22.3**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=151,slow=2.1,SNR=6.0						
CMAR				LR	LR	14 02 58.5
	comp=Z,43nm,18.5s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**30.16 300**		P	**P**	**13 49 52.1**	**-0.8**
CMAR					**PcP**

comp=Z,17nm,0.9s
JEW Eniwo 40.85 17 P P 13 51 25.6 +1.7
LSA Lhasa 41.72 311 P P 13 51 32.5 +0.7
LSA pmax pmax
comp=Z,74nm,0.7s
LSA Lhasa 41.72 311 P P 13 51 32.2 +0.4
LSA IAmb IAmb 13 51 33.4
comp=Z,16nm,0.9s
JKA Kamikawa-asahi 42.36 18 P P 13 51 37.5 +1.3
JKA IAmb IAmb 13 51 38.4
comp=Z,15nm,0.8s
GTA Gaotai 42.43 329 *e*P **P 13 51 36.4 -0.7**
GTA pmax pmax
comp=Z,6.0nm,0.9s
TAPN Taplejung 43.30 306 *e*P **P 13 51 43.9 -0.5**
comp=Z,18nm,0.4s
ODAN Odare 43.35 305 *e*P **P 13 51 44.4 -0.4**
comp=Z,27nm,0.4s
JIRN Jiri 44.65 306 *e*P **P 13 51 54.9 -0.4**
comp=Z,22nm,0.4s
CAN Canberra 44.75 153 P **P 13 51 57.5 +1.9**
CAN IAmb IAmb 13 52 24.6
comp=Z,20nm,1.4s
YSS Yuzh-Sakhalins 44.99 16 P **P 13 51 58.1 +0.9**
YSS IAmb IAmb 13 51 59.8
comp=Z,15nm,0.7s
GUN Gumba 45.01 306 *e*P **P 13 51 57.6 -0.5**
comp=Z,33nm,0.4s
PKI Pulchoki 45.25 305 *e*P **P 13 51 58.9 -1.1**
comp=Z,10.0nm,0.4s
PKIN Phulchoki 45.26 305 *e*P **P 13 51 59.0 -1.0**
comp=Z,12nm,0.4s
HIA Hailar 45.27 354 P **P 13 51 59.8 +0.3**
KKN Kakani 45.44 306 *e*P **P 13 52 00.6 -0.8**
comp=Z,16nm,0.4s
GKN Gorkha 46.05 306 *e*P **P 13 52 05.2 -0.9**
comp=Z,14nm,0.4s
ULN Ulaanbaatar 46.54 342 P **P 13 52 09.2 -0.3**
ULN IAmb IAmb 13 52 12.2
comp=Z,20nm,1.1s
SONM Songino Array 46.71 342 P **P 13 52 10.4 -0.5**
comp=Z,6.7nm,0.8s,baz=160,slow=8.9,SNR=20
SONM PcP **PcP 13 53 42.7 +0.4**
comp=Z,0.7nm,0.3s,baz=169,slow=3.9,SNR=5.3
SONM LR LR 14 15 17.9
comp=Z,30nm,19.1s,baz=155,slow=40
SONM Songino Array 46.71 342 P **P 13 52 10.2 -0.7**
KOLN Koldanda 46.80 305 *e*P **P 13 52 11.7 -0.3**
comp=Z,65nm,0.4s
DANN Dangsing 46.90 306 *e*P **P 13 52 12.2 -0.7**
comp=Z,83nm,0.4s
TLY Talaya 50.95 342 P **P 13 52 42.7 -0.3**
TLY IAmb IAmb 13 52 44.1
comp=Z,9.3nm,0.8s
PEA0B Petropavlovsk- 55.26 23 P **P 13 53 15.6 +1.1**
PEA0B IAmb IAmb 13 53 21.9
comp=Z,25nm,1.2s
PETK Petropavlovsk- 55.26 23 P **P 13 53 16.1 +1.6**
comp=Z,3.5nm,0.6s,baz=162,slow=2.1,SNR=7.2
PETK Petropavlovsk- 55.26 23 P **P 13 53 15.5 +1.0**
PET Petropavlovsk 55.56 23 P **P 13 53 17.7 +1.0**
PET IAmb IAmb 13 53 19.0
comp=Z,12nm,0.9s
MK31 Makanchi Array 56.88 325 P **P 13 53 25.2 -1.0**
MK31 IAmb IAmb 13 53 27.7
comp=Z,5.9nm,0.7s
MKAR Makanchi Array 56.88 325 P **P 13 53 25.4 -0.8**
comp=Z,9.0nm,0.4s,baz=117,slow=7.4,SNR=70
MKAR pP **pP 13 53 59.8 +3.1**
comp=Z,3.3nm,0.5s,baz=121,slow=8.9,SNR=3.8
MKAR ScP **ScP 13 58 07.9 -0.1**
comp=Z,1.5nm,0.9s,baz=120,slow=4.6,SNR=4.8
MKAR Makanchi Array 56.88 325 P **P 13 53 25.2 -1.0**
TARG Taragay, Kyrgy 57.05 318 P **P 13 53 28.2 +0.2**
MAKZ Makanchi 57.06 325 P **P 13 53 26.4 -1.2**
MAKZ IAmb IAmb 13 53 28.9
comp=Z,12nm,0.6s
MAKZ **PcP 13 54 20.4 -0.7**
NIL Nilore 57.21 308 P **P 13 53 27.5 -1.3**
KDJ Kajisay 57.64 318 P **P 13 53 30.9 -1.0**
YAK Yakutsk 57.80 2 P **P 13 53 32.4 +0.1**
MA2 Magadan 58.43 14 P **P 13 53 37.8 +1.0**
MA2 IAmb IAmb 13 53 39.3
comp=Z,28nm,1.4s
AAK Ala-Archa 59.65 318 P **P 13 53 46.4 +0.6**
AAK IAmb IAmb 13 53 48.9
comp=Z,9.2nm,1.1s
AAK **PcP 13 54 31.6 0.0**
ZAA0 Zalesovo Array 59.95 333 P **P 13 53 45.3 -2.0**
ZALV Zalesovo Beam 59.95 333 P **P 13 53 45.6 -1.7**
comp=Z,3.3nm,0.4s,baz=128,slow=6.6,SNR=13
ZALV Zalesovo Beam 59.95 333 P **P 13 53 45.2 -2.1**
KBL Kabul 60.80 307 P **P 13 53 51.9 -1.9**
KBL IAmb IAmb 13 53 53.8
comp=Z,17nm,0.9s
KURBB Kurchatov Arra 61.07 327 P **P 13 53 53.9 -1.1**
comp=Z,12nm,0.7s,baz=130,slow=6.3,SNR=71
KURBB pP **pP 13 54 27.9 +2.0**
comp=Z,2.4nm,0.6s,baz=124,slow=6.5,SNR=2.5
KURK Kurchatov 61.07 328 P **P 13 53 53.9 -1.1**
KURK **pP 13 54 27.9 +2.0**
BTK Batken 61.21 314 P **P 13 53 55.9 -0.4**
BTK IAmb IAmb 13 53 56.9
comp=Z,13nm,0.8s
GAR Garm 61.21 313 P **P 13 53 55.6 -0.8**
CHGR Chuyangaron 61.95 312 P **P 13 54 00.4 -1.0**
KK31 Karatay Array 62.52 317 P **P 13 54 03.5 -1.5**
KK31 IAmb IAmb 13 54 05.8
comp=Z,16nm,0.8s
KKAR Karatay Array 62.52 317 P **P 13 54 03.5 -1.5**
BKZ Black Stump Fm 63.29 138 P **P 13 54 09.9 -0.2**
BFZ Birch Farm 63.91 139 P **P 13 54 16.5 +2.5**
HRA Herat 66.21 306 P **P 13 54 28.1 -1.3**
HRA IAmb IAmb 13 54 31.3
comp=Z,8.0nm,0.7s
BVAR Borovoye Array 66.65 327 P **P 13 54 30.1 -1.4**
comp=Z,8.7nm,0.9s,baz=199,slow=17,SNR=35
BRVK Borovoye 66.72 327 P **P 13 54 30.9 -1.0**
BRVK IAmb IAmb 13 54 33.5
comp=Z,20nm,0.8s
GSTR Great Sitkin T 67.38 34 P **P 13 54 35.7 -0.5**
TIXI Tiksi 67.42 1 P **P 13 54 35.3 -0.7**
TIXI IAmb IAmb 13 54 36.9
comp=Z,17nm,1.0s
ATKA Atka Island 68.48 35 P **P 13 54 44.0 +1.0**
NRIK Noril'sk 69.88 346 P **P 13 54 51.6 +0.3**
comp=Z,37nm,0.6s,baz=125,slow=6.4,SNR=51
NRIK Noril'sk 69.88 346 P **P 13 54 51.7 +0.3**
GEYT Alibeck 70.17 309 P **P 13 54 53.3 -0.6**
comp=Z,251nm,1.2s,baz=176,slow=4.3,SNR=6.6
CASY Casey 71.17 187 P **P 13 55 00.0 +0.9**
ABKAR Akbulak array 71.45 321 P **P 13 54 59.6 -1.7**
SOCY Socotra 71.71 281 P **P 13 55 00.9 -2.6**
SPIA Saint Paul Isl 72.43 31 P **P 13 55 07.1 +0.2**
baz=250
AKTO Aktyubinsk 72.97 322 P **P 13 55 09.2 -1.0**
comp=Z,11nm,0.7s,baz=106,slow=9.7,SNR=36
AKUT Akutan 73.90 35 P **P 13 55 16.2 +0.7**
ARU Arti 74.27 328 P **P 13 55 16.3 -1.4**
comp=Z,2.8nm,0.3s,baz=106,slow=2.0,SNR=17
ARU Arti 74.27 328 P **P 13 55 16.3 -1.4**
ARU IAmb IAmb 13 55 19.0
comp=Z,22nm,1.0s
DHH Diamond Head 75.51 69 P **P 13 55 27.1 +1.5**
TNA Tin City 76.42 23 P **P 13 55 30.3 +0.4**
baz=250
ANM Nome 77.12 24 P **P 13 55 34.6 +0.8**
baz=252
SDPT Sand Point 77.17 34 P **P 13 55 35.3 +1.1**
baz=259
SDPT Sand Point 77.17 34 P **P 13 55 34.9 +0.7**
CHNA Chernabura Isl 77.57 35 P **P 13 55 37.8 +1.3**
baz=260
RDOG Red Dog Mine 79.10 21 P **P 13 55 46.1 +1.5**
baz=254
KIRV Kirov 79.56 329 P **P 13 55 45.9 -1.4**
comp=Z,13nm,0.4s,baz=65,slow=0.9,SNR=4.5
RAYN Ar Rayn 79.78 293 P **P 13 55 48.3 -1.1**
N18K Kilae Creek 80.50 29 P **P 13 55 54.4 +2.0**
baz=262
SVW2 Sparrevohn 80.71 29 P **P 13 55 55.3 +1.8**
O18K Koktuh Hills 80.72 30 P **P 13 55 55.1 +1.5**
baz=262
N19K Bonanza Creek 81.20 29 P **P 13 55 57.6 +1.4**
baz=263,SNR=5.5
O19K Port Alsworth 81.20 30 P **P 13 55 57.5 +1.5**
baz=263
L19K White Mountain 81.20 28 P **P 13 55 58.0 +1.8**
baz=262
M19K Big River Lodg 81.38 28 P **P 13 55 59.0 +2.0**
baz=263
OHAK Old Harbor 81.41 33 P **P 13 55 58.5 +1.3**
baz=264
P19K Oil Pt 81.69 30 P **P 13 56 00.1 +1.4**
baz=264
K20K Telida 81.72 27 P **P 13 56 00.9 +2.1**
baz=263
J20K Nowinta River 81.79 26 P **P 13 56 01.3 +2.2**
baz=263
KDAK Kodiak Island 81.84 32 P **P 13 56 00.9 +1.5**
baz=265
M20K Styx River 81.97 28 P **P 13 56 02.2 +1.9**
baz=264,SNR=7.7
KBZ Khabaz 82.27 313 P **P 13 56 01.5 -0.5**
comp=Z,1.0nm,0.5s,baz=113,slow=7.7,SNR=1.7
SPCR Spurr Chakacha 82.34 29 P **P 13 56 02.8 +0.6**
baz=265
PPLA Purkeypile 82.51 27 P **P 13 56 04.2 +1.1**
baz=265
PPLA Purkeypile 82.51 27 P **P 13 56 04.3 +1.1**
H21K Melozitna Rive 82.54 24 P **P 13 56 05.1 +2.0**
baz=264,SNR=12
CHUM Lake Minchumin 82.56 26 P **P 13 56 05.0 +1.9**
baz=264,SNR=9.8
SKT Skwentna 82.74 28 P **P 13 56 04.1 0.0**
baz=265,SNR=6.9
SKT Skwentna 82.74 28 P **P 13 56 04.2 +0.1**
SKT IAmb IAmb 13 56 05.6
comp=Z,21nm,1.1s
GURO Guroymak-BITLI 82.83 308 P **P 13 56 05.9 +0.7**
I21K Tanana 82.83 25 P **P 13 56 06.0 +1.5**
baz=264,SNR=9.0
BRSE Bradley Lake S 82.95 30 P **P 13 56 06.1 +0.8**
baz=266
SUA Susitna One 83.07 29 P **P 13 56 06.7 +0.7**
baz=266
SUA Susitna One 83.07 29 P **P 13 56 06.1 +0.1**
KTH Kantishna Hill 83.14 27 P **P 13 56 07.0 +0.8**
KTH IAmb IAmb 13 56 08.5
comp=Z,17nm,1.2s
BPAW Bear Paw Mtn. 83.16 26 P **P 13 56 07.2 +0.9**
baz=266,SNR=13
BPAW Bear Paw Mtn. 83.16 26 P **P 13 56 07.4 +1.1**
BPAW IAmb IAmb 13 56 08.7
comp=Z,36nm,1.4s
MLY Manley 83.34 25 P **P 13 56 08.3 +1.1**
baz=266,SNR=26
MLY Manley 83.34 25 P **P 13 56 08.6 +1.4**
MLY IAmb IAmb 13 56 09.8
comp=Z,29nm,1.1s
TRF Thorofare Moun 83.42 27 P **P 13 56 08.5 +0.7**
baz=266
TRF Thorofare Moun 83.42 27 P **P 13 56 08.3 +0.5**
TRF IAmb IAmb 13 56 09.6
comp=Z,16nm,1.1s
O22K Cooper Landing 83.50 30 P **P 13 56 08.7 +0.6**
baz=267
O22K Cooper Landing 83.50 30 P **P 13 56 08.6 +0.6**
RC01 Rabbit Creek A 83.53 29 P **P 13 56 08.8 +0.6**
baz=267,SNR=8.2
RC01 Rabbit Creek A 83.53 29 P **P 13 56 08.6 +0.4**
RC01 IAmb IAmb 13 56 09.9
comp=Z,18nm,0.8s
SEW Seward 83.62 30 P **P 13 56 09.4 +0.8**
baz=267
COLD Coldfoot 83.72 23 P **P 13 56 11.0 +1.9**
baz=266,SNR=22
COLD Coldfoot 83.72 23 P **P 13 56 10.7 +1.6**
COLD IAmb IAmb 13 56 12.2
comp=Z,30nm,1.1s
PMR Palmer 83.85 29 P **P 13 56 10.3 +0.5**
baz=267,SNR=8.9
PMR Palmer 83.85 29 P **P 13 56 10.0 +0.2**
PMR IAmb IAmb 13 56 11.5
comp=Z,20nm,1.1s
H23K Yukon River 83.89 24 P **P 13 56 11.8 +1.8**
baz=267,SNR=19
VNDA Vanda 83.92 173 P **P 13 56 10.2 +0.4**
comp=Z,2.6nm,0.9s,baz=321,slow=6.2,SNR=16
VNDA Vanda 83.92 173 P **P 13 56 10.0 +0.1**
I23K Minto, Yukon-K 83.93 25 P **P 13 56 11.8 +1.7**
baz=267,SNR=16
I23K Minto, Yukon-K 83.93 25 P **P 13 56 11.0 +0.9**
MAW Mawson 83.95 200 P **P 13 56 10.8 +0.7**
comp=Z,2.5nm,0.9s,baz=69,slow=11,SNR=3.6
GHO Glory Hole Cre 83.96 28 P **P 13 56 10.2 -0.2**
GHO IAmb IAmb 13 56 14.8
comp=Z,19nm,1.4s
NEA2 Nenana 84.02 26 P **P 13 56 11.5 +0.8**
baz=267,SNR=12
NEA2 Nenana 84.02 26 P **P 13 56 11.4 +0.8**
NEA2 IAmb IAmb 13 56 13.6
comp=Z,13nm,0.9s
MCK McKinley 84.04 26 P **P 13 56 11.3 +0.5**
baz=267,SNR=6.6
MCK McKinley 84.04 26 P **P 13 56 11.2 +0.5**
MCK IAmb IAmb 13 56 12.5
comp=Z,14nm,0.8s
RND Reindeer 84.06 27 P **P 13 56 11.0 0.0**
RND IAmb IAmb 13 56 12.3
comp=Z,9.6nm,0.7s
TOLK Toolik Lake Re 84.06 21 P **P 13 56 12.3 +1.5**
baz=266,SNR=11
TOLK Toolik Lake Re 84.06 21 P **P 13 56 12.6 +1.8**
TOLK IAmb IAmb 13 56 13.9
comp=Z,30nm,1.1s
KNK Knik Glacier 84.16 29 P **P 13 56 12.6 +1.1**
baz=268,SNR=6.2
KNK Knik Glacier 84.16 29 P **P 13 56 12.4 +1.0**
KNK IAmb IAmb 13 56 13.7
comp=Z,28nm,1.0s
WAT1 Susitna Watana 84.17 27 P **P 13 56 11.9 +0.4**
baz=268
PWL Port Wells 84.20 29 P **P 13 56 12.7 +1.1**
SML Sawmill 84.24 28 P **P 13 56 12.7 +0.8**
baz=268,SNR=6.8
SML Sawmill 84.24 28 P **P 13 56 12.6 +0.8**
SML IAmb IAmb 13 56 13.8
comp=Z,29nm,1.0s
MDM Murphy Dome 84.40 25 P **P 13 56 13.3 +0.8**
WRH Wood River Hil 84.44 26 P **P 13 56 13.3 +0.5**
WRH IAmb IAmb 13 56 14.3
comp=Z,20nm,1.3s
WAT6 Susitna Watana 84.54 28 P **P 13 56 13.9 +0.4**
baz=269,SNR=8.0
CCB Clear Creek Bu 84.57 26 P **P 13 56 13.1 -0.3**
H24K Noodor Dome 84.58 24 P **P 13 56 15.1 +1.7**
baz=268,SNR=9.1
SCM Sheep Creek Mo 84.72 28 P **P 13 56 14.9 +0.6**
SCM IAmb IAmb 13 56 16.6
comp=Z,25nm,1.2s
POKR Poker Plat Res 84.74 25 P **P 13 56 13.9 -0.3**
baz=269
KLMR Klimovskoe 84.75 331 *e*P **P 13 56 11.3 -3.0**
KLMR AMP 13 56 14.2
comp=Z,26nm,0.8s
KLMR *e*PP **PP 13 59 28.4 -3.6**
GLI Glacier Island 84.81 29 P **P 13 56 15.7 +1.0**
baz=269,SNR=5.2
GLI Glacier Island 84.81 29 P **P 13 56 15.2 +0.5**
HDA Harding Lake 84.94 26 P **P 13 56 16.2 +0.9**
baz=269
HDA Harding Lake 84.94 26 P **P 13 56 15.8 +0.5**
IL31 84.97 25 P **P 13 56 14.8 -0.5**
ILAR Eielson Array 84.97 25 P **P 13 56 15.3 0.0**
comp=Z,2.2nm,0.9s,baz=249,slow=4.6,SNR=19
FID Port Fidalgo 85.11 29 P **P 13 56 17.3 +1.1**
FID IAmb IAmb 13 56 18.4
comp=Z,27nm,1.2s
M24K Tolsona, Glenn 85.26 28 P **P 13 56 18.3 +1.3**
baz=270
KLU Klutina 85.38 29 P **P 13 56 18.7 +1.1**
baz=270
PAX Paxson 85.59 27 P **P 13 56 19.7 +1.1**
baz=270
N25K Chitina, Valde 86.02 29 P **P 13 56 21.3 +0.5**
baz=271
SCRK Sand Creek 86.23 26 P **P 13 56 22.7 +0.9**
baz=272
K27K Chicken 87.07 26 P **P 13 56 27.5 +1.8**
baz=274
ASF Jabal al Asfar 87.18 302 P **P 13 56 26.9 -0.2**
comp=Z,4.3nm,0.8s,baz=94,slow=2.2,SNR=9.4
L27K Beaver Creek, 87.24 27 P **P 13 56 27.6 +1.0**
baz=274
EGAK Eagle 87.42 25 P **P 13 56 27.9 +0.6**
baz=274
EGAK Eagle 87.42 25 P **P 13 56 27.5 +0.1**
CTG Chitna Glacier 87.62 29 P **P 13 56 29.7 +1.1**
baz=274
CTGM Chitina Glacie 87.62 29 P **P 13 56 29.1 +0.5**
CTGM IAmb IAmb 13 56 31.6
comp=Z,8.9nm,0.8s
DAWY Dawson 88.25 26 P **P 13 56 32.1 +0.7**
MMAI Mount Meron Ar 88.39 303 P **P 13 56 32.4 -0.3**
comp=Z,1.0nm,0.5s,baz=77,slow=6.4,SNR=2.1
EPYK Eagle Plains 89.08 24 P **P 13 56 36.0 +0.8**
baz=278
EPYK Eagle Plains 89.08 24 P **P 13 56 35.3 +0.1**
EPYK IAmb IAmb 13 56 37.3
comp=Z,17nm,1.1s
BRTR Keskin Array B 89.30 310 P **P 13 56 36.4 -0.6**
comp=Z,1.6nm,0.6s,baz=109,slow=6.7,SNR=2.8
HYT Haines Junctio 89.50 29 P **P 13 56 38.3 +0.9**
ARA0 ARCESS Array S 89.85 340 *e*P **P 13 56 38.1 -0.6**
ARCES ARCESS Array B 89.85 340 P **P 13 56 38.0 -0.8**
comp=Z,4.9nm,0.5s,baz=80,slow=5.8,SNR=56
ARCES ARCESS Array B 89.85 340 P **P 13 56 37.7 -1.0**
ARCES IAmb IAmb 13 56 38.9
comp=Z,15nm,1.0s
SPA0 Spitsbergen Ar 89.95 349 *e*P **P 13 56 39.5 +0.5**
SPITS Spitsbergen Ar 89.95 349 P **P 13 56 38.5 -0.6**
comp=Z,3.3nm,0.5s,baz=83,slow=4.6,SNR=13
INK Inuvik 89.98 21 P **P 13 56 40.1 +0.8**
baz=281
HAMF Hammerfest 90.22 341 *e*P **P 13 56 39.5 -0.9**
KBS Kingsbay 90.48 350 *e*P **P 13 56 41.9 +0.4**
KTK1 Kautokeino 90.75 339 *e*P **P 13 56 41.8 -1.2**
WHY Whitehorse 90.80 29 P **P 13 56 44.6 +1.2**
baz=280
FINES FINESS Array B 91.18 332 P **P 13 56 44.0 -1.1**
comp=Z,6.2nm,0.7s,baz=63,slow=3.5,SNR=12
FINES LR LR 14 41 11.5
comp=Z,20nm,18.3s,baz=50,slow=38
AKASG Malin Array Be 91.20 321 P **P 13 56 43.8 -1.6**
comp=Z,0.6nm,0.4s,baz=68,slow=4.2,SNR=6.5
AKASG Malin Array Be 91.20 321 IAmb IAmb 13 56 44.5
comp=Z,1.7nm,0.9s
MNK Minsk 91.44 325 *i* P **P 13 56 44.5 -1.8**
comp=E,4.0nm,0.8s
MNK *i* P **P 13 56 44.5 -1.8**
comp=N,64nm,1.0s
MNK *i* P **P 13 56 44.5 -1.8**
comp=Z,25nm,0.9s,baz=261
MNK *i* pP **pP 13 57 13.2 -5.8**
MNK *i* sP sP 13 57 25.2 -7.3
MNK *i* PP **PP 14 00 23.5 -2.2**
MNK *i* PPP PPP 14 02 22.0
MNK *i* SP SP 14 08 36.6 -7.2
MNK *i* PS **PS 14 08 58.1 -2.5**
MNK *i* SS **SS 14 13 43.3 +0.1**
MNK *i* SSS SSS 14 16 44.6
MNK *i* LRM MLR 14 34 10.0
comp=E,10.0nm,19.8s
MNK *i* LRM MLR 14 35 27.0
comp=N,366nm,19.8s
MNK *i* LRM MLR 14 35 30.5
comp=Z,439nm,19.8s
JETT Jettan, Norway 91.58 340 *e*P **P 13 56 47.2 +0.4**
TRO Tromso 92.06 340 *e*P **P 13 56 48.5 -0.5**
MEF Metsahovi 92.23 331 *e*P **P 13 56 49.0 -0.9**
CRAG Craig 92.67 34 P **P 13 56 52.7 +0.7**
baz=281
MTSE Matsula 92.85 329 *e*P **P 13 56 48.6 -4.1**
RAF Rauma 93.31 332 *e*P **P 13 56 51.1 -3.7**
DLBC Dease Lake 93.67 31 LR LR 14 41 22.1
comp=Z,36nm,19.4s,baz=282,slow=37
STEI Steigen 93.89 339 *e*P **P 13 56 56.2 -1.1**
FAUS Fauske 94.07 339 *e*P **P 13 56 57.1 -1.1**
MLR Muntele Rosu 94.19 316 P **P 13 56 59.3 -0.2**
comp=Z,2.2nm,0.5s,baz=135,slow=2.9,SNR=3.7
BURAR Bucovina Array 94.30 318 P **P 13 56 58.9 -1.0**
BURAR IAmb IAmb 13 57 00.6
comp=Z,5.3nm,1.1s
MOR8 Moi Rana 94.82 338 *e*P **P 13 57 00.8 -1.0**
BBB Bella Bella 96.30 37 LR LR 14 43 33.0
comp=Z,17nm,18.4s,baz=316,slow=37
HFS Hagfors 97.37 332 P **P 13 57 11.9 -1.6**
comp=Z,3.0nm,0.6s,baz=100,slow=3.4,SNR=16
NB2 NORSAR Subarra 98.15 334 P **P 13 57 15.2 -1.8**
comp=Z,5.4nm,0.7s,baz=67,slow=4.6
NB2 NORSAR Subarra 98.15 334 P **P 13 57 15.2 -1.8**
baz=67,slow=4.6
NOA NORSAR Array B 98.15 334 P **P 13 57 15.6 -1.4**
comp=Z,4.8nm,0.8s,baz=67,slow=4.5,SNR=10
BRG Berggiesshubel 100.55 323 *e*P **Pdif 13 57 27.6 -0.2**
BRG Amp 13 57 28.8
comp=Z,5.0nm,0.8s
BLS5 Blasjo 100.99 333 *e*P **Pdif 13 57 29.0 -0.6**
ASK Askoy 101.04 334 *e*Pdif **Pdif 13 57 29.4 -0.4**
GERES GERESS Array B 101.39 321 P **Pdif 13 57 31.1 -0.7**
comp=Z,0.3nm,0.3s,baz=90,slow=2.9,SNR=4.5
NVAR Mina Array Bea 107.05 48 PKiKP **PKiKP 14 02 08.3 +2.0**
comp=Z,0.4nm,0.7s,baz=264,slow=2.7,SNR=2.6
EGMT Eagleton 108.78 36 P **PKiKP 14 02 09.3 +0.2**
baz=299
BELC Belle Mtn. Jos 110.31 52 P **PKiKP 14 02 11.9 -0.5**
baz=290
PDAR Pinedale Array 111.41 41 PKKPab PKKPab 14 13 18.9 -1.7
comp=Z,0.5nm,0.7s,baz=110,slow=4.9,SNR=5.0
ECSD EROS Data Cent 118.76 34 P **PKiKP 14 02 28.7 +0.5**
baz=310
MNTX Cornudas Mount 119.42 50 P **PKiKP 14 02 30.2 +0.4**
baz=296
SCHQ Schefferville 120.24 9 PKP **PKiKP 14 02 30.9 +0.2**
comp=Z,2.3nm,0.3s,baz=359,slow=2.7,SNR=6.6
TXAR Lajitas Array 121.79 52 PKP **PKiKP 14 02 35.5 +0.8**
comp=Z,0.5nm,0.6s,baz=242,slow=1.9,SNR=7.6
TORD Torodi Ar. Bea 122.23 288 PKP **PKPdf 14 02 34.9 -0.7**
comp=Z,1.6nm,0.6s,baz=68,slow=1.5,SNR=7.5
WMOK Wichita Mounta 122.73 44 P **PKiKP 14 02 36.6 +0.3**
baz=303
CHGQ Chibougamau 123.30 16 P **PKiKP 14 02 36.9 0.0**
baz=335
LSQQ Lebel-sur-Quev 123.31 18 P **PKiKP 14 02 36.9 0.0**
baz=332
JCT Junction City 124.22 49 P **PKiKP 14 02 39.4 0.0**
baz=300
CCM Cathedral Cave 125.54 36 P **PKiKP 14 02 41.9 +0.2**
baz=312
ALGO Algonquin Park 125.67 21 P **PKiKP 14 02 41.9 +0.2**
baz=330
U40A Yellville 125.67 39 P **PKiKP 14 02 42.5 +0.4**
baz=310
W39A Magazine 125.81 40 P **PKiKP 14 02 42.9 +0.6**
baz=308
D58A Chemin du LacG 126.27 16 P **PKiKP 14 02 43.3 +0.4**
baz=336
MIAR Mount Ida 126.34 41 P **PKiKP 14 02 44.2 +0.8**
baz=308
F60A Warwick 127.56 16 P **PKiKP 14 02 45.5 +0.1**
baz=337
F64A Sherman 128.55 13 P **PKiKP 14 02 47.9 +0.4**
baz=342
M54A Oil Creek Stat 128.81 25 P **PKiKP 14 02 48.4 +0.2**
baz=326
J58A Remsen 128.89 20 P **PKiKP 14 02 48.8 +0.5**
baz=332
OXF Oxford 129.01 38 P **PKiKP 14 02 49.1 +0.4**
baz=312
P52A Corning 129.24 28 P **PKiKP 14 02 49.3 +0.2**
baz=323

IDC ***08*** *13:46:36.8±3.2, 51°.76N×174°.40W, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/50, mbtmp3.4/5, ML4.1/1 Error ellipse: s-maj=90.4km s-min=32.4km az=2.0*
AEIC ***08*** *13:46:37.9±1.4, 51°.27N±0°.05×173°.94W±0°.08, h25km±6km, Error ellipse: s-maj=9.6km s-min=3.4km az=138.0*
NEIC ***08*** *13:46:39±0.9, 51°.33N±0°.03×173°.98W±0°.07, h31km±6km, ML3.2/17(AEIC), Error ellipse: s-maj=6.5km s-min=3.7km az=79.0*
ISC 08 13:46:37.8±2.4,**51°.3N**±0°.1×**173°.95W**±0°.06,**h24**km±15km, **n21**,σ0**59**/25,**mb3.5**/4,**Andreanof Islands**

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

ATKA	Atka Island	0.92 350		Pb	13 46 54.5	-0.6
ATKA				Sn	13 47 08.8	+1.2
KOFP	Korovin Flat P	0.98 355		Pb	13 46 56.1	-0.1
KOKL	Mount Kliuchef	1.04 351		Pn	13 46 57.0	+0.1
KOSE	Korovin Southe	1.05 357		Pn	13 46 57.1	0.0
KOSE				Sb	13 47 11.1	+0.4
KONE	Korovin Northe	1.10 355		Pn	13 46 57.9	+0.1
GSMY	Great Sitkin M	1.51 300		Pn	13 47 03.3	-0.1
GSMY				Sn	13 47 22.5	+0.3
GSTR	Great Sitkin T	1.54 302		Pn	13 47 03.2	-0.5
GSTD	Great Sitkin T	1.56 300		Pn	13 47 04.2	0.0
GSTD				Sn	13 47 24.6	+0.9
ADAG	Mount Adagdak	1.79 294		Pn	13 47 07.7	+0.5
ADK	Adak	1.81 290		Pn	13 47 07.3	0.0
ADK				Sn	13 47 29.9	+0.4
KIWB	Kanaga Island	2.08 287		Pn	13 47 11.5	+0.4
KIMD	Kanaga Island	2.11 284		Pn	13 47 12.3	+0.8
TASE	Tanaga Southea	2.61 284		Pn	13 47 19.4	+1.0
NIKH	Nikolski High	3.56 60	Pn	Pn	13 47 32.1	+0.7
ILAR	Eielson Array	19.46 36	P	P	13 51 02.6	+0.2
	0.6nm,0.3s,baz=226,slow=8.8,SNR=11					
PDAR	Pinedale Array	43.41 75	P	P	13 54 42.5	+3.9
	0.4nm,0.8s,baz=332,slow=3.6,SNR=3.7					
PDAR	Pinedale Array	43.41 75	P	P	13 54 38.4	-0.1
KURK	Kurchatov	61.23 316	P	P	13 56 50.8	+0.5
KURBB	Kurchatov Arra	61.34 316	P	P	13 56 50.8	-0.3
	0.4nm,0.5s,baz=42,slow=7.0,SNR=2.2					
MKAR	Makanchi Array	62.42 311	P	P	13 56 57.6	-0.9
	0.1nm,0.4s,baz=55,slow=5.5,SNR=1.4					
AKASG	Malin Array Be	76.49 345	P	P	13 58 24.6	-0.6
	0.3nm,0.3s,baz=12,slow=4.9,SNR=1.6					

*IDC **08** 13:50:32.0±1.5,56°.45N×163°.42E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/55, mbtmp3.2/4, ML2.1/1, Error ellipse: s-maj=58.6km s-min=24.1km az=150.0*
*KRSC **08** 13:50:33.1±1.4,56°.13N×163°.85E, h51km±19km, ML3.9*
ISC 08 13:50:32.6±1.8,56°.18N±0°.06×163°.82E±0°.04, h7km±12km, n41, σ1.9±13/46, mb3.5/3, Near east coast of Kamtchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.56	273	eP	Pg	13 50 43.2	-0.2
KBG	Krutoberegovo	0.63	277	eP	Pg	13 50 45.0	+0.3
SMKR	Semkarok	1.37	288	eP	Pn	13 50 57.9	-0.3
SMKR				S	Sb	13 51 15.2	-1.1
BDR	Baidarnaya	1.50	286	eP	Pn	13 51 00.2	+0.2
BDR				eS	Sn	13 51 20.5	+0.6
SRKR	Sorokina	1.55	289	eP	Pn	13 51 00.6	0.0
SRKR				eS	Sn	13 51 21.2	+0.2
BKI	Bering	1.56	128	eP	Pn	13 51 00.5	-0.2
BKI				S	Sn	13 51 21.0	-0.2
CIRR	Tsirk	1.72	269	eP	Pn	13 51 03.3	+0.2
LGNR	Loginova	1.76	268	eP	Pn	13 51 03.9	+0.2
BZGR	Bezymyannyi-Gr	1.77	263	eP	Pn	13 51 04.0	+0.3
KLY	Klyuchi	1.77	276	eP	Pn	13 51 02.1	-1.5
KLY				eS	Sn	13 51 23.0	-3.4
BZWR	Bezymyannyi-We	1.88	265	eP	Pn	13 51 05.4	+0.2
BZWR				eS	Sn	13 51 30.0	+0.7
KIRR	Kirishev	1.97	265	eP	Pn	13 51 07.2	+0.8
MKZ	Mys Kozlova	2.02	217	eP	Pn	13 51 05.4	-1.6
KPT	Kopyto	2.03	265	eP	Pn	13 51 08.0	+0.7
KMNR	Kamenistaya	2.06	260	eP	Pn	13 51 08.9	+1.2
TUMD	Tumrok D	2.17	245	P	Pn	13 51 09.8	+0.6
KOZ	Kozyrevsk	2.22	268	eP	Pn	13 51 10.9	+1.2
TUMR	Tumrok	2.27	248	eP	Pn	13 51 10.9	+0.4
KZV	Kizimen	2.27	243	eP	Pn	13 51 10.4	-0.2
SRDR	Sredinnyy	2.30	275	eP	Pn	13 51 11.7	+0.8
SRDR				eS	Sn	13 51 40.0	+0.6
OSSR	Ossora	3.10	353	P	Pn	13 51 22.7	+0.8
SPN	Mys Shipunski	3.80	217	P	Pn	13 51 30.0	-1.5
SDLR	Sedlovina	4.08	227	P	Pn	13 51 35.8	+0.3
KRER	Koryakskii	4.12	228	P	Pn	13 51 36.9	+0.8
KRX	Arik	4.12	229	P	Pn	13 51 37.5	+1.5
SMAR	Somma	4.13	227	eP	Pn	13 51 36.4	+0.2
AVH	Avacha	4.15	227	P	Pn	13 51 37.8	+1.4
UGLR	Uglovaya	4.16	226	eP	Pn	13 51 36.6	+0.1
KOK	Koryaka	4.17	228	P	Pn	13 51 37.6	+0.9
GNL	Ganaly	4.21	236	eP	Pn	13 51 38.5	+1.3
DALK	Dalny	4.32	225	eP	Pn	13 51 38.4	-0.2
PETK	Petropavlovsk-	4.71	232	Pn	Pn	13 51 44.2	+0.3
	0.4nm,0.3s,baz=45,slow=18,SNR=3.0						
PETK				Sn	Sn	13 52 41.8	+3.0
	0.0nm,0.3s,baz=93,slow=20,SNR=2.0						
RUS	Russkaya	4.88	222	P	Pn	13 51 46.0	-0.2
GRL	Gorelyy	4.95	225	eP	Pn	13 51 48.6	+1.2
MTVR	Mutnovka	4.96	224	eP	Pn	13 51 48.9	+1.3
ILAR	Eielson Array	25.13	50	P	P	13 55 58.5	+0.8
	0.8nm,0.8s,baz=268,slow=8.9,SNR=9.3						
H11N2	WAKE ISLAND Hy	36.47	175	T	T	14 36 21.2	
	baz=357,slow=76,SNR=1788						
H11N3	WAKE ISLAND Hy	36.48	175	T	T	14 36 24.2	
	baz=357,slow=76,SNR=1078						
H11N1	WAKE ISLAND Hy	36.49	175	T	T	14 36 24.4	
	baz=357,slow=76,SNR=1640						
MKAR	Makanchi Array	48.78	295	P	P	13 59 15.7	-2.1
	0.2nm,0.4s,baz=63,slow=5.9,SNR=1.8						
TXAR	Lajitas Array	67.50	71	P	P	14 01 30.3	+1.1
	0.2nm,0.6s,baz=307,slow=7.5,SNR=1.9						

*IDC **08** 14:06:34.0±3.7,37°.31N×78°.06E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.2/41, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=73.1km s-min=37.8km az=115.0*
*NNC **08** 14:06:50.1±4.0,38°.07N×78°.78E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=30.0km s-min=26.6km az=50.0*
ISC 08 14:06:35.4±2.1,37°.4N±0°.1×78°.4E±0°.1, h10km, n14, σ1.9±94/16, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	5.77	4	Pg	Pg	14 08 24.4	-1.5
	3.6nm,0.5s						
UZB				Lg	Lg	14 09 30.1	
	12nm,0.4s						
MDOK	Medeo	5.86	350	Pg	Pg	14 08 24.6	-3.0
	3.3nm,0.6s						
MDOK				⇑Lg	Lg	14 09 37.8	
	20nm,0.7s						
MDOK	Medeo	5.86	350	Pg	Pg	14 08 28.9	+1.3
	4.3nm,0.5s						
MDOK				Lg	Lg	14 09 38.1	
	19nm,0.7s						
TKM2	Tokmak 2	5.93	340	⇑Pg	Pg	14 08 27.6	-1.3
	4.6nm,1.1s						
TKM2				⇓Lg	Lg	14 09 42.1	
	4.1nm,0.5s						
AAK	Ala-Archa	6.04	331	Pg	Pb	14 08 21.4	+0.6
	1.2nm,0.3s,baz=137,slow=12,SNR=2.2						
AAK				Lg	Lg	14 09 38.3	
	0.3nm,0.3s,baz=186,slow=22,SNR=1.6						
AAK	Ala-Archa	6.04	331	⇑Pg	Pg	14 08 30.9	-0.1
	4.0nm,0.8s						
AAK				⇑Lg	Lg	14 09 45.9	
	15nm,0.9s						
KTBS	Karatobe	6.45	349	Pg	Pg	14 08 38.6	-0.3
	1.5nm,0.5s						
KTBS				Lg	Lg	14 09 54.8	
	7.9nm,0.8s						
CHKK	Chushkaly	6.55	351	Pg	Pg	14 08 41.6	+0.9
	3.0nm,0.5s						
CHKK				Lg	Lg	14 10 00.1	
	8.7nm,0.3s						
KRBS	Karabastau	6.63	343	Pg	Pg	14 08 41.6	-0.8
	2.3nm,0.4s						
KRBS				Lg	Lg	14 10 00.1	
	4.0nm,0.7s						
ARXS	Arharly	6.83	356	Pg	Pg	14 08 44.8	-1.3
	3.3nm,0.6s						
ARXS				Lg	Lg	14 10 05.8	
	6.3nm,0.9s						
MK31	Makanchi Array	9.83	16	⇓Pn	Pn	14 08 59.3	+2.6
	0.3nm,0.3s,baz=199,slow=12,SNR=23						
MK31				⇑Sn	Sn	14 10 44.1	-3.1
	0.5nm,0.5s,baz=195,slow=26,SNR=5.0						
MKAR	Makanchi Array	9.83	16	Pn	Pn	14 08 59.8	+3.0
	0.2nm,0.3s,baz=201,slow=12,SNR=14						
MKAR				Sn	Sn	14 10 46.5	-0.6
	0.3nm,0.3s,baz=194,slow=22,SNR=4.2						
FINES	FINESS Array B	40.17	324	P	P	14 14 12.1	+0.8
	1.5nm,1.0s,baz=104,slow=12,SNR=3.4						
TORD	Torodi Ar. Bea	71.64	273	P	P	14 17 55.4	-2.1
	0.2nm,0.4s,baz=51,slow=5.7,SNR=1.4						

*IDC **08** 14:11:57.8±7.3,37°.22N×78°.59E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/47, mbtmp3.6/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/38, Error ellipse: s-maj=168.7km s-min=42.2km az=125.0*
*NNC **08** 14:12:09.7±3.6,38°.01N×78°.63E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=26.3km s-min=19.7km az=13.0*
ISC 08 14:12:01.8±2.1,37°.5N±0°.1×78°.6E±0°.1, h10km, n16, σ2.9±84/13, 7C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	Podgornoye	5.82	6	⇓Pg	Pb	14 13 44.0	+0.5
	2.6nm,0.4s						
PDGK				⇑Lg	Lg	14 14 55.9	
	12nm,0.6s						
TKM2	Tokmak 2	5.85	338	⇑Pg	Pb	14 13 44.9	+0.9
	1.4nm,0.3s						
TKM2				⇑Lg	Lg	14 15 00.5	
	7.3nm,0.6s						
KST	Kastek	5.86	341	Pg	Pg	14 13 50.9	-3.0
	4.3nm,0.4s						
KST				Lg	Lg	14 15 06.3	
	11nm,0.7s						
AAK	Ala-Archa	5.99	329	⇓Pg	Pb	14 13 52.1	+5.7
	4.0nm,0.7s						
AAK				⇑Lg	Lg	14 15 03.3	
	26nm,1.1s						
DGS	Degeres	6.09	340	Pg	Pg	14 13 55.5	-3.0
	4.7nm,0.5s						
DGS				Lg	Lg	14 15 13.9	
	11nm,0.9s						
KTBS	Karatobe	6.34	347	Pg	Pg	14 13 59.0	-4.1
	2.0nm,0.5s						
KTBS				Lg	Lg	14 15 19.8	
	16nm,0.7s						
CHKK	Chushkaly	6.42	349	Pg	Pg	14 14 00.2	-4.6
	3.4nm,0.4s						
CHKK				Lg	Lg	14 15 22.1	
	9.7nm,0.5s						
KRBS	Karabastau	6.54	341	Pg	Pb	14 14 01.2	+5.5
	2.5nm,0.5s						
KRBS				Lg	Lg	14 15 24.5	
	7.6nm,0.8s						
MRKS	Merke	6.63	323	Pg	Pb	14 14 01.5	+4.2
	2.5nm,0.3s						
MRKS				Lg	Lg	14 15 24.5	
	6.9nm,0.5s						
SGDS	Sogindy	6.64	334	Pg	Pb	14 14 03.5	+6.1
	1.8nm,0.5s						
SGDS				Lg	Lg	14 15 27.8	
	4.9nm,0.7s						
MAKZ	Makanchi	9.59	14	⇓Pn	Pn	14 14 23.8	+3.9
	1.9nm,0.5s						
MAKZ				⇑Sn	Sn	14 16 06.6	-1.1
	1.0nm,0.6s						
MK31	Makanchi Array	9.64	15	⇑Pn	Pn	14 14 23.9	+3.2
	0.4nm,0.3s,baz=195,slow=12,SNR=27						
MK31				⇑Sn	Sn	14 16 08.4	-0.5
	3.0nm,0.8s,baz=202,slow=25,SNR=6.6						
MKAR	Makanchi Array	9.64	15	Pn	Pn	14 14 23.9	+3.3
	0.5nm,0.3s,baz=192,slow=12,SNR=18						
MKAR				Sn	Sn	14 16 08.1	-0.9
	0.3nm,0.3s,baz=186,slow=9.8,SNR=2.4						
FINES	FINESS Array B	40.14	324	P	P	14 19 36.9	-0.6
	0.9nm,0.7s,baz=108,slow=8.9,SNR=1.8						
TIXI	Tiksi	42.57	21	LR	LR	14 38 28.6	
	comp=Z,53nm,18.4s,baz=338,slow=37						
TORD	Torodi Ar. Bea	71.79	273	P	P	14 23 22.6	-2.2
	0.2nm,0.6s,baz=46,slow=6.1,SNR=1.3						

*DNK **08** 14:23:43.4±3.7,82°.18N×4°.87W, h0km±49km, ML2.4*
*IDC **08** 14:23:45.5±1.1,82°.05N×5°.73W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.4/63, mbtmp3.6/7, ML3.8/2, MS3.3/14, Ms1 3.3/14, ms1mx3.0/34, Error ellipse: s-maj=43.3km s-min=18.0km az=35.0*
*NEIC **08** 14:23:46.5±2.0,81°.9N±0°.1×6°.7W±0°.6, h10km±1km, mb4.4/9, Error ellipse: s-maj=20.9km s-min=13.2km az=13.0*
ISC 08 14:23:45.4±0.6,81°.92N±0°.07×5°.91W±0°.05, h10km, n48, σ2.9±06/44, mb3.9/8, MS3.3/11, 2C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	1.58	264	i P	Pn	14 24 14.0	+0.6
NOR				⇑i P	Pn	14 24 14.0	+0.6
NOR	Nord	1.58	264	⇑i P	Pn	14 24 14.0	+0.6
KBS	Kingsbay	4.21	126	i P	Pn	14 24 49.4	-0.1
KBS	Kingsbay	4.21	126	eP	Pn	14 24 49.6	+0.1
KBS				eS	Sn	14 25 36.6	-2.0
KBS				IAML		14 25 43.8	
	comp=Z,8.2nm,0.4s						
KBS	Kingsbay	4.21	126	Pn	Pn	14 24 49.1	-0.3
SPA0	Spitsbergen Ar	5.34	123	eP	Pn	14 25 05.0	0.0
SPA0				eS	Sn	14 26 02.5	-3.8
SPITS	Spitsbergen Ar	5.34	123	Pn	Pn	14 25 04.6	-0.3
	baz=327,slow=10,SNR=192						
SPITS				Sn	Sn	14 26 01.9	-4.4
	baz=20,slow=23,SNR=0.7						
DAG	Danmarks Havn	5.67	211	i P	Pn	14 25 11.9	+2.4
DAG				i S	Sn	14 26 14.7	+0.3
DAG				IAML		14 26 18.1	
	comp=Z,26nm,0.4s						
DAG	Danmarks Havn	5.67	211	i P	Pn	14 25 11.9	+2.4
DAG				i S	Sn	14 26 14.7	+0.3
DAG				IAML		14 26 18.1	
	comp=Z,26nm,0.4s						
HSPB	Hornsund (broa	6.25	131	eP	Pn	14 25 18.2	+0.8
HOPEN	Hopen	7.79	117	eP	Pn	14 25 38.4	-0.2
DBG	Daneborg	8.15	208	i P	Pn	14 25 44.1	+0.6
DBG				IAML		14 27 17.6	
	comp=Z,15nm,0.4s						
DBG	Daneborg	8.15	208	i P	Pn	14 25 44.1	+0.6
DBG				IAML		14 27 17.6	
	comp=Z,15nm,0.4s						
NEEM	North Greenlan	8.96	265	i P	Pn	14 25 53.7	-1.2
NEEM				IAML		14 27 29.5	
	comp=Z,6.6nm,0.4s						
NEEM				i S	Sn	14 27 29.9	-5.9
SUMG	Summit	11.51	234	i P	Pn	14 26 29.5	-0.3
SUMG				i S	Sn	14 28 33.6	-4.8
SUMG				IAML		14 28 41.3	
	comp=Z,3.2nm,0.3s						
SUMG	Summit	11.51	234	i P	Pn	14 26 29.5	-0.3
SUMG				i S	Sn	14 28 33.6	-4.8
SUMG				IAML		14 28 41.3	
	comp=Z,3.2nm,0.3s						
SUMG	Summit	11.51	234		Pn	14 26 29.2	-0.6
TULEG	Thule	12.18	279	Pn	Pn	14 26 35.2	-3.4
ARCES	ARCESS Array B	14.26	132	Pn	Pn	14 27 07.9	+0.8
	baz=341,slow=9.9,SNR=5.8						
ARCES				LR	LR	14 32 42.3	
	comp=Z,54nm,18.0s,baz=350,slow=37						
RES	Resolute Bay	17.25	296	LR	LR	14 33 29.9	
	comp=Z,70nm,19.4s,baz=20,slow=34						
BORG	Borgarnes	17.68	202	Pn	Pn	14 27 51.1	-0.2
BORG				IAmb	IAmb	14 27 58.6	
	comp=Z,53nm,1.4s						
SFJD	Kangerlussuaq	18.23	242	LR	LR	14 35 08.9	
	comp=Z,59nm,20.0s,baz=15,slow=37						
NOA	NORSAR Array B	21.47	157	P	P	14 28 37.3	+3.7
	comp=Z,0.9nm,0.8s,baz=350,slow=11,SNR=1.3						
NRIK	Noril'sk	22.71	67	LR	LR	14 37 46.2	
	comp=Z,54nm,19.3s,baz=338,slow=37						
NRS	Narsarsuaq	23.26	231	P	P	14 28 53.8	+1.4
NRS				IAmb	IAmb	14 29 14.2	
	comp=Z,21nm,1.0s						
FRB	Frobisher Bay	23.71	259	LR	LR	14 38 17.7	
	comp=Z,60nm,19.3s,baz=14,slow=37						
TOLK	Toolik Lake Re	28.44	333	P	P	14 29 41.2	+1.5
TOLK				IAmb	IAmb	14 29 42.9	
	comp=Z,5.4nm,1.3s						
YKA	Yellowknife Ar	31.16	302	LR	LR	14 42 41.1	
	comp=Z,60nm,18.3s,baz=0.0,slow=36						
I23K	Minto, Yukon-K	31.88	332	P	P	14 30 10.8	+0.8
ILAR	Eielson Array	32.08	329	P	P	14 30 12.3	+0.5
	comp=Z,1.2nm,1.2s,baz=15,slow=7.5,SNR=5.9						
MNLY	Manley	32.09	333	P	P	14 30 12.1	+0.1
SCHQ	Schefferville	32.09	252	LR	LR	14 43 51.7	
	comp=Z,67nm,19.0s,baz=102,slow=38						
ZALV	Zalesovo Beam	37.12	78	LR	LR	14 48 52.5	
	comp=Z,40nm,19.0s,baz=42,slow=41						

MA2	Magadan	38.19	19	LR	LR	14 46 50.4
	comp=Z,42nm,18.6s,baz=240,slow=36					
KURK	Kurchatov	39.40	86	P	P	14 31 17.0 +2.3
KURBB	Kurchatov Arra	39.48	86	P	P	14 31 17.0 +1.7
	comp=Z,0.4nm,0.9s,baz=350,slow=6.9,SNR=3.7					
ULM	Lac du Bonnet	40.62	280	P	P	14 31 25.6 +0.8
	comp=Z,1.2nm,0.4s,baz=6.3,slow=9.2,SNR=1.5					
ULM				LR	LR	14 46 50.2
	comp=Z,42nm,20.8s,baz=350,slow=34					
ULM	Lac du Bonnet	40.62	280	IAmb	IAmb	14 31 33.8
	comp=Z,7.3nm,1.1s					
MKAR	Makanchi Array	43.75	83	LR	LR	14 53 42.9
	comp=Z,53nm,19.0s,baz=8.5,slow=41					
J57A	Williamstown	44.52	258	P	P	14 31 54.9 -1.7
SONM	Songino Array	45.95	60	LR	LR	14 51 31.0
	comp=Z,98nm,18.1s,baz=92,slow=36					
HRY	Holter Researc	46.24	294	P	P	14 32 11.2 +0.9
ECSD	EROS Data Cent	47.10	278	P	P	14 32 17.1 +0.1
ECSD				IAmb	IAmb	14 32 26.5
	comp=Z,4.4nm,0.9s					
E07A	Sunnyside	47.40	301	P	P	14 32 19.9 +0.7
PDAR	Pinedale Array	49.82	291	P	P	14 32 40.2 +2.0
	comp=Z,0.2nm,0.6s,baz=18,slow=6.2,SNR=2.1					
PDAR				LR	LR	14 53 57.2
	comp=Z,69nm,18.6s,baz=81,slow=36					
NVAR	Mina Array Bea	55.22	298	LR	LR	14 56 43.6
	comp=Z,54nm,21.0s,baz=133,slow=36					
DR12	Loma Pena Alta	67.86	246	P	P	14 34 44.1 +0.6
BANI	BANI	68.38	247	P	P	14 34 47.2 +0.3

NNC 08 14:37:46.6±3.1,37°.78N×78°.31E, h0km, mb4.0, mpv3.6, 7C-1D, Error ellipse: s-maj=22.6km s-min=20.1km az=41.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.28	1	Pg	Pg	14 39 25.2	-2.6
	10nm,0.7s						
SATY				Lg	Lg	14 40 39.7	
	16nm,1.3s						
UZB	Uzynbulak	5.39	6	Pg	Pb	14 39 25.1	+3.3
	5.1nm,0.5s						
UZB				Lg	Lg	14 40 39.3	
	8.8nm,0.8s						
MDOK	Medeo	5.47	350	Pg	Pb	14 39 27.0	+4.0
	7.1nm,0.6s						
MDOK				Lg	Lg	14 40 39.3	
	17nm,0.7s						
MDOK	Medeo	5.47	350	Pg	Pg	14 39 27.3	-4.1
	6.9nm,0.4s						
MDOK				Lg	Lg	14 40 43.2	
	16nm,0.8s						
TKM2	Tokmak 2	5.54	339	⇑Pg	Pb	14 39 25.4	+1.1
	4.6nm,0.9s						
TKM2				⇓Lg	Lg	14 40 41.0	
	7.0nm,0.6s						
KST	Kastek	5.56	342	Pg	Pg	14 39 28.9	-4.2
	4.5nm,0.4s						
KST				Lg	Lg	14 40 45.5	
	9.0nm,0.5s						
PDGK	Podgornoye	5.62	9	Pg	Pb	14 39 28.6	+2.9
	2.0nm,0.5s						
PDGK				Lg	Lg	14 40 45.1	
	4.2nm,1.1s						
PDGK	Podgornoye	5.62	9	⇑Pg	Pg	14 39 30.0	-4.3
	3.3nm,0.5s						
PDGK				⇑Lg	Lg	14 40 42.3	
	15nm,0.9s						
AAK	Ala-Archa	5.67	330	⇑Pg	Pb	14 39 29.6	+3.2
	3.6nm,0.5s						
AAK				⇑Lg	Lg	14 40 43.8	
	24nm,1.1s						
KTBS	Karatobe	6.06	349	Pg	Pb	14 39 37.0	+4.0
	2.6nm,0.4s						
KTBS				Lg	Lg	14 40 59.9	
	9.3nm,0.9s						
KRBS	Karabastau	6.24	342	Pg	Pb	14 39 40.5	+4.3
	2.3nm,0.6s						
KRBS				Lg	Lg	14 41 05.6	
	7.7nm,0.9s						
MK31	Makanchi Array	9.48	17	⇑Pn	Pn	14 40 04.4	-0.1
	1.3nm,0.7s,baz=197,slow=13,SNR=10						
MK31				⇑Sn	Sn	14 41 50.3	-1.4
	2.7nm,0.8s,baz=190,slow=24,SNR=3.0						

*NEIC **08** 15:25:30.4±1.8, 18°.0N±0°.3×68°.74W±0°.08, h104km±32km, Error ellipse: s-maj=47.1km s-min=5.4km az=191.0*
*RSPR **08** 15:25:31.4, 18°.10N×68°.59W, h127km±1km, MD3.3/4*
ISC 08 15:25:28.7±2.0,17°.9N±0°.2×68°.82W±0°.07, h100km, n19, σ0.9±95/24, 1C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	1.39	67	⇓eP	Pn	15 25 54.5	+1.0
IDE	Isla Desecheo	1.39	67	eS	Sn	15 26 12.8	+0.4
IDE	Isla Desecheo	1.39	67		Pn	15 25 54.5	+1.0
IDE					Sn	15 26 12.8	+0.4
MLPR	Magueyes Islan	1.70	86	⇓eP	Pn	15 25 58.5	+1.1
MLPR	Magueyes Islan	1.70	86	eS	Sn	15 26 19.9	+0.7
MLPR	Magueyes Islan	1.70	86	Pn	Pn	15 25 58.2	+0.8
MLPR					Sn	15 26 19.7	+0.5
AGPR	Aguadilla, PR	1.74	69	Pn	Pn	15 25 58.5	+0.7
AGPR				IAML		15 26 36.4	
	comp=E,76nm,2.1s						
AOPR	Arecibo Observ	2.03	76	⇑eP	Pn	15 26 02.1	+0.5
AOPR	Arecibo Observ	2.03	76	eS	Sn	15 26 26.0	-0.8
AOPR	Arecibo Observ	2.03	76	Pn	Pn	15 26 01.1	-0.5
AOPR				Sn	Sn	15 26 25.6	-1.2
AOPR				IAML		15 26 32.8	
	comp=N,64nm,0.5s						
CELP	Cerrillos	2.15	84	⇓eP	Pn	15 26 03.7	+0.6
CELP	Cerrillos	2.15	84	eS	Sn	15 26 29.6	+0.1
CELP	Cerrillos	2.15	84		Pn	15 26 03.7	+0.6
CELP					Sn	15 26 29.6	+0.1
EMPR	Esperanza - Ma	2.26	74	⇓eP	Pn	15 26 05.0	+0.3
EMPR	Esperanza - Ma	2.26	74	eS	Sn	15 26 30.8	-1.5
SDDR	Presa de Saban	2.59	296	Pn	Pn	15 26 09.1	0.0
SDDR				IAML		15 26 43.0	
	comp=N,17nm,1.8s						
SDDR				IAML		15 28 01.5	
	comp=N,20nm,2.7s						
MTP	Monte Pirata	3.12	85	⇓eP	Pn	15 26 16.8	+0.8
MTP	Monte Pirata	3.12	85	eS	Sn	15 26 51.6	-1.0
MTP	Monte Pirata	3.12	85	Pn	Pn	15 26 13.

VLO	**Vlora**	**0.44**	**331**	P	**Pb**	**15 25 45.6**	**+0.3**
VLO				S	**Sb**	**15 25 53.9**	**+1.8**
	comp=N,3μm,0.5s						
VLO	**Vlora**	**0.44**	**331**	P	**Pb**	**15 25 45.3**	**+0.1**
	baz=330						
VLO				S	**Sb**	**15 25 52.4**	**+0.3**
	baz=330						
VLO				AMP			
	comp=N,11nm,0.4s,baz=330						
LSK	**Leskovik**	**0.64**	**83**	P	**Pg**	**15 25 47.2**	**-0.2**
LSK	**Leskovik**	**0.64**	**83**	P	**Pg**	**15 25 46.9**	**-0.5**
	baz=81						
LSK				S	**Sb**	**15 25 57.1**	**-0.6**
	baz=81						
LSK				AMP			
	comp=E,1.8nm,0.6s,baz=81						
IGT	**Igoumenitsa**	**0.69**	**142**	P	**Pg**	**15 25 48.0**	**-0.4**
IGT				S	**Sb**	**15 25 59.7**	**+0.4**
	comp=E,182nm,0.6s						
IGT	**Igoumenitsa**	**0.69**	**142**	P	**Pg**	**15 25 48.1**	**-0.4**
IGT				AML	AML	15 26 04.6	
	comp=N,352μm,0.4s						
IGT				AML	AML	15 26 06.2	
	comp=E,379μm,0.6s						
IGT	**Igoumenitsa**	**0.69**	**142**	P	**Pg**	**15 25 48.1**	**-0.4**
	baz=142						
IGT				S	**Sb**	**15 25 59.1**	**-0.3**
	baz=142						
JAN	**Janina**	**0.93**	**117**	P	**Pb**	**15 25 53.1**	**-0.5**
JAN				S	**Sb**	**15 26 05.8**	**-0.3**
	comp=E,238nm,0.9s						
KBN	**Korca**	**0.94**	**55**	P	**Pn**	**15 25 54.6**	**-0.3**
KBN				S	**Sb**	**15 26 07.7**	**+1.1**
	comp=E,148nm,0.9s						
KBN	**Korca**	**0.94**	**55**	P	**Pb**	**15 25 54.0**	**+0.2**
	baz=52						
SCTE	**Santa Cesarea**	**1.00**	**270**	P	**Pb**	**15 25 55.6**	**+0.8**
SCTE	**Santa Cesarea**	**1.00**	**270**	P	**Pn**	**15 25 56.1**	**+0.5**
	baz=272						
SCTE				S	**Sn**	**15 26 11.1**	**+1.2**
	baz=272						
NEST	**Nestorio**	**1.03**	**71**	P	**Pb**	**15 25 54.8**	**-0.5**
NEST				S	**Sb**	**15 26 09.2**	**+0.1**
	comp=E,68nm,0.7s						
NEST	**Nestorio**	**1.03**	**71**	P	**Pg**	**15 25 54.0**	**-0.9**
NEST				AML	AML	15 26 14.7	
	comp=E,152μm,0.6s						
NEST				AML	AML	15 26 16.9	
	comp=N,168μm,0.5s						
TIR	**Tirane**	**1.27**	**3**	P	**Pn**	**15 26 00.7**	**+1.5**
	baz=1.0						
FNA	**Florina**	**1.41**	**60**	P	**Pn**	**15 26 01.2**	**0.0**
FNA				S	**Sn**	**15 26 22.9**	**+2.8**
	comp=N,140nm,0.7s						
FNA	**Florina**	**1.41**	**60**	P	**Pn**	**15 26 01.3**	**0.0**
FNA				AML	AML	15 26 25.9	
	comp=N,278μm,0.8s						
FNA				AML	AML	15 26 29.3	
	comp=E,280μm,0.6s						
FNA	**Florina**	**1.41**	**60**	P	**Pn**	**15 26 01.3**	**0.0**
	baz=58						
LKD2	**Lefkada island**	**1.46**	**152**	P	**Pg**	**15 26 03.8**	**+0.7**
LKD2				S	**Sn**	**15 26 24.1**	**+2.8**
	comp=E,102nm,0.4s						
LKD2	**Lefkada island**	**1.46**	**152**	P	**Pg**	**15 26 03.7**	**+0.7**
	baz=152						
PHP	**Peshkopia**	**1.68**	**17**	P	**Pg**	**15 26 07.2**	**-0.1**
PHP	**Peshkopia**	**1.68**	**17**	P	**Pg**	**15 26 07.3**	**0.0**
	baz=16						
PUK	**Puka**	**1.96**	**3**	P	**Pn**	**15 26 10.1**	**+1.2**
	baz=1.0						
STIP	**Stip**	**2.44**	**48**	*i* Pn	**Pg**	**15 26 21.6**	**-0.2**
STON	**Ston**	**3.19**	**331**	*e*Pn	**Pn**	**15 26 25.3**	**-0.4**
STON				Sn	**Sn**	**15 27 02.1**	**-1.9**
LSTV	**Lastovo**	**3.45**	**322**	*e*Pn	**Pn**	**15 26 28.3**	**-1.0**
LSTV				Sn	**Sn**	**15 27 08.4**	**-2.0**
KIJV	**Kijevo**	**4.66**	**328**	*e*Pn	**Pn**	**15 26 45.8**	**-0.1**
KIJV				Sn	**Sn**	**15 27 37.9**	**-2.2**
ZIRJ	**Zirje**	**4.72**	**321**	*e*Pn	**Pn**	**15 26 46.8**	**+0.2**
ZIRJ				Sn	**Sn**	**15 27 40.6**	**-1.0**
MORI	**Morici**	**4.85**	**323**	*e*Pn	**Pn**	**15 26 48.6**	**+0.2**
MORI				Sn	**Sn**	**15 27 42.7**	**-2.1**
DUGI	**Dugi Otok**	**5.25**	**320**	*e*Pn	**Pn**	**15 26 53.5**	**-0.5**
DUGI				Sn	**Sn**	**15 27 54.2**	**-0.6**

*IDC **08** 15:39:34.9±1.1, 35°.57N×138°.63E, h124km±16km, mb3.2/4, mb1 3.4/4, mb1mx3.0/42, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/11, Error ellipse: s-maj=70.2km s-min=21.9km az=63.0*
*JMA **08** 15:39:35.4±0.1, 35°.80N×139°.05E, h132km±1km, M3.5*
ISC 08 15:39:34.9±1.0, 35°.80N±0°.06×138°.96E±0°.08, h134km±6km, n17, σ0s58/25, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.22**	**347**	P	**Pn**	**15 39 53.9**	**+0.6**
JRY				S	**Sn**	**15 40 07.4**	**+0.1**
JHU	**Hanno**	**0.27**	**79**	P	**Pn**	**15 39 53.7**	**+0.3**
JHU				S	**Sn**	**15 40 07.7**	**+0.3**
JSGW	**Sagamiharawaka**	**0.28**	**135**	P	**Pn**	**15 39 53.6**	**+0.2**
JSGW				S	**Sn**	**15 40 07.0**	**-0.5**
JYN	**Shimob**	**0.46**	**228**	P	**Pn**	**15 39 54.5**	**+0.3**
JYN				*e*S	**Sn**	**15 40 09.5**	**+0.6**
JOD2	**Odawara 2**	**0.55**	**169**	P	**Pn**	**15 39 55.0**	**+0.3**
JOD2				S	**Sn**	**15 40 09.7**	**0.0**
JAG	**Ashikaga**	**0.74**	**32**	P	**Pn**	**15 39 55.9**	**0.0**
JAG				S	**Sn**	**15 40 11.5**	**-0.5**
MJAR	**Matsushiro Arr**	**0.96**	**321**	P	**Pn**	**15 39 56.7**	**-1.0**
	9.7nm,0.3s,baz=162,slow=8.6,SNR=413						
MJAR				S	**Sn**	**15 40 14.8**	**-0.4**
	2.1nm,0.3s,baz=173,slow=12,SNR=5.5						
MAT	**Matsushiro**	**0.96**	**321**	P	**Pn**	**15 39 58.0**	**+0.3**
MAT				S	**Sn**	**15 40 14.8**	**-0.4**
MAT	**Matsushiro**	**0.96**	**321**	P	**Pn**	**15 39 58.1**	**+0.3**
MAT				S	**Sn**	**15 40 14.9**	**-0.3**
JYTA	**Yamagatataniai**	**1.82**	**264**	P	**Pn**	**15 40 07.9**	**+1.0**
JNS	**Sasagawa**	**2.03**	**8**	P	**Pn**	**15 40 10.3**	**+0.9**
JFT	**Otama**	**2.04**	**32**	P	**Pn**	**15 40 10.4**	**+0.9**
SONM	**Songino Array**	**26.88**	**307**	LR	LR	15 56 53.8	
	comp=Z,53nm,19.4s,baz=226,slow=39						
MKAR	**Makanchi Array**	**43.11**	**303**	P	**P**	**15 47 22.2**	**+0.5**
	0.3nm,0.8s,baz=91,slow=8.6,SNR=2.3						
KURBB	**Kurchatov Arra**	**45.21**	**309**	P	**P**	**15 47 38.2**	**-0.1**
	0.2nm,0.4s,baz=88,slow=7.4,SNR=1.6						
WRA	**Warramunga Arr**	**55.61**	**185**	P	**P**	**15 48 55.8**	**-0.9**
	1.9nm,0.7s,baz=360,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**59.34**	**185**	P	**P**	**15 49 22.4**	**-0.4**
	0.4nm,0.3s,baz=2.1,slow=6.2,SNR=21						

*MEX **08** 15:45:49.6±0.6, 15°.95N×98°.46W, h98km±21km, MD4.4*
*NEIC **08** 15:45:52.2±3.0, 15°.97N±0°.03×98°.27W±0°.05, h10km±2km, mb4.1/14, Md4.4/32(MEX), Error ellipse: s-maj=7.8km s-min=5.5km az=254.0*
ISC 08 15:45:48.6±1.5, 15°.89N±0°.06×98°.39W±0°.03, h3km±10km, n38, σ1s26/51, mb4.1/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**1.10**	**320**	*i* P	**Pg**	**15 46 08.8**	**-1.0**
CRIG				*i* S	**Sg**	**15 46 23.9**	**-0.2**
PEIG	**Puerto Escondi**	**1.20**	**85**	*i* P	**Pg**	**15 46 11.7**	**+0.1**
PEIG				*i* S	**Sg**	**15 46 27.1**	**-0.1**
YOIG	**Yosondua**	**1.26**	**40**	*i* P	**Pg**	**15 46 12.0**	**-0.7**
YOIG				*i* S	**Sg**	**15 46 28.8**	**-0.2**
DAIG	**Los Arroyos**	**1.65**	**313**	*e*P	**Pb**	**15 46 19.5**	**-0.2**
DAIG				*i* S	**Sg**	**15 46 41.8**	**+0.1**
DAIG	**Los Arroyos**	**1.65**	**313**		**Pb**	**15 46 19.5**	**-0.2**
DAIG					**Sg**	**15 46 41.8**	**+0.1**
TLIG	**Tlapa**	**1.67**	**354**	*i* P	**Pn**	**15 46 17.8**	**-1.1**
TLIG				*i* S	**Sn**	**15 46 38.7**	**-2.3**
TLIG	**Tlapa**	**1.67**	**354**		**Pn**	**15 46 18.2**	**-0.7**
TLIG					**Sn**	**15 46 40.0**	**-1.0**
VHO	**Vista Hermosa**	**1.98**	**53**	*i* P	**Pn**	**15 46 22.6**	**-0.6**
VHO				*i* S	**Sb**	**15 46 50.8**	**+0.3**
HLIG	**Huajuapan de L**	**2.01**	**16**	*e*P	**Pn**	**15 46 24.6**	**+1.0**
HLIG				*i* S	**Sb**	**15 46 50.0**	**-1.5**
CAIG	**El Cayaco**	**2.14**	**303**	*e*P	**Pn**	**15 46 25.7**	**+0.5**
CAIG	**El Cayaco**	**2.14**	**303**		**Pn**	**15 46 25.7**	**+0.5**
HUIG	**Huatulco**	**2.20**	**93**	*i* P	**Pn**	**15 46 26.6**	**+0.5**
HUIG				*i* S	**Sn**	**15 46 49.6**	**-4.2**
HUIG	**Huatulco**	**2.20**	**93**		**Pn**	**15 46 26.6**	**+0.5**
MEIG	**Mezcala**	**2.34**	**330**	*e*P	**Pb**	**15 46 30.7**	**-0.9**
MEIG				*i* S	**Sn**	**15 46 56.7**	**-0.8**
MEIG	**Mezcala**	**2.34**	**330**		**Pb**	**15 46 30.7**	**-0.9**
MEIG					**Sn**	**15 46 56.7**	**-0.8**
TOIG	**Toxpalan**	**2.53**	**30**	*i* P	**Pn**	**15 46 30.8**	**0.0**
TOIG				*i* S	**Sb**	**15 47 07.4**	**+0.9**
TPIG	**Tehuac#an**	**2.70**	**21**	*e*P	**Pb**	**15 46 38.9**	**+1.2**
TPIG	**Tehuac#an**	**2.70**	**21**		**Pb**	**15 46 38.9**	**+1.2**
PLIG	**Platanillo**	**2.71**	**337**	*e*P	**Pb**	**15 46 36.4**	**-1.4**
PLIG	**Platanillo**	**2.71**	**337**		**Pb**	**15 46 36.4**	**-1.4**
YAIG	**Yautepec**	**3.02**	**348**	*i* P	**Pb**	**15 46 43.9**	**+0.7**
YAIG				*i* S	**Sb**	**15 47 21.6**	**+0.9**
YAIG	**Yautepec**	**3.02**	**348**		**Pb**	**15 46 43.9**	**+0.7**
YAIG					**Sb**	**15 47 21.6**	**+0.9**
PPM	**Popocatepetl**	**3.17**	**356**	*e*P	**Pb**	**15 46 46.9**	**+1.1**
MOIG	**Morelia**	**4.61**	**325**	Pn	**Pn**	**15 47 01.3**	**+1.8**
WHTX	**Lake Whitney,**	**16.05**	**3**	P	**P**	**15 49 38.5**	**-0.4**
WHTX				IAmb	IAmb	15 49 38.8	
	comp=Z,9.8nm,0.7s						
ABTX	**Abilene, Hawle**	**16.70**	**356**	P	**P**	**15 49 48.1**	**+1.9**
ABTX				IAmb	IAmb	15 49 48.9	
	comp=Z,14nm,1.1s						
ANMO	**Albuquerque**	**20.31**	**341**	P	Pn	15 50 28.2	+0.2
U40A	**Yellville**	**20.97**	**13**	P	Pn	15 50 35.0	-0.6
U40A				IAmb	IAmb	15 50 38.4	
	comp=Z,5.7nm,0.9s						
PBMO	**Poplar Bluff**	**21.97**	**17**	P	**P**	**15 50 46.0**	**+2.3**
PBMO				IAmb	IAmb	15 50 47.6	
	comp=Z,9.1nm,0.9s						
SWET	**Sewanee**	**22.25**	**28**	P	**P**	**15 50 46.0**	**-0.7**
SWET				IAmb	IAmb	15 50 47.6	
	comp=Z,5.9nm,0.9s						
WVT	**Waverly**	**22.25**	**23**	P	**P**	**15 50 48.4**	**+1.7**
W50A	**Signal Mountai**	**22.52**	**29**	P	**P**	**15 50 49.6**	**0.0**
W50A				IAmb	IAmb	15 50 49.9	
	comp=Z,6.9nm,0.8s						
R40A	**Maddies Statio**	**22.96**	**12**	P	**P**	**15 50 54.9**	**+0.7**
R40A				IAmb	IAmb	15 50 56.8	
	comp=Z,4.4nm,0.8s						
MVCO	**Mesa Verde**	**23.05**	**339**	P	**P**	**15 50 57.9**	**+2.4**
SIUC	**Southern Illin**	**23.20**	**19**	P	**P**	**15 50 57.7**	**+1.0**
S51A	**Beattyville**	**25.31**	**28**	P	**P**	**15 51 18.2**	**+1.7**
V58A	**Windy Hill, Pi**	**26.25**	**37**	P	**P**	**15 51 26.2**	**+1.1**
ULM	**Lac du Bonnet**	**34.33**	**3**	P	**P**	**15 52 35.6**	**-0.9**
ULM				IAmb	IAmb	15 52 54.2	
	comp=Z,3.4nm,1.1s						

MEX 08 16:05:03.2±0.4, 15°.77N×91°.69W, h232km±39km, MD3.7, Mexico-Guatemala border region

*SOME **08** 16:19:45.4, 43°.88N×77°.08E, h5km*
*NNC **08** 16:19:45.1±0.4, 43°.90N×77°.10E, h0km, mb3.6, mpv3.7, Error ellipse: s-maj=2.7km s-min=1.9km az=143.0*
*KRNET **08** 16:19:45.4±0.1, 43°.89N×77°.11E, h17km, mb3.5*
ISC 08 16:19:46.1±0.8, 43°.89N±0°.02×77°.09E±0°.01, h9km±5km, n78, σ1s16/138, 30C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**0.08**	**246**	*e*P	**Pg**	**16 19 48.4**	**0.0**
CHKK				*e*S	**Sg**	**16 19 50.3**	**+0.3**
	baz=48						
CHKK	**Chushkaly**	**0.08**	**246**	*e*P	**Pg**	**16 19 48.4**	**0.0**
	982nm,0.1s						
CHKK				*e*S	**Sg**	**16 19 50.2**	**+0.3**
	10μm,0.2s						
CHKK	**Chushkaly**	**0.08**	**246**	P	**Pg**	**16 19 48.3**	**0.0**
	982nm,0.1s						
CHKK				S	**Sg**	**16 19 50.2**	**+0.3**
	10μm,0.2s						
KTBS	**Karatobe**	**0.35**	**240**	*e*P	**Pg**	**16 19 52.9**	**-0.1**
	baz=41						
KTBS				*e*S	**Sg**	**16 19 57.9**	**+0.4**
	baz=41						
KTBS	**Karatobe**	**0.35**	**240**	*e*P	**Pg**	**16 19 52.9**	**-0.1**
	30nm,0.1s						
KTBS				*e*S	**Sg**	**16 19 57.9**	**+0.4**
	1μm,0.4s						
KTBS	**Karatobe**	**0.35**	**240**	P	**Pg**	**16 19 52.9**	**-0.1**
	30nm,0.1s						
KTBS				S	**Sg**	**16 19 57.9**	**+0.4**
	1μm,0.4s						
KUU	**Kurty**	**0.55**	**271**	*e*P	**Pg**	**16 19 56.1**	**-0.5**
KUU				*e*S	**Sg**	**16 20 03.4**	**-0.4**
	baz=71						
KUU	**Kurty**	**0.55**	**271**	*e*P	**Pg**	**16 19 56.1**	**-0.5**
	54nm,0.1s						
KUU				*e*S	**Sg**	**16 20 03.4**	**-0.4**
	474nm,0.2s						
KUU	**Kurty**	**0.55**	**271**	P	**Pg**	**16 19 56.1**	**-0.5**
	54nm,0.1s						
KUU				S	**Sg**	**16 20 03.4**	**-0.4**
	474nm,0.2s						
ARXS	**Arharly**	**0.62**	**58**	*e*P	**Pg**	**16 19 57.5**	**-0.6**
	29nm,0.1s						
ARXS				*e*S	**Sg**	**16 20 05.7**	**-0.5**
	434nm,0.4s						
ARXS	**Arharly**	**0.62**	**58**	P	**Pg**	**16 19 57.5**	**-0.6**
	29nm,0.1s						
ARXS				S	**Sg**	**16 20 05.7**	**-0.5**
	434nm,0.4s						
KNDC	**Almaty**	**0.68**	**188**	⇑P	**Pg**	**16 19 59.0**	**-0.1**
	40nm,0.2s						
KNDC				⇑S	**Sb**	**16 20 09.3**	**-0.3**
	45nm,0.3s						
MDOK	**Medeo**	**0.72**	**183**	*e*P	**Pg**	**16 19 59.5**	**-0.6**
	baz=84						
MDOK				*e*S	**Sg**	**16 20 09.3**	**-0.3**
	baz=84						
MDOK	**Medeo**	**0.72**	**183**	*e*P	**Pg**	**16 19 59.5**	**-0.6**
	58nm,0.1s						
MDOK				*e*S	**Sg**	**16 20 09.3**	**-0.3**
	111nm,0.4s						
MDOK	**Medeo**	**0.72**	**183**	⇑P	**Pg**	**16 19 59.4**	**-0.6**
	19nm,0.3s						
MDOK				⇑S	**Sg**	**16 20 09.1**	**-0.4**
	64nm,0.4s						
MDOK	**Medeo**	**0.72**	**183**	Pg	**Pg**	**16 19 59.5**	**-0.6**
	58nm,0.1s						
MDOK				Lg	Lg	16 20 09.3	
	111nm,0.4s						
TNSS	**Tian-Shan**	**0.86**	**187**	P	**Pg**	**16 20 02.0**	**-0.7**
	33nm,0.2s						
TNSS				S	**Sg**	**16 20 13.8**	**0.0**
	100nm,0.2s						
IZV	**Izvestkoviy**	**0.92**	**203**	*e*P	**Pg**	**16 20 03.2**	**-0.6**
	baz=3.0						
IZV				*e*S	**Sg**	**16 20 15.4**	**-0.4**
	baz=3.0						
IZV	**Izvestkoviy**	**0.92**	**203**	*e*P	**Pg**	**16 20 03.2**	**-0.6**
	56nm,0.1s						
IZV				*e*S	**Sg**	**16 20 15.4**	**-0.4**
	48nm,0.1s						
IZV	**Izvestkoviy**	**0.92**	**203**	P	**Pg**	**16 20 03.2**	**-0.6**
	56nm,0.1s						
IZV				S	**Sg**	**16 20 15.4**	**-0.4**
	48nm,0.1s						
KRBS	**Karabastau**	**1.04**	**260**	*e*P	**Pg**	**16 20 05.0**	**-1.2**
	baz=60						
KRBS				*e*S	**Sg**	**16 20 18.7**	**-1.0**
	baz=60						
KRBS	**Karabastau**	**1.04**	**260**	*e*P	**Pg**	**16 20 05.0**	**-1.2**
	23nm,0.2s						
KRBS				*e*S	**Sg**	**16 20 18.7**	**-1.0**
	223nm,0.4s						
KRBS	**Karabastau**	**1.04**	**260**	P	**Pg**	**16 20 05.0**	**-1.2**
	23nm,0.2s						
KRBS				S	**Sg**	**16 20 18.7**	**-1.0**
	223nm,0.4s						
DGS	**Degeres**	**1.16**	**237**	*e*P	**Pb**	**16 20 07.1**	**-1.3**
	baz=37						
DGS				*e*S	**Sg**	**16 20 22.3**	**-1.1**
	baz=37						
DGS	**Degeres**	**1.16**	**237**	*e*P	**Pb**	**16 20 07.1**	**-1.3**
	27nm,0.1s						
DGS				*e*S	**Sg**	**16 20 22.3**	**-1.1**
	148nm,0.3s						
DGS	**Degeres**	**1.16**	**237**	P	**Pb**	**16 20 07.1**	**-1.3**
	27nm,0.1s						
DGS				S	**Sg**	**16 20 22.3**	**-1.1**
	148nm,0.3s						
KST	**Kastek**	**1.18**	**225**	*e*P	**Pb**	**16 20 07.5**	**-1.2**
	baz=25						
KST				*e*S	**Sg**	**16 20 22.9**	**-1.1**
	baz=25						
KST	**Kastek**	**1.18**	**225**	*e*P	**Pb**	**16 20 07.5**	**-1.2**
	92nm,0.2s						
KST				*e*S	**Sg**	**16 20 23.0**	**-1.1**
	88nm,0.3s						
KST	**Kastek**	**1.18**	**225**	P	**Pb**	**16 20 07.5**	**-1.2**
	92nm,0.2s						
KST				S	**Sg**	**16 20 23.0**	**-1.1**
	88nm,0.3s						
ANVS	**Anan'yevo**	**1.18**	**159**	⇑*i*P	**Pb**	**16 20 07.2**	**-1.6**
	baz=60						
ANVS				⇑*i*S	**Sg**	**16 20 23.2**	**-0.9**
	baz=60						
KPKS	**Kokpek**	**1.23**	**110**	*e*P	**Pb**	**16 20 08.2**	**-1.3**
	baz=10.0						
KPKS				*e*S	**Sb**	**16 20 24.2**	**-1.3**
	baz=10.0						
KPKS	**Kokpek**	**1.23**	**110**	*e*P	**Pb**	**16 20 08.2**	**-1.3**
	136nm,0.1s						
KPKS				*e*S	**Sb**	**16 20 24.2**	**-1.3**
	104nm,0.3s						
SATY	**Saty**	**1.26**	**130**	*e*P	**Pn**	**16 20 09.0**	**-1.1**
	baz=31						
SATY				*e*S	**Sb**	**16 20 25.5**	**-1.1**
	baz=31						
SATY	**Saty**	**1.26**	**130**	*e*P	**Pn**	**16 20 09.0**	**-1.1**
	51nm,0.2s						
SATY				*e*S	**Sb**	**16 20 25.5**	**-1.1**
	452nm,0.2s						
SATY	**Saty**	**1.26**	**130**	P	**Pn**	**16 20 09.0**	**-1.1**
	51nm,0.2s						
SATY				S	**Sb**	**16 20 25.5**	**-1.1**
	452nm,0.2s						
TDK	**Taldyqorghan**	**1.46**	**40**	*e*P	**Pn**	**16 20 12.0**	**-0.7**
	25nm,0.2s						
TDK				*e*S	**Sn**	**16 20 30.9**	**-1.0**
	370nm,0.4s						
TDK	**Taldyqorghan**	**1.46**	**40**	P	**Pn**	**16 20 12.0**	**-0.7**
	25nm,0.2s						
TDK				S	**Sn**	**16 20 30.8**	**-1.0**
	370nm,0.4s						
TKM2	**Tokmak 2**	**1.46**	**229**	⇓*i*P	**Pn**	**16 20 12.3**	**-0.5**
	baz=29						
TKM2				⇓*i*S	**Sn**	**16 20 31.6**	**-0.6**
	baz=29						
TKM2	**Tokmak 2**	**1.46**	**229**	P	**Pn**	**16 20 12.4**	**-0.4**
	SNR=26						
TKM2	**Tokmak 2**	**1.46**	**229**	⇑P	**Pn**	**16 20 12.3**	**-0.5**
	6.7nm,0.3s						
TKM2				⇓S	**Sn**	**16 20 31.5**	**-0.6**
	45nm,0.2s						
UZB	**Uzynbulak**	**1.59**	**117**	*e*P	**Pn**	**16 20 14.3**	**-0.2**
	baz=17						
UZB				*e*S	**Sn**	**16 20 34.7**	**-0.5**
	baz=17						
UZB	**Uzynbulak**	**1.59**	**117**	*e*P	**Pn**	**16 20 14.3**	**-0.2**
	39nm,0.2s						
UZB				*e*S	**Sn**	**16 20 34.7**	**-0.5**
	78nm,0.2s						
UZB	**Uzynbulak**	**1.59**	**117**	P	**Pn**	**16 20 14.3**	**-0.2**
	39nm,0.2s						
UZB				S	**Sn**	**16 20 34.7**	**-0.5**
	78nm,0.2s						
BOOM	**Boomskoye usch**	**1.63**	**212**	⇓*i*P	**Pn**	**16 20 15.2**	**0.0**
	baz=12						
BOOM				⇓*i*S	**Sb**	**16 20 37.2**	**0.0**
	baz=12						
ULHL	**Ulahol**	**1.76**	**201**	⇓*i*P	**Pb**	**16 20 17.9**	**-0.7**
	baz=2.0						
ULHL				⇓*i*S	**Sb**	**16 20 41.3**	**+0.5**
	baz=2.0						
ULHL	**Ulahol**	**1.76**	**201**	P	**Pb**	**16 20 18.0**	**-0.6**
	SNR=118						
KDJ	**Kajisay**	**1.76**	**178**	⇑*i*P	**Pb**	**16 20 18.2**	**-0.4**
	baz=78						
KDJ				⇑*i*S	**Sg**	**16 20 42.2**	**-0.4**
	baz=78						
PDGK	**Podgornoye**	**1.83**	**107**	P	**Pn**	**16 20 18.4**	**+0.6**
	15nm,0.4s						
PDGK				S	**Sb**	**16 20 41.8**	**-1.0**
	18nm,0.4s						
PDGK	**Podgornoye**	**1.83**	**107**	⇑P	**Pn**	**16 20 17.9**	**+0.1**
	17nm,0.5s						
PDGK				⇑S	**Sb**	**16 20 42.1**	**-0.7**
	18nm,0.4s						
SGDS	**Sogindy**	**1.84**	**257**	P	**Pn**	**16 20 19.0**	**+1.0**
	25nm,0.2s						
SGDS				S	**Sb**	**16 20 42.6**	**-0.5**
	108nm,0.2s						
SHLS	**Shalkode**	**1.87**	**112**	*e*P	**Pg**	**16 20 24.9**	**+3.0**
	17nm,0.2s						
SHLS				*e*S	**Sg**	**16 20 52.9**	**+6.7**
	45nm,0.3s						
SHLS	**Shalkode**	**1.87**	**112**	Pg	**Pg**	**16 20 25.0**	**+3.0**
	17nm,0.2s						
SHLS				Lg	Lg	16 20 52.9	
	45nm,0.3s						
CHMS	**Chumysh**	**1.92**	**243**	⇓*i*P	**Pn**	**16 20 20.2**	**+1.2**
	baz=43						
CHMS				⇓*i*S	**Sb**	**16 20 45.4**	**-0.1**
	baz=43						
CHMS	**Chumysh**	**1.92**	**243**	P	**Pn**	**16 20 20.3**	**+1.2**
	SNR=6.4						
USP	**Ospenovka**	**1.98**	**253**	⇑*i*P	**Pb**	**16 20 21.3**	**-1.1**
	baz=53						
USP				⇑*i*S	**Sb**	**16 20 47.3**	**0.0**
	baz=53						
USP	**Ospenovka**	**1.98**	**253**	P	**Pb**	**16 20 21.3**	**-1.1**
	SNR=19						
DJR	**Jarkent**	**1.99**	**76**	*e*P	**Pb**	**16 20 21.4**	**-1.2**
	1.8nm,0.1s						
DJR				*e*S	**Sb**	**16 20 47.2**	**-0.3**
	11nm,0.4s						
DJR	**Jarkent**	**1.99**	**76**	Pg	**Pb**	**16 20 21.4**	**-1.2**
	1.8nm,0.1s						
DJR				Lg	Lg	16 20 47.2	
	11nm,0.4s						
KBK	**Karagaybulak**	**1.99**	**233**	⇓*i*P	**Pb**	**16 20 21.5**	**-1.1**
	baz=33						
KBK				⇓*i*S	**Sb**	**16 20 48.0**	**+0.4**
	baz=33						
KBK	**Karagaybulak**	**1.99**	**233**	P	**Pb**	**16 20 21.7**	**-1.0**
	SNR=18						
FRU1	**Bishkek**	**2.10**	**240**	⇑*i*P	**Pb**	**16 20 23.1**	**-1.2**
	baz=41						
FRU1				⇑*i*S	**Sb**	**16 20 50.3**	**-0.2**
	baz=41						
AAK	**Ala-Archa**	**2.27**	**238**	⇑*i*P	**Pn**	**16 20 25.6**	**+1.6**
	baz=38						
AAK				⇑*

MRKS	**Merke**	**3.04 249**	Pg	**Pb**	**16 20 40.7 +0.2**
	5.4nm,0.3s				
MRKS			Lg	Lg	16 21 19.8
	29nm,0.3s				
AML	**Almayashu**	**3.05 236**	⇑*i*P	**Pn**	**16 20 36.6 +1.7**
	baz=36				
AML			⇑*i*S	**Sn**	**16 21 13.8 +2.1**
	baz=36				
MNAS	**Manas**	**3.64 249**	⇑*i*P	**Pn**	**16 20 44.7 +2.0**
	baz=49				
MNAS			⇑*i*S	**Sn**	**16 21 27.3 +1.5**
	baz=49				
MAKZ	**Makanchi**	**4.51 48**	⇑Pn	**Pn**	**16 20 56.1 +1.5**
	0.8nm,0.6s				
MAKZ			⇑Lg	Lg	16 22 05.0
	4.8nm,0.6s				
MK31	**Makanchi Array**	**4.67 50**	Pn	**Pn**	**16 20 57.5 +0.7**
	0.2nm,0.2s,baz=226,slow=14,SNR=20				
MK31			⇑Sn	**Sn**	**16 21 52.0 +0.8**
	0.5nm,0.3s,baz=225,slow=26,SNR=4.3				
MK31			⇓Lg	Lg	16 22 12.6
	5.4nm,0.6s,baz=229,slow=29,SNR=8.9				
KK31	**Karatay Array**	**4.85 263**	⇑Lg	Lg	16 22 16.0
	3.3nm,0.5s				
KURBB	**Kurchatov Arra**	**6.81 8**	⇓Lg	Lg	16 23 19.1
	9.9nm,0.6s				

IDC 08 16:30:13.6±9.8, 4°.82S×153°.39E, h161km±66km, mb3.0/2, mb1 3.3/3, mb1mx2.9/49, mbtmp3.6/3, Error ellipse: s-maj=125.9km s-min=60.5km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.68**	**233**	P	Pn	16 32 02.1	-0.6
	3.1nm,0.3s,baz=37,slow=6.8,SNR=12						
PMG				S	Sn	16 33 30.2	+1.5
	0.7nm,0.3s,baz=171,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**23.87**	**229**	P	P	16 35 12.9	+0.4
	0.7nm,0.6s,baz=55,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.53**	**223**	P	P	16 35 36.1	-0.4
	0.2nm,0.4s,baz=55,slow=9.0,SNR=10						
TORD	**Torodi Ar. Bea**	**150.87**	**288**	PKPbc	PKPbc	16 49 48.1	-0.1
	0.5nm,0.7s,baz=97,slow=2.2,SNR=2.2						

*IASPEI **08** 16:33:28.6±0.9, 35°.75N±0°.02×97°.39W±0°.03, h10km±6km, Error ellipse: s-maj=4.0km s-min=3.2km az=83.1, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*NEIC **08** 16:33:28.9±1.1, 35°.76N±0°.01×97°.390W±0°.009, h5km±7km, Error ellipse: s-maj=2.3km s-min=0.6km az=202.0*

*TUL **08** 16:33:28.7±1.4, 35°.74N±0°.02×97°.38W±0°.02, h6km±5km, ML3.4, mb_Lg3.4/128(NEIC), Error ellipse: s-maj=2.3km s-min=2.2km az=137.0*

*ANF **08** 16:33:28.8±0.2, 35°.71N×97°.36W, h5km, ML4.3/13, Error ellipse: s-maj=3.1km s-min=2.1km az=5.0*

ISC 08 16:33:29.3±0.9, 35°.77N±0°.02×97°.39W±0°.02, h7km±6km, n125, σ8°.90/116, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.06**	**299**	Pg	**Pg**	**16 33 30.8**	**-0.2**
OK029				Sg	**Sg**	**16 33 32.4**	**+0.1**
OK009	**Oakdale Elemen**	**0.19**	**189**		**Pg**	**16 33 32.4**	**-0.7**
OK009				Sg	**Sg**	**16 33 35.0**	**-0.6**
OK025	**Westminster Rd**	**0.19**	**167**		**Pg**	**16 33 32.2**	**-0.9**
OK025				Sg	**Sg**	**16 33 35.2**	**-0.5**
OK005	**Luther M Schoo**	**0.20**	**125**		**Pg**	**16 33 32.7**	**-0.5**
OK005				Sg	**Sg**	**16 33 35.6**	**-0.3**
BCOK	**Bluff Creek, N**	**0.21**	**239**		**Pg**	**16 33 33.0**	**-0.5**
BCOK				Sg	**Sg**	**16 33 36.1**	**-0.2**
OK001	**Jones High Sch**	**0.22**	**158**	Pg	**Pg**	**16 33 33.0**	**-0.7**
OK001				Sg	**Sg**	**16 33 36.2**	**-0.5**
OKCFA	**Oklahoma City**	**0.35**	**188**		**Pg**	**16 33 35.5**	**-0.8**
OKCFA				Sg	**Sg**	**16 33 40.4**	**-0.4**
OKCFA	**Oklahoma City**	**0.35**	**188**	P		16 33 35.4	
	baz=9.6,SNR=44						
OKCFA				S		16 33 40.5	
	baz=9.6						
OKCSW	**OKLAHOMA CITY**	**0.36**	**186**		**Pg**	**16 33 35.4**	**-1.0**
OKCSW				Sg	**Sg**	**16 33 40.6**	**-0.5**
OK031	**S. Brethren Rd**	**0.48**	**67**		**Pg**	**16 33 38.4**	**-0.2**
OK031				Sg	**Sg**	**16 33 45.2**	**+0.2**
FNO	**Franklin**	**0.51**	**181**		**Pg**	**16 33 38.2**	**-0.9**
FNO				Sg	**Sg**	**16 33 45.2**	**-0.5**
OK011	**Prague**	**0.64**	**116**	Pg	**Pg**	**16 33 40.9**	**-0.7**
OK011				Sg	**Sg**	**16 33 49.2**	**-0.7**
QUOK	**Quay**	**0.68**	**54**		**Pg**	**16 33 42.0**	**-0.5**
QUOK				Sg	**Sg**	**16 33 51.4**	**0.0**
CROK	**Carrier**	**0.88**	**327**		**Pg**	**16 33 45.7**	**-0.5**
CROK				IAmb_Lg		16 33 57.8	
	comp=Z,288nm,0.8s						
CROK				Sg	**Sg**	**16 33 57.9**	**+0.2**
BLOK	**Blackwell**	**1.00**	**8**		**Pg**	**16 33 47.9**	**-0.7**
X34A	**Smith Ranch, M**	**1.22**	**197**		**Pg**	**16 33 51.3**	**-1.3**
OK032	**Salt Plains WL**	**1.23**	**328**		**Pg**	**16 33 51.9**	**-1.1**
KAN13	**South Haven SW**	**1.25**	**357**		**Pg**	**16 33 52.3**	**-0.9**
TUL1	**Leonard**	**1.30**	**83**	P	**Pn**	**16 33 52.0**	**-1.9**
	baz=263,SNR=116						
TUL1				S	**Sg**	**16 34 09.8**	**-1.5**
	baz=263						
TUL1	**Leonard**	**1.30**	**83**	P		16 33 52.2	
	baz=263						
TUL1				S		16 34 09.8	
	baz=263						
KAN17	**Caldwell West**	**1.31**	**347**		**Pn**	**16 33 53.3**	**-0.7**
T35A	**Sooner Cattle**	**1.35**	**31**		**Pn**	**16 33 53.7**	**-0.9**
T35B	**Sooner Cattle**	**1.35**	**31**	P		16 33 53.7	
	baz=211						
T35B				S		16 34 12.3	
	baz=211						
KAN09	**Caldwell North**	**1.38**	**352**		**Pn**	**16 33 54.5**	**-0.5**
KAN05	**Bluff City Nor**	**1.40**	**344**		**Pn**	**16 33 54.8**	**-0.4**
KAN05				IAmb_Lg		16 34 14.5	
	comp=Z,150nm,0.8s						
U32A	**Winter Ranch,**	**1.44**	**296**	Pn	**Pn**	**16 33 55.3**	**-0.6**
U32A				IAmb_Lg		16 34 18.5	
	comp=Z,194nm,0.8s						
U32A	**Winter Ranch,**	**1.44**	**296**	P		16 33 55.4	
	baz=116,SNR=25						
U32A				S		16 34 15.4	
	baz=116						
KS20	**Mayfield South**	**1.47**	**355**		**Pn**	**16 33 56.2**	**0.0**
KS20				IAmb_Lg		16 34 19.1	
	comp=Z,278nm,0.9s						
KAN10	**Anthony SW Sta**	**1.47**	**337**		**Pn**	**16 33 55.9**	**-0.4**
KAN08	**Anthony NE Sta**	**1.53**	**342**		**Pn**	**16 33 56.9**	**-0.1**
KAN08				IAmb_Lg		16 34 20.6	
	comp=Z,153nm,0.8s						
KS21	**Milan North St**	**1.53**	**352**	IAmb_Lg		16 34 18.8	
	comp=Z,287nm,0.7s						
WMOK	**Wichita Mounta**	**1.53**	**228**	P	**Pn**	**16 33 56.2**	**-0.9**
	baz=48						
WMOK				S	**Sn**	**16 34 16.5**	**-0.8**
	baz=48						
WMOK	**Wichita Mounta**	**1.53**	**228**		**Pn**	**16 33 56.2**	**-0.9**
WMOK	**Wichita Mounta**	**1.53**	**228**	P		16 33 56.2	
	baz=48,SNR=257						
WMOK				S		16 34 16.3	
	baz=48						
KAN12	**Harper NE Stat**	**1.60**	**342**	Pn	**Pn**	**16 33 58.2**	**+0.1**
LOOK	**Love County**	**1.78**	**174**	Pn	**Pn**	**16 34 00.1**	**-0.3**
X37A	**Clayton**	**2.03**	**125**	Pn	**Pn**	**16 34 03.7**	**-0.1**
X37A				IAmb_Lg		16 34 31.9	
	comp=Z,103nm,0.8s						
X37A	**Clayton**	**2.03**	**125**	P		16 34 03.9	
	baz=306,SNR=78						
X37A				S		16 34 31.1	
	baz=306						
Z35A	**Perchaven, San**	**2.43**	**177**		**Pn**	**16 34 09.2**	**-0.3**
Z35A				IAmb_Lg		16 34 45.4	
	comp=Z,153nm,1.2s						
Z35A	**Perchaven, San**	**2.43**	**177**	P		16 34 09.5	
	baz=358,SNR=23						
Z35A				S		16 34 40.9	
	baz=358						
U38A	**Gravette**	**2.52**	**74**		**Pn**	**16 34 10.9**	**+0.2**
HHAR	**Hobbs**	**2.84**	**79**	Pn	**Pn**	**16 34 15.3**	**+0.2**
HHAR				IAmb_Lg		16 35 06.2	
	comp=Z,82nm,0.8s						
R32A	**Long Quarter,**	**2.85**	**339**	IAmb_Lg		16 35 06.6	
	comp=Z,72nm,0.9s						
W39A	**Magazine**	**3.00**	**100**	P	**Pn**	**16 34 17.0**	**-0.2**
	baz=282,SNR=17						
W39A				S	**Sn**	**16 34 53.2**	**-0.2**
	baz=282						
W39A	**Magazine**	**3.00**	**100**		**Pn**	**16 34 17.9**	**+0.7**
W39A				IAmb_Lg		16 35 10.9	
	comp=Z,115nm,0.8s						
W39A	**Magazine**	**3.00**	**100**	P		16 34 17.3	
	baz=282,SNR=7.9						
Z38A	**Mt. Pleasant**	**3.19**	**141**	IAmb_Lg		16 35 15.5	
	comp=Z,136nm,0.8s						
MIAR	**Mount Ida**	**3.35**	**110**	P	**Pn**	**16 34 21.8**	**-0.3**
	baz=292,SNR=14						
MIAR				S	**Sn**	**16 35 02.5**	**+0.3**
	baz=292						
MIAR	**Mount Ida**	**3.35**	**110**	Pn	**Pn**	**16 34 22.4**	**+0.3**
MIAR				IAmb_Lg		16 35 21.7	
	comp=Z,99nm,0.7s						
MIAR	**Mount Ida**	**3.35**	**110**	P		16 34 21.7	
	baz=292,SNR=25						
MIAR				S		16 35 03.7	
	baz=292						
KSU1	**Kansas State U**	**3.39**	**10**	P	**Pn**	**16 34 22.9**	**+0.3**
	baz=191						
KSU1				Sb	**Sg**	**16 35 15.3**	**-2.8**
	baz=191						
KSU1	**Kansas State U**	**3.39**	**10**	IAmb_Lg		16 35 22.9	
	comp=Z,142nm,0.8s						
CBKS	**Cedar Bluff**	**3.57**	**329**	P	**Pn**	**16 34 25.9**	**+0.7**
	baz=148						
CBKS				Sb	**Sg**	**16 35 21.6**	**-2.4**
	baz=148						
CBKS	**Cedar Bluff**	**3.57**	**329**	Pn	**Pn**	**16 34 24.3**	**-0.9**
CBKS				IAmb_Lg		16 35 31.6	
	comp=Z,157nm,0.9s						
AMTX	**Amarillo**	**3.62**	**257**	P	**Pn**	**16 34 26.2**	**+0.4**
	baz=75						
AMTX	**Amarillo**	**3.62**	**257**	Pn	**Pn**	**16 34 26.9**	**+1.1**
AMTX				IAmb_Lg		16 35 30.6	
	comp=Z,58nm,0.8s						
ABTX	**Abilene, Hawle**	**3.65**	**211**	IAmb_Lg		16 35 26.2	
	comp=Z,112nm,1.1s						
U40A	**Yellville**	**3.72**	**80**	P	**Pn**	**16 34 26.6**	**-0.6**
	baz=262,SNR=14						
U40A	**Yellville**	**3.72**	**80**		**Pn**	**16 34 27.2**	**0.0**
U40A				IAmb_Lg		16 35 36.9	
	comp=Z,62nm,0.8s						
U40A	**Yellville**	**3.72**	**80**	P		16 34 26.9	
	baz=262,SNR=22						
U40A				P		16 34 26.9	
	baz=262,SNR=22						
WHTX	**Lake Whitney,**	**3.77**	**181**	Sb	**Sb**	**16 35 23.4**	**+1.5**
	baz=0.9						
WHTX	**Lake Whitney,**	**3.77**	**181**	S		16 35 12.9	
	baz=0.9						
S39A	**Bolivar**	**3.79**	**58**		**Pn**	**16 34 28.4**	**+0.3**
S39A	**Bolivar**	**3.79**	**58**	P		16 34 28.1	
	baz=240,SNR=10.0						
X40A	**Basin Creek Fa**	**3.94**	**108**	P	**Pn**	**16 34 29.7**	**-0.5**
	baz=290						
X40A				S	**Sn**	**16 35 16.4**	**-0.3**
	baz=290						
X40A	**Basin Creek Fa**	**3.94**	**108**	Pn	**Pn**	**16 34 31.1**	**+0.9**
X40A				IAmb_Lg		16 35 37.0	
	comp=Z,138nm,0.9s						
X40A	**Basin Creek Fa**	**3.94**	**108**	P		16 34 30.4	
	baz=290,SNR=9.8						
X40A				P		16 34 30.4	
	baz=290,SNR=9.8						
237A	**Washetta, Mont**	**3.98**	**160**	Pn	**Pn**	**16 34 29.6**	**-1.1**
237A				IAmb_Lg		16 35 43.2	
	comp=Z,101nm,1.1s						
WLAR	**White Oak Lake**	**4.09**	**119**	IAmb_Lg		16 35 43.8	
	comp=Z,75nm,0.8s						
WHAR	**Wooly Hollow**	**4.19**	**95**		**Pn**	**16 34 33.5**	**-0.1**
WHAR				IAmb_Lg		16 35 41.8	
	comp=Z,66nm,0.8s						
W41B	**Gary Mavity, V**	**4.24**	**97**	P	**Pn**	**16 34 33.4**	**-0.8**
	baz=279,SNR=8.6						
W41B				S	**Sn**	**16 35 24.0**	**+0.1**
	baz=279						
W41B	**Gary Mavity, V**	**4.24**	**97**	P		16 34 33.9	
	baz=279						
FCAR	**Ozark Folk Cen**	**4.28**	**87**	Pn	**Pn**	**16 34 34.5**	**-0.4**
FCAR				IAmb_Lg		16 35 43.3	
	comp=Z,57nm,0.7s						
MGMO	**Mountain Grove**	**4.35**	**70**		**Pn**	**16 34 36.3**	**+0.4**
MGMO				IAmb_Lg		16 35 44.7	
	comp=Z,116nm,0.9s						
Z41A	**Richland Creek**	**4.54**	**122**	S	**Sn**	**16 35 30.5**	**-0.9**
	baz=305						
MSTX	**Muleshoe**	**4.78**	**250**	Pn	**Pn**	**16 34 41.4**	**-0.4**
R40A	**Maddies Statio**	**4.81**	**57**	Pn	**Pn**	**16 34 42.1**	**0.0**
R40A				IAmb_Lg		16 36 14.7	
	comp=Z,51nm,0.9s						
P38A	**Dawn**	**4.92**	**37**		**Pn**	**16 34 44.9**	**+1.3**
P38A				IAmb_Lg		16 36 03.5	
	comp=Z,42nm,0.8s						
N33A	**J Bar K, Exete**	**4.96**	**359**	IAmb_Lg		16 36 19.4	
	comp=Z,70nm,0.9s						
435B	**Jarrell**	**4.97**	**182**	IAmb_Lg		16 36 07.6	
	comp=Z,78nm,0.8s						
CCAR	**Cane Creek**	**4.97**	**110**	IAmb_Lg		16 36 15.5	
	comp=Z,84nm,0.8s						
LCAR	**Lake Charles**	**5.07**	**85**	Pn	**Pn**	**16 34 45.1**	**-0.6**
LCAR				IAmb_Lg		16 36 10.3	
	comp=Z,44nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.28**	**309**	P	**Pn**	**16 34 49.7**	**+1.0**
	baz=126						
KSCO	**Kaye Shedlock'**	**5.28**	**309**	Pn	**Pn**	**16 34 51.3**	**+2.6**
KSCO				IAmb_Lg		16 36 28.5	
	comp=Z,48nm,0.7s						
CCM	**Cathedral Cave**	**5.43**	**63**	P	**Pn**	**16 34 50.9**	**+0.3**
	baz=247						
CCM				S	**Sn**	**16 35 53.4**	**+0.1**
	baz=247						
CCM	**Cathedral Cave**	**5.43**	**63**	Pn	**Pn**	**16 34 49.5**	**-1.0**
CCM				IAmb_Lg		16 36 19.8	
	comp=Z,46nm,0.7s						
JCT	**Junction City**	**5.65**	**202**	S	**Sn**	**16 35 57.9**	**-0.9**
	baz=20						
JCT	**Junction City**	**5.65**	**202**	IAmb_Lg		16 36 38.8	
	comp=Z,92nm,0.8s						
P40A	**Paris**	**5.66**	**47**	Pn	**Pn**	**16 34 53.7**	**-0.1**
BGNE	**Belgrade**	**5.67**	**354**	IAmb_Lg		16 36 37.3	
	comp=Z,60nm,0.7s						
143A	**Socs Landing,**	**5.82**	**120**	IAmb_Lg		16 36 44.2	
	comp=Z,30nm,0.8s						
T25A	**Trinidad**	**5.82**	**286**	P	**Pn**	**16 34 55.9**	**-0.3**
	baz=102,SNR=6.2						
T25A	**Trinidad**	**5.82**	**286**	Pn	**Pn**	**16 34 56.1**	**-0.1**
T25A				IAmb_Lg		16 36 40.3	
	comp=Z,88nm,0.9s						
L34A	**Svendsen Farm,**	**6.24**	**7**	Pn	**Pn**	**16 35 00.7**	**-1.1**
OGNE	**Ogallala**	**6.33**	**326**	P	**Pn**	**16 35 03.9**	**+0.9**
	baz=144						
OGNE				S	**Sn**	**16 36 16.6**	**+0.9**
	baz=144						
OGNE	**Ogallala**	**6.33**	**326**	Pn	**Pn**	**16 35 04.1**	**+1.0**
OGNE				IAmb_Lg		16 36 51.4	
	comp=Z,63nm,0.8s						
SLM	**Saint Louis**	**6.39**	**61**	IAmb_Lg		16 36 54.7	
	comp=Z,79nm,0.7s						
OXF	**Oxford**	**6.66**	**99**	S	**Sn**	**16 36 21.6**	**-2.0**
	baz=283						
OXF	**Oxford**	**6.66**	**99**	Pn	**Pn**	**16 35 07.9**	**+0.4**
OXF				IAmb_Lg		16 37 17.3	
	comp=Z,41nm,0.8s						
W45A	**Hickory Valley**	**6.72**	**93**	IAmb_Lg		16 37 07.6	
	comp=Z,44nm,0.7s						
Y45A	**Yeager Farm, C**	**6.73**	**104**	Pn	**Pn**	**16 35 09.5**	**+1.1**
SDCO	**Great Sand Dun**	**6.81**	**289**	P	**Pn**	**16 35 10.1**	**+0.3**
	baz=105						
SDCO	**Great Sand Dun**	**6.81**	**289**		**Pn**	**16 35 10.3**	**+0.5**
SDCO				IAmb_Lg		16 37 05.3	
	comp=Z,28nm,1.1s						
S44A	**Carbondale**	**6.81**	**71**	IAmb_Lg		16 37 09.3	
	comp=Z,66nm,0.8s						
SCIA	**State Center**	**6.94**	**27**	S	**Sn**	**16 36 30.8**	**+0.2**
	baz=209						
Q24A	**Divide**	**6.96**	**300**	P	**Pn**	**16 35 11.4**	**-0.4**
	baz=115						
N41A	**Harden Midland**	**7.12**	**44**	Pn	**Pn**	**16 35 14.2**	**+0.3**
Q44A	**Meyer Farm, Va**	**7.37**	**62**	Pn	**Pn**	**16 35 16.2**	**-1.0**
PLAL	**Pickwick Lake**	**7.65**	**93**	IAmb_Lg		16 37 32.7	
	comp=Z,24nm,1.1s						
ISCO	**Idaho Springs**	**7.66**	**304**	IAmb_Lg		16 37 44.3	
	comp=Z,28nm,1.0s						
BNM	**Barren Site**	**7.75**	**261**	Pn	**Pn**	**16 35 22.0**	**-0.8**
WVT	**Waverly**	**7.76**	**85**	Pn	**Pn**	**16 35 21.9**	**-0.8**
MNTX	**Cornudas Mount**	**7.79**	**241**	P	**Pn**	**16 35 22.4**	**-0.8**
	baz=56						
MNTX	**Cornudas Mount**	**7.79**	**241**		**Pn**	**16 35 21.3**	**-1.9**
MNTX				IAmb_Lg		16 37 51.7	
	comp=Z,27nm,0.9s						
L40A	**Anamosa**	**7.91**	**36**	IAmb_Lg		16 37 44.7	
	comp=Z,44nm,0.8s						
HDIL	**Hopedale**	**7.97**	**51**	P	**Pn**	**16 35 25.5**	**0.0**
	baz=235						
HDIL	**Hopedale**	**7.97**	**51**		**Pn**	**16 35 25.6**	**+0.1**
OLIL	**Olney**	**7.98**	**65**	IAmb_Lg		16 37 45.6	
	comp=Z,45nm,0.8s						
Y22D	**IRIS PASSCAL I**	**8.01**	**261**	IAmb_Lg		16 38 05.0	
	comp=Z,55nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.32**	**221**	Pn	**Pn**	**16 35 31.8**	**+1.4**
PHWY	**Pilot Hill**	**8.39**	**314**	Pn	**Pn**	**16 35 30.1**	**-1.6**
PHWY				IAmb_Lg		16 38 00.0	
	comp=Z,33nm,0.9s						
N23A	**Red Feather La**	**8.45**	**310**	P	**Pn**	**16 35 33.1**	**+0.8**
	baz=125						
X48A	**Hartselle**	**8.58**	**96**	IAmb_Lg		16 38 01.0	
	comp=Z,18nm,1.1s						
L42A	**Oliver, Polo**	**8.66**	**42**	Pn	**Pn**	**16 35 35.1**	**+0.2**
CLTN	**Cedars of Leba**	**8.97**	**85**	IAmb_Lg		16 38 19.2	
	comp=Z,15nm,0.9s						
JFWS	**Jewell Farm**	**9.03**	**36**	IAmb_Lg		16 38 27.4	
	comp=Z,46nm,0.7s						
WCI	**Wyandotte Cave**	**9.21**	**71**	IAmb_Lg		16 38 19.3	
	comp=Z,33nm,0.8s						
SFIN	**Lafayette**	**9.33**	**57**	IAmb_Lg		16 38 31.9	
	comp=Z,33nm,0.7s						
PV02	**Paradox Valley**	**9.40**	**288**	IAmb_Lg		16 38 50.8	
	comp=Z,15nm,1.2s						
PV12	**Saucer Basin,**	**9.47**	**289**	IAmb_Lg		16 38 46.0	
	comp=Z,15nm,1.1s						
PV11	**David Mesa, Pa**	**9.52**	**289**	IAmb_Lg		16 38 37.8	
	comp=Z,24nm,1.2s						
I40A	**Norwalk**	**9.64**	**31**	IAmb_Lg		16 38 42.8	
	comp=Z,28nm,0.9s						
RWWY	**Rawlins**	**9.68**	**311**	Pn	**Pn**	**16 35 51.2**	**+1.9**
RWWY				IAmb_Lg		16 39 01.2	
	comp=Z,19nm,0.9s						
FPAL	**Fort Paine**	**9.72**	**94**	Pn	**Pn**	**16 35 52.2**	**+2.6**
FPAL				IAmb_Lg		16 38 45.4	
	comp=Z,17nm,1.0s						
W50A	**Signal Mountai**	**9.87**	**90**	IAmb_Lg		16 38 46.2	
	comp=Z,26nm,1.1s						
K22A	**Casper**	**9.87**	**317**	P	**Pn**	**16 35 52.8**	**+1.1**
	baz=131						
K22A	**Casper**	**9.87**	**317**	IAmb_Lg		16 39 02.5	
	comp=Z,41nm,1.1s						
250A	**Grady**	**9.99**	**109**	IAmb_Lg		16 39 08.4	
	comp=Z,21nm,1.2s						
S51A	**Beattyville**	**11.23**	**76**	Pn	**Pn**	**16 36 10.9**	**+0.7**

*IDC **08** 16:47:28.8±7.3, 5°.18S×147°.16E, h153km±76km, mb3.6/2, mb1 3.9/5, mb1mx3.3/35, mbtmp4.2/5, Error ellipse: s-maj=120.2km s-min=30.3km az=132.0*

*NEIC **08** 16:47:34.6±0.6, 5°.67S±0°.10×147°.3E±0°.2, h184km±8km, mb4.4/11, Error ellipse: s-maj=24.6km s-min=13.9km az=96.0*

ISC 08 16:47:34.2±0.8, 5°.64S±0°.07×147°.3E±0°.1, h200km, n25, σ1°.44/26, mb4.3/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.57**	**1**	Pn	**Pn**	**16 48 30.6**	**-0.2**
PMG	**Port Moresby**	**3.75**	**182**	P	**Pn**	**16 48 31.9**	**-1.0**
	9.0nm,0.3s,baz=359,slow=7.6,SNR=56						
PMG				S	**Sn**	**16 49 15.4**	**-3.6**
	21nm,0.3s,baz=242,slow=18,SNR=18						
PMG	**Port Moresby**	**3.75**	**182**		**Pn**	**16 48 32.1**	**-0.7**
PMG	**Port Moresby**	**3.75**	**182**	P	**Pn**	**16 48 31.9**	**-1.0**
PMG	**Port Moresby**	**3.75**	**182**	P	**Pn**	**16 48 31.9**	**-1.0**
HNR	**Honiara**	**13.07**	**108**	Pn	**Pn**	**16 50 33.1**	**+0.4**
CTA	**Charters Tower**	**14.40**	**184**	P	**P**	**16 50 53.2**	**+2.6**
	0.5nm,0.3s,baz=7.7,slow=14,SNR=5.9						
CTAO	**Charters Tower**	**14.40**	**184**	P	**P**	**16 50 53.1**	**+2.6**
MTN	**Manton Dam**	**17.50**	**245**	P	**P**	**16 51 25.1**	**+0.4**
MTN				IAmb	IAmb	16 51 47.5	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**18.85**	**221**	P	**P**	**16 51 39.9**	**+0.5**
WB0				IAmb	IAmb	16 51 44.0	
	comp=Z,9.7nm,0.8s						
WR0	**Warramunga Arr**	**18.89**	**220**	P	**P**	**16 51 40.6**	**+0.7**
WR0				IAmb	IAmb	16 51 40.8	
	comp=Z,9.6nm,0.6s						
WRAB	**Tennant Creek**	**19.00**	**220**	P	**P**	**16 51 41.5**	**+0.5**
WRAB				IAmb	IAmb	16 51 42.3	
	comp=Z,12nm,0.9s						
WB2	**Warramunga Arr**	**19.00**	**220**	P	**P**	**16 51 41.7**	**+0.6**
WRA	**Warramunga Arr**	**19.01**	**220**	P	**P**	**16 51 41.6**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=39,slow=11,SNR=154						
WRA	**Warramunga Arr**	**19.01**	**220**	P	**P**	**16 51 40.6**	**-0.5**
EIDS	**Eidsvold**	**19.95**	**170**	P	**P**	**16 51 52.7**	**+1.6**
EIDS				IAmb	IAmb	16 52 18.0	
	comp=Z,22nm,1.4s						
KNRA	**Kununurra**	**20.76**	**240**	P	**P**	**16 51 59.4**	**-0.5**
AS31	**Alice Springs**	**22.09**	**214**	P	**P**	**16 52 14.1**	**+0.7**
AS31				IAmb	IAmb	16 52 14.8	
	comp=Z,4.8nm,0.3s						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**16 52 14.2**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=51,slow=9.1,SNR=166						
ASAR	**Alice Springs**	**22.09**	**214**	P	**P**	**16 52 13.8**	**+0.4**
ARMA	**Armidale**	**24.98**	**171**	P	**P**	**16 52 41.3**	**+1.6**
CAN	**Canberra**	**29.58**	**177**	P	**P**	**16 53 21.7**	**+1.2**
CAN				IAmb	IAmb	16 53 39.2	
	comp=Z,13nm,1.3s						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**16 59 44.6**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=259,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**145.31**	**285**	PKPbc	**P

VA01	Torpederas	3.46	30		Pn	16 49 13.6	-1.6
PUMA	Malargue	3.49	82	*i* P	Pb	16 49 24.3	+1.1
PUMA				⇓*e*S	Sg	16 50 14.9	+1.5
PUMA	Malargue	3.49	82	*e*P	Pn	16 49 16.9	+1.2
PUMA				*e*S	Sg	16 50 15.5	+2.1
EDS3	Malargue	3.50	87	*e*P	Pn	16 49 17.7	+1.9
MT02	Curacav	3.50	38		Pn	16 49 14.0	-1.7
MT05	Renca	3.60	43	*e*P	Pn	16 49 16.2	-1.0
MT05				IAML		16 50 25.9	
	comp=E,867nm,0.4s						
MT05	Renca	3.60	43	Pn	Pn	16 49 16.6	-0.5
MT03	Universidad Ad	3.66	47	*e*P	Pn	16 49 17.4	-0.6
MT03	Universidad Ad	3.66	47		Pn	16 49 17.2	-0.8
MT03	Universidad Ad	3.66	47	*i* P	Pn	16 49 17.7	-0.3
MT03				*e*S	Sg	16 50 16.3	-2.4
MT03				IAML		16 50 23.6	
	comp=Z,508nm,0.6s						
ROC1	El Roble	3.78	36	*i* P	Pn	16 49 18.9	-0.9
ROCH	El Roble	3.79	36	*e*P	Pn	16 49 18.7	-1.2
VA03	San Esteban	4.19	39	Pn	Pn	16 49 24.9	-0.3
H03S1	Juan Fernandez	4.82	296	Pn	Pn	16 49 33.9	+0.3
	baz=75,slow=13,SNR=28						
H03S1				T	T	16 54 31.6	
	baz=116,slow=74,SNR=1503						
H03S3	Juan Fernandez	4.83	296	Pn	Pn	16 49 34.1	+0.3
	baz=75,slow=13,SNR=26						
H03S3				T	T	16 54 35.2	
	baz=116,slow=74,SNR=2959						
H03S2	Juan Fernandez	4.84	296	Pn	Pn	16 49 33.7	-0.2
	baz=75,slow=13,SNR=46						
H03S2				T	T	16 54 31.5	
	baz=116,slow=74,SNR=1937						
AAGR	Agrelo	4.99	55	*i* P	Pn	16 49 37.7	+1.4
AAGR				IAML		16 51 28.1	
	comp=Z,94nm,1.4s						
AAGR	Agrelo	4.99	55	*e*P	Pn	16 49 36.9	+0.7
AAGR				IAML		16 51 27.3	
	comp=Z,106nm,1.8s						
H03N1	Juan Fernandez	5.03	300	Pn	Pn	16 49 37.1	+0.6
	SNR=50						
H03N1				T	T	16 54 56.4	
	baz=109,slow=76,SNR=43						
H03N3	Juan Fernandez	5.03	300	Pn	Pn	16 49 37.5	+1.0
H03N3				T	T	16 54 52.8	
	baz=109,slow=76,SNR=30						
H03N2	Juan Fernandez	5.04	300	Pn	Pn	16 49 37.7	+1.0
H03N2				T	T	16 54 56.8	
	baz=109,slow=76,SNR=36						
ARCO	CERRO ARCO	5.07	52	*i* P	Pn	16 49 38.8	+1.3
ARCO				IAML		16 51 35.1	
	comp=Z,52nm,1.2s						
ARCO	CERRO ARCO	5.07	52	*i* P	Pn	16 49 38.8	+1.3
ARCO				IAML		16 51 13.4	
	comp=Z,110nm,0.9s						
AUSP	Uspallata	5.23	44	*i* P	Pn	16 49 41.8	+2.0
AUSP	Uspallata	5.23	44	*e*P	Pn	16 49 41.7	+1.9
PLCA	Paso Flores	5.28	153	Pn	Pn	16 49 40.7	+0.5
	comp=Z,0.9nm,0.3s,baz=318,slow=13,SNR=9.7						
PLCA				Lg	Lg	16 51 04.5	
	comp=Z,2.3nm,0.3s,baz=256,slow=21,SNR=3.9						
PLCA				LR	LR	16 51 29.0	
	comp=Z,101nm,21.6s,baz=329,slow=36						
PLCA	Paso Flores	5.28	153	Pn	Pn	16 49 40.4	+0.2
ASAL	Salagasta	5.30	51	*i* P	Pn	16 49 41.8	+1.2
ASAL				IAML		16 51 39.4	
	comp=Z,30nm,1.1s						
ASAL	Salagasta	5.30	51	*i* P	Pn	16 49 41.9	+1.3
ASAL				*e*S	Sg	16 51 15.3	+3.9
ASAL				IAML		16 51 20.2	
	comp=Z,62nm,1.0s						
CO02	Combarbal	5.33	26		Pn	16 49 39.9	-1.1
LL05	Los Muermos	5.34	178	Pn	Pn	16 49 40.6	-0.4
RTLS	Leoncito	5.60	42	*i* P	Pn	16 49 45.9	+1.0
RTLS				IAML		16 51 55.1	
	comp=Z,22nm,1.6s						
RTLS	Leoncito	5.60	42	*e*P	Pn	16 49 45.9	+1.0
RTLS				IAML		16 51 25.5	
	comp=Z,35nm,1.3s						
RTCV	Cerro Valdivia	5.98	47	*e*P	Pn	16 49 51.4	+1.4
RTCV				IAML		16 51 55.9	
	comp=Z,28nm,1.0s						
ZON	Zonda	6.13	44	Pn	Pn	16 49 51.8	-0.2
GO04	Tololo Observa	6.35	23	Pn	Pn	16 49 53.4	-1.7
RTLL	Cerro Villicun	6.41	44	*i* P	Pn	16 49 55.8	0.0
ACCO	Cerro Coronel	6.69	37	*i* P	Pn	16 49 59.8	0.0
ACCO	Cerro Coronel	6.69	37	*e*P	Pn	16 49 59.8	0.0
ACCO				IAML		16 52 12.8	
	comp=Z,51nm,1.6s						
AROD	Rodeo	6.86	32	*i* P	Pn	16 50 02.8	+0.7
AROD	Rodeo	6.86	32	*i* P	Pn	16 50 02.9	+0.7
ACDV	Cuesta del Vie	7.01	34	*i* P	Pn	16 50 04.6	+0.4
ACDV	Cuesta del Vie	7.01	34	*i* P	Pn	16 50 04.2	+0.1
ACDV				IAML		16 52 13.3	
	comp=Z,35nm,1.2s						
AVFE	Valle Fertil	7.49	46	*i* P	Pn	16 50 09.1	-1.6
AVFE	Valle Fertil	7.49	46	*e*P	Pn	16 50 09.1	-1.6
AVFE				IAML		16 52 35.5	
	comp=Z,22nm,2.1s						
MRA	San Martin	7.53	64	*i* P	Pn	16 50 10.8	-0.4
MRA	San Martin	7.53	64	*e*P	Pn	16 50 11.1	-0.1
MRA				IAML		16 52 48.4	
	comp=Z,8.9nm,1.1s						
ACHE	Chepes	7.63	52	*i* P	Pn	16 50 11.1	-1.4
AGUA	GUANDACOL	7.88	35	*i* P	Pn	16 50 15.6	-0.4
AGUA	GUANDACOL	7.88	35	*i* P	Pn	16 50 15.6	-0.4
AGUA				IAML		16 52 51.1	
	comp=Z,18nm,1.1s						
AC04	Llanos de Chal	8.14	17	Pn	Pn	16 50 16.9	-2.6
APLL	PUNTA DE LOS L	8.24	49	*i* P	Pn	16 50 18.4	-2.5
VCA	Vinchina	8.64	34	*i* P	Pn	16 50 26.1	-0.5
ACLC	CERRO LA CRUZ	8.71	43	*i* P	Pn	16 50 24.6	-2.9
GO03	Copiap	8.93	20	Pn	Pn	16 50 29.6	-0.8
GO03	Copiap	8.93	20	*i* P	Pn	16 50 30.0	-0.4
TRQA	Tornquist	9.57	106	Pn	Pn	16 50 39.7	+0.6
TRQA	Tornquist	9.57	106	*e*P	Pn	16 50 39.0	-0.1
AC02	Maricunga	9.98	24	Pn	Pn	16 50 43.9	-1.2
CYA	Choya	10.11	44	*i* P	Pn	16 50 42.3	-4.2
GO02	Mina Guanaco	11.42	19	Pn	Pn	16 51 04.9	+0.2
FSA	Cafayete	11.91	36	*i* P	Pn	16 51 07.3	-4.0
LVC	Limon Verde	14.03	19		P	16 51 48.3	-0.1
LVC	Limon Verde	14.03	19	*e*P	Pn	16 51 38.2	-2.2
PB09	IPOC Station P	14.73	16	P	Pn	16 51 53.6	+3.7
PB01	IPOC Station P	15.40	15	P	P	16 52 05.2	+1.8
PB01				IAmb	IAmb	16 52 06.5	
	comp=Z,15nm,0.8s						
ITQB	Itaqui	15.68	71	*e*P	Pn	16 51 59.4	-2.9
PSGCX	Pisagua	16.70	12	P	P	16 52 19.8	+2.0
CPUP	Villa Florida	17.01	60	Pn	Pn	16 52 18.4	-0.8
	comp=Z,0.2nm,0.3s,baz=230,slow=8.2,SNR=3.5						
CPUP				LR	LR	16 59 25.8	
	comp=Z,383nm,18.6s,baz=236,slow=40						
CPUP	Villa Florida	17.01	60	*e*P	Pn	16 52 17.9	-1.3
PLTB	Pedras Altas	17.21	81	Pn	Pn	16 52 20.1	-1.7
MNMC	Minye Minye	17.24	13	P	P	16 52 26.3	+2.3
CPSB	Cacapava Do Su	17.84	77	*e*P	Pn	16 52 29.1	-0.6
LPAZ	La Paz	20.30	16	P	P	16 52 59.7	+1.7
	comp=Z,5.9nm,0.8s,baz=193,slow=4.6,SNR=16						
LPAZ	La Paz	20.30	16		P	16 53 00.2	+2.2
LPAZ				IAmb	IAmb	16 53 05.7	
	comp=Z,8.4nm,0.7s						
ITAB	Concordia	20.32	70		P	16 52 57.2	-0.3
ITAB	Concordia	20.32	70	*e*P	P	16 52 57.6	+0.1
AQDB	Aquidauana	22.12	50	P	P	16 53 15.9	-1.1
AQDB				IAmb	IAmb	16 53 18.9	
	comp=Z,22nm,0.8s						
AQDB	Aquidauana	22.12	50	*e*P	P	16 53 16.4	-0.5
TRCB	Terra Rica	22.54	60	P	P	16 53 20.6	-0.9
TRCB	Terra Rica	22.54	60	*e*P	P	16 53 21.1	-0.4
SIV	San Ignacio	22.93	33	P	P	16 53 25.0	-0.6
	comp=Z,11nm,0.8s,baz=234,slow=10,SNR=41						
PTLB	Pontes e Lacer	24.29	36	*e*P	P	16 53 38.8	-0.1
FRTB	Fartura	24.41	65	*e*P	P	16 53 40.5	+0.5
PP1B	Ponte de Pedra	24.81	47	*e*P	P	16 53 43.2	-0.4
PET01	Itanhaem-SP	25.59	70	*e*P	P	16 53 51.0	+0.4
SALV	Santo Antonio	25.70	43	*e*P	P	16 53 51.4	-0.2
SPB	Sao Paulo	25.86	69	*e*P	P	16 53 54.1	+1.1
VILB	Vilhena	26.02	31	*e*P	P	16 53 54.9	+0.4
ITRB	Iturama	26.18	58	*e*P	P	16 53 55.3	-0.8
RCLB	Rio Claro- Sao	26.46	66	*e*P	P	16 53 58.9	+0.3
VAO	Valinhos	26.55	68	*e*P	P	16 54 00.2	+0.8
BB19B	Bebedouro	26.57	63	*e*P	P	16 53 59.9	+0.3
ETMB	Extrema	26.99	16	*e*P	P	16 54 04.4	+1.1
PARB	Paraibuna	27.37	70	*e*P	P	16 54 07.5	+0.7
ESAR	Angra dos Reis	28.45	71	*e*P	P	16 54 16.7	+0.3
IPMB	Ipameri, GO	28.83	58	*e*P	P	16 54 19.8	-0.1
BSCB	Bom Sucesso	29.37	67	*e*P	P	16 54 24.3	-0.4
VAS01	Vassouras-RJ	29.63	71	*e*P	P	16 54 27.5	+0.6
BDFB	Brasilia	30.61	55	P	P	16 54 34.3	-1.4
	comp=Z,2.3nm,0.4s,baz=218,slow=7.8,SNR=4.0						
BDFB				LR	LR	17 08 43.7	
	comp=Z,132nm,18.2s,baz=109,slow=40						
SNDB	Serra Nova Dou	31.36	46	*e*P	P	16 54 41.1	-1.1
DIAM	Diamantina, MG	31.85	64	*e*P	P	16 54 45.8	-0.8
MC01	Montes Claros	32.69	62	*e*P	P	16 54 52.6	-1.3
PEXB	Peixe	33.06	50	*e*P	P	16 54 56.9	-0.2
NPGB	Novo Progresso	33.40	35	*e*P	P	16 54 59.3	-0.8
SJMB	Sao Joao De Ma	33.44	68	*e*P	P	16 54 59.8	-0.6
JANB	Januaria	33.55	59	*e*P	P	16 55 00.7	-0.7
BSFB	Barra de Sao F	33.61	68	*e*P	P	16 55 02.2	+0.3
NAN01	Guarapari, ES	34.75	67	*e*P	P	16 55 12.8	+0.9
MACA	Manacapuru-AM	34.87	23	*e*P	P	16 55 13.4	+0.6
SDBA	SAO DESIDERIO	35.02	55	*e*P	P	16 55 13.7	-0.6
ITTB	Itaituba	35.61	32	*e*P	P	16 55 18.4	-0.8
SMTB	Santa Maria do	36.02	48	*e*P	P	16 55 22.7	-0.1
CMC01	Camacan, BA	36.77	65	*e*P	P	16 55 28.3	-0.9
GDU01	Guandu, BA	37.81	63	*e*P	P	16 55 37.3	-0.7
NBPN	Ponto Novo - B	39.34	59	*e*P	P	16 55 50.0	-0.9
BOAV	Boa Vista	40.18	21	*e*P	P	16 55 57.6	-0.2
MCPB	Macapa, AP	40.81	34	*e*P	P	16 56 02.3	-0.7
NBMA	Muriti-CE	42.81	57	*e*P	P	16 56 19.4	-0.1
NBAN	Anadia - AL	42.92	62	*e*P	P	16 56 19.5	-0.8
NBPS	Pedro II - PI	43.28	51	*e*P	P	16 56 22.3	-1.0
NBPB	Pedra_Branca-C	43.61	54	*e*P	P	16 56 26.0	+0.1
NBLV	Livramento - P	44.08	59	*e*P	P	16 56 29.5	-0.3
NBRF	Rio Formoso -	44.41	62	*e*P	P	16 56 31.8	-0.5
NBPA	Parau_RN	45.10	57	*e*P	P	16 56 38.2	+0.4
NBCL	Cascavel-CE	45.44	54	*e*P	P	16 56 39.4	-1.2
NBPV	Pedro Velho	45.88	59	*e*P	P	16 56 44.6	+0.6
VNA3	Neumayer Olymp	47.99	157	P	P	16 57 00.7	+0.9
VNA1	Neumayer--Stat	48.33	156	P	P	16 57 04.2	+1.8
SNAA	Sanae	50.21	157	P	P	16 57 17.4	+0.5
SNAA	Sanae	50.21	157	P	P	16 57 16.8	-0.1
	comp=Z,4.4nm,0.8s,baz=277,slow=6.0,SNR=17						
SNAA	Sanae	50.21	157	P	P	16 57 17.3	+0.4
QSPA	South Pole Qui	54.18	180	P	P	16 57 47.1	+0.5
	comp=Z,2.0nm,0.9s,baz=152,slow=1.2,SNR=8.2						
QSPA	South Pole Qui	54.18	180	P	P	16 57 47.3	+0.7
QSPA				IAmb	IAmb	16 57 54.9	
	comp=Z,3.8nm,0.9s						
TX31	Lajitas Ar. Si	70.90	333	P	P	16 59 40.2	+1.6
TX31				IAmb	IAmb	16 59 48.7	
	comp=Z,4.0nm,0.9s						
TXAR	Lajitas Array	70.90	333	P	P	16 59 39.7	+1.1
	comp=Z,0.5nm,0.5s,baz=156,slow=8.7,SNR=11						
TXAR	Lajitas Array	70.90	333	P	P	16 59 39.9	+1.3
BOSA	Boshof	80.31	118	P	P	17 00 31.9	-0.9
	comp=Z,4.2nm,1.0s,baz=158,slow=5.5,SNR=3.8						
KOWA	Kowa	82.71	66	P	P	17 00 44.9	-0.5
	comp=Z,3.7nm,0.8s,baz=229,slow=6.5,SNR=8.1						
TORD	Torodi Ar. Bea	86.17	71	P	P	17 01 02.5	-0.5
	comp=Z,1.0nm,0.8s,baz=237,slow=3.9,SNR=5.0						
TORD	Torodi Ar. Bea	86.17	71	P	P	17 01 01.9	-1.1
ESDC	Sonseca Array	98.97	47	LR	LR	17 42 57.9	
	comp=Z,32nm,21.7s,baz=245,slow=33						
ASAR	Alice Springs	115.12	208	PKP	PKiKP	17 07 05.3	+2.1
	comp=Z,0.5nm,1.0s,baz=146,slow=0.9,SNR=2.2						
ASAR	Alice Springs	115.12	208		PKiKP	17 07 05.7	+2.5
ZALV	Zalesovo Beam	156.68	33	PKPab	PKPab	17 08 46.0	+0.7
	comp=Z,0.7nm,0.4s,baz=293,slow=7.9,SNR=4.0						
ZALV	Zalesovo Beam	156.68	33		PKPab	17 08 44.8	-0.5
MKAR	Makanchi Array	159.12	52	PKPab	PKPab	17 08 55.8	-0.4
	comp=Z,0.6nm,0.8s,baz=297,slow=4.0,SNR=4.4						
MKAR	Makanchi Array	159.12	52		PKPab	17 08 55.4	-0.8

*IDC **08** 17:00:05.9±1.5, 1°.53N×84°.84W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.8/35, mbtmp3.7/5, ML3.2/1, MS4.1/13, Ms1 4.1/13, ms1mx3.9/29, Error ellipse: s-maj=197.1km s-min=24.7km az=54.0*

*NEIC **08** 17:00:08.8±1.6, 1°.7N±0°.1×84°.6W±0°.1, h10km±2km, mb4.4/15, Error ellipse: s-maj=23.7km s-min=13.7km az=235.0*

*GCMT **08** 17:00:20.8±0.3, 1°.73N±0°.02×84°.76W±0°.04, h23km, MW5.0/93, Moment Tensor Solution. s24,c24; s93,c119; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=3.71±.20; Mθθ3.01±.12; Mφφ0.69±.13; Mrθ0.36±.18; Mrφ-0.10±.07; Mθφ0.03±.26; Best double couple: M0=3.38200×10¹⁶ NP1:φs93.00000°, δ42.00000°, λ-89.00000°. NP2: φs272.00000°, δ48.00000°, λ-91.00000°. Principal axes: T 3.0330, Plg3.0000°, Azm2.0000°; N 0.6930, Plg1.0000°, Azm272.0000°; P -3.7300, Plg87.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:00:07.4±0.9, 1°.6N±0°.1×84°.7W±0°.1, h10km, n52, σ1°15/34, mb4.3/11, MS4.1/12, 1D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	Otavalo	6.38	102	Pn	Pn	17 01 41.0	-0.9
GCUF	Volcan Galeras	7.34	93	*e*P	Pg	17 02 22.9	-5.4
BBAC	Balboa, Cauca	7.45	87	*e*P	Pn	17 01 58.6	+2.2
POPC	Popayan, Colom	8.06	83	*e*P	Pn	17 01 56.6	-8.2
SOTA	Rioblanco	8.09	86	*e*P	Pn	17 02 05.2	-0.3
RIMA	Rio Macho	8.16	6	Pn	Pn	17 02 07.0	+0.8
CVTR	Volcan Turrial	8.42	6	Pn	Pn	17 02 07.4	-2.6
JTS	Las Juntas de	8.64	358	Pn	Pn	17 02 12.7	0.0
CBOC	Ciudad Bolivar	9.63	64	*e*P	Pn	17 02 26.6	+0.2
TOLC	Tolima	9.81	72	*e*P	Pn	17 02 31.4	+2.4
PRAC	Prado	10.01	78	*e*P	Pn	17 02 41.3	+10
DBBC	Dabeiba	10.02	57	⇓*e*P	Pn	17 02 32.8	+1.2
HELC	Santa Helena	10.21	63	*e*P	Pn	17 02 33.7	-0.7
ROSC	El Rosal	10.84	72	LR	LR	17 06 44.6	
	comp=Z,357nm,21.0s,baz=236,slow=36						
ROSC	El Rosal	10.84	72	*e*P	Pn	17 02 50.8	+7.7
MACC	Macarena, Meta	10.84	87	*e*P	Pn	17 02 40.6	-2.3
CHIC	Chingaza	11.34	74	*e*P	Pn	17 02 49.6	-0.4
SJCC	San Jacinto, C	12.54	49	*e*P	Pn	17 03 06.1	0.0
CMIG	Matias Romero	18.38	328	P	Pn	17 04 23.1	+0.6
	0.1nm,0.3s,baz=134,slow=8.2,SNR=5.0						
LPAZ	La Paz	24.15	138	P	P	17 05 25.4	+0.8
	1.5nm,0.7s,baz=309,slow=9.5,SNR=6.6						
LPAZ				LR	LR	17 15 54.1	
	comp=Z,786nm,19.2s,baz=295,slow=39						
LPAZ	La Paz	24.15	138	IAmb	IAmb	17 05 51.3	
	comp=Z,7.0nm,1.1s						
PB01	IPOC Station P	26.97	147	P	P	17 05 50.5	+0.9
ZAIG	Zacatecas	27.29	322	P	P	17 05 51.5	-1.1
TXAR	Lajitas Array	32.98	329	P	P	17 06 43.6	+0.8
	comp=Z,0.4nm,0.8s,baz=133,slow=9.1,SNR=3.4						
TXAR				LR	LR	17 19 08.2	
	comp=Z,251nm,20.6s,baz=0.0,slow=35						
H03N2	Juan Fernandez	35.27	172	T	T	17 44 31.0	
	baz=351,slow=76,SNR=22						
H03N1	Juan Fernandez	35.27	172	T	T	17 44 32.3	
	baz=351,slow=76,SNR=33						
H03N3	Juan Fernandez	35.28	172	T	T	17 44 31.1	
	baz=351,slow=76,SNR=33						
MNTX	Cornudas Mount	35.75	329	P	P	17 07 06.8	+0.1
MNTX				IAmb	IAmb	17 07 08.1	
	comp=Z,6.1nm,1.2s						
CPUP	Villa Florida	38.32	138	LR	LR	17 25 56.5	
	comp=Z,226nm,19.0s,baz=320,slow=40						
BDFB	Brasilia	40.09	117	LR	LR	17 26 14.5	
	comp=Z,257nm,18.9s,baz=303,slow=39						
U15A	North Rim	43.05	327	P	P	17 08 07.0	-0.9
PLCA	Paso Flores	44.06	165	LR	LR	17 22 30.0	
	comp=Z,237nm,19.8s,baz=352,slow=30						
FRNY	Flat Rock	44.16	11	P	P	17 08 16.0	-0.3
CCUT	Cedar City	44.45	327	P	P	17 08 19.3	+0.2
CCUT				IAmb	IAmb	17 08 42.3	
	comp=Z,8.0nm,1.5s						
P17A	Butcher Ranch,	44.55	331	P	P	17 08 18.7	-1.1
P17A				IAmb	IAmb	17 08 41.7	
	comp=Z,6.7nm,1.4s						
E43A	Lone Tree Farm	44.64	358	P	P	17 08 19.0	-1.1
E43A				IAmb	IAmb	17 08 42.3	
	comp=Z,12nm,1.4s						
PDAR	Pinedale Array	46.64	335	LR	LR	17 29 11.9	
	comp=Z,224nm,20.8s,baz=142,slow=37						
NV11	Mina Array Sit	47.78	324	P	P	17 08 47.0	+1.8
NV11				IAmb	IAmb	17 08 47.5	
	comp=Z,4.6nm,1.2s						
NVAR	Mina Array Bea	47.86	324	P	P	17 08 45.1	-0.8
	comp=Z,1.0nm,0.9s,baz=143,slow=7.7,SNR=7.8						
NVAR				PcP	PcP	17 10 14.2	-0.5
	comp=Z,0.2nm,0.6s,baz=126,slow=3.8,SNR=1.6						
NVAR	Mina Array Bea	47.86	324	P	P	17 08 47.2	+1.2
WVOR	Wild Horse Val	50.77	328	P	P	17 09 07.9	-0.1
WVOR				IAmb	IAmb	17 09 10.0	
	comp=Z,7.5nm,1.1s						
PINE	Pine Mountain	52.93	328	P	P	17 09 24.4	+0.2
PINE				IAmb	IAmb	17 09 46.1	
	comp=Z,5.2nm,1.4s						
SCHQ	Schefferville	55.03	12	LR	LR	17 33 34.8	
	comp=Z,257nm,18.4s,baz=272,slow=36						
PPT	Papeete	66.65	250	LR	LR	17 32 42.3	
	comp=Z,163nm,19.7s,baz=110,slow=29						
BCAR	Beaver Creek A	74.22	337	P	P	17 11 45.6	+1.2
ILAR	Eielson Array	77.01	337	P	P	17 12 00.1	-0.1
	comp=Z,1.4nm,1.0s,baz=129,slow=4.3,SNR=9.8						
BPAW	Bear Paw Mtn.	78.39	336	P	P	17 12 08.1	+0.1
GERES	GERESS Array B	94.33	41	LR	LR	17 53 07.1	
	comp=Z,55nm,18.0s,baz=293,slow=34						
VNDA	Vanda	96.52	192	LR	LR	17 49 11.2	
	comp=Z,76nm,19.8s,baz=120,slow=30						
URZ	Urewera	97.43	232	LR	LR	17 49 09.1	
	comp=Z,112nm,19.9s,baz=5.0,slow=30						
FINES	FINESS Array B	98.39	27	LR	LR	17 52 42.6	
	comp=Z,53nm,21.7s,baz=253,slow=32						
WRA	Warramunga Arr	137.73	242	PKP	PKPdf	17 19 32.8	-0.2
	comp=Z,0.4nm,0.9s,baz=106,slow=2.7,SNR=2.2						

*IDC **08** 17:13:12.0±3.1, 35°.29S×179°.56W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/29, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=74.8km s-min=45.4km az=130.0*

*WEL **08** 17:13:16.5±1.3, 35°.5±18°.×17°.9W±2°.3, h33km, M3.7/9, ML4.0/9, MLv3.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=126.8*

ISC 08 17:13:16.6±2.1, 35°.4S±0°.1×179°.5W±0°.2, h41km, n17, σ1°04/24, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	2.81	219	P	Pn	17 13 57.6	-1.3
MXZ				S	Sn	17 14 30.8	-0.7
WMGZ	Waiomatatini S	2.95	215	P	Pn	17 14 01.8	+0.8
WMGZ				S	Sn	17 14 37.6	+2.4
PKGZ	Pakihiroa	3.17	218	P	Pn	17 14 04.2	+0.1
PKGZ				S	Sn	17 14 41.4	+0.7
HAZ	Te Kaha	3.23	223	P	Pn	17 14 04.9	+0.1
HAZ				S	Sn	17 14 44.8	+2.8
PUZ	Puketiti	3.23	214	P	Pn	17 14 03.8	-1.0
PUZ				S	Sn	17 14 41.6	-0.5
RUGZ	Raukumara Rang	3.44	221	P	Pn	17 14 07.8	0.0
TWGZ	Tauwhareparae	3.44	216	P	Pn	17 14 08.2	+0.4
TWGZ				S	Sn	17 14 46.6	-0.8
CNGZ	Carnagh Statio	3.59	211	P	Pn	17 14 09.9	+0.1
TKGZ	Te Karaka	3.72	215	P	Pn	17 14 11.0	-0.5
TKGZ				S	Sn	17 14 53.4	-0.6
URZ	Urewera	3.96	223	Pn	Pn	17 14 13.9	-0.9
	4.4nm,0.3s,baz=265,slow=3.8,SNR=29						
URZ				Sn	Sn	17 14 58.8	-1.2
	1.4nm,0.3s,baz=120,slow=20,SNR=1.6						
URZ	Urewera	3.96	223	P	Pn	17 14 14.2	-0.6
URZ				S	Sn	17 14 59.2	-0.8
TGRZ	Tauranga	4.15	235	P	Pn	17 14 17.3	-0.1
SNGZ	Shannon Statio	4.23	216	P	Pn	17 14 13.3	-5.3
MUGZ	Murupara	4.30	224	P	Pn	17 14 12.4	-7.2
ASAR	Alice Springs	41.89	273	P	P	17 21 03.6	+0.5
	0.6nm,0.9s,baz=117,slow=7.7,SNR=7.9						
WRA	Warramunga Arr	43.33	278	P	P	17 21 14.9	+0.1
	1.0nm,0.5s,baz=118,slow=7.6,SNR=19						
FINES	FINESS Array B	149.32	336	PKPbc	PKiKP	17 33 01.1	-0.2
	1.3nm,0.9s,baz=35,slow=7.6,SNR=5.8						

*IDC **08** 17:17:45.6±3.7, 37°.69N×78°.08E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.3/33, mbtmp3.6/4, ML3.1/2, MS3.3/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=59.3km s-min=37.0km az=158.0*

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*IDC **08** 17:18:01.6±4.2, 47°.51N×92°.52W, h0km, mb1 2.5/1, mb1mx2.5/43, mbtmp2.5/1, ML1.0/1, Error ellipse: s-maj=82.8km s-min=28.5km az=53.0*
*NEIC **08** 17:18:01.1±1.0, 47°.50N±0°.02×92°.55W±0°.02, h0km±2km, mb_Lg2.6/20, Error ellipse: s-maj=3.6km s-min=3.0km az=34.0*

ISC 08 17:17:58.5±0.9, 47°.58N±0°.04×92°.39W±0°.04, h0km, n25, σ1§84/23, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.70**	**58**		**Pn**	**17 18 17.2**	**+1.4**
EYMN				Sg	**Sn**	**17 18 27.4**	**+0.1**
E38A	**The Farm, Brul**	**1.13**	**149**		**Pn**	**17 18 22.2**	**+0.7**
B35A	**Bob, Littlefor**	**1.19**	**311**		**Pn**	**17 18 23.2**	**+0.8**
F36A	**Milaca**	**1.89**	**205**		**Pg**	**17 18 35.1**	**+0.4**
SPMN	**Marine on St.**	**2.37**	**187**		**Pn**	**17 18 39.9**	**+1.2**
SPMN				IAmb_Lg		17 19 20.0	
	comp=Z,21nm,0.8s						
AGMN	**Agassiz Nation**	**2.44**	**288**		**Pn**	**17 18 41.7**	**+2.0**
AGMN				IAmb_Lg		17 19 16.2	
	comp=Z,19nm,0.7s						
D41A	**Chassel**	**2.65**	**100**	Pn	**Pb**	**17 18 45.6**	**-1.2**
COWI	**Conover**	**2.68**	**122**		**Pb**	**17 18 45.2**	**-2.1**
G40A	**Rib Lake**	**2.76**	**146**		**Pb**	**17 18 47.2**	**-1.5**
G40A				IAmb_Lg		17 19 30.7	
	comp=Z,14nm,1.0s						
F33A	**5 Mile Ranch,**	**3.20**	**239**	Pn	**Pn**	**17 18 50.9**	**+0.8**
F33A				IAmb_Lg		17 19 45.6	
	comp=Z,27nm,1.0s						
F42A	**Maple Grove Fa**	**3.45**	**120**	IAmb_Lg		17 19 58.6	
	comp=Z,14nm,0.8s						
ULM	**Lac du Bonnet**	**3.53**	**321**	Pn	**Pn**	**17 18 54.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=148,slow=9.5,SNR=1.4						
ULM				Pg	**Pg**	**17 19 05.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=149,slow=14,SNR=6.8						
ULM				Sn	**Sn**	**17 19 36.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=110,slow=18,SNR=3.4						
ULM				Lg	Lg	17 19 50.2	
	comp=Z,1.7nm,0.3s,baz=59,slow=20,SNR=17						
ULM	**Lac du Bonnet**	**3.53**	**321**	Pn	**Pn**	**17 18 56.3**	**+1.8**
I10CA	**LAC DU BONNET**	**3.56**	**319**	*i*		17 38 10.0	
	baz=137,slow=312,SNR=11						
I37A	**Lemond, Waseca**	**3.64**	**192**		**Pn**	**17 18 57.0**	**+1.0**
E43A	**Lone Tree Farm**	**3.88**	**106**	Pn	**Pn**	**17 19 02.2**	**+2.9**
I40A	**Norwalk**	**3.89**	**161**		**Pb**	**17 19 05.1**	**-2.9**
I42A	**Draeger Farm,**	**4.42**	**145**	Pn	**Pn**	**17 19 05.9**	**-0.9**
I42A				IAmb_Lg		17 20 25.1	
	comp=Z,16nm,0.8s						
H43A	**Windswept, Lux**	**4.47**	**132**	Pn	**Pn**	**17 19 09.9**	**+2.4**
H43A				IAmb_Lg		17 20 25.9	
	comp=Z,14nm,0.8s						
ECSD	**EROS Data Cent**	**4.86**	**219**	Pn	**Pn**	**17 19 16.0**	**+3.2**
ECSD				IAmb_Lg		17 20 31.9	
	comp=Z,12nm,1.1s						
JFWS	**Jewell Farm**	**4.90**	**161**	Pn	**Pn**	**17 19 16.6**	**+3.2**
L40A	**Anamosa**	**5.58**	**171**		**Pn**	**17 19 24.0**	**+1.3**
L34A	**Svendsen Farm,**	**6.29**	**208**	IAmb_Lg		17 21 17.9	
	comp=Z,13nm,0.8s						
CCM	**Cathedral Cave**	**9.56**	**175**	IAmb_Lg		17 23 09.5	
	comp=Z,4.3nm,0.8s						
I56US	**NEWPORT INFRAS**	**16.58**	**282**	*i*		18 51 40.0	
	baz=83,slow=309,SNR=4.4						

*NEIC **08** 17:18:50.7±2.3, 1°.4N±0°.1×84°.5W±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=26.3km s-min=15.1km az=229.0*
*IDC **08** 17:18:52.4±1.4, 1°.85N×84°.50W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/36, mbtmp3.9/5, ML3.9/1, MS3.8/26, Ms1 3.9/26, ms1mx3.8/40, Error ellipse: s-maj=93.4km s-min=21.9km az=54.0*
*GCMT **08** 17:18:56.7±0.3, 1°.74N±0°.02×84°.78W±0°.04, h17km±1km, MW4.9/89, Moment Tensor Solution. s18,c21; s89,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.17; $M_{\theta\theta}$2.15±.12; $M_{\phi\phi}$-0.02±.10; $M_{r\theta}$0.89±.25; $M_{\theta\phi}$0.08±.07; $M_{r\phi}$0.89±.35; Best double couple: $M_0$2.47400×10^{16} NP1:ϕ_s104.00000°, δ36.00000°, λ-60.00000°. NP2: ϕ_s249.00000°, δ59.00000°, λ-110.00000°. Principal axes: T 2.3550, Plg12.0000°, Azm353.0000°; N 0.2370, Plg17.0000°, Azm260.0000°; P -2.5920, Plg69.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 17:18:53.1±1.1, 1°.8N±0°.2×84°.4W±0°.2, h10km, n44, σ1§50/16, mb3.9/4, MS3.9/23, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.12**	**104**		**Pn**	**17 20 21.5**	**-2.6**
JACO	**JACO, Garabito**	**7.86**	**358**	Pn	**Pn**	**17 20 48.5**	**+0.9**
RIMA	**Rio Macho**	**7.98**	**4**		**Pn**	**17 20 50.8**	**+1.4**
CVTR	**Volcan Turrial**	**8.23**	**4**	Pn	**Pn**	**17 20 54.2**	**+1.1**
JTS	**Las Juntas de**	**8.50**	**356**	Pn	**Pn**	**17 20 57.1**	**+0.7**
	1.6nm,0.3s,baz=154,slow=8.9,SNR=4.0						
JTS				LR	LR	17 23 26.3	
	comp=Z,2μm,20.9s,baz=259,slow=33						
JTS	**Las Juntas de**	**8.50**	**356**		**Pn**	**17 20 57.6**	**+1.2**
ROSC	**El Rosal**	**10.50**	**73**	LR	LR	17 25 30.2	
	comp=Z,140nm,18.7s,baz=22,slow=38						
ATAH	**Atahualpa**	**10.66**	**146**	LR	LR	17 25 15.6	
	comp=Z,930nm,18.9s,baz=307,slow=35						
MTO3	**Montecristo**	**13.49**	**339**	Pn	**Pn**	**17 22 03.5**	**-1.4**
SDV	**Santo Domingo**	**15.41**	**62**	LR	LR	17 28 12.2	
	comp=Z,408nm,19.6s,baz=256,slow=36						
NNA	**Nana**	**15.57**	**151**	LR	LR	17 28 33.9	
	comp=Z,135nm,20.2s,baz=320,slow=37						
CMIG	**Matias Romero**	**18.41**	**327**	LR	LR	17 28 43.8	
	comp=Z,382nm,19.7s,baz=180,slow=32						
LPAZ	**La Paz**	**24.07**	**139**	P	**P**	**17 24 12.6**	**+3.0**
	1.5nm,0.8s,baz=331,slow=15,SNR=5.9						
LPAZ				LR	LR	17 34 18.7	
	comp=Z,502nm,20.6s,baz=292,slow=38						
LPAZ	**La Paz**	**24.07**	**139**	IAmb	IAmb	17 24 33.3	
	comp=Z,7.5nm,1.4s						
SJG	**San Juan**	**24.18**	**47**	LR	LR	17 33 25.8	
	comp=Z,160nm,21.6s,baz=214,slow=36						
PTGA	**Pitinga**	**24.54**	**96**	LR	LR	17 33 50.1	
	comp=Z,100nm,19.9s,baz=246,slow=36						
LVC	**Limon Verde**	**28.54**	**149**	LR	LR	17 37 07.8	
	comp=Z,284nm,19.5s,baz=324,slow=38						
SIV	**San Ignacio**	**29.01**	**128**	P	**P**	**17 24 55.1**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=299,slow=14,SNR=2.3						
SIV				LR	LR	17 37 13.9	
	comp=Z,241nm,19.1s,baz=305,slow=38						
TXAR	**Lajitas Array**	**33.00**	**328**	LR	LR	17 37 53.6	
	comp=Z,149nm,19.0s,baz=0.0,slow=35						
H03N2	**Juan Fernandez**	**35.38**	**172**	T	T	18 03 17.2	
	baz=350,slow=76,SNR=19						
H03N1	**Juan Fernandez**	**35.39**	**172**	T	T	18 03 23.6	
	baz=350,slow=76,SNR=17						
H03N3	**Juan Fernandez**	**35.40**	**172**	T	T	18 03 22.5	
	baz=350,slow=76,SNR=22						
CPUP	**Villa Florida**	**38.24**	**139**	LR	LR	17 44 31.4	
	comp=Z,153nm,18.2s,baz=318,slow=40						
PFO	**Pinyon Flats O**	**43.65**	**320**	LR	LR	17 44 42.8	
	comp=Z,106nm,18.7s,baz=154,slow=36						
PLCA	**Paso Flores**	**44.13**	**165**	LR	LR	17 41 14.9	
	comp=Z,174nm,20.6s,baz=336,slow=30						
PDAR	**Pinedale Array**	**46.63**	**334**	LR	LR	17 47 46.1	
	comp=Z,174nm,18.7s,baz=142,slow=37						
NV11	**Mina Array Sit**	**47.83**	**324**	P	**P**	**17 27 31.1**	**-0.2**
NVAR	**Mina Array Bea**	**47.91**	**324**	P	**P**	**17 27 32.4**	**+0.4**
	comp=Z,1.5nm,1.1s,baz=134,slow=8.6,SNR=5.9						
NVAR				PcP	**PcP**	**17 29 01.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=152,slow=4.1,SNR=3.9						
NVAR				LR	LR	17 47 23.6	
	comp=Z,115nm,19.1s,baz=137,slow=36						
NVAR	**Mina Array Bea**	**47.91**	**324**	P	**P**	**17 27 32.2**	**+0.2**
ULM	**Lac du Bonnet**	**49.30**	**350**	LR	LR	17 49 24.6	
	comp=Z,47nm,18.9s,baz=185,slow=37						
WVOR	**Wild Horse Val**	**50.80**	**327**	P	**P**	**17 27 53.7**	**-0.2**
SCHQ	**Schefferville**	**54.82**	**12**	LR	LR	17 52 08.9	
	comp=Z,126nm,18.4s,baz=254,slow=36						
TAOE	**Nuku Hiva Isla**	**56.56**	**258**	*e*LR	LR	17 45 15.4	
	comp=Z,186nm,25.4s						
YKA	**Yellowknife Ar**	**64.66**	**345**	LR	LR	17 59 20.0	
	comp=Z,91nm,18.4s,baz=0.0,slow=38						
PPT	**Papeete**	**66.99**	**250**	LR	LR	17 50 55.4	
	comp=Z,127nm,20.8s,baz=74,slow=29						
PPT2	**Papeete2**	**66.99**	**250**	*e*LR	LR	17 50 02.4	
	comp=Z,183nm,24.2s						
TBI	**Tubuai**	**67.97**	**244**	*e*LR	LR	17 50 31.2	
	comp=Z,146nm,26.0s						
ILAR	**Eielson Array**	**76.98**	**337**	P	**P**	**17 30 45.0**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=134,slow=3.6,SNR=13						
ILAR	**Eielson Array**	**76.98**	**337**	P	**P**	**17 30 44.7**	**-1.1**
ESDC	**Sonseca Array**	**81.51**	**50**	LR	LR	18 04 39.9	
	comp=Z,25nm,19.7s,baz=45,slow=34						
SPITS	**Spitsbergen Ar**	**90.50**	**12**	LR	LR	18 13 39.0	
	comp=Z,162nm,19.1s,baz=270,slow=36						
GERES	**GERESS Array B**	**94.02**	**41**	LR	LR	18 12 19.1	
	comp=Z,39nm,18.6s,baz=304,slow=34						
VNDA	**Vanda**	**96.74**	**192**	LR	LR	18 05 53.6	
	comp=Z,61nm,20.9s,baz=136,slow=29						
FINES	**FINESS Array B**	**98.12**	**27**	LR	LR	18 17 26.3	
	comp=Z,27nm,18.0s,baz=257,slow=36						

*IDC **08** 17:25:49.0±1.4, 15°.11S×173°.54W, h0km, mb3.9/7, mb1 4.2/7, mb1mx4.0/31, mbtmp3.9/7, MS3.8/5, Ms1 3.8/5, ms1mx3.3/40, Error ellipse: s-maj=92.9km s-min=20.0km az=148.0*
*NEIC **08** 17:25:49.5±1.3, 15°.4S±0°.2×172°.8W±0°.2, h24km±7km, mb4.5/44, Error ellipse: s-maj=41.6km s-min=15.1km az=136.0*

ISC 08 17:25:51.4±0.8, 15°.13S±0°.09×173°.0W±0°.1, h35km, n79, σ1§34/46, mb4.5/30, MS3.9/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.71**	**45**	Pn	**Pn**	**17 26 19.2**	**+0.5**
	75nm,0.3s,baz=210,slow=3.1,SNR=60						
AFI				Sn	**Sn**	**17 26 37.9**	**-1.5**
	289nm,0.3s,baz=73,slow=19,SNR=10						
AFI	**Afiamalu**	**1.71**	**45**		**Pn**	**17 26 18.9**	**+0.2**
NIUE	**Niue**	**4.91**	**143**	Pn	**Pn**	**17 27 03.5**	**+0.8**
MSVF	**Nonsavu**	**8.95**	**252**	LR	LR	17 30 51.8	
	comp=Z,496nm,18.6s,baz=110,slow=36						
KNTN	**Kanton**	**12.35**	**6**	Pn	**Pn**	**17 28 45.8**	**+1.1**
PAE	**Paea**	**22.62**	**100**	*e*T	T	17 54 05.3	
	2.1nm,0.3s						
PPT2	**Papeete2**	**22.62**	**99**	*e*LR	LR	17 36 16.9	
	comp=Z,126nm,25.8s						
TBI	**Tubuai**	**23.67**	**114**	*e*LR	LR	17 36 50.9	
	comp=Z,150nm,25.2s						
TBI	**Tubuai**	**23.67**	**114**	*e*T	T	17 55 27.0	
	4.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.93**	**328**	T	T	18 14 48.3	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.94**	**328**	T	T	18 15 02.7	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**38.95**	**328**	T	T	18 14 48.9	
	baz=149,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	18 15 54.0	
	baz=149,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	18 15 58.5	
	baz=149,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	18 15 54.9	
	baz=149,slow=76						
STKA	**Stephens Creek**	**44.49**	**240**	P	P	17 33 58.7	-0.9
	1.1nm,0.7s,baz=102,slow=4.1,SNR=3.9						
STKA	**Stephens Creek**	**44.49**	**240**	IAmb	IAmb	17 34 02.0	
	comp=Z,1.1nm,1.2s						
WR0	**Warramunga Arr**	**50.08**	**257**	P	P	17 34 42.6	-0.6
WB0	**Warramunga Arr**	**50.23**	**257**	P	P	17 34 43.8	-0.6
WB0				IAmb	IAmb	17 34 57.0	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**50.27**	**257**	P	P	17 34 43.5	-1.2
	comp=Z,0.4nm,0.6s,baz=90,slow=7.6,SNR=7.1						
WRA	**Warramunga Arr**	**50.27**	**257**	IAmb	IAmb	17 34 44.1	
	comp=Z,0.2nm,1.2s						
AS31	**Alice Springs**	**50.54**	**252**	P	P	17 34 45.8	-1.0
ASAR	**Alice Springs**	**50.55**	**252**	P	P	17 34 45.9	-0.9
	comp=Z,1.9nm,0.6s,baz=87,slow=8.4,SNR=56						
FORT	**Forrest**	**55.87**	**243**	P	**P**	**17 35 24.6**	**-1.2**
NVAR	**Mina Array Bea**	**73.88**	**42**	P	**P**	**17 37 27.2**	**+4.1**
	comp=Z,0.8nm,0.9s,baz=224,slow=9.6,SNR=4.2						
NVAR				LR	LR	18 04 47.1	
	comp=Z,51nm,18.0s,baz=276,slow=32						
NVAR	**Mina Array Bea**	**73.88**	**42**	P	**P**	**17 37 22.2**	**-0.9**
PINE	**Pine Mountain**	**75.47**	**36**	P	**P**	**17 37 32.5**	**+0.4**
I07A	**Izee**	**76.47**	**37**	P	**P**	**17 37 38.2**	**+0.5**
G08A	**Pilot Rock**	**77.50**	**36**	P	**P**	**17 37 44.2**	**+0.6**
G08A				IAmb	IAmb	17 37 50.1	
	comp=Z,6.3nm,1.2s						
MVU	**Marysvale**	**77.95**	**44**	P	**P**	**17 37 46.2**	**-0.1**
MSU	**Marysvale**	**77.98**	**44**	P	**P**	**17 37 46.1**	**-0.4**
BMO	**Blue Mountains**	**78.19**	**37**	P	P	17 37 52.5	+5.1
SUA	**Susitna One**	**78.37**	**11**	P	P	17 37 53.2	+5.2
TMUT	**Trail Mountain**	**79.02**	**44**	P	P	17 37 58.2	+5.8
TMUT				IAmb	IAmb	17 37 59.7	
	comp=Z,8.1nm,1.2s						
BMRM	**Bremner River**	**79.17**	**14**	P	P	17 37 55.9	+3.6
BMRM				IAmb	IAmb	17 38 00.2	
	comp=Z,6.6nm,1.0s						
SRU	**San Rafael Swe**	**79.39**	**45**		pP	17 37 59.8	-3.2
BCPM	**Bancas Point**	**79.53**	**16**	P	**P**	**17 37 53.3**	**-0.9**
VRDI	**Verde Repeater**	**79.67**	**14**	P	**P**	**17 37 55.4**	**+0.2**
VRDI				IAmb	IAmb	17 38 01.1	
	comp=Z,4.4nm,1.1s						
N25K	**Chitina, Valde**	**79.74**	**13**	P	**P**	**17 37 55.6**	**+0.1**
N25K				IAmb	IAmb	17 38 00.9	
	comp=Z,4.5nm,0.8s						
MNTX	**Cornudas Mount**	**79.77**	**53**	P	**P**	**17 37 56.1**	**-0.1**
GLB	**Gilahina Butte**	**79.77**	**14**	P	**P**	**17 37 58.1**	**+2.5**
GLB				IAmb	IAmb	17 38 00.9	
	comp=Z,4.8nm,1.0s						
BARN	**Barnard Glacie**	**79.95**	**15**	P	**P**	**17 37 59.6**	**+2.8**
BARN				IAmb	IAmb	17 38 02.9	
	comp=Z,7.0nm,1.0s						
PV14	**Lion Creek, Pa**	**80.07**	**46**	P	**P**	**17 37 57.3**	**-0.7**
PV16	**Nyswonger Mesa**	**80.11**	**46**	P	**P**	**17 37 58.2**	**0.0**
PV16				IAmb	IAmb	17 38 26.3	
	comp=Z,6.1nm,1.4s						
PV03	**Paradox Valley**	**80.13**	**46**	P	**P**	**17 38 00.2**	**+1.9**
PV03				IAmb	IAmb	17 38 04.3	
	comp=Z,5.6nm,1.3s						
TXAR	**Lajitas Array**	**80.16**	**56**	P	P	17 38 04.5	+6.0
	comp=Z,1.1nm,1.0s,baz=207,slow=8.1,SNR=8.8						
TXAR	**Lajitas Array**	**80.16**	**56**	P	**P**	**17 37 57.4**	**-1.0**
PV04	**Paradox Valley**	**80.16**	**46**	P	**P**	**17 37 58.0**	**-0.3**
PV04				IAmb	IAmb	17 38 05.2	
	comp=Z,6.5nm,1.2s						
PV01	**Paradox Valley**	**80.27**	**46**	P	**P**	**17 37 57.8**	**-1.3**
PV01				IAmb	IAmb	17 38 05.8	
	comp=Z,3.9nm,1.0s						
TRF	**Thorofare Moun**	**80.30**	**10**	P	P	17 38 02.3	+3.8
TRF				IAmb	IAmb	17 38 03.2	
	comp=Z,4.4nm,0.9s						
NJ2	**Nanjing**	**80.30**	**307**	*e*P	P	17 38 06.3	+7.3
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ANMO	**Albuquerque**	**80.35**	**50**	P	**P**	**17 37 58.0**	**-1.5**
RND	**Reindeer**	**80.51**	**11**	P	**P**	**17 37 59.3**	**-0.2**
RND				IAmb	IAmb	17 38 05.4	
	comp=Z,6.0nm,1.1s						
MCMT	**McKenzie Canyo**	**80.82**	**39**	P	**P**	**17 38 02.0**	**+0.1**
HYT	**Haines Junctio**	**80.85**	**17**	P	**P**	**17 38 03.0**	**+1.5**
HYT				IAmb	IAmb	17 38 08.2	
	comp=Z,7.6nm,1.2s						
TPAW	**Teton Pass**	**81.29**	**41**	P	**P**	**17 38 04.8**	**+0.3**
TPAW				IAmb	IAmb	17 38 11.0	
	comp=Z,5.0nm,1.1s						
WRH	**Wood River Hil**	**81.62**	**11**	P	**P**	**17 38 06.8**	**+1.4**
DOT	**Dot Lake**	**81.67**	**13**	P	**P**	**17 38 06.7**	**+1.1**
DOT				IAmb	IAmb	17 38 11.0	
	comp=Z,4.8nm,1.0s						
MLY	**Manley**	**81.69**	**9**	P	**P**	**17 38 08.3**	**+2.5**
PDAR	**Pinedale Array**	**81.82**	**42**	P	P	17 38 11.6	+4.4
	comp=Z,0.9nm,0.9s,baz=215,slow=3.0,SNR=7.9						
PDAR				LR	LR	18 09 55.4	
	comp=Z,40nm,18.1s,baz=256,slow=32						
CCB	**Clear Creek Bu**	**81.83**	**11**	P	P	17 38 09.4	+3.0
CCB				IAmb	IAmb	17 38 11.3	
	comp=Z,6.4nm,1.0s						
BOZ	**Bozeman (W)**	**81.95**	**38**	P	P	17 38 12.4	+4.7
BOZ				IAmb	IAmb	17 38 14.2	
	comp=Z,8.7nm,1.5s						
SCRK	**Sand Creek**	**81.97**	**12**	P	**P**	**17 38 05.8**	**-1.6**
YHH	**Holmes Hill**	**82.01**	**39**	P	**P**	**17 38 08.0**	**-0.2**
MDM	**Murphy Dome**	**82.04**	**10**	P	**P**	**17 38 08.4**	**+0.8**
MDM				IAmb	IAmb	17 38 12.6	
	comp=Z,7.7nm,1.2s						
ILAR	**Eielson Array**	**82.11**	**11**	P	P	17 38 11.2	+3.3
	comp=Z,1.0nm,0.8s,baz=210,slow=6.4,SNR=10						
ILAR	**Eielson Array**	**82.11**	**11**	P	**P**	**17 38 08.8**	**+0.9**
POKR	**Poker Plat Res**	**82.33**	**11**	P	**P**	**17 38 10.5**	**+1.4**
HRY	**Holter Researc**	**82.41**	**37**	P	**P**	**17 38 11.1**	**+1.0**
YNE	**Yellowstone No**	**82.64**	**40**	P	**P**	**17 38 09.6**	**-1.8**
YNE				IAmb	IAmb	17 38 18.4	
	comp=Z,4.4nm,1.0s						
RWWY	**Rawlins**	**82.84**	**44**	P	**P**	**17 38 11.1**	**-1.6**
PRP	**Porcupine Dome**	**83.04**	**11**	P	**P**	**17 38 12.8**	**-0.1**
AMTX	**Amarillo**	**83.89**	**52**	P	**P**	**17 38 16.7**	**-1.3**
HHC	**Hu-ho-hao-te**	**89.12**	**313**	*e*P	P	17 38 49.8	+6.4
HHC				pmax	pmax		
	comp=Z,24nm,0.8s						
HHC				pmax	pmax		
	comp=Z,310nm,8.4s						
HHC				LR	LR		
	comp=N,580nm,12.8s						
HHC				LR	LR		
	comp=Z,320nm,14.5s						
YKA	**Yellowknife Ar**	**89.71**	**23**	LR	LR	18 14 34.6	
	comp=Z,38nm,18.7s,baz=0.0,slow=32						
ULM	**Lac du Bonnet**	**93.49**	**39**	LR	LR	18 16 36.0	
	comp=Z,71nm,18.4s,baz=286,slow=32						
KHC	**Kasperske Hory**	**145.67**	**352**	*e*PKP	**PKiKP**	**17 45 30.8**	**+0.6**
GERES	**GERESS Array B**	**145.93**	**352**	PKPbc	**PKiKP**	**17 45 31.1**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=151,slow=3.0,SNR=7.0						
BRTR	**Keskin Array B**	**146.18**	**322**	PKPbc	**PKiKP**	**17 45 30.4**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=59,slow=8.6,SNR=2.8						

IDC 08 17:38:07.2±2.2, 1°.03N×126°.30E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/39, mbtmp3.2/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/23, Error ellipse: s-maj=174.8km s-min=28.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**22.22**	**55**	LR	LR	17 50 09.2	
	comp=Z,193nm,20.4s,baz=240,slow=32						
WRA	**Warramunga Arr**	**22.28**	**160**	P	P	17 43 04.6	-1.7
	0.4nm,0.5s,baz=338,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**25.64**	**164**	P	P	17 43 40.0	+1.3
	0.3nm,0.8s,baz=347,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	17 48 12.4	-0.1
	0.2nm,0.7s,baz=142,slow=7.3,SNR=2.9						

*IDC **08** 17:49:12.8±4.1, 19°.51S×177°.49W, h575km±24km, mb3.0/4, mb1 3.1/6, mb1mx2.8/42, mbtmp4.0/6, Error ellipse: s-maj=77.1km s-min=34.4km az=57.0*

ISC 08 17:49:12.2±4.2, 19°.3S±0°.3×177°.3W±0°.5, h600km, n6, σ1§40/7, mb3.6/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**288**	P	**P**	**17 50 41.0**	**-1.5**
	1.3nm,0.3s,baz=235,slow=17,SNR=7.4						
URZ	**Urewera**	**19.54**	**193**	P	**P**	**17 53 00.4**	**-1.2**
	0.8nm,0.3s,baz=0.0,slow=20,SNR=1.2						
CTA	**Charters Tower**	**34.26**	**262**	P	**P**	**17 55 10.4**	**+0.2**
	4.8nm,1.0s,baz=102,slow=20,SNR=1.5						
STKA	**Stephens Creek**	**38.90**	**243**	P	**P**	**17 55 48.2**	**+0.3**
	1.7nm,0.8s,baz=100,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**45.41**	**261**	P	**P**	**17 56 39.3**	**+0.3**
	0.6nm,0.4s,baz=98,slow=7.8,SNR=20						
ASAR	**Alice Springs**	**45.43**	**255**	P	**P**	**17 56 39.8**	**+0.7**
	0.9nm,0.4s,baz=85,slow=8.2,SNR=48						
ASAR				PcP	**PcP**	**17 58 07.2**	**+1.9**
	0.3nm,0.7s,baz=98,slow=4.5,SNR=1.9						

NEIC 08 17:52:52.5±0.8, 36°.77N±0°.01×98°.20W±0°.05, h5km±2km, mb_Lg2.8/39, Error ellipse: s-maj=7.3km s-min=3.0km az=102.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.04**	**346**		Pg	17 52 53.6	-0.1
OK032				Sg	Sg	17 52 54.3	-0.2
CROK	**Carrier**	**0.32**	**147**		Pg	17 52 59.5	+0.9
KAN10	**Anthony SW Sta**	**0.36**	**13**		Pg	17 52 59.5	0.0
KAN10				Sg	Sg	17 53 04.3	-0.1
KAN05	**Bluff City Nor**	**0.43**	**38**		Pg	17 53 00.7	-0.1
KAN05				Sg	Sg	17 53 06.4	0.0
KAN17	**Caldwell West**	**0.44**	**52**		Pg	17 53 00.9	-0.1
KAN08	**Anthony NE Sta**	**0.49**	**22**		Pg	17 53 01.8	-0.1
KAN08				Sg	Sg	17 53 08.2	-0.2
KAN12	**Harper NE Stat**	**0.55**	**17**		Pg	17 53 02.7	-0.4
KAN12				Sg	Sg	17 53 10.2	-0.1
KAN09	**Caldwell North**	**0.59**	**52**		Pg	17 53 03.7	-0.2
KAN13	**South Haven SW**	**0.63**	**67**		Pg	17 53 04.4	-0.2
KS20	**Mayfield South**	**0.69**	**48**		Pg	17 53 05.6	-0.2
U32A	**Winter Ranch,**	**0.75**	**239**		P

OLIL Olney 8.24 73 IAmb_Lg 17 57 37.2
comp=Z,13nm,1.0s
T47A Sharon Grove 8.89 85 IAmb_Lg 17 57 38.0
comp=Z,7.3nm,0.8s

*IDC **08** 18:06:21.3±7.8, 7°.79S×154°.80E, h83km±61km, mb3.3/5, mb1 3.6/6, mb1mx3.3/32, mbtmp3.7/6, ML1.9/1, Error ellipse: s-maj=63.4km s-min=30.5km az=114.0*

ISC 08 18:06:17.1±1.6, 7°.8S±0°.3×155°.0E±0°.2, h50km, n7, σ0s89/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.95**	**258**	P	**Pn**	**18 08 10.9**	**+0.8**
	1.1nm,0.3s,baz=90,slow=10,SNR=2.0						
PMG				S	**Sn**	**18 09 38.8**	**0.0**
	0.5nm,0.3s,baz=146,slow=18,SNR=1.5						
WRA	**Warramunga Arr**	**23.40**	**237**	P	**P**	**18 11 20.5**	**-1.2**
	2.5nm,0.8s,baz=58,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**25.67**	**230**	P	**P**	**18 11 42.6**	**+0.1**
	0.6nm,0.6s,baz=62,slow=9.0,SNR=16						
SONM	**Songino Array**	**70.05**	**327**	P	**P**	**18 17 23.5**	**-0.4**
	0.4nm,0.6s,baz=148,slow=8.5,SNR=2.0						
MKAR	**Makanchi Array**	**84.05**	**319**	P	**P**	**18 18 41.6**	**-0.9**
	0.5nm,0.8s,baz=95,slow=7.3,SNR=5.5						
ILAR	**Eielson Array**	**84.12**	**21**	P	**P**	**18 18 43.3**	**+0.9**
	0.4nm,0.7s,baz=249,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.27**	**284**	PKPbc	**PKiKP**	**18 26 10.9**	**+0.1**
	0.6nm,0.7s,baz=80,slow=2.4,SNR=3.3						

NNC 08 18:18:19.1±3.9, 38°.43N×77°.05E, h0km, mb3.7, mpv3.3, 3C-1D, Error ellipse: s-maj=29.3km s-min=26.1km az=112.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.63**	**347**	⇑Pg	Pb	18 19 43.7	+2.5
	1.5nm,0.8s						
TKM2				⇑Lg	Lg	18 20 44.3	
	1.7nm,0.6s						
MDOK	**Medeo**	**4.73**	**360**	Pg	Pb	18 19 45.9	+2.8
	1.6nm,0.5s						
MDOK				Lg	Lg	18 20 47.5	
	3.1nm,0.6s						
MDOK	**Medeo**	**4.73**	**360**	Pg	Pb	18 19 45.2	+2.1
	1.5nm,0.2s						
MDOK				Lg	Lg	18 20 49.9	
	3.9nm,0.0s						
SATY	**Saty**	**4.74**	**12**	Pg	Pb	18 19 46.5	+3.3
	3.9nm,0.5s						
SATY				Lg	Lg	18 20 52.4	
	2.9nm,0.1s						
PDGK	**Podgornoye**	**5.24**	**20**	⇓Pg	Pb	18 19 54.1	+2.5
	2.6nm,1.2s						
PDGK				⇑Lg	Lg	18 21 07.4	
	3.1nm,0.7s						
KTMS	**Ketmen**	**5.60**	**25**	Pg	Pb	18 19 59.6	+1.7
	1.2nm,0.4s						
KTMS				Lg	Lg	18 21 14.7	
	2.3nm,0.3s						

*IDC **08** 18:24:36.9±5.6, 36°.30N×70°.50E, h170km±50km, mb3.2/7, mb1 3.3/11, mb1mx3.0/45, mbtmp3.7/11, Error ellipse: s-maj=41.4km s-min=20.8km az=33.0*
*NNC **08** 18:24:40.1±6.9, 36°.95N×70°.06E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=61.2km s-min=51.2km az=148.0*

ISC 08 18:24:41.2±1.1, 36°.6N±0°.1×70°.6E±0°.1, h204km, n23, σ1s44/26, mb3.4/6, 7C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.07**	**23**	P	**Pn**	**18 26 09.5**	**-0.2**
	SNR=60						
KK31	**Karatay Array**	**6.54**	**360**	⇑Pn	**Pn**	**18 26 14.7**	**-0.7**
	1.9nm,0.2s,baz=191,slow=16,SNR=231						
KK31				⇑Sn	**S**	**18 27 25.4**	**-4.5**
	1.7nm,0.3s,baz=198,slow=23,SNR=5.4						
EKS2	**Erkin-Say**	**6.58**	**21**	P	**Pn**	**18 26 16.5**	**+0.5**
	SNR=23						
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**18 26 18.9**	**+0.1**
	4.4nm,0.3s,baz=177,slow=7.8,SNR=12						
AAK				S	**S**	**18 27 34.7**	**-1.3**
	1.0nm,0.3s,baz=328,slow=20,SNR=14						
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**18 26 19.5**	**+0.7**
	SNR=7.1						
AAK	**Ala-Archa**	**6.79**	**25**	⇑Pn	**Pn**	**18 26 19.3**	**+0.6**
	3.4nm,0.2s						
AAK				⇑Sn	**S**	**18 27 34.5**	**-1.5**
	10.0nm,0.5s						
KBK	**Karagaybulak**	**6.96**	**28**	P	**Pn**	**18 26 21.9**	**+0.9**
	SNR=8.4						
CHMS	**Chumysh**	**7.19**	**25**	P	**Pn**	**18 26 24.8**	**+0.9**
	SNR=16						
USP	**Ospenovka**	**7.35**	**23**	P	**Pn**	**18 26 27.0**	**+1.0**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.44**	**30**	P	**Pn**	**18 26 28.1**	**+0.8**
	SNR=16						
TKM2	**Tokmak 2**	**7.44**	**30**	⇑Pn	**Pn**	**18 26 27.3**	**0.0**
	18nm,0.5s						
MKAR	**Makanchi Array**	**13.45**	**37**	P	**Pn**	**18 27 45.2**	**+1.1**
	0.2nm,0.3s,baz=213,slow=12,SNR=10						
AB31	**Akbulak array**	**14.86**	**332**	⇑Pn	**P**	**18 28 03.0**	**+0.9**
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**16.46**	**360**	P	**Pn**	**18 28 22.1**	**+1.4**
	0.2nm,0.3s,baz=191,slow=26,SNR=3.7						
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**P**	**18 28 21.9**	**+1.2**
	0.5nm,0.3s,baz=149,slow=10,SNR=14						
AKTO	**Aktyubinsk**	**16.55**	**331**	⇑Pn	**Pn**	**18 28 24.1**	**+2.3**
	3.7nm,0.9s						
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**18 28 59.0**	**+0.9**
	1.3nm,0.3s,baz=218,slow=9.8,SNR=9.4						
FINES	**FINESS Array B**	**37.24**	**326**	P	**P**	**18 31 33.1**	**+0.4**
	1.6nm,0.6s,baz=107,slow=9.2,SNR=7.2						
ARCES	**ARCESS Array B**	**40.95**	**338**	P	**P**	**18 32 04.2**	**+0.8**
	1.2nm,0.5s,baz=111,slow=9.2,SNR=10						
NOA	**NORSAR Array B**	**44.12**	**323**	P	**P**	**18 32 29.2**	**+0.1**
	0.9nm,0.7s,baz=96,slow=7.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.37**	**268**	P	**P**	**18 35 00.2**	**-1.8**
	0.5nm,0.6s,baz=48,slow=6.1,SNR=2.9						
WRA	**Warramunga Arr**	**82.32**	**122**	P	**P**	**18 36 38.9**	**-1.4**
	0.4nm,0.8s,baz=305,slow=7.6,SNR=2.2						
ASAR	**Alice Springs**	**84.58**	**125**	P	**P**	**18 36 51.0**	**-0.7**
	0.2nm,0.8s,baz=320,slow=5.4,SNR=4.4						

MEX 08 18:33:08.0±0.4, 14°.22N×92°.79W, h13km±999km, MD3.7, Near coast of Chiapas

NEIC 08 18:37:33.1±0.6, 37°.25N±0°.01×97°.59W±0°.01, h5km±1km, mb_Lg2.3/6, Error ellipse: s-maj=2.7km s-min=2.4km az=36.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS20	**Mayfield South**	**0.03**	**124**		Pg	18 37 34.2	0.0
KS20				Sg	Sg	18 37 35.1	+0.1
KS21	**Milan North St**	**0.07**	**303**		Pg	18 37 34.4	-0.3
KS21				Sg	Sg	18 37 35.5	-0.4
KAN09	**Caldwell North**	**0.11**	**192**		Pg	18 37 35.5	+0.1
KAN09					Sg	18 37 37.4	+0.4
KAN17	**Caldwell West**	**0.25**	**215**	Pg	Pg	18 37 37.9	-0.1
KAN17				Sg	Sg	18 37 41.4	+0.2
KAN13	**South Haven SW**	**0.25**	**159**	Pg	Pg	18 37 38.2	+0.2
KAN13				Sg	Sg	18 37 41.9	+0.7
KAN05	**Bluff City Nor**	**0.27**	**239**	Pg	Pg	18 37 38.1	-0.2
KAN05				Sg	Sg	18 37 41.9	+0.1
KAN08	**Anthony NE Sta**	**0.31**	**266**		Pg	18 37 38.9	-0.2
KAN08				Sg	Sg	18 37 43.1	0.0
KAN12	**Harper NE Stat**	**0.33**	**279**	Pg	Pg	18 37 39.3	-0.3
KAN12				Sg	Sg	18 37 44.0	0.0
KAN10	**Anthony SW Sta**	**0.42**	**253**		Pg	18 37 41.0	-0.3
KAN10				Sg	Sg	18 37 47.0	+0.1
BLOK	**Blackwell**	**0.57**	**148**	Pg	Pg	18 37 43.9	-0.1
BLOK				Sg	Sg	18 37 52.0	+0.5
CROK	**Carrier**	**0.81**	**203**		Pg	18 37 48.1	-0.4
CROK				Sg	Sg	18 37 59.1	+0.1
T35A	**Sooner Cattle**	**0.92**	**111**		Pg	18 37 50.5	-0.3
T35A				Sg	Sg	18 38 03.1	+0.4
QUOK	**Quay**	**1.29**	**146**		Pn	18 37 57.1	-0.6
OK031	**S. Brethren Rd**	**1.43**	**155**	Pn	Pn	18 37 59.4	-0.3
OK029	**Liberty Lake**	**1.45**	**176**	Pn	Pn	18 37 59.6	-0.4
R32A	**Long Quarter,**	**1.47**	**323**	Pn	Pn	18 37 59.9	-0.4
BCOK	**Bluff Creek, N**	**1.59**	**181**	Pn	Pn	18 38 01.7	-0.2
OK025	**Westminster Rd**	**1.68**	**173**	Pn	Pn	18 38 03.1	0.0
OK025				IAmb_Lg		18 38 25.2	
	comp=Z,11nm,0.8s						
FNO	**Franklin**	**1.99**	**176**	IAmb_Lg		18 38 36.8	
	comp=Z,34nm,0.7s						
S39A	**Bolivar**	**3.42**	**81**	Pn	Pn	18 38 27.0	-0.1
N33A	**J Bar K, Exete**	**3.49**	**2**	Pn	Pn	18 38 28.1	+0.1
U40A	**Yellville**	**3.90**	**102**	Pn	Pn	18 38 34.3	+0.6
AMTX	**Amarillo**	**4.07**	**236**	IAmb_Lg		18 39 47.5	
	comp=Z,6.6nm,0.8s						
MGMO	**Mountain Grove**	**4.25**	**90**	Pn	Pn	18 38 39.1	+0.6
R40A	**Maddies Statio**	**4.34**	**75**	IAmb_Lg		18 39 51.1	
	comp=Z,4.1nm,0.8s						

*IDC **08** 18:42:33.7±0.7, 27°.33N×65°.74E, h0km, mb4.0/21, mb1 4.1/23, mb1mx3.9/53, mbtmp4.0/23, ML3.8/2, MS3.4/17, Ms1 3.4/17, ms1mx3.2/46, Error ellipse: s-maj=16.9km s-min=14.2km az=168.0*
*MOS **08** 18:42:36.1±1.4, 27°.44N×65°.79E, h27km, mb4.4/8, Error ellipse: s-maj=9.8km s-min=6.2km az=84.2*
*NEIC **08** 18:42:37.9±2.1, 27°.38N±0°.09×65°.70E±0°.09, h25km±5km, mb4.3/26, Error ellipse: s-maj=14.6km s-min=10.2km az=149.0*

ISC 08 18:42:37.7±0.4, 27°.29N±0°.06×65°.69E±0°.04, h35km, n125, σ2s40/131, mb4.2/44, MS3.3/14, 2C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.56**	**239**	Pn	**Pn**	**18 44 24.7**	**-0.8**
	1.1nm,0.3s,baz=86,slow=7.2,SNR=16						
WSAR				Sn	**Sn**	**18 45 45.1**	**-4.9**
	8.3nm,0.3s,baz=290,slow=18,SNR=12						
WSAR				LR	LR	18 48 25.8	
	comp=Z,244nm,18.6s,baz=96,slow=46						
WSAR	**Wadi Sarin**	**7.56**	**239**	P	**Pn**	**18 44 26.5**	**+1.0**
	SNR=12						
WSAR				S	**Sn**	**18 45 46.2**	**-3.7**
THW	**Thamme Wali**	**7.59**	**42**	P	**Pn**	**18 44 24.4**	**-1.5**
JLN	**Jalan Bani Buh**	**7.67**	**230**	P	**Pn**	**18 44 27.0**	**+0.1**
	SNR=6.7						
JLN				S	**Sn**	**18 45 50.0**	**-2.6**
HRA	**Herat**	**7.67**	**338**		**Pn**	**18 44 26.8**	**-0.4**
WBK	**Wadi Bani Khal**	**7.68**	**234**	P	**Pn**	**18 44 27.7**	**+0.6**
	SNR=22						
WBK				S	**Sn**	**18 45 46.7**	**-6.2**
KBL	**Kabul**	**7.78**	**21**	P	**Pn**	**18 44 27.8**	**-0.9**
KBL	**Kabul**	**7.78**	**21**	Pn	**Pn**	**18 44 27.8**	**-0.9**
BIDO	**Bidbid**	**7.80**	**243**	P	**Pn**	**18 44 27.5**	**-1.4**
BIDO				S	**Sn**	**18 45 50.8**	**-5.2**
SMDO	**Samad**	**8.10**	**240**	P	**Pn**	**18 44 34.0**	**+0.9**
SMDO				S	**Sn**	**18 45 59.4**	**-4.1**
HOQ	**Hoqain**	**8.43**	**246**	P	**Pn**	**18 44 34.3**	**-3.2**
CEP	**Cherat**	**8.43**	**38**	P	**Pn**	**18 44 36.2**	**-1.4**
JMDO	**Jabal Madar**	**8.46**	**236**	P	**Pn**	**18 44 39.5**	**+1.7**
JMDO				S	**Sn**	**18 46 08.0**	**-4.0**
BANOM	**Banah**	**8.52**	**263**	P	**Pn**	**18 44 38.6**	**-0.1**
MDH	**Madha**	**8.66**	**259**	P	**Pn**	**18 44 41.1**	**+0.5**
MDH				S	**Sn**	**18 46 10.0**	**-7.1**
MASF	**Masafi**	**8.77**	**260**	P	**Pn**	**18 44 42.1**	**+0.1**
SOHO	**SOHO**	**8.84**	**251**	P	**Pn**	**18 44 41.8**	**-1.2**
UOSS	**Minazif**	**8.84**	**257**	Pn	**Pn**	**18 44 45.6**	**+2.5**
UOSS	**Minazif**	**8.84**	**257**	P	**Pn**	**18 44 43.2**	**+0.1**
UOSS				S	**Sn**	**18 46 15.0**	**-6.5**
BSY	**Bisya**	**8.93**	**241**	P	**Pn**	**18 44 45.0**	**+0.6**
BSY				S	**Sn**	**18 46 20.5**	**-3.3**
HATD	**Hatta, Dubai**	**8.94**	**256**	P	**Pn**	**18 44 43.4**	**-1.1**
ASHO	**Ashiyiah**	**9.05**	**255**	P	**Pn**	**18 44 45.7**	**-0.2**
NIL	**Nilore**	**9.09**	**44**	P	**Pn**	**18 44 45.8**	**-0.7**
NIL	**Nilore**	**9.09**	**44**	Pn	**Pn**	**18 44 45.8**	**-0.7**
CHCP	**Chirah Chowk**	**9.11**	**44**	P	**Pn**	**18 44 46.6**	**-0.1**
KUDL	**Kundal**	**9.61**	**82**	*eP*	**Pn**	**18 44 53.6**	**+0.1**
KUDL				*ex*	x	18 46 30.5	
SONA	**Sohna**	**10.13**	**82**	*eP*	**Pn**	**18 45 00.4**	**-0.3**
SONA				*eS*	**Sn**	**18 46 50.4**	**-2.7**
SMLA	**Simla**	**10.73**	**66**	*eP*	**Pn**	**18 45 08.0**	**-0.9**
SMLA				*eS*	**Sn**	**18 47 03.1**	**-4.6**
SMLA				IAML		18 47 09.2	
	comp=N,185nm,0.3s						
SMLA				IAML		18 47 09.8	
	comp=E,132nm,0.8s						
BHPL	**Bhopal**	**11.35**	**108**	*eP*	**Pn**	**18 45 16.5**	**-1.0**
BHPL				*eS*	**Sn**	**18 47 21.9**	**-1.3**
CHGR	**Chuyangaron**	**11.70**	**13**	Pn	**Pn**	**18 45 20.4**	**-1.9**
GAR	**Garm**	**12.30**	**17**	Pn	**Pn**	**18 45 28.8**	**-1.8**
GEYT	**Alibeck**	**12.38**	**331**	LR	LR	18 51 26.5	
	comp=E,46nm,19.4s,baz=200,slow=43						
BTK	**Batken**	**13.43**	**17**	P	**Pn**	**18 45 44.3**	**-1.5**
BTK	**Batken**	**13.43**	**17**	Pn	**Pn**	**18 45 44.3**	**-1.5**
PYUN	**Piuthan**	**15.35**	**83**	*eP*	**Pn**	**18 46 08.7**	**-3.2**
	comp=E,34nm,0.6s						
DANN	**Dangsing**	**16.02**	**82**	*eP*	**Pn**	**18 46 17.7**	**-3.0**
	comp=E,57nm,0.8s						
KK31	**Karatay Array**	**16.26**	**13**	P	**Pn**	**18 46 19.1**	**-4.3**
KK31				pmax	pmax		
	comp=Z,12nm,1.5s						
KK31	**Karatay Array**	**16.26**	**13**		**Pn**	**18 46 19.1**	**-4.3**
KKAR	**Karatay Array**	**16.26**	**13**	P	**Pn**	**18 46 19.5**	**-3.9**
KKAR	**Karatay Array**	**16.26**	**13**	Pn	**Pn**	**18 46 19.5**	**-3.9**
KKAR	**Karatay Array**	**16.26**	**13**		**Pn**	**18 46 18.8**	**-4.6**
KKAR				IAmb	IAmb	18 46 35.4	
	comp=Z,12nm,1.5s						
AAK	**Ala-Archa**	**16.91**	**23**	Pn	**Pn**	**18 46 30.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=211,slow=12,SNR=4.9						
AAK				LR	LR	18 54 26.0	
	comp=Z,125nm,19.7s,baz=214,slow=42						
AAK	**Ala-Archa**	**16.91**	**23**	⇓*eP*	**Pn**	**18 46 30.1**	**-1.6**
AAK				pmax	pmax		
	comp=Z,33nm,1.7s						
AAK	**Ala-Archa**	**16.91**	**23**	Pn	**Pn**	**18 46 25.5**	**-6.3**
KKN	**Kakani**	**17.38**	**84**	*eP*	**Pn**	**18 46 34.5**	**-3.3**
	comp=Z,8.0nm,0.5s						
PKIN	**Phulchoki**	**17.50**	**85**	*eP*	**Pn**	**18 46 35.7**	**-3.6**
	comp=Z,10nm,0.6s						
PKI	**Pulchoki**	**17.51**	**85**	*eP*	**Pn**	**18 46 35.8**	**-3.7**
	comp=Z,8.9nm,0.6s						
KDJ	**Kajisay**	**17.53**	**29**	P	**Pn**	**18 46 32.8**	**-6.8**
KDJ				pmax	pmax		
	comp=Z,15nm,1.2s						
KDJ	**Kajisay**	**17.53**	**29**	Pn	**Pn**	**18 46 32.8**	**-6.8**
KDJ				IAmb	IAmb	18 46 47.7	
	comp=Z,15nm,1.2s						
RAYN	**Ar Rayn**	**18.62**	**263**	P	**Pn**	**18 46 52.8**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RAYN	**Ar Rayn**	**18.62**	**263**	P	**Pn**	**18 46 52.8**	**-0.1**
GNI	**Garni**	**21.57**	**312**	P	**P**	**18 47 25.4**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=236,slow=14,SNR=1.9						
GNI				LR	LR	18 56 50.2	
	comp=Z,23nm,18.7s,baz=118,slow=40						
GNI	**Garni**	**21.57**	**312**	IAmb	IAmb	18 47 48.0	
	comp=Z,30nm,1.1s						
ABKAR	**Akbulak array**	**22.38**	**350**	P	**P**	**18 47 32.4**	**-0.5**
ABKAR	**Akbulak array**	**22.38**	**350**	P	**P**	**18 47 32.6**	**-0.2**
ABKAR				IAmb	IAmb	18 47 35.4	
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**22.49**	**78**	P	**P**	**18 47 35.9**	**+1.2**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LSA	**Lhasa**	**22.49**	**78**	P	**P**	**18 47 35.9**	**+1.2**
LSA				IAmb	IAmb	18 47 54.7	
	comp=Z,9.1nm,1.1s						
GURO	**Guroymak-BITLI**	**22.75**	**306**	P	**P**	**18 47 39.0**	**+1.9**
GURO				IAmb	IAmb	18 47 52.8	
	comp=Z,7.3nm,0.7s						
MAKZ	**Makanchi**	**23.33**	**29**	P	**P**	**18 47 42.1**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,11nm,1.0s						
MAKZ	**Makanchi**	**23.33**	**29**	P	**P**	**18 47 42.0**	**-0.7**
MAKZ				IAmb	IAmb	18 47 47.1	
	comp=Z,11nm,1.0s						
MK31	**Makanchi Array**	**23.46**	**30**	*dP*	**P**	**18 47 44.6**	**+0.6**
MK31	**Makanchi Array**	**23.46**	**30**	P	**P**	**18 47 44.4**	**+0.4**
MK31				IAmb	IAmb	18 47 48.1	
	comp=Z,4.6nm,0.8s						
MKAR	**Makanchi Array**	**23.46**	**30**	P	**P**	**18 47 44.1**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=215,slow=9.5,SNR=28						
MKAR				LR	LR	18 59 07.7	
	comp=Z,167nm,19.7s,baz=218,slow=42						
MKAR	**Makanchi Array**	**23.46**	**30**	*ceP*	**P**	**18 47 44.7**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**23.46**	**30**	P	**P**	**18 47 43.9**	**-0.1**
AKTO	**Aktyubinsk**	**23.85**	**348**	P	**P**	**18 47 47.7**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=188,slow=9.8,SNR=6.0						
AKTO				LR	LR	18 58 00.2	
	comp=Z,76nm,18.7s,baz=148,slow=39						
WMQ	**Urumqi**	**24.23**	**41**	*eP*	**P**	**18 47 54.0**	**+2.7**
WMQ				pP	pP	18 48 00.8	-0.9
WMQ				pmax	pmax		
	comp=Z,41nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,260nm,5.3s						
KBZ	**Khabaz**	**24.65**	**318**	P	**P**	**18 47 56.7**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=146,slow=3.6,SNR=4.1						
KBZ	**Khabaz**	**24.65**	**318**	⇓*eP*	**P**	**18 47 57.0**	**+2.0**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KVAR	**Kislovodsk Arr**	**24.89**	**318**	LR	LR	19 00 03.3	
	comp=Z,56nm,21.3s,baz=3.5,slow=42						
KIV	**Kislovodsk**	**24.90**	**318**	*eP*	**P**	**18 47 56.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV	**Kislovodsk**	**24.90**	**318**	P	**P**	**18 47 58.0**	**+0.5**
KIV				IAmb	IAmb	18 48 06.1	
	comp=Z,6.6nm,0.8s						
KURBB	**Kurchatov Arra**	**25.27**	**19**	P	**P**	**18 48 01.2**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=212,slow=8.8,SNR=19						
KURK	**Kurchatov**	**25.38**	**19**	P	**P**	**18 48 01.2**	**-0.4**
KURK	**Kurchatov**	**25.38**	**19**	P	**P**	**18 48 01.2**	**-0.4**
BVAR	**Borovoye Array**	**25.95**	**6**	P	**P**	**18 48 07.5**	**+0.8**
	comp=Z,5.4nm,0.7s,baz=190,slow=23,SNR=34						
BRVK	**Borovoye**	**25.97**	**6**	*deP*	**P**	**18 48 08.7**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s						
BRVK	**Borovoye**	**25.97**	**6**	P	**P**	**18 48 08.0**	**+1.1**
BRVK				IAmb	IAmb	18 48 10.3	
	comp=Z,12nm,0.8s						
ATD	**Arta Tunnel**	**26.57**	**238**	LR	LR	19 00 07.2	
	comp=Z,62nm,18.6s,baz=96,slow=40						
MMAI	**Mount Meron Ar**	**26.75**	**290**	P	**P**	**18 48 16.8**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=299,slow=41,SNR=2.3						
MMAI				LR	LR	19 00 18.6	
	comp=Z,62nm,21.7s,baz=20,slow=40						
DGZ	**Jazzator, Alta**	**27.92**	**31**	⇑*eP*	**P**	**18 48 24.0**	**-0.7**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BELG	**Belogornoye**	**28.50**	**337**	LR	LR	19 01 56.4	
	comp=Z,27nm,19.0s,baz=124,slow=41						
ANN	**Anapa**	**28.56**	**315**	*eP*	**P**	**18 48 28.0**	**-2.2**
ANN				*eS*	**S**	**18 53 19.9**	**+4.0**
ANN				pmax	pmax		
	comp=Z,25nm,1.3s						
ARU	**Arti**	**29.57**	**352**	LR	LR	19 01 40.6	
	comp=Z,162nm,18.1s,baz=148,slow=39						
ZAA0	**Zalesovo Array**	**30.13**	**23**	P	**P**	**18 48 43.1**	**-1.0**
ZAA0				IAmb	IAmb	18 48 47.3	
	comp=Z,2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**30.13**	**23**	P	**P**	**18 48 44.3**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=224,slow=10.0,SNR=14						
ZALV				LR	LR	19 01 57.4	
	comp=Z,86nm,18.4s,baz=176,slow=39						
ZALV	**Zalesovo Beam**	**30.13**	**23**	*i* P	**P**	**18 48 44.2**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**30.13**	**23**	P	**P**	**18 48 43.9**	**-0.1**
GTA	**Gaotai**	**30.78**	**58**	*eP*	**P**	**18 48 52.4**	**+2.3**
GTA				pP	sP	18 49 00.9	-4.1
GTA				sP	pP	18 49 05.5	+4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.79**	**99**	P	**P**	**18 48 59.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=287,slow=9.3,SNR=2.5						
CMAR				LR	LR	19 03 32.5	
	comp=Z,77nm,18.4s,baz=180,slow=40						
OBN	**Obninsk**	**34.92**	**331**	*eP*	**P**	**18 49 28.0**	**+2.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**36.19**	**320**	P	**P**	**18 49 37.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=120,slow=7.3,SNR=3.3						
AKBB	**Malin Array Si**	**36.19**	**320**	P	**P**	**18 49 38.7**	**+1.8**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.2s						
AKBB	**Malin Array Si**	**36.19**	**320**	P	**P**	**18 49 38.7**	**+1.8**
AKBB				IAmb	IAmb	18 49 56.7	
	comp=Z,4.5nm,1.2s						
MLR	**Muntele Rosu**	**36.35**	**311**	P	**P**	**18 49 39.0**	**+0.5**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MLR	**Muntele Rosu**	**36.35**	**311**	P	**P**	**18 49 39.0**	**+0.5**
MLR				IAmb	IAmb	18 50 00.7	
	comp=Z,4.0nm,0.9s						
BURAR	**Bucovina Array**	**37.45**	**314**	P	**P**	**18 49 48.1**	**+0.3**
BURAR				IAmb	IAmb	18 50 03.4	
	comp=Z,1.4nm,0.8s						
SONM	**Songino Array**	**37.67**	**46**	P	**P**	**18 49 50.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=252,slow=9.2,SNR=8.2						
SONM				LR	LR	19 08 07.1	
	comp=Z,177nm,18.3s,baz=212,slow=41						
SONM	**Songino Array**	**37.67**	**46**	P	**P

az=70.0
MAN 08 19:25:49.7, 9.99N×126.30E, h12km, mb5.2, ML4.1, MS4.3
ISC 08 19:25:45.9±1.3, 10.02N±0.08×126.46E±0.09, h10km, n18, σ2.33/13, mb3.6/6, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.34**	**228**	⇑*eP*	**Pn**	**19 26 25.7**	**+1.3**
CGP				*e*S	**Sn**	**19 26 51.7**	**-1.5**
LLP	**Lapu-Lapu**	**2.48**	**277**	⇓*i*P	**Pn**	**19 26 28.0**	**+1.7**
LLP				*i* S	**Sn**	**19 26 57.2**	**+0.6**
SNPH	**Sibulan**	**3.25**	**258**	*i* P	**Pn**	**19 26 39.8**	**+2.7**
SNPH				*i* S	**Sb**	**19 27 20.7**	**-2.8**
KCP	**Kidapawan**	**3.29**	**205**	⇓*i*P	**Pn**	**19 26 40.3**	**+2.8**
DCPH	**Dipolog City**	**3.39**	**245**	⇑*i*P	**Pn**	**19 26 42.6**	**+3.8**
DCPH				*e*S	**Sn**	**19 27 19.5**	**+0.4**
RCP	**Roxas**	**3.96**	**293**	⇑*eP*	**Pn**	**19 26 49.5**	**+2.7**
TGY	**Tagaytay City**	**6.76**	**307**	⇑*eP*	Pn	19 27 18.9	-6.4
KAPI	**Kappang**	**16.36**	**204**	LR	LR	19 36 38.9	
	comp=Z,70nm,18.8s,baz=273,slow=40						
WRA	**Warramunga Arr**	**30.77**	**165**	P	P	19 32 00.6	-1.1
	0.5nm,0.8s,baz=343,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**34.26**	**168**	P	**P**	**19 32 31.6**	**-0.7**
	0.3nm,0.6s,baz=352,slow=7.1,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.15**	**71**	T	T	20 16 39.6	
	baz=260,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	20 16 40.9	
	baz=260,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	20 16 42.7	
	baz=260,slow=74						
SONM	**Songino Array**	**41.32**	**340**	P	**P**	**19 33 31.4**	**-0.5**
	1.0nm,1.0s,baz=157,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**52.34**	**323**	P	**P**	**19 34 56.7**	**-1.3**
	0.9nm,0.7s,baz=115,slow=8.8,SNR=8.4						
ZALV	**Zalesovo Beam**	**54.94**	**331**	P	P	19 35 15.3	-1.6
	0.4nm,0.4s,baz=121,slow=5.4,SNR=2.2						
AAK	**Ala-Archa**	**55.64**	**315**	LR	LR	20 01 01.6	
	comp=Z,277nm,21.6s,baz=306,slow=38						
FINES	**FINESS Array B**	**86.20**	**332**	P	P	19 38 25.0	-2.4
	0.6nm,0.7s,baz=86,slow=4.3,SNR=4.3						

ISU 08 19:32:04, 41.14N×72.91E, h10km
KRNET 08 19:32:04.4±0.1, 41.21N×72.73E, h24km, mb3.3
SOME 08 19:32:04.8, 41.22N×72.83E, h15km
KNET 08 19:32:05.4±0.4, 41.32N×72.76E, h10km±2km, ml2.8, Error ellipse: s-maj=6.9km s-min=2.9km az=118.0
NNC 08 19:32:06.1±1.0, 41.31N×72.78E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=7.9km s-min=5.1km az=3.0
ISC 08 19:32:03.0±1.1, 41.24N±0.02×72.81E±0.02, h0km±10km, n71, σ1.64/119, 41C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.72**	**182**	⇑*i*P	**Pg**	**19 32 17.3**	**+0.6**
	baz=76						
OHH				⇑*i*S	**Sg**	**19 32 26.7**	**+0.6**
	baz=76						
OHH	**Osh**	**0.72**	**182**	*e*P	**Pg**	**19 32 17.0**	**+0.3**
OHH				*e*S	**Sg**	**19 32 27.0**	**+0.9**
FRG	**Fergana**	**0.93**	**237**	*e*P	**Pn**	**19 32 25.0**	**+1.7**
FRG				*e*S	**Sn**	**19 32 41.0**	**+3.7**
AML	**Almayashu**	**1.10**	**36**	⇓*i*P	**Pn**	**19 32 26.1**	**+0.1**
	baz=38						
AML				⇓*i*S	**Sn**	**19 32 41.8**	**-0.4**
	baz=38						
AML	**Almayashu**	**1.10**	**36**	⇓P	**Pn**	**19 32 26.2**	**+0.2**
	58nm,0.2s,SNR=118						
AML				⇑S	**Sn**	**19 32 41.9**	**-0.2**
	209nm,0.3s						
MNAS	**Manas**	**1.26**	**350**	⇓*i*P	**Pn**	**19 32 28.2**	**+0.2**
	baz=53						
MNAS				⇓*i*S	**Sn**	**19 32 45.7**	**0.0**
	baz=53						
ARLS	**Aral**	**1.29**	**61**	⇓*i*P	**Pn**	**19 32 29.2**	**+0.8**
	baz=61						
ARLS				⇓*i*S	**Sn**	**19 32 48.2**	**+1.8**
	baz=61						
TRKS	**Terek-Say**	**1.29**	**283**	⇑*i*P	**Pg**	**19 32 26.8**	**-0.9**
	baz=83						
TRKS				⇑*i*S	**Sg**	**19 32 42.8**	**-1.7**
	baz=83						
SFK	**Sufi-Kurgan**	**1.34**	**157**	⇑*i*P	**Pn**	**19 32 29.0**	**-0.1**
	baz=53						
SFK				⇑*i*S	**Sb**	**19 32 46.7**	**-0.1**
	baz=53						
MRKS	**Merke**	**1.53**	**11**	*e*P	**Pg**	**19 32 33.7**	**+1.4**
	baz=13						
MRKS				*e*S	**Sg**	**19 32 54.7**	**+2.6**
	baz=13						
MRKS	**Merke**	**1.53**	**11**	*e*P	**Pg**	**19 32 33.7**	**+1.4**
	92nm,0.2s						
MRKS				*e*S	**Sg**	**19 32 54.7**	**+2.6**
	171nm,0.3s						
MRKS	**Merke**	**1.53**	**11**	P	**Pg**	**19 32 33.7**	**+1.4**
	92nm,0.2s						
MRKS				S	**Sg**	**19 32 54.7**	**+2.6**
	171nm,0.3s						
EKS2	**Erkin-Say**	**1.59**	**27**	⇑*i*P	**Pg**	**19 32 34.4**	**+1.0**
	baz=28						
EKS2				⇑*i*S	**Sg**	**19 32 56.3**	**+2.3**
	baz=28						
EKS2	**Erkin-Say**	**1.59**	**27**	⇓P	**Pg**	**19 32 34.7**	**+1.3**
	15nm,0.2s,SNR=27						
AAK	**Ala-Archa**	**1.87**	**41**	⇑*i*P	**Pg**	**19 32 38.9**	**0.0**
	baz=42						
AAK				⇑*i*S	**Sg**	**19 33 03.8**	**+0.7**
	baz=42						
AAK	**Ala-Archa**	**1.87**	**41**	⇓P	**Pg**	**19 32 39.7**	**+0.8**
	40nm,0.3s,SNR=18						
AAK				⇓S	**Sg**	**19 33 05.9**	**+2.8**
	73nm,0.2s						
AAK	**Ala-Archa**	**1.87**	**41**	⇑Pn	**Pg**	**19 32 39.9**	**+1.1**
	11nm,0.3s						
AAK				⇑Lg	Lg	19 33 05.9	
	47nm,0.6s						
DRK	**Karamyk**	**1.93**	**204**	⇓*i*P	**Pn**	**19 32 37.5**	**+0.3**
	baz=3.0						
DRK				⇓*i*S	**Sn**	**19 33 02.3**	**+0.1**
	baz=3.0						
BTK	**Batken**	**1.93**	**233**	⇑*i*P	**Pn**	**19 32 36.9**	**-0.1**
	baz=32						
BTK				⇑*i*S	**Sn**	**19 33 01.3**	**-0.7**
	baz=32						
BTK	**Batken**	**1.93**	**233**	*i* P	**Pb**	**19 32 39.0**	**0.0**
BTK				*i* S	**Sb**	**19 33 03.0**	**-0.6**
FRU1	**Bishkek**	**2.07**	**40**	⇑*i*P	**Pb**	**19 32 41.5**	**+0.1**
	baz=40						
FRU1				⇑*i*S	**Sg**	**19 33 08.6**	**-0.8**
	baz=40						
KBK	**Karagaybulak**	**2.13**	**48**	⇑*i*P	**Pb**	**19 32 42.2**	**-0.3**
	baz=48						
KBK				⇑*i*S	**Sb**	**19 33 09.8**	**+0.3**
	baz=48						
KBK	**Karagaybulak**	**2.13**	**48**	⇓P	**Pg**	**19 32 44.1**	**+0.4**
	22nm,0.2s,SNR=34						
KBK				⇑S	**Sg**	**19 33 14.0**	**+2.7**
	129nm,0.3s						
CHMG	**Chimgan**	**2.13**	**279**	*e*P	**Pb**	**19 32 43.0**	**+0.5**
CHMG				*e*S	**Sb**	**19 33 10.0**	**+0.5**
CHRV	**Charvak**	**2.19**	**281**	*i* P	**Pg**	**19 32 45.0**	**+0.1**
CHRV				*i* S	**Sg**	**19 33 13.0**	**-0.3**
CHMS	**Chumysh**	**2.27**	**39**	⇑*i*P	**Pb**	**19 32 44.2**	**-0.6**
	baz=39						
CHMS				⇑*i*S	**Sb**	**19 33 13.2**	**-0.2**
	baz=39						
CHMS	**Chumysh**	**2.27**	**39**	⇓P	**Pb**	**19 32 45.1**	**+0.3**
	8.2nm,0.1s,SNR=28						
CHMS				⇑S	**Sg**	**19 33 16.7**	**+0.8**
	20nm,0.2s						
USP	**Ospenovka**	**2.38**	**31**	⇑*i*P	**Pb**	**19 32 45.5**	**-1.1**
	baz=32						
USP				⇑*i*S	**Sb**	**19 33 15.4**	**-1.1**
	baz=32						
USP	**Ospenovka**	**2.38**	**31**	⇓P	**Pb**	**19 32 46.3**	**-0.3**
	15nm,0.2s,SNR=32						
USP				⇑S	**Sg**	**19 33 18.6**	**-0.7**
	34nm,0.3s						
YBZ	**Yangibazar**	**2.43**	**272**	*i* P	**Pg**	**19 32 49.0**	**-0.6**
YBZ				*i* S	**Sb**	**19 33 19.0**	**+0.9**
KK31	**Karatay Array**	**2.53**	**318**	⇑Pg	**Pb**	**19 32 49.2**	**0.0**
	6.0nm,0.5s,baz=131,slow=15,SNR=17						
KK31				⇓Lg	Lg	19 33 22.7	
	33nm,0.5s,baz=123,slow=29,SNR=5.4						
SGDS	**Sogindy**	**2.58**	**31**	Pg	**Pg**	**19 32 52.3**	**-0.2**
	13nm,0.4s						
SGDS				Lg	Lg	19 33 26.5	
	25nm,0.3s						
BOOM	**Boomskoye usch**	**2.65**	**61**	⇓*i*P	**Pb**	**19 32 49.7**	**-1.6**
	baz=61						
BOOM				⇓*i*S	**Sb**	**19 33 22.5**	**-1.9**
	baz=61						
TKM2	**Tokmak 2**	**2.66**	**50**	⇑*i*P	**Pb**	**19 32 49.9**	**-1.7**
	baz=50						
TKM2				⇑*i*S	**Sb**	**19 33 22.8**	**-2.1**
	baz=50						
TKM2	**Tokmak 2**	**2.66**	**50**	⇑P	**Pb**	**19 32 51.2**	**-0.5**
	15nm,0.2s,SNR=9.7						
TKM2	**Tokmak 2**	**2.66**	**50**	⇑Pn	**Pb**	**19 32 51.1**	**-0.6**
	16nm,0.6s						
TKM2				⇑Lg	Lg	19 33 29.2	
	30nm,0.5s						
ULHL	**Ulahol**	**2.75**	**68**	⇑*i*P	**Pb**	**19 32 51.1**	**-2.0**
	baz=67						
ULHL				⇑*i*S	**Sb**	**19 33 25.0**	**-2.5**
	baz=67						
ULHL	**Ulahol**	**2.75**	**68**	⇑P	**Pb**	**19 32 52.5**	**-0.7**
	5.4nm,0.2s,SNR=8.9						
YNGY	**Yangiyul**	**2.85**	**269**	*e*S	**Sg**	**19 33 34.0**	**-0.6**
GAR	**Garm**	**2.95**	**221**	⇑*i*P	**Pn**	**19 32 51.8**	**+0.7**
	baz=21						
GAR				⇑*i*S	**Sn**	**19 33 26.0**	**-1.2**
	baz=21						
KST	**Kastek**	**2.95**	**51**	*e*P	**Pg**	**19 32 59.5**	**0.0**
	33nm,0.3s						
KST				*e*S	**Sg**	**19 33 38.7**	**+1.0**
	69nm,0.5s						
KST	**Kastek**	**2.95**	**51**	Pg	**Pg**	**19 32 59.5**	**0.0**
	33nm,0.3s						
KST				Lg	Lg	19 33 38.7	
	69nm,0.5s						
DGS	**Degeres**	**2.97**	**47**	*e*P	**Pg**	**19 32 59.9**	**+0.1**
	9.8nm,0.6s						
DGS				*e*S	**Sg**	**19 33 39.3**	**+1.0**
	32nm,0.7s						
DGS	**Degeres**	**2.97**	**47**	Pg	**Pg**	**19 32 59.9**	**+0.1**
	9.8nm,0.6s						
DGS				Lg	Lg	19 33 39.3	
	32nm,0.7s						
IZV	**Izvestkoviy**	**3.34**	**56**	*e*P	**Pg**	**19 33 06.5**	**-0.5**
	7.0nm,0.2s						
IZV				*e*S	**Sg**	**19 33 51.0**	**+0.6**
	17nm,0.5s						
IZV	**Izvestkoviy**	**3.34**	**56**	Pg	**Pg**	**19 33 06.6**	**-0.5**
	7.0nm,0.2s						
IZV				Lg	Lg	19 33 50.9	
	17nm,0.5s						
KDJ	**Kajisay**	**3.39**	**73**	⇑*i*P	**Pn**	**19 32 59.8**	**+2.6**
	baz=73						
KDJ				⇑*i*S	**Sn**	**19 33 40.3**	**+2.1**
	baz=73						
MDOK	**Medeo**	**3.68**	**57**	*e*P	**Pg**	**19 33 12.2**	**-1.4**
	2.8nm,0.4s						
MDOK				*e*S	**Sg**	**19 34 00.9**	**-0.4**
	11nm,0.6s						
MDOK	**Medeo**	**3.68**	**57**	Pg	**Pg**	**19 33 11.7**	**-1.8**
	3.3nm,0.4s						
MDOK				Lg	Lg	19 34 00.3	
	19nm,1.0s						
MDOK	**Medeo**	**3.68**	**57**	Pg	**Pg**	**19 33 12.2**	**-1.4**
	2.8nm,0.4s						
MDOK				Lg	Lg	19 34 00.9	
	11nm,0.6s						
KUU	**Kurty**	**3.71**	**43**	*e*P	**Pg**	**19 33 12.8**	**-1.3**
	4.7nm,0.3s						
KUU				*e*S	**Sg**	**19 34 00.9**	**-1.3**
	19nm,0.4s						
KUU	**Kurty**	**3.71**	**43**	Pg	**Pg**	**19 33 12.8**	**-1.3**
	4.7nm,0.3s						
KUU				Lg	Lg	19 34 00.9	
	19nm,0.4s						
KTBS	**Karatobe**	**3.78**	**48**	*e*P	**Pg**	**19 33 14.2**	**-1.1**
	3.4nm,0.3s						
KTBS				*e*S	**Sg**	**19 34 03.8**	**-0.5**
	44nm,0.4s						
KTBS	**Karatobe**	**3.78**	**48**	Pg	**Pg**	**19 33 14.2**	**-1.1**
	3.4nm,0.3s						
KTBS				Lg	Lg	19 34 03.8	
	44nm,0.4s						
CHGR	**Chuyangaron**	**3.82**	**229**	⇑*i*P	**Pn**	**19 33 03.7**	**+0.7**
	baz=28						
CHGR				⇑*i*S	**Sn**	**19 33 46.8**	**-1.8**
	baz=28						
BTLS	**Baital**	**3.90**	**13**	*e*P	**Pg**	**19 33 16.0**	**-1.7**
	2.0nm,0.2s						
BTLS				*e*S	**Sg**	**19 34 07.0**	**-1.2**
	7.1nm,0.4s						
BTLS	**Baital**	**3.90**	**13**	Pg	**Pg**	**19 33 16.0**	**-1.7**
	2.0nm,0.2s						
BTLS				Lg	Lg	19 34 07.0	
	7.1nm,0.4s						
CHKK	**Chushkaly**	**4.04**	**48**	*e*P	**Pg**	**19 33 19.1**	**-1.2**
	2.6nm,0.2s						
CHKK				*e*S	**Sg**	**19 34 12.2**	**-0.4**
	22nm,0.4s						
CHKK	**Chushkaly**	**4.04**	**48**	Pg	**Pg**	**19 33 19.1**	**-1.2**
	2.6nm,0.2s						
CHKK				Lg	Lg	19 34 12.2	
	22nm,0.4s						
SATY	**Saty**	**4.54**	**65**	*e*P	**Pg**	**19 33 28.3**	**-1.5**
	1.0nm,0.2s						
SATY				*e*S	**Sg**	**19 34 27.8**	**-0.9**
	9.9nm,0.4s						
SATY	**Saty**	**4.54**	**65**	Pg	**Pg**	**19 33 28.3**	**-1.5**
	1.0nm,0.2s						
SATY				Lg	Lg	19 34 27.8	
	9.9nm,0.4s						
ARXS	**Arharly**	**4.74**	**50**	*e*P	**Pg**	**19 33 32.1**	**-1.6**
	8.6nm,0.5s						
ARXS				*e*S	**Sg**	**19 34 34.9**	**-0.2**
	11nm,0.4s						
ARXS	**Arharly**	**4.74**	**50**	Pg	**Pg**	**19 33 32.1**	**-1.6**
	8.6nm,0.5s						
ARXS				Lg	Lg	19 34 34.9	
	11nm,0.4s						
KPKS	**Kokpek**	**4.88**	**61**	*e*P	**Pg**	**19 33 35.4**	**-1.1**
	4.0nm,0.1s						
KPKS				*e*S	**Sg**	**19 34 40.0**	**+0.2**
	20nm,0.5s						
UZB	**Uzynbulak**	**4.99**	**66**	*e*P	**Pg**	**19 33 36.7**	**-1.8**
	1.5nm,0.2s						
UZB				*e*S	**Sg**	**19 34 42.0**	**-1.2**
	8.4nm,0.4s						
UZB	**Uzynbulak**	**4.99**	**66**	Pg	**Pg**	**19 33 36.7**	**-1.8**
	1.5nm,0.2s						
UZB				Lg	Lg	19 34 42.0	
	8.4nm,0.4s						
SHLS	**Shalkode**	**5.29**	**67**	*e*P	**Pg**	**19 33 48.2**	**+3.8**
	2.2nm,0.4s						
SHLS				*e*S	**Sg**	**19 35 01.8**	**+8.8**
	10nm,0.4s						
SHLS	**Shalkode**	**5.29**	**67**	Pg	**Pg**	**19 33 48.2**	**+3.8**
	2.2nm,0.4s						
SHLS				Lg	Lg	19 35 01.8	
	10nm,0.4s						
PDGK	**Podgornoye**	**5.37**	**65**	Pg	**Pg**	**19 33 43.1**	**-2.8**
	1.0nm,0.5s						
PDGK				Lg	Lg	19 34 53.2	
	4.4nm,0.9s						
DJR	**Jarkent**	**5.99**	**57**	*e*P	**Pg**	**19 33 54.7**	**-2.9**
	0.1nm,0.1s						
DJR				*e*S	**Sg**	**19 35 13.2**	**-2.0**
	0.7nm,0.5s						
DJR	**Jarkent**	**5.99**	**57**	Pg	**Pg**	**19 33 54.7**	**-2.9**
	0.1nm,0.1s						
DJR				Lg	Lg	19 35 13.2	
	0.7nm,0.5s						

KRSC 08 19:51:23.9±1.3, 49.63N×155.02E, h197km±7km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.17**	**31**	*e*S	Sn	19 52 36.3	+1.2
KDTR	**Khodutka, Kamc**	**2.92**	**40**	S	Sn	19 52 49.8	-0.5
APC	**Apacha**	**3.56**	**21**	P	Pn	19 52 21.3	+1.3
RUS	**Russkaya**	**3.57**	**37**	*e*P	Pn	19 52 21.7	+1.6
RUS				*e*S	Sn	19 53 04.9	+0.6
SPN	**Mys Shipunski**	**4.68**	**40**	S	Sn	19 53 29.0	-0.3
MKZ	**Mys Kozlova**	**6.44**	**37**	P	Pn	19 52 58.9	+2.3
MKZ				S	Sn	19 54 09.1	-0.9

TUL 08 20:02:22.9±1.0, 36.67N±0.02×98.48W±0.04, h7km±6km, ML2.7, mb_Lg2.7/20(NEIC), Error ellipse: s-maj=4.3km s-min=2.3km az=115.0
NEIC 08 20:02:23.6±1.2, 36.66N±0.03×98.40W±0.04, h11km±7km, Error ellipse: s-maj=5.0km s-min=4.0km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.21**	**47**		Pg	20 02 28.3	+0.2
CROK	**Carrier**	**0.37**	**115**		Pg	20 02 31.4	+0.4
GC02	**Grant County #**	**0.47**	**66**		Pg	20 02 33.2	+0.3
KAN10	**Anthony SW Sta**	**0.52**	**28**		Pg	20 02 33.7	-0.1
U32A	**Winter Ranch,**	**0.56**	**240**		Pg	20 02 32.8	-1.7
KAN05	**Bluff City Nor**	**0.61**	**43**		Pg	20 02 35.5	0.0
KAN17	**Caldwell West**	**0.64**	**53**		Pg	20 02 35.9	-0.1
KAN08	**Anthony NE Sta**	**0.66**	**31**		Pg	20 02 36.2	-0.2
KAN12	**Harper NE Stat**	**0.71**	**27**		Pg	20 02 37.1	-0.3
KAN09	**Caldwell North**	**0.79**	**53**		Pg	20 02 38.4	-0.4
KAN13	**South Haven SW**	**0.82**	**64**		Pg	20 02 39.1	-0.3
KS20	**Mayfield South**	**0.88**	**50**		Pg	20 02 40.4	-0.3
BLOK	**Blackwell**	**0.96**	**84**		Pg	20 02 41.9	-0.1
OK029	**Liberty Lake**	**1.15**	**138**		Pn	20 02 45.7	0.0
BCOK	**Bluff Creek, N**	**1.19**	**147**		Pb	20 02 45.7	-0.5
OK025	**Westminster Rd**	**1.38**	**141**		Pn	20 02 48.2	-0.6
OK031	**S. Brethren Rd**	**1.44**	**119**		Pb	20 02 50.3	-0.2
QUOK	**Quay**	**1.45**	**109**		Pb	20 02 50.8	+0.1
T35A	**Sooner Cattle**	**1.54**	**80**		Pb	20 02 51.9	-0.2
FNO	**Franklin**	**1.62**	**150**		Pn	20 02 52.0	-0.1
R32A	**Long Quarter,**	**1.78**	**352**	Pn	Pn	20 02 53.5	-0.8
WMOK	**Wichita Mounta**	**1.94**	**189**		Pn	20 02 56.9	+0.3
X34A	**Smith Ranch, M**	**2.11**	**167**		Pb	20 03 00.4	-1.4
X34A				IAmb_Lg		20 03 31.9	
	comp=Z,38nm,0.8s						
CBKS	**Cedar Bluff**	**2.40**	**334**	Pn	Pn	20 03 03.6	+0.8
LOOK	**Love County**	**2.84**	**159**	Pn	Pn	20 03 09.4	+0.5
AMTX	**Amarillo**	**3.20**	**237**		Pb	20 03 20.2	-0.4
AMTX				IAmb_Lg		20 04 09.1	
	comp=Z,15nm,1.0s						
X37A	**Clayton**	**3.22**	**129**	Pn	Pn	20 03 15.5	+1.4
S39A	**Bolivar**	**4.18**	**74**	IAmb_Lg		20 04 40.1	
	comp=Z,15nm,1.1s						
T25A	**Trinidad**	**4.84**	**277**	IAmb_Lg		20 04 59.5	
	comp=Z,17nm,1.0s						
MGMO	**Mountain Grove**	**4.94**	**82**	IAmb_Lg		20 05 02.7	
	comp=Z,9.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.13**	**97**	IAmb_Lg		20 05 16.3	
	comp=Z,7.9nm,0.8s						
OGNE	**Ogallala**	**5.13**	**328**	Pn	Pn	20 03 38.1	-2.4
WHAR	**Wooly Hollow**	**5.14**	**104**	IAmb_Lg		20 05 19.2	
	comp=Z,10nm,1.0s						
L34A	**Svendsen Farm,**	**5.53**	**16**	IAmb_Lg		20 05 25.0	
	comp=Z,14nm,1.0s						
CCM	**Cathedral Cave**	**5.87**	**74**	IAmb_Lg		20 05 34.1	
	comp=Z,11nm,1.0s						

MOS 08 20:04:04.3±2.6, 49.01N×100.80E, h7km, mb4.0/4, Error ellipse: s-maj=9.2km s-min=6.8km az=76.3
BJI 08 20:04:04.1±0.0, 49.18N×100.78E, h10km, mB4.7/2, mb4.1/6, ML4.5/1, Ms4.3/6, Ms7 4.1/4
IDC 08 20:04:05.5±0.7, 48.89N×101.30E, h0km, mb3.8/15, mb1 3.8/19, mb1mx3.7/61, mbtmp3.8/19, ML3.1/4, MS3.3/13, Ms1 3.3/13, ms1mx3.1/53, Error ellipse: s-maj=14.3km s-min=10.5km az=138.0
BYKL 08 20:04:06.3±0.5, 49.09N×100.84E
ISC 08 20:04:06.9±0.5, 49.07N±0.04×100.97E±0.02, h10km, n77, σ2.68/131, mb3.8/15, MS3.2/10, 8C-2D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**1.99**	**48**	⇓*i*Pg	**Pb**	**20 04 42.7**	**-0.6**
ZAK				*e*		20 04 43.3	
ZAK				max		20 04 43.4	
	2μm,0.2s						
ZAK				*e*		20 04 48.0	
ZAK				*e*Sg	**Sb**	**20 05 10.4**	**+2.2**
ZAK				Smax		20 05 10.7	
	5μm,0.3s						
ZAK	**Zakamensk**	**1.99**	**48**	*e*PN	**Pb**	**20 04 42.4**	**-0.9**
ZAK				*e*		20 05 09.9	
ZAK				pmax	pmax		
	comp=Z,2μm,0.3s						
ZAK				smax	smax		
	comp=E,5μm,0.5s						
MOY	**Mondy**	**2.60**	**0**	*e*Pg	**Pb**	**20 04 52.7**	**-0.9**
MOY				Pmax		20 04 53.1	
	comp=E,367nm,0.5s						
MOY				*e*PgPg	**PbPb**	**20 04 57.7**	**+0.9**
MOY				*e*Sg	**Sg**	**20 05 27.0**	**-3.3**
MOY				Smax		20 05 28.8	
	comp=E,7μm,1.0s						
MOY	**Mondy**	**2.60**	**0**	⇑*i*PN	**Pb**	**20 04 52.9**	**-0.7**
MOY				*e*		20 05 27.5	
MOY				pmax	pmax		
	comp=Z,366nm,0.4s						
MOY				smax	smax		
	comp=E,7μm,0.7s						
KNGR	**Kungurtug, Tuv**	**2.71**	**306**	*e*Pn	**Pn**	**20 04 51.0**	**+0.4**
KNGR				⇑*i*Pg	**Pb**	**20 04 54.5**	**-1.0**
KNGR				*e*PgPg	**PbPb**	**20 05 00.4**	**+1.7**
KNGR				*e*Sn	**Sn**	**20 05 21.5**	**-2.0**
KNGR				*e*Sg	**Sg**	**20 05 29.3**	**-4.6**
ARS	**Arshan**	**3.00**	**18**	*e*Pn	**Pn**	**20 04 55.4**	**+0.8**
ARS				*e*Pg	**Pb**	**20 04 59.5**	**-0.9**
ARS				*e*		20 05 12.3	
ARS				max		20 05 13.5	
	comp=E,429nm,0.5s						
ARS				*e*Sg	**Sb**	**20 05 39.4**	**+2.3**
ARS				Smax		20 05 56.9	
	comp=E,2μm,0.8s						
ARS	**Arshan**	**3.00**	**18**	*e*PN	**Pn**	**20 04 55.3**	**+0.7**
ARS				*e*		20 04 59.6	
ARS				*e*		20 05 40.0	
ARS				pmax	pmax		
	comp=Z,421nm,0.5s						
ARS				smax	smax		
	comp=N,2μm,0.8s						
TLY	**Talaya**	**3.12**	**32**	Pn	**Pn**	**20 04 56.9**	**+0.7**
	comp=N,0.4nm,0.3s,baz=212,slow=12,SNR=379						
TLY				Pg	**Pb**	**20 05 02.7**	**+0.1**
	baz=212,slow=15						
TLY				Lg	Lg	20 05 44.5	
	comp=N,2.5nm,0.3s,baz=141,slow=19,SNR=15						
TLY				LR	LR	20 06 25.2	
	comp=N,156nm,20.3s,baz=250,slow=44						
TLY	**Talaya**	**3.12**	**32**	*e*Pn	**Pn**	**20 04 55.7**	**-0.5**
TLY				*e*Pg	**Pb**	**20 05 02.6**	**+0.1**
TLY				Pmax		20 05 03.3	
	comp=N,727nm,0.4s	

comp=Z,178nm,0.5s
ORL smax smax
comp=E,1μm,1.1s
LSTR Listvyanka 3.73 40 *e*Pn **Pn 20 05 04.3 -0.3**
LSTR *e*Pg **Pb 20 05 13.5 +0.6**
LSTR *e* 20 05 22.0
LSTR max 20 05 22.7
comp=E,177nm,0.8s
LSTR *e* 20 05 39.8
LSTR *e*Sn **Sn 20 05 46.8 -1.7**
LSTR *e*Sg **Sg 20 06 03.1 -3.6**
LSTR Smax 20 06 06.4
comp=E,679nm,1.2s
IRK Irkutsk 3.81 32 *e*Pn **Pn 20 05 05.6 0.0**
IRK *e*Pg **Pb 20 05 14.5 +0.3**
IRK Pmax 20 05 15.2
comp=E,739nm,0.3s
IRK *e*Sn **Sn 20 05 49.3 -1.1**
IRK *e*Sg **Sg 20 06 05.2 -3.9**
IRK Smax 20 06 11.7
comp=E,3μm,0.5s
IRK Irkutsk 3.81 32 *e*PN **Pb 20 05 11.9 -2.3**
IRK *e* 20 06 03.8
IRK pmax pmax
comp=Z,742nm,0.3s
IRK smax smax
comp=E,348nm,0.6s
SONM Songino Array 3.82 107 Pn **Pn 20 05 05.6 -0.3**
comp=E,19nm,0.3s,baz=290,slow=15,SNR=494
SONM Pg **Pb 20 05 14.9 +0.5**
comp=E,119nm,0.3s,baz=286,slow=18,SNR=36
SONM Lg Lg 20 06 05.1
comp=E,342nm,0.3s,baz=284,slow=32,SNR=25
BGT Bolshoye Golou 4.11 42 *e*Pn **Pn 20 05 10.3 +0.6**
BGT *e* 20 05 13.0
BGT *e*Pg **Pb 20 05 20.2 +0.9**
BGT Pmax 20 05 21.1
comp=E,497nm,0.4s
BGT *e* 20 05 24.8
BGT *e*Sn **Sn 20 05 58.3 +0.5**
BGT *e*Sg **Sg 20 06 15.0 -3.7**
BGT *e* 20 06 20.7
BGT max 20 06 23.8
comp=E,2μm,0.6s
ULN Ulaanbaatar 4.22 104 *ce*PN **Pn 20 05 10.9 -0.6**
HRMR Khuramsha 4.61 54 *e*Pn **Pn 20 05 16.8 +0.2**
HRMR *e*Pg **Pb 20 05 29.8 +2.0**
HRMR Pmax 20 05 32.9
comp=E,570nm,0.4s
HRMR *e*Sn **Sn 20 06 10.3 +0.1**
HRMR *e*Sg **Sg 20 06 31.2 -3.6**
HRMR Smax 20 06 39.2
comp=E,5μm,0.7s
KAB Kabansk 4.69 48 *e*Pg **Pb 20 05 32.0 +2.8**
KAB *e* 20 05 38.6
KAB max 20 05 39.3
comp=E,561nm,1.0s
KAB *e*Sg **Sg 20 06 33.7 -3.8**
KAB Smax 20 06 48.7
comp=E,4μm,1.0s
KAB *e* 20 06 51.4
FFNB Fofonovo 4.75 49 *e*Pn **Pn 20 05 18.5 0.0**
FFNB *e*Pg **Pb 20 05 32.3 +2.2**
FFNB *e* 20 05 39.0
FFNB *e*Sg **Sg 20 06 36.0 -3.2**
FFNB *e* 20 06 39.7
KZLR Kyzyl 4.93 305 *e*Pn **Pn 20 05 20.6 -0.4**
KZLR *e*Pg **Pb 20 05 33.3 0.0**
KZLR *e*Sn **Sn 20 06 13.7 -4.4**
KZLR *e*Sg **Sg 20 06 37.0 -8.1**
TRG Tyrgan 5.02 41 *e*Pn **Pn 20 05 23.0 +0.7**
TRG *e*Pg **Pb 20 05 36.3 +1.4**
TRG Pmax 20 05 39.9
comp=E,113nm,0.6s
TRG *e* 20 05 41.7
TRG *e*Sn **Sn 20 06 19.8 -0.6**
TRG *e*Sg **Sg 20 06 42.7 -5.3**
TRG Smax 20 06 49.6
comp=E,1μm,0.8s
TRG Tyrgan 5.02 41 *e*PN **Pn 20 05 22.7 +0.4**
TRG *e* 20 05 36.4
TRG *e*S **Sn 20 06 19.7 -0.6**
TRG *e* 20 06 41.5
TRG pmax pmax
comp=Z,113nm,0.6s
TRG smax smax
comp=E,1μm,0.8s
UUDB Ulan-Yde 5.11 54 *e*Pn **Pn 20 05 23.9 +0.4**
UUDB *e* 20 05 37.1
UUDB *e*Pg **Pb 20 05 38.8 +2.5**
UUDB Pmax 20 05 44.7
comp=E,274nm,0.9s
UUDB *e*Sn **Sn 20 06 22.1 -0.4**
UUDB *e*Sg **Sg 20 06 46.2 -4.7**
UUDB *e* 20 06 55.1
UUDB max 20 06 58.0
comp=E,2μm,1.0s
ZRHB Zarechye 5.25 46 *e*Pn **Pn 20 05 26.3 +1.0**
ZRHB *e*Pg **Pb 20 05 41.5 +2.8**
ZRHB *e* 20 05 46.4
ZRHB max 20 05 48.4
comp=E,323nm,0.8s
ZRHB *e*Sn **Sn 20 06 23.5 -2.3**
ZRHB *e*Sg **Sg 20 06 51.1 -4.1**
ZRHB Smax 20 07 06.9
comp=E,4μm,0.9s
KELR Kotokel 5.82 48 *e*Pn **Pn 20 05 33.7 +0.5**
KELR *e* 20 05 35.9
KELR *e* 20 05 50.4
KELR *e*Pg **Pb 20 05 52.0 +3.6**
KELR *e* 20 05 56.3
KELR *e*Sn **Sn 20 06 38.2 -1.7**
KELR *e*Sg **Sg 20 07 07.9 -5.7**
OGRR Ongureny 6.18 40 *e*Pn **Pn 20 05 41.2 +3.1**
OGRR *e* 20 05 45.6
OGRR *e*Pg **Pb 20 05 57.9 +3.4**
OGRR Pmax 20 06 09.0
comp=E,53nm,0.4s
OGRR *e*Sg **Sg 20 07 18.6 -6.5**
OGRR Smax 20 07 27.5
comp=E,566nm,0.9s
OGRR Ongureny 6.18 40 *e*PG **Pb 20 05 58.8 +4.3**
OGRR *e* 20 07 19.5
OGRR pmax pmax
comp=Z,54nm,0.3s
OGRR smax smax
comp=E,599nm,0.9s
MXMB Maximikha 6.44 46 *e*Pn **Pn 20 05 42.5 +0.7**
MXMB *e*Pg **Pb 20 06 03.2 +4.2**
MXMB *e* 20 06 09.3
MXMB *e*Sn **Sn 20 06 53.9 -1.4**
MXMB *e*Sg **Sg 20 07 28.0 -5.6**
SYVR Suvo 7.28 47 *e*Pn **Pn 20 05 53.9 +0.7**
SYVR *e*Pg **Pb 20 06 17.5 +4.2**
SYVR *e* 20 06 24.3
SYVR max 20 06 25.0
comp=E,56nm,0.7s
SYVR *e*Sg **Sg 20 07 53.6 -6.8**
SYVR *e* 20 08 06.8
SYVR *e* 20 08 23.4
SYVR max 20 08 25.1
comp=E,332nm,1.2s
SYVR Suvo 7.28 47 *e*PN **Pn 20 05 54.0 +0.7**
SYVR *e* 20 06 16.7
SYVR *e* 20 07 55.6
SYVR pmax pmax
comp=Z,78nm,1.0s
SYVR smax smax
comp=N,346nm,1.3s
KPC Khapcheranga 7.48 81 *e* **Pn 20 05 54.0 -2.0**
KPC *e*Pg Pb 20 06 21.6 +4.9
KPC *e* 20 06 26.7
KPC max 20 06 29.3
comp=N,25nm,0.6s
KPC *e*Sn **Sn 20 07 19.9 -0.9**
KPC *e*Sg Sg 20 07 59.5 -7.2
KPC Smax 20 08 07.8
comp=N,722nm,1.2s
KPC Khapcheranga 7.48 81 *e*PN **Pn 20 05 54.0 -2.0**
KPC *e* 20 06 19.3
KPC *e* 20 08 00.1
KPC pmax pmax
comp=Z,25nm,0.7s
KPC smax smax
comp=N,720nm,1.5s
NIZ Nizh Angarsk 8.51 35 *e*Pn **Pn 20 06 12.6 +2.5**
NIZ Pmax 20 06 21.5
comp=N,263nm,0.3s
NIZ *e* 20 06 34.3
NIZ *e*Pg Pg 20 06 40.0 -10
NIZ *e*Sn **Sn 20 07 42.0 -4.1**
NIZ *e*Sg Sg 20 08 30.8 -9.0
NIZ Smax 20 08 40.7
comp=N,437nm,1.1s
CIT Chita 8.54 65 *e*Pg Pg 20 06 41.5 -8.8
CIT Pmax 20 06 47.2
comp=N,58nm,0.6s
CIT *e*Sn **Sn 20 07 45.7 -1.3**
CIT *e*Sg Sg 20 08 32.3 -8.5
CIT Smax 20 08 49.1
comp=N,649nm,0.9s
CIT Chita 8.54 65 *e*PN **Pn 20 06 09.1 -1.5**
CIT *e* 20 06 39.1
CIT *e*S **Sn 20 07 45.3 -1.7**
CIT *e* 20 08 31.9
CIT pmax pmax
comp=Z,77nm,1.1s
CIT smax smax
comp=N,754nm,1.6s
DGZ Jazzator, Alta 8.86 279↑ *e*PN **Pn 20 06 13.3 -1.7**
DGZ pmax pmax
comp=Z,1.0nm,0.3s
KMO Kumora 9.24 39 *e*Pn **Pn 20 06 21.8 +1.7**
KMO *e*Pg 20 06 53.8
KMO Pmax 20 07 10.8
comp=Z,24nm,0.8s
KMO *e*Sn **Sn 20 08 00.1 -4.0**
KMO *e*Sg 20 08 53.6
KMO Smax 20 09 14.9
comp=Z,404nm,1.3s
KMO *e* 20 09 22.1
YOA Uoyan 9.63 39 *e*Sg Sn 20 09 06.0 +52
YOA Smax 20 09 23.9
comp=Z,1μm,1.5s
YOA *e* 20 09 50.1
ZALV Zalesovo Beam 11.18 302 Pn **Pn 20 06 49.1 +2.5**
comp=Z,0.1nm,0.3s,baz=102,slow=11,SNR=1.5
ZALV Pg 20 07 27.6
comp=Z,0.2nm,0.3s,baz=110,slow=14,SNR=6.9
ZALV Lg Lg 20 09 47.1
comp=Z,0.4nm,0.3s,baz=109,slow=22,SNR=4.9
ZALV LR LR 20 11 13.8
comp=Z,118nm,18.7s,baz=128,slow=37
MK31 Makanchi Array 12.73 267 *i* P **Pn 20 07 05.5 -2.4**
MKAR Makanchi Array 12.73 267 Pn **Pn 20 07 06.6 -1.3**
comp=Z,0.0nm,0.3s,baz=84,slow=14,SNR=2.9
MKAR Pg 20 08 01.6
comp=Z,0.1nm,0.3s,baz=76,slow=18,SNR=3.2
MKAR Lg Lg 20 10 38.5
comp=Z,0.2nm,0.3s,baz=82,slow=34,SNR=4.7
MKAR LR LR 20 11 59.1
comp=Z,117nm,18.3s,baz=80,slow=37
KURK Kurchatov 14.49 285 P **Pn 20 07 33.1 +1.2**
KURBB Kurchatov Arra 14.55 285 Pn **Pn 20 07 33.1 +0.4**
comp=Z,0.0nm,0.3s,baz=88,slow=13,SNR=5.1
KURBB Lg Lg 20 11 37.6
comp=Z,0.1nm,0.3s,baz=78,slow=30,SNR=7.1
ZEA Zeya 17.00 64 *e*P P 20 08 15.5 +9.0
ZEA *e*S **S 20 11 25.3 +1.8**
ZEA smax smax
comp=E,10.0nm,0.8s
ZEA MLR MLR
comp=E,300nm,6.0s
ZEA MLR MLR
comp=Z,300nm,9.0s
AAK Ala-Archa 19.47 261 Lg Lg 20 14 11.8
comp=Z,0.6nm,0.3s,baz=280,slow=17,SNR=1.5
AAK LR LR 20 16 05.7
comp=Z,92nm,18.2s,baz=71,slow=37
AAK Ala-Archa 19.47 261↑ *e*P **P 20 08 30.5 -3.4**
AAK pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 19.55 293 P **P 20 08 32.5 -2.0**
comp=Z,0.2nm,0.3s,baz=46,slow=12,SNR=6.7
BRVK Borovoye 19.61 293↓ *e*P **P 20 08 33.1 -2.0**
KLR Kul'dur 20.07 78 P **P 20 08 37.1 -3.1**
comp=Z,0.1nm,0.3s,baz=288,slow=23,SNR=2.1
KLR Lg Lg 20 14 29.1
comp=Z,0.0nm,0.3s,baz=298,slow=14,SNR=3.6
KLR Kul'dur 20.07 78↑ *e*P **P 20 08 37.7 -2.5**
KLR pmax pmax
comp=Z,1.0nm,0.9s
YAK Yakutsk 20.56 40 P **P 20 08 43.8 -1.6**
comp=Z,2.3nm,0.3s,baz=221,slow=1.6,SNR=1.1
YAK Lg Lg 20 14 38.9
comp=Z,1.5nm,0.4s,baz=288,slow=20,SNR=1.1
YAK Yakutsk 20.56 40 *e*P Pn 20 08 48.3 +0.7
YAK *e* 20 09 07.3
YAK *e*S Sn 20 12 40.1 +0.9
YAK *e**SS pS 20 12 56.5 +12
YAK *e*SS SnSn 20 13 25.2 +32
YAK pmax pmax
comp=Z,7.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,120nm,4.9s
YAK pmax pmax
comp=N,107nm,4.9s
YAK pmax pmax
comp=E,89nm,5.3s
YAK smax smax
comp=N,52nm,3.8s
YAK smax smax
comp=E,54nm,3.8s
YAK MLR MLR
comp=Z,44nm,15.0s
NRIK Noril'sk 21.36 347 Lg Lg 20 15 05.0
comp=Z,1.8nm,0.4s,baz=242,slow=20,SNR=1.2
NRIK Noril'sk 21.36 347↑ *e*P **P 20 08 51.9 -2.0**
NRIK pmax pmax
comp=Z,5.0nm,1.1s
KSRS Korea Array 22.68 111 P **P 20 09 06.7 -1.7**
comp=Z,3.4nm,0.9s,baz=311,slow=9.7,SNR=12
KSRS LR LR 20 18 46.5
comp=Z,139nm,20.5s,baz=236,slow=39
SVE Sverdlovsk 25.19 303 *e*P **P 20 09 31.9 -0.4**
TIXI Tiksi 26.02 20 P **P 20 09 40.2 +0.6**
comp=Z,0.5nm,0.5s,baz=155,slow=8.4,SNR=1.6
TIXI Lg Lg 20 17 26.6
comp=Z,0.6nm,0.4s,baz=300,slow=14,SNR=1.3
ARU Arti 26.34 302 P **P 20 09 44.6 +1.9**
comp=Z,0.8nm,0.5s,baz=127,slow=7.5,SNR=6.5
ARU LR LR 20 21 04.6
comp=Z,103nm,19.8s,baz=94,slow=38
ARU Arti 26.34 302 *c i*P **P 20 09 43.7 +1.0**
ARU 20 10 21.2
ARU S **S 20 14 21.8 +6.4**
ARU SS **SnSn 20 15 23.0 +7.8**
ARU pmax pmax
comp=Z,8.0nm,1.4s
AKTO Aktyubinsk 27.50 289 P **P 20 09 55.1 +1.9**
comp=Z,1.0nm,0.6s,baz=86,slow=14,SNR=4.6
AKTO LR LR 20 21 05.9
comp=Z,68nm,19.4s,baz=75,slow=37
MJAR Matsushiro Arr 29.75 101 LR LR 20 22 20.6
comp=Z,55nm,19.0s,baz=235,slow=37
MA2 Magadan 30.17 51 LR LR 20 22 49.2
comp=Z,64nm,22.0s,baz=282,slow=37
CMAR Chiang Mai Arr 30.58 184 P **P 20 10 20.4 -0.4**
comp=Z,0.4nm,0.4s,baz=348,slow=8.6,SNR=1.4
KIRV Kirov 31.14 308 LR LR 20 23 59.6
comp=Z,57nm,18.4s,baz=69,slow=38
GEYT Alibeck 32.61 266 LR LR 20 25 09.7
comp=Z,50nm,18.0s,baz=195,slow=38
ARCES ARCESS Array B 40.25 328 P **P 20 11 46.6 +3.2**
comp=Z,5.5nm,1.1s,baz=74,slow=10,SNR=3.5
ARCES LR LR 20 29 50.6
comp=Z,31nm,19.3s,baz=15,slow=38
FINES FINESS Array B 42.01 316 P **P 20 12 01.4 +3.5**
comp=Z,1.6nm,0.6s,baz=85,slow=6.3,SNR=10
AKASG Malin Array Be 44.57 301 P **P 20 12 21.8 +3.2**
comp=Z,0.7nm,0.4s,baz=56,slow=8.9,SNR=6.6
NOA NORSAR Array B 48.74 320 P **P 20 12 53.6 +2.3**
comp=Z,0.2nm,0.5s,baz=57,slow=5.8,SNR=3.9
NOA LR LR 20 37 05.8
comp=Z,21nm,18.2s,baz=60,slow=40
GERES GERESS Array B 54.11 305 P P 20 13 35.6 +3.8
comp=Z,0.3nm,0.7s,baz=24,slow=5.4,SNR=2.2
ESDC Sonseca Array 69.62 307 P **P 20 15 18.6 +2.4**
comp=Z,1.1nm,0.9s,baz=55,slow=6.6,SNR=6.5
WRA Warramunga Arr 74.86 148 P **P 20 15 45.7 -1.8**
comp=Z,0.5nm,0.9s,baz=328,slow=3.3,SNR=2.5
ASAR Alice Springs 78.15 149 P **P 20 16 03.8 -2.3**
comp=Z,0.4nm,0.8s,baz=354,slow=6.6,SNR=2.6
TORD Torodi Ar. Bea 86.16 286 P **P 20 16 49.5 +1.1**
comp=Z,0.4nm,0.7s,baz=50,slow=4.1,SNR=2.1

MOS ***08*** *20:23:03.4±1.1, 44°.42N×148°.12E, h67km, mb4.2/4, Error ellipse: s-maj=9.5km s-min=8.0km az=139.7*
NIED ***08*** *20:23:03.3, 44°.03N×147°.98E, h0km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.52; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-0.24; $M_{r\theta}$0.54; $M_{\theta\phi}$-0.26; $M_{\phi r}$0.67; Fault plane solution: $M_0$1.01000×10^{15} NP1:ϕ_s40.00000°, δ75.00000°, λ86.00000°. NP2:ϕ_s234.00000°, δ16.00000°, λ104.00000°.*
JMA ***08*** *20:23:03.3±0.3, 44°.03N×147°.98E, h0km, M4.9*
SKHL ***08*** *20:23:04.2±0.2, 44°.40N×148°.20E, h72km±4km, mb4.8/10*
NEIC ***08*** *20:23:06.8±1.5, 44°.48N±0°.10×148°.0E±0°.1, h73km±8km, mb4.2/15, Error ellipse: s-maj=15.5km s-min=13.5km az=129.0*
IDC ***08*** *20:23:07.7±2.6, 44°.54N×148°.04E, h84km±23km, mb3.4/18, mb1 3.6/21, mb1mx3.6/44, mbtmp3.8/21, MS3.1/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=18.4km s-min=14.8km az=143.0*

ISC 08 20:23:03.7±1.1, 44°.35N±0°.05×148°.18E±0°.07, h53km±9km, n112, σ1$37/124, mb3.9/31, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**346**	*d* PN	**Pn**	**20 23 20.0**	**-0.3**
KUR				*e*S	**Sn**	**20 23 31.9**	**-0.6**
KUR				pmax	pmax		
	comp=N,430nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				smax	smax		
	comp=E,6μm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=N,10μm,1.2s						
KUR				smax	smax		
	comp=E,7μm,1.5s						
KUR	**Kuril'sk**	**0.91**	**346**	*i* P	**Pn**	**20 23 20.0**	**-0.3**
KUR				AMB	AMB	20 23 20.0	
	comp=E,430nm,0.4s						
KUR				AMB	AMB	20 23 20.0	
	comp=E,2μm,0.4s						
KUR				*i* S	**Sn**	**20 23 31.9**	**-0.6**
KUR				A	A	20 23 32.6	
	comp=E,2μm,0.4s						
KUR				A	A	20 23 32.6	
	comp=E,6μm,0.4s						
KUR				A	A	20 23 36.0	
	comp=E,10μm,1.5s						
KUR				A	A	20 23 36.0	
	comp=E,7μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**260**	*e*PN	**Pn**	**20 23 31.9**	**+1.0**
YUK				S	**Sn**	**20 23 51.8**	**+0.3**
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**260**	*i* P	**Pn**	**20 23 31.7**	**+0.8**
YUK				AMB	AMB	20 23 33.0	
	comp=N,2μm,0.5s						
YUK				*i* S	**Sn**	**20 23 51.7**	**+0.3**
YUK				A	A	20 23 56.0	
	comp=N,3μm,0.3s						
YUK				A	A	20 23 56.0	
	comp=N,2μm,0.3s						
GRPR	**Tuman**	**1.77**	**259**	*e*PN	**Pn**	**20 23 32.4**	**+0.5**
GRPR				*e*S	**Sn**	**20 23 52.9**	**-0.4**
GRPR				pmax	pmax		
	comp=E,325nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,949nm,0.3s						
GRPR				pmax	pmax		
	comp=N,453nm,0.1s						
GRPR				smax	smax		
	comp=N,3μm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.2s						
GRPR	**Tuman**	**1.77**	**259**	*e*P	**Pn**	**20 23 32.4**	**+0.5**
GRPR				AMB	AMB	20 23 35.0	
	comp=E,330nm,0.3s						
GRPR				AMB	AMB	20 23 35.0	
	comp=E,950nm,0.3s						
GRPR				AMB	AMB	20 23 35.0	
	comp=E,450nm,0.1s						
GRPR				*e*S	**Sn**	**20 23 52.9**	**-0.4**
GRPR				A	A	20 23 55.0	
	comp=E,3μm,0.3s						
GRPR				A	A	20 23 55.0	
	comp=E,1μm,0.3s						
GLVR	**Golovnino**	**2.02**	**253**	*e*PN	**Pn**	**20 23 36.1**	**+0.9**
GLVR				*e*S	**Sn**	**20 24 00.2**	**+1.0**
GLVR				pmax	pmax		
	comp=Z,491nm,0.1s						
GLVR				smax	smax		
	comp=E,2μm,0.2s						
GLVR				smax	smax		
	comp=N,5μm,0.3s						
GLVR	**Golovnino**	**2.02**	**253**	*e*P	**Pn**	**20 23 36.1**	**+0.9**
GLVR				AMB	AMB	20 23 38.9	
	comp=N,490nm,0.2s						
GLVR				*e*S	**Sn**	**20 24 00.2**	**+1.0**
GLVR				A	A	20 24 04.4	
	comp=N,5μm,0.4s						
GLVR				A	A	20 24 04.4	
	comp=N,2μm,0.4s						
NEM2	**Nemuro 2**	**2.02**	**242**	P	**Pn**	**20 23 35.2**	**-0.1**
NEM2				*e*S	**Sn**	**20 23 58.3**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.03**	**242**	↓*i* PN	**Pn**	**20 23 35.2**	**-0.2**
NMR				S	**Sn**	**20 23 58.3**	**-1.2**
NMR	**Nemuro--Hokkai**	**2.03**	**242**	*i* P	**Pn**	**20 23 35.2**	**-0.2**
NMR				*e*S	**Sn**	**20 23 58.3**	**-1.2**
RUSJ	**Misakicho**	**2.12**	**264**	*e*PN	**Pn**	**20 23 37.8**	**+1.1**
RUSJ				*e*S	**Sn**	**20 24 04.6**	**+2.7**
JRA	**Rausu**	**2.24**	**261**	P	**Pn**	**20 23 39.9**	**+1.6**
JRA				*e*S	**Sn**	**20 24 06.8**	**+2.0**
JNSB	**Nemuroshibetsu**	**2.36**	**257**	P	**Pn**	**20 23 41.4**	**+1.5**
JNSB				*e*S	**Sn**	**20 24 10.2**	**+2.5**
JKHN	**Kushirohamanak**	**2.53**	**241**	P	**Pn**	**20 23 42.7**	**+0.4**
JKHN				*e*S	**Sn**	**20 24 10.8**	**-1.1**
JNK	**Nakash**	**2.62**	**254**	P	**Pn**	**20 23 44.7**	**+1.3**
JNK				*e*S	**Sn**	**20 24 14.5**	**+0.5**
AKK	**Akkeshi**	**2.77**	**242**	*e*P	**Pn**	**20 23 46.0**	**+0.5**
AKK				*e*S	**Sn**	**20 24 16.9**	**-0.7**
JAK	**Akkeshi**	**2.87**	**243**	P	**Pn**	**20 23 47.3**	**+0.4**
JAK				*e*S	**Sn**	**20 24 20.0**	**-0.1**
JTKR	**Abashiri--Toko**	**3.10**	**264**	P	**Pn**	**20 23 51.6**	**+1.6**
JAR	**Ashorobuto**	**3.36**	**253**	P	**Pn**	**20 23 55.6**	**+1.9**
JAR				*e*S	**Sn**	**20 24 34.6**	**+2.3**
JOB	**Onbets**	**3.47**	**247**	P	**Pn**	**20 23 56.4**	**+1.2**
JOB				*e*S	**Sn**	**20 24 35.4**	**+0.4**
JMP	**Maruseppu**	**3.49**	**266**	P	**Pn**	**20 23 57.2**	**+1.8**
JCH	**Churui**	**3.91**	**245**	P	**Pn**	**20 24 02.0**	**+0.8**
JKK2	**Kamakawa 2**	**3.94**	**265**	P	**Pn**	**20 24 04.3**	**+2.7**
JKA	**Kamikawa-asahi**	**4.02**	**269**		**Pn**	**20 24 03.8**	**+1.1**
JKA	**Kamikawa-asahi**	**4.02**	**269**		Sn	20 24 58.0	+9.5
JKA	**Kamikawa-asahi**	**4.02**	**269**	*e*P	**Pn**	**20 24 03.8**	**+1.1**
ASAJ	**Asahikawa**	**4.02**	**269**	P	**Pn**	**20 24 05.2**	**+2.5**
ASAJ				S	Sn	20 24 58.0	+9.4
	comp=N,4.4nm,0.3s,baz=72,slow=13,SNR=25						
ASAJ				LR	LR	20 25 54.3	
	comp=N,153nm,18.7s,baz=45,slow=42						
ASAJ	**Asahikawa**	**4.02**	**269**	PN	**Pn**	**20 24 03.8**	**+1.1**
JSE	**Soyaes**	**4.04**	**281**	P	**Pn**	**20 24 04.7**	**+1.8**
JFR	**Furan**	**4.22**	**256**	P	**Pn**	**20 24 08.4**	**+3.0**
ERM	**Erimo**	**4.35**	**239**	*d* PN	**Pn**	**20 24 10.1**	**+2.9**
ERM				pmax	pmax		
	comp=Z,47nm,0.3s						
ERM	**Erimo**	**4.35**	**239**		**Pn**	**20 24 10.1**	**+2.9**
JNBK	**Urakawa-nobuka**	**4.47**	**244**	P	**Pn**	**20 24 09.5**	**+0.7**

JWK2	Keihoku	4.58	284	P	Pn	20 24 13.4	+3.1
YSS	Yuzh-Sakhalins	4.61	306	*e*PN	Pn	20 24 11.9	+1.1
YSS				*e*S	Sn	20 25 05.8	+2.8
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
YSS	Yuzh-Sakhalins	4.61	306		Pn	20 24 11.7	+1.0
YSS	Yuzh-Sakhalins	4.61	306	*e*P	Pn	20 24 11.5	+0.7
YSS				AMB	AMB	20 24 12.4	
	comp=N,40nm,0.7s						
YSS				*e*S	Sn	20 25 01.4	-1.6
YSS				A	A	20 25 08.5	
	comp=N,20nm,0.8s						
JEW	Eniwo	5.12	255	P	Pn	20 24 22.0	+4.3
JEW	Eniwo	5.12	255	Pn	Pn	20 24 20.5	+2.8
JRBN	Rebuntou	5.17	284	P	Pn	20 24 20.5	+2.1
JKB	Kayabe	5.78	247	P	Pn	20 24 28.4	+1.6
JKB				*e*S	Sn	20 25 31.7	-0.1
JTM	Tenmabayashi	6.34	238	Pn	Pn	20 24 35.5	+1.0
TYV	Tymovskoe	7.51	332	*e*PN	Pn	20 25 00.2	+10
TYV				pmax	pmax		
	comp=Z,11nm,0.8s						
TYV				pmax	pmax		
	comp=Z,200nm,3.8s						
TYV	Tymovskoe	7.51	332	*e*P	Pn	20 24 51.4	+1.0
TYV				AMB	AMB	20 24 54.5	
	comp=Z,20nm,0.7s						
JMM	Marumori	8.54	223	Pn	Pn	20 25 03.2	-1.4
JSD	Sado	9.78	233	Pn	Pn	20 25 20.4	-1.1
PETK	Petropavlovsk-	10.78	32	P	Pn	20 25 36.0	+0.9
	comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=1.9						
PETK	Petropavlovsk-	10.78	32	PN	Pn	20 25 36.0	+0.9
MAJO	Matsushiro	10.88	228⇑	*e*PN	Pn	20 25 38.0	+1.3
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MJAR	Matsushiro Arr	10.88	228	P	Pn	20 25 36.9	+0.2
	comp=Z,0.1nm,0.3s,baz=327,slow=31,SNR=3.2						
KLR	Kul'dur	12.27	299	P	Pn	20 25 58.5	+2.9
	comp=Z,0.1nm,0.3s,baz=95,slow=15,SNR=5.4						
KLR				LR	LR	20 31 01.0	
	comp=Z,101nm,18.4s,baz=190,slow=39						
EKMR	Ekimchan	13.29	316	*e*P	Pn	20 26 07.5	-2.0
EKMR				AMB	AMB	20 26 14.0	
	comp=Z,10.0nm,0.8s						
BMKR	Bomnak	16.23	317	*e*P	Pn	20 26 45.1	-2.8
BMKR				AMB	AMB	20 26 54.1	
	comp=Z,10.0nm,0.7s						
KSRS	Korea Array	16.77	253	P	Pn	20 26 53.5	-1.3
	comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=2.2						
KSRS				LR	LR	20 32 28.3	
	comp=Z,43nm,20.7s,baz=155,slow=33						
KROS	Kirovskiy	17.04	314	*e*P	Pn	20 26 54.7	-3.3
SONM	Songino Array	28.93	292	P	P	20 28 58.5	+0.7
	comp=Z,0.3nm,0.3s,baz=94,slow=8.2,SNR=3.7						
H11N2	WAKE ISLAND Hy	29.09	142	T	T	20 59 50.2	
	baz=332,slow=76,SNR=110						
H11N1	WAKE ISLAND Hy	29.10	142	T	T	20 59 51.3	
	baz=332,slow=76,SNR=72						
H11N3	WAKE ISLAND Hy	29.10	142	T	T	20 59 49.5	
	baz=332,slow=76,SNR=66						
H11S1	WAKE ISLAND Hy	30.08	143	T	T	21 01 05.0	
	baz=333,slow=76,SNR=74						
H11S3	WAKE ISLAND Hy	30.08	143	T	T	21 01 05.4	
	baz=333,slow=76,SNR=67						
H11S2	WAKE ISLAND Hy	30.09	143	T	T	21 01 02.8	
	baz=333,slow=76,SNR=66						
KDAK	Kodiak Island	38.29	48	P	P	20 30 19.1	+0.5
KDAK				pmax	pmax		
	comp=Z,37nm,1.7s						
KDAK	Kodiak Island	38.29	48	P	P	20 30 19.1	+0.5
ILAR	Eielson Array	40.56	37	P	P	20 30 38.1	+0.6
	comp=Z,0.5nm,0.6s,baz=276,slow=8.3,SNR=4.8						
ZALV	Zalesovo Beam	41.23	307	P	P	20 30 42.9	-0.3
	comp=Z,0.4nm,0.5s,baz=87,slow=7.9,SNR=2.0						
ZALV				PcP	PcP	20 32 41.2	+0.1
	comp=Z,1.4nm,0.4s,baz=63,slow=4.7,SNR=6.3						
DOT	Dot Lake	41.87	38	P	P	20 30 48.5	+0.2
DOT				IAmb	IAmb	20 31 34.9	
	comp=Z,5.7nm,1.4s						
SCRK	Sand Creek	41.87	38	P	P	20 30 48.6	+0.2
SCRK				IAmb	IAmb	20 30 58.1	
	comp=Z,3.0nm,1.2s						
K27K	Chicken	42.70	38	P	P	20 30 56.1	+1.1
K27K				IAmb	IAmb	20 30 57.5	
	comp=Z,5.2nm,1.2s						
L27K	Beaver Creek,	42.95	39	P	P	20 30 58.3	+1.3
L27K				IAmb	IAmb	20 30 59.4	
	comp=Z,3.2nm,0.7s						
BCAR	Beaver Creek A	42.96	39	P	P	20 30 58.5	+1.3
EGAK	Eagle	43.01	36	P	P	20 30 58.5	+1.1
EGAK				IAmb	IAmb	20 31 38.4	
	comp=Z,11nm,1.9s						
MK31	Makanchi Array	44.97	297	P	P	20 31 13.5	+0.1
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK31	Makanchi Array	44.97	297	P	P	20 31 13.5	+0.1
MKAR	Makanchi Array	44.97	297	P	P	20 31 13.3	-0.1
	comp=Z,1.1nm,0.6s,baz=79,slow=8.9,SNR=14						
MKAR				PcP	PcP	20 32 54.0	+0.2
	comp=Z,0.8nm,0.7s,baz=69,slow=4.0,SNR=7.2						
MKAR				LR	LR	20 51 02.4	
	comp=Z,52nm,18.7s,baz=104,slow=37						
MKAR	Makanchi Array	44.97	297	P	P	20 31 13.9	+0.5
MAKZ	Makanchi	45.16	298	P	P	20 31 15.2	+0.2
MAKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MAKZ	Makanchi	45.16	298	P	P	20 31 15.2	+0.2
MAKZ				IAmb	IAmb	20 31 16.6	
	comp=Z,1.4nm,0.7s						
HYT	Haines Junctio	45.39	42	P	P	20 31 17.3	+0.7
HYT				IAmb	IAmb	20 31 20.0	
	comp=Z,4.1nm,0.9s						
CMAR	Chiang Mai Arr	48.41	254	P	P	20 31 41.8	+1.2
	comp=Z,0.6nm,0.6s,baz=49,slow=6.5,SNR=5.4						
CMAR	Chiang Mai Arr	48.41	254	*e*P	P	20 31 42.0	+1.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	48.41	254	P	P	20 31 40.7	+0.1
BRVK	Borovoye	49.75	309⇓	*e*P	P	20 31 47.7	-2.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KKAR	Karatay Array	54.09	298	P	P	20 32 23.1	+0.2
KKAR	Karatay Array	54.09	298	P	P	20 32 23.1	+0.2
YKA	Yellowknife Ar	54.89	34	P	P	20 32 29.0	+0.6
	comp=Z,1.2nm,0.6s,baz=334,slow=12,SNR=2.2						
YKA	Yellowknife Ar	54.89	34	P	P	20 32 29.0	+0.6
ABKAR	Akbulak array	57.27	309	P	P	20 32 45.3	-0.3
ABKAR	Akbulak array	57.27	309	P	P	20 32 45.2	-0.3
ABKAR				IAmb	IAmb	20 34 38.7	
	comp=Z,8.0nm,1.9s						
NIL	Nilore	57.33	287	P	P	20 32 45.6	-0.7
NIL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NIL	Nilore	57.33	287	P	P	20 32 45.6	-0.7
ARCES	ARCESS Array B	58.94	340	P	P	20 32 55.5	-1.4
	comp=Z,4.1nm,1.1s,baz=53,slow=9.4,SNR=9.1						
FINES	FINESS Array B	64.68	333	P	P	20 33 33.3	-2.3
	comp=Z,1.4nm,0.6s,baz=33,slow=7.3,SNR=7.5						
FINES	FINESS Array B	64.68	333	*i* P	P	20 33 34.2	-1.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	65.22	194	P	P	20 33 40.3	+0.7
	comp=Z,0.5nm,0.8s,baz=10,slow=6.9,SNR=1.9						
NVAR	Mina Array Bea	66.63	59	P	P	20 33 50.0	+1.1
	comp=Z,0.4nm,0.6s,baz=315,slow=8.3,SNR=3.5						
ASAR	Alice Springs	68.94	194	P	P	20 34 04.2	+1.1
	comp=Z,0.4nm,0.6s,baz=12,slow=6.3,SNR=6.0						
PDAR	Pinedale Array	68.95	50	P	P	20 34 04.3	+0.9
	comp=Z,0.2nm,0.4s,baz=264,slow=2.6,SNR=3.8						
NOA	NORSAR Array B	69.31	339	P	P	20 34 04.2	-0.8
	comp=Z,0.7nm,0.5s,baz=32,slow=6.6,SNR=5.0						
KIV	Kislovodsk	69.92	312	*e*P	P	20 34 09.1	0.0
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV	Kislovodsk	69.92	312	*e*P	P	20 34 09.1	0.0
AKASG	Malin Array Be	71.53	324	P	P	20 34 17.5	-1.2
	comp=Z,0.5nm,0.3s,baz=94,slow=8.8,SNR=2.2						
AKASG	Malin Array Be	71.53	324	IAmb	IAmb	20 35 32.4	
	comp=Z,5.3nm,1.9s						
STKA	Stephens Creek	76.10	186	P	P	20 34 47.0	+1.6
	comp=Z,1.2nm,0.8s,baz=339,slow=8.6,SNR=1.4						
BRTR	Keskin Array B	77.67	314	P	P	20 34 53.1	-1.6
	comp=Z,0.7nm,0.5s,baz=308,slow=7.1,SNR=2.3						
GERES	GERESS Array B	79.00	331	P	P	20 35 00.7	-1.1
	comp=Z,0.2nm,0.4s,baz=34,slow=5.5,SNR=2.6						
TXAR	Lajitas Array	81.70	57	P	P	20 35 17.4	+0.8
	comp=Z,0.4nm,0.6s,baz=294,slow=4.1,SNR=7.7						
TORD	Torodi Ar. Bea	115.17	324	PKP	PKPdf	20 41 38.4	-1.0
	comp=Z,0.2nm,0.4s,baz=11,slow=3.0,SNR=1.3						
H03N2	Juan Fernandez	142.22	90	T	T	23 21 07.7	
	baz=304,slow=77,SNR=5.7						
H03N3	Juan Fernandez	142.23	90	T	T	23 21 02.2	
	baz=304,slow=77,SNR=5.9						
H03N1	Juan Fernandez	142.23	90	T	T	23 21 08.1	
	baz=304,slow=77,SNR=5.8						

SOME ***08*** *20:35:47.7, 39.°35N×73.°00E, h0km*
KRNET ***08*** *20:35:49.5±0.1, 39.°08N×73.°23E, h6km, mb3.1*
NNC ***08*** *20:35:54.9±5.8, 39.°37N×73.°63E, h0km, mb3.9, mpv3.4,*
Error ellipse: s-maj=42.3km s-min=25.0km az=170.0

ISC 08 20:35:54.5±1.6, 39.°40N±0.°08×73.°07E±0.°04, h10km, n23, σ2.°22/37, 16C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	0.70	29	⇑*i*P	Pg	20 36 07.7	-0.4
	baz=13						
SFK				⇑*i*S	Sn	20 36 21.2	-0.5
	baz=13						
DRK	Karamyk	0.98	275	⇑*i*P	Pg	20 36 11.5	-2.0
	baz=91						
DRK				⇑*i*S	Sn	20 36 28.1	-0.8
	baz=91						
OHH	Osh	1.15	349	⇑*i*P	Pn	20 36 17.7	+1.0
	baz=47						
OHH				⇑*i*S	Sn	20 36 37.4	+4.9
	baz=47						
BTK	Batken	1.86	292	⇓*i*P	Pb	20 36 27.8	-0.8
	baz=99						
BTK				⇓*i*S	Sg	20 36 55.4	+1.2
	baz=99						
TRKS	Terek-Say	2.59	326	⇑*i*P	Pn	20 36 38.1	+1.5
	baz=27						
TRKS				⇑*i*S	Sb	20 37 13.4	+0.4
	baz=27						
ARLS	Aral	2.64	21	⇑*i*P	Pn	20 36 38.5	+1.2
	baz=17						
ARLS				⇑*i*S	Sb	20 37 14.4	-0.1
	baz=17						
MNAS	Manas	3.12	352	⇑*i*P	Pn	20 36 46.8	+3.0
	baz=51						
MNAS				⇑*e*S	Sb	20 37 28.6	+0.4
	baz=51						
MRKS	Merke	3.35	2	*e*P	Pb	20 36 51.2	-2.7
	6.1nm,0.4s						
MRKS				*e*S	Sg	20 37 37.5	-4.4
	12nm,0.0s						
MRKS	Merke	3.35	2	Pg	Pb	20 36 51.3	-2.7
	6.1nm,0.4s						
MRKS				Lg	Lg	20 37 37.5	
	12nm,0.0s						
AAK	Ala-Archa	3.41	18	⇑Pg	Pb	20 36 54.9	-0.3
	8.3nm,0.6s						
AAK				⇑Lg	Lg	20 37 40.6	
	12nm,0.6s						
TKM2	Tokmak 2	4.00	28	⇓Pg	Pb	20 37 06.5	+1.2
	5.2nm,0.9s						
TKM2				⇑Lg	Lg	20 37 59.6	
	6.7nm,0.8s						
KK31	Karatay Array	4.17	333	Pn	Pn	20 37 01.3	+3.0
	1.9nm,0.3s,baz=137,slow=12,SNR=38						
KK31				⇑Sn	Sb	20 37 58.3	-0.2
	7.8nm,0.6s,baz=138,slow=23,SNR=7.0						
SGDS	Sogindy	4.22	16	Pg	Pb	20 37 09.4	+0.6
	2.0nm,0.8s						
SGDS				Lg	Lg	20 38 08.5	
	6.7nm,0.4s						
KST	Kastek	4.25	30	*e*P	Pb	20 37 10.3	+1.0
	2.6nm,0.2s						
KST				*e*S	Sg	20 38 10.1	-0.7
	8.1nm,0.3s						
KST	Kastek	4.25	30	Pg	Pb	20 37 10.3	+1.0
	2.6nm,0.2s						
KST				Lg	Lg	20 38 10.1	
	8.1nm,0.3s						
MDOK	Medeo	4.81	37	*e*P	Pb	20 37 20.4	+1.4
	4.0nm,0.4s						
MDOK				*e*S	Sg	20 38 27.4	-1.6
	7.1nm,0.0s						
MDOK	Medeo	4.81	37	Pg	Pb	20 37 19.4	+0.4
	8.3nm,1.0s						
MDOK				Lg	Lg	20 38 20.6	
	14nm,1.1s						
MDOK	Medeo	4.81	37	Pg	Pb	20 37 20.4	+1.4
	4.0nm,0.4s						
MDOK				Lg	Lg	20 38 27.4	
	7.1nm,0.0s						
KUU	Kurty	5.12	28	*e*P	Pb	20 37 26.3	+2.2
	1.6nm,0.5s						
KUU				*e*S	Sg	20 38 37.6	-1.1
	8.6nm,0.5s						
KUU	Kurty	5.12	28	Pg	Pb	20 37 26.3	+2.2
	1.6nm,0.5s						
KUU				Lg	Lg	20 38 37.6	
	8.6nm,0.5s						
UZB	Uzynbulak	5.84	48	*e*P	Pb	20 37 36.9	+0.3
	1.3nm,0.2s						
UZB				*e*S	Sg	20 38 55.6	-6.4
	3.8nm,0.6s						
UZB	Uzynbulak	5.84	48	Pg	Pb	20 37 36.9	+0.3
	1.3nm,0.2s						
UZB				Lg	Lg	20 38 55.6	
	3.8nm,0.6s						
KPKS	Kokpek	5.86	44	*e*P	Pb	20 37 38.8	+2.0
	4.5nm,0.2s						
KPKS				*e*S	Sg	20 38 59.1	-3.5
	7.9nm,0.4s						

MEX 08 21:05:17.8±0.4, 14.°76N×92.°79W, h70km, MD3.5, Near coast of Chiapas

IDC 08 21:09:01.4±4.8, 17.°06S×177.°01W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, Error ellipse: s-maj=378.5km s-min=37.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.10	259	P	P	21 17 27.7	0.0
	0.3nm,0.7s,baz=94,slow=6.9,SNR=1.7						
ASAR	Alice Springs	46.30	253	P	P	21 17 29.1	-0.2
	0.5nm,0.5s,baz=87,slow=8.7,SNR=9.6						
PDAR	Pinedale Array	85.83	43	P	P	21 21 43.2	0.0
	0.2nm,0.6s,baz=240,slow=4.9,SNR=2.0						

JMA ***08*** *21:09:45.0, 24.°46N×122.°43E, h25km±2km, M2.0*
TAP ***08*** *21:09:45.1, 24.°54N×122.°35E, h5km±1km, ML2.6, D*

ISC 08 21:09:44.7±0.9, 24.°51N±0.°02×122.°43E±0.°02, h17km±8km, n63, σ0.°56/117, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.47	97	P	Pg	21 09 54.4	+0.2
JYNG				*e*S	Sg	21 10 01.0	+0.4
YOJ	Yonaguni jima	0.53	95	P	Pg	21 09 55.4	+0.1
YOJ				*e*S	Sg	21 10 03.1	+0.7
TWC	Suao	0.54	281	*i* P	Pg	21 09 54.6	-0.8
	baz=278						
TWC				*i* S	Sb	21 10 02.6	-0.5
	baz=278						
EGS		0.56	306	*e*P	Pg	21 09 55.8	-0.1
	baz=308						
EGS				*e*S	Sg	21 10 03.3	-0.1
	baz=308						
EWUT	Wuta	0.60	264	P	Pb	21 09 56.5	-0.1
	baz=259						
EWUT				S	Sb	21 10 05.3	+0.4
	baz=259						
ENA	Nanau	0.63	263	*e*P	Pb	21 09 57.2	-0.1
	baz=257						
ENA				*e*S	Sb	21 10 06.5	+0.6
	baz=257						
TWB1	Santiao Chiao	0.64	321	*i* P	Pg	21 09 57.4	+0.1
	baz=325						
TWB1				*i* S	Sg	21 10 05.3	-0.5
	baz=325						
NTC	Toucheng	0.65	302	*e*P	Pg	21 09 57.2	-0.2
	baz=303						
NTC				*e*S	Sb	21 10 06.5	+0.3
	baz=303						
EHP	Heping Village	0.66	253	*e*P	Pb	21 09 57.9	+0.1
	baz=246						
NDS	Dongshan	0.66	281	*e*P	Pg	21 09 57.1	-0.6
	baz=278						
NDS				S	Sb	21 10 06.8	+0.1
	baz=278						
ILA	Ilan	0.67	292	S	Sb	21 10 07.6	+0.6
	baz=292						
TIPB	Shuangxi	0.72	310	*i* P	Pb	21 09 59.5	+0.7
	baz=311						
TIPB				*i* S	Sb	21 10 09.1	+0.8
	baz=311						
TWE	Neicheng	0.72	287	*i* P	Pg	21 09 58.2	-0.7
	baz=285						
TWE				*i* S	Sb	21 10 09.0	+0.5
	baz=285						
ENTT	Nioudou	0.80	279	P	Pb	21 10 00.0	-0.1
	baz=277						
ENTT				S	Sb	21 10 11.1	+0.5
	baz=277						
NWF	Wu-fen Shan	0.81	314	P	Pb	21 10 00.9	+0.5
	baz=315						
NWF				*e*S	Sb	21 10 11.8	+0.7
	baz=315						
WFSB	Wu-fen Shan	0.81	314	P	Pb	21 10 01.0	+0.7
	baz=315						
WFSB				*e*S	Sb	21 10 12.0	+0.9
	baz=315						
ETL	Fush Village	0.81	245	P	Pn	21 10 01.6	+0.2
	baz=239						
ETL				*e*S	Sn	21 10 12.1	-1.0
	baz=239						
NACB	Ninganchiao	0.83	246	P	Pg	21 10 00.5	-0.4
	baz=241						
NACB				S	Sn	21 10 12.7	-0.8
	baz=241						
NDT	Datong Townshi	0.84	276	P	Pn	21 10 01.3	-0.4
	baz=274						
NDT				S	Sb	21 10 12.4	+0.6
	baz=274						
TNOU	National Taiwa	0.87	317	P	Pb	21 10 01.4	0.0
	baz=318						
TNOU				S	Sb	21 10 12.3	-0.5
	baz=318						
TWD	Chiawan	0.87	241	*e*P	Pb	21 10 01.0	-0.3
	baz=235						
TWD				S	Sn	21 10 14.1	-0.4
	baz=235						
NWLT	Wulai	0.89	288	*e*P	Pn	21 10 02.3	-0.1
	baz=286						
NWLT				*e*S	Sn	21 10 14.2	-0.6
	baz=286						
TWA	Mucha	0.90	301	*e*S	Sg	21 10 13.5	-0.5
	baz=302						
ETLH	Xiulin Townshi	0.92	251	P	Pn	21 10 03.5	+0.6
	baz=247						
ETLH				*e*S	Sn	21 10 15.1	-0.6
	baz=247						
HWA	Hwalien	0.92	235	*e*P	Pn	21 10 03.1	+0.3
	baz=229						
NHDH	Xindian Distri	0.94	299	*e*P	Pg	21 10 03.0	+0.1
	baz=299						
NHDH				S	Sg	21 10 15.3	+0.1
	baz=299						
NNSB	Datong	0.96	265	P	Pb	21 10 02.8	-0.1
	baz=262						
NNSB				S	Sn	21 10 16.2	-0.6
	baz=262						
NNSH	Datong	0.96	265	*e*P	Pb	21 10 02.8	-0.1
	baz=262						
NNSH				*e*S	Sn	21 10 16.5	-0.2
	baz=262						
NNS	Nan Shan	0.97	266	P	Pg	21 10 03.3	-0.1
	baz=263						
NNS				S	Sn	21 10 16.2	-0.8
	baz=263						
YHNB	Yeheng	0.97	280	P	Pg	21 10 03.5	-0.1
	baz=278						
YHNB				S	Sn	21 10 16.7	-0.4
	baz=278						
NSK	Sanguang	0.99	280	*i* P	Pg	21 10 03.5	-0.4
	baz=278						
NSK				*i* S	Sg	21 10 16.5	-0.4
	baz=278						
TAP	Taipei	0.99	302	*e*P	Pb	21 10 03.3	-0.1
	baz=302						
TAP				*e*S	Sg	21 10 16.5	-0.4
	baz=302						
TEYL	Yanliau Villag	0.99	230	*e*P	Pn	21 10 04.4	+0.6
	baz=227						
TEYL				*e*S	Sn	21 10 18.1	+0.6
	baz=227						
YM01	YM01	1.01	309	*e*P	Pb	21 10 03.7	0.0
	baz=310						
YM01				*e*S	Sg	21 10 17.1	-0.4
	baz=310						
ETM	Tongmen	1.01	238	*e*P	Pn	21 10 05.3	+1.2
	baz=233						
ETM				*e*S	Sn	21 10 18.7	+0.7
	baz=233						
YM08	YM08	1.02	312	*e*P	Pb	21 10 03.5	-0.4
	baz=312						
YM08				S	Sg	21 10 17.6	-0.2
	baz=312						
BACT	New Taipei Cit	1.02	299	*e*S	Sn	21 10 18.1	0.0
	baz=298						
ANP	Anpu	1.07	309	P	Pb	21 10 04.4	-0.4
	baz=310						
ANP				S	Sg	21 10 19.2	-0.2
	baz=310						
TWY	Chenhua	1.07	315	*e*P	Pb	21 10 04.7	0.0
	baz=317						
TWY				*e*S	Sn	21 10 19.5	+0.1
	baz=317						
TWS1	Kuangyinshan	1.09	303	P	Pn	21 10 05.4	+0.2
	baz=303						
TWS1				*e*S	Sn	21 10 19.9	0.0
	baz=303						
NTST	Danshui	1.10	306	*e*S	Sn	21 10 20.2	0.0
	baz=307						
FUSS	Fushou	1.11	257	P	Pg	21 10 06.7	+0.4
	baz=253						
FUSS				S	Sn	21 10 21.7	+0.9
	baz=253						
WHF	Hehuan Shan	1.12	251	*e*P	Pg	21 10 06.8	+0.3
	baz=247						
WHF				*e*S	Sn	21 10 21.3	0.0
	baz=247						
ESL	Shilin	1.15	233	*e*P	Pg	21 10 07.0	+0.2
	baz=228						
ESL				*e*S	Sn	21 10 22.7	+1.5
	baz=228						
PCYT	Pengchaiyu	1.16	344	*e*P	Pg	21 10 07.2	+0.1
	baz=347						
PCYT				*e*S	Sg	21 10 22.5	+0.2
	baz=347						
IRIF	Iriomote-Funau	1.20	98	P	Pn	21 10 06.0	-0.6
IRIF				*e*S	Sb	21 10 21.8	-0.3
CHGB	Renai	1.23	249	P	Pg	21 10 08.1	-0.4
	baz=245						
CHGB				*e*S	Sg	21 10 25.5	+0.9
	baz=245						
EGFH	Guangfu	1.24	228	*e*P	Pg	21 10 08.4	-0.2
	baz=224						
EGFH				*e*S	Sg	21 10 26.8	+1.9
	baz=224						
OWD	Renai	1.27	244	*e*P	Pg	21 10 09.1	-0.1
	baz=241						
OWD				*e*S	Sg	21 10 26.6	+0.7
	baz=241						
LIOB	Emei	1.29	276	*e*P	Pb	21 10 08.8	+0.2
	baz=274						
LIOB				*e*S	Sg	21 10 26.1	-0.5
	baz=274						
NSTT	Nanjuang	1.31	276	*e*P	Pb	21 10 08.8	0.0
	baz=273						
NSTT				S	Sg	21 10 27.3	+0.3
	baz=273						
HGSD	Ruisui	1.37	222	*e*P	Pb	21 10 10.2	+0.4
	baz=218						
HGSD				*e*S	Sg	21 10 29.1	+0.1
	baz=218						
WHP	Taichung City	1.37	261	*e*P	Pg	21 10 10.6	-0.6
	baz=258						
WHP				*

EHY	**Hungye**	**1.42 226**	*eP*	**Pg**	**21 10 11.4**	**-0.7**
	baz=222					
EHY			*eS*	**Sg**	**21 10 29.4**	**-1.3**
	baz=222					
WCS	**Beigang Elemen**	**1.46 252**	*eS*	**Sg**	**21 10 31.3**	**-0.4**
	baz=249					
JKRS	**Kuro-shima**	**1.47 100**	P	**Pn**	**21 10 10.5**	**+0.2**
JKRS			*eS*	**Sn**	**21 10 28.2**	**-0.9**
YULB	**Yu-li**	**1.52 223**	*eP*	**Pb**	**21 10 12.7**	**+0.2**
	baz=220					
YULB			*eS*	**Sg**	**21 10 33.1**	**-0.7**
	baz=220					
SSLB	**Suanglung**	**1.53 242**	*eP*	**Pg**	**21 10 13.7**	**-0.4**
	baz=239					
SSLB			*eS*	**Sg**	**21 10 33.1**	**-0.9**
	baz=239					
EYUL	**Yuli**	**1.54 222**	*eP*	**Pb**	**21 10 12.7**	**-0.1**
	baz=218					
TYC	**Yuchr**	**1.56 248**	*eP*	**Pb**	**21 10 13.4**	**+0.3**
	baz=244					
JIJ	**Ishigaki jima**	**1.57 95**	P	**Pn**	**21 10 11.5**	**-0.2**
JIJ			S	**Sn**	**21 10 30.7**	**-1.0**
FULB	**Fuli**	**1.67 219**	*eP*	**Pb**	**21 10 14.9**	**0.0**
	baz=215					
FULB			*eS*	**Sg**	**21 10 37.0**	**-1.6**
	baz=215					
ALS	**Alishan**	**1.79 237**	*eP*	**Pb**	**21 10 17.2**	**+0.1**
	baz=233					
ALS			*eS*	**Sb**	**21 10 39.8**	**+0.3**
	baz=233					

IDC 08 21:19:06.2±1.6, 15°.74S×174°.62W, h252km±45km, mb3.4/4, mb1 3.7/5, mb1mx3.3/34, mbtmp4.0/5, Error ellipse: s-maj=175.5km s-min=27.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.30**	**57**	P	Pn	21 20 03.1	+0.9
	6.8nm,0.3s,baz=105,slow=23,SNR=6.9						
AFI				S	S	21 20 46.4	-0.1
	6.6nm,0.3s,baz=268,slow=22,SNR=1.7						
STKA	**Stephens Creek**	**42.85**	**240**	P	P	21 26 39.5	-0.5
	1.3nm,0.9s,baz=72,slow=9.6,SNR=4.3						
WRA	**Warramunga Arr**	**48.62**	**257**	P	P	21 27 24.9	-0.3
	1.1nm,0.6s,baz=91,slow=8.3,SNR=5.5						
ASAR	**Alice Springs**	**48.89**	**252**	P	P	21 27 27.3	+0.1
	9.6nm,0.6s,baz=87,slow=8.1,SNR=143						
ILAR	**Eielson Array**	**83.00**	**12**	P	P	21 31 02.9	0.0
	0.2nm,0.5s,baz=200,slow=5.1,SNR=4.0						

*INET **08** 21:27:40.3, 12°.32N×86°.89W, h179km, MW3.1*
IDC 08 21:27:27.0±12.0, 11°.97N×86°.50W, h0km, mb3.1/1, mb1 3.6/1, mb1mx3.3/27, mbtmp3.1/1, Error ellipse: s-maj=955.4km s-min=76.8km az=60.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.54**	**320**	P	P	21 32 39.1	0.0
	0.1nm,0.5s,baz=135,slow=10,SNR=4.2						
ASAR	**Alice Springs**	**139.96**	**247**	PKP	PKPdf	21 46 57.6	-0.6
	0.4nm,0.7s,baz=64,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**140.03**	**253**	PKP	PKPdf	21 46 58.0	-0.4
	0.5nm,0.8s,baz=91,slow=2.5,SNR=5.3						

NNC 08 21:29:33.3±2.7, 38°.03N×78°.72E, h0km, mb3.9, mpv3.6, 6C-2D, Error ellipse: s-maj=21.0km s-min=16.3km az=31.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.03**	**357**	Pg	Pg	21 31 08.2	-1.5
	2.7nm,0.2s						
SATY				Lg	Lg	21 32 16.0	
	11nm,0.3s						
IZV	**Izvestkoviy**	**5.25**	**343**	Pg	Pg	21 31 10.3	-3.6
	4.7nm,0.3s						
IZV				Lg	Lg	21 32 19.3	
	9.0nm,0.5s						
MDOK	**Medeo**	**5.28**	**347**	Pg	Pb	21 31 06.7	+0.1
	4.1nm,0.5s						
MDOK				Lg	Lg	21 32 21.7	
	13nm,0.9s						
MDOK	**Medeo**	**5.28**	**347**	Pg	Pg	21 31 11.6	-3.0
	5.5nm,0.4s						
MDOK				Lg	Lg	21 32 21.8	
	15nm,0.5s						
PDGK	**Podgornoye**	**5.33**	**6**	Pg	Pg	21 31 12.0	-3.4
	1.1nm,0.0s						
PDGK				Lg	Lg	21 32 22.2	
	3.0nm,0.7s						
PDGK	**Podgornoye**	**5.33**	**6**	⇓Pn	Pn	21 30 53.6	-0.6
	1.3nm,0.5s						
PDGK				⇑Pg	Pb	21 31 09.8	+2.5
	1.7nm,0.5s						
PDGK				⇑Lg	Lg	21 32 21.3	
	7.2nm,0.8s						
KST	**Kastek**	**5.43**	**338**	Pg	Pb	21 31 12.8	+3.6
	3.3nm,0.5s						
KST				Lg	Lg	21 32 23.7	
	5.5nm,0.8s						
TKM2	**Tokmak 2**	**5.44**	**335**	⇓Pg	Pb	21 31 10.9	+1.6
	5.0nm,1.1s						
TKM2				⇑Lg	Lg	21 32 24.6	
	4.4nm,0.6s						
AAK	**Ala-Archa**	**5.62**	**326**	⇑Pg	Pb	21 31 15.8	+3.4
	2.9nm,0.6s						
AAK				⇑Lg	Lg	21 32 29.7	
	8.4nm,0.8s						
DGS	**Degeres**	**5.67**	**338**	Pg	Pg	21 31 19.6	-2.3
	2.6nm,0.7s						
DGS				Lg	Lg	21 32 35.6	
	5.4nm,0.5s						
KTBS	**Karatobe**	**5.88**	**345**	Pg	Pg	21 31 22.0	-4.0
	2.2nm,0.5s						
KTBS				Lg	Lg	21 32 39.5	
	8.8nm,0.5s						
MRKS	**Merke**	**6.31**	**320**	Pg	Pg	21 31 29.4	-4.7
	1.3nm,0.2s						
MRKS				Lg	Lg	21 32 52.3	
	3.6nm,0.4s						
MK31	**Makanchi Array**	**9.14**	**16**	Pn	Pn	21 31 45.5	-1.0
	0.3nm,0.4s,baz=200,slow=12,SNR=11						
MK31				⇑Sn	Sn	21 33 31.6	+1.5
	0.8nm,0.6s,baz=194,slow=25,SNR=5.5						

*KRSC **08** 21:40:44.0±0.6, 55°.77N×161°.16E, h132km±5km, ML4.1*
*MOS **08** 21:40:43.9±0.7, 55°.87N×160°.98E, h140km, mb4.0/8, Error ellipse: s-maj=12.0km s-min=4.6km az=77.3*
*NEIC **08** 21:40:46.0±1.9, 55°.84N±0°.10×160°.9E±0°.2, h139km±9km, mb4.1/20, Error ellipse: s-maj=14.6km s-min=11.9km az=146.0*
*IDC **08** 21:40:45.3±0.8, 55°.79N×160°.86E, h137km±7km, mb3.4/15, mb1 3.6/18, mb1mx3.4/48, mbtmp3.8/18, MS3.1/2, Ms1 3.1/2, ms1mx2.7/33, Error ellipse: s-maj=16.4km s-min=13.0km az=159.0*
ISC 08 21:40:45.2±0.5, 55°.79N±0°.03×161°.10E±0°.03, h134km±4km, n150, σ0°.97/199, mb3.9/23, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.27**	**303**	PN	**Pn**	**21 41 03.5**	**-0.4**
BZGR				S	**Sn**	**21 41 18.2**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.27**	**303**	*eP*	**Pn**	**21 41 03.5**	**-0.4**
BZGR				*eS*	**Sn**	**21 41 18.2**	**+0.2**
ZLN	**Zelenaya**	**0.28**	**324**	PN	**Pn**	**21 41 03.9**	**0.0**
ZLN	**Zelenaya**	**0.28**	**324**	*eP*	**Pn**	**21 41 03.9**	**0.0**
LGNR	**Loginova**	**0.37**	**322**	PN	**Pn**	**21 41 04.3**	**-0.2**
LGNR				S	**Sn**	**21 41 18.8**	**-0.2**
LGNR	**Loginova**	**0.37**	**322**	*eP*	**Pn**	**21 41 04.3**	**-0.2**
LGNR				*eS*	**Sn**	**21 41 18.8**	**-0.2**
BZMR	**Bezymyannaya**	**0.37**	**293**	PN	**Pn**	**21 41 03.8**	**-0.5**
BZMR				S	**Sn**	**21 41 18.7**	**0.0**
BZMR	**Bezymyannaya**	**0.37**	**293**	*eP*	**Pn**	**21 41 03.8**	**-0.5**
BZMR				*eS*	**Sn**	**21 41 18.7**	**0.0**
CIRR	**Tsirk**	**0.38**	**329**	PN	**Pn**	**21 41 04.2**	**-0.1**
CIRR				S	**Sn**	**21 41 18.5**	**-0.3**
CIRR	**Tsirk**	**0.38**	**329**	*eP*	**Pn**	**21 41 04.2**	**-0.1**
CIRR				*eS*	**Sn**	**21 41 18.5**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.38**	**297**	PN	**Pn**	**21 41 03.8**	**-0.5**
BZWR				S	**Sn**	**21 41 18.7**	**-0.1**
BZWR	**Bezymyannyi-We**	**0.38**	**297**	*eP*	**Pn**	**21 41 03.8**	**-0.5**
BZWR				*eS*	**Sn**	**21 41 18.7**	**-0.1**
KIRR	**Kirishev**	**0.46**	**291**	PN	**Pn**	**21 41 04.1**	**-0.6**
KIRR				S	**Sn**	**21 41 18.4**	**-1.0**
KIRR	**Kirishev**	**0.46**	**291**	*eP*	**Pn**	**21 41 04.1**	**-0.6**
KIRR				*eS*	**Sn**	**21 41 18.4**	**-1.0**
KMNR	**Kamenistaya**	**0.49**	**266**	PN	**Pn**	**21 41 04.4**	**-0.4**
KMNR				S	**Sn**	**21 41 19.8**	**+0.2**
KMNR	**Kamenistaya**	**0.49**	**266**	*eP*	**Pn**	**21 41 04.4**	**-0.4**
KMNR				*eS*	**Sn**	**21 41 19.8**	**+0.2**
KPT	**Kopyto**	**0.52**	**290**	PN	**Pn**	**21 41 04.4**	**-0.6**
KPT				S	**Sn**	**21 41 19.6**	**-0.3**
KPT	**Kopyto**	**0.52**	**290**	*eP*	**Pn**	**21 41 04.4**	**-0.6**
KPT				*eS*	**Sn**	**21 41 19.6**	**-0.3**
KLY	**Klyuchi**	**0.58**	**335**	PN	**Pn**	**21 41 04.4**	**-0.7**
KLY				S	**Sn**	**21 41 19.6**	**-0.7**
KLY	**Klyuchi**	**0.58**	**335**	*eP*	**Pn**	**21 41 04.4**	**-0.7**
KLY				*eS*	**Sn**	**21 41 19.6**	**-0.7**
TUMD	**Tumrok D**	**0.71**	**214**	*eP*	**Pn**	**21 41 05.7**	**-0.4**
TUMD				*eS*	**Sn**	**21 41 21.3**	**-0.6**
KOZ	**Kozyrevsk**	**0.74**	**292**	PN	**Pn**	**21 41 05.8**	**-0.5**
KOZ				S	**Sn**	**21 41 21.6**	**-0.7**
KOZ	**Kozyrevsk**	**0.74**	**292**	*eP*	**Pn**	**21 41 05.8**	**-0.5**
KOZ				*eS*	**Sn**	**21 41 21.6**	**-0.7**
TUMR	**Tumrok**	**0.74**	**227**	PN	**Pn**	**21 41 05.7**	**-0.8**
TUMR				S	**Sn**	**21 41 21.3**	**-1.2**
TUMR	**Tumrok**	**0.74**	**227**	*eP*	**Pn**	**21 41 06.6**	**+0.1**
TUMR				*eS*	**Sn**	**21 41 22.5**	**0.0**
BDR	**Baidarnaya**	**0.78**	**4**	PN	**Pn**	**21 41 06.6**	**-0.1**
BDR				S	**Sn**	**21 41 22.7**	**-0.3**
BDR	**Baidarnaya**	**0.78**	**4**	*eP*	**Pn**	**21 41 06.6**	**-0.1**
BDR				*eS*	**Sn**	**21 41 22.7**	**-0.3**
SMKR	**Semkarok**	**0.82**	**14**	PN	**Pn**	**21 41 06.9**	**-0.1**
SMKR				S	**Sn**	**21 41 23.0**	**-0.5**
SMKR	**Semkarok**	**0.82**	**14**	*eP*	**Pn**	**21 41 06.9**	**-0.1**
SMKR				*eS*	**Sn**	**21 41 23.0**	**-0.5**
KZV	**Kizimen**	**0.82**	**214**	PN	**Pn**	**21 41 07.2**	**+0.1**
KZV				S	**Sn**	**21 41 23.0**	**-0.7**
KZV	**Kizimen**	**0.82**	**214**	*eP*	**Pn**	**21 41 07.2**	**+0.1**
KZV				*eS*	**Sn**	**21 41 23.0**	**-0.7**
SRKR	**Sorokina**	**0.86**	**3**	PN	**Pn**	**21 41 07.3**	**0.0**
SRKR				S	**Sn**	**21 41 23.8**	**-0.4**
SRKR	**Sorokina**	**0.86**	**3**	*eP*	**Pn**	**21 41 07.3**	**0.0**
SRKR				*eS*	**Sn**	**21 41 23.8**	**-0.4**
SRDR	**Sredinnyy**	**0.94**	**305**	PN	**Pn**	**21 41 07.5**	**-0.4**
SRDR				S	**Sn**	**21 41 24.4**	**-0.8**
SRDR	**Sredinnyy**	**0.94**	**305**	*eP*	**Pn**	**21 41 07.5**	**-0.4**
SRDR				*eS*	**Sn**	**21 41 24.4**	**-0.8**
KBG	**Krutoberegovo**	**1.01**	**62**	PN	**Pn**	**21 41 08.3**	**-0.2**
KBG				S	**Sn**	**21 41 26.4**	**+0.1**
KBG	**Krutoberegovo**	**1.01**	**62**	*eP*	**Pn**	**21 41 08.3**	**-0.2**
KBG				*eS*	**Sn**	**21 41 26.4**	**+0.1**
KBTR	**Krutoberegovo**	**1.05**	**66**	PN	**Pn**	**21 41 08.6**	**-0.3**
KBTR				S	**Sn**	**21 41 26.5**	**-0.4**
KBTR	**Krutoberegovo**	**1.05**	**66**	*eP*	**Pn**	**21 41 08.6**	**-0.3**
KBTR				*eS*	**Sn**	**21 41 26.5**	**-0.4**
MKZ	**Mys Kozlova**	**1.29**	**163**	PN	**Pn**	**21 41 10.8**	**-0.5**
MKZ				S	**Sn**	**21 41 30.3**	**-0.8**
MKZ	**Mys Kozlova**	**1.29**	**163**	*eP*	**Pn**	**21 41 10.8**	**-0.5**
MKZ				*eS*	**Sn**	**21 41 30.3**	**-0.8**
ESO	**Esso**	**1.36**	**277**	PN	**Pn**	**21 41 13.2**	**+1.2**
ESO				S	**Sn**	**21 41 34.2**	**+1.7**
ESO	**Esso**	**1.36**	**277**	*eP*	**Pn**	**21 41 13.2**	**+1.2**
ESO				*eS*	**Sn**	**21 41 34.2**	**+1.7**
KII	**Karymskiy**	**2.00**	**209**	PN	**Pn**	**21 41 19.7**	**+0.2**
KII	**Karymskiy**	**2.00**	**209**	*eP*	**Pn**	**21 41 19.7**	**+0.2**
SPN	**Mys Shipunski**	**2.77**	**194**	PN	**Pn**	**21 41 27.4**	**-1.6**
SPN				S	**Sn**	**21 42 00.4**	**-2.3**
SPN	**Mys Shipunski**	**2.77**	**194**	*eP*	**Pn**	**21 41 27.4**	**-1.6**
SPN				*eS*	**Sn**	**21 42 00.4**	**-2.3**
GNL	**Ganaly**	**2.79**	**222**	PN	**Pn**	**21 41 29.6**	**+0.3**
GNL	**Ganaly**	**2.79**	**222**	*eP*	**Pn**	**21 41 29.6**	**+0.3**
NLC	**Nalytchevo**	**2.82**	**202**	PN	**Pn**	**21 41 29.6**	**0.0**
NLC	**Nalytchevo**	**2.82**	**202**	*eP*	**Pn**	**21 41 29.6**	**0.0**
KRX	**Arik**	**2.82**	**211**	PN	**Pn**	**21 41 30.8**	**+1.0**
KRX	**Arik**	**2.82**	**211**	*eP*	**Pn**	**21 41 30.8**	**+1.0**
SDLR	**Sedlovina**	**2.83**	**208**	PN	**Pn**	**21 41 30.5**	**+0.6**
SDLR	**Sedlovina**	**2.83**	**208**	*eP*	**Pn**	**21 41 30.5**	**+0.6**
BKI	**Bering**	**2.83**	**100**	PN	**Pn**	**21 41 30.2**	**+0.5**
BKI				S	**Sn**	**21 42 02.8**	**-1.3**
BKI	**Bering**	**2.83**	**100**	*eP*	**Pn**	**21 41 30.2**	**+0.5**
BKI				*eS*	**Sn**	**21 42 02.8**	**-1.3**
KRER	**Koryakskii**	**2.84**	**210**	PN	**Pn**	**21 41 31.2**	**+1.1**
KRER	**Koryakskii**	**2.84**	**210**	*eP*	**Pn**	**21 41 31.2**	**+1.1**
SMAR	**Somma**	**2.87**	**209**	PN	**Pn**	**21 41 31.0**	**+0.6**
SMAR	**Somma**	**2.87**	**209**	*eP*	**Pn**	**21 41 31.0**	**+0.6**
AVH	**Avacha**	**2.88**	**209**	PN	**Pn**	**21 41 31.5**	**+1.0**
AVH	**Avacha**	**2.88**	**209**	*eP*	**Pn**	**21 41 31.5**	**+1.0**
KOK	**Koryaka**	**2.89**	**211**	PN	**Pn**	**21 41 31.7**	**+1.1**
KOK	**Koryaka**	**2.89**	**211**	*eP*	**Pn**	**21 41 31.7**	**+1.1**
UGLR	**Uglovaya**	**2.91**	**208**	PN	**Pn**	**21 41 31.5**	**+0.6**
UGLR	**Uglovaya**	**2.91**	**208**	*eP*	**Pn**	**21 41 31.5**	**+0.6**
DALK	**Dalny**	**3.09**	**207**	PN	**Pn**	**21 41 32.7**	**-0.3**
DALK	**Dalny**	**3.09**	**207**	*eP*	**Pn**	**21 41 32.7**	**-0.3**
PET	**Petropavlovsk**	**3.12**	**208**	⇓*i*PN	**Pn**	**21 41 34.2**	**+0.8**
PET				*eS*	**Sn**	**21 42 14.0**	**+3.3**
PET				pmax	pmax		
	comp=Z,309nm,1.2s						
PET				smax	smax		
	comp=E,120nm,1.1s						
PET				smax	smax		
	comp=N,93nm,0.6s						
PET	**Petropavlovsk**	**3.12**	**208**	*eP*	**Pn**	**21 41 34.2**	**+0.8**
PET	**Petropavlovsk**	**3.12**	**208**		**Pn**	**21 41 34.3**	**+0.8**
PET				Sn	**Sn**	**21 42 12.4**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.34**	**218**	PN	**Pn**	**21 41 36.7**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.34**	**218**		**Pn**	**21 41 36.7**	**+0.3**
PETK	**Petropavlovsk-**	**3.34**	**218**	P	**Pn**	**21 41 36.0**	**-0.4**
	comp=N,4.4nm,0.3s,baz=61,slow=15,SNR=45						
PETK	**Petropavlovsk-**	**3.34**	**218**	PN	**Pn**	**21 41 36.0**	**-0.4**
PALN	**Palana**	**3.36**	**350**	PN	**Pn**	**21 41 36.7**	**+0.2**
PALN	**Palana**	**3.36**	**350**	*eP*	**Pn**	**21 41 36.7**	**+0.2**
KRMR	**Karymshinskiy**	**3.44**	**212**	PN	**Pn**	**21 41 38.4**	**+0.8**
KRMR	**Karymshinskiy**	**3.44**	**212**	*eP*	**Pn**	**21 41 38.4**	**+0.8**
OSSR	**Ossora**	**3.62**	**16**	PN	**Pn**	**21 41 40.3**	**+0.3**
OSSR	**Ossora**	**3.62**	**16**	*eP*	**Pn**	**21 41 40.3**	**+0.3**
APC	**Apacha**	**3.68**	**220**	PN	**Pn**	**21 41 41.9**	**+1.1**
APC	**Apacha**	**3.68**	**220**	*eP*	**Pn**	**21 41 41.9**	**+1.1**
RUS	**Russkaya**	**3.69**	**205**	PN	**Pn**	**21 41 40.1**	**-0.9**
RUS	**Russkaya**	**3.69**	**205**	*eP*	**Pn**	**21 41 40.1**	**-0.9**
GRL	**Gorelyy**	**3.70**	**210**	PN	**Pn**	**21 41 42.3**	**+1.1**
GRL	**Gorelyy**	**3.70**	**210**	*eP*	**Pn**	**21 41 42.3**	**+1.1**
MTVR	**Mutnovka**	**3.73**	**209**	PN	**Pn**	**21 41 42.5**	**+0.9**
MTVR	**Mutnovka**	**3.73**	**209**	*eP*	**Pn**	**21 41 42.5**	**+0.9**
MIPR	**Malaya Ipel'ka**	**4.35**	**218**	PN	**Pn**	**21 41 50.2**	**+0.5**
MIPR	**Malaya Ipel'ka**	**4.35**	**218**	*eP*	**Pn**	**21 41 50.2**	**+0.5**
MA2	**Magadan**	**6.71**	**309**	P	**Pn**	**21 42 21.5**	**+0.3**
	comp=N,0.4nm,0.3s,baz=128,slow=11,SNR=6.1						
MA2				LR	LR	21 45 08.6	
	comp=N,40nm,20.1s,baz=74,slow=40						
MA2	**Magadan**	**6.71**	**309**	PN	**Pn**	**21 42 20.9**	**-0.2**
MA2	**Magadan**	**6.71**	**309**		**Pn**	**21 42 20.9**	**-0.2**
KIWB	**Kanaga Island**	**13.42**	**98**	Pn	**Pn**	**21 43 51.8**	**+1.6**
ATKA	**Atka Island**	**14.94**	**94**		**P**	**21 44 12.6**	**+1.0**
JKA	**Kamikawa-asahi**	**16.62**	**233**		**P**	**21 44 31.6**	**+1.4**
JKA				IAmb	IAmb	21 44 32.7	
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**16.62**	**233**	P	**P**	**21 44 30.0**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=66,slow=10.0,SNR=14						
ERM	**Erimo**	**18.06**	**228**	P	**P**	**21 44 45.3**	**-0.8**
ERM				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ERM	**Erimo**	**18.06**	**228**	P	**P**	**21 44 45.3**	**-0.8**
TIXI	**Tiksi**	**20.92**	**332**	P	**P**	**21 45 17.2**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=115,slow=9.8,SNR=17						
TIXI	**Tiksi**	**20.92**	**332**	P	Pn	21 45 18.5	-2.2
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**20.92**	**332**	P	Pn	21 45 18.5	-2.2
TIXI				IAmb	IAmb	21 45 20.6	
	comp=Z,5.8nm,0.7s						
MLY	**Manley**	**24.89**	**49**	P	**P**	**21 45 57.5**	**+2.3**
KDAK	**Kodiak Island**	**25.07**	**66**	P	**P**	**21 45 58.3**	**+1.5**
	comp=Z,4.6nm,1.0s,baz=292,slow=9.5,SNR=6.4						
KDAK	**Kodiak Island**	**25.07**	**66**	P	**P**	**21 45 58.5**	**+1.7**
KDAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KDAK	**Kodiak Island**	**25.07**	**66**	P	**P**	**21 45 58.5**	**+1.7**
KDAK				IAmb	IAmb	21 46 03.2	
	comp=Z,4.7nm,1.0s						
TOLK	**Toolik Lake Re**	**25.48**	**40**	P	**P**	**21 46 02.9**	**+2.4**
CCB	**Clear Creek Bu**	**26.16**	**49**	P	**P**	**21 46 10.2**	**+3.6**
ILAR	**Eielson Array**	**26.55**	**49**	P	**P**	**21 46 10.9**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=270,slow=7.8,SNR=6.1						
ILAR				pP	**pP**	**21 46 38.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=263,slow=9.7,SNR=3.2						
JWT	**Wachi**	**27.01**	**231**	P	**P**	**21 46 16.0**	**+1.5**
HYT	**Haines Junctio**	**31.59**	**55**	P	**P**	**21 46 57.4**	**+2.6**
HYT				IAmb	IAmb	21 47 06.9	
	comp=Z,4.1nm,1.2s						
SONM	**Songino Array**	**33.93**	**280**	P	**P**	**21 47 14.1**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=60,slow=8.8,SNR=4.0						
SONM				PcP	**PcP**	**21 49 49.5**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=70,slow=1.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**41.86**	**301**	P	**P**	**21 48 19.8**	**-1.8**
	comp=Z,0.3nm,0.2s,baz=59,slow=5.6,SNR=2.1						
ZALV				PcP	**PcP**	**21 50 13.4**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=59,slow=5.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**41.86**	**301**	P	**P**	**21 48 19.7**	**-1.9**
MK31	**Makanchi Array**	**47.55**	**294**	P	**P**	**21 49 05.2**	**-1.6**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	**Makanchi Array**	**47.55**	**294**	P	**P**	**21 49 05.2**	**-1.6**
MKAR	**Makanchi Array**	**47.55**	**294**	P	**P**	**21 49 04.9**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=51,slow=6.6,SNR=18						
MKAR	**Makanchi Array**	**47.55**	**294**	P	**P**	**21 49 05.3**	**-1.5**
MKAR	**Makanchi Array**	**47.55**	**294**	P	**P**	**21 49 05.3**	**-1.5**
MAKZ	**Makanchi**	**47.70**	**294**	P	**P**	**21 49 06.5**	**-1.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**47.70**	**294**	P	**P**	**21 49 06.5**	**-1.5**
MAKZ				IAmb	IAmb	21 49 08.5	
	comp=Z,3.2nm,1.1s						
BRVK	**Borovoye**	**49.22**	**307**	P	**P**	**21 49 18.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**49.22**	**307**	P	**P**	**21 49 18.7**	**-0.8**
BRVK				IAmb	IAmb	21 49 19.8	
	comp=Z,2.3nm,0.8s						
YBH	**Yreka Blue Hor**	**49.60**	**73**	LR	LR	22 06 48.0	
	comp=Z,70nm,18.3s,baz=300,slow=31						
ARU	**Arti**	**51.83**	**316**	P	**P**	**21 49 38.0**	**-0.9**
ARU				IAmb	IAmb	21 49 38.7	
	comp=Z,3.3nm,0.7s						
PDAR	**Pinedale Array**	**55.73**	**63**	P	**P**	**21 50 08.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=350,slow=4.6,SNR=2.3						
PDAR				pP	**pP**	**21 50 40.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=328,slow=2.3,SNR=4.8						
KK31	**Karatay Array**	**56.11**	**298**	P	**P**	**21 50 09.2**	**-1.1**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KK31	**Karatay Array**	**56.11**	**298**	P	**P**	**21 50 09.2**	**-1.1**
KK31				IAmb	IAmb	21 50 10.6	
	comp=Z,2.7nm,0.9s						
KKAR	**Karatay Array**	**56.11**	**298**	P	**P**	**21 50 09.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KKAR	**Karatay Array**	**56.11**	**298**	P	**P**	**21 50 09.0**	**-1.2**
KKAR				IAmb	IAmb	21 50 10.6	
	comp=Z,2.7nm,0.9s						
KKAR	**Karatay Array**	**56.11**	**298**	P	**P**	**21 50 09.3**	**-1.0**
ABKAR	**Akbulak array**	**56.51**	**310**	P	**P**	**21 50 12.2**	**-0.8**
ABKAR	**Akbulak array**	**56.51**	**310**	P	**P**	**21 50 12.2**	**-0.8**
ABKAR				IAmb	IAmb	21 50 12.9	
	comp=Z,4.5nm,1.2s						
FIA1	**FINESS Array S**	**57.87**	**336**	P	**P**	**21 50 21.7**	**-0.6**
FINES	**FINESS Array B**	**57.88**	**336**	P	**P**	**21 50 21.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=28,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**57.88**	**336**	P	**P**	**21 50 21.9**	**-0.4**
FINES	**FINESS Array B**	**57.88**	**336**	P	**P**	**21 50 21.9**	**-0.4**
BTK	**Batken**	**58.20**	**295**	P	**P**	**21 50 24.9**	**-0.2**
BTK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BTK	**Batken**	**58.20**	**295**	P	**P**	**21 50 24.9**	**-0.2**
NOA	**NORSAR Array B**	**61.11**	**344**	P	**P**	**21 50 43.8**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=17,slow=7.0,SNR=3.5						
AKASG	**Malin Array Be**	**66.60**	**329**	P	**P**	**21 51 18.8**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=31,slow=6.

WB0				IAmb	IAmb	22 14 28.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**28.51**	**247**	P	**P**	**22 14 28.3**	**-1.5**
	comp=Z,5.6nm,0.7s,baz=75,slow=9.2,SNR=30						
WRA				ScP	**ScP**	**22 21 16.2**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=73,slow=3.5,SNR=2.1						
WRA	**Warramunga Arr**	**28.51**	**247**	P	**P**	**22 14 28.0**	**-1.8**
H11S2	**WAKE ISLAND Hy**	**28.74**	**9**	T	T	22 45 32.4	
	baz=188,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**28.74**	**9**	T	T	22 45 18.4	
	baz=188,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.76**	**9**	T	T	22 45 27.4	
	baz=188,slow=76,SNR=44						
STKA	**Stephens Creek**	**28.83**	**218**	P	**P**	**22 14 32.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=29,slow=19,SNR=1.6						
STKA				LR	LR	22 25 42.1	
	comp=Z,310nm,18.8s,baz=22,slow=36						
STKA	**Stephens Creek**	**28.83**	**218**	P	**P**	**22 14 32.4**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**29.97**	**9**	T	T	22 46 58.4	
	baz=188,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**29.98**	**9**	T	T	22 47 02.1	
	baz=188,slow=76,SNR=36						
H11N2	**WAKE ISLAND Hy**	**29.99**	**9**	T	T	22 46 59.6	
	baz=188,slow=76,SNR=38						
AS31	**Alice Springs**	**30.10**	**240**	P	**P**	**22 14 42.0**	**-2.0**
ASAR	**Alice Springs**	**30.10**	**240**	P	**P**	**22 14 42.2**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=69,slow=9.6,SNR=20						
ASAR				LR	LR	22 26 58.4	
	comp=Z,264nm,18.4s,baz=94,slow=37						
ASAR	**Alice Springs**	**30.10**	**240**	P	**P**	**22 14 43.1**	**-0.9**
MTN	**Manton Dam**	**30.46**	**262**	P	**P**	**22 14 46.3**	**-0.9**
MTN				IAmb	IAmb	22 15 00.0	
	comp=Z,24nm,1.4s						
TOO	**Toolangi**	**31.21**	**206**	P	**P**	**22 14 54.3**	**+0.8**
TOO				IAmb	IAmb	22 15 13.5	
	comp=Z,17nm,1.4s						
KNRA	**Kununurra**	**32.95**	**257**	P	**P**	**22 15 07.7**	**-1.3**
KNRA				IAmb	IAmb	22 15 10.8	
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**37.74**	**232**	P	**P**	**22 15 49.6**	**-0.4**
FORT				IAmb	IAmb	22 15 55.1	
	comp=Z,23nm,1.0s						
BATI	**Baumata**	**37.82**	**266**	P	**P**	**22 15 51.0**	**0.0**
	comp=Z,104nm,0.6s,baz=164,slow=2.1,SNR=17						
MMRI	**Maumere**	**39.34**	**269**	P	**P**	**22 16 01.9**	**-1.8**
PSA00	**Pilbara Seismi**	**42.10**	**249**	P	**P**	**22 16 25.2**	**-1.2**
PSA00				IAmb	IAmb	22 16 38.2	
	comp=Z,21nm,1.3s						
TOLI2	**Tolitoli**	**42.59**	**283**	P	**P**	**22 16 28.0**	**-2.4**
TOLI2				IAmb	IAmb	22 16 28.5	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**46.98**	**240**	P	**P**	**22 17 04.4**	**-0.8**
MORW				IAmb	IAmb	22 17 09.4	
	comp=Z,30nm,1.4s						
PPT	**Papeete**	**47.41**	**105**	LR	LR	22 32 31.0	
	comp=Z,45nm,20.3s,baz=318,slow=30						
UGM	**Wanagama**	**50.95**	**268**	P	**P**	**22 17 34.3**	**-1.5**
JMN	**Monobe**	**51.16**	**330**	P	**P**	**22 17 37.9**	**+0.8**
MJAR	**Matsushiro Arr**	**51.52**	**335**	P	**P**	**22 17 39.0**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=171,slow=8.6,SNR=5.7						
JWT	**Wachi**	**51.69**	**332**	P	**P**	**22 17 40.4**	**-0.5**
JWT				IAmb	IAmb	22 17 43.6	
	comp=Z,20nm,1.4s						
YULB	**Yu-li**	**51.95**	**310**	P	**P**	**22 17 42.3**	**-0.9**
TPUB	**Ta-pu**	**52.40**	**310**	P	**P**	**22 17 45.9**	**-0.6**
SSLB	**Suanglung**	**52.43**	**311**	P	**P**	**22 17 46.8**	**+0.1**
YHNB	**Yeheng**	**52.63**	**312**	P	**P**	**22 17 48.8**	**+0.5**
JSD	**Sado**	**52.79**	**336**	P	**P**	**22 17 50.1**	**+1.0**
JSD				IAmb	IAmb	22 17 50.8	
	comp=Z,10nm,0.9s						
JKA	**Kamikawa-asahi**	**56.76**	**343**	P	**P**	**22 18 18.9**	**+1.2**
JKA				IAmb	IAmb	22 18 20.6	
	comp=Z,9.9nm,0.8s						
ASAJ	**Asahikawa**	**56.76**	**343**	P	**P**	**22 18 19.4**	**+1.8**
	comp=Z,9.2nm,0.7s,baz=238,slow=12,SNR=7.7						
KSRS	**Korea Array**	**57.10**	**328**	P	**P**	**22 18 20.7**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=140,slow=8.0,SNR=8.4						
USA0B	**Ussuriysk Arra**	**60.52**	**336**	P	**P**	**22 18 45.0**	**+1.1**
USA0B				IAmb	IAmb	22 18 46.4	
	comp=Z,12nm,0.9s						
ENH	**Enshi**	**64.52**	**310**	P	**P**	**22 19 10.5**	**-0.4**
ENH				IAmb	IAmb	22 19 12.0	
	comp=Z,26nm,1.1s						
CASY	**Casey**	**66.01**	**200**	P	**P**	**22 19 20.5**	**+0.5**
CASY				IAmb	IAmb	22 19 33.5	
	comp=Z,7.5nm,1.2s						
XAN	**Xi'an**	**66.84**	**314**	P	**P**	**22 19 26.6**	**+0.8**
VNDA	**Vanda**	**67.43**	**180**	P	**P**	**22 19 30.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**68.44**	**294**	P	**P**	**22 19 35.6**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=127,slow=5.2,SNR=14						
ULN	**Ulaanbaatar**	**75.43**	**325**	P	**P**	**22 20 18.3**	**+0.6**
ULN				IAmb	IAmb	22 20 20.1	
	comp=Z,13nm,1.1s						
SONM	**Songino Array**	**75.79**	**325**	P	**P**	**22 20 20.7**	**+1.0**
	comp=Z,6.6nm,0.7s,baz=138,slow=5.5,SNR=35						
SONM				LR	LR	22 54 17.4	
	comp=Z,64nm,18.2s,baz=102,slow=36						
SONM	**Songino Array**	**75.79**	**325**	P	**P**	**22 20 20.5**	**+0.8**
SONM				IAmb	IAmb	22 20 21.9	
	comp=Z,6.5nm,0.7s						
YAK	**Yakutsk**	**76.19**	**345**	P	**P**	**22 20 22.1**	**+0.7**
YAK				IAmb	IAmb	22 20 23.4	
	comp=Z,14nm,0.7s						
QSPA	**South Pole Qui**	**79.93**	**180**	P	**P**	**22 20 42.7**	**+0.3**
IL31		**83.77**	**20**	P	**P**	**22 21 03.1**	**+0.9**
IL31				IAmb	IAmb	22 21 05.1	
	comp=Z,5.7nm,1.4s						
ILAR	**Eielson Array**	**83.77**	**20**	P	**P**	**22 21 03.0**	**+0.7**
	comp=Z,2.0nm,1.0s,baz=244,slow=5.3,SNR=8.5						
SCRK	**Sand Creek**	**84.26**	**21**	P	**P**	**22 21 06.2**	**+1.1**
MAW	**Mawson**	**84.27**	**202**	P	**P**	**22 21 05.3**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=123,slow=9.8,SNR=1.9						
NVAR	**Mina Array Bea**	**88.16**	**51**	P	**P**	**22 21 26.8**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=248,slow=3.6,SNR=1.6						
ARCES	**ARCESS Array B**	**114.47**	**345**	PKP	PKPdf	22 27 13.1	+0.4
	comp=Z,2.6nm,1.0s,baz=98,slow=2.5,SNR=6.1						
NOA	**NORSAR Array B**	**124.78**	**343**	PKP	**PKiKP**	**22 27 33.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=43,slow=1.9,SNR=3.4						
ESDC	**Sonseca Array**	**148.01**	**339**	PKPbc	**PKiKP**	**22 28 19.9**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=355,slow=2.6,SNR=6.3						
ESDC	**Sonseca Array**	**148.01**	**339**	PKPbc	**PKiKP**	**22 28 20.1**	**-0.9**

*TUL **08** 22:10:48.8±1.4, 36°61N±0°01×97°70W±0°01, h6km±6km, ML2.6, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=131.0*

NEIC 08 22:10:49.0±0.8, 36°60N±0°01×97°70W±0°01, h3km±7km, Error ellipse: s-maj=1.6km s-min=1.2km az=149.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.24**	**248**		Pg	22 10 54.0	+0.3
CROK				Sg	Sg	22 10 57.7	+0.9
GC02	**Grant County #**	**0.28**	**334**		Pg	22 10 54.5	0.0
GC02				Sg	Sg	22 10 58.7	+0.5
BLOK	**Blackwell**	**0.43**	**67**		Pg	22 10 57.2	0.0
BLOK				Sg	Sg	22 11 03.4	+0.6
KAN17	**Caldwell West**	**0.45**	**354**		Pg	22 10 57.6	0.0
KAN17				Sg	Sg	22 11 03.9	+0.3
KAN13	**South Haven SW**	**0.46**	**23**		Pg	22 10 57.6	-0.1
OK032	**Salt Plains WL**	**0.46**	**297**	Pg	Pg	22 10 57.7	-0.1
KAN05	**Bluff City Nor**	**0.53**	**345**		Pg	22 10 59.0	-0.1
KAN09	**Caldwell North**	**0.55**	**7**	Pg	Pg	22 10 59.3	-0.2
KAN10	**Anthony SW Sta**	**0.61**	**329**	Pg	Pg	22 11 00.6	-0.2
KAN10				Sg	Sg	22 11 09.0	+0.2
KS20	**Mayfield South**	**0.65**	**11**		Pg	22 11 01.1	-0.3
KAN08	**Anthony NE Sta**	**0.67**	**341**		Pg	22 11 01.6	-0.1
KAN08				Sg	Sg	22 11 10.9	+0.4
KAN12	**Harper NE Stat**	**0.74**	**342**		Pg	22 11 03.0	-0.2
KAN12				Sg	Sg	22 11 12.9	+0.1
OK029	**Liberty Lake**	**0.82**	**166**	Pg	Pg	22 11 04.6	-0.1
OK029				Sg	Sg	22 11 16.1	+0.7
QUOK	**Quay**	**0.91**	**117**		Pg	22 11 06.1	-0.3
QUOK				Sg	Sg	22 11 18.2	0.0
BCOK	**Bluff Creek, N**	**0.94**	**175**		Pg	22 11 06.7	-0.3
OK031	**S. Brethren Rd**	**0.95**	**132**		Pg	22 11 06.9	-0.3
OK031				Sg	Sg	22 11 19.8	+0.3
T35A	**Sooner Cattle**	**1.01**	**71**		Pg	22 11 07.8	-0.6
OK025	**Westminster Rd**	**1.05**	**164**	Pg	Pg	22 11 08.9	-0.3
U32A	**Winter Ranch,**	**1.07**	**259**	Pg	Pg	22 11 08.9	-0.5
OKCFA	**Oklahoma City**	**1.20**	**170**	Pg	Pg	22 11 11.3	-0.6
OKCSW	**OKLAHOMA CITY**	**1.21**	**170**		Pg	22 11 11.4	-0.6
FNO	**Franklin**	**1.36**	**169**		Pn	22 11 14.1	-0.7
X34A	**Smith Ranch, M**	**1.99**	**183**		Pn	22 11 24.2	+0.7
R32A	**Long Quarter,**	**1.99**	**337**	IAmb_Lg		22 11 51.8	
	comp=Z,24nm,0.8s						
WMOK	**Wichita Mounta**	**2.05**	**206**		Pn	22 11 24.5	+0.2
U38A	**Gravette**	**2.68**	**92**		Pn	22 11 33.1	+0.1
X37A	**Clayton**	**2.76**	**136**	Pn	Pn	22 11 34.8	+0.7
X37A				IAmb_Lg		22 12 18.1	
	comp=Z,9.0nm,0.7s						
W39A	**Magazine**	**3.48**	**113**	IAmb_Lg		22 12 44.4	
	comp=Z,7.2nm,0.7s						
S39A	**Bolivar**	**3.67**	**71**	Pn	Pn	22 11 47.0	+0.4
S39A				IAmb_Lg		22 12 49.3	
	comp=Z,8.4nm,0.8s						
U40A	**Yellville**	**3.92**	**92**	IAmb_Lg		22 12 53.4	
	comp=Z,9.3nm,0.9s						
P38A	**Dawn**	**4.47**	**46**		Pn	22 11 58.0	+0.5
P38A				IAmb_Lg		22 13 10.0	
	comp=Z,8.9nm,0.8s						
X40A	**Basin Creek Fa**	**4.49**	**116**	IAmb_Lg		22 13 20.3	
	comp=Z,7.2nm,1.0s						
CCM	**Cathedral Cave**	**5.35**	**72**	IAmb_Lg		22 13 39.8	
	comp=Z,11nm,0.9s						
T25A	**Trinidad**	**5.41**	**278**	IAmb_Lg		22 13 53.9	
	comp=Z,6.3nm,1.2s						
N38A	**Joes South For**	**5.46**	**38**	IAmb_Lg		22 13 49.6	
	comp=Z,8.5nm,0.8s						
JFWS	**Jewell Farm**	**8.53**	**40**	IAmb_Lg		22 15 24.0	
	comp=Z,4.6nm,0.8s						
PV07	**Paradox Valley**	**8.89**	**285**	IAmb_Lg		22 15 29.4	
	comp=Z,2.6nm,0.7s						

*IDC **08** 22:13:59.6±0.8, 37°59N×29°68E, h0km, mb3.9/12, mb1 4.1/24, mb1mx3.9/54, mbtmp4.0/24, ML4.1/10, MS3.3/9, Ms1 3.3/9, ms1mx3.0/49, Error ellipse: s-maj=13.6km s-min=12.2km az=21.0*

*BGR **08** 22:14:00.6±0.0, 37°35N×29°72E, h10km, mb4.1, Ms3.0*

*DDA **08** 22:14:00.9, 37°57N×29°54E, h28km±1km, MW4.2*

*MOS **08** 22:14:00.1±1.0, 37°56N×29°62E, h14km, mb4.3/8, Error ellipse: s-maj=6.6km s-min=4.4km az=92.6*

*NIC **08** 22:14:01.4±0.0, 37°64N×29°59E, h8km±2km, Ml4.4/4*

*ISK **08** 22:14:01.0, 37°61N×29°52E, h7km, ML4.2/37*

*MED_RC **08** 22:14:01.0±0.4, 37°61N×29°52E, h22km±1km, MW4.3/18, Moment Tensor Solution.Mantle waves: s18,c23; Duration: 1º0 Moment tensor: Scale 10^15Nm; Mrr=3.40±.40; Mθθ1.90±.28; Mφφ1.50±.22; Mrθ1.74±.25; Mθφ0.71±.12; Mφr1.35±.15; Best double couple: M0=3.66000×10^15 NP1:φs=53.00000°, δ26.00000°, λ=-90.00000°. NP2:φs=232.00000°, δ=64.00000°, λ=-90.00000°. Principal axes: T 3.1800, Plg19.0000°, Azm323.0000°; N 0.9600, Plg0.0000°, Azm233.0000°; P -4.1400, Plg71.0000°, Azm142.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*HLW **08** 22:14:02.9, 37°47N×29°52E, h20km±16km, Md4.4, Ml4.5*

*NEIC **08** 22:14:03.4±1.4, 37°56N±0°03×29°58E±0°05, h20km±4km, Error ellipse: s-maj=6.2km s-min=4.1km az=120.0*

*THE **08** 22:14:04.0, 37°49N×29°39E, h0km±1km, ML4.0/9, Error ellipse: s-maj=4.0km s-min=0.9km az=44.0*

ISC 08 22:14:02.2±0.9, 37°56N±0°02×29°56E±0°01, h16km±6km, n489, σ1º36/549, mb4.1/24, MS3.4/4, 70C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.32**	**180**	⇑P	**Pb**	**22 14 09.3**	**-0.2**
GOLH				*i* S	**Sb**	**22 14 15.5**	**+1.1**
GOLH				IAML		22 14 20.0	
	comp=N,40μm,0.6s						
BRDR	**BURDUR-Merkez**	**0.42**	**70**	⇑P	**Pg**	**22 14 09.8**	**-1.0**
BRDR				*i* S	**Sb**	**22 14 17.1**	**-0.3**
BRDR				IAML		22 14 18.0	
	comp=N,24μm,0.3s						
BRDR				IAML		22 14 20.0	
	comp=E,26μm,0.5s						
CAEL	**Denizli, Camel**	**0.47**	**204**	⇑*i*P	**Pg**	**22 14 10.5**	**-1.2**
CAEL				*i* S	**Sn**	**22 14 23.6**	**+1.1**
TAVA	**DENIZLI_Tavas**	**0.52**	**260**	⇑*i*P	**Pg**	**22 14 11.3**	**-1.3**
TAVA				*i* S	**Sg**	**22 14 19.9**	**+0.2**
TAVA				IAML		22 14 20.0	
	comp=N,12μm,0.2s						
BASM	**Basmaki-Afyon**	**0.53**	**47**	PG	**Pg**	**22 14 11.4**	**-1.4**
BASM	**Basmaki-Afyon**	**0.53**	**47**	Pg	**Pg**	**22 14 11.4**	**-1.4**
CAME	**Cameli-Denizli**	**0.65**	**199**	PG	**Pg**	**22 14 14.4**	**-0.5**
CAME	**Cameli-Denizli**	**0.65**	**199**	Pg	**Pg**	**22 14 14.4**	**-0.5**
PASA	**Karahalli, USA**	**0.79**	**356**	⇑*i*P	**Pb**	**22 14 16.0**	**-1.7**
PASA				*i* S	**Sb**	**22 14 28.0**	**-0.2**
PASA				IAML		22 14 32.0	
	comp=E,9μm,0.5s						
PASA				IAML		22 14 33.0	
	comp=N,14μm,0.8s						
ISP	**Isparta**	**0.81**	**70**	P	**Pb**	**22 14 16.0**	**-1.9**
ISP						22 14 29.0	
ISP	**Isparta**	**0.81**	**70**	PG	**Pb**	**22 14 17.2**	**-0.7**
ISP				SG	**Sn**	**22 14 30.2**	**-0.5**
ISP	**Isparta**	**0.81**	**70**	Pg	**Pb**	**22 14 16.0**	**-1.9**
ISP				Sg	**Sg**	**22 14 29.0**	**+0.4**
BCK	**Bucak**	**0.82**	**96**	PG	**Pb**	**22 14 17.9**	**-0.2**
BCK				SG	**Sn**	**22 14 31.4**	**+0.4**
BUCA	**Burdur, Bucak-**	**0.83**	**106**	⇑*i*P	**Pb**	**22 14 16.6**	**-1.6**
BUCA				*i* S	**Sn**	**22 14 31.4**	**+0.3**
BUCA				IAML		22 14 33.0	
	comp=E,17μm,0.5s						
BUCA				IAML		22 14 33.0	
	comp=N,16μm,0.9s						
KORT	**Korkueli**	**0.84**	**131**	⇑*i*P	**Pb**	**22 14 16.5**	**-2.0**
KORT				*i* S	**Sn**	**22 14 31.3**	**-0.2**
KORT	**Korkueli**	**0.84**	**131**	PG	**Pg**	**22 14 18.6**	**+0.1**
KZIL	**AFYON_Kizioren**	**0.84**	**33**	⇑*i*P	**Pb**	**22 14 16.9**	**-1.5**
KZIL				*i* S	**Sn**	**22 14 31.7**	**+0.2**
ELL	**Elmali**	**0.85**	**161**	P	**Pb**	**22 14 16.9**	**-1.8**
ELL	**Elmali**	**0.85**	**161**	PG	**Pg**	**22 14 19.1**	**+0.3**
ELL	**Elmali**	**0.85**	**161**	Pg	**Pb**	**22 14 16.9**	**-1.8**
ELL	**Elmali**	**0.85**	**161**	S	**Sn**	**22 14 32.9**	**+1.1**
FETY	**Fethiye**	**0.99**	**203**	P	**Pb**	**22 14 19.1**	**-1.9**
FETY	**Fethiye**	**0.99**	**203**	P	**Pb**	**22 14 20.1**	**-0.9**
FETY				S	**Sg**	**22 14 34.8**	**+0.3**
FETY	**Fethiye**	**0.99**	**203**	⇑*i*P	**Pb**	**22 14 19.5**	**-1.6**
FETY				*i* S	**Sn**	**22 14 37.5**	**+2.4**
FETY	**Fethiye**	**0.99**	**203**	PG	**Pb**	**22 14 21.1**	**+0.1**
FETY	**Fethiye**	**0.99**	**203**	Pg	**Pb**	**22 14 21.1**	**+0.1**
MULA	**Mugla, Merkez-**	**1.03**	**254**	⇑*i*P	**Pb**	**22 14 20.6**	**-1.1**
MULA				*i* S	**Sn**	**22 14 36.3**	**+0.1**
DALY	**Dalyan (Mula)**	**1.03**	**225**	⇑*i*P	**Pb**	**22 14 20.1**	**-1.6**
DALY				*i* S	**Sg**	**22 14 35.7**	**0.0**
DALY				IAML		22 14 41.0	
	comp=E,4μm,1.0s						
DALY				IAML		22 14 43.0	
	comp=N,3μm,0.6s						
DALY	**Dalyan (Mula)**	**1.03**	**225**	PG	**Pb**	**22 14 21.7**	**0.0**
DALY	**Dalyan (Mula)**	**1.03**	**225**	Pg	**Pb**	**22 14 21.6**	**0.0**
BAGO	**Egridir - ISPA**	**1.06**	**66**	⇑*i*P	**Pb**	**22 14 20.5**	**-1.8**
BAGO				*i* S	**Sn**	**22 14 37.8**	**+0.8**
BAGO				IAML		22 14 40.0	
	comp=E,1μm,0.4s						
ANTB	**Antalya**	**1.09**	**127**	PN	**Pg**	**22 14 23.3**	**+0.1**
ANTB	**Antalya**	**1.09**	**127**	Pn	**Pg**	**22 14 23.3**	**+0.1**
YER	**Yerkesik**	**1.10**	**248**	P	**Pb**	**22 14 22.0**	**-0.9**
YER	**Yerkesik**	**1.10**	**248**	P	**Pb**	**22 14 22.0**	**-0.9**
YER				S	**Sb**	**22 14 36.7**	**-0.3**
KULA	**Kula-Manisa**	**1.19**	**324**	PN	**Pn**	**22 14 23.2**	**-1.1**
KULA	**Kula-Manisa**	**1.19**	**324**	Pn	**Pn**	**22 14 23.2**	**-1.1**
MANT	**Manisa**	**1.23**	**320**	⇑*i*P	**Pn**	**22 14 23.9**	**-0.9**
MANT				*i* S	**Sg**	**22 14 42.5**	**+0.6**
MANT				IAML		22 14 44.0	
	comp=N,3μm,0.4s						
USAK	**Uak-Merkez**	**1.23**	**340**	⇑*i*P	**Pn**	**22 14 24.4**	**-0.5**
USAK				*i* S	**Sg**	**22 14 44.0**	**+1.8**
KEMT	**Kemer-ANTALYA**	**1.24**	**140**	PN	**Pg**	**22 14 25.9**	**-0.2**
KEMT	**Kemer-ANTALYA**	**1.24**	**140**	Pn	**Pg**	**22 14 26.0**	**-0.2**
SHUT	**Suhut-Afyon**	**1.27**	**38**	Pn	**Pn**	**22 14 25.3**	**0.0**
SHUT	**Suhut-Afyon**	**1.27**	**38**	Pn	**Pn**	**22 14 25.3**	**0.0**
TURN	**Turunc**	**1.31**	**234**	⇑*i*P	**Pn**	**22 14 25.5**	**-0.3**
TURN				*i* S	**Sn**	**22 14 42.6**	**-0.3**
TURN				IAML		22 14 51.0	
	comp=E,2μm,0.4s						
TURN	**Turunc**	**1.31**	**234**	PN	**Pb**	**22 14 26.2**	**-0.2**
AKAS	**Kas**	**1.32**	**178**	⇑*i*P	**Pn**	**22 14 25.7**	**-0.4**
AKAS				*i* S	**Sg**	**22 14 49.2**	**+4.3**
AKAS	**Kas**	**1.32**	**178**	PN	**Pg**	**22 14 27.3**	**-0.4**
AYDN	**Tasoluk**	**1.34**	**275**	⇑*i*P	**Pn**	**22 14 26.2**	**0.0**
AYDN				*i* S	**Sg**	**22 14 46.0**	**+0.5**
DEMR	**Demre-Antalya**	**1.34**	**168**	PN	**Pb**	**22 14 27.5**	**+0.5**
AFYO	**Afyonkarahisar**	**1.36**	**25**	⇑*i*P	**Pn**	**22 14 26.8**	**+0.1**
AFYO				*i* S	**Sg**	**22 14 48.9**	**+2.7**
MRSB	**Marmaris-Mugla**	**1.38**	**233**	PN	**Pb**	**22 14 27.7**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.38**	**153**	⇑*i*P	**Pb**	**22 14 27.5**	**-0.1**
AKUM				*i* S	**Sg**	**22 14 50.8**	**+4.1**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**287**	PN	**Pn**	**22 14 26.5**	**-0.4**
KSL	**Kastellorizon**	**1.40**	**179**	P	**Pb**	**22 14 28.5**	**+0.5**
KSL	**Kastellorizon**	**1.40**	**179**	P	**Pb**	**22 14 28.5**	**+0.5**
KSL				S	**Sg**	**22 14 48.5**	**+1.0**
	comp=E,4μm,0.8s						
KSL	**Kastellorizon**	**1.40**	**179**	⇑P	**Pb**	**22 14 28.2**	**+0.2**
KSL				S	**Sg**	**22 14 49.0**	**+1.5**
KSL				AML	AML	22 14 56.1	
	comp=E,11nm,0.9s						
KSL				AML	AML	22 14 56.1	
	comp=E,11nm,0.9s						
KSL				AML	AML	22 15 02.9	
	comp=E,6.9nm,0.7s						
KSL				AML	AML	22 15 02.9	
	comp=E,6.9nm,0.7s						
MLSB	**Milas**	**1.45**	**260**	PN	**Pb**	**22 14 28.2**	**-0.5**
SHAP	**Saphane-Kutahy**	**1.49**	**350**	PN	**Pn**	**22 14 28.1**	**-0.3**
GEDZ	**Gediz**	**1.49**	**355**	PN	**Pn**	**22 14 28.3**	**-0.1**
YVAC	**Isparta, Yalva**	**1.51**	**61**	⇑*i*P	**Pn**	**22 14 28.8**	**+0.2**
YVAC				*i* S	**Sg**	**22 14 54.2**	**+3.4**
GDZ	**Gediz**	**1.53**	**358**	⇑*i*P	**Pn**	**22 14 28.5**	**-0.5**
GDZ				*i* S	**Sg**	**22 14 52.7**	**+1.0**
SMAA	**Simav-Kutahya**	**1.61**	**344**	PN	**Pn**	**22 14 29.9**	**-0.1**
DEMI	**Demirci**	**1.63**	**336**	⇑*i*P	**Pn**	**22 14 29.9**	**-0.3**
DEMI				*i* S	**Sg**	**22 14 56.4**	**+1.7**
GOMA	**Golmarmara-Man**	**1.73**	**312**	PN	**Pn**	**22 14 31.5**	**-0.1**
SEDI	**Konya, Seydise**	**1.75**	**93**	⇓*i*P	**Pn**	**22 14 32.7**	**+0.8**
SEDI				*i* S	**Sg**	**22 14 59.3**	**+0.8**
DOGA	**KONYA_Doganhis**	**1.76**	**71**	⇑*i*P	**Pn**	**22 14 32.8**	**+0.7**
DOGA				*i* S	**Sg**	**22 14 59.3**	**+0.4**
KEPZ	**Antalya-Kepez**	**1.76**	**111**	⇓*i*P	**Pb**	**22 14 33.0**	**-1.1**
KEPZ				*i* S	**Sg**	**22 15 02.5**	**+3.8**
BDRM	**Kayabasi**	**1.76**	**254**	⇑*i*P	**Pn**	**22 14 32.5**	**+0.5**
BDRM				*i* P	**Pb**	**22 14 33.4**	**-0.7**
BDRM				*i* S	**Sb**	**22 14 56.4**	**+0.6**
ARG	**Arkhangelos**	**1.76**	**221**	P	**Pb**	**22 14 33.8**	**-0.3**
ARG	**Arkhangelos**	**1.76**	**221**	P	**Pb**	**22 14 33.5**	**-0.7**
ARG				S	**Sn**	**22 14 54.5**	**+0.4**
	comp=E,3μm,0.5s						
ARG	**Arkhangelos**	**1.76**	**221**	PN	**Pb**	**22 14 33.4**	**-0.7**
ARG	**Arkhangelos**	**1.76**	**221**	⇑P	**Pb**	**22 14 33.6**	**-0.5**
ARG				S	**Sg**	**22 14 58.1**	**-1.0**
DAT	**Datca**	**1.79**	**243**	P	**Pn**	**22 14 33.4**	**+0.9**
DAT	**Datca**	**1.79**	**243**	P	**Pn**	**22 14 33.2**	**+0.7**
DAT				S	**Sn**	**22 14 55.4**	**+0.5**
DAT	**Datca**	**1.79**	**243**	⇑*i*P	**Pn**	**22 14 33.4**	**+0.9**
DAT				*i* S	**Sg**	**22 15 00.7**	**+0.9**
DAT	**Datca**	**1.79**	**243**	PN	**Pn**	**22 14 33.4**	**+0.9**
DDIM	**Aydin, Didim**	**1.85**	**268**	*i* P	**Pn**	**22 14 33.6**	**+0.4**
DDIM				*i* S	**Sg**	**22 15 05.1**	**+3.4**
GCAM	**G?zelcaml?**	**1.85**	**275**	*i* P	**Pn**	**22 14 33.2**	**-0.1**
GCAM				*i* S	**Sg**	**22 15 03.5**	**+1.6**
GCAM	**G?zelcaml?**	**1.85**	**275**	PN	**Pn**	**22 14 33.2**	**-0.1**
BODT	**Bodrum**	**1.86**	**255**	P	**Pn**	**22 14 33.8**	**+0.4**
BODT	**Bodrum**	**1.86**	**255**	P	**Pn**	**22 14 33.8**	**+0.4**
BODT				S	**Sn**	**22 14 56.4**	**-0.2**
BODT	**Bodrum**	**1.86**	**255**	PN	**Pn**	**22 14 34.1**	**+0.7**
YKAV	**Yalikavak-Bodr**	**1.87**	**257**	PN	**Pn**	**22 14 34.0**	**+0.5**

SIGR SIGRI 3.35 301 PN Pn 22 14 53.9 +0.2
AKMS Akamas 3.38 138 P Pn 22 14 56.0 +1.7
AKMS AML AML 22 15 41.0
comp=E,2.1nm,0.9s
AKMS AML AML 22 15 41.5
comp=E,2.2nm,0.6s
BR231 Keskin MP Arra 3.40 47 Pn Pn 22 14 55.4 +0.8
EZN Ezine 3.40 313 P Pn 22 14 54.8 +0.3
EZN Ezine 3.40 313 P Pn 22 14 54.9 +0.4
EZN Ezine 3.40 313 PN Pn 22 14 54.9 +0.4
ANTO Ankara 3.42 47 P Pn 22 14 55.6 +0.7
ANTO Ankara 3.42 47 Pn Pn 22 14 55.6 +0.7
BBAL Bala 3.42 54 *i* P Pn 22 14 55.9 +0.9
ALFC Alefka 3.43 133 ⇑P Pn 22 14 55.3 +0.3
ALFC AML AML 22 15 36.6
comp=E,1.7nm,1.0s
ALFC AML AML 22 15 36.8
comp=E,1.5nm,0.7s
SAHE Sakarya_HENDEK 3.44 17 *i* P Pn 22 14 54.9 -0.2
KAYN Sakarya, Kayna 3.46 10 *i* P Pn 22 14 55.9 +0.6
SANT Santorini 3.49 251 ⇑P Pn 22 14 58.8 +2.9
SANT Santorini 3.49 251 ⇓S Sb 22 15 41.3 -4.4
SANT Santorini 3.49 251 PN Pn 22 14 57.3 +1.5
SANT Santorini 3.49 251 Pn Pn 22 14 56.7 +0.8
THR3 Thira Island, 3.52 252 P Pn 22 14 57.2 +1.0
THR3 Thira Island, 3.52 252 P Pn 22 14 57.2 +1.0
SNT5 Nea Kammeni, S 3.53 252 P Pn 22 14 57.3 +1.0
SNT5 Nea Kammeni, S 3.53 252 P Pn 22 14 57.3 +1.0
THR6 Thira Island, 3.54 252 P Pn 22 14 57.9 +1.4
THR6 Thira Island, 3.54 252 P Pn 22 14 57.9 +1.4
BOZC Bozcaada 3.57 311 *i* P Pn 22 14 57.0 +0.2
BOZC Bozcaada 3.57 311 PN Pn 22 14 57.2 +0.3
LEF Lefka 3.62 131 ⇓P Pb 22 15 02.2 -3.6
LEF Lefka 3.62 131 ⇑S Sb 22 15 45.0 -4.5
ZKR Zakros 3.64 229 P Pn 22 14 59.2 +1.4
ZKR Zakros 3.64 229 P Pn 22 14 59.2 +1.4
ZKR S Sn 22 15 41.5 +1.2
comp=E,440nm,1.1s
ZKR Zakros 3.64 229 P Pn 22 14 59.0 +1.2
STIA Sitia Lasithi 3.66 231 P Pn 22 14 59.2 +1.2
STIA Sitia Lasithi 3.66 231 P Pn 22 14 59.2 +1.2
NATA Nata 3.69 138 P Pn 22 14 59.7 +1.2
BR131 Keskin Array S 3.86 55 P Pn 22 15 01.5 +0.5
BR131 Keskin Array S 3.86 55 Pn Pn 22 15 01.4 +0.5
BRTR Keskin Array B 3.86 55 Pn Pn 22 15 01.5 +0.5
comp=E,10nm,0.3s,baz=176,slow=20,SNR=113
BRTR Sn Sn 22 15 45.8 -0.2
comp=E,3.1nm,0.3s,baz=229,slow=26,SNR=5.6
BRTR Keskin Array B 3.86 55 P Pn 22 15 01.3 +0.3
BRTR Keskin Array B 3.86 55 Pn 22 15 01.3 +0.3
SZAC Souni 3.88 135 ⇓P Pn 22 15 02.6 +1.4
GADA Gvkgeada 3.89 314 P Pn 22 15 01.7 +0.5
GADA Gvkgeada 3.89 314 P Pn 22 15 01.7 +0.5
GADA Gvkgeada 3.89 314 PN Pn 22 15 01.8 +0.5
NPS Neapolis 3.92 235 P Pn 22 15 02.4 +0.7
NPS Neapolis 3.92 235 P Pn 22 15 02.4 +0.7
CSS Mathiatis 4.00 129 Pn Pn 22 15 03.3 +0.6
CSS Mathiatis 4.00 129 ⇑P Pn 22 15 03.7 +1.0
ASGA Asgata 4.07 132 P Pn 22 15 04.9 +1.2
LAST Lasithi 4.07 235 P Pn 22 15 05.2 +1.4
LAST Lasithi 4.07 235 P Pn 22 15 04.7 +0.9
ENEZ Enez 4.14 321 P Pn 22 15 05.5 +0.9
ENEZ Enez 4.14 321 P Pn 22 15 05.5 +0.9
LIA Limnos Island 4.15 306 P Pn 22 15 05.6 +0.8
LIA Limnos Island 4.15 306 P Pn 22 15 05.6 +0.8
MVOU Mavrovouni 4.15 126 ⇑P Pn 22 15 05.7 +0.8
HRKL Herakleio 4.24 239 P Pn 22 15 07.5 +1.4
HRKL Herakleio 4.24 239 P Pn 22 15 07.4 +1.4
OSC1 CSNet OBS 1 4.28 160 P Pn 22 15 07.4 +0.8
SMTH Samothraki Isl 4.28 314 P Pn 22 15 07.0 +0.3
SMTH Samothraki Isl 4.28 314 P Pn 22 15 07.0 +0.3
ALN Alexandroupoli 4.31 322 P Pn 22 15 07.5 +0.5
ALN Alexandroupoli 4.31 322 P Pn 22 15 07.5 +0.5
ALN Alexandroupoli 4.31 322 P Pn 22 15 07.3 +0.3
ALN Alexandroupoli 4.31 322 Pn Pn 22 15 07.3 +0.3
IDI Anoyia 4.39 240 Pn Pn 22 15 09.7 +1.4
comp=E,14nm,0.3s,baz=40,slow=5.1,SNR=106
IDI Sn Sn 22 15 56.3 -2.8
comp=E,7.8nm,0.3s,baz=308,slow=3.2,SNR=3.0
IDI LR LR 22 16 55.9
comp=E,61nm,20.6s,baz=73,slow=39
IDI Anoyia 4.39 240 ⇑P Pn 22 15 11.6 +3.3
IDI Anoyia 4.39 240 ⇑S Sn 22 16 01.8 +2.7
IDI Anoyia 4.39 240 P Pn 22 15 09.6 +1.3
IDI Anoyia 4.39 240 P Pn 22 15 09.6 +1.3
IDI Anoyia 4.39 240 Pn Pn 22 15 08.8 +0.6
DION Dionisos Attik 4.49 278 P Pn 22 15 10.1 +0.6
DION Dionisos Attik 4.49 278 P Pn 22 15 10.1 +0.6
SIVA Sivas 4.60 238 P Pn 22 15 13.3 +2.3
RDO Rodhopi 4.75 320 P Pn 22 15 13.7 +0.6
RDO Rodhopi 4.75 320 P Pn 22 15 13.7 +0.6
VAM Vamos 4.82 245 P Pn 22 15 17.2 +3.1
VAM Vamos 4.82 245 P Pn 22 15 16.1 +2.0
THAS Thassos island 4.84 310 P Pn 22 15 15.9 +1.5
THAS Thassos island 4.84 310 P Pn 22 15 15.9 +1.5
IMMV Iera Moni Meta 4.96 247 P Pn 22 15 18.1 +2.2
IMMV Iera Moni Meta 4.96 247 P Pn 22 15 17.7 +1.8
OUR Ouranopolis 5.16 304 P Pn 22 15 19.4 +0.7
OUR Ouranopolis 5.16 304 P Pn 22 15 19.4 +0.7
PAIG Paliouri 5.17 299 P Pn 22 15 19.5 +0.6
PAIG Paliouri 5.17 299 P Pn 22 15 19.5 +0.6
KAVA Kavala 5.21 313 P Pn 22 15 19.8 +0.4
KAVA Kavala 5.21 313 P Pn 22 15 19.8 +0.4
VLI Veliai 5.36 263 P Pn 22 15 23.4 +1.9
VLI Veliai 5.36 263 P Pn 22 15 23.4 +1.9
KTHA Kythira Island 5.37 258 P Pn 22 15 23.7 +2.1
KTHA Kythira Island 5.37 258 P Pn 22 15 23.7 +2.1
PLG Polygyros 5.54 302 P Pn 22 15 24.8 +0.9
PLG Polygyros 5.54 302 P Pn 22 15 24.8 +0.9
BZK Bozkurt 5.57 36 Pn 22 15 24.9 +0.6
NVR Nevrokopi 5.81 312 P Pn 22 15 28.5 +0.8
NVR Nevrokopi 5.81 312 P Pn 22 15 28.5 +0.8
SOH Sokhos 5.82 306 P Pn 22 15 28.9 +1.0
SOH Sokhos 5.82 306 P Pn 22 15 28.9 +1.0
SRS Serrai 5.84 309 P Pn 22 15 28.6 +0.6
SRS Serrai 5.84 309 P Pn 22 15 28.6 +0.6
AGG Agios Georgios 5.87 287 P Pn 22 15 30.4 +1.8
AGG Agios Georgios 5.87 287 P Pn 22 15 30.4 +1.8
AGG Agios Georgios 5.87 287 P Pn 22 15 29.2 +0.6
AGG Agios Georgios 5.87 287 P Pn 22 15 29.2 +0.6
HORT Hortiatis 5.87 303 P Pn 22 15 29.8 +1.2
HORT Hortiatis 5.87 303 P Pn 22 15 29.8 +1.2
KLV Kalavryta, Ach 5.89 277 P Pn 22 15 30.5 +1.7
KLV Kalavryta, Ach 5.89 277 P Pn 22 15 30.5 +1.7
TRIZ Trizonia 5.97 280 P Pn 22 15 32.0 +2.1
TRIZ Trizonia 5.97 280 P Pn 22 15 32.0 +2.1
SERG Sergoula 5.99 281 P Pn 22 15 32.2 +2.0
SERG Sergoula 5.99 281 P Pn 22 15 32.2 +2.0
DIKM Dikmen 6.00 45 ⇓P Pn 22 15 30.9 +0.6
LIT Litokhoron 6.08 297 P Pn 22 15 33.1 +1.7
LIT Litokhoron 6.08 297 P Pn 22 15 33.1 +1.7
LIT Litokhoron 6.08 297 P Pn 22 15 32.2 +0.9
LIT Litokhoron 6.08 297 Pn 22 15 32.2 +0.9
ITM Ithomi 6.09 269 Pn 22 15 34.0 +2.5
GAZ Gaziantep 6.11 91 Pn 22 15 33.8 +2.0
EFP Efpalio 6.11 281 P Pn 22 15 33.9 +2.1
EFP Efpalio 6.11 281 P Pn 22 15 33.9 +2.1
ANX Ano Chora 6.12 282 P Pn 22 15 34.0 +2.0
ANX Ano Chora 6.12 282 P Pn 22 15 34.0 +2.0
HWQ Hawqa 6.13 120 *eP* Pn 22 15 33.8 +1.7
BHL Bhannes 6.15 125 *eP* Pn 22 15 32.9 +0.5
DQRL Deir Qamar 6.22 126 *eP* Pn 22 15 33.6 +0.2
SNOP Sinop 6.23 43 Pn 22 15 33.7 +0.4
THL Klokotos Trika 6.25 291 P Pn 22 15 35.3 +1.7
THL Klokotos Trika 6.25 291 P Pn 22 15 35.3 +1.7
EVR Evrytania 6.25 285 P Pn 22 15 35.9 +2.1
EVR Evrytania 6.25 285 P Pn 22 15 35.9 +2.1
KNT Kendrikon 6.29 307 P Pn 22 15 35.8 +1.5
KNT Kendrikon 6.29 307 P Pn 22 15 35.8 +1.5
GRG Griva 6.51 304 P Pn 22 15 39.0 +1.7
GRG Griva 6.51 304 P Pn 22 15 39.0 +1.7
RCY Rachaya 6.52 127 *eP* Pn 22 15 38.5 +0.9
MMAI Mount Meron Ar 6.58 132 Pn Pn 22 15 37.3 -1.0
comp=E,68nm,0.3s,baz=316,slow=10,SNR=207
MMAI Sn Sn 22 16 51.9 -1.2
comp=E,27nm,0.3s,baz=315,slow=31,SNR=8.7
MMAI LR LR 22 18 46.2
comp=E,158nm,18.5s,baz=340,slow=44
VAY Valandovo 6.59 307 *i* P Pn 22 15 40.4 +2.0
MFTR Murfatlar 6.67 353 ⇓P Pn 22 15 39.8 +0.4
ICOR Ion Corvin 6.69 349 ⇑P Pn 22 15 40.3 +0.6

ZIMR 6.88 334 ⇑P Pn 22 15 43.2 +0.9
TIRR Tirgusor 6.95 353 ⇑P Pn 22 15 43.4 +0.1
TIRR Tirgusor 6.95 353 P Pn 22 15 43.3 +0.1
TIRR Tirgusor 6.95 353 Pn 22 15 43.3 +0.1
VTS Vitosha 7.00 318 ⇑P Pn 22 15 45.1 +0.9
VTS Vitosha 7.00 318 P Pn 22 15 44.7 +0.5
VTS Vitosha 7.00 318 Pn 22 15 44.7 +0.5
SLUM Salum 7.03 212 S Sn 22 16 57.4 -6.7
baz=213
SLUM AMP 22 16 00.0
baz=213
STIP Stip 7.03 308 *i* P Pn 22 15 44.3 -0.1
TLBR Topalu 7.08 351 ⇑P Pn 22 15 45.1 +0.1
FNA Florina 7.13 299 P Pn 22 15 48.2 +2.4
FNA Florina 7.13 299 P Pn 22 15 48.2 +2.4
FNA Florina 7.13 299 P Pn 22 15 47.5 +1.7
FNA Florina 7.13 299 Pn 22 15 47.5 +1.7
SGRR Singureni 7.19 339 ⇑P Pn 22 15 46.9 +0.3
JURR Jurilovca 7.22 356 ⇑P Pn 22 15 47.4 +0.4
HARR Harsova 7.23 351 ⇑P Pn 22 15 47.2 0.0
TPGR Topolog 7.34 354 ⇓P Pn 22 15 48.8 +0.1
COPA Copaceanca 7.35 335 ⇑P Pn 22 15 49.3 +0.6
LSK Leskovik 7.46 293 P Pn 22 15 53.7 +3.4
KBN Korca 7.48 297 P Pn 22 15 52.1 +1.4
KBN Korca 7.48 297 Pn 22 15 52.1 +1.4
IGT Igoumenitsa 7.50 288 P Pn 22 15 54.5 +3.7
SEV Sevastopol' 7.64 23 *eP* Pn 22 15 53.0 +0.3
SEV *eS* Sn 22 17 16.5 -2.4
TLCR 7.64 356 ⇑P Pn 22 15 53.4 +0.7
CFR Carcaliu 7.69 352 ⇑P Pn 22 15 53.2 -0.2
HUMR Humele 7.78 335 ⇓P Pn 22 15 54.6 0.0
HMYD Mayadein 7.81 172 P Pn 22 15 54.2 -0.9
baz=171
SECR 7.92 342 ⇑P Pn 22 15 58.2 +1.6
HNAT Natroun 7.95 173 P Pn 22 15 57.2 +0.1
baz=173
GHAJ Ghor Haditha 7.97 140 Pn 22 15 58.2 +1.0
ASF Jabal al Asfar 8.07 130 Pn Pn 22 15 57.8 -1.0
comp=E,1.5nm,0.3s,baz=247,slow=8.1,SNR=13
ASF Sn Sn 22 17 31.9 +2.2
comp=E,0.9nm,0.3s,baz=262,slow=22,SNR=1.8
HSAF As Saff 8.09 168 P Pn 22 15 58.8 -0.2
baz=167
SIM Simferopol' 8.14 23 P Pn 22 15 59.7 0.0
SIM pmax pmax
comp=Z,23nm,0.3s
GLL Jalalah 8.16 167 P Pn 22 15 59.8 -0.1
baz=166
BISRR Bisoca 8.27 346 ⇑P Pn 22 16 02.6 +1.2
MTUR Matau 8.38 338 ⇓P Pn 22 16 03.3 +0.4
MLR Muntele Rosu 8.38 342 Pn Pn 22 16 03.9 +0.9
comp=Z,4.0nm,0.3s,baz=308,slow=2.7,SNR=80
MLR Lg Lg 22 18 26.4
comp=Z,0.0nm,0.3s,baz=349,slow=22,SNR=1.2
MLR Muntele Rosu 8.38 342 ⇓P Pn 22 16 04.4 +1.3
SUDU Sudak 8.39 27⇓*eP* Pn 22 16 03.5 +0.4
SUDU *eS* Sn 22 17 37.1 -0.3
TIR Tirane 8.40 300 ⇑P Pn 22 16 04.6 +1.4
ODBI Odobesti 8.41 348 ⇑P Pn 22 16 03.9 +0.6
BOVS Bovan 8.52 318 ⇑P Pn 22 16 05.2 +0.4
PLOR Plostina 8.57 346 ⇑P Pn 22 16 06.9 +1.4
VOIR 8.57 338 ⇑P Pn 22 16 06.2 +0.6
VRI Vrincioaia 8.57 347 ⇓P Pn 22 16 06.7 +1.2
ARR Arges 8.64 336 ⇑P Pn 22 16 07.0 +0.5
GHRR 8.65 350 ⇓P Pn 22 16 07.0 +0.5
PUK Puka 8.69 304 Pn 22 16 09.1 +1.9
DOPR Dopca 8.96 341 ⇓P Pn 22 16 12.4 +1.4
SWA2 8.97 204 P Pn 22 16 10.6 -0.4
baz=204
OZUR 8.99 343 ⇓P Pn 22 16 12.0 +0.8
LOT Lotru 9.00 333 ⇑P Pn 22 16 11.5 0.0
SCTE Santa Cesarea 9.02 290 Pn Pn 22 16 12.8 +1.2
NBNS Bani Suef 9.03 170 P Pn 22 16 11.2 -0.6
baz=169
EIL Elat 9.05 149 Pn Pn 22 16 11.7 -0.6
comp=Z,5.0nm,0.3s,baz=306,slow=3.1,SNR=30
EIL Sn Sn 22 17 43.5 -10
baz=173,slow=7.0,SNR=1.6
PDG Podgorica 9.29 305 Pn 22 16 17.8 +2.5
MDVR Moldovita 9.33 323 ⇑P Pn 22 16 15.7 -0.3
GZR Gura Zlata 9.34 329 ⇓P Pn 22 16 15.9 -0.2
ANN Anapa 9.36 37 *eP* Pn 22 16 15.7 -0.5
ANN *eS* Sn 22 18 01.4 +0.4
ANN pmax pmax
comp=Z,20nm,1.0s
MILM Milestii Mici 9.37 357 ⇑P Pn 22 16 16.5 0.0
MDB Medias 9.41 337 ⇓P Pn 22 16 18.0 +1.0
DEV Deva 9.69 331 ⇑P Pn 22 16 22.0 +1.2
HKAT Jabal Katrina 9.74 156 P Pn 22 16 21.6 -0.3
baz=155
DIVS Divibare 9.76 315 Pn Pn 22 16 22.3 +0.5
HDHB Dhahab 9.77 153 P Pn 22 16 22.7 +0.7
baz=152
TR2 Tor 2 9.79 158 P Pn 22 16 21.9 -0.3
baz=157
SOC Sochi 9.79 49 *eP* Pn 22 16 19.2 -3.0
SOC *e* 22 18 08.5
SOC MLR MLR
comp=Z,92nm,12.0s
BZS Buzias 10.01 326 ⇓P Pn 22 16 24.6 -0.6
ARCR ARCALIA 10.27 340 ⇑P Pn 22 16 29.8 +1.0
DRGR 10.53 333 ⇓P Pn 22 16 32.2 -0.2
BURAR Bucovina Array 10.55 344 ⇑P Pn 22 16 32.0 -0.7
BURAR Bucovina Array 10.55 344 Pn Pn 22 16 33.3 +0.6
SORM Soroca 10.61 356 ⇑P Pn 22 16 33.0 -0.4
BMR Baia Mare 11.05 338 ⇑P Pn 22 16 39.9 +0.5
SGRT San Giovanni R 11.45 296 Pn Pn 22 16 45.3 +0.3
ONI Oni 11.77 60 P Pn 22 16 51.7 +2.3
ONI Oni 11.77 60 Pn 22 16 51.7 +2.3
KIV Kislovodsk 11.82 53 *eP* Pn 22 16 51.6 +1.5
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,10.0s
KBZ Khabaz 11.85 54 Pn Pn 22 16 56.0 +5.5
comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=1.4
MORH Mrgy, Hungar 11.87 320 ⇑P Pn 22 16 50.7 +0.1
MORH Mrgy, Hungar 11.87 320 *eP* Pn 22 16 50.8 +0.1
VAE Valguarnera 12.03 274 Pn Pn 22 16 54.5 +1.5
comp=Z,0.3nm,0.3s,baz=16,slow=15,SNR=2.0
KOVH Kovagotottos 12.06 319 *eP* Pn 22 16 53.8 +0.4
RAFF Raffo Rosso 12.10 273 Pn Pn 22 16 55.1 +1.2
PAOL Paolisi 12.12 291 Pn Pn 22 16 55.0 +0.8
UZH Uzhgorod 12.27 337 *eP* Pn 22 16 59.8 +3.7
UZH *eS* Sn 22 19 18.8 +6.3
UZH MLR MLR
comp=N,80nm,11.0s
UZH MLR MLR
comp=E,70nm,11.0s
UZH MLR MLR
comp=Z,90nm,11.0s
KOLS Kolonicke sedl 12.54 337 *eP* Pn 22 17 01.7 +1.8
KOLS Kolonicke sedl 12.54 337 *ePN* Pn 22 17 01.7 +1.8
KWP Kalwaria Pacla 13.04 340 P Pn 22 17 07.9 +1.1
KWP Kalwaria Pacla 13.04 340 Pn 22 17 07.8 +1.1
MPLH Magyarpolny 13.07 321 *eP* Pn 22 17 09.3 +2.2
AKASG Malin Array Be 13.14 359 Pn Pn 22 17 06.4 -1.6
comp=Z,0.8nm,0.3s,baz=172,slow=12,SNR=1.4
AKBB Malin Array Si 13.14 359⇓*eP* Pn 22 17 07.0 -1.1
AKBB Malin Array Si 13.14 359 Pn Pn 22 17 07.5 -0.5
MODS Modra-Piesok 14.04 324 *eP* P 22 17 29.4 +1.2
MODS Modra-Piesok 14.04 324 *ePN* P 22 17 29.4 +1.2
SMOL Smolenice 14.07 325 *eP* P 22 17 30.4 +1.9
SMOL Smolenice 14.07 325 *ePN* P 22 17 30.4 +1.9
ARSA Arzberg 14.17 318 *eP* Pn 22 17 23.8 +1.6
comp=Z,5.9nm,1.0s
JAVC Velka Javorina 14.22 326 *eP* P 22 17 32.2 +2.0
CONA Conrad Observa 14.43 320 *eP* Pn 22 17 27.3 +1.6
comp=Z,8.7nm,1.7s
OKC Ostrava-Krasne 14.77 330 *eP* P 22 17 38.2 +2.0
OKC Ostrava-Krasne 14.77 330 *eP* P 22 17 38.2 +2.0
KRUC Moravsky 14.95 324 *eP* P 22 17 39.2 +1.1
MORC Moravsky Berou 14.97 328 *eP* P 22 17 39.6 +1.1
VRAC Vranov 15.03 326 LR LR 22 24 03.8
comp=Z,86nm,18.9s,baz=158,slow=40
VRAC Vranov 15.03 326 *eP* P 22 17 40.3 +1.2
VORD Divnogorie 15.09 24 *eP* P 22 17 37.2 -2.5
VORD pmax pmax
comp=Z,4.0nm,0.9s
MOA Molln 15.21 317 *eP* P 22 17 42.5 +1.4
VSR Storozhevoye 15.27 23 *eP* Pn 22 17 35.0 -1.9
VSR pmax pmax
comp=Z,3.0nm,0.5s

TREC Trest 15.53 324 AMS AMS 22 24 30.0
comp=Z,400nm,10.5s
CKRC Cesky Krumlov 15.79 320 *eP* P 22 17 50.4 +2.8
CKRC AMS AMS 22 24 30.0
comp=Z,300nm,13.4s
DPC Dobruska-Polom 15.92 328 *eP* P 22 17 50.5 +1.5
DPC MLR MLR
comp=Z,200nm,11.0s
DPC Dobruska-Polom 15.92 328 *eP* P 22 17 50.5 +1.5
DPC AMS AMS 22 25 10.0
comp=Z,200nm,11.0s
GEC2 GERESS Array S 16.12 319 P P 22 17 50.8 -0.6
GEC2 GERESS Array S 16.12 319 *eP* P 22 17 53.3 +2.0
comp=Z,19nm,1.0s,baz=125,slow=10
GEC2 *eL* L 22 25 19.6
comp=Z,79nm,19.3s
GERES GERESS Array B 16.12 319 Pn P 22 17 50.7 -0.6
comp=Z,0.3nm,0.3s,baz=125,slow=12,SNR=52
GERES LR LR 22 25 30.6
comp=Z,84nm,20.0s,baz=142,slow=43
GERES GERESS Array B 16.12 319 P P 22 17 50.9 -0.4
UPC Upice 16.17 328 *eP* P 22 17 53.4 +1.7
UPC MLR MLR
comp=Z,300nm,12.3s
UPC Upice 16.17 328 *eP* P 22 17 53.4 +1.7
UPC AMS AMS 22 25 20.0
comp=Z,300nm,12.3s
CHVC Chvalec 16.21 328 *eP* P 22 17 54.8 +2.6
KEST Kesra 16.33 270 Pn P 22 17 52.5 -1.2
comp=Z,0.1nm,0.3s,baz=74,slow=7.4,SNR=3.2
KEST Kesra 16.33 270 P P 22 17 52.5 -1.2
KHC Kasperske Hory 16.36 320 P P 22 17 52.7 -1.2
KHC pmax pmax
comp=Z,9.0nm,1.1s
KHC Kasperske Hory 16.36 320 *eP* P 22 17 54.4 +0.5
KHC AMS AMS 22 25 00.0
comp=Z,400nm,12.5s
KHC Kasperske Hory 16.36 320 P P 22 17 52.7 -1.2
WTTA Wattenberg 16.38 312 *eP* P 22 17 57.4 +3.1
comp=Z,7.5nm,1.0s
WATA Walderalm 16.45 312 *eP* P 22 17 56.7 +1.7
comp=Z,16nm,1.6s
PRU Pruhonice 16.46 324 *eP* P 22 17 55.9 +1.0
PRU MLR MLR
comp=Z,300nm,12.9s
PRU Pruhonice 16.46 324 *eP* P 22 17 55.9 +1.0
PRU AMS AMS 22 25 00.0
comp=Z,300nm,12.9s
SQTA Sankt Quirin 16.61 311 *eP* P 22 17 57.7 +0.9
comp=Z,11nm,1.3s
WET Wettzell 16.73 319 *eL* L 22 24 44.4
comp=Z,106nm,20.5s
MOTA Moosalm 16.73 312 *eP* P 22 17 58.3 +0.1
comp=Z,6.5nm,0.9s
FETA Feichten 16.80 310 *eP* P 22 18 00.6 +1.6
comp=Z,14nm,1.0s
PVCC Panska Ves 16.82 325 *eP* P 22 18 01.0 +2.1
PVCC MLR MLR
comp=Z,300nm,9.4s
PVCC Panska Ves 16.82 325 *eP* P 22 18 01.0 +2.1
PVCC AMS AMS 22 25 20.0
comp=Z,300nm,9.4s
FUR Furstenfeldbru 17.05 314 *eL* L 22 25 21.6
comp=Z,147nm,18.8s
DAVOX Davos/Dischmat 17.22 309 P Pn 22 18 02.7 +0.6
comp=Z,0.2nm,0.3s,baz=142,slow=15,SNR=2.6
DAVOX LR LR 22 25 46.4
comp=Z,221nm,18.3s,baz=84,slow=41
BRG Berggiesshubel 17.35 325 *eP* P 22 18 05.0 +0.2
BRG Amp 22 18 12.8
comp=Z,13nm,1.5s
BRG Amp 22 25 49.0
comp=N,0.3nm,10.2s
BRG Amp 22 25 58.0
comp=Z,0.3nm,12.7s
BRG Amp 22 26 29.0
comp=E,0.2nm,6.7s
DAVA Damuels 17.44 310 *eP* P 22 18 08.6 +2.6
comp=E,11nm,1.1s
UBR Ueberruh 17.49 312 *eP* P 22 18 08.4 +2.0
comp=E,15nm,1.0s,baz=125,slow=10
GRF Grafenberg Arr 17.93 318 *eP* P 22 18 13.1 +2.0
baz=125,slow=10
GRF *eL* L 22 25 31.8
comp=E,87nm,19.8s
CLL Collm 18.07 325 *eP* Pn 22 18 12.0 -0.4
CLL Collm 18.07 325 *eP* Pn 22 18 12.0 -0.4
CLL Collm 18.07 325 *eL* L 22 25 47.2
comp=E,80nm,18.6s
MOX Moxa 18.30 321 *eL* L 22 27 33.8
comp=E,74nm,18.7s
SENIN Lac Senin/Sane 18.70 305 P Pn 22 18 20.9 +0.5
SENIN IAmb IAmb 22 18 27.5
comp=Z,16nm,1.4s
BFO Black Forest 18.85 312 P Pn 22 18 22.3 +0.4
BFO pmax pmax
comp=Z,7.0nm,0.7s
BFO Black Forest 18.85 312 P Pn 22 18 22.3 +0.4
BFO IAmb IAmb 22 18 27.7
comp=Z,6.7nm,0.7s
BFO Black Forest 18.85 312 *eL* L 22 25 21.6
comp=Z,55nm,21.2s
BELG Belogornoye 19.50 35 P P 22 18 25.6 -2.7
comp=Z,0.2nm,0.3s,baz=29,slow=16,SNR=2.7
ECH Echery 19.50 310 P Pn 22 18 30.2 +0.4
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 19.50 310 P Pn 22 18 30.2 +0.4
ECH IAmb IAmb 22 18 35.4
comp=Z,6.6nm,0.9s
RAYN Ar Rayn 19.56 131 P P 22 18 29.9 +0.6
RAYN pmax pmax
comp=Z,9.0nm,1.4s
RAYN Ar Rayn 19.56 131 P P 22 18 29.9 +0.6
TNS Taunus Mts 19.71 317 *eL* L 22 26 37.6
comp=Z,68nm,20.2s
VSU Vasula 21.00 356⇑*eP* P 22 18 44.2 -0.4
VSU pmax pmax
comp=Z,27nm,0.9s
BSEG Bad Segeberg 21.07 327 *eL* L 22 28 07.8
comp=Z,46nm,19.9s
PUL Pulkovo 22.24 1⇑*eP* P 22 18 58.0 +0.1
PUL pmax pmax
comp=Z,46nm,0.7s
FINES FINESS Array B 24.01 356 P P 22 19 15.4 -0.4
comp=Z,1.1nm,0.4s,baz=162,slow=12,SNR=12
FINES LR LR 22 29 18.5
comp=Z,131nm,18.1s,baz=148,slow=38
FINES FINESS Array B 24.01 356 *i P* P 22 19 16.0 +0.1
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 24.01 356 P P 22 19 15.8 -0.1
AKTO Aktyubinsk 24.01 48 P P 22 19 14.9 -1.1
comp=Z,1.7nm,0.6s,baz=252,slow=14,SNR=8.4
FIA1 FINESS Array S 24.01 356 P P 22 19 15.9 0.0
KLMR Klimovskoe 24.16 12 *eP* P 22 19 16.4 -0.8
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 24.16 12 *eP* P 22 19 16.5 -0.8
KLMR AMP 22 19 31.9
comp=Z,15nm,1.3s
HFS Hagfors 24.76 341 P P 22 19 22.7 -0.1
comp=Z,4.3nm,0.9s,baz=156,slow=12,SNR=3.1
ABKAR Akbulak array 24.81 52 P P 22 19 23.7 +0.4
ABKAR Akbulak array 24.81 52 P P 22 19 23.4 +0.1
PRGR Permogore 26.11 17 *eP* P 22 19 33.7 -1.2
PRGR pmax pmax
comp=Z,6.0nm,1.4s
NOA NORSAR Array B 26.19 340 P P 22 19 34.4 -1.3
comp=Z,1.3nm,1.0s,baz=158,slow=8.3,SNR=2.1
NOA LR LR 22 30 59.6
comp=Z,80nm,20.4s,baz=155,slow=39
ESDC Sonseca Array 26.20 285 P P 22 19 36.4 +0.3
comp=Z,1.1nm,0.8s,baz=77,slow=11,SNR=6.6
ARU Arti 27.02 36 P P 22 19 43.0 -0.2
comp=Z,0.3nm,0.4s,baz=234,slow=14,SNR=1.4
ARU Arti 27.02 36*d i P* P 22 19 43.5 +0.2
ARU S S 22 24 20.4 +0.4
ARU pmax pmax
comp=Z,2.0nm,0.9s
KK31 Karatay Array 31.47 67 P P 22 20 22.8 -0.2
KK31 pmax pmax
comp=Z,2.0nm,1.0s
KK31 Karatay Array 31.47 67 P P 22 20 22.8 -0.2
KK31 IAmb IAmb 22 20 32.1
comp=Z,2.0nm,0.9s

KKAR Karatay Array 31.47 67 P **P 22 20 22.8 -0.2**
KKAR Karatay Array 31.47 67 P **P 22 20 22.9 0.0**
KKAR IAmb IAmb 22 20 32.1
comp=Z,2.0nm,0.9s
KKAR Karatay Array 31.47 67 P **P 22 20 22.8 -0.2**
ARCES ARCESS Array B 32.12 357 P **P 22 20 27.8 -0.5**
comp=Z,1.3nm,0.8s,baz=184,slow=9.6,SNR=1.6
ARCES LR LR 22 34 09.2
comp=Z,69nm,18.7s,baz=100,slow=38
AAK Ala-Archa 34.43 67‖ *eP* **P 22 20 49.6 +0.6**
AAK pmax pmax
comp=Z,5.0nm,1.0s
TOA0 Torodi Ar. Sit 34.76 233 P **P 22 20 52.4 +0.5**
TORD Torodi Ar. Bea 34.76 233 P **P 22 20 52.1 +0.2**
comp=Z,3.3nm,0.9s,baz=34,slow=8.7,SNR=18
TORD Torodi Ar. Bea 34.76 233 P **P 22 20 52.3 +0.5**
TORD IAmb IAmb 22 21 05.3
comp=Z,2.4nm,1.0s
MBAR Mbarara 37.98 178 P **P 22 21 19.0 -0.5**
MBAR pmax pmax
comp=Z,11nm,1.6s
MBAR Mbarara 37.98 178 P **P 22 21 19.0 -0.5**
MAKZ Makanchi 39.28 59 P **P 22 21 29.8 -0.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.8s
MAKZ Makanchi 39.28 59 P **P 22 21 29.8 -0.2**
MAKZ IAmb IAmb 22 21 30.5
comp=Z,7.7nm,1.8s
MK31 Makanchi Array 39.49 59 *d iP* **P 22 21 31.7 -0.1**
MK31 Makanchi Array 39.49 59 P **P 22 21 31.9 +0.1**
MK31 IAmb IAmb 22 21 32.6
comp=Z,4.8nm,1.2s
MKAR Makanchi Array 39.49 59 P **P 22 21 31.7 -0.1**
comp=Z,2.6nm,0.6s,baz=272,slow=8.8,SNR=47
ZALV Zalesovo Beam 40.77 48 P **P 22 21 41.3 -1.0**
comp=Z,1.4nm,0.7s,baz=263,slow=8.3,SNR=5.6
ZALV Zalesovo Beam 40.77 48 *i P* **P 22 21 41.7 -0.6**
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 40.77 48 P **P 22 21 42.9 +0.6**
DGZ Jazzator, Alta 42.60 54‖ *eP* **P 22 21 57.0 -0.5**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
WMQ Urumqi 43.74 63 *eP* **P 22 22 09.5 +2.8**
HHC Hu-ho-hao-te 61.36 59 *eP* **P 22 24 16.9 -0.4**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,230nm,7.8s
RES Resolute Bay 62.25 346 LR LR 22 53 10.2
comp=Z,36nm,18.6s,baz=276,slow=38
CMAR Chiang Mai Arr 62.83 87 P **P 22 24 25.4 -1.9**
comp=Z,0.5nm,0.6s,baz=299,slow=8.0,SNR=2.3
KDAK Kodiak Island 85.00 1 P **P 22 26 36.5 +0.1**
comp=Z,5.6nm,1.1s,baz=270,slow=4.0

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*TUL **08** 22:21:45.5±1.4, 36°.80N±0°.03×98°.31W±0°.04, h4km±7km, ML2.9, mb_Lg2.7/42(NEIC), Error ellipse: s-maj=5.2km s-min=3.2km az=119.0*

NEIC 08 22:21:46.0±1.3, 36°.77N±0°.04×98°.31W±0°.05, h7km±7km, Error ellipse: s-maj=6.5km s-min=5.6km az=184.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.09**	**67**	Pg	Pg	22 21 47.7	-0.4
OK032				Sg	Sg	22 21 49.3	-0.4
GC02	**Grant County #**	**0.37**	**77**	Pg	Pg	22 21 52.9	-0.3
GC02				Sg	Sg	22 21 58.2	0.0
CROK	**Carrier**	**0.37**	**135**	Pg	Pg	22 21 53.4	+0.2
KAN10	**Anthony SW Sta**	**0.39**	**26**		Pg	22 21 53.1	-0.6
KAN10				Sg	Sg	22 21 58.5	-0.4
KAN05	**Bluff City Nor**	**0.49**	**46**		Pg	22 21 55.0	-0.5
KAN05				Sg	Sg	22 22 01.4	-0.4
KAN17	**Caldwell West**	**0.52**	**58**		Pg	22 21 55.5	-0.5
KAN08	**Anthony NE Sta**	**0.53**	**31**		Pg	22 21 55.2	-1.1
KAN09	**Caldwell North**	**0.67**	**56**		Pg	22 21 58.2	-0.6
U32A	**Winter Ranch,**	**0.68**	**235**	Pg	Pg	22 21 59.0	-0.1
U32A	**Winter Ranch,**	**0.68**	**235**	P		22 21 59.1	
U32A	baz=53,SNR=26			S		22 22 08.7	
KAN13	**South Haven SW**	**0.71**	**70**		Pg	22 21 59.0	-0.6
KS20	**Mayfield South**	**0.76**	**53**		Pg	22 21 59.9	-0.8
BLOK	**Blackwell**	**0.88**	**90**	Pg	Pg	22 22 02.1	-0.8
OK029	**Liberty Lake**	**1.19**	**144**		Pg	22 22 08.2	-0.6
BCOK	**Bluff Creek, N**	**1.25**	**153**		Pn	22 22 08.9	-0.9
OK025	**Westminster Rd**	**1.42**	**146**		Pn	22 22 11.9	-0.3
QUOK	**Quay**	**1.42**	**114**		Pn	22 22 12.2	-0.1
OK031	**S. Brethren Rd**	**1.44**	**124**		Pn	22 22 12.4	-0.1
T35A	**Sooner Cattle**	**1.45**	**84**		Pn	22 22 12.2	-0.4
T35B	**Sooner Cattle**	**1.45**	**84**	P		22 22 12.3	
T35B	baz=266			S		22 22 31.6	
OKCFA	**Oklahoma City**	**1.52**	**152**	Pn	Pn	22 22 13.6	0.0
OKCFA	**Oklahoma City**	**1.52**	**152**	P		22 22 13.7	
OKCFA	baz=334			S		22 22 35.2	
FNO	**Franklin**	**1.68**	**154**		Pn	22 22 16.2	+0.5
R32A	**Long Quarter,**	**1.68**	**349**	Pn	Pn	22 22 15.9	+0.1
R32A	**Long Quarter,**	**1.68**	**349**	P		22 22 16.1	
R32A	baz=169,SNR=49			S		22 22 38.3	
WMOK	**Wichita Mounta**	**2.06**	**191**		Pn	22 22 21.8	+0.7
WMOK	**Wichita Mounta**	**2.06**	**191**	P		22 22 21.9	
WMOK	baz=10,SNR=46			S		22 22 50.6	
X34A	**Smith Ranch, M**	**2.20**	**170**		Pn	22 22 24.2	+1.4
X34A				IAmb_Lg		22 23 00.3	
TUL1	**Leonard**	**2.21**	**112**	P		22 22 24.6	
TUL1	baz=294,SNR=11			S		22 22 54.5	
CBKS	**Cedar Bluff**	**2.33**	**331**	IAmb_Lg		22 23 01.9	
CBKS	**Cedar Bluff**	**2.33**	**331**	S		22 22 57.7	
LOOK	**Love County**	**2.92**	**161**		Pn	22 22 34.0	+1.2
U38A	**Gravette**	**3.17**	**95**		Pn	22 22 37.4	+1.0
X37A	**Clayton**	**3.23**	**131**		Pn	22 22 37.9	+0.7
X37A				IAmb_Lg		22 23 37.7	
X37A	**Clayton**	**3.23**	**131**	P		22 22 37.5	
HHAR	**Hobbs**	**3.55**	**97**		Pn	22 22 41.8	+0.2
N33A	**J Bar K, Exete**	**4.02**	**9**	IAmb_Lg		22 23 59.9	
S39A	**Bolivar**	**4.09**	**75**		Pn	22 22 48.7	-0.1
S39A				IAmb_Lg		22 24 05.6	
S39A	**Bolivar**	**4.09**	**75**	P		22 22 49.3	
U40A	**Yellville**	**4.41**	**94**		Pn	22 22 53.3	-0.1
U40A				IAmb_Lg		22 24 10.7	
U40A	**Yellville**	**4.41**	**94**	P		22 22 54.4	
U40A	baz=277,SNR=7.4			P		22 22 54.4	
MIAR	**Mount Ida**	**4.45**	**119**	IAmb_Lg		22 24 11.7	
P38A	**Dawn**	**4.72**	**51**		Pn	22 22 57.9	+0.4
MGMO	**Mountain Grove**	**4.85**	**84**		Pn	22 22 59.9	+0.5
MGMO				IAmb_Lg		22 24 26.3	
T25A	**Trinidad**	**4.90**	**276**	Pn	Pn	22 22 60.0	-0.3
T25A				IAmb_Lg		22 24 26.8	
X40A	**Basin Creek Fa**	**5.01**	**115**	Pn	Pn	22 23 02.6	+1.1
X40A				IAmb_Lg		22 24 27.3	
R40A	**Maddies Statio**	**5.04**	**71**	Pn	Pn	22 23 02.1	+0.2
FCAR	**Ozark Folk Cen**	**5.07**	**98**	Pn	Pn	22 23 03.5	+1.1
OGNE	**Ogallala**	**5.08**	**326**	Pn	Pn	22 23 04.1	+1.4
OGNE				IAmb_Lg		22 24 39.3	
WHAR	**Wooly Hollow**	**5.10**	**105**	Pn	Pn	22 23 04.3	+1.6
WHAR				IAmb_Lg		22 24 33.1	
	comp=Z,12nm,0.7s						
L34A	**Svendsen Farm,**	**5.40**	**16**	Pn	Pn	22 23 06.0	-0.9
N38A	**Joes South For**	**5.64**	**43**	IAmb_Lg		22 24 57.8	
	comp=Z,16nm,0.8s						
P40A	**Paris**	**5.65**	**59**	IAmb_Lg		22 24 45.5	
	comp=Z,14nm,0.8s						
CCM	**Cathedral Cave**	**5.77**	**75**	Pn	Pn	22 23 12.4	+0.5
CCM				IAmb_Lg		22 24 54.2	
	comp=Z,9.5nm,0.9s						
T42A	**Van Buren**	**5.79**	**85**	Pn	Pn	22 23 12.1	-0.2
T42A				IAmb_Lg		22 24 50.9	
	comp=Z,6.8nm,0.9s						
LCAR	**Lake Charles**	**5.81**	**95**	Pn	Pn	22 23 12.3	-0.2
PBMO	**Poplar Bluff**	**6.33**	**88**	IAmb_Lg		22 25 14.0	
	comp=Z,7.3nm,0.7s						
SCIA	**State Center**	**6.47**	**36**	IAmb_Lg		22 25 22.3	
	comp=Z,14nm,0.7s						
PHWY	**Pilot Hill**	**7.17**	**311**	IAmb_Lg		22 25 45.3	
	comp=Z,8.4nm,1.0s						
MNTX	**Cornudas Mount**	**7.74**	**231**	IAmb_Lg		22 26 01.5	
	comp=Z,4.6nm,1.2s						
PV11	**David Mesa, Pa**	**8.53**	**283**	IAmb_Lg		22 26 29.4	
	comp=Z,6.0nm,1.1s						
RSSD	**Black Hills**	**8.54**	**331**	IAmb_Lg		22 26 21.6	
	comp=Z,10.0nm,1.2s						

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*IDC **08** 22:25:53.5±0.4, 58°.65S×25°.15W, h0km, mb4.6/12, mb1 4.6/14, mb1mx4.5/22, mbtmp4.5/14, ML4.3/2, MS4.0/14, Ms1 4.0/14, ms1mx3.9/18, Error ellipse: s-maj=20.1km s-min=14.2km az=59.0*

*GCMT **08** 22:26:02.2±0.4, 59°.04S±0°.03×24°.72W±0°.04, h33km, MW5.0/68, Moment Tensor Solution. s38,c43; s68,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.99±.22; $M_{\theta\theta}$0.55±.15; $M_{\phi\phi}$-3.54±.13; $M_{r\theta}$-1.32±.21; $M_{\theta\phi}$-0.44±.12; $M_{r\phi}$0.21±.15; Best double couple: $M_0$3.58700×10^{16} NP1:ϕ=208.00000°, δ49.00000°, λ123.00000°. NP2: ϕ=344.00000°, δ50.00000°, λ58.00000°. Principal axes: T 3.5870, Plg66.0000°, Azm187.0000°; N 0.0030, Plg24.0000°, Azm6.0000°; P -3.5870, Plg1.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 22:26:02.2±1.1, 58°.71S±0°.09×25°.3W±0°.2, h61km±2km, mb4.9/52 Error ellipse: s-maj=14.4km s-min=11.3km az=54.0*

ISC 08 22:25:58.7±0.3, **58°.87S**±0°.06×**25°.01W**±0°.08, **h35**km, **n243,** σ1**^{s}41**/235, **mb4.8**/31, **MS4.1**/12, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.83**	**301**		Pn	22 27 53.1	+3.2
VNA1	**Neumayer--Stat**	**13.73**	**156**	P	**Pn**	**22 29 12.0**	**+1.6**
VNA1				S	**Sn**	**22 31 35.3**	**-6.0**
VNA3	**Neumayer Olymp**	**13.93**	**159**	P	**Pn**	**22 29 14.7**	**+1.5**
VNA3				S	**Sn**	**22 31 43.5**	**-2.7**
SNAA	**Sanae**	**15.68**	**154**	P	**P**	**22 29 38.1**	**-2.2**
SNAA				S	**Sn**	**22 32 21.3**	**-7.6**
SNAA	**Sanae**	**15.68**	**154**	Pn	**P**	**22 29 38.1**	**-2.2**
	2.6nm,0.3s,baz=27,slow=13,SNR=50						
SNAA				Sn	**Sn**	**22 32 18.2**	**-11**
	0.4nm,0.3s,baz=345,slow=23,SNR=2.2						
SNAA				LR	LR	22 34 31.4	
	comp=Z,544nm,19.8s,baz=288,slow=33						
SNAA	**Sanae**	**15.68**	**154**	Pn	**P**	**22 29 38.6**	**-1.7**
SNAA				IAmb	IAmb	22 29 57.1	
	comp=Z,83nm,1.5s						
PMSA	**Palmer Station**	**19.10**	**236**	P	**Pn**	**22 30 18.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=84,slow=11,SNR=7.5						
PMSA				LR	LR	22 36 32.0	
	comp=Z,506nm,21.1s,baz=60,slow=33						
PMSA	**Palmer Station**	**19.10**	**236**	P	**Pn**	**22 30 19.2**	**+0.2**
PMSA	**Palmer Station**	**19.10**	**236**	*eP*	**Pn**	**22 30 20.9**	**+1.9**
EFI	**East Falkland**	**19.99**	**277**	P	**P**	**22 30 27.1**	**-0.8**
EFI				IAmb	IAmb	22 30 36.2	
	comp=Z,65nm,1.1s						
MG01	**Puerto William**	**23.30**	**261**	P	**P**	**22 31 03.4**	**+0.3**
MG01				IAmb	IAmb	22 31 06.2	
	comp=Z,54nm,1.1s						
GO09	**Cerro Castillo**	**27.62**	**265**	P	**P**	**22 31 40.6**	**-1.9**
QSPA	**South Pole Qui**	**31.37**	**180**	P	**P**	**22 32 18.1**	**+2.4**
	comp=Z,10nm,0.6s,baz=203,slow=3.1,SNR=122						
QSPA				PcP	**PcP**	**22 35 09.3**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=256,slow=3.7,SNR=3.6						
QSPA	**South Pole Qui**	**31.37**	**180**	P	**P**	**22 32 18.3**	**+2.5**
QSPA				IAmb	IAmb	22 32 19.1	
	comp=Z,16nm,0.8s						
TRQA	**Tornquist**	**31.55**	**295**	P	**P**	**22 32 17.6**	**+0.1**
TRQA	**Tornquist**	**31.55**	**295**	*eP*	**P**	**22 32 18.5**	**+1.1**
PLTB	**Pedras Altas**	**33.27**	**312**	P	**P**	**22 32 30.7**	**-1.8**
PLTB				IAmb	IAmb	22 32 39.8	
	comp=Z,39nm,1.7s						
PLCA	**Paso Flores**	**33.70**	**282**	P	**P**	**22 32 34.8**	**-1.5**
	comp=Z,5.2nm,0.7s,baz=130,slow=5.0,SNR=6.4						
PLCA	**Paso Flores**	**33.70**	**282**	P	**P**	**22 32 35.0**	**-1.3**
PLCA				IAmb	IAmb	22 32 36.2	
	comp=Z,31nm,1.5s						
ITQB	**Itaqui**	**36.31**	**310**	P	**P**	**22 32 56.7**	**-2.0**
ITAB	**Concordia**	**36.81**	**317**	P	**P**	**22 33 02.6**	**-0.4**
MAW	**Mawson**	**37.19**	**141**	P	**P**	**22 33 07.2**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=237,slow=8.4,SNR=11						
MAW				LR	LR	22 47 06.5	
	comp=Z,288nm,19.1s,baz=244,slow=34						
MAW	**Mawson**	**37.19**	**141**	P	**P**	**22 33 07.5**	**+1.7**
BO02	**Sierra Bellavi**	**38.41**	**288**	P	**P**	**22 33 16.3**	**-0.3**
GO05	**Huala**	**38.81**	**287**	P	**P**	**22 33 18.7**	**-1.2**
BO01	**Tunca**	**38.88**	**288**	P	**P**	**22 33 19.5**	**-0.9**
BO01				IAmb	IAmb	22 33 37.8	
	comp=Z,16nm,0.9s						
MT09	**Talagante**	**39.33**	**289**	P	**P**	**22 33 23.1**	**-1.2**
MT09				IAmb	IAmb	22 33 27.1	
	comp=Z,32nm,1.1s						
MT01	**Popeta**	**39.39**	**289**	P	**P**	**22 33 23.6**	**-1.1**
MT01				IAmb	IAmb	22 33 43.6	
	comp=Z,14nm,0.8s						
CPUP	**Villa Florida**	**39.56**	**311**	P	**P**	**22 33 23.4**	**-2.8**
	comp=Z,2.0nm,0.8s,baz=318,slow=1.3,SNR=3.8						
CPUP				LR	LR	22 50 37.9	
	comp=Z,124nm,19.3s,baz=156,slow=38						
CPUP	**Villa Florida**	**39.56**	**311**	P	**P**	**22 33 23.9**	**-2.2**
VA05	**Santo Domingo**	**39.73**	**289**	P	**P**	**22 33 26.6**	**-0.9**
MT02	**Curacav**	**39.82**	**289**	P	**P**	**22 33 27.4**	**-0.9**
ALF01	**Guarapari-ES**	**39.87**	**337**	*eP*	**P**	**22 33 28.5**	**-0.2**
VA03	**San Esteban**	**39.94**	**290**	P	**P**	**22 33 28.3**	**-1.1**
ZON	**Zonda**	**40.03**	**294**	P	**P**	**22 33 29.5**	**-0.6**
ZON				IAmb	IAmb	22 33 44.1	
	comp=Z,13nm,0.8s						
RIB01	**Linhares ES**	**41.07**	**338**	*eP*	**P**	**22 33 38.8**	**+0.1**
TRCB	**Terra Rica**	**41.07**	**319**	P	**P**	**22 33 37.5**	**-1.2**
TRCB				IAmb	IAmb	22 33 41.5	
	comp=Z,18nm,0.9s						
TRCB	**Terra Rica**	**41.07**	**319**	*eP*	**P**	**22 33 38.8**	**0.0**
CO02	**Combarbal**	**41.43**	**291**	P	**P**	**22 33 40.8**	**-0.9**
CO02				IAmb	IAmb	22 33 44.9	
	comp=Z,16nm,1.0s						
BSFB	**Barra de Sao F**	**41.63**	**337**	*eP*	**P**	**22 33 43.1**	**-0.2**
SJMB	**Sao Joao De Ma**	**41.82**	**337**	*eP*	**P**	**22 33 44.2**	**-0.7**
GO04	**Tololo Observa**	**42.19**	**292**	P	**P**	**22 33 47.5**	**-0.5**
DIAM	**Diamantina, MG**	**42.76**	**333**	*eP*	**P**	**22 33 50.5**	**-2.2**
SBA	**Scott Base**	**43.33**	**184**	P	P	22 34 00.3	+3.8
SBA				IAmb	IAmb	22 34 00.8	
	comp=Z,15nm,1.0s						
GUA01	**Guaratinga, BA**	**43.62**	**339**	*eP*	**P**	**22 33 59.3**	**-0.1**
VNDA	**Vanda**	**43.79**	**182**	P	**P**	**22 34 02.9**	**+2.6**
	comp=Z,8.6nm,0.7s,baz=190,slow=7.4,SNR=36						
VNDA				PcP	**PcP**	**22 35 47.3**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=206,slow=4.1,SNR=2.9						
VNDA				LR	LR	22 50 51.7	
	comp=Z,133nm,21.7s,baz=185,slow=34						
VNDA	**Vanda**	**43.79**	**182**	P	**P**	**22 34 03.1**	**+2.9**
VNDA				IAmb	IAmb	22 34 04.0	
	comp=Z,12nm,0.8s						
AC04	**Llanos de Chal**	**43.96**	**294**	P	**P**	**22 34 01.5**	**-0.6**
AC04				IAmb	IAmb	22 34 18.3	
	comp=Z,33nm,0.9s						
AC02	**Maricunga**	**44.20**	**297**	P	**P**	**22 34 03.2**	**-1.5**
AC02				IAmb	IAmb	22 34 20.1	
	comp=Z,10nm,0.8s						
MC01	**Montes Claros**	**44.35**	**334**	*eP*	**P**	**22 34 04.8**	**-0.6**
NBIT	**Itapeh - BA**	**45.16**	**340**	*eP*	**P**	**22 34 11.9**	**+0.1**
BOSA	**Boshof**	**45.65**	**71**	P	**P**	**22 34 15.2**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=190,slow=6.8,SNR=6.3						
BOSA				LR	LR	22 49 46.6	
	comp=Z,134nm,18.1s,baz=218,slow=31						
BOSA	**Boshof**	**45.65**	**71**	P	**P**	**22 34 16.6**	**+0.9**
BOSA				IAmb	IAmb	22 34 22.7	
	comp=Z,31nm,1.6s						
GO02	**Mina Guanaco**	**45.84**	**298**	P	**P**	**22 34 16.9**	**-0.6**
GO02				IAmb	IAmb	22 34 19.5	
	comp=Z,37nm,1.4s						
JANB	**Januaria**	**46.03**	**334**	*eP*	**P**	**22 34 18.3**	**-0.5**
GDU01	**Guandu, BA**	**46.37**	**340**	*eP*	**P**	**22 34 20.7**	**-0.6**
BDFB	**Brasilia**	**46.40**	**329**	P	**P**	**22 34 20.0**	**-1.7**
	comp=Z,5.8nm,0.7s,baz=164,slow=4.9,SNR=9.5						
BDFB				PcP	**PcP**	**22 35 56.8**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=194,slow=6.2,SNR=3.8						
BDFB	**Brasilia**	**46.40**	**329**	P	**P**	**22 34 19.7**	**-2.0**
ARAG	**Araguaiana, MT**	**47.43**	**324**	*eP*	**P**	**22 34 28.9**	**-0.8**
LVC	**Limon Verde**	**47.74**	**300**	*eP*	**P**	**22 34 34.4**	**+2.0**
SALV	**Santo Antonio**	**48.51**	**319**	*eP*	**P**	**22 34 37.8**	**-0.1**
SDBA	**SAO DESIDERIO**	**48.73**	**334**	*eP*	**P**	**22 34 39.3**	**-0.4**
LBTB	**Lobatse**	**48.82**	**69**	P	**P**	**22 34 41.3**	**+0.9**
LBTB				IAmb	IAmb	22 35 02.7	
	comp=Z,34nm,1.7s						
NBPN	**Ponto Novo - B**	**49.29**	**340**	*eP*	**P**	**22 34 43.3**	**-0.7**
NBAN	**Anadia - AL**	**49.84**	**345**	*eP*	**P**	**22 34 47.5**	**-0.6**
PEXB	**Peixe**	**49.86**	**330**	*eP*	**P**	**22 34 48.6**	**+0.3**
H10S2	**ASCENSION HYDR**	**50.43**	**13**	T	T	23 29 08.0	
	baz=187,slow=74,SNR=23						
H10S3	**ASCENSION HYDR**	**50.43**	**13**	T	T	23 29 08.3	
	baz=33,slow=74,SNR=45						
NBRF	**Rio Formoso -**	**50.68**	**347**	*eP*	**P**	**22 34 54.4**	**0.0**
SNDB	**Serra Nova Dou**	**50.81**	**326**	*eP*	**P**	**22 34 55.1**	**-0.4**
CASY	**Casey**	**50.84**	**159**	P	**P**	**22 34 57.6**	**+2.5**
CASY				IAmb	IAmb	22 35 20.3	
	comp=Z,32nm,1.8s						
MNMC	**Minye Minye**	**51.09**	**301**	P	**P**	**22 34 56.7**	**-1.2**
MNMC				IAmb	IAmb	22 35 01.3	
	comp=Z,8.5nm,0.5s						
H10N1	**ASCENSION HYDR**	**51.55**	**13**	T	T	23 30 32.1	
	baz=180,slow=72,SNR=20						
H10N3	**ASCENSION HYDR**	**51.55**	**13**	T	T	23 30 47.9	
	baz=180,slow=72,SNR=48						
H10N2	**ASCENSION HYDR**	**51.56**	**13**	T	T	23 30 52.3	
	baz=180,slow=72,SNR=28						
NBLV	**Livramento - P**	**52.20**	**345**	*eP*	**P**	**22 35 05.6**	**-0.4**
NBMA	**Muriti-CE**	**52.46**	**343**	*eP*	**P**	**22 35 08.0**	**+0.1**
SMTB	**Santa Maria do**	**52.79**	**332**	*eP*	**P**	**22 35 10.3**	**+0.1**
NBPV	**Pedro Velho**	**52.93**	**347**	*eP*	**P**	**22 35 11.2**	**0.0**
LPAZ	**La Paz**	**52.97**	**305**	P	**P**	**22 35 10.8**	**-1.5**
	comp=Z,3.5nm,0.5s,baz=204,slow=8.3,SNR=10						
LPAZ				LR	LR	22 59 37.2	
	comp=Z,58nm,19.2s,baz=154,slow=38						
LPAZ	**La Paz**	**52.97**	**305**	P	**P**	**22 35 10.7**	**-1.5**
RCBR	**Riachuelo**	**53.58**	**346**	*eP*	**P**	**22 35 16.3**	**+0.2**
NBPA	**Parau_RN**	**53.81**	**345**	*eP*	**P**	**22 35 17.1**	**-0.7**
NBPB	**Pedra_Branca-C**	**54.38**	**342**	*eP*	**P**	**22 35 21.6**	**-0.3**
NBCL	**Cascavel-CE**	**55.48**	**344**	*eP*	**P**	**22 35 29.5**	**-0.3**
NBPS	**Pedro II - PI**	**55.82**	**340**	*eP*	**P**	**22 35 32.3**	**0.0**
PRPB	**Paraiapebas**	**55.94**	**330**	*eP*	**P**	**22 35 33.1**	**-0.1**
NBMO	**Morrinhos-CE**	**56.64**	**342**	*eP*	**P**	**22 35 38.3**	**+0.2**
NPGB	**Novo Progresso**	**56.70**	**323**	*eP*	**P**	**22 35 40.1**	**+1.5**
ROSB	**Rosrio**	**57.78**	**337**	*eP*	**P**	**22 35 46.4**	**+0.2**
LSZ	**Lusaka**	**58.39**	**65**	P	**P**	**22 35 51.0**	**+0.4**
LSZ				IAmb	IAmb	22 36 12.1	
	comp=Z,18nm,1.8s						
TMAB	**Tom-Au,PA,Br**	**59.17**	**333**	*eP*	**P**	**22 35 56.5**	**+0.7**
ITTB	**Itaituba**	**59.34**	**324**	*eP*	**P**	**22 35 58.2**	**+1.1**
MACA	**Manacapuru-AM**	**62.09**	**319**	*eP*	**P**	**22 36 17.0**	**+1.3**
MCPB	**Macapa, AP**	**62.10**	**329**	*eP*	**P**	**22 36 15.8**	**0.0**
LIC	**Lamto**	**66.84**	**22**	*eP*	**P**	**22 36 47.1**	**+0.4**
	comp=Z,58nm,1.6s						
KIC	**Kosan Boka**	**67.03**	**22**	*eP*	**P**	**22 36 49.2**	**+1.3**
	comp=Z,26nm,1.4s						
TIC	**Toumodi**	**67.25**	**22**	*eP*	**P**	**22 36 50.8**	**+1.4**
DBIC	**Dimbokro**	**67.31**	**22**	P	**P**	**22 36 50.3**	**+0.7**
OTAV	**Otavalo**	**72.19**	**302**	P	**P**	**22 37 18.9**	**-1.5**
OTAV	**Otavalo**	**72.19**	**302**	*eP*	**P**	**22 37 19.9**	**-0.4**
TOA0	**Torodi Ar. Sit**	**74.99**	**27**	P	**P**	**22 37 36.6**	**+0.5**
TOA0				IAmb	IAmb	22 37 38.1	
	comp=Z,8.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.99**	**27**	P	**P**	**22 37 36.7**	**+0.5**
	comp=Z,6.7nm,0.7s,baz=195,slow=6.1,SNR=31						
TORD				LR	LR	23 05 15.8	
	comp=Z,95nm,19.1s,baz=185,slow=32						
TORD	**Torodi Ar. Bea**	**74.99**	**27**	P	**P**	**22 37 36.5**	**+0.3**
KMBO	**Kilima Mbogo**	**75.02**	**66**	LR	LR	23 07 30.6	
	comp=Z,197nm,19.1s,baz=182,slow=33						
RUSC	**La Rusia**	**75.04**	**310**	P	**P**	**22 37 35.2**	**-1.9**
RUSC				IAmb	IAmb	22 38 02.0	
	comp=Z,23nm,1.5s						
WHZ	**Wether Hill Ro**	**75.05**	**189**	P	**P**	**22 37 37.8**	**+1.5**
KOWA	**Kowa**	**75.10**	**21**	P	**P**	**22 37 36.8**	**+0.1**
MLZ	**Mavora Lakes**	**75.56**	**190**	P	**P**	**22 37 40.8**	**+1.5**
THZ	**Tophouse**	**78.63**	**194**	P	**P**	**22 37 58.2**	**+1.7**
BKZ	**Black Stump Fm**	**80.69**	**197**	P	**P**	**22 38 09.3**	**+1.5**
FORT	**Forrest**	**87.91**	**157**	P	**P**	**22 38 46.0**	**+1.6**
STKA	**Stephens Creek**	**88.90**	**169**	P	**P**	**22 38 50.3**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=151,slow=5.7,SNR=6.8						
STKA				LR	LR	23 17 07.1	
	comp=Z,158nm,18.7s,baz=205,slow=34						
STKA	**Stephens Creek**	**88.90**	**169**	P	**P**	**22 38 50.6**	**+1.5**
PPT	**Papeete**	**91.42**	**232**	LR	LR	23 12 12.6	
	comp=Z,79nm,18.9s,baz=130,slow=30						
ASAR	**Alice Springs**	**95.93**	**161**	P	**P**	**22 39 21.7**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=191,slow=4.9,SNR=14						
ASAR				PKKPbc	**PKKPbc**	**22 56 07.5**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=20,slow=1.6,SNR=5.3						
ASAR				LR	LR	23 20 28.2	
	comp=Z,162nm,20.4s,baz=208,sl

baz=140
EGMT Eagleton 126.97 303 P PKiKP 22 44 58.3 +0.1
baz=140
O02D Mt. Diablo Mer 127.08 288 P PKiKP 22 44 59.1 +0.4
baz=140
N02D Trinity Center 127.65 289 P PKiKP 22 45 00.2 +0.3
baz=139
M04C Macdoel 127.84 290 P PKiKP 22 45 00.6 +0.3
baz=139
MSO Missoula 127.92 300 P PKiKP 22 45 00.4 +0.2
baz=139
M02C Callahan 128.04 289 P PKiKP 22 45 00.8 +0.2
baz=139
AKTO Aktyubinsk 128.07 54 PKP PKiKP 22 44 58.4 -1.8
comp=Z,1.9nm,0.8s,baz=253,slow=1.7,SNR=5.0
YBH Yreka Blue Hor 128.23 289 PKP PKiKP 22 44 59.4 -1.6
comp=Z,0.9nm,0.6s,baz=93,slow=5.4,SNR=4.0
YBH Yreka Blue Hor 128.23 289 PKiKP 22 44 59.8 -1.2
L04D Klamath Falls 128.39 290 P PKiKP 22 45 01.1 -0.3
baz=139
J05D Fort Rock, OR 128.68 292 P PKiKP 22 45 02.1 +0.2
baz=139
L02E Cave Junction 128.99 289 P PKiKP 22 45 02.7 +0.3
baz=139
K02D Willamette Mer 129.42 289 P PKiKP 22 45 03.6 +0.2
baz=138
I05D Terrebonne, OR 129.51 292 P PKiKP 22 45 03.8 +0.4
baz=138
I04A Tendick Farm, 129.62 291 P PKiKP 22 45 04.0 +0.4
baz=138
I03D Drain, OR 130.01 290 P PKiKP 22 45 04.7 +0.3
baz=138
H04D Lebanon 130.32 292 P PKiKP 22 45 05.1 +0.2
baz=138
NEW Newport 130.43 299 PKP PKiKP 22 45 03.9 -1.2
comp=Z,1.2nm,0.5s,baz=346,slow=4.2,SNR=2.1
NEW Newport 130.43 299 P PKiKP 22 45 05.4 +0.3
baz=137
D04E Lakebay 132.27 294 P PKiKP 22 45 08.9 +0.1
baz=136
D03D Eldon 132.68 294 P PKiKP 22 45 09.9 +0.3
baz=136
B05A Bryant 132.73 295 P PKiKP 22 45 10.0 +0.3
baz=135
ARCES ARCESS Array B 133.14 22 PKP PKiKP 22 45 08.9 -1.0
comp=Z,2.2nm,0.7s,baz=197,slow=1.3,SNR=8.0
A04D Lummi Island 133.34 296 P PKiKP 22 45 10.3 -0.6
baz=135
BVAR Borovoye Array 135.28 59 PKP PKiKP 22 45 12.6 -2.1
comp=Z,0.7nm,0.5s,baz=207,slow=15,SNR=5.9
CD2 Chengdu 135.75 106 PKP PKiKP 22 45 16.0 -0.5
MKAR Makanchi Array 136.63 73 PKhKP PKPpre 22 45 08.1
comp=Z,0.2nm,0.6s,baz=246,slow=1.4,SNR=2.1
MKAR PKP **PKPdf 22 45 14.8 -1.2**
comp=Z,0.8nm,0.9s,baz=270,slow=1.4,SNR=5.0
YKA Yellowknife Ar 139.03 315 PKP PKiKP 22 45 19.2 -2.9
comp=Z,6.5nm,0.7s,baz=114,slow=3.2,SNR=11
ZALV Zalesovo Beam 142.50 66 PKhKP PKPpre 22 45 22.2
comp=Z,0.7nm,0.5s,baz=201,slow=1.3,SNR=3.8
SKAG Skagway 145.77 302 P PKiKP 22 45 32.7 -3.3
baz=120
WHY Whitehorse 146.16 304 P PKPab 22 45 33.3 -1.2
baz=119
PINM Pinnacle 148.26 300 P PKPab 22 45 40.2 -2.6
baz=117
INK Inuvik 148.71 317 PKPbc PKiKP 22 45 40.2 -1.5
comp=Z,35nm,0.7s,baz=89,slow=2.8,SNR=31
INK Inuvik 148.71 317 P PKiKP 22 45 40.4 -1.4
baz=108,SNR=16
CTG Chitna Glacier 149.13 302 P PKiKP 22 45 42.3 -0.8
baz=115,SNR=5.1
EPYK Eagle Plains 149.26 313 P PKiKP 22 45 42.8 -0.2
baz=109
SONM Songino Array 149.64 90 PKPbc PKiKP 22 45 43.7 -0.9
comp=Z,6.2nm,0.9s,baz=217,slow=2.6,SNR=25
SONM Songino Array 149.64 90 PKiKP 22 45 44.1 -0.5
CRQE Cirque 149.82 300 P PKiKP 22 45 43.8 -0.7
baz=114,SNR=5.4
MCARA McCarthy VSAT 150.04 302 P PKiKP 22 45 44.4 -0.4
baz=113
L27K Beaver Creek, 150.16 305 P PKiKP 22 45 44.6 -0.5
baz=111
EGAK Eagle 150.48 309 P PKiKP 22 45 44.7 -0.8
baz=109
TLY Talaya 150.54 81 PKPbc PKiKP 22 45 46.5 +0.4
comp=Z,3.8nm,0.8s,baz=245,slow=4.7,SNR=7.6
TLY Talaya 150.54 81 PKiKP 22 45 45.7 -0.4
BMRM Bremner River 150.59 300 P PKiKP 22 45 45.9 -0.1
baz=113,SNR=9.9
K27K Chicken 150.61 307 P PKiKP 22 45 46.0 +0.2
baz=110
N25K Chitina, Valde 150.83 301 P PKiKP 22 45 46.7 +0.3
baz=112,SNR=15
EYAK Cordova Ski Ar 150.94 299 P PKiKP 22 45 46.7 +0.1
baz=113
HARP HAARP 151.36 303 P PKiKP 22 45 47.5 0.0
baz=110
KLU Klutina 151.38 301 P PKiKP 22 45 48.2 +0.6
baz=111,SNR=17
SCRK Sand Creek 151.39 306 P PKiKP 22 45 47.9 +0.3
baz=108
GLI Glacier Island 151.68 299 P PKiKP 22 45 48.2 0.0
baz=112
PAX Paxson 151.69 304 P PKiKP 22 45 48.1 -0.1
baz=109
M24K Tolsona, Glenn 151.71 302 P PKiKP 22 45 49.2 +1.0
baz=110,SNR=16
KSRS Korea Array 152.32 129 PKPbc PKiKP 22 45 50.4 +0.3
comp=Z,0.6nm,0.3s,baz=46,slow=42,SNR=3.1
KSRS PKPab **PKPab 22 46 01.9 +1.9**
comp=Z,1.5nm,0.6s,baz=192,slow=2.3,SNR=5.0
PRP Porcupine Dome 152.46 309 P PKiKP 22 45 49.9 +0.1
baz=104
SEW Seward 152.47 297 P PKiKP 22 45 49.8 +0.1
baz=112
KNK Knik Glacier 152.48 300 P PKiKP 22 45 50.2 +0.3
baz=110
WAT6 Susitna Watana 152.55 302 P PKiKP 22 45 50.3 +0.1
baz=108,SNR=27
SML Sawmill 152.56 301 P PKiKP 22 45 50.0 0.0
baz=110,SNR=13
HDA Harding Lake 152.75 306 P PKiKP 22 45 50.4 +0.2
baz=106
ILAR Eielson Array 152.82 307 PKPbc PKiKP 22 45 50.2 -0.2
comp=Z,18nm,0.8s,baz=113,slow=2.1,SNR=101
BRSE Bradley Lake S 152.93 295 P PKiKP 22 45 51.0 +0.2
baz=112
RC01 Rabbit Creek A 152.95 299 P PKiKP 22 45 51.3 +0.5
baz=110
WAT1 Susitna Watana 152.99 303 P PKiKP 22 45 50.9 0.0
baz=108
KDAK Kodiak Island 153.03 291 P PKiKP 22 45 51.4 +0.4
baz=115
OHAK Old Harbor 153.13 289 P PKiKP 22 45 51.6 +0.4
baz=115
POKR Poker Plat Res 153.14 308 P PKiKP 22 45 51.6 +0.6
baz=104
MCK McKinley 153.41 304 P PKiKP 22 45 52.0 +0.3
baz=106,SNR=10
H24K Noodor Dome 153.48 309 P PKiKP 22 45 52.1 +0.3
baz=102
SUA Susitna One 153.54 299 P PKiKP 22 45 52.7 +0.5
baz=109
CUT Chulitna 153.62 301 P PKiKP 22 45 52.8 +0.8
baz=107
NEA2 Nenana 153.69 306 P PKiKP 22 45 51.9 -0.3
baz=104,SNR=17
TRF Thorofare Moun 153.92 303 P PKiKP 22 45 53.0 0.0
baz=105,SNR=9.5
I23K Minto, Yukon-K 153.94 307 P PKiKP 22 45 52.4 -0.2
baz=102,SNR=5.3
O20K Slope Mountain 153.94 295 P PKiKP 22 45 52.4 -0.5
baz=110
SKT Skwentna 154.05 300 P PKiKP 22 45 53.1 +0.1
baz=107
P19K Oil Pt 154.07 294 P PKiKP 22 45 53.1 -0.1
baz=111
SPCR Spurr Chakacha 154.12 298 P PKiKP 22 45 53.1 -0.2
baz=108
H23K Yukon River 154.15 309 P PKiKP 22 45 53.4 +0.2
baz=101,SNR=7.0
BPAW Bear Paw Mtn. 154.38 305 P PKiKP 22 45 53.7 0.0
baz=103,SNR=24
MLY Manley 154.48 307 P PKiKP 22 45 53.5 -0.4
baz=102,SNR=5.5
TOLK Toolik Lake Re 154.56 315 P PKiKP 22 45 54.5 +0.5
baz=95
PPLA Purkeypile 154.61 302 P PKiKP 22 45 54.6 +0.3
baz=105
COLD Coldfoot 154.64 312 P PKiKP 22 45 55.0 +0.9
baz=98,SNR=12
M20K Styx River 154.75 299 P PKiKP 22 45 54.4 -0.2
baz=106
CHUM Lake Minchumin 154.90 304 P PKiKP 22 45 55.1 +0.4
baz=103
I21K Tanana 155.03 307 P PKPdf 22 45 55.1 +9.0
baz=100
N19K Bonanza Creek 155.05 296 P PKPdf 22 45 54.8 +8.4
baz=108
O18K Koktuh Hills 155.08 294 P PKPdf 22 45 55.3 +8.9
baz=110
MJAR Matsushiro Arr 155.11 146 PKPab PKPab 22 46 11.9 0.0
comp=Z,1.5nm,0.8s,baz=192,slow=4.2,SNR=4.1
M19K Big River Lodg 155.33 299 P PKPdf 22 45 56.0 +9.3
baz=106
H21K Melozitna Rive 155.45 308 P PKPdf 22 45 56.7 +10
baz=99
L19K White Mountain 155.61 299 P PKPab 22 46 12.5 -1.0
baz=105
N18K Kilae Creek 155.67 295 P PKPab 22 46 13.1 -0.6
baz=107
SDPT Sand Point 155.91 281 P PKPab 22 46 14.0 -0.8
baz=116

KMA 08 22:26:31.0±0.5, 33°.28N×127°.04E, h20km±2km, Error ellipse: s-maj=5.2km s-min=2.9km az=164.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSSP	Seongsanpo	0.17	310	P	Pg	22 26 35.7	-0.1
KSJJU	Jeju SNR=40	0.44	291	P	Pb	22 26 40.3	+0.1
KSJJU	Jeju SNR=40	0.44	291	P	Pb	22 26 40.3	+0.1
KSJJU				S	Sb	22 26 46.8	+0.4
KSSGP	Seogwipo	0.45	268	P	Pg	22 26 40.3	0.0
HALB	Hallimjungang- SNR=27	0.65	281	P	Pb	22 26 43.7	0.0
HALB	Hallimjungang- SNR=27	0.65	281	P	Pb	22 26 43.7	0.0
KSWAN	Wando	1.14	346	P	Pn	22 26 51.9	0.0
KSJDO	Jindo	1.33	333	P	Pn	22 26 54.6	0.0
KOHB	KOHEUNG SNR=26	1.35	8	P	Pn	22 26 54.9	0.0
KOHB	KOHEUNG SNR=26	1.35	8	P	Pn	22 26 54.9	0.0
BOSB	Boseong-gun SNR=18	1.49	6	P	Pn	22 26 57.1	+0.4
BOSB	Boseong-gun SNR=18	1.49	6	P	Pn	22 26 57.1	+0.4

*DJA **08** 22:33:35.9±0.4, 8°.S±3°.×12°.0E±°, h139km±7km, M3.7/12, mB5.8/1, MLv3.7/12, Mw(mB)5.4/1*
*IDC **08** 22:33:37.2±2.4, 8°.15S×119°.70E, h224km±21km, mb3.1/3, mb1 3.3/5, mb1mx3.0/52, mbtmp3.8/5, Error ellipse: s-maj=78.9km s-min=15.4km az=48.0*
ISC 08 22:33:33.3±0.8, **8°.10S**±0°.06×**119°.68E**±0°.05, **h176**km±8km, **n18**, σ2°.**05**/26, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.56	190	P	Pn	22 34 05.8	+0.3
WBSI				S	Sn	22 34 29.2	-1.4
PLAI	Plampang	2.01	249	P	Pn	22 34 11.0	+0.8
PLAI				S	Sn	22 34 37.7	-1.1
EDFI	Ende, Flores	2.10	108	P	Pn	22 34 13.0	+1.8
EDFI				S	Sn	22 34 40.0	-0.6
BSSI	Bau Bau, Buton	2.10	23	P	Pn	22 34 11.3	0.0
BSSI				S	Sn	22 34 38.2	-2.6
MMRI	Maumere	2.59	102	P	Pn	22 34 18.3	+1.5
BKSI	Bulukumba	2.79	9	P	Pn	22 34 19.6	+0.3
TWSI	Taliwang, Sumb	2.83	257	P	Pn	22 34 20.7	+1.0
TWSI				S	Sn	22 34 55.9	0.0
BNSI	Bone	3.70	7	P	Pn	22 34 30.5	0.0
SRBI	Singaraja	4.42	270	P	Pn	22 34 41.3	+1.7
BATI	Baumata 33nm,0.3s,baz=307,slow=2.9,SNR=26	4.46	118	P	Pn	22 34 43.3	+3.1
BATI				S	Sn	22 35 31.6	-1.1
BATI	Baumata 8.2nm,0.3s,baz=147,slow=19,SNR=2.2	4.46	118	P	Pn	22 34 42.9	+2.7
SOEI	Soe	4.83	110	P	Pn	22 34 48.5	+3.4
MTKI	Muara Teweh, K	8.56	326	P	Pn	22 35 37.4	+3.4
TNTI	Ternate	11.68	41	P	Pn	22 36 17.1	+2.3
WRA	Warramunga Arr 0.6nm,0.3s,baz=302,slow=13,SNR=31	18.45	131	P	P	22 37 36.2	+0.5
WRA				S	S	22 40 55.0	-2.3
ASAR	Alice Springs 0.3nm,0.3s,baz=297,slow=23,SNR=7.2	20.63	140	P	P	22 37 59.8	+0.6
ASAR				S	S	22 41 36.0	-4.2
STKA	Stephens Creek 1.0nm,0.7s,baz=321,slow=20,SNR=6.4	31.23	142	P	P	22 39 37.0	+0.6
MKAR	Makanchi Array 0.8nm,0.4s,baz=308,slow=12,SNR=3.0	63.97	332	P	P	22 43 46.3	-1.4
	0.1nm,0.5s,baz=146,slow=6.7,SNR=2.0						

*ATH **08** 22:38:40.5, 37°.82N×29°.58E, h10km±31km, ML3.3/1, Error ellipse: s-maj=31.6km s-min=2.3km az=0.0*
*IDC **08** 22:38:41.7±1.1, 37°.60N×29°.58E, h0km, mb3.7/3, mb1 3.7/10, mb1mx3.5/55, mbtmp3.6/10, ML3.7/7, Error ellipse: s-maj=18.6km s-min=17.0km az=58.0*
*DDA **08** 22:38:42.7, 37°.55N×29°.54E, h22km±1km, MW3.7*
*ISK **08** 22:38:42.2, 37°.57N×29°.52E, h5km, ML3.6/27*
*NIC **08** 22:38:43.8±0.0, 37°.53N×29°.54E, h1km±2km, Ml3.7/4*
*THE **08** 22:38:45.0, 37°.58N×29°.50E, h3km±4km, ML3.4/4, Error ellipse: s-maj=6.4km s-min=2.0km az=49.0*
ISC 08 22:38:43.3±1.1, **37°.58N**±0°.02×**29°.53E**±0°.02, **h9**km±8km, **n115**, σ1°.**05**/145, **mb3.6**/3, **14C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDR	BURDUR-Merkez	0.44	75	*i* P	Pg	22 38 51.7	-0.1
BRDR				*i* S	Sb	22 38 58.4	-1.6
BRDR	comp=E,5μm,0.4s			IAML		22 39 01.0	
BRDR	comp=N,4μm,0.8s			IAML		22 39 04.0	
CAEL	Denizli, Camel	0.49	200	*i* P	Pg	22 38 52.0	-0.8
CAEL				*i* S	Sb	22 39 00.3	-1.2
CAEL	comp=E,4μm,1.0s			IAML		22 39 14.0	
TAVA	DENIZLI_Tavas	0.51	257	*i* P	Pg	22 38 53.0	-0.1
TAVA				*i* S	Sg	22 38 58.7	-1.1
TAVA	comp=N,3μm,0.6s			IAML		22 39 01.0	
TAVA	comp=E,3μm,0.5s			IAML		22 39 02.0	
BASM	Basmaki-Afyon	0.53	51	PG	Pb	22 38 53.7	-1.2
CAME	Cameli-Denizli	0.66	196	PG	Pg	22 38 56.0	-0.1
PASA	Karahalli, USA	0.77	357	*i* P	Pg	22 38 57.7	-0.4
PASA				*i* S	Sb	22 39 09.8	+0.4
PASA	comp=N,880nm,1.0s			IAML		22 39 15.0	
ISP	Isparta	0.82	73	PG	Pb	22 38 58.9	-0.9
ISP				SG	Sn	22 39 12.8	-0.7
KZIL	AFYON_Kizioren	0.83	35	*i* P	Pg	22 38 58.9	-0.4
KZIL				*i* S	Sn	22 39 14.4	+0.7
KZIL	comp=N,2μm,0.5s			IAML		22 39 16.0	
KZIL	comp=E,1μm,0.5s			IAML		22 39 20.0	
BCK	Bucak	0.85	98	PG	Pb	22 38 59.9	-0.4
BUCA	Burdur, Bucak-	0.86	107	*i* P	Pg	22 38 59.2	-0.6
BUCA				*i* S	Sb	22 39 11.3	-0.7
BUCA	comp=N,2μm,0.8s			IAML		22 39 16.0	
KORT	Korkueli	0.87	131	*i* P	Pg	22 38 59.0	-1.2
KORT				*i* S	Sb	22 39 12.8	+0.3
KORT	comp=N,2μm,1.0s			IAML		22 39 17.0	
KORT	Korkueli	0.87	131	PG	Pb	22 39 00.2	-0.5
KORT				SG	Sn	22 39 13.8	-1.0
ELL	Elmali	0.89	160	PG	Pb	22 39 00.0	-0.9
ELL	Elmali	0.89	160	S	Sb	22 39 13.6	+0.7
FETY	Fethiye	1.01	201	P	Pg	22 39 02.2	-0.5
FETY				S	Sn	22 39 18.6	+0.6
FETY	Fethiye	1.01	201	PG	Pb	22 39 02.5	-0.5
MULA	Mugla, Merkez-	1.02	252	*i* P	Pn	22 39 03.9	0.0
MULA				*i* S	Sb	22 39 17.2	+0.5
DALY	Dalyan (Mula)	1.04	223	*i* P	Pb	22 39 03.2	-0.2
DALY				*i* S	Sb	22 39 16.8	-0.3
DALY	comp=E,788nm,0.6s			IAML		22 39 22.0	
DALY	comp=N,936nm,1.1s			IAML		22 39 22.0	
DALY	Dalyan (Mula)	1.04	223	PG	Pb	22 39 02.9	-0.5
YER	Yerkesik	1.09	246	P	Pg	22 39 03.9	-0.3
YER				S	Sn	22 39 20.5	+0.4
YER	Yerkesik	1.09	246	PG	Pb	22 39 04.1	-0.3
ANTB	Antalya	1.13	127	PN	Pb	22 39 04.6	-0.3
KULA	Kula-Manisa	1.16	324	PN	Pn	22 39 05.7	-0.1
MANT	Manisa	1.19	320	*i* P	Pn	22 39 06.2	-0.1
USAK	Uak-Merkez	1.20	340	*i* P	Pn	22 39 06.3	0.0
SHUT	Suhut-Afyon	1.26	39	PN	Pn	22 39 07.3	+0.1
KEMT	Kemer-ANTALYA	1.27	140	PN	Pn	22 39 07.8	+0.5
TURN	Turunc	1.31	232	*i* P	Pg	22 39 08.0	-0.4
TURN	Turunc	1.31	232	PN	Pg	22 39 07.9	-0.4
AYDN	Tasoluk	1.31	274	*i* P	Pg	22 39 08.1	-0.4
AYDN				*i* S	Sg	22 39 25.2	-0.4
AYDN	comp=N,228nm,0.8s			IAML		22 39 38.0	
AFYO	Afyonkarahisar	1.35	26	*i* P	Pg	22 39 10.2	+1.0
AFYO				*i* S	Sn	22 39 30.3	+3.9
AKAS	Kas	1.35	177	*i* P	Pg	22 39 09.4	+0.2
AKAS				*i* S	Sn	22 39 29.3	+2.8
AKAS	Kas	1.35	177	PN	Pg	22 39 08.9	-0.3
AYDB	Zeytinkoy-Aydi	1.35	286	PN	Pb	22 39 08.7	-0.1
MRSB	Marmaris-Mugla	1.37	231	PN	Pg	22 39 09.6	0.0
DEMR	Demre-Antalya	1.38	167	PN	Pg	22 39 09.3	-0.4
AKUM	Antalya-Kumluc	1.42	152	*i* P	Pg	22 39 11.3	+0.9
AKUM				*i* S	Sg	22 39 33.5	+4.7
MLSB	Milas	1.43	259	PN	Pn	22 39 09.2	-0.2
KSL	Kastellorizon	1.43	178	P	Pg	22 39 10.9	+0.2
KSL	comp=N,655nm,0.7s			S	Sg	22 39 29.1	-0.2
KSL	Kastellorizon	1.43	178	P	Pg	22 39 10.7	0.0
KSL				S	Sg	22 39 32.3	+3.0
KSL	comp=N,1381μm,0.7s			AML	AML	22 39 36.0	
KSL	comp=E,1164μm,0.8s			AML	AML	22 39 38.5	
KSL	Kastellorizon	1.43	178	⇑P	Pg	22 39 10.3	-0.4
KSL				S	Sg	22 39 30.3	+1.0
KSL	comp=E,1.5nm,0.8s			AML	AML	22 39 35.6	
KSL	comp=E,1.5nm,0.8s			AML	AML	22 39 35.6	
KSL	comp=E,1.5nm,0.5s			AML	AML	22 39 37.8	
KSL	comp=E,1.5nm,0.5s			AML	AML	22 39 37.8	
SHAP	Saphane-Kutahy	1.46	350	PN	Pg	22 39 10.9	-0.4
GEDZ	Gediz	1.46	356	PN	Pg	22 39 11.2	-0.2
GDZ	Gediz	1.50	359	*i* P	Pn	22 39 10.5	-0.1
SMAA	Simav-Kutahya	1.58	344	PN	Pb	22 39 12.8	+0.1
BDRM	Kayabasi	1.74	253	*i* P	Pn	22 39 13.8	+0.1
BDRM				*i* P	Pg	22 39 16.0	-0.7
ARG	Arkhangelos	1.77	220	P	Pb	22 39 15.3	-0.6
ARG	comp=E,805nm,0.7s			S	Sb	22 39 37.9	-0.3
ARG	Arkhangelos	1.77	220	P	Pb	22 39 15.5	-0.4
ARG	Arkhangelos	1.77	220	PN	Pb	22 39 15.1	-0.8
ARG	Arkhangelos	1.77	220	⇑P	Pb	22 39 15.2	-0.6
ARG				S	Sg	22 39 39.8	-0.4
DOGA	KONYA_Doganhis	1.77	72	*i* P	Pg	22 39 17.4	+0.1
SEDI	Konya, Seydise	1.77	94	*i* P	Pb	22 39 15.3	-0.7
DAT	Datca	1.78	242	P	Pb	22 39 15.4	-0.7
DAT				S	Sn	22 39 37.9	+0.8
DAT	Datca	1.78	242	PN	Pb	22 39 15.4	-0.7
GCAM	G?zelcaml?	1.83	274	PN	Pn	22 39 15.6	+0.7
BODT	Bodrum	1.84	254	P	Pb	22 39 16.2	-1.0
BODT				S	Sn	22 39 39.0	+0.4
BODT	Bodrum	1.84	254	PN	Pn	22 39 16.1	+1.0
AKHS	Akhisar	1.87	314	*i* P	Pn	22 39 15.6	+0.1
ANDZ	Kutahya, Merke	1.94	8	*i* P	Pg	22 39 20.4	-0.2
NIS1	Nisyros Isl.	2.12	243	P	Pb	22 39 21.4	-0.5
NIS1	comp=E,2μm,0.8s			S	Sn	22 39 46.6	+1.2
NIS1	Nisyros Isl.	2.12	243	P	Pb	22 39 21.1	-0.8
NIS1	Nisyros Isl.	2.12	243	PN	Pn	22 39 20.2	+1.3
BLCB	Balcova	2.12	293	P	Pn	22 39 19.1	+0.1
SMG	Samos	2.14	274	P	Pn	22 39 19.4	+0.1
SMG	comp=E,392nm,0.8s			S	Sn	22 39 45.4	-0.5
SMG	Samos	2.14	274	P	Pn	22 39 19.4	+0.1
DGB	zmir	2.15	283	*i* P	Pg	22 39 25.9	+1.4
SGAZ	Eskisehir, Sey	2.20	27	*i* P	Pn	22 39 21.3	+1.2
KOSK	Kos Island	2.20	249	PN	Pn	22 39 21.5	+1.5
STEP	BALIKESIR_Sava	2.29	322	*i* P	Pn	22 39 21.7	+0.5
ZEDA	zmir-Bergama	2.38	306	*i* P	Pn	22 39 22.9	+0.4
URLA	Izmir	2.45	289	PN	Pn	22 39 24.8	+1.4
ZEYE	Izmir, Urla-Ze	2.48	286	*i* P	Pn	22 39 24.1	+0.2
DKL	Dikili	2.54	307	PN	Pn	22 39 25.4	+0.7
BUHA	Balikesir, Bur	2.71	316	*i* P	Pn	22 39 27.8	+0.7
KARP	Karpathos	2.79	224	P	Pn	22 39 28.5	+0.4
KARP	Karpathos	2.79	224	⇑P	Pn	22 39 29.0	+0.9
KARP	comp=E,0.9nm,0.5s			AML	AML	22 40 17.9	
KARP	comp=E,0.9nm,0.8s			AML	AML	22 40 19.5	
CHOS	Chios island	2.86	287	P	Pn	22 39 30.5	+1.4
CHOS	Chios island	2.86	287	P	Pn	22 39 30.2	+1.0
CHOS	Chios island	2.86	287	PN	Pn	22 39 30.6	+1.4
PRK	Paraskevi	3.05	304	P	Pn	22 39 33.5	+1.8
PRK	Paraskevi	3.05	304	P	Pn	22 39 33.2	+1.5
KNL	Balıkesir	3.11	330	*i* P	Pn	22 39 31.4	-1.1
BAYC	CANAKKALE_Bayr	3.18	314	*i* P	Pn	22 39 34.1	+0.6
APE	Apeiranthos	3.23	262	⇑P	Pg	22 39 44.3	-0.9
APE	Apeiranthos	3.23	262	⇑P	Pn	22 39 36.0	+1.8
KOCA	Canakkale, Ayv	3.28	307	*i* P	Pn	22 39 35.0	+0.1
SIGR	SIGRI	3.31	301	P	Pn	22 39 35.8	+0.5
SIGR	SIGRI	3.31	301	P	Pn	22 39 35.9	+0.6
AKMS	Akamas	3.42	138	P	Pn	22 39 38.2	+1.4
AKMS	comp=E,0.5nm,0.8s			AML	AML	22 40 19.8	
AKMS	comp=E,0.6nm,0.6s			AML	AML	22 40 19.8	
ALFC	Alefka	3.46	133	⇑P	Pn	22 39 39.1	+1.7
ALFC	comp=E,0.4nm,0.8s			AML	AML	22 40 18.9	
ALFC	comp=E,0.3nm,0.6s			AML	AML	22 40 20.3	
ZKR	Zakros	3.64	228	P	Pn	22 39 41.3	+1.5
NATA	Nata	3.72	138	P	Pn	22 39 42.0	+1.0
GOKA	anakkale-Gk	3.84	314	*i* P	Pn	22 39 43.2	+0.6
BRTR	Keskin Array B	3.86	55	Pn	Pn	22 39 43.6	+0.6
BRTR	comp=E,2.8nm,0.3s,baz=240,slow=12,SNR=34			Sn	Sn	22 40 26.7	-1.9
SZAC	Souni	3.91	135	⇑P	Pn	22 39 44.7	+1.1
CSS	Mathiatis	4.03	129	⇑P	Pn	22 39 46.8	+1.6
ASGA	Asgata	4.10	132	P	Pn	22 39 47.7	+1.6
IDI	Anoyia	4.39	240	Pn	Pn	22 39 51.4	+1.3
IDI	comp=E,3.5nm,0.3s,baz=57,slow=16,SNR=34			Sn	Sn	22 40 42.2	+0.8
MMAI	Mount Meron Ar	6.62	132	Pn	Pn	22 40 19.4	-1.4
MMAI	comp=E,9.6nm,0.3s,baz=316,slow=12,SNR=62			Sn	Sn	22 41 33.4	-3.0
TIRR	Tirgusor	6.92	353	⇑P	Pn	22 40 25.5	+0.6
VTS	Vitosha	6.97	318	⇑P	Pn	22 40 33.1	+7.4
STIP	Stip	7.00	308	*i* P	Pn	22 40 25.7	-0.2
CFR	Carcaliu	7.66	353	⇑P	Pn	22 40 35.3	+0.4
ASF	Jabal al Asfar	8.11	130	Pn	Pn	22 40 40.8	-0.5
ASF	comp=E,0.2nm,0.3s,baz=330,slow=9.5,SNR=1.8			Sn	Sn	22 42 13.8	+0.7
MLR	Muntele Rosu	8.35	342	Pn	Pn	22 40 45.7	+1.1
MLR	comp=E,0.2nm,0.3s,baz=76,slow=12,SNR=2.1						
MLR	Muntele Rosu	8.35	342	⇑P	Pn	22 40 44.2	-0.4
PLOR	Plostina	8.54	346	⇑P	Pn	22 40 47.9	+0.8
VRI	Vrincioaia	8.54	347	⇓P	Pn	22 40 48.7	+1.6
DOPR	Dopca	8.93	341	⇓P	Pn	22 40 54.0	+1.5
OZUR		8.95	343	⇑P	Pn	22 40 54.4	+1.6
EIL	Elat	9.09	149	Pn	Pn	22 40 53.6	-1.0
EIL	comp=E,0.9nm,0.3s,baz=342,slow=3.2,SNR=8.6			Sn	Sn	22 42 25.8	-11
	baz=222,slow=4.1,SNR=2.0						

GERES	GERESS Array B	16.08 319	Pn	Pn	22 42 29.8	+0.1
	comp=E,0.1nm,0.3s,baz=133,slow=12,SNR=1.8					
FINES	FINESS Array B	23.98 356	P	P	22 43 57.5	-0.3
	comp=E,2.7nm,0.9s,baz=172,slow=11,SNR=3.4					
TORD	Torodi Ar. Bea	34.75 233	P	P	22 45 34.1	+0.1
	comp=E,0.6nm,0.7s,baz=40,slow=8.0,SNR=3.8					
MKAR	Makanchi Array	39.50 59	P	P	22 46 13.8	-0.3
	comp=E,0.7nm,0.7s,baz=276,slow=6.8,SNR=3.9					

IDC 08 22:59:09.7±2.0, 4°.87S×151°.26E, h0km, mb3.8/3, mb1 4.2/4, mb1mx3.7/23, mbtmp3.9/4, ML2.0/1, Error ellipse: s-maj=141.6km s-min=24.0km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	6.07	222	Pn	Pn	23 00 42.7	+1.9
	2.6nm,0.3s,baz=35,slow=5.0,SNR=6.3						
PMG				Sn	Sn	23 01 51.8	+0.7
	2.8nm,0.3s,baz=246,slow=5.4,SNR=1.7						
WRA	**Warramunga Arr**	22.27	226	P	P	23 04 08.7	0.0
	1.7nm,1.0s,baz=52,slow=10,SNR=6.3						
ASAR	**Alice Springs**	25.09	220	P	P	23 04 35.4	-0.9
	4.8nm,0.8s,baz=53,slow=9.5,SNR=34						
ILAR	**Eielson Array**	82.80	22	P	P	23 11 35.6	0.0
	0.7nm,0.8s,baz=251,slow=5.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	148.86	287	PKPbc	PKPbc	23 19 00.6	0.0
	0.5nm,0.9s,baz=92,slow=2.9,SNR=1.9						

NEIC 08 23:08:23.3±1.3, 37°.04N±0°.04×99°.18W±0°.04, h5km±2km, mb_Lg2.6/44, Error ellipse: s-maj=7.0km s-min=5.6km az=339.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	0.68	168	Pg	Pg	23 08 34.6	-1.7
OK032	**Salt Plains WL**	0.81	107		Pg	23 08 38.1	-0.8
KAN10	**Anthony SW Sta**	0.87	84		Pb	23 08 40.5	-0.4
KAN10					Sn	23 08 54.3	-1.1
KAN12	**Harper NE Stat**	0.98	75	Pg	Pg	23 08 42.1	0.0
KAN12					Sn	23 08 57.8	-0.2
KAN08	**Anthony NE Sta**	0.98	79		Pb	23 08 42.6	-0.3
KAN08					Sn	23 08 57.5	-0.6
KAN05	**Bluff City Nor**	1.05	86		Pg	23 08 43.7	+0.2
GC02	**Grant County #**	1.08	100		Pg	23 08 43.9	-0.1
CROK	**Carrier**	1.10	119		Pg	23 08 43.9	-0.5
KAN17	**Caldwell West**	1.13	89		Pg	23 08 45.1	+0.1
KAN09	**Caldwell North**	1.25	85		Pg	23 08 47.2	-0.1
KS20	**Mayfield South**	1.31	81		Pn	23 08 48.2	-0.1
KAN13	**South Haven SW**	1.36	91		Pn	23 08 49.1	+0.1
R32A	**Long Quarter,**	1.43	15		Pn	23 08 49.3	-0.6
BLOK	**Blackwell**	1.60	100		Pn	23 08 52.8	+0.5
CBKS	**Cedar Bluff**	1.82	346	Pn	Pn	23 08 54.9	-0.5
OK029	**Liberty Lake**	1.87	131	Pn	Pn	23 08 56.3	+0.3
BCOK	**Bluff Creek, N**	1.88	137		Pn	23 08 55.6	-0.4
BCOK				IAmb_Lg		23 09 23.0	
	comp=Z,33nm,1.0s						
T35A	**Sooner Cattle**	2.14	93		Pn	23 09 00.7	+1.0
OKCFA	**Oklahoma City**	2.14	139	IAmb_Lg		23 09 33.3	
	comp=Z,27nm,0.8s						
OK031	**S. Brethren Rd**	2.18	119		Pn	23 08 59.6	-0.6
FNO	**Franklin**	2.29	140		Pn	23 09 01.9	+0.2
WMOK	**Wichita Mounta**	2.32	172	Pn	Pn	23 09 00.9	-1.3
WMOK				IAmb_Lg		23 09 37.8	
	comp=Z,26nm,0.8s						
X34A	**Smith Ranch, M**	2.67	155	Pn	Pn	23 09 06.9	-0.1
AMTX	**Amarillo**	2.96	224	Pn	Pn	23 09 11.0	0.0
AMTX				IAmb_Lg		23 09 56.5	
	comp=Z,30nm,0.7s						
KSCO	**Kaye Shedlock'**	3.36	307	Pn	Pn	23 09 14.3	-2.2
KSCO				IAmb_Lg		23 10 17.5	
	comp=Z,21nm,0.8s						
LOOK	**Love County**	3.45	151	IAmb_Lg		23 10 20.6	
	comp=Z,21nm,0.8s						
U38A	**Gravette**	3.90	97		Pn	23 09 24.6	+0.7
N33A	**J Bar K, Exete**	3.93	20	Pn	Pn	23 09 23.4	-0.9
X37A	**Clayton**	3.95	127	Pn	Pn	23 09 23.6	-0.9
X37A				IAmb_Lg		23 10 38.5	
	comp=Z,17nm,1.0s						
T25A	**Trinidad**	4.18	273	IAmb_Lg		23 10 39.4	
	comp=Z,13nm,0.8s						
MSTX	**Muleshoe**	4.24	225	Pn	Pn	23 09 29.1	+0.5
MSTX				IAmb_Lg		23 10 35.2	
	comp=Z,13nm,0.8s						
HHAR	**Hobbs**	4.28	99	Pn	Pn	23 09 29.6	+0.5
ABTX	**Abilene, Hawle**	4.42	185	IAmb_Lg		23 10 43.1	
	comp=Z,19nm,1.3s						
OGNE	**Ogallala**	4.49	331		Pn	23 09 31.9	-0.2
S39A	**Bolivar**	4.71	80		Pn	23 09 35.9	+0.9
S39A				IAmb_Lg		23 11 04.1	
	comp=Z,11nm,1.0s						
SDCO	**Great Sand Dun**	5.08	280	Pn	Pn	23 09 40.6	+0.2
U40A	**Yellville**	5.13	96	Pn	Pn	23 09 41.1	+0.3
MIAR	**Mount Ida**	5.19	117	Pn	Pn	23 09 41.2	-0.4
MGMO	**Mountain Grove**	5.53	87	IAmb_Lg		23 11 24.5	
	comp=Z,9.8nm,0.9s						
R40A	**Maddies Statio**	5.62	75	IAmb_Lg		23 11 26.7	
	comp=Z,14nm,0.8s						
ISCO	**Idaho Springs**	5.75	301	Pn	Pn	23 09 48.8	-0.8
ISCO				IAmb_Lg		23 11 26.7	
	comp=Z,8.6nm,1.0s						
FCAR	**Ozark Folk Cen**	5.80	99	IAmb_Lg		23 11 33.0	
	comp=Z,7.1nm,0.8s						
N38A	**Joes South For**	5.96	49	IAmb_Lg		23 11 41.2	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	6.39	78	IAmb_Lg		23 11 50.8	
	comp=Z,7.6nm,0.7s						
PHWY	**Pilot Hill**	6.47	313	IAmb_Lg		23 11 50.4	
	comp=Z,9.2nm,0.9s						
K22A	**Casper**	7.95	317	IAmb_Lg		23 12 36.8	
	comp=Z,5.5nm,0.8s						
RSSD	**Black Hills**	7.98	334	IAmb_Lg		23 12 44.2	
	comp=Z,5.1nm,0.8s						
W18A	**Petrified Fore**	8.76	260	IAmb_Lg		23 13 23.9	
	comp=Z,4.3nm,0.8s						

NEIC 08 23:10:08.6±0.5, 37°.01N±0°.03×99°.25W±0°.06, h5km±2km, mb_Lg2.7/37, Error ellipse: s-maj=7.5km s-min=4.9km az=256.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	0.66	163		Pg	23 10 20.5	-0.8
U32A				Sg	Sg	23 10 30.3	+0.5
OK032	**Salt Plains WL**	0.85	104	Pg	Pg	23 10 24.9	0.0
KAN10	**Anthony SW Sta**	0.93	83	Pg	Pg	23 10 26.4	0.0
KAN08	**Anthony NE Sta**	1.04	78	Pg	Pg	23 10 28.5	-0.1
KAN05	**Bluff City Nor**	1.10	84	Pg	Pg	23 10 29.6	-0.1
GC02	**Grant County #**	1.12	98	Pg	Pg	23 10 29.8	-0.3
CROK	**Carrier**	1.13	116	Pg	Pg	23 10 29.9	-0.4
KAN17	**Caldwell West**	1.19	88	Pg	Pg	23 10 31.1	-0.2
KAN09	**Caldwell North**	1.31	84	Pn	Pn	23 10 33.5	-0.1
KS20	**Mayfield South**	1.37	80	Pn	Pn	23 10 34.2	-0.2
KAN13	**South Haven SW**	1.42	89	Pn	Pn	23 10 35.0	0.0
R32A	**Long Quarter,**	1.47	17		Pn	23 10 35.2	-0.6
BLOK	**Blackwell**	1.65	98	Pn	Pb	23 10 39.0	-0.4
CBKS	**Cedar Bluff**	1.84	348		Pn	23 10 40.9	0.0
OK029	**Liberty Lake**	1.89	129	Pn	Pn	23 10 40.6	-0.9
OK029				IAmb_Lg		23 11 06.8	
	comp=Z,31nm,1.2s						
BCOK	**Bluff Creek, N**	1.89	135	Pn	Pn	23 10 41.4	-0.1
BCOK				IAmb_Lg		23 11 07.2	
	comp=Z,58nm,1.2s						
OK025	**Westminster Rd**	2.10	132	Pn	Pn	23 10 44.7	+0.3
T35A	**Sooner Cattle**	2.19	92	IAmb_Lg		23 11 22.1	
	comp=Z,23nm,0.8s						
QUOK	**Quay**	2.21	112	Pn	Pn	23 10 45.6	-0.2
OK031	**S. Brethren Rd**	2.21	118	Pn	Pn	23 10 46.0	+0.2
WMOK	**Wichita Mounta**	2.30	170	Pn	Pn	23 10 47.1	0.0
WMOK				IAmb_Lg		23 11 23.2	
	comp=Z,29nm,0.7s						
FNO	**Franklin**	2.30	139	Pn	Pn	23 10 47.2	0.0
X34A	**Smith Ranch, M**	2.66	154	Pn	Pn	23 10 52.9	+0.7
AMTX	**Amarillo**	2.90	224	IAmb_Lg		23 11 47.0	
	comp=Z,37nm,0.8s						
KSCO	**Kaye Shedlock'**	3.33	308	Pn	Pn	23 11 00.8	-0.7
KSCO				IAmb_Lg		23 12 03.3	
	comp=Z,33nm,0.8s						
LOOK	**Love County**	3.45	150	Pn	Pn	23 11 02.9	-0.1
LOOK				IAmb_Lg		23 12 06.5	
	comp=Z,20nm,0.8s						
N33A	**J Bar K, Exete**	3.98	20	IAmb_Lg		23 12 24.4	
	comp=Z,27nm,0.8s						
T25A	**Trinidad**	4.13	273	IAmb_Lg		23 12 25.3	
	comp=Z,14nm,0.8s						
MSTX	**Muleshoe**	4.18	225	IAmb_Lg		23 12 23.4	
	comp=Z,16nm,0.9s						
ABTX	**Abilene, Hawle**	4.39	184	IAmb_Lg		23 12 36.2	
	comp=Z,11nm,0.8s						
OGNE	**Ogallala**	4.49	332	Pn	Pn	23 11 18.0	+0.6
S39A	**Bolivar**	4.77	80	IAmb_Lg		23 12 49.4	
	comp=Z,15nm,1.1s						
CCM	**Cathedral Cave**	6.44	78	IAmb_Lg		23 13 37.1	
	comp=Z,8.9nm,0.7s						
JCT	**Junction City**	6.53	184	IAmb_Lg		23 13 51.3	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	7.07	89	IAmb_Lg		23 13 57.0	
	comp=Z,7.8nm,0.8s						
K38A	**Parkersburg**	7.52	40	IAmb_Lg		23 14 17.3	
	comp=Z,11nm,0.9s						
RSSD	**Black Hills**	7.98	334	IAmb_Lg		23 14 37.3	
	comp=Z,6.1nm,0.8s						
W18A	**Petrified Fore**	8.70	261	IAmb_Lg		23 14 41.8	
	comp=Z,6.3nm,0.8s						

IDC 08 23:13:20.3±3.3, 7°.11S×149°.47E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=118.8km s-min=38.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.23	225	Pn	Pn	23 14 13.0	+0.7
	11nm,0.3s,baz=45,slow=17,SNR=9.8						
PMG				Sn	Sn	23 14 51.7	+0.2
	3.5nm,0.3s,baz=280,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	19.45	228	P	P	23 17 48.3	-0.4
	0.2nm,0.3s,baz=53,slow=10,SNR=9.8						
ASAR	**Alice Springs**	22.24	221	P	P	23 18 18.7	-0.2
	1.2nm,0.6s,baz=54,slow=9.1,SNR=16						
TORD	**Torodi Ar. Bea**	147.74	283	PKPbc	PKPbc	23 33 07.6	-0.5
	0.2nm,0.6s,baz=74,slow=3.4,SNR=3.9						

JMA 08 23:15:40.4, 38°.39N×138°.84E, h22km±1km, M3.2, 1D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	0.33	78	P	Pb	23 15 47.3	-0.3
JAW				S	Sb	23 15 52.4	-0.1
JSD	**Sado**	0.58	233	P	Pb	23 15 51.6	-0.3
JSD				S	Sb	23 15 59.5	-0.1
JNS	**Sasagawa**	0.68	146	⇓P	Pb	23 15 53.1	-0.6
JNS				S	Sb	23 16 02.6	-0.1
JYA	**Atsumi**	0.71	73	P	Pb	23 15 53.9	-0.3
JYS	**Shirataka**	0.98	100	P	Pb	23 15 58.2	-0.5
JYS				*e*S	Sb	23 16 11.5	+0.4
JFY	**Yanaizu**	1.20	145	P	Pn	23 16 01.6	-0.2
JFY				S	Sn	23 16 17.4	0.0
MAT	**Matsushiro**	1.91	195	P	Pn	23 16 11.7	0.0
MAT				*e*S	Sn	23 16 34.7	-0.4

JMA ***08*** *23:23:16.9±0.2, 24°.24N×121°.82E, h62km±3km, M2.6*
TAP ***08*** *23:23:18.3, 24°.41N×121°.93E, h26km, ML3.7, C*
ISC 08 23:23:18.4±0.9, 24°.39N±0°.02×121°.96E±0°.02, h23km±6km, n96, σ1°.06/172, 6C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	0.17	290	⇓*i*P	Pb	23 23 23.7	+0.2
	baz=285						
EWUT				S	Sb	23 23 27.0	+0.1
	baz=285						
EHP	**Heping Village**	0.21	249	P	Pb	23 23 24.2	+0.2
	baz=239						
EHP				S	Sb	23 23 28.9	+1.1
	baz=239						
TWC	**Suao**	0.24	336	⇓*i*P	Pb	23 23 24.4	0.0
	baz=341						
TWC				*i* S	Sb	23 23 28.3	-0.2
	baz=341						
NDS	**Dongshan**	0.33	318	⇓*i*P	Pb	23 23 25.8	+0.1
	baz=319						
NDS				*i* S	Sb	23 23 30.9	+0.2
	baz=319						
ETL	**Fush Village**	0.38	234	⇑*i*P	Pb	23 23 27.0	+0.5
	baz=232						
ETL				S	Sn	23 23 33.9	-1.3
	baz=232						
NACB	**Ninganchiao**	0.39	237	⇓*i*P	Pb	23 23 26.8	+0.1
	baz=237						
NACB				*i* S	Sn	23 23 33.7	-1.8
	baz=237						
ILA	**Ilan**	0.42	333	P	Pb	23 23 27.5	+0.3
	baz=329						
ILA				*i* S	Sn	23 23 34.0	-2.2
	baz=329						
TWE	**Neicheng**	0.42	322	⇓*i*P	Pb	23 23 27.3	0.0
	baz=323						
TWE				*i* S	Sb	23 23 33.2	-0.1
	baz=323						
ENTT	**Nioudou**	0.44	305	⇓*i*P	Pb	23 23 27.5	0.0
	baz=305						
ENTT				*i* S	Sb	23 23 33.6	0.0
	baz=305						
TWD	**Chiawan**	0.45	227	⇓*i*P	Pb	23 23 27.9	+0.2
	baz=226						
TWD				S	Sn	23 23 35.6	-1.2
	baz=226						
NDT	**Datong Townshi**	0.46	298	⇑*i*P	Pb	23 23 28.0	+0.1
	baz=303						
NDT				*i* S	Sb	23 23 34.4	+0.2
	baz=303						
ETLH	**Xiulin Townshi**	0.47	248	P	Pb	23 23 28.2	+0.1
	baz=247						
ETLH				S	Sb	23 23 35.5	+0.8
	baz=247						
NTC	**Toucheng**	0.48	346	P	Pb	23 23 28.1	-0.1
	baz=348						
NTC				S	Sb	23 23 35.2	+0.3
	baz=348						
NNSB	**Datong**	0.53	275	⇑*i*P	Pb	23 23 29.0	-0.1
	baz=278						
NNSB				S	Sb	23 23 36.4	0.0
	baz=278						
NNSH	**Datong**	0.53	275	P	Pb	23 23 28.9	-0.1
	baz=276						
NNSH				S	Sb	23 23 35.9	-0.4
	baz=276						
NNS	**Nan Shan**	0.54	276	⇑*i*P	Pb	23 23 29.1	-0.1
	baz=277						
NNS				*i* S	Sb	23 23 36.7	+0.1
	baz=277						
NWLT	**Wulai**	0.57	313	P	Pb	23 23 29.6	-0.2
	baz=313						
NWLT				S	Sb	23 23 36.5	-1.0
	baz=313						
TIPB	**Shuangxi**	0.59	348	P	Pn	23 23 30.3	-1.2
	baz=355						
TIPB				S	Sb	23 23 38.4	+0.1
	baz=355						
ETM	**Tongmen**	0.60	225	P	Pb	23 23 30.1	-0.1
	baz=233						
ETM				S	Sn	23 23 39.3	-1.2
	baz=233						
YHNB	**Yeheng**	0.60	298	⇑*i*P	Pb	23 23 30.2	-0.1
	baz=297						
YHNB				S	Sb	23 23 38.1	-0.3
	baz=297						
TEYL	**Yanliau Villag**	0.61	213	*e*P	Pb	23 23 30.4	0.0
	baz=211						
TEYL				*e*S	Sn	23 23 42.0	+1.1
	baz=211						
TWB1	**Santiao Chiao**	0.62	3	P	Pb	23 23 30.6	0.0
	baz=1.0						
TWB1				S	Sb	23 23 38.5	-0.4
	baz=1.0						
FUSS	**Fushou**	0.67	258	P	Pn	23 23 31.8	-0.9
	baz=261						
FUSS				S	Sn	23 23 41.2	-1.3
	baz=261						
WHF	**Hehuan Shan**	0.68	249	⇑*i*P	Pb	23 23 31.9	+0.1
	baz=255						
WHF				*i* S	Sn	23 23 41.5	-1.6
	baz=255						
TWA	**Mucha**	0.68	330	P	Pn	23 23 31.9	-0.8
	baz=325						
TWA				S	Sn	23 23 40.8	-1.8
	baz=325						
NHDH	**Xindian Distri**	0.70	326	P	Pn	23 23 32.5	-0.4
	baz=320						
NHDH				S	Sn	23 23 41.0	-2.0
	baz=320						
NWF	**Wu-fen Shan**	0.70	347	P	Pn	23 23 32.3	-0.7
	baz=342						
NWF				S	Sn	23 23 41.8	-1.5
	baz=342						
WFSB	**Wu-fen Shan**	0.70	347	P	Pn	23 23 32.3	-0.6
	baz=342						
WFSB				S	Sn	23 23 41.7	-1.4
	baz=342						
TWT	**Tachien**	0.73	260	P	Pn	23 23 33.1	-0.3
	baz=258						
TWT				S	Sn	23 23 43.5	-0.5
	baz=258						
TDCB	**Techi**	0.74	260	P	Pn	23 23 33.1	-0.5
	baz=258						
TDCB				S	Sn	23 23 43.2	-1.1
	baz=258						
ESL	**Shilin**	0.74	220	P	Pb	23 23 32.3	-0.4
	baz=231						
ESL				*e*S	Sn	23 23 43.6	-0.6
	baz=231						
TAP	**Taipei**	0.77	328	P	Pn	23 23 33.6	-0.3
	baz=323						
TAP				S	Sn	23 23 44.0	-0.7
	baz=323						
TNOU	**National Taiwa**	0.78	348	*e*P	Pn	23 23 33.4	-0.7
	baz=345						
TNOU				*e*S	Sb	23 23 42.9	-0.5
	baz=345						
CHGB	**Renai**	0.79	246	P	Pn	23 23 33.7	-0.7
	baz=243						
CHGB				*e*S	Sn	23 23 44.4	-1.1
	baz=243						
OWD	**Renai**	0.83	239	P	Pb	23 23 34.1	-0.2
	baz=225						
OWD				*e*S	Sn	23 23 45.7	-0.9
	baz=225						
YM01	**YM01**	0.83	335	P	Pn	23 23 34.7	-0.1
	baz=348						
YM01				S	Sn	23 23 46.0	-0.5
	baz=348						
EGFH	**Guangfu**	0.86	214	*e*P	Pb	23 23 34.0	-0.8
	baz=199						
TWS1	**Kuangyinshan**	0.86	325	P	Pn	23 23 35.1	0.0
	baz=336						
TWS1				S	Sn	23 23 47.2	0.0
	baz=336						
NJD	**Zhudong**	0.86	294	*e*P	Pn	23 23 35.9	+0.7
	baz=293						
YM08	**YM08**	0.86	337	*e*P	Pn	23 23 35.0	-0.3
	baz=338						
ANP	**Anpu**	0.89	334	*e*P	Pn	23 23 35.5	-0.2
	baz=322						
LIOB	**Emei**	0.90	287	*e*P	Pn	23 23 35.8	+0.1
	baz=286						
LIOB				*e*S	Sn	23 23 49.7	+1.7
	baz=286						
JYNG	**Yonagunijimaku**	0.90	86	P	Pb	23 23 35.7	+0.3
JYNG				S	Sn	23 23 48.5	+0.5
NSTT	**Nanjuang**	0.91	286	*e*P	Pn	23 23 35.8	0.0
	baz=285						
NSTT				*e*S	Sn	23 23 47.4	-0.7
	baz=285						
NCU	**National Centr**	0.91	310	*e*P	Pn	23 23 36.0	+0.2
	baz=296						
NCU				S	Sn	23 23 49.1	+0.8
	baz=296						
NCUH	**Zhongli**	0.91	310	*e*P	Pn	23 23 36.0	+0.1
	baz=296						
NCUH				*e*S	Sn	23 23 48.8	+0.5
	baz=296						
WHP	**Taichung City**	0.93	264	*e*P	Pb	23 23 36.6	+0.7
	baz=262						
WHP				*e*S	Sn	23 23 49.2	+0.4
	baz=262						
HSN1	**Hsinchu**	0.94	295	*e*P	Pb	23 23 36.2	+0.2
	baz=294						
TWY	**Chenhua**	0.94	340	*e*P	Pb	23 23 36.6	+0.5
	baz=341						
TWY				*e*S	Sn	23 23 49.5	+0.5
	baz=341						
YOJ	**Yonaguni jima**	0.96	85	P	Pb	23 23 36.7	+0.3
YOJ				S	Sn	23 23 50.1	+0.6
SBCB	**Hsinchu**	0.97	295	*e*P	Pb	23 23 36.8	+0.2
	baz=294						
SBCB				*e*S	Sn	23 23 51.7	+1.9
	baz=294						
HSN	**Hsinchu**	0.99	295	*e*P	Pb	23 23 37.3	+0.4
	baz=297						
HSN				*e*S	Sn	23 23 51.5	+1.3
	baz=297						
DPDB	**Guoxing**	1.00	250	*e*P	Pb	23 23 37.5	+0.4
	baz=248						
DPDB				*e*S	Sn	23 23 50.9	+0.2
	baz=248						
WCS	**Beigang Elemen**	1.01	251	*e*P	Pb	23 23 37.5	+0.3
	baz=250						
WCS				*e*S	Sn	23 23 51.3	+0.6
	baz=250						
HGSD	**Ruisui**	1.02	209	*e*P	Pn	23 23 36.7	-0.6
	baz=221						
EHY	**Hungye**	1.05	214	*e*P	Pn	23 23 36.2	-1.6
	baz=211						
NMLH	**Miaoli**	1.07	278	*e*P	Pb	23 23 39.1	+0.8
	baz=277						
NMLH				*e*S	Sb	23 23 54.9	+3.0
	baz=277						
TWQ1	**Liyutan**	1.08	268	*e*P	Pb	23 23 39.8	+1.4
	baz=267						
TWQ1				S	Sb	23 23 53.9	+1.7
	baz=267						
SMLT	**Sun Moon Lake**	1.09	243	*e*P	Pb	23 23 38.4	-0.3
	baz=231						
NSY	**Sanyi**	1.09	272	*e*P	Pb	23 23 40.0	+1.4
	baz=270						
NSY				*e*S	Sb	23 23 55.2	+2.7
	baz=270						
SSLB	**Suanglung**	1.09	237	P	Pb	23 23 38.2	-0.4
	baz=227						
SSLB				*e*S	Sb	23 23 54.1	+1.6
	baz=227						
TYC	**Yuchr**	1.11	245	P	Pb	23 23 38.8	-0.2
	baz=231						
TYC				*e*S	Sb	23 23 54.1	+1.0
	baz=231						
YULB	**Yu-li**	1.16	212	*e*P	Pn	23 23 37.7	-1.6
	baz=210						
TWF1	**Yuli**	1.19	211	*e*P	Pn	23 23 38.2	-1.5
	baz=220						
WWF	**Wufeng**	1.20	254	*e*P	Pb	23 23 41.5	+1.0
	baz=252						
WWF				*e*S	Sb	23 23 58.7	+3.1
	baz=252						
WDJ	**Dajia District**	1.20	268	*e*P	Pb	23 23 40.4	-0.1
	baz=267						
WDJ				*e*S	Sb	23 23 57.5	+1.9
	baz=267						
WJS	**Zhushan**	1.26	244	*e*P	Pb	23 23 41.5	+0.1
	baz=234						
WJS				*e*S	Sb	23 23 59.5	+2.3
	baz=234						
WNT	**Mingjian**	1.27	247	*e*P	Pb	23 23 40.8	-0.8
	baz=245						
WNT				*e*S	Sb	23 24 00.3	+2.7
	baz=245						
YUS	**Yu-Shan**	1.28	226	*e*P	Pn	23 23 41.4	0.0
	baz=224						
FULB	**Fuli**	1.33	207	*e*P	Pn	23 23 41.5	-0.1
	baz=219						
ALS	**Alishan**	1.37	231	P	Pb	23 23 43.2	-0.3
	baz=218						
ALS				*e*S	Sb	23 24 01.9	+1.2
	baz=218						
C

WRL	**Guolierlin Hig**	**1.52**	**252**	*eP*	**Pb**	**23 23 45.5**	**-0.5**
	baz=250						
WRL				*eS*	**Sb**	**23 24 05.0**	**+0.1**
	baz=250						
IRIF	**Iriomote-Funau**	**1.62**	**91**	P	**Pn**	**23 23 45.7**	**+0.2**
IRIF				S	**Sn**	**23 24 06.8**	**+1.1**
CHN4	**Tsaushan**	**1.62**	**231**	*eP*	**Pb**	**23 23 47.5**	**-0.1**
	baz=229						
CHN4				*eS*	**Sb**	**23 24 11.1**	**+3.4**
	baz=229						
STYH	**Taoyuan**	**1.62**	**222**	*eP*	**Pn**	**23 23 46.2**	**+0.5**
	baz=221						
TPUB	**Ta-pu**	**1.63**	**229**	*eP*	**Pb**	**23 23 47.0**	**-0.8**
	baz=227						
TPUB				*eS*	**Sb**	**23 24 08.4**	**+0.5**
	baz=227						
STYT	**Tauyuan**	**1.64**	**222**	*eP*	**Pb**	**23 23 47.0**	**-1.0**
	baz=211						
STYT				*eS*	**Sb**	**23 24 09.5**	**+1.2**
	baz=211						
LONT	**Longtian**	**1.66**	**207**	*eP*	**Pn**	**23 23 45.5**	**-0.7**
	baz=194						
CHY	**Chiayi**	**1.66**	**238**	*eP*	**Pb**	**23 23 47.6**	**-0.6**
	baz=236						
CHY				*eS*	**Sb**	**23 24 09.7**	**+0.9**
	baz=236						
WTP	**Ta-pu**	**1.68**	**228**	*eP*	**Pb**	**23 23 48.0**	**-0.6**
	baz=226						
WTP				*eS*	**Sb**	**23 24 10.5**	**+1.3**
	baz=226						
HATJ	**Hateruma jima**	**1.72**	**101**	P	**Pn**	**23 23 45.7**	**-1.2**
TWK	**Hsinying**	**1.75**	**231**	P	**Pb**	**23 23 49.1**	**-0.7**
	baz=229						
TWK				S	**Sb**	**23 24 12.9**	**+1.6**
	baz=229						
TWGBT	**Beinan**	**1.76**	**207**	*eP*	**Pn**	**23 23 44.8**	**-2.7**
	baz=195						
CHN1	**Nanshi**	**1.77**	**228**	*eP*	**Pb**	**23 23 49.5**	**-0.7**
	baz=227						
CHN1				*eS*	**Sb**	**23 24 13.8**	**+1.7**
	baz=227						
SGST	**Jiashian**	**1.81**	**224**	*eP*	**Pn**	**23 23 49.0**	**+0.8**
	baz=211						
SGST				*eS*	**Sb**	**23 24 13.1**	**-0.1**
	baz=211						
ICHU	**Yijhu**	**1.84**	**237**	*eP*	**Pb**	**23 23 50.2**	**-1.3**
	baz=221						
ICHU				*eS*	**Sb**	**23 24 15.3**	**+1.2**
	baz=221						
JKRS	**Kuro-shima**	**1.88**	**94**	P	**Pn**	**23 23 49.0**	**-0.1**
JKRS				*eS*	**Sn**	**23 24 13.1**	**+1.0**
JIJ	**Ishigaki jima**	**1.99**	**90**	P	**Pn**	**23 23 50.8**	**+0.1**
JIJ				S	**Sn**	**23 24 14.9**	**-0.1**
SSD	**Sandimen**	**2.04**	**217**	*eP*	**Pb**	**23 23 53.2**	**-1.5**
	baz=216						
MASBT	**Mashibuluo**	**2.15**	**215**	*eP*	**Pb**	**23 23 54.7**	**-1.9**
	baz=215						
MASBT				*eS*	**Sb**	**23 24 21.7**	**-1.1**
	baz=215						
JISG	**Ishigakijimahi**	**2.15**	**84**	P	**Pn**	**23 23 53.0**	**+0.1**
JISG				S	**Sn**	**23 24 20.7**	**+1.8**
EAST	**Anshuo**	**2.24**	**207**	*eP*	**Pb**	**23 23 56.3**	**-1.9**
	baz=198						
VWUC	**VWUC**	**2.36**	**285**	*eP*	**Pn**	**23 23 54.8**	**-1.0**
	baz=281						

KRSC 08 23:26:12.1±2.2, 49°.56N×156°.67E, h23^{km}±25^{km}, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**343**	*eP*	Pn	23 26 33.1	0.0
SKR				*eS*	Sn	23 26 47.4	-1.0
ALID	**Alaid**	**1.49**	**332**	*eP*	Pn	23 26 37.9	+0.3
ALID				*eS*	Sn	23 26 56.7	+0.2
PAU	**Pauzhetka**	**1.91**	**3**	*eP*	Pn	23 26 43.9	+0.7
PAU				*eS*	Sn	23 27 07.4	+0.9
KDTR	**Khodutka, Kamc**	**2.42**	**21**	*eP*	Pn	23 26 52.5	+2.3
KDTR				*eS*	Sn	23 27 21.5	+2.5
MIPR	**Malaya Ipel'ka**	**2.72**	**1**	P	Pn	23 26 56.2	+1.9
MTVR	**Mutnovka**	**3.08**	**17**	P	Pn	23 27 02.3	+3.0
MTVR				S	Sb	23 27 39.6	-3.7
RUS	**Russkaya**	**3.10**	**21**	*eP*	Pn	23 27 02.1	+2.6
RUS				S	Sn	23 27 38.4	+2.6
GRL	**Gorelyy**	**3.12**	**16**	P	Pn	23 27 03.0	+3.1
GRL				S	Sn	23 27 40.0	+3.5
UGLR	**Uglovaya**	**3.89**	**19**	*eP*	Pb	23 27 15.3	-4.7
UGLR				S	Sb	23 28 02.4	-4.3
AVH	**Avacha**	**3.93**	**18**	P	Pb	23 27 16.3	-4.3
AVH				S	Sb	23 28 03.7	-4.0
KOK	**Koryaka**	**3.93**	**17**	*eP*	Pb	23 27 16.5	-4.2
KRER	**Koryakskii**	**3.97**	**18**	P	Pn	23 27 16.3	+4.7
SDLR	**Sedlovina**	**3.97**	**20**	P	Pb	23 27 16.5	-4.8
KRX	**Arik**	**4.00**	**17**	P	Pb	23 27 17.2	-4.6
KRX				S	Sb	23 28 04.5	-5.3
SPN	**Mys Shipunski**	**4.12**	**29**	P	Pn	23 27 17.3	+3.8
SPN				S	Sn	23 28 04.7	+3.8
GNL	**Ganaly**	**4.21**	**10**	P	Pn	23 27 18.6	+3.7
MKZ	**Mys Kozlova**	**5.89**	**30**	P	Pn	23 27 40.5	+2.7

*NIED **08** 23:38:11.4, 35°.70N×141°.01E, h12^{km}, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.19; $M_{\theta\theta}$0.13; $M_{\phi\phi}$3.05; $M_{r\theta}$-0.16; $M_{\theta\phi}$-1.05; $M_{\phi r}$-0.02; Fault plane solution: M_o3.29000×10^{14} NP1: ϕ_s=159.00000°, δ=45.00000°, λ=-94.00000°. NP2: ϕ_s=345.00000°, δ=45.00000°, λ=-86.00000°.*

JMA 08 23:38:11.4±0.2, 35°.70N×141°.01E, h12^{km}±1^{km}, M3.9, 3C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**271**	⇑P	Pg	23 38 14.6	+0.1
CHOJ				*eS*	Sg	23 38 16.7	-0.1
JSMT	**Sammumatsuo**	**0.46**	**263**	⇑P	Pg	23 38 20.9	+0.4
JSMT				*eS*	Sb	23 38 27.9	-0.3
JIHU	**Itakohorinouch**	**0.47**	**304**	P	Pb	23 38 21.4	-0.3
JIHU				*eS*	Sb	23 38 28.4	-0.2
JCN	**Nagara**	**0.72**	**247**	⇑P	Pb	23 38 26.1	+0.3
JCN				*eS*	Sb	23 38 36.3	+0.7
JHYU	**Hitachinakayam**	**0.72**	**332**	⇓P	Pg	23 38 25.7	+0.2
JHYU				*eS*	Sg	23 38 35.3	+0.3
JYT	**Yasato**	**0.85**	**309**	P	Pg	23 38 26.9	-0.9
JYT				*eS*	Sg	23 38 37.6	-1.2
BSO4	**Boso 4**	**0.90**	**218**	P	Pb	23 38 29.0	+0.2
JHO	**Hitachi**	**0.98**	**339**	⇓P	Pg	23 38 29.0	-1.2
BSO3	**Boso 3**	**0.98**	**205**	P	Pb	23 38 29.8	-0.4
BSO1	**Boso 1**	**1.04**	**181**	P	Pb	23 38 29.8	-1.3
MAT	**Matsushiro**	**2.42**	**291**	P	Pn	23 38 50.6	-0.2
MAT				*eS*	Sb	23 39 22.7	-2.0

*IDC **08** 23:39:18.6±0.9, 35°.86N×80°.86E, h0^{km}, mb3.6/12, mb1 3.9/17, mb1mx3.8/39, mbtmp3.8/17, ML3.8/5, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=26.5km s-min=15.3km az=53.0*

*NEIC **08** 23:39:19.8±1.2, 35°.82N±0°.10×81°.1E±0°.1, h10^{km}±2^{km}, mb4.1/10, Error ellipse: s-maj=17.2km s-min=16.1km az=143.0*

*NNC **08** 23:39:22.4±3.2, 36°.04N×80°.96E, h0^{km}, mb4.6, mpv4.4, Error ellipse: s-maj=27.9km s-min=23.4km az=125.0*

*BJI **08** 23:39:22.2±0.0, 36°.04N×80°.90E, h10^{km}, mb4.2/6, ML4.4/8*

ISC 08 23:39:20.7±0.6, 35°.86N±0°.06×80°.98E±0°.07, h10^{km}, n67, σ1§44/79, mb3.7/15, MS3.1/6, 18C-24D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.39**	**314**	Pn	**Pn**	**23 40 41.7**	**+0.3**
KSH				Sn	**Sn**	**23 41 42.2**	**-1.4**
KSH				smax	smax		
	comp=N,510nm,1.1s						
KSH				smax	smax		
	comp=E,360nm,1.0s						
TARG	**Taragay, Kyrgy**	**6.37**	**338**		**Pn**	**23 40 56.2**	**+1.2**
NIL	**Niiore**	**6.73**	**253**	Pn	**Pn**	**23 40 58.8**	**-0.8**
KDJ	**Kajisay**	**6.93**	**336**		**Pn**	**23 41 03.5**	**+1.0**
PDGK	**Podgornoye**	**7.55**	**352**	⇓Pn	**Pn**	**23 41 11.9**	**+0.9**
PDGK	40nm,0.6s			⇓Pn	**Pn**	**23 41 11.9**	**+0.9**
	40nm,0.6s						
PDGK				⇓Sn	**Sn**	**23 42 36.8**	**+0.1**
	67nm,0.6s						
PDGK				⇓Sn	**Sn**	**23 42 36.8**	**+0.1**
	67nm,0.6s						
PDGK				⇑Lg	Lg	23 43 15.7	
	174nm,1.2s						
PDGK				⇑Lg	Lg	23 43 15.7	
	174nm,1.2s						
BOOM	**Boomskoye usch**	**7.69**	**331**		**Pn**	**23 41 13.7**	**+0.8**
DANN	**Dangsing**	**7.85**	**162**	*eP*	**Pn**	**23 41 15.2**	**0.0**
	21nm,0.5s						
MDOK	**Medeo**	**7.90**	**339**	⇓Pn	**Pn**	**23 41 16.7**	**+0.8**
	5.2nm,0.4s						
MDOK				⇓Pn	**Pn**	**23 41 16.7**	**+0.8**
	5.2nm,0.4s						
MDOK				⇑Pg	Pb	23 41 45.2	+7.3
	18nm,0.6s						
MDOK				⇑Pg	Pb	23 41 45.2	+7.3
	18nm,0.6s						
MDOK				⇓Lg	Lg	23 43 26.0	
	96nm,0.8s						
MDOK				⇓Lg	Lg	23 43 26.0	
	96nm,0.8s						
PYUN	**Piuthan**	**7.92**	**167**	*eP*	**Pn**	**23 41 16.4**	**+0.3**
	20nm,0.5s						
KNDC	**Almaty**	**7.98**	**338**	⇑Pn	**Pn**	**23 41 18.9**	**+2.1**
	19nm,0.5s						
KNDC				⇑Pn	**Pn**	**23 41 18.9**	**+2.1**
	19nm,0.5s						
KNDC				⇓Lg	Lg	23 43 31.5	
	141nm,0.6s						
KNDC				⇓Lg	Lg	23 43 31.5	
	141nm,0.6s						
DRK	**Karamyk**	**8.12**	**299**	Pn	**Pn**	**23 41 20.4**	**+1.4**
TKM2	**Tokmak 2**	**8.19**	**331**	⇓Pn	**Pn**	**23 41 21.1**	**+1.3**
	5.9nm,0.5s						
TKM2				⇓Pn	**Pn**	**23 41 21.1**	**+1.3**
	5.9nm,0.5s						
TKM2				⇑Pg	**Pb**	**23 41 47.0**	**+4.2**
	18nm,0.8s						
TKM2				⇑Pg	**Pb**	**23 41 47.0**	**+4.2**
	18nm,0.8s						
TKM2				⇓Lg	Lg	23 43 39.4	
	90nm,1.1s						
TKM2				⇓Lg	Lg	23 43 39.4	
	90nm,1.1s						
KOLN	**Koldanda**	**8.36**	**164**	*eP*	**Pn**	**23 41 22.2**	**0.0**
	15nm,0.5s						
GKN	**Gorkha**	**8.42**	**157**	*eP*	**Pn**	**23 41 23.9**	**+0.9**
	12nm,0.5s						
AAK	**Ala-Archa**	**8.43**	**325**	Pn	**Pn**	**23 41 23.9**	**+0.8**
	0.8nm,0.3s,baz=79,slow=3.2,SNR=2.2						
AAK				Pg	**Pb**	**23 41 50.6**	**+3.8**
	1.7nm,0.3s,baz=154,slow=13,SNR=3.3						
AAK				Lg	Lg	23 43 39.0	
	1.1nm,0.3s,baz=209,slow=6.8,SNR=4.1						
AAK	**Ala-Archa**	**8.43**	**325**	⇑Pn	**Pn**	**23 41 23.5**	**+0.4**
	8.3nm,1.1s						
AAK				⇑Pn	**Pn**	**23 41 23.5**	**+0.4**
	8.3nm,1.1s						
AAK				⇓Pg	Pb	23 41 53.4	+6.5
	18nm,0.8s						
AAK				⇓Pg	Pb	23 41 53.4	+6.5
	18nm,0.8s						
AAK				⇓Lg	Lg	23 43 45.3	
	76nm,0.8s						
AAK				⇓Lg	Lg	23 43 45.3	
	76nm,0.8s						
FRU1	**Bishkek**	**8.51**	**327**	Pn	**Pn**	**23 41 25.0**	**+0.9**
KKN	**Kakani**	**8.83**	**154**	*eP*	**Pn**	**23 41 30.7**	**+2.0**
	12nm,0.4s						
GAR	**Garm**	**9.04**	**293**	Pn	**Pn**	**23 41 32.1**	**+0.6**
BTK	**Batken**	**9.05**	**301**	Pn	**Pn**	**23 41 32.6**	**+1.1**
PKIN	**Phulchoki**	**9.07**	**154**	*eP*	**Pn**	**23 41 33.7**	**+1.7**
	18nm,0.5s						
PKI	**Pulchoki**	**9.08**	**154**	*eP*	**Pn**	**23 41 34.0**	**+1.8**
	16nm,0.4s						
JIRN	**Jiri**	**9.30**	**150**	*eP*	**Pn**	**23 41 38.1**	**+2.9**
	33nm,0.4s						
WMQ	**Urumqi**	**9.48**	**31**	*eP*	Pn	23 41 42.7	+5.3
WMQ				smax	smax		
	comp=N,62nm,0.9s						
WMQ				smax	smax		
	comp=E,72nm,0.9s						
CHGR	**Chuyangaron**	**9.83**	**290**	Pn	**Pn**	**23 41 42.7**	**+0.5**
KBL	**Kabul**	**9.85**	**266**		**Pn**	**23 41 42.3**	**-0.3**
KK31	**Karatay Array**	**10.85**	**315**	⇑Pn	**Pn**	**23 41 57.7**	**+1.7**
	0.6nm,0.4s,baz=138,slow=13,SNR=8.8						
KK31				⇑Pn	**Pn**	**23 41 57.7**	**+1.7**
	0.6nm,0.4s,baz=138,slow=13,SNR=8.8						
KK31				⇓Pg		23 42 38.5	
	2.0nm,0.6s,baz=140,slow=13,SNR=4.1						
KK31				⇓Pg		23 42 38.5	
	2.0nm,0.6s,baz=140,slow=13,SNR=4.1						
KK31				⇑Sn	**Sn**	**23 43 58.1**	**+0.6**
	3.1nm,0.7s						
KK31				⇑Sn	**Sn**	**23 43 58.1**	**+0.6**
	3.1nm,0.7s						
KK31				⇑Lg	Lg	23 45 01.9	
	14nm,0.9s,baz=134,slow=29						
KK31				⇑Lg	Lg	23 45 01.9	
	14nm,0.9s,baz=134,slow=29						
KK31	**Karatay Array**	**10.85**	**315**	Pn	**Pn**	**23 41 56.0**	**0.0**
KKAR	**Karatay Array**	**10.85**	**315**	Pn	**Pn**	**23 41 56.2**	**+0.1**
KKAR	**Karatay Array**	**10.85**	**315**	Pn	**Pn**	**23 41 55.2**	**-0.8**
MAKZ	**Makanchi**	**10.97**	**4**	⇓Pn	**Pn**	**23 41 56.5**	**-1.2**
	10.0nm,0.4s						
MAKZ				⇓Pn	**Pn**	**23 41 56.5**	**-1.2**
	10.0nm,0.4s						
MAKZ				⇓Sn	**Sn**	**23 44 00.6**	**+0.1**
	12nm,0.7s						
MAKZ				⇓Sn	**Sn**	**23 44 00.6**	**+0.1**
	12nm,0.7s						
MAKZ	**Makanchi**	**10.97**	**4**		**Pn**	**23 41 56.6**	**-1.1**
MK31	**Makanchi Array**	**10.97**	**5**	Pn	**Pn**	**23 41 56.7**	**-1.1**
	2.5nm,0.3s,baz=187,slow=13,SNR=159						
MK31				Pn	**Pn**	**23 41 56.7**	**-1.1**
	2.5nm,0.3s,baz=187,slow=13,SNR=159						
MK31				⇑Sn	**Sn**	**23 43 58.1**	**-2.4**
	3.7nm,0.5s,baz=202,slow=20,SNR=4.7						
MK31				⇑Sn	**Sn**	**23 43 58.1**	**-2.4**
	3.7nm,0.5s,baz=202,slow=20,SNR=4.7						
MK31	**Makanchi Array**	**10.97**	**5**		**Pn**	**23 41 56.6**	**-1.2**
MKAR	**Makanchi Array**	**10.97**	**5**	Pn	**Pn**	**23 41 56.9**	**-0.9**
	3.8nm,0.3s,baz=184,slow=12,SNR=127						
MKAR				Sn	Sn	23 43 51.8	-8.8
	0.6nm,0.3s,baz=191,slow=24,SNR=2.1						
MKAR				LR	LR	23 47 00.1	
	comp=Z,64nm,20.9s,baz=180,slow=42						
MKAR	**Makanchi Array**	**10.97**	**5**		**Pn**	**23 41 56.6**	**-1.2**
KURBB	**Kurchatov Arra**	**14.87**	**354**	Pn	Pn	23 42 47.4	-3.5
	0.1nm,0.3s,baz=178,slow=12,SNR=30						
KURBB				Lg	Lg	23 47 04.4	
	baz=178,slow=27,SNR=2.0						
ZAA0	**Zalesovo Array**	**18.29**	**7**	P	**Pn**	**23 43 31.4**	**-3.1**
ZALV	**Zalesovo Beam**	**18.29**	**7**	P	**Pn**	**23 43 32.0**	**-2.4**
	0.7nm,0.3s,baz=191,slow=11,SNR=9.7						
ZALV	**Zalesovo Beam**	**18.29**	**7**	P	**Pn**	**23 43 31.6**	**-2.8**
BVAR	**Borovoye Array**	**18.72**	**340**	P	**P**	**23 43 38.3**	**-1.0**
	1.1nm,0.3s,baz=262,slow=40,SNR=14						
BRVK	**Borovoye**	**18.78**	**340**	P	**P**	**23 43 39.2**	**-0.8**
BRVK				IAmb	IAmb	23 43 46.8	
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**20.39**	**318**	P	**P**	**23 43 57.5**	**-0.1**
ABKAR	**Akbulak array**	**20.39**	**318**	P	**P**	**23 43 57.0**	**-0.5**
ABKAR				IAmb	IAmb	23 44 05.9	
	comp=Z,6.3nm,1.1s						
AKTO	**Aktyubinsk**	**22.08**	**318**	P	**P**	**23 44 15.2**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=91,slow=9.8,SNR=3.8						
SONM	**Songino Array**	**22.29**	**50**	P	**P**	**23 44 19.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=240,slow=11,SNR=2.7						
TLY	**Talaya**	**22.62**	**39**	LR	LR	23 52 55.0	
	comp=Z,79nm,19.9s,baz=210,slow=36						
CMAR	**Chiang Mai Arr**	**23.51**	**133**	P	**P**	**23 44 30.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=315,slow=9.0,SNR=5.2						
ARU	**Arti**	**25.57**	**331**	P	**P**	**23 44 47.9**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=170,slow=11,SNR=1.8						
ARU				LR	LR	23 55 41.6	
	comp=Z,57nm,19.2s,baz=138,slow=38						
ARU	**Arti**	**25.57**	**331**	P	**P**	**23 44 48.7**	**-0.9**
ARU				IAmb	IAmb	23 45 17.6	
	comp=Z,4.3nm,1.1s						
PALK	**Pallekele**	**28.45**	**181**	LR	LR	23 55 49.9	
	comp=Z,43nm,21.4s,baz=272,slow=35						
BELG	**Belogornoye**	**28.76**	**316**	LR	LR	23 58 51.4	
	comp=Z,43nm,21.8s,baz=206,slow=41						
MLR	**Muntele Rosu**	**42.10**	**301**	P	**P**	**23 47 12.9**	**-0.1**
MLR				IAmb	IAmb	23 47 14.9	
	comp=Z,3.7nm,0.9s						
FIA1	**FINESS Array S**	**42.62**	**325**	P	**P**	**23 47 16.4**	**-0.4**
FINES	**FINESS Array B**	**42.62**	**325**	P	**P**	**23 47 16.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=111,slow=11,SNR=13						
FINES	**FINESS Array B**	**42.62**	**325**	P	**P**	**23 47 16.4**	**-0.4**
ARCES	**ARCESS Array B**	**44.94**	**336**	P	**P**	**23 47 34.2**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=88,slow=9.1,SNR=3.8						
IDI	**Anoyia**	**45.08**	**286**	P	**P**	**23 47 36.9**	**-0.1**
NOA	**NORSAR Array B**	**49.74**	**323**	P	**P**	23 48 10.7	-2.3
	comp=Z,0.4nm,0.7s,baz=90,slow=7.5,SNR=1.5						
NOA				LR	LR	00 09 51.4	
	comp=Z,26nm,19.9s,baz=55,slow=37						
GERES	**GERESS Array B**	**49.83**	**307**	P	**P**	23 48 11.7	-2.2
	comp=Z,0.3nm,0.6s,baz=81,slow=6.1,SNR=2.3						
ILAR	**Eielson Array**	**72.94**	**19**	P	**P**	**23 50 50.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=316,slow=6.3,SNR=1.7						
TOA0	**Torodi Ar. Sit**	**73.80**	**275**	P	**P**	**23 50 55.5**	**-0.3**
TOA0				IAmb	IAmb	23 50 56.1	
	comp=Z,3.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.80**	**275**	P	**P**	**23 50 55.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=44,slow=4.7,SNR=9.9						
TORD				LR	LR	00 27 25.3	
	comp=Z,28nm,19.6s,baz=165,slow=39						
TORD	**Torodi Ar. Bea**	**73.80**	**275**	P	**P**	**23 50 55.5**	**-0.3**
TORD				IAmb	IAmb	23 50 56.1	
	comp=Z,2.1nm,1.1s						
WRA	**Warramunga Arr**	**75.03**	**129**	P	**P**	**23 51 02.6**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=327,slow=5.9,SNR=3.0						
AS31	**Alice Springs**	**77.51**	**131**	P	P	23 51 14.7	-2.1
AS31				IAmb	IAmb	23 51 15.0	
	comp=Z,1.1nm,1.1s						
ASAR	**Alice Springs**	**77.51**	**131**	P	**P**	**23 51 16.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=308,slow=4.9,SNR=4.1						

IDC 08 23:53:08.5±4.3, 23°.14N×142°.77E, h0^{km}, mb4.0/4, mb1 4.2/4, mb1mx3.7/38, mbtmp4.0/4, Error ellipse: s-maj=229.6km s-min=29.1km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.70**	**94**	T	T	00 22 06.8	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**22.71**	**94**	T	T	00 22 09.4	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**22.72**	**94**	T	T	00 22 08.4	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**22.82**	**97**	T	T	00 22 15.3	
	baz=286						
H11S1	**WAKE ISLAND Hy**	**22.83**	**97**	T	T	00 22 17.6	
	baz=286						
H11S2	**WAKE ISLAND Hy**	**22.84**	**97**	T	T	00 22 16.6	
	baz=286						
WRA	**Warramunga Arr**	**43.60**	**192**	P	P	00 01 14.6	-0.1
	1.9nm,0.8s,baz=11,slow=8.4,SNR=7.2						
ASAR	**Alice Springs**	**47.31**	**191**	P	P	00 01 43.8	-0.3
	0.7nm,0.8s,baz=14,slow=12,SNR=5.5						
KBZ	**Khabaz**	**81.10**	**314**	P	P	00 05 26.3	+0.6
	1.7nm,0.8s,baz=134,slow=4.0,SNR=5.3						
FINES	**FINESS Array B**	**81.72**	**334**	P	P	00 05 28.3	-0.4
	2.4nm,1.0s,baz=86,slow=5.7,SNR=1.6						

IDC 08 23:54:07.7±3.3, 23°.12N×141°.54E, h0^{km}, mb4.0/5, mb1 4.3/5, mb1mx3.8/38, mbtmp4.0/5, Error ellipse: s-maj=157.3km s-min=24.8km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**23.84**	**93**	T	T	00 23 03.0	
	baz=283,slow=74,SNR=992						
H11N2	**WAKE ISLAND Hy**	**23.84**	**93**	T	T	00 23 03.1	
	baz=283,slow=74,SNR=230						
H11N3	**WAKE ISLAND Hy**	**23.85**	**93**	T	T	00 23 04.3	
	baz=283,slow=74,SNR=267						
H11S3	**WAKE ISLAND Hy**	**23.94**	**96**	T	T	00 23 13.5	
	baz=286,slow=75,SNR=78						
H11S1	**WAKE ISLAND Hy**	**23.95**	**96**	T	T	00 23 13.8	
	baz=286,slow=75,SNR=50						
H11S2	**WAKE ISLAND Hy**	**23.96**	**96**	T	T	00 23 15.0	
	baz=286,slow=75,SNR=48						
WRA	**Warramunga Arr**	**43.37**	**190**	P	P	00 02 11.6	-0.3
	5.9nm,1.1s,baz=11,slow=8.3,SNR=9.0						
ASAR	**Alice Springs**	**47.09**	**190**	P	P	00 02 41.4	-0.1
	0.6nm,0.6s,baz=15,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**52.62**	**312**	P	P	00 03 21.7	-1.7
	0.5nm,0.9s,baz=106,slow=7.7,SNR=3.1						
KBZ	**Khabaz**	**80.29**	**313**	P	P	00 06 22.6	+2.0
	1.8nm,0.7s,baz=126,slow=2.4,SNR=6.9						
FINES	**FINESS Array B**	**81.25**	**334**	P	P	00 06 24.6	-0.8
	3.8nm,1.0s,baz=55,slow=5.3,SNR=3.7						

IDC 09 00:11:44.8±4.4, 5°.90S×154°.06E, h0^{km}, mb3.4/2, mb1 3.7/2, mb1mx3.4/20, mbtmp3.4/2, Error ellipse: s-maj=231.0km s-min=54.1km az=126.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**232**	P	P	00 16 57.6	-1.1
	0.7nm,0.8s,baz=57,slow=9.6,SNR=2.0						
ASAR	**Alice Springs**	**26.23**	**226**	P	P	00 17 22.4	+0.7
	0.7nm,0.8s,baz=61,slow=9.6,SNR=5.9						
TORD	**Torodi Ar. Bea**	**151.84**	**287**	PKPbc	PKPbc	00 31 42.6	-0.1
	0.6nm,0.7s,baz=71,slow=2.2,SNR=3.3						

MAN 09 00:33:20.6, 8°.97N×126°.14E, h67^{km}, mb3.6, ML2.4, MS1.8, Mindanao

*ECX **09** 00:57:09.1±0.5

BATI				S	S	01 04 07.1	-0.1
	4.6nm,0.3s,baz=348,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**14.77**	**158**	P	P	01 04 31.2	+1.0
	0.3nm,0.3s,baz=338,slow=12,SNR=12						
ASAR	**Alice Springs**	**18.11**	**164**	P	P	01 05 07.1	+0.9
	0.1nm,0.3s,baz=344,slow=12,SNR=4.7						
ASAR				S	S	01 08 15.5	+0.1
	0.1nm,0.3s,baz=344,slow=20,SNR=4.6						
SONM	**Songino Array**	**57.24**	**342**	P	P	01 10 28.2	-1.8
	0.3nm,0.3s,baz=165,slow=6.0,SNR=2.1						
MKAR	**Makanchi Array**	**66.77**	**327**	P	P	01 11 33.8	+1.1
	0.2nm,0.3s,baz=124,slow=7.4,SNR=4.6						

*MOS **09** 01:12:39.6±1.9, 54°.29N×122°.92E, h10km, mb4.0/3, Error ellipse: s-maj=19.6km s-min=15.5km az=76.3*
MOS Felt (III) at Skovorodino, Takhtamygda, (II) at Tynda.
*SKHL **09** 01:12:47.5±0.3, 54°.11N×123°.71E, h12km±3km, mb4.8/7*
*BJI **09** 01:12:48.3±0.0, 53°.91N×123°.72E, h6km, ML4.3/5*

ISC 09 01:12:46.4±0.7, 54°.09N±0°.05×123°.72E±0°.03, h10km, n19, σ2s86/31, mb3.6/3, 4C-4D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KROS	**Kirovskiy**	**1.94**	**78**	*e*Pn	**Pn**	**01 13 20.0**	**+0.6**
KROS				*e*Pg	**Pb**	**01 13 22.9**	**+1.1**
KROS				AMB	AMB	01 13 24.8	
	200nm,0.4s						
KROS				*e*Sn	**Sn**	**01 13 45.0**	**+1.2**
KROS				*e*Sg	**Sg**	**01 13 48.9**	**+0.2**
KROS				A	A	01 13 49.5	
	1μm,0.4s						
KROS				A	A	01 13 49.6	
	965nm,0.4s						
ZEA	**Zeya**	**2.12**	**98**	*e*P	**Pb**	**01 13 26.7**	**+1.8**
ZEA				*e*		01 13 55.8	
ZEA				pmax	pmax		
	comp=N,30nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,70nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.3s						
ZEA	**Zeya**	**2.12**	**98**	*e*Pn	**Pn**	**01 13 23.0**	**+1.1**
ZEA				*e*Pg	**Pb**	**01 13 26.6**	**+1.7**
ZEA				AMB	AMB	01 13 27.1	
	comp=Z,70nm,0.3s						
ZEA				Pg	**Pg**	**01 13 31.6**	**+4.6**
ZEA				*e*Sg	**Sb**	**01 13 53.9**	**+2.7**
ZEA				A	A	01 13 54.4	
	comp=Z,1μm,0.5s						
TUP	**Tupik**	**2.23**	**280**	*e*Pn	**Pn**	**01 13 24.9**	**+1.4**
TUP				*e*Pg	**Pb**	**01 13 27.9**	**+1.0**
TUP				AMB	AMB	01 13 33.0	
	comp=Z,187nm,0.2s						
TUP				*e*Sn	**Sn**	**01 13 53.3**	**+2.1**
TUP				*e*Sg	**Sb**	**01 13 57.1**	**+2.5**
TUP				A	A	01 13 59.8	
	comp=Z,2μm,0.4s						
BMKR	**Bomnak**	**3.06**	**76**	*e*Pn	**Pn**	**01 13 35.0**	**+0.2**
BMKR				Pn	**Pb**	**01 13 39.0**	**-1.9**
BMKR				*e*Pg	**Pg**	**01 13 42.0**	**-3.0**
BMKR				AMB	AMB	01 13 43.5	
	comp=Z,238nm,0.2s						
BMKR				*e*Sn	**Sn**	**01 14 10.8**	**-0.6**
BMKR				*e*Sg	**Sb**	**01 14 21.8**	**+3.5**
BMKR				A	A	01 14 26.8	
	comp=Z,578nm,0.2s						
CRS	**Chara**	**4.19**	**314**	*e*Pn	**Pn**	**01 13 52.2**	**+1.8**
CRS				*e*Pg	**Pb**	**01 14 03.3**	**+3.1**
CRS				*e*Sg	**Sg**	**01 14 57.4**	**-3.5**
HIA	**Hailar**	**5.42**	**209⇓**	*e*P	Pn	01 14 01.7	-5.6
HIA				*i* S	**Sn**	**01 15 03.0**	**-6.8**
EKMR	**Ekimchan**	**5.59**	**97**	*e*Pn	**Pn**	**01 14 10.6**	**+1.0**
EKMR				AMB	AMB	01 14 11.2	
	comp=Z,28nm,0.4s						
EKMR				Pn	Pb	01 14 14.1	-10
EKMR				*e*Sg	**Sg**	**01 15 43.2**	**-2.6**
EKMR				A	A	01 15 49.9	
	comp=Z,137nm,0.5s						
KLR	**Kul'dur**	**6.97**	**131**	*d i*P	**Pn**	**01 14 29.4**	**+1.0**
KLR				*i* S	**Sn**	**01 15 49.8**	**+2.1**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	**Kul'dur**	**6.97**	**131**	*e*Pn	**Pn**	**01 14 29.5**	**+1.0**
KLR				*e*Sg	**Sg**	**01 16 25.5**	**-4.4**
YAK	**Yakutsk**	**8.57**	**19⇑**	*e*P	Pn	01 14 44.4	-5.9
YAK				*i* S	**Sn**	**01 16 23.2**	**-3.7**
ULN	**Ulaanbaatar**	**12.20**	**246⇑**	*e*P	Pn	01 15 31.4	-8.8
TLY	**Talaya**	**12.36**	**267**	*i* P	Pn	01 15 31.6	-11
DGZ	**Jazzator, Alta**	**22.65**	**274⇑**	*e*P	P	01 17 40.0	-7.6
BILL	**Bilibino**	**24.23**	**38⇓**	*e*P	**P**	**01 17 58.0**	**-4.9**
BILL				PPP	PPP	01 18 36.0	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,109nm,17.0s						
WMQ	**Urumqi**	**25.52**	**261**	*e*P	**P**	**01 18 17.9**	**+2.9**
BRVK	**Borovoye**	**31.12**	**290⇓**	*e*P	P	01 18 57.1	-7.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
AAK	**Ala-Archa**	**33.98**	**271⇑**	*e*P	P	01 19 19.1	-11
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**35.97**	**301**	P	P	01 19 38.2	-8.7
ARU				S	S	01 25 15.2	-10
ARU				SS	SnSn	01 27 31.0	-17

*IDC **09** 01:13:09.8±6.6, 5°.60S×148°.78E, h87km±55km, mb3.6/2, mb1 3.9/3, mb1mx3.3/30, mbtmp4.1/3, ML2.4/1, Error ellipse: s-maj=119.7km s-min=46.3km az=117.0*
*NEIC **09** 01:13:12.2±0.9, 6°.0S±0°.1×149°.2E±0°.1, h104km±12km, mb4.3/11, Error ellipse: s-maj=24.8km s-min=6.4km az=125.0*

ISC 09 01:13:10.6±1.2, 5°.9S±0°.1×149°.2E±0°.1, h100km, n18, σ0s50/20, mb4.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.06**	**210**	P	**Pn**	**01 14 11.2**	**+0.5**
	18nm,0.3s,baz=50,slow=11,SNR=17						
PMG				S	**Sn**	**01 14 57.8**	**+0.5**
	73nm,0.3s,baz=17,slow=19,SNR=13						
PMG	**Port Moresby**	**4.06**	**210**		**Pn**	**01 14 11.1**	**+0.4**
PMG					**Sn**	**01 14 56.8**	**-0.5**
MTN	**Manton Dam**	**19.14**	**248**	P	**P**	**01 17 26.2**	**+0.1**
MTN				IAmb	IAmb	01 17 28.8	
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**19.46**	**175**	P	**P**	**01 17 29.0**	**-0.6**
EIDS				IAmb	IAmb	01 17 29.7	
	comp=Z,16nm,0.8s						
WB0	**Warramunga Arr**	**19.97**	**225**	P	**P**	**01 17 35.5**	**+0.4**
WB0				IAmb	IAmb	01 17 36.7	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**20.00**	**224**	P	**P**	**01 17 35.6**	**+0.2**
WR0				IAmb	IAmb	01 17 40.1	
	comp=Z,9.5nm,1.1s						
WB2	**Warramunga Arr**	**20.12**	**225**	P	**P**	**01 17 37.0**	**+0.2**
WB2				IAmb	IAmb	01 17 38.3	
	comp=Z,6.2nm,0.6s						
WRA	**Warramunga Arr**	**20.12**	**225**	P	**P**	**01 17 37.0**	**+0.2**
	comp=Z,5.1nm,0.4s,baz=50,slow=11,SNR=63						
WRA	**Warramunga Arr**	**20.12**	**225**	P	**P**	**01 17 35.5**	**-1.3**
KNRA	**Kununurra**	**22.32**	**242**	P	**P**	**01 18 00.5**	**+0.2**
TNTI	**Ternate**	**22.81**	**286**	P	**P**	**01 18 05.5**	**+0.2**
AS31	**Alice Springs**	**23.03**	**218**	P	**P**	**01 18 07.2**	**-0.2**
ASAR	**Alice Springs**	**23.03**	**218**	P	**P**	**01 18 07.2**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=48,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**23.03**	**218**	P	**P**	**01 18 07.8**	**+0.4**
MSVF	**Nonsavu**	**30.52**	**115**	P	**P**	**01 19 15.0**	**+0.3**
MSVF				IAmb	IAmb	01 19 16.8	
	comp=Z,12nm,1.4s						
PSA00	**Pilbara Seismi**	**32.43**	**238**	P	**P**	**01 19 31.0**	**-0.5**
PSA00				IAmb	IAmb	01 19 31.2	
	comp=Z,11nm,0.9s						
TORD	**Torodi Ar. Bea**	**147.20**	**285**	PKPbc	**PKPdf**	**01 32 41.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=78,slow=2.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**147.20**	**285**	PKPdf	**PKPdf**	**01 32 40.5**	**-0.6**

*IDC **09** 02:01:01.9±2.1, 38°.53N×144°.90E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/31, mbtmp3.6/5, ML2.4/2, Error ellipse: s-maj=53.6km s-min=31.0km az=72.0*

*JMA **09** 02:01:06.6±0.2, 38°.56N×144°.58E, h38km, M3.6*
*NIED **09** 02:01:06.6, 38°.56N×144°.58E, h38km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-3.05; Mθθ0.47; Mφφ2.57; Mrθ-0.32; Mθφ0.73; Mφr2.07; Fault plane solution: M0 3.59000×1014 NP1: φs184.00000°, δ63.00000°, λ-102.00000°. NP2: φs28.00000°, δ30.00000°, λ-68.00000°.*

ISC 09 02:01:06.6±1.3, 38°.59N±0°.06×144°.71E±0°.09, h29km, n19, σ1s19/32, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.42**	**283**	P	**Pn**	**02 01 43.9**	**-0.3**
OFUJ				*e*S	**Sn**	**02 02 11.4**	**-1.4**
MIYJ	**Miyakonagasawa**	**2.45**	**295**	P	**Pn**	**02 01 44.2**	**-0.4**
MIYJ				*e*S	**Sn**	**02 02 12.6**	**-1.0**
JKMT	**Kesennumamotoy**	**2.54**	**276**	P	**Pn**	**02 01 45.6**	**-0.1**
JKMT				*e*S	**Sn**	**02 02 15.2**	**-0.5**
JIKH	**Ishinomakikobu**	**2.56**	**265**	P	**Pn**	**02 01 45.8**	**-0.2**
JIKH				S	**Sn**	**02 02 14.9**	**-1.3**
JMK	**Ichinoseki**	**2.75**	**279**	P	**Pn**	**02 01 48.8**	**+0.2**
JOM	**Ohasama**	**2.80**	**289**	P	**Pn**	**02 01 49.5**	**+0.1**
JOM				*e*S	**Sn**	**02 02 21.7**	**-0.5**
JANG	**Nango**	**3.04**	**307**	P	**Pn**	**02 01 52.1**	**-0.6**
JANG				*e*S	**Sn**	**02 02 26.3**	**-1.9**
JYK	**Kaneyama**	**3.41**	**277**	P	**Pn**	**02 01 58.7**	**+0.9**
JYK				*e*S	**Sn**	**02 02 37.2**	**-0.1**
JFT	**Otama**	**3.61**	**254**	P	**Pn**	**02 02 01.6**	**+1.1**
JFT				*e*S	**Sn**	**02 02 41.5**	**-0.7**
JOT	**Ohata**	**3.96**	**316**	P	**Pn**	**02 02 07.1**	**+1.8**
JCH	**Churui**	**4.15**	**346**	P	**Pn**	**02 02 06.8**	**-1.1**
JCH				*e*S	**Sn**	**02 02 53.1**	**-2.3**
JKB	**Kayabe**	**4.33**	**321**	P	**Pn**	**02 02 11.6**	**+1.2**
JKB				*e*S	**Sn**	**02 03 00.4**	**+0.6**
JRY	**Ryogami san**	**5.29**	**243**	P	**Pn**	**02 02 23.1**	**-0.6**
JRY				*e*S	**Sn**	**02 03 21.7**	**-2.0**
MJAR	**Matsushiro Arr**	**5.55**	**250**	Pn	**Pn**	**02 02 27.5**	**+0.3**
	0.2nm,0.3s,baz=74,slow=16,SNR=5.7						
MJAR				Sn	**Sn**	**02 03 27.2**	**-2.8**
	0.2nm,0.3s,baz=89,slow=28,SNR=1.7						
MAT	**Matsushiro**	**5.55**	**250**	P	**Pn**	**02 02 28.8**	**+1.6**
MAT				*e*S	**Sn**	**02 03 30.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**11.07**	**304**	Pn	**Pn**	**02 03 42.1**	**-0.7**
	baz=113,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**45.52**	**301**	P	**P**	**02 09 24.6**	**+1.3**
	0.5nm,0.8s,baz=81,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**59.03**	**191**	P	**P**	**02 11 03.3**	**-0.5**
	0.8nm,0.8s,baz=14,slow=7.1,SNR=6.0						
FINES	**FINESS Array B**	**68.63**	**333**	P	**P**	**02 12 07.2**	**+0.7**
	1.7nm,1.0s,baz=25,slow=7.8,SNR=3.7						

GUC 09 02:06:01.7±0.8, 20°.58S×69°.28W, h85km±4km, ML3.5, 3C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.46**	**15⇓**	*i*P	Pn	02 06 15.7	-0.4
PB08				*i* S	Sn	02 06 26.7	+0.1
PB08				IAML		02 06 30.7	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.50**	**203⇓**	*i*P	Pn	02 06 15.4	-0.6
PB01				*i* S	Sn	02 06 26.4	-0.1
TA01	**Diego Aracena**	**0.84**	**271⇑**	*i*P	Pn	02 06 18.3	-1.0
TA01				*i* S	Sn	02 06 31.3	-1.0
TA01				IAML		02 06 32.5	
	comp=N,2μm,0.3s						
TA02	**Huaiquique**	**0.86**	**291**	*e*P	Pn	02 06 18.5	-0.9
TA02				*i* S	Sn	02 06 31.9	-0.7
PB09	**IPOC Station P**	**1.21**	**178⇓**	*i*P	Pn	02 06 23.6	-0.2
PB09				*i* S	Sn	02 06 40.6	+0.4
PB09				IAML		02 06 43.2	
	comp=E,835nm,0.2s						
PSGC	**Pisagua**	**1.26**	**321⇑**	*i*P	Pn	02 06 23.5	-0.8
PSGC				*i* S	Sn	02 06 40.4	-0.9
PSGC				IAML		02 06 44.1	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.27**	**206⇓**	*i*P	Pn	02 06 23.8	-0.7
PB07				*i* S	Sn	02 06 40.6	-1.0
PB07				IAML		02 06 48.0	
	comp=E,1μm,0.4s						
MNMC	**Minye Minye**	**1.48**	**348⇓**	*i*P	Pn	02 06 27.1	-0.1
MNMC				*i* S	Sn	02 06 46.4	0.0
MNMC				IAML		02 06 53.1	
	comp=N,3μm,0.2s						
PB03	**IPOC Station P**	**1.52**	**197⇓**	*i*P	Pn	02 06 26.9	-0.8
PB03				*i* S	Sn	02 06 46.2	-1.0
PB03				IAML		02 06 52.8	
	comp=N,697nm,0.4s						
PB04	**IPOC Station P**	**1.92**	**205⇑**	*i*P	Pn	02 06 32.5	-0.4
LVC	**Limon Verde**	**2.04**	**170**	*e*P	Pn	02 06 35.4	+0.7
LVC				*i* S	Sn	02 07 00.8	+1.0
LVC	**Limon Verde**	**2.04**	**170**	*e*P	Pn	02 06 35.5	+0.8
PB06	**IPOC Station P**	**2.13**	**187**	*e*P	Pn	02 06 34.7	-0.9

VAO 09 02:07:28.2±0.2, 15°.88S×41°.77W, h0km, mbR2.8, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUA01	**Guaratinga, BA**	**2.01**	**111**	*e*P	Pb	02 08 05.0	-0.8
GUA01				*e*S	Sn	02 08 28.7	-0.7
CMC01	**Camacan, BA**	**2.23**	**77**	*e*P	Pb	02 08 08.1	-1.3
CMC01				*e*S	Sb	02 08 36.7	-0.9
MC01	**Montes Claros**	**2.24**	**248**	*e*P	Pb	02 08 08.5	-1.2
MC01				*e*S	Sg	02 08 39.5	-0.7
MC01	**Montes Claros**	**2.24**	**248**	*e*P	Pb	02 08 08.8	-0.8
NBIT	**Itapeh - BA**	**2.44**	**68**	*e*P	Pb	02 08 11.8	-1.3
NBIT				*e*S	Sb	02 08 43.4	-0.4
NAN01	**Guarapari, ES**	**2.51**	**141**	*e*P	Pn	02 08 11.7	+1.4
NAN01				*e*S	Sn	02 08 39.9	-1.7
JANB	**Januaria**	**2.58**	**288**	*e*P	Pb	02 08 14.8	-0.6
JANB	**Januaria**	**2.58**	**288**	*e*P	Pg	02 08 16.9	-0.8
SJMB	**Sao Joao De Ma**	**2.86**	**169**	*e*P	Pn	02 08 16.6	+1.5
SJMB				*e*S	Sn	02 08 49.5	-0.8
DIAM	**Diamantina, MG**	**3.01**	**217**	*e*S	Sb	02 08 57.8	-2.5
GDU01	**Guandu, BA**	**3.02**	**45**	*e*P	Pn	02 08 19.4	+2.1
GDU01				*e*S	Sn	02 08 55.2	+1.0
BSFB	**Barra de Sao F**	**3.06**	**163**	*e*S	Sn	02 08 54.1	-1.2
RIB01	**Linhares ES**	**3.66**	**159**	*e*P	Pn	02 08 27.4	+1.3
RIB01				*e*S	Sn	02 09 05.3	-4.7
SDBA	**SAO DESIDERIO**	**4.60**	**318**	*e*P	Pn	02 08 42.1	+3.0
ALF01	**Guarapari-ES**	**4.81**	**168**	*e*S	Sn	02 09 35.9	-2.6
NBPN	**Ponto Novo - B**	**5.23**	**17**	*e*P	Pn	02 08 50.7	+2.9
NBPN				*e*S	Sn	02 09 48.2	-0.7
IPMB	**Ipameri, GO**	**6.51**	**250**	*e*S	Sn	02 10 17.6	-2.9
PEXB	**Peixe**	**7.36**	**300**	*e*P	Pn	02 09 19.1	+2.0
PEXB				*e*S	Sn	02 10 38.0	-3.5
NBAN	**Anadia - AL**	**8.18**	**42**	*e*S	Sn	02 10 57.5	-3.9
NBMA	**Muriti-CE**	**8.96**	**20**	*e*P	Pn	02 09 40.1	+1.1
NBMA				*e*S	Sn	02 11 15.6	-5.2
SMTB	**Santa Maria do**	**9.00**	**320**	*e*S	Sn	02 11 17.5	-4.1
ARAG	**Araguaiana, MT**	**9.67**	**270**	*e*P	Pn	02 09 49.3	+0.6
ARAG				*e*S	Sn	02 11 33.9	-4.2
SNDB	**Serra Nova Dou**	**10.03**	**292**	*e*P	Pn	02 09 55.0	+1.3
SNDB				*e*S	Sn	02 11 49.5	+2.6

*IDC **09** 02:15:13.9±0.8, 12°.13N×46°.30E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/40, mbtmp3.9/12, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/22, Error ellipse: s-maj=25.8km s-min=21.4km az=173.0*
*NEIC **09** 02:15:15.8±1.2, 12°.1N±0°.2×46°.22E±0°.09, h15km±4km, mb4.4/20, Error ellipse: s-maj=26.1km s-min=9.1km az=159.0*

ISC 09 02:15:14.9±0.7, 12°.1N±0°.1×46°.28E±0°.07, h10km, n45, σ1s11/48, mb4.2/20, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**3.42**	**260**	Pn	**Pg**	**02 16 24.6**	**+4.3**
	18nm,0.3s,baz=252,slow=9.2,SNR=18						
ATD				Sn	**Sg**	**02 17 03.4**	**-1.3**
	25nm,0.3s,baz=80,slow=21,SNR=7.7						
ATD				LR	LR	02 17 28.0	
	comp=Z,216nm,20.4s,baz=140,slow=39						
ATD	**Arta Tunnel**	**3.42**	**260**		**Pn**	**02 16 07.4**	**-0.9**
ATD					**Sn**	**02 16 46.9**	**-2.0**
FURI	**Furi**	**8.14**	**247**	Pn	**Pn**	**02 17 12.5**	**-1.0**
KMBO	**Kilima Mbogo**	**15.94**	**215**	Pn	**Pn**	**02 18 58.5**	**-1.2**
	0.2nm,0.3s,baz=50,slow=14,SNR=2.5						
CSS	**Mathiatis**	**25.59**	**335**	P	**P**	**02 20 43.2**	**-1.1**
CSS				IAmb	IAmb	02 20 47.9	
	comp=Z,8.1nm,0.9s						
KIV	**Kislovodsk**	**31.86**	**355**	P	**P**	**02 21 39.8**	**-0.4**
KIV				IAmb	IAmb	02 21 44.6	
	comp=Z,15nm,1.4s						
GAR	**Garm**	**34.22**	**34**	P	**P**	**02 22 00.5**	**-0.5**
TIRR	**Tirgusor**	**35.68**	**338**	P	**P**	**02 22 13.4**	**+0.1**
TIRR				IAmb	IAmb	02 22 16.1	
	comp=Z,15nm,1.3s						
VTS	**Vitosha**	**36.37**	**331**	P	**P**	**02 22 19.8**	**+0.3**
VTS				IAmb	IAmb	02 22 22.1	
	comp=Z,6.8nm,1.4s						
KK31	**Karatay Array**	**37.31**	**30**	P	**P**	**02 22 27.3**	**0.0**
KK31				IAmb	IAmb	02 22 33.0	
	comp=Z,4.5nm,1.2s						
KKAR	**Karatay Array**	**37.31**	**30**	P	**P**	**02 22 27.9**	**+0.5**
KKAR	**Karatay Array**	**37.31**	**30**	P	**P**	**02 22 27.3**	**-0.1**
KKAR				IAmb	IAmb	02 22 33.0	
	comp=Z,4.5nm,1.2s						
MLR	**Muntele Rosu**	**37.49**	**336**	P	**P**	**02 22 29.9**	**+1.0**
MLR				IAmb	IAmb	02 22 39.6	
	comp=Z,7.0nm,1.1s						
ABKAR	**Akbulak array**	**38.70**	**14**	P	**P**	**02 22 38.7**	**-0.2**
ABKAR	**Akbulak array**	**38.70**	**14**	P	**P**	**02 22 39.6**	**+0.7**
DIVS	**Divibare**	**39.05**	**330**	P	**P**	**02 22 41.8**	**-0.2**
AKTO	**Aktyubinsk**	**39.39**	**12**	P	**P**	**02 22 45.9**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=204,slow=10.0,SNR=3.7						
BURAR	**Bucovina Array**	**39.53**	**338**	P	**P**	**02 22 45.8**	**-0.3**
AKASG	**Malin Array Be**	**40.91**	**343**	P	**P**	**02 22 58.0**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=155,slow=7.2,SNR=6.4						
PSZ	**Piszkesteto**	**41.94**	**333**	P	**P**	**02 23 05.9**	**0.0**
PSZ				IAmb	IAmb	02 23 09.8	
	comp=Z,6.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**43.48**	**276**	P	**P**	**02 23 19.7**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=92,slow=8.1,SNR=8.7						
TORD				PcP	**PcP**	**02 25 06.7**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=85,slow=3.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**43.48**	**276**	P	**P**	**02 23 17.9**	**-0.8**
GEC2	**GERESS Array S**	**45.48**	**330**	P	**P**	**02 23 34.1**	**-0.3**
GERES	**GERESS Array B**	**45.48**	**330**	P	**P**	**02 23 34.8**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=136,slow=7.6,SNR=12						
GERES	**GERESS Array B**	**45.48**	**330**	P	**P**	**02 23 34.4**	**0.0**
SUW	**Suwalki**	**45.61**	**341**	P	**P**	**02 23 34.5**	**-0.7**
MK31	**Makanchi Array**	**45.95**	**34**	P	**P**	**02 23 38.6**	**+0.5**
MK31				IAmb	IAmb	02 23 41.3	
	comp=Z,3.9nm,1.2s						
MKAR	**Makanchi Array**	**45.95**	**34**	P	**P**	**02 23 38.2**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=220,slow=7.1,SNR=6.8						
MKAR	**Makanchi Array**	**45.95**	**34**	P	**P**	**02 23 37.5**	**-0.6**
KLMR	**Klimovskoe**	**48.89**	**356**	*e*	**P**	**02 23 59.4**	**-1.2**
KLMR				AMP		02 24 03.1	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**51.04**	**76**	P	**P**	**02 24 18.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=275,slow=8.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**51.64**	**28**	P	**P**	**02 24 20.5**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=247,slow=10,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.64**	**28**	P	**P**	**02 24 20.7**	**-0.9**
SONM	**Songino Array**	**61.14**	**42**	P	**P**	**02 25 30.6**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=242,slow=6.2,SNR=4.6						
SONM				LR	LR	02 53 05.5	
	comp=Z,107nm,18.3s,baz=144,slow=37						
SONM	**Songino Array**	**61.14**	**42**	P	**P**	**02 25 30.7**	**+1.0**
SONM				IAmb	IAmb	02 25 32.6	
	comp=Z,2.7nm,1.2s						
MJAR	**Matsushiro Arr**	**84.42**	**54**	P	**P**	**02 27 48.6**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=281,slow=3.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**84.42**	**54**	P	**P**	**02 27 48.0**	**-0.1**
WRA	**Warramunga Arr**	**92.27**	**110**	P	**P**	**02 28 26.8**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=301,slow=3.3,SNR=8.6						
WRA	**Warramunga Arr**	**92.27**	**110**	P	**P**	**02 28 25.5**	**-0.4**
ASAR	**Alice Springs**	**92.65**	**113**	P	**P**	**02 28 28.2**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=296,slow=4.4,SNR=7.8						
ASAR	**Alice Springs**	**92.65**	**113**	P	**P**	**02 28 26.4**	**-1.2**
PDAR	**Pinedale Array**	**121.05**	**339**	PKP	**PKPdf**	**02 34 07.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=46,slow=2.6,SNR=4.4						
PDAR	**Pinedale Array**	**121.05**	**339**		**PKPdf**	**02 34 05.8**	**-2.7**
NVAR	**Mina Array Bea**	**127.67**	**345**	PKP	**PKiKP**	**02 34 23.2**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=198,slow=0.6,SNR=4.5						
TXAR	**Lajitas Array**	**129.59**	**325**	PKP	**PKPdf**	**02 34 25.9**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=56,slow=3.2,SNR=5.5						

*IDC **09** 02:16:11.0±0.9, 12°.06N×46°.26E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/40, mbtmp3.9/14, ML3.1/1, Error ellipse: s-maj=25.5km s-min=20.8km az=7.0*
*NEIC **09** 02:16:13.2±1.6, 11°.9N±0°.1×46°.6E±0°.1, h15km±5km, mb4.5/13, Error ellipse: s-maj=23.2km s-min=14.0km az=132.0*

**ISC 09 02:16:12.6±0.6, 12°.06N±0°.08×46°.44E±0°.07, h10km, n35, σ1s15/38, m

TXAR	**Lajitas Array**	**129.74**	**326**	PKP	**PKPdf**	**02 35 22.1**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=84,slow=2.8,SNR=5.8						

*NEIC **09** 02:47:09.3±1.6, 57°.88N±0°.04×132°.99W±0°.06, h1km±6km, Error ellipse: s-maj=6.7km s-min=3.5km az=218.0*
*PGC **09** 02:47:10.5±9.0, 57°.87N×133°.06W, h1km, ML2.7/3, 93km Ese of Juneau, Ak Southeastern Alaska*

ISC 09 02:47:08.9±1.3, 57°.85N±0°.04×133°.04W±0°.03, h2km±12km, n11, σ0°90/20, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.83**	**301**	Pg	**Pg**	**02 47 24.7**	**-0.1**
JIS				Sg	**Sg**	**02 47 35.7**	**+0.2**
BESE	**Bessie Mountai**	**1.21**	**308**	P	**Pg**	**02 47 31.8**	**-0.2**
BESE				S	**Sg**	**02 47 47.1**	**-0.5**
BESE	**Bessie Mountai**	**1.21**	**308**	Pg	**Pg**	**02 47 32.2**	**+0.2**
BESE				Sg	**Sg**	**02 47 48.5**	**+0.9**
SIT	**Sitka**	**1.47**	**238**	Pn	**Pn**	**02 47 36.1**	**-0.3**
SIT	comp=E,44nm,0.7s			IAML		02 47 59.8	
SIT	comp=N,42nm,0.8s			IAML		02 48 00.1	
WRAK	**Wrangell Islan**	**1.49**	**165**	Pn	**Pn**	**02 47 36.6**	**0.0**
WRAK				Sn	**Sg**	**02 47 57.8**	**+1.3**
DLBC	**Dease Lake**	**1.70**	**69**	Pn	**Pn**	**02 47 40.0**	**+0.2**
DLBC				Pg	**Pg**	**02 47 41.8**	**+0.2**
DLBC				Sg	**Sg**	**02 48 04.2**	**+0.6**
DLBC	**Dease Lake**	**1.70**	**69**	Pn	**Pn**	**02 47 39.9**	**+0.2**
DLBC				Sn	**Sg**	**02 48 03.0**	**-0.7**
DLBC	comp=E,34nm,0.8s			IAML		02 48 12.5	
WHY	**Whitehorse**	**2.97**	**342**	Sg	**Sg**	**02 48 42.4**	**-1.9**
WHY	**Whitehorse**	**2.97**	**342**	Pn	**Pn**	**02 47 57.6**	**+0.4**
WHY				Sn	**Sn**	**02 48 32.5**	**-0.9**
WHY	comp=N,11nm,0.8s			IAML		02 48 49.5	
HYT	**Haines Junctio**	**3.76**	**324**	Pn	**Pn**	**02 48 09.6**	**+1.6**
HYT	comp=E,6.4nm,4.4s			IAML		02 48 52.3	
HYT	comp=N,7.1nm,0.8s			Sn	**Sn**	**02 48 53.0**	**+0.2**
HYT				IAML		02 49 28.1	
GRNB	**Grenville Isla**	**4.37**	**155**	Sg	**Sg**	**02 49 27.9**	**-1.4**

*IDC **09** 03:03:53.2±1.5, 16°.52S×177°.66W, h460km±13km, mb3.1/6, mb1 3.4/8, mb1mx3.2/28, mbtmp4.0/8, Error ellipse: s-maj=82.6km s-min=14.5km az=153.0*

ISC 09 03:03:52.7±1.2, 16°.5S±0°.5×177°.6W±0°.2, h450km, n8, σ1°48/9, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.32**	**253**	P	**P**	**03 05 10.9**	**+0.2**
MSVF	6.3nm,0.3s,baz=86,slow=13,SNR=49			S	**S**	**03 06 16.9**	**+2.7**
AFI	**Afiamalu**	**6.20**	**66**	P	**P**	**03 05 29.8**	**+0.6**
	baz=330,slow=20,SNR=2.3 12nm,0.3s,baz=278,slow=14,SNR=15						
STKA	**Stephens Creek**	**39.98**	**240**	P	**P**	**03 10 45.6**	**-1.3**
	1.5nm,0.5s,baz=52,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**45.64**	**258**	P	**P**	**03 11 30.6**	**-1.2**
	0.7nm,0.5s,baz=96,slow=6.5,SNR=26						
ASAR	**Alice Springs**	**45.91**	**253**	P	**P**	**03 11 33.6**	**-0.2**
	3.4nm,0.5s,baz=85,slow=8.1,SNR=43						
NVAR	**Mina Array Bea**	**77.88**	**44**	P	**P**	**03 15 03.8**	**+0.6**
	0.1nm,0.3s,baz=229,slow=8.2,SNR=4.4						
ILAR	**Eielson Array**	**84.34**	**13**	P	**P**	**03 15 34.7**	**-1.1**
	0.8nm,0.9s,baz=224,slow=6.3,SNR=8.1						
PDAR	**Pinedale Array**	**85.81**	**43**	P	**P**	**03 15 44.8**	**+1.0**
	0.1nm,0.5s,baz=222,slow=1.2,SNR=1.8						

IDC 09 03:06:30.0±1.9, 11°.86S×166°.23E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.7/28, mbtmp3.8/4, ML3.3/1, MS4.3/1, Ms1 4.3/1, ms1mx3.0/25, Error ellipse: s-maj=48.4km s-min=30.9km az=113.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.16**	**179**	Pn	Pn	03 08 57.1	-0.3
	0.2nm,0.3s,baz=342,slow=20,SNR=1.8						
DZM				Sn	Sn	03 10 54.8	+2.6
	0.3nm,0.3s,baz=114,slow=3.9,SNR=3.7						
WRA	**Warramunga Arr**	**31.67**	**251**	P	P	03 12 56.0	+0.5
	1.0nm,0.9s,baz=86,slow=9.2,SNR=2.0						
ASAR	**Alice Springs**	**32.87**	**245**	P	P	03 13 05.5	-0.5
	0.9nm,0.6s,baz=68,slow=9.5,SNR=6.9						
JNU	**Nakatsue**	**56.01**	**324**	LR	LR	03 36 00.5	
	comp=Z,265nm,21.5s,baz=252,slow=32						
ILAR	**Eielson Array**	**84.12**	**18**	P	P	03 19 02.6	0.0
	0.2nm,1.0s,baz=236,slow=6.4,SNR=4.5						

*NNC **09** 03:07:56.9±3.3, 37°.46N×78°.32E, h2km±19km, mb4.3, mpv3.9, Error ellipse: s-maj=32.8km s-min=21.9km az=92.0*

SOME 09 03:07:55.0, 37°.45N×78°.18E, h5km, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.61**	**2**	*e*P	Pg	03 09 40.9	-1.5
SATY	12nm,0.6s			*e*S	Sg	03 10 57.1	+2.1
UZB	**Uzynbulak**	**5.73**	**6**	*e*P	Pg	03 09 42.9	-1.8
UZB	10nm,0.4s			*e*S	Sg	03 11 00.7	+1.8
UZB	**Uzynbulak**	**5.73**	**6**	Pg	Pg	03 09 40.7	-4.0
UZB	10nm,0.4s			Lg	Lg	03 10 58.3	
MDOK	**Medeo**	**5.77**	**352**	*e*P	Pg	03 09 41.6	-3.9
MDOK	5.5nm,0.4s			*e*S	Sg	03 10 58.3	-2.0
MDOK	**Medeo**	**5.77**	**352**	Pg	Pg	03 09 42.7	-2.9
MDOK	3.7nm,0.3s			⇓Lg	Lg	03 11 00.8	
MDOK	**Medeo**	**5.77**	**352**	Pg	Pb	03 09 40.7	+4.5
MDOK	3.7nm,0.3s			Lg	Lg	03 10 58.5	
SHLS	**Shalkode**	**5.78**	**9**	*e*P	Pg	03 09 44.1	-1.7
SHLS	15nm,0.4s			*e*S	Sg	03 11 02.5	+1.8
SHLS	**Shalkode**	**5.78**	**9**	Pg	Pg	03 09 44.5	-1.3
SHLS	15nm,0.4s			Lg	Lg	03 11 04.8	
TKM2	**Tokmak 2**	**5.81**	**341**	Pg	Pg	03 09 42.1	-4.2
KST	**Kastek**	**5.84**	**344**	*e*P	Pg	03 09 44.2	-2.6
KST	4.6nm,0.8s			*e*S	Sg	03 11 02.9	+0.4
KST	**Kastek**	**5.84**	**344**	Pg	Pg	03 09 47.0	+0.2
KST	11nm,0.7s			Lg	Lg	03 11 09.5	
PDGK	**Podgornoye**	**5.96**	**9**	Pg	Pg	03 09 45.2	-3.9
PDGK	3.6nm,0.5s			Lg	Lg	03 11 06.1	
KPKS	**Kokpek**	**6.02**	**3**	*e*P	Pg	03 09 46.4	-4.0
KPKS	9.1nm,0.4s			*e*S	Sg	03 11 06.6	-1.8
KTBS	**Karatobe**	**6.36**	**350**	Pg	Pg	03 09 52.2	-4.6
KTBS	22nm,0.6s 2.5nm,0.3s			Lg	Lg	03 11 17.8	
MK31	**Makanchi Array**	**9.82**	**17**	Sn	Sn	03 12 09.2	+1.7
	14nm,0.7s 0.5nm,0.2s,baz=357,slow=60,SNR=5.8						
MK31	**Makanchi Array**	**9.82**	**17**	Pn	Pn	03 10 19.2	+2.3
	1.3nm,0.2s,baz=201,slow=13,SNR=62						

*NNC **09** 03:10:08.5±6.1, 39°.33N×73°.03E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=44.3km s-min=28.2km az=175.0*
*ISU **09** 03:10:13, 39°.57N×71°.11E, h5km*
*SOME **09** 03:10:14.5, 39°.70N×71°.02E, h10km*

*KRNET **09** 03:10:14.1±0.1, 39°.59N×71°.05E, h13km, mb3.3*

ISC 09 03:10:14.8±0.8, 39°.59N±0°.03×71°.05E±0°.03, h10km, n23, σ1°62/39, 22C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.50**	**339**	⇑*i*P	**Pg**	**03 10 23.8**	**-0.8**
BTK	baz=39			⇑*i*S	**Sg**	**03 10 30.6**	**-0.6**
BTK	**Batken**	**0.50**	**339**	*i*P	**Pg**	**03 10 23.0**	**-1.6**
BTK				*i*S	**Sg**	**03 10 30.0**	**-1.2**
DRK	**Karamyk**	**0.59**	**101**	⇑*i*P	**Pg**	**03 10 25.6**	**-0.7**
DRK	baz=0.0			⇑*i*S	**Sg**	**03 10 33.6**	**-0.5**
GAR	**Garm**	**0.82**	**224**	⇑*i*P	**Pg**	**03 10 29.7**	**-1.0**
GAR	baz=24			⇑*i*S	**Sg**	**03 10 40.7**	**-0.7**
FRG	**Fergana**	**1.27**	**26**	*e*S	Sb	03 10 46.0	-9.3
OHH	**Osh**	**1.62**	**54**	⇑*i*P	**Pb**	**03 10 44.2**	**-0.7**
OHH	baz=55			⇑*i*S	**Sg**	**03 11 06.2**	**-0.8**
CHGR	**Chuyangaron**	**1.75**	**238**	⇑*e*P	**Pb**	**03 10 46.5**	**-0.5**
CHGR	baz=38			⇑*i*S	**Sg**	**03 11 10.0**	**-0.9**
SFK	**Sufi-Kurgan**	**1.93**	**77**	⇑*i*P	**Pb**	**03 10 49.1**	**-1.2**
SFK	baz=77			⇑*i*S	**Sg**	**03 11 15.9**	**-1.1**
TRKS	**Terek-Say**	**1.94**	**2**	⇑*i*P	**Pb**	**03 10 48.8**	**-1.5**
TRKS	baz=3.0			⇑*i*S	**Sb**	**03 11 13.6**	**-1.0**
YBZ	**Yangibazar**	**2.04**	**327**	*i*P	**Pg**	**03 10 53.0**	**-1.0**
YBZ				*i*S	**Sg**	**03 11 22.0**	**+1.5**
CHMG	**Chimgan**	**2.11**	**338**	*i*P	**Pg**	**03 10 54.0**	**-1.3**
CHMG				*i*S	**Sg**	**03 11 22.0**	**-0.7**
TAS	**Tashkent**	**2.19**	**323**	⇑*i*P	**Pb**	**03 10 53.1**	**-1.4**
TAS	baz=23			⇑*i*S	**Sb**	**03 11 21.4**	**-0.3**
CHRV	**Charvak**	**2.21**	**338**	*i*P	**Pg**	**03 10 56.0**	**-1.2**
KRSA	**Karasay**	**2.60**	**283**	*e*P	**Pb**	**03 11 02.0**	**+0.4**
KRSA				*e*S	**Sg**	**03 11 37.0**	**-1.4**
MNAS	**Manas**	**3.09**	**20**	⇑*i*P	**Pn**	**03 11 05.8**	**+2.0**
MNAS	baz=20			⇑*i*S	**Sn**	**03 11 43.5**	**+2.6**
AML	**Almayashu**	**3.23**	**37**	⇑*i*P	**Pn**	**03 11 07.9**	**+2.0**
AML	baz=37			⇑*i*S	**Sn**	**03 11 47.2**	**+2.5**
KK31	**Karatay Array**	**3.53**	**354**	⇓Pn	**Pn**	**03 11 11.7**	**+2.0**
KK31	2.0nm,0.3s,baz=184,slow=16,SNR=10			Sn	**Sg**	**03 12 06.0**	**-2.2**
MRKS	**Merke**	**3.55**	**27**	*e*P	**Pb**	**03 11 19.6**	**+1.8**
MRKS	3.8nm,0.3s,baz=178,slow=29,SNR=10 2.6nm,0.4s			*e*S	**Sg**	**03 12 06.1**	**-2.8**
MRKS	**Merke**	**3.55**	**27**	Pg	**Pn**	**03 11 12.9**	**+2.9**
MRKS	9.7nm,0.5s 5.4nm,0.3s			Lg	Lg	03 11 56.3	
EKS2	**Erkin-Say**	**3.69**	**33**	⇑*i*P	**Pn**	**03 11 13.9**	**+1.9**
EKS2	baz=33			⇑*i*S	**Sn**	**03 11 57.6**	**+1.9**
SGDS	**Sogindy**	**4.70**	**34**	Pg	**Pn**	**03 11 28.1**	**+2.3**
SGDS	3.5nm,0.2s 6.6nm,0.4s			Lg	Lg	03 12 22.0	
KST	**Kastek**	**5.05**	**45**	Pg	**Pn**	**03 11 28.0**	**-2.8**
KST	10nm,0.5s 3.3nm,0.6s			Lg	Lg	03 12 21.7	
DGS	**Degeres**	**5.09**	**43**	Pg	**Pn**	**03 11 31.1**	**-0.1**
DGS	4.6nm,0.8s 3.8nm,0.5s			Lg	Lg	03 12 27.1	

*IDC **09** 03:29:54.2±0.8, 34°.66N×74°.03E, h0km, mb4.0/17, mb1 4.0/22, mb1mx3.9/53, mbtmp4.0/22, ML3.7/5, Error ellipse: s-maj=18.7km s-min=16.5km az=24.0*
*NDI **09** 03:29:58.4±1.1, 34°.87N×73°.99E, h15km±338km, ML4.1, mb4.2(NEIC)*
*BJI **09** 03:30:00.6±0.0, 34°.66N×74°.20E, h54km, mB4.8/5, mb4.0/12*
*NEIC **09** 03:30:01.8±1.5, 34°.69N±0°.03×74°.11E±0°.09, h63km±8km, mb4.2/12, Error ellipse: s-maj=11.3km s-min=4.6km az=88.0*
*NNC **09** 03:30:06.0±4.5, 35°.08N×74°.07E, h77km±34km, mb3.7, mpv4.3, Error ellipse: s-maj=37.3km s-min=20.9km az=19.0*

ISC 09 03:29:60.0±0.5, 34°.84N±0°.05×74°.20E±0°.05, h35km, n80, σ2°08/86, mb3.9/19, 5C-2D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**1.43**	**214**	Pn	**Pn**	**03 30 22.8**	**-0.6**
NIL				Sn	**Sn**	**03 30 41.1**	**+0.2**
KBL	**Kabul**	**4.26**	**267**	Pn	**Pn**	**03 31 03.5**	**+1.0**
KBL				Sn	**Sn**	**03 31 54.4**	**+3.3**
SMLA	**Simla**	**4.47**	**145**	*e*P	**Pn**	**03 31 07.2**	**+2.0**
SMLA				*e*S	**Sn**	**03 31 57.7**	**+1.8**
SMLA	comp=E,426nm,0.3s			IAML		03 32 20.2	
SMLA	comp=N,495nm,0.3s			IAML		03 32 26.3	
KSH	**Kashi**	**4.88**	**16**	P	**Pn**	**03 31 12.4**	**+1.5**
KSH				S	**Sn**	**03 32 02.5**	**-3.7**
DRK	**Karamyk**	**5.01**	**338**	Pn	Pn	03 31 16.1	+3.2
GAR	**Garm**	**5.18**	**324**	Pn	Pn	03 31 18.2	+3.1
CHGR	**Chuyangaron**	**5.55**	**315**		**Pn**	**03 31 21.8**	**+1.6**
DDI	**Dehra Dun**	**5.56**	**143**	*e*P	**Pn**	**03 31 22.4**	**+2.1**
DDI				*e*S	**Sn**	**03 32 22.9**	**-0.1**
BTK	**Batken**	**5.86**	**334**	Pn	Pn	03 31 27.6	+3.2
NDI	**New Delhi**	**6.66**	**156**	*e*P	Pn	03 31 42.0	+6.7
NDI				*e*S	**Sn**	**03 32 49.0**	**-1.0**
TARG	**Taragay, Kyrgy**	**7.44**	**21**		**Pn**	**03 31 50.1**	**+3.7**
BOOM	**Boomskoye usch**	**7.76**	**10**		**Pn**	**03 31 53.6**	**+3.2**
AAK	**Ala-Archa**	**7.79**	**2**	Pn	**Pn**	**03 31 53.7**	**+2.8**
AAK	comp=N,1.4nm,0.3s,baz=175,slow=11,SNR=2.7 baz=224,slow=13,SNR=1.1			Sn	**Sn**	**03 33 25.4**	**+7.5**
AAK	**Ala-Archa**	**7.79**	**2**	Pn	**Pn**	**03 31 54.2**	**+3.3**
KK31	**Karatay Array**	**8.73**	**342**	P	**Pn**	**03 32 05.4**	**+1.6**
KK31	comp=N,4.5nm,0.3s,baz=161,slow=12,SNR=61			⇑S	**Sn**	**03 33 41.2**	**+0.3**
KK31	**Karatay Array**	**8.73**	**342**	Pn	**Pn**	**03 32 05.2**	**+1.5**
KKAR	**Karatay Array**	**8.73**	**342**	Pn	**Pn**	**03 32 05.6**	**+1.9**
KKAR	**Karatay Array**	**8.73**	**342**		**Pn**	**03 32 05.2**	**+1.5**
PYUN	**Piuthan**	**10.07**	**129**	*e*P	**Pn**	**03 32 20.9**	**-1.5**
DANN	**Dangsing**	**10.41**	**126**	*e*P	**Pn**	**03 32 26.1**	**-0.9**
KOLN	**Koldanda**	**10.69**	**129**	*e*P	**Pn**	**03 32 29.4**	**-1.4**
GKN	**Gorkha**	**11.22**	**125**	*e*P	**Pn**	**03 32 37.4**	**-0.6**
DMN	**Daman**	**11.79**	**125**	*e*P	**Pn**	**03 32 45.1**	**-0.8**
KKN	**Kakani**	**11.79**	**124**	*e*P	**Pn**	**03 32 45.3**	**-0.6**
PKIN	**Phulchoki**	**12.01**	**124**	*e*P	**Pn**	**03 32 48.0**	**-0.9**
PKI	**Pulchoki**	**12.02**	**124**	*e*P	**Pn**	**03 32 48.2**	**-0.9**
GUN	**Gumba**	**12.13**	**122**	*e*P	**Pn**	**03 32 49.2**	**-1.5**
JIRN	**Jiri**	**12.51**	**122**	*e*P	**Pn**	**03 32 54.7**	**-1.1**
RAMN	**Ramite**	**13.23**	**123**	*e*P	**Pn**	**03 33 03.7**	**-1.9**
MAKZ	**Makanchi**	**13.31**	**24**		**Pn**	**03 33 07.5**	**+1.1**
MKAR	**Makanchi Array**	**13.41**	**25**	Pn	**Pn**	**03 33 10.1**	**+2.4**
MKAR	**Makanchi Array**	**13.41**	**25**	Pn	**Pn**	**03 33 09.5**	**+1.8**
MK31	**Makanchi Array**	**13.41**	**25**	⇑P	**P**	**03 33 12.1**	**-4.5**
	comp=N,1.6nm,0.5s,baz=239,slow=54,SNR=4.9						
MK31	**Makanchi Array**	**13.41**	**25**	Pn	**Pn**	**03 33 10.3**	**+2.6**
WMQ	**Urumqi**	**13.75**	**45**	*e*P	**Pn**	**03 33 16.4**	**+4.0**
TAPN	**Taplejung**	**13.77**	**119**	*e*P	**Pn**	**03 33 11.3**	**-1.7**
ODAN	**Odare**	**13.84**	**122**	*e*P	**Pn**	**03 33 12.5**	**-1.4**
KURBB	**Kurchatov Arra**	**16.08**	**10**	Pn	**Pn**	**03 33 42.7**	**-0.6**
KURBB	**Kurchatov Arra**	**16.08**	**10**	⇑P	**Pn**	**03 33 44.0**	**+0.8**
AB31	**Akbulak array**	**17.83**	**328**	⇑P	**P**	**03 34 05.1**	**-0.4**
AB31	comp=N,1.4nm,0.6s,baz=131,slow=14,SNR=6.9			S	**Sn**	**03 37 20.2**	**-2.5**
ABKAR	**Akbulak array**	**17.83**	**328**	P	**P**	**03 34 05.5**	**-0.1**
SHL	**Shillong**	**17.84**	**116**	P	**Pn**	**03 34 05.6**	**-0.1**
SHL	comp=Z,17nm,1.4s			IAmb	IAmb	03 34 09.7	
BVA1	**Borovoye Array**	**18.38**	**353**	⇓P	**Pn**	**03 34 12.5**	**+0.7**
BVAR	**Borovoye Array**	**18.38**	**353**	P	**Pn**	**03 34 11.7**	**-0.1**
BRVK	**Borovoye**	**18.42**	**353**		**Pn**	**03 34 12.9**	**+0.5**
AKTO	**Aktyubinsk**	**19.54**	**328**	P	**Pn**	**03 34 24.6**	**-1.2**
AKTO	comp=Z,1.0nm,0.3s,baz=129,slow=11,SNR=21			S	**S**	**03 37 54.5**	**-8.5**
AKTO	**Aktyubinsk**	**19.54**	**328**	⇓P	**Pn**	**03 34 25.1**	**-0.8**
ZAA0	**Zalesovo Array**	**20.51**	**18**	⇑P	**P**	**03 34 35.0**	**+0.2**
ZAA0	**Zalesovo Array**	**20.51**	**18**	P	**P**	**03 34 35.2**	**+0.3**
ZAA0	comp=Z,7.6nm,0.5s			IAmb	IAmb	03 34 36.4	
ZALV	**Zalesovo Beam**	**20.51**	**18**	P	**P**	**03 34 35.2**	**+0.3**
GTA	**Gaotai**	**20.90**	**70**	*e*P	**P**	**03 34 41.4**	**+2.0**
GTA				pP	sP	03 34 53.1	-1.6
GTA				sP	pP	03 35 03.9	+14
GTA				pmax	pmax		
ARU	**Arti**	**24.09**	**338**	P	**P**	**03 35 13.0**	**+1.1**
SONM	**Songino Array**	**27.22**	**52**	P	**P**	**03 35 41.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**29.95**	**67**	*e*P	**P**	**03 36 05.3**	**+0.4**
HHC				pmax	pmax		
BRTR	**Keskin Array B**	**32.44**	**291**	P	**P**	**03 36 25.7**	**-1.2**
AKASG	**Malin Array Be**	**36.01**	**310**	P	**P**	**03 36 57.7**	**+0.3**
FINES	**FINESS Array B**	**40.30**	**326**	P	**P**	**03 37 33.5**	**0.0**
FINES	**FINESS Array B**	**40.30**	**326**	P	**P**	**03 37 33.7**	**+0.2**
KSRS	**Korea Array**	**42.97**	**70**	P	**P**	**03 37 57.4**	**+1.8**
ARCES	**ARCESS Array B**	**43.67**	**338**	P	**P**	**03 38 02.1**	**+1.2**
ARCES	**ARCESS Array B**	**43.67**	**338**	P	**P**	**03 38 01.1**	**+0.2**
KLR	**Kul'dur**	**44.05**	**53**	P	**P**	**03 38 05.9**	**+1.7**
TIXI	**Tiksi**	**46.36**	**21**	P	**P**	**03 38 22.5**	**+0.3**
TIXI	comp=Z,2.7nm,0.9s			IAmb	IAmb	03 38 23.7	
NB2	**NORSAR Subarra**	**47.26**	**324**	P	**P**	**03 38 29.1**	**-0.4**
NOA	**NORSAR Array B**	**47.26**	**324**	P	**P**	**03 38 28.2**	**-1.3**
ESDC	**Sonseca Array**	**60.53**	**300**	P	**P**	**03 40 05.2**	**-1.6**
ESDC	**Sonseca Array**	**60.53**	**300**	P	**P**	**03 40 05.6**	**-1.2**
ESDC	comp=Z,2.7nm,1.4s			IAmb	IAmb	03 40 10.2	
TOA0	**Torodi Ar. Sit**	**68.32**	**271**	P	**P**	**03 40 55.2**	**-2.7**
TORD	**Torodi Ar. Bea**	**68.32**	**271**	P	**P**	**03 40 56.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**68.32**	**271**	P	**P**	**03 40 55.5**	**-2.4**
TORD				IAmb	IAmb	03 40 57.6	
INK	**Inuvik**	**75.09**	**10**	P	**P**	**03 41 39.4**	**+1.6**
INK	**Inuvik**	**75.09**	**10**	P	**P**	**03 41 37.6**	**-0.2**
NEA2	**Nenana**	**75.24**	**18**	P	**P**	**03 41 38.0**	**-0.8**
NEA2	comp=Z,2.9nm,1.0s			IAmb	IAmb	03 41 40.8	
ILAR	**Eielson Array**	**75.63**	**17**	P	**P**	**03 41 41.3**	**+0.3**
ILAR	**Eielson Array**	**75.63**	**17**	P	**P**	**03 41 40.8**	**-0.2**
WRA	**Warramunga Arr**	**78.91**	**124**	P	**P**	**03 42 00.8**	**+0.8**
WRA	**Warramunga Arr**	**78.91**	**124**	P	**P**	**03 41 58.0**	**-2.0**
ASAR	**Alice Springs**	**81.18**	**127**	P	**P**	**03 42 10.6**	**-1.6**
ASAR	**Alice Springs**	**81.18**	**127**	P	**P**	**03 42 10.1**	**-2.1**
YKA	**Yellowknife Ar**	**82.74**	**4**	P	**P**	**03 42 19.5**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=0.4,slow=5.3,SNR=3.2						

IDC 09 03:31:15.3±2.1, 3°.90S×146°.54E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/41, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=95.5km s-min=28.0km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.90**	**216**	P	P	03 35 48.7	+0.2
	0.2nm,0.3s,baz=38,slow=12,SNR=29						
ASAR	**Alice Springs**	**23.14**	**211**	P	P	03 36 23.2	-0.1
	1.6nm,0.9s,baz=40,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**75.60**	**320**	P	P	03 43 02.2	+0.1
	0.1nm,0.4s,baz=96,slow=7.4,SNR=2.3						
ILAR	**Eielson Array**	**83.74**	**23**	P	P	03 43 45.9	-0.1
	0.3nm,1.0s,baz=235,slow=6.2,SNR=1.9						

IDC 09 03:35:45.6±2.1, 3°.77S×146°.43E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/33, mbtmp3.7/5, ML3.7/1, MS3.2/5, Ms1 3.2/5, ms1mx3.0/20, Error ellipse: s-maj=84.7km s-min=26.1km az=108.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.65**	**173**	LR	LR	03 38 57.9	
	comp=Z,50nm,19.0s,baz=117,slow=34						
HNR	**Honiara**	**14.55**	**113**	LR	LR	03 45 01.9	
	comp=Z,71nm,19.0s,baz=74,slow=38						
WRA	**Warramunga Arr**	**19.94**	**215**	P	P	03 40 19.1	-0.2
	0.2nm,0.3s,baz=38,slow=12,SNR=29						
ASAR	**Alice Springs**	**23.19**	**210**	P	P	03 40 54.4	+0.2
	1.8nm,0.9s,baz=45,slow=8.5,SNR=12						
DZM	**Mont Dzumac**	**26.60**	**135**	LR	LR	03 50 11.8	
	comp=Z,122nm,20.4s,baz=29,slow=33						
STKA	**Stephens Creek**	**28.33**	**189**	LR	LR	03 54 43.1	
	comp=Z,90nm,18.4s,baz=13,slow=40						
PETK	**Petropavlovsk-**	**57.46**	**8**	LR	LR	04 06 52.2	
	comp=Z,37nm,20.3s,baz=194,slow=32						
MKAR	**Makanchi Array**	**75.43**	**320**	P	P	03 47 30.4	-1.1
	0.1nm,0.4s,baz=111,slow=6.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**76.84**	**328**	P	P	03 47 39.9	+0.6
	0.3nm,0.4s,baz=132,slow=4.3,SNR=1.8						
ILAR	**Eielson Array**	**83.67**	**23**	P	P	03 48 16.5	+0.6
	0.1nm,0.5s,baz=249,slow=4.7,SNR=1.4						

IDC 09 03:40:55.7±1.3, 14°.18S×175°.30W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/28, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=96.6km s-min=22.4km az=165.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**86**	Pn	Pn	03 41 50.7	+0.2
	3.0nm,0.3s,baz=130,slow=23,SNR=4.1						
AFI				Sn	Sn	03 42 33.7	+1.7
	4.3nm,0.3s,baz=174,slow=19,SNR=1.7						
WRA	**Warramunga Arr**	**48.34**	**256**	P	P	03 49 40.0	+0.4
	0.3nm,0.4s,baz=93,slow=7.9,SNR=2.4						
ASAR	**Alice Springs**	**48.76**	**251**	P	P	03 49 42.3	-0.3
	1.0nm,0.7s,baz=87,slow=9.2,SNR=5.0						
TXAR	**Lajitas Array**	**81.48**	**57**	P	P	03 53 15.6	+0.2
	0.3nm,0.9s,baz=216,slow=7.4,SNR=2.5						
PDAR	**Pinedale Array**	**82.60**	**43**	P	P	03 53 20.6	-0.5
	0.2nm,0.5s,baz=212,slow=3.2,SNR=3.6						

*IDC **09** 04:24:35.7±1.2,45°.13N×34°.80E,h0km,mb1 3.7/3, mb1mx3.3/33,mbtmp3.6/3,ML3.1/3,Error ellipse: s-maj=24.8km s-min=11.9km az=75.0*

ISC 09 04:24:38.8±1.0,44°.99N±0°.06×33°.53E±0°.09,h10km,n20, σ2°30/22,7C-9D,Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZK	**Bozkurt**	**3.05**	**173**	⇓P	**Pn**	**04 25 28.2**	**+1.2**
BZK	**Bozkurt**	**3.05**	**173**	⇑S	**Sn**	**04 26 02.3**	**-1.2**
TLCR		**3.35**	**275**	⇓P	**Pn**	**04 25 33.6**	**+2.5**
DIKM	**Dikmen**	**3.57**	**159**	⇑P	**Pn**	**04 25 35.2**	**+1.0**
TPGR	**Topolog**	**3.63**	**270**	⇓P	**Pn**	**04 25 35.8**	**+0.7**
TIRR	**Tirgusor**	**3.69**	**264**	⇓P	**Pn**	**04 25 36.8**	**+1.0**
CFR	**Carcaliu**	**3.83**	**275**	⇑P	**Pn**	**04 25 39.3**	**+1.6**
HARR	**Harsova**	**3.99**	**268**	⇑P	**Pn**	**04 25 41.8**	**+1.8**
SORM	**Soroca**	**4.76**	**313**	⇓P	**Pn**	**04 25 53.5**	**+2.9**
VRI	**Vrincioaia**	**4.87**	**283**	⇓P	**Pn**	**04 25 55.0**	**+2.9**
PLOR	**Plostina**	**4.92**	**283**	⇑P	**Pn**	**04 25 54.8**	**+1.9**
BRTR	**Keskin Array B**	**5.26**	**179**	Pn	**Pn**	**04 25 59.8**	**+2.1**
	0.6nm,0.3s,baz=9.7,slow=10,SNR=13						
BRTR				Pg	**Pb**	**04 26 10.1**	**-0.9**
	0.3nm,0.3s,baz=7.7,slow=12,SNR=2.2						
MLR	**Muntele Rosu**	**5.38**	**278**	⇓P	**Pn**	**04 26 02.3**	**+3.1**
VOIR		**6.01**	**277**	⇓P	**Pn**	**04 26 10.6**	**+2.8**
ARR	**Arges**	**6.30**	**277**	⇑P	**Pn**	**04 26 13.7**	**+1.9**
BURAR	**Bucovina Array**	**6.33**	**297**	⇑P	**Pn**	**04 26 14.6**	**+2.4**
AKASG	**Malin Array Be**	**6.41**	**335**	Pn	**Pn**	**04 26 15.6**	**+2.4**
	1.9nm,0.3s,baz=141,slow=14,SNR=8.2						
AKASG				Sn	**Sn**	**04 27 22.6**	**-3.7**
	0.7nm,0.3s,baz=138,slow=31,SNR=1.4						
AKASG				Lg	Lg	04 28 05.2	
	2.1nm,0.3s,baz=143,slow=30,SNR=4.2						
KBZ	**Khabaz**	**6.83**	**97**	Pg	**Pn**	**04 26 20.2**	**+1.2**
	0.1nm,0.3s,baz=333,slow=2.3,SNR=1.7						
DRGR		**7.76**	**287**	⇓P	**Pn**	**04 26 33.9**	**+2.0**
FINES	**FINESS Array B**	**17.06**	**348**	P	**Pn**	**04 28 34.7**	**-2.4**
	0.1nm,0.3s,baz=168,slow=14,SNR=2.1						

*IDC **09** 04:32:27.2±7.4,23°.85S×179°.72W,h506km±50km,mb3.4/4, mb1 3.5/5,mb1mx3.1/28,mbtmp4.2/5,Error ellipse: s-maj=125.3km s-min=34.9km az=137.0*

*NEIC **09** 04:32:29.1±1.6,23°.9S±0°.1×179°.9W±0°.1,h516km±11km, mb4.3/11,Error ellipse: s-maj=22.1km s-min=14.5km az=212.0*

ISC 09 04:32:28.6±0.8,23°.8S±0°.1×179°.9W±0°.1,h518km,n23, σ0°79/23,mb4.1/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.72**	**162**	P	**P**	**04 34 02.8**	**-0.2**
MSVF	**Nonsavu**	**6.33**	**342**	P	**P**	**04 34 08.4**	**-0.7**
	1.3nm,0.3s,baz=240,slow=20,SNR=8.5						
PINNC	**Pines Island,**	**11.69**	**273**	P	**P**	**04 35 02.9**	**-1.0**
AFI	**Afiamalu**	**12.48**	**39**	P	**P**	**04 35 12.9**	**+0.4**
QRZ	**Quartz Range**	**18.13**	**199**	P	**P**	**04 36 08.7**	**-0.3**
NNZ	**Nelson**	**18.26**	**196**	P	**P**	**04 36 09.3**	**-0.9**
NNZ				IAmb	IAmb	04 36 19.9	
	comp=Z,20nm,1.1s						
THZ	**Tophouse**	**18.89**	**197**	P	**P**	**04 36 14.9**	**-1.2**
THZ				IAmb	IAmb	04 36 21.3	
	comp=Z,19nm,1.2s						
LTZ	**Lake Taylor**	**20.01**	**197**	P	**P**	**04 36 25.5**	**-0.7**
LTZ				IAmb	IAmb	04 36 27.9	
	comp=Z,15nm,0.9s						
ARMA	**Armidale**	**26.14**	**249**	P	**P**	**04 37 21.5**	**+0.2**
ARMA				IAmb	IAmb	04 37 23.4	
	comp=Z,6.6nm,1.1s						
CTA	**Charters Tower**	**31.56**	**270**	P	**P**	**04 38 09.7**	**+1.2**
	comp=Z,4.7nm,0.4s,baz=89,slow=10,SNR=12						
CTAO	**Charters Tower**	**31.56**	**270**	P	**P**	**04 38 09.5**	**+1.0**
CTAO				IAmb	IAmb	04 38 28.0	
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**04 38 36.6**	**+0.5**
	comp=Z,0.5nm,0.2s,baz=94,slow=9.8,SNR=3.1						
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**04 39 36.1**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=99,slow=7.0,SNR=24						
ASAR	**Alice Springs**	**42.13**	**260**	P	**P**	**04 39 36.4**	**+0.9**
WB2	**Warramunga Arr**	**42.48**	**266**	P	**P**	**04 39 38.5**	**+0.2**
WB2				IAmb	IAmb	04 39 38.9	
	comp=Z,4.6nm,0.6s						
WB0	**Warramunga Arr**	**42.49**	**266**	P	**P**	**04 39 38.4**	**+0.1**
WB0				IAmb	IAmb	04 39 38.9	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**04 39 38.5**	**+0.2**
	comp=Z,3.3nm,0.4s,baz=97,slow=8.4,SNR=141						
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**04 39 37.1**	**-1.3**
FORT	**Forrest**	**46.42**	**249**	P	**P**	**04 40 07.8**	**-0.7**
MORW	**Morawa**	**56.99**	**250**	P	**P**	**04 41 25.1**	**+0.2**
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**04 42 25.8**	**+0.7**
AKASG	**Malin Array Be**	**144.93**	**327**	PKPbc	**PKPdf**	**04 51 06.5**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=40,slow=4.2,SNR=1.4						
AKASG	**Malin Array Be**	**144.93**	**327**	PKPdf	**PKPdf**	**04 51 05.2**	**-1.1**

*IDC **09** 04:57:46.4±1.9,9°.77S×108°.12E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/50,mbtmp3.9/7,ML4.4/1,MS3.6/2, Ms1 3.7/2,ms1mx2.9/42,Error ellipse: s-maj=77.3km s-min=18.7km az=61.0*

*NEIC **09** 04:57:51.0±2.0,9°.91S±0°.08×108°.07E±0°.09,h33km±5km, mb4.2/6,Error ellipse: s-maj=15.5km s-min=8.8km az=50.0*

ISC 09 04:57:49.4±0.8,9°.89S±0°.08×108°.05E±0°.09,h22km,n23, σ0°86/22,mb4.0/8,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**3.07**	**352**	Pn	**Pn**	**04 58 37.0**	**+0.2**
	47nm,0.3s,baz=171,slow=12,SNR=19						
LEM				Sn	**Sn**	**04 59 14.3**	**+1.3**
	32nm,0.3s,baz=292,slow=19,SNR=10						
UGM	**Wanagama**	**3.13**	**51**	Pn	**Pn**	**04 58 38.6**	**+1.1**
UGM				Sn	**Sn**	**04 59 13.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**6.18**	**77**	Pn	**Pn**	**04 59 19.6**	**+0.1**
PSA00	**Pilbara Seismi**	**16.23**	**137**	Pn	**Pn**	**05 01 34.9**	**-1.2**
PSA00				IAmb	IAmb	05 01 35.5	
	comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**27.25**	**114**	P	**P**	**05 03 32.7**	**+0.5**
WB0				IAmb	IAmb	05 03 40.0	
	comp=Z,7.5nm,1.4s						
WRA	**Warramunga Arr**	**27.25**	**115**	P	**P**	**05 03 32.3**	**0.0**
	comp=Z,1.2nm,1.1s,baz=285,slow=11,SNR=3.8						
WRA				PcP	**PcP**	**05 06 53.1**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=287,slow=3.0,SNR=4.6						
WB2	**Warramunga Arr**	**27.27**	**115**	P	**P**	**05 03 32.5**	**+0.2**
ASAR	**Alice Springs**	**28.22**	**122**	P	**P**	**05 03 42.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=302,slow=8.7,SNR=1.3						
ASAR				PcP	**PcP**	**05 06 55.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=307,slow=3.6,SNR=1.9						
CMAR	**Chiang Mai Arr**	**29.57**	**342**	LR	LR	05 17 58.0	
	comp=Z,56nm,18.8s,baz=190,slow=41						
H08S2	**Diego Garcia H**	**35.21**	**271**	T	T	05 42 38.7	
	baz=94						
H08S3	**Diego Garcia H**	**35.22**	**271**	T	T	05 42 26.0	
	baz=94						
H08S1	**Diego Carcia H**	**35.22**	**271**	T	T	05 42 16.6	
	baz=94						
STKA	**Stephens Creek**	**37.97**	**130**	P	**P**	**05 05 05.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=311,slow=11,SNR=1.3						
SONM	**Songino Array**	**57.49**	**359**	P	**P**	**05 07 35.5**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=180,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**57.49**	**359**	P	**P**	**05 07 37.5**	**+0.6**
SONM				IAmb	IAmb	05 07 38.1	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**60.94**	**340**	P	**P**	**05 08 00.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=142,slow=6.0,SNR=3.3						
KLR	**Kul'dur**	**62.44**	**17**	P	**P**	**05 08 09.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=270,slow=4.0,SNR=4.0						
ABKAR	**Akbulak array**	**72.41**	**329**	P	**P**	**05 09 13.4**	**-0.5**
ABKAR	**Akbulak array**	**72.41**	**329**	P	**P**	**05 09 13.0**	**-0.9**
QSPA	**South Pole Qui**	**80.12**	**180**	P	**P**	**05 09 58.1**	**+0.5**
QSPA				IAmb	IAmb	05 10 05.1	
	comp=Z,3.9nm,1.2s						
ARCES	**ARCESS Array B**	**96.59**	**339**	LR	LR	06 00 35.8	
	comp=Z,46nm,18.8s,baz=70,slow=39						
TXAR	**Lajitas Array**	**144.59**	**52**	PKP	**PKPdf**	**05 17 25.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=225,slow=1.1,SNR=11						
TXAR	**Lajitas Array**	**144.59**	**52**	PKPdf	**PKPdf**	**05 17 24.7**	**-0.4**

*IDC **09** 05:00:44.7±2.6,37°.60N×78°.08E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.3/53,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=44.7km s-min=27.8km az=100.0*

*SOME **09** 05:00:52.0,37°.87N×78°.33E,h0km*

*NNC **09** 05:00:54.2±1.6,37°.91N×78°.34E,h27km±9km,mb4.0, mpv3.7,Error ellipse: s-maj=16.6km s-min=10.7km az=95.0*

ISC 09 05:00:46.8±1.6,37°.72N±0°.08×78°.18E±0°.10,h10km,n22, σ1°99/33,3C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.34**	**2**	*e*P	**Pg**	**05 02 28.3**	**-0.8**
	11nm,0.7s						
SATY				*e*S	**Sg**	**05 03 38.6**	**+0.4**
	16nm,0.6s						
SATY	**Saty**	**5.34**	**2**	Pg	**Pg**	**05 02 28.3**	**-0.8**
	11nm,0.7s						
SATY				Lg	Lg	05 03 38.6	
	16nm,0.6s						
UZB	**Uzynbulak**	**5.46**	**6**	*e*P	**Pg**	**05 02 29.2**	**-2.2**
	7.1nm,0.8s						
UZB				*e*S	**Sg**	**05 03 40.0**	**-2.2**
	9.7nm,0.7s						
UZB	**Uzynbulak**	**5.46**	**6**	Pg	**Pg**	**05 02 29.2**	**-2.2**
	7.1nm,0.8s						
UZB				Lg	Lg	05 03 40.0	
	9.7nm,0.7s						
MDOK	**Medeo**	**5.51**	**351**	*e*P	**Pg**	**05 02 30.6**	**-1.7**
	5.0nm,0.5s						
MDOK				*e*S	**Sg**	**05 03 42.5**	**-1.1**
	11nm,0.7s						
MDOK	**Medeo**	**5.51**	**351**	⇓Pn	**Pn**	**05 02 12.7**	**+3.6**
	1.4nm,0.3s						
MDOK				⇑Pg	**Pg**	**05 02 30.2**	**-2.2**
	6.9nm,0.5s						
MDOK				Lg	Lg	05 03 43.7	
	28nm,0.7s						
MDOK	**Medeo**	**5.51**	**351**	Pg	**Pg**	**05 02 30.6**	**-1.7**
	5.0nm,0.5s						
MDOK				Lg	Lg	05 03 42.5	
	11nm,0.7s						
KST	**Kastek**	**5.59**	**343**	*e*P	**Pg**	**05 02 33.7**	**0.0**
	3.8nm,0.5s						
KST				*e*S	**Sg**	**05 03 47.8**	**+1.7**
	6.7nm,0.5s						
KST	**Kastek**	**5.59**	**343**	Pg	**Pg**	**05 02 33.7**	**0.0**
	3.8nm,0.5s						
KST				Lg	Lg	05 03 47.8	
	6.7nm,0.5s						
AAK	**Ala-Archa**	**5.67**	**331**	Pg	**Pg**	**05 02 30.7**	**-4.6**
	1.3nm,0.3s,baz=168,slow=6.9,SNR=2.6						
AAK				Lg	Lg	05 03 45.0	
	0.8nm,0.3s,baz=20,slow=16,SNR=1.9						
PDGK	**Podgornoye**	**5.70**	**10**	Pg	**Pg**	**05 02 35.1**	**-0.8**
	1.4nm,0.3s						
PDGK				Lg	Lg	05 03 50.3	
	6.3nm,0.7s						
KPKS	**Kokpek**	**5.76**	**4**	*e*P	**Pg**	**05 02 35.9**	**-1.1**
	7.4nm,0.4s						
KPKS				*e*S	**Sg**	**05 03 51.6**	**0.0**
	22nm,0.5s						
DGS	**Degeres**	**5.82**	**342**	*e*P	**Pg**	**05 02 38.5**	**+0.2**
	4.4nm,0.6s						
DGS				*e*S	**Sg**	**05 03 56.3**	**+2.8**
	7.4nm,0.5s						
DGS	**Degeres**	**5.82**	**342**	Pg	**Pg**	**05 02 38.5**	**+0.2**
	4.4nm,0.6s						
DGS				Lg	Lg	05 03 56.3	
	7.4nm,0.5s						
KTBS	**Karatobe**	**6.10**	**350**	*e*P	**Pg**	**05 02 41.6**	**-1.9**
	1.8nm,0.7s						
KTBS				*e*S	**Sg**	**05 04 01.2**	**-1.3**
	11nm,1.1s						
KTBS	**Karatobe**	**6.10**	**350**	Pg	**Pg**	**05 02 41.6**	**-1.9**
	1.8nm,0.7s						
KTBS				Lg	Lg	05 04 01.2	
	11nm,1.1s						
ARXS	**Arharly**	**6.50**	**358**	*e*P	**Pg**	**05 02 48.4**	**-2.8**
	9.5nm,0.8s						
ARXS				*e*S	**Sg**	**05 04 13.3**	**-2.0**
	11nm,0.6s						
ARXS	**Arharly**	**6.50**	**358**	Pg	**Pg**	**05 02 48.4**	**-2.8**
	9.5nm,0.8s						
ARXS				Lg	Lg	05 04 13.3	
	11nm,0.6s						
MK31	**Makanchi Array**	**9.57**	**17**	⇑Pn	**Pn**	**05 03 06.8**	**+2.2**
	0.3nm,0.3s,baz=251,slow=13,SNR=14						
MK31				⇑Sn	**Sn**	**05 04 51.2**	**-0.9**
	2.7nm,0.8s,baz=195,slow=23,SNR=4.9						
MKAR	**Makanchi Array**	**9.57**	**17**	Pn	**Pn**	**05 03 06.8**	**+2.3**
	0.5nm,0.3s,baz=200,slow=13,SNR=18						
MKAR				Sn	**Sn**	**05 04 53.3**	**+1.1**
	0.7nm,0.3s,baz=190,slow=26,SNR=5.4						
FINES	**FINESS Array B**	**39.80**	**324**	P	**P**	**05 08 20.5**	**+0.8**
	0.9nm,0.8s,baz=87,slow=7.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**71.45**	**272**	P	**P**	**05 12 06.0**	**-1.7**
	0.2nm,0.6s,baz=44,slow=6.1,SNR=1.2						

IDC 09 05:08:48.8±1.4,5°.22S×153°.40E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/38,mbtmp3.8/4,Error ellipse: s-maj=50.2km s-min=32.2km az=63.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.98**	**144**	P	P	05 13 34.0	+0.1
	9.1nm,0.8s,baz=198,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**23.63**	**230**	P	P	05 14 01.9	+0.1
	0.6nm,0.8s,baz=54,slow=9.9,SNR=2.2						
MKAR	**Makanchi Array**	**81.03**	**319**	P	P	05 21 06.1	+0.3
	0.4nm,0.6s,baz=108,slow=7.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**84.49**	**322**	P	P	05 21 23.7	+0.1
	0.5nm,0.8s,baz=93,slow=4.6,SNR=6.3						
TORD	**Torodi Ar. Bea**	**151.00**	**288**	PKPbc	PKPbc	05 28 44.1	-0.8
	0.8nm,0.7s,baz=60,slow=2.2,SNR=6.5						

*IDC **09** 05:12:45.1±1.2,49°.75S×163°.59E,h0km,mb4.2/5, mb1 4.4/5,mb1mx4.1/30,mbtmp4.2/5,MS4.0/12, Ms1 4.0/12,ms1mx3.9/17,Error ellipse: s-maj=59.3km s-min=22.4km az=67.0*

*NEIC **09** 05:12:45.5±1.8,49°.88S±0°.08×163°.94E±0°.09,h10km±1km, mb4.5/16,Error ellipse: s-maj=13.7km s-min=9.7km az=18.0*

*GCMT **09** 05:12:50.5±0.3,49°.85S±0°.02×163°.47E±0°.03,h21km±1km, MW5.0/86,Moment Tensor Solution. s27,c31; s86,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.52±.20; $M_{\theta\theta}$=3.86±.16; $M_{\phi\phi}$-3.34±.14; $M_{r\theta}$=0.01±.27; $M_{\theta\phi}$-0.77±.16; $M_{\phi r}$=0.38±.27; Best double couple: M_0=3.70500×10^{16} NP1:ϕ_s=231.00000°,δ85.00000°,λ-175.00000°. NP2: ϕ_s=141.00000°,δ85.00000°,λ-5.00000°. Principal axes: T 3.9410, Plg0.0000°, Azm186.0000°; N -0.4710, Plg83.0000°, Azm280.0000°; P -3.4690, Plg7.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 05:12:45.3±0.5,49°.74S±0°.07×163°.94E±0°.07,h10km,n85, σ1°76/78,mb4.3/10,MS4.0/14,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.97**	**44**	P	**Pn**	**05 13 46.4**	**+0.1**
APZ				S	**Sn**	**05 14 29.5**	**-3.3**
WHZ	**Wether Hill Ro**	**4.70**	**37**	Pn	**Pn**	**05 13 56.8**	**+0.6**
WHZ	**Wether Hill Ro**	**4.70**	**37**	P	**Pn**	**05 13 56.8**	**+0.6**
WHZ				S	**Sn**	**05 14 47.4**	**-3.3**
SYZ	**Scrubby Hill**	**4.73**	**49**	P	**Pn**	**05 13 58.0**	**+1.4**
SYZ				S	**Sn**	**05 14 48.1**	**-3.3**
MLZ	**Mavora Lakes**	**5.21**	**34**	P	**Pn**	**05 14 04.7**	**+1.5**
MLZ				S	**Sn**	**05 15 02.7**	**-0.6**
TUZ	**Tuapeka**	**5.38**	**47**	P	**Pn**	**05 14 06.3**	**+0.7**
TUZ				S	**Sn**	**05 15 04.2**	**-3.4**
MCQ	**Macquarie Isla**	**5.67**	**211**	**Pn**	**05 14 07.3**	**-2.2**	
MSZ	**Milford Sound**	**5.75**	**30**	**P**	**Pn**	**05 14 12.8**	**+2.2**
EAZ	**Earnscleugh**	**5.79**	**41**	**P**	**Pn**	**05 14 11.4**	**+0.1**
HHSZ	**Highcliff Hill**	**5.91**	**52**	**P**	**Pn**	**05 14 14.3**	**+1.5**
HHSZ				**S**	**Sn**	**05 15 18.7**	**-2.0**
WKZ	**Wanaka**	**6.00**	**37**	**P**	**Pn**	**05 14 15.7**	**+1.5**
ODZ	**Otahua Downs**	**6.54**	**47**	**P**	**Pn**	**05 14 21.1**	**-0.4**
ODZ				**S**	**Sn**	**05 15 32.8**	**-3.2**
JCZ	**Jackson Bay**	**6.56**	**32**	**P**	**Pn**	**05 14 24.1**	**+2.1**
LBZ	**Lake Benmore**	**6.84**	**41**	**P**	**Pn**	**05 14 24.2**	**-1.5**
LBZ				S	**Sn**	**05 15 39.9**	**-3.7**
TMZ	**Timaru**	**7.21**	**45**	P	**Pn**	**05 14 30.7**	**+0.1**
FOZ	**Fox Glacier**	**7.40**	**35**	P	**Pn**	**05 14 33.4**	**+0.1**
FOZ				S	**Sn**	**05 15 55.4**	**-1.9**
ARCZ	**Arundel**	**7.62**	**43**	P	**Pn**	**05 14 36.2**	**-0.2**
RPZ	**Rata Peaks**	**7.75**	**42**	P	**Pn**	**05 14 36.0**	**-2.2**
RPZ				S	**Sn**	**05 16 01.1**	**-5.0**
GCSZ	**Gaunt Creek Bo**	**7.78**	**37**	P	**Pn**	**05 14 38.5**	**-0.1**
WACZ	**Wakanui South**	**7.93**	**46**	P	**Pn**	**05 14 40.5**	**0.0**
MHCZ	**Mount Hutt**	**8.12**	**43**	P	**Pn**	**05 14 44.8**	**+1.5**
WVZ	**Waitaha Valley**	**8.15**	**38**	P	**Pn**	**05 14 45.8**	**+2.2**
RACZ	**Rakaia**	**8.23**	**46**	P	**Pn**	**05 14 44.4**	**-0.3**
MQZ	**McQueen's Vall**	**8.49**	**48**	P	**Pn**	**05 14 48.8**	**+0.5**
MQZ				S	**Sn**	**05 16 21.6**	**-2.6**
OKCZ	**Okains Bay**	**8.68**	**50**	P	**Pn**	**05 14 52.9**	**+2.0**
INZ	**Inchbonnie**	**8.73**	**39**	P	**Pn**	**05 14 51.6**	**+0.1**
LTZ	**Lake Taylor**	**9.03**	**43**	P	**Pn**	**05 14 55.1**	**-0.6**
THZ	**Tophouse**	**10.13**	**41**	P	**Pn**	**05 15 11.9**	**+1.1**
QRZ	**Quartz Range**	**10.76**	**37**	P	**Pn**	**05 15 18.9**	**-0.5**
TMWZ	**Te Maipa**	**12.03**	**49**	P	**Pn**	**05 15 37.7**	**+1.0**
TAU	**Tasmania Unive**	**13.35**	**294**		**Pn**	**05 15 53.0**	**-1.7**
TOO	**Toolangi**	**18.00**	**306**	P	**P**	**05 16 56.8**	**+0.7**
TOO				IAmb	IAmb	05 17 07.4	
	comp=Z,15nm,0.7s						
CAN	**Canberra**	**18.08**	**317**		**Pn**	**05 16 55.7**	**-0.9**
ARMA	**Armidale**	**21.42**	**330**	P	**P**	**05 17 33.9**	**+0.4**
STKA	**Stephens Creek**	**24.43**	**309**	LR	LR	05 25 44.2	
	comp=Z,351nm,19.1s,baz=176,slow=32						
STKA	**Stephens Creek**	**24.43**	**309**	P	**P**	**05 18 05.3**	**+1.2**
RAO	**Raoul Island**	**24.67**	**41**	LR	LR	05 28 56.4	
	comp=Z,425nm,19.7s,baz=223,slow=39						
DZM	**Mont Dzumac**	**27.68**	**5**	LR	LR	05 27 39.0	
	comp=Z,304nm,19.4s,baz=200,slow=32						
DZM	**Mont Dzumac**	**27.68**	**5**	*e*S	S	05 23 27.5	+12
	comp=Z,171nm,26.2s						
DZM				*e*LR	LR	05 25 50.8	
	comp=Z,387nm,22.2s						
VNDA	**Vanda**	**27.90**	**181**	P	**P**	**05 18 35.7**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=350,slow=11,SNR=2.7						
VNDA				LR	LR	05 27 12.4	
	comp=Z,167nm,20.4s,baz=11,slow=31						
VNDA	**Vanda**	**27.90**	**181**	P	**P**	**05 18 33.6**	**-1.3**
VNDA				IAmb	IAmb	05 18 41.8	
	comp=Z,7.0nm,1.2s						
CASY	**Casey**	**31.53**	**218**	P	**P**	**05 19 06.2**	**-1.0**
CASY				IAmb	IAmb	05 19 15.2	
	comp=Z,12nm,1.3s						
AS31	**Alice Springs**	**35.04**	**307**	P	**P**	**05 19 38.5**	**+0.2**
AS31				IAmb	IAmb	05 19 48.1	
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**35.04**	**307**	P	**P**	**05 19 38.4**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=142,slow=8.2,SNR=22						
ASAR				LR	LR	05 33 20.6	
	comp=Z,354nm,18.9s,baz=155,slow=35						
ASAR	**Alice Springs**	**35.04**	**307**	P	**P**	**05 19 39.7**	**+1.4**
WR0	**Warramunga Arr**	**37.82**	**311**	P	**P**	**05 20 03.0**	**+1.0**
WR0				IAmb	IAmb	05 20 11.3	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**37.93**	**311**	P	**P**	**05 20 04.2**	**+1.3**
WRA	**Warramunga Arr**	**37.93**	**311**	P	**P**	**05 20 03.1**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=139,slow=7.6,SNR=11						
WRA				PcP	**PcP**	**05 22 20.4**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=144,slow=2.7,SNR=4.6						
WRA				LR	LR	05 35 18.4	
	comp=Z,260nm,18.7s,baz=140,slow=36						
WRA	**Warramunga Arr**	**37.93**	**311**	P	**P**	**05 20 02.9**	**0.0**
WRAB	**Tennant Creek**	**37.94**	**311**	P	**P**	**05 20 04.7**	**+1.8**
WRAB				IAmb	IAmb	05 20 12.7	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**38.06**	**311**	P	**P**	**05 20 02.9**	**-1.1**
WB0				IAmb	IAmb	05 20 20.4	
	comp=Z,14nm,1.3s						
H01W1	**Cape Leeuwin H**	**38.95**	**273**	T	T	06 01 24.1	
	baz=128,slow=76						
H01W2	**Cape Leeuwin H**	**38.96**	**273**	T	T	06 01 25.0	
	baz=128						
H01W3	**Cape Leeuwin H**	**38.97**	**273**	T	T	06 01 22.4	
	baz=128,slow=76						
QSPA	**South Pole Qui**	**40.38**	**180**	P	**P**	**05 20 25.0**	**+1.9**
	comp=Z,6.5nm,1.1s,baz=22,slow=5.4,SNR=6.4						
QSPA	**South Pole Qui**	**40.38**	**180**	P	**P**	**05 20 23.1**	**-0.1**
QSPA				IAmb	IAmb	05 20 35.8	
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**41.53**	**282**	P	**P**	**05 20 32.9**	**+0.1**
TBI	**Tubuai**	**44.80**	**71**	*e*S	**S**	**05 27 41.0**	**+4.7**
	comp=Z,78nm,30.2s						
TBI				*e*LQ	LQ	05 31 16.1	
	comp=Z,545nm,34.8s						
TBI				*e*LR	LR	05 33 32.2	
	comp=Z,225nm,22.8s						
MAW	**Mawson**	**49.07**	**210**	LR	LR	05 40 26.4	
	comp=Z,144nm,19.6s,baz=100,slow=34						
PPT2	**Papeete2**	**49.10**	**66**	*e*S	**S**	**

comp=E,43nm,0.5s
SATY Saty 5.59 357 Pg Pg 05 41 36.3 -0.8
comp=E,11nm,0.7s
SATY Lg Lg 05 42 48.1
comp=E,43nm,0.5s
UZB Uzynbulak 5.67 2 eP Pg 05 41 36.7 -1.9
comp=E,4.9nm,0.7s
UZB eS **Sg 05 42 48.6 -3.5**
comp=E,20nm,0.7s
UZB Uzynbulak 5.67 2 Pg Pg 05 41 36.7 -1.9
comp=E,4.9nm,0.7s
UZB Lg Lg 05 42 48.7
comp=E,20nm,0.7s
SHLS Shalkode 5.70 5 eP Pg 05 41 39.4 +0.1
comp=E,11nm,0.4s
SHLS eS **Sg 05 42 53.1 0.0**
comp=E,41nm,0.8s
SHLS Shalkode 5.70 5 Pg Pg 05 41 39.4 +0.1
comp=E,11nm,0.4s
SHLS Lg Lg 05 42 53.1
comp=E,41nm,0.8s
MDOK Medeo 5.84 347 ⇑Pn Pn 05 41 22.2 +5.4
comp=E,1.8nm,0.4s
MDOK ⇓Pg **Pg 05 41 43.1 +1.3**
comp=E,15nm,0.6s
MDOK ⇓Lg Lg 05 42 58.3
comp=E,38nm,0.7s
PDGK Podgornoye 5.88 5 Pg Pg 05 41 41.3 -1.2
PDGK Lg Lg 05 42 56.8
comp=E,11nm,0.9s
KOTS Kotyrbulak 5.90 348 eP Pg 05 41 40.6 -2.3
comp=E,9.0nm,0.6s
KOTS eS **Sg 05 42 55.5 -3.8**
comp=E,52nm,0.8s
KOTS Kotyrbulak 5.90 348 Pg Pg 05 41 40.6 -2.3
comp=E,9.0nm,0.6s
KOTS Lg Lg 05 42 55.5
comp=E,52nm,0.8s
KST Kastek 5.97 340 eP Pg 05 41 46.7 +2.3
comp=E,13nm,0.4s
KST eS **Sg 05 43 05.9 +4.2**
comp=E,20nm,0.7s
KST Kastek 5.97 340 Pg Pg 05 41 46.7 +2.3
comp=E,13nm,0.4s
KST Lg Lg 05 43 05.9
comp=E,20nm,0.7s
KPKS Kokpek 5.99 359 eP Pg 05 41 41.0 -3.7
comp=E,10nm,0.4s
KPKS eS **Sg 05 42 56.3 -6.0**
comp=E,38nm,0.8s
KTMS Ketmen 6.09 11 eP Pg 05 41 45.1 -1.4
comp=E,7.2nm,0.5s
KTMS eS **Sg 05 43 03.5 -1.9**
comp=E,14nm,0.8s
KTMS Ketmen 6.09 11 Pg Pg 05 41 45.2 -1.4
comp=E,7.2nm,0.5s
KTMS Lg Lg 05 43 03.5
comp=E,14nm,0.8s
AAK Ala-Archa 6.13 329 Pn **Pn 05 41 20.9 +0.1**
comp=E,0.7nm,0.3s,baz=5.3,slow=12,SNR=3.6
AAK Pg **Pb 05 41 38.7 +1.8**
comp=E,1.4nm,0.3s,baz=230,slow=3.8,SNR=5.1
AAK Sn **Sn 05 42 29.6 -1.3**
comp=E,0.8nm,0.3s,baz=158,slow=18,SNR=3.5
AAK Lg Lg 05 42 59.3
comp=E,0.6nm,0.3s,baz=229,slow=23,SNR=4.6
DGS Degeres 6.21 339 eP Pg 05 41 48.7 -0.2
comp=E,13nm,0.7s
DGS eS **Sg 05 43 09.3 0.0**
comp=E,14nm,0.7s
DGS Degeres 6.21 339 Pg Pg 05 41 48.7 -0.2
comp=E,13nm,0.7s
DGS Lg Lg 05 43 09.3
comp=E,14nm,0.7s
KTBS Karatobe 6.44 346 eP Pg 05 41 54.1 +0.8
comp=E,5.6nm,0.5s
KTBS eS **Sg 05 43 18.8 +2.1**
comp=E,19nm,0.9s
KTBS Karatobe 6.44 346 Pg Pg 05 41 54.1 +0.8
comp=E,5.6nm,0.5s
KTBS Lg Lg 05 43 18.8
comp=E,19nm,0.9s
CHKK Chushkaly 6.52 348 eP Pg 05 41 52.9 -2.0
comp=E,4.4nm,0.5s
CHKK eS **Sg 05 43 16.6 -2.8**
comp=E,21nm,0.6s
CHKK Chushkaly 6.52 348 Pg Pg 05 41 52.9 -2.0
comp=E,4.4nm,0.5s
CHKK Lg Lg 05 43 16.6
comp=E,21nm,0.6s
KUU Kurty 6.68 345 eP Pg 05 41 59.9 +2.0
comp=E,7.0nm,0.9s
KUU eS **Sg 05 43 28.6 +4.2**
comp=E,21nm,1.1s
KUU Kurty 6.68 345 Pg Pg 05 41 59.9 +2.0
comp=E,7.0nm,0.9s
KUU Lg Lg 05 43 28.6
comp=E,21nm,1.1s
ARXS Arharly 6.78 354 eP Pg 05 41 59.1 -0.7
comp=E,16nm,0.6s
ARXS eS **Sg 05 43 27.4 -0.1**
comp=E,17nm,0.8s
ARXS Arharly 6.78 354 Pg Pg 05 41 59.1 -0.7
comp=E,16nm,0.6s
ARXS Lg Lg 05 43 27.4
comp=E,17nm,0.8s
WMQ Urumqi 9.27 44 eP Pn 05 42 13.4 +10
WMQ smax smax
comp=N,31nm,0.9s
WMQ smax smax
comp=E,28nm,0.7s
MK31 Makanchi Array 9.67 14 Pn **Pn 05 42 12.6 +3.4**
comp=E,0.8nm,0.5s,baz=198,slow=12,SNR=21
MK31 Sn **Sn 05 43 59.1 +1.3**
comp=E,3.3nm,0.6s,baz=196,slow=25,SNR=5.0
MKAR Makanchi Array 9.67 14 Pn **Pn 05 42 12.8 +3.7**
comp=E,0.6nm,0.3s,baz=196,slow=13,SNR=24
MKAR Sn **Sn 05 44 00.3 +2.5**
comp=E,0.6nm,0.3s,baz=183,slow=21,SNR=5.4
GEYT Alibeck 16.38 278 Pn **P 05 43 44.0 +1.2**
comp=E,0.7nm,0.3s,baz=137,slow=9.3,SNR=4.6
BVAR Borovoye Array 16.62 342 Pn **P 05 43 45.9 +0.5**
comp=E,0.3nm,0.3s,baz=202,slow=19,SNR=4.5
AKTO Aktyubinsk 19.71 318 P **P 05 44 17.5 -1.9**
comp=E,0.1nm,0.3s,baz=146,slow=5.9,SNR=4.0
FINES FINESS Array B 40.29 324 P **P 05 47 26.1 -0.8**
comp=E,1.4nm,0.5s,baz=116,slow=8.7,SNR=9.3
ARCES ARCESS Array B 42.75 335 P **P 05 47 46.8 -0.3**
comp=E,1.8nm,0.8s,baz=106,slow=9.1,SNR=5.9
NOA NORSAR Array B 47.40 322 P **P 05 48 22.5 -1.7**
comp=E,0.5nm,0.6s,baz=339,slow=18,SNR=1.7
TORD Torodi Ar. Bea 71.94 273 P **P 05 51 11.1 -2.9**
comp=E,0.4nm,0.4s,baz=44,slow=5.5,SNR=4.1
ILAR Eielson Array 72.00 19 P **P 05 51 15.3 +1.8**
comp=E,0.4nm,0.8s,baz=306,slow=7.7,SNR=4.3
WRA Warramunga Arr 77.40 127 P **P 05 51 46.0 +0.6**
comp=E,0.7nm,1.0s,baz=326,slow=5.5,SNR=2.5

*IDC **09** 05:48:50.4±1.7, 37.°42N×78.°09E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/37, mbtmp3.7/8, ML3.1/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/38, Error ellipse: s-maj=27.7km s-min=26.4km az=137.0*
*SOME **09** 05:48:58.8, 37.°68N×78.°37E, h5km*
*NNC **09** 05:49:01.4±2.4, 37.°80N×78.°48E, h27km±17km, mb4.2, mpv3.9, Error ellipse: s-maj=23.7km s-min=15.7km az=85.0*
ISC 09 05:48:53.1±1.2, 37.°55N±0.°07×78.°25E±0.°08, h10km, n41, σ2°17/55, mb3.7/6, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.50**	**1**	*eP*	**Pg**	**05 50 38.4**	**-0.1**
	11nm,0.8s						
SATY				*eS*	**Sg**	**05 51 50.3**	**+0.5**
	51nm,0.9s						
SATY	**Saty**	**5.50**	**1**	Pg	**Pg**	**05 50 38.4**	**-0.1**
	11nm,0.8s						
SATY				Lg	Lg	05 51 50.3	
	51nm,0.9s						
IZV	**Izvestkoviy**	**5.62**	**348**	*eP*	**Pg**	**05 50 41.6**	**+0.9**
	12nm,0.6s						
IZV				*eS*	**Sg**	**05 51 55.5**	**+2.0**
	17nm,0.4s						
IZV	**Izvestkoviy**	**5.62**	**348**	Pg	**Pg**	**05 50 41.6**	**+0.9**
	12nm,0.6s						
IZV				Lg	Lg	05 51 55.5	
	17nm,0.4s						
UZB	**Uzynbulak**	**5.62**	**6**	*eP*	**Pg**	**05 50 40.0**	**-0.8**
	12nm,0.5s						
UZB				*eS*	**Sg**	**05 51 52.9**	**-0.7**
	17nm,0.9s						
UZB	**Uzynbulak**	**5.62**	**6**	Pg	**Pg**	**05 50 40.0**	**-0.8**
	12nm,0.5s						
UZB				Lg	Lg	05 51 52.9	
	17nm,0.9s						
SHLS	**Shalkode**	**5.68**	**9**	*eP*	**Pg**	**05 50 41.2**	**-0.6**
	13nm,0.9s						
SHLS				*eS*	**Sg**	**05 51 55.1**	**-0.2**
	38nm,0.5s						
SHLS	**Shalkode**	**5.68**	**9**	Pg	**Pg**	**05 50 41.2**	**-0.6**
	13nm,0.9s						
SHLS				Lg	Lg	05 51 55.1	
	38nm,0.5s						
MDOK	**Medeo**	**5.68**	**351**	*eP*	**Pg**	**05 50 39.8**	**-2.2**
	4.0nm,0.4s						
MDOK				*eS*	**Sg**	**05 51 52.4**	**-3.1**
	20nm,0.9s						
MDOK	**Medeo**	**5.68**	**351**	⇑Pg	**Pg**	**05 50 41.1**	**-0.8**
	14nm,0.6s						
MDOK				⇑Lg	Lg	05 51 54.7	
	44nm,1.0s						
MDOK	**Medeo**	**5.68**	**351**	Pg	**Pg**	**05 50 39.8**	**-2.2**
	4.0nm,0.4s						
MDOK				Lg	Lg	05 51 52.4	
	20nm,0.9s						
KOTS	**Kotyrbulak**	**5.74**	**352**	*eP*	**Pg**	**05 50 42.8**	**-0.3**
	7.6nm,1.3s						
KOTS				*eS*	**Sg**	**05 51 57.7**	**+0.2**
	42nm,0.8s						
KOTS	**Kotyrbulak**	**5.74**	**352**	Pg	**Pg**	**05 50 42.8**	**-0.3**
	7.6nm,1.3s						
KOTS				Lg	Lg	05 51 57.7	
	42nm,0.8s						
KST	**Kastek**	**5.76**	**343**	*eP*	**Pg**	**05 50 40.6**	**-2.8**
	12nm,0.6s						
KST				*eS*	**Sg**	**05 51 54.2**	**-3.7**
	13nm,1.1s						
KST	**Kastek**	**5.76**	**343**	Pg	**Pg**	**05 50 40.6**	**-2.8**
	12nm,0.6s						
KST				Lg	Lg	05 51 54.2	
	13nm,1.1s						
AAK	**Ala-Archa**	**5.84**	**332**	Pg	Pg	05 50 38.9	-6.1
	0.9nm,0.3s,baz=342,slow=21,SNR=4.5						
AAK				Lg	Lg	05 51 57.4	
	0.9nm,0.3s,baz=180,slow=20,SNR=2.2						
PDGK	**Podgornoye**	**5.85**	**9**	Pg	**Pg**	**05 50 42.5**	**-2.7**
	2.7nm,0.6s						
PDGK				Lg	Lg	05 51 57.0	
	12nm,0.9s						
KPKS	**Kokpek**	**5.92**	**3**	*eP*	**Pg**	**05 50 43.0**	**-3.4**
	8.5nm,0.3s						
KPKS				*eS*	**Sg**	**05 51 58.2**	**-4.9**
	31nm,0.4s						
DGS	**Degeres**	**5.99**	**342**	*eP*	**Pg**	**05 50 50.6**	**+2.7**
	7.9nm,0.5s						
DGS				*eS*	**Sg**	**05 52 10.8**	**+5.4**
	12nm,0.6s						
DGS	**Degeres**	**5.99**	**342**	Pg	**Pg**	**05 50 50.6**	**+2.7**
	7.9nm,0.5s						
DGS				Lg	Lg	05 52 10.8	
	12nm,0.6s						
KTMS	**Ketmen**	**6.10**	**15**	*eP*	**Pg**	**05 50 49.9**	**-0.1**
	11nm,0.5s						
KTMS				*eS*	**Sg**	**05 52 09.5**	**+0.5**
	16nm,0.7s						
KTMS	**Ketmen**	**6.10**	**15**	Pg	**Pg**	**05 50 49.9**	**-0.1**
	11nm,0.5s						
KTMS				Lg	Lg	05 52 10.2	
	16nm,0.7s						
KTBS	**Karatobe**	**6.27**	**350**	*eP*	**Pg**	**05 50 49.8**	**-3.3**
	4.1nm,0.9s						
KTBS				*eS*	**Sg**	**05 52 09.7**	**-4.7**
	15nm,0.6s						
KTBS	**Karatobe**	**6.27**	**350**	Pg	**Pg**	**05 50 49.8**	**-3.3**
	4.1nm,0.9s						
KTBS				Lg	Lg	05 52 09.7	
	15nm,0.6s						
CHKK	**Chushkaly**	**6.37**	**352**	*eP*	**Pg**	**05 50 53.4**	**-1.7**
	2.9nm,0.6s						
CHKK				*eS*	**Sg**	**05 52 15.9**	**-1.6**
	12nm,0.7s						
CHKK	**Chushkaly**	**6.37**	**352**	Pg	**Pg**	**05 50 53.4**	**-1.7**
	2.9nm,0.6s						
CHKK				Lg	Lg	05 52 15.9	
	12nm,0.7s						
KUU	**Kurty**	**6.50**	**348**	*eP*	**Pg**	**05 50 57.3**	**-0.3**
	6.6nm,0.7s						
KUU				*eS*	**Sg**	**05 52 22.7**	**+1.0**
	9.4nm,0.9s						
KUU	**Kurty**	**6.50**	**348**	Pg	**Pg**	**05 50 57.2**	**-0.3**
	6.6nm,0.7s						
KUU				Lg	Lg	05 52 22.7	
	9.4nm,0.9s						
ARXS	**Arharly**	**6.66**	**357**	*eP*	**Pg**	**05 51 01.7**	**+1.0**
	13nm,0.7s						
ARXS				*eS*	**Sg**	**05 52 30.4**	**+3.4**
	13nm,0.8s						
ARXS	**Arharly**	**6.66**	**357**	Pg	**Pg**	**05 51 01.7**	**+1.0**
	13nm,0.7s						
ARXS				Lg	Lg	05 52 30.4	
	13nm,0.8s						
WMQ	**Urumqi**	**9.52**	**46**	*eP*	Pn	05 51 16.2	+5.9
WMQ				smax	smax		
	comp=N,31nm,1.1s						
WMQ				smax	smax		
	comp=E,26nm,0.7s						
MK31	**Makanchi Array**	**9.71**	**17**	Pn	**Pn**	**05 51 14.3**	**+1.5**
	comp=E,0.9nm,0.6s,baz=199,slow=12,SNR=13						
MK31				⇑Sn	**Sn**	**05 53 00.4**	**-1.6**
	comp=E,2.2nm,0.6s,baz=196,slow=23,SNR=5.0						
MKAR	**Makanchi Array**	**9.71**	**17**	Pn	**Pn**	**05 51 14.8**	**+1.9**
	comp=E,0.5nm,0.3s,baz=195,slow=13,SNR=14						
MKAR				Sn	**Sn**	**05 53 04.7**	**+2.7**
	comp=E,0.4nm,0.3s,baz=196,slow=24,SNR=5.9						
MKAR				LR	LR	05 55 44.9	
	comp=E,72nm,21.4s,baz=46,slow=42						
BVAR	**Borovoye Array**	**16.42**	**343**	Pn	**P**	**05 52 48.2**	**+1.9**
	comp=E,0.3nm,0.3s,baz=213,slow=13,SNR=4.5						
ZALV	**Zalesovo Beam**	**17.02**	**13**	P	**P**	**05 52 51.9**	**-0.9**
	comp=E,0.1nm,0.3s,baz=211,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**22.98**	**54**	P	**P**	**05 53 58.8**	**+0.9**
	comp=E,1.0nm,0.6s,baz=265,slow=8.7,SNR=3.9						
FINES	**FINESS Array B**	**39.97**	**324**	P	**P**	**05 56 24.4**	**-3.0**
	comp=E,2.0nm,0.8s,baz=119,slow=11,SNR=6.0						
ARCES	**ARCESS Array B**	**42.50**	**336**	P	**P**	**05 56 48.8**	**+0.7**
	comp=E,1.3nm,0.7s,baz=101,slow=9.3,SNR=4.2						
NOA	**NORSAR Array B**	**47.07**	**322**	P	**P**	**05 57 24.6**	**-0.1**
	comp=E,0.6nm,0.6s,baz=90,slow=7.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**71.51**	**273**	P	**P**	**06 00 12.9**	**-1.6**
	comp=E,0.1nm,0.3s,baz=48,slow=5.4,SNR=1.4						
ILAR	**Eielson Array**	**72.06**	**19**	P	**P**	**06 00 16.5**	**-0.5**
	comp=E,0.4nm,0.7s,baz=328,slow=4.4,SNR=4.3						

NEIC 09 06:00:07.3±0.4, 37.°00N±0.°02×99.°28W±0.°04, h5km±2km, mb_Lg2.6/43, Error ellipse: s-maj=6.1km s-min=3.4km az=298.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.66**	**160**	Pg	Pg	06 00 20.0	0.0
OK032	**Salt Plains WL**	**0.88**	**103**		Pg	06 00 24.3	+0.1
OK032				Sg	Sb	06 00 36.6	-0.4
KAN10	**Anthony SW Sta**	**0.95**	**82**		Pg	06 00 25.6	0.0
KAN08	**Anthony NE Sta**	**1.07**	**77**	Pg	Pg	06 00 27.8	+0.1
KAN05	**Bluff City Nor**	**1.13**	**84**		Pg	06 00 28.9	0.0
KAN05				Sg	Sb	06 00 44.4	+0.1
GC02	**Grant County #**	**1.15**	**97**		Pg	06 00 29.1	-0.1
GC02				Sg	Sb	06 00 44.7	-0.1
CROK	**Carrier**	**1.15**	**115**		Pg	06 00 29.2	-0.2
KAN17	**Caldwell West**	**1.21**	**88**		Pg	06 00 30.3	-0.2
KAN17				Sg	Sg	06 00 46.2	0.0
KAN09	**Caldwell North**	**1.33**	**84**		Pn	06 00 32.5	-0.1
KS20	**Mayfield South**	**1.40**	**80**		Pn	06 00 33.4	0.0
KAN13	**South Haven SW**	**1.44**	**89**		Pb	06 00 34.4	-0.3
R32A	**Long Quarter,**	**1.49**	**17**	Pn	Pn	06 00 34.5	-0.2
BLOK	**Blackwell**	**1.67**	**98**		Pn	06 00 37.2	0.0
CBKS	**Cedar Bluff**	**1.85**	**349**	Pn	Pn	06 00 40.5	+0.8
BCOK	**Bluff Creek, N**	**1.90**	**134**	IAmb_Lg		06 01 08.1	
	comp=Z,28nm,0.9s						
OKCFA	**Oklahoma City**	**2.16**	**136**	IAmb_Lg		06 01 20.7	
	comp=Z,22nm,0.7s						
QUOK	**Quay**	**2.23**	**111**	Pn	Pn	06 00 45.5	+0.7
WMOK	**Wichita Mounta**	**2.29**	**170**	Pn	Pn	06 00 46.3	+0.5
WMOK				IAmb_Lg		06 01 22.6	
	comp=Z,27nm,0.9s						
FNO	**Franklin**	**2.31**	**138**	Pn	Pn	06 00 45.9	-0.1
X34A	**Smith Ranch, M**	**2.67**	**153**	IAmb_Lg		06 01 37.1	
	comp=Z,18nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.32**	**308**	Pn	Pn	06 01 00.4	+0.3
KSCO				IAmb_Lg		06 01 54.0	
	comp=Z,18nm,0.9s						
U38A	**Gravette**	**3.97**	**97**		Pn	06 01 09.2	+0.4
X37A	**Clayton**	**3.98**	**126**		Pn	06 01 09.8	+0.7
X37A				IAmb_Lg		06 02 23.0	
	comp=Z,12nm,0.7s						
N33A	**J Bar K, Exete**	**4.00**	**20**	Pn	Pn	06 01 08.7	-0.5
N33A				IAmb_Lg		06 02 23.4	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**4.11**	**273**	IAmb_Lg		06 02 23.3	
	comp=Z,17nm,1.0s						
MSTX	**Muleshoe**	**4.16**	**224**	IAmb_Lg		06 02 20.5	
	comp=Z,14nm,0.8s						
HHAR	**Hobbs**	**4.35**	**98**	Pn	Pn	06 01 14.2	+0.1
HHAR				IAmb_Lg		06 02 37.2	
	comp=Z,12nm,0.9s						
S39A	**Bolivar**	**4.79**	**80**	Pn	Pn	06 01 20.6	+0.5
W39A	**Magazine**	**4.80**	**110**	IAmb_Lg		06 02 44.5	
	comp=Z,13nm,0.8s						
U40A	**Yellville**	**5.20**	**95**	IAmb_Lg		06 02 57.7	
	comp=Z,9.2nm,0.8s						
MIAR	**Mount Ida**	**5.24**	**116**	Pn	Pn	06 01 26.3	0.0
ISCO	**Idaho Springs**	**5.71**	**301**	IAmb_Lg		06 03 13.2	
	comp=Z,7.7nm,0.8s						
R40A	**Maddies Statio**	**5.71**	**75**	IAmb_Lg		06 03 11.7	
	comp=Z,10nm,0.8s						
P40A	**Paris**	**6.22**	**64**	IAmb_Lg		06 03 25.9	
	comp=Z,10.0nm,0.9s						
PHWY	**Pilot Hill**	**6.44**	**314**	IAmb_Lg		06 03 36.0	
	comp=Z,6.6nm,0.7s						
JCT	**Junction City**	**6.52**	**184**	IAmb_Lg		06 03 50.8	
	comp=Z,11nm,0.9s						
T42A	**Van Buren**	**6.55**	**87**	IAmb_Lg		06 03 46.8	
	comp=Z,7.0nm,0.8s						
ECSD	**EROS Data Cent**	**7.03**	**16**	IAmb_Lg		06 03 46.2	
	comp=Z,9.5nm,1.1s						
K22A	**Casper**	**7.93**	**318**	IAmb_Lg		06 04 38.3	
	comp=Z,7.0nm,1.0s						
RSSD	**Black Hills**	**7.98**	**335**	IAmb_Lg		06 04 30.9	
	comp=Z,5.6nm,0.9s						
F33A	**5 Mile Ranch,**	**9.11**	**13**	IAmb_Lg		06 05 00.3	
	comp=Z,5.7nm,1.1s						
T47A	**Sharon Grove**	**9.74**	**86**	IAmb_Lg		06 05 29.6	
	comp=Z,3.7nm,1.0s						

*IDC **09** 06:05:21.4±2.4, 23.°82S×179.°66W, h520km±28km, mb3.1/3, mb1 3.4/5, mb1mx3.1/26, mbtmp4.1/5, Error ellipse: s-maj=35.2km s-min=26.7km az=142.0*
ISC 09 06:05:21.0±1.2, 23.°95S±0.°1×179.°6W±0.°2, h512km, n6, σ0°78/6, mb3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.46**	**340**	P	**P**	**06 07 02.8**	**+0.4**
	1.5nm,0.3s,baz=193,slow=6.3,SNR=11						
AFI	**Afiamalu**	**12.37**	**38**	P	P	06 07 58.0	-5.6
	2.9nm,0.3s,baz=38,slow=17,SNR=3.1						
URZ	**Urewera**	**14.63**	**190**	P	**P**	**06 08 27.7**	**+0.8**
	1.6nm,0.3s,baz=273,slow=3.3,SNR=7.5						
URZ				S	**S**	**06 10 59.7**	**-0.6**
	0.6nm,0.3s,baz=193,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**42.37**	**260**	P	**P**	**06 12 30.2**	**+0.1**
	1.3nm,0.5s,baz=93,slow=7.5,SNR=15						
WRA	**Warramunga Arr**	**42.74**	**266**	P	**P**	**06 12 32.3**	**-0.7**
	2.6nm,0.3s,baz=102,slow=8.3,SNR=97						
TXAR	**Lajitas Array**	**90.13**	**58**	P	**P**	**06 17 26.1**	**-0.4**
	0.2nm,0.7s,baz=211,slow=4.4,SNR=3.5						

*IDC **09** 06:08:43.5±1.6, 37.°42N×78.°17E, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.7/48, mbtmp3.8/12, ML3.2/4, MS3.1/2, Ms1 3.0/2, ms1mx2.6/43, Error ellipse: s-maj=29.4km s-min=21.6km az=22.0*
*SOME **09** 06:08:53.6, 37.°88N×78.°22E, h10km*
*NNC **09** 06:08:55.5±2.4, 37.°89N×78.°26E, h30km±18km, mb4.3, mpv3.9, Error ellipse: s-maj=20.9km s-min=15.7km az=89.0*
ISC 09 06:08:48.0±0.9, 37.°69N±0.°06×78.°12E±0.°06, h17km, n45, σ1°76/58, mb3.8/8, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.48**	**318**	Pn	**Pb**	**06 09 31.7**	**-0.5**
KSH				Sn	**Sb**	**06 10 02.2**	**-0.3**
KSH				smax	smax		
	comp=N,190nm,0.5s						
KSH				smax	smax		
	comp=E,160nm,0.5s						
SATY	**Saty**	**5.37**	**2**	*eP*	**Pg**	**06 10 32.2**	**+1.5**
	comp=E,8.4nm,0.5s						
SATY				*eS*	**Sg**	**06 11 42.7**	**+2.5**
	comp=E,58nm,0.7s						
SATY	**Saty**	**5.37**	**2**	Pg	**Pg**	**06 10 32.2**	**+1.5**
	comp=E,8.4nm,0.5s						
SATY				Lg	Lg	06 11 42.7	
	comp=E,58nm,0.7s						
IZV	**Izvestkoviy**	**5.46**	**348**	*eP*	**Pg**	**06 10 33.5**	**+1.0**
	comp=E,10nm,0.6s						
IZV				*eS*	**Sg**	**06 11 44.7**	**+1.4**
	comp=E,30nm,0.8s						
IZV	**Izvestkoviy**	**5.46**	**348**	Pg	**Pg**	**06 10 33.5**	**+1.0**
	comp=E,10nm,0.6s						
IZV				Lg	Lg	06 11 44.7	
	comp=E,30nm,0.8s						
UZB	**Uzynbulak**	**5.49**	**7**	*eP*	**Pg**	**06 10 31.6**	**-1.6**
	comp=E,7.0nm,0.7s						
UZB				*eS*	**Sg**	**06 11 41.3**	**-3.0**
	comp=E,26nm,0.7s						
UZB	**Uzynbulak**	**5.49**	**7**	Pg	**Pg**	**06 10 31.5**	**-1.6**
	comp=E,7.0nm,0.7s						
UZB				Lg	Lg	06 11 41.3	
	comp=E,26nm,0.7s						
MDOK	**Medeo**	**5.53**	**352**	*eP*	**Pg**	**06 10 33.5**	**-0.3**
	comp=E,7.5nm,0.5s						
MDOK				*eS*	**Sg**	**06 11 44.9**	**-0.4**
	comp=E,29nm,0.8s						
MDOK	**Medeo**	**5.53**	**352**	⇓Pg	**Pg**	**06 10 30.1**	**-3.7**
	comp=E,18nm,0.6s						
MDOK				⇑Lg	Lg	06 11 46.6	
	comp=E,47nm,0.6s						
MDOK	**Medeo**	**5.53**	**352**	Pg	**Pg**	**06 10 33.5**	**-0.3**
	comp=E,7.5nm,0.5s						
MDOK				Lg	Lg	06 11 44.9	
	comp=E,29nm,0.8s						
SHLS	**Shalkode**	**5.55**	**10**	*eP*	**Pg**	**06 10 33.8**	**-0.5**
	comp=E,20nm,0.7s						
SHLS				*eS*	**Sg**	**06 11 45.6**	**-0.7**
	comp=E,63nm,0.6s						
SHLS	**Shalkode**	**5.55**	**10**	Pg	**Pg**	**06 10 33.8**	**-0.5**
	comp=E,20nm,0.7s						
SHLS				Lg	Lg	06 11 45.6	
	comp=E,63nm,0.6s						
KOTS	**Kotyrbulak**	**5.59**	**352**	*eP*	**Pg**	**06 10 36.5**	**+1.5**
	comp=E,8.1nm,0.4s						
KOTS				*eS*	**Sg**	**06 11 50.2**	**+2.8**
	comp=E,74nm,0.8s						
KOTS	**Kotyrbulak**	**5.59**	**352**	Pg	**Pg**	**06 10 36.5**	**+1.5**
	comp=E,8.1nm,0.4s						
KOTS				Lg	Lg	06 11 50.2	
	comp=E,74nm,0.8s						
KST	**Kastek**	**5.59**	**344**	*eP*	**Pg**	**06 10 36.0**	**+0.9**
	comp=E,16nm,0.6s						
KST				*eS*	**Sg**	**06 11 49.1**	**+1.6**
	comp=E,15nm,0.2s						
KST	**Kastek**	**5.59**	**344**	Pg	**Pg**	**06 10 36.0**	**+0.9**
	comp=E,16nm,0.6s						
KST				Lg	Lg	06 11 49.1	
	comp=E,15nm,0.2s						
AAK	**Ala-Archa**	**5.67**	**332**	Pn	Pn	06 10 15.3	+3.8
	comp=E,0.8nm,0.3s,baz=185,slow=11,SNR=4.3						
AAK				Pg	**Pg**	**06 10 32.0**	**-4.5**
	comp=E,0.7nm,0.3s,baz=160,slow=5.8,SNR=3.9						
AAK				Lg	Lg	06 11 50.2	
	comp=E,1.5nm,0.3s,baz=360,slow=22,SNR=5.9						
PDGK	**Podgornoye**	**5.73**	**10**	Pg	**Pg**	**06 10 36.3**	**-1.4**
	comp=E,2.7nm,0.8s						
PDGK				Lg	Lg	06 11 49.6	
	comp=E,16nm,0

KPKS	**Kokpek**	**5.79**	**4**	*eP*		**Pg**	**06 10 37.9**	**-0.8**
	comp=E,13nm,0.4s							
KPKS				*eS*		**Sg**	**06 11 52.5**	**-1.1**
	comp=E,56nm,0.3s							
DGS	**Degeres**	**5.83**	**343**	*eP*		**Pg**	**06 10 37.4**	**-2.1**
	comp=E,16nm,0.6s							
DGS				*eS*		**Sg**	**06 11 51.3**	**-3.6**
	comp=E,10nm,0.5s							
DGS	**Degeres**	**5.83**	**343**	Pg		**Pg**	**06 10 37.4**	**-2.1**
	comp=E,16nm,0.6s							
DGS				Lg		Lg	06 11 51.3	
	comp=E,10nm,0.5s							
KTMS	**Ketmen**	**5.99**	**16**	*eP*		**Pg**	**06 10 41.2**	**-1.5**
	comp=E,7.4nm,0.6s							
KTMS				*eS*		**Sg**	**06 11 57.9**	**-2.5**
	comp=E,17nm,0.6s							
KTMS	**Ketmen**	**5.99**	**16**	Pg		**Pg**	**06 10 41.2**	**-1.5**
	comp=E,7.4nm,0.6s							
KTMS				Lg		Lg	06 11 57.8	
	comp=E,17nm,0.6s							
CHKK	**Chushkaly**	**6.22**	**352**	*eP*		**Pg**	**06 10 45.9**	**-1.0**
	comp=E,4.1nm,0.5s							
CHKK				*eS*		**Sg**	**06 12 06.0**	**-1.4**
	comp=E,12nm,0.3s							
CHKK	**Chushkaly**	**6.22**	**352**	Pg		**Pg**	**06 10 45.9**	**-1.0**
	comp=E,4.1nm,0.5s							
CHKK				Lg		Lg	06 12 06.0	
	comp=E,12nm,0.3s							
ARXS	**Arharly**	**6.52**	**358**	*eP*		**Pg**	**06 10 50.8**	**-2.0**
	comp=E,15nm,0.6s							
ARXS				*eS*		**Sg**	**06 12 14.4**	**-2.8**
	comp=E,23nm,0.8s							
ARXS	**Arharly**	**6.52**	**358**	Pg		**Pg**	**06 10 50.8**	**-2.0**
	comp=E,15nm,0.6s							
ARXS				Lg		Lg	06 12 14.4	
	comp=E,23nm,0.8s							
KK31	**Karatay Array**	**7.93**	**315**	⇑Pn		**Pn**	**06 10 42.9**	**+0.4**
	comp=E,0.2nm,0.3s,baz=125,slow=12,SNR=9.0							
KK31				⇓Lg		Lg	06 13 04.6	
	comp=E,10nm,1.0s							
WMQ	**Urumqi**	**9.50**	**47**	*eP*		Pn	06 11 09.1	+5.1
WMQ				smax		smax		
	comp=N,27nm,0.9s							
WMQ				smax		smax		
	comp=E,34nm,0.9s							
MK31	**Makanchi Array**	**9.61**	**17**	Pn		**Pn**	**06 11 06.1**	**+0.7**
	comp=E,2.2nm,0.7s,baz=197,slow=12,SNR=31							
MK31				⇓Sn		**Sn**	**06 12 56.0**	**+3.0**
	comp=E,4.2nm,0.7s,baz=143,slow=17,SNR=4.6							
MKAR	**Makanchi Array**	**9.61**	**17**	Pn		**Pn**	**06 11 06.9**	**+1.4**
	comp=E,0.7nm,0.3s,baz=199,slow=13,SNR=26							
MKAR				Sn		**Sn**	**06 12 53.1**	**+0.2**
	comp=E,0.8nm,0.3s,baz=188,slow=19,SNR=6.4							
GEYT	**Alibeck**	**15.82**	**277**	Pn		**P**	**06 12 37.0**	**+3.4**
	comp=E,0.4nm,0.3s,baz=90,slow=10,SNR=4.9							
BVAR	**Borovoye Array**	**16.25**	**343**	Pn		**P**	**06 12 39.2**	**+0.9**
	comp=E,0.4nm,0.3s,baz=201,slow=19,SNR=5.9							
ZALV	**Zalesovo Beam**	**16.90**	**14**	P		**P**	**06 12 45.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=204,slow=13,SNR=2.6							
GTA	**Gaotai**	**17.05**	**78**	*eP*		**P**	**06 12 48.1**	**+0.7**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
AKTO	**Aktyubinsk**	**19.19**	**318**	P		**Pn**	**06 13 11.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=120,slow=11,SNR=2.4							
AKTO				LR		LR	06 21 31.8	
	comp=Z,46nm,19.0s,baz=126,slow=40							
ARU	**Arti**	**22.85**	**331**	P		**P**	**06 13 51.6**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=352,slow=22,SNR=3.3							
SONM	**Songino Array**	**22.98**	**55**	P		**P**	**06 13 50.7**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=247,slow=11,SNR=2.1							
KBZ	**Khabaz**	**27.23**	**294**	LR		LR	06 26 44.6	
	comp=Z,42nm,20.8s,baz=23,slow=40							
FINES	**FINESS Array B**	**39.79**	**324**	P		**P**	**06 16 20.4**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=114,slow=8.5,SNR=9.1							
KLR	**Kul'dur**	**39.81**	**56**	P		**P**	**06 16 19.7**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=301,slow=8.5,SNR=3.8							
ARCES	**ARCESS Array B**	**42.33**	**335**	P		**P**	**06 16 41.2**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=99,slow=9.3,SNR=1.6							
NOA	**NORSAR Array B**	**46.90**	**322**	P		**P**	**06 17 17.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=90,slow=7.6,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.40**	**272**	P		**P**	**06 20 05.0**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=50,slow=6.9,SNR=1.5							
ILAR	**Eielson Array**	**71.96**	**19**	P		**P**	**06 20 09.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=310,slow=4.6,SNR=4.6							

*NNC **09** 06:14:19.1±0.9, 39°.75N×75°.81E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=6.7km s-min=5.7km az=117.0*
*SOME **09** 06:14:20.3, 39°.77N×75°.92E, h10km*
*KRNET **09** 06:14:24.8±0.1, 39°.73N×75°.87E, mb2.9*
ISC 09 06:14:22.2±3.3, 39°.9N±0°.1×75°.90E±0°.07, h10km, n20, σ0°98/31, 15C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**2.34**	**330**	⇓*iP*		**Pg**	**06 15 06.8**	**-0.3**
	baz=32							
ARLS				⇓*iS*		**Sg**	**06 15 37.3**	**-0.1**
	baz=32							
ULHL	**Ulahol**	**2.41**	**6**	⇑*iP*		**Pg**	**06 15 08.0**	**-0.4**
	baz=6.0							
ULHL				⇑*iS*		**Sg**	**06 15 39.6**	**-0.1**
	baz=6.0							
KDJ	**Kajisay**	**2.48**	**23**	⇓*iP*		**Pg**	**06 15 09.1**	**-0.6**
	baz=22							
KDJ				⇓*iS*		**Sg**	**06 15 41.6**	**-0.3**
	baz=22							
BOOM	**Boomskoye usch**	**2.64**	**1**	⇑*iP*		**Pg**	**06 15 11.6**	**-1.2**
	baz=1.0							
BOOM				⇑*iS*		**Sg**	**06 15 45.8**	**-1.3**
	baz=1.0							
AML	**Almayashu**	**2.83**	**325**	⇑*iP*		**Pb**	**06 15 13.7**	**+0.7**
	baz=26							
AML				⇑*iS*		**Sb**	**06 15 49.6**	**+1.8**
	baz=26							
KBK	**Karagaybulak**	**2.90**	**346**	⇓*iP*		**Pb**	**06 15 15.2**	**+1.1**
	baz=47							
KBK				⇓*iS*		**Sb**	**06 15 51.8**	**+2.2**
	baz=47							
AAK	**Ala-Archa**	**2.98**	**340**	⇑*eP*		**Pb**	**06 15 16.3**	**+0.8**
	baz=41							
AAK				⇑*iS*		**Sb**	**06 15 53.6**	**+1.5**
	baz=41							
AAK	**Ala-Archa**	**2.98**	**340**	⇑Pg		**Pb**	**06 15 14.6**	**-0.9**
	3.5nm,0.4s							
AAK				⇓Lg		Lg	06 15 55.8	
	8.2nm,0.5s							
TKM2	**Tokmak 2**	**3.08**	**356**	⇑*iP*		**Pb**	**06 15 17.7**	**+0.5**
	baz=56							
TKM2				⇑*iS*		**Sb**	**06 15 56.5**	**+1.6**
	baz=56							
TKM2	**Tokmak 2**	**3.08**	**356**	⇓Pg		**Pb**	**06 15 17.5**	**+0.3**
	2.1nm,0.4s							
TKM2				⇓Lg		Lg	06 15 59.5	
	5.3nm,0.4s							
KST	**Kastek**	**3.19**	**1**	*eP*		**Pb**	**06 15 19.2**	**+0.1**
	7.2nm,0.7s							
KST				*eS*		**Sg**	**06 16 04.5**	**-0.2**
	10nm,0.7s							
KST	**Kastek**	**3.19**	**1**	Pg		**Pb**	**06 15 19.4**	**+0.3**
	6.9nm,0.7s							
KST				Lg		Lg	06 16 04.8	
	10nm,0.8s							
EKS2	**Erkin-Say**	**3.23**	**331**	⇑*iP*		**Pb**	**06 15 19.6**	**-0.2**
	baz=32							
EKS2				⇑*iS*		**Sb**	**06 15 59.4**	**+0.1**
	baz=32							
DGS	**Degeres**	**3.39**	**358**	*eP*		**Pb**	**06 15 22.5**	**0.0**
	6.0nm,0.6s							
DGS				*eS*		**Sg**	**06 16 10.0**	**-1.2**
	6.0nm,0.8s							
MDOK	**Medeo**	**3.42**	**14**	Lg		Lg	06 16 11.4	
	7.2nm,0.7s							
MRKS	**Merke**	**3.52**	**326**	Pg		**Pb**	**06 15 24.3**	**-0.5**
	2.8nm,0.2s							
MRKS				Lg		Lg	06 16 13.1	
	9.6nm,0.3s							
USP	**Ospenovka**	**3.57**	**343**	⇑*iP*		**Pb**	**06 15 24.2**	**-1.3**
	baz=44							
USP				⇑*iS*		**Sb**	**06 16 07.8**	**-1.2**
	baz=44							
SGDS	**Sogindy**	**3.72**	**346**	Pg		**Pb**	**06 15 28.1**	**0.0**
	1.8nm,0.2s							
SGDS				Lg		Lg	06 16 19.8	
	3.3nm,0.3s							
KTBS	**Karatobe**	**3.91**	**8**	Pg		**Pb**	**06 15 32.3**	**+1.1**
	2.4nm,0.4s							
KTBS				Lg		Lg	06 16 26.8	
	9.1nm,0.3s							
KUU	**Kurty**	**4.05**	**5**	Pg		**Pb**	**06 15 34.3**	**+0.6**
	1.2nm,0.2s							
KUU				Lg		Lg	06 16 30.5	
	10nm,0.6s							

*IDC **09** 06:15:01.4±3.9, 30°.07S×138°.63E, h0km, mb1 3.1/3, mb1mx3.0/25, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=134.9km s-min=17.2km az=45.0*
*NOU **09** 06:15:01.3, 30°.38S×138°.29E, h0km, ML3.3, South Australia*
ISC 09 06:14:60.0±4.0, 30°.7S±0°.5×138°.1E±0°.4, h10km, n3, σ2°32/6, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.26**	**112**	Pn		**Pn**	**06 15 50.7**	**-0.4**
	0.4nm,0.3s,baz=300,slow=10,SNR=4.3							
STKA				Pg		**Pb**	**06 15 58.7**	**+0.8**
	1.3nm,0.3s,baz=300,slow=16,SNR=11							
STKA				Sn		**Sn**	**06 16 30.4**	**+0.4**
	1.4nm,0.3s,baz=358,slow=17,SNR=4.9							
STKA				Lg		Lg	06 16 41.5	
	2.4nm,0.3s,baz=22,slow=24,SNR=6.3							
ASAR	**Alice Springs**	**7.90**	**331**	Pn		**Pn**	**06 16 54.5**	**-0.5**
	0.1nm,0.3s,baz=146,slow=14,SNR=3.2							
ASAR				Sn		**Sn**	**06 18 27.4**	**+2.9**
	0.1nm,0.3s,baz=147,slow=22,SNR=2.5							
WRA	**Warramunga Arr**	**11.21**	**342**	Pn		**Pn**	**06 17 37.7**	**-2.6**
	0.1nm,0.3s,baz=157,slow=13,SNR=7.9							

*NNC **09** 06:30:12.6±1.4, 54°.61N×86°.39E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=36.7km s-min=7.8km az=148.0, Suspected Mining explosion.*
*IDC **09** 06:30:18.4±2.6, 54°.20N×86°.34E, h0km, mb1 3.0/2, mb1mx2.9/37, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=19.6km s-min=11.6km az=59.0*
ISC 09 06:30:18.0±4.6, 54°.3N±0°.2×86°.2E±0°.2, h0km, n7, σ1°32/8, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**250**	*i*		06 36 30.0	
	baz=73,slow=324,SNR=0.8						
ZAA0	**Zalesovo Array**	**0.89**	**250**	⇑P		**Pg**	**06 30 33.9**	**-1.1**
	0.2nm,0.3s							
ZAA0				⇑S		**Sb**	**06 30 49.9**	**+1.2**
	1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**0.89**	**250**	Pg		**Pg**	**06 30 34.3**	**-0.7**
	1.8nm,0.3s,baz=73,slow=17,SNR=15							
ZALV				Lg		Lg	06 30 49.8	
	7.4nm,0.3s,baz=78,slow=30,SNR=37							
KURBB	**Kurchatov Arra**	**5.95**	**235**	Pn		**Pn**	**06 31 49.1**	**+1.8**
	0.2nm,0.3s,baz=54,slow=14,SNR=5.2							
KURBB				Lg		Lg	06 33 29.7	
	0.1nm,0.3s,baz=61,slow=31,SNR=4.8							
KURBB	**Kurchatov Arra**	**5.95**	**235**	⇓Pn		**Pn**	**06 31 46.5**	**-0.8**
	3.2nm,1.1s							
KURBB				⇓Lg		Lg	06 33 30.2	
	5.5nm,0.8s							
MK31	**Makanchi Array**	**7.89**	**200**	⇑Pn		**Pn**	**06 32 14.0**	**+0.1**
	0.1nm,0.3s,baz=22,slow=13,SNR=11							
MK31				⇓Lg		Lg	06 34 31.9	
	3.8nm,1.1s,baz=30,slow=29,SNR=4.6							
MKAR	**Makanchi Array**	**7.89**	**200**	Pn		**Pn**	**06 32 15.0**	**+1.1**
	0.2nm,0.3s,baz=22,slow=14,SNR=7.4							
MKAR				Sn		**Sn**	**06 33 43.1**	**-0.7**
	0.0nm,0.3s,baz=36,slow=26,SNR=3.5							
MKAR				Lg		Lg	06 34 27.5	
	0.1nm,0.3s,baz=22,slow=28,SNR=9.5							

*EAF **09** 06:42:39.0±10.0, 2°.34S×33°.39E, h37km±110km, MD3.6*
ISC 09 06:42:34.0±1.0, 2°.21S±0°.09×33°.8E±0°.1, h10km, n14, σ1°54/18, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEBE	**Entebbe**	**2.61**	**329**	*eP*		**Pb**	**06 43 20.1**	**-0.9**
TEBE				*eS*		**Sn**	**06 43 46.8**	**-1.5**
TEBE	**Entebbe**	**2.61**	**329**	*i P*		**Pb**	**06 43 22.4**	**+1.4**
BBAT	**Babati**	**2.78**	**136**	*i P*		**Pn**	**06 43 18.0**	**-0.8**
BBAT				*i S*		**Sn**	**06 43 50.5**	**-2.1**
KOND	**Kondoa**	**3.34**	**144**	*i P*		**Pg**	**06 43 38.3**	**+0.3**
KOND				*i S*		**Sb**	**06 44 14.6**	**+0.4**
MBAR	**Mbarara**	**3.46**	**297**	*eP*		**Pn**	**06 43 29.6**	**+1.5**
MBAR				*eS*		**Sn**	**06 44 08.5**	**-0.7**
MBAR	**Mbarara**	**3.46**	**297**	*i P*		**Pn**	**06 43 28.7**	**+0.6**
LOSI	**Makongolosi**	**6.17**	**186**	*i P*		**Pn**	**06 44 04.8**	**-0.6**
LOSI				IAML			06 45 53.2	
	comp=Z,61nm,0.4s							
JILO	**Lwanjilo**	**6.48**	**182**	*i P*		**Pn**	**06 44 07.5**	**-2.3**
JILO				IAML			06 46 10.8	
	comp=Z,62nm,0.7s							
PDHT	**Panda Hill**	**6.76**	**185**	*i P*		**Pn**	**06 44 14.8**	**+1.4**
PDHT				IAML			06 46 13.5	
	comp=Z,135nm,0.3s							
ITUM	**Tunduma**	**7.17**	**185**	*i P*		**Pn**	**06 44 18.6**	**-0.6**
KARM1	**KARONGA**	**7.70**	**179**	*i P*		**Pn**	**06 44 26.1**	**-0.2**
NTHA	**Nthalire**	**8.10**	**181**	*i P*		**Pn**	**06 44 33.5**	**+1.6**
NGON	**Ngonga**	**8.68**	**179**	*i P*		**Pn**	**06 44 38.9**	**-0.9**
KIMO	**Ikongo**	**8.72**	**165**	*i P*		**Pn**	**06 44 43.6**	**+3.2**

*TUL **09** 06:45:19.6±0.9, 35°.67N±0°.01×97°.10W±0°.02, h5km±5km, ML3.0, mb_Lg2.9/72(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=107.0*
NEIC 09 06:45:20.0±0.8, 35°.681N±0°.009×97°.09W±0°.02, h8km±5km, Error ellipse: s-maj=2.1km s-min=1.2km az=115.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.09**	**253**		Pg	06 45 21.6	-0.7
OK025	**Westminster Rd**	**0.23**	**244**		Pg	06 45 24.2	-0.3
OK025				Sg	Sg	06 45 27.6	-0.1
OK009	**Oakdale Elemen**	**0.29**	**250**	Pg	Pg	06 45 25.5	-0.2
OK009				Sg	Sg	06 45 29.9	+0.3
OK029	**Liberty Lake**	**0.32**	**291**		Pg	06 45 26.1	-0.2
OK029				Sg	Sg	06 45 30.8	+0.2
OK031	**S. Brethren Rd**	**0.34**	**36**		Pg	06 45 26.8	+0.1
OK031				Sg	Sg	06 45 31.9	+0.7
OKCSW	**OKLAHOMA CITY**	**0.40**	**226**		Pg	06 45 27.3	-0.4
OKCSW				Sg	Sg	06 45 33.0	0.0
OKCFA	**Oklahoma City**	**0.40**	**228**		Pg	06 45 27.3	-0.5
OKCFA				Sg	Sg	06 45 33.0	0.0
BCOK	**Bluff Creek, N**	**0.43**	**267**		Pg	06 45 27.9	-0.4
BCOK				Sg	Sg	06 45 33.9	0.0
FNO	**Franklin**	**0.49**	**211**	Pg	Pg	06 45 29.0	-0.5
FNO				Sg	Sg	06 45 36.1	0.0
QUOK	**Quay**	**0.58**	**32**		Pg	06 45 31.2	0.0
QUOK				Sg	Sg	06 45 39.2	+0.5
BLOK	**Blackwell**	**1.08**	**355**		Pg	06 45 40.2	-0.5
CROK	**Carrier**	**1.10**	**319**		Pg	06 45 40.2	-0.8
CROK				Sg	Sg	06 45 55.1	-0.2
X34A	**Smith Ranch, M**	**1.24**	**210**	Pg	Pn	06 45 42.8	-0.7
T35A	**Sooner Cattle**	**1.32**	**20**		Pn	06 45 44.0	-0.7
GC02	**Grant County #**	**1.32**	**332**		Pn	06 45 44.5	-0.3
KAN13	**South Haven SW**	**1.37**	**347**		Pn	06 45 45.1	-0.2
OK032	**Salt Plains WL**	**1.44**	**321**		Pn	06 45 46.5	+0.1
KAN17	**Caldwell West**	**1.47**	**338**		Pn	06 45 46.9	+0.2
KAN09	**Caldwell North**	**1.51**	**344**		Pn	06 45 47.6	+0.3
KAN05	**Bluff City Nor**	**1.56**	**336**		Pn	06 45 48.2	+0.2
KAN05				IAmb_Lg		06 46 11.5	
	comp=Z,64nm,0.7s						
KS20	**Mayfield South**	**1.59**	**346**		Pn	06 45 48.6	+0.2
KS20				IAmb_Lg		06 46 13.8	
	comp=Z,57nm,0.8s						
KAN10	**Anthony SW Sta**	**1.65**	**331**		Pn	06 45 49.9	+0.6
WMOK	**Wichita Mounta**	**1.68**	**236**		Pn	06 45 49.9	+0.3
LOOK	**Love County**	**1.69**	**183**	Pn	Pn	06 45 49.6	-0.1
KAN08	**Anthony NE Sta**	**1.70**	**335**	IAmb_Lg		06 46 16.4	
	comp=Z,70nm,0.9s						
U32A	**Winter Ranch,**	**1.70**	**295**	IAmb_Lg		06 46 14.2	
	comp=Z,58nm,0.9s						
X37A	**Clayton**	**1.78**	**127**	IAmb_Lg		06 46 18.3	
	comp=Z,61nm,0.7s						
HHAR	**Hobbs**	**2.62**	**76**	Pn	Pn	06 46 02.7	+0.1
Z38A	**Mt. Pleasant**	**2.97**	**144**	IAmb_Lg		06 47 01.2	
	comp=Z,32nm,0.8s						
MIAR	**Mount Ida**	**3.09**	**110**		Pn	06 46 10.0	+0.9
MIAR				IAmb_Lg		06 47 05.7	
	comp=Z,30nm,1.1s						
S39A	**Bolivar**	**3.63**	**55**	IAmb_Lg		06 47 19.8	
	comp=Z,30nm,1.1s						
X40A	**Basin Creek Fa**	**3.69**	**108**	IAmb_Lg		06 47 19.9	
	comp=Z,34nm,1.0s						
WLAR	**White Oak Lake**	**3.83**	**120**	IAmb_Lg		06 47 28.5	
	comp=Z,26nm,1.1s						
AMTX	**Amarillo**	**3.84**	**259**	IAmb_Lg		06 47 28.0	
	comp=Z,20nm,0.8s						
WHAR	**Wooly Hollow**	**3.93**	**94**	Pn	Pn	06 46 21.4	+0.8
WHAR				IAmb_Lg		06 47 30.2	
	comp=Z,26nm,0.9s						
MGMO	**Mountain Grove**	**4.15**	**68**	IAmb_Lg		06 47 38.2	
	comp=Z,29nm,0.8s						
R40A	**Maddies Statio**	**4.65**	**55**	IAmb_Lg		06 47 55.2	
	comp=Z,16nm,0.7s						
P38A	**Dawn**	**4.84**	**35**	IAmb_Lg		06 48 04.1	
	comp=Z,23nm,1.0s						
T42A	**Van Buren**	**5.02**	**73**	IAmb_Lg		06 48 07.2	
	comp=Z,15nm,0.8s						
N33A	**J Bar K, Exete**	**5.06**	**357**	IAmb_Lg		06 48 12.2	
	comp=Z,14nm,0.9s						
HBAR	**Harrisburg**	**5.24**	**90**	IAmb_Lg		06 48 09.9	
	comp=Z,23nm,0.9s						
CCM	**Cathedral Cave**	**5.25**	**61**	IAmb_Lg		06 48 13.2	
	comp=Z,18nm,0.8s						
N35A	**Tabor**	**5.29**	**12**	IAmb_Lg		06 48 20.3	
	comp=Z,26nm,0.7s						
PBMO	**Poplar Bluff**	**5.49**	**77**	IAmb_Lg		06 48 14.6	
	comp=Z,17nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.53**	**309**	IAmb_Lg		06 48 21.2	
	comp=Z,15nm,0.8s						
P40A	**Paris**	**5.54**	**45**	IAmb_Lg		06 48 20.3	
	comp=Z,21nm,0.9s						
JCT	**Junction City**	**5.67**	**204**	IAmb_Lg		06 48 30.0	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**6.08**	**286**	IAmb_Lg		06 48 47.1	
	comp=Z,11nm,0.7s						
W45A	**Hickory Valley**	**6.47**	**92**	IAmb_Lg		06 48 57.2	
	comp=Z,11nm,0.9s						
OGNE	**Ogallala**	**6.54**	**325**	IAmb_Lg		06 48 50.8	
	comp=Z,18nm,0.7s						
SCIA	**State Center**	**6.91**	**25**	IAmb_Lg		06 49 08.2	
	comp=Z,18nm,0.7s						
K31A	**O'Neill**	**7.05**	**350**	IAmb_Lg		06 49 21.4	
	comp=Z,13nm,0.7s						
ISCO	**Idaho Springs**	**7.91**	**304**	IAmb_Lg		06 49 37.9	
	comp=Z,11nm,1.2s						
O44A	**Mansfield**	**8.14**	**54**	IAmb_Lg		06 49 58.5	
	comp=Z,15nm,0.7s						
T47A	**Sharon Grove**	**8.16**	**78**	IAmb_Lg		06 49 50.9	
	comp=Z,16nm,1.2s						
JFWS	**Jewell Farm**	**8.96**	**34**	IAmb_Lg		06 50 10.8	
	comp=Z,10nm,0.7s						
WCI	**Wyandotte Cave**	**9.01**	**70**	IAmb_Lg		06 50 11.4	
	comp=Z,12nm,0.9s						
I40A	**Norwalk**	**9.59**	**29**	IAmb_Lg		06 50 29.2	

*IDC **09** 06:45:41.8±1.2, 17°.26N×62°.45W, h0km, mb3.4/4, mb1 4.0/5, mb1mx3.7/26, mbtmp3.7/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=48.5km s-min=19.8km az=44.0*
*TRN **09** 06:45:50.1, 16°.83N×61°.95W, h115km, MD4.3*
*NEIC **09** 06:45:50.4±0.8, 16°.85N±0°.07×61°.91W±0°.08, h128km±12km, mb4.4/6, Md4.1(TRN), Error ellipse: s-maj=12.7km s-min=8.3km az=46.0*
ISC 09 06:45:50.9±0.8, 16°.81N±0°.04×61°.98W±0°.06, h122km±5km, n131, σ0°88/158, mb3.4/4, 14C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.26**	**28**	*eP*		**Pn**	**06 46 07.8**	**-0.3**
BPA				*eS*		**Sn**	**06 46 19.4**	**-1.6**
ANBD	**Bethesda, Anti**	**0.31**	**42**	⇓*iP*		**Pn**	**06 46 08.0**	**-0.1**
ANBD				*eS*		**Sn**	**06 46 20.1**	**-1.1**
ANDO	**Antigua, Disas**	**0.33**	**26**	*eP*		**Pn**	**06 46 08.1**	**-0.1**
ANDO				*eS*		**Sn**	**06 46 20.3**	**-1.0**
ANOC	**Antigua Open C**	**0.34**	**26**	*eP*		**Pn**	**06 46 08.1**	**-0.1**
ANOC				*eS*		**Sn**	**06 46 20.1**	**-1.2**
ABD	**La Joyeuse, An**	**0.58**	**125**	⇓*iP*		**Pn**	**06 46 09.5**	**-0.1**
ABD				*eS*		**Sn**	**06 46 23.1**	**-0.6**
NVBH	**Bath Hotel, Ne**	**0.68**	**296**	*eS*		**Sn**	**06 46 27.8**	**+2.9**
NVDO	**Nevis, Disaste**	**0.68**	**297**	*eP*		**Pn**	**06 46 10.6**	**+0.3**
NVDO				*eS*		**Sn**	**06 46 24.4**	**-0.6**
NVRH	**Round Hill, Ne**	**0.69**	**302**	*eP*		**Pn**	**06 46 12.7**	**+2.2**
NVRH				*eS*		**Sn**	**06 46 26.3**	**+1.1**
CBE	**Ff, Capester**	**0.82**	**154**	*eP*		**Pn**	**06 46 11.5**	**0.0**
CBE				*eS*		**Sn**	**06 46 27.7**	**0.0**
SKOC	**St. Kitts, UWI**	**0.86**	**304**	⇑*iP*		**Pn**	**06 46 12.2**	**+0.4**
SKOC				*eS*		**Sn**	**06 46 27.2**	**-0.4**
ANWB	**Willy Bob**	**0.87**	**13**	*eP*		**Pn**	**06 46 12.1**	**+0.2**
ANWB				*eS*		**Sn**	**06 46 27.1**	**-0.7**
ANWB	**Willy Bob**	**0.87**	**13**	Pn		**Pn**	**06 46 12.3**	**+0.4**
ANWB				Sn		**Sn**	**06 46 27.5**	**-0.4**
SKI	**Saint Kitts**	**0.89**	**306**	⇑*iP*		**Pn**	**06 46 12.5**	**+0.4**
SKI				*eS*		**Sn**	**06 46 27.7**

MCLT *eS* **Sn** **06 47 17.4 -1.5**
MCLT Moule a Chique 3.25 162 **Pn** **06 46 40.2 -0.4**
CUPR Culebra, Puert 3.48 296 Pn **Pn** **06 46 43.7 +0.2**
SVB Belmont 3.59 169 *eP* **Pn** **06 46 44.8 -0.3**
SVB Belmont 3.59 169 Pn **Pn** **06 46 44.5 -0.6**
MTP Monte Pirata 3.64 291 Pn **Pn** **06 46 45.7 0.0**
SVOC Richmond Hill, 3.71 168 *eP* **Pn** **06 46 46.8 +0.1**
HUMP Col San Antoni 3.92 290 **Pn** **06 46 49.4 0.0**
CBYP Canovanas 3.97 292 **Pn** **06 46 50.6 +0.5**
PDPR Patillas Dam, 4.04 288 **Pn** **06 46 50.9 -0.1**
SJG San Juan 4.18 289 *eP* **Pn** **06 46 52.9 0.0**
SJG San Juan 4.18 289 **Pn** **06 46 53.1 +0.2**
GCPR Guaynabo City 4.18 291 **Pn** **06 46 52.9 0.0**
BCHC Barbados, Cave 4.31 148 *eP* **Pn** **06 46 55.6 +1.0**
BBGH Gun Hill 4.34 147 *eP* **Pn** **06 46 55.3 +0.3**
BBGH Gun Hill 4.34 147 *eS* **Sn** **06 47 43.8 -1.0**
GCMP Grenada, Carri 4.34 173 *i P* **Sn** **06 46 54.7 -0.3**
GCMP Grenada, Carri 4.34 173 *eS* **Sn** **06 47 44.4 -0.3**
BBSP Saint Philip 4.42 146 *eP* **Pn** **06 46 56.9 +0.7**
OBIP Obispado Ponce 4.58 286 Pn **Pn** **06 46 58.1 -0.1**
GRGR Grenville 4.67 176 *eP* **Pn** **06 47 00.4 +0.9**
GRGR Grenville 4.67 176 Pn **Pn** **06 46 59.8 +0.4**
AOPR Arecibo Observ 4.80 289 *i P* **Pn** **06 47 01.7 +0.5**
AOPR Arecibo Observ 4.80 289 *eS* **Sn** **06 47 55.2 -0.7**
AOPR Arecibo Observ 4.80 289 **Pn** **06 47 02.0 +0.8**
MLPR Magueyes Islan 4.97 284 Pn **Pn** **06 47 02.0 -1.4**
MPR Mayaguez 5.11 287 **Pn** **06 47 05.3 -0.1**
AGPR Aguadilla, PR 5.16 289 Pn **Pn** **06 47 06.4 +0.4**
TOSP Speyside 5.66 165 *eP* **Pn** **06 47 13.6 +0.8**
TOSP Speyside 5.66 165 *eS* **Sn** **06 48 14.5 -2.2**
TOSP Speyside 5.66 165 Pn **Pn** **06 47 13.1 +0.3**
TRN Trinidad (W) 6.16 175 *eP* **Pn** **06 47 19.3 -0.1**
TRN Trinidad (W) 6.16 175 *eS* **Sn** **06 48 26.7 -2.0**
DR12 Loma Pena Alta 7.32 287 Pn **Pn** **06 47 36.5 +1.3**
SDDR Presa de Saban 9.12 285 *eP* **Pn** **06 47 59.0 -0.5**
SDDR Presa de Saban 9.12 285 *eS* **Sn** **06 49 36.6 -3.8**
SDDR Presa de Saban 9.12 285 **Pn** **06 47 58.8 -0.7**
OCAC Ocana 13.96 234 *eP* **P** **06 49 07.2 -0.5**
PAMC Pamplona, Colo 14.08 229 *eP* **P** **06 49 08.7 -0.7**
SMLC San Martn de 14.22 237 *eP* **Pn** **06 49 07.1 +0.3**
SJCC San Jacinto, C 14.56 243 Pn **Pn** **06 49 10.8 -0.4**
SJCC San Jacinto, C 14.56 243 *eP* **P** **06 49 14.6 +0.3**
BARC Barichara 14.94 228 *eP* **P** **06 49 17.4 -1.3**
RUSC La Rusia 15.36 226 P **P** **06 49 22.4 -1.2**
RUSC IAmb IAmb 06 49 26.4
comp=Z,12nm,0.7s
RUSC La Rusia 15.36 226 *eP* **P** **06 49 22.9 -0.7**
ZARC Zaragoza, Cauc 15.62 235 *eP* **P** **06 49 24.6 -1.4**
BBSR BB Station 15.68 351 P **P** **06 49 24.5 -2.0**
UREC San Jos de Ur 16.00 237 *eP* **P** **06 49 29.7 -0.6**
CHIC Chingaza 16.71 225 *eP* **P** **06 49 39.2 +0.6**
NORC Norcasia 16.86 230 *eP* **Pn** **06 49 39.2 -0.6**
HELC Santa Helena 16.95 233 *eP* **P** **06 49 39.8 -1.3**
ROSC El Rosal 16.97 227 Pn **P** **06 49 39.8 -1.5**
comp=Z,3.2nm,0.3s,baz=196,slow=4.3,SNR=5.2
ROSC El Rosal 16.97 227 **Pn** **06 49 40.7 -0.7**
ROSC IAmb IAmb 06 49 43.8
comp=Z,11nm,0.7s
ROSC El Rosal 16.97 227 *eP* **Pn** **06 49 43.2 +1.8**
DBBC Dabeiba 16.97 237 *eP* **Pn** **06 49 41.1 0.0**
VILC Villavicencio, 17.07 224 *eP* **Pn** **06 49 43.0 +0.7**
GUY2C Guyana, Caldas 17.45 230 *eP* **P** **06 49 45.1 -1.6**
CBOC Ciudad Bolivar 17.52 233 *eP* **P** **06 49 46.6 -0.6**
UPD2 Meteti 17.66 244 *eP* **Pn** **06 49 51.7 +2.4**
TOLC Tolima 17.85 229 *eP* **Pn** **06 49 50.8 -1.2**
PRAC Prado 18.16 226 *eP* **P** **06 49 53.5 -0.6**
ORTC Ortega, Tolima 18.27 227 *eP* **P** **06 49 53.9 -1.4**
PLMC San Jos del P 18.35 231 *eP* **P** **06 49 54.8 -1.4**
YOTC Yotoco, Valle 19.01 229 *eP* **P** **06 50 02.0 -1.4**
MARP Paez Belalcaza 19.53 226 *eP* **P** **06 50 08.6 -0.6**
BBAC Balboa, Cauca 21.01 227 *eP* **P** **06 50 23.7 -1.4**
TXAR Lajitas Array 40.12 296 P **P** **06 53 15.8 +0.8**
comp=Z,0.1nm,0.5s,baz=114,slow=9.0,SNR=1.9
CPUP Villa Florida 43.12 174 LR LR 07 13 24.7
comp=Z,23nm,19.0s,baz=258,slow=38
PDAR Pinedale Array 47.91 313 P **P** **06 54 18.1 +1.0**
comp=Z,0.5nm,0.5s,baz=118,slow=9.3,SNR=6.0
H10N3 ASCENSION HYDR 52.96 114 T T 07 51 22.5
baz=297,slow=75,SNR=5.0
H10N2 ASCENSION HYDR 52.97 114 T T 07 51 22.8
baz=297,slow=75,SNR=19
H10N1 ASCENSION HYDR 52.98 114 T T 07 51 24.0
baz=297,slow=75,SNR=6.2
NVAR Mina Array Bea 53.48 306 P **P** **06 54 60.0 +1.0**
comp=Z,0.4nm,0.6s,baz=106,slow=6.0,SNR=4.3
ILAR Eielson Array 72.77 333 P **P** **06 57 06.7 +1.0**
comp=Z,0.3nm,0.5s,baz=82,slow=5.5,SNR=5.5

IDC 09 06:50:54.4±2.5, 6.72S×129.02E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=171.5km s-min=33.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.13**	**159**	Pn	Pn	06 54 16.0	0.0
	0.2nm,0.3s,baz=338,slow=11,SNR=8.3						
WRA				Sn	Sn	06 56 45.3	-8.3
	0.3nm,0.3s,baz=321,slow=24,SNR=7.5						
ASAR	**Alice Springs**	**17.50**	**165**	P	Pn	06 54 59.9	-0.1
	0.3nm,0.3s,baz=339,slow=11,SNR=17						
ASAR				S	Sn	06 58 02.6	-13
	0.1nm,0.3s,baz=321,slow=21,SNR=4.2						
ASAR				LR	LR	07 02 59.2	
	comp=Z,95nm,18.4s,baz=146,slow=41						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	07 01 52.2	+0.1
	0.3nm,0.6s,baz=131,slow=8.2,SNR=2.9						

*TEH **09** 07:00:45.0, 28.9N×58.26E, h8km, ML4.0*
*IDC **09** 07:00:46.0±1.6, 29.30N×57.87E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.7/3, MS3.6/2, Ms1 3.7/2, ms1mx2.7/51, Error ellipse: s-maj=69.8km s-min=32.8km az=158.0*
*THR **09** 07:00:46.2±0.4, 28.97N×58.31E, h14km±8km, ML4.0*
*OMAN **09** 07:00:50.5±6.0, 28.74N×58.66E, h29km±252km, ml3.6/9, Error ellipse: s-maj=325.0km s-min=28.5km az=18.0*
ISC 09 07:00:47.2±0.7, 28.92N±0.03×58.30E±0.04, h15km, n55, σ1°69/64, mb3.8/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**0.25**	**32**	*ePg*	**Pg**	**07 00 51.7**	**-1.0**
KBAM				*eSg*	**Sg**	**07 00 55.7**	**-0.8**
KHNJ	**Kahnooj**	**1.10**	**209**	*ePg*	**Pb**	**07 01 05.3**	**-2.7**
CHMN	**Cheshme madani**	**1.15**	**325**	*e*		07 01 24.2	
	comp=Z,31μm,0.3s						
CHMN				*ePg*	**Pb**	**07 01 07.4**	**-1.6**
NGRK	**Negar Kerman**	**1.55**	**298**	*ePg*	**Pn**	**07 01 13.7**	**-0.9**
NGRK				*e*		07 01 35.7	
	comp=Z,19μm,0.2s						
TVBK	**TV Kerman**	**1.71**	**309**	*ePn*	**Pn**	**07 01 17.4**	**+0.6**
TVBK				*e*		07 01 45.5	
	comp=Z,21μm,0.2s						
IBND	**Bandar-abas**	**2.14**	**227**	*ePn*	**Pn**	**07 01 23.5**	**+1.1**
IBND				*e*		07 02 02.0	
	comp=Z,10μm,0.5s						
KHGB	**Koh Gabri**	**2.15**	**313**	*ePn*	**Pn**	**07 01 24.3**	**+1.6**
KHGB				*e*		07 01 58.9	
	comp=Z,5μm,0.2s						
ZHDN	**Zahedan**	**2.25**	**77**	*ePn*	**Pn**	**07 01 24.7**	**+0.7**
ZHSF	**Zahedan**	**2.27**	**72**	*ePn*	**Pn**	**07 01 25.2**	**+0.9**
ZHSF				*eSg*	**Sb**	**07 01 56.8**	**+0.9**
ZHSF				IAML		07 02 00.2	
	comp=E,897nm,0.4s						
ZHSF				IAML		07 02 01.2	
	comp=N,969nm,0.4s						
GENO	**Geno**	**2.42**	**232**	*ePn*	**Pn**	**07 01 27.5**	**+1.1**
GENO				*e*		07 02 16.0	
	comp=Z,4μm,0.6s						
BNDS	**Bandar-Abbas**	**2.42**	**232**	*ePn*	**Pn**	**07 01 27.8**	**+1.5**
NHDN	**Nehbandan**	**2.89**	**31**	*ePn*	**Pn**	**07 01 33.8**	**+1.0**
BSRN	**Basiran**	**3.11**	**13**	*ePn*	**Pn**	**07 01 36.1**	**+0.2**
SHME	**Shamm**	**3.45**	**214**	*ePn*	**Pn**	**07 01 41.8**	**+1.5**
SHME	**Shamm**	**3.45**	**214**	P	**Pn**	**07 01 41.9**	**+1.5**
	SNR=6.0						
BANOM	**Banah**	**3.48**	**211**	*ePn*	**Pn**	**07 01 42.5**	**+1.7**
BANOM	**Banah**	**3.48**	**211**	P	**Pn**	**07 01 42.8**	**+1.9**
	SNR=18						
BANOM				S	**Sb**	**07 02 28.4**	**-2.2**
IKOO	**Kooshah**	**3.54**	**10**	*ePn*	**Pn**	**07 01 42.3**	**+0.4**
IKOO				*e*		07 02 42.6	
	comp=Z,4μm,0.3s						
SRVN	**Saravan**	**3.92**	**112**	*ePn*	**Pn**	**07 01 49.1**	**+2.1**
ITEG	**Tejag**	**3.98**	**5**	*ePn*	**Pn**	**07 01 48.5**	**+0.6**
ITEG				*e*		07 01 55.2	
	comp=Z,3μm,0.3s						
MASF	**Masafi**	**4.02**	**209**	P	**Pn**	**07 01 51.5**	**+3.2**
MDH	**Madha**	**4.03**	**207**	*ePn*	**Pn**	**07 01 48.6**	**+0.2**
MDH	**Madha**	**4.03**	**207**	P	**Pn**	**07 01 49.4**	**+1.1**
MSFE	**Esma-Masafi**	**4.03**	**209**	*ePn*	**Pn**	**07 01 49.4**	**+1.0**
IMEH	**Mehriz**	**4.03**	**308**	*ePn*	**Pn**	**07 01 50.6**	**+2.0**
TPRV	**Parvadeh(Tabas**	**4.32**	**342**	*ePn*	**Pn**	**07 01 53.0**	**+0.5**
UOSS	**Minazif**	**4.38**	**206**	*ePn*	**Pn**	**07 01 54.4**	**+1.2**
UOSS	**Minazif**	**4.38**	**206**	P	**Pn**	**07 01 55.3**	**+2.0**
UOSS				S	**Sn**	**07 02 44.3**	**+0.2**
HATD	**Hatta, Dubai**	**4.52**	**206**	*ePn*	**Pn**	**07 01 56.1**	**+1.0**
HATD	**Hatta, Dubai**	**4.52**	**206**	P	**Pn**	**07 01 57.3**	**+2.2**
AFRZ	**Afriz**	**4.53**	**8**	*ePn*	**Pn**	**07 01 57.0**	**+1.6**
ASHO	**Ashiyiah**	**4.67**	**206**	*ePn*	**Pn**	**07 01 58.7**	**+1.4**
ASHO	**Ashiyiah**	**4.67**	**206**	P	**Pn**	**07 01 59.2**	**+1.9**
TKDS	**Koohdasht(Taba**	**4.78**	**348**	*ePn*	**Pn**	**07 01 59.5**	**+0.6**
FAQ	**Al Faqa, Dubai**	**4.81**	**211**	*ePn*	**Pn**	**07 02 00.5**	**+1.3**
FAQ	**Al Faqa, Dubai**	**4.81**	**211**	P	**Pn**	**07 02 00.8**	**+1.7**
TABS	**Tabas**	**4.82**	**348**	*eP*	**Pn**	**07 02 00.0**	**+0.7**
TABS				IAML		07 03 35.9	
	comp=N,61nm,0.5s						
SHRT	**Shahrakht**	**5.01**	**19**	*ePn*	**Pn**	**07 02 02.5**	**+0.6**
SOHO	**SOHO**	**5.03**	**199**	*ePn*	**Pn**	**07 02 01.5**	**-0.6**
SOHO	**SOHO**	**5.03**	**199**	P	**Pn**	**07 02 02.9**	**+0.8**
ASUD	**Al Ashush, Dub**	**5.04**	**213**	*ePn*	**Pn**	**07 02 04.3**	**+2.1**
ASUD	**Al Ashush, Dub**	**5.04**	**213**	P	**Pn**	**07 02 04.7**	**+2.4**
ASUD				S	**Sn**	**07 03 04.4**	**+4.2**
BIDO	**Bidbid**	**5.38**	**182**	*ePn*	**Pn**	**07 02 06.3**	**-0.7**
HOQ	**Hoqain**	**5.39**	**190**	P	**Pn**	**07 02 06.4**	**-0.7**
HOQ				S	**Sn**	**07 03 07.6**	**-1.4**
WSAR	**Wadi Sarin**	**5.67**	**177**	P	**Pn**	**07 02 10.9**	**-0.1**
WSAR				S	**Sn**	**07 03 13.7**	**-2.1**
ARQ	**Araqi**	**5.79**	**196**	P	**Pn**	**07 02 14.2**	**+1.6**
	SNR=10						
ARQ				S	**Sn**	**07 03 20.8**	**+2.0**
SMDO	**Samad**	**5.84**	**182**	P	**Pn**	**07 02 13.5**	**+0.1**
SMDO				S	**Sn**	**07 03 18.2**	**-2.1**
BSY	**Bisya**	**6.23**	**189**	P	**Pn**	**07 02 21.7**	**+3.0**
BSY				S	**Sn**	**07 03 31.3**	**+1.6**
WBK	**Wadi Bani Khal**	**6.32**	**174**	P	**Pn**	**07 02 19.0**	**-0.9**
	SNR=26						
WBK				S	**Sn**	**07 03 28.3**	**-3.4**
JMDO	**Jabal Madar**	**6.53**	**182**	P	**Pn**	**07 02 23.6**	**+0.8**
MKAR	**Makanchi Array**	**25.86**	**40**	P	**P**	**07 06 18.9**	**+0.7**
	comp=N,0.4nm,0.6s,baz=225,slow=8.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**38.48**	**97**	LR	LR	07 27 01.9	
	comp=N,93nm,18.6s,baz=183,slow=40						
TORD	**Torodi Ar. Bea**	**54.64**	**266**	P	**P**	**07 10 14.3**	**-1.4**
	comp=N,0.9nm,0.6s,baz=63,slow=7.2,SNR=7.5						
GUMO	**Guam**	**80.60**	**80**	LR	LR	07 52 39.7	
	comp=N,30nm,18.1s,baz=284,slow=38						
ASAR	**Alice Springs**	**89.55**	**117**	P	**P**	**07 13 48.1**	**+3.7**
	comp=N,0.5nm,0.8s,baz=290,slow=6.4,SNR=2.7						

*DNK **09** 07:16:18.4±2.4, 51.31N×16.22E, h17km±105km, ML2.2*
*IDC **09** 07:16:20.9±0.8, 51.41N×16.20E, h0km, mb1 3.4/7, mb1mx3.2/43, mbtmp3.3/7, ML2.9/7, Error ellipse: s-maj=14.2km s-min=7.3km az=114.0*
*VIE **09** 07:16:21.1±1.0, 51.36N×16.25E, h0km, mb2.5/5, ml2.8/5, Error ellipse: s-maj=6.7km s-min=5.8km az=36.0 61 km WNW of Wroclaw Suspected Mining induced.*
*PRU **09** 07:16:21.7±0.0, 51.42N×16.15E, h0km*
ISC 09 07:16:18.6±0.7, 51.53N±0.03×16.23E±0.03, h0km, n38, σ1°27/68, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.95**	**187**	*ePG*	**Pb**	**07 16 38.4**	**+0.5**
CHVC				*eSG*	**Sg**	**07 16 49.3**	**+0.3**
OSTC	**Ostas**	**0.97**	**181**	*ePG*	**Pg**	**07 16 37.9**	**+0.7**
OSTC				*eSG*	**Sg**	**07 16 48.8**	**-1.0**
	comp=Z,56nm,0.6s						
UPC	**Upice**	**1.03**	**188**	*ePG*	**Pg**	**07 16 38.7**	**+0.4**
UPC				*eSG*	**Sg**	**07 16 50.7**	**-1.0**
	comp=Z,142nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**177**	*ePG*	**Pg**	**07 16 41.2**	**0.0**
DPC				*eSG*	**Sg**	**07 16 55.4**	**-1.1**
	comp=Z,63nm,0.5s						
PVCC	**Panska Ves**	**1.45**	**227**	*ePG*	**Pb**	**07 16 47.0**	**+0.6**
PVCC				*eSG*	**Sb**	**07 17 05.8**	**+0.4**
	comp=Z,251nm,0.3s						
KRLC	**Kraliky**	**1.50**	**166**	*ePG*	**Pn**	**07 16 46.8**	**+0.1**
KRLC				*eSG*	**Sg**	**07 17 05.8**	**-0.8**
	comp=Z,32nm,0.4s						
BRG	**Berggiesshubel**	**1.58**	**246**	Pn	**Pn**	**07 16 47.9**	**+0.1**
BRG				Pg	**Pg**	**07 16 50.0**	**+1.2**
BRG				Sg	**Sg**	**07 17 10.2**	**+0.9**
BRG				Amp		07 17 13.7	
	comp=Z,53nm,0.4s						
PRA	**Prague**	**1.85**	**219**	*ePG*	**Pb**	**07 16 53.6**	**+0.3**
PRU	**Pruhonice**	**1.88**	**215**	*ePG*	**Pb**	**07 16 53.9**	**+0.2**
PRU				*eSG*	**Sn**	**07 17 17.3**	**+1.0**
	comp=Z,44nm,0.6s						
MORC	**Moravsky Berou**	**1.94**	**154**	*ePN*	Pn	**07 16 52.8**	**-0.1**
MORC				*eSG*	**Sn**	**07 17 18.6**	**+0.6**
CLL	**Collm**	**2.03**	**265**	*ePn*	Pn	**07 16 55.0**	**+1.0**
CLL				*ePg*	**Pg**	**07 16 58.0**	**+0.5**
CLL				*e*		07 17 01.0	
CLL				*eSg*	**Sg**	**07 17 25.0**	**+1.2**
	comp=Z,29nm,0.6s						
VRAC	**Vranov**	**2.23**	**174**	Pn	**Pn**	**07 16 56.6**	**-0.2**
	comp=Z,3.0nm,0.3s,baz=340,slow=17,SNR=7.1						
VRAC				Lg	Lg	07 17 28.0	
	comp=Z,4.5nm,0.3s,baz=102,slow=17,SNR=7.6						
VRAC	**Vranov**	**2.23**	**174**	*ePN*	**Pn**	**07 16 56.4**	**-0.4**
VRAC				*eSG*	**Sb**	**07 17 28.2**	**+0.2**
KRUC	**Moravsky**	**2.47**	**177**	*ePN*	Pn	**07 17 01.3**	**+1.2**
KRUC				*eSG*	**Sb**	**07 17 35.4**	**+0.6**
OJC	**Ojcow**	**2.61**	**119**	*ePg*	**Pg**	**07 17 10.4**	**+1.7**
OJC				*eSg*	**Sg**	**07 17 45.0**	**+2.6**
NKC	**Novy Kostel**	**2.72**	**243**	*eSG*	**Sg**	**07 17 46.9**	**+0.9**
	comp=Z,41nm,0.6s						
JAVC	**Velka Javorina**	**2.83**	**160**	*ePN*	Pn	**07 17 06.8**	**+1.8**
KHC	**Kasperske Hory**	**2.94**	**216**	*ePN*	Pn	**07 17 07.4**	**+0.8**
KHC				*ePG*	Pb	**07 17 13.1**	**+1.2**
KHC				*eSG*	**Sb**	**07 17 50.3**	**+2.0**
	comp=Z,13nm,0.4s						
CKRC	**Cesky Krumlov**	**2.98**	**205**	*ePN*	Pn	**07 17 09.4**	**+2.3**
CKRC				*ePG*	**Pg**	**07 17 14.4**	**-1.2**
CKRC				*eSG*	**Sg**	**07 17 53.2**	**-1.0**
	comp=Z,33nm,0.7s						
SMOL	**Smolenice**	**3.12**	**165**	*eSG*	**Sg**	**07 17 59.8**	**+1.2**
GERES	**GERESS Array B**	**3.14**	**212**	Pn	**Pn**	**07 17 10.5**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=34,slow=13,SNR=14						
GERES				Pg	**Pb**	**07 17 16.5**	**+1.2**
	comp=Z,8.7nm,0.3s,baz=30,slow=17,SNR=50						
GERES				Lg	Lg	07 17 56.1	
	comp=Z,5.4nm,0.3s,baz=35,slow=28,SNR=7.3						
LANS	**Liptovska Anna**	**3.16**	**138**	*eSG*	**Sg**	**07 18 01.1**	**+1.1**
MODS	**Modra-Piesok**	**3.23**	**167**	*ePG*	**Pg**	**07 17 20.0**	**-0.4**
MODS				*eSG*	**Sg**	**07 18 02.3**	**0.0**
VYHS	**Vyhne**	**3.47**	**150**	*ePG*	**Pg**	**07 17 25.7**	**+0.6**
CONA	**Conrad Observa**	**3.61**	**184**	Pg	**Pb**	**07 17 24.5**	**+1.2**
	comp=Z,3.6nm,0.4s						
CONA				Sg	**Sg**	**07 18 14.2**	**-0.3**
	comp=Z,17nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**348**	*eP*	Pn	**07 17 16.8**	**+0.2**
BSD				*eS*	**Sn**	**07 17 59.1**	**-1.5**
ARSA	**Arzberg**	**4.31**	**186**	Pg	**Pg**	**07 17 38.5**	**-2.6**
ARSA				Sg	**Sg**	**07 18 37.5**	**+0.6**
	comp=Z,6.9nm,0.5s						
LUNU	**Lund**	**4.43**	**339**	*i P*	Pn	**07 17 28.2**	**+1.2**
LUNU				*i S*	**Sn**	**07 18 20.7**	**+1.5**
BLEU	**Blekinge**	**4.79**	**357**	*i P*	Pn	**07 17 34.0**	**+2.1**
BLEU				*i S*	**Sn**	**07 18 28.8**	**+0.7**
KBA	**Koelnbreinsper**	**4.84**	**204**	*i Pn*	Pn	**07 17 33.1**	**+0.3**
	comp=Z,3.2nm,0.5s						
KBA				Sg	**Sg**	**07 18 54.9**	**+1.0**
	comp=Z,16nm,0.9s						
DEL	**Delary**	**5.14**	**345**	*e*	Pn	**07 17 37.7**	**+1.0**
	baz=166,slow=14						
DEL				*i P*	Pn	**07 17 38.0**	**+1.3**
DEL				*eS*	**Sn**	**07 18 35.5**	**-1.3**
DEL				IAML		07 18 38.7	
	comp=Z,1.2nm,0.3s						
WTTA	**Wattenberg**	**5.22**	**217**	Sg	**Sg**	**07 19 05.8**	**-0.2**
	comp=Z,6.0nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.32**	**224**	Pn	**Pn**	**07 17 53.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=42,slow=22,SNR=1.9						
DAVOX				Lg	Lg	07 19 37.9	
	comp=Z,0.1nm,0.3s,baz=203,slow=22,SNR=1.7						
AKASG	**Malin Array Be**	**8.22**	**91**	Pn	**Pn**	**07 18 19.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=283,slow=12,SNR=3.1						
AKASG				Lg	Lg	07 20 42.1	
	comp=Z,0.2nm,0.3s,baz=281,slow=26,SNR=1.5						
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**07 18 26.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=2.3						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**07 19 00.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=218,slow=10.0,SNR=5.2						
FINES				Sn	**Sn**	**07 21 03.1**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=216,slow=24,SNR=1.2						
EKA	**Eskdalemuir Ar**	**12.16**	**296**	Pn	**Pn**	**07 19 12.0**	**-1.0**
	baz=95,slow=15,SNR=3.6						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**07 20 35.2**	**-1.8**
	baz=197,slow=12,SNR=8.8						

*IDC **09** 07:28:11.3±2.2, 17.22S×178.94W, h613km±20km, mb2.9/6, mb1 3.3/7, mb1mx3.0/42, mbtmp3.8/7, Error ellipse: s-maj=127.3km s-min=18.4km az=154.0*
ISC 09 07:28:10.8±1.8, 17.1S±0.7×178.9W±0.4, h600km, n7, σ0°97/7, mb3.2/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.97**	**257**	P	**P**	**07 29 31.2**	**+1.4**
	1.5nm,0.3s,baz=138,slow=3.4,SNR=16						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**07 35 28.2**	**-0.9**
	0.8nm,0.4s,baz=96,slow=7.1,SNR=33						
ASAR	**Alice Springs**	**44.56**	**253**	P	**P**	**07 35 30.2**	**-0.8**
	4.6nm,0.7s,baz=87,slow=8.8,SNR=64						
NVAR	**Mina Array Bea**	**79.17**	**44**	P	**P**	**07 39 14.4**	**-0.5**
	0.3nm,0.6s,baz=231,slow=6.7,SNR=4.3						
ILAR	**Eielson Array**	**85.19**	**13**	P	**P**	**07 39 44.7**	**+0.3**
	0.2nm,0.4s,baz=232,slow=4.4,SNR=2.7						
TXAR	**Lajitas Array**	**85.96**	**58**	P	**P**	**07 39 49.0**	**-0.1**
	0.4nm,0.7s,baz=221,slow=5.9,SNR=6.9						
PDAR	**Pinedale Array**	**87.09**	**44**	P	**P**	**07 39 54.1**	**-0.1**
	0.3nm,0.6s,baz=216,slow=4.8,SNR=4.4						

FUNV 09 07:28:10.1, 10.94N×71.24W, h22km, MW3.8, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DABV	**Dabajuro**	**0.59**	**92**	*eP*	Pb	07 28 21.6	-0.3
DABV				*eS*	Sb	07 28 30.2	+0.4
SIQV	**Siquisique**	**1.44**	**102**	*eP*	Pn	07 28 34.5	-0.3
SIQV				*eS*	Sn	07 28 52.5	-0.6
MCQV	**Machiques**	**1.55**	**235**	*eP*	Pn	07 28 35.9	-0.5
MCQV				*eS*	Sn	07 28 55.5	-0.3
CURV	**Curarigua**	**1.56**	**126**	*eP*	Pn	07 28 36.1	-0.5
CURV				*eS*	Sn	07 28 54.4	-1.8
MONV	**Montecano**	**1.60**	**51**	*eP*	Pn	07 28 36.1	-1.0
MONV				*eS*	Sn	07 28 56.6	-0.4
SDV	**Santo Domingo**	**2.13**	**164**	*eP*	Pn	07 28 43.8	-0.7
SDV				*eS*	Sn	07 29 08.9	-1.5
JACV	**Jacura**	**2.37**	**86**	*eP*	Pn	07 28 47.1	-0.6
JACV				*eS*	Sn	07 29 14.7	-1.4
SOCV	**Socops**	**2.67**	**172**	*eP*	Pn	07 28 50.8	-1.0
SOCV				*eS*	Sn	07 29 21.9	-1.6
MAPV	**Macapo**	**2.95**	**112**	*eP*	Pn	07 28 55.4	-0.3
MAPV				*eS*	Sn	07 29 27.8	-2.7
TURV	**Turiamo**	**3.38**	**98**	*eP*	Pn	07 28 59.6	-1.9
TURV				*eS*	Sn	07 29 38.0	-3.0
BENV	**Beln**	**3.71**	**105**	*eP*	Pn	07 29 05.4	-0.8
BENV				*eS*	Sn	07 29 45.9	-3.4
BAUV	**El Baul**	**3.73**	**122**	*eP*	Pn	07 29 05.7	-0.6
BAUV				*eS*	Sn	07 29 46.2	-3.3
TACV	**Tcata**	**4.22**	**101**	*eP*	Pn	07 29 12.1	-1.1
ELOV	**Elorza**	**4.29**	**156**	*eP*	Pn	07 29 12.6	-1.4
ELOV				*eS*	Sn	07 29 59.0	-4.4
BIRV	**Birongo**	**4.91**	**95**	*eP*	Pn	07 29 20.5	-2.0
BIRV				*eS*	Sn	07 30 13.9	-4.9
CACV	**CAICARA DEL OR**	**5.73**	**125**	*eP*	Pn	07 29 38.5	+4.6

*BJI **09** 07:28:25.3±0.0, 18.33S×176.84W, h330km, mB5.2/27, mb4.8/44*
*NOU **09** 07:28:27.0, 18.72S×176.90W, h351km, mB5.8, Fiji Islands Region*
*IDC **09** 07:28:28.6±0

ONTNC **Ouen Toro** 15.80 254 P **P** 07 31 52.6 +1.3
ONTNC **Ouen Toro** 15.80 254 P **Pn** 07 31 54.0 -0.2
NOUC **Port Laguerre** 15.90 255 P **Pn** 07 31 55.0 -0.4
RAR **Rarotonga** 16.51 102 P **Pn** 07 32 01.0 -1.4
2.3nm,0.3s,baz=256,slow=6.7,SNR=11
RAR **Rarotonga** 16.51 102 P **P** 07 32 00.6 +1.6
RAR IAmb IAmb 07 32 06.5
comp=Z,151nm,1.1s
RAR **Rarotonga** 16.51 102 P **P** 07 31 57.8 -1.2
KNTN **Kanton** 16.67 19 P **P** 07 31 59.0 -1.8
KNTN IAmb IAmb 07 32 05.0
comp=Z,508nm,1.8s
KNTN **Kanton** 16.67 19 P **P** 07 31 59.3 -1.5
NFK **Norfolk Island** 17.10 230 P **P** 07 32 05.2 0.0
baz=17,SNR=7.1
NFK **Norfolk Island** 17.10 230 P **P** 07 32 05.8 +0.5
KOUNC **Koumac, New Ca** 17.61 261 P **P** 07 32 11.7 +0.9
OUZ **Omahuta** 18.41 205 P **P** 07 32 19.3 +0.2
OUZ IAmb IAmb 07 32 24.6
comp=Z,402nm,1.2s
OUZ **Omahuta** 18.41 205 P **P** 07 32 19.7 +0.5
GRZ **Great Barrier** 18.68 199 P **P** 07 32 20.6 -1.4
WCZ **Waipu Caves** 18.77 202 P **P** 07 32 23.3 +0.4
KUZ **Kuaotunu** 19.06 198 P **P** 07 32 24.5 -1.5
ABAZ **Army Bay** 19.20 200 P **P** 07 32 29.7 +2.2
HAZ **Te Kaha** 19.52 192 P **P** 07 32 30.0 -0.8
WHRZ **Whale Island** 19.79 194 P **P** 07 32 32.3 -1.3
OPRZ **Ohinepanea** 19.88 195 P **P** 07 32 34.3 -0.1
EDRZ **Edgecumbe** 20.08 194 P **P** 07 32 38.0 +1.4
KARZ **Kaharoa** 20.12 195 P **P** 07 32 37.8 +0.9
MWZ **Matawai** 20.13 192 P **P** 07 32 35.8 -1.2
URZ **Urewera** 20.14 193 P **P** 07 32 33.3 -3.8
comp=Z,308nm,0.7s,baz=6.8,slow=3.2,SNR=91
URZ S **S** 07 35 58.2 -2.6
comp=Z,30nm,0.5s,baz=317,slow=23,SNR=2.4
URZ **Urewera** 20.14 193 P **P** 07 32 33.8 -3.3
URZ S **S** 07 35 58.2 -2.6
OMRZ **Omania** 20.17 195 P **P** 07 32 35.7 +0.3
HLRZ **Highlands Stat** 20.31 195 P **P** 07 32 37.9 -0.8
RRRZ **Republican Roa** 20.36 195 P **P** 07 32 37.9 -1.2
RRRZ S **S** 07 36 08.5 +4.1
HSRZ **Hossack Road** 20.39 195 P **P** 07 32 40.0 +0.5
MUGZ **Murupara** 20.43 194 P **P** 07 32 37.6 -2.1
MUGZ S **S** 07 36 04.7 -0.7
RIGZ **Rimuhau** 20.44 192 P **P** 07 32 40.3 +0.4
GRRZ **Galatos Road** 20.46 195 P **P** 07 32 40.2 +0.1
PRRZ **Plateau Road** 20.54 195 P **P** 07 32 39.4 -1.3
SNGZ **Shannon Statio** 20.60 192 P **P** 07 32 39.6 -1.7
ALRZ **Allen Road** 20.61 195 P **P** 07 32 40.4 -1.0
ALRZ S S 07 35 46.4 -22
WPRZ **Whakapapatarin** 20.61 195 P **P** 07 32 41.1 -0.3
PRGZ **Paritu Road** 20.63 191 P **P** 07 32 41.9 +0.3
KUTZ **Kaahu Road** 20.67 196 P **P** 07 32 42.5 +0.5
KNZ **Kokohu** 20.76 191 P **P** 07 32 43.5 +0.8
KNZ S **S** 07 36 12.2 +1.3
RAHZ **Arahi** 20.78 193 P **P** 07 32 39.4 -3.5
RAHZ S **S** 07 36 13.4 +2.2
MRHZ **Matea Rd** 20.85 194 P **P** 07 32 41.6 -1.9
WATZ **Wairara** 20.90 196 P **P** 07 32 43.9 -0.1
HIZ **Hauiti** 20.96 198 P **P** 07 32 44.6 +0.1
HIZ **Hauiti** 20.96 198 P **P** 07 32 45.5 +1.1
BKZ **Black Stump Fm** 21.15 194 P **P** 07 32 43.5 -2.8
TMVZ **Te Maari** 21.29 196 P **P** 07 32 47.3 -0.3
MCHZ **McNeill Hill** 21.37 193 P **P** 07 32 46.1 -2.1
NGZ **Ngauruhoe** 21.37 196 P **P** 07 32 49.8 +1.4
SNVZ **South Ngauruho** 21.37 196 P **P** 07 32 46.8 -1.7
KWHZ **Kaweka Forest** 21.41 194 P **P** 07 32 46.7 -2.0
TUVZ **Tukino** 21.45 195 P **P** 07 32 48.5 -0.6
FWVZ **Far West T-bar** 21.46 196 P **P** 07 32 47.2 -2.1
DRZ **Dome Shelter** 21.48 196 P **P** 07 32 51.3 +1.8
WHVZ **Whangaehu Hut** 21.48 196 P **P** 07 32 47.7 -1.7
CKHZ **Cape Kidnapper** 21.50 192 P **P** 07 32 50.8 +1.5
TRVZ **Turoa** 21.50 196 P **P** 07 32 48.3 -1.4
PKVZ **Pokaka** 21.55 196 P **P** 07 32 50.6 +0.7
VRZ **Vera Road** 21.55 197 P **P** 07 32 50.7 +0.8
MOVZ **Moawhango** 21.55 195 P **P** 07 32 47.6 -2.3
MOVZ S **S** 07 36 26.1 +2.3
BHHZ **Black Hill Sta** 21.56 194 P **P** 07 32 47.0 -3.0
MTVZ **Mangateitei** 21.60 196 P **P** 07 32 52.2 +1.8
KRHZ **Kereru** 21.63 194 P **P** 07 32 48.3 -2.4
MHEZ **Mangahewa** 21.63 198 P **P** 07 32 57.4 +6.8
KAHZ **Kahuranaki** 21.67 193 P **P** 07 32 50.2 -0.8
KAHZ S **S** 07 36 30.5 +4.8
DREZ **Durham Road** 21.77 198 P **P** 07 32 55.0 +3.1
PKE **Pukeiti** 21.84 199 P **P** 07 32 55.0 +2.4
NEZ **North Egmont** 21.88 199 P **P** 07 32 55.8 +2.8
PXZ **Pawanui** 21.90 192 P **P** 07 32 51.8 -1.2
KHEZ **Kahui Hut** 21.93 199 P **P** 07 32 56.2 +2.8
PNHZ **Pukenui** 21.93 194 P **P** 07 32 51.5 -1.8
PNHZ S **S** 07 36 31.4 +1.6
PREZ **Palmer Road** 21.93 198 P **P** 07 32 58.6 +5.3
WAZ **Wanganui** 22.08 196 P **P** 07 32 54.5 -0.2
NMEZ **Namu Road** 22.08 199 P **P** 07 32 58.0 +3.4
TSZ **Takapari Road** 22.12 194 P **P** 07 32 53.6 -1.6
TSZ S **S** 07 36 38.5 +5.6
TARA **Tarawa** 22.19 333 P **P** 07 32 54.6 -1.4
TARA **Tarawa** 22.19 333 P **P** 07 32 55.2 -0.8
comp=Z,829nm,1.1s
DVHZ **Dannevirke** 22.30 194 P **P** 07 32 55.4 -1.4
ANWZ **Angora Road** 22.39 193 P **P** 07 32 55.8 -1.7
OHWZ **Ohakea** 22.42 195 P **P** 07 32 57.4 -0.3
POWZ **Post Office Ro** 22.48 194 P **P** 07 32 57.7 -0.7
PRWZ **Pori Road** 22.59 194 P **P** 07 32 59.5 +0.2
BFZ **Birch Farm** 22.65 193 P **P** 07 32 57.5 -2.4
HOWZ **Holdsworth Sta** 23.02 194 P **P** 07 33 00.9 -2.4
OGWZ **Otaki Gorge** 23.03 195 P **P** 07 33 01.7 -1.6
KIW **Kapiti Island** 23.14 196 P **P** 07 33 02.1 -2.1
TMWZ **Te Maipa** 23.14 194 P **P** 07 33 02.9 -1.4
MTW **Mount Morrison** 23.27 194 P **P** 07 33 03.9 -1.6
CAW **Cannon Point** 23.33 195 P **P** 07 33 04.3 -1.8
DUWZ **D'Urville Isla** 23.35 197 P **P** 07 33 04.5 -1.7
TRWZ **Traveller** 23.46 194 P **P** 07 33 06.9 -0.4
PAWZ **Paruwai Farm** 23.50 194 P **P** 07 33 06.6 -1.0
WEL **Wellington** 23.57 195 P **P** 07 33 06.9 -1.2
MSWZ **Moikau Station** 23.58 194 P **P** 07 33 07.9 -0.3
SNZO **South Karori** 23.61 196 P **P** 07 33 07.5 -1.0
BHW **Baring Head** 23.66 195 P **P** 07 33 10.6 +1.6
PLWZ **Palliser** 23.72 194 P **P** 07 33 09.2 -0.4
NNZ **Nelson** 23.89 198 P **P** 07 33 09.1 -1.9
HNR **Honiara** 24.04 289 P **P** 07 33 13.8 +1.1
comp=Z,124nm,0.6s,baz=252,slow=8.0,SNR=4.1
BSWZ **Blackbirch Sta** 24.21 197 P **P** 07 33 13.4 -0.6
LHI **Lord Howe Isla** 25.00 235 P **P** 07 33 21.6 +0.5
LHI IAmb IAmb 07 33 24.4
comp=Z,140nm,0.7s
PAE **Paea** 26.18 92 *e*P **P** 07 33 32.7 +0.8
comp=Z,15nm,0.8s
PPT2 **Papeete2** 26.20 92 *e*P **P** 07 33 33.1 +1.0
comp=Z,93nm,1.1s
PPT **Papeete** 26.20 92 P **P** 07 33 33.3 +1.3
comp=Z,86nm,0.7s,baz=73,slow=3.4,SNR=13
TBI **Tubuai** 26.22 105 *e*P **P** 07 33 33.5 +1.4
comp=Z,89nm,0.8s
TIAR **Tiarei** 26.42 92 *e*P **P** 07 33 34.9 +0.9
comp=Z,10nm,0.7s
PMOR **Pomariorio Ree** 28.20 87 *e*P **P** 07 33 50.8 +1.1
comp=Z,302nm,1.1s
XMAS **Kiritimati** 28.27 45 P **P** 07 33 50.5 +0.2
XMAS IAmb IAmb 07 34 32.0
comp=Z,274nm,1.6s
VAH **Vaihoa** 28.41 88 *e*P **P** 07 33 52.2 +0.7
comp=Z,154nm,1.2s
EIDS **Eidsvold** 30.16 252 P **P** 07 34 06.0 -0.9
baz=30,SNR=19
EIDS **Eidsvold** 30.16 252 P **P** 07 34 06.3 -0.6
ARMA **Armidale** 30.63 242 P **P** 07 34 11.7 +0.7
baz=31,SNR=234
ARMA **Armidale** 30.63 242 P **P** 07 34 11.9 +0.9
ARMA IAmb IAmb 07 34 12.9
comp=Z,178nm,0.7s
KWAJ **Kwajalein Atol** 31.19 330 P **P** 07 34 15.7 -0.2
KWAJ pmax pmax
comp=Z,393nm,0.7s
KWAJ **Kwajalein Atol** 31.19 330 P **P** 07 34 15.7 -0.2
KWAJ **Kwajalein Atol** 31.19 330 P **P** 07 34 16.5 +0.6
MGCD **Mangrove Creek** 31.87 237 P **P** 07 34 22.6 +0.9
baz=32,SNR=120
RIV **Riverview** 32.04 236 P **P** 07 34 23.3 +0.2
baz=32,SNR=12
RMQ **Roma** 32.37 250 P **P** 07 34 26.4 +0.3
baz=32,SNR=41
CNB **Canberra Magne** 33.94 234 P **P** 07 34 39.5 -0.1
baz=34,SNR=324
CAN **Canberra** 34.22 234 P **P** 07 34 42.0 +0.1
CAN pmax pmax
comp=Z,302nm,1.0s
CAN **Canberra** 34.22 234 P **P** 07 34 42.0 +0.1
CAN IAmb IAmb 07 34 43.5
comp=Z,302nm,1.0s
YNG **Young** 34.36 236 P **P** 07 34 43.5 +0.5
baz=34,SNR=45
CTA **Charters Tower** 34.53 262 P **P** 07 34 44.1 -0.6
comp=Z,110nm,0.7s,baz=92,slow=11,SNR=110
CTAO **Charters Tower** 34.53 262 P **P** 07 34 44.0 -0.6
CTAO pmax pmax
comp=Z,155nm,0.8s
CTAO **Charters Tower** 34.53 262 P **P** 07 34 44.0 -0.6
CTAO IAmb IAmb 07 34 45.0
comp=Z,155nm,0.8s
MILA **Mila** 34.73 231 P **P** 07 34 46.4 +0.2
baz=35,SNR=29
PATS **Pohnpei** 35.07 314 P **P** 07 34 48.9 -0.3
baz=35,SNR=13
PATS **Pohnpei** 35.07 314 P **P** 07 34 50.4 +1.1
PATS IAmb IAmb 07 34 51.1
comp=Z,218nm,1.0s
PMG **Port Moresby** 35.79 280 P **P** 07 34 55.0 -0.4
comp=Z,107nm,0.8s,baz=86,slow=6.1,SNR=20
PMG **Port Moresby** 35.79 280 *ce*P **P** 07 34 55.1 -0.3
PMG pmax pmax
comp=Z,111nm,0.7s
PMG **Port Moresby** 35.79 280 P **P** 07 34 55.4 0.0
PMG IAmb IAmb 07 34 56.5
comp=Z,130nm,0.9s
PMG **Port Moresby** 35.79 280 P **P** 07 34 55.5 +0.1
comp=Z,157nm,0.9s
PMG **Port Moresby** 35.79 280 P **P** 07 34 55.5 +0.1
comp=Z,157nm,0.9s
CMSA **Cobar Meteorol** 35.84 242 P **P** 07 34 55.8 +0.1
baz=36,SNR=105
QLP **Quilpie** 36.41 250 P **P** 07 34 59.9 -0.5
baz=36,SNR=21
TOO **Toolangi** 37.64 232 P **P** 07 35 10.9 +0.3
baz=38,SNR=679
TOO **Toolangi** 37.64 232 P **P** 07 35 10.9 +0.3
TOO pmax pmax
comp=Z,485nm,0.7s
TOO **Toolangi** 37.64 232 P **P** 07 35 10.9 +0.3
MOO **Moorlands** 38.37 224 P **P** 07 35 16.7 +0.2
baz=38,SNR=12
TAU **Tasmania Unive** 38.50 223 P **P** 07 35 17.8 +0.3
TAU pmax pmax
comp=Z,123nm,0.8s
TAU **Tasmania Unive** 38.50 223 P **P** 07 35 17.8 +0.3
TAU IAmb IAmb 07 35 18.5
comp=Z,123nm,0.8s
MANU **Manus Island** 38.51 291 P **P** 07 35 18.4 +0.3
STKA **Stephens Creek** 39.34 242 P **P** 07 35 25.0 +0.4
comp=Z,137nm,0.5s,baz=89,slow=10.0,SNR=402
STKA ScP **ScP** 07 40 41.4 +1.8
comp=Z,13nm,1.0s,baz=80,slow=4.7,SNR=2.8
STKA **Stephens Creek** 39.34 242 P **P** 07 35 24.4 -0.2
MCQ **Macquarie Isla** 40.17 202 P **P** 07 35 32.0 +1.0
baz=40,SNR=5.8
MCQ **Macquarie Isla** 40.17 202 P **P** 07 35 32.4 +1.4
MCQ pmax pmax
comp=Z,360nm,1.2s
MCQ **Macquarie Isla** 40.17 202 P **P** 07 35 32.4 +1.4
MCQ IAmb IAmb 07 35 34.1
comp=Z,360nm,1.2s
ARPS **Mount Arapiles** 40.19 235 P **P** 07 35 31.5 0.0
baz=40,SNR=116
QIS **Mount Isa** 40.71 260 P **P** 07 35 34.6 -1.4
baz=41,SNR=12
WAKE **Wake Island** 40.95 336 P **P** 07 35 37.4 -0.4
WAKE IAmb IAmb 07 35 38.2
comp=Z,605nm,1.5s
KHU **Kahuku** 43.20 30 P **P** 07 35 56.6 +0.5
KHU pmax pmax
comp=Z,612nm,1.8s
KHU **Kahuku** 43.20 30 P **P** 07 35 56.6 +0.5
KHU IAmb IAmb 07 37 17.4
comp=Z,612nm,1.8s
KHLU **Kahalu`u** 43.37 30 P **P** 07 35 57.8 +0.6
KHLU IAmb IAmb 07 35 59.0
comp=Z,279nm,0.8s
HUH **Hualalai** 43.48 30 P **P** 07 35 59.5 +1.2
HUH IAmb IAmb 07 36 00.1
comp=Z,241nm,0.9s
HMH **Humu'ula Sheep** 43.57 30 P **P** 07 36 00.6 +1.6
HMH IAmb IAmb 07 36 01.2
comp=Z,374nm,0.9s
POHA **Pohakuloa** 43.68 30 P **P** 07 36 00.1 +0.3
POHA IAmb IAmb 07 36 10.4
comp=Z,179nm,0.9s
DHH **Diamond Head** 43.98 26 P **P** 07 36 03.0 +1.1
DHH **Diamond Head** 43.98 26 P **P** 07 36 03.0 +1.1
KIP **Kipapa** 44.03 26 *ce*P **P** 07 36 02.8 +0.5
KIP pmax pmax
comp=Z,253nm,1.7s
WMR **Waimanalo Ridg** 44.08 26 P **P** 07 36 03.8 +1.1
BBOO **Buckleboo** 44.11 242 P **P** 07 36 02.7 -0.1
GENI **Genyem** 44.75 286 P **P** 07 36 08.7 +0.6
comp=Z,553nm,0.7s
WR0 **Warramunga Arr** 45.51 260 P **P** 07 36 12.3 -1.7
WB0 **Warramunga Arr** 45.67 260 P **P** 07 36 13.9 -1.3
WRAB **Tennant Creek** 45.69 260 *ce*P **P** 07 36 13.1 -2.3
WRAB pmax pmax
comp=Z,70nm,1.3s
WRA **Warramunga Arr** 45.70 260 P **P** 07 36 14.1 -1.3
comp=Z,24nm,0.5s,baz=96,slow=5.7,SNR=174
WRA S **S** 07 42 25.1 -6.5
comp=Z,4.5nm,1.0s,baz=90,slow=14,SNR=5.9
AS31 **Alice Springs** 45.76 255 P **P** 07 36 15.6 -0.4
AS31 IAmb IAmb 07 36 16.0
comp=Z,92nm,0.6s
ASAR **Alice Springs** 45.76 255 P **P** 07 36 15.2 -0.8
comp=Z,295nm,0.6s,baz=90,slow=8.2,SNR=1582
ASAR ScP **ScP** 07 41 06.3 +0.5
comp=Z,2.8nm,0.9s,baz=79,slow=4.8,SNR=1.9
ASAR S **S** 07 42 28.5 -4.0
comp=Z,15nm,0.8s,baz=89,slow=16,SNR=19
ASAR **Alice Springs** 45.76 255 P **P** 07 36 15.6 -0.3
ASAR **Alice Springs** 45.76 255 P **P** 07 36 15.6 -0.3
KDU **Kakadu** 48.77 269 P **P** 07 36 37.8 -1.1
baz=49,SNR=16
GUMO **Guam** 49.31 308 P **P** 07 36 43.0 +0.1
comp=Z,319nm,0.7s,baz=120,slow=23,SNR=8.9
GUMO **Guam** 49.31 308 P **P** 07 36 43.6 +0.7
GUMO pmax pmax
comp=Z,323nm,0.7s
GUMO **Guam** 49.31 308 P **P** 07 36 43.6 +0.7
MTN **Manton Dam** 50.00 269 P **P** 07 36 47.1 -1.0
baz=50,SNR=5.5
MTN **Manton Dam** 50.00 269 P **P** 07 36 47.1 -1.0
WRKA **Warakurna** 50.77 253 P **P** 07 36 53.6 -0.2
baz=51,SNR=437
FORT **Forrest** 50.78 245 P **P** 07 36 53.3 -0.5
baz=51,SNR=152
FORT **Forrest** 50.78 245 P **P** 07 36 53.5 -0.2
KNRA **Kununurra** 51.63 265 P **P** 07 36 59.2 -1.0
baz=52,SNR=23
KNRA **Kununurra** 51.63 265 P **P** 07 36 59.4 -0.7
FAKI **Fak Fak** 51.92 281 P **P** 07 37 02.2 -0.2
FAKI IAmb IAmb 07 37 03.3
comp=Z,218nm,1.6s
FAKI **Fak Fak** 51.92 281 P **P** 07 37 03.1 +0.7
comp=Z,66nm,0.7s
SIJI **Sorong** 53.60 283 P **P** 07 37 13.6 -0.9
comp=Z,262nm,0.6s,baz=110,slow=5.2,SNR=57
SWI **Sorong** 53.61 283 P **P** 07 37 14.6 0.0
comp=Z,5μmcomp=Z,553nm,0.7s
MSAI **Masohi** 54.87 279 P **P** 07 37 23.4 -0.2
comp=Z,1μmcomp=Z,12nm,0.7s
LBMI **Labuha** 57.17 282 P **P** 07 37 40.2 +0.4
comp=Z,182nm,0.6s
SOEI **Soe** 57.29 270 P **P** 07 37 42.4 +1.7
SOEI **Soe** 57.29 270 P **P** 07 37 42.0 +1.3
comp=Z,4μmcomp=Z,611nm,0.9s
BATI **Baumata** 57.74 270 P **P** 07 37 45.7 +2.0
comp=Z,792nmcomp=Z,50nm,0.6s
TNTI **Ternate** 57.83 283 P **P** 07 37 45.1 +0.8
comp=Z,138nm,0.8s
SANI **Sanana** 58.07 280 P **P** 07 37 46.0 0.0
comp=Z,85nm,0.8s
PSA00 **Pilbara Seismi** 58.90 256 P **P** 07 37 51.3 -0.3
PSA00 IAmb IAmb 07 37 52.0
comp=Z,198nm,1.1s
MEEK **Meekatharra** 59.30 250 P **P** 07 37 53.6 -0.7
baz=59,SNR=91
MMRI **Maumere** 59.53 271 P **P** 07 37 56.0 +0.1
comp=Z,127nm,0.8s
KLBR **Kellerberrin** 59.58 244 P **P** 07 37 55.7 -0.3
baz=60,SNR=118
SBA **Scott Base** 59.73 184 P **P** 07 37 58.7 +2.5
SBA pmax pmax
comp=Z,93nm,0.9s
SBA **Scott Base** 59.73 184 P **P** 07 37 58.7 +2.5
SBA IAmb IAmb 07 37 59.7
comp=Z,93nm,0.8s
VNDA **Vanda** 59.78 185 P **P** 07 37 58.0 +1.4
comp=Z,21nm,0.7s,baz=357,slow=7.7,SNR=91
VNDA ScP **ScP** 07 42 07.3 +1.7
comp=Z,3.7nm,0.8s,baz=354,slow=5.4,SNR=4.1
VNDA **Vanda** 59.78 185 P **P** 07 37 58.0 +1.4
VNDA **Vanda** 59.78 185 P **P** 07 37 57.7 +1.1
NWAO **Narrogin (SRO)** 59.93 242 P **P** 07 37 58.2 -0.1
comp=Z,131nm,0.6s,baz=108,slow=6.1,SNR=85
NWAO **Narrogin (SRO)** 59.93 242 P **P** 07 37 58.3 -0.1
baz=60,SNR=56
NWAO **Narrogin (SRO)** 59.93 242 P **P** 07 37 58.3 -0.1
NWAO pmax pmax
comp=Z,150nm,0.8s
NWAO **Narrogin (SRO)** 59.93 242 P **P** 07 37 58.3 0.0
NWAO IAmb IAmb 07 37 59.3
comp=Z,150nm,0.8s
EDFI **Ende, Flores** 60.02 271 P **P** 07 37 58.4 -0.9
comp=Z,616nmcomp=Z,66nm,0.9s
BLDU **Ballidu** 60.55 245 P **P** 07 38 02.2 -0.4
baz=60,SNR=126
MUN **Mundaring** 60.86 243 P **P** 07 38 04.5 -0.1
baz=61,SNR=74
MORW **Morawa** 61.29 247 P **P** 07 38 07.2 -0.3
baz=61,SNR=56
MORW **Morawa** 61.29 247 P **P** 07 38 07.3 -0.3
MORW IAmb IAmb 07 38 07.8
comp=Z,132nm,0.7s
GTOI **Gorontalo** 61.81 281 P **P** 07 38 12.1 +0.9
comp=Z,33nm,0.6s
WBSI **Waikabubak, Su** 61.95 269 P **P** 07 38 12.4 +0.3
comp=Z,910nmcomp=Z,84nm,1.0s
H01W1 **Cape Leeuwin H** 62.35 240 P **P** 07 38 15.8 +1.7
baz=115,slow=6.4,SNR=9.8
H01W3 **Cape Leeuwin H** 62.36 240 P **P** 07 38 15.9 +1.7
baz=115,slow=6.4,SNR=8.9
H01W2 **Cape Leeuwin H** 62.36 240 P **P** 07 38 15.9 +1.7
baz=115,slow=6.4,SNR=12
APSI **Ampana** 62.53 279 P **P** 07 38 16.6 +0.7
comp=Z,48nm,0.6s
MRSI **Marisa** 62.75 281 P **P** 07 38 16.6 -0.7
comp=Z,57nm,0.6s
BNSI **Bone** 62.82 275 P **P** 07 38 18.0 +0.2
comp=Z,16nm,0.8s
PLAI **Plampang** 63.70 269 P **P** 07 38 23.0 -0.5
comp=Z,1μmcomp=Z,149nm,1.0s
GIRL **Giralia** 63.84 253 P **P** 07 38 25.5 +1.2
baz=64,SNR=17
GIRL **Giralia** 63.84 253 P **P** 07 38 25.3 +1.0
TWSI **Taliwang, Sumb** 64.58 269 P **P** 07 38 29.1 -0.1
comp=Z,788nmcomp=Z,76nm,1.2s
MPSI **Mapaga** 64.61 280 P **P** 07 38 29.4 0.0
comp=Z,765nmcomp=Z,38nm,0.8s
JHJ **Hachijo jima 2** 65.93 321 P **P** 07 38 38.6 +1.3
comp=Z,220nm,0.5s,baz=171,slow=5.2,SNR=9.2
JYT **Yasato** 67.91 324 P **P** 07 38 49.5 -0.1
BBKI **Banjar Baru** 68.10 274 P **P** 07 38 51.0 -0.3
comp=Z,27nm,0.4s
JGF **Kuroka** 69.10 322 P **P** 07 38 56.8 -0.2
MJAR **Matsushiro Arr** 69.26 323 P **P** 07 38 57.1 -0.8
comp=Z,39nm,0.7s,baz=144,slow=6.7,SNR=37
MAJO **Matsushiro** 69.26 323 P **P** 07 38 57.8 -0.1
MAJO pmax pmax
comp=Z,51nm,0.8s
MAJO **Matsushiro** 69.26 323 P **P** 07 38 57.8 -0.1
MAJO IAmb IAmb 07 39 00.6
comp=Z,51nm,0.8s
MAT **Matsushiro** 69.26 323 P **P** 07 38 57.1 -0.8
SPMM **Sapulut** 69.38 283 P **P** 07 39 00.0 +0.8
PWJI **Pagerwojo** 69.59 268 P **P** 07 39 00.8 +0.4
comp=Z,56nm,0.6s
PCJI **Pacitan** 70.14 268 P **P** 07 39 04.2 +0.5
comp=Z,3μmcomp=Z,312nm,0.7s
KIWB **Kanaga Island** 70.23 360 P **P** 07 39 03.8 +0.4
JSD **Sado** 70.28 324 P **P** 07 39 03.8 -0.2
ATKA **Atka Island** 70.63 2 P **P** 07 39 05.5 -0.3
ERM **Erimo** 70.67 330 *i* P **P** 07 39 03.5 -2.7
ERM pmax pmax
comp=Z,24nm,0.8s
JTM **Tenmabayashi** 70.77 328 P **P** 07 39 08.1 +1.2
UGM **Wanagama** 70.84 268 P **P** 07 39 07.8 -0.2
KUR **Kuril'sk** 71.14 335 *i* P **P** 07 39 08.8 -0.2
KUR pmax pmax
comp=Z,135nm,0.9s
SMRI **Semarang** 71.17 269 P **P** 07 39 10.5 +0.6
comp=Z,129nm,0.8s
JHS **Saijyo** 71.28 319 P **P** 07 39 10.0 -0.1
JHS IAmb IAmb 07 39 13.7
comp=Z,105nm,0.8s
QSPA **South Pole Qui** 71.38 180 P **P** 07 39 11.3 +0.9
JNU **Nakatsue** 71.54 316 P **P** 07 39 11.8 0.0
comp=Z,29nm,0.8s,baz=89,slow=4.8,SNR=12
NIKH **Nikolski High** 71.71 5 P **P** 07 39 11.6 -0.6
baz=188,SNR=5.1
KPJI **Karang Pucung** 72.52 268 P **P** 07 39 17.9 +0.1
comp=Z,87nm,0.6s
SBUM **Sibu** 72.53 279 P **P** 07 39 20.0 +2.1
JKA **Kamikawa-asahi** 72.54 331 P **P** 07 39 17.7 +0.4
JKA IAmb IAmb 07 39 21.5
comp=Z,62nm,0.6s
ASAJ **Asahikawa** 72.54 331 P **P** 07 39 18.1 +0.8
comp=Z,58nm,0.6s,baz=198,slow=3.2,SNR=22
SKR **Severo-Kuril's** 72.97 343 *e*P P 07 39 29.0 +9.4
SKR *e*S **SKSac** 07 48 48.1 -2.3
SKR pmax pmax
comp=Z,200nm,5.9s
SKR pmax pmax
comp=Z,64nm,1.1s
SKR pmax pmax
comp=Z,100nm,4.8s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,100nm,16.0s
YULB **Yu-li** 73.21 302 P **P** 07 39 21.2 -0.5
CISI **Cisompet, Garu** 73.51 267 P **P** 07 39 22.8 -0.9
CISI **Cisompet, Garu** 73.51 267 P **P** 07 39 22.9 -0.8
comp=Z,55nm,0.7s
SSLB **Suanglung** 73.68 303 P **P** 07 39 23.9 -0.5
SSLB IAmb IAmb 07 39 24.8
comp=Z,67nm,1.0s
TPUB **Ta-pu** 73.70 302 P **P** 07 39 24.5 0.0
YHNB **Yeheng** 73.78 304 P **P** 07 39 25.1 +0.1
LEM **Lembang** 73.91 268 P **P** 07 39 26.7 +0.6
comp=Z,170nm,0.8s,baz=26,slow=4.4,SNR=24
KSM **Kuching** 73.99 277 P **P** 07 39 27.0 +0.6
PET **Petropavlovsk** 74.43 345 *e*P **P** 07 39 27.2 -0.8
PET *e*S **S** 07 48 32.8 0.0
PET pmax pmax
comp=Z,66nm,1.2s
YSS **Yuzh-Sakhalins** 74.66 333 *e*P **P** 07 39 29.8 +0.4
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,300nm,22.0s
CHNA **Chernabura Isl** 74.74 10 P **P** 07 39 29.1 -0.6
baz=197,SNR=8.8
PEA0B **Petropavlovsk-** 74.74 345 *ce*P **P** 07 39 29.2 -0.6
PEA0B **Petropavlovsk-** 74.74 345 P **P** 07 39 30.0 +0.2
PEA0B IAmb IAmb 07 39 30.8
comp=Z,144nm,1.1s
PETK **Petropavlovsk-** 74.74 345 P **P** 07 39 29.0 -0.8
comp=Z,65nm,0.8s,baz=156,slow=8.8,SNR=82
PETK pP **pP** 07 40 48.8 +0.3
comp=Z,9.4nm,0.8s,baz=146,slow=5.9,SNR=3.5
PETK **Petropavlovsk-** 74.74 345 P **P** 07 39 29.6 -0.2
PETK **Petropavlovsk-** 74.74 345 P **P** 07 39 29.6 -0.2
SDPT **Sand Point** 75.09 10 P **P** 07 39 30.9 -0.7
baz=196,SNR=14
SNCC **San Nicolas Is** 75.41 47 P **P** 07 39 32.9 -1.2
baz=236
SCZ2 **Santa Cruz Isl** 75.75 46 P **P** 07 39 38.0 +2.0
baz=236
SCI2 **San Clemente I** 75.94 48 P **P** 07 39 38.6 +1.5
baz=236

SBC	Santa Barbara	75.95	46	P	P	07 39 38.6	+1.6
	baz=235						
KSRS	Korea Array	76.09	318	P	P	07 39 38.3	+0.6
	comp=Z,12nm,0.8s,baz=132,slow=6.5,SNR=30						
KSRS				pP	pP	07 40 56.8	+0.1
	comp=Z,0.3nm,0.3s,baz=278,slow=37,SNR=1.0						
KSRS				PP	PP	07 42 40.2	+5.8
	comp=Z,2.2nm,0.8s,baz=122,slow=11,SNR=4.9						
PKM	Mcpherson Peak	76.14	45	P	P	07 39 40.2	+1.9
	baz=235,SNR=14						
SAO	San Andreas Ge	76.14	43	P	P	07 39 39.5	+1.4
SAO				pmax	pmax		
	comp=Z,62nm,1.0s						
SAO	San Andreas Ge	76.14	43	P	P	07 39 39.5	+1.4
SAO				IAmb	IAmb	07 39 41.1	
	comp=Z,62nm,0.9s						
PMPB	Monarch Peak	76.25	44	P	P	07 39 40.4	+1.6
PMPB				IAmb	IAmb	07 39 41.4	
	comp=Z,44nm,0.9s						
SMMC	Simmler	76.26	45	P	P	07 39 41.2	+2.4
	baz=235						
CIS	Catalina Islan	76.27	47	P	P	07 39 40.5	+1.6
	baz=236						
PAGB	Antelope Grade	76.33	45	P	P	07 39 41.0	+1.8
HOPS	Hopland Field	76.46	40	P	P	07 39 41.1	+1.3
HOPS				IAmb	IAmb	07 39 42.8	
	comp=Z,100nm,1.2s						
FMP	Fort Macarthur	76.52	47	P	P	07 39 41.9	+1.7
	baz=236						
KCPM	Cahto Peak	76.58	40	P	P	07 39 41.9	+1.3
KCPM				IAmb	IAmb	07 39 43.7	
	comp=Z,124nm,1.4s						
BLSI	Bandar Lampung	76.60	269	P	P	07 39 40.6	-0.6
OSI	Osito Audit: C	76.73	46	P	P	07 39 43.1	+1.7
	baz=236,SNR=5.2						
OSI	Osito Audit: C	76.73	46	P	P	07 39 42.9	+1.5
OSI				IAmb	IAmb	07 39 44.5	
	comp=Z,57nm,1.1s						
DECC	Green Verdugo	76.79	47	P	P	07 39 43.0	+1.2
	baz=236						
109C	Camp Elliot, M	76.91	48	P	P	07 39 43.9	+1.5
	baz=237						
CBX	Cerro Bola	76.92	49	P	P	07 39 43.9	+1.2
ARVC	Arvin	76.94	46	P	P	07 39 44.0	+1.4
	baz=236,SNR=12						
TKX	Tecate	77.09	49	P	P	07 39 44.7	+1.2
VES	Vestal, Richgr	77.17	45	P	P	07 39 45.0	+1.2
	baz=236,SNR=26						
KHMM	Horse Mountain	77.23	39	P	P	07 39 45.6	+1.4
KHMM				IAmb	IAmb	07 39 47.5	
	comp=Z,57nm,1.1s						
MURC	Murrieta	77.23	48	P	P	07 39 45.7	+1.5
	baz=237,SNR=13						
VOG	Valley Oaks Go	77.24	44	P	P	07 39 45.4	+1.2
	baz=235						
BFSC	Mount Baldy Ra	77.25	47	P	P	07 39 45.9	+1.5
	baz=237,SNR=19						
KASI	Kota Agung	77.26	268	P	P	07 39 43.5	-1.3
	comp=Z,147nm,1.0s						
VLA	Vladivostok	77.29	324	*i* P	P	07 39 43.9	-0.3
VLA				pmax	pmax		
	comp=Z,30nm,0.7s						
MSHR	Mys Shultsa	77.34	324	*ce*P	P	07 39 44.3	-0.3
MSHR				pmax	pmax		
	comp=Z,31nm,0.7s						
O02D	Mt. Diablo Mer	77.36	40	P	P	07 39 47.0	+2.2
	baz=232,SNR=45						
EDW2	Edwards Air Fo	77.37	46	P	P	07 39 46.8	+1.8
	baz=236,SNR=45						
MONP2	Monument Peak	77.40	49	P	P	07 39 47.3	+1.9
	baz=238,SNR=19						
IKP	In-Ko-Pah, Jac	77.49	49	P	P	07 39 47.7	+2.0
	baz=238,SNR=8.6						
CMB	Columbia Colle	77.57	43	P	P	07 39 47.3	+1.3
CMB				pmax	pmax		
	comp=Z,48nm,1.1s						
CMB	Columbia Colle	77.57	43	P	P	07 39 47.3	+1.3
CMB				IAmb	IAmb	07 39 48.6	
	comp=Z,48nm,1.1s						
TYV	Tymovskoe	77.74	335	*e*P	P	07 39 46.5	0.0
TYV				*e*S	S	07 49 03.8	-5.0
TYV				pmax	pmax		
	comp=Z,38nm,1.3s						
TYV				smax	smax		
	comp=N,13nm,2.8s						
TYV				smax	smax		
	comp=E,600nm,8.4s						
AFDM	Forest Hills D	77.74	42	P	P	07 39 47.9	+1.0
AFDM				IAmb	IAmb	07 39 49.5	
	comp=Z,50nm,1.1s						
PFO	Pinyon Flats O	77.75	48	P	P	07 39 48.8	+1.5
	baz=238,SNR=12						
TPFO	Pinon Flats	77.75	48	P	P	07 39 48.7	+1.5
	baz=238,SNR=15						
WDC	Whiskeytown Da	77.75	39	P	P	07 39 48.3	+1.4
WDC				pmax	pmax		
	comp=Z,80nm,1.4s						
WDC	Whiskeytown Da	77.75	39	P	P	07 39 48.3	+1.4
WDC				IAmb	IAmb	07 39 49.9	
	comp=Z,80nm,1.4s						
ORV	Oroville	77.77	41	P	P	07 39 48.2	+1.2
ORV				pmax	pmax		
	comp=Z,51nm,1.2s						
ORV	Oroville	77.77	41	P	P	07 39 48.2	+1.2
ORV				IAmb	IAmb	07 39 49.6	
	comp=Z,51nm,1.1s						
BBRC	Big Bear Solar	77.78	47	P	P	07 39 48.9	+1.4
	baz=237						
SWSC	Sam W. Stewart	77.87	49	P	P	07 39 49.6	+1.9
	baz=238,SNR=7.2						
MDSI	Maura Dua	77.88	269	P	P	07 39 47.2	-1.0
	comp=Z,22nm,0.9s						
SLBS	Sierra La Lagu	77.89	60	P	P	07 39 49.7	+1.6
SLBS				IAmb	IAmb	07 39 51.2	
	comp=Z,43nm,0.8s						
N02D	Trinity Center	77.90	39	P	P	07 39 49.7	+1.9
	baz=232,SNR=36						
LRMC	Laurel Mtn Rad	77.92	46	P	P	07 39 49.7	+1.6
	baz=236						
USRK	Ussuriysk Ar.	77.94	325	P	P	07 39 47.5	-0.3
	comp=Z,6.1nm,0.7s,baz=179,slow=2.4,SNR=14						
O03E	Paynes Creek	78.03	40	P	P	07 39 49.9	+1.3
	baz=233,SNR=45						
RRX	Edison Barstow	78.06	47	P	P	07 39 50.3	+1.6
	baz=237						
M02C	Callahan	78.07	39	P	P	07 39 50.8	+2.1
	baz=232,SNR=31						
L02E	Cave Junction	78.11	38	P	P	07 39 50.5	+1.7
	baz=231,SNR=6.2						
CWC	Cottonwood Cre	78.18	45	P	P	07 39 51.0	+1.5
	baz=236						
OHAK	Old Harbor	78.20	13	P	P	07 39 49.3	+0.4
	baz=203,SNR=42						
BELC	Belle Mtn. Jos	78.28	48	P	P	07 39 52.0	+1.9
	baz=238,SNR=39						
MLAC	Mammoth, Mammo	78.34	44	P	P	07 39 52.4	+1.9
	baz=235						
YBH	Yreka Blue Hor	78.36	38	P	P	07 39 52.0	+1.7
YBH				pmax	pmax		
	comp=Z,37nm,1.0s						
YBH	Yreka Blue Hor	78.36	38	P	P	07 39 52.0	+1.7
MPMC	Manual Prospec	78.36	46	P	P	07 39 52.3	+1.7
	baz=237,SNR=51						
K02D	Willamette Mer	78.41	37	P	P	07 39 52.3	+1.8
	baz=231,SNR=9.2						
GSC	Goldstone, Bar	78.42	47	P	P	07 39 52.1	+1.3
GSC				pmax	pmax		
	comp=Z,56nm,1.1s						
GSC	Goldstone, Bar	78.42	47	P	P	07 39 52.4	+1.6
	baz=237,SNR=26						
GSC	Goldstone, Bar	78.42	47	P	P	07 39 52.1	+1.3
GSC				IAmb	IAmb	07 39 53.6	
	comp=Z,56nm,1.1s						
TIN	Tinemaha, Big	78.42	44	P	P	07 39 52.7	+1.9
	baz=236						
BC3	Big Chuckawall	78.49	49	P	P	07 39 53.3	+2.0
	baz=238,SNR=18						
HEC	Hector,Ludlow	78.49	47	P	P	07 39 52.8	+1.6
	baz=238,SNR=28						
J01E	Myrtle Point	78.55	37	P	P	07 39 52.8	+1.6
	baz=231,SNR=10.0						
GLA	Glamis	78.62	49	P	P	07 39 54.0	+2.2
	baz=239,SNR=9.0						
BEKR	Beckworth	78.66	41	P	P	07 39 53.1	+1.0
BEKR				IAmb	IAmb	07 39 54.8	
	comp=Z,64nm,1.2s						
PNTR	Pine Nut	78.69	42	P	P	07 39 53.5	+1.2
HUMO	Hull Mountain	78.76	38	P	P	07 39 54.1	+1.8
HUMO				IAmb	IAmb	07 39 55.6	
	comp=Z,50nm,1.2s						
VCNR	Virginia City	78.78	42	P	P	07 39 54.1	+1.3
KDAK	Kodiak Island	78.87	13	P	P	07 39 53.2	+0.7
	baz=204						
L04D	Klamath Falls	78.90	38	P	P	07 39 54.8	+1.5
	baz=232,SNR=31						
M04C	Macdoel	78.91	39	P	P	07 39 55.0	+1.6
	baz=232,SNR=41						
GMRC	Granite Mounta	78.94	47	P	P	07 39 55.2	+1.6
	baz=238,SNR=26						
GRAC	Grapevine Rang	78.96	45	P	P	07 39 55.6	+2.0
	baz=236,SNR=69						
IRM	Iron Mountain	78.97	48	P	P	07 39 55.7	+2.0
	baz=238,SNR=47						
FURC	Furnace Creek,	79.01	45	P	P	07 39 55.3	+1.6
	baz=237,SNR=5.7						
TUQ	Turquoise Moun	79.10	47	P	P	07 39 56.2	+1.7
	baz=238,SNR=12						
SHOC	Shoshone, Teco	79.11	46	P	P	07 39 55.8	+1.5
	baz=237,SNR=13						
NVAR	Mina Array Bea	79.14	43	P	P	07 39 56.4	+1.6
	comp=Z,37nm,0.8s,baz=225,slow=8.8,SNR=253						
NVAR				pP	pP	07 41 15.7	+1.3
	comp=Z,1.6nm,1.0s,baz=360,slow=24,SNR=2.0						
NVAR				PKKPbc	PKKPbc	07 58 44.9	-0.3
	comp=Z,0.1nm,0.4s,baz=62,slow=4.2,SNR=4.4						
I02D	Swisshome	79.19	36	P	P	07 39 56.4	+1.8
	baz=231,SNR=6.8						
I03D	Drain, OR	79.22	37	P	P	07 39 56.4	+1.6
	baz=231,SNR=22						
NJ2	Nanjing	79.37	309	*e*P	P	07 39 58.1	+2.3
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
K04D	Chiloquin, OR	79.47	38	P	P	07 39 57.9	+1.6
	baz=232						
MDJ	Mudanjiang	79.52	324	P	P	07 39 57.1	+0.8
MDJ				S	S	07 49 34.0	+6.2
MDJ				pmax	pmax		
	comp=Z,45nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,370nm,6.5s						
214A	Organ Pipe Nat	79.54	51	P	P	07 39 59.0	+2.2
	baz=240						
J04D	Umpqua Nationa	79.64	37	P	P	07 39 59.0	+1.7
	baz=232						
NEE2	Needles Airpor	79.66	48	P	P	07 39 59.1	+1.8
	baz=239						
TPNV	Topopah Spring	79.69	45	P	P	07 39 59.4	+1.7
	baz=237						
PDMCI	Parker Dam,Lak	79.76	49	P	P	07 39 59.8	+2.0
	baz=239						
I04A	Tendick Farm,	79.81	37	P	P	07 39 59.4	+1.4
	baz=232						
H04D	Lebanon	80.08	36	P	P	07 40 00.9	+1.6
	baz=231						
J05D	Fort Rock, OR	80.17	38	P	P	07 40 02.0	+1.9
	baz=233						
SHPR	Sheep Range	80.19	46	P	P	07 40 01.8	+1.5
SHPR				IAmb	IAmb	07 40 03.6	
	comp=Z,96nm,1.8s						
G03D	McMinnville, O	80.22	35	P	P	07 40 01.8	+1.8
	baz=231						
O18K	Koktuh Hills	80.27	11	P	P	07 40 00.3	+0.3
	baz=201						
GRNR	Gornyy	80.29	332⇑	*i* P	P	07 40 00.5	+0.2
GRNR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,90nm,20.0s						
GRNR				MLR	MLR		
	comp=N,100nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,130nm,20.0s						
W13A	Hualapai Mount	80.34	48	P	P	07 40 02.8	+1.5
P19K	Oil Pt	80.46	12	P	P	07 40 01.2	+0.2
	baz=203						
H04A	Detroit Lake	80.48	36	P	P	07 40 02.3	+0.8
H04A				IAmb	IAmb	07 40 03.2	
	comp=Z,45nm,0.8s						
PINE	Pine Mountain	80.65	38	P	P	07 40 04.2	+1.5
I05D	Terrebonne, OR	80.75	37	P	P	07 40 04.5	+1.5
	baz=232						
O19K	Port Alsworth	80.75	11	P	P	07 40 02.4	-0.1
	baz=202						
HOM	Homer	80.79	13	P	P	07 40 03.1	+0.5
	baz=204						
R11A	Troy Canyon, C	80.88	44	P	P	07 40 05.3	+1.4
	baz=238						
F04D	Rainier, OR	80.90	35	P	P	07 40 05.5	+1.9
	baz=231						
N18K	Kilae Creek	80.93	10	P	P	07 40 03.5	0.0
	baz=200						
O20K	Slope Mountain	80.97	12	P	P	07 40 03.6	-0.1
	baz=204						
DL2	Dalian	80.99	316	P	P	07 40 05.8	+1.6
DL2				pmax	pmax		
	comp=Z,34nm,0.7s						
BRSE	Bradley Lake S	81.05	13	P	P	07 40 04.6	+0.4
	baz=205						
TUC	Tucson	81.21	52	P	P	07 40 08.3	+2.6
	baz=241						
WVOR	Wild Horse Val	81.21	40	P	P	07 40 06.3	+0.8
WVOR				IAmb	IAmb	07 40 08.4	
	comp=Z,81nm,1.1s						
NLWA	Neilton Lookou	81.28	33	P	P	07 40 06.8	+1.3
NLWA				IAmb	IAmb	07 40 08.5	
	comp=Z,59nm,0.9s						
DIB	Dawson Inlet,	81.30	25	P	P	07 40 06.5	+1.0
DIB				IAmb	IAmb	07 40 07.6	
	comp=Z,52nm,1.0s						
N19K	Bonanza Creek	81.30	11	P	P	07 40 05.0	-0.4
	baz=202						
G05D	Wamic, OR	81.31	36	P	P	07 40 07.2	+1.4
	baz=232						
CN2	Changchun	81.38	322	*e*P	P	07 40 06.7	+0.6
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
KLR	Kul'dur	81.40	329	P	P	07 40 06.2	+0.1
	comp=Z,17nm,1.0s,baz=120,slow=4.3,SNR=13						
E04D	Cinebar	81.44	35	P	P	07 40 08.2	+1.8
	baz=231						
F05D	White Salmon	81.63	36	P	P	07 40 08.9	+1.4
	baz=232						
I07A	Izee	81.66	38	P	P	07 40 09.1	+1.4
I07A				IAmb	IAmb	07 40 10.7	
	comp=Z,66nm,1.0s						
SEW	Seward	81.66	14	P	P	07 40 07.0	-0.2
	baz=206						
SEW	Seward	81.66	14	P	P	07 40 07.2	0.0
SEW				IAmb	IAmb	07 40 08.3	
	comp=Z,68nm,1.0s						
D04E	Lakebay	81.72	34	P	P	07 40 09.9	+2.1
	baz=231						
X16A	Lo Mia Camp, P	81.75	50	P	P	07 40 10.5	+2.0
X16A				IAmb	IAmb	07 40 12.2	
	comp=Z,72nm,1.0s						
D03D	Eldon	81.78	34	P	P	07 40 09.8	+1.7
	baz=231						
O22K	Cooper Landing	81.94	13	P	P	07 40 08.4	-0.3
	baz=206						
SPR3	Spring Creek 3	82.06	44	P	P	07 40 10.6	+0.3
KNB	Kanab	82.06	47	P	P	07 40 11.6	+1.5
KNB				pmax	pmax		
	comp=Z,32nm,0.9s						
KNB	Kanab	82.06	47	P	P	07 40 11.6	+1.5
SPCR	Spurr Chakacha	82.08	12	P	P	07 40 08.7	-0.8
	baz=204						
MA2	Magadan	82.27	344	P	P	07 40 09.5	-0.8
	comp=Z,26nm,0.9s,baz=132,slow=5.7,SNR=18						
MA2	Magadan	82.27	344	*ce*P	P	07 40 09.0	-1.4
MA2				pmax	pmax		
	comp=Z,38nm,1.0s						
GAMB	Gambell	82.30	2	P	P	07 40 11.3	+0.9
	baz=185						
WUAZ	Wupatki	82.33	49	P	P	07 40 13.5	+2.0
	baz=241						
ELK	Elko	82.39	43	P	P	07 40 13.0	+1.2
ELK				pmax	pmax		
	comp=Z,49nm,1.1s						
ELK	Elko	82.39	43	P	P	07 40 13.0	+1.2
ELK				IAmb	IAmb	07 40 14.4	
	comp=Z,49nm,1.1s						
F07A	Phinny Hill Vi	82.49	36	P	P	07 40 13.0	+1.2
F07A				IAmb	IAmb	07 40 14.4	
	comp=Z,52nm,0.9s						
RC01	Rabbit Creek A	82.49	13	P	P	07 40 11.6	+0.1
	baz=206						
RC01	Rabbit Creek A	82.49	13	P	P	07 40 11.6	+0.1
RC01				IAmb	IAmb	07 40 12.7	
	comp=Z,91nm,1.1s						
L19K	White Mountain	82.51	10	P	P	07 40 12.0	+0.3
	baz=201						
M20K	Styx River	82.54	11	P	P	07 40 11.2	-0.6
	baz=203						
PWL	Port Wells	82.59	14	P	P	07 40 11.8	-0.2
SUA	Susitna One	82.62	12	P	P	07 40 12.2	-0.1
	baz=205						
SUA	Susitna One	82.62	12	P	P	07 40 12.0	-0.3
PMSA	Palmer Station	82.62	157	P	P	07 40 13.1	+0.9
PMSA	Palmer Station	82.62	157	*e*P	P	07 40 13.6	+1.3
A04D	Lummi Island	82.72	33	P	P	07 40 14.8	+1.9
	baz=231,SNR=9.1						
CRAG	Craig	82.73	24	P	P	07 40 13.9	+1.1
	baz=222,SNR=7.7						
B05A	Bryant	82.75	34	P	P	07 40 14.5	+1.4
	baz=232,SNR=37						
X18A	Snowflake	82.88	50	P	P	07 40 16.2	+1.8
GLI	Glacier Island	82.89	14	P	P	07 40 13.6	0.0
	baz=209,SNR=15						
E07A	Sunnyside	82.92	36	P	P	07 40 15.9	+1.8
EYAK	Cordova Ski Ar	82.93	15	P	P	07 40 13.7	0.0
	baz=210,SNR=14						
SKT	Skwentna	82.93	12	P	P	07 40 12.5	-1.2
	baz=204,SNR=21						
HAWA	Hanford	83.00	36	P	P	07 40 15.5	+1.0
KNK	Knik Glacier	83.06	13	P	P	07 40 14.5	+0.1
	baz=207,SNR=16						
SIT	Sitka	83.14	22	P	P	07 40 15.8	+0.9
	baz=220						
C06D	Leavenworth	83.18	34	P	P	07 40 16.2	+0.8
	baz=232						
W18A	Petrified Fore	83.31	50	P	P	07 40 18.4	+1.8
	baz=242,SNR=23						
SML	Sawmill	83.44	13	P	P	07 40 16.1	-0.2
	baz=207,SNR=16						
MFID	Camas Ranch	83.47	40	P	P	07 40 18.3	+1.2
MFID				IAmb	IAmb	07 40 19.7	
	comp=Z,61nm,1.1s						
ANM	Nome	83.48	5	P	P	07 40 17.2	+0.8
	baz=191,SNR=6.6						
MAW	Mawson	83.54	200	P	P	07 40 16.8	-0.1
	comp=Z,16nm,0.6s,baz=135,slow=5.4,SNR=71						
MAW	Mawson	83.54	200	P	P	07 40 16.8	-0.1
	baz=84,SNR=59						
121A	Cookes Peak, D	83.56	53	P	P	07 40 20.4	+2.6
	baz=243,SNR=25						
CUT	Chulitna	83.57	12	P	P	07 40 16.8	-0.1
	baz=206,SNR=23						
BMRM	Bremner River	83.57	15	P	P	07 40 17.3	+0.3
	baz=211,SNR=36						
BMRM	Bremner River	83.57	15	P	P	07 40 17.4	+0.3
WAX	Waxell Ridge	83.58	16	P	P	07 40 17.7	+0.6
MESA	MESA	83.60	17	P	P	07 40 18.3	+0.9
	baz=213,SNR=10						
PPLA	Purkeypile	83.65	11	P	P	07 40 16.1	-1.4
	baz=204,SNR=10						
DUG	Dugway, Tooele	83.68	44	P	P	07 40 19.4	+1.1
	baz=239,SNR=14						
KLU	Klutina	83.71	14	P	P	07 40 17.9	+0.1
	baz=210,SNR=28						
IPM	Ipoh	83.72	277	P	P	07 40 20.0	+1.1
WRAK	Wrangell Islan	83.73	23	P	P	07 40 19.0	+1.1
	baz=222,SNR=13						
D08A	Wollman Farm,	83.73	36	P	P	07 40 19.4	+1.3
D08A				IAmb	IAmb	07 40 20.8	
	comp=Z,72nm,0.9s						
CRQE	Cirque	83.78	16	P	P	07 40 18.6	+0.5
	baz=212,SNR=32						
YAH	Yahtse	83.81	17	P	P	07 40 19.4	+0.9
TGL	Tana Glacier	83.85	16	P	P	07 40 18.8	+0.2
PINM	Pinnacle	84.01	18	P	P	07 40 19.6	+0.3
	baz=215,SNR=8.1						
N25K	Chitina, Valde	84.12	15	P	P	07 40 20.3	+0.5
	baz=211,SNR=64						
M24K	Tolsona, Glenn	84.18	14	P	P	07 40 21.0	+0.8
	baz=209,SNR=48						
WAT6	Susitna Watana	84.25	13	P	P	07 40 20.6	+0.1
	baz=208,SNR=82						
TNA	Tin City	84.27	4	P	P	07 40 21.0	+0.6
	baz=189,SNR=23						
WAT1	Susitna Watana	84.30	13	P	P	07 40 20.6	-0.1
	baz=207						
MCARA	McCarthy VSAT	84.33	16	P	P	07 40 21.2	+0.4
	baz=212,SNR=14						
JIS	Juneau Island	84.40	21	P	P	07 40 22.1	+1.0
BARN	Barnard Glacie	84.42	16	P	P	07 40 22.0	+0.5
CTG	Chitna Glacier	84.42	17	P	P	07 40 22.0	+0.6
	baz=214,SNR=26						
TRF	Thorofare Moun	84.51	12	P	P	07 40 21.4	-0.4
	baz=206,SNR=186						
TRF	Thorofare Moun	84.51	12	P	P	07 40 21.2	-0.6
C09A	Chrisman Ranch	84.53	35	P	P	07 40 23.1	+1.0
C09A				IAmb	IAmb	07 40 24.3	
	comp=Z,35nm,0.8s						
CHUM	Lake Minchumin	84.53	11	P	P	07 40 21.2	-0.5
	baz=204,SNR=77						
CTU	Camp Tracy	84.63	44	P	P	07 40 24.0	+1.0
SRU	San Rafael Swe	84.67	46	P	P	07 40 24.3	+1.0
SRU				pmax	pmax		
	comp=Z,35nm,0.8s						
SRU	San Rafael Swe	84.67	46	P	P	07 40 24.3	+1.0
SRU				IAmb	IAmb	07 40 25.9	
	comp=Z,35nm,0.8s						
HARP	HAARP	84.68	14	P	P	07 40 23.0	+0.5
	baz=210,SNR=24						
SEY	Seymchan	84.81	347	P	P	07 40 22.9	-0.2
	comp=Z,27nm,0.5s,baz=147,slow=5.4,SNR=88						
SEY	Seymchan	84.81	347	*d i* P	P	07 40 22.6	-0.5
Y22D	IRIS PASSCAL I	84.90	52	P	P	07 40 26.6	+2.1
	baz=244,SNR=5.2						
LENM	Lemitar	84.90	52	P	P	07 40 26.0	+1.5
BPAW	Bear Paw Mtn.	84.97	11	P	P	07 40 22.8	-1.1
	baz=205,SNR=32						
SKAG	Skagway	85.00	20	P	P	07 40 25.5	+1.5
	baz=219,SNR=6.5						
MNTX	Cornudas Mount	85.03	54	P	P	07 40 27.2	+2.3
	baz=245,SNR=85						
MCK	McKinley	85.03	12	P	P	07 40 24.1	-0.2
	baz=207,SNR=119						
PAX	Paxson	85.10	14	P	P	07 40 24.4	-0.3
	baz=210,SNR=52						
BNM	Barren Site	85.15	52	P	P	07 40 26.9	+1.1
PV05	Paradox Valley	85.16	47	P	P	07 40 27.2	+1.5
MVCO	Mesa Verde	85.18	48	P	P	07 40 27.2	+1.3
	baz=242,SNR=6.1						
BJT	Baijiatuau	85.19	315	P	P	07 40 25.6	+0.1
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	Baijiatuau	85.19	315	P	P	07 40 25.6	+0.1
BJI	Beijing	85.19	315	P	P	07 40 26.2	+0.7
BJI				pmax	pmax		
	comp=Z,14nm,1.0s						
HWUT	Hardware Ranch	85.21	43	P	P	07 40 26.3	+0.4
PV10	Paradox Valley	85.34	47	P	P	07 40 27.8	+1.2
PV19	Morning Glory	85.35	47	P	P	07 40 27.2	+0.6
PV14	Lion Creek, Pa	85.35	47	P	P	07 40 27.7	+1.0
PV17	East Wray Mesa	85.35	47	P	P	07 40 27.5	+0.9
PV18	Skein Mesa, Pa	85.37	47	P	P	07 40 27.5	+0.7
TX32	Lajitas Array	85.38	57	P	P	07 40 29.4	+2.5
TXAR	Lajitas Array	85.38	57	P	P	07 40 29.5	+2.6
	comp=Z,68nm,1.0s,baz=224,slow=5.2,SNR=400						
TXAR				PKKPbc	PKKPbc	07 58 29.8	-0.2
	comp=Z,0.2nm,0.6s,baz=184,slow=3.8,SNR=3.9						
TXAR	Lajitas Array	85.38	57	P	P	07 40 29.4	+2.5
PV13	Radium Mtn., P	85.

baz=208,SNR=105
MCMT McKenzie Canyo 86.04 40 P **P 07 40 31.1 +1.2**
L27K Beaver Creek, 86.05 15 P **P 07 40 29.7 +0.5**
baz=213,SNR=46
BCAR Beaver Creek A 86.06 15 P **P 07 40 29.7 +0.4**
DLBC Dease Lake 86.06 23 P **P 07 40 30.2 +0.7**
DLBC IAmb IAmb 07 40 31.8
comp=Z,43nm,1.2s
WHY Whitehorse 86.07 19 P **P 07 40 30.3 +0.9**
baz=220,SNR=18
AHID Auburn Hatcher 86.09 42 P **P 07 40 31.4 +1.2**
KHON Khomkaen 86.09 289 P **P 07 40 33.5 +3.1**
I23K Minto, Yukon-K 86.22 11 P **P 07 40 29.3 -0.6**
baz=206,SNR=51
TCOL CIGO, UAF Yank 86.26 12 P **P 07 40 29.9 -0.2**
baz=208,SNR=64
COLA College 86.27 12*d i*P **P 07 40 29.6 -0.5**
COLA pmax pmax
comp=Z,200nm,0.9s
COLA College 86.27 12 P **P 07 40 30.0 -0.1**
baz=208
SCRK Sand Creek 86.31 14 P **P 07 40 30.9 +0.3**
baz=211,SNR=62
ILAR Eielson Array 86.37 12 P **P 07 40 30.2 -0.4**
comp=Z,66nm,1.0s,baz=225,slow=5.2,SNR=232
ILAR pP **pP 07 41 51.4 -0.5**
comp=Z,16nm,1.1s,baz=230,slow=5.6,SNR=4.8
ILAR PP **PP 07 43 56.4 -1.6**
comp=Z,3.0nm,0.9s,baz=218,slow=7.8,SNR=3.2
ILAR S **SKSac 07 50 21.4 -0.8**
comp=Z,0.2nm,0.5s,baz=240,slow=2.5,SNR=2.4
NONG Nongkai 86.41 290 P **P 07 40 33.5 +1.6**
comp=Z,2µmcomp=Z,21nm,1.1s
MSO Missoula 86.44 38 P **P 07 40 32.1 +0.5**
baz=238,SNR=21
MSO Missoula 86.44 38 P **P 07 40 31.8 +0.2**
ZEA Zeya 86.46 331 *e*P **P 07 40 31.6 +0.3**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,0.9s
DLMT Dillon 86.47 40 P **P 07 40 33.3 +1.5**
DLMT IAmb IAmb 07 40 34.6
comp=Z,46nm,0.9s
GYA Guiyang 86.48 299 ⇑P **P 07 40 33.3 +1.0**
REDW Red Top Meadow 86.54 42 P **P 07 40 33.4 +1.1**
REDW IAmb IAmb 07 40 35.1
comp=Z,62nm,1.6s
POKR Poker Plat Res 86.57 12 P **P 07 40 31.2 -0.5**
baz=208,SNR=14
POKR Poker Plat Res 86.57 12 P **P 07 40 31.1 -0.5**
S22A 4UR Ranch, Cre 86.60 48 P **P 07 40 34.6 +1.7**
baz=243,SNR=59
CHAI Chaiyaphum 86.69 288 P **P 07 40 37.7 +4.4**
O20A White River Ci 86.71 46 P **P 07 40 34.3 +1.2**
baz=242,SNR=12
LRM Limekiln Ridge 86.79 39 P **P 07 40 34.7 +1.2**
H23K Yukon River 86.80 11 P **P 07 40 32.2 -0.5**
baz=206,SNR=18
K27K Chicken 86.80 15 P **P 07 40 33.6 +0.8**
baz=213
LOHW Long Hollow 86.82 42 P **P 07 40 34.7 +1.1**
QLMT Earthquake Lak 86.91 40 P **P 07 40 36.0 +1.9**
BW06 Boulder Array 87.08 43 P **P 07 40 35.6 +0.7**
baz=241,SNR=22
BW06 Boulder Array 87.08 43 P **P 07 40 35.4 +0.5**
PD31 Pinedale Array 87.08 43 P **P 07 40 35.2 +0.3**
PDAR Pinedale Array 87.08 43 P **P 07 40 35.6 +0.7**
comp=Z,9.7nm,0.8s,baz=214,slow=3.0,SNR=99
PDAR pP **pP 07 41 56.9 +0.6**
comp=Z,3.1nm,1.0s,baz=229,slow=6.6,SNR=3.5
PDAR PP **PP 07 44 02.6 -1.9**
comp=Z,0.6nm,0.9s,baz=257,slow=12,SNR=2.8
PDAR PKKPbc **PKKPbc 07 58 24.9 -1.9**
comp=Z,0.4nm,0.6s,baz=105,slow=2.1,SNR=5.0
RDOG Red Dog Mine 87.11 5 P **P 07 40 36.6 +2.5**
baz=194
RDOG Red Dog Mine 87.11 5 P **P 07 40 36.0 +1.8**
RDOG IAmb IAmb 07 40 37.9
comp=Z,42nm,1.3s
YMR Madison River 87.12 41 P **P 07 40 36.8 +1.7**
YMR IAmb IAmb 07 40 38.4
comp=Z,39nm,0.9s
H24K Noodor Dome 87.12 12 P **P 07 40 33.0 -1.3**
baz=208,SNR=21
SMCO Snowmass 87.14 47 P **P 07 40 36.4 +0.9**
BOZ Bozeman (W) 87.17 40 P **P 07 40 36.1 +0.9**
BOZ pmax pmax
comp=Z,47nm,1.0s
BOZ Bozeman (W) 87.17 40 P **P 07 40 36.8 +1.6**
baz=240,SNR=75
BOZ Bozeman (W) 87.17 40 P **P 07 40 36.1 +0.9**
BOZ IAmb IAmb 07 40 37.9
comp=Z,47nm,0.9s
H17A Grant Village 87.22 41 P **P 07 40 38.4 +2.9**
baz=240,SNR=23
PRP Porcupine Dome 87.31 13 P **P 07 40 35.0 -0.3**
baz=210,SNR=48
PRP Porcupine Dome 87.31 13 P **P 07 40 34.8 -0.6**
PRP IAmb IAmb 07 40 37.2
comp=Z,34nm,0.9s
BILL Bilibino 87.33 354*c i*P **P 07 40 35.1 -0.1**
BILL *e**PP **pP 07 41 57.4 +0.9**
BILL *e* 07 44 09.3
BILL pmax pmax
comp=Z,56nm,1.0s
BILL Bilibino 87.33 354 P **P 07 40 35.0 -0.2**
BILL IAmb IAmb 07 40 36.4
comp=Z,56nm,1.1s
LKWY Lake 87.42 41 P **P 07 40 39.1 +2.6**
LKWY pmax pmax
comp=Z,38nm,0.9s
LKWY Lake 87.42 41 P **P 07 40 39.1 +2.6**
LKWY IAmb IAmb 07 40 40.5
comp=Z,38nm,0.9s
SDCO Great Sand Dun 87.55 49 P **P 07 40 38.5 +1.2**
baz=244,SNR=28
HRY Holter Researc 87.62 39 P **P 07 40 38.4 +1.2**
EGAK Eagle 87.65 15 P **P 07 40 37.3 +0.6**
baz=214,SNR=69
XAN Xi'an 87.70 307 P **P 07 40 38.8 +1.0**
XAN pmax pmax
comp=Z,46nm,0.5s
XAN Xi'an 87.70 307 P **P 07 40 39.2 +1.4**
XAN Xi'an 87.70 307 P **P 07 40 39.2 +1.4**
COLD Coldfoot 87.95 10 P **P 07 40 38.9 +0.8**
baz=205,SNR=109
COLD Coldfoot 87.95 10 P **P 07 40 38.9 +0.8**
COLD IAmb IAmb 07 40 40.0
comp=Z,66nm,0.8s
MSTX Muleshoe 87.97 53 P **P 07 40 40.3 +1.1**
baz=246
MSTX Muleshoe 87.97 53 P **P 07 40 39.9 +0.7**
MSTX IAmb IAmb 07 40 41.7
comp=Z,37nm,0.9s
T25A Trinidad 88.07 50 P **P 07 40 40.6 +0.9**
baz=245,SNR=14
RWWY Rawlins 88.12 45 P **P 07 40 40.7 +0.8**
Q24A Divide 88.32 48 P **P 07 40 42.2 +1.3**
baz=244
ISCO Idaho Springs 88.36 47 P **P 07 40 42.1 +1.0**
ISCO pmax pmax
comp=Z,7.0nm,1.1s
ISCO Idaho Springs 88.36 47 P **P 07 40 42.5 +1.4**
baz=244
ISCO Idaho Springs 88.36 47 P **P 07 40 42.1 +1.0**
RLMT Red Lodge 88.39 41 P **P 07 40 42.8 +1.8**
baz=241,SNR=27
833A Chaparral WMA, 88.44 60 P **P 07 40 43.1 +1.8**
baz=248
GCMT Greycliff 88.47 40 P **P 07 40 42.7 +1.5**
PHIT Phitsanulok 88.54 289 P **P 07 40 46.3 +4.3**
comp=Z,53nm,0.9s
UTTA Uttaradit 88.61 289 P **P 07 40 44.5 +2.2**
comp=Z,12nm,1.0s
N23A Red Feather La 88.62 46 P **P 07 40 43.6 +1.4**
baz=244,SNR=13
SYO Syowa Base 88.67 192⇑*i*P **P 07 40 41.0 -0.6**
SYO Syowa Base 88.67 192‖*e*PcP **P 07 40 42.2 +0.6**
HHC Hu-ho-hao-te 88.68 314 *e*P **P 07 40 41.4 -0.9**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,190nm,6.5s
JCT Junction City 88.92 57 P **P 07 40 44.9 +1.3**
baz=248

K22A Casper 89.01 44 P **P 07 40 45.0 +1.1**
baz=243,SNR=11
AMTX Amarillo 89.17 53 P **P 07 40 45.7 +1.0**
baz=246
KMI Kunming 89.27 297 ⇑P **P 07 40 47.3 +1.7**
KMI pmax pmax
comp=Z,20nm,1.1s
TOLK Toolik Lake Re 89.33 10 P **P 07 40 45.0 +0.4**
baz=206,SNR=34
EGMT Eagleton 89.49 38 P **P 07 40 47.1 +1.2**
baz=241,SNR=7.7
LAMP Lampang 89.70 290 P **P 07 40 49.0 +1.6**
comp=Z,39nm,0.8s
SNAA Sanae 89.79 178 P **P 07 40 46.5 -0.5**
SNAA Sanae 89.79 178*ce*P **P 07 40 45.9 -1.1**
SNAA pmax pmax
comp=Z,54nm,1.7s
SNAA Sanae 89.79 178 P **P 07 40 45.9 -1.1**
SNAA IAmb IAmb 07 40 47.5
comp=Z,32nm,1.0s
ABTX Abilene, Hawle 89.86 55 P **P 07 40 49.5 +1.6**
baz=248
ABTX Abilene, Hawle 89.86 55 P **P 07 40 49.0 +1.1**
ABTX IAmb IAmb 07 40 50.6
comp=Z,82nm,0.9s
VNA3 Neumayer Olymp 89.89 176 P **P 07 40 47.2 -0.2**
PLCA Paso Flores 89.92 133 P **P 07 40 50.0 +1.8**
comp=Z,15nm,1.0s,baz=238,slow=4.4,SNR=15
PLCA Paso Flores 89.92 133 P **P 07 40 50.0 +1.8**
PLCA Paso Flores 89.92 133 *eP* **P 07 40 50.0 +1.8**
EPYK Eagle Plains 90.03 15 P **P 07 40 48.3 +0.4**
baz=218,SNR=35
EPYK Eagle Plains 90.03 15 P **P 07 40 47.8 -0.1**
EPYK IAmb IAmb 07 40 49.4
comp=Z,82nm,1.1s
KSCO Kaye Shedlock' 90.13 49 P **P 07 40 50.2 +1.1**
baz=246
KSCO Kaye Shedlock' 90.13 49 P **P 07 40 49.8 +0.7**
KSCO IAmb IAmb 07 40 53.0
comp=Z,48nm,1.3s
CM04 Chiang Mai Arr 90.24 289 P **P 07 40 52.0 +2.1**
comp=Z,148nmcomp=Z,21nm,1.0s
CM04 Chiang Mai Arr 90.24 289 P **P 07 40 52.0 +2.1**
CM09 Chiang Mai Arr 90.24 289 P **P 07 40 52.2 +2.2**
comp=Z,20nm,1.0s
CM09 Chiang Mai Arr 90.24 289 P **P 07 40 52.0 +2.0**
CM01 Chiang Mai Arr 90.27 289 P **P 07 40 52.1 +2.1**
comp=Z,123nmcomp=Z,15nm,1.0s
CM01 Chiang Mai Arr 90.27 289 P **P 07 40 52.1 +2.1**
CM05 Chiang Mai Arr 90.27 289 P **P 07 40 52.1 +2.0**
comp=Z,108nmcomp=Z,14nm,0.9s
CM05 Chiang Mai Arr 90.27 289 P **P 07 40 52.1 +2.0**
CM02 Chiang Mai Arr 90.28 289 P **P 07 40 52.3 +2.2**
comp=Z,17nm,1.0s
CM02 Chiang Mai Arr 90.28 289 P **P 07 40 52.0 +1.9**
CMAR Chiang Mai Arr 90.29 289 P **P 07 40 51.6 +1.4**
comp=Z,9.8nm,0.8s,baz=113,slow=2.8,SNR=39
CMAR PP **PP 07 44 31.7 +1.6**
comp=Z,1.7nm,0.3s,baz=104,slow=5.7,SNR=4.7
CMAR PKKPbc **PKKPbc 07 58 18.7 +1.3**
comp=Z,1.8nm,0.6s,baz=281,slow=4.8,SNR=7.3
CMAR Chiang Mai Arr 90.29 289 P **P 07 40 50.9 +0.7**
CM13 Chiang Mai Arr 90.31 289 P **P 07 40 52.3 +2.0**
comp=Z,14nm,0.9s
CM13 Chiang Mai Arr 90.31 289 P **P 07 40 52.0 +1.7**
CMMT Chiang Mai 90.41 290 P **P 07 40 51.9 +1.2**
comp=Z,17nm,0.8s
CMMT Chiang Mai 90.41 290 P **P 07 40 52.0 +1.2**
CHTO Chiang Mai 90.41 290 P **P 07 40 50.4 -0.3**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 90.41 290 P **P 07 40 51.9 +1.2**
comp=Z,17nm,0.9s
CHTO Chiang Mai 90.41 290 P **P 07 40 50.4 -0.3**
CD2 Chengdu 90.51 302 P **P 07 40 52.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
VNA1 Neumayer--Stat 90.56 176 P **P 07 40 50.5 +0.1**
YAK Yakutsk 90.75 338*ce*P **P 07 40 49.2 -2.0**
YAK pmax pmax
comp=Z,18nm,0.5s
435B Jarrell 90.81 58 P **P 07 40 54.0 +1.7**
baz=249
435B Jarrell 90.81 58 P **P 07 40 53.4 +1.1**
435B IAmb IAmb 07 40 55.2
comp=Z,46nm,1.1s
LAO LASA Array 91.00 41 P **P 07 40 55.1 +2.2**
baz=244,SNR=42
RSSD Black Hills 91.28 44 P **P 07 40 55.4 +0.9**
baz=245
WMOK Wichita Mounta 91.31 54 P **P 07 40 55.5 +1.0**
baz=248
OGNE Ogallala 91.33 47 P **P 07 40 55.6 +1.0**
baz=246
WHTX Lake Whitney, 91.34 57 P **P 07 40 56.3 +1.6**
baz=249
CBKS Cedar Bluff 92.12 50 P **P 07 40 59.4 +1.2**
baz=248
INK Inuvik 92.31 15 P **P 07 40 58.4 +0.1**
comp=Z,69nm,0.9s
INK Inuvik 92.31 15 P **P 07 40 58.2 -0.1**
baz=221
INK Inuvik 92.31 15 IAmb IAmb 07 40 59.5
comp=Z,84nm,1.0s
LZH Lanzhou 92.33 307 *eP* **P 07 41 01.4 +2.0**
LZH pmax pmax
comp=Z,25nm,0.9s
FNO Franklin 92.56 54 P **P 07 41 01.7 +1.4**
OKCFA Oklahoma City 92.57 54 P **P 07 41 01.4 +1.0**
OKCFA IAmb IAmb 07 41 02.8
comp=Z,43nm,0.9s
KAN10 Anthony SW Sta 92.70 52 P **P 07 41 02.3 +1.3**
KAN10 IAmb IAmb 07 41 03.3
comp=Z,31nm,0.9s
KAN05 Bluff City Nor 92.86 52 P **P 07 41 02.5 +0.8**
KAN05 IAmb IAmb 07 41 03.5
comp=Z,26nm,0.8s
KAN13 South Haven SW 93.12 52 P **P 07 41 04.1 +1.2**
KAN13 IAmb IAmb 07 41 05.4
comp=Z,68nm,1.1s
NATX Nacogdoches 93.49 58 P **P 07 41 06.3 +1.6**
baz=250
X37A Clayton 93.89 55 P **P 07 41 06.8 +0.4**
TUL1 Leonard 94.01 54 P **P 07 41 08.2 +1.3**
baz=250
BGNE Belgrade 94.21 48 P **P 07 41 09.4 +1.6**
baz=249
K31A O'Neill 94.23 46 P **P 07 41 08.8 +1.0**
KSU1 Kansas State U 94.50 50 P **P 07 41 10.6 +1.5**
baz=250
YKA Yellowknife Ar 94.53 24 P **P 07 41 08.9 +0.3**
comp=Z,12nm,0.8s,baz=237,slow=4.3,SNR=24
ULN Ulaanbaatar 94.53 319*ce*P **P 07 41 08.5 -0.7**
ULN pmax pmax
comp=Z,10.0nm,1.3s
SUSD Miller 94.76 45 P **P 07 41 10.5 +0.4**
baz=249
SONM Songino Array 94.93 319 P **P 07 41 11.0 0.0**
comp=Z,2.5nm,0.6s,baz=143,slow=6.6,SNR=6.8
SONM PP **PP 07 45 00.2 -5.6**
comp=Z,1.0nm,0.6s,baz=108,slow=8.0,SNR=4.0
MIAR Mount Ida 95.27 55 P **P 07 41 14.8 +2.1**
baz=251
JTS Las Juntas de 95.27 81 *i* P **P 07 41 12.9 -0.3**
JTS pmax pmax
comp=Z,18nm,1.7s
W39A Magazine 95.32 55 P **P 07 41 14.4 +1.5**
baz=251
C36M Paulatuk 95.48 17 P **P 07 41 13.0 +0.2**
baz=230
MDND Maddock 95.59 41 P **P 07 41 14.6 +0.8**
baz=248
N35A Tabor 95.80 49 P **P 07 41 16.5 +1.5**
ECSD EROS Data Cent 96.09 46 P **P 07 41 16.7 +0.5**
baz=250
ECSD EROS Data Cent 96.09 46 P **P 07 41 16.3 +0.1**
ECSD IAmb IAmb 07 41 18.0
comp=Z,43nm,1.4s
U40A Yellville 96.41 54 P **P 07 41 18.6 +0.8**
baz=252
U40A Yellville 96.41 54 P **P 07 41 18.3 +0.5**
GTA Gaotai 96.47 309 *eP* **P 07 41 21.6 +3.4**
GTA pP pP 07 42 32.2 -8.4
GTA sP sP 07 43 06.4 -11
GTA pmax pmax
comp=Z,7.0nm,0.9s

W41B Gary Mavity, V 96.50 55 P **P 07 41 20.0 +1.7**
baz=252
MGMO Mountain Grove 97.10 53 P Pdif 07 41 21.7 +0.8
MGMO IAmb IAmb 07 41 23.0
comp=Z,18nm,0.8s
TIXI Tiksi 97.21 345 P **P 07 41 19.4 -1.1**
comp=Z,2.2nm,0.5s,baz=112,slow=8.3,SNR=4.7
TIXI PP **PP 07 45 18.4 -4.1**
comp=Z,3.6nm,0.8s,baz=121,slow=9.8,SNR=5.0
TIXI Tiksi 97.21 345 *i* P **P 07 41 18.4 -2.2**
SCIA State Center 97.86 49 P Pdif 07 41 26.2 +1.9
baz=252
TLY Talaya 97.98 322 *i* P **P 07 41 23.1 -1.4**
TLY pmax pmax
comp=Z,2.0nm,0.8s
AGMN Agassiz Nation 98.10 42 P Pdif 07 41 25.2 +0.1
baz=251
CCM Cathedral Cave 98.15 53 P Pdif 07 41 27.2 +1.6
baz=253
OXF Oxford 98.53 57 P **P 07 41 28.6 +1.3**
baz=253
SPMN Marine on St. 99.15 45 P **Pdif 07 41 31.2 +1.3**
baz=253
WVT Waverly 100.22 55 P **Pdif 07 41 36.1 +1.3**
baz=254
JFWS Jewell Farm 100.26 48 P **Pdif 07 41 36.5 +1.7**
baz=254
SFIN Lafayette 101.88 51 P **Pdif 07 41 43.9 +1.8**
baz=256
LPAZ La Paz 101.98 112 P **Pdif 07 41 46.6 +2.7**
comp=Z,1.5nm,0.7s,baz=146,slow=11,SNR=5.8
PLTB Pedras Altas 106.21 132 *eP* **PKiKP 07 46 10.2 -1.2**
NRIK Noril'sk 109.20 338 PP **PP 07 46 47.6 -3.6**
comp=Z,1.3nm,0.3s,baz=109,slow=8.8,SNR=4.5
ZALV Zalesovo Beam 109.59 322 PKiKP **PKiKP 07 46 15.9 -1.0**
comp=Z,1.1nm,0.6s,baz=357,slow=1.2,SNR=4.0
ZALV PP **PP 07 46 52.7 -1.8**
comp=Z,2.2nm,0.6s,baz=78,slow=8.4,SNR=6.5
ZALV PKKPbc **PKKPbc 07 57 22.4 -1.7**
comp=Z,1.6nm,0.5s,baz=273,slow=3.6,SNR=5.9
BINY Binghamton 110.44 51 P **PKiKP 07 46 19.4 +0.4**
baz=263
MKAR Makanchi Array 110.55 314 Pdiff **Pdif 07 42 21.2 +0.6**
comp=Z,0.1nm,0.4s,baz=258,slow=36,SNR=2.8
MKAR PKiKP **PKiKP 07 46 17.8 -1.3**
comp=Z,1.2nm,0.6s,baz=141,slow=0.6,SNR=7.0
MKAR PP **PP 07 47 01.9 +0.4**
comp=Z,3.4nm,1.0s,baz=92,slow=8.5,SNR=5.2
MKAR PKKPbc **PKKPbc 07 57 20.1 -0.7**
comp=Z,3.1nm,0.7s,baz=279,slow=3.8,SNR=21
MKAR PKKPab **PKKPab 07 57 31.5 +1.4**
comp=Z,1.3nm,1.1s,baz=256,slow=4.3,SNR=3.5
H58A Gabriels 111.98 49 P **PKiKP 07 46 22.5 +0.7**
baz=265
J61A Chester 113.06 50 P **PKiKP 07 46 24.1 +0.3**
baz=266
D58A Chemin du LacG 113.07 46 P **PKiKP 07 46 23.1 -0.6**
baz=267
KURK Kurchatov 113.21 318 *i* PKIKP **PKiKP 07 46 23.0 -0.9**
KURK Kurchatov 113.21 318 **PKiKP 07 46 23.0 -0.9**
KURK **PP 07 47 17.7 -2.5**
KURBB Kurchatov Arra 113.27 318 PKiKP **PKiKP 07 46 23.0 -1.0**
comp=Z,1.9nm,0.7s,baz=95,slow=1.8,SNR=15
KURBB PP **PP 07 47 17.7 -2.9**
comp=Z,3.8nm,1.0s,baz=89,slow=6.5,SNR=6.7
F60A Warwick 113.66 47 P **PKiKP 07 46 24.7 -0.2**
baz=267
J63A Strafford 114.14 50 P **PKiKP 07 46 26.1 +0.2**
baz=267
F61A St Evariste 114.32 47 P **PKiKP 07 46 26.3 +0.1**
baz=268
I63A Otisfield 114.54 49 P **PKiKP 07 46 27.2 +0.5**
baz=267
G62A West of Eustis 114.62 48 P PKPdf 07 46 26.8 0.0
baz=268
E61A Lac Etchemin 114.69 47 P **PKiKP 07 46 27.5 +0.5**
baz=268
F62A Pittston Farm, 115.04 47 P **PKPdf 07 46 27.2 -0.4**
baz=269
I64A Boothbay 115.21 50 P **PKPdf 07 46 27.8 -0.1**
baz=268
G63A Kingsbury 115.26 48 P **PKPdf 07 46 28.0 0.0**
baz=268
E62A Clayton Lake 115.36 47 P **PKiKP 07 46 28.5 +0.3**
baz=269
PKME Peaks-Kenny Pk 115.50 48 P **PKiKP 07 46 28.8 +0.3**
baz=269
H64A Troy 115.53 49 P **PKPdf 07 46 28.3 -0.3**
baz=269
F63A Nahmakanta, Br 115.64 48 P **PKiKP 07 46 28.8 +0.1**
baz=269
D62A Allapoint, All 115.69 46 P **PKPdf 07 46 28.5 -0.3**
baz=270
G64A Maxfield 115.88 48 P **PKiKP 07 46 29.6 +0.4**
baz=269
E63A Oxbow 116.12 47 P **PKPdf 07 46 28.8 -0.8**
baz=270
F64A Sherman 116.17 47 P **PKPdf 07 46 29.2 -0.6**
baz=270
H65A Eastbrook 116.23 49 P **PKiKP 07 46 30.2 +0.3**
baz=269
D63A Stockholm 116.33 46 P **PKPdf 07 46 29.4 -0.7**
baz=271
E64A Bridgewater 116.53 47 P **PKPdf 07 46 29.8 -0.6**
baz=270
G65A Princeton 116.72 48 P **PKPdf 07 46 30.4 -0.4**
baz=270
BVAR Borovoye Array 118.21 321 PKP **PKPdf 07 46 32.7 -0.8**
comp=Z,1.0nm,0.6s,baz=230,slow=11,SNR=8.3
BDFB Brasilia 119.39 121 PKP **PKPdf 07 46 36.6 -0.4**
comp=Z,6.8nm,0.7s,baz=202,slow=3.1,SNR=10
SJMB Sao Joao De Ma 122.97 128 *eP* **PKPdf 07 46 41.7 -2.0**
BSFB Barra de Sao F 123.14 129 *eP* **PKPdf 07 46 43.4 -0.6**
RIB01 Linhares ES 123.17 129 *eP* **PKPdf 07 46 44.0 -0.1**
ARU Arti 124.17 326 PKP **PKPdf 07 46 44.2 -0.6**
comp=Z,2.2nm,0.2s,baz=98,slow=1.8,SNR=10
ARU PP **PP 07 48 38.1 +3.3**
comp=Z,1.5nm,0.2s,baz=48,slow=4.9,SNR=10
ARU Arti 124.17 326 *i* PKIKP **PKPdf 07 46 44.1 -0.6**
ARU 07 48 34.2
ARU 07 53 20.4
NAN01 Guarapari, ES 124.29 128 *eP* **PKPdf 07 46 46.0 -0.2**
GUA01 Guaratinga, BA 125.31 127 *eP* **PKiKP 07 46 48.5 0.0**
AKTO Aktyubinsk 126.25 319 PKP **PKPdf 07 46 48.5 -0.5**
comp=Z,3.2nm,0.9s,baz=247,slow=0.5,SNR=8.2
AKTO PP **PP 07 48 45.8 -3.0**
comp=Z,2.3nm,0.9s,baz=79,slow=13,SNR=4.5
CMC01 Camacan, BA 126.27 126 *eP* **PKPdf 07 46 49.8 -0.2**
NBIT Itapeh - BA 126.59 126 *eP* **PKPdf 07 46 50.9 +0.2**
GDU01 Guandu, BA 127.21 125 *eP* **PKPdf 07 46 51.7 -0.2**
ARCES ARCESS Array B 127.29 350 PKP **PKPdf 07 46 50.4 0.0**
comp=Z,1.9nm,0.3s,baz=41,slow=0.8,SNR=28
PRGR Permogore 127.75 336 *e*PKIKP **PKPdf 07 46 48.4 -3.0**
PRGR *e* 07 48 54.6
PRGR pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 128.24 205 PKP **PKPdf 07 46 54.0 +0.3**
comp=Z,5.4nm,0.7s,baz=179,slow=5.0,SNR=8.3
NBPN Ponto Novo - B 128.37 121 *eP* **PKPdf 07 46 54.0 -0.1**
GEYT Alibeck 128.48 304 PKP **PKPdf 07 46 54.0 +0.3**
comp=Z,55nm,1.0s,baz=224,slow=6.2,SNR=5.8
GEYT PP **PP 07 49 02.3 -1.7**
comp=Z,1.6nm,0.4s,baz=68,slow=9.2,SNR=3.9
ROSB Rosrio 129.03 110 *eP* **PKiKP 07 46 55.9 -0.2**
KLMR Klimovskoe 130.54 337 *e*PKIKP **PKPdf 07 46 54.2 -2.6**
KLMR *e* 07 49 04.3
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 130.54 337 *e*PKPdf **PKPdf 07 46 54.2 -2.6**
KLMR AMP 07 47 10.9
comp=Z,14nm,1.4s
KLMR *e*PP **sPKPdf 07 49 04.3 +5.9**
KLMR *e*SKP **SKPbc 07 49 46.4 -0.4**
NBPS Pedro II - PI 130.69 113 *eP* **PKPdf 07 46 58.4 -0.3**
NBMA Muriti-CE 131.46 118 *eP* **PKiKP 07 47 00.6 -0.5**
BELG Belogornoye 131.62 325 PKP **PKPdf 07 46 58.9 -0.2**
comp=Z,15nm,0.9s,baz=46,slow=4.1,SNR=6.3
BELG SKPbc **SKPbc 07 49 50.2 -0.8**
comp=Z,26nm,0.9s,baz=169,slow=0.6,SNR=8.9
NBPB Pedra_Branca-C 131.73 116 *eP* **PKPdf 07 46 59.2 -1.4**
NBMO Morrinhos-CE 132.44 113 *eP* **PKiKP 07 47 02.9 -0.1**
FINES FINESS Array B 134.26 345 PKP **PKPdf 07 47 03.1 -0.6**
comp=Z,2.1nm,0.5s,baz=52,slow=2.3,SNR=9.1
FINES PP **PP 07 49 35.6 -4.0**
comp=Z,5.2nm,1.1s,baz=5.7,slow=5.7,SNR=4.3
FINES SKPbc **SKPbc 07 49 59.5 -0.2**
comp=Z,5.8nm,0.7s,baz=114,slow=3.4,SNR=8.9

OBN Obninsk 135.54 333 ⇊ePKIKP **PKPdf 07 47 05.0 -1.3**
OBN eSSS SSS 08 12 20.3
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN pmax pmax
comp=Z,11nm,0.4s
NB2 NORSAR Subarra 137.28 354 PKPdf PKPdf 07 47 00.3 -9.2
comp=Z,17nm,1.7s,baz=14,slow=1.8
NB2 NORSAR Subarra 137.28 354 PKPdf PKPpre 07 47 00.3
baz=14,slow=1.8
NOA NORSAR Array B 137.28 354 PKP **PKPdf 07 47 09.5 0.0**
comp=Z,0.6nm,0.5s,baz=14,slow=4.0,SNR=2.5
NOA SKPbc **SKPbc 07 50 09.4 +0.5**
comp=Z,1.8nm,0.8s,baz=14,slow=4.5,SNR=3.7
KBZ Khabaz 138.21 316 PKP **PKiKP 07 47 13.1 -0.7**
comp=Z,1.4nm,0.8s,baz=127,slow=2.0,SNR=4.8
KBZ PP **PP 07 50 02.6 -2.4**
comp=Z,1.4nm,0.5s,baz=60,slow=5.5,SNR=3.6
KBZ Khabaz 138.21 316 *i* PKIKP **PKPdf 07 47 10.8 -0.8**
KIV Kislovodsk 138.26 316 *e*PKIKP **PKPdf 07 47 12.3 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SOC Sochi 140.36 317 *e*PKHKP PKPpre 07 47 10.3
SOC *e*SS SS 08 08 03.3 -10
SOC *e*SSS SSS 08 13 26.4
KMBO Kilima Mbogo 140.90 244 PKP **PKPdf 07 47 19.1 +1.3**
comp=Z,2.9nm,0.8s,baz=271,slow=3.9,SNR=4.1
KMBO SKPbc **SKiKP 07 50 21.8 -0.8**
comp=Z,10nm,1.1s,baz=11,slow=1.4,SNR=7.8
AKASG Malin Array Be 141.81 333 PKHKP PKPpre 07 47 12.2
comp=Z,1.9nm,0.4s,baz=42,slow=4.0,SNR=4.5
AKASG SKPbc **SKPbc 07 50 21.6 +0.2**
comp=Z,2.6nm,0.6s,baz=36,slow=3.4,SNR=6.2
INVG Invergeldie, C 141.96 6 *e*P **PKPdf 07 47 13.2 -4.9**
LAWE Loch Awe, Argy 141.97 7 *e*P **PKPdf 07 47 13.0 -5.1**
EAB Aberfoyle 142.16 7 *e*P **PKPdf 07 47 14.1 -4.3**
GAL1 Galloway 143.42 7 *e*P PKPab 07 47 17.9 +0.1
GMM Mts of Mourne 143.87 9 *e*P PKPab 07 47 19.7 0.0
KESW Keswick, Cumbr 143.87 6 *e*P PKPab 07 47 19.1 -0.5
IOMK Kirk Michael 144.03 7 *e*P **PKPab 07 47 19.6 -0.7**
SORM Soroca 144.06 331 ⇑P **PKPab 07 47 20.3 -0.3**
SORM Soroca 144.06 331 ⇑PKIKP **PKPbc 07 47 20.3 -0.3**
WIM Isle of Man 144.13 8 *e*P **PKPab 07 47 20.4 -0.3**
DIKM Dikmen 144.17 317 ⇑P **PKPdf 07 47 22.2 -0.3**
BSEG Bad Segeberg 144.35 352 *e*PKPbc **PKPab 07 47 21.3 -0.2**
baz=15,slow=2.7
LVV L'vov 144.61 336 *e*PKIKP PKPbc 07 47 22.1 -0.5
HPK Haverah Park 144.62 5 *e*P PKPbc 07 47 22.1 -0.4
MILM Milestii Mici 144.70 329 ⇑P **PKPdf 07 47 23.5 +0.3**
GAZ Gaziantep 144.77 309 **PKPdf 07 47 23.8 0.0**
BZK Bozkurt 144.82 318 ⇑P **PKPab 07 47 23.7 -0.1**
WPS Cemaes, Angles 144.88 8 *e*P **PKPdf 07 47 22.1 -1.1**
WME Myndd Eilian 144.91 7 *e*P **PKPdf 07 47 21.3 -2.0**
WLF1 Llynfaes 145.00 8 *e*P **PKPdf 07 47 23.5 0.0**
YRC Rhoscolyn 145.02 8 *e*P **PKPdf 07 47 23.4 0.0**
IAS Iasi 145.11 330 ⇑P **PKPab 07 47 24.5 -0.2**
IAS Iasi 145.11 330 ⇑PKIKP **PKPab 07 47 24.5 -0.2**
YLL Llanberis 145.18 7 *e*P **PKPbc 07 47 24.3 +0.1**
RUE Ruedersdorf 145.21 348 *e*PKPbc **PKPbc 07 47 24.3 0.0**
baz=15,slow=2.7
KWP Kalwaria Pacla 145.26 337 *e*PKP **PKPbc 07 47 24.7 +0.1**
VASR Vaslui 145.40 329 ⇊P **PKPab 07 47 25.5 -0.3**
FOEL Foel Wylfa 145.53 7 *e*P **PKPdf 07 47 24.8 +0.4**
OJC Ojcow 145.75 341 *e*PKP **PKPbc 07 47 26.1 +0.1**
NRDL Niedersach Rie 145.79 352 *e*PKPbc **PKPbc 07 47 26.2 +0.2**
baz=15,slow=2.7
FLTG Flechtingen 145.79 351 *e*PKPbc **PKPbc 07 47 25.6 -0.4**
baz=15,slow=2.7
BURAR Bucovina Array 145.86 333 ⇊P **PKPbc 07 47 27.1 +0.5**
TLCR 145.89 327 ⇑P **PKPab 07 47 26.9 +0.3**
TLCR 145.89 327 ⇑PKP2 **PKPbc 07 47 26.9 +0.3**
HLM1 Long Mynd 145.94 6 *e*P **PKPdf 07 47 25.7 +0.6**
KOLS Kolonicke sedl 146.00 337 *e*PKP2 **PKPab 07 47 27.8 -0.3**
KOLS Kolonicke sedl 146.00 337 *e*PKP **PKPab 07 47 27.8 -0.3**
KOLS *e* 08 01 16.3
GHRR 146.00 329 ⇑P **PKPab 07 47 28.1 0.0**
TESR Tescani 146.04 330 ⇑P **PKPbc 07 47 26.8 -0.2**
KSP Ksiaz 146.18 345 *e*PKP **PKPbc 07 47 27.8 +0.6**
BR131 Keskin Array S 146.19 315 PKP2 **PKPdf 07 47 27.0 +0.8**
BR131 Keskin Array S 146.19 315 PKPdf **PKPdf 07 47 27.0 +0.8**
BRTR Keskin Array B 146.19 315 PKPbc **PKPbc 07 47 27.5 -0.4**
comp=Z,13nm,0.8s,baz=126,slow=3.2,SNR=30
BRTR pPKPbc pPKPab 07 48 54.8 +1.7
comp=Z,8.8nm,0.9s,baz=124,slow=3.9,SNR=4.5
BRTR SKPbc **SKiKP 07 50 33.3 +0.7**
comp=Z,3.3nm,0.8s,baz=97,slow=3.0,SNR=4.0
IBBN Ibbenburen 146.23 355 *e*PKPbc **PKPbc 07 47 27.5 +0.2**
baz=15,slow=2.7
UZH Uzhgorod 146.24 337 *e*PKP2 **PKPbc 07 47 27.3 -0.2**
CFR Carcaliu 146.25 327 ⇑P **PKPbc 07 47 28.1 +0.5**
CFR Carcaliu 146.25 327 ⇑PKP2 **PKPbc 07 47 28.1 +0.5**
RSBS Rosebush, Pemb 146.26 8 *e*P **PKPbc 07 47 26.8 -0.7**
TPGR Topolog 146.32 326 ⇑P **PKPbc 07 47 28.0 +0.1**
CLZ Clausthal 146.39 352 *e*PKPbc **PKPbc 07 47 28.2 +0.4**
baz=15,slow=2.7
MCH1 Michaelchurch 146.44 7 *e*P **PKPbc 07 47 27.0 -0.9**
OSTC Ostas 146.47 345 *ex* x 07 48 55.1
OSTC Ostas 146.47 345 *e*PKP **PKPbc 07 47 28.0 +0.5**
VRI Vrincioaia 146.47 329 ⇑P **PKPbc 07 47 28.1 -0.2**
VRI Vrincioaia 146.47 329 ⇑PKP2 **PKPbc 07 47 28.1 -0.2**
CLL Collm 146.47 348 ⇊*i*PKPbc **PKPbc 07 47 28.1 0.0**
comp=Z,56nm,0.7s
CLL ⇑*i*PKiKP **PKiKP 07 47 32.4 +1.9**
comp=Z,54nm,1.0s
CLL *e*pPKPbc pPKPab 07 48 54.0 +0.5
CLL Collm 146.47 348 ⇊*i*PKP2 **PKPbc 07 47 28.1 0.0**
CLL pmax pmax
comp=Z,56nm,0.7s
CLL Collm 146.47 348 PKPdf **PKPbc 07 47 28.0 0.0**
CLL Collm 146.47 348 *e*pPKPbc pPKPbc 07 48 54.0 +0.8
CLL Collm 146.47 348 *e*PKPbc **PKPbc 07 47 28.1 0.0**
baz=15,slow=2.7
PLOR Plostina 146.52 329 ⇑P **PKPbc 07 47 28.7 +0.2**
PLOR Plostina 146.52 329 ⇑PKP2 **PKPbc 07 47 28.7 +0.2**
BMR Baia Mare 146.54 334 ⇑P **PKPbc 07 47 28.5 +0.1**
BMR Baia Mare 146.54 334 ⇑PKP2 **PKPbc 07 47 28.5 +0.1**
UPC Upice 146.56 345 *e*PKP2 **PKPbc 07 47 28.8 +0.4**
UPC Upice 146.56 345 *e*pPKP pPKPdf 07 48 55.0 +2.1
UPC Upice 146.56 345 *e*PKP **PKPbc 07 47 28.8 +0.4**
TIRR Tirgusor 146.59 326 ⇑P **PKPbc 07 47 29.0 +0.4**
TIRR Tirgusor 146.59 326 ⇑PKP2 **PKPbc 07 47 29.0 +0.4**
DPC Dobruska-Polom 146.63 344 *e*PKP2 **PKPbc 07 47 29.1 +0.5**
DPC Dobruska-Polom 146.63 344 *e*pPKP pPKPdf 07 48 55.4 +2.3
DPC Dobruska-Polom 146.63 344 *e*PKP **PKPbc 07 47 29.1 +0.5**
ARCR ARCALIA 146.64 333 ⇊P **PKPbc 07 47 29.5 +0.8**
HARR Harsova 146.69 327 ⇑P **PKPbc 07 47 29.0 +0.1**
HARR Harsova 146.69 327 ⇑PKP2 **PKPbc 07 47 29.0 +0.1**
BRG Berggiesshubel 146.70 347 ⇊*i*PKP **PKPbc 07 47 28.9 +0.2**
BRG Amp 07 47 29.7
comp=Z,28nm,0.8s
BRG Berggiesshubel 146.70 347 *i* P **PKiKP 07 47 35.0 +4.0**
BRG Amp 07 47 35.9
comp=Z,28nm,0.9s
BRG Berggiesshubel 146.70 347 *e*PKPbc **PKPbc 07 47 28.9 +0.2**
baz=15,slow=2.7
GTTG Gottingen 146.73 352 *e*pPKPbc pPKPbc 07 48 54.3 +0.2
GTTG Gottingen 146.73 352 *e*PKPbc **PKPbc 07 47 29.0 +0.2**
baz=15,slow=2.7
OZUR 146.75 330 ⇑P **PKPdf 07 47 27.5 +0.8**
KRLC Kraliky 146.76 344 *e*PKP2 **PKPbc 07 47 29.3 +0.3**
KRLC Kraliky 146.76 344 *e*PKP **PKPbc 07 47 29.3 +0.3**
FBE Freiberg 146.77 348 *e*pPKPbc pPKPbc 07 48 54.7 +0.5
FBE Freiberg 146.77 348 *e*PKPbc **PKPbc 07 47 29.6 +0.7**
baz=15,slow=2.7
LANS Liptovska Anna 146.79 340 *e*PKP2 **PKPbc 07 47 30.1 +1.0**
LANS Liptovska Anna 146.79 340 *e*PKP **PKPbc 07 47 30.1 +1.0**
MORC Moravsky Berou 146.82 343 ⇑P **PKPbc 07 47 29.8 +0.6**
MORC Moravsky Berou 146.82 343 ⇑PKP2 **PKPbc 07 47 29.8 +0.6**
MORC Moravsky Berou 146.82 343 *e*PKP **PKPbc 07 47 29.3 +0.1**
MORC *e* 07 48 55.7
PVCC Panska Ves 146.89 346 *e*PKP2 **PKPbc 07 47 29.9 +0.7**
PVCC Panska Ves 146.89 346 *e*PKP **PKPbc 07 47 29.9 +0.7**
ISR Istrita 147.09 328 ⇑P **PKPbc 07 47 30.6 +0.5**
ISR Istrita 147.09 328 ⇑PKP2 **PKPbc 07 47 30.6 +0.5**
MLR Muntele Rosu 147.12 329 ⇑P **PKPbc 07 47 30.2 0.0**
MLR Muntele Rosu 147.12 329 ⇑PKP2 **PKPbc 07 47 30.2 0.0**
KASTN Kahler Asten 147.26 354 *e*pPKPbc pPKPbc 07 48 56.6 +0.9
KASTN Kahler Asten 147.26 354 *e*PKPbc **PKPbc 07 47 30.4 +0.2**
baz=15,slow=2.7
CJR Cluj-Napoca 147.26 333 ⇑P **PKPbc 07 47 31.3 +0.8**
MOX Moxa 147.36 350 *e*pPKPbc pPKPbc 07 48 56.7 +0.7
MOX Moxa 147.36 350 *e*PKPbc **PKPbc 07 47 30.7 +0.1**
baz=15,slow=2.7

PRU Pruhonice 147.40 346 *e*PKP2 **PKPbc 07 47 30.8 +0.2**
PRU Pruhonice 147.40 346 *ex* **PKPab 07 47 34.1 +0.5**
PRU Pruhonice 147.40 346 *e*PKP **PKPbc 07 47 30.8 +0.2**
MDUB Mudurnu 147.40 318 **PKPbc 07 47 30.6 -0.5**
PLN Plauen 147.42 349 *e*pPKPbc pPKPbc 07 48 57.2 +1.0
PLN Plauen 147.42 349 *e*PKPbc **PKPbc 07 47 31.0 +0.3**
baz=15,slow=2.7
WERD Werda 147.43 349 *e*PKPbc **PKPbc 07 47 31.1 +0.3**
baz=15,slow=2.7
GUNZ Gunzen 147.50 349 *e*pPKPbc pPKPbc 07 48 57.6 +1.2
GUNZ Gunzen 147.50 349 *e*PKPbc **PKPbc 07 47 31.4 +0.5**
baz=15,slow=2.7
VRAC Vranov 147.51 343 ⇑P **PKPbc 07 47 31.8 +0.8**
VRAC Vranov 147.51 343 ⇑PKP2 **PKPbc 07 47 31.8 +0.8**
VRAC Vranov 147.51 343 *e*PKP **PKPbc 07 47 31.3 +0.3**
VRAC *e* 07 48 57.7
VYHS Vyhne 147.57 340 *e*PKP2 **PKPbc 07 47 31.6 +0.4**
VYHS Vyhne 147.57 340 *e*PKP **PKPbc 07 47 31.5 +0.4**
VYHS *e* 07 47 34.8
VYHS *e* 07 48 58.2
VYHS *e* 08 01 23.8
WERN Wernitzgruen 147.57 349 *e*pPKPbc pPKPbc 07 48 58.2 +1.5
DRGR 147.57 334 ⇑P **PKPbc 07 47 31.3 0.0**
DRGR 147.57 334 ⇑PKP2 **PKPbc 07 47 31.3 0.0**
VOIR 147.58 330 ⇑P **PKPbc 07 47 31.6 +0.2**
VOIR 147.58 330 ⇑PKP2 **PKPbc 07 47 31.6 +0.2**
JAVC Velka Javorina 147.61 342 *e*PKP **PKiKP 07 47 32.6 -0.5**
JAVC *e* 07 48 59.2
PSZ Piszkesteto 147.71 338 ⇑P **PKPbc 07 47 32.1 +0.4**
PSZ Piszkesteto 147.71 338 ⇑PKP2 **PKPbc 07 47 32.1 +0.4**
KRUC Moravsky 147.79 343 *e*PKP **PKPbc 07 47 31.8 +0.1**
KRUC *e* 07 48 58.5
ARR Arges 147.83 331 ⇑P **PKPbc 07 47 32.8 +0.7**
MANZ Manzenberg 147.91 349 *e*PKPbc **PKPbc 07 47 32.4 +0.3**
baz=15,slow=2.7
SMOL Smolenice 147.99 342 *e*PKP2 **PKiKP 07 47 33.4 -0.4**
SMOL Smolenice 147.99 342 *e*PKP **PKiKP 07 47 33.4 -0.4**
SMOL *e* 07 47 36.9
MEM Membach 148.05 356 *d*PKPbc **PKPbc 07 47 32.5 +0.1**
MEM *d*PKPab **PKPab 07 47 36.9 +0.7**
BTNL Ternell 148.06 356 *d*PKPbc **PKPbc 07 47 32.4 0.0**
BTNL *d*PKPab **PKPab 07 47 37.1 +0.9**
ROTZ Rotzenmuhle 148.10 349 *e*pPKPbc pPKPbc 07 48 59.5 +1.3
ROTZ Rotzenmuhle 148.10 349 *e*PKPbc **PKPbc 07 47 32.7 +0.2**
baz=15,slow=2.7
BSTI Sart Tilman 148.10 357 *d*PKPbc **PKPbc 07 47 32.7 +0.2**
BSTI *d*PKPab **PKPab 07 47 36.4 0.0**
MODS Modra-Piesok 148.16 342 *e*PKP2 **PKiKP 07 47 34.6 +0.4**
MODS Modra-Piesok 148.16 342 *e*PKP **PKiKP 07 47 34.6 +0.4**
MODS *e* 07 49 00.3
TNS Taunus Mts 148.22 353 *e*PKPbc **PKPbc 07 47 33.3 +0.5**
baz=15,slow=2.7
SNF Seneffe 148.23 358 *d*PKPbc **PKPbc 07 47 33.1 +0.4**
SNF *d*PKPab **PKPab 07 47 36.8 0.0**
SNF *dx* x 07 47 41.5
BCLA Clavier 148.28 357 *d*PKPab **PKPab 07 47 36.8 -0.2**
BCLA *dx* x 07 47 41.6
BHOU Houvegnez 148.30 356 *d*PKPab **PKPab 07 47 37.4 +0.2**
BGES Gesves 148.32 357 *d*PKPab **PKPab 07 47 36.8 -0.5**
GRF Grafenberg Arr 148.35 350 *eL* L 08 51 10.3
comp=Z,86nm,19.9s
ZST Bratislava 148.37 342 *e*PKP2 **PKiKP 07 47 34.4 -0.2**
ZST Bratislava 148.37 342 *e*PKP **PKiKP 07 47 34.4 -0.2**
BMRD Maredsous 148.42 358 *d*PKPbc **PKPbc 07 47 33.4 +0.1**
BMRD *d*PKPab **PKPab 07 47 37.3 -0.4**
KHC Kasperske Hory 148.42 347 *e*PKP2 **PKPbc 07 47 33.5 +0.1**
KHC Kasperske Hory 148.42 347 *e*pPKP pPKPab 07 49 00.3 -0.8
KHC Kasperske Hory 148.42 347 *e*PKP **PKPbc 07 47 33.5 +0.1**
SIRR Siria 148.42 335 ⇑P **PKPbc 07 47 34.0 +0.6**
MILB Miltenberg 148.50 352 *e*pPKPbc pPKPbc 07 49 00.3 +1.2
MILB Miltenberg 148.50 352 *e*PKPbc **PKPbc 07 47 33.8 +0.3**
baz=15,slow=2.7
CKRC Cesky Krumlov 148.54 345 *ex* pPKPab 07 49 01.7 +0.1
CKRC Cesky Krumlov 148.54 345 *e*PKP **PKiKP 07 47 35.1 +0.2**
CKRC Cesky Krumlov 148.54 345 *ex* **PKPab 07 47 38.2 -0.1**
WET Wettzell 148.56 347 *e*PKPbc **PKPbc 07 47 33.7 0.0**
baz=15,slow=2.7
GZR Gura Zlata 148.65 333 ⇑P **PKPbc 07 47 34.1 0.0**
GZR Gura Zlata 148.65 333 ⇑PKHKP PKPpre 07 47 34.1
GEC2 GERESS Array S 148.66 346 *e*pPKPbc pPKPbc 07 49 01.2 +1.3
GEC2 GERESS Array S 148.66 346 *e*PKPbc **PKPbc 07 47 34.2 +0.1**
baz=15,slow=2.7
GERES GERESS Array B 148.66 346 PKPbc **PKPbc 07 47 34.0 0.0**
comp=Z,11nm,0.6s,baz=31,slow=3.1,SNR=42
GERES pPKPbc **pPKPbc 07 49 00.8 +0.9**
comp=Z,7.0nm,1.0s,baz=46,slow=2.8,SNR=3.8
BZS Buzias 148.97 334 ⇑P **PKPbc 07 47 35.2 +0.4**
BZS Buzias 148.97 334 ⇑PKP2 **PKPbc 07 47 35.2 +0.4**
CONA Conrad Observa 148.97 343 *i* P **PKiKP 07 47 35.6 -0.4**
comp=Z,8.3nm,0.6s,SNR=9.3
CONA *e*P **pPKPab 07 49 02.4 -0.9**
comp=Z,19nm,1.2s
WLF Walferdange 148.98 356 *d*PKPab **PKPab 07 47 39.4 -0.5**
WLF Walferdange 148.98 356 *e*pPKPbc pPKPbc 07 49 02.1 +1.7
WLF Walferdange 148.98 356 *e*PKPbc **PKiKP 07 47 35.6 -0.2**
baz=15,slow=2.7
HERR Herculane 149.21 332 ⇑P **PKPbc 07 47 34.8 -0.6**
JSA Saint Aubin 149.30 6 *e*P **PKPbc 07 47 35.0 -0.5**
MOA Molln 149.46 345 *e*P pPKPbc 07 49 03.1 +1.3
comp=Z,12nm,1.2s
MDVR Moldovita 149.59 333 ⇑P **PKPbc 07 47 36.7 +0.3**
MORH Mrgy, Hungar 149.61 338 ⇑P **PKPbc 07 47 36.5 +0.2**
MORH Mrgy, Hungar 149.61 338 *e*PKP **PKPbc 07 47 36.0 -0.3**
KOVH Kovagotottos 149.91 339 *e*PKP **PKPbc 07 47 37.0 -0.1**
RJOB Jochberg 149.91 347 *e*PKPbc **PKPbc 07 47 36.9 -0.2**
baz=15,slow=2.7
FRGS Fruska Gora 150.07 336 ⇑P **PKPbc 07 47 36.4 -1.1**
BFO Black Forest 150.10 353 PKHKP PKPpre 07 47 36.9
BFO Black Forest 150.10 353 **PKPbc 07 47 36.9 -0.6**
BFO Black Forest 150.10 353 *e*PKPbc **PKPbc 07 47 37.5 +0.1**
baz=15,slow=2.7
ALN Alexandroupoli 150.26 323 PKIKP **PKPbc 07 47 37.2 -0.8**
ALN Alexandroupoli 150.26 323 **PKPbc 07 47 37.2 -0.8**
SOKA Soboth 150.34 343 *i* P **PKPbc 07 47 38.1 -0.1**
comp=Z,1.8nm,0.3s,SNR=5.3
SOKA *e*P **pPKPbc 07 49 04.8 +0.7**
comp=Z,17nm,1.4s
KBA Koelnbreinsper 150.40 345 *e*P **PKPbc 07 47 37.9 -0.5**
comp=Z,8.6nm,0.7s
KBA *e*P **pPKPbc 07 49 04.7 +0.4**
comp=Z,13nm,1.0s
UBR Ueberruh 150.48 350 *e*PKPbc **PKPbc 07 47 38.4 -0.1**
baz=15,slow=2.7
WATA Walderalm 150.55 348 *e*P **PKPbc 07 47 38.7 0.0**
comp=Z,13nm,0.5s
WATA *e*P **pPKPbc 07 49 05.7 +1.0**
comp=Z,18nm,1.2s
RETA Reutte 150.56 349 *e*P pPKPbc 07 49 05.8 +1.3
comp=Z,12nm,1.0s
VTS Vitosha 150.56 329 ⇑P **PKPbc 07 47 36.4 -2.5**
VTS Vitosha 150.56 329 ⇑PKIKP **PKPbc 07 47 36.4 -2.5**
WTTA Wattenberg 150.60 348 *i* P **PKPbc 07 47 39.0 +0.1**
comp=Z,17nm,0.4s,SNR=8.1
WTTA *e*P **pPKPbc 07 49 06.0 +1.2**
comp=Z,15nm,0.9s
OBKA Obir 150.63 343 *e*P **PKPbc 07 47 38.4 -0.5**
comp=Z,7.2nm,0.8s
OBKA *e*P **pPKPbc 07 49 06.7 +1.9**
comp=Z,13nm,1.3s
MOTA Moosalm 150.63 349 *i* P **PKPbc 07 47 39.1 +0.1**
comp=Z,2.6nm,0.3s,SNR=6.1
MOTA *e*P **pPKPbc 07 49 05.9 +1.0**
comp=Z,18nm,1.1s
MYKA Terra Mystica 150.75 345 *e*P **PKPbc 07 47 38.5 -0.6**
comp=Z,10nm,0.6s
MYKA *e*P **pPKPbc 07 49 05.3 +0.3**
comp=Z,15nm,1.0s
DAVA Damuels 150.90 350 *e*P pPKPbc 07 49 06.6 +1.1
comp=Z,24nm,0.9s
ABTA Abfaltersbach 150.91 346 *i* P **PKPbc 07 47 39.2 -0.3**
comp=Z,18nm,0.6s,SNR=6.8
ABTA *e*P **pPKPbc 07 49 06.0 +0.5**
comp=Z,21nm,1.1s
FETA Feichten 151.01 349 *e*P **PKPdf 07 47 34.1 +0.4**
comp=Z,2.3nm,0.5s
FETA *i* P **PKiKP 07 47 40.1 -0.2**
comp=Z,10nm,0.7s,SNR=6.6
FETA *e*P **pPKPbc 07 49 06.9 +1.1**
comp=Z,21nm,1.1s
LJU Ljubljana 151.06 343 *i* PKPbc **PKPbc 07 47 39.8 +0.1**
CRNS Crni Vrh 151.10 343 *i* PKPbc **PKPbc 07 47 39.4 -0.5**
PCAB Cabrii 155.23 20 *e*PKPab **PKPab 07 48 07.1 +0.5**
PBRG Braganca 155.54 18 *e*PKPab **PKPab 07 48 08.7 +0.8**
POLO Lamas de Olo 155.61 20 *e*PKPab **PKPab 07 48 09.3 +1.0**

MVO Moncorvo 156.04 19 *e*PKPab **PKPab 07 48 11.4 +1.2**
PVIS Viseu 156.17 21 *e*PKPab **PKPab 07 48 11.2 +0.5**
COI Coimbra 156.45 22 *e*PKPab **PKPab 07 48 12.4 +0.6**
PCAS Casmilo, Conde 156.55 22 *e*PKPab **PKPab 07 48 12.8 +0.5**
MTE Manteigas 156.57 20 *e*PKPab **PKPab 07 48 13.0 +0.5**
PSBE So Bento 156.91 24 *e*PKPab **PKPab 07 48 15.0 +1.1**
PCBR Castelo Branco 157.10 21 *e*PKPab **PKPab 07 48 16.0 +1.4**
PMAFR Mafra 157.21 25 *e*PKPab **PKPab 07 48 15.8 +0.6**
PMRV Marv??o 157.50 21 *e*PKPab **PKPab 07 48 17.1 +0.7**
PMTG Montargil 157.52 23 *e*PKPab **PKPab 07 48 16.9 +0.4**
PESTR Estremoz 157.93 22 *e*PKPab **PKPab 07 48 18.6 +0.3**
EVO Evora 158.07 23 *e*PKPab **PKPab 07 48 19.7 +0.8**
PNCL Nicolau / Gran 158.23 25 *e*PKPab **PKPab 07 48 20.4 +0.8**
ESDC Sonseca Array 158.26 14 PKPab **PKPab 07 48 20.0 +0.2**
comp=Z,16nm,1.1s,baz=337,slow=4.3,SNR=33
ESDC PP PP 07 51 52.1 -8.1
comp=Z,1.3nm,1.0s,baz=330,slow=7.4,SNR=4.0
PBEJ Beja 158.57 24 *e*PKPab **PKPab 07 48 21.9 +0.8**
MESJ Messejana 158.59 25 *e*PKPab **PKPab 07 48 21.4 +0.2**
PCVE Castro Verde 158.84 25 *e*PKPab **PKPab 07 48 22.9 +0.6**
MORF Marmelete 158.87 26 *e*PKPab **PKPab 07 48 23.8 +1.3**
PVAQ Vaqueiros 159.17 24 *e*PKPdf **PKPdf 07 47 41.9 -2.9**
PVAQ Vaqueiros 159.17 24 *e*PKPab **PKPab 07 48 24.8 +1.1**
KEST Kesra 162.08 343 PKPab **PKPab 07 48 36.6 +0.1**
comp=Z,21nm,1.1s,baz=298,slow=2.9,SNR=8.4
LIC Lamto 165.42 147 *e*PKP1 **PKPdf 07 47 50.7 -0.9**
comp=Z,48nm,1.1s
LIC Lamto 165.42 147 *e*P **PKPab 07 48 51.8 +0.1**
comp=Z,32nm,0.7s
KIC Kosan Boka 165.68 148 *e*PKP1 **PKPdf 07 47 51.9 0.0**
comp=Z,19nm,0.8s
KIC Kosan Boka 165.68 148 *e*P **PKPab 07 48 53.8 +0.9**
comp=Z,21nm,0.7s
TIC Toumodi 165.78 146 *e*PKP1 **PKPdf 07 47 51.9 -0.1**
TIC Toumodi 165.78 146 *e*P **PKPab 07 48 54.4 +1.1**
TORD Torodi Ar. Bea 174.38 168 PKP **PKPdf 07 47 55.8 -0.9**
comp=Z,3.4nm,0.9s,baz=358,slow=1.4,SNR=12
TORD PKPab **PKPab 07 49 31.7 +0.5**
comp=Z,12nm,0.9s,baz=201,slow=3.9,SNR=31
TORD PP **PP 07 53 20.5 -1.9**
comp=Z,4.0nm,1.0s,baz=205,slow=3.8,SNR=6.1

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*IDC **09** 07:38:40.9±2.6, 53°.73N×86°.81E, h0km, mb1 2.9/2, mb1mx2.9/54, mbtmp2.9/2, ML2.5/2 Error ellipse: s-maj=23.7km s-min=14.5km az=63.0*
*NNC **09** 07:38:40.5±2.9, 53°.73N×86°.78E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=22.5km s-min=15.7km az=42.0, Suspected Mining explosion.*
ISC 09 07:38:39.0±3.7, 53°.9N±0°.2×86°.8E±0°.2, h0km, n7, σ1s38/8, 5C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.19**	**271**	*i*				07 46 10.0	
baz=99,slow=306,SNR=2.2									
ZAA0	**Zalesovo Array**	**1.19**	**271**	⇑P			**Pn**	**07 39 02.4**	**-0.5**
0.2nm,0.6s,baz=101,slow=16									
ZAA0				⇑S			**Sb**	**07 39 19.5**	**+1.0**
3.1nm,0.8s									
ZALV	**Zalesovo Beam**	**1.19**	**271**	Pg			**Pb**	**07 39 02.2**	**-0.3**
0.6nm,0.3s,baz=97,slow=14,SNR=4.5									
ZALV				Lg			Lg	07 39 20.2	
1.3nm,0.3s,baz=104,slow=27,SNR=15									
KURBB	**Kurchatov Arra**	**6.08**	**240**	Pn			**Pn**	**07 40 11.6**	**+1.5**
0.1nm,0.3s,baz=57,slow=14,SNR=10									
KURBB				Lg			Lg	07 41 49.9	
baz=55,slow=29,SNR=1.4									
KURBB	**Kurchatov Arra**	**6.08**	**240**	⇑Pn			**Pn**	**07 40 11.6**	**+1.5**
1.3nm,0.5s									
KURBB				⇑Sn			**Sn**	**07 41 18.4**	**-1.9**
1.5nm,0.6s									
KURBB				⇑Lg			Lg	07 41 48.8	
2.5nm,0.7s									
MK31	**Makanchi Array**	**7.72**	**204**	⇊Pn			**Pn**	**07 40 32.8**	**+0.2**
0.1nm,0.3s,baz=203,slow=14,SNR=10									
MKAR	**Makanchi Array**	**7.72**	**204**	Pn			**Pn**	**07 40 32.6**	**0.0**
0.1nm,0.3s,baz=24,slow=13,SNR=7.7									

IDC 09 07:57:14.7±2.1, 0°.32N×126°.23E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/33, Error ellipse: s-maj=169.3km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.36**	**231**	LR			LR	08 03 16.0	
comp=Z,106nm,18.1s,baz=118,slow=43									
WRA	**Warramunga Arr**	**21.65**	**159**	P			P	08 02 06.2	-0.7
1.5nm,0.6s,baz=337,slow=11,SNR=20									
ASAR	**Alice Springs**	**24.98**	**163**	P			P	08 02 40.8	+0.5
0.6nm,0.5s,baz=341,slow=8.8,SNR=9.8									
MKAR	**Makanchi Array**	**60.09**	**327**	P			P	08 07 23.7	-0.1
0.3nm,0.4s,baz=129,slow=7.8,SNR=2.9									

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*NAO **09** 08:09:10.7±1.6, 77°.50N×7°.63E, ML3.0*
*IDC **09** 08:09:12.6±1.3, 77°.41N×8°.25E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.5/4, ML2.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/46, Error ellipse: s-maj=18.8km s-min=14.6km az=130.0*
*BER **09** 08:09:13.3±4.3, 77°.50N×8°.12E, h15km±17km, ML2.6, ML3.0(NAO), Confirmed Earthquake*
ISC 09 08:09:11.7±2.9, 77°.48N±0°.05×8°.37E±0°.05, h12km±20km, n26, σ2s26/39, mb3.3/3, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.38**	**62**	Pg			**Pb**	**08 09 37.5**	**+0.2**
BRBA				Lg			Lg	08 09 54.3	
BRBA	**Barentsburg A**	**1.38**	**62**	Pg			**Pb**	**08 09 37.5**	**+0.2**
BRBA				Sg			**Sn**	**08 09 54.3**	**-0.5**
BRBB	**Barentsburg B**	**1.39**	**61**	Pg			**Pb**	**08 09 37.6**	**+0.1**
BRBB				Lg			Lg	08 09 55.1	
BRBB	**Barentsburg B**	**1.39**	**61**	Pg			**Pb**	**08 09 37.6**	**+0.1**
BRBB				Sg			**Sb**	**08 09 55.1**	**0.0**
KBS	**Kingsbay**	**1.63**	**25**	Pn			**Pn**	**08 09 39.6**	**-0.5**
KBS				Sn			**Sn**	**08 09 58.2**	**-2.9**
KBS	**Kingsbay

baz=339,slow=12,SNR=1.7
ARCES Sn **Sn** **08 13 02.9 -6.5**
baz=332,slow=20,SNR=1.3
SUMG Summit 12.70 272 *i* P **Pn** **08 12 10.0 -2.1**
VRAC Vranov 28.45 169 LR LR 08 27 09.6
comp=Z,42nm,19.0s,baz=182,slow=38
MKAR Makanchi Array 41.36 92 P **P** **08 17 01.2 +4.3**
comp=Z,0.4nm,0.6s,baz=346,slow=8.0,SNR=3.5
TORD Torodi Ar. Bea 64.42 187 P **P** **08 19 49.4 +1.9**
comp=Z,0.2nm,0.4s,baz=350,slow=4.4,SNR=3.7
TXAR Lajitas Array 66.16 298 P **P** **08 20 00.4 +1.7**
comp=Z,0.1nm,0.6s,baz=52,slow=3.7,SNR=1.9

*NAO **09** 08:10:54.3±5.9, 77.°31N×7.°58E, ML2.9*
*BER **09** 08:10:59.6±4.0, 77.°50N×8.°61E, h10km, ML2.4, ML2.9(NAO), Confirmed Earthquake*
ISC 09 08:10:55.7±2.2, 77.°50N±0.°06×8.°31E±0.°08, h15km±12km, n15, σ2s12/25, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**1.38**	**63**	Pg	**Pg**	**08 11 22.1**	**0.0**
BRBA				Lg	Lg	08 11 39.2	
BRBA	**Barentsburg A**	**1.38**	**63**	Pg	**Pg**	**08 11 22.1**	**0.0**
BRBA				Sg	**Sg**	**08 11 39.2**	**-0.8**
BRBB	**Barentsburg B**	**1.39**	**62**	Pg	**Pg**	**08 11 22.6**	**+0.2**
BRBB				Lg	Lg	08 11 40.2	
BRBB	**Barentsburg B**	**1.39**	**62**	Pg	**Pg**	**08 11 22.6**	**+0.2**
BRBB				Sg	**Sg**	**08 11 40.2**	**-0.2**
KBS	**Kingsbay**	**1.61**	**26**	Pn	**Pb**	**08 11 24.8**	**-0.4**
KBS				Sn	**Sn**	**08 11 43.4**	**-0.6**
KBS	**Kingsbay**	**1.61**	**26**	*e*P	**Pb**	**08 11 24.7**	**-0.4**
KBS				*e*S	**Sb**	**08 11 44.0**	**-1.3**
KBS				IAML		08 11 47.6	
comp=Z,65nm,0.3s
HSPB Hornsund (broa 1.68 104 Pn **Pb** **08 11 27.1 +0.9**
HSPB Sn **Sn** **08 11 44.9 -0.7**
HSPB Hornsund (broa 1.68 104 *e*P **Pb** **08 11 26.8 +0.6**
HSPB *e*S **Sn** **08 11 46.2 +0.6**
HSPB IAML 08 11 46.7
comp=Z,42nm,0.5s
SPA0 Spitsbergen Ar 1.84 64 Pn **Pg** **08 11 30.1 -0.7**
baz=241,slow=16
SPA0 Sn **Sg** **08 11 52.7 -2.0**
baz=234,slow=28
SPA0 Spitsbergen Ar 1.84 64 Pn **Pg** **08 11 30.1 -0.7**
baz=241,slow=16
SPA0 Sn **Sg** **08 11 52.7 -2.0**
baz=234,slow=28
SPA0 IAML 08 11 55.1
comp=Z,98nm,0.3s
HOPEN Hopen 3.89 97 Pn **Pn** **08 11 57.9 +3.1**
HOPEN Sn **Sn** **08 12 40.6 +0.5**
HOPEN Hopen 3.89 97 *e*P **Pn** **08 11 57.6 +2.9**
HOPEN *e*S **Sn** **08 12 41.4 +1.3**
NOR Nord 6.06 324 *i* P **Pn** **08 12 26.0 +1.5**
ARA0 ARCESS Array S 9.31 140 Sn **Sn** **08 14 48.0 -5.4**
baz=329,slow=22
ARA0 ARCESS Array S 9.31 140 Sn **Sn** **08 14 48.0 -5.4**
baz=329,slow=22

*BGR **09** 08:27:35.1±0.0, 39.°76N×144.°00E, h33km, mb5.6, Ms5.0*
*BJI **09** 08:27:35.6±0.0, 40.°07N×142.°69E, h45km, mB5.3/50, mb5.1/71, Ms4.9/69, Ms7 4.8/69*
*JMA **09** 08:27:38.8±0.1, 40.°12N×142.°43E, h36km±1km, M5.1 Broadband fault plane solution: P waves. NP1: ϕ_s187.00000°, δ31.00000°, λ87.00000°. NP2:ϕ_s10.00000°, δ59.00000°, λ92.00000°. Principal axes: T Plg76.0000°, Azm286.0000°; N Plg2.0000°, Azm189.0000°; P Plg14.0000°, Azm99.0000°;*
JMA Felt III J1.
*MOS **09** 08:27:38.1±1.0, 40.°20N×142.°43E, h45km, mb5.4/66, MS5.0/19 Error ellipse: s-maj=5.4km s-min=3.7km az=101.8*
*NIED **09** 08:27:38.8, 40.°12N×142.°43E, h36km, MW5.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.39; $M_{\theta\phi}$-0.10; $M_{\phi r}$0.69; Fault plane solution: $M_0$1.01000×10^{17} NP1:ϕ_s24.00000°, δ71.00000°, λ101.00000°. NP2:ϕ_s172.00000°, δ22.00000°, λ60.00000°.*
*NEIC **09** 08:27:39.5±2.6, 40.°12N±0.°06×142.°6E±0.°1, h38km±6km, mb5.1/123, Mww5.2 Error ellipse: s-maj=12.4km s-min=7.5km az=113.0*
*NEIC **09** 08:27:40, 40.°13N×142.°51E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.52; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-5.61; $M_{r\theta}$2.52; $M_{\theta\phi}$0.82; $M_{\phi r}$3.94; Fault plane solution: $M_0$7.32000×10^{16} NP1:ϕ_s153.00000°, δ32.00000°, λ53.00000°. NP2:ϕ_s15.00000°, δ65.00000°, λ110.00000°. Principal axes: T 7.6954, Plg64.0000°, Azm319.0000°; N -0.8307, Plg18.0000°, Azm186.0000°; P -6.8647, Plg18.0000°, Azm90.0000°;*
*IDC **09** 08:27:41.2±1.5, 40.°11N×142.°37E, h59km±13km, mb4.6/40, mb1 4.7/47, mb1mx4.6/61, mbtmp4.9/47, MS4.7/44, Ms1 4.7/44, ms1mx4.6/56 Error ellipse: s-maj=10.9km s-min=8.4km az=114.0*
*GCMT **09** 08:27:41.5±0.1, 40.°18N±0.°01×142.°48E±0.°01, h42km, MW5.3/131, Moment Tensor Solution. s110, c173; s131, c238; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.91±.02; $M_{\theta\theta}$-0.00±.02; $M_{\phi\phi}$-0.90±.02; $M_{r\theta}$0.42±.02; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$0.70±.02; Best double couple: $M_0$1.25400×10^{17} NP1:ϕ_s184.00000°, δ26.00000°, λ70.00000°. NP2:ϕ_s26.00000°, δ66.00000°, λ99.00000°. Principal axes: T 1.2360, Plg68.0000°, Azm314.0000°; N 0.0380, Plg9.0000°, Azm202.0000°; P -1.2730, Plg20.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 08:27:38.5±0.3, 40.°12N±0.°03×142.°57E±0.°03, h36km±1km, h37km:pP-P, n893, σ1s50/971, mb5.1/195, MS5.0/84, 148C-61D, Fault plane solution: NP1:ϕ_s163.40459°, δ38.70630°, λ69.34290°. NP2:ϕ_s9.19098°, δ54.18818°, λ105.78502°. Principal axes: T Plg74.9159°, Azm326.8499°; N Plg12.7443°, Azm179.7988°; P Plg7.9352°, Azm87.9922°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.57**	**252**	⇓P	**Pn**	**08 27 48.9**	**-1.3**
JTH				*e*S	**Sn**	**08 27 56.3**	**-2.0**
JKEN	**Kujiedanarisaw**	**0.66**	**278**	⇓P	**Pn**	**08 27 49.9**	**-1.5**
JKEN				*e*S	**Sn**	**08 27 57.6**	**-2.9**
MIYJ	**Miyakonagasawa**	**0.79**	**227**	⇓P	**Pn**	**08 27 52.1**	**-1.0**
MIYJ				*e*S	**Sn**	**08 28 01.7**	**-1.9**
JANG	**Nango**	**0.84**	**288**	⇓P	**Pn**	**08 27 52.6**	**-1.3**
JKZ	**Kuzumaki**	**0.96**	**263**	⇓P	**Pn**	**08 27 54.7**	**-0.7**
JKZ				*e*S	**Sn**	**08 28 05.7**	**-2.2**
JOM	**Ohasama**	**1.17**	**237**	⇓P	**Pn**	**08 27 58.1**	**-0.2**
OFUJ	**Ofunato**	**1.25**	**214**	⇓P	**Pn**	**08 27 59.3**	**0.0**
JARK	**Aomorirokkasho**	**1.28**	**315**	⇓P	**Pn**	**08 27 59.5**	**-0.2**
JARK				*e*S	**Sn**	**08 28 14.7**	**-0.9**
JSZI	**Iwateshizukuis**	**1.30**	**254**	⇓P	**Pn**	**08 28 00.3**	**+0.3**
JSZI				S	**Sn**	**08 28 16.1**	**0.0**
JTM	**Tenmabayashi**	**1.32**	**301**	⇓P	**Pn**	**08 28 00.2**	**-0.2**
JAHD	**Aomorihigashid**	**1.48**	**321**	⇓P	**Pn**	**08 28 02.5**	**-0.1**
JAH	**Hinai**	**1.48**	**273**	⇓P	**Pn**	**08 28 02.4**	**-0.2**
JAH				S	**Sn**	**08 28 20.2**	**-0.5**
JMK	**Ichinoseki**	**1.56**	**222**	⇓P	**Pn**	**08 28 03.9**	**+0.2**
JMK				S	**Sn**	**08 28 23.5**	**+0.9**
JOT	**Ohata**	**1.71**	**318**	⇓P	**Pn**	**08 28 05.6**	**-0.1**
JHHS	**Hirosakihyakuz**	**1.77**	**288**	⇓P	**Pn**	**08 28 07.2**	**+0.7**
JSI2	**Shiura 2**	**1.89**	**300**	⇓P	**Pn**	**08 28 08.4**	**+0.2**
JYW	**Yuwa**	**1.91**	**253**	⇓P	**Pn**	**08 28 08.8**	**+0.4**
ERM	**Erimo**	**1.95**	**13**	*ce*P	**Pn**	**08 28 09.4**	**+0.4**
ERM				pmax	pmax		
comp=Z,702nm,1.0s
ERM Erimo 1.95 13 **Pn** **08 28 10.2 +1.2**
JIW Iwasaki 2.01 285 ⇓P **Pn** **08 28 10.2 +0.3**
JYK Kaneyama 2.08 236 ⇓P **Pn** **08 28 11.0 +0.1**
JMM Marumori 2.64 212 **Pn** **08 28 19.6 +1.1**
JEW Eniwo 2.85 343 **Pn** **08 28 23.5 +2.2**
JSB Shiboa 3.77 214 P **Pn** **08 28 36.4 +2.4**
JSD Sado 3.94 240 **Pn** **08 28 37.3 +0.9**
JIZZ Izumozaki 3.97 231 P **Pn** **08 28 39.7 +3.0**

ASAJ	**Asahikawa**	**4.00**	**0**	P	**Pn**	**08 28 38.7**	**+1.5**
comp=Z,21nm,0.3s,baz=203,slow=13,SNR=60
ASAJ S **Sn** **08 29 28.4 +5.7**
comp=Z,28nm,0.3s,baz=91,slow=31,SNR=1.4
ASAJ LR LR 08 30 39.4
comp=Z,16μm,21.7s,baz=196,slow=44
ASAJ Asahikawa 4.00 0 P **Pn** **08 28 38.7 +1.5**
ASAJ S **Sn** **08 29 28.4 +5.7**
JKA Kamikawa-asahi 4.00 0 **Pn** **08 28 38.8 +1.6**
NMR Nemuro--Hokkai 4.02 35 ⇓*i*P **Pn** **08 28 38.2 +0.8**
NMR *i* S **Sn** **08 29 21.5 -1.8**
GLVR Golovnino 4.24 30 *e*P **Pn** **08 28 41.5 +1.1**
GLVR *e*S **Sn** **08 29 28.3 -0.3**
GLVR pmax pmax
comp=Z,1μm,0.6s
GLVR smax smax
comp=N,5μm,0.4s
GLVR smax smax
comp=E,4μm,0.2s
JKT Katashina 4.24 219 ⇑P **Pn** **08 28 43.2 +2.6**
JYT Yasato 4.31 206 **Pn** **08 28 41.6 +0.2**
JAG Ashikaga 4.42 215 ⇑P **Pn** **08 28 44.7 +1.6**
RUSJ Misakicho 4.46 26 *e*P **Pn** **08 28 44.0 +0.6**
RUSJ *e*S **Sn** **08 29 33.7 -0.3**
GRPR Tuman 4.55 31 *e*P **Pn** **08 28 45.4 +0.7**
GRPR *e*S **Sn** **08 29 33.3 -3.0**
GRPR pmax pmax
comp=Z,934nm,0.2s
GRPR smax smax
comp=E,2μm,0.3s
GRPR smax smax
comp=N,6μm,0.4s
JJN Nakama 4.58 230 P **Pn** **08 28 48.0 +2.9**
YUK Yuzh-Kuril'sk 4.62 31 *i* P **Pn** **08 28 46.0 +0.3**
JGK Kuni 4.70 222 P **Pn** **08 28 49.7 +2.8**
JSZ Suzu 4.86 238 P **Pn** **08 28 50.6 +1.6**
MJB9 Matsu-Tunnel 4.95 225 **Pn** **08 28 52.6 +2.4**
MAJO Matsushiro 4.95 225 *c i*P **Pn** **08 28 52.8 +2.5**
MAJO Matsushiro 4.95 225 **Pn** **08 28 52.0 +1.7**
MAT Matsushiro 4.95 225 P **Pn** **08 28 52.6 +2.3**
MAT *e*S **Sn** **08 29 49.6 +3.4**
MAT Matsushiro 4.95 225 P **Pn** **08 28 52.6 +2.3**
MJAR Matsushiro Arr 4.95 225 P **Pn** **08 28 52.0 +1.7**
comp=N,4.6nm,0.3s,baz=33,slow=14,SNR=296
MJAR LR LR 08 31 01.3
comp=N,9μm,20.3s,baz=35,slow=42
MJAR Matsushiro Arr 4.95 225 P **Pn** **08 28 52.0 +1.7**
MJAR Matsushiro Arr 4.95 225 Pn **Pn** **08 28 51.5 +1.2**
JRY Ryogami san 5.01 216 ⇑P **Pn** **08 28 52.4 +1.3**
JNG Nsakai 5.11 225 ⇑P **Pn** **08 28 55.0 +2.5**
JSGW Sagamiharawaka 5.23 212 P **Pn** **08 28 55.0 +0.9**
JNT Takato 5.49 221 P **Pn** **08 29 00.1 +2.3**
JJH Hakui 5.54 237 P **Pn** **08 29 00.8 +2.4**
JYN Shimob 5.60 216 ⇓P **Pn** **08 29 00.9 +1.6**
JGN Niukaw 5.68 228 P **Pn** **08 29 03.2 +2.9**
JIM2 Oshima 3 5.94 206 P **Pn** **08 29 03.4 -0.5**
JNY Yasuok 6.04 220 P **Pn** **08 29 07.4 +2.1**
JGF Kuroka 6.11 224 P **Pn** **08 29 08.7 +2.5**
JGF Kuroka 6.11 224 **Pn** **08 29 08.5 +2.3**
SHZ3 Shizuoka 3 6.11 216 P **Pn** **08 29 07.5 +1.2**
JIZS Izushimoda 6.14 210 P **Pn** **08 29 06.5 -0.1**
JYZW Yoshizawa 6.39 218 P **Pn** **08 29 11.1 +1.0**
JAO Obara 6.41 223 P **Pn** **08 29 12.6 +2.2**
KUR Kuril'sk 6.43 36 *e*P **Pn** **08 29 11.7 +1.1**
KUR *i* S **Sn** **08 30 20.9 -1.8**
KUR pmax pmax
comp=Z,468nm,0.9s
KUR pmax pmax
comp=N,290nm,0.7s
KUR pmax pmax
comp=E,132nm,0.4s
KUR pmax pmax
comp=Z,2μm,3.2s
KUR smax smax
comp=N,902nm,0.6s
KUR smax smax
comp=E,589nm,0.7s
KUR smax smax
comp=N,5μm,2.9s
KUR smax smax
comp=E,3μm,2.0s
KUR MLR MLR
comp=Z,5μm,19.0s
JSG Sagara 6.45 214 Pn **Pn** **08 29 12.7 +1.8**
JYTA Yamagatataniai 6.45 227 P **Pn** **08 29 13.2 +2.3**
INU Inuyama 6.48 224 **Pn** **08 29 12.9 +1.6**
YSS Yuzh-Sakhalins 6.84 1 *ce*P **Pn** **08 29 18.1 +2.0**
YSS *e*S **Sn** **08 30 31.2 -1.4**
YSS pmax pmax
comp=Z,700nm,5.2s
YSS pmax pmax
comp=Z,180nm,0.8s
YSS MLR MLR
comp=Z,6μm,17.0s
YSS MLR MLR
comp=N,4μm,19.0s
YSS MLR MLR
comp=E,3μm,17.0s
YSS Yuzh-Sakhalins 6.84 1 Pn **Pn** **08 29 18.1 +2.0**
JFM Mihama 6.94 231 P **Pn** **08 29 20.6 +3.1**
JHJ Hachijo jima 2 7.33 199 P **Pn** **08 29 23.9 +0.9**
comp=E,41nm,0.3s,baz=276,slow=23,SNR=15
JHJ S **Sn** **08 30 41.3 -3.6**
comp=E,24nm,0.3s,baz=52,slow=22,SNR=2.2
JHJ Hachijo jima 2 7.33 199 **Pn** **08 29 23.9 +0.9**
JWT Wachi 7.45 232 **Pn** **08 29 27.3 +2.7**
VLA Vladivostok 8.54 294 ⇓*i*P **Pn** **08 29 42.1 +2.5**
USRK Ussuriysk Ar. 8.85 301 P **Pn** **08 29 45.6 +1.8**
baz=101,slow=14,SNR=55
USRK LR LR 08 33 03.3
comp=E,7μm,18.7s,baz=114,slow=37
USRK Ussuriysk Ar. 8.85 301 P **Pn** **08 29 45.6 +1.8**
I45RU USSURIYSK INFR 8.86 301 *i*
baz=112,slow=316,SNR=0.8
09 15 40.0
MSHR Mys Shultsa 8.93 290 *c i*P **Pn** **08 29 46.4 +1.6**
UGL Uglegorsk 8.97 358 P **Pn** **08 29 48.8 +3.5**
UGL S **Sn** **08 31 18.2 -6.8**
UGL smax smax
comp=E,115nm,1.2s
UGL MLR MLR
comp=Z,4μm,16.0s
UGL MLR MLR
comp=N,5μm,19.0s
UGL MLR MLR
comp=E,5μm,16.0s
JHS Saijyo 9.07 239 **Pn** **08 29 49.4 +2.5**
JMN Monobe 9.43 230 **Pn** **08 29 52.0 +0.2**
MDJ Mudanjiang 10.60 299 P **Pn** **08 30 10.3 +2.6**
MDJ sP 08 30 24.5
MDJ S **Sn** **08 32 10.1 +5.0**
MDJ sS 08 32 22.1
MDJ pmax pmax
comp=E,45nm,1.2s
MDJ pmax pmax
comp=E,680nm,9.2s
MDJ LR LR
comp=E,3μm,17.3s
MDJ LR LR
comp=E,6μm,17.7s
MDJ LR LR
comp=E,10μm,17.8s
MDJ Mudanjiang 10.60 299 Pn **Pn** **08 30 09.7 +2.0**
TYV Tymovskoe 10.75 0 *e*P **Pn** **08 30 10.5 +0.8**
TYV *e* 08 32 11.5
TYV pmax pmax
comp=Z,200nm,2.5s
TYV pmax pmax
comp=Z,23nm,0.8s
TYV MLR MLR
comp=Z,6μm,19.0s
TYV MLR MLR
comp=N,5μm,19.0s
GRNR Gornyy 11.49 340 ⇑*i*P **Pn** **08 30 18.5 -1.4**
GRNR *e*S **Sn** **08 32 24.5 -2.3**
GRNR pmax pmax
comp=E,2.0nm,0.6s
GRNR pmax pmax
comp=N,8.0nm,0.7s
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR smax smax
comp=N,5.0nm,0.8s
GRNR MLR MLR
comp=E,850nm,14.0s

GRNR MLR MLR
comp=N,1μm,15.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
JNU Nakatsue 11.69 237 P **Pn** **08 30 22.5 -0.3**
comp=Z,1.6nm,0.3s,baz=128,slow=2.4,SNR=5.7
JNU LR LR 08 35 27.6
comp=Z,3μm,19.1s,baz=18,slow=40
JNU Nakatsue 11.69 237 **Pn** **08 30 22.5 -0.3**
KSRS Korea Array 11.73 262 P **Pn** **08 30 25.9 +2.6**
comp=Z,1.2nm,0.3s,baz=81,slow=13,SNR=27
KSRS LR LR 08 34 38.9
comp=Z,5μm,18.6s,baz=80,slow=36
KSRS Korea Array 11.73 262 P **Pn** **08 30 25.9 +2.6**
KSRS Korea Array 11.73 262 **Pn** **08 30 25.9 +2.6**
KSAR Wonju Array Be 11.77 262 P **Pn** **08 30 26.9 +3.2**
KSAR Wonju Array Be 11.77 262 Pn **Pn** **08 30 26.9 +3.2**
KLR Kul'dur 11.92 323 P **Pn** **08 30 27.0 +1.3**
comp=Z,0.7nm,0.3s,baz=130,slow=13,SNR=18
KLR LR LR 08 35 13.9
comp=Z,5μm,18.2s,baz=137,slow=38
KLR Kul'dur 11.92 323 *ce*P **Pn** **08 30 25.2 -0.5**
KLR Kul'dur 11.92 323 **Pn** **08 30 27.0 +1.3**
TJN Taejon 12.52 257 *i* P **Pn** **08 30 34.9 +0.9**
JCJ Chichijima 12.99 182 LR LR 08 36 52.4
comp=Z,1μm,20.8s,baz=348,slow=42
JSU Suzuyama 13.04 233 Pn **Pn** **08 30 41.3 0.0**
CN2 Changchun 13.26 292 *e*P **Pn** **08 30 46.7 +2.6**
CN2 *e*S **Sn** **08 33 13.6 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,8.3s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,4μm,18.0s
CN2 LR LR
comp=Z,4μm,19.0s
OKH Okha 13.44 1 *de*P **Pn** **08 30 44.4 -2.1**
OKH pmax pmax
comp=Z,100nm,11.8s
OKH MLR MLR
comp=Z,3μm,20.0s
OKH MLR MLR
comp=N,4μm,19.0s
OKH MLR MLR
comp=E,5μm,21.0s
SNY Shenyang 14.45 283 ⇑P **Pn** **08 31 03.3 +3.0**
SNY pmax pmax
comp=E,14nm,1.1s
SNY pmax pmax
comp=E,650nm,6.0s
SNY LR LR
comp=E,1μm,13.6s
SNY LR LR
comp=E,3μm,16.7s
SNY LR LR
comp=E,5μm,20.2s
DL2 Dalian 16.21 272 P **P** **08 31 25.5 -0.6**
DL2 S **Sn** **08 34 25.2 +3.3**
DL2 pmax pmax
comp=E,57nm,0.9s
DL2 pmax pmax
comp=E,1μm,8.6s
DL2 LR LR
comp=E,700nm,14.7s
DL2 LR LR
comp=E,2μm,17.1s
DL2 LR LR
comp=E,3μm,26.6s
PEA0B Petropavlovsk- 16.59 33 P **Pn** **08 31 27.9 -0.3**
PEA0B pmax pmax
comp=Z,36nm,1.2s
PEA0B Petropavlovsk- 16.59 33 **Pn** **08 31 27.9 -0.3**
PETK Petropavlovsk- 16.59 33 P **Pn** **08 31 27.9 -0.2**
comp=Z,0.4nm,0.3s,baz=208,slow=6.0,SNR=5.0
PETK LR LR 08 38 22.8
comp=Z,895nm,18.3s,baz=219,slow=38
PETK Petropavlovsk- 16.59 33 P **Pn** **08 31 27.2 -1.0**
PETK Petropavlovsk- 16.59 33 **Pn** **08 31 27.2 -1.0**
PET Petropavlovsk 16.95 35 *e*P **P** **08 31 35.1 +0.9**
PET *e*S **Sn** **08 34 38.2 -1.4**
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,17.0s
ZEA Zeya 17.12 328 *e*P **Pn** **08 31 32.4 -2.4**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,40nm,1.0s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA MLR MLR
comp=E,1μm,17.0s
ZEA MLR MLR
comp=N,1μm,13.0s
ZEA MLR MLR
comp=Z,2μm,16.0s
SSE Sheshan 19.54 249 P **P** **08 32 02.3 -0.6**
SSE S **S** **08 35 39.5 -2.1**
SSE pmax pmax
comp=Z,13nm,0.9s
SSE pmax pmax
comp=Z,490nm,6.7s
SSE LR LR
comp=Z,920nm,8.1s
SSE LR LR
comp=Z,860nm,10.7s
MA2 Magadan 20.16 12 P **P** **08 32 08.9 -0.5**
comp=Z,24nm,0.6s,baz=208,slow=10,SNR=15
MA2 LR LR 08 41 27.4
comp=Z,1μm,18.2s,baz=198,slow=41
MA2 Magadan 20.16 12 *ce*P **P** **08 32 09.4 0.0**
MA2 pmax pmax
comp=Z,41nm,1.0s
MA2 Magadan 20.16 12 P **P** **08 32 08.5 -0.9**
BJI Beijing 20.18 278 P **P** **08 32 06.7 -3.0**
BJI PP **PnPn** **08 32 27.0 +0.3**
BJI S **S** **08 35 44.8 -9.4**
BJI PcP **PcP** **08 36 20.6 -2.6**
BJI pmax pmax
comp=Z,38nm,0.9s
BJI LR LR
comp=Z,2μm,15.7s
BJI LR LR
comp=Z,2μm,23.2s
BJI LR LR
comp=Z,3μm,18.6s
TIA Tai'an 20.36 267 P **P** **08 32 09.4 -2.4**
TIA pmax pmax
comp=Z,22nm,1.0s
TIA LR LR
comp=Z,1μm,22.7s
TIA LR LR
comp=Z,3μm,19.9s
TIA LR LR
comp=Z,4μm,17.2s
NJ2 Nanjing 20.74 255 ⇑P **P** **08 32 14.8 -1.2**
NJ2 pP **pP** **08 32 24.9 -0.4**
NJ2 sP **sP** **08 32 32.0 +1.8**
NJ2 S **S** **08 36 05.2 -0.4**
NJ2 sS **sS** **08 36 21.2 +3.8**
NJ2 pmax pmax
comp=Z,68nm,0.8s
NJ2 pmax pmax
comp=Z,890nm,7.3s
NJ2 LR LR
comp=Z,1μm,18.9s
NJ2 LR LR
comp=Z,2μm,17.8s
NJ2 LR LR
comp=Z,3μm,15.0s
CIT Chita 23.22 311 *e*P **P** **08 32 41.2 -1.0**
CIT *e* 08 32 47.7
CIT *e* 08 32 57.3
CIT *e* 08 33 12.5
CIT pmax pmax
comp=Z,243nm,1.5s
YAK Yakutsk 23.30 345 P **P** **08 32 39.9 -2.9**
comp=Z,39nm,0.5s,baz=5.0,slow=1.7,SNR=10
YAK LR LR 08 42 24.7
comp=Z,1μm,18.2s,baz=126,slow=38

YAK	**Yakutsk**	**23.30 345**	*e*P	**P**	**08 32 39.8**	**-3.0**
YAK			*e**PP	**pP**	**08 32 47.4**	**-4.8**
YAK			*e*		08 33 06.1	
YAK			*e*		08 36 27.0	
YAK			*e*S	**S**	**08 36 45.9**	**-6.6**
YAK			pmax	pmax		
	comp=Z,116nm,0.9s					
YAK			pmax	pmax		
	comp=N,40nm,1.0s					
YAK			pmax	pmax		
	comp=E,18nm,1.1s					
YAK			pmax	pmax		
	comp=Z,156nm,1.5s					
YAK			pmax	pmax		
	comp=N,138nm,1.3s					
YAK			pmax	pmax		
	comp=E,42nm,1.4s					
YAK			smax	smax		
	comp=N,220nm,2.0s					
YAK			smax	smax		
	comp=E,124nm,2.1s					
YAK			MLR	MLR		
	comp=Z,1μm,13.0s					
YAK			MLR	MLR		
	comp=E,994nm,17.0s					
YAK			MLR	MLR		
	comp=N,1μm,16.0s					
YAK	**Yakutsk**	**23.30 345**	P	**P**	**08 32 40.8**	**-2.0**
YAK			IAmb	IAmb	08 32 45.0	
	comp=Z,93nm,0.8s					
HHC	**Hu-ho-hao-te**	**23.54 282**	*e*P	**P**	**08 32 44.1**	**-1.4**
HHC			S	**S**	**08 36 53.8**	**-3.2**
HHC			pmax	pmax		
	comp=Z,24nm,0.8s					
HHC			pmax	pmax		
	comp=Z,180nm,6.2s					
HHC			LR	LR		
	comp=Z,720nm,13.6s					
HHC			LR	LR		
	comp=Z,3μm,13.6s					
HHC			LR	LR		
	comp=Z,4μm,14.5s					
SEY	**Seymchan**	**23.60 11**	P	**P**	**08 32 45.0**	**-0.7**
	comp=Z,62nm,1.0s,baz=198,slow=8.6,SNR=32					
SEY			LR	LR	08 43 38.5	
	comp=Z,1μm,18.1s,baz=188,slow=40					
SEY	**Seymchan**	**23.60 11**	*i* P	**P**	**08 32 44.1**	**-1.6**
SSLB	**Suanglung**	**24.42 235**	P	**P**	**08 32 53.7**	**-0.1**
SSLB			IAmb	IAmb	08 33 16.9	
	comp=Z,43nm,1.1s					
WHN	**Wuhan**	**24.84 256**	⇓P	**P**	**08 32 55.9**	**-1.5**
WHN			S	S	08 37 04.3	-13
WHN			LR	LR		
	comp=Z,2μm,5.8s					
WHN			LR	LR		
	comp=Z,4μm,10.2s					
WHN			LR	LR		
	comp=Z,7μm,20.5s					
QZH	**Quanzhou**	**25.14 240**	*e*P	**P**	**08 32 58.3**	**-1.9**
QZH			S	**S**	**08 37 23.2**	**+0.5**
QZH			LR	LR		
	comp=Z,1μm,12.8s					
BOD	**Bodaibo**	**25.50 324**	*e*P	**P**	**08 33 02.2**	**-0.9**
BOD			pmax	pmax		
	comp=Z,119nm,1.3s					
ULN	**Ulaanbaatar**	**26.52 299**	*ce*P	**P**	**08 33 11.0**	**-1.7**
ULN			pmax	pmax		
	comp=Z,9.0nm,0.6s					
ULN	**Ulaanbaatar**	**26.52 299**	P	**P**	**08 33 11.9**	**-0.8**
SONM	**Songino Array**	**26.96 299**	P	**P**	**08 33 15.6**	**-1.0**
	comp=Z,13nm,0.5s,baz=100,slow=8.3,SNR=48					
SONM			LR	LR	08 44 28.7	
	comp=Z,3μm,18.9s,baz=104,slow=38					
SONM	**Songino Array**	**26.96 299**	P	**P**	**08 33 16.2**	**-0.4**
SONM			pmax	pmax		
	comp=Z,18nm,0.7s					
SONM	**Songino Array**	**26.96 299**	P	**P**	**08 33 16.2**	**-0.4**
IRK	**Irkutsk**	**28.81 308**	*e*P	**P**	**08 33 31.2**	**-1.8**
IRK			pmax	pmax		
	comp=Z,51nm,1.8s					
TLY	**Talaya**	**29.11 306**	P	**P**	**08 33 35.5**	**-0.1**
	comp=Z,15nm,1.0s,baz=91,slow=5.2,SNR=20					
TLY			LR	LR	08 45 57.6	
	comp=Z,2μm,18.2s,baz=99,slow=38					
TLY	**Talaya**	**29.11 306**	*c i* P	**P**	**08 33 34.8**	**-0.8**
TLY			*e*		08 34 46.0	
TLY			*e*S	**S**	**08 38 28.2**	**+3.2**
TLY			pmax	pmax		
	comp=Z,123nm,1.5s					
TLY			MLR	MLR		
	comp=Z,5μm,15.0s					
TLY	**Talaya**	**29.11 306**	P	**P**	**08 33 34.9**	**-0.8**
TLY			IAmb	IAmb	08 33 37.9	
	comp=Z,31nm,1.1s					
H11N2	**WAKE ISLAND Hy**	**29.12 127**	T	T	09 04 20.3	
	baz=314,slow=75					
H11N1	**WAKE ISLAND Hy**	**29.13 127**	T	T	09 04 20.5	
	baz=314,slow=75					
H11N3	**WAKE ISLAND Hy**	**29.14 127**	T	T	09 04 25.6	
	baz=314,slow=75					
ZAK	**Zakamensk**	**29.19 304**	*e*P	**P**	**08 33 35.2**	**-1.2**
ZAK			pmax	pmax		
	comp=Z,52nm,1.4s					
H11S1	**WAKE ISLAND Hy**	**29.93 129**	T	T	09 05 34.9	
	baz=323,slow=76					
H11S3	**WAKE ISLAND Hy**	**29.94 129**	T	T	09 05 33.1	
	baz=323,slow=76					
H11S2	**WAKE ISLAND Hy**	**29.95 129**	T	T	09 05 36.5	
	baz=323,slow=76					
LZH	**Lanzhou**	**30.57 275**	*e*P	**P**	**08 33 49.6**	**+0.7**
LZH			pP	sP	08 34 05.0	+1.4
LZH			sP	pP	08 34 10.8	+12
LZH			S	**S**	**08 38 45.9**	**-2.6**
LZH			pmax	pmax		
	comp=Z,38nm,1.1s					
LZH			pmax	pmax		
	comp=Z,290nm,6.0s					
LZH			LR	LR		
	comp=Z,1μm,13.6s					
LZH			LR	LR		
	comp=Z,1μm,14.6s					
LZH			LR	LR		
	comp=Z,1μm,17.9s					
MOY	**Mondy**	**30.75 306**	*e*P	**P**	**08 33 49.8**	**-0.4**
MOY			pmax	pmax		
	comp=Z,57nm,2.2s					
BILL	**Bilibino**	**30.82 17**	*c i* P	**P**	**08 33 51.5**	**+1.0**
BILL			*i* *PP	**sP**	**08 34 04.9**	**+0.4**
BILL			*i* *SP	**pP**	**08 34 07.4**	**+7.0**
BILL			*e*		08 34 53.5	
BILL			pmax	pmax		
	comp=Z,30nm,1.0s					
BILL			MLR	MLR		
	comp=Z,963nm,17.0s					
BILL	**Bilibino**	**30.82 17**	P	**P**	**08 33 50.6**	**+0.1**
BILL			IAmb	IAmb	08 33 54.0	
	comp=Z,23nm,0.9s					
TIXI	**Tiksi**	**32.35 352**	P	**P**	**08 34 02.5**	**-1.4**
	comp=Z,5.4nm,0.8s,baz=172,slow=3.6,SNR=11					
TIXI	**Tiksi**	**32.35 352**	*ce*P	**P**	**08 34 02.8**	**-1.2**
TIXI	**Tiksi**	**32.35 352**	P	**P**	**08 34 02.6**	**-1.4**
TIXI			IAmb	IAmb	08 34 19.9	
	comp=Z,30nm,1.5s					
GTA	**Gaotai**	**32.64 283**	*e*P	**P**	**08 34 05.6**	**-1.4**
GTA			pP	pP	08 34 17.4	+0.3
GTA			sP	sP	08 34 22.2	+0.5
GTA			PP	**PnPn**	**08 35 16.2**	**+0.8**
GTA			PcP	**PcP**	**08 36 53.2**	**+0.8**
GTA			sS	sS	08 39 41.3	+5.7
GTA			ScP	**ScP**	**08 40 34.6**	**+1.1**
GTA			PcS	**PcS**	**08 40 38.2**	**+0.5**
GTA			pmax	pmax		
	comp=Z,21nm,1.2s					
GTA			pmax	pmax		
	comp=Z,380nm,6.7s					
GTA			LR	LR		
	comp=Z,1μm,18.9s					
GTA			LR	LR		
	comp=Z,3μm,17.8s					
GTA			LR	LR		
	comp=Z,4μm,18.2s					
CD2	**Chengdu**	**32.68 266**	P	**P**	**08 34 06.8**	**-0.6**
CD2			S	**S**	**08 39 20.2**	**-1.1**
CD2			LR	LR		
	comp=Z,2μm,18.1s					
CD2			LR	LR		
	comp=Z,2μm,18.1s					
CD2			LR	LR		
	comp=Z,2μm,20.1s					
GYA	**Guiyang**	**32.73 257**	⇓P	**P**	**08 34 06.5**	**-1.4**
GYA			pP	sP	08 34 24.6	+1.9
GYA			S	**S**	**08 39 17.0**	**-5.2**
GYA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
GYA			pmax	pmax		
	comp=Z,110nm,7.0s					
GYA			LR	LR		
	comp=Z,170nm,16.2s					
GYA			LR	LR		
	comp=Z,310nm,17.3s					
GYA			LR	LR		
	comp=Z,430nm,19.2s					
SPIA	**Saint Paul Isl**	**34.70 45**	P	**P**	**08 34 24.4**	**-0.1**
	baz=261					
QIZ	**Qiongzhong**	**35.08 243**	P	**P**	**08 34 27.9**	**-0.3**
QIZ			S	**S**	**08 39 58.3**	**-0.1**
QIZ			LR	LR		
	comp=Z,870nm,20.3s					
QIZ			LR	LR		
	comp=Z,670nm,21.6s					
QIZ			LR	LR		
	comp=Z,980nm,20.5s					
NIKH	**Nikolski High**	**35.12 52**	P	**P**	**08 34 27.6**	**-0.6**
	baz=268					
GAMB	**Gambell**	**35.63 33**	P	**P**	**08 34 32.1**	**-0.3**
	baz=250					
GAMB			S	**S**	**08 40 09.9**	**+4.0**
	baz=250					
KMI	**Kunming**	**36.40 258**	⇑P	**P**	**08 34 38.6**	**-1.2**
KMI			pP	pP	08 34 50.5	+0.5
KMI			sP	sP	08 34 54.9	+0.2
KMI			S	**S**	**08 40 24.8**	**+5.7**
KMI			pmax	pmax		
	comp=Z,46nm,1.0s					
KMI			pmax	pmax		
	comp=Z,820nm,5.6s					
KMI			LR	LR		
	comp=Z,1μm,19.0s					
KMI			LR	LR		
	comp=Z,2μm,17.6s					
KMI			LR	LR		
	comp=Z,3μm,17.6s					
KMI	**Kunming**	**36.40 258**	P	**P**	**08 34 39.2**	**-0.6**
KMI	**Kunming**	**36.40 258**	P	**P**	**08 34 39.2**	**-0.6**
TNA	**Tin City**	**37.74 31**	P	**P**	**08 34 50.3**	**-0.1**
	baz=252					
SLVN	**Son La**	**37.78 252**	P	**P**	**08 34 50.2**	**-1.1**
SLVN			IAmb	IAmb	08 34 52.0	
	comp=Z,26nm,0.9s					
ANM	**Nome**	**38.51 33**	P	**P**	**08 34 56.9**	**0.0**
	baz=256,SNR=6.5					
ANM			S	**S**	**08 40 53.1**	**+3.3**
	baz=256					
DGZ	**Jazzator, Alta**	**39.40 303**	*c i* P	**P**	**08 35 04.8**	**+0.1**
DGZ			pmax	pmax		
	comp=Z,130nm,0.7s					
SDPT	**Sand Point**	**40.03 48**	P	**P**	**08 35 09.5**	**-0.2**
	baz=272					
WMQ	**Urumqi**	**40.34 294**	*e*P	**P**	**08 35 12.6**	**+0.1**
WMQ			pP	pP	08 35 25.2	+2.4
WMQ			pmax	pmax		
	comp=Z,68nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,510nm,5.5s					
WMQ			LR	LR		
	comp=Z,690nm,19.1s					
WMQ			LR	LR		
	comp=Z,880nm,16.3s					
WMQ			LR	LR		
	comp=Z,730nm,19.1s					
WMQ	**Urumqi**	**40.34 294**	P	**P**	**08 35 13.2**	**+0.7**
WMQ	**Urumqi**	**40.34 294**	P	**P**	**08 35 13.2**	**+0.7**
RDOG	**Red Dog Mine**	**40.36 28**	P	**P**	**08 35 11.7**	**-0.6**
	baz=255					
NONG	**Nongkai**	**40.41 249**	P	**P**	**08 35 12.9**	**-0.3**
	comp=Z,2μmcomp=Z,64nm,0.9s					
NONG	**Nongkai**	**40.41 249**	P	**P**	**08 35 13.0**	**-0.3**
	comp=Z,2μmcomp=Z,64nm,0.9s					
CHNA	**Chernabura Isl**	**40.57 49**	P	**P**	**08 35 14.2**	**+0.1**
	baz=273					
CNBA	**Chernabura Isl**	**40.57 49**	P	**P**	**08 35 15.3**	**+1.2**
CNBA			IAmb	IAmb	08 35 39.3	
	comp=Z,48nm,1.4s					
ZAA0	**Zalesovo Array**	**40.57 310**	P	**P**	**08 35 13.4**	**-0.8**
ZAA0			IAmb	IAmb	08 35 31.9	
	comp=Z,33nm,0.8s					
ZALV	**Zalesovo Beam**	**40.57 310**	P	**P**	**08 35 13.7**	**-0.5**
	comp=Z,18nm,0.7s,baz=95,slow=8.0,SNR=35					
ZALV			LR	LR	08 52 51.0	
	comp=Z,2μm,18.9s,baz=81,slow=37					
ZALV	**Zalesovo Beam**	**40.57 310**	*i* P	**P**	**08 35 13.6**	**-0.6**
ZALV			pmax	pmax		
	comp=Z,18nm,0.7s					
ZALV	**Zalesovo Beam**	**40.57 310**	P	**P**	**08 35 12.7**	**-1.5**
NRIK	**Noril'sk**	**40.88 334**	P	**P**	**08 35 15.9**	**-0.7**
	comp=Z,7.5nm,0.5s,baz=113,slow=5.8,SNR=14					
NRIK			LR	LR	08 53 15.7	
	comp=Z,3μm,19.4s,baz=105,slow=38					
NRIK	**Noril'sk**	**40.88 334**	*ce*P	**P**	**08 35 15.7**	**-0.8**
NRIK			pmax	pmax		
	comp=Z,37nm,1.5s					
NRIK	**Noril'sk**	**40.88 334**	P	**P**	**08 35 16.0**	**-0.5**
NRIK			IAmb	IAmb	08 35 35.7	
	comp=Z,50nm,1.1s					
ZSN	**Zaisan**	**41.46 300**	*e*P	**P**	**08 35 20.8**	**-0.9**
	baz=300					
ZSN	**Zaisan**	**41.46 300**	*e*P	**P**	**08 35 20.7**	**-0.9**
N18K	**Kilae Creek**	**42.39 40**	P	**P**	**08 35 28.8**	**-0.3**
	baz=270,SNR=9.8					
N18K			S	**S**	**08 41 52.2**	**+4.4**
	baz=270					
UTTA	**Uttaradit**	**42.49 251**	P	**P**	**08 35 30.3**	**0.0**
	comp=Z,37nm,1.3s					
UTTA	**Uttaradit**	**42.49 251**	P	**P**	**08 35 30.0**	**-0.3**
	comp=Z,9.3nm,1.3s					
SVW2	**Sparrevohn**	**42.55 39**	P	**P**	**08 35 32.5**	**+2.2**
LAMP	**Lampang**	**42.66 253**	P	**P**	**08 35 31.8**	**+0.1**
	comp=Z,32nm,0.9s					
LAMP	**Lampang**	**42.66 253**	P	**P**	**08 35 31.8**	**+0.1**
	comp=Z,7.9nm,0.9s					
CHAI	**Chaiyaphum**	**42.68 247**	P	**P**	**08 35 31.1**	**-0.7**
	comp=Z,1μmcomp=Z,63nm,0.8s					
CHAI	**Chaiyaphum**	**42.68 247**	P	**P**	**08 35 31.2**	**-0.6**
	comp=Z,254nmcomp=Z,16nm,0.8s					
O18K	**Koktuh Hills**	**42.74 41**	P	**P**	**08 35 31.7**	**-0.2**
	baz=271					
O18K			S	**S**	**08 41 55.6**	**+2.7**
	baz=271					
LSA	**Lhasa**	**42.90 273**	P	**P**	**08 35 34.0**	**-0.1**
LSA			pmax	pmax		
	comp=Z,83nm,1.6s					
LSA	**Lhasa**	**42.90 273**	P	**P**	**08 35 33.7**	**-0.4**
LSA			pmax	pmax		
	comp=Z,34nm,1.3s					
LSA	**Lhasa**	**42.90 273**	P	**P**	**08 35 33.7**	**-0.4**
LSA			IAmb	IAmb	08 35 39.9	
	comp=Z,34nm,1.3s					
L19K	**White Mountain**	**42.91 38**	P	**P**	**08 35 33.4**	**+0.1**
	baz=269,SNR=14					
L19K			S	**S**	**08 41 57.8**	**+2.5**
	baz=269					
PHIT	**Phitsanulok**	**42.95 250**	P	**P**	**08 35 34.2**	**+0.2**
	comp=Z,81nm,0.9s					
PHIT	**Phitsanulok**	**42.95 250**	P	**P**	**08 35 34.3**	**+0.2**
	comp=Z,20nm,0.9s					
CMMT	**Chiang Mai**	**42.98 253**	P	**P**	**08 35 33.8**	**-0.5**
	comp=Z,24nm,1.4s					
CMMT	**Chiang Mai**	**42.98 253**	P	**P**	**08 35 33.8**	**-0.5**
	comp=Z,24nm,1.4s					
CHTO	**Chiang Mai**	**42.98 253**	P	**P**	**08 35 33.4**	**-0.9**
CHTO			pmax	pmax		
	comp=Z,33nm,1.1s					
CHTO	**Chiang Mai**	**42.98 253**	P	**P**	**08 35 33.8**	**-0.5**
	comp=Z,34nm,1.2s					
CHTO	**Chiang Mai**	**42.98 253**	P	**P**	**08 35 33.4**	**-0.9**
CHTO			IAmb	IAmb	08 35 37.0	
	comp=Z,32nm,1.1s					
N19K	**Bonanza Creek**	**43.08 40**	P	**P**	**08 35 34.6**	**-0.2**
	baz=271					
N19K			S	**S**	**08 42 01.3**	**+3.2**
	baz=271					
O19K	**Port Alsworth**	**43.18 41**	P	**P**	**08 35 36.2**	**+0.8**
	baz=272					
O19K			S	**S**	**08 42 00.6**	**+1.4**
	baz=272					
CM09	**Chiang Mai Arr**	**43.18 253**	P	**P**	**08 35 38.4**	**+2.5**
	comp=Z,12nm,1.0s					
CM09	**Chiang Mai Arr**	**43.18 253**	P	**P**	**08 35 38.5**	**+2.5**
	comp=Z,12nm,1.0s					
CM31	**Chiang Mai Arr**	**43.21 253**	P	**P**	**08 35 35.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**43.21 253**	P	**P**	**08 35 35.9**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=44,slow=7.2,SNR=23					
CMAR			PcP	**PcP**	**08 37 27.1**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=44,slow=2.7,SNR=4.3					
CMAR			LR	LR	08 53 50.4	
	comp=Z,356nm,19.8s,baz=55,slow=36					
CMAR	**Chiang Mai Arr**	**43.21 253**	P	**P**	**08 35 35.9**	**-0.3**
CMAR					08 37 27.1	
CMAR	**Chiang Mai Arr**	**43.21 253**	P	**P**	**08 35 36.4**	**+0.2**
CM04	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.5**	**+0.3**
	comp=Z,133nmcomp=Z,16nm,1.1s					
CM04	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.5**	**+0.3**
	comp=Z,133nmcomp=Z,16nm,1.1s					
CM01	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.7**	**+0.5**
	comp=Z,346nmcomp=Z,7.2nm,0.8s					
CM01	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.0**	**-0.2**
	comp=Z,346nmcomp=Z,7.2nm,0.8s					
CM02	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.5**	**+0.3**
	comp=Z,10nm,1.0s					
CM02	**Chiang Mai Arr**	**43.22 253**	P	**P**	**08 35 36.5**	**+0.3**
	comp=Z,10nm,1.0s					
CM05	**Chiang Mai Arr**	**43.24 253**	P	**P**	**08 35 36.4**	**0.0**
	comp=Z,121nmcomp=Z,11nm,1.3s					
CM05	**Chiang Mai Arr**	**43.24 253**	P	**P**	**08 35 36.0**	**-0.4**
	comp=Z,121nmcomp=Z,11nm,1.3s					
CM13	**Chiang Mai Arr**	**43.26 253**	P	**P**	**08 35 36.8**	**+0.3**
	comp=Z,108nmcomp=Z,9.3nm,1.2s					
CM13	**Chiang Mai Arr**	**43.26 253**	P	**P**	**08 35 36.9**	**+0.3**
	comp=Z,108nmcomp=Z,9.3nm,1.2s					
MK31	**Makanchi Array**	**43.32 300**	*c i* P	**P**	**08 35 35.7**	**-1.1**
MK31	**Makanchi Array**	**43.32 300**	P	**P**	**08 35 36.0**	**-0.8**
MKAR	**Makanchi Array**	**43.32 300**	P	**P**	**08 35 36.0**	**-0.8**
	comp=Z,12nm,0.6s,baz=86,slow=10,SNR=52					
MKAR			PcP	**PcP**	**08 37 25.8**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=82,slow=3.1,SNR=1.0					
MKAR			LR	LR	08 54 26.9	
	comp=Z,2μm,20.0s,baz=80,slow=37					
MKAR	**Makanchi Array**	**43.32 300**	P	**P**	**08 35 36.0**	**-0.8**
MKAR					08 37 25.8	
MKAR	**Makanchi Array**	**43.32 300**	P	**P**	**08 35 35.5**	**-1.2**
MAKZ	**Makanchi**	**43.52 300**	P	**P**	**08 35 37.4**	**-1.0**
MAKZ			pmax	pmax		
	comp=Z,21nm,0.8s					
MAKZ	**Makanchi**	**43.52 300**	P	**P**	**08 35 37.4**	**-1.0**
MAKZ			IAmb	IAmb	08 35 40.4	
	comp=Z,21nm,0.8s					
MRSI	**Marisa**	**43.70 211**	P	**P**	**08 35 41.0**	**+1.0**
	comp=Z,96nm,1.2s					
M20K	**Styx River**	**43.72 38**	P	**P**	**08 35 40.8**	**+1.0**
	baz=271					
P19K	**Oil Pt**	**43.75 41**	P	**P**	**08 35 40.8**	**+0.7**
	baz=273					
SEM	**Semipalatinsk**	**43.85 305**	*e*P	**P**	**08 35 37.6**	**-3.7**
	baz=305					
SEM	**Semipalatinsk**	**43.85 305**	*e*P	**P**	**08 35 37.5**	**-3.7**
FAKI	**Fak Fak**	**43.86 195**	P	**P**	**08 35 43.2**	**+1.9**
OHAK	**Old Harbor**	**43.91 45**	P	**P**	**08 35 42.4**	**+1.1**
	baz=276					
OHAK			S	**S**	**08 42 08.8**	**-1.1**
	baz=276					
OHAK	**Old Harbor**	**43.91 45**	P	**P**	**08 35 43.2**	**+1.9**
OHAK			IAmb	IAmb	08 36 09.7	
	comp=Z,36nm,1.2s					
RSO	**Redoubt South**	**43.95 40**	P	**P**	**08 35 43.7**	**+1.9**
O20K	**Slope Mountain**	**44.03 41**	P	**P**	**08 35 43.2**	**+0.8**
	baz=273					
CHUM	**Lake Minchumin**	**44.08 35**	P	**P**	**08 35 43.9**	**+1.2**
	baz=270,SNR=16					
CHUM			S	**S**	**08 42 12.8**	**+0.4**
	baz=270					
MHMT	**Maesarieng**	**44.13 254**	P	**P**	**08 35 44.5**	**+1.0**
	comp=Z,29nm,0.8s					
MHMT	**Maesarieng**	**44.13 254**	P	**P**	**08 35 44.0**	**+0.5**
	comp=Z,29nm,0.8s					
PPLA	**Purkeypile**	**44.14 37**	P	**P**	**08 35 45.4**	**+2.1**
	baz=271,SNR=10					
PPLA			S	**S**	**08 42 15.7**	**+2.1**
	baz=271					
PPLA	**Purkeypile**	**44.14 37**	P	**P**	**08 35 45.5**	**+2.2**
PPLA			IAmb	IAmb	08 36 12.2	
	comp=Z,35nm,1.2s					
SPCR	**Spurr Chakacha**	**44.18 39**	P	**P**	**08 35 44.6**	**+1.0**
	baz=272					
SPCR			S	**S**	**08 42 16.0**	**+1.9**
	baz=272					
KDAK	**Kodiak Island**	**44.23 44**	P	**P**	**08 35 45.0**	**+1.1**
	comp=Z,13nm,0.7s,baz=296,slow=4.4,SNR=29					
KDAK	**Kodiak Island**	**44.23 44**	P	**P**	**08 35 45.0**	**+1.1**
KDAK	**Kodiak Island**	**44.23 44**	P	**P**	**08 35 44.4**	**+0.6**
	baz=276					
KDAK			S	**S**	**08 42 14.4**	**-0.3**
	baz=276					
KDAK	**Kodiak Island**	**44.23 44**	P	**P**	**08 35 44.9**	**+1.0**
KDAK			IAmb	IAmb	08 36 12.5	
	comp=Z,27nm,0.9s					
I21K	**Tanana**	**44.25 33**	P	**P**	**08 35 45.2**	**+1.2**
	baz=268,SNR=5.8					
I21K			S	**S**	**08 42 17.7**	**+2.9**
	baz=268					
SPU	**Mount Spurr**	**44.26 39**	P	**P**	**08 35 45.5**	**+1.4**
SHL	**Shillong**	**44.41 267**	P	**P**	**08 35 44.6**	**-1.4**
SHL			pmax	pmax		
	comp=Z,17nm,0.6s					
SHL	**Shillong**	**44.41 267**	P	**P**	**08 35 44.6**	**-1.4**
SHL			IAmb	IAmb	08 35 52.4	
	comp=Z,17nm,0.6s					
SKT	**Skwentna**	**44.47 38**	P	**P**	**08 35 46.6**	**+0.8**
	baz=272					
BPAW	**Bear Paw Mtn.**	**44.67 35**	P	**P**	**08 35 49.0**	**+1.6**
	baz=270,SNR=11					
BPAW			S	**S**	**08 42 22.8**	**+1.8**
	baz=270					
BPAW	**Bear Paw Mtn.**	**44.67 35**	P	**P**	**08 35 48.6**	**+1.2**
KTH	**Kantishna Hill**	**44.71 36**	P	**P**	**08 35 47.3**	**-0.4**
KTH			IAmb	IAmb	08 36 16.2	
	comp=Z,36nm,1.1s					
UMPA	**Umpang Tak**	**44.71 251**	P	**P**	**08 35 50.6**	**+2.3**
	comp=Z,10μmcomp=Z,48nm,1.2s					
UMPA	**Umpang Tak**	**44.71 251**	P	**P**	**08 35 50.0**	**+1.7**
	comp=Z,3μmcomp=Z,12nm,1.2s					
UTHA	**Uthaitani**	**44.72 249**	P	**P**	**08 35 49.0**	**+0.7**
	comp=Z,111nmcomp=Z,6.1nm,0.9s					
MLY	**Manley**	**44.77 34**	P	**P**	**08 35 48.9**	**+0.7**
	baz=270,SNR=18					
MLY			S	**S**	**08 42 24.8**	**+2.2**
	baz=270					
MLY	**Manley**	**44.77 34**	P	**P**	**08 35 49.4**	**+1.2**
KURK	**Kurchatov**	**44.80 306**	P	**P**	**08 35 48.3**	**-0.2**
KURK	**Kurchatov**	**44.80 306**	P	**P**	**08 35 48.3**	**-0.2**
SUA	**Susitna One**	**44.87 39**	P	**P**	**08 35 49.5**	**+0.4**
	baz=273					
SUA	**Susitna One**	**44.87 39**	P	**P**	**08 35 49.0**	**-0.1**
SUA			IAmb	IAmb	08 36 06.5	
	comp=Z,18nm,0.8s					
KURBB	**Kurchatov Arra**	**44.88 306**	P	**P**	**08 35 48.3**	**-0.8**
	comp=Z,80nm,0.7s,baz=81,slow=8.6,SNR=206					
TRF	**Thorofare Moun**	**44.99 36**	P	**P**	**08 35 50.6**	**+0.6**
	baz=272,SNR=5.1					
TRF	**Thorofare Moun**	**44.99 36**	P	**P**	**08 35 50.7**	**+0.6**
BRSE	**Bradley Lake S**	**45.00 41**	P	**P**	**08 35 50.5**	**+0.5**
	baz=275					
COLD	**Coldfoot**	**45.03 30**	P	**P**	**08 35 50.7**	**+0.5**
	baz=268,SNR=17					
COLD			S	**S**	**08 42 27.7**	**+1.6**
	baz=268					
COLD	**Coldfoot**	**45.03 30**	P	**P**	**08 35 50.6**	**+0.4**
CUT	**Chulitna**	**45.04 37**	P	**P**	**08 35 50.7**	**+0.4**
	baz=273					
APSI	**Ampana**	**45.08 210**	P	**P**	**08 35 51.4**	**+0.3**
	comp=Z,822nmcomp=Z,51nm,1.2s					
H23K	**Yukon River**	**45.27 32**	P	**P**	**08 35 54.1**	**+2.0**
	baz=270,SNR=18					
H23K			S	**S**	**08 42 32.0**	**+2.3**
	baz=270					
TOLK	**Toolik Lake Re**	**45.33 29**	P	**P**	**08 35 52.7**	**+0.2**
	baz=267,SNR=12					
TOLK	**Toolik Lake Re**	**45.33 29**	P	**P**	**08 35 54.3**	**+1.7**
TOLK			IAmb	IAmb	08 36 16.6	
	comp=Z,31nm,1.4s					
BWN	**Browne**	**45.34 35**	P	**P**	**08

I23K	**Minto, Yukon-K**	**45.36**	**33**	P	**P**	**08 35 53.6**	**+0.9**
	baz=271						
I23K				S	**S**	**08 42 34.1**	**+3.3**
	baz=271						
I23K	**Minto, Yukon-K**	**45.36**	**33**	P	**P**	**08 35 55.1**	**+2.3**
RC01	**Rabbit Creek A**	**45.38**	**39**	P	**P**	**08 35 53.3**	**+0.3**
	baz=275						
O22K	**Cooper Landing**	**45.44**	**40**	P	**P**	**08 35 54.0**	**+0.5**
	baz=275						
NEA2	**Nenana**	**45.49**	**34**	P	**P**	**08 35 54.3**	**+0.4**
	baz=272,SNR=25						
NEA2				S	**S**	**08 42 35.2**	**+2.3**
	baz=272						
MCK	**McKinley**	**45.59**	**35**	P	**P**	**08 35 55.4**	**+0.8**
MCK				pmax	pmax		
	comp=Z,35nm,1.3s						
MCK	**McKinley**	**45.59**	**35**	P	**P**	**08 35 54.4**	**-0.3**
	baz=273,SNR=8.2						
MCK	**McKinley**	**45.59**	**35**	P	**P**	**08 35 55.4**	**+0.8**
MCK				IAmb	IAmb	08 36 21.0	
	comp=Z,35nm,1.3s						
SEW	**Seward**	**45.61**	**41**	P	**P**	**08 35 55.1**	**+0.2**
	baz=276						
GHO	**Glory Hole Cre**	**45.72**	**38**	P	**P**	**08 35 56.9**	**+1.1**
GHO				IAmb	IAmb	08 36 21.5	
	comp=Z,24nm,0.7s						
WAT1	**Susitna Watana**	**45.81**	**37**	P	**P**	**08 35 56.4**	**-0.1**
	baz=274						
H24K	**Noodor Dome**	**45.96**	**32**	P	**P**	**08 35 58.3**	**+0.8**
	baz=272,SNR=13						
H24K				S	**S**	**08 42 42.7**	**+3.1**
	baz=272						
KNK	**Knik Glacier**	**45.97**	**39**	P	**P**	**08 35 58.2**	**+0.5**
	baz=275						
SML	**Sawmill**	**45.99**	**38**	P	**P**	**08 35 58.2**	**+0.3**
	baz=275,SNR=8.8						
SML				S	**S**	**08 42 41.0**	**+0.7**
	baz=275						
TCOL	**CIGO, UAF Yank**	**46.00**	**34**	P	**P**	**08 35 57.9**	**+0.1**
	baz=272						
TCOL				S	**S**	**08 42 42.4**	**+2.4**
	baz=272						
TCOL	**CIGO, UAF Yank**	**46.00**	**34**	P	**P**	**08 35 58.8**	**+1.0**
TCOL				IAmb	IAmb	08 36 20.7	
	comp=Z,31nm,0.9s						
COLA	**College**	**46.01**	**34**	*c iP*	**P**	**08 35 57.4**	**-0.5**
COLA				pmax	pmax		
	comp=Z,21nm,0.9s						
COLA	**College**	**46.01**	**34**	P	**P**	**08 35 57.9**	**+0.1**
	baz=272						
COLA				S	**S**	**08 42 41.9**	**+1.7**
	baz=272						
COLA	**College**	**46.01**	**34**	P	**P**	**08 35 58.7**	**+0.8**
COLA				IAmb	IAmb	08 36 20.7	
	comp=Z,31nm,0.9s						
POKR	**Poker Plat Res**	**46.17**	**33**	P	**P**	**08 36 00.1**	**+0.9**
	baz=273,SNR=7.0						
POKR				S	**S**	**08 42 43.8**	**+1.2**
	baz=273						
POKR	**Poker Plat Res**	**46.17**	**33**	P	**P**	**08 36 00.4**	**+1.2**
POKR				IAmb	IAmb	08 36 03.6	
	comp=Z,32nm,0.9s						
BRDH	**Bariadhala**	**46.17**	**264**	LR	LR	08 57 56.4	
	comp=Z,491nm,18.4s,baz=76,slow=39						
WAT6	**Susitna Watana**	**46.20**	**37**	P	**P**	**08 35 60.0**	**+0.3**
	baz=275,SNR=7.0						
WAT6				S	**S**	**08 42 44.4**	**+0.9**
	baz=275						
SHLS	**Shalkode**	**46.27**	**295**	*eP*	**P**	**08 35 56.6**	**-3.9**
	comp=Z,23nm,0.8s,baz=295						
SHLS	**Shalkode**	**46.27**	**295**	*eP*	**P**	**08 35 56.5**	**-3.9**
SHLS				pmax	pmax		
	comp=Z,23nm,0.8s						
TDK	**Taldyqorghan**	**46.41**	**298**	*eP*	**P**	**08 36 00.1**	**-1.3**
	baz=298						
TDK	**Taldyqorghan**	**46.41**	**298**	*eP*	**P**	**08 36 00.1**	**-1.3**
HDA	**Harding Lake**	**46.42**	**34**	P	**P**	**08 36 01.4**	**+0.3**
	baz=274,SNR=13						
HDA	**Harding Lake**	**46.42**	**34**	P	**P**	**08 36 01.7**	**+0.5**
HDA				IAmb	IAmb	08 36 27.8	
	comp=Z,37nm,1.4s						
IL31		**46.42**	**34**	P	**P**	**08 36 02.0**	**+0.9**
IL31				IAmb	IAmb	08 36 12.7	
	comp=Z,17nm,0.8s						
ILAR	**Eielson Array**	**46.42**	**34**	P	**P**	**08 36 02.5**	**+1.3**
	comp=Z,9.2nm,0.7s,baz=262,slow=5.6,SNR=64						
ILAR				LR	LR	08 59 02.1	
	comp=Z,253nm,18.4s,baz=280,slow=40						
ILAR	**Eielson Array**	**46.42**	**34**	P	**P**	**08 36 02.5**	**+1.3**
ILAR	**Eielson Array**	**46.42**	**34**	P	**P**	**08 36 02.1**	**+1.0**
UZB	**Uzynbulak**	**46.58**	**296⇑**	*iP*	**P**	**08 36 01.5**	**-1.4**
	comp=Z,23nm,1.5s,baz=296						
UZB	**Uzynbulak**	**46.58**	**296**	*c iP*	**P**	**08 36 01.5**	**-1.4**
UZB				pmax	pmax		
	comp=Z,23nm,1.5s						
GLI	**Glacier Island**	**46.69**	**39**	P	**P**	**08 36 04.1**	**+0.8**
	baz=277						
TAPN	**Taplejung**	**46.69**	**272**	*eP*	**P**	**08 36 03.8**	**-0.3**
	comp=Z,25nm,0.4s						
KPKS	**Kokpek**	**46.71**	**296⇑**	*iP*	**P**	**08 36 02.6**	**-1.2**
	comp=Z,30nm,1.3s,baz=296						
KPKS	**Kokpek**	**46.71**	**296**	*c iP*	**P**	**08 36 02.6**	**-1.2**
KPKS				pmax	pmax		
	comp=Z,30nm,1.3s						
PRP	**Porcupine Dome**	**46.95**	**33**	P	**P**	**08 36 05.9**	**+0.4**
	baz=274,SNR=22						
PRP				S	**S**	**08 42 54.3**	**+0.3**
	baz=274						
M24K	**Tolsona, Glenn**	**46.98**	**38**	P	**P**	**08 36 06.0**	**+0.4**
	baz=277						
FYU	**Fort Yukon**	**47.00**	**31**	P	**P**	**08 36 06.9**	**+1.3**
SATY	**Saty**	**47.03**	**296**	*eP*	**P**	**08 36 05.1**	**-1.3**
	comp=Z,18nm,1.4s,baz=296						
SATY	**Saty**	**47.03**	**296**	*eP*	**P**	**08 36 05.1**	**-1.3**
SATY				pmax	pmax		
	comp=Z,18nm,1.4s						
KLU	**Klutina**	**47.17**	**38**	P	**P**	**08 36 07.6**	**+0.5**
	baz=277,SNR=11						
KLU				S	**S**	**08 43 00.2**	**+3.0**
	baz=277						
ODAN	**Odare**	**47.19**	**271**	*eP*	**P**	**08 36 07.9**	**0.0**
	comp=Z,63nm,0.8s						
PAX	**Paxson**	**47.20**	**36**	P	**P**	**08 36 07.3**	**-0.1**
	baz=276						
PRZ	**Przheval'sk**	**47.23**	**295**	P	**P**	**08 36 08.2**	**+0.2**
PRZ				pmax	pmax		
	comp=Z,89nm,1.5s						
PRZ	**Przheval'sk**	**47.23**	**295**	P	**P**	**08 36 08.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**47.39**	**40**	P	**P**	**08 36 09.0**	**+0.3**
	baz=278,SNR=5.5						
EYAK				S	**S**	**08 43 01.8**	**+1.9**
	baz=278						
RIDG	**Independent Ri**	**47.40**	**35**	P	**P**	**08 36 08.5**	**-0.4**
	baz=276						
HARP	**HAARP**	**47.42**	**37**	P	**P**	**08 36 09.4**	**+0.4**
	baz=277						
JIRN	**Jiri**	**47.70**	**273**	*eP*	**P**	**08 36 11.7**	**-0.4**
	comp=Z,60nm,0.8s						
CHKK	**Chushkaly**	**47.74**	**297⇑**	*eP*	**P**	**08 36 10.5**	**-1.3**
	baz=297						
CHKK	**Chushkaly**	**47.74**	**297⇑**	*eP*	**P**	**08 36 10.4**	**-1.3**
RAMN	**Ramite**	**47.74**	**272**	*eP*	**P**	**08 36 11.9**	**-0.4**
	comp=Z,42nm,0.4s						
SCRK	**Sand Creek**	**47.75**	**35**	P	**P**	**08 36 12.2**	**+0.5**
	baz=277,SNR=41						
SCRK	**Sand Creek**	**47.75**	**35**	P	**P**	**08 36 12.5**	**+0.8**
SCRK				IAmb	IAmb	08 36 27.8	
	comp=Z,19nm,0.8s						
DOT	**Dot Lake**	**47.76**	**35**	P	**P**	**08 36 12.4**	**+0.7**
N25K	**Chitina, Valde**	**47.78**	**38**	P	**P**	**08 36 12.4**	**+0.4**
	baz=278						
N25K				S	**S**	**08 43 07.3**	**+1.4**
	baz=278						
GUN	**Gumba**	**47.81**	**273**	*eP*	**P**	**08 36 12.3**	**-0.6**
	comp=Z,169nm,0.7s						
BMRM	**Bremner River**	**47.88**	**39**	P	**P**	**08 36 13.6**	**+0.9**
	baz=279,SNR=6.1						
TARG	**Taragay, Kyrgy**	**47.91**	**294**	P	**P**	**08 36 13.4**	**-0.2**
MDOK	**Medeo**	**47.93**	**296**	*eP*	**P**	**08 36 12.2**	**-1.2**
	baz=296						
MDOK	**Medeo**	**47.93**	**296**	*eP*	**P**	**08 36 12.2**	**-1.2**
KUU	**Kurty**	**48.17**	**297⇑**	*iP*	**P**	**08 36 13.7**	**-1.5**
	comp=Z,26nm,0.9s,baz=297						
KUU	**Kurty**	**48.17**	**297**	*c iP*	**P**	**08 36 13.6**	**-1.5**
KUU				pmax	pmax		
	comp=Z,26nm,0.9s						
KDJ	**Kajisay**	**48.20**	**295**	P	**P**	**08 36 14.8**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,25nm,1.1s						
KDJ	**Kajisay**	**48.20**	**295**	P	**P**	**08 36 14.8**	**-0.8**
KDJ				IAmb	IAmb	08 36 21.3	
	comp=Z,25nm,1.1s						
KKN	**Kakani**	**48.33**	**274**	*eP*	**P**	**08 36 16.2**	**-0.6**
	comp=Z,150nm,0.8s						
KSM	**Kuching**	**48.34**	**226**	P	**P**	**08 36 17.0**	**+0.3**
PKI	**Pulchoki**	**48.34**	**273**	*eP*	**P**	**08 36 16.0**	**-1.0**
PKIN	**Phulchoki**	**48.35**	**273**	*eP*	**P**	**08 36 16.0**	**-1.0**
MCARA	**McCarthy VSAT**	**48.57**	**38**	P	**P**	**08 36 17.8**	**-0.1**
	baz=280						
K27K	**Chicken**	**48.58**	**35**	P	**P**	**08 36 17.5**	**-0.4**
	baz=278						
K27K	**Chicken**	**48.58**	**35**	P	**P**	**08 36 19.4**	**+1.5**
K27K				IAmb	IAmb	08 36 29.9	
	comp=Z,25nm,1.1s						
CRQE	**Cirque**	**48.64**	**39**	P	**P**	**08 36 19.7**	**+1.0**
	baz=280,SNR=9.7						
GKN	**Gorkha**	**48.72**	**274**	*eP*	**P**	**08 36 18.8**	**-0.9**
L27K	**Beaver Creek,**	**48.84**	**36**	P	**P**	**08 36 21.0**	**+1.0**
	baz=279,SNR=35						
BCAR	**Beaver Creek A**	**48.86**	**36**	P	**P**	**08 36 22.1**	**+2.0**
EGAK	**Eagle**	**48.86**	**34**	P	**P**	**08 36 20.9**	**+0.8**
	baz=278,SNR=7.1						
EGAK				S	**S**	**08 43 23.2**	**+2.4**
	baz=278						
EGAK	**Eagle**	**48.86**	**34**	P	**P**	**08 36 21.3**	**+1.2**
EGAK				IAmb	IAmb	08 36 42.8	
	comp=Z,16nm,0.8s						
BNSI	**Bone**	**48.87**	**210**	P	**P**	**08 36 21.2**	**+0.5**
	comp=Z,34nm,1.1s						
BVAR	**Borovoye Array**	**49.21**	**311**	P	**P**	**08 36 21.9**	**-1.0**
	comp=Z,15nm,0.6s,baz=156,slow=15,SNR=60						
BVAR	**Borovoye Array**	**49.21**	**311**	P	**P**	**08 36 21.9**	**-1.0**
BVAR	**Borovoye Array**	**49.21**	**311**	P	**P**	**08 36 21.9**	**-1.0**
DANN	**Dangsing**	**49.21**	**275**	*eP*	**P**	**08 36 23.4**	**-0.2**
	comp=Z,385nm,0.9s						
BRVK	**Borovoye**	**49.27**	**311**	*ceP*	**P**	**08 36 22.4**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**49.27**	**311**	P	**P**	**08 36 23.1**	**-0.2**
BRVK				IAmb	IAmb	08 36 24.0	
	comp=Z,30nm,0.9s						
BTLS	**Baital**	**49.33**	**300**	*eP*	**P**	**08 36 22.2**	**-1.8**
	baz=300						
BTLS	**Baital**	**49.33**	**300**	*eP*	**P**	**08 36 22.1**	**-1.9**
CTG	**Chitna Glacier**	**49.45**	**39**	P	**P**	**08 36 24.7**	**-0.1**
	baz=282						
CTGM	**Chitina Glacie**	**49.45**	**39**	P	**P**	**08 36 26.5**	**+1.7**
CTGM				IAmb	IAmb	08 36 41.9	
	comp=Z,21nm,0.9s						
SGDS	**Sogindy**	**49.49**	**297**	*eP*	**P**	**08 36 24.0**	**-1.3**
	baz=297						
SGDS	**Sogindy**	**49.49**	**297**	*eP*	**P**	**08 36 24.0**	**-1.3**
KAPI	**Kappang**	**49.57**	**210**	P	**P**	**08 36 25.9**	**-0.2**
	comp=Z,4.0nm,0.4s,baz=202,slow=5.8,SNR=3.9						
KAPI	**Kappang**	**49.57**	**210**	P	**P**	**08 36 25.9**	**-0.2**
KAPI	**Kappang**	**49.57**	**210**	P	**P**	**08 36 25.9**	**-0.2**
KAPI	**Kappang**	**49.57**	**210**	IAmb	IAmb	08 36 40.4	
	comp=Z,28nm,1.1s						
KOLN	**Koldanda**	**49.62**	**275**	*eP*	**P**	**08 36 26.3**	**-0.4**
	comp=Z,148nm,1.0s						
AAK	**Ala-Archa**	**49.87**	**296**	P	**P**	**08 36 27.7**	**-0.7**
	comp=Z,120nm,0.9s,baz=82,slow=5.8,SNR=14						
AAK				LR	LR	08 58 43.3	
	comp=Z,1μm,21.7s,baz=98,slow=37						
AAK	**Ala-Archa**	**49.87**	**296**	*ceP*	**P**	**08 36 27.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,88nm,1.7s						
AAK	**Ala-Archa**	**49.87**	**296**	P	**P**	**08 36 27.4**	**-1.0**
AAK				IAmb	IAmb	08 36 29.7	
	comp=Z,14nm,1.0s						
PYUN	**Piuthan**	**49.92**	**275**	*eP*	**P**	**08 36 28.5**	**-0.5**
TRTT	**Trang**	**49.93**	**242**	P	**P**	**08 36 31.2**	**+2.4**
	comp=Z,35nm,1.2s						
TRTT	**Trang**	**49.93**	**242**	P	**P**	**08 36 31.3**	**+2.4**
KSH	**Kashi**	**50.03**	**292**	P	**P**	**08 36 32.8**	**+3.3**
KSH				pP	sP	08 36 48.6	+4.2
KSH				S	**S**	**08 43 42.8**	**+4.7**
KSH				sS	sS	08 44 02.7	+8.5
KSH				pmax	pmax		
	comp=Z,11nm,1.7s						
KSH				pmax	pmax		
	comp=Z,200nm,3.7s						
KSH				LR	LR		
	comp=Z,1μm,12.6s						
KSH				LR	LR		
	comp=Z,2μm,14.7s						
KSH				LR	LR		
	comp=Z,3μm,9.7s						
EPYK	**Eagle Plains**	**50.41**	**31**	P	**P**	**08 36 33.1**	**+1.1**
	baz=281,SNR=22						
KULM	**Kulim**	**51.17**	**239**	P	**P**	**08 36 38.0**	**-0.2**
INK	**Inuvik**	**51.24**	**28**	P	**P**	**08 36 39.5**	**+1.5**
	comp=Z,18nm,0.8s,baz=290,slow=6.7,SNR=27						
INK				LR	LR	08 59 12.7	
	comp=Z,558nm,21.9s,baz=273,slow=37						
INK	**Inuvik**	**51.24**	**28**	P	**P**	**08 36 39.5**	**+1.5**
INK	**Inuvik**	**51.24**	**28**	P	**P**	**08 36 39.0**	**+0.9**
	baz=282,SNR=17						
INK	**Inuvik**	**51.24**	**28**	P	**P**	**08 36 38.9**	**+0.9**
INK				IAmb	IAmb	08 36 57.2	
	comp=Z,20nm,0.9s						
IPM	**Ipoh**	**51.53**	**238**	P	**P**	**08 36 41.0**	**+0.1**
DZA	**Taraz**	**51.94**	**298**	*eP*	**P**	**08 36 42.5**	**-1.3**
	baz=298						
DZA	**Taraz**	**51.94**	**298**	*eP*	**P**	**08 36 42.4**	**-1.3**
EDFI	**Ende, Flores**	**52.32**	**206**	P	**P**	**08 36 45.6**	**-1.2**
	comp=Z,11nm,0.8s						
KK31	**Karatay Array**	**52.41**	**298**	P	**P**	**08 36 45.9**	**-1.3**
KK31				pmax	pmax		
	comp=Z,27nm,0.9s						
KK31	**Karatay Array**	**52.41**	**298**	P	**P**	**08 36 45.9**	**-1.3**
KK31				IAmb	IAmb	08 36 48.7	
	comp=Z,27nm,0.9s						
KKAR	**Karatay Array**	**52.41**	**298**	P	**P**	**08 36 46.3**	**-0.9**
KKAR	**Karatay Array**	**52.41**	**298**	P	**P**	**08 36 46.3**	**-0.9**
SOEI	**Soe**	**52.44**	**203**	P	**P**	**08 36 48.9**	**+1.2**
	comp=Z,76nm,1.1s						
WHY	**Whitehorse**	**52.59**	**38**	P	**P**	**08 36 49.1**	**+0.7**
	baz=287						
WHY	**Whitehorse**	**52.59**	**38**	P	**P**	**08 36 50.2**	**+1.9**
WHY				IAmb	IAmb	08 37 05.0	
	comp=Z,13nm,0.9s						
SKAG	**Skagway**	**52.73**	**39**	P	**P**	**08 36 48.8**	**-0.4**
	baz=287						
BTK	**Batken**	**53.43**	**295**	P	**P**	**08 36 54.1**	**-0.8**
BTK				pmax	pmax		
	comp=Z,26nm,1.0s						
BTK	**Batken**	**53.43**	**295**	P	**P**	**08 36 54.1**	**-0.8**
BTK				IAmb	IAmb	08 37 04.7	
	comp=Z,26nm,1.0s						
SVE	**Sverdlovsk**	**53.47**	**317**	*deP*	**P**	**08 36 54.9**	**+0.2**
SVE				pmax	pmax		
	comp=Z,96nm,1.0s						
SVE				MLR	MLR		
	comp=Z,3μm,16.0s						
SIT	**Sitka**	**53.48**	**42**	P	**P**	**08 36 55.2**	**+0.4**
	baz=289						
MTN	**Manton Dam**	**53.75**	**194**	P	**P**	**08 36 57.1**	**-0.1**
GAR	**Garm**	**54.24**	**294**	P	**P**	**08 36 59.9**	**-1.0**
C36M	**Paulatuk**	**54.26**	**26**	P	**P**	**08 37 00.5**	**+0.1**
	baz=289						
NIL	**Nilore**	**54.55**	**287**	P	**P**	**08 37 03.0**	**-0.1**
NIL				pmax	pmax		
	comp=Z,53nm,0.7s						
NIL	**Nilore**	**54.55**	**287**	P	**P**	**08 37 03.0**	**-0.1**
ARU	**Arti**	**54.68**	**317**	P	**P**	**08 37 03.4**	**-0.2**
	comp=Z,14nm,0.6s,baz=67,slow=4.5,SNR=69						
ARU				LR	LR	09 02 53.1	
	comp=Z,2μm,18.6s,baz=90,slow=39						
ARU	**Arti**	**54.68**	**317**	*c iP*	**P**	**08 37 03.2**	**-0.4**
ARU				*PP	**sP**	**08 37 18.0**	**-0.4**
ARU						08 38 02.9	
ARU						08 39 05.7	
ARU				S	**S**	**08 44 41.7**	**+0.8**
ARU				SS	**SS**	**08 48 21.5**	**-2.0**
ARU				pmax	pmax		
	comp=Z,85nm,0.9s						
ARU				MLR	MLR		
	comp=Z,3μm,16.0s						
ARU	**Arti**	**54.68**	**317**	P	**P**	**08 37 03.3**	**-0.2**
BKNI	**Bangkinang**	**54.71**	**234**	P	**P**	**08 37 05.0**	**+0.7**
	comp=Z,85nm,1.2s						
CRAG	**Craig**	**55.19**	**44**	P	**P**	**08 37 07.2**	**0.0**
	baz=292						
CHGR	**Chuyangaron**	**55.20**	**294**	P	**P**	**08 37 06.8**	**-0.9**
DLBC	**Dease Lake**	**55.66**	**40**	P	**P**	**08 37 13.0**	**+2.3**
	comp=Z,3.2nm,0.8s,baz=287,slow=10,SNR=5.1						
DLBC				LR	LR	09 02 25.6	
	comp=Z,217nm,19.0s,baz=302,slow=37						
GSI	**Gunungsitoli**	**56.17**	**238**	P	**P**	**08 37 14.0**	**-0.8**
	comp=Z,63nm,1.0s						
MDSI	**Maura Dua**	**56.67**	**228**	P	**P**	**08 37 17.7**	**-0.7**
	comp=Z,16nm,1.3s						
ABKAR	**Abkulak array**	**56.68**	**309**	P	**P**	**08 37 17.4**	**-0.6**
ABKAR	**Abkulak array**	**56.68**	**309**	P	**P**	**08 37 17.2**	**-0.8**
KNRA	**Kununurra**	**56.97**	**196**	P	**P**	**08 37 20.3**	**-0.1**
AKTO	**Aktyubinsk**	**57.32**	**311**	P	**P**	**08 37 21.9**	**-0.7**
	comp=Z,27nm,0.8s,baz=73,slow=8.2,SNR=39						
AKTO				LR	LR	09 03 16.3	
	comp=Z,1μm,19.0s,baz=67,slow=37						
AKTO	**Aktyubinsk**	**57.32**	**311**	P	**P**	**08 37 21.9**	**-0.7**
KIRV	**Kirov**	**58.35**	**322**	P	**P**	**08 37 29.1**	**-0.6**
	comp=Z,52nm,0.6s,baz=86,slow=3.5,SNR=25						
KIRV	**Kirov**	**58.35**	**322**	*ceP*	**P**	**08 37 29.6**	**0.0**
KIRV	**Kirov**	**58.35**	**322**	P	**P**	**08 37 29.1**	**-0.6**
PRGR	**Permogore**	**58.69**	**326**	*eP*	P	08 37 27.1	-4.8
PRGR				pmax	pmax		
	comp=Z,84nm,1.1s						
HYB	**Hyderabad**	**59.22**	**267**	*i* P	**P**	**08 37 35.0**	**-1.3**
HYB				*ep*P	**pP**	**08 37 49.0**	**+2.0**
RES	**Resolute Bay**	**59.39**	**15**	P	**P**	**08 37 36.4**	**-0.2**
	comp=Z,15nm,0.8s,baz=325,slow=6.4,SNR=2.4						
RES	**Resolute Bay**	**59.39**	**15**	P	**P**	**08 37 36.4**	**-0.2**
RES	**Resolute Bay**	**59.39**	**15**	P	**P**	**08 37 36.4**	**-0.2**
LVZ	**Lovozero**	**59.68**	**335**	*ceP*	**P**	**08 37 38.4**	**-0.4**
LVZ				pmax	pmax		
	comp=Z,20nm,1.3s						
WRAB	**Tennant Creek**	**60.23**	**189**	*ceP*	**P**	**08 37 41.5**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,34nm,1.3s						
WRAB	**Tennant Creek**	**60.23**	**189**	P	**P**	**08 37 42.3**	**-0.7**
WRAB				IAmb	IAmb	08 37 45.1	
	comp=Z,27nm,1.1s						
WR0	**Warramunga Arr**	**60.23**	**189**	P	**P**	**08 37 42.3**	**-0.7**
WR0				IAmb	IAmb	08 37 45.1	
	comp=Z,28nm,1.1s						
WRA	**Warramunga Arr**	**60.24**	**189**	P	**P**	**08 37 42.2**	**-0.9**
	comp=Z,25nm,1.1s,baz=6.3,slow=6.9,SNR=56						
WRA				LR	LR	09 03 22.9	
	comp=Z,225nm,22.0s,baz=20,slow=36						
WRA				PKPPKP	P'P'df	09 07 16.0	+16
	comp=Z,1.6nm,1.1s,baz=181,slow=2.0,SNR=5.1						
WRA	**Warramunga Arr**	**60.24**	**189**	P	**P**	**08 37 42.5**	**-0.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
WRA	**Warramunga Arr**	**60.24**	**189**	P	**P**	**08 37 42.5**	**-0.6**
APA	**Apatity**	**60.26**	**335⇑**	*iP*	P	08 37 29.6	-13
APA				*i*		08 40 01.5	
APA				pmax	pmax		
	comp=Z,14nm,1.0s						
APA				MLR	MLR		
	comp=Z,800nm,15.0s						
YKA	**Yellowknife Ar**	**60.70**	**31**	P	**P**	**08 37 46.5**	**+0.8**
	comp=Z,9.0nm,1.0s,baz=299,slow=6.4,SNR=12						
YKA				LR	LR	09 06 27.9	
	comp=Z,108nm,18.7s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**60.70**	**31**	P	**P**	**08 37 46.5**	**+0.8**
YKA	**Yellowknife Ar**	**60.70**	**31**	P	**P**	**08 37 46.5**	**+0.8**
ARCES	**ARCESS Array B**	**61.44**	**339**	P	**P**	**08 37 50.6**	**0.0**
	comp=Z,8.3nm,0.8s,baz=52,slow=8.0,SNR=17						
ARCES				LR	LR	09 09 12.1	
	comp=Z,528nm,18.1s,baz=95,slow=41						
ARCES	**ARCESS Array B**	**61.44**	**339**	P	**P**	**08 37 50.7**	**0.0**
ARCES	**ARCESS Array B**	**61.44**	**339**	P	**P**	**08 37 50.7**	**0.0**
KLMR	**Klimovskoe**	**61.65**	**327**	*eP*	**P**	**08 37 49.2**	**-3.0**
KLMR				*e*		08 40 04.7	
KLMR				*e*SS	SS	08 50 16.0	+3.4
KLMR				pmax	pmax		
	comp=Z,98nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,975nm,17.0s						
KLMR	**Klimovskoe**	**61.65**	**327**	*eP*	**P**	**08 37 49.2**	**-3.0**
KLMR				AMP		08 37 54.3	
	comp=Z,98nm,1.3s						
KLMR				*e*PP	**PP**	**08 40 04.7**	**-2.9**
KLMR				*e*PPP	PPP	08 41 28.0	
KLMR				*e*SS	**SS**	**08 50 16.1**	**+3.5**
KLMR				*e*SS	**SS**	**08 50 16.1**	**+3.5**
KLMR				LQ	LQ	09 00 02.9	
KLMR				LQ	LQ	09 00 02.9	
KLMR				LR	LR	09 02 32.5	
KLMR				AMP		09 06 39.4	
	comp=Z,975nm,17.1s						
BELG	**Belogornoye**	**62.18**	**316**	P	**P**	**08 37 55.7**	**-0.2**
	comp=Z,53nm,0.8s,baz=262,slow=2.5,SNR=21						
BELG				LR	LR	09 07 33.6	
	comp=Z,2μm,18.3s,baz=90,slow=38						
BELG	**Belogornoye**	**62.18**	**316**	P	**P**	**08 37 55.7**	**-0.2**
BELG	**Belogornoye**	**62.18**	**316**	P	**P**	**08 37 55.7**	**-0.2**
GEYT	**Alibeck**	**63.16**	**298**	P	**P**	**08 38 02.1**	**-0.7**
	comp=Z,26nm,0.8s,baz=17,slow=1.5,SNR=22						
GEYT				LR	LR	09 07 20.0	
	comp=Z,396nm,18.5s,baz=205,slow=38						
GYA0B	**ALIBECK ARRAY**	**63.16**	**298**	P	**P**	**08 38 02.2**	**-0.6**
ASAR	**Alice Springs**	**63.97**	**189**	P	**P**	**08 38 07.7**	**-0.4**
	comp=Z,8.0nm,0.9s,baz=8.2,slow=5.6,SNR=36						
ASAR				LR	LR	09 05 48.4	
	comp=Z,327nm,21.9s,baz=7.5,slow=36						
ASAR				PKPPKP	P'P'df	09 07 07.7	+14
	comp=Z,0.6nm,0.9s,baz=187,slow=5.3,SNR=4.3						
ASAR	**Alice Springs**	**63.97**	**189**	P	**P**	**08 38 08.1**	**+0.1**
ASAR	**Alice Springs**	**63.97**	**189**	P	**P**	**08 38 08.1**	**+0.1**
D03D	**Eldon**	**64.36**	**49**	P	**P**	**08 38

FIA1 FINESS Array S 66.51 332 P **P 08 38 24.0 -0.1**
FINES FINESS Array B 66.52 332 P **P 08 38 23.6 -0.5**
comp=Z,35nm,1.1s,baz=43,slow=7.7,SNR=36
FINES LR LR 09 09 43.7
comp=Z,1µm,19.5s,baz=46,slow=38
FINES FINESS Array B 66.52 332 P **P 08 38 23.6 -0.5**
FINES FINESS Array B 66.52 332 P **P 08 38 23.6 -0.5**
LPSR Galich'ya Gora 66.53 320 *e*P **P 08 38 23.6 -0.8**
LPSR pmax pmax
comp=Z,70nm,1.0s
LPSR MLR MLR
comp=Z,810nm,15.0s
G05D Wamic, OR 66.64 50 P **P 08 38 25.8 +0.5**
baz=304
K02D Willamette Mer 66.64 53 P **P 08 38 24.4 -1.0**
baz=304
I04A Tendick Farm, 66.80 52 P **P 08 38 27.6 +1.3**
baz=304,SNR=13
C09A Chrisman Ranch 66.94 46 P **P 08 38 28.4 +1.2**
C09A IAmb IAmb 08 38 44.0
comp=Z,13nm,0.8s
D08A Wollman Farm, 67.00 47 P **P 08 38 28.1 +0.6**
D08A IAmb IAmb 08 38 54.3
comp=Z,18nm,1.3s
HAWA Hanford 67.03 48 P **P 08 38 28.4 +0.7**
F07A Phinny Hill Vi 67.08 49 P **P 08 38 29.8 +1.8**
F07A IAmb IAmb 08 38 45.4
comp=Z,19nm,1.0s
I05D Terrebonne, OR 67.13 51 P **P 08 38 28.2 -0.3**
baz=304,SNR=7.6
VSR Storozhevoye 67.22 318 *e*P **P 08 38 27.7 -1.1**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR MLR MLR
comp=Z,2µm,18.0s
E08A Dider Farm, El 67.24 48 P **P 08 38 30.4 +1.4**
MAK Makhachkala 67.28 308 *e*P **P 08 38 25.9 -3.4**
MAK *e**PP **pP 08 38 40.2 +0.1**
MAK *e**SP **sP 08 38 46.2 +1.8**
MAK *e*S **S 08 47 17.8 -4.0**
MAK *e**SS **sS 08 47 40.4 +0.4**
MAK *e*SS **SS 08 51 45.5 +4.4**
MAK pmax pmax
comp=Z,198nm,1.3s
MAK MLR MLR
comp=Z,478nm,17.0s
J04D Umpqua Nationa 67.29 52 P **P 08 38 29.1 -0.6**
baz=304
VORD Divnogorie 67.30 318 *e*P **P 08 38 28.2 -1.1**
VORD pmax pmax
comp=Z,60nm,1.2s
NEW Newport 67.31 45 P **P 08 38 30.3 +0.8**
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 67.31 45 P **P 08 38 30.1 +0.7**
baz=305,SNR=11
NEW Newport 67.31 45 P **P 08 38 30.3 +0.8**
SUMG Summit 67.61 0 P **P 08 38 31.9 +0.5**
SUMG pmax pmax
comp=Z,55nm,1.2s
SUMG Summit 67.61 0 P **P 08 38 31.9 +0.5**
PINE Pine Mountain 67.68 51 P **P 08 38 33.6 +1.5**
PINE IAmb IAmb 08 38 51.4
comp=Z,20nm,0.8s
L04D Klamath Falls 67.74 53 P **P 08 38 32.9 +0.4**
baz=304,SNR=9.9
E09A Wood Farm, Sta 67.75 47 P **P 08 38 33.5 +1.3**
E09A IAmb IAmb 08 38 52.8
comp=Z,14nm,1.0s
J05D Fort Rock, OR 67.79 52 P **P 08 38 33.5 +0.7**
baz=305,SNR=9.2
K04D Chiloquin, OR 67.85 52 P **P 08 38 32.9 -0.2**
baz=305
M02C Callahan 67.87 54 P **P 08 38 32.8 -0.4**
baz=304
MEF Metsahovi 67.95 332 *e*P **P 08 38 32.6 -0.6**
AKT Akhty 67.98 306 *e*P **P 08 38 33.3 -0.6**
AKT *e**PP **pP 08 38 46.4 +1.7**
AKT *e**SP **sP 08 38 53.9 +4.9**
AKT *e* 08 38 59.5
AKT pmax pmax
comp=Z,57nm,1.0s
N02D Trinity Center 68.20 54 P **P 08 38 36.2 +0.9**
baz=305,SNR=5.4
VSU Vasula 68.26 329 *e*P **P 08 38 35.1 -0.1**
VSU Vasula 68.26 329 *i* P **P 08 38 34.6 -0.6**
VSU pmax pmax
comp=Z,97nm,1.1s
M04C Macdoel 68.28 53 P **P 08 38 35.3 -0.5**
baz=305
WALA Waterton Lakes 68.56 43 P **P 08 38 38.6 +1.1**
WALA IAmb IAmb 08 38 53.9
comp=Z,13nm,0.9s
F10A Beach Ranch, E 68.58 48 P **P 08 38 38.7 +1.1**
O02D Mt. Diablo Mer 68.60 55 P **P 08 38 37.4 -0.4**
baz=305
GOF Gofitskoye 68.73 311⇑ *e*P **P 08 38 37.8 -0.6**
GOF pmax pmax
comp=Z,123nm,1.0s
O03E Paynes Creek 69.15 55 P **P 08 38 41.6 +0.4**
baz=305,SNR=6.3
JTMT Jette 69.15 45 P **P 08 38 42.4 +1.2**
JTMT IAmb IAmb 08 38 58.4
comp=Z,26nm,0.9s
BMO Blue Mountains 69.19 49 P **P 08 38 41.9 +0.4**
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 69.19 49 P **P 08 38 41.9 +0.4**
PYA1 Pyatigorsk 69.28 311 *i* P **P 08 38 40.2 -1.7**
NCK Nalchik 69.32 310 *i* P **P 08 38 41.1 -1.0**
NCK pmax pmax
comp=Z,44nm,1.2s
ZEI Tsey 69.55 309 *e*P **P 08 38 41.6 -2.2**
ZEI pmax pmax
comp=Z,45nm,1.5s
KIV Kislovodsk 69.58 311 ⇑P **P 08 38 44.5 +0.7**
KIV Kislovodsk 69.58 311 *i* P **P 08 38 44.5 +0.7**
SNR=16
KIV Kislovodsk 69.58 311 *e*P **P 08 38 43.4 -0.4**
KIV pmax pmax
comp=Z,102nm,1.1s
KIV MLR MLR
comp=Z,929nm,17.0s
KIV Kislovodsk 69.58 311 P **P 08 38 44.1 +0.2**
KBZ Khabaz 69.59 310 P **P 08 38 43.9 +0.1**
comp=Z,29nm,0.9s,baz=51,slow=5.4,SNR=52
KBZ LR LR 09 11 54.3
comp=Z,593nm,19.7s,baz=42,slow=38
KBZ Khabaz 69.59 310*ce*P **P 08 38 43.4 -0.3**
KBZ pmax pmax
comp=Z,44nm,1.0s
KBZ Khabaz 69.59 310 P **P 08 38 43.9 +0.1**
SHA1 Shidzhatmaz 69.73 310*c i*P **P 08 38 44.9 0.0**
MSO Missoula 69.89 45 P **P 08 38 46.3 +0.6**
baz=308,SNR=7.5
ONI Oni 69.94 309 P **P 08 38 47.1 +1.1**
ONI pmax pmax
comp=Z,37nm,1.0s
ONI Oni 69.94 309 P **P 08 38 47.1 +1.1**
NEY Neytrino 69.98 310 *i* P **P 08 38 44.6 -1.8**
NEY pmax pmax
comp=Z,8.0nm,0.9s
BEKR Beckworth 70.30 54 P **P 08 38 49.6 +1.2**
BEKR IAmb IAmb 08 39 12.8
comp=Z,16nm,1.2s
MNK Minsk 70.45 326 *i* P **P 08 38 49.5 +0.6**
MNK *i* *PP **sP 08 39 03.7 0.0**
MNK *i* 08 41 28.2
MNK *i* PPP PPP 08 43 11.7
MNK *i* S **S 08 48 04.4 +5.4**
MNK pmax pmax
comp=N,52nm,1.3s
MNK pmax pmax
comp=E,7.0nm,1.1s
MNK pmax pmax
comp=Z,59nm,1.1s
MNK MLR MLR
comp=E,67nm,20.0s
MNK MLR MLR
comp=Z,797nm,16.0s
MNK MLR MLR
comp=N,664nm,16.0s
MNK Minsk 70.45 326 *i* P **P 08 38 49.6 +0.7**
comp=E,7.0nm,1.1s
MNK *i* P **P 08 38 49.6 +0.7**
comp=N,52nm,1.3s
MNK *i* P **P 08 38 49.6 +0.7**
comp=Z,59nm,1.1s,baz=228
MNK *i* pP **sP 08 39 03.8 +0.1**
MNK *i* PP **PP 08 41 28.2 +3.7**
MNK *i* PPP PPP 08 43 11.8
MNK *i* S **S 08 48 04.4 +5.4**
MNK *i* SS SS 08 52 12.1 -17
MNK *i* SSS SSS 08 55 50.3
MNK *i* LQ LQ 09 05 23.8
MNK *i* LR LR 09 08 04.9
MNK *i* LRM MLR 09 11 55.2
comp=E,67nm,19.7s
MNK *i* LRM MLR 09 12 02.8
comp=Z,797nm,15.9s
MNK *i* LRM MLR 09 12 18.1
comp=N,664nm,16.4s
AFDM Forest Hills D 70.46 55 P **P 08 38 49.8 +0.6**
ISAL Salakas 70.47 327 *e*P **P 08 38 49.5 +0.5**
IIGN Ignalina 70.58 327 *e*P **P 08 38 50.0 +0.4**
UPP Uppsala 70.58 334 *e*P **P 08 38 49.2 -0.3**
GNI Garni 70.60 306*ce*P **P 08 38 50.1 -0.1**
GNI pmax pmax
comp=Z,68nm,1.3s
GNI Garni 70.60 306 P **P 08 38 50.7 +0.5**
CHVG Ch'k'valeri 70.67 310 ⇓P **P 08 38 50.6 +0.2**
MFID Camas Ranch 70.91 49 P **P 08 38 52.5 +0.5**
PAHR Pah Rah Range 71.00 54 P **P 08 38 53.9 +1.2**
BANOM Banah 71.09 288 P **P 08 38 53.1 -0.2**
HRY Holter Researc 71.11 44 P **P 08 38 54.8 +1.6**
SHME Shamm 71.14 288 *i* P **P 08 38 52.9 -0.6**
SNR=6.9
LRM Limekiln Ridge 71.33 45 P **P 08 38 56.0 +1.3**
KARS Kars 71.33 308 P **P 08 38 55.3 +0.6**
KARS pmax pmax
comp=Z,253nm,1.4s
KARS Kars 71.33 308 P **P 08 38 55.3 +0.6**
CMB Columbia Colle 71.37 56 P **P 08 38 55.4 +0.6**
CMB pmax pmax
comp=Z,13nm,1.3s
CMB Columbia Colle 71.37 56 P **P 08 38 55.4 +0.6**
EGMT Eagleton 71.38 42 P **P 08 38 54.9 +0.2**
baz=310,SNR=6.7
EGMT Eagleton 71.38 42 P **P 08 38 56.0 +1.3**
EGMT IAmb IAmb 08 39 11.4
comp=Z,26nm,0.9s
PABE Paberze 71.40 328 *e*P **P 08 38 54.7 +0.2**
MDH Madha 71.46 288 P **P 08 38 54.1 -1.4**
NC405 NORSAR Array S 71.49 337 P **P 08 38 54.2 -0.8**
SOC Sochi 71.52 312 *e*P **P 08 38 53.4 -2.1**
SOC *e**PP **pP 08 39 05.2 -1.1**
SOC *e* 08 41 31.2
SOC *e*S **S 08 48 09.9 -1.8**
SOC *e**SS **SKiKP 08 48 32.9 +1.1**
SOC *e*SS **SS 08 52 40.6 -5.7**
SOC pmax pmax
comp=Z,24nm,0.8s
SOC MLR MLR
comp=Z,577nm,18.0s
YERR Yerington 71.52 54 P **P 08 38 56.2 +0.3**
YERR IAmb IAmb 08 39 16.7
comp=Z,18nm,1.1s
MSFE Esma-Masafi 71.53 288 P **P 08 38 55.7 -0.2**
DLMT Dillon 71.53 46 P **P 08 38 55.8 0.0**
DLMT IAmb IAmb 08 39 12.9
comp=Z,25nm,0.9s
BATM Batumi 71.58 309 ⇑P **P 08 38 56.1 +0.2**
STKA Stephens Creek 71.64 181 P **P 08 38 56.5 +0.5**
comp=Z,1.3nm,0.7s,baz=330,slow=8.1,SNR=1.6
STKA LR LR 09 07 46.1
comp=Z,173nm,22.0s,baz=17,slow=34
STKA Stephens Creek 71.64 181 P **P 08 38 56.6 +0.5**
NC204 NORSAR Array S 71.64 338 P **P 08 38 56.4 +0.3**
NB201 NORSAR Array S 71.66 337 P **P 08 38 55.8 -0.3**
WAKR Walker 71.69 55 P **P 08 38 57.9 +1.0**
NB2 NORSAR Subarra 71.69 337 P **P 08 38 55.4 -0.9**
comp=Z,43nm,1.2s,baz=38,slow=6.5
NB2 NORSAR Subarra 71.69 337 P **P 08 38 55.4 -0.9**
baz=38,slow=6.5
NOA NORSAR Array B 71.69 337 P **P 08 38 56.0 -0.3**
comp=Z,12nm,0.8s,baz=38,slow=6.0,SNR=26
NOA LR LR 09 13 07.9
comp=Z,847nm,22.0s,baz=35,slow=38
NOA NORSAR Array B 71.69 337 P **P 08 38 56.0 -0.3**
NOA NORSAR Array B 71.69 337 P **P 08 38 56.0 -0.3**
MCMT McKenzie Canyo 71.73 46 P **P 08 38 58.2 +1.1**
UOSS Minazif 71.74 287 P **P 08 38 56.3 -0.9**
HATD Hatta, Dubai 71.86 287 *i* P **P 08 38 57.7 -0.2**
SNR=6.7
BOZ Bozeman (W) 71.92 45 P **P 08 38 59.6 +1.5**
baz=309,SNR=22
SOHO SOHO 71.97 287 *i* P **P 08 38 57.7 -0.9**
SNR=9.5
ASHO Ashiyiah 72.00 287 *i* P **P 08 38 57.9 -0.9**
SNR=8.7
ANN Anapa 72.05 314 *e*P **P 08 38 58.7 0.0**
ANN pmax pmax
comp=Z,41nm,0.9s
ANN MLR MLR
comp=Z,858nm,18.0s
FAQ Al Faqa, Dubai 72.30 288 P **P 08 38 59.6 -0.9**
AKASG Malin Array Be 72.42 322 P **P 08 39 00.2 -0.5**
comp=Z,12nm,0.5s,baz=43,slow=6.5,SNR=66
AKASG LR LR 09 14 01.8
comp=Z,681nm,19.7s,baz=50,slow=38
AKASG Malin Array Be 72.42 322 P **P 08 39 00.2 -0.5**
AKASG Malin Array Be 72.42 322 P **P 08 39 00.2 -0.5**
AKASG IAmb IAmb 08 39 02.3
comp=Z,22nm,1.3s
AKBB Malin Array Si 72.42 322*ce*P **P 08 39 00.1 -0.7**
AKBB Malin Array Si 72.42 322 P **P 08 39 00.1 -0.7**
LHV Little Huntoon 72.42 55 P **P 08 39 02.3 +1.3**
LHV IAmb IAmb 08 39 27.1
comp=Z,26nm,1.3s
NVAR Mina Array Bea 72.44 54 P **P 08 39 03.5 +2.1**
comp=Z,3.4nm,1.0s,baz=289,slow=5.7,SNR=18
ASUD Al Ashush, Dub 72.57 288 *i* P **P 08 39 01.7 -0.4**
SNR=6.5
ALNE Al Ain 72.60 287 *i* P **P 08 39 01.7 -0.6**
SNR=6.4
SFJD Kangerlussuaq 72.74 5 P **P 08 39 02.6 +0.2**
SFJD pmax pmax
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 72.74 5 P **P 08 39 02.6 +0.2**
SFJD IAmb IAmb 08 39 19.1
comp=Z,20nm,0.8s
SUW Suwalki 72.78 327 *e*P **P 08 39 02.9 +0.1**
GCMT Greycliff 72.85 44 P **P 08 39 05.5 +1.9**
YHH Holmes Hill 72.86 46 P **P 08 39 04.2 +0.3**
SMMC Simmler 73.25 58 P **P 08 39 06.6 +0.6**
baz=308
H17A Grant Village 73.26 46 P **P 08 39 09.2 +3.0**
baz=310,SNR=11
RLMT Red Lodge 73.50 45 P **P 08 39 07.5 -0.1**
baz=311
VES Vestal, Richgr 73.52 57 P **P 08 39 09.1 +1.5**
baz=308
PKM Mcpherson Peak 73.63 58 P **P 08 39 09.2 +0.7**
baz=308
SIM Simferopol' 73.77 315 *i* P **P 08 39 07.8 -1.1**
SIM *e* 08 39 24.0
SIM *e*S **S 08 48 34.6 -2.7**
SIM *e*SSS SSS 08 56 32.0
SIM pmax pmax
comp=Z,42nm,1.0s
SIM MLR MLR
comp=Z,2µm,23.0s
CWC Cottonwood Cre 73.80 56 P **P 08 39 08.9 -0.5**
baz=308
GRAC Grapevine Rang 73.91 55 P **P 08 39 11.5 +1.7**
baz=308,SNR=9.0
LAO LASA Array 74.07 42 P **P 08 39 11.9 +1.2**
baz=312,SNR=8.0
R11A Troy Canyon, C 74.17 53 P **P 08 39 12.2 +0.6**
baz=309
MPMC Manual Prospec 74.41 56 P **P 08 39 13.1 0.0**
baz=308
SORM Soroca 74.58 321 ⇑P **P 08 39 13.0 -0.5**
TPNV Topopah Spring 74.63 55 P **P 08 39 14.6 +0.3**
baz=309
DUGW Dugway, Tooele 74.67 50 P **P 08 39 15.8 +1.3**
baz=310,SNR=6.8
EDW2 Edwards Air Fo 74.81 57 P **P 08 39 14.6 -0.7**
baz=308
BW06 Boulder Array 74.88 47 P **P 08 39 14.9 -0.7**
baz=311,SNR=6.1
PDAR Pinedale Array 74.88 47 P **P 08 39 16.8 +1.1**
comp=Z,1.9nm,0.7s,baz=265,slow=1.8,SNR=19
UMR Umm Al-Rimmam 75.02 296 *e*P **P 08 39 14.3 -2.1**
MIB Mutribah 75.13 296 *e*P **P 08 39 15.4 -1.6**
KIS Kishinev 75.14 320 *e*P **P 08 39 15.0 -1.8**
comp=Z,110nm,4.4s
KIS *e*LR LR 09 10 22.0
comp=Z,400nm,19.0s
KIS Kishinev 75.14 320 *e*P **P 08 39 15.0 -1.8**
KIS *e* 08 48 48.0
KIS pmax pmax
comp=Z,100nm,4.4s
KIS MLR MLR
comp=Z,400nm,19.0s
GSC Goldstone, Bar 75.31 56 P **P 08 39 18.6 +0.5**
baz=309
QRN Al-Qurain 75.38 295 *e*P **P 08 39 16.7 -1.8**
LVV L'vov 75.42 324 *e*P **P 08 39 19.3 +0.9**
LVV *e*S **S 08 49 00.6 +4.9**
LVV *e* 08 49 39.0
LVV MLR MLR
comp=E,800nm,16.0s
LVV MLR MLR
comp=N,700nm,14.0s
LVV MLR MLR
comp=Z,1µm,16.0s
BFSC Mount Baldy Ra 75.43 58 P **P 08 39 19.3 +0.4**
baz=309
RST Umm Al-Ruwaisa 75.55 296 *e*P **P 08 39 17.4 -2.1**
MURC Murrieta 76.13 58 P **P 08 39 23.0 +0.3**
baz=309
NWAO Narrogin (SRO) 76.37 202 P **P 08 39 23.2 -0.6**
baz=26,slow=6.5
NWAO Narrogin (SRO) 76.37 202 P **P 08 39 23.2 -0.6**
GMRC Granite Mounta 76.37 56 P **P 08 39 24.3 +0.1**
baz=310
TLCR 76.39 318 ⇓P **P 08 39 24.1 +0.1**
ULM Lac du Bonnet 76.44 34 P **P 08 39 24.0 -0.2**
comp=Z,3.7nm,0.6s,baz=305,slow=8.6,SNR=4.6
ULM LR LR 09 15 26.7
comp=Z,87nm,19.2s,baz=328,slow=37
ULM Lac du Bonnet 76.44 34 P **P 08 39 24.0 -0.2**
BURAR Bucovina Array 76.45 322 ⇓P **P 08 39 25.1 +0.7**
BURAR Bucovina Array 76.45 322 P **P 08 39 24.6 +0.2**
BURAR IAmb IAmb 08 39 25.4
comp=Z,17nm,0.8s
MDND Maddock 76.51 38 P **P 08 39 26.0 +1.4**
baz=316,SNR=6.1
MDND Maddock 76.51 38 P **P 08 39 25.5 +0.9**
MDND IAmb IAmb 08 39 41.4
comp=Z,29nm,0.9s
TESR Tescani 76.55 320 ⇓P **P 08 39 25.1 +0.3**
PFO Pinyon Flats O 76.60 57 P **P 08 39 26.3 +0.7**
baz=309
TPFO Pinon Flats 76.60 57 P **P 08 39 26.3 +0.7**
baz=309
K22A Casper 76.62 45 P **P 08 39 25.8 +0.2**
baz=313
K22A Casper 76.62 45 P **P 08 39 26.4 +0.8**
JURR Jurilovca 76.65 318 ⇓P **P 08 39 25.5 +0.2**
BELC Belle Mtn. Jos 76.65 57 P **P 08 39 26.8 +1.0**
baz=310
KNB Kanab 76.71 53 P **P 08 39 27.5 +1.4**
KNB pmax pmax
comp=Z,8.0nm,1.0s
KNB Kanab 76.71 53 P **P 08 39 27.5 +1.4**
SRU San Rafael Swe 76.72 50 P **P 08 39 27.8 +1.6**
SRU pmax pmax
comp=Z,13nm,0.8s
SRU San Rafael Swe 76.72 50 P **P 08 39 27.8 +1.6**
SRU IAmb IAmb 08 39 46.0
comp=Z,13nm,0.8s
CFR Carcaliu 76.74 319 ⇑P **P 08 39 26.0 +0.1**
TPGR Topolog 76.82 318 ⇑P **P 08 39 26.6 +0.2**
KOLS Kolonicke sedl 76.86 324 *e*P **P 08 39 26.6 0.0**
KOLS Kolonicke sedl 76.86 324 *e*P **P 08 39 26.6 0.0**
RSSD Black Hills 76.94 43 P **P 08 39 27.8 +0.4**
baz=314
VRI Vrincioaia 76.96 320 ⇓P **P 08 39 27.0 -0.2**
OJC Ojcow 76.98 326 *e*P **P 08 39 27.6 +0.3**
PLOR Plostina 77.01 320 ⇓P **P 08 39 28.0 +0.5**
UZH Uzhgorod 77.07 324 *e*P **P 08 39 27.7 0.0**
UZH *e* 08 39 39.9
UZH *e* 08 39 45.3
UZH *e*S **S 08 49 10.7 -3.0**
UZH *e*PS **SKSac 08 49 35.7 -1.6**
UZH *e*SS **SS 08 54 08.5 -1.7**
UZH MLR MLR
comp=N,170nm,16.0s
UZH MLR MLR
comp=E,280nm,16.0s
UZH MLR MLR
comp=Z,150nm,16.0s
IRM Iron Mountain 77.09 56 P **P 08 39 28.4 +0.2**
baz=310
TIRR Tirgusor 77.10 318 ⇓P **P 08 39 27.9 -0.1**
HARR Harsova 77.18 318 ⇑P **P 08 39 28.6 +0.1**
BISRR Bisoca 77.20 320 ⇑P **P 08 39 29.5 +0.9**
BC3 Big Chuckawall 77.22 57 P **P 08 39 29.7 +0.7**
baz=310
TLBR Topalu 77.23 318 ⇑P **P 08 39 28.7 +0.1**
OZUR 77.26 320 ⇑P **P 08 39 29.7 +0.8**
TRPA Tarpa 77.33 324 *e*P **P 08 39 30.2 +1.0**
O20A White River Ci 77.36 48 P **P 08 39 30.0 +0.2**
baz=312
SWSC Sam W. Stewart 77.45 58 P **P 08 39 30.2 0.0**
baz=310
BR131 Keskin Array S 77.48 312 P **P 08 39 30.4 0.0**
BR131 pmax pmax
comp=Z,30nm,1.1s
BR131 Keskin Array S 77.48 312 P **P 08 39 30.4 0.0**
BR131 IAmb IAmb 08 39 32.9
comp=Z,30nm,1.1s
BRTR Keskin Array B 77.48 312 P **P 08 39 30.2 -0.2**
comp=Z,16nm,1.0s,baz=98,slow=3.7,SNR=28
BRTR PP **PP 08 42 26.0 +1.2**
comp=Z,3.6nm,1.1s,baz=84,slow=4.5,SNR=3.9
BRTR LR LR 09 19 01.2
comp=Z,502nm,19.5s,baz=54,slow=40
BRTR Keskin Array B 77.48 312 P **P 08 39 30.2 -0.2**
BRTR Keskin Array B 77.48 312 P **P 08 39 30.0 -0.4**
DOPR Dopca 77.55 321 ⇑P **P 08 39 31.1 +0.6**
ISR Istrita 77.58 319 ⇑P **P 08 39 31.7 +0.9**
MLR Muntele Rosu 77.61 320 ⇓P **P 08 39 31.2 +0.1**
PDMCI Parker Dam,Lak 77.64 56 P **P 08 39 30.9 -0.3**
baz=310
BSEG Bad Segeberg 77.72 333 *e*L L 09 16 09.2
comp=Z,1µm,20.7s
CJR Cluj-Napoca 77.87 322 ⇓P **P 08 39 32.7 +0.3**
ANTO Ankara 77.87 312 P **P 08 39 33.0 +0.5**
ANTO pmax pmax
comp=Z,50nm,0.9s
ANTO Ankara 77.87 312 P **P 08 39 33.0 +0.5**
AGMN Agassiz Nation 77.90 36 P **P 08 39 33.4 +1.0**
baz=318,SNR=5.1
LANS Liptovska Anna 77.93 326 *e*P **P 08 39 34.1 +1.5**
LANS pmax pmax
comp=Z,14nm,1.1s
LANS Liptovska Anna 77.93 326 *e*P **P 08 39 34.1 +1.5**
KSP Ksiaz 77.95 328 *e*P **P 08 39 33.0 +0.4**
OKC Ostrava-Krasne 77.97 327 AMS AMS 09 16 30.0
comp=Z,1µm,17.0s
VOIR 78.09 320 ⇑P **P 08 39 34.8 +1.2**
N23A Red Feather La 78.14 46 P **P 08 39 35.4 +1.2**
baz=313,SNR=6.4
OSTC Ostas 78.21 328 *e*P **P 08 39 35.9 +1.8**
OSTC AMS AMS 09 16 40.0
comp=Z,1µm,18.9s
DRGR 78.23 323 ⇓P **P 08 39 34.6 +0.2**
CHVC Chvalec 78.25 328 AMS AMS 09 16 30.0
comp=Z,1µm,20.2s
MORC Moravsky Berou 78.27 327 ⇑P **P 08 39 35.1 +0.6**
MORC Moravsky Berou 78.27 327 *e*P **P 08 39 34.8 +0.3**
DPC Dobruska-Polom 78.33 328 *e*P **P 08 39 35.4 +0.6**
DPC *e* 08 39 47.4
DPC MLR MLR
comp=Z,800nm,18.8s
DPC Dobruska-Polom 78.33 328 *e*P **P 08 39 35.4 +0.6**
DPC *e*pP **pP 08 39 47.4 +1.8**
DPC AMS AMS 09 16 40.0
comp=Z,800nm,18.8s
UPC Upice 78.33 328 AMS AMS 09 16 40.0
comp=Z,1µm,18.2s
ARR Arges 78.35 321 ⇓P **P 08 39 36.4 +1.4**

KRLC	Kraliky	78.35	328	AMS	AMS	09 17 40.0
	comp=Z,800nm,17.7s					
WUAZ	Wupatki	78.57	53	P	P	08 39 37.5 +0.9
	baz=311					
PSZ	Piszkesteto	78.67	325	⇓P	P	08 39 38.0 +1.2
PSZ	Piszkesteto	78.67	325	eP	P	08 39 37.4 +0.6
VYHS	Vyhne	78.70	326	eP	P	08 39 37.1 +0.3
VYHS				pmax	pmax	
	comp=Z,14nm,1.1s					
VYHS	Vyhne	78.70	326	eP	P	08 39 37.1 +0.3
BRG	Berggiesshubel	78.86	330	eP	P	08 39 36.7 -0.9
BRG				Amp		08 39 40.4
	comp=Z,12nm,1.2s					
BRG	Berggiesshubel	78.86	330	P	P	08 39 52.2 +15
BRG				Amp		08 39 55.4
	comp=Z,9.2nm,1.0s					
BRG				Amp		09 17 43.0
	comp=E,0.5nm,18.0s					
BRG				Amp		09 17 48.0
	comp=Z,0.6nm,18.2s					
BRG				Amp		09 17 54.0
	comp=N,0.2nm,16.5s					
CLL	Collm	78.87	330	i P	P	08 39 37.5 -0.2
	comp=Z,22nm,1.2s					
CLL				i PcP	PcP	08 39 47.0 +0.7
CLL				i pP	sP	08 39 52.0 -0.7
CLL				ePS	PnS	08 50 18.0 -0.2
CLL				eSS	SS	08 55 00.0 +23
CLL				eSSS	SSS	08 58 00.0
CLL	Collm	78.87	330	i P	P	08 39 37.5 -0.2
CLL				i		08 39 47.0
CLL				i		08 39 52.0
CLL				pmax	pmax	
	comp=Z,22nm,1.2s					
CLL	Collm	78.87	330	eL	L	09 16 44.5
	comp=Z,379nm,21.7s					
PVCC	Panska Ves	78.89	329	eP	P	08 39 38.4 +0.6
PVCC				MLR	MLR	
	comp=Z,1μm,19.6s					
PVCC	Panska Ves	78.89	329	eP	P	08 39 38.4 +0.6
PVCC				AMS	AMS	09 17 10.0
	comp=Z,1μm,19.6s					
JAVC	Velka Javorina	78.92	326	eP	P	08 39 39.4 +1.3
BSZH	Besenyszg	78.97	324	eP	P	08 39 39.6 +1.3
VRAC	Vranov	79.02	327	⇓P	P	08 39 39.1 +0.4
VRAC	Vranov	79.02	327	eP	P	08 39 39.0 +0.4
ISCO	Idaho Springs	79.07	47	P	P	08 39 38.6 -0.8
	baz=314					
MVCO	Mesa Verde	79.17	50	P	P	08 39 40.7 +0.8
	baz=312					
GZR	Gura Zlata	79.22	322	⇑P	P	08 39 39.6 -0.2
SUSD	Miller	79.28	40	P	P	08 39 39.3 -0.8
	baz=317					
SMOL	Smolenice	79.29	326	eP	P	08 39 41.0 +1.0
SMOL				pmax	pmax	
	comp=Z,13nm,1.3s					
SMOL	Smolenice	79.29	326	eP	P	08 39 41.0 +1.0
KRUC	Moravsky	79.30	327	eP	P	08 39 40.3 +0.2
PRA	Prague	79.30	329	AMS	AMS	09 17 20.0
	comp=Z,1μm,18.2s					
PRU	Pruhonice	79.32	329	eP	P	08 39 40.9 +0.7
PRU				e		08 39 55.6
PRU				MLR	MLR	
	comp=Z,1μm,20.2s					
PRU	Pruhonice	79.32	329	eP	P	08 39 40.9 +0.7
PRU				epP	sP	08 39 55.6 +0.4
PRU				AMS	AMS	09 17 20.0
	comp=Z,1μm,20.2s					
BUD	Budapest	79.39	325	eP	P	08 39 41.1 +0.5
MODS	Modra-Piesok	79.46	326	eP	P	08 39 42.2 +1.2
MODS				pmax	pmax	
	comp=Z,25nm,1.2s					
MODS	Modra-Piesok	79.46	326	eP	P	08 39 42.2 +1.2
TREC	Trest	79.49	328	AMS	AMS	09 17 30.0
	comp=Z,1μm,20.3s					
BZS	Buzias	79.61	322	⇓P	P	08 39 41.8 0.0
ZST	Bratislava	79.67	326	eP	P	08 39 43.2 +1.1
ZST	Bratislava	79.67	326	eP	P	08 39 43.2 +1.1
S22A	4UR Ranch, Cre	79.79	49	P	P	08 39 44.9 +1.6
	baz=313,SNR=6.8					
CSKK	Cskako	79.81	325	eP	P	08 39 43.8 +0.9
MOX	Moxa	79.93	331	eL	L	09 19 46.8
	comp=Z,538nm,19.4s					
NKC	Novy Kostel	79.94	330	AMS	AMS	09 15 50.0
	comp=Z,700nm,24.2s					
EYMN	Ely	80.07	34	P	P	08 39 45.3 +1.0
	baz=321,SNR=6.6					
EGYH	Egyhazaskeszo	80.17	326	eP	P	08 39 42.2 -2.6
MDVR	Moldovita	80.18	322	⇑P	P	08 39 44.9 -0.1
MPLH	Magyarpolny	80.28	325	eP	P	08 39 45.8 +0.3
SOP	Sopron	80.30	326	eP	P	08 39 47.0 +1.5
RAYN	Ar Rayn	80.32	292	i P	P	08 39 45.4 -0.7
	SNR=9.9					
CKRC	Cesky Krumlov	80.34	328	eP	P	08 39 47.0 +1.2
CKRC				ex	x	08 39 56.5
CKRC				AMS	AMS	09 18 00.0
	comp=Z,1μm,22.5s					
KHC	Kasperske Hory	80.39	329	eP	P	08 39 46.1 +0.1
KHC				e		08 40 01.0
KHC				MLR	MLR	
	comp=Z,1μm,18.0s					
KHC	Kasperske Hory	80.39	329	eP	P	08 39 46.1 +0.1
KHC				epP	sP	08 40 01.0 -0.1
KHC				AMS	AMS	09 18 00.0
	comp=Z,1μm,18.0s					
CONA	Conrad Observa	80.40	327	i P	P	08 39 47.0 +0.8
	comp=Z,25nm,1.1s,SNR=7.9					
MORH	Mrgy, Hungar	80.52	324	eP	P	08 39 46.0 -0.7
SDCO	Great Sand Dun	80.55	48	P	P	08 39 48.7 +1.2
	baz=314,SNR=9.7					
GEC2	GERESS Array S	80.56	329	eL	L	09 18 04.5
	comp=Z,892nm,21.0s					
GERES	GERESS Array B	80.56	329	P	P	08 39 46.8 -0.3
	comp=Z,3.5nm,0.6s,baz=33,slow=5.1,SNR=12					
GERES				LR	LR	09 18 36.1
	comp=Z,890nm,20.1s,baz=36,slow=38					
GERES	GERESS Array B	80.56	329	P	P	08 39 46.8 -0.3
WET	Wettzell	80.65	329	eL	L	09 18 38.0
	comp=Z,1μm,19.3s					
FRGS	Fruska Gora	80.79	323	⇓P	P	08 39 48.0 -0.3
GRA1	Grafenberg Arr	80.85	330	P	P	08 39 49.0 +0.6
GRF	Grafenberg Arr	80.85	330	P	P	08 39 49.1 +0.6
GRF				pmax	pmax	
	comp=Z,31nm,0.8s					
GRF	Grafenberg Arr	80.85	330	eP	P	08 39 48.9 +0.5
	comp=Z,46nm,0.9s,baz=37,slow=4.5					
GRF				eL	L	09 16 56.1
	comp=Z,442nm,21.9s					
KOVH	Kovagotottos	80.86	324	eP	P	08 39 48.0 -0.6
ECSD	EROS Data Cent	80.95	39	P	P	08 39 49.4 +0.3
	baz=318,SNR=7.4					
ECSD	EROS Data Cent	80.95	39	P	P	08 39 49.6 +0.5
VTS	Vitosha	81.04	319	⇓P	P	08 39 50.8 +1.0
VTS	Vitosha	81.04	319	P	P	08 39 50.0 +0.2
VTS				pmax	pmax	
	comp=Z,24nm,0.9s					
VTS	Vitosha	81.04	319	P	P	08 39 50.0 +0.2
VTS				IAmb	IAmb	08 39 51.4
	comp=Z,24nm,0.9s					
TUC	Tucson	81.06	55	P	P	08 39 49.3 -0.7
	baz=312					
ARSA	Arzberg	81.08	327	eP	P	08 39 50.0 +0.3
	comp=Z,7.8nm,0.7s					
MOA	Molln	81.13	328	eP	P	08 39 50.6 +0.6
	comp=Z,13nm,1.1s					
TNS	Taunus Mts	81.43	332	eL	L	09 19 11.0
	comp=Z,855nm,19.0s					
T25A	Trinidad	81.59	48	P	P	08 39 53.9 +0.9
	baz=315,SNR=8.1					
T25A	Trinidad	81.59	48	P	P	08 39 53.8 +0.9
SPMN	Marine on St.	81.60	36	P	P	08 39 51.3 -1.2
	baz=320					
ELL	Elmali	81.66	311	P	P	08 39 53.0 -0.2
ELL				pmax	pmax	
	comp=Z,91nm,1.0s					
ELL	Elmali	81.66	311	P	P	08 39 53.0 -0.2
GROS	Grobnik	81.71	326	i P	P	08 39 52.9 -0.3
SOKA	Soboth	81.73	327	i P	P	08 39 53.5 +0.2
	comp=Z,58nm,1.3s,SNR=10					
BGNE	Belgrade	81.91	42	P	P	08 39 54.6 +0.3
	baz=318					
BGNE	Belgrade	81.91	42	P	P	08 39 55.0 +0.7
ANMO	Albuquerque	81.93	51	P	P	08 39 55.7 +1.1
ANMO				pmax	pmax	
	comp=Z,14nm,1.3s					
ANMO	Albuquerque	81.93	51	P	P	08 39 55.8 +1.1
	baz=314					
ANMO	Albuquerque	81.93	51	P	P	08 39 55.7 +1.1
FUR	Furstenfeldbru	82.07	329	eL	L	09 19 40.2
	comp=Z,804nm,18.7s					
OBKA	Obir	82.07	327	eP	P	08 39 55.2 +0.1
	comp=Z,10nm,0.7s					
KBA	Koelnbreinsper	82.12	328	i P	P	08 39 55.7 +0.3
	comp=Z,21nm,0.8s,SNR=8.3					
LENM	Lemitar	82.15	52	P	P	08 39 56.9 +1.0
STIP	Stip	82.25	319	i P	P	08 39 55.2 -0.8
MYKA	Terra Mystica	82.36	327	eP	P	08 39 56.1 -0.4
	comp=Z,15nm,0.8s					
SKO	Skopje	82.41	320	i P	P	08 39 57.5 +0.6
WATA	Walderalm	82.62	329	eP	P	08 39 58.2 +0.2
	comp=Z,22nm,1.1s					
WTTA	Wattenberg	82.66	329	eP	P	08 39 58.4 +0.2
	comp=Z,22nm,1.3s					
ABTA	Abfaltersbach	82.72	328	eP	P	08 39 58.4 -0.1
	comp=Z,18nm,1.3s					
JAVS	Javornik	82.77	327	i P	P	08 39 57.5 -1.2
121A	Cookes Peak, D	82.78	53	P	P	08 40 00.8 +1.7
	baz=313,SNR=5.1					
MOTA	Moosalm	82.81	329	i P	P	08 39 59.1 +0.1
	comp=Z,44nm,1.1s,SNR=11					
RETA	Reutte	82.82	329	i P	P	08 39 59.2 +0.3
	comp=Z,28nm,1.0s,SNR=7.9					
SQTA	Sankt Quirin	82.86	329	eP	P	08 40 00.4 +1.1
	comp=Z,17nm,1.0s					
CBKS	Cedar Bluff	82.98	44	P	P	08 39 59.4 -0.6
	baz=317					
BFO	Black Forest	83.05	331	eL	L	09 21 55.9
	comp=Z,401nm,19.5s					
PDG	Podgorica	83.13	321	⇑P	P	08 40 00.3 -0.2
FETA	Feichten	83.22	329	eP	P	08 40 01.3 +0.1
	comp=Z,20nm,1.1s					
DAVA	Damuels	83.33	330	eP	P	08 40 01.5 -0.2
	comp=Z,28nm,1.1s					
OHR	Ohrid	83.38	320	i P	P	08 40 01.6 -0.3
MATQ	Matagami	83.76	25	P	P	08 40 03.0 -0.7
	baz=330					
JFWS	Jewell Farm	84.55	36	P	P	08 40 07.8 0.0
	baz=322					
LSQQ	Lebel-sur-Quev	84.58	25	P	P	08 40 07.5 -0.4
	baz=331					
PMOR	Pomariorio Ree	84.61	115	eT	T	10 13 11.9
	comp=Z,24nm,0.2s					
CHGQ	Chibougamau	84.64	23	P	P	08 40 07.7 -0.4
	baz=332					
MSTX	Muleshoe	84.78	49	P	P	08 40 09.9 +0.6
	baz=316					
MNTX	Cornudas Mount	84.83	52	P	P	08 40 09.7 +0.2
	baz=315,SNR=7.5					
PPT	Papeete	85.23	118	LR	LR	09 10 52.9
	comp=Z,682nm,21.6s,baz=307,slow=30					
PPT2	Papeete2	85.24	118	eS	S	08 50 39.8 +0.3
	comp=Z,168nm,27.5s					
PPT2	Papeete2	85.24	118	eLR	LR	09 06 51.7
	comp=Z,1μm,22.5s,baz=313					
PPT2	Papeete2	85.24	118	eT	T	10 14 00.3
	comp=Z,12nm,0.3s					
PAE	Paea	85.29	118	eT	T	10 14 03.4
	comp=Z,1.6nm,0.3s					
TIAR	Tiarei	85.38	117	eT	T	10 14 10.0
	comp=Z,1.5nm,0.2s					
GLMI	Grayling	85.41	32	P	P	08 40 12.3 +0.2
	baz=326					
MATE	Matera	85.72	322	⇑P	P	08 40 13.1 -0.5
MEH	Mehetia	86.47	117	eT	T	10 15 31.6
	comp=Z,53nm,0.3s					
WMOK	Wichita Mounta	86.49	46	P	P	08 40 17.7 +0.1
	baz=318					
HDIL	Hopedale	86.86	37	P	P	08 40 18.7 -0.6
	baz=323					
ALGO	Algonquin Park	86.92	27	P	P	08 40 17.9 -1.6
	baz=330					
TUL1	Leonard	87.24	44	P	P	08 40 20.4 -0.8
	baz=319					
TXAR	Lajitas Array	87.54	53	P	P	08 40 23.9 +1.0
	comp=Z,2.0nm,0.9s,baz=290,slow=3.6,SNR=15					
TXAR				PKKPbc	PKKPbc	08 58 12.2 +2.3
	comp=Z,0.5nm,1.0s,baz=169,slow=1.3,SNR=3.9					
TXAR				LR	LR	09 18 53.3
	comp=Z,98nm,19.6s,baz=0.0,slow=35					
TXAR	Lajitas Array	87.54	53	P	P	08 40 23.9 +1.0
ABTX	Abilene, Hawle	87.56	48	P	P	08 40 24.4 +1.6
	baz=317					
D58A	Chemin du LacG	87.60	23	P	P	08 40 23.5 +0.7
	baz=334					
CCM	Cathedral Cave	87.91	40	P	P	08 40 24.7 +0.3
	baz=322					
E58A	La Victoria	88.13	24	P	P	08 40 25.5 +0.2
	baz=333					
D60A	Saint Jean D'O	88.35	22	P	P	08 40 26.8 +0.5
	baz=335					
U40A	Yellville	88.43	42	P	P	08 40 26.7 -0.3
	baz=321,SNR=18					
E60A	Ste Agathe de	88.69	23	P	P	08 40 27.8 -0.1
	baz=335					
D62A	Allapoint, All	88.72	21	P	P	08 40 27.9 -0.1
	baz=336					
F59A	Saint Guilaume	88.75	24	P	P	08 40 28.7 +0.5
	baz=334					
W39A	Magazine	88.84	43	P	P	08 40 28.9 +0.1
	baz=320					
G58A	Ormstown	88.97	25	P	P	08 40 28.3 -1.0
	baz=333					
E62A	Clayton Lake	89.02	21	P	P	08 40 29.0 -0.5
	baz=336					
D63A	Stockholm	89.02	20	P	P	08 40 29.0 -0.5
	baz=337					
JCT	Junction City	89.03	50	P	P	08 40 29.7 -0.2
	baz=317					
H57A	Richville	89.14	26	P	P	08 40 29.7 -0.4
	baz=332					
F61A	St Evariste	89.18	23	P	P	08 40 29.5 -0.8
	baz=335					
TBI	Tubuai	89.35	122	eS	S	08 51 17.7 -0.8
	comp=Z,197nm,25.8s					
TBI	Tubuai	89.35	122	eLR	LR	09 08 50.6
	comp=Z,803nm,26.0s,baz=319					
TBI	Tubuai	89.35	122	eT	T	10 19 06.5
	comp=Z,21nm,0.3s					
MIAR	Mount Ida	89.45	43	P	P	08 40 32.4 +0.7
	baz=320,SNR=8.2					
E63A	Oxbow	89.50	21	P	P	08 40 29.5 -2.2
	baz=337					
I57A	Carthage	89.51	27	P	P	08 40 29.9 -1.9
	baz=332					
ERPA	Erie	89.51	30	P	P	08 40 31.5 -0.4
	baz=329					
H59A	Cadyville	89.54	25	P	P	08 40 31.2 -0.7
	baz=333					
F62A	Pittston Farm,	89.55	22	P	P	08 40 31.8 -0.2
	baz=336					
H58A	Gabriels	89.58	25	P	P	08 40 30.6 -1.7
	baz=333					
G61A	St-Isidore-de-	89.64	23	P	P	08 40 32.0 -0.5
	baz=335					
W41B	Gary Mavity, V	89.65	42	P	P	08 40 33.4 +0.7
	baz=321,SNR=5.8					
E64A	Bridgewater	89.67	20	P	P	08 40 32.1 -0.5
	baz=337					
P49A	Miami Univ. Ec	89.74	35	P	P	08 40 32.7 -0.3
	baz=326,SNR=5.7					
M53A	WI Miller and	89.82	31	P	P	08 40 33.5 +0.2
	baz=328					
X40A	Basin Creek Fa	89.88	43	P	P	08 40 33.5 -0.3
	baz=321					
ACSO	Blum Creek Sta	89.90	33	P	P	08 40 34.5 +0.8
	baz=327					
H60A	Morristown	89.93	24	P	P	08 40 33.6 -0.2
	baz=334					
I58A	Old Forge	89.96	26	P	P	08 40 34.1 +0.1
	baz=332					
G62A	West of Eustis	90.00	23	P	P	08 40 32.2 -2.0
	baz=335					
K56A	Middlesex	90.01	28	P	P	08 40 33.5 -0.8
	baz=331					
F64A	Sherman	90.04	21	P	P	08 40 33.8 -0.5
	baz=337					
H06E1	SOCORRO T-PHAS	90.06	65	T	T	10 21 33.2
	SNR=4.7					
WCI	Wyandotte Cave	90.11	36	P	P	08 40 35.3 +0.5
	baz=325					
J58A	Remsen	90.15	27	P	P	08 40 34.7 -0.2
	baz=332					
M54A	Oil Creek Stat	90.16	30	P	P	08 40 35.4 +0.4
	baz=329					
H61A	Lyndonville	90.20	24	P	P	08 40 35.5 +0.4
	baz=334					
PKME	Peaks-Kenny Pk	90.32	22	P	P	08 40 35.4 -0.2
	baz=336					
I60A	Shoreham	90.38	25	P	P	08 40 35.8 -0.1
	baz=333					
H62A	Milan	90.40	23	P	P	08 40 36.1 +0.1
	baz=335					
G64A	Maxfield	90.48	22	P	P	08 40 36.5 +0.1
	baz=336					
N54A	Moraine State	90.50	31	P	P	08 40 37.3 +0.7
	baz=329					
O53A	New Philadelph	90.61	32	P	P	08 40 37.3 +0.2
	baz=328					
I61A	Oroboro, Fairl	90.65	24	P	P	08 40 37.0 -0.2
	baz=334					
H63A	New Sharon	90.66	23	P	P	08 40 37.0 -0.2
	baz=336					
P52A	Corning	90.75	33	P	P	08 40 37.3 -0.4
	baz=327					
G65A	Princeton	90.86	21	P	P	08 40 37.9 -0.2
	baz=337					
BINY	Binghamton	90.92	28	P	P	08 40 38.6 +0.1
	baz=332					
I63A	Otisfield	91.05	23	P	P	08 40 39.4 +0.4
	baz=335					
J61A	Chester	91.07	25	P	P	08 40 38.3 -0.8
	baz=334					
WVT	Waverly	91.09	39	P	P	08 40 39.0 -0.3
	baz=324					
L58A	Harry Jones Me	91.11	28	P	P	08 40 40.1 +0.7
	baz=332					
H66A	Whiting	91.31	21	P	P	08 40 40.9 +0.7
	baz=338					
K61A	Williamstown	91.44	26	P	P	08 40 40.4 -0.5
	baz=333					
SSPA	Standing Stone	91.59	30	P	P	08 40 41.4 -0.1
	baz=330					
OXF	Oxford	91.61	41	P	P	08 40 40.0 -1.8
	baz=323					
N59A	State Game Lan	92.13	28	P	P	08 40 44.2 +0.1
	baz=332					
KEST	Kesra	93.10	324	LR	LR	09 28 56.9
	comp=Z,592nm,18.0s,baz=344,slow=40					
ESDC	Sonseca Array	94.91	335	P	P	08 40 55.8 -1.2
	comp=Z,1.7nm,0.7s,baz=8.3,slow=3.5,SNR=7.8					
ESDC				PP	PP	08 44 43.1 -2.0
	comp=Z,1.9nm,1.0s,baz=37,slow=6.6,SNR=5.5					
ESDC				LR	LR	09 29 05.2
	comp=Z,526nm,18.9s,baz=15,slow=39					
TORD	Torodi Ar. Bea	115.75	317	PKP	PKiKP	08 46 16.0 -1.5
	comp=Z,0.5nm,0.5s,baz=37,slow=0.8,SNR=7.5					
TORD				PP	PP	08 47 13.0 -6.9
	comp=Z,2.0nm,0.9s,baz=25,slow=9.1,SNR=6.4					
TORD	Torodi Ar. Bea	115.75	317		PKiKP	08 46 16.0 -1.5
MAW	Mawson	122.70	207	PKP	PKPdf	08 46 28.9 -0.3
	comp=Z,1.7nm,0.6s,baz=316,slow=7.6,SNR=5.8					
MAW	Mawson	122.70	207	PKIKP	PKPdf	08 46 28.9 -0.3
ETMB	Extrema	140.46	48	eP	PKPdf	08 47 02.4 -1.8
SNAA	Sanae	143.96	198	PKPdf	PKPab	08 47 06.2 0.0
LPAZ	La Paz	144.31	57	PKP	PKPbc	08 47 10.0 -0.2
	comp=Z,1.5nm,0.5s,baz=20,slow=3.5,SNR=12					
LPAZ	La Paz	144.31	57	PKIKP	PKPbc	08 47 10.0 -0.1
VNA3	Neumayer Olymp	145.77	196	PKPdf	PKPdf	08 47 11.7 -0.2
VNA1	Neumayer--Stat	145.92	197	PKPdf	PKPab	08 47 13.7 +0.3
H03N2	Juan Fernandez	146.33	92	T	T	11 32 21.9
	baz=299,slow=76,SNR=28					
H03N3	Juan Fernandez	146.35	92	T	T	11 32 39.3
	baz=299,slow=76,SNR=32					
H03N1	Juan Fernandez	146.35	92	T	T	11 32 22.5
	baz=299,slow=76,SNR=26					
BDFB	Brasilia	153.93	24	PKPbc	PKPbc	08 47 34.3 -0.2
	comp=Z,4.4nm,1.0s,baz=246,slow=9.0,SNR=4.0					
BDFB	Brasilia	153.93	24	PKIKP	PKPbc	08 47 34.3 -0.2

*NAO **09** 08:35:03.6±1.6, 77°.46N×7°.40E, ML3.2*
*IDC **09** 08:35:06.5±1.3, 77°.46N×8°.04E, $h0^{km}$, mb3.4/5, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, ML2.9/1, Error ellipse: s-maj=20.5km s-min=16.7km az=165.0*
*BER **09** 08:35:06.6±4.2, 77°.54N×7°.91E, $h15^{km}$±15^{km}, ML2.2, ML2.3(DNK), Confirmed Earthquake*
ISC 09 08:35:03.6±1.7, 77°.60N±0°.05×7°.86E±0°.04, $h4^{km}$±11^{km}, n30, σ2°.11/45, mb3.4/5, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BRBA	Barentsburg A	1.42	68		Pg	Pg	08 35 31.4	+0.6
BRBA					Lg	Lg	08 35 48.4	
BRBA	Barentsburg A	1.42	68		Pg	Pg	08 35 31.4	+0.6
BRBA					Sg	Sg	08 35 48.4	-0.9
BRBB	Barentsburg B	1.43	67		Pg	Pg	08 35 31.3	+0.4
BRBB					Lg	Lg	08 35 48.9	
BRBB	Barentsburg B	1.43	67		Pg	Pg	08 35 31.3	+0.4
BRBB					Sg	Sg	08 35 48.9	-0.6
KBS	Kingsbay	1.57	30	i P	Pn	Pn	08 35 32.6	+0.5
KBS	Kingsbay	1.57	30		Pn	Pg	08 35 33.6	0.0
KBS					Sn	Sn	08 35 52.0	-0.8
KBS	Kingsbay	1.57	30	eP	Pg	Pg	08 35 33.4	-0.2
KBS				eS	Sn	Sn	08 35 50.8	-2.0
KBS				IAML			08 35 56.0	
	comp=Z,118nm,0.5s							
HSPB	Hornsund (broa	1.80	106		Pn	Pn	08 35 35.3	0.0
HSPB					Sn	Sn	08 35 55.0	-3.5
HSPB	Hornsund (broa	1.80	106	eP	Pn	Pn	08 35 35.2	-0.1
HSPB				eS	Sn	Sn	08 35 55.0	-3.5
SPA0	Spitsbergen Ar	1.89	68		Pn	Pg	08 35 38.9	-0.8
	baz=249,slow=14							
SPA0					Sn	Sb	08 36 01.4	-0.9
SPA0	Spitsbergen Ar	1.89	68		Pn	Pg	08 35 38.9	-0.8
	baz=249,slow=14							
SPA0					Sn	Sb	08 36 01.4	-0.9
SPITS	Spitsbergen Ar	1.89	68		Pn	Pg	08 35 38.8	-0.8
	baz=246,slow=11,SNR=830							
SPITS					Sn	Sb	08 36 01.6	-0.7
	baz=237,slow=23,SNR=8.2							
HOPEN	Hopen	4.00	97		Pn	Pn	08 36 07.8	+2.4
HOPEN					Sn	Sn	08 36 48.4	-4.3
HOPEN	Hopen	4.00	97	eP	Pn	Pn	08 36 07.1	+1.6
HOPEN				eS	Sn	Sn	08 36 49.3	-3.4
HOPEN				IAML			08 36 59.8	
	comp=Z,16nm,0.5s							
NOR	Nord	5.92	324	e		Pn	08 36 30.1	-1.7
	baz=142,slow=12							
NOR				i P		Pn	08 36 31.9	+0.2
NOR				i S		Sn	08 37 35.3	-4.5
NOR				IAML			08 37 39.6	
	comp=Z,1.5nm,0.4s							
NOR	Nord	5.92	324		Pn	Pn	08 36 32.5	+0.8
NOR					Sn	Sn	08 37 38.3	-1.5
NOR	Nord	5.92	324	e		Pn	08 36 30.1	-1.7
	baz=142,slow=12							
NOR				i P		Pn	08 36 31.9	+0.2
NOR				i S		Sn	08 37 35.3	-4.5
NOR				IAML			08 37 39.6	
	comp=Z,1.5nm,0.4s							
DBG	Daneborg	7.52	258	i P		Pn	08 36 54.0	+0.3
DBG				i S		Sn	08 38 09.4	-10
DBG	Daneborg	7.52	258		Pn	Pn	08 36 53.2	-0.4
DBG					Sn	Sn	08 38 09.7	-9.4
DBG	Daneborg	7.52	258	i P		Pn	08 36 54.0	+0.3
DBG				i S		Sn	08 38 09.4	-10
KIF	Kilpisjarvi	9.37	150		Pn	Pn	08 37 18.2	-0.9
KIF	Kilpisjarvi	9.37	150		Pn	Pn	08 37 18.2	-0.9
ARA0	ARCESS Array S	9.46	140		Pn	Pn	08 37 18.5	-1.8
	baz=329,slow=16							
ARA0	ARCESS Array S	9.46	140		Pn	Pn	08 37 18.5	-1.8
	baz=329,slow=16							
ARCES	ARCESS Array B	9.46	140		Pn	Pn	08 37 19.4	-0.8
	baz=334,slow=12,SNR=4.8							
Z

Moment Tensor Solution. s6 Moment tensor: Scale 10^{15} Nm; M_{rr}=0.56; $M_{\theta\theta}$=0.64; $M_{\phi\phi}$=-0.08; $M_{r\theta}$=0.84; $M_{\theta\phi}$=1.20; $M_{r\phi}$=0.65; Fault plane solution: M_0=1.50000×10^{15} NP1: ϕ_s=88.0000°, δ29.0000°, λ-42.00000°. NP2:ϕ_p=216.0000°, δ71.00000°, λ-113.00000°. Principal axes: T 197.5400, Plg23.0000°, Azm323.0000°; N -95.9900, Plg21.0000°, Azm223.0000°; P -101.5500, Plg58.0000°, Azm95.0000°;

*NOU **09** 08:56:02.1, 36.°91S×177.°59E, h0km, ML4.4, Off E. Coast of N. Island, N.Z.*

WEL 09 08:56:03.3±0.8, 37.°S±6.°×17.°8E±.°, h12km, M3.9/24, ML4.1/24, MLv3.9/24, Error ellipse: s-maj=0.0km s-min=0.0km az=27.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.69**	**206**	P	Pg	08 56 16.8	+0.1
WIZ				S	Sb	08 56 27.1	+0.4
HAZ	**Te Kaha**	**0.86**	**169**	P	Pg	08 56 18.4	-1.6
MXZ	**Matakaoa Point**	**0.88**	**138**	P	Pg	08 56 18.6	-1.6
MXZ				S	Sg	08 56 31.7	0.0
PKGZ	**Pakihiroa**	**1.06**	**158**	P	Pb	08 56 22.1	-1.5
RUGZ	**Raukumara Rang**	**1.06**	**176**	P	Pb	08 56 22.2	-1.5
RUGZ				S	Sg	08 56 37.6	0.0
WHRZ	**Whale Island**	**1.06**	**207**	P	Pb	08 56 23.4	-0.2
MYRZ	**Mayor Island**	**1.13**	**250**	P	Pb	08 56 24.2	-0.5
WMGZ	**Waiomatatini S**	**1.13**	**144**	P	Pb	08 56 24.2	-0.6
OPRZ	**Ohinepanea**	**1.24**	**221**	P	Pn	08 56 24.8	-1.6
PUZ	**Puketiti**	**1.28**	**155**	P	Pn	08 56 27.0	0.0
MARZ	**Manawahe**	**1.29**	**213**	P	Pn	08 56 26.2	-1.0
TWGZ	**Tauwhareparae**	**1.31**	**166**	P	Pg	08 56 28.5	+0.1
TGRZ	**Tauranga**	**1.33**	**232**	P	Pn	08 56 26.6	-1.1
EDRZ	**Edgecumbe**	**1.37**	**209**	P	Pn	08 56 27.8	-0.5
URZ	**Urewera**	**1.40**	**195**	P	Pn	08 56 27.4	-1.2
URZ				S	Sn	08 56 46.0	-1.0
MWZ	**Matawai**	**1.43**	**181**	P	Pn	08 56 27.9	-1.1
KUZ	**Kuaotunu**	**1.50**	**276**	P	Pn	08 56 28.5	-1.4
KARZ	**Kaharoa**	**1.54**	**223**	P	Pb	08 56 31.2	-0.5
TKGZ	**Te Karaka**	**1.55**	**172**	P	Pb	08 56 31.3	-0.5
TKGZ				P	Pb	08 56 31.4	-0.5
KMRZ	**Kaimai**	**1.60**	**234**	P	Pn	08 56 30.3	-1.2
CNGZ	**Carnagh Statio**	**1.65**	**162**	P	Pb	08 56 34.0	+0.4
RRRZ	**Republican Roa**	**1.66**	**210**	P	Pn	08 56 31.9	-0.3
MUGZ	**Murupara**	**1.69**	**202**	P	Pn	08 56 32.1	-0.5
HSRZ	**Hossack Road**	**1.75**	**217**	P	Pn	08 56 34.0	+0.5
RIGZ	**Rimuhau**	**1.80**	**175**	P	Pb	08 56 35.3	-0.9
GRZ	**Great Barrier**	**1.82**	**290**	P	Pn	08 56 34.2	-0.2
PRRZ	**Plateau Road**	**1.84**	**210**	P	Pb	08 56 36.2	-0.7
TOZ	**Tahuroa Road**	**1.85**	**243**	P	Pn	08 56 34.1	-0.6
GRRZ	**Galatos Road**	**1.85**	**218**	P	Pn	08 56 34.8	0.0
SNGZ	**Shannon Statio**	**1.88**	**186**	P	Pn	08 56 35.3	0.0
WIAZ	**Waiheke Island**	**1.96**	**273**	P	Pn	08 56 36.0	-0.3
MTHZ	**Maungataniwha**	**2.03**	**196**	P	Pn	08 56 37.3	0.0
PRGZ	**Paritu Road**	**2.03**	**173**	P	Pn	08 56 38.4	+1.1
RAHZ	**Arahi**	**2.04**	**191**	P	Pn	08 56 37.0	-0.5
KUTZ	**Kaahu Road**	**2.10**	**221**	P	Pn	08 56 38.3	0.0
KNZ	**Kokohu**	**2.11**	**178**	P	Pn	08 56 39.5	+1.0
ETAZ	**East Tamaki Re**	**2.12**	**268**	P	Pn	08 56 38.8	+0.3
MRHZ	**Matea Rd**	**2.13**	**205**	P	Pn	08 56 38.3	-0.4
MBAZ	**Motutapu North**	**2.15**	**273**	P	Pn	08 56 39.0	+0.1
TLZ	**Tolley Road**	**2.15**	**228**	P	Pn	08 56 38.6	-0.4
EPAZ	**Eden Park BICE**	**2.27**	**270**	P	Pb	08 56 43.1	-1.0
NMHZ	**Naumai**	**2.27**	**195**	P	Pn	08 56 41.3	+0.6
AWAZ	**Awhitu Peninsu**	**2.35**	**265**	P	Pn	08 56 42.6	+0.9
WTAZ	**Waiatarua**	**2.41**	**268**	P	Pn	08 56 43.3	+0.8
RVAZ	**Riverhead Bore**	**2.41**	**272**	P	Pn	08 56 43.0	+0.6
BKZ	**Black Stump Fm**	**2.41**	**200**	P	Pn	08 56 42.1	-0.5
MCHZ	**McNeill Hill**	**2.63**	**195**	P	Pn	08 56 47.5	+1.9
WCZ	**Waipu Caves**	**2.78**	**289**	P	Pn	08 56 47.6	+0.1
TUVZ	**Tukino**	**2.80**	**212**	P	Pb	08 56 51.3	-2.1
FWVZ	**Far West T-bar**	**2.84**	**214**	P	Pb	08 56 51.8	-2.2
BHHZ	**Black Hill Sta**	**2.84**	**204**	P	Pn	08 56 49.0	+0.5
WHVZ	**Whangaehu Hut**	**2.84**	**213**	P	Pb	08 56 51.7	-2.4
TRVZ	**Turoa**	**2.87**	**213**	P	Pb	08 56 53.2	-1.4
MOVZ	**Moawhango**	**2.88**	**209**	P	Pn	08 56 50.9	+1.9
KRHZ	**Kereru**	**2.89**	**199**	P	Pn	08 56 50.4	+1.2
KAHZ	**Kahuranaki**	**2.94**	**191**	P	Pn	08 56 50.2	+0.4
PKVZ	**Pokaka**	**2.96**	**216**	P	Pb	08 56 53.8	-2.2
MTVZ	**Mangateitei**	**2.98**	**213**	P	Pn	08 56 53.1	+2.7
VRZ	**Vera Road**	**3.14**	**224**	P	Pn	08 56 53.2	+0.7
PNHZ	**Pukenui**	**3.19**	**199**	P	Pn	08 56 53.6	+0.3
TSZ	**Takapari Road**	**3.39**	**201**	P	Pn	08 56 56.9	+0.8
DVHZ	**Dannevirke**	**3.56**	**198**	P	Pn	08 56 58.6	+0.2
NEZ	**North Egmont**	**3.62**	**228**	P	Pn	08 57 01.4	+2.2
OUZ	**Omahuta**	**3.64**	**296**	P	Pn	08 56 59.7	+0.4
PKE	**Pukeiti**	**3.64**	**230**	P	Pn	08 57 01.5	+2.1
KHEZ	**Kahui Hut**	**3.68**	**229**	P	Pn	08 57 02.7	+2.5
NBEZ	**Newall Road No**	**3.76**	**230**	P	Pn	08 57 04.4	+3.3
PRWZ	**Pori Road**	**3.85**	**198**	P	Pn	08 57 04.0	+1.6
BFZ	**Birch Farm**	**3.91**	**195**	P	Pn	08 57 02.5	-0.7
MRZ	**Mangatainoka R**	**4.06**	**202**	P	Pn	08 57 04.6	-0.6
HOWZ	**Holdsworth Sta**	**4.30**	**201**	P	Pn	08 57 07.8	-0.7
OGWZ	**Otaki Gorge**	**4.33**	**205**	P	Pn	08 57 08.6	-0.3
KIW	**Kapiti Island**	**4.46**	**207**	P	Pn	08 57 11.3	+0.6
CAW	**Cannon Point**	**4.63**	**204**	P	Pn	08 57 13.0	0.0
NNZ	**Nelson**	**5.40**	**216**	P	Pn	08 57 25.6	+2.0
QRZ	**Quartz Range**	**5.55**	**224**	P	Pn	08 57 26.2	+0.6
THZ	**Tophouse**	**6.05**	**215**	P	Pn	08 57 31.8	-0.8
DSZ	**Denniston Nort**	**6.58**	**221**	P	Pn	08 57 38.9	-1.0
LTZ	**Lake Taylor**	**7.14**	**213**	P	Pn	08 57 46.6	-1.0
CTZ	**Chatham Island**	**8.13**	**149**	P	Pn	08 58 03.0	+1.9

*IDC **09** 09:00:29.5±2.4, 54.°34N×86.°09E, h0km, mb1 3.0/2, mb1mx2.9/38, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=18.9km s-min=12.3km az=46.0*

NNC 09 09:00:26.9±3.2, 54.°61N×85.°87E, h0km, mb3.2, mpv2.4, 2C-1D, Error ellipse: s-maj=145.2km s-min=19.6km az=134.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**223**	*i*		09 06 00.0	
	baz=65,slow=328,SNR=0.9						
ZAA0	**Zalesovo Array**	**0.91**	**223**	⇓P	Pg	09 00 44.3	0.0
	0.2nm,0.3s						
ZAA0				⇑S	Sb	09 00 57.1	-1.0
	1.5nm,0.3s						
ZALV	**Zalesovo Beam**	**0.91**	**223**	Pg	Pg	09 00 44.5	+0.2
	2.5nm,0.3s,baz=58,slow=18,SNR=10						
ZALV				Lg	Lg	09 00 57.8	
	6.5nm,0.3s,baz=59,slow=26,SNR=16						
ZALV				Rg	Rg	09 01 03.2	
	3.1nm,0.3s,baz=67,slow=36,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.00**	**231**	Pn	Pn	09 01 59.3	+2.6
	0.1nm,0.3s,baz=53,slow=14,SNR=15						
KURBB				Lg	Lg	09 03 37.1	
	0.0nm,0.3s,baz=44,slow=31,SNR=1.7						
KURBB	**Kurchatov Arra**	**6.00**	**231**	⇑Pn	Pn	09 01 57.5	+0.8
	0.5nm,0.3s						
MK31	**Makanchi Array**	**8.15**	**198**	Pn	Pn	09 02 27.0	+0.6
	0.1nm,0.2s,baz=24,slow=14,SNR=24						
MKAR	**Makanchi Array**	**8.15**	**198**	Pn	Pn	09 02 26.7	+0.3
	0.3nm,0.3s,baz=20,slow=11,SNR=16						

*IDC **09** 09:14:08.8±3.1, 53.°68N×90.°85E, h0km, mb1 3.4/3, mb1mx3.2/53, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=26.9km s-min=23.2km az=52.0*

*NNC **09** 09:14:14.4±2.1, 53.°51N×90.°34E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=17.8km s-min=13.9km az=77.0, Suspected Mining explosion.*

ISC 09 09:14:11.4±4.1, 53.°7N±0.°1×90.°7E±0.°2, h10km, n9, σ1§19/11, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**277**	*i*		09 35 39.8	
	baz=90,slow=303,SNR=2.0						
ZAA0	**Zalesovo Array**	**3.48**	**277**	⇑Pn	**Pn**	**09 15 07.9**	**+2.3**
	2.7nm,0.7s						
ZAA0				⇑Lg	Lg	09 15 59.3	
	20nm,0.9s						
ZALV	**Zalesovo Beam**	**3.48**	**277**	Pn	**Pn**	**09 15 06.3**	**+0.8**
	1.7nm,0.3s,baz=92,slow=15,SNR=20						
ZALV				Pg	**Pb**	**09 15 11.4**	**-1.7**
	1.9nm,0.3s,baz=85,slow=16,SNR=16						
ZALV				Lg	Lg	09 16 01.1	
	1.4nm,0.3s,baz=93,slow=25,SNR=4.3						
KURBB	**Kurchatov Arra**	**8.06**	**253**	Pn	**Pn**	**09 16 08.5**	**0.0**
	0.2nm,0.3s,baz=65,slow=14,SNR=20						
KURBB				Sn	**Sn**	**09 17 40.3**	**+0.7**
	0.1nm,0.3s,baz=68,slow=25,SNR=8.1						
KURBB				Lg	Lg	09 18 28.7	
	0.1nm,0.3s,baz=60,slow=33,SNR=9.6						
KURBB	**Kurchatov Arra**	**8.06**	**253**	⇓Pn	**Pn**	**09 16 08.5**	**0.0**
	5.1nm,0.7s						
KURBB				⇓Sn	**Sn**	**09 17 39.6**	**0.0**
	48nm,0.8s						
KURBB				⇑Lg	Lg	09 18 23.4	
	107nm,0.9s						
TLY	**Talaya**	**8.13**	**99**	Lg	Lg	09 18 11.1	
	0.0nm,0.3s,baz=21,slow=6.8,SNR=5.5						
MK31	**Makanchi Array**	**8.72**	**221**	Pn	**Pn**	**09 16 17.6**	**+0.1**
	0.9nm,0.6s,baz=36,slow=12,SNR=9.3						
MK31				⇓Sn	**Sn**	**09 17 57.2**	**+1.3**
	3.3nm,0.8s,baz=43,slow=23,SNR=2.5						
MK31				⇑Lg	Lg	09 18 42.6	
	26nm,1.1s,baz=46,slow=29,SNR=6.1						
MKAR	**Makanchi Array**	**8.72**	**221**	Pn	**Pn**	**09 16 17.7**	**+0.2**
	0.3nm,0.3s,baz=42,slow=13,SNR=11						
MKAR				Sn	**Sn**	**09 17 56.4**	**+0.6**
	0.2nm,0.3s,baz=38,slow=26,SNR=2.8						
MKAR				Lg	Lg	09 18 47.2	
	0.1nm,0.3s,baz=34,slow=31,SNR=5.0						
SONM	**Songino Array**	**11.53**	**114**	Lg	Lg	09 20 04.5	
	0.2nm,0.3s,baz=299,slow=29,SNR=11						

*NOU **09** 09:16:48.0, 36.°91S×177.°74E, h8km, ML4.1, Off E. Coast of N. Island, N.Z.*

WEL 09 09:16:48.7±1.2, 37.°S±7.°×17.°8E±.°, h7km±7km, M3.5/25, ML3.7/25, MLv3.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=31.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.76**	**206**	P	Pg	09 17 03.2	-0.3
WIZ				S	Sb	09 17 15.0	+0.1
MXZ	**Matakaoa Point**	**0.91**	**143**	P	Pg	09 17 05.2	-1.0
HAZ	**Te Kaha**	**0.92**	**172**	P	Pg	09 17 04.9	-1.5
HAZ				S	Sb	09 17 20.0	+0.5
PKGZ	**Pakihiroa**	**1.11**	**161**	P	Pg	09 17 10.0	+0.1
RUGZ	**Raukumara Rang**	**1.12**	**178**	P	Pg	09 17 09.5	-0.8
WHRZ	**Whale Island**	**1.13**	**207**	P	Pg	09 17 10.3	-0.2
WMGZ	**Waiomatatini S**	**1.16**	**147**	P	Pg	09 17 11.1	0.0
MYRZ	**Mayor Island**	**1.18**	**248**	P	Pn	09 17 12.7	+0.9
OPRZ	**Ohinepanea**	**1.31**	**220**	P	Pn	09 17 11.4	-2.0
PUZ	**Puketiti**	**1.33**	**158**	P	Pg	09 17 14.2	0.0
TGRZ	**Tauranga**	**1.40**	**230**	P	Pn	09 17 13.1	-1.6
URZ	**Urewera**	**1.47**	**196**	P	Pn	09 17 14.0	-1.7
MWZ	**Matawai**	**1.49**	**183**	P	Pn	09 17 14.5	-1.5
KUZ	**Kuaotunu**	**1.52**	**273**	P	Pn	09 17 15.1	-1.3
TKGZ	**Te Karaka**	**1.60**	**173**	P	Pn	09 17 15.7	-1.8
KARZ	**Kaharoa**	**1.60**	**222**	P	Pn	09 17 16.7	-0.8
KMRZ	**Kaimai**	**1.67**	**233**	P	Pg	09 17 20.3	-0.5
NGRZ	**Ngongotaha**	**1.69**	**222**	P	Pg	09 17 21.3	0.0
CNGZ	**Carnagh Statio**	**1.70**	**164**	P	Pb	09 17 20.6	+0.2
MUGZ	**Murupara**	**1.76**	**202**	P	Pn	09 17 18.7	-1.1
GRZ	**Great Barrier**	**1.84**	**288**	P	Pn	09 17 21.2	+0.5
RTZ	**Ruatahuna**	**1.84**	**196**	P	Pn	09 17 19.2	-1.6
RIGZ	**Rimuhau**	**1.86**	**177**	P	Pn	09 17 22.1	+0.9
TOZ	**Tahuroa Road**	**1.91**	**242**	P	Pn	09 17 20.7	-1.0
SNGZ	**Shannon Statio**	**1.95**	**186**	P	Pn	09 17 22.0	-0.3
WIAZ	**Waiheke Island**	**1.99**	**271**	P	Pn	09 17 22.4	-0.5
PRGZ	**Paritu Road**	**2.09**	**174**	P	Pn	09 17 24.9	+0.7
MTHZ	**Maungataniwha**	**2.10**	**197**	P	Pn	09 17 24.0	-0.4
RAHZ	**Arahi**	**2.11**	**191**	P	Pn	09 17 24.0	-0.6
ETAZ	**East Tamaki Re**	**2.16**	**266**	P	Pn	09 17 25.0	-0.1
KUTZ	**Kaahu Road**	**2.17**	**220**	P	Pn	09 17 24.8	-0.6
MBAZ	**Motutapu North**	**2.18**	**271**	P	Pn	09 17 25.6	+0.1
MRHZ	**Matea Rd**	**2.20**	**205**	P	Pn	09 17 24.9	-0.9
NMHZ	**Naumai**	**2.34**	**196**	P	Pn	09 17 27.6	-0.1
AWAZ	**Awhitu Peninsu**	**2.39**	**264**	P	Pn	09 17 28.5	+0.1
RVAZ	**Riverhead Bore**	**2.44**	**271**	P	Pn	09 17 29.4	+0.4
BKZ	**Black Stump Fm**	**2.48**	**201**	P	Pn	09 17 28.7	-1.0
RITZ	**Rihia Road**	**2.54**	**213**	P	Pb	09 17 34.3	-0.5
MCHZ	**McNeill Hill**	**2.70**	**195**	P	Pb	09 17 35.1	-2.2
KWHZ	**Kaweka Forest**	**2.74**	**200**	P	Pn	09 17 33.2	0.0
HIZ	**Hauiti**	**2.75**	**232**	P	Pn	09 17 33.1	-0.2
OTVZ	**Oturere**	**2.78**	**213**	P	Pb	09 17 37.2	-1.7
WCZ	**Waipu Caves**	**2.79**	**288**	P	Pn	09 17 34.2	+0.4
SNVZ	**South Ngauruho**	**2.81**	**213**	P	Pb	09 17 37.5	-2.0
FWVZ	**Far West T-bar**	**2.91**	**213**	P	Pb	09 17 38.6	-2.5
BHHZ	**Black Hill Sta**	**2.91**	**204**	P	Pn	09 17 35.4	-0.2
WHVZ	**Whangaehu Hut**	**2.92**	**213**	P	Pn	09 17 38.2	+2.5
TRVZ	**Turoa**	**2.95**	**213**	P	Pb	09 17 39.3	-2.4
MOVZ	**Moawhango**	**2.95**	**209**	P	Pn	09 17 36.1	0.0
PKVZ	**Pokaka**	**3.03**	**216**	P	Pb	09 17 40.4	-2.6
MTVZ	**Mangateitei**	**3.05**	**213**	P	Pn	09 17 40.4	+2.9
VRZ	**Vera Road**	**3.21**	**224**	P	Pn	09 17 39.8	+0.3
PNHZ	**Pukenui**	**3.26**	**200**	P	Pn	09 17 40.1	-0.3
TSZ	**Takapari Road**	**3.46**	**202**	P	Pn	09 17 43.6	+0.5
WAZ	**Wanganui**	**3.57**	**215**	P	Pn	09 17 47.4	+2.9
DVHZ	**Dannevirke**	**3.63**	**198**	P	Pb	09 17 52.2	-1.2
OUZ	**Omahuta**	**3.64**	**295**	P	Pn	09 17 46.2	+0.8
NEZ	**North Egmont**	**3.69**	**228**	P	Pn	09 17 48.0	+1.8
NBEZ	**Newall Road No**	**3.82**	**230**	P	Pn	09 17 51.1	+3.1
POWZ	**Post Office Ro**	**3.83**	**202**	P	Pn	09 17 49.9	+1.8
PRWZ	**Pori Road**	**3.92**	**199**	P	Pn	09 17 48.4	-1.0
BFZ	**Birch Farm**	**3.98**	**195**	P	Pn	09 17 48.3	-1.9

*IDC **09** 09:38:44.1±1.1, 59.°98N×150.°73W, h0km, mb3.1/2, mb1 3.6/4, mb1mx3.3/52, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=34.0km s-min=9.9km az=110.0*

*ANF **09** 09:38:44.5±0.2, 60.°22N×152.°02W, h83km±4km, ML3.4/47, Error ellipse: s-maj=2.5km s-min=2.2km az=126.0*

*NEIC **09** 09:38:45.2±1.2, 60.°27N±0.°03×152.°03W±0.°05, h77km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=219.0*

*AEIC **09** 09:38:45.9±1.2, 60.°263N±0.°008×152.°03W±0.°06, h78km±4km, ML3.0/109, ML3.2/88(NEIC), Error ellipse: s-maj=4.2km s-min=1.2km az=87.0*

ISC 09 09:38:45.6±0.9, 60.°25N±0.°02×152.°00W±0.°02, h84km±5km, n185, σ1§22/205, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20K	**Slope Mountain**	**0.35**	**242**	P	**Pn**	**09 38 57.8**	**-0.9**
	baz=58,SNR=42						
O20K				S	**Sn**	**09 39 07.4**	**-1.0**
	baz=58						
O20K	**Slope Mountain**	**0.35**	**242**		**Pn**	**09 38 57.8**	**-0.9**
O20K					**Sn**	**09 39 07.5**	**-1.0**
RDT	**Redoubt**	**0.38**	**329**		**Pn**	**09 38 57.5**	**-1.4**
RED	**Redoubt Volcan**	**0.42**	**294**		**Pn**	**09 38 57.8**	**-1.4**
RED					**Sn**	**09 39 07.4**	**-1.9**
RSO	**Redoubt South**	**0.43**	**300**		**Pn**	**09 38 58.2**	**-1.3**
NCT	**North Crescent**	**0.56**	**305**		**Pn**	**09 38 59.0**	**-1.3**
NCT					**Sn**	**09 39 09.4**	**-1.9**
IVE	**Iliamna Volcan**	**0.56**	**246**		**Pn**	**09 38 59.1**	**-1.3**
IVE					**Sn**	**09 39 09.8**	**-1.5**
ILS	**Iliamna Low So**	**0.61**	**242**		**Pn**	**09 38 59.8**	**-1.1**
HOM	**Homer**	**0.62**	**163**	P	**Pn**	**09 39 00.6**	**-0.2**
	baz=343,SNR=17						
HOM				S	**Sn**	**09 39 12.0**	**-0.1**
	baz=343						
HOM	**Homer**	**0.62**	**163**		**Pn**	**09 39 00.5**	**-0.3**
HOM					**Sn**	**09 39 12.5**	**+0.4**
CAPN	**Captain Cook N**	**0.67**	**39**	P	**Pn**	**09 39 01.8**	**+0.6**
	baz=221						
CAPN	**Captain Cook N**	**0.67**	**39**		**Pn**	**09 39 01.9**	**+0.6**
BRLK	**Bradley Lake**	**0.74**	**130**		**Pn**	**09 39 01.2**	**-0.9**
BRLK					**Sn**	**09 39 13.5**	**-0.8**
BRSE	**Bradley Lake S**	**0.81**	**128**	P	**Pn**	**09 39 01.9**	**-0.8**
	baz=310,SNR=57						
BRSE				S	**Sn**	**09 39 14.5**	**-1.0**
	baz=310						
BRSE	**Bradley Lake S**	**0.81**	**128**		**Pn**	**09 39 02.0**	**-0.8**
BRSE					**Sn**	**09 39 14.6**	**-1.0**
CNPM	**China Poot**	**0.82**	**152**		**Pn**	**09 39 02.2**	**-0.7**
OPT	**Oil Point**	**0.86**	**226**		**Pn**	**09 39 02.7**	**-0.6**
P19K	**Oil Pt**	**0.86**	**226**	P	**Pn**	**09 39 02.7**	**-0.7**
	baz=44,SNR=34						
P19K				S	**Sn**	**09 39 15.6**	**-1.0**
	baz=44						
P19K	**Oil Pt**	**0.86**	**226**		**Pn**	**09 39 02.7**	**-0.7**
SLKM	**Skilak Lake**	**0.92**	**73**		**Pn**	**09 39 02.8**	**-1.2**
SPU	**Mount Spurr**	**0.94**	**358**		**Pn**	**09 39 03.2**	**-1.0**
SPCR	**Spurr Chakacha**	**0.96**	**354**	P	**Pn**	**09 39 03.5**	**-1.0**
	baz=174,SNR=65						
SPCR				S	**Sn**	**09 39 17.9**	**-0.7**
	baz=174						
SPCR	**Spurr Chakacha**	**0.96**	**354**		**Pn**	**09 39 03.6**	**-1.0**
SPCR					**Sn**	**09 39 17.5**	**-1.1**
SPCN	**Chakachatna No**	**0.98**	**355**		**Pn**	**09 39 04.2**	**-0.5**
SPCP	**Crater Peak Br**	**1.02**	**356**		**Pn**	**09 39 04.7**	**-0.6**
SPCP					**Sn**	**09 39 19.6**	**-0.5**
SPBG	**Spurr Blockage**	**1.03**	**350**		**Pn**	**09 39 04.5**	**-0.8**
SPBG					**Sn**	**09 39 18.8**	**-1.2**
SPCG	**Spurr Capps Gl**	**1.05**	**360**		**Pn**	**09 39 04.9**	**-0.7**
SPCG					**Sn**	**09 39 19.9**	**-0.6**
AU22	**Augustine Moun**	**1.12**	**218**		**Pn**	**09 39 05.8**	**-0.4**
AUL	**Augustine Lava**	**1.13**	**220**		**Pn**	**09 39 06.0**	**-0.4**
AUL					**Sn**	**09 39 22.0**	**-0.1**
AUQ	**Augustine Qik'**	**1.15**	**219**		**Pn**	**09 39 06.3**	**-0.4**
AUQ					**Sn**	**09 39 22.4**	**-0.1**
AGU	**Augustine-Summ**	**1.15**	**220**		**Pn**	**09 39 06.3**	**-0.5**
AUCH	**Augustine Cone**	**1.15**	**220**		**Pn**	**09 39 06.3**	**-0.4**
AUW	**Augustine West**	**1.15**	**221**		**Pn**	**09 39 06.4**	**-0.3**
O22K	**Cooper Landing**	**1.16**	**77**	P	**Pn**	**09 39 05.9**	**-0.8**
	baz=260						
O22K	**Cooper Landing**	**1.16**	**77**		**Pn**	**09 39 07.0**	**+0.3**
O19K	**Port Alsworth**	**1.16**	**268**		**Pn**	**09 39 05.5**	**-1.2**
O19K					**Sn**	**09 39 21.0**	**-1.6**
FIS	**Fire Island**	**1.25**	**44**		**Pn**	**09 39 08.7**	**+0.7**
FIS	**Fire Island**	**1.25**	**44**	IAML		09 39 44.8	
	comp=N,430nm,0.8s						
FIS				IAML		09 39 54.2	
	comp=E,495nm,0.9s						
STLK	**Strandline Lak**	**1.26**	**4**		**Pn**	**09 39 07.6**	**-0.5**
SEW	**Seward**	**1.28**	**95**	P	**Pn**	**09 39 07.4**	**-0.9**
	baz=278,SNR=101						
SEW	**Seward**	**1.28**	**95**		**Pn**	**09 39 07.3**	**-0.9**
N19K	**Bonanza Creek**	**1.35**	**296**	P	**Pn**	**09 39 08.0**	**-1.3**
	baz=113,SNR=55						
N19K				S	**Sn**	**09 39 25.3**	**-1.8**
	baz=113						
N19K	**Bonanza Creek**	**1.35**	**296**		**Pn**	**09 39 08.0**	**-1.3**
N19K					**Sn**	**09 39 25.2**	**-1.9**
SUA	**Susitna One**	**1.36**	**26**	P	**Pn**	**09 39 09.1**	**-0.4**
	baz=208,SNR=58						
SUA				S	**Sn**	**09 39 27.3**	**-0.1**
	baz=208						
SUA	**Susitna One**	**1.36**	**26**		**Pn**	**09 39 09.1**	**-0.4**
SUA	**Susitna One**	**1.36**	**26**	IAML		09 39 30.9	
	comp=E,420nm,0.7s						
RC01	**Rabbit Creek A**	**1.40**	**52**	P	**Pn**	**09 39 08.9**	**-0.9**
	baz=235,SNR=40						
RC01				S	**Sn**	**09 39 27.3**	**-0.7**
	baz=235						
RC01	**Rabbit Creek A**	**1.40**	**52**		**Pn**	**09 39 08.8**	**-0.9**
RC01	**Rabbit Creek A**	**1.40**	**52**	IAML		09 39 30.4	
	comp=N,228nm,0.4s						
O18K	**Koktuh Hills**	**1.66**	**258**	P	**Pn**	**09 39 12.0**	**-1.1**
	baz=74						
O18K				S	**Sn**	**09 39 32.4**	**-1.6**
	baz=74						
O18K	**Koktuh Hills**	**1.66**	**258**		**Pn**	**09 39 12.0**	**-1.1**
O18K					**Sn**	**09 39 32.2**	**-1.7**
M20K	**Styx River**	**1.73**	**342**	P	**Pn**	**09 39 13.5**	**-0.6**
	baz=161						
SKT	**Skwentna**	**1.75**	**7**	P	**Pn**	**09 39 13.6**	**-0.7**
	baz=188,SNR=26						
SKT				S	**Sn**	**09 39 36.4**	**+0.3**
	baz=188						
SKT	**Skwentna**	**1.75**	**7**		**Pn**	**09 39 13.7**	**-0.7**

baz=268
EYAK Cordova Ski Ar 3.12 82 Pn 09 39 31.9 -0.6
DIV Divide 3.19 71 Pn 09 39 31.7 -1.9
KLU Klutina 3.22 65 P **Pn 09 39 32.7 -1.3**
baz=250,SNR=34
KLU Klutina 3.22 65 Pn 09 39 32.7 -1.3
TT01 Tatalina 3.29 326 Pn 09 39 34.0 -0.8
TRF Thorofare Moun 3.31 13 P **Pn 09 39 34.4 -1.0**
baz=195,SNR=7.4
TRF Thorofare Moun 3.31 13 Pn 09 39 34.5 -0.8
TRF Thorofare Moun 3.31 13 IAML 09 40 34.5
comp=N,75nm,0.9s
TRF IAML 09 40 35.2
comp=E,53nm,0.7s
KTH Kantishna Hill 3.35 8 Pn **Pn 09 39 36.5 +0.7**
KTH IAML 09 40 33.2
comp=N,58nm,1.0s
KTH IAML 09 40 33.4
comp=E,49nm,0.8s
M24K Tolsona, Glenn 3.38 54 P **Pn 09 39 35.7 -0.4**
baz=239,SNR=32
M24K Tolsona, Glenn 3.38 54 Pn 09 39 35.7 -0.4
M24K Tolsona, Glenn 3.38 54 IAML 09 40 33.2
comp=N,64nm,0.9s
RND Reindeer 3.50 24 Pn 09 39 38.2 +0.4
RND IAML 09 40 37.5
comp=N,37nm,0.8s
CHUM Lake Minchumin 3.65 358 P **Pn 09 39 39.7 0.0**
baz=178,SNR=12
CHUM Lake Minchumin 3.65 358 Pn 09 39 39.7 0.0
BMRM Bremner River 3.72 76 P **Pn 09 39 38.5 -2.2**
baz=262
BMRM Bremner River 3.72 76 Pn 09 39 38.6 -2.1
BMRM Bremner River 3.72 76 IAML 09 40 21.7
comp=N,41nm,0.5s
BMRM IAML 09 40 46.6
comp=E,36nm,0.7s
MCK McKinley 3.78 21 P **Pn 09 39 41.8 +0.3**
baz=204
MCK McKinley 3.78 21 Pn **Pn 09 39 43.1 +1.5**
MCK IAML 09 40 44.2
comp=E,26nm,0.8s
MCK IAML 09 40 48.0
comp=N,28nm,1.1s
N25K Chitina, Valde 3.86 66 P **Pn 09 39 41.3 -1.4**
baz=253,SNR=7.8
N25K Chitina, Valde 3.86 66 Pn 09 39 41.3 -1.4
N25K Chitina, Valde 3.86 66 IAML 09 40 25.8
comp=N,29nm,0.7s
N25K IAML 09 40 32.0
comp=E,29nm,0.7s
BPAW Bear Paw Mtn. 3.89 7 P **Pn 09 39 42.5 -0.6**
baz=188
BPAW Bear Paw Mtn. 3.89 7 Pn **Pn 09 39 41.9 -1.1**
HARP HAARP 3.94 54 P **Pn 09 39 43.0 -0.6**
baz=240
HARP HAARP 3.94 54 Pn 09 39 43.1 -0.6
SUCK Suckling Hills 4.12 89 Pn **Pn 09 39 46.6 +0.6**
SUCK **Sn 09 40 30.4 -2.6**
SUCK IAML 09 40 39.0
comp=E,28nm,1.2s
PAX Paxson 4.14 46 P **Pn 09 39 46.2 -0.4**
baz=232,SNR=32
PAX Paxson 4.14 46 Pn 09 39 46.2 -0.4
GLB Gilahina Butte 4.18 70 Pn 09 39 45.2 -1.8
GLB Gilahina Butte 4.18 70 IAML 09 40 32.8
comp=E,19nm,0.6s
GLB IAML 09 40 32.9
comp=N,28nm,0.7s
VRDI Verde Repeater 4.31 73 Pn 09 39 46.6 -2.3
VRDI Verde Repeater 4.31 73 IAML 09 40 38.2
comp=N,23nm,0.5s
MCARA McCarthy VSAT 4.54 72 S **Sn 09 40 41.9 -1.4**
baz=260
NEA2 Nenana 4.57 16 P **Pn 09 39 51.5 -0.8**
baz=199
NEA2 Nenana 4.57 16 Pn 09 39 51.4 -0.8
WRH Wood River Hil 4.61 22 Pn 09 39 52.1 -0.7
PTPK Patty Peak 4.78 75 Pn 09 39 53.9 -1.4
HDA Harding Lake 4.79 27 P **Pn 09 39 54.8 -0.5**
baz=212,SNR=8.9
HDA Harding Lake 4.79 27 Pn 09 39 54.7 -0.5
HDA Harding Lake 4.79 27 IAML 09 40 49.2
comp=E,19nm,0.3s
HDA IAML 09 41 18.2
comp=N,18nm,1.1s
ISLE Juniper Island 4.80 82 Pn **Pn 09 39 54.4 -1.2**
ISLE **Sn 09 40 47.1 -2.8**
ISLE IAML 09 40 48.6
comp=E,21nm,0.7s
ISLE IAML 09 40 51.8
comp=N,21nm,1.0s
KIAG Kiagna River 4.80 78 Pn 09 39 53.8 -1.7
BALM Baldy 4.82 76 Pn 09 39 53.6 -2.1
CCB Clear Creek Bu 4.82 22 Pn 09 39 54.9 -0.7
MLY Manley 4.83 6 P **Pn 09 39 55.4 -0.4**
baz=188
MLY Manley 4.83 6 Pn **Pn 09 39 56.1 +0.3**
RIDG Independent Ri 4.86 41 P **Pn 09 39 56.3 0.0**
baz=227,SNR=40
RIDG Independent Ri 4.86 41 Pn 09 39 56.3 0.0
RIDG Independent Ri 4.86 41 IAML 09 41 06.5
comp=N,20nm,0.9s
RIDG IAML 09 41 06.6
comp=E,24nm,0.9s
BAGL Bagley Icefiel 4.93 83 Pn 09 39 56.6 -0.4
I21K Tanana 4.95 0 P **Pn 09 39 57.2 -0.2**
baz=180
I21K Tanana 4.95 0 Pn 09 39 57.9 +0.5
MESA MESA 5.01 86 P **Pn 09 39 57.8 -0.7**
baz=275
TCOL CIGO, UAF Yank 5.02 21 P **Pn 09 39 57.6 -0.7**
baz=204
COLA College 5.02 21 P **Pn 09 39 57.4 -1.0**
baz=204
MDM Murphy Dome 5.04 19 Pn 09 39 58.1 -0.5
I23K Minto, Yukon-K 5.07 13 P **Pn 09 39 58.1 -0.8**
baz=195
I23K Minto, Yukon-K 5.07 13 Pn 09 39 58.6 -0.3
I23K Minto, Yukon-K 5.07 13 IAML 09 41 33.4
comp=N,9.9nm,0.8s
DOT Dot Lake 5.07 44 Pn 09 39 58.0 -1.0
IL31 5.12 25 Pn 09 39 58.9 -0.8
ILAR Eielson Array 5.12 25 Pn **Pn 09 39 59.2 -0.5**
comp=N,0.7nm,0.3s,baz=207,slow=14,SNR=23
ILAR Sn **Sn 09 40 54.0 -3.4**
comp=N,0.8nm,0.3s,baz=204,slow=26,SNR=4.5
BARN Barnard Glacie 5.15 76 Pn **Pn 09 39 59.8 -0.5**
BARN **Sn 09 40 55.4 -3.1**
BARN IAML 09 40 57.4
comp=N,16nm,0.5s
BARN IAML 09 40 58.3
comp=E,17nm,0.6s
CTG Chitna Glacier 5.30 78 P **Pn 09 40 02.1 -0.2**
baz=267
SCRK Sand Creek 5.30 42 P **Pn 09 40 01.6 -0.7**
baz=229,SNR=12
SCRK Sand Creek 5.30 42 Pn 09 40 01.4 -0.9
POKR Poker Plat Res 5.32 21 P **Pn 09 40 02.0 -0.4**
baz=206
L27K Beaver Creek, 5.61 55 P **Pn 09 40 05.2 -1.1**
baz=244,SNR=5.2
L27K Beaver Creek, 5.61 55 Pn 09 40 05.3 -1.1
BC03 5.63 55 Pn 09 40 05.6 -1.0
YUK3 Moose Creek 5.82 70 Pn 09 40 08.5 -0.9
PINM Pinnacle 5.87 86 P **Pn 09 40 08.7 -1.3**
baz=277
H24K Noodor Dome 5.91 17 P **Pn 09 40 09.3 -1.3**
baz=200
K27K Chicken 6.00 47 P **Pn 09 40 10.7 -1.0**
baz=236
K27K Chicken 6.00 47 Pn 09 40 10.7 -1.0
PRP Porcupine Dome 6.06 26 P **Pn 09 40 12.3 -0.3**
baz=212
PRP Porcupine Dome 6.06 26 Pn 09 40 12.2 -0.3
PNL Peninsula 6.36 90 Pn 09 40 15.3 -1.3
EGAK Eagle 6.76 43 P **Pn 09 40 21.1 -0.9**
baz=233,SNR=9.4
EGAK Eagle 6.76 43 Pn 09 40 20.8 -1.2
DAWY Dawson 7.03 52 Pn 09 40 25.2 -0.6
WHY Whitehorse 8.47 80 P **Pn 09 40 44.5 -1.0**
baz=275
PDAR Pinedale Array 30.97 105 P **P 09 44 57.8 +3.0**
comp=E,0.1nm,0.4s,baz=316,slow=5.0,SNR=1.9
TXAR Lajitas Array 44.61 112 P **P 09 46 51.1 +1.7**
comp=E,0.3nm,0.8s,baz=339,slow=6.7,SNR=4.1

2015 JUL

*WEL **09** 09:39:00,37°.24S×177°.26E,h4km,ML3.8,Mw4.1, Moment Tensor Solution. s4 Moment tensor: Scale 1015 Nm; Mrr=0.43; Mθθ0.97; Mφφ-0.54; Mrθ0.83; Mrφ1.14; Mθφ0.15; Fault plane solution: M0 1.57000×10^15 NP1: φs15.00000°,δ59.00000°,λ-177.00000°. NP2: φs283.00000°,δ87.00000°,λ-31.00000°. Principal axes: T 186.5500, Plg19.0000°, Azm333.0000°; N -126.9700, Plg59.0000°, Azm98.0000°; P -59.5900, Plg24.0000°, Azm235.0000°;*
*NOU **09** 09:39:04.9,36°.90S×177°.68E,h9km,ML4.4,Off E. Coast of N. Island, N.Z.*
WEL 09 09:39:06.6±0.9,37°S±7°×17°7E±°,h12km,M3.9/31, ML4.1/31,MLv3.9/31,Error ellipse: s-maj=0.0km s-min=0.0km az=32.5,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.65**	**198**	P	Pg	09 39 19.2	+0.1
HAZ	**Te Kaha**	**0.88**	**162**	P	Pb	09 39 23.9	+0.1
MXZ	**Matakaoa Point**	**0.95**	**133**	P	Pn	09 39 25.8	+0.1
WHRZ	**Whale Island**	**1.01**	**201**	P	Pn	09 39 26.5	-0.1
RUGZ	**Raukumara Rang**	**1.07**	**170**	P	Pb	09 39 25.5	-1.5
PKGZ	**Pakihiroa**	**1.10**	**153**	P	Pb	09 39 25.2	-2.3
OPRZ	**Ohinepanea**	**1.17**	**217**	P	Pb	09 39 27.4	-1.3
WMGZ	**Waiomatatini S**	**1.19**	**140**	P	Pn	09 39 26.9	-2.1
MARZ	**Manawahe**	**1.23**	**210**	P	Pn	09 39 28.0	-1.6
TGRZ	**Tauranga**	**1.25**	**229**	P	Pn	09 39 29.1	-0.7
EDRZ	**Edgecumbe**	**1.32**	**205**	P	Pn	09 39 28.9	-2.0
PUZ	**Puketiti**	**1.33**	**151**	S	Sg	09 39 49.5	+0.2
TWGZ	**Tauwhareparae**	**1.33**	**161**	P	Pn	09 39 31.1	+0.1
URZ	**Urewera**	**1.37**	**191**	P	Pn	09 39 29.9	-1.6
LIRZ	**Lichensteins R**	**1.38**	**217**	P	Pg	09 39 32.8	-0.1
KUZ	**Kuaotunu**	**1.39**	**276**	P	Pn	09 39 31.2	-0.5
KUZ				S	Sn	09 39 49.5	-0.6
MWZ	**Matawai**	**1.42**	**177**	P	Pn	09 39 30.1	-2.2
MWZ				S	Sb	09 39 51.3	+0.2
KARZ	**Kaharoa**	**1.46**	**220**	P	Pn	09 39 32.7	-0.1
OMRZ	**Omania**	**1.46**	**215**	P	Pn	09 39 32.6	-0.2
KMRZ	**Kaimai**	**1.52**	**232**	P	Pn	09 39 33.5	0.0
NGRZ	**Ngongotaha**	**1.55**	**220**	P	Pn	09 39 34.1	0.0
TKGZ	**Te Karaka**	**1.56**	**168**	P	Pn	09 39 33.8	-0.2
RRRZ	**Republican Roa**	**1.60**	**207**	P	Pn	09 39 33.0	-1.7
MUGZ	**Murupara**	**1.65**	**199**	P	Pn	09 39 35.7	+0.4
CNGZ	**Carnagh Statio**	**1.68**	**159**	P	Pn	09 39 36.4	+0.7
GRZ	**Great Barrier**	**1.73**	**292**	P	Pn	09 39 36.9	+0.5
RTZ	**Ruatahuna**	**1.74**	**192**	P	Pn	09 39 35.9	-0.8
TOZ	**Tahuroa Road**	**1.75**	**242**	P	Pn	09 39 36.6	-0.1
GRRZ	**Galatos Road**	**1.78**	**216**	P	Pn	09 39 37.2	0.0
PRRZ	**Plateau Road**	**1.79**	**207**	P	Pn	09 39 37.7	+0.5
RIGZ	**Rimuhau**	**1.81**	**172**	P	Pb	09 39 38.8	-0.8
WIAZ	**Waiheke Island**	**1.86**	**273**	P	Pn	09 39 38.8	+0.6
ALRZ	**Allen Road**	**1.86**	**208**	P	Pb	09 39 40.2	-0.3
SNGZ	**Shannon Statio**	**1.87**	**182**	P	Pn	09 39 38.0	-0.4
MTHZ	**Maungataniwha**	**1.99**	**194**	P	Pn	09 39 40.0	-0.1
ETAZ	**East Tamaki Re**	**2.02**	**268**	P	Pn	09 39 41.3	+0.9
RAHZ	**Arahi**	**2.02**	**188**	P	Pn	09 39 39.8	-0.7
KUTZ	**Kaahu Road**	**2.03**	**219**	P	Pn	09 39 40.8	+0.2
PRGZ	**Paritu Road**	**2.04**	**170**	P	Pn	09 39 41.0	+0.3
MBAZ	**Motutapu North**	**2.05**	**273**	P	Pn	09 39 41.6	+0.9
TLZ	**Tolley Road**	**2.07**	**226**	P	Pn	09 39 41.1	-0.1
MRHZ	**Matea Rd**	**2.08**	**203**	P	Pn	09 39 40.8	-0.5
KNZ	**Kokohu**	**2.11**	**175**	P	Pb	09 39 43.4	-1.4
WHHZ	**Waihua**	**2.17**	**184**	P	Pn	09 39 43.7	+1.2
NMHZ	**Naumai**	**2.24**	**193**	P	Pn	09 39 43.7	+0.2
AWAZ	**Awhitu Peninsu**	**2.25**	**265**	P	Pn	09 39 45.1	+1.6
MHGZ	**Mahia Peninsul**	**2.27**	**171**	P	Pb	09 39 46.0	-1.4
WTAZ	**Waiatarua**	**2.30**	**269**	P	Pn	09 39 45.8	+1.5
RVAZ	**Riverhead Bore**	**2.30**	**273**	P	Pn	09 39 45.7	+1.4
BKZ	**Black Stump Fm**	**2.37**	**198**	P	Pn	09 39 45.2	-0.2
ARHZ	**Aropaoanui**	**2.37**	**188**	P	Pb	09 39 47.3	-1.9
RITZ	**Rihia Road**	**2.41**	**211**	P	Pb	09 39 50.5	+0.6
NTVZ	**North Tongarir**	**2.59**	**212**	P	Pn	09 39 46.8	-1.6
TMVZ	**Te Maari**	**2.59**	**211**	P	Pb	09 39 52.5	-0.5
MCHZ	**McNeill Hill**	**2.59**	**193**	P	Pn	09 39 49.7	+1.4
HIZ	**Hauiti**	**2.60**	**231**	P	Pn	09 39 48.9	+0.5
KWHZ	**Kaweka Forest**	**2.63**	**197**	P	Pn	09 39 49.4	+0.5
NNVZ	**North Ngauruho**	**2.64**	**213**	P	Pb	09 39 54.5	+0.6
OTVZ	**Oturere**	**2.65**	**211**	P	Pb	09 39 53.6	-0.4
TWVZ	**Taurewa**	**2.67**	**216**	P	Pb	09 39 54.4	0.0
SNVZ	**South Ngauruho**	**2.68**	**212**	P	Pb	09 39 54.0	-0.5
WCZ	**Waipu Caves**	**2.68**	**290**	P	Pn	09 39 50.1	+0.6
NGZ	**Ngauruhoe**	**2.69**	**212**	P	Pb	09 39 55.6	+1.0
TUVZ	**Tukino**	**2.74**	**210**	P	Pb	09 39 54.2	-1.4
FWVZ	**Far West T-bar**	**2.77**	**212**	P	Pb	09 39 54.3	-1.8
WHVZ	**Whangaehu Hut**	**2.78**	**211**	P	Pb	09 39 54.1	-2.2
DRZ	**Dome Shelter**	**2.79**	**212**	P	Pb	09 39 56.8	+0.3
BHHZ	**Black Hill Sta**	**2.79**	**202**	P	Pn	09 39 51.6	+0.5
TRVZ	**Turoa**	**2.81**	**212**	P	Pb	09 39 56.1	-0.7
MOVZ	**Moawhango**	**2.82**	**208**	P	Pn	09 39 53.7	+2.1
KRHZ	**Kereru**	**2.85**	**197**	P	Pn	09 39 53.1	+1.2
PKVZ	**Pokaka**	**2.89**	**214**	P	Pb	09 39 56.4	-1.7
KAHZ	**Kahuranaki**	**2.91**	**189**	P	Pn	09 39 54.1	+1.4
MTVZ	**Mangateitei**	**2.92**	**212**	P	Pb	09 39 56.5	-2.0
VRZ	**Vera Road**	**3.06**	**223**	P	Pn	09 39 55.8	+1.0
PXZ	**Pawanui**	**3.15**	**188**	P	Pn	09 39 55.4	-0.5
PNHZ	**Pukenui**	**3.15**	**198**	P	Pn	09 39 56.3	+0.3
TSZ	**Takapari Road**	**3.35**	**200**	P	Pn	09 39 59.4	+0.7
WAZ	**Wanganui**	**3.43**	**214**	P	Pb	09 40 05.0	-2.3
DVHZ	**Dannevirke**	**3.52**	**196**	P	Pn	09 40 01.9	+0.7
NEZ	**North Egmont**	**3.54**	**227**	P	Pn	09 40 03.9	+2.5
OUZ	**Omahuta**	**3.54**	**297**	P	Pn	09 40 02.4	+1.0
PKE	**Pukeiti**	**3.55**	**229**	P	Pn	09 40 03.9	+2.4
KHEZ	**Kahui Hut**	**3.60**	**228**	P	Pn	09 40 05.0	+2.8
ANWZ	**Angora Road**	**3.62**	**192**	P	Pn	09 40 03.9	+1.5
NBEZ	**Newall Road No**	**3.67**	**229**	P	Pn	09 40 07.1	+3.9
POWZ	**Post Office Ro**	**3.71**	**200**	P	Pn	09 40 06.0	+2.3
PRWZ	**Pori Road**	**3.81**	**197**	P	Pn	09 40 06.9	+1.8
BFZ	**Birch Farm**	**3.88**	**194**	P	Pn	09 40 05.2	-0.8
MRZ	**Mangatainoka R**	**4.01**	**201**	P	Pn	09 40 07.2	-0.7
HOWZ	**Holdsworth Sta**	**4.25**	**200**	P	Pn	09 40 10.2	-0.9
OGWZ	**Otaki Gorge**	**4.28**	**204**	P	Pn	09 40 11.1	-0.4
KIW	**Kapiti Island**	**4.41**	**206**	P	Pn	09 40 14.2	+0.9
MTW	**Mount Morrison**	**4.50**	**199**	P	Pn	09 40 13.8	-0.7
CAW	**Cannon Point**	**4.58**	**203**	P	Pn	09 40 16.1	+0.5
DUWZ	**D'Urville Isla**	**4.76**	**214**	P	Pn	09 40 22.7	+4.6
TUWZ	**Tuamarina**	**5.27**	**210**	P	Pn	09 40 25.1	+0.1
QRZ	**Quartz Range**	**5.47**	**223**	P	Pn	09 40 28.8	+0.9
THZ	**Tophouse**	**5.98**	**215**	P	Pn	09 40 35.5	+0.6
DSZ	**Denniston Nort**	**6.51**	**220**	P	Pn	09 40 44.4	+2.2
LTZ	**Lake Taylor**	**7.08**	**213**	P	Pn	09 40 50.5	+0.5
INZ	**Inchbonnie**	**7.41**	**217**	P	Pn	09 40 56.2	+1.6
CTZ	**Chatham Island**	**8.18**	**148**	P	Pn	09 41 05.9	+0.8
TMZ	**Timaru**	**8.92**	**211**	P	Pn	09 41 14.4	-0.8

DJA 09 09:41:13.7±0.9,10°S±5°×11°7E±°,h32km±12km,M3.9/10, mb4.2/1,MLv3.8/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.79**	**343**	P	Pb	09 41 29.1	0.0
TWSI				S	Sb	09 41 40.3	+0.8
PLAI	**Plampang**	**0.93**	**44**	P	Pn	09 41 30.7	+0.1
PLAI				S	Sn	09 41 42.9	+0.1
DNP	**Denpasar**	**2.06**	**293**	P	Pn	09 41 45.9	-0.1
DNP				S	Sn	09 42 11.3	+0.7
WBSI	**Waikabubak, Su**	**2.24**	**94**	P	Pn	09 41 47.9	-0.8
SRBI	**Singaraja**	**2.35**	**307**	P	Pn	09 41 50.5	+0.4
SRBI				S	Sn	09 42 18.6	+0.7
JAGI	**Jajag, Banyuwa**	**3.10**	**289**	P	Pn	09 42 00.6	+0.1
JAGI				S	Sn	09 42 36.4	-0.2
ABJI	**Asem Bagus**	**3.32**	**300**	P	Pn	09 42 03.1	-0.3
EDFI	**Ende, Flores**	**4.57**	**81**	P	Pn	09 42 21.2	+0.4
BSSI	**Bau Bau, Buton**	**4.72**	**45**	P	Pn	09 42 23.2	+0.5
BKSI	**Bulukumba**	**5.11**	**36**	P	Pn	09 42 28.7	+0.6

*IDC **09** 10:03:49.5±1.6,37°.43N×78°.17E,h0km,mb3.6/6, mb1 3.6/11,mb1mx3.5/64,mbtmp3.5/11,ML3.1/5,Error ellipse: s-maj=26.2km s-min=24.4km az=58.0*
*SOME **09** 10:04:00.0,37°.90N×78°.13E,h10km*
*NNC **09** 10:04:01.5±1.2,37°.91N×78°.15E,h31km±11km,mb4.6, mpv4.2,Error ellipse: s-maj=9.9km s-min=8.1km az=93.0*
ISC 09 10:03:52.8±1.1,37°.68N±0°.07×78°.10E±0°.05,h10km,n48, σ1°36/69,mb3.6/7,2C-1D,Southern Xinjiang

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

KSH Kashi 2.48 318 Pn **Pb 10 04 36.8 -0.7**
KSH Sn **Sb 10 05 08.7 +0.6**
KSH smax smax
comp=N,150nm,0.6s
KSH smax smax
comp=E,130nm,0.5s
SATY Saty 5.38 2 *eP* **Pg 10 05 34.1 -1.8**
comp=E,12nm,0.5s
SATY *eS* **Sg 10 06 42.2 -3.3**
comp=E,34nm,0.8s
SATY Saty 5.38 2 Pg **Pg 10 05 37.0 +1.1**
comp=E,12nm,0.5s
SATY Lg Lg 10 06 47.5
comp=E,34nm,0.8s
IZV Izvestkoviy 5.47 349 *eP* **Pg 10 05 37.2 -0.4**
comp=E,14nm,0.3s
IZV *eS* **Sg 10 06 47.7 -0.7**
comp=E,25nm,0.4s
IZV Izvestkoviy 5.47 349 Pg **Pg 10 05 37.2 -0.4**
comp=E,14nm,0.3s
IZV Lg Lg 10 06 47.7
comp=E,25nm,0.4s
UZB Uzynbulak 5.51 7 *eP* **Pg 10 05 37.5 -0.8**
comp=E,13nm,0.4s
UZB *eS* **Sg 10 06 48.3 -1.3**
comp=E,20nm,0.7s
UZB Uzynbulak 5.51 7 Pg **Pg 10 05 37.5 -0.8**
comp=E,13nm,0.4s
UZB Lg Lg 10 06 48.3
comp=E,20nm,0.7s
MDOK Medeo 5.54 352 *eP* **Pg 10 05 39.1 +0.3**
comp=E,17nm,0.3s
MDOK *eS* **Sg 10 06 51.1 +0.6**
comp=E,33nm,0.5s
MDOK Medeo 5.54 352 ⇓Pg **Pg 10 05 38.9 +0.1**
comp=E,16nm,0.6s
MDOK ⇑Lg Lg 10 06 50.7
comp=E,35nm,0.7s
MDOK Medeo 5.54 352 Pg **Pg 10 05 39.1 +0.3**
comp=E,17nm,0.3s
MDOK Lg Lg 10 06 51.1
comp=E,33nm,0.5s
SHLS Shalkode 5.57 10 *eP* **Pg 10 05 40.1 +0.6**
comp=E,16nm,0.3s
SHLS *eS* **Sg 10 06 53.0 +1.4**
comp=E,70nm,0.3s
SHLS Shalkode 5.57 10 Pg **Pg 10 05 40.1 +0.6**
comp=E,16nm,0.3s
SHLS Lg Lg 10 06 53.0
comp=E,70nm,0.3s
KOTS Kotyrbulak 5.60 353 *eP* **Pg 10 05 40.6 +0.5**
comp=E,10nm,0.5s
KOTS *eS* **Sg 10 06 53.5 +1.0**
comp=E,56nm,0.4s
KOTS Kotyrbulak 5.60 353 Pg **Pg 10 05 40.6 +0.5**
comp=E,10nm,0.5s
KOTS Lg Lg 10 06 53.5
comp=E,56nm,0.4s
KST Kastek 5.60 344 *eP* **Pg 10 05 39.5 -0.5**
comp=E,18nm,0.5s
KST *eS* **Sg 10 06 51.7 -0.9**
comp=E,19nm,0.7s
KST Kastek 5.60 344 Pg **Pg 10 05 39.5 -0.5**
comp=E,18nm,0.5s
KST Lg Lg 10 06 51.7
comp=E,19nm,0.7s
AAK Ala-Archa 5.67 332 Pn **Pn 10 05 21.2 +3.9**
comp=E,1.1nm,0.3s,baz=170,slow=8.7,SNR=2.2
AAK Pg **Pg 10 05 38.1 -3.3**
comp=E,0.8nm,0.3s,baz=342,slow=22,SNR=4.8
AAK Lg Lg 10 06 56.2
comp=E,0.9nm,0.3s,baz=158,slow=23,SNR=2.4
KPKS Kokpek 5.80 4 *eP* **Pg 10 05 41.8 -2.0**
comp=E,26nm,0.4s
KPKS *eS* **Sg 10 06 55.8 -3.1**
comp=E,36nm,0.3s
DGS Degeres 5.83 343 *eP* **Pg 10 05 44.7 +0.2**
comp=E,13nm,0.3s
DGS *eS* **Sg 10 07 00.7 +0.7**
comp=E,20nm,0.8s
DGS Degeres 5.83 343 Pg **Pg 10 05 44.7 +0.2**
comp=E,13nm,0.3s
DGS Lg Lg 10 07 00.7
comp=E,20nm,0.8s
KTMS Ketmen 6.01 16 *eP* **Pg 10 05 47.6 -0.3**
comp=E,8.7nm,0.4s
KTMS *eS* **Sg 10 07 05.7 -0.1**
comp=E,20nm,0.3s
KTMS Ketmen 6.01 16 Pg **Pg 10 05 47.6 -0.3**
comp=E,8.7nm,0.4s
KTMS Lg Lg 10 07 05.6
comp=E,20nm,0.3s
KTBS Karatobe 6.12 350 *eP* **Pg 10 05 49.3 -0.7**
comp=E,5.8nm,0.3s
KTBS *eS* **Sg 10 07 08.3 -1.0**
comp=E,26nm,0.5s
KTBS Karatobe 6.12 350 Pg **Pg 10 05 49.3 -0.7**
comp=E,5.8nm,0.3s
KTBS Lg Lg 10 07 08.3
comp=E,26nm,0.5s
CHKK Chushkaly 6.22 353 *eP* **Pg 10 05 51.5 -0.5**
comp=E,7.1nm,0.4s
CHKK *eS* **Sg 10 07 12.5 -0.1**
comp=E,19nm,0.4s
CHKK Chushkaly 6.22 353 Pg **Pg 10 05 51.5 -0.5**
comp=E,7.1nm,0.4s
CHKK Lg Lg 10 07 12.5
comp=E,19nm,0.4s
MRKS Merke 6.28 325 *eP* **Pg 10 05 52.9 -0.2**
comp=E,9.4nm,0.6s
MRKS *eS* **Sg 10 07 14.7 +0.3**
comp=E,13nm,0.5s
MRKS Merke 6.28 325 Pg **Pg 10 05 52.9 -0.2**
comp=E,9.4nm,0.6s
MRKS Lg Lg 10 07 14.7
comp=E,13nm,0.5s
SGDS Sogindy 6.34 336 Pg **Pg 10 05 54.9 +0.7**
comp=E,3.3nm,0.4s
SGDS Lg Lg 10 07 18.2
comp=E,9.7nm,0.6s
KUU Kurty 6.35 348 *eP* **Pg 10 05 53.8 -0.6**
comp=E,7.0nm,0.6s
KUU *eS* **Sg 10 07 16.0 -0.6**
comp=E,20nm,0.5s
KUU Kurty 6.35 348 Pg **Pg 10 05 53.8 -0.6**
comp=E,7.0nm,0.6s
KUU Lg Lg 10 07 16.0
comp=E,20nm,0.5s
ARXS Arharly 6.53 358 *eP* **Pg 10 05 57.4 -0.4**
comp=E,15nm,0.3s
ARXS *eS* **Sg 10 07 22.6 +0.2**
comp=E,16nm,0.6s
ARXS Arharly 6.53 358 Pg **Pg 10 05 57.4 -0.4**
comp=E,15nm,0.3s
ARXS Lg Lg 10 07 22.6
comp=E,16nm,0.6s
KAPS Kapalarasan 7.66 7 *eP* **Pg 10 06 17.7 -1.7**
comp=E,6.2nm,0.7s
KAPS *eS* **Sg 10 07 57.8 -0.7**
comp=E,5.1nm,0.5s
KAPS Kapalarasan 7.66 7 Pg **Pg 10 06 17.7 -1.7**
comp=E,6.2nm,0.7s
KAPS Lg **Sg 10 07 57.8 -0.7**
comp=E,5.1nm,0.5s
WMQ Urumqi 9.52 47 *eP* **Pn 10 06 13.9 +3.9**
WMQ smax smax
comp=N,29nm,1.1s
WMQ smax smax
comp=E,37nm,0.7s
MK31 Makanchi Array 9.62 17 ⇑Pn **Pn 10 06 12.5 +1.2**
comp=E,0.7nm,0.5s,baz=196,slow=13,SNR=21
MK31 Sn **Sn 10 08 01.8 +2.3**
comp=E,2.3nm,0.6s,baz=193,slow=20,SNR=5.7
MKAR Makanchi Array 9.62 17 Pn **Pn 10 06 13.2 +1.9**
comp=E,0.6nm,0.3s,baz=195,slow=13,SNR=21
MKAR Sn **Sn 10 07 56.7 -2.8**
comp=E,0.4nm,0.3s,baz=195,slow=22,SNR=4.4
KURBB Kurchatov Arra 12.94 1 Pn **Pn 10 06 58.4 +1.7**
comp=E,0.0nm,0.3s,baz=183,slow=14,SNR=2.2
KURBB Lg Lg 10 10 48.6
baz=179,slow=28,SNR=4.4
ZALV Zalesovo Beam 16.92 14 P **Pn 10 07 49.0 -0.5**
comp=E,0.1nm,0.3s,baz=191,slow=15,SNR=2.2
AKTO Aktyubinsk 19.18 318 P **P 10 08 17.1 +0.6**
comp=E,0.1nm,0.3s,baz=106,slow=15,SNR=1.9
SONM Songino Array 23.00 55 P **P 10 08 57.3 -0.6**
comp=E,0.9nm,0.5s,baz=263,slow=10,SNR=3.9
FINES FINESS Array B 39.79 324 P **P 10 11 26.5 +0.9**

comp=E,1.5nm,0.6s,baz=110,slow=11,SNR=8.4
ARCES ARCESS Array B 42.33 335 P **P 10 11 47.4 +0.9**
comp=E,0.4nm,0.4s,baz=98,slow=8.8,SNR=5.8
NOA NORSAR Array B 46.90 322 P **P 10 12 23.2 +0.1**
comp=E,0.3nm,0.5s,baz=122,slow=8.4,SNR=2.0
RES Resolute Bay 67.82 358 P **P 10 14 50.8 +0.3**
comp=E,13nm,0.8s,baz=349,slow=9.3,SNR=2.1
TORD Torodi Ar. Bea 71.38 272 P **P 10 15 11.3 -2.1**
comp=E,0.3nm,0.6s,baz=47,slow=5.9,SNR=2.3
ILAR Eielson Array 71.97 19 P **P 10 15 15.3 -0.9**
comp=E,0.4nm,0.8s,baz=312,slow=2.4,SNR=4.3

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*BJI **09** 10:07:36.7±0.0, 4°.01S×153°.69E, h99km, mB5.4/36, mb5.1/63*
*MOS **09** 10:07:37.3±1.0, 4°.29S×153°.36E, h107km, mb5.1/25, Error ellipse: s-maj=8.4km s-min=5.8km az=104.2*
*IDC **09** 10:07:37.9±1.2, 4°.38S×153°.44E, h99km±10km, mb4.6/39, mb1 4.7/42, mb1mx4.6/49, mbtmp4.9/42, MS3.8/27, Ms1 3.8/27, ms1mx3.7/38, Error ellipse: s-maj=9.3km s-min=7.2km az=105.0*
*NEIC **09** 10:07:38.4±1.8, 4°.31S±0°.08×153°.37E±0°.07, h102km±4km, mb5.0/161, Error ellipse: s-maj=11.8km s-min=9.8km az=201.0*
*DJA **09** 10:07:38.8±0.4, 4°S±3°×15°3E±°, h103km±4km, M5.3/42, mb5.3/42, mB5.7/19, MLv5.6/4, Mw(mB)5.2/19, MwMwp4.2/2, Mwp4.7/2*
*GCMT **09** 10:07:39.4±0.1, 4°.51S±0°.01×153°.41E±0°.01, h97km±1km, MW5.2/130, Moment Tensor Solution. s99,c121; s130,c201; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.80±.12; Mθθ-1.22±.16; Mφφ-4.58±.16; Mrθ-2.17±.11; Mθφ3.96±.14; Mφr-1.59±.12; Best double couple: M0 7.13900×10^16 NP1:φs303.00000°, δ50.00000°, λ56.00000°. NP2:φs170.00000°, δ51.00000°, λ124.00000°. Principal axes: T 7.0740, Plg65.0000°, Azm145.0000°; N 0.1290, Plg25.0000°, Azm327.0000°; P -7.2030, Plg1.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 10:07:38.4±0.4, 4°.31S±0°.04×153°.47E±0°.04, h107km±3km, h108km:pP-P, n553, σ1s23/534, mb5.0/181, 94C-55D, Fault plane solution: NP1:φs307.04929°, δ75.15877°, λ74.53682°. NP2:φs174.25189°, δ21.30668°, λ135.17651°.
Principal axes: T Plg57.1290°, Azm196.7235°; N Plg14.9351°, Azm311.1023°; P Plg28.5324°, Azm49.4408°; **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.30**	**275**	Pn	**Pn**	**10 08 01.9**	**-0.8**
RABL	**Rabaul**	**1.30**	**275**	P	**Pn**	**10 08 01.1**	**-1.6**
MANU	**Manus Island**	**6.49**	**290**	Pn	**Pn**	**10 09 09.0**	**-2.5**
PMG	**Port Moresby**	**8.05**	**231**	P	**Pn**	**10 09 31.8**	**-0.8**
	39nm,0.3s,baz=46,slow=6.6,SNR=58						
PMG				S	**Sn**	**10 10 59.6**	**-2.4**
	35nm,0.3s,baz=126,slow=22,SNR=7.2						
PMG	**Port Moresby**	**8.05**	**231**	Pn	**Pn**	**10 09 32.0**	**-0.6**
PMG	**Port Moresby**	**8.05**	**231**	P	**Pn**	**10 09 32.0**	**-0.6**
	942nm,0.9s						
PMG	**Port Moresby**	**8.05**	**231**	P	**Pn**	**10 09 32.0**	**-0.6**
	942nm,0.9s						
HNR	**Honiara**	**8.20**	**129**	P	**Pn**	**10 09 35.7**	**+1.1**
	16nm,0.3s,baz=212,slow=4.2,SNR=28						
HNR				S	**Sn**	**10 11 05.5**	**-0.2**
	84nm,0.3s,baz=339,slow=20,SNR=12						
HNR				LR	LR	10 12 54.6	
	comp=Z,2μm,21.9s,baz=301,slow=39						
HNR	**Honiara**	**8.20**	**129**	Pn	**Pn**	**10 09 36.1**	**+1.4**
HNR	**Honiara**	**8.20**	**129**	P	**Pn**	**10 09 37.0**	**+2.3**
	636nm,0.8s						
PATS	**Pohnpei**	**12.08**	**24**	P	**Pn**	**10 10 26.6**	**-0.5**
	baz=12,SNR=85						
PATS				S	**Sn**	**10 12 32.3**	**-7.8**
	baz=12						
PATS	**Pohnpei**	**12.08**	**24**	Pn	**Pn**	**10 10 25.5**	**-1.6**
GENI	**Genyem**	**13.38**	**277**	P	**Pn**	**10 10 43.6**	**-0.6**
	272nm,0.8s						
CTA	**Charters Tower**	**17.18**	**204**	P	**Pn**	**10 11 32.9**	**+1.0**
	0.7nm,0.3s,baz=26,slow=13,SNR=17						
CTA				LR	LR	10 17 47.1	
	comp=Z,526nm,19.0s,baz=20,slow=36						
CTAO	**Charters Tower**	**17.18**	**204**	P	**Pn**	**10 11 32.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,47nm,0.9s						
CTAO	**Charters Tower**	**17.18**	**204**	P	**Pn**	**10 11 32.4**	**+0.5**
KOUNC	**Koumac, New Ca**	**19.27**	**148**	P	**Pn**	**10 11 57.0**	**+0.1**
GUMO	**Guam**	**19.72**	**334**	LR	LR	10 20 19.6	
	comp=Z,75nm,18.5s,baz=114,slow=38						
TARA	**Tarawa**	**20.24**	**74**	P	Pn	10 12 08.0	-0.2
TARA	**Tarawa**	**20.24**	**74**	P	Pn	10 12 08.3	+0.1
QIS	**Mount Isa**	**21.04**	**219**	P	**P**	**10 12 13.6**	**-0.2**
	baz=21,SNR=29						
EIDS	**Eidsvold**	**21.06**	**186**	P	**P**	**10 12 14.5**	**+0.5**
	baz=21,SNR=43						
EIDS	**Eidsvold**	**21.06**	**186**	P	**P**	**10 12 13.9**	**-0.1**
EIDS				IAmb	IAmb	10 12 17.4	
	comp=Z,160nm,0.9s						
FAKI	**Fak Fak**	**21.22**	**273**	P	**P**	**10 12 15.0**	**-0.8**
FAKI				IAmb	IAmb	10 12 22.3	
	comp=Z,152nm,0.8s						
FAKI	**Fak Fak**	**21.22**	**273**	P	**P**	**10 12 15.1**	**-0.8**
	comp=Z,3μmcomp=Z,251nm,0.9s						
NOUC	**Port Laguerre**	**21.62**	**146**	P	**P**	**10 12 21.5**	**+1.4**
DZM	**Mont Dzumac**	**21.68**	**146**	P	**P**	**10 12 20.5**	**-0.3**
	comp=Z,25nm,0.5s,baz=236,slow=7.5,SNR=26						
DZM				LR	LR	10 19 25.3	
	comp=Z,249nm,21.1s,baz=43,slow=33						
DZM	**Mont Dzumac**	**21.68**	**146**	*e*P	**P**	**10 12 20.7**	**-0.1**
	comp=Z,138nm,1.2s						
DZM				*e*LR	LR	10 17 41.0	
	comp=Z,1μm,32.1s						
DZM	**Mont Dzumac**	**21.68**	**146**	P	**P**	**10 12 21.1**	**+0.4**
DZM				IAmb	IAmb	10 12 23.3	
	comp=Z,137nm,1.4s						
DZM	**Mont Dzumac**	**21.68**	**146**	P	**P**	**10 12 20.9**	**+0.1**
YATNC	**Mamie plateau,**	**21.93**	**145**	P	**P**	**10 12 25.5**	**+2.3**
OUENC	**Ouen Island, N**	**22.18**	**145**	P	**P**	**10 12 26.0**	**+0.1**
OUENC				IAmb	IAmb	10 12 53.2	
	comp=Z,50nm,1.1s						
KDU	**Kakadu**	**22.35**	**247**	P	**P**	**10 12 26.5**	**-1.2**
	baz=22,SNR=35						
SIJI	**Sorong**	**22.44**	**278**	P	**P**	**10 12 28.5**	**-0.2**
	comp=Z,72nm,0.8s,baz=67,slow=8.8,SNR=13						
SWI	**Sorong**	**22.44**	**278**	P	**P**	**10 12 29.8**	**+1.1**
	comp=Z,140nm,0.9s						
RMQ	**Roma**	**22.51**	**191**	P	**P**	**10 12 29.4**	**+0.2**
	baz=23,SNR=181						
MTN	**Manton Dam**	**23.64**	**248**	P	**P**	**10 12 39.5**	**-0.6**
	baz=24,SNR=16						
MTN	**Manton Dam**	**23.64**	**248**	P	**P**	**10 12 39.3**	**-0.8**
MTN				IAmb	IAmb	10 12 50.4	
	comp=Z,65nm,0.8s						
QLP	**Quilpie**	**23.84**	**201**	P	**P**	**10 12 41.7**	**-0.1**
	baz=24,SNR=71						
WB0	**Warramunga Arr**	**24.12**	**229**	P	**P**	**10 12 43.9**	**-0.5**
WR0	**Warramunga Arr**	**24.12**	**228**	P	**P**	**10 12 44.2**	**-0.3**
WRAB	**Tennant Creek**	**24.25**	**229***c*	*i*P	**P**	**10 12 44.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,232nm,0.7s						
WRAB	**Tennant Creek**	**24.25**	**229**	P	**P**	**10 12 45.6**	**0.0**
WB2	**Warramunga Arr**	**24.25**	**229**	P	**P**	**10 12 46.3**	**+0.6**
WRA	**Warramunga Arr**	**24.26**	**229**	P	**P**	**10 12 45.4**	**-0.3**
	comp=Z,126nm,0.6s,baz=51,slow=9.7,SNR=276						
WRA				PcP	**PcP**	**10 16 24.2**	**+0.8**
	comp=Z,23nm,0.8s,baz=58,slow=2.2,SNR=7.1						
WRA				S	**S**	**10 16 59.9**	**+2.8**
	comp=Z,26nm,1.0s,baz=49,slow=17,SNR=11						
WRA				ScP	**ScP**	**10 19 53.8**	**+1.3**
	comp=Z,7.6nm,1.0s,baz=52,slow=3.4,SNR=5.2						
WRA				LR	LR	10 22 30.2	
	comp=Z,416nm,21.1s,baz=65,slow=37						
WRA	**Warramunga Arr**	**24.26**	**229**	P	**P**	**10 12 45.8**	**0.0**
WRA				IAmb	IAmb	10 12 51.2	
	comp=Z,25nm,0.7s						
ARMA	**Armidale**	**26.03**	**184**	P	**P**	**10 13 02.3**	**+0.5**
	baz=26,SNR=29						
ARMA	**Armidale**	**26.03**	**184**	P	**P**	**10 13 02.2**	**+0.5**
ARMA				IAmb	IAmb	10 13 04.3	
	comp=Z,68nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**26.14**	**30**	T	T	10 41 02.1	
	baz=210,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**26.14**	**30**	T	T	10 41 07.0	
	baz=210,slow=76,SNR=71						
H11S1	**WAKE ISLAND Hy**	**26.16**	**30**	T	T	10 41 12.3	
	baz=210,slow=76,SNR=40						
KNRA	**Kununurra**	**26.78**	**243**	P	**P**	**10 13 08.0**	**-0.5**
	baz=27,SNR=19						
KNRA	**Kununurra**	**26.78**	**243**	P	**P**	**10 13 07.9**	**-0.7**
AS31	**Alice Springs**	**26.95**	**223**	P	**P**	**10 13 09.6**	**-0.5**
ASAR	**Alice Springs**	**26.96**	**223**	P	**P**	**10 13 09.2**	**-0.9**
	comp=Z,8.7nm,0.5s,baz=55,slow=8.9,SNR=107						
ASAR				PcP	**PcP**	**10 16 30.1**	**+0.6**
	comp=Z,15nm,0.8s,baz=51,slow=2.1,SNR=9.4						
ASAR				S	**S**	**10 17 37.4**	**-2.3**
	comp=Z,5.9nm,0.9s,baz=42,slow=15,SNR=5.0						
ASAR				ScP	**ScP**	**10 20 01.7**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=52,slow=2.9,SNR=7.4						
ASAR				LR	LR	10 24 34.5	
	comp=Z,156nm,18.5s,baz=52,slow=38						
H11N1	**WAKE ISLAND Hy**	**27.28**	**29**	T	T	10 43 11.3	
	baz=196,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**27.29**	**29**	T	T	10 43 04.0	
	baz=196,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**27.30**	**28**	T	T	10 43 12.0	
	baz=196,slow=76,SNR=7.5						
MSVF	**Nonsavu**	**27.52**	**121**	P	**P**	**10 13 16.9**	**+1.7**
	comp=Z,24nm,0.7s,baz=266,slow=11,SNR=19						
MSVF				LR	LR	10 24 41.2	
	comp=Z,114nm,18.1s,baz=299,slow=37						
MSVF	**Nonsavu**	**27.52**	**121**	P	**P**	**10 13 14.6**	**-0.6**
MSVF				IAmb	IAmb	10 13 18.7	
	comp=Z,34nm,0.8s						
MSVF	**Nonsavu**	**27.52**	**121**	P	**P**	**10 13 16.0**	**+0.8**
CMSA	**Cobar Meteorol**	**28.05**	**194**	P	**P**	**10 13 19.5**	**-0.2**
	baz=28,SNR=41						
MGCD	**Mangrove Creek**	**28.84**	**184**	P	**P**	**10 13 27.3**	**+0.7**
	baz=29,SNR=6.8						
RIV	**Riverview**	**29.45**	**184**	P	**P**	**10 13 32.8**	**+0.8**
	baz=30,SNR=5.1						
STKA	**Stephens Creek**	**29.60**	**201**	P	**P**	**10 13 32.8**	**-0.7**
	comp=Z,75nm,1.1s,baz=7.3,slow=9.1,SNR=52						
STKA				PcP	**PcP**	**10 16 34.6**	**-1.2**
	comp=Z,16nm,1.0s,baz=12,slow=2.9,SNR=4.3						
STKA				ScP	**ScP**	**10 20 10.5**	**+2.3**
	comp=Z,5.1nm,0.9s,baz=3.9,slow=7.5,SNR=3.9						
STKA				LR	LR	10 25 28.9	
	comp=Z,357nm,19.4s,baz=16,slow=36						
STKA	**Stephens Creek**	**29.60**	**201**	P	**P**	**10 13 32.7**	**-0.7**
BATI	**Baumata**	**30.12**	**257**	P	**P**	**10 13 38.8**	**+0.4**
	comp=Z,13nm,0.3s,baz=71,slow=18,SNR=1.8						
BATI				LR	LR	10 28 56.5	
	comp=Z,376nm,19.7s,baz=82,slow=42						
YNG	**Young**	**30.21**	**188**	P	**P**	**10 13 39.5**	**+0.7**
	baz=30,SNR=20						
CNB	**Canberra Magne**	**31.09**	**187**	P	**P**	**10 13 47.6**	**+1.0**
	baz=31,SNR=39						
CAN	**Canberra**	**31.13**	**187**	P	**P**	**10 13 47.0**	**0.0**
CAN				pmax	pmax		
	comp=Z,89nm,0.9s						
CAN	**Canberra**	**31.13**	**187**	P	**P**	**10 13 47.0**	**0.0**
WRKA	**Warakurna**	**31.78**	**227**	P	**P**	**10 13 51.8**	**-1.0**
	baz=32,SNR=82						
EDFI	**Ende, Flores**	**31.87**	**260**	P	**P**	**10 13 51.8**	**-2.0**
	comp=Z,19nm,0.8s						
MILA	**Mila**	**32.83**	**186**	P	**P**	**10 14 03.2**	**+1.3**
	baz=33,SNR=3.7						
JCJ	**Chichijima**	**33.07**	**341**	LR	LR	10 24 36.0	
	comp=Z,202nm,20.5s,baz=160,slow=31						
BNSI	**Bone**	**33.26**	**269**	P	**P**	**10 14 05.5**	**-0.3**
	comp=Z,28nm,1.1s						
KAPI	**Kappang**	**33.61**	**267**	P	**P**	**10 14 09.5**	**+0.6**
	comp=Z,14nm,0.8s,baz=180,slow=2.6,SNR=4.3						
KAPI	**Kappang**	**33.61**	**267**	P	**P**	**10 14 08.2**	**-0.6**
KAPI				IAmb	IAmb	10 14 37.7	
	comp=Z,28nm,0.8s						
TOO	**Toolangi**	**33.90**	**191**	P	**P**	**10 14 11.6**	**+0.5**
	baz=34,SNR=21						
ARPS	**Mount Arapiles**	**34.03**	**197**	P	**P**	**10 14 12.7**	**+0.5**
	baz=34,SNR=41						
WBSI	**Waikabubak, Su**	**34.22**	**259**	P	**P**	**10 14 13.3**	**-0.9**
	comp=Z,877nmcomp=Z,81nm,0.8s						
AFI	**Afiamalu**	**35.57**	**108**	LR	LR	10 26 22.8	
	comp=Z,160nm,21.7s,baz=276,slow=32						
FORT	**Forrest**	**35.59**	**219**	P	**P**	**10 14 25.0**	**-0.7**
	baz=36,SNR=52						
FORT	**Forrest**	**35.59**	**219**	P	**P**	**10 14 24.9**	**-0.8**
MOO	**Moorlands**	**38.38**	**187**	P	**P**	**10 14 50.7**	**+1.5**
	baz=38,SNR=10						
TAU	**Tasmania Unive**	**38.82**	**187**	P	**P**	**10 14 53.6**	**+0.7**
TAU				pmax	pmax		
	comp=Z,111nm,1.1s						
TAU	**Tasmania Unive**	**38.82**	**187**	P	**P**	**10 14 53.6**	**+0.7**
HIZ	**Hauiti**	**39.22**	**153**	P	**P**	**10 14 57.3**	**+1.1**
JHJ	**Hachijo jima 2**	**39.42**	**342**	LR	LR	10 29 31.4	
	comp=Z,191nm,21.2s,baz=158,slow=33						
MEEK	**Meekatharra**	**40.03**	**233**	P	**P**	**10 15 02.2**	**-1.0**
	baz=40,SNR=13						
URZ	**Urewera**	**40.08**	**151**	P	**P**	**10 15 03.5**	**+0.1**
URZ				IAmb	IAmb	10 15 23.8	
	comp=Z,47nm,1.3s						
QRZ	**Quartz Range**	**40.19**	**157**	P	**P**	**10 15 03.7**	**-0.6**
BKZ	**Black Stump Fm**	**40.50**	**152**	P	**P**	**10 15 06.1**	**-0.8**
BKZ				IAmb	IAmb	10 15 15.8	
	comp=Z,53nm,1.3s						
NNZ	**Nelson**	**40.86**	**157**	P	**P**	**10 15 09.9**	**+0.1**
THZ	**Tophouse**	**41.15**	**158**	P	**P**	**10 15 11.8**	**-0.4**
THZ				IAmb	IAmb	10 15 13.7	
	comp=Z,38nm,0.9s						
TUWZ	**Tuamarina**	**41.26**	**156**	P	**P**	**10 15 12.6**	**-0.4**
BSWZ	**Blackbirch Sta**	**41.48**	**157**	P	**P**	**10 15 14.5**	**-0.3**
PWJI	**Pagerwojo**	**41.57**	**263**	P	**P**	**10 15 14.4**	**-1.6**
	comp=Z,21nm,1.0s						
BFZ	**Birch Farm**	**41.61**	**154**	P	**P**	**10 15 14.5**	**-1.4**
FOZ	**Fox Glacier**	**41.65**	**162**	P	**P**	**10 15 16.3**	**+0.1**
MSWZ	**Moikau Station**	**41.78**	**155**	P	**P**	**10 15 17.0**	**-0.3**
LTZ	**Lake Taylor**	**41.80**	**159**	P	**P**	**10 15 17.4**	**-0.1**
PLWZ	**Palliser**	**41.91**	**155**	P	**P**	**10 15 17.5**	**-0.9**
GIRL	**Giralia**	**42.08**	**241**	P	**P**	**10 15 19.7**	**-0.3**
	baz=42,SNR=3.9						
TPUB	**Ta-pu**	**42.18**	**312**	P	**P**	**10 15 21.1**	**+0.2**
RPZ	**Rata Peaks**	**42.21**	**161**	P	**P**	**10 15 20.0**	**-0.7**
MQZ	**McQueen's Vall**	**42.74**	**159**	P	**P**	**10 15 24.6**	**-0.4**
MLZ	**Mavora Lakes**	**42.86**	**165**	P	**P**	**10 15 26.2**	**+0.2**
JWT	**Wachi**	**42.88**	**338**	P	**P**	**10 15 24.8**	**-1.5**
JNU	**Nakatsue**	**42.94**	**332**	P	**P**	**10 15 28.5**	**+1.7**
	comp=Z,42nm,0.9s,baz=119,slow=5.9,SNR=13						
MJAR	**Matsushiro Arr**	**43.07**	**342**	P	**P**	**10 15 26.7**	**-1.1**
	comp=Z,4.4nm,0.9s,baz=161,slow=9.3,SNR=8.3						
MJAR				PcP	**PcP**	**10 17 17.1**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=164,slow=3.5,SNR=5.5						
MJAR				LR	LR	10 31 59.0	
	comp=Z,50nm,19.0s,baz=205,slow=34						
MAT	**Matsushiro**	**43.07**	**342**	P	**P**	**10 15 26.3**	**-1.5**
KLBR	**Kellerberrin**	**43.12**	**227**	P	**P**	**10 15 26.9**	**-1.4**
	baz=43,SNR=11						
MORW	**Morawa**	**43.17**	**231**	P	**P**	**10 15 27.6**	**-1.2**
	baz=43,SNR=14						
MORW	**Morawa**	**43.17**	**231**	P	**P**	**10 15 28.5**	**-2.9**
MORW				IAmb	IAmb	10 15 28.6	
	comp=Z,41nm,0.8s						
WHZ	**Wether Hill Ro**	**43.30**	**165**	IAmb	IAmb	10 15 29.5	
	comp=Z,32nm,0.8s						
BLDU	**Ballidu**	**43.40**	**229**	P	**P**	**10 15 29.6**	**-1.0**
	baz=43,SNR=12						
NWAO	**Narrogin (SRO)**	**44.20**	**225**	P	**P**	**10 15 36.0**	**-0.9**
	comp=Z,9.7nm,0.7s,baz=111,slow=7.1,SNR=1.9						
NWAO				LR	LR	10 33 31.6	
	comp=Z,203nm,22.0s,baz=86,slow=35						
NWAO	**Narrogin (SRO)**	**44.20**	**225**	P	**P**	**10 15 36.2**	**-0.8**
	baz=44,SNR=5.4						
KPJI	**Karang Pucung**	**44.39**	**264**	P	**P**	**10 15 37.6**	**-1.1**
	comp=Z,48nm,0.7s						
MUN	**Mundaring**	**44.45**	**227**	P	**P**	**10 15 38.3**	**-0.7**
	baz=44,SNR=4.4						
CISI	**Cisompet, Garu**	**45.50**	**264**	P	**P**	**10 15 46.1**	**-1.6**
CISI	**Cisompet, Garu**	**45.50**	**264**	P	**P**	**10 15 46.4**	**-1.2**
	comp=Z,65nm,0.7s						
LEM	**Lembang**	**45.69**	**265**	LR	LR	10 38 59.0	
	comp=Z,127nm,18.0s,baz=106,slow=41						
JTM	**Tenmabayashi**	**46.29**	**347**	P	**P**	**10 15 54.1**	**+0.8**
JTM				IAmb	IAmb	10 16 17.6	
	comp=Z,57nm,1.4s						
TJN	**Taejon**	**47.26**	**331***ce*P		**P**	**10 16 00.9**	**0.0**
KSRS	**Korea Array**	**47.87**	**332**	P	**P**	**10 16 06.3**	**+0.7**
	comp=Z,14nm,0.9s,baz=149,slow=9.1,SNR=49						
KSRS				ScP	**ScP**	**10 21 20.9**	**+3.5**
	comp=Z,1.4nm,0.7s,baz=136,slow=4.8,SNR=5.1						
KSRS				LR	LR	10 36 12.8	
	comp=Z,37nm,18.2s,baz=150,slow=36						
KSAR	**Wonju Array Be**	**47.88**	**332**	P	**P**	**10 16 05.6**	**-0.1**
KSAR	**Wonju Array Be**	**47.88**	**332**	P	**P**	**10 16 05.6**	**-0.1**
KS19	**Wonju Array Si**	**47.93**	**332**	P	**P**	**10 16 05.9**	**-0.2**
KS19				IAmb	IAmb	10 16 13.3	
	comp=Z,20nm,1.1s						
RAR	**Rarotonga**	**48.38**	**115**	LR	LR	10 33 41.4	
	comp=Z,108nm,20.4s,baz=294,slow=32						
INCN	**Inchon**	**48.50**	**331**	P	**P**	**10 16 11.9**	**+1.4**
INCN				pmax	pmax		
	comp=Z,93nm,1.0s						
INCN	**Inchon**	**48.50**	**331**	P	**P**	**10 16 11.9**	**+1.4**
NJ2	**Nanjing**	**48.89**	**320**	*e*P	**P**	**10 16 15.4**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
MDSI	**Maura Dua**	**49.13**	**268**	P	**P**	**10 16 16.3**	**+0.6**
	comp=Z,11nm,1.2s						
JKA	**Kamikawa-asahi**	**49.19**	**350**	IAmb	IAmb	10 16 45.5	
	comp=Z,14nm,1.0s						
ASAJ	**Asahikawa**	**49.19**	**350**	P	**P**	**10 16 17.0**	**+1.4**
	comp=Z,8.2nm,0.7s,baz=191,slow=4.7,SNR=12						
MCQ	**Macquarie Isla**	**50.23**	**176**	P	**P**	**10 16 24.6**	**+1.2**
	baz=50,SNR=4.6						
WHN	**Wuhan**	**50.97**	**316**	⇓P	**P**	**10 16 30.6**	**+1.3**
USRK	**Ussuriysk Ar.**	**52.01**	**340**	P	**P**	**10 16 37.8**	**+1.1**
	comp=Z,6.7nm,0.7s,baz=156,slow=3.4,SNR=17						
USRK				LR	LR	10 37 57.9	
	comp=Z,78nm,18.0s,baz=152,slow=35						
DL2	**Dalian**	**52.10**	**329**	P	**P**	**10 16 39.1**	**+1.6**
DL2				pmax	pmax		
	comp=Z,24nm,0.9s						
TIA	**Tai'an**	**52.72**	**323**	⇑P	**P**	**10 16 42.3**	**+0.1**
TIA				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ	**Mudanjiang**	**53.20**	**339**	P	**P**	**10 16 46.4**	**+0.8**
MDJ				pP	pP	10 17 09.3	-1.0
MDJ				pmax	pmax		
	comp=Z,19nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,330nm,7.3s						
MNSI	**Mandailing Nat**	**54.08**	**274**	P	**P**	**10 16 54.2**	**+1.6**
CN2	**Changchun**	**54.13**	**335**	*e*P	**P**	**10 16 52.4**	**0.0**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
ENH	**Enshi**	**54.31**	**312**	P	**P**	**10 16 53.8**	**-0.2**
ENH				IAmb	IAmb	10 16 56.0	
	comp=Z,39nm,1.2s						
NONG	**Nongkai**	**54.36**	**296**	P	**P**	**10 16 55.7**	**+1.2**
	comp=Z,5μmcomp=Z,36nm,1.1s						
NONG	**Nongkai**	**54.36**	**296**	P	**P**	**10 16 55.8**	**+1.2**
GYA	**Guiyang**	**54.63**	**307**	⇓P	**P**	**10 16 58.4**	**+1.9**
GYA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CHAI	**Chaiyaphum**	**54.74**	**293**	P	**P**	**10 16 59.8**	**+2.5**
	comp=Z,16nm,0.8s						
TRTT	**Trang**	**54.99**	**283**	P	**P**	**10 17 00.8**	**+1.7**
	comp=Z,28nm,1.3s						
GSI	**Gunungsitoli**	**56.12**	**274**	P	**P**	**10 17 06.3**	**-1.0**
GSI	**Gunungsitoli**	**56.12**	**274**	P	**P**	**10 17 07.7**	**+0.4**
	comp=Z,60nm,1.4s						
PHIT	**Phitsanulok**	**56.56**	**294**	P	**P**	**10 17 12.3**	**+2.0**
	comp=Z,44nm,0.8s						
KLR	**Kul'dur**	**56.57**	**343**	P	**P**	**10 17 10.9**	**+1.2**
	comp=Z,5.5nm,0.6s,baz=150,slow=6.3,SNR=18						
KLR	**Kul'dur**	**56.57**	**343***ce*P		**P**	**10 17 09.1**	**-0.7**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
UTTA	**Uttaradit**	**56.60**	**294**	P	**P**	**10 17 11.9**	**+1.4**
	comp=Z,20nm,0.8s						
UTTA	**Uttaradit**	**56.60**	**294**	P	**P**	**10 17 12.0**	**+1.4**
UTHA	**Uthaitani**	**56.99**	**292**	P	**P**	**10 17 15.6**	**+2.3**
PPT	**Papeete**	**57.24**	**108**	P	**P**	**10 17 17.1**	**+2.0**
	comp=Z,27nm,0.8s,baz=304,slow=2.6,SNR=4.5						
PPT2	**Papeete2**	**57.24**	**108**	*e*P	**P**	**10 17 16.0**	**+0.8**
	comp=Z,51nm,1.2s						
PPT2				*e*S	**S**	**10 24 59.7**	**-3.7**
	comp=Z,114nm,31.2s						
PPT2				*e*LR	LR	10 34 00.8	
	comp=Z,275nm,32.2s						
PAE	**Paea**	**57.25**	**108**	*e*P	**P**	**10 17 15.7**	**+0.5**
	comp=Z,7.1nm,1.0s						
KMI	**Kunming**	**57.27**	**303**	⇑P	**P**	**10 17 17.2**	**+1.7**
KMI				pP	pP	10 17 44.9	+3.7
KMI				PcP	**PcP**	**10 18 10.1**	**+1.4**
KMI				pmax	pmax		
	comp=Z,26nm,1.2s						
PET	**Petropavlovsk**	**57.29**	**4**	*e*P	**P**	**10 17 15.2**	**+0.5**
PET				*e**PP	**pP**	**10 17 40.6**	**+0.4**
PET				*e*S	**S**	**10 25 02.9**	**+0.4**
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PEA0B	**Petropavlovsk-**	**57.32**	**3***ce*P		**P**	**10 17 16.3**	**+1.3**
PEA0B	**Petropavlovsk-**	**57.32**	**3**	P	**P

LZH pmax pmax
comp=Z,230nm,6.0s
ZEA Zeya 61.87 343 *e*P **P 10 17 47.4 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 63.72 358 P **P 10 17 59.4 +1.0**
comp=Z,13nm,0.8s,baz=164,slow=8.0,SNR=14
MA2 Magadan 63.72 358*ce*P **P 10 17 58.8 +0.4**
MA2 pmax pmax
comp=Z,37nm,1.7s
MA2 Magadan 63.72 358 P **P 10 17 58.6 +0.2**
MA2 IAmb IAmb 10 18 00.1
comp=Z,22nm,0.9s
GTA Gaotai 65.75 317 ⇑P **P 10 18 13.6 +1.4**
GTA pP pP 10 18 38.2 +0.1
GTA sP sP 10 18 50.8 +1.3
GTA pmax pmax
comp=Z,18nm,1.3s
ULN Ulaanbaatar 65.94 328*ce*P **P 10 18 13.3 +0.1**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 65.94 328 P **P 10 18 14.8 +1.6**
SONM Songino Array 66.27 327 P **P 10 18 16.2 +0.9**
comp=Z,6.4nm,0.7s,baz=139,slow=4.8,SNR=21
SONM LR LR 10 44 55.2
comp=Z,108nm,21.6s,baz=102,slow=34
SONM Songino Array 66.27 327 P **P 10 18 16.2 +0.9**
SHL Shillong 66.64 300 P **P 10 18 17.9 -0.3**
SHL pmax pmax
comp=Z,56nm,0.9s
SHL Shillong 66.64 300 P **P 10 18 17.9 -0.3**
SEY Seymchan 67.06 359 P **P 10 18 20.7 +0.9**
comp=Z,3.7nm,0.7s,baz=300,slow=2.2,SNR=9.7
SEY Seymchan 67.06 359 *i*P **P 10 18 18.9 -0.9**
LSA Lhasa 68.51 304 P **P 10 18 31.4 +1.2**
LSA pmax pmax
comp=Z,170nm,0.9s
LSA Lhasa 68.51 304 IAmb IAmb 10 18 32.8
comp=Z,32nm,0.8s
YAK Yakutsk 68.63 348 P **P 10 18 30.5 +0.8**
comp=Z,12nm,0.4s,baz=167,slow=2.9,SNR=1.3
YAK Yakutsk 68.63 348*ce*P **P 10 18 30.8 +1.1**
YAK pmax pmax
comp=Z,9.0nm,0.5s
CASY Casey 68.68 197 P **P 10 18 29.1 -0.8**
CASY IAmb IAmb 10 18 30.8
comp=Z,43nm,1.1s
ZAK Zakamensk 69.42 328 *e*P **P 10 18 34.1 -0.9**
ZAK *e* 10 18 56.9
ZAK pmax pmax
comp=Z,14nm,1.1s
ZAK pmax pmax
comp=Z,10.0nm,1.2s
BOD Bodaibo 69.58 339 *e*P **P 10 18 35.1 -0.5**
BOD pmax pmax
comp=Z,12nm,1.1s
TLY Talaya 69.99 330 P **P 10 18 38.9 +0.5**
comp=Z,2.7nm,0.8s,baz=40,slow=4.7,SNR=5.5
TLY Talaya 69.99 330 *e*P **P 10 18 39.1 +0.7**
TLY pmax pmax
comp=Z,12nm,0.9s
TLY Talaya 69.99 330 IAmb IAmb 10 18 40.3
comp=Z,5.0nm,0.9s
SDPT Sand Point 70.49 26 P **P 10 18 41.3 0.0**
baz=230
CHNA Chernabura Isl 70.55 27 P **P 10 18 41.4 -0.2**
baz=231
TAPN Taplejung 70.72 301 *e*P **P 10 18 44.6 +0.9**
ODAN Odare 70.87 300 *e*P **P 10 18 45.4 +0.9**
RAMN Ramite 71.57 300 *e*P **P 10 18 49.8 +1.0**
comp=Z,14nm,0.3s
JIRN Jiri 72.11 301 *e*P **P 10 18 53.0 +0.9**
comp=Z,31nm,0.5s
GUN Gumba 72.44 301 *e*P **P 10 18 55.0 +1.0**
comp=Z,188nm,0.9s
GAMB Gambell 72.73 15 P **P 10 18 55.3 +0.8**
baz=217
BILL Bilibino 72.75 5*d i*P **P 10 18 55.4 +0.8**
BILL *e* 10 19 08.9
BILL *PP **pP 10 19 25.0 +3.8**
BILL *e*SP **sP 10 19 36.2 +3.6**
BILL pmax pmax
comp=Z,16nm,0.6s
BILL MLR MLR
comp=Z,60nm,15.0s
BILL Bilibino 72.75 5 P **P 10 18 55.2 +0.6**
BILL IAmb IAmb 10 18 56.7
comp=Z,20nm,0.6s
PKI Pulchoki 72.76 300 *e*P **P 10 18 56.3 +0.4**
comp=Z,154nm,1.1s
PKIN Phulchoki 72.77 300 *e*P **P 10 18 56.3 +0.4**
KKN Kakani 72.92 301 *e*P **P 10 18 57.5 +0.8**
DMN Daman 73.03 300 *e*P **P 10 18 58.7 +1.3**
VNDA Vanda 73.29 178 P **P 10 18 58.0 +0.3**
comp=Z,66nm,0.8s,baz=336,slow=6.6,SNR=199
VNDA Vanda 73.29 178 P **P 10 18 57.8 +0.1**
PALK Pallekele 73.52 279 P **P 10 18 58.1 -2.2**
PALK pmax pmax
comp=Z,38nm,1.1s
PALK Pallekele 73.52 279 P **P 10 18 58.1 -2.2**
PALK IAmb IAmb 10 19 01.4
comp=Z,38nm,1.1s
GKN Gorkha 73.53 301 *e*P **P 10 19 00.8 +0.6**
comp=Z,237nm,1.0s
SBA Scott Base 73.83 177 P **P 10 19 01.3 +0.5**
SBA pmax pmax
comp=Z,68nm,1.0s
SBA Scott Base 73.83 177 P **P 10 19 01.3 +0.5**
DANN Dangsing 74.36 301 *e*P **P 10 19 05.5 +0.3**
comp=Z,104nm,0.8s
KOLN Koldanda 74.36 300 *e*P **P 10 19 05.7 +0.6**
comp=Z,172nm,0.9s
OHAK Old Harbor 74.81 27 P **P 10 19 07.5 +0.7**
baz=236,SNR=7.8
OHAK Old Harbor 74.81 27 P **P 10 19 07.9 +1.1**
OHAK IAmb IAmb 10 19 08.7
comp=Z,14nm,0.8s
PYUN Piuthan 74.96 300 *e*P **P 10 19 08.9 +0.3**
comp=Z,257nm,0.9s
ANM Nome 75.11 17 P **P 10 19 09.9 +1.5**
baz=223
KDAK Kodiak Island 75.44 27 P **P 10 19 11.2 +0.8**
comp=Z,10nm,0.9s,baz=175,slow=2.2,SNR=9.8
KDAK Kodiak Island 75.44 27 P **P 10 19 11.6 +1.2**
baz=236
KDAK Kodiak Island 75.44 27 P **P 10 19 11.0 +0.6**
O18K Koktuh Hills 75.52 24 P **P 10 19 12.0 +1.2**
baz=234
N18K Kilae Creek 75.74 23 P **P 10 19 13.7 +1.6**
baz=233
WMQ Urumqi 75.83 317 *e*P **P 10 19 15.3 +2.2**
WMQ pmax pmax
comp=Z,32nm,0.9s
WMQ pmax pmax
comp=Z,370nm,5.7s
P19K Oil Pt 76.21 25 P **P 10 19 15.3 +0.4**
baz=235,SNR=15
N19K Bonanza Creek 76.38 23 P **P 10 19 16.9 +1.1**
baz=234
O20K Slope Mountain 76.71 25 P **P 10 19 18.6 +0.9**
baz=236
HOM Homer 76.89 25 P **P 10 19 19.6 +1.1**
baz=237
HYB Hyderabad 76.96 289 *i*P **P 10 19 20.0 +0.1**
HYB *es*P **sP 10 19 57.0 -1.4**
CNPM China Poot 76.99 25 P **P 10 19 19.4 +0.2**
L19K White Mountain 77.05 22 P **P 10 19 20.9 +1.4**
baz=233
BRSE Bradley Lake S 77.32 25 P **P 10 19 21.8 +0.7**
baz=238
TIXI Tiksi 77.50 352 P **P 10 19 21.8 +0.1**
comp=Z,2.7nm,0.6s,baz=114,slow=10,SNR=7.4
TIXI Tiksi 77.50 352*ce*P **P 10 19 21.4 -0.4**
TIXI Tiksi 77.50 352 P **P 10 19 22.1 +0.3**
M20K Styx River 77.53 23 P **P 10 19 23.4 +1.2**
baz=235
SEW Seward 78.06 25 P **P 10 19 25.8 +0.7**
baz=239,SNR=5.5
SEW Seward 78.06 25 P **P 10 19 25.8 +0.7**
SEW IAmb IAmb 10 19 26.8
comp=Z,15nm,0.7s
DGZ Jazzator, Alta 78.10 323*c i*P **P 10 19 25.9 +0.1**
DGZ pmax pmax
comp=Z,23nm,1.3s
O22K Cooper Landing 78.14 25 P **P 10 19 26.1 +0.6**
baz=238

SUA Susitna One 78.24 24 P **P 10 19 26.1 -0.2**
baz=237,SNR=5.8
SUA Susitna One 78.24 24 IAmb IAmb 10 19 27.4
comp=Z,15nm,0.6s
RC01 Rabbit Creek A 78.46 25 P **P 10 19 27.7 +0.4**
baz=238,SNR=5.3
PPLA Purkeypile 78.47 22 P **P 10 19 27.5 0.0**
baz=235
PPLA Purkeypile 78.47 22 P **P 10 19 26.0 -1.5**
ZSN Zaisan 78.92 320 *e*P **P 10 19 30.0 -0.2**
baz=320
ZSN Zaisan 78.92 320 *e*P **P 10 19 30.0 -0.2**
PWL Port Wells 78.92 25 P **P 10 19 30.7 +0.8**
PWL IAmb IAmb 10 19 31.6
comp=Z,37nm,0.7s
PWL **pP 10 19 55.5 -1.6**
CHUM Lake Minchumin 78.98 21 P **P 10 19 30.8 +0.7**
baz=236,SNR=28
GHO Glory Hole Cre 79.15 24 P **P 10 19 31.4 +0.2**
GHO IAmb IAmb 10 19 32.6
comp=Z,13nm,0.8s
KNK Knik Glacier 79.15 25 P **P 10 19 31.6 +0.5**
baz=240
KNK Knik Glacier 79.15 25 P **P 10 19 31.6 +0.5**
KNK IAmb IAmb 10 19 33.0
comp=Z,28nm,1.2s
SML Sawmill 79.41 24 P **P 10 19 33.0 +0.5**
baz=240,SNR=17
SML Sawmill 79.41 24 IAmb IAmb 10 19 34.2
comp=Z,30nm,0.7s
GLI Glacier Island 79.46 25 P **P 10 19 33.2 +0.4**
baz=241
GLI Glacier Island 79.46 25 IAmb IAmb 10 19 34.3
comp=Z,21nm,0.8s
HIN Hinchinbrook I 79.48 26 P **P 10 19 33.2 +0.3**
HIN IAmb IAmb 10 19 34.7
comp=Z,28nm,0.9s
TRF Thorofare Moun 79.50 22 P **P 10 19 32.7 -0.4**
baz=238,SNR=6.5
TRF Thorofare Moun 79.50 22 P **P 10 19 32.3 -0.9**
BPAW Bear Paw Mtn. 79.59 22 P **P 10 19 33.2 -0.2**
baz=237,SNR=8.8
BPAW Bear Paw Mtn. 79.59 22 P **P 10 19 33.2 -0.2**
SCM Sheep Creek Mo 79.83 24 IAmb IAmb 10 19 36.8
comp=Z,23nm,1.0s
I21K Tanana 79.84 20 P **P 10 19 35.6 +0.9**
baz=236,SNR=22
WAT1 Susitna Watana 79.84 23 P **P 10 19 34.9 +0.1**
baz=239
RND Reindeer 80.02 23 IAmb IAmb 10 19 36.7
comp=Z,19nm,0.8s
WAT6 Susitna Watana 80.04 24 P **P 10 19 36.3 +0.2**
baz=240,SNR=12
MCK McKinley 80.16 22 P **P 10 19 36.1 -0.4**
MCK pmax pmax
comp=Z,31nm,0.9s
MCK McKinley 80.16 22 P **P 10 19 36.2 -0.4**
baz=239,SNR=14
MCK McKinley 80.16 22 P **P 10 19 36.1 -0.4**
MCK IAmb IAmb 10 19 37.4
comp=Z,32nm,0.9s
MLY Manley 80.19 21 P **P 10 19 37.1 +0.4**
baz=237,SNR=27
KLU Klutina 80.25 25 P **P 10 19 37.9 +0.8**
baz=242,SNR=15
KLU Klutina 80.25 25 P **P 10 19 38.1 +1.0**
KLU IAmb IAmb 10 19 39.3
comp=Z,30nm,1.1s
MK31 Makanchi Array 80.40 319*c i*P **P 10 19 38.5 +0.3**
MK31 Makanchi Array 80.40 319 IAmb IAmb 10 19 40.1
comp=Z,24nm,1.2s
MKAR Makanchi Array 80.40 319 P **P 10 19 38.7 +0.5**
comp=Z,18nm,1.0s,baz=98,slow=6.2,SNR=44
MKAR Makanchi Array 80.40 319 P **P 10 19 38.3 +0.1**
M24K Tolsona, Glenn 80.44 24 P **P 10 19 39.2 +1.1**
baz=242,SNR=7.5
M24K Tolsona, Glenn 80.44 24 P **P 10 19 38.9 +0.7**
M24K IAmb IAmb 10 19 40.4
comp=Z,27nm,0.8s
HMT Hamilton 80.44 27 P **P 10 19 39.4 +1.3**
HMT IAmb IAmb 10 19 39.6
comp=Z,20nm,1.0s
NEA2 Nenana 80.56 22 P **P 10 19 38.0 -0.6**
baz=238,SNR=7.8
NEA2 Nenana 80.56 22 P **P 10 19 37.5 -1.1**
NEA2 IAmb IAmb 10 19 39.3
comp=Z,15nm,0.8s
BMRM Bremner River 80.58 26 P **P 10 19 39.5 +0.7**
baz=243
BMRM Bremner River 80.58 26 P **P 10 19 39.3 +0.5**
BMRM IAmb IAmb 10 19 40.7
comp=Z,16nm,1.1s
MAKZ Makanchi 80.61 319 P **P 10 19 39.9 +0.6**
MAKZ pmax pmax
comp=Z,46nm,1.3s
MAKZ Makanchi 80.61 319 P **P 10 19 39.9 +0.6**
MAKZ IAmb IAmb 10 19 41.1
comp=Z,46nm,1.2s
I23K Minto, Yukon-K 80.75 21 P **P 10 19 39.7 +0.1**
baz=238,SNR=8.5
I23K Minto, Yukon-K 80.75 21 P **P 10 19 40.4 +0.8**
WRH Wood River Hil 80.86 22 IAmb IAmb 10 19 40.9
comp=Z,23nm,1.2s
N25K Chitina, Valde 80.87 25 P **P 10 19 41.3 +0.9**
baz=243
N25K Chitina, Valde 80.87 25 P **P 10 19 40.9 +0.5**
N25K IAmb IAmb 10 19 42.6
comp=Z,18nm,1.2s
HARP HAARP 81.00 24 P **P 10 19 41.5 +0.5**
baz=242
H23K Yukon River 81.04 20 P **P 10 19 41.8 +0.6**
baz=238,SNR=14
CCB Clear Creek Bu 81.05 22 P **P 10 19 40.8 -0.5**
CCB IAmb IAmb 10 19 41.7
comp=Z,15nm,1.1s
ZALV Zalesovo Beam 81.12 326 P **P 10 19 41.7 -0.1**
comp=Z,4.6nm,0.5s,baz=109,slow=5.6,SNR=15
ZALV LR LR 10 55 48.2
comp=Z,23nm,18.7s,baz=115,slow=36
ZALV Zalesovo Beam 81.12 326 P **P 10 19 41.3 -0.5**
CRQM Cirque 81.13 26 IAmb IAmb 10 19 43.8
comp=Z,23nm,1.0s
GLB Gilahina Butte 81.13 26 IAmb IAmb 10 19 43.6
comp=Z,24nm,1.0s
PAX Paxson 81.14 24 P **P 10 19 43.1 +1.2**
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 81.14 24 P **P 10 19 42.1 +0.2**
baz=242
PAX Paxson 81.14 24 P **P 10 19 43.1 +1.2**
CRQE Cirque 81.14 26 P **P 10 19 42.4 +0.5**
baz=244
TCOL CIGO, UAF Yank 81.15 22 P **P 10 19 41.0 -0.7**
baz=240,SNR=7.6
TCOL CIGO, UAF Yank 81.15 22 IAmb IAmb 10 19 42.3
comp=Z,22nm,0.8s
COLA College 81.15 22*c i*P **P 10 19 38.5 -3.2**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 81.15 22 P **P 10 19 41.2 -0.5**
baz=240
COLA College 81.15 22 P **P 10 19 41.6 -0.1**
COLA IAmb IAmb 10 19 42.3
comp=Z,23nm,0.9s
VRDI Verde Repeater 81.19 26 P **P 10 19 42.8 +0.5**
VRDI IAmb IAmb 10 19 44.0
comp=Z,18nm,0.9s
HDA Harding Lake 81.26 22 P **P 10 19 41.7 -0.6**
baz=240
SHLS Shalkode 81.36 315 *e*P **P 10 19 41.8 -1.7**
baz=315
SHLS Shalkode 81.36 315 *e*P **P 10 19 41.8 -1.7**
ISLE Juniper Island 81.42 27 P **P 10 19 43.8 +0.3**
ISLE IAmb IAmb 10 19 45.1
comp=Z,16nm,0.9s
POKR Poker Plat Res 81.43 22 P **P 10 19 43.6 +0.3**
baz=240
MCARA McCarthy VSAT 81.45 26 P **P 10 19 44.2 +0.8**
baz=244
IL31 81.46 22 P **P 10 19 42.6 -0.7**
IL31 **pP 10 20 08.8 -2.0**
ILAR Eielson Array 81.46 22 P **P 10 19 42.8 -0.6**
comp=Z,9.6nm,0.9s,baz=254,slow=5.2,SNR=58
ILAR LR LR 10 55 49.9
comp=Z,41nm,18.1s,baz=251,slow=36
COLD Coldfoot 81.58 19 P **P 10 19 45.1 +1.1**
baz=237,SNR=7.2

H24K Noodor Dome 81.63 21 P **P 10 19 45.1 +0.7**
baz=239,SNR=7.6
UZB Uzynbulak 81.67 315 ⇑*i*P **P 10 19 45.4 +0.2**
comp=Z,18nm,1.3s,baz=314
UZB Uzynbulak 81.67 315*c i*P **P 10 19 45.3 +0.2**
UZB pmax pmax
comp=Z,18nm,1.3s
RIDG Independent Ri 81.75 23 P **P 10 19 45.1 +0.1**
baz=242,SNR=5.9
RIDG Independent Ri 81.75 23 P **P 10 19 44.7 -0.3**
RIDG IAmb IAmb 10 19 46.5
comp=Z,23nm,1.2s
BARN Barnard Glacie 81.91 26 IAmb IAmb 10 19 48.1
comp=Z,17nm,0.9s
PRZ Przheval'sk 81.96 314 P **P 10 19 48.4 +1.7**
PRZ pmax pmax
comp=Z,114nm,1.4s
PRZ Przheval'sk 81.96 314 P **P 10 19 48.4 +1.7**
KPKS Kokpek 81.99 315 *e*P **P 10 19 46.1 -0.7**
baz=315
KPKS Kokpek 81.99 315 *e*P **P 10 19 46.0 -0.7**
CTG Chitna Glacier 82.01 27 P **P 10 19 47.3 +0.7**
baz=246
CTGM Chitina Glacie 82.02 27 P **P 10 19 46.9 +0.3**
CTGM IAmb IAmb 10 19 48.6
comp=Z,16nm,0.9s
DOT Dot Lake 82.02 24 P **P 10 19 46.4 +0.1**
DOT IAmb IAmb 10 19 47.9
comp=Z,22nm,0.9s
SATY Saty 82.09 314 *e*P **P 10 19 47.0 -0.4**
baz=314
SATY Saty 82.09 314 *e*P **P 10 19 46.9 -0.4**
LOGN Logan Glacier 82.11 27 IAmb IAmb 10 19 49.0
comp=Z,13nm,0.9s
PINM Pinnacle 82.16 28 P **P 10 19 47.0 -0.2**
baz=247
SCRK Sand Creek 82.19 23 P **P 10 19 47.7 +0.3**
baz=243,SNR=6.0
SCRK Sand Creek 82.19 23 P **P 10 19 47.6 +0.2**
TARG Taragay, Kyrgy 82.22 313 IAmb IAmb 10 19 51.0
comp=Z,15nm,1.0s
PRP Porcupine Dome 82.33 22 P **P 10 19 49.0 +1.0**
baz=242
TOLK Toolik Lake Re 82.55 18 P **P 10 19 50.0 +0.9**
baz=238,SNR=8.7
TOLK Toolik Lake Re 82.55 18 P **P 10 19 49.5 +0.5**
L27K Beaver Creek, 82.67 25 P **P 10 19 50.5 +0.7**
baz=245
L27K Beaver Creek, 82.67 25 P **P 10 19 50.3 +0.5**
L27K IAmb IAmb 10 19 52.0
comp=Z,16nm,1.1s
BCAR Beaver Creek A 82.69 25 P **P 10 19 50.4 +0.5**
SEM Semipalatinsk 82.71 322 *e*P **P 10 19 48.7 -1.8**
baz=322
SEM Semipalatinsk 82.71 322 *e*P **P 10 19 48.7 -1.8**
KDJ Kajisay 82.76 313 IAmb IAmb 10 19 53.4
comp=Z,52nm,1.0s
FYU Fort Yukon 82.93 21 IAmb IAmb 10 19 52.9
comp=Z,16nm,1.1s
K27K Chicken 82.98 24 P **P 10 19 52.3 +1.0**
baz=245
K27K Chicken 82.98 24 P **P 10 19 52.7 +1.4**
K27K IAmb IAmb 10 19 53.9
comp=Z,11nm,0.9s
MDOK Medeo 83.08 314 *e*P **P 10 19 53.2 +0.7**
baz=314
MDOK Medeo 83.08 314 *e*P **P 10 19 53.1 +0.6**
KSH Kashi 83.12 310 P **P 10 19 55.5 +2.7**
KSH sP sP 10 20 28.0 -2.7
KSH S **S 10 30 05.7 +1.6**
KSH sS sS 10 30 54.4 +3.0
KSH pmax pmax
comp=Z,33nm,0.7s
KSH LR LR
comp=Z,780nm,11.6s
KSH LR LR
comp=Z,330nm,5.5s
KSH LR LR
comp=Z,91nm,4.5s
CHKK Chushkaly 83.27 315 *e*P **P 10 19 51.5 -1.8**
baz=315
CHKK Chushkaly 83.27 315 *e*P **P 10 19 51.5 -1.8**
SIT Sitka 83.51 31 P **P 10 19 54.3 +0.1**
baz=252
EGAK Eagle 83.65 23 P **P 10 19 55.1 +0.4**
baz=246
EGAK Eagle 83.65 23 IAmb IAmb 10 19 56.7
comp=Z,15nm,1.1s
HYT Haines Junctio 83.70 27 IAmb IAmb 10 19 57.7
comp=Z,26nm,1.1s
KUU Kurty 83.74 315 *e*P **P 10 19 55.9 +0.1**
comp=Z,59nm,0.7s,baz=315
KUU Kurty 83.74 315 *e*P **P 10 19 55.8 +0.1**
KUU pmax pmax
comp=Z,59nm,0.7s
H02S1 DAWSON INLET T 83.96 36 T T 11 53 24.7
SNR=32
DAWY Dawson 84.07 24 P **P 10 19 57.3 +0.3**
DAWY IAmb IAmb 10 19 59.3
comp=Z,19nm,1.4s
TKM2 Tokmak 2 84.07 314 P **P 10 19 58.7 +1.0**
SNR=22
NIL Nilore 84.25 304 P **P 10 19 58.7 +0.2**
NIL pmax pmax
comp=Z,112nm,0.8s
NIL Nilore 84.25 304 P **P 10 19 58.7 +0.2**
KBK Karagaybulak 84.49 313 P **P 10 20 00.9 +1.2**
SNR=14
CHMS Chumysh 84.69 314 P **P 10 20 01.6 +1.0**
SNR=24
AAK Ala-Archa 84.81 313 P **P 10 20 03.0 +1.6**
SNR=16
AAK Ala-Archa 84.81 313*ce*P **P 10 20 02.3 +0.9**
AAK pmax pmax
comp=Z,137nm,0.8s
AAK Ala-Archa 84.81 313 P **P 10 20 02.1 +0.7**
WHY Whitehorse 84.86 28 P **P 10 20 01.9 +0.8**
baz=252
SGDS Sogindy 84.87 314 *e*P **P 10 20 01.2 -0.3**
comp=Z,17nm,0.9s,baz=314
SGDS Sogindy 84.87 314 *e*P **P 10 20 01.2 -0.3**
SGDS pmax pmax
comp=Z,17nm,0.9s
USP Ospenovka 84.93 314 P **P 10 20 02.7 +0.9**
SNR=35
AML Almayashu 85.31 313 P **P 10 20 06.2 +2.0**
SNR=10
EKS2 Erkin-Say 85.34 313 P **P 10 20 05.3 +1.3**
SNR=24
BTLS Baital 85.57 316 *e*P **P 10 20 05.0 +0.1**
comp=Z,31nm,1.1s,baz=316
BTLS Baital 85.57 316 *e*P **P 10 20 05.0 +0.1**
BTLS pmax pmax
comp=Z,31nm,1.1s
QSPA South Pole Qui 85.65 180 P **P 10 20 05.0 0.0**
comp=Z,87nm,1.0s,baz=358,slow=2.3,SNR=247
QSPA South Pole Qui 85.65 180 P **P 10 20 04.3 -0.7**
NRIK Noril'sk 85.72 341 P **P 10 20 05.9 +0.9**
comp=Z,6.6nm,0.5s,baz=120,slow=4.6,SNR=8.9
NRIK LR LR 10 56 59.8
comp=Z,66nm,20.1s,baz=129,slow=34
NRIK Noril'sk 85.72 341*ce*P **P 10 20 04.2 -0.8**
NRIK pmax pmax
comp=Z,14nm,1.0s
NRIK Noril'sk 85.72 341 P **P 10 20 05.0 0.0**
NRIK IAmb IAmb 10 20 07.0
comp=Z,9.3nm,0.8s
EPYK Eagle Plains 85.96 22 P **P 10 20 07.1 +0.7**
baz=250
EPYK Eagle Plains 85.96 22 IAmb IAmb 10 20 08.2
comp=Z,43nm,1.1s
MAW Mawson 86.28 203 P **P 10 20 07.5 -0.4**
comp=Z,26nm,0.9s,baz=83,slow=6.2,SNR=43
MAW Mawson 86.28 203 P **P 10 20 07.3 -0.5**
baz=86,SNR=14
MAW Mawson 86.28 203 P **P 10 20 07.6 -0.2**
MAW pmax pmax
comp=Z,20nm,1.4s
MAW Mawson 86.28 203 P **P 10 20 07.6 -0.2**
MAW IAmb IAmb 10 20 08.7
comp=Z,20nm,1.4s
DLBC Dease Lake 86.62 31 P **P 10 20 10.8 +1.0**
comp=Z,6.3nm,1.0s,baz=261,slow=3.4,SNR=8.6
DLBC Dease Lake 86.62 31 P **P 10 20 10.5 +0.7**
DLBC IAmb IAmb 10 20 12.1
comp=Z,12nm,1.1s

INK	Inuvik	87.76	21	P	P	10 20 15.2	+0.4
	comp=Z,8.6nm,0.9s,baz=229,slow=3.4,SNR=8.8						
INK	Inuvik	87.76	21	P	P	10 20 15.3	+0.4
	baz=253						
INK	Inuvik	87.76	21	IAmb	IAmb	10 20 16.1	
	comp=Z,19nm,1.2s						
KK31	Karatay Array	87.78	313	IAmb	IAmb	10 20 17.0	
	comp=Z,14nm,1.0s						
KKAR	Karatay Array	87.78	313	P	P	10 20 15.3	-0.4
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s						
KKAR	Karatay Array	87.78	313	P	P	10 20 15.7	0.0
KKAR				IAmb	IAmb	10 20 17.0	
	comp=Z,14nm,1.0s						
KKAR	Karatay Array	87.78	313	P	P	10 20 15.3	-0.4
KBL	Kabul	87.83	305	P	P	10 20 15.9	-0.5
KBL				pmax	pmax		
	comp=Z,11nm,1.0s						
KBL	Kabul	87.83	305	P	P	10 20 15.8	-0.5
KBL				IAmb	IAmb	10 20 16.8	
	comp=Z,11nm,0.9s						
I03D	Drain, OR	88.03	46	P	P	10 20 17.4	+0.6
	baz=262						
M02C	Callahan	88.08	48	P	P	10 20 17.3	0.0
	baz=263						
HUMO	Hull Mountain	88.17	47	P	P	10 20 20.4	+2.9
YBH	Yreka Blue Hor	88.23	48	P	P	10 20 18.5	+0.6
	comp=Z,1.8nm,1.1s,baz=261,slow=3.8,SNR=4.5						
YBH	Yreka Blue Hor	88.23	48	IAmb	IAmb	10 20 23.9	
	comp=Z,3.0nm,1.1s						
G03D	McMinnville, O	88.29	45	P	P	10 20 19.2	+1.2
	baz=262						
H04D	Lebanon	88.57	45	P	P	10 20 20.0	+0.7
	baz=263						
L04D	Klamath Falls	88.60	48	P	P	10 20 19.7	0.0
	baz=263						
D03D	Eldon	88.72	42	P	P	10 20 20.9	+0.9
	baz=262						
BRVK	Borovoye	89.32	323	*ce*P	P	10 20 22.0	-0.6
BRVK				pmax	pmax		
	comp=Z,39nm,1.0s						
BRVK	Borovoye	89.32	323	P	P	10 20 22.1	-0.6
J05D	Fort Rock, OR	89.50	47	P	P	10 20 24.8	+0.9
	baz=264						
I05D	Terrebonne, OR	89.54	46	P	P	10 20 24.6	+0.6
	baz=264						
K05A	Summer Lake	89.69	47	P	P	10 20 26.1	+1.2
NVAR	Mina Array Bea	91.26	52	P	P	10 20 33.0	+0.6
	comp=Z,1.8nm,0.9s,baz=257,slow=6.5,SNR=12						
NVAR				LR	LR	10 57 26.9	
	comp=Z,113nm,18.8s,baz=286,slow=33						
NVAR	Mina Array Bea	91.26	52	P	P	10 20 31.2	-1.1
G08A	Pilot Rock	91.32	45	P	P	10 20 31.1	-1.2
NV11	Mina Array Sit	91.38	52	P	P	10 20 31.9	-0.9
J08A	Circle Bar Ran	91.52	47	P	P	10 20 33.5	+0.3
E09A	Wood Farm, Sta	91.98	44	IAmb	IAmb	10 20 36.9	
	comp=Z,5.2nm,1.0s						
PFO	Pinyon Flats O	92.42	57	P	P	10 20 38.2	+0.5
	comp=Z,2.2nm,0.8s,baz=311,slow=1.4,SNR=3.5						
F10A	Beach Ranch, E	92.58	44	IAmb	IAmb	10 20 39.8	
	comp=Z,4.9nm,0.9s						
TPNV	Topopah Spring	92.79	53	P	P	10 20 39.3	-0.1
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TPNV	Topopah Spring	92.79	53	P	P	10 20 39.0	-0.3
	baz=267						
TPNV	Topopah Spring	92.79	53	P	P	10 20 39.3	-0.1
NEW	Newport	92.79	42	P	P	10 20 39.1	+0.2
	comp=Z,1.9nm,0.8s,baz=302,slow=1.1,SNR=5.7						
NEW	Newport	92.79	42	P	P	10 20 39.9	+0.9
	baz=267						
HRA	Herat	93.41	304	IAmb	IAmb	10 20 43.1	
	comp=Z,12nm,0.9s						
IRM	Iron Mountain	93.54	56	P	P	10 20 44.4	+1.6
	baz=267						
PRN	Pahroc Range	93.77	53	P	P	10 20 42.4	-1.5
SYO	Syowa Base	94.35	199⇑	*e*P	P	10 20 44.4	-1.2
SYO	Syowa Base	94.35	199⇑	*e*PcP	P	10 20 45.7	+0.1
SPR3	Spring Creek 3	94.40	51	P	P	10 20 46.3	-0.7
YKA	Yellowknife Ar	94.69	28	P	P	10 20 47.4	+0.2
	comp=Z,3.1nm,0.9s,baz=270,slow=4.6,SNR=6.1						
YKA				PKKPbc	PKKPdf	10 37 43.6	-2.7
	comp=Z,2.0nm,0.7s,baz=111,slow=3.4,SNR=5.0						
YKA				LR	LR	11 00 03.8	
	comp=Z,75nm,19.6s,baz=0.0,slow=33						
WALA	Waterton Lakes	94.95	41	P	P	10 20 48.4	-0.6
WALA				IAmb	IAmb	10 20 51.4	
	comp=Z,5.0nm,0.9s						
CCUT	Cedar City	95.11	53	P	P	10 20 50.4	+0.2
ABKAR	Abkulak array	95.54	319	P	P	10 20 50.0	-1.4
ABKAR	Abkulak array	95.54	319	IAmb	IAmb	10 20 50.9	
	comp=Z,10.0nm,1.1s						
ARU	Arti	96.28	326	*d i*P	P	10 20 52.8	-1.9
ARU						10 24 46.5	
ARU				S	SKSac	10 31 19.6	-1.7
ARU				pmax	pmax		
	comp=Z,12nm,1.1s						
ARU	Arti	96.28	326	P	P	10 20 53.5	-1.2
ARU				IAmb	IAmb	10 20 54.1	
	comp=Z,7.3nm,0.8s						
BOZ	Bozeman (W)	96.49	45	P	P	10 20 57.4	+1.3
	baz=270						
H06E1	SOCORRO T-PHAS	96.67	72	T	T	12 09 28.9	
	SNR=7.5						
GEYT	Alibeck	96.85	308	P	P	10 20 58.1	+0.4
	comp=Z,8.1nm,1.0s,baz=247,slow=3.1,SNR=6.9						
GEYT				LR	LR	11 08 09.6	
	comp=Z,22nm,18.2s,baz=50,slow=38						
BW06	Boulder Array	98.03	48	P	Pdif	10 21 03.2	0.0
	baz=272						
PDAR	Pinedale Array	98.03	48	P	Pdif	10 21 03.2	0.0
	comp=Z,0.8nm,0.9s,baz=255,slow=2.9,SNR=7.1						
PDAR				PP	PP	10 25 03.2	-0.2
	comp=Z,0.6nm,1.0s,baz=282,slow=5.4,SNR=1.8						
PDAR				PKKPbc	PKKPbc	10 37 36.4	-1.3
	comp=Z,0.6nm,0.7s,baz=108,slow=2.9,SNR=5.3						
PDAR				LR	LR	11 03 55.5	
	comp=Z,80nm,18.1s,baz=282,slow=34						
RLMT	Red Lodge	98.17	45	P	P	10 21 03.5	-0.2
	baz=272						
121A	Cookes Peak, D	99.68	58	P	Pdif	10 21 10.3	-0.5
	baz=271						
LAO	LASA Array	100.20	43	P	Pdif	10 21 12.8	+0.2
	baz=275						
SNAA	Sanae	102.60	187	P	Pdif	10 21 21.7	-1.0
	comp=Z,1.8nm,0.6s,baz=212,slow=6.0,SNR=5.8						
SNAA				PP	PP	10 25 36.4	-0.1
	comp=Z,1.1nm,0.5s,baz=148,slow=8.2,SNR=3.9						
TXAR	Lajitas Array	103.31	61	PP	PP	10 25 41.6	-2.0
	comp=Z,0.4nm,0.9s,baz=224,slow=3.5,SNR=4.7						
TXAR				PKKPbc	PKKPbc	10 37 22.4	+0.6
	comp=Z,1.0nm,0.8s,baz=103,slow=3.9,SNR=10						
KLMR	Klimovskoe	105.26	332	*e*P	Pdif	10 21 29.1	-5.5
KLMR				pmax	pmax		
	comp=Z,12nm,1.3s						
KLMR	Klimovskoe	105.26	332	*e*Pdif	Pdif	10 21 29.1	-5.5
KLMR				AMP		10 21 33.9	
	comp=Z,12nm,1.3s						
FINES	FINESS Array B	110.88	336	PKiKP	PKiKP	10 25 58.8	+0.1
	comp=Z,1.7nm,0.9s,baz=48,slow=2.1,SNR=3.9						
AKASG	Malin Array Be	114.48	325	PKP	PKPdf	10 26 05.2	-0.6
	comp=Z,2.4nm,0.5s,baz=59,slow=2.3,SNR=8.0						
AKASG	Malin Array Be	114.48	325		PKPdf	10 26 04.7	-1.2
BRTR	Keskin Array B	115.47	312	PKP	PKiKP	10 26 07.8	-0.5
	comp=Z,2.5nm,0.9s,baz=172,slow=2.5,SNR=5.5						
KMBO	Kilima Mbogo	116.04	267	PKP	PKPdf	10 26 09.1	-1.2
	comp=Z,2.7nm,0.8s,baz=30,slow=5.1,SNR=4.8						
NOA	NORSAR Array B	116.68	341	PKP	PKPdf	10 26 09.1	-0.8
	comp=Z,0.6nm,0.7s,baz=78,slow=2.1,SNR=2.0						
BURAR	Bucovina Array	118.21	323	PKPdf	PKiKP	10 26 13.6	+0.3
PLCA	Paso Flores	119.77	143	PKP	PKPdf	10 26 16.1	-0.4
	comp=Z,2.0nm,0.8s,baz=283,slow=1.9,SNR=3.3						
BOSA	Boshof	120.45	233	PKP	PKiKP	10 26 18.4	+0.1
	comp=Z,12nm,0.8s,baz=114,slow=1.8,SNR=23						
KMSC	Kings Mountain	120.92	51	P	PKPdf	10 26 18.5	-0.2
	baz=288						
MORC	Moravsky Berou	121.42	328	*e*PKP	PKPdf	10 26 19.4	+0.1
SSPA	Standing Stone	121.49	44	P	PKPdf	10 26 19.6	-0.1
	baz=294						
OSTC	Ostas	121.64	329	*e*PKPDF	PKiKP	10 26 21.1	+1.2
DPC	Dobruska-Polom	121.71	329	*e*PKIKP	PKiKP	10 26 20.7	+0.7
DPC	Dobruska-Polom	121.71	329	*e*PKPDF	PKiKP	10 26 20.7	+0.7
VTS	Vitosha	121.72	319	PKIKP	PKPdf	10 26 20.3	0.0
VTS	Vitosha	121.72	319	PKPdf	PKPdf	10 26 20.3	0.0
JAVC	Velka Javorina	121.88	327	*e*PKP	PKPdf	10 26 21.4	+1.1
LONY	Lake Ozonia	121.89	39	P	PKPdf	10 26 20.3	-0.1
	baz=299						
J58A	Remsen	122.05	40	P	PKPdf	10 26 20.1	-0.6
	baz=298						
VRAC	Vranov	122.19	328	*e*PKP	PKPdf	10 26 20.7	-0.1
H58A	Gabriels	122.24	39	P	PKPdf	10 26 21.0	-0.1
	baz=300						
MODS	Modra-Piesok	122.37	327	*e*PKIKP	PKiKP	10 26 22.5	+1.1
MODS	Modra-Piesok	122.37	327	*e*PKP	PKiKP	10 26 22.5	+1.1
KRUC	Moravsky	122.44	328	*e*PKP	PKiKP	10 26 21.4	-0.1
BRG	Berggiesshubel	122.57	331	*e*PKP	PKiKP	10 26 21.6	-0.1
BRG				Amp		10 26 23.6	
	comp=Z,6.0nm,0.7s						
CLL	Collm	122.74	332	*i*PKPdf	PKiKP	10 26 21.9	0.0
	comp=Z,9.0nm,0.7s						
CLL				*e*PP	PP	10 27 59.0	-1.3
CLL	Collm	122.74	332	*i*PKIKP	PKiKP	10 26 21.9	0.0
CLL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CLL	Collm	122.74	332		PKPpre	10 26 14.8	
PRA	Prague	122.84	330	PKIKP	PKiKP	10 26 38.7	+17
I60A	Shoreham	123.08	39	P	PKPdf	10 26 21.8	-0.9
	baz=300						
LIT	Litokhoron	123.33	316	PKIKP	PKPdf	10 26 21.7	-1.6
LIT	Litokhoron	123.33	316	PKPdf	PKPdf	10 26 21.6	-1.6
E61A	Lac Etchemin	123.40	35	P	PKiKP	10 26 23.9	+0.5
	baz=304						
CONA	Conrad Observa	123.40	327	*e*P	PKiKP	10 26 23.7	+0.2
	comp=Z,1.5nm,0.3s						
CKRC	Cesky Krumlov	123.68	329	*e*PKPDF	PKiKP	10 26 25.6	+1.7
KHC	Kasperske Hory	123.86	329	*e*PKIKP	PKiKP	10 26 24.7	+0.4
KHC	Kasperske Hory	123.86	329	*e*PKPDF	PKiKP	10 26 24.7	+0.4
KHC	Kasperske Hory	123.86	329	PKPdf	PKPdf	10 26 23.4	-0.7
AGG	Agios Georgios	123.91	315	PKIKP	PKPdf	10 26 20.4	-4.0
AGG	Agios Georgios	123.91	315	PKPdf	PKPdf	10 26 20.4	-4.0
GEC2	GERESS Array S	123.98	329		PKPdf	10 26 22.5	-1.8
GERES	GERESS Array B	123.98	329	PKP	PKPdf	10 26 24.5	+0.1
	comp=Z,4.2nm,0.7s,baz=78,slow=1.9,SNR=24						
SOKA	Soboth	124.60	326	*e*P	PKiKP	10 26 26.6	+0.7
	comp=Z,2.3nm,0.5s						
MYKA	Terra Mystica	125.39	327	*e*P	PKiKP	10 26 27.9	+0.4
	comp=Z,2.6nm,0.4s						
ABTA	Abfaltersbach	125.93	328	*e*P	PKPdf	10 26 28.0	-0.2
	comp=Z,2.6nm,0.5s						
WATA	Walderalm	126.04	329	*e*P	PKiKP	10 26 28.7	-0.1
	comp=Z,2.1nm,0.3s						
WTTA	Wattenberg	126.06	329	*e*P	PKPdf	10 26 28.5	0.0
	comp=Z,7.0nm,0.6s						
MOTA	Moosalm	126.28	329	*e*P	PKPdf	10 26 29.0	+0.1
	comp=Z,6.4nm,0.6s						
SQTA	Sankt Quirin	126.31	329	*e*P	PKiKP	10 26 29.3	0.0
	comp=Z,2.9nm,0.4s						
FETA	Feichten	126.69	329	*e*P	PKPdf	10 26 29.6	-0.1
	comp=Z,5.2nm,0.7s						
DAVA	Damuels	126.94	330	*e*P	PKiKP	10 26 30.6	-0.1
	comp=Z,4.1nm,0.5s						
TUE	Stuetta	127.76	329	PKPdf	PKiKP	10 26 32.4	0.0
LPAZ	La Paz	134.06	117	PKP	PKiKP	10 26 45.8	-0.6
	comp=Z,1.6nm,0.6s,baz=306,slow=2.7,SNR=9.7						
LPAZ				SKPbc	SKPab	10 30 07.2	-0.5
	comp=Z,1.9nm,0.9s,baz=280,slow=5.1,SNR=4.8						
KEST	Kesra	134.49	318	SKPbc	SKPab	10 30 06.8	-1.5
	comp=Z,11nm,1.0s,baz=17,slow=2.3,SNR=5.7						
ESDC	Sonseca Array	139.30	333	PKP	PKPdf	10 26 54.1	+0.6
	comp=Z,0.9nm,0.7s,baz=44,slow=38,SNR=3.2						
SIV	San Ignacio	140.32	121	PKP	PKPdf	10 26 54.8	-1.1
	comp=Z,1.4nm,0.6s,baz=225,slow=4.3,SNR=4.2						
PTGA	Pitinga	146.22	98	PKPbc	PKPdf	10 27 06.2	-0.2
	comp=Z,8.7nm,0.8s,baz=272,slow=5.1,SNR=18						
TOA0	Torodi Ar. Sit	150.78	289	PKPdf	PKPdf	10 27 12.8	-0.8
TORD	Torodi Ar. Bea	150.78	289	PKPbc	PKPbc	10 27 19.0	-0.4
	comp=Z,80nm,0.8s,baz=59,slow=2.2,SNR=234						
TORD				PP	PP	10 31 00.2	+3.1
	comp=Z,1.9nm,1.1s,baz=69,slow=5.1,SNR=3.5						
BDFB	Brasilia	150.93	133	PKPbc	PKPbc	10 27 19.1	-0.7
	comp=Z,8.3nm,0.7s,baz=257,slow=4.0,SNR=7.4						
BDFB	Brasilia	150.93	133	PKIKP	PKPdf	10 27 14.4	+0.4
BDFB	Brasilia	150.93	133	PKPdf	PKPdf	10 27 14.4	+0.4
MDP	Montagnes des	153.97	87	PKPbc	PKPbc	10 27 23.6	-3.0
	comp=Z,8.0nm,0.9s,baz=60,slow=3.6,SNR=2.8						
KIC	Kosan Boka	158.21	276	*e*PKP2	PKPab	10 27 59.7	+1.2
	comp=Z,20nm,0.9s						
TIC	Toumodi	158.46	277	*e*PKP2	PKPab	10 28 00.8	+1.2
LIC	Lamto	158.50	276	*e*PKP2	PKPab	10 27 59.0	-0.7
	comp=Z,31nm,1.0s						

ROM 09 10:25:34.4±0.1, 43°.440N±0°.002×12°.449E±0°.004, h8km, ML1.5/6 Error ellipse: s-maj=0.2km s-min=0.2km az=270.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	Pietralunga -	0.04	287	P	Pg	10 25 36.2	+0.2
ATPI				S	Sg	10 25 37.1	-0.1
ATPI				AML	AML		
	comp=E,1310μm,0.6s						
ATPI				AML	AML		
	comp=N,1008μm,0.5s						
ATVO	AVT- Monte Val	0.07	208	P	Pg	10 25 36.7	+0.3
ATVO				S	Sg	10 25 38.0	+0.2
ATVO				AML	AML		
	comp=N,385μm,1.1s						
ATVO				AML	AML		
	comp=E,576μm,0.4s						
PIEI	Pieia	0.11	33	P	Pg	10 25 37.6	+0.6
PIEI				S	Sg	10 25 39.7	+0.8
PIEI				AML	AML		
	comp=E,524μm,0.2s						
PIEI				AML	AML		
	comp=N,308μm,0.6s						
ATFO	Monte Foce - G	0.12	129	P	Pg	10 25 37.6	+0.5
ATFO				S	Sg	10 25 39.6	+0.7
ATFO				AML	AML		
	comp=E,170μm,1.2s						
ATFO				AML	AML		
	comp=N,194μm,0.4s						
ATFO				AML	AML		
	comp=E,170μm,1.2s						
APEC	Apecchio	0.12	350	P	Pg	10 25 37.7	+0.6
APEC				S	Sg	10 25 40.0	+1.0
APEC				AML	AML		
	comp=N,355μm,0.9s						
APEC				AML	AML		
	comp=E,530μm,0.2s						
APEC				AML	AML		
	comp=N,356μm,0.9s						
ATMI	Monte Miggiano	0.17	231	P	Pg	10 25 38.7	+0.8
ATMI				AML	AML		
	comp=E,137μm,0.6s						
ATMI				AML	AML		
	comp=N,182μm,1.1s						
MURB	Monte Urbino	0.19	163	P	Pg	10 25 38.9	+0.7
MURB				S	Sg	10 25 42.3	+1.5
MURB				AML	AML		
	comp=E,486μm,0.6s						
MURB				AML	AML		
	comp=N,444μm,0.4s						
FRON	Frontone	0.22	69	P	Pg	10 25 39.3	+0.6
FRON				S	Sg	10 25 43.0	+1.2
ATTE	AVT- Monte Tez	0.25	196	P	Pg	10 25 40.0	+0.6
ATTE				S	Sg	10 25 44.1	+1.3
PARC	Parchiule	0.26	324	P	Pb	10 25 40.4	-0.9
PARC				S	Sb	10 25 44.9	-1.1
PE3	Peglio	0.26	8	P	Pb	10 25 40.6	-0.7
PE3				S	Sb	10 25 44.7	-1.2
ATCC	AVT- Casa Cast	0.29	151	P	Pb	10 25 41.1	-0.7
ATCC				S	Sb	10 25 46.0	-0.8
ATCC				AML	AML		
	comp=N,138μm,0.9s						
ATCC				AML	AML		
	comp=E,306μm,1.0s						
ATCC				AML	AML		
	comp=N,138μm,0.9s						
MPAG	Monte Paganucc	0.29	50	P	Pg	10 25 40.8	+0.6
MPAG				S	Sb	10 25 45.8	-1.2
FSSB	Fossombrone	0.35	43	P	Pg	10 25 41.8	+0.6
FSSB				AML	AML		
	comp=N,128μm,1.6s						
FSSB				AML	AML		
	comp=E,103μm,1.0s						
ARVD	Arcevia	0.36	81	P	Pg	10 25 42.0	+0.5
ARVD				S	Sb	10 25 48.0	-0.9
CRE	Caprese Michel	0.40	297	P	Pb	10 25 43.4	-0.4
CRE				S	Sb	10 25 49.0	-1.2
ASSB	Assisi San Ben	0.43	159	P	Pb	10 25 43.7	-0.4
ASSB				S	Sb	10 25 50.0	-0.7
EL6	Elcito	0.49	103	P	Pg	10 25 44.3	+0.5
EL6				S	Sb	10 25 52.3	-0.2

PDG ***09*** *10:26:44.7±0.0, 42°.40N×19°.41E, h21km, MD2.6/2, ML2.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BEO ***09*** *10:26:45.0±0.5, 42°.40N×19°.47E, h9km±3km, ML1.9/7*
TIR ***09*** *10:26:46.6, 42°.36N×19°.61E, h0km, Md2.0, Ml2.1*
ISC 09 10:26:45.4±0.9, 42°.41N±0°.02×19°.45E±0°.02, h14km±6km, n33, σ0°.78/66, 6C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.15	279	*e*Pg	Pg	10 26 48.8	-0.3
PDG				*e*Sg	Sg	10 26 52.0	+0.4
TTG	Podgorica	0.15	279	⇓*i*Pg	Pg	10 26 48.8	-0.3
TTG				*i* Sg	Sg	10 26 52.0	+0.4
DRME	Dracevica, Mon	0.30	222	⇓*i*Pg	Pg	10 26 50.7	-0.8
DRME				*i* Sg	Sg	10 26 55.8	+0.1
CEME	Cevo	0.42	290	⇑*i*Pg	Pg	10 26 52.7	-1.1
CEME				*i* Sg	Sg	10 26 59.4	0.0
PVY	Plav	0.42	63	⇑*i*Pg	Pg	10 26 53.7	-0.1
PVY				*i* Sg	Sb	10 27 01.4	+0.5
BUM	Brajici-Budva	0.43	256	⇑*i*Pg	Pg	10 26 52.7	-1.2
BUM				*i* Sg	Sg	10 26 59.6	-0.1
KOME	Kolasin	0.45	6	⇓*i*Pg	Pg	10 26 53.8	-0.5
KOME				*i* Sg	Sb	10 27 01.6	-0.1
BCI	Bajram Curri	0.46	95	P	Pg	10 26 54.3	-0.2
	baz=87						
BCI				S	Sg	10 27 00.3	-0.3
	baz=87						
BCI				AMP			
	comp=E,1.9nm,0.4s,baz=87						
ULC	Ulcinj	0.47	199	⇑*i*Pg	Pg	10 26 53.7	-1.0
ULC				*i* Sg	Sb	10 27 01.3	-0.9
PUK	Puka	0.49	138	P	Pg	10 26 54.6	-0.4
	baz=145						
PUK				S	Sg	10 27 01.2	-0.4
	baz=145						
PUK				AMP			
	comp=N,0.9nm,0.2s,baz=145						
NKME	Niksic	0.52	315	⇓*i*Pg	Pg	10 26 54.6	-0.9
NKME				*i* Sg	Sg	10 27 02.9	+0.5
NKY	Niksic	0.53	320	*e*Pg	Pg	10 26 54.9	-0.9
NKY				*e*Sg	Sg	10 27 03.4	+0.5
IVA	Berane	0.57	35	*e*Pg	Pg	10 26 56.2	-0.3
IVA				*i* Sg	Sb	10 27 05.9	+0.7
HCY	Herceg Novi	0.71	274	⇑*i*Pg	Pg	10 26 57.7	-1.5
HCY				*i* Sg	Sg	10 27 08.7	+0.2
BRY	Bratogost	0.83	307	⇑*i*Pg	Pg	10 27 00.1	-1.5
BRY				*i* Sg	Sb	10 27 13.3	+0.4
UPM	Unac-Piva	0.89	333	⇓*i*Pg	Pg	10 27 01.4	-1.3
UPM				*i* Sg	Sb	10 27 15.6	+1.0
SJES	Sjenica	0.94	24	*e*Pg	Pg	10 27 02.5	-1.0
SJES				*e*Sg	Sg	10 27 14.6	-1.2
PHP	Peshkopia	1.03	134	P	Pn	10 27 05.4	-0.1
	baz=136						
PHP				S	Sn	10 27 19.4	-0.3
	baz=136						
PHP				AMP			
	comp=N,0.2nm,0.4s,baz=136						
TIR	Tirane	1.10	164	P	Pn	10 27 07.7	+1.3
	baz=169						
TIR				S	Sn	10 27 23.1	+1.8
	baz=169						
IVAS	Ivanjica	1.28	24	*e*Pg	Pn	10 27 08.6	-0.3
IVAS				*e*Sg	Sb	10 27 25.7	+0.1
STON	Ston	1.37	290	*e*Pn	Pn	10 27 09.3	-0.8
STON				Sg	Sg	10 27 29.7	+0.1
BBLS	Lazići	1.46	359	*e*Pg	Pn	10 27 11.6	+0.2
BBLS				*e*Sg	Sg	10 27 32.2	-0.2
SELS	Selova	1.47	56	*e*Pg	Pn	10 27 11.4	-0.1
SELS				*e*Sg	Sn	10 27 30.7	+0.1
HAPS	Han Pijesak,Bl	1.72	348	*e*Pg	Pb	10 27 16.6	-0.2
HAPS				*e*Sg	Sb	10 27 38.7	+0.4
DIVS	Divibare	1.74	13	*e*Pn	Pn	10 27 14.5	-0.7
DIVS				*e*Sn	Sn	10 27 37.9	+0.7
BARS	Barje	1.79	76	*e*Pn	Pn	10 27 15.0	-0.9
BARS				*e*Sn	Sn	10 27 39.1	+0.6
LSTV	Lastovo	1.92	282	*e*Pn	Pn	10 27 17.1	-0.5
LSTV				Sn	Sn	10 27 42.2	+0.5
RICI	Ricice	2.02	303	*e*Pn	Pn	10 27 20.3	+1.3
RICI				Sn	Sb	10 27 46.6	-0.2
HVAR	Hvar	2.34	290	*e*Pn	Pn	10 27 23.7	+0.3
HVAR				Sn	Sn	10 27 52.5	+0.6
KIJV	Kijevo	2.74	307	*e*Pn	Pn	10 27 30.6	+1.6
KIJV				Sn	Sn	10 28 03.8	+1.9
ZIRJ	Zirje	3.06	295	*e*Pn	Pn	10 27 33.4	+0.1
ZIRJ				Sn	Sn	10 28 09.9	+0.3
MORI	Morici	3.10	299	*e*Pn	Pn	10 27 35.0	+1.1
MORI				Sn	Sn	10 28 11.2	+0.5
DUGI	Dugi Otok	3.58	298	*e*Pn	Pn	10 27 40.6	+0.2
DUGI				Sn	Sn	10 28 22.9	+0.3

IDC 09 10:27:32.7±2.3, 3°.83N×127°.05E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/46, mbtmp3.4/3, Error ellipse: s-maj=166.4km s-min=29.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.69	163	P	P	10 32 55.4	-0.2
	1.0nm,0.5s,baz=343,slow=10.0,SNR=16						
ASAR	Alice Springs	28.14	167	P	P	10 33 27.0	+0.3
	0.2nm,0.8s,baz=338,slow=9.0,SNR=1.5						
MKAR	Makanchi Array

DAT	Datca	0.47	104	P	Pg	10 41 45.3	-0.7
DAT	Datca	0.47	104	*i* P	Pg	10 41 45.2	-0.7
DAT	Datca	0.47	104	PG	Pg	10 41 45.3	-0.7
DIDI	Didim-Aydin	0.57	19	PG	Pg	10 41 46.4	-1.3
DDIM	Aydin, Didim	0.64	17	*i* P	Pg	10 41 47.9	-1.2
DDIM				*e*S	Sb	10 41 59.2	+1.1
DDIM				IAML		10 42 00.0	
	comp=E,23µm,0.4s						
DDIM				IAML		10 42 00.0	
	comp=N,16µm,0.5s						
MLSB	Milas	0.76	53	PG	Pg	10 41 50.7	-0.7
MLSB				SG	Sb	10 42 01.9	+0.3
GCAM	G?zelcaml?	0.88	12	*i* P	Pg	10 41 52.4	-1.2
GCAM				*i* S	Sb	10 42 04.2	-0.6
GCAM	G?zelcaml?	0.88	12	PG	Pg	10 41 52.4	-1.2
SMG	Samos	0.88	351	P	Pg	10 41 52.1	-1.5
SMG				S	Sb	10 42 04.7	-0.1
	comp=N,41µm,0.5s						
SMG	Samos	0.88	351	P	Pg	10 41 52.0	-1.6
SMG				S	Sg	10 42 04.3	-0.8
SMG				AML	AML	10 42 07.7	
	comp=N,85446µm,0.5s						
SMG				AML	AML	10 42 08.1	
	comp=E,78828µm,0.5s						
MRSB	Marmaris-Mugla	0.96	97	PG	Pg	10 41 54.5	-0.7
TURN	Turunc	0.99	93	*i* P	Pg	10 41 54.1	-1.7
TURN				*i* S	Sn	10 42 10.1	+0.7
TURN	Turunc	0.99	93	PG	Pg	10 41 54.5	-1.3
YER	Yerkesik	1.06	74	P	Pg	10 41 56.0	-1.1
YER				S	Sb	10 42 10.2	0.0
YER	Yerkesik	1.06	74	PN	Pg	10 41 56.5	-0.6
AYDN	Tasoluk	1.07	40	*i* P	Pg	10 41 55.6	-1.7
AYDN				*i* S	Sg	10 42 08.6	-2.8
ARG	Arkhangelos	1.10	124	P	Pb	10 41 56.5	-0.5
ARG				S	Sg	10 42 11.7	-0.3
	comp=E,5µm,0.7s						
ARG	Arkhangelos	1.10	124	P	Pb	10 41 55.6	-1.4
ARG				S	Sg	10 42 08.4	-3.6
ARG				AML	AML	10 42 14.7	
	comp=E,13357µm,0.7s						
ARG				AML	AML	10 42 15.4	
	comp=N,8146µm,0.6s						
ARG	Arkhangelos	1.10	124	PN	Pb	10 41 56.7	-0.3
ARG	Arkhangelos	1.10	124	⇑P	Pb	10 41 56.0	-1.0
ARG				S	Sg	10 42 09.5	-2.6
MULA	Mugla, Merkez-	1.13	68	*i* P	Pg	10 41 57.4	-1.0
MULA				*e*S	Sn	10 42 13.2	+0.3
MULA				IAML		10 42 18.0	
	comp=E,4µm,0.4s						
MULA				IAML		10 42 22.0	
	comp=N,2µm,0.7s						
APE	Apeiranthos	1.21	281	⇓P	Pn	10 41 58.7	0.0
APE	Apeiranthos	1.21	281	P	Pn	10 41 58.7	0.0
APE				S	Sb	10 42 14.6	+0.3
	comp=N,9µm,0.3s						
APE	Apeiranthos	1.21	281	P	Pn	10 41 58.6	0.0
APE				S	Sb	10 42 14.4	+0.1
APE				AML	AML	10 42 21.6	
	comp=E,17252µm,0.3s						
APE				AML	AML	10 42 21.9	
	comp=N,18258µm,0.3s						
APE	Apeiranthos	1.21	281	PN	Pn	10 41 58.5	-0.1
APE	Apeiranthos	1.21	281	⇑P	Pn	10 41 58.6	-0.1
APE				AML	AML	10 42 21.0	
	comp=N,17nm,0.3s						
APE				AML	AML	10 42 21.4	
	comp=N,18nm,0.2s						
DGB	zmir	1.21	355	*i* P	Pb	10 41 57.4	-1.6
DGB				*e*S	Sn	10 42 16.6	+1.8
DGB				IAML		10 42 18.0	
	comp=E,2µm,0.8s						
DGB				IAML		10 42 20.0	
	comp=N,2µm,0.5s						
KARP	Karpathos	1.30	174	P	Pn	10 41 59.2	-0.8
KARP	Karpathos	1.30	174	P	Pn	10 41 59.1	-0.8
KARP				S	Sb	10 42 15.4	-1.4
KARP				AML	AML	10 42 22.9	
	comp=E,4377µm,0.4s						
KARP				AML	AML	10 42 26.2	
	comp=N,4475µm,0.5s						
KARP	Karpathos	1.30	174	PN	Pn	10 41 59.4	-0.5
KARP	Karpathos	1.30	174	Pn	Pn	10 41 59.1	-0.8
KARP	Karpathos	1.30	174	⇑P	Pn	10 41 58.8	-1.1
KARP				S	Sb	10 42 16.1	-0.7
KARP				AML	AML	10 42 22.4	
	comp=N,4.4nm,0.4s						
KARP				AML	AML	10 42 22.4	
	comp=N,4.4nm,0.4s						
KARP				AML	AML	10 42 23.7	
	comp=N,4.6nm,0.5s						
KARP				AML	AML	10 42 23.7	
	comp=N,4.6nm,0.5s						
THR8	Santorini-Mono	1.30	251	P	Pn	10 42 00.1	+0.1
AYDB	Zeytinkoy-Aydi	1.31	32	PN	Pn	10 42 00.3	+0.1
DALY	Dalyan (Mula)	1.32	91	*i* P	Pn	10 41 59.3	-0.9
DALY				*i* S	Sg	10 42 19.9	+0.7
DALY				IAML		10 42 23.0	
	comp=E,2µm,0.4s						
DALY				IAML		10 42 24.0	
	comp=N,3µm,0.7s						
DALY	Dalyan (Mula)	1.32	91	PN	Pn	10 41 59.9	-0.3
SANT	Santorini	1.33	250	⇓P	Pn	10 41 59.9	-0.5
SANT	Santorini	1.33	250	⇓S	Sb	10 42 19.1	+1.3
SANT	Santorini	1.33	250	P	Pn	10 41 59.7	-0.7
SANT	Santorini	1.33	250	P	Pn	10 41 59.9	-0.5
SANT				S	Sb	10 42 17.6	-0.3
SANT				AML	AML	10 42 24.2	
	comp=E,29300µm,0.3s						
SANT				AML	AML	10 42 25.3	
	comp=N,9318µm,0.4s						
SANT	Santorini	1.33	250	PN	Pn	10 42 00.5	+0.1
SANT	Santorini	1.33	250	Pn	Pn	10 42 00.6	+0.1
THR7	Fira-Santorini	1.34	252	P	Pn	10 42 00.7	+0.2
THT2	Imerovigli	1.34	253	P	Pn	10 42 00.7	+0.2
THT2	Imerovigli	1.34	253	PN	Pn	10 42 00.3	-0.2
THR3	Thira Island,	1.36	252	P	Pn	10 41 59.8	-1.0
SAP4	Santorini-Oia	1.36	255	P	Pn	10 42 01.1	+0.3
THR6	Thira Island,	1.38	250	P	Pn	10 42 00.7	-0.4
THR5	Thira Island,	1.40	253	P	Pn	10 42 01.3	0.0
THR9	Santorini-Faro	1.41	251	P	Pn	10 42 01.0	-0.5
ZEYE	Izmir, Urla-Ze	1.45	344	*i* P	Pn	10 42 00.7	-1.4
ZEYE				*i* S	Sg	10 42 22.8	-0.6
ZEYE				IAML		10 42 25.0	
	comp=N,7µm,0.7s						
ZEYE				IAML		10 42 28.0	
	comp=E,5µm,0.7s						
BLCB	Balcova	1.54	1	P	Pn	10 42 01.9	-1.4
URLA	Izmir	1.55	348	*i* P	Pn	10 42 02.2	-1.3
URLA				*i* S	Sg	10 42 26.8	+0.3
URLA	Izmir	1.55	348	PN	Pn	10 42 02.3	-1.1
CESE	eme	1.59	339	PN	Pn	10 42 03.8	-0.1
TAVA	DENIZLI_Tavas	1.65	67	⇑*i* P	Pn	10 42 04.5	-0.3
TAVA				*i* S	Sg	10 42 29.2	-0.3
TAVA				IAML		10 42 34.0	
	comp=E,857nm,0.5s						
TAVA				IAML		10 42 40.0	
	comp=N,784nm,0.8s						
FETY	Fethiye	1.68	96	*i* P	Pn	10 42 06.0	+0.8
FETY				*i* S	Sn	10 42 27.4	+1.0
FETY	Fethiye	1.68	96	PN	Pn	10 42 06.3	+1.1
CHOS	Chios island	1.72	334	P	Pn	10 42 04.8	-1.0
CHOS	Chios island	1.72	334	PN	Pn	10 42 05.8	0.0
KRBN	Karaburun	1.79	349	PN	Pn	10 42 05.5	-1.1
STIA	Sitia Lasithi	1.80	205	P	Pn	10 42 06.2	-0.6
ZKR	Zakros	1.84	201	P	Pn	10 42 07.4	+0.1
ZKR				S	Sn	10 42 30.6	+0.4
	comp=N,2µm,0.6s						
ZKR	Zakros	1.84	201	P	Pn	10 42 07.6	+0.2
ZKR				AML	AML	10 42 42.8	
	comp=N,1786µm,0.5s						
ZKR				AML	AML	10 42 42.9	
	comp=E,5662µm,0.6s						
ZKR	Zakros	1.84	201	PN	Pn	10 42 07.8	+0.5
ZKR	Zakros	1.84	201	P	Pn	10 42 07.2	-0.1
ZKR				S	Sn	10 42 29.6	-0.7
ZKR				AML	AML	10 42 41.4	
	comp=E,5.5nm,0.6s						
ZKR				AML	AML	10 42 41.4	
	comp=E,5.5nm,0.6s						
ZKR				AML	AML	10 42 43.9	
	comp=E,1.9nm,0.6s						
ZKR				AML	AML	10 42 43.9	
	comp=E,1.9nm,0.6s						
CAEL	Denizli, Camel	1.87	81	*i* P	Pn	10 42 08.9	+0.9
CAEL				IAML		10 42 50.0	
	comp=E,3µm,1.0s						
CAEL				IAML		10 42 53.0	
	comp=N,2µm,0.6s						
FOCM	Foa	1.88	353	PN	Pn	10 42 06.7	-1.2
NPS	Neapolis	1.94	216	P	Pn	10 42 08.1	-0.7
NPS	Neapolis	1.94	216	P	Pn	10 42 08.1	-0.7
NPS				AML	AML	10 42 41.9	
	comp=N,6086µm,0.6s						
NPS				AML	AML	10 42 43.6	
	comp=E,5514µm,0.5s						
GOMA	Golmarmara-Man	2.00	21	PN	Pn	10 42 10.2	+0.7
MANT	Manisa	2.06	36	*i* P	Pg	10 42 14.7	-1.3
GOLH	Golhisar	2.08	78	*i* P	Pn	10 42 12.2	+1.4
LAST	Lasithi	2.08	217	P	Pn	10 42 10.8	0.0
LAST	Lasithi	2.08	217	P	Pn	10 42 11.1	+0.3
LAST				S	Sn	10 42 38.7	+2.3
LAST				AML	AML	10 42 51.1	
	comp=E,3505µm,0.8s						
LAST				AML	AML	10 42 53.9	
	comp=N,2942µm,0.5s						
FRMA	Ierapetra Chan	2.10	210	P	Pn	10 42 10.2	-0.7
MHLO	Agia Marina, M	2.10	267	P	Pn	10 42 10.6	-0.3
MHLO	Agia Marina, M	2.10	267	P	Pn	10 42 12.1	+1.1
MHLO				S	Sb	10 42 40.3	+0.3
MHLO				AML	AML	10 42 49.6	
	comp=E,20753µm,0.5s						
MHLO				AML	AML	10 42 49.8	
	comp=N,18620µm,0.8s						
CAND	Candarli	2.12	356	PN	Pn	10 42 10.1	-1.1
ZEDA	zmir-Bergama	2.12	1	*i* P	Pn	10 42 10.1	-1.2
ZEDA				IAML		10 42 53.0	
	comp=E,636nm,0.6s						
ZEDA				IAML		10 42 58.0	
	comp=N,818nm,0.8s						
KULA	Kula-Manisa	2.12	38	P	Pn	10 42 10.7	-0.7
KULA	Kula-Manisa	2.12	38	PN	Pn	10 42 12.1	+0.7
AKHS	Akhisar	2.13	17	*i* P	Pn	10 42 10.0	-1.4
HRKL	Herakleio	2.17	226	PN	Pn	10 42 12.4	+0.5
AKAS	Kas	2.18	105	*i* P	Pn	10 42 12.7	+0.6
AKAS	Kas	2.18	105	PN	Pn	10 42 13.5	+1.4
KSL	Kastellorizon	2.19	108	P	Pn	10 42 12.9	+0.7
KSL	Kastellorizon	2.19	108	⇑P	Pn	10 42 11.1	-1.1
IACM	Heraklion	2.19	226	P	Pn	10 42 12.2	0.0
DKL	Dikili	2.23	358	PN	Pn	10 42 12.1	-0.6
IDI	Anoyia	2.31	229	Pn	Pn	10 42 13.6	-0.3
	comp=N,7.0nm,0.3s,baz=40,slow=16,SNR=37						
IDI				Sn	Sn	10 42 41.0	-1.0
	comp=N,81nm,0.3s,baz=71,slow=19,SNR=12						
IDI				Lg	Lg	10 42 50.2	
	comp=N,73nm,0.3s,baz=296,slow=17,SNR=11						
IDI	Anoyia	2.31	229	⇓P	Pn	10 42 13.1	-0.7
IDI	Anoyia	2.31	229	⇓S	Sn	10 42 42.9	+0.9
IDI	Anoyia	2.31	229	P	Pn	10 42 13.3	-0.6
IDI	Anoyia	2.31	229	PN	Pn	10 42 13.6	-0.3
IDI	Anoyia	2.31	229		Pn	10 42 13.2	-0.7
ELL	Elmali	2.33	91	P	Pb	10 42 16.6	-1.6
ELL	Elmali	2.33	91	PN	Pn	10 42 15.9	+1.7
ELL	Elmali	2.33	91	Pn	Pb	10 42 16.6	-1.6
KARY	Karystos	2.37	301	P	Pn	10 42 14.3	-0.3
DEMR	Demre-Antalya	2.41	104	PN	Pn	10 42 16.7	+1.5
USAK	Uak-Merkez	2.46	40	*i* P	Pg	10 42 22.0	-1.6
PRK	Paraskevi	2.47	347	P	Pn	10 42 15.6	-0.4
PASA	Karahalli, USA	2.48	52	*e*P	Pn	10 42 16.6	+0.3
SIGR	SIGRI	2.54	339	P	Pn	10 42 15.9	-1.0
SIGR				S	Sn	10 42 46.7	-0.7
	comp=N,1µm,0.7s						
SIGR	SIGRI	2.54	339	PN	Pn	10 42 16.2	-0.7
SIVA	Sivas	2.55	225	P	Pn	10 42 16.7	-0.4
SIVA	Sivas	2.55	225	P	Pn	10 42 18.0	+0.9
SIVA				AML	AML	10 43 06.5	
	comp=E,6704µm,0.5s						
SIVA				AML	AML	10 43 11.3	
	comp=N,3500µm,0.9s						
DEMI	Demirci	2.58	31	*i* P	Pn	10 42 15.9	-1.8
BRDR	BURDUR-Merkez	2.58	70	⇑*i* P	Pn	10 42 18.3	+0.6
BRDR				IAML		10 43 16.0	
	comp=E,371nm,0.8s						
BRDR				IAML		10 43 17.0	
	comp=N,294nm,0.8s						
STEP	BALIKESIR_Sava	2.59	12	*i* P	Pn	10 42 17.3	-0.5
BUHA	Balikesir, Bur	2.66	1	*i* P	Pn	10 42 17.8	-0.8
BUHA				IAML		10 43 09.0	
	comp=E,1µm,0.5s						
BUHA				IAML		10 43 10.0	
	comp=N,687nm,0.8s						
KORT	Korkueli	2.68	86	*i* P	Pn	10 42 21.6	+2.5
KORT	Korkueli	2.68	86	PN	Pn	10 42 21.7	+2.6
VAM	Vamos	2.69	239	P	Pn	10 42 19.2	+0.2
AKUM	Antalya-Kumluc	2.73	100	*i* P	Pn	10 42 21.7	+2.1
DION	Dionisos Attik	2.74	298	P	Pn	10 42 19.9	+0.1
KOCA	Canakkale, Ayv	2.74	346	*i* P	Pn	10 42 18.9	-0.9
VLY	Voula,Athens	2.75	292	P	Pn	10 42 20.0	+0.1
IMMV	Iera Moni Meta	2.81	242	PN	Pn	10 42 21.4	+0.7
SKY	Skiros Island	2.81	317	P	Pn	10 42 20.6	-0.2
KZIL	AFYON_Kizioren	2.86	59	*i* P	Pb	10 42 28.3	+1.1
KZIL				*i* S	Sg	10 43 11.9	+3.4
BALB	Balikesir	2.88	14	PN	Pn	10 42 22.6	+1.0
BALB	Balikesir	2.88	14	Pn	Pn	10 42 22.1	+0.5
BUCA	Burdur, Bucak-	2.88	79	*i* P	Pn	10 42 23.5	+1.7
BAYC	CANAKKALE_Bayr	2.92	353	*i* P	Pn	10 42 21.2	-1.0
ANTB	Antalya	2.92	88	PN	Pn	10 42 24.4	+2.1
BCK	Bucak	2.93	77	PN	Pn	10 42 23.9	+1.5
BALY	Balya	2.93	9	*i* P	Pn	10 42 21.4	-1.0
ISP	Isparta	2.97	70	P	Pn	10 42 23.7	+0.7
ISP	Isparta	2.97	70	PN	Pn	10 42 23.7	+0.7
ISP	Isparta	2.97	70	Pn	Pn	10 42 23.7	+0.7
GDZ	Gediz	2.98	40	*i* P	Pg	10 42 32.5	-1.1
DURS	Dursunbey	2.99	22	*i* P	Pn	10 42 22.6	-0.7
EZN	Ezine	3.03	350	P	Pn	10 42 22.9	-0.8
EZN	Ezine	3.03	350	PN	Pn	10 42 22.6	-1.1
BOZC	Bozcaada	3.09	346	*i* P	Pn	10 42 23.4	-1.2
BOZC	Bozcaada	3.09	346	PN	Pn	10 42 23.7	-0.8
GVDS	Gavdos	3.10	231	PN	Pn	10 42 26.2	+1.6
GVD	Gavdhos	3.10	231	PN	Pn	10 42 25.7	+1.0
KNDR	Palaiochora Ch	3.13	240	PN	Pn	10 42 26.6	+1.5
BAGO	Egridir - ISPA	3.22	68	*i* P	Pn	10 42 26.8	+0.4
KTHA	Kythira Island	3.23	261	PN	Pn	10 42 27.1	+0.6
TVSB	Tavsanli	3.24	36	PN	Pn	10 42 28.4	+1.6
ECEA	Canakkale, Ece	3.27	349	*i* P	Pn	10 42 21.9	-5.0
SHUT	Suhut-Afyon	3.29	58	PN	Pn	10 42 29.2	+1.8
LIA	Limnos Island	3.37	335	P	Pn	10 42 28.0	-0.4
EDC	Edincik	3.56	11	PN	Pn	10 42 32.3	+1.2
GELI	Tayfur-Gelibol	3.58	353	PN	Pn	10 42 30.8	-0.4
YVAC	Isparta, Yalva	3.65	66	*i* P	Pn	10 42 33.0	+0.6
KEPZ	Antalya-Kepez	3.69	88	*i* P	Pn	10 42 34.8	+2.0
KEPZ				*i* S	Sn	10 43 17.2	+1.3
ULDT	Uludag	3.69	26	*i* P	Pg	10 42 46.1	-1.2
IGD	Bursa	3.83	26	*i* P	Pg	10 42 48.3	-1.4
SEDI	Konya, Seydise	3.84	79	*i* P	Pn	10 42 36.7	+1.7
AUBOZ	BOZOYUK	3.88	37	*i* P	Pg	10 42 49.2	-1.6
CAVK	Edirne/Enez-Ca	3.90	351	*i* P	Pn	10 42 35.1	-0.6
CAVK				IAML		10 43 46.0	
	comp=N,280nm,0.8s						
CAVK				IAML		10 43 51.0	
	comp=E,357nm,0.8s						
DOGA	KONYA_Doganhis	3.92	70	*i* P	Pn	10 42 37.3	+1.3
KESN	Edirne-Kesan	3.99	356	*i* P	Pn	10 42 36.3	-0.9
BILE	Bilecik/Merkez	4.01	33	*i* P	Pg	10 42 53.5	+0.2
BORA	Eskisehir	4.07	41	*i* P	Pg	10 42 52.5	-1.9
ITM	Ithomi	4.08	276	Pn	Pn	10 42 41.1	+2.9
ALN	Alexandroupoli	4.12	350	P	Pn	10 42 38.5	-0.2
ALN	Alexandroupoli	4.12	350	Pn	Pn	10 42 38.5	-0.2
AGG	Agios Georgios	4.29	302	P	Pn	10 42 42.5	+1.4
AGG	Agios Georgios	4.29	302	Pn	Pn	10 42 42.5	+1.4
GAZI	Gazipasa	4.32	96	*i* P	Pn	10 42 41.8	+0.4
KDHN	Kadinhani	4.39	66	*i* P	Pn	10 42 44.5	+2.1
GEYV	SAKARYA_Geyve	4.46	34	*i* P	Pg	10 43 01.9	0.0
AKMS	Akamas	4.69	111	P	Pn	10 42 46.2	-0.3
AKMS				AML	AML	10 43 39.1	
	comp=E,0.6nm,0.8s						
AKMS				AML	AML	10 43 39.4	
	comp=E,0.7nm,0.7s						
ERMK	Ermenek	4.75	91	*i* P	Pn	10 42 50.1	+2.6
KKBE	Karaman, Kazim	4.76	84	*i* P	Pn	10 42 50.9	+3.3
KKBE				IAML		10 43 53.0	
	comp=N,52nm,0.8s						
KKBE				IAML		10 44 00.0	
	comp=E,70nm,1.2s						
LIT	Litokhoron	4.81	314	P	Pn	10 42 49.3	+1.1
LIT	Litokhoron	4.81	314		Pn	10 42 49.3	+1.1
OSC1	CSNet OBS 1	4.83	132	P	Pn	10 42 48.3	-0.2
OSC1				S	Sn	10 43 43.6	-0.5
ALFC	Alefka	4.83	109	⇑P	Pn	10 42 48.0	-0.6
ALFC				AML	AML	10 43 43.4	
	comp=E,0.5nm,0.5s						
ALFC				AML	AML	10 43 44.2	
	comp=E,0.5nm,0.7s						
NATA	Nata	4.97	113	P	Pn	10 42 50.3	-0.1
SZAC	Souni	5.21	112	⇑P	Pn	10 42 53.1	-0.6
KIBS	BOLU	5.21	45	*i* P	Pn	10 42 58.1	+4.3
ANTO	Ankara	5.46	55	P	Pn	10 42 58.9	+1.7
ANTO	Ankara	5.46	55	Pn	Pn	10 42 58.9	+1.7
CSS	Mathiatis	5.46	108	Pn	Pn	10 42 57.7	+0.5
CSS	Mathiatis	5.46	108	P	Pn	10 42 56.8	-0.4
ASGA	Asgata	5.47	110	P	Pn	10 42 57.3	+0.1
SLUM	Salum	5.54	196	P	Pn	10 42 57.7	-0.5
	baz=197						
SLUM				S	Sn	10 43 56.0	-5.5
	baz=197						
SLUM				AMP		10 44 00.0	
	baz=197						
BCAM	Yenicaga	5.60	43	*i* P	Pn	10 43 01.8	+2.7
FNA	Florina	5.90	314	P	Pn	10 43 05.3	+2.0
FNA	Florina	5.90	314		Pn	10 43 05.3	+2.0
BR131	Keskin Array S	5.96	59	P	Pn	10 43 05.7	+1.6
BR131	Keskin Array S	5.96	59	Pn	Pn	10 43 05.7	+1.6
BRTR	Keskin Array B	5.96	59	Pn	Pn	10 43 05.8	+1.6
	comp=E,1.9nm,0.3s,baz=258,slow=14,SNR=20						
STIP	Stip	6.12	324	*i* Pn	Pn	10 43 06.6	+0.4
VTS	Vitosha	6.46	334	⇓P	Pn	10 43 11.5	+0.5
VTS	Vitosha	6.46	334	P	Pn	10 43 12.0	+1.0
VTS	Vitosha	6.46	334	Pn	Pn	10 43 12.0	+1.0
PUK	Puka	7.57	316		Pn	10 43 28.5	+2.4
TIRR	Tirgusor	7.68	8	⇓P	Pn	10 43 27.5	-0.1
SWA2		7.69	190	P	Pn	10 43 27.3	-0.4
	baz=191						
MMAI	Mount Meron Ar	7.88	117	Pn	Pn	10 43 29.0	-1.5
	comp=E,5.7nm,0.3s,baz=309,slow=12,SNR=8.0						
MMAI				Sn	Sn	10 44 54.5	-4.8
	comp=E,8.1nm,0.3s,baz=300,slow=29,SNR=3.5						
TPGR	Topolog	8.08	7	⇑P	Pn	10 43 32.2	-0.9
HHAG	Hagoal	8.08	147	P	Pn	10 43 33.5	+0.3
	baz=146						
HSAF	As Saff	8.15	151	P	Pn	10 43 34.4	+0.4
	baz=150						
PDG	Podgorica	8.18	315	Pn	Pn	10 43 36.4	+2.0
GLL	Jalalah	8.24	150	P	Pn	10 43 35.3	-0.1
	baz=149						
MLR	Muntele Rosu	8.68	355	Pn	Pn	10 43 41.6	+0.2
	comp=E,0.7nm,0.3s,baz=152,slow=21,SNR=6.5						
MLR				LR	LR	10 47 21.9	
	comp=E,104nm,18.1s,baz=244,slow=40						
MLR	Muntele Rosu	8.68	355	⇓P	Pn	10 43 40.8	-0.7
MLR	Muntele Rosu	8.68	355	Pn	Pn	10 43 41.7	+0.3
VOIR		8.71	351	⇓P	Pn	10 43 42.1	+0.3
HERR	Herculane	8.75	338	⇑P	Pn	10 43 41.4	-0.8
MDVR	Moldovita	8.89	335	⇑P	Pn	10 43 44.7	+0.5
DIVS	Divibare	9.00	326	Pn	Pn	10 43 46.6	+0.8
PLOR	Plostina	9.01	358	⇑P	Pn	10 43 45.0	-0.8
VRI	Vrincioaia	9.02	359	⇑P	Pn	10 43 45.2	-0.8
GZR	Gura Zlata	9.12	341	⇑P	Pn	10 43 47.9	+0.5
BZS	Buzias	9.66	337	⇑P	Pn	10 43 53.8	-0.9
EIL	Elat	9.76	135	Pn	Pn	10 43 54.2	-1.9
	comp=E,1.1nm,0.3s,baz=144,slow=1.4,SNR=7.5						
EIL				Sn	Sn	10 45 36.7	-8.7
	comp=E,1.0nm,0.3s,baz=288,slow=23,SNR=2.3						
KIV	Kislovodsk	13.89	54	*e*P	Pn	10 44 53.7	+1.1
KIV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	Khabaz	13.93	56	Pn	Pn	10 44 54.9	+1.8
	comp=Z,0.1nm,0.3s,baz=241,slow=13,SNR=1.3						
AKASG	Malin Array Be	13.95	6	*i* P	Pn	10 44 53.7	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VRAC	Vranov	14.58	332	Pn	P	10 45 08.3	-0.1
	comp=Z,0.4nm,0.3s,baz=125,slow=12,SNR=3.7						
VRAC				LR	LR	10 50 47.5	
	comp=Z,74nm,18.2s,baz=134,slow=38						
GERES	GERESS Array B	15.44	325	Pn	P	10 45 19.6	+1.6
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=5.7						
DAVOX	Davos/Dischmat	16.14	313	Pn	P	10 45 26.0	0.0
	comp=Z,0.2nm,0.3s,baz=288,slow=17,SNR=4.0						
SENIN	Lac Senin/Sane	17.50	309		P	10 45 42.1	+1.1
SENIN				IAmb	IAmb	10 45 51.0	
	comp=Z,11nm,0.8s						
MNK	Minsk	17.67	2	*i* P	Pn	10 45 39.9	-1.8
MNK				*i* S	Sn	10 48 57.9	-0.2
MNK				pmax	pmax		
	comp=E,4.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,14nm,1.1s						
MNK				pmax	pmax		
	comp=N,26nm,1.2s						
MNK				MLR	MLR		
	comp=N,67nm,15.0s						
MNK				MLR	MLR		
	comp=E,27nm,29.0s						
MNK				MLR	MLR		
	comp=Z,14nm,11.0s		

MK31	Makanchi Array	41.61	58	P		P	10 49 24.9	+1.3
MKAR	Makanchi Array	41.61	58	P		P	10 49 24.4	+0.8
	comp=Z,2.5nm,0.7s,baz=274,slow=7.2,SNR=14							
MKAR	Makanchi Array	41.61	58	*i* P		P	10 49 24.3	+0.7
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	41.61	58	P		P	10 49 24.8	+1.2
SPITS	Spitsbergen Ar	41.69	357	P		P	10 49 24.3	+0.4
	comp=Z,7.6nm,0.9s,baz=143,slow=7.3,SNR=4.2							
DBIC	Dimbokro	41.78	232	P		P	10 49 24.2	-1.1
DBIC	Dimbokro	41.78	232	P		P	10 49 24.2	-1.1
TIC	Toumodi	41.91	232	*e*P		P	10 49 26.9	+0.6
KIC	Kosan Boka	41.95	231	*e*P		P	10 49 26.9	+0.3
	comp=Z,14nm,0.8s							
LIC	Lamto	42.23	232	*e*P		P	10 49 28.3	-0.7
	comp=Z,68nm,1.9s							
ZALV	Zalesovo Beam	42.76	47	P		P	10 49 32.8	0.0
	comp=Z,1.6nm,0.4s,baz=278,slow=8.1,SNR=5.5							
DGZ	Jazzator, Alta	44.67	53	*i* P		P	10 49 48.6	+0.1
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SONM	Songino Array	57.27	52	P		P	10 51 24.4	+1.2
	comp=Z,2.3nm,0.7s,baz=286,slow=8.2,SNR=5.9							
SONM	Songino Array	57.27	52	P		P	10 51 23.9	+0.7
SONM				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SONM	Songino Array	57.27	52	P		P	10 51 23.9	+0.7
SONM				IAmb	IAmb		10 51 31.8	
	comp=Z,3.8nm,1.4s							
ULN	Ulaanbaatar	57.67	52	*i* P		P	10 51 27.1	+1.0
ULN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
CMAR	Chiang Mai Arr	64.91	85	P		P	10 52 14.8	-0.6
	comp=Z,0.3nm,0.3s,baz=312,slow=9.6,SNR=1.9							
BILL	Bilibino	71.06	15	*e*P		P	10 52 54.0	+0.8
BILL							10 53 12.0	
BILL				*e*S		S	11 02 03.6	-4.9
BILL				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BILL				MLR	MLR			
	comp=Z,58nm,15.0s							
SEY	Seymchan	71.43	23	*i* P		P	10 52 55.5	0.0
KLR	Kul'dur	71.52	42	*i* P		P	10 52 57.0	+0.7
KLR				pmax	pmax			
	comp=Z,5.0nm,1.4s							
KSRS	Korea Array	76.08	54	P		P	10 53 23.5	+0.3
	comp=Z,1.5nm,0.7s,baz=311,slow=5.1,SNR=6.8							
WRH	Wood River Hil	78.95	358	P		P	10 53 39.4	+0.5
WRH				IAmb	IAmb		10 53 43.5	
	comp=Z,4.9nm,1.0s							
CCM	Cathedral Cave	86.17	316	P		P	10 54 16.1	-0.9
CCM				pmax	pmax			
	comp=Z,9.0nm,0.6s							
CCM	Cathedral Cave	86.17	316	P		P	10 54 16.1	-0.9
R40A	Maddies Statio	86.58	317	P		P	10 54 18.5	-0.5
LCAR	Lake Charles	87.52	314	P		P	10 54 23.0	-0.5
ASAR	Alice Springs	116.88	100	PKP		PKPdf	11 00 19.1	-1.5
	comp=Z,0.3nm,0.8s,baz=312,slow=1.5,SNR=4.3							

*IDC **09** 10:59:10.1±1.8, 38°.24N×141°.85E, h48km±18km, mb3.4/7, mb1 3.7/11, mb1mx3.5/40, mbtmp3.7/11, ML3.2/4, MS2.8/2, Ms1 2.8/2, ms1mx2.5/28, Error ellipse: s-maj=28.4km s-min=11.5km az=99.0*
*JMA **09** 10:59:10.3±0.1, 38°.30N×141°.82E, h47km±1km, M3.8*
JMA Felt I J1.

ISC 09 10:59:09.4±1.1, 38°.28N±0°.05×141°.9E±0°.1, h40km±9km, n35, σ1°.39/39, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.37	275	P		Pn	10 59 18.9	+0.5
JIKH				S		Sn	10 59 24.9	+0.2
JIO	Ouri	0.49	291	P		Pn	10 59 20.2	+0.2
JIO				S		Sn	10 59 27.0	-0.4
JKMT	Kesennumamotoy	0.64	326	P		Pn	10 59 22.3	+0.2
JKMT				S		Sn	10 59 30.7	-0.4
OFUJ	Ofunato	0.83	346	P		Pn	10 59 24.9	+0.3
OFUJ				*e*S		Sn	10 59 35.3	-0.4
JMK	Ichinoseki	0.87	321	P		Pn	10 59 25.5	+0.3
JMK				S		Sn	10 59 36.1	-0.7
JMM	Marumori	0.99	246	P		Pn	10 59 26.4	-0.4
JMM				S		Sn	10 59 37.6	-1.9
JOU	Okura	1.00	275	P		Pn	10 59 27.0	0.0
JOU				S		Sn	10 59 39.4	-0.5
JFK	Kawauchi	1.23	223	P		Pn	10 59 30.1	-0.1
JFK				S		Sn	10 59 44.5	-1.2
JOM	Ohasama	1.29	338	P		Pn	10 59 31.5	+0.5
JOM				*e*S		Sn	10 59 47.2	+0.1
JYK	Kaneyama	1.39	298	P		Pn	10 59 32.4	+0.1
JYS	Shiratake	1.47	268	P		Pn	10 59 33.5	+0.1
JFT	Otama	1.47	239	P		Pn	10 59 33.9	+0.5
JFT				S		Sn	10 59 51.2	-0.3
JRG	Rokugo	1.51	318	P		Pn	10 59 34.4	+0.5
MJAR	Matsushiro Arr	3.43	241	P		Pn	11 00 00.6	+0.2
	0.4nm,0.3s,baz=64,slow=11,SNR=13							
MJAR				S		Sn	11 00 43.8	+3.9
	0.2nm,0.3s,baz=25,slow=34,SNR=1.9							
MJAR				LR	LR		11 01 44.6	
	comp=Z,88nm,21.0s,baz=125,slow=46							
MAT	Matsushiro	3.43	241	P		Pn	11 00 02.2	+1.8
MAT				*e*S		Sn	11 00 45.4	+5.5
JHJ	Hachijo jima 2	5.43	199	P		Pn	11 00 27.3	-0.6
	12nm,0.3s,baz=39,slow=19,SNR=1.7							
JHJ				S		Sn	11 01 28.7	-0.4
	17nm,0.3s,baz=62,slow=18,SNR=1.8							
ASAJ	Asahikawa	5.86	5	P		Pn	11 00 34.0	+0.4
	1.4nm,0.3s,baz=224,slow=10,SNR=19							
ASAJ				S		Sn	11 01 41.9	+2.4
	0.2nm,0.3s,baz=161,slow=11,SNR=2.6							
USRK	Ussuriysk Ar.	9.54	311	P		Pn	11 01 25.2	+1.0
	baz=171,slow=30,SNR=4.8							
KLR	Kul'dur	13.18	329	LR	LR		11 07 02.2	
	comp=Z,67nm,19.1s,baz=192,slow=36							
H11N2	WAKE ISLAND Hy 28.46	123		T		T	11 35 11.7	
	baz=316,slow=75,SNR=160							
H11N1	WAKE ISLAND Hy 28.47	123		T		T	11 35 12.3	
	baz=316,slow=75,SNR=174							
H11N3	WAKE ISLAND Hy 28.48	123		T		T	11 35 16.4	
	baz=316,slow=75,SNR=175							
H11S1	WAKE ISLAND Hy 29.22	125		T		T	11 36 12.3	
	baz=318,slow=76,SNR=14							
H11S3	WAKE ISLAND Hy 29.22	125		T		T	11 36 09.6	
	baz=318,slow=76,SNR=21							
H11S2	WAKE ISLAND Hy 29.23	125		T		T	11 36 15.5	
	baz=318,slow=76,SNR=15							
ZALV	Zalesovo Beam	41.39	311	P		P	11 06 51.0	-0.5
	0.9nm,0.4s,baz=93,slow=8.9,SNR=2.4							
MKAR	Makanchi Array	43.82	301	P		P	11 07 10.7	-0.6
	0.8nm,0.7s,baz=83,slow=9.9,SNR=6.8							
ILAR	Eielson Array	48.23	33	P		P	11 07 46.0	+0.2
	0.2nm,0.5s,baz=273,slow=6.2,SNR=2.9							
WRA	Warramunga Arr	58.35	188	P		P	11 08 59.6	-0.9
	0.6nm,0.6s,baz=5.7,slow=7.2,SNR=7.8							
ASAR	Alice Springs	62.08	188	P		P	11 09 25.9	-0.1
	0.3nm,0.7s,baz=353,slow=3.7,SNR=5.0							
ARCES	ARCESS Array B	62.98	339	P		P	11 09 30.8	-0.8
	3.0nm,0.9s,baz=38,slow=6.1,SNR=3.9							
PDAR	Pinedale Array	76.51	46	P		P	11 10 56.4	+0.9
	0.1nm,0.5s,baz=355,slow=2.1,SNR=1.8							
H03N2	Juan Fernandez	146.73	94	T		T	14 04 21.2	
	baz=300,slow=76,SNR=5.1							
H03N3	Juan Fernandez	146.74	94	T		T	14 04 22.2	
	baz=300,slow=76,SNR=6.3							
H03N1	Juan Fernandez	146.74	94	T		T	14 04 22.9	
	baz=300,slow=76,SNR=7.4							

NEIC 09 11:01:09.2±1.4, 35°.58N±0°.04×101°.63W±0°.05, h7km±7km, mb_Lg2.8/47, Error ellipse: s-maj=6.2km s-min=4.9km az=113.0, Northwestern Texas-Oklahoma border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMTX	Amarillo	0.70	184	Pg	Pg	11 01 22.9	+0.3
MSTX	Muleshoe	1.86	211	Pn	Pn	11 01 41.3	-0.4
MSTX				Sn	Sn	11 02 05.3	-0.2
U32A	Winter Ranch,	2.27	69	Pn	Pn	11 01 47.7	+0.5
U32A				Sn	Sn	11 02 15.7	+0.1
U32A				IAmb_Lg		11 02 20.9	
	comp=Z,38nm,0.8s						
WMOK	Wichita Mounta	2.48	109	Pn	Pn	11 01 50.5	+0.5
T25A	Trinidad	2.73	305	Pn	Pn	11 01 54.8	+1.0
T25A				Sn	Sn	11 02 29.1	+1.9
OK032	Salt Plains WL	3.02	65	Pn	Pn	11 01 57.4	-0.1
OK032				Sn	Sn	11 02 31.5	-2.4
CROK	Carrier	3.09	72	IAmb_Lg		11 02 55.4	
	comp=Z,37nm,0.8s						
KAN10	Anthony SW Sta	3.24	61		Pn	11 02 00.7	+0.2
X34A	Smith Ranch, M	3.26	106	Pn	Pn	11 02 01.5	+0.7
BCOK	Bluff Creek, N	3.27	88	IAmb_Lg		11 02 57.5	
	comp=Z,37nm,0.7s						
GC02	Grant County #	3.30	66		Pn	11 02 01.5	+0.2
KAN08	Anthony NE Sta	3.38	60		Pn	11 02 02.0	-0.4
ABTX	Abilene, Hawle	3.38	150		Pn	11 02 02.7	+0.3
KAN12	Harper NE Stat	3.39	59		Pn	11 02 02.4	-0.1
KAN05	Bluff City Nor	3.39	62		Pn	11 02 02.3	-0.3
OK029	Liberty Lake	3.40	85	IAmb_Lg		11 03 05.8	
	comp=Z,24nm,0.9s						
OKCFA	Oklahoma City	3.41	92	IAmb_Lg		11 03 04.5	
	comp=Z,22nm,0.7s						
KAN17	Caldwell West	3.44	64	Pn	Pn	11 02 03.2	-0.1
FNO	Franklin	3.47	94	Pn	Pn	11 02 03.9	+0.3
FNO				IAmb_Lg		11 02 56.3	
	comp=Z,20nm,0.8s						
OK025	Westminster Rd	3.50	89	IAmb_Lg		11 03 03.1	
	comp=Z,28nm,0.9s						
KSCO	Kaye Shedlock'	3.52	347		Pn	11 02 03.0	-1.4
KSCO				IAmb_Lg		11 03 07.4	
	comp=Z,33nm,0.8s						
CBKS	Cedar Bluff	3.56	24		Pn	11 02 03.7	-1.3
R32A	Long Quarter,	3.67	39	Pn	Pn	11 02 05.5	-1.0
R32A				IAmb_Lg		11 03 11.9	
	comp=Z,29nm,0.9s						
KS20	Mayfield South	3.67	62	IAmb_Lg		11 03 05.8	
	comp=Z,26nm,0.8s						
SDCO	Great Sand Dun	3.79	306	Pn	Pn	11 02 09.4	+1.1
OK031	S. Brethren Rd	3.91	83	Pn	Pn	11 02 09.4	-0.3
ANMO	Albuquerque	4.00	262	Pn	Pn	11 02 08.9	-2.2
GDL2	Guadalupe Moun	4.07	215	Pn	Pn	11 02 11.9	-0.1
Z35A	Perchaven, San	4.25	121	Pn	Pn	11 02 14.7	+0.3
Z35A				IAmb_Lg		11 03 33.9	
	comp=Z,15nm,0.8s						
T35A	Sooner Cattle	4.34	71	Pn	Pn	11 02 14.9	-0.7
T35A				IAmb_Lg		11 03 27.6	
	comp=Z,13nm,0.9s						
MNTX	Cornudas Mount	4.98	220	Pn	Pn	11 02 23.9	-0.5
MNTX				IAmb_Lg		11 03 47.4	
	comp=Z,11nm,0.8s						
WHTX	Lake Whitney,	4.99	135	IAmb_Lg		11 03 57.8	
	comp=Z,17nm,0.8s						
121A	Cookes Peak, D	5.95	241	IAmb_Lg		11 04 29.5	
	comp=Z,9.1nm,0.8s						
PHWY	Pilot Hill	6.45	333	IAmb_Lg		11 04 47.1	
	comp=Z,11nm,0.8s						
TX31	Lajitas Ar. Si	6.46	196		Pn	11 02 43.9	-1.0
TX32	Lajitas Array	6.46	196	Pn	Pn	11 02 44.2	-0.7
TXAR	Lajitas Array	6.46	196	Pn	Pn	11 02 44.2	-0.7
MIAR	Mount Ida	6.68	97	IAmb_Lg		11 04 52.2	
	comp=Z,8.4nm,1.1s						
S39A	Bolivar	7.00	70	Pn	Pn	11 02 50.0	-2.1
P38A	Dawn	7.59	55	IAmb_Lg		11 05 16.6	
	comp=Z,7.8nm,0.7s						
FCAR	Ozark Folk Cen	7.73	85	Pn	Pn	11 03 00.5	-1.8
K22A	Casper	8.02	333	IAmb_Lg		11 05 25.0	
	comp=Z,6.4nm,0.7s						
ECSD	EROS Data Cent	9.01	24	IAmb_Lg		11 05 52.3	
	comp=Z,8.1nm,0.9s						
PBMO	Poplar Bluff	9.13	79	IAmb_Lg		11 06 09.9	
	comp=Z,11nm,1.0s						
N41A	Harden Midland	9.90	56	IAmb_Lg		11 06 33.1	
	comp=Z,9.3nm,0.9s						

IDC 09 11:09:56.6±4.8, 6°.55S×149°.08E, h104km±45km, mb2.9/2, mb1 3.1/4, mb1mx3.0/25, mbtmp3.3/4, Error ellipse: s-maj=119.9km s-min=35.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.42	214	P	Pn	11 10 48.0	-0.1
	1.7nm,0.3s,baz=15,slow=16,SNR=2.1						
PMG				S	Sn	11 11 28.1	+0.3
	3.6nm,0.3s,baz=17,slow=20,SNR=8.7						
WRA	Warramunga Arr	19.55	226	P	P	11 14 16.3	0.0
	0.1nm,0.3s,baz=51,slow=11,SNR=7.9						
ASAR	Alice Springs	22.42	219	P	P	11 14 47.5	+0.5
	0.5nm,0.7s,baz=53,slow=9.3,SNR=8.9						
ILAR	Eielson Array	85.17	23	P	P	11 22 21.0	-0.1
	0.1nm,0.5s,baz=272,slow=4.9,SNR=4.3						

*NOU **09** 11:19:17.8, 43°.68S×172°.88E, h5km, ML3.9, South Island, New Zealand*
*WEL **09** 11:19:18.3, 44°.S±3°.×17°.3E±°, h10km±4km, M3.2/19, ML3.3/19, MLv3.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=98.4*

ISC 09 11:19:19.1±0.9, 43°.63S±0°.04×172°.79E±0°.04, h15km±7km, n43, σ0°.89/50, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	McQueen's Vall	0.12	232	P	Pg	11 19 22.3	-0.3
MQZ				S	Sg	11 19 24.4	-0.4
OKCZ	Okains Bay	0.22	115	P	Pg	11 19 24.9	+0.9
AKCZ	Akaroa Harbour	0.26	159	P	Pg	11 19 25.6	+1.0
AMCZ	Amberley	0.47	348	P	Pb	11 19 28.7	-0.4
AMCZ				S	Sg	11 19 34.8	+0.1
RACZ	Rakaia	0.48	258	P	Pb	11 19 29.0	-0.3
OXZ	Oxford	0.62	299	P	Pb	11 19 31.0	-0.8
OXZ				S	Sb	11 19 39.9	-0.4
GVZ	Greta Valley S	0.69	15	P	Pb	11 19 33.0	+0.1
GVZ				S	Sb	11 19 43.4	+1.2
WACZ	Wakanui South	0.75	245	P	Pn	11 19 34.5	-0.8
WACZ				S	Sn	11 19 45.5	-0.9
MHCZ	Mount Hutt	0.89	276	P	Pb	11 19 36.4	+0.1
MHCZ				S	Sb	11 19 48.6	+0.6
LTZ	Lake Taylor	0.93	336	P	Pb	11 19 36.7	-0.3
LTZ				S	Sb	11 19 49.6	+0.4
ARCZ	Arundel	1.21	254	P	Pb	11 19 41.1	-0.6
RPZ	Rata Peaks	1.26	266	P	Pn	11 19 41.8	-0.5
KHZ	Kahutara	1.33	25	P	Pn	11 19 42.5	-0.7
INZ	Inchbonnie	1.34	312	P	Pn	11 19 43.1	-0.2
TMZ	Timaru	1.49	239	P	Pn	11 19 45.4	0.0
WVZ	Waitaha Valley	1.59	290	P	Pn	11 19 46.9	+0.1
GCSZ	Gaunt Creek Bo	1.82	279	P	Pn	11 19 50.4	+0.5
THZ	Tophouse	1.87	3	P	Pn	11 19 49.9	-0.8
DSZ	Denniston Nort	2.02	339	P	Pn	11 19 52.9	+0.1
LBZ	Lake Benmore	2.02	247	P	Pb	11 19 54.2	-1.5
BSWZ	Blackbirch Sta	2.08	23	P	Pn	11 19 53.0	-0.4
ODZ	Otahua Downs	2.09	227	P	Pn	11 19 53.2	-0.4
FOZ	Fox Glacier	2.16	272	P	Pn	11 19 55.9	+1.3
TUWZ	Tuamarina	2.36	22	P	Pn	11 19 56.5	-0.9
NNZ	Nelson	2.45	11	P	Pn	11 19 58.6	-0.1
QRZ	Quartz Range	2.81	356	P	Pn	11 20 03.8	+0.2
JCZ	Jackson Bay	2.93	260	P	Pn	11 20 06.4	+1.2
EAZ	Earnscleugh	2.96	236	P	Pn	11 20 06.4	+0.8
CAW	Cannon Point	3.04	35	P	Pn	11 20 05.5	-1.2
KIW	Kapiti Island	3.19	30	P	Pn	11 20 07.7	-1.0
MTW	Mount Morrison	3.19	40	P	Pn	11 20 06.8	-1.9
TUZ	Tuapeka	3.23	223	P	Pn	11 20 10.6	+1.3
OGWZ	Otaki Gorge	3.32	33	P	Pn	11 20 09.7	-0.9
MRZ	Mangatainoka R	3.62	36	P	Pn	11 20 13.2	-1.5
MLZ	Mavora Lakes	3.76	241	P	Pn	11 20 17.0	+0.3
WHZ	Wether Hill Ro	4.12	235	P	Pn	11 20 21.4	-0.2
NBEZ	Newall Road No	4.44	11	P	Pn	11 20 27.4	+1.5
MTVZ	Mangateitei	4.70	26	P	Pn	11 20 30.4	+0.9
VRZ	Vera Road	4.74	19	P	Pn	11 20 31.4	+1.3
SNVZ	South Ngauruho	4.93	27	P	Pn	11 20 33.1	+0.2
BKZ	Black Stump Fm	5.26	33	P	Pn	11 20 35.6	-1.7
HIZ	Hauiti	5.35	18	P	Pn	11 20 38.2	-0.3
RAHZ	Arahi	5.72	36	P	Pn	11 20 44.9	+1.3

IDC 09 11:29:04.6±3.9, 7°.34S×154°.81E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/28, mbtmp3.2/2, Error ellipse: s-maj=203.6km s-min=55.2km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.48	236	P	P	11 34 15.0	-1.2
	0.4nm,1.0s,baz=65,slow=10.0,SNR=1.8						
ASAR	Alice Springs	25.81	229	P	P	11 34 38.6	+0.8
	0.3nm,0.4s,baz=59,slow=8.9,SNR=6.2						
TORD	Torodi Ar. Bea	152.94	285	PKPbc	PKPbc	11 49 05.0	-0.1
	0.5nm,0.7s,baz=62,slow=2.5,SNR=2.6						

*THE **09** 11:47:45.8, 37°.92N×23°.05E, h6km, ML2.6/12, Error ellipse: s-maj=0.9km s-min=0.3km az=357.0*

ATH 09 11:47:45.7, 37°.92N×23°.06E, h6km±2km, ML2.4/22, Error ellipse: s-maj=2.3km s-min=0.6km az=331.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOUT	Loutraki	0.10	317	P	Pg	11 47 47.8	-0.1
LOUT	Loutraki	0.10	317	P	Pg	11 47 47.8	-0.2
LOUT				S	Sg	11 47 49.2	-0.2
LTK	Loutraki	0.13	326	P	Pg	11 47 48.4	0.0
LTK				S	Sg	11 47 50.2	-0.1
	11μm,0.2s						
LTK	Loutraki	0.13	326	P	Pg	11 47 48.4	0.0
LTK				S	Sg	11 47 50.5	+0.2
LTK				AML	AML	11 47 50.9	
	comp=E,23900μm,0.2s						
LTK				AML	AML	11 47 51.1	
	comp=N,19580μm,0.2s						
VILL	Villia	0.32	39	P	Pg	11 47 52.0	0.0
THAL	Thalero	0.34	291	P	Pg	11 47 52.3	+0.1
THAL				S	Sg	11 47 57.0	+0.3
	comp=N,2μm,0.3s						
THAL	Thalero	0.34	291	P	Pg	11 47 52.1	-0.2
THAL				S	Sg	11 47 57.4	+0.7
THAL				AML	AML	11 48 03.3	
	comp=N,2972μm,0.2s						
THAL				AML	AML	11 48 07.7	
	comp=E,3614μm,0.3s						
VIL2	Platees	0.34	29	P	Pg	11 47 52.0	-0.4
VIL2				S	Sg	11 47 56.4	-0.5
VIL2				AML	AML	11 47 59.1	
	comp=E,1602μm,0.4s						
VIL2				AML	AML	11 48 02.0	
	comp=N,1238μm,0.3s						
ATH	Athens Observa	0.52	84	P	Pg	11 47 55.8	0.0
ATH				S	Sg	11 48 03.3	+0.7
ATH				AML	AML	11 48 04.8	
	comp=E,1610μm,0.2s						
ATH				AML	AML	11 48 05.6	
	comp=N,887μm,0.3s						
KRND	KRANIDI	0.54	172	P	Pg	11 47 55.9	-0.1
KRND				S	Sb	11 48 04.3	-1.1
	comp=N,875nm,0.4s						
KRND	KRANIDI	0.54	172	P	Pg	11 47 56.0	0.0
KRND				S	Sg	11 48 03.6	+0.7
KRND				AML	AML	11 48 08.6	
	comp=E,1672μm,0.3s						
KRND				AML	AML	11 48 09.3	
	comp=N,1814μm,0.3s						
ATHU	Athens Univers	0.57	85	P	Pg	11 47 56.6	-0.2
ATHU				S	Sg	11 48 05.3	+1.0
ATHU	Athens Univers	0.57	85	P	Pg	11 47 56.6	-0.2
VLY	Voula,Athens	0.58	96	P	Pg	11 47 57.2	+0.3
VLY	Voula,Athens	0.58	96	P	Pg	11 47 56.8	-0.2
VLY				S	Sg	11 48 04.0	-0.5
VLY				AML	AML	11 48 07.7	
	comp=E,803μm,0.2s						
VLY				AML	AML	11 48 08.8	
	comp=N,899μm,0.4s						
DION	Dionisos Attik	0.71	76	P	Pg	11 47 59.4	+0.1
DION				S	Sg	11 48 09.4	+0.9
	comp=N,1μm,0.4s						
DION	Dionisos Attik	0.71	76	P	Pg	11 47 59.1	-0.2
DION				S	Sg	11 48 08.6	0.0
DION				AML	AML	11 48 12.8	
	comp=N,1094μm,0.5s						
DION				AML	AML	11 48 12.8	
	comp=E,2342μm,0.3s						
KLV	Kalavryta, Ach	0.73	280	P	Pg	11 47 58.9	-0.8
KLV	Kalavryta, Ach	0.73	280	P	Pg	11 47 58.7	-1.0
KLV				AML	AML	11 48 15.1	
	comp=N,247μm,0.5s						
KLV				AML	AML	11 48 16.1	
	comp=E,154μm,0.4s						
LKR	Lokris	0.74	356	P	Pg	11 47 59.4	-0.5
LKR				S	Sg	11 48 10.0	+0.6
	comp=E,858nm,0.2s						
LKR	Lokris	0.74	356	P	Pg	11 47 59.2	-0.7
LKR				AML	AML	11 48 12.8	
	comp=E,1673μm,0.3s						
LKR				AML	AML	11 48 14.8	
	comp=N,1706μm,0.2s						
VLX	Vlachokerasia	0.77	225	P	Pg	11 48 00.2	-0.2
VLX				S	Sb	11 48 11.4	-0.8
	comp=N,450nm,0.4s						
VLX	Vlachokerasia	0.77	225	P	Pg	11 47 59.4	-1.0
VLX				S	Sb	11 48 11.5	-0.7
VLX				AML	AML	11 48 13.0	
	comp=E,1054μm,0.4s						
VLX				AML	AML	11 48 15.6	
	comp=N,697μm,0.4s						
EREA	Eretria	0.85	53	P	Pg	11 48 02.3	+0.2
EREA				S	Sb	11 48 14.5	-0.1
	comp=N,340nm,0.1s						
EREA	Eretria	0.85	53	P	Pg	11 48 02.0	-0.1
EREA				S	Sb	11 48 14.3	-0.3
EREA				AML	AML	11 48 16.5	
	comp=N,594μm,0.2s						
EREA				AML	AML	11 48 18.9	
	comp=E,756μm,0.2s						
TRIZ	Trizonia	0.90	300	P	Pg	11 48 02.4	-0.6
TRIZ	Trizonia	0.90	300	P	Pg	11 48 02.7	-0.3
TRIZ				S	Sg	11 48 14.2	-0.4
LAKA	Lakka	0.91	291	P	Pg	11 48 02.6	-0.6
LAKA	Lakka	0.91	291	P	Pg	11 48 02.5	-0.7
LAKA				AML	AML	11 48 19.2	
	comp=N,465μm,0.7s						
LAKA				AML	AML	11 48 23.5	
	comp=E,345μm,0.4s						
SERG	Sergoula	0.93	302	P	Pg	11 48 03.6	0.0
SERG	Sergoula	0.93	302	P	Pg	11 48 03.6	0.0
SERG				AML	AML	11 48 21.2	
	comp=N,234μm,0.5s						
SERG				AML	AML	11 48 23.7	

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VLI                                  S   Sb   11 48 24.5 -0.1
VLI                                  AML AML  11 48 28.6
      comp=N,244µm,0.6s
VLI                                  AML AML  11 48 31.6
      comp=E,229µm,0.7s
AGG   Agios Georgios     1.25 333    P   Pg   11 48 08.9 -0.7
AGG                                  S   Sn   11 48 26.6 -0.2
      comp=E,85nm,0.7s
AGG   Agios Georgios     1.25 333    P   Pg   11 48 08.7 -0.9
AGG                                  AML AML  11 48 30.9
      comp=N,187µm,0.7s
AGG                                  AML AML  11 48 32.5
      comp=E,142µm,0.6s
MAKR  Makrakomi, Fth     1.32 327    P   Pn   11 48 10.6  0.0
MAKR                                 AML AML  11 48 35.6
      comp=N,99µm,0.8s
MAKR                                 AML AML  11 48 39.9
      comp=E,85µm,0.9s
NEO   Neokhori           1.40   5    P   Pn   11 48 11.1 -0.6
EVR   Evrytania          1.40 316    P   Pb   11 48 12.2 -0.1
EVR                                  AML AML  11 48 42.4
      comp=N,62µm,0.5s
EVR                                  AML AML  11 48 47.4
      comp=E,96µm,0.8s
XOR   Xorichti           1.45   4    P   Pn   11 48 11.7 -0.8
KTHA  Kythira Island     1.66 180    P   Pn   11 48 15.4 +0.2
```

*NEIC **09** 11:48:07.8±1.4, 1°.10N±0°.07×127°.09E±0°.09, h125km±7km, mb4.2/11, Error ellipse: s-maj=14.4km s-min=7.4km az=54.0*
*DJA **09** 11:48:07.1±0.8, 2°.N±3°×12°.7E±°, h71km±16km, M4.7/7, mb5.0/6, mB5.1/7, MLv4.6/7, Mw(mB)4.5/7*
*IDC **09** 11:48:08.8±1.7, 1°.04N×127°.17E, h140km±13km, mb3.6/6, mb1 3.7/7, mb1mx3.4/35, mbtmp4.0/7, Error ellipse: s-maj=20.4km s-min=14.5km az=39.0*

ISC 09 11:48:02.1±0.8, 1°.49N±0°.08×127°.07E±°.07, h103km, n36, σ2°.22/37, mb4.2/10, Halmahera

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
TNTI  Ternate            0.77 158    Pn    Pn          11 48 26.1 +5.6
TNTI  Ternate            0.77 158    P     Pn          11 48 25.2 +4.7
TNTI                                 S     Sn          11 48 38.1 +3.9
SGSI  Sangihe            2.67 325    P     Pn          11 48 45.9 +2.4
SGSI                                 S     Sn          11 49 16.4 +1.0
SANI  Sanana             3.68 197    P     Pn          11 48 59.1 +2.0
GTOI  Gorontalo          4.15 258    P     Pn          11 49 08.1 +4.7
SIJI  Sorong             4.80 119    P     Pn          11 49 14.8 +2.6
      2.5nm,0.3s,baz=334,slow=17,SNR=4.2
SIJI                                 S     Sn          11 50 08.5 +1.7
      0.6nm,0.3s,baz=156,slow=23,SNR=1.0
LUWI  Luwuk              4.99 240    Pn    Pn          11 49 17.2 +2.5
LUWI  Luwuk              4.99 240    P     Pn          11 49 19.4 +4.8
MRSI  Marisa             5.23 259    P     Pn          11 49 21.3 +3.3
      0.4nm1µm65nm,0.5s
APSI  Ampana             5.93 246    P     Pn          11 49 26.8 -0.6
      0.6nm3µm78nm,0.6s
TOLI2 Tolitoli           6.30 267    Pn    Pn          11 49 35.8 +3.2
FAKI  Fak Fak            6.78 130    Pn    Pn          11 49 42.7 +3.7
TTSI  Tana Toraja        8.54 238    P     Pn          11 50 05.0 +2.0
      2µm140nm,0.7s
BNSI  Bone               9.10 230    P     Pn          11 50 14.1 +3.6
      1µm99nm,0.8s
BKSI  Bulukumba          9.70 226    P     Pn          11 50 24.3 +5.6
      2µm105nm,0.6s
KAPI  Kappang            9.76 228    P     Pn          11 50 23.9 +4.3
      16nm,0.3s,baz=69,slow=7.4,SNR=52
KAPI                                 S     Sn          11 52 07.5 +0.1
      3.0nm,0.3s,baz=240,slow=19,SNR=6.3
EDFI  Ende, Flores      11.50 208    P     P           11 50 49.8 -2.9
SOEI  Soe               11.52 194    Pn    Pn          11 50 43.8 +0.3
MTN   Manton Dam        14.80 164    Pn    Pn          11 51 25.7 -0.6
KNRA  Kununurra         17.14 174    P     P           11 51 55.7 +0.3
KNRA                                 IAmb  IAmb        11 51 56.2
      comp=Z,20nm,1.1s
WB0   Warramunga Arr    22.32 162    P     P           11 52 50.7 -0.7
WB0                                  IAmb  IAmb        11 52 58.0
      comp=Z,13nm,0.7s
WRAB  Tennant Creek     22.46 162    P     P           11 52 52.2 -0.6
WRAB                                 IAmb  IAmb        11 52 59.3
      comp=Z,12nm,0.7s
WRA   Warramunga Arr    22.46 162    P     P           11 52 52.0 -0.9
      comp=Z,5.3nm,0.4s,baz=340,slow=11,SNR=108
WRA                                  PcP   PcP         11 56 43.3 -0.5
      comp=Z,0.4nm,0.5s,baz=341,slow=0.4,SNR=2.2
WRA                                  S     S           11 56 47.4 -5.0
      comp=Z,0.7nm,0.6s,baz=348,slow=21,SNR=6.1
WRA   Warramunga Arr    22.46 162    P     P           11 52 51.0 -1.9
WB2   Warramunga Arr    22.47 162    P     P           11 52 52.3 -0.7
WB2                                  IAmb  IAmb        11 52 59.8
      comp=Z,13nm,0.9s
WR0   Warramunga Arr    22.54 161    P     P           11 52 53.1 -0.6
WR0                                  IAmb  IAmb        11 53 09.9
      comp=Z,18nm,1.4s
AS31  Alice Springs     25.88 166    P     P           11 53 23.6 -0.8
ASAR  Alice Springs     25.88 166    P     P           11 53 23.9 -0.5
      comp=Z,1.2nm,0.5s,baz=351,slow=7.5,SNR=28
ASAR                                 PcP   PcP         11 56 50.3 -0.8
      comp=Z,0.3nm,0.5s,baz=348,slow=1.9,SNR=4.3
ASAR                                 ScP   ScP         12 00 18.0 -3.5
      comp=Z,0.2nm,0.8s,baz=344,slow=2.8,SNR=2.0
EIDS  Eidsvold          35.40 141    P     P           11 54 47.9 -0.3
STKA  Stephens Creek    35.93 159    P     P           11 54 52.3 -0.4
      comp=Z,2.8nm,0.7s,baz=328,slow=11,SNR=6.0
STKA  Stephens Creek    35.93 159    P     P           11 54 52.6 -0.1
STKA                                 IAmb  IAmb        11 54 55.2
      comp=Z,3.3nm,1.4s
ARMA  Armidale          39.43 146    P     P           11 55 22.8 +0.5
MKAR  Makanchi Array    59.58 326    P     P           11 58 02.1 +7.1
      comp=Z,0.4nm,0.5s,baz=124,slow=8.1,SNR=5.2
VNDA  Vanda             81.18 173    P     P           12 00 05.1 -0.7
      comp=Z,0.4nm,0.4s,baz=310,slow=8.6,SNR=2.5
VNDA  Vanda             81.18 173    IAmb  IAmb        12 00 09.8
      comp=Z,1.8nm,1.2s
MAW   Mawson            81.79 200    P     P           12 00 09.5 +0.3
      comp=Z,1.1nm,0.7s,baz=74,slow=7.4,SNR=2.3
```

*IDC **09** 11:51:02.3±7.3, 0°.41N×98°.77E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/47, mbtmp3.6/4, Error ellipse: s-maj=367.1km s-min=25.7km az=55.0*
*DJA **09** 11:51:10.1±1.2, 1°.N±5°×9°9E±°, h26km±11km, M4.5/5, MLv4.5/5*

ISC 09 11:51:09.1±1.3, 0°.39N±0°.09×98°.69E±0°.09, h50km, n13, σ0°.70/11, mb3.5/4, Northern Sumatera

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
MNSI  Mandailing Nat     0.97  65    P     Pn          11 51 26.1 -0.4
MNSI                                 S     Sn          11 51 39.2  0.0
SBSI  Sibolga            1.17  10    P     Pn          11 51 29.4 +0.2
SBSI                                 S     Sn          11 51 45.0 +1.0
PDSI  Padang             2.19 126    P     Pn          11 51 43.8 +0.7
BKNI  Bangkinang         2.35  92    P     Pn          11 51 50.8 +5.6
BKNI                                 S     Sn          11 52 13.9 +1.1
TSI   Tuntungan          3.09 358    P     Pn          11 52 00.1 +4.6
TPTI                     3.23 332    P     Pn          11 51 57.6 +0.3
H08S2 Diego Garcia H    27.32 252    T     T           12 24 17.2
      baz=73,slow=75,SNR=47
H08S3 Diego Garcia H    27.32 253    T     T           12 24 17.9
      baz=73,slow=75,SNR=49
H08S1 Diego Carcia H    27.34 252    T     T           12 24 19.9
      baz=73,slow=75,SNR=33
WRA   Warramunga Arr    40.34 122    P     P           11 58 41.4 -0.8
      0.2nm,0.6s,baz=299,slow=8.9,SNR=1.3
ASAR  Alice Springs     41.72 127    P     P           11 58 52.9 -0.6
      0.3nm,0.6s,baz=296,slow=7.7,SNR=4.1
MKAR  Makanchi Array    48.40 345    P     P           11 59 45.9 -0.3
      0.5nm,0.4s,baz=154,slow=8.9,SNR=6.4
ZALV  Zalesovo Beam     54.60 350    P     P           12 00 32.4  0.0
      0.6nm,0.4s,baz=150,slow=6.7,SNR=1.9
```

BUC 09 11:51:53.6±0.2, 45°.54N×25°.36E, h2km, ml1.4/7, 17C-4D, Error ellipse: s-maj=3.7km s-min=1.2km az=161.0, Romania

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
VOIR                     0.24 245    ⇑P    Pg          11 51 58.4 +0.1
VOIR                                 ⇑S    Sg          11 52 01.7 +0.3
VOIR                     0.24 245    ⇑P    Pg          11 51 58.4 +0.1
VOIR                                 ⇑S    Sg          11 52 01.7 +0.3
MLR   Muntele Rosu       0.41  97    ⇓P    Pg          11 52 02.2 +0.7
MLR                                  ⇑S    Sg          11 52 07.8 +0.9
MLR   Muntele Rosu       0.41  97    ⇓P    Pg          11 52 02.2 +0.7
ARR   Arges              0.54 252    ⇑P    Pg          11 52 03.3 -0.7
ARR                                  ⇑S    Sg          11 52 12.2 +1.2
ARR   Arges              0.54 252    ⇑P    Pg          11 52 03.3 -0.7
OZUR                     0.63  28    ⇑S    Sg          11 52 15.0 +1.2
OZUR                     0.63  28    ⇑S    Sg          11 52 15.0 +1.2
PLOR  Plostina           0.95  70    ⇑P    Pg          11 52 11.2 -0.7
PLOR                                 ⇑S    Sg          11 52 25.1 +0.8
PLOR  Plostina           0.95  70    ⇑P    Pg          11 52 11.2 -0.7
VRI   Vrincioaia         1.01  71    ⇓P    Pg          11 52 13.0 +0.1
VRI                                  ⇑S    Sg          11 52 26.5 +0.5
VRI   Vrincioaia         1.01  71    ⇓P    Pg          11 52 13.0 +0.1
GZR   Gura Zlata         1.83 266    ⇑P    Pn          11 52 26.5 +0.4
GZR                                  ⇑S    Sn          11 52 50.4 +0.6
GZR   Gura Zlata         1.83 266    ⇑P    Pn          11 52 26.5 +0.4
```

*IDC **09** 11:57:40.2±1.1, 17°.33N×145°.76E, h511km±14km, mb3.0/11, mb1 3.2/12, mb1mx3.0/44, mbtmp3.8/12, Error ellipse: s-maj=23.1km s-min=13.8km az=91.0*
*NEIC **09** 11:57:41.3±1.3, 17°.3N±0°.1×145°.6E±0°.2, h516km±11km, mb4.0/18, Error ellipse: s-maj=25.9km s-min=18.7km az=101.0*

ISC 09 11:57:40.0±0.8, 17°.40N±0°.09×145°.7E±0°.2, h500km, n32, σ0°.91/30, mb3.7/18, Mariana Islands

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
GUMO  Guam               3.86 191    P     P           11 58 59.0 +1.6
      18nm,0.3s,baz=293,slow=5.0,SNR=6.6
GUMO                                 S     S           12 00 00.7 +0.4
      15nm,0.3s,baz=23,slow=22,SNR=1.5
MJAR  Matsushiro Arr    20.17 342    P     P           12 01 41.2 +1.0
      2.3nm,0.6s,baz=165,slow=9.5,SNR=6.3
MJAR  Matsushiro Arr    20.17 342    IAmb  IAmb        12 01 59.1
      comp=Z,8.0nm,1.4s
YULB  Yu-li             23.58 289    P     P           12 02 10.5 -0.4
JTM   Tenmabayashi      23.64 351    P     P           12 02 13.1 +1.9
KSRS  Korea Array       25.35 326    P     P           12 02 26.5 +0.1
      comp=Z,0.8nm,0.6s,baz=148,slow=8.7,SNR=4.8
MTN   Manton Dam        33.30 206    P     P           12 03 35.0 -0.7
KNRA  Kununurra         36.85 208    P     P           12 04 05.0 -0.4
WR0   Warramunga Arr    38.70 197    P     P           12 04 19.6 -1.0
WR0                                  IAmb  IAmb        12 04 28.8
      comp=Z,5.5nm,1.2s
WRAB  Tennant Creek     38.73 197    P     P           12 04 19.9 -0.9
WRAB                                 IAmb  IAmb        12 04 43.4
      comp=Z,5.6nm,1.2s
WRA   Warramunga Arr    38.74 197    P     P           12 04 20.0 -0.9
      comp=Z,0.3nm,0.4s,baz=13,slow=8.2,SNR=9.3
WRA   Warramunga Arr    38.74 197    IAmb  IAmb        12 04 25.7
      comp=Z,0.3nm,1.4s
ASAR  Alice Springs     42.40 196    P     P           12 04 49.1 -1.0
      comp=Z,0.1nm,0.3s,baz=19,slow=6.5,SNR=7.3
CMAR  Chiang Mai Arr    44.36 279    P     P           12 05 06.5 +0.9
      comp=Z,0.8nm,0.7s,baz=78,slow=5.9,SNR=5.0
ZALV  Zalesovo Beam     59.02 323    P     P           12 06 50.9 -0.1
      comp=Z,0.9nm,0.4s,baz=116,slow=6.6,SNR=2.0
MK31  Makanchi Array    59.33 314    P     P           12 06 53.8 +0.5
MKAR  Makanchi Array    59.33 314    P     P           12 06 53.6 +0.3
      comp=Z,0.8nm,0.4s,baz=90,slow=8.1,SNR=11
MAKZ  Makanchi          59.55 314    P     P           12 06 55.2 +0.4
MAKZ                                 IAmb  IAmb        12 06 55.7
      comp=Z,1.6nm,0.6s
KDAK  Kodiak Island     60.46  33    P     P           12 07 01.6 +1.1
KDAK                                 IAmb  IAmb        12 07 10.3
      comp=Z,5.4nm,1.2s
CNPM  China Poot        61.59  31    P     P           12 07 08.5 +0.5
CNPM                                 IAmb  IAmb        12 07 37.0
      comp=Z,17nm,1.4s
MLY   Manley            63.30  25    P     P           12 07 19.7 +0.6
PWL   Port Wells        63.31  30    P     P           12 07 19.8 +0.6
PWL                                  IAmb  IAmb        12 07 30.8
      comp=Z,7.7nm,1.2s
TOLK  Toolik Lake Re    64.81  21    P     P           12 07 28.6  0.0
TOLK                                 IAmb  IAmb        12 07 32.5
      comp=Z,3.7nm,1.4s
IL31                    64.82  26    P     P           12 07 27.6 -1.1
IL31                                 IAmb  IAmb        12 07 34.4
      comp=Z,2.8nm,1.4s
ILAR  Eielson Array     64.82  26    P     P           12 07 28.2 -0.5
      comp=Z,0.6nm,0.4s,baz=250,slow=5.9,SNR=18
SCRK  Sand Creek        65.90  27    P     P           12 07 36.1 +0.5
BCAR  Beaver Creek A    66.74  28    P     P           12 07 41.0 +0.2
ABKAR Akbulak array     74.26 317    P     P           12 08 24.7 -0.9
ARCES ARCESS Array B    83.71 342    P     P           12 09 14.3 -1.2
      comp=Z,2.5nm,0.9s,baz=65,slow=6.8,SNR=4.6
ARCES ARCESS Array B    83.71 342    IAmb  IAmb        12 09 16.9
      comp=Z,8.4nm,1.2s
NVAR  Mina Array Bea    83.97  52    P     P           12 09 17.2 -0.4
      comp=Z,0.1nm,0.3s,baz=272,slow=7.3,SNR=4.0
FINES FINESS Array B    88.04 335    P     P           12 09 34.5 -1.8
      comp=Z,1.0nm,0.6s,baz=92,slow=4.2,SNR=3.8
```

*NNC **09** 12:06:56.5±1.0, 37°.73N×78°.02E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=9.7km s-min=6.7km az=81.0*

SOME 09 12:06:53.3, 37°.68N×78°.12E, h10km, 5C-2D, Southern Xinjiang

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
SATY  Saty               5.38   2    eP    Pg          12 08 34.0 -2.3
      10nm,0.3s
SATY                                 eS    Sg          12 09 46.6 +0.8
      8.4nm,0.3s
SATY  Saty               5.38   2    Pg    Pg          12 08 34.0 -2.3
      10nm,0.3s
SATY                                 Lg    Lg          12 09 46.6
      8.4nm,0.3s
IZV   Izvestkoviy        5.47 348    eP    Pg          12 08 35.1 -3.0
      5.9nm,0.3s
IZV                                  eS    Sg          12 09 48.5 -0.3
      10nm,0.2s
IZV   Izvestkoviy        5.47 348    Pg    Pg          12 08 35.1 -3.0
      5.9nm,0.3s
IZV                                  Lg    Lg          12 09 48.5
      10nm,0.2s
UZB   Uzynbulak          5.50   7    eP    Pg          12 08 35.5 -3.2
      4.7nm,0.2s
UZB                                  eS    Sg          12 09 49.1 -0.7
      4.3nm,0.5s
UZB   Uzynbulak          5.50   7    Pg    Pg          12 08 35.5 -3.2
      4.7nm,0.2s
UZB                                  Lg    Lg          12 09 49.1
      4.3nm,0.5s
MDOK  Medeo              5.53 352    ⇑eP   Pg          12 08 36.5 -2.8
      6.7nm,0.8s
MDOK                                 ⇑eS   Sg          12 09 50.8 -0.1
      10nm,0.8s
MDOK  Medeo              5.53 352    Pg    Pg          12 08 35.6 -3.7
      7.7nm,0.8s
MDOK                                 ⇑Lg   Lg          12 09 49.4
      8.4nm,0.6s
MDOK  Medeo              5.53 352    Pg    Pg          12 08 36.5 -2.8
      6.6nm,0.6s
MDOK                                 Lg    Lg          12 09 50.8
      10.0nm,0.6s
TKM2  Tokmak 2           5.58 341    ⇑Pg   Pg          12 08 36.4 -3.7
      3.4nm,0.6s
TKM2                                 ⇑Lg   Lg          12 09 51.5
      4.3nm,0.5s
KOTS  Kotyrbulak         5.60 352    eP    Pg          12 08 38.1 -2.4
      8.2nm,0.6s
KOTS                                 eS    Sg          12 09 53.9 +0.9
      12nm,0.4s
KOTS  Kotyrbulak         5.60 352    Pg    Pg          12 08 38.1 -2.4
      8.2nm,0.6s
KOTS                                 Lg    Lg          12 09 53.9
      12nm,0.4s
AAK   Ala-Archa          5.67 332    ⇓Pg   Pg          12 08 38.6 -3.3
      3.9nm,0.5s
AAK                                  ⇓Lg   Lg          12 09 52.0
      9.9nm,0.7s
DGS   Degeres            5.83 343    eP    Pg          12 08 41.8 -3.2
      6.6nm,0.5s
DGS                                  eS    Sg          12 10 00.2 -0.3
      4.6nm,0.8s
DGS   Degeres            5.83 343    Pg    Pg          12 08 41.8 -3.2
      6.6nm,0.5s
DGS                                  Lg    Lg          12 10 00.2
      6.9nm,0.4s
KTMS  Ketmen             6.00  16    eP    Pg          12 08 45.5 -2.8
      3.3nm,0.4s
KTBS  Karatobe           6.12 350    eP    Pg          12 08 46.7 -3.7
      4.0nm,0.4s
KTBS                                 eS    Sg          12 10 08.7 -1.0
      7.7nm,0.6s
KTBS  Karatobe           6.12 350    Pg    Pg          12 08 46.7 -3.7
      4.0nm,0.4s
KTBS                                 Lg    Lg          12 10 08.7
      7.7nm,0.6s
SGDS  Sogindy            6.34 336    Pg    Pg          12 08 51.3 -3.4
      1.8nm,0.3s
SGDS                                 Lg    Lg          12 10 16.4
      3.4nm,0.4s
ARXS  Arharly            6.53 358    eP    Pg          12 08 54.9 -3.4
      8.2nm,0.3s
ARXS                                 eS    Sg          12 10 22.6 -0.2
      6.2nm,0.5s
ARXS  Arharly            6.53 358    Pg    Pg          12 08 54.9 -3.4
      8.2nm,0.3s
ARXS                                 Lg    Lg          12 10 22.6
      6.2nm,0.5s
```

*IDC **09** 12:09:13.5±1.2, 38°.40N×110°.08E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/49, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=43.8km s-min=16.7km az=62.0*

ISC 09 12:09:14.8±1.3, 38°.4N±0°.1×110°.1E±0°.3, h10km, n7, σ0°.68/7, mb3.8/6, Western Nei Mongol

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
SONM  Songino Array      9.77 345    Pn    Pn          12 11 35.1 -0.4
      0.3nm,0.3s,baz=169,slow=16,SNR=4.8
SONM                                 Lg    Lg          12 14 25.5
      0.3nm,0.3s,baz=155,slow=28,SNR=2.7
MKAR  Makanchi Array    22.00 301    P     P           12 14 08.6 -0.4
      1.8nm,0.9s,baz=101,slow=12,SNR=8.4
CMAR  Chiang Mai Arr    22.14 209    P     P           12 14 10.6 -0.1
      2.1nm,0.9s,baz=9.5,slow=9.5,SNR=12
ZALV  Zalesovo Beam     23.19 320    P     P           12 14 22.5 +0.9
      0.3nm,0.3s,baz=131,slow=15,SNR=1.8
KURBB Kurchatov Arra    25.37 309    P     P           12 14 42.7 +0.8
      2.8nm,0.9s,baz=105,slow=11,SNR=13
WRA   Warramunga Arr    62.38 154    P     P           12 19 37.7 -0.1
      1.6nm,0.8s,baz=345,slow=7.1,SNR=8.6
ASAR  Alice Springs     65.69 156    P     P           12 19 59.6 +0.1
      0.8nm,0.8s,baz=341,slow=5.8,SNR=7.2
```

*IDC **09** 12:14:57.3±0.9, 27°.73N×85°.51E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/50, mbtmp3.8/13, ML3.8/2, Error ellipse: s-maj=31.3km s-min=16.8km az=54.0*

ISC 09 12:14:58.8±0.9, 27°.7N±0°.2×85°.4E±0°.1, h10km, n14, σ0°.84/14, mb3.8/11, Nepal

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
CEP   Cherat            13.12 301    P     Pn          12 18 04.0 -1.3
CMAR  Chiang Mai Arr    15.46 124    Pn    Pn          12 18 36.2 -0.9
      0.1nm,0.3s,baz=310,slow=10,SNR=7.5
MKAR  Makanchi Array    19.20 353    P     P           12 19 22.1 -0.6
      0.3nm,0.3s,baz=175,slow=11,SNR=9.3
KURBB Kurchatov Arra    23.47 349    P     P           12 20 07.3 -1.1
      0.3nm,0.3s,baz=165,slow=9.8,SNR=5.2
SONM  Songino Array     25.88  34    P     P           12 20 30.2 -0.6
      0.7nm,0.4s,baz=206,slow=9.6,SNR=2.3
ZALV  Zalesovo Beam     26.20 359    P     P           12 20 33.6 +0.1
      0.5nm,0.3s,baz=174,slow=11,SNR=2.8
AKASG Malin Array Be    47.88 315    P     P           12 23 36.8 -0.1
      0.3nm,0.4s,baz=85,slow=6.1,SNR=5.3
FINES FINESS Array B    51.47 328    P     P           12 24 04.7 +0.7
      2.0nm,0.8s,baz=116,slow=6.5,SNR=3.8
ARCES ARCESS Array B    53.89 338    P     P           12 24 22.3 +0.4
      2.5nm,1.0s,baz=107,slow=8.2,SNR=8.7
PETK  Petropavlovsk-    57.86  43    P     P           12 24 51.6 +1.0
      1.0nm,0.8s,baz=261,slow=8.6,SNR=2.3
WRA   Warramunga Arr    66.96 130    P     P           12 25 51.5 -0.4
      0.9nm,0.6s,baz=323,slow=6.5,SNR=12
ASAR  Alice Springs     69.25 133    P     P           12 26 06.0 -0.2
      0.5nm,0.6s,baz=318,slow=6.4,SNR=11
ESDC  Sonseca Array     72.46 306    P     P           12 26 26.3 +0.6
      0.3nm,0.6s,baz=54,slow=7.4,SNR=2.2
TORD  Torodi Ar. Bea    78.54 279    P     P           12 27 02.0 +1.1
      0.4nm,0.6s,baz=64,slow=6.9,SNR=2.3
```

*NOU **09** 12:29:18.1, 37°.04S×176°.88E, h317km, ML3.9, North Island, New Zealand*

WEL 09 12:29:25.8±1.1, 37°.S±8°×17°.7E±°, h249km±9km, M3.1/38, MLv3.1/38, Error ellipse: s-maj=0.0km s-min=0.0km az=30.7, North Island

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
TGRZ  Tauranga           0.71 215    P     Pn          12 29 59.8 +0.5
OPRZ  Ohinepanea         0.71 194    P     Pn          12 29 59.6 +0.2
WHRZ  Whale Island       0.72 168    P     Pn          12 30 00.9 +1.5
MARZ  Manawahe           0.84 186    P     Pn          12 30 01.0 +1.1
KUZ   Kuaotunu           0.94 295    P     Pn          12 30 00.4  0.0
KARZ  Kaharoa            0.97 206    P     Pn          12 30 00.8 +0.3
HAZ   Te Kaha            1.00 127    P     Pn          12 30 00.5 -0.2
HAZ                                  S     S           12 30 28.7 +0.5
OMRZ  Omania             1.01 199    P     Pn          12 30 01.3 +0.5
NGRZ  Ngongotaha         1.06 206    P     Pn          12 30 01.9 +0.7
RUGZ  Raukumara Rang     1.08 139    P     Pn          12 30 00.7 -0.7
RUGZ                                 S     S           12 30 28.9 -0.5
URZ   Urewera            1.14 167    P     Pn          12 30 01.1 -0.4
URZ                                  S     S           12 30 30.3 +0.6
TOZ   Tahuroa Road       1.17 240    P     Pn          12 30 02.4 +0.6
RRRZ  Republican Roa     1.20 190    P     Pn          12 30 02.0 +0.1
PKGZ  Pakihiroa          1.27 126    P     Pn          12 30 02.9 +0.4
PKGZ                                 S     S           12 30 32.8 +1.5
MXZ   Matakaoa Point     1.28 109    P     Pn          12 30 02.6 +0.1
MXZ                                  S     S           12 30 30.5 -0.8
HRRZ  Handcock Road      1.30 197    P     Pn          12 30 03.0 +0.4
GRRZ  Galatos Road       1.31 204    P     Pn          12 30 03.2 +0.5
MWZ   Matawai            1.32 154    P     Pn          12 30 02.7 -0.1
MUGZ  Murupara           1.32 180    P     Pn          12 30 02.7 -0.1
WIAZ  Waiheke Island     1.36 285    P     Pn          12 30 03.1  0.0
PRRZ  Plateau Road       1.38 193    P     Pn          12 30 03.2 +0.1
GRZ   Great Barrier      1.39 310    P     Pn          12 30 02.8 -0.5
ALRZ  Allen Road         1.45 194    P     Pn          12 30 03.7  0.0
WPRZ  Whakapapatarin     1.45 199    P     Pn          12 30 03.9 +0.2
WMGZ  Waiomatatini S     1.46 118    P     Pn          12 30 04.2 +0.5
WMGZ                                 S     S           12 30 34.3 +0.7
RTZ   Ruatahuna          1.47 174    P     Pn          12 30 03.7 -0.2
PUZ   Puketiti           1.49 128    P     Pn          12 30 04.3 +0.3
ETAZ  East Tamaki Re     1.49 277    P     Pn          12 30 04.1 +0.1
TLZ   Tolley Road        1.53 220    P     Pn          12 30 04.8 +0.5
KUTZ  Kaahu Road         1.54 209    P     Pn          12 30 04.8 +0.5
TKGZ  Te Karaka          1.54 147    P     Pn          12 30 04.6 +0.3
MBAZ  Motutapu North     1.55 284    P     Pn          12 30 04.6 +0.2
SNGZ  Shannon Statio     1.69 165    P     Pn          12 30 05.7 +0.2
MTHZ  Maungataniwha      1.70 178    P     Pn          12 30 05.4 -0.2
MRHZ  Matea Rd           1.70 190    P     Pn          12 30 05.3 -0.4
AWAZ  Awhitu Peninsu     1.71 272    P     Pn          12 30 05.6 -0.1
RIGZ  Rimuhau            1.74 154    P     Pn          12 30 06.3 +0.3
CNGZ  Carnagh Statio     1.75 140    P     Pn          12 30 06.5 +0.6
WATZ  Wairara            1.76 208    P     Pn          12 30 06.2 +0.1
RAHZ  Arahi              1.78 172    P     Pn          12 30 06.5 +0.2
HATZ  Hinemaiaia         1.82 197    P     Pn          12 30 06.3 -0.4
RATZ  Rangitukua         1.89 205    P     Pn          12 30 05.9 -1.3
NMHZ  Naumai             1.94 179    P     Pn          12 30 08.0 +0.3
WHHZ  Waihua             1.96 170    P     Pn          12 30 07.8  0.0
RITZ  Rihia Road         1.96 201    P     Pn          12 30 08.0 +0.1
PRGZ  Paritu Road        1.97 154    P     Pn          12 30 08.5 +0.6
KNZ   Kokohu             2.00 160    P     Pn          12 30 07.7 -0.3
BKZ   Black Stump Fm     2.02 186    P     Pn          12 30 07.7 -0.8
HIZ   Hauiti             2.04 228    P     Pn          12 30 08.7 +0.1
ARHZ  Aropaoanui         2.12 175    P     Pn          12 30 09.1 -0.1
MHGZ  Mahia Peninsul     2.19 156    P     Pn          12 30 10.2 +0.3
TWVZ  Taurewa            2.19 208    P     Pn          12 30 09.5 -0.6
OTVZ  Oturere            2.19 203    P     Pn          12 30 09.7 -0.4
SNVZ  South Ngauruho     2.22 203    P     Pn          12 30 09.8 -0.6
KWHZ  Kaweka Forest      2.29 187    P     Pn          12 30 10.2 -0.7
MCHZ  McNeill Hill       2.29 182    P     Pn          12 30 10.6 -0.3
TUVZ  Tukino             2.29 202    P     Pn          12 30 10.4 -0.7
WCZ   Waipu Caves        2.30 301    P     Pn          12 30 10.3 -0.8
FWVZ  Far West T-bar     2.31 204    P     Pn          12 30 10.4 -0.9
WHVZ  Whangaehu Hut      2.33 203    P     Pn          12 30 10.7 -0.7
TRVZ  Turoa              2.35 204    P     Pn          12 30 11.1 -0.7
MOVZ  Moawhango          2.39 199    P     Pn          12 30 10.6 -1.3
BHHZ  Black Hill Sta     2.40 193    P     Pn          12 30 10.9 -1.1
```

PKVZ	Pokaka	2.41 207	P	Pn	12 30 11.4	-0.8
MTVZ	Mangateitei	2.46 204	P	Pn	12 30 11.6	-1.0
KRHZ	Kereru	2.51 187	P	Pn	12 30 11.9	-1.2
CKHZ	Cape Kidnapper	2.51 175	P	Pn	12 30 12.3	-0.8
VRZ	Vera Road	2.53 218	P	Pn	12 30 13.1	-0.2
KAHZ	Kahuranaki	2.64 178	P	Pn	12 30 13.6	-0.8
PNHZ	Pukenui	2.79 189	P	Pn	12 30 14.3	-1.7
PXZ	Pawanui	2.88 179	P	Pn	12 30 15.3	-1.5
WAZ	Wanganui	2.96 208	P	Pn	12 30 16.4	-1.3
TSZ	Takapari Road	2.97 192	P	Pn	12 30 16.0	-2.0
PKE	Pukeiti	3.00 226	P	Pn	12 30 18.4	+0.2
DVHZ	Dannevirke	3.18 188	P	Pn	12 30 18.0	-2.2
OUZ	Omahuta	3.22 306	P	Pn	12 30 19.0	-1.6
OHWZ	Ohakea	3.26 200	P	Pn	12 30 19.4	-1.5
ANWZ	Angora Road	3.31 184	P	Pn	12 30 19.5	-2.1
POWZ	Post Office Ro	3.33 193	P	Pn	12 30 19.5	-2.3
PRWZ	Pori Road	3.46 190	P	Pn	12 30 21.3	-1.9
BFZ	Birch Farm	3.55 187	P	Pn	12 30 21.9	-2.4
MRZ	Mangatainoka R	3.63 195	P	Pn	12 30 22.1	-3.1
TIWZ	Tintock	3.69 191	P	Pn	12 30 23.5	-2.3
HOWZ	Holdsworth Sta	3.87 194	P	Pn	12 30 24.6	-3.4
OGWZ	Otaki Gorge	3.87 198	P	Pn	12 30 24.8	-3.1
KIW	Kapiti Island	3.98 201	P	Pn	12 30 25.8	-3.4
TMWZ	Te Maipa	4.01 190	P	Pn	12 30 26.8	-2.9
TMWZ			S	S	12 31 12.8	-7.6
MTW	Mount Morrison	4.12 194	P	Pn	12 30 27.3	-3.6
CAW	Cannon Point	4.17 198	P	Pn	12 30 28.0	-3.5
DUWZ	D'Urville Isla	4.27 211	P	Pn	12 30 28.9	-3.8
TRWZ	Traveller	4.33 191	P	Pn	12 30 30.3	-3.0
TRWZ			S	S	12 31 20.7	-6.4
PAWZ	Paruwai Farm	4.35 194	P	Pn	12 30 30.0	-3.7
WEL	Wellington	4.41 200	P	Pn	12 30 31.1	-3.2
MSWZ	Moikau Station	4.42 195	P	Pn	12 30 30.6	-3.9
TCW	Tory Channel	4.50 205	P	Pn	12 30 31.7	-3.7
PLWZ	Palliser	4.57 195	P	Pn	12 30 32.3	-3.9
TUWZ	Tuamarina	4.80 206	P	Pn	12 30 34.9	-4.2
NNZ	Nelson	4.84 212	P	Pn	12 30 35.1	-4.5
QRZ	Quartz Range	4.94 221	P	Pn	12 30 35.7	-5.1
BSWZ	Blackbirch Sta	5.08 205	P	Pn	12 30 38.5	-3.9
THZ	Tophouse	5.49 212	P	Pn	12 30 42.4	-5.2
KHZ	Kahutara	5.82 204	P	Pn	12 30 47.6	-3.9
DSZ	Denniston Nort	5.99 218	P	Pn	12 30 47.8	-5.9
GVZ	Greta Valley S	6.48 205	P	Pn	12 30 55.2	-4.6
LTZ	Lake Taylor	6.60 210	P	Pn	12 30 56.1	-5.3
INZ	Inchbonnie	6.91 215	P	Pn	12 30 59.6	-5.6
OKCZ	Okains Bay	7.15 202	P	Pn	12 31 03.5	-4.7
OXZ	Oxford	7.15 209	P	Pn	12 31 02.2	-6.1
MQZ	McQueen's Vall	7.26 204	P	Pn	12 31 03.8	-5.8
RACZ	Rakaia	7.46 207	P	Pn	12 31 06.2	-5.9
MHCZ	Mount Hutt	7.51 210	P	Pn	12 31 06.7	-6.1
RPZ	Rata Peaks	7.87 212	P	Pn	12 31 11.5	-5.9
ARCZ	Arundel	8.02 210	P	Pn	12 31 12.9	-6.2
TMZ	Timaru	8.45 209	P	Pn	12 31 18.8	-5.8
ODZ	Otahua Downs	9.14 208	P	Pn	12 31 28.2	-5.2
JCZ	Jackson Bay	9.20 219	P	Pn	12 31 27.9	-6.3

*IDC **09** 12:41:45.3±1.1, 34.°46N×73.°55E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/41, mbtmp3.6/8, ML3.1/3, Error ellipse: s-maj=32.8km s-min=22.0km az=61.0*

ISC 09 12:41:48.5±1.1, 34.°5N±0.°1×73.°5E±0.°2, h22km, n8, σ1§10/8, mb3.8/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	13.94	26	Pn	Pn	12 45 05.9	+1.3
	0.1nm,0.3s,baz=208,slow=38,SNR=2.0						
KURBB	Kurchatov Arra	16.50	11	Pn	Pn	12 45 37.3	-1.1
	0.0nm,0.3s,baz=205,slow=10,SNR=2.1						
AKTO	Aktyubinsk	19.51	329	P	Pn	12 46 16.1	+0.7
	0.2nm,0.3s,baz=135,slow=16,SNR=6.4						
ZALV	Zalesovo Beam	20.99	19	P	P	12 46 28.5	-1.6
	0.8nm,0.4s,baz=218,slow=9.1,SNR=2.1						
CMAR	Chiang Mai Arr	27.72	119	P	P	12 47 35.6	+0.1
	0.8nm,0.7s,baz=298,slow=10,SNR=5.5						
TORD	Torodi Ar. Bea	67.75	271	P	P	12 52 45.0	+0.2
	0.4nm,0.5s,baz=42,slow=6.6,SNR=3.4						
WRA	Warramunga Arr	79.21	123	P	P	12 53 51.7	-0.5
	1.0nm,0.7s,baz=321,slow=4.8,SNR=14						
ASAR	Alice Springs	81.45	126	P	P	12 54 04.3	+0.2
	0.6nm,0.6s,baz=311,slow=5.0,SNR=9.8						

PRU 09 12:48:12.6±0.0, 51.°55N×16.°08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	Chvalec	0.96	181	*e*PG	Pb	12 48 32.0	-0.2
CHVC				*e*SG	Sg	12 48 44.4	+0.9
	comp=Z,9.4nm,0.4s						
UPC	Upice	1.04	182	*e*PG	Pg	12 48 32.3	-0.3
UPC				*e*SG	Sg	12 48 46.3	+0.2
	comp=Z,14nm,0.4s						
DPC	Dobruska-Polom	1.21	173	*e*PG	Pg	12 48 34.6	-1.2
DPC				*e*SG	Sg	12 48 50.7	-0.8
	comp=Z,7.0nm,0.4s						
BRG	Berggiesshubel	1.50	244	Pg	Pn	12 48 41.0	+0.2
BRG				Sg	Sn	12 49 01.4	+0.3
BRG				Amp		12 49 03.0	
	comp=Z,11nm,0.4s						
PRU	Pruhonice	1.84	213	*e*PG	Pb	12 48 46.8	-0.4
PRU				*e*SG	Sb	12 49 10.8	0.0
	comp=Z,4.6nm,0.4s						
CLL	Collm	1.94	264	*e*Pg	Pb	12 48 48.0	-0.8
CLL				*e*Sg	Sb	12 49 14.0	+0.4
MORC	Moravsky Berou	2.00	152	*e*PN	Pn	12 48 46.5	-1.2
MORC				*e*SG	Sb	12 49 14.6	-0.8
VRAC	Vranov	2.27	171	*e*PN	Pn	12 48 51.1	-0.2
VRAC				*e*SG	Sb	12 49 22.9	-0.1
NKC	Novy Kostel	2.65	242	*e*SG	Sg	12 49 39.0	+1.3
	comp=Z,12nm,0.8s						
KHC	Kasperske Hory	2.90	214	*e*SG	Sg	12 49 44.3	-1.5

BUC 09 12:50:48.6±0.1, 45.°99N×22.°80E, h8km±1km, ml1.8/9, 16C-16D, Error ellipse: s-maj=1.4km s-min=1.2km az=107.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEV	Deva	0.13	146	⇓P	Pg	12 50 50.5	-0.8
DEV				⇓S	Sg	12 50 53.5	+0.2
DEV	Deva	0.13	146	⇓P	Pg	12 50 50.5	-0.8
DEV				⇓S	Sg	12 50 53.5	+0.2
GZR	Gura Zlata	0.60	182	⇓P	Pg	12 50 59.9	-0.2
GZR				⇑S	Sg	12 51 08.9	+1.0
GZR	Gura Zlata	0.60	182	⇓P	Pg	12 50 59.9	-0.2
DRGR		0.81	356	⇓P	Pg	12 51 04.3	+0.2
DRGR				⇑S	Sb	12 51 15.5	-0.5
DRGR		0.81	356	⇓P	Pg	12 51 04.3	+0.2
SIRR	Siria	0.84	290	⇑P	Pg	12 51 05.0	+0.2
SIRR				⇓S	Sg	12 51 16.0	+0.4
SIRR	Siria	0.84	290	⇑P	Pg	12 51 05.0	+0.2
BZS	Buzias	0.91	246	⇓P	Pg	12 51 06.0	0.0
BZS				⇑S	Sg	12 51 18.2	+0.4
BZS	Buzias	0.91	246	⇓P	Pg	12 51 06.0	0.0
CJR	Cluj-Napoca	0.91	37	⇑P	Pg	12 51 06.3	+0.2
CJR				⇑S	Sb	12 51 19.2	+0.2
CJR	Cluj-Napoca	0.91	37	⇑P	Pg	12 51 06.3	+0.2
HERR	Herculane	1.14	194	⇑P	Pg	12 51 10.2	-0.3
HERR				⇓S	Sn	12 51 27.1	+0.4
HERR	Herculane	1.14	194	⇑P	Pg	12 51 10.2	-0.3
MDVR	Moldovita	1.43	213	⇑P	Pn	12 51 14.3	-0.6
MDVR				⇓S	Sg	12 51 35.1	+0.5
MDVR	Moldovita	1.43	213	⇑P	Pn	12 51 14.3	-0.6
MDVR	Moldovita	1.43	213	⇓S	Sg	12 51 35.1	+0.5
VOIR		1.67	108	⇑P	Pn	12 51 17.8	-0.5
VOIR				⇓S	Sb	12 51 40.5	-0.4
VOIR		1.67	108	⇑P	Pn	12 51 17.8	-0.5
MLR	Muntele Rosu	2.26	102	⇑P	Pn	12 51 26.5	+0.1
MLR				⇓S	Sn	12 51 55.9	+1.4
MLR	Muntele Rosu	2.26	102	⇑P	Pn	12 51 26.5	+0.1

WEL 09 13:07:25.1±0.4, 40.°S±3.°×17.°9E±.°, h33km, M3.3/41, ML3.5/41, MLv3.3/41, Error ellipse: s-maj=0.0km s-min=0.0km az=69.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	Mahia Peninsul	1.29	326	P	Pn	13 07 46.9	+0.2
MHGZ				S	Sn	13 08 03.1	+0.2
CKHZ	Cape Kidnapper	1.47	292	S	Sn	13 08 07.4	+0.1
PRGZ	Paritu Road	1.49	330	P	Pn	13 07 50.6	+1.0
PRGZ				S	Sn	13 08 07.1	-0.9
KNZ	Kokohu	1.50	323	P	Pn	13 07 49.6	-0.1
KNZ				S	Sn	13 08 06.5	-1.5
PXZ	Pawanui	1.53	277	P	Pn	13 07 51.1	+1.0
PXZ				S	Sn	13 08 08.7	-0.1
KAHZ	Kahuranaki	1.56	285	P	Pn	13 07 51.9	+1.3
KAHZ				S	Sn	13 08 10.4	+0.6
MCHZ	McNeill Hill	1.82	295	P	Pn	13 07 55.9	+1.8
MCHZ				S	Sn	13 08 18.0	+1.9
SNGZ	Shannon Statio	1.85	321	P	Pn	13 07 55.1	+0.6
SNGZ				S	Sn	13 08 16.3	-0.5
RAHZ	Arahi	1.88	313	P	Pn	13 07 56.0	+1.0
RAHZ				S	Sn	13 08 17.1	-0.4
NMHZ	Naumai	1.93	305	P	Pn	13 07 57.1	+1.4
NMHZ				S	Sn	13 08 19.0	+0.2
KRHZ	Kereru	1.98	286	P	Pn	13 07 57.3	+0.9
KRHZ				S	Sn	13 08 20.1	+0.1
BFZ	Birch Farm	2.03	256	P	Pn	13 07 57.1	+0.1
DVHZ	Dannevirke	2.04	267	P	Pn	13 07 58.0	+0.8
DVHZ				S	Sn	13 08 20.9	-0.7
PNHZ	Pukenui	2.05	278	P	Pn	13 07 58.3	+1.1
PNHZ				S	Sn	13 08 21.2	-0.5
MTHZ	Maungataniwha	2.06	311	P	Pn	13 07 58.2	+0.8
MTHZ				S	Sn	13 08 21.1	-1.0
BKZ	Black Stump Fm	2.09	300	P	Pn	13 07 58.9	+1.0
BKZ				S	Sn	13 08 22.3	-0.5
MWZ	Matawai	2.14	331	P	Pn	13 07 58.5	0.0
MWZ				S	Sn	13 08 21.3	-2.8
RTZ	Ruatahuna	2.16	318	P	Pn	13 07 59.6	+0.8
RTZ				S	Sn	13 08 24.1	-0.3
TSZ	Takapari Road	2.21	273	P	Pn	13 08 00.4	+0.9
TSZ				S	Sn	13 08 24.4	-1.3
PRWZ	Pori Road	2.21	261	P	Pn	13 08 00.2	+0.7
PRWZ				S	Sn	13 08 25.4	-0.3
BHHZ	Black Hill Sta	2.26	288	P	Pn	13 08 01.2	+1.0
BHHZ				S	Sn	13 08 26.2	-0.7
MRHZ	Matea Rd	2.33	306	P	Pn	13 08 02.6	+1.4
POWZ	Post Office Ro	2.35	265	P	Pn	13 08 02.5	+1.1
URZ	Urewera	2.38	325	P	Pn	13 08 02.0	+0.3
WMGZ	Waiomatatini S	2.42	352	P	Pn	13 08 01.9	-0.5
RUGZ	Raukumara Rang	2.43	338	P	Pn	13 08 01.9	-0.7
MOVZ	Moawhango	2.51	288	P	Pn	13 08 05.4	+1.7
MRZ	Mangatainoka R	2.52	259	P	Pn	13 08 03.7	-0.1
HAZ	Te Kaha	2.60	341	P	Pn	13 08 04.2	-0.6
HOWZ	Holdsworth Sta	2.62	254	P	Pn	13 08 04.7	-0.4
OTVZ	Oturere	2.67	292	P	Pn	13 08 07.8	+1.9
SNVZ	South Ngauruho	2.67	292	P	Pn	13 08 07.8	+1.8
WHVZ	Whangaehu Hut	2.67	290	P	Pn	13 08 07.8	+1.7
TRVZ	Turoa	2.70	289	P	Pn	13 08 08.2	+1.8
MTW	Mount Morrison	2.70	249	P	Pn	13 08 05.5	-0.8
FWVZ	Far West T-bar	2.71	290	P	Pn	13 08 08.5	+2.0
PAWZ	Paruwai Farm	2.83	245	P	Pn	13 08 07.2	-0.9
OGWZ	Otaki Gorge	2.86	257	P	Pn	13 08 08.3	0.0
OPRZ	Ohinepanea	2.97	323	P	Pn	13 08 09.7	-0.1
CAW	Cannon Point	3.00	252	P	Pn	13 08 09.8	-0.5
PLWZ	Palliser	3.03	243	P	Pn	13 08 09.7	-1.0
KIW	Kapiti Island	3.06	257	P	Pn	13 08 11.4	+0.3
TCW	Tory Channel	3.60	253	P	Pn	13 08 18.4	-0.2
DUWZ	D'Urville Isla	3.79	260	P	Pn	13 08 21.7	+0.5
TUWZ	Tuamarina	3.90	250	P	Pn	13 08 21.6	-1.1
BSWZ	Blackbirch Sta	4.04	247	P	Pn	13 08 23.5	-1.1
NNZ	Nelson	4.26	255	P	Pn	13 08 27.6	-0.1
ETAZ	East Tamaki Re	4.48	316	P	Pn	13 08 31.5	+0.9
QRZ	Quartz Range	4.84	261	P	Pn	13 08 35.4	-0.2
CTZ	Chatham Island	4.88	137	P	Pn	13 08 36.7	+0.7
CTZ				S	Sn	13 09 27.7	-3.7
LTZ	Lake Taylor	5.55	240	P	Pn	13 08 45.4	0.0
TMZ	Timaru	7.14	232	P	Pn	13 09 06.1	-1.1

*ATH **09** 13:14:38.3, 36.°48N×21.°56E, h37km±5km, ML3.4/20, Error ellipse: s-maj=5.8km s-min=1.9km az=42.0*
*THE **09** 13:14:40.8, 36.°55N×21.°63E, h21km±1km, ML3.5/6, Error ellipse: s-maj=1.4km s-min=0.7km az=240.0*

ISC 09 13:14:39.3±2.0, 36.°57N±0.°10×21.°42E±0.°05, h33km±4km, n59, σ1§70/77, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.42	39	P	Pb	13 14 48.4	-0.3
PYL				S	Sb	13 14 54.4	-0.8
	8μm,0.2s						
PYL	PYLOS	0.42	39	P	Pb	13 14 48.4	-0.3
PYL				S	Sb	13 14 54.4	-0.8
PYL				AML	AML	13 14 55.6	
	comp=N,19000μm,0.2s						
PYL				AML	AML	13 14 58.1	
	comp=E,14567μm,0.2s						
ITM	Ithomi	0.74	34	P	Pn	13 14 53.2	-0.2
ITM				S	Sb	13 15 02.9	-0.7
	comp=E,4μm,0.3s						
ITM	Ithomi	0.74	34	P	Pn	13 14 53.2	-0.2
ITM				S	Sb	13 15 02.9	-0.7
ITM				AML	AML	13 15 04.0	
	comp=E,7198μm,0.4s						
ITM				AML	AML	13 15 06.7	
	comp=N,8367μm,0.2s						
AMT	Artemida-Makis	0.99	14	P	Pb	13 14 58.7	+0.6
AMT				S	Sn	13 15 12.1	+2.3
	comp=N,4μm,0.7s						
AMT	Artemida-Makis	0.99	14	P	Pb	13 14 58.7	+0.6
AMT				AML	AML	13 15 20.4	
	comp=N,8429μm,0.7s						
AMT				AML	AML	13 15 22.9	
	comp=E,9022μm,0.4s						
VLX	Vlachokerasia	1.11	44	P	Pn	13 14 58.7	0.0
VLX				S	Sn	13 15 13.6	+0.7
	comp=E,4μm,0.5s						
VLX	Vlachokerasia	1.11	44	P	Pn	13 14 58.7	0.0
VLX				S	Sn	13 15 13.6	+0.7
VLX				AML	AML	13 15 21.5	
	comp=E,5906μm,0.6s						
VLX				AML	AML	13 15 21.5	
	comp=N,8371μm,0.5s						
LTHK	Lithakia	1.23	338	P	Pb	13 15 03.9	+1.9
LTHK	Lithakia	1.23	338	P	Pb	13 15 02.4	+0.4
VLI	Veliai	1.23	83	P	Pn	13 14 59.8	-0.4
VLI				S	Sn	13 15 15.1	-0.6
	comp=N,1μm,0.7s						
VLI	Veliai	1.23	83	P	Pn	13 14 59.8	-0.4
VLI				AML	AML	13 15 17.9	
	comp=E,2896μm,0.8s						
VLI				AML	AML	13 15 24.5	
	comp=N,2548μm,0.6s						
MNVA	Monemvasia	1.31	84	P	Pn	13 15 01.0	-0.3
KTHA	Kythira Island	1.36	103	P	Pn	13 15 01.3	-0.8
KTHA				S	Sn	13 15 17.4	-1.6
	comp=N,1μm,0.7s						
KTHA	Kythira Island	1.36	103	P	Pn	13 15 01.3	-0.8
KTHA				AML	AML	13 15 26.6	
	comp=N,1829μm,0.6s						
KTHA				AML	AML	13 15 28.4	
	comp=E,2952μm,0.6s						
DRO	Drossia	1.40	10	P	Pn	13 15 05.0	+2.4
DRO	Drossia	1.40	10	P	Pb	13 15 05.7	+0.7
DRO				AML	AML	13 15 33.7	
	comp=E,3172μm,0.5s						
DRO				AML	AML	13 15 40.7	
	comp=N,4407μm,0.5s						
VLMS	Volimes, Zakyn	1.44	336	P	Pb	13 15 06.5	+0.9
VLMS	Volimes, Zakyn	1.44	336	P	Pb	13 15 06.6	+0.9
VLMS				AML	AML	13 15 50.3	
	comp=E,1363μm,0.5s						
VLMS				AML	AML	13 15 55.0	
	comp=N,2361μm,0.7s						
RLS	Riolos of Patr	1.49	2	P	Pb	13 15 07.5	+1.1
RLS				AML	AML	13 15 46.4	
	comp=N,1654μm,0.6s						
RLS				AML	AML	13 15 51.4	
	comp=E,1158μm,0.8s						
KLV	Kalavryta, Ach	1.59	21	P	Pb	13 15 07.9	-0.2
KLV				AML	AML	13 15 36.7	
	comp=E,1118μm,0.7s						
KLV				AML	AML	13 15 43.6	
	comp=N,1008μm,1.1s						
KRND	KRANIDI	1.61	59	P	Pn	13 15 05.7	+0.3
KRND	KRANIDI	1.61	59	P	Pn	13 15 05.7	+0.3
KRND				AML	AML	13 15 31.9	
	comp=N,1903μm,0.7s						
KRND				AML	AML	13 15 35.4	
	comp=E,1689μm,0.6s						
ANKY	Antikythira Is	1.68	114	P	Pn	13 15 06.3	0.0
ANKY	Antikythira Is	1.68	114	P	Pn	13 15 06.3	0.0
ANKY				AML	AML	13 15 39.3	
	comp=E,1111μm,0.5s						
ANKY				AML	AML	13 15 43.0	
	comp=N,1103μm,0.8s						
LAKA	Lakka	1.73	15	P	Pb	13 15 10.7	+0.2
LAKA				AML	AML	13 15 45.6	
	comp=N,3894μm,0.6s						
LAKA				AML	AML	13 15 46.7	
	comp=E,3713μm,0.7s						
VLS	Valsamata	1.74	338	P	Pb	13 15 10.7	+0.1
THAL	Thalero	1.77	34	P	Pn	13 15 09.2	+1.6
THAL				AML	AML	13 15 45.0	
	comp=N,4051μm,0.6s						
THAL				AML	AML	13 15 45.2	
	comp=E,3794μm,0.5s						
DMLN	Damoulianata-K	1.86	334	P	Pb	13 15 12.7	-0.1
TRIZ	Trizonia	1.87	16	P	Pb	13 15 12.8	0.0
LOUT	Loutraki	1.89	41	P	Pn	13 15 10.1	+0.9
LOUT	Loutraki	1.89	41	P	Pn	13 15 10.1	+0.9
EFP	Efpalio	1.90	12	P	Pb	13 15 13.3	0.0
LTK	Loutraki	1.91	40	P	Pn	13 15 10.3	+0.7
LTK	Loutraki	1.91	40	P	Pn	13 15 10.3	+0.7
SERG	Sergoula	1.91	15	P	Pb	13 15 13.6	0.0
SERG				AML	AML	13 15 51.9	
	comp=N,792μm,0.4s						
SERG				AML	AML	13 15 52.5	
	comp=E,1027μm,0.4s						
FSK	Fiskardo	2.01	340	P	Pb	13 15 15.5	+0.3
FSK	Fiskardo	2.01	340	P	Pb	13 15 15.5	+0.3
PVO	Paravola	2.05	2	P	Pb	13 15 16.7	+0.8
ANX	Ano Chora	2.06	11	P	Pb	13 15 16.4	+0.2
ANX				AML	AML	13 16 02.0	
	comp=N,1171μm,0.7s						
ANX				AML	AML	13 16 03.3	
	comp=E,1453μm,0.6s						
NYDR	Nydri-Lefkada	2.22	345	P	Pb	13 15 19.1	+0.3
LKD2	Lefkada island	2.30	345	P	Pb	13 15 19.3	-0.9
TSLK	Tsoukalades, L	2.33	345	P	Pb	13 15 20.3	-0.5
IMMV	Iera Moni Meta	2.35	117	P	Pn	13 15 15.2	-0.5
EVR	Evrytania	2.37	7	P	Pb	13 15 20.2	-1.2
EVR				AML	AML	13 16 10.2	
	comp=E,497μm,1.1s						
EVR				AML	AML	13 16 17.3	
	comp=N,531μm,0.8s						
MAKR	Makrakomi, Fth	2.51	13	P	Pn	13 15 21.9	+4.1
MAKR				AML	AML	13 16 13.9	
	comp=N,457μm,0.8s						
MAKR				AML	AML	13 16 27.4	
	comp=E,370μm,1.7s						
VAM	Vamos	2.54	116	P	Pn	13 15 18.4	+0.2
VAM				AML	AML	13 16 12.1	
	comp=E,836μm,0.9s						
VAM				AML	AML	13 16 12.4	
	comp=N,954μm,0.8s						
IDI	Anoyia	3.10	113	AML	AML	13 16 16.4	
	comp=E,140μm,0.7s						
IDI				AML	AML	13 16 27.9	
	comp=N,176μm,0.9s						
STIP	Stip	5.16	6	*i* Pn	Pn	13 15 57.2	+3.0
STON	Ston	6.92	337	*e*Pn	Pn	13 16 19.7	+1.4
STON				Sn	Sn	13 17 32.1	-3.7
LSTV	Lastovo	7.11	332	*e*Pn	Pn	13 16 22.2	+1.2
LSTV				Sn	Sn	13 17 37.1	-3.4
HVAR	Hvar	7.63	331	*e*Pn	Pn	13 16 30.2	+2.2
HVAR				Sn	Sn	13 17 50.0	-3.3
RICI	Ricice	7.66	336	*e*Pn	Pn	13 16 30.0	+1.5
RICI				Sn	Sn	13 17 51.3	-2.8
ZIRJ	Zirje	8.34	330	*e*Pn	Pn	13 16 40.0	+2.1
ZIRJ				Sn	Sn	13 18 07.3	-3.5
KIJV	Kijevo	8.36	334	*e*Pn	Pn	13 16 40.5	+2.4
KIJV				Sn	Sn	13 18 08.7	-2.6
MORI	Morici	8.50	331	*e*Pn	Pn	13 16 42.9	+3.0
MORI				Sn	Sn	13 18 11.8	-2.9
DUGI	Dugi Otok	8.86	329	*e*Pn	Pn	13 16 47.3	+2.3
DUGI				Sn	Sn	13 18 20.5	-3.2
UDBI	Udbina	9.04	333	*e*Pn	Pn	13 16 50.8	+3.4
UDBI				Sn	Sn	13 18 25.7	-2.4
NVLJ	Novalja	9.41	330	*e*Pn	Pn	13 16 55.4	+2.9
NVLJ				Sn	Sn	13 18 34.4	-2.7

*IDC **09** 13:17:15.3±5.3, 17.°43S×174.°60W, h91km±36km, mb3.6/6, mb1 3.9/7, mb1mx3.6/30, mbtmp3.9/7, Error ellipse: s-maj=133.6km s-min=19.1km az=149.0*

ISC 09 13:17:17.1±1.9, 17.°0S±0.°6×174.°8W±0.°5, h100km, n11, σ1§15/9, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.23	44	P	Pn	13 18 20.4	+0.9
	7.1nm,0.3s,baz=229,slow=3.0,SNR=24						
AFI				S	Sn	13 19 06.5	-1.4
	43nm,0.3s,baz=48,slow=23,SNR=38						
WRA	Warramunga Arr	48.17	258	P	P	13 25 47.4	-0.3
	0.7nm,0.4s,baz=96,slow=7.0,SNR=21						
ASAR	Alice Springs	48.34	253	P	P	13 25 48.7	-0.2
	5.2nm,0.7s,baz=94,slow=7.2,SNR=132						
NVAR	Mina Array Bea	76.41	42	P	P	13 28 57.3	+1.3
	0.3nm,0.8s,baz=232,slow=10,SNR=2.0						
ANMO	Albuquerque	82.86	50	P	P	13 29 30.0	-1.0
	0.5nm,0.3s,baz=239,slow=5.9,SNR=3.2						
ILAR	Eielson Array	84.25	12	P	P	13 29 37.9	+0.8
	0.6nm,0.8s,baz=226,slow=6.3,SNR=7.4						
PDAR	Pinedale Array	84.35	42	P	P	13 29 38.5	0.0
	0.4nm,0.7s,baz=213,slow=3.1,SNR=2.6						
H03S2	Juan Fernandez	85.47	124	T	T	15 02 30.1	
	baz=250,slow=75,SNR=11	

	14nm,0.3s					
DJR	**Jarkent**	**5.71 172**	Pg	Pb	13 23 39.4	+3.3
	2.9nm,0.2s					
DJR			Lg	Lg	13 24 56.6	
	9.2nm,0.5s					
ARXS	**Arharly**	**5.81 186**	Pg	Pb	13 23 40.9	+3.2
	1.3nm,0.1s					
ARXS			Lg	Lg	13 24 59.1	
	26nm,0.4s					
BTLS	**Baital**	**5.86 214**	Pg	Pb	13 23 40.7	+2.1
	1.3nm,0.4s					
BTLS			Lg	Lg	13 24 58.4	
	4.3nm,0.3s					
CHKK	**Chushkaly**	**6.25 191**	Pg	Pb	13 23 49.7	+4.5
	1.6nm,0.1s					
CHKK			Lg	Lg	13 25 14.2	
	15nm,0.5s					
KUU	**Kurty**	**6.30 196**	Pg	Pb	13 23 49.5	+3.3
	1.8nm,0.1s					
KUU			Lg	Lg	13 25 13.2	
	13nm,0.3s					
KTBS	**Karatobe**	**6.43 193**	Pg	Pb	13 23 51.5	+3.2
	1.6nm,0.4s					
KTBS			Lg	Lg	13 25 17.3	
	22nm,0.4s					
KTMS	**Ketmen**	**6.64 169**	Pg	Pg	13 23 57.6	-5.2
	0.7nm,0.2s					
KTMS			Lg	Lg	13 25 27.7	
	4.2nm,0.4s					

INET ***09*** *13:25:41.0, 12.°83N×90.°54W, h15km, MW5.2*
UCR ***09*** *13:25:48.4±7.6, 13.°23N×90.°48W, h0km±24km, ML5.0, mb5.6(NEIC)*
SNET ***09*** *13:25:50.7±1.1, 13.°19N×90.°44W, h56km, ML5.2, mb5.1(NEIC)*
BJI ***09*** *13:25:54.0±0.0, 13.°40N×90.°20W, h43km, mB5.7/4, Ms5.7/15, Ms7 5.4/16*
GCG ***09*** *13:25:54.4±1.6, 13.°41N×90.°22W, h45km, MD5.0*
NEIC ***09*** *13:25:54.5±3.0, 13.°30N±0.°07×90.°24W±0.°06, h46km±5km, mb5.1/79, Ms_20 5.0/233, Mww5.6, Md5.2(SNET), Mwc5.6(GCMT), Error ellipse: s-maj=11.3km s-min=7.6km az=210.0*
IDC ***09*** *13:25:54.5±0.5, 13.°57N×89.°84W, h50km±3km, mb4.3/24, mb1 4.5/26, mb1mx4.4/36, mbtmp4.6/26, MS4.9/26, Ms1 4.9/26, ms1mx4.8/34, Error ellipse: s-maj=19.4km s-min=8.0km az=49.0*
MOS ***09*** *13:25:54.0±1.1, 13.°33N×90.°15W, h68km, mb5.2/17, MS5.0/11, Error ellipse: s-maj=16.2km s-min=8.1km az=109.6*
NEIC ***09*** *13:25:59, 12.°76N×90.°78W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}3.16; $M_{\theta\theta}$-2.13; $M_{\phi\phi}$-1.03; $M_{r\theta}$1.39; $M_{\theta\phi}$1.01; $M_{\phi r}$-0.91; Fault plane solution: $M_0$3.40000×10^{17} NP1:ϕ_s300.00000°, δ30.00000°, λ88.00000°. NP2:ϕ_s122.00000°, δ60.00000°, λ91.00000°. Principal axes: T 3.5937, Plg75.0000°, Azm35.0000°; N -0.4349, Plg1.0000°, Azm301.0000°; P -3.1588, Plg15.0000°, Azm211.0000°;*
GCMT ***09*** *13:26:05.5±0.1, 13.°10N±0.°01×90.°66W±0.°01, h27km, MW5.6/139, Moment Tensor Solution. s139,c254; s138,c268; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.21±.04; $M_{\theta\theta}$-1.88±.03; $M_{\phi\phi}$-0.33±.03; $M_{r\theta}$1.37±.06; $M_{\theta\phi}$0.92±.02; $M_{\phi r}$-1.37±.06; Best double couple: $M_0$2.97800×10^{17} NP1:ϕ_s282.00000°, δ27.00000°, λ67.00000°. NP2:ϕ_s128.00000°, δ66.00000°, λ101.00000°. Principal axes: T 2.9870, Plg68.0000°, Azm59.0000°; N -0.0240, Plg10.0000°, Azm303.0000°; P -2.9690, Plg20.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***09*** *13:26:06, 13.°02N×90.°56W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.10; $M_{\theta\theta}$-1.87; $M_{\phi\phi}$-0.23; $M_{r\theta}$1.49; $M_{\theta\phi}$0.93; $M_{\phi r}$-0.67; Fault plane solution: $M_0$2.74000×10^{17} NP1:ϕ_s294.00000°, δ27.00000°, λ90.00000°. NP2:ϕ_s114.00000°, δ63.00000°, λ90.00000°. Principal axes: T 2.6428, Plg72.0000°, Azm24.0000°; N 0.1851, Plg0.0000°, Azm114.0000°; P -2.8280, Plg18.0000°, Azm204.0000°;*
ISC 09 13:25:53.5±0.3,**13°28N**±0°.04×**90°28W**±0°.04,**h49**km±2km,
h49km:**pP-P**,**n828**,σ1§**21**/706,**mb5.0**/83,**MS5.0**/167,
6C-10D,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.85**	**49**	‖*iP*	**Pn**	**13 26 09.2**	**-0.2**
SBLS	**San Blas**	**0.85**	**49**	‖*iP*	**Pn**	**13 26 09.2**	**-0.2**
RTR	**El Retiro**	**0.87**	**45**	*eP*	**Pn**	**13 26 09.5**	**-0.2**
RTR	**El Retiro**	**0.87**	**45**	*eP*	**Pn**	**13 26 09.5**	**-0.2**
SNJE	**San Jose**	**0.88**	**48**	‖*iP*	**Pn**	**13 26 09.7**	**-0.1**
SNJE	**San Jose**	**0.88**	**48**	‖*iP*	**Pn**	**13 26 09.7**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.89**	**33**	*eP*	**Pn**	**13 26 09.5**	**-0.2**
SLOZ				*eP*	**Sn**	**13 26 24.3**	**+2.7**
JAYA	**Jayaque - finc**	**0.89**	**65**	‖*iP*	**Pn**	**13 26 09.3**	**-0.6**
JAYA				*eS*	**Sn**	**13 26 25.0**	**+3.0**
JAYA				IAML		13 26 41.5	
	comp=Z,92μm,0.4s						
JAYA	**Jayaque - finc**	**0.89**	**65**	‖*iP*	**Pn**	**13 26 09.3**	**-0.6**
JAYA				*eS*	**Sn**	**13 26 25.0**	**+3.0**
JAYA				IAML		13 26 41.5	
	comp=Z,92μm,0.4s						
LALI	**Alcalda de L**	**0.96**	**77**	*eP*	**Pn**	**13 26 09.7**	**-1.0**
LALI				*eS*	**Sn**	**13 26 25.0**	**+1.8**
LALI				IAML		13 26 50.7	
	comp=Z,19μm,0.5s						
LALI	**Alcalda de L**	**0.96**	**77**	*eP*	**Pn**	**13 26 09.7**	**-1.0**
LALI				*eS*	**Sn**	**13 26 25.0**	**+1.8**
LALI				IAML		13 26 50.7	
	comp=Z,19μm,0.5s						
UNIC	**Universidad Ca**	**1.00**	**46**	*eP*	**Pn**	**13 26 11.2**	**0.0**
UNIC				*eS*	**Sn**	**13 26 27.0**	**+2.7**
UNIC				IAML		13 26 28.6	
	comp=Z,23μm,0.2s						
UNIC	**Universidad Ca**	**1.00**	**46**	*eP*	**Pn**	**13 26 11.2**	**0.0**
UNIC				*eS*	**Sn**	**13 26 27.0**	**+2.7**
UNIC				IAML		13 26 28.6	
	comp=Z,23μm,0.2s						
CEDA	**San Andres**	**1.01**	**59**	*eP*	**Pn**	**13 26 11.2**	**-0.2**
CEDA				*eS*	**Sn**	**13 26 27.3**	**+2.8**
CEDA				IAML		13 26 54.4	
	comp=Z,72μm,0.4s						
CEDA	**San Andres**	**1.01**	**59**	*eP*	**Pn**	**13 26 11.2**	**-0.2**
CEDA				*eS*	**Sn**	**13 26 27.3**	**+2.8**
CEDA				IAML		13 26 54.4	
	comp=Z,72μm,0.4s						
PMON	**Piamonte**	**1.04**	**65**	*eP*	**Pn**	**13 26 11.4**	**-0.3**
PMON	**Piamonte**	**1.04**	**65**	*eP*	**Pn**	**13 26 11.4**	**-0.3**
MAGS	**Ministerio de**	**1.05**	**67**	*eP*	**Pn**	**13 26 12.0**	**+0.1**
BOQS	**Boqueron**	**1.08**	**65**	*eP*	**Pn**	**13 26 12.1**	**-0.3**
BOQS	**Boqueron**	**1.08**	**65**	*eP*	**Pn**	**13 26 12.1**	**-0.3**
SNET	**Serv Nac Est T**	**1.10**	**68**	*eP*	**Pn**	**13 26 12.2**	**-0.4**
SNET				IAML		13 26 51.3	
	comp=Z,38μm,0.4s						
SNET	**Serv Nac Est T**	**1.10**	**68**	*eP*	**Pn**	**13 26 12.2**	**-0.4**
SNET				IAML		13 26 51.3	
	comp=Z,38μm,0.4s						
SNET	**Serv Nac Est T**	**1.10**	**68**		**Pn**	**13 26 12.2**	**-0.4**
UEES	**Universidad Ev**	**1.10**	**67**	*eP*	**Pn**	**13 26 12.4**	**-0.2**
UEES	**Universidad Ev**	**1.10**	**67**	*eP*	**Pn**	**13 26 12.4**	**-0.2**
SEMO	**Seminario San**	**1.11**	**68**	*eP*	**Pn**	**13 26 12.6**	**-0.2**
UTEC	**Universidad Te**	**1.13**	**68**	*eP*	**Pn**	**13 26 12.9**	**-0.1**
UTEC	**Universidad Te**	**1.13**	**68**	*eP*	**Pn**	**13 26 12.9**	**-0.1**
TACO	**Tacachico**	**1.14**	**53**	*eP*	**Pn**	**13 26 13.2**	**+0.1**
TACO	**Tacachico**	**1.14**	**53**	*eP*	**Pn**	**13 26 13.2**	**+0.1**
PCG	**Pacaya**	**1.15**	**344**	*eP*	**Pn**	**13 26 13.2**	**-0.3**
IGN	**Direccin Gen**	**1.17**	**68**	*eP*	**Pn**	**13 26 13.7**	**+0.2**
IGN	**Direccin Gen**	**1.17**	**68**	*eP*	**Pn**	**13 26 13.7**	**+0.2**
AEIL	**Aeropuerto Ilo**	**1.21**	**70**	*eP*	**Pn**	**13 26 14.3**	**+0.3**
AEIL				IAML		13 26 53.0	
	comp=Z,47μm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.21**	**70**	*eP*	**Pn**	**13 26 14.3**	**+0.3**
AEIL				IAML		13 26 53.0	
	comp=Z,47μm,0.3s						
LFU	**La Fuente**	**1.23**	**68**	*eP*	**Pn**	**13 26 14.7**	**+0.4**
LFU	**La Fuente**	**1.23**	**68**	*eP*	**Pn**	**13 26 14.7**	**+0.4**
LFRS	**El Faro**	**1.24**	**74**	*eP*	**Pn**	**13 26 13.8**	**-0.7**
LFRS	**El Faro**	**1.24**	**74**	*eP*	**Pn**	**13 26 13.8**	**-0.7**
FUG	**Fuego 3**	**1.28**	**335**	*eP*	**Pn**	**13 26 14.5**	**-0.7**
SJTE	**Alcalda de S**	**1.29**	**75**	*eP*	**Pn**	**13 26 14.7**	**-0.5**
SJTE	**Alcalda de S**	**1.29**	**75**	*eP*	**Pn**	**13 26 14.7**	**-0.5**
LBRS	**Las Brisas**	**1.29**	**69**	*eP*	**Pn**	**13 26 15.1**	**-0.1**
LBRS	**Las Brisas**	**1.29**	**69**	*eP*	**Pn**	**13 26 15.1**	**-0.1**
NBG	**Las Nubes**	**1.30**	**357**	*eP*	**Pn**	**13 26 17.0**	**+1.5**
PAVA	**Las Pavas**	**1.38**	**72**	*eP*	**Pn**	**13 26 16.9**	**+0.4**
PAVA	**Las Pavas**	**1.38**	**72**	*eP*	**Pn**	**13 26 16.9**	**+0.4**
COEG	**Centro de Oper**	**1.41**	**76**	*eP*	**Pn**	**13 26 16.7**	**-0.1**
COEG				IAML		13 27 01.8	
	comp=Z,42μm,0.5s						
COEG	**Centro de Oper**	**1.41**	**76**	*eP*	**Pn**	**13 26 16.7**	**-0.1**
COEG				IAML		13 27 01.8	
	comp=Z,42μm,0.5s						
MTO3	**Montecristo**	**1.43**	**39**	*eP*	**Pn**	**13 26 18.1**	**+0.9**
MTO3	**Montecristo**	**1.43**	**39**	*eP*	**Pn**	**13 26 18.1**	**+0.9**
MTO3	**Montecristo**	**1.43**	**39**		**Pn**	**13 26 18.1**	**+0.9**
TECO	**Alcaldia de Te**	**1.48**	**80**	*eP*	**Pn**	**13 26 17.9**	**+0.1**
UESV	**Universidad de**	**1.50**	**76**	*eP*	**Pn**	**13 26 18.5**	**+0.5**
UESV	**Universidad de**	**1.50**	**76**	*eP*	**Pn**	**13 26 18.5**	**+0.5**
ESQI	**Esquipulas**	**1.57**	**36**	*eP*	**Pn**	**13 26 20.1**	**+1.1**
ESQI	**Esquipulas**	**1.57**	**36**		**Pn**	**13 26 20.1**	**+1.1**
PQSS	**Presa 15 de Se**	**1.71**	**78**	*eP*	**Pn**	**13 26 20.9**	**+0.1**
COEB	**Comit de Eme**	**1.72**	**83**	*eP*	**Pn**	**13 26 20.5**	**-0.6**
COEB				IAML		13 27 06.3	
	comp=Z,19μm,0.5s						
COEB	**Comit de Eme**	**1.72**	**83**	*eP*	**Pn**	**13 26 20.5**	**-0.6**
COEB				IAML		13 27 06.3	
	comp=Z,19μm,0.5s						
TECA	**Tecapa**	**1.75**	**83**	*eP*	**Pn**	**13 26 21.0**	**-0.5**
TECA	**Tecapa**	**1.75**	**83**	*eP*	**Pn**	**13 26 21.0**	**-0.5**
RTAL	**Retalhuleu**	**1.85**	**312**		**Pn**	**13 26 20.6**	**-2.1**
LCY	**Lacayo**	**1.94**	**86**	*eP*	**Pn**	**13 26 24.2**	**+0.1**
LCY	**Lacayo**	**1.94**	**86**	*eP*	**Pn**	**13 26 24.2**	**+0.1**
VSM	**San Miguel**	**1.96**	**85**	*eP*	**Pn**	**13 26 24.6**	**+0.1**
VSM	**San Miguel**	**1.96**	**85**	*eP*	**Pn**	**13 26 24.6**	**+0.1**
JUCU	**Jucuarjn**	**1.98**	**91**	IAML		13 27 12.2	
	comp=Z,18μm,0.4s						
JUCU	**Jucuarjn**	**1.98**	**91**	IAML		13 27 12.2	
	comp=Z,18μm,0.4s						
CNRM	**Centro Naciona**	**2.07**	**84**	*eP*	**Pn**	**13 26 26.7**	**+1.0**
CNRM	**Centro Naciona**	**2.07**	**84**	*eP*	**Pn**	**13 26 26.7**	**+1.0**
LCND	**La Caada**	**2.33**	**89**	*eP*	**Pn**	**13 26 29.7**	**+0.4**
LCND				IAML		13 27 24.8	
	comp=Z,17μm,0.7s						
LCND	**La Caada**	**2.33**	**89**	*eP*	**Pn**	**13 26 29.7**	**+0.4**
LCND				IAML		13 27 24.8	
	comp=Z,17μm,0.7s						
HUEH	**Huehuetenango**	**2.35**	**330**	*eP*	**Pn**	**13 26 30.7**	**+0.9**
HUEH	**Huehuetenango**	**2.35**	**330**		**Pn**	**13 26 31.0**	**+1.2**
TGUH	**Tegucigalpa,Un**	**3.03**	**75**	*eP*	**Pn**	**13 26 39.5**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.03**	**75**	*eP*	**Pn**	**13 26 39.5**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.03**	**75**		**Pn**	**13 26 39.4**	**+0.4**
CRIN	**San Cristobal**	**3.20**	**100**		**Pn**	**13 26 41.5**	**0.0**
CCIG	**Comitan**	**3.48**	**329**		**Pn**	**13 26 46.8**	**+1.5**
CNGN	**Cerro Negro**	**3.58**	**102**		**Pn**	**13 26 47.0**	**+0.5**
PETF	**Flores**	**3.64**	**6**		**Pn**	**13 26 49.4**	**+2.1**
ACON	**Acoyapa**	**5.16**	**104**		**Pn**	**13 27 06.8**	**-1.3**
HZTE	**Horizontes, Gu**	**5.25**	**119**	*eP*	**Pn**	**13 27 10.1**	**+0.7**
HZTE	**Horizontes, Gu**	**5.25**	**119**		**Pn**	**13 27 10.0**	**+0.7**
GBS3	**Finca Las Img**	**5.34**	**117**	*eP*	**Pn**	**13 27 11.2**	**+0.6**
LAPC	**Finca la Perla**	**5.36**	**117**	*eP*	**Pn**	**13 27 11.1**	**+0.1**
GB1A	**Borinquen Arri**	**5.37**	**117**	*eP*	**Pn**	**13 27 11.4**	**+0.3**
BUEV	**Buena Vista**	**5.37**	**117**	*eP*	**Pn**	**13 27 11.7**	**+0.5**
BUAI	**Buenos Aires**	**5.40**	**116**	*eP*	**Pn**	**13 27 13.2**	**+1.7**
GPS2	**Hotel Rincn d**	**5.44**	**117**	*eP*	**Pn**	**13 27 13.0**	**+0.9**
SAJU	**San Juanillo,**	**5.50**	**125**	*eP*	**Pn**	**13 27 12.2**	**-0.7**
GUAI	**GUAI**	**5.55**	**122**	*eP*	**Pn**	**13 27 13.0**	**-0.6**
COLC	**Colonia**	**5.61**	**117**	*eP*	**Pn**	**13 27 15.3**	**+0.9**
HORNC	**Hornillas**	**5.61**	**117**	*eP*	**Pn**	**13 27 14.4**	**0.0**
GRZA	**Playa Garza**	**5.65**	**126**	*eP*	**Pn**	**13 27 14.0**	**-0.9**
DUNO	**Dulce Nombre,**	**5.67**	**124**		**Pn**	**13 27 15.6**	**+0.4**
ACAL	**Aguas Claras**	**5.77**	**117**	*eP*	**Pn**	**13 27 17.7**	**+1.0**
CMIG	**Matias Romero**	**5.84**	**311**	P	**Pn**	**13 27 17.0**	**-0.5**
	comp=Z,4.6nm,0.3s,baz=267,slow=22,SNR=25						
CMIG				S	**Sn**	**13 28 23.6**	**+0.5**
	comp=Z,30nm,0.3s,baz=117,slow=18,SNR=3.9						
JTS	**Las Juntas de**	**6.01**	**119**	P	**Pn**	**13 27 19.3**	**-0.6**
	comp=Z,4.3nm,0.3s,baz=314,slow=7.8,SNR=13						
JTS				S	**Sn**	**13 28 26.6**	**-0.8**
	baz=291,slow=19,SNR=0.7						
JTS				Lg	Lg	13 28 55.8	
	comp=Z,12nm,0.3s,baz=151,slow=17,SNR=7.6						
JTS	**Las Juntas de**	**6.01**	**119**	*i* P	**Pn**	**13 27 20.3**	**+0.5**
JTS	**Las Juntas de**	**6.01**	**119**	*eP*	**Pn**	**13 27 19.8**	**-0.1**
JTS	**Las Juntas de**	**6.01**	**119**	Pn	**Pn**	**13 27 20.1**	**+0.3**
ARE1	**Arenal 1**	**6.12**	**117**	*eP*	**Pn**	**13 27 22.6**	**+1.1**
CEDE	**Laguna Cedeo**	**6.13**	**116**	*eP*	**Pn**	**13 27 21.4**	**-0.1**
CEDE				*eP*	**Pn**	**13 27 22.0**	**+0.5**
FORC	**Fortuna**	**6.17**	**116**	*eP*	**Pn**	**13 27 22.8**	**+0.8**
JACO	**JACO, Garabito**	**6.58**	**123**	*eP*	**Pn**	**13 27 28.2**	**+0.5**
JACO	**JACO, Garabito**	**6.58**	**123**		**Pn**	**13 27 28.4**	**+0.7**
LCR2	**La Lucha 2**	**7.09**	**119**	*eP*	**Pn**	**13 27 36.7**	**+1.8**
CVTR	**Volcan Turrial**	**7.17**	**116**	*eP*	**Pn**	**13 27 38.3**	**+2.2**
RIMA	**Rio Macho**	**7.20**	**118**	*eP*	**Pn**	**13 27 37.0**	**+0.7**
RIMA	**Rio Macho**	**7.20**	**118**		**Pn**	**13 27 37.2**	**+0.8**
CDM	**Cerro de Muert**	**7.39**	**119**	*eP*	**Pn**	**13 27 41.0**	**+1.9**
SRBA	**San Rafael, Bu**	**7.89**	**120**	*eP*	**Pn**	**13 27 46.9**	**+1.1**
SRBA	**San Rafael, Bu**	**7.89**	**120**		**Pn**	**13 27 46.1**	**+0.3**
EDPN	**Palmar Norte**	**7.96**	**122**	*eP*	**Pn**	**13 27 48.6**	**+2.0**
DRK0	**Durika**	**7.97**	**119**	*eP*	**Pn**	**13 27 48.0**	**+1.0**
DRK0	**Durika**	**7.97**	**119**		**Pn**	**13 27 48.2**	**+1.2**
EDBA	**Buenos Aires**	**8.00**	**120**	*eP*	**Pn**	**13 27 50.8**	**+3.6**
LPLA	**Las Palmas La**	**8.29**	**120**	*eP*	**Pn**	**13 27 52.5**	**+1.1**
PTJ1	**Puerto Jimnez**	**8.32**	**124**	*eP*	**Pn**	**13 27 54.5**	**+3.0**
PIRO	**Carate, Puerto**	**8.37**	**125**	*eP*	**Pn**	**13 27 53.8**	**+1.6**
EDSV	**San Vito**	**8.43**	**121**	*eP*	**Pn**	**13 27 55.4**	**+2.2**
CCOL	**Caracol de Cor**	**8.66**	**123**	*eP*	**Pn**	**13 27 59.9**	**+3.7**
TLIG	**Tlapa**	**9.05**	**299**		**Pn**	**13 28 03.6**	**+1.9**
MTDJ	**Mount Denham**	**13.22**	**67**	Pn	**Pn**	**13 29 00.6**	**+1.9**
SJCC	**San Jacinto, C**	**15.17**	**101**	P	**P**	**13 29 27.6**	**-1.4**
SJCC				IAmb	IAmb	13 29 45.1	
	comp=Z,101nm,0.8s						
SJCC	**San Jacinto, C**	**15.17**	**101**	*eP*	**P**	**13 29 28.8**	**-0.2**
DBBC	**Dabeiba**	**15.18**	**113**	*eP*	**Pn**	**13 29 23.1**	**-1.9**
PIZC	**Pizarro, Choco**	**15.19**	**122**	*eP*	P	13 29 38.2	+9.0
CBOC	**Ciudad Bolivar**	**15.88**	**116**	*eP*	**P**	**13 29 37.1**	**+0.1**
PLMC	**San Jos del P**	**16.13**	**120**	*eP*	**Pn**	**13 29 36.2**	**-0.8**
HELC	**Santa Helena**	**16.15**	**114**	*eP*	**Pn**	**13 29 38.4**	**+0.7**
SMLC	**San Martn de**	**16.52**	**104**	*eP*	**P**	**13 29 49.4**	**+5.5**
YOTC	**Yotoco, Valle**	**16.58**	**123**	*eP*	**P**	**13 29 46.5**	**+1.8**
GUY2C	**Guyana, Caldas**	**16.75**	**117**	*eP*	**Pn**	**13 29 45.5**	**+0.3**
DWPF	**Disney Wildern**	**16.91**	**28**	P	**Pn**	**13 29 47.1**	**+0.5**
	baz=211						
NORC	**Norcasia**	**17.02**	**115**	*eP*	**P**	**13 29 55.2**	**+5.7**
BBAC	**Balboa, Cauca**	**17.07**	**130**	*eP*	**P**	**13 29 53.0**	**+2.8**
ANIL	**Santa Ana**	**17.09**	**119**	*eP*	**P**	**13 29 52.8**	**+2.3**
TOLC	**Tolima**	**17.11**	**119**	*eP*	**P**	**13 29 52.7**	**+1.9**
POPC	**Popayan, Colom**	**17.18**	**127**	*eP*	**Pn**	**13 29 47.4**	**-2.9**
833A	**Chaparral WMA,**	**17.21**	**332**	P	**Pn**	**13 29 50.4**	**0.0**
	baz=149,SNR=6.4						
OCAC	**Ocana**	**17.40**	**105**	*eP*	**P**	**13 29 56.8**	**+3.0**
OTAV	**Otavalo**	**17.48**	**137**	*eP*	P	13 30 02.8	+7.8
SOTA	**Rioblanco**	**17.48**	**128**	*eP*	**Pn**	**13 29 51.1**	**-3.3**
PCON	**Cinco Dias**	**17.52**	**127**	*eP*	**P**	**13 30 01.0**	**+5.4**
ORTC	**Ortega, Tolima**	**17.53**	**121**	*eP*	**P**	**13 29 57.3**	**+2.2**
GCUF	**Volcan Galeras**	**17.54**	**132**	*eP*	**Pn**	**13 29 53.9**	**-1.2**
MARP	**Paez Belalcaza**	**17.56**	**125**	*eP*	**P**	**13 29 57.8**	**+2.2**
TULM	**Tulcn-Chalpat**	**17.58**	**134**	*eP*	P	13 30 04.0	+7.9
553A	**Crawfordville**	**17.68**	**17**	P	**P**	**13 29 59.3**	**+2.7**
553A				IAmb	IAmb	13 30 17.1	
	comp=Z,208nm,0.8s						
ROSC	**El Rosal**	**17.84**	**117**	P	**Pn**	**13 29 55.4**	**-3.4**
	comp=Z,2.1nm,0.3s,baz=250,slow=22,SNR=1.7						
ROSC				LR	LR	13 38 42.1	
	comp=Z,4μm,19.0s,baz=350,slow=44						
ROSC	**El Rosal**	**17.84**	**117**	*eP*	**P**	**13 29 59.5**	**+0.6**
URIC	**Uribia, Colomb**	**17.93**	**93**	*eP*	P	13 30 09.2	+10
PRAC	**Prado**	**17.94**	**121**	*eP*	**P**	**13 30 00.6**	**+1.0**
BRAL	**Brewton**	**18.05**	**9**	P	**Pn**	**13 30 02.8**	**+2.1**
	baz=190						
BARC	**Barichara**	**18.10**	**110**	*eP*	**Pn**	**13 30 02.6**	**+0.8**
PAMC	**Pamplona, Colo**	**18.27**	**107**	*eP*	**P**	**13 30 02.6**	**-1.2**
GARC	**Garzon, Huila**	**18.32**	**126**	*eP*	Pn	13 30 12.4	+8.0
CHIC	**Chingaza**	**18.46**	**116**	*eP*	**Pn**	**13 30 06.7**	**+0.4**
RUSC	**La Rusia**	**18.47**	**112**	*eP*	Pn	13 30 16.6	+10
435B	**Jarrell**	**18.68**	**340**	P	**P**	**13 30 07.9**	**+0.3**
	baz=157						
NATX	**Nacogdoches**	**18.83**	**348**	P	**Pn**	**13 30 09.8**	**-0.3**
	baz=167						
VBMS	**Vicksburg**	**18.85**	**359**	P	**Pn**	**13 30 10.8**	**+0.4**
	baz=179						
TIGA	**Tifton**	**19.09**	**18**	P	**Pn**	**13 30 13.2**	**-0.2**
	baz=200						
JCT	**Junction City**	**19.24**	**334**	P	**Pn**	**13 30 15.1**	**0.0**
	baz=151,SNR=8.1						
MACC	**Macarena, Meta**	**19.67**	**123**	*e*P	**P**	**13 30 15.8**	**-2.8**
WHTX	**Lake Whitney,**	**19.75**	**342**	P	**P**	**13 30 19.1**	**-0.2**
	baz=159,SNR=9.4						
WHTX	**Lake Whitney,**	**19.75**	**342**	P	**P**	**13 30 18.8**	**-0.5**
WHTX				IAmb	IAmb	13 30 38.6	
	comp=Z,107nm,0.7s						
SDV	**Santo Domingo**	**19.77**	**101**	LR	LR	13 39 42.5	
	comp=Z,2μm,18.9s,baz=286,slow=43						
LRAL	**Lakeview Retre**	**19.89**	**8**	P	**Pn**	**13 30 22.3**	**-0.5**
	baz=189,SNR=25						
LRAL	**Lakeview Retre**	**19.89**	**8**	P	**Pn**	**13 30 22.8**	**0.0**
LRAL				IAmb	IAmb	13 30 41.4	
	comp=Z,82nm,0.9s						
Z41A	**Richland Creek**	**20.02**	**354**	P	**P**	**13 30 22.2**	**0.0**
	baz=173						
PTGC	**Puerto Gaitan,**	**20.06**	**115**	*e*P	Pn	13 30 24.4	-0.6
PTLC	**Puerto Leguiza**	**20.13**	**129**	*e*P	Pn	13 30 24.8	-1.0
TXAR	**Lajitas Array**	**20.23**	**324**	P	Pn	13 30 27.2	+0.2
	comp=Z,33nm,0.8s,baz=153,slow=12,SNR=294						
TXAR				pP	sP	13 30 39.3	-2.9
	comp=Z,34nm,0.8s,baz=145,slow=7.2,SNR=14						
TXAR				PcP	**PcP**	**13 34 38.3**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=157,slow=2.9,SNR=5.8						
TX31	**Lajitas Ar. Si**	**20.23**	**324**	P	Pn	13 30 26.6	-0.4
H06E1	**SOCORRO T-PHAS**	**20.57**	**288**	T	T	13 51 53.5	
	SNR=21						
GOGA	**Godfrey**	**20.98**	**16**	P	**P**	**13 30 32.5**	**-0.2**
	baz=199						
ABTX	**Abilene, Hawle**	**21.07**	**338**	P	**P**	**13 30 33.5**	**-0.2**
	baz=154,SNR=5.9						
OXF	**Oxford**	**21.15**	**2**	P	**P**	**13 30 35.4**	**+0.9**
	baz=182						
X40A	**Basin Creek Fa**	**21.24**	**354**	P	**P**	**13 30 35.7**	**+0.3**
	baz=173,SNR=6.8						
SLBS	**Sierra La Lagu**	**21.30**	**302**	P	**P**	**13 30 37.5**	**+1.2**
SLBS				IAmb	IAmb	13 30 56.7	
	comp=Z,84nm,1.1s						
MIAR	**Mount Ida**	**21.38**	**353**	P	**P**	**13 30 38.0**	**+1.1**
MIAR				pmax	pmax		
	comp=Z,57nm,0.9s						
MIAR				MLR	MLR		
	comp=Z,1μm,22.0s						
MIAR	**Mount Ida**	**21.38**	**353**	P	**P**	**13 30 37.3**	**+0.4**
	baz=171,SNR=11						
MIAR	**Mount Ida**	**21.38**	**353**	P	**P**	**13 30 38.0**	**+1.1**
LOOK	**Love County**	**21.55**	**344**	P	**P**	**13 30 39.4**	**+0.6**
LOOK				IAmb	IAmb	13 31 01.0	
	comp=Z,65nm,0.9s						
LPIG	**La Paz**	**21.78**	**303**	P	**P**	**13 30 44.5**	**+3.2**
	comp=Z,16nm,0.3s,baz=350,slow=7.6,SNR=4.0						
LPIG				LR	LR	13 40 15.9	
	comp=Z,4μm,18.2s,baz=128,slow=39						
NHSC	**New Hope**	**21.79**	**23**	P	**P**	**13 30 41.4**	**+

comp=Z,32nm,0.8s
214A Organ Pipe Nat 27.79 316 P P 13 31 37.6 -0.4
baz=127
ANWB Willy Bob 27.79 77 IAms_20 IAms_20 13 42 39.5
comp=Z,5µm,22.0s
SDCO Great Sand Dun 27.89 334 P P 13 31 39.7 +0.6
baz=147,SNR=6.1
W18A Petrified Fore 27.96 324 P P 13 31 38.7 -1.0
baz=136,SNR=11
O53A New Philadelph 28.02 15 IAms_20 IAms_20 13 43 34.7
comp=Z,3µm,20.0s
NNA Nana 28.42 151 LR LR 13 41 13.0
comp=Z,2µm,20.4s,baz=291,slow=32
S22A 4UR Ranch, Cre 28.48 332 P P 13 31 43.7 -0.7
baz=144,SNR=13
SCIA State Center 28.64 355 P P 13 31 45.1 -0.3
baz=174
Q24A Divide 28.77 335 P P 13 31 46.4 -0.5
baz=149
O56A Blue Knob Stat 28.79 19 P P 13 31 46.9 +0.1
baz=204
MVCO Mesa Verde 28.86 329 P P 13 31 47.8 0.0
baz=141,SNR=12
N54A Moraine State 29.01 16 P P 13 31 48.5 -0.3
baz=201
WUAZ Wupatki 29.18 323 P P 13 31 51.3 +0.7
baz=134,SNR=19
WUAZ Wupatki 29.18 323 IAms_20 IAms_20 13 45 18.7
comp=Z,4µm,19.0s
M53A WI Miller and 29.28 15 P P 13 31 50.5 -0.6
baz=199
M53A WI Miller and 29.28 15 IAms_20 IAms_20 13 44 24.0
comp=Z,3µm,19.0s
SSPA Standing Stone 29.34 19 P P 13 31 50.6 -1.0
baz=205
P60A Greenville 29.41 23 P P 13 31 51.4 -0.8
baz=210
OGNE Ogallala 29.42 342 P P 13 31 51.6 -0.9
baz=156
AAM Ann Arbor 29.48 10 P P 13 31 51.7 -1.2
baz=193
JFWS Jewell Farm 29.53 0 P P 13 31 52.3 -1.0
baz=180
M54A Oil Creek Stat 29.61 16 P P 13 31 54.0 0.0
baz=201
ISCO Idaho Springs 29.67 336 P P 13 31 54.8 -0.2
baz=149
GLA Glamis 29.81 315 P P 13 31 56.1 +0.2
baz=126,SNR=6.2
PV03 Paradox Valley 29.85 330 P P 13 31 58.3 +1.9
BBGH Gun Hill 29.90 87 IAms_20 IAms_20 13 43 46.4
comp=Z,4µm,22.0s
ERPA Erie 30.09 15 IAms_20 IAms_20 13 44 39.5
comp=Z,3µm,19.0s
PDMCI Parker Dam,Lak 30.10 318 P P 13 31 57.3 -1.1
baz=128,SNR=12
N59A State Game Lan 30.32 22 P P 13 32 00.3 -0.1
baz=209
SWSC Sam W. Stewart 30.42 314 P P 13 32 00.3 -1.0
baz=124
IKP In-Ko-Pah, Jac 30.47 314 P P 13 32 02.0 +0.1
baz=123,SNR=5.7
BC3 Big Chuckawall 30.59 316 P P 13 32 04.2 +1.3
baz=126,SNR=18
IRM Iron Mountain 30.67 317 P P 13 32 03.5 0.0
baz=127,SNR=11
NEE2 Needles Airpor 30.70 318 P P 13 32 03.4 -0.3
baz=128
N23A Red Feather La 30.74 336 P P 13 32 03.9 -0.4
baz=149
MONP2 Monument Peak 30.82 314 P P 13 32 04.5 -0.6
baz=123
ECSD EROS Data Cent 30.83 351 P P 13 32 04.0 -0.9
baz=168,SNR=11
O20A White River Ci 31.06 333 P P 13 32 07.5 +0.4
baz=144,SNR=13
PAL Palisades 31.11 24 P P 13 32 07.0 -0.3
baz=212
BELC Belle Mtn. Jos 31.15 316 P P 13 32 08.3 +0.3
baz=125,SNR=9.8
TPFO Pinon Flats 31.24 315 P P 13 32 09.7 +1.0
baz=124
PFO Pinyon Flats O 31.25 315 P P 13 32 09.8 +1.0
baz=124
109C Camp Elliot, M 31.31 313 IAms_20 IAms_20 13 46 11.1
comp=Z,2µm,19.0s
BOAV Boa Vista 31.36 108 eP P 13 32 08.4 -1.4
BINY Binghamton 31.38 21 P P 13 32 08.8 -0.8
baz=207
K56A Middlesex 31.39 19 P P 13 32 09.4 -0.3
baz=205
GMRC Granite Mounta 31.39 317 P P 13 32 09.8 -0.2
baz=127,SNR=15
MURC Murrieta 31.75 314 P P 13 32 14.2 +1.1
baz=123
HEC Hector,Ludlow 31.86 317 P P 13 32 15.0 +0.9
baz=126,SNR=6.0
SPMN Marine on St. 31.91 357 P P 13 32 13.4 -0.9
baz=175,SNR=11
SPMN Marine on St. 31.91 357 P P 13 32 13.3 -0.9
BBRC Big Bear Solar 31.93 315 P P 13 32 16.7 +1.8
baz=124
SUSD Miller 31.93 348 P P 13 32 13.5 -0.9
baz=164
TUQ Turquoise Moun 31.95 318 P P 13 32 16.0 +1.1
baz=127,SNR=6.9
BFSC Mount Baldy Ra 32.42 315 P P 13 32 18.9 -0.2
baz=123,SNR=5.7
J57A Williamstown 32.45 20 P P 13 32 18.0 -1.0
J57A IAmb IAmb 13 32 32.7
comp=Z,36nm,0.8s
GSC Goldstone, Bar 32.45 317 P P 13 32 19.1 -0.2
baz=126
K22A Casper 32.47 337 P P 13 32 19.2 -0.1
baz=150
CIS Catalina Islan 32.51 313 P P 13 32 19.8 0.0
baz=121
J58A Remsen 32.64 20 P P 13 32 19.9 -0.8
baz=208
PASC Pasadena Art C 32.76 314 IAms_20 IAms_20 13 47 07.4
comp=Z,3µm,18.0s
RSSD Black Hills 32.92 342 P P 13 32 23.7 +0.3
baz=155
EDW2 Edwards Air Fo 33.01 315 P P 13 32 25.4 +1.3
baz=124,SNR=6.7
I58A Old Forge 33.04 21 P P 13 32 23.1 -1.2
baz=208,SNR=6.5
TPNV Topopah Spring 33.09 320 P P 13 32 25.0 +0.1
baz=129,SNR=27
E43A Lone Tree Farm 33.11 4 P P 13 32 23.7 -1.0
E43A IAmb IAmb 13 32 38.5
comp=Z,30nm,0.7s
PTGA Pitinga 33.12 113 P P 13 32 24.3 -0.9
comp=Z,30nm,0.8s,baz=302,slow=9.3,SNR=51
PTGA pP pP 13 32 37.7 -0.3
comp=Z,57nm,0.8s,baz=310,slow=8.1,SNR=23
ETMB Extrema 33.13 133 eP P 13 32 24.9 -0.3
LRMC Laurel Mtn Rad 33.14 317 P P 13 32 25.1 -0.2
baz=125,SNR=6.5
L64A Middleborough 33.18 27 IAms_20 IAms_20 13 48 22.9
comp=Z,4µm,18.0s
FURC Furnace Creek, 33.18 319 P P 13 32 25.8 +0.3
baz=127,SNR=11
SPR3 Spring Creek 3 33.30 325 P P 13 32 28.5 +1.6
SPR3 IAmb IAmb 13 32 43.8
comp=Z,26nm,0.9s
DUG Dugway, Tooele 33.32 328 P P 13 32 27.7 +0.8
baz=137,SNR=6.1
DUG Dugway, Tooele 33.32 328 IAms_20 IAms_20 13 48 24.1
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 33.33 26 IAms_20 IAms_20 13 47 55.0
comp=Z,3µm,18.0s
MPMC Manual Prospec 33.34 318 P P 13 32 28.6 +1.4
baz=126,SNR=36
E46A Sault Ste Mari 33.36 8 P P 13 32 25.9 -1.0
E46A IAmb IAmb 13 32 41.9
comp=Z,20nm,0.8s
K63A Dunstable 33.50 25 IAms_20 IAms_20 13 47 43.3
comp=Z,2µm,18.0s
R11A Troy Canyon, C 33.58 323 P P 13 32 30.0 +0.8
baz=131,SNR=8.2
H57A Richville 33.59 19 P P 13 32 28.1 -0.8
baz=207
MACA Manacapuru-AM 33.62 117 eP P 13 32 28.6 -1.0
ARVC Arvin 33.72 315 P P 13 32 31.1 +0.9
baz=123
BW06 Boulder Array 33.78 334 P P 13 32 31.7 +0.8
baz=145,SNR=6.5

PDAR Pinedale Array 33.78 334 P P 13 32 31.2 +0.3
comp=Z,1.7nm,0.7s,baz=140,slow=9.5,SNR=15
PDAR PcP PcP 13 35 09.9 +0.5
comp=Z,4.8nm,0.8s,baz=126,slow=5.3,SNR=7.3
PDAR pPcP 13 35 24.1
comp=Z,6.2nm,0.8s,baz=121,slow=5.9,SNR=8.2
PDAR PKiKP PKiKP 13 42 34.6 +0.6
comp=Z,0.5nm,0.8s,baz=151,slow=3.4,SNR=4.3
PDAR LR LR 13 49 20.8
comp=Z,2µm,19.5s,baz=150,slow=42
PDAR Pinedale Array 33.78 334 P P 13 32 29.9 -1.0
GRAC Grapevine Rang 33.82 319 P P 13 32 31.1 -0.1
baz=127,SNR=48
H58A Gabriels 33.95 21 P P 13 32 30.8 -1.3
baz=209
CWC Cottonwood Cre 33.95 318 P P 13 32 33.9 +1.4
baz=126
BGU Big Grassy Mou 33.97 328 P P 13 32 34.6 +2.1
LONY Lake Ozonia 33.99 20 P P 13 32 30.8 -1.7
baz=208
J63A Strafford 34.17 25 P P 13 32 32.7 -1.3
baz=215
ALGO Algonquin Park 34.17 15 P P 13 32 33.0 -1.0
baz=201
PKM Mcpherson Peak 34.27 314 P P 13 32 37.1 +1.8
baz=122,SNR=8.7
VES Vestal, Richgr 34.28 316 P P 13 32 36.0 +0.9
baz=124,SNR=10
H59A Cadyville 34.32 21 P P 13 32 35.7 +0.4
baz=209
TIN Tinemaha, Big 34.41 318 P P 13 32 37.7 +1.4
baz=126
I62A Tamworth 34.55 24 P P 13 32 36.4 -0.9
baz=214
EYMN Ely 34.58 359 P P 13 32 35.6 -1.9
baz=178,SNR=8.4
EYMN Ely 34.58 359 P P 13 32 36.4 -1.1
EYMN IAmb IAmb 13 32 50.5
comp=Z,16nm,0.8s
EYMN Ely 34.58 359 IAms_20 IAms_20 13 49 10.6
comp=Z,3µm,19.0s
SMMC Simmler 34.62 314 P P 13 32 40.8 +2.7
baz=122
ELK Elko 35.01 326 P P 13 32 43.6 +2.0
ELK pmax pmax
comp=Z,19nm,0.9s
ELK MLR MLR
comp=Z,3µm,19.0s
ELK Elko 35.01 326 P P 13 32 43.6 +2.0
ELK IAmb IAmb 13 32 59.5
comp=Z,18nm,0.8s
ELK IAms_20 IAms_20 13 49 45.8
comp=Z,3µm,19.0s
I63A Otisfield 35.01 25 P P 13 32 39.9 -1.3
baz=215
B35A Bob, Littlefor 35.09 356 P P 13 32 40.4 -1.5
B35A IAmb IAmb 13 33 06.5
comp=Z,44nm,1.3s
MLAC Mammoth, Mammo 35.14 319 P P 13 32 44.6 +1.9
baz=126,SNR=5.7
NV11 Mina Array Sit 35.19 320 P P 13 32 45.7 +2.6
G60A Masonville 35.20 22 P P 13 32 43.5 +0.6
baz=211
AGMN Agassiz Nation 35.22 354 P P 13 32 41.6 -1.4
baz=170,SNR=14
NVAR Mina Array Bea 35.28 320 P P 13 32 46.2 +2.2
comp=Z,62nm,0.9s,baz=136,slow=8.5,SNR=321
NVAR pP sP 13 33 00.2 -2.3
comp=Z,68nm,0.9s,baz=138,slow=8.4,SNR=21
NVAR PcP PcP 13 35 15.4 +1.6
comp=Z,9.6nm,0.7s,baz=136,slow=3.0,SNR=6.2
NVAR pPcP 13 35 30.6
comp=Z,17nm,0.7s,baz=134,slow=3.8,SNR=8.9
NVAR ScP ScP 13 39 00.7 +5.1
comp=Z,0.6nm,0.7s,baz=90,slow=4.5,SNR=3.6
NVAR LR LR 13 49 22.9
comp=Z,5µm,18.9s,baz=135,slow=40
LHV Little Huntoon 35.30 320 P P 13 32 47.0 +3.2
MDND Maddock 35.33 349 P P 13 32 43.4 -0.6
baz=164
H17A Grant Village 35.53 335 P P 13 32 46.5 +0.4
baz=144
RYN Ryan 35.54 320 P P 13 32 48.1 +2.0
RYN IAmb IAmb 13 33 03.4
comp=Z,32nm,1.0s
KVN Kaiserville 35.54 321 P P 13 32 48.3 +2.2
KVN pmax pmax
comp=Z,61nm,1.0s
KVN Kaiserville 35.54 321 P P 13 32 48.3 +2.2
RLMT Red Lodge 35.61 337 P P 13 32 46.5 -0.2
baz=147
PMPB Monarch Peak 35.66 315 P P 13 32 49.3 +2.3
PMPB IAmb IAmb 13 33 06.0
comp=Z,39nm,0.9s
LAO LASA Array 35.90 341 P P 13 32 48.7 -0.3
baz=153
E58A La Victoria 35.97 20 P P 13 32 48.5 -1.0
baz=209
G62A West of Eustis 35.99 24 P P 13 32 48.4 -1.3
baz=214
G62A West of Eustis 35.99 24 P P 13 32 49.0 -0.7
G62A IAmb IAmb 13 33 04.6
comp=Z,14nm,0.8s
H64A Troy 36.06 26 P P 13 32 48.9 -1.3
baz=216
F60A Warwick 36.08 22 P P 13 32 49.0 -1.5
baz=211
G63A Kingsbury 36.27 25 P P 13 32 50.9 -1.2
baz=215
SAO San Andreas Ge 36.39 316 IAms_20 IAms_20 13 49 14.6
comp=Z,3µm,19.0s
H65A Eastbrook 36.52 27 P P 13 32 52.9 -1.2
baz=218
PKME Peaks-Kenny Pk 36.53 25 P P 13 32 53.0 -1.2
baz=216
E60A Ste Agathe de 36.61 22 P P 13 32 53.3 -1.6
baz=212
LPAZ La Paz 36.64 143 P P 13 32 56.0 -0.2
comp=Z,1.9nm,0.7s,baz=329,slow=9.6,SNR=7.1
LPAZ LR LR 13 48 10.4
comp=Z,3µm,20.5s,baz=322,slow=36
LPAZ La Paz 36.64 143 eP P 13 32 56.3 +0.1
D58A Chemin du LacG 36.73 20 P P 13 32 53.6 -2.4
baz=209
G64A Maxfield 36.74 26 P P 13 32 54.4 -1.7
baz=216
F62A Pittston Farm, 36.77 24 P P 13 32 54.6 -1.8
baz=214
F62A Pittston Farm, 36.77 24 IAms_20 IAms_20 13 50 01.1
comp=Z,2µm,18.0s
EMMW East Machias 36.88 27 IAms_20 IAms_20 13 50 20.8
comp=Z,2µm,18.0s
BOZ Bozeman (W) 36.95 335 P P 13 32 59.3 +1.3
BOZ pmax pmax
comp=Z,10.0nm,1.1s
BOZ MLR MLR
comp=Z,2µm,22.0s
BOZ Bozeman (W) 36.95 335 P P 13 32 56.7 -1.3
baz=144,SNR=8.5
BOZ Bozeman (W) 36.95 335 P P 13 32 59.3 +1.3
F63A Nahmakanta, Br 36.96 25 P P 13 32 57.1 -0.9
baz=216
H66A Whiting 37.01 28 P P 13 32 57.7 -0.6
baz=219
ULM Lac du Bonnet 37.15 354 P P 13 32 58.0 -1.5
comp=Z,23nm,0.9s,baz=172,slow=8.1,SNR=16
ULM LR LR 13 51 40.6
comp=Z,2µm,18.6s,baz=173,slow=42
ULM Lac du Bonnet 37.15 354 P P 13 32 57.8 -1.6
ULM pmax pmax
comp=Z,26nm,0.9s
ULM Lac du Bonnet 37.15 354 P P 13 32 57.8 -1.6
ULM IAmb IAmb 13 33 12.5
comp=Z,26nm,0.8s
DLMT Dillon 37.17 334 P P 13 33 00.9 +1.0
DLMT IAmb IAmb 13 33 22.6
comp=Z,24nm,1.2s
MFID Camas Ranch 37.21 329 IAms_20 IAms_20 13 50 24.0
comp=Z,2µm,21.0s
G65A Princeton 37.22 27 P P 13 32 59.2 -0.9
baz=218
G65A Princeton 37.22 27 P P 13 32 59.1 -0.9
G65A IAmb IAmb 13 33 15.4
comp=Z,14nm,0.8s
G65A IAms_20 IAms_20 13 51 06.7
comp=Z,3µm,18.0s
D60A Saint Jean D'O 37.26 22 P P 13 32 59.1 -1.4

baz=212
LSQQ Lebel-sur-Quev 37.33 14 P P 13 32 60.0 -1.0
baz=202
F64A Sherman 37.41 25 P P 13 33 00.2 -1.5
baz=217
BEKR Beckworth 37.42 321 P P 13 33 04.7 +2.5
E62A Clayton Lake 37.55 24 P P 13 33 01.7 -1.2
baz=214
E62A Clayton Lake 37.55 24 IAms_20 IAms_20 13 50 25.5
comp=Z,2µm,18.0s
E63A Oxbow 37.83 25 P P 13 33 03.8 -1.5
baz=216
MATQ Matagami 37.83 13 P P 13 33 04.0 -1.2
baz=200,SNR=15
ORV Oroville 37.95 319 IAms_20 IAms_20 13 50 26.0
comp=Z,2µm,19.0s
MDP Montagnes des 37.99 99 pPcP 13 35 36.7
comp=Z,18nm,0.8s,baz=14,slow=3.2,SNR=7.7
WVOR Wild Horse Val 38.02 325 IAms_20 IAms_20 13 51 06.6
comp=Z,3µm,18.0s
D62A Allapoint, All 38.11 24 P P 13 33 06.0 -1.7
baz=215
D62A Allapoint, All 38.11 24 P P 13 33 06.8 -0.9
D62A IAms_20 IAms_20 13 50 51.4
comp=Z,2µm,18.0s
MNMC Minye Minye 38.11 147 IAms_20 IAms_20 13 47 38.8
comp=Z,3µm,21.0s
PSGCX Pisagua 38.23 148 IAms_20 IAms_20 13 47 08.8
comp=Z,2µm,21.0s
EGMT Eagleton 38.24 339 P P 13 33 08.6 -0.2
baz=148,SNR=6.2
EGMT Eagleton 38.24 339 P P 13 33 09.7 +0.8
EGMT IAmb IAmb 13 33 26.1
comp=Z,26nm,1.1s
D63A Stockholm 38.45 25 P P 13 33 08.8 -1.7
baz=216
ITTB Itaituba 38.52 115 eP P 13 33 09.8 -1.8
J08A Circle Bar Ran 38.55 326 P P 13 33 13.2 +1.6
J08A IAmb IAmb 13 33 13.9
comp=Z,48nm,0.9s
O03E Paynes Creek 38.57 320 P P 13 33 12.2 +0.5
baz=125,SNR=41
MOD Modoc Plateau 38.63 323 P P 13 33 13.4 +1.2
MOD IAmb IAmb 13 33 29.6
comp=Z,26nm,0.9s
MALB Monte Alegre 38.76 110 eP P 13 33 12.4 -1.1
CHGQ Chibougamau 38.79 16 P P 13 33 11.4 -1.9
baz=205
MSO Missoula 38.90 334 P P 13 33 13.5 -0.9
baz=142,SNR=8.7
BMO Blue Mountains 38.98 329 IAms_20 IAms_20 13 51 18.8
comp=Z,3µm,20.0s
O02D Mt. Diablo Mer 39.12 319 P P 13 33 16.4 0.0
baz=124,SNR=22
PB08 IPOC Station P 39.18 148 IAms_20 IAms_20 13 47 42.1
comp=Z,2µm,22.0s
WDC Whiskeytown Da 39.20 320 IAms_20 IAms_20 13 51 05.8
comp=Z,2µm,20.0s
M04C Macdoel 39.47 322 P P 13 33 19.8 +0.5
baz=127,SNR=44
N02D Trinity Center 39.52 320 P P 13 33 18.8 -0.8
baz=125
I07A Izee 39.59 326 P P 13 33 21.4 +1.1
VILB Vilhena 39.60 130 eP P 13 33 20.5 -0.1
F10A Beach Ranch, E 39.75 330 P P 13 33 22.5 +1.0
JTMT Jette 39.76 335 P P 13 33 21.9 +0.3
JTMT PcP PcP 13 35 28.2 +1.0
M02C Callahan 39.85 321 P P 13 33 21.7 -0.7
baz=125,SNR=12
K04D Chiloquin, OR 39.92 323 P P 13 33 23.0 0.0
baz=128
YBH Yreka Blue Hor 39.96 321 P P 13 33 23.2 -0.1
YBH pmax pmax
comp=Z,16nm,0.9s
YBH MLR MLR
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 39.96 321 P P 13 33 23.2 -0.1
YBH IAms_20 IAms_20 13 51 59.0
comp=Z,3µm,20.0s
L04D Klamath Falls 40.00 322 P P 13 33 24.0 +0.2
baz=127,SNR=52
J05D Fort Rock, OR 40.03 324 P P 13 33 24.7 +0.8
baz=129,SNR=13
KHMM Horse Mountain 40.11 320 P P 13 33 26.3 +1.7
G08A Pilot Rock 40.12 328 P P 13 33 25.0 +0.3
G08A PcP 13 35 30.6 +2.2
NPGB Novo Progresso 40.14 118 eP P 13 33 23.0 -2.0
PINE Pine Mountain 40.19 325 P P 13 33 26.3 +1.0
PINE IAmb IAmb 13 33 41.8
comp=Z,38nm,0.8s
MCPB Macapa, AP 40.24 107 eP P 13 33 24.6 -1.3
JCC Jacoby Creek, 40.27 319 IAms_20 IAms_20 13 49 48.1
comp=Z,2µm,21.0s
J04D Umpqua Nationa 40.51 324 P P 13 33 28.6 +0.7
baz=128,SNR=32
KRMB Red Mountain 40.58 320 P P 13 33 29.8 +1.3
KRMB IAmb IAmb 13 33 31.2
comp=Z,36nm,1.1s
HUMO Hull Mountain 40.62 322 P P 13 33 27.8 -0.9
L02E Cave Junction 40.75 321 P P 13 33 31.3 +1.6
baz=125,SNR=8.2
I05D Terrebonne, OR 40.76 325 P P 13 33 30.3 +0.5
baz=130
SIV San Ignacio 40.99 134 P P 13 33 31.8 -0.2
comp=Z,12nm,0.9s,baz=314,slow=8.4,SNR=42
I04A Tendick Farm, 41.02 324 P P 13 33 32.1 +0.1
baz=128,SNR=24
K02D Willamette Mer 41.10 322 P P 13 33 33.2 +0.5
baz=126,SNR=8.8
PB06 IPOC Station P 41.12 150 IAms_20 IAms_20 13 47 43.5
comp=Z,2µm,18.0s
KBO Bosley Butte 41.16 321 P P 13 33 35.9 +2.6
HAWA Hanford 41.18 329 IAms_20 IAms_20 13 52 12.9
comp=Z,2µm,18.0s
G05D Wamic, OR 41.33 327 P P 13 33 35.4 +1.0
baz=131,SNR=7.0
LVC Limon Verde 41.36 149 P P 13 33 36.7 +1.4
comp=Z,4.8nm,0.9s,baz=270,slow=10,SNR=3.6
LVC Limon Verde 41.36 149 IAms_20 IAms_20 13 50 56.0
comp=Z,2µm,19.0s
LVC Limon Verde 41.36 149 eP P 13 33 38.5 +3.2
NEW Newport 41.38 333 P P 13 33 35.2 +0.3
baz=138
NEW Newport 41.38 333 IAms_20 IAms_20 13 53 46.7
comp=Z,2µm,18.0s
H04A Detroit Lake 41.45 325 P P 13 33 36.6 +1.2
I03D Drain, OR 41.50 323 P P 13 33 36.5 +0.7
baz=127,SNR=27
J01E Myrtle Point 41.53 322 P P 13 33 37.2 +1.2
baz=126,SNR=36
H04D Lebanon 41.66 325 P P 13 33 37.1 0.0
baz=128,SNR=13
CLDB Colider 41.80 123 eP P 13 33 37.5 -1.2
F05D White Salmon 41.83 327 P P 13 33 39.2 +0.7
baz=131,SNR=6.9
PTLB Pontes e Lacer 42.00 132 eP P 13 33 40.4 +0.2
COR Corvallis 42.01 324 IAms_20 IAms_20 13 54 06.2
comp=Z,2µm,18.0s
I02D Swisshome 42.03 324 P P 13 33 40.8 +0.6
baz=126,SNR=8.4
FFC Flin Flon 42.36 350 P P 13 33 43.1 +0.4
FFC pmax pmax
comp=Z,26nm,0.9s
FFC MLR MLR
comp=Z,1µm,19.0s
FFC Flin Flon 42.36 350 P P 13 33 43.1 +0.4
FFC IAmb IAmb 13 33 59.4
comp=Z,26nm,0.9s
G03D McMinnville, O 42.37 325 P P 13 33 43.5 +0.5
baz=128,SNR=9.8
F04D Rainier, OR 42.78 326 P P 13 33 46.2 0.0
baz=129
E04D Cinebar 42.85 327 P P 13 33 47.1 +0.3
baz=130
B05A Bryant 43.73 329 P P 13 33 53.1 -0.8
baz=132
D03D Eldon 43.75 328 P P 13 33 52.8 -1.2
baz=130,SNR=5.2
PRPB Parauapebas 44.60 113 eP P 13 33 59.6 -1.6
TMAB Tom-Au,PA,Br 44.65 107 eP P 13 34 02.0 +0.3
SALV Santo Antonio 44.84 129 eP P 13 34 02.7 -0.5
SNDB Serra Nova Dou 46.10 121 eP P 13 34 11.6 -1.6
PP1B Ponte de Pedra 46.51 130 eP P 13 34 16.2 -0.1
H03N2 Juan Fernandez 47.70 167 T T 14 25 38.2
baz=346,slow=76,SNR=62
H03N1 Juan Fernandez 47.71 167 T T 14 25 38.2
baz=346,slow=76,SNR=61

H03N3	Juan Fernandez	47.72	167	T	T	14 25 37.6		
	baz=346,slow=76,SNR=84							
ARAG	Araguaiana, MT	47.72	126	eP	P	13 34 24.8	-1.0	
SMTB	Santa Maria do	47.76	115	eP	P	13 34 25.9	-0.3	
AQDB	Aquidauana	47.77	134	eP	P	13 34 25.7	-0.3	
ROSB	Rosrio	48.54	106	eP	P	13 34 31.5	-0.7	
PEXB	Peixe	48.68	119	eP	P	13 34 32.3	-0.9	
BDFB	Brasilia	50.73	123	P	P	13 34 48.8	-0.1	
	comp=Z,2.8nm,0.6s,baz=323,slow=22,SNR=3.6							
BDFB				pPcP		13 36 21.3		
	comp=Z,12nm,0.8s,baz=257,slow=3.7,SNR=5.5							
BDFB				LR	LR	13 57 32.5		
	comp=Z,1μm,20.1s,baz=304,slow=38							
CPUP	Villa Florida	50.77	141	P	P	13 34 48.0	-0.9	
	comp=Z,3.0nm,0.9s,baz=335,slow=12,SNR=3.1							
CPUP				LR	LR	13 58 12.1		
	comp=Z,1μm,18.1s,baz=327,slow=38							
ITRB	Iturama	51.17	129	eP	P	13 34 51.1	-1.0	
TRCB	Terra Rica	51.43	134	eP	P	13 34 55.2	+1.2	
NBPS	Pedro II - PI	51.57	107	eP	P	13 34 53.5	-1.7	
PCMB	Pacaembu	51.66	132	eP	P	13 34 55.0	-0.7	
SDBA	SAO DESIDERIO	51.73	118	eP	P	13 34 56.0	-0.4	
IPMB	Ipameri, GO	51.84	126	eP	P	13 34 58.3	+1.1	
YKA	Yellowknife Ar	52.12	346	P	P	13 34 57.9	-0.6	
	comp=Z,9.8nm,0.8s,baz=146,slow=8.2,SNR=22							
YKA				pP	pP	13 35 11.2	-0.7	
	comp=Z,13nm,0.7s,baz=147,slow=8.2,SNR=17							
YKA				LR	LR	14 01 22.0		
	comp=Z,1μm,19.1s,baz=0.0,slow=41							
NBMO	Morrinhos-CE	52.52	105	eP	P	13 35 01.0	-1.2	
BB19B	Bebedouro	53.36	129	eP	P	13 35 07.7	-0.6	
JANB	Januaria	53.50	120	eP	P	13 35 07.0	-2.4	
ITQB	Itaqui	53.64	143	eP	P	13 35 11.0	+0.8	
NBPB	Pedra_Branca-C	53.71	107	eP	P	13 35 09.8	-1.2	
FRTB	Fartura	53.97	132	eP	P	13 35 12.2	-0.5	
DLBC	Dease Lake	53.99	335	P	P	13 35 13.8	+1.3	
DLBC				IAmb	IAmb	13 35 30.5		
	comp=Z,14nm,0.9s							
TAOE	Nuku Hiva Isla	54.18	249	eS	S	13 43 04.6	+16	
	comp=Z,1μm,24.5s							
TAOE				eLR	LR	13 51 07.3		
	comp=Z,2μm,24.2s,baz=64							
TAOE	Nuku Hiva Isla	54.18	249	eT	T	14 33 19.5		
	comp=Z,44nm,0.3s							
NBCL	Cascavel-CE	54.47	105	eP	P	13 35 16.7	+0.2	
RCLB	Rio Claro- Sao	54.90	130	eP	P	13 35 19.9	+0.3	
NBMA	Muriti-CE	55.12	109	eP	P	13 35 21.2	-0.1	
NBPN	Ponto Novo - B	55.18	113	eP	P	13 35 20.3	-1.4	
DIAM	Diamantina, MG	55.65	123	eP	P	13 35 24.8	-0.3	
VAO	Valinhos	55.67	130	eP	P	13 35 26.7	+1.6	
SPB	Sao Paulo	55.67	131	eP	P	13 35 24.7	-0.3	
JIS	Juneau Island	55.72	334	IAms_20	IAms_20	14 03 07.8		
	comp=Z,1μm,19.0s							
NBPA	Parau_RN	56.08	106	eP	P	13 35 28.2	0.0	
PET01	Itanhaem-SP	56.20	131	eP	P	13 35 29.8	+1.0	
BSCB	Bom Sucesso	56.21	127	eP	P	13 35 29.1	+0.1	
PLCA	Paso Flores	56.77	162	P	P	13 35 34.5	+1.8	
	comp=Z,5.0nm,1.0s,baz=327,slow=8.2,SNR=5.8							
PLCA				LR	LR	13 55 33.8		
	comp=Z,2μm,18.0s,baz=352,slow=31							
PLCA	Paso Flores	56.77	162	eP	P	13 35 34.2	+1.6	
NBLV	Livramento - P	56.82	108	eP	P	13 35 33.3	-0.2	
PLTB	Pedras Altas	56.94	143	eP	P	13 35 35.5	+1.5	
GDU01	Guandu, BA	56.95	116	eP	P	13 35 34.5	+0.2	
RCBR	Riachuelo	57.24	106	P	P	13 35 35.7	-0.7	
	comp=Z,34nm,0.7s,baz=277,slow=9.4,SNR=21							
RCBR				pP	pP	13 35 49.8	-0.3	
	comp=Z,56nm,0.7s,baz=273,slow=6.3,SNR=12							
RCBR	Riachuelo	57.24	106	P	P	13 35 36.6	+0.1	
RCBR				pmax	pmax			
	comp=Z,70nm,0.9s							
RCBR				MLR	MLR			
	comp=Z,2μm,20.0s							
RCBR	Riachuelo	57.24	106	P	P	13 35 36.6	+0.1	
RCBR	Riachuelo	57.24	106	eP	P	13 35 35.9	-0.6	
WHY	Whitehorse	57.31	336	P	P	13 35 35.9	-0.4	
	baz=126							
TRQA	Tornquist	57.55	154	eP	P	13 35 41.0	+2.8	
NBIT	Itapeh - BA	57.60	117	eP	P	13 35 38.8	-0.1	
CMC01	Camacan, BA	57.72	118	eP	P	13 35 39.9	+0.2	
SJMB	Sao Joao De Ma	57.90	122	eP	P	13 35 40.5	-0.4	
VAS01	Vassouras-RJ	57.94	127	eP	P	13 35 41.9	+0.7	
NBPV	Pedro Velho	58.01	106	eP	P	13 35 41.8	0.0	
GUA01	Guaratinga, BA	58.04	119	eP	P	13 35 41.5	-0.4	
BSFB	Barra de Sao F	58.24	122	eP	P	13 35 43.4	+0.1	
NBAN	Anadia - AL	58.26	110	eP	P	13 35 43.2	-0.4	
NAN01	Guarapari, ES	58.36	121	eP	P	13 35 44.2	0.0	
RIB01	Linhares ES	58.85	122	eP	P	13 35 47.1	-0.4	
BCPM	Bancas Point	58.91	334	IAms_20	IAms_20	14 03 39.1		
	comp=Z,1μm,21.0s							
NBRF	Rio Formoso -	58.95	109	eP	P	13 35 48.6	+0.3	
CAM01	Campos-RJ	59.10	126	eP	P	13 35 49.6	+0.4	
ALF01	Guarapari-ES	59.22	124	eP	P	13 35 50.4	+0.3	
PINM	Pinnacle	59.25	333	P	P	13 35 49.4	-0.3	
	baz=120							
SFJD	Kangerlussuaq	59.70	17	IAms_20	IAms_20	14 03 38.6		
	comp=Z,1μm,18.0s							
LOGN	Logan Glacier	59.93	334	IAms_20	IAms_20	14 03 37.1		
	comp=Z,1μm,21.0s							
C36M	Paulatuk	59.97	347	IAms_20	IAms_20	14 06 18.4		
	comp=Z,960nm,20.0s							
CTGM	Chitina Glacie	60.14	334	IAms_20	IAms_20	14 03 31.8		
	comp=Z,1μm,22.0s							
BARN	Barnard Glacie	60.33	334	IAms_20	IAms_20	14 03 48.6		
	comp=Z,1μm,21.0s							
WAX	Waxell Ridge	60.56	333	IAms_20	IAms_20	14 04 51.6		
	comp=Z,2μm,20.0s							
DY2G	Dye2	60.65	19	i P	P	13 35 56.3	-3.2	
DY2G				i		13 36 10.5		
SUCK	Suckling Hills	60.80	333	IAms_20	IAms_20	14 05 05.0		
	comp=Z,1μm,18.0s							
CRQE	Cirque	60.80	333	P	P	13 36 00.9	+0.5	
	baz=117							
MCARA	McCarthy VSAT	61.06	334	P	P	13 36 02.2	+0.1	
	baz=118							
HMT	Hamilton	61.13	333	IAms_20	IAms_20	14 04 41.8		
	comp=Z,1μm,20.0s							
VRDI	Verde Repeater	61.18	334	IAms_20	IAms_20	14 05 37.0		
	comp=Z,1μm,20.0s							
EPYK	Eagle Plains	61.36	341	P	P	13 36 03.5	-0.5	
	baz=126							
EPYK	Eagle Plains	61.36	341	IAms_20	IAms_20	14 07 06.4		
	comp=Z,1μm,18.0s							
BCAR	Beaver Creek A	61.37	336	P	P	13 36 04.5	+0.4	
L27K	Beaver Creek,	61.38	336	P	P	13 36 04.0	-0.2	
	baz=120,SNR=11							
L27K	Beaver Creek,	61.38	336	P	P	13 36 04.3	0.0	
GLB	Gilahina Butte	61.43	334	IAms_20	IAms_20	14 05 44.6		
	comp=Z,1μm,20.0s							
BMRM	Bremner River	61.56	333	P	P	13 36 04.5	-1.1	
	baz=116,SNR=5.1							
BMRM	Bremner River	61.56	333	IAms_20	IAms_20	14 04 04.2		
	comp=Z,1μm,22.0s							
INK	Inuvik	61.60	343	P	P	13 36 04.8	-0.7	
INK				pmax	pmax			
	comp=Z,13nm,0.9s							
INK	Inuvik	61.60	343	P	P	13 36 04.8	-0.7	
	baz=131,SNR=7.7							
INK	Inuvik	61.60	343	P	P	13 36 04.8	-0.7	
INK				IAmb	IAmb	13 36 20.1		
	comp=Z,13nm,0.8s							
N25K	Chitina, Valde	61.84	334	P	P	13 36 07.3	-0.1	
	baz=116,SNR=9.0							
N25K	Chitina, Valde	61.84	334	IAms_20	IAms_20	14 05 57.5		
	comp=Z,1μm,20.0s							
EYAK	Cordova Ski Ar	61.89	333	P	P	13 36 07.8	+0.2	
	baz=115							
K27K	Chicken	61.96	337	P	P	13 36 08.7	+0.6	
K27K				IAms_20	IAms_20	14 08 16.6		
	comp=Z,1μm,19.0s							
EGAK	Eagle	62.00	338	P	P	13 36 06.9	-1.4	
	baz=121,SNR=5.9							
EGAK	Eagle	62.00	338	P	P	13 36 07.8	-0.5	
EGAK				IAms_20	IAms_20	14 06 13.5		
	comp=Z,1μm,20.0s							
HIN	Hinchinbrook I	62.17	332	IAms_20	IAms_20	14 07 49.3		
	comp=Z,1μm,18.0s							
FID	Port Fidalgo	62.30	333	IAms_20	IAms_20	14 04 51.9		
	comp=Z,1μm,20.0s							
KLU	Klutina	62.36	333	P	P	13 36 10.8	-0.1	
	baz=115,SNR=11							
KLU	Klutina	62.36	333	IAms_20	IAms_20	14 04 41.3		
	comp=Z,1μm,21.0s							
HARP	HAARP	62.43	335	P	P	13 36 10.9	-0.3	
	baz=116							
GLI	Glacier Island	62.63	333	IAms_20	IAms_20	14 07 29.4		
	comp=Z,1μm,20.0s							
SCRK	Sand Creek	62.67	336	P	P	13 36 13.1	+0.1	
	baz=118,SNR=7.7							
M24K	Tolsona, Glenn	62.73	334	P	P	13 36 12.8	-0.5	
	baz=115							
M24K	Tolsona, Glenn	62.73	334	IAms_20	IAms_20	14 06 26.0		
	comp=Z,1μm,20.0s							
PAX	Paxson	62.81	335	P	P	13 36 13.4	-0.5	
	baz=116							
RIDG	Independent Ri	62.90	336	P	P	13 36 13.7	-0.8	
	baz=117,SNR=7.7							
SCM	Sheep Creek Mo	63.11	333	IAms_20	IAms_20	14 06 50.2		
	comp=Z,987nm,20.0s							
PWL	Port Wells	63.18	332	IAms_20	IAms_20	14 08 19.0		
	comp=Z,1μm,18.0s							
SEW	Seward	63.42	331	P	P	13 36 17.0	-0.8	
	baz=111							
KNK	Knik Glacier	63.45	333	P	P	13 36 17.6	-0.5	
	baz=112							
KNK	Knik Glacier	63.45	333	IAms_20	IAms_20	14 05 28.0		
	comp=Z,1μm,20.0s							
SML	Sawmill	63.54	333	P	P	13 36 18.2	-0.5	
	baz=113							
SML	Sawmill	63.54	333	IAms_20	IAms_20	14 06 51.5		
	comp=Z,1μm,21.0s							
PMOR	Pomariorio Ree	63.56	246	eT	T	14 45 02.1		
	comp=Z,6.5nm,0.2s							
WAT6	Susitna Watana	63.59	334	P	P	13 36 18.2	-1.0	
	baz=114,SNR=12							
O22K	Cooper Landing	63.68	332	IAms_20	IAms_20	14 05 11.2		
	comp=Z,1μm,20.0s							
GHO	Glory Hole Cre	63.79	333	P	P	13 36 20.5	+0.1	
GHO				IAmb	IAmb	13 36 35.4		
	comp=Z,22nm,0.9s							
GHO				IAms_20	IAms_20	14 08 08.1		
	comp=Z,1μm,18.0s							
RC01	Rabbit Creek A	63.90	332	P	P	13 36 20.0	-1.0	
	baz=111							
RC01	Rabbit Creek A	63.90	332	IAms_20	IAms_20	14 08 42.1		
	comp=Z,1μm,18.0s							
BRSE	Bradley Lake S	63.90	331	P	P	13 36 20.5	-0.5	
	baz=109							
PRP	Porcupine Dome	63.97	338	P	P	13 36 20.7	-0.9	
	baz=117,SNR=6.7							
BRLK	Bradley Lake	63.98	331	IAms_20	IAms_20	14 04 51.4		
	comp=Z,1μm,21.0s							
HDA	Harding Lake	64.03	336	P	P	13 36 20.8	-1.0	
	baz=115,SNR=6.5							
WAT1	Susitna Watana	64.03	334	P	P	13 36 21.1	-0.8	
	baz=113							
CNPM	China Poot	64.07	330	P	P	13 36 22.0	-0.2	
CNPM				IAmb	IAmb	13 36 23.8		
	comp=Z,16nm,0.9s							
CNPM				IAms_20	IAms_20	14 04 51.6		
	comp=Z,1μm,20.0s							
ILAR	Eielson Array	64.16	337	P	P	13 36 22.2	-0.5	
	comp=Z,9.2nm,1.0s,baz=126,slow=4.6,SNR=57							
ILAR				pP	pP	13 36 35.4	-1.1	
	comp=Z,13nm,1.1s,baz=115,slow=4.9,SNR=14							
ILAR				LR	LR	14 06 58.9		
	comp=Z,2μm,20.0s,baz=128,slow=38							
KDAK	Kodiak Island	64.20	328	P	P	13 36 22.5	-0.5	
KDAK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
KDAK				MLR	MLR			
	comp=Z,800nm,19.0s							
KDAK	Kodiak Island	64.20	328	P	P	13 36 22.6	-0.4	
	baz=107							
KDAK	Kodiak Island	64.20	328	P	P	13 36 22.5	-0.5	
KDAK	Kodiak Island	64.20	328	IAms_20	IAms_20	14 08 15.0		
	comp=Z,755nm,19.0s							
ICESG	Greenland Ices	64.23	18	i P	P	13 36 21.3	-2.2	
ICESG				IAmb	IAmb	13 36 22.1		
	comp=Z,17nm,0.7s							
ICESG				i		13 36 35.6		
TULEG	Thule	64.27	5	IAms_20	IAms_20	14 05 51.3		
	comp=Z,1μm,20.0s							
HOM	Homer	64.31	330	IAms_20	IAms_20	14 06 51.0		
	comp=Z,1μm,18.0s							
FYU	Fort Yukon	64.35	339	IAms_20	IAms_20	14 09 56.7		
	comp=Z,1μm,18.0s							
RND	Reindeer	64.39	335	IAms_20	IAms_20	14 05 54.8		
	comp=Z,1μm,21.0s							
OHAK	Old Harbor	64.41	327	P	P	13 36 23.9	-0.5	
	baz=106							
OHAK	Old Harbor	64.41	327	P	P	13 36 25.5	+1.1	
OHAK				IAmb	IAmb	13 36 53.4		
	comp=Z,15nm,1.1s							
SUA	Susitna One	64.49	332	P	P	13 36 23.7	-1.3	
	baz=110							
SUA	Susitna One	64.49	332	IAms_20	IAms_20	14 09 01.6		
	comp=Z,1μm,18.0s							
WRH	Wood River Hil	64.50	336	IAms_20	IAms_20	14 06 40.8		
	comp=Z,1μm,20.0s							
POKR	Poker Plat Res	64.52	337	P	P	13 36 24.2	-0.8	
	baz=115							
MCK	McKinley	64.55	335	P	P	13 36 24.4	-0.8	
	baz=113,SNR=6.4							
COLA	College	64.58	336	i P	P	13 36 24.5	-0.8	
COLA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
COLA	College	64.58	336	P	P	13 36 24.9	-0.4	
	baz=114							
TCOL	CIGO, UAF Yank	64.58	336	P	P	13 36 24.0	-1.4	
	baz=114							
CUT	Chulitna	64.61	333	P	P	13 36 24.9	-0.7	
	baz=111							
CUT	Chulitna	64.61	333	IAms_20	IAms_20	14 07 24.7		
	comp=Z,1μm,20.0s							
MEH	Mehetia	64.87	243	eT	T	14 46 40.0		
	comp=Z,18nm,0.3s							
BWN	Browne	64.93	335	IAms_20	IAms_20	14 07 57.4		
	comp=Z,1μm,18.0s							
NEA2	Nenana	64.94	336	P	P	13 36 26.6	-1.1	
	baz=113							
NEA2	Nenana	64.94	336	IAms_20	IAms_20	14 08 20.3		
	comp=Z,1μm,19.0s							
H24K	Noodor Dome	64.99	337	P	P	13 36 27.3	-0.8	
	baz=115							
TRF	Thorofare Moun	65.00	335	P	P	13 36 27.4	-1.0	
	baz=112,SNR=6.9							
TRF	Thorofare Moun	65.00	335	P	P	13 36 28.1	-0.3	
TRF				IAmb	IAmb	13 36 42.6		
	comp=Z,20nm,1.2s							
TRF				IAms_20	IAms_20	14 07 13.0		
	comp=Z,1μm,21.0s							
SKT	Skwentna	65.02	333	P	P	13 36 27.7	-0.6	
	baz=110,SNR=7.9							
SKT	Skwentna	65.02	333	P	P	13 36 27.7	-0.6	
SKT				IAmb	IAmb	13 36 45.3		
	comp=Z,14nm,0.8s							
SKT				IAms_20	IAms_20	14 06 25.6		
	comp=Z,1μm,20.0s							
SPCR	Spurr Chakacha	65.07	332	P	P	13 36 27.7	-1.1	
	baz=109							
P19K	Oil Pt	65.07	330	P	P	13 36 28.1	-0.7	
	baz=107							
I23K	Minto, Yukon-K	65.27	336	P	P	13 36 28.9	-1.0	
	baz=113,SNR=18							
BPAW	Bear Paw Mtn.	65.53	335	P	P	13 36 30.5	-1.1	
	baz=111,SNR=7.1							
BPAW	Bear Paw Mtn.	65.53	335	IAms_20	IAms_20	14 07 01.9		
	comp=Z,1μm,21.0s							
H23K	Yukon River	65.61	337	P	P	13 36 30.9	-1.3	
	baz=113							
PPLA	Purkeypile	65.61	334	P	P	13 36 31.0	-1.3	
	baz=109							
MLY	Manley	65.77	336	P	P	13 36 32.3	-0.8	
	baz=112,SNR=18							
MLY	Manley	65.77	336	P	P	13 36 32.9	-0.2	
MLY				IAmb	IAmb	13 36 47.8		
	comp=Z,18nm,0.8s							
MLY				IAms_20	IAms_20	14 08 37.3		
	comp=Z,1μm,19.0s							
N19K	Bonanza Creek	66.01	331	P	P	13 36 34.1	-0.8	
	baz=106,SNR=6.0							
PPT	Papeete	66.06	244	LR	LR	13 58 31.3		
	comp=Z,2μm,18.0s,baz=64,slow=29							
PPT2	Papeete2	66.07	244	eS	S	13 45 34.1	+13	
	comp=Z,1μm,34.5s							
PPT2				eLQ	LQ	13 53 54.3		
	comp=Z,882nm,27.5s							
PPT2				eLR	LR	13 56 40.9		
	comp=Z,2μm,24.2s,baz=56							
I21K	Tanana	66.31	336	P	P	13 36 35.8	-0.8	
	baz=111							
SUMG	Summit	66.49	15	i P	P	13 36 36.8	-1.4	
SUMG				IAmb	IAmb	13 36 38.7		
	comp=Z,10nm,0.8s							
SUMG				i		13 36 50.2		
SUMG	Summit	66.49	15	i P	P	13 36 36.7	-1.4	
SUMG				i		13 36 50.2		
SUMG				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SUMG	Summit	66.49	15	P	P	13 36 36.3	-1.8	
SUMG				IAmb	IAmb	13 36 53.0		
	comp=Z,28nm,1.2s							
L19K	White Mountain	66.57	332	P	P	13 36 37.4	-0.9	
	baz=107							
SVW2	Sparrevohn	66.60	331	P	P	13 36 38.2	-0.4	
N18K	Kilae Creek	66.63	331	P	P	13 36 37.7	-1.1	
	baz=105							
TOLK	Toolik Lake Re	66.76	340	P	P	13 36 38.7	-0.8	
	baz=114,SNR=6.6							
NEEM	North Greenlan	67.19	9	i P	P	13 36 40.8	-1.5	
NEEM				IAmb	IAmb	13 36 41.9		
	comp=Z,22nm,0.9s							
NEEM				i		13 36 55.7		
SDPT	Sand Point	67.93	325	P	P	13 36 47.0	0.0	
	baz=99							
TBI	Tubuai	68.37	238	eS	S	13 46 02.4	+14	
	comp=Z,691nm,34.2s							
TBI	Tubuai	68.37	238	eLR	LR	13 57 47.4		
	comp=Z,2μm,26.2s,baz=62							
TBI	Tubuai	68.37	238	eT	T	14 51 01.6		
	comp=Z,6.8nm,0.2s							
PMOZ	Porto Moniz, M	68.80	60	eLR	LR	13 57 56.1		
	comp=Z,992nm,20.0s							
A21K	Barrow	70.00	342	IAms_20	IAms_20	14 12 18.8		
	comp=Z,1μm,19.0s							
RDOG	Red Dog Mine	71.29	338	IAms_20	IAms_20	14 11 31.1		
	comp=Z,1μm,22.0s							
ANM	Nome	71.70	334	IAms_20	IAms_20	14 11 36.1		
	comp=Z,783nm,21.0s							
GAMB	Gambell	74.39	333	IAms_20	IAms_20	14 16 33.5		
	comp=Z,773nm,18.0s							
NOR	Nord	74.56	8	i P	P	13 37 24.6	-2.1	
NOR				IAmb	IAmb	13 37 26.2		
	comp=Z,8.0nm,0.9s							
NOR				i		13 37 39.3		
NOR	Nord	74.56	8	i P	P	13 37 24.6	-2.1	
NOR				i		13 37 39.2		
NOR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PCAS	Casmilo, Conde	75.34	52	eP	P	13 37 31.9	0.0	
PCAS				epP	pP	13 37 45.9	-0.1	
PGAV	Gavieira, Arco	75.35	50	eLR	LR	14 01 35.0		
	comp=Z,649nm,20.0s							
COI	Coimbra	75.39	52	IAms_20	IAms_20	14 06 23.9		
	comp=Z,1μm,20.0s							
MORF	Marmelete	75.48	55	eP	P	13 37 32.2	-0.6	
PMTG	Montargil	75.64	53	eP	P	13 37 33.0	-0.7	
PMTG				epP	pP	13 37 47.5	-0.2	
PVIS	Viseu	75.74	51	eP	P	13 37 33.5	-0.8	
PVIS				epP	pP	13 37 47.7	-0.7	
POLO	Lamas de Olo	75.75	50	epP	pP	13 37 47.4	-1.1	
MESJ	Messejana	75.77	54	eP	P	13 37 34.1	-0.3	
MESJ				IAms_20	IAms_20	14 08 27.5		
	comp=Z,1μm,20.8s							
MESJ	Messejana	75.77	54	eP	P	13 37 34.1	-0.3	
DSB	Dublin	75.85	38	IAms_20	IAms_20	14 03 57.4		
	comp=Z,707nm,19.0s							
MTE	Manteigas	76.04	51	eP	P	13 37 35.4	-0.6	
MTE				epP	pP	13 37 49.4	-0.7	
MTE	Manteigas	76.04	51	eLR	LR	14 01 43.9		
	comp=Z,730nm,18.0s							
MTE	Manteigas	76.04	51	IAms_20	IAms_20	14 11 31.9		
	comp=Z,882nm,19.0s							
PCBR	Castelo Branco	76.14	52	eP	P	13 37 36.8	+0.3	
PCBR				epP	pP	13 37 51.1	+0.5	
PESTR	Estremoz	76.16	53	epP	pP	13 37 50.6	-0.1	
PVAQ	Vaqueiros	76.21	54	eP	P	13 37 36.5	-0.4	
PVAQ				epP	pP	13 37 52.2	+1.2	
PVAQ	Vaqueiros	76.21	54	eLR	LR	14 01 10.7		
	comp=Z,1μm,20.0s							
PMRV	Marv??o	76.25	52	eP	P	13 37 36.8	-0.4	
PMRV	Marv??o	76.25	52	eLR	LR	14 01 48.3		
	comp=Z,755nm,20.0s							
MVO	Moncorvo	76.35	50	eP	P	13 37 37.2	-0.6	
MVO				epP	pP	13 37 51.3	-0.6	
MVO	Moncorvo	76.35	50	eLR	LR	14 02 08.5		
	comp=Z,715nm,20.0s							
ADK	Adak	77.47	321	P	P	13 37 43.6	-0.1	
ADK				pmax	pmax			
	comp=Z,76nm,0.8s							
ADK	Adak	77.47	321	P	P	13 37 43.6	-0.1	
PAB	San Pablo	78.57	52	IAms_20	IAms_20	14 08 17.0		
	comp=Z,824nm,20.0s							
ESDC	Sonseca Array	78.85	52	P	P	13 37 48.6	-3.1	
	comp=Z,5.4nm,0.8s,baz=286,slow=5.8,SNR=27							
ESDC				pP	pP	13 38 04.9	-1.0	
	comp=Z,9.1nm,0.8s,baz=286,slow=5.6,SNR=18							
ESDC				LR	LR	14 08 27.9		
	comp=Z,580nm,20.1s,baz=265,slow=33							
KBS	Kingsbay	79.39	11	IAms_20	IAms_20	14 14 37.9		
	comp=Z,885nm,19.0s							
AMKA	Amchitka	80.01	320	P	P	13 37 58.0	+0.3	
PMSA	Palmer Station	80.33	169	LR	LR	14 07 18.3		
	comp=Z,900nm,18.3s,baz=35,slow=31							
BILL	Bilibino	82.74	338	i P	P	13 38 11.9	+0.1	
BILL				i *PP	pP	13 38 26.6	+0.5	
BILL				e*SP	sP	13 38 35.1	+3.5	
BILL				SS	SS	13 53 43.0	-5.2	
BILL				pmax	pmax			
	comp=Z,21nm,1.2s							
BILL	Bilibino	82.74	338	IAms_20	IAms_20	14 19 51.8		
	comp=Z,595nm,19.0s							
KONO	Kongsberg

CLL LmH 14 19 00.0
comp=N,600nm,20.0s
CLL LmH 14 19 00.0
comp=E,500nm,21.1s
CLL LmH 14 19 00.0
comp=Z,400nm,19.6s
CLL Collm 87.87 38 *e*P **P 13 38 36.0 -1.7**
CLL pmax pmax
comp=Z,10.0nm,0.5s
CLL MLR MLR
comp=Z,500nm,21.2s
CLL Collm 87.87 38 IAMs_20 IAMs_20 14 15 06.3
comp=Z,629nm,21.0s
CLL Collm 87.87 38 *e*L L 14 15 06.3
comp=Z,548nm,21.2s
NKC Novy Kostel 87.87 39 *e*P **P 13 38 37.9 +0.1**
NKC MLR MLR
comp=Z,600nm,15.9s
NKC Novy Kostel 87.87 39 *e*P **P 13 38 37.9 +0.1**
NKC AMS AMS 14 16 20.0
comp=Z,600nm,15.9s
MOTA Moosalm 87.90 42 *e*P **P 13 38 36.5 -1.7**
comp=Z,11nm,1.1s
WATA Walderalm 88.21 42 *e*P **P 13 38 39.4 -0.2**
comp=Z,4.7nm,0.8s
WTTA Wattenberg 88.27 42 *e*P **P 13 38 41.0 +1.0**
comp=Z,5.2nm,0.4s
WET Wettzell 88.48 40 *e*L L 14 14 19.6
comp=Z,669nm,21.3s
BRG Berggiesshubel 88.57 38 *e*P **P 13 38 38.3 -2.8**
BRG Amp 13 38 41.5
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 88.57 38 P P 13 38 53.8 +13
BRG Amp 13 38 58.2
comp=Z,4.3nm,0.7s
BRG Amp 14 19 01.0
comp=Z,0.6nm,18.2s
BRG Amp 14 19 12.0
comp=N,0.4nm,16.7s
BRG Amp 14 19 16.0
comp=E,0.5nm,19.9s
KHC Kasperske Hory 88.92 40 *e*P **P 13 38 40.8 -2.0**
KHC *e* 13 38 55.5
KHC MLR MLR
comp=Z,900nm,17.0s
KHC Kasperske Hory 88.92 40 *e*P **P 13 38 40.8 -2.0**
KHC *e*pP **pP 13 38 55.5 -1.7**
KHC AMS AMS 14 17 40.0
comp=Z,900nm,17.0s
TORD Torodi Ar. Bea 88.92 77 P **P 13 38 41.6 -1.8**
comp=Z,1.8nm,0.6s,baz=293,slow=5.5,SNR=10
TORD pP **pP 13 38 55.8 -2.0**
comp=Z,3.6nm,0.7s,baz=291,slow=5.2,SNR=14
TORD LR LR 14 16 17.9
comp=Z,675nm,19.9s,baz=320,slow=34
ABTA Abfaltersbach 89.00 42 *e*P **P 13 38 42.9 -0.4**
comp=Z,4.6nm,0.7s
PVCC Panska Ves 89.06 38 AMS AMS 14 22 00.0
comp=Z,600nm,21.5s
GEC2 GERESS Array S 89.09 40 *e*L L 14 14 46.7
comp=Z,731nm,20.8s
GERES GERESS Array B 89.09 40 P **P 13 38 41.8 -1.9**
comp=Z,1.1nm,0.6s,baz=304,slow=3.1,SNR=8.9
GERES pP **pP 13 38 56.2 -1.9**
comp=Z,2.4nm,0.8s,baz=298,slow=2.9,SNR=6.0
GERES LR LR 14 15 18.5
comp=Z,690nm,21.1s,baz=282,slow=34
PRA Prague 89.13 39 AMS AMS 14 17 00.0
comp=Z,600nm,15.7s
PRU Pruhonice 89.22 39 AMS AMS 14 22 40.0
comp=Z,700nm,17.8s
CKRC Cesky Krumlov 89.48 40 AMS AMS 14 14 50.0
comp=Z,800nm,22.8s
APA Apatity 89.80 19⇑ *i*P P 13 38 57.7 +11
APA *i* 13 49 23.0
APA *i* PS **PS 13 50 51.0 +4.9**
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,700nm,12.0s
CHVC Chvalec 89.93 38 AMS AMS 14 23 00.0
comp=Z,600nm,22.3s
UPC Upice 89.93 38 AMS AMS 14 22 50.0
comp=Z,700nm,22.2s
KEST Kesra 89.99 53 LR LR 14 15 08.0
comp=Z,309nm,20.0s,baz=247,slow=33
OSTC Ostas 90.03 38 AMS AMS 14 23 10.0
comp=Z,600nm,19.7s
TREC Trest 90.04 39 AMS AMS 14 18 40.0
comp=Z,800nm,18.3s
SEY Seymchan 90.09 336 *i* P **P 13 38 48.3 +0.4**
DPC Dobruska-Polom 90.17 38 *e*P **P 13 38 48.5 -0.2**
DPC MLR MLR
comp=Z,600nm,20.0s
DPC Dobruska-Polom 90.17 38 *e*P **P 13 38 48.5 -0.2**
DPC *e*pP **pP 13 39 01.9 -1.2**
DPC AMS AMS 14 22 50.0
comp=Z,600nm,20.0s
FINES FINESS Array B 90.43 26 P **P 13 38 48.8 -0.8**
comp=Z,1.8nm,0.8s,baz=282,slow=7.0,SNR=2.1
FINES pP **pP 13 39 03.7 -0.3**
comp=Z,2.2nm,0.8s,baz=288,slow=1.8,SNR=2.8
FINES LR LR 14 19 06.7
comp=Z,368nm,18.9s,baz=299,slow=36
KRLC Kraliky 90.55 38 AMS AMS 14 26 40.0
comp=Z,600nm,17.0s
CONA Conrad Observa 90.75 40 *e*P P 13 39 05.7 +14
comp=Z,4.4nm,0.9s
AQU L'Aquila 91.00 46 IAMs_20 IAMs_20 14 15 19.8
comp=Z,555nm,20.0s
TIXI Tiksi 91.30 348 *i* P **P 13 38 51.8 -1.6**
OKC Ostrava-Krasne 91.45 38 AMS AMS 14 18 20.0
comp=Z,700nm,19.9s
PET Petropavlovsk 91.69 326 *e*P P 13 39 07.8 +12
PET pmax pmax
comp=Z,100nm,11.5s
PETK Petropavlovsk- 92.17 326 P **P 13 38 59.6 +1.7**
comp=Z,4.1nm,1.0s,baz=89,slow=7.9,SNR=4.6
PETK pP **pP 13 39 14.0 +1.8**
comp=Z,4.2nm,0.9s,baz=130,slow=10,SNR=5.3
PETK LR LR 14 23 11.9
comp=Z,181nm,18.7s,baz=69,slow=37
OJC Ojcow 92.28 37 IAMs_20 IAMs_20 14 24 47.1
comp=Z,547nm,20.0s
MA2 Magadan 92.48 334 IAMs_20 IAMs_20 14 24 22.6
comp=Z,593nm,21.0s
SUW Suwalki 92.55 33 IAMs_20 IAMs_20 14 27 00.0
comp=Z,538nm,19.0s
PSZ Piszkesteto 93.27 39 IAMs_20 IAMs_20 14 20 56.3
comp=Z,534nm,20.0s
UZH Uzhgorod 94.43 38 *e*P P 13 39 13.9 +5.6
DIVS Divibare 94.86 43 IAMs_20 IAMs_20 14 26 23.7
comp=Z,376nm,18.0s
SIRR Siria 95.05 40⇑P P 13 39 20.9 +10
BZS Buzias 95.30 41⇑P **P 13 39 12.4 +0.1**
DRGR 95.48 39⇑P **P 13 39 11.8 -1.5**
MSVF Nonsavu 95.51 253 LR LR 14 13 43.4
comp=Z,901nm,19.4s,baz=79,slow=30
BURAR Bucovina Array 96.63 38⇑P P 13 39 05.3 -13
VOIR 97.54 40⇓P **P 13 39 22.3 -0.3**
NRIK Noril'sk 97.58 1 LR LR 14 25 44.7
comp=Z,1μm,21.1s,baz=14,slow=37
MLR Muntele Rosu 98.07 40⇓P **P 13 39 24.2 -0.9**
MLR Muntele Rosu 98.07 40 IAMs_20 IAMs_20 14 21 26.4
comp=Z,619nm,21.0s
OBN Obninsk 98.55 28 IAMs_20 IAMs_20 14 29 13.4
comp=Z,615nm,21.0s
YAK Yakutsk 98.66 342 IAMs_20 IAMs_20 14 28 06.7
comp=Z,640nm,21.0s
SNAA Sanae 101.70 161 IAMs_20 IAMs_20 14 24 05.6
comp=Z,408nm,18.0s
ARU Arti 105.85 17 IAMs_20 IAMs_20 14 36 22.0
comp=Z,405nm,18.0s
KIV Kislovodsk 108.75 34 IAMs_20 IAMs_20 14 34 32.5
comp=Z,316nm,19.0s
ZALV Zalesovo Beam 112.91 3 PKiKP **PKiKP 13 44 24.8 -0.2**
comp=Z,1.3nm,0.6s,baz=263,slow=0.6,SNR=6.2
ZALV PP **PP 13 45 10.1 -2.6**
comp=Z,3.4nm,1.0s,baz=339,slow=7.0,SNR=6.7
SONM Songino Array 117.37 347 PKP **PKiKP 13 44 34.0 +0.1**
comp=Z,1.5nm,0.8s,baz=346,slow=0.8,SNR=5.7
SONM pPKP **pPKPdf 13 44 47.9 -0.9**
comp=Z,2.2nm,0.9s,baz=48,slow=2.2,SNR=4.6
KSRS Korea Array 118.07 326 PKP **PKiKP 13 44 36.4 +0.9**
comp=Z,4.4nm,0.7s,baz=5.7,slow=1.6,SNR=27
KSRS pPKP **pPKPdf 13 44 50.1 -0.2**
comp=Z,7.0nm,0.7s,baz=359,slow=1.6,SNR=18
KSAR Wonju Array Be 118.10 326 PKIKP **PKiKP 13 44 36.4 +0.9**
KSAR Wonju Array Be 118.10 326 PKPdf **PKiKP 13 44 36.4 +0.9**
BOSA Boshof 118.54 115 PKP **PKiKP 13 44 37.2 +0.5**
comp=Z,9.9nm,0.8s,baz=307,slow=2.8,SNR=12
BOSA pPKP **pPKPdf 13 44 52.9 +1.4**
comp=Z,16nm,0.6s,baz=297,slow=1.8,SNR=13
MKAR Makanchi Array 119.83 6 PKP **PKiKP 13 44 38.8 +0.1**
comp=Z,1.2nm,0.7s,baz=356,slow=2.3,SNR=10.0
MKAR pPKP **pPKPdf 13 44 52.4 -1.1**
comp=Z,1.8nm,0.7s,baz=24,slow=1.9,SNR=11
GEYT Alibeck 121.07 29 PKP **PKPdf 13 44 40.9 -0.4**
comp=Z,67nm,0.8s,baz=274,slow=4.3,SNR=4.8
GEYT pPKP **pPKPdf 13 44 56.0 -0.1**
comp=Z,3.5nm,0.6s,baz=232,slow=13,SNR=4.7
HHC Hu-ho-hao-te 122.47 340 *e*PKP **PKiKP 13 44 45.4 +1.3**
HHC LR LR
comp=Z,610nm,16.2s
HHC LR LR
comp=Z,400nm,16.2s
HHC LR LR
comp=Z,520nm,15.3s
MAW Mawson 122.94 168 PKP **PKPdf 13 44 43.6 -0.1**
comp=Z,0.8nm,0.5s,baz=282,slow=16,SNR=1.6
WMQ Urumqi 123.15 2 *e*PKP **PKiKP 13 44 45.7 +0.4**
WMQ LR LR
comp=Z,660nm,18.7s
WMQ LR LR
comp=Z,570nm,21.1s
WMQ LR LR
comp=Z,260nm,22.9s
LODK Lodwar 123.56 77 IAMs_20 IAMs_20 14 36 13.3
comp=Z,476nm,20.0s
KSH Kashi 125.94 13 PKP **pPKPdf 13 45 05.3 -0.2**
KSH PP PP 13 46 55.1 +12
KSH Kashi 125.94 13 SS SS 14 03 46.4 +6.6
KSH AMB AMB
comp=Z,180nm,4.6s
KSH LR LR
comp=N,350nm,9.2s
KSH LR LR
comp=E,350nm,8.1s
KSH LR LR
comp=Z,240nm,6.2s
GTA Gaotai 126.74 350⇓PKP **PKiKP 13 44 52.9 +0.2**
GTA LR LR
comp=Z,280nm,18.2s
GTA LR LR
comp=Z,310nm,21.4s
GTA LR LR
comp=Z,420nm,18.5s
NJ2 Nanjing 126.98 329 *e*PKP **PKPdf 13 44 52.3 -0.3**
LZH Lanzhou 129.12 345 *e*PKP **PKiKP 13 44 58.4 +0.8**
LZH LR LR
comp=Z,410nm,17.9s
LZH LR LR
comp=Z,430nm,19.6s
LZH LR LR
comp=Z,510nm,19.8s
STKA Stephens Creek 129.15 240 PKP **PKiKP 13 44 57.9 +0.5**
comp=Z,5.5nm,1.0s,baz=111,slow=3.9,SNR=5.4
XAN Xi'an 129.52 339 PKP **PKiKP 13 44 59.0 +0.7**
XAN sPKP pPKPdf 13 45 12.7 +0.3
CD2 Chengdu 134.04 343 PKP **PKPdf 13 45 04.5 -1.7**
WRA Warramunga Arr 136.83 255 PKhKP PKPpre 13 45 06.9
comp=Z,0.7nm,1.0s,baz=98,slow=2.0,SNR=5.2
WRA PKP **PKiKP 13 45 12.5 -0.8**
comp=Z,3.3nm,0.7s,baz=92,slow=2.4,SNR=12
ASAR Alice Springs 136.99 250 PKhKP PKPpre 13 45 07.9
comp=Z,0.6nm,0.6s,baz=103,slow=3.5,SNR=11
ASAR SKP 13 48 53.4
comp=Z,0.9nm,0.9s,baz=90,slow=2.8,SNR=3.3
LSA Lhasa 137.25 358 IAMs_20 IAMs_20 14 55 47.0
comp=Z,343nm,18.0s
KMI Kunming 139.77 342⇓PKP **PKiKP 13 45 18.4 -1.1**
KMI sPKP 13 45 31.8
KMI LR LR
comp=Z,290nm,25.6s
CM34 Chiang Mai Arr 146.75 344 P **PKPbc 13 45 31.0 +0.1**
CM33 Chiang Mai Arr 146.83 344 P **PKPbc 13 45 31.0 -0.2**
CHTO Chiang Mai 146.84 344 PKP2 **PKPbc 13 45 31.2 0.0**
CHTO Chiang Mai 146.84 344 P **PKPbc 13 45 31.2 0.0**
comp=Z,38nm,1.1s
CHTO Chiang Mai 146.84 344 PKPbc 13 45 31.2 0.0
CMMT Chiang Mai 146.84 344 P **PKPbc 13 45 31.3 0.0**
CM35 Chiang Mai Arr 146.91 343 P **PKPbc 13 45 31.0 -0.4**
CM32 Chiang Mai Arr 147.02 344 P **PKPbc 13 45 32.0 +0.3**
CM09 Chiang Mai Arr 147.18 344 PKP **PKPbc 13 45 32.8 +0.6**
CM09 Chiang Mai Arr 147.18 344 P **PKPbc 13 45 32.8 +0.6**
comp=Z,390nmcomp=Z,44nm,0.9s
CM09 Chiang Mai Arr 147.18 344 P **PKPbc 13 45 32.9 +0.6**
CM31 Chiang Mai Arr 147.18 344 P **PKPbc 13 45 32.5 +0.4**
CM31 Chiang Mai Arr 147.18 344 PKPbc 13 45 32.7 +0.5
CMAR Chiang Mai Arr 147.18 344 PKPbc **PKPbc 13 45 31.9 -0.2**
comp=Z,21nm,0.7s,baz=341,slow=3.4,SNR=83
CMAR pPKPbc **pPKPbc 13 45 46.6 -0.4**
comp=Z,26nm,0.7s,baz=340,slow=2.9,SNR=20
CMAR Chiang Mai Arr 147.18 344 PKP2 **PKPbc 13 45 32.3 +0.1**
CMAR Chiang Mai Arr 147.18 344 PKPbc 13 45 32.3 +0.1
CM15 Chiang Mai Arr 147.19 344 P **PKPbc 13 45 32.8 +0.6**
comp=Z,288nmcomp=Z,39nm,0.8s
CM15 Chiang Mai Arr 147.19 344 P **PKPbc 13 45 32.0 -0.2**
CM02 Chiang Mai Arr 147.20 344 P **PKPbc 13 45 32.8 +0.6**
comp=Z,378nmcomp=Z,45nm,0.8s
CM02 Chiang Mai Arr 147.20 344 P **PKPbc 13 45 32.9 +0.7**
CM01 Chiang Mai Arr 147.21 344 P **PKPbc 13 45 32.9 +0.6**
comp=Z,415nmcomp=Z,47nm,0.8s
CM01 Chiang Mai Arr 147.21 344 P **PKPbc 13 45 32.9 +0.6**
CM13 Chiang Mai Arr 147.22 344 P **PKPbc 13 45 32.4 +0.1**
comp=Z,308nmcomp=Z,38nm,0.8s
CM13 Chiang Mai Arr 147.22 344 P **PKPbc 13 45 32.4 +0.1**
CM04 Chiang Mai Arr 147.22 344 P **PKPbc 13 45 32.5 +0.2**
comp=Z,351nmcomp=Z,43nm,0.8s
CM04 Chiang Mai Arr 147.22 344 P **PKPbc 13 45 32.0 -0.3**
CM05 Chiang Mai Arr 147.23 344 P **PKPbc 13 45 32.4 +0.1**
comp=Z,341nmcomp=Z,40nm,0.8s
CM05 Chiang Mai Arr 147.23 344 P **PKPbc 13 45 32.5 +0.1**
HYB Hyderabad 147.57 20 *i* PKP **PKPdf 13 45 32.0 +1.3**
HYB *e*pPKP **pPKPbc 13 45 47.0 -1.1**
MHMT Maesarieng 147.71 345 P **PKPab 13 45 37.1 +1.2**

*SNET **09** 13:41:14.3±1.0, 13°.14N×90°.37W, h22km±7km, ML3.3*
*GCG **09** 13:41:16.3±0.5, 15°.29N×91°.36W, h125km±59km, MD3.5*
ISC 09 13:41:14.7±2.6, 13°.1N±0°.1×90°.3W±0°.1, h24km, n19,
σ1º95/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.01**	**43**	*e*P	**Pn**	**13 41 32.9**	**-0.7**
JAYA	**Jayaque - finc**	**1.02**	**57**	*e*P	**Pn**	**13 41 33.0**	**-0.7**
JAYA				*e*S	**Sn**	**13 41 47.5**	**+0.2**
JAYA				IAML		13 41 51.7	
comp=Z,877nm,0.2s							
RTR	**El Retiro**	**1.03**	**40**	*e*P	**Pn**	**13 41 33.4**	**-0.6**
SNJE	**San Jose**	**1.04**	**42**	*e*P	**Pn**	**13 41 33.5**	**-0.5**
SLOZ	**Alcaldia de Sa**	**1.06**	**30**	*e*P	**Pb**	**13 41 34.0**	**-0.5**
PMON	**Piamonte**	**1.16**	**58**	*e*P	**Pn**	**13 41 35.6**	**0.0**
BOQS	**Boqueron**	**1.20**	**58**	*e*P	**Pn**	**13 41 36.3**	**0.0**
TACO	**Tacachico**	**1.28**	**47**	*e*P	**Pn**	**13 41 37.1**	**-0.1**
PCG	**Pacaya**	**1.31**	**348**	*e*P	**Pb**	**13 41 41.4**	**+2.4**
LFRS	**El Faro**	**1.34**	**67**	*e*P	**Pn**	**13 41 37.9**	**-0.2**
SJTE	**Alcalda de S**	**1.38**	**68**	*e*P	**Pn**	**13 41 38.3**	**-0.3**
LBRS	**Las Brisas**	**1.40**	**63**	*e*P	**Pb**	**13 41 39.8**	**-0.5**
FUG	**Fuego 3**	**1.43**	**340**	*e*P	**Pb**	**13 41 39.5**	**-1.4**
FUG				*e*S	**Sb**	**13 41 57.0**	**-1.7**
NBG	**Las Nubes**	**1.48**	**359**	*e*P	**Pb**	**13 41 41.7**	**-0.1**
NBG				*e*S	**Sb**	**13 42 02.1**	**+1.8**
COEG	**Centro de Oper**	**1.50**	**70**	*e*P	**Pn**	**13 41 40.7**	**+0.5**
COEG				IAML		13 42 10.3	
comp=Z,384nm,0.4s							
MTO3	**Montecristo**	**1.60**	**36**	*e*P	**Pn**	**13 41 41.9**	**+0.2**
PQSS	**Presa 15 de Se**	**1.80**	**73**	*e*P	**Pn**	**13 41 44.4**	**+0.1**
TECA	**Tecapa**	**1.82**	**77**	*e*P	**Pn**	**13 41 44.9**	**+0.2**
LCND	**La Caada**	**2.38**	**85**	*e*P	**Pn**	**13 41 52.9**	**+0.6**
LCND				IAML		13 42 31.2	
comp=Z,92nm,0.5s							

*IDC **09** 13:46:40.5±0.6, 52°.88S×25°.78E, h0km, mb4.4/12, mb1 4.5/12, mb1mx4.3/37, mbtmp4.4/12, MS3.9/5, Ms1 3.9/5, ms1mx3.6/28, Error ellipse: s-maj=25.2km s-min=14.3km az=81.0*
*NEIC **09** 13:46:41.9±1.7, 52°.93S±0°.03×25°.6E±0°.3, h10km±1km, mb4.7/19, Error ellipse: s-maj=27.6km s-min=4.9km az=83.0*
ISC 09 13:46:41.6±0.6, 52°.88S±0°.08×25°.7E±0°.1, h10km, n47,
σ1º05/44, mb4.6/15, MS3.9/5, 2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.45 163**‖		*e*Pn	**Pn**	**13 50 43.0**	**-1.6**
SYO	**Syowa Base**	**17.45 163**‖		/Pn	**Pn**	**13 50 44.6**	**0.0**
SUR	**Sutherland**	**20.79 348**		P	**P**	**13 51 24.5**	**+1.6**
50nm,0.9s,baz=166,slow=9.8,SNR=18							
SUR				S	**S**	**13 55 12.3**	**-2.7**
3.9nm,0.9s,baz=84,slow=24,SNR=1.3							
SUR				LR	LR	13 57 33.2	
comp=Z,518nm,21.4s,baz=162,slow=31							
SUR	**Sutherland**	**20.79 348**		P	**P**	**13 51 24.7**	**+1.7**
SNAA	**Sanae**	**22.64 203**		P	**P**	**13 51 43.3**	**+0.9**
SNAA	**Sanae**	**22.64 203**		P	**P**	**13 51 43.3**	**+0.9**
17nm,1.1s,baz=46,slow=8.0,SNR=19							
SNAA				S	**S**	**13 55 48.7**	**-1.3**
0.3nm,0.4s,baz=261,slow=19,SNR=1.0							
SNAA	**Sanae**	**22.64 203**		P	**P**	**13 51 43.3**	**+0.9**
SNAA				IAmb	IAmb	13 51 58.1	
comp=Z,17nm,1.0s							
MAW	**Mawson**	**23.10 144**		P	**P**	**13 51 48.3**	**+1.2**
comp=Z,2.5nm,0.9s,baz=289,slow=13,SNR=6.4							
MAW				S	**S**	**13 55 56.6**	**-1.3**
comp=Z,1.6nm,0.5s,baz=61,slow=18,SNR=3.0							
MAW				LR	LR	13 59 30.8	
comp=Z,279nm,19.2s,baz=288,slow=33							
MAW	**Mawson**	**23.10 144**		P	**P**	**13 51 48.2**	**+1.2**
VNA1	**Neumayer--Stat**	**23.45 208**		P	**P**	**13 51 51.4**	**+0.8**
VNA3	**Neumayer Olymp**	**24.16 207**		P	**P**	**13 51 59.3**	**+1.8**
BOSA	**Boshof**	**24.24 359**		P	**P**	**13 51 59.6**	**+0.9**
comp=Z,12nm,0.7s,baz=181,slow=11,SNR=24							
BOSA				LR	LR	13 59 43.2	
comp=Z,311nm,20.5s,baz=174,slow=32							
BOSA	**Boshof**	**24.24 359**		P	**P**	**13 51 59.9**	**+1.3**
BOSA				IAmb	IAmb	13 52 02.7	
comp=Z,14nm,0.8s							
LBTB	**Lobatse**	**27.83 360**		P	**P**	**13 52 31.5**	**+0.4**
comp=Z,6.6nm,0.7s,baz=174,slow=8.3,SNR=9.2							
LBTB				LR	LR	14 01 40.5	
comp=Z,306nm,21.5s,baz=181,slow=32							
LBTB	**Lobatse**	**27.83 360**		P	**P**	**13 52 31.4**	**+0.4**
LBTB				IAmb	IAmb	13 52 32.4	
comp=Z,12nm,0.9s							
QSPA	**South Pole Qui**	**37.34 180**		P	**P**	**13 53 54.0**	**+0.1**
comp=Z,12nm,0.8s,baz=244,slow=3.5,SNR=68							
QSPA	**South Pole Qui**	**37.34 180**		P	**P**	**13 53 54.2**	**+0.3**
QSPA				IAmb	IAmb	13 53 55.2	
comp=Z,14nm,0.8s							
CASY	**Casey**	**41.44 143**		P	**P**	**13 54 27.3**	**-0.4**
VNDA	**Vanda**	**47.05 168**		P	**P**	**13 55 13.5**	**+0.9**
comp=Z,3.9nm,0.7s,baz=236,slow=7.1,SNR=32							
VNDA	**Vanda**	**47.05 168**		P	**P**	**13 55 12.2**	**-0.3**
VNDA				IAmb	IAmb	13 55 14.5	
comp=Z,6.0nm,0.8s							
SBA	**Scott Base**	**47.35 170**		P	**P**	**13 55 13.8**	**-1.0**
H10S2	**ASCENSION HYDR**	**54.61 308**		T	T	14 55 01.8	
baz=149,slow=74,SNR=12							
H10S3	**ASCENSION HYDR**	**54.62 308**		T	T	14 55 02.1	
baz=71,slow=74,SNR=32							
TRQA	**Tornquist**	**59.51 246**		P	**P**	**13 56 42.1**	**-2.7**
TRQA				IAmb	IAmb	13 56 48.8	
comp=Z,15nm,1.2s							
H01W2	**Cape Leeuwin H**	**62.16 112**		T	T	15 05 38.9	
baz=222,slow=75,SNR=8.5							
H01W3	**Cape Leeuwin H**	**62.18 112**		T	T	15 05 40.1	
baz=222,slow=75,SNR=11							
H01W1	**Cape Leeuwin H**	**62.18 112**		T	T	15 05 35.7	
baz=222,slow=75,SNR=9.9							
PLCA	**Paso Flores**	**62.19 239**		P	**P**	**13 57 04.0**	**+1.0**
comp=Z,2.6nm,1.0s,baz=130,slow=14,SNR=1.7							
PLCA				LR	LR	14 20 41.5	
comp=Z,82nm,18.3s,baz=20,slow=33							
CPUP	**Villa Florida**	**65.38 259**		P	**P**	**13 57 24.4**	**+0.3**
comp=Z,3.3nm,1.1s,baz=135,slow=8.6,SNR=2.7							
CPUP	**Villa Florida**	**65.38 259**		P	**P**	**13 57 24.5**	**+0.4**
CPUP				IAmb	IAmb	13 57 42.8	
comp=Z,4.6nm,1.1s							
TOA0	**Torodi Ar. Sit**	**68.94 335**		P	**P**	**13 57 46.1**	**-0.5**
TOA0				IAmb	IAmb	13 57 55.7	
comp=Z,9.9nm,1.3s							
TORD	**Torodi Ar. Bea**	**68.94 335**		P	**P**	**13 57 47.2**	**+0.6**
comp=Z,2.1nm,0.6s,baz=174,slow=7.2,SNR=12							
TORD	**Torodi Ar. Bea**	**68.94 335**		P	**P**	**13 57 46.3**	**-0.3**
TORD				IAmb	IAmb	13 57 55.6	
comp=Z,6.0nm,1.2s							
ASAR	**Alice Springs**	**81.71 118**		P	**P**	**13 59 00.5**	**+0.2**
comp=Z,2.1nm,0.8s,baz=208,slow=4.6,SNR=18							
ASAR	**Alice Springs**	**81.71 118**		P	**P**	**13 59 00.1**	**-0.2**
AS31	**Alice Springs**	**81.71 118**		P	**P**	**13 58 59.8**	**-0.4**
WRA	**Warramunga Arr**	**84.96 116**		P	**P**	**13 59 17.2**	**+0.1**
comp=Z,3.3nm,0.9s,baz=213,slow=3.9,SNR=11							
WRA	**Warramunga Arr**	**84.96 116**		IAmb	IAmb	13 59 19.0	
comp=Z,0.8nm,1.4s							
WB2	**Warramunga Arr**	**84.97 116**		P	**P**	**13 59 16.5**	**-0.6**
WB2				IAmb	IAmb	13 59 29.5	
comp=Z,7.8nm,1.1s							
WRAB	**Tennant Creek**	**84.98 116**		P	**P**	**13 59 16.7**	**-0.5**
WR0	**Warramunga Arr**	**85.06 117**		P	**P**	**13 59 17.5**	**0.0**
WR0				IAmb	IAmb	13 59 35.2	
comp=Z,7.6nm,1.2s							
WB0	**Warramunga Arr**	**85.14 116**		P	**P**	**13 59 18.5**	**+0.6**
WB0				IAmb	IAmb	13 59 19.0	
comp=Z,5.8nm,0.9s							
PDAR	**Pinedale Array**	**148.80 269**		PKPbc	**PKPbc**	**14 06 28.0**	**-0.8**
comp=Z,1.1nm,0.9s,baz=110,slow=5.0,SNR=6.7							
NVAR	**Mina Array Bea**	**151.36 254**		PKPbc	**PKPbc**	**14 06 35.8**	**+0.7**
comp=Z,1.0nm,0.6s,baz=136,slow=2.4,SNR=10							
NVAR	**Mina Array Bea**	**151.36 254**			**PKiKP**	**14 06 36.2**	**+0.6**
PETK	**Petropavlovsk-**	**151.51 70**		PKPbc	**PKPbc**	**14 06 34.5**	**-0.2**
comp=Z,2.3nm,0.7s,baz=146,slow=0.5,SNR=6.7							
PETK	**Petropavlovsk-**	**151.51 70**			**PKPbc**	**14 06 34.3**	**-0.4**

*WEL **09** 13:49:00, 36°.75S×177°.70E, h2km, ML4.0, Mw4.4, Moment Tensor Solution. s5 Moment tensor: Scale 10^15 Nm; M_{rr}-1.49; $M_{\theta\theta}$ 1.66; $M_{\phi\phi}$-0.17; $M_{r\theta}$2.18; $M_{r\phi}$2.88; $M_{\theta\phi}$2.27; Fault plane solution: $M_0$4.20000×10^15 NP1: ϕ_s93.00000°, δ30.00000°, λ-33.00000°. NP2: ϕ_s212.00000°, δ74.00000°, λ-116.00000°. Principal axes: T 521.0200, Plg25.0000°, Azm322.0000°; N -201.8300, Plg25.0000°, Azm219.0000°; P -319.2000, Plg54.0000°, Azm91.0000°;*
*IDC **09** 13:49:34.2±5.7, 36°.07S×178°.50E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/26, mbtmp4.2/6, MS3.3/3, Ms1 3.3/3, ms1mx3.2/23 Error ellipse: s-maj=158.1km s-min=27.2km az=43.0*
*NOU **09** 13:49:35.7, 36°.87S×177°.77E, h0km, ML4.5, Off E. Coast of N. Island, N.Z.*
*WEL **09** 13:49:37.7±1.2, 37°S±9°×17°8E±°, h12km, M4.0/22, ML4.3/22, MLv4.0/22, Error ellipse: s-maj=0.0km s-min=0.0km az=28.2*
*NEIC **09** 13:49:39.0±2.5, 37°.01S±0°.05×177°.6E±0°.1, h10km±2km, mb4.4/8, Error ellipse: s-maj=17.1km s-min=3.1km az=63.0*
ISC 09 13:49:38.4±0.8, 36°.89S±0°.05×177°.58E±0°.04, h10km, n124,
σ1º37/117, mb4.3/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.70 207**		P	**Pg**	**13 49 52.2**	**+0.3**
WIZ	**White Island**	**0.70 206**		P	**Pg**	**13 49 51.7**	**-0.3**
HAZ	**Te Kaha**	**0.88 169**		P	**Pg**	**13 49 54.7**	**-0.7**
MXZ	**Matakaoa Point**	**0.89 139**		Pg	**Pg**	**13 49 53.7**	**-1.8**
MXZ	**Matakaoa Point**	**0.89 139**		P	**Pg**	**13 49 53.6**	**-1.9**
MXZ				S	**Sg**	**13 50 06.9**	**-0.2**
PKGZ	**Pakihiroa**	**1.07 158**		P	**Pg**	**13 49 56.9**	**-2.1**
RUGZ	**Raukumara Rang**	**1.07 176**		P	**Pg**	**13 49 57.5**	**-1.6**
WHRZ	**Whale Island**	**1.07 206**		P	**Pn**	**13 49 59.5**	**0.0**
MYRZ	**Mayor Island**	**1.14 250**		P	**Pb**	**13 49 59.2**	**-0.9**
WMGZ	**Waiomatatini S**	**1.14 144**		P	**Pb**	**13 49 59.4**	**-0.8**
OPRZ	**Ohinepanea**	**1.25 220**		P	**Pn**	**13 50 00.4**	**-1.5**
PUZ	**Puketiti**	**1.29 155**		P	**Pg**	**13 50 02.9**	**-0.4**
MARZ	**Manawahe**	**1.30 213**		P	**Pn**	**13 50 01.7**	**-1.1**
TGRZ	**Tauranga**	**1.34 231**		P	**Pn**	**13 50 01.5**	**-1.7**
EDRZ	**Edgecumbe**	**1.38 209**		P	**Pn**	**13 50 03.7**	**-0.1**
URZ	**Urewera**	**1.41 195**			**Pn**	**13 50 02.8**	**-1.3**
URZ	**Urewera**	**1.41 195**		P	**Pn**	**13 50 02.3**	**-1.9**
MWZ	**Matawai**	**1.44 182**		P	**Pn**	**13

OMRZ	Omania	1.54	218	P	Pg	13 50 08.1	0.0
KARZ	Kaharoa	1.55	223	P	Pn	13 50 05.7	-0.3
TKGZ	Te Karaka	1.56	172	P	Pn	13 50 06.2	0.0
KMRZ	Kaimai	1.61	233	P	Pn	13 50 05.7	-1.3
NGRZ	Ngongotaha	1.64	222	P	Pb	13 50 09.1	+0.4
CNGZ	Carnagh Statio	1.67	163	P	Pb	13 50 08.9	-0.3
RRRZ	Republican Roa	1.67	210	P	Pn	13 50 08.3	+0.5
MUGZ	Murupara	1.71	202	P	Pn	13 50 08.4	+0.1
RTZ	Ruatahuna	1.78	195	P	Pn	13 50 07.8	-1.5
RIGZ	Rimuhau	1.82	175	P	Pb	13 50 11.5	-0.3
GRZ	Great Barrier	1.82	290	P	Pn	13 50 09.2	-0.6
TOZ	Tahuroa Road	1.85	243	P	Pn	13 50 09.0	-1.2
PRRZ	Plateau Road	1.86	210	P	Pn	13 50 11.5	+1.2
SNGZ	Shannon Statio	1.90	186	P	Pn	13 50 10.4	-0.5
ALRZ	Allen Road	1.93	210	P	Pn	13 50 12.1	+0.7
WIAZ	Waiheke Island	1.96	272	P	Pn	13 50 11.2	-0.5
MTHZ	Maungataniwha	2.04	196	P	Pn	13 50 12.4	-0.4
PRGZ	Paritu Road	2.04	173	P	Pn	13 50 13.6	+0.8
RAHZ	Arahi	2.06	191	P	Pn	13 50 12.8	-0.3
KUTZ	Kaahu Road	2.12	221	P	Pn	13 50 12.0	-1.8
ETAZ	East Tamaki Re	2.12	268	P	Pn	13 50 13.9	0.0
KNZ	Kokohu	2.13	178	P	Pn	13 50 14.8	+0.8
MRHZ	Matea Rd	2.14	205	P	Pn	13 50 14.5	+0.2
MBAZ	Motutapu North	2.15	273	P	Pn	13 50 15.0	+0.6
TLZ	Tolley Road	2.16	228	P	Pn	13 50 13.5	-1.0
WHHZ	Waihua	2.20	187	P	Pb	13 50 17.4	-0.8
ABAZ	Army Bay	2.22	277	P	Pn	13 50 15.5	+0.2
ABAZ				S	Sn	13 50 41.4	-1.4
EPAZ	Eden Park BICE	2.27	270	P	Pb	13 50 17.6	-1.8
HBAZ	Herne Bay Bore	2.28	270	P	Pn	13 50 16.6	+0.5
NMHZ	Naumai	2.28	195	P	Pn	13 50 17.9	+1.7
AWAZ	Awhitu Peninsu	2.35	265	P	Pn	13 50 17.3	+0.1
RVAZ	Riverhead Bore	2.41	272	P	Pn	13 50 18.2	+0.4
WTAZ	Waiatarua	2.41	268	P	Pn	13 50 18.4	+0.5
BKZ	Black Stump Fm	2.42	200	Pn	Pn	13 50 17.2	-0.9
BKZ	Black Stump Fm	2.42	200	P	Pn	13 50 17.2	-0.9
RITZ	Rihia Road	2.48	213	P	Pb	13 50 23.0	-0.1
MCHZ	McNeill Hill	2.64	195	P	Pn	13 50 22.7	+1.6
TMVZ	Te Maari	2.67	213	P	Pb	13 50 25.4	-0.9
KWHZ	Kaweka Forest	2.69	199	P	Pn	13 50 22.2	+0.4
HIZ	Hauiti	2.70	232	Pn	Pn	13 50 21.5	-0.4
HIZ	Hauiti	2.70	232	P	Pn	13 50 21.4	-0.4
OTVZ	Oturere	2.72	213	P	Pb	13 50 25.3	-2.0
SNVZ	South Ngauruho	2.75	213	P	Pb	13 50 25.8	-2.0
TWVZ	Taurewa	2.75	217	P	Pb	13 50 28.2	+0.4
WCZ	Waipu Caves	2.77	289	P	Pn	13 50 22.8	-0.1
FWVZ	Far West T-bar	2.85	213	P	Pb	13 50 27.5	-1.9
BHHZ	Black Hill Sta	2.85	204	P	Pn	13 50 23.9	-0.2
WHVZ	Whangaehu Hut	2.85	213	P	Pn	13 50 26.8	+2.6
TRVZ	Turoa	2.89	213	P	Pb	13 50 28.1	-2.0
MOVZ	Moawhango	2.89	209	P	Pn	13 50 25.2	+0.6
KRHZ	Kereru	2.91	199	P	Pn	13 50 25.8	+1.0
KAHZ	Kahuranaki	2.95	191	P	Pn	13 50 25.3	0.0
PKVZ	Pokaka	2.97	216	P	Pb	13 50 29.7	-1.7
VRZ	Vera Road	3.15	224	P	Pn	13 50 28.2	+0.2
PXZ	Pawanui	3.18	190	P	Pn	13 50 28.3	-0.2
PNHZ	Pukenui	3.20	199	P	Pn	13 50 28.8	-0.1
TSZ	Takapari Road	3.41	201	P	Pn	13 50 32.3	+0.6
WAZ	Wanganui	3.51	215	P	Pb	13 50 37.2	-3.4
DVHZ	Dannevirke	3.58	198	P	Pn	13 50 33.2	-0.8
NEZ	North Egmont	3.63	228	P	Pn	13 50 36.5	+1.7
OUZ	Omahuta	3.63	296	Pn	Pn	13 50 34.8	+0.2
OUZ	Omahuta	3.63	296	P	Pn	13 50 34.9	+0.2
NBEZ	Newall Road No	3.77	230	P	Pn	13 50 39.1	+2.6
POWZ	Post Office Ro	3.77	202	P	Pn	13 50 38.2	+1.6
PRWZ	Pori Road	3.87	198	P	Pn	13 50 39.1	+1.2
BFZ	Birch Farm	3.92	195	Pn	Pn	13 50 37.9	-0.8
BFZ	Birch Farm	3.92	195	P	Pn	13 50 38.9	-1.8
MRZ	Mangatainoka R	4.07	202	P	Pn	13 50 40.1	-0.6
HOWZ	Holdsworth Sta	4.31	201	P	Pn	13 50 43.4	-0.7
OGWZ	Otaki Gorge	4.34	205	P	Pn	13 50 43.6	-0.9
KIW	Kapiti Island	4.47	207	P	Pn	13 50 45.5	-0.7
MTW	Mount Morrison	4.55	200	P	Pn	13 50 45.4	-2.0
CAW	Cannon Point	4.64	204	P	Pn	13 50 47.8	-0.8
DUWZ	D'Urville Isla	4.83	215	P	Pn	13 50 55.4	+4.2
SNZO	South Karori	4.94	206	Pn	Pn	13 50 50.2	-2.5
TUWZ	Tuamarina	5.34	211	P	Pn	13 50 56.8	-1.3
NNZ	Nelson	5.41	216	P	Pn	13 51 00.3	+1.1
QRZ	Quartz Range	5.56	224	P	Pn	13 51 01.5	+0.3
THZ	Tophouse	6.06	215	P	Pn	13 51 07.0	-1.2
DSZ	Denniston Nort	6.59	221	P	Pn	13 51 14.6	-0.8
LTZ	Lake Taylor	7.16	213	P	Pn	13 51 22.6	-0.6
CTZ	Chatham Island	8.14	149	P	Pn	13 51 39.2	+2.5
RAO	Raoul Island	8.51	28	LR	LR	13 53 05.7	
	comp=Z,202nm,20.5s,baz=241,slow=28						
MSVF	Nonsavu	19.09	1	LR	LR	13 58 36.6	
	comp=Z,68nm,20.6s,baz=290,slow=30						
MSVF	Nonsavu	19.09	1	P	Pn	13 54 04.5	+2.3
MSVF				IAmb	IAmb	13 54 18.2	
	comp=Z,21nm,1.1s						
STKA	Stephens Creek	30.00	269	P	P	13 55 52.8	+5.6
	comp=Z,5.1nm,1.1s,baz=108,slow=12,SNR=3.8						
STKA				LR	LR	14 07 35.3	
	comp=Z,93nm,19.0s,baz=86,slow=35						
AS31	Alice Springs	39.62	277	P	P	13 57 12.2	+1.9
ASAR	Alice Springs	39.62	277	P	P	13 57 12.4	+2.0
	comp=Z,8.7nm,0.8s,baz=119,slow=7.8,SNR=39						
ASAR	Alice Springs	39.62	277	P	P	13 57 11.5	+1.1
WB2	Warramunga Arr	41.22	282	P	P	13 57 24.5	+0.9
WB2				IAmb	IAmb	13 57 30.7	
	comp=Z,14nm,1.4s						
WRA	Warramunga Arr	41.23	282	P	P	13 57 25.2	+1.5
	comp=Z,5.1nm,0.9s,baz=124,slow=7.1,SNR=12						
WB0	Warramunga Arr	41.28	282	P	P	13 57 24.3	+0.2
WB0				IAmb	IAmb	13 57 30.6	
	comp=Z,8.4nm,0.9s						
QSPA	South Pole Qui	53.23	180	P	P	13 58 58.2	+1.4
	comp=Z,2.1nm,0.9s,baz=39,slow=6.5,SNR=1.4						
QSPA	South Pole Qui	53.23	180	P	P	13 58 57.5	+0.6
QSPA				IAmb	IAmb	13 59 03.2	
	comp=Z,6.1nm,1.1s						
FAKI	Fak Fak	53.62	298	P	P	13 58 58.7	-1.5
MAW	Mawson	64.93	203	P	P	14 00 21.8	+4.1
	comp=Z,0.9nm,0.7s,baz=117,slow=6.8,SNR=2.3						
MAW	Mawson	64.93	203	P	P	14 00 16.7	-1.0
SNAA	Sanae	71.74	180	P	P	14 01 04.7	+4.4
	comp=Z,1.8nm,0.9s,baz=184,slow=9.5,SNR=4.3						
SNAA	Sanae	71.74	180	P	P	14 01 00.7	+0.4
H03S2	Juan Fernandez	79.89	125	T	T	15 29 47.9	
	baz=236						
H03S1	Juan Fernandez	79.90	125	T	T	15 29 54.3	
	baz=236						
H03S3	Juan Fernandez	79.91	125	T	T	15 29 50.3	
	baz=236						
H03N3	Juan Fernandez	80.12	124	T	T	15 30 07.7	
	baz=234,SNR=7.5						
H03N2	Juan Fernandez	80.13	124	T	T	15 30 05.1	
	baz=234						
H03N1	Juan Fernandez	80.14	124	T	T	15 30 05.5	
	baz=234						

*INET **09** 14:05:59.3, 12.°82N×90.°73W, h15km, MW4.0*
*IDC **09** 14:06:09.2±1.7, 13.°69N×89.°83W, h0km, mb3.6/3, mb1 4.1/5, mb1mx3.7/33, mbtmp3.7/5, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx3.0/31, Error ellipse: s-maj=119.9km s-min=19.3km az=40.0*
*GCG **09** 14:06:11.6±1.8, 13.°32N×90.°11W, h10km, MD3.9*
*UCR **09** 14:06:12.4±1.0, 13.°21N×90.°33W, h28km±4km, ML3.9, mb4.1(NEIC)*
*SNET **09** 14:06:12.2±1.0, 13.°20N×90.°33W, h28km±4km, ML4.0*
*NEIC **09** 14:06:13.7±2.9, 13.°18N±0.°09×90.°34W±0.°04, h35km±2km, mb4.1/4, Md4.0(SNET), Error ellipse: s-maj=15.7km s-min=4.9km az=195.0*

ISC 09 14:06:09.8±1.8, 13.°12N±0.°06×90.°38W±0.°05, h13km±10km, n85, σ1°02/95, mb4.1/3, 6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.02	46	*i* P	Pg	14 06 29.6	0.0
SBLS	San Blas	1.02	46	*i* P	Pg	14 06 29.6	0.0
JAYA	Jayaque - finc	1.05	60	||*i*P	Pg	14 06 29.8	-0.3
JAYA				*e*S	Sg	14 06 43.7	-0.1
JAYA				IAML		14 06 48.4	
	comp=Z,5μm,0.2s						
JAYA	Jayaque - finc	1.05	60	||*i*P	Pg	14 06 29.8	-0.3
JAYA				*e*S	Sg	14 06 43.7	-0.1
JAYA				IAML		14 06 48.4	
	comp=Z,5μm,0.2s						
RTR	El Retiro	1.05	43	*e*P	Pg	14 06 30.1	0.0
RTR	El Retiro	1.05	43	*e*P	Pg	14 06 30.1	0.0
SNJE	San Jose	1.06	45	||*i*P	Pg	14 06 30.2	0.0
SNJE	San Jose	1.06	45	||*i*P	Pg	14 06 30.2	0.0
SLOZ	Alcaldia de Sa	1.07	33	*e*P	Pg	14 06 30.2	-0.3
LALI	Alcalda de L	1.09	71	*e*P	Pg	14 06 30.3	-0.6
LALI				*e*S	Sg	14 06 45.0	-0.2
LALI	Alcalda de L	1.09	71	*e*P	Pg	14 06 30.3	-0.6
LALI				*e*S	Sg	14 06 45.0	-0.2
CEDA	San Andres	1.17	55	*e*P	Pb	14 06 31.6	-0.4
CEDA				IAML		14 06 57.3	
	comp=Z,4μm,0.6s						
CEDA	San Andres	1.17	55	*e*P	Pb	14 06 31.6	-0.4
CEDA				IAML		14 06 57.3	
	comp=Z,4μm,0.6s						
BOQS	Boqueron	1.23	60	*e*P	Pb	14 06 32.6	-0.5
BOQS	Boqueron	1.23	60	*e*P	Pb	14 06 32.6	-0.5
SNET	Serv Nac Est T	1.25	63	*e*P	Pn	14 06 32.8	-0.3
SNET				IAML		14 06 33.4	
	comp=Z,2μm,0.2s						
SNET				*e*S	Sb	14 06 49.3	-0.1
SNET	Serv Nac Est T	1.25	63	*e*P	Pn	14 06 32.8	-0.3
SNET				IAML		14 06 33.4	
	comp=Z,2μm,0.2s						
SNET				*e*S	Sb	14 06 49.3	-0.1
SNET	Serv Nac Est T	1.25	63		Pn	14 06 32.5	-0.5
UEES	Universidad Ev	1.26	62	*e*P	Pn	14 06 33.0	-0.2
UEES				*e*S	Sb	14 06 49.4	-0.2
UEES	Universidad Ev	1.26	62	*e*P	Pn	14 06 33.0	-0.2
UEES				*e*S	Sb	14 06 49.4	-0.2
PCG	Pacaya	1.28	350	*e*P	Pn	14 06 33.2	-0.4
TACO	Tacachico	1.30	50	*i* P	Pn	14 06 33.7	-0.1
TACO				*e*S	Sb	14 06 49.2	-1.7
TACO	Tacachico	1.30	50	*i* P	Pn	14 06 33.7	-0.1
TACO				*e*S	Sb	14 06 49.2	-1.7
LFRS	El Faro	1.38	69	*e*P	Pn	14 06 34.4	-0.4
LFRS	El Faro	1.38	69	*e*P	Pn	14 06 34.4	-0.4
LFU	La Fuente	1.38	63	*e*P	Pn	14 06 34.9	+0.1
LFU	La Fuente	1.38	63	*e*P	Pn	14 06 34.9	+0.1
FUG	Fuego 3	1.39	341	*e*P	Pn	14 06 34.5	-0.6
SJTE	Alcalda de S	1.42	70	*e*P	Pn	14 06 35.1	-0.4
SJTE	Alcalda de S	1.42	70	*e*P	Pn	14 06 35.1	-0.4
LBRS	Las Brisas	1.44	65	*e*P	Pn	14 06 35.7	+0.1
LBRS	Las Brisas	1.44	65	*e*P	Pn	14 06 35.7	+0.1
NBG	Las Nubes	1.46	1	*e*P	Pn	14 06 36.7	+0.6
PAVA	Las Pavas	1.52	67	*e*P	Pn	14 06 37.2	+0.4
PAVA	Las Pavas	1.52	67	*e*P	Pn	14 06 37.2	+0.4
COEG	Centro de Oper	1.54	71	*e*P	Pn	14 06 37.1	0.0
COEG				IAML		14 07 08.2	
	comp=Z,2μm,0.4s						
COEG	Centro de Oper	1.54	71	*e*P	Pn	14 06 37.1	0.0
COEG				IAML		14 07 08.2	
	comp=Z,2μm,0.4s						
MTO3	Montecristo	1.61	38	||*i*P	Pn	14 06 38.7	+0.5
MTO3	Montecristo	1.61	38	||*i*P	Pn	14 06 38.7	+0.5
MTO3	Montecristo	1.61	38		Pn	14 06 38.6	+0.5
TECO	Alcaldia de Te	1.61	75	*e*P	Pn	14 06 37.9	-0.1
TECO				*e*S	Sn	14 06 58.2	-0.4
ESQI	Esquipulas	1.75	35	*e*P	Pn	14 06 40.7	+0.8
ESQI	Esquipulas	1.75	35		Pn	14 06 40.8	+0.9
COEB	Comit de Eme	1.84	78	*e*P	Pn	14 06 41.0	-0.2
COEB				IAML		14 07 10.3	
	comp=Z,1μm,0.4s						
COEB	Comit de Eme	1.84	78	*e*P	Pn	14 06 41.0	-0.2
COEB				IAML		14 07 10.3	
	comp=Z,1μm,0.4s						
PQSS	Presa 15 de Se	1.84	74	*e*P	Pn	14 06 41.0	0.0
TECA	Tecapa	1.86	78	*e*P	Pn	14 06 41.4	-0.2
TECA	Tecapa	1.86	78	*e*P	Pn	14 06 41.4	-0.2
RTAL	Retalhuleu	1.89	318	Pn	Pn	14 06 43.1	+1.3
LCY	Lacayo	2.05	81	*e*P	Pn	14 06 44.8	+0.7
LCY	Lacayo	2.05	81	*e*P	Pn	14 06 44.8	+0.7
JUCU	Jucuarjn	2.08	86	*e*P	Pn	14 06 44.6	+0.2
JUCU				IAML		14 07 18.1	
	comp=Z,918nm,0.3s						
JUCU	Jucuarjn	2.08	86	*e*P	Pn	14 06 44.6	+0.2
JUCU				IAML		14 07 18.1	
	comp=Z,918nm,0.3s						
LCND	La Caada	2.43	85	*e*P	Pn	14 06 49.5	+0.3
LCND				IAML		14 07 31.9	
	comp=Z,532nm,0.4s						
LCND	La Caada	2.43	85	*e*P	Pn	14 06 49.5	+0.3
LCND				IAML		14 07 31.9	
	comp=Z,532nm,0.4s						
HUEH	Huehuetenango	2.44	334	Pn	Pn	14 06 49.4	-0.2
CNCH	Conchagua	2.48	86	*e*P	Pn	14 06 51.4	+1.3
CNCH	Conchagua	2.48	86	*e*P	Pn	14 06 51.4	+1.3
TGUH	Tegucigalpa,Un	3.16	73	Pn	Pn	14 06 59.6	+0.2
CRIN	San Cristobal	3.27	97	Pn	Pn	14 07 00.3	-0.6
CCIG	Comitan	3.57	332	Pn	Pn	14 07 07.3	+2.2
PETF	Flores	3.80	7	Pn	Pn	14 07 10.1	+2.0
HZTE	Horizontes, Gu	5.26	117	Pn	Pn	14 07 29.3	+1.1
DUNO	Dulce Nombre,	5.66	122	Pn	Pn	14 07 33.7	0.0
CMIG	Matias Romero	5.87	313	Pn	Pn	14 07 37.1	+0.5
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=2.9						
CMIG				Sn	Sn	14 08 39.9	-3.9
	comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=3.5						
JTS	Las Juntas de	6.01	117	Pn	Pn	14 07 38.7	+0.1
	comp=Z,2.6nm,0.3s,baz=5.1,slow=20,SNR=7.0						
JTS				Sn	Sn	14 08 43.6	-3.8
	comp=Z,1.8nm,0.3s,baz=3.0,slow=20,SNR=1.5						
JTS				Lg	Lg	14 09 15.1	
	comp=Z,1.0nm,0.3s,baz=207,slow=19,SNR=7.8						
COVE	Coope Vega, Sa	6.32	112	Pn	Pn	14 07 43.9	+1.1
JACO	JACO, Garabito	6.58	121	Pn	Pn	14 07 45.3	-1.0
RIMA	Rio Macho	7.21	117	Pn	Pn	14 07 56.5	+1.4
SRBA	San Rafael, Bu	7.90	119	Pn	Pn	14 08 07.0	+2.4
DRK0	Durika	7.98	118	Pn	Pn	14 08 07.9	+2.1
ROSC	El Rosal	17.86	116	LR	LR	14 17 49.8	
	comp=Z,228nm,18.2s,baz=292,slow=40						
URIC	Uribia, Colomb	18.01	92	P	P	14 10 23.1	+2.6
TXAR	Lajitas Array	20.30	325	P	P	14 10 47.3	+1.6
	comp=Z,0.8nm,0.5s,baz=146,slow=11,SNR=18						
TXAR	Lajitas Array	20.30	325	P	P	14 10 47.1	+1.4
TX31	Lajitas Ar. Si	20.31	325	P	P	14 10 46.2	+0.6
TX31				IAmb	IAmb	14 10 49.9	
	comp=Z,14nm,1.4s						
TX32	Lajitas Array	20.31	325	P	P	14 10 46.6	+1.0
MNTX	Cornudas Mount	23.06	326	P	P	14 11 14.5	-0.6
MNTX				IAmb	IAmb	14 11 16.7	
	comp=Z,7.5nm,1.2s						
NVAR	Mina Array Bea	35.34	321	P	P	14 13 06.8	+1.6
	comp=Z,2.3nm,0.9s,baz=139,slow=8.2,SNR=12						
NVAR				PcP	PcP	14 15 36.0	+0.6
	comp=Z,0.5nm,0.7s,baz=128,slow=3.9,SNR=5.0						
H03N2	Juan Fernandez	47.57	167	T	T	15 05 45.6	
	baz=341						
H03N1	Juan Fernandez	47.58	167	T	T	15 05 45.2	
	baz=341						
H03N3	Juan Fernandez	47.59	167	T	T	15 05 47.5	
	baz=341						
ILAR	Eielson Array	64.26	337	P	P	14 16 43.2	-1.2
	comp=Z,0.4nm,0.9s,baz=133,slow=6.6,SNR=4.5						
WRA	Warramunga Arr	136.70	255	PKP	PKiKP	14 25 36.3	+1.7
	comp=Z,0.3nm,0.6s,baz=90,slow=2.6,SNR=2.1						
CMAR	Chiang Mai Arr	147.30	343	PKPbc	PKPdf	14 25 52.2	+0.5
	comp=Z,0.9nm,0.6s,baz=334,slow=3.6,SNR=6.2						

NNC 09 14:22:53.0±2.4, 37.°66N×77.°69E, h29km±16km, mb4.1, mpv3.9, 2C-2D, Error ellipse: s-maj=32.9km s-min=16.2km az=93.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.42	6	Pg	Pb	14 24 32.5	+5.5
	5.4nm,0.3s						
SATY				Lg	Lg	14 25 46.6	
	12nm,0.7s						
MDOK	Medeo	5.52	355	||Pg	Pb	14 24 31.8	+3.0
	3.2nm,0.5s						
MDOK				||Lg	Lg	14 25 49.7	
	8.5nm,0.6s						
UZB	Uzynbulak	5.57	10	Pg	Pb	14 24 34.2	+4.6
	4.0nm,0.2s						
UZB				Lg	Lg	14 25 49.4	
	5.8nm,0.5s						
DGS	Degeres	5.76	346	Pg	Pb	14 24 38.4	+5.5
	4.0nm,0.2s						
DGS				Lg	Lg	14 25 56.6	
	5.4nm,0.3s						
ARXS	Arharly	6.55	1	Pg	Pb	14 24 52.9	+6.7
	3.6nm,0.5s						
ARXS				Lg	Lg	14 26 21.3	
	5.0nm,0.3s						
MK31	Makanchi Array	9.74	19	⇑Pn	Pn	14 25 11.8	+0.6
	0.1nm,0.3s,baz=199,slow=13,SNR=12						
MK31				⇑Sn	Sn	14 26 59.6	+0.1
	0.7nm,0.6s,baz=198,slow=24,SNR=5.8						

*ISK **09** 14:23:58.8, 38.°62N×26.°14E, h15km, ML2.5/14*
*DDA **09** 14:23:59.4, 38.°61N×26.°15E, h7km±2km, ML2.0*
*ATH **09** 14:23:59.9, 38.°59N×26.°10E, h20km±4km, ML2.4/5, Error ellipse: s-maj=4.6km s-min=1.1km az=221.0*
*THE **09** 14:23:59.6, 38.°61N×26.°13E, h16km±1km, ML2.3/4, Error ellipse: s-maj=1.8km s-min=0.5km az=264.0*

ISC 09 14:23:59.6±0.8, 38.°62N±0.°02×26.°14E±0.°03, h17km±7km, n36, σ0°43/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	0.24	196	P	Pg	14 24 05.0	0.0
CHOS				S	Sg	14 24 08.7	0.0
	1μm,0.2s						
CHOS	Chios island	0.24	196	P	Pg	14 24 04.9	0.0
CHOS				S	Sg	14 24 08.7	0.0
CHOS				AML	AML	14 24 08.9	
	comp=E,2604μm,0.1s						
CHOS				AML	AML	14 24 09.6	
	comp=N,2008μm,0.2s						
CHOS	Chios island	0.24	196	PG	Pg	14 24 04.9	0.0
CHOS				SG	Sg	14 24 08.6	0.0
CESE	eme	0.31	156	PG	Pg	14 24 06.1	0.0
CESE				SG	Sg	14 24 10.3	-0.3
KRBN	Karaburun	0.32	94	PG	Pg	14 24 06.2	-0.2
URLA	Izmir	0.44	125	*i* P	Pg	14 24 08.3	-0.1
URLA				*i* S	Sg	14 24 14.5	0.0
URLA	Izmir	0.44	125	PG	Pg	14 24 08.4	-0.1
URLA				SG	Sg	14 24 14.9	+0.5
PSRA	Psara	0.46	261	P	Pb	14 24 09.2	0.0
PSRA				AML	AML	14 24 16.6	
	comp=N,2505μm,0.2s						
PSRA				AML	AML	14 24 20.4	
	comp=E,1207μm,0.1s						
FOCM	Foa	0.47	78	PG	Pg	14 24 08.7	-0.3
CAND	Candarli	0.62	57	PG	Pg	14 24 11.4	-0.4
SIGR	SIGRI	0.64	340	P	Pg	14 24 11.6	-0.5
SIGR				S	Sb	14 24 21.1	+0.2
	comp=E,482nm,0.4s						
SIGR	SIGRI	0.64	340	P	Pg	14 24 11.6	-0.5
SIGR				S	Sb	14 24 21.1	+0.2
SIGR				AML	AML	14 24 23.4	
	comp=E,674μm,0.3s						
SIGR				AML	AML	14 24 24.0	
	comp=N,1248μm,0.4s						
SIGR	SIGRI	0.64	340	PG	Pg	14 24 11.6	-0.5
PRK	Paraskevi	0.64	9	P	Pb	14 24 12.4	+0.1
PRK				S	Sb	14 24 22.0	+1.0
	comp=N,302nm,0.3s						
PRK	Paraskevi	0.64	9	P	Pb	14 24 12.4	+0.1
PRK				S	Sb	14 24 22.0	+1.0
PRK				AML	AML	14 24 24.4	
	comp=N,694μm,0.4s						
PRK				AML	AML	14 24 25.1	
	comp=E,506μm,0.3s						
BLCB	Balcova	0.74	108	P	Pg	14 24 13.7	-0.4
BLCB				S	Sb	14 24 24.5	+0.5
DKL	Dikili	0.75	52	PG	Pg	14 24 13.8	-0.4
DGB	zmir	0.81	134	*i* P	Pb	14 24 14.8	-0.4
DGB				*i* S	Sg	14 24 26.2	+0.2
DGB				IAML		14 24 28.0	
	comp=E,62nm,0.3s						
DGB				IAML		14 24 28.0	
	comp=N,38nm,0.1s						
ZEDA	zmir-Bergama	0.81	64	*i* P	Pg	14 24 15.8	+0.5
ZEDA				*i* S	Sn	14 24 27.8	-0.2
ZEDA				IAML		14 24 28.0	
	comp=N,94nm,0.3s						
ZEDA				IAML		14 24 29.0	
	comp=E,61nm,0.3s						
AYVA	Ayvalik	0.81	32	*i* P	Pb	14 24 14.7	-0.6
AYVA				*i* S	Sg	14 24 26.8	+0.7
AYVA				IAML		14 24 28.0	
	comp=E,50nm,0.2s						
AYVA				IAML		14 24 29.0	
	comp=N,108nm,0.6s						
KOCA	Canakkale, Ayv	0.89	360	*i* P	Pb	14 24 16.8	+0.2
KOCA				*i* S	Sg	14 24 28.9	+0.5
KOCA				IAML		14 24 31.0	
	comp=N,80nm,0.3s						
KOCA				IAML		14 24 34.0	
	comp=E,42nm,0.3s						
SMG	Samos	1.06	149	P	Pb	14 24 19.4	0.0
SMG				S	Sg	14 24 33.6	-0.3
	comp=E,165nm,0.3s						
SMG	Samos	1.06	149	P	Pb	14 24 19.5	0.0
SMG				S	Sg	14 24 33.6	-0.3
SMG		

1.3nm,0.5s,baz=90,slow=9.1,SNR=6.7
WRA Warramunga Arr 44.18 259 P **P 14 54 15.9 +1.0**
0.9nm,0.3s,baz=94,slow=7.4,SNR=64
ASAR Alice Springs 44.42 254 P **P 14 54 17.9 +1.2**
4.9nm,0.6s,baz=88,slow=8.6,SNR=153
ASAR PcP **PcP 14 55 46.0 +0.4**
0.2nm,0.5s,baz=105,slow=4.0,SNR=4.1
TXAR Lajitas Array 86.12 58 P **P 14 58 35.6 +0.2**
0.3nm,0.7s,baz=225,slow=3.2,SNR=3.8
PDAR Pinedale Array 87.25 44 P **P 14 58 40.7 +0.2**
0.2nm,0.5s,baz=207,slow=5.0,SNR=2.5

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*SOME **09** 15:39:48.5, 40°.28N×77°.48E, h5km*
*KRNET **09** 15:39:49.1±0.1, 40°.26N×77°.78E, mb3.2*
*NNC **09** 15:39:50.9±1.3, 40°.29N×77°.54E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.8km s-min=6.6km az=169.0*

ISC 09 15:39:45.2±2.4, 40°.13N±0°.09×77°.47E±0°.04, h2km±17km, n49, σ0§98/78, 25C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.01**	**354**	⇓*i*P	**Pg**	**15 40 24.7**	**+0.9**
KDJ	baz=47			⇓*i*S	**Sg**	**15 40 50.9**	**+1.0**
ULHL	**Ulahol**	**2.31**	**337**	⇑*e*P	**Pg**	**15 40 30.4**	**+0.9**
ULHL	baz=30			⇑*i*S	**Sg**	**15 41 00.3**	**+0.8**
PRZ	**Przheval'sk**	**2.46**	**16**	⇑*i*P	**Pb**	**15 40 30.3**	**+0.1**
PRZ	baz=12			⇑*i*S	**Sb**	**15 40 59.9**	**-1.1**
BOOM	**Boomskoye usch**	**2.63**	**335**	⇑*i*P	**Pg**	**15 40 35.1**	**-0.5**
BOOM	baz=29			⇑*i*S	**Sg**	**15 41 08.0**	**-1.6**
ANVS	**Anan'yevo**	**2.66**	**3**	⇑*e*P	**Pb**	**15 40 33.9**	**+0.2**
ANVS	baz=58			⇑*i*S	**Sb**	**15 41 06.6**	**-0.2**
ARLS	**Aral**	**2.94**	**307**	⇑*e*P	**Pb**	**15 40 40.8**	**+2.3**
ARLS	baz=3.0			⇑*i*S	**Sg**	**15 41 18.3**	**-1.5**
IZV	**Izvestkoviy**	**2.98**	**348**	*e*P	**Pg**	**15 40 42.9**	**+0.6**
IZV	12nm,0.4s			*e*S	**Sg**	**15 41 21.9**	**+1.0**
IZV	**Izvestkoviy**	**2.98**	**348**	Pg	**Pg**	**15 40 42.9**	**+0.6**
IZV	12nm,0.4s			Lg	Lg	15 41 21.9	
SATY	**Saty**	**3.01**	**13**	*e*P	**Pg**	**15 40 43.2**	**+0.2**
SATY	5.5nm,0.3s			*e*S	**Sg**	**15 41 22.6**	**+0.5**
SATY	**Saty**	**3.01**	**13**	Pg	**Pg**	**15 40 43.2**	**+0.2**
SATY	5.5nm,0.3s			Lg	Lg	15 41 22.6	
MDOK	**Medeo**	**3.05**	**354**	⇓*i*P	**Pg**	**15 40 44.0**	**+0.3**
MDOK	10nm,0.4s			⇑*i*S	**Sg**	**15 41 23.9**	**+0.7**
MDOK	**Medeo**	**3.05**	**354**	⇓Pg	**Pg**	**15 40 43.7**	**0.0**
MDOK	8.6nm,0.5s			⇑Lg	Lg	15 41 23.7	
MDOK	**Medeo**	**3.05**	**354**	Pg	**Pg**	**15 40 44.0**	**+0.3**
MDOK	10nm,0.4s			Lg	Lg	15 41 23.9	
AAA	**Alma-Ata**	**3.11**	**353**	*e*P	**Pg**	**15 40 44.5**	**-0.3**
AAA	48nm,0.3s			*e*S	**Sg**	**15 41 24.7**	**-0.3**
AAA	**Alma-Ata**	**3.11**	**353**	Pg	**Pg**	**15 40 44.5**	**-0.3**
AAA	48nm,0.3s			Lg	Lg	15 41 24.7	
KOTS	**Kotyrbulak**	**3.12**	**355**	*e*P	**Pg**	**15 40 45.4**	**+0.4**
KOTS	9.8nm,0.3s			*e*S	**Sg**	**15 41 25.9**	**+0.6**
KOTS	**Kotyrbulak**	**3.12**	**355**	Pg	**Pg**	**15 40 45.0**	**0.0**
KOTS	9.8nm,0.3s			Lg	Lg	15 41 25.9	
KST	**Kastek**	**3.12**	**339**	⇓*i*P	**Pg**	**15 40 45.3**	**+0.2**
KST	7.6nm,0.5s			⇓*i*S	**Sg**	**15 41 26.2**	**+0.6**
KST	**Kastek**	**3.12**	**339**	Pg	**Pg**	**15 40 45.3**	**+0.2**
KST	7.6nm,0.5s			Lg	Lg	15 41 26.2	
TKM2	**Tokmak 2**	**3.12**	**334**	⇑*i*P	**Pb**	**15 40 42.0**	**+0.4**
TKM2	baz=29			⇑*i*S	**Sb**	**15 41 20.3**	**0.0**
KBK	**Karagaybulak**	**3.16**	**324**	⇑*i*P	**Pb**	**15 40 43.1**	**+0.9**
KBK	baz=19			⇑*i*S	**Sb**	**15 41 22.2**	**+1.0**
UZB	**Uzynbulak**	**3.24**	**21**	*e*P	**Pg**	**15 40 46.5**	**-0.8**
UZB	2.8nm,0.2s			*e*S	**Sg**	**15 41 28.1**	**-1.1**
UZB	**Uzynbulak**	**3.24**	**21**	Pg	**Pg**	**15 40 46.5**	**-0.8**
UZB	2.8nm,0.2s			Lg	Lg	15 41 28.1	
AAK	**Ala-Archa**	**3.36**	**319**	⇑*e*P	**Pb**	**15 40 46.2**	**+0.6**
AAK	baz=15			⇑*i*S	**Sb**	**15 41 27.6**	**+0.6**
DGS	**Degeres**	**3.36**	**338**	*e*P	**Pg**	**15 40 49.8**	**+0.1**
DGS	9.1nm,0.6s			*e*S	**Sg**	**15 41 33.5**	**+0.3**
DGS	**Degeres**	**3.36**	**338**	Pg	**Pg**	**15 40 49.8**	**+0.1**
DGS	9.1nm,0.6s			Lg	Lg	15 41 33.5	
SHLS	**Shalkode**	**3.38**	**26**	*e*P	**Pg**	**15 40 51.7**	**+1.8**
SHLS	6.5nm,0.4s			*e*S	**Sg**	**15 41 37.4**	**+3.7**
SHLS	**Shalkode**	**3.38**	**26**	Pg	**Pg**	**15 40 51.7**	**+1.8**
SHLS	6.5nm,0.4s			Lg	Lg	15 41 37.4	
KPKS	**Kokpek**	**3.46**	**15**	*e*P	**Pg**	**15 40 50.2**	**-1.3**
KPKS	6.1nm,0.2s			*e*S	**Sg**	**15 41 34.9**	**-1.5**
AML	**Almayashu**	**3.48**	**306**	⇑*e*P	**Pb**	**15 40 48.6**	**+0.8**
AML	baz=3.0			⇑*i*S	**Sb**	**15 41 31.8**	**+1.1**
CHMS	**Chumysh**	**3.52**	**326**	⇑*i*P	**Pb**	**15 40 47.6**	**-0.6**
CHMS	baz=21			⇑*i*S	**Sb**	**15 41 30.5**	**-0.9**
PDGK	**Podgornoye**	**3.54**	**25**	Pg	**Pg**	**15 40 51.9**	**-1.2**
PDGK	1.8nm,0.4s			Lg	Lg	15 41 37.5	
KTBS	**Karatobe**	**3.63**	**351**	*e*P	**Pg**	**15 40 54.3**	**-0.5**
KTBS	4.7nm,0.3s			*e*S	**Sg**	**15 41 41.6**	**-0.2**
KTBS	**Karatobe**	**3.63**	**351**	Pg	**Pg**	**15 40 54.3**	**-0.5**
KTBS	4.7nm,0.3s			Lg	Lg	15 41 41.6	
CHKK	**Chushkaly**	**3.74**	**355**	*e*P	**Pg**	**15 40 56.0**	**-1.0**
CHKK	5.7nm,0.2s			*e*S	**Sg**	**15 41 44.7**	**-0.7**
CHKK	**Chushkaly**	**3.74**	**355**	Pg	**Pg**	**15 40 56.0**	**-1.0**
CHKK	5.7nm,0.2s			Lg	Lg	15 41 44.7	
EKS2	**Erkin-Say**	**3.76**	**314**	⇑*i*P	**Pb**	**15 40 51.4**	**-0.9**
EKS2	baz=10.0			⇑*i*S	**Sb**	**15 41 37.1**	**-1.2**
KUU	**Kurty**	**3.86**	**348**	*e*P	**Pg**	**15 40 57.8**	**-1.3**
KUU	1.8nm,0.1s			*e*S	**Sg**	**15 41 47.7**	**-1.4**
KUU	**Kurty**	**3.86**	**348**	Pg	**Pg**	**15 40 57.8**	**-1.3**
KUU	1.8nm,0.1s			Lg	Lg	15 41 47.7	
SGDS	**Sogindy**	**3.94**	**328**	Pg	**Pg**	**15 41 00.3**	**-0.4**
SGDS	4.1nm,0.5s			Lg	Lg	15 41 51.9	
KTMS	**Ketmen**	**3.96**	**32**	*e*P	**Pg**	**15 41 00.3**	**-0.7**
KTMS	2.1nm,0.3s			*e*S	**Sg**	**15 41 52.0**	**-0.3**
KTMS	**Ketmen**	**3.96**	**32**	Pg	**Pg**	**15 41 00.3**	**-0.7**
KTMS	2.1nm,0.3s			Lg	Lg	15 41 52.0	
ARXS	**Arharly**	**4.09**	**4**	*e*P	**Pg**	**15 41 02.7**	**-1.0**
ARXS	6.8nm,0.5s			*e*S	**Sg**	**15 41 56.0**	**-0.7**
ARXS	**Arharly**	**4.09**	**4**	Pg	**Pg**	**15 41 02.7**	**-1.0**
ARXS	6.8nm,0.5s			Lg	Lg	15 41 56.0	
MRKS	**Merke**	**4.12**	**311**	*e*P	**Pg**	**15 41 03.9**	**-0.3**
MRKS	3.4nm,0.4s			*e*S	**Sg**	**15 41 57.9**	**+0.3**
MRKS	**Merke**	**4.12**	**311**	Pg	**Pg**	**15 41 03.9**	**-0.3**
MRKS	3.4nm,0.4s			Lg	Lg	15 41 57.9	
BTLS	**Baital**	**5.52**	**334**	*e*P	**Pg**	**15 41 30.7**	**-0.3**
BTLS	1.0nm,0.1s			*e*S	**Sg**	**15 42 44.0**	**+1.4**
BTLS	**Baital**	**5.52**	**334**	Pg	**Pg**	**15 41 30.7**	**-0.3**
BTLS	1.0nm,0.1s			Lg	Lg	15 42 44.0	
KK31	**Karatay Array**	**6.00**	**302**	⇑Pg	**Pg**	**15 41 38.6**	**-1.5**
KK31	0.6nm,0.6s,baz=135,slow=19,SNR=3.5			⇓Lg	Lg	15 43 01.7	
	1.2nm,0.6s,baz=109,slow=29,SNR=5.7						

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*IDC **09** 15:54:00.2±1.6, 35°.38S×179°.70W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/27, mbtmp4.1/4, Error ellipse: s-maj=45.4km s-min=38.5km az=42.0*
*NEIC **09** 15:54:02.7±2.4, 35°.7S±0°.1×179°.7W±0°.2, h14km±5km, mb4.3/9, Error ellipse: s-maj=19.5km s-min=13.0km az=58.0*
*WEL **09** 15:54:03.7±0.9, 36°.S±11°×17°.9W±1°.3, h33km, M4.1/19, mB4.4/1, ML4.3/19, MLv4.1/19, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=130.0*

ISC 09 15:54:02.8±1.2, 35°.8S±0°.1×179°.3W±0°.1, h10km, n51, σ1§52/53, mb4.3/8, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.60**	**227**	Pn	**Pn**	**15 54 44.4**	**-0.6**
MXZ	**Matakaoa Point**	**2.60**	**227**	P	**Pn**	**15 54 44.5**	**-0.4**
MXZ				S	**Sn**	**15 55 16.6**	**0.0**
WMGZ	**Waiomatatini S**	**2.72**	**222**	P	**Pn**	**15 54 47.5**	**+0.9**
WMGZ				S	**Sn**	**15 55 22.3**	**+2.7**
PKGZ	**Pakihiroa**	**2.96**	**224**	P	**Pn**	**15 54 50.8**	**+0.8**
PKGZ				S	**Sn**	**15 55 27.5**	**+1.9**
PUZ	**Puketiti**	**2.99**	**220**	P	**Pn**	**15 54 50.1**	**-0.3**
PUZ				S	**Sn**	**15 55 28.1**	**+1.8**
HAZ	**Te Kaha**	**3.05**	**229**	P	**Pn**	**15 54 51.9**	**+0.9**
HAZ				S	**Sn**	**15 55 30.2**	**+2.7**
RUGZ	**Raukumara Rang**	**3.25**	**227**	P	**Pn**	**15 54 54.2**	**+0.3**
RUGZ				S	**Sn**	**15 55 34.4**	**+1.8**
CNGZ	**Carnagh Statio**	**3.34**	**216**	P	**Pn**	**15 54 55.6**	**+0.5**
TKGZ	**Te Karaka**	**3.48**	**220**	P	**Pn**	**15 54 57.2**	**+0.2**
TKGZ				S	**Sn**	**15 55 39.2**	**+1.0**
RIGZ	**Rimuhau**	**3.73**	**218**	P	**Pn**	**15 55 00.5**	**0.0**
RIGZ				S	**Sn**	**15 55 45.3**	**+0.9**
URZ	**Urewera**	**3.78**	**228**		**Pn**	**15 55 00.1**	**-1.0**
URZ	**Urewera**	**3.78**	**228**	P	**Pn**	**15 55 00.6**	**-0.5**
URZ				S	**Sn**	**15 55 45.8**	**+0.3**
OPRZ	**Ohinepanea**	**3.90**	**237**	P	**Pn**	**15 55 01.9**	**-0.8**
SNGZ	**Shannon Statio**	**4.00**	**221**	P	**Pn**	**15 55 05.1**	**+0.8**
SNGZ				S	**Sn**	**15 55 52.7**	**+1.5**
MHGZ	**Mahia Peninsul**	**4.02**	**213**	P	**Pn**	**15 55 03.8**	**-0.6**
RAHZ	**Arahi**	**4.24**	**222**	P	**Pn**	**15 55 08.0**	**+0.6**
RAHZ				S	**Sn**	**15 55 58.0**	**+1.1**
MTHZ	**Maungataniwha**	**4.33**	**224**	P	**Pn**	**15 55 08.8**	**+0.1**
MTHZ				S	**Sn**	**15 56 00.1**	**+0.9**
ALRZ	**Allen Road**	**4.44**	**230**	P	**Pn**	**15 55 10.1**	**-0.1**
TOZ	**Tahuroa Road**	**4.59**	**244**	P	**Pn**	**15 55 11.6**	**-0.7**
BKZ	**Black Stump Fm**	**4.74**	**224**	Pn	**Pn**	**15 55 12.8**	**-1.6**
BKZ	**Black Stump Fm**	**4.74**	**224**	P	**Pn**	**15 55 13.6**	**-0.8**
BKZ				S	**Sn**	**15 56 09.1**	**-0.3**
MBAZ	**Motutapu North**	**4.78**	**257**	P	**Pn**	**15 55 15.3**	**+0.4**
ETAZ	**East Tamaki Re**	**4.79**	**254**	P	**Pn**	**15 55 15.3**	**+0.2**
BHHZ	**Black Hill Sta**	**5.20**	**224**	P	**Pn**	**15 55 20.3**	**-0.5**
BHHZ				S	**Sn**	**15 56 19.2**	**-1.7**
MOVZ	**Moawhango**	**5.33**	**226**	P	**Pn**	**15 55 21.2**	**-1.3**
MOVZ				S	**Sn**	**15 56 20.3**	**-3.6**
HIZ	**Hauiti**	**5.39**	**238**	Pn	Pn	15 55 18.8	-4.6
PNHZ	**Pukenui**	**5.43**	**220**	P	**Pn**	**15 55 22.4**	**-1.4**
PNHZ				S	**Sn**	**15 56 24.3**	**-2.1**
TSZ	**Takapari Road**	**5.66**	**220**	P	**Pn**	**15 55 25.8**	**-1.2**
TSZ				S	**Sn**	**15 56 29.8**	**-2.3**
OUZ	**Omahuta**	**5.82**	**274**	Pn	Pn	15 55 22.2	-7.0
BFZ	**Birch Farm**	**6.00**	**214**	Pn	**Pn**	**15 55 29.3**	**-2.4**
MSWZ	**Moikau Station**	**7.04**	**216**	Pn	**Pn**	**15 55 43.3**	**-2.6**
TUWZ	**Tuamarina**	**7.71**	**221**	Pn	Pn	15 55 51.5	-3.6
NNZ	**Nelson**	**7.88**	**224**	Pn	Pn	15 55 52.4	-5.1
QRZ	**Quartz Range**	**8.15**	**230**	Pn	**Pn**	**15 55 59.1**	**-2.0**
THZ	**Tophouse**	**8.51**	**223**	Pn	**Pn**	**15 56 04.0**	**-2.2**
LTZ	**Lake Taylor**	**9.55**	**221**	Pn	Pn	15 56 16.9	-3.4
FOZ	**Fox Glacier**	**11.39**	**224**	Pn	**Pn**	**15 56 43.0**	**-2.5**
LBZ	**Lake Benmore**	**11.75**	**220**	Pn	Pn	15 56 46.4	-4.1
AS31	**Alice Springs**	**42.03**	**274**	P	P	16 01 49.6	-5.1
AS31				IAmb	IAmb	16 02 04.4	
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**42.03**	**274**	P	P	16 01 50.6	-4.1
	comp=Z,0.9nm,0.7s,baz=115,slow=8.1,SNR=20						
WR0	**Warramunga Arr**	**43.34**	**279**	P	P	16 02 01.3	-4.0
WR0				IAmb	IAmb	16 02 03.6	
	comp=Z,6.5nm,1.2s						
WB2	**Warramunga Arr**	**43.50**	**279**	P	P	16 02 02.8	-3.8
WB2				IAmb	IAmb	16 02 11.8	
	comp=Z,17nm,1.6s						
WRAB	**Tennant Creek**	**43.50**	**279**	P	P	16 02 03.0	-3.6
WRA	**Warramunga Arr**	**43.51**	**279**	P	P	16 02 02.5	-4.2
	comp=Z,2.4nm,0.5s,baz=119,slow=7.7,SNR=25						
WB0	**Warramunga Arr**	**43.56**	**279**	P	P	16 02 03.1	-3.9
WB0				IAmb	IAmb	16 02 40.4	
	comp=Z,10nm,1.4s						
KNRA	**Kununurra**	**50.27**	**280**	P	P	16 02 55.8	-3.7
QSPA	**South Pole Qui**	**54.33**	**180**	P	**P**	**16 03 31.1**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=37,slow=20,SNR=2.4						
QSPA	**South Pole Qui**	**54.33**	**180**	IAmb	IAmb	16 03 48.3	
	comp=Z,2.9nm,1.1s						
PMSA	**Palmer Station**	**67.82**	**155**	P	**P**	**16 05 01.6**	**+1.0**
PETK	**Petropavlovsk-**	**90.77**	**346**	P	**P**	**16 07 02.8**	**-2.7**
	comp=Z,4.4nm,1.0s,baz=115,slow=6.7,SNR=4.2						
FINES	**FINESS Array B**	**149.73**	**336**	PKPbc	**PKPdf**	**16 13 49.1**	**+1.9**
	comp=Z,1.4nm,0.6s,baz=23,slow=4.5,SNR=8.4						

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*IDC **09** 16:14:51.9±2.2, 34°.97S×179°.69W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=65.1km s-min=38.7km az=41.0*
*WEL **09** 16:14:53.8±1.0, 36°.S±6°×17°.9W±°, h33km, M4.0/15, ML4.1/15, MLv4.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=164.0*
*NEIC **09** 16:14:55.2±1.3, 35°.7S±0°.1×179°.9E±0°.2, h5km±9km, mb4.3/8, Error ellipse: s-maj=22.3km s-min=19.0km az=134.0*

ISC 09 16:14:52.0±1.5, 35°.63S±0°.09×179°.03W±0°.10, h35km, n48, σ1§84/52, mb4.1/7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.88**	**227**	Pn	**Pn**	**16 15 34.9**	**-0.5**
MXZ	**Matakaoa Point**	**2.88**	**227**	P	**Pn**	**16 15 36.1**	**+0.7**
MXZ				S	**Sn**	**16 16 08.1**	**-0.8**
WMGZ	**Waiomatatini S**	**3.00**	**223**	P	**Pn**	**16 15 39.2**	**+2.3**
WMGZ				S	**Sn**	**16 16 13.9**	**+2.2**
PKGZ	**Pakihiroa**	**3.24**	**225**	P	**Pn**	**16 15 41.9**	**+1.6**
PKGZ				S	**Sn**	**16 16 18.5**	**+0.8**
PUZ	**Puketiti**	**3.27**	**221**	P	**Pn**	**16 15 41.5**	**+0.8**
HAZ	**Te Kaha**	**3.33**	**229**	P	**Pn**	**16 15 42.9**	**+1.4**
HAZ				S	**Sn**	**16 16 21.4**	**+1.6**
RUGZ	**Raukumara Rang**	**3.52**	**228**	P	**Pn**	**16 15 43.1**	**-1.2**
CNGZ	**Carnagh Statio**	**3.60**	**217**	P	**Pn**	**16 15 47.0**	**+1.7**
TKGZ	**Te Karaka**	**3.75**	**221**	P	**Pn**	**16 15 48.9**	**+1.6**
TKGZ				S	**Sn**	**16 16 30.8**	**+0.4**
MWZ	**Matawai**	**3.86**	**225**	P	**Pn**	**16 15 49.7**	**+0.8**
MWZ				S	**Sn**	**16 16 34.0**	**+1.1**
RIGZ	**Rimuhau**	**4.00**	**219**	S	**Sn**	**16 16 37.1**	**+0.6**
URZ	**Urewera**	**4.06**	**229**	Pn	**Pn**	**16 15 50.9**	**-0.6**
URZ	**Urewera**	**4.06**	**229**	P	**Pn**	**16 15 52.2**	**+0.7**
URZ				S	**Sn**	**16 16 36.7**	**-1.0**
OPRZ	**Ohinepanea**	**4.18**	**237**	P	**Pn**	**16 15 53.4**	**+0.1**
SNGZ	**Shannon Statio**	**4.28**	**222**	P	**Pn**	**16 15 56.7**	**+2.1**
KUZ	**Kuaotunu**	**4.39**	**254**	P	**Pn**	**16 15 56.3**	**+0.2**
RAHZ	**Arahi**	**4.51**	**222**	P	**Pn**	**16 15 59.5**	**+1.7**
WIAZ	**Waiheke Island**	**4.86**	**255**	P	**Pn**	**16 16 03.2**	**+0.6**
TOZ	**Tahuroa Road**	**4.87**	**243**	P	**Pn**	**16 16 02.6**	**-0.1**
BKZ	**Black Stump Fm**	**5.02**	**224**	Pn	**Pn**	**16 16 02.2**	**-2.6**
BKZ	**Black Stump Fm**	**5.02**	**224**	P	**Pn**	**16 16 05.7**	**+0.9**
BHHZ	**Black Hill Sta**	**5.48**	**224**	P	**Pn**	**16 16 11.9**	**+0.7**
MOVZ	**Moawhango**	**5.61**	**226**	P	**Pn**	**16 16 12.2**	**-0.7**
HIZ	**Hauiti**	**5.67**	**238**	Pn	**Pn**	**16 16 11.0**	**-2.7**
OUZ	**Omahuta**	**6.04**	**272**	P	**Pn**	**16 16 19.0**	**+0.3**
BFZ	**Birch Farm**	**6.27**	**215**	Pn	**Pn**	**16 16 20.3**	**-1.6**
TUWZ	**Tuamarina**	**7.99**	**221**	Pn	**Pn**	**16 16 42.0**	**-3.5**
NNZ	**Nelson**	**8.16**	**225**	Pn	Pn	16 16 43.1	-4.8
BSWZ	**Blackbirch Sta**	**8.23**	**220**	Pn	**Pn**	**16 16 44.7**	**-4.0**
CTZ	**Chatham Island**	**8.30**	**168**	P	**Pn**	**16 16 53.7**	**+3.9**
CTZ				S	**Sn**	**16 18 20.1**	**-2.2**
QRZ	**Quartz Range**	**8.43**	**230**	Pn	**Pn**	**16 16 47.6**	**-3.9**
THZ	**Tophouse**	**8.79**	**223**	Pn	**Pn**	**16 16 53.0**	**-3.5**
KHZ	**Kahutara**	**8.90**	**218**	Pn	**Pn**	**16 16 56.1**	**-1.9**
LTZ	**Lake Taylor**	**9.82**	**221**	Pn	**Pn**	**16 17 08.6**	**-2.1**
MQZ	**McQueen's Vall**	**10.30**	**216**	Pn	**Pn**	**16 17 12.9**	**-4.2**
OXZ	**Oxford**	**10.32**	**219**	Pn	**Pn**	**16 17 16.6**	**-0.9**
AS31	**Alice Springs**	**42.25**	**273**	P	**P**	**16 22 41.4**	**-0.6**
AS31				IAmb	IAmb	16 23 19.6	
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**42.25**	**273**	P	**P**	**16 22 41.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=115,slow=8.0,SNR=16						
WR0	**Warramunga Arr**	**43.54**	**278**	P	**P**	**16 22 52.1**	**-0.4**
WR0				IAmb	IAmb	16 23 05.3	
	comp=Z,8.9nm,1.4s						
WB2	**Warramunga Arr**	**43.70**	**278**	P	**P**	**16 22 54.0**	**+0.3**
WB2				IAmb	IAmb	16 22 58.3	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**43.70**	**278**	P	**P**	**16 22 54.0**	**+0.2**
WRA	**Warramunga Arr**	**43.71**	**278**	P	**P**	**16 22 54.1**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=119,slow=7.6,SNR=51						
WRA	**Warramunga Arr**	**43.71**	**278**	IAmb	IAmb	16 22 54.3	
	comp=Z,0.6nm,1.6s						
WB0	**Warramunga Arr**	**43.75**	**278**	P	**P**	**16 22 54.3**	**+0.1**
WB0				IAmb	IAmb	16 22 55.8	
	comp=Z,12nm,1.6s						
KNRA	**Kununurra**	**50.46**	**279**	P	**P**	**16 23 47.0**	**+0.4**
QSPA	**South Pole Qui**	**54.49**	**180**	P	P	16 24 25.8	+10
	comp=Z,0.5nm,0.8s,baz=21,slow=1.5,SNR=1.5						
QSPA	**South Pole Qui**	**54.49**	**180**	P	P	16 24 25.2	+9.3
QSPA				IAmb	IAmb	16 24 58.3	
	comp=Z,6.5nm,1.6s						
FINES	**FINESS Array B**	**149.67**	**336**	PKPbc	**PKiKP**	**16 34 40.2**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=62,slow=3.6,SNR=4.9						

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*MOS **09** 16:15:10.8±1.1, 36°.11N×139°.86E, h43km, mb5.0/19, Error ellipse: s-maj=7.6km s-min=5.2km az=95.7*
*BJI **09** 16:15:11.0±0.0, 36°.00N×139°.90E, h55km, mB5.0/27, mb4.6/41, Ms4.2/7, Ms7 3.9/6*
*NEIC **09** 16:15:13.7±1.9, 36°.08N±0°.05×139°.85E±0°.05, h51km±4km, mb4.7/130, Error ellipse: s-maj=7.7km s-min=5.7km az=156.0*
*IDC **09** 16:15:13.7±1.5, 36°.04N×139°.71E, h54km±13km, mb4.2/26, mb1 4.3/29, mb1mx4.2/40, mbtmp4.4/29, MS3.4/17, Ms1 3.5/17, ms1mx3.3/42, Error ellipse: s-maj=12.3km s-min=11.0km az=78.0*
*JMA **09** 16:15:13.8±0.1, 36°.07N×139°.85E, h45km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕ_s244.00000°, δ28.00000°, λ104.00000°. NP2: ϕ_s47.00000°, δ63.00000°, λ83.00000°. Principal axes: T Plg71.0000°, Azm301.0000°; N Plg7.0000°, Azm51.0000°; P Plg18.0000°, Azm143.0000°;*
JMA Felt IV J1.
*NIED **09** 16:15:13.8, 36°.07N×139°.85E, h45km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.88; $M_{\theta\theta}$-2.55; $M_{\phi\phi}$-0.33; $M_{r\theta}$1.56; $M_{\theta\phi}$-0.97; $M_{\phi r}$1.97; Fault plane solution: $M_0$3.83000×10^{15} NP1:ϕ_s51.00000°, δ66.00000°, λ74.00000°. NP2:ϕ_s265.00000°, δ29.00000°, λ121.00000°.*

ISC 09 16:15:12.7±0.5, 36°.02N±0°.03×139°.92E±0°.04, h50km±4km, n318, σ1§40/344, mb4.6/118, MS3.6/15, 40C-21D, Fault plane solution: NP1:ϕ_s237.60513°, δ29.71715°, λ96.21500°. NP2:ϕ_s50.45809°, δ60.47487°, λ86.46401°. Principal axes: T Plg74.2756°, Azm311.1978°; N Plg3.0763°, Azm52.2023°; P Plg15.4052°, Azm143.0508°;

Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**47**	⇑P	**Pn**	**16 15 22.5**	**+0.7**
JYT				S	**Sn**	**16 15 28.8**	**+0.5**
JYT	**Yasato**	**0.30**	**47**		**Pn**	**16 15 22.6**	**+0.7**
JYT				Sn	**Sn**	**16 15 28.8**	**+0.5**
TOK	**Tokyo**	**0.36**	**202**	P	**Pn**	**16 15 23.5**	**+1.2**
JAG	**Ashikaga**	**0.55**	**317**	⇓P	**Pn**	**16 15 24.6**	**0.0**
JAG				S	**Sn**	**16 15 32.1**	**-1.0**
JRY	**Ryogami san**	**0.83**	**270**	⇓P	**Pn**	**16 15 28.1**	**0.0**
JRY				*e*S	**Sn**	**16 15 37.9**	**-1.5**
JKT	**Katashina**	**0.92**	**324**	⇓P	**Pn**	**16 15 29.2**	**-0.3**
JOD2	**Odawara 2**	**1.01**	**222**	⇓P	**Pn**	**16 15 31.6**	**+1.0**
JOD2				S	**Sn**	**16 15 44.6**	**+0.7**
JYN	**Shimob**	**1.23**	**245**	⇑P	**Pn**	**16 15 34.9**	**+1.2**
JFNN	**Fujinakano**	**1.30**	**231**	P	**Pn**	**16 15 36.1**	**+1.6**
BSO3	**Boso 3**	**1.31**	**158**	⇓P	**Pn**	**16 15 35.8**	**+1.5**
JIM2	**Oshima 3**	**1.36**	**197**	⇓P	**Pn**	**16 15 36.0**	**+0.7**
JFY	**Yanaizu**	**1.40**	**353**	⇓P	**Pn**	**16 15 36.4**	**+0.6**
JFY				*e*S	**Sn**	**16 15 52.8**	**-0.3**
MJAR	**Matsushiro Arr**	**1.48**	**291**	P	**Pn**	**16 15 36.0**	**-0.9**
	55nm,0.3s,baz=94,slow=15,SNR=1542						
MJAR				S	**Sn**	**16 15 51.4**	**-3.7**
	40nm,0.3s,baz=105,slow=19,SNR=5.3						
MJAR				LR	LR	16 16 23.2	
	comp=Z,900nm,19.6s,baz=130,slow=54						
MJAR	**Matsushiro Arr**

JEW Eniwo 6.91 9 Pn **Pn 16 16 52.2 +0.8**
JNU Nakatsue 8.00 251 P **Pn 16 17 07.3 +1.0**
0.6nm,0.3s,baz=66,slow=9.9,SNR=3.4
ASAJ Asahikawa 8.34 13 P **Pn 16 17 10.7 -0.2**
2.5nm,0.3s,baz=211,slow=14,SNR=31
ASAJ S **Sn 16 18 42.2 -1.5**
0.7nm,0.3s,baz=287,slow=32,SNR=1.6
ASAJ LR LR 16 20 10.8
comp=Z,92nm,20.9s,baz=201,slow=36
JKA Kamikawa-asahi 8.34 13 Pn **Pn 16 17 11.1 +0.1**
JKA Kamikawa-asahi 8.34 13 **Sn 16 18 42.2 -1.5**
NMR Nemuro--Hokkai 8.59 30 *e*P **Pn 16 17 12.4 -2.0**
NMR *e*S **Sn 16 18 44.0 -5.9**
GLVR Golovnino 8.83 27 *e*P **Pn 16 17 15.1 -2.5**
GLVR *e*S **Sn 16 18 49.8 -5.7**
RUSJ Misakicho 9.05 25 *e*P **Pn 16 17 20.4 -0.2**
RUSJ *e*S **Sn 16 18 58.1 -2.8**
JCJ Chichijima 9.10 167 P **Pn 16 17 19.9 -1.6**
62nm,0.3s,baz=300,slow=20,SNR=5.5
JCJ S **Sn 16 18 56.5 -6.1**
18nm,0.3s,baz=279,slow=22,SNR=1.4
JCJ Chichijima 9.10 167 Pn **Pn 16 17 20.0 -1.5**
GRPR Tuman 9.14 28 *e*P **Pn 16 17 17.9 -3.9**
GRPR *e*S **Sn 16 18 56.1 -7.1**
KSRS Korea Array 9.74 282 P **Pn 16 17 33.6 +3.6**
1.1nm,0.3s,baz=96,slow=14,SNR=20
KSRS LR LR 16 21 10.0
comp=Z,266nm,21.7s,baz=58,slow=37
KSAR Wonju Array Be 9.77 282 P **Pn 16 17 30.6 +0.1**
KSAR Wonju Array Be 9.77 282 Pn **Pn 16 17 30.6 +0.1**
KS19 Wonju Array Si 9.79 282 **Pn 16 17 31.0 +0.2**
USRK Ussuriysk Ar. 10.18 326 P **Pn 16 17 40.1 +4.0**
baz=140,slow=12,SNR=28
USRK LR LR 16 21 03.5
comp=Z,199nm,20.7s,baz=152,slow=35
KUR Kuril'sk 11.00 31 *e*P **Pn 16 17 47.7 +0.4**
KUR *i* S **Sn 16 19 43.8 -5.0**
KUR pmax pmax
comp=Z,24nm,0.9s
KUR pmax pmax
comp=E,15nm,0.5s
KUR pmax pmax
comp=N,10.0nm,0.7s
KUR smax smax
comp=E,47nm,0.6s
KUR smax smax
comp=N,22nm,0.5s
YSS Yuzh-Sakhalins 11.13 10 *e*P **Pn 16 17 49.0 0.0**
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 11.13 10 Pn **Pn 16 17 48.2 -0.8**
MDJ Mudanjiang 11.65 321 P **Pn 16 17 58.2 +2.0**
MDJ pP 16 18 06.1
MDJ sP 16 18 13.6
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,170nm,4.8s
MDJ LR LR
comp=Z,510nm,8.0s
MDJ Mudanjiang 11.65 321 **Pn 16 17 58.2 +2.0**
JMZ Minamidaito 2 12.61 219 Pn **Pn 16 18 07.2 -2.2**
JOW Kunigami 13.51 231 Pn **Pn 16 18 20.2 -1.5**
CN2 Changchun 13.54 309 *e*P **Pn 16 18 23.6 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
KLR Kul'dur 14.49 338 P **Pn 16 18 34.1 -0.7**
comp=Z,0.2nm,0.3s,baz=142,slow=12,SNR=5.0
KLR LR LR 16 23 40.3
comp=Z,95nm,21.0s,baz=158,slow=35
NJ2 Nanjing 17.90 263 *e*P **P 16 19 18.6 +0.5**
NJ2 pmax pmax
comp=Z,15nm,0.5s
YHNB Yeheng 19.56 240 P **P 16 19 36.4 -0.1**
NACB Ninganchiao 19.73 238 P **P 16 19 37.6 -0.7**
ZEA Zeya 19.81 337 *e*P **P 16 19 36.3 -2.5**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=Z,10.0nm,0.4s
SSLB Suanglung 20.43 239 P **P 16 19 44.8 -1.0**
SSLB IAmb IAmb 16 20 11.6
comp=Z,53nm,1.4s
YULB Yu-li 20.45 237 P **P 16 19 45.7 -0.4**
YULB IAmb IAmb 16 20 17.6
comp=Z,62nm,1.3s
TPUB Ta-pu 20.97 238 P **P 16 19 50.4 -1.3**
TWG Pinlang 20.99 236 P **P 16 19 51.0 -0.9**
TWG IAmb IAmb 16 20 12.8
comp=Z,59nm,1.0s
PEA0B Petropavlovsk- 21.17 31 P **P 16 19 52.6 -1.0**
PEA0B pmax pmax
comp=Z,13nm,1.0s
PEA0B Petropavlovsk- 21.17 31 P **P 16 19 52.6 -1.0**
PETK Petropavlovsk- 21.17 31 P **P 16 19 57.4 +3.8**
comp=Z,1.8nm,0.6s,baz=215,slow=6.9,SNR=6.8
PETK LR LR 16 27 05.0
comp=Z,64nm,20.2s,baz=250,slow=34
PETK Petropavlovsk- 21.17 31 P **P 16 19 52.2 -1.4**
PETK Petropavlovsk- 21.17 31 P **P 16 19 52.2 -1.4**
PET Petropavlovsk 21.51 32 P **P 16 19 56.9 -0.3**
HHC Hu-ho-hao-te 22.68 291 *e*P **P 16 20 10.8 +0.8**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,400nm,6.5s
MA2 Magadan 24.60 13 P **P 16 20 28.7 +0.7**
comp=Z,12nm,0.7s,baz=196,slow=6.3,SNR=9.0
MA2 LR LR 16 32 28.4
comp=Z,23nm,18.1s,baz=330,slow=42
MA2 Magadan 24.60 13 *ce*P **P 16 20 28.6 +0.6**
MA2 pmax pmax
comp=Z,15nm,0.9s
MA2 Magadan 24.60 13 P **P 16 20 28.7 +0.7**
MA2 IAmb IAmb 16 20 30.7
comp=Z,18nm,0.9s
YAK Yakutsk 26.82 349 P **P 16 20 47.3 -0.6**
comp=Z,9.0nm,0.4s,baz=259,slow=0.7,SNR=5.5
YAK LR LR 16 31 32.8
comp=Z,79nm,18.4s,baz=155,slow=37
YAK Yakutsk 26.82 349 *e*P **P 16 20 47.2 -0.8**
YAK *e**PP **pP 16 21 00.5 -0.2**
YAK *e* 16 21 32.1
YAK *e* 16 24 11.3
YAK *e*S **S 16 25 18.4 -2.1**
YAK *e*SS **SnSn 16 26 35.0 +6.5**
YAK *e* 16 31 33.1
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=Z,53nm,2.6s
YAK pmax pmax
comp=N,28nm,2.6s
YAK smax smax
comp=N,124nm,5.1s
YAK smax smax
comp=E,48nm,4.5s
ULN Ulaanbaatar 26.96 306 *ce*P **P 16 20 49.2 -0.4**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 27.38 306 P **P 16 20 53.8 +0.4**
comp=Z,1.6nm,0.6s,baz=103,slow=8.6,SNR=7.6
SONM LR LR 16 30 51.2
comp=Z,137nm,18.6s,baz=100,slow=34
SONM Songino Array 27.38 306 P **P 16 20 53.7 +0.4**
SEY Seymchan 28.02 12 P **P 16 21 00.9 +2.1**
comp=Z,4.0nm,0.9s,baz=190,slow=9.1,SNR=8.1
SEY Seymchan 28.02 12 *i* P **P 16 20 57.9 -0.9**
CD2 Chengdu 30.48 271 P **P 16 21 20.0 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 31.73 288 *e*P **P 16 21 31.7 -0.3**
GTA pP pP 16 21 42.5 -2.3
GTA sP sP 16 21 47.0 -3.7
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,220nm,5.1s
GTA LR LR
comp=Z,240nm,15.6s
GTA LR LR
comp=Z,230nm,14.5s
GTA LR LR
comp=Z,200nm,14.9s
BILL Bilibino 35.34 17 *ll e*P **P 16 22 03.6 +0.7**
BILL *e**SP **sP 16 22 22.7 +1.0**
BILL S **S 16 27 33.0 -0.4**
BILL pmax pmax
comp=Z,4.0nm,1.4s
TIXI Tiksi 36.16 354 P **P 16 22 09.2 -0.7**
comp=Z,3.8nm,0.5s,baz=143,slow=6.8,SNR=21
TIXI Tiksi 36.16 354 *ce*P **P 16 22 08.4 -1.4**
TIXI Tiksi 36.16 354 P **P 16 22 08.9 -0.9**
TIXI IAmb IAmb 16 22 09.9
comp=Z,5.6nm,0.5s
TOLI2 Tolitoli 39.01 211 P **P 16 22 33.8 -0.8**
TOLI2 IAmb IAmb 16 22 53.9
comp=Z,9.5nm,1.0s
SPIA Saint Paul Isl 39.12 41 P **P 16 22 34.1 -0.9**
NIKH Nikolski High 39.35 48 P **P 16 22 38.0 +1.1**
FAKI Fak Fak 39.40 192 P **P 16 22 38.5 +0.7**
DGZ Jazzator, Alta 40.02 307 *d i* P **P 16 22 43.5 +0.7**
DGZ pmax pmax
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 40.08 255 P **P 16 22 42.5 -0.9**
comp=Z,0.3nm,0.3s,baz=40,slow=7.1,SNR=1.8
CMAR LR LR 16 39 43.1
comp=Z,66nm,18.7s,baz=215,slow=37
WMQ Urumqi 40.23 298 *e*P **P 16 22 47.2 +2.6**
LSA Lhasa 41.11 276 P **P 16 22 52.2 -0.2**
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 41.11 276 P **P 16 22 52.2 -0.2**
ZAA0 Zalesovo Array 41.72 313 P **P 16 22 56.2 -0.3**
ZAA0 IAmb IAmb 16 22 57.2
comp=Z,15nm,0.7s
ZAA0 PcP **PcP 16 24 51.3 -0.9**
ZALV Zalesovo Beam 41.72 313 P **P 16 22 56.0 -0.5**
comp=Z,16nm,0.6s,baz=91,slow=6.5,SNR=57
ZALV PcP **PcP 16 24 51.8 -0.4**
comp=Z,2.6nm,0.4s,baz=111,slow=3.6,SNR=8.7
ZALV LR LR 16 40 02.6
comp=Z,53nm,18.5s,baz=67,slow=36
ZALV Zalesovo Beam 41.72 313 P **P 16 22 56.2 -0.3**
ZALV **PcP 16 24 51.9 -0.3**
MK31 Makanchi Array 43.65 303 *d i* P **P 16 23 12.0 -0.3**
MK31 Makanchi Array 43.65 303 P **P 16 23 12.0 -0.3**
MKAR Makanchi Array 43.65 303 P **P 16 23 11.9 -0.5**
comp=Z,16nm,0.3s,baz=88,slow=9.7,SNR=61
MKAR LR LR 16 40 43.0
comp=Z,74nm,19.4s,baz=92,slow=35
MKAR Makanchi Array 43.65 303 *i* P **P 16 23 11.8 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
NRIK Noril'sk 43.69 336 P **P 16 23 11.7 -0.6**
comp=Z,5.7nm,0.6s,baz=110,slow=9.1,SNR=8.1
NRIK Noril'sk 43.69 336 *ce*P **P 16 23 11.9 -0.4**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
NRIK Noril'sk 43.69 336 P **P 16 23 12.0 -0.3**
NRIK IAmb IAmb 16 23 14.3
comp=Z,5.9nm,0.5s
MAKZ Makanchi 43.86 303 P **P 16 23 13.5 -0.5**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 43.86 303 P **P 16 23 13.5 -0.5**
SDPT Sand Point 44.37 45 P **P 16 23 18.0 +0.1**
CNBA Chernabura Isl 44.88 46 P **P 16 23 22.9 +0.9**
CNBA IAmb IAmb 16 24 02.1
comp=Z,31nm,1.6s
KAPI Kappang 44.99 209 LR LR 16 42 32.6
comp=Z,90nm,19.7s,baz=214,slow=36
JIRN Jiri 45.91 275 *e*P **P 16 23 30.8 -0.2**
GUN Gumba 46.06 276 *e*P **P 16 23 32.3 +0.2**
PKI Pulchoki 46.58 276 *e*P **P 16 23 35.2 -1.0**
comp=Z,12nm,0.7s
PKIN Phulchoki 46.59 276 *e*P **P 16 23 35.3 -0.9**
comp=Z,8.2nm,0.5s
KKN Kakani 46.59 276 *e*P **P 16 23 35.7 -0.5**
GKN Gorkha 47.02 277 *e*P **P 16 23 39.1 -0.4**
SVW2 Sparrevohn 47.05 37 P **P 16 23 41.1 +2.0**
SVW2 IAmb IAmb 16 24 02.9
comp=Z,9.1nm,1.4s
PRZ Przheval'sk 47.16 298 P **P 16 23 41.1 +0.7**
PRZ pmax pmax
comp=Z,18nm,1.0s
PRZ Przheval'sk 47.16 298 P **P 16 23 41.0 +0.7**
DANN Dangsing 47.59 277 *e*P **P 16 23 44.0 0.0**
comp=Z,115nm,0.8s
A21K Barrow 47.86 23 P **P 16 23 45.1 +0.1**
SOEI Soe 47.86 201 P **P 16 23 45.9 0.0**
KOLN Koldanda 47.95 277 *e*P **P 16 23 46.6 -0.1**
KDJ Kajisay 48.12 297 P **P 16 23 48.0 +0.1**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 48.12 297 P **P 16 23 48.0 +0.1**
KDJ IAmb IAmb 16 23 48.8
comp=Z,5.4nm,0.8s
PYUN Piuthan 48.31 278 *e*P **P 16 23 49.5 0.0**
comp=Z,136nm,1.0s
RSO Redoubt South 48.44 38 P **P 16 23 51.1 +1.1**
KDAK Kodiak Island 48.65 41 P **P 16 23 52.3 +0.9**
comp=Z,3.1nm,0.3s,baz=256,slow=5.8,SNR=17
KDAK Kodiak Island 48.65 41 P **P 16 23 52.6 +1.2**
KDAK pmax pmax
comp=Z,7.0nm,1.0s
KDAK Kodiak Island 48.65 41 P **P 16 23 52.6 +1.2**
KDAK IAmb IAmb 16 23 53.4
comp=Z,6.5nm,0.9s
PPLA Purkeypile 48.68 34 P **P 16 23 52.7 +0.9**
PPLA IAmb IAmb 16 24 09.9
comp=Z,14nm,1.4s
SPU Mount Spurr 48.77 37 P **P 16 23 52.2 -0.1**
BOOM Boomskoye usch 48.92 298 P **P 16 23 54.3 +0.3**
BOOM 16 25 18.2
BOOM pmax pmax
comp=Z,15nm,1.2s
BOOM Boomskoye usch 48.92 298 P **P 16 23 54.3 +0.3**
BOOM IAmb IAmb 16 23 55.5
comp=Z,15nm,1.1s
BOOM PcP **PcP 16 25 18.2 +0.5**
SKT Skwentna 49.00 36 P **P 16 23 55.5 +1.5**
TKM2 Tokmak 2 49.06 299 P **P 16 23 55.6 +0.6**
SNR=17
BPAW Bear Paw Mtn. 49.23 33 P **P 16 23 57.6 +1.8**
CNPM China Poot 49.24 39 P **P 16 23 57.4 +1.4**
CNPM IAmb IAmb 16 24 02.4
comp=Z,4.3nm,0.8s
CNPM PcP **PcP 16 25 20.6 +2.3**
KTH Kantishna Hill 49.26 34 P **P 16 23 55.1 -0.9**
KTH IAmb IAmb 16 24 22.1
comp=Z,15nm,1.6s
MTN Manton Dam 49.30 191 P **P 16 23 56.4 -0.4**
MTN IAmb IAmb 16 24 10.8
comp=Z,14nm,1.1s
MLY Manley 49.34 32 P **P 16 23 57.4 +0.7**
MLY IAmb IAmb 16 24 03.1
comp=Z,3.9nm,0.8s
MLY PcP **PcP 16 25 19.1 +0.5**
SUA Susitna One 49.39 36 P **P 16 23 58.5 +1.3**
SUA IAmb IAmb 16 24 02.4
comp=Z,6.5nm,1.0s
TRF Thorofare Moun 49.54 34 P **P 16 24 00.0 +1.6**
KBK Karagaybulak 49.59 299 P **P 16 23 59.4 +0.3**
SNR=6.3
USP Ospenovka 49.75 299 P **P 16 24 00.1 0.0**
SNR=10
AAK Ala-Archa 49.91 299 *ce*P **P 16 24 01.4 -0.1**
AAK pmax pmax
comp=Z,24nm,1.0s
AAK Ala-Archa 49.91 299 P **P 16 24 01.1 -0.5**
AAK IAmb IAmb 16 24 02.3
comp=Z,8.6nm,1.1s
TOLK Toolik Lake Re 49.92 27 P **P 16 24 03.3 +2.3**
TOLK IAmb IAmb 16 24 07.2
comp=Z,14nm,1.6s
I23K Minto, Yukon-K 49.93 31 P **P 16 24 02.9 +1.8**
I23K IAmb IAmb 16 24 07.8
comp=Z,11nm,1.8s
NEA2 Nenana 50.06 32 P **P 16 24 03.6 +1.5**
NEA2 IAmb IAmb 16 24 05.8
comp=Z,7.8nm,1.2s
SEW Seward 50.10 38 P **P 16 24 03.6 +1.2**
SEW IAmb IAmb 16 24 14.9
comp=Z,8.7nm,1.0s
RND Reindeer 50.19 34 P **P 16 24 03.8 +0.6**
RND pmax pmax
comp=Z,7.0nm,1.3s
RND Reindeer 50.19 34 P **P 16 24 03.8 +0.6**
RND IAmb IAmb 16 24 08.4
comp=Z,6.8nm,1.3s
MDM Murphy Dome 50.41 32 P **P 16 24 06.3 +1.5**
MDM IAmb IAmb 16 24 11.0
comp=Z,5.6nm,0.8s
EKS2 Erkin-Say 50.42 299 P **P 16 24 05.2 0.0**
SNR=7.6
BRVK Borovoye 50.43 313 *ce*P **P 16 24 04.6 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 50.43 313 P **P 16 24 04.5 -0.5**
BRVK IAmb IAmb 16 24 05.9
comp=Z,6.9nm,1.1s
WRH Wood River Hil 50.48 32 P **P 16 24 06.6 +1.3**
KNK Knik Glacier 50.49 36 P **P 16 24 06.0 +0.7**
KNK IAmb IAmb 16 24 10.8
comp=Z,5.6nm,0.9s
CCB Clear Creek Bu 50.60 32 P **P 16 24 08.4 +2.3**
CCB IAmb IAmb 16 24 19.1
comp=Z,12nm,1.8s
AML Almayashu 50.62 298 P **P 16 24 08.0 +0.8**
SNR=13
POKR Poker Plat Res 50.74 31 P **P 16 24 07.8 +0.6**
HDA Harding Lake 50.98 32 P **P 16 24 09.8 +0.7**
HDA IAmb IAmb 16 24 10.7
comp=Z,9.4nm,1.3s
IL31 50.99 32 P **P 16 24 09.7 +0.6**
IL31 IAmb IAmb 16 24 33.7
comp=Z,3.4nm,0.8s
ILAR Eielson Array 50.99 32 P **P 16 24 10.0 +0.9**
comp=Z,1.7nm,0.6s,baz=266,slow=5.5,SNR=20
ILAR Eielson Array 50.99 32 P **P 16 24 09.3 +0.2**
M24K Tolsona, Glenn 51.51 35 P **P 16 24 15.6 +2.5**
M24K IAmb IAmb 16 24 25.9
comp=Z,13nm,1.1s
PRP Porcupine Dome 51.52 31 P **P 16 24 14.5 +1.2**
RIDG Independent Ri 51.95 33 P **P 16 24 17.5 +1.1**
GSI Gunungsitoli 52.25 238 P **P 16 24 19.6 +0.5**
SCRK Sand Creek 52.31 33 P **P 16 24 20.0 +0.9**
SCRK IAmb IAmb 16 24 21.2
comp=Z,12nm,1.5s
DOT Dot Lake 52.31 33 P **P 16 24 18.7 -0.3**
BMRM Bremner River 52.39 37 P **P 16 24 21.0 +1.3**
BMRM IAmb IAmb 16 25 10.3
comp=Z,5.4nm,0.9s
KNRA Kununurra 52.49 194 P **P 16 24 21.2 +0.5**
MENT Mentasta 52.55 34 P **P 16 24 21.7 +0.9**
MENT IAmb IAmb 16 24 43.2
comp=Z,3.4nm,0.7s
KK31 Karatay Array 52.59 300 P **P 16 24 20.8 -0.6**
KK31 pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 52.59 300 P **P 16 24 20.8 -0.6**
KK31 IAmb IAmb 16 24 22.2
comp=Z,11nm,0.9s
KKAR Karatay Array 52.59 300 P **P 16 24 21.1 -0.3**
KKAR pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 52.59 300 P **P 16 24 20.8 -0.7**
KKAR Karatay Array 52.59 300 P **P 16 24 21.1 -0.3**
KKAR IAmb IAmb 16 24 22.2
comp=Z,11nm,0.9s
DRK Karamyk 52.80 296 P **P 16 24 22.8 -0.6**
DRK IAmb IAmb 16 24 24.2
comp=Z,13nm,0.8s
CRQM Cirque 53.13 37 P **P 16 24 26.5 +1.2**
CRQM IAmb IAmb 16 24 32.1
comp=Z,12nm,1.0s
BTK Batken 53.33 297 P **P 16 24 26.0 -0.9**
BTK pmax pmax
comp=Z,5.0nm,0.8s
BTK Batken 53.33 297 P **P 16 24 26.0 -0.9**
BTK IAmb IAmb 16 24 36.4
comp=Z,5.3nm,0.8s
L27K Beaver Creek, 53.39 34 P **P 16 24 28.3 +1.3**
BCAR Beaver Creek A 53.41 34 P **P 16 24 28.7 +1.6**
EGAK Eagle 53.43 32 P **P 16 24 27.9 +0.7**
EGAK IAmb IAmb 16 24 53.5
comp=Z,8.0nm,1.5s
ISLE Juniper Island 53.55 37 P **P 16 24 28.5 +0.2**
ISLE IAmb IAmb 16 25 04.2
comp=Z,5.6nm,0.8s
NIL Nilore 53.79 288 P **P 16 24 30.4 0.0**
NIL pmax pmax
comp=Z,8.0nm,0.8s
NIL Nilore 53.79 288 P **P 16 24 30.4 0.0**
NIL IAmb IAmb 16 24 31.4
comp=Z,8.2nm,0.8s
BARN Barnard Glacie 53.79 36 P **P 16 24 29.1 -1.1**
BARN IAmb IAmb 16 25 06.0
comp=Z,4.3nm,0.7s
MESA MESA 53.81 37 P **P 16 24 30.7 +0.5**
YAH Yahtse 53.88 37 P **P 16 24 32.2 +1.4**
CTGM Chitina Glacie 53.97 36 P **P 16 24 33.1 +1.7**
CTGM IAmb IAmb 16 24 37.3
comp=Z,4.7nm,0.8s
GAR Garm 54.05 296 P **P 16 24 31.8 -0.5**
EPYK Eagle Plains 55.00 29 P **P 16 24 39.9 +1.3**
EPYK IAmb IAmb 16 24 41.7
comp=Z,8.2nm,0.6s
CHGR Chuyangaron 55.02 296 P **P 16 24 38.9 -0.3**
SVE Sverdlovsk 55.11 319 *e*P **P 16 24 39.6 +0.1**
SVE pmax pmax
comp=Z,10.0nm,0.9s
WB0 Warramunga Arr 55.73 186 P **P 16 24 44.2 -0.1**
WB0 IAmb IAmb 16 24 59.3
comp=Z,12nm,0.8s
HYT Haines Junctio 55.83 36 P **P 16 24 42.2 -2.5**
HYT IAmb IAmb 16 25 16.4
comp=Z,4.3nm,0.7s
INK Inuvik 55.83 27 P **P 16 24 44.8 +0.3**
comp=Z,2.8nm,0.6s,baz=282,slow=5.5,SNR=3.5
INK Inuvik 55.83 27 P **P 16 24 44.5 0.0**
WRAB Tennant Creek 55.90 186 P **P 16 24 45.4 -0.1**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 55.90 186 P **P 16 24 45.4 -0.1**
WRAB IAmb IAmb 16 25 00.6
comp=Z,7.3nm,0.8s
WB2 Warramunga Arr 55.91 186 P **P 16 24 45.8 +0.2**
WB2 IAmb IAmb 16 25 01.1
comp=Z,8.3nm,0.8s
WR0 Warramunga Arr 55.91 186 P **P 16 24 45.5 -0.1**
WRA Warramunga Arr 55.91 186 P **P 16 24 45.5 -0.1**
comp=Z,5.1nm,0.6s,baz=0.7,slow=7.5,SNR=43
WRA Warramunga Arr 55.91 186 *i* P **P 16 24 45.5 -0.1**
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 55.91 186 P **P 16 24 45.5 -0.1**
ARU Arti 56.32 319 *c i* P **P 16 24 47.8 -0.4**
ARU 16 25 43.0
ARU S **S 16 32 35.9 +1.3**
ARU SS **SS 16 36 23.2 +1.8**
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 56.32 319 P **P 16 24 47.4 -0.8**
KBL Kabul 56.66 291 P **P 16 24 50.0 -1.2**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 56.66 291 P **P 16 24 50.0 -1.2**
KBL IAmb IAmb 16 24 51.1
comp=Z,7.2nm,0.8s
ABKAR Akbulak array 57.67 310 P **P 16 24 56.6 -1.2**
ABKAR Akbulak array 57.67 310 P **P 16 24 57.2 -0.7**
ABKAR IAmb IAmb 16 24 58.4
comp=Z,8.3nm,0.5s
AS31 Alice Springs 59.63 186 P **P 16 25 12.4 +0.7**
ASAR Alice Springs 59.63 186 P **P 16 25 11.5 -0.2**
comp=Z,0.7nm,0.4s,baz=16,slow=7.7,SNR=29
ASAR Alice Springs 59.63 186 P **P 16 25 12.3 +0.6**
ASAR Alice Springs 59.63 186 P **P 16 25 12.3 +0.6**
KIRV Kirov 60.33 323 *ce*P **P 16 25 15.8 -0.3**
DIB Dawson Inlet, 60.78 44 P **P 16 25 21.3 +2.0**
DIB IAmb IAmb 16 25 27.6
comp=Z,14nm,1.3s
HRA Herat 61.82 294 P **P 16 25 26.8 -0.1**
HRA IAmb IAmb 16 25 27.8
comp=Z,7.0nm,0.7s
LVZ Lovozero 62.54 336 P **P 16 25 31.5 +0.5**
LVZ pmax pmax
comp=Z,36nm,1.4s
LVZ Lovozero 62.54 336 P **P 16 25 31.5 +0.5**
GEYT Alibeck 63.27 299 P **P 16 25 36.1 -0.2**

comp=Z,269nm,1.2s,baz=27,slow=11,SNR=7.9
KLMR Klimovskoe 63.97 328 *eP* **P 16 25 38.3 -2.1**
KLMR pmax pmax
comp=Z,9.0nm,0.6s
KLMR Klimovskoe 63.97 328 *eP* **P 16 25 38.4 -2.0**
KLMR AMP 16 25 40.7
comp=Z,9.0nm,0.6s
ARCES ARCESS Array B 64.52 339 P **P 16 25 44.1 +0.2**
comp=Z,1.3nm,0.5s,baz=46,slow=7.7,SNR=11
ARCES LR LR 16 56 28.1
comp=Z,33nm,18.6s,baz=35,slow=38
ARCES ARCESS Array B 64.52 339 P **P 16 25 44.0 +0.1**
YKA Yellowknife Ar 65.28 30 P **P 16 25 49.9 +0.9**
comp=Z,1.7nm,0.7s,baz=315,slow=6.0,SNR=4.1
MNCI Minicoy 66.48 263 P **P 16 25 57.5 +0.1**
NEEM North Greenlan 66.60 3⇑*iP* **P 16 25 58.1 +0.5**
NEEM IAmb IAmb 16 25 58.7
comp=Z,7.5nm,0.6s
FORT Forrest 67.38 191 P **P 16 26 02.3 -0.4**
AFI Afiamalu 67.43 128 P **P 16 26 04.7 +1.3**
AFI pmax pmax
comp=Z,19nm,1.0s
AFI Afiamalu 67.43 128 P **P 16 26 04.7 +1.3**
STKA Stephens Creek 67.56 178 P **P 16 26 04.7 +0.9**
comp=Z,1.8nm,0.7s,baz=356,slow=9.4,SNR=5.8
STKA Stephens Creek 67.56 178 P **P 16 26 04.8 +1.0**
STKA pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 67.56 178 P **P 16 26 04.8 +1.0**
OBN Obninsk 68.18 323⇓*eP* **P 16 26 07.3 -0.2**
OBN *SP **sP 16 26 27.0 -0.2**
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,45nm,19.0s
AKT Akhty 68.71 306 *eP* **P 16 26 10.8 -0.5**
AKT *e* 16 26 35.8
AKT pmax pmax
comp=Z,6.0nm,0.6s
FIA1 FINESS Array S 69.14 332 P **P 16 26 12.8 -0.7**
FIA1 IAmb IAmb 16 26 13.9
comp=Z,12nm,0.8s
FINES FINESS Array B 69.14 332 P **P 16 26 12.8 -0.6**
comp=Z,7.7nm,0.7s,baz=74,slow=5.9,SNR=20
FINES FINESS Array B 69.14 332 *iP* **P 16 26 13.1 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.7s
KBZ Khabaz 70.64 310 P **P 16 26 22.7 -0.2**
comp=Z,6.5nm,0.9s,baz=25,slow=1.7,SNR=12
KBZ Khabaz 70.64 310*ceP* **P 16 26 22.9 0.0**
KBZ pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 70.66 311 *eP* **P 16 26 24.0 +0.8**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 70.66 311 P **P 16 26 22.6 -0.6**
SUMG Summit 71.69 359 *iP* **P 16 26 29.0 -0.3**
SUMG IAmb IAmb 16 26 31.5
comp=Z,9.8nm,0.7s
SUMG Summit 71.69 359 P **P 16 26 29.8 +0.5**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 71.69 359 P **P 16 26 29.8 +0.5**
SUMG IAmb IAmb 16 26 31.3
comp=Z,10nm,0.8s
PINE Pine Mountain 71.91 49 P **P 16 26 32.4 +1.4**
PINE IAmb IAmb 16 26 34.3
comp=Z,6.3nm,0.8s
MNK Minsk 72.65 326 *i* *PP **P 16 26 32.7 -2.1**
MNK pmax pmax
comp=E,3.0nm,1.1s
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=Z,16nm,0.6s
MNK MLR MLR
comp=E,81nm,27.0s
MNK MLR MLR
comp=N,1μm,24.0s
MNK MLR MLR
comp=Z,121nm,20.0s
BMO Blue Mountains 73.50 46 P **P 16 26 41.4 +1.2**
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO Blue Mountains 73.50 46 P **P 16 26 41.4 +1.2**
WVOR Wild Horse Val 74.06 49 P **P 16 26 44.8 +1.2**
WVOR pmax pmax
comp=Z,2.0nm,0.9s
WVOR Wild Horse Val 74.06 49 P **P 16 26 44.8 +1.2**
AKASG Malin Array Be 74.36 322 P **P 16 26 44.0 -0.9**
comp=Z,1.6nm,0.3s,baz=49,slow=6.3,SNR=16
AKASG LR LR 17 00 57.8
comp=Z,57nm,19.5s,baz=65,slow=37
AKASG Malin Array Be 74.36 322 P **P 16 26 44.3 -0.6**
AKASG Malin Array Be 74.36 322 P **P 16 26 44.3 -0.6**
AKBB Malin Array Si 74.36 322*ceP* **P 16 26 44.9 0.0**
AKBB Malin Array Si 74.36 322 P **P 16 26 44.2 -0.7**
AKBB IAmb IAmb 16 26 45.1
comp=Z,7.5nm,0.7s
BEKR Beckworth 74.43 52 P **P 16 26 47.2 +1.4**
NC204 NORSAR Array S 74.61 337 P **P 16 26 46.5 +0.1**
NB2 NORSAR Subarra 74.65 337 P **P 16 26 46.2 -0.3**
comp=Z,2.6nm,0.5s,baz=41,slow=5.9
NOA NORSAR Array B 74.65 337 P **P 16 26 46.1 -0.3**
comp=Z,3.5nm,0.7s,baz=41,slow=5.9,SNR=9.3
NOA LR LR 17 02 42.5
comp=Z,36nm,19.1s,baz=85,slow=38
ICESG Greenland Ices 75.20 360 *iP* **P 16 26 51.0 +1.1**
CMB Columbia Colle 75.44 54 P **P 16 26 53.0 +1.5**
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 75.44 54 P **P 16 26 53.0 +1.5**
LRM Limekiln Ridge 75.71 43 P **P 16 26 54.7 +1.5**
WAKR Walker 75.79 53 P **P 16 26 55.7 +2.0**
DLMT Dillon 75.91 44 P **P 16 26 55.9 +1.7**
DLMT IAmb IAmb 16 26 59.8
comp=Z,4.4nm,0.8s
BOZ Bozeman (W) 76.30 43 P **P 16 26 57.9 +1.5**
BOZ pmax pmax
comp=Z,3.0nm,1.0s
BOZ Bozeman (W) 76.30 43 P **P 16 26 57.9 +1.5**
KVN Kaiserville 76.33 52 P **P 16 26 57.9 +1.2**
KVN pmax pmax
comp=Z,5.0nm,0.8s
KVN Kaiserville 76.33 52 P **P 16 26 57.9 +1.2**
KVN IAmb IAmb 16 26 59.7
comp=Z,4.7nm,0.8s
NVAR Mina Array Bea 76.56 52 P **P 16 27 00.4 +2.3**
comp=Z,2.4nm,0.7s,baz=292,slow=5.2,SNR=24
NVAR Mina Array Bea 76.56 52 P **P 16 26 59.9 +1.8**
NV11 Mina Array Sit 76.65 52 P **P 16 27 00.2 +1.6**
NV11 IAmb IAmb 16 27 04.7
comp=Z,13nm,1.8s
ELK Elko 77.12 49 P **P 16 27 03.0 +1.8**
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 77.12 49 P **P 16 27 03.0 +1.8**
DY2G Dye2 77.72 3⇑*iP* **P 16 27 05.0 +0.9**
DY2G IAmb IAmb 16 27 05.7
comp=Z,9.3nm,0.6s
BURAR Bucovina Array 78.35 321 P **P 16 27 07.8 0.0**
BRTR Keskin Array B 78.61 311 P **P 16 27 09.8 +0.4**
comp=Z,0.9nm,0.4s,baz=147,slow=4.8,SNR=5.4
TPNV Topopah Spring 78.75 52 P **P 16 27 12.0 +1.7**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 78.75 52 P **P 16 27 11.9 +1.7**
KOLS Kolonicke sedl 78.93 323 *eP* **P 16 27 11.4 +0.6**
KOLS Kolonicke sedl 78.93 323 *eP* **P 16 27 11.4 +0.6**
PD31 Pinedale Array 79.23 45 P **P 16 27 13.9 +1.0**
PDAR Pinedale Array 79.23 45 P **P 16 27 13.8 +1.0**
comp=Z,0.9nm,0.7s,baz=264,slow=2.7,SNR=9.2
SRU San Rafael Swe 80.98 48 P **P 16 27 24.0 +1.7**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 80.98 48 P **P 16 27 24.0 +1.7**
CLL Collm 81.37 329 *iP* **P 16 27 23.8 -0.1**
comp=Z,14nm,1.4s
CLL Collm 81.37 329 *iP* **P 16 27 23.8 -0.1**
CLL pmax pmax
comp=Z,14nm,1.4s
U15A North Rim 81.58 51 P **P 16 27 27.5 +1.8**
MODS Modra-Piesok 81.67 325 *eP* **P 16 27 27.0 +1.4**
MODS Modra-Piesok 81.67 325 *eP* **P 16 27 27.0 +1.4**
ZST Bratislava 81.88 325 *eP* **P 16 27 25.1 -1.6**

ZST Bratislava 81.88 325 *eP* **P 16 27 25.1 -1.6**
PV14 Lion Creek, Pa 82.36 48 P **P 16 27 30.4 +0.7**
PV14 IAmb IAmb 16 27 32.3
comp=Z,5.7nm,0.9s
PV17 East Wray Mesa 82.45 48 P **P 16 27 31.0 +0.8**
PV17 IAmb IAmb 16 27 32.8
comp=Z,3.4nm,0.6s
PV11 David Mesa, Pa 82.49 48 P **P 16 27 29.3 -1.0**
PV11 IAmb IAmb 16 27 33.1
comp=Z,24nm,1.6s
PV05 Paradox Valley 82.50 48 P **P 16 27 31.0 +0.6**
GERES GERESS Array B 82.93 328 P **P 16 27 32.1 -0.1**
comp=Z,0.7nm,0.5s,baz=36,slow=6.8,SNR=7.9
SDCO Great Sand Dun 84.86 46 P **P 16 27 43.9 +1.3**
PDG Podgorica 84.98 320 P **P 16 27 41.8 -0.8**
PDG IAmb IAmb 16 27 43.3
comp=Z,7.1nm,0.8s
PPT Papeete 85.27 116 LR LR 17 06 55.1
comp=Z,49nm,18.8s,baz=314,slow=36
ANMO Albuquerque 86.16 49*ceP* **P 16 27 51.2 +2.2**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
TX31 Lajitas Ar. Si 91.69 51 P **P 16 28 15.6 +0.4**
TX32 Lajitas Array 91.69 51 P **P 16 28 16.0 +0.9**
TX32 IAmb IAmb 16 28 49.6
comp=Z,5.8nm,1.6s
TXAR Lajitas Array 91.69 51 P **P 16 28 16.5 +1.4**
comp=Z,0.3nm,0.5s,baz=301,slow=3.0,SNR=19
TXAR pP **pP 16 28 30.7 +1.0**
comp=Z,0.5nm,0.6s,baz=330,slow=3.7,SNR=4.2
TORD Torodi Ar. Bea 117.17 313 PKP **PKPdf 16 33 52.1 -0.8**
comp=Z,0.4nm,0.6s,baz=12,slow=2.7,SNR=2.5
H03N2 Juan Fernandez 148.10 97 T T 19 20 15.2
baz=292,slow=76,SNR=84
H03N3 Juan Fernandez 148.12 97 T T 19 20 17.6
baz=292,slow=76,SNR=92
H03N1 Juan Fernandez 148.12 97 T T 19 20 18.2
baz=292,slow=76,SNR=63
LPAZ La Paz 148.24 59 PKPbc **PKiKP 16 34 55.6 -0.5**
comp=Z,1.4nm,0.6s,baz=293,slow=3.9,SNR=8.6
LPAZ La Paz 148.24 59 PKP2 **PKiKP 16 34 55.9 -0.3**
LPAZ La Paz 148.24 59 **PKiKP 16 34 55.9 -0.3**

*IDC **09** 16:27:47.7±2.2, 7°.90S×103°.42E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/37, mbtmp3.7/6, ML3.6/1 Error ellipse: s-maj=70.3km s-min=22.6km az=48.0*
ISC 09 16:27:54.0±1.5, 7.7°S±0.2°×103.7°E±0.1, h35km, n11, σ 1°35/9, mb3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**4.00**	**77**	Pn	**Pn**	**16 28 54.5**	**+1.5**
	3.3nm,0.3s,baz=300,slow=20,SNR=3.9						
LEM				Sn	**Sn**	**16 29 37.2**	**-1.4**
	4.2nm,0.3s,baz=303,slow=22,SNR=1.9						
CMAR	**Chiang Mai Arr**	**26.43**	**350**	P	**P**	**16 33 26.6**	**-1.0**
	0.8nm,0.7s,baz=187,slow=8.6,SNR=7.3						
H08S2	**Diego Garcia H**	**30.91**	**268**	T	T	17 07 39.5	
	baz=90,slow=75,SNR=10.0						
H08S3	**Diego Garcia H**	**30.92**	**268**	T	T	17 07 39.3	
	baz=90,slow=75,SNR=8.3						
H08S1	**Diego Garcia H**	**30.93**	**268**	T	T	17 07 41.0	
	baz=90,slow=75,SNR=7.0						
WRA	**Warramunga Arr**	**32.08**	**115**	P	**P**	**16 34 16.7**	**-1.3**
	0.8nm,1.1s,baz=284,slow=12,SNR=1.9						
ASAR	**Alice Springs**	**33.02**	**122**	P	**P**	**16 34 26.6**	**+0.4**
	0.3nm,0.9s,baz=304,slow=8.8,SNR=1.5						
SONM	**Songino Array**	**55.36**	**2**	P	**P**	**16 37 26.2**	**+1.6**
	1.1nm,0.7s,baz=176,slow=6.9,SNR=4.8						
MKAR	**Makanchi Array**	**57.52**	**343**	P	**P**	**16 37 39.0**	**-0.8**
	12nm,0.3s,baz=151,slow=7.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**63.47**	**348**	P	**P**	**16 38 19.6**	**-0.7**
	0.7nm,0.4s,baz=156,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**146.47**	**47**	PKPbc	**PKPab**	**16 47 33.2**	**-0.1**
	0.6nm,0.8s,baz=240,slow=1.8,SNR=4.5						

*IDC **09** 17:03:14.1±0.8, 36°.32S×53°.34E, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/33, mbtmp3.9/8, ML4.1/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/38, Error ellipse: s-maj=33.3km s-min=20.0km az=25.0*
*NEIC **09** 17:03:16.1±1.2, 36°.3S±0°.1×53°.3E±0°.1, h9km±4km, mb4.2/8, Error ellipse: s-maj=17.6km s-min=12.2km az=143.0*
ISC 09 17:03:15.5±0.8, 36°.3S±0°.1×53°.4E±0°.2, h7km, n23, σ 0°.89/13, mb4.0/8, MS3.3/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOI	**Vohitsoka**	**15.41**	**336**	Pn	**Pn**	**17 06 53.1**	**-0.5**
VOI				IAmb	IAmb	17 06 59.0	
	comp=Z,17nm,1.2s						
ABPO	**Ambohimpanom**	**18.02**	**341**		**Pn**	**17 07 27.2**	**+0.5**
ABPO				IAmb	IAmb	17 07 40.3	
	comp=Z,25nm,1.3s						
OPO	**Ambohidratompo**	**18.45**	**341**	P	**Pn**	**17 07 33.2**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=177,slow=10,SNR=7.5						
OPO				LR	LR	17 13 10.5	
	comp=Z,168nm,18.0s,baz=29,slow=32						
BOSA	**Boshof**	**24.86**	**280**	P	**P**	**17 08 38.4**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=126,slow=16,SNR=2.6						
LBTB	**Lobatse**	**26.30**	**287**	P	**P**	**17 08 51.0**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=137,slow=7.9						
LBTB				LR	LR	17 16 55.7	
	comp=Z,36nm,19.5s,baz=102,slow=31						
MATP	**Matopo**	**26.87**	**299**	LR	LR	17 19 00.5	
	comp=Z,76nm,20.0s,baz=124,slow=35						
MAW	**Mawson**	**31.85**	**173**	LR	LR	17 19 37.6	
	comp=Z,90nm,21.7s,baz=36,slow=31						
H08S1	**Diego Garcia H**	**33.41**	**36**	T	T	17 44 44.4	
	baz=208,slow=76						
H08S2	**Diego Garcia H**	**33.42**	**36**	T	T	17 44 44.1	
	baz=208,slow=76						
H08S3	**Diego Garcia H**	**33.43**	**36**	T	T	17 44 46.1	
	baz=208,slow=76						
SNAA	**Sanae**	**45.50**	**202**	P	**P**	**17 11 36.0**	**+0.9**
H01W2	**Cape Leeuwin H**	**48.72**	**107**	T	T	18 04 19.1	
	baz=250,slow=75						
H01W3	**Cape Leeuwin H**	**48.72**	**107**	T	T	18 04 19.7	
	baz=250,slow=75						
H01W1	**Cape Leeuwin H**	**48.73**	**107**	T	T	18 04 20.3	
	baz=250,slow=75						
QSPA	**South Pole Qui**	**53.92**	**180**		**P**	**17 12 39.2**	**-0.3**
QSPA				IAmb	IAmb	17 12 40.0	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**58.73**	**166**	P	**P**	**17 13 13.7**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=258,slow=8.2,SNR=5.8						
VNDA				LR	LR	17 36 41.2	
	comp=Z,76nm,18.1s,baz=267,slow=34						
VNDA	**Vanda**	**58.73**	**166**	IAmb	IAmb	17 13 14.7	
	comp=Z,2.0nm,1.1s						
ASAR	**Alice Springs**	**69.09**	**104**	P	**P**	**17 14 22.1**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=232,slow=5.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**69.20**	**305**	P	**P**	**17 14 23.4**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=130,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**69.20**	**305**	IAmb	IAmb	17 14 25.4	
	comp=Z,1.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**69.42**	**46**	P	**P**	**17 14 25.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=250,slow=7.9,SNR=5.6						
WRA	**Warramunga Arr**	**71.40**	**101**	P	**P**	**17 14 36.2**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=251,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**148.99**	**17**	PKPbc	**PKPbc**	**17 23 01.6**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=319,slow=2.5,SNR=8.1						

*INET **09** 17:07:25.3, 12°.20N×87°.09W, h69km, MW3.9*
UCR 09 17:07:29.2±1.9, 11°.98N×86°.99W, h10km, MW3.6, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.59**	**29**	*eP*	Pb	17 07 42.5	+0.8
CRIN	**San Cristobal**	**0.72**	**356**	*eP*	Pg	17 07 41.6	-1.5
CRIN				*eS*	Sg	17 07 52.5	-0.1
MASN	**Masaya**	**0.82**	**89**	*eP*	Pb	17 07 46.1	+0.5
ACON	**Acoyapa**	**1.78**	**90**⇓*iP*		Pn	17 07 58.1	-2.0
HZTE	**Horizontes, Gu**	**1.86**	**132**	*eP*	Pn	17 08 01.6	+0.4
GPS2	**Hotel Rincn d**	**2.02**	**127**	*eP*	Pn	17 08 03.1	-0.3
HORNC	**Hornillas**	**2.18**	**125**	*iP*	Pn	17 08 05.2	-0.5
COLC	**Colonia**	**2.19**	**126**	*iP*	Pn	17 08 05.6	-0.1
COLC				*iS*	Sn	17 08 34.0	+1.1
CUI	**Cuipilapa**	**2.22**	**126**	*iP*	Pn	17 08 05.6	-0.6
GUAI	**GUAI**	**2.24**	**139**	*iP*	Pn	17 08 06.5	+0.2
GUAI				*iS*	Sn	17 08 34.3	+0.3

SAJU	**San Juanillo,**	**2.28**	**146**⇑*iP*		Pn	17 08 06.6	-0.3
SAJU				*eS*	Sn	17 08 34.3	-0.8
PLVR	**Palo Verde**	**2.29**	**135**	*eP*	Pn	17 08 07.6	+0.4
GRZA	**Playa Garza**	**2.45**	**147**⇑*iP*		Pn	17 08 08.9	-0.3
JTS	**Las Juntas de**	**2.61**	**130**	*eP*	Pn	17 08 11.3	-0.3
JTS				*eS*	Sn	17 08 43.6	+0.2
JACO	**JACO, Garabito**	**3.25**	**135**	*eP*	Pn	17 08 21.6	+1.3

*NEIC **09** 17:11:49.5±2.0, 52°.3N±0°.1×34°.5W±0°.2, h10km±1km, mb4.1/13, Error ellipse: s-maj=24.8km s-min=17.7km az=130.0*
*IDC **09** 17:11:49.1±1.8, 52°.69N×34°.64W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/45, mbtmp3.6/6, ML3.9/1, MS2.8/3, Ms1 2.9/3, ms1mx2.6/43, Error ellipse: s-maj=58.0km s-min=22.2km az=176.0*
ISC 09 17:11:49.2±1.2, 52°.3N±0°.2×34°.6W±0°.1, h10km, n27, σ 1°23/22, mb4.1/14, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**10.67**	**330**		Pn	17 14 36.7	+15
ANGG	**Ammassalik, Gr**	**13.44**	**355**	Pn	**Pn**	**17 15 01.5**	**+1.9**
BORG	**Borgarnes**	**14.22**	**24**	LR	LR	17 19 03.6	
	comp=Z,22nm,20.5s,baz=334,slow=31						
EKA	**Eskdalemuir Ar**	**18.71**	**68**	P	**Pn**	**17 16 08.7**	**+0.9**
	baz=275,slow=9.0,SNR=4.3						
SUMG	**Summit**	**20.41**	**357**	P	**P**	**17 16 26.4**	**0.0**
FRB	**Frobisher Bay**	**21.02**	**316**	P	**P**	**17 16 30.2**	**-2.4**
	1.9nm,0.3s,baz=61,slow=19,SNR=1.7						
ESDC	**Sonseca Array**	**24.53**	**109**	LR	LR	17 25 36.5	
	comp=Z,35nm,18.4s,baz=15,slow=34						
NOA	**NORSAR Array B**	**26.12**	**52**	LR	LR	17 25 45.8	
	comp=Z,24nm,18.6s,baz=75,slow=32						
ARCES	**ARCESS Array B**	**32.16**	**35**	P	**P**	**17 18 14.9**	**-1.5**
	4.0nm,1.1s,baz=276,slow=8.1,SNR=4.1						
AKASG	**Malin Array Be**	**38.60**	**66**	P	**P**	**17 19 11.4**	**-0.6**
	0.1nm,0.3s,baz=296,slow=8.7,SNR=2.0						
BW06	**Boulder Array**	**49.37**	**290**	P	**P**	**17 20 38.5**	**-0.3**
PDAR	**Pinedale Array**	**49.37**	**290**	P	**P**	**17 20 38.5**	**-0.3**
	0.2nm,0.4s,baz=66,slow=9.0,SNR=2.8						
HWUT	**Hardware Ranch**	**51.26**	**290**	P	**P**	**17 20 52.6**	**-0.4**
HWUT				IAmb	IAmb	17 20 54.5	
	comp=Z,2.1nm,0.7s						
SCRK	**Sand Creek**	**51.80**	**328**	P	**P**	**17 20 56.9**	**+0.1**
SCRK				IAmb	IAmb	17 20 57.6	
	comp=Z,2.6nm,0.7s						
PV11	**David Mesa, Pa**	**51.83**	**286**	P	**P**	**17 20 56.9**	**-0.5**
DOT	**Dot Lake**	**52.05**	**328**	P	**P**	**17 20 57.0**	**-1.5**
DOT				IAmb	IAmb	17 20 59.1	
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**52.17**	**330**	P	**P**	**17 20 58.6**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=43,slow=6.7,SNR=5.7						
TXAR	**Lajitas Array**	**54.83**	**274**	P	**P**	**17 21 20.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=77,slow=5.6,SNR=2.6						
TIXI	**Tiksi**	**55.79**	**6**	P	**P**	**17 21 25.7**	**+0.1**
TIXI				IAmb	IAmb	17 21 26.3	
	comp=Z,1.4nm,0.7s						
X16A	**Lo Mia Camp, P**	**55.98**	**284**	P	**P**	**17 21 30.6**	**+2.8**
X16A				IAmb	IAmb	17 21 31.2	
	comp=Z,2.2nm,0.8s						
BEKR	**Beckworth**	**57.40**	**294**	P	**P**	**17 21 37.9**	**+0.1**
YBH	**Yreka Blue Hor**	**57.42**	**297**	P	**P**	**17 21 39.7**	**+1.9**
YBH				IAmb	IAmb	17 21 55.1	
	comp=Z,3.5nm,1.4s						
MTO3	**Montecristo**	**57.44**	**250**	P	P	17 21 33.8	-4.5
MK31	**Makanchi Array**	**67.49**	**42**	P	**P**	**17 22 45.2**	**+0.2**
MK31				IAmb	IAmb	17 23 06.0	
	comp=Z,1.4nm,1.2s						
MKAR	**Makanchi Array**	**67.49**	**42**	P	**P**	**17 22 45.4**	**+0.4**
	comp=Z,7.1nm,0.3s,baz=340,slow=5.1,SNR=1.4						
WRA	**Warramunga Arr**	**146.56**	**19**	PKPbc	**PKPbc**	**17 31 30.9**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=337,slow=2.0,SNR=16						
ASAR	**Alice Springs**	**150.07**	**22**	PKPbc	**PKPbc**	**17 31 40.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=351,slow=2.1,SNR=14						

IDC 09 17:23:24.1±2.3, 1°.39N×126°.79E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/36, mbtmp3.5/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/44, Error ellipse: s-maj=175.6km s-min=27.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.45**	**161**	P	P	17 28 25.4	+0.4
	1.1nm,0.3s,baz=340,slow=11,SNR=41						
PMG	**Port Moresby**	**22.95**	**118**	LR	LR	17 39 08.9	
	comp=Z,51nm,19.8s,baz=318,slow=41						
ASAR	**Alice Springs**	**25.85**	**165**	P	P	17 28 57.2	-0.3
	0.1nm,0.3s,baz=342,slow=10,SNR=9.4						
MKAR	**Makanchi Array**	**59.51**	**326**	P	P	17 33 29.2	-0.1
	13nm,0.3s,baz=124,slow=7.6,SNR=1.3						
WSAR	**Wadi Sarin**	**69.42**	**294**	LR	LR	18 05 25.4	
	comp=Z,46nm,20.2s,baz=4.0,slow=36						

NNC 09 17:25:26.1±5.1, 37°.11N×70°.35E, h111km±122km, mb3.4, mpv4.0, 2C-2D, Error ellipse: s-maj=99.6km s-min=39.4km az=77.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.99**	**1**⇓*P*		Pn	17 26 52.2	0.0
	4.8nm,0.3s,baz=171,slow=11,SNR=106						
KK31				S	Sn	17 28 00.1	+0.6
	3.3nm,0.4s,baz=194,slow=40,SNR=14						
AB31	**Akbulak array**	**14.30**	**331**⇓*P*		Pn	17 28 44.0	+0.8
	0.8nm,0.4s,baz=146,slow=12,SNR=36						
AB31				⇑S	Sn	17 31 21.3	+0.5
	1.0nm,0.6s,baz=151,slow=23,SNR=4.9						
AKTO	**Aktyubinsk**	**16.00**	**330**⇑*P*		Pn	17 29 03.7	-0.8
	1.1nm,0.4s						

*SOME **09** 17:54:10.1, 37°.70N×78°.70E, h15km*
*IDC **09** 17:54:11.4±1.2, 37°.70N×78°.21E, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.6/48, mbtmp3.8/12, ML3.0/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/47, Error ellipse: s-maj=24.0km s-min=19.3km az=60.0*
*NNC **09** 17:54:13.8±1.8, 37°.72N×78°.17E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.7km s-min=10.8km az=123.0*
ISC 09 17:54:12.3±0.9, 37°.30N±0°.06×78°.24E±0°.06, h17km, n41, σ 3°10/51, mb3.8/8, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.84**	**322**	Pn	**Pn**	**17 54 57.1**	**0.0**
KSH				Sn	**Sn**	**17 55 29.6**	**-1.4**
KSH				smax	smax		
	comp=N,230nm,0.4s						
KSH				smax	smax		
	comp=E,320nm,0.6s						
MDOK	**Medeo**	**5.93**	**352**⇓*Pg*		**Pb**	**17 55 54.0**	**-1.3**
	comp=E,29nm,0.7s						
MDOK				⇑Lg	Lg	17 57 06.1	
	comp=E,99nm,0.8s						
KOTS	**Kotyrbulak**	**5.99**	**352** *eP*		**Pb**	**17 55 56.9**	**+0.5**
	comp=E,10nm,0.8s						
KOTS				*eS*	**Sb**	**17 57 13.8**	**+5.9**
	comp=E,78nm,0.8s						
KOTS	**Kotyrbulak**	**5.99**	**352**	Pg	**Pb**	**17 55 56.9**	**+0.5**
	comp=E,10nm,0.8s						
KOTS				Lg	Lg	17 57 13.8	
	comp=E,78nm,0.8s						
AAK	**Ala-Archa**	**6.06**	**333**	Pn	**Pn**	**17 55 39.6**	**-1.7**
	comp=E,1.0nm,0.3s,baz=166,slow=4.2,SNR=2.3						
AAK				Pg	**Pb**	**17 55 53.4**	**-4.1**
	comp=E,1.1nm,0.3s,baz=187,slow=3.0,SNR=3.1						
KPKS	**Kokpek**	**6.17**	**3** *eP*		**Pb**	**17 55 59.2**	**-0.2**
	comp=E,19nm,0.6s						
KPKS				*eS*	**Sb**	**17 57 17.9**	**+4.9**
	comp=E,61nm,0.5s						
DGS	**Degeres**	**6.23**	**343** *eP*		**Pb**	**17 56 01.2**	**+0.8**
	comp=E,14nm,0.8s						
DGS				*eS*	**Sb**	**

KTMS	**Ketmen**	**6.35**	**14**	Pg	**Pb**	**17 56 01.3**	**-1.2**	
	comp=E,9.7nm,0.8s							
KTMS				Lg	Lg	17 57 20.7		
	comp=E,42nm,0.7s							
KTBS	**Karatobe**	**6.52**	**350**	*eP*	**Pb**	**17 56 04.2**	**-1.0**	
	comp=E,3.5nm,0.4s							
KTBS				*eS*	**Sb**	**17 57 26.5**	**+3.6**	
	comp=E,30nm,0.6s							
KTBS	**Karatobe**	**6.52**	**350**	Pg	**Pb**	**17 56 04.2**	**-1.0**	
	comp=E,3.5nm,0.4s							
KTBS				Lg	Lg	17 57 26.5		
	comp=E,30nm,0.6s							
CHKK	**Chushkaly**	**6.62**	**352**	*eP*	**Pb**	**17 56 07.4**	**+0.4**	
	comp=E,5.1nm,0.5s							
CHKK				*eS*	**Sb**	**17 57 31.9**	**+6.1**	
	comp=E,27nm,0.5s							
CHKK	**Chushkaly**	**6.62**	**352**	Pg	**Pb**	**17 56 07.4**	**+0.4**	
	comp=E,5.1nm,0.5s							
CHKK				Lg	Lg	17 57 31.9		
	comp=E,27nm,0.5s							
ARXS	**Arharly**	**6.92**	**358**	*eP*	**Pb**	**17 56 11.4**	**-0.7**	
	comp=E,12nm,0.5s							
ARXS				*eS*	**Sb**	**17 57 38.8**	**+4.4**	
	comp=E,32nm,0.6s							
ARXS	**Arharly**	**6.92**	**358**	Pg	**Pb**	**17 56 11.4**	**-0.7**	
	comp=E,12nm,0.5s							
ARXS				Lg	Lg	17 57 38.8		
	comp=E,32nm,0.6s							
DJR	**Jarkent**	**7.13**	**9**	*eP*	**Pb**	**17 56 16.2**	**+0.6**	
	comp=E,0.7nm,0.8s							
DJR				*eS*	**Sb**	**17 57 47.2**	**+6.7**	
	comp=E,3.0nm,1.0s							
DJR	**Jarkent**	**7.13**	**9**	Pg	**Pb**	**17 56 16.2**	**+0.6**	
	comp=E,0.7nm,0.8s							
DJR				Lg	Lg	17 57 47.2		
	comp=E,3.0nm,1.0s							
KAPS	**Kapalarasan**	**8.03**	**6**	*eP*	**Pb**	**17 56 30.3**	**-0.6**	
	comp=E,0.4nm,1.0s							
KAPS				*eS*	Sb	17 58 11.4	+5.2	
	comp=E,1.2nm,0.9s							
KAPS	**Kapalarasan**	**8.03**	**6**	Pg	**Pb**	**17 56 30.3**	**-0.6**	
	comp=E,0.4nm,1.0s							
KAPS				Lg	Lg	17 58 11.4		
	comp=E,1.2nm,0.9s							
KK31	**Karatay Array**	**8.28**	**317**	⇑Pn	**Pn**	**17 56 09.8**	**-1.8**	
	comp=E,0.3nm,0.5s,baz=124,slow=12,SNR=8.1							
KK31				⇓Pg	**Pb**	**17 56 36.4**	**+1.2**	
	comp=E,0.6nm,0.5s,baz=127,slow=11,SNR=4.0							
KK31				⇓Lg	Lg	17 58 22.7		
	comp=E,6.4nm,0.9s,baz=130,slow=14,SNR=4.0							
WMQ	**Urumqi**	**9.71**	**45**	*eP*	**Pn**	**17 56 34.3**	**+3.1**	
WMQ				smax	smax			
	comp=N,46nm,0.9s							
WMQ				smax	smax			
	comp=E,46nm,1.1s							
MK31	**Makanchi Array**	**9.96**	**16**	⇑Pn	**Pn**	**17 56 33.2**	**-1.4**	
	comp=E,1.7nm,0.4s,baz=0.0,slow=0.1,SNR=34							
MK31				⇓Sn	**Sn**	**17 58 22.1**	**-3.8**	
	comp=E,15nm,0.9s,baz=0.0,slow=0.1,SNR=4.6							
MKAR	**Makanchi Array**	**9.96**	**16**	Pn	**Pn**	**17 56 33.3**	**-1.3**	
	comp=E,7.2nm,0.3s,baz=207,slow=15,SNR=2.9							
MKAR				Sn	**Sn**	**17 58 17.8**	**-8.1**	
	baz=207,slow=18,SNR=0.2							
MKAR				LR	LR	17 59 44.8		
	comp=E,24nm,18.8s,baz=148,slow=35							
KURBB	**Kurchatov Arra**	**13.32**	**1**	Pn	Pn	17 57 15.6	-5.0	
	comp=E,0.0nm,0.3s,baz=185,slow=12,SNR=3.9							
KURBB				Lg	Lg	18 01 02.9		
	comp=E,0.0nm,0.3s,baz=176,slow=30,SNR=2.9							
KURBB	**Kurchatov Arra**	**13.32**	**1**	⇑Lg	Lg	18 01 06.0		
	comp=E,15nm,1.0s							
BVB8	**Borovoye Array**	**16.65**	**343**	⇑Pn	**Pn**	**17 58 04.9**	**+0.2**	
	comp=E,4.0nm,0.7s							
BVAR	**Borovoye Array**	**16.66**	**343**	Pn	**Pn**	**17 57 58.8**	**-6.1**	
	comp=E,0.1nm,0.3s,baz=203,slow=20,SNR=1.9							
GTA	**Gaotai**	**17.05**	**76**	*eP*	**P**	**17 58 15.5**	**+3.7**	
GTA				pP	sP	17 58 19.7	+0.1	
GTA				sP	pP	17 58 22.5	+5.4	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ZALV	**Zalesovo Beam**	**17.27**	**13**	Pn	**Pn**	**17 58 08.3**	**-4.1**	
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=9.1							
AKTO	**Aktyubinsk**	**19.54**	**319**	P	**P**	**17 58 37.4**	**-1.5**	
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=2.5							
TLY	**Talaya**	**22.98**	**43**	LR	LR	18 09 37.3		
	comp=Z,71nm,19.2s,baz=153,slow=41							
SONM	**Songino Array**	**23.14**	**54**	P	**P**	**17 59 18.4**	**+0.7**	
	comp=Z,2.4nm,0.9s,baz=251,slow=9.4,SNR=8.8							
HHC	**Hu-ho-hao-te**	**26.03**	**72**	*eP*	**P**	**17 59 41.1**	**-3.5**	
HHC				pmax	pmax			
	comp=Z,11nm,0.8s							
HHC				pmax	pmax			
	comp=Z,400nm,6.5s							
CMAR	**Chiang Mai Arr**	**26.11**	**130**	P	**P**	**17 59 48.6**	**+3.2**	
	comp=Z,0.4nm,0.8s,baz=325,slow=11,SNR=2.5							
FINES	**FINESS Array B**	**40.16**	**324**	P	**P**	**18 01 45.9**	**-1.3**	
	comp=Z,1.0nm,0.5s,baz=100,slow=7.6,SNR=9.6							
CLL	**Collm**	**47.20**	**309**	*eP*	**P**	**18 02 44.0**	**0.0**	
NOA	**NORSAR Array B**	**47.27**	**322**	P	**P**	**18 02 43.2**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=88,slow=7.6,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.51**	**273**	P	**P**	**18 05 35.6**	**+3.1**	
	comp=Z,0.4nm,0.6s,baz=33,slow=6.4,SNR=3.0							
ILAR	**Eielson Array**	**72.30**	**19**	P	**P**	**18 05 35.9**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=322,slow=5.3,SNR=9.6							
YKA	**Yellowknife Ar**	**80.02**	**6**	P	**P**	**18 06 18.9**	**-1.5**	
	comp=Z,1.3nm,0.7s,baz=348,slow=5.7,SNR=3.2							

*IDC **09** 18:08:31.8±0.6, 9.12S×75.73W, h0km, mb4.6/21, mb1 4.8/26, mb1mx4.7/40, mbtmp4.6/26, ML4.1/5, MS4.6/22, Ms1 4.6/22, ms1mx4.4/40, Error ellipse: s-maj=18.5km s-min=12.6km az=58.0*

*VAO **09** 18:08:34.8±0.3, 9.26S×75.54W, h10km, mb5.1*

*MOS **09** 18:08:35.7±1.0, 9.03S×75.66W, h35km, mb5.3/7, Error ellipse: s-maj=13.2km s-min=5.6km az=108.8*

*ARE **09** 18:08:36±2.0, 9.11S±0.06×75.83W±0.07, h27km±3km, ML5.4, mb5.0/418(NEIC), Error ellipse: s-maj=10.1km s-min=8.0km az=109.0*

*NEIC **09** 18:08:38.2±1.8, 9.12S±0.06×75.63W±0.08, h41km±5km, Error ellipse: s-maj=11.0km s-min=9.1km az=98.0*

*BJI **09** 18:08:39.0±0.0, 9.10S×75.70W, h40km, mB5.6/4, Ms6.2/2, Ms7 6.1/2*

*GCMT **09** 18:08:39.0±0.3, 9.07S±0.02×75.77W±0.02, h31km, MW5.2/84, Moment Tensor Solution. s47,c56; s84,c125; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr0.67±.03; Mθθ0.03±.02; Mφφ-0.69±.02; Mrθ0.22±.02; Mθφ0.14±.01; Mφr-0.29±.03; Best double couple: M0 0.78600×10^17^ NP1:φs2.00000°, δ34.00000°, λ111.00000°. NP2:φs157.00000°, δ59.00000°, λ77.00000°. Principal axes: T 0.7760, Plg73.0000°, Azm33.0000°; N 0.0190, Plg12.0000°, Azm164.0000°; P -0.7950, Plg13.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 18:08:38.7±0.3, 9.10S±0.04×75.52W±0.05, h50km, n899, σ0.99/893, mb5.0/248, MS4.7/18, 12C-10D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**3.10**	**64**	*eP*	**Pn**	**18 09 27.4**	**+2.2**
NNA	**Nana**	**3.15**	**204**	Pn	**Pn**	**18 09 24.7**	**-1.1**
	42nm,0.3s,baz=34,slow=5.8,SNR=40						
NNA				Lg	Lg	18 10 02.4	
	421nm,0.3s,baz=292,slow=18,SNR=12						
NNA				LR	LR	18 10 21.0	
	comp=Z,3μm,18.1s,baz=5.0,slow=36						
NNA	**Nana**	**3.15**	**204**	*ceP*	**Pn**	**18 09 26.2**	**+0.3**
NNA				pmax	pmax		
	comp=Z,3μm,1.0s						
NNA	**Nana**	**3.15**	**204**	Pn	**Pn**	**18 09 25.6**	**-0.3**
ATAH	**Atahualpa**	**3.45**	**304**	Pn	**Pn**	**18 09 29.5**	**-0.8**
	comp=Z,4.9nm,0.3s,baz=137,slow=1.7,SNR=22						
ATAH				Lg	Lg	18 10 12.7	
	comp=Z,58nm,0.3s,baz=316,slow=19,SNR=4.2						
ATAH				LR	LR	18 10 30.2	
	comp=Z,1μm,19.0s,baz=124,slow=36						
TBTG	**Tabatinga, AM**	**7.41**	**49**	*eP*	**Pn**	**18 10 27.1**	**+2.7**
ETMB	**Extrema**	**9.21**	**95**	*eP*	**Pn**	**18 10 48.3**	**-0.7**
PTLC	**Puerto Leguiza**	**9.24**	**5**	*eP*	Pn	18 10 43.8	-5.6
OTAV	**Otavalo**	**9.72**	**342**	P	**Pn**	**18 10 54.3**	**-2.2**
OTAV	**Otavalo**	**9.72**	**342**		**Pn**	**18 10 54.3**	**-2.2**
OTAV	**Otavalo**	**9.72**	**342**	*eP*	**Pn**	**18 10 57.5**	**+1.0**
OTAV	**Otavalo**	**9.72**	**342**	*eP*	**Pn**	**18 10 56.5**	**0.0**
CUSE	**Cuicocha Este**	**9.77**	**343**	*eP*	Pn	18 11 04.2	+7.1
PAC1	**Pacto, Paraso**	**9.86**	**341**	*eP*	**Pn**	**18 10 58.7**	**+0.7**
LPAZ	**La Paz**	**10.15**	**135**	Pn	**Pn**	**18 11 02.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=319,slow=10,SNR=25						
LPAZ				Lg	Lg	18 13 51.2	
	comp=Z,8.9nm,0.3s,baz=166,slow=18,SNR=3.7						
LPAZ	**La Paz**	**10.15**	**135**	P	**Pn**	**18 11 03.6**	**+1.2**
LPAZ	**La Paz**	**10.15**	**135**	Pn	**Pn**	**18 11 03.6**	**+1.2**
BBAC	**Balboa, Cauca**	**11.18**	**351**	*eP*	**Pn**	**18 11 14.0**	**-2.2**
GARC	**Garzon, Huila**	**11.21**	**0**	*eP*	**Pn**	**18 11 15.9**	**-0.8**
SOTA	**Rioblanco**	**11.21**	**354**	*eP*	**Pn**	**18 11 14.6**	**-2.2**
MACC	**Macarena, Meta**	**11.30**	**9**	*eP*	**Pn**	**18 11 16.8**	**-0.8**
PCON	**Cinco Dias**	**11.39**	**356**	*eP*	**Pn**	**18 11 18.1**	**-1.2**
POPC	**Popayan, Colom**	**11.62**	**354**	*eP*	Pn	18 11 14.9	-7.3
BETC	**Betania**	**11.71**	**0**	*eP*	**Pn**	**18 11 24.3**	**+1.1**
MARP	**Paez Belalcaza**	**11.87**	**358**	*eP*	**Pn**	**18 11 24.7**	**-1.0**
PB08	**IPOC Station P**	**12.58**	**151**		**Pn**	**18 11 36.0**	**+0.6**
PRAC	**Prado**	**12.75**	**3**	*eP*	**Pn**	**18 11 34.7**	**-2.7**
ORTC	**Ortega, Tolima**	**12.93**	**1**	*eP*	**Pn**	**18 11 38.7**	**-1.2**
YOTC	**Yotoco, Valle**	**13.02**	**356**	*eP*	Pn	18 11 34.1	-7.2
PB01	**IPOC Station P**	**13.22**	**155**	Pn	**Pn**	**18 11 42.8**	**-1.1**
VILC	**Villavicencio,**	**13.25**	**8**	*eP*	**Pn**	**18 11 43.5**	**-0.9**
ANIL	**Santa Ana**	**13.50**	**1**	*eP*	**P**	**18 11 56.1**	**+0.3**
TOLC	**Tolima**	**13.60**	**1**	*eP*	**P**	**18 11 58.7**	**+1.8**
PTGC	**Puerto Gaitan,**	**13.64**	**14**	*eP*	**Pn**	**18 11 48.4**	**-1.1**
PB07	**IPOC Station P**	**13.67**	**157**		**Pn**	**18 11 51.2**	**+1.0**
CHIC	**Chingaza**	**13.76**	**8**	*eP*	**Pn**	**18 11 49.3**	**-2.2**
ROSC	**El Rosal**	**13.90**	**5**	Pn	**Pn**	**18 11 52.3**	**-1.2**
	comp=Z,2.0nm,0.3s,baz=18,slow=20,SNR=2.7						
ROSC				Lg	Lg	18 15 54.8	
	comp=Z,2.1nm,0.3s,baz=162,slow=19,SNR=1.7						
ROSC				LR	LR	18 18 50.2	
	comp=Z,4μm,18.0s,baz=227,slow=44						
ROSC	**El Rosal**	**13.90**	**5**	P	**Pn**	**18 11 54.2**	**+0.7**
ROSC	**El Rosal**	**13.90**	**5**	Pn	**Pn**	**18 11 54.2**	**+0.7**
ROSC	**El Rosal**	**13.90**	**5**	*eP*	**Pn**	**18 11 52.3**	**-1.2**
PLMC	**San Jos del P**	**13.94**	**357**	*eP*	**Pn**	**18 11 54.0**	**+0.4**
PB09	**IPOC Station P**	**13.99**	**155**		**Pn**	**18 11 55.2**	**+0.7**
PB04	**IPOC Station P**	**14.13**	**159**	P	**P**	**18 12 02.4**	**-0.3**
GUY2C	**Guyana, Caldas**	**14.23**	**1**	*eP*	**Pn**	**18 11 59.7**	**+1.7**
NORC	**Norcasia**	**14.58**	**3**	*eP*	**P**	**18 12 07.4**	**-0.2**
PB06	**IPOC Station P**	**14.68**	**158**	P	**P**	**18 12 08.8**	**0.0**
LVC	**Limon Verde**	**14.86**	**155**	Pn	**Pn**	**18 12 08.3**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=309,slow=6.5,SNR=10						
LVC				LR	LR	18 18 05.6	
	comp=Z,3μm,20.5s,baz=324,slow=38						
LVC	**Limon Verde**	**14.86**	**155**	P	**P**	**18 12 12.0**	**+1.1**
LVC	**Limon Verde**	**14.86**	**155**	P	**P**	**18 12 12.0**	**+1.1**
CBOC	**Ciudad Bolivar**	**14.87**	**358**	*eP*	**P**	**18 12 11.2**	**+0.3**
RUSC	**La Rusia**	**15.09**	**9**	Pn	**Pn**	**18 12 08.9**	**-0.4**
RUSC				IAmb	IAmb	18 12 32.7	
	comp=Z,119nm,1.1s						
RUSC	**La Rusia**	**15.09**	**9**	*eP*	**Pn**	**18 12 08.8**	**-0.6**
PB15	**IPOC Station P**	**15.18**	**158**		**Pn**	**18 12 08.7**	**-1.5**
HELC	**Santa Helena**	**15.19**	**360**	*eP*	**Pn**	**18 12 11.6**	**+1.1**
VILB	**Vilhena**	**15.52**	**106**	*eP*	**Pn**	**18 12 13.9**	**-0.5**
SIV	**San Ignacio**	**15.67**	**117**	Pn	**Pn**	**18 12 16.2**	**-0.2**
	comp=Z,5.1nm,0.3s,baz=293,slow=10,SNR=97						
SIV				Sn	**Sn**	**18 15 03.6**	**-5.5**
	comp=Z,4.7nm,0.3s,baz=229,slow=20,SNR=1.3						
SIV				Lg	Lg	18 16 50.8	
	comp=Z,16nm,0.3s,baz=37,slow=23,SNR=7.7						
SIV				LR	LR	18 19 33.1	
	comp=Z,1μm,18.2s,baz=304,slow=42						
BARC	**Barichara**	**15.76**	**9**	*eP*	**Pn**	**18 12 19.2**	**+1.4**
MACA	**Manacapuru-AM**	**15.88**	**69**	*eP*	**Pn**	**18 12 17.7**	**-1.4**
DBBC	**Dabeiba**	**16.03**	**358**	*eP*	**P**	**18 12 23.6**	**-0.1**
PB14	**IPOC Station P**	**16.19**	**163**	Pn	**Pn**	**18 12 21.9**	**-1.3**
ZARC	**Zaragoza, Cauc**	**16.50**	**2**	*eP*	**Pn**	**18 12 27.4**	**+0.5**
PAMC	**Pamplona, Colo**	**16.57**	**10**	*eP*	**P**	**18 12 29.3**	**-0.9**
UREC	**San Jos de Ur**	**16.74**	**360**	*eP*	**P**	**18 12 31.2**	**-0.3**
GO02	**Mina Guanaco**	**16.94**	**161**	Pn	**Pn**	**18 12 32.4**	**-0.3**
ELOV	**Elorza**	**17.09**	**21**	*eP*	**Pn**	**18 12 33.5**	**-0.7**
PTLB	**Pontes e Lacer**	**17.20**	**113**	*eP*	**Pn**	**18 12 34.7**	**-0.9**
OCAC	**Ocana**	**17.36**	**7**	*eP*	**Pn**	**18 12 37.9**	**+0.1**
PTGA	**Pitinga**	**17.58**	**63**	P	**Pn**	**18 12 40.0**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=232,slow=14,SNR=27						
PTGA				S	**Sn**	**18 15 47.4**	**-7.9**
	comp=Z,3.8nm,0.3s,baz=329,slow=19,SNR=3.1						
PTGA				Lg	Lg	18 17 52.0	
	comp=Z,2.5nm,0.3s,baz=311,slow=19,SNR=1.5						
PTGA				LR	LR	18 19 58.6	
	comp=Z,4μm,18.8s,baz=243,slow=39						
SMLC	**San Martn de**	**17.84**	**5**	*eP*	**P**	**18 12 44.5**	**+0.9**
SOCV	**Socops**	**17.89**	**15**	*eP*	**Pn**	**18 12 42.5**	**-1.6**
SDV	**Santo Domingo**	**18.52**	**15**	P	**P**	**18 12 50.4**	**-0.9**
	comp=Z,6.9nm,0.3s,baz=16,slow=8.1,SNR=1.7						
SDV				LR	LR	18 21 14.3	
	comp=Z,4μm,18.1s,baz=214,slow=41						
LL1C	**La Loma 1 Cana**	**18.62**	**6**	*eP*	**P**	**18 12 49.3**	**-3.0**
AC02	**Maricunga**	**18.65**	**162**		**Pn**	**18 12 53.9**	**+0.2**
AC02				IAmb	IAmb	18 13 08.1	
	comp=Z,100nm,1.5s						
LL2C	**La Loma 2 Cana**	**18.65**	**6**	*eP*	**P**	**18 12 50.3**	**-2.3**
BOAV	**Boa Vista**	**18.81**	**53**	*eP*	**Pn**	**18 12 55.9**	**+0.6**
SJCC	**San Jacinto, C**	**18.88**	**1**	P	**P**	**18 12 55.2**	**+0.1**
SJCC				IAmb	IAmb	18 13 00.9	
	comp=Z,113nm,0.9s						
SJCC	**San Jacinto, C**	**18.88**	**1**	*eP*	**P**	**18 12 53.1**	**-2.0**
GO03	**Copiap**	**19.06**	**165**	P	**P**	**18 12 54.1**	**-3.0**
CLDB	**Colider**	**19.51**	**97**	*eP*	**P**	**18 13 02.2**	**+0.2**
SRBA	**San Rafael, Bu**	**19.82**	**337**	P	**Pn**	**18 13 05.7**	**-1.6**
NPGB	**Novo Progresso**	**20.07**	**86**	*eP*	**P**	**18 13 08.2**	**0.0**
ITTB	**Itaituba**	**20.20**	**78**	*eP*	**P**	**18 13 10.5**	**+1.0**
SALV	**Santo Antonio**	**20.49**	**111**	*eP*	**P**	**18 13 12.7**	**0.0**
RIMA	**Rio Macho**	**20.50**	**336**	P	**P**	**18 13 12.8**	**-0.1**
CVTR	**Volcan Turrial**	**20.69**	**336**	P	**P**	**18 13 13.4**	**-1.8**
CVTR				IAmb	IAmb	18 13 18.2	
	comp=Z,48nm,1.1s						
URIC	**Uribia, Colomb**	**20.96**	**10**	P	**P**	**18 13 17.0**	**-0.7**
URIC				IAmb	IAmb	18 13 21.4	
	comp=Z,37nm,0.8s						
GO04	**Tololo Observa**	**21.42**	**169**	P	**P**	**18 13 22.0**	**-0.8**
GO04				IAmb	IAmb	18 13 23.7	
	comp=Z,63nm,0.9s						
JTS	**Las Juntas de**	**21.43**	**334**	P	**P**	**18 13 21.2**	**-1.6**
	comp=Z,4.6nm,0.4s,baz=17,slow=3.8,SNR=5.4						
JTS	**Las Juntas de**	**21.43**	**334**	*c iP*	**P**	**18 13 23.4**	**+0.6**
JTS				pmax	pmax		
	comp=Z,53nm,2.1s						
JTS	**Las Juntas de**	**21.43**	**334**	P	**P**	**18 13 24.0**	**+1.2**
COVE	**Coope Vega, Sa**	**21.58**	**336**	P	**P**	**18 13 24.0**	**-0.4**
COVE				IAmb	IAmb	18 13 29.3	
	comp=Z,69nm,1.0s						
PP1B	**Ponte de Pedra**	**21.77**	**115**	*eP*	**P**	**18 13 27.5**	**+1.1**
PCRV	**Puerto La Cruz**	**22.00**	**30**	P	**P**	**18 13 29.6**	**+0.7**
	comp=Z,14nm,0.7s,baz=258,slow=8.1,SNR=1.7						
PCRV				Lg	Lg	18 20 14.7	
	comp=Z,32nm,1.0s,baz=246,slow=21,SNR=2.2						
PCRV				LR	LR	18 22 35.7	
	comp=Z,955nm,21.8s,slow=38						
PLCV	**Puerto La Cruz**	**22.02**	**30**	P	**P**	**18 13 29.6**	**+0.6**
AQDB	**Aquidauana**	**22.22**	**123**	P	**P**	**18 13 30.4**	**-0.9**
AQDB				IAmb	IAmb	18 13 33.7	
	comp=Z,60nm,1.0s						
AQDB	**Aquidauana**	**22.22**	**123**	*eP*	**P**	**18 13 31.1**	**-0.1**
MALB	**Monte Alegre**	**22.34**	**72**	*eP*	**P**	**18 13 34.5**	**+1.9**
ZON	**Zonda**	**23.22**	**165**	P	**P**	**18 13 41.2**	**-0.4**
ZON				pmax	pmax		
	comp=Z,40nm,1.3s						
ZON	**Zonda**	**23.22**	**165**	P	**P**	**18 13 41.1**	**-0.4**
ZON				IAmb	IAmb	18 14 06.8	
	comp=Z,40nm,1.3s						
SNDB	**Serra Nova Dou**	**23.99**	**99**	*eP*	**P**	**18 13 49.3**	**+0.4**
VA03	**San Esteban**	**23.99**	**170**	P	**P**	**18 13 46.6**	**-2.3**
VA03				IAmb	IAmb	18 14 00.8	
	comp=Z,38nm,0.6s						
ARAG	**Araguaiana, MT**	**24.05**	**108**	*eP*	**P**	**18 13 49.7**	**+0.3**
CPUP	**Villa Florida**	**24.31**	**137**	P	**P**	**18 13 52.2**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=330,slow=12,SNR=7.4						
CPUP				LR	LR	18 25 49.4	
	comp=Z,1μm,18.4s,baz=322,slow=42						
CPUP	**Villa Florida**	**24.31**	**137**	P	**P**	**18 13 52.1**	**+0.4**
CPUP				pmax	pmax		
	comp=Z,33nm,1.3s						
CPUP	**Villa Florida**	**24.31**	**137**	P	**P**	**18 13 52.1**	**+0.3**
CPUP	**Villa Florida**	**24.31**	**137**	*eP*	**P**	**18 13 52.8**	**+1.1**
MT02	**Curacav**	**24.38**	**171**	P	**P**	**18 13 53.1**	**+0.8**
MT02				IAmb	IAmb	18 14 12.1	
	comp=Z,33nm,1.1s						
CRIN	**San Cristobal**	**24.50**	**332**	P	**P**	**18 13 53.0**	**-0.6**
MT05	**Renca**	**24.57**	**170**	P	**P**	**18 13 51.8**	**-2.3**
VA05	**Santo Domingo**	**24.70**	**172**	P	**P**	**18 13 54.6**	**-0.6**
VA05				IAmb	IAmb	18 14 10.6	
	comp=Z,43nm,1.2s						
MT03	**Universidad Ad**	**24.71**	**170**	P	**P**	**18 13 53.6**	**-1.8**
MT03				IAmb	IAmb	18 14 06.5	
	comp=Z,47nm,1.1s						
MT09	**Talagante**	**24.91**	**171**	P	**P**	**18 13 56.8**	**-0.5**
MCPB	**Macapa, AP**	**24.92**	**71**	*eP*	**P**	**18 13 58.0**	**+0.5**
MT01	**Popeta**	**24.96**	**172**	P	**P**	**18 13 56.4**	**-1.1**
MT01				IAmb	IAmb	18 14 10.0	
	comp=Z,27nm,1.1s						
BO01	**Tunca**	**25.50**	**171**	P	**P**	**18 14 01.6**	**-0.8**
BO01				IAmb	IAmb	18 14 12.4	
	comp=Z,29nm,1.1s						
PRPB	**Parauapebas**	**25.64**	**85**	*eP*	**P**	**18 14 05.0**	**+1.1**
TGUH	**Tegucigalpa,Un**	**25.79**	**333**	P	**P**	**18 14 05.1**	**-0.3**
TGUH				IAmb	IAmb	18 14 33.6	
	comp=Z,41nm,1.2s						
TRCB	**Terra Rica**	**25.82**	**125**	P	**P**	**18 14 04.7**	**-0.9**
TRCB				IAmb	IAmb	18 14 08.0	
	comp=Z,39nm,0.7s						
TRCB	**Terra Rica**	**25.82**	**125**	*eP*	**P**	**18 14 05.9**	**+0.4**
BO02	**Sierra Bellavi**	**25.94**	**171**	P	**P**	**18 14 06.0**	**-0.5**
GO05	**Huala**	**26.00**	**173**	P	**P**	**18 14 05.9**	**-1.0**
SVB	**Belmont**	**26.36**	**33**	P	**P**	**18 14 09.5**	**-0.9**
PCMB	**Pacaembu**	**26.44**	**121**	*eP*	**P**	**18 14 11.3**	**+0.2**
ITRB	**Iturama**	**26.51**	**116**	*eP*	**P**	**18 14 11.8**	**0.0**
ML02	**Panimavida**	**26.80**	**173**	P	**P**	**18 14 13.7**	**-0.4**
ML02				IAmb	IAmb	18 14 14.8	
	comp=Z,60nm,1.4s						
MDP	**Montagnes des**	**26.82**	**59**	P	**P**	**18 14 17.0**	**+2.5**
	comp=Z,7.3nm,1.0s,baz=243,slow=6.8,SNR=2.1						
MDP				Lg	Lg	18 22 48.0	
	comp=Z,124nm,1.1s,baz=125,slow=20,SNR=5.6						
MDP				LR	LR	18 25 54.3	
	comp=Z,3μm,18.6s,baz=253,slow=39						
PEXB	**Peixe**	**26.92**	**99**	*eP*	**P**	**18 14 16.5**	**+1.0**
ITQB	**Itaqui**	**27.06**	**142**	P	**P**	**18 14 16.6**	**+0.1**
ITQB				IAmb	IAmb	18 14 18.9	
	comp=Z,41nm,1.0s						
ITQB	**Itaqui**	**27.06**	**142**	*eP*	**P**	**18 14 16.9**	**+0.4**
MTO3	**Montecristo**	**27.08**	**329**	P	**P**	**18 14 17.1**	**-0.1**
SMTB	**Santa Maria do**	**27.59**	**92**	*eP*	**P**	**18 14 22.2**	**+0.7**
BDFB	**Brasilia**	**27.62**	**106**	P	**P**	**18 14 22.4**	**+0.4**
	comp=Z,5.5nm,0.4s,baz=257,slow=4.7,SNR=7.0						
BDFB				LR	LR	18 26 03.1	
	comp=Z,4μm,18.5s,baz=280,slow=38						
BDFB	**Brasilia**	**27.62**	**106**	P	**P**	**18 14 22.1**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
BDFB	**Brasilia**	**27.62**	**106**	P	**P**	**18 14 22.1**	**+0.2**
BI02	**San Fabin de**	**27.71**	**173**	P	**P**	**18 14 22.0**	**-0.4**
IPMB	**Ipameri, GO**	**27.95**	**111**	*eP*	**P**	**18 14 24.4**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**28.08**	**78**	*eP*	**P**	**18 14 27.6**	**+1.7**
OBIP	**Obispado Ponce**	**28.37**	**18**	P	**P**	**18 14 29.9**	**+1.5**
MPR	**Mayaguez**	**28.37**	**17**	P	**P**	**18 14 28.9**	**+0.5**
ITAB	**Concordia**	**28.53**	**132**	*eP*	**P**	**18 14 30.1**	**+0.3**
**

143A	**Socs Landing,**	44.24 341	P	**P**	18 16 42.4	-0.9
143A			IAmb	IAmb	18 16 43.3	
	comp=Z,17nm,0.7s					
X51A	**Calhoun**	44.32 349	P	**P**	18 16 43.0	-0.9
KMSC	**Kings Mountain**	44.34 353	P	**P**	18 16 44.2	+0.2
	baz=172					
KMSC	**Kings Mountain**	44.34 353	P	**P**	18 16 43.8	-0.3
BG3	**Lake Jocassee**	44.41 351	P	**P**	18 16 44.1	-0.5
FPAL	**Fort Paine**	44.44 348	P	**P**	18 16 43.4	-1.5
NATX	**Nacogdoches**	44.57 337	P	**P**	18 16 46.9	+1.0
	baz=153					
NATX	**Nacogdoches**	44.57 337	P	**P**	18 16 45.9	0.0
V61A	**Roper**	44.66 359	P	**P**	18 16 47.2	+0.7
W52A	**Murphy**	44.67 350	P	**P**	18 16 46.0	-0.6
X48A	**Hartselle**	44.67 346	P	**P**	18 16 45.6	-1.1
Y45A	**Yeager Farm, C**	44.76 343	P	**P**	18 16 46.5	-0.8
Y45A			IAmb	IAmb	18 16 57.3	
	comp=Z,18nm,0.8s					
V58A	**Windy Hill, Pi**	44.78 356	P	**P**	18 16 47.7	+0.2
V58A			IAmb	IAmb	18 16 49.2	
	comp=Z,26nm,1.1s					
435B	**Jarrell**	44.95 333	P	**P**	18 16 49.3	+0.3
	baz=149					
435B	**Jarrell**	44.95 333	P	**P**	18 16 48.5	-0.5
W50A	**Signal Mountai**	45.02 349	P	**P**	18 16 48.3	-1.2
V55A	**Taylorsville**	45.03 353	P	**P**	18 16 48.6	-1.0
V53A	**Saluda**	45.06 352	P	**P**	18 16 47.9	-1.9
CPCT	**Cooper Cave**	45.12 350	P	**P**	18 16 49.5	-0.7
SWET	**Sewanee**	45.16 348	P	**P**	18 16 49.5	-1.1
TKL	**Tuckaleechee C**	45.19 351	P	**P**	18 16 50.0	-0.8
TKL			pmax	pmax		
	comp=Z,10.0nm,1.1s					
TKL	**Tuckaleechee C**	45.19 351	P	**P**	18 16 50.0	-0.8
U59A	**Littleton**	45.26 357	P	**P**	18 16 51.8	+0.5
U59A			IAmb	IAmb	18 16 52.9	
	comp=Z,26nm,1.1s					
OXF	**Oxford**	45.33 344	P	**P**	18 16 51.5	-0.4
OXF			pmax	pmax		
	comp=Z,18nm,1.0s					
OXF	**Oxford**	45.33 344	P	**P**	18 16 51.5	-0.4
OXF			IAmb	IAmb	18 16 52.4	
	comp=Z,18nm,0.9s					
V52A	**Sevierville**	45.34 351	P	**P**	18 16 51.4	-0.6
PLAL	**Pickwick Lake**	45.42 345	P	**P**	18 16 51.6	-1.0
PLAL			IAmb	IAmb	18 16 52.5	
	comp=Z,16nm,1.2s					
V51A	**Loudon**	45.43 350	P	**P**	18 16 51.1	-1.5
U56A	**King**	45.44 354	P	**P**	18 16 52.9	+0.1
U56A			IAmb	IAmb	18 16 54.2	
	comp=Z,19nm,1.1s					
CCAR	**Cane Creek**	45.48 341	P	**P**	18 16 52.9	-0.1
WLAR	**White Oak Lake**	45.72 339	P	**P**	18 16 55.1	+0.1
JCT	**Junction City**	45.75 330	P	**P**	18 16 54.9	-0.4
	baz=146					
V48A	**Smith Brothers**	45.86 347	P	**P**	18 16 55.1	-0.9
V48A			IAmb	IAmb	18 16 56.3	
	comp=Z,17nm,0.9s					
T59A	**Double "B" Far**	45.87 358	P	**P**	18 16 57.0	+0.9
W45A	**Hickory Valley**	45.88 344	P	**P**	18 16 54.7	-1.5
WHTX	**Lake Whitney,**	45.93 334	P	**P**	18 16 57.0	+0.3
	baz=149					
WHTX	**Lake Whitney,**	45.93 334	P	**P**	18 16 56.6	0.0
WHTX			IAmb	IAmb	18 17 22.8	
	comp=Z,13nm,0.8s					
T57A	**Hurt**	45.99 356	P	**P**	18 16 57.2	+0.2
Z38A	**Mt. Pleasant**	46.02 337	P	**P**	18 16 57.4	+0.1
Z38A			IAmb	IAmb	18 16 58.9	
	comp=Z,23nm,0.8s					
TZTN	**Tazewell**	46.02 351	P	**P**	18 16 56.9	-0.5
	baz=169					
CLTN	**Cedars of Leba**	46.09 348	P	**P**	18 16 56.3	-1.6
BLA	**Blacksburg**	46.30 355	P	**P**	18 16 58.7	-0.8
BLA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
BLA	**Blacksburg**	46.30 355	P	**P**	18 17 00.1	+0.5
	baz=174					
BLA	**Blacksburg**	46.30 355	P	**P**	18 16 58.7	-0.8
BLA			IAmb	IAmb	18 17 01.9	
	comp=Z,10nm,0.8s					
X40A	**Basin Creek Fa**	46.35 340	P	**P**	18 16 59.2	-0.7
X40A	**Basin Creek Fa**	46.35 340	P	**P**	18 16 58.5	-1.4
U49A	**Red Boiling Sp**	46.38 349	P	**P**	18 16 58.4	-1.8
WVT	**Waverly**	46.46 346	P	**P**	18 16 58.5	-2.3
WVT			pmax	pmax		
	comp=Z,7.0nm,1.0s					
WVT	**Waverly**	46.46 346	P	**P**	18 16 59.1	-1.6
	baz=163					
WVT	**Waverly**	46.46 346	P	**P**	18 16 58.5	-2.3
LPAR	**Lepanto**	46.60 343	P	**P**	18 17 00.4	-1.5
JSRW	**J. Sargeant Re**	46.60 357	P	**P**	18 17 01.9	+0.1
HALT	**Halls**	46.63 345		**P**	18 17 00.5	-1.6
MIAR	**Mount Ida**	46.66 339	P	**P**	18 17 01.0	-1.4
MIAR			pmax	pmax		
	comp=Z,12nm,1.2s					
MIAR	**Mount Ida**	46.66 339	P	**P**	18 17 01.9	-0.5
	baz=155					
MIAR	**Mount Ida**	46.66 339	P	**P**	18 17 00.9	-1.4
T50A	**Nancy**	46.70 350	P	**P**	18 17 01.1	-1.5
S57A	**Dark Hollow, R**	46.73 356	P	**P**	18 17 03.5	+0.6
W41B	**Gary Mavity, V**	46.79 341	P	**P**	18 17 02.8	-0.5
	baz=157,SNR=5.8					
TX32	**Lajitas Array**	46.86 326	P	**P**	18 17 03.8	-0.4
TXAR	**Lajitas Array**	46.86 326	P	**P**	18 17 03.7	-0.4
	comp=Z,1.7nm,0.8s,baz=146,slow=9.1,SNR=14					
TXAR			LR	LR	18 36 20.9	
	comp=Z,397nm,18.4s,baz=0.0,slow=36					
TXAR	**Lajitas Array**	46.86 326	P	**P**	18 17 03.6	-0.6
TXAR	**Lajitas Array**	46.86 326	P	**P**	18 17 03.6	-0.6
TX31	**Lajitas Ar. Si**	46.86 326	P	**P**	18 17 03.8	-0.4
TX31			IAmb	IAmb	18 17 04.9	
	comp=Z,17nm,1.1s					
R58B	**Mineral**	46.87 357	P	**P**	18 17 04.7	+0.8
R58B			IAmb	IAmb	18 17 05.8	
	comp=Z,26nm,1.1s					
WHAR	**Wooly Hollow**	46.91 341	P	**P**	18 17 03.1	-1.2
WHAR			IAmb	IAmb	18 17 04.3	
	comp=Z,23nm,1.2s					
S54A	**Dingess, Beckl**	46.97 354	P	**P**	18 17 04.8	0.0
S54A			IAmb	IAmb	18 17 17.0	
	comp=Z,11nm,0.9s					
Z35A	**Perchaven, San**	46.99 335	P	**P**	18 17 05.7	+0.7
CBN	**Corbin Frederi**	47.09 358	P	**P**	18 17 06.3	+0.7
T47A	**Sharon Grove**	47.12 347	P	**P**	18 17 04.2	-1.7
LCAR	**Lake Charles**	47.28 343	P	**P**	18 17 06.1	-1.1
LCAR			IAmb	IAmb	18 17 06.7	
	comp=Z,28nm,1.3s					
W39A	**Magazine**	47.32 340	P	**P**	18 17 07.6	+0.1
	baz=155					
W39A	**Magazine**	47.32 340	P	**P**	18 17 07.6	+0.1
W39A			IAmb	IAmb	18 17 08.4	
	comp=Z,12nm,0.9s					
R55A	**Marlinton**	47.33 355	P	**P**	18 17 08.3	+0.7
R55A			IAmb	IAmb	18 17 16.4	
	comp=Z,35nm,1.5s					
X37A	**Clayton**	47.35 338	P	**P**	18 17 07.5	-0.2
X37A			IAmb	IAmb	18 17 09.1	
	comp=Z,10nm,0.9s					
FCAR	**Ozark Folk Cen**	47.41 342	P	**P**	18 17 06.8	-1.4
FCAR			IAmb	IAmb	18 17 07.7	
	comp=Z,16nm,1.2s					
ABTX	**Abilene, Hawle**	47.45 332	P	**P**	18 17 08.8	+0.2
	baz=147,SNR=5.8					
ABTX	**Abilene, Hawle**	47.45 332	P	**P**	18 17 08.2	-0.3
LOOK	**Love County**	47.53 335	P	**P**	18 17 09.7	+0.4
LOOK			IAmb	IAmb	18 17 10.5	
	comp=Z,19nm,1.0s					
R53A	**Hurricane**	47.56 353	P	**P**	18 17 08.4	-0.9
PBMO	**Poplar Bluff**	47.74 344	P	**P**	18 17 09.3	-1.5
PBMO			IAmb	IAmb	18 17 10.7	
	comp=Z,12nm,0.8s					
Q56A	**Snyder Ridge,**	48.02 356	P	**P**	18 17 13.3	+0.5
U40A	**Yellville**	48.07 341	P	**P**	18 17 12.7	-0.7
	baz=157,SNR=7.8					
U40A	**Yellville**	48.07 341	P	**P**	18 17 12.5	-0.8
U40A			IAmb	IAmb	18 17 14.9	
	comp=Z,11nm,0.9s					
Q54A	**Coxs Mills**	48.09 354	P	**P**	18 17 13.1	-0.3
Q54A			IAmb	IAmb	18 17 14.6	
	comp=Z,10nm,0.7s					
WCI	**Wyandotte Cave**	48.15 349	P	**P**	18 17 12.3	-1.5
WCI			pmax	pmax		
	comp=Z,13nm,1.1s					
WCI	**Wyandotte Cave**	48.15 349	P	**P**	18 17 12.7	-1.2
	baz=166					
WCI	**Wyandotte Cave**	48.15 349	P	**P**	18 17 12.3	-1.5
WCI			IAmb	IAmb	18 17 13.1	
	comp=Z,13nm,1.1s					
SDMD	**Soldier's Deli**	48.28 359	P	**P**	18 17 14.0	-0.8
S44A	**Carbondale**	48.29 345	P	**P**	18 17 13.3	-1.7
S44A			IAmb	IAmb	18 17 14.9	
	comp=Z,17nm,0.9s					
SIUC	**Southern Illin**	48.30 345	P	**P**	18 17 12.8	-2.2
SIUC			IAmb	IAmb	18 17 15.0	
	comp=Z,19nm,0.9s					
X34A	**Smith Ranch, M**	48.33 335	P	**P**	18 17 14.8	-0.5
X34A			IAmb	IAmb	18 17 17.2	
	comp=Z,23nm,1.0s					
HHAR	**Hobbs**	48.36 340	P	**P**	18 17 14.7	-0.9
HHAR			IAmb	IAmb	18 17 15.7	
	comp=Z,16nm,1.1s					
MGMO	**Mountain Grove**	48.62 342	P	**P**	18 17 16.5	-1.1
P53A	**Whipple**	48.65 354	P	**P**	18 17 17.4	-0.3
P53A			IAmb	IAmb	18 17 38.1	
	comp=Z,8.0nm,0.8s					
U38A	**Gravette**	48.65 340	P	**P**	18 17 16.7	-1.1
U38A			IAmb	IAmb	18 17 17.9	
	comp=Z,12nm,1.2s					
P60A	**Greenville**	48.66 360	P	**P**	18 17 18.7	+0.9
	baz=180					
MCWV	**Mont Chateau**	48.68 356	P	**P**	18 17 18.3	+0.4
	baz=174					
TUL1	**Leonard**	48.68 338	P	**P**	18 17 17.9	-0.1
	baz=153					
FNO	**Franklin**	48.72 336	P	**P**	18 17 16.9	-1.5
WMOK	**Wichita Mounta**	48.85 334	P	**P**	18 17 18.8	-0.6
WMOK			pmax	pmax		
	comp=Z,7.0nm,1.2s					
WMOK	**Wichita Mounta**	48.85 334	P	**P**	18 17 18.7	-0.7
	baz=149					
WMOK	**Wichita Mounta**	48.85 334	P	**P**	18 17 18.8	-0.6
MVL	**Millersville**	48.86 359	P	**P**	18 17 20.3	+1.0
MVL			IAmb	IAmb	18 17 21.3	
	comp=Z,17nm,1.1s					
P52A	**Corning**	48.87 353	P	**P**	18 17 19.2	-0.3
	baz=172					
PAGS	**Pennsylvania G**	49.09 359	P	**P**	18 17 21.8	+0.7
PAGS			IAmb	IAmb	18 17 24.7	
	comp=Z,10.0nm,0.7s					
OK031	**S. Brethren Rd**	49.11 337	P	**P**	18 17 20.2	-1.2
OK031			IAmb	IAmb	18 17 22.5	
	comp=Z,17nm,0.8s					
P49A	**Miami Univ. Ec**	49.13 351	P	**P**	18 17 20.3	-1.2
	baz=168					
CCM	**Cathedral Cave**	49.16 344	P	**P**	18 17 20.6	-1.0
	baz=160					
CCM	**Cathedral Cave**	49.16 344	P	**P**	18 17 20.1	-1.6
CCM			IAmb	IAmb	18 17 22.5	
	comp=Z,8.7nm,0.9s					
CCM				**PcP**	18 18 44.7	+0.3
O56A	**Blue Knob Stat**	49.20 357	P	**P**	18 17 23.0	+1.0
	baz=176,SNR=6.1					
O56A	**Blue Knob Stat**	49.20 357	P	**P**	18 17 22.4	+0.5
OK029	**Liberty Lake**	49.21 336	P	**P**	18 17 20.4	-1.7
QUOK	**Quay**	49.25 337	P	**P**	18 17 21.8	-0.6
QUOK			IAmb	IAmb	18 17 49.0	
	comp=Z,13nm,0.9s					
O52A	**Adamsville**	49.32 354	P	**P**	18 17 22.8	-0.1
O52A			IAmb	IAmb	18 17 23.5	
	comp=Z,12nm,0.8s					
O53A	**New Philadelph**	49.38 354	P	**P**	18 17 23.2	-0.2
	baz=173					
S39A	**Bolivar**	49.44 341	P	**P**	18 17 22.6	-1.2
S39A			IAmb	IAmb	18 17 23.5	
	comp=Z,10nm,1.1s					
SSPA	**Standing Stone**	49.53 358	P	**P**	18 17 25.3	+0.9
	baz=177					
SSPA	**Standing Stone**	49.53 358	P	**P**	18 17 25.4	+0.9
SSPA			IAmb	IAmb	18 17 26.1	
	comp=Z,15nm,0.9s					
ACSO	**Alum Creek Sta**	49.57 352	P	**P**	18 17 25.5	+0.8
	baz=170					
MNTX	**Cornudas Mount**	49.62 326	P	**P**	18 17 24.8	-0.5
	baz=140,SNR=5.2					
MNTX	**Cornudas Mount**	49.62 326	P	**P**	18 17 24.6	-0.7
MNTX			IAmb	IAmb	18 17 25.4	
	comp=Z,15nm,1.5s					
P46A	**Rosedale**	49.67 348	P	**P**	18 17 24.1	-1.4
R40A	**Maddies Statio**	49.67 343	P	**P**	18 17 24.0	-1.6
R40A			IAmb	IAmb	18 17 25.7	
	comp=Z,18nm,1.1s					
N58A	**Sunbury**	49.70 359	P	**P**	18 17 26.6	+0.8
N59A	**State Game Lan**	49.77 360	P	**P**	18 17 27.2	+0.9
	baz=180					
T35A	**Sooner Cattle**	49.84 338	P	**P**	18 17 26.5	-0.3
T35A			IAmb	IAmb	18 17 28.3	
	comp=Z,26nm,1.5s					
PAL	**Palisades**	49.88 2	P	**P**	18 17 27.6	+0.6
	baz=182					
BLOK	**Blackwell**	49.96 337	P	**P**	18 17 27.4	-0.5
BLOK			IAmb	IAmb	18 17 47.9	
	comp=Z,24nm,1.2s					
N54A	**Moraine State**	49.98 356	P	**P**	18 17 28.4	+0.5
	baz=174					
N54A	**Moraine State**	49.98 356	P	**P**	18 17 28.3	+0.4
N54A			IAmb	IAmb	18 17 29.0	
	comp=Z,23nm,1.1s					
MSTX	**Muleshoe**	50.04 330	P	**P**	18 17 27.0	-1.6
WSPT	**Westport, CT**	50.06 2	P	**P**	18 17 29.3	+0.9
M57A	**Sunshine Farm,**	50.21 358	P	**P**	18 17 31.1	+1.5
KAN13	**South Haven SW**	50.28 337	P	**P**	18 17 29.8	-0.5
KAN13			IAmb	IAmb	18 17 30.8	
	comp=Z,14nm,0.8s					
SFIN	**Lafayette**	50.38 349	P	**P**	18 17 31.1	+0.2
	baz=165					
SFIN	**Lafayette**	50.38 349	P	**P**	18 17 29.3	-1.6
SFIN			IAmb	IAmb	18 17 44.1	
	comp=Z,31nm,1.4s					
OK032	**Salt Plains WL**	50.39 336	P	**P**	18 17 30.4	-0.6
OK032			IAmb	IAmb	18 17 56.5	
	comp=Z,17nm,1.2s					
KSPA	**Keystone Colle**	50.41 360	P	**P**	18 17 32.1	+1.0
M55A	**Ridgway**	50.41 357	P	**P**	18 17 31.4	+0.2
M55A			IAmb	IAmb	18 17 32.2	
	comp=Z,18nm,0.9s					
N49A	**Columbus Grove**	50.41 351	P	**P**	18 17 29.9	-1.2
O44A	**Mansfield**	50.45 347	P	**P**	18 17 29.2	-2.2
M54A	**Oil Creek Stat**	50.50 356	P	**P**	18 17 32.1	+0.3
	baz=175					
M54A	**Oil Creek Stat**	50.50 356	P	**P**	18 17 31.2	-0.6
KS20	**Mayfield South**	50.51 337	P	**P**	18 17 31.4	-0.5
KS20			IAmb	IAmb	18 17 32.5	
	comp=Z,16nm,1.0s					
M53A	**WI Miller and**	50.51 355	P	**P**	18 17 31.6	-0.3
	baz=174					
KAN05	**Bluff City Nor**	50.52 337	P	**P**	18 17 29.7	-2.4
KAN05			IAmb	IAmb	18 17 32.6	
	comp=Z,12nm,0.8s					
N47A	**Urbana**	50.61 350	P	**P**	18 17 30.7	-1.9
KAN08	**Anthony NE Sta**	50.66 337	P	**P**	18 17 32.8	-0.3
KAN08			IAmb	IAmb	18 17 33.8	
	comp=Z,26nm,1.4s					
M50A	**Fremont**	50.73 353	P	**P**	18 17 32.5	-1.0
KAN12	**Harper NE Stat**	50.73 337	P	**P**	18 17 33.2	-0.5
KAN12			IAmb	IAmb	18 17 34.2	
	comp=Z,20nm,1.1s					
P40A	**Paris**	50.76 343	P	**P**	18 17 31.1	-2.6
L58A	**Harry Jones Me**	50.90 360	P	**P**	18 17 35.6	+0.8
	baz=180					
L64A	**Middleborough**	50.97 4	P	**P**	18 17 36.1	+0.9
	baz=186					
HDIL	**Hopedale**	51.02 347	P	**P**	18 17 34.7	-1.0
	baz=163					
HDIL	**Hopedale**	51.02 347	P	**P**	18 17 33.9	-1.8
L56A	**Greenwood**	51.02 358	P	**P**	18 17 35.7	0.0
L56A			IAmb	IAmb	18 17 37.6	
	comp=Z,14nm,0.8s					
L59A	**Walton**	51.04 0	P	**P**	18 17 37.0	+1.1
L59A			IAmb	IAmb	18 17 37.8	
	comp=Z,24nm,1.1s					
BINY	**Binghamton**	51.05 360	P	**P**	18 17 37.3	+1.3
	baz=180					
BINY	**Binghamton**	51.05 360	P	**P**	18 17 36.5	+0.5
BINY			IAmb	IAmb	18 17 37.9	
	comp=Z,16nm,0.8s					
ERPA	**Erie**	51.13 356	P	**P**	18 17 36.5	0.0
ERPA			IAmb	IAmb	18 17 47.3	
	comp=Z,19nm,0.7s					
P38A	**Dawn**	51.28 342	P	**P**	18 17 36.5	-1.2
WVNY	**West Valley, N**	51.33 357	P	**P**	18 17 38.3	+0.3
L61B	**Northampton**	51.37 3	P	**P**	18 17 39.1	+0.8
	baz=184					
N41A	**Harden Midland**	51.54 345	P	**P**	18 17 37.8	-1.8
121A	**Cookes Peak, D**	51.59 325	P	**P**	18 17 40.6	+0.3
	baz=138					
121A	**Cookes Peak, D**	51.59 325	P	**P**	18 17 41.1	+0.8
319A	**Douglas**	51.62 323	P	**P**	18 17 40.8	+0.2
319A			IAmb	IAmb	18 17 42.3	
	comp=Z,39nm,1.5s					
R32A	**Long Quarter,**	51.99 337	P	**P**	18 17 43.0	-0.1
MEDO	**Medina**	52.08 357	P	**P**	18 17 42.8	-0.8
MEDO			IAmb	IAmb	18 17 43.5	
	comp=Z,16nm,0.8s					
J60A	**Lant Hill Farm**	52.13 2	P	**P**	18 17 45.1	+1.2
	baz=183					
J56A	**Wolcott**	52.14 359	P	**P**	18 17 43.5	-0.5
J56A			IAmb	IAmb	18 17 45.1	
	comp=Z,18nm,0.9s					
J55A	**Hilton**	52.16 358	P	**P**	18 17 44.3	+0.2
J55A			IAmb	IAmb	18 17 45.6	
	comp=Z,23nm,0.9s					
BNM	**Barren Site**	52.16 327	P	**P**	18 17 43.6	-1.0
J58A	**Remsen**	52.21 0	P	**P**	18 17 45.3	+0.8
	baz=180					
ACCN	**Adirondack Com**	52.26 2	P	**P**	18 17 45.8	+0.9
ACCN			IAmb	IAmb	18 17 47.7	
	comp=Z,36nm,1.4s					
J61A	**Chester**	52.27 3	P	**P**	18 17 46.3	+1.4
	baz=184					
N38A	**Joes South For**	52.27 343	P	**P**	18 17 43.6	-1.4
N38A			IAmb	IAmb	18 17 45.1	
	comp=Z,14nm,0.7s					
J59A	**Piesco**	52.32 1	P	**P**	18 17 46.4	+1.0
J59A			IAmb	IAmb	18 17 47.2	
	comp=Z,30nm,1.2s					
LENM	**Lemitar**	52.36 327	P	**P**	18 17 45.8	-0.3
I58A	**Old Forge**	52.54 1	P	**P**	18 17 47.9	+0.8
	baz=181					
ANMO	**Albuquerque**	52.68 328	*ceP*	**P**	18 17 48.0	-0.4
ANMO			pmax	pmax		
	comp=Z,15nm,1.7s					
ANMO	**Albuquerque**	52.68 328	P	**P**	18 17 48.4	0.0
	baz=141					
ANMO	**Albuquerque**	52.68 328	P	**P**	18 17 48.1	-0.3
CBKS	**Cedar Bluff**	52.73 336	P	**P**	18 17 47.9	-0.6
CBKS			pmax	pmax		
	comp=Z,30nm,1.5s					
CBKS	**Cedar Bluff**	52.73 336	P	**P**	18 17 48.5	-0.1
	baz=150					
CBKS	**Cedar Bluff**	52.73 336	P	**P**	18 17 47.9	-0.6
CBKS			IAmb	IAmb	18 17 49.3	
	comp=Z,30nm,1.4s					
I60A	**Shoreham**	52.73 2	P	**P**	18 17 49.1	+0.7
	baz=183					
J47A	**Sunmer**	52.77 351	P	**P**	18 17 47.6	-1.1
I57A	**Carthage**	52.79 360	P	**P**	18 17 49.7	+0.9
	baz=180					
PECO	**Prince Edward**	52.80 359	P	**P**	18 17 49.1	+0.2
PECO			IAmb	IAmb	18 17 49.7	
	comp=Z,25nm,1.1s					
I62A	**Tamworth**	52.86 4	P	**P**	18 17 50.7	+1.4
	baz=185					
I64A	**Boothbay**	53.04 5	P	**P**	18 17 52.1	+1.5
	baz=187					
N35A	**Tabor**	53.06 341	P	**P**	18 17 49.9	-1.0
I63A	**Otisfield**	53.09 4	P	**P**	18 17 51.8	+0.8
	baz=186					
TUC	**Tucson**	53.19 322	P	**P**	18 17 52.0	-0.1
TUC			pmax	pmax		
	comp=Z,7.0nm,1.2s					
TUC	**Tucson**	53.19 322	P	**P**	18 17 51.7	-0.4
	baz=135					
TUC	**Tucson**	53.19 322	P	**P**	18 17 52.0	-0.1
LBNH	**Lisbon**	53.19 3	P	**P**	18 17 53.1	+1.4
	baz=185					
H58A	**Gabriels**	53.28 1	P	**P**	18 17 53.2	+0.7
	baz=182					
H57A	**Richville**	53.31 0	P	**P**	18 17 53.2	+0.6
	baz=180,SNR=5.1					
T25A	**Trinidad**	53.38 331	P	**P**	18 17 53.8	+0.2
	baz=144,SNR=9.1					
T25A	**Trinidad**	53.38 331	P	**P**	18 17 53.6	0.0
T25A			IAmb	IAmb	18 17 55.2	
	comp=Z,18nm,1.0s					
DELO	**Deloro Mine**	53.40 358	P	**P**	18 17 53.4	+0.1
DELO			IAmb	IAmb	18 18 16.2	
	comp=Z,11nm,1.0s					
H60A	**Morristown**	53.47 3	P	**P**	18 17 54.9	+1.1
	baz=184					
LONY	**Lake Ozonia**	53.48 1	P	**P**	18 17 54.8	+0.9
	baz=181,SNR=5.4					
LONY	**Lake Ozonia**	53.48 1	P	**P**	18 17 54.4	+0.5
LONY			IAmb	IAmb	18 17 55.4	
	comp=Z,20nm,1.2s					
H61A	**Lyndonville**	53.48 3	P	**P**	18 17 55.3	+1.3
	baz=185					
H59A	**Cadyville**	53.52 2	P	**P**	18 17 55.1	+0.9
	baz=182					
N33A	**J Bar K, Exete**	53.56 339	P	**P**	18 17 54.2	-0.4
FRNY	**Flat Rock**	53.71 2	P	**P**	18 17 56.5	+0.9
SADO	**Sadowa**	53.72 357	P	**P**	18 17 55.7	+0.1
SADO			IAmb	IAmb	18 17 55.9	
	comp=Z,12nm,1.0s					
H63A	**New Sharon**	53.74 5	P	**P**	18 17 57.5	+1.7
	baz=187					
H64A	**Troy**	53.79 6	P	**P**	18 17 57.2	+1.0
	baz=188					
PLVO	**Plevna**	53.91 359	P	**P**	18 17 57.5	+0.5
PLVO			IAmb	IAmb	18 17 58.5	
	comp=Z,8.5nm,0.8s					
H65A	**Eastbrook**	53.95 6	P	**P**	18 17 58.1	+0.8
	baz=189					
G60A	**Masonville**	54.02 3	P	**P**	18 17 59.3	+1.5
	baz=184					
I42A	**Draeger Farm,**	54.12 348	P	**P**	18 17 57.6	-1.0
I42A			IAmb	IAmb	18 17 58.3	
	comp=Z,20nm,1.1s					
H66A	**Whiting**	54.15 7	P	**P**	18 18 00.2	+1.5
	baz=190					
214A	**Organ Pipe Nat**	54.19 321	P	**P**	18 17 59.6	+0.2
	baz=133					
214A	**Organ Pipe Nat**	54.19 321	P	**P**	18 17 59.6	+0.2
214A			IAmb	IAmb	18 18 01.1	
	comp=Z,29nm,1.4s					
G63A	**Kingsbury**	54.23 5	P	**P**	18 18 00.3	+1.0
	baz=187					
G61A	**St-Isidore-de-**	54.25 3	P	**P**	18 18 01.2	+1.7
	baz=185,SNR=5.5					
G62A	**West of Eustis**	54.26 4	P	**P**	18 18 01.2	+1.6
	baz=186,SNR=8.2					
G62A	**West of Eustis**	54.26 4	P	**P**	18 18 01.0	+1.5
L34A	**Svendsen Farm,**	54.30 341	P	**P**	18 17 59.1	-0.9
SDCO	**Great Sand Dun**	54.38 331	P	**P**	18 18 01.1	+0.1
	baz=143,SNR=24					
SDCO	**Great Sand Dun**	54.38 331	P	**P**	18 18 01.0	-0.1
SDCO			IAmb	IAmb	18 18 02.4	
	comp=Z,16nm,0.9s					
PKME	**Peaks-Kenny Pk**	54.40 5	P	**P**	18 18 01.8	+1.2
	baz=188,SNR=5.5					
PKME	**Peaks-Kenny Pk**	54.40 5

ALGO	Algonquin Park	54.85	358	P	P	18 18 03.9	+0.1
	baz=177						
F60A	Warwick	54.91	3	P	P	18 18 05.4	+1.1
	baz=184						
F62A	Pittston Farm,	54.97	5	P	P	18 18 05.9	+1.2
	baz=187						
F61A	St Evariste	54.97	4	P	P	18 18 05.7	+1.0
	baz=186						
S22A	4UR Ranch, Cre	55.03	330	P	P	18 18 05.6	-0.1
	baz=142						
X16A	Lo Mia Camp, P	55.06	324	P	P	18 18 06.2	+0.3
F64A	Sherman	55.09	6	P	P	18 18 07.1	+1.5
	baz=189						
F64A	Sherman	55.09	6	P	P	18 18 06.6	+1.0
Q24A	Divide	55.19	332	P	P	18 18 06.5	-0.3
	baz=144						
E58A	La Victoria	55.26	2	P	P	18 18 07.8	+1.0
	baz=183						
113A	Mohawk Valley,	55.33	321	P	P	18 18 06.9	-0.7
E60A	Ste Agathe de	55.34	3	P	P	18 18 08.6	+1.2
	baz=185						
E61A	Lac Etchemin	55.46	4	P	P	18 18 09.7	+1.5
	baz=186,SNR=6.6						
OGNE	Ogallala	55.47	336	P	P	18 18 08.6	0.0
	baz=148						
MVCO	Mesa Verde	55.47	328	P	P	18 18 08.5	-0.4
	baz=140						
MVCO	Mesa Verde	55.47	328	P	P	18 18 07.7	-1.1
MVCO				IAmb	IAmb	18 18 10.1	
	comp=Z,14nm,1.2s						
E63A	Oxbow	55.64	6	P	P	18 18 10.6	+1.1
	baz=189						
E63A	Oxbow	55.64	6	P	P	18 18 10.6	+1.1
E63A				IAmb	IAmb	18 18 11.3	
	comp=Z,13nm,1.0s						
K31A	O'Neill	55.68	339	P	P	18 18 10.0	0.0
E64A	Bridgewater	55.70	6	P	P	18 18 11.4	+1.5
	baz=189						
E62A	Clayton Lake	55.73	5	P	P	18 18 11.9	+1.8
	baz=187,SNR=5.9						
E62A	Clayton Lake	55.73	5	P	P	18 18 11.1	+1.0
F42A	Maple Grove Fa	55.77	349	P	P	18 18 09.4	-1.1
F42A				IAmb	IAmb	18 18 10.2	
	comp=Z,12nm,0.8s						
WUAZ	Wupatki	55.80	325	P	P	18 18 11.5	+0.4
	baz=136,SNR=6.1						
WUAZ	Wupatki	55.80	325	P	P	18 18 11.6	+0.5
WUAZ				IAmb	IAmb	18 18 12.9	
	comp=Z,21nm,1.1s						
D60A	Saint Jean D'O	55.91	4	P	P	18 18 12.8	+1.4
	baz=186						
ECSD	EROS Data Cent	55.97	342	P	P	18 18 10.9	-1.1
	baz=155,SNR=7.5						
ECSD	EROS Data Cent	55.97	342	P	P	18 18 10.7	-1.3
ECSD				IAmb	IAmb	18 18 11.7	
	comp=Z,13nm,1.1s						
D58A	Chemin du LacG	55.99	2	P	P	18 18 13.0	+1.0
	baz=183,SNR=6.8						
ISCO	Idaho Springs	56.08	332	P	P	18 18 12.5	-0.7
ISCO				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ISCO	Idaho Springs	56.08	332	P	P	18 18 13.1	-0.1
	baz=144						
ISCO	Idaho Springs	56.08	332	P	P	18 18 12.5	-0.7
PMSA	Palmer Station	56.17	174	eP	P	18 18 14.3	+1.3
E43A	Lone Tree Farm	56.17	350	P	P	18 18 12.0	-1.4
E43A				IAmb	IAmb	18 18 12.8	
	comp=Z,12nm,0.9s						
GLA	Glamis	56.19	320	P	P	18 18 13.8	0.0
	baz=131						
PV01	Paradox Valley	56.21	329	P	P	18 18 14.2	+0.1
PV01				IAmb	IAmb	18 18 15.6	
	comp=Z,12nm,0.9s						
SMCO	Snowmass	56.22	331	P	P	18 18 14.3	0.0
D62A	Allapoint, All	56.23	5	P	P	18 18 15.2	+1.5
	baz=188,SNR=6.4						
D62A	Allapoint, All	56.23	5	P	P	18 18 14.8	+1.1
D61A	St Aubert, Com	56.25	4	P	P	18 18 15.5	+1.6
	baz=186						
SPMN	Marine on St.	56.27	345	P	P	18 18 13.6	-0.5
	baz=160						
SPMN	Marine on St.	56.27	345	P	P	18 18 12.9	-1.2
D63A	Stockholm	56.28	6	P	P	18 18 15.4	+1.3
	baz=189						
COWI	Conover	56.29	349	P	P	18 18 13.2	-1.0
COWI				IAmb	IAmb	18 18 26.6	
	comp=Z,10nm,1.1s						
COWI					PcP	18 19 11.8	+0.6
PV15	Paradox Valley	56.32	329	P	P	18 18 15.3	+0.4
PV02	Paradox Valley	56.35	329	P	P	18 18 14.9	-0.1
PV02				IAmb	IAmb	18 18 16.5	
	comp=Z,16nm,1.0s						
PV13	Radium Mtn., P	56.36	329	P	P	18 18 14.7	-0.4
PV13				IAmb	IAmb	18 18 16.4	
	comp=Z,20nm,1.0s						
PV05	Paradox Valley	56.44	328	P	P	18 18 15.1	-0.7
PV05				IAmb	IAmb	18 18 16.7	
	comp=Z,16nm,1.0s						
PV03	Paradox Valley	56.44	329	P	P	18 18 15.6	-0.1
PV03				IAmb	IAmb	18 18 17.0	
	comp=Z,21nm,1.3s						
PV12	Saucer Basin,	56.47	329	P	P	18 18 15.7	-0.3
PV12				IAmb	IAmb	18 18 17.4	
	comp=Z,27nm,1.4s						
PV18	Skein Mesa, Pa	56.47	329	P	P	18 18 14.4	-1.5
PV07	Paradox Valley	56.48	329	P	P	18 18 15.9	-0.1
PV07				IAmb	IAmb	18 18 17.5	
	comp=Z,13nm,1.2s						
PV11	David Mesa, Pa	56.49	329	P	P	18 18 15.7	-0.4
PV11				IAmb	IAmb	18 18 17.4	
	comp=Z,23nm,1.3s						
PV17	East Wray Mesa	56.52	329	P	P	18 18 15.3	-0.9
PV17				IAmb	IAmb	18 18 16.7	
	comp=Z,11nm,1.1s						
PV16	Nyswonger Mesa	56.52	329	P	P	18 18 15.8	-0.5
PV16				IAmb	IAmb	18 18 17.6	
	comp=Z,26nm,1.5s						
PV19	Morning Glory	56.55	329	P	P	18 18 15.2	-1.3
PV14	Lion Creek, Pa	56.62	329	P	P	18 18 16.6	-0.4
PV14				IAmb	IAmb	18 18 18.4	
	comp=Z,16nm,1.3s						
PV22	Blue Mesa, Par	56.63	329	P	P	18 18 16.2	-0.8
SWSC	Sam W. Stewart	56.74	319	P	P	18 18 17.8	+0.1
	baz=130						
U15A	North Rim	56.97	325	P	P	18 18 19.3	-0.3
U15A				IAmb	IAmb	18 18 21.4	
	comp=Z,12nm,1.2s						
BC3	Big Chuckawall	56.98	320	P	P	18 18 20.0	+0.5
	baz=131						
F36A	Milaca	57.05	345	P	P	18 18 18.8	-0.8
F36A				IAmb	IAmb	18 18 19.9	
	comp=Z,16nm,1.0s						
N23A	Red Feather La	57.10	333	P	P	18 18 20.2	-0.3
	baz=144						
D41A	Chassel	57.11	349	P	P	18 18 19.1	-0.8
IRM	Iron Mountain	57.11	321	P	P	18 18 20.8	+0.5
	baz=132,SNR=5.5						
NEE2	Needles Airpor	57.20	322	P	P	18 18 21.3	+0.5
	baz=132						
PHWY	Pilot Hill	57.22	333	P	P	18 18 20.9	-0.4
E38A	The Farm, Brul	57.28	347	P	P	18 18 20.2	-1.0
E38A				IAmb	IAmb	18 18 21.4	
	comp=Z,16nm,1.1s						
SUSD	Miller	57.36	340	P	P	18 18 21.1	-0.7
	baz=152						
SUSD	Miller	57.36	340	P	P	18 18 20.8	-1.0
BELC	Belle Mtn. Jos	57.55	320	P	P	18 18 23.9	+0.4
	baz=131						
O20A	White River Ci	57.58	331	P	P	18 18 23.5	-0.2
	baz=141						
O20A	White River Ci	57.58	331	P	P	18 18 23.8	+0.1
O20A				IAmb	IAmb	18 18 25.1	
	comp=Z,20nm,1.4s						
TPFO	Pinon Flats	57.58	320	P	P	18 18 24.0	+0.3
	baz=130						
PFO	Pinyon Flats O	57.59	320	P	P	18 18 23.8	0.0
	baz=130						
KNB	Kanab	57.69	325	P	P	18 18 24.8	+0.3
KNB				pmax	pmax		
	comp=Z,20nm,1.1s						
KNB	Kanab	57.69	325	P	P	18 18 24.8	+0.3
KNB				IAmb	IAmb	18 18 26.5	
	comp=Z,20nm,1.1s						
PKCU	Pink Cliffs	57.70	326	P	P	18 18 25.1	+0.4
PKCU				IAmb	IAmb	18 18 26.7	
	comp=Z,20nm,1.0s						
F33A	5 Mile Ranch,	57.78	343	P	P	18 18 23.3	-1.5
GMRC	Granite Mounta	57.85	321	P	P	18 18 26.1	+0.5
	baz=132						
LCMT	Little Creek M	57.92	325	P	P	18 18 26.3	+0.2
LCMT				IAmb	IAmb	18 18 27.3	
	comp=Z,12nm,1.1s						
LSQG	Lebel-sur-Quev	57.92	359	P	P	18 18 25.8	+0.1
	baz=178						
SRU	San Rafael Swe	57.95	328	P	P	18 18 26.0	-0.3
SRU				pmax	pmax		
	comp=Z,13nm,1.1s						
SRU	San Rafael Swe	57.95	328	P	P	18 18 26.0	-0.3
SRU				IAmb	IAmb	18 18 26.8	
	comp=Z,12nm,1.1s						
MTPU	Mount Pierson	58.06	326	P	P	18 18 26.7	-0.6
SZCU	Shurtz Canyon	58.24	325	P	P	18 18 28.8	+0.4
HEC	Hector,Ludlow	58.30	321	P	P	18 18 29.3	+0.6
	baz=131						
P17A	Butcher Ranch,	58.33	328	P	P	18 18 28.4	-0.6
P17A				IAmb	IAmb	18 18 30.2	
	comp=Z,21nm,1.3s						
CCUT	Cedar City	58.37	325	P	P	18 18 29.7	+0.4
MSU	Marysvale	58.39	327	P	P	18 18 29.3	-0.2
MSU	Marysvale	58.39	327	P	P	18 18 29.3	-0.2
MVU	Marysvale	58.41	327	P	P	18 18 29.1	-0.4
TUQ	Turquoise Moun	58.44	322	P	P	18 18 30.2	+0.5
	baz=132						
TMUT	Trail Mountain	58.45	328	P	P	18 18 29.7	-0.2
EYMN	Ely	58.53	347	P	P	18 18 29.6	-0.4
	baz=162,SNR=5.3						
EYMN	Ely	58.53	347	P	P	18 18 28.6	-1.4
EYMN				IAmb	IAmb	18 18 30.2	
	comp=Z,20nm,1.4s						
RDMU	Red Mountain	58.57	330	P	P	18 18 30.6	-0.1
RDMU				IAmb	IAmb	18 18 31.0	
	comp=Z,8.2nm,0.9s						
TCRU	Three Creeks R	58.61	327	P	P	18 18 30.6	-0.4
TCRU				IAmb	IAmb	18 18 32.7	
	comp=Z,25nm,1.5s						
MATQ	Matagami	58.64	358	P	P	18 18 30.7	0.0
	baz=178						
SHPR	Sheep Range	58.69	323	P	P	18 18 31.1	-0.4
BFSC	Mount Baldy Ra	58.76	319	P	P	18 18 31.8	-0.2
	baz=129						
CHGQ	Chibougamau	58.77	1	P	P	18 18 31.7	+0.1
	baz=182						
K22A	Casper	58.77	334	P	P	18 18 31.6	-0.4
	baz=144						
K22A	Casper	58.77	334	P	P	18 18 31.2	-0.7
GSC	Goldstone, Bar	58.90	321	P	P	18 18 32.8	-0.1
GSC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GSC	Goldstone, Bar	58.90	321	P	P	18 18 32.8	-0.1
RSSD	Black Hills	58.94	336	P	P	18 18 33.4	+0.2
RSSD				pmax	pmax		
	comp=Z,16nm,1.5s						
RSSD	Black Hills	58.94	336	P	P	18 18 33.1	0.0
	baz=147						
RSSD	Black Hills	58.94	336	P	P	18 18 33.4	+0.2
RSSD				IAmb	IAmb	18 18 34.9	
	comp=Z,16nm,1.4s						
D32A	Dogwood Acres,	59.17	343	P	P	18 18 33.6	-0.7
MPU	Maple Canyon	59.20	328	P	P	18 18 34.1	-0.9
MPU				IAmb	IAmb	18 18 35.6	
	comp=Z,11nm,1.3s						
DECC	Green Verdugo	59.20	319	P	P	18 18 35.3	+0.4
	baz=129						
PRN	Pahroc Range	59.24	324	P	P	18 18 34.1	-1.2
PSUT	Pine Spring	59.33	326	P	P	18 18 36.1	+0.1
EDW2	Edwards Air Fo	59.38	320	P	P	18 18 36.1	0.0
	baz=129						
NLU	North Lily Min	59.38	328	P	P	18 18 36.2	-0.1
B35A	Bob, Littlefor	59.43	346	P	P	18 18 34.9	-1.2
B35A				IAmb	IAmb	18 18 35.8	
	comp=Z,15nm,1.1s						
JLU	Jordanelle	59.53	329	P	P	18 18 37.5	+0.2
JLU				IAmb	IAmb	18 18 38.2	
	comp=Z,12nm,1.2s						
CTU	Camp Tracy	59.76	329	P	P	18 18 37.8	-1.0
E28A	Huff	59.81	340	P	P	18 18 38.6	-0.3
AGMN	Agassiz Nation	59.91	344	P	P	18 18 38.9	-0.6
	baz=157,SNR=5.7						
AGMN	Agassiz Nation	59.91	344	P	P	18 18 38.6	-0.8
AGMN				IAmb	IAmb	18 18 40.1	
	comp=Z,9.7nm,0.8s						
SPR3	Spring Creek 3	59.92	326	P	P	18 18 39.6	-0.5
DUG	Dugway, Tooele	59.95	328	P	P	18 18 40.4	+0.3
DUG				pmax	pmax		
	comp=Z,15nm,1.1s						
DUG	Dugway, Tooele	59.95	328	P	P	18 18 40.4	+0.3
	baz=136,SNR=11						
DUG	Dugway, Tooele	59.95	328	P	P	18 18 40.4	+0.3
DUG				IAmb	IAmb	18 18 41.2	
	comp=Z,15nm,1.1s						
ARVC	Arvin	60.06	320	P	P	18 18 40.7	-0.1
	baz=129						
R11A	Troy Canyon, C	60.19	324	P	P	18 18 42.3	+0.5
	baz=133						
R11A	Troy Canyon, C	60.19	324	P	P	18 18 42.1	+0.3
BW06	Boulder Array	60.24	332	P	P	18 18 41.6	-0.5
	baz=141,SNR=5.2						
BW06	Boulder Array	60.24	332	P	P	18 18 41.0	-1.1
BW06				IAmb	IAmb	18 18 42.8	
	comp=Z,12nm,1.5s						
PD31	Pinedale Array	60.24	332	P	P	18 18 41.2	-1.0
PDAR	Pinedale Array	60.24	332	P	P	18 18 41.3	-0.9
	comp=Z,2.2nm,1.0s,baz=142,slow=7.5,SNR=16						
PDAR				LR	LR	18 46 21.1	
	comp=Z,355nm,18.5s,baz=142,slow=38						
PDAR	Pinedale Array	60.24	332	P	P	18 18 40.8	-1.4
HWUT	Hardware Ranch	60.34	329	P	P	18 18 42.0	-0.8
GRAC	Grapevine Rang	60.34	322	P	P	18 18 43.0	+0.2
	baz=131						
CWC	Cottonwood Cre	60.42	321	P	P	18 18 43.6	+0.2
	baz=130						
PKM	Mcpherson Peak	60.55	319	P	P	18 18 44.7	+0.3
	baz=128						
SPUT	South Promonto	60.57	329	P	P	18 18 43.8	-0.5
SPUT				IAmb	IAmb	18 18 45.6	
	comp=Z,22nm,1.4s						
MDND	Maddock	60.58	342	P	P	18 18 44.1	0.0
	baz=153						
MDND	Maddock	60.58	342	P	P	18 18 44.2	0.0
BGU	Big Grassy Mou	60.59	328	P	P	18 18 44.2	-0.3
BGU				IAmb	IAmb	18 18 45.7	
	comp=Z,9.1nm,1.1s						
TIN	Tinemaha, Big	60.90	322	P	P	18 18 46.2	-0.5
	baz=130						
SMMC	Simmler	60.93	319	P	P	18 18 47.1	+0.3
	baz=128						
TPH	Tonopah	60.96	323	P	P	18 18 46.6	-0.5
TPH				pmax	pmax		
	comp=Z,37nm,1.2s						
TPH	Tonopah	60.96	323	P	P	18 18 46.5	-0.5
AHID	Auburn Hatcher	60.98	331	P	P	18 18 46.5	-0.7
VOG	Valley Oaks Go	61.16	320	P	P	18 18 48.2	0.0
	baz=129						
REDW	Red Top Meadow	61.31	331	P	P	18 18 49.1	-0.3
REDW				IAmb	IAmb	18 19 00.2	
	comp=Z,18nm,1.5s						
SNOW	Snow King Moun	61.34	331	P	P	18 18 48.8	-0.9
SNOW				IAmb	IAmb	18 19 07.0	
	comp=Z,12nm,1.2s						
LOHW	Long Hollow	61.38	332	P	P	18 18 48.7	-1.2
TPAW	Teton Pass	61.45	331	P	P	18 18 49.7	-0.7
ELK	Elko	61.64	327	P	P	18 18 51.2	-0.5
ELK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ELK	Elko	61.64	327	P	P	18 18 51.2	-0.5
ELK				IAmb	IAmb	18 18 53.1	
	comp=Z,10.0nm,1.2s						
MLAC	Mammoth, Mammo	61.64	322	P	P	18 18 51.9	+0.1
	baz=130						
ULM	Lac du Bonnet	61.71	345	P	P	18 18 50.6	-1.0
	comp=Z,15nm,0.8s,baz=158,slow=6.6,SNR=11						
ULM	Lac du Bonnet	61.71	345	P	P	18 18 50.6	-1.0
ULM				pmax	pmax		
	comp=Z,19nm,0.9s						
ULM	Lac du Bonnet	61.71	345	P	P	18 18 50.6	-1.0
NV11	Mina Array Sit	61.75	323	P	P	18 18 52.3	-0.1
FLWY	Flagg Ranch	61.78	332	P	P	18 18 52.6	0.0
FLWY				IAmb	IAmb	18 18 54.2	
	comp=Z,23nm,1.4s						
MDPB	Devils Postpil	61.79	322	P	P	18 18 51.6	-1.2
MDPB				IAmb	IAmb	18 18 53.6	
	comp=Z,15nm,1.4s						
NVAR	Mina Array Bea	61.84	323	P	P	18 18 52.8	-0.3
	comp=Z,2.1nm,0.9s,baz=139,slow=6.7,SNR=12						
NVAR				LR	LR	18 45 31.6	
	comp=Z,210nm,18.4s,baz=106,slow=36						
NVAR	Mina Array Bea	61.84	323	P	P	18 18 53.0	0.0
LHV	Little Huntoon	61.84	322	P	P	18 18 52.6	-0.1
LHV				IAmb	IAmb	18 18 54.2	
	comp=Z,10nm,1.2s						
LAO	LASA Array	61.93	337	P	P	18 18 54.7	+1.4
	baz=145						
LAO	LASA Array	61.93	337	P	P	18 18 53.5	+0.2
RLMT	Red Lodge	61.94	334	P	P	18 18 54.1	+0.5
	baz=142						
RLMT	Red Lodge	61.94	334	P	P	18 18 53.0	-0.6
YPP	Pitchstone Pla	61.98	332	P	P	18 18 53.8	-0.2
YPP				IAmb	IAmb	18 18 58.9	
	comp=Z,15nm,1.5s						
PMPB	Monarch Peak	62.00	319	P	P	18 18 53.8	-0.2
PMPB				IAmb	IAmb	18 18 54.9	
	comp=Z,14nm,1.0s						
LKWY	Lake	62.02	332	P	P	18 18 55.4	+1.2
LKWY				pmax	pmax		
	comp=Z,21nm,1.4s						
LKWY	Lake	62.02	332	P	P	18 18 55.4	+1.2
LKWY				IAmb	IAmb	18 18 56.7	
	comp=Z,21nm,1.4s						
RYN	Ryan	62.09	323	P	P	18 18 53.9	-0.8
KVN	Kaiserville	62.12	323	P	P	18 18 54.8	-0.1
KVN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KVN	Kaiserville	62.12	323	P	P	18 18 54.8	-0.1
YNE	Yellowstone No	62.18	333	P	P	18 18 53.5	-1.8
YNE				IAmb	IAmb	18 18 55.7	
	comp=Z,11nm,1.1s						
YMR	Madison River	62.35	332	P	P	18 18 55.6	-0.8
YMR				IAmb	IAmb	18 18 58.5	
	comp=Z,27nm,1.4s						
YHH	Holmes Hill	62.39	332	P	P	18 18 57.4	+0.6
YHH				IAmb	IAmb	18 18 58.7	
	comp=Z,13nm,1.3s						
YHB	Horse Butte	62.52	332	P	P	18 18 59.8	+2.2
YHB				IAmb	IAmb	18 19 01.4	
	comp=Z,11nm,1.1s						
WAKR	Walker	62.56	322	P	P	18 18 58.7	+0.8
WAKR				IAmb	IAmb	18 19 11.1	
	comp=Z,13nm,1.4s						
GCMT	Greycliff	62.64	334	P	P	18 18 57.3	-0.9
QLMT	Earthquake Lak	62.69	332	P	P	18 18 57.7	-0.9
YERR	Yerington	62.75	323	P	P	18 18 59.4	+0.3
YERR				IAmb	IAmb	18 19 22.0	
	comp=Z,12nm,1.5s						
PNTR	Pine Nut	63.03	323	P	P	18 19 01.8	+0.8
VCNR	Virginia City	63.20	323	P	P	18 19 02.1	0.0
VCNR				IAmb	IAmb	18 19 24.3	
	comp=Z,9.7nm,1.1s						
BCYI	Bear Canyon	63.24	330	P	P	18 19 02.5	+0.1
PAHR	Pah Rah Range	63.30	323	P	P	18 19 02.7	0.0
PAHR				IAmb	IAmb	18 19 04.0	
	comp=Z,12nm,1.1s						
MCMT	McKenzie Canyo	63.36	331	P	P	18 19 03.5	+0.4
BOZ	Bozeman (W)	63.37	332	P	P	18 19 02.6	-0.4
BOZ				pmax	pmax		
	comp=Z,21nm,1.5s						
BOZ	Bozeman (W)	63.37	332	P	P	18 19 03.4	+0.4
	baz=140,SNR=12						
BOZ	Bozeman (W)	63.37	332	P	P	18 19 02.6	-0.4
BOZ				IAmb	IAmb	18 19 04.5	
	comp=Z,21nm,1.4s						
DLMT	Dillon	63.64	332	P	P	18 19 04.8	0.0
DLMT				IAmb	IAmb	18 19 06.3	
	comp=Z,14nm,1.4s						
TAOE	Nuku Hiva Isla	63.75	265	eLR	LR	18 38 11.8	
	comp=Z,671nm,25.7s,baz=97						
AFDM	Forest Hills D	63.78	322	P	P	18 19 05.1	-0.6
MFID	Camas Ranch	63.82	328	P	P	18 19 06.1	+0.1
LRM	Limekiln Ridge	63.91	332	P	P	18 19 06.0	-0.8
BEKR	Beckworth	63.98	323	P	P	18 19 07.3	0.0
EGMT	Eagleton	64.43	335	P	P	18 19 09.7	-0.1
	baz=142						
EGMT	Eagleton	64.43	335	P	P	18 19 09.5	-0.4
ORV	Oroville	64.47	322	P	P	18 19 10.6	+0.4
ORV				pmax	pmax		
	comp=Z,16nm,1.2s						
ORV	Oroville	64.47	322	P	P	18 19 10.6	+0.4
ORV				IAmb	IAmb	18 19 11.6	
	comp=Z,16nm,1.1s						
WVOR	Wild Horse Val	64.66	326	P	P	18 19 11.0	-0.5
WVOR				pmax	pmax		
	comp=Z,12nm,1.3s						
WVOR	Wild Horse Val	64.66	326	P	P	18 19 11.0	-0.5
WVOR				IAmb	IAmb	18 19 12.8	
	comp=Z,12nm,1.2s						
J08A	Circle Bar Ran	65.18	327	P	P	18 19 14.3	-0.6
MOD	Modoc Plateau	65.25	325	P	P	18 19 15.4	0.0
MSO	Missoula	65.35	332	P	P	18 19 16.4	+0.5
	baz=138,SNR=8.4						
MSO	Missoula	65.35	332	P	P	18 19 15.9	-0.1
BMO	Blue Mountains	65.59	329	P	P	18 19 17.0	-0.5
BMO				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BMO	Blue Mountains	65.59	329	P	P	18 19 16.9	-0.5
O02D	Mt. Diablo Mer	65.64	322	P	P	18 19 17.7	-0.2
	baz=128						
M04C	Macdoel	66.06	324	P	P	18 19 20.7	+0.1
	baz=129,SNR=6.5						
K05A	Summer Lake	66.11	325	P	P	18 19 21.2	+0.2
K05A				IAmb	IAmb	18 19 22.4	
	comp=Z,27nm,1.4s						
JTMT	Jette	66.19	332	P	P	18 19 21.7	+0.3
JTMT				IAmb	IAmb	18 19 22.4	
	comp=Z,12nm,1.2s						
I07A	Izee	66.22	327	P	P	18 19 21.9	+0.2
F10A	Beach Ranch, E	66.32	330	P	P	18 19 22.5	+0.3
F10A				IAmb	IAmb	18 19 24.1	
	comp=Z,13nm,1.2s						
M02C	Callahan	66.42	323	P	P	18 19 22.6	-0.2
	baz=128						
YBH	Yreka Blue Hor	66.54	323	P	P	18 19 22.5	-1.2
YBH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
YBH	Yreka Blue Hor	66.54	323	P	P	18 19 22.5	-1.2
L04D	Klamath Falls	66.60	324	P	P	18 19 24.2	+0.2
	baz=129						
KHMM	Horse Mountain	66.63	322	P	P	18 19 25.0	+0.6
KHMM				IAmb	IAmb	18 19 27.1	
	comp=Z,11nm,1.1s						
J05D	Fort Rock, OR	66.66	325	P	P	18 19 24.7	+0.3
	baz=130,SNR=6.3						
G08A	Pilot Rock	66.74	328	P	P	18 19 24.9	0.0
PINE	Pine Mountain	66.82	326	P	P	18 19 25.9	+0.4
WALA	Waterton Lakes	67.00	334	P	P	18 19 26.4	0.0
WALA				IAmb	IAmb	18 19 27.2	
	comp=Z,11nm,1.1s						
J04D	Umpqua Nationa	67.13	325	P	P	18 19 27.2	-0.3
	baz=129						
E09A	Wood Farm, Sta	67.16	330	P	P	18 19 26.3	-1.0
L02E	Cave Junction	67.33	323	P	P	18 19 28.8	+0.3
	baz=127						
I05D	Terrebonne, OR	67.39	326	P	P	18 19 29.5	+0.5
	baz=130						
E08A	Dider Farm, El	67.60	329	P	P	18 19 29.3

I03D	Drain, OR	68.12	325	P	P	18 19 33.7	+0.3
	baz=128						
J01E	Myrtle Point	68.13	324	P	P	18 19 33.9	+0.4
	baz=128						
H04D	Lebanon	68.28	326	P	P	18 19 34.0	-0.5
	baz=129						
F05D	White Salmon	68.45	327	P	P	18 19 35.9	+0.4
	baz=130						
I02D	Swisshome	68.65	325	P	P	18 19 37.3	+0.6
	baz=128						
LTY	Liberty	68.94	329	P	P	18 19 38.4	-0.2
G03D	McMinnville, O	69.00	326	P	P	18 19 39.5	+0.6
	baz=129						
B08A	Colville Reser	69.01	330	P	P	18 19 38.2	-0.8
B06A	Marblemount	70.18	329	P	P	18 19 45.9	-0.3
B06A				IAmb	IAmb	18 19 47.2	
	comp=Z,9.8nm,0.9s						
B05A	Bryant	70.32	329	P	P	18 19 46.6	-0.4
	baz=131						
D03D	Eldon	70.37	328	P	P	18 19 48.0	+0.6
	baz=130						
NLWA	Neilton Lookou	70.69	327	P	P	18 19 49.8	+0.4
NLWA				IAmb	IAmb	18 19 51.0	
	comp=Z,16nm,1.2s						
A05A	Maple Falls	70.80	330	P	P	18 19 48.8	-1.1
A04D	Lummi Island	70.93	329	P	P	18 19 51.2	+0.5
	baz=130						
TBI	Tubuai	71.76	248	*e*S	S	18 29 14.0	+0.8
	comp=Z,127nm,26.2s						
TBI	Tubuai	71.76	248	*e*LR	LR	18 41 55.0	
	comp=Z,562nm,27.8s,baz=88						
LIC	Lamto	71.89	80	*e*P	P	18 19 58.1	+0.9
	comp=Z,87nm,1.4s						
TIC	Toumodi	71.98	80	*e*P	P	18 19 59.6	+1.8
DBIC	Dimbokro	72.14	80	P	P	18 19 59.3	+0.6
DBIC	Dimbokro	72.14	80	P	P	18 19 59.3	+0.6
PPT2	Papeete2	72.18	254	*e*S	S	18 29 19.0	+0.6
	comp=Z,120nm,28.0s						
PPT2	Papeete2	72.18	254	*e*LR	LR	18 42 05.1	
	comp=Z,1μm,24.8s,baz=96						
KIC	Kosan Boka	72.19	80	*e*P	P	18 20 00.8	+1.7
	comp=Z,104nm,1.1s						
VNA3	Neumayer Olymp	73.78	162	P	P	18 20 08.1	+0.7
VNA1	Neumayer--Stat	74.01	161	P	P	18 20 10.0	+1.2
KOWA	Kowa	74.67	72	P	P	18 20 15.0	+1.4
	comp=Z,14nm,0.6s,baz=260,slow=6.7,SNR=31						
KOWA	Kowa	74.67	72	P	P	18 20 14.6	+1.0
SNAA	Sanae	75.99	162	P	P	18 20 21.0	+0.7
SNAA	Sanae	75.99	162	*ce*P	P	18 20 20.2	0.0
SNAA				pmax	pmax		
	comp=Z,39nm,1.7s						
SNAA	Sanae	75.99	162	P	P	18 20 20.7	+0.5
SNAA				IAmb	IAmb	18 20 22.3	
	comp=Z,28nm,1.2s						
YKA	Yellowknife Ar	77.48	343	P	P	18 20 27.1	-1.5
	comp=Z,1.3nm,0.6s,baz=100,slow=23,SNR=6.3						
DY2G	Dye2	78.35	12⇑	*i*P	P	18 20 33.9	+0.3
DY2G				IAmb	IAmb	18 20 35.0	
	comp=Z,26nm,0.9s						
MDT	Midelt	79.21	54	P	P	18 20 40.3	+1.3
	comp=Z,8.9nm,1.1s,baz=259,slow=5.3,SNR=8.3						
ANGG	Ammassalik, Gr	79.59	15	P	P	18 20 40.0	-0.1
ANGG				IAmb	IAmb	18 20 40.8	
	comp=Z,8.5nm,0.8s						
TOA0	Torodi Ar. Sit	79.78	75	P	P	18 20 43.1	+0.8
TORD	Torodi Ar. Bea	79.78	75	P	P	18 20 43.3	+1.0
	comp=Z,30nm,1.0s,baz=277,slow=5.2,SNR=81						
TORD				LR	LR	18 54 41.9	
	comp=Z,643nm,19.9s,baz=250,slow=35						
TORD	Torodi Ar. Bea	79.78	75	P	P	18 20 43.1	+0.8
CRAG	Craig	80.09	331	P	P	18 20 43.4	+0.4
	baz=122						
WRAK	Wrangell Islan	80.23	332	P	P	18 20 43.7	-0.1
	baz=123						
DLBC	Dease Lake	80.33	334	P	P	18 20 44.4	0.0
DLBC				IAmb	IAmb	18 20 46.7	
	comp=Z,22nm,1.4s						
RAR	Rarotonga	81.44	250	LR	LR	18 48 08.5	
	comp=Z,128nm,19.2s,baz=96,slow=29						
PAB	San Pablo	81.56	48	P	P	18 20 53.5	+2.1
PAB				pmax	pmax		
	comp=Z,17nm,1.2s						
PAB	San Pablo	81.56	48	P	P	18 20 53.5	+2.1
PAB				IAmb	IAmb	18 20 54.3	
	comp=Z,17nm,1.2s						
ESDC	Sonseca Array	81.88	48	P	P	18 20 54.4	+1.3
	comp=Z,8.5nm,1.2s,baz=255,slow=5.2,SNR=20						
ESDC	Sonseca Array	81.88	48	P	P	18 20 54.9	+1.8
ESDC				IAmb	IAmb	18 20 58.0	
	comp=Z,33nm,1.5s						
ESBB	Sonseca Array	81.89	48	P	P	18 20 55.0	+2.0
ESBB				IAmb	IAmb	18 20 58.0	
	comp=Z,34nm,1.5s						
ICESG	Greenland Ices	81.92	12⇑	*i*P	P	18 20 53.1	+0.1
ICESG				IAmb	IAmb	18 20 54.2	
	comp=Z,15nm,0.9s						
SIT	Sitka	81.96	332	P	P	18 20 53.2	+0.2
	baz=121						
WHY	Whitehorse	83.62	335	P	P	18 21 01.8	+0.1
	baz=121						
HYT	Haines Junctio	84.82	334	P	P	18 21 08.9	+1.1
HYT				IAmb	IAmb	18 21 32.3	
	comp=Z,14nm,1.4s						
SUMG	Summit	84.98	11⇑	*i*P	P	18 21 09.7	+1.0
SUMG				IAmb	IAmb	18 21 10.3	
	comp=Z,28nm,1.0s						
SUMG	Summit	84.98	11⇑	*i*P	P	18 21 09.7	+1.0
SUMG				pmax	pmax		
	comp=Z,28nm,1.0s						
SUMG	Summit	84.98	11	P	P	18 21 09.5	+0.8
PINM	Pinnacle	85.69	333	P	P	18 21 12.7	+0.6
	baz=117						
YAH	Yahtse	86.47	333	P	P	18 21 16.9	+0.8
YAH				IAmb	IAmb	18 21 17.8	
	comp=Z,10nm,1.0s						
MESA	MESA	86.49	333	P	P	18 21 16.6	+0.5
	baz=115						
CTGM	Chitina Glacie	86.55	334	P	P	18 21 17.0	+0.7
CTGM				IAmb	IAmb	18 21 17.8	
	comp=Z,9.2nm,1.0s						
CTG	Chitna Glacier	86.55	334	P	P	18 21 16.9	+0.5
	baz=116						
DAWY	Dawson	87.13	337	P	P	18 21 18.5	-0.5
DAWY				IAmb	IAmb	18 21 20.5	
	comp=Z,22nm,1.5s						
INK	Inuvik	87.21	342	P	P	18 21 19.2	0.0
INK				pmax	pmax		
	comp=Z,20nm,1.2s						
INK	Inuvik	87.21	342	P	P	18 21 19.4	+0.2
	baz=123,SNR=8.6						
INK	Inuvik	87.21	342	P	P	18 21 19.2	0.0
CRQE	Cirque	87.24	333	P	P	18 21 19.7	0.0
	baz=114						
EPYK	Eagle Plains	87.25	339	P	P	18 21 19.8	+0.2
	baz=120,SNR=5.5						
EPYK	Eagle Plains	87.25	339	P	P	18 21 20.1	+0.5
EPYK				IAmb	IAmb	18 21 20.5	
	comp=Z,11nm,1.1s						
CRQM	Cirque	87.26	333	P	P	18 21 20.0	+0.1
MCARA	McCarthy VSAT	87.47	334	P	P	18 21 21.0	+0.3
	baz=114						
NEEM	North Greenlan	87.52	5⇑	*i*P	P	18 21 22.1	+1.2
NEEM				IAmb	IAmb	18 21 23.3	
	comp=Z,43nm,1.2s						
VRDI	Verde Repeater	87.59	333	P	P	18 21 21.1	-0.3
VRDI				IAmb	IAmb	18 21 22.5	
	comp=Z,9.4nm,0.8s						
HMT	Hamilton	87.60	332	P	P	18 21 21.6	+0.2
L27K	Beaver Creek,	87.66	335	P	P	18 21 22.2	+0.6
	baz=115,SNR=24						
L27K	Beaver Creek,	87.66	335	P	P	18 21 22.0	+0.4
GLB	Gilahina Butte	87.84	333	P	P	18 21 22.7	+0.2
GLB				IAmb	IAmb	18 21 23.4	
	comp=Z,8.1nm,1.1s						
VNDA	Vanda	87.85	191	P	P	18 21 22.8	+0.5
	comp=Z,1.3nm,0.9s,baz=158,slow=5.3,SNR=6.4						
VNDA				LR	LR	18 52 47.2	
	comp=Z,214nm,21.4s,baz=146,slow=30						
VNDA	Vanda	87.85	191	P	P	18 21 22.8	+0.5
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
VNDA	Vanda	87.85	191	P	P	18 21 22.8	+0.5
BMRM	Bremner River	88.01	333	P	P	18 21 23.5	+0.2
	baz=113						
BMRM	Bremner River	88.01	333	P	P	18 21 23.7	+0.4
EGAK	Eagle	88.13	337	P	P	18 21 23.8	0.0
	baz=116,SNR=22						
EGAK	Eagle	88.13	337	P	P	18 21 23.7	0.0
K27K	Chicken	88.17	336	P	P	18 21 23.2	-0.7
N25K	Chitina, Valde	88.25	333	P	P	18 21 24.3	-0.2
	baz=113						
EYAK	Cordova Ski Ar	88.37	332	P	P	18 21 25.2	+0.2
	baz=112						
MENT	Mentasta	88.39	335	P	P	18 21 25.0	-0.1
KLU	Klutina	88.79	333	P	P	18 21 27.1	+0.1
	baz=112						
KLU	Klutina	88.79	333	P	P	18 21 27.1	+0.1
HARP	HAARP	88.80	334	P	P	18 21 27.3	+0.3
	baz=112						
DOT	Dot Lake	88.82	335	P	P	18 21 27.0	-0.1
DOT				IAmb	IAmb	18 21 27.9	
	comp=Z,10nm,1.0s						
SCRK	Sand Creek	88.92	336	P	P	18 21 27.7	+0.1
	baz=113						
SCRK	Sand Creek	88.92	336	P	P	18 21 27.3	-0.3
SCRK				IAmb	IAmb	18 21 28.5	
	comp=Z,8.3nm,1.0s						
GLI	Glacier Island	89.11	332	P	P	18 21 28.0	-0.5
	baz=111						
M24K	Tolsona, Glenn	89.13	334	P	P	18 21 29.0	+0.4
	baz=111,SNR=6.9						
M24K	Tolsona, Glenn	89.13	334	P	P	18 21 28.8	+0.2
PAX	Paxson	89.14	335	P	P	18 21 28.4	-0.3
PAX				pmax	pmax		
	comp=Z,11nm,1.0s						
PAX	Paxson	89.14	335	P	P	18 21 28.7	0.0
	baz=112						
PAX	Paxson	89.14	335	P	P	18 21 28.4	-0.3
PAX				IAmb	IAmb	18 21 29.1	
	comp=Z,11nm,1.0s						
RIDG	Independent Ri	89.18	335	P	P	18 21 28.8	0.0
	baz=113						
RIDG	Independent Ri	89.18	335	P	P	18 21 29.1	+0.3
RIDG				IAmb	IAmb	18 21 29.7	
	comp=Z,13nm,1.1s						
SCM	Sheep Creek Mo	89.54	333	P	P	18 21 30.6	+0.1
SCM				pmax	pmax		
	comp=Z,25nm,1.4s						
SCM	Sheep Creek Mo	89.54	333	P	P	18 21 30.6	+0.1
KNK	Knik Glacier	89.91	333	P	P	18 21 32.2	0.0
	baz=109						
SEW	Seward	89.95	331	P	P	18 21 32.1	-0.2
	baz=108						
TSUM	Tsumeb	89.95	109	P	P	18 21 34.8	+1.2
	comp=Z,15nm,1.0s,baz=251,slow=5.4,SNR=8.3						
TSUM	Tsumeb	89.95	109	P	P	18 21 34.3	+0.8
WAT6	Susitna Watana	89.98	334	P	P	18 21 32.6	-0.1
	baz=110						
SML	Sawmill	89.98	333	P	P	18 21 32.5	0.0
	baz=110						
SML	Sawmill	89.98	333	P	P	18 21 32.7	+0.1
PRP	Porcupine Dome	90.12	337	P	P	18 21 33.3	0.0
	baz=112						
SYO	Syowa Base	90.25	161⇑	*e*P	P	18 21 32.4	-1.3
HDA	Harding Lake	90.28	336	P	P	18 21 33.7	-0.2
	baz=111						
HDA	Harding Lake	90.28	336	P	P	18 21 33.4	-0.4
HDA				IAmb	IAmb	18 21 34.3	
	comp=Z,7.7nm,1.2s						
ILAR	Eielson Array	90.39	336	P	P	18 21 34.4	0.0
	comp=Z,2.5nm,1.0s,baz=132,slow=4.2,SNR=18						
RC01	Rabbit Creek A	90.39	332	P	P	18 21 34.3	-0.1
	baz=108						
FYU	Fort Yukon	90.41	338	P	P	18 21 35.0	+0.6
WAT1	Susitna Watana	90.42	334	P	P	18 21 34.3	-0.2
	baz=109						
BRSE	Bradley Lake S	90.45	331	P	P	18 21 35.0	+0.2
	baz=107						
SUR	Sutherland	90.48	123	LR	LR	19 00 49.3	
	comp=Z,495nm,18.6s,baz=264,slow=35						
SNF	Seneffe	90.53	39	*d*P	P	18 21 34.5	-0.8
CCB	Clear Creek Bu	90.71	336	P	P	18 21 36.1	+0.3
CCB				IAmb	IAmb	18 21 37.0	
	comp=Z,16nm,1.4s						
POKR	Poker Plat Res	90.72	336	P	P	18 21 36.1	+0.2
	baz=110						
RND	Reindeer	90.74	334	P	P	18 21 36.3	+0.2
RND				pmax	pmax		
	comp=Z,16nm,1.0s						
RND	Reindeer	90.74	334	P	P	18 21 36.3	+0.2
WRH	Wood River Hil	90.77	336	P	P	18 21 36.1	0.0
WRH				IAmb	IAmb	18 21 37.4	
	comp=Z,9.6nm,1.2s						
BMRD	Maredsous	90.79	39	*d*P	P	18 21 35.7	-0.8
	comp=Z,18nm,1.3s						
BMRD				*dp*P	pP	18 21 48.8	-2.5
BMRD				*ds*P	sP	18 21 54.4	-2.4
COLA	College	90.81	336	*c i*P	P	18 21 35.9	-0.3
COLA				pmax	pmax		
	comp=Z,25nm,1.4s						
COLA	College	90.81	336	P	P	18 21 36.3	+0.1
	baz=110						
TCOL	CIGO, UAF Yank	90.81	336	P	P	18 21 36.3	+0.1
	baz=110						
KDAK	Kodiak Island	90.82	329	P	P	18 21 35.9	-0.5
	baz=106						
MCK	McKinley	90.88	335	P	P	18 21 36.5	-0.2
	baz=109						
BNI	Bardonecchia	90.91	45	P	P	18 21 38.5	+1.1
BNI				pmax	pmax		
	comp=Z,27nm,1.5s						
BNI	Bardonecchia	90.91	45	P	P	18 21 38.5	+1.1
SUA	Susitna One	90.97	332	P	P	18 21 37.4	+0.1
	baz=107						
MDM	Murphy Dome	90.99	336	P	P	18 21 37.1	-0.1
BGES	Gesves	91.01	39	*d*P	P	18 21 37.8	+0.2
	comp=Z,13nm,1.3s						
BGES				*d*PcP	PcP	18 21 38.8	+0.3
OHAK	Old Harbor	91.03	328	P	P	18 21 37.5	0.0
	baz=105						
CUT	Chulitna	91.04	333	P	P	18 21 37.5	+0.1
	baz=108						
KEST	Kesra	91.12	54	P	P	18 21 40.0	+1.6
	comp=Z,8.6nm,1.0s,baz=57,slow=2.1,SNR=4.2						
KEST				LR	LR	19 01 41.0	
	comp=Z,394nm,19.9s,baz=248,slow=35						
KEST	Kesra	91.12	54	IAmb	IAmb	18 21 43.5	
	comp=Z,12nm,1.0s						
H24K	Noodor Dome	91.15	337	P	P	18 21 38.2	+0.3
	baz=110,SNR=12						
NEA2	Nenana	91.21	336	P	P	18 21 38.1	-0.1
	baz=109						
NEA2	Nenana	91.21	336	P	P	18 21 37.9	-0.3
NEA2				IAmb	IAmb	18 21 38.8	
	comp=Z,7.9nm,0.9s						
TRF	Thorofare Moun	91.36	334	P	P	18 21 38.9	-0.2
	baz=108						
TRF	Thorofare Moun	91.36	334	P	P	18 21 38.8	-0.2
TRF				IAmb	IAmb	18 21 39.5	
	comp=Z,11nm,1.3s						
SKT	Skwentna	91.48	333	P	P	18 21 39.3	-0.2
	baz=107						
SKT	Skwentna	91.48	333	P	P	18 21 39.3	-0.2
I23K	Minto, Yukon-K	91.50	336	P	P	18 21 39.3	-0.2
	baz=108,SNR=5.7						
I23K	Minto, Yukon-K	91.50	336	P	P	18 21 39.0	-0.5
I23K				IAmb	IAmb	18 21 40.1	
	comp=Z,6.2nm,1.0s						
WLF	Walferdange	91.52	40	*d*P	P	18 21 41.8	+1.8
	comp=Z,25nm,1.5s						
WLF				*dp*P	pP	18 21 51.4	-3.2
WLF	Walferdange	91.52	40	P	P	18 21 39.9	0.0
WLF				pmax	pmax		
	comp=Z,39nm,1.2s						
WLF	Walferdange	91.52	40	P	P	18 21 39.9	0.0
DAG	Danmarks Havn	91.64	11	*i*P	P	18 21 40.4	+0.4
DAG				IAmb	IAmb	18 21 40.8	
	comp=Z,7.7nm,1.0s						
DAG	Danmarks Havn	91.64	11	*i*P	P	18 21 40.3	+0.4
DAG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BTNL	Ternell	91.70	39	*d*P	P	18 21 42.7	+1.9
H23K	Yukon River	91.79	337	P	P	18 21 40.7	-0.2
	baz=108						
BPAW	Bear Paw Mtn.	91.85	335	P	P	18 21 40.7	-0.5
BPAW				IAmb	IAmb	18 21 42.2	
	comp=Z,10nm,1.0s						
ECH	Echery	91.87	42	P	P	18 21 41.3	-0.3
ECH				pmax	pmax		
	comp=Z,17nm,1.3s						
ECH	Echery	91.87	42	P	P	18 21 41.3	-0.3
MLY	Manley	92.03	336	P	P	18 21 41.7	-0.3
	baz=107						
MLY	Manley	92.03	336	P	P	18 21 41.2	-0.8
MLY				IAmb	IAmb	18 21 42.9	
	comp=Z,5.6nm,1.0s						
PPLA	Purkeypile	92.03	334	P	P	18 21 41.6	-0.6
	baz=106						
PPLA	Purkeypile	92.03	334	P	P	18 21 41.8	-0.4
CHUM	Lake Minchumin	92.35	334	P	P	18 21 42.8	-0.7
	baz=106						
N19K	Bonanza Creek	92.54	331	P	P	18 21 43.6	-0.9
	baz=104						
I21K	Tanana	92.57	336	P	P	18 21 43.9	-0.5
	baz=106						
O18K	Koktuh Hills	92.66	330	P	P	18 21 44.8	-0.2
	baz=104						
TOLK	Toolik Lake Re	92.68	339	P	P	18 21 44.3	-0.6
	baz=108						
TOLK	Toolik Lake Re	92.68	339	P	P	18 21 44.8	-0.1
TOLK				IAmb	IAmb	18 21 46.4	
	comp=Z,7.8nm,1.2s						
L19K	White Mountain	93.04	333	P	P	18 21 46.2	-0.5
	baz=104						
N18K	Kilae Creek	93.18	331	P	P	18 21 46.8	-0.6
	baz=103,SNR=5.5						
AFI	Afiamalu	93.84	255	LR	LR	18 53 41.8	
	comp=Z,558nm,21.8s,baz=104,slow=29						
CTI	Castel Tesino	94.52	44	P	P	18 21 55.2	+1.2
CTI				pmax	pmax		
	comp=Z,19nm,1.4s						
CTI	Castel Tesino	94.52	44	P	P	18 21 55.1	+1.2
CLL	Collm	96.11	39	*e*P	P	18 22 03.0	+2.1
CLL	Collm	96.11	39	*e*P	P	18 22 03.0	+2.1
GERES	GERESS Array B	96.27	42	P	P	18 22 03.5	+1.6
	comp=Z,0.7nm,0.8s,baz=251,slow=3.0,SNR=6.7						
BRG	Berggiesshubel	96.65	40	*e*P	P	18 22 05.7	+2.3
BRG				Amp		18 22 08.0	
	comp=Z,15nm,1.6s						
MAW	Mawson	97.92	165	LR	LR	19 04 15.3	
	comp=Z,346nm,21.3s,baz=240,slow=34						
KRUC	Moravsky	98.05	42	*e*P	Pdif	18 22 11.6	+1.7
VRAC	Vranov	98.20	41	*e*P	Pdif	18 22 12.2	+1.7
KBS	Kingsbay	98.38	11	*ce*P	Pdif	18 22 10.5	-0.2
KBS				pmax	pmax		
	comp=Z,11nm,1.2s						
MODS	Modra-Piesok	98.58	42	*e*PDIFF	Pdif	18 22 15.0	+2.7
MORC	Moravsky Berou	98.85	41	*e*P	Pdif	18 22 15.3	+1.8
JAVC	Velka Javorina	98.88	42	*e*P	P	18 22 13.0	-0.6
VYHS	Vyhne	99.63	42	*e*P	Pdif	18 22 19.7	+2.8
VYHS	Vyhne	99.63	42	*e*PDIFF	Pdif	18 22 19.7	+2.8
KIV	Kislovodsk	116.48	45	*e*PKIKP	PKPdf	18 27 16.8	-0.6
KIV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KBZ	Khabaz	116.68	46	PKP	PKiKP	18 27 18.6	+1.0
	comp=Z,2.7nm,0.7s,baz=190,slow=2.3,SNR=6.5						
KBZ	Khabaz	116.68	46	*i* PKIKP	PKiKP	18 27 17.4	-0.2
YAK	Yakutsk	124.05	346	*i* PKIKP	PKiKP	18 27 31.9	+0.4
STKA	Stephens Creek	125.97	219	PKP	PKiKP	18 27 36.5	+0.2
	comp=Z,3.0nm,0.8s,baz=107,slow=5.9,SNR=5.2						
BRVK	Borovoye	128.19	26	*i* PKIKP	PKiKP	18 27 39.7	-0.3
ZALV	Zalesovo Beam	132.57	16	PKP	PKiKP	18 27 48.3	-0.5
	comp=Z,5.7nm,0.6s,baz=283,slow=2.6,SNR=35						
ASAR	Alice Springs	136.55	221	PKP	PKPdf	18 27 56.2	+0.1
	comp=Z,4.5nm,0.9s,baz=125,slow=2.1,SNR=26						
USRK	Ussurisk Ar.	137.66	330	PKP	PKiKP	18 27 58.3	-1.2
	comp=Z,2.4nm,0.7s,baz=207,slow=0.6,SNR=5.7						
MKAR	Makanchi Array	137.94	23	PKP	PKiKP	18 27 58.9	-1.1
	comp=Z,1.7nm,0.7s,baz=339,slow=1.6,SNR=16						
WRA	Warramunga Arr	138.80	225	PKP	PKPdf	18 28 00.3	0.0
	comp=Z,5.0nm,0.8s,baz=138,slow=2.3,SNR=44						
WRA	Warramunga Arr	138.80	225	PKIKP	PKPdf	18 28 00.0	-0.4
WRA	Warramunga Arr	138.80	225		PKPdf	18 27 60.0	-0.4
MJAR	Matsushiro Arr	138.99	317	PKP	PKPdf	18 27 59.9	-0.4
	comp=Z,1.4nm,0.8s,baz=88,slow=1.2,SNR=5.0						
MJAR	Matsushiro Arr	138.99	317	PKIKP	PKPdf	18 27 59.6	-0.6
MJAR	Matsushiro Arr	138.99	317		PKPdf	18 27 59.6	-0.6
SONM	Songino Array	141.36	358	PKhKP	PKPpre	18 27 58.4	
	comp=Z,1.0nm,0.5s,baz=343,slow=3.4,SNR=4.8						
SONM				PKP	PKiKP	18 28 05.3	-1.8
	comp=Z,1.1nm,0.5s,baz=355,slow=1.2,SNR=6.7						
WMQ	Urumqi	142.45	20	*e*PKP	PKPdf	18 28 06.6	+0.3
KSRS	Korea Array	144.71	327	PKP	PKPdf	18 28 09.6	-0.7
	comp=Z,7.2nm,0.9s,baz=52,slow=2.9,SNR=32						
BJI	Beijing	147.47	343	PKPbc	PKPbc	18 28 16.3	-1.2
BJI				PKS	PKSdf	18 31 50.1	0.0
BJI				SKS	SKSdf	18 35 15.6	-4.0
HHC	Hu-ho-hao-te	147.76	350	*e*PKPbc	PKPbc	18 28 17.6	-0.9
GTA	Gaotai	149.53	7	‖PKPbc	PKPdf	18 28 20.3	+1.7
NJ2	Nanjing	153.55	332	*e*PKPbc	PKPdf	18 28 25.5	+0.8
CD2	Chengdu	158.29	2	PKP	PKPdf	18 28 30.6	-0.5
CMAR	Chiang Mai Arr	169.26	29	PKP	PKPdf	18 28 42.1	+0.7
	comp=Z,1.6nm,0.8s,baz=291,slow=2.1,SNR=11						
CMAR				PKPab	PKPab	18 29 54.8	+1.2
	comp=Z,1.5nm,0.8s,baz=316,slow=5.6,SNR=7.3						
CMAR	Chiang Mai Arr	169.26	29	PKIKP	PKPdf	18 28 38.6	-2.8
CMAR	Chiang Mai Arr	169.26	29		PKPdf	18 28 38.6	-2.8

*IDC **09** 18:31:03.9±1.2, 9°.09S×75°.24W, h0km, mb3.8/2, mb1 4.0/8, mb1mx3.8/35, mbtmp4.0/8, ML3.6/5, MS3.5/4, Ms1 3.5/4, ms1mx3.2/33, Error ellipse: s-maj=24.5km s-min=20.8km az=39.0*

*ARE **09** 18:31:08±2.7, 9°.19S±0°.04×75°.80W±0°.10, h33km±8km, Error ellipse: s-maj=13.9km s-min=5.0km az=103.0*

*NEIC **09** 18:31:11.1±0.9, 9°.23S±0°.08×75°.53W±0°.06, h83km±23km, mb4.3/4, ML4.5(ARE), Error ellipse: s-maj=13.2km s-min=6.2km az=144.0*

ISC 09 18:31:09.5±0.8, 9°.11S±0°.08×75°.4W±0°.1, h50km, n18, σ1§92/15, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	3.21	207	Pn	Pn	18 31 57.0	-0.6
	6.2nm,0.3s,baz=11,slow=8.3,SNR=13						
NNA				Lg	Lg	18 32 39.2	
	59nm,0.3s,baz=216,slow=12,SNR=12						
NNA				LR	LR	18 33 17.3	
	comp=Z,497nm,19.7s,baz=358,slow=41						
NNA	Nana	3.21	207	Pn	Pn	18 31 56.9	-0.7
ATAH	Atahualpa	3.60	303	Pn	Pn	18 32 04.0	+0.9
	15nm,0.3s,baz=29,slow=13,SNR=60						
ATAH				Lg	Lg	18 32 50.4	
	41nm,0.3s,baz=259,slow=20,SNR=12						
ATAH				L

BJI **09** 18:32:48.9±0.0, 40.°29N×141.°38E, h90km, mB5.7/52, mb5.7/86

MOS **09** 18:32:49.6±0.9, 40.°43N×141.°40E, h81km, mb5.8/61, Error ellipse: s-maj=4.8km s-min=3.3km az=101.5

NEIC **09** 18:32:51.1, 40.°36N×141.°48E, h86km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.03; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-1.29; $M_{r\theta}$0.11; $M_{r\phi}$-1.56; $M_{\theta r}$-1.65; Fault plane solution: $M_0$2.89000×10^{17} NP1:ϕ_s195.82000°, δ63.75000°, λ63.07000°. NP2:ϕ_s64.77000°, δ36.91000°, λ132.57000°. Principal axes: T 2.8627, Plg61.0000°, Azm64.0000°; N 0.0476, Plg24.0000°, Azm208.0000°; P -2.9103, Plg15.0000°, Azm305.0000°;

NEIC **09** 18:32:51.2±1.8, 40.°36N±0.°05×141.°47E±0.°08, h81km±1km, mb6.1/817, Mwb5.6/69, Mwr5.6/17, Mww5.5, Mwc5.6(GCMT) Error ellipse: s-maj=10.6km s-min=7.8km az=294.0

JMA **09** 18:32:51.2, 40.°35N×141.°56E, h88km±1km, M5.7 Broadband fault plane solution: P waves. NP1: ϕ_s38.00000°, δ30.00000°, λ95.00000°. NP2:ϕ_s212.00000°, δ60.00000°, λ87.00000°. Principal axes: T Plg75.0000°, Azm113.0000°; N Plg3.0000°, Azm213.0000°; P Plg15.0000°, Azm304.0000°;

NEIC **09** 18:32:51.1, 40.°36N×141.°48E, h80km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.36; $M_{\theta\theta}$-0.88; $M_{\phi\phi}$-1.48; $M_{r\theta}$0.37; $M_{r\phi}$-1.65; $M_{\theta r}$-1.76; Fault plane solution: $M_0$3.20000×10^{17} NP1:ϕ_s194.60000°, δ62.21000°, λ61.61000°. NP2:ϕ_s63.82000°, δ38.90000°, λ132.05000°. Principal axes: T 3.2775, Plg62.0000°, Azm60.0000°; N -0.1696, Plg25.0000°, Azm209.0000°; P -3.1079, Plg13.0000°, Azm305.0000°;

NIED **09** 18:32:51.3, 40.°35N×141.°56E, h88km, MW5.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.86; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$-1.20; $M_{r\theta}$0.65; $M_{r\phi}$-1.50; $M_{\theta r}$-1.16; Fault plane solution: $M_0$2.58000×10^{17} NP1: ϕ_s192.00000°, δ59.00000°, λ54.00000°. NP2:ϕ_s67.00000°, δ46.00000°, λ134.00000°.

NEIC **09** 18:32:51, 40.°27N×141.°47E, h90km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.92; $M_{\theta\theta}$-0.46; $M_{\phi\phi}$-1.47; $M_{r\theta}$0.77; $M_{r\phi}$-1.12; $M_{\theta r}$-0.92; Fault plane solution: $M_0$2.39000×10^{17} NP1:ϕ_s57.00000°, δ46.00000°, λ128.00000°. NP2:ϕ_s188.00000°, δ56.00000°, λ57.00000°. Principal axes: T 2.5302, Plg63.0000°, Azm41.0000°; N -0.3061, Plg26.0000°, Azm208.0000°; P -2.2241, Plg6.0000°, Azm300.0000°;

IDC **09** 18:32:51.1±0.4, 40.°35N×141.°43E, h86km±3km, mb5.5/29, mb1 5.6/35, mb1mx5.6/38, mbtmp5.8/35, MS4.5/40, Ms1 4.5/40, ms1mx4.5/49 Error ellipse: s-maj=9.7km s-min=8.3km az=81.0

GCMT **09** 18:32:52.2±0.1, 40.°43N±0.°01×141.°44E±0.°01, h87km, MW5.6/153, Moment Tensor Solution. s141, c261; s153, c326; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.13±.03; $M_{\theta\theta}$-0.55±.03; $M_{\phi\phi}$-1.58±.03; $M_{r\theta}$0.53±.02; $M_{r\phi}$-1.59±.03; $M_{\theta r}$-1.43±.02; Best double couple: $M_0$2.92000×10^{17} NP1:ϕ_s62.00000°, δ42.00000°, λ133.00000°. NP2:ϕ_s190.00000°, δ61.00000°, λ58.00000°. Principal axes: T 2.9470, Plg61.0000°, Azm51.0000°; N -0.0560, Plg27.0000°, Azm207.0000°; P -2.8920, Plg10.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **09** 18:32:53, 40.°44N×141.°48E, h88km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.16; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$-1.59; $M_{r\theta}$0.54; $M_{r\phi}$-1.65; $M_{\theta r}$-1.53; Fault plane solution: $M_0$3.02000×10^{17} NP1:ϕ_s62.00000°, δ42.00000°, λ134.00000°. NP2:ϕ_s190.00000°, δ62.00000°, λ58.00000°. Principal axes: T 3.0528, Plg60.0000°, Azm52.0000°; N -0.0678, Plg28.0000°, Azm206.0000°; P -2.9850, Plg11.0000°, Azm302.0000°;

ISC 09 18:32:50.9±0.2, **40.°37N**±0.°02×**141.°41E**±0.°02, **h88**km±1km, **h87**km:**pP-P,n2706,**σ1**9**53/2993, **mb6.0**/742, **709C-211D, Fault plane solution: NP1:**ϕ_s192.12318°, δ63.44078°, λ62.03201°. **NP2:**ϕ_s62.02414°, δ37.81384°, λ133.17358°. **Principal axes:** T Plg61.0193°, Azm58.9323°; N Plg24.8023°, Azm205.4790°; P Plg14.0315°, Azm302.1108°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.08**	**90**	⇑P	**Pn**	**18 33 03.5**	**+0.2**
JANG				S	**Sn**	**18 33 12.5**	**0.0**
JKEN	**Kujiedanarisaw**	**0.28**	**126**	⇑P	**Pn**	**18 33 04.1**	**+0.1**
JKEN				S	**Sn**	**18 33 13.6**	**0.0**
JKZ	**Kuzumaki**	**0.39**	**189**	⇑P	**Pn**	**18 33 05.3**	**+0.6**
JKZ				S	**Sn**	**18 33 15.8**	**+0.9**
JTM	**Tenmabayashi**	**0.49**	**328**	⇑P	**Pn**	**18 33 06.3**	**+1.0**
JTM				S	**Sn**	**18 33 17.5**	**+1.5**
JTM	**Tenmabayashi**	**0.49**	**328**		**Pn**	**18 33 06.3**	**+1.0**
JTH	**Tanohata**	**0.56**	**141**	⇓P	**Pn**	**18 33 05.7**	**-0.2**
JTH				*i* S	**Sn**	**18 33 16.2**	**-0.8**
JAH	**Hinai**	**0.62**	**253**	⇑P	**Pn**	**18 33 07.7**	**+1.3**
JAH				S	**Sn**	**18 33 19.6**	**+1.6**
JARK	**Aomorirokkasho**	**0.64**	**357**	⇑P	**Pn**	**18 33 07.3**	**+0.7**
JSZI	**Iwateshizukuis**	**0.72**	**209**	⇑P	**Pn**	**18 33 08.5**	**+1.1**
JHHS	**Hirosakihyakuz**	**0.85**	**289**	⇓P	**Pn**	**18 33 10.8**	**+2.1**
MIYJ	**Miyakonagasawa**	**0.85**	**158**	⇓P	**Pn**	**18 33 08.7**	**-0.1**
JAHD	**Aomorihigashid**	**0.89**	**356**	⇓P	**Pn**	**18 33 10.1**	**+0.9**
JOM	**Ohasama**	**0.90**	**186**	⇓P	**Pn**	**18 33 09.9**	**+0.5**
JOM				*e*S	**Sn**	**18 33 23.3**	**+0.2**
JNTW	**Noshirotokiwa**	**0.96**	**264**	⇑P	**Pn**	**18 33 11.8**	**+1.9**
JSI2	**Shiura 2**	**1.02**	**312**	⇓P	**Pn**	**18 33 12.3**	**+1.6**
JOT	**Ohata**	**1.04**	**345**	⇓P	**Pn**	**18 33 12.0**	**+1.1**
JOT				S	**Sn**	**18 33 27.7**	**+1.7**
JIW	**Iwasaki**	**1.09**	**282**	⇓P	**Pn**	**18 33 13.5**	**+2.0**
JIW				S	**Sn**	**18 33 30.5**	**+3.5**
JRG	**Rokugo**	**1.14**	**212**	⇑P	**Pn**	**18 33 13.6**	**+1.5**
JRG				*e*S	**Sn**	**18 33 30.8**	**+2.7**
JYW	**Yuwa**	**1.24**	**228**	⇑P	**Pn**	**18 33 15.2**	**+1.9**
OFUJ	**Ofunato**	**1.31**	**171**	⇓P	**Pn**	**18 33 14.1**	**0.0**
JSR	**Shiriuchi**	**1.38**	**327**	⇓P	**Pn**	**18 33 16.6**	**+1.6**
JMK	**Ichinoseki**	**1.43**	**186**	⇓P	**Pn**	**18 33 16.0**	**+0.4**
JMK				S	**Sn**	**18 33 34.3**	**+0.1**
JKB	**Kayabe**	**1.54**	**349**	⇓P	**Pn**	**18 33 18.4**	**+1.4**
JKB				S	**Sn**	**18 33 38.7**	**+1.9**
JKMT	**Kesennumamotoy**	**1.56**	**178**	⇓P	**Pn**	**18 33 17.6**	**+0.3**
JOMM	**Oshimamatsumae**	**1.57**	**318**	⇓P	**Pn**	**18 33 18.9**	**+1.5**
JYK	**Kaneyama**	**1.67**	**210**	⇑P	**Pn**	**18 33 19.8**	**+1.1**
JYYZ	**Yamagatayuza**	**1.77**	**221**	⇑P	**Pn**	**18 33 22.2**	**+2.2**
JOFO	**Osakifurukawao**	**1.81**	**192**	⇓P	**Pn**	**18 33 21.5**	**+1.0**
JOG3	**Oga3**	**1.84**	**257**	⇑P	Pn	18 33 15.9	-5.0
JTB	**Tobi-shima**	**1.85**	**231**	⇑P	**Pn**	**18 33 22.4**	**+1.4**
JIO	**Ouri**	**1.92**	**181**	⇓P	**Pn**	**18 33 21.7**	**-0.2**
JIKH	**Ishinomakikobu**	**2.06**	**179**	⇓P	**Pn**	**18 33 23.3**	**-0.5**
JOU	**Okura**	**2.09**	**196**	⇓P	**Pn**	**18 33 25.3**	**+1.1**
ERM	**Erimo**	**2.10**	**38**	*c*eP	**Pn**	**18 33 24.2**	**-0.2**
ERM				pmax	pmax		
	comp=Z,5μm,1.0s						
ERM	**Erimo**	**2.10**	**38**		**Pn**	**18 33 24.6**	**+0.3**
JYA	**Atsumi**	**2.21**	**217**	⇑P	**Pn**	**18 33 27.6**	**+1.8**
JYS	**Shirataka**	**2.39**	**206**	⇑P	**Pn**	**18 33 29.9**	**+1.7**
JEW	**Eniwo**	**2.46**	**1**	Pn	**Pn**	**18 33 30.3**	**+1.1**
JAW	**Awa shima**	**2.54**	**222**	⇑P	**Pn**	**18 33 32.0**	**+1.8**
JMM	**Marumori**	**2.55**	**191**	⇓P	**Pn**	**18 33 30.4**	**+0.1**
JMM	**Marumori**	**2.55**	**191**		**Pn**	**18 33 30.4**	**+0.1**
JYAR	**Yonezawaarcadi**	**2.65**	**202**	⇓P	**Pn**	**18 33 33.2**	**+1.6**
JMST	**Minamisoumatoc**	**2.68**	**189**	⇓P	**Pn**	**18 33 31.8**	**-0.2**
JCH	**Churui**	**2.68**	**33**	⇑P	**Pn**	**18 33 32.1**	**+0.1**
JFR	**Furan**	**2.92**	**17**	⇑P	**Pn**	**18 33 35.8**	**+0.4**
JFT	**Otama**	**2.97**	**197**	⇓P	**Pn**	**18 33 37.1**	**+1.1**
JNS	**Sasagawa**	**3.03**	**213**	⇑P	**Pn**	**18 33 38.5**	**+1.8**
JFK	**Kawauchi**	**3.03**	**188**	⇓P	**Pn**	**18 33 36.5**	**-0.3**
JSK	**Shakotan**	**3.06**	**347**	⇓P	**Pn**	**18 33 38.8**	**+1.7**
JOB	**Onbets**	**3.11**	**35**	⇑P	**Pn**	**18 33 37.8**	**-0.1**
JFY	**Yanaizu**	**3.25**	**205**	⇓P	**Pn**	**18 33 41.6**	**+1.9**
ONAJ	**Iwakimizuishiy**	**3.30**	**189**	⇓P	**Pn**	**18 33 39.8**	**-0.7**
JFFD	**Fukushimafurud**	**3.34**	**192**	⇓P	**Pn**	**18 33 40.9**	**-0.1**
JSD	**Sado**	**3.38**	**227**	⇑P	**Pn**	**18 33 43.4**	**+1.9**
JSD	**Sado**	**3.38**	**227**	Pn	**Pn**	**18 33 43.4**	**+1.9**
JSB	**Shiboa**	**3.59**	**199**	⇓P	**Pn**	**18 33 46.5**	**+2.1**
JAK	**Akkeshi**	**3.59**	**42**	⇑P	**Pn**	**18 33 42.9**	**-1.5**
JKK2	**Kamakawa 2**	**3.64**	**15**	⇑P	**Pn**	**18 33 45.6**	**+0.7**
ASAJ	**Asahikawa**	**3.84**	**13**	P	**Pn**	**18 33 48.2**	**+0.5**
	comp=Z,404nm,0.3s,baz=213,slow=12,SNR=2500						
ASAJ				S	**Sn**	**18 34 30.0**	**-1.7**
	comp=Z,85nm,0.3s,baz=269,slow=14,SNR=5.0						
ASAJ				LR	LR	18 35 41.6	
	comp=Z,5μm,21.7s,baz=196,slow=44						
ASAJ	**Asahikawa**	**3.84**	**13**	P	**Pn**	**18 33 47.8**	**+0.1**
ASAJ						18 34 30.0	
JKA	**Kamikawa-asahi**	**3.84**	**13**	Pn	**Pn**	**18 33 47.8**	**+0.1**
JKA	**Kamikawa-asahi**	**3.84**	**13**		**Sn**	**18 34 30.0**	**-1.7**
JMP	**Maruseppu**	**3.91**	**21**	⇑P	**Pn**	**18 33 48.8**	**+0.1**
JKT	**Katashina**	**3.98**	**206**	⇓P	**Pn**	**18 33 51.9**	**+2.2**
JTKR	**Abashiri--Toko**	**4.05**	**26**	⇑P	**Pn**	**18 33 50.0**	**-0.5**
JJN	**Nakama**	**4.14**	**219**	⇓P	**Pn**	**18 33 54.5**	**+2.8**
JAG	**Ashikaga**	**4.23**	**202**	⇓P	**Pn**	**18 33 54.0**	**+0.9**
JYT	**Yasato**	**4.25**	**193**	Pn	**Pn**	**18 33 52.0**	**-1.3**
JSZ	**Suzu**	**4.30**	**229**	⇓P	**Pn**	**18 33 56.4**	**+2.4**
JHG	**Hegura jima**	**4.31**	**236**	⇓P	**Pn**	**18 33 56.4**	**+2.4**
JGK	**Kuni**	**4.38**	**211**	⇓P	**Pn**	**18 33 57.9**	**+2.7**
NMR	**Nemuro--Hokkai**	**4.40**	**46**	⇑*i*P	**Pn**	**18 33 53.5**	**-1.8**
NMR				*e*S	**Sn**	**18 34 39.4**	**-5.8**
JIHU	**Itakohorinouch**	**4.46**	**189**	P	**Pn**	**18 33 54.9**	**-1.2**
GLVR	**Golovnino**	**4.55**	**41**	⇓*i*P	**Pn**	**18 33 56.2**	**-1.0**
GLVR				*i* S	**Sn**	**18 34 46.0**	**-2.8**
GLVR				pmax	pmax		
	comp=N,593nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.3s						
GLVR				pmax	pmax		
	comp=E,469nm,0.2s						
GLVR				smax	smax		
	comp=N,13μm,0.2s						
GLVR				smax	smax		
	comp=E,16μm,0.2s						
MJB9	**Matsu-Tunnel**	**4.58**	**214**		**Pn**	**18 34 00.1**	**+2.3**
MJAR	**Matsushiro Arr**	**4.58**	**214**	P	**Pn**	**18 33 58.7**	**+1.0**
	comp=E,18nm,0.3s,baz=28,slow=14,SNR=1217						
MJAR	**Matsushiro Arr**	**4.58**	**214**	Pn	**Pn**	**18 33 59.1**	**+1.3**
MAJO	**Matsushiro**	**4.58**	**214**	*d*iP	**Pn**	**18 34 00.1**	**+2.3**
MAJO	**Matsushiro**	**4.58**	**214**	Pn	**Pn**	**18 34 00.1**	**+2.3**
MAT	**Matsushiro**	**4.58**	**214**	P	**Pn**	**18 33 59.9**	**+2.2**
MAT				*e*S	**Sn**	**18 34 50.8**	**+1.1**
MAT	**Matsushiro**	**4.58**	**214**	P	**Pn**	**18 34 00.0**	**+2.2**
RUSJ	**Misakicho**	**4.69**	**36**	⇓*i*P	**Pn**	**18 33 58.7**	**-0.5**
RUSJ				*e*S	**Sn**	**18 34 51.0**	**-1.4**
JNG	**Nsakai**	**4.74**	**214**	⇓P	**Pn**	**18 34 02.5**	**+2.5**
JRY	**Ryogami san**	**4.78**	**205**	⇓P	**Pn**	**18 34 01.2**	**+0.7**
GRPR	**Tuman**	**4.86**	**40**	⇑*i*P	**Pn**	**18 34 00.4**	**-1.1**
GRPR				*i* S	**Sn**	**18 34 51.6**	**-4.8**
GRPR				pmax	pmax		
	comp=Z,3μm,0.3s						
GRPR				pmax	pmax		
	comp=N,2μm,0.2s						
GRPR				pmax	pmax		
	comp=E,2μm,0.3s						
GRPR				smax	smax		
	comp=N,14μm,0.4s						
GRPR				smax	smax		
	comp=E,13μm,0.5s						
JTT	**Ttatey**	**4.94**	**222**	⇓P	**Pn**	**18 34 05.5**	**+2.8**
JJH	**Hakui**	**5.00**	**228**	⇓P	**Pn**	**18 34 06.3**	**+2.9**
I30JP	**ISUMI INFRASON**	**5.13**	**190**	P	**Pn**	**18 34 04.7**	**-0.6**
	baz=11,slow=5.9						
I30JP				*i*		18 53 50.0	
	baz=11,slow=320,SNR=4.5						
JNT	**Takato**	**5.18**	**211**	P	**Pn**	**18 34 08.1**	**+2.0**
JGN	**Niukaw**	**5.25**	**219**	⇓P	**Pn**	**18 34 10.0**	**+3.1**
JKUC	**kamogawauchiur**	**5.29**	**191**	P	**Pn**	**18 34 06.3**	**-1.2**
JYN	**Shimob**	**5.37**	**206**	⇓P	**Pn**	**18 34 09.2**	**+0.6**
JOD2	**Odawara 2**	**5.42**	**201**	P	**Pn**	**18 34 07.9**	**-1.4**
AJI	**Ajiro2**	**5.63**	**200**	P	**Pn**	**18 34 10.2**	**-1.8**
JKG	**Kaga**	**5.71**	**226**	⇓P	**Pn**	**18 34 16.1**	**+2.9**
JHTM	**Izuhatsuma**	**5.73**	**200**	⇑P	**Pn**	**18 34 11.6**	**-1.9**
JGF	**Kuroka**	**5.74**	**215**	P	**Pn**	**18 34 16.0**	**+2.4**
JGF	**Kuroka**	**5.74**	**215**	Pn	**Pn**	**18 34 15.9**	**+2.3**
JNY	**Yasuok**	**5.74**	**210**	⇓P	**Pn**	**18 34 14.9**	**+1.3**
JIM2	**Oshima 3**	**5.86**	**196**	P	**Pn**	**18 34 13.3**	**-2.0**
JIZS	**Izushimoda**	**5.99**	**200**	P	**Pn**	**18 34 15.3**	**-1.7**
JYTA	**Yamagatataniai**	**6.03**	**219**	⇓P	**Pn**	**18 34 20.0**	**+2.5**
JAO	**Obara**	**6.06**	**214**	⇓P	**Pn**	**18 34 19.8**	**+1.7**
INU	**Inuyama**	**6.10**	**216**		**Pn**	**18 34 19.2**	**+0.7**
JYZW	**Yoshizawa**	**6.11**	**210**	P	**Pn**	**18 34 18.8**	**+0.2**
HMMJ	**Hamamatsu 2**	**6.24**	**209**	P	**Pn**	**18 34 20.6**	**+0.3**
JSG	**Sagara**	**6.24**	**205**		**Pn**	**18 34 20.8**	**+0.4**
JFM	**Mihama**	**6.46**	**223**	P	**Pn**	**18 34 26.6**	**+3.2**
YSS	**Yuzh-Sakhalins**	**6.65**	**8**	*de*P	**Pn**	**18 34 26.6**	**+0.7**
YSS				*e*S	**Sn**	**18 35 40.3**	**+0.2**
YSS				pmax	pmax		
	comp=Z,950nm,1.1s						
YSS				smax	smax		
	comp=E,300nm,1.4s						
YSS				smax	smax		
	comp=N,2μm,8.9s						
YSS				MLR	MLR		
	comp=Z,5μm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.65**	**8**	Pn	**Pn**	**18 34 26.0**	**+0.2**
KUR	**Kuril'sk**	**6.79**	**42**	*c i*P	**Pn**	**18 34 27.1**	**-0.7**
KUR				*e*S	**Sn**	**18 35 38.9**	**-4.6**
KUR				pmax	pmax		
	comp=Z,3μm,0.7s						
KUR				pmax	pmax		
	comp=N,453nm,0.5s						
KUR				pmax	pmax		
	comp=E,336nm,0.3s						
KUR				smax	smax		
	comp=E,23μm,3.9s						
KUR				smax	smax		
	comp=N,4μm,1.0s						
KUR				smax	smax		
	comp=E,2μm,0.6s						
TSUJ	**Tsu 2**	**6.90**	**217**	P	**Pn**	**18 34 30.8**	**+1.4**
JWT	**Wachi**	**6.96**	**225**	⇓P	**Pn**	**18 34 33.5**	**+3.3**
JWT	**Wachi**	**6.96**	**225**	Pn	**Pn**	**18 34 32.9**	**+2.7**
JKSM	**Kasumi**	**7.16**	**230**	P	**Pn**	**18 34 36.0**	**+3.2**
JHJ	**Hachijo jima 2**	**7.36**	**191**	P	**Pn**	**18 34 33.1**	**-2.5**
	comp=E,262nm,0.3s,baz=327,slow=12,SNR=54						
JHJ				S	**Sn**	**18 35 50.5**	**-7.0**
	comp=E,286nm,0.3s,baz=61,slow=23,SNR=6.7						
JHJ2	**Mitsune**	**7.36**	**191**	Pn	**Pn**	**18 34 33.0**	**-2.6**
JKS	**Kasai**	**7.49**	**226**	⇓P	**Pn**	**18 34 40.2**	**+2.8**
JAD	**Aida**	**7.90**	**229**	P	**Pn**	**18 34 45.9**	**+2.9**
USRK	**Ussuriysk Ar.**	**7.96**	**302**	P	**Pn**	**18 34 45.9**	**+2.1**
	baz=318,slow=5.4,SNR=1970						
USRK				LR	LR	18 37 49.4	
	comp=E,7μm,18.8s,baz=96,slow=37						
I45RU	**USSURIYSK INFR**	**7.97**	**302**	P	**Pn**	**18 34 47.5**	**+3.6**
	baz=108,slow=14,SNR=2.9						
I45RU				*i*		19 13 40.0	
	baz=116,slow=318,SNR=1.6						
MSHR	**Mys Shultsa**	**8.01**	**289**	*d*iP	**Pn**	**18 34 46.3**	**+1.9**
JJS	**Sakaide**	**8.44**	**227**	P	**Pn**	**18 34 52.2**	**+1.8**
JHS	**Saijyo**	**8.48**	**233**	Pn	**Pn**	**18 34 53.4**	**+2.4**
ULDB	**Ullung-do Bore**	**8.69**	**254**	P	**Pn**	**18 34 56.6**	**+2.9**
	SNR=41						
ULDB	**Ullung-do Bore**	**8.69**	**254**	P	**Pn**	**18 34 56.6**	**+2.9**
	SNR=41						
ULDB	**Ullung-do Bore**	**8.69**	**254**	P	**Pn**	**18 34 56.6**	**+2.9**
	SNR=41						
UGL	**Uglegorsk**	**8.72**	**3**	*e*P	Pn	18 34 49.0	-5.0
UGL				pmax	pmax		
	comp=Z,259nm,1.2s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=N,5μm,19.0s						
UGL				MLR	MLR		
	comp=E,2μm,5.0s						
JMN	**Monobe**	**8.95**	**225**	Pn	**Pn**	**18 34 58.8**	**+1.4**
JHM	**Kurahashi**	**9.42**	**231**	P	**Pn**	**18 35 05.5**	**+1.8**
MDJ	**Mudanjiang**	**9.70**	**300**	P	**Pn**	**18 35 10.2**	**+2.7**
MDJ				sP		18 35 31.3	
MDJ				S	**Sn**	**18 36 59.0**	**+4.4**
MDJ				pmax	pmax		
	comp=E,1μm,1.7s						
MDJ				pmax	pmax		
	comp=E,9μm,8.7s						
MDJ				LR	LR		
	comp=E,4μm,9.9s						
MDJ				LR	LR		
	comp=E,8μm,10.1s						
MDJ				LR	LR		
	comp=E,11μm,10.4s						
MDJ	**Mudanjiang**	**9.70**	**300**	Pn	**Pn**	**18 35 10.3**	**+2.7**
JKU	**Kubokawa**	**9.71**	**226**	P	**Pn**	**18 35 09.1**	**+1.3**
IMWB	**Imwonan-gil**	**9.93**	**255**	P	**Pn**	**18 35 15.0**	**+4.4**
	SNR=27						
IMWB	**Imwonan-gil**	**9.93**	**255**	P	**Pn**	**18 35 14.0**	**+3.4**
	SNR=102						
IMWB	**Imwonan-gil**	**9.93**	**255**	P	**Pn**	**18 35 15.0**	**+4.4**
	SNR=27						
IMWB	**Imwonan-gil**	**9.93**	**255**	P	**Pn**	**18 35 14.0**	**+3.4**
	SNR=102						
IMWB	**Imwonan-gil**	**9.93**	**255**	P	**Pn**	**18 35 14.0**	**+3.4**
	SNR=102						
UJN	**ULJIN**	**9.97**	**254**	P	**Pn**	**18 35 14.3**	**+3.1**
	SNR=33						
UJN	**ULJIN**	**9.97**	**254**	P	**Pn**	**18 35 14.3**	**+3.1**
	SNR=33						
UJN	**ULJIN**	**9.97**	**254**	P	**Pn**	**18 35 15.3**	**+4.2**
	SNR=53						
OKEB	**Okgye-meyeon**	**10.06**	**258**	P	**Pn**	**18 35 15.0**	**+2.6**
	SNR=75						
OKEB	**Okgye-meyeon**	**10.06**	**258**	P	**Pn**	**18 35 15.0**	**+2.6**
	SNR=75						
OKEB	**Okgye-meyeon**	**10.06**	**258**	P	**Pn**	**18 35 15.0**	**+2.6**
	SNR=75						
KSULJ	**Uljin**	**10.09**	**253**	P	**Pn**	**18 35 16.0**	**+3.2**
	SNR=68						
KSULJ	**Uljin**	**10.09**	**253**	P	**Pn**	**18 35 16.0**	**+3.2**
	SNR=68						
KSULJ	**Uljin**	**10.09**	**253**	P	**Pn**	**18 35 16.0**	**+3.2**
	SNR=68						
KSJMJ	**Jumunjin**	**10.14**	**260**	P	**Pn**	**18 35 16.0**	**+2.4**
	SNR=35						
KSJMJ	**Jumunjin**	**10.14**	**260**	P	**Pn**	**18 35 16.0**	**+2.4**
	SNR=35						
KSJMJ	**Jumunjin**	**10.14**	**260**	P	**Pn**	**18 35 16.1**	**+2.5**
	SNR=50						
KSSKC	**Sokcho**	**10.20**	**262**	P	**Pn**	**18 35 16.7**	**+2.4**
	SNR=133						
KSSKC	**Sokcho**	**10.20**	**262**	P	**Pn**	**18 35 16.7**	**+2.4**
	SNR=133						
KSSKC	**Sokcho**	**10.20**	**262**	P	**Pn**	**18 35 16.7**	**+2.4**
	SNR=133						
KSTBA	**Taebaek**	**10.26**	**256**	P	**Pn**	**18 35 18.2**	**+3.0**
	SNR=376						
KSTBA	**Taebaek**	**10.26**	**256**	P	**Pn**	**18 35 18.2**	**+3.0**
	SNR=376						
KSTBA	**Taebaek**	**10.26**	**256**	P	**Pn**	**18 35 18.2**	**+3.0**
	SNR=376						
KSDGY	**Daegwallycong**	**10.27**	**259**	P	**Pn**	**18 35 18.0**	**+2.7**
	SNR=106						
KSDGY	**Daegwallycong**	**10.27**	**259**	P	**Pn**	**18 35 18.0**	**+2.7**
	SNR=106						
KSDGY	**Daegwallycong**	**10.27**	**259**	P	**Pn**	**18 35 18.0**	**+2.7**
	SNR=106						
KSGWL	**Sabuk**	**10.32**	**256**	P	**Pn**	**18 35 20.6**	**+4.6**
	SNR=30						
KSGWL	**Sabuk**	**10.32**	**256**	P	**Pn**	**18 35 19.2**	**+3.2**
	SNR=34						
KSGWL	**Sabuk**	**10.32**	**256**	P	**Pn**	**18 35 20.6**	**+4.6**
	SNR=30						
KSGWL	**Sabuk**	**10.32**	**256**	P	**Pn**	**18 35 19.2**	**+3.2**
	SNR=34						
KSPHA	**Pohang**	**10.34**	**250**	P	**Pn**	**18 35 21.0**	**+4.7**
	SNR=22						
KSPHA	**Pohang**	**10.34**	**250**	P	**Pn**	**18 35 21.0**	**+4.7**
	SNR=22						
KSPHA	**Pohang**	**10.34**	**250**	P	**Pn**	**18 35 21.0**	**+4.7**
	SNR=22						
SEHB	**SEOHWA**	**10.41**	**263**	P	**Pn**	**18 35 19.7**	**+2.5**
	SNR=213						
SEHB	**SEOHWA**	**10.41**	**263**	P	**Pn**	**18 35 19.7**	**+2.5**
	SNR=213						
SEHB	**SEOHWA**	**10.41**	**263**	P	**Pn**	**18 35 19.7**	**+2.5**
	SNR=213						
TYV	**Tymovskoe**	**10.53**	**4**	*e*P	**Pn**	**18 35 19.3**	**+0.6**
TYV				*e*S	**Sn**	**18 37 17.1**	**+2.5**
TYV				pmax	pmax		
	comp=Z,600nm,2.1s						
TYV				pmax	pmax		
	comp=Z,101nm,0.7s						
TYV				smax	smax		
	comp=N,103nm,1.3s						
TYV				smax	smax		
	comp=N,1μm,3.6s						
TYV				MLR	MLR		
	comp=N,2μm,11.0s						
TYV				MLR	MLR		
	comp=Z,2μm,15.0s						
KSADO	**Andong**	**10.55**	**252**	P	Pn	18 35 24.0	+4.9
	SNR=35						
KSADO	**Andong**	**10.55**	**252**	P	**Pn**	**18 35 23.0**	**+3.9**
	SNR=53						
KSADO	**Andong**	**10.55**	**252**	P	Pn	18 35 24.0	+

GRNR			pmax	pmax	
	comp=N,30nm,0.7s				
GRNR			pmax	pmax	
	comp=E,20nm,0.7s				
GRNR			pmax	pmax	
	comp=Z,40nm,0.7s				
GRNR			smax	smax	
	comp=N,10.0nm,0.8s				
GRNR			MLR	MLR	
	comp=E,2μm,17.0s				
GRNR			MLR	MLR	
	comp=N,2μm,13.0s				
GRNR			MLR	MLR	
	comp=Z,3μm,15.0s				
KSBUS	**Busan**	**10.99 246**	P	**Pn**	**18 35 27.8 +2.7**
	SNR=46				
KSBUS	**Busan**	**10.99 246**	P	**Pn**	**18 35 28.0 +2.9**
	SNR=46				
KSBUS	**Busan**	**10.99 246**	P	**Pn**	**18 35 28.2 +3.1**
	SNR=15				
KSBUS	**Busan**	**10.99 246**	P	**Pn**	**18 35 29.0 +3.9**
	SNR=15				
KSCWO	**Cheorwon**	**11.02 262**	P	**Pn**	**18 35 28.0 +2.5**
	SNR=229				
KSCWO	**Cheorwon**	**11.02 262**	P	**Pn**	**18 35 28.0 +2.5**
	SNR=229				
KSCHJ	**Chungju**	**11.08 256**	P	Pn	18 35 31.3 +5.0
	SNR=9.2				
KSCHJ	**Chungju**	**11.08 256**	P	**Pn**	**18 35 29.8 +3.5**
	SNR=55				
KSCHJ	**Chungju**	**11.08 256**	P	**Pn**	**18 35 29.0 +2.8**
	SNR=52				
KSCHJ	**Chungju**	**11.08 256**	P	Pn	18 35 31.3 +5.0
	SNR=9.2				
KSCHJ	**Chungju**	**11.08 256**	P	**Pn**	**18 35 29.8 +3.5**
	SNR=55				
KSCHJ	**Chungju**	**11.08 256**	P	**Pn**	**18 35 29.0 +2.8**
	SNR=52				
KSMGY	**Mungyeong**	**11.10 255**	P	**Pn**	**18 35 29.8 +3.2**
	SNR=78				
KSMGY	**Mungyeong**	**11.10 255**	P	**Pn**	**18 35 29.8 +3.2**
	SNR=78				
JNU	**Nakatsue**	**11.12 233**	P	**Pn**	**18 35 28.8 +1.9**
	comp=Z,7.6nm,0.3s,baz=44,slow=12,SNR=24				
JNU	**Nakatsue**	**11.12 233**		**Pn**	**18 35 28.0 +1.1**
KSBSA	**Busan_acc**	**11.12 246**	P	**Pn**	**18 35 29.7 +2.9**
	SNR=21				
KSBSA	**Busan_acc**	**11.12 246**	P	Pn	18 35 32.0 +5.1
	SNR=6.9				
KSBSA	**Busan_acc**	**11.12 246**	P	**Pn**	**18 35 29.7 +2.9**
	SNR=21				
MIYA	**Miryang-si**	**11.12 248**	P	Pn	18 35 33.0 +6.1
	SNR=11				
MIYA	**Miryang-si**	**11.12 248**	P	Pn	18 35 32.1 +5.2
	SNR=33				
KSSAJ	**Sangju**	**11.13 253**	P	**Pn**	**18 35 30.0 +3.1**
	SNR=20				
KSSAJ	**Sangju**	**11.13 253**	P	**Pn**	**18 35 30.0 +3.1**
	SNR=20				
JTU	**Tsushima**	**11.19 242**		**Pn**	**18 35 30.5 +2.7**
KLR	**Kul'dur**	**11.19 325**	P	**Pn**	**18 35 28.3 +0.5**
	comp=Z,4.0nm,0.3s,baz=131,slow=14,SNR=72				
KLR			ScS	ScS	18 48 17.1 +1.3
	comp=Z,0.1nm,0.3s,baz=93,slow=23,SNR=10				
KLR	**Kul'dur**	**11.19 325**	*d iP*	**Pn**	**18 35 27.5 -0.3**
KSGIC	**Gimchen**	**11.31 252**	P	Pn	18 35 34.6 +5.2
	SNR=16				
KSGIC	**Gimchen**	**11.31 252**	P	Pn	18 35 34.6 +5.2
	SNR=16				
KSICN	**Icheon**	**11.34 259**	P	**Pn**	**18 35 32.5 +2.7**
	SNR=30				
KSICN	**Icheon**	**11.34 259**	P	**Pn**	**18 35 32.5 +2.7**
	SNR=30				
KSCPR	**CHUPUNGNYEONG**	**11.34 253**	P	**Pn**	**18 35 33.2 +3.3**
	SNR=26				
KSCPR	**CHUPUNGNYEONG**	**11.34 253**	P	**Pn**	**18 35 33.2 +3.3**
	SNR=26				
KSBON	**Boeun**	**11.35 254**	P	**Pn**	**18 35 33.0 +2.9**
	SNR=55				
KSBON	**Boeun**	**11.35 254**	P	**Pn**	**18 35 33.0 +2.9**
	SNR=55				
KSMAS	**Masan**	**11.41 247**	P	**Pn**	**18 35 34.1 +3.3**
	SNR=28				
KSMAS	**Masan**	**11.41 247**	P	**Pn**	**18 35 35.5 +4.8**
	SNR=37				
KSMAS	**Masan**	**11.41 247**	P	**Pn**	**18 35 34.1 +3.3**
	SNR=28				
KSDDC	**Dongducheon**	**11.42 262**	P	**Pn**	**18 35 35.0 +4.1**
	SNR=27				
KSDDC	**Dongducheon**	**11.42 262**	P	**Pn**	**18 35 33.8 +2.9**
	SNR=23				
KSDDC	**Dongducheon**	**11.42 262**	P	**Pn**	**18 35 33.8 +2.9**
	SNR=23				
OKCB	**Cheongsan-myeo**	**11.42 254**	P	**Pn**	**18 35 34.0 +3.1**
	SNR=45				
OKCB	**Cheongsan-myeo**	**11.42 254**	P	**Pn**	**18 35 34.0 +3.1**
	SNR=45				
YNCB	**YEONCHEON**	**11.48 263**	P	**Pn**	**18 35 35.9 +4.2**
	SNR=14				
YNCB	**YEONCHEON**	**11.48 263**	P	**Pn**	**18 35 34.0 +2.3**
	SNR=219				
YNCB	**YEONCHEON**	**11.48 263**	P	**Pn**	**18 35 34.0 +2.3**
	SNR=219				
EURB	**Uiryeong-eup**	**11.53 248**	P	Pn	18 35 38.0 +5.6
	SNR=41				
EURB	**Uiryeong-eup**	**11.53 248**	P	Pn	18 35 38.0 +5.6
	SNR=41				
KUJA	**Jangpyeong**	**11.53 246**	P	Pn	18 35 39.0 +6.6
	SNR=21				
KUJA	**Jangpyeong**	**11.53 246**	P	Pn	18 35 39.0 +6.6
	SNR=21				
KSSOD	**Songwoldong**	**11.59 261**	P	**Pn**	**18 35 35.8 +2.6**
	SNR=18				
KSSOD	**Songwoldong**	**11.59 261**	P	**Pn**	**18 35 35.8 +2.6**
	SNR=18				
KSCEA	**Cheonan**	**11.63 257**	P	Pn	18 35 39.1 +5.4
	SNR=14				
KSCEA	**Cheonan**	**11.63 257**	P	**Pn**	**18 35 36.6 +2.9**
	SNR=77				
KSCEA	**Cheonan**	**11.63 257**	P	Pn	18 35 39.1 +5.4
	SNR=14				
KSCEA	**Cheonan**	**11.63 257**	P	**Pn**	**18 35 36.6 +2.9**
	SNR=77				
KSMUS	**Musan**	**11.65 262**	P	**Pn**	**18 35 35.9 +1.9**
	SNR=171				
KSMUS	**Musan**	**11.65 262**	P	**Pn**	**18 35 35.9 +1.9**
	SNR=171				
KSSEO	**Seoul**	**11.65 260**	P	**Pn**	**18 35 38.3 +4.3**
	SNR=10.0				
KSSEO	**Seoul**	**11.65 260**	P	**Pn**	**18 35 35.9 +1.9**
	SNR=37				
KSSEO	**Seoul**	**11.65 260**	P	**Pn**	**18 35 36.0 +2.0**
	SNR=37				
KSSEO	**Seoul**	**11.65 260**	P	**Pn**	**18 35 35.9 +1.9**
	SNR=37				
KSSEO	**Seoul**	**11.65 260**	P	**Pn**	**18 35 36.0 +2.0**
	SNR=37				
KSKCH	**Geochang**	**11.65 250**	P	**Pn**	**18 35 36.4 +2.3**
	SNR=29				
KSKCH	**Geochang**	**11.65 250**	P	**Pn**	**18 35 38.6 +4.5**
	SNR=16				
KSKCH	**Geochang**	**11.65 250**	P	**Pn**	**18 35 36.4 +2.3**
	SNR=29				
PYTK	**Pyeongtaek**	**11.68 258**	P	Pn	18 35 39.2 +4.8
	SNR=16				
PYTK	**Pyeongtaek**	**11.68 258**	P	Pn	18 35 39.2 +4.8
	SNR=16				
KSSWO	**Suwon**	**11.69 259**	P	**Pn**	**18 35 36.6 +2.1**
	SNR=31				
KSSWO	**Suwon**	**11.69 259**	P	**Pn**	**18 35 36.6 +2.1**
	SNR=31				
TJN	**Taejon**	**11.72 255**	*ceP*	**Pn**	**18 35 37.8 +2.8**
HAMB	**Hamyang**	**11.83 250**	P	**Pn**	**18 35 39.0 +2.6**
	SNR=42				
HAMB	**Hamyang**	**11.83 250**	P	**Pn**	**18 35 39.0 +2.6**
	SNR=42				
KOJ2	**Gongju-si**	**11.85 255**	P	**Pn**	**18 35 40.0 +3.3**
	SNR=46				
KOJ2	**Gongju-si**	**11.85 255**	P	**Pn**	**18 35 41.0 +4.3**
	SNR=20				
KOJ2	**Gongju-si**	**11.85 255**	P	**Pn**	**18 35 40.0 +3.3**
	SNR=46				
KOJ2	**Gongju-si**	**11.85 255**	P	**Pn**	**18 35 40.0 +3.3**
	SNR=46				
SHHB	**Siheung-si**	**11.86 260**	P	Pn	18 35 42.0 +5.2
	SNR=8.0				
SHHB	**Siheung-si**	**11.86 260**	P	**Pn**	**18 35 39.0 +2.2**
	SNR=23				
SHHB	**Siheung-si**	**11.86 260**	P	Pn	18 35 42.0 +5.2
	SNR=8.0				
SHHB	**Siheung-si**	**11.86 260**	P	**Pn**	**18 35 39.0 +2.2**
	SNR=23				
INCN	**Inchon**	**11.87 261**	P	**Pn**	**18 35 39.0 +2.0**
INCN	**Inchon**	**11.87 261**	Pn	**Pn**	**18 35 39.0 +2.0**
INCN	**Inchon**	**11.87 261**	P	**Pn**	**18 35 33.3 -3.6**
INCN			S	Sn	18 37 38.1 -9.3
HAWB	**Hwaseong-si**	**11.89 259**	P	Pn	18 35 43.0 +5.7
	SNR=10				
HAWB	**Hwaseong-si**	**11.89 259**	P	**Pn**	**18 35 40.0 +2.7**
	SNR=63				
HAWB	**Hwaseong-si**	**11.89 259**	P	Pn	18 35 43.0 +5.7
	SNR=10				
HAWB	**Hwaseong-si**	**11.89 259**	P	Pn	18 35 43.0 +5.7
	SNR=10				
HAWB	**Hwaseong-si**	**11.89 259**	P	**Pn**	**18 35 40.0 +2.7**
	SNR=63				
KSGAH	**Ganghwa**	**11.94 262**	P	**Pn**	**18 35 41.1 +3.2**
	SNR=15				
KSGAH	**Ganghwa**	**11.94 262**	P	Pn	18 35 44.4 +6.5
	SNR=13				
KSGAH	**Ganghwa**	**11.94 262**	P	Pn	18 35 44.4 +6.5
	SNR=13				
KSGAH	**Ganghwa**	**11.94 262**	P	**Pn**	**18 35 39.6 +1.7**
	SNR=113				
KSJEO	**Jeonju**	**11.96 253**	P	**Pn**	**18 35 41.0 +2.7**
	SNR=31				
KSJEO	**Jeonju**	**11.96 253**	P	**Pn**	**18 35 41.0 +2.7**
	SNR=31				
KSJEO	**Jeonju**	**11.96 253**	P	**Pn**	**18 35 41.0 +2.7**
	SNR=31				
KSNAH	**Namhae**	**12.04 247**	P	**P**	**18 35 44.0 -4.6**
	SNR=22				
KSNAH	**Namhae**	**12.04 247**	P	**P**	**18 35 44.6 -4.0**
	SNR=16				
KSNAH	**Namhae**	**12.04 247**	P	**P**	**18 35 44.0 -4.6**
	SNR=22				
NAWB	**Namwon**	**12.12 250**	P	**Pn**	**18 35 43.1 +2.7**
	SNR=46				
NAWB	**Namwon**	**12.12 250**	P	**Pn**	**18 35 43.1 +2.7**
	SNR=46				
NAWB	**Namwon**	**12.12 250**	P	**Pn**	**18 35 43.1 +2.7**
	SNR=46				
GWYB	**Gwangyang**	**12.14 248**	P	**Pn**	**18 35 44.0 +3.4**
	SNR=17				
GWYB	**Gwangyang**	**12.14 248**	P	**Pn**	**18 35 44.0 +3.4**
	SNR=17				
KSSES	**Seosan**	**12.24 258**	P	**P**	**18 35 48.0 -2.8**
	SNR=7.0				
KSSES	**Seosan**	**12.24 258**	P	**Pn**	**18 35 44.0 +2.0**
	SNR=74				
KSSES	**Seosan**	**12.24 258**	P	**P**	**18 35 48.0 -2.8**
	SNR=7.0				
KSSES	**Seosan**	**12.24 258**	P	**Pn**	**18 35 46.0 +4.0**
	SNR=11				
KSSES	**Seosan**	**12.24 258**	P	**Pn**	**18 35 44.0 +2.0**
	SNR=74				
KSGUS	**GUNSAN**	**12.29 254**	P	**Pn**	**18 35 45.9 +3.2**
	SNR=9.6				
KSGUS	**GUNSAN**	**12.29 254**	P	**Pn**	**18 35 45.9 +3.2**
	SNR=9.6				
KSGUS	**GUNSAN**	**12.29 254**	P	**Pn**	**18 35 46.4 +3.7**
	SNR=9.1				
KSDEI	**Deokjeokdo**	**12.34 260**	P	**Pn**	**18 35 45.1 +1.9**
	SNR=22				
KSDEI	**Deokjeokdo**	**12.34 260**	P	**P**	**18 35 49.2 -2.6**
	SNR=8.6				
KSDEI	**Deokjeokdo**	**12.34 260**	P	**P**	**18 35 49.2 -2.6**
	SNR=8.6				
KSDEI	**Deokjeokdo**	**12.34 260**	P	**Pn**	**18 35 45.2 +1.9**
	SNR=63				
PORA	**Boryeong**	**12.34 256**	P	**Pn**	**18 35 46.0 +2.7**
	SNR=16				
PORA	**Boryeong**	**12.34 256**	P	**Pn**	**18 35 47.0 +3.7**
	SNR=13				
PORA	**Boryeong**	**12.34 256**	P	**Pn**	**18 35 46.0 +2.7**
	SNR=16				
CN2	**Changchun**	**12.34 291**	*eP*	**Pn**	**18 35 43.6 +0.3**
CN2			*eS*	**Sn**	**18 37 57.6 -1.3**
CN2			pmax	pmax	
	comp=Z,100nm,1.7s				
CN2			pmax	pmax	
	comp=Z,1μm,3.0s				
CN2			LR	LR	
	comp=Z,3μm,15.0s				
CN2			LR	LR	
	comp=Z,3μm,15.0s				
CN2			LR	LR	
	comp=Z,4μm,19.0s				
KSSCH	**SUNCHEON**	**12.40 249**	P	**Pn**	**18 35 47.2 +3.0**
	SNR=12				
KSSCH	**SUNCHEON**	**12.40 249**	P	**P**	**18 35 50.6 -2.0**
	SNR=8.0				
KSSCH	**SUNCHEON**	**12.40 249**	P	**Pn**	**18 35 47.2 +3.0**
	SNR=12				
KSJEU	**Jeongeup**	**12.42 252**	P	**Pn**	**18 35 47.1 +2.7**
	SNR=8.6				
KSJEU	**Jeongeup**	**12.42 252**	P	**Pn**	**18 35 46.6 +2.1**
	SNR=18				
JSU	**Suzuyama**	**12.52 228**		**Pn**	**18 35 47.1 +1.2**
KSKWJ	**Gwangju**	**12.54 250**	P	**Pn**	**18 35 48.4 +2.5**
	SNR=21				
KSKWJ	**Gwangju**	**12.54 250**	P	**Pn**	**18 35 48.4 +2.5**
	SNR=21				
BOSB	**Boseong-gun**	**12.57 248**	P	**Pn**	**18 35 49.0 +2.5**
	SNR=20				
BOSB	**Boseong-gun**	**12.57 248**	P	**P**	**18 35 53.0 -1.5**
	SNR=7.1				
BOSB	**Boseong-gun**	**12.57 248**	P	**Pn**	**18 35 49.0 +2.5**
	SNR=20				
BOSB	**Boseong-gun**	**12.57 248**	P	**Pn**	**18 35 49.0 +2.5**
	SNR=20				
KOHB	**KOHEUNG**	**12.60 247**	P	**Pn**	**18 35 49.5 +2.7**
	SNR=9.0				
KOHB	**KOHEUNG**	**12.60 247**	P	**Pn**	**18 35 49.4 +2.5**
	SNR=30				
SMKB	**Mukjeong-gil**	**12.61 253**	P	**Pn**	**18 35 49.0 +2.1**
	SNR=36				
SMKB	**Mukjeong-gil**	**12.61 253**	P	**Pn**	**18 35 49.0 +2.1**
	SNR=36				
SMKB	**Mukjeong-gil**	**12.61 253**	P	**Pn**	**18 35 49.0 +2.1**
	SNR=36				
GOCB	**Gochang-gun**	**12.73 252**	P	**Pn**	**18 35 51.0 +2.4**
	SNR=20				
GOCB	**Gochang-gun**	**12.73 252**	P	**Pn**	**18 35 51.0 +2.4**
	SNR=20				
GOCB	**Gochang-gun**	**12.73 252**	P	**Pn**	**18 35 52.0 +3.4**
	SNR=7.6				
KSGBI	**Gyogryulbido**	**12.97 258**	P	**Pn**	**18 35 54.9 +3.2**
	SNR=24				
KSBAR	**Backryungdo**	**13.18 265**	P	**Pn**	**18 35 56.5 +2.1**
	SNR=31				
DACB	**Daecheong-do R**	**13.22 264**	P	**Pn**	**18 35 57.0 +2.0**
	SNR=45				
OKH	**Okha**	**13.22 4**	*c iP*	**P**	**18 35 58.3 -3.2**
OKH			*i* S	**Sn**	**18 38 18.0 -2.0**
OKH			pmax	pmax	
	comp=Z,200nm,21.2s				
OKH			smax	smax	
	comp=N,1μm,8.4s				
OKH			smax	smax	
	comp=E,2μm,13.5s				
OKH			MLR	MLR	
	comp=E,2μm,11.0s				
OKH			MLR	MLR	
	comp=Z,2μm,12.0s				
OKH			MLR	MLR	
	comp=N,2μm,14.0s				
JCJ	**Chichijima**	**13.26 177**	P	Pn	18 35 50.5 -5.1
	comp=N,60nm,0.3s,baz=288,slow=5.7,SNR=7.5				
JCJ			S	Sn	18 38 08.4 -13
JCJ			LR	LR	18 41 27.7
	comp=N,524nm,21.7s,baz=358,slow=39				
KSJDO	**Jindo**	**13.36 249**	P	**P**	**18 36 00.5 -2.7**
	SNR=11				
KSJDO	**Jindo**	**13.36 249**	P	**Pn**	**18 35 58.8 +1.9**
	SNR=39				
SNY	**Shenyang**	**13.53 282**	⇓P	**Pn**	**18 36 00.7 +1.6**
SNY			S	**Sn**	**18 38 35.4 +7.7**
SNY			pmax	pmax	
	comp=N,200nm,1.7s				
SNY			pmax	pmax	
	comp=N,2μm,4.1s				
SNY			LR	LR	
	comp=N,3μm,10.9s				
SNY			LR	LR	
	comp=N,3μm,16.6s				
SNY			LR	LR	
	comp=N,5μm,25.2s				
KSJJU	**Jeju**	**13.76 244**	P	**Pn**	**18 36 04.6 +2.4**
	SNR=16				
HUK2	**Heuksan-myeon**	**13.87 251**	P	**Pn**	**18 36 06.0 +2.4**
	SNR=33				
HUK2	**Heuksan-myeon**	**13.87 251**	P	**Pn**	**18 36 06.0 +2.4**
	SNR=33				
HALB	**Hallimjungang-**	**13.96 245**	P	**Pn**	**18 36 07.0 +2.3**
	SNR=13				
SKR	**Severo-Kuril's**	**14.55 40**	*eP*	**P**	**18 36 14.8 -1.5**
SKR			pmax	pmax	
	comp=Z,2μm,3.0s				
SKR			pmax	pmax	
	comp=Z,600nm,2.8s				
SKR			pmax	pmax	
	comp=Z,235nm,0.8s				
SKR			MLR	MLR	
	comp=Z,1μm,16.0s				
SKR			MLR	MLR	
	comp=Z,1μm,13.0s				
DL2	**Dalian**	**15.31 271**	⇓*iP*	**Pn**	**18 36 23.0 +1.0**
DL2			pP	**pP**	**18 36 34.8 -7.0**
DL2			S	**Sn**	**18 39 10.0 -0.9**
DL2			PcS	**PcS**	**18 44 55.9 -0.7**
DL2			ScS	**ScS**	**18 48 24.5 -1.1**
DL2			pmax	pmax	
	comp=Z,660nm,1.0s				
DL2			pmax	pmax	
	comp=Z,3μm,3.6s				
DL2			LR	LR	
	comp=Z,4μm,7.6s				
DL2			LR	LR	
	comp=Z,2μm,10.2s				
DL2			LR	LR	
	comp=Z,2μm,13.7s				
ZEA	**Zeya**	**16.44 329**	*d iP*	**Pn**	**18 36 33.8 -2.3**
ZEA			pmax	pmax	
	comp=N,260nm,0.8s				
ZEA			pmax	pmax	
	comp=E,180nm,0.9s				
ZEA			pmax	pmax	
	comp=Z,420nm,0.9s				
ZEA			pmax	pmax	
	comp=Z,500nm,2.6s				
ZEA			MLR	MLR	
	comp=E,1μm,12.0s				
ZEA			MLR	MLR	
	comp=N,1μm,14.0s				
ZEA			MLR	MLR	
	comp=Z,2μm,11.0s				
PEA0B	**Petropavlovsk-**	**16.88 36**	*i* P	**Pn**	**18 36 40.2 -1.3**
PEA0B	**Petropavlovsk-**	**16.88 36**	P	**Pn**	**18 36 36.9 -4.6**
PETK	**Petropavlovsk-**	**16.88 36**	P	**Pn**	**18 36 37.3 -4.2**
	comp=Z,2.4nm,0.3s,baz=183,slow=2.8,SNR=19				
PETK			PcP	**PcP**	**18 41 24.6 +1.1**
	comp=Z,0.6nm,0.3s,baz=193,slow=6.1,SNR=12				
PETK			LR	LR	18 44 41.9
	comp=Z,1μm,18.2s,baz=224,slow=42				
PETK	**Petropavlovsk-**	**16.88 36**	P	**Pn**	**18 36 36.4 -5.1**
PETK	**Petropavlovsk-**	**16.88 36**	Pn	**Pn**	**18 36 36.4 -5.1**
PET	**Petropavlovsk**	**17.26 37**	*c iP*	**Pn**	**18 36 39.4 -6.7**
PET			*eS*	Sn	18 39 46.0 -12
PET			pmax	pmax	
	comp=Z,800nm,9.2s				
PET			pmax	pmax	
	comp=Z,268nm,0.9s				
PET			MLR	MLR	
	comp=Z,2μm,20.0s				
PET			MLR	MLR	
	comp=Z,2μm,20.0s				
PET	**Petropavlovsk**	**17.26 37**		**Pn**	**18 36 41.3 -4.8**
HIA	**Hailar**	**17.71 307**	P	**P**	**18 36 49.5 -1.8**
HIA			pmax	pmax	
	comp=Z,599nm,1.2s				
HIA	**Hailar**	**17.71 307**	P	**P**	**18 36 49.5 -1.8**
SSE	**Sheshan**	**18.81 247**	P	**Pn**	**18 37 04.5 -0.5**
SSE			PP	**pP**	**18 37 20.6 0.0**
SSE			pmax	pmax	
	comp=Z,78nm,0.8s				
SSE			pmax	pmax	
	comp=Z,860nm,3.6s				
SSE			LR	LR	
	comp=Z,750nm,8.1s				
BJI	**Beijing**	**19.26 277**	P	**P**	**18 37 07.5 -0.9**
BJI			S	**S**	**18 40 36.7 -5.1**
BJI			SS	**SnSn**	**18 41 07.6 +6.0**
BJI			ScP	**ScP**	**18 44 56.0 +0.5**
BJI			ScS	**ScS**	**18 48 36.3 -1.0**
BJI			pmax	pmax	
	comp=Z,720nm,0.8s				
BJI			pmax	pmax	
	comp=Z,2μm,3.6s				
BJI			LR	LR	
	comp=Z,1μm,9.0s				
BJI			LR	LR	
	comp=Z,3μm,12.6s				
BJI			LR	LR	
	comp=Z,4μm,13.4s				
BJT	**Baijiatuau**	**19.27 277**	P	**P**	**18 37 07.2 -1.3**
BJT			pmax	pmax	
	comp=Z,453nm,0.8s				
BJT	**Baijiatuau**	**19.27 277**		**P**	**18 37 07.2 -1.3**
TIA	**Tai'an**	**19.49 265**	⇓P	**P**	**18 37 09.8 -1.1**
TIA			S	**S**	**18 40 42.2 -4.3**
TIA			pmax	pmax	
	comp=Z,650nm,0.9s				
TIA			LR	LR	
	comp=Z,1μm,11.4s				
TIA			LR	LR	
	comp=Z,3μm,12.3s				
TIA			LR	LR	
	comp=Z,3μm,14.7s				
NJ2	**Nanjing**	**19.97 253**	⇑*iP*	**P**	**18 37 15.1 -1.0**
NJ2			pP	**pP**	**18 37 35.5 +2.3**
NJ2			sP	**sP**	**18 37 46.5 +2.2**
NJ2			PcP	**PcP**	**18 41 30.0 +1.0**
NJ2			ScP	**ScP**	**18 44 56.6 -0.7**
NJ2			pmax	pmax	
	comp=Z,850nm,0.8s				
NJ2			pmax	pmax	
	comp=Z,2μm,3.5s				
NJ2			LR	LR	
	comp=Z,3μm,16.4s				
NJ2			LR	LR	
	comp=Z,3μm,14.5s				
NJ2			LR	LR	
	comp=Z,3μm,13.1s				
MA2	**Magadan**	**20.11 14**	P	**P**	**18 37 17.1 -0.2**
	comp=Z,147nm,0.7s,baz=199,slow=9.4,SNR=79				
MA2			S	**S**	**18 40 53.9 -4.3**
	comp=Z,7.2nm,0.8s,baz=170,slow=18,SNR=1.1				
MA2	**Magadan**	**20.11 14**	*ceP*	**P**	**18 37 16.0 -1.3**
MA2			pmax	pmax	
	comp=Z,143nm,0.8s				
MA2	**Magadan**	**20.11 14**	P	**P**	**18 37 15.4 -1.9**
CIT	**Chita**	**22.38 311**	*eP*	**P**	**18 37 38.9 -2.9**
CIT			*e*		18 38 07.5
CIT			*e*		18 38 29.1
CIT			*eS*	S	18 41 26.5 -15
CIT			pmax	pmax	
	comp=Z,2μm,1.2s				
HHC	**Hu-ho-hao-te**	**22.62 281**	*eP*	**P**	**18 37 42.2 -2.3**
HHC			pP	pP	18 37 59.1 -3.0
HHC			sP	sP	18 38 09.3 -3.8
HHC			PP	**PnPn**	**18 38 13.1 +0.8**
HHC			S	**S**	**18 41 39.4 -6.5**
HHC			pmax	pmax	
	comp=Z,190nm,0.8s				
HHC			pmax	pmax	
	comp=Z,1μm,3.7s				
HHC			LR	LR	
	comp=Z,1μm,11.9s				
HHC			LR	LR	
	comp=Z,2μm,12.3s				
HHC			LR	LR	
	comp=Z,3μm,11.9s				
TIY	**Taiyuan**	**22.62 273**	*eP*	**P**	**18 37 43.6 -0.9**
TIY			pP	**pP**	**18 38 04.6 +2.5**
TIY			sP	**sP**	**18 38 13.1 0.0**
TIY			PP	**PnPn**	**18 38 18.6 +6.2**
TIY			S	**S**	**18 41 46.0 +0.1**
TIY			pmax	pmax	

comp=Z,64nm,1.0s
TIY LR LR
comp=Z,1μm,11.1s
TIY LR LR
comp=Z,950nm,11.9s
TIY LR LR
comp=Z,1μm,12.2s
TATO Taipei 22.66 233 P P 18 37 43.4 -1.5
YAK Yakutsk 22.83 346 P P 18 37 43.9 -2.4
comp=Z,108nm,0.4s,baz=145,slow=1.0,SNR=100
YAK S **S 18 41 44.8 -3.7**
comp=Z,175nm,0.9s,baz=169,slow=22,SNR=22
YAK LR LR 18 46 50.6
comp=Z,2μm,19.1s,baz=130,slow=37
YAK ScS **ScS 18 48 47.9 -1.3**
comp=Z,1.9nm,0.4s,baz=136,slow=23,SNR=6.5
YAK Yakutsk 22.83 346 *d iP* **P 18 37 43.7 -2.5**
YAK *e**PP **pP 18 38 03.9 0.0**
YAK *e* 18 41 34.0
YAK *e*S **S 18 41 44.2 -4.3**
YAK *e* 18 48 46.1
YAK pmax pmax
comp=Z,561nm,0.9s
YAK pmax pmax
comp=E,30nm,0.9s
YAK pmax pmax
comp=N,208nm,1.0s
YAK smax smax
comp=N,10μm,2.2s
YAK smax smax
comp=E,4μm,1.8s
YAK Yakutsk 22.83 346 P **P 18 37 43.0 -3.2**
YAK IAmb IAmb 18 37 48.5
comp=Z,594nm,0.8s
YHNB Yeheng 22.95 233 P **P 18 37 44.4 -3.6**
NACB Ninganchiao 23.19 232 P **P 18 37 46.2 -3.9**
SEY Seymchan 23.53 13 P **P 18 37 52.9 0.0**
comp=Z,622nm,1.2s,baz=206,slow=7.9,SNR=149
SEY S **S 18 41 57.1 -2.7**
comp=Z,12nm,0.8s,baz=176,slow=15,SNR=1.8
SEY ScS **ScS 18 48 50.6 -1.2**
comp=Z,1.5nm,0.8s,baz=57,slow=22,SNR=6.2
SEY Seymchan 23.53 13 *c iP* **P 18 37 53.1 +0.2**
BTO Baotou 23.81 281 *eP* **P 18 37 54.5 -1.3**
BTO S S 18 41 50.3 -15
BTO pmax pmax
comp=Z,400nm,0.6s
BTO LR LR
comp=Z,4μm,10.0s
BTO LR LR
comp=Z,10μm,17.5s
SSLB Suanglung 23.86 232 P **P 18 37 53.1 -3.2**
YULB Yu-li 23.96 231 P **P 18 37 54.2 -2.9**
WHN Wuhan 24.05 254 ⇓P **P 18 37 56.7 -1.1**
WHN S **S 18 42 04.0 -4.8**
WHN pmax pmax
comp=Z,390nm,0.8s
WHN LR LR
comp=Z,19μm,22.5s
WHN LR LR
comp=Z,5μm,9.9s
WHN LR LR
comp=Z,7μm,18.4s
TPUB Ta-pu 24.43 232 P **P 18 37 58.5 -2.9**
QZH Quanzhou 24.51 238 P **P 18 38 01.7 -0.4**
QZH pP **pP 18 38 22.6 +0.7**
QZH S **S 18 42 14.9 -1.4**
QZH pmax pmax
comp=Z,190nm,1.1s
TWG Pinlang 24.53 231 P **P 18 37 59.0 -3.2**
BOD Bodaibo 24.77 324 ⇑*iP* **P 18 38 03.4 -0.7**
BOD pmax pmax
comp=Z,1μm,0.9s
KNMB Chin-men Tao 24.98 238 P **P 18 38 05.9 -0.4**
KNMB IAmb IAmb 18 38 28.6
comp=Z,600nm,1.1s
SMY Shemya 25.41 50 P **P 18 38 11.7 +1.7**
SMY IAmb IAmb 18 38 13.2
comp=Z,959nm,1.1s
SMY PcP **PcP 18 41 39.9 0.0**
ULN Ulaanbaatar 25.62 298 *ceP* **P 18 38 11.3 -0.8**
ULN pmax pmax
comp=Z,140nm,0.9s
ULN Ulaanbaatar 25.62 298 P **P 18 38 11.0 -1.1**
ULN Ulaanbaatar 25.62 298 P **P 18 38 10.1 -2.0**
ULN S **S 18 42 34.5 +0.6**
SONM Songino Array 26.06 298 P **P 18 38 15.9 -0.2**
comp=Z,102nm,0.6s,baz=94,slow=8.9,SNR=309
SONM PcP **PcP 18 41 41.5 -0.1**
comp=Z,16nm,0.7s,baz=127,slow=1.6,SNR=5.1
SONM ScP **ScP 18 45 12.7 -0.6**
comp=Z,23nm,1.0s,baz=115,slow=3.2,SNR=9.6
SONM LR LR 18 48 28.8
comp=Z,1μm,21.9s,baz=80,slow=36
SONM ScS **ScS 18 49 01.4 -1.7**
comp=Z,0.4nm,0.4s,baz=234,slow=27,SNR=1.7
SONM P3KPbc 19 10 58.3
comp=Z,0.3nm,0.4s,baz=226,slow=3.8,SNR=2.1
SONM Songino Array 26.06 298 P **P 18 38 15.4 -0.7**
XAN Xi'an 26.54 267 P **P 18 38 19.0 -1.5**
XAN pmax pmax
comp=Z,150nm,0.8s
XAN pmax pmax
comp=Z,940nm,5.2s
XAN LR LR
comp=Z,2μm,9.3s
XAN LR LR
comp=Z,4μm,15.0s
XAN LR LR
comp=Z,2μm,14.1s
ENH Enshi 27.80 259 P **P 18 38 30.4 -1.3**
IRK Irkutsk 27.95 308 *eP* **P 18 38 32.7 -0.2**
IRK *eS* **S 18 43 09.8 -0.5**
IRK pmax pmax
comp=Z,335nm,1.2s
TLY Talaya 28.25 306 P **P 18 38 36.2 +0.7**
comp=Z,158nm,0.8s,baz=102,slow=6.7,SNR=71
TLY PcP **PcP 18 41 47.2 +0.6**
comp=Z,22nm,0.7s,baz=225,slow=1.4,SNR=3.7
TLY S **S 18 43 13.5 -1.5**
comp=Z,1.9nm,0.2s,baz=253,slow=15,SNR=1.0
TLY ScP **ScP 18 45 19.8 +0.1**
comp=Z,11nm,0.8s,baz=95,slow=5.2,SNR=4.5
TLY LR LR 18 49 48.2
comp=Z,1μm,21.3s,baz=75,slow=36
TLY Talaya 28.25 306 *d iP* **P 18 38 35.7 +0.3**
TLY *eS* **S 18 43 14.9 0.0**
TLY pmax pmax
comp=Z,794nm,1.1s
TLY MLR MLR
comp=Z,4μm,14.0s
TLY Talaya 28.25 306 P **P 18 38 35.8 +0.3**
TLY Talaya 28.25 306 P **P 18 38 35.8 +0.3**
TLY S **S 18 43 14.9 0.0**
AMKA Amchitka 28.28 54 P **P 18 38 36.8 +1.1**
ZAK Zakamensk 28.31 304 *eP* **P 18 38 36.3 +0.1**
ZAK pmax pmax
comp=Z,224nm,1.2s
SZP Santa 29.07 225 P **P 18 38 44.6 +1.6**
SZP IAmb IAmb 18 39 09.4
comp=Z,489nm,1.3s
GZH Guangzhou 29.27 242 P **P 18 38 41.0 -3.7**
GZH pP **pP 18 39 00.9 -4.0**
GZH S **S 18 43 24.7 -6.6**
GZH pmax pmax
comp=Z,170nm,1.1s
LZH Lanzhou 29.67 274 *eP* **P 18 38 48.2 -0.3**
LZH S **S 18 43 37.6 -0.3**
LZH sS sS 18 44 15.5 +2.9
LZH ScP **ScP 18 45 25.4 +0.7**
LZH pmax pmax
comp=Z,95nm,1.2s
LZH pmax pmax
comp=Z,530nm,4.4s
LZH LR LR
comp=Z,1μm,13.0s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,14.1s
MOY Mondy 29.88 306 *eP* **P 18 38 50.4 +0.3**
MOY pmax pmax
comp=Z,338nm,2.6s
H11N2 WAKE ISLAND Hy 29.98 126 T T 19 09 46.9
baz=318,slow=75
H11N1 WAKE ISLAND Hy 29.99 126 T T 19 09 47.6
baz=318,slow=75
H11N3 WAKE ISLAND Hy 30.00 126 T T 19 09 48.2
baz=318,slow=75
WAKE Wake Island 30.17 127 P **P 18 38 53.1 +0.3**
PCPH Palayan 30.39 221 ⇑*eP* **P 18 38 55.7 +0.9**
KIWB Kanaga Island 30.53 54 P **P 18 38 55.6 0.0**
KIWB **PcP 18 41 52.4 0.0**
H11S1 WAKE ISLAND Hy 30.79 128 T T 19 11 03.7
baz=320
H11S3 WAKE ISLAND Hy 30.79 128 T T 19 10 46.8
baz=320,slow=74
H11S2 WAKE ISLAND Hy 30.80 128 T T 19 10 49.8
baz=320,slow=74
ADK Adak 30.82 54 P **P 18 38 57.8 -0.4**
ADK IAmb IAmb 18 38 59.7
comp=Z,503nm,1.3s
ADK PcP **PcP 18 41 52.7 -0.5**
BILL Bilibino 30.84 18 *d iP* **P 18 38 58.4 +0.2**
BILL *e**PP **pP 18 39 16.2 -2.0**
BILL *e**SP **sP 18 39 30.0 +1.7**
BILL *i* 18 41 54.2
BILL SS SS 18 45 44.0 -26
BILL pmax pmax
comp=Z,133nm,1.2s
BILL MLR MLR
comp=Z,704nm,17.0s
BILL Bilibino 30.84 18 P **P 18 38 57.5 -0.8**
GSTR Great Sitkin T 31.23 54 P **P 18 39 01.0 -0.8**
LQP Lukban 31.41 219 *eP* **P 18 39 04.8 +0.8**
GTA Gaotai 31.72 282 ⇓P **P 18 39 06.4 -0.1**
GTA pP pP 18 39 25.3 -1.4
GTA sP sP 18 39 34.2 -2.8
GTA PP **PnPn 18 40 15.2 +1.5**
GTA PcP **PcP 18 41 57.4 +1.4**
GTA S **S 18 44 06.3 -3.6**
GTA ScP **ScP 18 45 31.9 +0.6**
GTA PcS **PcS 18 45 41.6 +0.8**
GTA ScS **ScS 18 49 28.3 -1.4**
GTA pmax pmax
comp=Z,120nm,1.1s
GTA pmax pmax
comp=Z,420nm,4.9s
GTA LR LR
comp=Z,800nm,15.3s
GTA LR LR
comp=Z,2μm,16.0s
GTA LR LR
comp=Z,3μm,16.7s
CD2 Chengdu 31.82 265 P **P 18 39 05.9 -1.4**
CD2 S **S 18 44 11.7 +0.3**
CD2 pmax pmax
comp=Z,90nm,0.6s
CD2 LR LR
comp=Z,3μm,11.4s
CD2 LR LR
comp=Z,2μm,16.3s
CD2 LR LR
comp=Z,2μm,10.8s
GYA Guiyang 31.93 255 ⇑P **P 18 39 08.4 0.0**
GYA pP pP 18 39 29.4 +0.8
GYA PcP **PcP 18 41 57.1 +0.3**
GYA S **S 18 44 16.4 +3.1**
GYA ScS **ScS 18 49 30.0 -1.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA LR LR
comp=Z,280nm,15.7s
TIXI Tiksi 31.98 353 P **P 18 39 07.9 -0.3**
comp=Z,46nm,0.9s,baz=140,slow=6.9,SNR=78
TIXI PcP **PcP 18 41 55.8 -0.1**
comp=Z,22nm,0.6s,baz=136,slow=3.2,SNR=4.1
TIXI S **S 18 44 11.4 -1.5**
comp=Z,5.8nm,0.8s,baz=323,slow=16,SNR=1.4
TIXI LR LR 18 53 02.7
comp=Z,1μm,18.2s,baz=130,slow=38
TIXI Tiksi 31.98 353 P **P 18 39 06.7 -1.5**
ATKA Atka Island 32.38 54 P **P 18 39 11.3 -0.5**
QIZ Qiongzhong 34.42 241 P **P 18 39 31.8 +1.8**
QIZ sP **sP 18 39 58.1 -2.4**
QIZ PP **PP 18 40 51.4 +1.9**
QIZ S **S 18 44 56.0 +4.3**
QIZ pmax pmax
comp=Z,28nm,0.7s
QIZ LR LR
comp=Z,540nm,12.8s
QIZ LR LR
comp=Z,1μm,11.6s
QIZ LR LR
comp=Z,1μm,17.8s
QIZ Qiongzhong 34.42 241 P **P 18 39 30.6 +0.6**
CGP Cagayan de Oro 35.10 210 ⇓*eP* **P 18 39 34.9 -0.9**
SPIA Saint Paul Isl 35.14 45 P **P 18 39 36.5 +0.8**
baz=262
SPIA Saint Paul Isl 35.14 45 P **P 18 39 35.8 0.0**
KMI Kunming 35.60 257 ⇑P **P 18 39 39.5 -0.8**
KMI pP pP 18 40 00.1 -0.6
KMI sP sP 18 40 10.7 -0.2
KMI PcP **PcP 18 42 08.2 +0.8**
KMI S **S 18 45 10.2 0.0**
KMI ScP **ScP 18 45 44.3 -1.0**
KMI sS sS 18 45 47.4 +2.1
KMI PcS **PcS 18 45 54.6 -0.4**
KMI SS **SnSn 18 47 33.9 -5.6**
KMI pmax pmax
comp=Z,120nm,1.0s
KMI pmax pmax
comp=Z,450nm,3.5s
KMI LR LR
comp=Z,1μm,15.0s
KMI LR LR
comp=Z,580nm,18.4s
KMI LR LR
comp=Z,2μm,22.9s
NIKH Nikolski High 35.66 52 P **P 18 39 40.7 +0.5**
baz=270
NIKH Nikolski High 35.66 52 P **P 18 39 39.3 -1.0**
NIKH **PcP 18 42 07.0 +0.2**
MIDW Midway 35.84 97 P **P 18 39 42.0 -0.1**
MIDW IAmb IAmb 18 39 44.3
comp=Z,245nm,1.2s
GAMB Gambell 35.90 34 P **P 18 39 42.9 +0.7**
baz=252
GAMB Gambell 35.90 34 P **P 18 39 42.8 +0.6**
GAMB **PcP 18 42 08.8 +1.6**
PATS Pohnpei 36.66 151 P **P 18 39 49.5 +0.4**
SLVN Son La 37.02 251 P **P 18 39 52.5 +0.2**
SLVN IAmb IAmb 18 39 54.8
comp=Z,152nm,0.9s
AKUT Akutan 37.50 50 PcP **PcP 18 42 12.4 +0.1**
TNA Tin City 37.98 32 P **P 18 40 01.0 +1.2**
baz=254,SNR=21
TNA Tin City 37.98 32 P **P 18 40 00.8 +1.1**
TNA IAmb IAmb 18 40 02.4
comp=Z,205nm,1.0s
DGZ Jazzator, Alta 38.52 303 *d iP* **P 18 40 06.5 +1.8**
DGZ pmax pmax
comp=Z,1μm,0.8s
ANM Nome 38.78 34 P **P 18 40 08.2 +1.7**
ANM pmax pmax
comp=Z,389nm,0.9s
ANM Nome 38.78 34 P **P 18 40 08.6 +2.1**
baz=258,SNR=53
ANM S **S 18 46 00.1 +2.9**
baz=258
ANM Nome 38.78 34 P **P 18 40 08.2 +1.7**
ANM IAmb IAmb 18 40 09.9
comp=Z,389nm,0.9s
SGSI Sangihe 39.24 206 P **P 18 40 09.9 -0.9**
comp=Z,3μmcomp=Z,216nm,0.6s
WMQ Urumqi 39.42 293 P **P 18 40 13.7 +1.4**
WMQ pP pP 18 40 30.7 -2.3
WMQ sP sP 18 40 43.2 0.0
WMQ ScP **ScP 18 45 59.8 +0.6**
WMQ S **S 18 46 08.0 +0.5**
WMQ sS sS 18 46 47.7 +4.7
WMQ pmax pmax
comp=Z,560nm,0.9s
WMQ pmax pmax
comp=Z,1μm,3.9s
WMQ LR LR
comp=Z,1μm,12.3s
WMQ LR LR
comp=Z,1μm,11.7s
WMQ LR LR
comp=Z,1μm,22.7s
LKP Lekhapani 39.60 265 *eP* **P 18 40 14.5 +0.7**
NONG Nongkai 39.69 247 P **P 18 40 15.5 +0.9**
comp=Z,744nm,0.9s
NONG Nongkai 39.69 247 P **P 18 40 15.6 +0.9**
comp=Z,736nm,0.9s
ZAA0 Zalesovo Array 39.73 309 P **P 18 40 14.5 0.0**
ZAA0 IAmb IAmb 18 40 16.1
comp=Z,283nm,0.8s
ZALV Zalesovo Beam 39.73 309 P **P 18 40 14.9 +0.4**
comp=Z,268nm,0.7s,baz=85,slow=8.0,SNR=967
ZALV pP **pP 18 40 36.4 +1.1**
comp=Z,63nm,0.8s,baz=96,slow=8.2,SNR=2.2
ZALV PcP **PcP 18 42 19.9 +0.7**
comp=Z,96nm,0.7s,baz=92,slow=3.4,SNR=16
ZALV pPcP 18 42 43.9
comp=Z,79nm,0.9s,baz=92,slow=4.5,SNR=5.6
ZALV ScP **ScP 18 45 59.1 -1.0**
comp=Z,22nm,0.7s,baz=85,slow=3.9,SNR=6.7
ZALV PKiKP **PKiKP 18 49 29.4 -0.8**
comp=Z,3.3nm,0.8s,baz=357,slow=0.7,SNR=3.7
ZALV LR LR 18 57 49.1
comp=Z,1μm,18.2s,baz=80,slow=38
ZALV P3KPbc 19 10 05.0
comp=Z,1.0nm,0.6s,baz=253,slow=4.5,SNR=5.1
ZALV Zalesovo Beam 39.73 309 P **P 18 40 14.5 0.0**
ZALV pP **pP 18 40 36.5 +1.1**
ZALV **ScP 18 45 55.7 -4.4**
DIBR DIBRUGARH 40.24 266 *i* P **P 18 40 20.3 +1.2**
NRIK Noril'sk 40.26 334 P **P 18 40 18.9 +0.2**
comp=Z,18nm,0.3s,baz=111,slow=9.4,SNR=30
NRIK S **S 18 46 18.3 -0.9**
comp=Z,15nm,1.1s,baz=286,slow=21,SNR=6.3
NRIK LR LR 18 57 47.6
comp=Z,2μm,20.1s,baz=108,slow=37
NRIK Noril'sk 40.26 334 *d iP* **P 18 40 18.7 0.0**
NRIK pmax pmax
comp=Z,69nm,1.0s
NRIK Noril'sk 40.26 334 P **P 18 40 18.5 -0.2**
SDPT Sand Point 40.52 48 P **P 18 40 20.2 -0.8**
baz=273
SDPT Sand Point 40.52 48 P **P 18 40 18.7 -2.3**
SDPT IAmb IAmb 18 40 21.4
comp=Z,167nm,0.7s
RDOG Red Dog Mine 40.55 29 P **P 18 40 23.5 +2.3**
baz=256,SNR=18
RDOG S **S 18 46 25.8 +2.2**
baz=256
RDOG Red Dog Mine 40.55 29 P **P 18 40 22.7 +1.5**
ZSN Zaisan 40.56 299 ⇓*iP* **P 18 40 22.7 +1.2**
comp=Z,278nm,1.1s,baz=298
ZSN *e*S **S 18 46 23.8 -0.5**
baz=298
ZSN Zaisan 40.56 299 *d iP* **P 18 40 22.7 +1.2**
ZSN *e*S **S 18 46 23.8 -0.5**
ZSN pmax pmax
comp=Z,278nm,1.1s
CHNA Chernabura Isl 41.07 49 P **P 18 40 25.2 -0.3**
baz=274
CNBA Chernabura Isl 41.07 49 P **P 18 40 24.7 -0.8**
CNBA IAmb IAmb 18 40 27.5
comp=Z,270nm,0.8s
JORH JORHAT 41.12 266 *eP* **P 18 40 27.4 +1.1**
JORH IAmb IAmb 18 40 28.4
comp=Z,952nm,0.6s
TNTI Ternate 41.43 202 P **P 18 40 28.9 0.0**
TNTI IAmb IAmb 18 40 58.2
comp=Z,353nm,1.5s
TNTI Ternate 41.43 202 P **P 18 40 29.5 +0.6**
comp=Z,2μmcomp=Z,135nm,0.8s
BAKI Biak 41.65 188 P **P 18 40 29.2 -1.5**
comp=Z,126nm,1.4s
KOHI KOHIMA 41.77 264 *i* P **P 18 40 32.0 +0.2**
KOHI IAmb IAmb 18 40 33.0
comp=Z,1μm,0.6s
LAMP Lampang 41.90 251 P **P 18 40 34.0 +1.2**
comp=Z,2μmcomp=Z,265nm,0.7s
LAMP Lampang 41.90 251 P **P 18 40 34.0 +1.2**
comp=Z,564nmcomp=Z,66nm,0.7s
CHAI Chaiyaphum 41.97 246 P **P 18 40 33.7 +0.4**
comp=Z,2μmcomp=Z,211nm,0.7s
CHAI Chaiyaphum 41.97 246 P **P 18 40 33.7 +0.4**
comp=Z,436nmcomp=Z,52nm,0.7s
LSA Lhasa 42.01 272 P **P 18 40 35.4 +1.3**
LSA S **S 18 46 39.7 -7.3**
LSA pmax pmax
comp=Z,560nm,0.9s
LSA LR LR
comp=Z,740nm,16.4s
LSA LR LR
comp=Z,1μm,13.5s
LSA LR LR
comp=Z,2μm,13.5s
LSA Lhasa 42.01 272 P **P 18 40 35.5 +1.3**
LSA Lhasa 42.01 272 P **P 18 40 35.1 +0.9**
LSA pmax pmax
comp=Z,202nm,1.2s
LSA Lhasa 42.01 272 P **P 18 40 35.1 +0.9**
CM34 Chiang Mai Arr 42.04 252 P **P 18 40 34.0 +0.1**
SWI Sorong 42.07 195 P **P 18 40 34.8 +0.7**
comp=Z,2μmcomp=Z,281nm,0.9s
CM35 Chiang Mai Arr 42.15 252 P **P 18 40 35.0 +0.2**
PHIT Phitsanulok 42.21 249 P **P 18 40 36.4 +1.1**
comp=Z,3μmcomp=Z,445nm,0.9s
PHIT Phitsanulok 42.21 249 P **P 18 40 36.4 +1.1**
comp=Z,722nmcomp=Z,110nm,0.9s
CM33 Chiang Mai Arr 42.21 252 P **P 18 40 35.0 -0.3**
CMMT Chiang Mai 42.21 252 P **P 18 40 36.0 +0.7**
comp=Z,2μmcomp=Z,260nm,0.6s
CMMT Chiang Mai 42.21 252 P **P 18 40 36.0 +0.7**
comp=Z,2μmcomp=Z,260nm,0.6s
CHTO Chiang Mai 42.21 252 P **P 18 40 35.8 +0.5**
CHTO pmax pmax
comp=Z,183nm,0.6s
CHTO Chiang Mai 42.21 252 P **P 18 40 36.0 +0.7**
comp=Z,2μmcomp=Z,256nm,0.6s
CHTO Chiang Mai 42.21 252 P **P 18 40 35.8 +0.5**
CHTO IAmb IAmb 18 40 41.3
comp=Z,183nm,0.6s
CHTO Chiang Mai 42.21 252 P **P 18 40 34.4 -1.0**
CHTO S **S 18 46 46.8 -2.5**
PBKT Sadao Pong 42.23 248 P **P 18 40 37.2 +1.8**
comp=Z,72nm,0.8s
PBKT Sadao Pong 42.23 248 P **P 18 40 37.0 +1.6**
comp=Z,72nm,0.8s
PBKT Sadao Pong 42.23 248 P **P 18 40 35.8 +0.3**
CM36 Chiang Mai Arr 42.29 252 P **P 18 40 36.0 0.0**
SRPI Serui, Papua 42.31 188 P **P 18 40 36.5 +0.5**
comp=Z,174nm,1.1s
CM32 Chiang Mai Arr 42.38 252 P **P 18 40 38.0 +1.3**
CM09 Chiang Mai Arr 42.41 252 P **P 18 40 38.2 +1.2**
comp=Z,819nmcomp=Z,97nm,0.7s
CM09 Chiang Mai Arr 42.41 252 P **P 18 40 38.0 +1.0**
comp=Z,819nmcomp=Z,97nm,0.7s
MK31 Makanchi Array 42.42 299 *d iP* **P 18 40 37.4 +0.7**
MK31 Makanchi Array 42.42 299 P **P 18 40 36.6 -0.1**
MK31 IAmb IAmb 18 40 39.9
comp=Z,303nm,0.8s
MKAR Makanchi Array 42.42 299 P **P 18 40 37.6 +0.9**
comp=Z,315nm,0.8s,baz=85,slow=9.0,SNR=16
MKAR PcP **PcP 18 42 29.4 +1.1**
comp=Z,35nm,0.6s,baz=88,slow=5.0,SNR=1.8
MKAR ScP **ScP 18 46 10.7 -0.3**
comp=Z,20nm,0.4s,baz=73,slow=5.0,SNR=1.8
MKAR Makanchi Array 42.42 299 P **P 18 40 37.3 +0.6**
CM31 Chiang Mai Arr 42.44 252 P **P 18 40 38.0 +0.8**
comp=Z,23μmcomp=Z,3μm,0.6s
CM31 Chiang Mai Arr 42.44 252 P **P 18 40 37.9 +0.8**
CM31 Chiang Mai Arr 42.44 252 P **P 18 40 37.9 +0.7**
SNR=24
CM31 S **S 18 46 49.6 -3.0**
CMAR Chiang Mai Arr 42.44 252 P **P 18 40 38.1 +1.0**
comp=Z,59nm,0.6s,baz=47,slow=6.6,SNR=165
CMAR PcP **PcP 18 42 29.8 +1.0**
comp=Z,20nm,0.7s,baz=32,slow=1.3,SNR=10
CMAR ScP **ScP 18 46 12.1 +0.7**
comp=Z,16nm,0.9s,baz=23,slow=3.1,SNR=14
CMAR S **S 18 46 52.7 +0.1**
comp=Z,3.9nm,0.9s,baz=25,slow=3.2,SNR=4.0
CMAR PKiKP **PKiKP 18 49 33.1 -0.4**
comp=Z,2.3nm,1.0s,baz=296,slow=1.4,SNR=4.6
CMAR LR LR 18 58 45.8
comp=Z,511nm,18.1s,baz=90,slow=37
CMAR Chiang Mai Arr 42.44 252 P **P 18 40 37.8 +0.6**
CM04 Chiang Mai Arr 42.45 252 P **P 18 40 38.5 +1.2**
comp=Z,905nmcomp=Z,121nm,0.8s
CM04 Chiang Mai Arr 42.45 252 P **P 18 40 38.0 +0.7**

comp=Z,905nmcomp=Z,121nm,0.8s
CM01 Chiang Mai Arr 42.45 252 P **P 18 40 38.5 +1.2**
comp=Z,647nmcomp=Z,94nm,0.7s
CM01 Chiang Mai Arr 42.45 252 P **P 18 40 38.5 +1.2**
comp=Z,647nmcomp=Z,94nm,0.7s
CM02 Chiang Mai Arr 42.45 252 P **P 18 40 38.5 +1.2**
comp=Z,750nmcomp=Z,105nm,0.8s
CM02 Chiang Mai Arr 42.45 252 P **P 18 40 38.0 +0.7**
comp=Z,750nmcomp=Z,105nm,0.8s
CM15 Chiang Mai Arr 42.46 252 P **P 18 40 38.4 +1.1**
comp=Z,676nmcomp=Z,98nm,0.7s
CM15 Chiang Mai Arr 42.46 252 P **P 18 40 38.5 +1.1**
comp=Z,676nmcomp=Z,98nm,0.7s
CM05 Chiang Mai Arr 42.48 252 P **P 18 40 38.7 +1.3**
comp=Z,696nmcomp=Z,102nm,0.8s
CM05 Chiang Mai Arr 42.48 252 P **P 18 40 38.8 +1.3**
comp=Z,696nmcomp=Z,102nm,0.8s
CM13 Chiang Mai Arr 42.49 252 P **P 18 40 38.7 +1.1**
comp=Z,828nmcomp=Z,124nm,0.8s
CM13 Chiang Mai Arr 42.49 252 P **P 18 40 38.8 +1.1**
comp=Z,828nmcomp=Z,124nm,0.8s
MANU Manus Island 42.56 171 P **P 18 40 36.8 -1.3**
MAKZ Makanchi 42.62 299 P **P 18 40 38.9 +0.5**
MAKZ pmax pmax
comp=Z,354nm,0.8s
MAKZ Makanchi 42.62 299 P **P 18 40 38.9 +0.5**
MAKZ IAmb IAmb 18 40 41.6
comp=Z,354nm,0.8s
TTA Tatalina 42.72 37 S **S 18 46 57.6 +1.8**
baz=268
N18K Kilae Creek 42.77 40 P **P 18 40 41.6 +2.2**
baz=271,SNR=269
GENI Genyem 42.77 182 P **P 18 40 40.9 +1.1**
comp=Z,192nm,1.0s
SVW2 Sparrevohn 42.91 39 P **P 18 40 41.8 +1.3**
SVW2 IAmb IAmb 18 40 43.9
comp=Z,224nm,0.9s
GTOI Gorontalo 42.95 208 P **P 18 40 41.1 -0.1**
comp=Z,2μcomp=Z,145nm,0.8s
SEM Semipalatinsk 42.98 305⇓ *i*P **P 18 40 41.4 0.0**
SEM *i* S **S 18 46 56.0 -4.3**
comp=Z,223nm,2.6s,baz=304
SEM Semipalatinsk 42.98 305 *d i*P **P 18 40 41.3 -0.1**
SEM *i* S **S 18 46 55.9 -4.3**
SEM pmax pmax
comp=Z,276nm,0.9s
SEM smax smax
comp=N,223nm,2.6s
O18K Koktuh Hills 43.13 41 P **P 18 40 44.3 +2.0**
baz=272
O18K S **S 18 47 04.4 +2.6**
baz=272
L19K White Mountain 43.24 38 P **P 18 40 44.7 +1.5**
baz=270,SNR=115
L19K S **S 18 47 05.9 +2.5**
baz=270
TOLI2 Tolitoli 43.34 211 P **P 18 40 43.5 -0.9**
MHMT Maesarieng 43.36 252 P **P 18 40 45.9 +1.3**
comp=N,2μcomp=N,283nm,0.8s
MHMT Maesarieng 43.36 252 P **P 18 40 45.0 +0.4**
comp=N,2μcomp=N,283nm,0.8s
A21K Barrow 43.41 24 P **P 18 40 45.0 +0.7**
baz=259,SNR=5.8
A21K Barrow 43.41 24 P **P 18 40 44.2 -0.1**
A21K IAmb IAmb 18 40 46.3
comp=Z,459nm,1.1s
N19K Bonanza Creek 43.45 40 P **P 18 40 46.7 +1.8**
baz=272,SNR=89
N19K S **S 18 47 08.4 +1.7**
baz=272
M19K Big River Lodg 43.47 38 P **P 18 40 47.0 +2.1**
baz=271
MRSI Marisa 43.48 209 P **P 18 40 46.1 +0.6**
comp=Z,8μcomp=Z,917nm,1.1s
SHL Shillong 43.55 266 P **P 18 40 45.9 -0.4**
SHL pmax pmax
comp=Z,241nm,0.9s
SHL Shillong 43.55 266 *i*P **P 18 40 46.0 -0.2**
SHL IAmb IAmb 18 40 46.7
comp=Z,120nm,1.2s
SHL Shillong 43.55 266 P **P 18 40 45.9 -0.4**
SHL IAmb IAmb 18 40 47.8
comp=Z,241nm,0.9s
SHL Shillong 43.55 266 P **P 18 40 45.8 -0.4**
SNR=54
SHL S **S 18 47 07.5 -1.5**
J20K Nowinta River 43.58 35 P **P 18 40 47.8 +2.0**
baz=269
K20K Telida 43.60 36 P **P 18 40 47.9 +1.9**
baz=270
FAKI Fak Fak 43.89 193 P **P 18 40 48.9 0.0**
FAKI IAmb IAmb 18 41 11.2
comp=Z,410nm,1.2s
FAKI Fak Fak 43.89 193 P **P 18 40 49.2 +0.4**
comp=Z,3μcomp=Z,308nm,0.9s
KURK Kurchatov 43.93 305 **S 18 47 11.6 -2.1**
UMPA Umpang Tak 43.97 249 P **P 18 40 52.1 +2.5**
comp=Z,2μcomp=Z,224nm,0.8s
UMPA Umpang Tak 43.97 249 P **P 18 40 52.0 +2.5**
comp=Z,459nmcomp=Z,56nm,0.8s
UTHA Uthaitani 43.99 248 P **P 18 40 51.2 +1.6**
comp=Z,273nmcomp=Z,38nm,0.8s
KURBB Kurchatov Arra 44.01 305 ScP **ScP 18 46 16.6 -0.7**
comp=Z,14nm,1.1s,baz=88,slow=3.2,SNR=8.4
KURBB S **S 18 47 11.6 -3.2**
comp=Z,21nm,1.0s,baz=79,slow=15,SNR=15
M20K Styx River 44.06 38 P **P 18 40 52.1 +2.2**
baz=272
M20K S **S 18 47 18.0 +2.5**
baz=272
P19K Oil Pt 44.14 42 P **P 18 40 51.6 +1.2**
baz=274,SNR=44
P19K S **S 18 47 18.0 +1.4**
baz=274
H21K Melozitna Rive 44.19 33 P **P 18 40 52.5 +1.8**
baz=268
RSO Redoubt South 44.32 40 P **P 18 40 53.0 +0.9**
OHAK Old Harbor 44.35 45 P **P 18 40 52.6 +0.6**
baz=277
OHAK Old Harbor 44.35 45 P **P 18 40 52.4 +0.3**
OHAK IAmb IAmb 18 40 53.8
comp=Z,352nm,0.9s
CHUM Lake Minchumin 44.39 35 P **P 18 40 54.2 +2.0**
baz=271,SNR=123
CHUM S **S 18 47 23.6 +3.7**
baz=271
MPSI Mapaga 44.40 212 P **P 18 40 53.5 +0.6**
comp=Z,3μcomp=Z,200nm,1.4s
O20K Slope Mountain 44.41 41 P **P 18 40 53.7 +1.0**
baz=274,SNR=44
PPLA Purkeypile 44.47 37 P **P 18 40 55.2 +2.1**
baz=272,SNR=156
PPLA S **S 18 47 24.5 +3.1**
baz=272
PPLA Purkeypile 44.47 37 P **P 18 40 54.9 +1.8**
PPLA IAmb IAmb 18 40 56.1
comp=Z,228nm,0.9s
SANI Sanana 44.51 202 P **P 18 40 53.6 -0.2**
comp=Z,2μcomp=Z,5μcomp=Z,406nm,1.2s
I21K Tanana 44.52 34 P **P 18 40 55.4 +2.0**
baz=270,SNR=246
I21K S **S 18 47 23.9 +2.0**
baz=270
SPCR Spurr Chakacha 44.54 39 P **P 18 40 55.7 +2.0**
baz=274,SNR=45
LUWI Luwuk 44.59 207 P **P 18 40 53.0 -1.4**
LUWI IAmb IAmb 18 41 18.0
comp=Z,471nm,1.1s
LUWI Luwuk 44.59 207 P **P 18 40 53.1 -1.3**
comp=Z,472nm,1.2s
KDAK Kodiak Island 44.66 44 PcP **PcP 18 42 35.9 +0.3**
comp=Z,74nm,0.9s,baz=291,slow=2.5,SNR=3.6
KDAK ScP **ScP 18 46 20.7 +0.9**
comp=Z,16nm,1.1s,baz=162,slow=1.7,SNR=4.1
KDAK Kodiak Island 44.66 44 *c i*P **P 18 40 55.2 +0.7**
KDAK pmax pmax
comp=Z,957nm,0.9s
KDAK Kodiak Island 44.66 44 P **P 18 40 55.2 +0.7**
baz=277
KDAK S **S 18 47 24.0 0.0**
baz=277
KDAK Kodiak Island 44.66 44 P **P 18 40 54.6 +0.1**
KDAK IAmb IAmb 18 40 56.3
comp=Z,442nm,0.8s
PATY Pattaya 44.81 244 P **P 18 40 58.8 +2.6**
comp=Z,182nm,0.8s
PATY Pattaya 44.81 244 P **P 18 40 58.8 +2.6**
comp=Z,47nm,0.8s
SKT Skwentna 44.81 38 P **P 18 40 56.9 +1.2**
baz=273,SNR=62
SKT Skwentna 44.81 38 P **P 18 40 56.0 +0.3**
APSI Ampana 44.87 209 P **P 18 40 56.7 +0.1**
comp=Z,5μcomp=Z,492nm,1.3s
AGT Agartala 44.94 264 *eP* **P 18 40 59.0 +1.8**
HOM Homer 44.95 41 P **P 18 40 57.2 +0.4**
baz=276,SNR=11
HOM Homer 44.95 41 P **P 18 40 57.8 +1.0**
BPAW Bear Paw Mtn. 44.97 35 P **P 18 40 58.3 +1.4**
baz=272,SNR=125
BPAW S **S 18 47 30.4 +2.0**
baz=272
BPAW Bear Paw Mtn. 44.97 35 P **P 18 40 58.4 +1.4**
MSAI Masohi 44.99 198 P **P 18 40 59.6 +2.1**
comp=Z,359nmcomp=Z,32nm,0.8s
KTH Kantishna Hill 45.02 36 P **P 18 40 58.9 +1.5**
SRDT SRDT 45.04 247 P **P 18 41 00.1 +2.1**
comp=Z,90nm,1.1s
SRDT SRDT 45.04 247 P **P 18 41 00.2 +2.2**
comp=Z,90nm,1.1s
MLY Manley 45.05 34 P **P 18 40 59.5 +1.9**
baz=271,SNR=347
MLY S **S 18 47 31.9 +2.3**
baz=271
MLY Manley 45.05 34 P **P 18 40 59.0 +1.4**
MLY IAmb IAmb 18 41 00.9
comp=Z,317nm,1.2s
CAPN Captain Cook N 45.09 40 P **P 18 41 00.3 +2.5**
baz=275
CNPM China Poot 45.16 42 P **P 18 40 58.0 -0.5**
CNPM IAmb IAmb 18 41 01.0
comp=Z,200nm,0.7s
SUA Susitna One 45.22 39 P **P 18 40 59.6 +0.5**
baz=275,SNR=99
SUA Susitna One 45.22 39 P **P 18 40 59.2 +0.1**
SUA IAmb IAmb 18 41 02.8
comp=Z,278nm,0.9s
TRF Thorofare Moun 45.30 36 P **P 18 41 01.1 +1.3**
baz=273,SNR=93
TRF Thorofare Moun 45.30 36 P **P 18 41 00.8 +1.0**
BRLK Bradley Lake 45.32 41 P **P 18 40 59.2 -0.6**
BRLK IAmb IAmb 18 41 02.9
comp=Z,242nm,0.7s
NLAI Namlea 45.34 200 P **P 18 41 00.0 -0.3**
comp=Z,2μcomp=Z,90nm,0.9s
SHLS Shalkode 45.36 295⇓ *i*P **P 18 40 58.8 -1.7**
comp=Z,123nm,0.7s,baz=294
SHLS *i* S **S 18 47 29.5 -5.3**
baz=294
SHLS Shalkode 45.36 295 *d i*P **P 18 40 58.7 -1.7**
SHLS *i* S **S 18 47 29.5 -5.3**
SHLS pmax pmax
comp=Z,123nm,0.7s
CUT Chulitna 45.38 37 P **P 18 41 00.9 +0.8**
baz=274,SNR=31
CUT Chulitna 45.38 37 P **P 18 41 00.7 +0.6**
CUT IAmb IAmb 18 41 02.2
comp=Z,349nm,1.0s
BRSE Bradley Lake S 45.39 41 P **P 18 41 00.2 -0.1**
baz=276,SNR=108
FIS Fire Island 45.51 39 P **P 18 41 02.7 +1.6**
TDK Taldyqorghan 45.51 298 *i* P **P 18 41 02.6 +1.1**
comp=Z,556nm,1.2s,baz=297
TDK *eS* **S 18 47 35.9 -0.9**
comp=Z,376nm,1.5s,baz=297
TDK Taldyqorghan 45.51 298 *i* P **P 18 41 02.6 +1.1**
TDK *eS* **S 18 47 35.8 -0.9**
TDK pmax pmax
comp=Z,556nm,1.2s
TDK smax smax
comp=N,376nm,1.5s
TOLK Toolik Lake Re 45.52 29 P **P 18 41 02.8 +1.5**
baz=268,SNR=123
TOLK S **S 18 47 36.3 -0.1**
baz=268
TOLK Toolik Lake Re 45.52 29 P **P 18 41 02.2 +0.9**
TOLK IAmb IAmb 18 41 05.1
comp=Z,270nm,1.2s
H23K Yukon River 45.53 33 P **P 18 41 03.8 +2.4**
baz=271,SNR=819
H23K S **S 18 47 38.8 +2.2**
baz=271
BWN Browne 45.63 35 P **P 18 41 04.2 +2.0**
I23K Minto, Yukon-K 45.63 34 P **P 18 41 03.8 +1.8**
baz=272,SNR=179
I23K S **S 18 47 39.5 +1.7**
baz=272
I23K Minto, Yukon-K 45.63 34 P **P 18 41 03.5 +1.5**
UZB Uzynbulak 45.67 295⇓ *i*P **P 18 41 03.4 +0.5**
comp=Z,235nm,1.5s,baz=294
UZB Uzynbulak 45.67 295 *d i*P **P 18 41 03.4 +0.5**
UZB pmax pmax
comp=Z,235nm,1.5s
RC01 Rabbit Creek A 45.74 39 P **P 18 41 03.5 +0.4**
baz=276,SNR=97
RC01 Rabbit Creek A 45.74 39 P **P 18 41 03.4 +0.4**
RC01 IAmb IAmb 18 41 05.0
comp=Z,318nm,1.0s
NEA2 Nenana 45.78 34 P **P 18 41 04.9 +1.6**
baz=273,SNR=124
NEA2 S **S 18 47 42.1 +2.0**
baz=273
NEA2 Nenana 45.78 34 P **P 18 41 04.7 +1.4**
NEA2 IAmb IAmb 18 41 05.7
comp=Z,191nm,0.8s
KPKS Kokpek 45.80 295⇓ *i*P **P 18 41 04.7 +0.8**
comp=Z,101nm,0.5s,baz=294
KPKS *i* S **S 18 47 39.8 -1.3**
comp=Z,179nm,3.5s,baz=294
KPKS Kokpek 45.80 295 *d i*P **P 18 41 04.6 +0.8**
KPKS *i* S **S 18 47 39.8 -1.3**
KPKS pmax pmax
comp=Z,101nm,0.5s
KPKS smax smax
comp=N,179nm,3.5s
O22K Cooper Landing 45.81 40 P **P 18 41 04.1 +0.5**
baz=276
O22K Cooper Landing 45.81 40 P **P 18 41 03.6 0.0**
O22K IAmb IAmb 18 41 14.9
comp=Z,286nm,0.8s
MCK McKinley 45.89 36 P **P 18 41 04.9 +0.7**
MCK pmax pmax
comp=Z,293nm,1.0s
MCK McKinley 45.89 36 P **P 18 41 05.1 +0.9**
baz=274,SNR=56
MCK S **S 18 47 42.1 +0.4**
baz=274
MCK McKinley 45.89 36 P **P 18 41 04.9 +0.7**
MCK IAmb IAmb 18 41 06.6
comp=Z,293nm,1.0s
BNDI Bandanaira 45.91 196 P **P 18 41 05.5 +0.7**
comp=Z,13μmcomp=Z,870nm,1.2s
RND Reindeer 45.95 36 P **P 18 41 05.3 +0.6**
RND pmax pmax
comp=Z,384nm,1.1s
RND Reindeer 45.95 36 P **P 18 41 05.3 +0.6**
RND IAmb IAmb 18 41 06.8
comp=Z,384nm,1.1s
SEW Seward 45.99 41 P **P 18 41 05.5 +0.5**
baz=277,SNR=52
SEW Seward 45.99 41 P **P 18 41 05.1 +0.1**
SEW IAmb IAmb 18 41 06.8
comp=Z,433nm,1.3s
MDM Murphy Dome 46.12 34 P **P 18 41 07.2 +1.3**
MDM IAmb IAmb 18 41 08.4
comp=Z,211nm,0.9s
SATY Saty 46.12 295⇓ *i*P **P 18 41 07.4 +0.9**
comp=Z,139nm,1.1s,baz=294
SATY *eS* **S 18 47 46.0 +0.2**
comp=Z,94nm,2.1s,baz=294
SATY Saty 46.12 295 *d i*P **P 18 41 07.3 +0.9**
SATY *eS* **S 18 47 46.0 +0.2**
SATY pmax pmax
comp=Z,139nm,1.1s
SATY smax smax
comp=N,94nm,2.1s
WAT1 Susitna Watana 46.13 37 P **P 18 41 06.9 +0.8**
baz=275
WRH Wood River Hil 46.21 34 P **P 18 41 07.1 +0.5**
H24K Noodor Dome 46.22 33 P **P 18 41 09.2 +2.4**
baz=273,SNR=445
H24K S **S 18 47 49.4 +3.0**
baz=273
TCOL CIGO, UAF Yank 46.28 34 P **P 18 41 08.6 +1.4**
baz=274,SNR=16
TCOL S **S 18 47 48.8 +1.6**
baz=274
TCOL CIGO, UAF Yank 46.28 34 P **P 18 41 08.2 +1.1**
TCOL IAmb IAmb 18 41 10.2
comp=Z,274nm,1.1s
COLA College 46.28 34 *c i*P **P 18 41 08.8 +1.6**
COLA pmax pmax
comp=Z,308nm,1.2s
COLA College 46.28 34 P **P 18 41 08.8 +1.6**
baz=274
COLA S **S 18 47 49.0 +1.8**
baz=274
COLA College 46.28 34 P **P 18 41 08.7 +1.4**
COLA IAmb IAmb 18 41 10.2
comp=Z,270nm,1.1s
PRZ Przheval'sk 46.32 294 P **P 18 41 09.2 +1.1**
PRZ pmax pmax
comp=Z,783nm,1.2s
PRZ Przheval'sk 46.32 294 P **P 18 41 09.2 +1.1**
CCB Clear Creek Bu 46.32 34 P **P 18 41 08.1 +0.6**
KNK Knik Glacier 46.32 39 P **P 18 41 08.6 +0.9**
baz=276,SNR=56
KNK S **S 18 47 49.0 +1.1**
baz=276
KNK Knik Glacier 46.32 39 P **P 18 41 08.5 +0.9**
KNK IAmb IAmb 18 41 10.0
comp=Z,579nm,1.5s
SML Sawmill 46.34 38 P **P 18 41 09.0 +1.3**
baz=276,SNR=117
SML S **S 18 47 48.9 +0.6**
baz=276
SML Sawmill 46.34 38 P **P 18 41 08.1 +0.3**
SML IAmb IAmb 18 41 09.6
comp=Z,238nm,0.9s
POKR Poker Plat Res 46.45 34 P **P 18 41 10.2 +1.7**
baz=274,SNR=111
POKR S **S 18 47 50.6 +1.0**
baz=274
POKR Poker Plat Res 46.45 34 P **P 18 41 10.4 +1.8**
PWL Port Wells 46.45 39 P **P 18 41 08.6 -0.1**
PWL IAmb IAmb 18 41 11.1
comp=Z,389nm,1.1s
WAT6 Susitna Watana 46.53 37 P **P 18 41 10.0 +0.5**
baz=276,SNR=119
WAT6 S **S 18 47 50.9 -0.2**
baz=276
ILAR Eielson Array 46.70 34 P **P 18 41 11.2 +0.7**
comp=Z,136nm,0.8s,baz=268,slow=5.9,SNR=782
ILAR PcP **PcP 18 42 42.0 -0.6**
comp=Z,26nm,0.8s,baz=280,slow=4.5,SNR=4.3
ILAR LR LR 19 03 37.6
comp=Z,326nm,18.1s,baz=260,slow=40
ILAR P4KPbc 19 18 53.0
comp=Z,0.2nm,0.4s,baz=275,slow=4.4,SNR=7.1
HDA Harding Lake 46.71 34 P **P 18 41 11.0 +0.4**
baz=275,SNR=131
HDA S **S 18 47 52.9 -0.4**
baz=275
HDA S **S 18 47 52.9 -0.4**
baz=275
HDA Harding Lake 46.71 34 P **P 18 41 10.8 +0.2**
HDA IAmb IAmb 18 41 12.5
comp=Z,264nm,1.0s
SCM Sheep Creek Mo 46.81 38 P **P 18 41 12.6 +1.1**
SCM pmax pmax
comp=Z,326nm,0.8s
SCM Sheep Creek Mo 46.81 38 P **P 18 41 12.6 +1.1**
SCM IAmb IAmb 18 41 14.0
comp=Z,326nm,0.8s
CHKK Chushkaly 46.84 297⇓ *i*P **P 18 41 12.5 +0.5**
baz=296
CHKK Chushkaly 46.84 297⇓ *i*P **P 18 41 12.4 +0.5**
GUN Gumba 46.91 273 *eP* **P 18 41 14.1 +1.0**
MDOK Medeo 47.02 296 *i* P **P 18 41 14.7 +1.1**
baz=295
MDOK *i* S **S 18 47 57.5 -1.3**
baz=295
MDOK Medeo 47.02 296 *i* P **P 18 41 14.6 +1.1**
MDOK *i* S **S 18 47 57.4 -1.3**
GLI Glacier Island 47.05 39 P **P 18 41 13.7 +0.4**
baz=278,SNR=53
GLI S **S 18 47 58.0 -0.3**
baz=278
GLI Glacier Island 47.05 39 P **P 18 41 13.8 +0.6**
GLI IAmb IAmb 18 41 14.8
comp=Z,150nm,0.8s
AAA Alma-Ata 47.10 296⇓ *i*P **P 18 41 15.5 +1.4**
comp=Z,182nm,0.5s,baz=295
AAA *i* S **S 18 47 57.0 -2.6**
baz=295
AAA Alma-Ata 47.10 296 *d i*P **P 18 41 15.4 +1.4**
AAA *i* S **S 18 47 57.0 -2.6**
AAA pmax pmax
comp=Z,182nm,0.5s
PRP Porcupine Dome 47.21 33 P **P 18 41 15.3 +0.6**
baz=275,SNR=169
PRP S **S 18 48 02.6 +1.8**
baz=275
PRP Porcupine Dome 47.21 33 P **P 18 41 15.2 +0.6**
PRP IAmb IAmb 18 41 17.6
comp=Z,301nm,0.9s
FYU Fort Yukon 47.24 31 P **P 18 41 16.5 +1.9**
KUU Kurty 47.27 297⇓ *i*P **P 18 41 15.6 +0.4**
comp=Z,299nm,0.8s,baz=296
KUU *i* S **S 18 48 00.4 -1.5**
comp=Z,176nm,1.7s,baz=296
KUU Kurty 47.27 297 *d i*P **P 18 41 15.6 +0.4**
KUU *i* S **S 18 48 00.4 -1.5**
KUU pmax pmax
comp=Z,299nm,0.8s
KUU smax smax
comp=N,176nm,1.7s
M24K Tolsona, Glenn 47.31 38 P **P 18 41 17.2 +1.8**
baz=278,SNR=88
M24K S **S 18 48 03.9 +1.8**
baz=278
M24K Tolsona, Glenn 47.31 38 P **P 18 41 16.6 +1.2**
M24K IAmb IAmb 18 41 18.6
comp=Z,357nm,0.9s
FID Port Fidalgo 47.37 39 P **P 18 41 16.0 +0.2**
FID IAmb IAmb 18 41 18.0
comp=Z,485nm,1.3s
HIN Hinchinbrook I 47.41 40 P **P 18 41 17.3 +1.2**
KKN Kakani 47.43 273 *eP* **P 18 41 17.8 +0.8**
comp=Z,1μm,0.7s
PKI Pulchoki 47.45 272 *eP* **P 18 41 17.6 +0.4**
comp=Z,382nm,0.7s
PKIN Phulchoki 47.45 272 *eP* **P 18 41 17.4 +0.2**
comp=Z,514nm,0.8s
TTSI Tana Toraja 47.52 210 P **P 18 41 17.3 -0.1**
comp=Z,822nmcomp=Z,47nm,1.0s
KLU Klutina 47.52 38 P **P 18 41 18.4 +1.3**
baz=278,SNR=156
KLU S **S 18 48 05.8 +0.6**
baz=278
KLU Klutina 47.52 38 P **P 18 41 18.1 +1.1**
KLU IAmb IAmb 18 41 19.7
comp=Z,422nm,1.1s
PAX Paxson 47.52 36 P **P 18 41 17.4 +0.4**
baz=278,SNR=12
MID Middleton Isla 47.65 41 P **P 18 41 19.3 +1.4**
MID pmax pmax
comp=Z,385nm,1.1s
MID Middleton Isla 47.65 41 P **P 18 41 19.3 +1.4**
MID IAmb IAmb 18 41 20.9
comp=Z,385nm,1.1s
DMN Daman 47.66 273 *eP* **P 18 41 19.5 +0.7**
comp=Z,268nm,0.7s
RIDG Independent Ri 47.70 35 P **P 18 41 18.5 +0.2**
baz=277,SNR=112
RIDG S **S 18 48 07.2 -0.4**
baz=277
RIDG Independent Ri 47.70 35 P **P 18 41 18.3 0.0**
MTKI Muara Teweh, K 47.70 217 P **P 18 41 19.6 +0.8**
comp=Z,2μcomp=Z,205nm,1.4s
HARP HAARP 47.74 37 P **P 18 41 20.4 +1.8**
baz=278,SNR=100
EYAK Cordova Ski Ar 47.75 40 P **P 18 41 20.4 +1.7**
baz=280,SNR=112
EYAK S **S 18 48 09.7 +1.5**
baz=280
EYAK Cordova Ski Ar 47.75 40 P **P 18 41 20.2 +1.5**
EYAK IAmb IAmb 18 41 21.6
comp=Z,370nm,1.0s
GKN Gorkha 47.81 273 *eP* **P 18 41 20.4 +0.5**

ULHL Ulahol 47.90 295 P **P 18 41 21.6 +1.2**
SNR=8.2

BOOM Boomskoye usch 48.02 295 P **P 18 41 22.4 +1.1**
BOOM pmax pmax
comp=Z,269nm,0.8s

BOOM Boomskoye usch 48.02 295 P **P 18 41 22.4 +1.1**
BOOM IAmb IAmb 18 41 23.7
comp=Z,269nm,0.8s

SCRK Sand Creek 48.05 35 P **P 18 41 21.5 +0.4**
baz=278,SNR=532

SCRK S **S 18 48 12.6 0.0**
baz=278

SCRK Sand Creek 48.05 35 P **P 18 41 21.4 +0.3**
DOT Dot Lake 48.06 35 P **P 18 41 21.4 +0.4**
DOT IAmb IAmb 18 41 23.1
comp=Z,383nm,1.5s

TKM2 Tokmak 2 48.11 296 P **P 18 41 23.5 +1.5**
SNR=24

N25K Chitina, Valde 48.13 38 P **P 18 41 22.9 +1.2**
baz=280,SNR=50

N25K S **S 18 48 14.6 +0.9**
baz=280

N25K Chitina, Valde 48.13 38 P **P 18 41 23.1 +1.4**
TARA Tarawa 48.22 136 P **P 18 41 24.3 +1.5**
BMRM Bremner River 48.23 39 P **P 18 41 23.9 +1.4**
baz=280,SNR=107

BMRM S **S 18 48 18.1 +3.0**
baz=280

BMRM Bremner River 48.23 39 P **P 18 41 23.7 +1.2**
BMRM IAmb IAmb 18 41 25.3
comp=Z,389nm,1.0s

DANN Dangsing 48.31 274 *e*P **P 18 41 25.2 +1.4**
MENT Mentasta 48.32 36 P **P 18 41 24.0 +0.9**
MENT IAmb IAmb 18 41 26.3
comp=Z,241nm,0.9s

BVAR Borovoye Array 48.37 310 S **S 18 48 17.1 -0.1**
comp=Z,43nm,0.9s,baz=157,slow=8.0,SNR=18

BRVK Borovoye 48.42 310 *d* iP **P 18 41 24.7 +0.7**
BRVK pmax pmax
comp=Z,121nm,0.8s

BRVK Borovoye 48.42 310 P **P 18 41 24.7 +0.7**
BRVK Borovoye 48.42 310 P **P 18 41 24.6 +0.6**
BRVK S **S 18 48 17.0 -1.0**
BTLS Baital 48.43 299 ‖ *i* P **P 18 41 24.5 +0.3**
comp=Z,74nm,1.0s,baz=298

BTLS *i* S **S 18 48 16.1 -2.1**
baz=298

BTLS Baital 48.43 299 *d* iP **P 18 41 24.5 +0.3**
BTLS *i* S **S 18 48 16.1 -2.1**
BTLS pmax pmax
comp=Z,75nm,1.0s

STKI Sintang 48.49 222 P **P 18 41 25.6 +0.7**
comp=Z,1μcomp=Z,94nm,0.8s

HMT Hamilton 48.52 40 P **P 18 41 25.8 +1.2**
HMT IAmb IAmb 18 41 27.7
comp=Z,362nm,1.2s

GLB Gilahina Butte 48.53 38 P **P 18 41 26.0 +1.3**
GLB IAmb IAmb 18 41 27.8
comp=Z,297nm,1.4s

SGDS Sogindy 48.58 297 ‖ *i* P **P 18 41 26.2 +0.7**
comp=Z,178nm,2.2s,baz=296

SGDS *e*pP **pP 18 41 46.4 -0.6**
baz=296

SGDS *e*S **S 18 48 20.0 -0.6**
comp=Z,138nm,2.8s,baz=296

SGDS Sogindy 48.58 297 *d* iP **P 18 41 26.1 +0.7**
SGDS *e**PP **pP 18 41 46.3 -0.6**
SGDS *e*S **S 18 48 19.9 -0.6**
SGDS pmax pmax
comp=Z,178nm,2.2s

SGDS smax smax
comp=N,138nm,2.8s

KBK Karagaybulak 48.65 296 P **P 18 41 27.2 +1.1**
SNR=286

BNSI Bone 48.66 209 P **P 18 41 26.4 +0.2**
comp=N,5μcomp=N,537nm,1.2s

CHMS Chumysh 48.66 296 P **P 18 41 26.9 +0.9**
SNR=110

USP Ospenovka 48.74 297 P **P 18 41 27.5 +0.9**
SNR=14

VRDI Verde Repeater 48.74 38 P **P 18 41 27.9 +1.4**
VRDI IAmb IAmb 18 41 29.4
comp=Z,330nm,1.2s

SUCK Suckling Hills 48.81 40 P **P 18 41 28.7 +1.9**
SUCK IAmb IAmb 18 41 30.3
comp=Z,412nm,1.3s

FRU1 Bishkek 48.81 296 P **P 18 41 28.2 +1.0**
FRU1 pmax pmax
comp=Z,299nm,1.0s

FRU1 Bishkek 48.81 296 P **P 18 41 28.1 +1.0**
FRU1 IAmb IAmb 18 41 30.8
comp=Z,299nm,0.9s

K27K Chicken 48.87 35 P **P 18 41 29.2 +1.9**
baz=279,SNR=262

K27K S **S 18 48 26.3 +2.4**
baz=279

K27K Chicken 48.87 35 P **P 18 41 28.7 +1.4**
K27K IAmb IAmb 18 41 30.3
comp=Z,252nm,1.0s

MCARA McCarthy VSAT 48.91 38 P **P 18 41 29.8 +2.1**
baz=281,SNR=67

MCARA S **S 18 48 28.0 +3.4**
baz=281

AAK Ala-Archa 48.97 296 S **S 18 48 27.8 +1.6**
comp=Z,2.4nm,0.4s,baz=262,slow=19,SNR=5.9

AAK LR LR 19 03 16.8
comp=Z,1μm,21.1s,baz=76,slow=37

AAK Ala-Archa 48.97 296 P **P 18 41 29.5 +0.9**
SNR=62

AAK Ala-Archa 48.97 296 P **P 18 41 29.3 +0.7**
AAK Ala-Archa 48.97 296 *d* iP **P 18 41 29.4 +0.9**
AAK pmax pmax
comp=Z,622nm,1.0s

AAK Ala-Archa 48.97 296 P **P 18 41 28.7 +0.2**
AAK IAmb IAmb 18 41 31.9
comp=Z,166nm,0.9s

CRQM Cirque 48.98 39 P **P 18 41 29.4 +1.1**
CRQE Cirque 49.00 39 P **P 18 41 30.0 +1.5**
baz=281,SNR=140

BGLC Bering Glacier 49.04 40 P **P 18 41 31.2 +2.7**
baz=282

SURT Suratani 49.06 242 P **P 18 41 33.0 +3.7**
comp=Z,66nmcomp=Z,4.6nm,0.8s

SURT Suratani 49.06 242 P **P 18 41 33.1 +3.7**
comp=Z,66nmcomp=Z,4.6nm,0.8s

BOK Bokaro 49.08 268 ‖ *i* iP **P 18 41 30.2 +0.8**
BOK IAmb IAmb 18 41 32.3
comp=Z,108nm,1.9s

KSH Kashi 49.11 291 P **P 18 41 34.3 +4.7**
KSH pP pP 18 41 53.4 +2.3
KSH S **S 18 48 35.6 +7.4**
KSH sS sS 18 49 10.3 +5.6
KSH SS **SS 18 52 07.0 +7.0**
KSH pmax pmax
comp=Z,91nm,0.9s

KSH LR LR
comp=Z,2μm,10.0s

KSH LR LR
comp=Z,2μm,11.4s

KSH LR LR
comp=Z,3μm,9.1s

TGL Tana Glacier 49.13 39 P **P 18 41 30.8 +1.4**
TGL IAmb IAmb 18 41 32.3
comp=Z,278nm,1.0s

EGAK Eagle 49.14 34 P **P 18 41 30.0 +0.7**
baz=280,SNR=133

EGAK S **S 18 48 29.2 +1.6**
baz=280

EGAK Eagle 49.14 34 P **P 18 41 29.9 +0.7**
L27K Beaver Creek, 49.15 36 P **P 18 41 31.6 +2.1**
baz=280,SNR=513

L27K S **S 18 48 32.0 +4.1**
baz=280

L27K Beaver Creek, 49.15 36 P **P 18 41 30.8 +1.3**
WAX Waxell Ridge 49.18 39 P **P 18 41 31.4 +1.7**
WAX IAmb IAmb 18 41 32.3
comp=Z,255nm,0.9s

KBKI Kotabaru 49.23 214 P **P 18 41 30.4 -0.1**
comp=Z,957nmcomp=Z,83nm,1.0s

KRAB Krabi 49.33 241 P **P 18 41 33.6 +2.3**
comp=Z,60μmcomp=Z,5μm,0.7s

KRAB Krabi 49.33 241 P **P 18 41 33.6 +2.3**
comp=Z,15μmcomp=Z,1μm,0.7s

KAPI Kappang 49.36 209 P **P 18 41 31.6 +0.1**
KAPI pmax pmax
comp=Z,777nm,1.3s

KAPI Kappang 49.36 209 P **P 18 41 31.6 +0.1**
KAPI Kappang 49.36 209 P **P 18 41 31.4 -0.1**
ISLE Juniper Island 49.40 39 P **P 18 41 32.8 +1.3**
ISLE IAmb IAmb 18 41 33.5
comp=Z,175nm,0.8s

EKS2 Erkin-Say 49.45 296 P **P 18 41 33.2 +1.0**
SNR=182

BKSI Bulukumba 49.51 208 P **P 18 41 32.5 -0.1**
comp=Z,2μcomp=Z,179nm,1.2s

BARN Barnard Glacie 49.62 38 P **P 18 41 34.7 +1.4**
BARN IAmb IAmb 18 41 36.2
comp=Z,336nm,1.2s

MESA MESA 49.68 40 P **P 18 41 35.1 +1.4**
baz=283,SNR=20

MESA MESA 49.68 40 P **P 18 41 34.3 +0.6**
MESA IAmb IAmb 18 41 36.6
comp=Z,290nm,1.0s

AML Almayashu 49.70 296 P **P 18 41 36.0 +1.5**
SNR=35

AML Almayashu 49.70 296 *i* P **P 18 41 35.9 +1.5**
SNR=35

AML Almayashu 49.70 296 P **P 18 41 35.4 +0.9**
YAH Yahtse 49.73 39 P **P 18 41 35.2 +1.1**
YAH IAmb IAmb 18 41 37.1
comp=Z,327nm,1.0s

CTG Chitna Glacier 49.80 39 P **P 18 41 35.9 +1.4**
baz=283,SNR=94

CTGM Chitina Glacie 49.80 39 P **P 18 41 36.0 +1.4**
PMG Port Moresby 49.81 173 P **P 18 41 35.0 +0.1**
PMG pmax pmax
comp=Z,81nm,1.2s

PMG Port Moresby 49.81 173 P **P 18 41 35.0 +0.1**
PMG Port Moresby 49.81 173 P **P 18 41 34.1 -0.8**
PMG Port Moresby 49.81 173 P **P 18 41 34.3 -0.6**
BBKI Banjar Baru 49.96 216 P **P 18 41 36.0 -0.1**
comp=Z,2μcomp=Z,149nm,0.8s

LOGN Logan Glacier 49.99 39 P **P 18 41 36.6 +0.6**
LOGN IAmb IAmb 18 41 42.3
comp=Z,124nm,0.9s

TABL Table Mountain 50.01 39 P **P 18 41 37.3 +1.1**
TABL IAmb IAmb 18 41 38.7
comp=Z,162nm,1.0s

DAWY Dawson 50.02 34 P **P 18 41 37.0 +0.9**
PKDT Phuket 50.15 242 P **P 18 41 40.2 +2.7**
comp=Z,4μcomp=Z,448nm,0.7s

PKDT Phuket 50.15 242 P **P 18 41 40.2 +2.7**
DGPR DIGLIPUR 50.25 252 *e*P **P 18 41 39.6 +1.3**
PCA Pinnacle 50.52 39 P **P 18 41 40.9 +1.0**
PCA IAmb IAmb 18 41 43.4
comp=Z,163nm,1.2s

PINM Pinnacle 50.52 39 P **P 18 41 41.2 +1.3**
baz=284,SNR=20

EPYK Eagle Plains 50.65 31 P **P 18 41 42.8 +2.0**
baz=282,SNR=322

EPYK S **S 18 48 51.7 +3.0**
baz=282

EPYK Eagle Plains 50.65 31 P **P 18 41 42.5 +1.7**
PBKI Pangkalan Bun 50.77 220 P **P 18 41 42.6 +0.4**
comp=Z,3μcomp=Z,312nm,1.0s

BCPM Bancas Point 50.86 40 P **P 18 41 43.7 +1.4**
BCPM IAmb IAmb 18 41 46.1
comp=Z,198nm,1.2s

DZA Taraz 51.03 297 *e*P **P 18 41 44.7 +0.6**
comp=Z,344nm,0.9s,baz=296

DZA *e*S **S 18 48 54.3 -0.3**
comp=Z,300nm,1.7s,baz=296

DZA Taraz 51.03 297 *e*P **P 18 41 44.6 +0.6**
DZA *e*S **S 18 48 54.3 -0.3**
DZA pmax pmax
comp=Z,344nm,0.9s

DZA smax smax
comp=E,300nm,1.7s

PBA Port Blair 51.41 250 P P 18 41 46.7 -0.3
PBA IAmb IAmb 18 41 57.2
comp=Z,132nm,0.7s

INK Inuvik 51.43 28 S **S 18 49 00.4 +1.1**
comp=Z,3.3nm,0.9s,baz=90,slow=31,SNR=5.6

INK Inuvik 51.43 28 P **P 18 41 47.5 +1.0**
INK pmax pmax
comp=Z,430nm,0.9s

INK Inuvik 51.43 28 P **P 18 41 48.0 +1.5**
baz=283,SNR=213

INK S **S 18 49 01.4 +2.1**
baz=283

INK Inuvik 51.43 28 P **P 18 41 47.5 +1.0**
KK31 Karatay Array 51.51 298 P **P 18 41 47.7 +0.2**
KK31 pmax pmax
comp=Z,185nm,0.8s

KK31 Karatay Array 51.51 298 P **P 18 41 47.7 +0.2**
KK31 IAmb IAmb 18 41 51.8
comp=Z,185nm,0.8s

KKAR Karatay Array 51.51 298 P **P 18 41 47.7 +0.2**
KKAR pmax pmax
comp=Z,185nm,0.8s

KKAR Karatay Array 51.51 298 P **P 18 41 47.5 0.0**
KKAR Karatay Array 51.51 298 P **P 18 41 47.7 +0.2**
KKAR IAmb IAmb 18 41 51.9
comp=Z,185nm,0.8s

HYT Haines Junctio 51.65 38 P **P 18 41 50.5 +2.1**
DDI Dehra Dun 51.66 280 IAmb IAmb 18 41 55.6
comp=Z,226nm,0.6s

MMRI Maumere 51.88 204 P **P 18 41 50.2 -0.3**
MMRI Maumere 51.88 204 P **P 18 41 50.4 -0.1**
comp=Z,7μcomp=Z,412nm,0.7s

SMLA Simla 51.93 281 *i* P **P 18 41 51.1 +0.3**
DRK Karamyk 52.08 293 P **P 18 41 52.9 +0.7**
DRK IAmb IAmb 18 41 56.4
comp=Z,239nm,0.8s

EDFI Ende, Flores 52.16 205 P **P 18 41 51.4 -1.3**
comp=Z,2μcomp=Z,105nm,1.6s

SOEI Soe 52.34 202 P **P 18 41 53.3 -0.7**
SOEI Soe 52.34 202 P **P 18 41 53.6 -0.4**
comp=Z,7μcomp=Z,965nm,0.8s

HNR Honiara 52.44 157 P **P 18 41 54.3 -0.3**
HNR pmax pmax
comp=Z,158nm,0.8s

HNR Honiara 52.44 157 P **P 18 41 54.3 -0.3**
HNR IAmb IAmb 18 42 14.2
comp=Z,158nm,0.8s

BTK Batken 52.52 294 P **P 18 41 55.3 +0.1**
BTK pmax pmax
comp=Z,186nm,1.0s

BTK Batken 52.52 294 P **P 18 41 55.2 +0.1**
BTK IAmb IAmb 18 42 02.1
comp=Z,186nm,0.9s

SVE Sverdlovsk 52.68 317 *ce*P **P 18 41 57.1 +1.2**
SVE *e*S **S 18 49 16.7 +0.1**
SVE *e* 18 52 52.4
SVE pmax pmax
comp=Z,399nm,0.9s

SVE MLR MLR
comp=Z,1μm,14.0s

TPI Tanjungpandan 52.87 224 P **P 18 41 58.6 +0.8**
comp=Z,1μcomp=Z,159nm,1.0s

WHY Whitehorse 52.93 38 P **P 18 41 59.9 +2.0**
baz=288,SNR=152

WHY Whitehorse 52.93 38 P **P 18 41 59.8 +2.0**
WHY IAmb IAmb 18 42 01.3
comp=Z,244nm,0.9s

BATI Baumata 52.94 202 LR LR 19 06 20.7
comp=Z,276nm,18.8s,baz=16,slow=38

BATI Baumata 52.94 202 P **P 18 41 57.8 -0.5**
comp=Z,2μcomp=Z,255nm,0.9s

SKAG Skagway 53.09 39 P **P 18 42 01.0 +2.1**
baz=288,SNR=37

SKAG S **S 18 49 29.2 +7.1**
baz=288

SKAG Skagway 53.09 39 P **P 18 42 01.1 +2.2**
SKAG IAmb IAmb 18 42 02.5
comp=Z,310nm,1.1s

PPBI Pangkal Pinang 53.19 226 P **P 18 42 01.5 +1.3**
comp=Z,6μcomp=Z,297nm,0.8s

TSI Tuntungan 53.26 238 P **P 18 42 00.6 -0.1**
comp=Z,146nm,0.8s

GAR Garm 53.32 293 P **P 18 42 01.6 +0.4**
KMMI Kalianget 53.54 215 P **P 18 42 01.8 -0.9**
comp=Z,194nm,0.9s

PLAI Plampang 53.60 209 P **P 18 42 01.3 -1.9**
comp=Z,2μcomp=Z,119nm,0.7s

BESE Bessie Mountai 53.61 40 P **P 18 42 04.4 +1.6**
NIL Nilore 53.63 286 P **P 18 42 04.8 +1.4**
NIL pmax pmax
comp=Z,1μm,0.8s

NIL Nilore 53.63 286 P **P 18 42 04.8 +1.4**
WBSI Waikabubak, Su 53.77 207 P **P 18 42 01.6 -2.8**
comp=Z,1μcomp=Z,117nm,0.8s

MTN Manton Dam 53.80 192 P **P 18 42 03.9 -0.6**
TWSI Taliwang, Sumb 53.87 211 P **P 18 42 03.8 -1.3**
comp=Z,1μcomp=Z,76nm,0.8s

SIT Sitka 53.89 42 P **P 18 42 06.6 +1.8**
SIT pmax pmax
comp=Z,284nm,1.1s

SIT Sitka 53.89 42 P **P 18 42 07.1 +2.3**
baz=290,SNR=30

SIT Sitka 53.89 42 P **P 18 42 06.6 +1.8**
SIT IAmb IAmb 18 42 08.6
comp=Z,284nm,1.1s

ARU Arti 53.89 317 S **S 18 49 31.2 -1.9**
comp=Z,4.3nm,0.9s,baz=292,slow=21,SNR=11

ARU LR LR 19 06 23.8
comp=Z,956nm,21.3s,baz=56,slow=37

ARU Arti 53.89 317 *d* iP **P 18 42 05.5 +0.7**
ARU *PP **pP 18 42 26.8 +0.3**
ARU *SP **sP 18 42 36.4 +0.1**
ARU 18 43 08.5
ARU 18 44 04.2
ARU S **S 18 49 35.4 +2.3**
ARU *SS **sS 18 50 10.0 +1.9**
ARU 18 51 42.0
ARU SS **SKiKP 18 53 10.5 +1.8**
ARU pmax pmax
comp=Z,363nm,1.0s

ARU MLR MLR
comp=Z,921nm,16.0s

ARU Arti 53.89 317 P **P 18 42 05.1 +0.3**
ARU IAmb IAmb 18 42 07.3
comp=Z,343nm,1.0s

ARU **S 18 49 32.8 -0.3**
SRBI Singaraja 53.94 213 P **P 18 42 04.2 -1.4**
comp=Z,3μcomp=Z,180nm,0.7s

JIS Juneau Island 53.95 41 P **P 18 42 07.1 +2.0**
BKNI Bangkinang 54.15 233 P **P 18 42 07.9 +0.7**
BKNI Bangkinang 54.15 233 P **P 18 42 08.7 +1.5**
comp=Z,5μcomp=Z,762nm,0.8s

JMBI JAMBI 54.17 229 P **P 18 42 07.9 +0.6**
comp=Z,2μcomp=Z,213nm,0.9s

KIP Kipapa 54.27 91 P **P 18 42 08.8 +0.8**
KIP pmax pmax
comp=Z,230nm,1.0s

KIP Kipapa 54.27 91 P **P 18 42 08.8 +0.8**
KIP IAmb IAmb 18 42 10.8
comp=Z,230nm,0.9s

CHGR Chuyangaron 54.29 293 P **P 18 42 08.3 +0.2**
HON Honolulu 54.33 91 P **P 18 42 06.7 -1.8**
HON Honolulu 54.33 91 P **P 18 42 06.7 -1.8**
HON IAmb IAmb 18 42 11.2
comp=Z,186nm,1.0s

C36M Paulatuk 54.41 26 P **P 18 42 09.6 +1.2**
baz=290,SNR=93

C36M S **S 18 49 41.2 +1.5**
baz=290

C36M Paulatuk 54.41 26 P **P 18 42 09.1 +0.7**
VIS Vishakhapatnam 54.53 263 *e*P **P 18 42 11.1 +1.1**
PMBI Palembang 54.58 227 P **P 18 42 11.8 +1.5**
PMBI Palembang 54.58 227 P **P 18 42 11.8 +1.5**
comp=Z,6μcomp=Z,713nm,0.8s

MNSI Mandailing Nat 54.68 235 P **P 18 42 10.7 -0.4**
comp=Z,108nm,0.6s

SMRI Semarang 55.14 218 P **P 18 42 13.3 -1.1**
SMRI IAmb IAmb 18 42 37.5
comp=Z,415nm,1.4s

SMRI Semarang 55.14 218 P **P 18 42 14.9 +0.5**
comp=Z,215nm,0.9s

PWJI Pagerwojo 55.36 216 P **P 18 42 14.5 -1.4**
comp=Z,335nm,0.7s

GSI Gunungsitoli 55.56 237 P **P 18 42 17.9 +0.5**
GSI Gunungsitoli 55.56 237 P **P 18 42 18.0 +0.6**
comp=Z,7μcomp=Z,397nm,1.2s

CRAG Craig 55.61 43 P **P 18 42 19.3 +2.0**
baz=293,SNR=32

CRAG Craig 55.61 43 P **P 18 42 18.7 +1.5**
CRAG IAmb IAmb 18 42 20.9
comp=Z,342nm,1.2s

WRAK Wrangell Islan 55.65 42 P **P 18 42 19.6 +2.1**
baz=293,SNR=31

WRAK Wrangell Islan 55.65 42 P **P 18 42 19.4 +1.9**
WRAK IAmb IAmb 18 42 21.2
comp=Z,309nm,1.3s

JCJI Jatiwangi 55.72 221 P **P 18 42 19.3 +0.8**
comp=Z,8μcomp=Z,387nm,0.8s

PCJI Pacitan 55.80 217 P **P 18 42 18.4 -0.6**
comp=Z,79nm,0.6s

ABKAR Akbulak array 55.83 308 P **P 18 42 18.9 0.0**
ABKAR IAmb IAmb 18 42 23.3
comp=Z,137nm,0.7s

BHPL Bhopal 55.85 273 *e*P **P 18 42 20.1 +0.6**
BHPL *i* pP **pP 18 42 41.5 +0.2**
UGM Wanagama 55.86 218 P **P 18 42 18.5 -1.0**
UGM Wanagama 55.86 218 P **P 18 42 18.4 -1.1**
comp=Z,324nm,1.1s

YOGI Yogyakarta 55.88 218 P **P 18 42 19.0 -0.6**
comp=Z,307nm,0.9s

HLK Haleakala 56.00 91 P **P 18 42 19.6 -1.2**
DLBC Dease Lake 56.02 39 P **P 18 42 22.3 +2.1**
DLBC IAmb IAmb 18 42 24.2
comp=Z,373nm,1.3s

LHSI Lahat 56.02 228 P **P 18 42 21.3 +0.6**
comp=Z,5μcomp=Z,546nm,0.8s

KPJI Karang Pucung 56.12 220 P **P 18 42 20.9 -0.4**
comp=Z,387nm,0.9s

MDSI Maura Dua 56.20 227 P **P 18 42 21.8 -0.1**
comp=Z,2μcomp=Z,134nm,1.0s

KBL Kabul 56.27 289 P **P 18 42 22.6 0.0**
KBL pmax pmax
comp=Z,189nm,0.9s

KBL Kabul 56.27 289 P **P 18 42 22.6 0.0**
KBL IAmb IAmb 18 42 26.7
comp=Z,189nm,0.9s

KBL Kabul 56.27 289 P **P 18 42 22.4 -0.2**
SNR=78

KBL S **S 18 50 05.3 -0.8**
LEM Lembang 56.34 222 LR LR 19 07 09.4
comp=Z,284nm,20.2s,baz=42,slow=36

LEM Lembang 56.34 222 P **P 18 42 23.3 +0.2**
comp=Z,2μcomp=Z,208nm,1.1s

BLSI Bandar Lampung 56.35 225 P **P 18 42 22.8 -0.2**
comp=Z,3μcomp=Z,402nm,1.1s

KSI Kapahiang 56.41 229 P **P 18 42 23.2 -0.3**
comp=Z,3μcomp=Z,112nm,0.9s

AKTO Aktyubinsk 56.48 310 S **S 18 50 06.7 -1.2**
comp=Z,5.0nm,0.9s,baz=298,slow=18,SNR=10

AKTO LR LR 19 07 39.9
comp=Z,528nm,20.5s,baz=70,slow=37

DBJI Dramaga 56.55 223 P **P 18 42 23.3 -1.1**
comp=Z,2μcomp=Z,79nm,1.4s

LWLI Liwa 56.70 226 P **P 18 42 26.3 +0.7**
comp=Z,335nm,0.6s

HOPEN Hopen 56.81 345 *e*P **P 18 42 26.6 +1.2**
HPAH Hawaii Prepara 56.84 91 P **P 18 42 27.8 +1.2**
HPAH IAmb IAmb 18 42 28.3
comp=Z,324nm,1.3s

CISI Cisompet, Garu 56.86 221 P **P 18 42 26.3 -0.4**
CISI Cisompet, Garu 56.86 221 P **P 18 42 26.5 -0.2**
comp=Z,61nm,1.0s

DIB Dawson Inlet, 56.87 46 P **P 18 42 27.4 +1.2**
DIB IAmb IAmb 18 42 28.8
comp=Z,257nm,1.0s

KASI Kota Agung 56.88 226 P **P 18 42 23.9 -2.9**
comp=Z,151nm,1.1s

EUNU Eureka 56.89 9 P **P 18 42 26.5 +0.4**
HUH Hualalai 56.93 92 P **P 18 42 26.7 -0.8**
HUH IAmb IAmb 18 42 29.8
comp=Z,188nm,0.9s

KHLU Kahalu`u 56.94 92 P **P 18 42 27.7 +0.3**
KHLU IAmb IAmb 18 42 29.8
comp=Z,214nm,1.0s

KNRA Kununurra 56.99 195 P **P 18 42 27.5 +0.1**
CNJI Cibinong 57.00 222 P **P 18 42 28.8 +1.2**
comp=Z,161nm,0.9s

POHA Pohakuloa 57.12 91 P **P 18 42 29.2 +0.5**
MLOA Mauna Loa Obse 57.22 92 P **P 18 42 31.0 +1.3**
MWH Moku'aweowe 57.23 92 P **P 18 42 30.6 +0.7**
HMH Humu'ula Sheep 57.25 91 P **P 18 42 29.9 +0.1**
HMH IAmb IAmb 18 42 32.0
comp=Z,214nm,0.9s

SPA0 Spitsbergen Ar 57.25 348 *e*P **P 18 42 29.3 +0.7**
SPITS Spitsbergen Ar 57.25 348 S **S 18 50 18.6 +1.3**
comp=Z,11nm,1.0s,baz=81,slow=10,SNR=3.9

KHU Kahuku 57.36 92 P **P 18 42 31.7 +1.3**
KHU pmax pmax
comp=Z,698nm,1.3s

KHU Kahuku 57.36 92 P **P** **18 42 31.7 +1.3**
KBS Kingsbay 57.37 350⇑ *i*P **P** **18 42 30.7 +1.2**
KBS IAmb IAmb 18 42 31.6
comp=Z,287nm,0.9s
KBS Kingsbay 57.37 350*c* *i*P **P** **18 42 30.8 +1.4**
KBS pmax pmax
comp=Z,158nm,1.0s
KBS Kingsbay 57.37 350 *e*P **P** **18 42 30.8 +1.4**
KBS Kingsbay 57.37 350 P **P** **18 42 30.4 +1.0**
KBS IAmb IAmb 18 42 31.9
comp=Z,125nm,0.9s
MLH Mauna Loa 57.39 91 P **P** **18 42 32.2 +1.6**
AIN Ainahou 57.40 92 P **P** **18 42 31.3 +0.6**
UWE Uwekahuna 57.50 91 P **P** **18 42 32.3 +1.0**
UWE IAmb IAmb 18 42 33.3
comp=Z,183nm,1.0s
WRMHI West Rim 57.50 91 P **P** **18 42 32.4 +1.1**
WRMHI IAmb IAmb 18 42 33.8
comp=Z,337nm,1.3s
OBL Observatory Le 57.51 91 P **P** **18 42 32.5 +1.1**
OBL IAmb IAmb 18 42 34.0
comp=Z,355nm,1.3s
UWB Uwekahuna B 57.51 91 P **P** **18 42 32.4 +1.0**
UWB IAmb IAmb 18 42 33.2
comp=Z,140nm,1.1s
NPH North Pit 57.52 91 P **P** **18 42 31.6 +0.1**
SBLHI Steaming Bluff 57.52 91 P **P** **18 42 31.8 +0.4**
SBLHI IAmb IAmb 18 42 33.2
comp=Z,132nm,1.0s
SDHHI Sand Hill 57.52 91 P **P** **18 42 29.9 -1.5**
SDHHI IAmb IAmb 18 42 43.2
comp=Z,190nm,1.1s
HATHI Halema'uma'u T 57.52 91 P **P** **18 42 30.0 -1.5**
HATHI IAmb IAmb 18 42 34.8
comp=Z,385nm,1.4s
RIM Rim 57.53 91 P **P** **18 42 29.5 -2.1**
RIM IAmb IAmb 18 42 34.1
comp=Z,321nm,1.4s
KKO Keanakako`i 57.53 91 P **P** **18 42 31.7 +0.1**
HLP Hilina Pali 57.56 92 P **P** **18 42 31.1 -0.6**
HLP IAmb IAmb 18 42 33.9
comp=Z,240nm,1.0s
PUH Pauahi 57.59 91 P **P** **18 42 30.8 -1.1**
KIRV Kirov 57.61 322 S **S** **18 50 19.7 -2.6**
comp=Z,8.0nm,0.6s,baz=63,slow=17,SNR=4.3
KIRV LR LR 19 11 07.0
comp=Z,454nm,18.2s,baz=50,slow=40
KIRV Kirov 57.61 322*c* *i*P **P** **18 42 32.1 +0.8**
NOR Nord 57.73 356⇑ *i*P **P** **18 42 32.5 +0.6**
NOR IAmb IAmb 18 42 33.0
comp=Z,93nm,0.9s
NOR Nord 57.73 356⇑ *i*P **P** **18 42 32.4 +0.6**
NOR pmax pmax
comp=Z,93nm,0.9s
PRGR Permogore 57.98 326 *e*P **P** **18 42 33.1 -0.8**
PRGR *e* 18 44 40.0
PRGR *e*S **S** **18 50 25.9 -1.3**
PRGR pmax pmax
comp=Z,322nm,1.3s
HSPB Hornsund (broa 58.19 348 *e*P **P** **18 42 36.2 +1.1**
HSPB *e*S **S** **18 50 28.5 -1.0**
HYB Hyderabad 58.35 266 *i*P **P** **18 42 38.0 +0.8**
HYB *e*pP **pP** **18 42 59.0 -0.2**
HYB *e*sP **sP** **18 43 09.0 0.0**
HYB *e*PcP **PcP** **18 43 27.0 -0.3**
HYB *e*S **S** **18 50 34.0 +0.7**
HYB Hyderabad 58.35 266 *e*P **P** **18 42 38.2 +1.0**
LVZ Lovozero 59.08 335*d* *i*P **P** **18 42 42.2 +0.7**
LVZ Lovozero 59.08 335 P **P** **18 42 41.2 -0.3**
RES Resolute Bay 59.38 15 P **P** **18 42 43.4 0.0**
RES pmax pmax
comp=Z,289nm,1.0s
RES Resolute Bay 59.38 15 P **P** **18 42 43.4 0.0**
APA Apatity 59.66 335⇑ *i*P **P** **18 42 43.4 -2.0**
APA *i* 18 43 05.0
APA *i*S S 18 50 39.0 -10
APA *i* 18 52 22.0
APA pmax pmax
comp=Z,60nm,0.8s
APA MLR MLR
comp=Z,1μm,23.0s
BBB Bella Bella 59.70 45 P **P** **18 42 46.8 +0.8**
FUNA Funafuti 59.86 136 P **P** **18 42 47.4 -0.1**
WB0 Warramunga Arr 60.19 188 P **P** **18 42 48.5 -1.1**
CTAO Charters Tower 60.32 175 P **P** **18 42 50.1 -0.3**
CTAO pmax pmax
comp=Z,140nm,1.5s
CTAO Charters Tower 60.32 175 P **P** **18 42 50.1 -0.3**
KEV Kevo 60.33 339 P **P** **18 42 50.3 +0.3**
KEV pmax pmax
comp=Z,57nm,0.8s
KEV Kevo 60.33 339 P **P** **18 42 50.3 +0.3**
WR0 Warramunga Arr 60.36 187 P **P** **18 42 49.9 -0.8**
WB2 Warramunga Arr 60.36 188 P **P** **18 42 49.7 -1.1**
WRA Warramunga Arr 60.36 188 P **P** **18 42 49.8 -1.0**
comp=Z,148nm,0.7s,baz=8.8,slow=6.8,SNR=182
WRA pP **pP** **18 43 12.4 -0.6**
comp=Z,244nm,0.8s,baz=3.9,slow=6.3,SNR=17
WRA S **S** **18 50 52.6 -6.1**
comp=Z,7.3nm,1.0s,baz=2.1,slow=12,SNR=7.1
WRA LR LR 19 05 46.4
comp=Z,238nm,20.2s,baz=350,slow=33
WRA PKPPKP **P'P'df** **19 12 09.7 +0.5**
comp=Z,3.5nm,1.1s,baz=162,slow=2.2,SNR=4.7
WRA Warramunga Arr 60.36 188 P **P** **18 42 49.5 -1.3**
WRA *PP **pP** **18 43 11.9 -1.2**
WRA pmax pmax
comp=Z,36nm,0.9s
WRA Warramunga Arr 60.36 188 P **P** **18 42 49.5 -1.3**
WRA pP **pP** **18 43 11.9 -1.2**
SANVU Saraoutou 60.49 151 P **P** **18 42 52.2 +0.5**
KNTN Kanton 60.62 123 P **P** **18 42 53.3 +0.7**
KNTN IAmb IAmb 18 42 54.4
comp=Z,110nm,0.8s
KNTN Kanton 60.62 123 P **P** **18 42 53.9 +1.2**
HAMF Hammerfest 60.67 340 *e*P **P** **18 42 52.6 +0.3**
ARA0 ARCESS Array S 60.88 339 *e*P **P** **18 42 54.2 +0.5**
ARCES ARCESS Array B 60.88 339 P **P** **18 42 53.6 -0.1**
comp=Z,13nm,0.5s,baz=47,slow=7.0,SNR=53
ARCES PcP **PcP** **18 43 37.6 +1.1**
comp=Z,35nm,1.0s,baz=68,slow=7.9,SNR=6.3
ARCES LR LR 19 11 26.3
comp=Z,650nm,21.6s,baz=45,slow=38
ARCES ARCESS Array B 60.88 339 P **P** **18 42 53.9 +0.2**
YKA Yellowknife Ar 60.94 31 P **P** **18 42 54.7 +0.5**
comp=Z,133nm,0.9s,baz=300,slow=6.5,SNR=178
YKA PcP **PcP** **18 43 37.5 +0.7**
comp=Z,55nm,0.9s,baz=304,slow=4.1,SNR=14
YKA LR LR 19 11 41.6
comp=Z,196nm,20.4s,baz=0.0,slow=38
YKA PKPPKP **P'P'df** **19 12 14.4 +0.4**
comp=Z,1.6nm,0.8s,baz=110,slow=3.5,SNR=4.4
KLMR Klimovskoe 60.95 327 *e*P **P** **18 42 53.7 -0.6**
KLMR *e* 18 45 08.0
KLMR *e*S **S** **18 51 06.5 +1.2**
KLMR pmax pmax
comp=Z,91nm,0.8s
KLMR Klimovskoe 60.95 327 *e*P **P** **18 42 53.8 -0.6**
KLMR AMP 18 42 58.4
comp=Z,91nm,0.8s
KLMR *e*PP **PP** **18 45 08.0 -1.0**
KLMR *e*S **S** **18 51 06.6 +1.2**
KLMR *e*S **S** **18 51 06.6 +1.2**
KLMR LQ LQ 19 04 33.4
KLMR LQ LQ 19 04 33.4
KLMR LR LR 19 06 17.0
HRA Herat 61.22 292 P **P** **18 42 57.2 +0.3**
POO Poona 61.28 270 *e*P **P** **18 42 57.4 +0.1**
POO *i*pP **pP** **18 43 18.1 -1.4**
BELG Belogornoye 61.38 316 S **S** **18 51 09.3 -1.8**
comp=Z,26nm,1.0s,baz=308,slow=23,SNR=11
BELG LR LR 19 10 56.2
comp=Z,747nm,20.6s,baz=63,slow=37
BELG PKPPKP 19 12 14.2
comp=Z,26nm,1.0s,baz=109,slow=1.8,SNR=8.2
BELG Belogornoye 61.38 316*c* *i*P **P** **18 42 58.1 +0.7**
BELG pmax pmax
comp=Z,41nm,0.8s
TULEG Thule 61.80 8⇑ *i*P **P** **18 42 59.9 +0.1**
TULEG IAmb IAmb 18 43 00.9
comp=Z,275nm,1.0s
TULEG Thule 61.80 8 P **P** **18 42 59.9 +0.1**
TULEG IAmb IAmb 18 43 01.1
comp=Z,281nm,1.0s

KTK1 Kautokeino 61.84 339 *e*P **P** **18 43 01.0 +0.8**
NEEM North Greenlan 62.20 3⇑ *i*P **P** **18 43 03.6 +0.7**
NEEM IAmb IAmb 18 43 04.5
comp=Z,287nm,0.9s
JETT Jettan, Norway 62.24 340 *e*P **P** **18 43 04.7 +1.8**
GEYT Alibeck 62.26 297 P **P** **18 43 04.5 +0.9**
comp=Z,81nm,0.7s,baz=18,slow=0.5,SNR=61
GEYT S **S** **18 51 22.0 -0.7**
comp=Z,11nm,1.1s,baz=154,slow=31,SNR=7.9
GEYT LR LR 19 11 05.7
comp=Z,260nm,18.3s,baz=200,slow=37
GYA0B ALIBECK ARRAY 62.26 297 P **P** **18 43 04.4 +0.8**
GYA0B IAmb IAmb 18 43 08.0
comp=Z,101nm,0.8s
DAG Danmarks Havn 62.45 355⇑ *i*P **P** **18 43 04.7 +0.5**
DAG IAmb IAmb 18 43 05.5
comp=Z,178nm,0.8s
DAG Danmarks Havn 62.45 355⇑ *i*P **P** **18 43 04.6 +0.5**
DAG pmax pmax
comp=Z,180nm,0.8s
TRO Tromso 62.56 341 *e*P **P** **18 43 05.4 +0.4**
GOA Goa 63.12 268 *e*P **P** **18 43 11.1 +1.6**
GOA *i*pP **pP** **18 43 31.7 -0.1**
PALK Pallekele 63.13 256 P **P** **18 43 09.5 -0.2**
PALK pmax pmax
comp=Z,66nm,1.0s
PALK Pallekele 63.13 256 P **P** **18 43 09.5 -0.2**
PGC Sidney 64.05 47 P **P** **18 43 16.1 +0.9**
PGC IAmb IAmb 18 43 17.7
comp=Z,333nm,1.4s
AS31 Alice Springs 64.09 188 P **P** **18 43 15.1 -0.5**
ASAR Alice Springs 64.09 188 P **P** **18 43 15.4 -0.2**
comp=Z,120nm,0.7s,baz=6.0,slow=7.8,SNR=1537
ASAR pP **pP** **18 43 37.7 -0.4**
comp=Z,124nm,0.8s,baz=11,slow=6.5,SNR=9.6
ASAR PKiKP **PKiKP** **18 49 57.4 -0.2**
comp=Z,1.5nm,0.8s,baz=338,slow=1.5,SNR=4.7
ASAR S **S** **18 51 44.8 -0.8**
comp=Z,1.1nm,0.9s,baz=12,slow=24,SNR=0.8
ASAR PKPPKP **P'P'df** **19 12 04.4 +1.2**
comp=Z,3.5nm,0.9s,baz=174,slow=2.4,SNR=8.0
ASAR Alice Springs 64.09 188 P **P** **18 43 15.3 -0.4**
ASAR pP **pP** **18 43 37.0 -1.1**
VALR Valaam 64.13 330 *i*P **P** **18 43 14.9 -0.5**
VALR pmax pmax
comp=Z,74nm,0.9s
KOUNC Koumac, New Ca 64.25 156 P **P** **18 43 17.9 +1.2**
A04D Lummi Island 64.43 47 P **P** **18 43 18.9 +1.3**
baz=303,SNR=11
NLWA Neilton Lookou 64.49 49 P **P** **18 43 20.0 +1.9**
NLWA IAmb IAmb 18 43 21.6
comp=Z,391nm,1.1s
MOS Moscow 64.58 323 *e*P **P** **18 43 18.4 -0.1**
MOS *e* 18 43 40.0
MOS *e* 18 43 54.0
MOS *e* 18 45 38.4
MOS *e*PPP PPP 18 47 18.2
MOS *e*S **S** **18 51 48.1 -2.9**
MOS *e* 18 52 06.1
MOS *e* 18 53 01.6
MOS pmax pmax
comp=Z,179nm,1.6s
MOS smax smax
comp=N,900nm,2.8s
MOS smax smax
comp=E,1μm,2.9s
MOS MLR MLR
comp=Z,700nm,14.0s
A05A Maple Falls 64.62 46 P **P** **18 43 19.7 +0.8**
A05A IAmb IAmb 18 43 21.4
comp=Z,461nm,1.4s
KULLO Kullorsuaq 64.66 5⇑ *i*P **P** **18 43 19.1 +0.3**
KULLO IAmb IAmb 18 43 19.9
comp=Z,123nm,0.9s
KULLO Kullorsuaq 64.66 5⇑ *i*P **P** **18 43 19.0 +0.3**
KULLO pmax pmax
comp=Z,120nm,0.9s
STEI Steigen 64.72 340 *e*P **P** **18 43 19.4 +0.2**
D03D Eldon 64.86 48 P **P** **18 43 22.6 +2.1**
baz=303,SNR=77
DBG Daneborg 64.94 355⇑ *i*P **P** **18 43 20.7 +0.1**
DBG IAmb IAmb 18 43 21.7
comp=Z,57nm,1.1s
LOF Lofoten 65.00 341 *e*P **P** **18 43 21.5 +0.5**
B05A Bryant 65.02 47 P **P** **18 43 23.1 +1.6**
baz=303,SNR=54
FAUS Fauske 65.11 340 *e*P **P** **18 43 22.3 +0.5**
E03A Lebam 65.12 49 P **P** **18 43 23.6 +1.4**
E03A IAmb IAmb 18 43 25.5
comp=Z,461nm,1.1s
VRH Novokhopyorsk 65.12 317 *e*P **P** **18 43 22.4 +0.3**
VRH *e*S **S** **18 51 54.5 -3.2**
VRH pmax pmax
comp=Z,210nm,0.7s
VRH pmax pmax
comp=Z,170nm,0.6s
VRH smax smax
comp=N,140nm,4.5s
VRH MLR MLR
comp=Z,780nm,16.0s
B06A Marblemount 65.22 47 P **P** **18 43 23.4 +0.7**
B06A IAmb IAmb 18 43 25.3
comp=Z,488nm,1.3s
D04E Lakebay 65.23 48 P **P** **18 43 25.5 +2.6**
baz=303,SNR=18
PUL Pulkovo 65.33 329 *i*P **P** **18 43 24.3 +1.1**
PUL pmax pmax
comp=Z,164nm,0.7s
OBN Obninsk 65.44 322 S **S** **18 52 00.9 -0.5**
comp=Z,3.1nm,0.4s,baz=291,slow=23,SNR=8.3
OBN LR LR 19 13 40.4
comp=Z,79nm,18.0s,baz=11,slow=37
OBN Obninsk 65.44 322 ⇑P **P** **18 43 24.6 +0.6**
OBN Obninsk 65.44 322*c* *i*P **P** **18 43 24.5 +0.4**
OBN *e**PP **pP** **18 43 46.5 +0.2**
OBN *i* 18 43 55.7
OBN *e* 18 45 52.9
OBN *i*S **S** **18 51 59.6 -1.8**
OBN *i*PS PnS 18 52 17.2 -16
OBN *e* 18 52 40.5
OBN *i* 18 53 08.1
OBN pmax pmax
comp=Z,118nm,1.1s
OBN MLR MLR
comp=Z,611nm,14.0s
OBN Obninsk 65.44 322 P **P** **18 43 24.4 +0.4**
D05A Enumclaw 65.67 48 P **P** **18 43 27.6 +1.8**
D05A IAmb IAmb 18 43 28.7
comp=Z,227nm,0.9s
E04D Cinebar 65.69 49 P **P** **18 43 27.5 +1.6**
baz=304,SNR=8.9
F04D Rainier, OR 65.69 49 P **P** **18 43 27.6 +1.7**
baz=304,SNR=6.1
LPSR Galich'ya Gora 65.76 319 *e*P **P** **18 43 26.5 +0.3**
LPSR *e*S **S** **18 52 01.6 -3.8**
LPSR pmax pmax
comp=Z,200nm,0.8s
LPSR pmax pmax
comp=Z,170nm,0.7s
LPSR smax smax
comp=N,170nm,3.1s
LPSR MLR MLR
comp=Z,650nm,17.0s
FIA1 FINESS Array S 65.87 332 P **P** **18 43 27.0 +0.3**
FIA1 IAmb IAmb 18 43 28.3
comp=Z,186nm,0.8s
FINES FINESS Array B 65.87 332 P **P** **18 43 27.2 +0.5**
comp=Z,146nm,0.8s,baz=47,slow=8.4,SNR=262
FINES pP **pP** **18 43 49.6 +0.5**
comp=Z,52nm,0.8s,baz=55,slow=7.2,SNR=2.9
FINES S **S** **18 52 05.7 -0.8**
comp=Z,15nm,1.0s,baz=61,slow=14,SNR=12
FINES LR LR 19 15 49.0
comp=Z,344nm,18.2s,baz=48,slow=39
FINES FINESS Array B 65.87 332 P **P** **18 43 26.8 0.0**
C06D Leavenworth 65.88 47 P **P** **18 43 28.6 +1.5**
baz=304,SNR=14
LON Longmire 66.02 48 P **P** **18 43 29.4 +1.3**
LON pmax pmax
comp=Z,117nm,1.3s
LON Longmire 66.02 48 P **P** **18 43 29.4 +1.3**
EIDS Eidsvold 66.02 170 P **P** **18 43 28.2 +0.2**
G03D McMinnville, O 66.03 50 P **P** **18 43 30.0 +2.0**
baz=304,SNR=17
VORR Voronezh 66.15 318 *e*P **P** **18 43 28.0 -0.7**

VORR pmax pmax
comp=Z,300nm,1.2s
MOR8 Moi Rana 66.24 339 *e*P **P** **18 43 28.3 -0.7**
I02D Swisshome 66.30 52 P **P** **18 43 31.9 +2.2**
baz=304,SNR=44
NOUC Port Laguerre 66.34 155 P **P** **18 43 31.6 +1.5**
KONS Konsvik 66.34 340 *e*P **P** **18 43 30.0 +0.4**
COR Corvallis 66.35 51 P **P** **18 43 32.1 +2.0**
COR pmax pmax
comp=Z,760nm,1.2s
COR Corvallis 66.35 51 P **P** **18 43 32.1 +2.0**
LTY Liberty 66.38 47 P **P** **18 43 31.4 +1.1**
MAK Makhachkala 66.42 307 *e*P **P** **18 43 27.9 -2.7**
MAK *e**PP **pP** **18 43 51.0 -2.0**
MAK *e**SP **sP** **18 44 01.6 -1.1**
MAK *e* 18 45 56.2
MAK *e*PPP PPP 18 47 36.3
MAK *e*S **S** **18 52 10.3 -3.5**
MAK *e**SS **sS** **18 52 51.2 -0.7**
MAK *e*SS **SS** **18 56 26.7 -4.6**
MAK pmax pmax
comp=Z,232nm,1.4s
MAK MLR MLR
comp=Z,481nm,14.0s
VSR Storozhevoye 66.44 318 *e*P **P** **18 43 31.1 +0.5**
VSR *e*S **S** **18 52 10.7 -3.0**
VSR pmax pmax
comp=Z,120nm,0.7s
VSR pmax pmax
comp=Z,250nm,1.2s
VSR smax smax
comp=N,200nm,5.0s
VSR MLR MLR
comp=Z,890nm,15.0s
UPNV Upernavik 66.48 6⇑ *i*P **P** **18 43 30.7 +0.2**
UPNV IAmb IAmb 18 43 31.7
comp=Z,201nm,1.2s
YATNC Mamie plateau, 66.49 154 P **P** **18 43 32.9 +1.8**
B08A Colville Reser 66.50 46 P **P** **18 43 31.8 +0.7**
VORD Divnogorie 66.52 318 *e*P **P** **18 43 31.7 +0.6**
VORD *e*S **S** **18 52 13.0 -1.7**
VORD pmax pmax
comp=Z,80nm,0.7s
VORD smax smax
comp=N,180nm,4.8s
KEBM Edson Butte 66.69 53 P **P** **18 43 34.5 +2.1**
F05D White Salmon 66.70 49 P **P** **18 43 34.2 +1.8**
baz=304,SNR=31
H04D Lebanon 66.72 51 P **P** **18 43 34.6 +2.1**
baz=304,SNR=35
BUCK Buck Mountain 66.76 51 P **P** **18 43 35.1 +2.2**
J01E Myrtle Point 66.77 53 P **P** **18 43 35.0 +2.1**
baz=304,SNR=97
OUENC Ouen Island, N 66.81 154 P **P** **18 43 34.0 +0.9**
OUENC Ouen Island, N 66.81 154 P **P** **18 43 35.0 +1.9**
I03D Drain, OR 66.82 52 P **P** **18 43 35.4 +2.3**
baz=304,SNR=190
H04A Detroit Lake 66.96 50 P **P** **18 43 35.5 +1.5**
H04A IAmb IAmb 18 43 37.0
comp=Z,448nm,1.1s
XMAS Kiritimati 66.96 108 P **P** **18 43 35.7 +1.3**
XMAS IAmb IAmb 18 43 37.2
comp=Z,331nm,0.9s
XMAS Kiritimati 66.96 108 P **P** **18 43 36.2 +1.8**
MSVF Nonsavu 67.11 142 P **P** **18 43 37.0 +1.7**
MSVF pmax pmax
comp=Z,41nm,0.9s
MSVF Nonsavu 67.11 142 P **P** **18 43 37.0 +1.7**
MSVF Nonsavu 67.11 142 P **P** **18 43 37.4 +2.1**
AKT Akhty 67.11 306 *e*P **P** **18 43 35.6 +0.4**
AKT *e**PP **pP** **18 43 58.9 +1.3**
AKT *e* 18 44 03.2
AKT *e**SP **sP** **18 44 09.7 +2.4**
AKT *e* 18 46 00.9
AKT *e*S **S** **18 52 19.9 -2.6**
AKT *e* 18 53 28.0
AKT pmax pmax
comp=Z,119nm,0.8s
KBO Bosley Butte 67.12 54 P **P** **18 43 37.1 +1.9**
G05D Wamic, OR 67.15 50 P **P** **18 43 37.0 +1.7**
baz=305,SNR=43
K02D Willamette Mer 67.19 53 P **P** **18 43 37.6 +2.0**
baz=304,SNR=189
E07A Sunnyside 67.24 48 P **P** **18 43 37.3 +1.5**
E07A IAmb IAmb 18 43 38.7
comp=Z,290nm,1.1s
MEF Metsahovi 67.30 331 *e*P **P** **18 43 36.4 +0.6**
GROC Groznyy 67.33 308 *e*P **P** **18 43 38.0 +1.7**
GROC *e**PP **pP** **18 44 00.1 +1.3**
GROC *e**SP **sP** **18 44 10.9 +2.4**
GROC *e*S **S** **18 52 22.0 -2.7**
GROC *e*S **PnS** **18 52 53.7 -5.2**
GROC pmax pmax
comp=Z,92nm,0.6s
I04A Tendick Farm, 67.33 51 P **P** **18 43 38.1 +1.7**
baz=305,SNR=218
SUMG Summit 67.35 360⇑ *i*P **P** **18 43 37.9 +1.3**
SUMG IAmb IAmb 18 43 38.3
comp=Z,171nm,0.8s
SUMG Summit 67.35 360⇑ *i*P **P** **18 43 37.8 +1.3**
SUMG pmax pmax
comp=Z,170nm,0.8s
SUMG Summit 67.35 360 P **P** **18 43 37.5 +0.9**
SUMG IAmb IAmb 18 43 39.0
comp=Z,184nm,0.9s
C09A Chrisman Ranch 67.40 46 P **P** **18 43 37.8 +1.0**
D08A Wollman Farm, 67.47 47 P **P** **18 43 38.2 +1.0**
D08A IAmb IAmb 18 43 39.2
comp=Z,183nm,0.7s
HAWA Hanford 67.51 48 P **P** **18 43 38.8 +1.3**
HAWA IAmb IAmb 18 43 40.4
comp=Z,201nm,1.0s
L02E Cave Junction 67.54 53 P **P** **18 43 39.7 +2.0**
baz=305,SNR=112
F07A Phinny Hill Vi 67.58 48 P **P** **18 43 39.4 +1.6**
F07A IAmb IAmb 18 43 40.9
comp=Z,313nm,1.0s
VSU Vasula 67.59 329 *e*P **P** **18 43 38.8 +1.1**
VSU Vasula 67.59 329*c* *i*P **P** **18 43 38.3 +0.6**
VSU pmax pmax
comp=Z,384nm,1.0s
I05D Terrebonne, OR 67.65 50 P **P** **18 43 39.6 +1.2**
baz=305,SNR=41
HUMO Hull Mountain 67.68 53 P **P** **18 43 39.9 +1.3**
RAF Rauma 67.69 333 *e*P **P** **18 43 38.5 +0.2**
KRMB Red Mountain 67.71 54 P **P** **18 43 40.1 +1.2**
KRMB IAmb IAmb 18 43 42.5
comp=Z,344nm,1.3s
E08A Dider Farm, El 67.72 47 P **P** **18 43 39.8 +1.0**
E08A IAmb IAmb 18 43 41.4
comp=Z,232nm,1.0s
NEW Newport 67.75 45 P **P** **18 43 40.1 +1.1**
NEW pmax pmax
comp=Z,372nm,1.3s
NEW Newport 67.75 45 P **P** **18 43 40.0 +1.0**
baz=306,SNR=156
NEW Newport 67.75 45 P **P** **18 43 40.1 +1.1**
NEW IAmb IAmb 18 43 41.5
comp=Z,372nm,1.3s
J04D Umpqua Nationa 67.83 52 P **P** **18 43 41.5 +1.8**
baz=305,SNR=59
GOF Gofitskoye 67.89 311⇑ *i*P **P** **18 43 42.1 +2.2**
GOF *e*S **S** **18 52 30.8 -0.6**
GOF pmax pmax
comp=Z,271nm,0.7s
GOF smax smax
comp=N,82nm,0.9s
GOF smax smax
comp=E,267nm,1.6s
JCC Jacoby Creek, 68.03 55 P **P** **18 43 43.0 +2.2**
NSS Namsos 68.17 339 *e*P **P** **18 43 41.6 +0.4**
KHMM Horse Mountain 68.19 54 P **P** **18 43 43.9 +1.9**
PINE Pine Mountain 68.20 51 P **P** **18 43 43.9 +1.8**
E09A Wood Farm, Sta 68.22 47 P **P** **18 43 43.1 +1.1**
L04D Klamath Falls 68.29 53 P **P** **18 43 44.5 +1.8**
baz=305,SNR=350
J05D Fort Rock, OR 68.32 51 P **P** **18 43 44.7 +1.9**
baz=305,SNR=224
YBH Yreka Blue Hor 68.33 53 P **P** **18 43 44.4 +1.6**
YBH pmax pmax
comp=Z,279nm,1.1s
YBH Yreka Blue Hor 68.33 53 P **P** **18 43 44.4 +1.6**
YBH IAmb IAmb 18 43 46.2
comp=Z,279nm,1.1s

K04D Chiloquin, OR 68.39 52 P **P 18 43 45.1 +1.9**
baz=305,SNR=32
M02C Callahan 68.43 54 P **P 18 43 45.6 +2.2**
baz=305,SNR=239
NCK Nalchik 68.47 309 *i* P **P 18 43 44.8 +1.2**
NCK pmax pmax
comp=Z,39nm,0.8s
G08A Pilot Rock 68.48 48 P **P 18 43 44.7 +1.0**
MTSE Matsula 68.55 330 *e*P **P 18 43 44.1 +0.5**
KMRM Mail Ridge 68.58 55 P **P 18 43 46.3 +2.0**
ZEI Tsey 68.70 308 *e*P **P 18 43 44.1 -1.1**
ZEI pmax pmax
comp=Z,36nm,0.6s
KVAR Kislovodsk Arr 68.73 310 S **S 18 52 43.1 +1.4**
comp=Z,20nm,1.1s,baz=329,slow=8.4,SNR=7.0
KVAR LR LR 19 15 09.0
comp=Z,513nm,18.3s,baz=266,slow=37
KIV Kislovodsk 68.74 310 ⇑P **P 18 43 46.5 +1.2**
KIV Kislovodsk 68.74 310 *i* P **P 18 43 46.3 +1.0**
SNR=24
KIV Kislovodsk 68.74 310 *e*P **P 18 43 46.6 +1.3**
KIV *e* 18 46 17.3
KIV *e*S **S 18 52 42.6 +0.9**
KIV *e*SS **SS 18 57 09.7 +2.5**
KIV pmax pmax
comp=Z,216nm,1.0s
KIV pmax pmax
comp=Z,26nm,3.0s
KIV MLR MLR
comp=Z,308nm,17.0s
KIV Kislovodsk 68.74 310 P **P 18 43 46.2 +0.9**
KIV IAmb IAmb 18 43 51.2
comp=Z,180nm,0.8s
KIV Kislovodsk 68.74 310 P **P 18 43 46.7 +1.4**
KIV S **S 18 52 41.5 -0.3**
KBZ Khabaz 68.75 310 P **P 18 43 46.4 +1.2**
comp=Z,73nm,0.8s,baz=48,slow=4.5,SNR=64
KBZ S **S 18 52 43.0 +1.4**
comp=Z,2.7nm,0.7s,baz=41,slow=19,SNR=8.5
KBZ LR LR 19 15 51.3
comp=Z,568nm,18.4s,baz=42,slow=38
KBZ Khabaz 68.75 310*c i*P **P 18 43 46.6 +1.4**
KBZ pmax pmax
comp=Z,71nm,0.8s
N02D Trinity Center 68.77 54 P **P 18 43 47.8 +2.3**
baz=305,SNR=169
SCO Scoresbysund 68.80 354⇑*i*P **P 18 43 46.1 +1.0**
SCO IAmb IAmb 18 43 46.7
comp=Z,76nm,1.0s
SCO Scoresbysund 68.80 354 P **P 18 43 46.0 +1.0**
SCO pmax pmax
comp=Z,115nm,1.2s
SCO Scoresbysund 68.80 354 P **P 18 43 46.0 +0.9**
M04C Macdoel 68.83 53 P **P 18 43 47.5 +1.5**
baz=306,SNR=386
K05A Summer Lake 68.85 52 P **P 18 43 47.9 +1.8**
I07A Izee 68.88 50 P **P 18 43 47.5 +1.4**
AAL Aland 68.91 333 *e*P **P 18 43 46.4 +0.5**
KCPM Cahto Peak 68.97 55 P **P 18 43 48.5 +1.7**
KCPM IAmb IAmb 18 43 50.1
comp=Z,310nm,1.1s
WALA Waterton Lakes 68.98 43 P **P 18 43 47.7 +0.9**
WALA IAmb IAmb 18 43 49.2
comp=Z,288nm,1.1s
F10A Beach Ranch, E 69.06 47 P **P 18 43 48.4 +1.1**
ONI Oni 69.09 308 P **P 18 43 49.3 +1.8**
ONI pmax pmax
comp=Z,146nm,1.4s
ONI Oni 69.09 308 P **P 18 43 49.3 +1.8**
WDC Whiskeytown Da 69.10 54 P **P 18 43 48.5 +1.0**
WDC pmax pmax
comp=Z,290nm,1.2s
WDC Whiskeytown Da 69.10 54 P **P 18 43 48.5 +1.0**
WDC IAmb IAmb 18 43 50.5
comp=Z,290nm,1.1s
NEY Neytrino 69.13 309⇑*i*P **P 18 43 49.7 +1.8**
NEY pmax pmax
comp=Z,13nm,0.8s
O02D Mt. Diablo Mer 69.18 55 P **P 18 43 50.1 +2.0**
baz=306,SNR=182
AFI Afiamalu 69.29 131 P **P 18 43 49.4 +0.4**
AFI pmax pmax
comp=Z,47nm,0.8s
AFI Afiamalu 69.29 131 P **P 18 43 49.4 +0.4**
JTMT Jette 69.59 44 P **P 18 43 52.0 +1.4**
JTMT IAmb IAmb 18 43 53.4
comp=Z,464nm,1.1s
BMO Blue Mountains 69.68 48 P **P 18 43 52.4 +1.3**
BMO pmax pmax
comp=Z,187nm,1.1s
BMO Blue Mountains 69.68 48 P **P 18 43 52.4 +1.3**
BMO IAmb IAmb 18 43 53.9
comp=Z,187nm,1.1s
MOD Modoc Plateau 69.69 52 P **P 18 43 52.3 +1.0**
HOPS Hopland Field 69.69 56 P **P 18 43 52.4 +1.3**
HOPS IAmb IAmb 18 43 54.0
comp=Z,259nm,1.2s
IDID Didziasalis 69.69 326 *e*P **P 18 43 52.1 +1.3**
O03E Paynes Creek 69.72 54 P **P 18 43 52.5 +1.1**
baz=306,SNR=99
GNI Garni 69.73 306 PKPPKP 19 11 53.9
comp=Z,6.4nm,0.8s,baz=16,slow=6.2,SNR=5.7
GNI Garni 69.73 306 *i* P **P 18 43 52.5 +0.9**
GNI pmax pmax
comp=Z,51nm,0.8s
GNI Garni 69.73 306 P **P 18 43 52.9 +1.3**
GNI Garni 69.73 306 P **P 18 43 53.6 +2.0**
MNK Minsk 69.74 325 *i* P **P 18 43 52.8 +1.6**
MNK *i* *PP **pP 18 44 15.8 +2.1**
MNK *i* 18 46 28.6
MNK *i* PPP PPP 18 48 11.6
MNK *i* S **S 18 52 55.8 +2.8**
MNK *i* SS **SS 18 57 23.6 +1.7**
MNK pmax pmax
comp=Z,195nm,0.8s
MNK pmax pmax
comp=E,23nm,1.3s
MNK pmax pmax
comp=N,132nm,1.2s
MNK MLR MLR
comp=E,34nm,17.0s
MNK MLR MLR
comp=N,304nm,15.0s
MNK Minsk 69.74 325 *i* P **P 18 43 52.8 +1.6**
comp=E,23nm,1.3s
MNK *i* P **P 18 43 52.8 +1.6**
comp=N,132nm,1.2s
MNK *i* P **P 18 43 52.8 +1.6**
comp=Z,195nm,0.8s,baz=228
MNK *i* pP **pP 18 44 15.9 +2.1**
MNK *i* PP **PP 18 46 28.7 +2.9**
MNK *i* PPP PPP 18 48 11.6
MNK *i* S **S 18 52 55.9 +2.9**
MNK *i* SS **SS 18 57 23.7 +1.8**
MNK *i* SSS SSS 19 00 41.2
MNK *i* LQ LQ 19 09 24.8
MNK *i* LR LR 19 15 17.2
MNK *i* LRM MLR 19 16 49.0
comp=E,34nm,17.4s
MNK *i* LRM MLR 19 17 30.2
comp=N,304nm,15.1s
MNK *i* LRM MLR 19 17 43.0
ISAL Salakas 69.77 327 *e*P **P 18 43 52.1 +0.8**
CHVG Ch'k'valeri 69.83 309 ⇑P **P 18 43 53.3 +1.4**
IIGN Ignalina 69.88 327 *e*P **P 18 43 53.0 +1.0**
SLIT Siltere, Latvi 69.89 330 *e*P **P 18 43 52.7 +0.7**
J08A Circle Bar Ran 69.91 50 P **P 18 43 53.9 +1.4**
J08A IAmb IAmb 18 43 55.8
comp=Z,401nm,1.2s
GDXM Geysers 69.97 56 P **P 18 43 54.6 +1.6**
WBK Wadi Bani Khal 70.15 283 P **P 18 43 55.7 +1.4**
SNR=5.4
BANOM Banah 70.17 287 *i* P **P 18 43 55.3 +1.0**
SNR=13
BANOM Banah 70.17 287 P **P 18 43 55.1 +0.7**
SNR=13
BANOM S **S 18 52 58.5 -0.5**
SHME Shamm 70.21 288 *i* P **P 18 43 55.0 +0.5**
SNR=92
SHME Shamm 70.21 288 P **P 18 43 55.4 +0.8**
SNR=17
BIDO Bidbid 70.24 284 P **P 18 43 55.5 +0.7**
MCCM Marconi Confer 70.31 56 P **P 18 43 56.1 +1.2**
MCCM IAmb IAmb 18 43 57.3
comp=Z,202nm,0.8s

ILULI Ilulissat 70.34 5⇑*i*P **P 18 43 54.9 +0.4**
ILULI IAmb IAmb 18 43 55.5
comp=Z,110nm,0.9s
ILULI Ilulissat 70.34 5 P **P 18 43 54.9 +0.4**
ILULI pmax pmax
comp=Z,101nm,0.8s
ILULI Ilulissat 70.34 5 P **P 18 43 54.9 +0.4**
MSO Missoula 70.34 45 P **P 18 43 56.2 +1.1**
baz=308,SNR=112
MSO Missoula 70.34 45 P **P 18 43 55.7 +0.6**
MSO IAmb IAmb 18 43 57.5
comp=Z,326nm,1.2s
ORV Oroville 70.34 55 P **P 18 43 55.9 +0.7**
ORV pmax pmax
comp=Z,213nm,1.1s
ORV Oroville 70.34 55 P **P 18 43 55.9 +0.7**
ORV IAmb IAmb 18 43 57.4
comp=Z,213nm,1.1s
WVOR Wild Horse Val 70.36 51 P **P 18 43 56.6 +1.2**
WVOR pmax pmax
comp=Z,322nm,1.2s
WVOR Wild Horse Val 70.36 51 P **P 18 43 56.6 +1.2**
WVOR IAmb IAmb 18 43 58.4
comp=Z,322nm,1.2s
KARS Kars 70.47 307 P **P 18 43 56.2 +0.1**
KARS pmax pmax
comp=Z,214nm,0.8s
KARS Kars 70.47 307 P **P 18 43 56.1 +0.1**
KARS IAmb IAmb 18 44 02.0
comp=Z,214nm,0.8s
MDH Madha 70.54 287 P **P 18 43 56.5 -0.1**
MDH Madha 70.54 287 S **S 18 53 02.4 -0.8**
SMDO Samad 70.57 284 P **P 18 43 58.6 +1.7**
MASF Masafi 70.60 287 P **P 18 43 58.0 +1.0**
SNR=22
MASF S **S 18 53 04.7 +0.8**
MSFE Esma-Masafi 70.61 287 *i* P **P 18 43 57.9 +0.9**
SNR=22
SOC Sochi 70.69 311 *e*P **P 18 43 54.8 -2.3**
SOC *e**PP **PcP 18 44 18.5 +0.9**
SOC *e**SP **sP 18 44 29.0 -0.5**
SOC *e* 18 46 30.1
SOC *e*S **S 18 53 00.7 -3.6**
SOC *e**SS **sS 18 53 42.7 -0.2**
SOC *e*SSS SSS 19 00 43.7
SOC pmax pmax
comp=Z,64nm,0.9s
SOC MLR MLR
comp=Z,245nm,13.0s
PABE Paberze 70.71 328 *e*P **P 18 43 58.3 +1.2**
PABE Paberze 70.71 328 P **P 18 43 57.7 +0.6**
PABE IAmb IAmb 18 43 59.0
comp=Z,277nm,0.9s
HOQ Hoqain 70.81 285 P **P 18 43 59.0 +0.8**
SNR=7.2
UOSS Minazif 70.82 287 *i* P **P 18 43 58.5 +0.3**
SNR=36
UOSS Minazif 70.82 287 P **P 18 43 58.2 -0.1**
UOSS IAmb IAmb 18 44 03.0
comp=Z,161nm,0.8s
UOSS Minazif 70.82 287 S **S 18 53 05.7 -0.7**
ICESG Greenland Ices 70.85 0⇑*i*P **P 18 43 59.1 +1.0**
ICESG IAmb IAmb 18 44 00.1
comp=Z,247nm,1.0s
BEKR Beckworth 70.86 54 P **P 18 43 59.6 +1.1**
BEKR IAmb IAmb 18 44 01.1
comp=Z,353nm,1.0s
NC405 NORSAR Array S 70.91 337 P **P 18 43 57.5 -0.7**
NC405 IAmb IAmb 18 43 58.5
comp=Z,192nm,0.8s
FFC Flin Flon 70.91 33 P **P 18 43 59.0 +0.7**
FFC pmax pmax
comp=Z,346nm,0.9s
FFC Flin Flon 70.91 33 P **P 18 43 59.0 +0.7**
FFC IAmb IAmb 18 44 00.2
comp=Z,346nm,0.9s
NC303 NORSAR Array S 70.92 337 P **P 18 43 58.6 +0.4**
MOL Molde 70.93 339 *e*P **P 18 43 59.2 +0.9**
JMDO Jabal Madar 70.94 283 P **P 18 43 59.8 +0.8**
DOMB Dombas 70.94 338 *e*P **P 18 43 58.9 +0.5**
HATD Hatta, Dubai 70.94 287 *i* P **P 18 43 59.9 +0.9**
SNR=34
HATD Hatta, Dubai 70.94 287 P **P 18 44 00.0 +1.0**
SNR=34
FCC Fort Churchill 71.03 27 P **P 18 43 59.4 +0.5**
FCC pmax pmax
comp=Z,585nm,1.3s
FCC Fort Churchill 71.03 27 P **P 18 43 59.4 +0.5**
FCC IAmb IAmb 18 44 00.7
comp=Z,585nm,1.3s
AFDM Forest Hills D 71.03 55 P **P 18 44 00.2 +0.9**
AFDM IAmb IAmb 18 44 02.1
comp=Z,276nm,1.3s
HFS Hagfors 71.05 335 S **S 18 53 08.5 +0.5**
comp=Z,9.7nm,1.0s,baz=72,slow=4.8,SNR=4.2
HFS LR LR 19 18 13.4
comp=Z,629nm,18.7s,baz=41,slow=38
SOHO SOHO 71.05 286 *i* P **P 18 44 00.1 +0.5**
SNR=43
NC204 NORSAR Array S 71.06 337 P **P 18 43 59.8 +0.6**
ARMA Armidale 71.07 171 P **P 18 43 59.7 +0.2**
ASHO Ashiyiah 71.08 287 *i* P **P 18 44 00.6 +0.7**
SNR=26
ASHO Ashiyiah 71.08 287 P **P 18 44 00.5 +0.6**
SNR=11
NB201 NORSAR Array S 71.08 337 P **P 18 43 59.4 +0.1**
NB201 IAmb IAmb 18 44 00.5
comp=Z,234nm,0.8s
NB2 NORSAR Subarra 71.11 337 P **P 18 43 59.8 +0.3**
comp=Z,134nm,0.8s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.11 337 P **P 18 43 59.8 +0.3**
baz=38,slow=6.2
NOA NORSAR Array B 71.11 337 P **P 18 43 59.5 0.0**
comp=Z,78nm,0.8s,baz=38,slow=6.0,SNR=231
NOA PP **PP 18 46 36.2 -1.3**
comp=Z,11nm,0.9s,baz=37,slow=7.9,SNR=3.4
NOA LR LR 19 20 16.8
comp=Z,607nm,18.1s,baz=40,slow=40
PBUR Paburge 71.16 329 *e*P **P 18 44 00.8 +1.1**
NAZ Nazwa, Dubai 71.19 287 *i* P **P 18 44 01.1 +0.6**
SNR=14
ANN Anapa 71.23 313 *e*P **P 18 43 59.9 -0.5**
ANN *e**PP **pP 18 44 21.7 -1.4**
ANN *e*S **S 18 53 07.9 -2.7**
ANN pmax pmax
comp=Z,64nm,0.7s
NBO00 NORSAR Array S 71.25 337 P **P 18 43 59.4 -0.9**
NBO00 IAmb IAmb 18 44 03.9
comp=Z,230nm,0.8s
NC602 NORSAR Array S 71.26 337 P **P 18 43 59.9 -0.4**
NAO01 NORSAR Array S 71.37 337 P **P 18 44 01.1 +0.1**
FAQ Al Faqa, Dubai 71.38 287 *i* P **P 18 44 01.8 +0.1**
SNR=40
FAQ Al Faqa, Dubai 71.38 287 P **P 18 44 01.7 +0.1**
SNR=12
AKN Aaknes 71.40 339 *e*P **P 18 44 03.0 +1.9**
MFID Camas Ranch 71.40 49 P **P 18 44 02.9 +1.2**
RUBR Rubicon Trail 71.48 54 P **P 18 44 03.2 +0.9**
RUBR IAmb IAmb 18 44 05.2
comp=Z,312nm,0.9s
ARQ Araqi 71.54 285 P **P 18 44 03.9 +1.3**
SNR=6.8
HRY Holter Researc 71.54 44 P **P 18 44 03.6 +1.1**
PAHR Pah Rah Range 71.56 53 P **P 18 44 03.8 +1.1**
PAHR IAmb IAmb 18 44 05.4
comp=Z,318nm,0.9s
ASUD Al Ashush, Dub 71.65 287 *i* P **P 18 44 04.1 +0.9**
SNR=13
ASUD Al Ashush, Dub 71.65 287 P **P 18 44 04.0 +0.8**
SNR=14
VCNR Virginia City 71.65 54 P **P 18 44 04.7 +1.4**
VCNR IAmb IAmb 18 44 06.3
comp=Z,192nm,0.9s
AKASG Malin Array Be 71.67 322 P **P 18 44 03.3 +0.4**
comp=Z,64nm,0.6s,baz=45,slow=6.3,SNR=196
AKASG PP **PP 18 46 36.6 -5.8**
comp=Z,12nm,0.7s,baz=42,slow=8.7,SNR=5.1
AKASG S **S 18 53 14.2 -1.2**
comp=Z,3.4nm,0.9s,baz=51,slow=11,SNR=5.0
AKASG LR LR 19 18 20.4
comp=Z,353nm,18.8s,baz=45,slow=38
AKASG Malin Array Be 71.67 322 P **P 18 44 03.1 +0.1**
AKBB Malin Array Si 71.67 322*c i*P **P 18 44 03.3 +0.4**
AKBB Malin Array Si 71.67 322 P **P 18 44 02.9 -0.1**
ALNE Al Ain 71.67 286 *i* P **P 18 44 04.3 +0.8**
SNR=28
ALNE Al Ain 71.67 286 P **P 18 44 04.3 +0.8**
SNR=11
LRM Limekiln Ridge 71.78 45 P **P 18 44 05.0 +1.0**
EGMT Eagleton 71.78 42 P **P 18 44 04.9 +1.1**
baz=310,SNR=122
EGMT Eagleton 71.78 42 P **P 18 44 04.6 +0.8**
EGMT IAmb IAmb 18 44 06.1
comp=Z,370nm,1.1s
PNTR Pine Nut 71.80 54 P **P 18 44 05.8 +1.6**
PNTR IAmb IAmb 18 44 07.3
comp=Z,260nm,1.0s
MHTO MHTO 71.86 282 P **P 18 44 05.2 +0.6**
SNR=12
FORT Forrest 71.87 192 P **P 18 44 03.9 -0.3**
FORT IAmb IAmb 18 44 28.2
comp=Z,226nm,0.8s
STKA Stephens Creek 71.89 180 P **P 18 44 04.1 -0.2**
comp=Z,33nm,0.7s,baz=358,slow=6.5,SNR=74
STKA pP **pP 18 44 26.4 -0.8**
comp=Z,27nm,0.8s,baz=341,slow=8.5,SNR=5.8
STKA PKP2bc 19 11 49.4
comp=Z,2.7nm,0.8s,baz=115,slow=0.6,SNR=4.5
STKA LR LR 19 17 12.1
comp=Z,135nm,18.5s,baz=3.7,slow=37
STKA Stephens Creek 71.89 180 P **P 18 44 04.1 -0.2**
AJN Ajban 71.93 287 P **P 18 44 05.1 +0.1**
CMB Columbia Colle 71.95 55 P **P 18 44 06.0 +1.1**
CMB pmax pmax
comp=Z,333nm,1.3s
CMB Columbia Colle 71.95 55 P **P 18 44 06.0 +1.1**
CMB IAmb IAmb 18 44 07.7
comp=Z,333nm,1.2s
DLMT Dillon 71.99 45 P **P 18 44 06.1 +0.9**
SAO San Andreas Ge 72.05 57 P **P 18 44 06.6 +1.1**
SAO pmax pmax
comp=Z,86nm,1.0s
SAO San Andreas Ge 72.05 57 P **P 18 44 06.6 +1.1**
SUW Suwalki 72.09 327 *e*P **P 18 44 05.7 +0.3**
SUW *e*S **S 18 53 19.5 -0.5**
SUW Suwalki 72.09 327 *e*P **P 18 44 06.0 +0.6**
SUW Suwalki 72.09 327 P **P 18 44 05.4 +0.1**
SUW pmax pmax
comp=Z,211nm,1.2s
SUW Suwalki 72.09 327 P **P 18 44 05.4 +0.1**
YERR Yerington 72.09 54 P **P 18 44 07.4 +1.4**
OSL Oslo 72.14 336 *e*P **P 18 44 06.6 +1.1**
MCMT McKenzie Canyo 72.19 46 P **P 18 44 07.2 +0.7**
BCYI Bear Canyon 72.21 47 P **P 18 44 06.8 +0.1**
KTUT Trabzon 72.25 309 ⇑P **P 18 44 06.2 -0.4**
SKAR Skarslia 72.26 338 *e*P **P 18 44 07.2 +0.9**
WAKR Walker 72.26 54 P **P 18 44 08.7 +1.7**
WAKR IAmb IAmb 18 44 10.2
comp=Z,235nm,1.1s
BOZ Bozeman (W) 72.36 45 P **P 18 44 08.6 +1.2**
BOZ pmax pmax
comp=Z,367nm,1.1s
BOZ Bozeman (W) 72.36 45 P **P 18 44 08.5 +1.2**
baz=310,SNR=439
BOZ Bozeman (W) 72.36 45 P **P 18 44 08.6 +1.2**
BOZ IAmb IAmb 18 44 10.0
comp=Z,367nm,1.1s
GURO Guroymak-BITLI 72.37 306 P **P 18 44 10.1 +2.5**
FOO Floro 72.40 340 *e*P **P 18 44 08.0 +0.9**
HYA Hoyanger 72.45 339 *e*P **P 18 44 08.4 +1.0**
SFJD Kangerlussuaq 72.56 5⇑*i*P **P 18 44 08.6 +0.6**
SFJD IAmb IAmb 18 44 09.4
comp=Z,93nm,0.9s
SFJD Kangerlussuaq 72.56 5⇑*i*P **P 18 44 08.5 +0.6**
SFJD pmax pmax
comp=Z,93nm,0.9s
SFJD Kangerlussuaq 72.56 5 P **P 18 44 08.4 +0.5**
KONO Kongsberg 72.71 337 P **P 18 44 08.7 -0.3**
KONO pmax pmax
comp=Z,76nm,1.0s
KONO Kongsberg 72.71 337 *e*P **P 18 44 09.6 +0.6**
KONO Kongsberg 72.71 337 P **P 18 44 08.7 -0.3**
STRU Stroemstad 72.71 336 *i* P **P 18 44 09.8 +0.8**
KVN Kaiserville 72.75 53 P **P 18 44 11.3 +1.5**
KVN pmax pmax
comp=Z,398nm,0.9s
KVN Kaiserville 72.75 53 P **P 18 44 11.3 +1.5**
KVN IAmb IAmb 18 44 12.8
comp=Z,398nm,0.9s
RYN Ryan 72.75 54 P **P 18 44 11.1 +1.2**
RYN IAmb IAmb 18 44 12.8
comp=Z,264nm,1.1s
SIRT Sirnak 72.76 305 P **P 18 44 11.0 +1.2**
PMPB Monarch Peak 72.79 57 P **P 18 44 11.4 +1.4**
KLNR Kaliningrad 72.87 329 *i* P **P 18 44 10.7 +0.7**
KLNR pmax pmax
comp=Z,297nm,1.0s
UMZA Um Al Zommool 72.91 285 P **P 18 44 10.2 -0.6**
SUE Sulen 72.93 340 *e*P **P 18 44 10.4 +0.2**
SIM Simferopol' 72.96 315*de*P **P 18 44 11.0 +0.3**
SIM *e* 18 44 27.0
SIM *e*S **S 18 53 29.5 -0.9**
SIM pmax pmax
comp=Z,75nm,0.9s
SIM smax smax
comp=N,88nm,1.4s
QLMT Earthquake Lak 72.96 45 P **P 18 44 12.1 +1.0**
LHV Little Huntoon 72.99 54 P **P 18 44 13.0 +2.0**
MORW Morawa 73.00 203 P **P 18 44 10.5 -0.5**
NVAR Mina Array Bea 73.01 54 P **P 18 44 13.0 +1.6**
comp=N,161nm,0.9s,baz=288,slow=5.8,SNR=798
NVAR LR LR 19 12 34.4
comp=N,126nm,20.3s,baz=311,slow=33
NVAR Mina Array Bea 73.01 54 P **P 18 44 12.6 +1.1**
MDPB Devils Postpil 73.02 55 P **P 18 44 12.6 +1.1**
NV11 Mina Array Sit 73.10 54 P **P 18 44 13.2 +1.4**
NV11 IAmb IAmb 18 44 14.9
comp=Z,274nm,1.2s
YHB Horse Butte 73.14 45 P **P 18 44 15.0 +2.9**
YHB IAmb IAmb 18 44 17.0
comp=Z,284nm,0.9s
MLAC Mammoth, Mammo 73.17 55 P **P 18 44 14.7 +2.3**
baz=308,SNR=27
JRN Qarnain Island 73.26 289 P **P 18 44 12.4 -0.4**
SNR=5.2
BLEU Blekinge 73.27 332 *i* P **P 18 44 12.3 0.0**
GCMT Greycliff 73.28 44 P **P 18 44 14.1 +1.2**
ASK Askoy 73.30 339 *e*P **P 18 44 12.9 +0.6**
YHH Holmes Hill 73.31 45 P **P 18 44 14.3 +1.2**
YHH IAmb IAmb 18 44 16.0
comp=Z,233nm,1.1s
DY2G Dye2 73.32 3⇑*i*P **P 18 44 13.6 +0.9**
DY2G IAmb IAmb 18 44 14.5
comp=Z,222nm,0.8s
YMR Madison River 73.32 45 P **P 18 44 14.6 +1.4**
YMR IAmb IAmb 18 44 16.2
comp=Z,249nm,1.1s
BER Bergen 73.34 339 *e*P **P 18 44 13.8 +1.2**
TJOU Tjoern 73.37 335 *i* P **P 18 44 13.2 +0.3**
ODD1 Odda 73.37 338 *e*P **P 18 44 14.1 +1.2**
ELK Elko 73.41 50 P **P 18 44 15.2 +1.4**
ELK pmax pmax
comp=Z,93nm,0.9s
ELK Elko 73.41 50 P **P 18 44 15.2 +1.4**
YNM Yellowstone No 73.42 45 P **P 18 44 14.1 +0.3**
YNM IAmb IAmb 18 44 20.5
comp=Z,332nm,1.3s
PAGB Antelope Grade 73.44 57 P **P 18 44 15.3 +1.5**
YNR Norris Junctio 73.45 45 P **P 18 44 16.0 +2.1**
YNR IAmb IAmb 18 44 21.4
comp=Z,415nm,1.4s
YUF Upper Falls 73.54 45 P **P 18 44 16.1 +1.6**
YNE Yellowstone No 73.62 44 P **P 18 44 15.9 +1.0**
VOG Valley Oaks Go 73.63 56 P **P 18 44 15.9 +1.1**
baz=308
YPP Pitchstone Pla 73.67 45 P **P 18 44 17.1 +1.8**
YPP IAmb IAmb 18 44 19.3
comp=Z,296nm,1.4s
LKWY Lake 73.69 45 P **P 18 44 17.9 +2.5**
LKWY pmax pmax
comp=Z,356nm,1.3s
LKWY Lake 73.69 45 P **P 18 44 17.9 +2.5**
LKWY IAmb IAmb 18 44 19.8
comp=Z,356nm,1.2s
YMP Mirror Lake Pl 73.71 45 P **P 18 44 17.1 +1.6**
YMP IAmb IAmb 18 44 18.8
comp=Z,283nm,1.2s
ONAU Onsala 73.77 334⇑*i*P **P 18 44 15.3 0.0**
SORM Soroca 73.82 320 ⇑P **P 18 44 16.0 +0.3**

BLS5 **Blasjo** 73.82 338 *e*P P 18 44 16.4 +0.8
GHWR **Ruwais** 73.83 288 P P 18 44 15.8 -0.4
DEL **Delary** 73.83 333 *i* P P 18 44 15.8 +0.2
FLWY **Flagg Ranch** 73.85 46 P P 18 44 18.5 +2.2
FLWY IAmb IAmb 18 44 21.0
comp=Z,302nm,1.2s
SMMC **Simmler** 73.86 57 P P 18 44 17.9 +1.7
baz=308,SNR=27
TPH **Tonopah** 73.89 54 P P 18 44 17.9 +1.3
TPH pmax pmax
comp=Z,2µm,1.0s
TPH **Tonopah** 73.89 54 P P 18 44 17.9 +1.3
TIN **Tinemaha, Big** 73.91 55 P P 18 44 18.5 +2.0
baz=309,SNR=15
RLMT **Red Lodge** 73.94 44 P P 18 44 18.2 +1.5
baz=311,SNR=80
RLMT **Red Lodge** 73.94 44 P P 18 44 17.9 +1.1
RLMT IAmb IAmb 18 44 19.7
comp=Z,448nm,1.4s
SHMA **Al-Shehemyia** 74.07 290 P P 18 44 16.9 -0.6
TPAW **Teton Pass** 74.10 46 P P 18 44 19.4 +1.6
TPAW IAmb IAmb 18 44 21.2
comp=Z,468nm,1.4s
UMR **Umm Al-Rimmam** 74.11 295⇓ *e*P P 18 44 17.4 -0.4
VES **Vestal, Richgr** 74.12 56 P P 18 44 18.5 +0.8
baz=308,SNR=53
PURM **Purcari** 74.15 318 ⇑P P 18 44 18.2 +0.6
HOMB **Homborsund** 74.16 336 *i* P P 18 44 18.0 +0.6
HOMB **Homborsund** 74.16 336 *e*P P 18 44 18.1 +0.6
LOHW **Long Hollow** 74.21 46 P P 18 44 19.9 +1.5
MIB **Mutribah** 74.22 296 *e*P P 18 44 17.4 -1.0
SNOW **Snow King Moun** 74.22 46 P P 18 44 20.4 +1.9
SNOW IAmb IAmb 18 44 21.9
comp=Z,214nm,1.0s
REDW **Red Top Meadow** 74.23 46 P P 18 44 20.1 +1.5
REDW IAmb IAmb 18 44 21.8
comp=Z,280nm,1.1s
PKM **Mcpherson Peak** 74.24 58 P P 18 44 20.4 +1.8
baz=308,SNR=113
SNOP **Sinop** 74.25 312 P P 18 44 18.9 +0.6
BORG **Borgarnes** 74.34 352 P P 18 44 20.4 +2.0
BORG **Borgarnes** 74.34 352 P P 18 44 20.4 +2.0
BORG IAmb IAmb 18 44 22.0
comp=Z,187nm,0.8s
ANGG **Ammassalik, Gr** 74.34 360 *i* P P 18 44 18.2 -0.2
ANGG IAmb IAmb 18 44 19.4
comp=Z,64nm,1.0s
ANGG **Ammassalik, Gr** 74.34 360 P P 18 44 18.1 -0.4
KMY **Karmoy** 74.34 338 *e*P P 18 44 18.7 +0.1
KIS **Kishinev** 74.36 319⇑ *i*P P 18 44 19.0 +0.1
KIS comp=Z,110nm,1.8s
KIS *e*pP **pP** 18 44 41.0 -0.7
KIS *i* S **S** 18 53 44.0 -2.1
comp=Z,220nm,2.8s
KIS **Kishinev** 74.36 319 *c i*P P 18 44 19.0 +0.1
KIS *e**SP **pP** 18 44 41.0 -0.7
KIS *i* S S 18 53 44.0 -2.1
KIS *e*PS PnS 18 54 09.0 -22
KIS pmax pmax
comp=Z,110nm,1.8s
KIS smax smax
comp=N,220nm,2.8s
KIS smax smax
comp=E,400nm,8.0s
KIS MLR MLR
comp=Z,300nm,14.0s
CWC **Cottonwood Cre** 74.38 55 P P 18 44 20.7 +1.3
baz=309
ISOG **Isortoq, Green** 74.41 0 *i* P P 18 44 18.2 -0.6
ISOG IAmb IAmb 18 44 20.0
comp=Z,139nm,1.1s
MILM **Milestii Mici** 74.42 319 ⇓P P 18 44 19.2 0.0
BJUU **Bjuv** 74.44 333 *i* P P 18 44 20.1 +1.0
DIKM **Dikmen** 74.46 312 ⇑P P 18 44 20.1 +0.5
LAO **LASA Array** 74.46 41 P P 18 44 20.8 +1.1
baz=313,SNR=55
LAO **LASA Array** 74.46 41 P P 18 44 20.7 +1.1
LAO IAmb IAmb 18 44 22.2
comp=Z,310nm,1.1s
QRN **Al-Qurain** 74.47 295 *e*P P 18 44 18.9 -0.9
GRAC **Grapevine Rang** 74.48 55 P P 18 44 21.7 +1.9
baz=309,SNR=74
AHID **Auburn Hatcher** 74.49 47 P P 18 44 21.0 +1.0
SNART **Snartemo** 74.50 337 *i* P P 18 44 20.4 +1.0
SNART **Snartemo** 74.50 337 *e*P P 18 44 20.4 +1.0
BSD **Bornholm Skovb** 74.51 331 *e*P P 18 44 20.8 +1.3
BSD **Bornholm Skovb** 74.51 331⇑ *i*P P 18 44 19.8 +0.2
BSD IAmb IAmb 18 44 21.4
comp=Z,142nm,0.8s
BSD **Bornholm Skovb** 74.51 331⇑ *i*P P 18 44 19.8 +0.2
BSD pmax pmax
comp=Z,140nm,0.8s
SBC **Santa Barbara** 74.58 58 P P 18 44 22.4 +2.0
baz=309,SNR=10.0
BGU **Big Grassy Mou** 74.59 49 P P 18 44 21.7 +1.1
SLWR **Sila** 74.63 289 P P 18 44 20.9 +0.1
LUNU **Lund** 74.64 332 *i* P P 18 44 21.0 +0.7
RST **Umm Al-Ruwaisa** 74.64 296 *e*P P 18 44 19.8 -1.0
BEL **Belsk** 74.66 326 *e*P P 18 44 21.9 +1.4
BEL *e*S S 18 53 51.7 +2.5
SPUT **South Promonto** 74.67 49 P P 18 44 22.4 +1.4
SPUT IAmb IAmb 18 44 24.1
comp=Z,255nm,1.2s
LVV **L'vov** 74.69 323 *e*P P 18 44 21.6 +0.8
LVV *e* 18 44 46.4
LVV *e* 18 47 17.7
LVV *e* 18 48 56.5
LVV *e*S S 18 53 46.6 -3.1
LVV *e* 18 54 29.2
LVV *e* 18 58 33.0
LVV pmax pmax
comp=Z,300nm,1.4s
LVV MLR MLR
comp=E,1µm,15.0s
LVV MLR MLR
comp=N,700nm,13.0s
LVV MLR MLR
comp=Z,700nm,13.0s
R11A **Troy Canyon, C** 74.72 53 P P 18 44 22.9 +1.5
baz=310,SNR=335
R11A **Troy Canyon, C** 74.72 53 P P 18 44 22.6 +1.2
R11A IAmb IAmb 18 44 24.2
comp=Z,543nm,1.4s
ARVC **Arvin** 74.73 57 P P 18 44 22.2 +1.0
baz=309,SNR=11
IAS **Iasi** 74.86 320 ⇑P P 18 44 22.2 +0.5
SCZ2 **Santa Cruz Isl** 74.91 58 P P 18 44 23.4 +1.1
baz=309,SNR=9.7
GOET **G??ttrup** 74.94 335 *i* P P 18 44 23.5 +1.4
GOET IAmb IAmb 18 44 24.6
comp=Z,260nm,0.7s
COP **Copenhagen** 74.95 333 *i* P P 18 44 23.2 +1.1
COP IAmb IAmb 18 44 26.9
comp=Z,219nm,0.9s
COP **Copenhagen** 74.95 333 *i* P P 18 44 23.2 +1.1
COP pmax pmax
comp=Z,220nm,0.9s
BZK **Bozkurt** 74.97 313 ⇑P P 18 44 23.6 +1.1
BZK **Bozkurt** 74.97 313 P P 18 44 23.2 +0.7
BZK IAmb IAmb 18 44 31.6
comp=Z,175nm,0.8s
HWUT **Hardware Ranch** 74.98 48 P P 18 44 24.2 +1.4
HWUT IAmb IAmb 18 44 25.9
comp=Z,546nm,1.2s
MPMC **Manual Prospec** 74.99 55 P P 18 44 24.3 +1.3
baz=309,SNR=332
GKP **Gorka Klasztor** 75.04 329 *e*P P 18 44 23.4 +0.8
GKP *e*S S 18 53 54.1 +0.8
GKP **Gorka Klasztor** 75.04 329 *e*P P 18 44 23.9 +1.2
SPR3 **Spring Creek 3** 75.06 51 P P 18 44 25.2 +1.7
SPR3 IAmb IAmb 18 44 27.8
comp=Z,202nm,1.0s
OSI **Osito Audit: C** 75.11 57 P P 18 44 24.9 +1.4
baz=309
OSI **Osito Audit: C** 75.11 57 P P 18 44 24.4 +0.9
OSI IAmb IAmb 18 44 26.3
comp=Z,268nm,0.9s
VASR **Vaslui** 75.12 319 ⇓P P 18 44 25.0 +1.7
FURC **Furnace Creek,** 75.13 55 P P 18 44 25.1 +1.7
baz=309,SNR=102
DUG **Dugway, Tooele** 75.19 50 P P 18 44 25.3 +1.3
DUG pmax pmax
comp=Z,370nm,1.0s
DUG **Dugway, Tooele** 75.19 50 P P 18 44 25.7 +1.7
baz=311,SNR=323
DUG **Dugway, Tooele** 75.19 50 P P 18 44 25.3 +1.3
DUG IAmb IAmb 18 44 27.0
comp=Z,370nm,0.9s
TPNV **Topopah Spring** 75.20 54 P P 18 44 25.4 +1.3
TPNV pmax pmax
comp=Z,538nm,1.0s
TPNV **Topopah Spring** 75.20 54 P P 18 44 25.4 +1.3
LRMC **Laurel Mtn Rad** 75.23 56 P P 18 44 25.3 +1.0
baz=309,SNR=16
NUUK **Nuuk** 75.27 6⇑ *i*P P 18 44 24.8 +1.1
NUUK IAmb IAmb 18 44 25.8
comp=Z,198nm,1.0s
BW06 **Boulder Array** 75.34 46 P P 18 44 26.1 +1.1
baz=312,SNR=281
BW06 **Boulder Array** 75.34 46 P P 18 44 25.6 +0.7
BW06 IAmb IAmb 18 44 27.2
comp=Z,199nm,0.9s
PD31 **Pinedale Array** 75.34 46 P P 18 44 25.3 +0.4
PD31 IAmb IAmb 18 44 27.2
comp=Z,179nm,0.9s
PDAR **Pinedale Array** 75.34 46 P P 18 44 25.9 +0.9
comp=Z,113nm,0.8s,baz=272,slow=2.3,SNR=918
PDAR PP PP 18 47 15.4 +1.3
comp=Z,6.8nm,1.0s,baz=327,slow=6.5,SNR=4.1
PDAR **Pinedale Array** 75.34 46 P P 18 44 25.5 +0.5
PRAR **RASCA** 75.39 321 ⇓P P 18 44 25.1 +0.3
EDW2 **Edwards Air Fo** 75.41 57 P P 18 44 26.6 +1.3
baz=309,SNR=165
KWP **Kalwaria Pacla** 75.43 324 *e*P P 18 44 26.4 +1.4
KWP *e*S S 18 53 59.8 +1.9
KWP **Kalwaria Pacla** 75.43 324 P P 18 44 26.1 +1.1
KWP pmax pmax
comp=Z,3µm,1.3s
KWP **Kalwaria Pacla** 75.43 324 P P 18 44 26.1 +1.1
MUD **Monsted U'grnd** 75.43 335 *i* P P 18 44 25.8 +1.0
MUD IAmb IAmb 18 44 26.7
comp=Z,72nm,0.9s
MUD **Monsted U'grnd** 75.43 335 *i* P P 18 44 25.8 +1.0
MUD pmax pmax
comp=Z,72nm,0.9s
SNCC **San Nicolas Is** 75.45 59 P P 18 44 26.9 +1.5
baz=309,SNR=17
SNCC **San Nicolas Is** 75.45 59 P P 18 44 26.8 +1.3
BIR **Birlad** 75.47 319 ⇓P P 18 44 26.3 +1.1
CTU **Camp Tracy** 75.48 49 P P 18 44 26.8 +1.1
CTU IAmb IAmb 18 44 28.3
comp=Z,177nm,1.0s
DECC **Green Verdugo** 75.59 57 P P 18 44 27.5 +1.2
baz=309,SNR=18
TLCR 75.61 318 ⇑P P 18 44 26.7 +0.6
CAN **Canberra** 75.65 174 P P 18 44 26.9 +0.6
CAN pmax pmax
comp=Z,122nm,1.2s
CAN **Canberra** 75.65 174 P P 18 44 26.9 +0.6
PSUT **Pine Spring** 75.65 52 P P 18 44 27.8 +1.0
PSUT IAmb IAmb 18 44 29.5
comp=Z,211nm,0.9s
PRN **Pahroc Range** 75.65 53 P P 18 44 28.3 +1.7
PRN IAmb IAmb 18 44 29.8
comp=Z,313nm,1.0s
BURAR **Bucovina Array** 75.70 321 ⇓P P 18 44 27.7 +1.0
BURAR **Bucovina Array** 75.70 321 P P 18 44 27.4 +0.6
JLU **Jordanelle** 75.71 49 P P 18 44 28.4 +1.3
JLU IAmb IAmb 18 44 30.0
comp=Z,378nm,1.4s
PASC **Pasadena Art C** 75.74 57 P P 18 44 28.0 +0.9
PASC IAmb IAmb 18 44 29.3
comp=Z,213nm,1.1s
NLU **North Lily Min** 75.77 49 P P 18 44 28.6 +1.2
NLU IAmb IAmb 18 44 30.2
comp=Z,268nm,0.9s
TESR **Tescani** 75.78 320 ⇑P P 18 44 27.8 +0.7
MWC **Mount Wilson** 75.79 57 P P 18 44 28.3 +0.7
MWC pmax pmax
comp=Z,321nm,1.1s
MWC **Mount Wilson** 75.79 57 P P 18 44 28.3 +0.7
MWC IAmb IAmb 18 44 30.0
comp=Z,321nm,1.1s
SHOC **Shoshone, Teco** 75.85 55 P P 18 44 29.2 +1.5
baz=310,SNR=16
GSC **Goldstone, Bar** 75.90 56 P P 18 44 28.8 +0.7
GSC pmax pmax
comp=Z,242nm,1.0s
GSC **Goldstone, Bar** 75.90 56 P P 18 44 29.2 +1.1
baz=310,SNR=88
GSC **Goldstone, Bar** 75.90 56 P P 18 44 28.8 +0.7
GSC IAmb IAmb 18 44 30.6
comp=Z,242nm,1.0s
BNN **Bunyan** 75.93 309 P P 18 44 29.3 +1.0
BNN IAmb IAmb 18 44 55.6
comp=Z,229nm,1.0s
FMP **Fort Macarthur** 75.96 58 P P 18 44 29.3 +1.0
baz=309,SNR=7.3
CFR **Carcaliu** 75.96 318 ⇓P P 18 44 28.5 +0.4
MPU **Maple Canyon** 75.99 49 P P 18 44 30.1 +1.5
MPU IAmb IAmb 18 44 31.4
comp=Z,338nm,0.9s
LNIZ **Loecknitz** 76.03 331 *e*P P 18 44 29.7 +1.4
comp=Z,344nm,1.1s,baz=35,slow=5.4
BFSC **Mount Baldy Ra** 76.03 57 P P 18 44 30.0 +1.1
baz=310,SNR=123
TPGR **Topolog** 76.03 318 ⇑P P 18 44 29.5 +0.9
PETR **Petresti** 76.04 319 ⇑P P 18 44 28.2 -0.3
RRX **Edison Barstow** 76.05 56 P P 18 44 30.5 +1.7
baz=310,SNR=9.6
CIS **Catalina Islan** 76.08 58 P P 18 44 30.0 +1.0
baz=309,SNR=19
ODBI **Odobesti** 76.10 319 ⇑P P 18 44 29.7 +0.8
KOLS **Kolonicke sedl** 76.13 324 *e*P P 18 44 30.0 +1.0
KOLS *e* 18 47 21.0
KOLS **Kolonicke sedl** 76.13 324 *e*P P 18 44 30.0 +1.0
KOLS *e*PP PP 18 47 21.0 +0.7
SHPR **Sheep Range** 76.16 54 P P 18 44 31.4 +1.8
SHPR IAmb IAmb 18 44 32.8
comp=Z,384nm,0.9s
VRI **Vrincioaia** 76.19 319 ⇓P P 18 44 30.9 +1.4
GAZ **Gaziantep** 76.20 307 P P 18 44 31.2 +1.5
STHS **Stebnicka Huta** 76.24 324 *e*P P 18 44 30.2 +0.6
STHS **Stebnicka Huta** 76.24 324 *e*P P 18 44 30.2 +0.6
PLOR **Plostina** 76.24 319 ⇓P P 18 44 31.2 +1.4
SCI2 **San Clemente I** 76.25 58 P P 18 44 31.0 +1.0
baz=309,SNR=6.9
OJC **Ojcow** 76.28 326 *e*P P 18 44 31.1 +1.3
OJC *e*S S 18 54 08.7 +1.6
OJC **Ojcow** 76.28 326 P P 18 44 30.9 +1.1
OJC pmax pmax
comp=Z,182nm,1.0s
OJC **Ojcow** 76.28 326 P P 18 44 30.9 +1.1
OJC IAmb IAmb 18 44 32.2
comp=Z,182nm,1.0s
NWAO **Narrogin (SRO)** 76.28 201 P P 18 44 30.0 +0.2
NWAO pmax pmax
comp=Z,90nm,0.8s
NWAO **Narrogin (SRO)** 76.28 201 P P 18 44 30.0 +0.2
TIRR **Tirgusor** 76.31 317 ⇓P P 18 44 30.8 +0.7
TIRR **Tirgusor** 76.31 317 P P 18 44 30.4 +0.3
TIRR pmax pmax
comp=Z,125nm,1.3s
TIRR **Tirgusor** 76.31 317 P P 18 44 30.4 +0.3
UZH **Uzhgorod** 76.34 323 *e*P P 18 44 30.9 +0.7
UZH *e* 18 44 43.4
UZH *e**PP **pP** 18 44 56.7 +3.6
UZH *e* 18 47 22.1
UZH *e*S S 18 54 05.9 -2.0
UZH *e*PS 18 54 55.9
UZH MLR MLR
comp=N,260nm,19.0s
UZH MLR MLR
comp=E,160nm,19.0s
UZH MLR MLR
comp=Z,110nm,19.0s
TUQ **Turquoise Moun** 76.37 55 P P 18 44 32.4 +1.6
baz=310,SNR=127
HARR **Harsova** 76.40 318 ⇑P P 18 44 31.4 +0.8
GRER 76.41 319 ⇓P P 18 44 31.5 +0.9
BISRR **Bisoca** 76.42 319 ⇓P P 18 44 32.9 +2.1
TCRU **Three Creeks R** 76.43 51 P P 18 44 32.9 +1.7
TCRU IAmb IAmb 18 44 34.4
comp=Z,202nm,0.8s
TLBR **Topalu** 76.44 318 ⇑P P 18 44 30.0 -0.8
EFOR **EFORIE** 76.46 317 ⇑P P 18 44 31.9 +1.0
BMR **Baia Mare** 76.47 322 ⇑P P 18 44 32.8 +1.8
BBRC **Big Bear Solar** 76.49 57 P P 18 44 32.6 +1.0
baz=310,SNR=6.2
ARCR **ARCALIA** 76.49 321 ⇑P P 18 44 33.3 +2.2
OZUR 76.50 320 ⇑P P 18 44 32.9 +1.7
HEC **Hector,Ludlow** 76.50 56 P P 18 44 32.8 +1.3
baz=310,SNR=308
MFTR **Murfatlar** 76.50 317 ⇓P P 18 44 32.1 +0.9
CCUT **Cedar City** 76.58 52 P P 18 44 33.5 +1.4
CCUT IAmb IAmb 18 44 35.1
comp=Z,184nm,0.9s
TRPA **Tarpa** 76.59 323 ⇓P P 18 44 33.1 +1.5
CVDA **Cernavoda** 76.59 317 ⇑P P 18 44 33.1 +1.4
MVU **Marysvale** 76.64 51 P P 18 44 34.4 +2.0
BR131 **Keskin Array S** 76.65 311 P P 18 44 32.6 +0.3
BR131 pmax pmax
comp=Z,35nm,0.8s
BR131 **Keskin Array S** 76.65 311 P P 18 44 32.6 +0.3
BR131 **Keskin Array S** 76.65 311 P P 18 44 32.8 +0.5
SNR=21
BR131 S S 18 54 11.4 -0.5
BRTR **Keskin Array B** 76.65 311 P P 18 44 32.8 +0.5
comp=Z,11nm,0.6s,baz=100,slow=3.9,SNR=27
BRTR pP **pP** 18 44 54.4 -0.8
comp=Z,9.9nm,0.7s,baz=102,slow=2.8,SNR=3.6
BRTR PP PP 18 47 20.6 -4.5
comp=Z,6.9nm,0.8s,baz=51,slow=4.5,SNR=3.5
BRTR PKKPbc **PKKPbc** 19 03 41.4 +0.7
comp=Z,1.8nm,0.7s,baz=214,slow=4.6,SNR=4.5
BRTR LR LR 19 21 10.5
comp=Z,257nm,20.9s,baz=47,slow=38
BRTR **Keskin Array B** 76.65 311 P P 18 44 32.9 +0.6
MSU **Marysvale** 76.66 51 P P 18 44 34.5 +2.0
MSU **Marysvale** 76.66 51 P P 18 44 34.5 +2.0
TMUT **Trail Mountain** 76.71 50 P P 18 44 34.1 +1.2
TMUT IAmb IAmb 18 44 35.6
comp=Z,278nm,1.2s
SZCU **Shurtz Canyon** 76.72 52 P P 18 44 34.1 +1.3
SZCU IAmb IAmb 18 44 35.6
comp=Z,198nm,1.0s
ULM **Lac du Bonnet** 76.72 34 P P 18 44 32.5 +0.1
comp=Z,140nm,0.8s,baz=319,slow=6.4,SNR=109
ULM LR LR 19 21 19.5
comp=Z,250nm,19.9s,baz=301,slow=38
ULM **Lac du Bonnet** 76.72 34 P P 18 44 32.3 -0.1
ULM IAmb IAmb 18 44 33.6
comp=Z,181nm,0.8s
MURC **Murrieta** 76.74 57 P P 18 44 33.7 +0.9
baz=310,SNR=36
DOPR **Dopca** 76.78 320 ⇑P P 18 44 34.7 +1.9
RDMU **Red Mountain** 76.80 48 P P 18 44 34.7 +1.5
ISR **Istrita** 76.81 319 ⇓P P 18 44 35.0 +2.0
MLR **Muntele Rosu** 76.85 319 S S 18 54 15.4 +1.6
comp=Z,0.7nm,0.3s,baz=23,slow=21,SNR=10
MLR PKKPbc PKKPbc 19 03 40.4 0.0
comp=Z,1.4nm,0.5s,baz=208,slow=7.3,SNR=4.1
MLR **Muntele Rosu** 76.85 319 ⇑P P 18 44 34.2 +1.0
MLR **Muntele Rosu** 76.85 319 P P 18 44 34.3 +1.0
MLR pmax pmax
comp=Z,91nm,1.4s
MLR **Muntele Rosu** 76.85 319 P P 18 44 34.3 +1.0
MDND **Maddock** 76.85 37 P P 18 44 34.0 +0.9
baz=317,SNR=18
MDND **Maddock** 76.85 37 P P 18 44 33.8 +0.7
P17A **Butcher Ranch,** 76.86 49 P P 18 44 34.9 +1.4
ICOR **Ion Corvin** 76.87 317 ⇓P P 18 44 34.9 +1.7
GMRC **Granite Mounta** 76.95 55 P P 18 44 35.6 +1.5
baz=310,SNR=223
MTPU **Mount Pierson** 76.96 51 P P 18 44 36.0 +1.7
MTPU IAmb IAmb 18 44 37.8
comp=Z,255nm,0.8s
RUE **Ruedersdorf** 76.99 330 *e*P P 18 44 35.0 +1.3
comp=Z,250nm,1.3s,baz=35,slow=5.4
LCMT **Little Creek M** 77.00 52 P P 18 44 36.1 +1.8
LCMT IAmb IAmb 18 44 37.5
comp=Z,288nm,0.9s
ANTO **Ankara** 77.04 312 P P 18 44 35.2 +0.8
ANTO pmax pmax
comp=Z,61nm,0.8s
ANTO **Ankara** 77.04 312 P P 18 44 35.2 +0.8
K22A **Casper** 77.07 45 P P 18 44 35.4 +0.8
baz=314,SNR=64
K22A **Casper** 77.07 45 P P 18 44 35.1 +0.5
K22A IAmb IAmb 18 44 36.9
comp=Z,431nm,1.3s
BR231 **Keskin MP Arra** 77.07 312 P P 18 44 35.5 +0.9
BSEG **Bad Segeberg** 77.09 333 *e*P P 18 44 35.6 +1.3
comp=Z,178nm,1.1s,baz=35,slow=5.4
BSEG *e*L L 19 20 39.8
comp=Z,509nm,22.0s
CBBR **Cluj-Babes-Bol** 77.10 321 ⇓P P 18 44 36.6 +2.0
MESR **Meseseni** 77.11 322 ⇑P P 18 44 36.4 +1.9
CJR **Cluj-Napoca** 77.12 321 ⇑P P 18 44 36.4 +1.7
RASA **Rasa** 77.13 318 ⇑P P 18 44 35.6 +0.9
MDB **Medias** 77.15 321 ⇓P P 18 44 35.7 +0.9
PFO **Pinyon Flats O** 77.20 57 P P 18 44 36.4 +0.9
PFO pmax pmax
comp=Z,285nm,1.1s
PFO **Pinyon Flats O** 77.20 57 P P 18 44 36.4 +0.9
baz=310,SNR=27
PFO **Pinyon Flats O** 77.20 57 P P 18 44 36.4 +0.9
PFO IAmb IAmb 18 44 37.9
comp=Z,285nm,1.1s
TPFO **Pinon Flats** 77.21 57 P P 18 44 36.5 +1.0
baz=310,SNR=73
LANS **Liptovska Anna** 77.22 325 *e*P P 18 44 37.2 +2.0
LANS pmax pmax
comp=Z,41nm,1.1s
LANS **Liptovska Anna** 77.22 325 *e*P P 18 44 37.2 +2.0
LANS *e*PP **PP** 18 47 28.1 -1.4
SRU **San Rafael Swe** 77.23 49 P P 18 44 36.7 +1.1
SRU pmax pmax
comp=Z,476nm,0.9s
SRU **San Rafael Swe** 77.23 49 P P 18 44 36.7 +1.1
BELC **Belle Mtn. Jos** 77.25 56 P P 18 44 36.5 +0.8
baz=310,SNR=134
109C **Camp Elliot, M** 77.25 58 P P 18 44 36.6 +1.0
baz=310,SNR=9.9
109C **Camp Elliot, M** 77.25 58 P P 18 44 36.5 +1.0
109C IAmb IAmb 18 44 38.0
comp=Z,206nm,1.1s
KNB **Kanab** 77.25 52 P P 18 44 37.8 +2.0
KNB pmax pmax
comp=Z,342nm,1.0s
KNB **Kanab** 77.25 52 P P 18 44 37.8 +2.0
KNB IAmb IAmb 18 44 39.2
comp=Z,342nm,1.0s
E28A **Huff** 77.26 39 P P 18 44 35.9 +0.5
E28A IAmb IAmb 18 44 37.4
comp=Z,551nm,1.5s
SULR 77.26 319 ⇑P P 18 44 36.6 +1.2
OKC **Ostrava-Krasne** 77.27 326 *e*P P 18 44 36.9 +1.5
OKC *e*S S 18 54 18.5 +0.5
OKC MLR MLR
comp=Z,600nm,16.0s
OKC **Ostrava-Krasne** 77.27 326 *e*P P 18 44 36.9 +1.5
OKC *e*S S 18 54 18.5 +0.5
OKC AMS AMS 19 21 40.0
comp=Z,600nm,16.0s
KSP **Ksiaz** 77.27 328 *e*P P 18 44 36.7 +1.3
KSP *e*S S 18 54 20.3 +2.3
PKCU **Pink Cliffs** 77.28 52 P P 18 44 38.0 +1.8
PKCU IAmb IAmb 18 44 39.7
comp=Z,302nm,1.0s
VOIR 77.33 320 ⇑P P 18 44 37.3 +1.4
RSSD **Black Hills** 77.35 42 P P 18 44 36.6 +0.3
RSSD pmax pmax
comp=Z,208nm,1.1s
RSSD **Black Hills** 77.35 42 P P 18 44 36.9 +0.6
baz=315
RSSD **Black Hills** 77.35 42 P P 18 44 36.6 +0.3
RSSD IAmb IAmb 18 44 38.3
comp=Z,208nm,1.1s
RWWY **Rawlins** 77.35 46 P P 18 44 37.0 +0.6
RWWY IAmb IAmb 18 44 38.6
comp=Z,412nm,1.0s
MLA1 **Latheron** 77.38 342⇑ *e*P P 18 44 36.7 +0.9
DRGR 77.48 322 ⇑P P 18 44 37.8 +1.0
OSTC **Ostas** 77.52 328 *e*P P 18 44 38.4 +1.6
OSTC *e*S S 18 54 24.3 +3.5
OSTC AMS AMS 19 22 10.0
comp=Z,800nm,16.9s
TJX **Tijuana** 77.52 58 P P 18 44 38.4 +1.2
MDUB **Mudurnu** 77.54 313 P P 18 44 38.3 +1.1
MDUB IAmb IAmb 18 44 48.0
comp=Z,281nm,0.9s
CHVC **Chvalec** 77.56 328 *e*P P 18 44 39.5 +2.4

CHVC eS S 18 54 22.6 +1.4
CHVC AMS AMS 19 20 10.0
comp=Z,700nm,23.0s
MORC Moravsky Berou 77.57 327 ⇑P P 18 44 38.3 +1.2
MORC Moravsky Berou 77.57 327 ⇑iP P 18 44 38.3 +1.2
MORC eS S 18 54 21.6 +0.3
ARR Arges 77.58 320 ⇑P P 18 44 39.2 +1.9
NEE2 Needles Airpor 77.62 55 P P 18 44 38.7 +1.0
baz=311,SNR=20
DPC Dobruska-Polom 77.64 328 eP P 18 44 39.1 +1.6
DPC eS S 18 54 23.4 +1.3
DPC MLR MLR
comp=Z,800nm,16.9s
DPC Dobruska-Polom 77.64 328 eP P 18 44 39.1 +1.6
DPC ePP PP 18 47 22.2 -11
DPC eS S 18 54 23.4 +1.3
DPC AMS AMS 19 22 20.0
comp=Z,800nm,16.9s
UPC Upice 77.64 328 eP P 18 44 39.1 +1.6
UPC eS S 18 54 22.2 +0.2
UPC MLR MLR
comp=Z,700nm,20.4s
UPC Upice 77.64 328 eP P 18 44 39.1 +1.6
UPC eS S 18 54 22.2 +0.2
UPC AMS AMS 19 20 40.0
comp=Z,700nm,20.4s
KRLC Kraliky 77.66 327 eP P 18 44 39.0 +1.4
KRLC eS S 18 54 25.2 +2.9
KRLC MLR MLR
comp=Z,800nm,14.7s
KRLC Kraliky 77.66 327 eP P 18 44 39.0 +1.4
KRLC eS S 18 54 25.2 +2.9
KRLC AMS AMS 19 22 10.0
comp=Z,800nm,14.7s
TOO Toolangi 77.66 177 P P 18 44 38.2 +0.7
TOO pmax pmax
comp=Z,76nm,1.1s
TOO Toolangi 77.66 177 P P 18 44 38.2 +0.7
BAR Barrett 77.66 58 P P 18 44 38.9 +0.9
BAR IAmb IAmb 18 44 40.3
comp=Z,187nm,1.1s
IRM Iron Mountain 77.68 56 P P 18 44 39.4 +1.3
baz=311,SNR=178
MONP2 Monument Peak 77.69 57 P P 18 44 39.4 +1.1
baz=310,SNR=50
TKX Tecate 77.78 58 P P 18 44 39.5 +0.9
STFAR Stefanesti-Arg 77.78 319 ⇑P P 18 44 40.1 +1.7
BC3 Big Chuckawall 77.81 56 P P 18 44 40.0 +1.1
baz=310,SNR=93
O20A White River Ci 77.84 47 P P 18 44 39.9 +0.9
baz=313,SNR=83
O20A White River Ci 77.84 47 P P 18 44 39.9 +0.9
O20A IAmb IAmb 18 44 41.4
comp=Z,359nm,1.1s
W13A Hualapai Mount 77.86 54 P P 18 44 40.4 +1.1
CBX Cerro Bola 77.90 58 P P 18 44 40.5 +1.0
PSZ Piszkesteto 77.95 324 ⇑P P 18 44 40.5 +1.2
PSZ Piszkesteto 77.95 324 eP P 18 44 40.6 +1.3
PSZ Piszkesteto 77.95 324 P P 18 44 40.5 +1.2
PSZ pmax pmax
comp=Z,91nm,0.9s
PSZ Piszkesteto 77.95 324 P P 18 44 40.5 +1.2
LINV Loch Inver, As 77.95 343⇑eP P 18 44 39.6 +0.7
LINV IAmb IAmb 18 44 40.9
comp=Z,137nm,1.3s
U15A North Rim 77.96 52 P P 18 44 41.8 +1.9
VYHS Vyhne 77.98 325 eP P 18 44 40.8 +1.4
VYHS pmax pmax
comp=Z,219nm,2.0s
VYHS Vyhne 77.98 325 eP P 18 44 40.8 +1.4
MCD Coleburn Disti 78.00 341⇑eP P 18 44 40.0 +0.7
HUMR Humele 78.01 319 ⇑P P 18 44 40.4 +0.8
IKP In-Ko-Pah, Jac 78.04 57 P P 18 44 41.2 +1.1
baz=310,SNR=58
SWSC Sam W. Stewart 78.05 57 P P 18 44 40.6 +0.5
baz=310,SNR=27
DEV Deva 78.05 321 ⇓P P 18 44 41.7 +1.9
FLTG Flechtingen 78.05 331 eP P 18 44 40.2 +0.6
comp=Z,178nm,0.9s,baz=35,slow=5.4
RMX La Rumorosa 78.09 57 P P 18 44 41.3 +0.8
RMX IAmb IAmb 18 44 43.4
comp=Z,213nm,1.1s
COPA Copaceanca 78.17 319 ⇑P P 18 44 41.3 +0.8
BRG Berggiesshubel 78.19 329⇑iP P 18 44 41.3 +0.8
BRG Amp 18 44 42.6
comp=Z,76nm,1.2s
BRG Berggiesshubel 78.19 329 P P 18 44 45.3 +4.8
BRG Amp 18 44 46.7
comp=Z,84nm,1.3s
BRG Berggiesshubel 78.19 329 P PcP 18 44 53.2 +3.5
BRG Amp 18 44 54.2
comp=Z,29nm,0.8s
BRG Berggiesshubel 78.19 329 S S 18 54 28.0 +0.2
BRG Amp 19 22 22.0
comp=N,0.4nm,21.5s
BRG Amp 19 22 26.0
comp=Z,0.7nm,17.1s
BRG Amp 19 22 31.0
comp=E,0.4nm,18.8s
BRG Berggiesshubel 78.19 329 eP P 18 44 41.5 +1.0
comp=E,68nm,1.0s,baz=35,slow=5.4
CCX Cicese 78.19 58 P P 18 44 41.5 +0.7
CCX IAmb IAmb 18 44 43.1
comp=Z,185nm,1.0s
AGMN Agassiz Nation 78.20 35 P P 18 44 40.3 -0.3
baz=319,SNR=40
AGMN Agassiz Nation 78.20 35 P P 18 44 40.2 -0.3
CLL Collm 78.21 330⇑iP P 18 44 41.2 +0.7
comp=Z,141nm,1.0s
CLL ePcP PcP 18 44 48.0 -1.7
CLL epP pP 18 45 00.0 -3.5
CLL e 18 45 15.0
CLL e 18 47 29.0
CLL ePPP PPP 18 49 24.0
CLL i S S 18 54 27.1 -0.9
CLL esS sS 18 55 05.0 -2.2
CLL ePPS PPS 18 55 32.0
CLL e(SS) 18 59 06.0
CLL e 18 59 54.0
CLL e(SSS) 19 02 36.0
CLL e(SSSS) 19 05 54.0
CLL Collm 78.21 330⇑iP P 18 44 41.2 +0.7
CLL e 18 45 00.0
CLL i S S 18 54 27.1 -0.9
CLL pmax pmax
comp=Z,141nm,1.0s
CLL Collm 78.21 330 P P 18 44 41.0 +0.4
CLL Collm 78.21 330 eP P 18 44 41.3 +0.7
comp=Z,141nm,1.0s,baz=35,slow=5.4
CLL eL L 19 22 14.8
comp=Z,540nm,19.0s
PVCC Panska Ves 78.21 329 eP P 18 44 42.3 +1.7
PVCC eS S 18 54 29.8 +1.7
PVCC MLR MLR
comp=Z,700nm,25.6s
PVCC Panska Ves 78.21 329 eP P 18 44 42.3 +1.7
PVCC eS S 18 54 29.8 +1.7
PVCC AMS AMS 19 21 40.0
comp=Z,700nm,25.6s
JAVC Velka Javorina 78.21 326⇑iP P 18 44 42.9 +2.2
JAVC eS S 18 54 30.7 +2.4
PDMCI Parker Dam,Lak 78.22 55 P P 18 44 42.7 +1.8
baz=311,SNR=93
BSZH Besenyszg 78.24 323 ⇑P P 18 44 42.8 +2.0
BSZH Besenyszg 78.24 323 eP P 18 44 42.2 +1.4
LEWI Lewis, Hebride 78.32 343⇑eP P 18 44 41.8 +0.7
LEWI IAmb IAmb 18 44 42.7
comp=Z,103nm,1.0s
VRAC Vranov 78.33 327 ⇑P P 18 44 42.7 +1.4
VRAC Vranov 78.33 327⇑iP P 18 44 42.6 +1.3
VRAC eS S 18 54 29.7 +0.3
NRDL Niedersach Rie 78.33 332 eP P 18 44 42.2 +1.1
comp=Z,381nm,2.2s,baz=35,slow=5.4
SIRR Siria 78.36 322 ⇓P P 18 44 42.6 +1.0
FBE Freiberg 78.38 329 eP P 18 44 42.8 +1.3
comp=Z,120nm,0.9s,baz=35,slow=5.4
MDO Dochfour 78.39 342⇑eP P 18 44 41.8 +0.3
DRUM Mains of Drumt 78.41 341⇑eP P 18 44 42.2 +0.7
DRUM IAmb IAmb 18 44 43.1
comp=Z,106nm,0.9s
ASSE Asse, Remlinge 78.42 332 eP P 18 44 42.6 +0.9
comp=Z,26nm,0.9s,baz=35,slow=5.4
ZIMR 78.44 318 ⇓P P 18 44 41.9 -0.1
GZR Gura Zlata 78.47 321 ⇑P P 18 44 43.3 +1.0

D32A Dogwood Acres, 78.56 36 P P 18 44 42.7 +0.1
D32A IAmb IAmb 18 44 43.7
comp=Z,242nm,0.7s
KAC Achnashellach 78.56 342⇑iP P 18 44 43.2 +0.8
PHWY Pilot Hill 78.57 45 P P 18 44 43.8 +0.6
PHWY IAmb IAmb 18 44 45.5
comp=Z,380nm,1.5s
PV10 Paradox Valley 78.58 49 P P 18 44 45.0 +1.7
SMOL Smolenice 78.58 326 eP P 18 44 44.5 +1.8
SMOL pmax pmax
comp=Z,42nm,1.1s
SMOL Smolenice 78.58 326 eP P 18 44 44.5 +1.8
N23A Red Feather La 78.59 46 P P 18 44 44.9 +1.7
baz=314,SNR=186
PV14 Lion Creek, Pa 78.59 49 P P 18 44 44.3 +1.0
KRUC Moravsky 78.60 327⇑iP P 18 44 44.0 +1.2
KRUC eS S 18 54 33.1 +0.8
GLA Glamis 78.60 56 P P 18 44 44.5 +1.4
GLA pmax pmax
comp=Z,390nm,0.9s
GLA Glamis 78.60 56 P P 18 44 44.6 +1.4
baz=311,SNR=62
GLA Glamis 78.60 56 P P 18 44 44.5 +1.4
GLA IAmb IAmb 18 44 45.9
comp=Z,390nm,0.9s
PV22 Blue Mesa, Par 78.62 49 P P 18 44 45.7 +2.3
PRA Prague 78.62 328 eP P 18 44 44.4 +1.5
PRA eS S 18 54 34.9 +2.4
PRA MLR MLR
comp=Z,600nm,15.9s
PRA Prague 78.62 328 eP P 18 44 44.4 +1.5
PRA eS S 18 54 34.9 +2.4
PRA AMS AMS 19 21 00.0
comp=Z,600nm,15.9s
PRU Pruhonice 78.64 328 eP P 18 44 44.3 +1.3
PRU eS S 18 54 34.5 +1.8
PRU Pruhonice 78.64 328 eP P 18 44 44.3 +1.3
PRU eS S 18 54 34.5 +1.8
PRU AMS AMS 19 21 10.0
PV20 West Nyswonger 78.65 49 P P 18 44 44.6 +1.1
PV04 Paradox Valley 78.65 49 P P 18 44 44.9 +1.4
PV19 Morning Glory 78.66 49 P P 18 44 44.9 +1.3
BUD Budapest 78.66 324 eP P 18 44 44.3 +1.2
NRS Narsarsuaq 78.67 3 iP P 18 44 42.8 -0.1
NRS IAmb IAmb 18 44 43.5
comp=Z,52nm,0.9s
NRS Narsarsuaq 78.67 3 iP P 18 44 42.8 -0.1
NRS pmax pmax
comp=Z,52nm,0.9s
NRS Narsarsuaq 78.67 3 P P 18 44 42.6 -0.3
PV17 East Wray Mesa 78.69 49 P 18 44 44.8 +1.0
PV16 Nyswonger Mesa 78.70 49 P P 18 44 44.9 +1.0
PV16 IAmb IAmb 18 44 46.6
comp=Z,409nm,0.9s
CPBX Cerro Prieto 78.71 57 P P 18 44 44.8 +1.1
PV11 David Mesa, Pa 78.73 49 P P 18 44 45.2 +1.2
PV18 Skein Mesa, Pa 78.74 49 P P 18 44 45.1 +1.0
PV18 IAmb IAmb 18 44 46.8
comp=Z,409nm,0.9s
PV05 Paradox Valley 78.75 49 P P 18 44 45.6 +1.5
MODS Modra-Piesok 78.75 326 eP P 18 44 46.3 +2.6
MODS pmax pmax
comp=Z,100nm,1.2s
MODS Modra-Piesok 78.75 326 eP P 18 44 46.3 +2.6
NEUB Neuenburg 78.75 330 eP P 18 44 44.5 +0.9
comp=Z,164nm,0.9s,baz=35,slow=5.4
PV12 Saucer Basin, 78.76 49 P P 18 44 45.5 +1.3
PV12 IAmb IAmb 18 44 51.5
comp=Z,202nm,0.8s
CLZ Clausthal 78.76 332 eP P 18 44 44.9 +1.2
comp=Z,193nm,1.2s,baz=35,slow=5.4
PV07 Paradox Valley 78.77 49 P P 18 44 45.9 +1.7
PV07 IAmb IAmb 18 44 47.6
comp=Z,350nm,1.2s
PV03 Paradox Valley 78.77 49 P P 18 44 45.4 +1.2
PV03 IAmb IAmb 18 44 47.0
comp=Z,309nm,0.9s
KPL Plockton 78.79 343⇑eP P 18 44 44.7 +1.1
KPL IAmb IAmb 18 44 45.6
comp=Z,190nm,0.9s
SRE Strehaia 78.79 320 ⇓P P 18 44 45.3 +1.3
TREC Trest 78.80 327 eP P 18 44 45.4 +1.5
TREC eS S 18 54 36.5 +2.0
TREC MLR MLR
comp=Z,800nm,15.9s
TREC Trest 78.80 327 eP P 18 44 45.4 +1.5
TREC eS S 18 54 36.5 +2.0
TREC AMS AMS 19 23 00.0
comp=Z,800nm,15.9s
PV13 Radium Mtn., P 78.86 49 P P 18 44 45.9 +1.2
BZS Buzias 78.86 322 ⇑P P 18 44 44.8 +0.6
EDU Dundee 78.87 341⇑eP P 18 44 44.7 +0.6
PV02 Paradox Valley 78.87 49 P P 18 44 45.7 +0.9
PV02 IAmb IAmb 18 44 48.3
comp=Z,206nm,0.8s
PV15 Paradox Valley 78.93 49 P P 18 44 46.2 +1.1
PV15 IAmb IAmb 18 44 47.7
comp=Z,278nm,1.1s
GUVIX Guadalupe Vict 78.93 57 P P 18 44 45.6 +0.7
ZST Bratislava 78.96 326 eP P 18 44 46.7 +1.9
ZST pmax pmax
comp=Z,675nm,2.2s
ZST Bratislava 78.96 326 eP P 18 44 46.7 +1.9
PV01 Paradox Valley 79.02 49 P P 18 44 46.7 +1.1
PV01 IAmb IAmb 18 44 48.3
comp=Z,340nm,1.2s
HERR Herculane 79.02 321 ⇓P P 18 44 45.6 +0.4
B35A Bob, Littlefor 79.08 34 P P 18 44 45.2 -0.2
B35A IAmb IAmb 18 44 46.7
comp=Z,220nm,0.8s
DGAR Diego Garcia 79.08 251 P P 18 44 45.9 0.0
DGAR pmax pmax
comp=Z,548nm,1.1s
DGAR Diego Garcia 79.08 251 P P 18 44 45.9 0.0
CSKK Cskako 79.09 325 eP P 18 44 47.0 +1.5
PBCC Pribram 79.10 328 eP P 18 44 46.7 +1.2
PBCC AMS AMS 19 23 00.0
comp=Z,900nm,23.2s
WUAZ Wupatki 79.12 53 P P 18 44 47.9 +1.7
baz=312,SNR=110
WUAZ Wupatki 79.12 53 P P 18 44 47.7 +1.6
WUAZ IAmb IAmb 18 44 49.3
comp=Z,427nm,1.0s
GTTG Gottingen 79.15 332 eP P 18 44 46.9 +1.1
comp=Z,138nm,1.0s,baz=35,slow=5.4
WERD Werda 79.16 330 eP P 18 44 46.9 +1.0
comp=Z,286nm,2.1s,baz=35,slow=5.4
Y14A Wickenburg 79.17 55 P P 18 44 47.3 +1.0
Y14A IAmb IAmb 18 44 49.0
comp=Z,284nm,1.0s
PLN Plauen 79.19 330 eP P 18 44 47.0 +1.0
comp=Z,284nm,2.2s,baz=35,slow=5.4
PUNG Punghina 79.21 320 ⇑P P 18 44 46.4 +0.2
SMCO Snowmass 79.21 47 P P 18 44 47.8 +1.0
SMCO IAmb IAmb 18 44 49.5
comp=Z,364nm,1.2s
GUNZ Gunzen 79.22 330 eP P 18 44 47.3 +1.1
comp=Z,68nm,0.9s,baz=35,slow=5.4
INVG Invergeldie, C 79.23 341⇑eP P 18 44 46.7 +0.6
INVG IAmb IAmb 18 44 47.6
comp=Z,63nm,0.9s
WERN Wernitzgruen 79.26 330 eP P 18 44 47.6 +1.1
comp=Z,538nm,2.4s,baz=35,slow=5.4
MOX Moxa 79.27 330 eP P 18 44 47.4 +1.0
comp=Z,66nm,0.9s,baz=35,slow=5.4
MOX eL L 19 19 08.4
comp=Z,563nm,20.7s
NKC Novy Kostel 79.28 329 eP P 18 44 47.5 +1.0
NKC eS S 18 54 40.0 +0.5
NKC MLR MLR
comp=Z,600nm,17.5s
NKC Novy Kostel 79.28 329 eP P 18 44 47.5 +1.0
NKC eS S 18 54 40.0 +0.5
NKC AMS AMS 19 22 50.0
comp=Z,600nm,17.5s
IBBN Ibbenburen 79.31 333 eP P 18 44 47.5 +0.9
comp=Z,141nm,0.8s,baz=35,slow=5.4
ESY Stoneypath 79.33 340⇑iP P 18 44 47.3 +0.6
RAYN Ar Rayn 79.40 292 iP P 18 44 47.8 +0.1
SNR=35
RAYN Ar Rayn 79.40 292 P P 18 44 47.8 +0.1
RAYN pmax pmax
comp=Z,185nm,1.5s
RAYN Ar Rayn 79.40 292 P P 18 44 47.8 +0.1

MDVR Moldovita 79.43 321 ⇓P P 18 44 47.9 +0.5
113A Mohawk Valley, 79.46 56 P P 18 44 48.6 +0.8
113A IAmb IAmb 18 44 50.3
comp=Z,246nm,0.9s
EGYH Egyhazaskeszo 79.46 325 eP P 18 44 45.1 -2.4
EDI Edinburgh 79.47 341⇑eP P 18 44 47.5 +0.1
EAB Aberfoyle 79.52 341⇑iP P 18 44 48.6 +0.9
ISCO Idaho Springs 79.53 46 P P 18 44 49.9 +1.4
ISCO pmax pmax
comp=Z,122nm,1.0s
ISCO Idaho Springs 79.53 46 P P 18 44 49.9 +1.4
baz=314,SNR=95
ISCO Idaho Springs 79.53 46 P P 18 44 49.9 +1.4
MPLH Magyarpolny 79.56 325 eP P 18 44 49.2 +1.2
EBL Broad Law 79.57 340⇑eP P 18 44 48.6 +0.6
SOP Sopron 79.59 326 eP P 18 44 49.6 +1.4
MANZ Manzenberg 79.61 329 eP P 18 44 49.4 +1.1
comp=Z,86nm,1.1s,baz=35,slow=5.4
SUSD Miller 79.65 39 P P 18 44 49.0 +0.4
baz=318,SNR=25
SUSD Miller 79.65 39 P P 18 44 49.0 +0.4
CKRC Cesky Krumlov 79.65 328 eP P 18 44 50.5 +1.9
CKRC eS S 18 54 45.3 +1.8
CKRC AMS AMS 19 21 10.0
comp=Z,700nm,18.7s
MVCO Mesa Verde 79.69 50 P P 18 44 50.9 +1.6
baz=313,SNR=133
MVCO Mesa Verde 79.69 50 P P 18 44 50.4 +1.1
MVCO IAmb IAmb 18 44 51.9
comp=Z,253nm,0.9s
CONA Conrad Observa 79.70 326 eP pP 18 45 09.6 -2.4
comp=Z,18nm,0.8s
KHC Kasperske Hory 79.70 328 eP P 18 44 50.1 +1.2
KHC eS S 18 54 45.8 +1.7
KHC MLR MLR
comp=Z,600nm,17.4s
KHC Kasperske Hory 79.70 328 eP P 18 44 50.1 +1.2
KHC ePP PP 18 47 38.8 -11
KHC eS S 18 54 45.8 +1.7
KHC AMS AMS 19 21 00.0
comp=Z,600nm,17.4s
KHC Kasperske Hory 79.70 328 P P 18 44 49.9 +1.0
LAWE Loch Awe, Argy 79.71 342⇑eP P 18 44 49.5 +0.9
LAWE IAmb IAmb 18 44 50.5
comp=Z,150nm,1.2s
ISP Isparta 79.73 311 P P 18 44 49.3 0.0
ISP pmax pmax
comp=Z,53nm,1.0s
ISP Isparta 79.73 311 P P 18 44 49.3 0.0
UBBA Unterbreizbach 79.73 331 eP P 18 44 49.6 +0.8
comp=Z,99nm,1.5s,baz=35,slow=5.4
ROTZ Rotzenmuhle 79.74 329 eP P 18 44 50.4 +1.4
comp=Z,115nm,1.2s,baz=35,slow=5.4
MORH Mrgy, Hungar 79.79 324 ⇑P P 18 44 49.7 +0.4
MORH Mrgy, Hungar 79.79 324 eP P 18 44 49.7 +0.4
MORH Mrgy, Hungar 79.79 324⇑iP P 18 44 49.5 +0.2
X16A Lo Mia Camp, P 79.82 53 P P 18 44 51.6 +1.7
X16A IAmb IAmb 18 44 53.2
comp=Z,298nm,1.1s
F33A 5 Mile Ranch, 79.86 37 P P 18 44 49.9 +0.1
F33A IAmb IAmb 18 44 51.3
comp=Z,313nm,1.2s
GEC2 GERESS Array S 79.88 328 P P 18 44 50.4 +0.5
GEC2 GERESS Array S 79.88 328 eP P 18 44 50.7 +0.9
comp=Z,446nm,2.5s,baz=35,slow=5.4
GEC2 eL L 19 21 58.4
comp=Z,666nm,21.9s
GERES GERESS Array B 79.88 328 P P 18 44 50.6 +0.7
comp=Z,36nm,0.9s,baz=39,slow=5.1,SNR=209
GERES PP **PP 18 47 53.1 +1.4**
comp=Z,7.3nm,0.9s,baz=50,slow=7.8,SNR=3.9
GERES PKKPbc **PKKPbc 19 03 34.1 +0.3**
comp=Z,2.3nm,0.6s,baz=203,slow=2.0,SNR=20
GERES LR LR 19 23 05.6
comp=Z,649nm,20.9s,baz=30,slow=38
GERES GERESS Array B 79.88 328 P P 18 44 50.3 +0.4
PGBU Glenifferbraes 79.89 341⇑eP P 18 44 50.7 +1.0
PGBU IAmb IAmb 18 44 51.7
comp=Z,214nm,0.9s
SFX San Felipe 79.90 58 P P 18 44 51.0 +0.8
SFX IAmb IAmb 18 44 52.7
comp=Z,210nm,1.0s
BALB Balikesir 79.95 314 P P 18 44 51.0 +0.7
WET Wettzell 79.97 329 eP P 18 44 51.7 +1.4
comp=Z,128nm,1.1s,baz=35,slow=5.4
WET eL L 19 23 59.8
comp=Z,569nm,19.9s
KASTN Kahler Asten 79.99 332 eP P 18 44 51.3 +0.9
comp=Z,73nm,1.1s,baz=35,slow=5.4
ESK Eskdalemuir 80.02 340⇑eP P 18 44 50.8 +0.4
ESK IAmb IAmb 18 44 51.5
comp=Z,53nm,0.8s
ESK Eskdalemuir 80.02 340 P P 18 44 51.0 +0.6
ESK pmax pmax
comp=Z,48nm,0.8s
ESK Eskdalemuir 80.02 340 P P 18 44 51.0 +0.6
CSS Mathiatis 80.02 308 P P 18 44 49.8 -1.0
MMAI Mount Meron Ar 80.04 305 PKKPbc PKKPbc 19 03 34.2 +1.0
comp=Z,2.1nm,0.6s,baz=239,slow=4.6,SNR=4.8
FRGS Fruska Gora 80.05 322 ⇑P P 18 44 51.6 +0.8
FRGS Fruska Gora 80.05 322⇑iP P 18 44 51.5 +0.7
ALN Alexandroupoli 80.05 316 P P 18 44 50.7 -0.1
ALN Alexandroupoli 80.05 316 P P 18 44 51.4 +0.6
ALN pmax pmax
comp=Z,77nm,1.4s
ALN Alexandroupoli 80.05 316 P P 18 44 51.4 +0.6
EDMD Edmundbyers 80.12 339⇑eP P 18 44 51.4 +0.5
EDMD IAmb IAmb 18 44 52.5
comp=Z,56nm,1.1s
KOVH Kovagotottos 80.14 324 eP P 18 44 51.5 +0.3
RDO Rodhopi 80.14 316 P P 18 44 52.4 +1.1
GRA1 Grafenberg Arr 80.18 330 P P 18 44 52.6 +1.2
GRA1 IAmb IAmb 18 44 54.0
comp=Z,222nm,0.9s
GRF Grafenberg Arr 80.18 330 P P 18 44 52.6 +1.2
GRF pmax pmax
comp=Z,222nm,0.9s
GRF Grafenberg Arr 80.18 330 eP P 18 44 52.9 +1.5
comp=Z,260nm,1.0s,baz=35,slow=5.4
GRF eL L 19 24 17.4
comp=Z,467nm,19.1s
GRFO Grafenberg 80.19 330 P P 18 44 52.7 +1.3
GRFO pmax pmax
comp=Z,231nm,1.0s
GRFO Grafenberg 80.19 330 P P 18 44 52.7 +1.3
GRFO IAmb IAmb 18 44 53.9
comp=Z,231nm,1.0s
BUG Bochum--Univer 80.20 333 eP P 18 44 52.1 +0.7
comp=Z,158nm,1.2s,baz=35,slow=5.4
VTS Vitosha 80.27 319 ⇑P P 18 44 53.5 +1.3
VTS Vitosha 80.27 319 P P 18 44 53.2 +1.0
VTS pmax pmax
comp=Z,107nm,0.9s
VTS Vitosha 80.27 319 P P 18 44 53.2 +1.0
BOVS Bovan 80.28 320 ⇑P P 18 44 51.8 -0.2
S22A 4UR Ranch, Cre 80.28 48 P P 18 44 54.2 +1.7
baz=314,SNR=116
EYMN Ely 80.34 33 P P 18 44 52.4 +0.1
baz=322
EYMN Ely 80.34 33 P P 18 44 52.0 -0.3
EYMN IAmb IAmb 18 44 53.6
comp=Z,207nm,1.0s
ARSA Arzberg 80.37 326 iP P 18 44 53.7 +1.2
comp=Z,23nm,1.0s,SNR=25
ARSA eP **pP 18 45 14.0 -1.6**
comp=Z,5.8nm,0.4s
Q24A Divide 80.38 47 P P 18 44 54.1 +1.1
baz=315,SNR=50
W18A Petrified Fore 80.38 52 P P 18 44 54.4 +1.5
baz=313,SNR=48
W18A Petrified Fore 80.38 52 P P 18 44 54.5 +1.6
W18A IAmb IAmb 18 44 56.1
comp=Z,194nm,1.1s
BEHE Becsehely 80.43 325 eP P 18 44 53.5 +0.8
BEHE Becsehely 80.43 325 eP P 18 44 53.2 +0.4
MOA Molln 80.43 327 iP P 18 44 53.8 +1.0
comp=Z,15nm,0.7s,SNR=13
214A Organ Pipe Nat 80.60 56 P P 18 44 55.3 +1.3
baz=312
214A Organ Pipe Nat 80.60 56 P P 18 44 55.2 +1.2
214A IAmb IAmb 18 44 56.7
comp=Z,218nm,0.9s
KESW Keswick, Cumbr 80.64 340⇑eP P 18 44 54.5 +0.8
KESW IAmb IAmb 18 44 55.7
comp=Z,177nm,1.2s

TEKS Tekeris 80.64 322⇑ *i*P P 18 44 54.6 +0.6
OGNE Ogallala 80.65 43 P P 18 44 54.9 +0.7
baz=316,SNR=36
OGNE Ogallala 80.65 43 P P 18 44 54.8 +0.6
X18A Snowflake 80.65 52 P P 18 44 56.2 +1.8
KOGS Kog 80.68 325 *i* P P 18 44 54.5 +0.4
KOGS *e*S **S** 18 54.1 -0.2
KOGS *e* 18 55 36.5
DIVS Divibare 80.76 321⇑ *i*P P 18 44 55.3 +0.6
DIVS Divibare 80.76 321 P P 18 44 55.2 +0.5
TNS Taunus Mts 80.79 332 *e*P P 18 44 55.6 +0.9
comp=Z,153nm,1.5s,baz=35,slow=5.4
TNS *e*L L 19 21 03.5
comp=Z,486nm,21.2s
KAVA Kavala 80.79 317 P P 18 44 55.3 +0.5
GAL1 Galloway 80.80 341⇑ *e*P P 18 44 55.2 +0.7
GAL1 IAmb IAmb 18 44 56.1
comp=Z,111nm,0.7s
MILB Miltenberg 80.80 331 *e*P P 18 44 55.6 +0.9
comp=Z,95nm,1.0s,baz=35,slow=5.4
MILB *e*L L 19 20 08.1
comp=Z,434nm,21.2s
HPK Haverah Park 80.81 339⇑ *e*P P 18 44 55.6 +1.0
HPK IAmb IAmb 18 44 56.5
comp=Z,85nm,0.7s
ELL Elmali 80.82 311 P P 18 44 55.4 +0.2
ELL pmax pmax
comp=Z,300nm,0.8s
ELL Elmali 80.82 311 P P 18 44 55.4 +0.2
ELL IAmb IAmb 18 44 59.5
comp=Z,300nm,0.8s
NVR Nevrokopi 80.87 317 P P 18 44 56.2 +0.9
CLGH Cloghs, Cushen 80.95 342⇑ *e*P P 18 44 56.3 +1.0
CLGH IAmb IAmb 18 44 56.8
comp=Z,110nm,0.8s
THAS Thassos island 80.96 316 P P 18 44 56.7 +1.0
AHRW Bad Neuenahr-A 81.02 332 *e*P P 18 44 56.6 +0.8
comp=Z,118nm,1.0s,baz=35,slow=5.4
PERS Pernice 81.03 326 *i* P P 18 44 56.9 +0.9
SOKA Soboth 81.03 326 *i* P P 18 44 57.1 +1.0
comp=Z,65nm,0.8s,SNR=66
SOKA *e*P **pP** 18 45 17.9 -1.2
comp=Z,53nm,1.0s
SDCO Great Sand Dun 81.03 48 P P 18 44 57.9 +1.3
baz=315,SNR=239
SDCO Great Sand Dun 81.03 48 P P 18 44 57.5 +0.9
GHAJ Ghor Haditha 81.08 304 P P 18 44 56.9 +0.4
F36A Milaca 81.09 35 P P 18 44 55.8 -0.6
K31A O'Neill 81.09 40 P P 18 44 56.7 +0.3
RJOB Jochberg 81.13 328 *e*P P 18 44 57.9 +1.4
comp=Z,3µm,2.4s,baz=35,slow=5.4
SRS Serrai 81.18 317 P P 18 44 57.1 +0.2
BBLS Lazići 81.22 322⇑ *i*P P 18 44 58.0 +0.9
LIA Limnos Island 81.23 316 P P 18 44 57.1 0.0
WACR West Acre 81.25 337⇑ *e*P P 18 44 57.2 +0.3
WACR IAmb IAmb 18 44 58.5
comp=Z,265nm,0.8s
HAPS Han Pijesak,BI 81.27 322 *e*P P 18 45 01.7 +4.3
BEBN Eben Emael 81.29 333 *b*P P 18 44 57.6 +0.4
comp=Z,134nm,0.9s
ECSD EROS Data Cent 81.30 38 P P 18 44 57.7 +0.2
baz=319,SNR=91
ECSD EROS Data Cent 81.30 38 P P 18 44 57.4 -0.1
ECSD IAmb IAmb 18 44 59.1
comp=Z,228nm,1.1s
BTNL Ternell 81.31 333 *d*P P 18 44 57.9 +0.5
BTNL *d*pP **pP** 18 45 19.1 -1.3
IOMK Kirk Michael 81.31 341⇑ *e*P P 18 44 57.6 +0.3
LBWR Ladybower, Pea 81.33 339⇑ *e*P P 18 44 58.5 +1.1
LBWR IAmb IAmb 18 44 59.3
comp=Z,300nm,0.8s
MEM Membach 81.33 333 *b*P P 18 44 57.8 +0.3
comp=Z,77nm,1.0s
SIGR SIGRI 81.36 315 P P 18 44 57.4 -0.4
E38A The Farm, Brul 81.37 34 P P 18 44 57.6 -0.1
E38A IAmb IAmb 18 44 58.9
comp=Z,219nm,1.0s
OBKA Obir 81.37 326 *i* P P 18 44 58.6 +0.7
comp=Z,39nm,0.8s,SNR=11
FETY Fethiye 81.38 311 P P 18 44 57.9 -0.1
FUR Furstenfeldbru 81.39 329 *e*P P 18 44 59.2 +1.3
comp=Z,239nm,0.9s,baz=35,slow=5.4
FUR *e*L L 19 28 36.0
comp=Z,434nm,18.6s
RUDO Rudo 81.42 321⇑ *i*P P 18 44 58.2 +0.1
KBA Koelnbreinsper 81.43 327 *i* P P 18 44 59.1 +0.8
comp=Z,44nm,0.8s,SNR=33
WIM Isle of Man 81.44 341⇑ *e*P P 18 44 58.8 +0.8
STIP Stip 81.48 319 *i* P P 18 44 58.4 0.0
BSTI Sart Tilman 81.51 333 *b*P P 18 44 59.1 +0.7
BSTI *d*pP **pP** 18 45 21.7 +0.2
KNT Kendrikon 81.51 318 P P 18 44 59.0 +0.4
CRES Cresnjev 81.51 325⇑ *i*P P 18 44 59.0 +0.5
BHOU Houvegnez 81.55 333 *d*P P 18 44 59.3 +0.6
comp=Z,51nm,1.3s
VAY Valandovo 81.56 318 *i* P P 18 44 59.5 +0.6
BLY Banja Luka 81.58 323⇑ *i*P P 18 44 59.1 +0.2
PLE Pljevlja 81.63 321⇑ *i*P P 18 45 00.4 +1.1
TUC Tucson 81.64 55 P P 18 45 00.7 +1.1
TUC pmax pmax
comp=Z,199nm,1.1s
TUC Tucson 81.64 55 P P 18 45 01.0 +1.4
baz=313
TUC Tucson 81.64 55 P P 18 45 00.7 +1.1
TUC IAmb IAmb 18 45 02.4
comp=Z,199nm,1.1s
SKO Skopje 81.64 319 *i* P P 18 45 00.8 +1.5
MYKA Terra Mystica 81.66 327 *i* P P 18 44 59.8 +0.4
comp=Z,32nm,0.7s,SNR=23
MYKA *e*P **pP** 18 45 20.9 -1.6
comp=Z,16nm,0.5s
GMM Mts of Mourne 81.68 341⇑ *i*P P 18 44 59.6 +0.4
STU Stuttgart 81.71 330 P P 18 45 00.3 +0.8
STU pmax pmax
comp=Z,191nm,0.8s
STU Stuttgart 81.71 330 P P 18 45 00.3 +0.8
STU IAmb IAmb 18 45 01.5
comp=Z,191nm,0.8s
STU Stuttgart 81.71 330 *e*P P 18 45 00.6 +1.1
comp=Z,218nm,0.9s,baz=35,slow=5.4
KSCO Kaye Shedlock' 81.72 45 P P 18 45 00.7 +0.8
baz=316,SNR=14
KSCO Kaye Shedlock' 81.72 45 P P 18 45 00.6 +0.6
KSCO IAmb IAmb 18 45 02.0
comp=Z,572nm,1.4s
IVA Berane 81.73 321⇑ *i*P P 18 45 00.0 +0.1
UCC Uccle 81.73 334 *d*P P 18 44 59.6 +0.1
BCLA Clavier 81.73 333 *d*P P 18 44 59.9 +0.3
BCLA *d*pP **pP** 18 45 22.2 -0.5
LJU Ljubljana 81.74 326 *e*S S 18 55 05.2 -0.2
LJU Ljubljana 81.74 326 *i* P P 18 45 00.1 +0.3
LJU Ljubljana 81.74 326 *e*pP pP 18 45 20.4 -2.5
ACOM Acomizza, Ital 81.78 327 ⇑P P 18 45 00.4 +0.2
CWF Charnwood Fore 81.80 338⇑ *e*P P 18 45 00.5 +0.6
PLG Polygyros 81.80 317 P P 18 45 00.0 -0.2
BGES Gesves 81.84 333 *b*P P 18 45 00.3 +0.2
comp=Z,58nm,1.0s
BGES *d*pP **pP** 18 45 22.6 -0.6
CHOS Chios island 81.84 314 P P 18 45 00.4 -0.1
MGRS Mrkonjic Grad 81.88 323⇑ *i*P P 18 45 01.9 +1.4
SPMN Marine on St. 81.91 35 P P 18 45 00.6 0.0
baz=321
SPMN Marine on St. 81.91 35 P P 18 45 00.6 0.0
PVY Plav 81.91 320⇑ *i*P P 18 45 01.4 +0.6
GRG Griva 81.91 318 P P 18 45 00.9 +0.1
KOME Kolasin 81.93 321 *e*P P 18 45 01.1 +0.2
WATA Walderalm 81.94 328 *i* P P 18 45 01.7 +0.7
comp=Z,27nm,0.7s,SNR=32
UPM Unac-Piva 81.96 321 *e*P P 18 45 01.5 +0.3
UPM Unac-Piva 81.96 321⇑ *i*P P 18 45 00.8 -0.4
ILTH Belurgan, Co L 81.96 341 *e*P P 18 45 00.8 +0.1
WTTA Wattenberg 81.98 328 *i* P P 18 45 02.2 +1.0
comp=Z,58nm,0.7s,SNR=29
RCHB Rochefort 81.98 333 *d*P P 18 45 01.3 +0.4
comp=Z,63nm,1.2s
ZOU Zoufplan 82.00 327 P P 18 45 00.8 -0.5
PAIG Paliouri 82.00 317 P P 18 45 01.2 0.0
SNF Seneffe 82.00 334 *d*P P 18 45 01.5 +0.5
SNF *d*pP **pP** 18 45 24.8 +0.7
BMRD Maredsous 82.02 334 *d*P P 18 45 01.6 +0.5
comp=Z,92nm,1.3s
BMRD *d*pP **pP** 18 45 21.9 -2.3
WME Myndd Eilian 82.03 340⇑ *e*P P 18 45 01.5 +0.5
CEY Cerknica 82.03 326⇑ *i*P P 18 45 01.5 +0.2
CEY Cerknica 82.03 326 *e* 18 55 54.2
CEY Cerknica 82.03 326 *i* P P 18 45 01.5 +0.2
CEY Cerknica 82.03 326 *e*S S 18 55 07.0 -1.3
ABTA Abfaltersbach 82.03 327 *i* P P 18 45 01.2 -0.2
comp=Z,36nm,0.8s,SNR=24
T25A Trinidad 82.08 47 P P 18 45 02.9 +1.0
baz=315,SNR=126
T25A Trinidad 82.08 47 P P 18 45 03.0 +1.0
T25A IAmb IAmb 18 45 04.4
comp=Z,286nm,0.9s
WLF Walferdange 82.08 332 *d*P P 18 45 02.3 +0.9
WLF Walferdange 82.08 332 P P 18 45 01.9 +0.5
WLF pmax pmax
comp=Z,66nm,1.1s
WLF Walferdange 82.08 332 P P 18 45 01.9 +0.5
WLF Walferdange 82.08 332 *e*P P 18 45 02.4 +1.0
comp=Z,349nm,2.2s,baz=35,slow=5.4
BODT Bodrum 82.09 313 P P 18 45 02.1 +0.4
RAR Rarotonga 82.13 126 P P 18 45 03.2 +1.3
RAR pmax pmax
comp=Z,72nm,1.2s
RAR Rarotonga 82.13 126 P P 18 45 03.2 +1.3
MOTA Moosalm 82.13 328 *i* P P 18 45 02.6 +0.7
comp=Z,103nm,0.8s,SNR=74
RETA Reutte 82.15 329 *i* P P 18 45 02.8 +0.8
comp=Z,138nm,0.8s,SNR=60
WLF1 Llynfaes 82.15 340⇑ *i*P P 18 45 01.9 +0.3
WLF1 IAmb IAmb 18 45 03.4
comp=Z,168nm,1.2s
SQTA Sankt Quirin 82.19 328 *i* P P 18 45 03.1 +0.9
comp=Z,45nm,0.9s,SNR=30
SQTA *e*P **pP** 18 45 23.7 -1.7
comp=Z,23nm,0.7s
FOEL Foel Wylfa 82.19 339 *e*P P 18 45 02.7 +0.8
FOEL IAmb IAmb 18 45 03.9
comp=Z,210nm,0.8s
SBD1 Bryn Du 82.19 339⇑ *e*P P 18 45 15.3 +13
NKY Niksic 82.21 321 *e*P P 18 45 02.6 +0.2
ARG Arkhangelos 82.22 311 P P 18 45 02.3 -0.1
YLL Llanberis 82.22 340⇑ *e*P P 18 45 02.6 +0.5
YRC Rhoscolyn 82.23 340⇑ *e*P P 18 45 02.5 +0.4
D41A Chassel 82.24 32 P P 18 45 02.6 +0.3
UBR Ueberruh 82.25 329 *e*P P 18 45 03.1 +0.7
comp=Z,340nm,2.4s,baz=35,slow=5.4
DOU Dourbes 82.25 334 *d*P P 18 45 02.2 -0.1
NKME Niksic 82.26 321 *e*P P 18 45 02.8 +0.2
BGNE Belgrade 82.30 41 P P 18 45 03.1 +0.4
baz=318,SNR=12
BGNE Belgrade 82.30 41 P P 18 45 02.9 +0.1
STAL STALIGIAL 82.34 327 P P 18 45 02.2 -0.7
STAL STALIGIAL 82.34 327 AML AML
comp=E,216µm,0.9s
STAL STALIGIAL 82.34 327 AML AML
comp=N,204µm,0.9s
STAL STALIGIAL 82.34 327 ⇑P P 18 45 02.5 -0.5
LLW Llanuwychllyn 82.35 339⇑ *e*P P 18 45 03.5 +0.8
PHP Peshkopia 82.36 320 P P 18 45 03.2 +0.1
BRY Bratogost 82.36 321⇑ *i*P P 18 45 03.2 0.0
BRY Bratogost 82.36 321 *e*P P 18 45 03.2 0.0
PDG Podgorica 82.37 321 ⇓P P 18 45 03.5 +0.4
PDG Podgorica 82.37 321⇑ *i*P P 18 45 03.7 +0.6
PDG Podgorica 82.37 321 P P 18 45 03.4 +0.3
TTG Podgorica 82.37 321 *e*P P 18 45 03.6 +0.5
BFO Black Forest 82.40 331 P P 18 45 03.6 +0.4
BFO pmax pmax
comp=Z,106nm,0.9s
BFO Black Forest 82.40 331 P P 18 45 03.6 +0.4
BFO Black Forest 82.40 331 *e*P P 18 45 04.0 +0.8
comp=Z,137nm,1.1s,baz=35,slow=5.4
BFO *e*L L 19 22 09.5
comp=Z,356nm,21.2s
HLM1 Long Mynd 82.43 339⇑ *e*P P 18 45 03.7 +0.5
HLM1 IAmb IAmb 18 45 04.4
comp=Z,31nm,0.8s
ANMO Albuquerque 82.44 50*c* *i*P P 18 45 05.8 +1.9
ANMO pmax pmax
comp=Z,352nm,1.2s
ANMO Albuquerque 82.44 50 P P 18 45 05.8 +1.9
baz=314
ANMO Albuquerque 82.44 50 P P 18 45 05.2 +1.3
ANMO IAmb IAmb 18 45 07.1
comp=Z,284nm,1.1s
CEME Cevo 82.45 321 *e*P P 18 45 03.7 +0.1
LIT Litokhoron 82.50 317 P P 18 45 03.7 -0.2
LIT Litokhoron 82.50 317 P P 18 45 03.6 -0.2
LIT pmax pmax
comp=Z,85nm,0.9s
LIT Litokhoron 82.50 317 P P 18 45 03.6 -0.2
ABSI Aberstueckl 82.54 328 AML AML
comp=E,324µm,0.9s
ABSI Aberstueckl 82.54 328 AML AML
comp=N,274µm,0.8s
ABSI Aberstueckl 82.54 328 ⇑P P 18 45 03.9 -0.2
FETA Feichten 82.54 328 *i* P P 18 45 04.9 +0.8
FETA *e*P **pP** 18 45 26.4 -0.8
comp=N,48nm,0.8s,SNR=61
comp=N,25nm,0.8s
FNA Florina 82.56 318 P P 18 45 04.0 -0.2
FNA Florina 82.56 318 P P 18 45 04.5 +0.3
FNA pmax pmax
comp=Z,33nm,0.9s
FNA Florina 82.56 318 P P 18 45 04.5 +0.3
EIL Elat 82.57 303 PKKPbc PKKPbc 19 03 29.8 +2.4
comp=Z,6.1nm,0.8s,baz=171,slow=4.3,SNR=9.8
I37A Lemond, Waseca 82.58 36 P P 18 45 04.7 +0.5
DRME Dracevica, Mon 82.59 321⇑ *i*P P 18 45 05.0 +0.7
DRME Dracevica, Mon 82.59 321 *e*P P 18 45 04.4 +0.1
OHR Ohrid 82.61 319 *i* P P 18 45 05.1 +0.7
BUM Brajici-Budva 82.65 321 *e*P P 18 45 04.9 +0.3
DAVA Damuels 82.66 329 *i* P P 18 45 05.6 +0.9
comp=Z,118nm,0.8s,SNR=54
XOR Xorichti 82.67 316 P P 18 45 04.7 0.0
LENM Lemitar 82.68 51 P P 18 45 06.8 +1.7
DSB Dublin 82.69 341 P P 18 45 05.2 +0.7
KYMI Kymi, Euboea I 82.72 315 P P 18 45 04.9 -0.1
HCY Herceg Novi 82.73 321⇑ *i*P P 18 45 04.8 -0.1
HCY Herceg Novi 82.73 321 *e*P P 18 45 04.9 0.0
ULC Ulcinj 82.73 320⇑ *i*P P 18 45 05.4 +0.4
L34A Svendsen Farm, 82.75 39 P P 18 45 05.2 0.0
L34A IAmb IAmb 18 45 06.5
comp=Z,295nm,1.0s
STON Ston 82.78 322⇑ *i*P P 18 45 04.5 -0.7
Y22D IRIS PASSCAL I 82.78 51 P P 18 45 07.6 +2.1
baz=314
Y22D IRIS PASSCAL I 82.78 51 P P 18 45 07.0 +1.5
Y22D IAmb IAmb 18 45 08.8
comp=Z,226nm,1.0s
COWI Conover 82.78 33 P P 18 45 04.9 -0.3
TIR Tirane 82.89 320 ⇓P P 18 45 06.7 +0.8
TIR Tirane 82.89 320 P P 18 45 06.5 +0.7
TIR pmax pmax
comp=Z,129nm,1.0s
TIR Tirane 82.89 320 P P 18 45 06.5 +0.7
BNM Barren Site 82.90 51 P P 18 45 07.5 +1.2
ECH Echery 82.93 331 P P 18 45 06.2 +0.3
ECH Echery 82.93 331 P P 18 45 06.2 +0.3
MCH1 Michaelchurch 82.93 339⇑ *e*P P 18 45 06.4 +0.6
MCH1 IAmb IAmb 18 45 07.5
comp=Z,131nm,0.7s
MOSI Grossmontoni 82.94 328 AML AML
comp=E,474µm,0.9s
MOSI Grossmontoni 82.94 328 AML AML
comp=N,718µm,0.8s
MOSI Grossmontoni 82.94 328 ⇑P P 18 45 07.5 +1.2
CTI Castel Tesino 82.95 327 P P 18 45 05.7 -0.5
CTI pmax pmax
comp=Z,90nm,0.9s
CTI Castel Tesino 82.95 327 P P 18 45 05.7 -0.5
HMNX Herstmonceux 82.96 336⇑ *e*P P 18 45 07.1 +1.2
HMNX IAmb IAmb 18 45 08.0
comp=Z,240nm,0.8s
WOL Wolverton 83.04 337⇑ *e*P P 18 45 06.8 +0.4
DAVOX Davos/Dischmat 83.07 329 S S 18 55 18.7 -0.6
comp=Z,1.9nm,0.8s,baz=220,slow=22,SNR=7.3
DAVOX PKKPbc PKKPbc 19 03 26.7 -0.1
comp=Z,1.9nm,0.6s,baz=122,slow=2.4,SNR=5.6
TAU Tasmania Unive 83.07 176 P P 18 45 06.3 0.0
TAU pmax pmax
comp=Z,70nm,0.9s
TAU Tasmania Unive 83.07 176 P P 18 45 06.3 0.0
APE Apeiranthos 83.08 314 ⇓P P 18 45 06.7 -0.2
N33A J Bar K, Exete 83.15 41 P P 18 45 06.9 -0.3
N33A IAmb IAmb 18 45 08.2
comp=Z,297nm,1.1s
319A Douglas 83.21 54 P P 18 45 08.9 +1.1
KARP Karpathos 83.25 312 P P 18 45 07.5 -0.3
121A Cookes Peak, D 83.33 53 P P 18 45 10.3 +1.8
baz=314
121A Cookes Peak, D 83.33 53 P P 18 45 10.0 +1.6
121A IAmb IAmb 18 45 11.5
comp=Z,274nm,0.8s
AGG Agios Georgios 83.38 317 P P 18 45 07.5 -0.9
AGG pmax pmax
comp=Z,43nm,0.9s
AGG Agios Georgios 83.38 317 P P 18 45 07.5 -0.9
CBKS Cedar Bluff 83.41 44 P P 18 45 08.4 -0.2
CBKS pmax pmax
comp=Z,348nm,1.3s
CBKS Cedar Bluff 83.41 44 P P 18 45 08.5 -0.2
baz=318,SNR=25
CBKS Cedar Bluff 83.41 44 P P 18 45 08.4 -0.2
CBKS IAmb IAmb 18 45 09.8
comp=Z,348nm,1.2s
E43A Lone Tree Farm 83.43 31 P P 18 45 08.4 -0.1
E43A IAmb IAmb 18 45 09.7
comp=Z,157nm,1.0s
RSBS Rosebush, Pemb 83.45 340⇑ *e*P P 18 45 08.9 +0.4
RSBS IAmb IAmb 18 45 09.6
comp=Z,54nm,0.8s
F42A Maple Grove Fa 83.47 32 P P 18 45 08.7 0.0
TEOL Teolo 83.50 327 P P 18 45 09.0 +0.2
TUE Stuetta 83.54 329 P P 18 45 09.8 +0.5
IWEX Carrickbyrne, 83.58 341⇑ *e*P P 18 45 10.2 +1.0
IWEX IAmb IAmb 18 45 11.1
comp=Z,242nm,1.2s
SANT Santorini 83.62 313 P P 18 45 08.2 -1.5
VLO Vlora 83.74 319 P P 18 45 11.0 +0.8
VLO pmax pmax
comp=Z,116nm,0.9s
VLO Vlora 83.74 319 P P 18 45 11.0 +0.8
SALO Salr 83.76 328 P P 18 45 10.1 -0.1
SALO IAmb IAmb 18 45 11.6
comp=Z,177nm,0.9s
HSIG 83.76 57 P P 18 45 10.2 -0.3
HSIG IAmb IAmb 18 45 12.9
comp=Z,203nm,1.1s
MATQ Matagami 83.89 24 P P 18 45 10.6 -0.2
baz=331
I40A Norwalk 83.92 35 P P 18 45 10.5 -0.6
I40A IAmb IAmb 18 45 12.4
comp=Z,158nm,0.9s
K38A Parkersburg 83.93 37 P P 18 45 10.9 -0.2
N35A Tabor 83.95 40 P P 18 45 11.6 +0.3
LEOD Capriano del C 84.06 328 ⇑P P 18 45 00.9 -11
SBPO S.Benedetto Po 84.06 327 S P 18 45 16.0 +4.3
SRIG Santa Rosalia 84.07 59 P P 18 45 13.1 +1.0
SRIG IAmb IAmb 18 45 14.5
comp=Z,370nm,1.4s
R32A Long Quarter, 84.24 43 P P 18 45 12.6 -0.2
HTL Hartland 84.24 339⇑ *e*P P 18 45 13.4 +0.9
HIZ Hauiti 84.26 154 P P 18 45 14.7 +2.1
HIZ IAmb IAmb 18 45 19.1
comp=Z,216nm,1.2s
SCIA State Center 84.31 38 P P 18 45 13.7 +0.6
baz=321,SNR=5.1
SCIA State Center 84.31 38 P P 18 45 13.5 +0.5
SENIN Lac Senin/Sane 84.42 330 P P 18 45 14.1 +0.3
E46A Sault Ste Mari 84.48 30 P P 18 45 13.5 -0.4
E46A IAmb IAmb 18 45 15.1
comp=Z,318nm,1.2s
PRMA PARMA 84.55 327 P P 18 45 15.2 +1.0
SCTE Santa Cesarea 84.55 320 P P 18 45 14.6 +0.3
SCTE IAmb IAmb 18 45 15.7
comp=Z,147nm,1.0s
SGRT San Giovanni R 84.56 322 P P 18 45 14.3 -0.1
SGRT IAmb IAmb 18 45 15.8
comp=Z,200nm,1.0s
DYA Yadsworthy 84.60 339⇑ *e*P P 18 45 14.5 +0.2
DYA IAmb IAmb 18 45 16.0
comp=Z,151nm,1.2s
I42A Draeger Farm, 84.66 34 P P 18 45 14.8 0.0
I42A IAmb IAmb 18 45 16.3
comp=Z,244nm,0.9s
H43A Windswept, Lux 84.67 33 P P 18 45 15.1 +0.3
LSQQ Lebel-sur-Quev 84.72 24 P P 18 45 15.0 0.0
baz=332
IDI Anoyia 84.72 313 S SKSac 18 55 28.5 -3.3
comp=Z,9.0nm,1.2s,baz=183,slow=18,SNR=2.4
IDI PKKPbc PKKPbc 19 03 24.8 +2.2
comp=Z,4.1nm,0.8s,baz=313,slow=14,SNR=5.2
IDI Anoyia 84.72 313 P P 18 45 14.5 -0.9
CHGQ Chibougamau 84.75 22 P P 18 45 14.9 -0.2
baz=333
URZ Urewera 84.81 153 P P 18 45 14.6 -0.6
KSU1 Kansas State U 84.81 42 P P 18 45 15.5 -0.1
baz=320,SNR=6.4
KSU1 Kansas State U 84.81 42 P P 18 45 15.5 -0.1
KSU1 IAmb IAmb 18 45 17.8
comp=Z,239nm,1.1s
CLF Chambon-Foret 84.82 334 P P 18 45 16.1 +0.7
CLF IAmb IAmb 18 45 17.8
comp=Z,241nm,1.4s
MURB Monte Urbino 84.82 325 P P 18 45 16.6 +0.9
MURB IAmb IAmb 18 45 18.4
comp=Z,190nm,1.1s
JFWS Jewell Farm 84.86 35 P P 18 45 15.5 -0.3
JFWS pmax pmax
comp=Z,149nm,1.0s
JFWS Jewell Farm 84.86 35 P P 18 45 15.7 -0.1
baz=323
JFWS Jewell Farm 84.86 35 P P 18 45 15.5 -0.3
JFWS IAmb IAmb 18 45 16.9
comp=Z,149nm,1.0s
NRCA Norcia 84.91 325 P P 18 45 16.7 +0.6
NRCA IAmb IAmb 18 45 18.2
comp=Z,184nm,1.0s
ITM Ithomi 84.95 316 P P 18 45 16.0 -0.4
ITM IAmb IAmb 18 45 20.6
comp=Z,175nm,0.7s
MATE Matera 84.97 321 ⇑P P 18 45 16.7 +0.3
VLC Villacollemand 85.01 327 P P 18 45 17.5 +0.9
G45A Suttons Bay 85.06 31 P P 18 45 17.1 +0.3
G45A IAmb IAmb 18 45 18.3
comp=Z,284nm,0.9s
L40A Anamosa 85.10 36 P P 18 45 16.6 -0.5
L40A IAmb IAmb 18 45 18.3
comp=Z,279nm,0.9s
JLP Les Platons 85.14 337⇑ *i*P P 18 45 17.8 +0.7
JQE Queens East 85.16 337⇑ *e*P P 18 45 17.5 +0.4
AQU L'Aquila 85.16 324 P P 18 45 18.0 +0.6
AQU pmax pmax
comp=Z,103nm,0.9s
AQU L'Aquila 85.16 324⇑ *i*P P 18 45 18.1 +0.6
AQU L'Aquila 85.16 324 P P 18 45 18.0 +0.6
OSSC Osservatorio P 85.16 326 P P 18 45 16.9 -0.4
N38A Joes South For 85.17 38 P P 18 45 17.8 +0.5
CCA1 Carnmenellis 85.18 339⇑ *e*P P 18 45 17.9 +0.7
CCA1 IAmb IAmb 18 45 19.0
comp=Z,176nm,1.2s
JVM Valle D.L. Mar 85.19 337⇑ *i*P P 18 45 17.8 +0.5
INTR Introdacqua 85.20 324 P P 18 45 17.3 -0.4
JSA Saint Aubin 85.20 337⇑ *e*P P 18 45 17.9 +0.6
JSA IAmb IAmb 18 45 19.1
comp=Z,148nm,0.9s
AMTX Amarillo 85.23 47 P P 18 45 19.1 +1.1
baz=317
AMTX Amarillo 85.23 47 P P 18 45 19.0 +1.1
AMTX IAmb IAmb 18 45 20.3
comp=Z,217nm,1.1s
MSTX Muleshoe 85.28 49 P P 18 45 18.8 +0.5
baz=316,SNR=50
MSTX Muleshoe 85.28 49 P P 18 45 18.6 +0.4
MSTX IAmb IAmb 18 45 20.2
comp=Z,189nm,1.1s
MNTX Cornudas Mount 85.37 52 P P 18 45 19.7 +1.2
baz=315
MNTX Cornudas Mount 85.37 52 P P 18 45 19.5 +0.9
MNTX IAmb IAmb 18 45 21.1
comp=Z,231nm,1.4s
VLDQ Val d'Or 85.40 25 P P 18 45 17.5 -0.8
VLDQ IAmb IAmb 18 45 18.9
comp=Z,439nm,1.2s
BKZ Black Stump Fm 85.40 153 P P 18 45 18.9 +0.6
KAN12 Harper NE Stat 85.45 44 P P 18 45 19.3 +0.4
KAN12 IAmb IAmb 18 45 20.7
comp=Z,388nm,1.1s
KAN08 Anthony NE Sta 85.52 44 P P 18 45 19.7 +0.5
KAN08 IAmb IAmb 18 45 21.0
comp=Z,384nm,1.1s

PMOR Pomariorio Ree 85.52 114 *eP* **P 18 45 20.5 +1.2**
comp=Z,201nm,1.1s
PMOR Pomariorio Ree 85.52 114 *eT* T 20 18 48.4
comp=Z,48nm,0.2s
KAN10 Anthony SW Sta 85.53 44 P **P 18 45 19.7 +0.4**
KAN10 IAmb IAmb 18 45 21.2
comp=Z,437nm,1.3s
ORI Oriolo Calabro 85.55 321 ⇑P P 18 45 08.7 -11
U32A Winter Ranch, 85.61 45 P **P 18 45 20.2 +0.5**
GDL2 Guadalupe Moun 85.62 51 P **P 18 45 20.8 +0.8**
GLMI Grayling 85.65 31 P **P 18 45 20.4 +0.7**
baz=327
GLMI Grayling 85.65 31 P **P 18 45 20.1 +0.4**
I45A Fountain 85.66 32 P **P 18 45 20.4 +0.7**
KAN05 Bluff City Nor 85.66 44 P **P 18 45 20.4 +0.5**
PAOL Paolisi 85.68 323 P **P 18 45 19.3 -0.6**
OK032 Salt Plains WL 85.71 44 P **P 18 45 20.7 +0.5**
KS20 Mayfield South 85.74 43 P **P 18 45 20.7 +0.4**
BNI Bardonecchia 85.76 330 P **P 18 45 20.4 0.0**
BNI pmax pmax
comp=Z,49nm,0.9s
BNI Bardonecchia 85.76 330 P **P 18 45 20.4 0.0**
KAN17 Caldwell West 85.77 44 P **P 18 45 20.8 +0.4**
KAN09 Caldwell North 85.77 43 P **P 18 45 20.9 +0.4**
L42A Oliver, Polo 85.85 36 P **P 18 45 20.4 -0.3**
L42A IAmb IAmb 18 45 21.8
comp=Z,181nm,1.0s
GC02 Grant County # 85.86 44 P **P 18 45 21.1 +0.2**
K43A Burlington 85.87 34 P **P 18 45 20.7 -0.1**
K43A IAmb IAmb 18 45 22.1
comp=Z,277nm,1.1s
VAH Vaihoa 85.87 114 *eP* **P 18 45 22.2 +1.1**
comp=Z,134nm,1.2s
P38A Dawn 85.93 39 P **P 18 45 21.6 +0.4**
KAN13 South Haven SW 85.94 43 P **P 18 45 21.8 +0.5**
CROK Carrier 86.06 44 P **P 18 45 22.8 +0.6**
PPT Papeete 86.13 117 P **P 18 45 22.6 +0.2**
comp=Z,101nm,0.9s,baz=299,slow=4.1,SNR=9.3
PPT LR LR 19 16 42.9
comp=Z,539nm,21.5s,baz=326,slow=31
PPT2 Papeete2 86.15 117 *eP* **P 18 45 23.8 +1.3**
comp=Z,124nm,1.1s
PPT2 Papeete2 86.15 117 *eS* **S 18 55 50.6 +0.4**
comp=Z,437nm,23.5s
PPT2 Papeete2 86.15 117 *eLR* LR 19 12 20.4
comp=Z,2µm,27.5s,baz=314
PPT2 Papeete2 86.15 117 *eT* T 20 19 36.5
comp=Z,19nm,0.3s
PAE Paea 86.19 117 *eP* **P 18 45 23.8 +1.2**
comp=Z,16nm,1.1s
PAE Paea 86.19 117 *eT* T 20 19 39.8
comp=Z,3.8nm,0.3s
SPS2 Spezzano della 86.20 320 P **P 18 45 21.8 -0.8**
CET2 Cetraro 86.20 321 P **P 18 45 22.0 -0.6**
BLOK Blackwell 86.27 43 P **P 18 45 23.5 +0.6**
BLOK IAmb IAmb 18 45 24.9
comp=Z,402nm,1.2s
TIAR Tiarei 86.28 117 *eP* **P 18 45 24.4 +1.3**
comp=Z,22nm,0.9s
TIAR Tiarei 86.28 117 *eT* T 20 19 46.3
comp=Z,3.6nm,0.3s
N41A Harden Midland 86.34 37 P **P 18 45 23.3 +0.1**
L44A Lake County Fo 86.47 34 P **P 18 45 24.0 +0.2**
baz=325
L44A Lake County Fo 86.47 34 P **P 18 45 24.0 +0.2**
L44A IAmb IAmb 18 45 25.3
comp=Z,234nm,1.1s
T35A Sooner Cattle 86.52 43 P **P 18 45 24.5 +0.4**
THZ Tophouse 86.61 157 P **P 18 45 24.1 -0.1**
TUWZ Tuamarina 86.62 156 P **P 18 45 24.4 +0.3**
P40A Paris 86.72 38 P **P 18 45 25.4 +0.3**
HQIL Hanson Quary C 86.81 35 P **P 18 45 25.8 +0.4**
HQIL IAmb IAmb 18 45 27.0
comp=Z,294nm,1.2s
OK029 Liberty Lake 86.87 44 P **P 18 45 26.8 +0.9**
J47A Sunmer 86.89 32 P **P 18 45 26.8 +1.0**
BCOK Bluff Creek, N 86.89 44 P **P 18 45 26.8 +0.8**
WMOK Wichita Mounta 86.95 46 P **P 18 45 26.6 +0.3**
WMOK pmax pmax
comp=Z,114nm,1.1s
WMOK Wichita Mounta 86.95 46 P **P 18 45 27.0 +0.7**
baz=318,SNR=66
WMOK Wichita Mounta 86.95 46 P **P 18 45 26.6 +0.3**
QUOK Quay 86.98 43 P **P 18 45 25.4 -1.0**
QUOK IAmb IAmb 18 45 28.4
comp=Z,324nm,1.1s
TAOE Nuku Hiva Isla 86.98 104 *eLR* LR 19 12 53.4
comp=Z,2µm,31.9s,baz=325
TAOE Nuku Hiva Isla 86.98 104 *eT* T 20 20 43.0
comp=Z,38nm,0.2s
M44A Midewin, Midew 87.06 35 P **P 18 45 26.8 +0.1**
OK031 S. Brethren Rd 87.08 44 P **P 18 45 27.4 +0.5**
OK031 IAmb IAmb 18 45 28.9
comp=Z,327nm,1.2s
ALGO Algonquin Park 87.09 26 P **P 18 45 26.4 -0.3**
baz=331
I49A Point Hope 87.09 30 P **P 18 45 27.3 +0.6**
I49A IAmb IAmb 18 45 28.8
comp=Z,239nm,1.0s
OK025 Westminster Rd 87.09 44 P **P 18 45 27.5 +0.5**
OKCFA Oklahoma City 87.16 44 P **P 18 45 27.9 +0.6**
OKCFA IAmb IAmb 18 45 29.4
comp=Z,304nm,1.1s
HDIL Hopedale 87.18 36 P **P 18 45 27.7 +0.5**
baz=324
HDIL Hopedale 87.18 36 P **P 18 45 27.6 +0.3**
CEL Celeste 87.22 320 P **P 18 45 27.7 +0.1**
L46A Eue Claire 87.30 33 P **P 18 45 28.1 +0.2**
L46A IAmb IAmb 18 45 29.5
comp=Z,290nm,1.1s
FNO Franklin 87.31 44 P **P 18 45 28.6 +0.6**
FOZ Fox Glacier 87.37 160 P **P 18 45 28.5 +0.8**
MEH Mehetia 87.38 116 *eP* **P 18 45 29.9 +1.5**
comp=Z,68nm,1.4s
MEH Mehetia 87.38 116 *eT* T 20 21 08.1
comp=Z,154nm,0.3s
LATQ La Tuque 87.48 22 P **P 18 45 28.8 +0.2**
baz=335
S39A Bolivar 87.54 40 P **P 18 45 28.7 -0.4**
S39A IAmb IAmb 18 45 30.1
comp=Z,226nm,0.8s
X34A Smith Ranch, M 87.57 45 P **P 18 45 30.3 +1.0**
X34A IAmb IAmb 18 45 31.7
comp=Z,293nm,1.2s
R40A Maddies Statio 87.59 39 P **P 18 45 29.3 0.0**
TUL1 Leonard 87.66 43 P **P 18 45 30.3 +0.6**
baz=320,SNR=34
D58A Chemin du LacG 87.71 23 P **P 18 45 29.8 +0.1**
baz=334
SADO Sadowa 87.74 28 P **P 18 45 29.5 -0.4**
OXZ Oxford 87.79 158 P **P 18 45 30.2 +0.5**
O44A Mansfield 87.88 36 P **P 18 45 30.8 +0.2**
O44A IAmb IAmb 18 45 32.1
comp=Z,181nm,0.8s
U38A Gravette 87.98 42 P **P 18 45 31.4 +0.2**
U38A IAmb IAmb 18 45 32.7
comp=Z,190nm,0.9s
ABTX Abilene, Hawle 88.04 48 P **P 18 45 32.4 +0.8**
baz=318
ABTX Abilene, Hawle 88.04 48 P **P 18 45 32.1 +0.5**
ABTX IAmb IAmb 18 45 33.8
comp=Z,225nm,1.2s
SLBS Sierra La Lagu 88.06 60 P **P 18 45 33.2 +1.3**
TX31 Lajitas Ar. Si 88.09 52 P **P 18 45 32.5 +0.5**
TX31 IAmb IAmb 18 45 34.9
comp=Z,230nm,0.9s
TX32 Lajitas Array 88.09 52 P **P 18 45 32.8 +0.8**
TXAR Lajitas Array 88.09 52 P **P 18 45 32.8 +0.8**
comp=Z,37nm,0.7s,baz=300,slow=3.0,SNR=263
TXAR pP **pP 18 45 55.5 +0.2**
comp=Z,18nm,1.1s,baz=331,slow=4.0,SNR=2.1
TXAR sP **sP 18 46 04.2 -0.4**
comp=Z,15nm,1.0s,baz=285,slow=2.5,SNR=2.1
TXAR PP **PP 18 48 59.1 0.0**
comp=Z,10.0nm,1.2s,baz=269,slow=5.0,SNR=3.9
TXAR PKiKP **PKiKP 18 50 34.2 +0.8**
comp=Z,0.6nm,0.5s,baz=315,slow=0.4,SNR=4.1
TXAR PKKPbc **PKKPbc 19 03 16.1 +1.5**
comp=Z,1.6nm,0.7s,baz=155,slow=5.8,SNR=8.7
TXAR PKPPKP **P'P'df 19 11 22.2 -4.2**
comp=Z,0.1nm,0.3s,baz=349,slow=22,SNR=3.7
TXAR LR LR 19 18 30.7
comp=Z,120nm,21.8s,baz=0.0,slow=31
TXAR Lajitas Array 88.09 52 P **P 18 45 32.2 +0.3**
D59A Saint-Raymond 88.10 22 P **P 18 45 31.7 +0.2**
baz=335
L48A N Adams 88.13 32 P **P 18 45 32.3 +0.5**
AAM Ann Arbor 88.14 32 P **P 18 45 32.4 +0.6**
AAM pmax pmax
comp=Z,271nm,1.0s
AAM Ann Arbor 88.14 32 P **P 18 45 32.6 +0.8**
baz=327
AAM Ann Arbor 88.14 32 P **P 18 45 32.4 +0.6**
AAM IAmb IAmb 18 45 33.9
comp=Z,271nm,1.0s
K50A Casco 88.16 31 P **P 18 45 32.4 +0.5**
PLVO Plevna 88.22 26 P **P 18 45 32.0 -0.1**
PLVO IAmb IAmb 18 45 33.5
comp=Z,146nm,1.1s
E58A La Victoria 88.25 23 P **P 18 45 32.6 +0.3**
baz=334
LBZ Lake Benmore 88.26 160 P **P 18 45 33.3 +1.3**
LBZ IAmb IAmb 18 45 34.4
comp=Z,126nm,1.1s
CCM Cathedral Cave 88.27 39 P **P 18 45 32.7 +0.2**
CCM pmax pmax
comp=Z,407nm,0.9s
CCM Cathedral Cave 88.27 39 P **P 18 45 33.1 +0.6**
baz=323
CCM Cathedral Cave 88.27 39 P **P 18 45 32.7 +0.2**
SFIN Lafayette 88.30 35 P **P 18 45 33.2 +0.6**
baz=325
SFIN Lafayette 88.30 35 P **P 18 45 32.9 +0.4**
SFIN IAmb IAmb 18 45 34.3
comp=Z,215nm,0.8s
HHAR Hobbs 88.33 42 P **P 18 45 32.8 -0.1**
HHAR IAmb IAmb 18 45 34.2
comp=Z,137nm,0.9s
E59A St. Maurice 88.38 23 P **P 18 45 33.4 +0.5**
baz=335
D61A St Aubert, Com 88.38 21 P **P 18 45 33.1 +0.3**
baz=336
LOOK Love County 88.38 45 P **P 18 45 33.5 +0.3**
LOOK IAmb IAmb 18 45 35.0
comp=Z,207nm,1.3s
D60A Saint Jean D'O 88.44 22 P **P 18 45 33.4 +0.3**
baz=336
MGMO Mountain Grove 88.48 40 P **P 18 45 33.7 +0.1**
MGMO IAmb IAmb 18 45 34.9
comp=Z,183nm,0.8s
N47A Urbana 88.49 34 P **P 18 45 33.4 -0.1**
DELO Deloro Mine 88.49 27 P **P 18 45 33.6 +0.2**
DELO IAmb IAmb 18 45 35.0
comp=Z,164nm,1.1s
HPIG 88.56 55 P **P 18 45 34.9 +0.5**
Q44A Meyer Farm, Va 88.64 37 P **P 18 45 34.5 +0.3**
MLZ Mavora Lakes 88.66 162 P **P 18 45 34.5 +0.6**
E60A Ste Agathe de 88.79 22 P **P 18 45 35.0 +0.2**
baz=336
D62A Allapoint, All 88.80 20 P **P 18 45 35.3 +0.5**
baz=337
D62A Allapoint, All 88.80 20 P **P 18 45 35.5 +0.7**
D62A IAmb IAmb 18 45 36.6
comp=Z,102nm,1.0s
U40A Yellville 88.82 41 P **P 18 45 35.6 +0.5**
baz=322,SNR=248
U40A Yellville 88.82 41 P **P 18 45 35.1 0.0**
Z35A Perchaven, San 88.84 46 P **P 18 45 35.5 +0.2**
F59A Saint Guilaume 88.87 23 P **P 18 45 35.7 +0.6**
baz=335
P46A Rosedale 88.87 35 P **P 18 45 35.5 +0.2**
X37A Clayton 88.89 44 P **P 18 45 35.9 +0.4**
X37A IAmb IAmb 18 45 37.4
comp=Z,102nm,0.9s
ODZ Otahua Downs 88.99 160 P **P 18 45 37.6 +2.2**
E61A Lac Etchemin 89.00 21 P **P 18 45 36.2 +0.4**
baz=336
F60A Warwick 89.01 23 P **P 18 45 35.9 +0.1**
baz=335
D63A Stockholm 89.08 20 P **P 18 45 36.8 +0.6**
baz=338
N49A Columbus Grove 89.09 33 P **P 18 45 36.7 +0.4**
E62A Clayton Lake 89.09 21 P **P 18 45 36.6 +0.3**
baz=337
E62A Clayton Lake 89.09 21 P **P 18 45 36.5 +0.2**
E62A IAmb IAmb 18 45 37.9
comp=Z,89nm,0.9s
M50A Fremont 89.15 32 P **P 18 45 37.0 +0.4**
M50A IAmb IAmb 18 45 38.4
comp=Z,198nm,1.0s
OLIL Olney 89.19 37 P **P 18 45 37.4 +0.6**
DRLN Deer Lake 89.20 12 P **P 18 45 36.8 +0.2**
PECO Prince Edward 89.22 27 P **P 18 45 36.9 0.0**
PECO IAmb IAmb 18 45 38.4
comp=Z,161nm,1.2s
J54A Appleton 89.22 28 P **P 18 45 37.6 +0.7**
W39A Magazine 89.25 42 P **P 18 45 37.7 +0.5**
baz=321,SNR=48
W39A Magazine 89.25 42 P **P 18 45 37.3 +0.1**
W39A IAmb IAmb 18 45 39.0
comp=Z,237nm,1.3s
F61A St Evariste 89.28 22 P **P 18 45 37.9 +0.8**
baz=336
H57A Richville 89.29 25 P **P 18 45 37.3 +0.1**
baz=333
MEDO Medina 89.38 28 P **P 18 45 37.0 -0.7**
MEDO IAmb IAmb 18 45 38.5
comp=Z,261nm,1.1s
LONY Lake Ozonia 89.41 25 P **P 18 45 37.7 -0.1**
baz=333
LONY Lake Ozonia 89.41 25 P **P 18 45 37.7 -0.1**
PQI Presque Isle 89.45 20 P **P 18 45 37.8 0.0**
PQI IAmb IAmb 18 45 39.4
comp=Z,109nm,0.9s
S44A Carbondale 89.50 38 P **P 18 45 39.0 +0.7**
SIUC Southern Illin 89.50 38 P **P 18 45 39.0 +0.7**
MOQ Mont Orford 89.51 23 P **P 18 45 38.8 +0.5**
J55A Hilton 89.52 28 P **P 18 45 38.4 +0.2**
FRNY Flat Rock 89.53 24 P **P 18 45 38.1 -0.2**
JCT Junction City 89.54 49 P **P 18 45 39.2 +0.5**
JCT pmax pmax
comp=Z,96nm,0.9s
JCT Junction City 89.54 49 P **P 18 45 39.3 +0.5**
baz=318
JCT Junction City 89.54 49 P **P 18 45 39.2 +0.5**
JCT IAmb IAmb 18 45 40.0
comp=Z,96nm,0.8s
BLO Bloomington 89.54 35 P **P 18 45 38.9 +0.4**
BLO pmax pmax
comp=Z,409nm,1.5s
BLO Bloomington 89.54 35 P **P 18 45 38.9 +0.4**
FCAR Ozark Folk Cen 89.55 41 P **P 18 45 38.5 0.0**
E63A Oxbow 89.57 20 P **P 18 45 38.7 +0.2**
baz=338
E63A Oxbow 89.57 20 P **P 18 45 38.5 +0.1**
E63A IAmb IAmb 18 45 40.0
comp=Z,134nm,1.0s
F62A Pittston Farm, 89.64 21 P **P 18 45 39.6 +0.8**
baz=337
F62A Pittston Farm, 89.64 21 P **P 18 45 39.4 +0.6**
F62A IAmb IAmb 18 45 40.9
comp=Z,195nm,1.1s
O49A Covington 89.64 33 P **P 18 45 39.4 +0.5**
I57A Carthage 89.67 26 P **P 18 45 39.3 +0.3**
baz=333
H59A Cadyville 89.67 24 P **P 18 45 39.2 +0.2**
baz=334
PBMO Poplar Bluff 89.67 39 P **P 18 45 39.7 +0.6**
G60A Masonville 89.68 23 P **P 18 45 39.6 +0.6**
baz=335
M52A Chesterland 89.70 31 P **P 18 45 40.1 +0.9**
H58A Gabriels 89.72 25 P **P 18 45 39.4 +0.1**
baz=334
ERPA Erie 89.73 29 P **P 18 45 40.3 +1.0**
baz=330
ERPA Erie 89.73 29 P **P 18 45 40.1 +0.8**
E64A Bridgewater 89.73 20 P **P 18 45 39.6 +0.4**
baz=338
WHTX Lake Whitney, 89.74 47 P **P 18 45 40.3 +0.8**
baz=319
WHTX Lake Whitney, 89.74 47 P **P 18 45 40.2 +0.8**
WHTX IAmb IAmb 18 45 41.7
comp=Z,234nm,1.4s
G61A St-Isidore-de- 89.75 23 P **P 18 45 40.4 +1.1**
baz=336
P48A Milroy 89.78 34 P **P 18 45 39.6 0.0**
P48A IAmb IAmb 18 45 41.2
comp=Z,250nm,1.2s
N51A Ashland 89.83 32 P **P 18 45 40.0 +0.2**
J56A Wolcott 89.85 27 P **P 18 45 39.7 -0.1**
J56A IAmb IAmb 18 45 41.4
comp=Z,244nm,1.2s
MIAR Mount Ida 89.86 43 P **P 18 45 40.8 +0.8**
MIAR pmax pmax
comp=Z,302nm,0.9s
MIAR Mount Ida 89.86 43 P **P 18 45 40.8 +0.8**
baz=321,SNR=165
MIAR Mount Ida 89.86 43 P **P 18 45 40.8 +0.8**
LCAR Lake Charles 89.89 40 P **P 18 45 40.2 +0.1**
LCAR IAmb IAmb 18 45 42.0
comp=Z,301nm,1.5s
WHAR Wooly Hollow 89.94 41 P **P 18 45 40.4 0.0**
MMNY Mt. Morris Dam 89.96 28 P **P 18 45 40.7 +0.4**
WVNY West Valley, N 89.99 28 P **P 18 45 41.0 +0.5**
USIN University of 90.02 37 P **P 18 45 41.0 +0.3**
USIN IAmb IAmb 18 45 42.6
comp=Z,143nm,1.0s
P49A Miami Univ. Ec 90.02 34 P **P 18 45 41.4 +0.6**
baz=327
P49A Miami Univ. Ec 90.02 34 P **P 18 45 40.9 +0.2**
J57A Williamstown 90.02 26 P **P 18 45 40.9 +0.3**
J57A IAmb IAmb 18 45 42.4
comp=Z,211nm,1.1s
M53A WI Miller and 90.05 30 P **P 18 45 42.0 +1.2**
baz=329
M53A WI Miller and 90.05 30 P **P 18 45 41.4 +0.6**
W41B Gary Mavity, V 90.05 41 P **P 18 45 41.2 +0.3**
baz=322,SNR=86
F63A Nahmakanta, Br 90.05 21 P **P 18 45 41.4 +0.6**
baz=337
F63A Nahmakanta, Br 90.05 21 P **P 18 45 41.6 +0.9**
ALLY Aleghany Colle 90.07 30 P **P 18 45 41.4 +0.5**
PARMO Parma 90.09 39 P **P 18 45 41.6 +0.6**
G62A West of Eustis 90.10 22 P **P 18 45 42.1 +1.1**
baz=336
G62A West of Eustis 90.10 22 P **P 18 45 41.8 +0.8**
G62A IAmb IAmb 18 45 43.4
comp=Z,154nm,1.1s
F64A Sherman 90.11 20 P **P 18 45 41.6 +0.7**
baz=338
F64A Sherman 90.11 20 P **P 18 45 41.0 +0.1**
NCB Newcomb 90.11 25 P **P 18 45 41.2 +0.1**
I58A Old Forge 90.12 25 P **P 18 45 41.3 +0.2**
baz=333
Z38A Mt. Pleasant 90.12 44 P **P 18 45 41.5 +0.2**
ACSO Alum Creek Sta 90.16 32 P **P 18 45 42.3 +0.9**
baz=328
ACSO Alum Creek Sta 90.16 32 P **P 18 45 41.8 +0.5**
HENM Henderson Moun 90.19 39 P **P 18 45 42.2 +0.7**
K56A Middlesex 90.19 27 P **P 18 45 42.1 +0.6**
baz=332
TBI Tubuai 90.24 121 *eP* **P 18 45 43.3 +1.6**
comp=Z,159nm,1.1s
TBI Tubuai 90.24 121 *eS* **S 18 56 27.4 -1.1**
comp=Z,389nm,25.0s
TBI Tubuai 90.24 121 *eLQ* LQ 19 10 38.5
comp=Z,396nm,41.0s
TBI *eLR* LR 19 13 58.8
comp=Z,1µm,35.8s,baz=316
TBI Tubuai 90.24 121 *eT* T 20 24 40.6
comp=Z,96nm,0.3s
VT1 Waterbury 90.25 24 P **P 18 45 42.6 +0.9**
VT1 IAmb IAmb 18 45 43.9
comp=Z,227nm,1.3s
X40A Basin Creek Fa 90.29 42 P **P 18 45 42.6 +0.6**
baz=322,SNR=66
X40A Basin Creek Fa 90.29 42 P **P 18 45 42.1 +0.1**
X40A IAmb IAmb 18 45 44.2
comp=Z,190nm,1.0s
J58A Remsen 90.31 26 P **P 18 45 42.5 +0.5**
baz=333
J58A Remsen 90.31 26 P **P 18 45 42.2 +0.3**
J58A IAmb IAmb 18 45 43.6
comp=Z,147nm,1.1s
H61A Lyndonville 90.31 23 P **P 18 45 43.2 +1.2**
baz=335
PENMO Penman 90.32 39 P **P 18 45 42.2 0.0**
T45A Paducah 90.33 38 P **P 18 45 42.6 +0.4**
M54A Oil Creek Stat 90.38 30 P **P 18 45 43.4 +1.0**
baz=330
M54A Oil Creek Stat 90.38 30 P **P 18 45 43.0 +0.6**
PKME Peaks-Kenny Pk 90.41 21 P **P 18 45 43.3 +0.9**
baz=337
WCI Wyandotte Cave 90.42 36 P **P 18 45 43.0 +0.4**
WCI pmax pmax
comp=Z,180nm,0.9s
WCI Wyandotte Cave 90.42 36 P **P 18 45 43.3 +0.8**
baz=326
WCI Wyandotte Cave 90.42 36 P **P 18 45 43.0 +0.4**
WCI IAmb IAmb 18 45 44.5
comp=Z,180nm,0.9s
K57A Scipio Center 90.45 27 P **P 18 45 42.9 +0.2**
K57A IAmb IAmb 18 45 44.5
comp=Z,258nm,1.2s
G63A Kingsbury 90.45 21 P **P 18 45 43.6 +1.0**
baz=337
J59A Piesco 90.47 25 P **P 18 45 42.9 +0.1**
J59A IAmb IAmb 18 45 44.4
comp=Z,152nm,1.1s
PEBM Pemiscott Bayo 90.48 39 P **P 18 45 42.8 -0.1**
H62A Milan 90.51 23 P **P 18 45 44.1 +1.3**
baz=336
H62A Milan 90.51 23 P **P 18 45 43.7 +0.8**
GNAR Gosnell 90.52 39 P **P 18 45 44.0 +1.0**
N53A Lisbon 90.53 31 P **P 18 45 43.8 +0.8**
HBAR Harrisburg 90.54 40 P **P 18 45 44.5 +1.4**
G64A Maxfield 90.56 21 P **P 18 45 44.0 +0.9**
baz=337
435B Jarrell 90.58 48 P **P 18 45 44.0 +0.5**
baz=319
435B Jarrell 90.58 48 P **P 18 45 44.0 +0.5**
435B IAmb IAmb 18 45 45.3
comp=Z,115nm,1.1s
LBNH Lisbon 90.58 23 P **P 18 45 44.2 +1.0**
LBNH pmax pmax
comp=Z,81nm,1.2s
LBNH Lisbon 90.58 23 P **P 18 45 44.3 +1.0**
baz=335
LBNH Lisbon 90.58 23 P **P 18 45 44.2 +1.0**
L56A Greenwood 90.60 28 P **P 18 45 43.6 +0.2**
GLAT Glass 90.63 39 P **P 18 45 44.7 +1.1**
LNXT Lenox 90.67 39 P **P 18 45 44.0 +0.3**
LPAR Lepanto 90.68 40 P **P 18 45 44.8 +1.0**
N54A Moraine State 90.72 30 P **P 18 45 45.0 +1.0**
baz=330
N54A Moraine State 90.72 30 P **P 18 45 44.6 +0.6**
O52A Adamsville 90.72 32 P **P 18 45 44.0 +0.1**
M55A Ridgway 90.75 29 P **P 18 45 45.0 +0.9**
H63A New Sharon 90.75 22 P **P 18 45 45.0 +1.0**
baz=336
P51A Williamsport 90.76 33 P **P 18 45 44.1 -0.1**
WLAR White Oak Lake 90.77 43 P **P 18 45 45.2 +0.9**
UTMT University of 90.77 38 P **P 18 45 45.2 +0.9**
ACCN Adirondack Com 90.81 25 P **P 18 45 44.7 +0.4**
ACCN IAmb IAmb 18 45 46.2
comp=Z,212nm,1.3s
O53A New Philadelph 90.86 31 P **P 18 45 45.5 +0.9**
baz=329
O53A New Philadelph 90.86 31 P **P 18 45 45.2 +0.6**
R49A Shelbyville 90.86 35 P **P 18 45 45.2 +0.6**
HALT Halls 90.89 39 P **P 18 45 45.2 +0.4**
G65A Princeton 90.93 20 P **P 18 45 45.6 +0.9**
baz=338
G65A Princeton 90.93 20 P **P 18 45 45.4 +0.6**
G65A IAmb IAmb 18 45 46.9
comp=Z,127nm,1.1s
WVL Waterville 90.95 22 P **P 18 45 45.2 +0.3**
WVL IAmb IAmb 18 45 47.0
comp=Z,144nm,1.2s
HNH Hanover 90.96 24 P **P 18 45 46.0 +1.0**
HNH IAmb IAmb 18 45 47.4
comp=Z,89nm,1.0s
H64A Troy 91.00 21 P **P 18 45 45.8 +0.7**
baz=337
LMN Caledonia Moun 91.01 18 P **P 18 45 45.8 +0.6**
LMN IAmb IAmb 18 45 47.1
comp=Z,109nm,0.9s
P52A Corning 91.02 32 P **P 18 45 45.6 +0.2**
baz=328
P52A Corning 91.02 32 P **P 18 45 45.5 +0.2**
P52A IAmb IAmb 18 45 46.9
comp=Z,192nm,1.1s
J60A Lant Hill Farm 91.02 25 P **P 18 45 46.1 +0.8**
baz=334
Q51A Peebles 91.03 33 P **P 18 45 45.9 +0.4**

T47A Sharon Grove 91.07 37 P P 18 45 46.2 +0.6
BINY Binghamton 91.10 27 P P 18 45 46.3 +0.6
baz=332
BINY Binghamton 91.10 27 P P 18 45 46.2 +0.5
BINY IAmb IAmb 18 45 47.6
comp=Z,184nm,1.1s
I63A Otisfield 91.15 22 P P 18 45 47.5 +1.6
baz=336
I63A Otisfield 91.15 22 P P 18 45 46.9 +1.0
GGN Saint George 91.19 20 P P 18 45 46.3 +0.3
GGN IAmb IAmb 18 45 47.9
comp=Z,92nm,1.1s
J61A Chester 91.20 24 P P 18 45 47.3 +1.2
baz=335
H65A Eastbrook 91.22 21 P P 18 45 46.8 +0.7
baz=338
R50A Paris 91.23 34 P P 18 45 46.8 +0.4
R50A IAmb IAmb 18 45 48.3
comp=Z,145nm,1.1s
O54A Avella 91.25 31 P P 18 45 47.0 +0.6
X43A Marvell 91.25 41 P P 18 45 48.1 +1.6
baz=323
Z41A Richland Creek 91.27 43 P P 18 45 47.6 +1.1
baz=322
L58A Harry Jones Me 91.28 27 P P 18 45 47.5 +0.9
baz=332
FFD Franklin Falls 91.36 23 P P 18 45 48.0 +1.1
FFD IAmb IAmb 18 45 49.4
comp=Z,188nm,1.2s
833A Chaparral WMA, 91.38 50 P P 18 45 48.2 +1.1
baz=318
H66A Whiting 91.38 20 P P 18 45 47.6 +0.7
baz=338
TRY Troy 91.40 25 P P 18 45 47.9 +0.9
TRY IAmb IAmb 18 45 49.1
comp=Z,169nm,1.2s
EMMW East Machias 91.42 20 P P 18 45 47.7 +0.6
EMMW IAmb IAmb 18 45 49.0
comp=Z,120nm,1.2s
L59A Walton 91.43 26 P P 18 45 47.9 +0.6
WVT Waverly 91.43 38 P P 18 45 47.7 +0.4
WVT pmax pmax
comp=Z,125nm,1.0s
WVT Waverly 91.43 38 P P 18 45 48.0 +0.7
baz=325
WVT Waverly 91.43 38 P P 18 45 47.7 +0.4
WVT IAmb IAmb 18 45 49.2
comp=Z,125nm,1.0s
P53A Whipple 91.44 32 P P 18 45 48.0 +0.7
P53A IAmb IAmb 18 45 49.3
comp=Z,201nm,1.2s
NATX Nacogdoches 91.45 45 P P 18 45 48.2 +0.7
baz=321
NATX Nacogdoches 91.45 45 P P 18 45 48.2 +0.7
M57A Sunshine Farm, 91.46 28 P P 18 45 48.1 +0.8
Q52A Bidwell 91.53 33 P P 18 45 47.9 +0.2
Q52A IAmb IAmb 18 45 49.4
comp=Z,131nm,1.2s
I64A Boothbay 91.55 22 P P 18 45 48.6 +0.9
baz=337
W45A Hickory Valley 91.58 39 P P 18 45 48.4 +0.4
KSPA Keystone Colle 91.74 27 P P 18 45 49.0 +0.4
SSPA Standing Stone 91.80 29 P P 18 45 49.9 +1.0
baz=331
SSPA Standing Stone 91.80 29 P P 18 45 49.4 +0.5
O56A Blue Knob Stat 91.86 29 P P 18 45 50.1 +0.8
baz=331
O56A Blue Knob Stat 91.86 29 P P 18 45 49.7 +0.4
O56A IAmb IAmb 18 45 50.8
comp=Z,77nm,0.9s
735A Kenedy 91.90 49 P P 18 45 51.5 +1.9
MCWV Mont Chateau 91.90 31 P P 18 45 50.5 +1.1
baz=330
MCWV Mont Chateau 91.90 31 P P 18 45 50.5 +1.1
MCWV IAmb IAmb 18 45 51.2
comp=Z,85nm,0.9s
OXF Oxford 91.99 40 P P 18 45 50.3 +0.4
OXF pmax pmax
comp=Z,337nm,1.0s
OXF Oxford 91.99 40 P P 18 45 50.4 +0.5
baz=324
OXF Oxford 91.99 40 P P 18 45 50.3 +0.4
N58A Sunbury 92.04 28 P P 18 45 50.7 +0.7
N58A IAmb IAmb 18 45 51.4
comp=Z,97nm,0.9s
T50A Nancy 92.06 35 P P 18 45 50.4 +0.1
U49A Red Boiling Sp 92.06 36 P P 18 45 50.5 +0.3
S51A Beattyville 92.09 34 P P 18 45 50.5 +0.2
S51A IAmb IAmb 18 45 51.9
comp=Z,87nm,0.9s
Q54A Coxs Mills 92.09 32 P P 18 45 51.1 +0.7
Q54A IAmb IAmb 18 45 51.9
comp=Z,94nm,0.8s
CLTN Cedars of Leba 92.16 37 P P 18 45 51.2 +0.5
CLTN IAmb IAmb 18 45 52.0
comp=Z,70nm,0.9s
GBN Guysborough 92.16 16 P P 18 45 51.5 +1.1
GBN IAmb IAmb 18 45 52.9
comp=Z,124nm,1.2s
R53A Hurricane 92.20 33 P P 18 45 51.3 +0.4
R53A IAmb IAmb 18 45 52.6
comp=Z,83nm,1.1s
V48A Smith Brothers 92.22 37 P P 18 45 51.2 +0.2
V48A IAmb IAmb 18 45 52.6
comp=Z,129nm,1.1s
PLAL Pickwick Lake 92.25 39 P P 18 45 51.1 0.0
PLAL IAmb IAmb 18 45 52.3
comp=Z,67nm,0.7s
HRV Adam Dziewonsk 92.27 24 P P 18 45 51.8 +0.7
HRV pmax pmax
comp=Z,116nm,1.1s
HRV Adam Dziewonsk 92.27 24 P P 18 45 52.3 +1.2
baz=335
HRV Adam Dziewonsk 92.27 24 P P 18 45 51.8 +0.7
HRV IAmb IAmb 18 45 53.4
comp=Z,116nm,1.1s
N59A State Game Lan 92.31 27 P P 18 45 52.3 +0.9
baz=332
N59A State Game Lan 92.31 27 P P 18 45 51.8 +0.5
KSCT Kent School, K 92.36 25 P P 18 45 51.9 +0.4
KSCT IAmb IAmb 18 45 53.5
comp=Z,98nm,1.1s
KEST Kesra 92.37 323 P P 18 45 51.9 +0.1
comp=Z,23nm,0.9s,baz=305,slow=4.8,SNR=11
KEST PP PP 18 49 32.2 -0.5
comp=Z,12nm,0.9s,baz=327,slow=6.4,SNR=5.3
KEST LR LR 19 32 36.9
comp=Z,509nm,18.2s,baz=346,slow=39
KEST Kesra 92.37 323 P P 18 45 51.5 -0.2
143A Socs Landing, 92.43 42 P P 18 45 52.6 +0.6
HAL Halifax 92.44 18 P P 18 45 52.5 +0.8
HAL pmax pmax
comp=Z,40nm,0.9s
HAL Halifax 92.44 18 P P 18 45 52.5 +0.8
Y45A Yeager Farm, C 92.44 40 P P 18 45 52.8 +0.8
WES Weston 92.45 24 P P 18 45 52.7 +0.8
WES pmax pmax
comp=Z,152nm,1.1s
WES Weston 92.45 24 P P 18 45 52.7 +0.8
WES IAmb IAmb 18 45 54.1
comp=Z,152nm,1.1s
BCX Boston College 92.54 24 P P 18 45 53.3 +1.0
ODNJ Ogdensburg 92.56 26 P P 18 45 52.8 +0.4
ODNJ IAmb IAmb 18 45 53.5
comp=Z,54nm,0.9s
PAGS Pennsylvania G 92.58 28 P P 18 45 52.5 0.0
PAGS IAmb IAmb 18 45 53.9
comp=Z,52nm,0.8s
TRNY Table Rock, Ra 92.64 26 P P 18 45 53.7 +0.9
TRNY IAmb IAmb 18 45 54.7
comp=Z,131nm,1.0s
Q56A Snyder Ridge, 92.69 30 P P 18 45 53.6 +0.4
Q56A IAmb IAmb 18 45 54.9
comp=Z,66nm,0.9s
UCCT U. Connecticut 92.71 24 P P 18 45 53.6 +0.5
UCCT IAmb IAmb 18 45 55.1
comp=Z,93nm,1.0s
LUPA Lehigh Univers 92.73 27 P P 18 45 53.5 +0.2
LUPA IAmb IAmb 18 45 54.3
comp=Z,52nm,0.9s
BRYW Bryant College 92.81 24 P P 18 45 54.2 +0.7
KVTX Kingsville 92.84 50 P P 18 45 55.0 +1.1
PAL Palisades 92.87 26 P P 18 45 54.2 +0.4
PAL pmax pmax
comp=Z,66nm,0.9s
PAL Palisades 92.87 26 P P 18 45 54.5 +0.7
baz=334
PAL Palisades 92.87 26 P P 18 45 54.2 +0.4
PAL IAmb IAmb 18 45 55.1
comp=Z,66nm,0.9s
S54A Dingess, Beckl 92.91 33 P P 18 45 54.6 +0.4
S54A IAmb IAmb 18 45 55.9
comp=Z,90nm,0.9s
WSPT Westport, CT 92.91 26 P P 18 45 52.8 -1.2
WSPT IAmb IAmb 18 45 55.7
comp=Z,71nm,1.2s
MVL Millersville 92.92 28 P P 18 45 54.3 +0.2
R55A Marlinton 92.98 31 P P 18 45 54.8 +0.2
R55A IAmb IAmb 18 45 56.4
comp=Z,119nm,0.9s
TZTN Tazewell 93.03 35 P P 18 45 55.3 +0.6
baz=327
TZTN Tazewell 93.03 35 P P 18 45 55.0 +0.3
TZTN IAmb IAmb 18 45 56.5
comp=Z,160nm,1.1s
CPNY Central Park 93.04 26 P P 18 45 55.0 +0.4
CPNY IAmb IAmb 18 45 56.6
comp=Z,81nm,1.0s
SWET Sewanee 93.06 37 P P 18 45 54.7 -0.2
SWET IAmb IAmb 18 45 56.1
comp=Z,120nm,0.8s
M63A Gales Ferry 93.12 25 P P 18 45 55.5 +0.6
M63A IAmb IAmb 18 45 58.0
comp=Z,126nm,1.4s
X48A Hartselle 93.17 38 P P 18 45 55.1 -0.3
X48A IAmb IAmb 18 45 56.3
comp=Z,95nm,0.8s
WUPA West Chester U 93.24 28 P P 18 45 55.8 +0.2
PBRG Braganca 93.25 337 *eP* **P 18 45 56.1 +0.4**
comp=Z,63nm,2.1s
SDMD Soldier's Deli 93.26 29 P P 18 45 55.1 -0.6
VBMS Vicksburg 93.27 42 P P 18 45 56.9 +1.0
baz=323
V51A Loudon 93.29 36 P P 18 45 56.0 +0.1
V51A IAmb IAmb 18 45 57.5
comp=Z,104nm,0.9s
P60A Greenville 93.34 28 P P 18 45 56.5 +0.5
baz=333
P60A Greenville 93.34 28 P P 18 45 56.3 +0.2
P60A IAmb IAmb 18 45 57.6
comp=Z,80nm,0.8s
W50A Signal Mountai 93.36 37 P P 18 45 56.4 +0.1
W50A IAmb IAmb 18 45 57.7
comp=Z,82nm,0.8s
ZAIG Zacatecas 93.50 56 P P 18 45 58.6 +1.2
CPCT Cooper Cave 93.51 36 P P 18 45 57.0 +0.1
CPCT IAmb IAmb 18 45 58.5
comp=Z,102nm,0.9s
PGAV Gavieira, Arco 93.55 338 *eP* **P 18 45 57.5 +0.4**
PGAV Gavieira, Arco 93.55 338 *eLR* LR 19 17 20.1
comp=Z,260nm,18.0s
V52A Sevierville 93.60 35 P P 18 45 57.4 +0.1
V52A IAmb IAmb 18 45 59.1
comp=Z,121nm,1.1s
146A Union 93.67 41 P P 18 45 58.7 +1.0
TKL Tuckaleechee C 93.67 35 P P 18 45 57.9 +0.2
TKL pmax pmax
comp=Z,111nm,1.0s
TKL Tuckaleechee C 93.67 35 P P 18 45 57.9 +0.2
TKL IAmb IAmb 18 45 59.3
comp=Z,111nm,0.9s
Z47A Carrollton 93.70 40 P P 18 45 57.9 +0.1
PCAB Cabril 93.72 338 *eP* **P 18 45 58.6 +0.8**
comp=Z,66nm,1.7s
344A Westbrook Farm 93.77 43 P P 18 45 58.6 +0.5
344A IAmb IAmb 18 46 00.7
comp=Z,148nm,1.2s
FPAL Fort Paine 93.77 37 P P 18 45 58.0 -0.2
FPAL IAmb IAmb 18 45 58.9
comp=Z,50nm,0.8s
BLA Blacksburg 93.78 32 P P 18 45 58.4 +0.2
BLA pmax pmax
comp=Z,129nm,1.1s
BLA Blacksburg 93.78 32 P P 18 45 58.7 +0.5
baz=329
BLA Blacksburg 93.78 32 P P 18 45 58.4 +0.2
BLA IAmb IAmb 18 45 59.9
comp=Z,128nm,1.1s
U54A Nelsons Funny 93.79 34 P P 18 45 58.3 0.0
U54A IAmb IAmb 18 45 59.8
comp=Z,85nm,0.9s
S57A Dark Hollow, R 93.89 31 P P 18 45 59.1 +0.4
S57A IAmb IAmb 18 46 00.5
comp=Z,60nm,1.0s
MVO Moncorvo 93.92 337 *eP* **P 18 45 59.5 +0.7**
comp=Z,66nm,1.5s
MVO *ep*P **pP 18 46 23.3 +1.0**
MVO Moncorvo 93.92 337 *eLR* LR 19 18 31.7
comp=Z,444nm,22.0s
POLO Lamas de Olo 93.96 337 *eP* **P 18 45 59.4 +0.4**
comp=Z,21nm,1.3s
Y49A Blount Mountai 93.96 38 P P 18 45 58.8 -0.2
Y49A IAmb IAmb 18 46 00.2
comp=Z,102nm,0.8s
PVRL Vila Real 94.03 337 *eP* **P 18 45 59.7 +0.5**
comp=Z,51nm,1.8s
W52A Murphy 94.08 36 P P 18 45 59.8 +0.2
V53A Saluda 94.08 35 P P 18 45 59.5 -0.1
V53A IAmb IAmb 18 46 01.2
comp=Z,60nm,1.1s
X51A Calhoun 94.10 37 P P 18 45 59.7 +0.1
X51A IAmb IAmb 18 46 01.0
comp=Z,59nm,0.8s
CBN Corbin Frederi 94.12 30 P P 18 46 00.3 +0.7
baz=331
R58B Mineral 94.13 30 P P 18 45 59.6 -0.1
ESBB Sonseca Array 94.29 334 P P 18 46 00.5 0.0
ESDC Sonseca Array 94.30 334 P P 18 46 00.5 0.0
comp=Z,17nm,0.8s,baz=18,slow=4.3,SNR=93
ESDC pP **pP 18 46 24.4 +0.4**
comp=Z,7.7nm,0.8s,baz=9.1,slow=3.6,SNR=4.7
ESDC PP **PP 18 49 48.2 +0.7**
comp=Z,6.2nm,1.1s,baz=32,slow=5.7,SNR=4.5
ESDC PKKP **PKKPdf 19 02 58.0 +0.9**
comp=Z,1.4nm,0.9s,baz=252,slow=3.0,SNR=6.7
ESDC LR LR 19 33 44.2
comp=Z,427nm,19.1s,baz=15,slow=39
ESDC Sonseca Array 94.30 334 P P 18 46 00.5 0.0
LRAL Lakeview Retre 94.35 39 P P 18 46 00.7 -0.1
baz=325
LRAL Lakeview Retre 94.35 39 P P 18 46 00.4 -0.5
LRAL IAmb IAmb 18 46 01.9
comp=Z,50nm,0.9s
JSRW J. Sargeant Re 94.37 30 P P 18 46 00.9 +0.1
T57A Hurt 94.44 32 P P 18 46 01.1 0.0
T57A IAmb IAmb 18 46 02.7
comp=Z,66nm,1.1s
U56A King 94.54 33 P P 18 46 01.8 +0.1
U56A IAmb IAmb 18 46 03.2
comp=Z,70nm,1.0s
PAB San Pablo 94.54 334 P P 18 46 01.4 -0.3
PAB pmax pmax
comp=Z,22nm,0.9s
PAB San Pablo 94.54 334 P P 18 46 01.4 -0.3
PVIS Viseu 94.59 337 *eP* **P 18 46 02.3 +0.4**
BG3 Lake Jocassee 94.60 35 P P 18 46 02.6 +0.6
BG3 IAmb IAmb 18 46 03.8
comp=Z,99nm,0.9s
V55A Taylorsville 94.61 34 P P 18 46 02.1 +0.1
MTE Manteigas 94.78 337 *eP* **P 18 46 03.3 +0.6**
MTE *ep*P **pP 18 46 27.6 +1.4**
MTE Manteigas 94.78 337 *eLR* LR 19 18 36.6
comp=Z,391nm,18.0s
MTE Manteigas 94.78 337 P P 18 46 02.5 -0.3
Z51A Franklin 94.99 38 P P 18 46 03.5 -0.2
Z51A IAmb IAmb 18 46 04.8
comp=Z,88nm,0.8s
Y52A Lilburn 95.04 37 P P 18 46 04.5 +0.5
Y52A IAmb IAmb 18 46 05.7
comp=Z,86nm,0.8s
T59A Double "B" Far 95.13 30 P P 18 46 04.6 +0.3
T59A IAmb IAmb 18 46 06.0
comp=Z,62nm,1.1s
KMSC Kings Mountain 95.17 34 P P 18 46 04.7 +0.1
baz=329
KMSC Kings Mountain 95.17 34 P P 18 46 04.5 0.0
KMSC IAmb IAmb 18 46 05.9
comp=Z,56nm,0.9s
COI Coimbra 95.22 337 *eP* **P 18 46 05.4 +0.8**
PAULI Pauline 95.23 34 P P 18 46 05.0 +0.1
PAULI IAmb IAmb 18 46 06.1
comp=Z,59nm,0.9s
PCBR Castelo Branco 95.27 336 *eP* **P 18 46 06.0 +1.1**
comp=Z,26nm,1.7s
T60A Surry 95.29 30 P P 18 46 05.2 +0.2
T60A IAmb IAmb 18 46 06.7
comp=Z,110nm,1.1s
V58A Windy Hill, Pi 95.53 32 P P 18 46 05.9 -0.3
HODGE Hodges 95.54 35 P P 18 46 06.1 -0.2
HODGE IAmb IAmb 18 46 07.9
comp=Z,81nm,1.2s
250A Grady 95.57 39 P P 18 46 06.6 +0.2
PMRV Marv??o 95.62 336 *eP* **P 18 46 07.3 +0.8**
comp=Z,39nm,1.4s
PMRV Marv??o 95.62 336 *eLR* LR 19 19 00.6
comp=Z,403nm,22.0s
GOGA Godfrey 95.69 36 P P 18 46 07.0 +0.1
GOGA pmax pmax
comp=Z,50nm,0.9s
GOGA Godfrey 95.69 36 P P 18 46 07.3 +0.4
baz=327
GOGA Godfrey 95.69 36 P P 18 46 07.0 +0.1
GOGA IAmb IAmb 18 46 08.6
comp=Z,50nm,0.8s
W57A Gilead 95.72 33 P P 18 46 07.2 +0.1
W57A IAmb IAmb 18 46 08.4
comp=Z,62nm,1.0s
152A Waverly Hall 95.74 38 P P 18 46 07.0 -0.2
BRAL Brewton 95.85 40 P P 18 46 08.7 +1.0
baz=325
BRAL Brewton 95.85 40 P P 18 46 07.8 +0.1
BIRD Birdtown, Kers 95.96 34 P P 18 46 08.3 +0.1
BIRD IAmb IAmb 18 46 09.5
comp=Z,56nm,1.1s
CNNC Cliffs of the 96.51 31 P P 18 46 11.0 +0.4
baz=331
154A Montrose 96.53 37 P P 18 46 11.4 +0.6
V61A Roper 96.54 30 P P 18 46 11.2 +0.5
352A Blakely 96.62 38 P P 18 46 11.4 +0.2
EVO Evora 96.64 336 *eP* **P 18 46 11.3 +0.2**
comp=Z,28nm,1.7s
451A Vernon 96.94 40 P P 18 46 13.4 +0.8
PBEJ Beja 97.06 336 *eP* Pdif 18 46 13.8 +0.7
comp=Z,19nm,1.2s
TIGA Tifton 97.29 38 P Pdif 18 46 14.9 +0.6
baz=327
TIGA Tifton 97.29 38 P Pdif 18 46 14.8 +0.6
MESJ Messejana 97.34 336 *eP* Pdif 18 46 15.1 +0.7
comp=Z,30nm,1.4s
MESJ *ep*P pP 18 46 38.4 +0.6
NHSC New Hope 97.40 34 P Pdif 18 46 15.3 +0.6
baz=329
PCVE Castro Verde 97.47 336 *eP* Pdif 18 46 15.8 +0.8
PVAQ Vaqueiros 97.58 336 *eP* **P 18 46 13.9 -1.5**
PVAQ Vaqueiros 97.58 336 *eLR* LR 19 20 05.8
comp=Z,621nm,22.0s
553A Crawfordville 97.93 39 P Pdif 18 46 17.8 +0.7
553A IAmb IAmb 18 46 18.9
comp=Z,60nm,1.1s
MDT Midelt 100.69 331 PKKPbc PKKPbc 19 02 43.2 +1.3
comp=Z,1.4nm,0.9s,baz=348,slow=1.6,SNR=4.6
DWPF Disney Wildern 101.09 38 P Pdif 18 46 31.5 +0.3
baz=328
KMBO Kilima Mbogo 101.50 278 P Pdif 18 46 33.3 -0.3
comp=Z,7.4nm,0.9s,baz=41,slow=7.9,SNR=15
KMBO PP **PP 18 50 45.2 +0.9**
comp=Z,16nm,1.0s,baz=41,slow=9.3,SNR=14
KMBO PKKP **PKKPdf 19 02 43.2 -2.2**
comp=Z,1.3nm,0.7s,baz=331,slow=5.2,SNR=4.0
PMOZ Porto Moniz, M 104.53 342 *eLR* LR 19 22 36.7
comp=Z,177nm,20.0s
TORD Torodi Ar. Bea 114.95 316 PKP PKiKP 18 51 21.4 -0.6
comp=Z,5.8nm,0.6s,baz=23,slow=1.7,SNR=44
TORD PP **PP 18 52 19.6 -1.6**
comp=Z,12nm,0.9s,baz=23,slow=7.0,SNR=5.5
TORD PKKPbc **PKKPbc 19 01 57.0 0.0**
comp=Z,2.9nm,0.6s,baz=212,slow=2.7,SNR=15
TORD PKKPab **PKKPab 19 02 05.3 -1.2**
comp=Z,5.8nm,0.9s,baz=219,slow=2.8,SNR=9.2
SRBA San Rafael, Bu 115.63 50 PKiKP 18 51 24.1 +0.6
PDPR Patillas Dam, 116.54 29 PKPdf 18 51 24.1 -0.9
STVI Saint Thomas 116.63 28 PKPdf 18 51 24.4 -0.7
KOWA Kowa 116.67 322 PKKPbc PKKPbc 19 01 48.8 -2.3
comp=Z,3.6nm,0.7s,baz=180,slow=6.5,SNR=3.3
KOWA Kowa 116.67 322 PKPdf PKPdf 18 51 24.8 -0.5
LSZ Lusaka 117.37 273 PKKPab PKKPab 19 01 51.2 -2.3
comp=Z,3.3nm,0.7s,baz=221,slow=3.0,SNR=8.6
LSZ Lusaka 117.37 273 PKiKP PKPdf 18 51 26.6 -0.1
LSZ Lusaka 117.37 273 PKPdf PKPdf 18 51 26.6 -0.1
VNDA Vanda 118.30 175 PKP PKPdf 18 51 26.5 0.0
comp=Z,7.0nm,0.7s,baz=317,slow=4.2,SNR=42
VNDA PKKPbc **PKKPbc 19 01 46.6 +0.1**
comp=Z,4.3nm,0.9s,baz=213,slow=2.8,SNR=10
VNDA PKKP **PKKPdf 19 02 16.8 +0.8**
comp=Z,5.7nm,1.0s,baz=181,slow=1.2,SNR=6.8
SBA Scott Base 118.97 174 PKiKP PKiKP 18 51 28.6 +0.7
SBA Scott Base 118.97 174 PKPdf PKiKP 18 51 28.6 +0.7
SJCC San Jacinto, C 119.62 43 PKPdf PKiKP 18 51 31.4 +0.2
MATP Matopo 120.19 268 PKKPab PKKPab 19 01 40.5 -0.4
comp=Z,4.8nm,0.7s,baz=240,slow=3.5,SNR=9.8
ZARC Zaragoza, Cauc 121.82 44 *eP* **PKiKP 18 51 35.7 +0.2**
OCAC Ocana 121.98 42 *eP* **PKiKP 18 51 36.3 +0.4**
MAW Mawson 122.53 206 PKP PKiKP 18 51 35.2 +0.1
comp=Z,17nm,0.8s,baz=46,slow=1.8,SNR=38
MAW PKKPbc **PKKPbc 19 01 30.3 -0.2**
comp=Z,14nm,0.8s,baz=248,slow=5.1,SNR=22
MAW Mawson 122.53 206 PKPdf **PKPdf 18 51 34.9 0.0**
CBOC Ciudad Bolivar 122.56 46 *eP* **PKPdf 18 51 36.8 -0.1**
SDV Santo Domingo 122.75 39 PKPdf **PKiKP 18 51 37.7 +0.2**
comp=Z,117nm,0.7s,baz=242,slow=0.6,SNR=15
SDV Santo Domingo 122.75 39 PKPdf **PKiKP 18 51 37.5 +0.1**
SDV Santo Domingo 122.75 39 *eP* **PKiKP 18 51 38.8 +1.3**
SDV Santo Domingo 122.75 39 *eP* **PKiKP 18 51 37.9 +0.4**
PAMC Pamplona, Colo 123.06 42 *eP* **PKiKP 18 51 38.5 +0.1**
PLMC San Jos del P 123.20 47 *eP* **PKiKP 18 51 38.7 +0.4**
SACV Santiago Islan 123.21 343 PKPdf **PKiKP 18 51 38.3 +0.2**
MALC Bahia Malaga 123.34 48 *eP* **PKiKP 18 51 40.1 +1.6**
NORC Norcasia 123.43 45 *eP* **PKPdf 18 51 38.4 0.0**
GUY2C Guyana, Caldas 123.44 46 *eP* **PKiKP 18 51 39.1 -0.1**
BARC Barichara 123.45 43 *eP* **PKiKP 18 51 39.1 +0.1**
YOTC Yotoco, Valle 123.92 47 *eP* **PKPdf 18 51 39.2 -0.3**
TIC Toumodi 123.93 319 *eP*PKiKP **PKiKP 18 51 39.7 +0.1**
TOLC Tolima 124.00 46 *eP* **PKiKP 18 51 40.0 -0.2**
ANIL Santa Ana 124.03 46 *eP* **PKiKP 18 51 40.1 -0.1**
KIC Kosan Boka 124.03 318 *eP*PKiKP **PKiKP 18 51 39.8 0.0**
comp=Z,45nm,0.7s
RUSC La Rusia 124.10 43 PKPdf **PKPdf 18 51 40.1 -0.1**
RUSC La Rusia 124.10 43 *eP* **PKPdf 18 51 40.3 0.0**
PCRV Puerto La Cruz 124.23 32 PKP **PKPdf 18 51 38.8 -1.1**
comp=Z,42nm,0.7s,baz=202,slow=2.1,SNR=10
LIC Lamto 124.29 318 *eP*PKiKP **PKPdf 18 51 39.5 -0.5**
comp=Z,78nm,0.8s
ROSC El Rosal 124.33 45 PKP **PKiKP 18 51 41.2 +0.3**
comp=Z,44nm,0.7s,baz=118,slow=2.5,SNR=22
ROSC El Rosal 124.33 45 PKPdf **PKPdf 18 51 40.0 -0.6**
ROSC El Rosal 124.33 45 *eP* **PKiKP 18 51 41.4 +0.6**
ORTC Ortega, Tolima 124.60 46 *eP* **PKPdf 18 51 40.1 -0.6**
CHIC Chingaza 124.82 44 *eP* **PKiKP 18 51 42.0 +0.1**
POPC Popayan, Colom 124.91 49 *eP* **PKPdf 18 51 34.0 -7.6**
ELOV Elorza 124.94 38 *eP* **PKiKP 18 51 42.0 +0.4**
PRAC Prado 124.96 46 *eP* **PKPdf 18 51 41.1 -0.3**
LBTB Lobatse 124.97 265 PKIKP **PKiKP 18 51 41.4 0.0**
LBTB Lobatse 124.97 265 PKiKP 18 51 41.4 0.0
BBAC Balboa, Cauca 125.00 50 *eP* **PKiKP 18 51 41.9 -0.1**
MARP Paez Belalcaza 125.08 48 *eP* **PKiKP 18 51 42.5 +0.3**
PCON Cinco Dias 125.25 49 *eP* **PKiKP 18 51 43.4 +0.5**
VILC Villavicencio, 125.27 45 *eP* **PKiKP 18 51 42.4 0.0**
SOTA Rioblanco 125.28 49 *eP* **PKiKP 18 51 43.0 +0.1**
BETC Betania 125.50 47 *eP* **PKiKP 18 51 43.0 +0.2**
OTAV Otavalo 125.72 52 PKIKP **PKiKP 18 51 43.8 +0.1**
OTAV Otavalo 125.72 52 PKiKP 18 51 43.8 +0.1
OTAV Otavalo 125.72 52 *eP* **PKiKP 18 51 43.9 +0.1**
OTAV Otavalo 125.72 52 *eP* **PKiKP 18 51 44.9 +1.2**
OTAV Otavalo 125.72 52 *eP* **PKiKP 18 51 44.5 +0.7**
MACC Macarena, Meta 126.83 46 *eP* **PKPdf 18 51 44.5 -0.4**
BOSA Boshof 127.12 262 PKP **PKiKP 18 51 45.5 -0.2**
comp=Z,22nm,0.9s,baz=118,slow=0.9,SNR=22
BOSA Boshof 127.12 262 PKIKP PKiKP 18 51 45.6 0.0
BOSA Boshof 127.12 262 PKPdf PKiKP 18 51 45.6 0.0
TSUM Tsumeb 127.80 277 PKPdf PKPdf 18 51 46.6 0.0
PTLC Puerto Leguiza 127.92 48 *eP* **PKiKP 18 51 47.8 +0.2**
QSPA South Pole Qui 130.11 180 PKP **PKPdf 18 51 49.0 -0.6**
comp=Z,23nm,0.7s,baz=295,slow=1.3,SNR=47
ATAH Atahualpa 131.46 58 PKP **PKiKP 18 51 55.8 +0.6**

comp=Z,96nm,0.9s,baz=31,slow=2.8
MDP Montagnes des 132.94 19 PKP PKPdf 18 51 57.0 +0.5
comp=Z,30nm,0.6s,baz=219,slow=0.9,SNR=31
BOAV Boa Vista 132.94 31 eP PKiKP 18 51 58.2 +0.5
BOAV Boa Vista 132.94 31 eP PKPdf 18 51 57.0 +0.4
PTGA Pitinga 136.02 32 PKP PKPdf 18 52 02.5 +0.2
comp=Z,47nm,0.9s,baz=4.8,slow=2.2,SNR=7.2
PTGA PP PP 18 54 42.2 +1.0
comp=Z,7.4nm,0.8s,baz=344,slow=10,SNR=4.5
PTGA SKPbc SKPbc 18 55 27.0 +0.8
comp=Z,15nm,1.0s,baz=335,slow=5.9,SNR=3.8
NNA Nana 136.07 61 PKP PKPdf 18 52 02.5 +0.2
comp=Z,51nm,0.7s,baz=280,slow=6.3,SNR=7.2
NNA Nana 136.07 61 PKiKP PKPdf 18 52 03.0 +0.7
NNA Nana 136.07 61 PKPdf PKPdf 18 52 03.0 +0.7
MACA Manacapuru-AM 137.92 34 eP PKiKP 18 52 07.1 -0.7
MACA Manacapuru-AM 137.92 34 eP PKiKP 18 52 06.9 -0.9
MCPB Macapa, AP 138.33 21 eP PKiKP 18 52 08.8 +0.2
MCPB Macapa, AP 138.33 21 eP PKiKP 18 52 07.9 -0.7
MALB Monte Alegre 139.10 24 eP PKiKP 18 52 09.2 -1.0
MALB Monte Alegre 139.10 24 eP PKPdf 18 52 08.9 +1.0
ETMB Extrema 140.93 46 eP PKiKP 18 52 12.2 +1.0
ITTB Itaituba 140.96 28 eP PKiKP 18 52 13.0 -0.9
ITTB Itaituba 140.96 28 eP PKPdf 18 52 11.4 +0.1
TMAB Tom-Au,PA,Br 141.20 15 eP PKiKP 18 52 13.4 -1.1
ROSB Rosrio 142.36 9 eP PKiKP 18 52 15.9 -1.0
ROSB Rosrio 142.36 9 eP PKPdf 18 52 14.3 +0.6
NBMO Morrinhos-CE 143.08 2 eP PKiKP 18 52 17.4 -1.0
NBMO Morrinhos-CE 143.08 2 eP PKPdf 18 52 15.7 +0.7
NPGB Novo Progresso 143.58 29 eP PKPdf 18 52 16.8 +0.8
SNAA Sanae 143.93 198 PKPdf PKPbc 18 52 12.6 -0.3
SNAA Sanae 143.93 198 PKP PKPbc 18 52 13.0 +0.1
comp=Z,133nm,0.6s,baz=169,slow=6.5
NBCL Cascavel-CE 144.01 359 eP PKPdf 18 52 16.6 -0.1
NBCL Cascavel-CE 144.01 359 eP PKPdf 18 52 15.7 -1.0
NBPS Pedro II - PI 144.09 5 eP PKPbc 18 52 15.7 +0.6
NBPS Pedro II - PI 144.09 5 eP PKPbc 18 52 15.4 +0.3
PRPB Paraauapebas 144.49 19 eP PKPdf 18 52 17.2 -0.4
PRPB Paraauapebas 144.49 19 eP PKPbc 18 52 16.6 +0.3
LPAZ La Paz 144.90 55 PKP PKPab 18 52 17.8 -0.4
comp=Z,93nm,0.7s,baz=334,slow=3.2,SNR=189
LPAZ La Paz 144.90 55 PKiKP PKPab 18 52 18.0 -0.2
LPAZ La Paz 144.90 55 PKPab 18 52 18.0 -0.2
LPAZ La Paz 144.90 55 eP PKPab 18 52 17.6 -0.6
LPAZ La Paz 144.90 55 eP PKPbc 18 52 18.5 +0.3
LPAZ La Paz 144.90 55 eP PKPab 18 52 17.6 -0.6
AP01 Chacalluta 144.99 61 PKPab 18 52 17.9 +0.2
NBPB Pedra_Branca-C 145.31 2 eP PKPab 18 52 19.7 +0.6
NBPB Pedra_Branca-C 145.31 2 eP PKPab 18 52 19.4 +0.3
NBPA Parau_RN 145.50 357 eP PKPab 18 52 20.3 +0.6
NBPA Parau_RN 145.50 357 eP PKPab 18 52 19.9 +0.2
RCBR Riachuelo 145.52 355 PKP2 PKPab 18 52 19.7 -0.1
RCBR Riachuelo 145.52 355 PKPdf PKPab 18 52 19.7 -0.1
RCBR Riachuelo 145.52 355 eP PKPab 18 52 19.7 -0.1
VNA3 Neumayer Olymp 145.78 196 PKPdf PKPbc 18 52 18.4 -0.2
VNA3 Neumayer Olymp 145.78 196 PKiKP PKiKP 18 52 22.0 -0.1
VNA1 Neumayer--Stat 145.91 197 PKPdf PKPbc 18 52 19.0 0.0
VNA1 Neumayer--Stat 145.91 197 PKiKP PKiKP 18 52 25.6 +3.3
PSGC Pisagua 146.00 62 ⇑iP PKPdf 18 52 19.8 -0.2
PSGCX Pisagua 146.00 62 PKPdf PKPbc 18 52 20.5 -0.5
MNMC Minye Minye 146.03 61 ⇑iP PKPbc 18 52 21.2 -0.1
NBPV Pedro Velho 146.06 354 eP PKPab 18 52 22.2 +0.4
NBPV Pedro Velho 146.06 354 eP PKPdf 18 52 20.6 +0.4
TA02 Huaiquique 146.46 63 PKPbc 18 52 21.7 -0.5
TA01 Diego Aracena 146.63 63 PKPdf PKPbc 18 52 22.0 -0.7
VILB Vilhena 146.74 41 eP PKPbc 18 52 23.1 -0.1
VILB Vilhena 146.74 41 eP PKPbc 18 52 23.0 -0.1
CLDB Colider 146.91 32 eP PKPbc 18 52 23.4 -0.1
CLDB Colider 146.91 32 eP PKPbc 18 52 23.5 -0.1
PB08 IPOC Station P 147.03 61 ⇑iP PKPbc 18 52 23.7 -0.6
PB08 IPOC Station P 147.03 61 PKPbc 18 52 23.5 -0.8
NBLV Livramento - P 147.09 357 eP PKPbc 18 52 25.0 +0.8
NBLV Livramento - P 147.09 357 eP PKPdf 18 52 22.8 +0.8
NBMA Muriti-CE 147.13 0 eP PKPbc 18 52 23.3 -1.0
NBMA Muriti-CE 147.13 0 eP PKPbc 18 52 23.9 -0.4
PB01 IPOC Station P 147.43 63 i P PKPdf 18 52 23.4 +1.0
PB01 IPOC Station P 147.43 63 PKPdf 18 52 23.0 +0.6
SMTB Santa Maria do 147.61 17 eP PKPbc 18 52 24.8 -0.8
SMTB Santa Maria do 147.61 17 eP PKPbc 18 52 25.1 -0.5
PB07 IPOC Station P 147.62 64 i P PKPdf 18 52 23.9 +1.1
PB07 IPOC Station P 147.62 64 PKPdf 18 52 24.0 +1.2
PB04 IPOC Station P 147.84 66 i P PKPdf 18 52 24.4 +1.3
PB04 IPOC Station P 147.84 66 PKPdf 18 52 24.1 +1.0
PB09 IPOC Station P 148.10 64 PKPdf 18 52 25.0 +1.4
NBRF Rio Formoso - 148.29 353 eP PKPbc 18 52 26.8 -0.6
NBRF Rio Formoso - 148.29 353 eP PKPdf 18 52 24.7 +0.8
PB10 IPOC Station P 148.31 68 ⇑iP PKPdf 18 52 23.6 -0.1
PB10 IPOC Station P 148.31 68 PKPdf PKPdf 18 52 24.8 +1.1
PB06 IPOC Station P 148.48 65 PKPdf 18 52 25.5 +1.4
SIV San Ignacio 148.83 45 PKPbc PKPbc 18 52 29.0 +0.3
comp=Z,297nm,0.8s,baz=15,slow=0.5,SNR=114
LVC Limon Verde 148.88 64 PKPbc PKPbc 18 52 29.5 +0.4
comp=Z,96nm,0.8s,baz=277,slow=2.4,SNR=22
LVC Limon Verde 148.88 64 eP PKPbc 18 52 27.2 -1.9
LVC Limon Verde 148.88 64 eP PKPdf 18 52 24.1 -0.9
PB15 IPOC Station P 148.88 66 PKPdf 18 52 26.1 +1.2
PB14 IPOC Station P 149.12 69 ⇓iP PKPdf 18 52 27.3 +1.9
PB14 IPOC Station P 149.12 69 PKPdf PKPdf 18 52 25.6 +0.3
NBAN Anadia - AL 149.35 356 eP PKPbc 18 52 28.2 -1.9
NBAN Anadia - AL 149.35 356 eP PKPdf 18 52 26.0 +0.4
PTLB Pontes e Lacer 149.39 42 eP PKPdf 18 52 27.5 +2.0
PTLB Pontes e Lacer 149.39 42 eP PKPdf 18 52 25.7 +0.1
SNDB Serra Nova Dou 149.57 25 eP PKPdf 18 52 27.8 +1.8
SNDB Serra Nova Dou 149.57 25 eP PKPdf 18 52 26.4 +0.4
GO02 Mina Guanaco 150.03 69 PKPdf PKPdf 18 52 27.6 +0.9
NBPN Ponto Novo - B 150.56 3 eP PKPdf 18 52 29.8 +2.2
NBPN Ponto Novo - B 150.56 3 eP PKPdf 18 52 28.3 +0.7
PEXB Peixe 150.57 20 eP PKPdf 18 52 29.5 +2.0
PEXB Peixe 150.57 20 eP PKPdf 18 52 28.1 +0.6
GO03 Copiap 150.99 74 PKPdf PKPdf 18 52 28.7 +0.8
AC02 Maricunga 151.36 71 PKPdf PKPdf 18 52 30.0 +0.9
SALV Santo Antonio 151.44 36 eP PKPdf 18 52 31.1 +2.4
SALV Santo Antonio 151.44 36 eP PKPdf 18 52 30.4 +1.6
PMSA Palmer Station 151.47 157 PKPbc PKPbc 18 52 33.3 -0.2
comp=Z,27nm,0.9s,baz=168,slow=3.0,SNR=5.0
PMSA PKPab PKPab 18 52 42.3 +0.1
comp=Z,46nm,0.9s,baz=191,slow=4.4,SNR=6.7
PMSA Palmer Station 151.47 157 PKiKP 18 52 33.8 -0.2
PMSA Palmer Station 151.47 157 eP PKPbc 18 52 30.9 -2.6
SDBA SAO DESIDERIO 151.59 13 eP PKPdf 18 52 30.4 +1.2
SDBA SAO DESIDERIO 151.59 13 eP PKPdf 18 52 30.4 +0.8
GO04 Tololo Observa 151.94 79 PKPdf PKPdf 18 52 29.6 +0.1
CO02 Combarbal 152.29 81 PKPdf 18 52 30.0 +0.2
CO03 El Pedregal 152.35 80 PKPdf 18 52 29.9 +0.1
VA01 Torpederas 152.61 85 PKPdf 18 52 29.8 -0.2
VA01 PKPbc PKPbc 18 52 37.1 0.0
ARAG Araguaiana, MT 152.86 29 eP PKPdf 18 52 33.2 +2.3
VA05 Santo Domingo 152.90 86 PKPdf 18 52 29.8 -0.6
MT02 Curacav 153.10 85 PKPdf 18 52 30.4 -0.4
GO05 Huala 153.18 89 PKPdf 18 52 30.2 -0.7
MT01 Popeta 153.26 86 PKPdf 18 52 30.6 -0.4
PP1B Ponte de Pedra 153.29 37 eP PKPdf 18 52 33.5 +2.0
VA03 San Esteban 153.34 84 PKPdf 18 52 31.5 +0.3
MT09 Talagante 153.43 86 PKPdf 18 52 30.7 -0.7
GDU01 Guandu, BA 153.43 2 eP PKPdf 18 52 33.5 +1.7
GDU01 Guandu, BA 153.43 2 eP PKPdf 18 52 32.8 +1.0
MT05 Renca 153.46 85 PKPdf PKPdf 18 52 31.3 -0.1
BO01 Tunca 153.59 87 PKPdf PKPdf 18 52 30.7 -0.8
MT03 Universidad Ad 153.67 85 PKPdf 18 52 31.5 -0.3
GO07 Milladeo Hill, 153.80 108 PKPdf 18 52 30.8 -0.6
ML02 Panimavida 153.84 90 PKPdf 18 52 31.2 -0.6
BO02 Sierra Bellavi 153.98 88 PKPdf 18 52 32.3 +0.2
BDFB Brasilia 154.03 21 PKP PKPdf 18 52 33.5 +0.8
comp=Z,17nm,1.0s,baz=356,slow=3.6,SNR=13
BDFB PKPbc PKiKP 18 52 41.1 +0.2
comp=Z,27nm,0.6s,baz=294,slow=0.9,SNR=26
BDFB PKPab PKPab 18 52 54.5 0.0
comp=Z,86nm,1.0s,baz=347,slow=6.6,SNR=15
BDFB PP PP 18 56 26.0 -2.3
comp=Z,38nm,1.0s,baz=348,slow=9.2,SNR=8.2
ZON Zonda 154.20 80 PKiKP PKPdf 18 52 32.9 +0.4
ZON Zonda 154.20 80 PKPdf 18 52 32.9 +0.4
BI02 San Fabin de 154.24 92 PKPdf PKPdf 18 52 32.1 -0.3
BI02 PKPbc PKiKP 18 52 40.8 +0.1
JANB Januaria 154.29 13 eP PKPdf 18 52 35.2 +2.2
GO09 Cerro Castillo 154.30 126 PKiKP 18 52 41.3 +1.0
LC01 Cunco 154.40 98 PKPdf 18 52 32.6 +0.2
LL04 Puerto Octay 154.42 102 PKPdf 18 52 32.0 -0.4
LL03 Petrohue 154.46 103 PKPdf 18 52 31.9 -0.5
LL01 San Ignacio de 154.63 106 PKPdf 18 52 32.6 -0.1
NBIT Itapeh - BA 154.64 2 eP PKPdf 18 52 35.5 +2.0
NBIT Itapeh - BA 154.64 2 eP PKPdf 18 52 34.2 +0.7
CMC01 Camacan, BA 155.07 2 eP PKPdf 18 52 36.5 +2.5
LL02 Futaleuf 155.13 107 PKPdf PKPdf 18 52 32.8 -0.5
AQDB Aquidauana 155.37 41 PKPdf PKPdf 18 52 34.9 +0.6
AQDB Aquidauana 155.37 41 eP PKPdf 18 52 36.9 +2.5
AQDB Aquidauana 155.37 41 eP PKPdf 18 52 35.5 +1.2
PLCA Paso Flores 155.78 101 PKP PKPdf 18 52 34.9 +0.5
comp=Z,7.6nm,0.8s,baz=204,slow=1.2,SNR=12
PLCA PKPab PKPab 18 53 02.0 +0.5
comp=Z,51nm,1.0s,baz=260,slow=4.3,SNR=12
PLCA Paso Flores 155.78 101 PKPdf PKPdf 18 52 33.8 -0.5
PLCA Paso Flores 155.78 101 eP PKPdf 18 52 36.5 +2.1
MC01 Montes Claros 155.97 13 eP PKPdf 18 52 37.5 +2.2
GUA01 Guaratinga, BA 156.27 3 eP PKPdf 18 52 40.4 +4.8
ITRB Iturama 157.06 30 eP PKPdf 18 52 36.6 0.0
NAN01 Guarapari, ES 157.51 4 eP PKPdf 18 52 39.2 +2.0
DIAM Diamantina, MG 157.57 13 eP PKPdf 18 52 39.2 +1.8
DIAM Diamantina, MG 157.57 13 eP PKPdf 18 52 37.3 -0.1
SJMB Sao Joao De Ma 158.29 7 eP PKPdf 18 52 40.5 +2.4
PCMB Pacaembu 158.41 34 eP PKPdf 18 52 39.7 +1.5
PCMB Pacaembu 158.41 34 eP PKPdf 18 52 40.1 +1.9
BSFB Barra de Sao F 158.44 6 eP PKPdf 18 52 40.7 +2.4
BSFB Barra de Sao F 158.44 6 eP PKPdf 18 52 39.0 +0.7
TRCB Terra Rica 158.83 38 eP PKPdf 18 52 41.8 +3.1
RIB01 Linhares ES 158.95 5 eP PKPdf 18 52 41.3 +2.4
BB19B Bebedouro 158.97 27 eP PKPdf 18 52 40.9 +2.0
BB19B Bebedouro 158.97 27 eP PKPdf 18 52 40.1 +1.1
CPUP Villa Florida 159.06 54 PKP PKPdf 18 52 39.4 +0.6
comp=Z,10.0nm,0.9s,baz=332,slow=1.9,SNR=13
CPUP PKPab PKPab 18 53 15.9 +0.1
comp=Z,41nm,1.1s,baz=324,slow=5.5,SNR=13
CPUP PP PP 18 56 56.3 -0.5
comp=Z,18nm,1.2s,baz=11,slow=5.9,SNR=5.2
CPUP Villa Florida 159.06 54 PKPdf PKPdf 18 52 38.9 +0.1
BSCB Bom Sucesso 159.98 17 eP PKPdf 18 52 42.2 +2.0
BSCB Bom Sucesso 159.98 17 eP PKPdf 18 52 41.4 +1.3
ALF01 Guarapari-ES 160.22 6 eP PKPdf 18 52 42.4 +2.1
RCLB Rio Claro- Sao 160.56 26 eP PKPdf 18 52 43.4 +2.7
RCLB Rio Claro- Sao 160.56 26 eP PKPdf 18 52 42.5 +1.8
FRTB Fartura 160.66 32 eP PKPdf 18 52 41.2 +0.4
FRTB Fartura 160.66 32 eP PKPdf 18 52 41.4 +0.7
VAO Valinhos 161.29 25 eP PKPdf 18 52 44.2 +2.7
VAO Valinhos 161.29 25 eP PKPdf 18 52 42.1 +0.6
CAM01 Campos-RJ 161.33 9 eP PKPdf 18 52 43.9 +2.5
DUB01 Friburgo-RJ 161.48 11 eP PKPdf 18 52 43.9 +2.2
VAS01 Vassouras-RJ 161.50 14 eP PKPdf 18 52 44.0 +2.4
TRQA Tornquist 161.74 90 PKIKP PKPdf 18 52 40.9 -0.6
TRQA 18 53 27.8
TRQA Tornquist 161.74 90 PKPdf PKPdf 18 52 40.9 -0.6
TRQA PKPab PKPab 18 53 27.8 +0.5
TRQA Tornquist 161.74 90 eP PKPdf 18 52 44.5 +3.1
ITQB Itaqui 161.81 60 PKPdf PKPdf 18 52 42.2 +0.5
ITQB PKPab 18 53 27.5 -0.3
ITQB Itaqui 161.81 60 eP PKPdf 18 52 44.5 +2.7
ESAR Angra dos Reis 162.01 18 eP PKPdf 18 52 44.4 +2.3
PET01 Itanhaem-SP 162.38 27 eP PKPdf 18 52 46.0 +3.5
TIJ01 Guaruva-PR 162.65 33 eP PKPdf 18 52 45.6 +2.8
ITAB Concordia 162.75 45 eP PKPdf 18 52 46.1 +3.4
CPSB Cacapava Do Su 164.35 55 eP PKPdf 18 52 47.4 +3.2
PLTB Pedras Altas 165.14 59 PKPdf 18 52 44.9 +0.1
PLTB PKPab PKPab 18 53 42.5 +0.1
PLTB Pedras Altas 165.14 59 eP PKPdf 18 52 45.5 +0.7
PLTB Pedras Altas 165.14 59 eP PKPdf 18 52 45.2 +0.4
TER01 Tubaro-SC 165.35 40 eP PKPdf 18 52 45.9 +0.8

ROM 09 18:44:10.3±0.1, 43°.261N±0°.006×12°.524E±0°.007, h11km, ML1.2/3 Error ellipse: s-maj=0.7km s-min=0.6km az=22.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	Monte Urbino	0.00	15	P	Pg	18 44 12.5	+0.1
MURB				S	Sg	18 44 14.0	+0.2
MURB				AML	AML		
	comp=E,242μm,0.3s						
MURB				AML	AML		
	comp=E,243μm,0.3s						
MURB				AML	AML		
	comp=N,244μm,0.2s						
ATFO	Monte Foce - G	0.11	18	P	Pg	18 44 13.6	+0.3
ATCC	AVT- Casa Cast	0.11	132	P	Pg	18 44 13.8	+0.5
ATCC				S	Sg	18 44 16.2	+0.8
ATTE	AVT- Monte Tez	0.14	243	P	Pb	18 44 14.6	-0.4
ATTE				S	Sg	18 44 16.7	+0.6
ATVO	AVT- Monte Val	0.15	325	P	Pg	18 44 14.2	+0.4
ATVO				AML	AML		
	comp=N,104μm,1.0s						
ATVO				AML	AML		
	comp=E,75μm,1.1s						
ASSB	Assisi San Ben	0.24	156	P	Pg	18 44 15.8	+0.5
ASSB				S	Sg	18 44 19.8	+1.1

*WEL **09** 18:46:22.8±0.6, 34°.5±8°.×17°.9E±1°.4, h151km±23km, M4.5/24, mB4.9/7, ML4.7/16, MLv4.8/24, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=115.7*
*IDC **09** 18:46:31.6±28.0, 33°.63S×178°.69E, h351km±212km, mb3.2/2, mb1 3.4/3, mb1mx3.1/30, mbtmp4.0/3, Error ellipse: s-maj=280.0km s-min=34.8km az=142.0*

ISC 09 18:46:19.3±1.1, 34°.04S±0°.07×179°.4E±0°.1, h250km, n67, σ2°.21/66, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.63	194	P	Pn	18 47 20.9	+2.2
MXZ				S	S	18 48 06.1	+0.3
WMGZ	Waiomatatini S	3.86	192	P	Pn	18 47 24.4	+3.1
WMGZ				S	S	18 48 11.7	+1.0
HAZ	Te Kaha	3.94	199	P	Pn	18 47 24.9	+2.6
HAZ				S	S	18 48 12.0	-0.3
PKGZ	Pakihiroa	3.99	195	P	Pn	18 47 26.3	+3.3
PKGZ				S	S	18 48 13.8	+0.2
KUZ	Kuaotunu	4.04	227	P	Pn	18 47 26.1	+2.6
PUZ	Puketiti	4.13	192	P	Pn	18 47 28.9	+4.3
PUZ				S	S	18 48 16.2	-0.4
RUGZ	Raukumara Rang	4.16	199	P	Pn	18 47 27.7	+2.6
RUGZ				S	S	18 48 16.4	-0.9
CNGZ	Carnagh Statio	4.54	192	P	Pn	18 47 31.4	+2.0
MWZ	Matawai	4.55	199	P	Pn	18 47 31.4	+1.9
MWZ				S	S	18 48 23.9	-1.7
RIGZ	Rimuhau	4.84	195	P	Pn	18 47 35.6	+2.5
RRRZ	Republican Roa	4.88	208	P	Pn	18 47 37.4	+3.8
RRRZ				S	S	18 48 33.6	+0.7
MUGZ	Murupara	4.91	205	P	Pn	18 47 35.4	+1.5
MUGZ				S	S	18 48 29.9	-3.6
RTZ	Ruatahuna	4.97	202	P	Pn	18 47 36.1	+1.4
RTZ				S	S	18 48 31.2	-3.6
PRRZ	Plateau Road	5.07	208	P	Pn	18 47 38.3	+2.4
PRRZ				S	S	18 48 32.1	-4.8
MTHZ	Maungataniwha	5.23	202	P	Pn	18 47 39.7	+1.8
MTHZ				S	S	18 48 36.9	-3.6
MHGZ	Mahia Peninsul	5.24	193	P	Pn	18 47 40.5	+2.5
GLKZ	Green Lake	5.28	26	S	S	18 48 36.9	-5.0
TLZ	Tolley Road	5.30	215	P	Pn	18 47 42.4	+3.7
WHHZ	Waihua	5.32	198	P	Pn	18 47 41.5	+2.5
WHHZ				S	S	18 48 41.4	-1.2
MRHZ	Matea Rd	5.35	206	P	Pn	18 47 40.8	+1.4
MRHZ				S	S	18 48 38.0	-5.3
NMHZ	Naumai	5.46	202	P	Pn	18 47 40.2	-0.5
NMHZ				S	S	18 48 45.6	-0.2
WATZ	Wairara	5.52	211	P	Pn	18 47 44.2	+2.8
ARHZ	Aropaoanui	5.56	200	P	Pn	18 47 43.6	+1.7
BKZ	Black Stump Fm	5.62	204	P	Pn	18 47 42.5	-0.2
RITZ	Rihia Road	5.69	209	P	Pn	18 47 45.9	+2.3
HIZ	Hauiti	5.78	218	P	Pn	18 47 48.5	+3.9
MCHZ	McNeill Hill	5.81	201	P	Pn	18 47 46.7	+1.7
KWHZ	Kaweka Forest	5.88	203	P	Pn	18 47 46.3	+0.4
OTVZ	Oturere	5.93	209	P	Pn	18 47 48.1	+1.4
TWVZ	Taurewa	5.95	211	P	Pn	18 47 48.5	+1.7
SNVZ	South Ngauruho	5.96	209	P	Pn	18 47 48.6	+1.6
FWVZ	Far West T-bar	6.05	210	P	Pn	18 47 49.4	+1.1
WHVZ	Whangaehu Hut	6.06	209	P	Pn	18 47 49.3	+0.9
BHHZ	Black Hill Sta	6.06	205	P	Pn	18 47 47.4	-0.8
KAHZ	Kahuranaki	6.09	199	P	Pn	18 47 49.2	+0.7
TRVZ	Turoa	6.09	209	P	Pn	18 47 49.7	+1.0
KRHZ	Kereru	6.10	203	P	Pn	18 47 48.0	-0.6
MOVZ	Moawhango	6.10	208	P	Pn	18 47 49.0	+0.3
PKVZ	Pokaka	6.17	211	P	Pn	18 47 49.0	-0.5
MTVZ	Mangateitei	6.20	209	P	Pn	18 47 51.1	+1.2
VRZ	Vera Road	6.30	215	P	Pn	18 47 53.4	+2.4
PXZ	Pawanui	6.32	198	P	Pn	18 47 50.8	-0.4
PNHZ	Pukenui	6.40	203	P	Pn	18 47 51.1	-1.3
TSZ	Takapari Road	6.61	204	P	Pn	18 47 53.2	-1.7
WAZ	Wanganui	6.71	210	P	Pn	18 47 56.6	+0.4
LREZ	Lake Rotokare	6.73	215	P	Pn	18 47 58.3	+1.8
NEZ	North Egmont	6.74	218	P	Pn	18 47 59.6	+2.9
DVHZ	Dannevirke	6.76	201	P	Pn	18 47 56.3	-0.6
ANWZ	Angora Road	6.82	199	P	Pn	18 47 57.9	+0.4
POWZ	Post Office Ro	6.97	203	P	Pn	18 47 58.8	-0.7
PRWZ	Pori Road	7.05	202	P	Pn	18 48 00.4	-0.1
BFZ	Birch Farm	7.09	200	P	Pn	18 47 59.6	-1.4
MRZ	Mangatainoka R	7.28	204	P	Pn	18 48 02.4	-0.9
TIWZ	Tintock	7.28	201	P	Pn	18 48 01.9	-1.6
HOWZ	Holdsworth Sta	7.51	203	P	Pn	18 48 03.7	-2.6
OGWZ	Otaki Gorge	7.55	205	P	Pn	18 48 04.2	-2.6
TMWZ	Te Maipa	7.58	200	P	Pn	18 48 06.4	-0.9
KIW	Kapiti Island	7.69	206	P	Pn	18 48 06.4	-2.2
MTW	Mount Morrison	7.75	202	P	Pn	18 48 06.6	-2.7
PAWZ	Paruwai Farm	7.98	202	P	Pn	18 48 10.8	-1.5
DUWZ	D'Urville Isla	8.03	211	P	Pn	18 48 10.3	-2.7
WEL	Wellington	8.11	205	P	Pn	18 48 11.5	-2.3
TCW	Tory Channel	8.23	208	P	Pn	18 48 12.3	-3.1
MSVF	Nonsavu	16.28	355	P	P	18 49 55.4	+2.0
	0.8nm,0.3s,baz=185,slow=11,SNR=5.6						
ASAR	Alice Springs	40.87	272	P	P	18 53 35.9	-1.5
	1.4nm,0.7s,baz=109,slow=7.7,SNR=15						
WRA	Warramunga Arr	42.20	278	P	P	18 53 46.4	-1.7
	1.1nm,0.6s,baz=118,slow=7.9,SNR=20						
FINES	FINESS Array B	147.68	336	PKPbc	PKPdf	19 05 32.0	+1.6
	1.6nm,0.9s,baz=149,slow=4.0,SNR=1.6						

*IDC **09** 19:01:04.6±3.0, 52°.65N×34°.80W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/57, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=105.7km s-min=32.6km az=179.0*

ISC 09 19:01:06.4±3.0, 52°.6N±0°.7×34°.8W±0°.2, h14km, n6, σ0°.23/6, mb3.4/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	18.73	69	P	Pn	19 05 24.9	+0.1
	baz=269,slow=13,SNR=4.6						
PDAR	Pinedale Array	49.15	290	P	P	19 09 53.9	+0.2
	0.1nm,0.3s,baz=53,slow=9.3,SNR=1.9						
ILAR	Eielson Array	51.86	330	P	P	19 10 13.6	-0.1
	0.4nm,0.8s,baz=32,slow=5.3,SNR=2.8						
MKAR	Makanchi Array	67.36	42	P	P	19 12 00.8	0.0
	0.2nm,0.4s,baz=323,slow=4.5,SNR=5.2						
WRA	Warramunga Arr	146.33	19	PKPbc	PKPbc	19 20 46.4	-0.2
	0.8nm,0.7s,baz=348,slow=3.1,SNR=7.5						
ASAR	Alice Springs	149.86	21	PKPbc	PKPbc	19 20 55.7	-0.2
	1.0nm,0.9s,baz=353,slow=2.5,SNR=7.1						

*NOU **09** 19:23:45.8, 43°.64S×171°.93E, h11km, ML4.0, South Island, New Zealand*

WEL 09 19:23:45.7, 44°.5±2°.×17°.2E±°, h10km±4km, M3.5/27, ML3.7/27, MLv3.5/27, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHCZ	Mount Hutt	0.20	278	P	Pg	19 23 51.4	+1.6
MHCZ				S	Sg	19 23 54.8	+2.0
OXZ	Oxford	0.28	32	P	Pb	19 23 52.5	-0.2
OXZ				S	Sb	19 23 56.7	-0.7
RACZ	Rakaia	0.28	128	P	Pb	19 23 52.9	+0.2
WACZ	Wakanui South	0.38	180	P	Pb	19 23 55.2	+0.6
WACZ				S	Sb	19 24 01.4	+0.8
RPZ	Rata Peaks	0.59	255	P	Pb	19 23 58.8	+0.7
MQZ	McQueen's Vall	0.61	104	P	Pb	19 23 58.8	+0.4
ARCZ	Arundel	0.62	231	P	Pb	19 23 59.1	+0.5
AMCZ	Amberley	0.71	57	P	Pn	19 24 01.4	-0.3
AKCZ	Akaroa Harbour	0.84	112	P	Pn	19 24 03.2	-0.4
LTZ	Lake Taylor	0.84	22	P	Pn	19 24 03.4	-0.2
LTZ				S	Sn	19 24 15.0	-1.0
INZ	Inchbonnie	0.88	341	P	Pn	19 24 04.1	-0.1
INZ				S	Sn	19 24 17.3	+0.3
OKCZ	Okains Bay	0.90	101	P	Pn	19 24 05.5	0.0
OKCZ				S	Sn	19 24 17.4	-0.2
WVZ	Waitaha Valley	0.94	301	P	Pn	19 24 05.2	+0.3
TMZ	Timaru	1.02	216	P	Pn	19 24 06.1	0.0
TMZ				S	Sn	19 24 20.3	-0.2
GVZ	Greta Valley S	1.06	56	P	Pb	19 24 06.3	+0.2
GCSZ	Gaunt Creek Bo	1.13	282	P	Pn	19 24 08.6	+1.1
LBZ	Lake Benmore	1.45	235	P	Pb	19 24 12.5	-0.3
FOZ	Fox Glacier	1.47	270	P	Pg	19 24 14.1	+0.2
KHZ	Kahutara	1.69	48	P	Pn	19 24 15.3	0.0
ODZ	Otahua Downs	1.71	210	P	Pn	19 24 15.5	-0.1
DSZ	Dennistoun Nort	1.81	359	P	Pb	19 24 18.5	-0.5
THZ	Tophouse	1.96	24	P	Pn	19 24 19.2	+0.1
JCZ	Jackson Bay	2.27	256	P	Pn	19 24 23.9	+0.5
BSWZ	Blackbirch Sta	2.38	40	P	Pn	19 24 25.2	+0.5
WKZ	Wanaka	2.39	237	P	Pb	19 24 26.9	-1.9
EAZ	Earnscleugh	2.47	226	P	Pn	19 24 26.2	+0.2
NNZ	Nelson	2.60	27	P	Pn	19 24 28.7	+0.9
TUWZ	Tuamarina	2.64	37	P	Pn	19 24 28.5	+0.3
QRZ	Quartz Range	2.78	11	P	Pn	19 24 30.5	+0.2
TUZ	Tuapeka	2.86	213	P	Pn	19 24 31.8	+0.4
MSZ	Milford Sound	3.03	247	P	Pn	19 24 33.8	+0.

comp=Z,20nm,1.1s
MTN Manton Dam 25.32 103 P P 19 47 11.9 -1.5
MTN IAmb IAmb 19 47 54.9
comp=Z,11nm,0.5s
CM31 Chiang Mai Arr 27.34 346 P P 19 47 28.4 -3.2
CMAR Chiang Mai Arr 27.34 346 P P 19 47 31.7 +0.1
comp=Z,2.2nm,0.9s,baz=178,slow=8.3,SNR=16
H01W3 Cape Leeuwin H 27.64 165 T T 20 16 29.7
baz=344,slow=76,SNR=4.3
H01W1 Cape Leeuwin H 27.65 165 T T 20 16 22.0
baz=344,slow=76,SNR=3.7
H01W2 Cape Leeuwin H 27.65 165 T T 20 16 25.8
baz=344,slow=76,SNR=5.4
CHTO Chiang Mai 27.68 346 P P 19 47 32.6 -2.1
CHTO IAmb IAmb 19 48 06.9
comp=Z,8.0nm,1.4s
WB0 Warramunga Arr 29.97 116 P P 19 47 55.0 -0.1
WB0 IAmb IAmb 19 48 08.3
comp=Z,10nm,1.1s
WRA Warramunga Arr 29.98 116 P P 19 47 55.3 +0.1
comp=Z,1.3nm,0.6s,baz=287,slow=11,SNR=23
WRAB Tennant Creek 29.99 116 P P 19 47 55.0 -0.3
WRAB IAmb IAmb 19 48 08.5
comp=Z,5.5nm,0.7s
WB2 Warramunga Arr 29.99 116 P P 19 47 55.4 +0.1
WB2 IAmb IAmb 19 47 56.6
comp=Z,21nm,1.6s
WR0 Warramunga Arr 30.16 116 P P 19 47 56.8 -0.1
ASAR Alice Springs 31.00 123 P P 19 48 04.0 -0.2
comp=Z,1.2nm,0.7s,baz=301,slow=8.2,SNR=14
H08S2 Diego Garcia H 32.99 269 T T 20 23 07.1
baz=93,slow=74,SNR=16
H08S3 Diego Garcia H 33.01 269 T T 20 23 10.0
baz=93,slow=74,SNR=9.6
H08S1 Diego Carcia H 33.01 269 T T 20 23 08.6
baz=93,slow=74,SNR=8.8
SHL Shillong 36.19 338 P P 19 48 49.2 -0.2
SHL IAmb IAmb 19 49 04.9
comp=Z,6.6nm,0.7s
LSA Lhasa 40.23 340 P P 19 49 24.4 +0.6
LSA IAmb IAmb 19 49 38.6
comp=Z,6.1nm,0.9s
STKA Stephens Creek 40.75 130 P P 19 49 27.6 0.0
comp=Z,5.0nm,0.7s,baz=311,slow=8.7,SNR=8.7
STKA Stephens Creek 40.75 130 IAmb IAmb 19 49 28.8
comp=Z,1.6nm,0.9s
KSRS Korea Array 49.91 23 P P 19 50 40.0 +0.1
comp=Z,1.7nm,0.7s,baz=210,slow=8.1,SNR=9.9
SONM Songino Array 55.79 0 P P 19 51 23.5 0.0
comp=Z,0.7nm,0.4s,baz=182,slow=9.0,SNR=6.8
MKAR Makanchi Array 58.62 341 P P 19 51 43.7 +0.4
comp=Z,2.5nm,0.6s,baz=146,slow=8.0,SNR=18
MKAR Makanchi Array 58.62 341 P P 19 51 43.6 +0.2
ZAA0 Zalesovo Array 64.40 346 P P 19 52 22.2 0.0
ZAA0 IAmb IAmb 19 52 37.2
comp=Z,3.2nm,0.8s
ZALV Zalesovo Beam 64.40 346 P P 19 52 21.9 -0.2
comp=Z,2.1nm,0.4s,baz=154,slow=6.7,SNR=13
ZALV Zalesovo Beam 64.40 346 P P 19 52 22.4 +0.3
ABKAR Akbulak array 69.84 330 P P 19 52 56.9 +0.1
ABKAR Akbulak array 69.84 330 P P 19 52 57.0 +0.2
ABKAR IAmb IAmb 19 53 11.1
comp=Z,12nm,1.2s
VNDA Vanda 75.02 169 P P 19 53 27.2 -0.1
comp=Z,0.6nm,0.9s,baz=284,slow=6.4,SNR=3.8
MBAR Mbarara 75.14 272 P P 19 53 34.5 +5.1
MBAR IAmb IAmb 19 53 40.2
comp=Z,5.3nm,1.2s
KARS Kars 75.32 316 P P 19 53 31.2 +1.3
KBZ Khabaz 76.72 318 P P 19 53 39.4 +1.7
comp=Z,0.7nm,0.5s,baz=188,slow=7.1,SNR=1.8
GAZ Gaziantep 78.27 311 P P 19 53 47.9 +1.4
QSPA South Pole Qui 81.80 180 P P 19 54 04.5 -0.5
comp=Z,0.7nm,0.7s,baz=22,slow=5.4,SNR=2.4
TXAR Lajitas Array 145.24 49 PKPbc PKPdf 20 01 25.2 +0.5
comp=Z,0.7nm,0.8s,baz=265,slow=3.1,SNR=7.8

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*DJA **09** 19:47:47.1±1.5,9°S±4°×11°2E±°, h29km±17km, M4.3/19, mb4.5/9, mB4.7/1, MLv4.2/19, Mw(mB)4.0/1*
*IDC **09** 19:47:48.5±2.8, 8°25S×112°95E, h73km±26km, mb3.6/6, mb1 3.8/8, mb1mx3.5/34, mbtmp4.0/8, Error ellipse: s-maj=40.0km s-min=15.1km az=43.0*
*NEIC **09** 19:47:48.8±1.6, 8°58S±0°08×112°52E±0°06, h82km±11km, mb4.0/11, Error ellipse: s-maj=12.3km s-min=8.0km az=200.0*
ISC 09 19:47:47.2±0.7, 8°82S±0°10×112°52E±0°05, h71km, n50, σ1973/48, mb3.9/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.06**	**318**	P	**Pn**	**19 48 07.0**	**+0.5**
PCJI	**Pacitan**	**1.47**	**295**	P	**Pn**	**19 48 12.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.65**	**78**	Pn	**Pn**	**19 48 15.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.65**	**78**	P	**Pn**	**19 48 15.8**	**+1.6**
ABJI	**Asem Bagus**	**1.97**	**59**	P	**Pn**	**19 48 20.8**	**+2.2**
TBJI	**Tambak Boyo**	**2.09**	**341**	P	**Pn**	**19 48 21.4**	**+1.2**
UGM	**Wanagama**	**2.17**	**294**	Pn	**Pn**	**19 48 22.0**	**+0.7**
UGM	**Wanagama**	**2.17**	**294**	P	**Pn**	**19 48 22.0**	**+0.7**
KMMI	**Kalianget**	**2.26**	**39**	P	**Pn**	**19 48 22.6**	**+0.1**
YOGI	**Yogyakarta**	**2.42**	**294**	P	**Pn**	**19 48 25.2**	**+0.6**
SMRI	**Semarang**	**2.71**	**310**	Pn	**Pn**	**19 48 28.5**	**0.0**
SMRI	**Semarang**	**2.71**	**310**	P	**Pn**	**19 48 29.2**	**+0.7**
SRBI	**Singaraja**	**2.76**	**75**	P	**Pn**	**19 48 31.8**	**+2.6**
KPJI	**Karang Pucung**	**3.85**	**292**	P	**Pn**	**19 48 45.7**	**+1.7**
TWSI	**Taliwang, Sumb**	**4.31**	**89**	P	**Pn**	**19 48 52.4**	**+2.0**
CISI	**Cisompet, Garu**	**4.82**	**285**	Pn	**Pn**	**19 48 56.8**	**-0.6**
CISI	**Cisompet, Garu**	**4.82**	**285**	P	**Pn**	**19 48 58.0**	**+0.6**
PLAI	**Plampang**	**5.19**	**91**	P	**Pn**	**19 49 04.8**	**+2.4**
	0.2nm790nm54nm,0.9s						
LEM	**Lembang**	**5.25**	**292**	P	Pn	19 49 07.9	+4.6
	1.5nm,0.3s,baz=180,slow=20,SNR=2.2						
LEM				S	**Sn**	**19 50 03.4**	**+0.9**
	1.6nm,0.3s,baz=143,slow=24,SNR=1.5						
CNJI	**Cibinong**	**5.54**	**285**	P	**Pn**	**19 49 07.8**	**+0.6**
	0.4nm60nm,1.1s						
BBKI	**Banjar Baru**	**5.80**	**24**	P	**Pn**	**19 49 13.4**	**+2.7**
	0.4nm32nm,0.7s						
PBKI	**Pangkalan Bun**	**6.13**	**352**	P	**Pn**	**19 49 16.8**	**+1.5**
	0.3nm41nm,0.8s						
WBSI	**Waikabubak, Su**	**6.83**	**97**	P	**Pn**	**19 49 25.2**	**+0.3**
	0.2nm43nm,0.8s						
BKSI	**Bulukumba**	**8.30**	**66**	P	**Pn**	**19 49 47.8**	**+2.8**
	11nm,1.2s						
EDFI	**Ende, Flores**	**9.06**	**90**	P	**Pn**	**19 49 56.1**	**+0.6**
	11nm,0.5s						
BATI	**Baumata**	**11.08**	**98**	P	**Pn**	**19 50 19.8**	**-3.1**
	2.0nm,0.3s,baz=315,slow=19,SNR=1.8						
BATI				S	**Sn**	**19 52 18.4**	**-6.7**
	0.7nm,0.3s,baz=261,slow=19,SNR=1.3						
BATI	**Baumata**	**11.08**	**98**	P	**Pn**	**19 50 23.7**	**+0.8**
	12nm,0.9s						
SOEI	**Soe**	**11.63**	**96**	Pn	**Pn**	**19 50 30.9**	**+0.3**
APSI	**Ampana**	**12.01**	**50**	P	**Pn**	**19 50 37.3**	**+1.7**
	18nm,1.1s						
KNRA	**Kununurra**	**17.27**	**115**	P	**P**	**19 51 45.3**	**+1.0**
KNRA				IAmb	IAmb	19 51 46.8	
	comp=Z,13nm,1.0s						
MTN	**Manton Dam**	**18.71**	**104**	P	**Pn**	**19 52 01.3**	**-0.1**
FAKI	**Fak Fak**	**20.47**	**75**	P	**P**	**19 52 20.2**	**+0.7**
WB0	**Warramunga Arr**	**23.79**	**120**	P	**P**	**19 52 54.4**	**+0.7**
WB0				IAmb	IAmb	19 53 00.3	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**23.82**	**120**	P	**P**	**19 52 54.3**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=297,slow=11,SNR=35						
WRA				PcP	**PcP**	**19 56 36.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=307,slow=2.1,SNR=1.3						
WRA	**Warramunga Arr**	**23.82**	**120**	IAmb	IAmb	19 52 58.6	
	comp=Z,0.3nm,1.5s						
WRAB	**Tennant Creek**	**23.83**	**120**	P	**P**	**19 52 54.0**	**0.0**
WRAB				IAmb	IAmb	19 53 01.8	
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**23.83**	**120**	P	**P**	**19 52 54.0**	**0.0**
WB2				IAmb	IAmb	19 52 57.7	
	comp=Z,6.6nm,1.0s						
WR0	**Warramunga Arr**	**24.00**	**120**	P	**P**	**19 52 56.8**	**+1.2**
WR0				IAmb	IAmb	19 52 57.3	
	comp=Z,5.9nm,0.6s						
AS31	**Alice Springs**	**25.23**	**128**	P	**P**	**19 53 07.6**	**+0.8**
ASAR	**Alice Springs**	**25.23**	**128**	P	**P**	**19 53 07.6**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=304,slow=9.2,SNR=15						
ASAR				PcP	**PcP**	**19 56 39.5**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=314,slow=2.5,SNR=2.5						
STKA	**Stephens Creek**	**35.42**	**134**	P	**P**	**19 54 38.7**	**+2.1**
	comp=Z,5.3nm,0.5s,baz=314,slow=8.7,SNR=22						
STKA				PcP	**PcP**	**19 57 06.3**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=21,slow=4.3,SNR=5.6						
STKA	**Stephens Creek**	**35.42**	**134**	IAmb	IAmb	19 54 39.4	
	comp=Z,1.1nm,0.6s						
H08S2	**Diego Garcia H**	**39.62**	**269**	T	T	20 37 07.8	
	baz=95						
H08S3	**Diego Garcia H**	**39.63**	**269**	T	T	20 37 14.6	
	baz=95						
H08S1	**Diego Carcia H**	**39.64**	**269**	T	T	20 37 15.2	
	baz=95						
SONM	**Songino Array**	**56.66**	**355**	P	**P**	**19 57 22.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=180,slow=6.9,SNR=2.4						
SONM	**Songino Array**	**56.66**	**355**	IAmb	IAmb	19 57 22.7	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**61.57**	**337**	P	**P**	**19 57 55.3**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=151,slow=6.9,SNR=7.9						
ZALV	**Zalesovo Beam**	**66.77**	**343**	P	**P**	**19 58 28.0**	**-3.0**
	comp=Z,0.5nm,0.5s,baz=151,slow=4.2,SNR=2.7						
TXAR	**Lajitas Array**	**140.42**	**54**	PKP	**PKPdf**	**20 07 09.1**	**0.0**
	comp=Z,0.3nm,0.9s,baz=238,slow=3.1,SNR=2.4						

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*TUL **09** 19:50:26.5±1.1, 35°99N±0°02×96°75W±0°03, h4km±5km, ML2.5, mb_Lg2.6/20(NEIC), Error ellipse: s-maj=4.1km s-min=2.4km az=114.0*
NEIC 09 19:50:26.7±0.8, 36°02N±0°02×96°78W±0°01, h4km±5km, Error ellipse: s-maj=3.0km s-min=1.1km az=168.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.08**	**220**		Pg	19 50 28.6	+0.3
OK031				Sg	Sg	19 50 30.0	+0.5
QUOK	**Quay**	**0.17**	**20**		Pg	19 50 30.6	+0.6
QUOK				Sg	Sg	19 50 33.2	+1.1
OK029	**Liberty Lake**	**0.59**	**249**		Pg	19 50 38.4	+0.3
OK025	**Westminster Rd**	**0.63**	**227**		Pg	19 50 38.6	-0.1
OK025				Sg	Sg	19 50 47.9	+1.0
BCOK	**Bluff Creek, N**	**0.77**	**242**		Pg	19 50 41.4	0.0
OKCFA	**Oklahoma City**	**0.81**	**223**	Pg	Pg	19 50 42.1	-0.2
BLOK	**Blackwell**	**0.82**	**335**		Pg	19 50 42.9	+0.3
FNO	**Franklin**	**0.91**	**214**	Pg	Pg	19 50 43.7	-0.5
T35A	**Sooner Cattle**	**0.93**	**13**		Pg	19 50 44.4	-0.1
CROK	**Carrier**	**1.09**	**297**	Pg	Pg	19 50 47.8	+0.1
KAN13	**South Haven SW**	**1.15**	**331**		Pg	19 50 48.7	0.0
GC02	**Grant County #**	**1.21**	**314**		Pg	19 50 49.8	-0.1
KAN17	**Caldwell West**	**1.30**	**323**		Pg	19 50 51.5	-0.1
KAN09	**Caldwell North**	**1.31**	**329**		Pg	19 50 51.5	-0.3
KS20	**Mayfield South**	**1.36**	**333**		Pn	19 50 52.4	-0.2
OK032	**Salt Plains WL**	**1.40**	**305**	Pn	Pn	19 50 52.9	-0.1
KAN05	**Bluff City Nor**	**1.40**	**321**		Pn	19 50 53.3	+0.1
KAN12	**Harper NE Stat**	**1.61**	**323**	Pn	Pn	19 50 56.1	+0.1
X34A	**Smith Ranch, M**	**1.65**	**212**	Pn	Pn	19 50 56.0	-0.5
X37A	**Clayton**	**1.83**	**141**		Pn	19 50 58.1	-0.8
X37A				IAmb_Lg		19 51 27.3	
	comp=Z,35nm,0.7s						
U32A	**Winter Ranch,**	**1.84**	**282**	Pn	Pn	19 50 59.0	-0.1
U32A				IAmb_Lg		19 51 28.9	
	comp=Z,32nm,0.7s						
U38A	**Gravette**	**1.98**	**77**		Pn	19 51 01.4	+0.3
LOOK	**Love County**	**2.04**	**189**	Pn	Pn	19 51 02.6	+0.7
WMOK	**Wichita Mounta**	**2.08**	**233**		Pn	19 51 03.0	+0.6
HHAR	**Hobbs**	**2.31**	**83**		Pn	19 51 06.3	+0.7
W39A	**Magazine**	**2.57**	**108**	Pg	Pb	19 51 14.3	+0.8
U40A	**Yellville**	**3.19**	**83**		Pn	19 51 17.4	-0.3
U40A				IAmb_Lg		19 52 13.1	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**3.73**	**100**	Pn	Pn	19 51 23.7	-1.3
FCAR	**Ozark Folk Cen**	**3.78**	**91**	Pn	Pn	19 51 24.8	-1.0
FCAR				IAmb_Lg		19 52 26.0	
	comp=Z,7.3nm,0.7s						
P38A	**Dawn**	**4.42**	**35**	IAmb_Lg		19 52 47.2	
	comp=Z,12nm,1.0s						
CCM	**Cathedral Cave**	**4.87**	**64**	IAmb_Lg		19 52 58.4	
	comp=Z,7.1nm,0.9s						
P40A	**Paris**	**5.13**	**45**	IAmb_Lg		19 53 18.0	
	comp=Z,15nm,1.0s						
PBMO	**Poplar Bluff**	**5.18**	**80**	IAmb_Lg		19 53 11.5	
	comp=Z,6.5nm,0.7s						
N38A	**Joes South For**	**5.52**	**29**	IAmb_Lg		19 53 27.8	
	comp=Z,14nm,0.7s						
R49A	**Shelbyville**	**9.54**	**73**	IAmb_Lg		19 55 27.1	
	comp=Z,6.9nm,0.8s						

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*NEIC **09** 19:50:52.2±1.2, 56°09S±0°08×27°1W±0°2, h49km±7km, mb4.6/22, Error ellipse: s-maj=20.6km s-min=6.6km az=59.0*
*IDC **09** 19:50:54.5±7.1, 55°96S×27°12W, h71km±64km, mb4.0/7, mb1 4.1/8, mb1mx3.9/23, mbtmp4.2/8, ML3.8/1, Error ellipse: s-maj=33.1km s-min=17.3km az=65.0*
ISC 09 19:50:52.0±0.7, 56°05S±0°13×27°2W±0°1, h50km, n39, σ0990/34, mb4.5/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.60**	**284**	Pn	**Pn**	**19 52 12.4**	**-0.2**
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**19 55 08.2**	**+1.1**
	0.3nm,0.3s,baz=337,slow=14,SNR=2.4						
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**19 55 04.2**	**-2.9**
GO09	**Cerro Castillo**	**26.81**	**261**	P	**P**	**19 56 26.3**	**-0.9**
TRQA	**Tornquist**	**29.30**	**293**	P	**P**	**19 56 48.8**	**-0.6**
TRQA				IAmb	IAmb	19 57 14.7	
	comp=Z,16nm,1.4s						
PLTB	**Pedras Altas**	**30.45**	**312**	P	**P**	**19 57 00.6**	**+0.9**
PLTB				IAmb	IAmb	19 57 08.4	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**34.27**	**180**	P	**P**	**19 57 33.4**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=198,slow=2.3,SNR=37						
QSPA				PcP	**PcP**	**20 00 08.1**	**0.0**
	comp=Z,2.0nm,1.0s,baz=161,slow=0.3,SNR=2.7						
QSPA	**South Pole Qui**	**34.27**	**180**	P	**P**	**19 57 33.7**	**+0.7**
CPUP	**Villa Florida**	**36.77**	**311**	P	**P**	**19 57 54.3**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=128,slow=2.3,SNR=4.0						
MAW	**Mawson**	**40.20**	**144**	P	**P**	**19 58 22.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=246,slow=8.5,SNR=2.8						
MAW	**Mawson**	**40.20**	**144**	IAmb	IAmb	19 58 25.7	
	comp=Z,1.0nm,1.3s						
AC02	**Maricunga**	**41.85**	**296**	P	**P**	**19 58 38.2**	**+0.7**
AC02				IAmb	IAmb	19 58 39.3	
	comp=Z,10nm,0.8s						
GO02	**Mina Guanaco**	**43.46**	**297**	P	**P**	**19 58 51.0**	**+0.6**
PB14	**IPOC Station P**	**44.31**	**297**	P	**P**	**19 58 57.0**	**-0.3**
PB14				IAmb	IAmb	19 59 14.4	
	comp=Z,19nm,1.2s						
LVC	**Limon Verde**	**45.27**	**300**	P	**P**	**19 59 05.1**	**+0.3**
LVC				IAmb	IAmb	19 59 06.6	
	comp=Z,6.3nm,0.7s						
PB09	**IPOC Station P**	**46.12**	**300**	P	**P**	**19 59 12.2**	**+0.8**
PB09				IAmb	IAmb	19 59 15.3	
	comp=Z,6.0nm,0.9s						
SBA	**Scott Base**	**46.15**	**184**	P	**P**	**19 59 12.0**	**+1.2**
SBA				IAmb	IAmb	19 59 40.7	
	comp=Z,11nm,1.5s						
PB07	**IPOC Station P**	**46.49**	**300**	P	**P**	**19 59 14.1**	**-0.2**
PB07				IAmb	IAmb	19 59 16.0	
	comp=Z,8.4nm,0.8s						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**19 59 15.4**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=185,slow=6.4,SNR=24						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**19 59 15.4**	**+0.8**
PB01	**IPOC Station P**	**46.88**	**301**	P	**P**	**19 59 18.2**	**+1.0**
H10S2	**ASCENSION HYDR**	**47.93**	**17**	T	T	20 51 45.0	
	baz=189,slow=74,SNR=68						
H10S3	**ASCENSION HYDR**	**47.94**	**17**	T	T	20 51 45.3	
	baz=31,slow=74,SNR=213						
PSGCX	**Pisagua**	**48.42**	**301**	P	**P**	**19 59 29.5**	**+0.3**
PSGCX				IAmb	IAmb	19 59 30.2	
	comp=Z,7.8nm,0.8s						
MNMC	**Minye Minye**	**48.56**	**302**	P	**P**	**19 59 31.3**	**+0.8**
H10N1	**ASCENSION HYDR**	**49.05**	**17**	T	T	20 53 08.8	
	baz=189,slow=75,SNR=70						
H10N3	**ASCENSION HYDR**	**49.05**	**17**	T	T	20 53 09.1	
	baz=189,slow=75,SNR=195						
H10N2	**ASCENSION HYDR**	**49.07**	**17**	T	T	20 53 10.8	
	baz=189,slow=75,SNR=111						
LPAZ	**La Paz**	**50.34**	**305**	P	**P**	**19 59 45.1**	**+0.7**
	comp=Z,5.3nm,0.5s,baz=129,slow=3.8,SNR=28						
LPAZ	**La Paz**	**50.34**	**305**	P	**P**	**19 59 45.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**72.99**	**29**	P	**P**	**20 02 16.7**	**+0.6**
TOA0				IAmb	IAmb	20 02 17.0	
	comp=Z,3.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.99**	**29**	P	**P**	**20 02 16.4**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=199,slow=6.1,SNR=19						
TORD	**Torodi Ar. Bea**	**72.99**	**29**	P	**P**	**20 02 16.6**	**+0.5**
ASAR	**Alice Springs**	**99.06**	**162**	P	**Pdif**	**20 04 25.6**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=187,slow=3.9,SNR=1.4						
WRA	**Warramunga Arr**	**102.77**	**162**	P	**Pdif**	**20 04 45.0**	**+1.0**
	comp=Z,0.6nm,1.2s,baz=197,slow=4.5,SNR=1.7						
FINES	**FINESS Array B**	**124.32**	**28**	PKP	**PKPdf**	**20 09 42.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=171,slow=5.5,SNR=2.1						
ILAR	**Eielson Array**	**150.07**	**312**	PKPbc	**PKPbc**	**20 10 35.0**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=128,slow=1.8,SNR=26						
ILAR	**Eielson Array**	**150.07**	**312**		**PKPbc**	**20 10 35.2**	**-0.2**
SONM	**Songino Array**	**150.72**	**86**	PKPbc	**PKPbc**	**20 10 37.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=228,slow=2.8,SNR=5.1						

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*WEL **09** 20:01:00,37°33S×177°76E, h57km, ML4.4, Mw4.5, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}=4.85; $M_{\theta\theta}$=1.08; $M_{\phi\phi}$=-3.76; $M_{r\theta}$=1.28; $M_{\theta\phi}$=-0.89; $M_{\phi r}$=3.10; Fault plane solution: M_0=5.56000×10^{15} NP1: ϕ_s=195.00000°, δ27.00000°, λ85.00000°. NP2:ϕ_s=20.00000°, δ64.00000°, λ92.00000°. Principal axes: T -514.8800, Plg71.0000°, Azm296.0000°; N -82.9100, Plg2.0000°, Azm199.0000°; P 597.7900, Plg19.0000°, Azm108.0000°;*
*NOU **09** 20:01:01.5, 37°44S×178°12E, h131km, MLv4.9, Off E. Coast of N. Island, N.Z.*
*IDC **09** 20:01:01.6±4.1, 37°01S×178°02E, h48km±33km, mb4.3/9, mb1 4.4/9, mb1mx4.2/26, mbtmp4.5/9, MS3.7/4, Ms1 3.8/4, ms1mx3.3/26, Error ellipse: s-maj=37.1km s-min=17.6km az=51.0*
*NEIC **09** 20:01:04.2±1.2, 37°35S±0°06×177°87E±0°06, h58km±3km, mb4.5/15, Error ellipse: s-maj=9.8km s-min=6.0km az=150.0*
*WEL **09** 20:01:05.6±0.7, 37°S±5°×17°8E±°, h28km±4km, M4.4/39, ML4.7/39, MLv4.4/39, Error ellipse: s-maj=0.0km s-min=0.0km az=19.0*
ISC 09 20:01:03.4±0.8, 37°32S±0°05×177°85E±0°04, h57km±6km, n196, σ2916/196, mb4.6/19, MS3.7/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.44**	**124**		**Pn**	**20 01 15.3**	**+0.9**
MXZ	**Matakaoa Point**	**0.44**	**124**	P	**Pn**	**20 01 15.5**	**+1.0**
HAZ	**Te Kaha**	**0.44**	**187**	P	**Pn**	**20 01 15.4**	**+0.9**
HAZ				S	**Sn**	**20 01 23.8**	**+1.3**
WIZ	**White Island**	**0.56**	**248**	P	**Pn**	**20 01 17.0**	**+1.2**
WSRZ	**White Island S**	**0.57**	**249**	P	**Pn**	**20 01 17.4**	**+1.6**
WSRZ				S	**Sn**	**20 01 26.7**	**+1.7**
PKGZ	**Pakihiroa**	**0.60**	**162**	P	**Pn**	**20 01 17.8**	**+1.5**
RUGZ	**Raukumara Rang**	**0.66**	**192**	P	**Pn**	**20 01 17.8**	**+0.7**
RUGZ				S	**Sn**	**20 01 27.6**	**+0.5**
WMGZ	**Waiomatatini S**	**0.68**	**138**	P	**Pn**	**20 01 20.1**	**+2.9**
WMGZ				S	**Sn**	**20 01 32.5**	**+5.4**
PUZ	**Puketiti**	**0.82**	**157**	P	**Pn**	**20 01 21.3**	**+2.3**
PUZ				S	**Sn**	**20 01 35.3**	**+4.9**
WHRZ	**Whale Island**	**0.88**	**232**	P	**Pn**	**20 01 21.2**	**+1.5**
WHRZ				S	**Sn**	**20 01 33.6**	**+1.9**
MWZ	**Matawai**	**1.05**	**194**	P	**Pn**	**20 01 23.1**	**+1.2**
URZ	**Urewera**	**1.11**	**212**	P	**Pn**	**20 01 23.8**	**+1.1**
	305nm,0.3s,baz=274,slow=4.3,SNR=2050						
URZ				S	**Sn**	**20 01 37.3**	**+0.2**
	2μm,0.3s,baz=131,slow=22,SNR=31						
URZ				LR	LR	20 02 05.8	
	comp=Z,860nm,19.1s,baz=28,slow=45						
URZ	**Urewera**	**1.11**	**212**	P	**Pn**	**20 01 23.9**	**+1.1**
URZ				S	**Sn**	**20 01 37.9**	**+0.9**
TKGZ	**Te Karaka**	**1.12**	**180**	P	**Pn**	**20 01 25.6**	**+2.7**
MARZ	**Manawahe**	**1.15**	**234**	P	**Pn**	**20 01 24.5**	**+1.2**
MARZ				S	**Sn**	**20 01 38.8**	**+0.8**
OPRZ	**Ohinepanea**	**1.16**	**242**	P	**Pn**	**20 01 24.4**	**+1.0**
OPRZ				S	**Sn**	**20 01 38.9**	**+0.7**
EDRZ	**Edgecumbe**	**1.18**	**228**	P	**Pn**	**20 01 25.1**	**+1.3**
CNGZ	**Carnagh Statio**	**1.20**	**166**	P	**Pn**	**20 01 26.2**	**+2.2**
MYRZ	**Mayor Island**	**1.28**	**271**	P	**Pn**	**20 01 26.3**	**+1.3**
TGRZ	**Tauranga**	**1.33**	**251**	P	**Pn**	**20 01 26.9**	**+1.3**
LIRZ	**Lichensteins R**	**1.35**	**239**	P	**Pn**	**20 01 27.7**	**+1.7**
MKRZ	**Makatiti**	**1.37**	**233**	P	**Pn**	**20 01 30.1**	**+3.8**
RIGZ	**Rimuhau**	**1.39**	**183**	P	**Pn**	**20 01 28.8**	**+2.2**
TARZ	**Mount Tarawera**	**1.41**	**229**	P	**Pn**	**20 01 28.9**	**+2.2**
OMRZ	**Omania**	**1.41**	**236**	P	**Pn**	**20 01 28.5**	**+1.7**
MUGZ	**Murupara**	**1.44**	**216**	P	**Pn**	**20 01 28.3**	**+1.1**
KARZ	**Kaharoa**	**1.45**	**241**	P	**Pn**	**20 01 28.9**	**+1.5**
RTZ	**Ruatahuna**	**1.47**	**208**	P	**Pn**	**20 01 28.7**	**+1.1**
RRRZ	**Republican Roa**	**1.47**	**226**	P	**Pn**	**20 01 29.0**	**+1.5**
HLRZ	**Tighlands Stat**	**1.51**	**231**	P	**Pn**	**20 01 30.0**	**+1.9**
SNGZ	**Shannon Statio**	**1.52**	**195**	P	**Pn**	**20 01 31.0**	**+2.7**
NGRZ	**Ngongotaha**	**1.53**	**239**	P	**Pn**	**20 01 30.3**	**+1.8**
UTU	**Utuhina**	**1.57**	**236**	P	**Pn**	**20 01 31.3**	**+2.4**
KMRZ	**Kaimai**	**1.60**	**250**	P	**Pn**	**20 01 30.7**	**+1.3**

OHWZ	Ohakea	3.50	214	P	Pn	20 01 56.7 +1.5
PREZ	Palmer Road	3.54	234	P	Pn	20 02 00.7 +4.9
NEZ	North Egmont	3.54	235	P	Pn	20 02 00.1 +4.2
PRWZ	Pori Road	3.55	204	P	Pn	20 01 55.5 -0.5
PKE	Pukeiti	3.57	237	P	Pn	20 01 59.9 +3.6
BFZ	Birch Farm	3.58	200	Pn	Pn	20 01 55.8 -0.7
KHEZ	Kahui Hut	3.60	236	P	Pn	20 02 00.8 +4.0
NBEZ	Newall Road No	3.69	237	P	Pn	20 02 01.4 +3.6
NMEZ	Namu Road	3.76	235	P	Pn	20 02 03.7 +4.9
CPWZ	Castlepoint	3.81	199	P	Pn	20 01 59.2 -0.3
OUZ	Omahuta	4.02	300	Pn	Pn	20 02 04.7 +2.3
OUZ	Omahuta	4.02	300	P	Pn	20 02 04.7 +2.3
MSWZ	Moikau Station	4.56	205	Pn	Pn	20 02 07.9 -1.9
SNZO	South Karori	4.67	210	Pn	Pn	20 02 09.5 -1.8
BHW	Baring Head	4.69	209	Pn	Pn	20 02 10.2 -1.4
TUWZ	Tuamarina	5.10	215		Pn	20 02 14.9 -2.2
NNZ	Nelson	5.21	220		Pn	20 02 16.8 -2.0
CMWZ	Cape Campbell	5.24	211		Pn	20 02 17.3 -1.9
BSWZ	Blackbirch Sta	5.36	214	Pn	Pn	20 02 18.4 -2.3
QRZ	Quartz Range	5.42	228		Pn	20 02 20.5 -1.1
THZ	Tophouse	5.86	219	Pn	Pn	20 02 25.6 -2.0
KHZ	Kahutara	6.08	212	Pn	Pn	20 02 27.9 -2.6
LTZ	Lake Taylor	6.93	216	Pn	Pn	20 02 38.9 -3.5
OXZ	Oxford	7.46	215		Pn	20 02 45.1 -4.5
MQZ	McQueen's Vall	7.51	210	Pn	Pn	20 02 46.0 -4.1
CTZ	Chatham Island	7.67	148	P	Pn	20 02 52.1 -0.3
RPZ	Rata Peaks	8.22	217	Pn	Pn	20 02 56.4 -3.6
FOZ	Fox Glacier	8.72	222	Pn	Pn	20 03 02.8 -3.9
LBZ	Lake Benmore	9.14	217	Pn	Pn	20 03 09.8 -2.7
ODZ	Otahua Downs	9.44	213	Pn	Pn	20 03 12.2 -4.3
WKZ	Wanaka	10.03	219	Pn	Pn	20 03 20.8 -3.9
MLZ	Mavora Lakes	10.86	219	Pn	Pn	20 03 32.7 -3.4
WHZ	Wether Hill Ro	11.32	218	Pn	Pn	20 03 40.0 -2.3
MSVF	Nonsavu	19.51	1	P	P	20 05 26.3 +0.2
	0.3nm,0.3s,baz=201,slow=14,SNR=2.3					
MSVF	Nonsavu	19.51	1	IAmb	IAmb	20 05 44.0
	comp=Z,21nm,1.1s					
STKA	Stephens Creek	30.21	269	P	P	20 07 10.0 +1.5
	comp=Z,2.4nm,0.6s,baz=87,slow=12,SNR=5.2					
STKA				LR	LR	20 17 19.2
	comp=Z,128nm,21.4s,baz=44,slow=32					
STKA	Stephens Creek	30.21	269	P	P	20 07 09.8 +1.3
TBI	Tubuai	31.29	73	eLR	LR	20 15 24.4
	comp=Z,164nm,29.0s					
TBI	Tubuai	31.29	73	eT	T	20 39 25.0
	comp=Z,14nm,0.3s					
CTA	Charters Tower	32.39	293	P	P	20 07 29.8 +1.9
	comp=Z,4.7nm,0.6s,baz=119,slow=9.5,SNR=2.6					
PPT2	Papeete2	34.70	64	eLR	LR	20 17 10.0
	comp=Z,209nm,28.5s					
VAH	Vaihoa	37.66	64	eT	T	20 47 21.6
	comp=Z,7.2nm,0.2s					
AS31	Alice Springs	39.89	277	P	P	20 08 31.6 -0.3
AS31				IAmb	IAmb	20 08 34.4
	comp=Z,3.1nm,0.5s					
ASAR	Alice Springs	39.89	277	P	P	20 08 32.0 +0.1
	comp=Z,4.5nm,0.5s,baz=125,slow=8.4,SNR=50					
ASAR				PcP	PcP	20 10 34.5 -2.2
	comp=Z,1.8nm,0.5s,baz=118,slow=3.8,SNR=9.0					
VNDA	Vanda	40.90	185	P	P	20 08 41.5 +2.0
	comp=Z,0.3nm,0.7s,baz=337,slow=9.1,SNR=1.6					
WR0	Warramunga Arr	41.36	282	P	P	20 08 44.5 +0.6
WR0				IAmb	IAmb	20 08 50.0
	comp=Z,10nm,1.3s					
FORT	Forrest	41.38	264	P	P	20 08 44.1 +0.1
WB2	Warramunga Arr	41.52	282	P	P	20 08 45.4 +0.1
WB2				IAmb	IAmb	20 08 51.7
	comp=Z,6.9nm,0.6s					
WRA	Warramunga Arr	41.53	282	P	P	20 08 45.3 0.0
	comp=Z,4.3nm,0.5s,baz=121,slow=7.7,SNR=56					
WRA				PcP	PcP	20 10 41.2 -0.8
	comp=Z,0.9nm,0.8s,baz=132,slow=3.5,SNR=3.1					
WRA	Warramunga Arr	41.53	282	P	P	20 08 45.2 -0.1
WB0	Warramunga Arr	41.58	283	P	P	20 08 45.9 +0.1
WB0				IAmb	IAmb	20 08 48.4
	comp=Z,5.9nm,0.6s					
CASY	Casey	47.43	210	P	P	20 09 32.0 +0.1
MTN	Manton Dam	48.21	288	P	P	20 09 38.2 -0.2
MTN				IAmb	IAmb	20 09 53.9
	comp=Z,14nm,1.3s					
KNRA	Kununurra	48.31	283	P	P	20 09 39.1 -0.1
QSPA	South Pole Qui	52.81	180	P	P	20 10 14.8 +2.1
	comp=Z,7.1nm,0.9s,baz=358,slow=1.1,SNR=24					
QSPA	South Pole Qui	52.81	180	P	P	20 10 15.2 +2.5
QSPA				IAmb	IAmb	20 10 16.5
	comp=Z,8.5nm,0.9s					
BATI	Baumata	55.56	285	P	P	20 10 33.8 +0.5
	comp=Z,7.4nm,0.6s,baz=141,slow=6.5,SNR=1.8					
MAW	Mawson	64.62	203	P	P	20 11 35.4 +1.0
	comp=Z,5.6nm,0.8s,baz=121,slow=4.4,SNR=11					
MAW	Mawson	64.62	203	P	P	20 11 35.1 +0.6
SNAA	Sanae	71.31	180	P	P	20 12 17.4 +0.9
SNAA				IAmb	IAmb	20 12 18.5
	comp=Z,10nm,1.2s					
VNA3	Neumayer Olymp	71.61	177	P	P	20 12 19.1 +0.8
VNA1	Neumayer--Stat	72.25	178	P	P	20 12 23.0 +1.0
H03S2	Juan Fernandez	79.47	124	T	T	21 39 33.7
	baz=230,slow=74,SNR=4.6					
H03S1	Juan Fernandez	79.48	125	T	T	21 39 35.2
	baz=230,slow=74,SNR=4.1					
H03S3	Juan Fernandez	79.49	124	T	T	21 39 49.7
	baz=230,slow=74,SNR=2.6					
PLCA	Paso Flores	80.25	134	P	P	20 13 09.6 +1.5
	comp=Z,2.3nm,0.7s,baz=246,slow=5.7,SNR=7.2					
PLCA	Paso Flores	80.25	134	P	P	20 13 09.4 +1.3
PLCA				IAmb	IAmb	20 13 11.0
	comp=Z,2.9nm,0.8s					
KSRS	Korea Array	87.54	322	P	P	20 13 46.0 +1.1
	comp=Z,1.5nm,0.6s,baz=139,slow=5.6,SNR=9.3					
PETK	Petropavlovsk-	91.74	348	P	P	20 14 03.2 -1.0
	comp=Z,1.7nm,0.7s,baz=146,slow=6.3,SNR=3.7					
CMAR	Chiang Mai Arr	92.54	291	P	P	20 14 08.7 0.0
	comp=Z,1.0nm,0.4s,baz=138,slow=3.3,SNR=8.0					
CMAR				LR	LR	20 58 33.7
	comp=Z,58nm,18.3s,baz=221,slow=37					
ATAH	Atahualpa	96.53	104	LR	LR	20 48 29.8
	comp=Z,50nm,21.9s,baz=261,slow=30					
CPUP	Villa Florida	98.18	132	LR	LR	20 52 26.0
	comp=Z,24nm,19.1s,baz=192,slow=31					
HHC	Hu-ho-hao-te	98.63	315	eP	Pdif	20 14 39.5 +3.4
HHC				pmax	pmax	
	comp=Z,13nm,0.9s					
HHC				pmax	pmax	
	comp=Z,180nm,7.4s					
MKAR	Makanchi Array	119.45	308	PKP	PKPdf	20 19 43.1 -3.0
	comp=Z,0.3nm,0.6s,baz=131,slow=1.3,SNR=3.5					
KURK	Kurchatov	123.18	311		PKPdf	20 19 50.7 -2.3
KURBB	Kurchatov Arra	123.20	311	PKP	PKPdf	20 19 50.7 -2.3
	comp=Z,0.8nm,0.6s,baz=115,slow=1.7,SNR=6.7					
BVAR	Borovoye Array	128.72	312	PKP	PKPdf	20 20 01.9 -1.7
	comp=Z,0.3nm,0.6s,baz=194,slow=12,SNR=4.1					
ARCES	ARCESS Array B	144.43	344	PKP	PKPab	20 20 29.9 -0.5
	comp=Z,3.3nm,0.5s,baz=29,slow=2.8,SNR=22					
ARCES	ARCESS Array B	144.43	344		PKPab	20 20 30.7 +0.2
KBZ	Khabaz	145.50	295	PKPbc	PKPdf	20 20 33.4 -1.2
	comp=Z,3.0nm,0.9s,baz=252,slow=6.7,SNR=5.3					
LIC	Lamto	148.94	174	ePKP1	PKPab	20 20 49.9 +0.5
	comp=Z,16nm,0.7s					
KIC	Kosan Boka	149.10	175	ePKP1	PKPab	20 20 49.5 -0.6
	comp=Z,8.7nm,0.6s					
TIC	Toumodi	149.36	174	ePKP1	PKPab	20 20 50.8 -0.3
FINES	FINESS Array B	150.10	333	PKPbc	PKPbc	20 20 45.1 -1.6
	comp=Z,4.8nm,0.7s,baz=49,slow=3.1,SNR=19					
FINES	FINESS Array B	150.10	333		PKPbc	20 20 45.4 -1.3
BRTR	Keskin Array B	152.01	286	PKPbc	PKPbc	20 20 50.3 -1.9
	comp=Z,2.3nm,0.7s,baz=138,slow=4.0,SNR=14					
AKASG	Malin Array Be	153.99	311	PKPbc	PKPbc	20 20 54.0 -1.9
	comp=Z,0.4nm,0.4s,baz=62,slow=2.5,SNR=5.2					
AKASG				PKPab	PKPab	20 21 08.0 -1.5
	comp=Z,4.8nm,0.7s,baz=58,slow=4.2,SNR=17					
AKASG	Malin Array Be	153.99	311		PKPab	20 21 08.9 -0.6
TORD	Torodi Ar. Bea	155.69	189	PKP	PKPdf	20 20 50.4 -0.9
	comp=Z,1.4nm,0.9s,baz=182,slow=1.1,SNR=5.5					
TORD				PKPbc	pPKPdf	20 20 59.8 -8.1
	comp=Z,0.6nm,0.5s,baz=164,slow=3.5,SNR=7.5					
TORD				PKPab	PKPab	20 21 17.4 -0.2
	comp=Z,1.7nm,0.6s,baz=172,slow=3.0,SNR=8.2					
TORD	Torodi Ar. Bea	155.69	189		PKPab	20 21 18.0 +0.5
GERES	GERESS Array B	163.70	320	PKPab	PKPab	20 21 51.0 -0.8
	comp=Z,0.4nm,0.7s,baz=66,slow=3.2,SNR=4.1					

*IDC **09** 20:05:36.7±0.9,28°.71N×87°.65E,h0km,mb3.7/10, mb1 3.8/11,mb1mx3.6/50,mbtmp3.7/11,ML3.6/1,Error ellipse: s-maj=41.5km s-min=16.9km az=58.0*

ISC 09 20:05:42.1±1.1,28°.8N±0°.2×87°.7E±0°.2,h35km,n11, σ0.61/11,mb3.9/10,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.49	348	P	Pn	20 09 55.8	+0.3
	0.2nm,0.3s,baz=152,slow=13,SNR=11						
KURBB	Kurchatov Arra	22.90	345	P	P	20 10 41.9	-0.8
	0.5nm,0.6s,baz=166,slow=8.6,SNR=6.2						
ZALV	Zalesovo Beam	25.25	356	P	P	20 11 04.6	-0.2
	0.5nm,0.5s,baz=182,slow=10,SNR=4.2						
TIXI	Tiksi	48.45	16	P	P	20 14 20.8	+0.2
	0.9nm,0.5s,baz=192,slow=2.9,SNR=7.1						
AKASG	Malin Array Be	48.58	314	P	P	20 14 21.9	0.0
	0.4nm,0.4s,baz=81,slow=7.0,SNR=4.3						
FINES	FINESS Array B	51.65	327	P	P	20 14 45.0	0.0
	0.9nm,0.7s,baz=107,slow=11,SNR=7.5						
ARCES	ARCESS Array B	53.68	337	P	P	20 15 00.8	+0.8
	2.4nm,0.9s,baz=104,slow=7.6,SNR=3.8						
NOA	NORSAR Array B	58.79	326	P	P	20 15 35.5	-1.1
	1.8nm,1.0s,baz=86,slow=7.1,SNR=2.5						
WRA	Warramunga Arr	66.14	132	P	P	20 16 26.0	-0.2
	0.6nm,0.5s,baz=326,slow=6.6,SNR=19						
ASAR	Alice Springs	68.54	135	P	P	20 16 41.3	-0.1
	0.6nm,0.5s,baz=318,slow=6.6,SNR=11						
TORD	Torodi Ar. Bea	80.32	280	P	P	20 17 50.5	+0.4
	0.3nm,0.7s,baz=68,slow=3.9,SNR=1.8						

IDC 09 20:14:32.2±1.5,5°.82S×130°.58E,h0km,mb4.0/2, mb1 4.0/5,mb1mx3.6/33,mbtmp3.9/5,ML3.7/3,Error ellipse: s-maj=62.7km s-min=26.4km az=83.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.97	8	Pn	Pn	20 15 49.1	+1.0
	2.0nm,0.3s,baz=192,slow=20,SNR=29						
SIJI				Sn	Sn	20 16 37.0	-9.3
	1.3nm,0.3s,baz=195,slow=22,SNR=2.0						
WRA	Warramunga Arr	14.51	166	Pn	Pn	20 17 58.4	-0.5
	0.4nm,0.3s,baz=349,slow=13,SNR=33						
WRA				Sn	Sn	20 20 31.4	-9.3
	0.5nm,0.3s,baz=344,slow=24,SNR=7.9						
ASAR	Alice Springs	18.03	170	P	P	20 18 45.1	+0.2
	0.4nm,0.3s,baz=355,slow=13,SNR=22						
ASAR				S	Sn	20 21 57.7	-8.6
	0.1nm,0.3s,baz=357,slow=27,SNR=4.2						
PETK	Petropavlovsk-	63.03	18	P	P	20 25 00.7	-0.3
	2.9nm,0.9s,baz=200,slow=7.7,SNR=4.1						
MKAR	Makanchi Array	67.56	326	P	P	20 25 30.5	-0.1
	0.3nm,0.4s,baz=112,slow=8.2,SNR=9.1						

IDC 09 20:24:12.8±14.0,21°.70N×144°.29E,h308km±149km, mb2.9/4,mb1 3.1/4,mb1mx2.8/46,mbtmp3.6/4,Error ellipse: s-maj=285.0km s-min=18.6km az=75.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.14	322	P	P	20 28 34.5	+0.2
	1.4nm,0.6s,baz=147,slow=8.9,SNR=7.3						
WRA	Warramunga Arr	42.52	194	P	P	20 31 39.0	+0.1
	0.8nm,0.3s,baz=16,slow=9.1,SNR=58						
ASAR	Alice Springs	46.21	193	P	P	20 32 07.7	-0.4
	0.2nm,0.3s,baz=9.6,slow=7.0,SNR=8.5						
MKAR	Makanchi Array	55.45	313	P	P	20 33 16.0	-0.2
	0.2nm,0.5s,baz=88,slow=8.0,SNR=4.4						

*IDC **09** 20:27:19.5±0.4,20°.75N×145°.04E,h119km±3km,mb4.2/27, mb1 4.2/29,mb1mx4.2/43,mbtmp4.5/29,MS3.5/3, Ms1 3.6/3,ms1mx3.0/39,Error ellipse: s-maj=12.6km s-min=8.4km az=98.0*

*NEIC **09** 20:27:20.3±1.7,20°.77N±0°.08×145°.0E±0°.1,h120km±5km, mb4.6/181,Error ellipse: s-maj=16.4km s-min=11.9km az=87.0*

ISC 09 20:27:20.1±0.4,20°.83N±0°.04×145°.00E±0°.06,h122km±3km, h122km:pP-P,n425,σ1.05/442,mb4.6/152,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	6.75	338	P	Pn	20 28 56.7	+0.1
	28nm,0.3s,baz=155,slow=19,SNR=2.6						
JCJ				S	Sn	20 30 10.2	-1.9
	33nm,0.3s,baz=273,slow=24,SNR=8.3						
JCJ	Chichijima	6.75	338	Pn	Pn	20 28 56.1	-0.5
JCJ				Sn	Sn	20 30 10.2	-1.9
INU	Inuyama	16.08	336		Pn	20 30 56.2	-2.9
JGF	Kuroka	16.18	337		Pn	20 30 59.0	-1.4
JMN	Monobe	16.20	325	P	P	20 31 03.6	+2.1
JMN				IAmb	IAmb	20 31 05.1	
	comp=Z,34nm,0.7s						
JWT	Wachi	16.69	332	P	P	20 31 09.2	+2.3
JWT	Wachi	16.69	332	P	P	20 31 08.1	+1.2
MJAR	Matsushiro Arr	16.75	341	P	Pn	20 31 07.2	-0.1
	comp=Z,0.1nm,0.3s,baz=167,slow=9.6,SNR=21						
MJAR				S	Sn	20 34 08.6	-5.1
	comp=Z,0.1nm,0.3s,baz=150,slow=21,SNR=1.3						
MJAR	Matsushiro Arr	16.75	341	P	Pn	20 31 07.5	+0.2
MAJO	Matsushiro	16.75	341	P	Pn	20 31 07.3	-0.1
MAT	Matsushiro	16.75	341	P	P	20 31 08.4	+0.9
MAT				eS	Sn	20 34 12.6	-1.1
MAT	Matsushiro	16.75	341	P	P	20 31 09.2	+1.7
JGN	Niukaw	16.75	338	P	P	20 31 09.0	+1.4
JAD	Aida	16.99	328	P	Pn	20 31 11.5	+1.2
JMM	Marumori	17.37	349	P	P	20 31 15.3	+1.0
JMM				IAmb	IAmb	20 31 22.5	
	comp=Z,33nm,0.7s						
JMM					Sn	20 34 24.8	-3.8
JNU	Nakatsue	17.54	317	P	Pn	20 31 19.3	+2.4
	comp=Z,2.0nm,0.3s,baz=104,slow=5.9,SNR=9.2						
JNU	Nakatsue	17.54	317	P	Pn	20 31 18.7	+1.7
JNU	Nakatsue	17.54	317	P	P	20 31 16.3	0.0
JNU				IAmb	IAmb	20 31 20.9	
	comp=Z,25nm,0.7s						
JHS	Saijyo	17.57	326	P	Pn	20 31 19.0	+1.6
JHS	Saijyo	17.57	326	P	Pn	20 31 18.1	+0.8
JHS				IAmb	IAmb	20 31 20.1	
	comp=Z,38nm,0.8s						
JSD	Sado	18.12	343	P	P	20 31 23.2	+0.6
JYA	Atsumi	18.29	347	P	Pn	20 31 27.5	+1.7
JOM	Ohasama	18.86	351	P	Pn	20 31 33.5	+1.0
PATS	Pohnpei	18.96	135	P	Pn	20 31 36.7	+2.7
JTM	Tenmabayashi	20.18	351	P	Pn	20 31 47.4	-0.5
JTM	Tenmabayashi	20.18	351		P	20 31 47.0	+2.1
H11S3	WAKE ISLAND Hy	20.56	93	T	T	20 52 55.1	
	baz=278,slow=74,SNR=12						
H11S1	WAKE ISLAND Hy	20.57	93	T	T	20 52 57.5	
	baz=278,slow=74,SNR=7.1						
H11N1	WAKE ISLAND Hy	20.57	89	T	T	20 53 32.2	
	baz=276,slow=74,SNR=20						
H11N2	WAKE ISLAND Hy	20.57	89	T	T	20 53 23.8	
	baz=276,slow=74,SNR=22						
H11S2	WAKE ISLAND Hy	20.57	93	T	T	20 52 57.0	
	baz=278,slow=74,SNR=9.1						
H11N3	WAKE ISLAND Hy	20.59	89	T	T	20 53 29.9	
	baz=276,slow=74,SNR=22						
JOT	Ohata	20.77	352	P	P	20 31 53.6	+2.4
ERM	Erimo	21.18	356	P	P	20 31 54.8	-0.9
ERM				IAmb	IAmb	20 32 01.9	
	comp=Z,46nm,1.1s						
KSRS	Korea Array	22.23	322	P	P	20 32 08.0	+1.2
	comp=Z,37nm,0.8s,baz=147,slow=8.9,SNR=147						
KSRS				ScP	ScP	20 39 23.0	-1.8
	comp=Z,1.2nm,0.7s,baz=120,slow=3.6,SNR=5.7						
KSAR	Wonju Array Be	22.25	322	P	P	20 32 07.5	+0.5
KS19	Wonju Array Si	22.30	322	P	P	20 32 07.0	-0.4
SSLB	Suanglung	22.43	282	P	P	20 32 09.9	+0.9
SSLB				IAmb	IAmb	20 32 10.5	
	comp=Z,30nm,1.0s						
TPUB	Ta-pu	22.71	281	P	P	20 32 11.7	0.0
TPUB				IAmb	IAmb	20 32 15.3	
	comp=Z,37nm,1.2s						
INCN	Inchon	23.01	320	P	P	20 32 13.3	-1.2
INCN				IAmb	IAmb	20 32 16.9	
	comp=Z,14nm,0.7s						
JKA	Kamikawa-asahi	23.31	356	P	P	20 32 17.8	+0.6
JKA				IAmb	IAmb	20 32 20.5	
	comp=Z,29nm,1.1s						
ASAJ	Asahikawa	23.31	356	P	P	20 32 18.7	+1.6
	comp=Z,10nm,0.7s,baz=231,slow=11,SNR=11						

GENI	Genyem	23.75	192	P	P	20 32 19.3 -2.0
	comp=Z,69nm,1.3s					
SRPI	Serui, Papua	24.13	202	P	P	20 32 25.2 +0.4
SWI	Sorong	25.40	214	P	P	20 32 36.7 +0.3
	comp=Z,39nm,1.4s					
SIJI	Sorong	25.41	214	P	P	20 32 35.1 -1.3
	comp=Z,18nm,0.9s,baz=2.0,slow=11,SNR=7.0					
SIJI				LR	LR	20 41 48.1
	comp=Z,42nm,18.6s,baz=53,slow=34					
USRK	Ussuriysk Ar.	25.70	338	P	P	20 32 39.6 +0.9
	comp=Z,3.7nm,0.7s,baz=157,slow=9.3,SNR=10					
USRK				pP	pP	20 33 04.9 +0.8
	comp=Z,3.9nm,0.7s,baz=129,slow=10,SNR=4.0					
RABL	Rabaul	25.84	163	P	P	20 32 37.2 -3.1
NJ2	Nanjing	25.88	301	eP	P	20 32 42.1 +1.6
NJ2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
FAKI	Fak Fak	26.70	209	P	P	20 32 47.4 -0.7
FAKI	Fak Fak	26.70	209	P	P	20 32 46.9 -1.2
	comp=Z,44nm,1.4s					
MDJ	Mudanjiang	26.94	335	P	P	20 32 51.0 +1.1
MDJ				pP	pP	20 33 09.0 -6.4
MDJ				pmax	pmax	
	comp=Z,8.0nm,0.7s					
MDJ				pmax	pmax	
	comp=Z,160nm,7.7s					
MDJ	Mudanjiang	26.94	335	P	P	20 32 50.4 +0.4
KLR	Kul'dur	30.25	343	P	P	20 33 19.9 +0.6
	comp=Z,13nm,0.6s,baz=149,slow=7.0,SNR=39					
KLR				pP	pP	20 33 46.2 +1.3
	comp=Z,7.4nm,0.7s,baz=152,slow=8.4,SNR=5.2					
MRSI	Marisa	30.27	231	P	P	20 33 20.0 +0.2
	comp=Z,58nm,0.9s					
TOLI2	Tolitoli	30.71	233	P	P	20 33 23.8 +0.2
LUWI	Luwuk	30.75	228	P	P	20 33 22.7 -1.3
	comp=Z,33nm,1.0s					
APSI	Ampana	31.44	229	P	P	20 33 29.6 -0.5
	comp=Z,37nm,1.1s					
MPSI	Mapaga	31.88	233	P	P	20 33 34.2 +0.3
	comp=Z,680nmcomp=Z,28nm,0.9s					
ENH	Enshi	33.28	294	P	P	20 33 45.6 -0.5
ENH				IAmb	IAmb	20 34 09.2
	comp=Z,14nm,1.4s					
PETK	Petropavlovsk-	33.68	14	P	P	20 33 49.3 +0.1
	comp=Z,2.1nm,0.9s,baz=186,slow=8.3,SNR=4.1					
TTSI	Tana Toraja	34.23	229	P	P	20 33 55.4 +1.0
	comp=Z,21nm,0.8s					
HHC	Hu-ho-hao-te	34.66	313	eP	P	20 34 00.0 +2.0
HHC				pmax	pmax	
	comp=Z,17nm,0.7s					
HHC				pmax	pmax	
	comp=Z,430nm,6.9s					
HIA	Hailar	34.79	331	P	P	20 33 58.0 -0.8
HIA				IAmb	IAmb	20 33 59.9
	comp=Z,7.4nm,0.7s					
BNSI	Bone	35.00	227	P	P	20 34 02.0 +1.0
	comp=Z,60nm,1.1s					
GYA	Guiyang	35.47	287	eP	P	20 34 05.9 +0.8
GYA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
KAPI	Kappang	35.69	227	P	P	20 34 06.8 -0.1
	comp=Z,9.9nm,0.4s,baz=44,slow=4.6,SNR=5.5					
KAPI	Kappang	35.69	227	IAmb	IAmb	20 34 08.2
	comp=Z,20nm,0.8s					
MTN	Manton Dam	36.13	203	P	P	20 34 09.4 -1.2
MTKI	Muara Teweh, K	36.54	237	P	P	20 34 14.8 +0.6
	comp=Z,66nm,0.9s					
SOEI	Soe	36.59	216	P	P	20 34 12.1 -2.6
SOEI	Soe	36.59	216	P	P	20 34 12.3 -2.4
	comp=Z,49nm,0.9s					
MMRI	Maumere	36.85	220	P	P	20 34 16.5 -0.2
	comp=Z,47nm,1.1s					
EDFI	Ende, Flores	37.27	220	P	P	20 34 19.5 -0.9
	comp=Z,13nm,1.2s					
BATI	Baumata	37.30	216	P	P	20 34 18.8 -1.7
	comp=Z,36nm,1.1s					
CD2	Chengdu	38.26	294	eP	P	20 34 28.1 -0.5
SLVN	Son La	38.27	278	P	P	20 34 29.8 +0.9
SLVN				IAmb	IAmb	20 34 30.9
	comp=Z,5.8nm,0.8s					
STKI	Sintang	38.71	242	P	P	20 34 33.6 +1.1
	comp=Z,3μmcomp=Z,29nm,1.6s					
MA2	Magadan	38.93	5	P	P	20 34 34.4 +0.7
	comp=Z,7.7nm,1.0s,baz=151,slow=15,SNR=3.3					
MA2	Magadan	38.93	5	P	P	20 34 34.0 +0.2
MA2				IAmb	IAmb	20 34 36.0
	comp=Z,15nm,1.2s					
NONG	Nongkai	39.48	273	P	P	20 34 41.5 +2.6
	comp=Z,16nm,1.2s					
KNRA	Kununurra	39.62	205	P	P	20 34 39.3 -0.6
PLAI	Plampang	39.80	225	P	P	20 34 40.3 -1.2
	comp=Z,48nm,1.2s					
TWSI	Taliwang, Sumb	40.33	226	P	P	20 34 45.1 -0.8
	comp=Z,25nm,1.3s					
ULN	Ulaanbaatar	40.71	321	P	P	20 34 48.7 -0.1
SONM	Songino Array	41.09	320	P	P	20 34 52.1 +0.3
	comp=Z,6.6nm,0.8s,baz=135,slow=7.2,SNR=15					
SONM				ScP	ScP	20 40 26.7 -1.2
	comp=Z,0.4nm,0.4s,baz=145,slow=5.4,SNR=4.3					
SONM	Songino Array	41.09	320	P	P

MNSI	Mandailing Nat	48.59	252	P	P	20 35 49.4	-2.2
SHL	Shillong	48.79	286	P	P	20 35 52.9	-0.3
SPIA	Saint Paul Isl	48.84	31	P	P	20 35 52.3	-0.5
	baz=241						
BILL	Bilibino	49.05	10	P	P	20 35 54.8	+0.4
LSA	Lhasa	49.13	292	P	P	20 35 57.7	+1.6
LSA				pmax	pmax		
	comp=Z,27nm,1.0s						
LSA	Lhasa	49.13	292	P	P	20 35 57.0	+0.8
LSA				IAmb	IAmb	20 35 59.8	
	comp=Z,7.4nm,0.9s						
TIXI	Tiksi	51.69	354	P	P	20 36 14.2	+0.1
GAMB	Gambell	51.75	23	P	P	20 36 14.8	+0.1
	baz=235						
WMQ	Urumqi	52.44	310	eP	P	20 36 22.0	+1.8
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,5.3s						
STKA	Stephens Creek	52.50	184	P	P	20 36 18.8	-1.8
	comp=Z,1.4nm,0.3s,baz=26,slow=7.1,SNR=12						
STKA	Stephens Creek	52.50	184	IAmb	IAmb	20 36 19.4	
	comp=Z,0.5nm,0.8s						
SDPT	Sand Point	53.12	36	P	P	20 36 24.5	-0.4
	baz=252						
SDPT	Sand Point	53.12	36	P	P	20 36 25.1	+0.2
CNBA	Chernabura Isl	53.45	36	P	P	20 36 27.3	0.0
CHNA	Chernabura Isl	53.45	36	P	P	20 36 27.3	0.0
	baz=253						
FORT	Forrest	53.83	198	P	P	20 36 29.8	-0.6
TNA	Tin City	54.10	22	P	P	20 36 31.9	+0.1
	baz=238						
PKIN	Phulchoki	54.34	290	eP	P	20 36 34.5	-0.2
KKN	Kakani	54.42	290	eP	P	20 36 35.5	+0.3
ANM	Nome	54.52	24	P	P	20 36 36.2	+1.2
	baz=241						
GKN	Gorkha	54.96	290	eP	P	20 36 39.5	+0.5
DANN	Dangsing	55.69	291	eP	P	20 36 45.2	+0.8
	comp=Z,56nm,0.4s						
KOLN	Koldanda	55.90	290	eP	P	20 36 46.2	+0.4
ZAA0	Zalesovo Array	55.94	322	P	P	20 36 43.6	-1.7
ZAA0				IAmb	IAmb	20 36 47.7	
	comp=Z,6.0nm,0.8s						
ZALV	Zalesovo Beam	55.94	322	P	P	20 36 45.2	-0.1
	comp=Z,4.0nm,0.5s,baz=110,slow=6.9,SNR=20						
ZALV				pP	pP	20 37 12.5	-1.1
	comp=Z,2.7nm,0.6s,baz=101,slow=6.4,SNR=3.3						
ZALV	Zalesovo Beam	55.94	322	P	P	20 36 44.3	-1.0
PYUN	Piuthan	56.39	291	eP	P	20 36 49.5	+0.2
	comp=Z,11nm,0.4s						
MK31	Makanchi Array	56.53	313	P	P	20 36 49.9	+0.2
MK31				IAmb	IAmb	20 36 51.1	
	comp=Z,7.3nm,0.8s						
MKAR	Makanchi Array	56.53	313	P	P	20 36 50.0	+0.3
	comp=Z,8.0nm,0.6s,baz=91,slow=9.2,SNR=65						
MKAR				pP	pP	20 37 18.4	+0.3
	comp=Z,2.0nm,0.5s,baz=88,slow=8.1,SNR=3.4						
MKAR				ScP	ScP	20 41 30.1	-3.1
	comp=Z,2.0nm,1.1s,baz=88,slow=4.8,SNR=5.5						
MKAR	Makanchi Array	56.53	313	P	P	20 36 49.4	-0.3
MAKZ	Makanchi	56.74	313	P	P	20 36 51.5	+0.2
MORW	Morawa	56.93	210	P	P	20 36 51.6	-1.0
N18K	Kilae Creek	57.04	30	P	P	20 36 53.7	+0.6
	baz=253						
RDOG	Red Dog Mine	57.08	21	P	P	20 36 55.1	+1.9
	baz=242						
O18K	Koktuh Hills	57.14	31	P	P	20 36 54.4	+0.7
	baz=254,SNR=10						
SVW2	Sparrevohn	57.31	30	P	P	20 36 56.0	+1.1
SVW2				IAmb	IAmb	20 36 56.6	
	comp=Z,7.8nm,1.1s						
OHAK	Old Harbor	57.47	35	P	P	20 36 56.4	+0.3
	baz=258						
OHAK	Old Harbor	57.47	35	P	P	20 36 55.7	-0.4
OHAK				IAmb	IAmb	20 36 57.7	
	comp=Z,7.1nm,0.9s						
N19K	Bonanza Creek	57.74	30	P	P	20 36 58.7	+0.6
	baz=254,SNR=6.2						
L19K	White Mountain	57.96	29	P	P	20 37 00.3	+0.8
	baz=253						
KDAK	Kodiak Island	57.96	34	P	P	20 36 59.9	+0.4
	comp=Z,1.4nm,0.3s,baz=162,slow=20,SNR=12						
KDAK				pP	pP	20 37 26.9	-0.7
	comp=Z,3.1nm,0.9s,baz=220,slow=7.9,SNR=2.6						
KDAK	Kodiak Island	57.96	34	P	P	20 36 60.0	+0.5
	baz=258						
KDAK	Kodiak Island	57.96	34	P	P	20 36 59.0	-0.5
P19K	Oil Pt	58.05	32	P	P	20 37 00.3	+0.1
	baz=256						
M19K	Big River Lodg	58.09	29	P	P	20 37 01.5	+1.1
	baz=254						
O20K	Slope Mountain	58.45	31	P	P	20 37 03.6	+0.6
	baz=257						
K20K	Telida	58.64	27	P	P	20 37 05.3	+1.1
	baz=253						
M20K	Styx River	58.66	29	P	P	20 37 05.6	+1.2
	baz=255						
HOM	Homer	58.84	32	P	P	20 37 06.1	+0.5
	baz=258						
J20K	Nowinta River	58.85	27	P	P	20 37 06.7	+1.1
	baz=253						
SPCR	Spurr Chakacha	58.91	30	P	P	20 37 06.6	+0.4
	baz=256						
CNPM	China Poot	59.01	32	P	P	20 37 06.5	-0.3
PRZ	Przheval'sk	59.16	308	P	P	20 37 09.5	+1.2
BRLK	Bradley Lake	59.24	32	P	P	20 37 08.0	-0.4
BRLK				IAmb	IAmb	20 37 09.3	
	comp=Z,9.2nm,1.0s						
BRSE	Bradley Lake S	59.30	32	P	P	20 37 08.6	-0.2
	baz=258						
CAPN	Captain Cook N	59.32	31	P	P	20 37 08.8	0.0
	baz=258						
PPLA	Purkeypile	59.34	28	P	P	20 37 10.0	+0.9
	baz=255						
PPLA	Purkeypile	59.34	28	P	P	20 37 10.4	+1.2
NRIK	Noril'sk	59.40	340	P	P	20 37 09.4	+0.2
	comp=Z,3.6nm,0.6s,baz=118,slow=8.7,SNR=6.1						
NRIK				pP	pP	20 37 37.7	-0.2
	comp=Z,1.3nm,0.3s,baz=90,slow=8.1,SNR=1.6						
NRIK	Noril'sk	59.40	340	P	P	20 37 09.0	-0.2
NRIK				IAmb	IAmb	20 37 10.4	
	comp=Z,4.2nm,0.8s						
SKT	Skwentna	59.41	29	P	P	20 37 09.1	-0.4
	baz=256,SNR=7.0						
SKT	Skwentna	59.41	29	P	P	20 37 09.5	0.0
SKT				IAmb	IAmb	20 37 10.5	
	comp=Z,7.0nm,1.0s						
CHUM	Lake Minchumin	59.54	27	P	P	20 37 11.4	+1.1
	baz=255						
TARG	Taragay, Kyrgy	59.62	307	P	P	20 37 12.3	+0.5
SUA	Susitna One	59.66	30	P	P	20 37 12.1	+0.8
	baz=258						
H21K	Melozitna Rive	59.84	25	P	P	20 37 13.2	+0.8
	baz=253						
SEW	Seward	60.01	32	P	P	20 37 13.6	0.0
	baz=260						
SEW	Seward	60.01	32	P	P	20 37 13.6	0.0
I21K	Tanana	60.03	26	P	P	20 37 14.7	+1.0
	baz=254						
KTH	Kantishna Hill	60.06	28	P	P	20 37 14.9	+0.9
RC01	Rabbit Creek A	60.06	31	P	P	20 37 13.9	-0.1
	baz=259						
RC01	Rabbit Creek A	60.06	31	P	P	20 37 13.3	-0.7
RC01				IAmb	IAmb	20 37 14.9	
	comp=Z,7.6nm,0.9s						
BPAW	Bear Paw Mtn.	60.16	27	P	P	20 37 15.0	+0.4
	baz=256,SNR=12						
BPAW	Bear Paw Mtn.	60.16	27	P	P	20 37 14.9	+0.3
TRF	Thorofare Moun	60.31	28	P	P	20 37 15.9	+0.1
	baz=257,SNR=9.1						
TRF	Thorofare Moun	60.31	28	P	P	20 37 15.9	+0.1
A21K	Barrow	60.49	18	P	P	20 37 17.8	+1.2
	baz=246						
MLY	Manley	60.50	26	P	P	20 37 17.8	+0.8
	baz=256						
MLY	Manley	60.50	26	P	P	20 37 17.2	+0.2
MLY				IAmb	IAmb	20 37 18.9	
	comp=Z,6.0nm,1.0s						
GHO	Glory Hole Cre	60.58	30	P	P	20 37 17.1	-0.5
GHO				IAmb	IAmb	20 37 18.6	
	comp=Z,8.9nm,1.0s						
PWL	Port Wells	60.69	31	P	P	20 37 18.5	+0.2
KNK	Knik Glacier	60.73	30	P	P	20 37 18.2	-0.3
	baz=260						
KNK	Knik Glacier	60.73	30	P	P	20 37 18.8	+0.2
BWN	Browne	60.83	27	P	P	20 37 19.6	+0.5
SML	Sawmill	60.86	30	P	P	20 37 19.3	-0.1
	baz=260,SNR=11						
SML	Sawmill	60.86	30	P	P	20 37 19.7	+0.2
WAT1	Susitna Watana	60.95	29	P	P	20 37 19.7	-0.3
	baz=259						
MCK	McKinley	60.96	28	P	P	20 37 19.8	-0.3
	baz=258						
MCK	McKinley	60.96	28	P	P	20 37 20.1	0.0
MCK				IAmb	IAmb	20 37 21.1	
	comp=Z,16nm,1.4s						
BOOM	Boomskoye usch	60.98	308	P	P	20 37 21.4	+0.6
NEA2	Nenana	61.09	27	P	P	20 37 21.6	+0.7
	baz=257						
NEA2	Nenana	61.09	27	P	P	20 37 20.9	0.0
NEA2				IAmb	IAmb	20 37 22.6	
	comp=Z,5.0nm,0.9s						
I23K	Minto, Yukon-K	61.09	26	P	P	20 37 21.7	+0.9
	baz=257						
I23K	Minto, Yukon-K	61.09	26	P	P	20 37 21.4	+0.5
I23K				IAmb	IAmb	20 37 23.1	
	comp=Z,12nm,1.4s						
KSH	Kashi	61.12	304	P	P	20 37 25.8	+4.1
KSH				pmax	pmax		
	comp=Z,15nm,0.4s						
KSH				pmax	pmax		
	comp=Z,160nm,3.8s						
H23K	Yukon River	61.18	25	P	P	20 37 22.6	+1.1
	baz=256,SNR=5.6						
WAT6	Susitna Watana	61.27	29	P	P	20 37 22.5	+0.1
	baz=260						
GLI	Glacier Island	61.29	31	P	P	20 37 22.7	+0.3
	baz=261						
GLI	Glacier Island	61.29	31	P	P	20 37 22.6	+0.2
GLI				IAmb	IAmb	20 37 23.7	
	comp=Z,9.0nm,1.0s						
SCM	Sheep Creek Mo	61.33	30	P	P	20 37 23.1	+0.4
WRH	Wood River Hil	61.48	27	P	P	20 37 23.4	-0.1
WRH				IAmb	IAmb	20 37 24.4	
	comp=Z,6.9nm,1.1s						
FID	Port Fidalgo	61.57	31	P	P	20 37 24.5	+0.3
FID				IAmb	IAmb	20 37 25.6	
	comp=Z,7.2nm,0.8s						
CCB	Clear Creek Bu	61.63	27	P	P	20 37 24.0	-0.5
H24K	Noodor Dome	61.85	25	P	P	20 37 26.8	+0.8
	baz=258						
TOLK	Toolik Lake Re	61.88	22	P	P	20 37 27.4	+1.2
	baz=255,SNR=7.8						
TOLK	Toolik Lake Re	61.88	22	P	P	20 37 27.1	+1.0
TOLK				IAmb	IAmb	20 37 28.6	
	comp=Z,7.2nm,0.7s						
EYAK	Cordova Ski Ar	61.90	32	P	P	20 37 27.0	+0.6
	baz=263						
FRU1	Bishkek	61.93	308	P	P	20 37 26.9	-0.1
FRU1				IAmb	IAmb	20 37 28.8	
	comp=Z,12nm,0.9s						
KLU	Klutina	61.94	31	P	P	20 37 27.2	+0.4
	baz=262						
KLU	Klutina	61.94	31	P	P	20 37 27.5	+0.7
KLU				IAmb	IAmb	20 37 28.6	
	comp=Z,8.1nm,0.8s						
HDA	Harding Lake	61.95	27	P	P	20 37 27.1	+0.4
	baz=260						
HDA	Harding Lake	61.95	27	P	P	20 37 26.2	-0.5
HDA				IAmb	IAmb	20 37 27.1	
	comp=Z,5.2nm,1.0s						
AAK	Ala-Archa	62.04	308	P	P	20 37 27.7	-0.2
AAK				IAmb	IAmb	20 37 29.5	
	comp=Z,4.1nm,0.7s						
IL31		62.05	27	P	P	20 37 26.5	-0.7
IL31				IAmb	IAmb	20 37 27.6	
	comp=Z,9.7nm,1.1s						
ILAR	Eielson Array	62.05	27	P	P	20 37 26.4	-0.9
	comp=Z,6.3nm,1.0s,baz=258,slow=5.4,SNR=35						
ILAR				pP	pP	20 37 56.0	+0.1
	comp=Z,1.9nm,0.8s,baz=259,slow=5.1,SNR=4.0						
PAX	Paxson	62.37	29	P	P	20 37 29.8	+0.3
	baz=262						
PAX	Paxson	62.37	29	P	P	20 37 30.2	+0.6
PAX				IAmb	IAmb	20 37 31.1	
	comp=Z,5.9nm,0.9s						
HARP	HAARP	62.43	30	P	P	20 37 30.4	+0.5
	baz=262						
BMRM	Bremner River	62.51	31	P	P	20 37 30.8	+0.3
	baz=263						
BMRM	Bremner River	62.51	31	P	P	20 37 31.1	+0.6
N25K	Chitina, Valde	62.59	30	P	P	20 37 31.6	+0.5
	baz=263						
N25K	Chitina, Valde	62.59	30	P	P	20 37 31.8	+0.7
N25K				IAmb	IAmb	20 37 32.5	
	comp=Z,4.7nm,0.9s						
PRP	Porcupine Dome	62.75	26	P	P	20 37 30.3	-1.8
RIDG	Independent Ri	62.76	28	P	P	20 37 32.1	0.0
	baz=262,SNR=5.3						
RIDG	Independent Ri	62.76	28	P	P	20 37 31.8	-0.3
RIDG				IAmb	IAmb	20 37 33.3	
	comp=Z,9.7nm,1.0s						
SUCK	Suckling Hills	62.82	32	P	P	20 37 32.2	-0.4
GLB	Gilahina Butte	62.94	31	P	P	20 37 32.6	-0.8
GLB				IAmb	IAmb	20 37 35.3	
	comp=Z,13nm,1.2s						
FYU	Fort Yukon	63.04	25	P	P	20 37 33.7	-0.2
DOT	Dot Lake	63.09	28	P	P	20 37 34.2	0.0
DOT				IAmb	IAmb	20 37 35.5	
	comp=Z,7.3nm,1.0s						
VRDI	Verde Repeater	63.09	31	P	P	20 37 34.3	-0.3
VRDI				IAmb	IAmb	20 37 36.2	
	comp=Z,7.8nm,1.0s						
SCRK	Sand Creek	63.16	28	P	P	20 37 35.0	+0.1
	baz=262,SNR=13						
SCRK	Sand Creek	63.16	28	P	P	20 37 34.9	0.0
SCRK				IAmb	IAmb	20 37 36.2	
	comp=Z,11nm,1.0s						
CRQM	Cirque	63.20	32	P	P	20 37 36.3	+1.0
CRQM				IAmb	IAmb	20 37 37.6	
	comp=Z,17nm,1.2s						
CRQE	Cirque	63.22	32	P	P	20 37 35.4	+0.1
	baz=265						
MCARA	McCarthy VSAT	63.31	31	P	P	20 37 36.5	+0.7
	baz=265						
TGL	Tana Glacier	63.35	32	P	P	20 37 36.0	-0.1
TGL				IAmb	IAmb	20 37 37.9	
	comp=Z,16nm,1.2s						
ISLE	Juniper Island	63.58	32	P	P	20 37 37.2	-0.5
ISLE				IAmb	IAmb	20 37 39.3	
	comp=Z,12nm,1.2s						
YAH	Yahtse	63.86	32	P	P	20 37 40.6	+0.9
YAH				IAmb	IAmb	20 37 41.8	
	comp=Z,11nm,1.1s						
K27K	Chicken	64.01	28	P	P	20 37 40.5	+0.2
	baz=264						
K27K	Chicken	64.01	28	P	P	20 37 40.9	+0.6
L27K	Beaver Creek,	64.03	29	P	P	20 37 41.0	+0.5
	baz=265,SNR=5.7						
L27K	Beaver Creek,	64.03	29	P	P	20 37 40.7	+0.2
BCAR	Beaver Creek A	64.05	29	P	P	20 37 40.7	+0.1
CTG	Chitna Glacier	64.09	31	P	P	20 37 41.5	+0.4
	baz=266						
TABL	Table Mountain	64.16	32	P	P	20 37 42.2	+0.6
TABL				IAmb	IAmb	20 37 43.4	
	comp=Z,10nm,0.9s						
LOGN	Logan Glacier	64.25	32	P	P	20 37 42.5	+0.3
LOGN				IAmb	IAmb	20 37 45.1	
	comp=Z,12nm,1.2s						
DRK	Karamyk	64.33	305	P	P	20 37 43.2	0.0
EGAK	Eagle	64.48	27	P	P	20 37 43.5	+0.2
	baz=265						
EGAK	Eagle	64.48	27	P	P	20 37 43.5	+0.2
EGAK				IAmb	IAmb	20 37 44.0	
	comp=Z,7.8nm,1.3s						
BRVK	Borovoye	64.49	320	P	P	20 37 43.1	-0.5
BRVK				IAmb	IAmb	20 37 44.7	
	comp=Z,9.0nm,0.8s						
PCA	Pinnacle	64.58	32	P	P	20 37 45.5	+1.3
PCA				IAmb	IAmb	20 37 50.6	
	comp=Z,7.5nm,0.9s						
KK31	Karatay Array	64.92	309	P	P	20 37 46.5	-0.1
KK31				IAmb	IAmb	20 37 48.1	
	comp=Z,9.7nm,0.9s						
KKAR	Karatay Array	64.92	309	P	P	20 37 46.4	-0.3
KKAR	Karatay Array	64.92	309	P	P	20 37 47.1	+0.4
KKAR				IAmb	IAmb	20 37 48.1	
	comp=Z,9.7nm,0.9s						
BTK	Batken	65.02	305	P	P	20 37 46.6	-0.8
BTK				IAmb	IAmb	20 37 48.7	
	comp=Z,10.0nm,1.1s						
DAWY	Dawson	65.19	28	P	P	20 37 48.7	+0.6
DAWY				IAmb	IAmb	20 37 49.9	
	comp=Z,5.8nm,0.9s						
GAR	Garm	65.54	304	P	P	20 37 50.9	+0.1
HYT	Haines Junctio	65.96	32	P	P	20 37 54.1	+0.9
HYT				IAmb	IAmb	20 37 55.8	
	comp=Z,10nm,1.0s						
EPYK	Eagle Plains	66.42	26	P	P	20 37 56.6	+0.7
	baz=268						
EPYK	Eagle Plains	66.42	26	P	P	20 37 56.8	+0.9
EPYK				IAmb	IAmb	20 37 57.8	
	comp=Z,11nm,0.9s						
CHGR	Chuyangaron	66.48	304	P	P	20 37 57.1	+0.2
SIT	Sitka	67.19	36	P	P	20 38 00.9	+0.1
	baz=273						
KBL	Kabul	67.24	300	P	P	20 38 02.1	+0.3
WHY	Whitehorse	67.25	32	P	P	20 38 02.3	+0.9
	baz=272						
WHY	Whitehorse	67.25	32	P	P	20 38 02.8	+1.5
WHY				IAmb	IAmb	20 38 03.7	
	comp=Z,7.5nm,1.1s						
INK	Inuvik	67.69	23	P	P	20 38 03.2	-0.5
	comp=Z,5.2nm,0.8s,baz=250,slow=7.1,SNR=4.4						
INK	Inuvik	67.69	23	P	P	20 38 04.7	+1.0
	baz=270						
INK	Inuvik	67.69	23	P	P	20 38 04.3	+0.5
INK				IAmb	IAmb	20 38 05.0	
	comp=Z,8.9nm,1.1s						
DIB	Dawson Inlet,	69.17	40	P	P	20 38 12.4	-0.8
DIB				IAmb	IAmb	20 38 14.7	
	comp=Z,9.5nm,1.1s						
DLBC	Dease Lake	69.90	34	P	P	20 38 18.0	+0.2
DLBC				IAmb	IAmb	20 38 20.3	
	comp=Z,8.0nm,1.0s						
ARU	Arti	70.96	324	P	P	20 38 23.5	-0.7
C36M	Paulatuk	71.03	22	P	P	20 38 25.4	+1.1
	baz=278						
ABKAR	Akbulak array	71.35	316	P	P	20 38 26.0	-0.6
ABKAR	Akbulak array	71.35	316	P	P	20 38 25.9	-0.7
ABKAR				pP	pP	20 38 54.8	-1.4
HRA	Herat	72.77	301	P	P	20 38 35.8	+0.1
HRA				IAmb	IAmb	20 38 37.2	
	comp=Z,9.3nm,0.8s						
GEYT	Alibeck	75.13	305	P	P	20 38 50.3	+1.1
	comp=Z,88nm,0.7s,baz=75,slow=14,SNR=4.5						
NLWA	Neilton Lookou	75.72	45	P	P	20 38 53.9	+1.6
NLWA				IAmb	IAmb	20 38 55.1	
	comp=Z,15nm,1.1s						
A04D	Lummi Island	76.11	43	P	P	20 38 55.4	+1.0
	baz=286						
LLLB	Lillooet	76.12	41	P	P	20 38 54.6	+0.1
LLLB				IAmb	IAmb	20 38 56.9	
	comp=Z,10nm,1.1s						
E03A	Lebam	76.14	45	P	P	20 38 56.5	+1.8
E03A				IAmb	IAmb	20 38 57.6	
	comp=Z,12nm,0.8s						
D03D	Eldon	76.19	44	P	P	20 38 56.2	+1.3
	baz=286						
YKA	Yellowknife Ar	76.43	28	P	P	20 38 56.0	0.0
	comp=Z,5.6nm,0.8s,baz=290,slow=5.2,SNR=13						
I02D	Swisshome	76.61	48	P	P	20 38 58.0	+0.6
	baz=286						
B05A	Bryant	76.63	43	P	P	20 38 58.4	+1.0
	baz=286						
E04D	Cinebar	76.80	45	P	P	20 38 59.9	+1.6
	baz=286						
J01E	Myrtle Point	76.81	49	P	P	20 38 58.9	+0.4
	baz=286						
B06A	Marblemount	76.95	43	P	P	20 39 00.2	+1.0
D05A	Enumclaw	77.00	44	P	P	20 39 00.2	+0.7
D05A				IAmb	IAmb	20 39 02.2	
	comp=Z,23nm,1.3s						
I03D	Drain, OR	77.07	48	P	P	20 39 01.4	+1.4
	baz=286						
K02D	Willamette Mer	77.13	49	P	P	20 39 01.1	+0.7
	baz=286						
BUCK	Buck Mountain	77.18	47	P	P	20 39 00.4	-0.2
BUCK				IAmb	IAmb	20 39 03.4	
	comp=Z,18nm,1.1s						
LON	Longmire	77.24	45	P	P	20 38 59.4	-1.5
H04D	Lebanon	77.26	47	P	P	20 39 02.2	+1.3
	baz=287						
L02E	Cave Junction	77.33	50	P	P	20 39 02.7	+1.2
	baz=287						
H04A	Detroit Lake	77.59	47	P	P	20 39 03.6	+0.7
H04A				IAmb	IAmb	20 39 04.8	
	comp=Z,14nm,1.3s						
HUMO	Hull Mountain	77.66	49	P	P	20 39 04.8	+1.5
I04A	Tendick Farm,	77.69	48	P	P	20 39 03.7	+0.2
	baz=287						
F05D	White Salmon	77.73	46	P	P	20 39 04.3	+0.7
	baz=287						
LTY	Liberty	77.84	44	P	P	20 39 04.9	+0.6
G05D	Wamic, OR	78.02	46	P	P	20 39 06.1	+0.9
	baz=287						
J04D	Umpqua Nationa	78.07	48	P	P	20 39 06.7	+1.0
	baz=287						
M02C	Callahan	78.09	50	P	P	20 39 07.0	+1.3
	baz=287						
YBH	Yreka Blue Hor	78.09	50	P	P	20 39 05.8	+0.1
L04D	Klamath Falls	78.23	49	P	P	20 39 07.0	+0.4
	baz=287						
I05D	Terrebonne, OR	78.27	47	P	P	20 39 07.6	+0.9
	baz=288						
N02D	Trinity Center	78.32	51	P	P	20 39 08.0	+1.0
	baz=287						
B08A	Colville Reser	78.36	43	P	P	20 39 07.7	+0.7
O02D	Mt. Diablo Mer	78.50	51	P	P	20 39 09.1	+1.1
	baz=288						
K04D	Chiloquin, OR	78.50	49	P	P	20 39 08.8	+0.8
	baz=288						
WDC	Whiskeytown Da	78.56	51	P	P	20 39 06.4	-1.9
E07A	Sunnyside	78.59	45	P	P	20 39 07.6	-0.7
E07A				IAmb	IAmb	20 39 10.1	
	comp=Z,7.5nm,1.0s						
J05D	Fort Rock, OR	78.66	48	P	P	20 39 09.3	+0.4
	baz=288						
M04C	Macdoel	78.70	50	P	P	20 39 09.6	+0.5
	baz=288						
PINE	Pine Mountain	78.71	47	P	P	20 39 10.3	+1.1
PINE				IAmb	IAmb	20 39 11.8	
	comp=Z,14nm,1.0s						
HAWA	Hanford	78.85	45	P	P	20 39 10.3	+0.5
HAWA				IAmb	IAmb	20 39 11.8	
	comp=Z,16nm,1.4s						
D08A	Wollman Farm,	79.04	44	P	P	20 39 11.3	+0.5
MCCM	Marconi Confer	79.04	53	P	P	20 39 10.4	-0.5
K05A	Summer Lake	79.07	48	P	P	20 39 12.5	+1.2
K05A				IAmb	IAmb	20 39 13.6	
	comp=Z,18nm,1.1s						
E08A	Dider Farm, El	79.13	44	P	P	20 39 11.4	+0.1
E08A				IAmb	IAmb	20 39 13.5	
	comp=Z,14nm,1.3s						
O03E	Paynes Creek	79.18	51	P	P	20 39 12.2	+0.4
	baz=288						
C09A	Chrisman Ranch	79.21	43	P	P	20 39 11.7	0.0
C09A				IAmb	IAmb	20 39 13.6	
	comp=Z,15nm,1.4s						
G08A	Pilot Rock	79.58	46	P	P	20 39 14.3	+0.4
ORV	Oroville	79.63	52	P	P	20 39 15.0	+0.8
E09A	Wood Farm, Sta	79.72	44	P	P	20 39 15.4	+1.0
MOD	Modoc Plateau	79.75	49	P	P	20 39 14.8	-0.2
NEW	Newport	79.79	42	P	P	20 39

comp=Z,10nm,1.2s
KVN Kaiserville 82.29 51 P P 20 39 29.0 +0.5
MSO Missoula 82.32 43 P P 20 39 29.2 +0.8
baz=292
MFID Camas Ranch 82.34 47 P P 20 39 29.4 +0.8
MFID IAmb IAmb 20 39 30.5
comp=Z,10nm,1.1s
NVAR Mina Array Bea 82.35 52 P P 20 39 29.5 +0.6
comp=Z,5.4nm,0.9s,baz=255,slow=2.7,SNR=22
NVAR pP pP 20 39 59.4 +0.4
comp=Z,2.3nm,0.8s,baz=266,slow=6.1,SNR=3.2
NVAR LR LR 21 13 28.9
comp=Z,45nm,18.9s,baz=278,slow=34
NVAR Mina Array Bea 82.35 52 P P 20 39 29.4 +0.5
PKM Mcpherson Peak 82.43 56 P P 20 39 30.1 +0.8
baz=290
NV11 Mina Array Sit 82.46 52 P P 20 39 30.1 +0.7
CWC Cottonwood Cre 83.22 54 P P 20 39 33.2 -0.1
baz=291
SNCC San Nicolas Is 83.22 57 P P 20 39 33.5 +0.3
baz=290
TPH Tonopah 83.28 52 P P 20 39 34.4 +0.8
LRM Limekiln Ridge 83.66 43 P P 20 39 35.9 +0.4
ELK Elko 83.73 49 P P 20 39 36.6 +0.6
MPMC Manual Prospec 83.80 54 P P 20 39 36.6 +0.3
baz=291
EDW2 Edwards Air Fo 83.84 55 P P 20 39 36.4 0.0
baz=291
LRMC Laurel Mtn Rad 83.86 55 P P 20 39 35.6 -1.0
baz=291
KBZ Khabaz 84.19 315 P P 20 39 39.0 +1.1
comp=Z,2.7nm,0.8s,baz=43,slow=4.6,SNR=6.2
KBZ pP pP 20 40 08.9 +0.7
comp=Z,7.9nm,0.8s,baz=123,slow=2.1,SNR=9.0
KIV Kislovodsk 84.24 315 P P 20 39 38.5 +0.3
BOZ Bozeman (W) 84.27 43 P P 20 39 39.0 +0.5
baz=294
R11A Troy Canyon, C 84.37 51 P P 20 39 39.6 +0.4
baz=292
R11A Troy Canyon, C 84.37 51 P P 20 39 39.4 +0.3
TPNV Topopah Spring 84.41 53 P P 20 39 39.6 +0.3
baz=292
EGMT Eagleton 84.44 41 P P 20 39 38.7 -0.6
baz=295
GSC Goldstone, Bar 84.59 54 P P 20 39 40.5 +0.3
baz=292
FINES FINESS Array B 84.69 335 P P 20 39 38.6 -1.3
comp=Z,2.2nm,0.6s,baz=67,slow=4.9,SNR=19
QLMT Earthquake Lak 84.71 44 P P 20 39 42.2 +1.4
SPR3 Spring Creek 3 85.04 50 P P 20 39 43.9 +1.2
YHH Holmes Hill 85.11 44 P P 20 39 44.3 +1.4
YHH IAmb IAmb 20 39 45.3
comp=Z,7.2nm,1.2s
SHPR Sheep Range 85.38 53 P P 20 39 45.2 +0.9
SPUT South Promonto 85.45 48 P P 20 39 45.4 +0.9
PFO Pinyon Flats O 85.48 56 P P 20 39 45.5 +0.8
baz=292
TPFO Pinon Flats 85.49 56 P P 20 39 45.2 +0.4
baz=292
FLWY Flagg Ranch 85.50 44 P P 20 39 45.9 +1.1
FLWY IAmb IAmb 20 39 47.3
comp=Z,11nm,0.9s
PSUT Pine Spring 85.56 51 P P 20 39 45.9 +0.8
PSUT IAmb IAmb 20 39 46.8
comp=Z,5.8nm,1.0s
DUG Dugway, Tooele 85.65 49 P P 20 39 45.8 +0.3
baz=294
DUG Dugway, Tooele 85.65 49 P P 20 39 45.9 +0.5
DUG IAmb IAmb 20 39 47.2
comp=Z,8.0nm,0.9s
GMRC Granite Mounta 85.66 55 P P 20 39 46.0 +0.4
baz=292
MONP2 Monument Peak 85.78 57 P P 20 39 46.5 +0.2
baz=292
HWUT Hardware Ranch 85.94 47 P P 20 39 46.8 -0.1
HWUT IAmb IAmb 20 39 48.7
comp=Z,7.6nm,0.9s
RLMT Red Lodge 85.99 43 P P 20 39 47.8 +0.7
baz=296
BC3 Big Chuckawall 86.24 56 P P 20 39 48.9 +0.4
baz=292
IRM Iron Mountain 86.29 55 P P 20 39 48.9 +0.3
baz=293
CCUT Cedar City 86.30 51 P P 20 39 49.7 +0.8
PDAR Pinedale Array 86.81 45 P P 20 39 50.5 -0.7
comp=Z,0.6nm,0.7s,baz=270,slow=3.7,SNR=4.7
KNB Kanab 86.91 52 P P 20 39 53.2 +1.4
KNB IAmb IAmb 20 39 54.0
comp=Z,11nm,1.0s
GLA Glamis 86.96 56 P P 20 39 51.7 -0.2
baz=293
PDMCI Parker Dam,Lak 87.00 54 P P 20 39 52.9 +0.9
baz=293
LAO LASA Array 87.19 41 P P 20 39 53.1 +0.3
baz=298
WUAZ Wupatki 88.59 52 P P 20 39 59.6 -0.1
baz=295
PV19 Morning Glory 89.14 49 P P 20 40 02.1 -0.2
PV19 IAmb IAmb 20 40 03.8
comp=Z,8.8nm,1.0s
AKASG Malin Array Be 89.19 325 pP pP 20 40 33.4 +0.7
comp=Z,0.3nm,0.4s,baz=51,slow=4.8,SNR=2.1
RSSD Black Hills 89.76 42 P P 20 40 05.4 +0.3
baz=299
N23A Red Feather La 90.06 46 P P 20 40 06.3 -0.4
baz=298
NOA NORSAR Array B 90.36 339 LR LR 21 24 40.2
comp=Z,25nm,18.2s,baz=55,slow=38
TUC Tucson 90.38 55 P P 20 40 09.0 +1.0
baz=295
ISCO Idaho Springs 90.80 47 P P 20 40 10.5 +0.3
baz=298
S22A 4UR Ranch, Cre 90.91 49 P P 20 40 10.8 +0.1
baz=297
ULM Lac du Bonnet 91.22 34 pP pP 20 40 42.9 +0.7
comp=Z,5.2nm,0.9s,baz=256,slow=4.2,SNR=2.7
SDCO Great Sand Dun 91.84 48 P P 20 40 14.6 -0.5
baz=298
BRTR Keskin Array B 92.17 314 pP pP 20 40 46.9 -0.1
comp=Z,1.6nm,0.7s,baz=76,slow=5.2,SNR=3.8
ANMO Albuquerque 92.46 51 P P 20 40 17.2 -0.6
baz=298
121A Cookes Peak, D 92.56 54 P P 20 40 18.3 0.0
baz=297
MNTX Cornudas Mount 94.76 54 P P 20 40 27.6 -0.7
baz=298
ALGO Algonquin Park 102.93 29 P Pdif 20 41 05.1 +0.6
baz=319
M53A WI Miller and 104.98 34 P Pdif 20 41 13.1 -0.7
baz=316
F59A Saint Guilaume 105.31 26 P PKiKP 20 45 29.1 +0.7
baz=324
D63A Stockholm 106.15 23 P PKiKP 20 45 30.9 +0.9
baz=328
E64A Bridgewater 106.78 23 P PKiKP 20 45 31.9 +0.8
baz=328
I61A Oroboro, Fairl 107.09 27 P PKiKP 20 45 32.6 +0.8
baz=324
TORD Torodi Ar. Bea 130.60 310 PKP **PKPdf 20 46 17.1 -0.3**
comp=Z,1.3nm,1.0s,baz=329,slow=0.9,SNR=3.7
TORD pPKP **pPKPdf 20 46 48.8 -0.9**
comp=Z,0.5nm,0.7s,baz=51,slow=1.6,SNR=2.7
TORD PP **PP 20 48 37.3 +4.3**
comp=Z,0.7nm,1.0s,baz=94,slow=7.7,SNR=3.7
TORD SKPbc **SKPbc 20 49 27.8 -2.4**
comp=Z,1.0nm,1.0s,baz=52,slow=3.7,SNR=6.7
PLCA Paso Flores 143.91 131 PKP PKPbc 20 46 39.0 -0.4
comp=Z,8.8nm,0.9s,baz=273,slow=5.0,SNR=8.6
LPAZ La Paz 148.31 87 PKPbc **PKPbc 20 46 53.6 0.0**
comp=Z,3.2nm,0.6s,baz=250,slow=3.1,SNR=14
LPAZ pPKPbc **pPKPbc 20 47 25.2 -0.3**
comp=Z,2.2nm,0.7s,baz=204,slow=14,SNR=2.6
LPAZ La Paz 148.31 87 PKPbc 20 46 53.9 +0.3
PTGA Pitinga 148.48 54 PKPbc **PKPbc 20 46 53.8 +0.4**
comp=Z,3.4nm,0.7s,baz=37,slow=2.8,SNR=5.6
PTGA pPKPbc **pPKPbc 20 47 24.1 -1.2**
comp=Z,2.9nm,0.7s,baz=323,slow=6.3,SNR=3.0

*NOU **09** 20:44:38.4, 36°.95S×177°.87E, h206km, ML3.7, Off E. Coast of N. Island, N.Z.*
*WEL **09** 20:44:53.8±1.0, 38°S±6°×17°7E±°, h106km±9km, M2.8/17, ML3.0/8, MLv2.8/17, Error ellipse: s-maj=0.0km s-min=0.0km az=146.6*
ISC 09 20:44:51.8±2.1, 37°.64S±0°.07×177°.00E±0°.06, h139km±12km, n55, σ1º00/67, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.41**	**239**	P	**Pn**	**20 45 10.7**	**-0.7**
MARZ	**Manawahe**	**0.43**	**216**	P	**Pn**	**20 45 11.2**	**-0.4**
URZ	**Urewera**	**0.63**	**172**	P	**Pn**	**20 45 12.2**	**-0.4**
URZ				S	**Sn**	**20 45 27.8**	**-0.7**
RUGZ	**Raukumara Rang**	**0.63**	**122**	P	**Pn**	**20 45 12.0**	**-0.8**
RUGZ				S	**Sn**	**20 45 27.0**	**-1.7**
HAZ	**Te Kaha**	**0.64**	**101**	P	**Pn**	**20 45 12.3**	**-0.3**
HAZ				S	**Sn**	**20 45 27.9**	**-0.5**
OMRZ	**Omania**	**0.68**	**226**	P	**Pn**	**20 45 12.9**	**-0.1**
RRRZ	**Republican Roa**	**0.80**	**208**	P	**Pn**	**20 45 14.1**	**+0.2**
MWZ	**Matawai**	**0.81**	**149**	P	**Pn**	**20 45 14.5**	**+0.5**
MWZ				S	**Sn**	**20 45 30.4**	**-0.5**
MUGZ	**Murupara**	**0.86**	**192**	P	**Pn**	**20 45 14.2**	**-0.1**
MUGZ				S	**Sn**	**20 45 30.5**	**-1.0**
PKGZ	**Pakihiroa**	**0.89**	**107**	P	Pn	20 45 15.2	+0.6
PKGZ				S	**Sn**	**20 45 31.8**	**-0.2**
RTZ	**Ruatahuna**	**0.98**	**181**	P	**Pn**	**20 45 15.7**	**+0.3**
RTZ				S	**Sn**	**20 45 33.8**	**+0.4**
MXZ	**Matakaoa Point**	**1.04**	**86**	P	Pn	20 45 17.7	+1.8
MXZ				S	**Sn**	**20 45 36.1**	**+1.9**
TKGZ	**Te Karaka**	**1.05**	**140**	P	**Pn**	**20 45 16.5**	**+0.6**
TKGZ				S	**Sn**	**20 45 33.7**	**-0.6**
PUZ	**Puketiti**	**1.09**	**114**	P	Pn	20 45 17.6	+1.2
PUZ				S	**Sn**	**20 45 34.6**	**-0.5**
WMGZ	**Waiomatatini S**	**1.14**	**100**	P	Pn	20 45 18.0	+1.2
WMGZ				S	**Sn**	**20 45 36.3**	**+0.5**
SNGZ	**Shannon Statio**	**1.18**	**167**	P	**Pn**	**20 45 18.6**	**+1.4**
SNGZ				S	**Sn**	**20 45 36.6**	**0.0**
MTHZ	**Maungataniwha**	**1.22**	**186**	P	**Pn**	**20 45 19.2**	**+1.5**
MTHZ				S	**Sn**	**20 45 37.4**	**0.0**
RIGZ	**Rimuhau**	**1.23**	**151**	P	**Pn**	**20 45 18.8**	**+1.1**
RIGZ				S	**Sn**	**20 45 38.5**	**+1.0**
CNGZ	**Carnagh Statio**	**1.28**	**132**	P	**Pn**	**20 45 19.5**	**+1.3**
MRHZ	**Matea Rd**	**1.28**	**201**	P	**Pn**	**20 45 19.2**	**+1.0**
MRHZ				S	**Sn**	**20 45 38.7**	**+0.2**
RAHZ	**Arahi**	**1.28**	**177**	P	**Pn**	**20 45 19.4**	**+1.2**
RAHZ				S	**Sn**	**20 45 39.4**	**+1.0**
BKZ	**Black Stump Fm**	**1.58**	**194**	P	**Pn**	**20 45 22.1**	**+0.7**
BKZ				S	**Sn**	**20 45 43.8**	**-0.3**
ARHZ	**Aropaoanui**	**1.62**	**180**	P	**Pn**	**20 45 23.5**	**+1.6**
WIAZ	**Waiheke Island**	**1.71**	**299**	P	**Pn**	**20 45 23.7**	**+0.8**
MCHZ	**McNeill Hill**	**1.82**	**187**	P	**Pn**	**20 45 25.2**	**+1.0**
KWHZ	**Kaweka Forest**	**1.84**	**194**	P	**Pn**	**20 45 25.3**	**+0.8**
OTVZ	**Oturere**	**1.85**	**214**	P	**Pn**	**20 45 26.4**	**+1.8**
GRZ	**Great Barrier**	**1.85**	**318**	P	Pn	20 45 25.2	+0.7
SNVZ	**South Ngauruho**	**1.88**	**214**	P	**Pn**	**20 45 26.8**	**+1.8**
TWVZ	**Taurewa**	**1.89**	**220**	P	**Pn**	**20 45 26.7**	**+1.7**
HIZ	**Hauiti**	**1.90**	**242**	P	**Pn**	**20 45 26.5**	**+1.4**
FWVZ	**Far West T-bar**	**1.97**	**215**	P	**Pn**	**20 45 27.8**	**+1.6**
WHVZ	**Whangaehu Hut**	**1.98**	**213**	P	**Pn**	**20 45 27.7**	**+1.4**
BHHZ	**Black Hill Sta**	**1.99**	**201**	P	**Pn**	**20 45 26.8**	**+0.6**
TRVZ	**Turoa**	**2.01**	**214**	P	**Pn**	**20 45 28.1**	**+1.4**
MOVZ	**Moawhango**	**2.02**	**208**	P	**Pn**	**20 45 27.2**	**+0.7**
KRHZ	**Kereru**	**2.06**	**194**	P	**Pn**	**20 45 27.4**	**+0.3**
MTVZ	**Mangateitei**	**2.12**	**214**	P	**Pn**	**20 45 29.2**	**+1.4**
KAHZ	**Kahuranaki**	**2.16**	**182**	P	**Pn**	**20 45 29.1**	**+0.9**
PNHZ	**Pukenui**	**2.36**	**195**	P	**Pn**	**20 45 30.9**	**+0.3**
PXZ	**Pawanui**	**2.39**	**182**	P	**Pn**	**20 45 31.4**	**+0.4**
TSZ	**Takapari Road**	**2.55**	**198**	P	**Pn**	**20 45 33.2**	**+0.1**
DVHZ	**Dannevirke**	**2.74**	**193**	P	**Pn**	**20 45 35.4**	**+0.1**
ANWZ	**Angora Road**	**2.85**	**188**	P	**Pn**	**20 45 36.8**	**0.0**
PRWZ	**Pori Road**	**3.02**	**195**	P	**Pn**	**20 45 39.4**	**+0.4**
BFZ	**Birch Farm**	**3.10**	**191**	P	**Pn**	**20 45 39.5**	**-0.5**
MRZ	**Mangatainoka R**	**3.21**	**200**	P	**Pn**	**20 45 40.5**	**-0.9**
TIWZ	**Tintock**	**3.25**	**195**	P	**Pn**	**20 45 41.5**	**-0.5**
HOWZ	**Holdsworth Sta**	**3.45**	**199**	P	**Pn**	**20 45 43.1**	**-1.5**
OGWZ	**Otaki Gorge**	**3.48**	**203**	P	**Pn**	**20 45 43.9**	**-1.0**
TMWZ	**Te Maipa**	**3.57**	**194**	P	**Pn**	**20 45 45.3**	**-0.9**
KIW	**Kapiti Island**	**3.60**	**206**	P	**Pn**	**20 45 45.6**	**-0.9**
MTW	**Mount Morrison**	**3.70**	**198**	P	**Pn**	**20 45 46.1**	**-1.7**
CAW	**Cannon Point**	**3.77**	**203**	P	**Pn**	**20 45 47.4**	**-1.3**
THZ	**Tophouse**	**5.19**	**216**	P	**Pn**	**20 46 06.3**	**-1.3**

GUC 09 21:12:17.5±0.6, 23°.99S×67°.27W, h218km±9km, ML3.5, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.04**	**312**	*e*P	Pn	21 12 59.5	+1.3
LVC				*e*S	S	21 13 31.6	+1.9
PB15	**IPOC Station P**	**2.16**	**291⇑**	*e*P	Pn	21 13 01.1	+1.9
PB15				*e*S	S	21 13 34.0	+2.4
GO02	**Mina Guanaco**	**2.42**	**241⇑**	*e*P	Pn	21 13 03.4	+1.4
GO02				*e*S	S	21 13 39.0	+2.6
GO02				IAML		21 13 41.5	
comp=E,317nm,0.1s							
PB06	**IPOC Station P**	**2.47**	**301⇑**	*e*P	Pn	21 13 04.3	+1.8
PB06				*e*S	S	21 13 39.3	+2.1
PB06				IAML		21 13 42.0	
comp=N,127nm,0.1s							
PB09	**IPOC Station P**	**2.84**	**320**	*e*P	Pn	21 13 08.2	+1.7
PB09				*e*S	S	21 13 47.1	+2.5
PB09				IAML		21 13 49.3	
comp=N,39nm,0.5s							
PB05	**IPOC Station P**	**2.92**	**292⇑**	*e*P	Pn	21 13 09.4	+2.0
PB05				*e*S	S	21 13 48.1	+2.1
PB05				IAML		21 13 52.6	
comp=N,53nm,0.4s							
PB10	**IPOC Station P**	**3.05**	**278**	*e*P	Pn	21 13 10.8	+2.1
PB10				*e*S	S	21 13 51.2	+2.8
PB04	**IPOC Station P**	**3.12**	**301**	*e*P	Pn	21 13 11.7	+2.0
PB04				*e*S	S	21 13 52.6	+2.3
PB07	**IPOC Station P**	**3.30**	**312⇑**	*e*P	Pn	21 13 13.2	+1.4
PB07				*e*S	S	21 13 56.0	+1.9
PB01	**IPOC Station P**	**3.58**	**325**	*e*P	Pn	21 13 15.0	0.0
PB08	**IPOC Station P**	**4.21**	**335**	*e*P	Pn	21 13 24.7	+1.8
HMBC	**Humberstone**	**4.42**	**326**	*e*P	Pn	21 13 26.7	+1.5
PSGC	**Pisagua**	**5.11**	**328**	*i* P	Pn	21 13 35.2	+1.3

*IDC **09** 21:19:12.9±2.3, 37°.32N×78°.19E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/43, mbtmp3.7/8, ML3.1/3, Error ellipse: s-maj=41.0km s-min=29.3km az=158.0*
*SOME **09** 21:19:20.8, 37°.93N×78°.77E, h10km*
*NNC **09** 21:19:23.9±1.4, 37°.92N×78°.67E, h14km±9km, mb4.2, mpv3.9, Error ellipse: s-maj=14.9km s-min=9.5km az=81.0*
ISC 09 21:19:18.7±1.2, 37°.79N±0°.07×78°.51E±0°.06, h10km, n33, σ2º10/42, mb3.7/5, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.63**	**312**	Pn	**Pn**	**21 20 01.8**	**+0.5**
KSH				Sn	**Sn**	**21 20 32.6**	**-0.8**
KSH				smax	smax		
comp=N,140nm,0.5s							
KSH				smax	smax		
comp=E,120nm,0.4s							
IZV	**Izvestkoviy**	**5.44**	**345**	*e*P	**Pg**	**21 21 01.4**	**-1.4**
comp=E,8.4nm,0.6s							
IZV				*e*S	**Sg**	**21 22 13.9**	**+0.7**
comp=E,20nm,0.8s							
IZV	**Izvestkoviy**	**5.44**	**345**	Pg	**Pg**	**21 21 01.4**	**-1.4**
comp=E,8.4nm,0.6s							
IZV				Lg	Lg	21 22 13.9	
comp=E,20nm,0.8s							
MDOK	**Medeo**	**5.48**	**349**	*e*P	**Pg**	**21 21 01.8**	**-1.9**
comp=E,5.7nm,0.5s							
MDOK				*e*S	**Sg**	**21 22 14.8**	**+0.1**
comp=E,26nm,0.8s							
MDOK	**Medeo**	**5.48**	**349**	⇑Pg	**Pg**	**21 21 02.2**	**-1.4**
comp=E,13nm,0.6s							
MDOK				⇑Lg	Lg	21 22 14.8	
comp=E,33nm,0.7s							
KOTS	**Kotyrbulak**	**5.54**	**349**	*e*P	**Pg**	**21 21 03.0**	**-1.8**
comp=E,7.0nm,0.7s							
KOTS				*e*S	**Sg**	**21 22 16.8**	**+0.2**
comp=E,47nm,0.6s							
KOTS	**Kotyrbulak**	**5.54**	**349**	Pg	**Pg**	**21 21 03.0**	**-1.8**
comp=E,7.0nm,0.7s							
KOTS				Lg	Lg	21 22 16.8	
comp=E,47nm,0.6s							
KST	**Kastek**	**5.60**	**340**	*e*P	**Pg**	**21 21 03.5**	**-2.3**
comp=E,8.9nm,1.2s							
KST				*e*S	**Sg**	**21 22 17.5**	**-0.8**
comp=E,17nm,0.9s							
KST	**Kastek**	**5.60**	**340**	Pg	**Pg**	**21 21 03.5**	**-2.3**
comp=E,8.9nm,1.2s							
KST				Lg	Lg	21 22 17.5	
comp=E,17nm,0.9s							
KPKS	**Kokpek**	**5.67**	**1**	*e*P	**Pg**	**21 21 04.5**	**-2.8**
comp=E,12nm,0.4s							
KPKS				*e*S	**Sg**	**21 22 18.9**	**-1.9**
comp=E,35nm,0.5s							
AAK	**Ala-Archa**	**5.73**	**329**	Pg	**Pb**	**21 21 02.3**	**+3.4**
comp=E,0.8nm,0.3s,baz=337,slow=19,SNR=4.9							
AAK				Lg	Lg	21 22 17.6	
comp=E,0.8nm,0.3s,baz=184,slow=22,SNR=1.3							
DGS	**Degeres**	**5.83**	**340**	*e*P	**Pg**	**21 21 09.8**	**-0.6**
comp=E,14nm,0.7s							
DGS				*e*S	**Sg**	**21 22 28.1**	**+2.2**
comp=E,18nm,1.2s							
DGS	**Degeres**	**5.83**	**340**	Pg	**Pg**	**21 21 09.8**	**-0.6**
comp=E,14nm,0.7s							
DGS				Lg	Lg	21 22 28.1	
comp=E,18nm,1.2s							
KTBS	**Karatobe**	**6.08**	**347**	*e*P	**Pg**	**21 21 12.1**	**-2.9**
comp=E,5.9nm,0.6s							
KTBS				*e*S	**Sg**	**21 22 32.2**	**-1.6**
comp=E,26nm,0.7s							
CHKK	**Chushkaly**	**6.17**	**350**	*e*P	**Pg**	**21 21 15.3**	**-1.5**
comp=E,2.9nm,0.2s							
CHKK				*e*S	**Sg**	**21 22 37.9**	**+1.2**
comp=E,11nm,0.5s							
CHKK	**Chushkaly**	**6.17**	**350**	Pg	**Pg**	**21 21 15.2**	**-1.6**
comp=E,2.9nm,0.2s							
CHKK				Lg	Lg	21 22 37.9	
comp=E,11nm,0.5s							
MRKS	**Merke**	**6.39**	**322**	*e*P	**Pg**	**21 21 20.4**	**-0.6**
comp=E,3.8nm,0.5s							
MRKS				*e*S	**Sg**	**21 22 46.5**	**+2.8**
comp=E,13nm,0.7s							
MRKS	**Merke**	**6.39**	**322**	Pg	**Pg**	**21 21 20.4**	**-0.6**
comp=E,3.8nm,0.5s							
MRKS				Lg	Lg	21 22 46.5	
comp=E,13nm,0.7s							
ARXS	**Arharly**	**6.44**	**356**	*e*P	**Pg**	**21 21 17.9**	**-4.0**
comp=E,8.6nm,0.8s							
ARXS				*e*S	**Sg**	**21 22 42.1**	**-3.2**
comp=E,15nm,1.1s							
ARXS	**Arharly**	**6.44**	**356**	Pg	**Pg**	**21 21 18.1**	**-3.9**
comp=E,9.1nm,0.7s							
ARXS				Lg	Lg	21 22 42.1	
comp=E,15nm,1.1s							
WMQ	**Urumqi**	**9.21**	**46**	*e*P	Pn	21 21 37.9	+6.3
WMQ				smax	smax		
comp=N,33nm,0.9s							
WMQ				smax	smax		
comp=E,26nm,0.9s							
MK31	**Makanchi Array**	**9.42**	**16**	Pn	**Pn**	**21 21 36.6**	**+2.1**
comp=E,2.9nm,0.9s,baz=198,slow=13,SNR=26							
MK31				⇓Sn	**Sn**	**21 23 22.4**	**+1.9**
comp=E,3.2nm,0.7s,baz=139,slow=18,SNR=6.4							
MKAR	**Makanchi Array**	**9.42**	**16**	Pn	**Pn**	**21 21 37.0**	**+2.5**
comp=E,0.5nm,0.3s,baz=198,slow=12,SNR=26							
MKAR				Sn	**Sn**	**21 23 23.3**	**+2.8**
comp=E,0.4nm,0.3s,baz=197,slow=24,SNR=6.0							
KURBB	**Kurchatov Arra**	**12.83**	**0**	Lg	Lg	21 26 09.0	
comp=E,0.1nm,0.3s,baz=175,slow=33,SNR=2.4							
GTA	**Gaotai**	**16.73**	**78**	*e*P	**P**	**21 23 17.7**	**+2.1**
GTA				pP	sP	21 23 22.6	+2.3
GTA				sP	pP	21 23 25.8	+7.0
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
ZALV	**Zalesovo Beam**	**16.74**	**13**	Pn	**P**	**21 23 16.4**	**+1.1**
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=1.6							
AKTO	**Aktyubinsk**	**19.32**	**317**	P	**P**	**21 23 41.8**	**-2.1**
comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=3.7							
SONM	**Songino Array**	**22.68**	**55**	P	**P**	**21 24 21.3**	**+1.0**
comp=Z,1.0nm,0.7s,baz=255,slow=10,SNR=3.6							
FINES	**FINESS Array B**	**39.89**	**324**	P	**P**	**21 26 50.1**	**-2.2**
comp=Z,1.4nm,0.6s,baz=116,slow=9.1,SNR=11							
ARCES	**ARCESS Array B**	**42.36**	**335**	P	**P**	**21 27 11.2**	**-1.5**
comp=Z,1.2nm,0.8s,baz=102,slow=8.6,SNR=7.2							
NB2	**NORSAR Subarra**	**47.01**	**322**	P	P	21 27 46.7	-3.1
comp=Z,0.7nm,0.6s,baz=98,slow=7.4							
NOA	**NORSAR Array B**	**47.01**	**322**	P	**P**	**21 27 47.3**	**-2.6**
comp=Z,0.6nm,0.5s,baz=90,slow=7.7,SNR=2.3							
TORD	**Torodi Ar. Bea**	**71.70**	**273**	P	P	21 30 35.1	-6.1
comp=Z,0.5nm,0.7s,baz=47,slow=5.3,SNR=1.6							

IDC 09 21:24:26.0±52.0, 23°.74S×176°.67W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/23, mbtmp3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/26, Error ellipse: s-maj=963.5km s-min=184.3km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.61**	**191**	LR	LR	21 27 23.1	
comp=Z,56nm,19.2s,baz=41,slow=32							
STKA	**Stephens Creek**	**37.61**	**248**	P	P	21 31 43.5	+0.8
1.9nm,1.0s,baz=108,slow=9.6,SNR=3.2							
ASAR	**Alice Springs**	**45.07**	**260**	P	P	21 32 44.0	-0.1
0.2nm,0.4s,baz=99,slow=8.1,SNR=4.8							
WRA	**Warramunga Arr**	**45.46**	**265**	P	P	21 32 46.5	-0.7
1.0nm,0.7s,baz=106,slow=8.2,SNR=30							

*IDC **09** 21:41:43.5±1.2, 23°.85N×122°.18E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/44, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=74.3km s-min=20.7km az=68.0*
*NEIC **09** 21:41:44.2±1.8, 23°.74N±0°.03×122°.54E±0°.02, h9km±4km, mb4.2/5, Error ellipse: s-maj=4.7km s-min=1.8km az=166.0*
*JMA **09** 21:41:46.5±0.2, 23°.84N×122°.47E, h18km±4km, M3.9*
*TAP **09** 21:41:47.7, 23°.85N×122°.46E, h29km, ML4.1, D*
ISC 09 21:41:46.1±1.1, 23°.82N±0°.02×122°.47E±0°.02, h18km±5km, n150, σ0º78/215, mb3.8/9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.76**	**34**	P	**Pb**	**21 42 00.8**	**0.0**
JYNG				S	**Sb**	**21 42 10.1**	**-0.8**
TEYL	**Yanliau Villag**	**0.80**	**274**	P	**Pg**	**21 42 02.3**	**+0.5**
baz=272							
TEYL				S	**Sn**	**21 42 14.5**	**+0.5**
baz=272							
YOJ	**Yonaguni jima**	**0.81**	**37**	P	**Pb**	**21 42 01.6**	**0.0**
YOJ				S	**Sb**	**21 42 10.9**	**-1.2**
YOJ	**Yonaguni jima**	**0.81**	**37**		**Pb**	**21 42 01.5**	**-0.1**
YOJ				Sg	**Sb**	**21 42 11.2**	**-0.9**
HWA	**Hwalien**	**0.81**	**281**	*e*P	**Pb**	**21 42 01.4**	**-0.3**
baz=266							
HWA				*e*S	**Sn**	**21 42 14.0**	**-0.2**
baz=266							
TWD	**Chiawan**	**0.84**	**288**	*i* P	**Pb**	**21 42 01.9**	**-0.3**
baz=284							
TWD				*i* S	**Sg**	**21 42 13.7**	**0.0**
baz=284							
ETL	**Fush Village**	**0.85**	**294**	P	**Pb**	**21 42 02.5**	**+0.2**
baz=278							
TEGC	**Jichi Village**	**0.86**	**263**	*e*P	**Pg**	**21 42 03.2**	**+0.2**
baz=259							
TEGC				*e*S	**Sg**	**21 42 15.0**	**+0.7**
baz=259							
NACB	**Ninganchiao**	**0.88**	**294**	P	**Pb**	**21 42 02.8**	**0.0**
baz=291							
NACB				S	**Sg**	**21 42 15.2**	**+0.3**
baz=291							
NACB	**Ninganchiao**	**0.88**	**294**		**Pb**	**21 42 02.9**	**0.0**
NACB				Sg	**Sg**	**21 42 14.8**	**-0.1**
EWUT	**Wuta**	**0.89**	**315**	P	**Pn**	**21

ECBN	Changbin	1.06 242	P		Pb	21 42 05.8 -0.2
	baz=226					
ECBN			eS		Sb	21 42 19.1 -0.5
	baz=226					
NDS	Dongshan	1.07 320	P		Pg	21 42 06.5 -0.2
	baz=327					
EHY	Hungye	1.10 254	P		Pn	21 42 06.6 -0.1
	baz=251					
ILA	Ilan	1.15 325	P		Pg	21 42 08.2 -0.1
	baz=324					
WHF	Hehuan Shan	1.15 287	P		Pb	21 42 07.5 -0.2
	baz=272					
EYUL	Yuli	1.16 246	P		Pn	21 42 07.5 +0.1
	baz=243					
EYUL			eS		Sb	21 42 22.6 +0.3
	baz=243					
YULB	Yu-li	1.16 249	P		Pn	21 42 07.4 -0.1
	baz=245					
YULB			eS		Sb	21 42 21.8 -0.6
	baz=245					
YULB	Yu-li	1.16 249			Pn	21 42 07.2 -0.3
YULB					Sb	21 42 22.2 -0.1
TWE	Neicheng	1.16 321	P		Pg	21 42 08.1 -0.5
	baz=320					
ENTT	Nioudou	1.16 315	P		Pb	21 42 08.0 +0.3
	baz=300					
NNSB	Datong	1.17 302	P		Pn	21 42 07.8 +0.1
	baz=299					
NNSH	Datong	1.17 302	P		Pn	21 42 07.8 +0.1
	baz=290					
NDT	Datong Townshi	1.17 312	P		Pb	21 42 08.2 +0.4
	baz=310					
TWF1	Yuli	1.18 247	P		Pn	21 42 07.7 0.0
	baz=243					
TWF1			eS		Sb	21 42 22.7 -0.1
	baz=243					
NNS	Nan Shan	1.18 302	P		Pn	21 42 08.0 +0.1
	baz=289					
NTC	Toucheng	1.19 330	P		Pg	21 42 08.8 -0.3
	baz=329					
OWD	Renai	1.20 277	P		Pn	21 42 08.0 0.0
	baz=273					
OWD			eS		Sb	21 42 23.4 -0.1
	baz=273					
FUSS	Fushou	1.20 291	P		Pn	21 42 08.4 +0.1
	baz=278					
CHGB	Renai	1.21 282	P		Pn	21 42 08.2 -0.1
	baz=268					
CHGB			eS		Sb	21 42 23.4 -0.7
	baz=268					
HATJ	Hateruma jima	1.24 79	P		Pn	21 42 09.1 +0.6
HATJ			S		Sb	21 42 24.8 +0.2
CHKT	Chengkung	1.25 235	eP		Pn	21 42 08.1 -0.4
	baz=222					
FULB	Fuli	1.25 241	P		Pn	21 42 08.4 -0.3
	baz=226					
FULB			eS		Sb	21 42 24.1 -0.8
	baz=226					
IRIF	Iriomote-Funau	1.26 66	P		Pb	21 42 09.6 +0.3
IRIF			S		Sn	21 42 25.6 +0.4
TWB1	Santiao Chiao	1.26 340	eP		Pg	21 42 10.6 +0.1
	baz=339					
TDCB	Techi	1.28 290	P		Pn	21 42 09.6 +0.4
	baz=286					
TDCB			eS		Sn	21 42 26.1 +0.2
	baz=286					
TIPB	Shuangxi	1.29 333	P		Pg	21 42 10.6 -0.5
	baz=330					
TIPB			eS		Sg	21 42 27.9 0.0
	baz=330					
NWLT	Wulai	1.30 317	P		Pb	21 42 10.2 +0.1
	baz=302					
YHNB	Yeheng	1.31 310	P		Pb	21 42 10.1 -0.2
	baz=308					
YHNB	Yeheng	1.31 310			Pb	21 42 10.1 -0.2
YHNB					Sg	21 42 28.8 +0.2
NSK	Sanguang	1.33 310	P		Pn	21 42 10.1 +0.3
	baz=308					
ECS	Chishang	1.36 238	eP		Pn	21 42 10.7 +0.6
	baz=226					
EDH	Donghe	1.37 232	eP		Pn	21 42 09.3 -1.0
	baz=220					
SSLB	Suanglung	1.39 269	P		Pn	21 42 10.7 0.0
	baz=266					
SSLB	Suanglung	1.39 269			Pn	21 42 10.1 -0.6
SSLB				Sn	Sn	21 42 27.5 -1.1
NWF	Wu-fen Shan	1.40 333	eP		Pb	21 42 11.4 -0.3
	baz=332					
WFSB	Wu-fen Shan	1.40 333	eP		Pb	21 42 11.4 -0.3
	baz=332					
TWA	Mucha	1.41 325	P		Pb	21 42 12.4 +0.5
	baz=324					
NHDH	Xindian Distri	1.43 323	P		Pb	21 42 12.7 +0.5
	baz=320					
NHDH			eS		Sg	21 42 31.7 -0.6
	baz=320					
DPDB	Guoxing	1.43 279	P		Pn	21 42 11.9 +0.6
	baz=276					
SMLT	Sun Moon Lake	1.44 273	P		Pn	21 42 12.1 +0.7
	baz=260					
WCS	Beigang Elemen	1.45 280	P		Pn	21 42 12.2 +0.9
	baz=277					
TATO	Taipei	1.46 322			Pb	21 42 12.7 0.0
TATO				Sn	Sg	21 42 32.6 -0.7
JKRS	Kuro-shima	1.46 73	P		Pn	21 42 12.3 +0.7
JKRS			S		Sb	21 42 31.8 +0.7
LDUT	Ludao	1.47 219	P		Pn	21 42 11.2 -0.5
	baz=217					
WHP	Taichung City	1.47 288	P		Pb	21 42 13.4 +0.4
	baz=277					
ELDTW	Lidau	1.48 245	eP		Pn	21 42 11.8 -0.1
	baz=242					
TYC	Yuchr	1.48 274	P		Pn	21 42 12.4 +0.5
	baz=271					
WHYT	Xinyi Township	1.49 266	eP		Pn	21 42 13.0 +1.0
	baz=256					
TAP1	Taipei	1.49 325	eP		Pb	21 42 13.3 +0.1
	baz=323					
TAP	Taipei	1.50 324	eP		Pb	21 42 13.8 +0.4
	baz=323					
LONT	Longtian	1.53 234	eP		Pn	21 42 13.2 +0.6
	baz=223					
LONT			eS		Sn	21 42 31.9 -0.2
	baz=223					
YM01	YM01	1.56 328	eP		Pb	21 42 14.4 0.0
	baz=343					
NJD	Zhudong	1.56 306	P		Pb	21 42 15.2 +0.7
	baz=302					
NJD			eS		Sg	21 42 36.2 -0.3
	baz=302					
ALS	Alishan	1.56 259	eP		Pn	21 42 14.1 +0.9
	baz=255					
ALS			eS		Sn	21 42 33.3 +0.2
	baz=255					
LIOB	Emei	1.56 302	P		Pb	21 42 15.0 +0.5
	baz=299					
NSTT	Nanjuang	1.57 301	P		Pb	21 42 14.8 +0.3
	baz=299					
YM08	YM08	1.58 330	eP		Pn	21 42 14.0 +0.7
	baz=329					
TWS1	Kuangyinshan	1.60 323	eP		Pb	21 42 14.9 -0.1
	baz=322					
WJS	Zhushan	1.60 270	P		Pb	21 42 15.7 +0.6
	baz=268					
ANP	Anpu	1.61 328	eP		Pb	21 42 15.0 -0.4
	baz=327					
JIJ	Ishigaki jima	1.62 70	P		Pn	21 42 14.8 +1.1
JIJ			S		Sb	21 42 35.4 -0.1
TWGBT	Beinan	1.62 232	P		Pn	21 42 13.9 +0.1
	baz=229					
TWGBT			S		Sn	21 42 33.9 -0.4
	baz=229					
TWG	Pinlang	1.63 233	P		Pn	21 42 14.0 +0.1
	baz=229					
TWG			eS		Sn	21 42 34.0 -0.4
	baz=229					
TWG	Pinlang	1.63 233			Pn	21 42 13.1 -0.8
TWG				Sn	Sn	21 42 33.2 -1.2
HSN1	Hsinchu	1.64 306	P		Pb	21 42 16.2 +0.5
	baz=303					
WNT	Mingjian	1.64 272	P		Pb	21 42 16.1 +0.3
	baz=269					
WWF	Wufeng	1.64 278	P		Pb	21 42 16.7 +0.9
	baz=266					
TWQ1	Liyutan	1.64 289	P		Pb	21 42 15.9 0.0
	baz=284					
TWQ1			eS		Sb	21 42 37.3 +1.1
	baz=284					
WNT1	Nantou City	1.65 273	P		Pb	21 42 16.8 +0.9
	baz=269					
WNT1			eS		Sg	21 42 39.1 -0.1
	baz=269					
CHN5	Tsauling	1.66 263	eP		Pb	21 42 16.3 +0.1
	baz=260					
SBCB	Hsinchu	1.67 306	eP		Pb	21 42 16.4 +0.1
	baz=303					
NSY	Sanyi	1.67 291	P		Pb	21 42 16.9 +0.5
	baz=288					
TCU	Taichung	1.68 282	P		Pg	21 42 18.0 -0.3
	baz=277					
TCU			eS		Sg	21 42 39.0 -1.2
	baz=277					
HSN	Hsinchu	1.69 306	eP		Pb	21 42 16.8 +0.2
	baz=305					
STYH	Taoyuan	1.69 248	eP		Pn	21 42 15.8 +1.1
	baz=235					
NMLH	Miaoli	1.69 295	P		Pb	21 42 16.8 +0.1
	baz=291					
NMLH			eS		Sb	21 42 38.8 +1.0
	baz=291					
NJN	Zhunan	1.70 301	eP		Pb	21 42 17.5 +0.7
	baz=315					
STYT	Tauyuan	1.71 248	eP		Pn	21 42 16.1 +1.1
	baz=236					
STYT			eS		Sn	21 42 37.2 +0.8
	baz=236					
WDJ	Dajia District	1.76 288	eP		Pb	21 42 17.6 -0.2
	baz=283					
WDJ			eS		Sb	21 42 40.8 +1.3
	baz=283					
WGK	Gukeng	1.76 266	eP		Pb	21 42 17.8 0.0
	baz=262					
WGK			eS		Sb	21 42 40.4 +0.9
	baz=262					
TPUB	Ta-pu	1.77 253	eP		Pb	21 42 17.7 -0.3
	baz=242					
TPUB			eS		Sb	21 42 40.1 +0.2
	baz=242					
TPUB	Ta-pu	1.77 253			Pb	21 42 17.8 -0.3
TPUB					Sb	21 42 40.0 +0.1
WCHH	Zhanghua	1.77 279	eP		Pb	21 42 18.2 +0.2
	baz=275					
WDLH	Douliu	1.78 266	eP		Pb	21 42 18.9 +0.8
	baz=263					
CHN4	Tsaushan	1.79 255	eP		Pb	21 42 18.4 +0.1
	baz=242					
CHN4			eS		Sb	21 42 41.7 +1.3
	baz=242					
WTP	Ta-pu	1.80 252	eP		Pb	21 42 18.1 -0.4
	baz=248					
WTP			eS		Sb	21 42 41.5 +0.7
	baz=248					
JISG	Ishigakijimahi	1.84 65	P		Pn	21 42 17.7 +0.9
JISG			eS		Sn	21 42 38.9 -0.8
ECL	Taimali	1.85 229	eP		Pn	21 42 16.6 -0.4
	baz=237					
CHN2	Minshiung	1.85 262	eP		Pb	21 42 19.7 +0.3
	baz=257					
CHN2			eS		Sb	21 42 43.7 +1.4
	baz=257					
SLGT	Liugui	1.87 244	eP		Pb	21 42 19.1 -0.6
	baz=234					
SLGT			eS		Sb	21 42 43.2 +0.4
	baz=234					
SGST	Jiashian	1.89 247	eP		Pn	21 42 18.6 +1.2
	baz=244					
SGST			eS		Sn	21 42 42.5 +1.8
	baz=244					
CHN1	Nanshi	1.90 251	P		Pb	21 42 19.6 -0.5
	baz=247					
CHN1			eS		Sb	21 42 45.2 +1.7
	baz=247					
TWK	Hsinying	1.90 254	P		Pb	21 42 20.0 -0.4
	baz=249					
TWK			S		Sb	21 42 45.4 +1.5
	baz=249					
CHY	Chiayi	1.91 261	eP		Pb	21 42 19.9 -0.5
	baz=256					
CHY			eS		Sb	21 42 44.1 +0.2
	baz=256					
WTK	Tuku	1.92 266	eP		Pb	21 42 20.5 0.0
	baz=262					
WTK			eS		Sb	21 42 45.9 +1.8
	baz=262					
WRL	Guolierlin Hig	1.92 273	eP		Pb	21 42 19.9 -0.7
	baz=259					
SSD	Sandimen	2.00 238	eP		Pn	21 42 20.1 +1.0
	baz=228					
TSMG	Majia	2.02 237	eP		Pn	21 42 20.1 +1.0
	baz=227					
ICHU	Yijhu	2.06 258	eP		Pb	21 42 23.0 0.0
	baz=253					
ICHU			eS		Sb	21 42 48.9 +0.6
	baz=253					
EAST	Anshuo	2.07 227	eP		Pn	21 42 19.9 0.0
	baz=224					
WSF	Szhu	2.07 265	eP		Pb	21 42 22.5 -0.6
	baz=261					
WSF			eS		Sb	21 42 49.4 +0.8
	baz=261					
CHN3	Shinhua	2.07 250	eP		Pb	21 42 23.9 +0.7
	baz=246					
MASBT	Mashibuluo	2.08 235	eP		Pn	21 42 21.2 +1.2
	baz=225					
CHN8	Yiju	2.13 258	eP		Pn	21 42 22.5 +1.8
	baz=253					
CHN8			eS		Sb	21 42 50.1 -0.1
	baz=253					
JTJ	Tarama	2.19 68	P		Pn	21 42 23.0 +1.4
JTJ			eS		Sn	21 42 50.1 +1.8
SLIU	Shizi	2.22 224	eP		Pn	21 42 22.9 +0.9
	baz=230					
SCZT	Fangliau	2.23 230	eP		Pn	21 42 22.7 +0.5
	baz=220					
PHUB	P'eng-hu	2.68 264	eP		Pn	21 42 29.7 +1.4
	baz=259					
PHUB			eS		Sn	21 43 01.1 +0.8
	baz=259					
PNG	Penghu	2.69 265	eP		Pn	21 42 29.7 +1.3
	baz=260					
PNG			eS		Sn	21 43 01.3 +0.8
	baz=260					
VCHM	Qimei	2.86 258	eP		Pn	21 42 32.2 +1.4
	baz=253					
VCHM			eS		Sn	21 43 04.7 -0.1
	baz=253					
VWUC	VWUC	2.99 294	eP		Pn	21 42 32.9 +0.2
	baz=290					
PTMZ	Houxiangcun	3.29 292	eP		Pn	21 42 38.2 +1.5
	baz=287					
PTMZ			eS		Sn	21 43 14.7 -0.6
	baz=287					
LYJJ	Jianjiangzhen	3.67 318	eP		Pn	21 42 41.7 -0.1
	baz=319					
KNM	Kinmen	3.74 280	eP		Pn	21 42 45.3 +2.4
	baz=275					
KNMB	Chin-men Tao	3.79 281	eP		Pn	21 42 44.0 +0.5
	baz=276					
KNMB	Chin-men Tao	3.79 281	Pn		Pn	21 42 43.5 0.0
KNMB			Sn		Sn	21 43 25.6 -2.1
MHZQ	Yeshan	3.86 307	eP		Pn	21 42 44.9 +0.3
	baz=305					
AXDP	Jialang	4.25 286	eP		Pn	21 42 51.2 +1.3
	baz=280					
ZPLA	Ao Xicun	4.33 272	eP		Pn	21 42 51.6 +0.6
	baz=267					
JOW	Kunigami	6.04 59	Pn		Pn	21 43 14.2 -0.5
KSRS	Korea Array	14.37 18	Pn		Pn	21 45 10.6 +2.0
	0.3nm,0.3s,baz=199,slow=11,SNR=1.6					
SONM	Songino Array	27.17 336	P		P	21 47 27.3 -1.3
	0.8nm,0.6s,baz=147,slow=8.6,SNR=3.8					
SONM	Songino Array	27.17 336	IAmb		IAmb	21 47 29.8
	comp=Z,3.2nm,1.5s					
MTN	Manton Dam	37.41 166	P		P	21 48 54.7 -3.5
MK31	Makanchi Array	39.42 316	P		P	21 49 15.2 +0.2
MK31			IAmb		IAmb	21 49 16.5
	comp=Z,3.6nm,1.2s					
MKAR	Makanchi Array	39.42 316	P		P	21 49 14.3 -0.6
	comp=Z,2.0nm,0.9s,baz=101,slow=10,SNR=12					
ZALV	Zalesovo Beam	41.19 327	P		P	21 49 28.3 -1.2
	comp=Z,1.0nm,0.7s,baz=106,slow=9.2,SNR=2.6					
WRA	Warramunga Arr	45.01 164	P		P	21 50 01.2 +0.5
	comp=Z,0.6nm,0.7s,baz=344,slow=8.6,SNR=2.9					
KK31	Karatay Array	46.63 307	P		P	21 50 14.8 +1.4
KK31			IAmb		IAmb	21 50 18.3
	comp=Z,3.9nm,1.4s					
KKAR	Karatay Array	46.63 307	P		P	21 50 13.8 +0.5
KKAR			IAmb		IAmb	21 50 18.3
	comp=Z,3.9nm,1.4s					
KKAR	Karatay Array	46.63 307	P		P	21 50 14.2 +0.8
ASAR	Alice Springs	48.49 166	P		P	21 50 29.6 +1.6
	comp=Z,0.6nm,0.8s,baz=344,slow=9.6,SNR=4.7					
FINES	FINESS Array B	72.35 330	P		P	21 53 08.6 -2.0
	comp=Z,1.0nm,0.7s,baz=30,slow=8.8,SNR=4.2					

NEIC 09 21:43:35.7±0.7,35°.85N±0°.01×97°.46W±0°.02,h4km±7km, mb_Lg2.6/31,Error ellipse: s-maj=2.6km s-min=0.5km az=130.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.05	174		Pg	21 43 36.6	-0.2
OK029				Sg	Sg	21 43 37.4	-0.3
BCOK	Bluff Creek, N	0.23	212		Pg	21 43 40.0	0.0
BCOK				Sg	Sg	21 43 43.2	+0.2
OK009	Oakdale Elemen	0.27	173		Pg	21 43 40.6	-0.2
OK009				Sg	Sg	21 43 44.5	+0.2
OK025	Westminster Rd	0.28	159		Pg	21 43 40.8	-0.3
OK025				Sg	Sg	21 43 44.7	-0.1
OK005	Luther M Schoo	0.29	131	Pg	Pg	21 43 41.4	+0.1
OK005				Sg	Sg	21 43 45.2	0.0
OK001	Jones High Sch	0.32	154	Pg	Pg	21 43 41.6	-0.2
OK001				Sg	Sg	21 43 45.9	-0.1
OKCFA	Oklahoma City	0.43	179		Pg	21 43 43.6	-0.4
OKCFA				Sg	Sg	21 43 49.5	0.0
OKCSW	OKLAHOMA CITY	0.44	178		Pg	21 43 43.8	-0.4
OKCSW				Sg	Sg	21 43 50.0	+0.1
OK031	S. Brethren Rd	0.52	78		Pg	21 43 45.6	+0.1
OK031				Sg	Sg	21 43 52.6	+0.3
FNO	Franklin	0.59	175		Pg	21 43 46.5	-0.5
FNO				Sg	Sg	21 43 54.6	-0.1
QUOK	Quay	0.69	62		Pg	21 43 48.9	0.0
QUOK				Sg	Sg	21 43 58.2	+0.3
CROK	Carrier	0.78	327		Pg	21 43 51.1	+0.5
BLOK	Blackwell	0.93	12		Pg	21 43 53.7	+0.1
GC02	Grant County #	1.05	342	Pg	Pg	21 43 55.8	-0.1
OK032	Salt Plains WL	1.13	328		Pg	21 43 57.1	-0.3
KAN13	South Haven SW	1.16	359		Pg	21 43 58.0	0.0
KAN17	Caldwell West	1.22	349		Pg	21 43 58.9	-0.1
X34A	Smith Ranch, M	1.28	194		Pg	21 43 59.5	-0.7
KAN09	Caldwell North	1.29	354		Pg	21 44 00.4	-0.1
KAN05	Bluff City Nor	1.30	345		Pg	21 44 00.5	-0.1
T35A	Sooner Cattle	1.31	35		Pn	21 44 00.2	-0.6
U32A	Winter Ranch,	1.35	293		Pn	21 44 00.9	-0.5
KAN10	Anthony SW Sta	1.37	338		Pn	21 44 01.4	-0.2
KS20	Mayfield South	1.38	357		Pn	21 44 01.7	-0.1
KAN08	Anthony NE Sta	1.44	344	Pn	Pb	21 44 02.8	-0.2
KAN12	Harper NE Stat	1.51	344	Pn	Pb	21 44 04.0	-0.3
WMOK	Wichita Mounta	1.55	225		Pn	21 44 03.8	-0.3
LOOK	Love County	1.87	173	Pn	Pn	21 44 08.4	0.0
LOOK				IAmb_Lg		21 44 39.5	
	comp=Z,28nm,0.8s						
X37A	Clayton	2.12	126		Pn	21 44 12.1	+0.1
X37A				IAmb_Lg		21 44 44.1	
	comp=Z,37nm,0.9s						
Z35A	Perchaven, San	2.52	176	Pn	Pn	21 44 17.4	+0.1
U38A	Gravette	2.56	76	Pn	Pn	21 44 19.5	+1.5
R32A	Long Quarter,	2.76	339	Pn	Pn	21 44 22.1	+1.4
HHAR	Hobbs	2.89	80	Pn	Pn	21 44 23.3	+0.8
W39A	Magazine	3.07	101	Pn	Pn	21 44 25.1	+0.1
W39A				IAmb_Lg		21 45 13.1	
	comp=Z,13nm,0.8s						
Z38A	Mt. Pleasant	3.29	141	IAmb_Lg		21 45 24.8	
	comp=Z,14nm,0.7s						
MIAR	Mount Ida	3.44	111	IAmb_Lg		21 45 31.2	
	comp=Z,14nm,1.0s						
AMTX	Amarillo	3.58	256	Pn	Pn	21 44 33.0	+0.9
AMTX				IAmb_Lg		21 45 32.5	
	comp=Z,11nm,0.7s						
ABTX	Abilene, Hawle	3.69	210	Pn	Pn	21 44 34.1	+0.6
ABTX				IAmb_Lg		21 45 34.1	
	comp=Z,13nm,0.8s						
U40A	Yellville	3.77	81	Pn	Pn	21 44 35.2	+0.6
S39A	Bolivar	3.80	60	Pn	Pn	21 44 35.0	0.0
S39A				IAmb_Lg		21 45 39.9	
	comp=Z,14nm,0.7s						
X40A	Basin Creek Fa	4.03	108	Pn	Pn	21 44 37.8	-0.3
X40A				IAmb_Lg		21 45 43.1	
	comp=Z,9.3nm,0.7s						
WHAR	Wooly Hollow	4.25	96	Pn	Pn	21 44 42.0	+0.8
MGMO	Mountain Grove	4.38	71	IAmb_Lg		21 45 53.5	
	comp=Z,14nm,0.8s						
R40A	Maddies Statio	4.81	58	Pn	Pn	21 44 49.6	+0.7
R40A				IAmb_Lg		21 46 14.6	
	comp=Z,12nm,0.8s						
P38A	Dawn	4.89	38	IAmb_Lg		21 46 10.1	
	comp=Z,17nm,1.1s						
LCAR	Lake Charles	5.12	86	IAmb_Lg		21 46 16.6	
	comp=Z,6.8nm,0.9s						
P40A	Paris	5.65	48	IAmb_Lg		21 46 38.7	
	comp=Z,13nm,0.7s						
T25A	Trinidad	5.75	285	IAmb_Lg		21 46 49.4	
	comp=Z,10nm,0.9s						
OGNE	Ogallala	6.23	326	Pn	Pn	21 45 06.5	-1.9
OGNE				IAmb_Lg		21 46 58.6	
	comp=Z,13nm,0.8s						
GLAT	Glass	6.63	84	Pn	Pn	21 45 13.0	-0.9
SDCO	Great Sand Dun	6.72	289	Pn	Pn	21 45 15.9	+0.4
SIUC	Southern Illin	6.87	72	IAmb_Lg		21 47 09.3	
	comp=Z,13nm,0.9s						

JMA 09 21:44:09.5±0.2,23°.86N×122°.45E,h21km±4km,M3.0
TAP 09 21:44:10.0,23°.84N×122°.51E,h51km±1km,ML3.5,D
ISC 09 21:44:08.3±1.1,23°.79N±0°.02×122°.49E±0°.02,h17km±9km, n102,σ0°69/157,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.78	32	P	Pb	21 44 23.5	+0.2
JYNG				S	Sb	21 44 33.0	-0.6
YOJ	Yonaguni jima	0.82	35	P	Pb	21 44 24.3	+0.3
YOJ				S	Sb	21 44 34.0	-0.8
TWD	Chiawan	0.87	289	P	Pg	21 44 25.4	+0.2
	baz=287						
TWD				S	Sb	21 44 36.3	+0.1
	baz=287						
ETL	Fush Village	0.87	295	P	Pn	21 44 26.1	+0.3
	baz=292						
NACB	Ninganchiao	0.90	295	P	Pb	21 44 25.6	+0.1
	baz=292						
NACB				S	Sg	21 44 37.8	+0.1
	baz=292						
EWUT	Wuta	0.92	315	P	Pg	21 44 26.5	+0.4
	baz=321						
EWUT				S	Sn	21 44 39.4	+0.1
	baz=321						
ETM	Tongmen	0.93	281	eP	Pb	21 44 26.1	+0.1
	baz=275						
ESL	Shilin	0.97	271	eP	Pb	21 44 26.3	-0.3
	baz=269						
EGFH	Guangfu	0.98	263	P	Pn	21 44 27.5	+0.2
	baz=252						
EGFH				S	Sn	21 44 40.3	-0.6
	baz=252						
TWC	Suao	1.00	324	*i* P	Pn	21 44 27.4	-0.1
	baz=323						
TWC				*i* S	Sb	21 44 39.8	-0.2
	baz=323						
ETLH	Xiulin Townshi	1.01	294	P	Pb	21 44 27.5	+0.1
	baz=292						
ETLH				eS	Sb	21 44 40.8	+0.4
	baz=292						
HGSD	Ruisui	1.02	253	eP	Pb	21 44 27.8	+0.2
	baz=251						
HGSD				eS	Sb	21 44 40.9	+0.1
	baz=251						
ECBN	Changbin	1.07	244	eP	Pb	21 44 28.6	+0.3
	baz=233						
ECBN				eS	Sb	21 44 41.6	-0.3
	baz=233						
NDS	Dongshan	1.09	320	eP	Pg	21 44 29.5	0.0
	baz=319						
NDS				eS	Sn	21 44 43.4	-0.2
	baz=319						
EHY	Hungye	1.11	255	eP	Pb	21 44 29.4	+0.3
	baz=253						
EHY				eS	Sb	21 44 43.3	+0.1
	baz=253						

EYUL	**Yuli** baz=246	**1.16 248**	*e*P	**Pb**	**21 44 30.1**	**+0.2**
EYUL	baz=246		S	**Sn**	**21 44 45.4**	**+0.1**
YULB	**Yu-li** baz=248	**1.17 250**	P	**Pb**	**21 44 30.3**	**+0.3**
YULB	baz=248		*e*S	**Sb**	**21 44 44.2**	**-0.7**
WHF	**Hehuan Shan** baz=277	**1.17 288**	P	**Pn**	**21 44 30.4**	**0.0**
TWF1	**Yuli** baz=246	**1.18 248**	P	**Pb**	**21 44 30.6**	**+0.3**
TWF1	baz=246		*e*S	**Sn**	**21 44 45.7**	**-0.1**
TWE	**Neicheng** baz=320	**1.19 321**	P	**Pb**	**21 44 30.7**	**+0.3**
TWE	baz=320		*e*S	**Sg**	**21 44 46.4**	**-0.5**
ENTT	**Nioudou** baz=314	**1.19 315**	*e*P	**Pg**	**21 44 31.1**	**-0.2**
ENTT	baz=314		*e*S	**Sn**	**21 44 45.7**	**-0.4**
NNSB	**Datong** baz=300	**1.19 302**	P	**Pb**	**21 44 30.8**	**+0.2**
NNSH	**Datong** baz=300	**1.19 302**	*e*P	**Pb**	**21 44 30.7**	**+0.2**
NDT	**Datong Townshi** baz=311	**1.20 312**	*e*P	**Pb**	**21 44 30.7**	**+0.1**
NNS	**Nan Shan** baz=300	**1.21 302**	P	**Pb**	**21 44 30.8**	**+0.1**
OWD	**Renai** baz=276	**1.21 278**	*e*P	**Pb**	**21 44 30.9**	**0.0**
OWD	baz=276		*e*S	**Sb**	**21 44 46.2**	**-0.2**
FUSS	**Fushou** baz=291	**1.23 292**	P	**Pb**	**21 44 31.3**	**+0.1**
FUSS	baz=291		*e*S	**Sb**	**21 44 46.7**	**-0.1**
CHGB	**Renai** baz=281	**1.23 283**	*i* P	**Pn**	**21 44 31.0**	**+0.1**
CHGB	baz=281		*e*S	**Sb**	**21 44 45.9**	**-1.1**
CHKT	**Chengkung** baz=227	**1.24 236**	*e*P	**Pn**	**21 44 30.7**	**-0.2**
CHKT	baz=227		S	**Sb**	**21 44 45.7**	**-1.4**
FULB	**Fuli** baz=231	**1.25 242**	*e*P	**Pn**	**21 44 31.3**	**+0.3**
FULB	baz=231		*e*S	**Sb**	**21 44 46.7**	**-0.5**
IRIF	**Iriomote-Funau**	**1.25 64**	P	**Pg**	**21 44 32.5**	**0.0**
IRIF			S	**Sg**	**21 44 48.5**	**-0.4**
TWT	**Tachien** baz=290	**1.29 291**	*i* P	**Pb**	**21 44 32.6**	**+0.5**
TWT	baz=290		*e*S	**Sn**	**21 44 47.5**	**-1.1**
TWB1	**Santiao Chiao** baz=350	**1.29 339**	*e*P	**Pn**	**21 44 31.1**	**-0.5**
TWB1	baz=350		*e*S	**Sn**	**21 44 47.6**	**-0.9**
TDCB	**Techi** baz=290	**1.30 291**	P	**Pb**	**21 44 32.3**	**-0.1**
TDCB	baz=290		*e*S	**Sn**	**21 44 48.3**	**-0.6**
TIPB	**Shuangxi** baz=332	**1.32 333**	*e*P	**Pb**	**21 44 33.0**	**+0.3**
TIPB	baz=332		*e*S	**Sb**	**21 44 49.1**	**-0.2**
NWLT	**Wulai** baz=316	**1.33 318**	*e*P	**Pb**	**21 44 33.2**	**+0.4**
YHNB	**Yeheng** baz=310	**1.34 311**	P	**Pb**	**21 44 32.7**	**-0.3**
NSK	**Sanguang** baz=310	**1.36 311**	P	**Pb**	**21 44 33.2**	**-0.1**
ECS	**Chishang** baz=230	**1.36 239**	*e*P	**Pn**	**21 44 33.1**	**+0.6**
ECS	baz=230		*e*S	**Sn**	**21 44 49.9**	**-0.3**
EDH	**Donghe** baz=226	**1.36 233**	P	**Pn**	**21 44 32.5**	**0.0**
EDH	baz=226		*e*S	**Sn**	**21 44 49.0**	**-1.2**
SSLB	**Suanglung** baz=260	**1.41 270**	P	**Pn**	**21 44 33.6**	**+0.4**
SSLB	baz=260		*e*S	**Sn**	**21 44 50.5**	**-0.8**
NWF	**Wu-fen Shan** baz=344	**1.43 333**	*e*P	**Pb**	**21 44 35.0**	**+0.5**
WFSB	**Wu-fen Shan** baz=343	**1.43 333**	*e*P	**Pb**	**21 44 34.2**	**-0.3**
TWA	**Mucha** baz=337	**1.44 325**	*e*P	**Pb**	**21 44 35.1**	**+0.4**
DPDB	**Guoxing** baz=278	**1.45 280**	*e*P	**Pb**	**21 44 34.9**	**0.0**
JKRS	**Kuro-shima**	**1.46 72**	P	**Pb**	**21 44 35.4**	**+0.4**
JKRS			S	**Sg**	**21 44 54.8**	**-0.6**
LDUT	**Ludao** baz=219	**1.46 220**	*e*P	**Pn**	**21 44 34.5**	**+0.6**
LDUT	baz=219		*e*S	**Sn**	**21 44 51.1**	**-1.4**
NHDH	**Xindian Distri** baz=333	**1.46 323**	*e*P	**Pb**	**21 44 34.6**	**-0.4**
SMLT	**Sun Moon Lake** baz=273	**1.46 274**	*e*P	**Pb**	**21 44 34.8**	**-0.3**
SMLT	baz=273		*e*S	**Sn**	**21 44 51.8**	**-0.9**
WCS	**Beigang Elemen** baz=279	**1.47 281**	*e*P	**Pb**	**21 44 35.1**	**0.0**
ELDTW	**Lidau** baz=245	**1.48 246**	P	**Pn**	**21 44 34.7**	**+0.4**
ELDTW	baz=245		S	**Sn**	**21 44 51.8**	**-1.5**
WHP	**Taichung City** baz=281	**1.49 289**	*e*P	**Pb**	**21 44 36.5**	**+0.9**
TYC	**Yuchr** baz=273	**1.50 275**	*e*P	**Pb**	**21 44 35.4**	**-0.3**
TYC	baz=273		*e*S	**Sn**	**21 44 53.1**	**-0.5**
WHYT	**Xinyi Township** baz=258	**1.50 267**	*e*P	**Pb**	**21 44 36.2**	**+0.4**
LONT	**Longtian** baz=228	**1.53 235**	*e*P	**Pn**	**21 44 35.7**	**+0.8**
LONT	baz=228		*e*S	**Sn**	**21 44 54.2**	**-0.2**
ALS	**Alishan** baz=267	**1.57 260**	*e*P	**Pn**	**21 44 36.5**	**+0.8**
ALS	baz=267		*e*S	**Sn**	**21 44 56.0**	**+0.2**
YM01	**YM01** baz=339	**1.59 328**	*e*P	**Pb**	**21 44 36.8**	**-0.4**
LIOB	**Emei** baz=312	**1.59 302**	*e*P	**Pb**	**21 44 37.4**	**+0.2**
NSTT	**Nanjuang** baz=294	**1.59 302**	*e*P	**Pb**	**21 44 37.6**	**+0.3**
NSTT	baz=294		*e*S	**Sb**	**21 44 57.1**	**-0.1**
YM08	**YM08** baz=340	**1.61 330**	*e*P	**Pn**	**21 44 36.7**	**+0.7**
JIJ	**Ishigaki jima**	**1.61 69**	P	**Pb**	**21 44 37.4**	**-0.2**
JIJ			S	**Sb**	**21 44 58.2**	**+0.5**
WJS	**Zhushan** baz=267	**1.61 271**	*e*P	**Pb**	**21 44 37.8**	**+0.1**
TWGBT	**Beinan** baz=242	**1.62 233**	P	**Pn**	**21 44 36.0**	**-0.1**
TWGBT	baz=242		*e*S	**Sn**	**21 44 56.2**	**-0.4**
TWG	**Pinlang** baz=242	**1.62 234**	P	**Pn**	**21 44 36.6**	**+0.5**
TWG	baz=242		S	**Sn**	**21 44 56.5**	**-0.2**
TWS1	**Kuangyinshan** baz=312	**1.63 323**	*e*P	**Pb**	**21 44 38.1**	**+0.2**
WNT	**Mingjian** baz=272	**1.66 273**	*e*P	**Pb**	**21 44 38.4**	**+0.1**
WNT	baz=272		*e*S	**Sb**	**21 44 59.4**	**+0.5**
WWF	**Wufeng** baz=278	**1.66 279**	*e*P	**Pb**	**21 44 38.3**	**-0.1**
CHN5	**Tsauling** baz=262	**1.67 264**	*e*P	**Pb**	**21 44 38.9**	**+0.2**
CHN5	baz=262		*e*S	**Sb**	**21 44 59.1**	**-0.4**
STYH	**Taoyuan** baz=243	**1.69 249**	*e*P	**Pb**	**21 44 38.6**	**-0.4**
STYH	baz=243		*e*S	**Sn**	**21 44 58.9**	**+0.6**
STYT	**Tauyuan** baz=242	**1.71 249**	*e*P	**Pb**	**21 44 38.8**	**-0.5**
STYT	baz=242		*e*S	**Sn**	**21 44 58.9**	**0.0**
NMLH	**Miaoli** baz=295	**1.72 296**	*e*P	**Pb**	**21 44 39.3**	**-0.2**
WGK	**Gukeng** baz=265	**1.77 267**	*e*P	**Pb**	**21 44 41.3**	**+1.0**
TPUB	**Ta-pu** baz=246	**1.78 254**	*e*P	**Pb**	**21 44 40.4**	**-0.1**
TPUB	baz=246		*e*S	**Sb**	**21 45 02.8**	**+0.3**
WDJ	**Dajia District** baz=287	**1.78 288**	*e*P	**Pb**	**21 44 40.6**	**+0.1**
WDLH	**Douliu** baz=265	**1.79 267**	*e*P	**Pb**	**21 44 41.0**	**+0.3**
CHN4	**Tsaushan** baz=254	**1.80 256**	*e*P	**Pb**	**21 44 40.8**	**0.0**
WTP	**Ta-pu** baz=261	**1.81 253**	*e*P	**Pn**	**21 44 40.0**	**+1.3**
WTP	baz=261		*e*S	**Sb**	**21 45 03.4**	**0.0**
JISG	**Ishigakijimahi**	**1.84 64**	P	**Pn**	**21 44 40.3**	**+1.2**
JISG			*e*S	**Sn**	**21 45 01.4**	**-0.6**
ECL	**Taimali** baz=238	**1.85 230**	*e*P	**Pb**	**21 44 41.2**	**-0.4**
ECL	baz=238		*e*S	**Sn**	**21 45 01.2**	**-1.0**
SLGT	**Liugui** baz=237	**1.87 245**	*e*P	**Pb**	**21 44 41.2**	**-0.9**
SGST	**Jiashian** baz=240	**1.89 248**	*e*P	**Pb**	**21 44 41.5**	**-0.8**
SGST	baz=240		*e*S	**Sb**	**21 45 05.2**	**-0.5**
CHN1	**Nanshi** baz=259	**1.90 252**	*e*P	**Pb**	**21 44 42.4**	**-0.1**
CHN1	baz=259		*e*S	**Sb**	**21 45 06.8**	**+0.8**
TWK	**Hsinying** baz=253	**1.91 254**	*e*P	**Pb**	**21 44 41.9**	**-0.9**
TWK	baz=253		*e*S	**Sb**	**21 45 06.0**	**-0.3**
WTK	**Tuku** baz=266	**1.93 267**	*e*P	**Pb**	**21 44 42.5**	**-0.5**
WRL	**Guolierlin Hig** baz=272	**1.94 274**	*e*P	**Pb**	**21 44 42.2**	**-1.0**
SSD	**Sandimen** baz=233	**2.00 239**	*e*P	**Pn**	**21 44 43.0**	**+1.7**
TSMG	**Majia** baz=234	**2.01 238**	*e*P	**Pn**	**21 44 43.1**	**+1.6**
TSMG	baz=234		*e*S	**Sn**	**21 45 06.8**	**+0.5**
EAST	**Anshuo** baz=232	**2.06 227**	*e*P	**Pn**	**21 44 42.7**	**+0.5**
MASBT	**Mashibuluo** baz=228	**2.08 236**	*e*P	**Pn**	**21 44 43.9**	**+1.6**
SSPT	**Xinbi** baz=230	**2.20 234**	*e*P	**Pb**	**21 44 47.1**	**-0.5**
SLIU	**Shizi** baz=223	**2.21 225**	*e*P	**Pb**	**21 44 46.5**	**-1.4**
SCZT	**Fangliau** baz=224	**2.23 231**	*e*P	**Pn**	**21 44 46.4**	**+1.9**
TWKBT	**Hengchun** baz=218	**2.41 220**	*e*P	**Pn**	**21 44 48.9**	**+2.0**
TWK1	**Hengchun** baz=224	**2.41 220**	*e*P	**Pn**	**21 44 47.6**	**+0.7**
TWK1	baz=224		*e*S	**Sn**	**21 45 16.6**	**+0.5**
PHUB	**P'eng-hu** baz=276	**2.69 265**	*e*P	**Pn**	**21 44 52.0**	**+1.2**
PNG	**Penghu** baz=277	**2.70 266**	*e*P	**Pn**	**21 44 52.6**	**+1.7**
VWUC	**VWUC** baz=284	**3.02 294**	*e*P	**Pn**	**21 44 55.9**	**+0.6**
VWUC	baz=284		*e*S	**Sn**	**21 45 29.8**	**-1.2**
PTMZ	**Houxiangcun** baz=293	**3.31 293**	*e*P	**Pn**	**21 45 01.0**	**+1.7**
KNM	**Kinmen** baz=279	**3.76 280**	*e*P	**Pn**	**21 45 08.2**	**+2.7**
KNMB	**Chin-men Tao** baz=280	**3.81 281**	*e*P	**Pn**	**21 45 06.7**	**+0.6**
AXDP	**Jialang** baz=286	**4.27 286**	*e*P	**Pn**	**21 45 13.6**	**+1.1**
ZPLA	**Ao Xicun** baz=280	**4.34 273**	*e*P	**Pn**	**21 45 14.2**	**+0.7**

*SOME **09** 22:04:27.2, 41.°88N×80.°62E, h20km*
*NNC **09** 22:04:28.0±1.3, 41.°96N×80.°59E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=8.9km s-min=5.9km az=153.0*
*KRNET **09** 22:04:29.8±0.1, 42.°18N×80.°63E, mb2.8*
ISC 09 22:04:28.0±1.9, 41.°95N±0.°08×80.°63E±0.°06, h10km, n40, σ1°92/64, 14C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 4.2nm,0.2s	**1.51 352**		*e*P	**Pg**	**22 04 55.7**	**-1.3**
KTMS	50nm,0.3s			*e*S	**Sg**	**22 05 16.5**	**-0.1**
KTMS	**Ketmen** 4.2nm,0.2s	**1.51 352**		P	**Pg**	**22 04 55.7**	**-1.3**
KTMS	33nm,0.3s			S	**Sg**	**22 05 16.4**	**-0.1**
UZB	**Uzynbulak** 18nm,0.3s	**1.69 316**		*e*P	**Pb**	**22 04 59.1**	**-0.1**
UZB	96nm,0.3s			*e*S	**Sg**	**22 05 22.2**	**0.0**
UZB	**Uzynbulak** 18nm,0.3s	**1.69 316**		P	**Pb**	**22 04 59.1**	**-0.1**
UZB	96nm,0.3s			S	**Sg**	**22 05 22.2**	**0.0**
PRZ	**Przheval'sk** baz=82	**1.74 288**		⇑*i*P	**Pg**	**22 05 01.3**	**-0.1**
PRZ	baz=82			⇑*i*S	**Sg**	**22 05 24.6**	**+0.6**
SATY	**Saty** 14nm,0.1s	**1.98 305**		*e*P	**Pg**	**22 05 04.9**	**-1.2**
SATY	61nm,0.1s			*e*S	**Sg**	**22 05 31.9**	**+0.1**
SATY	**Saty** 14nm,0.1s	**1.98 305**		Pg	**Pg**	**22 05 05.5**	**-0.6**
SATY	61nm,0.1s			Lg	Lg	22 05 33.4	
KPKS	**Kokpek** 39nm,0.2s	**2.09 317**		*e*P	**Pb**	**22 05 06.3**	**+0.3**
KPKS	119nm,0.2s			*e*S	**Sg**	**22 05 34.6**	**-0.5**
ANVS	**Anan'yevo** baz=87	**2.35 292**		⇓*i*P	**Pb**	**22 05 10.9**	**+0.3**
ANVS	baz=87			⇓*i*S	**Sb**	**22 05 40.8**	**+1.1**
DJR	**Jarkent** 0.3nm,0.2s	**2.46 346**		*e*P	**Pb**	**22 05 12.6**	**+0.2**
DJR	2.4nm,0.3s			*e*S	**Sg**	**22 05 45.5**	**-1.4**
DJR	**Jarkent** 0.3nm,0.2s	**2.46 346**		Pg	**Pb**	**22 05 12.6**	**+0.2**
DJR	2.4nm,0.3s			Lg	Lg	22 05 45.5	
KDJ	**Kajisay** baz=70	**2.58 275**		⇑*i*P	**Pb**	**22 05 15.0**	**+0.5**
KDJ	baz=70			⇑*i*S	**Sb**	**22 05 47.4**	**+1.1**
KOTS	**Kotyrbulak** 3.9nm,0.2s	**2.90 297**		*e*P	**Pb**	**22 05 21.2**	**+1.3**
KOTS	44nm,0.5s			*e*S	**Sg**	**22 06 00.1**	**-1.1**
MDOK	**Medeo** 3.6nm,0.4s	**2.91 296**		*e*P	**Pb**	**22 05 20.2**	**+0.1**
MDOK	13nm,0.5s			*e*S	**Sg**	**22 05 58.4**	**-3.2**
MDOK	**Medeo** 2.0nm,0.4s	**2.91 296**		⇑Pg	**Pb**	**22 05 20.3**	**+0.1**
MDOK	18nm,0.6s			⇑Lg	Lg	22 05 59.0	
MDOK	**Medeo** 3.6nm,0.4s	**2.91 296**		Pg	**Pb**	**22 05 20.2**	**+0.1**
MDOK	13nm,0.5s			Lg	Lg	22 05 58.4	
MDOK	**Medeo** 2.0nm,0.4s	**2.91 296**		⇑Pn	**Pb**	**22 05 20.3**	**+0.1**
MDOK	18nm,0.6s			⇑Lg	Lg	22 05 59.0	
ARXS	**Arharly** 5.7nm,0.3s	**3.05 319**		*e*P	**Pb**	**22 05 23.6**	**+1.1**
ARXS	14nm,0.4s			*e*S	**Sg**	**22 06 03.8**	**-2.3**
ARXS	**Arharly**	**3.05 319**		Pg	**Pb**	**22 05 23.6**	**+1.1**
ARXS	5.7nm,0.3s			Lg	Lg	22 06 03.8	
IZV	**Izvestkoviy** 3.4nm,0.2s	**3.16 291**		*e*P	**Pb**	**22 05 25.2**	**+0.8**
IZV	34nm,0.5s			*e*S	**Sg**	**22 06 07.0**	**-2.7**
IZV	**Izvestkoviy** 3.4nm,0.2s	**3.16 291**		Pg	**Pb**	**22 05 25.2**	**+0.8**
IZV	34nm,0.5s			Lg	Lg	22 06 07.0	
CHKK	**Chushkaly** 2.6nm,0.3s	**3.28 307**		*e*P	**Pb**	**22 05 26.9**	**+0.6**
CHKK	22nm,0.4s			*e*S	**Sg**	**22 06 09.6**	**-3.8**
CHKK	**Chushkaly** 2.6nm,0.3s	**3.28 307**		Pg	**Pb**	**22 05 27.0**	**+0.6**
CHKK	22nm,0.4s			Lg	Lg	22 06 09.6	
KTBS	**Karatobe** 2.5nm,0.3s	**3.40 302**		*e*P	**Pb**	**22 05 28.8**	**+0.4**
KTBS	34nm,0.6s			*e*S	**Sg**	**22 06 12.9**	**-4.2**
KTBS	**Karatobe** 2.5nm,0.3s	**3.40 302**		Pg	**Pb**	**22 05 28.8**	**+0.4**
KTBS	34nm,0.6s			Lg	Lg	22 06 12.9	
TDK	**Taldyqorghan** 12nm,0.3s	**3.45 333**		*e*P	**Pb**	**22 05 29.7**	**+0.5**
TDK	17nm,0.5s			*e*S	**Sg**	**22 06 15.2**	**-3.7**
TDK	**Taldyqorghan** 12nm,0.3s	**3.45 333**		Pg	**Pb**	**22 05 29.7**	**+0.5**
TDK	17nm,0.5s			Lg	Lg	22 06 15.2	
KAPS	**Kapalarasan** 0.4nm,0.7s	**3.46 345**		*e*P	**Pb**	**22 05 30.3**	**+0.9**
KAPS	1.4nm,0.2s			*e*S	**Sg**	**22 06 15.7**	**-3.3**
KAPS	**Kapalarasan** 0.4nm,0.7s	**3.46 345**		Pg	**Pb**	**22 05 30.3**	**+0.9**
KAPS	1.4nm,0.2s			Lg	Lg	22 06 15.7	
BOOM	**Boomskoye usch** baz=77	**3.53 280**		⇑*i*P	**Pb**	**22 05 28.2**	**-2.4**
BOOM				⇑*i*S	**Sb**	**22 06 09.5**	**-4.1**
KST	**Kastek** 4.3nm,0.4s	**3.62 289**		*e*P	**Pb**	**22 05 32.4**	**+0.1**
KST	15nm,0.5s			*e*S	**Sb**	**22 06 19.2**	**+3.0**
KST	**Kastek** 4.3nm,0.4s	**3.62 289**		Pg	**Pb**	**22 05 32.3**	**+0.1**
KST	15nm,0.5s			Lg	Lg	22 06 19.2	
KUU	**Kurty** 1.0nm,0.2s	**3.70 303**		*e*P	**Pb**	**22 05 34.3**	**+0.8**
KUU	16nm,0.4s			*e*S	**Sg**	**22 06 22.4**	**-4.5**
KUU	**Kurty** 1.0nm,0.2s	**3.70 303**		Pg	**Pb**	**22 05 34.3**	**+0.8**
KUU	16nm,0.4s			Lg	Lg	22 06 22.4	
DGS	**Degeres** 1.4nm,0.4s	**3.81 291**		*e*P	**Pb**	**22 05 35.4**	**-0.1**
DGS	11nm,0.5s			*e*S	**Sb**	**22 06 24.7**	**+2.9**
DGS	**Degeres** 1.4nm,0.4s	**3.81 291**		Pg	**Pb**	**22 05 35.4**	**-0.1**
DGS	11nm,0.5s			Lg	Lg	22 06 24.7	
MK31	**Makanchi Array** 0.1nm,0.3s,baz=197,slow=13,SNR=16	**4.98 13**		⇑Pn	**Pn**	**22 05 44.7**	**+1.8**
MK31	0.1nm,0.2s,baz=187,slow=14,SNR=4.8			⇓Pg	**Pg**	**22 05 59.2**	**-4.3**
MK31	1.0nm,0.6s,baz=194,slow=20,SNR=5.1			⇑Sn	**Sn**	**22 06 43.8**	**+3.3**
MK31	0.7nm,0.5s,baz=190,slow=29,SNR=3.7			⇓Lg	Lg	22 07 05.5	
MK31	**Makanchi Array** 0.1nm,0.3s,baz=197,slow=13,SNR=16	**4.98 13**		⇑Pn	**Pn**	**22 05 44.7**	**+1.8**
MK31	0.1nm,0.2s,baz=187,slow=14,SNR=4.8			⇓Pg	**Pg**	**22 05 59.2**	**-4.3**
MK31	1.0nm,0.6s,baz=194,slow=20,SNR=5.1			⇑Sn	**Sn**	**22 06 43.8**	**+3.3**
MK31	0.7nm,0.5s,baz=190,slow=29,SNR=3.7			⇓Lg	Lg	22 07 05.5	
KK31	**Karatay Array** 1.3nm,0.7s,baz=89,slow=28	**7.56 282**		⇓Lg	Lg	22 08 27.6	
KK31	**Karatay Array** 1.3nm,0.7s,baz=89,slow=28	**7.56 282**		⇓Lg	Lg	22 08 27.6	

*IDC **10** 00:09:03.6±1.4, 32.°62N×81.°74E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.4/43, mbtmp3.6/6, ML3.0/2, MS3.9/2, Ms1 3.9/2, ms1mx2.9/39, Error ellipse: s-maj=44.8km s-min=24.2km az=64.0*
*NEIC **10** 00:09:08.2±1.5, 32.°82N±0.°09×81.°9E±0.°1, h16km±6km, mb4.0/6, Error ellipse: s-maj=17.0km s-min=10.0km az=56.0*
ISC 10 00:09:05.9±0.9, 32.°7N±0.°1×82.°0E±0.°1, h10km, n25, σ0°87/23, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**7.36 280**			**Pn**	**00 10 54.3**	**+0.8**
TARG	**Taragay, Kyrgy**	**9.57 341**		Pn	**Pn**	**00 11 24.5**	**+0.3**
KBL	**Kabul**	**10.92 283**		Pn	**Pn**	**00 11 42.0**	**-0.4**
KK31	**Karatay Array**	**13.73 322**		Pn	**Pn**	**00 12 20.6**	**-0.1**
KKAR	**Karatay Array**	**13.73 322**		Pn	**Pn**	**00 12 20.4**	**-0.2**
KKAR	**Karatay Array**	**13.73 322**		Pn	**Pn**	**00 12 20.3**	**-0.3**
MK31	**Makanchi Array**	**14.05 1**		P	**Pn**	**00 12 25.6**	**+0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=181,slow=12,SNR=9.1	**14.05 1**		Pn	**Pn**	**00 12 24.3**	**-0.6**
MAKZ	**Makanchi**	**14.06 0**		Pn	**Pn**	**00 12 24.3**	**-0.8**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=174,slow=10.0,SNR=8.2	**18.06 353**		P	**Pn**	**00 13 16.8**	**0.0**
KURK	**Kurchatov**	**18.14 353**		P	**Pn**	**00 13 16.8**	**-1.0**
GEYT	**Alibeck** 0.2nm,0.3s,baz=127,slow=8.4,SNR=2.6	**20.11 292**		P	**P**	**00 13 40.7**	**+0.8**
GEYT	**Alibeck** comp=Z,231nm,1.2s	**20.11 292**		IAmb	IAmb	00 14 08.5	
CMAR	**Chiang Mai Arr** comp=Z,2.9nm,1.0s,baz=312,slow=11,SNR=12	**20.85 129**		P	**P**	**00 13 49.7**	**+1.7**
ZAA0	**Zalesovo Array**	**21.31 5**		P	**P**	**00 13 52.4**	**-0.2**
ZAA0	comp=Z,4.1nm,1.4s			IAmb	IAmb	00 14 16.6	
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.5s,baz=191,slow=14,SNR=4.6	**21.31 5**		P	**P**	**00 13 53.4**	**+0.8**
ZALV	**Zalesovo Beam**	**21.31 5**		P	**P**	**00 13 51.8**	**-0.8**
BRVK	**Borovoye**	**21.99 341**		P	**P**	**00 14 00.2**	**+0.2**
BRVK	comp=Z,3.0nm,0.8s			IAmb	IAmb	00 14 27.4	
ABKAR	**Akbulak array**	**23.29 322**		P	**P**	**00 14 14.2**	**+0.5**
ABKAR	**Akbulak array**	**23.29 322**		P	**P**	**00 14 13.6**	**-0.2**
ABKAR	comp=Z,1.4nm,0.9s			IAmb	IAmb	00 14 17.2	
SONM	**Songino Array**	**23.84 44**		P	**P**	**00 14 20.4**	**+1.1**
SONM	comp=Z,1.0nm,0.6s			IAmb	IAmb	00 14 23.4	
SIRT	**Sirnak**	**32.51 290**		P	**P**	**00 15 37.8**	**+0.8**
KMBO	**Kilima Mbogo** comp=Z,186nm,18.9s,baz=178,slow=38	**53.96 240**		LR	LR	00 42 55.4	
WRA	**Warramunga Arr** comp=Z,0.4nm,0.8s,baz=329,slow=5.8,SNR=1.9	**72.44 129**		P	**P**	**00 20 31.1**	**-1.7**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.8s,baz=54,slow=5.0,SNR=1.6	**74.91 276**		P	**P**	**00 20 46.1**	**-1.3**
TORD	comp=Z,38nm,18.4s,baz=130,slow=38			LR	LR	00 56 23.7	

*BJI **10** 00:31:55.7±0.0, 41.°02N×73.°93E, h10km, mb4.2/9, ML4.2/5*
*IDC **10** 00:31:55.5±0.7, 40.°95N×74.°03E, h0km, mb3.8/17, mb1 4.0/22, mb1mx3.8/52, mbtmp3.8/22, ML3.2/6, MS3.3/12, Ms1 3.3/12, ms1mx3.1/45, Error ellipse: s-maj=13.5km s-min=8.3km az=124.0*
*SOME **10** 00:31:56.9, 41.°00N×74.°05E, h20km*
*NNC **10** 00:31:56.2±1.1, 41.°03N×74.°06E, h0km, mb5.1, mpv4.9, Error ellipse: s-maj=9.1km s-min=4.3km az=178.0*
*KRNET **10** 00:31:56.7±0.1, 41.°05N×74.°02E, h19km, mb4.7*
*MOS **10** 00:31:57.5±2.0, 40.°89N×74.°03E, h10km, mb4.6/13, Error ellipse: s-maj=6.4km s-min=4.6km az=74.1*
*KNET **10** 00:31:58.8±0.9, 41.°21N×74.°19E, h0km, ml4.2, Error ellipse: s-maj=5.5km s-min=2.9km az=26.0*

*NEIC **10** 00:31:59.4±3.2, 41°.10N±0°.05×74°.16E±0°.07, h12km±5km, mb4.3/19, Error ellipse: s-maj=8.7km s-min=6.5km az=140.0*

ISC 10 00:31:57.1±1.1, **41°.05N**±0°.02×**73°.98E**±0°.02, **h0**km±7km, **n210**, σ1°.75/283, **mb4.0**/34, **MS3.1**/11, **37C-33D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.85**	**17**	⇓*i*P	**Pg**	**00 32 12.6**	**-0.8**
	baz=16						
ARLS				⇓*i*S	**Sg**	**00 32 24.1**	**-0.4**
	baz=16						
OHH	**Osh**	**1.05**	**241**	⇑*i*P	**Pg**	**00 32 17.2**	**0.0**
	baz=41						
OHH				⇑*i*S	**Sb**	**00 32 31.6**	**-0.9**
	baz=41						
SFK	**Sufi-Kurgan**	**1.09**	**200**	⇓*i*P	**Pg**	**00 32 17.4**	**-0.7**
	baz=1.0						
SFK				⇓*i*S	**Sg**	**00 32 32.0**	**-0.2**
	baz=1.0						
AML	**Almayashu**	**1.10**	**349**	⇑*i*P	**Pg**	**00 32 17.8**	**-0.4**
	baz=47						
AML				⇑*i*S	**Sg**	**00 32 32.3**	**-0.3**
	baz=47						
AML	**Almayashu**	**1.10**	**349**	⇓P	**Pg**	**00 32 17.9**	**-0.4**
	2μm,0.4s,SNR=574						
AML				⇑S	**Sg**	**00 32 32.8**	**+0.2**
	3μm,0.7s						
EKS2	**Erkin-Say**	**1.62**	**355**	⇓*i*P	**Pn**	**00 32 26.8**	**-0.2**
	baz=54						
EKS2				⇓*i*S	**Sn**	**00 32 47.6**	**-1.1**
	baz=54						
EKS2	**Erkin-Say**	**1.62**	**355**	P	**Pn**	**00 32 27.0**	**0.0**
	187nm,0.2s,SNR=229						
EKS2				⇓S	**Sn**	**00 32 48.1**	**-0.6**
	387nm,0.3s						
AAK	**Ala-Archa**	**1.64**	**13**	Pg	**Pn**	**00 32 27.3**	**+0.1**
	107nm,0.3s,baz=164,slow=6.8,SNR=216						
AAK				Lg	Lg	00 32 48.7	
	148nm,0.3s,baz=144,slow=20,SNR=17						
AAK				LR	LR	00 33 17.6	
	comp=Z,693nm,18.5s,baz=120,slow=48						
AAK	**Ala-Archa**	**1.64**	**13**	⇓*e*P	**Pn**	**00 32 27.0**	**-0.2**
	baz=12						
AAK				⇓*i*S	**Sn**	**00 32 48.1**	**-1.0**
	baz=12						
AAK	**Ala-Archa**	**1.64**	**13**	⇓P	**Pn**	**00 32 27.1**	**-0.2**
	404nm,0.3s,SNR=232						
AAK				⇓S	**Sn**	**00 32 48.7**	**-0.3**
	727nm,0.2s						
AAK	**Ala-Archa**	**1.64**	**13**		**Pn**	**00 32 26.9**	**-0.2**
KBK	**Karagaybulak**	**1.76**	**24**	⇓*e*P	**Pn**	**00 32 29.4**	**+0.4**
	baz=23						
KBK				⇓*i*S	**Sn**	**00 32 52.0**	**-0.2**
	baz=23						
KBK	**Karagaybulak**	**1.76**	**24**	⇓P	**Pn**	**00 32 29.3**	**+0.4**
	292nm,0.3s,SNR=300						
KBK				⇑S	**Sn**	**00 32 51.4**	**-0.9**
	3μm,0.3s						
MRKS	**Merke**	**1.79**	**342**	*e*P	**Pn**	**00 32 30.0**	**+0.7**
	892nm,0.4s						
MRKS				*e*S	**Sb**	**00 32 54.7**	**+0.9**
	2μm,0.4s						
MRKS	**Merke**	**1.79**	**342**	P	**Pn**	**00 32 30.0**	**+0.7**
	892nm,0.4s						
MRKS				S	**Sb**	**00 32 54.7**	**+0.9**
	2μm,0.4s						
MRKS	**Merke**	**1.79**	**342**	*e*PN	**Pn**	**00 32 30.0**	**+0.7**
MRKS				*e*S	**Sb**	**00 32 54.7**	**+0.9**
MNAS	**Manas**	**1.82**	**323**	⇓*e*P	**Pn**	**00 32 30.5**	**+0.8**
	baz=22						
MNAS				⇓*i*S	**Sn**	**00 32 54.1**	**+0.6**
	baz=22						
FRU1	**Bishkek**	**1.83**	**15**	⇑*i*P	**Pn**	**00 32 30.6**	**+0.8**
	baz=14						
FRU1				⇑*i*S	**Sn**	**00 32 54.3**	**+0.6**
	baz=14						
FRU1	**Bishkek**	**1.83**	**15**	PN	**Pb**	**00 32 31.2**	**-0.2**
FRU1	**Bishkek**	**1.83**	**15**		**Pb**	**00 32 31.2**	**-0.2**
CHMS	**Chumysh**	**2.03**	**16**	⇑*i*P	**Pn**	**00 32 32.8**	**+0.2**
	baz=15						
CHMS				⇑*i*S	**Sn**	**00 32 58.7**	**0.0**
	baz=15						
CHMS	**Chumysh**	**2.03**	**16**	P	**Pn**	**00 32 34.1**	**+1.5**
	SNR=356						
BOOM	**Boomskoye usch**	**2.06**	**45**	⇑*i*P	**Pn**	**00 32 33.6**	**+0.6**
	baz=44						
BOOM				⇑*i*S	**Sn**	**00 33 00.0**	**+0.6**
	baz=44						
BOOM	**Boomskoye usch**	**2.06**	**45**	PN	**Pn**	**00 32 33.9**	**+0.9**
BOOM	**Boomskoye usch**	**2.06**	**45**	Pn	**Pn**	**00 32 33.9**	**+0.9**
ULHL	**Ulahol**	**2.07**	**54**	⇑*i*P	**Pn**	**00 32 33.7**	**+0.4**
	baz=54						
ULHL				⇑*i*S	**Sn**	**00 33 00.2**	**+0.3**
	baz=54						
ULHL	**Ulahol**	**2.07**	**54**	⇑P	**Pn**	**00 32 33.5**	**+0.2**
	378nm,0.3s,SNR=100						
ULHL				⇓S	**Sn**	**00 32 59.7**	**-0.2**
	1μm,0.3s						
KSH	**Kashi**	**2.16**	**134**	Pn	**Pb**	**00 32 37.6**	**+0.6**
KSH				Sn	**Sg**	**00 33 06.4**	**+0.1**
KSH				smax	smax		
	comp=N,970nm,0.7s						
KSH				smax	smax		
	comp=E,550nm,0.5s						
TRKS	**Terek-Say**	**2.20**	**284**	⇑*i*P	**Pn**	**00 32 35.5**	**+0.5**
	baz=82						
TRKS				⇑*i*S	**Sn**	**00 33 02.9**	**0.0**
	baz=82						
TKM2	**Tokmak 2**	**2.23**	**32**	⇓*i*P	**Pn**	**00 32 36.0**	**+0.6**
	baz=32						
TKM2				⇓*i*S	**Sn**	**00 33 03.8**	**+0.1**
	baz=32						
TKM2	**Tokmak 2**	**2.23**	**32**	⇑P	**Pn**	**00 32 37.2**	**+1.8**
	374nm,0.3s,SNR=551						
TKM2				⇓S	**Sb**	**00 33 06.2**	**-0.2**
	717nm,0.3s						
USP	**Ospenovka**	**2.25**	**10**	⇓*i*P	**Pn**	**00 32 36.4**	**+0.8**
	baz=9.0						
USP				⇓*i*S	**Sn**	**00 33 04.4**	**+0.3**
	baz=9.0						
USP	**Ospenovka**	**2.25**	**10**	⇑P	**Pb**	**00 32 37.7**	**-1.0**
	530nm,0.3s,SNR=810						
USP				⇑S	**Sb**	**00 33 07.4**	**+0.4**
	2μm,0.6s						
DRK	**Karamyk**	**2.29**	**228**	⇓*i*P	**Pb**	**00 32 37.8**	**-1.6**
	baz=28						
DRK				⇓*i*S	**Sb**	**00 33 06.9**	**-1.5**
	baz=28						
DRK	**Karamyk**	**2.29**	**228**	Pn	**Pb**	**00 32 38.5**	**-0.9**
SGDS	**Sogindy**	**2.45**	**11**	Pg	**Pb**	**00 32 42.0**	**0.0**
	543nm,0.7s						
SGDS				Lg	Lg	00 33 14.6	
	603nm,0.6s						
DGS	**Degeres**	**2.56**	**31**	*e*P	**Pb**	**00 32 43.5**	**-0.5**
	863nm,0.8s						
DGS				*e*S	**Sb**	**00 33 17.6**	**+1.4**
	2μm,0.7s						
DGS	**Degeres**	**2.56**	**31**	Pg	**Pb**	**00 32 43.5**	**-0.5**
	863nm,0.8s						
DGS				Lg	Lg	00 33 17.6	
	2μm,0.7s						
DGS	**Degeres**	**2.56**	**31**	*e*PN	**Pb**	**00 32 43.5**	**-0.5**
DGS				*e*S	**Sb**	**00 33 17.6**	**+1.4**
BTK	**Batken**	**2.61**	**249**	⇓*i*P	**Pn**	**00 32 41.7**	**+1.2**
	baz=49						
BTK				⇓*i*S	**Sn**	**00 33 14.1**	**+1.2**
	baz=49						
BTK	**Batken**	**2.61**	**249**	PN	**Pn**	**00 32 41.7**	**+1.2**
BTK	**Batken**	**2.61**	**249**	Pn	**Pn**	**00 32 41.7**	**+1.2**
KDJ	**Kajisay**	**2.63**	**65**	⇑*i*P	**Pn**	**00 32 41.3**	**+0.4**
	baz=65						
KDJ				⇑*i*S	**Sn**	**00 33 14.4**	**+0.8**
	baz=65						
DZA	**Taraz**	**2.70**	**314**	*e*P	**Pb**	**00 32 47.2**	**+0.9**
	399nm,0.4s						
DZA				*e*S	**Sg**	**00 33 23.9**	**-0.1**
	2μm,0.8s						
DZA	**Taraz**	**2.70**	**314**	Pg	**Pb**	**00 32 47.2**	**+0.9**
	399nm,0.4s						
DZA				Lg	Lg	00 33 23.9	
	2μm,0.8s						
DZA	**Taraz**	**2.70**	**314**	*e*PN	**Pb**	**00 32 47.3**	**+0.9**
DZA				*e*S	**Sg**	**00 33 23.9**	**-0.1**
IZV	**Izvestkoviy**	**2.79**	**44**	*e*P	**Pb**	**00 32 47.5**	**-0.4**
	380nm,0.6s						
IZV				*e*S	**Sb**	**00 33 24.2**	**+1.5**
	2μm,0.5s						
IZV	**Izvestkoviy**	**2.79**	**44**	Pg	**Pb**	**00 32 47.5**	**-0.4**
	380nm,0.6s						
IZV				Lg	Lg	00 33 24.2	
	2μm,0.5s						
IZV	**Izvestkoviy**	**2.79**	**44**	*e*PN	**Pb**	**00 32 47.5**	**-0.4**
IZV				*e*S	**Sb**	**00 33 24.2**	**+1.5**
TARG	**Taragay, Kyrgy**	**2.95**	**75**		**Pn**	**00 32 45.1**	**-0.5**
TNSS	**Tian-Shan**	**2.97**	**47**	Pg	**Pb**	**00 32 51.2**	**+0.1**
	340nm,0.4s						
TNSS				Lg	Lg	00 33 30.3	
	2μm,0.7s						
AAA	**Alma-Ata**	**3.07**	**44**	*e*P	**Pb**	**00 32 52.5**	**-0.1**
	340nm,0.4s						
AAA				*e*S	**Sb**	**00 33 32.9**	**+2.3**
	3μm,0.6s						
AAA	**Alma-Ata**	**3.07**	**44**	Pg	**Pb**	**00 32 52.5**	**-0.1**
	340nm,0.4s						
AAA				Lg	Lg	00 33 32.9	
	3μm,0.6s						
AAA	**Alma-Ata**	**3.07**	**44**	*e*PN	**Pb**	**00 32 52.5**	**-0.1**
AAA				*e*S	**Sb**	**00 33 32.9**	**+2.3**
KNDC	**Almaty**	**3.10**	**45**	⇓Pg	**Pb**	**00 32 52.9**	**-0.2**
	815nm,0.8s						
KNDC				⇓Lg	Lg	00 33 34.2	
	5μm,0.8s						
MDOK	**Medeo**	**3.11**	**46**	*e*P	**Pb**	**00 32 52.7**	**-0.6**
	268nm,0.5s						
MDOK				*e*S	**Sb**	**00 33 33.2**	**+1.4**
	1μm,0.5s						
MDOK	**Medeo**	**3.11**	**46**	⇓Pg	**Pb**	**00 32 52.0**	**-1.3**
	262nm,0.6s						
MDOK				⇑Lg	Lg	00 33 33.0	
	1μm,0.7s						
MDOK	**Medeo**	**3.11**	**46**	Pg	**Pb**	**00 32 52.7**	**-0.6**
	268nm,0.5s						
MDOK				Lg	Lg	00 33 33.2	
	1μm,0.5s						
MDOK	**Medeo**	**3.11**	**46**	*e*PN	**Pb**	**00 32 52.7**	**-0.6**
MDOK				*e*S	**Sb**	**00 33 33.2**	**+1.4**
KOTS	**Kotyrbulak**	**3.19**	**46**	*e*P	**Pb**	**00 32 54.8**	**+0.1**
	304nm,0.5s						
KOTS				*e*S	**Sb**	**00 33 36.7**	**+2.5**
	2μm,0.5s						
KOTS	**Kotyrbulak**	**3.19**	**46**	Pg	**Pb**	**00 32 54.8**	**+0.1**
	304nm,0.5s						
KOTS				Lg	Lg	00 33 36.7	
	2μm,0.5s						
KOTS	**Kotyrbulak**	**3.19**	**46**	*e*PN	**Pb**	**00 32 54.8**	**+0.1**
KOTS				*e*S	**Sb**	**00 33 36.7**	**+2.5**
ANVS	**Anan'yevo**	**3.25**	**57**	⇓*i*P	**Pn**	**00 32 49.9**	**+0.4**
	baz=56						
ANVS				⇓*i*S	**Sn**	**00 33 28.4**	**-0.5**
	baz=56						
KK31	**Karatay Array**	**3.30**	**310**	⇑Pg	**Pb**	**00 32 58.1**	**+1.6**
	56nm,0.5s,baz=131,slow=11,SNR=289						
KK31				⇑Lg	Lg	00 33 42.0	
	247nm,0.5s,baz=163,slow=36,SNR=14						
KK31	**Karatay Array**	**3.30**	**310**	PN	**Pn**	**00 32 51.8**	**+1.8**
KK31	**Karatay Array**	**3.30**	**310**		**Pn**	**00 32 51.8**	**+1.8**
KKAR	**Karatay Array**	**3.30**	**310**	PN	**Pn**	**00 32 51.7**	**+1.7**
KKAR	**Karatay Array**	**3.30**	**310**		**Pn**	**00 32 51.3**	**+1.2**
KKAR	**Karatay Array**	**3.30**	**310**		**Pn**	**00 32 51.7**	**+1.7**
KTBS	**Karatobe**	**3.33**	**36**	*e*P	**Pb**	**00 32 56.7**	**-0.3**
	105nm,0.4s						
KTBS				*e*S	**Sb**	**00 33 40.1**	**+2.0**
	1μm,1.0s						
KTBS	**Karatobe**	**3.33**	**36**	Pg	**Pb**	**00 32 56.7**	**-0.3**
	105nm,0.4s						
KTBS				Lg	Lg	00 33 40.1	
	1μm,1.0s						
KTBS	**Karatobe**	**3.33**	**36**	*e*PN	**Pb**	**00 32 56.7**	**-0.3**
KTBS				*e*S	**Sb**	**00 33 40.1**	**+2.0**
KUU	**Kurty**	**3.34**	**31**	*e*P	**Pb**	**00 32 56.8**	**-0.3**
	104nm,0.6s						
KUU				*e*S	**Sb**	**00 33 40.2**	**+2.0**
	1μm,0.5s						
KUU	**Kurty**	**3.34**	**31**	Pg	**Pb**	**00 32 56.8**	**-0.3**
	104nm,0.6s						
KUU				Lg	Lg	00 33 40.2	
	1μm,0.5s						
KUU	**Kurty**	**3.34**	**31**	*e*PN	**Pb**	**00 32 56.8**	**-0.3**
KUU				*e*S	**Sb**	**00 33 40.2**	**+2.0**
TAS	**Tashkent**	**3.55**	**276**	⇑*i*P	**Pn**	**00 32 54.4**	**+1.0**
	baz=76						
TAS				⇑*i*S	**Sn**	**00 33 36.7**	**+0.6**
	baz=76						
TAS	**Tashkent**	**3.55**	**276**	PN	**Pb**	**00 33 01.3**	**+0.6**
TAS	**Tashkent**	**3.55**	**276**		**Pb**	**00 33 01.3**	**+0.6**
CHKK	**Chushkaly**	**3.58**	**37**	*e*P	**Pb**	**00 33 00.8**	**-0.5**
	95nm,0.7s						
CHKK				*e*S	**Sb**	**00 33 47.0**	**+1.8**
	867nm,0.6s						
CHKK	**Chushkaly**	**3.58**	**37**	Pg	**Pb**	**00 33 00.8**	**-0.5**
	95nm,0.7s						
CHKK				Lg	Lg	00 33 47.0	
	867nm,0.6s						
CHKK	**Chushkaly**	**3.58**	**37**	*e*PN	**Pb**	**00 33 00.8**	**-0.5**
CHKK				*e*S	**Sb**	**00 33 47.0**	**+1.8**
PRZ	**Przheval'sk**	**3.60**	**65**	⇑*i*P	**Pn**	**00 32 55.1**	**+0.8**
	baz=65						
PRZ				⇑*i*S	**Sn**	**00 33 37.4**	**-0.2**
	baz=65						
PRZ	**Przheval'sk**	**3.60**	**65**	PN	**Pn**	**00 32 55.6**	**+1.3**
PRZ	**Przheval'sk**	**3.60**	**65**		**Pn**	**00 32 55.6**	**+1.3**
SATY	**Saty**	**3.86**	**57**	*e*P	**Pb**	**00 33 05.8**	**-0.3**
	353nm,0.5s						
SATY				*e*S	**Sb**	**00 33 55.3**	**+2.0**
	615nm,0.8s						
SATY	**Saty**	**3.86**	**57**	Pg	**Pb**	**00 33 05.8**	**-0.3**
	353nm,0.5s						
SATY				Lg	Lg	00 33 55.3	
	615nm,0.8s						
SATY	**Saty**	**3.86**	**57**	*e*PN	**Pb**	**00 33 05.8**	**-0.3**
SATY				*e*S	**Sb**	**00 33 55.3**	**+2.0**
BTLS	**Baital**	**3.99**	**1**	*e*P	**Pb**	**00 33 09.7**	**+1.4**
	55nm,0.4s						
BTLS				*e*S	**Sg**	**00 34 02.3**	**-3.0**
	87nm,0.7s						
BTLS	**Baital**	**3.99**	**1**	Pg	**Pb**	**00 33 09.6**	**+1.4**
	55nm,0.4s						
BTLS				Lg	Lg	00 34 02.3	
	87nm,0.7s						
BTLS	**Baital**	**3.99**	**1**	*e*PN	**Pb**	**00 33 09.7**	**+1.4**
BTLS				*e*S	**Sg**	**00 34 02.3**	**-3.0**
KPKS	**Kokpek**	**4.24**	**54**	*e*P	**Pb**	**00 33 12.6**	**0.0**
	228nm,0.5s						
KPKS				*e*S	**Sb**	**00 34 07.3**	**+2.9**
	1μm,0.6s						
KPKS	**Kokpek**	**4.24**	**54**	*e*PN	**Pb**	**00 33 12.6**	**0.0**
KPKS				*e*S	**Sb**	**00 34 07.3**	**+2.9**
ARXS	**Arharly**	**4.25**	**41**	*e*P	**Pb**	**00 33 12.8**	**+0.1**
	260nm,0.7s						
ARXS				*e*S	**Sb**	**00 34 07.6**	**+3.1**
	1μm,0.5s						
ARXS	**Arharly**	**4.25**	**41**	Pg	**Pb**	**00 33 12.8**	**+0.1**
	260nm,0.7s						
ARXS				Lg	Lg	00 34 07.6	
	1μm,0.5s						
ARXS	**Arharly**	**4.25**	**41**	*e*PN	**Pb**	**00 33 12.8**	**+0.1**
ARXS				*e*S	**Sb**	**00 34 07.6**	**+3.1**
UZB	**Uzynbulak**	**4.30**	**59**	*e*P	**Pb**	**00 33 13.0**	**-0.5**
	271nm,0.4s						
UZB				*e*S	**Sb**	**00 34 08.9**	**+2.9**
	260nm,0.6s						
UZB	**Uzynbulak**	**4.30**	**59**	Pg	**Pb**	**00 33 13.0**	**-0.5**
	271nm,0.4s						
UZB				Lg	Lg	00 34 08.9	
	260nm,0.6s						
UZB	**Uzynbulak**	**4.30**	**59**	*e*PN	**Pb**	**00 33 13.0**	**-0.5**
UZB				*e*S	**Sb**	**00 34 08.9**	**+2.9**
SHLS	**Shalkode**	**4.59**	**61**	*e*P	**Pg**	**00 33 24.3**	**-0.7**
	734nm,0.6s						
SHLS				*e*S	**Sg**	**00 34 26.9**	**+2.5**
	967nm,0.6s						
SHLS	**Shalkode**	**4.59**	**61**	Pg	**Pg**	**00 33 24.3**	**-0.7**
	734nm,0.6s						
SHLS				Lg	Lg	00 34 26.9	
	967nm,0.6s						
TDK	**Taldyqorghan**	**5.11**	**38**	*e*P	**Pb**	**00 33 29.4**	**+2.1**
	222nm,0.6s						
TDK				*e*S	**Sg**	**00 34 36.4**	**-4.8**
	1μm,0.9s						
TDK	**Taldyqorghan**	**5.11**	**38**	Pg	**Pb**	**00 33 29.8**	**+2.4**
	222nm,0.6s						
TDK				Lg	Lg	00 34 36.4	
	1μm,0.9s						
KTMS	**Ketmen**	**5.30**	**61**	*e*P	**Pb**	**00 33 31.8**	**+1.2**
	130nm,0.6s						
KTMS				*e*S	**Sb**	**00 34 39.8**	**+5.0**
	181nm,0.6s						
KTMS	**Ketmen**	**5.30**	**61**	Pg	**Pb**	**00 33 31.6**	**+0.9**
	130nm,0.6s						
KTMS				Lg	Lg	00 34 39.8	
	181nm,0.6s						
DJR	**Jarkent**	**5.39**	**51**	*e*P	**Pb**	**00 33 32.8**	**+0.6**
	9.8nm,0.7s						
DJR				*e*S	**Sb**	**00 34 42.0**	**+4.5**
	26nm,0.6s						
DJR	**Jarkent**	**5.39**	**51**	Pg	**Pb**	**00 33 32.8**	**+0.6**
	9.8nm,0.7s						
DJR				Lg	Lg	00 34 42.0	
	26nm,0.6s						
KAPS	**Kapalarasan**	**5.78**	**41**	*e*P	**Pb**	**00 33 42.3**	**+3.6**
	3.9nm,0.6s						
KAPS				*e*S	**Sg**	**00 34 58.0**	**-4.6**
	22nm,0.7s						
KAPS	**Kapalarasan**	**5.78**	**41**	Pg	**Pb**	**00 33 39.6**	**+0.9**
	3.9nm,0.6s						
KAPS				Lg	Lg	00 34 53.6	
	13nm,0.6s						
CEP	**Cherat**	**7.40**	**194**	P	**Pn**	**00 33 48.7**	**+2.3**
CHCP	**Chirah Chowk**	**7.40**	**185**	P	**Pn**	**00 33 48.3**	**+2.0**
NIL	**Nilore**	**7.41**	**185**	P	**Pn**	**00 33 48.0**	**+1.6**
NIL	**Nilore**	**7.41**	**185**	Pn	**Pn**	**00 33 48.0**	**+1.6**
KBL	**Kabul**	**7.58**	**213**	P	**Pn**	**00 33 51.1**	**+2.1**
KBL	**Kabul**	**7.58**	**213**	Pn	**Pn**	**00 33 51.1**	**+2.1**
MAKZ	**Makanchi**	**8.15**	**42**	P	**Pn**	**00 33 58.5**	**+1.9**
MAKZ	**Makanchi**	**8.15**	**42**		**Pn**	**00 33 58.5**	**+1.9**
MK31	**Makanchi Array**	**8.30**	**43**	⇑Pn	**Pn**	**00 33 58.6**	**-0.1**
	9.0nm,0.6s,baz=223,slow=14,SNR=9.0						
MK31				⇑Lg	Lg	00 36 17.1	
	83nm,1.0s,baz=221,slow=24,SNR=3.9						
MK31	**Makanchi Array**	**8.30**	**43**	P	**Pn**	**00 34 00.0**	**+1.3**
MK31	**Makanchi Array**	**8.30**	**43**	Pn	**Pn**	**00 33 60.0**	**+1.3**
MKAR	**Makanchi Array**	**8.30**	**43**	Pn	**Pn**	**00 33 59.7**	**+1.0**
	0.2nm,0.3s,baz=235,slow=13,SNR=16						
MKAR				Sn	**Sn**	**00 35 32.8**	**-0.3**
	baz=218,slow=23,SNR=1.3						
MKAR				Lg	Lg	00 36 14.8	
	1.5nm,0.3s,baz=240,slow=26,SNR=3.7						
MKAR				LR	LR	00 36 53.1	
	comp=Z,119nm,18.0s,baz=224,slow=36						
THW	**Thamme Wali**	**8.43**	**193**	P	**Pn**	**00 34 01.7**	**+1.2**
SARP	**Sargodha**	**9.17**	**187**	P	**Pn**	**00 34 10.6**	**+0.1**
KURBB	**Kurchatov Arra**	**10.09**	**17**	Pn	**Pn**	**00 34 22.4**	**-0.7**
	0.2nm,0.3s,baz=206,slow=13,SNR=25						
KURBB				Sn	**Sn**	**00 36 13.1**	**-3.8**
	0.2nm,0.3s,baz=202,slow=17,SNR=4.0						
KURBB				Lg	Lg	00 37 11.8	
	0.4nm,0.3s,baz=206,slow=30,SNR=7.1						
KURBB	**Kurchatov Arra**	**10.09**	**17**	⇑Pn	**Pn**	**00 34 23.4**	**+0.4**
	4.1nm,0.5s						
KURBB				⇑Lg	Lg	00 37 15.7	
	232nm,0.8s						
ZSN	**Zaisan**	**10.09**	**47**	Pg	Pn	00 34 58.2	+35
	5.5nm,0.5s						
KURK	**Kurchatov**	**10.19**	**17**	P	**Pn**	**00 34 22.4**	**-2.1**
KURK	**Kurchatov**	**10.19**	**17**		**Pn**	**00 34 22.4**	**-2.1**
SEM	**Semipalatinsk**	**10.33**	**23**	Pg	Pn	00 35 05.2	+39
	6.1nm,0.3s						
WMQ	**Urumqi**	**10.51**	**70**	*e*P	**Pn**	**00 34 32.1**	**+3.2**
HRA	**Herat**	**11.42**	**238**	Pn	**Pn**	**00 34 40.9**	**-0.8**
BVAR	**Borovoye Array**	**12.23**	**350**	Pn	**Pn**	**00 34 50.6**	**-1.8**
	1.2nm,0.3s,baz=191,slow=22,SNR=24						
BVAR				Sn	**Sn**	**00 37 06.6**	**-2.7**
	0.2nm,0.3s,baz=178,slow=19,SNR=2.5						
BVAR				Lg	Lg	00 38 23.5	
	0.9nm,0.3s,baz=174,slow=32,SNR=2.5						
BRVK	**Borovoye**	**12.28**	**349**	P	**Pn**	**00 34 52.9**	**-0.1**
BRVK	**Borovoye**	**12.28**	**349**		**Pn**	**00 34 52.9**	**-0.1**
GEYT	**Alibeck**	**12.65**	**261**	Pn	**Pn**	**00 34 58.3**	**+0.1**
	0.5nm,0.3s,baz=68,slow=24,SNR=8.4						
GEYT				Sn	**Sn**	**00 37 18.9**	**-0.8**
	0.6nm,0.3s,baz=89,slow=29,SNR=2.2						
GEYT				LR	LR	00 40 37.2	
	comp=Z,140nm,19.8s,baz=40,slow=41						
GYA0B	**ALIBECK ARRAY**	**12.65**	**261**		**Pn**	**00 34 57.2**	**-1.0**
AB31	**Akbulak array**	**12.85**	**314**	⇑Pn	**Pn**	**00 34 59.8**	**-1.1**
	3.3nm,0.6s,baz=114,slow=12,SNR=50						
AB31				⇓Lg	Lg	00 38 44.3	
	4.5nm,0.6s						
ABKAR	**Akbulak array**	**12.85**	**314**	Pn	**Pn**	**00 34 59.4**	**-1.5**
ABKAR	**Akbulak array**	**12.85**	**314**		**Pn**	**00 34 59.9**	**-1.0**
AKTO	**Aktyubinsk**	**14.55**	**316**	Pn	**Pn**	**00 35 24.2**	**+0.1**
	0.3nm,0.3s,baz=127,slow=14,SNR=8.3						
AKTO				Sn	**Sn**	**00 37 57.4**	**-8.6**
	baz=214,slow=15,SNR=1.7						
AKTO				Lg	Lg	00 39 38.3	
	0.1nm,0.3s,baz=214,slow=14,SNR=3.7						
AKTO	**Aktyubinsk**	**14.55**	**316**	⇑Pn	**Pn**	**00 35 25.3**	**+1.2**
	7.8nm,0.8s						
AKTO				⇑Lg	Lg	00 39 39.4	
	15nm,1.1s						
ZAA0	**Zalesovo Array**	**14.81**	**26**		**Pn**	**00 35 30.0**	**+2.3**
ZALV	**Zalesovo Beam**	**14.81**	**26**	Pn	**Pn**	**00 35 26.5**	**-1.2**
	0.7nm,0.3s,baz=220,slow=12,SNR=21						
ZALV				Sn	**Sn**	**00 38 14.2**	**+1.8**
	baz=228,slow=19,SNR=2.3						
ZALV				Lg	Lg	00 39 45.7	
	0.1nm,0.3s,baz=211,slow=25,SNR=4.0						
ZALV				LR	LR	00 41 30.3	
	comp=Z,75nm,19.1s,baz=212,slow=39						
ZALV	**Zalesovo Beam**	**14.81**	**26**		**Pn**	**00 35 29.6**	**+2.0**
LSA	**Lhasa**	**17.97**	**124**	P	**Pn**	**00 36 08.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LSA	**Lhasa**	**17.97**	**124**		**Pn**

ONI	**Oni**	**22.75 284**	P	**P**	**00 37 03.5**	**+2.7**
ONI			IAmb	IAmb	00 37 10.8	
	comp=Z,16nm,1.2s					
TLY	**Talaya**	**22.91 52**	LR	LR	00 45 14.5	
	comp=Z,48nm,19.4s,baz=256,slow=35					
KBZ	**Khabaz**	**23.05 287**	P	**P**	**00 37 04.5**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=123,slow=4.5,SNR=3.8					
KBZ			LR	LR	00 47 06.4	
	comp=Z,81nm,19.5s,baz=76,slow=39					
KIV	**Kislovodsk**	**23.19 288**	*e*P	**P**	**00 37 07.1**	**+1.7**
KIV			pmax	pmax		
	comp=Z,4.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,44nm,14.0s					
KIV	**Kislovodsk**	**23.19 288**	P	**P**	**00 37 06.8**	**+1.4**
KIV			IAmb	IAmb	00 37 19.5	
	comp=Z,16nm,1.5s					
KARS	**Kars**	**23.33 279**	P	**P**	**00 37 08.7**	**+1.8**
KARS			pmax	pmax		
	comp=Z,44nm,1.0s					
KARS	**Kars**	**23.33 279**	P	**P**	**00 37 08.7**	**+1.8**
KIRV	**Kirov**	**23.43 327**	LR	LR	00 46 52.2	
	comp=Z,60nm,20.4s,baz=121,slow=38					
SONM	**Songino Array**	**23.99 63**	P	**P**	**00 37 12.0**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=270,slow=9.9,SNR=5.7					
SONM	**Songino Array**	**23.99 63**	P	**P**	**00 37 11.9**	**-1.4**
SONM			pmax	pmax		
	comp=Z,4.0nm,1.3s					
SONM	**Songino Array**	**23.99 63**	P	**P**	**00 37 11.9**	**-1.4**
ULN	**Ulaanbaatar**	**24.43 63**	P	**P**	**00 37 14.8**	**-2.6**
ULN			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ULN	**Ulaanbaatar**	**24.43 63**	P	**P**	**00 37 14.8**	**-2.6**
ULN			IAmb	IAmb	00 37 23.1	
	comp=Z,2.5nm,0.8s					
GURO	**Guroymak-BITLI**	**24.61 275**	P	**P**	**00 37 22.2**	**+3.1**
GURO			IAmb	IAmb	00 37 26.2	
	comp=Z,3.7nm,1.0s					
OBN	**Obninsk**	**28.29 313**	*e*P	**P**	**00 37 49.1**	**-2.8**
OBN			*e*PPP	PPP	00 38 49.4	
OBN			pmax	pmax		
	comp=Z,3.0nm,0.9s					
RAYN	**Ar Rayn**	**29.56 243**	P	**P**	**00 38 05.8**	**+2.2**
RAYN			pmax	pmax		
	comp=Z,4.0nm,1.3s					
RAYN	**Ar Rayn**	**29.56 243**	P	**P**	**00 38 05.8**	**+2.2**
RAYN			IAmb	IAmb	00 38 07.2	
	comp=Z,4.4nm,1.2s					
BRTR	**Keskin Array B**	**30.57 281**	P	**P**	**00 38 11.3**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=72,slow=9.3,SNR=1.6					
BRTR			LR	LR	00 52 29.4	
	comp=Z,53nm,19.6s,baz=88,slow=40					
BRTR	**Keskin Array B**	**30.57 281**	P	**P**	**00 38 14.7**	**+2.1**
MNK	**Minsk**	**33.15 310**	*i* P	**P**	**00 38 36.6**	**+1.8**
MNK			*i*		00 39 46.8	
MNK			*i*		00 41 18.7	
MNK			*i* S	**S**	**00 43 56.2**	**+1.3**
MNK			*i* SS	**SnSn**	**00 45 58.8**	**+5.7**
MNK			pmax	pmax		
	comp=E,8.0nm,1.6s					
MNK			pmax	pmax		
	comp=Z,10.0nm,0.5s					
MNK			pmax	pmax		
	comp=N,26nm,0.7s					
MNK			MLR	MLR		
	comp=E,5.0nm,15.0s					
MNK			MLR	MLR		
	comp=N,21nm,18.0s					
MNK			MLR	MLR		
	comp=Z,49nm,20.0s					
MNK	**Minsk**	**33.15 310**	*i* P	**P**	**00 38 36.7**	**+1.9**
	comp=E,8.0nm,1.6s					
MNK			*i* P	**P**	**00 38 36.7**	**+1.9**
	comp=N,26nm,0.7s					
MNK			*i* P	**P**	**00 38 36.7**	**+1.9**
	comp=Z,10.0nm,0.5s,baz=274					
MNK			*i* PP	**PP**	**00 39 46.9**	**-2.6**
MNK			*i* PPP	PPP	00 39 57.5	
MNK			*i* PcP	**PcP**	**00 41 18.7**	**+1.0**
MNK			*i* S	**S**	**00 43 56.3**	**+1.3**
MNK			*i* SS	**SnSn**	**00 45 58.8**	**+5.7**
MNK			*i* SSS	SSS	00 46 14.4	
MNK			*i* LR	LR	00 50 31.3	
MNK			*i* LRM	MLR	00 52 49.9	
	comp=E,5.0nm,15.3s					
MNK			*i* LRM	MLR	00 52 52.5	
	comp=N,21nm,17.8s					
MNK			*i* LRM	MLR	00 53 11.6	
	comp=Z,49nm,20.4s					
PBKT	**Sadao Pong**	**33.72 128**	P	**P**	**00 38 39.4**	**-0.7**
FINES	**FINESS Array B**	**35.18 322**	P	**P**	**00 38 52.0**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=122,slow=5.1,SNR=3.0					
SUW	**Suwalki**	**35.88 309**	P	**P**	**00 39 01.1**	**+2.6**
SUW			pmax	pmax		
	comp=Z,23nm,1.3s					
SUW	**Suwalki**	**35.88 309**	P	**P**	**00 39 01.1**	**+2.6**
VTS	**Vitosha**	**37.38 290**	P	**P**	**00 39 13.1**	**+1.5**
VTS			pmax	pmax		
	comp=Z,2.0nm,0.8s					
VTS	**Vitosha**	**37.38 290**	P	**P**	**00 39 13.1**	**+1.5**
ARCES	**ARCESS Array B**	**37.94 335**	P	**P**	**00 39 14.8**	**-1.0**
	comp=Z,3.2nm,1.0s,baz=116,slow=12,SNR=2.3					
ARCES			LR	LR	00 55 51.5	
	comp=Z,52nm,18.9s,baz=60,slow=38					
ARCES	**ARCESS Array B**	**37.94 335**	P	**P**	**00 39 17.1**	**+1.4**
ARCES			IAmb	IAmb	00 39 27.6	
	comp=Z,12nm,1.4s					
OJC	**Ojcow**	**38.22 303**	P	**P**	**00 39 19.4**	**+1.0**
OJC			pmax	pmax		
	comp=Z,5.0nm,1.3s					
OJC	**Ojcow**	**38.22 303**	P	**P**	**00 39 19.4**	**+1.0**
OJC			IAmb	IAmb	00 39 32.0	
	comp=Z,4.7nm,1.3s					
FNA	**Florina**	**39.25 288**	P	**P**	**00 39 28.3**	**+1.1**
FNA			pmax	pmax		
	comp=Z,7.0nm,0.7s					
FNA	**Florina**	**39.25 288**	P	**P**	**00 39 28.3**	**+1.1**
FNA			IAmb	IAmb	00 39 40.4	
	comp=Z,7.0nm,0.7s					
KBN	**Korca**	**39.72 288**	P	**P**	**00 39 33.4**	**+2.2**
KBN			pmax	pmax		
	comp=Z,3.0nm,0.9s					
KBN	**Korca**	**39.72 288**	P	**P**	**00 39 33.4**	**+2.2**
KBN			IAmb	IAmb	00 39 35.4	
	comp=Z,3.3nm,0.9s					
KSRS	**Korea Array**	**41.37 77**	P	**P**	**00 39 42.9**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=281,slow=12,SNR=4.4					
KSRS			LR	LR	00 59 17.6	
	comp=Z,151nm,21.0s,baz=190,slow=40					
NOA	**NORSAR Array B**	**42.28 320**	P	**P**	**00 39 51.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=93,slow=7.6,SNR=2.1					
GERES	**GERESS Array B**	**42.37 302**	P	**P**	**00 39 51.5**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=118,slow=13,SNR=2.1					
KMBO	**Kilima Mbogo**	**53.61 228**	P	**P**	**00 41 20.4**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=50,slow=12,SNR=4.1					
ESDC	**Sonseca Array**	**57.46 296**	P	**P**	**00 41 44.8**	**-3.0**
	comp=Z,0.5nm,0.8s,baz=63,slow=6.9,SNR=2.2					
TORD	**Torodi Ar. Bea**	**68.16 269**	P	**P**	**00 42 57.2**	**-2.1**
	comp=Z,2.3nm,0.8s,baz=46,slow=5.2,SNR=10					
TORD	**Torodi Ar. Bea**	**68.16 269**	P	**P**	**00 43 01.2**	**+1.9**
TORD			IAmb	IAmb	00 43 02.0	
	comp=Z,2.8nm,0.9s					
INK	**Inuvik**	**69.03 11**	P	**P**	**00 43 03.2**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=350,slow=6.1,SNR=1.9					
ILAR	**Eielson Array**	**69.76 17**	P	**P**	**00 43 06.7**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=327,slow=4.9,SNR=8.3					
YKA	**Yellowknife Ar**	**76.58 4**	P	**P**	**00 43 46.6**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=2.0,slow=6.2,SNR=2.6					
WRA	**Warramunga Arr**	**82.52 124**	P	**P**	**00 44 18.7**	**-3.0**
	comp=Z,0.8nm,0.8s,baz=327,slow=4.7,SNR=5.0					
ASAR	**Alice Springs**	**85.04 127**	P	**P**	**00 44 31.4**	**-3.2**
	comp=Z,0.7nm,0.9s,baz=316,slow=5.1,SNR=5.5					

JMA ***10*** *00:39:58.7±0.1,36.°07N×139.°86E,h47km±1km,M3.8*
Broadband fault plane solution: P waves. NP1:
ϕ_s229.00000°,δ10.00000°,λ101.00000°. NP2:
ϕ_s38.00000°,δ80.00000°,λ88.00000°. Principal axes: T
Plg55.0000°, Azm306.0000°; N Plg2.0000°, Azm39.0000°;
P Plg35.0000°, Azm130.0000°;
JMA Felt II J1.
IDC ***10*** *00:39:59.7±3.1,35.°97N×139.°75E,h61km±25km,mb3.4/5,*
mb1 3.7/6,mb1mx3.3/36,mbtmp3.8/6,ML4.0/1,MS3.1/1,
Ms1 3.1/1,ms1mx2.5/25 Error ellipse: s-maj=45.8km
s-min=8.8km az=62.0
ISC 10 00:39:58.5±0.9,36.°08N±0.°05×139.°88E±0.°05,h50km±8km,
n21,σ0.°62/22,mb3.6/5,1C-3D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**61**	⇑P	**Pn**	**00 40 07.7**	**+0.2**
JYT				*e*S	**Sn**	**00 40 14.0**	**0.0**
JAG	**Ashikaga**	**0.48**	**315**	⇓P	**Pn**	**00 40 09.7**	**+0.1**
JAG				*e*S	**Sn**	**00 40 17.3**	**-0.2**
JRY	**Ryogami san**	**0.79**	**265**	⇓P	**Pn**	**00 40 13.2**	**-0.3**
JRY				*e*S	**Sn**	**00 40 23.6**	**-0.8**
JKT	**Katashina**	**0.85**	**324**	⇓P	**Pn**	**00 40 14.1**	**-0.2**
JOD2	**Odawara 2**	**1.04**	**218**	P	**Pn**	**00 40 17.2**	**+0.4**
JOD2				*e*S	**Sn**	**00 40 30.6**	**+0.3**
JYN	**Shimob**	**1.23**	**242**	P	**Pn**	**00 40 20.4**	**+1.0**
JYN				*e*S	**Sn**	**00 40 35.3**	**+0.3**
MJAR	**Matsushiro Arr**	**1.42**	**289**	P	**Pn**	**00 40 21.4**	**-0.6**
	5.4nm,0.3s,baz=90,slow=8.7,SNR=116						
MJAR				S	**Sn**	**00 40 39.2**	**-0.3**
	3.6nm,0.3s,baz=63,slow=36,SNR=3.8						
MAT	**Matsushiro**	**1.42**	**289**	P	**Pn**	**00 40 21.8**	**-0.2**
MAT				*e*S	**Sn**	**00 40 40.7**	**+1.1**
JHJ	**Hachijo jima 2**	**2.96**	**182**	P	**Pn**	**00 40 42.8**	**-0.2**
	61nm,0.3s,baz=330,slow=16,SNR=39						
JHJ				S	**Sn**	**00 41 16.4**	**-0.9**
	64nm,0.3s,baz=131,slow=23,SNR=5.8						
YAK	**Yakutsk**	**26.75**	**349**	LR	LR	00 57 40.5	
	comp=Z,34nm,18.8s,baz=268,slow=40						
H11N2	**WAKE ISLAND Hy**	**28.77**	**117**	T	T	01 16 01.2	
	baz=308,slow=75,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**28.78**	**117**	T	T	01 15 31.9	
	baz=308,slow=75,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**28.79**	**117**	T	T	01 15 32.8	
	baz=308,slow=75,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**29.43**	**119**	T	T	01 16 56.4	
	baz=318						
H11S1	**WAKE ISLAND Hy**	**29.43**	**119**	T	T	01 16 53.3	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.44**	**119**	T	T	01 16 52.1	
	baz=318						
ZALV	**Zalesovo Beam**	**41.65**	**313**	P	**P**	**00 47 41.6**	**-0.1**
	0.9nm,0.6s,baz=98,slow=6.9,SNR=4.0						
MKAR	**Makanchi Array**	**43.58**	**303**	P	**P**	**00 47 57.4**	**-0.2**
	0.3nm,0.5s,baz=85,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**55.97**	**186**	P	**P**	**00 49 30.8**	**-1.0**
	0.8nm,0.7s,baz=1.0,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**69.07**	**332**	P	**P**	**00 50 58.8**	**+0.1**
	0.9nm,0.7s,baz=61,slow=6.5,SNR=1.2						
TXAR	**Lajitas Array**	**91.68**	**51**	P	**P**	**00 53 01.9**	**+1.1**
	0.1nm,0.5s,baz=270,slow=3.6,SNR=2.3						

KRNET ***10*** *00:42:04.8±0.1,41.°02N×74.°07E,h15km,mb3.3*
SOME ***10*** *00:42:06.8,41.°08N×74.°02E,h20km*
NNC ***10*** *00:42:06.9±1.4,41.°13N×74.°06E,h0km,mb4.0,mpv3.8,*
Error ellipse: s-maj=10.8km s-min=5.2km az=1.0
KNET ***10*** *00:42:07.8±1.2,41.°21N×74.°23E,h2km±7km,ml3.0,Error*
ellipse: s-maj=10.1km s-min=3.8km az=34.0
ISC 10 00:42:05.1±1.2,40.°99N±0.°02×73.°90E±0.°02,h1km±10km,
n71,σ1.°32/119,27C-31D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.92**	**20**	⇓*i*P	**Pg**	**00 42 21.3**	**-1.4**
	baz=13						
ARLS				⇓*i*S	**Sg**	**00 42 32.1**	**-2.6**
	baz=13						
OHH	**Osh**	**0.97**	**241**	⇑*i*P	**Pn**	**00 42 25.7**	**-0.2**
	baz=44						
OHH				⇑*i*S	**Sn**	**00 42 40.5**	**+0.1**
	baz=44						
SFK	**Sufi-Kurgan**	**1.03**	**197**	⇓*i*P	**Pg**	**00 42 25.3**	**+0.6**
	baz=4.0						
SFK				⇓*i*S	**Sb**	**00 42 39.6**	**-0.2**
	baz=4.0						
AML	**Almayashu**	**1.15**	**352**	⇓*i*P	**Pg**	**00 42 26.7**	**-0.4**
	baz=46						
AML				⇓*i*S	**Sg**	**00 42 41.9**	**-0.1**
	baz=46						
AML	**Almayashu**	**1.15**	**352**	⇓P	**Pg**	**00 42 26.6**	**-0.4**
	89nm,0.1s,SNR=28						
AML				⇓S	**Sg**	**00 42 41.6**	**-0.3**
	190nm,0.4s						
EKS2	**Erkin-Say**	**1.67**	**357**	⇓*i*P	**Pn**	**00 42 35.6**	**0.0**
	baz=52						
EKS2				⇓*i*S	**Sn**	**00 42 57.3**	**-0.4**
	baz=52						
EKS2	**Erkin-Say**	**1.67**	**357**	⇓P	**Pn**	**00 42 35.8**	**+0.2**
	17nm,0.2s,SNR=56						
EKS2				⇓S	**Sb**	**00 42 57.8**	**-0.5**
	27nm,0.3s						
AAK	**Ala-Archa**	**1.70**	**15**	⇑*i*P	**Pn**	**00 42 35.5**	**-0.5**
	baz=11						
AAK				⇑*i*S	**Sn**	**00 42 57.1**	**-1.4**
	baz=11						
AAK	**Ala-Archa**	**1.70**	**15**	⇑P	**Pn**	**00 42 35.8**	**-0.3**
	34nm,0.1s,SNR=17						
AAK				⇑S	**Sn**	**00 42 57.2**	**-1.3**
	48nm,0.2s						
MRKS	**Merke**	**1.82**	**344**	*e*P	**Pg**	**00 42 39.9**	**-0.1**
	65nm,0.3s						
MRKS				*e*S	**Sb**	**00 43 02.9**	**+0.3**
	125nm,0.4s						
MRKS	**Merke**	**1.82**	**344**	P	**Pg**	**00 42 39.9**	**-0.1**
	65nm,0.3s						
MRKS				S	**Sb**	**00 43 02.9**	**+0.3**
	125nm,0.4s						
MNAS	**Manas**	**1.82**	**325**	⇑*e*P	**Pb**	**00 42 39.1**	**-0.2**
	baz=22						
MNAS				⇑*i*S	**Sg**	**00 43 04.5**	**+0.9**
	baz=22						
KBK	**Karagaybulak**	**1.84**	**25**	⇑*i*P	**Pn**	**00 42 37.6**	**-0.3**
	baz=22						
KBK				⇑*i*S	**Sn**	**00 43 00.8**	**-1.1**
	baz=22						
KBK	**Karagaybulak**	**1.84**	**25**	⇑P	**Pn**	**00 42 38.2**	**+0.3**
	20nm,0.1s,SNR=37						
KBK				⇑S	**Sn**	**00 43 01.2**	**-0.7**
	140nm,0.2s						
FRU1	**Bishkek**	**1.89**	**16**	⇑*i*P	**Pn**	**00 42 38.9**	**+0.3**
	baz=12						
FRU1				⇑*i*S	**Sb**	**00 43 03.8**	**-0.9**
	baz=12						
CHMS	**Chumysh**	**2.10**	**17**	⇓*i*P	**Pn**	**00 42 41.6**	**+0.2**
	baz=14						
CHMS				⇓*i*S	**Sn**	**00 43 08.0**	**-0.2**
	baz=14						
CHMS	**Chumysh**	**2.10**	**17**	⇓P	**Pb**	**00 42 42.8**	**-1.1**
	15nm,0.2s,SNR=18						
CHMS				⇑S	**Sb**	**00 43 09.7**	**-0.9**
	33nm,0.3s						
BOOM	**Boomskoye usch**	**2.13**	**45**	⇑*e*P	**Pn**	**00 42 41.0**	**-1.0**
	baz=43						
BOOM				⇑*i*S	**Sn**	**00 43 08.1**	**-1.2**
	baz=43						
TRKS	**Terek-Say**	**2.15**	**285**	⇑*i*P	**Pb**	**00 42 44.5**	**-0.4**
	baz=82						
TRKS				⇑*i*S	**Sb**	**00 43 13.0**	**+0.9**
	baz=82						
ULHL	**Ulahol**	**2.15**	**54**	⇑*e*P	**Pn**	**00 42 42.3**	**0.0**
	baz=52						
ULHL				⇑*i*S	**Sn**	**00 43 08.9**	**-0.9**
	baz=52						
ULHL	**Ulahol**	**2.15**	**54**	⇑P	**Pn**	**00 42 42.2**	**0.0**
	26nm,0.2s,SNR=66						
ULHL				⇑S	**Sn**	**00 43 08.3**	**-1.5**
	139nm,0.4s						
DRK	**Karamyk**	**2.21**	**227**	⇑*i*P	**Pb**	**00 42 45.3**	**-0.7**
	baz=29						
DRK				⇑*i*S	**Sb**	**00 43 14.9**	**+1.0**
	baz=29						
TKM2	**Tokmak 2**	**2.30**	**33**	⇓*e*P	**Pn**	**00 42 44.2**	**-0.2**
	baz=30						
TKM2				⇓*i*S	**Sn**	**00 43 12.5**	**-1.0**
	baz=30						
TKM2	**Tokmak 2**	**2.30**	**33**	⇓P	**Pn**	**00 42 45.8**	**+1.4**
	24nm,0.3s,SNR=16						
TKM2				⇓S	**Sb**	**00 43 15.1**	**-1.5**
	41nm,0.2s						
USP	**Ospenovka**	**2.31**	**11**	⇓*i*P	**Pn**	**00 42 45.0**	**+0.6**
	baz=8.0						
USP				⇓*i*S	**Sn**	**00 43 13.6**	**+0.1**
	baz=8.0						
USP	**Ospenovka**	**2.31**	**11**	⇓P	**Pb**	**00 42 46.8**	**-0.9**
	55nm,0.3s,SNR=41						
USP				⇑S	**Sb**	**00 43 16.7**	**0.0**
	127nm,0.6s						
SGDS	**Sogindy**	**2.52**	**12**	Pg	**Pb**	**00 42 50.4**	**-0.7**
	31nm,0.4s						
SGDS				Lg	Lg	00 43 21.6	
	43nm,0.5s						
BTK	**Batken**	**2.53**	**249**	⇓*i*P	**Pb**	**00 42 50.4**	**-0.9**
	baz=50						
BTK				⇓*i*S	**Sb**	**00 43 23.3**	**+0.3**
	baz=50						
DGS	**Degeres**	**2.64**	**31**	*e*P	**Pb**	**00 42 52.6**	**-0.6**
	41nm,0.4s						
DGS				*e*S	**Sb**	**00 43 24.5**	**-1.7**
	115nm,0.6s						
DGS	**Degeres**	**2.64**	**31**	Pg	**Pb**	**00 42 52.6**	**-0.6**
	41nm,0.4s						
DGS				Lg	Lg	00 43 24.5	
	115nm,0.6s						
DZA	**Taraz**	**2.70**	**316**	*e*P	**Pg**	**00 42 57.2**	**+0.5**
	94nm,0.1s						
DZA				*e*S	**Sg**	**00 43 32.4**	**+0.6**
	117nm,0.4s						
DZA	**Taraz**	**2.70**	**316**	Pg	**Pg**	**00 42 57.2**	**+0.5**
	94nm,0.1s						
DZA				Lg	Lg	00 43 32.4	
	117nm,0.4s						
KDJ	**Kajisay**	**2.71**	**64**	⇓*i*P	**Pn**	**00 42 48.8**	**-1.1**
	baz=64						
KDJ				⇓*i*S	**Sn**	**00 43 21.0**	**-2.4**
	baz=64						
IZV	**Izvestkoviy**	**2.87**	**44**	*e*P	**Pb**	**00 42 57.4**	**+0.2**
	25nm,0.5s						
IZV				*e*S	**Sb**	**00 43 32.6**	**-0.2**
	173nm,0.5s						
IZV	**Izvestkoviy**	**2.87**	**44**	Pg	**Pb**	**00 42 57.4**	**+0.2**
	25nm,0.5s						
IZV				Lg	Lg	00 43 32.6	
	173nm,0.5s						
TNSS	**Tian-Shan**	**3.05**	**47**	Pg	**Pb**	**00 42 59.9**	**-0.5**
	11nm,0.3s						
TNSS				Lg	Lg	00 43 37.8	
	121nm,0.6s						
AAA	**Alma-Ata**	**3.15**	**44**	*e*P	**Pb**	**00 43 02.1**	**+0.2**
	26nm,0.2s						
AAA				*e*S	**Sb**	**00 43 41.1**	**+0.3**
	157nm,0.6s						
AAA	**Alma-Ata**	**3.15**	**44**	Pg	**Pb**	**00 43 02.1**	**+0.2**
	26nm,0.2s						
AAA				Lg	Lg	00 43 41.1	
	157nm,0.6s						
KNDC	**Almaty**	**3.18**	**45**	⇓Pg	**Pb**	**00 43 02.1**	**-0.3**
	28nm,0.5s						
KNDC				⇑Lg	Lg	00 43 43.8	
	135nm,0.6s						
MDOK	**Medeo**	**3.19**	**46**	*e*P	**Pb**	**00 43 02.3**	**-0.4**
	13nm,0.5s						
MDOK				*e*S	**Sb**	**00 43 41.7**	**-0.3**
	63nm,0.6s						
MDOK	**Medeo**	**3.19**	**46**	⇑Pg	**Pb**	**00 43 00.9**	**-1.8**
	11nm,0.6s						
MDOK				⇓Lg	Lg	00 43 42.0	
	59nm,0.6s						
MDOK	**Medeo**	**3.19**	**46**	Pg	**Pb**	**00 43 02.3**	**-0.4**
	13nm,0.5s						
MDOK				Lg	Lg	00 43 41.7	
	63nm,0.6s						
KOTS	**Kotyrbulak**	**3.27**	**46**	*e*P	**Pb**	**00 43 03.7**	**-0.3**
	18nm,0.5s						
KOTS				*e*S	**Sb**	**00 43 45.0**	**+0.6**
	150nm,0.6s						
KOTS	**Kotyrbulak**	**3.27**	**46**	Pg	**Pb**	**00 43 03.7**	**-0.3**
	18nm,0.5s						
KOTS				Lg	Lg	00 43 45.0	
	150nm,0.6s						
KK31	**Karatay Array**	**3.29**	**311**	Pg	**Pg**	**00 43 06.7**	**-1.4**
	1.4nm,0.3s,baz=121,slow=17,SNR=10						
KK31				Lg	Lg	00 43 50.5	
	8.4nm,0.3s,baz=128,slow=26,SNR=15						
ANVS	**Anan'yevo**	**3.33**	**56**	⇓*i*P	**Pn**	**00 42 58.4**	**-0.1**
	baz=56						
ANVS				⇓*i*S	**Sn**	**00 43 36.5**	**-2.3**
	baz=56						
KTBS	**Karatobe**	**3.41**	**36**	*e*P	**Pb**	**00 43 05.5**	**-0.8**
	7.3nm,0.3s						
KTBS				*e*S	**Sb**	**00 43 48.0**	**-0.3**
	174nm,0.7s						
KTBS	**Karatobe**	**3.41**	**36**	Pg	**Pb**	**00 43 05.5**	**-0.8**
	7.3nm,0.3s						
KTBS				Lg	Lg	00 43 48.0	
	174nm,0.7s						
KUU	**Kurty**	**3.41**	**31**	*e*P	**Pb**	**00 43 06.0**	**-0.3**
	13nm,0.3s						
KUU				*e*S	**Sb**	**00 43 48.6**	**+0.3**
	61nm,0.5s						
KUU	**Kurty**	**3.41**	**31**	Pg	**Pb**	**00 43 06.0**	**-0.3**
	13nm,0.3s						
KUU				Lg	Lg	00 43 48.6	
	61nm,0.5s						
CHKK	**Chushkaly**	**3.66**	**38**	*e*P	**Pb**	**00 43 10.8**	**+0.3**
	4.1nm,0.5s						
CHKK				*e*S	**Sb**	**00 43 55.5**	**+0.1**
	43nm,0.5s						
CHKK	**Chushkaly**	**3.66**	**38**	Pg	**Pb**	**00 43 10.8**	**+0.3**
	4.1nm,0.5s						
CHKK				Lg	Lg	00 43 55.5	
	43nm,0.5s						
SATY	**Saty**	**3.94**	**57**	*e*P	**Pb**	**00 43 16.1**	**+0.7**
	7.5nm,0.4s						
SATY				*e*S	**Sb**	**00 44 04.5**	**+1.0**
	39nm,0.3s						
SATY	**Saty**	**3.94**	**57**	Pg	**Pb**	**00 43 16.1**	**+0.7**
	7.5nm,0.4s						
SATY				Lg	Lg	00 44 04.5	
	39nm,0.3s						
BTLS	**Baital**	**4.05**	**1**	*e*P	**Pb**	**00 43 18.9**	**+1.8**
	3.9nm,0.7s						
BTLS				*e*S	**Sb**	**00 44 09.5**	**+3.0**
	4.8nm,0.7s						
BTLS	**Baital**	**4.05**	**1**	Pg	**Pb**	**00 43 18.9**	**+1.8**
	3.9nm,0.7s						
BTLS				Lg	Lg	00 44 09.5	
	4.8nm,0.7s						
KPKS	**Kokpek**	**4.33**	**54**	*e*P	**Pb**	**00 43 22.7**	**+0.8**
	13nm,0.3s						
KPKS				*e*S	**Sb**	**00 44 15.9**	**+1.3**
	62nm,0.6s						
ARXS	**Arharly**	**4.33**	**41**	*e*P	**Pb**	**00 43 23.0**	**+1.0**
	14nm,0.5s						
ARXS				*e*S	**Sb**	**00 44 16.4**	**+1.7**
	70nm,0.4s						
ARXS	**Arharly**	**4.33**	**41**	Pg	**Pb**	**00 43 23.0**	**+1.0**
	14nm,0.5s						
ARXS				Lg	Lg	00 44 16.4	
	70nm,0.4s						
UZB	**Uzynbulak**	**4.38**	**59**	*e*P	**Pb**	**00 43 23.0**	**+0.2**
	11nm,0.4s						
UZB				*e*S	**Sb**	**00 44 16.5**	**+0.3**
	25nm,0.4s	

DJR	**Jarkent** 0.4nm,0.6s	**5.47**	**51**	Pg	**Pb**	**00 43 42.9**	**+1.4**
DJR	1.1nm,0.4s			Lg	Lg	00 44 50.5	
KAPS	**Kapalarasan** 0.3nm,0.7s	**5.86**	**41**	*e*P	**Pb**	**00 43 50.8**	**+2.8**
KAPS	0.9nm,0.7s			*e*S	**Sb**	**00 45 05.1**	**+6.4**
KAPS	**Kapalarasan** 0.5nm,0.8s	**5.86**	**41**	Pg	**Pb**	**00 43 48.8**	**+0.8**
KAPS	0.9nm,0.7s			Lg	Lg	00 45 00.6	

TAP 10 00:53:16.5, 24°.83N×122°.00E, h10km, ML2.5, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng** baz=279	**0.15**	**279**	*i* P	Pg	00 53 20.5	+0.5
NTC	baz=279			*e*S	Sg	00 53 23.1	+0.8
TWB1	**Santiao Chiao** baz=360	**0.18**	**357**	*i* P	Pg	00 53 20.7	+0.4
TWB1	baz=360			*i* S	Sg	00 53 23.4	+0.4
TIPB	**Shuangxi** baz=312	**0.21**	**312**	⇑*i*P	Pg	00 53 21.6	+0.7
TIPB	baz=312			*i* S	Sg	00 53 24.8	+0.9
ILA	**Ilan** baz=253	**0.24**	**254**	*e*P	Pg	00 53 22.0	+0.6
ILA	baz=253			*e*S	Sg	00 53 27.4	+2.8
TWC	**Suao** baz=210	**0.26**	**212**	*i* P	Pg	00 53 21.9	+0.1
TWC	baz=210			*e*S	Sg	00 53 25.7	+0.4
NWF	**Wu-fen Shan** baz=321	**0.31**	**321**	*i* P	Pb	00 53 23.7	-0.6
NWF	baz=321			*e*S	Sb	00 53 28.4	-1.0
WFSB	**Wu-fen Shan** baz=320	**0.31**	**321**	*i* P	Pb	00 53 23.7	-0.5
WFSB	baz=320			*e*S	Sb	00 53 28.6	-0.7
TWE	**Neicheng** baz=249	**0.32**	**250**	*i* P	Pg	00 53 23.2	+0.3
TWE	baz=249			*e*S	Sb	00 53 29.0	-0.6
NDS	**Dongshan** baz=233	**0.32**	**233**	*i* P	Pg	00 53 23.1	+0.1
NDS	baz=233			*e*S	Sb	00 53 29.8	+0.1
TNOU	**National Taiwa** baz=327	**0.38**	**327**	*e*P	Pb	00 53 24.9	-0.5
TNOU	baz=327			*e*S	Sb	00 53 30.7	-0.6
TWA	**Mucha** baz=292	**0.41**	**292**	*e*P	Pb	00 53 25.4	-0.4
TWA	baz=292			*e*S	Sb	00 53 31.5	-0.6
EWUT	**Wuta** baz=208	**0.43**	**208**	*e*P	Pb	00 53 25.7	-0.6
EWUT	baz=208			*e*S	Sb	00 53 32.2	-0.6
ENTT	**Nioudou** baz=243	**0.44**	**244**	*e*P	Pg	00 53 25.7	+0.6
ENTT	baz=243			*e*S	Sb	00 53 33.0	0.0
NHDH	**Xindian Distri** baz=287	**0.45**	**287**	*e*P	Pb	00 53 26.0	-0.6
NHDH	baz=287			*e*S	Sb	00 53 32.7	-0.7
NWLT	**Wulai** baz=263	**0.45**	**263**	P	Pg	00 53 25.7	+0.3
NWLT	baz=263			*e*S	Sg	00 53 32.1	+0.7
NDT	**Datong Townshi** baz=243	**0.50**	**243**	*e*P	Pb	00 53 26.9	-0.5
YM01	**YM01** baz=309	**0.50**	**309**	*i* P	Pb	00 53 27.6	+0.1
YM01	baz=309			*e*S	Sb	00 53 34.1	-0.7
YM08	**YM08** baz=314	**0.51**	**314**	*e*P	Pg	00 53 26.9	+0.4
YHNB	**Yeheng** baz=254	**0.59**	**254**	*e*P	Pg	00 53 28.2	+0.2
NSK	**Sanguang** baz=255	**0.60**	**255**	*e*P	Pg	00 53 28.3	0.0
NNSH	**Datong** baz=235	**0.69**	**235**	*e*P	Pg	00 53 30.2	+0.3
NNSB	**Datong** baz=234	**0.69**	**235**	*e*P	Pg	00 53 30.2	+0.3
NACB	**Ninganchiao** baz=209	**0.75**	**209**	*e*P	Pg	00 53 31.3	+0.2
ETLH	**Xiulin Townshi** baz=217	**0.78**	**217**	*e*P	Pg	00 53 31.7	+0.1
TWD	**Chiawan** baz=206	**0.83**	**206**	*e*P	Pg	00 53 32.2	-0.3
FUSS	**Fushou** baz=230	**0.90**	**230**	*e*P	Pg	00 53 32.5	-1.5
WHF	**Hehuan Shan** baz=224	**0.95**	**225**	*e*P	Pg	00 53 35.0	0.0
WHF	baz=224			*e*S	Sg	00 53 47.4	-0.1

TAP 10 00:53:26.6, 24°.83N×122°.00E, h9km, ML2.6, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS	baz=286	**0.06**	**286**	*e*P	Pg	00 53 28.0	-0.5
EGS	baz=286			*e*S	Sg	00 53 29.9	0.0
NTC	**Toucheng** baz=280	**0.15**	**280**	*i* P	Pg	00 53 30.6	+0.7
NTC	baz=280			*e*S	Sg	00 53 33.5	+1.4
TWB1	**Santiao Chiao** baz=1.0	**0.18**	**358**	⇑*i*P	Pg	00 53 30.9	+0.5
TWB1	baz=1.0			*i* S	Sg	00 53 33.5	+0.6
TIPB	**Shuangxi** baz=313	**0.21**	**313**	⇑*i*P	Pg	00 53 31.6	+0.6
TIPB	baz=313			*i* S	Sg	00 53 34.9	+1.0
TWC	**Suao** baz=209	**0.26**	**211**	*i* P	Pg	00 53 31.9	+0.1
TWC	baz=209			*e*S	Sg	00 53 36.2	+1.0
NWF	**Wu-fen Shan** baz=321	**0.31**	**321**	*e*P	Pb	00 53 33.8	-0.6
NWF	baz=321			*e*S	Sb	00 53 38.5	-1.1
WFSB	**Wu-fen Shan** baz=321	**0.31**	**321**	*e*P	Pb	00 53 33.9	-0.5
WFSB	baz=321			*e*S	Sb	00 53 38.6	-1.0
TWE	**Neicheng** baz=249	**0.32**	**250**	*i* P	Pg	00 53 33.4	+0.5
TWE	baz=249			*e*S	Sb	00 53 39.1	-0.6
NDS	**Dongshan** baz=233	**0.32**	**233**	*i* P	Pg	00 53 33.2	+0.3
NDS	baz=233			*e*S	Sb	00 53 40.0	+0.1
TNOU	**National Taiwa** baz=328	**0.38**	**328**	*e*P	Pb	00 53 34.9	-0.6
EWUT	**Wuta** baz=207	**0.43**	**207**	*e*P	Pg	00 53 35.6	+0.6
EWUT	baz=207			*e*S	Sb	00 53 42.1	-0.9
ENTT	**Nioudou** baz=244	**0.43**	**244**	*e*P	Pg	00 53 35.6	+0.5
ENTT	baz=244			*e*S	Sb	00 53 43.1	0.0
NWLT	**Wulai** baz=263	**0.45**	**264**	*e*P	Pg	00 53 35.9	+0.5
NWLT	baz=263			*e*S	Sg	00 53 41.4	+0.1
YM01	**YM01** baz=309	**0.50**	**309**	*e*P	Pb	00 53 37.7	+0.1
YM01	baz=309			*e*S	Sb	00 53 44.3	-0.8
YM08	**YM08** baz=314	**0.51**	**314**	*e*P	Pb	00 53 37.5	-0.4
YHNB	**Yeheng** baz=254	**0.58**	**254**	*e*P	Pb	00 53 38.6	-0.5
YHNB	baz=254			*e*S	Sb	00 53 47.3	-0.3
YHNB	**Yeheng** baz=254	**0.58**	**254**	*e*S	Pb	00 53 38.2	-0.9
NSK	**Sanguang** baz=255	**0.60**	**255**	*e*P	Pg	00 53 38.4	+0.2
NSK	baz=255			*e*S	Sg	00 53 46.7	+0.6
NSK	**Sanguang** baz=255	**0.60**	**255**	*e*S	Pg	00 53 38.4	+0.2
NNSB	**Datong** baz=234	**0.69**	**235**	*e*P	Pg	00 53 39.7	-0.2
NNSH	**Datong** baz=235	**0.69**	**235**	*e*P	Pg	00 53 39.8	0.0
NNSH	baz=235			*e*S	Sb	00 53 49.9	-0.6
NNSH	**Datong** baz=235	**0.69**	**235**	*e*S	Pg	00 53 40.0	+0.2
NACB	**Ninganchiao** baz=209	**0.75**	**209**	*e*P	Pg	00 53 41.3	+0.3
NACB	baz=209			*e*S	Sb	00 53 51.6	-0.6
ETL	**Fush Village** baz=207	**0.75**	**207**	*e*P	Pg	00 53 41.2	+0.2
ETL	baz=207			*e*S	Sb	00 53 51.8	-0.4
ETLH	**Xiulin Townshi** baz=217	**0.78**	**217**	*e*P	Pg	00 53 41.3	-0.3
ETLH	**Xiulin Townshi** baz=217	**0.78**	**217**	*e*S	Pg	00 53 41.4	-0.2
FUSS	**Fushou** baz=230	**0.90**	**230**	*e*P	Pb	00 53 44.3	-0.2

*IDC **10** 01:00:51.1±0.8, 52°.67N×34°.78W, h0km, mb3.6/9, mb1 3.9/10, mb1mx3.7/41, mbtmp3.6/10, ML3.9/1, MS3.1/13, Ms1 3.1/13, ms1mx3.0/39, Error ellipse: s-maj=28.6km s-min=19.6km az=6.0*
*NEIC **10** 01:00:53.8±1.3, 52°.81N±0°.10×34°.8W±0°.2, h10km±1km, mb4.2/17, Error ellipse: s-maj=19.9km s-min=11.9km az=221.0*
ISC 10 01:00:53.7±0.7, 52°.7N±0°.1×34°.82W±0°.09, h14km, n44, σ0°.96/29, mb4.1/17, MS3.0/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**10.26**	**330**	Pn	**Pn**	**01 03 19.2**	**-1.1**
BORG	**Borgarnes** comp=Z,31nm,19.8s,baz=18,slow=30	**13.92**	**25**	LR	LR	01 07 44.0	
SFJD	**Kangerlussuaq** comp=Z,30nm,19.4s,baz=230,slow=29	**16.30**	**338**	LR	LR	01 08 47.3	
EKA	**Eskdalemuir Ar** baz=278,slow=15,SNR=5.3	**18.70**	**69**	P	**Pn**	**01 05 11.0**	**-0.8**
FRB	**Frobisher Bay** comp=Z,28nm,21.5s,baz=198,slow=33	**20.64**	**316**	LR	LR	01 12 12.1	
E63A	**Oxbow**	**22.54**	**267**	P	**P**	**01 05 53.4**	**+0.4**
E63A	comp=Z,9.1nm,1.1s			IAmb	IAmb	01 06 05.2	
D62A	**Allapoint, All**	**22.61**	**269**	P	**P**	**01 05 55.2**	**+1.5**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.7s,baz=316,slow=11,SNR=2.3	**24.80**	**109**	P	**P**	**01 06 15.9**	**+0.8**
ESDC	comp=Z,56nm,20.0s,baz=115,slow=30			LR	LR	01 13 03.2	
ESDC	**Sonseca Array** comp=Z,2.5nm,1.4s	**24.80**	**109**	IAmb	IAmb	01 06 18.8	
NOA	**NORSAR Array B** comp=Z,35nm,20.4s,baz=295,slow=31	**26.00**	**53**	LR	LR	01 14 23.8	
HFS	**Hagfors** comp=Z,33nm,18.5s,baz=322,slow=32	**27.29**	**55**	LR	LR	01 15 25.2	
CLL	**Collm**	**29.05**	**73**	*e*(P)	**P**	**01 06 56.0**	**+2.9**
DAVOX	**Davos/Dischmat** comp=Z,30nm,19.4s,baz=306,slow=35	**29.11**	**84**	LR	LR	01 17 59.8	
SADO	**Sadowa** comp=Z,61nm,18.3s,baz=94,slow=35	**29.88**	**273**	LR	LR	01 18 18.6	
GERES	**GERESS Array B** comp=Z,32nm,18.4s,baz=17,slow=34	**30.46**	**78**	LR	LR	01 18 22.6	
GERES	**GERESS Array B**	**30.46**	**78**	P	**P**	**01 07 05.9**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,29nm,18.7s,baz=45,slow=33	**31.92**	**35**	LR	LR	01 18 21.1	
FINES	**FINESS Array B** comp=Z,52nm,20.2s,baz=313,slow=32	**33.06**	**50**	LR	LR	01 18 32.4	
AKASG	**Malin Array Be** comp=Z,39nm,20.2s,baz=305,slow=34	**38.58**	**66**	LR	LR	01 22 36.4	
BRTR	**Keskin Array B** comp=Z,33nm,18.1s,baz=132,slow=36	**47.36**	**77**	LR	LR	01 28 55.0	
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.8s,baz=316,slow=10,SNR=2.3	**49.02**	**130**	P	**P**	**01 09 38.6**	**-1.4**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.5s,baz=58,slow=8.6,SNR=5.0	**49.10**	**290**	P	**P**	**01 09 40.3**	**-0.3**
EGAK	**Eagle**	**49.94**	**328**	P	**P**	**01 09 47.0**	**+0.5**
BCAR	**Beaver Creek A**	**51.28**	**326**	P	**P**	**01 09 56.5**	**-0.2**
SCRK	**Sand Creek**	**51.39**	**328**	P	**P**	**01 09 57.1**	**-0.5**
SCRK	comp=Z,3.4nm,0.8s			IAmb	IAmb	01 09 59.5	
PV12	**Saucer Basin,**	**51.54**	**285**	P	**P**	**01 10 00.0**	**+0.9**
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=45,slow=5.3,SNR=8.4	**51.76**	**330**	P	**P**	**01 10 00.8**	**+0.5**
ANMO	**Albuquerque**	**52.41**	**280**	P	**P**	**01 10 05.9**	**+0.2**
G08A	**Pilot Rock**	**52.71**	**298**	P	**P**	**01 10 07.4**	**-0.2**
G08A	comp=Z,3.3nm,1.3s			IAmb	IAmb	01 10 07.8	
WVOR	**Wild Horse Val**	**54.41**	**295**	P	**P**	**01 10 21.1**	**+0.9**
WVOR	comp=Z,4.1nm,1.2s			IAmb	IAmb	01 10 22.7	
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=65,slow=7.1,SNR=4.7	**54.66**	**273**	P	**P**	**01 10 21.8**	**-0.3**
KNK	**Knik Glacier**	**54.67**	**327**	P	**P**	**01 10 22.2**	**+0.6**
PINE	**Pine Mountain**	**54.76**	**298**	P	**P**	**01 10 23.6**	**+0.8**
PINE	comp=Z,4.5nm,1.5s			IAmb	IAmb	01 10 35.8	
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.5s,baz=68,slow=5.9,SNR=1.6	**56.95**	**291**	P	**P**	**01 10 38.6**	**0.0**
AAK	**Ala-Archa**	**67.23**	**49**	P	**P**	**01 11 47.9**	**+0.4**
AAK	comp=Z,2.1nm,0.8s			IAmb	IAmb	01 11 51.3	
MK31	**Makanchi Array**	**67.30**	**42**	P	**P**	**01 11 47.2**	**-0.5**
MK31	comp=Z,1.2nm,0.9s			IAmb	IAmb	01 11 51.6	
MKAR	**Makanchi Array** comp=Z,0.8nm,0.6s,baz=330,slow=5.7,SNR=9.2	**67.30**	**42**	P	**P**	**01 11 46.8**	**-0.8**
LPAZ	**La Paz** comp=Z,1.3nm,1.0s,baz=11,slow=14,SNR=3.7	**74.50**	**213**	P	**P**	**01 12 31.9**	**-0.4**
LPAZ	**La Paz** comp=Z,1.5nm,1.0s	**74.50**	**213**	IAmb	IAmb	01 12 33.8	
SONM	**Songino Array** comp=Z,1.3nm,0.7s,baz=340,slow=8.1,SNR=4.0	**74.53**	**26**	P	**P**	**01 12 31.5**	**-0.2**
SONM	**Songino Array** comp=Z,3.2nm,1.4s	**74.53**	**26**	IAmb	IAmb	01 12 32.6	
ULN	**Ulaanbaatar**	**74.68**	**26**	P	**P**	**01 12 33.6**	**+1.0**
ULN				IAmb	IAmb	01 12 42.6	
WRA	**Warramunga Arr** comp=Z,2.5nm,0.7s,baz=341,slow=3.2,SNR=22	**146.24**	**19**	PKPbc	**PKPbc**	**01 20 32.6**	**-1.0**
ASAR	**Alice Springs** comp=Z,1.4nm,0.7s,baz=9.0,slow=2.5,SNR=14	**149.76**	**21**	PKPbc	**PKPbc**	**01 20 41.6**	**-1.3**

IDC 10 01:19:28.9±2.4, 5°.00S×128°.84E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=164.9km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=343,slow=13,SNR=10.0	**15.79**	**161**	Pn	Pn	01 23 13.5	+0.7
WRA	0.2nm,0.3s,baz=338,slow=22,SNR=4.9			Sn	Sn	01 25 59.8	-8.9
ASAR	**Alice Springs** 0.3nm,0.3s,baz=352,slow=11,SNR=8.2	**19.19**	**166**	P	P	01 23 54.2	-0.3
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=123,slow=5.3,SNR=2.0	**65.93**	**327**	P	P	01 30 16.9	0.0

*IDC **10** 01:53:11.9±0.7, 27°.33N×93°.99E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/48, mbtmp4.0/15, ML4.3/1, Error ellipse: s-maj=31.5km s-min=15.0km az=56.0*
*NEIC **10** 01:53:14.7±1.8, 27°.4N±0°.1×94°.1E±0°.1, h15km±4km, mb4.1/20, Error ellipse: s-maj=23.0km s-min=11.1km az=49.0*
*NDI **10** 01:53:14.3±2.0, 27°.41N×94°.06E, h10km, ML4.0, mb4.1(NEIC)*

ISC 10 01:53:13.7±0.5, 27°.40N±0°.05×94°.05E±0°.05, h10km, n46, σ1°.13/47, mb4.1/20, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAN	**ITANAGAR**	**0.38**	**229**	*e*P	**Pg**	**01 53 21.8**	**+0.5**
ITAN				*e*S	**Sg**	**01 53 27.9**	**+1.5**
JORH	**JORHAT**	**0.68**	**164**	*e*P	**Pg**	**01 53 26.6**	**-0.2**
LKP	**Lekhapani**	**1.60**	**92**	*e*P	**Pb**	**01 53 44.0**	**+0.6**
LKP				*e*S	**Sb**	**01 54 04.0**	**+0.3**
SHL	**Shillong**	**2.66**	**227**	*e*P	**Pn**	**01 53 56.9**	**0.0**
SHL	comp=E,411nm,0.2s			IAML		01 54 28.9	
SHL	comp=N,612nm,0.1s			IAML		01 54 38.3	
LSA	**Lhasa**	**3.43**	**313**	Pn	**Pn**	**01 54 11.0**	**+3.3**
LSA				Sn	**Sb**	**01 54 54.1**	**-2.7**
LSA	comp=N,49nm,0.9s			smax	smax		
LSA	comp=E,76nm,0.7s			smax	smax		
LSA	**Lhasa**	**3.43**	**313**		**Pn**	**01 54 10.3**	**+2.6**
AGT	**Agartala**	**4.31**	**216**	*e*S	**Sn**	**01 55 09.6**	**-0.1**
CMAR	**Chiang Mai Arr** comp=E,0.7nm,0.3s,baz=325,slow=12,SNR=7.3	**9.97**	**152**	Pn	**Pn**	**01 55 37.7**	**+0.5**
WMQ	**Urumqi**	**17.17**	**344**	*e*P	**Pn**	**01 57 13.2**	**-0.6**
NIL	**Nilore**	**18.95**	**294**	P	**P**	**01 57 35.5**	**+0.4**
NIL	comp=Z,6.6nm,0.9s			IAmb	IAmb	01 57 42.2	
MK31	**Makanchi Array**	**21.47**	**338**	P	**P**	**01 58 01.6**	**-0.7**
MKAR	**Makanchi Array** comp=Z,1.7nm,0.4s,baz=143,slow=13,SNR=19	**21.47**	**338**	P	**P**	**01 58 02.2**	**-0.1**
MKAR	**Makanchi Array**	**21.47**	**338**	P	**P**	**01 58 02.1**	**-0.2**
MAKZ	**Makanchi**	**21.59**	**337**	P	**P**	**01 58 03.8**	**+0.2**
MAKZ	comp=Z,4.7nm,1.0s			IAmb	IAmb	01 58 04.3	
DRK	**Karamyk**	**22.07**	**309**	P	**P**	**01 58 09.2**	**+0.1**
KBL	**Kabul**	**22.55**	**295**	P	**P**	**01 58 14.7**	**+0.4**
KBL	comp=Z,5.9nm,0.5s			IAmb	IAmb	01 58 15.8	
SONM	**Songino Array** comp=Z,2.1nm,0.9s,baz=196,slow=10,SNR=6.5	**22.57**	**22**	P	**P**	**01 58 14.4**	**+0.2**
ULN	**Ulaanbaatar**	**22.82**	**23**	P	**P**	**01 58 14.9**	**-2.0**
BTK	**Batken**	**23.00**	**309**		**P**	**01 58 20.1**	**+1.3**
KK31	**Karatay Array**	**24.68**	**316**	P	**P**	**01 58 31.9**	**-2.9**
KKAR	**Karatay Array**	**24.68**	**316**	P	**P**	**01 58 35.1**	**+0.3**
KURBB	**Kurchatov Arra** comp=Z,6.4nm,0.6s,baz=150,slow=10,SNR=50	**26.03**	**337**	P	**P**	**01 58 47.8**	**+0.8**
KURK	**Kurchatov**	**26.08**	**337**	P	**P**	**01 58 47.8**	**+0.4**
ZAA0	**Zalesovo Array**	**27.39**	**348**	P	**P**	**01 58 57.8**	**-1.3**
ZAA0	comp=Z,7.2nm,1.6s			IAmb	IAmb	01 59 13.8	
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.5s,baz=162,slow=6.2,SNR=3.7	**27.39**	**348**	P	**P**	**01 59 00.1**	**+1.0**
ZALV	**Zalesovo Beam**	**27.39**	**348**	P	**P**	**01 58 57.8**	**-1.3**
ABKAR	**Akbulak array**	**34.09**	**319**	P	**P**	**01 59 58.5**	**+0.2**
ABKAR	comp=Z,1.4nm,0.9s			IAmb	IAmb	02 00 53.9	
BR131	**Keskin Array S**	**50.95**	**300**	P	**P**	**02 02 14.9**	**-0.8**
BR131	comp=Z,3.1nm,0.6s			IAmb	IAmb	02 02 16.9	
BRTR	**Keskin Array B** comp=Z,1.6nm,0.6s,baz=107,slow=8.8,SNR=5.5	**50.95**	**300**	P	**P**	**02 02 15.8**	**+0.1**
AKASG	**Malin Array Be** comp=Z,2.5nm,0.5s,baz=79,slow=6.3,SNR=10	**53.57**	**314**	P	**P**	**02 02 33.8**	**-1.0**
AKASG	**Malin Array Be** comp=Z,4.3nm,1.8s	**53.57**	**314**	IAmb	IAmb	02 03 27.5	
AKBB	**Malin Array Si**	**53.57**	**314**	P	**P**	**02 02 33.5**	**-1.2**
FINES	**FINESS Array B** comp=Z,1.8nm,0.6s,baz=93,slow=6.7,SNR=9.7	**55.83**	**327**	P	**P**	**02 02 50.8**	**-0.2**
MLR	**Muntele Rosu**	**56.04**	**308**	P	**P**	**02 02 53.0**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,3.7nm,1.0s,baz=105,slow=6.7,SNR=2.4	**57.12**	**337**	P	**P**	**02 03 00.7**	**+0.6**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.6s,baz=327,slow=6.9,SNR=17	**61.13**	**136**	P	**P**	**02 03 28.0**	**-0.5**
WRA	**Warramunga Arr** comp=Z,1.4nm,1.9s	**61.13**	**136**	IAmb	IAmb	02 03 31.7	
NOA	**NORSAR Array B** comp=Z,1.2nm,0.9s,baz=87,slow=19,SNR=1.7	**63.01**	**327**	P	**P**	**02 03 40.1**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.8nm,0.7s,baz=322,slow=6.8,SNR=8.0	**63.70**	**139**	P	**P**	**02 03 45.4**	**-0.3**
GERES	**GERESS Array B** comp=Z,0.5nm,0.5s,baz=64,slow=6.1,SNR=7.9	**63.76**	**313**	P	**P**	**02 03 46.0**	**+0.1**
MLY	**Manley**	**75.31**	**23**	P	**P**	**02 04 56.3**	**-0.6**
MLY	comp=Z,2.1nm,0.8s			IAmb	IAmb	02 04 58.5	
MDM	**Murphy Dome**	**76.22**	**23**	P	**P**	**02 05 02.6**	**+0.5**
MDM	comp=Z,2.6nm,0.8s			IAmb	IAmb	02 05 03.6	
ILAR	**Eielson Array** comp=Z,1.0nm,0.8s,baz=309,slow=5.2,SNR=8.8	**76.80**	**23**	P	**P**	**02 05 05.2**	**-0.1**
ILAR	**Eielson Array**	**76.80**	**23**	P	**P**	**02 05 04.5**	**-0.8**
BCAR	**Beaver Creek A**	**79.62**	**23**	P	**P**	**02 05 21.8**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.7s,baz=49,slow=3.8,SNR=5.8	**86.11**	**283**	P	**P**	**02 05 54.5**	**-1.0**

*SOME **10** 01:53:55.5, 43°.27N×78°.65E, h5km*
*NNC **10** 01:53:55.1±0.7, 43°.26N×78°.66E, h0km, mpv2.8, Error ellipse: s-maj=5.9km s-min=5.0km az=108.0*
ISC 10 01:53:55.0±1.1, 43°.26N±0°.04×78°.69E±0°.04, h10km, n6, σ0°.35/12, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek** 49nm,0.1s	**0.20**	**359**	*e*P	**Pg**	**01 53 59.6**	**+0.2**
KPKS	51nm,0.1s			*e*S	**Sg**	**01 54 02.7**	**+0.4**
UZB	**Uzynbulak** 0.9nm,0.1s	**0.27**	**115**	*e*P	**Pg**	**01 54 00.7**	**+0.1**
UZB	23nm,0.1s			*e*S	**Sg**	**01 54 04.5**	**+0.2**
UZB	**Uzynbulak** 0.9nm,0.1s	**0.27**	**115**	P	**Pg**	**01 54 00.7**	**+0.1**
UZB	23nm,0.1s			S	**Sg**	**01 54 04.5**	**+0.2**
SATY	**Saty** 4.2nm,0.1s	**0.29**	**225**	*e*P	**Pg**	**01 54 01.2**	**+0.2**
SATY	46nm,0.1s			*e*S	**Sg**	**01 54 05.2**	**+0.4**
SATY	**Saty** 4.2nm,0.1s	**0.29**	**225**	P	**Pg**	**01 54 01.2**	**+0.2**
SATY	46nm,0.1s			S	**Sg**	**01 54 05.2**	**+0.4**
TNSS	**Tian-Shan** 0.2nm,0.0s	**1.29**	**260**	P	**Pn**	**01 54 19.1**	**-0.4**
TNSS	1.5nm,0.1s			S	**Sb**	**01 54 36.0**	**-0.5**

*ROM **10** 01:54:02.3±0.1, 42°.830N±0°.004×13°.395E±0°.006, h22km, ML2.3/28, Error ellipse: s-maj=0.5km s-min=0.2km az=68.0*
ISC 10 01:54:02.3±0.9, 42°.85N±0°.02×13°.43E±0°.02, h24km±6km, n50, σ0°.87/74, 2C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQT1	**Arquata del Tr**	**0.13**	**235**	P	**Pb**	**01 54 06.6**	**-0.5**
AQT1				S	**Sb**	**01 54 09.9**	**-0.4**
OFFI	**Offida**	**0.20**	**64**	⇑P	**Pb**	**01 54 08.6**	**+0.7**
OFFI	comp=N,1390μm,0.6s			AML	AML		
OFFI	comp=E,1585μm,0.4s			AML	AML		
NRCA	**Norcia**	**0.23**	**267**	⇓P	**Pb**	**01 54 07.7**	**-0.6**
NRCA				S	**Sb**	**01 54 12.1**	**-0.4**
NRCA	comp=N,2835μm,0.1s			AML	AML		
NRCA	comp=N,3190μm,0.1s			AML	AML		
NRCA	comp=E,3945μm,0.1s			AML	AML		
NRCA	comp=E,3685μm,0.1s			AML	AML		
TERO	**Teramo**	**0.26**	**151**	P	**Pb**	**01 54 08.3**	**-0.3**
TERO				S	**Sb**	**01 54 13.1**	**+0.2**
TERO	comp=N,781μm,1.1s			AML	AML		
TERO	comp=E,852μm,0.7s			AML	AML		
TERO	comp=N,782μm,1.1s			AML	AML		
TERO	comp=E,852μm,0.7s			AML	AML		

TERO				AML	AML		
	comp=N,376μm,0.2s						
TERO				AML	AML		
	comp=E,401μm,0.7s						
TERO				AML	AML		
	comp=N,780μm,1.1s						
MNTP	**Montappone**	**0.29**	**5**	P	**Pb**	**01 54 09.3**	**+0.2**
MNTP				S	**Sb**	**01 54 15.0**	**+1.2**
FEMA	**Monte Fema**	**0.30**	**292**	P	**Pb**	**01 54 09.0**	**-0.4**
CAMP	**Campotosto**	**0.31**	**183**	⇓P	**Pb**	**01 54 09.0**	**-0.5**
CAMP				S	**Sb**	**01 54 14.2**	**-0.1**
CAMP				AML	AML		
	comp=N,710μm,0.4s						
CAMP				AML	AML		
	comp=E,628μm,1.2s						
FDMO	**Fiordimonte**	**0.32**	**307**	P	**Pb**	**01 54 08.9**	**-0.6**
FDMO				S	**Sb**	**01 54 14.1**	**-0.3**
FDMO				AML	AML		
	comp=N,624μm,1.4s						
FDMO				AML	AML		
	comp=E,626μm,0.5s						
TRTR	**Tortoreto Alta**	**0.35**	**96**	P	**Pb**	**01 54 11.1**	**+1.1**
RM33	**Pellescritta (**	**0.37**	**206**	P	**Pb**	**01 54 09.9**	**-0.5**
RM33				S	**Sb**	**01 54 15.8**	**-0.2**
RM33				AML	AML		
	comp=N,1070μm,0.3s						
RM33				AML	AML		
	comp=E,1665μm,1.3s						
LNSS	**Leonessa**	**0.38**	**230**	P	**Pb**	**01 54 10.0**	**-0.5**
LNSS				S	**Sb**	**01 54 16.2**	**+0.1**
LNSS				AML	AML		
	comp=E,3255μm,0.4s						
LNSS				AML	AML		
	comp=N,3610μm,0.7s						
CESI	**CESI - Serrava**	**0.42**	**292**	P	**Pb**	**01 54 10.6**	**-0.5**
CESI				S	**Sb**	**01 54 17.4**	**+0.2**
CESI				AML	AML		
	comp=E,588μm,1.0s						
CESI				AML	AML		
	comp=N,316μm,0.2s						
GUMA	**Gualdo di Mace**	**0.43**	**59**	⇓P	**Pb**	**01 54 08.2**	**-3.1**
GUMA				S	**Sb**	**01 54 12.9**	**-4.5**
GUMA				AML	AML		
	comp=N,2550μm,1.6s						
GUMA				AML	AML		
	comp=E,2955μm,0.3s						
GUMA				AML	AML		
	comp=N,3345μm,0.3s						
GUMA				AML	AML		
	comp=E,2410μm,0.4s						
GUMA				AML	AML		
	comp=N,2545μm,1.6s						
AQU	**L'Aquila**	**0.49**	**183**	P	**Pb**	**01 54 12.0**	**-0.3**
AQU				S	**Sb**	**01 54 19.8**	**+0.6**
AQU				AML	AML		
	comp=E,234μm,0.7s						
AQU				AML	AML		
	comp=N,266μm,1.1s						
AQU				AML	AML		
	comp=E,235μm,0.7s						
AQU				AML	AML		
	comp=E,219μm,0.3s						
AQU				AML	AML		
	comp=N,252μm,0.7s						
EL6	**Elcito**	**0.54**	**333**	P	**Pb**	**01 54 12.8**	**-0.4**
EL6				S	**Sb**	**01 54 21.7**	**+1.1**
EL6				AML	AML		
	comp=E,227μm,0.7s						
EL6				AML	AML		
	comp=N,297μm,1.6s						
EL6				AML	AML		
	comp=E,226μm,0.7s						
EL6				AML	AML		
	comp=N,293μm,1.6s						
EL6				AML	AML		
	comp=E,1000μm,1.6s						
EL6				AML	AML		
	comp=N,800μm,1.6s						
VCEL	**Villa Celiera**	**0.54**	**146**	P	**Pb**	**01 54 13.0**	**-0.2**
VCEL				S	**Sb**	**01 54 21.9**	**+1.2**
VCEL				AML	AML		
	comp=E,306μm,0.6s						
VCEL				AML	AML		
	comp=E,307μm,0.6s						
VCEL				AML	AML		
	comp=N,400μm,0.1s						
SNTG	**Esanatoglia**	**0.55**	**319**	P	**Pb**	**01 54 12.8**	**-0.5**
SNTG				S	**Sb**	**01 54 21.4**	**+0.7**
SNTG				AML	AML		
	comp=E,127μm,0.6s						
SNTG				AML	AML		
	comp=N,223μm,0.3s						
CING	**Cingoli**	**0.56**	**342**	P	**Pb**	**01 54 13.0**	**-0.4**
CING				S	**Sb**	**01 54 22.1**	**+1.0**
CING				AML	AML		
	comp=E,104μm,0.5s						
CING				AML	AML		
	comp=N,112μm,0.2s						
CING				AML	AML		
	comp=E,104μm,0.5s						
ARRO	**Arrone**	**0.56**	**242**	P	**Pb**	**01 54 12.9**	**-0.6**
ARRO				AML	AML		
	comp=E,538μm,0.6s						
ARRO				AML	AML		
	comp=N,442μm,1.1s						
ARRO				AML	AML		
	comp=E,539μm,0.6s						
FAGN	**Fagnano**	**0.59**	**169**	⇑P	**Pb**	**01 54 13.7**	**-0.3**
FAGN				AML	AML		
	comp=E,347μm,1.4s						
FAGN				AML	AML		
	comp=N,404μm,0.5s						
FAGN				AML	AML		
	comp=N,403μm,0.5s						
ASSB	**Assisi San Ben**	**0.60**	**289**	P	**Pb**	**01 54 13.8**	**-0.5**
ASSB				S	**Sb**	**01 54 22.4**	**0.0**
ASSB				AML	AML		
	comp=N,365μm,1.6s						
ASSB				AML	AML		
	comp=E,553μm,0.5s						
FIAM	**Fiamignano**	**0.62**	**202**	P	**Pb**	**01 54 13.9**	**-0.7**
FIAM				S	**Sb**	**01 54 23.2**	**+0.2**
FIAM				AML	AML		
	comp=E,250μm,0.2s						
FIAM				AML	AML		
	comp=N,208μm,0.2s						
FIAM				AML	AML		
	comp=N,208μm,0.2s						
FIAM				AML	AML		
	comp=E,250μm,0.2s						
MOMA	**Monte Martano**	**0.64**	**267**	P	**Pb**	**01 54 14.4**	**-0.4**
MOMA				AML	AML		
	comp=E,658μm,0.3s						
MOMA				AML	AML		
	comp=N,462μm,1.1s						
MOMA				AML	AML		
	comp=E,659μm,0.3s						
FOSV	**Fossato di Vic**	**0.67**	**313**	P	**Pb**	**01 54 14.7**	**-0.6**
FOSV				S	**Sb**	**01 54 24.8**	**+0.6**
FOSV				AML	AML		
	comp=E,117μm,0.4s						
FOSV				AML	AML		
	comp=N,238μm,0.3s						
FOSV				AML	AML		
	comp=E,117μm,0.4s						
FOSV				AML	AML		
	comp=N,239μm,0.3s						
T0110	**Collepietro**	**0.67**	**157**	P	**Pb**	**01 54 15.0**	**-0.3**
T0110				AML	AML		
	comp=E,232μm,0.9s						
T0110				AML	AML		
	comp=N,205μm,0.6s						
T0110				AML	AML		
	comp=E,233μm,0.9s						
CESX	**Cesi**	**0.67**	**250**	P	**Pb**	**01 54 14.8**	**-0.6**
CESX				AML	AML		
	comp=N,258μm,0.6s						
CESX				AML	AML		
	comp=E,331μm,0.3s						
CESX				AML	AML		
	comp=N,257μm,0.6s						
ATCC	**AVT- Casa Cast**	**0.67**	**300**	P	**Pb**	**01 54 14.9**	**-0.5**
ATCC				S	**Sb**	**01 54 24.9**	**+0.5**
ATCC				AML	AML		
	comp=E,260μm,0.8s						
ATCC				AML	AML		
	comp=N,276μm,1.4s						
ATCC				AML	AML		
	comp=N,275μm,1.4s						
ATCC				AML	AML		
	comp=E,261μm,0.8s						
AOI	**Ancona**	**0.71**	**10**	P	**Pn**	**01 54 17.8**	**+0.8**
ARVD	**Arcevia**	**0.74**	**331**	P	**Pb**	**01 54 16.4**	**-0.2**
MURB	**Monte Urbino**	**0.79**	**302**	P	**Pb**	**01 54 16.9**	**-0.5**
ATSC	**Scheggia e Pas**	**0.80**	**317**	P	**Pb**	**01 54 16.9**	**-0.5**
FRON	**Frontone**	**0.85**	**323**	P	**Pb**	**01 54 18.0**	**-0.3**
FRON				AML	AML		
	comp=E,85μm,1.6s						
FRON				AML	AML		
	comp=N,98μm,1.6s						
FRON				AML	AML		
	comp=E,84μm,1.6s						
FRON				AML	AML		
	comp=N,99μm,1.2s						
ATTE	**AVT- Monte Tez**	**0.87**	**294**	P	**Pn**	**01 54 18.8**	**-0.3**
ATLO	**AVT- Montelove**	**0.89**	**302**	P	**Pb**	**01 54 18.9**	**-0.1**
ATBU	**Serra di Buran**	**0.90**	**314**	P	**Pn**	**01 54 19.6**	**+0.1**
INTR	**Introdacqua**	**0.90**	**157**	P	**Pb**	**01 54 18.7**	**-0.6**
INTR				AML	AML		
	comp=N,122μm,0.3s						
INTR				AML	AML		
	comp=E,154μm,0.7s						
ATVO	**AVT- Monte Val**	**0.92**	**306**	P	**Pb**	**01 54 19.2**	**-0.4**
PIEI	**Pieia**	**0.95**	**317**	P	**Pb**	**01 54 19.8**	**-0.4**
ATPC	**Poggio Castell**	**0.96**	**312**	P	**Pn**	**01 54 20.3**	**0.0**
CERT	**Cerreto**	**0.96**	**201**	P	**Pn**	**01 54 20.6**	**+0.3**
CERT				AML	AML		
	comp=E,132μm,0.5s						
CERT				AML	AML		
	comp=N,103μm,0.9s						
CERT				AML	AML		
	comp=N,103μm,0.9s						
MTCE	**Montecelio**	**0.97**	**212**	P	**Pn**	**01 54 20.5**	**+0.1**
MTCE				AML	AML		
	comp=E,80μm,0.4s						
MTCE				AML	AML		
	comp=N,73μm,0.4s						
FSSB	**Fossombrone**	**0.97**	**331**	P	**Pn**	**01 54 21.0**	**+0.5**
LPEL	**Lama dei Pelig**	**0.97**	**145**	P	**Pn**	**01 54 21.2**	**+0.7**
MGAB	**Montegabbione**	**0.97**	**274**	P	**Pn**	**01 54 21.1**	**+0.6**
NARO	**Abbazia di Nar**	**0.99**	**321**	P	**Pb**	**01 54 20.7**	**0.0**
NARO				AML	AML		
	comp=E,52μm,1.1s						
NARO				AML	AML		
	comp=N,44μm,1.2s						
NARO				AML	AML		
	comp=E,52μm,1.1s						
DUGI	**Dugi Otok**	**1.65**	**45**	*e*Pg	**Pn**	**01 54 30.4**	**+0.7**
DUGI				Sg	**Sn**	**01 54 49.3**	**-0.9**
MORI	**Morici**	**1.95**	**58**	*e*Pn	**Pn**	**01 54 34.2**	**+0.4**
MORI				Sn	**Sn**	**01 54 56.8**	**-0.7**
NVLJ	**Novalja**	**2.01**	**31**	*e*Pn	**Pn**	**01 54 36.1**	**+1.4**
NVLJ				Sn	**Sn**	**01 54 58.7**	**-0.4**
HVAR	**Hvar**	**2.24**	**80**	*e*Pn	**Pn**	**01 54 38.9**	**+1.0**
HVAR				Sn	**Sn**	**01 55 04.8**	**+0.1**
STON	**Ston**	**3.14**	**88**	*e*Pn	**Pn**	**01 54 51.0**	**+0.8**
STON				Sn	**Sn**	**01 55 26.9**	**+0.1**

IDC 10 01:58:58.6±62.0, 20°.87S×176°.88W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/41, mbtmp4.1/3, Error ellipse: s-maj=1144.0km s-min=166.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.58**	**245**	P	P	02 06 23.4	-0.1
	1.6nm,0.5s,baz=99,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**45.46**	**257**	P	P	02 07 19.1	-0.8
	2.0nm,0.7s,baz=100,slow=7.4,SNR=16						
WRA	**Warramunga Arr**	**45.59**	**262**	P	P	02 07 21.7	+0.8
	0.9nm,0.4s,baz=95,slow=8.3,SNR=30						

*NEIC **10** 02:11:28.2±2.6, 26°.48N±0°.06×111°.06W±0°.07, h10km±1km, mb4.1/34, Md4.1/6(MEX), Error ellipse: s-maj=11.4km s-min=9.4km az=31.0*
*IDC **10** 02:11:31.2±1.2, 26°.27N×110°.46W, h0km, mb3.9/2, mb1 4.0/7, mb1mx3.8/45, mbtmp3.7/7, ML3.4/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=21.8km s-min=13.1km az=86.0*
*ECX **10** 02:11:44.4±1.2, 27°.55N×111°.42W, h4km±17km, MD4.1*
*MEX **10** 02:11:47.6±0.7, 27°.53N×111°.23W, h16km±999km, MD4.1*
ISC 10 02:11:30.5±0.8, 26°.42N±0°.06×110°.64W±0°.07, h10km, n84, σ2°22/50, mb4.0/8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**1.48**	**352**	*i* P	**Pn**	**02 11 56.0**	**-1.3**
GUYB				*i* S	Sn	02 12 01.7	-15
GUYB	**Guaymas**	**1.48**	**352**	*e*P	Pn	02 11 55.6	-1.7
GUYB				*e*S	Sn	02 12 02.7	-14
TSIG	**Topolobambo**	**1.66**	**119**	*e*P	**Pn**	**02 11 57.3**	**-2.3**
SRIG	**Santa Rosalia**	**1.69**	**302**	*e*P	**Pn**	**02 12 01.2**	**+1.2**
SRIG	**Santa Rosalia**	**1.69**	**302**	Pn	Pn	02 11 53.1	-6.9
SRIG	**Santa Rosalia**	**1.69**	**302**	*e*P	Pn	02 11 58.6	-1.4
SRIG				*e*S	Sn	02 12 07.9	-14
LPIG	**La Paz**	**2.33**	**172**	Pn	**Pn**	**02 12 07.9**	**-0.9**
	3.1nm,0.3s,baz=289,slow=3.9,SNR=1.4						
LPIG				Lg	Lg	02 12 40.4	
	27nm,0.3s,baz=14,slow=20,SNR=6.7						
LPIG	**La Paz**	**2.33**	**172**	*e*P	**Pn**	**02 12 07.5**	**-1.3**
HSIG		**2.60**	**354**	*e*P	**Pn**	**02 12 11.3**	**-1.3**
HSIG		**2.60**	**354**	Pn	Pn	02 12 09.6	-3.0
HSIG		**2.60**	**354**	*e*P	Pn	02 12 10.8	-1.9
SLBS	**Sierra La Lagu**	**2.80**	**167**	Pn	**Pn**	**02 12 15.2**	**-0.2**
HPIG		**4.48**	**82**	Pn	**Pn**	**02 12 40.8**	**+2.1**
319A	**Douglas**	**5.08**	**13**	Pn	**Pn**	**02 12 45.9**	**-0.9**
214A	**Organ Pipe Nat**	**5.83**	**342**	Pn	Pn	02 12 51.4	-5.7
TUC	**Tucson**	**5.87**	**359**	Pn	**Pn**	**02 12 56.6**	**-1.0**
121A	**Cookes Peak, D**	**6.58**	**22**	Pn	**Pn**	**02 13 04.9**	**-2.6**
TX31	**Lajitas Ar. Si**	**6.82**	**63**		**Pn**	**02 13 11.7**	**+0.9**
TX32	**Lajitas Array**	**6.82**	**63**	Pn	**Pn**	**02 13 11.6**	**+0.9**
TXAR	**Lajitas Array**	**6.82**	**63**	Pn	**Pn**	**02 13 11.9**	**+1.1**
	0.3nm,0.3s,baz=237,slow=13,SNR=18						
TXAR				Lg	Lg	02 15 04.2	
	1.4nm,0.3s,baz=240,slow=31,SNR=7.9						
TXAR				LR	LR	02 16 03.8	
	comp=Z,248nm,18.5s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**6.82**	**63**	Pn	**Pn**	**02 13 12.4**	**+1.7**
113A	**Mohawk Valley,**	**6.88**	**337**	Pn	Pn	02 13 08.4	-3.1
MNTX	**Cornudas Mount**	**6.99**	**40**	Pn	**Pn**	**02 13 13.8**	**+0.8**
LENM	**Lemitar**	**8.34**	**21**		**Pn**	**02 13 31.7**	**0.0**
ANMO	**Albuquerque**	**9.23**	**22**	Pn	Pn	02 13 49.4	+5.6
	0.1nm,0.3s,baz=198,slow=13,SNR=4.9						
ANMO				Lg	Lg	02 16 25.7	
	0.1nm,0.3s,baz=168,slow=15,SNR=2.2						
U15A	**North Rim**	**10.07**	**352**	Pn	Pn	02 13 51.3	-4.3
LCMT	**Little Creek M**	**10.79**	**349**	Pn	Pn	02 14 01.9	-3.2
CCUT	**Cedar City**	**11.33**	**349**	Pn	Pn	02 14 08.6	-4.1
MTPU	**Mount Pierson**	**11.66**	**354**	Pn	Pn	02 14 13.3	-4.0
PV03	**Paradox Valley**	**11.89**	**7**	Pn	**Pn**	**02 14 19.2**	**-1.2**
SDCO	**Great Sand Dun**	**12.10**	**20**	Pn	**Pn**	**02 14 23.1**	**-0.1**
MVU	**Marysvale**	**12.12**	**354**	Pn	Pn	02 14 19.9	-3.6
TPH	**Tonopah**	**12.88**	**336**	Pn	Pn	02 14 27.8	-6.0
WMOK	**Wichita Mounta**	**13.15**	**48**		**Pn**	**02 14 40.3**	**+2.9**
NVAR	**Mina Array Bea**	**13.60**	**334**	Pn	Pn	02 14 50.8	+7.1
	0.1nm,0.3s,baz=156,slow=14,SNR=6.4						
DUG	**Dugway, Tooele**	**13.86**	**353**	Pn	Pn	02 14 45.0	-2.1
RDMU	**Red Mountain**	**14.14**	**3**		Pn	02 14 47.8	-3.2
BGU	**Big Grassy Mou**	**14.60**	**353**	Pn	Pn	02 14 52.9	-4.4
ELK	**Elko**	**14.79**	**346**	Pn	**P**	**02 15 07.3**	**+1.3**
	0.1nm,0.3s,baz=185,slow=10,SNR=4.4						
HWUT	**Hardware Ranch**	**15.17**	**357**	Pn	**Pn**	**02 15 01.1**	**-3.8**
HWUT				IAmb	IAmb	02 15 22.1	
	comp=Z,10nm,1.0s						
X37A	**Clayton**	**15.46**	**55**	Pn	**Pn**	**02 15 10.5**	**+1.8**
BEKR	**Beckworth**	**15.67**	**331**	Pn	Pn	02 15 05.7	-5.8
PDAR	**Pinedale Array**	**16.33**	**3**	Pn	**P**	**02 15 27.1**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=181,slow=8.9,SNR=15						
PDAR				LR	LR	02 22 07.1	
	comp=Z,68nm,18.6s,baz=90,slow=39						
PDAR	**Pinedale Array**	**16.33**	**3**		**Pn**	**02 15 18.9**	**-1.1**
WVOR	**Wild Horse Val**	**17.27**	**340**	Pn	Pn	02 15 26.4	-5.4
CMIG	**Matias Romero**	**17.32**	**119**	LR	LR	02 22 41.5	
	comp=Z,76nm,21.5s,baz=1.0,slow=39						
MFID	**Camas Ranch**	**17.47**	**347**		**Pn**	**02 15 31.0**	**-3.4**
MFID				IAmb	IAmb	02 16 00.5	
	comp=Z,14nm,1.6s						
U40A	**Yellville**	**18.11**	**53**		**P**	**02 15 43.0**	**+0.5**
U40A				IAmb	IAmb	02 15 51.3	
	comp=Z,21nm,1.6s						
K05A	**Summer Lake**	**18.30**	**335**		**P**	**02 15 42.2**	**-2.6**
YHH	**Holmes Hill**	**18.33**	**360**		**P**	**02 15 41.6**	**-3.6**
MCMT	**McKenzie Canyo**	**18.45**	**355**		**P**	**02 15 41.9**	**-4.6**
S39A	**Bolivar**	**18.45**	**48**		**P**	**02 15 45.4**	**-0.9**
S39A				IAmb	IAmb	02 15 55.9	
	comp=Z,8.2nm,1.0s						
YNE	**Yellowstone No**	**18.55**	**1**		**P**	**02 15 43.7**	**-3.9**
MGMO	**Mountain Grove**	**18.90**	**51**	P	**Pn**	**02 15 54.1**	**+2.3**
MGMO				IAmb	IAmb	02 16 02.6	
	comp=Z,11nm,1.2s						
I07A	**Izee**	**19.03**	**340**		**P**	**02 15 50.6**	**-2.0**
I07A				IAmb	IAmb	02 16 07.1	
	comp=Z,18nm,1.8s						
BOZ	**Bozeman (W)**	**19.15**	**358**	P	**P**	**02 15 53.4**	**-0.7**
PINE	**Pine Mountain**	**19.24**	**337**		P	02 15 50.8	-4.3
PINE				IAmb	IAmb	02 16 09.7	
	comp=Z,28nm,2.0s						
R40A	**Maddies Statio**	**19.48**	**48**	P	**P**	**02 15 56.1**	**-1.4**
R40A				IAmb	IAmb	02 16 07.3	
	comp=Z,13nm,1.1s						
G08A	**Pilot Rock**	**19.98**	**343**	P	**P**	**02 15 59.4**	**-3.7**
CCM	**Cathedral Cave**	**20.05**	**50**	P	**P**	**02 16 02.7**	**-1.1**
CCM				IAmb	IAmb	02 16 07.4	
	comp=Z,10nm,1.4s						
F10A	**Beach Ranch, E**	**20.21**	**347**	P	**P**	**02 16 04.1**	**-1.4**
F10A				IAmb	IAmb	02 16 16.0	
	comp=Z,9.9nm,1.1s						
MSO	**Missoula**	**20.54**	**354**	P	P	02 16 03.8	-5.3
MSO				IAmb	IAmb	02 16 14.3	
	comp=Z,5.8nm,0.9s						
HAWA	**Hanford**	**21.15**	**343**	P	P	02 16 10.2	-5.5
HAWA				IAmb	IAmb	02 16 25.0	
	comp=Z,5.1nm,0.9s						
S44A	**Carbondale**	**21.28**	**53**	P	**P**	**02 16 18.1**	**+1.0**
S44A				IAmb	IAmb	02 16 37.4	
	comp=Z,8.4nm,1.0s						
SIUC	**Southern Illin**	**21.31**	**53**	P	**P**	**02 16 15.6**	**-1.8**
EGMT	**Eagleton**	**21.57**	**2**	P	**P**	**02 16 18.7**	**-1.6**
EGMT				IAmb	IAmb	02 16 36.4	
	comp=Z,17nm,1.4s						
WVT	**Waverly**	**21.72**	**58**	P	**P**	**02 16 22.3**	**+0.4**
WVT				IAmb	IAmb	02 16 35.5	
	comp=Z,7.6nm,1.2s						
Q44A	**Meyer Farm, Va**	**21.99**	**50**	P	**P**	**02 16 24.8**	**+0.1**
LON	**Longmire**	**22.14**	**339**	P	**P**	**02 16 23.5**	**-2.8**
352A	**Blakely**	**23.04**	**71**	P	**P**	**02 16 35.3**	**-0.6**
Z51A	**Franklin**	**23.09**	**67**	P	**P**	**02 16 36.7**	**+0.1**
Z51A				IAmb	IAmb	02 16 49.1	
	comp=Z,5.2nm,0.9s						
L42A	**Oliver, Polo**	**23.20**	**43**	P	**P**	**02 16 34.6**	**-2.9**
L42A				IAmb	IAmb	02 16 40.3	
	comp=Z,9.1nm,1.2s						
TKL	**Tuckaleechee C**	**24.73**	**62**	LR	LR	02 27 14.0	
	comp=Z,49nm,18.5s,baz=286,slow=38						
DLBC	**Dease Lake**	**34.78**	**342**	P	**P**	**02 18 25.5**	**+4.5**
	comp=Z,1.9nm,1.0s,baz=159,slow=8.6,SNR=3.6						
DLBC	**Dease Lake**	**34.78**	**342**	P	P	02 18 16.6	-4.4
ROSC	**El Rosal**	**40.80**	**115**	LR	LR	02 38 51.7	
	comp=Z,37nm,19.8s,baz=126,slow=40						
ILAR	**Eielson Array**	**44.78**	**339**	P	**P**	**02 19 47.3**	**+3.2**
	comp=Z,1.4nm,0.9s,baz=150,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**44.78**	**339**	P	P	02 19 39.4	-4.6
BPAW	**Bear Paw Mtn.**	**45.75**	**337**	P	P	02 19 48.4	-3.4
I23K	**Minto, Yukon-K**	**45.83**	**338**	P	P	02 19 47.5	-4.8
H03N2	**Juan Fernandez**	**66.73**	**151**	T	T	03 35 02.7	
	baz=331,slow=77,SNR=4.9						
H03N1	**Juan Fernandez**	**66.74**	**151**	T	T	03 35 04.6	
	baz=331,slow=77,SNR=6.9						
H03N3	**Juan Fernandez**	**66.74**	**151**	T	T	03 35 07.1	
	baz=331,slow=77,SNR=4.6						
TIXI	**Tiksi**	**74.00**	**344**	P	P	02 23 00.1	-5.7

*DJA **10** 02:16:28.3±0.3, 10°S±3°×11°5E±°, h10km, M4.5/14, mb4.5/6, MLv4.5/14*
*NEIC **10** 02:16:32.1±1.4, 9°.90S±0°.08×114°.92E±0°.02, h58km±11km, mb4.2/9, Error ellipse: s-maj=12.2km s-min=2.5km az=180.0*
*IDC **10** 02:16:39.5±6.8, 9°.67S×115°.33E, h129km±62km, mb3.7/6, mb1 3.8/7, mb1mx3.5/40, mbtmp4.1/7, Error ellipse: s-maj=57.3km s-min=16.6km az=61.0*
ISC 10 02:16:29.5±0.7, 10°.00S±0°.07×114°.95E±0°.06, h35km, n38, σ1°76/41, mb4.2/10, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**1.34**	**11**	P	**Pn**	**02 16 52.5**	**+0.8**
DNP				S	**Sn**	**02 17 09.0**	**+0.7**
JAGI	**Jajag, Banyuwa**	**1.71**	**333**		**Pn**	**02 16 58.1**	**+1.2**
JAGI	**Jajag, Banyuwa**	**1.71**	**333**	P	**Pn**	**02 16 58.2**	**+1.3**
JAGI				S	**Sn**	**02 17 17.8**	**+0.2**
SRBI	**Singaraja**	**1.92**	**8**	P	**Pn**	**02 17 01.8**	**+2.1**
SRBI				S	**Sn**	**02 17 24.8**	**+2.1**
TWSI	**Taliwang, Sumb**	**2.28**	**57**	P	**Pn**	**02 17 06.3**	**+1.6**
PLAI	**Plampang**	**3.02**	**68**	P	**Pn**	**02 17 16.8**	**+2.0**
KMMI	**Kalianget**	**3.09**	**342**	P	**Pn**	**02 17 18.3**	**+2.5**
PWJI	**Pagerwojo**	**3.68**	**302**	P	**Pn**	**02 17 25.4**	**+1.5**
PCJI	**Pacitan**	**4.14**	**295**	P	**Pn**	**02 17 32.6**	**+2.4**
WBSI	**Waikabubak, Su**	**4.39**	**86**	P	**Pn**	**02 17 31.9**	**-1.8**
UGM	**Wanagama**	**4.84**	**295**	Pn	**Pn**	**02 17 41.0**	**+1.1**
UGM	**Wanagama**	**4.84**	**295**	P	**Pn**	**02 17 41.3**	**+1.4**
KPJI	**Karang Pucung**	**6.52**	**294**	P	**Pn**	**02 18 06.0**	**+3.1**
	0.2nm25nm,1.2s						
BSSI	**Bau Bau, Buton**	**6.69**	**55**	P	**Pn**	**02 18 05.7**	**+0.4**
	0.2nm51nm,1.5s						
EDFI	**Ende, Flores**	**6.76**	**80**	P	**Pn**	**02 18 07.1**	**+0.7**
	0.1nm14nm,0.8s						
KAPI	**Kappang**	**6.87**	**44**	P	**Pn**	**02 18 11.0**	**+3.3**
	3.3nm,0.3s,baz=190,slow=8.7,SNR=6.0						
KAPI				S	**Sn**	**02 19 23.2**	**-1.6**
	3.6nm,0.3s,baz=46,slow=22,SNR=12						
KAPI	**Kappang**	**6.87**	**44**	Pn	**Pn**	**02 18 09.3**	**+1.6**
BKSI	**Bulukumba**	**6.92**	**48**	P	**Pn**	**02 18 10.9**	**+2.5**
	0.1nm40nm,0.6s						
MMRI	**Maumere**	**7.32**	**80**	Pn	**Pn**	**02 18 16.8**	**+2.9**
CISI	**Cisompet, Garu**	**7.46**	**288**	Pn	**Pn**	**02 18 18.2**	**+2.3**
SOEI	**Soe**	**9.18**	**89**	P	**Pn**	**02 18 41.3**	**+1.7**
	27nm,1.3s						
GIRL	**Giralia**	**12.59**	**183**	Pn	**Pn**	**02 19 26.3**	**+0.2**
MORW	**Morawa**	**19.00**	**177**	P	**Pn**	**02 20 49.6**	**+0.5**
WB0	**Warramunga Arr**	**21.13**	**120**	P	**P**	**02 21 12.7**	**+1.3**
WB0				IAmb	IAmb	02 21 18.0	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**21.15**	**120**	P	**P**	**02 21 13.2**	**+1.4**
	comp=Z,2.2nm,0.5s,baz=293,slow=12,SNR=23						
WB2	**Warramunga Arr**	**21.16**	**120**	P	**P**	**02 21 13.3**	**+1.5**
WB2				IAmb	IAmb	02 21 19.8	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**21.33**	**120**	P	**P**	**02 21 14.7**	**+1.0**
WR0				IAmb	IAmb	02

CTA	**Charters Tower**	**32.19**	**273**	P	P	02 30 25.9	+0.2
	4.8nm,0.4s,baz=100,slow=10,SNR=10						
STKA	**Stephens Creek**	**34.59**	**251**	P	P	02 30 45.4	-0.4
	1.9nm,0.5s,baz=84,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**42.37**	**263**	P	P	02 31 48.9	-0.1
	1.5nm,0.4s,baz=95,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**42.95**	**268**	P	P	02 31 53.3	-0.3
	1.7nm,0.7s,baz=106,slow=7.8,SNR=11						

*NEIC **10** 02:26:08.8±1.9, 48°.0S±0°.1×165°.7E±0°.1, h13km±5km, mb4.2/11, Error ellipse: s-maj=16.4km s-min=12.0km az=155.0*
*IDC **10** 02:26:09.3±1.6, 47°.59S×165°.47E, h0km, mb4.4/4, mb1 4.6/5, mb1mx4.2/27, mbtmp4.4/5, ML4.1/1, MS3.8/13, Ms1 3.8/13, ms1mx3.7/21, Error ellipse: s-maj=64.0km s-min=34.3km az=14.0*

ISC 10 02:26:09.2±0.6, 47°.94S±0°.08×165°.58E±0°.07, h13km, n97, σ1s78/84, mb4.3/10, MS3.7/15, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.97**	**57**	P	**Pn**	**02 26 42.3**	**-0.1**
APZ				S	**Sn**	**02 27 05.8**	**-1.2**
WHZ	**Wether Hill Ro**	**2.61**	**39**	Pn	**Pn**	**02 26 50.3**	**-0.8**
WHZ	**Wether Hill Ro**	**2.61**	**39**	P	**Pn**	**02 26 50.2**	**-0.8**
SYZ	**Scrubby Hill**	**2.80**	**61**	P	**Pn**	**02 26 54.6**	**+1.0**
MLZ	**Mavora Lakes**	**3.11**	**35**	Pn	**Pn**	**02 26 57.5**	**-0.4**
MLZ	**Mavora Lakes**	**3.11**	**35**	P	**Pn**	**02 26 57.6**	**-0.4**
TUZ	**Tuapeka**	**3.41**	**56**	P	**Pn**	**02 27 02.8**	**+0.8**
TUZ				S	**Sn**	**02 27 42.0**	**-0.3**
MSZ	**Milford Sound**	**3.65**	**27**	P	**Pn**	**02 27 06.6**	**+1.3**
EAZ	**Earnscleugh**	**3.73**	**45**	P	**Pn**	**02 27 05.9**	**-0.6**
EAZ				S	**Sn**	**02 27 53.1**	**+2.8**
WKZ	**Wanaka**	**3.92**	**39**	Pn	**Pn**	**02 27 09.6**	**+0.6**
WKZ	**Wanaka**	**3.92**	**39**	P	**Pn**	**02 27 09.6**	**+0.6**
WKZ				S	**Sn**	**02 27 56.9**	**+2.1**
HHSZ	**Highcliff Hill**	**4.00**	**61**	P	**Pn**	**02 27 11.9**	**+1.7**
JCZ	**Jackson Bay**	**4.46**	**31**	P	**Pn**	**02 27 16.9**	**+0.3**
ODZ	**Otahua Downs**	**4.54**	**52**		**Pn**	**02 27 16.1**	**-1.5**
ODZ	**Otahua Downs**	**4.54**	**52**	P	**Pn**	**02 27 16.2**	**-1.3**
LBZ	**Lake Benmore**	**4.78**	**44**	Pn	**Pn**	**02 27 18.8**	**-2.1**
LBZ	**Lake Benmore**	**4.78**	**44**	P	**Pn**	**02 27 18.9**	**-1.9**
TMZ	**Timaru**	**5.18**	**49**	P	**Pn**	**02 27 25.8**	**-0.5**
FOZ	**Fox Glacier**	**5.31**	**35**	Pn	**Pn**	**02 27 27.8**	**-0.3**
FOZ	**Fox Glacier**	**5.31**	**35**	P	**Pn**	**02 27 28.5**	**+0.4**
FOZ				S	**Sn**	**02 28 30.5**	**+1.4**
ARCZ	**Arundel**	**5.58**	**46**	P	**Pn**	**02 27 29.9**	**-2.0**
GCSZ	**Gaunt Creek Bo**	**5.69**	**37**	P	**Pn**	**02 27 32.8**	**-0.6**
RPZ	**Rata Peaks**	**5.70**	**44**	Pn	**Pn**	**02 27 30.8**	**-2.6**
RPZ	**Rata Peaks**	**5.70**	**44**	P	**Pn**	**02 27 30.5**	**-2.9**
WACZ	**Wakanui South**	**5.91**	**50**	P	**Pn**	**02 27 35.9**	**-0.6**
WVZ	**Waitaha Valley**	**6.06**	**39**	P	**Pn**	**02 27 39.6**	**+1.1**
MHCZ	**Mount Hutt**	**6.08**	**46**	P	**Pn**	**02 27 39.9**	**+1.2**
RACZ	**Rakaia**	**6.22**	**50**	P	**Pn**	**02 27 39.1**	**-1.5**
OXZ	**Oxford**	**6.46**	**47**		**Pn**	**02 27 42.3**	**-1.6**
MQZ	**McQueen's Vall**	**6.50**	**52**	P	**Pn**	**02 27 42.7**	**-1.8**
AKCZ	**Akaroa Harbour**	**6.53**	**54**	P	**Pn**	**02 27 45.8**	**+0.9**
INZ	**Inchbonnie**	**6.65**	**41**	P	**Pn**	**02 27 47.1**	**+0.6**
INZ				S	**Sn**	**02 29 00.8**	**-1.3**
OKCZ	**Okains Bay**	**6.71**	**54**	P	**Pn**	**02 27 49.0**	**+1.7**
LTZ	**Lake Taylor**	**6.98**	**45**	Pn	**Pn**	**02 27 51.9**	**+0.8**
LTZ	**Lake Taylor**	**6.98**	**45**	P	**Pn**	**02 27 48.7**	**-2.4**
GVZ	**Greta Valley S**	**7.22**	**49**	P	**Pn**	**02 27 56.6**	**+2.2**
DSZ	**Denniston Nort**	**7.61**	**38**	P	**Pn**	**02 28 00.6**	**+0.9**
KHZ	**Kahutara**	**7.88**	**48**	P	**Pn**	**02 28 02.7**	**-0.6**
THZ	**Tophouse**	**8.07**	**43**	Pn	**Pn**	**02 28 05.5**	**-0.5**
THZ	**Tophouse**	**8.07**	**43**	P	**Pn**	**02 28 06.4**	**+0.3**
BSWZ	**Blackbirch Sta**	**8.56**	**46**	P	**Pn**	**02 28 16.2**	**+3.3**
QRZ	**Quartz Range**	**8.67**	**37**		**Pn**	**02 28 13.4**	**-0.9**
QRZ	**Quartz Range**	**8.67**	**37**	P	**Pn**	**02 28 14.2**	**-0.1**
NNZ	**Nelson**	**8.72**	**42**	P	**Pn**	**02 28 16.7**	**+1.8**
DUWZ	**D'Urville Isla**	**9.30**	**43**	P	**Pn**	**02 28 23.6**	**+0.8**
OGWZ	**Otaki Gorge**	**9.88**	**47**	P	**Pn**	**02 28 31.7**	**+0.9**
BFZ	**Birch Farm**	**10.53**	**50**	P	**Pn**	**02 28 41.5**	**+1.8**
KHEZ	**Kahui Hut**	**10.58**	**38**	P	**Pn**	**02 28 41.7**	**+1.3**
VRZ	**Vera Road**	**11.04**	**40**	P	**Pn**	**02 28 48.6**	**+2.0**
BHHZ	**Black Hill Sta**	**11.34**	**46**	P	**Pn**	**02 28 52.8**	**+1.9**
HIZ	**Hauiti**	**11.59**	**39**	P	**Pn**	**02 28 52.7**	**-1.5**
URZ	**Urewera**	**12.81**	**45**	Pn	**Pn**	**02 29 09.9**	**-1.0**
	1.2nm,0.3s,baz=344,slow=11,SNR=2.1						
URZ				Sn	**Sn**	**02 31 25.9**	**-7.4**
	0.5nm,0.3s,baz=5.0,slow=21,SNR=2.2						
URZ				LR	LR	02 34 58.1	
	comp=Z,1μm,19.1s,baz=237,slow=42						
MWZ	**Matawai**	**12.95**	**47**	P	**Pn**	**02 29 15.6**	**+2.7**
CTZ	**Chatham Island**	**13.10**	**78**	P	**Pn**	**02 29 17.6**	**+2.8**
TOO	**Toolangi**	**17.98**	**298**	Pn	**Pn**	**02 30 17.4**	**-1.4**
TOO				IAmb	IAmb	02 30 27.5	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**24.27**	**303**	P	**P**	**02 31 26.8**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=133,slow=12,SNR=6.4						
STKA				LR	LR	02 38 27.2	
	comp=Z,176nm,21.5s,baz=173,slow=31						
STKA	**Stephens Creek**	**24.27**	**303**	P	**P**	**02 31 27.1**	**+1.1**
EIDS	**Eidsvold**	**25.27**	**328**	P	**P**	**02 31 34.6**	**-0.4**
DZM	**Mont Dzumac**	**25.82**	**2**	LR	LR	02 40 05.7	
	comp=Z,200nm,18.1s,baz=232,slow=33						
DZM	**Mont Dzumac**	**25.82**	**2**	*e*LR	LR	02 37 56.6	
	comp=Z,212nm,25.7s						
VNDA	**Vanda**	**29.73**	**182**	LR	LR	02 41 54.7	
	comp=Z,142nm,18.8s,baz=16,slow=31						
VNDA	**Vanda**	**29.73**	**182**	P	**P**	**02 32 12.8**	**-1.8**
VNDA				IAmb	IAmb	02 32 30.8	
	comp=Z,4.7nm,1.4s						
CASY	**Casey**	**33.62**	**217**	P	**P**	**02 32 48.5**	**-0.4**
CASY				IAmb	IAmb	02 32 59.9	
	comp=Z,3.6nm,1.0s						
AS31	**Alice Springs**	**34.91**	**303**	P	**P**	**02 32 59.6**	**-0.8**
AS31				IAmb	IAmb	02 33 11.3	
	comp=Z,2.6nm,0.8s						
ASAR	**Alice Springs**	**34.91**	**303**	P	**P**	**02 32 60.0**	**-0.5**
	comp=Z,6.2nm,0.7s,baz=134,slow=7.7,SNR=50						
ASAR				LR	LR	02 45 51.2	
	comp=Z,277nm,21.8s,baz=128,slow=34						
ASAR	**Alice Springs**	**34.91**	**303**	P	**P**	**02 32 59.6**	**-0.9**
WR0	**Warramunga Arr**	**37.52**	**307**	P	**P**	**02 33 22.3**	**-0.5**
WR0				IAmb	IAmb	02 33 41.8	
	comp=Z,6.0nm,1.0s						
WB2	**Warramunga Arr**	**37.64**	**307**	P	**P**	**02 33 23.0**	**-0.8**
WRA	**Warramunga Arr**	**37.65**	**307**	P	**P**	**02 33 22.9**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=139,slow=7.9,SNR=19						
WRA				LR	LR	02 46 21.9	
	comp=Z,106nm,21.1s,baz=135,slow=32						
WRA	**Warramunga Arr**	**37.65**	**307**	IAmb	IAmb	02 33 23.7	
	comp=Z,0.2nm,0.9s						
WB0	**Warramunga Arr**	**37.76**	**307**	P	**P**	**02 33 23.0**	**-1.9**
WB0				IAmb	IAmb	02 33 24.7	
	comp=Z,6.5nm,1.1s						
HNR	**Honiara**	**38.67**	**351**	LR	LR	02 46 33.2	
	comp=Z,186nm,21.1s,baz=164,slow=32						
H01W1	**Cape Leeuwin H**	**39.99**	**270**	T	T	03 15 59.8	
	baz=125,slow=76,SNR=315						
H01W2	**Cape Leeuwin H**	**40.00**	**270**	T	T	03 16 04.9	
	baz=125,slow=76,SNR=368						
H01W3	**Cape Leeuwin H**	**40.01**	**270**	T	T	03 16 03.7	
	baz=125,slow=76,SNR=285						
PMG	**Port Moresby**	**41.44**	**332**	LR	LR	02 49 04.9	
	comp=Z,56nm,18.6s,baz=136,slow=34						
QSPA	**South Pole Qui**	**42.19**	**180**	P	**P**	**02 34 00.8**	**-0.6**
QSPA				IAmb	IAmb	02 34 26.8	
	comp=Z,7.2nm,1.1s						
TBI	**Tubuai**	**43.20**	**72**	*e*S	**S**	**02 40 42.0**	**+5.9**
	comp=Z,56nm,28.2s						
TBI				*e*LR	LR	02 45 58.0	
	comp=Z,147nm,31.5s						
PPT2	**Papeete2**	**47.38**	**66**	*e*LR	LR	02 48 03.5	
	comp=Z,258nm,33.0s						
PPT	**Papeete**	**47.40**	**66**	LR	LR	02 53 19.3	
	comp=Z,101nm,18.8s,baz=204,slow=34						
MAW	**Mawson**	**51.17**	**209**	LR	LR	02 56 39.0	
	comp=Z,56nm,19.0s,baz=63,slow=36						
TAOE	**Nuku Hiva Isla**	**59.92**	**68**	*e*LR	LR	02 53 55.4	
	comp=Z,160nm,30.4s						
H08S2	**Diego Garcia H**	**86.45**	**263**	T	T	04 13 57.8	
	baz=138,slow=76,SNR=58						
H08S1	**Diego Carcia H**	**86.47**	**263**	T	T	04 14 00.3	
	baz=138,slow=76,SNR=61						
H08S3	**Diego Garcia H**	**86.47**	**263**	T	T	04 13 58.3	
	baz=138,slow=76,SNR=59						
CMAR	**Chiang Mai Arr**	**88.85**	**299**	P	**P**	**02 39 05.2**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=143,slow=3.8,SNR=5.1						

KSRS	**Korea Array**	**91.41**	**331**	LR	LR	03 17 45.6	
	comp=Z,62nm,18.4s,baz=196,slow=34						
BOSA	**Boshof**	**95.88**	**214**	LR	LR	03 20 32.0	
	comp=Z,48nm,18.6s,baz=131,slow=34						
CPUP	**Villa Florida**	**96.63**	**142**	LR	LR	03 15 51.9	
	comp=Z,26nm,21.2s,baz=208,slow=31						
TORD	**Torodi Ar. Bea**	**142.81**	**207**	PKhKP	PKPpre	02 45 41.3	
	comp=Z,0.8nm,0.8s,baz=153,slow=1.1,SNR=7.0						
TORD	**Torodi Ar. Bea**	**142.81**	**207**		**PKPdf**	**02 45 40.0**	**-2.5**
BRTR	**Keskin Array B**	**144.87**	**275**	PKP	**PKPdf**	**02 45 46.0**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=131,slow=3.8,SNR=6.9						
BRTR	**Keskin Array B**	**144.87**	**275**		**PKPab**	**02 45 44.8**	**+0.1**
ARCES	**ARCESS Array B**	**150.96**	**332**	PKPbc	**PKiKP**	**02 46 02.0**	**+1.2**
	comp=Z,4.1nm,0.6s,baz=64,slow=2.8,SNR=18						
AKASG	**Malin Array Be**	**151.72**	**292**	PKPbc	**PKiKP**	**02 46 04.0**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=78,slow=2.5,SNR=18						
AKASG	**Malin Array Be**	**151.72**	**292**		**PKiKP**	**02 46 04.3**	**+1.4**
FINES	**FINESS Array B**	**153.49**	**316**	PKPbc	**PKiKP**	**02 46 07.6**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=97,slow=4.7,SNR=19						

*SKO **10** 02:39:37.3, 41°.39N×23°.18E, h28km*
*SOF **10** 02:39:37.8, 41°.48N×23°.21E, h16km, MD2.6*
*ATH **10** 02:39:38.3, 41°.43N×23°.20E, h11km±2km, ML1.8/8, Error ellipse: s-maj=2.6km s-min=1.0km az=279.0*
*BEO **10** 02:39:38.1±0.3, 41°.42N×23°.16E, h10km±2km, ML2.0/8*

ISC 10 02:39:37.4±1.0, 41°.45N±0°.02×23°.19E±0°.02, h11km±9km, n30, σ0s97/56, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.36**	**218**	P	**Pg**	**02 39 45.0**	**+0.5**
KNT				S	**Sg**	**02 39 49.7**	**+0.4**
KNT				AML	AML	02 39 51.4	
	comp=E,538μm,0.1s						
KNT				AML	AML	02 39 52.9	
	comp=N,591μm,0.1s						
KNT	**Kendrikon**	**0.36**	**218**	*i* Pg	**Pg**	**02 39 45.1**	**+0.5**
KNT				*i* Sg	**Sg**	**02 39 49.4**	**+0.1**
MMB	**Musomiste**	**0.43**	**70**	*i* P	**Pg**	**02 39 46.4**	**+0.6**
KKB	**Krupnik**	**0.43**	**349**	*i* P	**Pg**	**02 39 45.8**	**0.0**
SRS	**Serrai**	**0.45**	**137**	*e*Pg	**Pb**	**02 39 46.6**	**-0.6**
SRS				*e*Sg	**Sb**	**02 39 53.2**	**-0.7**
SRS	**Serrai**	**0.45**	**137**	P	**Pb**	**02 39 46.7**	**-0.6**
SRS				S	**Sb**	**02 39 52.8**	**-1.1**
SRS				AML	AML	02 39 53.5	
	comp=N,329μm,0.2s						
SRS				AML	AML	02 39 53.8	
	comp=E,343μm,0.1s						
SRS	**Serrai**	**0.45**	**137**	*i* Pg	**Pb**	**02 39 46.7**	**-0.6**
SRS				*i* Sg	**Sb**	**02 39 53.2**	**-0.7**
VAY	**Valandovo**	**0.48**	**255**	*e*Pg	**Pg**	**02 39 47.3**	**+0.5**
VAY				*e*Sg	**Sg**	**02 39 53.9**	**+0.7**
VAY	**Valandovo**	**0.48**	**255**	*i* Pg	**Pb**	**02 39 48.6**	**+0.7**
VAY				*i* Sg	**Sg**	**02 39 53.4**	**+0.2**
VAY				*e*Lg	Lg	02 39 57.4	
	comp=N,36nm,0.2s						
NVR	**Nevrokopi**	**0.51**	**100**	P	**Pb**	**02 39 48.0**	**-0.4**
NVR				S	**Sb**	**02 39 55.2**	**-0.7**
NVR				AML	AML	02 39 55.6	
	comp=N,325μm,0.2s						
NVR				AML	AML	02 39 55.9	
	comp=E,373μm,0.2s						
SOH	**Sokhos**	**0.63**	**169**	P	**Pb**	**02 39 50.2**	**-0.2**
SOH				S	**Sg**	**02 39 58.3**	**+0.3**
SOH				AML	AML	02 39 59.6	
	comp=E,183μm,0.2s						
SOH				AML	AML	02 40 05.4	
	comp=N,330μm,0.4s						
SOH	**Sokhos**	**0.63**	**169**	*i* Pg	**Pb**	**02 39 50.3**	**-0.2**
SOH				*i* Sg	**Sb**	**02 39 58.5**	**-0.9**
GRG	**Griva**	**0.77**	**231**	*i* Pg	**Pg**	**02 39 52.5**	**+0.4**
GRG				*i* Sg	**Sb**	**02 40 03.4**	**+0.1**
STIP	**Stip**	**0.80**	**289**	*i* Pg	**Pg**	**02 39 50.2**	**-2.5**
STIP				*i* Sg	**Sg**	**02 39 58.5**	**-4.6**
STIP				*e*Lg	Lg	02 39 59.9	
	comp=N,44nm,0.2s						
THE	**Thessaloniki**	**0.83**	**192**	P	**Pb**	**02 39 53.9**	**+0.1**
THE				S	**Sb**	**02 40 04.9**	**0.0**
THE				AML	AML	02 40 06.3	
	comp=E,145μm,0.2s						
THE				AML	AML	02 40 07.0	
	comp=N,105μm,0.2s						
THE	**Thessaloniki**	**0.83**	**192**	*i* Pg	**Pb**	**02 39 53.9**	**+0.1**
THE				*i* Sg	**Sb**	**02 40 05.2**	**+0.2**
HORT	**Hortiatis**	**0.85**	**185**	P	**Pb**	**02 39 54.2**	**0.0**
HORT				S	**Sb**	**02 40 05.2**	**-0.4**
HORT				AML	AML	02 40 07.2	
	comp=N,79μm,0.1s						
HORT				AML	AML	02 40 07.8	
	comp=E,79μm,0.1s						
PLG	**Polygyros**	**1.09**	**170**	P	**Pg**	**02 39 58.4**	**+0.2**
PLG				S	**Sn**	**02 40 12.9**	**-0.8**
PLG				AML	AML	02 40 16.8	
	comp=N,77μm,0.3s						
PLG				AML	AML	02 40 19.3	
	comp=E,75μm,0.6s						
KAVA	**Kavala**	**1.09**	**114**	P	**Pg**	**02 39 58.3**	**0.0**
KAVA				S	**Sn**	**02 40 13.0**	**-0.8**
KAVA				AML	AML	02 40 15.6	
	comp=E,108μm,0.3s						
KAVA				AML	AML	02 40 18.0	
	comp=N,112μm,0.1s						
VTS	**Vitosha**	**1.17**	**2**	*e*Pg	**Pn**	**02 39 59.8**	**-0.1**
VTS				*e*Sg	**Sb**	**02 40 14.5**	**-0.5**
VTS	**Vitosha**	**1.17**	**2**	*i* P	**Pn**	**02 39 59.6**	**-0.3**
VTS	**Vitosha**	**1.17**	**2**	*i* Pg	**Pn**	**02 39 59.8**	**-0.1**
VTS				*i* Sg	**Sb**	**02 40 14.7**	**-0.3**
BOSS	**Bosilegrad**	**1.18**	**333**	*e*Pg	**Pb**	**02 40 00.2**	**+0.4**
BOSS				*e*Sg	**Sn**	**02 40 15.7**	**-0.2**
PLD	**Plovdiv**	**1.31**	**59**	*e*Pg	**Pg**	**02 40 02.9**	**+0.4**
PLD				*e*Sg	**Sg**	**02 40 21.2**	**+1.7**
THAS	**Thassos island**	**1.43**	**125**	P	**Pb**	**02 40 03.3**	**-0.6**
BARS	**Barje**	**1.71**	**324**	*e*Pn	**Pn**	**02 40 07.1**	**-0.1**
BARS				*e*Sn	**Sb**	**02 40 30.0**	**-0.4**
ZAPS	**Zavoj**	**1.87**	**347**	*e*Pn	**Pn**	**02 40 10.1**	**+0.7**
ZAPS				*e*Sn	**Sb**	**02 40 34.9**	**-0.2**
SELS	**Selova**	**2.35**	**320**	*e*Pn	**Pn**	**02 40 17.2**	**+1.3**
SELS				*e*Sn	**Sn**	**02 40 46.5**	**+1.7**
BOVS	**Bovan**	**2.45**	**334**	*e*Pn	**Pn**	**02 40 18.6**	**+1.3**
BOVS				*e*Sn	**Sn**	**02 40 48.2**	**+1.0**
ZAGS	**Zajecar**	**2.47**	**344**	*e*Pn	**Pn**	**02 40 17.7**	**+0.1**
ZAGS				*e*Sn	**Sn**	**02 40 48.6**	**+0.9**

DJA 10 02:58:50.5±0.4, 7°S±10°×11°5E±°, h243km±9km, M3.8/6, mb3.9/4, MLv3.8/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.54**	**225**	P	Pn	02 59 27.9	-0.6
TWSI	**Taliwang, Sumb**	**2.11**	**130**	P	Pn	02 59 34.5	+1.1
PLAI	**Plampang**	**2.89**	**120**	P	Pn	02 59 42.5	+1.1
PWJI	**Pagerwojo**	**3.48**	**259**	P	Pn	02 59 47.6	-0.3
PCJI	**Pacitan**	**4.12**	**258**	P	Pn	02 59 55.5	+0.1
UGM	**Wanagama**	**4.72**	**263**	P	Pn	03 00 02.4	-0.3
BASI	**Baing, Sumba**	**5.98**	**119**	P	Pn	03 00 17.6	-0.7
KPJI	**Karang Pucung**	**6.27**	**270**	P	Pn	03 00 23.3	+1.4
	0.2nm28nm,2.3s						
EDFI	**Ende, Flores**	**6.52**	**103**	P	Pn	03 00 24.8	-0.4
	0.0nm3.0nm,1.2s						
CNJI	**Cibinong**	**8.05**	**270**	P	Pn	03 00 44.1	-0.4
	86nm,1.4s						
MRSI	**Marisa**	**10.26**	**41**	P	Pn	03 01 12.4	-0.2

*SKHL **10** 03:15:37.5±0.2, 44°.40N×147°.80E, h98km±4km, mb5.2/9, msha6.2/4*
*MOS **10** 03:15:37.7±1.2, 44°.47N×147°.72E, h102km, mb4.3/9, Error ellipse: s-maj=10.5km s-min=8.3km az=68.9*
MOS Felt (II) at Kuril'sk, Gornyy, Goryachiye Klyuchi.
*JMA **10** 03:15:38.8±0.4, 44°.12N×147°.88E, h80km, M4.0*
*NEIC **10** 03:15:39.6±1.0, 44°.4N±0°.1×147°.73E±0°.04, h108km±8km, mb4.3/15, Error ellipse: s-maj=15.3km s-min=2.9km az=167.0*
*IDC **10** 03:15:40.9±2.9, 44°.51N×147°.66E, h117km±26km, mb3.7/15, mb1 4.0/16, mb1mx3.7/53, mbtmp4.1/16, Error ellipse: s-maj=17.0km s-min=13.8km az=143.0*

ISC 10 03:15:37.2±0.7, 44°.32N±0°.05×147°.85E±0°.06, h93km±6km, n134, σ1s53/146, mb4.2/33, 1C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**1d**	*i* PN	**Pn**	**03 15 56.5**	**+0.4**
KUR				*i* S	**Sn**	**03 16 10.0**	**-0.2**
KUR				pmax	pmax		
	comp=Z,3μm,0.1s						
KUR				pmax	pmax		
	comp=N,543nm,0.3s						
KUR				pmax	pmax		
	comp=E,448nm,0.3s						
KUR				smax	smax		
	comp=N,22μm,0.3s						
KUR				smax	smax		
	comp=E,19μm,0.3s						
KUR	**Kuril'sk**	**0.91**	**1**	*i* P	**Pn**	**03 15 56.0**	**-0.1**
KUR				AMB	AMB	03 15 56.0	
	comp=E,3μm,0.2s						
KUR				AMB	AMB	03 15 56.0	
	comp=E,540nm,0.3s						
KUR				AMB	AMB	03 15 56.0	
	comp=E,450nm,0.3s						
KUR				*i* S	**Sn**	**03 16 10.0**	**-0.2**
KUR				A	A	03 16 10.5	
	comp=E,22μm,0.3s						
KUR				A	A	03 16 10.5	
	comp=E,19μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.46**	**259**	‖ *i* PN	**Pn**	**03 16 03.9**	**+1.4**
YUK				*i* S	**Sn**	**03 16 22.7**	**+1.1**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,422nm,0.1s						
YUK				pmax	pmax		
	comp=E,673nm,0.2s						
YUK				smax	smax		
	comp=E,3μm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.46**	**259**	*i* P	**Pn**	**03 16 03.0**	**+0.5**
YUK				AMB	AMB	03 16 04.0	
	comp=N,420nm,0.2s						
YUK				AMB	AMB	03 16 04.0	
	comp=N,670nm,0.2s						
YUK				AMB	AMB	03 16 04.0	
	comp=N,2μm,0.2s						
YUK				*i* S	**Sn**	**03 16 22.0**	**+0.4**
YUK				A	A	03 16 24.0	
	comp=N,2μm,0.4s						
YUK				A	A	03 16 24.0	
	comp=N,3μm,0.4s						
GRPR	**Tuman**	**1.53**	**258**	*e*PN	**Pn**	**03 16 02.7**	**-0.7**
GRPR				*e*S	**Sn**	**03 16 23.7**	**+0.5**
GRPR				pmax	pmax		
	comp=N,265nm,0.2s						
GRPR				pmax	pmax		
	comp=E,94nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,302nm,0.2s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR	**Tuman**	**1.53**	**258**	*e*P	**Pn**	**03 16 02.0**	**-1.4**
GRPR				AMB	AMB	03 16 03.0	
	comp=E,270nm,0.2s						
GRPR				AMB	AMB	03 16 03.0	
	comp=E,90nm,0.2s						
GRPR				AMB	AMB	03 16 03.0	
	comp=E,300nm,0.2s						
GRPR				*e*S	**Sn**	**03 16 23.0**	**-0.2**
GRPR				A	A	03 16 26.0	
	comp=E,2μm,0.3s						
GRPR				A	A	03 16 26.0	
	comp=E,1μm,0.3s						
GLVR	**Golovnino**	**1.78**	**252**	‖ *i* PN	**Pn**	**03 16 07.9**	**+1.4**
GLVR				*e*S	**Sn**	**03 16 29.8**	**+0.9**
GLVR				pmax	pmax		
	comp=Z,231nm,0.1s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR	**Golovnino**	**1.78**	**252**	*i* P	**Pn**	**03 16 07.0**	**+0.5**
GLVR				AMB	AMB	03 16 08.0	
	comp=N,230nm,0.2s						
GLVR				*e*S	**Sn**	**03 16 29.0**	**+0.1**
GLVR				A	A	03 16 30.0	
	comp=N,2μm,0.3s						
GLVR				A	A	03 16 30.0	
	comp=N,2μm,0.3s						
NEM2	**Nemuro 2**	**1.80**	**239**	P	**Pn**	**03 16 07.4**	**+0.6**
NEM2				*e*S	**Sn**	**03 16 28.8**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.80**	**239**	‖ *i* PN	**Pn**	**03 16 07.5**	**+0.6**
NMR				*i* S	**Sn**	**03 16 29.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.80**	**239**	*i* P	**Pn**	**03 16 07.0**	**+0.1**
NMR				*i* S	**Sn**	**03 16 29.2**	**-0.3**
RUSJ	**Misakicho**	**1.88**	**264**	*i* PN	**Pn**	**03 16 11.1**	**+3.2**
RUSJ				*i* S	**Sn**	**03 16 35.6**	**+4.3**
JRA	**Rausu**	**2.00**	**260**	P	**Pn**	**03 16 11.1**	**+1.7**
JNSB	**Nemuroshibetsu**	**2.12**	**256**	P	**Pn**	**03 16 13.0**	**+2.0**
JNSB				*e*S

comp=Z,10.0nm,0.7s
MA2 Magadan 15.38 6 eP Pn 03 19 06.0 -2.8
MA2 Magadan 15.38 6 eP Pn 03 19 06.0 -2.8
BMKR Bomnak 16.08 317 eP Pn 03 19 15.0 -2.6
KROS Kirovskiy 16.88 314 eP Pn 03 19 25.8 -1.7
INCN Inchon 17.41 254 P P 03 19 32.4 -1.6
INCN pmax pmax
comp=Z,25nm,1.3s
INCN Inchon 17.41 254 P P 03 19 32.4 -1.6
INCN IAmb IAmb 03 19 34.4
comp=Z,25nm,1.3s
INCN Inchon 17.41 254 eP P 03 19 32.4 -1.6
SEY Seymchan 18.83 6 P P 03 19 50.2 +0.9
comp=Z,0.3nm,0.3s,baz=202,slow=7.9,SNR=11
BILL Bilibino 25.67 16 eP P 03 20 55.0 -3.0
BILL pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 28.72 292 P P 03 21 25.6 0.0
comp=Z,0.7nm,0.5s,baz=73,slow=8.4,SNR=4.3
H11N2 WAKE ISLAND Hy 29.22 141 T T 03 52 27.6
baz=332,slow=75,SNR=212
H11N1 WAKE ISLAND Hy 29.23 141 T T 03 52 34.3
baz=332,slow=75,SNR=199
H11N3 WAKE ISLAND Hy 29.23 141 T T 03 52 29.2
baz=332,slow=76,SNR=237
H11S1 WAKE ISLAND Hy 30.20 142 T T 03 53 43.3
baz=333,slow=76,SNR=235
H11S3 WAKE ISLAND Hy 30.21 142 T T 03 53 45.6
baz=333,slow=76,SNR=168
H11S2 WAKE ISLAND Hy 30.22 142 T T 03 53 44.5
baz=333,slow=76,SNR=132
KDAK Kodiak Island 38.49 48 P P 03 22 50.3 +0.4
comp=Z,1.9nm,0.6s,baz=286,slow=7.4,SNR=6.9
KDAK Kodiak Island 38.49 48 IAmb IAmb 03 22 57.1
comp=Z,4.2nm,0.9s
NEA2 Nenana 39.80 37 P P 03 23 01.6 +0.9
NEA2 IAmb IAmb 03 23 29.3
comp=Z,6.6nm,1.5s
KNK Knik Glacier 40.23 42 P P 03 23 04.5 +0.1
KNK IAmb IAmb 03 23 22.0
comp=Z,5.0nm,0.8s
IL31 40.73 37 P P 03 23 09.1 +0.7
ILAR Eielson Array 40.73 37 P P 03 23 08.9 +0.4
comp=Z,0.7nm,0.5s,baz=274,slow=8.6,SNR=21
BCAR Beaver Creek A 43.14 39 P P 03 23 28.9 +0.8
MK31 Makanchi Array 44.77 297 P P 03 23 40.9 -0.4
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MK31 Makanchi Array 44.77 297 P P 03 23 40.9 -0.4
MKAR Makanchi Array 44.77 297 P P 03 23 41.4 +0.1
comp=Z,0.7nm,0.5s,baz=80,slow=8.8,SNR=11
MKAR PcP **PcP 03 25 22.5 +0.6**
comp=Z,0.5nm,0.6s,baz=82,slow=3.7,SNR=3.8
MKAR Makanchi Array 44.77 297 P P 03 23 39.6 -1.7
HYT Haines Junctio 45.57 41 P P 03 23 49.1 +1.5
INK Inuvik 45.65 31 P P 03 23 49.4 +1.4
comp=Z,1.1nm,0.3s,baz=293,slow=7.0,SNR=6.1
KK31 Karatay Array 53.89 298 P P 03 24 50.4 -0.4
KK31 pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 53.89 298 P P 03 24 50.4 -0.4
KK31 IAmb IAmb 03 24 52.0
comp=Z,2.5nm,0.9s
KKAR Karatay Array 53.89 298 P P 03 24 50.7 -0.1
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 53.89 298 P P 03 24 50.6 -0.1
KKAR IAmb IAmb 03 24 52.0
comp=Z,2.5nm,0.9s
GAR Garm 56.14 294 P P 03 25 06.6 -0.6
ABKAR Akbulak array 57.10 309 P P 03 25 13.1 -0.5
ARCES ARCESS Array B 58.88 340 P P 03 25 24.0 -1.8
comp=Z,1.5nm,0.6s,baz=40,slow=6.0,SNR=11
ARCES ARCESS Array B 58.88 340 P P 03 25 24.0 -1.8
KBL Kabul 59.47 290 P P 03 25 30.2 -0.4
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 59.47 290 P P 03 25 30.2 -0.4
FINES FINESS Array B 64.59 333 P P 03 26 02.4 -1.8
comp=Z,3.3nm,0.4s,baz=42,slow=7.6,SNR=46
WRA Warramunga Arr 65.13 194 P P 03 26 09.4 +1.2
comp=Z,1.6nm,0.8s,baz=11,slow=6.6,SNR=8.5
OBN Obninsk 65.15 324 eP P 03 26 08.8 +0.9
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 65.15 324 eP P 03 26 08.8 +0.9
NVAR Mina Array Bea 66.85 58 P P 03 26 21.0 +1.6
comp=Z,0.8nm,0.7s,baz=308,slow=4.9,SNR=6.0
NVAR Mina Array Bea 66.85 58 P P 03 26 19.5 +0.1
ASAR Alice Springs 68.85 194 P P 03 26 33.5 +1.9
comp=Z,0.6nm,0.6s,baz=8.6,slow=5.7,SNR=7.5
PDAR Pinedale Array 69.16 50 P P 03 26 34.8 +1.0
comp=Z,0.4nm,0.6s,baz=311,slow=3.5,SNR=6.1
PDAR Pinedale Array 69.16 50 P P 03 26 34.4 +0.6
NB2 NORSAR Subarra 69.25 339 P P 03 26 33.0 -0.8
comp=Z,2.6nm,0.6s,baz=32,slow=6.9
NOA NORSAR Array B 69.25 339 P P 03 26 32.3 -1.5
comp=Z,1.0nm,0.5s,baz=31,slow=6.6,SNR=14
KIV Kislovodsk 69.75 312 eP P 03 26 37.4 +0.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 69.75 312 eP P 03 26 37.4 +0.2
KBZ Khabaz 69.79 312 P P 03 26 38.6 +1.3
comp=Z,3.8nm,0.8s,baz=38,slow=5.7,SNR=9.6
BURAR Bucovina Array 75.47 324 P P 03 27 11.2 +0.2
BURAR IAmb IAmb 03 27 12.4
comp=Z,3.8nm,0.7s
LANS Liptovska Anna 76.55 328 eP P 03 27 18.8 +1.7
LANS pmax pmax
comp=Z,3.0nm,0.7s
LANS Liptovska Anna 76.55 328 eP P 03 27 18.8 +1.7
CHVC Chvalec 76.61 331 eP P 03 27 20.0 +2.6
DPC Dobruska-Polom 76.71 330 eP P 03 27 19.1 +1.1
DPC Dobruska-Polom 76.71 330 eP P 03 27 19.1 +1.1
KRLC Kraliky 76.78 330 eP P 03 27 19.0 +0.6
KRLC Kraliky 76.78 330 eP P 03 27 19.0 +0.6
CLL Collm 77.04 333 *i* P **P 03 27 19.4 -0.3**
comp=Z,6.0nm,0.7s
CLL Collm 77.04 333 *i* P **P 03 27 19.4 -0.3**
CLL pmax pmax
comp=Z,6.0nm,0.7s
MODS Modra-Piesok 78.01 329 eP P 03 27 28.7 +3.4
MODS Modra-Piesok 78.01 329 eP P 03 27 28.7 +3.4
KHC Kasperske Hory 78.70 331 eP P 03 27 29.6 +0.5
KHC Kasperske Hory 78.70 331 eP P 03 27 29.6 +0.5
KHC Kasperske Hory 78.70 331 P **P 03 27 28.8 -0.2**
CKRC Cesky Krumlov 78.71 331 eP P 03 27 30.6 +1.5
GERES GERESS Array B 78.90 331 P P 03 27 30.5 +0.3
comp=Z,1.6nm,0.4s,baz=43,slow=5.8,SNR=18
CONA Conrad Observa 78.91 329 *i* P **P 03 27 31.4 +1.2**
comp=Z,1.9nm,0.5s
VTS Vitosha 80.28 322 P P 03 27 38.2 +0.3
VTS pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 80.28 322 P P 03 27 38.2 +0.3
VTS IAmb IAmb 03 27 39.9
comp=Z,3.1nm,0.7s
WTTA Wattenberg 80.97 331 eP P 03 27 42.5 +1.0
comp=Z,8.1nm,0.6s
MOTA Moosalm 81.08 332 eP P 03 27 42.9 +0.8
comp=Z,1.9nm,0.4s
DAVA Damuels 81.54 333 *i* P **P 03 27 45.2 +0.7**
comp=Z,3.5nm,0.6s
TX31 Lajitas Ar. Si 81.92 57 P P 03 27 47.0 +0.3
TX31 IAmb IAmb 03 27 48.8
comp=Z,7.7nm,1.0s
TXAR Lajitas Array 81.92 57 P P 03 27 47.9 +1.1
comp=Z,1.4nm,0.7s,baz=295,slow=3.9,SNR=22
TXAR pP **pP 03 28 11.6 +0.7**
comp=Z,0.5nm,0.5s,baz=292,slow=4.0,SNR=3.8
H03N2 Juan Fernandez 142.46 90 T T 06 13 55.7
baz=304,slow=77,SNR=13
H03N3 Juan Fernandez 142.47 90 T T 06 14 04.2
baz=304,slow=77,SNR=18
H03N1 Juan Fernandez 142.47 90 T T 06 14 05.8
baz=304,slow=77,SNR=17
SNAA Sanae 149.15 198 Pdiff **PKPbc 03 35 14.3 +0.8**
VNA3 Neumayer Olymp 150.85 195 Pdiff **PKPbc 03 35 18.4 +0.8**
VNA1 Neumayer--Stat 151.07 196 Pdiff **PKiKP 03 35 19.6 +1.1**

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*NEIC **10** 03:19:35.5±1.3, 5.°7N±0.°1×93.°36E±0.°05, h35km±10km, mb4.2/9, Error ellipse: s-maj=17.7km s-min=4.5km az=196.0*

*IDC **10** 03:19:36.5±1.0, 5.°66N×93.°36E, h48km±7km, mb3.7/7, mb1 4.0/9, mb1mx3.6/49, mbtmp4.1/9, ML4.2/2, MS3.4/2, Ms1 3.5/2, ms1mx2.8/37, Error ellipse: s-maj=36.3km s-min=15.3km az=52.0*

ISC 10 03:19:35.9±0.7, 5.°59N±0.°10×93.°34E±0.°10, h50km, n30, σ0°76/25, mb4.1/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.61**	**95**	Pn	**Pn**	**03 20 29.7**	**+0.4**
GSI	**Gunungsitoli**	**6.00**	**135**		**Pn**	**03 21 01.1**	**-1.0**
RPSI	**Rantau Prapat**	**6.27**	**117**	Pn	**Pn**	**03 21 05.0**	**-0.8**
BKNI	**Bangkinang**	**9.30**	**124**	Pn	**Pn**	**03 21 46.9**	**-0.5**
PALK	**Pallekele**	**12.67**	**278**	P	**Pn**	**03 22 33.0**	**-0.5**
	0.7nm,0.3s,baz=183,slow=18,SNR=1.3						
PALK				S	Sn	03 24 36.6	-17
	5.8nm,0.3s,baz=216,slow=8.7,SNR=11						
CMAR	**Chiang Mai Arr**	**13.91**	**23**	P	**Pn**	**03 22 49.2**	**-1.3**
	0.6nm,0.3s,baz=213,slow=14,SNR=7.8						
CMAR				LR	LR	03 28 03.5	
	comp=Z,78nm,18.0s,baz=198,slow=37						
SHL	**Shillong**	**19.92**	**356**	P	**P**	**03 24 03.0**	**-0.8**
SHL				IAmb	IAmb	03 24 24.1	
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**24.07**	**355**	P	**P**	**03 24 47.1**	**-0.2**
LSA				IAmb	IAmb	03 25 13.0	
	comp=Z,13nm,0.8s						
H08S3	**Diego Garcia H**	**24.60**	**238**	T	T	03 50 16.2	
	baz=58,slow=76,SNR=514						
H08S2	**Diego Garcia H**	**24.60**	**238**	T	T	03 50 17.8	
	baz=58,slow=76,SNR=490						
H08S1	**Diego Garcia H**	**24.62**	**238**	T	T	03 50 14.3	
	baz=58,slow=76,SNR=440						
AAK	**Ala-Archa**	**40.50**	**338**	LR	LR	03 46 36.7	
	comp=Z,73nm,18.8s,baz=126,slow=40						
MK31	**Makanchi Array**	**42.15**	**349**	P	**P**	**03 27 22.9**	**-0.5**
MK31				IAmb	IAmb	03 27 31.8	
	comp=Z,1.7nm,0.9s						
MKAR	**Makanchi Array**	**42.15**	**349**	P	**P**	**03 27 23.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=170,slow=8.8,SNR=9.5						
MKAR				pP	**pP**	**03 27 37.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=159,slow=7.7,SNR=3.3						
KK31	**Karatay Array**	**42.46**	**335**	P	**P**	**03 27 25.8**	**-0.3**
KK31				IAmb	IAmb	03 27 26.7	
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**42.46**	**335**	P	**P**	**03 27 26.0**	**0.0**
SONM	**Songino Array**	**43.55**	**13**	P	**P**	**03 27 35.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=189,slow=8.3,SNR=4.8						
SONM	**Songino Array**	**43.55**	**13**	IAmb	IAmb	03 27 42.8	
	comp=Z,2.2nm,1.3s						
H01W3	**Cape Leeuwin H**	**44.77**	**156**	T	T	04 15 42.2	
	baz=328						
H01W2	**Cape Leeuwin H**	**44.79**	**156**	T	T	04 15 44.1	
	baz=328						
H01W1	**Cape Leeuwin H**	**44.79**	**156**	T	T	04 15 42.4	
	baz=328						
GEYT	**Alibeck**	**45.40**	**320**	P	**P**	**03 27 50.1**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=128,slow=8.1,SNR=6.7						
GYA0B	**ALIBECK ARRAY**	**45.40**	**320**	P	**P**	**03 27 50.2**	**+0.4**
WRA	**Warramunga Arr**	**47.63**	**123**	P	**P**	**03 28 09.0**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=302,slow=8.9,SNR=8.2						
WRA				pP	**pP**	**03 28 19.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=301,slow=9.3,SNR=7.4						
ZAA0	**Zalesovo Array**	**48.71**	**353**	P	**P**	**03 28 14.6**	**-0.6**
ZAA0				IAmb	IAmb	03 28 17.5	
	comp=Z,2.5nm,0.7s						
ZALV	**Zalesovo Beam**	**48.71**	**353**	P	**P**	**03 28 15.9**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=172,slow=7.9,SNR=9.1						
ASAR	**Alice Springs**	**49.11**	**128**	P	**P**	**03 28 20.1**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=301,slow=8.4,SNR=4.7						
ASAR				pP	**pwP**	**03 28 33.7**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=303,slow=8.7,SNR=5.4						
PETK	**Petropavlovsk-**	**70.32**	**35**	P	**P**	**03 30 43.8**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=230,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**77.14**	**340**	P	**P**	**03 31 24.2**	**+0.3**
	comp=Z,3.4nm,1.0s,baz=95,slow=7.3,SNR=1.4						
ARCES				pP	**pP**	**03 31 39.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=104,slow=7.5,SNR=1.5						
ARCES	**ARCESS Array B**	**77.14**	**340**	IAmb	IAmb	03 31 30.3	
	comp=Z,7.6nm,1.1s						

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*MAN **10** 03:20:27.1, 9.°19N×126.°26E, h15km, mb4.7, ML3.6, MS3.5*
*NEIC **10** 03:20:31.2±1.4, 9.°14N±0.°08×126.°1E±0.°2, h97km±5km, mb4.3/12, Error ellipse: s-maj=29.5km s-min=10.0km az=76.0*
*IDC **10** 03:20:32.0±5.9, 9.°13N×126.°25E, h105km±55km, mb3.8/15, mb1 3.9/15, mb1mx3.7/50, mbtmp4.2/15, MS3.6/1, Ms1 3.6/1, ms1mx2.7/40, Error ellipse: s-maj=25.8km s-min=13.0km az=81.0*

ISC 10 03:20:31.1±0.6, 9.°10N±0.°06×126.°10E±0.°08, h100km, n44, σ1°29/38, mb4.2/20, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.53**	**245**	*e*P	**Pn**	**03 20 55.4**	**-2.3**
CGP				*i* S	**Sn**	**03 21 17.3**	**-0.6**
DAV	**Davao City (W)**	**2.08**	**194**	Pn	**Pn**	**03 21 05.0**	**+0.1**
KCP	**Kidapawan**	**2.31**	**206**	*e*P	**Pn**	**03 21 06.0**	**-1.8**
KCP				*i* S	Sn	03 21 52.8	+17
LLP	**Lapu-Lapu**	**2.42**	**300**	*i*P	**Pn**	**03 21 08.5**	**-0.7**
LLP				*i* S	**Sn**	**03 21 40.2**	**+1.8**
DCPH	**Dipolog City**	**2.76**	**259**	*e*P	**Pn**	**03 21 14.1**	**+0.4**
DCPH				*e*S	**Sn**	**03 21 49.5**	**+3.0**
SNPH	**Sibulan**	**2.84**	**275**	*i*P	**Pn**	**03 21 14.6**	**-0.1**
SNPH				*i* S	**Sn**	**03 21 45.3**	**-3.0**
RCP	**Roxas**	**4.11**	**307**	*e*P	**Pn**	**03 21 31.3**	**-0.5**
TWG	**Pinlang**	**14.47**	**341**	Pn	**Pn**	**03 23 49.1**	**-2.0**
CMAR	**Chiang Mai Arr**	**27.93**	**292**	P	**P**	**03 26 15.5**	**+3.3**
	0.8nm,0.3s,baz=96,slow=8.5,SNR=4.7						
KSRS	**Korea Array**	**28.27**	**3**	P	**P**	**03 26 14.4**	**-0.6**
	1.9nm,0.6s,baz=176,slow=11,SNR=10						
WRA	**Warramunga Arr**	**29.98**	**164**	P	**P**	**03 26 30.2**	**-0.1**
	0.4nm,0.4s,baz=344,slow=8.0,SNR=11						
ASAR	**Alice Springs**	**33.45**	**167**	P	**P**	**03 27 01.2**	**+0.5**
	0.6nm,0.5s,baz=343,slow=7.0,SNR=9.5						
USA0B	**Ussuriysk Arra**	**35.34**	**7**	P	**P**	**03 27 15.0**	**-1.8**
USRK	**Ussuriysk Ar.**	**35.34**	**7**	P	**P**	**03 27 16.7**	**0.0**
	5.0nm,0.8s,baz=189,slow=9.6,SNR=13						
MDJ	**Mudanjiang**	**35.51**	**4**	P	**P**	**03 27 17.8**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**40.42**	**72**	T	T	04 11 02.1	
	baz=262,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**40.44**	**72**	T	T	04 10 57.7	
	baz=262,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**40.44**	**72**	T	T	04 10 56.1	
	baz=262,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**40.79**	**70**	T	T	04 11 32.6	
	baz=266,slow=74,SNR=36						
H11N2	**WAKE ISLAND Hy**	**40.80**	**70**	T	T	04 11 32.6	
	baz=266,slow=74,SNR=24						
H11N3	**WAKE ISLAND Hy**	**40.81**	**70**	T	T	04 11 33.9	
	baz=266,slow=74,SNR=30						
STKA	**Stephens Creek**	**43.36**	**161**	P	**P**	**03 28 23.1**	**-0.5**
	1.5nm,0.6s,baz=335,slow=11,SNR=3.3						
PETK	**Petropavlovsk-**	**50.76**	**24**	P	**P**	**03 29 21.6**	**+0.8**
	1.6nm,0.5s,baz=202,slow=4.9,SNR=8.4						
MK31	**Makanchi Array**	**52.85**	**323**	P	**P**	**03 29 36.4**	**-0.2**
MK31				IAmb	IAmb	03 29 37.9	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**52.85**	**323**	P	**P**	**03 29 36.9**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=122,slow=8.0,SNR=14						
MKAR	**Makanchi Array**	**52.85**	**323**	P	**P**	**03 29 36.4**	**-0.2**
MAKZ	**Makanchi**	**53.05**	**323**	P	**P**	**03 29 37.4**	**-0.6**
MAKZ				IAmb	IAmb	03 29 38.9	
	comp=Z,4.8nm,1.1s						
AAK	**Ala-Archa**	**56.03**	**316**	LR	LR	03 55 46.5	
	comp=Z,51nm,19.6s,baz=100,slow=38						
TIXI	**Tiksi**	**62.51**	**1**	P	**P**	**03 30 44.1**	**+0.4**
	comp=Z,2.5nm,0.4s,baz=171,slow=5.7,SNR=4.7						
TIXI	**Tiksi**	**62.51**	**1**	IAmb	IAmb	03 30 44.3	
	comp=Z,3.4nm,0.5s						
BRVK	**Borovoye**	**62.60**	**326**	P	**P**	**03 30 44.2**	**-0.4**
BRVK				IAmb	IAmb	03 30 45.5	
	comp=Z,2.3nm,0.8s						
KDAK	**Kodiak Island**	**77.73**	**33**	P	**P**	**03 32 17.8**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=275,slow=1.8,SNR=6.0						
KDAK	**Kodiak Island**	**77.73**	**33**	IAmb	IAmb	03 32 18.4	
	comp=Z,3.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**78.77**	**26**	P	**P**	**03 32 21.6**	**-0.9**
BPAW				IAmb	IAmb	03 32 24.6	
	comp=Z,2.8nm,0.8s						
COLA	**College**	**80.14**	**26**	P	**P**	**03 32 30.6**	**+0.7**
COLA				IAmb	IAmb	03 32 31.3	
	comp=Z,5.1nm,0.7s						
ILAR	**Eielson Array**	**80.56**	**26**	P	**P**	**03 32 31.4**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=226,slow=5.5,SNR=10.0						
BCAR	**Beaver Creek A**	**82.92**	**27**	P	**P**	**03 32 45.8**	**+1.1**
ARCES	**ARCESS Array B**	**85.22**	**340**	P	**P**	**03 32 56.5**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=76,slow=6.3,SNR=20						
FINES	**FINESS Array B**	**86.83**	**332**	P	**P**	**03 33 04.3**	**0.0**
	comp=Z,6.3nm,1.2s,baz=54,slow=4.9,SNR=6.5						
AKASG	**Malin Array Be**	**87.36**	**321**	P	**P**	**03 33 06.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=50,slow=6.1,SNR=5.3						
VNDA	**Vanda**	**88.80**	**173**	P	**P**	**03 33 14.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=316,slow=7.1,SNR=3.9						
VNDA	**Vanda**	**88.80**	**173**	IAmb	IAmb	03 33 18.1	
	comp=Z,1.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**120.53**	**291**	PKP	**PKiKP**	**03 39 12.8**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=56,slow=1.8,SNR=12						
TORD	**Torodi Ar. Bea**	**120.53**	**291**		**PKPdf**	**03 39 11.6**	**-0.5**

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*IDC **10** 03:29:48.6±1.8, 38.°71N×122.°79W, h0km, mb3.4/1, mb1 4.0/6, mb1mx3.6/35, mbtmp3.6/6, ML3.2/5, MS2.9/4, Ms1 3.0/4, ms1mx2.7/19, Error ellipse: s-maj=25.5km s-min=12.6km az=58.0*
*NCEDC **10** 03:29:49.2±2.0, 38.°81N±0.°02×122.°79W±0.°02, h4km±5km, Mwr3.8/10, ML3.2/72(NEIC), Error ellipse: s-maj=3.2km s-min=2.7km az=184.0*
*NEIC **10** 03:29:49.2, 38.°81N×122.°79W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-3.06; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$3.29; $M_{r\theta}$-3.49; $M_{\theta\phi}$0.82; $M_{\phi r}$-4.96; Fault plane solution: $M_0$6.90000×10^{14} NP1:ϕ_s173.13000°, δ17.00000°, λ-127.86000°. NP2:ϕ_s32.24000°, δ76.66000°, λ-79.38000°. Principal axes: T 6.8859, Plg31.0000°, Azm114.0000°; N 0.0286, Plg10.0000°, Azm210.0000°; P -6.9144, Plg57.0000°, Azm316.0000°;*
*NEIC **10** 03:29:49.2±1.9, 38.°82N±0.°03×122.°79W±0.°05, h5km±6km Error ellipse: s-maj=6.1km s-min=3.1km az=64.0*
*ANF **10** 03:29:54.3±1.4, 39.°16N×122.°36W, h10km±8km, ML3.1/11, Error ellipse: s-maj=14.9km s-min=3.9km az=49.0*

ISC 10 03:29:49.0±1.0, 38.°81N±0.°02×122.°83W±0.°03, h6km±7km, n118, σ1°45/115, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.03**	**90**		**Pg**	**03 29 49.9**	**-0.3**
GCRM	**Castle Rock Sp**	**0.10**	**111**		**Pg**	**03 29 50.7**	**-0.4**
GPMM	**Pine Mountain**	**0.10**	**294**		**Pg**	**03 29 52.0**	**+0.8**
GSGM	**Seigler Mounta**	**0.11**	**58**		**Pg**	**03 29 51.5**	**+0.2**
HOPS	**Hopland Field**	**0.27**	**314**		**Sg**	**03 29 55.2**	**-2.5**
HOPS	**Hopland Field**	**0.27**	**314**	Pg	**Pb**	**03 29 55.1**	**-1.2**
HOPS	**Hopland Field**	**0.27**	**314**	IAML		03 30 04.2	
	comp=N,10μm,0.9s						
HOPS				IAML		03 30 04.3	
	comp=E,12μm,0.9s						
FTR	**Fort Ross**	**0.39**	**222**		**Pb**	**03 29 57.8**	**-0.5**
CVS	**Carmenet Viney**	**0.55**	**148**		**Pb**	**03 29 59.6**	**-1.3**
MCCM	**Marconi Confer**	**0.66**	**183**	Pg	**Pb**	**03 30 02.0**	**-0.9**
MCCM				IAML		03 30 13.5	
	comp=E,2μm,0.9s						
MCCM				IAML		03 30 18.5	
	comp=N,2μm,1.0s						
GNAM	**Navarro Ridge**	**0.74**	**302**		**Pb**	**03 30 04.5**	**+0.2**
GASB	**Alder Springs**	**0.85**	**6**		**Pn**	**03 30 06.7**	**-1.0**
HERB	**Hercules**	**0.91**	**151**		**Pb**	**03 30 06.6**	**-0.6**
SUTB	**Sutter Butte**	**0.92**	**62**		**Pg**	**03 30 05.6**	**-0.9**
RFSB	**Richmond Field**	**0.97**	**156**		**Pb**	**03 30 07.6**	**-0.6**
BL88	**Building 88, L**	**1.03**	**154**		**Pn**	**03 30 08.9**	**-1.2**
BRK	**Berkeley--Havi**	**1.03**	**154**		**Pb**	**03 30 08.6**	**-0.7**
VAK	**Adit at Lawren**	**1.03**	**154**		**Pb**	**03 30 08.8**	**-0.6**
BKS	**Berkeley--Byer**	**1.04**	**153**		**Pg**	**03 30 08.1**	**-0.9**
KCPM	**Cahto Peak**	**1.05**	**327**		**Pn**	**03 30 10.5**	**0.0**
KCPM				IAML		03 30 21.5	
	comp=N,1μm,0.7s						
FARB	**Farallon Islan**	**1.12**	**187**		**Pb**	**03 30 09.8**	**-0.9**
SMCB	**Saint Mary's C**	**1.12**	**150**		**Pb**	**03 30 09.7**	**-1.1**
BDM	**Black Diamond**	**1.14**	**138**		**Pg**	**03 30 09.4**	**-1.5**
CMCM	**Mills College**	**1.15**	**153**		**Pb**	**03 30 10.3**	**-1.0**
KBSM	**Bell Springs**	**1.26**	**332**		**Pg**	**03 30 11.9**	**-1.2**
ORV	**Oroville**	**1.27**	**54**		**Pg**	**03 30 10.9**	**-2.5**
ORV	**Oroville**	**1.27**	**54**	Pg	**Pg**	**03 30 10.8**	**-2.6**
O02D	**Mt. Diablo Mer**	**1.37**	**1**	P	**Pb**	**03 30 14.9**	**-0.2**
	baz=180,SNR=76						
WENL	**Wente Vineyard**	**1.45**	**144**		**Pn**	**03 30 14.6**	**-1.2**
AFDM	**Forest Hills D**	**1.46**	**84**	Pn	**Pn**	**03 30 13.7**	**-2.2**
JRSC	**Jasper Ridge**	**1.48**	**161**		**Pn**	**03 30 14.0**	**-2.1**
LTCM	**Tuscan Springs**	**1.50**	**21**		**Pn**	**03 30 15.5**	**-1.0**
KMRM	**Mail Ridge**	**1.57**	**335**	Pn	**Pb**	**03 30 17.9**	**-0.6**
KMRM				IAML		03 30 51.4	
	comp=N,444nm,1.0s						
KMRM				IAML		03 31 05.7	
	comp=E,487nm,1.2s						
LCMM	**Colby Mountain**	**1.68**	**37**		**Pn**	**03 30 18.1**	**-1.0**
O03E	**Paynes Creek**	**1.68**	**28**	P	**Pn**	**03 30 17.5**	**-1.6**
	baz=208,SNR=105						
O03E				S	**Sn**	**03 30 34.2**	**-6.9**
	baz=208						
KSMM	**Slide Mountain**	**1.73**	**323**		**Pn**	**03 30 19.3**	**-0.4**
COSM	**Mount Oso**	**1.73**	**138**		**Pn**	**03 30 18.0**	**-1.7**
MHC	**Mount Hamilton**	**1.74**	**147**		**Pn**	**03 30 18.4**	**-1.5**
WDC	**Whiskeytown Da**	**1.78**	**7**		**Pb**	**03 30 21.2**	**-0.9**
WDC	**Whiskeytown Da**	**1.78**	**7**	Pn	**Pn**	**03 30 20.8**	**+0.4**
KCRM	**Chalk Rock**	**1.79**	**335**		**Pn**	**03 30 20.7**	**+0.2**
CMPM	**Mikes Peak**	**1.88**	**140**		**Pn**	**03 30 20.7**	**-1.0**
GHS	**Gilroy Hot Spr**	**2.03**	**147**		**Pn**	**03 30 22.1**	**-1.7**
CMB	**Columbia Colle**	**2.07**	**111**		**Pn**	**03 30 23.6**	**-0.8**
CMB	**Columbia Colle**	**2.07**	**111**	Pn	**Pn**	**03 30 23.3**	**-1.1**
CMB	**Columbia Colle**	**2.07**	**111**	IAML		03 30 40.9	
	comp=E,124nm,0.6s						
CMB				IAML		03 30 53.2	
	comp=N,150nm,0.7s						
LSHM	**Sage Hen Hill**	**2.07**	**17**		**Pn**	**03 30 24.6**	**+0.2**
RUBR	**Rubicon Trail**	**2.10**	**83**		**Pn**	**03 30 25.5**	**+0.5**
N02D	**Trinity

MLAC	**Mammoth, Mammo**	**3.36 109**	P	**Pn**	**03 30 44.4**	**+2.2**
	baz=292					
MLAC			Sb	**Sb**	**03 31 32.0**	**+1.7**
	baz=292					
RYN	**Ryan**	**3.37 92**		**Pn**	**03 30 42.3**	**-0.1**
RYN			IAML		03 31 37.7	
	comp=E,80nm,1.2s					
RYN			IAML		03 31 46.7	
	comp=N,84nm,1.1s					
L02E	**Cave Junction**	**3.40 350**	P	**Pn**	**03 30 44.1**	**+1.5**
	baz=169					
LHV	**Little Huntoon**	**3.44 98**		**Pn**	**03 30 44.2**	**+1.1**
RAMR	**Ramage Ranch**	**3.53 153**		**Pn**	**03 30 43.2**	**-1.2**
KBO	**Bosley Butte**	**3.56 343**		**Pn**	**03 30 45.4**	**+0.5**
KBO			IAML		03 32 16.1	
	comp=E,35nm,1.7s					
KBO			IAML		03 32 18.9	
	comp=N,38nm,1.7s					
NVAR	**Mina Array Bea**	**3.56 95**	Pn	**Pn**	**03 30 44.5**	**-0.6**
	comp=N,2.1nm,0.3s,baz=268,slow=15,SNR=36					
NVAR			Pg	**Pb**	**03 30 53.1**	**+0.5**
	comp=N,7.8nm,0.3s,baz=268,slow=17,SNR=42					
NVAR			Lg	Lg	03 31 43.6	
	comp=N,3.4nm,0.3s,baz=284,slow=34,SNR=2.3					
NVAR			LR	LR	03 32 41.0	
	comp=N,160nm,18.1s,baz=246,slow=47					
NVAR	**Mina Array Bea**	**3.56 95**		**Pn**	**03 30 45.1**	**0.0**
MOD	**Modoc Plateau**	**3.64 31**		**Pn**	**03 30 46.5**	**+0.3**
NV11	**Mina Array Sit**	**3.68 94**		**Pn**	**03 30 46.6**	**0.0**
NV11			IAML		03 31 48.7	
	comp=E,76nm,1.9s					
NV11			IAML		03 31 49.4	
	comp=N,70nm,2.0s					
KVN	**Kaiserville**	**3.70 85**	Pn	**Pn**	**03 30 46.8**	**-0.1**
KVN			IAML		03 31 48.1	
	comp=N,48nm,1.2s					
KVN			IAML		03 31 54.9	
	comp=E,37nm,1.2s					
PAGB	**Antelope Grade**	**3.70 145**		**Pn**	**03 30 46.3**	**-0.4**
PAGB			IAML		03 31 56.0	
	comp=N,50nm,1.3s					
PAGB			IAML		03 32 13.3	
	comp=E,37nm,1.8s					
HUMO	**Hull Mountain**	**3.80 359**	Pn	**Pn**	**03 30 47.7**	**-0.4**
K02D	**Willamette Mer**	**3.94 351**	P	**Pn**	**03 30 52.0**	**+1.9**
	baz=170					
TIN	**Tinemaha, Big**	**4.04 114**	Sb	**Sb**	**03 31 53.0**	**+3.3**
	baz=297					
K05A	**Summer Lake**	**4.18 20**		**Pn**	**03 30 53.6**	**+0.1**
K05A			IAML		03 32 41.2	
	comp=N,24nm,2.1s					
J01E	**Myrtle Point**	**4.43 350**	Pg	**Pg**	**03 31 14.0**	**+0.2**
	baz=168					
CWC	**Cottonwood Cre**	**4.45 121**	P	**Pn**	**03 31 00.3**	**+3.1**
	baz=304					
TPH	**Tonopah**	**4.46 98**		**Pn**	**03 30 57.3**	**-0.2**
TPH	**Tonopah**	**4.46 98**	IAML		03 31 28.1	
	comp=E,32nm,1.9s					
TPH			IAML		03 31 32.7	
	comp=N,25nm,1.4s					
GRAC	**Grapevine Rang**	**4.68 111**	Sb	**Sb**	**03 32 11.6**	**+3.3**
	baz=295					
WVOR	**Wild Horse Val**	**4.83 40**	Pn	**Pn**	**03 31 01.9**	**-0.5**
WVOR			IAML		03 33 00.3	
	comp=N,14nm,2.5s					
BUCK	**Buck Mountain**	**5.39 359**	Pn	**Pn**	**03 31 10.4**	**+0.4**
BUCK			IAML		03 32 21.2	
	comp=N,12nm,3.2s					
BUCK			IAML		03 33 14.6	
	comp=E,20nm,2.9s					
TPNV	**Topopah Spring**	**5.53 108**	Pn	**Pn**	**03 31 11.1**	**-0.9**
I07A	**Izee**	**5.83 24**	Pn	**Pn**	**03 31 16.0**	**-0.1**
MWC	**Mount Wilson**	**5.97 139**	Pn	**Pn**	**03 31 17.1**	**-1.1**
ELK	**Elko**	**6.16 69**	Pn	**Pn**	**03 31 21.3**	**+0.6**
	comp=E,0.2nm,0.3s,baz=247,slow=11,SNR=15					
ELK	**Elko**	**6.16 69**	Pn	**Pn**	**03 31 20.6**	**-0.2**
PRN	**Pahroc Range**	**6.29 100**	Pn	**Pn**	**03 31 22.4**	**-0.1**
SPR3	**Spring Creek 3**	**6.63 86**		**Pn**	**03 31 27.0**	**-0.3**
PFO	**Pinyon Flats O**	**7.31 133**	Pn	**Pn**	**03 31 36.0**	**-0.4**
	comp=E,0.9nm,0.3s,baz=314,slow=11,SNR=8.7					
PFO			LR	LR	03 34 51.2	
	comp=E,159nm,18.5s,baz=316,slow=42					
PFO	**Pinyon Flats O**	**7.31 133**		**Pn**	**03 31 36.2**	**-0.2**
LCMT	**Little Creek M**	**7.79 100**	Pn	**Pn**	**03 31 43.7**	**+0.7**
BGU	**Big Grassy Mou**	**7.83 71**	Pn	**Pn**	**03 31 43.8**	**+0.2**
DUG	**Dugway, Tooele**	**7.87 77**	Pn	**Pn**	**03 31 44.6**	**+0.4**
KNB	**Kanab**	**8.11 100**	Pn	**Pn**	**03 31 47.6**	**+0.1**
TCRU	**Three Creeks R**	**8.12 88**	Pn	**Pn**	**03 31 47.2**	**-0.5**
MVU	**Marysvale**	**8.31 89**	Pn	**Pn**	**03 31 50.9**	**+0.6**
NLU	**North Lily Min**	**8.41 79**	Pn	**Pn**	**03 31 52.2**	**+0.6**
SRU	**San Rafael Swe**	**9.59 84**	Pn	**Pn**	**03 32 08.4**	**+0.6**
PDAR	**Pinedale Array**	**10.81 64**	Pn	Pn	03 32 29.6	+5.1
	baz=250,slow=12,SNR=23					
PDAR	**Pinedale Array**	**10.81 64**		Pn	03 32 29.9	+5.4
ANMO	**Albuquerque**	**13.66 101**	LR	LR	03 38 56.8	
	comp=E,67nm,18.3s,baz=292,slow=40					
TXAR	**Lajitas Array**	**18.45 115**	Pn	**P**	**03 34 08.0**	**+2.5**
	comp=E,0.0nm,0.3s,baz=296,slow=9.6,SNR=15					
TXAR	**Lajitas Array**	**18.45 115**		**P**	**03 34 09.0**	**+3.6**
ILAR	**Eielson Array**	**29.58 339**	P	**P**	**03 35 56.8**	**+2.4**
	comp=E,0.3nm,0.7s,baz=181,slow=6.3,SNR=3.3					

IDC ***10*** *03:48:31.3±0.8, 41°.91N×86°.21E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/44, mbtmp3.7/10, ML3.0/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/56, Error ellipse: s-maj=32.9km s-min=13.5km az=57.0*

NEIC ***10*** *03:48:33.5±2.2, 41°.95N±0°.09×86°.3E±0°.1, h10km±1km, mb4.1/10, Error ellipse: s-maj=16.4km s-min=14.6km az=50.0*

BJI ***10*** *03:48:34.0±0.0, 41°.86N×86°.24E, h7km, mb4.3/3, ML4.0/9*

NNC ***10*** *03:48:39.9±4.3, 42°.17N×86°.18E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=35.8km s-min=21.6km az=145.0*

ISC 10 03:48:33.9±0.6,**41°.83N**±0°.06×**86°.30E**±0°.05,**h10km**,**n41**, **σ1§51/39**,**mb4.0/8**,**2C-4D**,**Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.24**	**27**	*e*Pn	**Pb**	**03 49 14.3**	**-0.2**
WMQ				Sn	**Sb**	**03 49 42.5**	**+0.2**
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				smax	smax		
	comp=E,2μm,0.5s						
SHLS	**Shalkode**	**5.22**	**287**	Pg	**Pb**	**03 50 08.0**	**+2.6**
	41nm,0.4s						
SHLS				Lg	Lg	03 51 10.7	
	232nm,0.3s						
PDGK	**Podgornoye**	**5.25**	**289**	Pn	**Pn**	**03 49 55.9**	**+3.4**
	4.6nm,0.6s						
PDGK				⇓Pg	**Pg**	**03 50 15.1**	**+0.7**
	18nm,0.6s						
PDGK				⇓Lg	Lg	03 51 15.8	
	98nm,0.8s						
DJR	**Jarkent**	**5.38**	**300**	Pg	**Pg**	**03 50 16.8**	**-0.2**
	2.1nm,0.7s						
DJR				Lg	Lg	03 51 25.1	
	7.4nm,0.7s						
ZSN	**Zaisan**	**5.71**	**350**	Pg	**Pg**	**03 50 22.8**	**-0.5**
	32nm,0.6s						
ZSN				Lg	Lg	03 51 35.2	
	63nm,0.8s						
MK31	**Makanchi Array**	**5.73**	**331**	⇓Pn	**Pn**	**03 49 58.9**	**-0.2**
	1.5nm,0.4s,baz=323,slow=14,SNR=49						
MK31				Pg	**Pb**	**03 50 17.4**	**+3.4**
	9.4nm,0.6s,baz=140,slow=16,SNR=10						
MK31				⇑Lg	Lg	03 51 30.4	
	82nm,0.8s,baz=152,slow=29,SNR=5.1						
MK31	**Makanchi Array**	**5.73**	**331**		**Pn**	**03 49 59.0**	**-0.2**
MKAR	**Makanchi Array**	**5.73**	**331**	Pn	**Pn**	**03 49 58.3**	**-0.7**
	1.0nm,0.3s,baz=148,slow=14,SNR=35						
MKAR				Lg	Lg	03 51 30.1	
	7.4nm,0.3s,baz=142,slow=30,SNR=10						
MKAR				LR	LR	03 52 32.7	
	comp=Z,136nm,18.3s,baz=152,slow=43						
MKAR	**Makanchi Array**	**5.73**	**331**		**Pn**	**03 49 58.7**	**-0.4**
MAKZ	**Makanchi**	**5.86**	**330**		**Pn**	**03 49 59.9**	**-0.9**
SATY	**Saty**	**5.97**	**285**	Pg	**Pg**	**03 50 27.2**	**-1.0**
	15nm,0.6s						
SATY				Lg	Lg	03 51 42.7	
	44nm,0.5s						
TARG	**Taragay, Kyrgy**	**6.35**	**272**		**Pn**	**03 50 07.3**	**-0.6**
KDJ	**Kajisay**	**6.80**	**276**	Pn	**Pn**	**03 50 13.5**	**-0.4**
BOOM	**Boomskoye usch**	**7.72**	**278**	Pn	**Pn**	**03 50 25.7**	**-0.9**
AAK	**Ala-Archa**	**8.80**	**279**	Pn	**Pn**	**03 50 40.8**	**-0.5**
KURBB	**Kurchatov Arra**	**10.30**	**331**	Pn	**Pn**	**03 50 58.0**	**-3.7**
	0.1nm,0.3s,baz=142,slow=12,SNR=7.7						
KURBB				Lg	Lg	03 53 53.9	
	0.1nm,0.3s,baz=148,slow=28,SNR=6.2						
KURBB	**Kurchatov Arra**	**10.30**	**331**	⇑Pn	**Pn**	**03 51 02.0**	**+0.3**
	4.5nm,0.7s						
KURBB				⇓Lg	Lg	03 53 51.2	
	66nm,0.8s						
KURK	**Kurchatov**	**10.35**	**332**		Pn	03 50 58.0	-4.3
GTA	**Gaotai**	**10.56**	**99**	*e*P	**Pn**	**03 51 08.6**	**+3.3**
GTA				pP		03 51 13.3	
GTA				sP		03 51 15.5	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KK31	**Karatay Array**	**11.73**	**282**	Pn	**Pn**	**03 51 20.9**	**-0.4**
ZAA0	**Zalesovo Array**	**12.16**	**356**	Pn	Pn	03 51 22.4	-4.7
ZALV	**Zalesovo Beam**	**12.16**	**356**	Pn	Pn	03 51 23.2	-3.9
	0.2nm,0.3s,baz=173,slow=13,SNR=6.7						
ZALV				LR	LR	03 56 26.7	
	comp=Z,44nm,19.7s,baz=164,slow=39						
NIL	**Nilore**	**13.15**	**236**		**Pn**	**03 51 39.1**	**-1.7**
KBL	**Kabul**	**15.38**	**247**	Pn	**Pn**	**03 52 11.1**	**-0.1**
KBL				IAmb	IAmb	03 52 16.1	
	comp=Z,6.8nm,1.0s						
TLY	**Talaya**	**15.40**	**44**	LR	LR	03 58 22.0	
	comp=Z,78nm,21.2s,baz=206,slow=38						
SONM	**Songino Array**	**15.45**	**60**	Pn	**Pn**	**03 52 12.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=276,slow=14,SNR=2.9						
SONM				Lg	Lg	03 56 35.7	
	comp=Z,0.1nm,0.3s,baz=260,slow=26,SNR=3.5						
SONM	**Songino Array**	**15.45**	**60**		**Pn**	**03 52 14.1**	**+2.2**
ULN	**Ulaanbaatar**	**15.89**	**61**		**Pn**	**03 52 19.8**	**+2.2**
SHL	**Shillong**	**16.87**	**162**	Pn	**Pn**	**03 52 30.2**	**-0.1**
SHL				IAmb	IAmb	03 52 34.7	
	comp=Z,13nm,0.4s						
HRA	**Herat**	**20.29**	**256**	P	**P**	**03 53 08.7**	**-1.3**
HRA				IAmb	IAmb	03 53 22.8	
	comp=Z,6.3nm,1.2s						
AKTO	**Aktyubinsk**	**21.30**	**303**	P	**P**	**03 53 19.3**	**-1.3**
	comp=Z,1.8nm,0.6s,baz=78,slow=9.8,SNR=8.1						
AKTO				LR	LR	04 02 00.3	
	comp=Z,48nm,18.1s,baz=119,slow=38						
CM31	**Chiang Mai Arr**	**25.68**	**151**	P	**P**	**03 54 03.9**	**-0.1**
CM31				IAmb	IAmb	03 54 06.1	
	comp=Z,5.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.68**	**151**	P	**P**	**03 54 04.4**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=332,slow=9.0,SNR=9.9						
AKBB	**Malin Array Si**	**39.55**	**303**	P	**P**	**03 56 04.8**	**0.0**
AKBB				IAmb	IAmb	03 56 56.8	
	comp=Z,6.8nm,1.4s						
IL31		**65.90**	**22**	P	**P**	**03 59 19.2**	**-0.1**
ILAR	**Eielson Array**	**65.90**	**22**	P	**P**	**03 59 17.6**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=311,slow=7.0,SNR=2.3						
WRA	**Warramunga Arr**	**75.83**	**134**	P	**P**	**04 00 19.8**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=329,slow=5.0,SNR=15						
WRA	**Warramunga Arr**	**75.83**	**134**	IAmb	IAmb	04 02 34.0	
	comp=Z,1.1nm,1.8s						
TORD	**Torodi Ar. Bea**	**77.37**	**276**	P	**P**	**04 00 27.4**	**-1.9**
	comp=Z,1.5nm,0.6s,baz=40,slow=4.8,SNR=13						
ASAR	**Alice Springs**	**78.65**	**136**	P	**P**	**04 00 35.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=329,slow=5.5,SNR=3.0						
LPAZ	**La Paz**	**146.37**	**312**	PKPbc	**PKPdf**	**04 08 14.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=7.7,slow=1.0,SNR=4.3						

BJI ***10*** *04:12:39.3±0.0, 9°.30S×158°.35E, h10km, mB6.6/78, mb6.3/85, Ms6.9/99, Ms7 6.8/91*

IDC ***10*** *04:12:39.5±0.3, 9°.29S×158°.19E, h0km, mb5.6/29, mb1 5.7/31, mb1mx5.7/34, mbtmp5.6/31, ML4.6/2, MS6.6/33, Ms1 6.6/33, ms1mx6.5/36, Error ellipse: s-maj=13.2km s-min=10.4km az=53.0*

NEIC ***10*** *04:12:41.9, 9°.32S×158°.43E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.78; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$ 1.90; $M_{r\theta}$1.87; $M_{\theta\phi}$9.16; $M_{\phi r}$0.50; Fault plane solution: $M_0$9.66000×10^{18} NP1:ϕ_s83.33000°, δ87.14000°, λ11.81000°. NP2:ϕ_s352.73000°, δ78.21000°, λ177.08000°. Principal axes: T 9.3351, Plg10.0000°, Azm309.0000°; N 0.6274, Plg78.0000°, Azm97.0000°; P -9.9626, Plg6.0000°, Azm217.0000°;*

MOS ***10*** *04:12:42.0±1.4, 9°.23S×158°.25E, h21km, mb6.5/68, MS6.7/55 Error ellipse: s-maj=7.1km s-min=5.3km az=117.4*

NEIC ***10*** *04:12:42.5±2.3, 9°.31S±0°.07×158°.40E±0°.07, h12km±1km, mb6.3/381, Ms_20 6.9/981, Mwb6.6/75, Mww6.7, Mwc6.7(GCMT), Error ellipse: s-maj=11.5km s-min=11.0km az=127.0*

BGR ***10*** *04:12:44.4±0.0, 9°.31S×158°.18E, h10km, Ms7.0*

NEIC ***10*** *04:12:46, 9°.39S×158°.37E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}0.07; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$0.27; $M_{r\theta}$0.10; $M_{\theta\phi}$1.34; $M_{\phi r}$-0.10; Fault plane solution: $M_0$1.38000×10^{19} NP1:ϕ_s264.00000°, δ86.00000°, λ-3.00000°. NP2:ϕ_s354.00000°, δ87.00000°, λ-176.00000°. Principal axes: T 1.3381, Plg1.0000°, Azm129.0000°; N 0.0850, Plg85.0000°, Azm30.0000°; P -1.4230, Plg5.0000°, Azm219.0000°;*

GCMT ***10*** *04:12:47.5±0.0, 9°.40S×158°.33E, h15km, MW6.7/167, Moment Tensor Solution. s165,c438; s167,c814; Duration: 5±5 Moment tensor: Scale 10^{19}Nm; M_{rr}0.10±.00; $M_{\theta\theta}$-0.34±.00; $M_{\phi\phi}$0.24±.00; $M_{r\theta}$0.18±.01; $M_{\theta\phi}$1.36±.00; $M_{\phi r}$-0.17±.01; Best double couple: $M_0$1.41000×10^{19} NP1:ϕ_s264.00000°, δ83.00000°, λ-6.00000°. NP2:ϕ_s354.00000°, δ84.00000°, λ-173.00000°. Principal axes: T 1.3430, Plg1.0000°, Azm129.0000°; N 0.1350, Plg81.0000°, Azm34.0000°; P -1.4780, Plg9.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *04:12:48, 9°.62S×158°.04E, h22km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}0.05; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$0.35; $M_{r\theta}$0.06; $M_{\theta\phi}$1.39; $M_{\phi r}$0.25; Fault plane solution: $M_0$1.46000×10^{19} NP1:ϕ_s83.00000°, δ81.00000°, λ4.00000°. NP2:ϕ_s352.00000°, δ86.00000°, λ170.00000°. Principal axes: T 1.4504, Plg10.0000°, Azm307.0000°; N 0.0195, Plg80.0000°, Azm149.0000°; P -1.4699, Plg4.0000°, Azm38.0000°;*

ISC 10 04:12:42.9±0.3,**9°.35S**±0°.03×**158°.34E**±0°.03,**h20**km±2km, **h20**km:**pP-P**,**n2061**,**σ1§68**/1830,**mb6.2**/363,**MS6.9**/587, **237C-130D**,**Fault plane solution: NP1:**ϕ_s82.80061°, δ78.52668°,λ24.53088°. **NP2:**ϕ_s347.61359°,δ65.99056°, λ167.42297°. **Principal axes:** T Plg25.3638°, Azm307.4105°; N Plg63.0698°, Azm106.3505°; P Plg8.4566°, Azm213.3688°; **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.58**	**93**	Pn	**Pn**	**04 13 07.3**	**-2.5**
	5μm,0.3s,baz=240,slow=3.9,SNR=121						
HNR	**Honiara**	**1.58**	**93**	P	**Pn**	**04 13 07.0**	**-2.9**
HNR	**Honiara**	**1.58**	**93**	Pn	**Pn**	**04 13 07.0**	**-2.9**
HNR	**Honiara**	**1.58**	**93**	⇑P	**Pn**	**04 13 07.5**	**-2.4**
HNR	**Honiara**	**1.58**	**93**	P	**Pb**	**04 13 11.6**	**0.0**
RABL	**Rabaul**	**8.00**	**309**		**Pn**	**04 14 40.1**	**+2.0**
SANVU	**Saraoutou**	**10.56**	**126**	⇓P	**Pn**	**04 15 12.1**	**-1.1**
SANVU	**Saraoutou**	**10.56**	**126**	P	**Pn**	**04 15 16.2**	**+3.0**
PMG	**Port Moresby**	**11.04**	**269**	Pn	**Pn**	**04 15 23.7**	**+4.0**
	2.0nm,0.3s,baz=86,slow=8.5,SNR=22						
PMG	**Port Moresby**	**11.04**	**269**	P	**Pn**	**04 15 22.1**	**+2.4**
PMG	**Port Moresby**	**11.04**	**269**	Pn	**Pn**	**04 15 22.1**	**+2.4**
PMG	**Port Moresby**	**11.04**	**269**	⇑P	**Pn**	**04 15 23.9**	**+4.2**
PMG	**Port Moresby**	**11.04**	**269**	P	**Pn**	**04 15 19.9**	**+0.1**
PMG	**Port Moresby**	**11.04**	**269**	P	**Pn**	**04 15 19.9**	**+0.1**
KOUNC	**Koumac, New Ca**	**12.52**	**153**	⇑P	**Pn**	**04 15 39.5**	**-0.6**
MANU	**Manus Island**	**13.11**	**303**		**Pn**	**04 15 48.1**	**0.0**
MANU	**Manus Island**	**13.11**	**303**	⇑P	**Pn**	**04 15 48.2**	**0.0**
LIFNC	**LIFOU**	**14.23**	**144**	Pn	**Pn**	**04 16 02.6**	**-0.9**
LIFNC	**LIFOU**	**14.23**	**144**	P	**Pn**	**04 16 06.1**	**+2.6**
NOUC	**Port Laguerre**	**14.80**	**150**	P	**Pn**	**04 16 13.8**	**+2.6**
DZM	**Mont Dzumac**	**14.85**	**149**	Pn	**Pn**	**04 16 11.4**	**-0.5**
	0.4nm,0.3s,baz=357,slow=15,SNR=11						
DZM				LR	LR	04 21 06.1	
	comp=Z,793μm,18.8s,baz=337,slow=34						
DZM	**Mont Dzumac**	**14.85**	**149**	*e*P	**Pn**	**04 16 12.1**	**+0.2**
	2μm,1.4s						
DZM				*e*LQ	LQ	04 18 56.7	
	1055μm,26.1s						
DZM				*e*LR	LR	04 19 33.2	
	comp=Z,1235μm,26.4s						
DZM	**Mont Dzumac**	**14.85**	**149**	⇑P	**Pn**	**04 16 11.3**	**-0.6**
DZM	**Mont Dzumac**	**14.85**	**149**	⇑P	**Pn**	**04 16 11.6**	**-0.3**
DZM	**Mont Dzumac**	**14.85**	**149**	P	**Pn**	**04 16 12.4**	**+0.5**
ONTNC	**Ouen Toro**	**15.05**	**150**	Pn	**Pn**	**04 16 13.7**	**-0.8**
ONTNC				IAmb	IAmb	04 17 09.9	
	comp=Z,3μm,1.7s						
ONTNC	**Ouen Toro**	**15.05**	**150**	P	**Pn**	**04 16 17.1**	**+2.5**
YATNC	**Mamie plateau,**	**15.07**	**148**	P	**P**	**04 16 19.0**	**-1.0**
MARNC	**Mare, Loyalty**	**15.24**	**143**	Pn	**Pn**	**04 16 17.0**	**-0.1**
MARNC	**Mare, Loyalty**	**15.24**	**143**	⇑P	**Pn**	**04 16 16.4**	**-0.7**
OUENC	**Ouen Island, N**	**15.34**	**149**	Pn	**Pn**	**04 16 18.5**	**+0.2**
OUENC				IAmb	IAmb	04 16 33.0	
	comp=Z,1μm,1.2s						
OUENC	**Ouen Island, N**	**15.34**	**149**	P	**P**	**04 16 21.7**	**-1.3**
PINNC	**Pines Island,**	**15.81**	**148**	Pn	**Pn**	**04 16 23.9**	**-0.6**
PINNC				IAmb	IAmb	04 16 59.1	
	comp=Z,6μm,2.0s						
CTA	**Charters Tower**	**15.82**	**226**	Pn	**Pn**	**04 16 21.3**	**-3.3**
	comp=Z,5.7nm,0.3s,baz=50,slow=14,SNR=124						
CTA				LR	LR	04 21 48.2	
	comp=Z,352μm,22.0s,baz=54,slow=35						
CTAO	**Charters Tower**	**15.82**	**226**	P	**Pn**	**04 16 22.9**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,2μm,1.2s						
CTAO	**Charters Tower**	**15.82**	**226**	Pn	**Pn**	**04 16 22.9**	**-1.7**
CTAO				IAmb	IAmb	04 16 28.3	
	comp=Z,2μm,1.2s						
CTAO	**Charters Tower**	**15.82**	**226**	⇓P	**Pn**	**04 16 22.1**	**-2.6**
PATS	**Pohnpei**	**16.08**	**360**	P	**Pn**	**04 16 28.9**	**+0.8**
	baz=16,SNR=5.4						
PATS	**Pohnpei**	**16.08**	**360**	Pn	**Pn**	**04 16 25.3**	**-2.7**
PATS				IAmb	IAmb	04 16 40.0	
	comp=Z,3μm,1.0s						
EIDS	**Eidsvold**	**17.36**	**203**	P	**Pn**	**04 16 43.9**	**-0.3**
	baz=17,SNR=168						
EIDS	**Eidsvold**	**17.36**	**203**		**Pn**	**04 16 42.1**	**-2.0**
EIDS	**Eidsvold**	**17.36**	**203**	⇓P	**Pn**	**04 16 42.4**	**-1.8**
MMPI	**Merauke**	**17.77**	**271**	P	**P**	**04 16 49.8**	**-0.1**
	comp=Z,89μmcomp=Z,53μmcomp=Z,1μm,1.2s						
TARA	**Tarawa**	**18.00**	**55**	Pn	**Pn**	**04 16 48.5**	**-3.7**
TARA	**Tarawa**	**18.00**	**55**	⇓P	**Pn**	**04 16 51.3**	**-0.9**
GENI	**Genyem**	**19.27**	**289**	⇑P	**P**	**04 17 05.6**	**-1.0**
GENI	**Genyem**	**19.27**	**289**	P	**P**	**04 17 06.7**	**+0.1**
	comp=Z,167μmcomp=Z,88μmcomp=Z,3μm,1.2s						
RMQ	**Roma**	**19.31**	**207**	P	**Pn**	**04 17 08.1**	**+0.2**
	baz=19,SNR=27						
KWAJ	**Kwajalein Atol**	**20.26**	**27**	P	**P**	**04 17 14.7**	**-2.6**
KWAJ				pmax	pmax		
	comp=Z,9μm,1.8s						
KWAJ				MLR	MLR		
	comp=Z,260μm,22.0s						
KWAJ	**Kwajalein Atol**	**20.26**	**27**	P	**P**	**04 17 14.7**	**-2.6**
KWAJ	**Kwajalein Atol**	**20.26**	**27**	⇓P	Pn	04 17 18.3	-1.0
KWAJ	**Kwajalein Atol**	**20.26**	**27**	P	Pn	04 17 18.6	-0.7
FUNA	**Funafuti**	**20.62**	**89**	P	**P**	**04 17 18.9**	**-2.3**
FUNA				IAmb	IAmb	04 17 45.6	
	comp=Z,2μm,1.4s						
MSVF	**Nonsavu**	**20.88**	**116**	P	**P**	**04 17 24.4**	**+0.3**
	comp=Z,24nm,0.9s,baz=108,slow=18,SNR=3.2						
MSVF				LR	LR	04 24 34.0	
	comp=Z,178μm,18.5s,baz=287,slow=34						
MSVF	**Nonsavu**	**20.88**	**116**	P	**P**	**04 17 24.9**	**+0.8**
MSVF				pmax	pmax		
	comp=Z,1μm,1.4s						
MSVF				MLR	MLR		
	comp=Z,160μm,19.0s						
MSVF	**Nonsavu**	**20.88**	**116**	P	**P**	**04 17 24.9**	**+0.8**
MSVF				IAmb	IAmb	04 18 01.3	
	comp=Z,1μm,1.4s						
MSVF	**Nonsavu**	**20.88**	**116**	⇓P	Pn	04 17 26.6	0.0
MSVF	**Nonsavu**	**20.88**	**116**	P	Pn	04 17 27.8	+1.2
QIS	**Mount Isa**	**21.23**	**236**	P	**P**	**04 17 28.1**	**+0.3**
	baz=21,SNR=356						
QLP	**Quilpie**	**21.73**	**216**	P	**P**	**04 17 33.1**	**+0.1**
	baz=22,SNR=36						
QLP	**Quilpie**	**21.73**	**216**	⇓P	**P**	**04 17 32.5**	**-0.5**
ARMA	**Armidale**	**21.88**	**196**	P	**P**	**04 17 34.9**	**+0.2**
	baz=22,SNR=83						
ARMA	**Armidale**	**21.88**	**196**	P	**P**	**04 17 35.3**	**+0.6**
ARMA	**Armidale**	**21.88**	**196**	⇑P	**P**	**04 17 34.2**	**-0.6**
SRPI	**Serui, Papua**	**23.20**	**287**	P	**P**	**04 17 46.1**	**-2.7**
	comp=Z,71μmcomp=Z,24μmcomp=Z,817nm,0.8s						
BAKI	**Biak**	**23.56**	**289**	P	**P**	**04 17 52.3**	**-0.1**
	comp=Z,35μmcomp=Z,1μm,1.1s						
MGCD	**Mangrove Creek**	**24.66**	**195**	P	**P**	**04 18 04.0**	**+1.6**
	baz=25,SNR=16						
CMSA	**Cobar Meteorol**	**25.01**	**206**	P	**P**	**04 18 05.6**	**0.0**
	baz=25,SNR=220

BNDI Bandanaira 28.62 278 ⇑P **P 04 18 37.6 -0.7**
BNDI Bandanaira 28.62 278 P **P 04 18 37.7 -0.7**
comp=Z,32μmcomp=Z,38μmcomp=Z,2μm,1.4s
MILA Mila 28.81 195 ⇓P **P 04 18 40.5 +0.7**
H11S3 WAKE ISLAND Hy 28.87 17 T T 04 47 28.8
baz=195,slow=76,SNR=327
H11S2 WAKE ISLAND Hy 28.87 17 T T 04 47 28.1
baz=195,slow=76,SNR=329
H11S1 WAKE ISLAND Hy 28.89 17 T T 04 47 34.7
baz=195,slow=76,SNR=295
OUZ Omahuta 29.28 154 P **P 04 18 45.5 +1.6**
OUZ IAMs_20 IAMs_20 04 29 10.5
comp=Z,243μm,18.0s
OUZ Omahuta 29.28 154 ⇓P **P 04 18 45.8 +1.9**
KNRA Kununurra 29.53 255 P **P 04 18 45.2 -1.2**
baz=29,SNR=47
KNRA Kununurra 29.53 255 P **P 04 18 46.1 -0.3**
KNRA IAmb IAmb 04 19 00.9
comp=Z,588nm,1.1s
AFI Afiamalu 29.60 102 P **P 04 18 46.5 -0.6**
comp=Z,62nm,0.8s,baz=192,slow=4.0,SNR=8.1
AFI LR LR 04 28 25.8
comp=Z,271μm,21.7s,baz=284,slow=32
AFI Afiamalu 29.60 102 P **P 04 18 45.9 -1.2**
AFI IAmb IAmb 04 19 01.7
comp=Z,356nm,1.1s
AFI Afiamalu 29.60 102 IAMs_20 IAMs_20 04 28 03.6
comp=Z,270μm,22.0s
AFI Afiamalu 29.60 102 ⇑P **P 04 18 48.2 +1.1**
WAKE Wake Island 29.61 16 P **P 04 18 46.2 -0.8**
WAKE Wake Island 29.61 16 ⇓P **P 04 18 48.8 +1.9**
RAO Raoul Island 29.78 135 P **P 04 18 47.6 -0.8**
comp=Z,240nm,0.4s,baz=100,slow=22,SNR=2.4
RAO LR LR 04 29 18.0
comp=Z,187μm,18.9s,baz=304,slow=33
RAO Raoul Island 29.78 135 P **P 04 18 48.5 +0.1**
RAO pmax pmax
comp=Z,2μm,1.0s
RAO Raoul Island 29.78 135 P **P 04 18 48.5 +0.1**
RAO Raoul Island 29.78 135 IAMs_20 IAMs_20 04 29 06.9
comp=Z,193μm,19.0s
MSAI Masohi 29.82 280 P **P 04 18 48.7 -0.3**
comp=Z,62nm,1.0s
H11N1 WAKE ISLAND Hy 30.09 16 T T 04 49 00.8
baz=195,slow=76,SNR=319
H11N3 WAKE ISLAND Hy 30.10 16 T T 04 49 04.7
baz=195,slow=76,SNR=349
H11N2 WAKE ISLAND Hy 30.11 16 T T 04 49 03.3
baz=195,slow=76,SNR=386
TOO Toolangi 30.40 200 P **P 04 18 54.4 +0.5**
baz=30,SNR=12
TOO Toolangi 30.40 200 P **P 04 18 53.6 -0.3**
TOO pmax pmax
comp=Z,141nm,1.2s
TOO MLR MLR
comp=Z,201μm,18.0s
TOO Toolangi 30.40 200 P **P 04 18 53.5 -0.3**
TOO IAMs_20 IAMs_20 04 30 06.7
comp=Z,201μm,18.0s
TOO Toolangi 30.40 200 ⇓P **P 04 18 54.4 +0.5**
KNTN Kanton 30.46 80 P **P 04 18 53.7 -0.9**
KNTN Kanton 30.46 80 ⇑P **P 04 18 54.2 -0.4**
KNTN Kanton 30.46 80 P **P 04 18 56.0 +1.3**
ARPS Mount Arapiles 31.13 206 P **P 04 19 00.3 +0.1**
baz=31,SNR=41
NLAI Namlea 31.63 279 P **P 04 19 05.1 +0.2**
comp=Z,8μmcomp=Z,323nm,1.4s
LBMI Labuha 31.89 284 P **P 04 19 08.2 +0.9**
comp=Z,22μmcomp=Z,1μm,1.0s
NIUE Niue 32.19 111 P **P 04 19 11.3 +1.4**
baz=32,SNR=3.6
NIUE Niue 32.19 111 P **P 04 19 09.6 -0.2**
NIUE IAmb IAmb 04 19 17.4
comp=Z,342nm,1.1s
TNTI Ternate 32.45 286 P **P 04 19 12.3 +0.1**
TNTI IAmb IAmb 04 20 08.9
comp=Z,656nm,1.5s
TNTI Ternate 32.45 286 P **P 04 19 12.5 +0.4**
comp=Z,16μmcomp=Z,8μmcomp=Z,288nm,1.4s
WRKA Warakurna 32.55 238 P **P 04 19 11.3 -1.8**
baz=32,SNR=84
WRKA Warakurna 32.55 238 ⇓P **P 04 19 11.3 -1.8**
HIZ Hauiti 32.60 156 IAmb IAmb 04 19 44.4
comp=Z,703nm,1.4s
HIZ IAMs_20 IAMs_20 04 30 58.7
comp=Z,187μm,18.0s
OMRZ Omania 32.91 153 P **P 04 19 19.4 +3.5**
SANI Sanana 32.98 281 ⇑P **P 04 19 16.3 -0.5**
SANI Sanana 32.98 281 P **P 04 19 16.5 -0.3**
comp=Z,28μmcomp=Z,16μmcomp=Z,831nm,1.4s
HAZ Te Kaha 33.27 151 P **P 04 19 21.4 +2.3**
URZ Urewera 33.37 153 P **P 04 19 20.5 +0.6**
comp=Z,83nm,1.1s,baz=235,slow=0.3,SNR=8.4
URZ LR LR 04 30 49.3
comp=Z,326μm,18.9s,baz=326,slow=32
URZ Urewera 33.37 153 IAmb IAmb 04 19 40.1
comp=Z,634nm,1.3s
URZ Urewera 33.37 153 P **P 04 19 23.0 +3.1**
URZ Urewera 33.37 153 ⇑P **P 04 19 21.3 +1.4**
OTVZ Oturere 33.49 155 P **P 04 19 22.7 +1.6**
FWVZ Far West T-bar 33.52 155 P **P 04 19 23.5 +2.0**
WHVZ Whangaehu Hut 33.56 155 P **P 04 19 22.1 +0.3**
SOEI Soe 33.60 266 P **P 04 19 22.6 +0.3**
SOEI Soe 33.60 266 ⇑P **P 04 19 23.2 +0.9**
SOEI Soe 33.60 266 P **P 04 19 23.0 +0.6**
comp=Z,36μmcomp=Z,15μmcomp=Z,559nm,1.5s
MWZ Matawai 33.62 152 P **P 04 19 23.8 +1.6**
WMGZ Waiomatatini S 33.63 151 P **P 04 19 24.6 +2.4**
BKZ Black Stump Fm 33.84 154 IAMs_20 IAMs_20 04 31 01.4
comp=Z,302μm,20.0s
BATI Baumata 34.18 266 P **P 04 19 28.1 +0.8**
comp=Z,15μmcomp=Z,13μmcomp=Z,790nm,1.2s
TSZ Takapari Road 34.37 156 P **P 04 19 30.0 +1.3**
MOO Moorlands 34.38 195 P **P 04 19 28.9 +0.3**
baz=34,SNR=5.0
THZ Tophouse 34.74 161 IAMs_20 IAMs_20 04 32 49.4
comp=Z,140μm,18.0s
TAU Tasmania Unive 34.79 194 P **P 04 19 32.5 +0.3**
TAU pmax pmax
comp=Z,443nm,1.5s
TAU MLR MLR
comp=Z,89μm,20.0s
TAU Tasmania Unive 34.79 194 P **P 04 19 32.5 +0.3**
TAU IAmb IAmb 04 19 45.1
comp=Z,443nm,1.5s
TAU Tasmania Unive 34.79 194 ⇑P **P 04 19 33.9 +1.7**
SGSI Sangihe 35.17 290 P **P 04 19 36.2 +0.3**
comp=Z,2μmcomp=Z,12μmcomp=Z,1μm,0.9s
MSWZ Moikau Station 35.26 158 P **P 04 19 35.0 -1.3**
FORT Forrest 35.35 229 P **P 04 19 36.7 -0.4**
baz=35,SNR=19
FORT Forrest 35.35 229 P **P 04 19 37.0 -0.1**
FORT IAMs_20 IAMs_20 04 33 39.6
comp=Z,262μm,21.0s
FORT Forrest 35.35 229 ⇑P **P 04 19 36.9 -0.3**
LTZ Lake Taylor 35.47 162 IAMs_20 IAMs_20 04 32 58.7
comp=Z,180μm,18.0s
FOZ Fox Glacier 35.49 166 IAMs_20 IAMs_20 04 32 23.4
comp=Z,177μm,18.0s
KHZ Kahutara 35.53 160 IAMs_20 IAMs_20 04 33 16.4
comp=Z,186μm,18.0s
KHZ Kahutara 35.53 160 ⇑P **P 04 19 37.6 -1.0**
MMRI Maumere 35.66 268 ⇑P **P 04 19 38.9 -1.1**
MMRI Maumere 35.66 268 P **P 04 19 38.8 -1.3**
comp=Z,32μmcomp=Z,23μmcomp=Z,2μm,1.4s
OXZ Oxford 35.89 163 IAMs_20 IAMs_20 04 32 27.0
comp=Z,172μm,19.0s
RPZ Rata Peaks 35.98 164 IAMs_20 IAMs_20 04 33 45.3
comp=Z,159μm,18.0s
EDFI Ende, Flores 36.19 268 P **P 04 19 43.4 -1.3**
comp=Z,12μmcomp=Z,9μmcomp=Z,415nm,1.4s
LUWI Luwuk 36.34 281 ⇑P **P 04 19 45.6 -0.2**
LUWI Luwuk 36.34 281 P **P 04 19 45.7 -0.2**
comp=Z,33μmcomp=Z,13μmcomp=Z,894nm,1.1s
LBZ Lake Benmore 36.38 166 IAMs_20 IAMs_20 04 32 13.0
comp=Z,175μm,20.0s
DAV Davao City (W) 36.49 295 P **P 04 19 47.5 +0.3**
WKZ Wanaka 36.53 167 IAMs_20 IAMs_20 04 33 57.0
comp=Z,212μm,18.0s
MLZ Mavora Lakes 36.86 168 P **P 04 19 49.7 -0.2**
ODZ Otahua Downs 37.11 166 IAMs_20 IAMs_20 04 36 28.4
comp=Z,161μm,18.0s
ODZ Otahua Downs 37.11 166 ⇑P **P 04 19 52.6 +0.5**
APSI Ampana 37.46 281 P **P 04 19 55.7 +0.3**
comp=Z,13μmcomp=Z,9μmcomp=Z,1μm,1.2s
MRSI Marisa 37.54 283 P **P 04 19 54.8 -1.3**
comp=Z,24μmcomp=Z,6μmcomp=Z,418nm,1.1s
BSSI Bau Bau, Buton 37.63 272 P **P 04 19 56.9 0.0**
comp=Z,11μmcomp=Z,12μmcomp=Z,676nm,1.5s
CGP Cagayan de Oro 37.90 297 ⇓*e*P **P 04 20 01.7 +2.7**
BKSI Bulukumba 38.10 273 P **P 04 20 00.7 -0.2**
comp=Z,13μmcomp=Z,8μmcomp=Z,469nm,1.6s
BNSI Bone 38.26 275 P **P 04 20 02.5 +0.3**
comp=Z,13μmcomp=Z,14μmcomp=Z,782nm,0.9s
WBSI Waikabubak, Su 38.41 266 P **P 04 20 02.5 -1.0**
comp=Z,10μmcomp=Z,594nm,1.0s
KAPI Kappang 38.51 274 P **P 04 20 04.2 -0.2**
KAPI pmax pmax
comp=Z,1μm,1.1s
KAPI Kappang 38.51 274 P **P 04 20 04.2 -0.2**
KAPI Kappang 38.51 274 P **P 04 20 05.1 +0.8**
KAPI Kappang 38.51 274 ⇑P **P 04 20 04.1 -0.2**
MSLP Maasin 38.54 299 ⇓*e*P **P 04 20 03.8 -0.7**
TTSI Tana Toraja 38.78 277 P **P 04 20 06.9 +0.3**
comp=Z,14μmcomp=Z,10μmcomp=Z,284nm,1.1s
PAGZ Pagadian 38.79 295 ⇓*e*P **P 04 20 03.6 -3.1**
TOLI2 Tolitoli 38.83 284 P **P 04 20 05.2 -1.8**
TOLI2 IAmb IAmb 04 20 07.4
comp=Z,470nm,0.9s
PSA00 Pilbara Seismi 38.93 247 IAmb IAmb 04 20 21.1
comp=Z,663nm,1.1s
PCI Palu 39.22 280 P **P 04 20 12.9 +2.6**
comp=Z,122nmcomp=Z,7.8nm,1.2s
MPSI Mapaga 39.47 282 P **P 04 20 11.9 -0.4**
comp=Z,17μmcomp=Z,7μmcomp=Z,449nm,1.1s
JCJ Chichijima 39.48 337 LR LR 04 34 54.0
comp=Z,77μm,21.8s,baz=152,slow=34
JCJ Chichijima 39.48 337 P **P 04 20 10.7 -1.5**
JCJ IAmb IAmb 04 20 29.9
comp=Z,429nm,1.0s
SNPH Sibulan 39.58 297 *e*P **P 04 20 13.8 +0.5**
PLAI Plampang 40.05 267 P **P 04 20 16.1 -1.0**
comp=Z,10μmcomp=Z,16μmcomp=Z,1μm,2.0s
CNOP Candoni, Negro 40.32 297 ⇓*e*P **P 04 20 18.4 -1.0**
TWSI Taliwang, Sumb 40.93 267 P **P 04 20 23.4 -1.1**
comp=Z,5μmcomp=Z,6μmcomp=Z,252nm,2.1s
JOHN Johnston Islan 41.01 51 P **P 04 20 23.2 -1.8**
JOHN IAmb IAmb 04 20 28.9
comp=Z,493nm,1.1s
JOHN Johnston Islan 41.01 51 IAMs_20 IAMs_20 04 34 02.7
comp=Z,189μm,18.0s
RCP Roxas 41.04 300 ⇑*e*P **P 04 20 25.6 +0.3**
MEEK Meekatharra 41.29 240 P **P 04 20 26.6 -0.7**
baz=41,SNR=71
SMKI Samarinda 41.88 280 P **P 04 20 34.7 +2.4**
comp=Z,19μmcomp=Z,18μmcomp=Z,947nm,1.8s
RAR Rarotonga 41.96 111 P **P 04 20 34.8 +2.0**
comp=Z,36nm,0.8s,baz=252,slow=7.9,SNR=14
RAR LR LR 04 34 44.5
comp=Z,37μm,20.2s,baz=278,slow=32
RAR Rarotonga 41.96 111 P **P 04 20 32.0 -0.8**
RAR Rarotonga 41.96 111 ⇓P **P 04 20 37.5 +4.7**
BKB Balikpapan 42.00 279 P **P 04 20 34.2 +1.0**
BKB Balikpapan 42.00 279 ⇑P **P 04 20 35.1 +1.8**
BKB Balikpapan 42.00 279 P **P 04 20 35.2 +1.9**
comp=Z,28μmcomp=Z,23μmcomp=Z,1μm,1.1s
KBKI Kotabaru 42.32 275 P **P 04 20 36.2 +0.3**
comp=Z,4μmcomp=Z,382nm,1.1s
GQP Guinayangan 42.46 302 ⇑*e*P **P 04 20 37.0 +0.1**
DNP Denpasar 42.59 267 P **P 04 20 34.5 -3.5**
comp=Z,41μmcomp=Z,747nm,1.1s
SRBI Singaraja 42.63 268 P **P 04 20 38.0 -0.4**
comp=Z,10μmcomp=Z,12μmcomp=Z,303nm,1.7s
LQP Lukban 43.32 302 ⇑*i*P **P 04 20 44.0 -0.2**
PGP Puerto Galera 43.51 301 ⇑*e*P **P 04 20 44.8 -0.7**
BBKI Banjar Baru 43.59 275 P **P 04 20 47.2 +1.0**
comp=Z,10μmcomp=Z,14μmcomp=Z,635nm,1.2s
ABJI Asem Bagus 43.62 268 P **P 04 20 46.4 0.0**
comp=Z,15μmcomp=Z,16μmcomp=Z,560nm,1.8s
KLBR Kellerberrin 43.64 234 P **P 04 20 45.0 -1.4**
baz=44,SNR=30
KMMI Kalianget 43.96 270 P **P 04 20 49.2 +0.1**
comp=Z,12μmcomp=Z,11μmcomp=Z,298nm,1.8s
MTKI Muara Teweh, K 44.02 278 P **P 04 20 49.9 +0.2**
comp=Z,9μmcomp=Z,8μmcomp=Z,327nm,0.9s
MIDW Midway 44.12 31 P **P 04 20 50.1 0.0**
MIDW IAmb IAmb 04 21 17.2
comp=Z,515nm,1.1s
MIDW Midway 44.12 31 ⇓P **P 04 20 52.0 +1.9**
BLDU Ballidu 44.13 235 P **P 04 20 49.7 -0.6**
baz=44,SNR=27
MORW Morawa 44.19 238 P **P 04 20 49.8 -1.0**
baz=44,SNR=44
MORW Morawa 44.19 238 P **P 04 20 50.2 -0.6**
MORW IAmb IAmb 04 21 01.0
comp=Z,269nm,0.9s
MORW Morawa 44.19 238 ⇑P **P 04 20 49.8 -1.0**
GIRL Giralia 44.24 247 P **P 04 20 52.4 +1.1**
GIRL IAMs_20 IAMs_20 04 39 18.5
comp=Z,105μm,20.0s
GIRL Giralia 44.24 247 ⇓P **P 04 20 52.4 +1.1**
NWAO Narrogin (SRO) 44.54 232 P **P 04 20 53.0 -0.6**
baz=44,SNR=16
NWAO Narrogin (SRO) 44.54 232 P **P 04 20 53.3 -0.3**
NWAO pmax pmax
comp=Z,225nm,1.1s
NWAO MLR MLR
comp=Z,112μm,21.0s
NWAO Narrogin (SRO) 44.54 232 P **P 04 20 53.3 -0.3**
NWAO IAMs_20 IAMs_20 04 39 00.2
comp=Z,112μm,21.0s
NWAO Narrogin (SRO) 44.54 232 P **P 04 20 56.2 +2.6**
MUN Mundaring 45.00 234 P **P 04 20 56.0 -1.3**
baz=45,SNR=7.7
MCQ Macquarie Isla 45.03 179 P **P 04 20 57.8 +0.8**
MCQ pmax pmax
comp=Z,601nm,1.6s
MCQ Macquarie Isla 45.03 179 P **P 04 20 57.8 +0.8**
MCQ IAmb IAmb 04 21 04.5
comp=Z,601nm,1.6s
XMAS Kiritimati 45.48 78 P **P 04 21 00.6 -0.6**
XMAS IAmb IAmb 04 21 19.2
comp=Z,921nm,1.6s
XMAS Kiritimati 45.48 78 ⇓P **P 04 21 03.4 +2.2**
APYP Conner 45.54 306 ⇓*e*P **P 04 21 00.8 -0.8**
PWJI Pagerwojo 46.00 268 P **P 04 21 04.4 -1.0**
comp=Z,11μmcomp=Z,452nm,1.0s
SZP Santa 46.00 305 P **P 04 21 04.1 -1.2**
SZP IAmb IAmb 04 21 34.2
comp=Z,370nm,1.0s
JOW Kunigami 46.32 322 P **P 04 21 08.3 +0.6**
PCJI Pacitan 46.60 268 P **P 04 21 10.0 -0.1**
comp=Z,13μmcomp=Z,20μmcomp=Z,1μm,1.2s
PBKI Pangkalan Bun 46.84 275 P **P 04 21 13.3 +1.3**
comp=Z,21μmcomp=Z,1μm,1.0s
UGM Wanagama 47.27 268 P **P 04 21 15.0 -0.4**
comp=Z,13μmcomp=Z,19μmcomp=Z,741nm,1.4s
SMRI Semarang 47.44 269 P **P 04 21 17.1 +0.4**
SMRI Semarang 47.44 269 ⇑P **P 04 21 17.0 +0.3**
SMRI Semarang 47.44 269 P **P 04 21 17.0 +0.3**
comp=Z,25μmcomp=Z,22μmcomp=Z,734nm,1.1s
YOGI Yogyakarta 47.51 268 P **P 04 21 16.9 -0.3**
comp=Z,8μmcomp=Z,14μmcomp=Z,627nm,1.0s
STKI Sintang 47.58 279 P **P 04 21 18.6 +0.8**
comp=Z,9μmcomp=Z,13μmcomp=Z,442nm,1.0s
JYT Yasato 48.45 340 P **P 04 21 23.9 -0.2**
JYT Yasato 48.45 340 ⇑P **P 04 21 23.1 -1.0**
TWG Pinlang 48.52 312 IAmb IAmb 04 21 33.0
comp=Z,228nm,1.0s
JSU Suzuyama 48.62 328 IAmb IAmb 04 21 58.0
comp=Z,603nm,1.5s
JSU Suzuyama 48.62 328 ⇑P **P 04 21 25.3 -0.2**
YULB Yu-li 48.70 313 P **P 04 21 25.6 -0.7**
YULB IAmb IAmb 04 21 30.5
comp=Z,313nm,0.8s
YULB IAMs_20 IAMs_20 04 38 04.6
comp=Z,92μm,20.0s
JMN Monobe 48.75 333 P **P 04 21 25.7 -0.8**
JMN Monobe 48.75 333 ⇓P **P 04 21 26.5 0.0**
KPJI Karang Pucung 48.90 268 P **P 04 21 27.7 -0.3**
comp=Z,12μmcomp=Z,449nm,1.1s
JGF Kuroka 48.90 337 IAMs_20 IAMs_20 04 38 04.8
comp=Z,84μm,19.0s
JGF Kuroka 48.90 337 ⇑P **P 04 21 27.4 -0.2**
TPUB Ta-pu 49.13 312 IAMs_20 IAMs_20 04 38 09.0
comp=Z,101μm,22.0s
SSLB Suanglung 49.19 313 P **P 04 21 29.2 -0.9**
SSLB IAmb IAmb 04 21 31.8
comp=Z,423nm,0.9s
SSLB IAMs_20 IAMs_20 04 38 10.5
comp=Z,148μm,22.0s
JWT Wachi 49.41 335 IAmb IAmb 04 21 37.3
comp=Z,536nm,1.1s
JWT IAMs_20 IAMs_20 04 39 44.2
comp=Z,96μm,21.0s
JWT Wachi 49.41 335 ⇑P **P 04 21 30.6 -0.9**
MJAR Matsushiro Arr 49.42 339 P **P 04 21 29.1 -2.5**
comp=Z,147nm,1.0s,baz=164,slow=8.6,SNR=76
MJAR PcP **PcP 04 22 58.2 +4.5**
comp=Z,18nm,0.7s,baz=147,slow=6.3,SNR=4.1
MJAR LR LR 04 44 25.0
comp=Z,24μm,18.1s,baz=155,slow=39
MAJO Matsushiro 49.42 339 P **P 04 21 30.7 -0.9**
MAJO pmax pmax
comp=Z,136nm,0.9s
MAJO Matsushiro 49.42 339 P **P 04 21 30.7 -0.9**
MAJO Matsushiro 49.42 339 ⇑P **P 04 21 30.6 -1.0**
MAT Matsushiro 49.42 339 P **P 04 21 30.5 -1.1**
MAT S **S 04 28 36.6 -1.2**
MJB9 Matsu-Tunnel 49.43 339 IAMs_20 IAMs_20 04 40 33.5
comp=Z,90μm,20.0s
YHNB Yeheng 49.43 314 IAMs_20 IAMs_20 04 38 42.8
comp=Z,124μm,21.0s
TATO Taipei 49.54 314 P **P 04 21 32.2 -0.5**
TATO Taipei 49.54 314 IAMs_20 IAMs_20 04 38 57.5
comp=Z,118μm,22.0s
TATO Taipei 49.54 314 P **P 04 21 33.6 +0.9**
JCJI Jatiwangi 49.65 269 P **P 04 21 33.7 0.0**
comp=Z,15μmcomp=Z,23μmcomp=Z,1μm,1.1s
JNU Nakatsue 49.68 329 IAmb IAmb 04 21 52.0
comp=Z,273nm,0.9s
JNU Nakatsue 49.68 329 ⇑P **P 04 21 33.7 +0.1**
JMM Marumori 49.76 342 IAMs_20 IAMs_20 04 40 45.3
comp=Z,111μm,20.0s
JMM Marumori 49.76 342 ⇑P **P 04 21 33.0 -1.0**
CISI Cisompet, Garu 49.98 268 P **P 04 21 34.8 -1.5**
CISI IAmb IAmb 04 21 39.9
comp=Z,668nm,1.3s
CISI Cisompet, Garu 49.98 268 ⇑P **P 04 21 34.8 -1.5**
CISI Cisompet, Garu 49.98 268 P **P 04 21 34.9 -1.4**
comp=Z,5μmcomp=Z,7μmcomp=Z,338nm,1.1s
JHS Saijyo 50.15 333 IAmb IAmb 04 21 39.0
comp=Z,413nm,1.3s
JHS Saijyo 50.15 333 ⇑P **P 04 21 37.1 -0.1**
LEM Lembang 50.25 269 P **P 04 21 38.4 -0.1**
comp=Z,6μmcomp=Z,8μmcomp=Z,544nm,1.7s
CNJI Cibinong 50.68 268 P **P 04 21 40.5 -1.0**
comp=Z,9μmcomp=Z,666nm,1.1s
JSD Sado 50.74 340 IAmb IAmb 04 21 49.2
comp=Z,265nm,1.1s
JSD Sado 50.74 340 ⇑P **P 04 21 40.2 -1.3**
TPI Tanjungpandan 50.79 274 P **P 04 21 42.5 +0.2**
comp=Z,5μmcomp=Z,223nm,1.5s
CBJI Citeko 51.05 269 P **P 04 21 42.5 -1.8**
comp=Z,12μmcomp=Z,21μmcomp=Z,661nm,1.1s
DBJI Dramaga 51.14 269 P **P 04 21 44.2 -0.8**
comp=Z,16μmcomp=Z,384nm,1.4s
PAE Paea 51.17 105 *e*P **P 04 21 46.2 +1.1**
comp=Z,41nm,1.1s
PPT Papeete 51.17 105 P **P 04 21 46.3 +1.1**
comp=Z,58nm,0.9s,baz=265,slow=8.2,SNR=5.6
PPT LR LR 04 38 44.3
comp=Z,85μm,21.6s,baz=270,slow=30
PPT2 Papeete2 51.17 105 *e*P **P 04 21 46.6 +1.3**
comp=Z,253nm,1.4s
PPT2 *e*S **S 04 29 00.1 -2.8**
comp=Z,60μm,28.8s
PPT2 *e*LQ LQ 04 34 10.9
comp=Z,267μm,29.8s
PPT2 *e*LR LR 04 36 26.8
comp=Z,212μm,23.2s,baz=272
PPTF Pamatai, Papee 51.18 105 ⇓P P 04 21 50.2 +4.9
TNG Tangerang 51.28 270 P **P 04 21 46.3 +0.2**
comp=Z,462nm,0.8s
TNG P **P 04 21 45.5 -0.6**
comp=Z,10μmcomp=Z,677nm,0.8s
TIAR Tiarei 51.39 105 *e*P **P 04 21 48.2 +1.4**
comp=Z,38nm,1.0s
KNMB Chin-men Tao 51.47 312 IAmb IAmb 04 21 49.3
comp=Z,261nm,1.0s
JTU Tsushima 51.54 329 ⇑P **P 04 21 47.2 -0.4**
QZH Quanzhou 51.60 312 ⇓*i*P **P 04 21 48.6 +0.4**
QZH S **S 04 29 10.5 +2.1**
QZH pmax pmax
comp=Z,360nm,1.2s
QZH pmax pmax
comp=Z,6μm,3.9s
QZH LR LR
comp=Z,39μm,20.8s
QZH LR LR
comp=Z,21μm,21.3s
QZH LR LR
comp=Z,60μm,24.6s
TBI Tubuai 51.71 112 *e*P **P 04 21 50.3 +1.2**
comp=Z,454nm,1.1s
TBI *e*S **S 04 29 06.4 -3.7**
comp=Z,53μm,32.0s
TBI *e*LQ LQ 04 34 24.7
comp=Z,307μm,32.0s
TBI *e*LR LR 04 36 40.3
comp=Z,217μm,31.5s,baz=285
XMIS Christmas Isla 51.87 264 P **P 04 21 49.8 -0.7**
XMIS IAmb IAmb 04 22 04.0
comp=Z,326nm,1.2s
JTM Tenmabayashi 52.38 343 IAmb IAmb 04 22 00.2
comp=Z,1μm,2.0s
JTM IAMs_20 IAMs_20 04 40 25.4
comp=Z,152μm,21.0s
PPBI Pangkal Pinang 52.38 274 P **P 04 21 54.1 -0.2**
comp=Z,13μmcomp=Z,223nm,1.3s
HON Honolulu 52.60 54 P **P 04 21 55.3 -0.4**
HON pmax pmax
comp=Z,321nm,1.1s
HON Honolulu 52.60 54 P **P 04 21 55.3 -0.4**
HON IAmb IAmb 04 22 10.8
comp=Z,320nm,1.1s
HON IAMs_20 IAMs_20 04 40 42.8
comp=Z,75μm,19.0s
MEH Mehetia 52.62 105 *e*P **P 04 21 57.1 +1.1**
comp=Z,87nm,1.1s
KIP Kipapa 52.64 54 P **P 04 21 55.1 -0.9**
KIP pmax pmax
comp=Z,330nm,1.2s
KIP MLR MLR
comp=Z,68μm,19.0s
KIP Kipapa 52.64 54 P **P 04 21 55.1 -0.9**
KIP IAmb IAmb 04 22 11.7
comp=Z,330nm,1.2s
BLSI Bandar Lampung 52.77 270 P **P 04 21 55.1 -2.1**
ERM Erimo 52.98 346 IAMs_20 IAMs_20 04 42 02.3
comp=Z,113μm,19.0s
ERM Erimo 52.98 346 ⇑P **P 04 21 59.4 +1.3**
VAH Vaihoa 53.01 102 *e*P **P 04 22 00.2 +1.4**
comp=Z,213nm,1.1s
KHLU Kahalu`u 53.47 57 IAMs_20 IAMs_20 04 39 23.7
comp=Z,91μm,20.0s
KASI Kota Agung 53.49 270 P **P 04 21 59.4 -3.0**
comp=Z,4μmcomp=Z,334nm,1.2s
HKC Hong Kong Obse 53.51 307 ⇑P **P 04 22 04.0 +1.6**
KHU Kahuku 53.54 58 IAMs_20 IAMs_20 04 40 21.6
comp=Z,97μm,19.0s
HUH Hualalai 53.56 57 IAmb IAmb 04 22 28.0
comp=Z,509nm,1.1s
HUH IAMs_20 IAMs_20 04 38 50.2
comp=Z,124μm,22.0s
PMBI Palembang 53.60 273 P **P 04 22 03.8 +0.6**
PMBI Palembang 53.60 273 P **P 04 22 04.5 +1.3**
comp=Z,11μmcomp=Z,25μmcomp=Z,936nm,1.0s
MWH Moku'aweowe 53.66 57 IAMs_20 IAMs_20 04 39 29.9
comp=Z,101μm,20.0s
SSE Sheshan 53.72 320 P **P 04 22 04.7 +0.9**
SSE S **S 04 29 40.1 +3.0**
SSE pmax pmax
comp=Z,47nm,0.8s
SSE pmax pmax
comp=Z,3μm,6.7s
SSE LR LR
comp=Z,9μm,19.0s
SSE LR LR
comp=Z,7μm,19.0s
AIN Ainahou 53.73 58 IAMs_20 IAMs_20 04 38 54.6
comp=Z,137μm,22.0s
HLK Haleakala 53.74 56 IAMs_20 IAMs_20 04 40 45.8
comp=Z,84μm,19.0s
HMH Humu'ula Sheep 53.81 57 P **P 04 22 03.7 -1.4**
HMH IAMs_20 IAMs_20 04 40 38.9
comp=Z,123μm,18.0s
HLP Hilina Pali 53.82 58 IAMs_20 IAMs_20 04 40 39.0
comp=Z,101μm,19.0s

HPAH	**Hawaii Prepara**	**53.84**	**57**	IAMs_20	IAMs_20	04 38 59.5	
	comp=Z,104μm,22.0s						
MLH	**Mauna Loa**	**53.84**	**58**	IAMs_20	IAMs_20	04 40 49.7	
	comp=Z,111μm,20.0s						
POHA	**Pohakuloa**	**53.85**	**57**	P	**P**	**04 22 04.2**	**-1.1**
POHA				IAmb	IAmb	04 22 09.4	
	comp=Z,520nm,1.1s						
POHA	**Pohakuloa**	**53.85**	**57**	IAMs_20	IAMs_20	04 41 01.7	
	comp=Z,105μm,18.0s						
POHA	**Pohakuloa**	**53.85**	**57**	⇓P	**P**	**04 22 07.6**	**+2.4**
SDHHI	**Sand Hill**	**53.87**	**58**	IAmb	IAmb	04 22 22.3	
	comp=Z,234nm,0.8s						
SDHHI				IAMs_20	IAMs_20	04 40 50.5	
	comp=Z,94μm,20.0s						
WRMHI	**West Rim**	**53.88**	**58**	IAmb	IAmb	04 22 09.2	
	comp=Z,291nm,1.0s						
WRMHI				IAMs_20	IAMs_20	04 40 42.5	
	comp=Z,107μm,19.0s						
UWE	**Uwekahuna**	**53.89**	**58**	IAMs_20	IAMs_20	04 40 42.9	
	comp=Z,103μm,19.0s						
RIM	**Rim**	**53.89**	**58**	IAMs_20	IAMs_20	04 40 43.0	
	comp=Z,97μm,19.0s						
NPH	**North Pit**	**53.89**	**58**	IAmb	IAmb	04 23 15.4	
	comp=Z,411nm,1.5s						
NPH				IAMs_20	IAMs_20	04 40 42.0	
	comp=Z,102μm,19.0s						
OBL	**Observatory Le**	**53.89**	**58**	IAMs_20	IAMs_20	04 40 43.0	
	comp=Z,112μm,19.0s						
KKO	**Keanakako`i**	**53.90**	**58**	IAMs_20	IAMs_20	04 40 42.2	
	comp=Z,101μm,18.0s						
UWB	**Uwekahuna B**	**53.90**	**58**	IAMs_20	IAMs_20	04 40 43.2	
	comp=Z,113μm,19.0s						
BYL	**Byron's Ledge**	**53.91**	**58**	IAMs_20	IAMs_20	04 40 42.5	
	comp=Z,110μm,19.0s						
SBLHI	**Steaming Bluff**	**53.91**	**58**	IAMs_20	IAMs_20	04 40 43.5	
	comp=Z,113μm,19.0s						
HATHI	**Halema'uma'u T**	**53.92**	**58**	P	**P**	**04 22 04.4**	**-1.1**
HATHI				IAmb	IAmb	04 22 25.3	
	comp=Z,298nm,1.1s						
HATHI				IAMs_20	IAMs_20	04 40 43.6	
	comp=Z,115μm,19.0s						
PUH	**Pauahi**	**53.93**	**58**	IAMs_20	IAMs_20	04 40 43.0	
	comp=Z,95μm,19.0s						
MDSI	**Maura Dua**	**53.94**	**271**	P	**P**	**04 22 03.7**	**-2.1**
	comp=Z,5μmcomp=Z,3μmcomp=Z,156nm,1.3s						
LWLI	**Liwa**	**53.99**	**271**	P	**P**	**04 22 04.1**	**-2.1**
	comp=Z,383nm,1.1s						
NPOC	**North of Pu'u**	**54.03**	**58**	IAMs_20	IAMs_20	04 40 45.6	
	comp=Z,100μm,19.0s						
JCUZ	**Jacuzzi**	**54.03**	**58**	IAMs_20	IAMs_20	04 40 46.6	
	comp=Z,101μm,20.0s						
JEW	**Eniwo**	**54.19**	**345**	IAMs_20	IAMs_20	04 43 16.3	
	comp=Z,98μm,20.0s						
JEW	**Eniwo**	**54.19**	**345**	⇑P	**P**	**04 22 07.2**	**+0.2**
DSRI	**Dabo**	**54.22**	**276**	P	**P**	**04 22 07.4**	**-0.4**
	comp=Z,6μmcomp=Z,3μmcomp=Z,128nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**54.33**	**349**	*c iP*	**P**	**04 22 08.5**	**+0.5**
YUK				*e*		04 23 11.2	
YUK				*e*		04 24 09.7	
YUK				*e*PPP	PPP	04 25 18.4	
YUK				*e*S	**S**	**04 29 46.2**	**+1.3**
YUK				*e*		04 31 56.8	
YUK				*e*SS	**SS**	**04 33 29.7**	**+2.2**
YUK				pmax	pmax		
	comp=Z,342nm,1.5s						
YUK				pmax	pmax		
	comp=N,163nm,0.9s						
YUK				pmax	pmax		
	comp=E,336nm,1.0s						
YUK				pmax	pmax		
	comp=Z,767nm,2.9s						
GZH	**Guangzhou**	**54.57**	**307**	⇑*iP*	**P**	**04 22 11.6**	**+1.4**
GZH				S	**S**	**04 29 53.2**	**+4.3**
GZH				pmax	pmax		
	comp=Z,430nm,1.2s						
GZH				LR	LR		
	comp=Z,40μm,21.8s						
GZH				LR	LR		
	comp=Z,40μm,23.5s						
KSRS	**Korea Array**	**54.59**	**330**	P	**P**	**04 22 09.0**	**-0.9**
	comp=Z,80nm,1.0s,baz=150,slow=7.2,SNR=116						
KSRS				LR	LR	04 42 52.6	
	comp=Z,48μm,21.0s,baz=132,slow=33						
KSAR	**Wonju Array Be**	**54.60**	**330**	P	**P**	**04 22 09.4**	**-0.7**
KSAR	**Wonju Array Be**	**54.60**	**330**	P	**P**	**04 22 09.4**	**-0.7**
LHSI	**Lahat**	**54.69**	**272**	P	**P**	**04 22 09.7**	**-1.5**
	comp=Z,7μmcomp=Z,261nm,1.4s						
JMBI	**JAMBI**	**54.93**	**275**	P	**P**	**04 22 13.7**	**+0.8**
	comp=Z,6μmcomp=Z,198nm,1.4s						
KUR	**Kuril'sk**	**55.15**	**351**	*c iP*	**P**	**04 22 14.0**	**+0.1**
KUR				*i*		04 23 17.9	
KUR				*i* S	**S**	**04 29 55.9**	**+0.1**
KUR				*i*		04 32 00.7	
KUR				*i* SS	**SS**	**04 33 37.8**	**-2.5**
KUR				pmax	pmax		
	comp=Z,4μm,12.0s						
KUR				pmax	pmax		
	comp=Z,605nm,1.6s						
KUR				MLR	MLR		
	comp=Z,64μm,18.0s						
KUR				MLR	MLR		
	comp=N,56μm,16.0s						
KUR				MLR	MLR		
	comp=E,43μm,14.0s						
INCN	**Inchon**	**55.25**	**329**	P	**P**	**04 22 14.9**	**+0.1**
INCN				pmax	pmax		
	comp=Z,607nm,1.3s						
INCN	**Inchon**	**55.25**	**329**	P	**P**	**04 22 14.9**	**+0.1**
INCN	**Inchon**	**55.25**	**329**	⇑P	**P**	**04 22 14.6**	**-0.3**
QIZ	**Qiongzhong**	**55.51**	**301**	P	**P**	**04 22 17.7**	**+0.7**
QIZ				sP	**pP**	**04 22 21.8**	**-0.8**
QIZ				S	**S**	**04 30 04.9**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,250nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,4μm,6.5s						
QIZ				LR	LR		
	comp=Z,28μm,20.6s						
QIZ				LR	LR		
	comp=Z,45μm,25.5s						
QIZ				LR	LR		
	comp=Z,103μm,26.7s						
QIZ	**Qiongzhong**	**55.51**	**301**	IAmb	IAmb	04 22 19.5	
	comp=Z,367nm,1.1s						
KSI	**Kapahiang**	**55.63**	**272**	P	**P**	**04 22 16.6**	**-1.5**
	comp=Z,8μmcomp=Z,239nm,0.9s						
NJ2	**Nanjing**	**55.84**	**319**	⇑*iP*	**P**	**04 22 19.5**	**+0.3**
NJ2				pP	**pP**	**04 22 24.0**	**-0.7**
NJ2				sP	**sP**	**04 22 27.3**	**+0.6**
NJ2				S	**S**	**04 30 09.1**	**+3.5**
NJ2				sS	**sS**	**04 30 19.0**	**+4.0**
NJ2				SS	**SS**	**04 33 49.9**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,140nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,5μm,4.0s						
NJ2				LR	LR		
	comp=Z,41μm,21.5s						
NJ2				LR	LR		
	comp=Z,51μm,19.4s						
NJ2				LR	LR		
	comp=Z,76μm,23.4s						
RGRI	**Rengat**	**56.45**	**276**	P	**P**	**04 22 22.0**	**-1.9**
	comp=Z,58μmcomp=Z,307nm,1.0s						
YSS	**Yuzh-Sakhalins**	**57.76**	**347**	⇑*iP*	**P**	**04 22 31.4**	**-1.0**
YSS				*e*		04 22 39.6	
YSS				*e*		04 24 38.0	
YSS				*e*S	**S**	**04 30 28.2**	**-2.1**
YSS				*e*		04 34 19.0	
YSS				pmax	pmax		
	comp=Z,3μm,3.8s						
YSS				pmax	pmax		
	comp=N,1μm,4.1s						
YSS				pmax	pmax		
	comp=Z,260nm,1.1s						
YSS				smax	smax		
	comp=N,6μm,12.3s						
YSS	**Yuzh-Sakhalins**	**57.76**	**347**	P	**P**	**04 22 32.6**	**+0.2**
YSS				IAmb	IAmb	04 22 36.8	
	comp=Z,334nm,1.1s						
YSS				IAMs_20	IAMs_20	04 46 10.6	
	comp=Z,90μm,19.0s						
YSS	**Yuzh-Sakhalins**	**57.76**	**347**	⇑P	**P**	**04 22 32.8**	**+0.3**
BKNI	**Bangkinang**	**57.85**	**276**	P	**P**	**04 22 32.8**	**-1.0**
BKNI	**Bangkinang**	**57.85**	**276**	P	**P**	**04 22 33.3**	**-0.5**
	comp=Z,11μmcomp=Z,11μmcomp=Z,570nm,1.4s						
WHN	**Wuhan**	**57.94**	**315**	⇑*iP*	**P**	**04 22 34.5**	**+0.5**
WHN				sP	**pwP**	**04 22 44.6**	**+1.4**
WHN				S	**S**	**04 30 39.0**	**+5.7**
WHN				pmax	pmax		
	comp=Z,410nm,1.0s						
WHN				LR	LR		
	comp=Z,92μm,18.0s						
WHN				LR	LR		
	comp=Z,95μm,21.2s						
WHN				LR	LR		
	comp=Z,263μm,27.2s						
PDSI	**Padang**	**58.18**	**275**	P	**P**	**04 22 35.3**	**-0.9**
	comp=Z,3μmcomp=Z,80nm,1.6s						
USRK	**Ussuriysk Ar.**	**58.41**	**338**	P	**P**	**04 22 36.5**	**-0.6**
	comp=Z,181nm,1.1s,baz=145,slow=7.0,SNR=210						
USRK				LR	LR	04 46 59.3	
	comp=Z,39μm,19.2s,baz=131,slow=35						
DL2	**Dalian**	**58.92**	**327**	P	**P**	**04 22 40.6**	**-0.1**
DL2				S	**S**	**04 30 47.7**	**+1.8**
DL2				SS	**SS**	**04 34 35.3**	**-4.7**
DL2				pmax	pmax		
	comp=Z,190nm,1.0s						
DL2				pmax	pmax		
	comp=Z,5μm,9.9s						
DL2				LR	LR		
	comp=Z,43μm,15.6s						
DL2				LR	LR		
	comp=Z,28μm,17.9s						
DL2				LR	LR		
	comp=Z,59μm,24.0s						
MNSI	**Mandailing Nat**	**59.37**	**276**	P	**P**	**04 22 42.8**	**-1.6**
	comp=Z,24μmcomp=Z,259nm,1.0s						
SISI	**Saibi**	**59.46**	**274**	P	**P**	**04 22 43.6**	**-1.4**
	comp=Z,133nm,1.9s						
TIA	**Tai'an**	**59.64**	**322**	⇑P	**P**	**04 22 45.2**	**-0.7**
TIA				S	**S**	**04 30 54.8**	**-0.6**
TIA				pmax	pmax		
	comp=Z,4μm,10.8s						
TIA				LR	LR		
	comp=Z,18μm,14.1s						
TIA				LR	LR		
	comp=Z,29μm,15.9s						
TIA				LR	LR		
	comp=Z,52μm,37.3s						
MDJ	**Mudanjiang**	**59.67**	**337**	P	**P**	**04 22 47.1**	**+1.2**
MDJ				pP	pP	04 22 50.5	-0.9
MDJ				sP	sP	04 22 51.6	-1.8
MDJ				PP	**PP**	**04 25 01.2**	**+3.3**
MDJ				S	**S**	**04 31 00.1**	**+4.6**
MDJ				pmax	pmax		
	comp=Z,350nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,5μm,9.1s						
MDJ				LR	LR		
	comp=Z,80μm,19.6s						
MDJ				LR	LR		
	comp=Z,74μm,20.6s						
MDJ				LR	LR		
	comp=Z,118μm,22.8s						
MDJ	**Mudanjiang**	**59.67**	**337**	P	**P**	**04 22 45.4**	**-0.5**
MDJ				IAMs_20	IAMs_20	04 44 14.7	
	comp=Z,99μm,22.0s						
SKR	**Severo-Kuril's**	**59.82**	**358**	*e*P	**P**	**04 22 46.7**	**0.0**
SKR				*e*S	**S**	**04 31 02.5**	**+5.5**
SKR				pmax	pmax		
	comp=Z,300nm,4.0s						
SKR				MLR	MLR		
	comp=Z,22μm,18.0s						
UGL	**Uglegorsk**	**59.92**	**348**	⇑*iP*	**P**	**04 22 47.4**	**0.0**
UGL				*e*		04 25 02.3	
UGL				*e*S	**S**	**04 30 55.2**	**-3.1**
UGL				*e*SS	**SS**	**04 34 55.0**	**-0.2**
UGL				pmax	pmax		
	comp=N,1μm,3.7s						
UGL				pmax	pmax		
	comp=Z,330nm,1.1s						
UGL				smax	smax		
	comp=N,11μm,10.0s						
UGL				MLR	MLR		
	comp=E,27μm,16.0s						
UGL				MLR	MLR		
	comp=N,31μm,19.0s						
UGL				MLR	MLR		
	comp=Z,51μm,17.0s						
SNY	**Shenyang**	**60.09**	**331**	⇑P	**P**	**04 22 48.7**	**-0.1**
SNY				S	**S**	**04 30 58.1**	**-2.8**
SNY				SS	**SS**	**04 34 56.7**	**-1.5**
SNY				LR	LR		
	comp=Z,20μm,14.0s						
SNY				LR	LR		
	comp=Z,23μm,19.9s						
SNY				LR	LR		
	comp=Z,49μm,18.0s						
COCO	**West Island**	**60.38**	**261**	P	**P**	**04 22 52.3**	**+1.0**
COCO				pmax	pmax		
	comp=Z,669nm,1.3s						
COCO	**West Island**	**60.38**	**261**	P	**P**	**04 22 52.3**	**+1.0**
PBSI	**Pulau Batu**	**60.48**	**275**	P	**P**	**04 22 51.4**	**-0.7**
	comp=Z,17μmcomp=Z,571nm,1.6s						
SRAK	**Srakaew**	**60.49**	**292**	P	**P**	**04 22 48.7**	**-3.3**
	comp=Z,10μmcomp=Z,566nm,1.1s						
TAOE	**Nuku Hiva Isla**	**60.66**	**95**	*e*P	**P**	**04 22 54.8**	**+1.4**
	comp=Z,518nm,1.2s						
TAOE				*e*S	**S**	**04 31 04.8**	**-4.7**
	comp=Z,17μm,29.3s						
TAOE				*e*LQ	LQ	04 38 07.7	
	comp=Z,70μm,25.3s						
TAOE				*e*LR	LR	04 40 48.2	
	comp=Z,110μm,24.5s,baz=269						
TAOE	**Nuku Hiva Isla**	**60.66**	**95**	⇓P	**P**	**04 22 56.1**	**+2.7**
CN2	**Changchun**	**60.75**	**333**	*e*P	**P**	**04 22 51.9**	**-1.4**
CN2				*e*sP	pP	04 22 58.8	0.0
CN2				*e*S	**S**	**04 31 08.3**	**-1.0**
CN2				*e*sS	pS	04 31 16.0	-0.5
CN2				*e*SS	**SS**	**04 35 08.9**	**+0.3**
CN2				pmax	pmax		
	comp=Z,370nm,1.3s						
CN2				pmax	pmax		
	comp=Z,3μm,4.5s						
CN2				LR	LR		
	comp=Z,50μm,18.0s						
CN2				LR	LR		
	comp=Z,52μm,18.0s						
CN2				LR	LR		
	comp=Z,56μm,20.0s						
NONG	**Nongkai**	**60.92**	**297**	P	**P**	**04 22 54.7**	**-0.2**
	comp=Z,10μmcomp=Z,486nm,1.1s						
NONG	**Nongkai**	**60.92**	**297**	P	**P**	**04 22 54.0**	**-0.9**
	comp=Z,10μmcomp=Z,481nm,1.1s						
TSI	**Tuntungan**	**60.92**	**279**	P	**P**	**04 22 53.3**	**-1.7**
	comp=Z,10μmcomp=Z,374nm,1.1s						
PATY	**Pattaya**	**61.22**	**290**	P	**P**	**04 22 57.9**	**+0.9**
	comp=Z,5μmcomp=Z,354nm,1.0s						
PATY	**Pattaya**	**61.22**	**290**	P	**P**	**04 22 58.0**	**+0.9**
	comp=Z,1μmcomp=Z,92nm,1.0s						
ENH	**Enshi**	**61.27**	**312**	P	**P**	**04 22 56.4**	**-0.7**
GSI	**Gunungsitoli**	**61.43**	**277**	P	**P**	**04 22 56.9**	**-1.7**
GSI	**Gunungsitoli**	**61.43**	**277**	⇑P	**P**	**04 22 57.3**	**-1.2**
GSI	**Gunungsitoli**	**61.43**	**277**	P	**P**	**04 22 57.1**	**-1.4**
	comp=Z,10μmcomp=Z,522nm,1.1s						
TYV	**Tymovskoe**	**61.50**	**349**	*e*P	**P**	**04 22 58.1**	**-0.1**
TYV				*e*S	**S**	**04 31 21.8**	**+3.3**
TYV				pmax	pmax		
	comp=Z,2μm,2.6s						
TYV				pmax	pmax		
	comp=Z,150nm,1.7s						
TYV				smax	smax		
	comp=E,13nm,1.2s						
GYA	**Guiyang**	**61.51**	**307**	⇑P	**P**	**04 22 59.5**	**+0.6**
GYA				S	**S**	**04 31 22.9**	**+3.0**
GYA				pmax	pmax		
	comp=E,630nm,4.1s						
GYA				LR	LR		
	comp=E,5μm,20.8s						
GYA				LR	LR		
	comp=E,7μm,20.6s						
GYA				LR	LR		
	comp=E,11μm,21.2s						
SLVN	**Son La**	**61.53**	**300**	IAmb	IAmb	04 23 01.6	
	comp=Z,216nm,1.1s						
SURT	**Suratani**	**62.02**	**285**	P	P	04 23 08.4	+6.0
SURT	**Suratani**	**62.02**	**285**	P	P	04 23 08.4	+6.0
PET	**Petropavlovsk**	**62.13**	**0**	*c eP*	**P**	**04 23 02.1**	**-0.3**
PET				*e**SP	**pwP**	**04 23 15.2**	**+3.4**
PET				*e*		04 23 40.0	
PET				*i* S	**S**	**04 31 25.3**	**-1.1**
PET				*e*PS		04 31 51.2	
PET				*e*SS	**SS**	**04 35 32.0**	**+2.2**
PET				pmax	pmax		
	comp=Z,3μm,14.3s						
PET				pmax	pmax		
	comp=Z,289nm,1.1s						
PET				pmax	pmax		
	comp=Z,4μm,18.2s						
PET				smax	smax		
	comp=E,13μm,12.2s						
PET				smax	smax		
	comp=N,6μm,12.0s						
PET				MLR	MLR		
	comp=Z,77μm,19.0s						
PET				MLR	MLR		
	comp=Z,68μm,18.0s						
PET	**Petropavlovsk**	**62.13**	**0**	P	**P**	**04 23 01.5**	**-0.9**
PET	**Petropavlovsk**	**62.13**	**0**	⇑P	**P**	**04 23 01.9**	**-0.5**
PKDT	**Phuket**	**62.18**	**284**	P	**P**	**04 23 05.8**	**+2.3**
	comp=Z,6μmcomp=Z,104nm,1.7s						
PKDT	**Phuket**	**62.18**	**284**	P	**P**	**04 23 05.0**	**+1.5**
	comp=Z,6μmcomp=Z,104nm,1.7s						
TPTI		**62.22**	**279**	P	**P**	**04 23 01.6**	**-2.2**
	comp=Z,1μmcomp=Z,61nm,1.0s						
PEA0B	**Petropavlovsk-**	**62.22**	**360**	P	**P**	**04 23 02.6**	**-0.4**
PEA0B				pmax	pmax		
	comp=Z,878nm,1.2s						
PEA0B	**Petropavlovsk-**	**62.22**	**360**	P	**P**	**04 23 02.6**	**-0.4**
PETK	**Petropavlovsk-**	**62.22**	**360**	P	**P**	**04 23 01.9**	**-1.0**
	comp=Z,158nm,1.0s,baz=101,slow=6.3,SNR=64						
PETK				LR	LR	04 47 58.0	
	comp=Z,33μm,19.8s,baz=169,slow=34						
PETK				PKP2bc		04 52 18.0	
	comp=Z,3.4nm,0.9s,baz=299,slow=3.1,SNR=4.3						
PETK	**Petropavlovsk-**	**62.22**	**360**	P	**P**	**04 23 02.0**	**-1.0**
PBKT	**Sadao Pong**	**62.32**	**294**	P	**P**	**04 23 06.0**	**+1.7**
	comp=Z,90nm,1.0s						
PBKT	**Sadao Pong**	**62.32**	**294**	P	**P**	**04 23 06.1**	**+1.7**
	comp=Z,90nm,1.0s						
PHET	**Kaeng Krachan**	**62.36**	**290**	P	**P**	**04 23 05.3**	**+0.6**
	comp=Z,3μmcomp=Z,385nm,1.0s						
PHET	**Kaeng Krachan**	**62.36**	**290**	P	**P**	**04 23 05.0**	**+0.3**
	comp=Z,697nmcomp=Z,99nm,1.0s						
BJT	**Baijiatuau**	**62.73**	**325**	P	**P**	**04 23 05.7**	**-0.9**
BJT				pmax	pmax		
	comp=Z,387nm,1.8s						
BJT				MLR	MLR		
	comp=Z,45μm,19.0s						
BJT	**Baijiatuau**	**62.73**	**325**	P	**P**	**04 23 05.7**	**-0.9**
BJT				IAmb	IAmb	04 23 29.7	
	comp=Z,387nm,1.8s						
BJI	**Beijing**	**62.74**	**325**	P	**P**	**04 23 05.1**	**-1.6**
BJI				S	**S**	**04 31 33.0**	**-1.6**
BJI				SS	**SS**	**04 35 39.2**	**-0.6**
BJI				pmax	pmax		
	comp=Z,92nm,1.6s						
BJI				pmax	pmax		
	comp=Z,3μm,4.7s						
BJI				LR	LR		
	comp=Z,20μm,19.0s						
BJI				LR	LR		
	comp=Z,35μm,18.0s						
BJI				LR	LR		
	comp=Z,61μm,18.5s						
GRNR	**Gornyy**	**62.83**	**345**	⇑*iP*	**P**	**04 23 07.5**	**+0.3**
GRNR				*e*S	**S**	**04 31 39.1**	**+3.7**
GRNR				pmax	pmax		
	comp=N,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.8s						
GRNR				smax	smax		
	comp=N,5.0nm,0.8s						
LHMI	**Lhok Sumawe**	**62.88**	**281**	P	**P**	**04 23 07.6**	**-0.6**
LHMI	**Lhok Sumawe**	**62.88**	**281**	P	**P**	**04 23 07.8**	**-0.4**
	comp=N,10μmcomp=N,8μmcomp=N,345nm,1.6s						
PHIT	**Phitsanulok**	**63.03**	**295**	P	**P**	**04 23 09.3**	**+0.2**
	comp=N,5μmcomp=N,654nm,1.0s						
PHIT	**Phitsanulok**	**63.03**	**295**	P	**P**	**04 23 09.4**	**+0.2**
	comp=N,1μmcomp=N,162nm,1.0s						
MLSI	**Meulaboh, Aceh**	**63.19**	**280**	P	**P**	**04 23 08.2**	**-2.1**
	comp=N,7μmcomp=N,545nm,1.0s						
SRDT	**SRDT**	**63.28**	**291**	P	**P**	**04 23 11.8**	**+1.0**
	comp=N,372nm,1.2s						
SRDT	**SRDT**	**63.28**	**291**	P	**P**	**04 23 11.0**	**+0.2**
	comp=N,372nm,1.2s						
SMY	**Shemya**	**63.29**	**11**	IAMs_20	IAMs_20	04 46 43.3	
	comp=Z,93μm,20.0s						
SMY	**Shemya**	**63.29**	**11**	⇓P	**P**	**04 23 10.3**	**+0.2**
NANT	**Nan**	**63.34**	**296**	P	**P**	**04 23 14.0**	**+2.8**
	comp=Z,114μmcomp=Z,3μm,1.3s						
NANT	**Nan**	**63.34**	**296**	P	**P**	**04 23 14.0**	**+2.8**
	comp=Z,29μmcomp=Z,718nm,1.3s						
UTHA	**Uthaitani**	**63.37**	**293**	P	**P**	**04 23 11.5**	**+0.2**
	comp=Z,3μmcomp=Z,327nm,1.0s						
UTHA	**Uthaitani**	**63.37**	**293**	P	**P**	**04 23 11.5**	**+0.2**
	comp=Z,743nmcomp=Z,81nm,1.0s						
TIY	**Taiyuan**	**63.50**	**320**	*e*P	**P**	**04 23 12.5**	**+0.6**
TIY				S	**S**	**04 31 46.0**	**+1.6**
TIY				pmax	pmax		
	comp=Z,170nm,1.4s						
TIY				pmax	pmax		
	comp=Z,2μm,5.0s						
TIY				LR	LR		
	comp=Z,42μm,19.2s						
TIY				LR	LR		
	comp=Z,28μm,17.5s						
TIY				LR	LR		
	comp=Z,49μm,20.9s						
KHLT	**Khaolaem Dam**	**63.91**	**292**	P	**P**	**04 23 16.0**	**+1.1**
	comp=Z,2μmcomp=Z,230nm,1.1s						
KHLT	**Khaolaem Dam**	**63.91**	**292**	P	**P**	**04 23 16.1**	**+1.1**
	comp=Z,2μmcomp=Z,230nm,1.1s						
NKL	**Nikolayevsk**	**64.06**	**348**	*e*P	**P**	**04 23 13.5**	**-1.6**
NKL				*e*		04 23 50.6	
NKL				*e*S	**S**	**04 31 48.6**	**-1.9**
NKL				*e*SS	**SS**	**04 35 58.7**	**-1.2**
NKL				pmax	pmax		
	comp=N,2.0nm,0.8s						
NKL				pmax	pmax		
	comp=Z,338nm,1.3s						
NKL				pmax	pmax		
	comp=E,41nm,0.7s						
NKL				pmax	pmax		
	comp=Z,471nm,2.4s						
NKL				smax	smax		
	comp=E,35nm,1.0s						
NKL				smax	smax		
	comp=N,4.0nm,1.3s						
NKL				MLR	MLR		
	comp=Z,20μm,15.0s						
KMI	**Kunming**	**64.07**	**304**	⇑P	**P**	**04 23 16.4**	**+0.2**
KMI				pP	pP	04 23 21.9	0.0
KMI				sP	sP	04 23 23.9	-0.1
KMI				PcP	**PcP**	**04 23 48.6**	**-2.8**
KMI				S	**S**	**04 31 56.1**	**+3.8**
KMI				sS	sS	04 32 04.2	+3.1
KMI				SKS	**SKSac**	**04 33 07.2**	**-2.5**
KMI				SS	**SS**	**04 36 04.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,410nm,1.3s						
KMI				pmax	pmax		
	comp=Z,3μm,4.2s						
KMI				LR	LR		
	comp=Z,13μm,19.5s						
KMI				LR	LR		
	comp=Z,44μm,21.1s						
KMI				LR	LR		
	comp=Z,82μm,27.6s						
UMPA	**Umpang Tak**	**64.11**	**293**	P	**P**	**04 23 16.6**	**+0.4**
	comp=Z,5μmcomp=Z,226nm,1.0s						
UMPA	**Umpang Tak**	**64.11**	**293**	P	**P**	**04 23 16.7**	**+0.4**
	comp=Z,1μmcomp=Z,56nm,1.0s						
LAMP	**Lampang**	**64.19**	**296**	P	**P**	**04 23 17.2**	**+0.5**
	comp=Z,3μmcomp=Z,338nm,0.9s						
LAMP	**Lampang**	**64.19**	**296**	P	**P**	**04 23 17.3**	**+0.5**
	comp=Z,772nmcomp=Z,84nm,0.9s						
ADK	**Adak**	**64.67**	**17**	P	**P**	**04 23 18.9**	**-0.3**
ADK				pmax	pmax		
	comp=Z,772nm,1.6s						
ADK	**Adak**	**64.67**	**17**	P	**P**	**04 23 18.9**	**-0.3**
ADK	**Adak**	**64.67**	**17**	IAMs_20	IAMs_20	04 45 10.6	
	comp=Z,75μm,21.0s						
ADK	**Adak**	**64.67**	**17**	⇑P	**P**	**04 23 19.6**	**+0.4**
CM31	**Chiang Mai Arr**	**64.78**	**295**	P	**P**	**04 23 21.

CMAR	**Chiang Mai Arr**	**64.78**	**295**	P	**P**	**04 23 20.4 -0.3**
	comp=Z,85nm,0.8s,baz=120,slow=4.9,SNR=122					
CMAR				PKPPKP		04 52 03.8
	comp=Z,1.1nm,0.3s,baz=280,slow=4.0,SNR=5.6					
CMAR				LR	LR	04 53 23.3
	comp=Z,12μm,18.3s,baz=162,slow=38					
CMMT	**Chiang Mai**	**64.90**	**296**	P	**P**	**04 23 21.5 0.0**
	comp=Z,8μmcomp=Z,224nm,1.3s					
CMMT	**Chiang Mai**	**64.90**	**296**	P	**P**	**04 23 21.0 -0.5**
	comp=Z,8μmcomp=Z,224nm,1.3s					
CHTO	**Chiang Mai**	**64.91**	**296**	P	**P**	**04 23 21.4 0.0**
CHTO				pmax	pmax	
	comp=Z,1μm,2.0s					
CHTO	**Chiang Mai**	**64.91**	**296**	P	**P**	**04 23 21.5 0.0**
	comp=Z,8μmcomp=Z,229nm,1.3s					
CHTO	**Chiang Mai**	**64.91**	**296**	P	**P**	**04 23 21.4 0.0**
CHTO	**Chiang Mai**	**64.91**	**296**	P	**P**	**04 23 21.6 +0.1**
CHTO	**Chiang Mai**	**64.91**	**296**	⇑P	**P**	**04 23 21.1 -0.4**
CASY	**Casey**	**65.43**	**199**	P	**P**	**04 23 23.1 -0.9**
CASY				IAmb	IAmb	04 23 29.0
	comp=Z,143nm,0.9s					
CASY	**Casey**	**65.43**	**199**	⇓P	**P**	**04 23 22.9 -1.1**
MHMT	**Maesarieng**	**65.59**	**295**	P	**P**	**04 23 26.5 +0.6**
	comp=Z,7μmcomp=Z,201nm,1.4s					
MHMT	**Maesarieng**	**65.59**	**295**	P	**P**	**04 23 26.0 +0.1**
	comp=Z,7μmcomp=Z,201nm,1.4s					
ATKA	**Atka Island**	**65.69**	**18**	P	**P**	**04 23 25.2 -0.6**
ATKA				IAMs_20	IAMs_20	04 46 01.5
	comp=Z,85μm,20.0s					
ATKA	**Atka Island**	**65.69**	**18**	⇑P	**P**	**04 23 26.4 +0.6**
CD2	**Chengdu**	**65.86**	**310**	P	**P**	**04 23 27.9 +0.4**
CD2				sP	pP	04 23 31.4 -1.7
CD2				PP	**PP**	**04 25 53.1 +0.4**
CD2				S	**S**	**04 32 11.0 -2.7**
CD2				sS	sS	04 32 22.1 -1.4
CD2				SS	**SS**	**04 36 29.0 0.0**
CD2				pmax	pmax	
	comp=Z,1μm,0.9s					
CD2				pmax	pmax	
	comp=Z,7μm,10.1s					
CD2				LR	LR	
	comp=Z,42μm,23.0s					
CD2				LR	LR	
	comp=Z,63μm,25.9s					
CD2				LR	LR	
	comp=Z,94μm,27.3s					
HHC	**Hu-ho-hao-te**	**65.95**	**323**	*e*P	**P**	**04 23 28.6 +0.6**
HHC				sP	sP	04 23 35.8 +0.2
HHC				S	**S**	**04 32 17.6 +3.0**
HHC				SS	**SS**	**04 36 31.5 +1.3**
HHC				pmax	pmax	
	comp=Z,140nm,1.2s					
HHC				pmax	pmax	
	comp=Z,4μm,6.6s					
HHC				LR	LR	
	comp=Z,33μm,16.6s					
HHC				LR	LR	
	comp=Z,47μm,18.5s					
HHC				LR	LR	
	comp=Z,54μm,19.6s					
BTO	**Baotou**	**66.74**	**322**	*e*P	**P**	**04 23 33.3 +0.3**
BTO				S	**S**	**04 32 26.3 +2.1**
BTO				pmax	pmax	
	comp=Z,180nm,1.4s					
BTO				LR	LR	
	comp=Z,56μm,17.3s					
BTO				LR	LR	
	comp=Z,53μm,19.0s					
HIA	**Hailar**	**67.47**	**334**	P	**P**	**04 23 37.5 +0.1**
HIA				pmax	pmax	
	comp=Z,299nm,1.0s					
HIA	**Hailar**	**67.47**	**334**	P	**P**	**04 23 37.5 +0.1**
HIA				IAmb	IAmb	04 23 39.9
	comp=Z,299nm,1.0s					
NIKH	**Nikolski High**	**68.09**	**21**	P	**P**	**04 23 41.0 -0.1**
	baz=215					
NIKH				S	**S**	**04 32 38.0 -1.7**
	baz=215					
ZEA	**Zeya**	**68.15**	**341**	*ce*P	**P**	**04 23 41.8 +0.3**
ZEA				*e*S	**S**	**04 32 44.3 +3.9**
ZEA				*e*		04 33 38.0
ZEA				pmax	pmax	
	comp=N,290nm,0.8s					
ZEA				pmax	pmax	
	comp=E,100nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,550nm,0.9s					
ZEA				pmax	pmax	
	comp=E,500nm,4.4s					
ZEA				pmax	pmax	
	comp=N,900nm,5.6s					
ZEA				pmax	pmax	
	comp=Z,3μm,9.3s					
ZEA				smax	smax	
	comp=N,5μm,11.9s					
VNDA	**Vanda**	**68.17**	**179**	P	**P**	**04 23 41.6 +0.3**
	comp=N,47nm,1.0s,baz=341,slow=7.1,SNR=45					
VNDA				LR	LR	04 49 45.0
	comp=N,39μm,18.6s,baz=2.0,slow=33					
VNDA				PKPPKP		04 51 59.8
	comp=N,3.6nm,1.2s,baz=187,slow=4.0,SNR=6.4					
VNDA	**Vanda**	**68.17**	**179**	P	**P**	**04 23 41.1 -0.2**
VNDA				IAmb	IAmb	04 23 55.8
	comp=Z,302nm,1.4s					
LZH	**Lanzhou**	**68.31**	**315**	⇓P	**P**	**04 23 44.0 +0.9**
LZH				pP	pP	04 23 47.4 -1.4
LZH				sP	sP	04 23 49.6 -1.3
LZH				S	**S**	**04 32 44.4 +1.0**
LZH				sS	sS	04 32 52.8 -0.4
LZH				SS	**SS**	**04 37 09.9 +2.8**
LZH				pmax	pmax	
	comp=Z,800nm,1.3s					
LZH				pmax	pmax	
	comp=Z,4μm,6.4s					
LZH				LR	LR	
	comp=Z,37μm,16.3s					
LZH				LR	LR	
	comp=Z,43μm,15.9s					
LZH				LR	LR	
	comp=Z,39μm,18.5s					
PBA	**Port Blair**	**68.47**	**286**	P	P	04 23 46.2 +1.9
SBA	**Scott Base**	**68.62**	**178**	P	**P**	**04 23 45.6 +1.5**
SBA				pmax	pmax	
	comp=Z,530nm,1.6s					
SBA	**Scott Base**	**68.62**	**178**	P	**P**	**04 23 45.6 +1.5**
MA2	**Magadan**	**68.97**	**356**	P	**P**	**04 23 45.4 -1.1**
MA2				pmax	pmax	
	comp=Z,259nm,1.1s					
MA2	**Magadan**	**68.97**	**356**	P	**P**	**04 23 45.4 -1.1**
MA2				IAmb	IAmb	04 23 60.0
	comp=Z,258nm,1.1s					
MA2				IAMs_20	IAMs_20	04 49 51.8
	comp=Z,48μm,18.0s					
MA2	**Magadan**	**68.97**	**356**	⇑P	**P**	**04 23 45.8 -0.7**
AKUT	**Akutan**	**70.13**	**22**	IAmb	IAmb	04 24 07.3
	comp=Z,208nm,0.9s					
AKUT	**Akutan**	**70.13**	**22**	⇓P	**P**	**04 23 55.2 +1.5**
AKUT				⇑P	**pP**	**04 23 56.3 -3.0**
LKP	**Lekhapani**	**70.63**	**303**	⇑*i*P	**P**	**04 23 57.5 +0.1**
SPIA	**Saint Paul Isl**	**71.14**	**17**	P	**P**	**04 23 59.6 -0.2**
	baz=213					
SPIA				S	**S**	**04 33 15.3 -0.1**
	baz=213					
IMP	**Imphal**	**71.33**	**300**	*i* P	**P**	**04 24 01.2 -0.6**
IMP				IAmb	IAmb	04 24 09.0
	comp=Z,745nm,1.4s					
JORH	**JORHAT**	**71.74**	**302**	*e*P	**P**	**04 24 04.1 0.0**
CIT	**Chita**	**72.19**	**333**	*e*P	**P**	**04 24 06.5 +0.1**
CIT				*e*		04 24 32.4
CIT				*e*		04 28 30.7
CIT				*e*S	**S**	**04 33 29.8 +1.9**
CIT				pmax	pmax	
	comp=Z,1μm,2.9s					
SILR	**SILCHAR**	**72.29**	**300**	*i* P	**P**	**04 24 08.7 +1.2**
ITAN	**ITANAGAR**	**72.32**	**302**	*e*P	**P**	**04 24 08.0 +0.3**
GTA	**Gaotai**	**72.72**	**316**	⇑P	**P**	**04 24 10.2 +0.3**
GTA				pP	pP	04 24 14.2 -1.5
GTA				sP	sP	04 24 17.4 -0.3
GTA				S	**S**	**04 33 36.6 +2.0**
GTA				SKS	**SKSac**	**04 34 07.5 -6.9**
GTA				SS	**SS**	**04 38 19.4 +4.7**
GTA				pmax	pmax	
	comp=Z,430nm,1.2s					
GTA				pmax	pmax	
	comp=Z,3μm,6.0s					
GTA				LR	LR	
	comp=Z,23μm,19.6s					
GTA				LR	LR	
	comp=Z,36μm,20.4s					
GTA				LR	LR	
	comp=Z,42μm,21.4s					
ULN	**Ulaanbaatar**	**72.77**	**327**	P	**P**	**04 24 10.4 +0.3**
ULN				pmax	pmax	
	comp=Z,505nm,1.2s					
ULN	**Ulaanbaatar**	**72.77**	**327**	P	**P**	**04 24 10.3 +0.3**
ULN	**Ulaanbaatar**	**72.77**	**327**	P	**P**	**04 24 10.9 +0.9**
ULN	**Ulaanbaatar**	**72.77**	**327**	⇑P	**P**	**04 24 10.2 +0.1**
CNBA	**Chernabura Isl**	**73.00**	**24**	IAmb	IAmb	04 24 14.4
	comp=Z,446nm,1.6s					
CHNA	**Chernabura Isl**	**73.01**	**24**	P	**P**	**04 24 10.3 -0.8**
	baz=224					
CHNA				S	**S**	**04 33 34.4 -2.5**
	baz=224					
SDPT	**Sand Point**	**73.04**	**23**	P	**P**	**04 24 10.4 -0.9**
	baz=223					
SDPT				S	**S**	**04 33 36.0 -1.2**
	baz=223					
SDPT	**Sand Point**	**73.04**	**23**	IAmb	IAmb	04 24 24.4
	comp=Z,168nm,0.8s					
SONM	**Songino Array**	**73.11**	**326**	P	**P**	**04 24 11.5 -0.5**
	comp=Z,225nm,0.8s,baz=138,slow=4.1,SNR=265					
SONM				PKPPKP		04 51 51.2
	comp=Z,1.3nm,0.8s,baz=304,slow=2.7,SNR=3.6					
SONM				LR	LR	04 57 52.0
	comp=Z,23μm,18.3s,baz=115,slow=37					
SHL	**Shillong**	**73.34**	**300**	*i* P	**P**	**04 24 13.5 -0.4**
SHL				IAmb	IAmb	04 24 22.1
	comp=Z,303nm,0.0s					
SHL	**Shillong**	**73.34**	**300**	P	**P**	**04 24 14.1 +0.2**
	SNR=266					
AGT	**Agartala**	**73.34**	**298**	⇑*i*P	**P**	**04 24 14.6 +0.9**
AGT				IAmb	IAmb	04 24 16.3
	comp=Z,5μm,2.8s					
YAK	**Yakutsk**	**74.58**	**346**	LR	LR	04 54 18.4
	comp=Z,30μm,21.8s,baz=148,slow=34					
YAK	**Yakutsk**	**74.58**	**346**	*e*P	**P**	**04 24 19.9 -0.2**
YAK				*e*		04 24 33.1
YAK				*e*S	**S**	**04 33 55.1 +0.7**
YAK				pmax	pmax	
	comp=Z,523nm,0.9s					
YAK				pmax	pmax	
	comp=N,93nm,1.0s					
YAK				pmax	pmax	
	comp=E,85nm,1.2s					
YAK				smax	smax	
	comp=N,7μm,8.4s					
YAK				smax	smax	
	comp=E,7μm,9.1s					
YAK				MLR	MLR	
	comp=Z,39μm,18.0s					
YAK				MLR	MLR	
	comp=N,17μm,17.0s					
YAK				MLR	MLR	
	comp=E,14μm,15.0s					
YAK	**Yakutsk**	**74.58**	**346**	P	**P**	**04 24 20.0 -0.1**
YAK				IAMs_20	IAMs_20	04 52 10.0
	comp=Z,54μm,20.0s					
YAK	**Yakutsk**	**74.58**	**346**	⇑P	**P**	**04 24 19.2 -1.0**
LSA	**Lhasa**	**75.33**	**304**	P	**P**	**04 24 26.6 +0.8**
LSA				S	**S**	**04 34 05.2 +0.1**
LSA				pmax	pmax	
	comp=Z,2μm,1.1s					
LSA				LR	LR	
	comp=Z,34μm,17.1s					
LSA				LR	LR	
	comp=Z,35μm,27.1s					
LSA				LR	LR	
	comp=Z,51μm,22.1s					
LSA	**Lhasa**	**75.33**	**304**	*i* P	**P**	**04 24 26.5 +0.7**
	SNR=77					
LSA	**Lhasa**	**75.33**	**304**	P	**P**	**04 24 25.8 0.0**
LSA				pmax	pmax	
	comp=Z,417nm,1.0s					
LSA	**Lhasa**	**75.33**	**304**	P	**P**	**04 24 25.8 0.0**
LSA				IAmb	IAmb	04 24 28.4
	comp=Z,417nm,1.0s					
LSA	**Lhasa**	**75.33**	**304**	P	**P**	**04 24 27.1 +1.2**
BOD	**Bodaibo**	**76.03**	**337**	*e*P	P	04 24 21.7 -6.9
BOD				pmax	pmax	
	comp=Z,446nm,1.1s					
ZAK	**Zakamensk**	**76.24**	**327**	*e*P	**P**	**04 24 29.5 -0.6**
ZAK				pmax	pmax	
	comp=Z,279nm,1.1s					
GAMB	**Gambell**	**76.39**	**13**	P	**P**	**04 24 30.3 -0.2**
	baz=210					
GAMB				S	**S**	**04 34 12.2 -2.2**
	baz=210					
GAMB	**Gambell**	**76.39**	**13**	IAMs_20	IAMs_20	04 59 19.6
	comp=Z,59μm,19.0s					
IRK	**Irkutsk**	**76.78**	**329**	*e*P	**P**	**04 24 32.6 -0.4**
IRK				*e*S	**S**	**04 34 23.8 +4.6**
IRK				pmax	pmax	
	comp=Z,549nm,2.4s					
TLY	**Talaya**	**76.78**	**329**	*c i*P	**P**	**04 24 32.3 -0.7**
TLY				*e*S	**S**	**04 34 19.5 +0.3**
TLY				*e*		04 34 45.5
TLY				*e*SS	**SS**	**04 39 09.3 -6.4**
TLY				pmax	pmax	
	comp=Z,553nm,1.3s					
TLY				MLR	MLR	
	comp=Z,66μm,18.0s					
TLY	**Talaya**	**76.78**	**329**	P	**P**	**04 24 33.1 +0.1**
TLY				IAmb	IAmb	04 24 39.3
	comp=Z,237nm,1.2s					
TLY	**Talaya**	**76.78**	**329**	P	**P**	**04 24 33.5 +0.4**
OHAK	**Old Harbor**	**77.22**	**25**	P	**P**	**04 24 35.3 0.0**
	baz=229,SNR=24					
OHAK				S	**S**	**04 34 21.0 -2.8**
	baz=229					
OHAK	**Old Harbor**	**77.22**	**25**	IAmb	IAmb	04 24 53.6
	comp=Z,153nm,0.8s					
BILL	**Bilibino**	**77.41**	**3**	*d i*P	**P**	**04 24 36.2 0.0**
BILL				*e*		04 24 47.6
BILL				*e*		04 27 26.8
BILL				*e*PPP	PPP	04 29 14.8
BILL				*i* S	**S**	**04 34 18.3 -7.1**
BILL				*i* SSS	SSS	04 42 40.4
BILL				pmax	pmax	
	comp=Z,336nm,1.4s					
BILL				MLR	MLR	
	comp=Z,29μm,18.0s					
BILL	**Bilibino**	**77.41**	**3**	P	**P**	**04 24 35.9 -0.3**
BILL				IAMs_20	IAMs_20	04 53 40.6
	comp=Z,43μm,19.0s					
KDAK	**Kodiak Island**	**77.88**	**24**	LR	LR	04 54 22.4
	comp=Z,41μm,20.4s,baz=248,slow=32					
KDAK	**Kodiak Island**	**77.88**	**24**	P	**P**	**04 24 39.1 +0.1**
KDAK				pmax	pmax	
	comp=Z,400nm,1.7s					
KDAK	**Kodiak Island**	**77.88**	**24**	P	**P**	**04 24 38.6 -0.4**
	baz=230					
KDAK				S	**S**	**04 34 26.5 -4.3**
	baz=230					
KDAK	**Kodiak Island**	**77.88**	**24**	P	**P**	**04 24 39.1 +0.1**
KDAK				IAmb	IAmb	04 25 09.0
	comp=Z,400nm,1.7s					
KDAK	**Kodiak Island**	**77.88**	**24**	IAMs_20	IAMs_20	04 54 02.7
	comp=Z,48μm,19.0s					
MOY	**Mondy**	**78.16**	**328**	*e*P	**P**	**04 24 41.1 +0.2**
MOY				pmax	pmax	
	comp=Z,740nm,3.1s					
O18K	**Koktuh Hills**	**78.24**	**22**	P	**P**	**04 24 39.9 -1.2**
	baz=227,SNR=46					
O18K				S	**S**	**04 34 33.8 -1.0**
	baz=227					
N18K	**Kilae Creek**	**78.56**	**21**	P	**P**	**04 24 43.1 +0.3**
	baz=226,SNR=93					
N18K				S	**S**	**04 34 37.9 -0.3**
	baz=226					
ANM	**Nome**	**78.59**	**15**	P	**P**	**04 24 43.3 +0.5**
	baz=216,SNR=8.9					
ANM				S	**S**	**04 34 38.6 +0.4**
	baz=216					
ANM	**Nome**	**78.59**	**15**	IAmb	IAmb	04 24 58.6
	comp=Z,595nm,1.6s					
ANM				IAMs_20	IAMs_20	04 54 53.5
	comp=Z,52μm,20.0s					
TNA	**Tin City**	**78.78**	**14**	P	**P**	**04 24 43.7 -0.1**
	baz=214,SNR=6.1					
TNA				S	**S**	**04 34 40.6 +0.5**
	baz=214					
TNA	**Tin City**	**78.78**	**14**	IAMs_20	IAMs_20	04 53 01.6
	comp=Z,57μm,22.0s					
VIS	**Vishakhapatnam**	**78.79**	**290**	*e*P	**P**	**04 24 45.5 +0.6**
VIS				IAmb	IAmb	04 24 46.9
	comp=Z,131nm,0.9s					
O19K	**Port Alsworth**	**78.80**	**22**	P	**P**	**04 24 43.4 -0.6**
	baz=228					
O19K				S	**S**	**04 34 38.7 -1.9**
	baz=228					
P19K	**Oil Pt**	**78.85**	**23**	P	**P**	**04 24 44.0 -0.4**
	baz=229,SNR=30					
P19K				S	**S**	**04 34 39.9 -1.3**
	baz=229					
PALK	**Pallekele**	**79.09**	**279**	P	**P**	**04 24 47.2 +0.4**
PALK				pmax	pmax	
	comp=Z,297nm,1.1s					
PALK	**Pallekele**	**79.09**	**279**	P	**P**	**04 24 47.1 +0.4**
PALK				IAmb	IAmb	04 24 53.3
	comp=Z,296nm,1.1s					
PALK	**Pallekele**	**79.09**	**279**	P	**P**	**04 24 48.1 +1.3**
N19K	**Bonanza Creek**	**79.16**	**21**	P	**P**	**04 24 46.0 -0.1**
	baz=227,SNR=40					
N19K				S	**S**	**04 34 45.0 +0.3**
	baz=227					
O20K	**Slope Mountain**	**79.36**	**23**	P	**P**	**04 24 46.8 -0.4**
	baz=229					
O20K				S	**S**	**04 34 45.6 -1.2**
	baz=229					
HOM	**Homer**	**79.47**	**23**	P	**P**	**04 24 47.2 -0.5**
	baz=230,SNR=12					
HOM				S	**S**	**04 34 48.0 +0.3**
	baz=230					
CNPM	**China Poot**	**79.54**	**24**	IAMs_20	IAMs_20	04 56 31.4
	comp=Z,69μm,20.0s					
BRLK	**Bradley Lake**	**79.83**	**23**	IAmb	IAmb	04 25 14.8
	comp=Z,229nm,1.1s					
BRLK				IAMs_20	IAMs_20	04 56 39.6
	comp=Z,60μm,20.0s					
BRSE	**Bradley Lake S**	**79.87**	**24**	P	**P**	**04 24 50.0 0.0**
	baz=231,SNR=29					
BRSE				S	**S**	**04 34 51.6 -0.5**
	baz=231					
M19K	**Big River Lodg**	**79.93**	**21**	P	**P**	**04 24 51.6 +1.4**
	baz=227,SNR=157					
M19K				S	**S**	**04 34 53.9 +1.3**
	baz=227					
L19K	**White Mountain**	**79.96**	**20**	P	**P**	**04 24 51.4 +1.0**
	baz=227,SNR=72					
L19K				S	**S**	**04 34 54.6 +1.6**
	baz=227					
TTA	**Tatalina**	**80.09**	**19**	S	**S**	**04 34 55.8 +1.3**
	baz=226					
SPCR	**Spurr Chakacha**	**80.25**	**22**	P	**P**	**04 24 51.3 -0.7**
	baz=230					
SPCR				S	**S**	**04 34 54.6 -1.5**
	baz=230					
M20K	**Styx River**	**80.36**	**21**	P	**P**	**04 24 52.7 +0.1**
	baz=228					
M20K				S	**S**	**04 34 55.3 -2.1**
	baz=228					
CAPN	**Captain Cook N**	**80.36**	**23**	P	**P**	**04 24 53.4 +0.9**
	baz=230					
CAPN				S	**S**	**04 35 02.4 +5.3**
	baz=230					
SEW	**Seward**	**80.61**	**24**	P	**P**	**04 24 54.0 +0.2**
	baz=232,SNR=25					
SEW				S	**S**	**04 34 56.5 -3.2**
	baz=232					
SEW	**Seward**	**80.61**	**24**	IAmb	IAmb	04 25 16.3
	comp=Z,211nm,1.0s					
SEW				IAMs_20	IAMs_20	04 57 12.6
	comp=Z,63μm,20.0s					
QSPA	**South Pole Qui**	**80.64**	**180**	P	**P**	**04 24 53.6 -0.6**
	comp=Z,72nm,0.9s,baz=325,slow=0.8,SNR=94					
QSPA	**South Pole Qui**	**80.64**	**180**	P	**P**	**04 24 54.1 -0.1**
QSPA				IAmb	IAmb	04 25 18.4
	comp=Z,387nm,1.1s					
QSPA	**South Pole Qui**	**80.64**	**180**	IAMs_20	IAMs_20	05 01 02.8
	comp=Z,45μm,18.0s					
MDRS	**Chennai**	**80.67**	**285**	*e*P	**P**	**04 24 55.1 -0.1**
MDRS				IAML		04 25 00.5
	comp=Z,48nm,0.9s					
O22K	**Cooper Landing**	**80.73**	**23**	P	**P**	**04 24 54.5 0.0**
	baz=232					
O22K				S	**S**	**04 35 01.0 0.0**
	baz=232					
O22K	**Cooper Landing**	**80.73**	**23**	IAmb	IAmb	04 25 21.9
	comp=Z,388nm,0.9s					
O22K				IAMs_20	IAMs_20	04 57 19.9
	comp=Z,66μm,20.0s					
SUA	**Susitna One**	**80.96**	**22**	P	**P**	**04 24 55.2 -0.7**
	baz=231,SNR=50					
SUA				S	**S**	**04 35 01.7 -1.9**
	baz=231					
SUA	**Susitna One**	**80.96**	**22**	IAmb	IAmb	04 25 17.1
	comp=Z,562nm,1.8s					
SKT	**Skwentna**	**81.00**	**22**	P	**P**	**04 24 54.7 -1.3**
	baz=230,SNR=19					
SKT	**Skwentna**	**81.00**	**22**	IAMs_20	IAMs_20	04 55 44.9
	comp=Z,47μm,20.0s					
RC01	**Rabbit Creek A**	**81.10**	**23**	P	**P**	**04 24 56.7 +0.1**
	baz=232,SNR=40					
RC01				S	**S**	**04 35 04.4 -0.5**
	baz=232					
RC01	**Rabbit Creek A**	**81.10**	**23**	IAmb	IAmb	04 25 00.8
	comp=Z,610nm,1.6s					
PPLA	**Purkeypile**	**81.36**	**21**	P	**P**	**04 24 57.0 -1.0**
	baz=229,SNR=54					
PPLA				S	**S**	**04 35 09.1 +1.3**
	baz=229					
MID	**Middleton Isla**	**81.47**	**25**	P	**P**	**04 24 58.6 +0.1**
MID				pmax	pmax	
	comp=Z,753nm,2.0s					
MID	**Middleton Isla**	**81.47**	**25**	P	**P**	**04 24 58.6 +0.1**
MID				IAmb	IAmb	04 25 05.4
	comp=Z,753nm,2.0s					
PWL	**Port Wells**	**81.51**	**23**	IAmb	IAmb	04 25 19.6
	comp=Z,372nm,1.0s					
PWL				IAMs_20	IAMs_20	04 57 03.3
	comp=Z,62μm,20.0s					
CUT	**Chulitna**	**81.73**	**22**	P	**P**	**04 24 58.7 -1.0**
	baz=231,SNR=22					
CUT				S	**S**	**04 35 12.0 +0.7**
	baz=231					
KNK	**Knik Glacier**	**81.79**	**23**	P	**P**	**04 25 00.4 +0.2**
	baz=233,SNR=18					
KNK				S	**S**	**04 35 15.2 +3.0**
	baz=233					
KNK	**Knik Glacier**	**81.79**	**23**	IAMs_20	IAMs_20	04 55 00.1
	comp=Z,62μm,22.0s					
GHO	**Glory Hole Cre**	**81.83**	**22**	IAmb	IAmb	04 25 18.8
	comp=Z,244nm,1.0s					
CHUM	**Lake Minchumin**	**81.96**	**20**	P	**P**	**04 25 01.4 +0.5**
	baz=229,SNR=45					
CHUM				S	**S**	**04 35 16.1 +2.4**
	baz=229					
HIN	**Hinchinbrook I**	**81.96**	**24**	IAmb	IAmb	04 25 15.5
	comp=Z,309nm,1.4s					
HIN				IAMs_20	IAMs_20	04 56 51.4
	comp=Z,66μm,21.0s					
RDOG	**Red Dog Mine**	**81.97**	**14**	P	**P**	**04 25 03.0 +2.1**
	baz=218,SNR=24					
RDOG				S	**S**	**04 35 15.3 +1.6**
	baz=218					
RDOG	**Red Dog Mine**	**81.97**	**14**	IAmb	IAmb	04 25 18.1
	comp=Z,172nm,0.9s					
RDOG				IAMs_20	IAMs_20	04 56 00.6
	comp=Z,44μm,20.0s					
GLI	**Glacier Island**	**82.01**	**24**	P	**P**	**04 25 01.4 +0.1**
	baz=234,SNR=6.1					
GLI				S	**S**	**04 35 12.9 -1.4**
	baz=234					
SML	**Sawmill**	**82.08**	**23**	P	**P**	**04 25 02.1 +0.4**
	baz=233,SNR=58					
SML				S	**S**	**04 35 15.2 +0.1**
	baz=233					
SML	**Sawmill**	**82.08**	**23**	IAmb	IAmb	04 25 16.3
	comp=Z,363nm,1.1s					
SML				IAMs_20	IAMs_20	04 55 43.6
	comp=Z,48μm,21.0s					
FID	**Port Fidalgo**	**82.18**	**24**	IAmb	IAmb	04 25 06.3
	comp=Z,502nm,1.6s					
FID				IAMs_20	IAMs_20	04 55 24.5
	comp=Z,42μm,20.0s					
KTH	**Kantishna Hill**	**82.22**	**20**	IAmb	IAmb	04 25 15.9
	comp=Z,361nm,1.3s					
KTH				IAMs_20	IAMs_20	04 55 59.3
	comp=Z,60μm,22.0s					

EYAK	**Cordova Ski Ar**	**82.36**	**24**	P	**P**	**04 25 03.4**	**+0.3**
	baz=236,SNR=18						
EYAK				S	**S**	**04 35 15.7**	**-2.1**
	baz=236						
EYAK	**Cordova Ski Ar**	**82.36**	**24**	IAmb	IAmb	04 25 07.5	
	comp=Z,325nm,1.7s						
EYAK				IAMs_20	IAMs_20	04 57 12.9	
	comp=Z,69μm,20.0s						
TRF	**Thorofare Moun**	**82.38**	**21**	P	**P**	**04 25 02.6**	**-0.8**
	baz=231,SNR=45						
TRF				S	**S**	**04 35 17.3**	**-1.1**
	baz=231						
TRF	**Thorofare Moun**	**82.38**	**21**	IAmb	IAmb	04 25 29.5	
	comp=Z,494nm,1.7s						
TRF				IAMs_20	IAMs_20	04 55 05.4	
	comp=Z,40μm,21.0s						
SCM	**Sheep Creek Mo**	**82.48**	**23**	IAmb	IAmb	04 25 18.5	
	comp=Z,289nm,1.0s						
SCM				IAMs_20	IAMs_20	04 55 32.0	
	comp=Z,66μm,22.0s						
BPAW	**Bear Paw Mtn.**	**82.55**	**20**	P	**P**	**04 25 03.3**	**-0.9**
	baz=230,SNR=60						
BPAW				S	**S**	**04 35 17.7**	**-2.1**
	baz=230						
BPAW	**Bear Paw Mtn.**	**82.55**	**20**	P	**P**	**04 25 03.4**	**-0.7**
BPAW				IAmb	IAmb	04 25 18.3	
	comp=Z,338nm,1.5s						
BPAW				IAMs_20	IAMs_20	04 56 54.0	
	comp=Z,44μm,20.0s						
WAT1	**Susitna Watana**	**82.62**	**22**	P	**P**	**04 25 04.4**	**-0.1**
	baz=233						
WAT1				S	**S**	**04 35 20.4**	**-0.1**
	baz=233						
WAT6	**Susitna Watana**	**82.77**	**22**	P	**P**	**04 25 05.5**	**0.0**
	baz=233,SNR=20						
WAT6				S	**S**	**04 35 21.7**	**-0.7**
	baz=233						
WMQ	**Urumqi**	**82.80**	**316**	P	**P**	**04 25 07.2**	**+1.3**
WMQ				pP	pP	04 25 12.0	+0.2
WMQ				PP	**PP**	**04 28 18.3**	**+1.9**
WMQ				S	**S**	**04 35 25.4**	**+2.1**
WMQ				SS	**SS**	**04 40 48.8**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,620nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,6μm,4.9s						
WMQ				LR	LR		
	comp=Z,44μm,20.9s						
WMQ				LR	LR		
	comp=Z,30μm,22.5s						
WMQ				LR	LR		
	comp=Z,51μm,24.1s						
KLU	**Klutina**	**82.83**	**24**	P	**P**	**04 25 06.2**	**+0.5**
	baz=235,SNR=23						
KLU				S	**S**	**04 35 22.9**	**+0.1**
	baz=235						
HMT	**Hamilton**	**82.85**	**25**	IAmb	IAmb	04 25 10.4	
	comp=Z,418nm,1.7s						
HMT				IAMs_20	IAMs_20	04 58 27.9	
	comp=Z,61μm,20.0s						
SUCK	**Suckling Hills**	**82.91**	**25**	IAmb	IAmb	04 25 11.1	
	comp=Z,430nm,1.8s						
SUCK				IAMs_20	IAMs_20	04 53 31.5	
	comp=Z,65μm,22.0s						
I21K	**Tanana**	**82.92**	**19**	P	**P**	**04 25 06.6**	**+0.6**
	baz=229,SNR=131						
I21K				S	**S**	**04 35 23.5**	**0.0**
	baz=229						
TRD	**Trivandrum**	**82.96**	**280**	*e*P	**P**	**04 25 08.2**	**+0.9**
TRD				IAmb	IAmb	04 25 10.4	
	comp=Z,96nm,1.4s						
H21K	**Melozitna Rive**	**82.98**	**18**	P	**P**	**04 25 06.9**	**+0.6**
	baz=228						
H21K				S	**S**	**04 35 25.7**	**+1.6**
	baz=228						
MCK	**McKinley**	**83.03**	**21**	P	**P**	**04 25 06.4**	**-0.2**
	baz=232,SNR=101						
MCK				S	**S**	**04 35 22.6**	**-2.2**
	baz=232						
MCK	**McKinley**	**83.03**	**21**	IAMs_20	IAMs_20	04 56 35.6	
	comp=Z,45μm,22.0s						
BMRM	**Bremner River**	**83.06**	**24**	P	**P**	**04 25 07.2**	**+0.3**
	baz=236,SNR=16						
BMRM				S	**S**	**04 35 24.1**	**-1.1**
	baz=236						
BMRM	**Bremner River**	**83.06**	**24**	IAmb	IAmb	04 25 28.7	
	comp=Z,242nm,1.3s						
BMRM				IAMs_20	IAMs_20	04 56 22.4	
	comp=Z,61μm,20.0s						
M24K	**Tolsona, Glenn**	**83.08**	**23**	P	**P**	**04 25 07.9**	**+0.9**
	baz=235,SNR=17						
M24K				S	**S**	**04 35 26.6**	**+1.2**
	baz=235						
M24K	**Tolsona, Glenn**	**83.08**	**23**	IAMs_20	IAMs_20	04 55 48.9	
	comp=Z,57μm,22.0s						
BWN	**Browne**	**83.12**	**20**	IAMs_20	IAMs_20	04 55 40.4	
	comp=Z,37μm,20.0s						
BGLC	**Bering Glacier**	**83.15**	**25**	P	**P**	**04 25 07.8**	**+0.6**
	baz=238						
HYB	**Hyderabad**	**83.17**	**289**	*i* P	**P**	**04 25 07.0**	**-1.3**
	comp=Z,444nm,2.0s						
HYB				*e*sP	**pP**	**04 25 14.5**	**+0.8**
HYB				*e*PP	**pwP**	**04 25 20.0**	**+1.2**
HYB				*e*PPP	PPP	04 30 22.0	
HYB				*e*S	**S**	**04 35 30.0**	**+2.1**
HYB				*e*LR	LR		
	comp=Z,41nm,28.0s						
TIXI	**Tiksi**	**83.17**	**351**	P	**P**	**04 25 06.4**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,305nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,47μm,19.0s						
TIXI	**Tiksi**	**83.17**	**351**	P	**P**	**04 25 06.3**	**-0.7**
TIXI				IAmb	IAmb	04 25 44.1	
	comp=Z,305nm,1.7s						
TIXI				IAMs_20	IAMs_20	05 04 04.7	
	comp=Z,47μm,19.0s						
MLY	**Manley**	**83.23**	**19**	P	**P**	**04 25 07.5**	**-0.1**
	baz=230,SNR=143						
MLY				S	**S**	**04 35 25.5**	**-1.3**
	baz=230						
MLY	**Manley**	**83.23**	**19**	IAmb	IAmb	04 25 22.5	
	comp=Z,253nm,1.2s						
MLY				IAMs_20	IAMs_20	05 00 32.9	
	comp=Z,62μm,19.0s						
N25K	**Chitina, Valde**	**83.42**	**24**	P	**P**	**04 25 09.1**	**+0.4**
	baz=236,SNR=37						
N25K				S	**S**	**04 35 29.3**	**+0.4**
	baz=236						
N25K	**Chitina, Valde**	**83.42**	**24**	IAmb	IAmb	04 25 13.5	
	comp=Z,438nm,1.7s						
N25K				IAMs_20	IAMs_20	04 57 38.8	
	comp=Z,42μm,20.0s						
WAX	**Waxell Ridge**	**83.50**	**25**	IAmb	IAmb	04 25 24.7	
	comp=Z,193nm,1.1s						
WAX				IAMs_20	IAMs_20	04 58 37.2	
	comp=Z,50μm,21.0s						
MAW	**Mawson**	**83.51**	**203**	P	**P**	**04 25 08.2**	**-0.8**
	comp=Z,67nm,1.0s,baz=80,slow=5.7,SNR=32						
MAW				PKPPKP		04 51 35.1	
	comp=Z,2.9nm,0.9s,baz=27,slow=6.4,SNR=3.8						
MAW				LR	LR	04 59 35.5	
	comp=Z,38μm,19.7s,baz=90,slow=34						
MAW	**Mawson**	**83.51**	**203**	P	**P**	**04 25 10.0**	**+1.0**
	baz=83,SNR=65						
MAW	**Mawson**	**83.51**	**203**	P	**P**	**04 25 09.0**	**0.0**
MAW				pmax	pmax		
	comp=Z,24nm,1.1s						
MAW	**Mawson**	**83.51**	**203**	P	**P**	**04 25 09.0**	**0.0**
NEA2	**Nenana**	**83.51**	**20**	P	**P**	**04 25 08.3**	**-0.8**
	baz=232,SNR=95						
NEA2				S	**S**	**04 35 27.4**	**-2.1**
	baz=232						
NEA2	**Nenana**	**83.51**	**20**	IAMs_20	IAMs_20	04 56 00.4	
	comp=Z,36μm,20.0s						
CRQM	**Cirque**	**83.55**	**25**	IAmb	IAmb	04 25 25.2	
	comp=Z,143nm,1.1s						
CRQM				IAMs_20	IAMs_20	04 59 01.8	
	comp=Z,41μm,20.0s						
CRQE	**Cirque**	**83.56**	**25**	P	**P**	**04 25 09.9**	**+0.3**
	baz=238,SNR=22						
CRQE				S	**S**	**04 35 32.4**	**+1.9**
	baz=238						
HARP	**HAARP**	**83.64**	**23**	P	**P**	**04 25 10.4**	**+0.6**
	baz=236						
HARP				S	**S**	**04 35 30.9**	**0.0**
	baz=236						
GLB	**Gilahina Butte**	**83.64**	**24**	IAmb	IAmb	04 25 31.6	
	comp=Z,510nm,1.9s						
GLB				IAMs_20	IAMs_20	04 56 40.8	
	comp=Z,51μm,20.0s						
VRDI	**Verde Repeater**	**83.67**	**24**	IAmb	IAmb	04 25 24.6	
	comp=Z,168nm,1.3s						
VRDI				IAMs_20	IAMs_20	04 56 40.6	
	comp=Z,43μm,19.0s						
TGL	**Tana Glacier**	**83.67**	**25**	IAMs_20	IAMs_20	04 58 54.7	
	comp=Z,38μm,20.0s						
MESA	**MESA**	**83.75**	**26**	P	**P**	**04 25 11.0**	**+0.4**
	baz=239,SNR=14						
MESA				S	**S**	**04 35 31.9**	**-0.6**
	baz=239						
MESA	**MESA**	**83.75**	**26**	IAmb	IAmb	04 25 26.1	
	comp=Z,199nm,1.1s						
MESA				IAMs_20	IAMs_20	04 57 34.6	
	comp=Z,51μm,19.0s						
I23K	**Minto, Yukon-K**	**83.76**	**20**	P	**P**	**04 25 09.8**	**-0.5**
	baz=232,SNR=32						
I23K				S	**S**	**04 35 30.1**	**-1.8**
	baz=232						
I23K	**Minto, Yukon-K**	**83.76**	**20**	IAMs_20	IAMs_20	04 57 18.9	
	comp=Z,62μm,20.0s						
WRH	**Wood River Hil**	**83.78**	**21**	IAmb	IAmb	04 25 24.7	
	comp=Z,285nm,1.2s						
ISLE	**Juniper Island**	**83.80**	**25**	P	**P**	**04 25 11.2**	**+0.4**
ISLE				IAmb	IAmb	04 25 25.9	
	comp=Z,133nm,1.1s						
ISLE				IAMs_20	IAMs_20	04 58 57.0	
	comp=Z,42μm,20.0s						
PAX	**Paxson**	**83.84**	**22**	P	**P**	**04 25 10.7**	**-0.2**
	baz=236,SNR=12						
PAX				S	**S**	**04 35 32.4**	**-0.7**
	baz=236						
PAX	**Paxson**	**83.84**	**22**	IAmb	IAmb	04 25 53.7	
	comp=Z,288nm,1.8s						
PAX				IAMs_20	IAMs_20	04 59 01.1	
	comp=Z,46μm,20.0s						
YAH	**Yahtse**	**83.93**	**26**	IAmb	IAmb	04 25 27.1	
	comp=Z,151nm,1.1s						
YAH				IAMs_20	IAMs_20	04 58 20.3	
	comp=Z,49μm,20.0s						
MCARA	**McCarthy VSAT**	**83.93**	**24**	P	**P**	**04 25 11.7**	**+0.5**
	baz=238,SNR=15						
MCARA				S	**S**	**04 35 33.8**	**-0.1**
	baz=238						
MCARA	**McCarthy VSAT**	**83.93**	**24**	IAMs_20	IAMs_20	04 59 14.4	
	comp=Z,41μm,20.0s						
CCB	**Clear Creek Bu**	**83.98**	**20**	IAmb	IAmb	04 25 24.9	
	comp=Z,204nm,1.2s						
MDM	**Murphy Dome**	**84.02**	**20**	IAMs_20	IAMs_20	04 57 48.8	
	comp=Z,42μm,20.0s						
TCOL	**CIGO, UAF Yank**	**84.10**	**20**	P	**P**	**04 25 11.5**	**-0.5**
	baz=233,SNR=24						
TCOL				S	**S**	**04 35 31.8**	**-3.5**
	baz=233						
COLA	**College**	**84.10**	**20**	P	**P**	**04 25 11.1**	**-0.9**
COLA				pmax	pmax		
	comp=Z,344nm,1.1s						
COLA	**College**	**84.10**	**20**	P	**P**	**04 25 11.7**	**-0.3**
	baz=233						
COLA				S	**S**	**04 35 31.8**	**-3.5**
	baz=233						
COLA	**College**	**84.10**	**20**	P	**P**	**04 25 11.1**	**-0.9**
H23K	**Yukon River**	**84.12**	**19**	P	**P**	**04 25 12.8**	**+0.6**
	baz=232,SNR=156						
H23K				S	**S**	**04 35 34.8**	**-0.9**
	baz=232						
HDA	**Harding Lake**	**84.14**	**21**	P	**P**	**04 25 12.1**	**-0.1**
	baz=234,SNR=48						
HDA				S	**S**	**04 35 34.9**	**-1.0**
	baz=234						
HDA				S	**S**	**04 35 34.9**	**-1.0**
	baz=234						
HDA	**Harding Lake**	**84.14**	**21**	IAmb	IAmb	04 25 26.8	
	comp=Z,314nm,1.1s						
HDA				IAMs_20	IAMs_20	04 57 18.9	
	comp=Z,47μm,22.0s						
TABL	**Table Mountain**	**84.22**	**26**	IAmb	IAmb	04 25 28.3	
	comp=Z,205nm,1.0s						
TABL				IAMs_20	IAMs_20	04 56 59.2	
	comp=Z,39μm,20.0s						
BARN	**Barnard Glacie**	**84.32**	**25**	IAmb	IAmb	04 25 29.5	
	comp=Z,216nm,1.2s						
IL31		**84.37**	**21**	P	**P**	**04 25 12.1**	**-1.2**
IL31				IAmb	IAmb	04 25 27.5	
	comp=Z,316nm,1.2s						
ILAR	**Eielson Array**	**84.37**	**21**	P	**P**	**04 25 11.9**	**-1.5**
	comp=Z,48nm,1.1s,baz=256,slow=4.2,SNR=120						
ILAR				PKKPbc	**PKKPbc**	**04 43 25.6**	**-3.0**
	comp=Z,1.5nm,0.7s,baz=354,slow=0.6,SNR=11						
ILAR				PKPPKP		04 51 29.8	
	comp=Z,0.6nm,0.9s,baz=354,slow=2.7,SNR=3.5						
ILAR				LR	LR	04 58 11.5	
	comp=Z,29μm,21.8s,baz=252,slow=32						
POKR	**Poker Plat Res**	**84.39**	**20**	P	**P**	**04 25 12.8**	**-0.7**
	baz=234,SNR=19						
POKR				S	**S**	**04 35 34.2**	**-4.1**
	baz=234						
POKR	**Poker Plat Res**	**84.39**	**20**	IAMs_20	IAMs_20	05 00 02.5	
	comp=Z,44μm,20.0s						
CTG	**Chitna Glacier**	**84.41**	**25**	P	**P**	**04 25 14.2**	**+0.4**
	baz=239,SNR=23						
CTG				S	**S**	**04 35 38.5**	**-0.4**
	baz=239						
YKU2	**Yakutat**	**84.41**	**27**	IAMs_20	IAMs_20	04 56 07.1	
	comp=Z,46μm,20.0s						
CTGM	**Chitina Glacie**	**84.41**	**25**	IAmb	IAmb	04 25 29.3	
	comp=Z,124nm,0.9s						
PCA	**Pinnacle**	**84.44**	**26**	IAmb	IAmb	04 25 38.3	
	comp=Z,234nm,0.9s						
PCA				IAMs_20	IAMs_20	05 00 22.9	
	comp=Z,42μm,18.0s						
PINM	**Pinnacle**	**84.44**	**26**	P	**P**	**04 25 14.5**	**+0.5**
	baz=240,SNR=33						
PINM				S	**S**	**04 35 36.8**	**-2.4**
	baz=240						
LOGN	**Logan Glacier**	**84.48**	**25**	P	**P**	**04 25 14.6**	**+0.3**
LOGN				IAmb	IAmb	04 25 29.5	
	comp=Z,182nm,1.0s						
MENT	**Mentasta**	**84.49**	**23**	IAmb	IAmb	04 25 46.6	
	comp=Z,202nm,1.3s						
MENT				IAMs_20	IAMs_20	04 58 07.2	
	comp=Z,47μm,21.0s						
RIDG	**Independent Ri**	**84.51**	**22**	P	**P**	**04 25 14.5**	**+0.2**
	baz=236,SNR=44						
RIDG				S	**S**	**04 35 37.7**	**-2.0**
	baz=236						
RIDG	**Independent Ri**	**84.51**	**22**	IAmb	IAmb	04 25 29.4	
	comp=Z,196nm,1.1s						
BCPM	**Banas Point**	**84.64**	**27**	IAMs_20	IAMs_20	04 56 17.2	
	comp=Z,44μm,19.0s						
H24K	**Noodor Dome**	**84.67**	**19**	P	**P**	**04 25 14.3**	**-0.7**
	baz=233,SNR=35						
H24K				S	**S**	**04 35 38.0**	**-3.2**
	baz=233						
H08S2	**Diego Garcia H**	**84.71**	**263**	P	**P**	**04 25 17.5**	**+1.5**
	baz=248,slow=20,SNR=6.7						
H08S3	**Diego Garcia H**	**84.72**	**263**	P	**P**	**04 25 17.5**	**+1.5**
	baz=248,slow=20,SNR=4.2						
H08S1	**Diego Carcia H**	**84.73**	**263**	P	**P**	**04 25 17.6**	**+1.5**
	baz=248,slow=20,SNR=6.3						
DOT	**Dot Lake**	**84.75**	**22**	IAmb	IAmb	04 25 30.5	
	comp=Z,234nm,0.9s						
DOT				IAMs_20	IAMs_20	04 58 50.0	
	comp=Z,44μm,19.0s						
SCRK	**Sand Creek**	**84.96**	**22**	P	**P**	**04 25 17.1**	**+0.6**
	baz=237,SNR=66						
SCRK				S	**S**	**04 35 43.2**	**-1.0**
	baz=237						
SCRK	**Sand Creek**	**84.96**	**22**	IAmb	IAmb	04 25 31.3	
	comp=Z,405nm,1.5s						
SCRK				IAMs_20	IAMs_20	05 04 26.5	
	comp=Z,34μm,19.0s						
PRP	**Porcupine Dome**	**85.27**	**20**	P	**P**	**04 25 17.0**	**-1.1**
	baz=235,SNR=12						
PRP				S	**S**	**04 35 43.9**	**-3.5**
	baz=235						
PRP	**Porcupine Dome**	**85.27**	**20**	IAMs_20	IAMs_20	05 00 37.9	
	comp=Z,58μm,20.0s						
L27K	**Beaver Creek,**	**85.29**	**23**	P	**P**	**04 25 19.0**	**+0.9**
	baz=239,SNR=84						
L27K				S	**S**	**04 35 47.7**	**+0.3**
	baz=239						
L27K	**Beaver Creek,**	**85.29**	**23**	IAmb	IAmb	04 25 23.3	
	comp=Z,376nm,1.6s						
DIB	**Dawson Inlet,**	**85.30**	**34**	P	**P**	**04 25 18.2**	**-0.1**
DIB				IAmb	IAmb	04 26 10.6	
	comp=Z,273nm,1.6s						
H02S1	**DAWSON INLET T**	**85.30**	**34**	P	**P**	**04 25 19.1**	**+0.8**
H02S1				T	T	05 57 56.0	
SIT	**Sitka**	**85.34**	**30**	P	**P**	**04 25 19.4**	**+1.0**
	baz=245,SNR=9.7						
SIT				S	**S**	**04 35 47.9**	**-0.1**
	baz=245						
SIT	**Sitka**	**85.34**	**30**	IAmb	IAmb	04 25 23.4	
	comp=Z,382nm,1.9s						
SIT				IAMs_20	IAMs_20	04 55 37.9	
	comp=Z,58μm,20.0s						
BHPL	**Bhopal**	**85.42**	**294⇑**	*i*P	**P**	**04 25 19.0**	**-0.6**
K27K	**Chicken**	**85.70**	**22**	P	**P**	**04 25 21.5**	**+1.4**
	baz=238						
K27K				S	**S**	**04 35 51.2**	**-0.1**
	baz=238						
K27K	**Chicken**	**85.70**	**22**	IAMs_20	IAMs_20	04 58 45.3	
	comp=Z,59μm,20.0s						
CRAG	**Craig**	**85.82**	**32**	P	**P**	**04 25 21.4**	**+0.6**
	baz=247						
CRAG				S	**S**	**04 35 52.1**	**-0.6**
	baz=247						
CRAG	**Craig**	**85.82**	**32**	P	**P**	**04 25 22.1**	**+1.3**
CRAG				IAMs_20	IAMs_20	04 55 41.5	
	comp=Z,64μm,21.0s						
TOLK	**Toolik Lake Re**	**85.88**	**17**	P	**P**	**04 25 21.8**	**+0.8**
	baz=231,SNR=31						
TOLK				S	**S**	**04 35 47.5**	**-5.5**
	baz=231						
TOLK	**Toolik Lake Re**	**85.88**	**17**	IAmb	IAmb	04 25 36.5	
	comp=Z,111nm,0.8s						
TOLK				IAMs_20	IAMs_20	04 59 22.8	
	comp=Z,57μm,19.0s						
ZSN	**Zaisan**	**85.88**	**319⇑**	*i*P	**P**	**04 25 20.9**	**-0.6**
	comp=Z,300nm,2.1s,baz=319						
ZSN				*e*S	**S**	**04 35 54.5**	**+0.6**
	comp=Z,1μm,7.3s,baz=319						
ZSN	**Zaisan**	**85.88**	**319**	*c* *i*P	**P**	**04 25 20.8**	**-0.6**
ZSN				*e*S	**S**	**04 35 54.4**	**+0.6**
ZSN				pmax	pmax		
	comp=Z,300nm,2.1s						
ZSN				smax	smax		
	comp=N,1μm,7.3s						
A21K	**Barrow**	**85.88**	**13**	P	**P**	**04 25 21.3**	**+0.5**
	baz=224						
A21K				S	**S**	**04 35 49.8**	**-3.0**
	baz=224						
A21K	**Barrow**	**85.88**	**13**	IAMs_20	IAMs_20	04 58 40.0	
	comp=Z,66μm,22.0s						
FYU	**Fort Yukon**	**85.97**	**20**	IAmb	IAmb	04 25 52.1	
	comp=Z,337nm,1.6s						
FYU				IAMs_20	IAMs_20	04 58 38.3	
	comp=Z,42μm,20.0s						
HYT	**Haines Junctio**	**85.98**	**26**	IAMs_20	IAMs_20	04 57 22.8	
	comp=Z,48μm,20.0s						
BESE	**Bessie Mountai**	**86.21**	**29**	P	**P**	**04 25 23.6**	**+0.8**
JIS	**Juneau Island**	**86.31**	**29**	IAmb	IAmb	04 25 30.7	
	comp=Z,266nm,1.7s						
SKAG	**Skagway**	**86.36**	**28**	P	**P**	**04 25 24.7**	**+1.3**
	baz=245,SNR=35						
SKAG				S	**S**	**04 35 57.2**	**-0.7**
	baz=245						
DDI	**Dehra Dun**	**86.40**	**301⇑**	*i*P	**P**	**04 25 24.0**	**-0.4**
EGAK	**Eagle**	**86.43**	**22**	P	**P**	**04 25 24.6**	**+0.9**
	baz=239,SNR=123						
EGAK				S	**S**	**04 35 58.1**	**-0.3**
	baz=239						
EGAK	**Eagle**	**86.43**	**22**	IAmb	IAmb	04 25 38.8	
	comp=Z,364nm,1.4s						
EGAK				IAMs_20	IAMs_20	04 59 51.4	
	comp=Z,34μm,20.0s						
WRAK	**Wrangell Islan**	**86.59**	**31**	P	**P**	**04 25 24.7**	**+0.1**
	baz=248,SNR=16						
WRAK				S	**S**	**04 36 03.5**	**+3.3**
	baz=248						
WRAK	**Wrangell Islan**	**86.59**	**31**	IAmb	IAmb	04 25 55.2	
	comp=Z,330nm,2.0s						
WRAK	**Wrangell Islan**	**86.59**	**31**	IAMs_20	IAMs_20	04 55 53.9	
	comp=Z,50μm,22.0s						
JCC	**Jacoby Creek,**	**86.83**	**48**	P	**P**	**04 25 26.5**	**+0.3**
JCC				IAmb	IAmb	04 25 32.0	
	comp=Z,477nm,1.8s						
KCPM	**Cahto Peak**	**86.87**	**49**	IAMs_20	IAMs_20	05 01 10.9	
	comp=Z,40μm,19.0s						
KMRM	**Mail Ridge**	**86.91**	**49**	IAmb	IAmb	04 25 48.7	
	comp=Z,160nm,1.0s						
MCCM	**Marconi Confer**	**87.01**	**51**	P	**P**	**04 25 26.9**	**-0.3**
MCCM				IAmb	IAmb	04 25 32.3	
	comp=Z,370nm,1.9s						
KBO	**Bosley Butte**	**87.05**	**47**	IAmb	IAmb	04 25 33.2	
	comp=Z,346nm,1.5s						
KBO				IAMs_20	IAMs_20	05 03 22.6	
	comp=Z,31μm,18.0s						
KHMM	**Horse Mountain**	**87.06**	**48**	IAmb	IAmb	04 25 44.2	
	comp=Z,291nm,1.4s						
KHMM				IAMs_20	IAMs_20	05 03 15.9	
	comp=Z,35μm,18.0s						
WHY	**Whitehorse**	**87.07**	**27**	P	**P**	**04 25 27.9**	**+0.8**
	baz=245,SNR=36						
WHY				S	**S**	**04 36 06.4**	**+1.3**
	baz=245						
WHY	**Whitehorse**	**87.07**	**27**	IAMs_20	IAMs_20	04 57 52.5	
	comp=Z,41μm,20.0s						
HOPS	**Hopland Field**	**87.08**	**50**	IAmb	IAmb	04 25 44.2	
	comp=Z,508nm,1.9s						
HOPS				IAMs_20	IAMs_20	04 56 18.4	
	comp=Z,37μm,20.0s						
KRMB	**Red Mountain**	**87.10**	**47**	IAmb	IAmb	04 25 49.2	
	comp=Z,170nm,1.3s						
KRMB				IAMs_20	IAMs_20	05 02 11.0	
	comp=Z,32μm,18.0s						
KEBM	**Edson Butte**	**87.15**	**46**	IAmb	IAmb	04 26 10.8	
	comp=Z,339nm,1.8s						
SMLA	**Simla**	**87.32**	**302⇑**	*i*P	**P**	**04 25 28.0**	**-0.8**
MK31	**Makanchi Array**	**87.36**	**318**	P	**P**	**04 25 27.6**	**-1.1**
MK31				pmax	pmax		
	comp=Z,93nm,0.9s						
MK31	**Makanchi Array**	**87.36**	**318**	P	**P**	**04 25 27.6**	**-1.1**
MKAR	**Makanchi Array**	**87.36**	**318**	P	**P**	**04 25 27.1**	**-1.6**
	comp=Z,19nm,0.5s,baz=98,slow=3.7,SNR=115						
MKAR				PKKPbc	**PKKPbc**	**04 43 20.9**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=308,slow=3.5,SNR=5.8						
MKAR				PKPPKP	**P'P'df**	**04 51 28.2**	**+2.8**
	comp=Z,0.7nm,0.4s,baz=270,slow=7.7,SNR=13						
MKAR				LR	LR	05 03 56.4	
	comp=Z,30μm,21.3s,baz=92,slow=35						
BBB	**Bella Bella**	**87.43**	**36**	P	**P**	**04 25 29.5**	**+0.7**
BBB				IAMs_20	IAMs_20	04 55 38.2	
	comp=Z,43μm,22.0s						
L02E	**Cave Junction**	**87.48**	**47**	P	**P**	**04 25 31.2**	**+1.8**
	baz=255,SNR=15						
L02E				S	**S**	**04 36 10.0**	**+0.4**
	baz=255						
J01E	**Myrtle Point**	**87.51**	**46**	P	**P**	**04 25 30.5**	**+1.0**
	baz=255						
MAKZ	**Makanchi**	**87.57**	**318**	P	**P**	**04 25 29.2**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,149nm,1.0s						
MAKZ				MLR	MLR		
	comp=Z,28μm,20.0s						
MAKZ	**Makanchi**	**87.57**	**318**	P	**P**	**04 25 29.2**	**-0.5**
MAKZ				IAmb	IAmb	04 25 35.4	
	comp=Z,149nm,0.9s						
K02D	**Willamette Mer**	**87.58**	**46**	P	**P**	**04 25 30.9**	**+1.0**
	baz=255,SNR=18						
K02D				S	**S**	**04 36 13.8**	**+3.2**
	baz=255						
O02D	**Mt. Diablo

WDC pmax pmax
comp=Z,266nm,1.6s
WDC MLR MLR
comp=Z,34μm,18.0s
WDC Whiskeytown Da 87.86 48 P **P 04 25 31.8 +0.6**
WDC IAmb IAmb 04 25 48.3
comp=Z,266nm,1.6s
WDC IAMs_20 IAMs_20 05 04 07.2
comp=Z,34μm,18.0s
ZAA0 Zalesovo Array 87.98 325 IAmb IAmb 04 25 36.3
comp=Z,159nm,1.6s
ZALV Zalesovo Beam 87.98 325 P **P 04 25 29.9 -1.5**
comp=Z,13nm,0.7s,baz=108,slow=4.8,SNR=21
ZALV PKKPbc **PKKPbc 04 43 19.4 -0.1**
comp=Z,3.1nm,0.8s,baz=330,slow=2.0,SNR=5.5
ZALV LR LR 05 05 52.5
comp=Z,17μm,19.1s,baz=92,slow=36
ZALV Zalesovo Beam 87.98 325 P **P 04 25 30.0 -1.5**
ZALV Zalesovo Beam 87.98 325 P **P 04 25 30.0 -1.5**
YBH Yreka Blue Hor 88.02 47 PKPPKP 04 51 22.6
comp=Z,0.3nm,0.5s,baz=93,slow=7.8,SNR=3.4
YBH Yreka Blue Hor 88.02 47 P **P 04 25 32.3 +0.2**
YBH pmax pmax
comp=Z,186nm,1.5s
YBH Yreka Blue Hor 88.02 47 P **P 04 25 32.3 +0.2**
YBH IAmb IAmb 04 25 43.5
comp=Z,186nm,1.5s
YBH IAMs_20 IAMs_20 05 02 41.3
comp=Z,33μm,18.0s
I03D Drain, OR 88.06 45 P **P 04 25 32.7 +0.6**
baz=255
PMPB Monarch Peak 88.18 53 IAMs_20 IAMs_20 04 57 12.7
comp=Z,53μm,20.0s
COR Corvallis 88.32 44 IAMs_20 IAMs_20 04 56 52.0
comp=Z,48μm,21.0s
SHLS Shalkode 88.33 314⇑ *i*P **P 04 25 31.3 -2.2**
comp=Z,284nm,2.5s,baz=314
SHLS *e*S **SKSac 04 36 03.8 +2.2**
baz=314
SHLS Shalkode 88.33 314*c i*P **P 04 25 31.3 -2.2**
SHLS *e*S **SKSac 04 36 03.7 +2.2**
SHLS pmax pmax
comp=Z,284nm,2.5s
O03E Paynes Creek 88.34 49 P **P 04 25 34.6 +1.0**
baz=256,SNR=62
L04D Klamath Falls 88.43 47 P **P 04 25 35.2 +1.1**
baz=256,SNR=32
BUCK Buck Mountain 88.44 45 P **P 04 25 34.8 +0.8**
BUCK IAmb IAmb 04 26 11.3
comp=Z,232nm,1.8s
BUCK IAMs_20 IAMs_20 04 56 35.3
comp=Z,61μm,22.0s
DLBC Dease Lake 88.50 30 IAmb IAmb 04 26 05.0
comp=Z,206nm,1.9s
G03D McMinnville, O 88.50 44 P **P 04 25 34.2 +0.1**
baz=255
G03D S **S 04 36 23.0 +3.8**
baz=255
PAGB Antelope Grade 88.50 54 IAMs_20 IAMs_20 04 56 52.4
comp=Z,52μm,21.0s
SNCC San Nicolas Is 88.56 56 P **P 04 25 36.6 +1.9**
baz=258,SNR=7.1
SNCC S **S 04 36 24.0 +3.8**
baz=258
SMMC Simmler 88.62 54 P **P 04 25 36.8 +1.8**
baz=258,SNR=10
SMMC S **S 04 36 24.8 +4.0**
baz=258
SCZ2 Santa Cruz Isl 88.63 55 P **P 04 25 35.8 +0.8**
baz=258
SCZ2 S **S 04 36 23.9 +3.0**
baz=258
UZB Uzynbulak 88.64 314⇑ *i*P **P 04 25 34.9 -0.2**
comp=Z,198nm,1.7s,baz=314
UZB *e*S **SKSac 04 36 03.6 0.0**
comp=Z,848nm,7.4s,baz=314
UZB Uzynbulak 88.64 314*c i*P **P 04 25 34.8 -0.2**
UZB *e*S **SKSac 04 36 03.5 0.0**
UZB pmax pmax
comp=Z,198nm,1.7s
UZB smax smax
comp=E,848nm,7.4s
E03A Lebam 88.64 42 IAMs_20 IAMs_20 04 58 43.6
comp=Z,47μm,19.0s
AFDM Forest Hills D 88.66 50 IAmb IAmb 04 25 40.5
comp=Z,353nm,1.6s
SBC Santa Barbara 88.66 55 P **P 04 25 35.7 +0.6**
baz=258
NLWA Neilton Lookou 88.66 42 IAMs_20 IAMs_20 04 57 53.1
comp=Z,45μm,20.0s
M04C Macdoel 88.67 47 P **P 04 25 36.5 +1.3**
baz=256,SNR=41
PKM Mcpherson Peak 88.67 54 P **P 04 25 37.2 +1.7**
baz=258,SNR=57
H04D Lebanon 88.69 45 P **P 04 25 35.9 +0.8**
baz=256,SNR=14
H04D S **S 04 36 26.2 +5.2**
baz=256
I04A Tendick Farm, 88.74 45 P **P 04 25 36.4 +1.1**
baz=256,SNR=14
I04A S **S 04 36 26.4 +4.8**
baz=256
EPYK Eagle Plains 88.81 21 P **P 04 25 36.1 +0.9**
baz=243,SNR=104
EPYK S **S 04 36 23.7 +2.4**
baz=243
EPYK Eagle Plains 88.81 21 IAMs_20 IAMs_20 05 00 16.5
comp=Z,37μm,21.0s
J04D Umpqua Nationa 88.82 46 P **P 04 25 36.9 +1.0**
baz=256,SNR=21
J04D S **S 04 36 26.3 +3.6**
baz=256
F04D Rainier, OR 88.89 43 P **P 04 25 36.0 +0.1**
baz=255
F04D S **S 04 36 26.7 +3.9**
baz=255
CMB Columbia Colle 88.90 51 IAmb IAmb 04 25 41.6
comp=Z,368nm,1.9s
PRZ Przheval'sk 88.92 313 P **P 04 25 36.8 +0.4**
PRZ pmax pmax
comp=Z,479nm,1.2s
PRZ Przheval'sk 88.92 313 P **P 04 25 36.8 +0.4**
K04D Chiloquin, OR 88.93 47 P **P 04 25 37.0 +0.7**
baz=256
K04D S **S 04 36 27.8 +4.2**
baz=256
KPKS Kokpek 88.95 314⇑ *i*P **P 04 25 36.4 -0.1**
comp=Z,559nm,2.7s,baz=314
KPKS *i*S **SKSac 04 36 03.4 -1.9**
comp=Z,991nm,7.4s,baz=314
KPKS Kokpek 88.95 314*c i*P **P 04 25 36.3 -0.1**
KPKS *i*S **SKSac 04 36 03.3 -1.9**
KPKS pmax pmax
comp=Z,559nm,2.7s
KPKS smax smax
comp=E,991nm,7.4s
SATY Saty 89.05 314⇑ *i*P **P 04 25 36.3 -0.7**
comp=E,284nm,2.7s,baz=314
SATY *i*S **SKSac 04 36 04.3 -1.7**
comp=E,863nm,6.9s,baz=314
SATY Saty 89.05 314*c i*P **P 04 25 36.2 -0.7**
SATY *i*S **SKSac 04 36 04.2 -1.7**
SATY pmax pmax
comp=Z,284nm,2.7s
SATY smax smax
comp=E,863nm,6.9s
H04A Detroit Lake 89.11 45 IAmb IAmb 04 25 43.0
comp=Z,210nm,1.8s
H04A IAMs_20 IAMs_20 04 57 28.1
comp=Z,49μm,21.0s
TARG Taragay, Kyrgy 89.18 312 IAmb IAmb 04 25 40.4
comp=Z,408nm,1.8s
D03D Eldon 89.21 42 P **P 04 25 38.7 +1.3**
baz=255
D03D S **S 04 36 28.7 +3.0**
baz=255
PGC Sidney 89.26 40 P **P 04 25 36.6 -1.0**
E04D Cinebar 89.31 43 P **P 04 25 38.3 +0.4**
baz=256
E04D S **S 04 36 28.2 +1.5**
baz=256
SCI2 San Clemente I 89.31 57 P **P 04 25 39.0 +0.8**
baz=256
VOG Valley Oaks Go 89.32 53 P **P 04 25 38.8 +0.6**
baz=258
BEKR Beckworth 89.32 50 IAMs_20 IAMs_20 04 57 07.9
comp=Z,44μm,22.0s

D04E Lakebay 89.33 42 P **P 04 25 37.5 -0.4**
baz=256
D04E S **S 04 36 32.1 +5.3**
baz=256
J05D Fort Rock, OR 89.45 46 P **P 04 25 39.8 +0.9**
baz=257,SNR=20
J05D S **S 04 36 31.6 +3.1**
baz=257
VES Vestal, Richgr 89.45 54 P **P 04 25 39.4 +0.5**
baz=258,SNR=34
VES S **S 04 36 32.0 +3.6**
baz=258
OSI Osito Audit: C 89.50 55 P **P 04 25 39.9 +0.7**
baz=258
OSI S **S 04 36 34.1 +5.1**
baz=258
CIS Catalina Islan 89.50 56 P **P 04 25 40.4 +1.2**
baz=258,SNR=15
CIS S **S 04 36 32.3 +3.1**
baz=258
TDK Taldyqorghan 89.51 316 *i*P **P 04 25 37.6 -1.3**
comp=Z,275nm,1.2s,baz=316
TDK *i*S **SKSac 04 36 05.5 -2.9**
comp=Z,1μm,10.1s,baz=316
TDK *e*LR LR 05 02 29.0
comp=Z,20μm,20.3s,baz=316
TDK Taldyqorghan 89.51 316 *i*P **P 04 25 37.6 -1.3**
TDK *i*S **SKSac 04 36 05.4 -2.9**
TDK pmax pmax
comp=Z,275nm,1.2s
TDK smax smax
comp=E,1μm,10.1s
TDK MLR MLR
comp=Z,20μm,20.0s
ARVC Arvin 89.51 54 P **P 04 25 40.4 +1.3**
baz=258,SNR=24
K05A Summer Lake 89.57 47 IAmb IAmb 04 26 00.1
comp=Z,266nm,1.5s
I05D Terrebonne, OR 89.62 45 P **P 04 25 40.4 +0.9**
baz=257,SNR=26
SEM Semipalatinsk 89.64 321⇑ *i*P **P 04 25 37.2 -2.5**
comp=Z,290nm,2.8s,baz=321
SEM *e*S **SKSac 04 36 03.4 -5.9**
baz=321
SEM *e*LR LR 04 59 45.1
comp=Z,11μm,19.5s,baz=321
SEM Semipalatinsk 89.64 321*c i*P **P 04 25 37.2 -2.5**
SEM *e*S **SKSac 04 36 03.3 -5.9**
SEM pmax pmax
comp=Z,290nm,2.8s
FMP Fort Macarthur 89.66 56 P **P 04 25 40.7 +0.8**
baz=259
FMP S **S 04 36 34.4 +3.9**
baz=259
KDJ Kajisay 89.72 313 P **P 04 25 40.2 0.0**
KDJ pmax pmax
comp=Z,267nm,1.2s
KDJ MLR MLR
comp=Z,28μm,18.0s
KDJ Kajisay 89.72 313 P **P 04 25 40.2 0.0**
KDJ IAmb IAmb 04 25 42.3
comp=Z,267nm,1.2s
PNTR Pine Nut 89.73 50 P **P 04 25 40.3 -0.1**
PNTR IAmb IAmb 04 26 01.7
comp=Z,178nm,1.1s
WAKR Walker 89.73 51 IAmb IAmb 04 25 46.2
comp=Z,409nm,1.6s
VCNR Virginia City 89.73 50 IAmb IAmb 04 26 01.7
comp=Z,252nm,1.5s
DECC Green Verdugo 89.74 55 P **P 04 25 41.0 +0.8**
baz=258
DECC S **S 04 36 33.8 +2.5**
baz=258
A04D Lummi Island 89.76 41 P **P 04 25 38.6 -1.3**
baz=256
A04D S **S 04 36 34.6 +3.9**
baz=256
MOD Modoc Plateau 89.81 48 IAmb IAmb 04 25 46.0
comp=Z,401nm,1.8s
MDPB Devils Postpil 89.83 52 IAmb IAmb 04 25 58.8
comp=Z,184nm,1.2s
MDPB IAMs_20 IAMs_20 05 04 45.3
comp=Z,44μm,18.0s
G05D Wamic, OR 89.84 44 P **P 04 25 41.0 +0.6**
baz=257
G05D S **S 04 36 35.4 +3.6**
baz=257
D05A Enumclaw 89.85 42 IAMs_20 IAMs_20 04 57 14.5
comp=Z,54μm,22.0s
LON Longmire 89.86 43 IAMs_20 IAMs_20 04 59 21.9
comp=Z,41μm,21.0s
F05D White Salmon 89.90 43 P **P 04 25 41.3 +0.6**
baz=256
F05D S **S 04 36 36.1 +3.9**
baz=256
YERR Yerington 89.98 51 IAmb IAmb 04 25 47.0
comp=Z,354nm,1.6s
YERR IAMs_20 IAMs_20 04 56 53.4
comp=Z,35μm,22.0s
MLAC Mammoth, Mammo 90.02 52 P **P 04 25 42.4 +0.7**
baz=258,SNR=7.7
PAHR Pah Rah Range 90.02 50 P **P 04 25 41.8 +0.2**
PAHR IAmb IAmb 04 26 02.9
comp=Z,281nm,1.3s
PAHR IAMs_20 IAMs_20 04 55 31.4
comp=Z,36μm,22.0s
B05A Bryant 90.04 41 P **P 04 25 42.0 +0.7**
baz=256
B05A S **S 04 36 36.8 +3.5**
baz=256
MDOK Medeo 90.04 314 *i*P **P 04 25 40.3 -1.4**
baz=314
MDOK *i*S **SKSac 04 36 08.6 -3.2**
baz=314
MDOK *e*LR LR 05 02 52.0
comp=Z,11μm,21.0s,baz=314
MDOK Medeo 90.04 314 *i*P **P 04 25 40.2 -1.4**
MDOK *i*S **SKSac 04 36 08.6 -3.2**
KSH Kashi 90.06 310⇑ *i*P **P 04 25 43.8 +2.1**
KSH pP pP 04 25 48.4 +0.7
KSH SKS **SKSac 04 36 11.4 -0.6**
KSH S **ScS 04 36 37.7 -0.6**
KSH sS pS 04 36 42.4 +0.9
KSH SS **SS 04 42 40.8 +7.7**
KSH pmax pmax
comp=Z,140nm,0.9s
KSH pmax pmax
comp=Z,4μm,4.5s
KSH LR LR
comp=Z,27μm,13.3s
KSH LR LR
comp=Z,25μm,14.0s
KSH LR LR
comp=Z,23μm,15.4s
EDW2 Edwards Air Fo 90.14 55 P **P 04 25 42.9 +0.7**
baz=259,SNR=44
EDW2 S **S 04 36 38.5 +3.5**
baz=259
AAA Alma-Ata 90.15 314⇑ *e*P **P 04 25 40.9 -1.2**
baz=314
AAA *e*LR LR 05 11 31.3
comp=Z,121μm,50.1s,baz=314
AAA Alma-Ata 90.15 314*ce*P **P 04 25 40.8 -1.2**
A05A Maple Falls 90.22 40 IAMs_20 IAMs_20 04 58 06.3
comp=Z,46μm,21.0s
CHKK Chushkaly 90.24 314 *e*P **P 04 25 40.6 -1.7**
baz=314
CHKK Chushkaly 90.24 314 *e*P **P 04 25 40.6 -1.7**
BFSC Mount Baldy Ra 90.28 55 P **P 04 25 44.1 +1.2**
baz=259,SNR=39
BFSC S **S 04 36 40.6 +4.1**
baz=259
CWC Cottonwood Cre 90.37 53 P **P 04 25 44.0 +0.6**
baz=259
CWC S **S 04 36 43.0 +5.6**
baz=259
TIN Tinemaha, Big 90.37 53 P **P 04 25 44.5 +1.3**
baz=259,SNR=11
TIN S **S 04 36 41.1 +3.8**
baz=259
LHV Little Huntoon 90.40 51 IAMs_20 IAMs_20 05 00 38.4
comp=Z,43μm,20.0s
TJX Tijuana 90.45 57 P **P 04 25 45.8 +2.2**
TJX IAmb IAmb 04 26 00.3
comp=Z,241nm,1.0s
RYN Ryan 90.46 51 IAmb IAmb 04 26 00.1
comp=Z,231nm,1.3s

109C Camp Elliot, M 90.48 57 P **P 04 25 44.8 +1.1**
baz=259,SNR=9.6
109C S **S 04 36 41.6 +3.4**
baz=259
109C Camp Elliot, M 90.48 57 IAmb IAmb 04 26 04.9
comp=Z,267nm,1.4s
B06A Marblemount 90.49 41 IAMs_20 IAMs_20 05 00 30.5
comp=Z,48μm,20.0s
LRMC Laurel Mtn Rad 90.50 54 P **P 04 25 45.0 +1.1**
baz=259,SNR=20
LRMC S **S 04 36 41.7 +3.1**
baz=259
MURC Murrieta 90.54 56 P **P 04 25 45.2 +1.2**
baz=259,SNR=14
MURC S **S 04 36 42.3 +3.5**
baz=259
NVAR Mina Array Bea 90.59 51 P **P 04 25 44.9 +0.5**
comp=Z,46nm,0.9s,baz=242,slow=6.5,SNR=132
NVAR PKKPbc **PKKPbc 04 43 12.0 -0.7**
comp=Z,0.9nm,0.6s,baz=183,slow=1.8,SNR=3.5
NVAR PKPPKP 04 51 12.1
comp=Z,0.9nm,0.8s,baz=98,slow=2.8,SNR=3.7
NVAR LR LR 05 01 09.3
comp=Z,25μm,19.9s,baz=257,slow=32
CCX Cicese 90.66 58 P **P 04 25 43.8 -0.7**
CCX IAmb IAmb 04 26 02.5
comp=Z,137nm,1.1s
CCX IAMs_20 IAMs_20 04 58 28.7
comp=Z,39μm,20.0s
BOOM Boomskoye usch 90.70 313 P **P 04 25 44.6 -0.1**
BOOM pmax pmax
comp=Z,229nm,1.3s
BOOM MLR MLR
comp=Z,31μm,20.0s
BOOM Boomskoye usch 90.70 313 P **P 04 25 44.6 -0.1**
BOOM IAmb IAmb 04 25 46.9
comp=Z,228nm,1.2s
NV11 Mina Array Sit 90.70 51 IAMs_20 IAMs_20 04 57 26.5
comp=Z,39μm,21.0s
KUU Kurty 90.70 314⇑ *i*P **P 04 25 42.7 -1.8**
comp=Z,305nm,1.1s,baz=314
KUU *i*S **SKSac 04 36 13.1 -2.3**
comp=Z,3μm,5.9s,baz=314
KUU Kurty 90.70 314*c i*P **P 04 25 42.6 -1.9**
KUU *i*S **SKSac 04 36 13.0 -2.3**
KUU pmax pmax
comp=Z,305nm,1.1s
KUU smax smax
comp=E,3μm,5.9s
KURK Kurchatov 90.73 321 P **P 04 25 43.7 -0.7**
LTY Liberty 90.74 42 IAMs_20 IAMs_20 05 00 30.1
comp=Z,43μm,20.0s
C06D Leavenworth 90.74 42 P **P 04 25 45.8 +1.2**
baz=257
C06D S **S 04 36 42.9 +3.0**
baz=257
INK Inuvik 90.76 20 LR LR 05 02 39.4
comp=Z,4μm,21.6s,baz=233,slow=33
INK Inuvik 90.76 20 P **P 04 25 44.7 +0.5**
baz=246
INK Inuvik 90.76 20 IAmb IAmb 04 25 52.6
comp=Z,420nm,1.9s
INK IAMs_20 IAMs_20 05 05 29.9
comp=Z,45μm,20.0s
KURBB Kurchatov Arra 90.76 321 P **P 04 25 43.6 -0.9**
comp=Z,21nm,1.2s,baz=110,slow=3.4,SNR=71
KURBB PP **PP 04 29 18.8 -1.6**
comp=Z,14nm,1.0s,baz=104,slow=6.8,SNR=4.1
BAR Barrett 90.80 57 IAmb IAmb 04 26 02.2
comp=Z,298nm,1.6s
TKX Tecate 90.84 57 P **P 04 25 45.5 0.0**
I07A Izee 90.85 46 IAmb IAmb 04 25 52.0
comp=Z,148nm,1.4s
KVN Kaiserville 90.86 51 IAmb IAmb 04 26 08.0
comp=Z,243nm,1.3s
BBRC Big Bear Solar 90.89 56 P **P 04 25 46.9 +1.1**
baz=259
BBRC S **S 04 36 45.8 +3.5**
baz=259
RRX Edison Barstow 90.94 55 P **P 04 25 46.9 +1.1**
baz=259,SNR=6.7
RRX S **S 04 36 47.5 +5.2**
baz=259
GRAC Grapevine Rang 91.04 53 P **P 04 25 47.2 +0.9**
baz=259,SNR=103
GRAC S **S 04 36 48.0 +4.8**
baz=259
MONP2 Monument Peak 91.05 57 P **P 04 25 47.9 +1.2**
baz=260,SNR=34
MONP2 S **S 04 36 48.0 +4.2**
baz=260
NIL Nilore 91.07 304 P **P 04 25 46.0 -0.4**
NIL pmax pmax
comp=Z,178nm,1.2s
NIL MLR MLR
comp=Z,26μm,22.0s
NIL Nilore 91.07 304 P **P 04 25 46.0 -0.4**
NIL IAmb IAmb 04 25 55.4
comp=Z,178nm,1.1s
NIL Nilore 91.07 304 P **P 04 25 46.1 -0.4**
E07A Sunnyside 91.13 43 IAMs_20 IAMs_20 04 59 18.5
comp=Z,43μm,22.0s
WVOR Wild Horse Val 91.13 47 IAMs_20 IAMs_20 05 04 52.7
comp=Z,43μm,19.0s
PFO Pinyon Flats O 91.15 56 P **P 04 25 47.1 +0.1**
PFO pmax pmax
comp=Z,144nm,1.4s
PFO Pinyon Flats O 91.15 56 P **P 04 25 47.9 +0.9**
baz=260,SNR=10
PFO S **S 04 36 49.4 +4.9**
baz=260
PFO Pinyon Flats O 91.15 56 P **P 04 25 47.1 +0.1**
PFO IAmb IAmb 04 26 08.0
comp=Z,144nm,1.4s
TPFO Pinon Flats 91.15 56 P **P 04 25 47.7 +0.7**
baz=260,SNR=10
TPFO S **S 04 36 50.8 +6.3**
baz=260
SYO Syowa Base 91.17 198‖ *e*P **P 04 25 46.0 -0.2**
SYO Syowa Base 91.17 198‖ *ep*P pP 04 25 50.8 -0.8
SYO Syowa Base 91.17 198‖ *es*P sP 04 25 51.8 -1.8
GSC Goldstone, Bar 91.17 55 P **P 04 25 48.0 +1.0**
baz=259,SNR=24
GSC S **S 04 36 49.1 +4.5**
baz=259
GSC Goldstone, Bar 91.17 55 IAmb IAmb 04 25 53.8
comp=Z,411nm,2.0s
GSC IAMs_20 IAMs_20 04 58 16.1
comp=Z,54μm,21.0s
IKP In-Ko-Pah, Jac 91.27 57 P **P 04 25 48.9 +1.4**
baz=260,SNR=12
IKP S **S 04 36 48.5 +3.0**
baz=260
RMX La Rumorosa 91.28 57 P **P 04 25 48.5 +0.8**
RMX IAmb IAmb 04 25 56.2
comp=Z,340nm,1.7s
HAWA Hanford 91.31 43 IAMs_20 IAMs_20 04 59 36.3
comp=Z,46μm,22.0s
FURC Furnace Creek, 91.34 53 P **P 04 25 48.7 +1.1**
baz=259,SNR=112
FURC S **S 04 36 49.4 +3.6**
baz=259
J08A Circle Bar Ran 91.43 46 IAMs_20 IAMs_20 04 58 37.6
comp=Z,38μm,22.0s
HEC Hector,Ludlow 91.47 55 P **P 04 25 49.4 +1.0**
baz=260,SNR=12
HEC S **S 04 36 49.9 +2.7**
baz=260
G08A Pilot Rock 91.48 44 IAMs_20 IAMs_20 04 59 03.8
comp=Z,49μm,21.0s
SWSC Sam W. Stewart 91.57 57 P **P 04 25 50.0 +1.2**
baz=260,SNR=11
SWSC S **S 04 36 49.5 +1.4**
baz=260
BELC Belle Mtn. Jos 91.59 56 P **P 04 25 50.3 +1.2**
baz=260,SNR=53
BELC S **S 04 36 51.5 +2.9**
baz=260
E08A Dider Farm, El 91.66 43 IAMs_20 IAMs_20 04 59 45.3
comp=Z,42μm,21.0s
SHOC Shoshone, Teco 91.70 54 P **P 04 25 48.7 -0.7**
baz=260
SHOC S **S 04 36 52.9 +3.7**
baz=260
FRU1 Bishkek 91.71 313 P **P 04 25 49.0 -0.3**
FRU1 pmax pmax
comp=Z,85nm,0.8s

FRU1 MLR MLR
comp=Z,28µm,20.0s
FRU1 Bishkek 91.71 313 P **P 04 25 49.0 -0.3**
FRU1 IAmb IAmb 04 25 58.0
comp=Z,85nm,0.8s
AAK Ala-Archa 91.77 313 *i* P **P 04 25 50.0 +0.3**
SNR=13
AAK Ala-Archa 91.77 313 P **P 04 25 49.2 -0.5**
AAK pmax pmax
comp=Z,109nm,1.3s
AAK MLR MLR
comp=Z,19µm,18.0s
AAK Ala-Archa 91.77 313 P **P 04 25 49.2 -0.5**
AAK Ala-Archa 91.77 313 P **P 04 25 50.1 +0.4**
UABX UABC, Campus M 91.82 57 IAMs_20 IAMs_20 04 58 54.2
comp=Z,52µm,21.0s
SGDS Sogindy 91.83 314⇑ *i* P **P 04 25 48.3 -1.5**
comp=Z,138nm,2.9s,baz=314
SGDS *i* S **SKSac 04 36 20.0 -1.9**
baz=314
SGDS Sogindy 91.83 314 *c i* P **P 04 25 48.3 -1.5**
SGDS *i* S **SKSac 04 36 19.9 -1.9**
SGDS pmax pmax
comp=Z,138nm,2.9s
B08A Colville Reser 91.86 41 IAMs_20 IAMs_20 04 59 21.6
comp=Z,47µm,21.0s
D08A Wollman Farm, 91.86 43 IAMs_20 IAMs_20 05 00 34.8
comp=Z,43µm,20.0s
PNT Penticton 91.87 40 P P 04 25 40.3 -10
PNT pmax pmax
comp=Z,178nm,1.1s
CPBX Cerro Prieto 91.89 58 IAMs_20 IAMs_20 04 58 36.3
comp=Z,40µm,21.0s
TUQ Turquoise Moun 91.91 55 P **P 04 25 51.7 +1.3**
baz=260,SNR=15
TUQ S **S 04 36 55.8 +4.4**
baz=260
TPNV Topopah Spring 91.91 53 P **P 04 25 51.9 +1.4**
baz=260,SNR=97
TPNV Topopah Spring 91.91 53 IAMs_20 IAMs_20 04 59 42.6
comp=Z,49µm,21.0s
BC3 Big Chuckawall 91.98 56 P **P 04 25 52.2 +1.4**
baz=260,SNR=27
BC3 S **S 04 36 56.1 +4.1**
baz=260
GMRC Granite Mounta 92.01 55 P **P 04 25 52.0 +1.0**
baz=260,SNR=53
GMRC S **S 04 36 56.2 +4.0**
baz=260
NRIK Noril'sk 92.05 340 P **P 04 25 48.7 -1.3**
comp=Z,21nm,1.0s,baz=115,slow=4.2,SNR=26
NRIK LR LR 05 05 44.7
comp=Z,57µm,21.8s,baz=110,slow=35
NRIK Noril'sk 92.05 340 P **P 04 25 48.8 -1.3**
NRIK pmax pmax
comp=Z,67nm,1.3s
NRIK Noril'sk 92.05 340 P **P 04 25 48.8 -1.3**
NRIK IAMs_20 IAMs_20 05 04 14.3
comp=Z,60µm,22.0s
GUVIX Guadalupe Vict 92.07 58 IAMs_20 IAMs_20 04 59 02.9
comp=Z,47µm,20.0s
AML Almayashu 92.26 312 *i* P **P 04 25 53.2 +1.0**
SNR=25
AML Almayashu 92.26 312 P **P 04 25 53.8 +1.5**
E09A Wood Farm, Sta 92.28 43 IAmb IAmb 04 25 56.3
comp=Z,150nm,1.5s
IRM Iron Mountain 92.32 56 P **P 04 25 53.4 +1.1**
baz=260,SNR=45
GLA Glamis 92.40 57 P **P 04 25 53.7 +1.1**
baz=260,SNR=11
GLA S **S 04 36 58.5 +2.8**
baz=260
C09A Chrisman Ranch 92.44 42 IAMs_20 IAMs_20 04 58 57.1
comp=Z,49µm,22.0s
BTLS Baital 92.54 315⇑ *i* P **P 04 25 51.9 -1.1**
comp=Z,106nm,1.7s,baz=315
BTLS *i* S **SKSac 04 36 23.0 -2.7**
comp=Z,459nm,6.4s,baz=315
BTLS Baital 92.54 315 *c i* P **P 04 25 51.9 -1.1**
BTLS *i* S **SKSac 04 36 22.9 -2.7**
BTLS pmax pmax
comp=Z,106nm,1.7s
BTLS smax smax
comp=E,459nm,6.4s
BMO Blue Mountains 92.55 45 IAmb IAmb 04 26 18.8
comp=Z,96nm,1.2s
BMO IAMs_20 IAMs_20 04 58 56.0
comp=Z,48µm,22.0s
R11A Troy Canyon, C 92.67 52 P **P 04 25 54.6 +0.6**
baz=260
R11A S **S 04 37 03.6 +5.4**
baz=260
R11A Troy Canyon, C 92.67 52 IAMs_20 IAMs_20 05 07 04.7
comp=Z,46µm,18.0s
SHPR Sheep Range 92.70 54 IAMs_20 IAMs_20 04 59 36.5
comp=Z,51µm,21.0s
F10A Beach Ranch, E 92.80 44 IAMs_20 IAMs_20 05 00 24.8
comp=Z,42µm,21.0s
NEE2 Needles Airpor 92.85 55 P **P 04 25 55.4 +0.7**
baz=261
NEE2 S **S 04 37 05.8 +6.3**
baz=261
PRN Pahroc Range 92.93 53 IAmb IAmb 04 26 16.6
comp=Z,225nm,1.3s
PRN IAMs_20 IAMs_20 05 05 24.6
comp=Z,51µm,19.0s
PDMCI Parker Dam,Lak 93.16 56 P **P 04 25 57.7 +1.6**
baz=261,SNR=21
DRK Karamyk 93.22 309 IAmb IAmb 04 25 58.5
comp=Z,190nm,1.3s
113A Mohawk Valley, 93.23 57 P **P 04 25 56.8 +0.3**
NEW Newport 93.29 42 P **P 04 25 56.1 -0.3**
baz=260,SNR=19
NEW S **S 04 37 07.5 +4.6**
baz=260
NEW Newport 93.29 42 IAMs_20 IAMs_20 04 59 55.4
comp=Z,50µm,21.0s
ELK Elko 93.33 49 IAmb IAmb 04 26 18.2
comp=Z,109nm,1.2s
MFID Camas Ranch 93.34 47 IAmb IAmb 04 26 02.2
comp=Z,341nm,1.8s
MFID IAMs_20 IAMs_20 04 59 38.1
comp=Z,38µm,22.0s
SRIG Santa Rosalia 93.71 63 P **P 04 25 59.8 +1.0**
SRIG IAmb IAmb 04 26 19.6
comp=Z,184nm,1.4s
SRIG IAMs_20 IAMs_20 04 59 37.8
comp=Z,34µm,20.0s
214A Organ Pipe Nat 93.91 58 P **P 04 26 00.5 +0.9**
baz=262,SNR=9.4
214A S **S 04 37 16.8 +7.8**
baz=262
PSUT Pine Spring 94.04 52 IAmb IAmb 04 26 06.0
comp=Z,333nm,2.0s
BTK Batken 94.06 310 P **P 04 25 59.6 -0.6**
BTK pmax pmax
comp=Z,186nm,1.3s
BTK Batken 94.06 310 P **P 04 25 59.6 -0.6**
BTK IAmb IAmb 04 26 01.6
comp=Z,186nm,1.3s
DZA Taraz 94.11 313 *e* P **P 04 25 58.8 -1.5**
baz=313
DZA *i* S **SKSac 04 36 32.9 -1.6**
baz=313
DZA Taraz 94.11 313 *e* P **P 04 25 58.8 -1.5**
DZA *i* S **SKSac 04 36 32.8 -1.6**
LCMT Little Creek M 94.30 53 IAmb IAmb 04 26 08.5
comp=Z,220nm,1.9s
C36M Paulatuk 94.34 20 P **P 04 26 01.1 +0.4**
baz=255
C36M S **S 04 37 10.1 -1.0**
baz=255
C36M Paulatuk 94.34 20 IAmb IAmb 04 26 15.7
comp=Z,121nm,1.1s
C36M IAMs_20 IAMs_20 05 03 55.6
comp=Z,39µm,20.0s
SZCU Shurtz Canyon 94.50 53 IAmb IAmb 04 26 40.3
comp=Z,131nm,1.5s
KNB Kanab 94.63 53 IAmb IAmb 04 26 47.7
comp=Z,287nm,1.7s
KBL Kabul 94.66 304 P **P 04 26 01.6 -1.7**
KBL pmax pmax
comp=Z,63nm,1.0s
KBL MLR MLR
comp=Z,32µm,22.0s
KBL Kabul 94.66 304 P **P 04 26 01.6 -1.7**
KBL IAMs_20 IAMs_20 05 08 21.9
comp=Z,32µm,22.0s
KBL Kabul 94.66 304 P **P 04 26 02.8 -0.4**
SNR=26
KK31 Karatay Array 94.74 313 P **P 04 26 02.5 -0.7**
KK31 pmax pmax
comp=Z,87nm,1.3s
KK31 Karatay Array 94.74 313 P **P 04 26 02.5 -0.7**
U15A North Rim 94.97 54 P **P 04 26 05.9 +1.1**
U15A IAmb IAmb 04 26 12.1
comp=Z,190nm,1.9s
U15A IAMs_20 IAMs_20 05 00 36.6
comp=Z,51µm,22.0s
DUG Dugway, Tooele 95.08 50 P **P 04 26 05.3 +0.4**
baz=262,SNR=24
DUG Dugway, Tooele 95.08 50 IAmb IAmb 04 26 10.4
comp=Z,214nm,2.0s
HSIG 95.08 62 P **P 04 26 06.1 +1.0**
HSIG IAMs_20 IAMs_20 05 00 40.0
comp=Z,36µm,19.0s
JTMT Jette 95.09 43 IAMs_20 IAMs_20 05 03 12.1
comp=Z,37µm,20.0s
MSO Missoula 95.19 44 P **P 04 26 04.1 -1.1**
baz=262
MSO S **S 04 37 21.8 +2.1**
baz=262
MSO Missoula 95.19 44 IAMs_20 IAMs_20 05 06 06.8
comp=Z,30µm,18.0s
SLBS Sierra La Lagu 95.25 67 P **P 04 26 07.1 +1.1**
SLBS Sierra La Lagu 95.25 67 IAMs_20 IAMs_20 05 07 56.7
comp=Z,37µm,18.0s
TAS Tashkent 95.39 311 P **P 04 26 05.6 -0.6**
TAS pmax pmax
comp=Z,233nm,1.2s
TAS MLR MLR
comp=Z,21µm,21.0s
TAS Tashkent 95.39 311 P **P 04 26 05.6 -0.6**
WALA Waterton Lakes 95.51 41 IAMs_20 IAMs_20 05 01 36.3
comp=Z,52µm,20.0s
WUAZ Wupatki 95.59 55 P **P 04 26 08.2 +0.8**
baz=262,SNR=12
NLU North Lily Min 95.61 51 IAmb IAmb 04 26 13.0
comp=Z,160nm,1.7s
TUC Tucson 95.66 58 P **P 04 26 06.1 -1.6**
TUC pmax pmax
comp=Z,25nm,1.3s
TUC Tucson 95.66 58 P **P 04 26 06.7 -1.0**
baz=263
TUC S **S 04 37 29.5 +5.2**
baz=263
TUC Tucson 95.66 58 P **P 04 26 06.1 -1.6**
TUC Tucson 95.66 58 IAMs_20 IAMs_20 05 00 41.1
comp=Z,53µm,21.0s
DLMT Dillon 95.92 45 IAMs_20 IAMs_20 05 01 26.2
comp=Z,39µm,22.0s
MPU Maple Canyon 95.95 51 IAmb IAmb 04 26 26.9
comp=Z,178nm,1.7s
BVAR Borovoye Array 96.17 323 P **P 04 26 06.9 -2.5**
comp=Z,3.9nm,0.6s,baz=180,slow=14,SNR=24
JLU Jonanelle 96.17 50 IAmb IAmb 04 26 26.8
comp=Z,204nm,1.8s
Q16A Castle Valley 96.17 52 IAmb IAmb 04 27 01.6
comp=Z,151nm,1.7s
BRVK Borovoye 96.23 323 P **P 04 26 08.5 -1.2**
BRVK pmax pmax
comp=Z,114nm,1.4s
BRVK MLR MLR
comp=Z,53µm,21.0s
BRVK Borovoye 96.23 323 P **P 04 26 08.5 -1.2**
BRVK IAmb IAmb 04 26 14.4
comp=Z,114nm,1.4s
BRVK Borovoye 96.23 323 IAMs_20 IAMs_20 05 07 54.8
comp=Z,53µm,21.0s
P17A Butcher Ranch, 96.57 51 IAmb IAmb 04 26 17.4
comp=Z,241nm,2.0s
BOZ Bozeman (W) 96.62 45 P **P 04 26 12.6 +0.7**
baz=263,SNR=33
BOZ Bozeman (W) 96.62 45 IAMs_20 IAMs_20 05 01 56.8
comp=Z,30µm,21.0s
AHID Auburn Hatcher 96.68 48 IAMs_20 IAMs_20 05 02 20.5
comp=Z,40µm,22.0s
YKA Yellowknife Ar 96.86 28 P **P 04 26 11.8 -0.5**
comp=Z,3.1nm,0.5s,baz=258,slow=4.4,SNR=17
YKA PP **PP 04 30 09.3 +1.7**
comp=Z,1.6nm,0.9s,baz=261,slow=6.7,SNR=4.0
YKA PKKPbc **PKKPbc 04 42 53.4 -3.3**
comp=Z,1.9nm,0.8s,baz=80,slow=3.2,SNR=4.8
YKA LR LR 05 02 50.5
comp=Z,54µm,21.9s,baz=0.0,slow=31
TPAW Teton Pass 96.87 47 IAmb IAmb 04 26 50.4
comp=Z,115nm,1.7s
TPAW IAMs_20 IAMs_20 05 01 41.5
comp=Z,37µm,22.0s
W18A Petrified Fore 96.87 56 P **P 04 26 12.5 -0.8**
baz=263
W18A S **S 04 37 40.2 +5.3**
baz=263
REDW Red Top Meadow 96.93 47 IAMs_20 IAMs_20 05 08 09.0
comp=Z,27µm,19.0s
SNOW Snow King Moun 97.01 47 P Pdif 04 26 14.4 +0.5
SNOW IAMs_20 IAMs_20 05 00 09.1
comp=Z,37µm,22.0s
FLWY Flagg Ranch 97.11 47 IAMs_20 IAMs_20 05 02 12.9
comp=Z,46µm,22.0s
LOHW Long Hollow 97.13 47 IAMs_20 IAMs_20 05 01 49.5
comp=Z,39µm,22.0s
H17A Grant Village 97.23 46 P Pdif 04 26 15.4 +0.5
baz=264,SNR=8.9
RDMU Red Mountain 97.58 50 IAmb IAmb 04 26 33.0
comp=Z,81nm,1.3s
PV05 Paradox Valley 97.70 53 IAMs_20 IAMs_20 05 08 22.6
comp=Z,44µm,19.0s
BW06 Boulder Array 97.81 48 P **P 04 26 17.4 0.0**
baz=264,SNR=26
BW06 S **S 04 37 48.3 +5.5**
baz=264
BW06 Boulder Array 97.81 48 P **P 04 26 17.2 -0.2**
BW06 IAMs_20 IAMs_20 05 03 07.4
comp=Z,41µm,22.0s
PD31 Pinedale Array 97.81 48 P Pdif 04 26 17.6 +0.2
PDAR Pinedale Array 97.81 48 P **P 04 26 17.2 -0.2**
comp=Z,8.3nm,0.6s,baz=240,slow=2.4,SNR=50
PDAR PKKPbc **PKKPbc 04 42 53.1 -0.7**
comp=Z,0.8nm,0.8s,baz=91,slow=7.4,SNR=3.9
PDAR PKPPKP 04 51 08.1
comp=Z,2.4nm,1.1s,baz=104,slow=3.1,SNR=9.9
PDAR LR LR 05 03 40.5
comp=Z,29µm,21.9s,baz=282,slow=31
PV19 Morning Glory 97.81 52 IAMs_20 IAMs_20 05 08 23.7
comp=Z,43µm,19.0s
PV17 East Wray Mesa 97.83 53 IAMs_20 IAMs_20 05 08 15.1
comp=Z,50µm,20.0s
PV18 Skein Mesa, Pa 97.86 53 IAMs_20 IAMs_20 05 08 26.1
comp=Z,45µm,19.0s
PV16 Nyswonger Mesa 97.86 52 IAMs_20 IAMs_20 05 08 26.1
comp=Z,44µm,19.0s
PV03 Paradox Valley 97.91 53 IAMs_20 IAMs_20 05 08 26.4
comp=Z,47µm,18.0s
PV13 Radium Mtn., P 97.92 53 IAMs_20 IAMs_20 05 08 26.7
comp=Z,45µm,18.0s
PV12 Saucer Basin, 97.95 52 IAmb IAmb 04 27 13.1
comp=Z,123nm,1.8s
PV22 Blue Mesa, Par 97.99 52 IAMs_20 IAMs_20 05 08 30.4
comp=Z,43µm,19.0s
PV02 Paradox Valley 97.99 53 IAMs_20 IAMs_20 05 08 28.6
comp=Z,47µm,19.0s
MVCO Mesa Verde 98.09 54 P Pdif 04 26 19.3 +0.5
baz=264,SNR=7.7
MVCO S **S 04 37 50.4 +5.1**
baz=264
MVCO Mesa Verde 98.09 54 P Pdif 04 26 18.9 +0.1
MVCO IAMs_20 IAMs_20 05 03 09.1
comp=Z,36µm,21.0s
PV07 Paradox Valley 98.09 52 IAMs_20 IAMs_20 05 09 46.1
comp=Z,42µm,18.0s
EGMT Eagleton 98.14 43 P Pdif 04 26 18.8 +0.2
baz=265
SNAA Sanae 98.19 186 P Pdif 04 26 19.9 +1.5
SNAA Sanae 98.19 186 P Pdif 04 26 19.4 +1.0
SNAA pmax pmax
comp=Z,70nm,1.4s
SNAA MLR MLR
comp=Z,49µm,18.0s
SNAA Sanae 98.19 186 P Pdif 04 26 19.4 +1.1
SNAA IAmb IAmb 04 26 42.6
comp=Z,70nm,1.4s
121A Cookes Peak, D 98.20 58 P Pdif 04 26 19.9 +0.5
baz=264
121A S **S 04 37 50.9 +4.5**
baz=264
PV15 Paradox Valley 98.21 52 IAMs_20 IAMs_20 05 08 46.2
comp=Z,41µm,18.0s
RLMT Red Lodge 98.23 46 P **P 04 26 18.6 -0.6**
baz=265
RLMT Red Lodge 98.23 46 IAMs_20 IAMs_20 05 03 24.5
comp=Z,33µm,21.0s
O20A White River Ci 98.56 51 Pdiff Pdif 04 26 21.5 +0.7
baz=265
O20A White River Ci 98.56 51 IAmb IAmb 04 26 41.0
comp=Z,68nm,1.2s
O20A IAMs_20 IAMs_20 05 02 24.3
comp=Z,41µm,22.0s
Y22D IRIS PASSCAL I 99.07 57 Pdiff **Pdif 04 26 22.3 -0.9**
baz=265
VNA3 Neumayer Olymp 99.18 184 Pdiff **Pdif 04 26 22.8 +0.1**
SMCO Snowmass 99.45 52 IAMs_20 IAMs_20 05 09 39.1
comp=Z,38µm,18.0s
S22A 4UR Ranch, Cre 99.45 53 Pdiff **Pdif 04 26 24.6 -0.4**
baz=266
RWWY Rawlins 99.46 49 IAmb IAmb 04 26 29.4
comp=Z,87nm,1.6s
HPIG 99.48 64 P **Pdif 04 26 23.8 -1.4**
HPIG IAMs_20 IAMs_20 05 03 55.7
comp=Z,36µm,20.0s
ANMO Albuquerque 99.53 56 P **Pdif 04 26 26.3 +1.0**
comp=Z,1.6nm,0.5s,baz=259,slow=3.3,SNR=7.6
ANMO PP **PP 04 30 31.8 +2.6**
comp=Z,5.6nm,1.1s,baz=227,slow=7.5,SNR=3.8
ANMO Albuquerque 99.53 56 P **Pdif 04 26 25.0 -0.3**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 99.53 56 Pdiff **Pdif 04 26 24.9 -0.4**
baz=265
ANMO Albuquerque 99.53 56 P **Pdif 04 26 25.0 -0.3**
ANMO Albuquerque 99.53 56 IAMs_20 IAMs_20 05 02 48.4
comp=Z,51µm,22.0s
VNA1 Neumayer-Stat 99.66 184 Pdiff **Pdif 04 26 25.3 +0.5**
K22A Casper 100.03 48 Pdiff **Pdif 04 26 26.8 -0.4**
baz=266
MNTX Cornudas Mount 100.16 59 Pdiff **Pdif 04 26 27.4 -0.5**
baz=265
MNTX Cornudas Mount 100.16 59 Pdif **Pdif 04 26 28.2 +0.3**
MNTX IAMs_20 IAMs_20 05 02 48.3
comp=Z,53µm,22.0s
N23A Red Feather La 100.36 50 Pdiff **Pdif 04 26 28.9 0.0**
baz=267
LAO LASA Array 100.45 44 Pdiff **Pdif 04 26 28.8 -0.2**
baz=268
LAO LASA Array 100.45 44 IAMs_20 IAMs_20 05 05 27.2
comp=Z,45µm,21.0s
SDCO Great Sand Dun 100.50 53 Pdiff **Pdif 04 26 28.0 -1.6**
baz=266
SDCO Great Sand Dun 100.50 53 IAMs_20 IAMs_20 05 05 03.1
comp=Z,31µm,21.0s
ISCO Idaho Springs 100.55 51 Pdiff **Pdif 04 26 30.0 +0.2**
baz=267
ISCO Idaho Springs 100.55 51 IAMs_20 IAMs_20 05 11 38.0
comp=Z,37µm,18.0s
Q24A Divide 100.86 52 Pdiff **Pdif 04 26 30.2 -1.0**
baz=267
T25A Trinidad 101.34 54 Pdiff **Pdif 04 26 33.5 +0.2**
baz=267
T25A Trinidad 101.34 54 IAMs_20 IAMs_20 05 06 48.1
comp=Z,46µm,20.0s
TXAR Lajitas Array 101.45 62 P **Pdif 04 26 35.4 +1.6**
comp=Z,1.1nm,0.9s,baz=236,slow=5.8,SNR=11
TXAR PP **PP 04 30 44.7 +0.9**
comp=Z,6.1nm,1.1s,baz=248,slow=6.6,SNR=8.1
TXAR PKKPbc **PKKPbc 04 42 43.2 +0.5**
comp=Z,1.4nm,0.7s,baz=91,slow=4.1,SNR=7.7
TXAR PKPPKP **P'P'df 04 50 55.5 -5.4**
comp=Z,0.5nm,0.9s,baz=90,slow=0.9,SNR=4.2
DGMT Dagmar 101.88 42 IAMs_20 IAMs_20 05 04 31.6
comp=Z,34µm,22.0s
ZAIG Zacatecas 101.89 69 IAMs_20 IAMs_20 05 05 25.7
comp=Z,33µm,20.0s
RSSD Black Hills 101.91 47 Pdiff **Pdif 04 26 36.0 +0.4**
baz=268
RSSD Black Hills 101.91 47 IAMs_20 IAMs_20 05 05 46.7
comp=Z,43µm,21.0s
SVE Sverdlovsk 101.98 326 *e* P **Pdif 04 26 34.5 -0.9**
SVE *e* 04 30 54.7
SVE *e* S **SKSac 04 37 14.3 +0.6**
SVE *e* 04 39 47.7
SVE *e* SS **SS 04 45 27.7 +6.9**
SVE pmax pmax
comp=Z,38nm,1.6s
SVE MLR MLR
comp=E,20µm,19.0s
SVE MLR MLR
comp=Z,28µm,19.0s
SVE MLR MLR
comp=N,12µm,16.0s
WBK Wadi Bani Khal 102.14 291 P **Pdif 04 26 35.9 -0.9**
MSTX Muleshoe 102.50 57 Pdiff **Pdif 04 26 37.8 -0.6**
baz=267
MSTX Muleshoe 102.50 57 IAMs_20 IAMs_20 05 05 11.2
comp=Z,50µm,21.0s
KSCO Kaye Shedlock' 102.82 52 Pdiff **Pdif 04 26 38.9 -0.8**
baz=268
KSCO Kaye Shedlock' 102.82 52 IAMs_20 IAMs_20 05 11 48.3
comp=Z,38µm,19.0s
JMDO Jabal Madar 102.91 291 P **Pdif 04 26 40.3 0.0**
MHTO MHTO 102.92 289 P **Pdif 04 26 39.7 -0.6**
BIDO Bidbid 102.99 292 P **Pdif 04 26 39.8 -0.8**
SMDO Samad 103.02 292 P **Pdif 04 26 40.6 -0.3**
ARU Arti 103.14 326 Pdiff **Pdif 04 26 38.5 -2.0**
comp=Z,1.8nm,0.6s,baz=235,slow=1.3,SNR=9.6
ARU PKKPbc **PKKPbc 04 42 39.3 +0.8**
comp=Z,0.9nm,0.3s,baz=352,slow=20,SNR=2.0
ARU PKPPKP 04 51 00.1
comp=Z,1.1nm,0.3s,baz=260,slow=5.2,SNR=4.4
ARU Arti 103.14 326 P **Pdif 04 26 38.8 -1.7**
ARU 04 30 51.2
ARU S **SKSac 04 37 18.3 -0.9**
ARU SP **SP 04 39 56.4 -4.9**
ARU PS PS 04 40 48.9 +44
ARU MLR MLR
comp=Z,29µm,18.0s
ARU Arti 103.14 326 Pdif **Pdif 04 26 38.1 -2.4**
ARU IAMs_20 IAMs_20 05 13 26.2
comp=Z,33µm,19.0s
FFC Flin Flon 103.17 36 P **Pdif 04 26 40.1 -0.6**
FFC MLR MLR
comp=Z,28µm,19.0s
FFC Flin Flon 103.17 36 Pdif **Pdif 04 26 40.1 -0.6**
FFC Flin Flon 103.17 36 IAMs_20 IAMs_20 05 12 07.4
comp=Z,28µm,19.0s
OGNE Ogallala 103.32 50 Pdiff **Pdif 04 26 41.1 -0.7**
baz=269
OGNE Ogallala 103.32 50 IAMs_20 IAMs_20 05 05 19.4
comp=Z,36µm,22.0s
RES Resolute Bay 103.37 15 IAMs_20 IAMs_20 05 12 55.2
comp=Z,34µm,20.0s
AMTX Amarillo 103.44 56 Pdiff **Pdif 04 26 41.9 -0.6**
baz=268
AKTO Aktyubinsk 103.72 320 Pdiff **Pdif 04 26 41.3 -2.0**
comp=Z,7.6nm,1.0s,baz=75,slow=6.5,SNR=13
GEYT Alibeck 103.73 307 Pdiff **Pdif 04 26 42.5 -1.1**
comp=Z,6.0nm,0.9s,baz=192,slow=4.1,SNR=8.0
GEYT PP **PP 04 31 00.7 +0.1**
comp=Z,13nm,1.1s,baz=82,slow=2.1,SNR=3.7
GYA0B ALIBECK ARRAY 103.73 307 Pdif **Pdif 04 26 43.2 -0.4**
HOQ Hoqain 103.74 292 P **Pdif 04 26 43.6 -0.3**
E28A Huff 104.26 44 IAMs_20 IAMs_20 05 13 01.0
comp=Z,31µm,19.0s
ARQ Araqi 104.44 292 P **Pdif 04 26 46.4 -0.7**
SOHO SOHO 104.49 293 *i* P **Pdif 04 26 47.0 -0.3**
SNR=10
SOHO SOHO 104.49 293 P **Pdif 04 26 46.5 -0.8**
BANOM Banah 104.81 294 P **Pdif 04 26 48.7 -0.1**
UOSS Minazif 104.84 293 P **Pdif 04 26 48.2 -0.6**
UOSS Minazif 104.84 293 Pdif **Pdif 04 26 48.0 -0.9**
UOSS Minazif 104.84 293 P **Pdif 04 26 48.7 -0.1**
JCT Junction City 104.86 61 Pdiff **Pdif 04 26 48.8 -0.1**
baz=268
JCT Junction City 104.86 61 IAMs_20 IAMs_20 05 11 37.0
comp=Z,31µm,18.0s
HATD Hatta, Dubai 104.90 293 P **Pdif 04 26 48.9 -0.2**
MSFE Esma-Masafi 104.90 294 P **Pdif 04 26 49.1 -0.1**
ASHO Ashiyiah 104.95 293 P **Pdif 04 26 49.2 -0.2**
ASHO Ashiyiah 104.95 293 P **Pdif 04 26 50.9 +1.5**
SHME Shamm 104.96 294 P **Pdif 04 26 50.3 +0.9**
MDND Maddock 104.96 43 Pdiff **Pdif 04 26 49.6 +0.7**

	baz=273							
MDND	Maddock	104.96	43	IAMs_20	IAMs_20	05 06 55.4		
	comp=Z,35µm,22.0s							
ALE	Alert	104.97	5	IAMs_20	IAMs_20	05 10 25.4		
	comp=Z,40µm,22.0s							
ABTX	Abilene, Hawle	105.07	59	PKiKP	PKiKP	04 31 03.9	-0.5	
	baz=268							
CBKS	Cedar Bluff	105.07	52	PKiKP	PKiKP	04 31 04.8	+0.6	
	baz=270							
CBKS	Cedar Bluff	105.07	52	IAMs_20	IAMs_20	05 09 22.9		
	comp=Z,28µm,19.0s							
833A	Chaparral WMA,	105.13	63	PKiKP	PKiKP	04 31 04.5	-0.1	
	baz=267							
FAQ	Al Faqa, Dubai	105.38	293	*i* P	Pdif	04 26 50.7	-0.5	
	SNR=7.2							
SUSD	Miller	105.55	46	PKiKP	PKiKP	04 31 05.2	+0.2	
	baz=272							
SUSD	Miller	105.55	46	IAMs_20	IAMs_20	05 09 12.2		
	comp=Z,33µm,21.0s							
ASUD	Al Ashush, Dub	105.61	293	*i* P	Pdif	04 26 52.1	-0.2	
	SNR=13							
ASUD	Al Ashush, Dub	105.61	293	P	Pdif	04 26 53.0	+0.7	
	SNR=5.1							
K31A	O'Neill	105.76	48	IAMs_20	IAMs_20	05 07 44.8		
	comp=Z,40µm,21.0s							
BGNE	Belgrade	106.25	50	PKiKP	PKiKP	04 31 07.2	+0.8	
	baz=272							
BGNE	Belgrade	106.25	50	IAMs_20	IAMs_20	05 07 21.8		
	comp=Z,31µm,22.0s							
KVTX	Kingsville	106.43	64	IAMs_20	IAMs_20	05 15 59.5		
	comp=Z,30µm,18.0s							
735A	Kenedy	106.54	63	IAMs_20	IAMs_20	05 06 18.6		
	comp=Z,46µm,22.0s							
D32A	Dogwood Acres,	106.75	44	IAMs_20	IAMs_20	05 21 29.9		
	comp=Z,32µm,19.0s							
435B	Jarrell	106.78	61	PKiKP	PKiKP	04 31 07.7	+0.1	
	baz=269							
435B	Jarrell	106.78	61	IAMs_20	IAMs_20	05 17 27.8		
	comp=Z,35µm,18.0s							
N33A	J Bar K, Exete	106.80	50	IAMs_20	IAMs_20	05 15 31.5		
	comp=Z,32µm,19.0s							
KS20	Mayfield South	106.81	54	IAMs_20	IAMs_20	05 07 59.1		
	comp=Z,47µm,22.0s							
WHTX	Lake Whitney,	106.91	59	PKiKP	PKiKP	04 31 07.7	-0.1	
	baz=269							
LOOK	Love County	107.15	57	IAMs_20	IAMs_20	05 07 16.2		
	comp=Z,46µm,21.0s							
ULM	Lac du Bonnet	107.22	40	IAMs_20	IAMs_20	05 12 15.0		
	comp=Z,31µm,19.0s							
ECSD	EROS Data Cent	107.27	47	PKiKP	PKiKP	04 31 07.4	-0.8	
	baz=274							
ECSD	EROS Data Cent	107.27	47	IAMs_20	IAMs_20	05 10 03.8		
	comp=Z,31µm,22.0s							
F33A	5 Mile Ranch,	107.35	45	IAMs_20	IAMs_20	05 09 40.8		
	comp=Z,39µm,21.0s							
AGMN	Agassiz Nation	107.43	42	PKiKP	PKiKP	04 31 08.6	+0.4	
	baz=276							
AGMN	Agassiz Nation	107.43	42	IAMs_20	IAMs_20	05 08 59.7		
	comp=Z,29µm,21.0s							
KSU1	Kansas State U	107.50	52	PKiKP	PKiKP	04 31 09.5	+0.8	
	baz=272							
KSU1	Kansas State U	107.50	52	IAMs_20	IAMs_20	05 11 01.3		
	comp=Z,34µm,20.0s							
L34A	Svendsen Farm,	107.55	49	IAMs_20	IAMs_20	05 09 26.3		
	comp=Z,27µm,20.0s							
N35A	Tabor	108.16	50	IAMs_20	IAMs_20	05 09 56.6		
	comp=Z,38µm,20.0s							
TUL1	Leonard	108.26	55	PKiKP	PKiKP	04 31 09.7	-0.5	
	baz=272							
237A	Washetta, Mont	108.31	59	IAMs_20	IAMs_20	05 08 07.1		
	comp=Z,44µm,22.0s							
TULEG	Thule	108.31	10	IAMs_20	IAMs_20	05 12 36.6		
	comp=Z,46µm,22.0s							
KBS	Kingsbay	108.50	354	IAMs_20	IAMs_20	05 15 26.4		
	comp=Z,30µm,20.0s							
B35A	Bob, Littlefor	108.84	42	IAMs_20	IAMs_20	05 12 30.9		
	comp=Z,26µm,20.0s							
PRGR	Permogore	108.90	332	*e*P	Pdif	04 27 02.5	-3.5	
PRGR				*e*		04 31 35.0		
PRGR				pmax	pmax			
	comp=Z,29nm,1.1s							
Z38A	Mt. Pleasant	108.99	58	IAMs_20	IAMs_20	05 08 31.0		
	comp=Z,40µm,21.0s							
F36A	Milaca	109.28	45	IAMs_20	IAMs_20	05 10 29.7		
	comp=Z,41µm,21.0s							
I37A	Lemond, Waseca	109.56	47	IAMs_20	IAMs_20	05 13 59.4		
	comp=Z,28µm,18.0s							
SPMN	Marine on St.	109.85	45	PKiKP	PKiKP	04 31 11.7	-1.2	
	baz=277							
SPMN	Marine on St.	109.85	45	IAMs_20	IAMs_20	05 11 08.0		
	comp=Z,27µm,21.0s							
SCIA	State Center	109.91	49	PKiKP	PKiKP	04 31 12.2	-1.0	
	baz=275							
SCIA	State Center	109.91	49	IAMs_20	IAMs_20	05 21 48.6		
	comp=Z,29µm,18.0s							
W39A	Magazine	109.92	56	PKiKP	PKiKP	04 31 12.5	-0.9	
	baz=273							
W39A	Magazine	109.92	56	IAMs_20	IAMs_20	05 09 08.5		
	comp=Z,39µm,22.0s							
EYMN	Ely	110.38	42	PKiKP	PKiKP	04 31 13.8	0.0	
	baz=279							
EYMN	Ely	110.38	42	IAMs_20	IAMs_20	05 10 28.6		
	comp=Z,33µm,22.0s							
E38A	The Farm, Brul	110.54	44	IAMs_20	IAMs_20	05 18 31.9		
	comp=Z,28µm,19.0s							
WLAR	White Oak Lake	110.54	58	IAMs_20	IAMs_20	05 09 32.0		
	comp=Z,38µm,21.0s							
441A	DeRidder	110.57	61	IAMs_20	IAMs_20	05 18 39.0		
	comp=Z,31µm,18.0s							
U40A	Yellville	110.61	55	PKiKP	PKiKP	04 31 13.9	-0.7	
	baz=274							
H03S2	Juan Fernandez	110.77	132	T	T	06 32 01.0		
	baz=236,slow=74,SNR=6.2							
H03S1	Juan Fernandez	110.78	132	T	T	06 31 49.3		
	baz=236,slow=74,SNR=5.7							
H03S3	Juan Fernandez	110.79	132	T	T	06 31 45.0		
	baz=236,slow=74,SNR=5.3							
LVZ	Lovozero	110.89	340	IAMs_20	IAMs_20	05 16 34.4		
	comp=Z,32µm,20.0s							
R40A	Maddies Statio	110.94	53	IAMs_20	IAMs_20	05 09 47.4		
	comp=Z,41µm,22.0s							
H03N3	Juan Fernandez	110.95	131	T	T	06 32 06.1		
	baz=244							
H03N2	Juan Fernandez	110.95	131	T	T	06 32 15.3		
	baz=244,slow=74,SNR=2.9							
H03N1	Juan Fernandez	110.96	131	T	T	06 32 08.7		
	baz=244,slow=74,SNR=4.7							
W41B	Gary Mavity, V	111.18	56	PKiKP	PKiKP	04 31 15.0	-0.7	
	baz=274							
342A	Flagon Creek P	111.29	60	IAMs_20	IAMs_20	05 19 15.1		
	comp=Z,37µm,18.0s							
L40A	Anamosa	111.37	49	IAMs_20	IAMs_20	05 13 20.3		
	comp=Z,35µm,20.0s							
APA	Apatity	111.47	340⇑	*i*PKIKP	PKiKP	04 31 12.2	-3.1	
APA				*i*		04 37 54.0		
APA				*i*		04 42 26.0		
APA				pmax	pmax			
	comp=Z,11nm,1.0s							
APA				MLR	MLR			
	comp=Z,35µm,20.0s							
RTAL	Retalhuleu	111.50	78	IAMs_20	IAMs_20	05 08 16.8		
	comp=Z,25µm,20.0s							
MAK	Makhachkala	111.55	312	*i* P	Pdif	04 27 19.8	+1.6	
MAK				*e*PPP	PPP	04 34 15.6		
MAK				*e*		04 37 49.2		
MAK				*e*PS	PKKPbc	04 41 25.5	-46	
MAK				*e*SS	SS	04 47 26.5	-5.1	
MAK				*e*SSS	SSS	04 51 42.4		
MAK				pmax	pmax			
	comp=Z,213nm,1.5s							
MAK				pmax	pmax			
	comp=Z,392nm,1.9s							
AKT	Akhty	111.57	311	*i* P	Pdif	04 27 18.4	-0.1	
AKT				pmax	pmax			
	comp=Z,16nm,1.2s							
I40A	Norwalk	111.58	47	IAMs_20	IAMs_20	05 14 12.6		
	comp=Z,38µm,20.0s							
CCAR	Cane Creek	111.64	57	IAMs_20	IAMs_20	05 11 41.2		
	comp=Z,39µm,21.0s							
G40A	Rib Lake	111.67	45	IAMs_20	IAMs_20	05 11 53.0		
	comp=Z,38µm,22.0s							
HUEH	Huehuetenango	111.75	77	IAMs_20	IAMs_20	05 10 52.2		
	comp=Z,24µm,19.0s							
CCM	Cathedral Cave	111.77	53	PKiKP	PKiKP	04 31 16.0	-0.8	
	baz=275							
KLMR	Klimovskoe	111.94	332	*e*P	Pdif	04 27 14.7	-4.9	
KLMR				*i*		04 31 14.1		
KLMR				*e*		04 37 53.9		
KLMR				*e*PS	SP	04 41 26.3	-3.2	
KLMR				pmax	pmax			
	comp=Z,25nm,1.3s							
KLMR	Klimovskoe	111.94	332	*e*Pdif	Pdif	04 27 14.7	-4.9	
KLMR				AMP		04 27 24.6		
	comp=Z,25nm,1.3s							
KLMR				*e*PKiKP	PKiKP	04 31 14.1	-2.3	
KLMR				*e*PP	PP	04 31 53.9	-5.7	
KLMR				*e*SKSac	SKSac	04 37 54.0	-3.2	
KLMR				*e*SKSac	SKSac	04 37 54.0	-3.2	
KLMR				*e*PS	SP	04 41 26.4	-3.1	
KLMR				*e*PS	SP	04 41 26.4	-3.1	
KLMR				*e*PKKPab	PKKPbc	04 42 12.2	+1.3	
KLMR				*e*PKKP	PKKPab	04 42 22.4	+4.9	
KLMR				LQ	LQ	05 06 40.0		
KLMR				LQ	LQ	05 06 40.0		
KLMR				LR	LR	05 10 53.2		
KLMR				AMP		05 23 26.4		
	comp=Z,22µm,17.8s							
JFWS	Jewell Farm	111.97	48	PKiKP	PKiKP	04 31 17.0	0.0	
	baz=278							
COWI	Conover	112.27	44	IAMs_20	IAMs_20	05 19 53.8		
	comp=Z,27µm,19.0s							
D41A	Chassel	112.49	43	IAMs_20	IAMs_20	05 10 49.4		
	comp=Z,30µm,21.0s							
L42A	Oliver, Polo	112.53	48	IAMs_20	IAMs_20	05 14 04.9		
	comp=Z,35µm,20.0s							
DAG	Danmarks Havn	112.59	359	*i* P	PKiKP	04 31 19.0	+1.8	
DAG				IAmb	IAmb	04 31 22.6		
	comp=Z,5.5nm,1.0s							
DAG				IAMs_20	IAMs_20	05 19 51.1		
	comp=Z,18µm,20.1s							
DAG	Danmarks Havn	112.59	359	*i* PKIKP	PKiKP	04 31 19.0	+1.8	
DAG				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DAG				MLR	MLR			
	comp=Z,18µm,20.0s							
GROC	Groznyy	112.76	313	*i* PKIKP	PKiKP	04 31 21.0	+2.5	
GROC				*e*		04 32 10.4		
GROC				pmax	pmax			
	comp=Z,25nm,0.8s							
ARCES	ARCESS Array B	112.78	344	PKiKP	PKiKP	04 31 19.4	+1.6	
	comp=Z,3.5nm,0.7s,baz=93,slow=1.1,SNR=8.3							
ARCES				PKKPbc	PKKPbc	04 42 09.2	+0.8	
	comp=Z,2.5nm,0.8s,baz=222,slow=1.2,SNR=7.1							
VBMS	Vicksburg	112.79	59	IAMs_20	IAMs_20	05 13 41.7		
	comp=Z,33µm,20.0s							
I42A	Draeger Farm,	112.79	46	IAMs_20	IAMs_20	05 16 34.8		
	comp=Z,26µm,19.0s							
PLCA	Paso Flores	112.84	142	PKiKP	PKiKP	04 31 21.9	+3.0	
	comp=Z,4.7nm,1.1s,baz=187,slow=3.1,SNR=4.1							
PLCA				PKKPbc	PKKPbc	04 42 07.6	+0.1	
	comp=Z,7.6nm,0.9s,baz=55,slow=6.9,SNR=6.7							
GNAR	Gosnell	112.93	55	IAMs_20	IAMs_20	05 17 56.2		
	comp=Z,23µm,18.0s							
P43A	Skaggs, Pawnee	112.94	51	IAMs_20	IAMs_20	05 11 33.0		
	comp=Z,35µm,22.0s							
HDIL	Hopedale	113.00	50	PKiKP	PKiKP	04 31 18.8	-0.3	
	baz=278							
F42A	Maple Grove Fa	113.02	44	IAMs_20	IAMs_20	05 12 52.6		
	comp=Z,32µm,21.0s							
PEBM	Pemiscott Bayo	113.05	55	IAMs_20	IAMs_20	05 19 39.2		
	comp=Z,34µm,19.0s							
LNXT	Lenox	113.34	55	IAMs_20	IAMs_20	05 19 03.1		
	comp=Z,31µm,18.0s							
SIUC	Southern Illin	113.40	53	IAMs_20	IAMs_20	05 14 14.9		
	comp=Z,41µm,20.0s							
K43A	Burlington	113.40	48	IAMs_20	IAMs_20	05 14 11.0		
	comp=Z,26µm,20.0s							
PETF	Flores	113.42	76	IAMs_20	IAMs_20	05 12 43.3		
	comp=Z,29µm,20.0s							
HALT	Halls	113.49	55	IAMs_20	IAMs_20	05 11 52.8		
	comp=Z,32µm,21.0s							
Y45A	Yeager Farm, C	113.50	57	IAMs_20	IAMs_20	05 19 51.3		
	comp=Z,25µm,19.0s							
H43A	Windswept, Lux	113.51	46	IAMs_20	IAMs_20	05 12 48.6		
	comp=Z,34µm,22.0s							
OXF	Oxford	113.56	56	PKiKP	PKiKP	04 31 19.4	-0.9	
	baz=275							
E43A	Lone Tree Farm	113.68	43	IAMs_20	IAMs_20	05 15 38.0		
	comp=Z,25µm,19.0s							
346A	Big Creek Wild	113.73	60	IAMs_20	IAMs_20	05 11 37.8		
	comp=Z,35µm,22.0s							
L44A	Lake County Fo	113.79	48	PKiKP	PKiKP	04 31 20.3	-0.2	
	baz=279							
L44A	Lake County Fo	113.79	48	IAMs_20	IAMs_20	05 15 51.4		
	comp=Z,30µm,20.0s							
VRH	Novokhopyorsk	113.81	322	*i* PKIKP	PKiKP	04 31 16.7	-3.5	
VRH				*e*		04 32 15.7		
VRH				*e*		04 38 05.2		
VRH				*e*SS	SS	04 47 55.1	-5.8	
VRH				pmax	pmax			
	comp=Z,30nm,0.8s							
M44A	Midewin, Midew	113.82	49	IAMs_20	IAMs_20	05 13 44.1		
	comp=Z,29µm,21.0s							
HQIL	Hanson Quary C	113.89	48	IAMs_20	IAMs_20	05 15 14.1		
	comp=Z,41µm,20.0s							
146A	Union	114.00	58	IAMs_20	IAMs_20	05 12 00.6		
	comp=Z,40µm,22.0s							
OLIL	Olney	114.15	52	IAMs_20	IAMs_20	05 15 04.1		
	comp=Z,37µm,20.0s							
ZEI	Tsey	114.20	313	*i* PKIKP	PKiKP	04 31 24.1	+2.6	
ZEI				pmax	pmax			
	comp=Z,7.0nm,0.6s							
GOF	Gofitskoye	114.38	315⇑	*e*PKIKP	PKiKP	04 31 21.2	-0.3	
ONI	Oni	114.56	313	IAMs_20	IAMs_20	05 24 59.8		
	comp=Z,39µm,20.0s							
RAYN	Ar Rayn	114.56	292	P	PKiKP	04 31 23.2	+0.6	
USIN	University of	114.59	53	IAMs_20	IAMs_20	05 13 46.8		
	comp=Z,41µm,21.0s							
I45A	Fountain	114.67	46	IAMs_20	IAMs_20	05 18 46.5		
	comp=Z,35µm,19.0s							
WVT	Waverly	114.68	55	PKiKP	PKPdf	04 31 22.0	-0.4	
	baz=277							
WVT	Waverly	114.68	55	IAMs_20	IAMs_20	05 13 01.4		
	comp=Z,40µm,20.0s							
SFIN	Lafayette	114.68	50	IAMs_20	IAMs_20	05 12 31.1		
	comp=Z,41µm,22.0s							
BI02	San Fabin de	114.72	138	IAMs_20	IAMs_20	05 10 34.0		
	comp=Z,36µm,22.0s							
MOS	Moscow	114.72	328	*i* P	Pdif	04 27 26.8	-5.2	
MOS				*e*		04 32 17.4		
MOS				*e*PS	PKKPbc	04 42 02.3	+0.9	
MOS				*e*SS	SS	04 48 04.0	-8.6	
MOS				*e*SSS	SSS	04 52 22.8		
KBZ	Khabaz	114.75	314	PP	PP	04 32 16.8	-3.4	
	comp=Z,17nm,1.1s,baz=76,slow=6.4,SNR=3.6							
KBZ				PKKPbc	PKKPab	04 42 03.9	-1.5	
	comp=Z,2.0nm,0.8s,baz=234,slow=8.6,SNR=3.0							
KIV	Kislovodsk	114.85	314	*i* P	Pdif	04 27 34.2	+1.2	
KIV				*i*		04 31 23.6		
KIV				*e*		04 32 19.1		
KIV				*e*		04 38 11.7		
KIV				*e*PS	PKKPbc	04 42 00.9	+0.2	
KIV				*e*SS	SS	04 48 15.8	+0.4	
KIV				*e*SSS	SSS	04 52 33.3		
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
G45A	Suttons Bay	114.87	45	IAMs_20	IAMs_20	05 14 19.7		
	comp=Z,31µm,20.0s							
L46A	Eue Claire	115.00	48	IAMs_20	IAMs_20	05 19 06.5		
	comp=Z,34µm,19.0s							
LPSR	Galich'ya Gora	115.06	324	*i* PKIKP	PKiKP	04 31 22.0	-0.6	
LPSR				*e*		04 32 20.5		
LPSR				*e*		04 38 07.1		
LPSR				*e*SS	SS	04 48 31.2	+14	
LPSR				pmax	pmax			
	comp=Z,50nm,1.0s							
LPSR				MLR	MLR			
	comp=Z,32µm,21.0s							
VORR	Voronezh	115.19	323	PKIKP	PKiKP	04 31 20.0	-2.8	
VORR				pmax	pmax			
	comp=Z,250nm,1.2s							
BLO	Bloomington	115.30	51	IAMs_20	IAMs_20	05 12 34.7		
	comp=Z,41µm,21.0s							
VORD	Divnogorie	115.35	322	*i* PKIKP	PKiKP	04 31 21.2	-2.0	
VORD				*e*		04 32 20.5		
VORD				pmax	pmax			
	comp=Z,20nm,0.6s							
VSR	Storozhevoye	115.35	323	*i* PKIKP	PKiKP	04 31 19.6	-3.6	
VSR				*e*		04 32 21.4		
VSR				*e*		04 38 08.1		
VSR				*e*SS	SS	04 48 21.7	+0.6	
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
HOPE	Hope Point	115.38	170	IAMs_20	IAMs_20	05 17 48.2		
	comp=Z,21µm,20.0s							
E46A	Sault Ste Mari	115.50	43	PKiKP	PKiKP	04 31 23.5	-0.1	
E46A				IAMs_20	IAMs_20	05 17 11.1		
	comp=Z,34µm,19.0s							
OBN	Obninsk	115.51	327⇑	*i*PKIKP	PKiKP	04 31 23.3	0.0	
OBN				*e*		04 32 23.1		
OBN				*e*		04 38 13.8		
OBN				*i*		04 41 57.3		
OBN				*e*SS	SS	04 48 29.9	+7.0	
OBN				pmax	pmax			
	comp=Z,22nm,1.2s							
OBN				MLR	MLR			
	comp=Z,48µm,19.0s							
OBN	Obninsk	115.51	327	PKPdf	PKiKP	04 31 22.2	-1.1	
WCI	Wyandotte Cave	115.62	52	PKiKP	PKiKP	04 31 22.4	-1.7	
WCI	Wyandotte Cave	115.62	52	PKiKP	PKPdf	04 31 24.4	+0.3	
	baz=279							
WCI	Wyandotte Cave	115.62	52	PKPdf	PKiKP	04 31 22.4	-1.7	
GLMI	Grayling	115.64	45	PKiKP	PKiKP	04 31 23.8	-0.2	
	baz=283							
GLMI	Grayling	115.64	45	IAMs_20	IAMs_20	05 15 03.0		
	comp=Z,24µm,20.0s							
LRAL	Lakeview Retre	115.69	58	PKiKP	PKiKP	04 31 25.0	+0.6	
	baz=276							
LRAL	Lakeview Retre	115.69	58	PKPdf	PKiKP	04 31 25.4	+1.0	
BRAL	Brewton	115.81	60	PKiKP	PKPdf	04 31 24.4	-0.2	
	baz=275							
BRAL	Brewton	115.81	60	IAMs_20	IAMs_20	05 14 06.8		
	comp=Z,34µm,21.0s							
J47A	Sunmer	115.84	46	IAMs_20	IAMs_20	05 19 25.4		
	comp=Z,34µm,20.0s							
SUMG	Summit	116.02	6	*i* P	PKPdf	04 31 28.7	+4.3	
SUMG				IAMs_20	IAMs_20	05 22 42.8		
	comp=Z,32µm,19.4s							
SUMG	Summit	116.02	6	PKiKP	PKPdf	04 31 24.9	+0.5	
SUMG				MLR	MLR			
	comp=Z,33µm,20.0s							
SUMG	Summit	116.02	6	PKPdf	PKPdf	04 31 24.9	+0.5	
SUMG				IAMs_20	IAMs_20	05 22 48.2		
	comp=Z,33µm,20.0s							
BO02	Sierra Bellavi	116.09	136	PKPdf	PKPdf	04 31 25.5	+0.2	
GURO	Guroymak-BITLI	116.31	308	PKPdf	PKiKP	04 31 26.6	+1.0	
L48A	N Adams	116.38	48	IAMs_20	IAMs_20	05 20 25.9		
	comp=Z,29µm,19.0s							
250A	Grady	116.41	59	IAMs_20	IAMs_20	05 16 54.5		
	comp=Z,26µm,20.0s							
P49A	Miami Univ. Ec	116.62	50	PKiKP	PKPdf	04 31 26.0	0.0	
	baz=280							
P49A	Miami Univ. Ec	116.62	50	IAMs_20	IAMs_20	05 17 24.6		
	comp=Z,36µm,20.0s							
MT02	Curacav	116.69	135	IAMs_20	IAMs_20	05 10 34.4		
	comp=Z,32µm,21.0s							
N49A	Columbus Grove	116.77	49	PKPdf	PKiKP	04 31 27.0	+0.7	
O49A	Covington	116.80	50	IAMs_20	IAMs_20	05 16 38.0		
	comp=Z,32µm,20.0s							
451A	Vernon	116.97	60	IAMs_20	IAMs_20	05 17 08.7		
	comp=Z,29µm,20.0s							
MT03	Universidad Ad	117.00	135	IAMs_20	IAMs_20	05 10 45.6		
	comp=Z,25µm,22.0s							
SOC	Sochi	117.03	314	*e*PKIKP	PKPdf	04 31 26.4	-0.3	
SOC				*e*		04 32 31.5		
SOC				*e*		04 38 18.2		
SOC				*e*PS	PKKPdf	04 42 17.8	-2.4	
SOC				*e*SS	SS	04 48 40.6	-3.1	
SOC				MLR	MLR			
	comp=Z,15µm,20.0s							
I49A	Point Hope	117.09	45	PKPdf	PKPdf	04 31 26.3	-0.5	
Z51A	Franklin	117.18	57	IAMs_20	IAMs_20	05 14 55.8		
	comp=Z,35µm,20.0s							
ILULI	Ilulissat	117.23	11	IAMs_20	IAMs_20	05 18 30.4		
	comp=Z,30µm,22.0s							
VA03	San Esteban	117.37	134	PKPdf	PKiKP	04 31 28.0	+0.1	
FIA1	FINESS Array S	117.42	336	PKPdf	PKiKP	04 31 27.9	+1.0	
FINES	FINESS Array B	117.42	336	PKP	PKiKP	04 31 26.9	0.0	
	comp=Z,17nm,1.0s,baz=158,slow=5.6,SNR=8.7							
FINES				PP	PP	04 32 33.6	-4.5	
	comp=Z,8.4nm,0.9s,baz=72,slow=8.2,SNR=2.3							
M50A	Fremont	117.51	48	IAMs_20	IAMs_20	05 20 49.8		
	comp=Z,31µm,19.0s							
352A	Blakely	117.59	59	IAMs_20	IAMs_20	05 17 31.9		
	comp=Z,22µm,19.0s							
JTS	Las Juntas de	117.72	83	PP	PP	04 32 36.8	-5.2	
	comp=Z,2.6nm,0.6s,baz=104,slow=17,SNR=1.3							
JTS	Las Juntas de	117.72	83	IAMs_20	IAMs_20	05 12 51.7		
	comp=Z,36µm,19.0s							
ACSO	Alum Creek Sta	117.80	49	PKiKP	PKPdf	04 31 28.3	0.0	
	baz=282							
ACSO	Alum Creek Sta	117.80	49	IAMs_20	IAMs_20	05 18 05.6		
	comp=Z,36µm,20.0s							
P51A	Williamsport	117.89	50	IAMs_20	IAMs_20	05 18 40.1		
	comp=Z,32µm,20.0s							
TKL	Tuckaleechee C	118.01	55	PKP	PKiKP	04 31 29.6	+0.7	
	comp=Z,13nm,0.9s,baz=182,slow=2.2,SNR=15							
TZTN	Tazewell	118.05	54	PKiKP	PKPdf	04 31 28.9	0.0	
	baz=280							
N51A	Ashland	118.11	49	IAMs_20	IAMs_20	05 26 25.7		
	comp=Z,35µm,18.0s							
V52A	Sevierville	118.12	54		PKPdf	04 31 28.2	-0.8	
V52A				PP	PP	04 32 42.6	-1.6	
553A	Crawfordville	118.14	61	IAMs_20	IAMs_20	05 15 45.6		
	comp=Z,24µm,20.0s							
ANN	Anapa	118.31	316	*i* PKIKP	PKPdf	04 31 17.8	-11	
ANN				pmax	pmax	

ERPA	Erie	119.56	47	IAMs_20	IAMs_20	05 18 35.0		
	comp=Z,30µm,20.0s							
S54A	Dingess, Beckl	119.57	52	PKPdf	PKPdf	04 31 31.6	-0.3	
S54A				PP	PP	04 32 53.1	-1.1	
CDITO	Canoas	119.60	85	IAMs_20	IAMs_20	05 16 13.5		
	comp=Z,26µm,18.0s							
255A	Hazlehurst	119.61	59	IAMs_20	IAMs_20	05 15 34.4		
	comp=Z,41µm,22.0s							
TRQA	Tornquist	119.66	144	IAMs_20	IAMs_20	05 20 08.4		
	comp=Z,20µm,18.0s							
Q54A	Coxs Mills	119.69	50	IAMs_20	IAMs_20	05 19 51.7		
	comp=Z,29µm,19.0s							
O54A	Avella	119.76	49	IAMs_20	IAMs_20	05 19 54.4		
	comp=Z,34µm,20.0s							
ALGO	Algonquin Park	119.79	42	PKiKP	PKPdf	04 31 30.5	-1.4	
	baz=289							
N54A	Moraine State	119.86	48	PKiKP	PKPdf	04 31 31.4	-0.8	
	baz=284							
656A	Willston	119.87	62	IAMs_20	IAMs_20	05 17 02.4		
	comp=Z,35µm,22.0s							
M54A	Oil Creek Stat	119.95	47	PKiKP	PKPdf	04 31 32.0	-0.4	
	baz=285							
M54A	Oil Creek Stat	119.95	47	IAMs_20	IAMs_20	05 23 53.4		
	comp=Z,34µm,18.0s							
KMSC	Kings Mountain	120.06	55	PKiKP	PKPdf	04 31 32.5	-0.2	
	baz=280							
J54A	Appleton	120.20	45	IAMs_20	IAMs_20	05 17 42.8		
	comp=Z,29µm,22.0s							
JSC	Jenkinsville	120.27	56	IAMs_20	IAMs_20	05 15 39.4		
	comp=Z,23µm,21.0s							
MNK	Minsk	120.31	329	*i* PKIKP	PKPdf	04 31 29.1	-3.5	
MNK				*i*		04 32 54.7		
MNK				*i* PPP	PPP	04 35 27.5		
MNK				*i*		04 38 33.3		
MNK				*i* PS	SP	04 42 45.1	-0.6	
MNK				*i* SS	SS	04 49 23.9	-1.1	
MNK				*i* SSS	SSS	04 53 50.5		
MNK				pmax	pmax			
	comp=E,1.0nm,0.7s							
MNK				pmax	pmax			
	comp=N,19nm,1.7s							
MNK				pmax	pmax			
	comp=Z,20nm,1.0s							
MNK				MLR	MLR			
	comp=Z,22µm,13.0s							
MNK				MLR	MLR			
	comp=E,3µm,20.0s							
MNK				MLR	MLR			
	comp=N,14µm,18.0s							
MNK	Minsk	120.31	329	*i* PKP	PKPdf	04 31 29.1	-3.5	
	comp=E,1.0nm,0.7s							
MNK				*i* PKP	PKPdf	04 31 29.1	-3.5	
	comp=N,19nm,1.7s							
MNK				*i* PKP	PKPdf	04 31 29.1	-3.5	
	comp=Z,20nm,1.1s,baz=60							
MNK				*i* PP	PP	04 32 54.7	-3.6	
MNK				*i* SKP		04 35 04.5		
MNK				*i* PKS		04 35 05.8		
MNK				*i* PPP	PPP	04 35 27.5		
MNK				*i* SKS	SKSac	04 38 33.3	+4.5	
MNK				*i* PS	SP	04 42 45.1	-0.5	
MNK				*i* SKKS	SS	04 49 20.2	-4.8	
MNK				*i* SS	SKKSdf	04 49 24.0	-2.0	
MNK				*i* SSS	SSS	04 53 50.5		
MNK				*i* LQ	LQ	05 11 22.5		
MNK				*i* LR	LR	05 19 15.8		
MNK				*i* LRM	MLR	05 24 43.5		
	comp=Z,22µm,12.7s							
MNK				*i* LRM	MLR	05 24 46.0		
	comp=E,3µm,20.4s							
MNK				*i* LRM	MLR	05 25 09.4		
	comp=N,14µm,17.8s							
GAZ	Gaziantep	120.31	308	PKPdf	PKPdf	04 31 32.6	-0.7	
MEDO	Medina	120.36	45	IAMs_20	IAMs_20	05 16 01.0		
	comp=Z,32µm,22.0s							
BLA	Blacksburg	120.39	52	PKiKP	PKPdf	04 31 33.4	0.0	
BLA						04 32 58.6		
BLA	Blacksburg	120.39	52	PKiKP	PKPdf	04 31 32.4	-1.0	
	baz=282							
BLA	Blacksburg	120.39	52	PKPdf	PKPdf	04 31 33.4	0.0	
BLA				PP	PP	04 32 58.6	-1.1	
KMBO	Kilima Mbogo	120.42	263	PKP	PKiKP	04 31 35.2	+0.7	
	comp=Z,22nm,0.9s,baz=54,slow=2.7,SNR=32							
IDID	Didziasalis	120.47	330	*e*P	PKiKP	04 31 33.9	+0.9	
WVNY	West Valley, N	120.47	46		PKPdf	04 31 32.9	-0.4	
FURI	Furi	120.49	275	PKPdf	PKPdf	04 31 33.9	-0.7	
SIM	Simferopol'	120.52	317	*i* PKIKP	PKiKP	04 31 33.7	+0.3	
SIM				*e*		04 32 58.5		
SIM				pmax	pmax			
	comp=Z,19nm,1.1s							
SIM				pmax	pmax			
	comp=Z,800nm,10.9s							
DELO	Deloro Mine	120.53	43	PKPdf	PKiKP	04 31 35.3	+1.8	
DY2G	Dye2	120.53	11	*e*P	PKPdf	04 31 32.5	-0.5	
DY2G				IAMs_20	IAMs_20	05 26 42.7		
	comp=Z,25µm,19.1s							
M55A	Ridgway	120.62	47	IAMs_20	IAMs_20	05 23 39.9		
	comp=Z,26µm,19.0s							
ISAL	Salakas	120.63	331	*e*P	PKiKP	04 31 36.1	+2.8	
CHGQ	Chibougamau	120.64	37	PKiKP	PKPdf	04 31 32.9	-0.6	
	baz=294							
IIGN	Ignalina	120.70	330	*e*P	PKiKP	04 31 35.9	+2.4	
PLVO	Plevna	120.73	43	IAMs_20	IAMs_20	05 17 26.6		
	comp=Z,37µm,21.0s							
J55A	Hilton	120.78	45	IAMs_20	IAMs_20	05 16 16.0		
	comp=Z,36µm,22.0s							
257A	Skidaway Islan	120.83	58	IAMs_20	IAMs_20	05 18 14.5		
	comp=Z,27µm,21.0s							
MMNY	Mt. Morris Dam	120.87	46	IAMs_20	IAMs_20	05 18 06.6		
	comp=Z,38µm,21.0s							
Q56A	Snyder Ridge,	120.92	50	IAMs_20	IAMs_20	05 22 19.3		
	comp=Z,24µm,19.0s							
DWPF	Disney Wildern	120.97	63	IAMs_20	IAMs_20	05 17 56.5		
	comp=Z,26µm,21.0s							
BOSA	Boshof	121.05	229	PKP	PKPdf	04 31 34.8	-0.3	
	comp=Z,30nm,0.9s,baz=125,slow=2.1,SNR=38							
BOSA	Boshof	121.05	229	PKiKP	PKPdf	04 31 34.5	-0.6	
BOSA						04 33 02.6		
BOSA	Boshof	121.05	229	PKPdf	PKPdf	04 31 34.5	-0.6	
BOSA				PP	PP	04 33 02.6	-1.5	
O56A	Blue Knob Stat	121.08	48	PKiKP	PKPdf	04 31 34.2	-0.5	
	baz=285							
O56A	Blue Knob Stat	121.08	48	IAMs_20	IAMs_20	05 17 46.3		
	comp=Z,30µm,21.0s							
PECO	Prince Edward	121.14	44	IAMs_20	IAMs_20	05 22 57.5		
	comp=Z,29µm,20.0s							
ATAH	Atahualpa	121.15	104	PKP	PKiKP	04 31 37.9	+1.8	
	comp=Z,9.4nm,0.7s,baz=152,slow=6.5,SNR=3.1							
K56A	Middlesex	121.29	45	PKiKP	PKPdf	04 31 33.7	-1.3	
	baz=288							
AKASG	Malin Array Be	121.37	325	PKP	PKPdf	04 31 33.7	-1.1	
	comp=Z,22nm,0.8s,baz=61,slow=2.4,SNR=41							
AKASG				PP	PP	04 33 04.2	-1.5	
	comp=Z,5.7nm,0.9s,baz=52,slow=7.2,SNR=4.1							
AKASG				PKKPbc	PKKPbc	04 41 38.9	+1.6	
	comp=Z,2.8nm,0.7s,baz=258,slow=3.5,SNR=12							
SSPA	Standing Stone	121.48	48	PKiKP	PKPdf	04 31 33.0	-2.3	
	baz=286							
SSPA	Standing Stone	121.48	48		PKPdf	04 31 35.0	-0.3	
BZK	Bozkurt	121.52	314	⇑P	PKiKP	04 31 36.4	+0.9	
BZK	Bozkurt	121.52	314	IAMs_20	IAMs_20	05 26 15.8		
	comp=Z,37µm,22.0s							
AC02	Maricunga	121.57	129	PKPdf	PKPdf	04 31 36.5	-0.1	
PB14	IPOC Station P	121.69	126	PKPdf	PKiKP	04 31 36.8	0.0	
PABE	Paberze	121.70	331	*e*P	PKiKP	04 31 36.5	+1.1	
PABE	Paberze	121.70	331	PKPdf	PKiKP	04 31 35.7	+0.4	
SUR	Sutherland	122.00	222	PKPdf	PKPdf	04 31 36.8	-0.1	
SUR	Sutherland	122.00	222	IAMs_20	IAMs_20	05 20 03.7		
	comp=Z,29µm,20.0s							
SUR	Sutherland	122.00	222	P	PKiKP	04 31 39.4	+2.4	
I57A	Carthage	122.05	44	PKiKP	PKPdf	04 31 35.7	-0.6	
	baz=290							
H57A	Richville	122.06	43	PKiKP	PKPdf	04 31 36.3	0.0	
	baz=290							
GO02	Mina Guanaco	122.07	127	IAMs_20	IAMs_20	05 13 02.4		
	comp=Z,21µm,22.0s							
BINY	Binghamton	122.39	46	PKiKP	PKPdf	04 31 36.1	-1.0	
	baz=288							
BR131	Keskin Array S	122.42	311	PKIKP	PKPdf	04 31 37.1	-0.3	
BR131	Keskin Array S	122.42	311	PKPdf	PKPdf	04 31 37.1	-0.3	
BR131	Keskin Array S	122.42	311	P	PKiKP	04 31 38.2	+0.7	
	SNR=11							
BRTR	Keskin Array B	122.42	311	PKP	PKPdf	04 31 36.5	-0.9	
	comp=Z,12nm,1.0s,baz=146,slow=2.4,SNR=22							
BRTR				PP	PP	04 33 12.7	-0.9	
	comp=Z,17nm,1.0s,baz=101,slow=6.4,SNR=6.9							
BRTR				SKKPbc	SKKPbc	04 45 23.8	+1.5	
	comp=Z,1.2nm,0.8s,baz=271,slow=5.7,SNR=3.5							
PAC1	Pacto, Paraso	122.43	96	*e*P	PKiKP	04 31 40.2	+1.9	
MQOL	MQOL	122.46	288	*i* P		04 31 36.6		
MQOL				*i*		04 31 42.1		
	baz=240,slow=16							
MQOL				*i* S		04 38 52.2		
J58A	Remsen	122.50	44	PKiKP	PKPdf	04 31 37.0	-0.2	
	baz=290							
J58A	Remsen	122.50	44	IAMs_20	IAMs_20	05 18 38.5		
	comp=Z,28µm,21.0s							
L58A	Harry Jones Me	122.53	46	PKiKP	PKPdf	04 31 36.3	-1.0	
	baz=288							
LONY	Lake Ozonia	122.54	43	PKiKP	PKPdf	04 31 36.5	-0.8	
	baz=291							
LONY	Lake Ozonia	122.54	43	IAMs_20	IAMs_20	05 27 11.4		
	comp=Z,22µm,19.0s							
I58A	Old Forge	122.60	44	PKiKP	PKPdf	04 31 36.8	-0.7	
	baz=290							
ISOG	Isortoq, Green	122.61	8	*i* P	PKiKP	04 31 39.5	+2.6	
ISOG				IAMs_20	IAMs_20	05 23 23.0		
	comp=Z,26µm,21.0s							
LATQ	La Tuque	122.64	39	PKiKP	PKPdf	04 31 37.1	-0.2	
	baz=294							
LBTB	Lobatse	122.67	232	PKKPbc	PKKPbc	04 41 32.5	+0.6	
	comp=Z,4.5nm,0.8s,baz=306,slow=5.1,SNR=4.5							
LBTB	Lobatse	122.67	232	PKiKP	PKPdf	04 31 37.9	-0.4	
LBTB	Lobatse	122.67	232	PKPdf	PKPdf	04 31 37.9	-0.4	
D58A	Chemin du LacG	122.70	39	PKiKP	PKPdf	04 31 37.5	+0.1	
	baz=294							
E58A	La Victoria	122.73	40	PKiKP	PKPdf	04 31 37.3	-0.2	
	baz=293							
ANGG	Ammassalik, Gr	122.74	8	*i* P	PKiKP	04 31 38.9	+1.8	
ANGG				IAMs_20	IAMs_20	05 26 57.7		
	comp=Z,21µm,19.3s							
ANGG	Ammassalik, Gr	122.74	8	IAMs_20	IAMs_20	05 27 03.8		
	comp=Z,21µm,19.0s							
KSPA	Keystone Colle	122.75	46	IAMs_20	IAMs_20	05 31 07.2		
	comp=Z,32µm,20.0s							
OTAV	Otavalo	122.76	96	PKiKP	PKPdf	04 31 39.0	-0.1	
OTAV	Otavalo	122.76	96	PKPdf	PKPdf	04 31 39.0	-0.1	
OTAV	Otavalo	122.76	96	IAMs_20	IAMs_20	05 13 18.4		
	comp=Z,23µm,20.0s							
OTAV	Otavalo	122.76	96	*e*P	PKiKP	04 31 40.3	+1.0	
OTAV	Otavalo	122.76	96	*e*P	PKPdf	04 31 35.5	-3.7	
CNNC	Cliffs of the	122.80	54	PKiKP	PKPdf	04 31 37.0	-1.0	
	baz=283							
CUSE	Cuicocha Este	122.83	96	*e*P	PKiKP	04 31 42.8	+3.3	
HFS	Hagfors	122.86	340	PKP	PKPdf	04 31 35.9	-1.4	
	comp=Z,6.3nm,0.9s,baz=146,slow=10,SNR=2.3							
H58A	Gabriels	122.88	43	PKiKP	PKPdf	04 31 37.3	-0.7	
	baz=291							
SUW	Suwalki	122.91	330	*e*P	PKPdf	04 31 37.6	0.0	
SUW	Suwalki	122.91	330	*e*P	PKiKP	04 31 39.0	+1.2	
SUW	Suwalki	122.91	330	PKIKP	PKiKP	04 31 37.9	+0.1	
SUW				MLR	MLR			
	comp=Z,31µm,21.0s							
SUW	Suwalki	122.91	330		PKiKP	04 31 37.9	+0.1	
SUW				IAMs_20	IAMs_20	05 26 04.4		
	comp=Z,31µm,21.0s							
N59A	State Game Lan	122.94	47	PKiKP	PKPdf	04 31 36.6	-1.6	
	baz=288							
NB2	NORSAR Subarra	122.99	342	PKPdf	PKiKP	04 31 38.1	+0.2	
	comp=Z,46nm,1.4s,baz=40,slow=1.8							
NB2	NORSAR Subarra	122.99	342	PKPdf	PKiKP	04 31 38.1	+0.2	
	baz=40,slow=1.8							
NOA	NORSAR Array B	122.99	342	PKP	PKPdf	04 31 37.4	-0.3	
	comp=Z,12nm,1.2s,baz=38,slow=1.8,SNR=17							
NOA				PP	PP	04 33 14.4	-1.8	
	comp=Z,7.5nm,1.0s,baz=43,slow=6.7,SNR=5.1							
ANTO	Ankara	123.00	312	PKIKP	PKiKP	04 31 38.8	+0.2	
ANTO	Ankara	123.00	312		PKiKP	04 31 38.8	+0.2	
SORM	Soroca	123.01	322	⇓P	PKiKP	04 31 38.9	+0.7	
SORM	Soroca	123.01	322	⇓PKIKP	PKiKP	04 31 38.9	+0.7	
NCB	Newcomb	123.01	43	IAMs_20	IAMs_20	05 19 03.0		
	comp=Z,32µm,21.0s							
FRNY	Flat Rock	123.12	42	PKPdf	PKPdf	04 31 37.3	-1.0	
FRNY				IAMs_20	IAMs_20	05 17 47.8		
	comp=Z,38µm,22.0s							
H59A	Cadyville	123.12	42	PKiKP	PKPdf	04 31 37.1	-1.2	
	baz=292							
KIS	Kishinev	123.20	321	⇓*e*PKP	PKPdf	04 31 38.0	-0.4	
	comp=Z,160nm,4.3s							
KIS	Kishinev	123.20	321	⇓*i*PP	PP	04 33 12.0	-6.3	
	comp=Z,700nm,9.2s							
KIS				*e*SKS		04 37 33.0		
KIS				*e*LQ	LQ	05 09 22.0		
	comp=Z,7µm,20.5s							
KIS				LRM	MLR	05 27 23.0		
	comp=Z,5µm,21.0s							
MILM	Milestii Mici	123.24	321	⇑P	PKiKP	04 31 39.2	+0.5	
F59A	Saint Guillaume	123.26	41	PKiKP	PKiKP	04 31 38.7	-0.1	
	baz=293							
WUPA	West Chester U	123.36	48	IAMs_20	IAMs_20	05 19 22.5		
	comp=Z,25µm,21.0s							
P60A	Greenville	123.37	48	PKiKP	PKPdf	04 31 38.4	-0.6	
	baz=287							
D59A	Saint-Raymond	123.38	39	PKiKP	PKPdf	04 31 38.7	-0.1	
	baz=295							
PB07	IPOC Station P	123.49	124	IAMs_20	IAMs_20	05 13 04.5		
	comp=Z,26µm,22.0s							
ACCN	Adirondack Com	123.60	44	IAMs_20	IAMs_20	05 31 05.5		
	comp=Z,21µm,20.0s							
I60A	Shoreham	123.69	43	PKiKP	PKiKP	04 31 40.2	+0.5	
	baz=292							
ODNJ	Ogdensburg	123.72	47	IAMs_20	IAMs_20	05 20 32.1		
	comp=Z,33µm,21.0s							
F60A	Warwick	123.74	40	PKiKP	PKPdf	04 31 39.2	-0.3	
	baz=294							
H60A	Morristown	123.81	42	PKiKP	PKPdf	04 31 39.1	-0.7	
	baz=293							
J60A	Lant Hill Farm	123.82	44	PKiKP	PKPdf	04 31 39.2	-0.5	
	baz=291							
TRY	Troy	123.83	44	IAMs_20	IAMs_20	05 18 34.8		
	comp=Z,25µm,22.0s							
G60A	Masonville	123.84	41	PKiKP	PKPdf	04 31 39.6	-0.2	
	baz=293							
CSS	Mathiatis	123.86	306	PKPdf	PKPdf	04 31 39.5	-0.6	
VT1	Waterbury	123.86	42	IAMs_20	IAMs_20	05 26 33.6		
	comp=Z,30µm,20.0s							
LVC	Limon Verde	123.87	125	PKP	PKiKP	04 31 41.9	+0.7	
	comp=Z,3.8nm,0.6s,baz=277,slow=7.3,SNR=3.3							
LVC				PP	PP	04 33 29.0	+5.2	
	comp=Z,6.9nm,1.1s,baz=231,slow=6.7,SNR=5.5							
LVC				PKKPbc	PKKPab	04 41 27.8	0.0	
	comp=Z,5.2nm,0.8s,baz=123,slow=2.7,SNR=4.2							
LVC	Limon Verde	123.87	125	PKiKP	PKPdf	04 31 40.9	0.0	
LVC	Limon Verde	123.87	125	PKPdf	PKPdf	04 31 40.9	0.0	
LVC	Limon Verde	123.87	125	*e*P	PKPdf	04 31 37.1	-3.8	
E60A	Ste Agathe de	123.89	40	PKiKP	PKPdf	04 31 39.2	-0.5	
	baz=295							
TLCR		123.94	319	⇑P	PKiKP	04 31 41.8	+1.7	
TLCR		123.94	319	⇑PKIKP	PKiKP	04 31 41.8	+1.7	
TRNY	Table Rock, Ra	123.98	46	IAMs_20	IAMs_20	05 32 16.8		
	comp=Z,32µm,18.0s							
D60A	Saint Jean D'O	123.99	39	PKiKP	PKPdf	04 31 38.9	-1.0	
	baz=296							
GCUF	Volcan Galeras	124.03	95	*e*P	PKiKP	04 31 47.1	+5.2	
K61A	Williamstown	124.13	44	PKiKP	PKPdf	04 31 39.8	-0.5	
	baz=291							
PB01	IPOC Station P	124.14	123	IAMs_20	IAMs_20	05 13 21.7		
	comp=Z,34µm,22.0s							
LEF	Lefka	124.17	306	⇑P	PKPdf	04 31 40.4	-0.3	
PAL	Palisades	124.25	46	PKiKP	PKPdf	04 31 39.8	-0.8	
	baz=289							
PAL	Palisades	124.25	46	IAMs_20	IAMs_20	05 20 58.0		
	comp=Z,32µm,20.0s							
BBAC	Balboa, Cauca	124.27	94	*e*P	PKPdf	04 31 40.8	-1.0	
PSGCX	Pisagua	124.27	121	IAMs_20	IAMs_20	05 14 53.2		
	comp=Z,24µm,22.0s							
G61A	St-Isidore-de-	124.29	41	PKiKP	PKPdf	04 31 40.6	0.0	
	baz=294							
D61A	St Aubert, Com	124.31	38	PKiKP	PKPdf	04 31 40.5	-0.1	
	baz=296							
TPGR	Topolog	124.33	319	⇑P	PKiKP	04 31 42.1	+1.1	
H61A	Lyndonville	124.33	42	PKiKP	PKPdf	04 31 40.8	+0.1	
	baz=293							
F61A	St Evariste	124.35	40	PKiKP	PKiKP	04 31 41.0	0.0	
	baz=295							
J61A	Chester	124.37	43	PKiKP	PKPdf	04 31 40.3	-0.5	
	baz=292							
I61A	Oroboro, Fairl	124.38	43	PKiKP	PKPdf	04 31 40.1	-0.7	
	baz=293							
CFR	Carcaliu	124.38	319	⇓P	PKiKP	04 31 41.5	+0.5	
CFR	Carcaliu	124.38	319	⇓PKIKP	PKiKP	04 31 41.5	+0.5	
HNH	Hanover	124.42	43	IAMs_20	IAMs_20	05 19 53.0		
	comp=Z,27µm,21.0s							
LBNH	Lisbon	124.45	42	PKiKP	PKiKP	04 31 41.2	0.0	
	baz=293							
E61A	Lac Etchemin	124.47	39	PKiKP	PKPdf	04 31 40.8	-0.2	
	baz=296							
CRUC	La Cruz	124.48	95	*e*P	PKiKP	04 31 46.2	+3.6	
TIRR	Tirgusor	124.49	318	⇓P	PKiKP	04 31 42.3	+1.1	
TIRR	Tirgusor	124.49	318	⇓PKIKP	PKiKP	04 31 42.3	+1.1	
TIRR	Tirgusor	124.49	318		PKPdf	04 31 40.7	-0.3	
MFTR	Murfatlar	124.60	318	⇑P	PKiKP	04 31 42.9	+1.4	
WSPT	Westport, CT	124.61	46	IAMs_20	IAMs_20	05 25 16.4		
	comp=Z,31µm,20.0s							
L61B	Northampton	124.61	44	PKiKP	PKPdf	04 31 41.0	-0.2	
	baz=291							
HARR	Harsova	124.72	319	⇑P	PKiKP	04 31 43.4	+1.7	
HARR	Harsova	124.72	319	⇑PKIKP	PKiKP	04 31 43.4	+1.7	
LVV	L'vov	124.72	326	*e*PKIKP	PKPdf	04 31 41.3	0.0	
LVV				*e*		04 36 03.0		
LVV				*e*		04 38 37.2		
LVV				*e*		04 50 41.1		
LVV				MLR	MLR			
	comp=E,13µm,24.0s							
LVV				MLR	MLR			
	comp=N,23µm,22.0s							
LVV				MLR	MLR			
	comp=Z,29µm,23.0s							
SOLC	Bahia Solano	124.72	89	*e*P	PKiKP	04 31 46.1	+3.5	
TESR	Tescani	124.76	321	⇓P	PKiKP	04 31 42.7	+1.0	
H62A	Milan	124.82	41	PKiKP	PKPdf	04 31 41.1	-0.5	
	baz=294							
YLE	Yale	124.83	46	IAMs_20	IAMs_20	05 21 42.4		
	comp=Z,31µm,20.0s							
PB08	IPOC Station P	124.84	122	IAMs_20	IAMs_20	05 13 07.2		
	comp=Z,29µm,22.0s							
K62A	Royalston	124.84	44	PKiKP	PKPdf	04 31 41.8	+0.1	
	baz=292							
K62A	Royalston	124.84	44	IAMs_20	IAMs_20	05 30 26.4		
	comp=Z,28µm,19.0s							
LSZ	Lusaka	124.88	244	PKIKP	PKiKP	04 31 42.9	-0.1	
LSZ	Lusaka	124.88	244	PKPdf	PKiKP	04 31 42.9	-0.1	
LSZ	Lusaka	124.88	244	IAMs_20	IAMs_20	05 21 40.7		
	comp=Z,23µm,20.0s							
SOTA	Rioblanco	124.91	94	*e*P	PKiKP	04 31 46.1	+2.4	
POPC	Ropayan, Colom	124.91	93	*e*P	PKPpre	04 31 34.8		
J62A	Henniker	124.92	43	PKiKP	PKPdf	04 31 41.1	-0.8	
	baz=292							
FFD	Franklin Falls	124.93	43	IAMs_20	IAMs_20	05 18 54.7		
	comp=Z,29µm,22.0s							
G62A	West of Eustis	124.96	41	PKiKP	PKPdf	04 31 41.7	-0.2	
	baz=295							
G62A	West of Eustis	124.96	41	IAMs_20	IAMs_20	05 21 51.2		
	comp=Z,29µm,21.0s							
E62A	Clayton Lake	124.98	39	PKiKP	PKPdf	04 31 41.6	-0.3	
	baz=297							
I62A	Tamworth	124.98	42	PKiKP	PKPdf	04 31 41.9	0.0	
	baz=293							
I62A	Tamworth	124.98	42	IAMs_20	IAMs_20	05 29 01.0		
	comp=Z,29µm,20.0s							
VRI	Vrincioaia	124.99	320	⇑P	PKiKP	04 31 42.5	+0.2	
VRI	Vrincioaia	124.99	320	⇑PKIKP	PKiKP	04 31 42.5	+0.2	
F62A	Pittston Farm,	125.03	40	PKiKP	PKPdf	04 31 42.0	0.0	
	baz=296							
PLOR	Plostina	125.05	320	⇑P	PKiKP	04 31 43.4	+1.0	
PLOR	Plostina	125.05	320	⇑PKIKP	PKiKP	04 31 43.4	+1.0	
D62A	Allapoint, All	125.06	38	PKiKP	PKPdf	04 31 41.7	-0.2	
	baz=298							
BURAR	Bucovina Array	125.12	323	⇑P	PKiKP	04 31 45.4	+2.8	
BURAR	Bucovina Array	125.12	323	PKPdf	PKiKP	04 31 42.7	+0.1	
PCON	Cinco Dias	125.15	94	*e*P	PKiKP	04 31 47.5	+3.3	
ISP	Isparta	125.30	310	PKIKP	PKPdf	04 31 42.8	-0.1	
ISP						04 33 30.3		
ISP	Isparta	125.30	310	PKPdf	PKPdf	04 31 42.8	-0.1	
ISP				PP	PP	04 33 30.3	-2.6	
K63A	Dunstable	125.31	44	PKiKP	PKiKP	04 31 42.8	-0.1	
	baz=292							
K63A	Dunstable	125.31	44	IAMs_20	IAMs_20	05 24 48.0		
	comp=Z,25µm,20.0s							
ISK	Istanbul-Kandi	125.32	314	P	PKiKP	04 31 55.2	+12	
BEL	Belsk	125.34	329	*e*P	PKiKP	04 31 44.1	+1.3	
HRV	Adam Dziewonsk	125.36	44	PKiKP	PKPdf	04 31 42.6	-0.1	
	baz=292							
HRV	Adam Dziewonsk	125.36	44	IAMs_20	IAMs_20	05 24 28.2	

UZH *i* 04 33 42.6
UZH *e* 04 38 52.4
UZH *i* 04 43 37.2
UZH *i* SS SS 04 50 42.0 +0.7
UZH MLR MLR
comp=N,5µm,18.0s
UZH MLR MLR
comp=E,4µm,18.0s
PTLC Puerto Leguiza 126.33 97 *e*P **PKPdf 04 31 45.1 -0.4**
M65A Busby, Falmout 126.35 45 IAMs_20 IAMs_20 05 22 39.5
comp=Z,34µm,20.0s
TRPA Tarpa 126.43 325 ⇓P **PKiKP 04 31 46.4 +1.3**
ANIL Santa Ana 126.47 91 *e*P **PKPdf 04 31 44.6 -1.4**
STHS Stebnicka Huta 126.47 326 *e*PKIKP **PKiKP 04 31 46.3 +1.2**
STHS Stebnicka Huta 126.47 326 *e*PKP **PKiKP 04 31 46.3 +1.2**
KULA Kula-Manisa 126.47 311 P **PKiKP 04 31 45.5 0.0**
KSL Kastellorizon 126.50 308 P **PKiKP 04 31 52.1 +6.6**
CJR Cluj-Napoca 126.53 323 ⇓P **PKiKP 04 31 47.2 +1.8**
CJR Cluj-Napoca 126.53 323 ⇓PKIKP **PKiKP 04 31 47.2 +1.8**
ARR Arges 126.53 321 ⇓P **PKiKP 04 31 46.5 +1.1**
ORTC Ortega, Tolima 126.54 92 *e*P **PKPdf 04 31 44.9 -1.0**
TOLC Tolima 126.56 91 *e*P **PKPdf 04 31 46.0 -0.3**
HELC Santa Helena 126.57 89 *e*P **PKPdf 04 31 46.2 -0.1**
GUY2C Guyana, Caldas 126.61 90 *e*P **PKPdf 04 31 46.4 -0.1**
H65A Eastbrook 126.65 40 PKiKP **PKPdf 04 31 44.9 -0.2**
baz=297
BALB Balikesir 126.66 313 PKPdf **PKPdf 04 31 45.1 -0.1**
BALB PP **PP 04 33 39.6 -2.2**
HUMR Humele 126.69 320 ⇑P **PKiKP 04 31 47.0 +1.3**
MOTC Monteria, Cord 126.71 86 *e*P **PKiKP 04 31 50.2 +3.6**
COPA Copaceanca 126.71 319 ⇓P **PKiKP 04 31 45.6 -0.1**
UREC San Jos de Ur 126.74 87 *e*P **PKiKP 04 31 49.2 +2.5**
FETY Fethiye 126.75 309 P **PKPdf 04 31 45.6 0.0**
OJC Ojcow 126.79 328 *e*P **PKPdf 04 31 45.4 +0.2**
G65A Princeton 126.85 39 PKiKP **PKPdf 04 31 45.0 -0.5**
baz=298
PRAC Prado 126.86 92 *e*P **PKPdf 04 31 45.4 -1.1**
JAWL J.Aulia 126.88 282 *i* P 04 31 47.0
JAWL *i* 04 31 49.2
baz=9.2,slow=14
MBAR Mbarara 126.90 262 PKIKP **PKiKP 04 31 47.0 -0.2**
MBAR Mbarara 126.90 262 PKPdf **PKiKP 04 31 47.0 -0.2**
MBAR Mbarara 126.90 262 P **PKiKP 04 31 47.5 +0.2**
DRGR 127.02 323 ⇓ **PKiKP 04 31 46.4 0.0**
DRGR 127.02 323 PKIKP **PKiKP 04 31 46.4 0.0**
LOT Lotru 127.03 321 ⇑P **PKiKP 04 31 46.2 -0.2**
RGN Rugen 127.04 335 IAMs_20 IAMs_20 05 31 34.8
comp=Z,26µm,20.0s
RGN Rugen 127.04 335 *e*PKPbc **PKiKP 04 31 46.1 +0.1**
baz=44,slow=1.8
LRW Lerwick 127.05 347 *e*P PKPpre 04 31 32.2
LRW IAMs_20 IAMs_20 05 26 42.7
comp=Z,28µm,23.4s
EMMW East Machias 127.14 40 PKPdf **PKPdf 04 31 45.5 -0.5**
NORC Norcasia 127.14 90 *e*P **PKiKP 04 31 49.3 +1.7**
H66A Whiting 127.20 40 PKiKP **PKPdf 04 31 45.9 -0.2**
baz=298
YER Yerkesik 127.20 310 P **PKPdf 04 31 44.8 -1.7**
SJCC San Jacinto, C 127.28 85 *e*P **PKiKP 04 31 48.8 +1.0**
DEV Deva 127.35 322 ⇑P **PKiKP 04 31 47.4 +0.5**
DEV Deva 127.35 322 ⇑PKIKP **PKiKP 04 31 47.4 +0.5**
ZARC Zaragoza, Cauc 127.38 88 *e*P **PKPdf 04 31 46.5 -0.9**
LPAZ La Paz 127.42 119 PKP **PKPdf 04 31 48.3 +0.1**
comp=Z,9.6nm,0.6s,baz=280,slow=1.6,SNR=19
LPAZ La Paz 127.42 119 PKiKP **PKPdf 04 31 47.3 -0.9**
LPAZ La Paz 127.42 119 PKPdf **PKPdf 04 31 47.2 -0.9**
LPAZ La Paz 127.42 119 *e*P **PKPdf 04 31 48.0 -0.1**
LPAZ La Paz 127.42 119 *e*P **PKPdf 04 31 44.2 -4.0**
ENEZ Enez 127.49 315 P **PKiKP 04 31 47.1 -0.3**
ALN Alexandroupoli 127.50 315 P **PKPdf 04 31 45.6 -1.2**
LANS Liptovska Anna 127.58 327 *e*PKIKP **PKiKP 04 31 48.5 +1.1**
LANS Liptovska Anna 127.58 327 *e*PKP **PKiKP 04 31 48.5 +1.1**
ROSC El Rosal 127.59 91 PKP **PKPdf 04 31 48.1 -0.2**
comp=Z,47nm,0.8s,baz=225,slow=5.8,SNR=8.9
ROSC El Rosal 127.59 91 *e*P **PKiKP 04 31 51.5 +2.7**
MACC Macarena, Meta 127.63 95 *e*P **PKPdf 04 31 47.3 -0.6**
GZR Gura Zlata 127.67 321 ⇓P **PKPdf 04 31 47.2 +0.1**
GZR Gura Zlata 127.67 321 ⇓PKIKP **PKPdf 04 31 47.2 +0.1**
EZN Ezine 127.71 314 P **PKPdf 04 31 47.2 -0.1**
RDO Rodhopi 127.75 316 P **PKPdf 04 31 44.5 -2.8**
DAT Datca 127.87 310 P **PKPdf 04 31 46.6 -1.2**
OKC Ostrava-Krasne 127.88 328 *e*PKIKP **PKiKP 04 31 50.0 +2.1**
OKC MLR MLR
comp=Z,29µm,18.7s
OKC Ostrava-Krasne 127.88 328 *e*PKPDF **PKiKP 04 31 50.0 +2.1**
OKC AMS AMS 05 30 30.0
comp=Z,29µm,18.7s
GADA Gvkgeada 127.88 314 P **PKPdf 04 31 47.1 -0.5**
BODT Bodrum 127.96 310 P **PKPdf 04 31 47.6 -0.3**
PRK Paraskevi 127.97 313 P **PKPdf 04 31 47.6 -0.2**
SMTH Samothraki Isl 128.03 315 P **PKPdf 04 31 44.5 -3.4**
PSZ Piszkesteto 128.04 325 ⇑P **PKPdf 04 31 48.1 +0.3**
PSZ Piszkesteto 128.04 325 ⇑PKIKP **PKPdf 04 31 48.1 +0.3**
PSZ Piszkesteto 128.04 325 IAMs_20 IAMs_20 05 27 39.8
comp=Z,35µm,21.0s
SMG Samos 128.10 311 P **PKPdf 04 31 45.9 -2.2**
VILC Villavicencio, 128.10 92 *e*P **PKPdf 04 31 48.8 -0.1**
CHIC Chingaza 128.14 91 *e*P **PKPdf 04 31 47.9 -1.4**
HERR Herculane 128.14 321 ⇑P **PKiKP 04 31 48.9 +0.3**
KSP Ksiaz 128.19 330 *e*P **PKiKP 04 31 48.9 +0.4**
ARGC Ariguani, Magd 128.19 85 *e*P **PKiKP 04 31 55.4 +5.9**
MORC Moravsky Berou 128.22 329 ⇑P **PKiKP 04 31 48.7 +0.1**
MORC Moravsky Berou 128.22 329 ⇑PKIKP **PKiKP 04 31 48.7 +0.1**
MORC Moravsky Berou 128.22 329 *e*PKP **PKPdf 04 31 47.9 -0.1**
MORC *e* 04 33 55.5
BZS Buzias 128.27 322 ⇑P **PKPdf 04 31 48.0 -0.2**
BZS Buzias 128.27 322 ⇑PKIKP **PKPdf 04 31 48.0 -0.2**
SMLC San Martn de 128.28 86 *e*P **PKiKP 04 31 51.8 +2.1**
RUE Ruedersdorf 128.28 333 *e*PKPbc **PKiKP 04 31 48.5 0.0**
baz=44,slow=1.8
SIGR SIGRI 128.28 313 P **PKPdf 04 31 46.4 -2.0**
SMRC Santa Marta, M 128.29 83 *e*P **PKiKP 04 31 50.4 +0.7**
VYHS Vyhne 128.30 327 *e*PKIKP **PKPdf 04 31 47.3 -0.9**
VYHS *e* 04 33 53.7
VYHS MLR MLR
comp=Z,24µm,21.7s
VYHS Vyhne 128.30 327 *e*PKP **PKPdf 04 31 47.3 -0.9**
VYHS *e*PP **PP 04 33 53.7 +1.6**
VYHS *e*SS SS 04 51 12.7 +6.6
VYHS *e*L L 05 27 08.3
OSTC Ostas 128.41 330 *e*PKP **PKiKP 04 31 49.3 +0.3**
OSTC *e*x x 04 31 54.3
OSTC AMS AMS 05 31 50.0
comp=Z,37µm,18.9s
KRLC Kraliky 128.43 329 *e*PKIKP **PKiKP 04 31 49.8 +0.8**
KRLC *e* 04 31 54.2
KRLC MLR MLR
comp=Z,26µm,18.9s
KRLC Kraliky 128.43 329 *e*PKPDF **PKiKP 04 31 49.8 +0.8**
KRLC *e*pPKP **pPKPdf 04 31 54.2 +0.3**
KRLC AMS AMS 05 29 10.0
comp=Z,26µm,18.9s
CHOS Chios island 128.44 312 P **PKPdf 04 31 47.4 -1.4**
CHVC Chvalec 128.47 330 *e*PKPDF **PKiKP 04 31 50.1 +1.0**
CHVC AMS AMS 05 31 50.0
comp=Z,41µm,19.1s
DPC Dobruska-Polom 128.49 330 *e*PKIKP **PKiKP 04 31 49.3 +0.1**
DPC *e* 04 31 53.6
DPC *e* 04 33 55.2
DPC MLR MLR
comp=Z,38µm,20.3s
DPC Dobruska-Polom 128.49 330 *e*PKPDF **PKiKP 04 31 49.3 +0.1**
DPC *e*pPKP **pPKPdf 04 31 53.6 -0.4**
DPC *e*PP **PP 04 33 55.2 +2.0**
DPC AMS AMS 05 31 20.0
comp=Z,38µm,20.3s
LIA Limnos Island 128.50 314 P **PKPdf 04 31 47.6 -1.2**
KAVA Kavala 128.52 316 P **PKPdf 04 31 48.8 0.0**
THAS Thassos island 128.54 315 P **PKPdf 04 31 46.1 -2.7**
UPC Upice 128.54 330 *e*PKIKP **PKiKP 04 31 49.2 0.0**
UPC *e* 04 31 54.2
UPC *e* 04 33 54.7
UPC MLR MLR
comp=Z,42µm,18.5s
UPC Upice 128.54 330 *e*PKPDF **PKiKP 04 31 49.2 0.0**
UPC *e*pPKP **pPKPdf 04 31 54.2 +0.2**
UPC *e*PP **PP 04 33 54.7 +1.2**
UPC AMS AMS 05 32 00.0
comp=Z,42µm,18.5s
KARP Karpathos 128.56 308 PKPdf **PKPdf 04 31 49.0 -0.1**
KARP PP **PP 04 33 52.2 -2.3**
KARP IAMs_20 IAMs_20 05 32 11.1
comp=Z,20µm,22.0s
MDVR Moldovita 128.63 321 ⇑P **PKiKP 04 31 49.8 +0.2**
VTS Vitosha 128.68 318 ⇓P **PKiKP 04 31 50.0 +0.1**
VTS Vitosha 128.68 318 ⇓PKIKP **PKiKP 04 31 50.0 +0.1**
VTS Vitosha 128.68 318 IAMs_20 IAMs_20 05 31 51.8
comp=Z,23µm,20.0s
BSEG Bad Segeberg 128.70 336 *e*PKPbc **PKiKP 04 31 49.4 0.0**
baz=44,slow=1.8
JAVC Velka Javorina 128.71 328 *e*PKP **PKiKP 04 31 50.3 +0.6**
JAVC *e* 04 34 01.5
NVR Nevrokopi 128.82 316 P **PKPdf 04 31 48.7 -0.7**
BARC Barichara 128.93 89 *e*P **PKPdf 04 31 49.5 -1.1**
RUSC La Rusia 128.95 90 *e*P **PKPdf 04 31 50.2 -0.8**
PLTB Pedras Altas 128.96 145 IAMs_20 IAMs_20 05 25 26.5
comp=Z,30µm,19.0s
OCAC Ocana 128.97 87 *e*P **PKiKP 04 31 54.0 +2.8**
VRAC Vranov 129.00 329 ⇑P **PKiKP 04 31 49.9 -0.3**
VRAC Vranov 129.00 329 ⇑PKIKP **PKiKP 04 31 49.9 -0.3**
VRAC Vranov 129.00 329 *e*PKP **PKPdf 04 31 49.5 0.0**
VRAC *e* 04 34 00.8
SMOL Smolenice 129.05 327 *e*PKIKP **PKiKP 04 31 52.3 +2.0**
SMOL Smolenice 129.05 327 *e*PKP **PKiKP 04 31 52.3 +2.0**
SRS Serrai 129.10 316 P **PKPdf 04 31 47.1 -2.8**
BOVS Bovan 129.19 320 ⇑P **PKPdf 04 31 49.5 -0.5**
MODS Modra-Piesok 129.21 327 *e*PKIKP **PKiKP 04 31 52.1 +1.5**
MODS *e* 04 33 58.9
MODS MLR MLR
comp=Z,45µm,24.3s
MODS Modra-Piesok 129.21 327 *e*PKP **PKiKP 04 31 52.1 +1.5**
MODS *e*PP **PP 04 33 58.9 +0.9**
MODS *e*SS SS 04 51 25.5 +8.2
MODS *e*L L 05 28 09.8
PVCC Panska Ves 129.23 331 *e*PKIKP **PKiKP 04 31 50.6 0.0**
PVCC MLR MLR
comp=Z,36µm,18.9s
PVCC Panska Ves 129.23 331 *e*PKPDF **PKiKP 04 31 50.6 0.0**
PVCC AMS AMS 05 31 30.0
comp=Z,36µm,18.9s
KRUC Moravsky 129.25 328 *e*PKP **PKPdf 04 31 49.9 -0.1**
KRUC *e* 04 34 02.5
BRG Berggiesshubel 129.30 332 ⇓*i*PKP **PKiKP 04 31 50.9 +0.2**
BRG Amp 04 31 52.8
comp=Z,82nm,1.5s
BRG Berggiesshubel 129.30 332 *i* P **PKiKP 04 31 55.8 +5.1**
BRG Amp 04 31 57.4
comp=Z,94nm,1.3s
BRG PP **PP 04 34 00.8 +2.4**
BRG Amp 04 34 02.7
comp=Z,19nm,1.1s
BRG SKP 04 35 05.5
BRG Amp 04 35 07.6
comp=Z,104nm,2.0s
BRG Berggiesshubel 129.30 332 PS PS 04 43 59.0 -9.4
BRG Berggiesshubel 129.30 332 *e*PKPbc **PKPdf 04 31 50.3 +0.3**
baz=44,slow=1.8
APE Apeiranthos 129.30 311 ⇑P **PKPdf 04 31 50.1 -0.4**
APE Apeiranthos 129.30 311 ⇑PKIKP **PKPdf 04 31 50.1 -0.4**
ZST Bratislava 129.41 327 *e*PKIKP **PKiKP 04 31 51.7 +0.7**
ZST Bratislava 129.41 327 *e*PKP **PKiKP 04 31 51.7 +0.7**
ZST *e*PP PP 04 34 25.5 +26
ZKR Zakros 129.43 308 P **PKiKP 04 31 51.3 -0.2**
CLL Collm 129.44 332 *i* PKPdf **PKPdf 04 31 50.5 +0.3**
comp=Z,59nm,1.5s
CLL *i* pPKPdf **pPKPdf 04 31 55.9 +0.2**
comp=Z,73nm,1.1s
CLL *i* 04 32 07.2
CLL *e*PP **PP 04 33 56.0 -3.2**
CLL *i* 04 34 15.8
CLL *i* 04 34 27.7
CLL *e*SKPdf **SKPdf 04 35 24.0 -0.6**
CLL *e*PPP PPP 04 36 48.0
CLL *e*SKKSac **SKKSac 04 40 55.0 -0.7**
CLL *e*PS PS 04 44 00.0 -10
CLL *e*PPS PPS 04 45 36.0
CLL *e* 04 46 36.0
CLL *e* 04 47 04.0
CLL *e*SS **SS 04 51 17.0 -2.7**
CLL *e*(SSS) 04 55 49.0
CLL *e*SSSS 04 59 30.0
CLL Lm MLR 05 31 00.0
comp=N,33µm,21.0s
CLL Lm MLR 05 31 00.0
comp=E,23µm,20.1s
CLL Lm MLR 05 31 00.0
comp=Z,33µm,20.3s
CLL Collm 129.44 332 *i* PKIKP **PKPdf 04 31 50.5 +0.3**
CLL *i* 04 31 55.9
CLL *e* 04 33 56.0
CLL pmax pmax
comp=Z,59nm,1.5s
CLL MLR MLR
comp=Z,33µm,20.3s
CLL Collm 129.44 332 IAMs_20 IAMs_20 05 31 04.9
comp=Z,33µm,20.0s
CLL Collm 129.44 332 *e*PKPbc **PKiKP 04 31 50.7 -0.3**
baz=44,slow=1.8
FLTG Flechtingen 129.50 334 *e*PKPbc **PKPdf 04 31 50.6 +0.4**
baz=44,slow=1.8
STIA Sitia Lasithi 129.50 308 P **PKiKP 04 31 51.6 0.0**
FBE Freiberg 129.54 332 *e*PKPbc **PKiKP 04 31 50.9 -0.2**
baz=44,slow=1.8
PAIG Paliouri 129.54 315 P **PKPdf 04 31 49.2 -1.6**
TREC Trest 129.57 329 *e*PKIKP **PKiKP 04 31 51.9 +0.6**
TREC MLR MLR
comp=Z,37µm,20.1s
TREC Trest 129.57 329 *e*PKPDF **PKiKP 04 31 51.9 +0.6**
TREC AMS AMS 05 30 10.0
comp=Z,37µm,20.1s
HAL Halifax 129.58 38 IAMs_20 IAMs_20 05 24 50.3
comp=Z,32µm,20.0s
FRGS Fruska Gora 129.59 323 ⇓P **PKPdf 04 31 50.7 0.0**
PRA Prague 129.59 330 PKIKP **PKPdf 04 31 45.7 -4.8**
PRA Prague 129.59 330 AMS AMS 05 29 40.0
comp=Z,33µm,19.3s
SANT Santorini 129.59 310 ⇑P **PKPdf 04 31 50.4 -0.6**
SANT Santorini 129.59 310 P **PKPdf 04 31 50.3 -0.8**
SANT Santorini 129.59 310 PKPdf **PKPdf 04 31 50.2 -0.8**
PRU Pruhonice 129.60 330 *e*PKIKP **PKiKP 04 31 51.5 +0.2**
PRU *e* 04 31 57.0
PRU *e* 04 33 59.8
PRU MLR MLR
comp=Z,40µm,22.2s
PRU Pruhonice 129.60 330 *e*PKPDF **PKiKP 04 31 51.5 +0.2**
PRU *e*pPKP **sPKPdf 04 31 57.0 -0.9**
PRU *e*PP **PP 04 33 59.8 -0.6**
PRU AMS AMS 05 25 50.0
comp=Z,40µm,22.2s
PTGC Puerto Gaitan, 129.65 92 *e*P **PKiKP 04 31 54.8 +2.3**
HORT Hortiatis 129.66 316 P **PKPdf 04 31 50.2 -0.9**
MORH Mrgy, Hungar 129.70 324 ⇓P **PKiKP 04 31 51.8 +0.1**
VAY Valandovo 129.71 317 *i* P **PKPdf 04 31 50.2 -0.9**
KYMI Kymi, Euboea I 129.77 313 P **PKiKP 04 31 53.0 +1.0**
STIP Stip 129.80 318 *i* P **PKPdf 04 31 51.6 +0.4**
NRDL Niedersach Rie 129.85 335 *e*PKPbc **PKiKP 04 31 51.5 -0.1**
baz=44,slow=1.8
NPS Neapolis 129.85 308 P **PKiKP 04 31 52.0 -0.3**
ASSE Asse, Remlinge 129.88 335 *e*PKPbc **PKiKP 04 31 51.8 +0.1**
baz=44,slow=1.8
EREA Eretria 129.97 313 P **PKPdf 04 31 50.1 -1.6**
GRG Griva 129.98 317 P **PKPdf 04 31 51.0 -0.6**
LAST Lasithi 129.99 308 P **PKPdf 04 31 51.2 -0.7**
DIVS Divibare 130.04 321 IAMs_20 IAMs_20 05 35 03.1
comp=Z,18µm,20.0s
NEUB Neuenburg 130.06 333 *e*PKPbc **PKiKP 04 31 52.0 -0.2**
baz=44,slow=1.8
TBTG Tabatinga, AM 130.07 104 *e*P **PKPdf 04 31 52.3 -0.3**
DION Dionisos Attik 130.10 313 P **PKPdf 04 31 50.1 -1.8**
XOR Xorichti 130.12 314 P **PKPdf 04 31 50.5 -1.4**
SKO Skopje 130.16 318 *i* P **PKPdf 04 31 52.6 -0.1**
CLZ Clausthal 130.22 334 *e*PKPbc **PKiKP 04 31 52.3 -0.2**
baz=44,slow=1.8
CONA Conrad Observa 130.24 328 *i* P **PKiKP 04 31 52.7 -0.1**
comp=Z,55nm,1.4s,SNR=15
CONA *e*S **SKiKP 04 35 25.3 -2.6**
comp=Z,2µm,4.8s
MHLO Agia Marina, M 130.28 311 P **PKiKP 04 31 52.8 -0.3**
VLY Voula,Athens 130.29 312 P **PKPdf 04 31 51.7 -0.6**
LIT Litokhoron 130.30 316 P **PKPdf 04 31 51.2 -1.1**
SMIA Simia 130.31 314 P **PKPdf 04 31 49.6 -2.7**
WERD Werda 130.35 332 *e*PKPbc **PKiKP 04 31 52.6 -0.3**
baz=44,slow=1.8
PLN Plauen 130.39 332 *e*PKPbc **PKiKP 04 31 52.7 -0.2**
baz=44,slow=1.8
GUNZ Gunzen 130.40 332 *e*PKPbc **PKiKP 04 31 52.8 -0.2**
baz=44,slow=1.8
IDI Anoyia 130.40 309 ⇓P **PKiKP 04 31 53.6 +0.1**
IDI Anoyia 130.40 309 P **PKiKP 04 31 53.1 -0.4**
CPUP Villa Florida 130.41 137 PKP **PKPdf 04 31 53.3 +0.4**
comp=Z,56nm,1.1s,baz=284,slow=1.3,SNR=12
CPUP Villa Florida 130.41 137 PKIKP **PKPdf 04 31 52.7 -0.2**
CPUP Villa Florida 130.41 137 PKPdf **PKPdf 04 31 52.7 -0.2**
WERN Wernitzgruen 130.43 332 *e*PKPbc **PKiKP 04 31 52.8 -0.2**
baz=44,slow=1.8
NKC Novy Kostel 130.43 332 *e*PKIKP **PKiKP 04 31 53.7 +0.7**
NKC *e* 04 34 07.3
NKC MLR MLR
comp=Z,30µm,20.3s
NKC Novy Kostel 130.43 332 *e*PKPDF **PKiKP 04 31 53.7 +0.7**
NKC *e*PP **PP 04 34 07.3 +1.5**
NKC AMS AMS 05 31 20.0
comp=Z,30µm,20.3s
CKRC Cesky Krumlov 130.47 329 *e*PKPDF **PKiKP 04 31 54.4 +1.2**
CKRC *e*x x 04 31 59.3
CKRC *e*PP **PP 04 34 07.4 +1.3**
CKRC *e*x x 04 35 14.1
CKRC AMS AMS 05 30 20.0
comp=Z,45µm,20.5s
URIC Uribia, Colomb 130.51 83 *e*P **PKPdf 04 31 52.8 -0.5**
VILL Villia 130.52 313 P **PKPdf 04 31 51.8 -1.0**
MOX Moxa 130.53 333 *e*PKPbc **PKiKP 04 31 52.8 -0.4**
baz=44,slow=1.8
MOX *e*L L 05 30 53.4
comp=Z,26µm,20.4s
LKR Lokris 130.55 314 P **PKPdf 04 31 52.2 -0.5**
SIVA Sivas 130.55 308 P **PKPdf 04 31 52.6 -0.2**
GTTG Gottingen 130.61 334 *e*PKPbc **PKiKP 04 31 53.0 -0.3**
baz=44,slow=1.8
KHC Kasperske Hory 130.63 330 *e*PKIKP **PKPdf 04 31 52.8 +0.2**
KHC *e* 04 31 58.5
KHC *e* 04 34 09.6
KHC MLR MLR
comp=Z,43µm,18.2s
KHC Kasperske Hory 130.63 330 *e*PKPDF **PKPdf 04 31 52.8 +0.2**
KHC *e*pPKP **pPKPdf 04 31 58.5 +0.4**
KHC *e*PP **PP 04 34 09.6 +2.4**
KHC AMS AMS 05 33 10.0
comp=Z,43µm,18.2s
KHC Kasperske Hory 130.63 330 PKPdf **PKPdf 04 31 52.4 -0.3**
KZN Kozani 130.70 316 P **PKPdf 04 31 52.2 -0.9**
FNA Florina 130.75 317 P **PKPdf 04 31 52.2 -0.9**
GEC2 GERESS Array S 130.76 330 *e*PKPbc **PKiKP 04 31 53.6 -0.2**
baz=44,slow=1.8
GERES GERESS Array B 130.76 330 PKP **PKPdf 04 31 52.9 0.0**
comp=Z,10nm,1.0s,baz=27,slow=1.5,SNR=25
GERES PP **PP 04 34 08.8 +0.7**
comp=Z,2.7nm,0.8s,baz=11,slow=6.0,SNR=3.1
GERES GERESS Array B 130.76 330 PKIKP **PKPdf 04 31 52.8 -0.2**
GERES GERESS Array B 130.76 330 **PKPdf 04 31 52.8 -0.2**
MANZ Manzenberg 130.76 332 *e*PKPbc **PKiKP 04 31 53.4 -0.4**
baz=44,slow=1.8
LTK Loutraki 130.83 313 P **PKiKP 04 31 57.0 +2.8**
ARSA Arzberg 130.83 327 *e*P **PKPdf 04 31 52.5 -0.5**
comp=Z,21nm,1.4s
ARSA *e*P **PP 04 34 09.9 +1.3**
comp=Z,622nm,4.8s
ARSA S **SKPab 04 35 21.9 +5.6**
comp=Z,37nm,1.6s
LOUT Loutraki 130.84 313 P **PKPdf 04 31 51.9 -1.4**
THL Klokotos Trika 130.86 315 P **PKPdf 04 31 52.5 -0.8**
ROTZ Rotzenmuhle 130.87 331 *e*PKPbc **PKiKP 04 31 53.5 -0.4**
baz=44,slow=1.8
AGG Agios Georgios 130.87 314 P **PKPdf 04 31 52.5 -0.9**
VAM Vamos 130.89 309 P **PKiKP 04 31 54.5 +0.1**
KOGS Kog 130.92 326 *e*PKPdf **PKPdf 04 31 53.3 +0.1**
IBBN Ibbenburen 130.94 336 *e*PKPbc **PKiKP 04 31 53.9 -0.1**
baz=44,slow=1.8
KRND KRANIDI 130.94 312 P **PKPdf 04 31 52.4 -1.1**
PHP Peshkopia 130.96 318 P **PKPdf 04 31 51.3 -2.2**
WET Wettzell 130.97 330 *e*PKPbc **PKPdf 04 31 53.7 +0.4**
baz=44,slow=1.8
OHR Ohrid 130.99 317 *i* P **PKiKP 04 31 54.2 -0.3**
GRTK Grand Turk 131.00 70 IAMs_20 IAMs_20 05 21 37.7
comp=Z,23µm,21.0s
MAKR Makrakomi, Fth 131.01 314 P **PKPdf 04 31 52.6 -1.1**
IMMV Ipra Moni Meta 131.04 309 P **PKiKP 04 31 54.7 0.0**
SDDR Presa de Saban 131.08 73 IAMs_20 IAMs_20 05 26 06.1
comp=Z,28µm,19.0s
MOA Molln 131.12 328 *e*P **PKiKP 04 31 54.1 -0.4**
comp=Z,15nm,1.3s
MOA S **SKPab 04 35 22.2 +4.7**
comp=Z,30nm,1.6s
UBBA Unterbreizbach 131.12 334 *e*PKPbc **PKiKP 04 31 53.8 -0.4**
baz=44,slow=1.8
KPRO Kipourio 131.14 316 P **PKPdf 04 31 54.1 +0.2**
NEST Nestorio 131.15 317 P **PKiKP 04 31 57.2 +2.3**
GVDS Gavdos 131.17 308 P **PKiKP 04 31 54.5 -0.4**
GVD Gavdhos 131.17 308 P **PKiKP 04 31 55.5 +0.5**
KBN Korca 131.23 317 P **PKiKP 04 31 54.8 -0.2**
EVR Evrytania 131.28 314 P **PKPdf 04 31 53.5 -0.8**
SERG Sergoula 131.32 314 P **PKPdf 04 31 53.9 -0.3**
TRIZ Trizonia 131.33 314 P **PKPdf 04 31 53.8 -0.4**
ANX Ano Chora 131.34 314 P **PKPdf 04 31 54.7 +0.3**
KNDR Palaiochora Ch 131.34 309 P **PKiKP 04 31 55.1 -0.2**
PDG Podgorica 131.35 320 IAMs_20 IAMs_20 05 30 27.1
comp=Z,20µm,21.0s
VLI Veliai 131.36 311 P **PKPdf 04 31 53.5 -0.8**
GRF Grafenberg Arr 131.38 332 *e*PKPbc **PKPdf 04 31 54.2 +0.2**
baz=44,slow=1.8
GRF *e*L L 05 35 07.4
comp=Z,34µm,19.9s
KLV Kalavryta, Ach 131.41 313 P **PKPdf 04 31 53.1 -1.4**
EFP Efpalio 131.42 314 P **PKiKP 04 31 55.1 -0.2**
KTHA Kythira Island 131.44 311 P **PKPdf 04 31 53.8 -0.7**
LAKA Lakka 131.45 314 P **PKPdf 04 31 54.1 -0.4**
SOKA Soboth 131.45 327 *i* P **PKiKP 04 31 54.9 -0.4**
comp=Z,73nm,1.9s,SNR=10.0
SOKA *e*S **SKPab 04 35 19.6 +0.6**
comp=Z,2µm,6.1s
KTHR Kythira 131.48 311 P **PKiKP 04 31 55.3 -0.3**
TIR Tirane 131.50 318 P **PKPdf 04 31 54.6 +0.2**
TIR Tirane 131.50 318 IAMs_20 IAMs_20 05 32 41.3
comp=Z,29µm,20.0s
KASTN Kahler Asten 131.51 335 *e*PKPbc **PKPdf 04 31 54.6 +0.4**
baz=44,slow=1.8
VLX Vlachokerasia 131.51 312 P **PKPdf 04 31 55.1 +0.4**
LSK Leskovik 131.57 316 P **PKiKP 04 31 55.5 -0.2**
SC01 Santiago de lo 131.57 72 IAMs_20 IAMs_20 05 26 46.2
comp=Z,22µm,19.0s
JAN Janina 131.63 316 P **PKiKP 04 31 59.5 +3.7**
SDV Santo Domingo 131.67 86 PKP **PKPdf 04 31 56.3 +0.5**
comp=Z,35nm,0.6s,baz=268,slow=1.7,SNR=6.2
SDV SKPbc **SKPab 04 35 23.8 +2.6**
comp=Z,23nm,0.4s,baz=102,slow=22,SNR=14
SDV Santo Domingo 131.67 86 PKPdf **PKPdf 04 31 53.9 -1.9**
SDV Santo Domingo 131.67 86 IAMs_20 IAMs_20 05 19 25.5
comp=Z,22µm,22.0s
DRO Drossia 131.76 313 P **PKiKP 04 31 56.2 +0.1**
BUG Bochum--Univer 131.80 336 *e*PKPbc **PKPdf 04 31 55.0 +0.3**
baz=44,slow=1.8
OBKA Obir 131.82 327 *e*P **PKiKP 04 31 56.7 +0.7**
comp=Z,24nm,1.3s
OBKA *e*S **SKPab 04 35 20.7 +0.1**
comp=Z,2µm,6.3s
EKA Eskdalemuir Ar 131.86 346 SKKPbc SKKPbc 04 44 44.5 -5.8
comp=Z,4.1nm,1.0s,baz=186,slow=4.2,SNR=3.6
ESK Eskdalemuir 131.88 346 IAMs_20 IAMs_20 05 32 35.7
comp=Z,20µm,20.0s
ITM Ithomi 131.92 312 P **PKPdf 04 31 55.4 0.0**
RJOB Jochberg 131.95 329 *e*PKPbc **PKPdf 04 31 55.2 0.0**
baz=44,slow=1.8
TSUM Tsumeb 132.03 234 SKPbc **SKPab 04 35 26.0 +3.6**
comp=Z,38nm,1.2s,baz=127,slow=5.2,SNR=7.4
TSUM Tsumeb 132.03 234 PKPdf **PKPdf 04 31 54.6 -1.6**
IGT Igoumenitsa 132.04 316 P **PKPdf 04 31 54.5 -1.0**
KBA Koelnbreinsper 132.09 328 *e*P **PKiKP 04 31 57.2 +0.5**
comp=Z,25nm,0.9s
KBA *e*P **PP 04 34 16.9 +0.1**
comp=Z,44nm,1.2s
KBA *e*S **SKPab 04 35 23.1 +1.2**
comp=Z,57nm,1.1s
SRN Sarande 132.10 316 P **PKPdf 04 31 54.7 -0.9**
LJU Ljubljana 132.12 326 *e*PKPdf **PKPdf 04 31 55.7 +0.2**
LJU *e*PP **PP 04 34 19.3 +2.4**
LJU *e* 04 35 22.2
LJU *e* 04 35 56.1
LJU *e* 04 47 38.6
LJU *e* 05 16 16.8

LKD2 Lefkada island 132.15 315 P **PKPdf 04 31 56.1 +0.3**
NYDR Nydri-Lefkada 132.15 315 P **PKPdf 04 31 56.2 +0.5**
MILB Miltenberg 132.16 333 *e*PKPbc **PKPdf 04 31 55.4 0.0**
baz=44,slow=1.8
MYKA Terra Mystica 132.23 327 *e*S **SKPab 04 35 23.6 +1.3**
comp=Z,4μm,7.9s
GBAS Gorenja Brezov 132.23 326 *e*PP PP 04 34 19.0 +1.4
GBAS *e* 04 35 22.7
GBAS *e* 04 35 56.5
TNS Taunus Mts 132.23 334 *e*PKPbc **PKPdf 04 31 55.6 -0.1**
baz=44,slow=1.8
KEK Kerkira 132.32 316 P **PKPdf 04 31 56.5 +0.4**
FSK Fiskardo 132.36 314 P **PKPdf 04 31 55.6 -0.5**
FUR Furstenfeldbru 132.41 330 *e*PKPbc **PKPdf 04 31 55.9 -0.1**
baz=44,slow=1.8
KESW Keswick, Cumbr 132.52 345 *e*P PKPpre 04 31 42.9
KESW IAMs_20 IAMs_20 05 33 52.4
comp=Z,28μm,20.2s
VLMS Volimes, Zakyn 132.54 314 P **PKiKP 04 31 57.3 -0.4**
AHRW Bad Neuenahr-A 132.57 335 *e*PKPbc **PKPdf 04 31 56.1 0.0**
baz=44,slow=1.8
ELOV Elorza 132.63 89 *e*P **PKPdf 04 31 57.9 +0.6**
ABTA Abfaltersbach 132.74 328 *i* P **PKPdf 04 31 57.1 +0.3**
comp=Z,48nm,0.9s,SNR=14
ABTA S **SKPab 04 35 24.5 0.0**
comp=Z,954nm,4.8s
LMK Market Rasen 132.78 343 *e*P PKPpre 04 31 42.5
LMK IAMs_20 IAMs_20 05 30 09.9
comp=Z,34μm,24.8s
WATA Walderalm 132.83 329 *i* P **PKiKP 04 31 58.1 0.0**
comp=Z,108nm,1.7s,SNR=16
WATA *e*P **PP 04 34 22.3 +0.8**
comp=Z,578nm,3.5s
WATA *e*S **SKiKP 04 35 31.5 -1.8**
comp=Z,5μm,8.5s
WTTA Wattenberg 132.85 329 *i* P **PKiKP 04 31 57.7 -0.5**
comp=Z,1μm,4.6s,SNR=18
WTTA *e*P **PP 04 34 22.6 +0.9**
comp=Z,899nm,3.4s
WTTA *e*S **SKiKP 04 35 32.3 -1.1**
BTNL Ternell 132.92 336 *dx* x 04 32 02.7
MEM Membach 132.95 336 *d*pPKiKP **PKiKP 04 32 00.4 +2.3**
MEM *dx* x 04 32 03.2
STU Stuttgart 132.97 332 IAMs_20 IAMs_20 05 33 26.0
comp=Z,27μm,21.0s
STU Stuttgart 132.97 332 *e*PKPbc **PKPdf 04 31 56.9 -0.1**
baz=44,slow=1.8
SCTE Santa Cesarea 133.05 317 IAMs_20 IAMs_20 05 33 58.4
comp=Z,24μm,21.0s
MOTA Moosalm 133.06 330 *i* P **PKPdf 04 31 57.2 -0.3**
comp=Z,79nm,1.0s,SNR=18
MOTA *e*P **PP 04 34 25.0 +2.0**
comp=Z,789nm,4.3s
SQTA Sankt Quirin 133.09 330 *i* P **PKiKP 04 31 58.6 0.0**
comp=Z,74nm,1.0s,SNR=15
SQTA *e*P **PP 04 34 23.5 +0.4**
comp=Z,864nm,4.1s
RETA Reutte 133.13 330 *e*P **PKiKP 04 31 58.2 -0.4**
comp=Z,472nm,3.1s
RETA *e*P **PP 04 34 26.2 +2.9**
comp=Z,974nm,3.6s
ITAB Concordia 133.14 142 IAMs_20 IAMs_20 05 29 17.6
comp=Z,27μm,18.0s
BSTI Sart Tilman 133.15 336 *dx* x 04 32 04.1
BHOU Houvegnez 133.15 336 *d*PKiKP **PKiKP 04 31 58.6 +0.1**
LBWR Ladybower, Pea 133.22 344 *e*P PKPpre 04 31 43.3
LBWR IAMs_20 IAMs_20 05 32 36.7
comp=Z,36μm,20.5s
UBR Ueberruh 133.31 331 *e*PKPbc **PKPdf 04 31 57.4 -0.4**
baz=44,slow=1.8
BCLA Clavier 133.38 336 *d*PKiKP **PKiKP 04 31 58.3 -0.6**
BCLA *dx* x 04 32 04.4
BCLA *dx* x 04 32 08.4
UCC Uccle 133.44 337 *d*PKiKP **PKiKP 04 31 58.9 -0.1**
UCC *dx* x 04 32 04.8
FETA Feichten 133.47 330 *e*P **PKiKP 04 31 58.9 -0.5**
comp=Z,72nm,1.0s
FETA *e*S **SKPab 04 35 28.5 +0.7**
comp=Z,3μm,5.2s
BGES Gesves 133.49 337 *dx* x 04 32 04.4
SIV San Ignacio 133.56 123 PKP **PKPdf 04 31 59.5 +0.4**
comp=Z,6.9nm,0.7s,baz=242,slow=3.4,SNR=13
SIV PP **PP 04 34 30.0 +3.0**
comp=Z,4.3nm,1.0s,baz=276,slow=8.1,SNR=2.1
WLF Walferdange 133.62 335 *d*PKP **PKPdf 04 31 58.1 -0.1**
WLF *dx* x 04 32 04.5
WLF Walferdange 133.62 335 IAMs_20 IAMs_20 05 33 27.0
comp=Z,30μm,20.0s
WLF Walferdange 133.62 335 *e*PKPbc **PKPdf 04 31 58.1 -0.1**
baz=44,slow=1.8
BMRD Maredsous 133.68 337 *d*pPKiKP **PKiKP 04 32 02.0 +2.5**
BMRD *dx* x 04 32 04.2
BFO Black Forest 133.68 333 PKIKP **PKPdf 04 31 58.1 -0.3**
BFO Black Forest 133.68 333 **PKPdf 04 31 58.1 -0.3**
BFO IAMs_20 IAMs_20 05 33 55.9
comp=Z,32μm,21.0s
BFO Black Forest 133.68 333 *e*PKPbc **PKPdf 04 31 58.1 -0.3**
baz=44,slow=1.8
DAVA Damuels 133.70 330 *i* P **PKiKP 04 32 00.1 +0.1**
comp=Z,905nm,4.3s,SNR=13
DAVA *e*S **SKPab 04 35 29.7 +0.9**
comp=Z,3μm,4.2s
SNF Seneffe 133.70 337 *dx* x 04 32 04.8
DOU Dourbes 133.91 337 *d*PKiKP **PKPdf 04 31 59.2 +0.5**
MATE Matera 133.91 319 ∥P **PKPdf 04 31 57.5 -1.4**
SGRT San Giovanni R 133.93 321 IAMs_20 IAMs_20 05 38 16.1
comp=Z,26μm,19.0s
TEOL Teolo 134.10 327 IAMs_20 IAMs_20 05 37 13.5
comp=Z,22μm,20.0s
BBSR BB Station 134.14 54 IAMs_20 IAMs_20 05 33 43.5
comp=Z,20μm,18.0s
SAML Samuel 134.83 113 IAMs_20 IAMs_20 05 20 48.0
comp=Z,23μm,22.0s
NRCA Norcia 134.89 324 **PKPdf 04 31 59.6 -1.3**
NRCA PP **PP 04 34 32.8 -1.9**
NRCA IAMs_20 IAMs_20 05 35 25.1
comp=Z,32μm,21.0s
PAOL Paolisi 135.06 321 IAMs_20 IAMs_20 05 36 09.2
comp=Z,25μm,22.0s
AQDB Aquidauana 135.28 132 IAMs_20 IAMs_20 05 21 29.1
comp=Z,20μm,22.0s
RSBS Rosebush, Pemb 135.33 345 *e*P PKPpre 04 31 47.6
RSBS IAMs_20 IAMs_20 05 34 15.6
comp=Z,30μm,20.1s
AOPR Arecibo Observ 135.41 73 *e* **PKPdf 04 32 01.0 -1.5**
OSSC Osservatorio P 135.52 326 IAMs_20 IAMs_20 05 35 47.6
comp=Z,28μm,20.0s
VLC Villacollemand 135.58 327 IAMs_20 IAMs_20 05 34 36.8
comp=Z,23μm,20.0s
SENIN Lac Senin/Sane 135.60 331 PKPdf **PKPdf 04 32 02.0 -0.3**
TRCB Terra Rica 135.94 137 IAMs_20 IAMs_20 05 25 23.1
comp=Z,22μm,20.0s
SJG San Juan 136.01 74 PKP **PKPdf 04 32 03.8 +0.2**
comp=Z,13nm,0.8s,baz=279,slow=6.2,SNR=4.2
SJG PP **PP 04 34 43.5 +0.5**
comp=Z,7.7nm,0.8s,baz=230,slow=16,SNR=1.5
SJG SKPbc **SKiKP 04 35 40.2 -0.2**
comp=Z,13nm,0.8s,baz=275,slow=22,SNR=7.2
SJG San Juan 136.01 74 PKIKP **PKPdf 04 32 02.3 -1.2**
SJG San Juan 136.01 74 PKPdf **PKPdf 04 32 02.3 -1.2**
SJG San Juan 136.01 74 *e*P **PKPdf 04 32 03.6 +0.1**
CASP Castiglione de 136.21 325 IAMs_20 IAMs_20 05 37 42.7
comp=Z,22μm,20.0s
CDVI St. Croix 137.35 74 *e*P **PKPdf 04 32 06.5 +0.5**
CORL Corleone 137.61 318 IAMs_20 IAMs_20 05 38 08.2
comp=Z,17μm,20.0s
PCRV Puerto La Cruz 137.66 85 PP PP 04 34 58.2 +4.6
comp=Z,18nm,1.1s,baz=11,slow=13,SNR=2.7
CLTB Caltabellotta 137.84 317 IAMs_20 IAMs_20 05 38 17.6
comp=Z,25μm,21.0s
SPB Sao Paulo 138.68 143 PKPdf **PKPdf 04 32 07.9 -0.5**
SPB IAMs_20 IAMs_20 05 24 41.5
comp=Z,24μm,22.0s
SABA Saba 138.81 74 *e*P **PKPdf 04 32 04.4 -4.4**
SABA Saba 138.81 74 IAMs_20 IAMs_20 05 33 00.1
comp=Z,17μm,19.0s
ANWB Willy Bob 140.19 74 *e*P PKPdf 04 32 03.4 -7.8
ANWB Willy Bob 140.19 74 IAMs_20 IAMs_20 05 28 12.5
comp=Z,16μm,21.0s
ANBD Bethesda, Anti 140.27 75 *e*P **PKPdf 04 32 08.4 -3.0**
CBE Ff, Capester 140.51 76 *e*P PKPdf 04 32 03.2 -8.7
PTGA Pitinga 140.56 103 PKhKP PKPpre 04 32 07.5
comp=Z,15nm,0.9s,baz=294,slow=21,SNR=10
ABD La Joyeuse, An 140.59 75 *e*P **PKPdf 04 32 05.6 -6.4**
GRGR Grenville 140.63 82 *e*P PKPdf 04 32 03.9 -8.2
DSLB Salisbury 140.74 77 *e*P **PKPdf 04 32 07.2 -5.1**
MAGL Barre de l'ile 140.84 76 *e*P **PKPdf 04 32 05.6 -6.9**
GCMP Grenada, Carri 140.85 82 *e*P **PKPdf 04 32 06.9 -5.6**
TRN Trinidad (W) 140.85 85 *e*P **PKiKP 04 32 14.9 -0.3**
DLPL La Plaine 140.92 77 *e*P **PKiKP 04 32 15.4 +0.1**
SVB Belmont 141.01 80 *e*P PKPdf 04 32 03.1 -10
SVB Belmont 141.01 80 **PKPdf 04 32 10.9 -1.9**
H05N1 Guadeloupe/Mar 141.02 76 PKP **PKPdf 04 32 13.0 +0.2**
FDF Fort de France 141.05 78 *e*P **PKPdf 04 32 11.3 -1.6**
BIM Bigot 141.14 79 *e*P PKPdf 04 32 01.6 -11
SLBI Saint Lucia, B 141.25 79 *e*P **PKPdf 04 32 08.6 -4.6**
MCLT Moule a Chique 141.30 80 *e*P **PKPdf 04 32 13.6 +0.2**
MCLT Moule a Chique 141.30 80 IAMs_20 IAMs_20 05 33 10.8
comp=Z,16μm,20.0s
ILAM Ilet Lapin Mar 141.31 78 *e*P PKPdf 04 32 01.6 -12
MPOM Morne Pois Mar 141.34 79 *e*P PKPdf 04 32 04.4 -9.0
KEST Kesra 141.45 318 PKhKP PKPpre 04 32 07.7
comp=Z,23nm,1.0s,baz=322,slow=3.5,SNR=8.6
KEST Kesra 141.45 318 IAMs_20 IAMs_20 05 40 06.9
comp=Z,26μm,20.0s
TOSP Speyside 141.72 84 *e*P **PKPdf 04 32 12.9 -1.1**
TOSP Speyside 141.72 84 IAMs_20 IAMs_20 05 36 39.7
comp=Z,18μm,20.0s
CMAH Djebel Manchou 142.16 320 P **PKPdf 04 32 11.2 -3.2**
ABSA Djebel Ababsia 142.34 320 P **PKPdf 04 32 10.8 -4.0**
BBGH Gun Hill 142.66 81 *e*P **PKiKP 04 32 17.5 -1.3**
BBGH Gun Hill 142.66 81 IAMs_20 IAMs_20 05 44 26.5
comp=Z,24μm,22.0s
CKFL Kef-Lekhel 142.74 321 P **PKPdf 04 32 12.9 -2.6**
CTEI Djebel Teioual 143.15 321 P PKPbc 04 32 14.0 +0.9
DFRA Djebel Bou Aff 143.17 322 P **PKPdf 04 32 15.7 -0.6**
SET Setif 143.69 322 P PKPbc 04 32 15.0 +0.4
BDFB Brasilia 143.97 133 PKP PKPbc 04 32 15.7 -0.3
comp=Z,20nm,0.7s,baz=238,slow=2.0,SNR=20
BDFB Brasilia 143.97 133 PKPdf PKPab 04 32 15.5 +0.1
BDFB IAMs_20 IAMs_20 05 40 57.1
comp=Z,21μm,19.0s
UCM Universidad Co 145.09 335 PKP **PKPbc 04 32 18.0 -0.8**
UCM SS SS 04 54 26.4 +0.7
PBRG Braganca 145.10 340 *e*PKP **PKPbc 04 32 17.6 -1.2**
PGAV Gavieira, Arco 145.44 342 *e*PKP **PKPab 04 32 20.2 +0.1**
PGAV *i* LQ LQ 04 32 26.1
PGAV Gavieira, Arco 145.44 342 *e*SS SS 04 54 53.8 +24
PGAV Gavieira, Arco 145.44 342 *e*LR LR 05 15 54.7
comp=Z,18μm,20.0s
PCAB Cabril 145.60 342 *e*PKP **PKPdf 04 32 19.4 -0.8**
MVO Moncorvo 145.77 340 *e*PKP **PKPab 04 32 21.2 -0.2**
MVO Moncorvo 145.77 340 *e*SS SS 04 54 31.8 -1.4
MVO Moncorvo 145.77 340 *e*LR LR 05 16 36.8
comp=Z,34μm,22.0s
POLO Lamas de Olo 145.84 341 *e*PKP **PKPbc 04 32 21.2 0.0**
ES19 SONSECA Array 145.88 335 IAMs_20 IAMs_20 05 41 44.2
comp=Z,24μm,20.0s
ES18 SONSECA Array 145.89 335 IAMs_20 IAMs_20 05 41 44.5
comp=Z,25μm,20.0s
ES08 SONSECA Array 145.89 335 IAMs_20 IAMs_20 05 41 44.7
comp=Z,25μm,21.0s
ES09 SONSECA Array 145.90 335 IAMs_20 IAMs_20 05 41 46.7
comp=Z,25μm,21.0s
PVRL Vila Real 145.90 341 *e*PKP **PKPbc 04 32 21.4 +0.1**
EBNR Beni Rached 145.90 325 P **PKiKP 04 32 27.8 +2.8**
ES17 SONSECA Array 145.91 335 IAMs_20 IAMs_20 05 41 45.0
comp=Z,27μm,22.0s
ES07 SONSECA Array 145.91 335 IAMs_20 IAMs_20 05 41 45.1
comp=Z,25μm,21.0s
ES02 SONSECA Array 145.91 335 IAMs_20 IAMs_20 05 41 46.1
comp=Z,24μm,21.0s
ES10 SONSECA Array 145.91 335 IAMs_20 IAMs_20 05 41 46.2
comp=Z,25μm,21.0s
ES03 SONSECA Array 145.92 335 IAMs_20 IAMs_20 05 41 45.3
comp=Z,25μm,21.0s
ES06 SONSECA Array 145.92 335 IAMs_20 IAMs_20 05 41 45.3
comp=Z,26μm,21.0s
ES01 SONSECA Array 145.92 335 IAMs_20 IAMs_20 05 41 45.4
comp=Z,25μm,21.0s
ESBB Sonseca Array 145.92 335 IAMs_20 IAMs_20 05 41 44.4
comp=Z,23μm,21.0s
ESDC Sonseca Array 145.93 335 PKPbc **PKPdf 04 32 20.9 0.0**
comp=Z,39nm,1.1s,baz=9.2,slow=3.5,SNR=89
ES16 SONSECA Array 145.93 335 IAMs_20 IAMs_20 05 41 45.5
comp=Z,25μm,21.0s
ES11 SONSECA Array 145.93 335 IAMs_20 IAMs_20 05 41 45.6
comp=Z,25μm,21.0s
ES04 SONSECA Array 145.93 335 IAMs_20 IAMs_20 05 41 45.7
comp=Z,25μm,21.0s
ES05 SONSECA Array 145.93 335 IAMs_20 IAMs_20 05 41 45.7
comp=Z,27μm,21.0s
ES12 SONSECA Array 145.95 335 IAMs_20 IAMs_20 05 41 47.1
comp=Z,22μm,21.0s
ES13 SONSECA Array 145.95 335 IAMs_20 IAMs_20 05 41 46.0
comp=Z,26μm,21.0s
ES15 SONSECA Array 145.95 335 IAMs_20 IAMs_20 05 41 47.1
comp=Z,26μm,21.0s
ES14 SONSECA Array 145.95 335 IAMs_20 IAMs_20 05 44 03.3
comp=Z,24μm,21.0s
ECHA Ech Chlef 146.09 325 P **PKiKP 04 32 24.7 -0.6**
PAB San Pablo 146.19 336 IAMs_20 IAMs_20 05 40 56.5
comp=Z,24μm,20.0s
CART Cartagena 146.27 330 PKP **PKPdf 04 32 21.0 -0.4**
CART SS SS 04 54 56.2 +17
CART Cartagena 146.27 330 PKPbc **PKPbc 04 32 22.7 +0.2**
EANR 'Ain N'Sour 146.39 325 P **PKPbc 04 32 23.0 0.0**
PVIS Viseu 146.46 341 *e*PKP **PKPdf 04 32 21.1 -0.6**
MTE Manteigas 146.63 340 *e*PKP **PKPdf 04 32 22.4 +0.3**
MTE Manteigas 146.63 340 *e*LR LR 05 17 14.4
comp=Z,22μm,22.0s
MTE Manteigas 146.63 340 IAMs_20 IAMs_20 05 38 49.5
comp=Z,26μm,22.0s
ETRT Tiaret 146.68 325 P **PKPab 04 32 25.6 +0.5**
COI Coimbra 147.09 341 *e*PKP **PKPbc 04 32 24.2 -0.6**
PCBR Castelo Branco 147.11 340 *e*PKP **PKPdf 04 32 22.5 -0.3**
PCAS Casmilo, Conde 147.26 341 *e*PKP **PKPbc 04 32 24.3 -1.0**
PMRV Marv??o 147.45 339 *e*PKP **PKPbc 04 32 24.8 -1.1**
PMRV Marv??o 147.45 339 *e*SS SS 04 54 54.6 +2.5
PMRV Marv??o 147.45 339 *e*LR LR 05 16 13.8
comp=Z,16μm,20.0s
PSBE So Bento 147.84 341 *e*PKP **PKPdf 04 32 24.8 +0.7**
PESTR Estremoz 148.02 339 *e*PKP **PKPdf 04 32 24.4 +0.1**
PESTR Estremoz 148.02 339 PKPbc **PKPbc 04 32 26.8 -0.7**
PESTR IAMs_20 IAMs_20 05 40 10.4
comp=Z,16μm,20.0s
PMTG Montargil 148.06 340 *e*PKP **PKPdf 04 32 24.2 -0.2**
EVO Evora 148.47 339 PKP **PKPbc 04 32 26.8 -1.8**
EVO SS SS 04 55 10.4 +6.9
EVO Evora 148.47 339 *e*PKP **PKPdf 04 32 26.2 +1.1**
PMAFR Mafra 148.51 341 *e*PKP **PKPdf 04 32 25.7 +0.6**
EMAL Malaga-Limoner 148.56 333 PKP **PKPdf 04 32 26.1 +0.9**
EMAL SS SS 04 55 22.3 +17
H07N1 FLORES T-PHASE 148.63 14 *e*PKP **PKPab 04 32 32.9 +0.4**
PMST Lisbon--Monsan 148.67 341 *e*PKP **PKPdf 04 32 26.9 +1.5**
LIS Lisbon 148.68 341 *e*PKPdf **PKPdf 04 32 26.0 +0.6**
LIS *e*SS SS 04 55 11.2 +5.4
LIS IAMs_20 IAMs_20 05 40 05.7
comp=Z,37μm,22.2s
LIS Lisbon 148.68 341 *e*PKIKP **PKPdf 04 32 25.9 +0.6**
LIS *e*SS SS 04 55 11.1 +5.3
LIS Lisbon 148.68 341 *e*PKP **PKPdf 04 32 26.6 +1.2**
EKNA AfricaArray - 148.83 263∥ *e*P **PKPdf 04 32 26.8 +0.4**
PBEJ Beja 148.87 339 *e*PKP **PKPdf 04 32 26.9 +1.2**
LIJA Lijar 148.87 334 PKP **PKPbc 04 32 29.5 -0.3**
H07S1 FLORES T-PHASE 148.91 14 *e*PKP **PKPdf 04 32 25.3 -0.5**
MDP Montagnes des 148.98 96 PKPbc **PKPbc 04 32 31.1 +0.4**
comp=Z,112nm,0.9s,baz=266,slow=4.3,SNR=28
PNCL Nicolau / Gran 149.02 340 *e*PKP **PKPdf 04 32 25.2 -0.8**
MELI Melilla 149.03 329 PKP **PKPbc 04 32 30.6 +0.5**
MELI SS SS 04 55 05.4 -4.9
MESJ Messejana 149.16 339 *e*PKPdf **PKPdf 04 32 26.9 +0.6**
MESJ *e*SS SS 04 55 16.4 +5.2
MESJ IAMs_20 IAMs_20 05 40 03.2
comp=Z,32μm,20.7s
MESJ Messejana 149.16 339 *e*PKIKP **PKPdf 04 32 26.8 +0.6**
MESJ *e*SS SS 04 55 16.4 +5.2
MESJ Messejana 149.16 339 *e*PKP **PKPdf 04 32 26.6 +0.4**
ARNO Arenosillo 149.25 336 PKP **PKPbc 04 32 29.0 -1.6**
ARNO SS SS 04 55 26.7 +14
PCVE Castro Verde 149.28 339 *e*PKP **PKPdf 04 32 27.1 +0.7**
PVAQ Vaqueiros 149.36 338 *e*PKP **PKPdf 04 32 27.5 +1.0**
PVAQ Vaqueiros 149.36 338 *e*SS SS 04 55 41.5 +28
PVAQ Vaqueiros 149.36 338 *e*LR LR 05 18 25.3
comp=Z,27μm,20.0s
SFS San Fernando 149.58 335 PKP **PKPdf 04 32 28.9 +2.0**
SFS SS SS 04 55 05.0 -11
PBDV Barranco-do-Ve 149.58 338 *e*PKP **PKPdf 04 32 28.1 +1.1**
PTEO Sao Teotonio 149.60 339 *e*PKP **PKPbc 04 32 31.0 -0.5**
CEU Ceuta 149.70 333 PKP **PKPbc 04 32 32.1 +0.4**
MORF Marmelete 149.79 339 *e*PKPdf **PKPdf 04 32 27.9 +0.6**
MORF IAMs_20 IAMs_20 05 41 38.1
comp=Z,38μm,26.8s
MORF Marmelete 149.79 339 *e*PKHKP PKPpre 04 32 27.9
MORF Marmelete 149.79 339 *e*PKP **PKPdf 04 32 27.7 +0.4**
PVLZ Peæn de 149.80 331 PKP **PKPdf 04 32 25.6 -1.6**
PVLZ SS SS 04 55 01.3 -18
SRBC Serra Branca 149.90 10 *e*PKP **PKPbc 04 32 31.2 -1.0**
PGRA Graciosa 149.91 10 *e*PKP **PKiKP 04 32 34.8 +1.6**
PFVI Vila Bisbo 150.00 339 *e*PKP **PKPdf 04 32 27.7 +0.1**
PFVI *i* LQ LQ 04 32 39.3
ROSA Rosais 150.17 10 *e*PKP **PKPbc 04 32 31.2 -1.7**
ROSA Rosais 150.17 10 IAMs_20 IAMs_20 05 34 52.3
comp=Z,17μm,22.0s
PCED Cedros 150.17 11 *e*PKP **PKPdf 04 32 28.5 +0.7**
CALA Caldeira 150.22 11 *e*PKP **PKPdf 04 32 29.8 +1.8**
PMAN Manadas 150.28 10 *e*PKP **PKiKP 04 32 35.3 +1.4**
HOR Horta 150.28 11 *e*PKP **PKPbc 04 32 33.5 +0.4**
PAGU Agualva, Azore 150.29 9 *e*PKP **PKPbc 04 32 31.6 -1.5**
PICO Pico 150.35 11 *e*PKP **PKiKP 04 32 34.2 0.0**
PSCM Serra do Cume 150.37 9 *e*PKP **PKiKP 04 32 36.3 +2.2**
PCAN Candelaria 150.37 11 *e*PKP **PKPbc 04 32 31.5 -1.9**
ADH Angra Heroismo 150.40 9 *e*PKP **PKPbc 04 32 31.0 -2.4**
PPNO Prainha do Nor 150.41 11 *e*PKP **PKPbc 04 32 31.5 -2.0**
PID Ribeirinha 150.46 10 *e*PKP **PKiKP 04 32 34.7 +0.4**
PSET Sete Cidades 151.42 7 *e*PKP **PKPdf 04 32 31.3 +1.5**
PCALD Caldeiras da R 151.47 6 *e*PKP **PKPdf 04 32 32.6 +2.8**
GRON Grota Negra 151.50 6 *e*PKP **PKPdf 04 32 30.1 +0.2**
CMLA Cha da Macela 151.50 6 *e*PKP **PKPdf 04 32 29.1 -0.8**
CMLA Cha da Macela 151.50 6 PKIKP **PKPbc 04 32 35.3 -0.7**
CMLA Cha da Macela 151.50 6 PKPbc **PKPbc 04 32 35.3 -0.7**
CMLA Cha da Macela 151.50 6 IAMs_20 IAMs_20 05 45 43.6
comp=Z,15μm,19.0s
PDA Ponta Delgada 151.50 7 *e*PKP **PKPdf 04 32 31.8 +2.0**
BART Pico Bartolome 151.52 6 *e*PKP **PKPdf 04 32 29.8 -0.2**
IFR Ifrane 151.54 330 PKP **PKPdf 04 32 30.4 +0.1**
IFR SS SS 04 55 32.2 -6.4
PSMN Pico do Norte, 152.30 6 *e*PKP **PKPdf 04 32 31.1 0.0**
PSMA Santa Maria 152.30 6 *e*PKP **PKPdf 04 32 31.3 +0.2**
AVE Averroes 152.79 333 PKP **PKPdf 04 32 31.4 -0.6**
AVE SS SS 04 55 58.0 +6.1
PMPST Porto Santo, M 155.88 349 *e*PKP **PKPdf 04 32 40.0 +3.7**
PMPS Porto Santo 155.90 349 *e*PKP **PKPdf 04 32 40.4 +4.1**
PMOZ Porto Moniz, M 156.28 351 *e*PKP **PKPdf 04 32 41.4 +4.5**
PMOZ Porto Moniz, M 156.28 351 *e*SS SS 04 56 38.1 +8.9
PMOZ Porto Moniz, M 156.28 351 *e*LR LR 05 20 41.5
comp=Z,16μm,20.0s
PMAR Madeira 156.33 350 *e*PKP **PKPdf 04 32 38.5 +1.4**
FUL Funchal 156.40 350 *e*PKP **PKPdf 04 32 36.0 -0.9**
TOC2 Torodi Ar. Sit 156.77 282 IAMs_20 IAMs_20 05 56 31.5
comp=Z,23μm,20.0s
TOB3 Torodi Ar. Sit 156.78 281 IAMs_20 IAMs_20 05 56 32.0
comp=Z,22μm,20.0s
TOA2 Torodi Ar. Sit 156.79 282 IAMs_20 IAMs_20 05 56 32.1
comp=Z,24μm,20.0s
TOC4 Torodi Ar. Sit 156.79 281 IAMs_20 IAMs_20 05 56 32.2
comp=Z,24μm,20.0s
TOA0 Torodi Ar. Sit 156.79 282 PKPdf **PKPdf 04 32 36.3 -1.6**
TOA0 PKPab **PKPab 04 33 06.8 -0.7**
TOA0 IAMs_20 IAMs_20 05 56 31.2
comp=Z,22μm,20.0s
TOA0 Torodi Ar. Sit 156.79 282 P **PKPdf 04 32 38.5 +0.5**
SNR=10
TOB1 Torodi Ar. Sit 156.79 282 IAMs_20 IAMs_20 05 56 31.2
comp=Z,21μm,20.0s
TORD Torodi Ar. Bea 156.79 282 PKP **PKPdf 04 32 37.5 -0.4**
comp=Z,17nm,0.9s,baz=33,slow=1.6,SNR=45
TORD PKPab **PKPab 04 33 07.9 +0.4**
comp=Z,56nm,1.1s,baz=76,slow=0.9,SNR=15
TORD PP **PP 04 36 43.2 -2.9**
comp=Z,8.9nm,1.1s,baz=52,slow=2.4,SNR=2.5
TORD Torodi Ar. Bea 156.79 282 PKPdf **PKPdf 04 32 36.8 -1.1**
TORD PKPab **PKPab 04 33 05.8 -1.8**
TOA3 Torodi Ar. Sit 156.79 281 IAMs_20 IAMs_20 05 56 31.3
comp=Z,22μm,20.0s
TOB4 Torodi Ar. Sit 156.81 281 IAMs_20 IAMs_20 05 56 31.5
comp=Z,21μm,20.0s
TOC7 Torodi Ar. Sit 156.81 282 IAMs_20 IAMs_20 05 53 12.6
comp=Z,23μm,22.0s
RCBR Riachuelo 159.29 136 PKP **PKPdf 04 32 40.2 -0.9**
comp=Z,45nm,1.1s,baz=130,slow=5.7,SNR=3.6
RCBR Riachuelo 159.29 136 IAMs_20 IAMs_20 05 43 54.9
comp=Z,18μm,21.0s
RCBR Riachuelo 159.29 136 *e*P **PKPdf 04 32 39.5 -1.6**
KOWA Kowa 162.00 288 PKP **PKPdf 04 32 42.9 -1.0**
comp=Z,22nm,1.1s,baz=4.3,slow=1.5,SNR=18
KOWA Kowa 162.00 288 PKPdf **PKPdf 04 32 44.0 +0.1**
KIC Kosan Boka 162.98 261 *e*PKP1 **PKPdf 04 32 45.1 +0.1**
comp=Z,92nm,1.1s
LIC Lamto 163.23 261 *e*PKP1 **PKPdf 04 32 44.3 -0.9**
comp=Z,134nm,1.1s
TIC Toumodi 163.31 262 *e*PKP1 **PKPdf 04 32 45.4 +0.1**

IDC ***10*** *04:21:14.2±0.6, 9°.27S×158°.12E, h0km, mb4.8/17, mb1 4.9/17, mb1mx4.7/41, mbtmp4.8/17 Error ellipse: s-maj=19.7km s-min=16.9km az=147.0*
BJI ***10*** *04:21:14.7±0.0, 8°.97S×158°.28E, h9km, mB5.1/3, mb5.3/28*
NEIC ***10*** *04:21:16.3±1.6, 9°.2S±0°.1×158°.19E±0°.08, h10km±1km, mb5.2/99, Error ellipse: s-maj=19.7km s-min=14.1km az=173.0*
ISC 10 04:21:18.0±0.4, 9°38S±0°.08×158°.21E±0°.07, h27km, n227, σ1§02/202, mb5.2/68, 1C-1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**92**	Pn	**Pn**	**04 21 45.5**	**-0.6**
	41nm,0.3s,baz=286,slow=17,SNR=3.1						
HNR				Sn	**Sn**	**04 22 06.2**	**-0.9**
	206nm,0.3s,baz=240,slow=5.6,SNR=7.6						
HNR	**Honiara**	**1.71**	**92**		**Pn**	**04 21 47.0**	**+0.8**
DZM	**Mont Dzumac**	**14.89**	**149**	Pn	**Pn**	**04 24 46.5**	**-0.5**
EIDS	**Eidsvold**	**17.29**	**202**	Pn	**P**	**04 25 18.4**	**-0.5**
FUNA	**Funafuti**	**20.75**	**89**	P	**P**	**04 25 56.0**	**-1.0**
WRA	**Warramunga Arr**	**25.34**	**243**	P	**P**	**04 26 42.7**	**-0.2**
	6.2nm,0.7s,baz=70,slow=9.0,SNR=3.7						
STKA	**Stephens Creek**	**27.18**	**212**	P	**P**	**04 26 59.4**	**-0.1**
	33nm,0.8s,baz=44,slow=13,SNR=11						
ASAR	**Alice Springs**	**27.23**	**236**	P	**P**	**04 26 58.7**	**-1.3**
	4.4nm,0.9s,baz=66,slow=11,SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**30.14**	**16**	T	T	05 00 11.2	
	baz=194,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**30.15**	**16**	T	T	05 00 02.1	
	baz=194,slow=75,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**30.16**	**16**	T	T	05 00 11.3	
	baz=194,slow=75,SNR=3.7						
MMRI	**Maumere**	**35.53**	**268**	P	**P**	**04 28 12.8**	**-0.3**
KAPI	**Kappang**	**38.38**	**274**	P	**P**	**04 28 37.6**	**+0.2**
	14nm,0.8s,baz=108,slow=9.8,SNR=6.6						
KAPI	**Kappang**	**38.38**	**274**	P	**P**	**04 28 37.5**	**+0.1**
KAPI				IAmb	IAmb	04 28 44.5	
	comp=Z,86nm,1.4s						
TOLI2	**Tolitoli**	**38.70**	**284**	P	**P**	**04 28 38.9**	**-1.3**
TOLI2				IAmb	IAmb	04 28 50.6	
	comp=Z,34nm,0.8s						
JYT	**Yasato**	**48.43**	**340**	P	**P**	**04 29 57.2**	**-0.9**
JYT				IAmb	IAmb	04 29 58.4	
	comp=Z,36nm,1.0s						
INU	**Inuyama**	**48.78**	**337**	P	**P**	**04 29 59.0**	**-1.8**
JWT	**Wachi**	**49.37**	**335**	P	**P**	**04 30 04.4**	**-0.9**
MJAR	**Matsushiro Arr**	**49.40**	**339**	P	**P**	**04 30 03.3**	**-2.3**
	comp=Z,7.9nm,0.8s,baz=170,slow=8.2,SNR=13						
MJAR	**Matsushiro Arr**	**49.40**	**339**	P	**P**	**04 30 04.3**	**-1.2**
MAJO	**Matsushiro**	**49.40**	**339**	P	**P**	**04 30 04.2**	**-1.4**
MAT	**Matsushiro**	**49.40**	**339**	P	**P**	**04 30 03.8**	**-1.7**
JSD	**Sado**	**50.72**	**340**	P	**P**	**04 30 14.7**	**

MDJ IAmb IAmb 04 31 20.8
comp=Z,36nm,1.1s
PET Petropavlovsk 62.16 0 P **P 04 31 34.3 -2.3**
PEA0B Petropavlovsk- 62.24 360 P **P 04 31 36.5 -0.8**
PETK Petropavlovsk- 62.24 360 P **P 04 31 36.9 -0.4**
comp=Z,26nm,0.8s,baz=181,slow=11,SNR=25
PETK Petropavlovsk- 62.24 360 P **P 04 31 36.7 -0.5**
KMI Kunming 63.98 304 ⇓P **P 04 31 51.0 +1.3**
CMAR Chiang Mai Arr 64.68 295 P **P 04 31 54.4 +0.3**
comp=Z,1.7nm,0.4s,baz=119,slow=4.7,SNR=6.3
CMAR Chiang Mai Arr 64.68 295 P **P 04 31 54.7 +0.6**
CHTO Chiang Mai 64.80 296 P **P 04 31 55.2 +0.3**
CASY Casey 65.36 199 P **P 04 31 58.4 +0.7**
HHC Hu-ho-hao-te 65.89 323 *e*P **P 04 32 04.1 +2.4**
HHC pmax pmax
comp=Z,13nm,0.7s
HIA Hailar 67.43 334 P **P 04 32 11.1 -0.2**
HIA IAmb IAmb 04 32 12.2
comp=Z,24nm,0.9s
LZH Lanzhou 68.24 315 *e*P **P 04 32 18.0 +1.2**
LZH pP pP 04 32 21.2 -2.9
LZH sP sP 04 32 23.3 -3.5
LZH pmax pmax
comp=Z,25nm,1.3s
MA2 Magadan 68.98 356 P **P 04 32 19.8 -0.9**
GTA Gaotai 72.65 316 ⇑P **P 04 32 44.0 +0.4**
GTA pP pP 04 32 47.5 -3.5
GTA sP sP 04 32 50.1 -3.5
ULN Ulaanbaatar 72.72 327 P **P 04 32 43.9 0.0**
ULN IAmb IAmb 04 32 45.5
comp=Z,33nm,1.1s
SONM Songino Array 73.06 326 P **P 04 32 46.6 +0.7**
comp=Z,18nm,0.7s,baz=139,slow=5.7,SNR=35
SONM Songino Array 73.06 326 P **P 04 32 45.6 -0.2**
SONM IAmb IAmb 04 32 47.3
comp=Z,24nm,0.8s
SDPT Sand Point 73.11 23 P **P 04 32 45.1 -0.7**
baz=223
SHL Shillong 73.24 300 P **P 04 32 46.8 -0.7**
YAK Yakutsk 74.57 346 P **P 04 32 54.2 0.0**
TLY Talaya 76.73 329 P **P 04 33 06.4 -0.5**
OHAK Old Harbor 77.30 25 P **P 04 33 10.1 +0.2**
baz=229
BILL Bilibino 77.44 3 P **P 04 33 10.1 -0.4**
BILL IAmb IAmb 04 33 19.3
comp=Z,26nm,1.1s
KDAK Kodiak Island 77.95 24 P **P 04 33 13.5 0.0**
baz=230
KDAK Kodiak Island 77.95 24 P **P 04 33 13.7 +0.2**
O18K Koktuh Hills 78.31 22 P **P 04 33 15.2 -0.3**
baz=227
N18K Kilae Creek 78.63 21 P **P 04 33 17.9 +0.7**
baz=226
P19K Oil Pt 78.92 23 P **P 04 33 18.5 -0.3**
baz=229
SVW2 Sparrevohn 79.03 21 P **P 04 33 19.3 -0.1**
SVW2 IAmb IAmb 04 33 28.0
comp=Z,20nm,1.1s
N19K Bonanza Creek 79.23 22 P **P 04 33 20.7 +0.1**
baz=228
CNPM China Poot 79.61 24 P **P 04 33 23.0 +0.4**
CNPM IAmb IAmb 04 33 23.8
comp=Z,36nm,0.9s
BRLK Bradley Lake 79.90 24 P **P 04 33 24.3 +0.1**
BRLK IAmb IAmb 04 33 26.3
comp=Z,19nm,0.9s
M19K Big River Lodg 80.00 21 P **P 04 33 25.8 +1.1**
baz=229
L19K White Mountain 80.03 20 P **P 04 33 25.8 +1.0**
baz=227
M20K Styx River 80.43 21 P **P 04 33 28.3 +1.1**
baz=229
SEW Seward 80.68 24 P **P 04 33 28.6 +0.3**
baz=232
SEW Seward 80.68 24 P **P 04 33 28.1 -0.2**
SEW IAmb IAmb 04 33 28.8
comp=Z,21nm,0.8s
O22K Cooper Landing 80.81 23 P **P 04 33 29.6 +0.6**
baz=232
SUA Susitna One 81.03 22 P **P 04 33 29.9 -0.5**
baz=231
SUA Susitna One 81.03 22 P **P 04 33 29.1 -1.2**
SUA IAmb IAmb 04 33 32.0
comp=Z,29nm,1.4s
K20K Telida 81.09 20 P **P 04 33 31.5 +0.9**
baz=228
RC01 Rabbit Creek A 81.17 23 P **P 04 33 31.0 0.0**
baz=232
RC01 Rabbit Creek A 81.17 23 P **P 04 33 31.1 +0.2**
PWL Port Wells 81.58 23 P **P 04 33 32.9 -0.3**
J20K Nowinta River 81.62 19 P **P 04 33 34.3 +1.0**
baz=228
KNK Knik Glacier 81.86 23 P **P 04 33 35.3 +0.7**
baz=233
RDOG Red Dog Mine 82.02 14 P **P 04 33 37.9 +2.6**
baz=219
RDOG Red Dog Mine 82.02 14 IAmb IAmb 04 33 38.4
comp=Z,15nm,0.8s
CHUM Lake Minchumin 82.03 20 P **P 04 33 35.5 +0.1**
baz=229
GLI Glacier Island 82.08 24 P **P 04 33 35.9 +0.1**
baz=234
GLI Glacier Island 82.08 24 IAmb IAmb 04 33 36.6
comp=Z,19nm,0.8s
SML Sawmill 82.15 23 P **P 04 33 36.2 +0.1**
baz=233
SML Sawmill 82.15 23 IAmb IAmb 04 33 37.4
comp=Z,30nm,1.0s
KTH Kantishna Hill 82.29 21 IAmb IAmb 04 33 37.0
comp=Z,28nm,1.0s
EYAK Cordova Ski Ar 82.43 24 P **P 04 33 37.8 +0.2**
baz=236
TRF Thorofare Moun 82.45 21 P **P 04 33 37.7 -0.2**
baz=231
TRF Thorofare Moun 82.45 21 IAmb IAmb 04 33 39.1
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 82.55 23 IAmb IAmb 04 33 39.5
comp=Z,29nm,1.0s
BPAW Bear Paw Mtn. 82.62 20 P **P 04 33 38.0 -0.6**
baz=230
BPAW Bear Paw Mtn. 82.62 20 P **P 04 33 37.8 -0.8**
WAT1 Susitna Watana 82.69 22 P **P 04 33 39.0 +0.1**
baz=233
WMQ Urumqi 82.73 317 *e*P **P 04 33 39.8 +0.1**
WMQ pP PcP 04 33 44.7 +0.2
WMQ pmax pmax
comp=Z,32nm,0.9s
WAT6 Susitna Watana 82.83 22 P **P 04 33 40.3 +0.4**
baz=234
KLU Klutina 82.90 24 P **P 04 33 40.7 +0.6**
baz=235
I21K Tanana 82.99 19 P **P 04 33 41.2 +0.8**
baz=229
H21K Melozitna Rive 83.04 18 P **P 04 33 41.3 +0.6**
baz=229
MCK McKinley 83.10 21 P **P 04 33 40.8 -0.3**
baz=232
BMRM Bremner River 83.13 24 P **P 04 33 41.6 +0.3**
baz=237
M24K Tolsona, Glenn 83.15 23 P **P 04 33 42.6 +1.2**
baz=235
TIXI Tiksi 83.17 351 P **P 04 33 41.7 +0.5**
TIXI IAmb IAmb 04 33 49.9
comp=Z,22nm,1.4s
MLY Manley 83.30 19 P **P 04 33 42.2 +0.1**
baz=231
MLY Manley 83.30 19 IAmb IAmb 04 33 42.9
comp=Z,17nm,0.9s
N25K Chitina, Valde 83.49 24 P **P 04 33 44.0 +0.8**
baz=237
N25K Chitina, Valde 83.49 24 IAmb IAmb 04 33 44.1
comp=Z,11nm,0.8s
NEA2 Nenana 83.58 20 P **P 04 33 43.0 -0.5**
baz=232
WAX Waxell Ridge 83.58 25 P **P 04 33 43.3 -0.3**
WAX IAmb IAmb 04 33 45.0
comp=Z,19nm,0.8s
CRQE Cirque 83.64 25 P **P 04 33 44.4 +0.3**
baz=238
HARP HAARP 83.71 23 P **P 04 33 44.9 +0.7**
baz=236
VRDI Verde Repeater 83.75 24 IAmb IAmb 04 33 45.2
comp=Z,9.4nm,0.8s
MESA MESA 83.82 26 P **P 04 33 45.8 +0.7**
baz=239
I23K Minto, Yukon-K 83.82 20 P **P 04 33 44.7 0.0**
baz=232
WRH Wood River Hil 83.84 21 IAmb IAmb 04 33 45.0
comp=Z,20nm,0.9s
PAX Paxson 83.91 22 P **P 04 33 45.4 +0.1**
baz=236
MCARA McCarthy VSAT 84.00 24 P **P 04 33 46.1 +0.4**
baz=238
CCB Clear Creek Bu 84.05 20 P **P 04 33 45.2 -0.7**
CCB IAmb IAmb 04 33 45.9
comp=Z,16nm,0.8s
MDM Murphy Dome 84.09 20 IAmb IAmb 04 33 46.3
comp=Z,21nm,1.0s
TCOL CIGO, UAF Yank 84.16 20 P **P 04 33 46.0 -0.4**
baz=233
COLA College 84.17 20 P **P 04 33 45.8 -0.6**
baz=233
COLA College 84.17 20 P **P 04 33 45.9 -0.6**
H23K Yukon River 84.19 19 P **P 04 33 47.1 +0.5**
baz=232
HDA Harding Lake 84.20 21 P **P 04 33 46.3 -0.4**
baz=234
HDA Harding Lake 84.20 21 IAmb IAmb 04 33 47.3
comp=Z,26nm,1.2s
IL31 84.44 21 P **P 04 33 46.9 -0.9**
IL31 IAmb IAmb 04 33 48.0
comp=Z,22nm,1.2s
ILAR Eielson Array 84.44 21 P **P 04 33 46.6 -1.2**
comp=Z,8.9nm,0.8s,baz=267,slow=4.0,SNR=22
POKR Poker Plat Res 84.45 20 P **P 04 33 47.3 -0.7**
baz=234
POKR Poker Plat Res 84.45 20 IAmb IAmb 04 33 47.9
comp=Z,12nm,0.8s
CTG Chitna Glacier 84.48 25 P **P 04 33 49.3 +0.9**
baz=240
PINM Pinnacle 84.52 26 P **P 04 33 49.4 +0.9**
baz=241
MENT Mentasta 84.56 23 IAmb IAmb 04 33 49.9
comp=Z,14nm,0.6s
RIDG Independent Ri 84.58 22 P **P 04 33 49.1 +0.5**
baz=236
RIDG Independent Ri 84.58 22 IAmb IAmb 04 33 49.8
comp=Z,23nm,1.0s
H24K Noodor Dome 84.74 20 P **P 04 33 50.1 +0.6**
baz=233
SCRK Sand Creek 85.03 22 P **P 04 33 51.6 +0.6**
baz=237
SCRK Sand Creek 85.03 22 P **P 04 33 50.5 -0.5**
SCRK IAmb IAmb 04 33 52.3
comp=Z,14nm,0.8s
L27K Beaver Creek, 85.36 23 P **P 04 33 53.7 +1.1**
baz=239
K27K Chicken 85.77 22 P **P 04 33 56.1 +1.6**
baz=239
TOLK Toolik Lake Re 85.94 17 P **P 04 33 56.1 +0.8**
baz=232
TOLK Toolik Lake Re 85.94 17 IAmb IAmb 04 33 59.0
comp=Z,12nm,0.9s
BESE Bessie Mountai 86.29 29 IAmb IAmb 04 33 59.3
comp=Z,29nm,1.4s
SKAG Skagway 86.44 28 P **P 04 33 59.6 +1.7**
baz=245
SKAG Skagway 86.44 28 P **P 04 33 58.7 +0.8**
SKAG IAmb IAmb 04 33 59.9
comp=Z,20nm,1.0s
EGAK Eagle 86.50 22 P **P 04 33 59.1 +1.0**
baz=240
EGAK Eagle 86.50 22 P **P 04 33 58.4 +0.3**
EGAK IAmb IAmb 04 33 59.8
comp=Z,16nm,0.9s
WRAK Wrangell Islan 86.68 31 P **P 04 34 00.1 +0.9**
baz=248
WHY Whitehorse 87.15 27 P **P 04 34 02.7 +1.2**
baz=245
MK31 Makanchi Array 87.29 318 P **P 04 34 01.9 -0.6**
MKAR Makanchi Array 87.29 318 P **P 04 34 01.8 -0.7**
comp=Z,8.9nm,0.8s,baz=104,slow=5.7,SNR=20
MKAR Makanchi Array 87.29 318 P **P 04 34 02.1 -0.3**
MAKZ Makanchi 87.50 318 P **P 04 34 02.8 -0.7**
MAKZ IAmb IAmb 04 34 10.4
comp=Z,12nm,0.8s
O02D Mt. Diablo Mer 87.69 49 P **P 04 34 06.6 +2.0**
baz=256
ZALV Zalesovo Beam 87.93 325 P **P 04 34 04.1 -1.1**
comp=Z,4.5nm,0.7s,baz=107,slow=5.6,SNR=7.5
ZALV Zalesovo Beam 87.93 325 P **P 04 34 03.8 -1.4**
YBH Yreka Blue Hor 88.13 47 P **P 04 34 07.8 +1.1**
comp=Z,1.8nm,0.9s,baz=260,slow=3.7,SNR=4.0
PAGB Antelope Grade 88.62 54 P **P 04 34 09.9 +0.8**
PAGB IAmb IAmb 04 34 13.2
comp=Z,18nm,1.1s
AFDM Forest Hills D 88.77 50 P **P 04 34 10.3 +0.6**
EPYK Eagle Plains 88.88 21 P **P 04 34 10.6 +1.0**
baz=244
ARVC Arvin 89.63 54 P **P 04 34 15.9 +2.2**
baz=258
MWC Mount Wilson 90.08 55 P **P 04 34 16.7 +0.6**
PAHR Pah Rah Range 90.14 50 IAmb IAmb 04 34 18.8
comp=Z,21nm,1.3s
EDW2 Edwards Air Fo 90.26 55 P **P 04 34 18.1 +1.3**
baz=259
BFSC Mount Baldy Ra 90.40 56 P **P 04 34 18.9 +1.3**
baz=259
CWC Cottonwood Cre 90.49 53 P **P 04 34 19.3 +1.4**
baz=259
LHV Little Huntoon 90.51 51 IAmb IAmb 04 34 20.7
comp=Z,15nm,1.0s
RYN Ryan 90.57 51 IAmb IAmb 04 34 20.8
comp=Z,16nm,1.1s
LRMC Laurel Mtn Rad 90.62 54 P **P 04 34 20.5 +1.9**
baz=259
NVAR Mina Array Bea 90.70 51 P **P 04 34 20.6 +1.6**
comp=Z,9.0nm,0.9s,baz=242,slow=7.2,SNR=20
NV11 Mina Array Sit 90.82 51 IAmb IAmb 04 34 21.9
comp=Z,15nm,1.0s
INK Inuvik 90.83 20 P **P 04 34 18.9 +0.4**
KVN Kaiserville 90.98 51 IAmb IAmb 04 34 22.6
comp=Z,16nm,1.1s
GRAC Grapevine Rang 91.16 53 P **P 04 34 22.9 +1.9**
baz=259
MONP2 Monument Peak 91.17 57 P **P 04 34 23.6 +2.4**
baz=260
WVOR Wild Horse Val 91.24 47 IAmb IAmb 04 34 24.8
comp=Z,20nm,1.4s
GSC Goldstone, Bar 91.29 55 P **P 04 34 22.9 +1.2**
baz=260
FURC Furnace Creek, 91.46 53 P **P 04 34 24.1 +2.0**
baz=260
HEC Hector,Ludlow 91.59 55 P **P 04 34 24.7 +1.7**
baz=260
BELC Belle Mtn. Jos 91.72 56 P **P 04 34 25.4 +1.7**
baz=260
TUQ Turquoise Moun 92.03 55 P **P 04 34 26.4 +1.3**
baz=260
TPNV Topopah Spring 92.03 53 P **P 04 34 26.9 +1.8**
baz=260
TPNV Topopah Spring 92.03 53 IAmb IAmb 04 34 29.4
comp=Z,13nm,1.1s
GMRC Granite Mounta 92.13 55 P **P 04 34 27.3 +1.8**
baz=260
IRM Iron Mountain 92.44 56 P **P 04 34 28.7 +1.8**
baz=260
BMO Blue Mountains 92.65 45 P **P 04 34 27.8 +0.1**
R11A Troy Canyon, C 92.79 52 P **P 04 34 30.0 +1.4**
baz=260
PRN Pahroc Range 93.05 53 P **P 04 34 30.5 +0.7**
PRN IAmb IAmb 04 34 32.6
comp=Z,12nm,1.1s
ELK Elko 93.45 49 P **P 04 34 32.7 +1.1**
comp=Z,2.8nm,0.9s,baz=270,slow=3.4,SNR=6.3
SPR3 Spring Creek 3 93.86 51 P **P 04 34 34.8 +1.1**
SPR3 IAmb IAmb 04 34 36.3
comp=Z,12nm,1.2s
YKA Yellowknife Ar 96.94 28 P **P 04 34 46.4 -0.3**
comp=Z,1.3nm,0.8s,baz=256,slow=4.8,SNR=4.4
AKASG Malin Array Be 121.31 325 PKP **PKPdf 04 40 08.1 -0.6**
comp=Z,5.0nm,0.8s,baz=62,slow=2.3,SNR=11
AKASG Malin Array Be 121.31 325 **PKPdf 04 40 07.6 -1.1**
AKBB Malin Array Si 121.31 325 **PKPdf 04 40 08.2 -0.5**
NOA NORSAR Array B 122.97 342 PKP **PKPdf 04 40 11.3 -0.4**
comp=Z,1.4nm,0.8s,baz=46,slow=2.1,SNR=3.9
E61A Lac Etchemin 124.57 39 P **PKiKP 04 40 15.5 0.0**
baz=296
POPC Popayan, Colom 125.04 93 *e*P PKPpre 04 40 09.2
G62A West of Eustis 125.06 40 P **PKPdf 04 40 16.3 +0.2**
baz=295
YOTC Yotoco, Valle 125.60 92 *e*P **PKPdf 04 40 17.3 -0.9**
PTLC Puerto Leguiza 126.46 97 *e*P **PKPdf 04 40 19.6 -0.1**
ORTC Ortega, Tolima 126.67 92 *e*P **PKPdf 04 40 20.2 0.0**
TOLC Tolima 126.69 91 *e*P **PKiKP 04 40 20.9 -0.1**
HELC Santa Helena 126.70 89 *e*P **PKiKP 04 40 21.0 -0.1**
GUY2C Guyana, Caldas 126.74 90 *e*P **PKiKP 04 40 21.1 -0.2**
PRAC Prado 126.99 92 *e*P **PKPdf 04 40 20.1 -0.7**
LPAZ La Paz 127.53 119 PKP **PKiKP 04 40 23.4 +0.4**
comp=Z,3.7nm,0.9s,baz=255,slow=2.3,SNR=6.0
LPAZ La Paz 127.53 119 *e*P **PKiKP 04 40 23.3 +0.4**
ROSC El Rosal 127.72 91 PKP **PKiKP 04 40 23.3 +0.1**
comp=Z,5.1nm,0.4s,baz=156,slow=16,SNR=4.2
ROSC El Rosal 127.72 91 *e*P **PKiKP 04 40 23.8 +0.7**
MACC Macarena, Meta 127.76 95 *e*P **PKPdf 04 40 22.1 -0.1**
MORC Moravsky Berou 128.18 328 *e*PKP **PKiKP 04 40 22.9 +0.3**
JAVC Velka Javorina 128.66 327 *e*PKP **PKiKP 04 40 25.0 +1.4**
VRAC Vranov 128.95 328 *e*PKP **PKiKP 04 40 23.8 -0.3**
KRUC Moravsky 129.21 328 *e*PKP **PKiKP 04 40 24.9 +0.3**
BRG Berggiesshubel 129.25 331 *e*PKP **PKiKP 04 40 25.1 +0.4**
BRG Amp 04 40 27.8
comp=Z,12nm,1.2s
BRG Berggiesshubel 129.25 331 P **PKiKP 04 40 31.6 +6.9**
BRG Amp 04 40 35.6
comp=Z,19nm,1.9s
CLL Collm 129.40 332 *i* PKPdf **PKiKP 04 40 25.1 +0.2**
CLL *i* pPKPdf **pPKPdf 04 40 31.1 -0.8**
CPUP Villa Florida 130.48 137 PKP **PKiKP 04 40 28.7 +0.8**
comp=Z,2.3nm,0.9s,baz=97,slow=5.7,SNR=3.5
KHC Kasperske Hory 130.59 330 *e*PKPDF **PKPdf 04 40 26.7 +0.1**
KHC *e*pPKP **pPKPdf 04 40 34.6 +0.3**
GERES GERESS Array B 130.71 330 PKP **PKiKP 04 40 27.4 -0.4**
comp=Z,1.9nm,0.8s,baz=82,slow=2.8,SNR=8.3
ABTA Abfaltersbach 132.69 328 *e*P **PKPdf 04 40 30.8 0.0**
comp=Z,4.9nm,0.8s
WTTA Wattenberg 132.80 329 *e*P **PKiKP 04 40 32.1 -0.1**
comp=Z,1.5nm,0.4s
MOTA Moosalm 133.01 330 *e*P **PKiKP 04 40 32.4 -0.2**
comp=Z,6.3nm,0.7s
FETA Feichten 133.42 330 *e*P **PKPdf 04 40 32.5 +0.4**
comp=Z,4.6nm,0.8s
DAVA Damuels 133.66 330 *e*P **PKiKP 04 40 33.8 -0.1**
comp=Z,4.2nm,0.8s
TUE Stuetta 134.49 330 **PKPdf 04 40 34.0 -0.2**
BDFB Brasilia 144.05 134 PKP **PKPdf 04 40 53.0 +0.6**
comp=Z,15nm,0.8s,baz=206,slow=7.3,SNR=6.2
ESBB Sonseca Array 145.89 335 **PKPab 04 40 56.0 +0.1**
ESDC Sonseca Array 145.89 335 PKPbc **PKPbc 04 40 55.5 0.0**
comp=Z,4.9nm,1.0s,baz=16,slow=3.3,SNR=10
MTE Manteigas 146.61 340 **PKPdf 04 40 56.4 +0.3**

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*IDC **10** 04:23:32.8±0.9, 9°.35S×158°.50E, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.2/40, mbtmp4.4/8, Error ellipse: s-maj=27.5km s-min=20.4km az=167.0*
*NEIC **10** 04:23:34.0±1.8, 9°.18S±0°.08×158°.40E±0°.10, h10km±1km, mb4.6/10, Error ellipse: s-maj=20.8km s-min=5.7km az=230.0*

ISC 10 04:23:33.6±0.6, **9°.2S**±0°.1×**158°.39E**±0°.07, **h10**km, **n25, σ1$25**/24, **mb4.5**/13, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.56**	**98**	Pn		**Pn**	**Pn**	**04 23 59.7**	**-1.7**
670nm,0.3s,baz=36,slow=3.4,SNR=16									
HNR				Sn			**Sg**	**04 24 24.3**	**+0.6**
1μm,0.3s,baz=158,slow=20,SNR=11									
HNR	**Honiara**	**1.56**	**98**				**Pn**	**04 24 01.8**	**+0.4**
WR0	**Warramunga Arr**	**25.40**	**242**	P			**P**	**04 29 01.3**	**-0.2**
WR0				IAmb			IAmb	04 29 10.2	
comp=Z,12nm,1.0s									
WB0	**Warramunga Arr**	**25.46**	**243**	P			**P**	**04 29 00.5**	**-1.5**
WB2	**Warramunga Arr**	**25.56**	**243**	P			**P**	**04 29 03.0**	**+0.1**
WB2				IAmb			IAmb	04 29 04.7	
comp=Z,39nm,1.2s									
WRA	**Warramunga Arr**	**25.57**	**243**	P			**P**	**04 29 03.6**	**+0.5**
comp=Z,5.6nm,0.9s,baz=72,slow=9.0,SNR=5.2									
STKA	**Stephens Creek**	**27.42**	**212**	P			**P**	**04 29 20.1**	**+0.4**
comp=Z,3.9nm,0.7s,baz=32,slow=16,SNR=1.8									
KAPI	**Kappang**	**38.55**	**273**	P			**P**	**04 30 58.5**	**+1.7**
comp=Z,5.4nm,0.3s,baz=92,slow=9.5,SNR=5.0									
TOLI2	**Tolitoli**	**38.83**	**283**	P			**P**	**04 30 57.8**	**-1.4**
JWT	**Wachi**	**49.29**	**335**	P			**P**	**04 32 23.1**	**+0.3**
CHTO	**Chiang Mai**	**64.88**	**296**	P			**P**	**04 34 12.2**	**-1.5**
VNDA	**Vanda**	**68.32**	**179**	P			**P**	**04 34 34.5**	**0.0**
comp=Z,2.6nm,0.9s,baz=334,slow=5.8,SNR=5.1									
VNDA	**Vanda**	**68.32**	**179**	IAmb			IAmb	04 34 35.4	
comp=Z,2.9nm,0.8s									
SONM	**Songino Array**	**73.01**	**326**	P			**P**	**04 35 06.2**	**+2.4**
comp=Z,2.1nm,0.6s,baz=136,slow=5.9,SNR=5.4									
SONM	**Songino Array**	**73.01**	**326**	P			**P**	**04 35 04.2**	**+0.4**
COLA	**College**	**83.95**	**20**	P			**P**	**04 36 02.9**	**-0.7**
ILAR	**Eielson Array**	**84.22**	**21**	P			**P**	**04 36 05.1**	**+0.1**
comp=Z,1.5nm,0.9s,baz=244,slow=5.3,SNR=4.3									
MK31	**Makanchi Array**	**87.28**	**318**	P			**P**	**04 36 21.1**	**+0.4**
MK31				IAmb			IAmb	04 36 25.3	
comp=Z,4.0nm,1.2s									
MKAR	**Makanchi Array**	**87.28**	**318**	P			**P**	**04 36 21.8**	**+1.1**
comp=Z,1.0nm,0.6s,baz=90,slow=7.1,SNR=3.0									
MKAR	**Makanchi Array**	**87.28**	**318**	P			**P**	**04 36 20.8**	**+0.2**
MAKZ	**Makanchi**	**87.49**	**318**	P			**P**	**04 36 20.8**	**-0.9**
PINE	**Pine Mountain**	**89.64**	**46**	P			P	04 36 29.1	-3.0
PINE				IAmb			IAmb	04 36 29.9	
comp=Z,4.7nm,1.4s									
MOD	**Modoc Plateau**	**89.68**	**48**	P			**P**	**04 36 30.1**	**-2.2**
MOD				IAmb			IAmb	04 36 37.1	
comp=Z,7.3nm,1.4s									
NVAR	**Mina Array Bea**	**90.46**	**51**	P			**P**	**04 36 38.5**	**+2.4**
comp=Z,1.3nm,0.8s,baz=241,slow=6.8,SNR=3.4									
BMO	**Blue Mountains**	**92.41**	**45**	P			**P**	**04 36 44.9**	**0.0**

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*IDC **10** 04:34:45.2±1.2, 9°.48S×158°.37E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/37, mbtmp3.9/4, Error ellipse: s-maj=39.3km s-min=19.5km az=171.0*
*NEIC **10** 04:34:47.0±0.6, 9°.5S±0°.2×158°.42E±0°.08, h10km±1km, mb4.3/1, Error ellipse: s-maj=28.0km s-min=12.0km az=351.0*

ISC 10 04:34:49.2±0.9, **9°.6S**±0°.2×**158°.41E**±0°.09, **h30**km, **n10, σ0$47**/10, **mb3.9**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.52**	**83**	Pn		**Pn**	**Pn**	**04 35 14.3**	**-0.1**
73nm,0.3s,baz=231,slow=6.4,SNR=7.3									
HNR				Sn			**Sb**	**04 35 36.2**	**+0.4**
96nm,0.3s,baz=158,slow=3.4,SNR=4.6									
HNR	**Honiara**	**1.52**	**83**				**Pn**	**04 35 13.9**	**-0.6**
CTAO	**Charters Tower**	**15.69**	**227**	Pn			**Pn**	**04 38 27.9**	**-0.4**
WR0	**Warramunga Arr**	**25.24**	**243**	P			**P**	**04 40 12.9**	**+0.1**
WB2	**Warramunga Arr**	**25.40**	**243**	P			**P**	**04 40 14.6**	**+0.3**
WRA	**Warramunga Arr**	**25.41**	**243**	P			**P**	**04 40 15.1**	**+0.7**
2.6nm,0.7s,baz=72,slow=9.8,SNR=8.1									
ASAR	**Alice Springs**	**27.26**	**236**	P			**P**	**04 40 31.6**	**+0.5**
1.1nm,0.9s,baz=57,slow=8.2,SNR=4.3									
SONM	**Songino Array**	**73.36**	**326**	P			**P**	**04 46 18.5**	**+0.1**
1.9nm,0.8s,baz=135,slow=5.5,SNR=9.4									
SONM	**Songino Array**	**73.36**	**326**	IAmb			IAmb	04 46 19.4	
comp=Z,2.6nm,0.9s									
MKAR	**Makanchi Array**	**87.59**	**318**	P			**P**	**04 47 34.4**	**-0.2**
comp=Z,0.3nm,0.6s,baz=97,slow=5.7,SNR=2.0									

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*IDC **10** 04:39:48.5±1.1, 9°.31S×158°.47E, h0km, mb4.0/5, mb1 4.3/5, mb1mx3.8/43, mbtmp4.0/5, Error ellipse: s-maj=32.5km s-min=19.7km az=172.0*
*NEIC **10** 04:39:50.2±1.4, 9°.3S±0°.2×158°.57E±0°.08, h10km±1km, mb4.3/7, Error ellipse: s-maj=28.4km s-min=8.1km az=335.0*

ISC 10 04:39:52.6±0.7, **9°.4S**±0°.2×**158°.58E**±0°.07, **h30**km, **n16, σ1$09**/16, **mb4.0**/10, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.34**	**92**	Pn		**Pb**	**04 40 16.2**	**-1.0**	
125nm,0.3s,baz=262,slow=6.5,SNR=12									
HNR				Sn		**Sb**	**04 40 35.7**	**+1.6**	
164nm,0.3s,baz=270,slow=13,SNR=6.8									
HNR	**Honiara**	**1.34**	**92**			**Pn**	**04 40 14.4**	**-1.0**	
WR0	**Warramunga Arr**	**25.48**	**243**	P		**P**	**04 45 18.1**	**-0.4**	
WB0	**Warramunga Arr**	**25.55**	**243**	P		**P**	**04 45 19.7**	**+0.7**	
WB0				IAmb		IAmb	04 45 22.9		
comp=Z,5.6nm,1.4s									
WRAB	**Tennant Creek**	**25.64**	**243**	P		**P**	**04 45 19.2**	**-0.7**	

WRAB					IAmb	IAmb	04 45 26.1	
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**25.66**	**243**	P	**P**		**04 45 19.0**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=70,slow=9.6,SNR=3.6							
STKA	**Stephens Creek**	**27.37**	**213**	P	**P**		**04 45 36.1**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=36,slow=8.7,SNR=3.1							
STKA	**Stephens Creek**	**27.37**	**213**	IAmb	IAmb		04 45 37.0	
	comp=Z,0.5nm,0.8s							
TOLI2	**Tolitoli**	**39.07**	**283**	P	**P**		**04 47 18.1**	**+0.7**
TOLI2				IAmb	IAmb		04 47 20.5	
	comp=Z,8.9nm,1.0s							
SONM	**Songino Array**	**73.28**	**326**	P	**P**		**04 51 21.3**	**0.0**
	comp=Z,1.2nm,0.7s,baz=126,slow=3.9,SNR=4.5							
SHL	**Shillong**	**73.56**	**300**	P	**P**		**04 51 22.4**	**-1.1**
SHL				IAmb	IAmb		04 51 24.2	
	comp=Z,7.0nm,1.1s							
KNK	**Knik Glacier**	**81.73**	**23**	P	**P**		**04 52 07.8**	**-0.4**
KNK				IAmb	IAmb		04 52 09.9	
	comp=Z,7.0nm,1.2s							
IL31		**84.32**	**21**	P	**P**		**04 52 21.8**	**+0.4**
ILAR	**Eielson Array**	**84.32**	**21**	P	**P**		**04 52 20.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=228,slow=5.4,SNR=5.1							
NVAR	**Mina Array Bea**	**90.43**	**51**	P	**P**		**04 52 54.2**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=250,slow=4.4,SNR=6.0							
NVAR	**Mina Array Bea**	**90.43**	**51**	P	**P**		**04 52 52.4**	**+0.6**

*ATH **10** 04:43:12.4, 34.°55N×23.°80E, h15km±3km, ML3.4/4, Error ellipse: s-maj=4.9km s-min=2.8km az=98.0*
*THE **10** 04:43:12.5, 34.°60N×23.°77E, h11km±2km, ML3.5/4, Error ellipse: s-maj=2.4km s-min=1.2km az=70.0*

ISC 10 04:43:13.4±2.9, 34.°6N±0.°1×23.°82E±0.°07, h16km±10km, n16, σ0°94/23, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.31**	**45**	P	**Pg**	**04 43 19.8**	**-0.1**
GVD				S	**Sg**	**04 43 24.7**	**+0.4**
	10μm,0.3s						
GVD	**Gavdhos**	**0.31**	**45**	P	**Pg**	**04 43 19.7**	**-0.1**
GVD				S	**Sg**	**04 43 25.2**	**+0.9**
GVD				AML	AML	04 43 25.3	
	comp=E,22944μm,0.2s						
GVD				AML	AML	04 43 27.9	
	comp=N,19466μm,0.3s						
GVDS	**Gavdos**	**0.31**	**45**	P	**Pg**	**04 43 19.4**	**-0.5**
GVDS				S	**Sg**	**04 43 24.7**	**+0.2**
	comp=N,15μm,0.2s						
KNDR	**Palaiochora Ch**	**0.62**	**350**	P	**Pg**	**04 43 25.0**	**-0.6**
VAM	**Vamos**	**0.84**	**21**	P	**Pg**	**04 43 28.8**	**-1.0**
VAM				S	**Sb**	**04 43 42.1**	**+1.3**
	comp=N,5μm,0.3s						
VAM	**Vamos**	**0.84**	**21**	P	**Pg**	**04 43 28.7**	**-1.0**
VAM				S	**Sb**	**04 43 42.1**	**+1.3**
VAM				AML	AML	04 43 42.3	
	comp=E,10985μm,0.3s						
VAM				AML	AML	04 43 42.4	
	comp=N,9612μm,0.4s						
IMMV	**Iera Moni Meta**	**0.85**	**9**	P	**Pg**	**04 43 28.7**	**-1.2**
IMMV				S	**Sb**	**04 43 42.1**	**+1.2**
	comp=N,2μm,0.2s						
IMMV	**Iera Moni Meta**	**0.85**	**9**	P	**Pg**	**04 43 28.5**	**-1.3**
IMMV				S	**Sb**	**04 43 41.9**	**+0.9**
IMMV				AML	AML	04 43 42.0	
	comp=E,5473μm,0.3s						
IMMV				AML	AML	04 43 42.2	
	comp=N,4283μm,0.2s						
SIVA	**Sivas**	**0.90**	**64**	P	**Pb**	**04 43 30.7**	**0.0**
SIVA	**Sivas**	**0.90**	**64**	P	**Pb**	**04 43 30.3**	**-0.3**
PRNS	**Prines Rethymn**	**0.93**	**37**	P	**Pb**	**04 43 29.6**	**-1.5**
IDI	**Anoyia**	**1.10**	**52**	P	**Pb**	**04 43 33.0**	**-1.1**
IDI	**Anoyia**	**1.10**	**52**	P	**Pb**	**04 43 33.2**	**-0.9**
IDI				AML	AML	04 43 58.7	
	comp=E,609μm,0.5s						
IDI				AML	AML	04 43 59.9	
	comp=N,690μm,0.3s						
LAST	**Lasithi**	**1.46**	**68**	P	**Pb**	**04 43 40.4**	**+0.1**
KTHA	**Kythira Island**	**1.75**	**339**	P	**Pb**	**04 43 45.2**	**+0.1**
VLI	**Veliai**	**2.21**	**341**	P	**Pb**	**04 43 53.2**	**+0.2**

*IDC **10** 04:45:55.7±0.7, 19.°00N×145.°49E, h240km±5km, mb3.6/16, mb1 3.8/18, mb1mx3.6/55, mbtmp4.2/18, Error ellipse: s-maj=19.7km s-min=9.4km az=81.0*
*NEIC **10** 04:45:57.3±1.1, 18.°98N±0.°08×145.°5E±0.°2, h255km±7km, mb4.4/27, Error ellipse: s-maj=21.2km s-min=11.3km az=82.0*

ISC 10 04:45:56.0±0.6, 18.°95N±0.°05×145.°4E±0.°1, h246km±5km, h246km:pP-P, n59, σ1°00/67, mb4.1/28, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**186**	P	**Pn**	**04 47 15.9**	**-0.2**
	82nm,0.3s,baz=154,slow=8.6,SNR=10						
GUMO				S	**S**	**04 48 17.4**	**-2.6**
	38nm,0.3s,baz=30,slow=22,SNR=5.1						
GUMO	**Guam**	**5.36**	**186**		**Pn**	**04 47 17.3**	**+1.2**
JCJ	**Chichijima**	**8.65**	**340**	Pn	**Pn**	**04 47 58.4**	**+1.0**
INU	**Inuyama**	**17.96**	**337**	P	**P**	**04 49 48.6**	**+0.3**
INU				IAmb	IAmb	04 49 51.9	
	comp=Z,24nm,0.8s						
JGF	**Kuroka**	**18.06**	**338**	P	**P**	**04 49 50.3**	**+0.8**
MJAR	**Matsushiro Arr**	**18.65**	**342**	P	**P**	**04 49 55.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=176,slow=10.0,SNR=18						
MJAR	**Matsushiro Arr**	**18.65**	**342**	P	**P**	**04 49 55.8**	**0.0**
MJAR				IAmb	IAmb	04 50 01.0	
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**18.65**	**342**	P	**P**	**04 49 55.3**	**-0.5**
MAJO				IAmb	IAmb	04 50 02.2	
	comp=Z,18nm,0.7s						
MAT	**Matsushiro**	**18.65**	**342**	P	**P**	**04 49 55.9**	**+0.1**
MAT				*e*S	**S**	**04 53 15.3**	**+0.3**
JMM	**Marumori**	**19.28**	**349**	P	**P**	**04 50 02.8**	**+0.3**
JSD	**Sado**	**20.03**	**343**	P	**P**	**04 50 10.8**	**+0.3**
JTM	**Tenmabayashi**	**22.09**	**351**	P	**P**	**04 50 31.7**	**+0.7**
KSRS	**Korea Array**	**23.98**	**324**	P	**P**	**04 50 48.5**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=148,slow=9.4,SNR=8.2						
KSRS				pP	**pP**	**04 51 31.3**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=144,slow=8.3,SNR=3.3						
KLR	**Kul'dur**	**32.16**	**343**	P	**P**	**04 52 01.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=147,slow=9.8,SNR=8.1						
ENH	**Enshi**	**34.44**	**296**	P	**P**	**04 52 18.1**	**-2.6**
MTN	**Manton Dam**	**34.60**	**205**	P	**P**	**04 52 22.2**	**+0.2**
KNRA	**Kununurra**	**38.12**	**207**	P	**P**	**04 52 52.5**	**+0.8**
KNRA				IAmb	IAmb	04 52 59.5	
	comp=Z,7.4nm,0.9s						
CTA	**Charters Tower**	**38.80**	**179**	P	**P**	**04 52 57.7**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=353,slow=10,SNR=5.2						
CTAO	**Charters Tower**	**38.80**	**179**	P	**P**	**04 52 56.7**	**-0.7**
CTAO				IAmb	IAmb	04 52 58.4	
	comp=Z,9.9nm,1.0s						
WRA	**Warramunga Arr**	**40.16**	**196**	P	**P**	**04 53 09.5**	**+1.0**
	comp=Z,12nm,0.5s,baz=17,slow=8.8,SNR=1.6						
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**04 53 28.3**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=141,slow=10,SNR=1.6						
SONM				pP	**pP**	**04 54 20.4**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=147,slow=5.1,SNR=2.7						
AS31	**Alice Springs**	**43.83**	**195**	P	**P**	**04 53 38.0**	**-0.1**
AS31				IAmb	IAmb	04 54 07.7	
	comp=Z,17nm,0.3s						
ASAR	**Alice Springs**	**43.83**	**195**	P	**P**	**04 53 38.8**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=16,slow=7.8,SNR=25						
CMAR	**Chiang Mai Arr**	**43.95**	**277**	P	**P**	**04 53 41.6**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=69,slow=6.6,SNR=4.5						
NOUC	**Port Laguerre**	**45.61**	**152**	P	**P**	**04 53 53.0**	**+0.9**
DZM	**Mont Dzumac**	**45.65**	**152**	P	**P**	**04 53 52.1**	**-0.4**
DZM				IAmb	IAmb	04 53 53.9	
	comp=Z,20nm,0.9s						
DZM	**Mont Dzumac**	**45.65**	**152**	P	**P**	**04 53 53.6**	**+1.1**
YATNC	**Mamie plateau,**	**45.84**	**152**	P	**P**	**04 53 56.8**	**+2.9**
OUENC	**Ouen Island, N**	**46.13**	**152**	P	**P**	**04 53 56.3**	**+0.2**
OUENC				IAmb	IAmb	04 53 57.6	
	comp=Z,17nm,0.9s						
OUENC	**Ouen Island, N**	**46.13**	**152**	P	**P**	**04 53 57.1**	**+1.0**
STKA	**Stephens Creek**	**50.67**	**184**	P	**P**	**04 54 30.5**	**0.0**
	comp=Z,2.1nm,0.3s,baz=48,slow=6.1,SNR=11						
STKA	**Stephens Creek**	**50.67**	**184**	P	**P**	**04 54 30.0**	**-0.5**
FORT	**Forrest**	**52.19**	**199**	P	**P**	**04 54 42.4**	**+0.6**
FORT				IAmb	IAmb	04 54 57.8	
	comp=Z,32nm,0.9s						
MORW	**Morawa**	**55.54**	**211**	P	**P**	**04 55 06.1**	**0.0**
MORW				IAmb	IAmb	04 55 24.7	
	comp=Z,39nm,1.4s						
TOO	**Toolangi**	**56.22**	**180**	P	**P**	**04 55 10.7**	**0.0**

TOO					IAmb	IAmb	04 55 37.9	
	comp=Z,12nm,1.3s							
ZALV	**Zalesovo Beam**	**57.67**	**322**	P	**P**		**04 55 21.3**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=87,slow=8.8,SNR=2.0							
ZALV				pP	**pP**		**04 56 14.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=93,slow=8.0,SNR=2.3							
ZALV	**Zalesovo Beam**	**57.67**	**322**	P	**P**		**04 55 20.5**	**-0.2**
MK31	**Makanchi Array**	**58.12**	**314**	P	**P**		**04 55 22.6**	**-1.4**
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**		**04 55 24.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=92,slow=9.2,SNR=6.6							
MKAR				pP	**pP**		**04 56 17.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=97,slow=7.7,SNR=3.9							
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**		**04 55 22.6**	**-1.4**
KURK	**Kurchatov**	**60.92**	**318**	P	**P**		**04 55 43.3**	**+0.3**
KURBB	**Kurchatov Arra**	**60.97**	**318**	P	**P**		**04 55 43.3**	**0.0**
	comp=Z,2.4nm,0.7s,baz=96,slow=7.3,SNR=16							
KURBB				pP	**pP**		**04 56 38.4**	**+1.1**
	comp=Z,4.0nm,0.8s,baz=95,slow=7.5,SNR=6.5							
RC01	**Rabbit Creek A**	**61.46**	**30**	P	**P**		**04 55 46.3**	**-0.1**
RC01				IAmb	IAmb		04 56 01.9	
	comp=Z,14nm,1.5s							
IL31		**63.53**	**26**	P	**P**		**04 55 59.6**	**-0.3**
ILAR	**Eielson Array**	**63.53**	**26**	P	**P**		**04 56 00.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=259,slow=5.5,SNR=8.0							
ILAR				pP	**pP**		**04 56 53.9**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=249,slow=5.5,SNR=2.2							
BMRM	**Bremner River**	**63.89**	**31**	P	**P**		**04 56 01.7**	**-0.8**
BMRM				IAmb	IAmb		04 56 04.6	
	comp=Z,2.9nm,0.7s							
BVAR	**Borovoye Array**	**66.13**	**320**	P	**P**		**04 56 16.9**	**0.0**
	comp=Z,1.3nm,0.4s,baz=116,slow=8.2,SNR=6.6							
BVAR				pP	**pP**		**04 57 09.5**	**-2.5**
	comp=Z,1.7nm,0.5s,baz=186,slow=13,SNR=2.7							
KK31	**Karatay Array**	**66.42**	**309**	P	**P**		**04 56 19.2**	**+0.2**
KK31				IAmb	IAmb		04 56 45.7	
	comp=Z,4.3nm,1.4s							
KKAR	**Karatay Array**	**66.42**	**309**	P	**P**		**04 56 19.4**	**+0.4**
ABKAR	**Abkulak array**	**72.99**	**317**	P	**P**		**04 56 58.6**	**-0.2**
ABKAR				pP	**pP**		**04 57 56.7**	**+1.8**
AKTO	**Aktyubinsk**	**74.02**	**318**	pP	pP		04 58 03.2	+2.1
	comp=Z,0.9nm,0.6s,baz=69,slow=18,SNR=2.7							
YKA	**Yellowknife Ar**	**77.88**	**28**	pP	pP		04 58 23.9	+0.6
	comp=Z,1.6nm,0.8s,baz=287,slow=5.2,SNR=4.8							
ARCES	**ARCESS Array B**	**82.18**	**342**	P	**P**		**04 57 48.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=88,slow=7.9,SNR=5.3							
ARCES	**ARCESS Array B**	**82.18**	**342**	IAmb	IAmb		04 58 11.8	
	comp=Z,7.2nm,1.2s							
YERR	**Yerington**	**82.31**	**52**	P	**P**		**04 57 49.3**	**-1.3**
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**		**04 57 55.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=285,slow=4.5,SNR=5.4							
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**		**04 57 54.9**	**-0.3**
FINES	**FINESS Array B**	**86.56**	**335**	P	**P**		**04 58 09.8**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=59,slow=4.2,SNR=14							
FINES				pP	**pP**		**04 59 08.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=58,slow=4.7,SNR=3.1							
LPAZ	**La Paz**	**147.92**	**91**	PKPbc	**PKiKP**		**05 05 14.8**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=350,slow=6.6,SNR=4.8							

*IDC **10** 04:52:16.0±1.1, 9.°40S×158.°48E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/30, mbtmp3.8/5, Error ellipse: s-maj=36.6km s-min=18.7km az=174.0*

ISC 10 04:52:20.3±1.1, 9.°5S±0.°3×158.°53E±0.°09, h30km, n6, σ0°69/7, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.40**	**88**	Pn	**Pn**	**04 52 44.4**	**+0.6**
	86nm,0.3s,baz=198,slow=7.4,SNR=10						
HNR				Sn	**Sb**	**04 53 02.9**	**-0.4**
	193nm,0.3s,baz=185,slow=11,SNR=11						
WRA	**Warramunga Arr**	**25.52**	**243**	P	**P**	**04 57 47.5**	**+0.5**
	1.1nm,0.7s,baz=71,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**27.43**	**236**	P	**P**	**04 58 03.1**	**-0.7**
	0.2nm,0.4s,baz=73,slow=11,SNR=1.9						
SONM	**Songino Array**	**73.32**	**326**	P	**P**	**05 03 49.7**	**+0.5**
	1.7nm,0.7s,baz=137,slow=5.6,SNR=10						
ILAR	**Eielson Array**	**84.42**	**21**	P	**P**	**05 04 49.1**	**-0.6**
	0.6nm,0.5s,baz=239,slow=5.1,SNR=11						
MKAR	**Makanchi Array**	**87.57**	**318**	P	**P**	**05 05 05.5**	**-0.2**
	0.4nm,0.5s,baz=92,slow=7.4,SNR=4.0						

*NEIC **10** 04:53:43.6±1.2, 18.°2S±0.°1×177.°9W±0.°2, h577km±10km, mb4.1/9, Error ellipse: s-maj=21.1km s-min=15.2km az=82.0*
*IDC **10** 04:53:44.4±1.9, 18.°29S×178.°02W, h581km±22km, mb3.2/8, mb1 3.4/9, mb1mx3.2/26, mbtmp4.1/9, Error ellipse: s-maj=27.8km s-min=17.5km az=136.0*

ISC 10 04:53:44.2±0.7, 18.°2S±0.°1×177.°9W±0.°1, h590km, n22, σ1°17/21, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.84**	**277**	P	**P**	**04 55 07.1**	**-0.9**
	1.3nm,0.3s,baz=128,slow=10,SNR=4.7						
NIUE	**Niue**	**7.65**	**98**	P	**P**	**04 55 38.3**	**-1.5**
FUNA	**Funafuti**	**10.03**	**344**	P	**P**	**04 56 01.5**	**-1.6**
URZ	**Urewera**	**20.43**	**191**	P	**P**	**04 57 41.3**	**-0.7**
	3.6nm,0.3s,baz=287,slow=2.9,SNR=7.6						
URZ	**Urewera**	**20.43**	**191**	IAmb	IAmb	04 57 44.6	
	comp=Z,57nm,1.4s						
WHZ	**Wether Hill Ro**	**29.98**	**200**	P	**P**	**04 59 06.3**	**+0.3**
WHZ				IAmb	IAmb	04 59 23.0	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**05 00 21.6**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=41,slow=11,SNR=1.4						
WB0	**Warramunga Arr**	**44.98**	**260**	P	**P**	**05 01 07.9**	**-0.4**
WB2	**Warramunga Arr**	**45.00**	**260**	P	**P**	**05 01 07.8**	**-0.7**
WB2				IAmb	IAmb	05 01 17.2	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**45.01**	**260**	P	**P**	**05 01 08.3**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=97,slow=7.2,SNR=32						
AS31	**Alice Springs**	**45.13**	**255**	P	**P**	**05 01 09.0**	**-0.5**
AS31				IAmb	IAmb	05 01 10.6	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**45.13**	**255**	P	**P**	**05 01 09.6**	**+0.1**
	comp=Z,6.2nm,0.6s,baz=88,slow=8.9,SNR=66						
PETK	**Petropavlovsk-**	**74.09**	**345**	P	**P**	**05 04 21.8**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=138,slow=12,SNR=2.7						
YERR	**Yerington**	**79.04**	**43**	P	**P**	**05 04 50.5**	**+2.0**
NVAR	**Mina Array Bea**	**79.34**	**44**	P	**P**	**05 04 52.4**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=227,slow=8.4,SNR=7.2						
TX31	**Lajitas Ar. Si**	**85.78**	**57**	P	**P**	**05 05 22.2**	**-0.3**
TX32	**Lajitas Array**	**85.78**	**57**	P	**P**	**05 05 22.2**	**-0.2**
TX32				IAmb	IAmb	05 05 34.9	
	comp=Z,5.8nm,1.1s						
IL31		**86.09**	**13**	P	**P**	**05 05 23.2**	**+0.4**
IL31				IAmb	IAmb	05 05 39.6	
	comp=Z,2.4nm,1.4s						
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**	**05 05 23.4**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=221,slow=5.2,SNR=9.2						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**05 05 31.0**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=276,slow=2.6,SNR=5.9						
PDAR	**Pinedale Array**	**87.27**	**43**	P	**P**	**05 05 30.1**	**+0.8**
GERES	**GERESS Array B**	**148.02**	**345**	PKPbc	**PKiKP**	**05 12 24.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=15,slow=4.1,SNR=4.2						

*SKHL **10** 05:21:00.4±0.0, 48.°90N×155.°60E, h43km±1km, mb4.4/5*
*MOS **10** 05:21:00.0±1.2, 48.°81N×155.°75E, h39km, mb4.1/1, Error ellipse: s-maj=33.7km s-min=4.2km az=76.0*
*KRSC **10** 05:21:02.3±1.9, 49.°00N×156.°45E, h39km±24km, ML4.4*
*IDC **10** 05:21:03.2±4.7, 48.°85N×155.°53E, h46km±47km, mb3.3/6, mb1 3.7/7, mb1mx3.4/37, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=46.3km s-min=23.3km az=141.0*

ISC 10 05:21:01.2±0.9, 48.°85N±0.°08×155.°82E±0.°08, h35km, n82, σ2°00/92, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.85**	**6**	*e*PN	**Pn**	**05 21 29.5**	**-0.9**
SKR				*e*S	**Sn**	**05 21 51.3**	**-1.2**
SKR				pmax	pmax		
	comp=Z,44nm,0.4s						
SKR				smax	smax		
	comp=N,784nm,0.5s						
SKR				smax	smax		
	comp=E,380nm,0.3s						
SKR	**Severo-Kuril's**	**1.85**	**6**	*e*P	**Pn**	**05 21 30.7**	**+0.3**
SKR				*e*S	**Sn**	**05 21 51.0**	**-1.5**
SKR	**Severo-Kuril's**	**1.85**	**6**	*e*P	**Pn**	**05 21 29.5**	**-0.9**
SKR				AMB	AMB	05 21 31.9	
	comp=E,40nm,0.3s						

SKR				*e*S	**Sn**		**05 21 51.3**	**-1.2**
SKR				A	A		05 21 53.4	
	comp=E,780nm,0.4s							
SKR				A	A		05 21 53.4	
	comp=E,380nm,0.4s							
ALID	**Alaid**	**2.03**	**355**	PN	**Pn**		**05 21 33.1**	**+0.1**
ALID	**Alaid**	**2.03**	**355**	*e*P	**Pn**		**05 21 33.1**	**+0.1**
PAU	**Pauzhetka**	**2.70**	**13**	*e*P	**Pn**		**05 21 42.4**	**+0.3**
PAU				AMB	AMB		05 21 44.0	
	comp=E,50nm,0.3s							
PAU				*e*S	**Sn**		**05 22 13.9**	**+0.4**
PAU				A	A		05 22 15.7	
	comp=E,500nm,0.5s							
PAU				A	A		05 22 15.7	
	comp=E,700nm,0.5s							
KDTR	**Khodutka, Kamc**	**3.30**	**25**	PN	**Pn**		**05 21 49.9**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.30**	**25**	*e*P	**Pn**		**05 21 49.9**	**-0.4**
KDTR				*e*S	**Sn**		**05 22 25.9**	**-2.4**
MIPR	**Malaya Ipel'ka**	**3.48**	**10**	PN	**Pn**		**05 21 54.2**	**+1.3**
MIPR				S	**Sn**		**05 22 33.8**	**+0.9**
MIPR	**Malaya Ipel'ka**	**3.48**	**10**	*e*P	**Pn**		**05 21 54.2**	**+1.3**
MIPR				*e*S	**Sn**		**05 22 33.8**	**+0.9**
MTVR	**Mutnovka**	**3.94**	**22**	PN	**Pn**		**05 22 00.7**	**+1.5**
MTVR	**Mutnovka**	**3.94**	**22**	*e*P	**Pn**		**05 22 00.7**	**+1.5**
MTVR				*e*S	**Sn**		**05 22 44.1**	**-0.2**
GRL	**Gorelyy**	**3.98**	**20**	PN	**Pn**		**05 22 01.9**	**+2.2**
GRL	**Gorelyy**	**3.98**	**20**	*e*P	**Pn**		**05 22 01.9**	**+2.2**
GRL				*e*S	**Sn**		**05 22 45.5**	**+0.3**
RUS	**Russkaya**	**3.98**	**25**	PN	**Pn**		**05 22 00.4**	**+0.8**
RUS	**Russkaya**	**3.98**	**25**	*e*P	**Pn**		**05 22 00.4**	**+0.8**
RUS				*e*S	**Sn**		**05 22 43.4**	**-1.6**
RUS	**Russkaya**	**3.98**	**25**	*e*P	**Pn**		**05 22 00.4**	**+0.8**
APC	**Apacha**	**4.17**	**11**	PN	**Pn**		**05 22 05.4**	**+3.1**
APC	**Apacha**	**4.17**	**11**	*e*P	**Pn**		**05 22 05.4**	**+3.1**
KRMR	**Karymshinskiy**	**4.25**	**19**	PN	**Pn**		**05 22 05.0**	**+1.7**
KRMR	**Karymshinskiy**	**4.25**	**19**	*e*P	**Pn**		**05 22 05.0**	**+1.7**
KRMR				*e*S	**Sn**		**05 22 51.4**	**-0.3**
PETK	**Petropavlovsk-**	**4.43**	**15**	P	**Pn**		**05 22 08.5**	**+2.6**
	comp=E,2.3nm,0.3s,baz=188,slow=16,SNR=12							
PET	**Petropavlovsk**	**4.55**	**22**	*e*PN	**Pn**		**05 22 07.9**	**+0.4**
PET	**Petropavlovsk**	**4.55**	**22**	*e*S	**Sn**		**05 22 58.8**	**-0.3**
PET	**Petropavlovsk**	**4.55**	**22**	*e*P	**Pn**		**05 22 08.2**	**+0.7**
PET				*e*S	**Sn**		**05 22 59.5**	**+0.4**
PET				A	A		05 23 09.6	
	comp=E,130nm,0.5s							
PET				A	A		05 23 09.6	
	comp=E,140nm,0.5s							
DALK	**Dalny**	**4.58**	**23**	PN	**Pn**		**05 22 09.4**	**+1.5**
DALK	**Dalny**	**4.58**	**23**	*e*P	**Pn**		**05 22 09.4**	**+1.5**
DALK				*e*S	**Sn**		**05 23 00.1**	**+0.2**
UGLR	**Uglovaya**	**4.76**	**22**	PN	**Pn**		**05 22 12.8**	**+2.3**
UGLR	**Uglovaya**	**4.76**	**22**	*e*P	**Pn**		**05 22 12.8**	**+2.3**
AVH	**Avacha**	**4.79**	**22**	PN	**Pn**		**05 22 12.9**	**+2.0**
AVH	**Avacha**	**4.79**	**22**	*e*P	**Pn**		**05 22 12.9**	**+2.0**
AVH				*e*S	**Sn**		**05 23 04.1**	**-1.1**
KOK	**Koryaka**	**4.79**	**21**	PN	**Pn**		**05 22 13.8**	**+2.9**
KOK	**Koryaka**	**4.79**	**21**	*e*P	**Pn**		**05 22 13.8**	**+2.9**
SMAR	**Somma**	**4.81**	**22**	PN	**Pn**		**05 22 13.6**	**+2.4**
SMAR	**Somma**	**4.81**	**22**	*e*P	**Pn**		**05 22 13.6**	**+2.4**
KRER	**Koryakskii**	**4.83**	**21**	PN	**Pn**		**05 22 13.5**	**+2.0**
KRER	**Koryakskii**	**4.83**	**21**	*e*P	**Pn**		**05 22 13.5**	**+2.0**
SDLR	**Sedlovina**	**4.84**	**22**	PN	**Pn**		**05 22 13.2**	**+1.6**
SDLR	**Sedlovina**	**4.84**	**22**	*e*P	**Pn**		**05 22 13.2**	**+1.6**
KRX	**Arik**	**4.86**	**20**	PN	**Pn**		**05 22 14.1**	**+2.3**
KRX	**Arik**	**4.86**	**20**	*e*P	**Pn**		**05 22 14.1**	**+2.3**
NLC	**Nalytchevo**	**4.87**	**26**	PN	**Pn**		**05 22 11.9**	**+0.1**
NLC	**Nalytchevo**	**4.87**	**26**	*e*P	**Pn**		**05 22

*IDC **10** 05:53:46.0±0.7, 9°.35S×158°.54E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.2/36, mbtmp4.2/12, MS4.4/1, Ms1 4.4/1, ms1mx3.6/40, Error ellipse: s-maj=20.0km s-min=15.5km az=166.0*
*NEIC **10** 05:53:47.5±1.5, 9°.3S±0°.1×158°.56E±0°.07, h10km±1km, mb4.7/27, Error ellipse: s-maj=18.8km s-min=11.3km az=0.0*
ISC 10 05:53:50.2±0.5, 9°.40S±0°.09×158°.56E±0°.07, h30km, n51, σ0s87/43, mb4.5/24, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.37**	**91**	Pn	**Pn**	**05 54 11.8**	**-1.5**
	484nm,0.3s,baz=247,slow=3.6,SNR=29						
HNR				Sn	**Sb**	**05 54 33.5**	**+1.1**
	5μm,0.3s,baz=98,slow=23,SNR=19						
HNR	**Honiara**	**1.37**	**91**		**Pn**	**05 54 12.2**	**-1.1**
SANVU	**Saraoutou**	**10.36**	**126**	Pn	**Pn**	**05 56 16.4**	**-0.5**
DZM	**Mont Dzumac**	**14.70**	**150**	LR	LR	06 01 21.0	
	comp=Z,2μm,21.6s,baz=25,slow=31						
CTA	**Charters Tower**	**15.94**	**227**	Pn	**Pn**	**05 57 31.4**	**-1.0**
	baz=42,slow=16,SNR=2.1						
CTAO	**Charters Tower**	**15.94**	**227**	P	**P**	**05 57 34.7**	**-1.1**
PATS	**Pohnpei**	**16.13**	**359**	P	**Pn**	**05 57 35.6**	**+0.7**
WR0	**Warramunga Arr**	**25.46**	**243**	P	**P**	**05 59 15.6**	**-0.2**
WB0	**Warramunga Arr**	**25.52**	**243**	P	**P**	**05 59 15.2**	**-1.1**
WB0				IAmb	IAmb	05 59 29.8	
	comp=Z,15nm,1.2s						
WRAB	**Tennant Creek**	**25.61**	**243**	P	**P**	**05 59 17.0**	**-0.2**
WRAB				IAmb	IAmb	05 59 24.3	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**25.63**	**243**	P	**P**	**05 59 17.1**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=68,slow=9.3,SNR=8.9						
WRA	**Warramunga Arr**	**25.63**	**243**	IAmb	IAmb	05 59 19.1	
	comp=Z,0.8nm,1.4s						
STKA	**Stephens Creek**	**27.34**	**213**	P	**P**	**05 59 34.0**	**+1.3**
	comp=Z,2.7nm,0.7s,baz=49,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**27.50**	**236**	P	**P**	**05 59 33.6**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=66,slow=10,SNR=8.6						
H11S3	**WAKE ISLAND Hy 28.86**		**16**	T	T	06 28 48.3	
	baz=195,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy 28.88**		**16**	T	T	06 28 20.0	
	baz=195,slow=76,SNR=49						
H11S1	**WAKE ISLAND Hy 28.88**		**16**	T	T	06 28 31.8	
	baz=195,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy 30.07**		**16**	T	T	06 30 17.0	
	baz=194,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy 30.08**		**16**	T	T	06 30 12.5	
	baz=194,slow=76,SNR=30						
H11N2	**WAKE ISLAND Hy 30.09**		**16**	T	T	06 30 27.5	
	baz=194,slow=76,SNR=30						
KSRS	**Korea Array**	**54.73**	**330**	P	**P**	**06 03 17.5**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=148,slow=7.6,SNR=11						
CMAR	**Chiang Mai Arr**	**65.00**	**295**	P	**P**	**06 04 28.6**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=108,slow=4.8,SNR=12						
CMAR	**Chiang Mai Arr**	**65.00**	**295**	P	**P**	**06 04 27.7**	**-0.2**
VNDA	**Vanda**	**68.12**	**179**	P	**P**	**06 04 48.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=342,slow=5.9,SNR=8.3						
SONM	**Songino Array**	**73.27**	**326**	P	**P**	**06 05 19.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=139,slow=5.5,SNR=19						
SONM	**Songino Array**	**73.27**	**326**	P	**P**	**06 05 18.8**	**0.0**
SONM				IAmb	IAmb	06 05 27.2	
	comp=Z,4.9nm,0.8s						
SHL	**Shillong**	**73.55**	**300**	P	**P**	**06 05 20.6**	**-0.4**
CNPM	**China Poot**	**79.50**	**23**	P	**P**	**06 05 53.5**	**-0.2**
QSPA	**South Pole Qui**	**80.59**	**180**	P	**P**	**06 06 01.1**	**+1.4**
QSPA				IAmb	IAmb	06 06 02.6	
	comp=Z,11nm,1.3s						
SML	**Sawmill**	**82.04**	**23**	P	**P**	**06 06 07.3**	**0.0**
SML				IAmb	IAmb	06 06 08.9	
	comp=Z,7.8nm,1.0s						
KTH	**Kantishna Hill**	**82.20**	**20**	P	**P**	**06 06 07.2**	**-0.9**
KTH				IAmb	IAmb	06 06 14.2	
	comp=Z,4.1nm,1.0s						
RND	**Reindeer**	**82.83**	**21**	P	**P**	**06 06 11.0**	**-0.5**
MCK	**McKinley**	**83.00**	**21**	P	**P**	**06 06 12.6**	**+0.3**
NEA2	**Nenana**	**83.49**	**20**	P	**P**	**06 06 13.9**	**-0.8**
NEA2				IAmb	IAmb	06 06 28.7	
	comp=Z,6.7nm,1.0s						
WRH	**Wood River Hil**	**83.75**	**20**	P	**P**	**06 06 15.5**	**-0.5**
WRH				IAmb	IAmb	06 06 18.7	
	comp=Z,6.1nm,1.2s						
CCB	**Clear Creek Bu**	**83.95**	**20**	P	**P**	**06 06 16.6**	**-0.5**
CCB				IAmb	IAmb	06 06 22.5	
	comp=Z,6.3nm,1.3s						
MDM	**Murphy Dome**	**84.00**	**20**	P	**P**	**06 06 16.8**	**-0.6**
IL31		**84.34**	**21**	P	**P**	**06 06 19.2**	**+0.2**
IL31				IAmb	IAmb	06 06 22.7	
	comp=Z,6.3nm,1.2s						
ILAR	**Eielson Array**	**84.34**	**21**	P	**P**	**06 06 18.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=263,slow=4.8,SNR=13						
ILAR	**Eielson Array**	**84.34**	**21**	P	**P**	**06 06 18.3**	**-0.8**
DOT	**Dot Lake**	**84.71**	**22**	P	**P**	**06 06 21.1**	**+0.1**
DOT				IAmb	IAmb	06 06 35.8	
	comp=Z,5.9nm,1.0s						
SCRK	**Sand Creek**	**84.92**	**22**	P	**P**	**06 06 21.9**	**-0.3**
SCRK				IAmb	IAmb	06 06 36.6	
	comp=Z,4.6nm,1.0s						
BCAR	**Beaver Creek A**	**85.27**	**23**	P	**P**	**06 06 24.6**	**+0.7**
HYT	**Haines Junctio**	**85.93**	**26**	P	**P**	**06 06 27.9**	**+0.6**
HYT				IAmb	IAmb	06 06 42.5	
	comp=Z,7.2nm,1.0s						
EGAK	**Eagle**	**86.39**	**22**	P	**P**	**06 06 30.1**	**+0.9**
EGAK				IAmb	IAmb	06 06 38.5	
	comp=Z,8.9nm,1.2s						
MK31	**Makanchi Array**	**87.53**	**318**	P	**P**	**06 06 34.7**	**-0.6**
MKAR	**Makanchi Array**	**87.53**	**318**	P	**P**	**06 06 34.9**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=96,slow=5.4,SNR=9.2						
NVAR	**Mina Array Bea**	**90.45**	**51**	P	**P**	**06 06 51.3**	**+1.8**
	comp=Z,1.8nm,1.0s,baz=246,slow=6.5,SNR=12						
NVAR	**Mina Array Bea**	**90.45**	**51**	P	**P**	**06 06 47.8**	**-1.7**
KVN	**Kaiserville**	**90.73**	**51**	P	**P**	**06 06 49.3**	**-1.5**
KVN				IAmb	IAmb	06 06 56.2	
	comp=Z,5.0nm,1.2s						
PDAR	**Pinedale Array**	**97.68**	**48**	P	Pdif	06 07 22.9	+0.2
	comp=Z,0.4nm,0.7s,baz=221,slow=1.6,SNR=4.7						

IDC 10 05:54:46.3±1.7, 6°.79S×128°.22E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.7/40, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=108.4km s-min=29.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.36**	**156**	Pn	Pn	05 58 11.3	+0.2
	0.5nm,0.3s,baz=330,slow=14,SNR=26						
WRA				Sn	Sn	06 00 34.6	-17
	2.3nm,0.3s,baz=330,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.65**	**163**	P	Pn	05 58 53.6	-0.2
	0.9nm,0.3s,baz=336,slow=12,SNR=45						
USRK	**Ussuriysk Ar.**	**50.86**	**3**	P	P	06 03 48.4	-0.5
	1.3nm,0.6s,baz=165,slow=6.0,SNR=4.3						
MKAR	**Makanchi Array**	**67.09**	**328**	P	P	06 05 42.1	+0.4
	0.2nm,0.4s,baz=134,slow=8.3,SNR=3.6						

*IDC **10** 05:57:41.3±1.5, 5°.50S×131°.12E, h0km, mb4.2/3, mb1 4.5/6, mb1mx3.9/37, mbtmp4.4/6, ML4.4/3, Error ellipse: s-maj=69.4km s-min=25.7km az=83.0*
*DJA **10** 05:57:48.9±0.4, 5°.S±3°.×13°.1E±°, h107km±12km, M4.7/9, mb5.0/2, MLv4.5/9*
ISC 10 05:57:41.3±0.7, 5°.53S±0°.05×131°.28E±0°.07, h10km, n12, σ3s95/15, mb4.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.70**	**306**	P	Pg	05 58 17.0	+3.0
BNDI				S	**Sg**	**05 58 36.7**	**+0.6**
SAUI	**Saumlaki**	**2.43**	**180**	P	**Pg**	**05 58 30.5**	**+2.5**
FAKI	**Fak Fak**	**2.77**	**20**	P	**Pb**	**05 58 29.9**	**-1.1**
KMPI	**Kaimana, Papua**	**3.05**	**52**	P	**Pb**	**05 58 35.4**	**-0.3**
MSAI	**Masohi**	**3.20**	**313**	P	**Pb**	**05 58 36.7**	**-1.6**
SIJI	**Sorong**	**4.63**	**360**	Pn	**Pn**	**05 58 53.0**	**+1.6**
	19nm,0.3s,baz=222,slow=22,SNR=17						
SIJI				Sn	**Sn**	**05 59 39.3**	**-6.1**
	35nm,0.3s,baz=256,slow=23,SNR=20						
SWI	**Sorong**	**4.64**	**360**	P	**Pn**	**05 58 54.3**	**+2.8**
WRA	**Warramunga Arr**	**14.63**	**169**	Pn	**Pn**	**06 01 10.7**	**+2.1**
	1.5nm,0.3s,baz=349,slow=14,SNR=3.7						
WRA				Sn	**Sn**	**06 03 44.4**	**-6.5**
	1.2nm,0.3s,baz=346,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**18.20**	**172**	P	**P**	**06 01 56.2**	**+1.7**
	1.6nm,0.3s,baz=352,slow=10,SNR=8.0						
ASAR				S	**Sn**	**06 05 08.9**	**-8.8**
	0.2nm,0.3s,baz=352,slow=27,SNR=2.9						
MJAR	**Matsushiro Arr**	**42.35**	**8**	P	**P**	**06 05 36.3**	**+0.5**
	2.6nm,0.8s,baz=192,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**67.72**	**326**	P	**P**	**06 08 40.5**	**+1.4**
	1.6nm,0.4s,baz=112,slow=8.2,SNR=21						
ZALV	**Zalesovo Beam**	**70.85**	**333**	P	**P**	**06 08 58.8**	**+0.5**
	1.0nm,0.4s,baz=132,slow=7.2,SNR=3.7						

KRSC 10 05:58:26.2±2.3, 49°.77N×156°.14E, h135km±29km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.92**	**359**	*e*P	Pn	05 58 49.4	+0.7
ALID	**Alaid**	**1.17**	**341**	*e*P	Pn	05 58 49.4	-1.8
PAU	**Pauzhetka**	**1.75**	**14**	*e*P	Pn	05 58 58.3	+0.9
PAU				*e*S	Sn	05 59 22.9	+1.5
KDTR	**Khodutka, Kamc**	**2.39**	**30**	*i* P	Pn	05 59 07.4	+2.4
KDTR				*e*S	Sn	05 59 37.3	+2.3
MIPR	**Malaya Ipel'ka**	**2.54**	**9**	*e*P	Pn	05 59 07.2	+0.2
MTVR	**Mutnovka**	**3.01**	**25**	*e*P	Pn	05 59 15.7	+2.6
MTVR				*e*S	Sn	05 59 52.6	+3.2
GRL	**Gorelyy**	**3.04**	**23**	*e*P	Pn	05 59 15.6	+2.1
GRL				*e*S	Sn	05 59 52.4	+2.2
RUS	**Russkaya**	**3.06**	**28**	*e*P	Pn	05 59 15.7	+2.1
RUS				*e*S	Sn	05 59 52.0	+1.7
APC	**Apacha**	**3.23**	**11**	*e*P	Pn	05 59 18.1	+2.3
DALK	**Dalny**	**3.66**	**26**	*e*P	Pn	05 59 24.3	+2.9
DALK				*e*S	Sn	06 00 05.0	+0.8
UGLR	**Uglovaya**	**3.83**	**25**	*e*P	Pn	05 59 26.9	+3.1
KOK	**Koryaka**	**3.86**	**23**	*e*P	Pn	05 59 27.1	+2.9
AVH	**Avacha**	**3.86**	**24**	*e*P	Pn	05 59 26.4	+2.2
AVH				*e*S	Sn	06 00 10.8	+1.6
SMAR	**Somma**	**3.88**	**24**	*e*P	Pn	05 59 28.1	+3.6
KRER	**Koryakskii**	**3.90**	**24**	*e*P	Pn	05 59 26.6	+1.8
SDLR	**Sedlovina**	**3.91**	**25**	*e*P	Pn	05 59 27.7	+2.8
KRX	**Arik**	**3.92**	**23**	*e*P	Pn	05 59 27.8	+2.7
NLC	**Nalytchevo**	**3.96**	**29**	*e*S	Sn	06 00 11.0	-0.2
SPN	**Mys Shipunski**	**4.13**	**35**	*e*P	Pn	05 59 30.1	+2.5
SPN				*e*S	Sn	06 00 17.1	+1.8
MKZ	**Mys Kozlova**	**5.90**	**34**	*e*P	Pn	05 59 53.2	+2.0
MKZ				*e*S	Sn	06 00 57.4	-0.3
KZV	**Kizimen**	**5.93**	**24**	*e*P	Pn	05 59 55.4	+3.7
TUMR	**Tumrok**	**6.04**	**22**	*e*P	Pn	05 59 56.0	+2.8
KBTR	**Krutoberegovo**	**7.61**	**29**	*e*P	Pn	06 00 15.4	+1.3
BKI	**Bering**	**8.10**	**44**	*e*P	Pn	06 00 23.5	+2.8
BKI				*e*S	Sn	06 01 46.9	-3.7

IDC 10 06:04:42.7±5.8, 6°.37S×154°.58E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/44, mbtmp3.7/4, Error ellipse: s-maj=173.1km s-min=32.1km az=110.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**234**	P	P	06 09 58.5	+0.6
	0.8nm,1.0s,baz=59,slow=9.6,SNR=2.6						
ASAR	**Alice Springs**	**26.29**	**227**	P	P	06 10 19.7	-0.5
	1.1nm,0.9s,baz=54,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**68.59**	**327**	P	P	06 15 47.7	+0.1
	0.7nm,0.5s,baz=133,slow=4.5,SNR=5.0						
MKAR	**Makanchi Array**	**82.66**	**319**	P	P	06 17 08.3	0.0
	0.7nm,0.7s,baz=97,slow=8.8,SNR=7.1						

IDC 10 06:30:20.4±9.0, 16°.36S×72°.63W, h51km±60km, mb3.4/2, mb1 3.5/3, mb1mx3.2/22, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=177.2km s-min=47.3km az=12.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.32**	**90**	P	Pn	06 31 23.9	-0.3
	0.7nm,0.3s,baz=274,slow=9.2,SNR=30						
LPAZ				S	Sn	06 32 14.4	+0.9
	0.4nm,0.3s,baz=236,slow=15,SNR=2.2						
H03N1	**Juan Fernandez**	**17.93**	**197**	T	T	06 52 48.9	
	baz=21,slow=73,SNR=5.7						
H03N2	**Juan Fernandez**	**17.94**	**197**	T	T	06 52 49.7	
	baz=21,slow=73,SNR=5.3						
H03N3	**Juan Fernandez**	**17.95**	**197**	T	T	06 52 45.2	
	baz=21,slow=73,SNR=5.7						
TORD	**Torodi Ar. Bea**	**79.08**	**73**	P	P	06 42 19.8	-0.1
	0.4nm,0.5s,baz=269,slow=4.7,SNR=4.7						
YKA	**Yellowknife Ar**	**85.21**	**342**	P	P	06 42 51.2	+0.2
	0.4nm,0.6s,baz=164,slow=9.7,SNR=2.1						

*IDC **10** 06:35:25.5±1.0, 9°.43S×158°.32E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/29, mbtmp3.8/6, Error ellipse: s-maj=41.1km s-min=21.6km az=157.0*
ISC 10 06:35:29.8±1.0, 9°.5S±0°.3×158°.41E±0°.09, h30km, n7, σ0s98/9, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.52**	**86**	Pn	**Pn**	**06 35 54.2**	**-0.7**
	41nm,0.3s,baz=220,slow=2.3,SNR=4.3						
HNR				Sn	**Sn**	**06 36 13.6**	**-0.1**
	136nm,0.3s,baz=215,slow=19,SNR=8.7						
WRA	**Warramunga Arr**	**25.43**	**243**	P	**P**	**06 40 55.2**	**0.0**
	2.9nm,0.8s,baz=71,slow=9.5,SNR=21						
WRA				PcP	**PcP**	**06 44 27.9**	**+0.9**
	0.9nm,0.9s,baz=72,slow=2.6,SNR=5.4						
ASAR	**Alice Springs**	**27.30**	**236**	P	**P**	**06 41 11.5**	**-0.5**
	0.7nm,0.7s,baz=62,slow=9.9,SNR=6.3						
SONM	**Songino Array**	**73.30**	**326**	P	**P**	**06 46 58.0**	**-0.6**
	0.6nm,0.6s,baz=161,slow=7.6,SNR=4.3						
ILAR	**Eielson Array**	**84.52**	**21**	P	**P**	**06 47 59.8**	**+0.2**
	0.4nm,0.8s,baz=273,slow=3.5,SNR=4.1						
MKAR	**Makanchi Array**	**87.54**	**318**	P	**P**	**06 48 14.1**	**-0.8**
	0.2nm,0.4s,baz=106,slow=5.2,SNR=2.6						
NVAR	**Mina Array Bea**	**90.65**	**51**	P	**P**	**06 48 31.8**	**+1.7**
	0.4nm,0.7s,baz=264,slow=1.8,SNR=2.7						

KRSC 10 06:59:41.1±2.4, 49°.14N×156°.67E, h14km±37km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.59**	**347**	*e*P	Pn	07 00 07.8	-1.0
SKR				*e*S	Sn	07 00 28.0	-1.0
ALID	**Alaid**	**1.88**	**338**	*e*P	Pn	07 00 11.9	-1.0
PAU	**Pauzhetka**	**2.33**	**2**	*e*P	Pn	07 00 20.6	+1.6
PAU				*e*S	Sb	07 00 51.0	-0.6
KDTR	**Khodutka, Kamc**	**2.82**	**18**	*e*P	Pb	07 00 28.6	-2.6
KDTR				*e*S	Sb	07 01 04.3	-1.3
MIPR	**Malaya Ipel'ka**	**3.14**	**1**	*e*P	Pn	07 00 32.3	+2.1
MTVR	**Mutnovka**	**3.48**	**15**	*e*P	Pn	07 00 38.2	+3.2
MTVR				*e*S	Sn	07 01 19.4	+3.3
RUS	**Russkaya**	**3.50**	**19**	*e*P	Pn	07 00 38.2	+3.1
RUS				*e*S	Sb	07 01 21.4	-3.7
GRL	**Gorelyy**	**3.53**	**14**	*e*P	Pn	07 00 39.4	+3.8
GRL				*e*S	Sb	07 01 22.4	-3.8
APC	**Apacha**	**3.81**	**5**	*e*P	Pn	07 00 43.3	+4.1
PET	**Petropavlovsk**	**4.09**	**17**	*e*P	Pb	07 00 48.5	-4.3
DALK	**Dalny**	**4.12**	**18**	*e*P	Pn	07 00 47.3	+3.8
DALK				*e*S	Sn	07 01 35.8	+4.4
UGLR	**Uglovaya**	**4.30**	**18**	*e*P	Pn	07 00 50.3	+4.2
AVH	**Avacha**	**4.33**	**17**	*e*P	Pb	07 00 51.9	-5.1
KOK	**Koryaka**	**4.34**	**16**	*e*P	Pn	07 00 51.7	+5.0
SMAR	**Somma**	**4.34**	**17**	*e*P	Pn	07 00 50.9	+4.0
KRER	**Koryakskii**	**4.37**	**17**	*e*P	Pb	07 00 52.9	-4.9
SDLR	**Sedlovina**	**4.37**	**18**	*e*P	Pn	07 00 50.9	+3.7
KRX	**Arik**	**4.41**	**16**	*e*P	Pn	07 00 52.6	+4.9
SPN	**Mys Shipunski**	**4.49**	**27**	*e*P	Pn	07 00 52.0	+3.3
SPN				*e*S	Sn	07 01 46.6	+5.9
GNL	**Ganaly**	**4.63**	**9**	*e*P	Pn	07 00 55.6	+4.9
MKZ	**Mys Kozlova**	**6.27**	**28**	*e*P	Pn	07 01 15.8	+2.8
MKZ				*e*S	Sn	07 02 27.6	+3.3
TUMR	**Tumrok**	**6.51**	**18**	*e*P	Pn	07 01 22.1	+5.5

IDC 10 07:06:37.1±16.0, 16°.54S×178°.04W, h83km±76km, mb3.8/2, mb1 4.0/3, mb1mx3.4/29, mbtmp4.0/3, ML4.9/1, Error ellipse: s-maj=432.4km s-min=39.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**252**	P	Pn	07 07 35.3	+1.0
	3.2nm,0.3s,baz=200,slow=23,SNR=11						
ASAR	**Alice Springs**	**45.52**	**253**	P	P	07 14 48.5	-0.2
	2.6nm,0.8s,baz=88,slow=7.8,SNR=20						
ILAR	**Eielson Array**	**84.48**	**13**	P	P	07 19 00.1	-0.1
	2.1nm,1.1s,baz=228,slow=6.2,SNR=8.4						
BRTR	**Keskin Array B**	**144.06**	**316**	PKP	PKPdf	07 26 03.8	+0.2
	1.8nm,0.8s,baz=90,slow=0.5,SNR=4.3						

ISC 10 07:13:35.1±1.2, 49°.20N±0°.06×18°.89E±0°.04, h10km, n5, σ0s71/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.38**	**97**	*e*PG	**Pg**	**07 13 42.0**	**-0.6**
LANS				*e*SG	**Sg**	**07 13 48.2**	**+0.5**
LANS				*e*LG	Lg	07 13 50.6	
KOLL	**Kolacno**	**0.70**	**208**	*e*PG	**Pg**	**07 13 47.4**	**-1.1**
VYHS	**Vyhne**	**0.70**	**183**	*e*PG	**Pb**	**07 13 49.7**	**+0.3**
VYHS				*e*SG	**Sb**	**07 14 00.0**	**+0.8**
JAVC	**Velka Javorina**	**0.87**	**248**	*e*PG	**Pg**	**07 13 51.9**	**0.0**
JAVC				*e*SG	**Sn**	**07 14 06.0**	**-0.2**
MORC	**Moravsky Berou**	**1.05**	**304**	*e*PG	**Pg**	**07 13 55.0**	**-0.4**
MORC				*e*SG	**Sn**	**07 14 10.4**	**-0.4**

*IDC **10** 07:24:01.4±0.5, 9°.32S×158°.35E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.5/39, mbtmp4.5/21, ML4.2/1, Error ellipse: s-maj=17.4km s-min=13.9km az=128.0*
*NEIC **10** 07:24:03.3±1.6, 9°.3S±0°.1×158°.48E±0°.07, h10km±1km, mb4.9/51, Error ellipse: s-maj=19.9km s-min=11.1km az=177.0*
ISC 10 07:24:05.8±0.4, 9°.39S±0°.09×158°.48E±0°.07, h30km, n185, σ0s77/182, mb4.8/53, 24C-10D, Fault plane solution: NP1:$\phi_0$292.81885°, δ50.33506°, λ50.65336°. **NP2:** $\phi_0$164.91621°, δ53.46616°, λ127.40228°. **Principal axes:** T Plg60.7250°, Azm136.3571°; N Plg29.2128°, Azm320.4423°; P Plg1.7424°, Azm229.4677°;
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**92**	Pn	**Pn**	**07 24 29.4**	**-0.6**
	246nm,0.3s,baz=234,slow=4.8,SNR=33						
HNR				Sn	**Sn**	**07 24 48.5**	**+0.5**
	365nm,0.3s,baz=46,slow=16,SNR=6.8						
HNR	**Honiara**	**1.45**	**92**		**Pn**	**07 24 28.4**	**-1.6**
CTA	**Charters Tower**	**15.90**	**227**	Pn	**Pn**	**07 27 45.4**	**-2.2**
	0.6nm,0.3s,baz=38,slow=14,SNR=6.7						
CTAO	**Charters Tower**	**15.90**	**227**	Pn	**Pn**	**07 27 45.7**	**-1.9**
EIDS	**Eidsvold**	**17.39**	**203**	P	**Pn**	**07 28 07.4**	**+1.1**
WR0	**Warramunga Arr**	**25.40**	**243**	P	**P**	**07 29 30.0**	**-0.9**
WR0				IAmb	IAmb	07 29 34.2	
	comp=Z,44nm,1.5s						
WB0	**Warramunga Arr**	**25.46**	**243**	P	**P**	**07 29 30.6**	**-0.9**
WB0				IAmb	IAmb	07 29 32.9	
	comp=Z,24nm,1.1s						
WRAB	**Tennant Creek**	**25.56**	**243**	P	**P**	**07 29 31.5**	**-0.8**
WRAB				IAmb	IAmb	07 29 36.7	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**25.57**	**243**	P	**P**	**07 29 31.2**	**-1.2**
	comp=Z,8.4nm,0.6s,baz=72,slow=9.9,SNR=76						
WRA				PcP	**PcP**	**07 33 04.1**	**+0.8**
	comp=Z,4.5nm,0.9s,baz=71,slow=2.8,SNR=10.0						
WRA	**Warramunga Arr**	**25.57**	**243**	P	**P**	**07 29 31.9**	**-0.5**
STKA	**Stephens Creek**	**27.32**	**213**	P	**P**	**07 29 48.3**	**+0.2**
	comp=Z,6.5nm,0.7s,baz=41,slow=13,SNR=7.6						
STKA	**Stephens Creek**	**27.32**	**213**	P	**P**	**07 29 48.2**	**+0.1**
AS31	**Alice Springs**	**27.44**	**236**	P	**P**	**07 29 49.3**	**0.0**
ASAR	**Alice Springs**	**27.44**	**236**	P	**P**	**07 29 47.6**	**-1.8**
	comp=Z,4.7nm,0.9s,baz=64,slow=9.8,SNR=21						
ASAR				PcP	**PcP**	**07 33 08.3**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=61,slow=2.7,SNR=11						
ASAR	**Alice Springs**	**27.44**	**236**	P	**P**	**07 29 50.3**	**+0.9**
H11S3	**WAKE ISLAND Hy 28.86**		**16**	T	T	07 58 47.8	
	baz=195,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy 28.86**		**16**	T	T	07 58 38.5	
	baz=195,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy 28.88**		**16**	T	T	07 58 41.4	
	baz=195,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy 30.08**		**16**	T	T	08 00 25.0	
	baz=194,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy 30.09**		**16**	T	T	08 00 09.0	
	baz=194,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy 30.10**		**16**	T	T	08 00 26.5	
	baz=194,slow=76,SNR=14						
KNTN	**Kanton**	**30.33**	**79**	P	**P**	**07 30 14.3**	**-0.8**
MJAR	**Matsushiro Arr**	**49.50**	**338**	P	**P**	**07 32 52.8**	**-0.9**

P19K	Oil Pt	78.82	23	P	P	07 36 05.3	-0.4
	baz=229						
SVW2	Sparrevohn	78.94	21	P	P	07 36 06.5	+0.2
SVW2				IAmb	IAmb	07 36 08.1	
	comp=Z,7.1nm,0.8s						
N19K	Bonanza Creek	79.14	21	P	P	07 36 07.4	-0.1
	baz=227						
O20K	Slope Mountain	79.34	23	P	P	07 36 08.9	+0.3
	baz=229						
HOM	Homer	79.44	23	P	P	07 36 09.7	+0.7
	baz=230						
CNPM	China Poot	79.51	23	P	P	07 36 09.1	-0.3
BRSE	Bradley Lake S	79.84	23	P	P	07 36 11.6	+0.4
	baz=231						
M19K	Big River Lodg	79.91	21	P	P	07 36 12.5	+0.9
	baz=227						
L19K	White Mountain	79.94	20	P	P	07 36 12.2	+0.4
	baz=227,SNR=13						
M20K	Styx River	80.34	21	P	P	07 36 14.1	+0.1
	baz=228						
SEW	Seward	80.58	24	P	P	07 36 14.5	-0.6
	baz=232,SNR=6.1						
SEW	Seward	80.58	24	P	P	07 36 14.9	-0.2
SEW				IAmb	IAmb	07 36 16.1	
	comp=Z,13nm,0.8s						
SUA	Susitna One	80.93	22	P	P	07 36 15.9	-1.3
	baz=231,SNR=5.4						
RC01	Rabbit Creek A	81.08	23	P	P	07 36 17.1	-0.8
	baz=232,SNR=5.0						
KNK	Knik Glacier	81.77	23	P	P	07 36 21.0	-0.5
	baz=233						
GHO	Glory Hole Cre	81.81	22	P	P	07 36 21.4	-0.4
GHO				IAmb	IAmb	07 36 22.8	
	comp=Z,9.5nm,0.8s						
CHUM	Lake Minchumin	81.95	20	P	P	07 36 22.5	+0.1
	baz=229,SNR=6.2						
GLI	Glacier Island	81.98	24	P	P	07 36 22.4	-0.2
	baz=234						
SML	Sawmill	82.05	23	P	P	07 36 22.8	-0.3
	baz=233,SNR=9.4						
KTH	Kantishna Hill	82.20	20	P	P	07 36 23.3	-0.5
KTH				IAmb	IAmb	07 36 23.9	
	comp=Z,9.7nm,0.9s						
TRF	Thorofare Moun	82.36	21	P	P	07 36 23.7	-1.1
	baz=231,SNR=8.2						
TRF	Thorofare Moun	82.36	21	P	P	07 36 23.9	-0.9
TRF				IAmb	IAmb	07 36 26.1	
	comp=Z,5.0nm,0.7s						
SCM	Sheep Creek Mo	82.45	23	P	P	07 36 25.1	-0.1
SCM				IAmb	IAmb	07 36 26.5	
	comp=Z,10nm,0.9s						
BPAW	Bear Paw Mtn.	82.53	20	P	P	07 36 24.3	-1.2
	baz=230,SNR=5.9						
WAT1	Susitna Watana	82.59	22	P	P	07 36 25.4	-0.5
	baz=233						
WAT6	Susitna Watana	82.74	22	P	P	07 36 26.1	-0.6
	baz=233,SNR=5.9						
KLU	Klutina	82.80	24	P	P	07 36 26.7	-0.2
	baz=235						
I21K	Tanana	82.91	19	P	P	07 36 27.3	0.0
	baz=229,SNR=12						
WMQ	Urumqi	82.92	316	*e*P	P	07 36 28.8	+0.8
WMQ				pmax	pmax		
	comp=Z,31nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,380nm,5.1s						
H21K	Melozitna Rive	82.97	18	P	P	07 36 27.3	-0.4
	baz=228						
MCK	McKinley	83.01	21	P	P	07 36 27.2	-0.8
	baz=232,SNR=15						
MCK	McKinley	83.01	21	P	P	07 36 27.1	-0.9
M24K	Tolsona, Glenn	83.05	23	P	P	07 36 27.6	-0.7
	baz=235,SNR=7.5						
MLY	Manley	83.21	19	P	P	07 36 28.3	-0.7
	baz=230,SNR=13						
N25K	Chitina, Valde	83.39	24	P	P	07 36 29.5	-0.5
	baz=236,SNR=6.2						
N25K	Chitina, Valde	83.39	24	P	P	07 36 30.4	+0.3
N25K				IAmb	IAmb	07 36 31.5	
	comp=Z,11nm,1.3s						
NEA2	Nenana	83.50	20	P	P	07 36 29.4	-1.0
	baz=232,SNR=12						
GLB	Gilahina Butte	83.61	24	P	P	07 36 31.5	+0.4
GLB				IAmb	IAmb	07 36 32.3	
	comp=Z,7.9nm,0.9s						
I23K	Minto, Yukon-K	83.74	20	P	P	07 36 31.3	-0.4
	baz=232						
I23K	Minto, Yukon-K	83.74	20	P	P	07 36 31.6	0.0
WRH	Wood River Hil	83.76	20	P	P	07 36 31.2	-0.5
WRH				IAmb	IAmb	07 36 32.0	
	comp=Z,11nm,1.0s						
MDM	Murphy Dome	84.00	20	P	P	07 36 32.2	-0.8
MDM				IAmb	IAmb	07 36 33.3	
	comp=Z,9.7nm,1.0s						
TCOL	CIGO, UAF Yank	84.08	20	P	P	07 36 32.9	-0.4
	baz=233						
TCOL	CIGO, UAF Yank	84.08	20	P	P	07 36 32.5	-0.9
COLA	College	84.08	20	P	P	07 36 32.8	-0.5
	baz=233						
COLA	College	84.08	20	P	P	07 36 32.7	-0.6
H23K	Yukon River	84.11	19	P	P	07 36 33.6	0.0
	baz=231,SNR=15						
HDA	Harding Lake	84.12	21	P	P	07 36 32.8	-0.8
	baz=234,SNR=6.2						
HDA	Harding Lake	84.12	21	P	P	07 36 32.1	-1.5
HDA				IAmb	IAmb	07 36 34.2	
	comp=Z,8.9nm,0.9s						
IL31		84.35	21	P	P	07 36 34.1	-0.6
IL31				IAmb	IAmb	07 36 35.0	
	comp=Z,13nm,1.4s						
ILAR	Eielson Array	84.35	21	P	P	07 36 33.6	-1.2
	comp=Z,2.6nm,0.5s,baz=263,slow=4.3,SNR=30						
ILAR	Eielson Array	84.35	21	P	P	07 36 35.0	+0.2
POKR	Poker Plat Res	84.37	20	P	P	07 36 34.8	-0.1
	baz=233						
CTG	Chitna Glacier	84.38	25	P	P	07 36 34.5	-0.6
	baz=239						
PINM	Pinnacle	84.41	26	P	P	07 36 35.5	+0.2
	baz=240						
RIDG	Independent Ri	84.49	22	P	P	07 36 35.5	-0.1
	baz=236,SNR=9.1						
H24K	Noodor Dome	84.65	19	P	P	07 36 36.2	-0.2
	baz=233,SNR=5.7						
DOT	Dot Lake	84.73	22	P	P	07 36 36.8	+0.1
SCRK	Sand Creek	84.94	22	P	P	07 36 38.1	+0.2
	baz=237,SNR=15						
SCRK	Sand Creek	84.94	22	P	P	07 36 38.4	+0.5
SCRK				IAmb	IAmb	07 36 39.2	
	comp=Z,8.0nm,0.9s						
L27K	Beaver Creek,	85.26	23	P	P	07 36 40.0	+0.5
	baz=239,SNR=7.2						
BCAR	Beaver Creek A	85.28	23	P	P	07 36 40.1	+0.5
K27K	Chicken	85.67	22	P	P	07 36 42.0	+0.6
	baz=238						
TOLK	Toolik Lake Re	85.87	17	P	P	07 36 43.0	+0.7
	baz=231						
SKAG	Skagway	86.32	28	P	P	07 36 45.4	+0.7
	baz=245						
EGAK	Eagle	86.40	22	P	P	07 36 45.3	+0.2
	baz=239,SNR=11						
EGAK	Eagle	86.40	22	P	P	07 36 45.2	+0.2
EGAK				IAmb	IAmb	07 36 46.8	
	comp=Z,8.7nm,0.9s						
WRAK	Wrangell Islan	86.54	31	P	P	07 36 46.0	+0.2
	baz=248						
MK31	Makanchi Array	87.47	318	P	P	07 36 49.9	-0.7
MKAR	Makanchi Array	87.47	318	P	P	07 36 49.7	-1.0
	comp=Z,2.0nm,0.6s,baz=100,slow=6.2,SNR=15						
MKAR	Makanchi Array	87.47	318	P	P	07 36 49.9	-0.7
O02D	Mt. Diablo Mer	87.50	49	P	P	07 36 51.6	+0.6
	baz=256						
K02D	Willamette Mer	87.50	46	P	P	07 36 51.4	+0.4
	baz=255						
M02C	Callahan	87.75	48	P	P	07 36 52.6	+0.4
	baz=256,SNR=7.8						
N02D	Trinity Center	87.76	48	P	P	07 36 53.1	+0.8
	baz=256						
YBH	Yreka Blue Hor	87.94	47	P	P	07 36 55.1	+2.0
	comp=Z,2.4nm,0.9s,baz=220,slow=1.6,SNR=13						
I03D	Drain, OR	87.98	45	P	P	07 36 53.2	+0.1
	baz=255						
ZALV	Zalesovo Beam	88.09	325	P	P	07 36 51.9	-1.4
	comp=Z,1.3nm,0.4s,baz=110,slow=6.5,SNR=5.1						
O03E	Paynes Creek	88.26	49	P	P	07 36 55.1	+0.4
	baz=256,SNR=6.2						
L04D	Klamath Falls	88.35	47	P	P	07 36 55.7	+0.5
	baz=256						
SBC	Santa Barbara	88.56	55	P	P	07 36 56.5	+0.4
	baz=258						
PKM	Mcpherson Peak	88.58	54	P	P	07 36 57.1	+0.7
	baz=258						
M04C	Macdoel	88.59	47	P	P	07 36 56.9	+0.6
	baz=256,SNR=8.4						
I04A	Tendick Farm,	88.66	45	P	P	07 36 56.9	+0.5
	baz=256						
J04D	Umpqua Nationa	88.74	46	P	P	07 36 57.0	0.0
	baz=256						
EPYK	Eagle Plains	88.79	21	P	P	07 36 56.6	+0.1
	baz=243,SNR=6.6						
VES	Vestal, Richgr	89.36	54	P	P	07 36 59.8	-0.1
	baz=258						
J05D	Fort Rock, OR	89.37	46	P	P	07 37 00.4	+0.5
	baz=257,SNR=7.4						
CIS	Catalina Islan	89.41	56	P	P	07 37 00.9	+0.7
	baz=258						
I05D	Terrebonne, OR	89.55	45	P	P	07 37 00.8	+0.2
	baz=256						
MWC	Mount Wilson	89.86	55	P	P	07 37 03.2	+0.8
EDW2	Edwards Air Fo	90.04	55	P	P	07 37 03.6	+0.5
	baz=259,SNR=6.0						
BFSC	Mount Baldy Ra	90.19	55	P	P	07 37 04.3	+0.4
	baz=259						
CWC	Cottonwood Cre	90.28	53	P	P	07 37 05.1	+0.7
	baz=259						
TIN	Tinemaha, Big	90.28	53	P	P	07 37 04.9	+0.6
	baz=258						
LHV	Little Huntoon	90.31	51	P	P	07 37 05.3	+1.1
LRMC	Laurel Mtn Rad	90.41	54	P	P	07 37 06.0	+1.1
	baz=259						
NVAR	Mina Array Bea	90.50	51	P	P	07 37 07.0	+1.6
	comp=Z,9.1nm,0.8s,baz=243,slow=7.3,SNR=70						
NVAR	Mina Array Bea	90.50	51	P	P	07 37 05.1	-0.3
NV11	Mina Array Sit	90.61	51	P	P	07 37 06.1	+0.2
I07A	Izee	90.77	46	P	P	07 37 06.9	+0.5
I07A				IAmb	IAmb	07 37 08.5	
	comp=Z,5.4nm,0.8s						
GRAC	Grapevine Rang	90.95	53	P	P	07 37 08.3	+1.0
	baz=259						
MONP2	Monument Peak	90.95	57	P	P	07 37 08.4	+0.8
	baz=260						
PFO	Pinyon Flats O	91.05	56	P	P	07 37 08.4	+0.4
	baz=260						
GSC	Goldstone, Bar	91.08	55	P	P	07 37 08.4	+0.4
	baz=259						
GSC	Goldstone, Bar	91.08	55	P	P	07 37 08.3	+0.3
GSC				IAmb	IAmb	07 37 10.3	
	comp=Z,5.0nm,1.0s						
FURC	Furnace Creek,	91.25	53	P	P	07 37 09.7	+1.1
	baz=259						
TPH	Tonopah	91.27	52	P	P	07 37 08.3	-0.6
J08A	Circle Bar Ran	91.36	46	P	P	07 37 08.9	-0.2
J08A				IAmb	IAmb	07 37 11.2	
	comp=Z,7.3nm,0.7s						
HEC	Hector,Ludlow	91.37	55	P	P	07 37 09.9	+0.5
	baz=260						
BELC	Belle Mtn. Jos	91.50	56	P	P	07 37 10.3	+0.3
	baz=260,SNR=5.7						
TUQ	Turquoise Moun	91.81	55	P	P	07 37 11.9	+0.5
	baz=260,SNR=5.3						
TPNV	Topopah Spring	91.82	53	P	P	07 37 12.4	+0.9
	baz=260,SNR=11						
TPNV	Topopah Spring	91.82	53	P	P	07 37 11.9	+0.4
TPNV				IAmb	IAmb	07 37 14.0	
	comp=Z,7.5nm,0.9s						
BC3	Big Chuckawall	91.88	56	P	P	07 37 12.3	+0.6
	baz=260						
GMRC	Granite Mounta	91.91	55	P	P	07 37 12.8	+0.9
	baz=260,SNR=7.0						
IRM	Iron Mountain	92.22	56	P	P	07 37 14.1	+0.9
	baz=260,SNR=5.7						
R11A	Troy Canyon, C	92.58	52	P	P	07 37 16.0	+1.0
	baz=260,SNR=6.6						
R11A	Troy Canyon, C	92.58	52	P	P	07 37 13.1	-1.9
SHPR	Sheep Range	92.61	54	P	P	07 37 14.8	-0.3
SHPR				IAmb	IAmb	07 37 18.0	
	comp=Z,4.3nm,1.1s						
F10A	Beach Ranch, E	92.73	44	P	P	07 37 14.1	-1.3
F10A				IAmb	IAmb	07 37 16.7	
	comp=Z,6.1nm,1.1s						
NEW	Newport	93.22	42	P	P	07 37 18.0	+0.5
	comp=Z,0.9nm,0.5s,baz=281,slow=5.2,SNR=4.2						
ELK	Elko	93.25	49	P	P	07 37 19.9	+1.8
	comp=Z,3.3nm,0.8s,baz=283,slow=5.1,SNR=14						
ELK	Elko	93.25	49	P	P	07 37 18.7	+0.6
ELK				IAmb	IAmb	07 37 20.6	
	comp=Z,5.2nm,0.9s						
SPR3	Spring Creek 3	93.66	51	P	P	07 37 20.8	+0.7
SPR3				IAmb	IAmb	07 37 23.5	
	comp=Z,5.7nm,1.1s						
TUC	Tucson	95.56	58	P	P	07 37 29.2	+0.6
	baz=262						
BOZ	Bozeman (W)	96.55	45	P	P	07 37 33.7	+0.8
	baz=263						
BW06	Boulder Array	97.73	48	P	P	07 37 38.8	+0.3
	baz=264						
PDAR	Pinedale Array	97.73	48	P	P	07 37 38.7	+0.2
	comp=Z,1.8nm,0.7s,baz=226,slow=2.2,SNR=19						
K22A	Casper	99.95	48	P	Pdif	07 37 48.6	+0.3
	baz=266						
BOSA	Boshof	121.13	228	PKP	PKiKP	07 42 57.2	+0.4
	comp=Z,1.7nm,0.6s,baz=132,slow=1.8,SNR=6.2						
LPAZ	La Paz	127.29	119	PKP	PKiKP	07 43 10.2	+0.3
	comp=Z,2.1nm,0.8s,baz=249,slow=2.4,SNR=10						
BDFB	Brasilia	143.85	133	PKP	PKPbc	07 43 37.6	+0.5
	comp=Z,1.2nm,0.3s,baz=202,slow=3.6,SNR=4.6						
ESDC	Sonseca Array	146.01	335	PKPbc	PKPdf	07 43 42.5	+0.1
	comp=Z,1.0nm,0.7s,baz=13,slow=3.9,SNR=5.3						
TORD	Torodi Ar. Bea	156.93	281	PKP	PKPdf	07 43 59.3	-0.2
	comp=Z,0.8nm,0.9s,baz=35,slow=3.5,SNR=3.2						
TORD				PKPab	PKPab	07 44 28.9	-0.7
	comp=Z,1.7nm,0.9s,baz=73,slow=4.7,SNR=5.5						

*IDC **10** 07:50:10.4±2.1, 4°.05S×102°.02E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.8/54, mbtmp4.1/8 Error ellipse: s-maj=84.9km s-min=17.2km az=56.0*
*NEIC **10** 07:50:19.2±1.3, 4°.13S±0°.07×102°.12E±0°.08, h61km±10km, mb4.4/9, Error ellipse: s-maj=12.6km s-min=9.7km az=64.0*
*DJA **10** 07:50:19.2±0.3, 4°S±4°×10°2E±°, h49km±7km, M4.5/12, mb4.7/7, mB5.3/2, MLv4.4/12, Mw(mB)4.7/2*
ISC 10 07:50:18.3±0.6, 4°.14S±0°.07×102°.12E±0°.08, h58km, n47, σ1§08/39, mb4.3/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.68	45	P	Pn	07 50 33.3	+1.1
LHSI	Lahat	1.44	78	P	Pn	07 50 43.5	+1.4
MDSI	Maura Dua	2.09	100	P	Pn	07 50 51.9	+1.0
LWLI	Liwa	2.12	114	P	Pn	07 50 52.8	+1.3
KASI	Kota Agung	2.74	120	P	Pn	07 50 59.5	-0.4
PMBI	Palembang	2.91	66	Pn	Pn	07 51 02.0	-0.1
PDSI	Padang	3.60	333	P	Pn	07 51 14.0	+2.3
SISI	Saibi	4.12	313	P	Pn	07 51 20.9	+2.2
PPBI	Pangkal Pinang	4.47	64	P	Pn	07 51 23.8	+0.3
BKNI	Bangkinang	4.56	346	Pn	Pn	07 51 26.5	+1.7
PBSI	Pulau Batu	5.58	317	P	Pn	07 51 40.5	+1.8
	0.9nm134nm,1.4s						
CNJI	Cibinong	5.90	123	P	Pn	07 51 42.5	-0.6
	0.4nm3μm47nm,0.9s						
CISI	Cisompet, Garu	6.61	121		Pn	07 51 52.6	-0.3
CISI	Cisompet, Garu	6.61	121	P	Pn	07 51 52.3	-0.6
	0.5nm2μm28nm,0.6s						
GSI	Gunungsitoli	7.06	320		Pn	07 51 59.1	+0.1
GSI	Gunungsitoli	7.06	320	P	Pn	07 51 59.6	+0.6
	0.4nm89nm,0.4s						
TPTI		8.85	326	P	Pn	07 52 23.9	+0.3
	8.7nm,1.1s						
UGM	Wanagama	9.16	115	Pn	Pn	07 52 28.5	+0.6
UGM	Wanagama	9.16	115	P	Pn	07 52 28.4	+0.5
COCO	West Island	9.55	213	Pn	Pn	07 52 34.2	+1.0
PCJI	Pacitan	9.87	115	P	Pn	07 52 36.9	-0.6
	39nm,1.8s						
MLSI	Meulaboh, Aceh	10.11	326	P	Pn	07 52 40.9	+0.1
TOLI2	Tolitoli	19.37	75	P	P	07 54 39.8	+0.3
TOLI2				IAmb	IAmb	07 55 33.2	
	comp=Z,31nm,1.5s						
H08S2	Diego Garcia H	29.66	262	T	T	08 26 28.6	
	baz=84,slow=75,SNR=4.8						
H08S3	Diego Garcia H	29.67	262	T	T	08 26 23.6	
	baz=84,slow=75,SNR=5.9						
H08S1	Diego Carcia H	29.68	262	T	T	08 26 26.6	
	baz=84,slow=75,SNR=2.6						
DGAR	Diego Garcia	29.69	262	P	P	07 56 18.3	-0.6
H01W3	Cape Leeuwin H	32.56	161	T	T	08 30 51.6	
	baz=338,slow=76,SNR=14						
H01W2	Cape Leeuwin H	32.57	161	T	T	08 30 46.2	
	baz=338,slow=76,SNR=14						
H01W1	Cape Leeuwin H	32.58	161	T	T	08 30 52.9	
	baz=338,slow=76,SNR=30						
WB0	Warramunga Arr	35.08	119	P	P	07 57 04.7	-1.5
WB0				IAmb	IAmb	07 58 04.8	
	comp=Z,19nm,1.6s						
WRA	Warramunga Arr	35.10	119	P	P	07 57 06.1	-0.3
	comp=Z,0.9nm,0.5s,baz=303,slow=8.7,SNR=20						
WB2	Warramunga Arr	35.11	119	P	P	07 57 06.3	-0.1
ASAR	Alice Springs	36.30	125	P	P	07 57 18.1	+1.6
	comp=Z,1.1nm,0.5s,baz=299,slow=7.8,SNR=15						
STKA	Stephens Creek	46.16	131	P	P	07 58 37.5	+0.2
	comp=Z,3.2nm,0.9s,baz=308,slow=11,SNR=3.8						
STKA	Stephens Creek	46.16	131	IAmb	IAmb	07 59 52.2	
	comp=Z,9.9nm,1.9s						
KSAR	Wonju Array Be	47.81	28	P	P	07 58 52.2	+2.1
SONM	Songino Array	51.89	4	P	P	07 59 21.1	+0.1
	comp=Z,1.6nm,0.5s,baz=186,slow=10,SNR=14						
SONM	Songino Array	51.89	4	IAmb	IAmb	08 00 08.9	
	comp=Z,8.2nm,1.9s						
MK31	Makanchi Array	53.66	343	P	P	07 59 33.7	-0.3
MKAR	Makanchi Array	53.66	343	P	P	07 59 33.1	-0.8
	comp=Z,1.1nm,0.4s,baz=150,slow=9.0,SNR=11						
MKAR	Makanchi Array	53.66	343	P	P	07 59 33.5	-0.4
USRK	Ussuriysk Ar.	55.09	26	P	P	07 59 43.2	-1.2
	comp=Z,2.2nm,0.6s,baz=200,slow=4.6,SNR=4.6						
KURBB	Kurchatov Arra	58.20	343	P	P	08 00 05.1	-1.2
	comp=Z,0.9nm,0.4s,baz=161,slow=6.8,SNR=8.1						
ZALV	Zalesovo Beam	59.66	348	P	P	08 00 15.0	-1.3
	comp=Z,2.4nm,0.3s,baz=165,slow=6.7,SNR=9.1						
ABKAR	Akbulak array	64.52	331	P	P	08 00 48.5	-0.5
ABKAR				IAmb	IAmb	08 00 48.6	
	comp=Z,1.7nm,0.8s						
TXAR	Lajitas Array	145.00	41	PKPbc	PKPab	08 09 48.8	-0.5
	comp=Z,1.6nm,0.4s,baz=275,slow=0.7,SNR=58						

IDC 10 07:54:53.8±2.6, 53°.72N×86°.86E, h0km, mb1 3.3/2, mb1mx3.1/49, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=25.6km s-min=14.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	281	*i*		08 02 30.0	
	baz=99,slow=315,SNR=0.8						
ZALV	Zalesovo Beam	1.23	87	Pg	Pg	07 55 15.9	-1.4
	4.9nm,0.3s,baz=100,slow=17,SNR=22						
ZALV				Lg	Lg	07 55 33.9	
	3.0nm,0.3s,baz=104,slow=30,SNR=8.2						
KURBB	Kurchatov Arra	5.99	242	Pn	Pn	07 56 24.9	+1.3
	0.3nm,0.3s,baz=59,slow=14,SNR=9.1						
MKAR	Makanchi Array	7.53	205	Pn	Pn	07 56 45.8	+1.0
	0.5nm,0.3s,baz=26,slow=13,SNR=15						

*IDC **10** 08:03:46.9±1.8, 22°.67S×176°.79W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/22, mbtmp3.9/5, Error ellipse: s-maj=128.7km s-min=24.3km az=155.0*
ISC 10 08:04:05.9±1.8, 23°.S±1°×177°.0W±0°.5, h150km, n14, σ1§74/10, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.71	247	P	P	08 11 06.9	-0.2
	2.1nm,0.6s,baz=100,slow=6.4,SNR=4.4						
ASAR	Alice Springs	44.97	259	P	P	08 12 05.7	-0.7
	1.6nm,0.6s,baz=98,slow=7.3,SNR=16						
ASAR				PcP	PcP	08 13 45.5	+0.3
	0.5nm,0.6s,baz=104,slow=3.6,SNR=6.5						
WRA	Warramunga Arr	45.27	264	P	P	08 12 07.7	-1.1
	2.0nm,0.3s,baz=98,slow=8.4,SNR=120						
WRA				PcP	PcP	08 13 46.6	+0.4
	1.5nm,1.2s,baz=100,slow=5.5,SNR=2.6						
NVAR	Mina Array Bea	82.05	43	P	P	08 16 09.5	-0.2
	0.1nm,0.5s,baz=224,slow=9.7,SNR=2.7						
H03S2	Juan Fernandez	83.91	124	T	T	09 48 15.1	
	baz=245,slow=74,SNR=32						
H03S1	Juan Fernandez	83.92	124	T	T	09 48 16.2	
	baz=245,slow=74,SNR=39						
H03S3	Juan Fernandez	83.92	124	T	T	09 48 15.0	
	baz=245,slow=74,SNR=37						
H03N2	Juan Fernandez	84.06	124	T	T	09 48 25.3	
	baz=250,slow=73,SNR=31						
H03N3	Juan Fernandez	84.06	124	T	T	09 48 22.7	
	baz=250,slow=73,SNR=30						
H03N1	Juan Fernandez	84.07	124	T	T	09 48 16.2	
	baz=250,slow=73,SNR=27						
TXAR	Lajitas Array	87.50	57	P	P	08 16 35.5	-1.5
	0.4nm,0.9s,baz=217,slow=6.1,SNR=4.8						
ARCES	ARCESS Array B	131.35	350	PKP	PKPdf	08 22 59.7	+0.1
	2.4nm,0.9s,baz=29,slow=2.1,SNR=4.5						
AKASG	Malin Array Be	145.48	330	PKPbc	PKPdf	08 23 26.0	+0.1
	2.2nm,0.4s,baz=39,slow=4.2,SNR=10						
BRTR	Keskin Array B	149.07	310	PKPbc	PKPdf	08 23 36.5	+4.1
	1.0nm,0.7s,baz=64,slow=3.4,SNR=2.5						

*JMA **10** 08:19:33.7±0.2, 35°.53N×140°.92E, h37km±2km, M3.3*
*IDC **10** 08:19:35.6±3.3, 35°.43N×140°.82E, h50km±32km, mb3.3/6, mb1 3.6/8, mb1mx3.4/43, mbtmp3.5/8, ML2.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/27, Error ellipse: s-maj=36.6km s-min=19.2km az=97.0*
ISC 10 08:19:34.0±0.8, 35°.52N±0°.05×140°.79E±0°.07, h33km, n25, σ1§72/20, mb3.5/6, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.19	17	⇑P	Pb	08 19 40.4	0.0
CHOJ				S	Sb	08 19 45.4	+0.6
JSMT	Sammumatsuo	0.30	294	P	Pn	08 19 43.2	+1.2
JCN	Nagara	0.49	258	P	Pn	08 19 46.8	+2.2
JIHU	Itakohorinouch	0.49	334	P	Pb	08 19 45.0	+0.6
KTR	Katsuura	0.54	226	P	Pn	08 19 45.8	+0.5
BSO3	Boso 3	0.75	198	P	Pb	08 19 47.9	-0.6
JYT	Yasato	0.85	326	P	Pn	08 19 50.3	+0.7
MJAR	Matsushiro Arr	2.33	297	P	Pn	08 20 11.5	+1.6
	1.1nm,0.3s,baz=265,slow=13,SNR=16						
MAT	Matsushiro	2.33	297	P	Pn	08 20 12.9	+3

*DJA **10** 08:20:10.5±1.7,5°N±5°×9°6E±1°2,h10km,M4.1/4, MLv4.1/4*

ISC 10 08:20:07.9±1.8,4°83N±0°06×96°0E±0°1,h10km,n9, σ1§13/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.67**	**146**	P	**Pg**	**08 20 20.9**	**0.0**
MLSI				S	**Sb**	**08 20 30.3**	**-0.7**
LHMI	**Lhok Sumawe**	**1.00**	**66**	P	**Pg**	**08 20 26.8**	**-0.3**
LHMI				S	**Sb**	**08 20 40.3**	**-0.2**
TSI	**Tuntungan**	**2.85**	**117**	P	**Pn**	**08 20 55.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**13.85**	**12**	Pn	**P**	**08 23 33.2**	**+0.4**
	0.5nm,0.3s,baz=200,slow=11,SNR=1.5						
H08S2	**Diego Garcia H**	**26.55**	**242**	T	T	08 52 56.9	
	baz=62,slow=76,SNR=6.4						
H08S3	**Diego Garcia H**	**26.55**	**242**	T	T	08 52 54.7	
	baz=62,slow=76,SNR=8.4						
H08S1	**Diego Garcia H**	**26.57**	**242**	T	T	08 52 45.1	
	baz=62,slow=76,SNR=4.8						
WRA	**Warramunga Arr**	**44.99**	**124**	P	**P**	**08 28 22.5**	**-1.3**
	0.3nm,0.4s,baz=302,slow=9.1,SNR=8.2						
ASAR	**Alice Springs**	**46.54**	**129**	P	**P**	**08 28 35.2**	**-0.9**
	0.6nm,0.5s,baz=299,slow=8.0,SNR=13						

IDC 10 08:55:21.1±2.8,53°61N×86°87E,h0km,mb1 3.1/2, mb1mx3.0/62,mbtmp3.1/2,ML2.5/2,Error ellipse: s-maj=26.5km s-min=14.7km az=69.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**286**	*i*		09 03 00.0	
	baz=106,slow=302,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.26**	**286**	Pg	Pg	08 55 43.5	-1.8
	0.8nm,0.3s,baz=108,slow=21,SNR=8.3						
ZALV				Lg	Lg	08 56 02.2	
	1.3nm,0.3s,baz=106,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**5.94**	**243**	Pn	Pn	08 56 51.7	+1.4
	0.1nm,0.3s,baz=58,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**7.43**	**205**	Pn	Pn	08 57 12.1	+1.4
	0.1nm,0.3s,baz=29,slow=14,SNR=5.5						
MKAR				Lg	Lg	08 59 15.6	
	0.1nm,0.3s,baz=29,slow=30,SNR=5.3						

IDC 10 08:58:12.0±3.0,54°36N×86°62E,h0km,mb1 3.2/2, mb1mx3.1/63,mbtmp3.2/2,ML2.7/2,4C-1D,Error ellipse: s-maj=24.4km s-min=16.2km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**249**	*i*		09 06 10.0	
	baz=68,slow=300,SNR=0.8						
ZAA0	**Zalesovo Array**	**1.14**	**249**	⇑P	Pg	08 58 32.7	-1.1
	0.4nm,0.4s						
ZAA0				⇑S	Sn	08 58 52.9	+1.5
	8.5nm,0.8s						
ZALV	**Zalesovo Beam**	**1.14**	**249**	Pg	Pg	08 58 32.7	-1.1
	1.4nm,0.3s,baz=66,slow=17,SNR=13						
ZALV				Lg	Lg	08 58 49.5	
	2.8nm,0.3s,baz=68,slow=25,SNR=17						
KURBB	**Kurchatov Arra**	**6.20**	**236**	Pn	Pn	08 59 45.8	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=13						
KURBB				Lg	Lg	09 01 27.6	
	0.0nm,0.3s,baz=48,slow=28,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.20**	**236**	⇑Pn	Pn	08 59 44.5	-0.2
	5.8nm,0.8s,baz=55,slow=15						
KURBB				⇑Sn	Sn	09 00 57.6	+1.4
	5.3nm,0.5s,baz=50,slow=17						
KURBB				⇓Lg	Lg	09 01 32.4	
	18nm,0.8s,baz=53,slow=32						
MKAR	**Makanchi Array**	**8.06**	**202**	Pn	Pn	09 00 11.0	+0.6
	0.1nm,0.3s,baz=21,slow=14,SNR=4.4						
MKAR				Lg	Lg	09 02 28.8	
	0.1nm,0.3s,baz=23,slow=29,SNR=9.6						

*NEIC **10** 09:03:21.7±2.5,4°65S±0°08×104°6E±0°1,h89km±7km, mb4.3/12,Error ellipse: s-maj=19.2km s-min=9.5km az=66.0*

*DJA **10** 09:03:26.3±0.3,5°S±4°×10°5E±°,h102km±5km,M4.2/16, mb4.3/4,MLv4.2/16*

*IDC **10** 09:03:27.2±3.0,4°80S×104°80E,h141km±27km,mb3.8/6, mb1 3.9/7,mb1mx3.4/62,mbtmp4.2/7,Error ellipse: s-maj=34.1km s-min=16.2km az=60.0*

ISC 10 09:03:24.5±0.7,5°10S±0°06×104°66E±0°06,h100km,n45, σ2§41/40,mb4.2/12,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.45**	**200**	P	**Pn**	**09 03 42.1**	**+2.1**
KASI				S	**Sn**	**09 03 54.7**	**+3.1**
LWLI	**Liwa**	**0.60**	**277**	P	**Pn**	**09 03 44.2**	**+3.0**
LWLI				S	**Sn**	**09 03 56.9**	**+3.2**
BLSI	**Bandar Lampung**	**0.65**	**115**	P	**Pn**	**09 03 44.5**	**+3.0**
MDSI	**Maura Dua**	**0.77**	**322**	P	**Pn**	**09 03 45.5**	**+2.9**
LHSI	**Lahat**	**1.69**	**318**	P	**Pn**	**09 03 55.9**	**+2.7**
PMBI	**Palembang**	**2.16**	**3**	Pn	Pn	09 03 50.0	-9.2
KSI	**Kapahiang**	**2.51**	**305**	P	**Pn**	**09 04 06.4**	**+2.6**
DBJI	**Dramaga**	**2.54**	**125**	P	**Pn**	**09 04 07.7**	**+3.5**
SKJI	**Sukabumi**	**2.68**	**135**	P	**Pn**	**09 04 09.0**	**+3.0**
PPBI	**Pangkal Pinang**	**3.27**	**27**	P	**Pn**	**09 04 17.1**	**+3.2**
CNJI	**Cibinong**	**3.30**	**132**	P	**Pn**	**09 04 16.0**	**+1.7**
LEM	**Lembang**	**3.41**	**120**	P	**Pn**	**09 04 20.1**	**+4.2**
	12nm,0.3s,baz=178,slow=18,SNR=18						
TPI	**Tanjungpandan**	**3.79**	**52**	P	**Pn**	**09 04 24.0**	**+3.1**
CISI	**Cisompet, Garu**	**3.98**	**128**	Pn	**Pn**	**09 04 25.3**	**+1.7**
CISI	**Cisompet, Garu**	**3.98**	**128**	P	**Pn**	**09 04 25.2**	**+1.7**
KPJI	**Karang Pucung**	**4.80**	**118**	P	**Pn**	**09 04 38.4**	**+3.9**
UGM	**Wanagama**	**6.47**	**116**	Pn	**Pn**	**09 04 59.9**	**+2.7**
UGM	**Wanagama**	**6.47**	**116**	P	**Pn**	**09 04 59.7**	**+2.5**
	0.6nm62nm,1.6s						
PCJI	**Pacitan**	**7.17**	**116**	P	**Pn**	**09 05 09.1**	**+2.3**
	0.3nm23nm,1.3s						
GSI	**Gunungsitoli**	**9.51**	**312**	Pn	Pn	09 05 32.8	-5.8
TWSI	**Taliwang, Sumb**	**12.66**	**107**	P	**Pn**	**09 06 20.9**	**-0.2**
	11nm,0.9s						
PLAI	**Plampang**	**13.54**	**107**	P	**Pn**	**09 06 32.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.07**	**347**	P	**P**	**09 08 28.5**	**-2.2**
	1.0nm,0.3s,baz=191,slow=6.6,SNR=5.3						
CMAR	**Chiang Mai Arr**	**24.07**	**347**	P	**P**	**09 08 26.5**	**-4.3**
KNRA	**Kununurra**	**25.90**	**116**	P	**P**	**09 08 45.8**	**-1.7**
MTN	**Manton Dam**	**27.24**	**108**	P	**P**	**09 08 59.1**	**-0.4**
MTN				IAmb	IAmb	09 09 06.6	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**32.41**	**119**	P	**P**	**09 09 44.0**	**-1.2**
WB0				IAmb	IAmb	09 09 53.7	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**32.43**	**120**	P	**P**	**09 09 44.1**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=317,slow=10,SNR=38						
WRA	**Warramunga Arr**	**32.43**	**120**	P	**P**	**09 09 43.1**	**-2.3**
WRAB	**Tennant Creek**	**32.44**	**120**	P	**P**	**09 09 44.3**	**-1.1**
WRAB				IAmb	IAmb	09 09 49.2	
	comp=Z,5.3nm,1.1s						
WB2	**Warramunga Arr**	**32.44**	**120**	P	**P**	**09 09 44.4**	**-1.1**
WR0	**Warramunga Arr**	**32.61**	**120**	P	**P**	**09 09 46.0**	**-0.9**
WR0				IAmb	IAmb	09 09 48.5	
	comp=Z,5.9nm,1.1s						
AS31	**Alice Springs**	**33.69**	**126**	P	**P**	**09 09 55.4**	**-0.9**
ASAR	**Alice Springs**	**33.69**	**126**	P	**P**	**09 09 55.3**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=301,slow=7.8,SNR=39						
ASAR				PcP	**PcP**	**09 12 32.4**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=309,slow=2.2,SNR=5.4						
ASAR	**Alice Springs**	**33.69**	**126**	P	**P**	**09 09 54.5**	**-1.8**
STKA	**Stephens Creek**	**43.64**	**132**	P	**P**	**09 11 18.9**	**-0.4**
	comp=Z,3.2nm,0.4s,baz=313,slow=6.4,SNR=7.4						
STKA	**Stephens Creek**	**43.64**	**132**	IAmb	IAmb	09 11 24.6	
	comp=Z,3.2nm,1.4s						
MK31	**Makanchi Array**	**55.33**	**341**	P	P	09 12 43.6	-4.3
MK31				IAmb	IAmb	09 12 45.5	
	comp=Z,3.0nm,1.3s						
MKAR	**Makanchi Array**	**55.33**	**341**	P	P	09 12 43.9	-4.1
	comp=Z,0.5nm,0.4s,baz=152,slow=8.9,SNR=8.9						
MKAR	**Makanchi Array**	**55.33**	**341**	P	P	09 12 44.0	-3.9
ABKAR	**Akbulak array**	**66.60**	**330**	P	P	09 13 59.7	-4.4
ABKAR				IAmb	IAmb	09 14 00.3	
	comp=Z,1.6nm,0.7s						
MAW	**Mawson**	**68.52**	**196**	P	**P**	**09 14 16.1**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=62,slow=5.9,SNR=17						
MAW	**Mawson**	**68.52**	**196**	IAmb	IAmb	09 14 17.1	
	comp=Z,1.2nm,1.3s						
TXAR	**Lajitas Array**	**143.97**	**45**	PKP	**PKPab**	**09 22 45.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=285,slow=0.9,SNR=5.7						
CPUP	**Villa Florida**	**144.21**	**208**	PKP	**PKPab**	**09 22 46.6**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=124,slow=2.2,SNR=5.1						

*IDC **10** 09:08:19.2±2.4,7°42S×154°91E,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/32,mbtmp3.8/6,Error ellipse: s-maj=76.2km s-min=25.3km az=119.0*

*NEIC **10** 09:08:25.8±1.3,7°2S±0°1×154°60E±0°08,h35km±2km, mb4.2/7,Error ellipse: s-maj=21.9km s-min=10.2km az=332.0*

ISC 10 09:08:25.1±1.0,7°27S±0°10×154°7E±0°2,h35km,n16, σ1§04/16,mb4.0/11,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.96**	**320**	Pn	**Pn**	**09 09 22.5**	**-1.0**
PMG	**Port Moresby**	**7.75**	**254**	Pn	**Pn**	**09 10 14.7**	**-0.8**
PATS	**Pohnpei**	**14.47**	**15**	Pn	**Pn**	**09 11 46.1**	**-1.4**
ARMA	**Armidale**	**23.20**	**187**	P	**P**	**09 13 27.2**	**-2.0**
WR0	**Warramunga Arr**	**23.26**	**235**	P	**P**	**09 13 29.3**	**-0.4**
WR0				IAmb	IAmb	09 13 30.1	
	comp=Z,6.4nm,1.1s						
WB0	**Warramunga Arr**	**23.28**	**236**	P	**P**	**09 13 30.2**	**+0.3**
WB0				IAmb	IAmb	09 13 35.6	
	comp=Z,9.2nm,1.2s						
WRAB	**Tennant Creek**	**23.40**	**235**	P	**P**	**09 13 31.1**	**0.0**
WRAB				IAmb	IAmb	09 13 32.2	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**23.40**	**235**	P	**P**	**09 13 31.2**	**+0.1**
WB2				IAmb	IAmb	09 13 52.5	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**23.41**	**235**	P	**P**	**09 13 31.0**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=58,slow=9.4,SNR=20						
WRA	**Warramunga Arr**	**23.41**	**235**	P	**P**	**09 13 30.4**	**-0.8**
ASAR	**Alice Springs**	**25.76**	**228**	P	**P**	**09 13 52.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=60,slow=8.8,SNR=7.0						
KSRS	**Korea Array**	**51.04**	**333**	P	**P**	**09 17 24.4**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=145,slow=9.3,SNR=6.4						
SONM	**Songino Array**	**69.41**	**327**	P	**P**	**09 19 31.4**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=139,slow=5.0,SNR=2.8						
VNDA	**Vanda**	**70.31**	**178**	P	**P**	**09 19 35.7**	**+1.1**
VNDA				IAmb	IAmb	09 19 43.2	
	comp=Z,4.4nm,1.5s						
MKAR	**Makanchi Array**	**83.41**	**319**	P	**P**	**09 20 50.2**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=93,slow=5.8,SNR=3.3						
ILAR	**Eielson Array**	**83.74**	**22**	P	**P**	**09 20 50.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=253,slow=5.5,SNR=6.1						

*IDC **10** 09:13:27.9±7.1,6°94S×129°19E,h140km±89km,mb4.0/1, mb1 3.8/4,mb1mx3.3/37,mbtmp4.2/4,Error ellipse: s-maj=156.8km s-min=23.5km az=80.0*

*DJA **10** 09:13:28.4±0.5,7°S±4°×12°9E±°,h203km±18km,M4.4/6, mb4.3/6,mB5.0/2,MLv4.4/6,Mw(mB)4.4/2*

*NEIC **10** 09:13:29.8±2.2,6°87S±0°08×129°3E±0°1,h164km±15km, mb4.4/3,Error ellipse: s-maj=17.5km s-min=9.3km az=113.0*

ISC 10 09:13:28.3±0.9,6°80S±0°07×129°29E±0°10,h200km,n24, σ1§48/23,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.32**	**121**	Pn	**Pn**	**09 14 10.7**	**+0.4**
SAUI	**Saumlaki**	**2.32**	**121**	P	**Pn**	**09 14 10.9**	**+0.7**
FAKI	**Fak Fak**	**4.85**	**38**	Pn	**Pn**	**09 14 41.8**	**+0.9**
FAKI	**Fak Fak**	**4.85**	**38**	P	**Pn**	**09 14 41.8**	**+0.9**
SOEI	**Soe**	**5.77**	**239**	Pn	**Pn**	**09 14 53.3**	**+0.5**
SOEI	**Soe**	**5.77**	**239**	P	**Pn**	**09 14 53.1**	**+0.3**
	0.3nm1μm53nm,0.7s						
SIJI	**Sorong**	**6.21**	**19**	P	**Pn**	**09 14 59.8**	**+1.4**
	3.2nm,0.3s,baz=230,slow=23,SNR=13						
SIJI				S	**Sn**	**09 16 08.0**	**-1.8**
	8.0nm,0.3s,baz=88,slow=23,SNR=6.3						
SWI	**Sorong**	**6.21**	**19**	P	**Pn**	**09 15 00.7**	**+2.2**
	0.2nm24nm,0.7s						
MTN	**Manton Dam**	**6.28**	**163**		**Pn**	**09 14 58.8**	**-0.5**
BATI	**Baumata**	**6.51**	**238**	P	**Pn**	**09 15 02.1**	**-0.2**
	0.3nm76nm,0.6s						
EDFI	**Ende, Flores**	**7.77**	**255**	P	**Pn**	**09 15 17.7**	**-1.1**
	0.0nm5.2nm,0.8s						
KNRA	**Kununurra**	**8.84**	**183**		**Pn**	**09 15 31.4**	**-1.2**
WB0	**Warramunga Arr**	**13.81**	**159**		**Pn**	**09 16 35.0**	**-1.1**
WRA	**Warramunga Arr**	**13.96**	**160**	P	**Pn**	**09 16 36.6**	**-1.3**
	1.6nm,0.3s,baz=342,slow=12,SNR=42						
WRA				S	S	09 19 02.4	-11
	1.9nm,0.3s,baz=331,slow=22,SNR=13						
WRA	**Warramunga Arr**	**13.96**	**160**		**Pn**	**09 16 36.8**	**-1.1**
WB2	**Warramunga Arr**	**13.96**	**160**		**Pn**	**09 16 37.1**	**-0.8**
WR0	**Warramunga Arr**	**14.04**	**159**		**Pn**	**09 16 38.0**	**-0.9**
PSA00	**Pilbara Seismi**	**17.29**	**211**	P	**Pn**	**09 17 19.6**	**+1.4**
PSA00				IAmb	IAmb	09 17 45.4	
	comp=Z,35nm,1.4s						
AS31	**Alice Springs**	**17.35**	**166**	P	**Pn**	**09 17 21.6**	**+2.8**
AS31				IAmb	IAmb	09 17 39.0	
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**17.35**	**166**	P	**Pn**	**09 17 21.1**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=339,slow=9.5,SNR=88						
ASAR				S	**S**	**09 20 24.6**	**-2.8**
	comp=Z,0.6nm,0.3s,baz=345,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**17.35**	**166**	P	**P**	**09 17 17.4**	**+0.2**
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	09 24 10.3	+6.4
	comp=Z,1.7nm,0.4s,baz=114,slow=8.6,SNR=17						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	09 24 10.2	+6.3
MAKZ	**Makanchi**	**67.85**	**327**	P	P	09 24 10.8	+5.7
MAKZ				IAmb	IAmb	09 24 37.9	
	comp=Z,4.5nm,0.5s						

IDC 10 09:15:41.9±2.8,53°62N×86°83E,h0km,mb1 2.7/2, mb1mx2.7/39,mbtmp2.7/2,ML2.2/2,Error ellipse: s-maj=24.4km s-min=14.6km az=71.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.24**	**286**	*i*		09 23 30.0	
	baz=102,slow=300,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.24**	**286**	Pg	Pg	09 16 04.3	-1.2
	0.8nm,0.3s,baz=104,slow=18,SNR=10						
ZALV				Lg	Lg	09 16 22.6	
	1.4nm,0.3s,baz=109,slow=26,SNR=13						
KURBB	**Kurchatov Arra**	**5.92**	**243**	Pn	Pn	09 17 12.1	+1.3
	0.0nm,0.3s,baz=60,slow=14,SNR=3.5						
KURBB				Lg	Lg	09 18 47.9	
	0.0nm,0.3s,baz=60,slow=33,SNR=3.2						
MKAR	**Makanchi Array**	**7.42**	**205**	Pn	Pn	09 17 32.8	+1.4
	0.1nm,0.3s,baz=31,slow=15,SNR=4.0						
MKAR				Lg	Lg	09 19 35.2	
	0.0nm,0.3s,baz=32,slow=31,SNR=3.1						

*IDC **10** 09:32:16.5±1.1,9°40S×158°46E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/51,mbtmp3.8/5,MS3.9/5,Ms1 3.9/5, ms1mx3.3/29,Error ellipse: s-maj=33.2km s-min=17.6km az=164.0*

*NEIC **10** 09:32:18±0.8,9°2S±0°1×158°47E±0°08,h10km±2km, mb4.2/6,Error ellipse: s-maj=24.2km s-min=13.4km az=4.0*

ISC 10 09:32:20.9±0.9,9°4S±0°2×158°47E±0°09,h30km,n20, σ0§79/16,mb3.9/8,MS3.9/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.45**	**92**	Pn	**Pn**	**09 32 44.9**	**-0.3**
	69nm,0.3s,baz=242,slow=5.9,SNR=15						
HNR				Sn	**Sn**	**09 33 04.1**	**+0.9**
	168nm,0.3s,baz=191,slow=23,SNR=7.4						
HNR	**Honiara**	**1.45**	**92**	P	**Pn**	**09 32 44.3**	**-0.9**
WR0	**Warramunga Arr**	**25.39**	**243**	P	**P**	**09 37 45.8**	**-0.1**
WB0	**Warramunga Arr**	**25.45**	**243**	P	**P**	**09 37 46.4**	**0.0**
WB0				IAmb	IAmb	09 37 50.6	
	comp=Z,4.9nm,1.1s						
WRAB	**Tennant Creek**	**25.55**	**243**	P	**P**	**09 37 47.0**	**-0.3**
WRAB				IAmb	IAmb	09 38 06.8	
	comp=Z,9.8nm,1.2s						
WB2	**Warramunga Arr**	**25.55**	**243**	P	**P**	**09 37 46.6**	**-0.7**
WB2				IAmb	IAmb	09 38 01.7	
	comp=Z,8.2nm,1.2s						
WRA	**Warramunga Arr**	**25.56**	**243**	P	**P**	**09 37 47.1**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=72,slow=9.8,SNR=16						
WRA	**Warramunga Arr**	**25.56**	**243**	P	**P**	**09 37 46.4**	**-1.0**
STKA	**Stephens Creek**	**27.31**	**213**	P	**P**	**09 38 03.9**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=42,slow=15,SNR=6.0						
STKA	**Stephens Creek**	**27.31**	**213**	P	**P**	**09 38 03.8**	**+0.7**
STKA				IAmb	IAmb	09 38 13.8	
	comp=Z,4.3nm,1.5s						
ASAR	**Alice Springs**	**27.43**	**236**	P	**P**	**09 38 03.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=62,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**27.43**	**236**	P	**P**	**09 38 03.7**	**-0.7**
BATI	**Baumata**	**34.30**	**266**	LR	LR	09 53 46.6	
	comp=Z,431nm,18.7s,baz=152,slow=38						
KAPI	**Kappang**	**38.65**	**274**	LR	LR	09 56 16.4	
	comp=Z,110nm,20.1s,baz=84,slow=37						
KLR	**Kul'dur**	**62.91**	**341**	LR	LR	10 08 09.6	
	comp=Z,82nm,20.6s,baz=184,slow=34						
SONM	**Songino Array**	**73.22**	**326**	P	**P**	**09 43 50.3**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=123,slow=5.1,SNR=3.8						
YAK	**Yakutsk**	**74.65**	**346**	LR	LR	10 12 56.4	
	comp=Z,128nm,21.9s,baz=92,slow=33						
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**09 44 49.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=248,slow=5.1,SNR=3.6						
ILAR	**Eielson Array**	**84.36**	**21**	P	**P**	**09 44 49.1**	**-0.8**
BBB	**Bella Bella**	**87.38**	**36**	LR	LR	10 17 02.9	
	comp=Z,52nm,20.6s,baz=244,slow=31						

*IDC **10** 09:34:41.1±0.7,3°43S×151°06E,h0km,mb4.2/17, mb1 4.4/17,mb1mx4.2/50,mbtmp4.2/17,MS4.0/17, Ms1 4.0/17,ms1mx3.9/27,Error ellipse: s-maj=25.2km s-min=15.3km az=95.0*

*DJA **10** 09:34:44.3±1.0,3°S±9°×15°1E±°,h54km±7km,M4.7/12, mB5.0/2,mb4.5/12,MLv4.7/3,Mw(mB)4.4/2*

*NEIC **10** 09:34:44.0±1.5,3°51S±0°04×151°17E±0°06,h14km±4km, mb4.8/59,Error ellipse: s-maj=10.3km s-min=3.8km az=64.0*

*GCMT **10** 09:34:45.0±0.3,3°36S±0°02×151°08E±0°03,h12km, MW5.0/80,Moment Tensor Solution. s4,c4; s80,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.79±.19; $M_{\theta\theta}$3.21±.12; $M_{\phi\phi}$-2.41±.15; $M_{r\theta}$1.53±.43; $M_{\theta\phi}$0.90±.15; $M_{r\phi}$2.17±.63; Best double couple: $M_0$4.02500×10^{16} NP1:ϕ_s123.00000°,δ47.00000°,λ-11.00000°. NP2: ϕ_s220.00000°,δ82.00000°,λ-137.00000°. Principal axes: T 4.1290, Plg23.0000°, Azm344.0000°; N -0.2030, Plg46.0000°, Azm229.0000°; P -3.9200, Plg35.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 09:34:46.4±0.4,3°52S±0°05×151°20E±0°06,h35km,n123, σ1§48/108,mb4.7/55,MS4.0/19,2C,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.17**	**125**		**Pn**	**09 35 05.7**	**-0.8**
MANU	**Manus Island**	**4.10**	**291**		**Pn**	**09 35 44.6**	**-2.0**
PMG	**Port Moresby**	**7.09**	**214**	Pn	**Pn**	**09 36 31.1**	**+3.2**
	1.7nm,0.3s,baz=111,slow=22,SNR=2.9						
PMG				LR	LR	09 39 29.4	
	comp=Z,779nm,18.8s,baz=26,slow=41						
PMG	**Port Moresby**	**7.09**	**214**	Pn	**Pn**	**09 36 26.5**	**-1.3**
PMG	**Port Moresby**	**7.09**	**214**	P	Pn	09 36 36.2	+8.4
PMG	**Port Moresby**	**7.09**	**214**	P	Pn	09 36 36.2	+8.4
PATS	**Pohnpei**	**12.50**	**35**	Pn	**Pn**	**09 37 39.7**	**-2.2**
SRPI	**Serui, Papua**	**15.03**	**276**	P	**Pn**	**09 38 17.3**	**+0.9**
CTAO	**Charters Tower**	**17.16**	**196**	Pn	**Pn**	**09 38 41.8**	**-1.9**
GUMO	**Guam**	**18.12**	**340**	LR	LR	09 44 47.4	
	comp=Z,300nm,20.3s,baz=150,slow=34						
GUMO	**Guam**	**18.12**	**340**		**Pn**	**09 38 55.2**	**-0.3**
SIJI	**Sorong**	**20.09**	**277**	LR	LR	09 45 47.4	
	comp=Z,481nm,19.5s,baz=301,slow=33						
EIDS	**Eidsvold**	**21.73**	**180**	P	**P**	**09 39 34.6**	**-0.2**
MTN	**Manton Dam**	**21.90**	**244**	P	**P**	**09 39 35.0**	**-1.7**
WB0	**Warramunga Arr**	**23.02**	**224**	P	**P**	**09 39 48.8**	**+0.2**
WB0				IAmb	IAmb	09 39 53.1	
	comp=Z,50nm,1.3s						
WR0	**Warramunga Arr**	**23.05**	**224**	P	**P**	**09 39 47.9**	**-1.0**
WR0				IAmb	IAmb	09 39 53.4	
	comp=Z,56nm,1.4s						
WRAB	**Tennant Creek**	**23.16**	**224**	P	**P**	**09 39 49.8**	**-0.2**
WB2	**Warramunga Arr**	**23.17**	**224**	P	**P**	**09 39 48.3**	**-1.8**
WRA	**Warramunga Arr**	**23.17**	**224**	P	**P**	**09 39 48.5**	**-1.7**
	comp=Z,24nm,1.1s,baz=49,slow=10,SNR=25						
WRA				LR	LR	09 50 32.3	
	comp=Z,322nm,18.5s,baz=45,slow=41						
WRA	**Warramunga Arr**	**23.17**	**224**	P	**P**	**09 39 49.8**	**-0.4**
DZM	**Mont Dzumac**	**23.64**	**143**	P	**P**	**09 39 56.3**	**+1.5**
	comp=Z,30nm,0.9s,baz=284,slow=7.9,SNR=16						
DZM	**Mont Dzumac**	**23.64**	**143**	*e*P	**P**	**09 39 54.9**	**+0.1**
	comp=Z,169nm,1.3s						
DZM				*e*S	**S**	**09 44 03.8**	**-3.6**
	comp=Z,155nm,24.4s						
DZM				*e*LR	LR	09 45 44.7	
	comp=Z,1μm,25.1s						
DZM	**Mont Dzumac**	**23.64**	**143**	P	**P**	**09 39 55.9**	**+1.0**
TNTI	**Ternate**	**24.20**	**280**	P	**P**	**09 39 58.1**	**-1

LZH	**Lanzhou**	**59.20**	**316**	*e*P	**P**	**09 44 48.6**	**+4.1**
LZH				pP	pP	09 44 52.2	-2.3
LZH				sP	pwP	09 44 53.8	-3.3
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,6.0s						
PPT	**Papeete**	**59.64**	**108**	LR	LR	10 06 37.7	
	comp=Z,47nm,18.5s,baz=87,slow=32						
PPT2	**Papeete2**	**59.64**	**108**	*e*LQ	LQ	09 59 54.3	
	comp=Z,227nm,25.1s						
PPT2				*e*LR	LR	10 02 26.6	
	comp=Z,205nm,32.2s						
TBI	**Tubuai**	**60.54**	**115**	*e*LR	LR	10 02 47.9	
	comp=Z,148nm,28.5s						
GTA	**Gaotai**	**63.64**	**318**	*e*P	**P**	**09 45 18.9**	**+4.5**
GTA				pP	pP	09 45 23.6	-0.9
GTA				sP	pwP	09 45 26.6	-0.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar**	**64.07**	**329**	P	**P**	**09 45 16.1**	**-1.0**
SONM	**Songino Array**	**64.40**	**328**	P	**P**	**09 45 18.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=155,slow=10.0,SNR=3.5						
SONM				LR	LR	10 13 32.1	
	comp=Z,150nm,20.2s,baz=114,slow=36						
SONM	**Songino Array**	**64.40**	**328**	P	**P**	**09 45 19.8**	**+0.7**
SONM				IAmb	IAmb	09 45 25.8	
	comp=Z,5.4nm,1.0s						
TLY	**Talaya**	**68.18**	**330**	LR	LR	10 13 26.5	
	comp=Z,121nm,21.3s,baz=128,slow=34						
WMQ	**Urumqi**	**73.72**	**318**	*e*P	**P**	**09 46 19.9**	**+2.8**
VNDA	**Vanda**	**74.17**	**178**	LR	LR	10 15 14.6	
	comp=Z,65nm,19.9s,baz=314,slow=33						
VNDA	**Vanda**	**74.17**	**178**	P	**P**	**09 46 20.9**	**+1.9**
OHAK	**Old Harbor**	**75.15**	**28**	P	**P**	**09 46 26.4**	**+1.5**
OHAK				IAmb	IAmb	09 46 51.2	
	comp=Z,19nm,1.4s						
KDAK	**Kodiak Island**	**75.77**	**27**	P	**P**	**09 46 30.3**	**+1.9**
SVW2	**Sparrevohn**	**76.28**	**24**	P	**P**	**09 46 32.1**	**+0.7**
TIXI	**Tiksi**	**76.43**	**353**	P	**P**	**09 46 33.0**	**+1.1**
CNPM	**China Poot**	**77.27**	**26**	P	**P**	**09 46 37.5**	**+0.5**
MK31	**Makanchi Array**	**78.31**	**319**	P	**P**	**09 46 43.0**	**-0.2**
MKAR	**Makanchi Array**	**78.31**	**319**	P	**P**	**09 46 42.4**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=124,slow=6.0,SNR=4.1						
MKAR				LR	LR	10 20 08.6	
	comp=Z,87nm,20.9s,baz=86,slow=35						
MKAR	**Makanchi Array**	**78.31**	**319**	P	**P**	**09 46 42.8**	**-0.4**
SEW	**Seward**	**78.33**	**26**	P	**P**	**09 46 44.0**	**+1.1**
SEW				IAmb	IAmb	09 46 52.1	
	comp=Z,8.8nm,1.0s						
RC01	**Rabbit Creek A**	**78.69**	**25**	P	**P**	**09 46 45.0**	**+0.1**
RC01				IAmb	IAmb	09 46 51.5	
	comp=Z,14nm,1.3s						
PWL	**Port Wells**	**79.18**	**26**	P	**P**	**09 46 48.3**	**+0.8**
KTH	**Kantishna Hill**	**79.45**	**23**	P	**P**	**09 46 50.0**	**+1.0**
KTH				IAmb	IAmb	09 46 55.0	
	comp=Z,9.6nm,1.2s						
SML	**Sawmill**	**79.63**	**25**	P	**P**	**09 46 50.6**	**+0.6**
SML				IAmb	IAmb	09 47 13.2	
	comp=Z,14nm,1.1s						
BPAW	**Bear Paw Mtn.**	**79.70**	**22**	P	**P**	**09 46 50.5**	**+0.1**
BPAW				IAmb	IAmb	09 46 55.9	
	comp=Z,12nm,1.4s						
GLI	**Glacier Island**	**79.73**	**26**	P	**P**	**09 46 51.6**	**+1.0**
GLI				IAmb	IAmb	09 47 01.2	
	comp=Z,12nm,1.0s						
FID	**Port Fidalgo**	**79.94**	**26**	P	**P**	**09 46 53.2**	**+1.5**
FID				IAmb	IAmb	09 46 57.8	
	comp=Z,11nm,1.2s						
SCM	**Sheep Creek Mo**	**80.06**	**25**	P	**P**	**09 46 53.4**	**+1.0**
SCM				IAmb	IAmb	09 47 08.2	
	comp=Z,14nm,1.3s						
RND	**Reindeer**	**80.18**	**23**	P	**P**	**09 46 53.0**	**0.0**
RND				IAmb	IAmb	09 47 04.7	
	comp=Z,7.2nm,0.8s						
MLY	**Manley**	**80.27**	**21**	P	**P**	**09 46 53.8**	**+0.4**
MLY				IAmb	IAmb	09 46 59.5	
	comp=Z,13nm,1.4s						
MCK	**McKinley**	**80.31**	**23**	P	**P**	**09 46 54.0**	**+0.3**
MCK				IAmb	IAmb	09 46 59.6	
	comp=Z,16nm,1.2s						
KLU	**Klutina**	**80.51**	**26**	P	**P**	**09 46 55.8**	**+1.0**
KLU				IAmb	IAmb	09 47 01.4	
	comp=Z,12nm,1.2s						
NEA2	**Nenana**	**80.67**	**22**	P	**P**	**09 46 55.6**	**0.0**
WRH	**Wood River Hil**	**80.98**	**22**	P	**P**	**09 46 57.7**	**+0.5**
WRH				IAmb	IAmb	09 47 03.0	
	comp=Z,12nm,1.2s						
N25K	**Chitina, Valde**	**81.13**	**26**	P	**P**	**09 47 00.6**	**+2.5**
N25K				IAmb	IAmb	09 47 04.9	
	comp=Z,14nm,1.4s						
MDM	**Murphy Dome**	**81.16**	**22**	P	**P**	**09 46 59.0**	**+0.8**
MDM				IAmb	IAmb	09 47 03.5	
	comp=Z,9.9nm,1.5s						
CCB	**Clear Creek Bu**	**81.18**	**22**	P	**P**	**09 46 58.0**	**-0.2**
CCB				IAmb	IAmb	09 47 03.2	
	comp=Z,13nm,1.4s						
GLB	**Gilahina Butte**	**81.41**	**26**	P	**P**	**09 46 59.9**	**+0.3**
GLB				IAmb	IAmb	09 47 22.2	
	comp=Z,9.3nm,1.2s						
VRDI	**Verde Repeater**	**81.48**	**26**	P	**P**	**09 47 02.6**	**+2.4**
VRDI				IAmb	IAmb	09 47 13.1	
	comp=Z,10nm,1.2s						
IL31		**81.58**	**22**	P	**P**	**09 46 59.8**	**-0.5**
IL31				IAmb	IAmb	09 47 05.0	
	comp=Z,9.2nm,1.4s						
ILAR	**Eielson Array**	**81.58**	**22**	P	**P**	**09 46 59.4**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=243,slow=5.6,SNR=17						
ILAR	**Eielson Array**	**81.58**	**22**	P	**P**	**09 47 00.0**	**-0.4**
KURK	**Kurchatov**	**81.78**	**322**	P	**P**	**09 47 01.3**	**-0.4**
KURBB	**Kurchatov Arra**	**81.81**	**322**	P	**P**	**09 47 01.3**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=112,slow=5.0,SNR=4.2						
RIDG	**Independent Ri**	**81.93**	**24**	P	**P**	**09 47 02.9**	**+0.6**
RIDG				IAmb	IAmb	09 47 09.2	
	comp=Z,16nm,1.4s						
DOT	**Dot Lake**	**82.21**	**24**	P	**P**	**09 47 04.5**	**+0.8**
DOT				IAmb	IAmb	09 47 07.6	
	comp=Z,9.1nm,1.2s						
L27K	**Beaver Creek,**	**82.90**	**25**	P	**P**	**09 47 08.0**	**+0.6**
L27K				IAmb	IAmb	09 47 14.1	
	comp=Z,8.7nm,1.4s						
BCAR	**Beaver Creek A**	**82.92**	**25**	P	**P**	**09 47 08.2**	**+0.7**
K27K	**Chicken**	**83.17**	**24**	P	**P**	**09 47 10.9**	**+2.2**
K27K				IAmb	IAmb	09 47 15.8	
	comp=Z,13nm,1.4s						
EGAK	**Eagle**	**83.82**	**23**	P	**P**	**09 47 13.1**	**+1.1**
HYT	**Haines Junctio**	**84.05**	**28**	P	**P**	**09 47 14.4**	**+1.0**
HYT				IAmb	IAmb	09 47 29.7	
	comp=Z,11nm,1.3s						
NRIK	**Noril'sk**	**84.24**	**341**	P	**P**	**09 47 13.7**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=134,slow=4.6,SNR=9.5						
NRIK	**Noril'sk**	**84.24**	**341**	P	**P**	**09 47 14.0**	**-0.1**
DAWY	**Dawson**	**84.28**	**24**	P	**P**	**09 47 14.7**	**+0.2**
KK31	**Karatay Array**	**85.59**	**314**	P	**P**	**09 47 19.8**	**-1.6**
KKAR	**Karatay Array**	**85.59**	**314**	P	**P**	**09 47 21.0**	**-0.4**
EPYK	**Eagle Plains**	**86.10**	**23**	P	**P**	**09 47 24.0**	**+0.5**
MAW	**Mawson**	**86.13**	**203**	LR	LR	10 23 49.8	
	comp=Z,157nm,19.6s,baz=60,slow=34						
QSPA	**South Pole Qui**	**86.44**	**180**	P	**P**	**09 47 24.6**	**-0.7**
BVAR	**Borovoye Array**	**87.26**	**323**	P	**P**	**09 47 28.1**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=188,slow=8.7,SNR=2.4						
BEKR	**Beckworth**	**91.03**	**50**	P	**P**	**09 47 47.9**	**+0.2**
BEKR				IAmb	IAmb	09 47 55.2	
	comp=Z,7.0nm,1.3s						
NVAR	**Mina Array Bea**	**92.55**	**52**	P	**P**	**09 47 56.4**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=280,slow=2.7,SNR=5.2						
NVAR				LR	LR	10 24 52.1	
	comp=Z,59nm,19.0s,baz=290,slow=32						
NVAR	**Mina Array Bea**	**92.55**	**52**	P	**P**	**09 47 55.6**	**+0.8**
ABKAR	**Akbulak array**	**93.46**	**319**	P	**P**	**09 47 58.7**	**+0.3**
TPNV	**Topopah Spring**	**94.13**	**53**	P	**P**	**09 48 02.4**	**+0.4**
TPNV				IAmb	IAmb	09 48 12.7	
	comp=Z,5.0nm,1.1s						
SYO	**Syowa Base**	**94.34**	**200⇑**	*e*P	**P**	**09 48 01.4**	**-0.7**
GEYT	**Alibeck**	**94.57**	**308**	LR	LR	10 31 22.0	
	comp=Z,44nm,21.2s,baz=50,slow=36						
YKA	**Yellowknife Ar**	**95.04**	**28**	P	**P**	**09 48 06.1**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=266,slow=4.2,SNR=1.7						
YKA				LR	LR	10 27 34.3	
	comp=Z,76nm,21.0s,baz=0.0,slow=33						
TORD	**Torodi Ar. Bea**	**148.38**	**289**	PKPbc	**PKPbc**	**09 54 29.5**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=69,slow=2.7,SNR=12						

*IDC **10** 09:38:47.9±0.8, 23°.14N×120°.51E, h0km, mb4.0/10,*
mb1 4.2/11, mb1mx3.9/54, mbtmp4.0/11, ML3.4/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/42, Error ellipse: s-maj=33.7km s-min=16.7km az=73.0
*TAP **10** 09:38:49.6, 23°.22N×120°.46E, h9km, ML4.4, B*
*JMA **10** 09:38:49.1±0.2, 23°.29N×120°.45E, h0km, M4.7*
*IASPEI **10** 09:38:50.5±0.8, 23°.24N±0°.01×120°.46E±0°.01, h10km±4km, mb4.3/20, Error ellipse: s-maj=2.1km s-min=1.7km az=93.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ASIES **10** 09:38:50.0, 23°.22N×120°.47E, h13km, MW4.0*
*NEIC **10** 09:38:50.8±1.7, 23°.15N±0°.06×120°.57E±0°.06, h16km±3km, Error ellipse: s-maj=9.8km s-min=5.6km az=141.0*
*BJI **10** 09:38:51.1±0.0, 23°.38N×120°.44E, h7km, mb4.2/9, ML4.2/5*
ISC 10 09:38:50.4±0.6, **23°.25N**±0°.01×**120°.46E**±0°.01, **h11**km±3km, **n169**, σ1$**03**/264, **mb4.3**/20, **10C-21D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.04**	**52**	↓*i*P		**Pg**	**09 38 52.1**	**-0.5**
TWK	baz=41			*i* S		**Sg**	**09 38 54.0**	**-0.1**
SNST	**Tainan City**	**0.04**	**124**	↓*i*P		**Pg**	**09 38 51.7**	**-0.9**
SNST	baz=90			S		**Sg**	**09 38 53.6**	**-0.5**
CHN1	**Nanshi**	**0.09**	**132**	↓*i*P		**Pg**	**09 38 52.1**	**-0.9**
CHN1	baz=118			S		**Sg**	**09 38 54.5**	**-0.4**
WTP	**Ta-pu**	**0.14**	**90**	↓*i*P		**Pg**	**09 38 53.7**	**-0.1**
WTP	baz=81			*i* S		**Sg**	**09 38 56.7**	**+0.5**
TPUB	**Ta-pu**	**0.17**	**71**	↓*i*P		**Pg**	**09 38 54.1**	**-0.1**
TPUB	baz=63			S		**Sg**	**09 38 58.0**	**+1.2**
TPUB	**Ta-pu**	**0.17**	**71**			**Pg**	**09 38 53.6**	**-0.5**
TPUB					Sg	**Sg**	**09 38 58.0**	**+1.2**
CHN3	**Shinhua**	**0.19**	**207**	⇑*i*P		**Pg**	**09 38 54.5**	**0.0**
CHN3	baz=219			*i* S		**Sg**	**09 38 58.4**	**+1.2**
SGST	**Jiashian**	**0.20**	**144**	↓*i*P		**Pg**	**09 38 53.4**	**-1.3**
SGST	baz=137			*i* S		**Sg**	**09 38 57.1**	**-0.5**
ICHU	**Yijhu**	**0.20**	**305**	P		**Pb**	**09 38 55.4**	**-0.6**
ICHU	baz=311			*e*S		**Sg**	**09 39 00.5**	**+2.9**
CHN8	**Yiju**	**0.25**	**294**	↓*i*P		**Pg**	**09 38 56.1**	**+0.5**
CHN8	baz=302			S		**Sb**	**09 39 01.6**	**+2.6**
SCLT	**Jiali**	**0.25**	**254**	↓*i*P		**Pg**	**09 38 55.9**	**+0.3**
SCLT	baz=255			*e*S		**Sb**	**09 39 02.0**	**+0.8**
CHY	**Chiayi**	**0.25**	**353**	P		**Pb**	**09 38 56.7**	**-0.2**
CHY	baz=355			S		**Sb**	**09 39 02.3**	**+0.9**
STYT	**Tauyuan**	**0.29**	**106**	↓*i*P		**Pg**	**09 38 56.5**	**+0.2**
STYT	baz=102			S		**Sb**	**09 39 01.8**	**-0.6**
TAI1	**Yung-k'ang**	**0.29**	**226**	P		**Pb**	**09 38 57.2**	**-0.4**
TAI1	baz=234			*e*S		**Sb**	**09 39 03.6**	**+1.1**
STYH	**Taoyuan**	**0.30**	**104**	↓*i*P		**Pg**	**09 38 56.6**	**+0.1**
STYH	baz=100			S		**Sb**	**09 39 01.9**	**-0.8**
SLGT	**Liugui**	**0.30**	**145**	P		**Pg**	**09 38 56.7**	**+0.2**
SLGT	baz=132			S		**Sb**	**09 39 02.1**	**-0.7**
SCST	**Cishan**	**0.36**	**175**	*e*P		**Pb**	**09 38 58.2**	**-0.6**
SCST	baz=157			S		**Sb**	**09 39 05.3**	**+0.9**
ALS	**Alishan**	**0.41**	**50**	⇑*i*P		**Pg**	**09 38 59.2**	**+0.5**
ALS	baz=59			S		**Sb**	**09 39 06.4**	**+0.1**
TWM1	**Shoushan**	**0.42**	**184**	P		**Pb**	**09 39 00.5**	**+0.7**
WTK	**Tuku**	**0.45**	**352**	*e*P		**Pb**	**09 39 00.2**	**-0.1**
WTK	baz=352			*e*S		**Sb**	**09 39 08.6**	**+1.7**
WSF	**Szhu**	**0.45**	**331**	P		**Pb**	**09 39 00.0**	**-0.2**
WSF	baz=334			S		**Sb**	**09 39 08.0**	**+1.1**
WDLH	**Douliu**	**0.45**	**10**	*e*P		**Pb**	**09 39 00.3**	**0.0**
WDLH	baz=8.0			*e*S		**Sb**	**09 39 08.9**	**+1.9**
WGK	**Gukeng**	**0.45**	**12**	P		**Pb**	**09 39 00.3**	**0.0**
WGK	baz=12			*e*S		**Sb**	**09 39 09.0**	**+2.0**
SNJT	**Kaohsiung City**	**0.50**	**193**	*e*P		**Pb**	**09 39 01.4**	**+0.3**
SNJT	baz=190			*e*S		**Sb**	**09 39 12.2**	**+3.8**
ELDTW	**Lidau**	**0.52**	**96**	↓*i*P		**Pg**	**09 39 00.7**	**+0.2**
ELDTW	baz=93			S		**Sb**	**09 39 08.9**	**-0.2**
SGLT	**Jiouru**	**0.52**	**177**	P		**Pb**	**09 39 02.2**	**+0.7**
SSD	**Sandimen**	**0.52**	**162**	↓*i*P		**Pg**	**09 39 00.8**	**+0.2**
SSD	baz=144			*i* S		**Sb**	**09 39 09.3**	**+0.3**
TSMG	**Majia**	**0.56**	**162**	P		**Pg**	**09 39 01.4**	**+0.1**
TSMG	baz=145			S		**Sb**	**09 39 09.8**	**-0.5**
TSPT	**Pingtung City**	**0.57**	**176**	*e*P		**Pn**	**09 39 03.5**	**-0.8**
WMLT	**Mailiao**	**0.60**	**339**	*e*P		**Pb**	**09 39 02.6**	**-0.2**
WMLT	baz=340			*e*S		**Sb**	**09 39 12.1**	**+0.9**
WJS	**Zhushan**	**0.63**	**23**	P		**Pb**	**09 39 03.2**	**-0.1**
WJS	baz=23			S		**Sn**	**09 39 13.8**	**-1.4**
MASBT	**Mashibuluo**	**0.65**	**166**	P		**Pg**	**09 39 03.0**	**0.0**
MASBT	baz=151			*e*S		**Sb**	**09 39 13.2**	**+0.4**
WRL	**Guolierlin Hig**	**0.66**	**354**	P		**Pg**	**09 39 03.5**	**+0.3**
WRL	baz=343			S		**Sb**	**09 39 13.4**	**+0.4**
WNT	**Mingjian**	**0.66**	**18**	⇑*i*P		**Pb**	**09 39 04.2**	**+0.2**
WNT	baz=18			*i* S		**Sn**	**09 39 15.2**	**-0.9**
KAU	**Kaohsiung**	**0.69**	**192**	*e*P		**Pb**	**09 39 05.0**	**+0.7**
KAU	baz=189			*e*S		**Sn**	**09 39 16.6**	**-0.1**
WNT1	**Nantou City**	**0.69**	**17**	*e*P		**Pb**	**09 39 04.5**	**+0.1**
WNT1	baz=16			*e*S		**Sn**	**09 39 15.7**	**-1.0**
LONT	**Longtian**	**0.70**	**118**	*e*P		**Pg**	**09 39 04.2**	**+0.1**
LONT	baz=105			*e*S		**Sb**	**09 39 15.1**	**+0.7**
TWG	**Pinlang**	**0.71**	**127**	↓*i*P		**Pb**	**09 39 04.3**	**-0.4**
TWG	baz=111			*i* S		**Sb**	**09 39 15.0**	**+0.6**
TWG	**Pinlang**	**0.71**	**127**			**Pb**	**09 39 04.3**	**-0.4**
SSLB	**Suanglung**	**0.71**	**40**	⇑*i*P		**Pg**	**09 39 04.3**	**+0.2**
SSLB	baz=41			*i* S		**Sb**	**09 39 15.3**	**+0.9**
SSLB	**Suanglung**	**0.71**	**40**	Pg		**Pg**	**09 39 03.5**	**-0.6**
SSLB				Sg		**Sb**	**09 39 15.4**	**+0.9**
TWGBT	**Beinan**	**0.71**	**126**	↓*i*P		**Pg**	**09 39 04.3**	**+0.1**
TWGBT	baz=111			S		**Sb**	**09 39 14.3**	**-0.3**
ECS	**Chishang**	**0.72**	**102**	*e*P		**Pg**	**09 39 04.4**	**+0.2**
ECS	baz=100			*e*S		**Sb**	**09 39 15.3**	**+0.5**
WDGT	**Dungji**	**0.73**	**271**	↓*i*P		**Pg**	**09 39 04.1**	**-0.4**
WDGT	baz=274			*i* S		**Sb**	**09 39 14.8**	**-0.4**
TYC	**Yuchr**	**0.75**	**29**	⇑*i*P		**Pb**	**09 39 05.5**	**+0.1**
TYC	baz=32			*i* S		**Sn**	**09 39 17.5**	**-0.7**
SMLT	**Sun Moon Lake**	**0.75**	**33**	⇑*i*P		**Pb**	**09 39 05.6**	**0.0**
SMLT	baz=35			S		**Sn**	**09 39 17.8**	**-0.7**
SSPT	**Xinbi**	**0.77**	**172**	P		**Pb**	**09 39 06.0**	**+0.3**
SSPT	baz=152			*e*S		**Sn**	**09 39 20.1**	**+1.5**
FULB	**Fuli**	**0.77**	**93**	↓*i*P		**Pb**	**09 39 05.8**	**0.0**
FULB	baz=82			S		**Sn**	**09 39 17.5**	**-1.3**
TWF1	**Yuli**	**0.78**	**82**	⇑*i*P		**Pg**	**09 39 05.5**	**0.0**
TWF1	baz=81			S		**Sb**	**09 39 16.7**	**+0.2**
YULB	**Yu-li**	**0.79**	**79**	↓*i*P		**Pg**	**09 39 05.3**	**-0.3**
YULB	baz=78			S		**Sg**	**09 39 15.8**	**-0.1**
YULB	**Yu-li**	**0.79**	**79**			**Pg**	**09 39 05.2**	**-0.3**
ECL	**Taimali**	**0.79**	**145**	↓*i*P		**Pg**	**09 39 05.7**	**+0.1**
ECL	baz=135			*i* S		**Sb**	**09 39 16.9**	**+0.1**
EYUL	**Yuli**	**0.80**	**83**	*e*P		**Pb**	**09 39 06.1**	**-0.2**
TTN	**Taitung**	**0.80**	**127**	P		**Pb**	**09 39 06.8**	**+0.5**
WWF	**Wufeng**	**0.82**	**16**	P		**Pb**	**09 39 06.7**	**0.0**
WWF	baz=15			*e*S		**Sn**	**09 39 19.6**	**-0.5**
EDH	**Donghe**	**0.82**	**109**	P		**Pb**	**09 39 06.7**	**0.0**
EDH	baz=107			S		**Sn**	**09 39 19.8**	**-0.2**
EHY	**Hungye**	**0.84**	**72**	⇑*i*P		**Pg**	**09 39 06.7**	**+0.1**
EHY	baz=80			S		**Sb**	**09 39 19.0**	**+0.8**
WCHH	**Zhanghua**	**0.84**	**6**	*e*P		**Pb**	**09 39 06.9**	**0.0**
WCHH	baz=6.0			*e*S		**Sb**	**09 39 19.3**	**+1.1**
CHKT	**Chengkung**	**0.85**	**100**	↓*i*P		**Pb**	**09 39 07.3**	**+0.2**
CHKT	baz=98			S		**Sn**	**09 39 22.0**	**+1.3**
PHUB	**P'eng-hu**	**0.86**	**288**	P		**Pg**	**09 39 05.9**	**-1.0**
PHUB	baz=292			S		**Sg**	**09 39 17.8**	**-0.3**
SCZT	**Fangliau**	**0.88**	**170**	P		**Pg**	**09 39 07.4**	**0.0**
SCZT	baz=154			S		**Sn**	**09 39 21.5**	**+0.1**
PNG	**Penghu**	**0.89**	**291**	↓*i*P		**Pg**	**09 39 06.7**	**-0.9**
PNG	baz=295			S		**Sg**	**09 39 19.1**	**0.0**
WLCH	**Liuqiu**	**0.89**	**185**	*e*P		**Pn**	**09 39 09.6**	**+0.8**
WLCH	baz=181			*e*S		**Sn**	**09 39 25.3**	**+3.6**
DPDB	**Guoxing**	**0.90**	**29**	*e*P		**Pb**	**09 39 07.9**	**0.0**
DPDB	baz=31			*e*S		**Sn**	**09 39 21.2**	**-0.8**
TWP	**Hsiaoliuchiu**	**0.90**	**186**	*e*P		**Pn**	**09 39 09.4**	**+0.4**
TWP	baz=181			*e*S		**Sn**	**09 39 25.5**	**+3.7**
WCS	**Beigang Elemen**	**0.91**	**27**	P		**Pg**	**09 39 07.7**	**-0.2**
WCS	baz=29			S		**Sb**	**09 39 21.2**	**+0.9**
ECBN	**Changbin**	**0.92**	**85**	*e*P		**Pn**	**09 39 08.9**	**-0.3**
ECBN	baz=76			*e*S		**Sn**	**09 39 23.9**	**+1.5**
TCU	**Taichung**	**0.92**	**13**	*e*P		**Pg**	**09 39 08.2**	**0.0**
TCU	baz=12			*e*S		**Sn**	**09 39 22.2**	**-0.3**
HGSD	**Ruisui**	**0.92**	**74**	*e*P		**Pn**	**09 39 08.9**	**-0.3**
HGSD	baz=82			*e*S		**Sn**	**09 39 23.5**	**+1.0**
EAST	**Anshuo**	**0.93**	**157**	↓*i*P		**Pg**	**09 39 08.3**	**-0.1**
EAST	baz=145			*i* S		**Sn**	**09 39 22.2**	**-0.5**
VCHM	**Qimei**	**0.95**	**268**	*e*P		**Pg**	**09 39 07.5**	**-1.1**
VCHM	baz=271			*e*S		**Sg**	**09 39 20.6**	**-0.4**
OWD	**Renai**	**0.97**	**43**	P		**Pg**	**09 39 08.8**	**-0.2**
OWD	baz=31			*e*S		**Sn**	**09 39 23.3**	**-0.5**
TAW	**Tawu**	**0.97**	**155**	*e*P		**Pg**	**09 39 09.0**	**-0.1**
TAW	baz=143			*e*S		**Sn**	**09 39 23.1**	**-0.6**
EGFH	**Guangfu**	**0.99**	**64**	P		**Pg**	**09 39 09.3**	**-0.1**
EGFH	baz=56			S		**Sb**	**09 39 22.9**	**+0.5**
CHGB	**Renai**	**1.04**	**39**	*e*P		**Pg**	**09 39 10.1**	**-0.4**
CHGB	baz=41			*e*S		**Sn**	**09 39 25.9**	**+0.1**
ESL	**Shilin**	**1.06**	**57**	⇑*i*P		**Pb**	**09 39 10.5**	**-0.2**
ESL	baz=58			S		**Sn**	**09 39 26.2**	**+0.3**
SLIU	**Shizi**	**1.07**	**163**	*e*P		**Pb**	**09 39 10.3**	**-0.6**
SLIU	baz=144			*e*S		**Sn**	**09 39 26.0**	**-0.1**
LDUT	**Ludao**	**1.09**	**121**	*e*P		**Pb**	**09 39 10.7**	**-0.5**
LDUT	baz=109			*e*S		**Sn**	**09 39 27.9**	**+1.2**
WDJ	**Dajia District**	**1.11**	**9**	P		**Pb**	**09 39 11.5**	**-0.1**
WDJ	baz=8.0			S		**Sn**	**09 39 27.8**	**+0.6**
WHP	**Taichung City**	**1.12**	**23**	P		**Pb**	**09 39 11.5**	**-0.3**
WHP	baz=26			S		**Sn**	**09 39 28.8**	**+1.3**
WHF	**Hehuan Shan**	**1.16**	**39**	⇑*i*P		**Pn**	**09 39 12.9**	**-0.1**
WHF	baz=42			S		**Sn**	**09 39 30.6**	**+1.5**
ETM	**Tongmen**	**1.19**	**53**	*e*P		**Pb**	**09 39 12.8**	**-0.1**
TDCB	**Techi**	**1.19**	**32**	P		**Pb**	**09 39 12.6**	**-0.5**
TDCB	baz=35			*e*S		**Sn**	**09 39 30.0**	**+0.7**
NSY	**Sanyi**	**1.20**	**13**	P		**Pb**	**09 39 13.2**	**0.0**
NSY	baz=13			S		**Sn**	**09 39 30.8**	**+1.4**

baz=13
TWT Tachien 1.20 33 P **Pb 09 39 13.1 -0.1**
TWT baz=35 eS **Sn 09 39 32.3 +2.7**
FUSS Fushou 1.23 36 eP **Pn 09 39 13.6 -0.1**
HEN baz=38 **Hengchun 1.26 168** eP **Pg 09 39 14.8 +0.2**
HEN baz=150 eS **Sg 09 39 33.6 +2.7**
HWA Hwalien 1.28 55 eP **Pg 09 39 15.0 0.0**
HWA baz=57 eS **Sg 09 39 33.9 +2.3**
NMLH Miaoli 1.32 13 eP **Pn 09 39 14.9 +0.2**
NMLH baz=12 eS **Sg 09 39 34.4 +1.4**
TWD Chiawan 1.33 51 P **Pb 09 39 15.5 +0.1**
TWD baz=63 eS **Sg 09 39 34.0 +0.6**
TWK1 Hengchun 1.33 166 eP **Pg 09 39 15.7 -0.3**
TWK1 baz=161 eS **Sg 09 39 35.9 +2.6**
TWKBT Hengchun 1.34 166 eP **Pn 09 39 14.1 -0.9**
ETLH Xiulin Townshi 1.34 44 eP **Pb 09 39 15.8 +0.2**
NACB Ninganchiao 1.39 48 eP **Pn 09 39 16.0 +0.3**
NACB baz=50 eS **Sg 09 39 36.5 +1.2**
NACB Ninganchiao 1.39 48 Pn 09 39 15.8 +0.1
TSEB Hengchuen, Pin 1.40 163 eP **Pg 09 39 17.2 0.0**
TSEB baz=180 eS **Sg 09 39 37.3 +1.8**
ETL Fush Village 1.40 49 eP **Pn 09 39 16.2 +0.2**
NNSB Datong 1.45 36 eP **Pn 09 39 16.6 0.0**
NNSH Datong 1.45 36 eP **Pn 09 39 16.9 +0.2**
NNSH baz=27 eS **Sg 09 39 39.2 +2.1**
NNS Nan Shan 1.46 35 P **Pb 09 39 17.3 -0.2**
NNS baz=26 eS **Sg 09 39 38.3 +1.0**
NSTT Nanjuang 1.47 20 eP **Pn 09 39 16.8 +0.1**
NSTT baz=18 eS **Sg 09 39 37.1 -0.5**
LIOB Emei 1.48 20 eP **Pn 09 39 16.9 -0.1**
LIOB baz=18 eS **Sg 09 39 38.1 -0.1**
SBCB Hsinchu 1.61 17 eP **Pn 09 39 18.5 -0.2**
YHNB Yeheng 1.65 30 eP **Pn 09 39 19.5 +0.2**
YHNB Yeheng 1.65 30 Pn 09 39 19.7 +0.3
EWUT Wuta 1.70 45 eP **Pb 09 39 21.6 0.0**
EWUT baz=61 eS **Sg 09 39 46.2 +1.2**
ENTT Nioudou 1.72 36 P **Pb 09 39 21.8 -0.2**
NDS baz=39 **Dongshan 1.80 40** eP **Pb 09 39 22.8 -0.6**
NDS baz=42 eS **Sg 09 39 48.7 +0.5**
NWLT Wulai 1.80 32 eP **Pn 09 39 21.5 +0.1**
TWE Neicheng 1.84 37 eP **Pb 09 39 23.3 -0.7**
TWC Suao 1.86 43 eP **Pb 09 39 23.3 -1.1**
TWC baz=36 eS **Sg 09 39 50.1 -0.1**
TATO Taipei 1.96 28 Pn **Pn 09 39 23.1 -0.5**
NHDH Xindian Distri 1.97 29 eP **Pn 09 39 24.4 +0.8**
TWA Mucha 2.01 31 eP **Pn 09 39 24.5 +0.2**
TWS1 Kuangyinshan 2.04 25 eP **Pn 09 39 24.9 +0.2**
TIPB Shuangxi 2.13 36 eP **Pn 09 39 26.4 +0.6**
NWF Wu-fen Shan 2.18 33 eP **Pb 09 39 29.6 -0.4**
WFSB Wu-fen Shan 2.18 33 eP **Pb 09 39 29.8 -0.1**
KNM Kinmen 2.19 303 eP **Pb 09 39 30.9 +0.9**
KNMB Chin-men Tao 2.25 303 eP **Pn 09 39 26.9 -0.6**
KNMB Chin-men Tao 2.25 303 Pb 09 39 30.6 -0.4
QZH Quanzhou 2.40 315 ePn **Pn 09 39 29.6 0.0**
QZH Sn **Sn 09 40 00.3 +1.3**
QZH comp=N,430nm,0.6s smax smax
QZH comp=E,470nm,0.6s smax smax
YOJ Yonaguni jima 2.63 62 P **Pn 09 39 34.2 +1.4**
YOJ eS **Sn 09 40 07.1 +2.4**
HATJ Hateruma jima 3.17 75 P **Pn 09 39 41.5 +1.3**
HATJ eS **Sn 09 40 21.1 +3.0**
IRIF Iriomote-Funau 3.19 69 P **Pn 09 39 41.7 +1.3**
IRIF eS **Sn 09 40 21.6 +3.2**
JKRS Kuro-shima 3.40 72 P **Pn 09 39 44.7 +1.4**
JKRS eS **Sn 09 40 27.1 +3.4**
JIJ Ishigaki jima 3.55 71 P **Pn 09 39 46.0 +0.5**
JIJ S **Sn 09 40 28.6 +1.1**
JISG Ishigakijimahi 3.77 68 P **Pn 09 39 49.3 +0.9**
JISG S **Sn 09 40 33.8 +1.0**
NJ2 Nanjing 8.89 351 eP Pn 09 41 05.2 +6.5
NJ2 comp=Z,13nm,0.6s pmax pmax
NJ2 comp=N,130nm,1.0s smax smax
NJ2 comp=E,130nm,0.9s smax smax
KSRS Korea Array 15.55 23 Pn **Pn 09 42 31.4 +1.9**
0.1nm,0.3s,baz=203,slow=11,SNR=10.0
KSRS LR LR 09 48 38.4
comp=Z,105nm,18.1s,baz=10.0,slow=38
SGSI Sangihe 20.05 165 P Pn 09 43 25.6 +0.1
MJAR Matsushiro Arr 20.27 45 P **P 09 43 25.9 0.0**
2.3nm,0.8s,baz=233,slow=8.4,SNR=4.4
CMAR Chiang Mai Arr 20.66 261 LR LR 09 51 16.9
comp=Z,65nm,21.4s,baz=127,slow=36
MDJ Mudanjiang 22.59 17 P **P 09 43 52.1 +1.2**
MDJ comp=Z,11nm,0.8s pmax pmax
GTA Gaotai 23.80 317 eP **P 09 44 04.3 +1.0**
GTA pP sP 09 44 09.5 +1.2
GTA sP pP 09 44 12.8 +6.1
GTA comp=Z,5.0nm,1.0s pmax pmax
SONM Songino Array 26.99 339 P **P 09 44 31.8 -0.4**
1.0nm,0.9s,baz=160,slow=10.0,SNR=5.4
MK31 Makanchi Array 38.56 317 P **P 09 46 12.8 -0.3**
MKAR Makanchi Array 38.56 317 P **P 09 46 13.0 -0.1**
0.8nm,0.8s,baz=110,slow=11,SNR=5.4
MKAR Makanchi Array 38.56 317 P **P 09 46 12.8 -0.3**
ZAA0 Zalesovo Array 40.68 328 P **P 09 46 30.6 0.0**
ZAA0 IAmb IAmb 09 46 34.2
comp=Z,8.1nm,0.8s
ZALV Zalesovo Beam 40.68 328 P **P 09 46 30.8 +0.2**
WB0 Warramunga Arr 44.86 161 P **P 09 47 02.7 -2.2**
WB0 IAmb IAmb 09 47 06.6
comp=Z,4.6nm,0.9s
WRAB Tennant Creek 45.01 161 P **P 09 47 04.2 -1.8**
WRA Warramunga Arr 45.01 161 P **P 09 47 03.9 -2.2**
comp=Z,3.4nm,0.8s,baz=342,slow=8.8,SNR=17
WRA Warramunga Arr 45.01 161 P **P 09 47 04.1 -2.0**
WB2 Warramunga Arr 45.02 161 P **P 09 47 04.2 -1.8**
WR0 Warramunga Arr 45.09 161 P **P 09 47 04.9 -1.8**
WR0 IAmb IAmb 09 47 09.3
comp=Z,4.9nm,0.9s
KKAR Karatay Array 45.52 308 P **P 09 47 10.1 +0.1**
BRVK Borovoye 48.05 321 P **P 09 47 27.9 -1.7**

AS31 Alice Springs 48.43 163 P **P 09 47 31.6 -1.2**
ASAR Alice Springs 48.43 163 P **P 09 47 30.9 -1.9**
comp=Z,0.9nm,0.6s,baz=355,slow=14,SNR=12
ASAR Alice Springs 48.43 163 P **P 09 47 31.3 -1.5**
STKA Stephens Creek 58.42 159 P **P 09 48 45.5 -0.6**
comp=Z,3.2nm,1.0s,baz=3.9,slow=11,SNR=4.0
STKA Stephens Creek 58.42 159 P **P 09 48 44.5 -1.6**
KBZ Khabaz 65.55 309 P **P 09 49 35.0 +1.0**
comp=Z,1.8nm,0.8s,baz=39,slow=8.9,SNR=3.8
TOLK Toolik Lake Re 68.57 23 P **P 09 49 53.3 +0.5**
TOLK IAmb IAmb 09 49 53.9
comp=Z,2.1nm,0.8s
KDAK Kodiak Island 69.05 35 P **P 09 49 56.6 +0.6**
SUA Susitna One 69.30 31 P **P 09 49 55.5 -2.1**
MDM Murphy Dome 69.75 27 P **P 09 49 59.8 -0.4**
MDM IAmb IAmb 09 50 01.1
comp=Z,3.8nm,1.0s
FINES FINESS Array B 71.92 330 P **P 09 50 13.6 +0.2**
comp=Z,2.4nm,0.8s,baz=66,slow=11,SNR=4.6
GLB Gilahina Butte 72.54 30 P **P 09 50 16.4 -0.8**
GLB IAmb IAmb 09 50 19.1
comp=Z,3.6nm,1.0s
K27K Chicken 72.56 27 P **P 09 50 16.3 -0.9**
EGAK Eagle 72.72 26 P **P 09 50 17.4 -0.7**
EGAK IAmb IAmb 09 50 18.8
comp=Z,2.9nm,1.1s
VRDI Verde Repeater 72.77 30 P **P 09 50 17.6 -1.1**
VRDI IAmb IAmb 09 50 19.7
comp=Z,5.1nm,1.2s
L27K Beaver Creek, 72.95 28 P **P 09 50 20.1 +0.5**
L27K IAmb IAmb 09 50 21.0
comp=Z,2.8nm,0.9s
BCAR Beaver Creek A 72.97 28 P **P 09 50 20.1 +0.3**
INK Inuvik 74.34 22 P **P 09 50 27.3 -0.3**
comp=Z,2.0nm,0.7s,baz=270,slow=3.5,SNR=4.7
INK Inuvik 74.34 22 P **P 09 50 26.7 -0.8**
INK IAmb IAmb 09 50 27.8
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 84.09 22 P **P 09 51 20.3 -0.7**
comp=Z,1.3nm,0.8s,baz=322,slow=4.5,SNR=3.7

*TUL **10** 09:58:56.7±1.1,36°.522N±0°.007×98°.47W±0°.05, h4km±7km, ML3.5,mb_Lg3.2/104(NEIC), Error ellipse: s-maj=5.6km s-min=1.1km az=90.0*
*NEIC **10** 09:58:57.7±1.6,36°.50N±0°.04×98°.41W±0°.04, h10km±7km, Error ellipse: s-maj=6.2km s-min=2.6km az=141.0*
*ANF **10** 09:58:57.5±1.0,36°.46N×98°.39W, h4km±7km, ML4.2/15, Error ellipse: s-maj=2.8km s-min=2.5km az=175.0*
*IDC **10** 09:58:57.8±1.2,36°.46N×98°.44W, h0km, mb1 3.7/3, mb1mx3.4/63, mbtmp3.5/3, ML2.8/3, Error ellipse: s-maj=17.0km s-min=12.3km az=148.0*
ISC 10 09:58:57.3±1.1,36°.52N±0°.03×98°.43W±0°.02, h6km±9km, n111,σ1°19/86, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.33**	**32**		**Pg**	**09 59 04.0**	**+0.1**
CROK	**Carrier**	**0.36**	**92**		**Pg**	**09 59 04.7**	**+0.4**
CROK				Sg	**Sg**	09 59 10.3	+1.2
U32A	**Winter Ranch,**	**0.48**	**253**	Pg	**Pg**	**09 59 05.8**	**-0.8**
U32A				Sg	**Sg**	**09 59 12.6**	**-0.4**
U32A	**Winter Ranch,** baz=75,SNR=187	**0.48**	**253**	P		09 59 05.8	
U32A	baz=75			S		09 59 12.5	
GC02	**Grant County #**	**0.56**	**54**		**Pg**	**09 59 08.3**	**+0.1**
GC02				Sg	**Sg**	**09 59 16.4**	**+0.9**
KAN10	**Anthony SW Sta**	**0.66**	**24**		**Pg**	**09 59 09.7**	**-0.3**
KAN05	**Bluff City Nor**	**0.74**	**37**		**Pg**	**09 59 11.3**	**-0.2**
KAN05				Sg	**Sg**	**09 59 21.7**	**+0.6**
KAN17	**Caldwell West**	**0.75**	**45**		**Pg**	**09 59 11.5**	**-0.1**
KAN17				Sg	**Sg**	**09 59 21.9**	**+0.5**
KAN08	**Anthony NE Sta**	**0.80**	**27**		**Pg**	**09 59 12.3**	**-0.3**
KAN08				Sg	**Sg**	**09 59 23.4**	**+0.5**
KAN12	**Harper NE Stat**	**0.85**	**24**		**Pg**	**09 59 13.2**	**-0.4**
KAN09	**Caldwell North**	**0.90**	**46**		**Pg**	**09 59 14.1**	**-0.4**
KAN09				Sg	**Sg**	**09 59 26.2**	**+0.1**
KAN13	**South Haven SW**	**0.91**	**57**		**Pg**	**09 59 14.4**	**-0.4**
KS20	**Mayfield South**	**1.00**	**44**		**Pg**	**09 59 15.9**	**-0.6**
KS20				Sg	**Sg**	**09 59 29.6**	**+0.2**
BLOK	**Blackwell**	**1.00**	**76**		**Pg**	**09 59 16.2**	**-0.4**
OK029	**Liberty Lake**	**1.07**	**132**		**Pg**	**09 59 17.4**	**-0.5**
BCOK	**Bluff Creek, N**	**1.09**	**142**		**Pg**	**09 59 17.5**	**-0.7**
OK025	**Westminster Rd**	**1.29**	**136**		**Pg**	**09 59 21.0**	**-1.0**
OKCFA	**Oklahoma City**	**1.36**	**144**		**Pn**	**09 59 22.1**	**-0.7**
OKCFA	**Oklahoma City** baz=325,SNR=35	**1.36**	**144**	P		09 59 22.1	
OKCFA	baz=325			S		09 59 40.7	
OKCSW	**OKLAHOMA CITY**	**1.37**	**144**		**Pn**	**09 59 22.3**	**-0.7**
OK031	**S. Brethren Rd**	**1.40**	**113**		**Pn**	**09 59 23.1**	**-0.3**
QUOK	**Quay**	**1.43**	**104**		**Pn**	**09 59 23.6**	**-0.2**
FNO	**Franklin**	**1.51**	**146**		**Pn**	**09 59 24.7**	**-0.2**
T35A	**Sooner Cattle**	**1.59**	**75**		**Pn**	**09 59 26.1**	**0.0**
T35B	**Sooner Cattle** baz=256,SNR=178	**1.59**	**75**	P		09 59 26.4	
T35B	baz=256			S		09 59 47.9	
WMOK	**Wichita Mounta** baz=9.4	**1.80**	**189**	P	**Pn**	**09 59 28.5**	**-0.5**
WMOK	baz=9.4			S	**Sn**	**09 59 52.7**	**+0.6**
WMOK	**Wichita Mounta**	**1.80**	**189**		**Pn**	**09 59 28.5**	**-0.5**
WMOK	**Wichita Mounta** baz=9.4,SNR=534	**1.80**	**189**	P		09 59 28.5	
WMOK	baz=9.4			S		09 59 52.7	
R32A	**Long Quarter,**	**1.91**	**353**		**Pn**	**09 59 31.1**	**+0.6**
R32A	**Long Quarter,** baz=173,SNR=356	**1.91**	**353**	P		09 59 30.9	
R32A	baz=173			S		09 59 56.8	
X34A	**Smith Ranch, M**	**1.98**	**166**		**Pn**	**09 59 32.2**	**+0.9**
TUL1	**Leonard** baz=286	**2.22**	**105**	P	**Pn**	**09 59 35.1**	**+0.4**
TUL1	baz=286			Sb	**Sb**	**10 00 06.6**	**+1.0**
TUL1	**Leonard** baz=286,SNR=87	**2.22**	**105**	P		09 59 35.1	
CBKS	**Cedar Bluff** baz=155	**2.52**	**336**	S	**Sb**	**10 00 13.9**	**-0.2**
CBKS	**Cedar Bluff**	**2.52**	**336**	Pn	**Pn**	**09 59 40.3**	**+1.5**
CBKS	**Cedar Bluff** baz=155	**2.52**	**336**	P		09 59 39.0	
CBKS	baz=155			S		10 00 14.1	
LOOK	**Love County**	**2.72**	**158**		**Pn**	**09 59 41.5**	**-0.1**
LOOK	comp=Z,51nm,0.8s			IAmb_Lg		10 00 29.4	
KSU1	**Kansas State U** baz=209	**2.95**	**29**	Sb	**Sb**	**10 00 30.1**	**+3.4**
KSU1	**Kansas State U**	**2.95**	**29**	Pn	**Pn**	**09 59 45.2**	**+0.4**
KSU1	**Kansas State U** baz=209	**2.95**	**29**	S		10 00 21.5	
AMTX	**Amarillo** baz=58	**3.11**	**239**	Pb	**Pb**	**09 59 53.1**	**0.0**
AMTX	baz=58			Sb	**Sb**	**10 00 33.5**	**+2.2**
AMTX	**Amarillo**	**3.11**	**239**	Pn	**Pn**	**09 59 47.1**	**0.0**
AMTX	comp=Z,70nm,0.8s			IAmb_Lg		10 00 38.6	
AMTX	**Amarillo** baz=58	**3.11**	**239**	S		10 00 26.7	
X37A	**Clayton**	**3.15**	**127**		**Pn**	**09 59 48.1**	**+0.7**
X37A	comp=Z,84nm,0.8s			IAmb_Lg		10 00 44.4	
X37A	**Clayton** baz=309,SNR=32	**3.15**	**127**	P		09 59 47.5	
U38A	**Gravette**	**3.26**	**90**		**Pn**	**09 59 49.7**	**+0.7**
U38A	comp=Z,51nm,1.0s			IAmb_Lg		10 00 47.9	
Z35A	**Perchaven, San**	**3.33**	**163**	Pn	**Pn**	**09 59 50.0**	**+0.1**
HHAR	**Hobbs**	**3.63**	**92**		**Pn**	**09 59 54.5**	**+0.4**
W39A	**Magazine** comp=Z,66nm,1.0s	**4.00**	**108**	IAmb_Lg		10 01 09.5	
W39A	**Magazine** baz=291	**4.00**	**108**	S		10 00 47.2	
ABTX	**Abilene, Hawle** baz=14	**4.01**	**195**	P	**Pn**	**09 59 59.2**	**-0.2**
ABTX	**Abilene, Hawle**	**4.01**	**195**	Pn	**Pn**	**09 59 59.2**	**-0.2**
ABTX	**Abilene, Hawle** baz=14,SNR=5.5	**4.01**	**195**	P		09 59 59.3	
KSCO	**Kaye Shedlock'**	**4.15**	**308**	Sb	**Sg**	**10 01 08.2**	**-2.5**

baz=126
KSCO Kaye Shedlock' 4.15 308 IAmb_Lg 10 01 15.5
comp=Z,72nm,0.7s
S39A Bolivar 4.25 72 Pn **Pn 10 00 02.7 +0.1**
S39A IAmb_Lg 10 01 16.4
comp=Z,47nm,0.8s
S39A Bolivar 4.25 72 P 10 00 02.3
baz=255,SNR=20
N33B J Bar K, Exete 4.28 10 P 10 00 02.3
baz=190,SNR=27
N33A J Bar K, Exete 4.28 10 Pn **Pn 10 00 02.5 -0.5**
N33A IAmb_Lg 10 01 19.2
comp=Z,54nm,0.9s
Z38A Mt. Pleasant 4.31 138 Pn **Pn 10 00 03.5 +0.1**
Z38A IAmb_Lg 10 01 25.1
comp=Z,44nm,0.7s
MSTX Muleshoe 4.37 236 Pb **Pb 10 00 13.9 -0.7**
MSTX Sb **Sb 10 01 12.5 +4.9**
baz=53
MSTX Muleshoe 4.37 236 IAmb_Lg 10 01 19.6
comp=Z,44nm,0.8s
MIAR Mount Ida 4.42 115 S **Sn 10 00 56.3 -0.5**
baz=298
MIAR Mount Ida 4.42 115 Pn **Pn 10 00 05.2 +0.3**
MIAR IAmb_Lg 10 01 30.5
comp=Z,48nm,1.0s
U40A Yellville 4.50 90 P **Pn 10 00 06.7 +0.7**
U40A S **Sn 10 00 58.5 -0.2**
baz=274
U40A Yellville 4.50 90 **Pn 10 00 06.0 0.0**
U40A IAmb_Lg 10 01 32.4
comp=Z,34nm,0.7s
U40A Yellville 4.50 90 P 10 00 05.7
baz=274,SNR=23
U40A P 10 00 05.7
baz=274,SNR=23
WHTX Lake Whitney, 4.59 170 P **Pn 10 00 07.3 0.0**
baz=350
WHTX Lake Whitney, 4.59 170 Pn **Pn 10 00 07.2 0.0**
WHTX Lake Whitney, 4.59 170 P 10 00 07.1
baz=350,SNR=12
T25A Trinidad 4.84 279 Sb **Sb 10 01 26.2 +5.0**
baz=96
T25A Trinidad 4.84 279 IAmb_Lg 10 01 31.4
comp=Z,51nm,0.8s
N35A Tabor 4.85 26 Pn **Pn 10 00 09.6 -1.3**
BGNE Belgrade 4.89 2 P **Pn 10 00 11.6 +0.2**
baz=182
BGNE Belgrade 4.89 2 **Pn 10 00 09.6 -1.8**
BGNE IAmb_Lg 10 01 39.7
comp=Z,64nm,0.9s
BGNE Belgrade 4.89 2 P 10 00 11.1
baz=182,SNR=9.9
P38A Dawn 4.95 50 IAmb_Lg 10 01 40.1
comp=Z,30nm,0.8s
MGMO Mountain Grove 4.98 81 **Pn 10 00 13.2 +0.6**
X40A Basin Creek Fa 4.99 112 IAmb_Lg 10 01 44.4
comp=Z,48nm,0.8s
237A Washetta, Mont 5.00 154 Pn **Pn 10 00 12.6 -0.4**
WHAR Wooly Hollow 5.13 102 Pn **Pn 10 00 13.8 -0.9**
WHAR IAmb_Lg 10 01 45.9
comp=Z,46nm,1.1s
FCAR Ozark Folk Cen 5.14 95 Pn **Pn 10 00 15.6 +0.8**
FCAR IAmb_Lg 10 01 42.6
comp=Z,34nm,0.8s
WLAR White Oak Lake 5.19 121 IAmb_Lg 10 01 48.0
comp=Z,29nm,0.8s
W41B Gary Mavity, V 5.20 103 S **Sn 10 01 14.7 -1.2**
baz=287
R40A Maddies Statio 5.21 68 **Pn 10 00 15.4 -0.4**
R40A IAmb_Lg 10 01 45.7
comp=Z,29nm,0.9s
R40A Maddies Statio 5.21 68 P 10 00 15.5
baz=252,SNR=15
OGNE Ogallala 5.24 329 P **Pn 10 00 18.1 +1.8**
baz=146
OGNE Ogallala 5.24 329 Pn **Pn 10 00 17.3 +1.0**
435B Jarrell 5.76 173 IAmb_Lg 10 02 13.9
comp=Z,26nm,0.7s
SDCO Great Sand Dun 5.78 284 Pn **Pn 10 00 24.9 +1.0**
P40A Paris 5.86 57 Pn **Pn 10 00 25.5 +0.8**
LCAR Lake Charles 5.89 92 **Pn 10 00 24.8 -0.3**
LCAR IAmb_Lg 10 02 05.8
comp=Z,26nm,1.2s
N38A Joes South For 5.89 42 Pn **Pn 10 00 26.8 +1.6**
CCM Cathedral Cave 5.93 73 IAmb_Lg 10 02 16.9
comp=Z,20nm,0.7s
CCAR Cane Creek 6.04 114 IAmb_Lg 10 02 20.5
comp=Z,44nm,1.0s
K31A O'Neill 6.10 358 IAmb_Lg 10 02 24.3
comp=Z,48nm,0.8s
PBMO Poplar Bluff 6.44 85 IAmb_Lg 10 02 32.7
comp=Z,28nm,0.8s
ISCO Idaho Springs 6.54 302 IAmb_Lg 10 02 33.1
comp=Z,26nm,0.8s
LPAR Lepanto 6.65 96 IAmb_Lg 10 02 28.5
comp=Z,41nm,0.7s
ANMO Albuquerque 6.72 259 Pg Pb 10 01 00.3 +5.7
comp=Z,0.6nm,0.3s,baz=76,slow=18,SNR=12
ANMO Lg Lg 10 02 26.8
comp=Z,1.1nm,0.3s,baz=335,slow=23,SNR=8.9
PHWY Pilot Hill 7.27 313 IAmb_Lg 10 03 07.0
comp=Z,19nm,0.8s
ECSD EROS Data Cent 7.34 10 Pn **Pn 10 00 43.3 -1.7**
ECSD IAmb_Lg 10 02 51.2
comp=Z,21nm,1.0s
Y22D IRIS PASSCAL I 7.36 253 IAmb_Lg 10 03 04.7
comp=Z,32nm,0.9s
S44A Carbondale 7.42 78 Pn **Pn 10 00 46.0 -0.2**
S44A IAmb_Lg 10 03 00.5
comp=Z,34nm,0.8s
SIUC Southern Illin 7.46 78 IAmb_Lg 10 02 55.5
comp=Z,30nm,0.8s
OXF Oxford 7.62 103 IAmb_Lg 10 03 08.1
comp=Z,28nm,1.1s
W45A Hickory Valley 7.63 98 IAmb_Lg 10 03 06.9
comp=Z,23nm,0.7s
L40A Anamosa 7.86 43 IAmb_Lg 10 03 07.7
comp=Z,33nm,1.0s
SUSD Miller 7.92 357 IAmb_Lg 10 03 21.0
comp=Z,17nm,0.8s
PV02 Paradox Valley 8.38 285 IAmb_Lg 10 03 33.5
comp=Z,14nm,1.3s
TX31 Lajitas Ar. Si 8.41 213 Pn **Pn 10 00 60.0 +0.1**
TXAR Lajitas Array 8.41 213 Pn **Pn 10 00 59.0 -0.8**
comp=Z,0.2nm,0.3s,baz=35,slow=11,SNR=14
TXAR Lg Lg 10 03 17.0
comp=Z,0.7nm,0.3s,baz=39,slow=22,SNR=3.8
OLIL Olney 8.49 72 IAmb_Lg 10 03 41.7
comp=Z,27nm,0.9s
PV11 David Mesa, Pa 8.50 285 IAmb_Lg 10 03 33.6
comp=Z,14nm,1.0s
RWWY Rawlins 8.56 310 IAmb_Lg 10 03 25.8
comp=Z,17nm,0.8s
USIN University of 8.70 77 IAmb_Lg 10 03 40.3
comp=Z,24nm,1.1s
RSSD Black Hills 8.71 332 IAmb_Lg 10 03 38.2
comp=Z,14nm,0.9s
K22A Casper 8.75 317 IAmb_Lg 10 03 47.7
comp=Z,30nm,1.2s
JFWS Jewell Farm 8.97 42 IAmb_Lg 10 03 46.6
comp=Z,24nm,0.7s
T47A Sharon Grove 9.10 84 IAmb_Lg 10 03 58.8
comp=Z,20nm,1.1s
P46A Rosedale 9.37 67 IAmb_Lg 10 04 07.6
comp=Z,22nm,0.8s
F33A 5 Mile Ranch, 9.45 9 IAmb_Lg 10 04 01.3
comp=Z,11nm,1.0s
SPMN Marine on St. 9.68 24 IAmb_Lg 10 04 10.7
comp=Z,14nm,0.9s
SFIN Lafayette 9.69 63 IAmb_Lg 10 04 03.0
comp=Z,16nm,0.8s
BLO Bloomington 9.78 71 IAmb_Lg 10 04 24.6
comp=Z,20nm,0.7s
WCI Wyandotte Cave 9.81 76 IAmb_Lg 10 04 26.0
comp=Z,13nm,0.8s
PDAR Pinedale Array 10.60 309 Pg Pn 10 02 13.7 +44
comp=Z,0.2nm,0.3s,baz=113,slow=14,SNR=4.0
PDAR Lg Lg 10 04 28.8
comp=Z,0.3nm,0.3s,baz=116,slow=30,SNR=4.3
TKL Tuckaleechee C 11.89 90 Pn **Pn 10 01 46.9 -0.5**
comp=Z,0.3nm,0.3s,baz=217,slow=9.0,SNR=4.8
TKL Lg Lg 10 05 07.2
comp=Z,0.3nm,0.3s,baz=188,slow=23,SNR=2.9
ULM Lac du Bonnet 13.85 7 Pn **Pn 10 02 11.3 -2.8**

comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=1.4

*JMA **10** 10:06:43.5±0.4,33°.95N×137°.19E,h364km±5km,M3.2*
*IDC **10** 10:06:45.1±1.7,33°.98N×137°.20E,h353km±29km,mb2.8/2,mb1 2.8/4,mb1mx2.6/52,mbtmp3.3/4,Error ellipse: s-maj=60.2km s-min=27.2km az=53.0*
ISC 10 10:06:44.8±1.1,33°.9N±0°.1×137°.16E±0°.08,h350km,n17,σ0§49/19,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.59	321	P	Pn	10 07 29.9	+0.7
JTNC	Tanabenakahech	1.29	265	P	Pn	10 07 32.0	+0.1
JTNC				eS	S	10 08 09.0	-0.6
JWY	Kouya	1.33	283	P	Pn	10 07 32.5	+0.4
JYTA	Yamagatataniai	1.69	348	P	Pn	10 07 34.4	+0.4
JWT	Wachi	1.98	313	P	Pn	10 07 36.0	+0.2
JAI	Aioi	2.25	267	P	Pn	10 07 37.9	0.0
JKG	Kaga	2.43	344	P	Pn	10 07 39.3	+0.1
JRY	Ryogami san	2.52	34	P	Pn	10 07 40.9	+0.9
JMN	Monobe	2.74	267	P	Pn	10 07 41.9	0.0
MAT	Matsushiro	2.74	18	S	S	10 08 27.2	-0.5
MJAR	Matsushiro Arr	2.74	18	P	Pn	10 07 42.1	+0.3
	0.1nm,0.3s,baz=181,slow=8.7,SNR=7.8						
JAG	Ashikaga	3.12	36	P	Pn	10 07 44.5	-0.6
BSO1	Boso 1	3.24	76	P	Pn	10 07 45.0	-0.7
BSO1				S	S	10 08 34.4	-0.5
JHS	Saijyo	3.50	289	P	Pn	10 07 48.9	+0.1
KSRS	Korea Array	8.29	298	P	Pn	10 08 42.7	+0.5
	0.2nm,0.3s,baz=106,slow=12,SNR=5.1						
KURBB	Kurchatov Arra	45.25	310	P	P	10 14 28.2	-0.2
	0.3nm,0.3s,baz=97,slow=6.3,SNR=2.0						
WRA	Warramunga Arr	53.64	183	P	P	10 15 31.7	+0.3
	0.3nm,0.5s,baz=359,slow=7.5,SNR=7.2						

IDC 10 10:45:33.6±8.1,8°.83S×157°.15E,h0km,mb3.5/3,mb1 3.7/3,mb1mx3.4/36,mbtmp3.5/3,Error ellipse: s-maj=241.9km s-min=50.8km az=115.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.66	241	P	P	10 50 56.9	+0.6
	0.7nm,0.8s,baz=68,slow=8.8,SNR=2.6						
ASAR	Alice Springs	26.68	234	P	P	10 51 13.8	-0.9
	0.9nm,1.0s,baz=53,slow=9.5,SNR=2.8						
MKAR	Makanchi Array	86.18	318	P	P	10 58 17.2	+0.2
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.5						

*JMA **10** 10:55:07.5±0.2,39°.86N×143°.51E,h17km,M4.0*
*IDC **10** 10:55:07.8±1.0,39°.70N×143°.26E,h0km,mb3.8/9,mb1 3.9/11,mb1mx3.7/35,mbtmp3.7/11,ML3.0/2,MS3.1/4,Ms1 3.1/4,ms1mx2.8/32,Error ellipse: s-maj=25.3km s-min=18.9km az=101.0*
*NIED **10** 10:55:07.6,39°.86N×143°.51E,h17km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}0.67; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.65; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.28; $M_{r\phi}$0.57; Fault plane solution: $M_0$1.01000×10^15^ NP1:ϕ_s32.00000°, δ68.00000°,λ100.00000°. NP2:ϕ_s188.00000°,δ24.00000°, λ67.00000°.*
*NEIC **10** 10:55:12.7±2.9,39°.79N±0°.06×143°.2E±0°.1,h31km±6km, mb4.2/9 Error ellipse: s-maj=12.9km s-min=8.0km az=108.0*
ISC 10 10:55:08.6±0.8,39°.79N±0°.04×143°.43E±0°.07,h6km,n56,σ1§48/55,mb4.0/14,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.22	278	P	Pg	10 55 30.4	-1.5
MIYJ	Miyakonagasawa	1.26	261	P	Pg	10 55 31.6	-1.2
JKEN	Kujiedanarisaw	1.39	288	P	Pn	10 55 32.5	-2.0
JANG	Nango	1.58	292	P	Pn	10 55 35.5	-1.7
JOM	Ohasama	1.68	260	P	Pn	10 55 38.3	-0.3
JMK	Ichinoseki	1.91	245	P	Pn	10 55 41.1	-0.6
JTM	Tenmabayashi	2.06	300	P	Pn	10 55 43.4	-0.4
JTM				S	Sn	10 56 09.4	-0.5
JTM	Tenmabayashi	2.06	300	Pn	Pn	10 55 43.6	-0.2
JIO	Ouri	2.10	231	P	Pn	10 55 43.2	-1.1
JAH	Hinai	2.18	281	P	Pn	10 55 45.4	-0.1
JRG	Rokugo	2.20	261	P	Pn	10 55 45.4	-0.3
ERM	Erimo	2.23	355	Pn	Pn	10 55 46.5	+0.3
JOT	Ohata	2.41	312	P	Pn	10 55 48.2	-0.4
JYK	Kaneyama	2.54	251	P	Pn	10 55 50.3	0.0
JNBK	Urakawa-nobuka	2.54	349	P	Pn	10 55 50.4	0.0
JKB	Kayabe	2.77	320	P	Pn	10 55 54.8	+1.2
JMM	Marumori	2.82	228	Pn	Pn	10 55 53.0	-1.2
JCH	Churui	2.82	359	P	Pn	10 55 53.8	-0.5
JCH				S	Sn	10 56 26.1	-2.5
JEW	Eniwo	3.39	335	Pn	Pn	10 56 01.2	-0.9
JKA	Kamikawa-asahi	4.37	352		Pn	10 56 16.2	+0.7
JKA					Sn	10 57 09.1	+2.5
ASAJ	Asahikawa	4.37	352	Pn	Pn	10 56 16.2	+0.7
	0.9nm,0.3s,baz=207,slow=16,SNR=14						
ASAJ				Sn	Sn	10 57 09.1	+2.4
	1.3nm,0.3s,baz=82,slow=23,SNR=2.1						
JYT	Yasato	4.38	217	Pn	Pn	10 56 13.8	-1.9
JSD	Sado	4.40	248		Pn	10 56 14.0	-1.9
MJAR	Matsushiro Arr	5.24	233	Pn	Pn	10 56 25.8	-1.8
	0.3nm,0.3s,baz=38,slow=12,SNR=28						
MJAR				LR	LR	10 58 41.7	
	comp=Z,107nm,20.3s,baz=40,slow=42						
MJAR	Matsushiro Arr	5.24	233		Pn	10 56 27.5	0.0
MAJO	Matsushiro	5.24	233		Pn	10 56 28.3	+0.8
MAT	Matsushiro	5.24	233	P	Pn	10 56 27.8	+0.3
MAT				eS	Sn	10 57 33.9	+5.7
MJB9	Matsu-Tunnel	5.24	233	Pn	Pn	10 56 27.6	+0.1
JGF	Kuroka	6.38	231		Pn	10 56 44.0	+0.9
INU	Inuyama	6.75	231	Pn	Pn	10 56 49.1	+0.8
JWT	Wachi	7.80	237	Pn	Pn	10 57 04.6	+1.9
USRK	Ussuriysk Ar.	9.59	301	LR	LR	11 00 49.1	
	comp=Z,126nm,18.6s,baz=148,slow=36						
KSRS	Korea Array	12.35	264	Pn	Pn	10 58 07.8	+2.8
	0.3nm,0.3s,baz=73,slow=14,SNR=2.8						
KSRS				LR	LR	11 02 41.7	
	comp=Z,94nm,19.2s,baz=108,slow=37						
SEY	Seymchan	23.79	10	P	P	11 00 23.4	+1.6
	1.4nm,0.7s,baz=180,slow=11,SNR=4.0						
SONM	Songino Array	27.70	299	P	P	11 00 57.3	-0.3
	1.4nm,0.7s,baz=92,slow=8.3,SNR=6.4						
SONM	Songino Array	27.70	299	IAmb	IAmb	11 00 57.7	
	comp=Z,1.9nm,1.0s						
H11N2	WAKE ISLAND Hy	28.39	128	T	T	11 31 57.4	
	baz=318,slow=75,SNR=38						
H11N1	WAKE ISLAND Hy	28.40	128	T	T	11 31 58.7	
	baz=318,slow=75,SNR=26						
H11N3	WAKE ISLAND Hy	28.41	128	T	T	11 31 53.3	
	baz=318,slow=75,SNR=24						
ZAA0	Zalesovo Array	41.29	310	P	P	11 02 53.9	-0.7
ZAA0				IAmb	IAmb	11 02 54.2	
	comp=Z,2.4nm,0.6s						
ZALV	Zalesovo Beam	41.29	310	P	P	11 02 54.1	-0.5
	comp=Z,2.2nm,0.4s,baz=84,slow=6.7,SNR=7.0						
ZALV	Zalesovo Beam	41.29	310	P	P	11 02 53.6	-1.0
MK31	Makanchi Array	44.05	300	P	P	11 03 16.5	-0.7
MK31				IAmb	IAmb	11 03 18.3	
	comp=Z,4.5nm,1.2s						
MKAR	Makanchi Array	44.05	300	P	P	11 03 16.2	-0.9
	comp=Z,1.4nm,0.8s,baz=90,slow=11,SNR=7.4						
MKAR				LR	LR	11 21 46.6	
	comp=Z,37nm,19.2s,baz=102,slow=36						
MKAR	Makanchi Array	44.05	300	P	P	11 03 16.1	-1.1
ILAR	Eielson Array	46.32	34	P	P	11 03 35.6	+0.7
	comp=Z,0.3nm,0.7s,baz=255,slow=6.4,SNR=4.9						
ABKAR	Akbulak array	57.40	309	P	P	11 04 57.3	-0.5
ABKAR				IAmb	IAmb	11 04 57.7	
	comp=Z,1.6nm,0.7s						
WB0	Warramunga Arr	59.84	190	P	P	11 05 13.0	-2.0
WR0	Warramunga Arr	60.02	190	P	P	11 05 15.7	-0.4
WB2	Warramunga Arr	60.02	190	P	P	11 05 14.9	-1.3
WB2				IAmb	IAmb	11 05 27.6	
	comp=Z,2.9nm,0.9s						
WRA	Warramunga Arr	60.02	190	P	P	11 05 14.8	-1.4
	comp=Z,0.5nm,0.7s,baz=10,slow=6.8,SNR=2.4						
AS31	Alice Springs	63.75	190	P	P	11 05 39.5	-1.8
AS31				IAmb	IAmb	11 05 42.7	
	comp=Z,2.0nm,1.3s						
ASAR	Alice Springs	63.75	190	P	P	11 05 40.8	-0.5
	comp=Z,0.4nm,0.7s,baz=358,slow=4.6,SNR=4.2						
ASAR	Alice Springs	63.75	190	P	P	11 05 37.7	-3.5
KBZ	Khabaz	70.31	311	P	P	11 06 22.9	+0.1
	comp=Z,1.8nm,0.7s,baz=45,slow=5.2,SNR=4.3						
NVAR	Mina Array Bea	72.09	55	P	P	11 06 35.7	+1.6
	comp=Z,0.2nm,0.5s,baz=303,slow=8.2,SNR=2.6						

*TUL **10** 11:14:56.4±1.1,36°.85N±0°.01×97°.69W±0°.01,h4km±6km, ML2.6,mb_Lg2.3/15(NEIC),Error ellipse: s-maj=1.5km s-min=1.3km az=180.0*
NEIC 10 11:14:56.7±0.8,36°.83N±0°.01×97°.68W±0°.01,h6km±5km,Error ellipse: s-maj=1.7km s-min=1.5km az=150.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.14	277	Pg	Pg	11 14 59.8	+0.1
GC02				Sg	Sg	11 15 02.0	+0.3
KAN17	Caldwell West	0.22	342		Pg	11 15 01.1	+0.1
KAN17				Sg	Sg	11 15 04.2	+0.2
KAN13	South Haven SW	0.24	42		Pg	11 15 01.6	+0.2
KAN13				Sg	Sg	11 15 05.0	+0.4
KAN09	Caldwell North	0.30	9		Pg	11 15 02.7	+0.1
KAN09				Sg	Sg	11 15 07.0	+0.3
KAN05	Bluff City Nor	0.31	331		Pg	11 15 02.6	-0.2
BLOK	Blackwell	0.38	101		Pg	11 15 04.2	+0.2
BLOK				Sg	Sg	11 15 09.7	+0.7
KS20	Mayfield South	0.41	14	Pg	Pg	11 15 03.9	-0.7
KS20				Sg	Sg	11 15 10.4	+0.4
CROK	Carrier	0.41	217		Pg	11 15 04.8	+0.2
CROK				Sg	Sg	11 15 10.4	+0.4
OK032	Salt Plains WL	0.43	266		Pg	11 15 04.5	-0.4
OK032				Sg	Sg	11 15 10.6	+0.1
KAN10	Anthony SW Sta	0.44	311		Pg	11 15 05.2	0.0
KAN10				Sg	Sg	11 15 11.1	+0.1
KAN08	Anthony NE Sta	0.46	329		Pg	11 15 05.5	0.0
KAN08				Sg	Sg	11 15 11.3	-0.1
KAN12	Harper NE Stat	0.53	331		Pg	11 15 06.8	-0.1
KAN12				Sg	Sg	11 15 12.4	-1.4
T35A	Sooner Cattle	0.94	85		Pg	11 15 14.4	-0.3
T35A				Sg	Sg	11 15 26.7	-0.2
QUOK	Quay	1.02	130		Pg	11 15 15.8	-0.5
OK029	Liberty Lake	1.05	170	Pg	Pg	11 15 16.8	0.0
OK031	S. Brethren Rd	1.11	142		Pg	11 15 17.6	-0.4
U32A	Winter Ranch,	1.16	247	Pg	Pg	11 15 18.3	-0.5
BCOK	Bluff Creek, N	1.18	177		Pg	11 15 18.8	-0.4
OK025	Westminster Rd	1.28	167		Pn	11 15 20.8	-0.3
FNO	Franklin	1.59	172	Pn	Pn	11 15 25.8	+0.5
X34A	Smith Ranch, M	2.23	183	Pn	Pn	11 15 34.4	+0.3
WMOK	Wichita Mounta	2.28	203	Pn	Pn	11 15 35.3	+0.5
CBKS	Cedar Bluff	2.56	321	Pn	Pn	11 15 38.2	-0.5
U38A	Gravette	2.68	97	Pn	Pn	11 15 40.8	+0.5
X37A	Clayton	2.92	139	Pn	Pn	11 15 44.7	+1.0
X37A				IAmb_Lg		11 16 34.4	
	comp=Z,6.0nm,0.7s						
HHAR	Hobbs	3.06	99	Pn	Pn	11 15 46.6	+1.1
W39A	Magazine	3.56	116	IAmb_Lg		11 16 56.7	
	comp=Z,9.4nm,0.8s						
S39A	Bolivar	3.58	75	Pn	Pn	11 15 52.9	+0.2
S39A				IAmb_Lg		11 16 55.3	
	comp=Z,4.9nm,0.8s						
U40A	Yellville	3.91	96	Pn	Pn	11 15 57.3	+0.1
U40A				IAmb_Lg		11 17 00.4	
	comp=Z,11nm,0.7s						
FCAR	Ozark Folk Cen	4.58	100	IAmb_Lg		11 17 22.8	
	comp=Z,5.7nm,1.0s						
L34A	Svendsen Farm,	5.22	11	IAmb_Lg		11 17 46.9	
	comp=Z,8.1nm,0.7s						
OGNE	Ogallala	5.33	322	Pn	Pn	11 16 15.0	-1.8
PBMO	Poplar Bluff	5.82	88	IAmb_Lg		11 18 03.9	
	comp=Z,6.2nm,0.8s						
JCT	Junction City	6.58	196	IAmb_Lg		11 18 44.4	
	comp=Z,2.8nm,0.8s						
ISCO	Idaho Springs	6.90	298	IAmb_Lg		11 18 49.7	
	comp=Z,3.4nm,1.3s						

NNC 10 11:41:52.9±6.4,37°.54N×78°.21E,h0km,mb4.2,mpv3.8,2C,Error ellipse: s-maj=73.7km s-min=42.3km az=92.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.52	2	Pg	Pg	11 43 35.7	-2.8
	7.2nm,0.6s						
SATY				Lg	Lg	11 44 53.2	
	31nm,1.0s						
TNSS	Tian-Shan	5.58	350	Pg	Pb	11 43 33.9	+2.5
	6.3nm,0.4s						
TNSS				Lg	Lg	11 44 49.4	
	21nm,0.7s						
UZB	Uzynbulak	5.64	6	Pg	Pb	11 43 32.6	+0.4
	3.5nm,0.4s						
UZB				Lg	Lg	11 44 47.2	
	12nm,1.1s						
MDOK	Medeo	5.69	351	Pg	Pb	11 43 36.9	+3.8
	5.8nm,0.5s						
MDOK				Lg	Lg	11 44 54.5	
	15nm,1.3s						
SHLS	Shalkode	5.69	9	Pg	Pg	11 43 39.1	-2.9
	7.4nm,0.4s						
SHLS				Lg	Lg	11 44 58.4	
	30nm,0.6s						
PDGK	Podgornoye	5.87	9	Pg	Pb	11 43 39.1	+3.0
	2.7nm,0.5s						
PDGK				Lg	Lg	11 44 58.4	
	7.3nm,0.9s						
PDGK	Podgornoye	5.87	9	⇑Pg	Pb	11 43 40.1	+4.0
	5.3nm,0.6s						
PDGK				⇑Lg	Lg	11 44 56.5	
	24nm,0.9s						

*IDC **10** 11:45:11.1±4.3,4°.53S×129°.45E,h95km±50km,mb3.6/4,mb1 4.0/7,mb1mx3.6/35,mbtmp4.2/7,Error ellipse: s-maj=69.4km s-min=17.1km az=74.0*
*NEIC **10** 11:45:11.5±1.4,4°.50S±0°.07×129°.4E±0°.1,h99km±12km, mb4.1/11,Error ellipse: s-maj=18.0km s-min=10.2km az=85.0*
*DJA **10** 11:45:13.3±0.4,4°.S±4°.×13°.0E±°.,h136km±5km,M4.2/9,mb4.3/1,MLv4.2/9*
ISC 10 11:45:13.4±0.7,4°.49S±0°.06×129°.69E±0°.06,h150km,n33,σ2§74/35,mb3.9/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.21	98	P	Pn	11 45 33.5	-0.1
BNDI				S	Sn	11 45 48.2	-0.8
MSAI	Masohi	1.37	326	P	Pn	11 45 40.0	-1.6
MSAI				S	Sn	11 45 58.5	-4.7
NLAI	Namlea	2.87	296	P	Pn	11 46 00.8	+1.7
FAKI	Fak Fak	2.99	59	Pn	Pn	11 46 01.0	+0.4
FAKI	Fak Fak	2.99	59	P	Pn	11 46 01.1	+0.4
SAUI	Saumlaki	3.82	155	Pn	Pn	11 46 09.1	-2.2
SIJI	Sorong	3.93	24	P	Pn	11 46 11.0	-1.7
	23nm,0.3s,baz=196,slow=23,SNR=214						
SIJI				S	Sn	11 46 53.2	-5.7
	42nm,0.3s,baz=54,slow=22,SNR=17						
SWI	Sorong	3.93	24	P	Pn	11 46 12.0	-0.7
KMPI	Kaimana, Papua	4.08	78	P	Pn	11 46 14.7	0.0
SANI	Sanana	4.42	303	P	Pn	11 46 17.8	-1.4
TNTI	Ternate	5.72	336	Pn	Pn	11 46 31.9	-4.5
MTN	Manton Dam	8.42	170	Pn	Pn	11 47 06.5	-5.9
KNRA	Kununurra	11.15	185	Pn	Pn	11 47 47.2	-1.4
WB0	Warramunga Arr	15.86	164	Pn	Pn	11 48 48.0	-0.5
WB0				IAmb	IAmb	11 48 54.9	
	comp=Z,17nm,1.4s						
WRA	Warramunga Arr	16.01	164	P	Pn	11 48 49.6	-0.7
	comp=Z,1.4nm,0.3s,baz=337,slow=12,SNR=97						
WRA				S	S	11 51 39.7	-9.0
	comp=Z,1.0nm,0.3s,baz=334,slow=21,SNR=6.3						
WRA	Warramunga Arr	16.01	164		Pn	11 48 48.4	-1.9
WB2	Warramunga Arr	16.01	164	Pn	Pn	11 48 49.5	-0.8
WB2				IAmb	IAmb	11 48 55.5	
	comp=Z,9.2nm,1.1s						
WR0	Warramunga Arr	16.08	163	Pn	Pn	11 48 50.8	-0.5
WR0				IAmb	IAmb	11 49 02.7	
	comp=Z,13nm,1.4s						
PSA00	Pilbara Seismi	19.48	209	P	P	11 49 29.2	+0.4
PSA00				IAmb	IAmb	11 49 49.0	
	comp=Z,40nm,1.4s						
AS31	Alice Springs	19.49	168	P	Pn	11 49 31.6	-0.2
AS31				IAmb	IAmb	11 49 34.1	
	comp=Z,8.7nm,0.6s						
ASAR	Alice Springs	19.49	168	P	Pn	11 49 31.5	-0.2
	comp=Z,4.3nm,0.3s,baz=345,slow=10,SNR=258						
ASAR	Alice Springs	19.49	168	P	Pn	11 49 31.9	+0.2
STKA	Stephens Creek	29.44	159	P	P	11 51 06.4	+3.4
	comp=Z,0.9nm,0.4s,baz=319,slow=9.9,SNR=5.1						
STKA	Stephens Creek	29.44	159	P	P	11 51 06.2	+3.2
CMAR	Chiang Mai Arr	37.93	308	P	P	11 52 18.7	+2.2
	comp=Z,0.9nm,0.4s,baz=131,slow=6.7,SNR=4.5						
SONM	Songino Array	55.98	341	P	P	11 54 40.8	+4.6
	comp=Z,0.3nm,0.4s,baz=142,slow=3.5,SNR=3.6						
SONM	Songino Array	55.98	341	P	P	11 54 39.2	+3.0
SONM				IAmb	IAmb	11 54 42.1	
	comp=Z,2.2nm,1.2s						
MK31	Makanchi Array	65.98	326	P	P	11 55 45.7	+2.1
MKAR	Makanchi Array	65.98	326	P	P	11 55 45.6	+2.0
	comp=Z,0.8nm,0.4s,baz=112,slow=8.4,SNR=9.8						
MKAR	Makanchi Array	65.98	326	P	P	11 55 45.8	+2.2
MAKZ	Makanchi	66.16	326	P	P	11 55 46.4	+1.7
ZAA0	Zalesovo Array	69.22	334	P	P	11 56 06.0	+2.2
ZAA0				IAmb	IAmb	11 56 34.2	
	comp=Z,1.3nm,0.6s						
ZALV	Zalesovo Beam	69.22	334	P	P	11 56 05.9	+2.2

*INET **10** 11:46:04.3,8°.55N×83°.33W,h15km,MW4.5*
*IDC **10** 11:46:06.0±0.8,8°.62N×83°.07W,h0km,mb4.3/13,mb1 4.5/16,mb1mx4.4/30,mbtmp4.3/16,ML4.4/3,MS3.4/12,Ms1 3.4/12,ms1mx3.2/36,Error ellipse: s-maj=31.3km s-min=12.3km az=37.0*
*UPA **10** 11:46:07.5±1.0,8°.49N×83°.09W,h16km±2km,MW4.6,Fault plane solution: NP1:ϕ_s77.20000°,δ61.98000°, λ-11.17000°.*
*UCR **10** 11:46:08.2±1.9,8°.49N×83°.09W,h10km,MD3.8,MW4.8,mb4.6(NEIC),Fault plane solution: NP1:ϕ_s293.82000°, δ46.92000°,λ69.25000°.*
*NEIC **10** 11:46:09.6±1.9,8°.63N±0°.05×83°.12W±0°.05,h11km±4km, mb4.6/208,Md5.0(UCR),Error ellipse: s-maj=9.3km s-min=4.9km az=47.0*
ISC 10 11:46:08.6±0.8,8°.51N±0°.03×83°.10W±0°.02,h15km±5km,n466,σ1§04/461,mb4.6/104,MS3.4/9,29C-37D,Fault plane solution: NP1:ϕ_s131.72000°,δ46.27544°, λ86.36146°. NP2:ϕ_s316.97644°,δ43.84518°,λ93.79613°. Principal axes: T Plg87.1032°, Azm339.1032°; N Plg2.6286°, Azm134.2367°; P Plg1.2164°, Azm224.2926°; Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	Puerto Jimnez	0.20	276	⇑*iP*	Pg	11 46 12.2	-0.9
PTJ1				*eS*	Sg	11 46 16.6	+0.3
PTJ1	Puerto Jimnez	0.20	276	⇑*iP*	Pg	11 46 12.3	-0.9
PTJ1				*eS*	Sg	11 46 16.9	+0.7
CDITO	Canoas	0.23	75	⇓*iP*	Pg	11 46 13.1	-0.7
CDITO				*eS*	Sg	11 46 16.9	-0.4
CDITO	Canoas	0.23	75	Pg	Pg	11 46 13.0	-0.7
SBAR3	San Bartolo, C	0.29	132	⇑*iP*	Pg	11 46 13.4	-1.4
SBAR3				*eS*	Sg	11 46 18.7	-0.2
EDSV	San Vito	0.33	23	*i* PG	Pb	11 46 15.7	-0.7
EDSV				⇓*eP*	Pg	11 46 15.9	+0.4
BRU2	Volcan	0.49	56	⇓*iP*	Pb	11 46 18.2	-1.0
BRU2				*eS*	Sb	11 46 26.1	-0.1
BRU2	Volcan	0.49	56	⇓*iP*	Pb	11 46 18.2	-1.0
BRU2				*eS*	Sb	11 46 26.5	+0.2
LPLA	Las Palmas La	0.52	10	*i* P	Pb	11 46 18.7	-0.9
EDPN	Palmar Norte	0.57	322	*i* P	Pg	11 46 18.7	-1.1
EDPN				*i* S	Sb	11 46 27.7	-0.5
BAGA3	Bagala, Chiriq	0.57	95	⇓*iP*	Pg	11 46 18.8	-1.1
BC3P	Paso Ancho	0.57	58	⇓*iP*	Pg	11 46 19.2	-0.7
BCO2	Palmira	0.60	70	⇓*iP*	Pg	11 46 19.7	-0.9
BCO2				*eS*	Sg	11 46 28.7	+0.1
DVD	David	0.65	97	⇑*iP*	Pg	11 46 19.6	-1.7
DVD				*eS*	Sg	11 46 29.2	-0.8
EDBA	Buenos Aires	0.67	345	*i* P	Pb	11 46 21.3	-0.8
PEDE3	Pedregal, Chir	0.69	101	⇓*iP*	Pg	11 46 20.0	-2.0
LNBQ3	Los Naranjos,	0.71	67	⇓*iP*	Pg	11 46 21.0	-1.5
DRK0	Durika	0.76	349	⇓*iP*	Pg	11 46 22.5	-0.9
DRK0				*eS*	Sb	11 46 35.0	+1.1
DRK0	Durika	0.76	349	⇓*iP*	Pg	11 46 22.4	-0.9
DRK0	Durika	0.76	349	Pg	Pg	11 46 22.5	-0.9
SRBA	San Rafael, Bu	0.76	340		Pg	11 46 22.4	-1.0
PSOM3	Paja de Sombre	0.79	78	⇓*iP*	Pg	11 46 22.1	-1.9
PSOM3				*eS*	Sg	11 46 33.7	-0.7
GUAL3	Gualaca, Chiri	0.80	89	⇓*iP*	Pg	11 46 22.1	-2.1
PEZE	Perez Zeledon,	1.03	327	⇓*eP*	Pg	11 46 27.0	-1.6
PEZE	Perez Zeledon,	1.03	327		Pg	11 46 26.7	-1.9
CHGR2	Aguacate	1.04	66	⇓*iP*	Pg	11 46 26.2	-2.5
CHGR2				*eS*	Sg	11 46 39.6	-2.7
CNI2	El Empalme, Bo	1.10	35	⇓*iP*	Pg	11 46 27.8	-2.1
CNI2				*eS*	Sb	11 46 44.3	+0.8
RGM0	Gandoca	1.18	25		Pn	11 46 31.0	+0.4
CDM	Cerro de Muert	1.22	328	⇓*eP*	Pg	11 46 29.8	-2.5
MRVA	Moravia de Chi	1.34	346	*eP*	Pn	11 46 32.0	-1.1
NANC3	Nancito, Chiri	1.38	101	⇑*eP*	Pn	11 46 30.6	-2.8
RIMA	Rio Macho	1.45	329	⇓*iP*	Pn	11 46 33.4	-1.2
RIMA	Rio Macho	1.45	329		Pn	11 46 33.1	-1.6
LCR2	La Lucha 2	1.51	324	*eP*	Pn	11 46 34.4	-1.0
BATAN	Batan	1.60	350	Pn	Pn	11 46 36.4	0.0
OCM	Ochomogo	1.61	328	⇓*eP*	Pn	11 46 36.0	-0.8
CVTR	Volcan Turrial	1.63	337	⇓*eP*	Pn	11 46 36.9	-0.3
CVTR	Volcan Tur

GUY2C **Guyana, Caldas** 8.35 113 *eP* Pn 11 48 12.0 +2.3
MTO3 **Montecristo** 8.47 314 Pn 11 48 10.9 -0.2
ESQI **Esquipulas** 8.57 315 Pn 11 48 12.3 0.0
ANIL **Santa Ana** 8.63 117 *eP* Pn 11 48 17.7 +4.3
BBAC **Balboa, Cauca** 8.69 138 *eP* Pn 11 48 16.2 +2.0
CRUC **La Cruz** 9.23 138 *eP* Pn 11 48 24.8 +3.1
GCUF **Volcan Galeras** 9.23 141 *eP* Pn 11 48 24.8 +2.9
OTAV **Otavalo** 9.44 150 Pn 11 48 27.2 +2.6
FLOC **Florencia** 10.12 132 Pn Pn 11 48 36.8 +3.2
RUSC **La Rusia** 10.28 104 Pn Pn 11 48 38.8 +2.7
RTAL **Retalhuleu** 10.32 306 Pn Pn 11 48 35.2 -1.1
HUEH **Huehuetenango** 10.64 310 Pn Pn 11 48 41.2 +0.3
PETF **Flores** 10.64 322 Pn Pn 11 48 42.7 +2.0
LGNH **Logne** 14.24 45 Pn Pn 11 49 31.2 +1.3
CMIG **Matias Romero** 14.30 308 Pn Pn 11 49 31.4 +0.7
1.9nm,0.3s,baz=270,slow=23,SNR=12
SDDR **Presa de Saban** 15.48 47 Pn 11 49 46.7 0.0
SDDR IAmb IAmb 11 49 54.1
comp=Z,21nm,0.8s
BANI **BANI** 15.80 50 Pn Pn 11 49 50.9 0.0
ATAH **Atahualpa** 16.24 163 Pn P 11 50 02.9 +3.0
comp=Z,0.3nm,0.3s,baz=9.2,slow=7.3,SNR=4.0
ATAH LR LR 11 55 31.8
comp=Z,263nm,19.6s,baz=333,slow=35
TLIG **Tlapa** 17.53 302 Pn Pn 11 50 11.3 -1.6
MLPR **Magueyes Islan** 18.23 57 Pn 11 50 21.3 0.0
MLPR IAmb IAmb 11 50 25.3
comp=Z,48nm,1.1s
PCRV **Puerto La Cruz** 18.30 83 P P 11 50 22.8 +0.4
comp=Z,0.8nm,0.3s,baz=295,slow=2.8,SNR=4.8
PLCV **Puerto La Cruz** 18.34 83 P Pn 11 50 22.8 0.0
ICMP **Isla Caja de M** 18.62 58 P P 11 50 25.3 -0.4
OBIP **Obispado Ponce** 18.62 58 P P 11 50 25.7 -0.2
OBIP IAmb IAmb 11 50 28.8
comp=Z,30nm,0.8s
AOPR **Arecibo Observ** 18.65 57 P P 11 50 24.9 -1.2
AOPR IAmb IAmb 11 50 32.3
comp=Z,27nm,0.8s
SJG **San Juan** 19.04 58 P Pn 11 50 32.6 +1.4
comp=Z,2.7nm,0.3s,baz=238,slow=7.6,SNR=12
SJG LR LR 11 58 08.5
comp=Z,103nm,21.1s,baz=248,slow=38
SJG **San Juan** 19.04 58 P Pn 11 50 32.1 +0.9
SJG IAmb IAmb 11 50 35.5
comp=Z,28nm,0.8s
PDPR **Patillas Dam,** 19.11 59 P Pn 11 50 33.1 +1.2
GCPR **Guaynabo City** 19.19 58 P Pn 11 50 33.1 +0.1
GCPR IAmb IAmb 11 50 37.6
comp=Z,45nm,0.8s
HUMP **Col San Antoni** 19.31 59 P Pn 11 50 34.0 -0.4
HUMP IAmb IAmb 11 50 36.1
comp=Z,26nm,0.8s
MTP **Monte Pirata** 19.54 59 P P 11 50 36.4 +0.5
MTP IAmb IAmb 11 50 38.6
comp=Z,32nm,0.8s
CUPR **Culebra, Puert** 19.86 59 P P 11 50 39.1 -0.3
CDVI **St. Croix** 20.06 61 P P 11 50 41.8 +0.3
STVI **Saint Thomas** 20.16 59 P P 11 50 43.2 +0.6
STVI IAmb IAmb 11 50 49.1
comp=Z,24nm,0.8s
656A **Willston** 20.75 1 P P 11 50 49.4 +0.4
656A IAmb IAmb 11 50 55.0
comp=Z,73nm,1.4s
NNA **Nana** 21.30 163 P P 11 50 59.0 +4.0
comp=Z,13nm,0.8s,baz=356,slow=11,SNR=4.5
NNA **Nana** 21.30 163 IAmb IAmb 11 51 01.5
comp=Z,24nm,1.1s
553A **Crawfordville** 21.60 357 P P 11 50 59.3 +1.2
553A IAmb IAmb 11 51 04.7
comp=Z,39nm,1.1s
BRAL **Brewton** 22.84 351 P P 11 51 12.0 +0.6
baz=170
352A **Blakely** 22.91 356 P P 11 51 11.7 -0.4
352A IAmb IAmb 11 51 15.5
comp=Z,23nm,1.1s
255A **Hazlehurst** 23.30 1 P P 11 51 15.6 -0.5
ZAIG **Zacatecas** 23.45 309 P P 11 51 18.4 +0.4
ZAIG IAmb IAmb 11 51 22.7
comp=Z,27nm,1.7s
250A **Grady** 23.53 353 P P 11 51 20.1 +1.7
344A **Westbrook Farm** 23.91 344 P P 11 51 23.2 +1.2
154A **Montrose** 23.98 360 P P 11 51 22.5 -0.2
152A **Waverly Hall** 24.08 357 P P 11 51 24.3 +0.7
152A IAmb IAmb 11 51 26.8
comp=Z,18nm,0.8s
342A **Flagon Creek P** 24.32 341 P P 11 51 26.6 +0.8
VBMS **Vicksburg** 24.57 345 P P 11 51 28.2 +0.1
146A **Union** 24.63 348 P P 11 51 30.1 +1.5
LRAL **Lakeview Retre** 24.67 352 P P 11 51 29.4 +0.4
baz=171,SNR=7.5
LRAL **Lakeview Retre** 24.67 352 P P 11 51 29.8 +0.8
LRAL IAmb IAmb 11 51 32.6
comp=Z,41nm,1.5s
GOGA **Godfrey** 24.78 359 P P 11 51 30.5 +0.5
baz=179,SNR=15
GOGA **Godfrey** 24.78 359 P P 11 51 30.6 +0.5
PTGA **Pitinga** 24.82 111 P P 11 51 30.4 -0.2
comp=Z,1.6nm,0.4s,baz=303,slow=17,SNR=5.0
PTGA LR LR 12 02 28.6
comp=Z,93nm,18.6s,baz=339,slow=40
833A **Chaparral WMA,** 24.98 324 P P 11 51 31.9 0.0
baz=139
Z47A **Carrollton** 24.99 350 P P 11 51 31.6 -0.2
Y52A **Lilburn** 25.24 358 P P 11 51 36.0 +1.8
Y49A **Blount Mountai** 25.41 354 P P 11 51 36.0 +0.3
Y49A IAmb IAmb 11 51 38.8
comp=Z,21nm,1.4s
HODGE **Hodges** 25.61 2 P P 11 51 38.2 +0.7
HODGE IAmb IAmb 11 51 42.9
comp=Z,21nm,1.1s
JSC **Jenkinsville** 25.70 4 P P 11 51 39.5 +1.1
Y45A **Yeager Farm, C** 25.92 348 P P 11 51 39.7 -0.6
435B **Jarrell** 25.96 331 P P 11 51 40.6 -0.1
X51A **Calhoun** 25.98 357 P P 11 51 41.3 +0.5
FPAL **Fort Paine** 26.01 355 P P 11 51 41.3 +0.1
FPAL IAmb IAmb 11 51 51.4
comp=Z,10nm,1.0s
X48A **Hartselle** 26.07 353 P P 11 51 41.2 -0.5
X48A IAmb IAmb 11 51 46.7
comp=Z,14nm,1.1s
BIRD **Birdtown, Kers** 26.12 5 P P 11 51 42.0 -0.2
BIRD IAmb IAmb 11 51 46.8
comp=Z,21nm,1.1s
Z41A **Richland Creek** 26.21 341 P P 11 51 43.6 +0.7
baz=158
PAULI **Pauline** 26.21 2 P P 11 51 42.5 -0.5
BG3 **Lake Jocassee** 26.36 0 P P 11 51 43.5 -0.8
BG3 IAmb IAmb 11 51 49.1
comp=Z,16nm,0.9s
W52A **Murphy** 26.47 358 P P 11 51 45.2 -0.1
W52A IAmb IAmb 11 51 49.8
comp=Z,11nm,0.8s
OXF **Oxford** 26.52 348 P P 11 51 46.3 +0.6
baz=166
KMSC **Kings Mountain** 26.55 3 P P 11 51 47.0 +0.9
baz=184
KMSC **Kings Mountain** 26.55 3 P P 11 51 47.2 +1.2
KMSC IAmb IAmb 11 51 51.0
comp=Z,11nm,1.1s
W50A **Signal Mountai** 26.64 356 P P 11 51 48.2 +1.3
W50A IAmb IAmb 11 51 53.3
comp=Z,14nm,1.2s
W57A **Gilead** 26.67 6 P P 11 51 47.3 +0.2
WLAR **White Oak Lake** 26.70 341 P P 11 51 48.2 +0.8
SWET **Sewanee** 26.70 355 P P 11 51 47.9 +0.4
SWET IAmb IAmb 11 51 52.8
comp=Z,10.0nm,0.9s
CPCT **Cooper Cave** 26.84 357 P P 11 51 49.5 +0.9
CPCT IAmb IAmb 11 51 53.7
comp=Z,8.8nm,0.8s
TKL **Tuckaleechee C** 27.02 359 LR LR 12 03 04.5
comp=Z,103nm,19.4s,baz=187,slow=38
TKL **Tuckaleechee C** 27.02 359 P P 11 51 51.7 +1.4
TKL IAmb IAmb 11 51 57.3
comp=Z,12nm,1.1s
V48A **Smith Brothers** 27.31 353 P P 11 51 52.1 -0.8
V48A IAmb IAmb 11 51 58.5
comp=Z,46nm,1.9s
X40A **Basin Creek Fa** 27.36 342 P P 11 51 53.2 -0.1
baz=159
V58A **Windy Hill, Pi** 27.40 7 P P 11 51 53.7 +0.1
V58A IAmb IAmb 11 51 54.9
comp=Z,7.1nm,0.5s
MIAR **Mount Ida** 27.64 341 P P 11 51 56.4 +0.6
baz=157

MIAR **Mount Ida** 27.64 341 P P 11 51 55.2 -0.7
MIAR IAmb IAmb 11 52 02.6
comp=Z,7.2nm,0.8s
LPAR **Lepanto** 27.75 347 P P 11 51 57.0 +0.2
U56A **King** 27.82 5 P P 11 51 58.6 +1.1
WVT **Waverly** 27.82 352 P P 11 51 57.6 +0.1
baz=170
W41B **Gary Mavity, V** 27.83 344 P P 11 51 57.6 +0.1
baz=160,SNR=8.2
TZTN **Tazewell** 27.91 359 P P 11 51 58.7 +0.5
baz=179
WHAR **Wooly Hollow** 27.95 344 P P 11 51 57.9 -0.7
WHAR IAmb IAmb 11 52 04.6
comp=Z,13nm,0.8s
W39A **Magazine** 28.30 341 P P 11 52 01.8 +0.1
baz=157
W39A **Magazine** 28.30 341 P P 11 52 01.2 -0.5
TXAR **Lajitas Array** 28.32 320 P P 11 52 02.0 -0.1
comp=Z,0.5nm,0.8s,baz=138,slow=9.4,SNR=5.9
TXAR PcP PcP 11 55 15.8 +0.8
comp=Z,0.8nm,0.9s,baz=152,slow=5.7,SNR=4.3
TX31 **Lajitas Ar. Si** 28.32 320 P P 11 52 02.3 +0.2
TX31 IAmb IAmb 11 52 56.4
comp=Z,10nm,1.1s
TX32 **Lajitas Array** 28.32 320 P P 11 52 03.0 +0.9
LCAR **Lake Charles** 28.40 346 P P 11 52 02.0 -0.6
LCAR IAmb IAmb 11 52 04.5
comp=Z,16nm,0.9s
FCAR **Ozark Folk Cen** 28.47 345 P P 11 52 02.5 -0.7
FCAR IAmb IAmb 11 52 04.8
comp=Z,9.4nm,0.9s
ABTX **Abilene, Hawle** 28.47 330 P P 11 52 04.1 +0.8
ABTX IAmb IAmb 11 52 08.8
comp=Z,8.8nm,1.2s
LOOK **Love County** 28.48 335 P P 11 52 02.4 -0.9
LOOK IAmb IAmb 11 52 06.8
comp=Z,10nm,0.9s
LPAZ **La Paz** 28.75 149 LR LR 12 03 42.3
comp=Z,148nm,21.5s,baz=306,slow=37
H06E1 **SOCORRO T-PHAS** 28.86 294 T T 12 22 01.3
SNR=24
U40A **Yellville** 29.10 344 P P 11 52 08.3 -0.6
baz=160,SNR=9.8
U40A **Yellville** 29.10 344 P P 11 52 08.1 -0.8
U40A IAmb IAmb 11 52 10.8
comp=Z,17nm,1.1s
HHAR **Hobbs** 29.35 342 P P 11 52 10.4 -0.7
SIUC **Southern Illin** 29.59 350 P P 11 52 12.0 -1.2
SIUC IAmb IAmb 11 52 19.0
comp=Z,4.8nm,0.6s
MGMO **Mountain Grove** 29.70 345 P P 11 52 13.4 -0.7
MGMO IAmb IAmb 11 52 15.7
comp=Z,16nm,0.9s
R49A **Shelbyville** 29.71 357 P P 11 52 14.4 +0.2
R49A IAmb IAmb 11 52 26.1
comp=Z,9.1nm,0.9s
CCM **Cathedral Cave** 30.32 347 P P 11 52 18.9 -0.7
baz=164
CCM **Cathedral Cave** 30.32 347 P P 11 52 19.0 -0.7
CCM IAmb IAmb 11 52 25.5
comp=Z,8.1nm,0.8s
Q52A **Bidwell** 30.33 1 P P 11 52 20.0 +0.4
Q52A IAmb IAmb 11 52 23.0
comp=Z,12nm,1.0s
Q51A **Peebles** 30.38 360 P P 11 52 20.2 +0.1
Q51A IAmb IAmb 11 52 22.8
comp=Z,16nm,1.1s
OLIL **Olney** 30.42 352 P P 11 52 20.6 +0.1
S39A **Bolivar** 30.48 344 P P 11 52 19.8 -1.3
S39A IAmb IAmb 11 52 22.6
comp=Z,17nm,1.1s
R40A **Maddies Statio** 30.78 346 P P 11 52 23.2 -0.5
R40A IAmb IAmb 11 52 25.3
comp=Z,9.1nm,1.1s
T35A **Sooner Cattle** 30.79 339 P P 11 52 23.5 -0.3
P51A **Williamsport** 30.84 0 P P 11 52 23.4 -0.7
P51A IAmb IAmb 11 52 27.2
comp=Z,12nm,1.1s
MNTX **Cornudas Mount** 31.01 321 P P 11 52 25.9 +0.1
baz=133
MNTX **Cornudas Mount** 31.01 321 P P 11 52 25.9 +0.1
ACSO **Alum Creek Sta** 31.59 0 P P 11 52 30.9 +0.1
baz=180
O56A **Blue Knob Stat** 31.88 7 P P 11 52 34.5 +1.1
baz=189
P40A **Paris** 31.91 347 P P 11 52 32.0 -1.6
P40A IAmb IAmb 11 52 35.5
comp=Z,7.7nm,0.8s
SSPA **Standing Stone** 32.32 7 P P 11 52 37.8 +0.6
P38A **Dawn** 32.36 345 P P 11 52 36.6 -1.0
HDIL **Hopedale** 32.38 351 P P 11 52 37.9 +0.1
baz=169
N59A **State Game Lan** 32.92 10 P P 11 52 43.3 +0.7
baz=194
121A **Cookes Peak, D** 33.08 320 P P 11 52 44.0 -0.2
baz=131
319A **Douglas** 33.34 317 IAmb IAmb 11 52 56.2
comp=Z,13nm,1.1s
N38A **Joes South For** 33.38 346 P P 11 52 45.8 -0.8
L42A **Oliver, Polo** 33.85 351 P P 11 52 49.4 -1.3
L42A IAmb IAmb 11 52 51.5
comp=Z,16nm,1.2s
ANMO **Albuquerque** 33.92 324 P P 11 52 52.0 +0.5
baz=136
ANMO **Albuquerque** 33.92 324 P P 11 52 51.7 +0.2
N35A **Tabor** 34.09 343 P P 11 52 51.9 -0.7
BINY **Binghamton** 34.13 9 P P 11 52 54.2 +1.2
baz=193
L40A **Anamosa** 34.17 349 P P 11 52 52.1 -1.3
L40A IAmb IAmb 11 52 55.4
comp=Z,11nm,0.8s
N33A **J Bar K, Exete** 34.54 341 P P 11 52 56.4 -0.2
TUC **Tucson** 34.92 317 P P 11 53 00.0 -0.1
baz=127
TUC **Tucson** 34.92 317 P P 11 53 00.8 +0.7
K38A **Parkersburg** 35.05 348 P P 11 52 59.7 -1.2
K38A IAmb IAmb 11 53 02.4
comp=Z,18nm,1.1s
J58A **Remsen** 35.38 10 P P 11 53 04.3 +0.5
baz=194
SDCO **Great Sand Dun** 35.45 329 P P 11 53 04.6 -0.2
baz=140
SDCO **Great Sand Dun** 35.45 329 P P 11 53 05.1 +0.3
I42A **Draeger Farm,** 35.60 353 P P 11 53 05.0 -0.7
I42A IAmb IAmb 11 53 05.5
comp=Z,12nm,1.0s
X18A **Snowflake** 35.75 320 P P 11 53 08.2 +0.8
I57A **Carthage** 35.88 9 P P 11 53 08.2 +0.1
baz=193
J62A **Henniker** 35.97 14 P P 11 53 10.9 +2.1
baz=199
W18A **Petrified Fore** 36.00 321 P P 11 53 10.2 +0.8
baz=131
H43A **Windswept, Lux** 36.05 354 P P 11 53 08.6 -0.9
S22A **4UR Ranch, Cre** 36.15 327 P P 11 53 11.4 +0.5
baz=138
H57A **Richville** 36.44 9 P P 11 53 13.5 +0.7
baz=193
X16A **Lo Mia Camp, P** 36.63 319 P P 11 53 16.3 +1.4
K31A **O'Neill** 36.66 341 P P 11 53 14.9 +0.1
ECSD **EROS Data Cent** 37.02 344 P P 11 53 18.0 +0.2
baz=158
WUAZ **Wupatki** 37.28 320 P P 11 53 21.6 +1.3
baz=129
Y14A **Wickenburg** 37.38 317 P P 11 53 21.9 +0.7
ALGO **Algonquin Park** 37.56 6 P P 11 53 22.7 +0.3
baz=188
PV18 **Skein Mesa, Pa** 37.65 326 IAmb IAmb 11 53 27.6
comp=Z,5.2nm,0.7s
AC02 **Maricunga** 37.66 159 P P 11 53 25.4 +1.4
AC02 IAmb IAmb 11 53 30.0
comp=Z,6.9nm,0.9s
PV16 **Nyswonger Mesa** 37.70 326 P P 11 53 24.0 +0.1
GLA **Glamis** 38.15 314 P P 11 53 27.7 +0.1
baz=123
GLA **Glamis** 38.15 314 P P 11 53 27.4 -0.2
GLA IAmb IAmb 11 53 36.6
comp=Z,17nm,0.9s
G62A **West of Eustis** 38.15 14 P P 11 53 27.8 +0.4
baz=200
G63A **Kingsbury** 38.29 15 P P 11 53 28.9 +0.4
baz=202
PDMCI **Parker Dam,Lak** 38.36 317 P P 11 53 31.1 +1.7
baz=125
U15A **North Rim** 38.43 321 P P 11 53 31.2 +1.0
PKME **Peaks-Kenny Pk** 38.51 16 P P 11 53 32.3 +1.9
baz=202
H66A **Whiting** 38.64 18 P P 11 53 32.2 +0.7
baz=206
W13A **Hualapai Mount** 38.65 318 P P 11 53 33.2 +1.2
O20A **White River Ci** 38.66 329 P P 11 53 32.3 +0.3
baz=138
O20A **White River Ci** 38.66 329 P P 11 53 33.1 +1.1
O20A IAmb IAmb 11 53 47.0
comp=Z,21nm,1.9s
BC3 **Big Chuckawall** 38.91 315 P P 11 53 35.1 +0.9
baz=123
IRM **Iron Mountain** 38.97 316 P P 11 53 35.3 +0.8
baz=124
E60A **Ste Agathe de** 39.02 13 P P 11 53 36.7 +2.0
baz=198
MONP2 **Monument Peak** 39.20 313 P P 11 53 37.7 +1.0
baz=121
E61A **Lac Etchemin** 39.30 14 P P 11 53 38.4 +1.4
baz=200
D58A **Chemin du LacG** 39.42 11 P P 11 53 39.4 +1.4
baz=196
BELC **Belle Mtn. Jos** 39.48 315 P P 11 53 39.9 +1.0
baz=122,SNR=6.8
TPFO **Pinon Flats** 39.59 314 P P 11 53 41.6 +1.8
baz=122
PFO **Pinyon Flats O** 39.60 314 P P 11 53 41.5 +1.6
baz=122
PFO **Pinyon Flats O** 39.60 314 P P 11 53 39.4 -0.5
PFO IAmb IAmb 11 53 48.2
comp=Z,12nm,1.1s
RDMU **Red Mountain** 39.66 328 P P 11 53 39.8 -0.7
GMRC **Granite Mounta** 39.67 316 P P 11 53 41.6 +1.2
baz=124
109C **Camp Elliot, M** 39.70 313 P P 11 53 41.2 +0.7
109C IAmb IAmb 11 53 43.2
comp=Z,40nm,1.6s
MSU **Marysvale** 39.70 323 P P 11 53 39.2 -1.5
MSU PcP 11 55 48.9 +1.4
E62A **Clayton Lake** 39.71 15 P P 11 53 41.5 +1.0
baz=201
LATQ **La Tuque** 39.72 11 P P 11 53 40.6 +0.1
baz=196
E63A **Oxbow** 39.81 16 P P 11 53 42.7 +1.4
baz=203
RSSD **Black Hills** 39.88 336 P P 11 53 42.9 +0.8
baz=147
RSSD **Black Hills** 39.88 336 P P 11 53 41.7 -0.5
D61A **St Aubert, Com** 40.10 14 P P 11 53 44.7 +1.1
baz=200
MURC **Murrieta** 40.12 313 P P 11 53 44.5 +0.4
baz=121
HEC **Hector,Ludlow** 40.16 316 P P 11 53 45.5 +1.0
baz=123
TUQ **Turquoise Moun** 40.21 317 P P 11 53 45.9 +1.0
baz=124,SNR=5.3
D62A **Allapoint, All** 40.26 15 P P 11 53 45.7 +0.7
baz=202
LMN **Caledonia Moun** 40.40 20 P P 11 53 47.6 +1.5
LSQQ **Lebel-sur-Quev** 40.74 6 P P 11 53 49.3 +0.4
baz=189
GSC **Goldstone, Bar** 40.74 316 P P 11 53 50.8 +1.6
baz=123,SNR=6.4
BFSC **Mount Baldy Ra** 40.78 314 P P 11 53 50.3 +0.6
baz=121
E28A **Huff** 40.81 341 P P 11 53 49.3 -0.2
E28A IAmb IAmb 11 53 49.9
comp=Z,11nm,0.8s
CIS **Catalina Islan** 40.91 312 P P 11 53 51.0 +0.4
baz=119
AGMN **Agassiz Nation** 41.09 347 P P 11 53 50.9 -1.0
baz=161
AGMN **Agassiz Nation** 41.09 347 P P 11 53 50.3 -1.6
AGMN IAmb IAmb 11 53 56.6
comp=Z,17nm,1.4s
BW06 **Boulder Array** 41.27 330 P P 11 53 54.0 +0.3
baz=138
PD31 **Pinedale Array** 41.27 330 P P 11 53 53.4 -0.3
PDAR **Pinedale Array** 41.27 330 P P 11 53 53.0 -0.7
comp=Z,0.8nm,0.8s,baz=128,slow=11,SNR=7.1
PDAR PcP PcP 11 55 51.9 -0.5
comp=Z,0.6nm,0.6s,baz=122,slow=6.4,SNR=5.6
PDAR **Pinedale Array** 41.27 330 P P 11 53 53.2 -0.5
TPNV **Topopah Spring** 41.28 318 P P 11 53 54.6 +0.9
baz=125
TPNV **Topopah Spring** 41.28 318 P P 11 53 54.7 +0.9
SPR3 **Spring Creek 3** 41.30 322 P P 11 53 53.6 -0.5
SPR3 PcP PcP 11 55 53.3 +0.6
EDW2 **Edwards Air Fo** 41.34 315 P P 11 53 54.9 +0.7
baz=121
MATQ **Matagami** 41.37 5 P P 11 53 52.9 -1.2
baz=188
FURC **Furnace Creek,** 41.42 317 P P 11 53 56.0 +1.3
baz=124,SNR=5.6
LRMC **Laurel Mtn Rad** 41.44 316 P P 11 53 56.2 +1.1
baz=122,SNR=10
HWUT **Hardware Ranch** 41.46 327 P P 11 53 54.3 -0.9
R11A **Troy Canyon, C** 41.67 321 P P 11 53 58.2 +1.2
BGU **Big Grassy Mou** 41.80 325 P P 11 53 58.8 +0.9
H03N2 **Juan Fernandez** 41.91 175 T T 12 38 24.0
baz=354,slow=76,SNR=174
H03N1 **Juan Fernandez** 41.91 175 T T 12 38 24.7
baz=354,slow=76,SNR=117
H03N3 **Juan Fernandez** 41.92 175 T T 12 38 28.7
baz=354,slow=76,SNR=201
CWC **Cottonwood Cre** 42.22 317 P P 11 54 02.7 +1.1
baz=122
REDW **Red Top Meadow** 42.35 330 P P 11 54 02.4 -0.1
REDW IAmb IAmb 11 54 09.1
comp=Z,13nm,1.4s
LOHW **Long Hollow** 42.41 330 P P 11 54 02.5 -0.5
TPH **Tonopah** 42.56 319 P P 11 54 06.0 +1.7
VES **Vestal, Richgr** 42.60 315 P P 11 54 05.8 +1.5
baz=121
PKM **Mcpherson Peak** 42.64 313 P P 11 54 05.9 +0.9
baz=119,SNR=6.5
CPUP **Villa Florida** 42.74 145 LR LR 12 13 37.1
comp=Z,52nm,18.9s,baz=355,slow=39
LAO **LASA Array** 42.87 337 P P 11 54 06.5 0.0
baz=145
RLMT **Red Lodge** 42.91 333 P P 11 54 06.8 -0.3
baz=140
RLMT **Red Lodge** 42.91 333 P P 11 54 06.3 -0.8
ULM **Lac du Bonnet** 42.94 348 P P 11 54 04.8 -2.1
comp=Z,8.1nm,0.9s,baz=149,slow=7.1,SNR=7.2
ULM **Lac du Bonnet** 42.94 348 P P 11 54 05.5 -1.4
ULM IAmb IAmb 11 54 12.4
comp=Z,8.0nm,0.8s
ELK **Elko** 42.95 324 P P 11 54 07.6 +0.2
NV11 **Mina Array Sit** 43.37 319 P P 11 54 11.0 +0.3
PAGB **Antelope Grade** 43.37 314 IAmb IAmb 11 54 14.9
comp=Z,10.0nm,0.8s
NVAR **Mina Array Bea** 43.46 319 P P 11 54 13.2 +1.6
comp=Z,2.9nm,0.8s,baz=132,slow=7.4,SNR=25
NVAR LR LR 12 13 11.3
comp=Z,66nm,18.7s,baz=140,slow=38
LHV **Little Huntoon** 43.49 318 P P 11 54 13.3 +1.7
MDPB **Devils Postpil** 43.54 317 IAmb IAmb 11 54 14.8
comp=Z,9.3nm,1.0s
GCMT **Greycliff** 43.61 333 P P 11 54 12.2 -0.4
KVN **Kaiserville** 43.68 320 P P 11 54 13.5 +0.2
PMPB **Monarch Peak** 43.99 315 P P 11 54 16.8 +1.0
PMPB IAmb IAmb 11 54 19.0
comp=Z,7.0nm,1.0s
WAKR **Walker** 44.24 318 IAmb IAmb 11 54 20.6
comp=Z,7.6nm,1.0s
BOZ **Bozeman (W)** 44.37 331 P P 11 54 18.8 +0.1
baz=138
BOZ **Bozeman (W)** 44.37 331 P P 11 54 18.3 -0.4
MCMT **McKenzie Canyo** 44.40 330 P P 11 54 19.0 -0.1
CMB **Columbia Colle** 44.63 317 P P 11 54 21.0 +0.3
PNTR **Pine Nut** 44.67 319 P P 11 54 21.9 +0.6
VCNR **Virginia City** 44.82 319 P P 11 54 23.6 +1.2
VCNR IAmb IAmb 11 54 24.8
comp=Z,13nm,1.9s
PAHR **Pah Rah Range** 44.87 320 P P 11 54 23.5 +0.7
LRM **Limekiln Ridge** 44.92 331 P P 11 54 23.2 -0.1
MFID **Camas Ranch** 45.00 326 P P 11 54 23.4 -0.4
HRY **Holter Researc** 45.29 332 P P 11 54 25.8 -0.2
BEKR **Beckworth** 45.59 319 P P 11 54 29.7 +1.2
WVOR **Wild Horse Val** 45.99 323 P P 11 54 31.1 -0.5
WVOR IAmb IAmb 11 54 40.5
comp=Z,4.7nm,0.8s
ORV **Oroville** 46.16 318 P P 11 54 33.1 +0.2
ORV IAmb IAmb 11 54 35.3
comp=Z,11nm,1.1s
MSO **Missoula** 46.37 331 P P 11 54 33.8 -0.7

baz=136
BMO Blue Mountains 46.74 327 P P 11 54 36.5 -1.0
O03E Paynes Creek 46.75 319 P P 11 54 38.0 +0.5
baz=122
O02D Mt. Diablo Mer 47.33 318 P P 11 54 41.9 -0.2
baz=121
I07A Izee 47.49 325 P P 11 54 43.1 -0.2
M04C Macdoel 47.57 321 P P 11 54 44.8 +0.8
baz=123
KCPM Cahto Peak 47.62 317 P P 11 54 44.7 +0.4
N02D Trinity Center 47.69 319 P P 11 54 46.1 +1.2
baz=122
KMRM Mail Ridge 47.96 318 P P 11 54 47.7 +0.7
M02C Callahan 48.01 320 P P 11 54 46.8 -0.5
baz=122
YBH Yreka Blue Hor 48.09 320 P P 11 54 47.3 -0.7
L04D Klamath Falls 48.10 321 P P 11 54 47.5 -0.6
baz=123
PINE Pine Mountain 48.16 323 P P 11 54 48.4 -0.2
KHMM Horse Mountain 48.31 319 P P 11 54 50.6 +0.9
KHMM IAmb IAmb 11 54 51.4
comp=Z,7.0nm,0.9s
FFC Flin Flon 48.49 345 P P 11 54 49.8 -0.9
J04D Umpqua Nationa 48.54 322 P P 11 54 51.9 +0.3
baz=124
I04A Tendick Farm, 49.03 323 P P 11 54 55.7 +0.6
baz=124
K02D Willamette Mer 49.20 321 P P 11 54 57.4 +0.8
baz=122
G05D Wamic, OR 49.22 325 P P 11 54 56.9 +0.4
baz=126
J01E Myrtle Point 49.62 321 P P 11 55 00.8 +1.3
baz=122
I02D Swisshome 50.07 322 P P 11 55 04.3 +1.3
baz=123
PLCA Paso Flores 50.35 168 P P 11 55 05.0 -0.2
comp=Z,3.1nm,0.7s,baz=343,slow=8.8,SNR=6.4
PLCA LR LR 12 12 37.1
comp=Z,28nm,19.3s,baz=4.5,slow=32
YKA Yellowknife Ar 58.55 343 P P 11 56 03.0 -1.4
comp=Z,2.9nm,0.8s,baz=140,slow=7.4,SNR=11
DLBC Dease Lake 61.29 334 IAmb IAmb 11 56 25.6
comp=Z,5.6nm,0.9s
DAWY Dawson 68.07 337 IAmb IAmb 11 57 09.9
comp=Z,4.4nm,1.0s
EPYK Eagle Plains 68.22 340 P P 11 57 08.0 -0.5
baz=121,SNR=5.1
EPYK Eagle Plains 68.22 340 P P 11 57 08.5 +0.1
INK Inuvik 68.23 342 P P 11 57 08.4 0.0
baz=125,SNR=8.0
INK Inuvik 68.23 342 P P 11 57 08.4 0.0
VRDI Verde Repeater 68.56 333 IAmb IAmb 11 57 17.3
comp=Z,3.7nm,0.8s
BCAR Beaver Creek A 68.59 335 P P 11 57 11.9 +1.1
L27K Beaver Creek, 68.60 335 P P 11 57 10.7 -0.2
baz=115,SNR=16
GLB Gilahina Butte 68.81 333 IAmb IAmb 11 57 19.4
comp=Z,5.0nm,0.9s
BMRM Bremner River 68.99 333 P P 11 57 13.3 -0.1
baz=111
BMRM Bremner River 68.99 333 P P 11 57 13.7 +0.4
BMRM IAmb IAmb 11 57 14.4
comp=Z,5.1nm,0.8s
EGAK Eagle 69.08 337 P P 11 57 13.4 -0.4
baz=116,SNR=8.3
EGAK Eagle 69.08 337 IAmb IAmb 11 57 18.1
comp=Z,5.3nm,1.0s
K27K Chicken 69.11 336 P P 11 57 13.7 -0.3
baz=115
K27K Chicken 69.11 336 IAmb IAmb 11 57 17.0
comp=Z,3.4nm,0.9s
N25K Chitina, Valde 69.22 333 P P 11 57 14.8 0.0
baz=112
N25K Chitina, Valde 69.22 333 IAmb IAmb 11 57 18.5
comp=Z,4.3nm,0.9s
MENT Mentasta 69.34 335 IAmb IAmb 11 57 16.7
comp=Z,2.9nm,0.7s
EYAK Cordova Ski Ar 69.36 332 P P 11 57 15.7 +0.1
baz=110
EYAK Cordova Ski Ar 69.36 332 P P 11 57 16.3 +0.7
EYAK IAmb IAmb 11 57 18.6
comp=Z,5.1nm,0.9s
HARP HAARP 69.75 334 P P 11 57 18.5 +0.4
baz=111
DOT Dot Lake 69.76 335 P P 11 57 18.5 +0.4
KLU Klutina 69.77 333 P P 11 57 19.1 +0.9
baz=110
KLU Klutina 69.77 333 P P 11 57 18.5 +0.3
KLU IAmb IAmb 11 57 22.4
comp=Z,6.8nm,1.0s
SCRK Sand Creek 69.86 336 P P 11 57 18.5 -0.3
baz=113,SNR=9.3
SCRK Sand Creek 69.86 336 IAmb IAmb 11 57 21.2
comp=Z,3.7nm,0.7s
PAX Paxson 70.10 335 P P 11 57 19.9 -0.3
baz=111,SNR=5.9
PAX Paxson 70.10 335 IAmb IAmb 11 57 22.5
comp=Z,3.1nm,0.7s
RIDG Independent Ri 70.12 335 P P 11 57 19.9 -0.4
baz=112,SNR=9.4
RIDG Independent Ri 70.12 335 IAmb IAmb 11 57 21.8
comp=Z,8.9nm,1.0s
SCM Sheep Creek Mo 70.52 333 IAmb IAmb 11 57 29.4
comp=Z,7.5nm,0.9s
KNK Knik Glacier 70.89 332 P P 11 57 25.4 +0.4
baz=108
WAT6 Susitna Watana 70.94 334 P P 11 57 25.0 -0.5
baz=109,SNR=8.5
SML Sawmill 70.96 333 P P 11 57 24.8 -0.6
baz=108
SML Sawmill 70.96 333 P P 11 57 25.3 -0.1
GHO Glory Hole Cre 71.22 333 P P 11 57 26.9 -0.2
HDA Harding Lake 71.23 336 P P 11 57 26.5 -0.4
baz=110,SNR=9.0
HDA Harding Lake 71.23 336 P P 11 57 27.2 +0.2
IL31 71.33 336 P P 11 57 27.3 -0.2
IL31 IAmb IAmb 11 57 29.8
comp=Z,4.5nm,0.7s
ILAR Eielson Array 71.33 336 P P 11 57 26.9 -0.7
comp=Z,4.5nm,0.8s,baz=113,slow=4.6,SNR=44
WAT1 Susitna Watana 71.38 334 P P 11 57 28.0 +0.1
baz=108
RC01 Rabbit Creek A 71.39 332 P P 11 57 27.5 -0.5
baz=107
RC01 Rabbit Creek A 71.39 332 IAmb IAmb 11 57 38.8
comp=Z,7.5nm,1.1s
BRSE Bradley Lake S 71.49 330 P P 11 57 28.3 -0.4
baz=105
EUNU Eureka 71.55 359 P P 11 57 29.2 +0.4
CCB Clear Creek Bu 71.66 336 P P 11 57 29.8 +0.3
POKR Poker Plat Res 71.67 336 P P 11 57 29.4 -0.2
baz=110
WRH Wood River Hil 71.71 336 P P 11 57 30.3 +0.4
WRH IAmb IAmb 11 57 32.6
comp=Z,2.9nm,0.7s
MCK McKinley 71.83 335 P P 11 57 30.1 -0.5
baz=108
MCK McKinley 71.83 335 P P 11 57 30.7 +0.1
MCK IAmb IAmb 11 57 33.0
comp=Z,7.2nm,0.9s
MDM Murphy Dome 71.93 336 IAmb IAmb 11 57 33.5
comp=Z,4.2nm,0.7s
KDAK Kodiak Island 71.94 328 P P 11 57 31.1 -0.3
baz=103
KDAK Kodiak Island 71.94 328 P P 11 57 30.6 -0.7
KDAK IAmb IAmb 11 57 34.0
comp=Z,5.8nm,1.1s
SUA Susitna One 71.96 332 P P 11 57 31.1 -0.4
baz=106
H24K Noodor Dome 72.09 337 P P 11 57 32.0 -0.2
baz=110,SNR=7.9
NEA2 Nenana 72.15 336 P P 11 57 32.2 -0.4
baz=108,SNR=6.3
NEA2 Nenana 72.15 336 IAmb IAmb 11 57 34.7
comp=Z,6.0nm,0.7s
OHAK Old Harbor 72.19 327 P P 11 57 32.7 -0.1
baz=102
TRF Thorofare Moun 72.32 334 P P 11 57 33.2 -0.6
baz=107
TRF Thorofare Moun 72.32 334 P P 11 57 33.8 0.0
TRF IAmb IAmb 11 57 43.1
comp=Z,5.1nm,1.0s
I23K Minto, Yukon-K 72.45 336 P P 11 57 34.2 -0.1
baz=108,SNR=9.1
I23K Minto, Yukon-K 72.45 336 P P 11 57 34.5 +0.2
SKT Skwentna 72.46 333 P P 11 57 34.3 -0.2
baz=105,SNR=5.9
SKT Skwentna 72.46 333 P **P** 11 57 34.3 -0.2
SKT IAmb IAmb 11 57 40.8
comp=Z,5.9nm,0.8s
O20K Slope Mountain 72.50 331 P P 11 57 34.0 -0.8
baz=104
KTH Kantishna Hill 72.62 334 P P 11 57 35.2 -0.3
KTH IAmb IAmb 11 57 38.3
comp=Z,8.0nm,1.0s
P19K Oil Pt 72.70 330 P P 11 57 35.6 -0.4
baz=103
H23K Yukon River 72.73 337 P P 11 57 35.5 -0.5
baz=108
BPAW Bear Paw Mtn. 72.80 335 P P 11 57 35.8 -0.6
baz=106,SNR=11
BPAW Bear Paw Mtn. 72.80 335 P P 11 57 36.2 -0.3
BPAW IAmb IAmb 11 57 38.5
comp=Z,7.2nm,0.9s
MLY Manley 72.97 336 P P 11 57 36.7 -0.8
baz=107,SNR=12
MLY Manley 72.97 336 P P 11 57 37.3 -0.1
MLY IAmb IAmb 11 57 39.7
comp=Z,5.8nm,0.8s
PPLA Purkeypile 73.00 333 P P 11 57 36.4 -1.4
baz=105
PPLA Purkeypile 73.00 333 P P 11 57 37.3 -0.5
M20K Styx River 73.17 332 P P 11 57 38.0 -0.8
baz=104,SNR=6.9
CHUM Lake Minchumin 73.31 334 P P 11 57 38.5 -0.9
baz=105
O19K Port Alsworth 73.35 330 P P 11 57 39.4 -0.3
baz=102
I21K Tanana 73.51 336 P P 11 57 40.1 -0.5
baz=106,SNR=7.2
N19K Bonanza Creek 73.56 331 P P 11 57 40.3 -0.7
baz=102
TOLK Toolik Lake Re 73.65 340 P P 11 57 40.7 -0.7
baz=109
TOLK Toolik Lake Re 73.65 340 P P 11 57 41.4 0.0
TOLK IAmb IAmb 11 57 44.5
comp=Z,10nm,1.4s
H21K Melozitna Rive 73.97 336 P P 11 57 42.5 -0.9
baz=105
L19K White Mountain 74.03 332 P P 11 57 43.1 -0.6
baz=102
SVW2 Sparrevohn 74.14 331 P P 11 57 43.3 -1.1
SVW2 IAmb IAmb 11 57 46.5
comp=Z,6.9nm,1.1s
N18K Kilae Creek 74.21 331 P P 11 57 44.2 -0.6
baz=101,SNR=7.2
SDPT Sand Point 75.86 325 P P 11 57 54.6 +0.2
baz=96
ESDC Sonseca Array 76.27 51 P P 11 57 56.7 -0.5
comp=Z,4.6nm,1.0s,baz=276,slow=5.2,SNR=16
ESDC LR LR 12 26 58.7
comp=Z,17nm,21.7s,baz=150,slow=32
ESDC Sonseca Array 76.27 51 P P 11 57 56.9 -0.2
ESDC IAmb IAmb 11 57 58.5
comp=Z,5.1nm,1.1s
NIKH Nikolski High 80.71 322 P P 11 58 21.1 -0.2
baz=88
TORD Torodi Ar. Bea 83.07 78 P P 11 58 33.5 -1.0
comp=Z,1.5nm,0.7s,baz=276,slow=4.7,SNR=7.8
TORD Torodi Ar. Bea 83.07 78 P P 11 58 33.8 -0.7
NB2 NORSAR Subarra 84.71 29 P P 11 58 41.1 -0.9
comp=Z,10nm,1.4s,baz=277,slow=5.3
NOA NORSAR Array B 84.71 29 P P 11 58 41.0 -0.9
comp=Z,3.6nm,1.0s,baz=278,slow=5.0,SNR=4.2
NOA LR LR 12 36 00.5
comp=Z,8.2nm,18.8s,baz=105,slow=35
HFS Hagfors 86.06 30 LR LR 12 34 55.4
comp=Z,35nm,19.1s,baz=340,slow=34
CLL Collm 87.22 39 *i* P **P 11 58 54.4 -0.2**
comp=Z,9.0nm,0.8s
GERES GERESS Array B 88.11 41 P P 11 58 58.6 -0.5
comp=Z,0.8nm,0.7s,baz=209,slow=1.4,SNR=6.5
ARCES ARCESS Array B 88.47 19 P P 11 58 59.2 -1.0
comp=Z,2.8nm,0.9s,baz=286,slow=4.9,SNR=4.0
FINES FINESS Array B 91.56 27 P P 11 59 14.3 -0.4
comp=Z,4.1nm,1.0s,baz=240,slow=3.8,SNR=3.8
KSRS Korea Array 125.84 330 PKP **PKPdf 12 05 09.7 -0.7**
comp=Z,1.9nm,0.8s,baz=43,slow=1.1,SNR=9.2
LZH Lanzhou 135.16 352 *e*PKP **PKiKP 12 05 30.0 +0.1**
LZH pPKP sPKPdf 12 05 32.3 -2.8
LZH sPKP 12 05 33.2
CMAR Chiang Mai Arr 153.12 356 PKP **PKPdf 12 05 59.1 -0.4**
comp=Z,0.8nm,0.3s,baz=306,slow=2.1,SNR=4.6
CMAR PKPbc **PKPbc 12 06 06.0 -0.8**
comp=Z,0.9nm,0.6s,baz=304,slow=3.3,SNR=5.0
CMAR Chiang Mai Arr 153.12 356 PKPdf 12 05 59.2 -0.2

SCB 10 11:46:42.2±1.6, 21°.29S×67°.25W, h181km±11km, ML3.5/5
Error ellipse: s-maj=5.9km s-min=4.9km az=0.0,
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.50**	**89**	P	Pn	11 47 14.0	-0.8
MOCB				S	Sn	11 47 37.3	-2.6
MOCB				IAML		11 47 39.5	
166nm,0.2s							
LVC	**Limon Verde**	**2.03**	**229**	P	Pn	11 47 19.0	-1.1
PB01	**IPOC Station P**	**2.11**	**276**	P	Pn	11 47 19.5	-1.1
PB01				S	Sn	11 47 49.2	-1.2
PB01				IAML		11 47 49.9	
196nm,0.2s							
PB08	**IPOC Station P**	**2.12**	**302**	P	Pn	11 47 20.1	-1.0
PB07	**IPOC Station P**	**2.50**	**259**	P	Pn	11 47 23.8	-1.3
PB07				S	Sn	11 47 55.7	-2.8
PB07				IAML		11 47 56.1	
210nm,0.2s							
PB04	**IPOC Station P**	**2.89**	**248**	P	Pn	11 47 28.5	-1.3
MNMC	**Minye Minye**	**3.08**	**314**	P	Pn	11 47 30.6	-1.6
MNMC				S	Sn	11 48 07.7	-3.4
MNMC				IAML		11 48 11.2	
149nm,0.2s							
PB05	**IPOC Station P**	**3.15**	**240**	P	Pn	11 47 31.7	-1.2
PB05				S	Sn	11 48 09.2	-3.3
PB05				IAML		11 48 10.4	
41nm,0.2s							
PSGC	**Pisagua**	**3.18**	**301**	P	Pn	11 47 30.4	-2.8
PB10	**IPOC Station P**	**3.78**	**234**	P	Pn	11 47 38.7	-1.9
PB14	**IPOC Station P**	**4.42**	**221**	P	Pn	11 47 47.1	-1.9
BBOE	**La Paz, Chanca**	**4.51**	**351**	P	Pn	11 47 49.9	-0.5
LPAZ	**La Paz**	**5.04**	**350**	P	Pn	11 47 55.2	-2.2

NNC 10 11:56:23.1±3.5, 37°.82N×78°.10E, h0km, mb4.0, mpv3.6,
Error ellipse: s-maj=49.7km s-min=23.7km az=93.0,
Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.24**	**2**	Pg	Pb	11 57 59.3	+3.7
6.6nm,0.7s							
SATY				Lg	Lg	11 59 11.8	
16nm,0.7s							
UZB	**Uzynbulak**	**5.37**	**7**	Pg	Pb	11 58 00.8	+2.9
4.5nm,0.6s							
UZB				Lg	Lg	11 59 13.6	
5.3nm,0.8s							
MDOK	**Medeo**	**5.40**	**352**	Pg	Pb	11 58 01.8	+3.4
2.9nm,0.4s							
MDOK				Lg	Lg	11 59 13.1	
13nm,0.8s							
MDOK	**Medeo**	**5.40**	**352**	Pg	Pg	11 58 04.1	-2.5
5.8nm,0.3s							
MDOK				Lg	Lg	11 59 19.1	
17nm,0.9s							
PDGK	**Podgornoye**	**5.61**	**10**	Pg	Pb	11 58 04.8	+2.9
1.8nm,0.6s							
PDGK				Lg	Lg	11 59 21.0	
4.7nm,0.8s							

IDC 10 11:57:20.1±4.0, 28°.52S×177°.79W, h0km, mb3.7/2,
mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, Error ellipse:
s-maj=80.5km s-min=21.4km az=77.0, Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.74**	**189**	Pn	Pn	11 57 38.0	+0.3
108nm,0.3s,baz=133,slow=21,SNR=3.2							
RAO				Sn	Sn	11 57 50.4	+0.7
764nm,0.3s,baz=36,slow=22,SNR=14							

ASAR Alice Springs 43.42 265 P P 12 05 24.5 -0.5
0.5nm,0.7s,baz=103,slow=7.4,SNR=6.1
WRA Warramunga Arr 44.24 270 P P 12 05 31.7 +0.1
1.5nm,0.7s,baz=110,slow=8.1,SNR=20
FINES FINESS Array B 143.44 341 PKP PKPdf 12 16 54.9 -1.1
1.1nm,0.8s,baz=20,slow=2.2,SNR=7.1

MEX 10 11:58:30.0±0.3, 14°.38N×92°.66W, h16km±999km, MD3.6,
Near coast of Chiapas

IDC 10 12:28:34.7±4.4, 5°.13S×151°.42E, h0km, mb3.1/2,
mb1 3.4/2, mb1mx3.2/33, mbtmp3.2/2, Error ellipse:
s-maj=183.1km s-min=54.9km az=118.0, New Britain
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.21**	**227**	P	P	12 33 33.6	+0.6
0.2nm,0.3s,baz=51,slow=10.0,SNR=5.2							
ASAR	**Alice Springs**	**25.00**	**221**	P	P	12 33 59.8	-0.7
0.4nm,0.8s,baz=60,slow=9.4,SNR=5.1							
TORD	**Torodi Ar. Bea**	**149.10**	**287**	PKPbc	PKPbc	12 48 25.8	-0.3
0.2nm,0.4s,baz=74,slow=3.4,SNR=1.7							

IDC 10 12:46:14.6±4.2, 28°.53S×177°.72W, h0km, mb3.5/2,
mb1 3.8/2, mb1mx3.5/21, mbtmp3.5/2, Error ellipse:
s-maj=84.1km s-min=22.9km az=82.0, Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.74**	**194**	Pn	Pn	12 46 32.6	+0.3
39nm,0.3s,baz=124,slow=20,SNR=1.8							
RAO				Sn	Sn	12 46 45.1	+0.7
456nm,0.3s,baz=131,slow=21,SNR=7.6							
ASAR	**Alice Springs**	**43.49**	**265**	P	P	12 54 19.5	-0.4
0.3nm,0.7s,baz=103,slow=7.9,SNR=2.3							
WRA	**Warramunga Arr**	**44.31**	**270**	P	P	12 54 26.5	0.0
0.9nm,0.7s,baz=110,slow=8.1,SNR=12							
FINES	**FINESS Array B**	**143.47**	**341**	PKP	PKPdf	13 05 49.4	-1.1
2.4nm,0.9s,baz=67,slow=4.7,SNR=2.9							

IDC ***10*** *12:46:17.7±7.0, 36°.19N×71°.01E, h114km±63km, mb3.2/5,*
mb1 3.3/7, mb1mx3. 1/47, mbtmp3.6/7, Error ellipse:
s-maj=52.2km s-min=28.1km az=23.0
ISC 10 12:46:16.6±1.2, 36°.3N±0°.1×71°.0E±0°.2, h100km, n7,
σ1°79/8, mb3.3/4, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.94**	**22**	P	**Pn**	**12 47 57.0**	**+1.3**
3.3nm,0.3s,baz=185,slow=6.7,SNR=6.8							
AAK				S	**Sn**	**12 49 10.4**	**-2.7**
0.8nm,0.3s,baz=354,slow=19,SNR=2.3							
MKAR	**Makanchi Array**	**13.51**	**35**	P	**Pn**	**12 49 26.4**	**+2.3**
0.1nm,0.3s,baz=216,slow=14,SNR=1.1							
ZALV	**Zalesovo Beam**	**20.15**	**24**	P	**P**	**12 50 42.8**	**+0.2**
2.9nm,0.6s,baz=222,slow=11,SNR=9.4							
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**12 54 18.3**	**+0.2**
0.4nm,0.5s,baz=96,slow=7.7,SNR=1.9							
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**12 56 50.5**	**-0.1**
0.2nm,0.5s,baz=40,slow=6.9,SNR=1.4							
WRA	**Warramunga Arr**	**81.89**	**122**	P	**P**	**12 58 24.2**	**-0.9**
0.5nm,0.9s,baz=324,slow=4.8,SNR=5.5							
ASAR	**Alice Springs**	**84.15**	**125**	P	**P**	**12 58 35.9**	**-0.8**
0.2nm,0.5s,baz=298,slow=4.4,SNR=5.8							

IDC ***10*** *12:53:20.4±0.9, 26°.86N×91°.02E, h0km, mb3.9/10,*
mb1 4.1/11, mb1mx3.8/51, mbtmp3.9/11, ML3.7/1, MS3.3/6,
Ms1 3.3/6, ms1mx3.0/35, Error ellipse: s-maj=46.8km
s-min=15.3km az=55.0
NDI ***10*** *12:53:21.9±3.4, 26°.75N×90°.50E, h10km, ML4.4,*
mb4.3(NEIC)
DMN ***10*** *12:53:21.8±0.0, 26°.79N×90°.91E, h60km, Error ellipse:*
s-maj=0.0km s-min=0.0km az=0.0
NEIC ***10*** *12:53:23.2±1.8, 26°.66N±0°.06×90°.6E±0°.1, h20km±2km,*
mb4.3/24, Error ellipse: s-maj=15.8km s-min=6.3km
az=63.0
ISC 10 12:53:20.7±1.7, 26°.62N±0°.05×90°.55E±0°.03, h9km±12km,
n71, σ1°36/88, mb4.2/17, MS3.3/5, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.59**	**131**	*e*P	**Pb**	**12 53 50.2**	**-0.1**
SHL				*e*S	**Sg**	**12 54 11.5**	**-0.3**
SHL				IAML		12 54 13.1	
comp=E,6μm,0.3s							
SHL				IAML		12 54 15.0	
comp=N,4μm,0.2s							
SHL	**Shillong**	**1.59**	**131**		**Pb**	**12 53 50.3**	**0.0**
SHL				Sn	**Sb**	**12 54 10.8**	**+0.1**
TAPN	**Taplejung**	**2.64**	**287**	*e*Pg	**Pn**	**12 54 05.7**	**+2.0**
TAPN				*e*Sg	**Sn**	**12 54 38.2**	**+2.2**
comp=N,1μm,0.7s							
SILR	**SILCHAR**	**2.73**	**131**	*e*P	**Pb**	**12 54 09.1**	**-0.6**
SILR				*e*S	**Sb**	**12 54 42.4**	**-1.0**
AGT	**Agartala**	**2.79**	**167**	*e*x	**Pg**	**12 54 14.7**	**+0.5**
AGT				*e*S	**Sb**	**12 54 43.3**	**-1.8**
ODAN	**Odare**	**2.84**	**276**	*e*Pg	**Pn**	**12 54 08.6**	**+2.2**
ODAN				*e*Sg	**Sb**	**12 54 44.8**	**-1.8**
ITAN	**ITANAGAR**	**2.88**	**79**	*e*P	**Pn**	**12 54 09.3**	**+2.5**
ITAN				*e*x	**Sb**	**12 54 45.4**	**-2.3**
LSA	**Lhasa**	**3.12**	**10**	Pn	**Pn**	**12 54 13.4**	**+2.9**
LSA				Sn	**Sn**	**12 54 47.1**	**-1.0**
JORH	**JORHAT**	**3.31**	**87**	*e*x	**Pn**	**12 54 12.2**	**-0.6**
KOHI	**KOHIMA**	**3.32**	**105**	*e*P	**Pn**	**12 54 14.3**	**+1.3**
KOHI				*e*S	**Sn**	**12 54 55.4**	**+2.7**
KOHI				IAML		12 55 16.4	
comp=N,2μm,0.4s							
KOHI				IAML		12 55 17.3	
comp=E,2μm,0.0s							
RAMN	**Ramite**	**3.55**	**276**	*e*Pg	**Pn**	**12 54 18.9**	**+2.7**
RAMN				*e*Sg	**Sn**	**12 55 00.7**	**+2.3**
comp=E,594nm,0.5s							
MOKO	**MOKOCHONG**	**3.57**	**94**	*e*P	**Pn**	**12 54 17.4**	**+1.1**
MOKO				*e*S	**Sn**	**12 55 01.0**	**+2.3**
JIRN	**Jiri**	**4.02**	**286**	*e*Pg	**Pn**	**12 54 24.6**	**+1.8**
JIRN				*e*Sg	**Sn**	**12 55 11.0**	**+0.7**
comp=E,700nm,0.7s							
GUN	**Gumba**	**4.35**	**288**	*e*Pn	**Pn**	**12 54 29.4**	**+2.0**
PKI	**Pulchoki**	**4.68**	**283**	*e*Pn	**Pn**	**12 54 33.3**	**+1.4**
PKI				*e*Sn	**Sn**	**12 55 26.8**	**+0.3**
comp=E,318nm,0.6s							
PKIN	**Phulchoki**	**4.69**	**283**	*e*Pn	**Pn**	**12 54 33.3**	**+1.3**
PKIN				*e*Sn	**Sn**	**12 55 27.1**	**+0.4**
comp=E,210nm,0.4s							
KKN	**Kakani**	**4.84**	**285**	*e*Pn	**Pn**	**12 54 35.4**	**+1.5**
DMN	**Daman**	**4.95**	**283**	*e*Pn	**Pn**	**12 54 37.1**	**+1.6**
BOK	**Bokaro**	**5.07**	**237**	*e*P	**Pn**	**12 54 38.0**	**+1.0**
BOK				*e*S	**Sn**	**12 55 36.1**	**+0.5**
GKN	**Gorkha**	**5.44**	**286**	*e*Pn	**Pn**	**12 54 43.9**	**+1.8**
GKN				*e*Sn	**Sn**	**12 55 44.6**	**-0.3**
comp=E,197nm,0.5s							
DANN	**Dangsing**	**6.27**	**288**	*e*Pn	**Pn**	**12 54 54.6**	**+0.9**
DANN				*e*Sn	**Sn**	**12 56 03.8**	**-1.9**
comp=E,137nm,0.4s							
KOLN	**Koldanda**	**6.29**	**282**	*e*Pn	**Pn**	**12 54 55.6**	**+1.7**
KOLN				*e*Sn	**Sn**	**12 56 04.9**	**-1.2**
PYUN	**Piuthan**	**6.88**	**284**	*e*Pn	**Pn**	**12 55 02.5**	**+0.5**
PYUN				*e*Sn	**Sn**	**12 56 19.1**	**-1.5**
comp=E,204nm,0.4s							
CHTO	**Chiang Mai**	**10.96**	**133**	Pn	**Pn**	**12 55 58.1**	**+0.3**
CM31	**Chiang Mai Arr**	**11.22**	**135**	Pn	**Pn**	**12 56 02.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.22**	**135**	Pn	**Pn**	**12 56 00.4**	**-1.0**
comp=E,0.2nm,0.3s,baz=318,slow=13,SNR=10.0							
CMAR				LR	LR	13 01 01.5	
comp=E,80nm,19.2s,baz=170,slow=42							
CMAR	**Chiang Mai Arr**	**11.22**	**135**		**Pn**	**12 55 59.1**	**-2.3**
BHPL	**Bhopal**	**12.37**	**257**	*e*P	**Pn**	**12 56 15.1**	**-2.1**
BHPL				*e*S	Sn	12 58 25.8	-9.5
NIL	**Nilore**	**16.52**	**299**	Pn	**Pn**	**12 57 11.9**	**-0.7**
NIL				IAmb	IAmb	12 57 23.3	
comp=Z,13nm,0.6s							
ENH	**Enshi**	**17.05**	**73**		**Pn**	**12 57 18.9**	**-0.5**
ENH				IAmb	IAmb	12 57 39.2	
comp=Z,33nm,1.3s							
KDJ	**Kajisay**	**18.97**	**328**		**Pn**	**12 57 43.5**	**+0.3**
KBL	**Kabul**	**20.11**	**298**		**P**	**12 57 55.5**	**+0.5**

KBL			IAmb	IAmb	12 57 58.9	
	comp=Z,7.5nm,0.6s					
MK31	**Makanchi Array**	**21.18 344**	P	**P**	**12 58 07.2**	**+0.9**
MK31			IAmb	IAmb	12 58 16.8	
	comp=Z,17nm,1.4s					
MKAR	**Makanchi Array**	**21.18 344**	P	**P**	**12 58 06.6**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=153,slow=13,SNR=15					
MKAR			LR	LR	13 07 47.2	
	comp=Z,66nm,19.3s,baz=182,slow=41					
MKAR	**Makanchi Array**	**21.18 344**	P	**P**	**12 58 06.3**	**0.0**
BTK	**Batken**	**21.19 314**	P	**P**	**12 58 07.7**	**+1.1**
KK31	**Karatay Array**	**23.16 320**	P	**P**	**12 58 26.2**	**-1.3**
KKAR	**Karatay Array**	**23.16 320**	P	**P**	**12 58 27.9**	**+0.4**
SONM	**Songino Array**	**24.56 26**	P	**P**	**12 58 40.6**	**-0.4**
ULN	**Ulaanbaatar**	**24.85 27**	P	**P**	**12 58 42.8**	**-0.8**
KURBB	**Kurchatov Arra**	**25.68 342**	P	**P**	**12 58 50.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=157,slow=10.0,SNR=4.9					
KURK	**Kurchatov**	**25.74 342**	P	**P**	**12 58 50.5**	**-0.9**
ZALV	**Zalesovo Beam**	**27.63 353**	LR	LR	13 11 42.2	
	comp=Z,48nm,20.9s,baz=154,slow=40					
ABKAR	**Akbulak array**	**32.70 322**	P	**P**	**12 59 53.0**	**-0.4**
ABKAR			IAmb	IAmb	13 00 05.9	
	comp=Z,1.5nm,0.7s					
KSAR	**Wonju Array Be**	**33.25 62**	P	**P**	**12 59 57.3**	**-1.0**
KSRS	**Korea Array**	**33.28 62**	LR	LR	13 12 54.8	
	comp=Z,56nm,19.4s,baz=230,slow=36					
ARU	**Arti**	**37.60 331**	P	**P**	**13 00 37.2**	**+1.7**
	comp=Z,1.1nm,0.4s,baz=130,slow=17,SNR=5.8					
ARU	**Arti**	**37.60 331**	IAmb	IAmb	13 00 38.3	
	comp=Z,3.6nm,0.6s					
USA0B	**Ussuriysk Arra**	**37.60 51**	P	**P**	**13 00 35.1**	**-0.5**
USA0B			IAmb	IAmb	13 00 44.5	
	comp=Z,8.2nm,1.3s					
MAJO	**Matsushiro**	**41.43 64**	P	**P**	**13 01 07.9**	**+0.2**
MAJO			IAmb	IAmb	13 01 08.4	
	comp=Z,3.7nm,0.7s					
MJAR	**Matsushiro Arr**	**41.43 64**	P	**P**	**13 01 03.4**	**-4.4**
	comp=Z,2.3nm,0.7s,baz=268,slow=9.4,SNR=1.5					
MJAR	**Matsushiro Arr**	**41.43 64**	P	**P**	**13 01 06.4**	**-1.3**
FIA1	**FINESS Array S**	**54.82 328**	P	**P**	**13 02 49.9**	**-0.9**
FINES	**FINESS Array B**	**54.82 328**	P	**P**	**13 02 51.3**	**+0.5**
	comp=Z,2.2nm,0.9s,baz=116,slow=6.3,SNR=2.5					
FINES			LR	LR	13 27 43.7	
	comp=Z,47nm,18.1s,baz=229,slow=38					
FINES	**FINESS Array B**	**54.82 328**	P	**P**	**13 02 51.0**	**+0.2**
KNRA	**Kununurra**	**56.09 134**	P	**P**	**13 03 00.9**	**+0.4**
ARCES	**ARCESS Array B**	**56.63 338**	P	**P**	**13 03 04.6**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=96,slow=8.4,SNR=1.8					
ARCES	**ARCESS Array B**	**56.63 338**	P	**P**	**13 03 04.7**	**+1.0**
NOA	**NORSAR Array B**	**61.97 327**	LR	LR	13 33 07.7	
	comp=Z,19nm,18.6s,baz=85,slow=38					
GERES	**GERESS Array B**	**62.02 313**	P	**P**	**13 03 42.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=99,slow=6.1,SNR=2.2					
GERES	**GERESS Array B**	**62.02 313**	P	**P**	**13 03 40.6**	**-0.8**
WB0	**Warramunga Arr**	**62.72 133**	P	**P**	**13 03 46.9**	**+0.5**
WB0			IAmb	IAmb	13 03 47.4	
	comp=Z,4.0nm,0.8s					
WRA	**Warramunga Arr**	**62.81 133**	P	**P**	**13 03 47.3**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=322,slow=7.1,SNR=35					
WRA	**Warramunga Arr**	**62.81 133**	P	**P**	**13 03 47.3**	**+0.3**
WRAB	**Tennant Creek**	**62.81 133**	P	**P**	**13 03 47.1**	**+0.1**
WB2	**Warramunga Arr**	**62.82 133**	P	**P**	**13 03 47.8**	**+0.8**
WB2			IAmb	IAmb	13 04 06.7	
	comp=Z,6.8nm,1.4s					
WR0	**Warramunga Arr**	**62.96 133**	P	**P**	**13 03 48.6**	**+0.7**
AS31	**Alice Springs**	**65.23 136**	P	**P**	**13 04 03.9**	**+1.1**
AS31			IAmb	IAmb	13 04 28.1	
	comp=Z,2.2nm,1.3s					
ASAR	**Alice Springs**	**65.23 136**	P	**P**	**13 04 03.5**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=315,slow=6.3,SNR=46					
ASAR			PcP	**PcP**	**13 04 35.2**	**0.0**
	comp=Z,0.6nm,0.6s,baz=320,slow=4.9,SNR=5.4					
ASAR	**Alice Springs**	**65.23 136**	P	**P**	**13 04 03.8**	**+1.0**
ASAR				**PcP**	**13 04 35.4**	**+0.1**
ILAR	**Eielson Array**	**78.69 22**	P	**P**	**13 05 23.3**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=307,slow=4.9,SNR=5.0					

IDC 10 13:09:21.1±1.4, 9°.34S×158°.17E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/27, mbtmp3.7/4, Error ellipse: s-maj=41.4km s-min=26.8km az=162.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**93**	Pn	Pn	13 09 52.8	0.0
	8.4nm,0.3s,baz=136,slow=2.1,SNR=3.1						
HNR				Sn	Sn	13 10 12.4	-3.6
	63nm,0.3s,baz=314,slow=13,SNR=9.0						
WRA	**Warramunga Arr**	**25.31**	**243**	P	P	13 14 49.8	+0.2
	1.1nm,0.8s,baz=70,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**27.21**	**235**	P	P	13 15 06.8	-0.1
	0.4nm,0.8s,baz=62,slow=11,SNR=6.4						
SONM	**Songino Array**	**73.00**	**326**	P	P	13 20 53.4	+0.5
	1.0nm,0.7s,baz=137,slow=7.3,SNR=5.4						
MKAR	**Makanchi Array**	**87.23**	**318**	P	P	13 22 08.7	-0.9
	0.6nm,0.9s,baz=93,slow=3.4,SNR=1.8						

*IDC **10** 13:11:40.8±2.2, 17°.71S×178°.68W, h614km±21km, mb3.3/6, mb1 3.5/7, mb1mx3.1/27, mbtmp4.3/7, Error ellipse: s-maj=99.7km s-min=20.0km az=155.0*
ISC 10 13:11:38.9±1.4, 18°.05S±0°.7×178°.4W±0°.3, h600km, n8, σ1§22/8, mb4.0/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.40**	**273**	P	**P**	**13 13 01.8**	**+1.2**
	8.3nm,0.3s,baz=126,slow=8.7,SNR=42						
AFI	**Afiamalu**	**7.53**	**59**	P	**P**	**13 13 32.6**	**-1.4**
	3.0nm,0.3s,baz=281,slow=1.0,SNR=6.0						
CTA	**Charters Tower**	**33.45**	**261**	P	**P**	**13 17 29.6**	**-0.5**
	3.7nm,0.6s,baz=108,slow=10,SNR=9.2						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**13 18 12.6**	**+0.2**
	4.1nm,0.7s,baz=98,slow=9.5,SNR=5.6						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**13 18 58.6**	**-1.2**
	2.8nm,0.5s,baz=96,slow=7.1,SNR=54						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**13 19 00.3**	**-0.7**
	14nm,0.6s,baz=87,slow=8.7,SNR=258						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**13 23 18.7**	**+1.3**
	0.4nm,0.7s,baz=218,slow=6.1,SNR=7.8						
PDAR	**Pinedale Array**	**87.38**	**43**	P	**P**	**13 23 24.1**	**+0.4**
	0.2nm,0.4s,baz=251,slow=4.7,SNR=2.3						

*IDC **10** 13:55:16.7±0.6, 9°.30S×158°.43E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/27, mbtmp4.2/12, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=19.4km s-min=15.8km az=158.0*
*NEIC **10** 13:55:17.8±1.4, 9°.4S±0°.1×158°.54E±0°.05, h10km±1km, mb4.4/14, Error ellipse: s-maj=23.6km s-min=9.1km az=359.0*
ISC 10 13:55:21.1±0.6, 9°37S±0°.10×158°.47E±0°.08, h30km, n31, σ1§02/33, mb4.2/16, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.46**	**93**	Pn	**Pn**	**13 55 44.8**	**-0.6**
	87nm,0.3s,baz=234,slow=4.8,SNR=32						
HNR				Sn	**Sn**	**13 56 04.4**	**+0.9**
	214nm,0.3s,baz=252,slow=16,SNR=8.8						
HNR	**Honiara**	**1.46**	**93**		**Pn**	**13 55 43.8**	**-1.6**
PMG	**Port Moresby**	**11.16**	**269**	LR	LR	14 01 52.6	
	comp=Z,162nm,19.7s,baz=134,slow=36						
PATS	**Pohnpei**	**16.09**	**359**	P	**Pn**	**13 59 07.0**	**+1.6**
PATS			IAmb	IAmb	13 59 11.5	
	comp=Z,74nm,1.3s						
EIDS	**Eidsvold**	**17.40**	**203**	P	**P**	**13 59 23.8**	**+0.9**
EIDS			IAmb	IAmb	13 59 26.1	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**25.40**	**243**	P	**P**	**14 00 45.1**	**-1.1**
WR0			IAmb	IAmb	14 00 56.5	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**25.46**	**243**	P	**P**	**14 00 45.5**	**-1.3**
WB0			IAmb	IAmb	14 00 52.7	
	comp=Z,8.3nm,1.1s						
WRAB	**Tennant Creek**	**25.56**	**243**	P	**P**	**14 00 46.5**	**-1.2**
WB2	**Warramunga Arr**	**25.56**	**243**	P	**P**	**14 00 46.8**	**-0.9**
WB2			IAmb	IAmb	14 01 01.9	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**25.57**	**243**	P	**P**	**14 00 47.0**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=72,slow=9.8,SNR=19						
WRA				PcP	**PcP**	**14 04 19.4**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=71,slow=2.6,SNR=17						
WRA	**Warramunga Arr**	**25.57**	**243**	P	**P**	**14 00 46.9**	**-0.8**
STKA	**Stephens Creek**	**27.33**	**213**	P	**P**	**14 01 04.7**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=51,slow=14,SNR=6.0						
STKA				LR	LR	14 11 40.2	
	comp=Z,87nm,18.5s,baz=28,slow=36						
STKA	**Stephens Creek**	**27.33**	**213**	P	**P**	**14 01 04.9**	**+1.3**
AS31	**Alice Springs**	**27.45**	**236**	P	**P**	**14 01 04.8**	**+0.1**
ASAR	**Alice Springs**	**27.45**	**236**	P	**P**	**14 01 03.3**	**-1.5**
	comp=Z,2.1nm,1.0s,baz=57,slow=9.0,SNR=7.9						
ASAR				PcP	**PcP**	**14 04 23.3**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=77,slow=2.4,SNR=10						
ASAR	**Alice Springs**	**27.45**	**236**	P	**P**	**14 01 03.6**	**-1.1**
KSRS	**Korea Array**	**54.66**	**330**	P	**P**	**14 04 47.6**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=148,slow=7.4,SNR=6.6						
KSRS				LR	LR	14 26 43.7	
	comp=Z,8.8nm,18.3s,baz=240,slow=35						
PETK	**Petropavlovsk-**	**62.23**	**359**	P	**P**	**14 05 39.4**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=162,slow=7.4,SNR=8.8						
PETK				LR	LR	14 29 36.8	
	comp=Z,32nm,21.2s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**64.91**	**295**	P	**P**	**14 05 58.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=121,slow=4.4,SNR=7.7						
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**14 06 19.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=337,slow=7.4,SNR=4.8						
VNDA				LR	LR	14 30 52.1	
	comp=Z,52nm,18.5s,baz=328,slow=31						
VNDA	**Vanda**	**68.16**	**179**	P	**P**	**14 06 16.8**	**-1.2**
VNDA				IAmb	IAmb	14 06 26.1	
	comp=Z,2.2nm,1.1s						
SONM	**Songino Array**	**73.19**	**326**	P	**P**	**14 06 49.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=136,slow=6.0,SNR=13						
SONM	**Songino Array**	**73.19**	**326**	P	**P**	**14 06 49.5**	**+0.2**
SONM				IAmb	IAmb	14 06 50.6	
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**80.63**	**180**	P	**P**	**14 07 30.7**	**-0.2**
QSPA				IAmb	IAmb	14 07 38.8	
	comp=Z,6.9nm,1.4s						
ILAR	**Eielson Array**	**84.33**	**21**	P	**P**	**14 07 48.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=246,slow=5.1,SNR=17						
MK31	**Makanchi Array**	**87.45**	**318**	P	**P**	**14 08 04.9**	**-0.9**
MKAR	**Makanchi Array**	**87.45**	**318**	P	**P**	**14 08 05.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=92,slow=6.2,SNR=7.1						
MKAR	**Makanchi Array**	**87.45**	**318**	P	**P**	**14 08 04.6**	**-1.3**
MAKZ	**Makanchi**	**87.66**	**318**	P	**P**	**14 08 06.7**	**-0.2**
NVAR	**Mina Array Bea**	**90.49**	**51**	P	**P**	**14 08 22.3**	**+1.6**
	comp=Z,2.6nm,0.8s,baz=246,slow=6.2,SNR=19						
PDAR	**Pinedale Array**	**97.72**	**48**	P	**P**	**14 08 54.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=202,slow=1.6,SNR=5.5						

IDC 10 14:18:31.4±2.6, 6°76S×154°.55E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=82.8km s-min=34.8km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.78**	**250**	Pn	Pn	14 20 27.9	+1.9
	1.4nm,0.3s,baz=44,slow=18,SNR=5.8						
PMG				Sn	Sn	14 21 53.4	-1.4
	0.5nm,0.3s,baz=248,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**23.59**	**234**	P	P	14 23 43.3	-0.8
	1.5nm,0.7s,baz=60,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**26.00**	**228**	P	P	14 24 06.1	-0.2
	0.4nm,0.6s,baz=55,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**82.94**	**319**	P	P	14 30 58.2	-0.2
	0.5nm,0.8s,baz=105,slow=3.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**152.54**	**285**	PKPbc	PKiKP	14 38 31.4	+0.2
	0.4nm,0.6s,baz=95,slow=2.2,SNR=2.3						

*THE **10** 14:19:50.7, 36°.96N×28°.76E, h0km±1km, Error ellipse: s-maj=6.3km s-min=1.1km az=35.0*
*ISK **10** 14:19:51.3, 36°.94N×28°.72E, h6km, ML2.5/11*
*DDA **10** 14:19:51.1, 36°.96N×28°.69E, h7km±5km, ML2.1*
ISC 10 14:19:51.4±1.1, 36°.97N±0°.02×28°.70E±0°.02, h3km±10km, n25, σ1§16/42, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.16**	**194**	*i* P	**Pg**	**14 19 54.2**	**-0.4**
DALY				*i* S	**Sg**	**14 19 57.7**	**+1.0**
DALY				IAML		14 19 58.0	
	comp=E,784nm,0.2s						
DALY				IAML		14 20 01.0	
	comp=N,843nm,0.2s						
DALY	**Dalyan (Mula)**	**0.16**	**194**	PG	**Pg**	**14 19 54.5**	**-0.1**
DALY				SG	**Sg**	**14 19 57.0**	**+0.3**
YER	**Yerkesik**	**0.37**	**296**	P	**Pg**	**14 19 58.7**	**+0.1**
YER				S	**Sb**	**14 20 06.7**	**-0.2**
YER	**Yerkesik**	**0.37**	**296**	PG	**Pg**	**14 19 59.4**	**+0.8**
YER				SG	**Sb**	**14 20 05.5**	**-1.4**
MULA	**Mugla, Merkez-**	**0.41**	**313**	*i* P	**Pg**	**14 19 59.4**	**-0.1**
MULA				*i* S	**Sg**	**14 20 06.7**	**+1.8**
MULA				IAML		14 20 09.0	
	comp=N,116nm,0.3s						
MULA				IAML		14 20 13.0	
	comp=E,175nm,0.5s						
TURN	**Turunc**	**0.42**	**242**	*i* P	**Pg**	**14 19 58.9**	**-0.6**
TURN				*i* S	**Sb**	**14 20 06.8**	**-1.3**
FETY	**Fethiye**	**0.46**	**138**	P	**Pg**	**14 19 59.5**	**-0.7**
FETY				S	**Sg**	**14 20 06.4**	**+0.3**
FETY	**Fethiye**	**0.46**	**138**	PG	**Pg**	**14 20 00.0**	**-0.2**
FETY				SG	**Sg**	**14 20 06.5**	**+0.3**
MRSB	**Marmaris-Mugla**	**0.48**	**238**	PG	**Pg**	**14 20 00.9**	**+0.3**
CAME	**Cameli-Denizli**	**0.48**	**93**	PG	**Pg**	**14 20 00.9**	**+0.2**
CAME				SG	**Sb**	**14 20 07.9**	**-2.3**
CAEL	**Denizli, Camel**	**0.52**	**73**	*i* P	**Pg**	**14 20 01.2**	**-0.2**
CAEL				*i* S	**Sb**	**14 20 10.9**	**-0.3**
CAEL				IAML		14 20 11.0	
	comp=E,181nm,0.3s						
CAEL				IAML		14 20 22.0	
	comp=N,250nm,0.7s						
TAVA	**DENIZLI_Tavas**	**0.52**	**19**	*i* P	**Pg**	**14 20 00.8**	**-0.7**
TAVA				*i* S	**Sg**	**14 20 09.3**	**+1.1**
TAVA				IAML		14 20 10.0	
	comp=N,81nm,0.3s						
TAVA				IAML		14 20 11.0	
	comp=E,89nm,0.6s						
GOLH	**Golhisar**	**0.74**	**69**	*i* P	**Pg**	**14 20 03.4**	**-2.2**
GOLH				*i* S	**Sb**	**14 20 16.4**	**-1.1**
GOLH				IAML		14 20 27.0	
	comp=N,52nm,0.5s						
GOLH				IAML		14 20 32.0	
	comp=E,260nm,1.4s						
MLSB	**Milas**	**0.81**	**294**	PG	**Pb**	**14 20 07.6**	**-0.5**
DAT	**Datca**	**0.93**	**255**	P	**Pg**	**14 20 09.4**	**+0.1**
DAT				S	**Sn**	**14 20 24.0**	**-1.5**
DAT	**Datca**	**0.93**	**255**	PG	**Pb**	**14 20 09.9**	**-0.4**
AYDN	**Tasoluk**	**0.95**	**317**	*i* P	**Pg**	**14 20 08.6**	**-1.1**
AYDN				*i* S	**Sg**	**14 20 22.8**	**+0.8**
AYDN				IAML		14 20 26.0	
	comp=N,33nm,0.5s						
AKAS	**Kas**	**1.04**	**135**	*i* P	**Pb**	**14 20 11.3**	**-0.8**
AKAS				*i* S	**Sn**	**14 20 30.8**	**+2.8**
AKAS				IAML		14 20 31.0	
	comp=E,60nm,0.8s						
AKAS				IAML		14 20 35.0	
	comp=N,82nm,0.5s						
AKAS	**Kas**	**1.04**	**135**	PG	**Pg**	**14 20 10.9**	**-0.4**
BODT	**Bodrum**	**1.12**	**275**	P	**Pb**	**14 20 13.3**	**-0.1**
BODT				S	**Sn**	**14 20 30.5**	**+0.6**
BODT	**Bodrum**	**1.12**	**275**	PN	**Pn**	**14 20 13.4**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**327**	PN	**Pn**	**14 20 14.6**	**-0.2**
KORT	**Korkueli**	**1.32**	**88**	*i* P	**Pb**	**14 20 17.3**	**+0.3**
KORT				*i* S	**Sn**	**14 20 38.8**	**+3.7**
KORT				IAML		14 20 41.0	
	comp=N,32nm,0.4s						
KORT				IAML		14 20 43.0	
	comp=E,46nm,0.8s						
KORT	**Korkueli**	**1.32**	**88**	PN	**Pb**	**14 20 16.9**	**0.0**
KARP	**Karpathos**	**1.89**	**222**	PN	**Pn**	**14 20 24.9**	**+0.3**

*DJA **10** 15:34:10.7±0.3, 0°S±3°×12°4E±°, h10km, M4.5/14, mb4.8/7, mB5.0/4, MLv4.4/14, Mw(mB)4.3/4*
*IDC **10** 15:34:11.8±2.6, 0°06S×124°34E, h56km±24km, mb3.8/12, mb1 3.9/14, mb1mx3.7/31, mbtmp4.1/14, ML4.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/35, Error ellipse: s-maj=19.7km s-min=13.6km az=76.0*
*NEIC **10** 15:34:13.3±1.6, 0°12S±0°.07×124°42E±0°.07, h69km±7km, mb4.1/14, Error ellipse: s-maj=10.2km s-min=9.2km az=51.0*

ISC 10 15:34:13.3±0.5, 0°08S±0°.06×124°43E±0°.07, h73km, n48, σ1§15/53, mb4.1/17, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.92**	**240**		**Pn**	**15 34 43.4**	**-0.4**
LUWI	**Luwuk**	**1.92**	**240**	P	**Pn**	**15 34 43.3**	**-0.5**
SANI	**Sanana**	**2.50**	**141**	P	**Pn**	**15 34 48.8**	**-2.9**
MRSI	**Marisa**	**2.56**	**283**	P	**Pn**	**15 34 50.1**	**-2.4**
APSI	**Ampana**	**2.90**	**254**	P	**Pn**	**15 34 58.9**	**+1.7**
TNTI	**Ternate**	**3.05**	**74**		**Pn**	**15 34 59.3**	**+0.1**
TNTI	**Ternate**	**3.05**	**74**	P	**Pn**	**15 34 59.1**	**-0.1**
TOLI2	**Tolitoli**	**3.84**	**288**		**Pn**	**15 35 09.3**	**-0.6**
NLAI	**Namlea**	**4.11**	**140**	P	**Pn**	**15 35 12.7**	**-1.0**
MPSI	**Mapaga**	**4.55**	**275**	P	**Pn**	**15 35 19.0**	**-0.7**
TTSI	**Tana Toraja**	**5.47**	**237**	P	**Pn**	**15 35 33.3**	**+1.0**
	0.6nm2μm148nm,0.7s						
MSAI	**Masohi**	**5.54**	**126**	P	**Pn**	**15 35 33.8**	**+0.6**
	0.1nm557nm46nm,0.7s						
BNSI	**Bone**	**6.09**	**225**	P	**Pn**	**15 35 41.8**	**+1.1**
	0.2nm80nm,0.7s						
BKSI	**Bulukumba**	**6.75**	**220**	P	**Pn**	**15 35 49.8**	**0.0**
	0.2nm30nm,0.7s						
KAPI	**Kappang**	**6.77**	**224**	P	**Pn**	**15 35 47.6**	**-2.5**
	2.6nm,0.3s,baz=69,slow=20,SNR=2.4						
KAPI				S	**Sn**	**15 37 05.6**	**-0.1**
	3.9nm,0.3s,baz=200,slow=21,SNR=2.1						
KAPI				LR	LR	15 38 34.7	
	comp=Z,59nm,21.6s,baz=30,slow=39						
SIJI	**Sorong**	**6.88**	**97**	P	**Pn**	**15 35 51.6**	**+0.1**
	2.5nm,0.3s,baz=295,slow=9.7,SNR=9.6						
FAKI	**Fak Fak**	**8.30**	**110**	Pn	**Pn**	**15 36 09.2**	**-1.9**
EDFI	**Ende, Flores**	**9.03**	**198**	P	**Pn**	**15 36 21.1**	**0.0**
KNRA	**Kununurra**	**16.07**	**165**	P	**P**	**15 37 57.5**	**+0.6**
KNRA				IAmb	IAmb	15 38 05.6	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**21.86**	**154**	P	**P**	**15 38 58.9**	**-1.3**
WRAB	**Tennant Creek**	**21.99**	**154**	P	**P**	**15 39 00.1**	**-1.3**
WRAB				IAmb	IAmb	15 39 06.1	
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**21.99**	**154**	P	**P**	**15 39 00.3**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=336,slow=11,SNR=30						
WRA				PcP	**PcP**	**15 42 58.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=338,slow=2.0,SNR=6.1						
WRA	**Warramunga Arr**	**21.99**	**154**	P	**P**	**15 38 59.1**	**-2.4**
WB2	**Warramunga Arr**	**22.00**	**154**	P	**P**	**15 39 00.4**	**-1.2**
WB2				IAmb	IAmb	15 39 17.4	
	comp=Z,8.9nm,1.1s						
WR0	**Warramunga Arr**	**22.09**	**154**	P	**P**	**15 39 01.4**	**-1.2**
WR0				IAmb	IAmb	15 39 07.8	
	comp=Z,7.5nm,1.3s						
AS31	**Alice Springs**	**25.18**	**159**	P	**P**	**15 39 32.3**	**+0.2**
ASAR	**Alice Springs**	**25.18**	**159**	P	**P**	**15 39 32.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=332,slow=7.8,SNR=20						
ASAR				PcP	**PcP**	**15 43 05.3**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=353,slow=2.1,SNR=28						
ASAR	**Alice Springs**	**25.18**	**159**	P	**P**	**15 39 31.9**	**-0.3**
ASAR					**PcP**	**15 43 05.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**31.09**	**308**	P	**P**	**15 40 25.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=133,slow=6.8,SNR=4.5						
CMAR				PcP	**PcP**	**15 43 20.6**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=160,slow=2.3,SNR=6.0						
CHTO	**Chiang Mai**	**31.29**	**308**	P	**P**	**15 40 26.2**	**-0.5**
CHTO				IAmb	IAmb	15 40 28.7	
	comp=Z,4.2nm,0.9s						
STKA	**Stephens Creek**	**35.55**	**154**	P	**P**	**15 41 04.6**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=348,slow=8.8,SNR=3.5						
STKA	**Stephens Creek**	**35.55**	**154**	P	**P**	**15 41 03.5**	**0.0**
STKA				IAmb	IAmb	15 41 14.1	
	comp=Z,3.8nm,1.4s						
JWT	**Wachi**	**36.64**	**15**	P	**P**	**15 41 13.5**	**+0.7**
JSD	**Sado**	**40.02**	**17**	P	**P**	**15 41 40.8**	**-0.3**
JSD				IAmb	IAmb	15 41 42.8	
	comp=Z,2.4nm,0.7s						
USA0B	**Ussuriysk Arra**	**44.60**	**8**	P	**P**	**15 42 18.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**44.60**	**8**	P	**P**	**15 42 18.7**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=194,slow=7.1,SNR=9.7						
SONM	**Songino Array**	**50.24**	**344**	P	**P**	**15 43 01.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=161,slow=6.5,SNR=2.9						
SONM	**Songino Array**	**50.24**	**344**	P	**P**	**15 43 02.7**	**+0.6**
SONM				IAmb	IAmb	15 43 10.7	
	comp=Z,1.9nm,1.3s						
MKAR	**Makanchi Array**	**59.44**	**328**	P	**P**	**15 44 07.6**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=124,slow=8.4,SNR=31						
MKAR	**Makanchi Array**	**59.44**	**328**	P

Azm199.0000°; P Plg28.0000°, Azm302.0000°;
ISC 10 16:02:14.8±1.0, 35°53N±0'04×140°16E±0'06, h67km±9km, n25, σ0°62/27, mb3.8/4, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	Nagara	0.12	161	⇑P	Pn	16 02 25.1	+0.3
JSMT	Sammumatsuo	0.26	65	P	Pn	16 02 25.7	+0.3
BSO3	Boso 3	0.78	158	P	Pn	16 02 30.4	+0.2
JOD2	Odawara 2	0.91	253	⇑P	Pn	16 02 31.9	-0.2
JOD2				S	Sn	16 02 44.3	-0.6
JIM2	Oshima 3	1.01	216	P	Pn	16 02 33.0	-0.3
JIM2				S	Sn	16 02 46.5	-0.5
JAG	Ashikaga	1.06	328	⇓P	Pn	16 02 33.4	-0.5
BSO1	Boso 1	1.11	142	P	Pn	16 02 33.5	-0.5
JRY	Ryogami san	1.13	296	⇓P	Pn	16 02 35.1	+0.3
JFNN	Fujinakano	1.25	255	P	Pn	16 02 36.4	0.0
JFNN				eS	Sn	16 02 52.0	-0.5
JYN	Shimob	1.31	269	⇑P	Pn	16 02 37.3	0.0
JIZS	Izushimoda	1.32	233	⇑P	Pn	16 02 37.2	-0.2
JIZS				S	Sn	16 02 53.8	-0.5
JKT	Katashina	1.43	330	P	Pn	16 02 38.4	-0.5
JKT				eS	Sn	16 02 55.4	-1.6
MJAR	Matsushiro Arr	1.87	303	Pn	Pn	16 02 44.3	-0.4
	1.8nm,0.3s,baz=160,slow=7.3,SNR=110						
MJAR				Sn	Sn	16 03 08.7	+1.3
	2.5nm,0.3s,baz=185,slow=27,SNR=8.0						
MAT	Matsushiro	1.87	303	P	Pn	16 02 44.9	+0.2
MAT				S	Sn	16 03 08.5	+1.1
JHJ	Hachijo jima 2	2.43	187	Pn	Pn	16 02 52.5	+0.3
	44nm,0.3s,baz=328,slow=22,SNR=16						
JHJ				Sn	Sn	16 03 20.9	+0.1
	53nm,0.3s,baz=66,slow=21,SNR=8.5						
H11N2	WAKE ISLAND Hy	28.32	117	T	T	16 37 44.8	
	baz=308,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	28.33	117	T	T	16 37 25.7	
	baz=308,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	28.34	117	T	T	16 37 27.1	
	baz=308,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	28.96	119	T	T	16 38 06.5	
	baz=311,slow=74,SNR=6.0						
H11S3	WAKE ISLAND Hy	28.96	119	T	T	16 38 00.1	
	baz=311,slow=74,SNR=5.6						
H11S2	WAKE ISLAND Hy	28.98	119	T	T	16 38 01.3	
	baz=311						
ZALV	Zalesovo Beam	42.19	314	P	P	16 10 01.5	+0.7
	0.5nm,0.4s,baz=104,slow=8.2,SNR=2.8						
MKAR	Makanchi Array	44.07	303	P	P	16 10 16.2	+0.1
	0.6nm,0.8s,baz=81,slow=11,SNR=5.1						
KURBB	Kurchatov Arra	46.14	309	P	P	16 10 32.9	+0.5
	0.7nm,0.4s,baz=85,slow=7.7,SNR=7.2						
WRA	Warramunga Arr	55.45	187	P	P	16 11 42.3	-0.3
	0.4nm,0.3s,baz=1.0,slow=7.4,SNR=5.1						

*IDC **10** 16:03:18.2±0.6, 55°35S×26°89W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.4/26, mbtmp4.5/11, ML4.3/1, MS4.5/13, Ms1 4.5/13, ms1mx4.5/17, Error ellipse: s-maj=19.4km s-min=16.3km az=58.0*
*NEIC **10** 16:03:21.2±2.0, 55°4S±0'1×26°9W±0'2, h22km±5km, mb5.0/43, Error ellipse: s-maj=16.1km s-min=13.8km az=188.0*
*GCMT **10** 16:03:26.1±0.2, 55°33S±0'02×26°67W±0'03, h16km, MW5.1/113, Moment Tensor Solution. s48,c60; s113,c171; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.32±.22; Mθθ-2.62±.15; Mφφ-2.71±.15; Mrθ-1.77±.42; Mθφ2.89±.09; Mrφ2.88±.41; Best double couple: M0 6.40500×10^16 NP1:φs128.00000°, δ30.00000°, λ78.00000°. NP2:φs322.00000°, δ61.00000°, λ97.00000°. Principal axes: T 6.3280, Plg73.0000°, Azm250.0000°; N 0.1440, Plg6.0000°, Azm139.0000°; P -6.4820, Plg16.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 16:03:21.2±0.4, 55°34S±0'07×27°05W±0'07, h25km, n161, σ1°29/152, mb5.0/22, MS4.5/16, 1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.56	277	Pn	Pn	16 04 43.2	+1.0
VNA1	Neumayer--Stat	17.43	159	P	Pn	16 07 23.1	+0.9
VNA3	Neumayer Olymp	17.64	161	P	Pn	16 07 25.6	+0.8
SNAA	Sanae	19.37	157	P	Pn	16 07 46.4	+0.6
SNAA	Sanae	19.37	157	P	P	16 07 43.3	-1.4
	0.9nm,0.3s,baz=312,slow=11,SNR=8.0						
SNAA				LR	LR	16 13 39.9	
	comp=Z,1μm,21.6s,baz=300,slow=32						
SNAA	Sanae	19.37	157		P	16 07 44.5	-0.2
PMSA	Palmer Station	20.43	228	P	P	16 07 58.5	+2.3
	18nm,0.8s,baz=54,slow=8.7,SNR=5.1						
PMSA				LR	LR	16 14 37.0	
	comp=Z,847nm,19.0s,baz=82,slow=33						
PMSA	Palmer Station	20.43	228	P	P	16 07 57.7	+1.5
PMSA				IAmb	IAmb	16 08 09.5	
	comp=Z,64nm,1.2s						
PMSA	Palmer Station	20.43	228	eP	P	16 07 58.8	+2.6
GO09	Cerro Castillo	26.99	260	P	P	16 08 59.0	-1.7
GO09				IAmb	IAmb	16 09 22.2	
	comp=Z,51nm,1.3s						
TRQA	Tornquist	29.12	292	P	P	16 09 19.6	-0.3
TRQA	Tornquist	29.12	292	eP	P	16 09 22.4	+2.6
PLTB	Pedras Altas	30.09	311	eP	P	16 09 26.8	-1.6
CPSB	Cacapava Do Su	31.19	312	eP	P	16 09 40.0	+1.9
PLCA	Paso Flores	31.96	279	P	P	16 09 45.3	+0.3
	comp=Z,7.7nm,1.2s,baz=136,slow=12,SNR=4.9						
PLCA				LR	LR	16 24 21.7	
	comp=Z,855nm,18.2s,baz=138,slow=39						
PLCA	Paso Flores	31.96	279	P	P	16 09 45.2	+0.3
PLCA	Paso Flores	31.96	279	eP	P	16 09 45.7	+0.8
SYO	Syowa Base	32.09	141	⇓eX	P	16 09 45.0	-0.6
ITQB	Itaqui	33.21	308	eP	P	16 09 56.2	+0.3
ITAB	Concordia	33.45	317	eP	P	16 09 57.1	-0.9
QSPA	South Pole Qui	34.91	180	P	P	16 10 10.8	+0.3
	comp=Z,11nm,1.0s,baz=27,slow=3.9,SNR=30						
QSPA	South Pole Qui	34.91	180	P	P	16 10 10.9	+0.3
QSPA				IAmb	IAmb	16 10 16.9	
	comp=Z,44nm,1.4s						
SPB	Sao Paulo	35.12	326	P	P	16 10 11.4	-1.0
SPB				IAmb	IAmb	16 10 14.4	
	comp=Z,18nm,1.2s						
BO02	Sierra Bellavi	36.30	286	P	P	16 10 23.0	+0.5
BO02				IAmb	IAmb	16 10 37.1	
	comp=Z,27nm,1.5s						
CPUP	Villa Florida	36.41	310	P	P	16 10 24.0	+0.6
	comp=Z,3.5nm,0.7s,baz=161,slow=6.6,SNR=6.3						
CPUP				LR	LR	16 25 09.5	
	comp=Z,664nm,19.1s,baz=154,slow=36						
CPUP	Villa Florida	36.41	310	P	P	16 10 23.3	-0.2
CPUP				IAmb	IAmb	16 10 37.8	
	comp=Z,49nm,1.4s						
CPUP	Villa Florida	36.41	310	eP	P	16 10 23.5	+0.1
GO05	Huala	36.77	285	P	P	16 10 25.2	-1.3
MT03	Universidad Ad	37.12	288	P	P	16 10 29.9	+0.2
MT03				IAmb	IAmb	16 10 44.4	
	comp=Z,39nm,1.1s						
MT09	Talagante	37.17	287	P	P	16 10 30.3	+0.2
MT09				IAmb	IAmb	16 10 31.8	
	comp=Z,28nm,0.9s						
MT01	Popeta	37.25	287	P	P	16 10 30.6	0.0
MT01				IAmb	IAmb	16 10 44.1	
	comp=Z,25nm,0.9s						
MT05	Renca	37.33	288	P	P	16 10 31.7	+0.4
VA05	Santo Domingo	37.60	286	P	P	16 10 33.7	+0.1
ZON	Zonda	37.64	292	P	P	16 10 34.7	+0.7
MT02	Curacav	37.64	287	P	P	16 10 35.3	+1.4
VA03	San Esteban	37.70	288	P	P	16 10 36.1	+1.6
CO02	Combarbal	39.14	290	P	P	16 10 48.4	+1.7
CO02				IAmb	IAmb	16 11 03.0	
	comp=Z,46nm,1.1s						
GUA01	Guaratinga, BA	39.90	341	eP	P	16 10 52.1	-0.8
IPMB	Ipameri, GO	40.63	328	eP	P	16 10 58.1	-1.0
MC01	Montes Claros	40.68	335	eP	P	16 10 58.1	-1.3
MAW	Mawson	40.68	144	P	P	16 10 59.6	+0.7
	comp=Z,7.0nm,0.9s,baz=226,slow=6.8,SNR=15						
MAW				LR	LR	16 26 19.0	
	comp=Z,717nm,19.8s,baz=256,slow=34						
MAW	Mawson	40.68	144	P	P	16 10 58.7	-0.2
AQDB	Aquidauana	40.93	317	P	P	16 11 02.0	+0.6
AQDB				IAmb	IAmb	16 11 15.4	
	comp=Z,44nm,1.1s						
AQDB	Aquidauana	40.93	317	eP	P	16 11 00.4	-1.0
CMC01	Camacan, BA	41.04	342	eP	P	16 11 02.0	-0.4
AC04	Llanos de Chal	41.55	292	P	P	16 11 06.6	+0.2
AC02	Maricunga	41.63	296	P	P	16 11 08.6	+0.9
AC02				IAmb	IAmb	16 11 11.6	
	comp=Z,47nm,1.4s						
GDU01	Guandu, BA	42.66	342	eP	P	16 11 15.3	-0.2
GO02	Mina Guanaco	43.24	297	P	P	16 11 21.9	+1.3
GO02				IAmb	IAmb	16 11 36.0	
	comp=Z,52nm,1.1s						
ARAG	Araguaiana, MT	43.91	324	eP	P	16 11 24.9	-0.7
LVC	Limon Verde	45.02	299	P	P	16 11 36.9	+1.9
LVC				IAmb	IAmb	16 11 50.1	
	comp=Z,29nm,1.1s						
LVC	Limon Verde	45.02	299	eP	P	16 11 34.3	-0.6
BOSA	Boshof	45.72	76	P	P	16 11 40.1	-0.1
	comp=Z,7.0nm,1.1s,baz=223,slow=11,SNR=2.8						
BOSA				LR	LR	16 27 55.2	
	comp=Z,2μm,18.2s,baz=207,slow=32						
BOSA	Boshof	45.72	76	P	P	16 11 37.1	-3.1
BOSA				IAmb	IAmb	16 11 55.7	
	comp=Z,27nm,1.4s						
PB09	IPOC Station P	45.86	300	P	P	16 11 40.6	-0.8
SBA	Scott Base	46.80	184	P	P	16 11 46.8	-1.1
SBA				IAmb	IAmb	16 11 51.0	
	comp=Z,19nm,1.4s						
PTLB	Pontes e Lacer	46.84	315	eP	P	16 11 50.4	+1.5
NBRF	Rio Formoso -	46.98	349	eP	P	16 11 49.0	-0.9
SNDB	Serra Nova Dou	47.24	327	eP	P	16 11 50.9	-1.1
VNDA	Vanda	47.29	183	P	P	16 11 52.5	+0.7
	comp=Z,8.0nm,0.9s,baz=192,slow=7.1,SNR=27						
VNDA	Vanda	47.29	183	P	P	16 11 52.6	+0.8
VNDA				IAmb	IAmb	16 12 07.9	
	comp=Z,9.7nm,0.8s						
MNMC	Minye Minye	48.29	301	P	P	16 12 02.1	+1.5
LBTB	Lobatse	48.73	74	P	P	16 12 03.6	-0.1
	comp=Z,6.2nm,0.8s,baz=210,slow=9.2,SNR=6.3						
LBTB	Lobatse	48.73	74	P	P	16 12 03.0	-0.6
LBTB				IAmb	IAmb	16 12 03.9	
	comp=Z,11nm,0.9s						
SMTB	Santa Maria do	49.13	333	eP	P	16 12 07.1	+0.4
TSUM	Tsumeb	49.27	61	P	P	16 12 06.4	-1.5
VILB	Vilhena	49.52	316	eP	P	16 12 10.7	+1.0
CLDB	Colider	49.77	322	eP	P	16 12 10.5	-1.0
LPAZ	La Paz	50.03	305	P	P	16 12 16.0	+1.8
	comp=Z,7.1nm,0.8s,baz=130,slow=6.1,SNR=24						
LPAZ				LR	LR	16 33 30.0	
	comp=Z,118nm,21.7s,baz=170,slow=36						
LPAZ	La Paz	50.03	305	P	P	16 12 15.9	+1.6
LPAZ				IAmb	IAmb	16 12 29.6	
	comp=Z,23nm,0.9s						
LPAZ	La Paz	50.03	305	eP	P	16 12 13.7	-0.6
NBPB	Pedra_Branca-C	50.66	344	eP	P	16 12 17.5	-0.7
NPGB	Novo Progresso	53.18	324	eP	P	16 12 35.7	-1.3
ETMB	Extrema	54.86	310	eP	P	16 12 50.4	+1.1
LSZ	Lusaka	58.04	69	P	P	16 13 12.1	0.0
MCPB	Macapa, AP	58.47	330	eP	P	16 13 13.3	-1.7
OTAV	Otavalo	69.33	303	P	P	16 14 28.3	+1.4
OTAV				IAmb	IAmb	16 14 43.0	
	comp=Z,21nm,1.4s						
OTAV	Otavalo	69.33	303	eP	P	16 14 27.7	+0.7
ROSC	El Rosal	71.49	309	LR	LR	16 47 37.5	
	comp=Z,297nm,19.2s,baz=232,slow=37						
RUSC	La Rusia	71.89	311	P	P	16 14 42.5	-0.1
TOA0	Torodi Ar. Sit	72.39	29	P	P	16 14 45.8	+0.9
TORD	Torodi Ar. Bea	72.39	29	P	P	16 14 45.6	+0.7
	comp=Z,7.0nm,0.8s,baz=200,slow=6.3,SNR=18						
TORD				LR	LR	16 42 26.0	
	comp=Z,477nm,18.2s,baz=190,slow=32						
TORD	Torodi Ar. Bea	72.39	29	P	P	16 14 45.4	+0.5
TBI	Tubuai	87.59	231	eS	S	16 26 40.0	-7.0
	comp=Z,119nm,26.8s						
TBI	Tubuai	87.59	231	eLR	LR	16 44 03.6	
	comp=Z,404nm,30.8s						
STKA	Stephens Creek	92.59	170	LR	LR	16 58 56.6	
	comp=Z,587nm,18.1s,baz=199,slow=36						
PPT2	Papeete2	92.67	234	eS	S	16 27 27.6	-6.6
	comp=Z,131nm,30.8s						
PPT2	Papeete2	92.67	234	eLR	LR	16 46 16.5	
	comp=Z,494nm,32.0s						
PPT	Papeete	92.69	234	LR	LR	16 52 07.8	
	comp=Z,98nm,18.6s,baz=154,slow=32						
TAOE	Nuku Hiva Isla	95.51	246	eLR	LR	16 47 33.8	
	comp=Z,177nm,28.5s						
KEST	Kesra	95.91	29	LR	LR	16 57 36.1	
	comp=Z,372nm,18.0s,baz=256,slow=34						
ESDC	Sonseca Array	96.67	18	LR	LR	16 57 22.2	
	comp=Z,215nm,18.2s,baz=150,slow=34						
ASAR	Alice Springs	99.65	162	P	Pdif	16 17 00.0	-2.6
	comp=Z,1.3nm,1.1s,baz=185,slow=3.8,SNR=7.0						
DZM	Mont Dzumac	102.05	193	eLR	LR	16 50 27.0	
	comp=Z,165nm,21.4s						
CMAR	Chiang Mai Arr	125.24	110	PKP	PKiKP	16 22 20.0	+0.2
	comp=Z,1.6nm,0.8s,baz=224,slow=3.5,SNR=9.4						
YKA	Yellowknife Ar	135.69	318	PKP	PKiKP	16 22 39.6	+0.2
	comp=Z,0.4nm,0.6s,baz=126,slow=3.1,SNR=2.0						
WMQ	Urumqi	137.68	78	eP	PKiKP	16 22 44.3	+0.1
WMQ				pmax	pmax		
	comp=Z,200nm,5.1s						
CD2	Chengdu	137.77	105	PKP	PKPdf	16 22 42.8	0.0
LZH	Lanzhou	141.65	99	ePKP	PKPdf	16 22 49.8	0.0
LZH				pPKP	sPKPdf	16 22 58.2	+0.4
LZH				sPKP		16 23 02.2	
ZALV	Zalesovo Beam	141.98	63	PKP	PKiKP	16 22 53.2	+0.7
	comp=Z,0.6nm,0.4s,baz=274,slow=3.9,SNR=3.2						
INK	Inuvik	145.30	321	PKPbc	PKPab	16 22 56.3	+1.3
	comp=Z,9.6nm,0.9s,baz=86,slow=4.1,SNR=19						
INK	Inuvik	145.30	321	P	PKPab	16 22 56.1	+1.1
	baz=106,SNR=12						
INK	Inuvik	145.30	321		PKPbc	16 22 55.0	+0.1
PINM	Pinnacle	145.39	306	P	PKPab	16 22 56.9	+1.2
	baz=112						
PCA	Pinnacle	145.39	306		PKPab	16 22 56.9	+1.2
EPYK	Eagle Plains	145.96	317	P	PKPab	16 22 58.2	+0.6
	baz=106,SNR=7.8						
CTG	Chitna Glacier	146.21	307	P	PKPab	16 22 59.4	+0.5
	baz=111						
NJ2	Nanjing	146.64	120	eP	PKPdf	16 22 59.1	+0.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CRQE	Cirque	146.94	306	P	PKPbc	16 23 00.7	+0.5
	baz=110						
L27K	Beaver Creek,	147.11	310	P	PKPab	16 23 01.6	-0.6
	baz=107,SNR=16						
L27K	Beaver Creek,	147.11	310		PKPbc	16 23 00.9	+0.4
MCARA	McCarthy VSAT	147.12	307	P	PKPab	16 23 01.7	-0.5
	baz=109						
EGAK	Eagle	147.31	314	P	PKPbc	16 23 01.3	+0.4
	baz=105,SNR=9.2						
BMRM	Bremner River	147.71	306	P	PKiKP	16 23 03.5	-0.7
	baz=108,SNR=7.6						
N25K	Chitina, Valde	147.91	307	P	PKiKP	16 23 04.0	-0.6
	baz=108						
EYAK	Cordova Ski Ar	148.11	305	P	PKiKP	16 23 04.7	-0.2
	baz=108						
DOT	Dot Lake	148.24	311		PKiKP	16 23 05.7	+0.5
SCRK	Sand Creek	148.29	312	P	PKiKP	16 23 04.9	-0.5
	baz=104,SNR=15						
HARP	HAARP	148.39	308	P	PKPbc	16 23 04.7	+0.8
	baz=106						
NRIK	Noril'sk	148.40	38	PKPbc	PKiKP	16 23 04.8	-0.5
	comp=Z,2.4nm,0.7s,baz=76,slow=2.1,SNR=6.4						
KLU	Klutina	148.48	307	P	PKiKP	16 23 05.6	-0.2
	baz=107,SNR=11						
RIDG	Independent Ri	148.60	311	P	PKiKP	16 23 06.1	+0.2
	baz=104,SNR=22						
PAX	Paxson	148.68	309	P	PKiKP	16 23 06.0	-0.1
	baz=105,SNR=11						
M24K	Tolsona, Glenn	148.77	308	P	PKiKP	16 23 06.9	+0.5
	baz=106						
GLI	Glacier Island	148.84	305	P	PKiKP	16 23 06.1	-0.4
	baz=107						
PRP	Porcupine Dome	149.27	314	P	PKiKP	16 23 07.6	+0.2
	baz=101						
HHC	Hu-ho-hao-te	149.31	101	eP	PKPdf	16 23 03.0	+0.3
WAT6	Susitna Watana	149.60	308	P	PKiKP	16 23 08.2	0.0
	baz=104						
KNK	Knik Glacier	149.63	306	P	PKiKP	16 23 08.3	+0.3
	baz=105						
HDA	Harding Lake	149.65	312	P	PKPbc	16 23 07.5	+0.5
	baz=101						
SML	Sawmill	149.67	307	P	PKiKP	16 23 08.4	+0.2
	baz=105						
ILAR	Eielson Array	149.69	313	PKPbc	PKiKP	16 23 08.0	-0.1
	comp=Z,4.4nm,0.9s,baz=112,slow=1.2,SNR=26						
SEW	Seward	149.73	303	P	PKiKP	16 23 08.4	+0.1
	baz=107						
POKR	Poker Plat Res	149.99	313	P	PKiKP	16 23 08.4	-0.2
	baz=100						
WAT1	Susitna Watana	150.02	308	P	PKiKP	16 23 08.9	+0.1
	baz=103						
RC01	Rabbit Creek A	150.14	305	P	PKiKP	16 23 09.6	+0.5
	baz=105						
BRSE	Bradley Lake S	150.25	302	P	PKiKP	16 23 09.6	+0.2
	baz=107						
H24K	Noodor Dome	150.28	315	P	PKiKP	16 23 09.4	0.0
	baz=98						
MCK	McKinley	150.38	310	P	PKiKP	16 23 10.0	+0.4
	baz=101						
CNPM	China Poot	150.43	301		PKPbc	16 23 08.4	-0.6
KDAK	Kodiak Island	150.56	297	P	PKiKP	16 23 10.5	+0.4
	baz=109						
NEA2	Nenana	150.59	312	P	PKPbc	16 23 09.6	+0.3
	baz=100						
SONM	Songino Array	150.60	85	PKPbc	PKiKP	16 23 10.3	-0.4
	comp=Z,2.5nm,0.8s,baz=226,slow=3.0,SNR=8.0						
HOM	Homer	150.66	301	P	PKPbc	16 23 10.1	+0.5
	baz=106						
BWN	Browne	150.69	311	PKPbc	PKiKP	16 23 10.1	-0.1
CUT	Chulitna	150.70	307	P	PKiKP	16 23 10.9	+0.7
	baz=102						
SUA	Susitna One	150.71	305	P	PKiKP	16 23 10.8	+0.4
	baz=104						
OHAK	Old Harbor	150.74	296	P	PKiKP	16 23 10.6	+0.2
	baz=110						
I23K	Minto, Yukon-K	150.80	313	P	PKiKP	16 23 10.4	+0.1
	baz=98						
TRF	Thorofare Moun	150.92	309	P	PKiKP	16 23 11.1	+0.3
	baz=100						
H23K	Yukon River	150.96	314	P	PKiKP	16 23 11.3	+0.6
	baz=97						
SKT	Skwentna	151.19	306	P	PKiKP	16 23 11.9	+0.6
	baz=102						
TOLK	Toolik Lake Re	151.19	320	P	PKiKP	16 23 11.8	+0.6
	baz=92						
O20K	Slope Mountain	151.25	302	P	PKiKP	16 23 12.2	+0.7
	baz=105						
BJI	Beijing	151.31	107	PKPbc	PKPab	16 23 24.8	+4.9
BPAW	Bear Paw Mtn.	151.33	311	P	PKiKP	16 23 11.7	+0.2
	baz=99						
MLY	Manley	151.36	313	P	PKiKP	16 23 12.9	+1.4
	baz=97						
P19K	Oil Pt	151.44	301	P	PKiKP	16 23 13.3	+1.4
	baz=105						
I21K	Tanana	151.90	313	P	PKiKP	16 23 14.3	+1.7
	baz=96						
M20K	Styx River	151.91	306	P	PKiKP	16 23 13.1	+0.2
	baz=101						
N19K	Bonanza Creek	152.32	303	P	PKiKP	16 23 13.9	+0.1
	baz=102						

*UPA **10** 16:25:42.5±1.9, 8°50N×83°03W, h0km±7km, MW3.8*
*UCR **10** 16:25:42.7±1.3, 8°45N×83°11W, h5km, MW3.7*
ISC 10 16:25:42.8±0.9, 8°45N±0'03×83°06W±0'02, h17km±7km, n39, σ1°20/60, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAR3	San Bartolo, C	0.22	127	eS	Sg	16 25 53.1	+1.9
CDITO	Canoas	0.22	56	⇓iP	Pg	16 25 48.2	+0.3
PTJ1	Puerto Jimnez	0.26	290	⇑iP	Pg	16 25 47.5	-1.0
PTJ1				eS	Sb	16 25 54.6	+1.4
PTJ1	Puerto Jimnez	0.26	290	eP	Pg	16 25 47.3	-1.2
PIRO	Carate, Puerto	0.28	261	⇑iP	Pg	16 25 47.7	-1.2
PIRO				eS	Sb	16 25 56.5	+2.7
PIRO	Carate, Puerto	0.28	261	eP	Pg	16 25 47.6	-1.2
EDSV	San Vito	0.38	13	eP	Pb	16 25 51.2	+0.1
EDSV				eS	Sb	16 25 58.9	+2.1
BRU2	Volcan	0.50	47	⇓iP	Pb	16 25 53.4	+0.2
BRU2				eS	Sb	16 26 01.9	+1.6
BRU2	Volcan	0.50	47	eP	Pb	16 25 53.5	+0.2
BRU2				eS	Sb	16 26 01.9	+1.6
BAGA3	Bagala, Chiriq	0.52	88	eP	Pb	16 25 53.4	-0.1
BC3P	Paso Ancho	0.57	50	⇓iP	Pb	16 25 54.5	-0.1
BC3P				eS	Sb	16 26 03.2	+0.7
LPLA	Las Palmas La	0.58	5	iP	Pb	16 25 54.0	-0.6
LPLA				eS	Sb	16 26 03.1	+0.5
BCO2	Palmira	0.59	63	eP	Pb	16 25 54.7	0.0
BCO2				eS	Sb	16 26 04.0	+1.1
DVD	David	0.60	91	eP	Pg	16 25 54.0	-0.7
DVD				eS	Sn	16 26 05.3	-0.6
PTAR3	Potrerillos Ar	0.60	66	⇑eP	Pb	16 25 55.4	+0.4
PEDE3	Pedregal, Chir	0.63	96	eP	Pb	16 25 55.3	-0.1
PEDE3				eS	Sb	16 26 05.1	+1.2
EDPN	Palmar Norte	0.65	322	eP	Pg	16 25 54.3	-1.3
EDPN				eS	Sg	16 26 03.7	-0.4
LNBQ3	Los Naranjos,	0.70	61	eP	Pb	16 25 56.2	-0.4
LNBQ3				eS	Sb	16 26 06.8	+0.8
EDBA	Buenos Aires	0.74	343	eP	Pg	16 25 56.8	-0.6
GUAL3	Gualaca, Chiri	0.76	84	eS	Sb	16 26 08.9	+1.3
PSOM3	Paja de Sombre	0.76	72	⇓iP	Pb	16 25 57.4	-0.3
DRK0	Durika	0.83	347	eP	Pg	16 25 58.0	-1.0
DRK0				eS	Sn	16 26 11.8	-0.1
DRK0	Durika	0.83	347	eP	Pg	16 25 58.0	-1.0
DRK0				eS	Sn	16 26 12.0	+0.1
CHGR2	Aguacate	1.02	62	eP	Pg	16 26 01.2	-1.4
CHGR2				eS	Sg	16 26 14.7	-1.4
PEZE	Perez Zeledon,	1.11	327	eP	Pg	16 26 02.2	-2.1
CNI2	El Empalme, Bo	1.13	31	eP	Pg	16 26 03.2

WRAB				IAmb	IAmb	17 12 54.2	
	comp=Z,18nm,1.6s						
WB2	**Warramunga Arr**	**28.94**	**246**	P	**P**	**17 12 18.2**	**-0.2**
WB2				IAmb	IAmb	17 12 18.3	
	comp=Z,27nm,1.6s						
WRA	**Warramunga Arr**	**28.95**	**246**	P	**P**	**17 12 19.3**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=79,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**28.95**	**246**	P	**P**	**17 12 18.1**	**-0.4**
GUMO	**Guam**	**28.95**	**323**	LR	LR	17 22 26.8	
	comp=Z,86nm,20.5s,baz=238,slow=33						
STKA	**Stephens Creek**	**29.32**	**218**	P	**P**	**17 12 23.3**	**+1.7**
	comp=Z,2.5nm,0.7s,baz=69,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**29.32**	**218**	P	**P**	**17 12 18.3**	**-3.3**
H11N1	**WAKE ISLAND Hy**	**29.55**	**9**	T	T	17 44 28.2	
	baz=188,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**29.56**	**9**	T	T	17 44 30.5	
	baz=188,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**29.57**	**9**	T	T	17 44 29.6	
	baz=188,slow=76,SNR=16						
AS31	**Alice Springs**	**30.56**	**239**	P	**P**	**17 12 32.1**	**-0.6**
ASAR	**Alice Springs**	**30.56**	**239**	P	**P**	**17 12 31.4**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=62,slow=9.8,SNR=22						
ASAR	**Alice Springs**	**30.56**	**239**	P	**P**	**17 12 32.5**	**-0.3**
KNRA	**Kununurra**	**33.34**	**256**	P	**P**	**17 13 00.1**	**+3.1**
SOEI	**Soe**	**37.59**	**267**	P	**P**	**17 13 34.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**47.65**	**267**	P	**P**	**17 14 55.5**	**+0.9**
VNDA	**Vanda**	**67.81**	**180**	P	**P**	**17 17 14.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=355,slow=8.0,SNR=9.8						
VNDA	**Vanda**	**67.81**	**180**	P	**P**	**17 17 14.8**	**+0.4**
VNDA				IAmb	IAmb	17 17 42.2	
	comp=Z,5.8nm,1.6s						
QSPA	**South Pole Qui**	**80.30**	**180**	P	**P**	**17 18 27.8**	**+0.6**
QSPA				IAmb	IAmb	17 18 33.2	
	comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**83.31**	**20**	P	**P**	**17 18 44.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=220,slow=3.5,SNR=3.2						
NVAR	**Mina Array Bea**	**87.68**	**51**	P	**P**	**17 19 06.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=250,slow=7.6,SNR=3.2						
U15A	**North Rim**	**91.92**	**54**	P	**P**	**17 19 23.4**	**-1.7**
U15A				IAmb	IAmb	17 19 24.2	
	comp=Z,3.2nm,0.8s						

*ISK **10** 17:10:25.6, 39.°93N×42.°12E, h11km, ML2.1/8*
*DDA **10** 17:10:26.2, 39.°92N×42.°11E, h7km±2km, ML2.5*
ISC 10 17:10:25.8±0.9, 39.°93N±0.°03×42.°10E±0.°02, h17km±6km, n21, σ1§21/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.19**	**308**	*i* P	**Pg**	**17 10 30.8**	**0.0**
HOMI				*i* S	**Sg**	**17 10 34.1**	**-0.1**
HOMI				IAML		17 10 37.0	
	comp=N,1μm,0.4s						
HOMI				IAML		17 10 38.0	
	comp=E,1μm,0.3s						
KOPR	**Koprukoy-ERZUR**	**0.20**	**289**	PG	**Pg**	**17 10 30.6**	**-0.3**
KOPR				SG	**Sg**	**17 10 34.1**	**-0.2**
EATA	**Eleskirt**	**0.31**	**102**	*i* P	**Pg**	**17 10 32.4**	**-0.2**
EATA				*i* S	**Sg**	**17 10 36.6**	**-0.7**
ERZM	**Erzurum**	**0.56**	**268**	*i* P	**Pg**	**17 10 37.6**	**+0.4**
ERZM				*i* S	**Sg**	**17 10 43.5**	**-1.3**
AKDA	**Akdag**	**0.59**	**287**	*i* P	**Pg**	**17 10 37.9**	**+0.2**
AKDA				*i* S	**Sg**	**17 10 45.6**	**0.0**
EJDE	**Erzurum, Palan**	**0.62**	**262**	*i* P	**Pg**	**17 10 38.7**	**+0.5**
EJDE				*i* S	**Sg**	**17 10 46.0**	**-0.6**
EJDE				IAML		17 10 53.0	
	comp=E,171nm,0.9s						
SENK	**Senkaya-Erzuru**	**0.66**	**17**	PG	**Pg**	**17 10 38.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.77**	**117**	PG	**Pg**	**17 10 40.6**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.86**	**156**	PG	**Pg**	**17 10 42.5**	**-0.1**
KOTA	**Agri, Merkez-K**	**0.86**	**98**	*i* P	**Pb**	**17 10 43.1**	**+0.7**
KOTA				*i* S	**Sb**	**17 10 55.2**	**+1.5**
EMRE	**Erzurum,Aziziy**	**0.87**	**277**	*i* P	**Pb**	**17 10 43.3**	**+0.7**
EMRE				*i* S	**Sg**	**17 10 54.9**	**+0.6**
DDEM	**Demirkent**	**1.00**	**345**	*i* P	**Pg**	**17 10 45.4**	**+0.1**
DDEM				*i* S	**Sb**	**17 10 58.9**	**+1.2**
DDEM				IAML		17 11 03.0	
	comp=N,190nm,0.3s						
DDEM				IAML		17 11 07.0	
	comp=E,94nm,0.4s						
DBAD	**Bademkaya**	**1.13**	**344**	*i* P	**Pg**	**17 10 47.6**	**-0.2**
DBAD				*i* S	**Sg**	**17 10 59.0**	**-3.6**
DAGI	**Agillar**	**1.16**	**353**	*i* P	**Pg**	**17 10 48.0**	**-0.2**
DAGI				*i* S	**Sg**	**17 11 01.9**	**-1.5**
MUSM	**Mu-Merkez**	**1.29**	**201**	*i* P	**Pn**	**17 10 48.9**	**-0.1**
MUSM				*i* S	**Sb**	**17 11 03.1**	**-2.7**
YEDI	**Yedisu-Bingol**	**1.30**	**248**	PN	**Pn**	**17 10 50.3**	**+1.1**
GURO	**Guroymak-BITLI**	**1.38**	**182**	PN	**Pn**	**17 10 51.4**	**+1.1**
BNGB	**Bingl**	**1.44**	**230**	PN	**Pn**	**17 10 52.5**	**+1.3**
BAYB	**BAYBURT**	**1.45**	**284**	*i* P	**Pg**	**17 10 53.8**	**0.0**
BAYB				*i* S	**Sn**	**17 11 07.7**	**-2.5**
BATM	**Batumi**	**1.70**	**350**	PN	**Pn**	**17 10 55.9**	**+1.2**
AKDM	**Akdamar-Van**	**1.74**	**157**	PN	**Pn**	**17 10 56.5**	**+1.2**

*DJA **10** 17:21:43.9±0.6, 2.°N±4.°×12.°1E±.°, h34km±7km, M4.6/13, mB4.9/6, mb4.7/13, MLv4.8/13, Mw(mB)4.2/6*
*IDC **10** 17:21:46.3±0.8, 2.°16N×121.°35E, h54km±8km, mb4.1/5, mb1 4.3/6, mb1mx3.7/34, mbtmp4.4/6, MS3.3/2, Ms1 3.5/2, ms1mx2.9/34, Error ellipse: s-maj=58.9km s-min=16.8km az=55.0*
*NEIC **10** 17:21:46.4±1.4, 2.°11N±0.°07×121.°19E±0.°02, h51km±7km, mb4.4/25, Error ellipse: s-maj=10.3km s-min=3.4km az=179.0*
ISC 10 17:21:44.9±0.5, 2.°13N±0.°05×121.°19E±0.°06, h41km, n63, σ1§17/67, mb4.4/19, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**1.10**	**202**		**Pn**	**17 22 04.0**	**+0.2**
TOLI2				Sn	**Sn**	**17 22 19.1**	**+1.4**
MRSI	**Marisa**	**1.81**	**156**	P	**Pn**	**17 22 14.3**	**+0.8**
MRSI				S	**Sn**	**17 22 36.8**	**+1.6**
MPSI	**Mapaga**	**2.21**	**216**	P	**Pn**	**17 22 18.8**	**-0.2**
APSI	**Ampana**	**3.06**	**171**	P	**Pn**	**17 22 32.4**	**+1.7**
LUWI	**Luwuk**	**3.53**	**153**		**Pn**	**17 22 39.4**	**+2.2**
LUWI				Sn	**Sn**	**17 23 20.4**	**+2.7**
LUWI	**Luwuk**	**3.53**	**153**	P	**Pn**	**17 22 39.6**	**+2.4**
SGSI	**Sangihe**	**4.60**	**70**	P	**Pn**	**17 22 49.9**	**-2.0**
TTSI	**Tana Toraja**	**5.32**	**195**	P	**Pn**	**17 23 01.9**	**0.0**
	0.3nm786nm44nm,0.6s						
BKB	**Balikpapan**	**5.46**	**232**	Pn	**Pn**	**17 23 04.4**	**+0.7**
BKB				Sn	**Sn**	**17 24 05.1**	**-0.3**
TNTI	**Ternate**	**6.32**	**102**		**Pn**	**17 23 15.6**	**+0.1**
TNTI	**Ternate**	**6.32**	**102**	P	**Pn**	**17 23 14.9**	**-0.6**
	0.2nm793nm60nm,0.5s						
SANI	**Sanana**	**6.34**	**131**	P	**Pn**	**17 23 13.2**	**-2.7**
	0.4nm1μm129nm,0.7s						
BNSI	**Bone**	**6.58**	**190**	P	**Pn**	**17 23 21.0**	**+1.8**
	0.1nm36nm,0.8s						
MTKI	**Muara Teweh, K**	**7.00**	**244**	P	**Pn**	**17 23 25.0**	**+0.1**
KAPI	**Kappang**	**7.24**	**191**	LR	LR	17 26 44.9	
	comp=Z,188nm,20.9s,baz=22,slow=41						
NLAI	**Namlea**	**7.96**	**132**	P	**Pn**	**17 23 38.9**	**+0.8**
	31nm,0.6s						
MSAI	**Masohi**	**9.46**	**125**	P	**Pn**	**17 23 59.3**	**+0.7**
	215nm28nm,0.7s						
SWI	**Sorong**	**10.49**	**106**	P	**Pn**	**17 24 12.2**	**-0.7**
	906nm37nm,0.9s						
SIJI	**Sorong**	**10.50**	**106**	P	**Pn**	**17 24 12.3**	**-0.6**
	1.0nm,0.3s,baz=301,slow=8.8,SNR=6.9						
FAKI	**Fak Fak**	**12.14**	**114**	Pn	**Pn**	**17 24 33.9**	**-1.5**
SOEI	**Soe**	**12.20**	**166**	Pn	**Pn**	**17 24 33.2**	**-3.1**
MTN	**Manton Dam**	**17.85**	**147**	P	**Pn**	**17 25 50.5**	**+0.2**
MTN				IAmb	IAmb	17 26 03.5	
	comp=Z,29nm,1.2s						
KNRA	**Kununurra**	**19.21**	**157**	P	**P**	**17 26 05.0**	**-0.6**
KNRA				IAmb	IAmb	17 26 14.6	
	comp=Z,20nm,0.8s						
TPUB	**Ta-pu**	**21.05**	**359**	P	**P**	**17 26 28.4**	**+2.9**
YULB	**Yu-li**	**21.13**	**0**	P	**P**	**17 26 27.4**	**+1.0**
YULB				IAmb	IAmb	17 26 32.3	
	comp=Z,32nm,1.4s						
SSLB	**Suanglung**	**21.53**	**359**	P	**P**	**17 26 31.6**	**+1.0**
PSA00	**Pilbara Seismi**	**23.60**	**183**	P	**P**	**17 26 52.2**	**+0.1**
WB0	**Warramunga Arr**	**25.33**	**150**	P	**P**	**17 27 07.5**	**-0.6**
WB0				IAmb	IAmb	17 27 17.8	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**25.45**	**150**	P	**P**	**17 27 08.4**	**-0.7**
WRAB				IAmb	IAmb	17 27 09.9	
	comp=Z,11nm,0.9s						
JMZ	**Minamidaito 2**	**25.45**	**21**	P	**P**	**17 27 09.0**	**-0.1**
WRA	**Warramunga Arr**	**25.45**	**150**	P	**P**	**17 27 08.5**	**-0.7**
	comp=Z,8.4nm,0.8s,baz=335,slow=9.7,SNR=42						
WRA	**Warramunga Arr**	**25.45**	**150**	P	**P**	**17 27 08.4**	**-0.8**
WB2	**Warramunga Arr**	**25.46**	**150**	P	**P**	**17 27 08.7**	**-0.6**
WB2				IAmb	IAmb	17 27 09.9	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**25.57**	**150**	P	**P**	**17 27 09.4**	**-0.8**
WR0				IAmb	IAmb	17 27 20.7	
	comp=Z,9.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.18**	**308**	LR	LR	17 39 21.2	
	comp=Z,87nm,18.2s,baz=166,slow=39						
AS31	**Alice Springs**	**28.47**	**155**	P	**P**	**17 27 35.9**	**-0.4**
ASAR	**Alice Springs**	**28.47**	**155**	P	**P**	**17 27 35.7**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=344,slow=14,SNR=56						
ASAR				PcP	**PcP**	**17 30 47.3**	**-0.4**
	comp=Z,1.9nm,1.1s,baz=354,slow=2.9,SNR=5.1						
ASAR				pPcP		17 31 03.8	
	comp=Z,0.4nm,0.4s,baz=342,slow=2.6,SNR=5.1						
ASAR	**Alice Springs**	**28.47**	**155**	P	**P**	**17 27 34.7**	**-1.6**
ASAR				PcP	**PcP**	**17 30 46.8**	**-1.0**
STKA	**Stephens Creek**	**38.97**	**152**	P	**P**	**17 29 07.8**	**+0.5**
	comp=Z,8.6nm,0.8s,baz=326,slow=8.5,SNR=9.8						
STKA	**Stephens Creek**	**38.97**	**152**	P	**P**	**17 29 06.9**	**-0.4**
JSD	**Sado**	**39.01**	**22**	P	**P**	**17 29 08.8**	**+1.3**
JSD				IAmb	IAmb	17 29 13.7	
	comp=Z,8.8nm,1.4s						
USA0B	**Ussuriysk Arra**	**42.97**	**11**	P	**P**	**17 29 40.0**	**0.0**
USA0B				IAmb	IAmb	17 30 04.7	
	comp=Z,4.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**42.97**	**11**	pP	pP	17 29 54.0	+4.0
	comp=Z,2.1nm,0.6s,baz=213,slow=8.0,SNR=4.4						
ARMA	**Armidale**	**43.48**	**141**	P	**P**	**17 29 43.7**	**-0.7**
ARMA				IAmb	IAmb	17 29 56.4	
	comp=Z,7.3nm,0.8s						
KLR	**Kul'dur**	**47.78**	**9**	pP	pP	17 30 31.7	+3.5
	comp=Z,1.6nm,0.7s,baz=187,slow=7.3,SNR=4.4						
MK31	**Makanchi Array**	**55.86**	**329**	P	**P**	**17 31 18.9**	**+0.5**
MKAR	**Makanchi Array**	**55.86**	**329**	P	**P**	**17 31 19.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=119,slow=7.7,SNR=4.1						
MKAR				pP	**sP**	**17 31 33.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=123,slow=8.0,SNR=8.3						
MKAR				PcP	**PcP**	**17 32 15.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=119,slow=6.2,SNR=4.0						
MKAR				pPcP		17 32 32.0	
	comp=Z,1.0nm,0.6s,baz=128,slow=4.6,SNR=4.8						
MKAR	**Makanchi Array**	**55.86**	**329**	P	**P**	**17 31 19.0**	**+0.6**
ZAA0	**Zalesovo Array**	**59.64**	**336**	P	**P**	**17 31 45.8**	**+1.0**
ZALV	**Zalesovo Beam**	**59.64**	**336**	pP	pP	17 31 59.5	+4.4
	comp=Z,1.4nm,0.6s,baz=104,slow=6.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**59.64**	**336**	P	**P**	**17 31 45.8**	**+1.1**
CASY	**Casey**	**68.69**	**185**	P	**P**	**17 32 43.6**	**-0.1**
TIXI	**Tiksi**	**69.59**	**3**	P	**P**	**17 32 47.2**	**-2.1**
TIXI				IAmb	IAmb	17 33 04.4	
	comp=Z,8.9nm,1.3s						
ABKAR	**Akbulak array**	**69.95**	**322**	P	**P**	**17 32 52.4**	**+0.4**
ABKAR	**Akbulak array**	**69.95**	**322**	P	**P**	**17 32 52.1**	**+0.1**
ABKAR				IAmb	IAmb	17 33 10.4	
	comp=Z,2.0nm,1.1s						
NRIK	**Noril'sk**	**70.74**	**348**	pP	pP	17 33 11.7	+4.8
	comp=Z,4.3nm,0.6s,baz=119,slow=7.0,SNR=5.3						
NRIK	**Noril'sk**	**70.74**	**348**	P	**P**	**17 32 56.8**	**+0.4**
VOI	**Vohitsoka**	**76.36**	**247**	P	**P**	**17 33 29.6**	**-0.9**
VNDA	**Vanda**	**82.60**	**172**	P	**P**	**17 34 03.7**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=314,slow=6.0,SNR=26						
VNDA	**Vanda**	**82.60**	**172**	P	**P**	**17 34 03.3**	**+0.1**
VNDA				IAmb	IAmb	17 34 04.3	
	comp=Z,3.3nm,0.8s						
BRTR	**Keskin Array B**	**86.77**	**309**	P	**P**	**17 34 25.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=132,slow=2.1,SNR=3.0						
BRTR				pP	**sP**	**17 34 40.8**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=123,slow=6.3,SNR=6.1						
BRTR	**Keskin Array B**	**86.77**	**309**	P	**P**	**17 34 24.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**118.10**	**286**	PKP	**PKPdf**	**17 40 28.2**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=321,slow=1.8,SNR=2.6						
TORD				pPKP	**sPKPdf**	**17 40 44.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=47,slow=1.8,SNR=5.4						

OMAN 10 17:36:00.1±1.3, 17.°97N×59.°73E, h17km, mb4.7/1, ml3.5/7, Error ellipse: s-maj=13.8km s-min=6.5km az=130.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**2.85**	**314**	P	Pn	17 36 45.5	+0.7
DQM				S	Sn	17 37 21.2	+2.4
	SNR=7.7						
MHTO	**MHTO**	**3.43**	**331**	P	Pn	17 36 52.6	-0.3
	SNR=9.0						
MHTO				S	Sn	17 37 34.1	+0.9
	SNR=7.1						
SHAO	**Shalim**	**3.91**	**271**	P	Pn	17 36 59.1	-0.4
	SNR=5.1						
SHAO				S	Sn	17 37 44.9	-0.1
	SNR=11						
JLN	**Jalan Bani Buh**	**4.17**	**356**	P	Pn	17 37 02.0	-1.0
JLN				S	Sn	17 37 50.3	-1.2
	SNR=7.6						
DMTO	**DMTO**	**4.56**	**268**	P	Pn	17 37 08.2	-0.2
	SNR=20						
DMTO				S	Sn	17 37 59.9	-1.3
JMDO	**Jabal Madar**	**4.64**	**341**	P	Pn	17 37 10.4	+0.9
JMDO				S	Sn	17 38 05.1	+2.1
	SNR=5.6						
WBK	**Wadi Bani Khal**	**4.67**	**351**	P	Pn	17 37 10.4	+0.5
	SNR=15						
WBK				S	Sn	17 38 05.7	+1.9
RBK	**Rabkut**	**5.29**	**266**	P	Pn	17 37 19.1	+0.6
RBK				S	Sn	17 38 18.3	-0.9
SMDO	**Samad**	**5.30**	**343**	P	Pn	17 37 19.0	+0.3
	SNR=31						
SMDO				S	Sn	17 38 18.9	-0.6
	SNR=8.0						
BSY	**Bisya**	**5.31**	**334**	P	Pn	17 37 19.6	+0.8
WSAR	**Wadi Sarin**	**5.34**	**349**	P	Pn	17 37 19.5	+0.3
WSAR				S	Sn	17 38 21.5	+1.1
DOK	**Doka**	**5.36**	**278**	P	Pn	17 37 19.1	-0.4
DOK				S	Sn	17 38 21.2	+0.3
WHFO	**Wadi Hawf**	**5.68**	**270**	P	Pn	17 37 23.0	-0.8
WHFO				S	Sn	17 38 29.0	+0.4
BIDO	**Bidbid**	**5.72**	**345**	P	Pn	17 37 25.2	+0.7

*IDC **10** 17:36:27.7±48.0, 18.°23S×173.°45W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.7/34, mbtmp4.4/3, Error ellipse: s-maj=913.3km s-min=174.9km az=82.0*
*NEIC **10** 17:36:30.2±0.9, 18.°5S±0.°3×173.°39W±0.°06, h9km±6km, mb4.6/12, Error ellipse: s-maj=41.5km s-min=6.9km az=186.0*
ISC 10 17:36:32.3±1.1, 18.°4S±0.°3×173.°4W±0.°1, h31km, n17, σ0§68/17, mb4.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.33**	**103**	Pn	**Pn**	**17 37 22.2**	**0.0**
PATS	**Pohnpei**	**37.54**	**309**	P	**P**	**17 43 43.5**	**-0.3**
CTAO	**Charters Tower**	**38.11**	**261**	P	**P**	**17 43 49.3**	**+0.6**
CTAO				IAmb	IAmb	17 43 52.4	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**42.65**	**243**	P	**P**	**17 44 26.1**	**0.0**
	comp=Z,6.8nm,1.1s,baz=86,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**42.65**	**243**	P	**P**	**17 44 25.9**	**-0.2**
STKA				IAmb	IAmb	17 44 26.5	
	comp=Z,7.1nm,1.8s						
WR0	**Warramunga Arr**	**49.07**	**259**	P	**P**	**17 45 16.5**	**-0.5**
WR0				IAmb	IAmb	17 45 41.8	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**49.24**	**259**	P	**P**	**17 45 17.8**	**-0.5**
WB0				IAmb	IAmb	17 45 18.1	
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**49.25**	**259**	P	**P**	**17 45 18.0**	**-0.4**
WB2				IAmb	IAmb	17 45 50.2	
	comp=Z,17nm,1.6s						
WRAB	**Tennant Creek**	**49.25**	**259**	P	**P**	**17 45 18.1**	**-0.4**
WRAB				IAmb	IAmb	17 45 34.3	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**49.26**	**259**	P	**P**	**17 45 18.2**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=97,slow=7.0,SNR=155						
WRA	**Warramunga Arr**	**49.26**	**259**	P	**P**	**17 45 17.4**	**-1.1**
AS31	**Alice Springs**	**49.28**	**254**	P	**P**	**17 45 18.2**	**-0.4**
ASAR	**Alice Springs**	**49.28**	**254**	P	**P**	**17 45 18.2**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=89,slow=8.7,SNR=104						
ASAR	**Alice Springs**	**49.28**	**254**	P	**P**	**17 45 18.0**	**-0.6**
MTN	**Manton Dam**	**53.58**	**267**	P	**P**	**17 45 52.4**	**+1.6**
KNRA	**Kununurra**	**55.21**	**263**	P	**P**	**17 46 03.4**	**+0.7**
MORW	**Morawa**	**64.68**	**246**	P	**P**	**17 47 07.8**	**+0.1**

*IDC **10** 17:46:05.8±2.5, 25.°24N×142.°64E, h0km, mb3.9/9, mb1 3.9/9, mb1mx3.6/48, mbtmp3.9/9, MS3.3/2, Ms1 3.3/2, ms1mx2.7/36, Error ellipse: s-maj=116.1km s-min=21.4km az=77.0*
*NEIC **10** 17:46:11.8±1.4, 25.°15N±0.°08×142.°4E±0.°2, h38km±9km, mb4.3/10, Error ellipse: s-maj=23.4km s-min=10.3km az=101.0*
ISC 10 17:46:10.6±1.0, 25.°22N±0.°08×142.°5E±0.°2, h32km, n27, σ0§89/26, mb4.2/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.89**	**352**	Sn	**Sb**	**17 47 07.7**	**0.0**
	42nm,0.3s,baz=290,slow=21,SNR=5.7						
JCJ	**Chichijima**	**1.89**	**352**	Pn	**Pb**	**17 46 43.3**	**-1.2**
JSU	**Suzuyama**	**12.29**	**303**	Pn	**Pn**	**17 49 03.3**	**-0.2**
JMM	**Marumori**	**12.69**	**354**	Pn	**Pn**	**17 49 09.5**	**+0.6**
KSRS	**Korea Array**	**17.39**	**318**	LR	LR	17 56 34.2	
	comp=Z,95nm,18.1s,baz=26,slow=36						
GSTR	**Great Sitkin T**	**41.22**	**38**	P	**P**	**17 53 52.2**	**-0.2**
WB0	**Warramunga Arr**	**45.40**	**191**	P	**P**	**17 54 23.7**	**-2.7**
WB0				IAmb	IAmb	17 54 30.5	
	comp=Z,7.3nm,1.1s						
WR0	**Warramunga Arr**	**45.56**	**190**	P	**P**	**17 54 26.7**	**-1.0**
WRAB	**Tennant Creek**	**45.57**	**191**	P	**P**	**17 54 27.3**	**-0.4**
WRAB				IAmb	IAmb	17 54 49.1	
	comp=Z,8.6nm,1.2s						
WB2	**Warramunga Arr**	**45.58**	**191**	P	**P**	**17 54 26.9**	**-0.9**
WRA	**Warramunga Arr**	**45.58**	**191**	P	**P**	**17 54 27.2**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=10,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**49.30**	**190**	P	**P**	**17 54 57.9**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=6.2,slow=6.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**51.08**	**320**	P	**P**	**17 55 10.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=81,slow=4.8,SNR=3.6						
ZALV				LR	LR	18 17 09.9	
	comp=Z,35nm,20.1s,baz=122,slow=36						
MKAR	**Makanchi Array**	**51.88**	**311**	P	**P**	**17 55 16.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=98,slow=7.6,SNR=4.3						
MKAR				PcP	**PcP**	**17 56 29.5**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=90,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**51.88**	**311**	P	**P**	**17 55 15.7**	**-0.3**
KURK	**Kurchatov**	**54.49**	**315**	P	**P**	**17 55 36.1**	**+1.0**
KURBB	**Kurchatov Arra**	**54.55**	**315**	P	**P**	**17 55 36.1**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=92,slow=7.9,SNR=28						
BVAR	**Borovoye Array**	**59.60**	**318**	P	**P**	**17 56 11.9**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=174,slow=18,SNR=8.6						
KK31	**Karatay Array**	**60.40**	**307**	P	**P**	**17 56 16.2**	**-0.7**
KK31				IAmb	IAmb	17 56 30.1	
	comp=Z,1.7nm,0.9s						
KKAR	**Karatay Array**	**60.40**	**307**	P	**P**	**17 56 16.2**	**-0.7**
KKAR	**Karatay Array**	**60.40**	**307**	P	**P**	**17 56 16.6**	**-0.3**
KKAR				IAmb	IAmb	17 56 30.1	
	comp=Z,1.7nm,0.9s						
ARU	**Arti**	**66.07**	**323**	P	**P**	**17 56 54.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=171,slow=4.1,SNR=6.0						
ARU	**Arti**	**66.07**	**323**	IAmb	IAmb	17 56 55.5	
	comp=Z,2.9nm,0.8s						
ABKAR	**Akbulak array**	**66.59**	**315**	P	**P**	**17 56 57.8**	**+0.1**
ABKAR				IAmb	IAmb	17 56 58.9	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**66.59**	**315**	P	**P**	**17 56 58.1**	**+0.4**
FINES	**FINESS Array B**	**79.74**	**334**	P	**P**	**17 58 15.8**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=44,slow=5.8,SNR=6.7						
AKASG	**Malin Array Be**	**84.28**	**324**	P	**P**	**17 58 39.1**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=50,slow=5.4,SNR=8.6						

*TEH **10** 17:49:53.1, 32.°62N×54.°99E, h9km, ML3.8*
*THR **10** 17:49:54.3±0.5, 32.°68N×54.°93E, h16km±6km, ML3.9*
ISC 10 17:49:53.7±0.9, 32.°60N±0.°03×55.°00E±0.°03, h10km, n50, σ1§52/53, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.61**	**235**	*e*		17 50 15.3	
	comp=Z,76μm,0.2s						
ICHK				*e*Pg	**Pb**	**17 50 05.8**	**-0.

MRVT	Maraveh tapeh	5.12	10	ePn	Pn	17 51 11.9	+1.4
BMDN	Meydan	5.29	283	ePn	Pn	17 51 14.8	+1.9
QABG	Abgarm-Qazvin	5.46	306	ePn	Pn	17 51 15.9	+0.6
HSAM	Samen	5.59	288	ePn	Pn	17 51 18.5	+1.4
QSDN	Sirdan	6.19	311	ePn	Pn	17 51 26.9	+1.6
ISRB	Sarab	7.95	313	ePn	Pn	17 51 51.3	+1.8

*IDC **10** 17:56:54.5±0.8, 56°.08N×164°.51E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.8/49, mbtmp3.9/18, ML4.0/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/46, Error ellipse: s-maj=22.8km s-min=13.4km az=160.0*
*KRSC **10** 17:56:55.0±1.3, 56°.00N×164°.63E, h53km±21km, ML4.2*
*MOS **10** 17:56:57.3±1.1, 56°.02N×164°.56E, h40km, mb4.5/8, Error ellipse: s-maj=7.0km s-min=4.5km az=56.9*
*NEIC **10** 17:56:59±1.5, 56°.05N±0°.10×164°.7E±0°.1, h30km±4km, mb4.3/75, Error ellipse: s-maj=15.6km s-min=8.1km az=151.0*
ISC 10 17:56:54.7±2.2, 56°.01N±0°.04×164°.58E±0°.03, h5km±14km, n271, σ1°18/289, mb4.4/58, 1C, Komandorsky Islands region

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.01	282	PN	Pb	17 57 13.1	-1.6
KBTR				S	Sb	17 57 26.7	-1.5
KBTR	Krutoberegovo	1.01	282	eP	Pb	17 57 13.1	-1.6
KBTR				eS	Sb	17 57 26.7	-1.5
KBG	Krutoberegovo	1.08	284	PN	Pb	17 57 14.1	-1.8
KBG				S	Sb	17 57 28.3	-2.0
KBG	Krutoberegovo	1.08	284	i P	Pb	17 57 14.1	-1.8
KBG				eS	Sb	17 57 28.3	-2.0
BKI	Bering	1.13	135	PN	Pn	17 57 15.8	-1.3
BKI				S	Sb	17 57 30.3	-1.3
BKI	Bering	1.13	135	i P	Pn	17 57 15.8	-1.3
BKI				eS	Sb	17 57 30.3	-1.3
SMKR	Semkarok	1.83	290	PN	Pn	17 57 26.5	-0.4
SMKR				S	Sn	17 57 51.0	+0.5
SMKR	Semkarok	1.83	290	eP	Pn	17 57 26.5	-0.4
SMKR				eS	Sn	17 57 51.0	+0.5
BDR	Baidarnaya	1.96	288	PN	Pn	17 57 28.9	+0.1
BDR				S	Sn	17 57 54.3	+0.5
BDR	Baidarnaya	1.96	288	eP	Pn	17 57 28.9	+0.1
BDR				eS	Sn	17 57 54.3	+0.5
SRKR	Sorokina	2.01	290	PN	Pn	17 57 29.1	-0.3
SRKR	Sorokina	2.01	290	eP	Pn	17 57 29.1	-0.3
ZLN	Zelenaya	2.12	272	PN	Pn	17 57 31.5	+0.6
ZLN	Zelenaya	2.12	272	eP	Pn	17 57 31.5	+0.6
CIRR	Tsirk	2.15	275	PN	Pn	17 57 32.0	+0.6
CIRR	Tsirk	2.15	275	eP	Pn	17 57 32.0	+0.6
BZGR	Bezymyannyi-Gr	2.19	270	PN	Pn	17 57 31.7	-0.1
BZGR				S	Sn	17 57 57.9	-1.4
BZGR	Bezymyannyi-Gr	2.19	270	eP	Pn	17 57 31.7	-0.1
BZGR				eS	Sn	17 57 57.9	-1.4
LGNR	Loginova	2.19	274	PN	Pn	17 57 32.4	+0.4
LGNR	Loginova	2.19	274	eP	Pn	17 57 32.4	+0.4
KLY	Klyuchi	2.22	280	PN	Pn	17 57 30.6	-1.6
KLY				S	Sn	17 57 56.4	-3.6
KLY	Klyuchi	2.22	280	i P	Pn	17 57 30.6	-1.6
KLY				eS	Sn	17 57 56.4	-3.6
BZWR	Bezymyannyi-We	2.30	271	PN	Pn	17 57 33.8	+0.4
BZWR	Bezymyannyi-We	2.30	271	eP	Pn	17 57 33.8	+0.4
KIRR	Kirishev	2.38	271	PN	Pn	17 57 35.1	+0.5
KIRR	Kirishev	2.38	271	i P	Pn	17 57 35.1	+0.5
KPT	Kopyto	2.45	271	PN	Pn	17 57 36.2	+0.8
KPT	Kopyto	2.45	271	eP	Pn	17 57 36.2	+0.8
KMNR	Kamenistaya	2.46	266	PN	Pn	17 57 36.7	+1.1
KMNR				S	Sn	17 58 06.0	-0.1
KMNR	Kamenistaya	2.46	266	eP	Pn	17 57 36.7	+1.1
KMNR				eS	Sn	17 58 06.0	-0.1
TUMD	Tumrok D	2.50	253	eP	Pn	17 57 37.3	+1.2
TUMD				eS	Sn	17 58 06.4	-0.7
KZV	Kizimen	2.59	252	PN	Pn	17 57 38.0	+0.5
KZV	Kizimen	2.59	252	eP	Pn	17 57 38.0	+0.5
TUMR	Tumrok	2.62	256	PN	Pn	17 57 37.3	-0.4
TUMR				S	Sn	17 58 06.4	-3.5
TUMR	Tumrok	2.62	256	eP	Pn	17 57 38.9	+1.2
KOZ	Kozyrevsk	2.64	273	PN	Pn	17 57 39.2	+1.2
KOZ	Kozyrevsk	2.64	273	eP	Pn	17 57 39.2	+1.2
SRDR	Sredinnyy	2.74	279	PN	Pn	17 57 40.2	+0.8
SRDR				S	Sn	17 58 12.8	-0.1
SRDR	Sredinnyy	2.74	279	eP	Pn	17 57 40.2	+0.8
SRDR				eS	Sn	17 58 12.8	-0.1
ESO	Esso	3.31	271	PN	Pn	17 57 49.4	+2.3
ESO	Esso	3.31	271	eP	Pn	17 57 49.4	+2.3
OSSR	Ossora	3.36	347	PN	Pn	17 57 47.1	-0.7
OSSR				S	Sn	17 58 25.3	-2.6
OSSR	Ossora	3.36	347	eP	Pn	17 57 47.1	-0.7
OSSR				eS	Sn	17 58 25.3	-2.6
KII	Karymskiy	3.55	238	PN	Pn	17 57 51.8	+1.2
KII	Karymskiy	3.55	238	eP	Pn	17 57 51.8	+1.2
SPN	Mys Shipunski	3.94	224	PN	Pn	17 57 54.7	-1.1
SPN	Mys Shipunski	3.94	224	eP	Pn	17 57 54.7	-1.1
SPN				eS	Sn	17 58 37.5	-4.9
PALN	Palana	3.97	323	PN	Pn	17 57 56.5	+0.3
PALN	Palana	3.97	323	eP	Pn	17 57 56.5	+0.3
NLC	Nalytchevo	4.16	229	PN	Pn	17 58 00.1	+1.2
NLC	Nalytchevo	4.16	229	eP	Pn	17 58 00.1	+1.2
NLC				eS	Sn	17 58 45.9	-2.0
SDLR	Sedlovina	4.29	233	PN	Pn	17 58 01.5	+0.7
SDLR	Sedlovina	4.29	233	eP	Pn	17 58 01.5	+0.7
KRER	Koryakskii	4.33	234	PN	Pn	17 58 02.5	+1.1
KRER	Koryakskii	4.33	234	eP	Pn	17 58 02.5	+1.1
SMAR	Somma	4.34	233	PN	Pn	17 58 02.4	+0.9
SMAR	Somma	4.34	233	eP	Pn	17 58 02.4	+0.9
KRX	Arik	4.34	235	PN	Pn	17 58 02.7	+1.2
KRX	Arik	4.34	235	eP	Pn	17 58 02.7	+1.2
UGLR	Uglovaya	4.36	232	PN	Pn	17 58 02.8	+1.0
UGLR	Uglovaya	4.36	232	eP	Pn	17 58 02.8	+1.0
AVH	Avacha	4.37	233	PN	Pn	17 58 03.1	+1.4
AVH	Avacha	4.37	233	eP	Pn	17 58 03.1	+1.4
KOK	Koryaka	4.39	234	PN	Pn	17 58 03.2	+1.1
KOK	Koryaka	4.39	234	eP	Pn	17 58 03.2	+1.1
GNL	Ganaly	4.48	242	PN	Pn	17 58 05.1	+1.7
GNL	Ganaly	4.48	242	eP	Pn	17 58 05.1	+1.7
DALK	Dalny	4.52	231	PN	Pn	17 58 04.4	+0.7
DALK	Dalny	4.52	231	eP	Pn	17 58 04.4	+0.7
PET	Petropavlovsk	4.57	232	ePN	Pn	17 58 05.4	+1.0
PET	Petropavlovsk	4.57	232		Pn	17 58 05.6	+1.2
KRMR	Karymshinskiy	4.93	232	PN	Pn	17 58 11.2	+1.8
KRMR	Karymshinskiy	4.93	232	eP	Pn	17 58 11.2	+1.8
KRMR				eS	Sn	17 59 05.1	-1.7
PEA0B	Petropavlovsk-	4.95	237	PN	Pn	17 58 10.9	+1.3
PEA0B	Petropavlovsk-	4.95	237	Pn	Pn	17 58 10.9	+1.3
PETK	Petropavlovsk- 1.3nm,0.3s,baz=74,slow=14,SNR=41	4.95	237	Pn	Pn	17 58 10.6	+1.0
PETK				LR	LR	18 00 02.3	
	comp=Z,120nm,18.7s,baz=295,slow=38						
PETK	Petropavlovsk-	4.95	237	PN	Pn	17 58 10.5	+0.9
PETK	Petropavlovsk-	4.95	237	Pn	Pn	17 58 10.5	+0.9
GRL	Gorelyy	5.15	230	PN	Pn	17 58 14.0	+1.5
GRL	Gorelyy	5.15	230	eP	Pn	17 58 14.0	+1.5
MTVR	Mutnovka	5.15	229	PN	Pn	17 58 13.9	+1.3
MTVR	Mutnovka	5.15	229	eP	Pn	17 58 13.9	+1.3
MTVR				eS	Sn	17 59 09.9	-2.5
APC	Apacha	5.32	238	PN	Pn	17 58 17.3	+2.6
APC	Apacha	5.32	238	eP	Pn	17 58 17.3	+2.6
KDTR	Khodutka, Kamc	5.70	225	PN	Pn	17 58 19.8	-0.1
KDTR	Khodutka, Kamc	5.70	225	eP	Pn	17 58 19.8	-0.1
MIPR	Malaya Ipel'ka	5.92	234	PN	Pn	17 58 25.5	+2.4
MIPR	Malaya Ipel'ka	5.92	234	eP	Pn	17 58 25.5	+2.4
SMY	Shemya	6.46	117	PN	Pn	17 58 30.1	-0.2
SMY	Shemya	6.46	117	Pn	Pn	17 58 30.1	-0.2
PAU	Pauzhetka	6.47	229	PN	Pn	17 58 33.4	+2.8
PAU	Pauzhetka	6.47	229	eP	Pn	17 58 33.4	+2.8
KMSK	Kamenskaya	6.54	7	PN	Pn	17 58 32.8	+1.4
KMSK	Kamenskaya	6.54	7	eP	Pn	17 58 32.8	+1.4
SKR	Severo-Kuril's	7.35	227	PN	Pn	17 58 43.1	+0.5
SKR	Severo-Kuril's	7.35	227	eP	Pn	17 58 43.1	+0.5
ALID	Alaid	7.45	230	PN	Pn	17 58 46.0	+1.9
ALID	Alaid	7.45	230	eP	Pn	17 58 46.0	+1.9
AMKA	Amchitka	9.88	112	Pn	Pn	17 59 17.1	-0.1
GSTR	Great Sitkin T	12.02	101	Pn	Pn	17 59 46.5	-0.1
BILL	Bilibino	12.10	3	ePN	Pn	17 59 48.8	+1.2
BILL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ATKA	Atka Island	13.01	98	Pn	Pn	17 59 59.2	-0.8
JKA	Kamikawa-asahi	18.36	239	P	Pn	18 01 11.4	+1.5
JKA	Kamikawa-asahi	18.36	239	IAmb	IAmb	18 01 12.0	
	comp=Z,37nm,1.4s						
ASAJ	Asahikawa	18.36	239	P	Pn	18 01 11.4	+1.5
	comp=Z,0.5nm,0.3s,baz=66,slow=13,SNR=4.6						
YAK	Yakutsk	18.77	303	P	P	18 01 12.6	-1.8
	comp=Z,0.0nm,0.3s,baz=320,slow=0.6,SNR=4.6						
YAK	Yakutsk	18.77	303	IAmb	IAmb	18 01 13.3	
	comp=Z,7.9nm,0.6s						
SDPT	Sand Point	19.59	77	P	P	18 01 23.8	+0.4
	baz=286						
SDPT	Sand Point	19.59	77	P	P	18 01 22.2	-1.2
ERM	Erimo	19.72	234	P	Pn	18 01 27.2	+0.9
ERM				pmax	pmax		
	comp=Z,86nm,1.4s						
ERM	Erimo	19.72	234	P	Pn	18 01 27.2	+0.9
CNBA	Chernabura Isl	20.24	78	P	P	18 01 29.1	-1.4
CNBA				IAmb	IAmb	18 01 56.5	
	comp=Z,18nm,1.2s						
N18K	Kilae Creek	21.02	61	P	P	18 01 39.8	+0.8
	baz=275,SNR=5.4						
SVW2	Sparrevohn	21.14	60	P	P	18 01 40.1	-0.1
L19K	White Mountain	21.44	57	P	P	18 01 44.5	+1.1
	baz=272						
TIXI	Tiksi	21.69	330	P	P	18 01 47.4	+1.4
	comp=Z,1.4nm,0.7s,baz=111,slow=12,SNR=5.9						
TIXI	Tiksi	21.69	330	P	P	18 01 47.7	+1.7
N19K	Bonanza Creek	21.70	60	P	P	18 01 47.1	+0.8
	baz=275,SNR=8.5						
M20K	Styx River	22.26	57	P	P	18 01 52.9	+0.6
	baz=274,SNR=8.8						
P19K	Oil Pt	22.47	63	P	P	18 01 55.5	+0.9
	baz=279						
CHUM	Lake Minchumin	22.57	52	P	P	18 01 56.8	+1.3
	baz=270						
PPLA	Purkeypile	22.64	55	P	P	18 01 57.2	+0.7
	baz=272						
PPLA	Purkeypile	22.64	55	P	P	18 01 56.0	-0.5
PPLA				IAmb	IAmb	18 01 59.9	
	comp=Z,7.7nm,1.0s						
O20K	Slope Mountain	22.71	62	P	P	18 01 58.0	+0.9
	baz=279						
I21K	Tanana	22.75	49	P	P	18 01 57.5	+0.1
	baz=267						
SKT	Skwentna	23.01	57	P	P	18 02 00.1	-0.1
	baz=275,SNR=9.1						
SKT	Skwentna	23.01	57	P	P	18 01 59.7	-0.5
SKT				IAmb	IAmb	18 02 02.7	
	comp=Z,18nm,1.4s						
BPAW	Bear Paw Mtn.	23.16	51	P	P	18 02 01.1	-0.6
	baz=270,SNR=5.5						
BPAW	Bear Paw Mtn.	23.16	51	P	P	18 02 02.2	+0.5
KDAK	Kodiak Island	23.18	68	P	P	18 02 01.9	0.0
	comp=Z,5.2nm,0.6s,baz=299,slow=8.4,SNR=17						
KDAK	Kodiak Island	23.18	68	P	P	18 02 01.7	-0.2
KDAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KDAK	Kodiak Island	23.18	68	P	P	18 02 01.5	-0.4
	baz=284						
KDAK	Kodiak Island	23.18	68	P	P	18 02 01.7	-0.2
HOM	Homer	23.26	63	P	P	18 02 03.5	+0.8
MLY	Manley	23.27	49	P	P	18 02 02.0	-0.9
	baz=268						
MLY	Manley	23.27	49	P	P	18 02 03.3	+0.4
SUA	Susitna One	23.43	58	P	P	18 02 02.9	-1.7
	baz=277,SNR=24						
SUA	Susitna One	23.43	58	P	P	18 02 04.7	+0.1
TRF	Thorofare Moun	23.48	53	P	P	18 02 04.2	-0.9
	baz=272,SNR=12						
TRF	Thorofare Moun	23.48	53	P	P	18 02 05.9	+0.7
TRF				IAmb	IAmb	18 02 07.8	
	comp=Z,9.7nm,0.8s						
CNPM	China Poot	23.49	63	P	P	18 02 04.8	-0.2
BRLK	Bradley Lake	23.62	62	P	P	18 02 05.9	-0.5
BRLK				IAmb	IAmb	18 02 07.5	
	comp=Z,12nm,0.6s						
BRSE	Bradley Lake S	23.70	62	P	P	18 02 06.2	-0.9
	baz=281,SNR=6.8						
H23K	Yukon River	23.80	47	P	P	18 02 07.3	-0.7
	baz=268						
BWN	Browne	23.82	51	P	P	18 02 10.3	+2.1
BWN				IAmb	IAmb	18 02 11.5	
	comp=Z,11nm,0.6s						
I23K	Minto, Yukon-K	23.86	49	P	P	18 02 07.4	-1.1
	baz=269,SNR=5.4						
I23K	Minto, Yukon-K	23.86	49	P	P	18 02 08.6	0.0
I23K				IAmb	IAmb	18 02 11.6	
	comp=Z,17nm,1.6s						
RC01	Rabbit Creek A	23.97	59	P	P	18 02 08.9	-0.7
	baz=278						
RC01	Rabbit Creek A	23.97	59	P	P	18 02 09.4	-0.3
NEA2	Nenana	23.98	50	P	P	18 02 08.8	-1.0
	baz=271						
TOLK	Toolik Lake Re	24.05	40	P	P	18 02 09.3	-1.2
	baz=261,SNR=5.1						
TOLK	Toolik Lake Re	24.05	40	P	P	18 02 10.5	0.0
TOLK				IAmb	IAmb	18 02 12.9	
	comp=Z,12nm,1.4s						
MCK	McKinley	24.07	52	P	P	18 02 08.9	-1.8
	baz=273						
RND	Reindeer	24.13	53	P	P	18 02 11.0	-0.3
RND				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RND	Reindeer	24.13	53	P	P	18 02 11.0	-0.3
RND				IAmb	IAmb	18 02 12.6	
	comp=Z,6.8nm,0.8s						
SEW	Seward	24.27	61	P	P	18 02 11.1	-1.3
	baz=281,SNR=7.1						
SEW	Seward	24.27	61	P	P	18 02 12.0	-0.5
WAT1	Susitna Watana	24.31	54	P	P	18 02 11.2	-1.7
	baz=275						
MDM	Murphy Dome	24.34	49	P	P	18 02 14.7	+1.6
WRH	Wood River Hil	24.41	50	P	P	18 02 13.9	+0.1
WRH				IAmb	IAmb	18 02 15.6	
	comp=Z,21nm,1.4s						
H24K	Noodor Dome	24.48	47	P	P	18 02 13.2	-1.2
	baz=269						
CCB	Clear Creek Bu	24.53	50	P	P	18 02 14.9	+0.1
CCB				IAmb	IAmb	18 02 17.0	
	comp=Z,7.4nm,0.8s						
KNK	Knik Glacier	24.53	58	P	P	18 02 13.6	-1.3
	baz=278						
KNK	Knik Glacier	24.53	58	P	P	18 02 14.9	0.0
KNK				IAmb	IAmb	18 02 17.8	
	comp=Z,10nm,0.8s						
SML	Sawmill	24.53	57	P	P	18 02 13.8	-1.2
	baz=278,SNR=16						
SML	Sawmill	24.53	57	P	P	18 02 14.9	0.0
PWL	Port Wells	24.68	59	P	P	18 02 15.6	-0.6
WAT6	Susitna Watana	24.71	55	P	P	18 02 15.3	-1.4
	baz=276,SNR=6.4						
HDA	Harding Lake	24.91	51	P	P	18 02 17.1	-1.2
	baz=273						
IL31	Eielson Array	24.92	50	P	P	18 02 18.0	-0.3
ILAR	Eielson Array	24.92	50	P	P	18 02 18.0	-0.3
	comp=Z,2.1nm,0.8s,baz=260,slow=9.0,SNR=14						
ILAR	Eielson Array	24.92	50	P	P	18 02 18.8	+0.5
SCM	Sheep Creek Mo	25.00	57	P	P	18 02 19.0	-0.2
SCM				pmax	pmax		
	comp=Z,44nm,0.7s						
SCM	Sheep Creek Mo	25.00	57	P	P	18 02 19.0	-0.2
JSD	Sado	25.15	235	P	P	18 02 21.9	+1.4
JSD				IAmb	IAmb	18 02 31.6	
	comp=Z,7.5nm,0.9s						
GLI	Glacier Island	25.27	59	P	P	18 02 20.2	-1.3
	baz=281						
GLI	Glacier Island	25.27	59	P	P	18 02 20.3	-1.2
GLI				IAmb	IAmb	18 02 24.3	
	comp=Z,9.9nm,0.7s						
PRP	Porcupine Dome	25.46	48	P	P	18 02 22.0	-1.4
	baz=272						
M24K	Tolsona, Glenn	25.50	56	P	P	18 02 23.0	-0.7
	baz=279,SNR=8.5						
M24K	Tolsona, Glenn	25.50	56	P	P	18 02 24.6	+0.9
FYU	Fort Yukon	25.56	45	P	P	18 02 24.2	+0.2
FYU				IAmb	IAmb	18 02 41.0	
	comp=Z,9.9nm,1.5s						
FID	Port Fidalgo	25.59	59	P	P	18 02 24.5	+0.1
FID				IAmb	IAmb	18 02 28.3	
	comp=Z,4.5nm,0.7s						
HIN	Hinchinbrook I	25.65	60	P	P	18 02 24.9	-0.1
HIN				IAmb	IAmb	18 02 26.1	
	comp=Z,15nm,1.1s						
PAX	Paxson	25.70	54	P	P	18 02 25.3	-0.2
PAX				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PAX	Paxson	25.70	54	P	P	18 02 25.0	-0.5
	baz=277						
PAX	Paxson	25.70	54	P	P	18 02 25.3	-0.2
KLU	Klutina	25.72	57	P	P	18 02 25.5	-0.2
	baz=280						
KLU	Klutina	25.72	57	P	P	18 02 25.7	0.0
RIDG	Independent Ri	25.89	52	P	P	18 02 27.1	-0.1
	baz=276						
RIDG	Independent Ri	25.89	52	P	P	18 02 26.3	-0.8
SCRK	Sand Creek	26.24	51	P	P	18 02 29.9	-0.6
	baz=276,SNR=6.0						
SCRK	Sand Creek	26.24	51	P	P	18 02 29.1	-1.3
DOT	Dot Lake	26.24	52	P	P	18 02 29.0	-1.4
N25K	Chitina, Valde	26.32	57	P	P	18 02 30.8	-0.4
	baz=281,SNR=5.2						
N25K	Chitina, Valde	26.32	57	P	P	18 02 31.6	+0.4
N25K				IAmb	IAmb	18 02 32.5	
	comp=Z,3.9nm,0.7s						
MAJO	Matsushiro	26.39	234	P	P	18 02 34.1	+2.1
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO	Matsushiro	26.39	234	P	P	18 02 34.1	+2.1
MAJO				IAmb	IAmb	18 02 42.1	
	comp=Z,7.5nm,0.8s						
MAT	Matsushiro	26.39	234	P	P	18 02 32.3	+0.4
MJAR	Matsushiro Arr	26.39	234	P	P	18 02 33.5	+1.5
	comp=Z,1.6nm,0.5s,baz=38,slow=7.6,SNR=7.2						
BMRM	Bremner River	26.45	58	P	P	18 02 32.0	-0.3
	baz=282,SNR=7.9						
BMRM	Bremner River	26.45	58	P	P	18 02 32.5	+0.3
BMRM				IAmb	IAmb	18 02 33.9	
	comp=Z,11nm,0.8s						
GLB	Gilahina Butte	26.72	57	P	P	18 02 34.4	-0.3
GLB				IAmb	IAmb	18 02 36.2	
	comp=Z,5.8nm,1.1s						
HMT	Hamilton	26.75	59	P	P	18 02 35.5	+0.5
HMT				IAmb	IAmb	18 02 36.4	
	comp=Z,6.7nm,0.9s						
VRDI	Verde Repeater	26.94	57		P	18 02 35.3	-1.6
K27K	Chicken	27.07	51	P	P	18 02 37.7	-0.1
	baz=278						
K27K	Chicken	27.07	51	P	P	18 02 37.4	-0.3
K27K				IAmb	IAmb	18 02 39.3	
	comp=Z,10.0nm,1.5s						
CRQM	Cirque	27.19	58	P	P	18 02 39.3	+0.2
CRQM				IAmb	IAmb	18 02 44.0	
	comp=Z,10nm,0.7s						
CRQE	Cirque	27.22	58	P	P	18 02 39.3	+0.1
	baz=284						
L27K	Beaver Creek,	27.33	53	P	P	18 02 39.9	-0.3
	baz=280,SNR=7.9						
L27K	Beaver Creek,	27.33	53	P	P	18 02 40.7	+0.5
L27K				IAmb	IAmb	18 02 41.9	
	comp=Z,5.7nm,1.1s						
TGL	Tana Glacier	27.34	58	P	P	18 02 39.9	-0.4
TGL				IAmb	IAmb	18 02 42.3	
	comp=Z,5.1nm,0.6s						
BCAR	Beaver Creek A	27.35	53	P	P	18 02 41.0	+0.6
EGAK	Eagle	27.36	49	P	P	18 02 39.7	-0.6
	baz=277						
EGAK	Eagle	27.36	49	P	P	18 02 39.2	-1.2
WAX	Waxell Ridge	27.40	59	P	P	18 02 41.2	+0.3
WAX				IAmb	IAmb	18 02 42.6	
	comp=Z,4.5nm,0.6s						
ISLE	Juniper Island	27.61	58	P	P	18 02 43.7	+0.9
ISLE				IAmb	IAmb	18 02 47.6	
	comp=Z,12nm,1.4s						
BARN	Barnard Glacie	27.82	57	P	P	18 02 45.6	+0.8
BARN				IAmb	IAmb	18 02 50.6	
	comp=Z,7.7nm,0.6s						
MESA	MESA	27.91	59	P	P	18 02 45.2	-0.4
	baz=285						
MESA	MESA	27.91	59	P	P	18 02 45.1	-0.4
YAH	Yahtse	27.96	59	P	P	18 02 46.1	+0.1
YAH				IAmb	IAmb	18 02 48.3	
	comp=Z,4.2nm,0.9s						
JSG	Sagara	27.97	231	P	P	18 02 48.9	+2.9
CTGM	Chitina Glacie	28.00	57	P	P	18 02 46.1	-0.2
CTGM				IAmb	IAmb	18 02 52.7	
	comp=Z,4.9nm,0.8s						
LOGN	Logan Glacier	28.19	58	P	P	18 02 48.1	0.0
LOGN				IAmb	IAmb	18 02 49.4	
	comp=Z,4.7nm,0.4s						
TABL	Table Mountain	28.23	58	P	P	18 02 48.4	0.0
TABL				IAmb	IAmb	18 02 49.8	
	comp=Z,9.0nm,1.2s						
DAWY	Dawson	28.23	50	P	P	18 02 48.3	+0.1
PCA	Pinnacle	28.75	59	P	P	18 02 53.3	+0.4
EPYK	Eagle Plains	28.98	45	P	P	18 02 55.8	+1.0
EPYK				IAmb	IAmb	18 03 17.0	
	comp=Z,9.7nm,1.6s						
BCPM	Bancas Point	29.09	59	P	P	18 02 56.5	+0.6
BCPM				IAmb	IAmb	18 02 57.2	
	comp=Z,8.2nm,0.7s						
HYT	Haines Junctio	29.84	57	P	P	18 03 03.5	+0.8
HYT				IAmb	IAmb	18 03 05.1	
	comp=Z,3.6nm,0.8s						
INK	Inuvik	29.95	41	P	P	18 03 03.9	+0.6
	comp=Z,1.1nm,0.4s,baz=263,slow=9.5,SNR=4.5						
INK	Inuvik	29.95	41	P	P	18 03 03.4	0.0
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	Inuvik	29.95	41	P	P	18 03 03.2	-0.2
	baz=277						
INK	Inuvik	29.95	41	P	P	18 03 03.4	0.0
INK				IAmb	IAmb	18 03 04.9	
	comp=Z,2.7nm,0.7s						
SKAG	Skagway	31.31	58	P	P	18 03 17.3	+1.9
C36M	Paulatuk	33.15	38	P	P	18 03 30.8	-0.6
	baz=283						
C36M	Paulatuk	33.15	38	P	P

SZCU	**Shurtz Canyon**	**55.80**	**72**	P	**P**	**18 06 33.9**	**+1.0**
OBN	**Obninsk**	**61.42**	**329**	*e*P	**P**	**18 07 09.7**	**-1.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	**NORSAR Subarra**	**61.42**	**346**	P	**P**	**18 07 10.7**	**-0.7**
	comp=Z,8.7nm,1.4s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**61.42**	**346**	P	**P**	**18 07 11.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=18,slow=6.9,SNR=3.3						
HFS	**Hagfors**	**61.92**	**344**	P	**P**	**18 07 14.2**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=25,slow=3.9,SNR=4.3						
TX31	**Lajitas Ar. Si**	**67.15**	**71**	P	**P**	**18 07 50.3**	**+0.7**
TX32	**Lajitas Array**	**67.15**	**71**	P	**P**	**18 07 50.1**	**+0.5**
TX32				IAmb	IAmb	18 08 04.5	
	comp=Z,6.3nm,1.6s						
TXAR	**Lajitas Array**	**67.15**	**71**	P	**P**	**18 07 50.3**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=305,slow=4.6,SNR=15						
CLL	**Collm**	**70.49**	**342**	*i* P	**P**	**18 08 10.2**	**+0.3**
CLL	**Collm**	**70.49**	**342**	*i* P	**P**	**18 08 10.2**	**+0.3**
ASAR	**Alice Springs**	**83.53**	**208**	P	**P**	**18 09 23.5**	**0.0**
	comp=Z,0.6nm,1.1s,baz=27,slow=4.8,SNR=4.4						

MOS 10 18:04:06.1±0.0, 45°.02N×41°.00E, h16km, ML3.3/4, MPVA3.7, 2C-1D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBR	**Yeremizino-Bor**	**0.79**	**333**	*i* PG	Pg	18 04 21.3	-0.1
ERBR				*i* S	Sn	18 04 32.2	-0.9
ERBR	**Yeremizino-Bor**	**0.79**	**333**	*e*Pg	Pg	18 04 21.4	0.0
ERBR				*e*Sg	Sn	18 04 33.3	-0.8
NVNR	**Nevinnomyssk**	**0.80**	**120**	⇓*i*PG	Pg	18 04 20.3	-1.3
NVNR				*i* S	Sg	18 04 31.2	-0.8
NVNR	**Nevinnomyssk**	**0.80**	**120**	*i* Pg	Pg	18 04 20.4	-1.2
	69nm,0.1s						
NVNR				*i* Sg	Sg	18 04 31.1	-0.9
	823nm,0.2s						
GUZR	**Guzeripl'**	**1.20**	**212**	*i* PG	Pb	18 04 28.9	+0.4
GUZR				*i* S	Sg	18 04 44.7	-0.2
GUZR	**Guzeripl'**	**1.20**	**212**	*e*Pg	Pb	18 04 28.8	+0.2
GUZR				*e*Sg	Sg	18 04 44.9	-0.1
ALER	**Alexandrovskoy**	**1.38**	**100**	*i* PG	Pb	18 04 31.7	+0.1
ALER				*e*S	Sg	18 04 50.0	-0.7
ALER	**Alexandrovskoy**	**1.38**	**100**	*i* Pg	Pb	18 04 31.7	+0.1
ALER				*e*Sg	Sg	18 04 50.0	-0.8
RPOR	**Krasnaya Polya**	**1.42**	**202**	*e*PG	Pb	18 04 32.5	+0.2
RPOR				*i* S	Sb	18 04 51.0	+0.9
RPOR	**Krasnaya Polya**	**1.42**	**202**	*e*Pg	Pb	18 04 32.5	+0.2
RPOR				*e*Sg	Sb	18 04 50.8	+0.7
GOF	**Gofitskoye**	**1.45**	**88**⇑	*e*PG	Pb	18 04 32.5	-0.2
GOF				*e*S	Sg	18 04 52.6	-0.2
GOF				pmax	pmax		
	comp=Z,45nm,0.2s						
GOF				smax	smax		
	comp=N,239nm,0.2s						
GOF				smax	smax		
	comp=E,309nm,0.3s						
GOF	**Gofitskoye**	**1.45**	**88**	*e*Pg	Pb	18 04 32.4	-0.3
	comp=E,64nm,0.1s						
GOF				*i* Sg	Sg	18 04 52.3	-0.5
	comp=E,298nm,0.4s						
ARXR	**Arkhyz**	**1.47**	**172**	*i* PG	Pb	18 04 33.2	0.0
ARXR				*e*S	Sg	18 04 52.7	-0.8
ARXR	**Arkhyz**	**1.47**	**172**	*i* Pg	Pb	18 04 33.2	+0.1
	comp=E,91nm,0.2s						
ARXR				*i* Sg	Sg	18 04 52.7	-0.8
	comp=E,309nm,0.2s						
LZRR	**Lazarevskoye**	**1.59**	**228**	*e*PN	Pg	18 04 36.2	-0.4
LZRR				*e*S	Sg	18 04 56.5	-0.7
LZRR	**Lazarevskoye**	**1.59**	**228**	*e*Pg	Pb	18 04 35.8	+0.7
LZRR				*e*Sg	Sg	18 04 58.5	+1.3
KIV	**Kislovodsk**	**1.61**	**131**	*e*PG	Pn	18 04 34.5	+0.5
KIV				*e*S	Sn	18 04 55.0	+0.6
KIV				pmax	pmax		
	comp=Z,26nm,1.1s						
KIV	**Kislovodsk**	**1.61**	**131**	*i* Pg	Pn	18 04 34.7	+0.7
	comp=Z,25nm,0.3s						
KIV				*e*Sg	Sb	18 04 56.1	+0.5
	comp=Z,119nm,0.6s						
KIV0	**Kislovodsk Arr**	**1.61**	**131**	*i* Pg	Pb	18 04 35.0	-0.6
KIV0				*e*Sg	Sg	18 04 56.9	-1.1
BEYR	**Belyy Ugol+**	**1.64**	**127**	*e*PG	Pb	18 04 35.9	-0.2
BEYR				*e*S	Sg	18 04 58.2	-0.8
BEYR	**Belyy Ugol+**	**1.64**	**127**	*e*Pg	Pb	18 04 35.9	-0.2
BEYR				*e*Sg	Sg	18 04 58.2	-0.8
TPSR	**Tuapse**	**1.66**	**236**	*e*PN	Pg	18 04 38.0	+0.1
TPSR	**Tuapse**	**1.66**	**236**	*e*Pg	Pg	18 04 38.0	+0.1
TPSR				*e*Sg	Sb	18 04 56.8	0.0
SOC	**Sochi**	**1.71**	**213**	*e*PN	Pb	18 04 37.0	-0.1
SOC				*e*		18 04 38.4	
SOC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SOC	**Sochi**	**1.71**	**213**	*e*Pg	Pg	18 04 41.0	+2.1
SOC				*e*Sg	Sg	18 05 00.0	-1.0
SHA1	**Shidzhatmaz**	**1.75**	**137**	*i* PN	Pb	18 04 37.0	-0.9
SHA1				*e*S	Sg	18 05 01.2	-1.1
SHA1	**Shidzhatmaz**	**1.75**	**137**	*i* Pg	Pb	18 04 37.0	-0.9
	comp=Z,30nm,0.2s						
SHA1				*i* Sg	Sg	18 05 01.1	-1.2
	comp=Z,268nm,0.4s						
PYA1	**Pyatigorsk**	**1.78**	**122**	*i* PN	Pb	18 04 38.0	-0.3
PYA1				*e*S	Sg	18 05 02.2	-1.1
PYA1	**Pyatigorsk**	**1.78**	**122**	*i* Pg	Pb	18 04 38.0	-0.3
PYA1				*e*Sg	Sg	18 05 02.1	-1.1
KBZ	**Khabaz**	**1.87**	**133**	*i* PN	Pb	18 04 38.9	-1.0
KBZ	**Khabaz**	**1.87**	**133**	*i* Pg	Pb	18 04 38.9	-1.0
KBZ				*e*Sg	Sb	18 05 03.0	-0.1
GL1R	**Gelendzhik**	**2.14**	**258**	*e*PN	Pg	18 04 48.9	+1.8
GL1R				*e*S	Sb	18 05 09.8	-1.0
GL1R	**Gelendzhik**	**2.14**	**258**	*e*Sg	Sb	18 05 09.8	-1.0
NEY	**Neytrino**	**2.16**	**144**⇑	*i* PN	Pb	18 04 43.8	-1.2
NEY				*e*S	Sb	18 05 12.4	+0.8
NEY	**Neytrino**	**2.16**	**144**	*i* Pg	Pb	18 04 44.6	-0.4
NEY				*e*Sg	Sb	18 05 10.6	-0.9
NCK	**Nalchik**	**2.41**	**128**	*e*PN	Pn	18 04 43.6	-1.3
NCK				*e*S	Sn	18 05 15.3	+1.2
NCK	**Nalchik**	**2.41**	**128**	*e*Pn	Pn	18 04 43.6	-1.3
NCK				*e*Sn	Sn	18 05 15.3	+1.3
ANN	**Anapa**	**2.54**	**266**	*e*PN	Pb	18 04 51.9	+0.5
ANN				*e*		18 05 22.9	
ANN				pmax	pmax		
	comp=Z,14nm,1.0s						
ANN				smax	smax		
	comp=N,17nm,0.5s						
ANN				smax	smax		
	comp=N,22nm,0.8s						
LSNR	**Lesken**	**2.68**	**130**	*e*PN	Pb	18 04 52.8	-0.9
LSNR				*e*S	Sb	18 05 23.7	-2.6
LSNR	**Lesken**	**2.68**	**130**	*e*Pn	Pb	18 04 52.8	-0.8
LSNR				*e*Sn	Sb	18 05 23.6	-2.6
STDR	**Stavd-Durt**	**2.75**	**126**	*e*PN	Pb	18 04 54.6	-0.3
STDR				*e*S	Sn	18 05 25.4	+2.9
STDR	**Stavd-Durt**	**2.75**	**126**	*e*Pn	Pb	18 04 54.6	-0.3
STDR				*e*Sn	Sn	18 05 25.4	+2.8
KORR	**Kora**	**2.94**	**130**	*e*PN	Pn	18 04 54.9	+2.7
KORR				*e*S	Sn	18 05 29.4	+2.3
KORR	**Kora**	**2.94**	**130**	*e*Pn	Pn	18 04 54.9	+2.7
KORR				*e*Sn	Sn	18 05 29.4	+2.3
ONI	**Oni**	**3.01**	**143**	*e*PN	Pb	18 04 57.0	-2.3
ONI				*e*S	Sn	18 05 31.2	+2.3
ONI	**Oni**	**3.01**	**143**	*e*Pn	Pb	18 04 57.0	-2.3
ONI				*e*Sn	Sn	18 05 31.2	+2.2
LACR	**Lac**	**3.23**	**131**	*e*PN	Pg	18 05 07.1	-1.0
LACR				*e*S	Sb	18 05 46.0	+3.5
LACR	**Lac**	**3.23**	**131**	*e*Pn	Pg	18 05 07.0	-1.0
LACR				*e*Sn	Sb	18 05 46.0	+3.5
DBC	**Dubki**	**4.65**	**113**	*e*PN	Pn	18 05 17.0	+1.2
DBC				*e*S	Sn	18 06 08.5	-1.1
DBC	**Dubki**	**4.65**	**113**	*e*Pn	Pn	18 05 17.0	+1.1
DBC				*e*Sn	Sn	18 06 08.5	-1.1
OBN	**Obninsk**	**10.50**	**346**	*e*P	Pn	18 06 35.4	-0.4
OBN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MNK	**Minsk**	**12.71**	**323**	*i* P	Pn	18 07 10.2	+4.2
MNK				*i* S	Sn	18 09 32.4	+5.3
MNK				pmax	pmax		
	comp=E,1.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,45nm,19.0s						
MNK				MLR	MLR		
	comp=N,30nm,17.0s						
MNK				MLR	MLR		
	comp=E,3.0nm,16.0s						
MNK	**Minsk**	**12.71**	**323**	*i* P	Pn	18 07 10.3	+4.2
	comp=E,1.0nm,0.7s						
MNK				*i* P	Pn	18 07 10.3	+4.2
	comp=N,7.0nm,0.8s						
MNK				*i* P	Pn	18 07 10.3	+4.2
	comp=Z,4.0nm,0.9s,baz=133						
MNK				*i* PP	P	18 07 18.1	+0.9
MNK				*i* S	Sn	18 09 32.5	+5.4
MNK				*i* SS	SnSn	18 09 47.1	+8.1
MNK				*i* LR	LR	18 11 53.2	
MNK				*i* LRM	MLR	18 12 36.0	
	comp=Z,45nm,19.1s						
MNK				*i* LRM	MLR	18 12 41.8	
	comp=N,30nm,16.5s						
MNK				*i* LRM	MLR	18 12 45.0	
	comp=E,3.0nm,15.9s						

*IDC **10** 18:14:38.3±1.0, 30°.03N×143°.36E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/34, mbtmp3.6/7, ML2.4/1, Error ellipse: s-maj=40.0km s-min=21.2km az=94.0*

ISC 10 18:14:43.6±1.1, 30°.1N±0°.1×143°.3E±0°.2, h35km, n7, σ0°.39/7, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.73**	**328**	Pn	**Pn**	**18 16 33.2**	**-0.5**
	0.1nm,0.3s,baz=151,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**49.39**	**308**	P	**P**	**18 23 30.2**	**+0.4**
	0.3nm,0.7s,baz=86,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**50.46**	**191**	P	**P**	**18 23 37.8**	**-0.2**
	1.6nm,0.6s,baz=13,slow=8.0,SNR=13						
KDAK	**Kodiak Island**	**51.42**	**38**	P	**P**	**18 23 44.7**	**-0.2**
	1.1nm,0.8s,baz=270,slow=6.1,SNR=4.1						
ASAR	**Alice Springs**	**54.18**	**191**	P	**P**	**18 24 05.4**	**-0.2**
	0.6nm,0.7s,baz=15,slow=10,SNR=9.2						
ILAR	**Eielson Array**	**54.65**	**30**	P	**P**	**18 24 08.7**	**+0.2**
	0.2nm,0.7s,baz=268,slow=6.9,SNR=2.1						
FINES	**FINESS Array B**	**75.72**	**334**	P	**P**	**18 26 25.4**	**+0.3**
	0.8nm,0.7s,baz=28,slow=3.8,SNR=4.2						

*IDC **10** 18:31:01.3±3.2, 32°.05S×177°.89W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/28, mbtmp3.8/3, ML3.0/1, Error ellipse: s-maj=74.8km s-min=47.4km az=124.0*
*NEIC **10** 18:31:10.6±1.9, 32°.4S±0°.2×179°.0W±0°.2, h9km±8km, mb4.3/7, Error ellipse: s-maj=29.7km s-min=23.5km az=57.0*

ISC 10 18:31:06.1±1.6, 32°.1S±0°.1×178°.6W±0°.3, h10km, n17, σ2°.04/18, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.11**	**209**	Pn	**Pn**	**18 32 49.6**	**-0.5**
	0.3nm,0.3s,baz=355,slow=13,SNR=1.3						
URZ				Sn	**Sn**	**18 34 12.7**	**+1.7**
	1.4nm,0.3s,baz=88,slow=20,SNR=12						
URZ	**Urewera**	**7.11**	**209**		**Pn**	**18 32 48.8**	**-1.3**
TUWZ	**Tuamarina**	**11.10**	**211**	Pn	**Pn**	**18 33 43.4**	**-1.3**
THZ	**Tophouse**	**11.82**	**213**	Pn	**Pn**	**18 33 53.6**	**-1.2**
KHZ	**Kahutara**	**12.08**	**209**	Pn	**Pn**	**18 33 55.5**	**-2.7**
OXZ	**Oxford**	**13.46**	**211**	Pn	**Pn**	**18 34 13.3**	**-3.7**
ODZ	**Otahua Downs**	**15.43**	**210**	Pn	**Pn**	**18 34 41.3**	**-2.5**
WHZ	**Wether Hill Ro**	**17.29**	**213**	Pn	**Pn**	**18 35 05.5**	**-2.1**
WHZ				IAmb	IAmb	18 35 16.2	
	comp=Z,26nm,1.3s						
ASAR	**Alice Springs**	**42.55**	**269**	P	**P**	**18 39 03.9**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=107,slow=7.5,SNR=9.6						
WR0	**Warramunga Arr**	**43.51**	**274**	P	**P**	**18 39 10.2**	**+0.3**
WR0				IAmb	IAmb	18 39 36.3	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**43.68**	**274**	P	**P**	**18 39 12.2**	**+0.9**
WB2				IAmb	IAmb	18 39 49.3	
	comp=Z,8.2nm,1.1s						
WRAB	**Tennant Creek**	**43.68**	**274**	P	**P**	**18 39 11.6**	**+0.2**
WRAB				IAmb	IAmb	18 39 15.9	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**43.69**	**274**	P	**P**	**18 39 12.8**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=113,slow=8.0,SNR=17						
WB0	**Warramunga Arr**	**43.72**	**274**	P	**P**	**18 39 13.1**	**+1.4**
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	**18 41 01.8**	**+2.7**
QSPA				IAmb	IAmb	18 41 32.9	
	comp=Z,3.2nm,1.2s						
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	**PKPdf**	**18 50 43.5**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=87,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**146.52**	**339**		**PKPdf**	**18 50 43.4**	**-2.0**

MEX 10 18:32:10.0±0.3, 14°.61N×92°.56W, h76km±23km, MD3.6, Near coast of Chiapas

*IDC **10** 18:34:42.2±1.0, 9°.04S×158°.63E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, Error ellipse: s-maj=32.8km s-min=18.7km az=7.0*

ISC 10 18:34:46.5±0.9, 9°.1S±0°.2×158°.65E±0°.10, h29km, n6, σ0°.97/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.33**	**105**	Pn	**Pn**	**18 35 09.0**	**-0.1**
	9.9nm,0.3s,baz=169,slow=15,SNR=20						
HNR				Sn	**Sb**	**18 35 27.5**	**+0.1**
	45nm,0.3s,baz=195,slow=24,SNR=5.5						
WRA	**Warramunga Arr**	**25.84**	**243**	P	**P**	**18 40 14.9**	**-0.8**
	1.0nm,0.8s,baz=66,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**27.74**	**236**	P	**P**	**18 40 34.4**	**+1.5**
	0.6nm,0.8s,baz=70,slow=9.8,SNR=5.8						
ASAR				PcP	**PcP**	**18 43 48.2**	**-1.0**
	1.8nm,1.2s,baz=67,slow=3.1,SNR=4.4						
SONM	**Songino Array**	**73.06**	**326**	P	**P**	**18 46 14.6**	**+0.5**
	0.7nm,0.7s,baz=142,slow=7.0,SNR=4.5						
ILAR	**Eielson Array**	**84.03**	**21**	P	**P**	**18 47 14.1**	**+0.2**
	0.2nm,0.5s,baz=245,slow=5.8,SNR=2.4						
MKAR	**Makanchi Array**	**87.37**	**318**	P	**P**	**18 47 30.5**	**-0.5**
	0.4nm,0.6s,baz=115,slow=5.5,SNR=3.6						

*IDC **10** 18:44:55.7±1.0, 53°.02S×26°.09E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/39, mbtmp3.8/7, MS3.5/11, Ms1 3.5/11, ms1mx3.3/27, Error ellipse: s-maj=44.7km s-min=21.3km az=87.0*
*NEIC **10** 18:44:57.6±2.8, 52°.9S±0°.1×25°.9E±0°.4, h10km±1km, mb4.8/14, Error ellipse: s-maj=37.2km s-min=19.2km az=251.0*

ISC 10 18:44:57.5±0.7, 52°.94S±0°.10×26°.0E±0°.2, h10km, n33, σ1°.41/22, mb4.1/9, MS3.4/11, 1C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.34**	**163**⇓	*e*Pn	**Pn**	**18 48 57.9**	**-1.4**
SYO	**Syowa Base**	**17.34**	**163**⇓	*e*P	**P**	**18 49 00.0**	**-0.6**
SUR	**Sutherland**	**20.88**	**348**	P	**P**	**18 49 37.6**	**-2.3**
	9.2nm,0.9s,baz=131,slow=11,SNR=4.6						
SUR				LR	LR	18 55 35.9	
	comp=Z,252nm,19.7s,baz=148,slow=30						
SUR	**Sutherland**	**20.88**	**348**	IAmb	IAmb	18 49 41.0	
	comp=Z,121nm,2.0s						
SNAA	**Sanae**	**22.65**	**203**	P	**P**	**18 49 57.2**	**-1.2**
	comp=Z,4.0nm,1.1s,baz=30,slow=8.9,SNR=5.3						
SNAA	**Sanae**	**22.65**	**203**	P	**P**	**18 49 58.0**	**-0.4**
SNAA				IAmb	IAmb	18 50 00.2	
	comp=Z,20nm,1.5s						
MAW	**Mawson**	**22.96**	**144**	LR	LR	18 57 15.1	
	comp=Z,86nm,22.0s,baz=260,slow=32						
MAW	**Mawson**	**22.96**	**144**	P	**P**	**18 50 05.0**	**+3.5**
BOSA	**Boshof**	**24.30**	**358**	P	**P**	**18 50 15.5**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=203,slow=13,SNR=5.6						
BOSA				LR	LR	18 58 05.3	
	comp=Z,116nm,19.5s,baz=171,slow=32						
BOSA	**Boshof**	**24.30**	**358**	P	**P**	**18 50 15.3**	**+0.2**
LBTB	**Lobatse**	**27.88**	**359**	LR	LR	18 59 54.4	
	comp=Z,125nm,19.9s,baz=170,slow=32						
LBTB	**Lobatse**	**27.88**	**359**	P	**P**	**18 50 46.3**	**-1.2**
LBTB				IAmb	IAmb	18 51 32.2	
	comp=Z,37nm,1.9s						
TSUM	**Tsumeb**	**34.30**	**346**	LR	LR	19 02 26.8	
	comp=Z,78nm,20.1s,baz=159,slow=31						
QSPA	**South Pole Qui**	**37.28**	**180**	P	**P**	**18 52 08.0**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=248,slow=3.8,SNR=10						
QSPA	**South Pole Qui**	**37.28**	**180**	P	**P**	**18 52 08.1**	**-1.2**
SHEL	**Horse Pasture**	**44.55**	**314**	P	**P**	**18 53 08.7**	**-0.7**
VNDA	**Vanda**	**46.96**	**168**	P	**P**	**18 53 27.6**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=224,slow=8.7,SNR=6.0						
VNDA				LR	LR	19 13 22.9	
	comp=Z,44nm,18.6s,baz=204,slow=36						
VNDA	**Vanda**	**46.96**	**168**	P	**P**	**18 53 27.7**	**-0.1**
VNDA				IAmb	IAmb	18 53 28.8	
	comp=Z,16nm,1.9s						
SBA	**Scott Base**	**47.26**	**169**	P	**P**	**18 53 30.3**	**+0.2**
SBA				IAmb	IAmb	18 54 20.5	
	comp=Z,19nm,1.9s						
EFI	**East Falkland**	**48.56**	**236**	P	**P**	**18 53 43.2**	**+2.7**
H10S2	**ASCENSION HYDR**	**54.77**	**308**	T	T	19 53 36.9	
	baz=146						
H10S3	**ASCENSION HYDR**	**54.78**	**308**	T	T	19 53 28.8	
	baz=74						
CPUP	**Villa Florida**	**65.53**	**258**	LR	LR	19 19 22.7	
	comp=Z,20nm,19.5s,baz=336,slow=32						
TOA0	**Torodi Ar. Sit**	**69.06**	**335**	P	**P**	**18 56 04.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**69.06**	**335**	P	**P**	**18 56 04.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=178,slow=7.2,SNR=2.6						
TORD				LR	LR	19 24 12.6	
	comp=Z,17nm,18.1s,baz=270,slow=34						
TORD	**Torodi Ar. Bea**	**69.06**	**335**	IAmb	IAmb	18 56 28.7	
	comp=Z,13nm,1.9s						
LPAZ	**La Paz**	**79.63**	**257**	LR	LR	19 31 18.5	
	comp=Z,13nm,18.0s,baz=34,slow=35						
ASAR	**Alice Springs**	**81.54**	**118**	P	**P**	**18 57 14.3**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=218,slow=4.6,SNR=10						
WRA	**Warramunga Arr**	**84.80**	**116**	P	**P**	**18 57 31.8**	**-0.3**
	comp=Z,0.8nm,1.1s,baz=209,slow=3.8,SNR=2.3						
WRAB	**Tennant Creek**	**84.81**	**116**		**P**	**18 57 32.7**	**+0.5**
WR0	**Warramunga Arr**	**84.89**	**116**	P	**P**	**18 57 33.2**	**+0.6**
KEST	**Kesra**	**89.48**	**347**	LR	LR	19 39 42.5	
	comp=Z,40nm,18.2s,baz=288,slow=37						
MLR	**Muntele Rosu**	**98.05**	**360**	LR	LR	19 45 53.1	
	comp=Z,32nm,18.1s,baz=314,slow=37						

*TEH **10** 19:59:50.0, 31°.76N×57°.05E, h11km, ML3.5*
*THR **10** 19:59:50.9±0.8, 31°.77N×57°.11E, h18km±7km, ML3.8*

ISC 10 18:59:50.6±0.9, 31°.77N±0°.03×57°.04E±0°.03, h10km, n27, σ1°.37/30, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.27**	**262**	*e*Pg	**Pb**	**19 00 14.1**	**-0.5**
TPRV	**Parvadeh(Tabas**	**1.29**	**347**	*e*Pg	**Pg**	**19 00 15.1**	**-0.3**
TPRV				*e*		19 00 35.2	
	comp=Z,8μm,0.7s						
KHGB	**Koh Gabri**	**1.47**	**199**	*e*Pg	**Pg**	**19 00 18.1**	**-0.7**
KHGB				*e*		19 00 42.0	
	comp=Z,7μm,0.3s						
BSRN	**Basiran**	**1.79**	**83**	*e*Pg	**Pb**	**19 00 22.5**	**-1.0**
BSRN				*e*Sg	**Sb**	**19 00 45.7**	**-0.4**
TVBK	**TV Kerman**	**1.79**	**188**	*e*Pn	**Pb**	**19 00 23.5**	**-0.2**
IKOO	**Kooshah**	**1.79**	**68**	*e*Pn	**Pb**	**19 00 23.1**	**-0.6**
KRBR	**Kerman**	**1.80**	**188**	*e*Pg	**Pb**	**19 00 23.7**	**0.0**
KRBR				*e*Sg	**Sg**	**19 00 48.8**	**+0.5**
KRBR				IAML		19 00 49.7	
	comp=E,615nm,0.1s						
KRBR				IAML		19 00 50.7	
	comp=N,920nm,0.3s						
ITEG	**Tejag**	**1.83**	**52**	*e*Pn	**Pb**	**19 00 23.3**	**-1.0**
ITEG				*e*		19 00 24.9	
	comp=Z,5μm,0.5s						
TKDS	**Koohdasht(Taba**	**1.84**	**2**	*e*Pn	**Pb**	**19 00 23.9**	**-0.5**
TKDS				*e*		19 00 54.3	
	comp=Z,3μm,0.4s						
TABS	**Tabas**	**1.88**	**2**	*e*Pn	**Pb**	**19 00 24.5**	**-0.6**
TABS				*e*Sg	**Sg**	**19 00 50.3**	**-0.7**
CHMN	**Cheshme madani**	**1.95**	**167**	*e*Pn	**Pb**	**19 00 24.7**	**-1.7**
CHMN				*e*		19 00 53.9	
	comp=Z,6μm,0.2s						
IMEH	**Mehriz**	**2.10**	**260**	*e*Pn	**Pb**	**19 00 27.4**	**-1.6**
IMEH				*e*		19 00 59.6	
	comp=Z,3μm,0.3s						
NGRK	**Negar Kerman**	**2.13**	**187**	*e*Pn	**Pb**	**19 00 28.4**	**-1.1**
YZKH	**Yazd**	**2.17**	**287**	*e*Pn	**Pb**	**19 00 28.9**	**-1.1**
TNSJ	**Nastanj**	**2.22**	**351**	*e*Pn	**Pb**	**19 00 28.9**	**-1.9**
ICHK	**Chekchek**	**2.29**	**283**	*e*Pn	**Pn**	**19 00 29.6**	**+1.0**
ICHK				*e*		19 01 07.7	
	comp=Z,2μm,0.6s						
AFRZ	**Afriz**	**2.35**	**45**	*e*Pn	**Pn**	**19 00 30.4**	**+1.0**
IDAH	**Dahanechah**	**2.59**	**67**	*e*Pn	**Pb**	**19 00 35.4**	**-1.8**
ISAD	**Sadrabad**	**2.86**	**274**	*e*Pn	**Pn**	**19 00 37.7**	**+1.2**
ISAD				*e*		19 01 22.5	
	comp=Z,1μm,0.8s						
ANAR	**Anarak**	**3.14**	**298**	*e*Pn	**Pn**	**19 00 41.3**	**+1.1**
IRAM	**Ramesheh**	**3.96**	**272**	*e*Pn	**Pn**	**19 00 52.1**	**+0.4**
IZEF	**Zefreh**	**4.14**	**287**	*e*Pn	**Pn**	**19 00 55.9**	**+1.8**
SBZV	**Sabzevar**	**

ISC 10 19:19:42.7±2.2, 12°.9N±0°.1×89°.18W±0°.05, h28km±12km, n55, σ0°.27/70, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.70**	**9**	*eP*	**Pn**	**19 19 56.5**	**-0.4**
LFRS	**El Faro**	**0.70**	**9**	*eP*	**Pn**	**19 19 56.5**	**-0.4**
SJTE	**Alcalda de S**	**0.70**	**14**	*eP*	**Pn**	**19 19 56.5**	**-0.4**
SJTE				*eS*	**Sn**	**19 20 06.6**	**-0.3**
SJTE				IAML		19 20 07.9	
	comp=Z,2μm,0.2s						
SJTE	**Alcalda de S**	**0.70**	**14**	*eP*	**Pn**	**19 19 56.5**	**-0.4**
SJTE				*eS*	**Sn**	**19 20 06.6**	**-0.3**
SJTE				IAML		19 20 07.9	
	comp=Z,2μm,0.2s						
TECO	**Alcaldia de Te**	**0.72**	**32**	*eP*	**Pb**	**19 19 56.5**	**-0.1**
COEG	**Centro de Oper**	**0.75**	**23**	*eP*	**Pn**	**19 19 57.1**	**-0.3**
COEG				IAML		19 20 14.2	
	comp=Z,2μm,0.2s						
COEG	**Centro de Oper**	**0.75**	**23**	*eP*	**Pn**	**19 19 57.1**	**-0.3**
COEG				IAML		19 20 14.2	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**0.76**	**356**	*eP*	**Pn**	**19 19 57.5**	**-0.2**
SNET				IAML		19 20 10.3	
	comp=Z,3μm,0.2s						
SNET	**Serv Nac Est T**	**0.76**	**356**	*eP*	**Pn**	**19 19 57.5**	**-0.2**
SNET				IAML		19 20 10.3	
	comp=Z,3μm,0.2s						
AEIL	**Aeropuerto Ilo**	**0.77**	**4**	*eP*	**Pn**	**19 19 57.9**	**+0.2**
AEIL				IAML		19 20 11.2	
	comp=Z,3μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.77**	**4**	*eP*	**Pn**	**19 19 57.9**	**+0.2**
AEIL				IAML		19 20 11.2	
	comp=Z,3μm,0.3s						
JAYA	**Jayaque - finc**	**0.77**	**340**	*eP*	**Pb**	**19 19 57.6**	**0.0**
JAYA				*eS*	**Sb**	**19 20 07.5**	**-0.4**
JAYA				IAML		19 20 09.3	
	comp=Z,22μm,0.1s						
JAYA	**Jayaque - finc**	**0.77**	**340**	*eP*	**Pb**	**19 19 57.6**	**0.0**
JAYA				*eS*	**Sb**	**19 20 07.5**	**-0.4**
JAYA				IAML		19 20 09.3	
	comp=Z,22μm,0.1s						
SEMO	**Seminario San**	**0.77**	**357**	*eP*	**Pn**	**19 19 57.7**	**-0.1**
IGN	**Direccin Gen**	**0.78**	**1**	*eP*	**Pb**	**19 19 57.7**	**-0.1**
IGN	**Direccin Gen**	**0.78**	**1**	*eP*	**Pb**	**19 19 57.7**	**-0.1**
UEES	**Universidad Ev**	**0.79**	**356**	*eP*	**Pn**	**19 19 57.9**	**-0.1**
UEES				IAML		19 20 13.6	
	comp=Z,4μm,0.2s						
UEES	**Universidad Ev**	**0.79**	**356**	*eP*	**Pn**	**19 19 57.9**	**-0.1**
UEES				IAML		19 20 13.6	
	comp=Z,4μm,0.2s						
PMON	**Piamonte**	**0.79**	**350**	*eP*	**Pn**	**19 19 58.0**	**-0.1**
PMON				*eS*	**Sn**	**19 20 09.2**	**+0.2**
PMON	**Piamonte**	**0.79**	**350**	*eP*	**Pn**	**19 19 58.0**	**-0.1**
PMON				*eS*	**Sn**	**19 20 09.2**	**+0.2**
UESV	**Universidad de**	**0.80**	**28**	*eP*	**Pb**	**19 19 57.9**	**-0.2**
UESV	**Universidad de**	**0.80**	**28**	*eP*	**Pb**	**19 19 57.9**	**-0.2**
BOQS	**Boqueron**	**0.81**	**353**	*eP*	**Pb**	**19 19 58.6**	**+0.3**
BOQS				*eS*	**Sn**	**19 20 09.9**	**+0.3**
BOQS	**Boqueron**	**0.81**	**353**	*eP*	**Pb**	**19 19 58.6**	**+0.3**
BOQS				*eS*	**Sn**	**19 20 09.9**	**+0.3**
PAVA	**Las Pavas**	**0.81**	**17**	*eP*	**Pb**	**19 19 58.2**	**-0.2**
PAVA				IAML		19 20 11.4	
	comp=Z,4μm,0.3s						
PAVA	**Las Pavas**	**0.81**	**17**	*eP*	**Pb**	**19 19 58.2**	**-0.2**
PAVA				IAML		19 20 11.4	
	comp=Z,4μm,0.3s						
LBRS	**Las Brisas**	**0.82**	**9**	*eP*	**Pb**	**19 19 58.4**	**0.0**
LBRS	**Las Brisas**	**0.82**	**9**	*eP*	**Pb**	**19 19 58.4**	**0.0**
LFU	**La Fuente**	**0.82**	**4**	*eP*	**Pb**	**19 19 58.5**	**+0.1**
LFU				*eS*	**Sn**	**19 20 09.5**	**-0.2**
LFU	**La Fuente**	**0.82**	**4**	*eP*	**Pb**	**19 19 58.5**	**+0.1**
LFU				*eS*	**Sn**	**19 20 09.5**	**-0.2**
COEB	**Comit de Eme**	**0.85**	**48**	*eP*	**Pn**	**19 19 58.8**	**-0.1**
COEB	**Comit de Eme**	**0.85**	**48**	*eP*	**Pn**	**19 19 58.8**	**-0.1**
TECA	**Tecapa**	**0.87**	**49**	*eP*	**Pn**	**19 19 59.2**	**0.0**
TECA				*eS*	**Sn**	**19 20 11.2**	**+0.2**
TECA	**Tecapa**	**0.87**	**49**	*eP*	**Pn**	**19 19 59.2**	**0.0**
TECA				*eS*	**Sn**	**19 20 11.2**	**+0.2**
CEDA	**San Andres**	**0.90**	**346**	*eP*	Pb	19 20 04.6	+4.9
CEDA	**San Andres**	**0.90**	**346**	*eP*	Pb	19 20 04.6	+4.9
PQSS	**Presa 15 de Se**	**0.92**	**41**	*eP*	**Pb**	**19 19 59.9**	**-0.1**
PQSS				IAML		19 20 13.4	
	comp=Z,2μm,0.1s						
JUCU	**Jucuarįn**	**0.96**	**70**	*eP*	**Pn**	**19 20 00.5**	**+0.1**
JUCU				IAML		19 20 19.0	
	comp=Z,1μm,0.3s						
JUCU	**Jucuarįn**	**0.96**	**70**	*eP*	**Pn**	**19 20 00.5**	**+0.1**
JUCU				IAML		19 20 19.0	
	comp=Z,1μm,0.3s						
LCY	**Lacayo**	**0.99**	**60**	*eP*	**Pn**	**19 20 01.0**	**+0.1**
LCY				*eS*	**Sb**	**19 20 14.8**	**+0.8**
LCY	**Lacayo**	**0.99**	**60**	*eP*	**Pn**	**19 20 01.0**	**+0.1**
LCY				*eS*	**Sb**	**19 20 14.8**	**+0.8**
VSM	**San Miguel**	**1.01**	**60**	*eP*	**Pn**	**19 20 01.6**	**+0.3**
VSM	**San Miguel**	**1.01**	**60**	*eP*	**Pn**	**19 20 01.6**	**+0.3**
SNJE	**San Jose**	**1.02**	**336**	*eP*	**Pn**	**19 20 01.3**	**-0.1**
SNJE				*eS*	**Sb**	**19 20 14.9**	**-0.2**
SNJE	**San Jose**	**1.02**	**336**	*eP*	**Pn**	**19 20 01.3**	**-0.1**
SNJE				*eS*	**Sb**	**19 20 14.9**	**-0.2**
TACO	**Tacachico**	**1.05**	**351**	*eP*	**Pn**	**19 20 01.5**	**-0.1**
TACO	**Tacachico**	**1.05**	**351**	*eP*	**Pn**	**19 20 01.5**	**-0.1**
RTR	**El Retiro**	**1.07**	**335**	*eP*	**Pn**	**19 20 02.1**	**+0.2**
RTR	**El Retiro**	**1.07**	**335**	*eP*	**Pn**	**19 20 02.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.24**	**332**	*eP*	**Pn**	**19 20 04.4**	**+0.2**
LCND	**La Caada**	**1.31**	**73**	*eP*	**Pn**	**19 20 05.2**	**+0.1**
LCND				IAML		19 20 24.4	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**1.31**	**73**	*eP*	**Pn**	**19 20 05.2**	**+0.1**
LCND				*eP*	**Pb**	**19 20 05.7**	**-0.9**
LCND				IAML		19 20 24.4	
	comp=Z,2μm,0.3s						
MTO3	**Montecristo**	**1.47**	**353**	*eP*	**Pn**	**19 20 07.8**	**+0.2**
MTO3	**Montecristo**	**1.47**	**353**	*eP*	**Pn**	**19 20 07.8**	**+0.2**
ESQI	**Esquipulas**	**1.63**	**354**	*eP*	**Pn**	**19 20 10.1**	**+0.5**

*MAN **10** 19:22:32.7, 7°.06N×127°.36E, h1km, mb4.9, ML3.9, MS3.9*
*IDC **10** 19:22:39.4±2.5, 7°.18N×126°.95E, h35km±20km, mb3.6/7, mb1 3.8/8, mb1mx3.4/50, mbtmp3.8/8, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/29, Error ellipse: s-maj=27.5km s-min=16.0km az=80.0*
*NEIC **10** 19:22:40.8±2.4, 7°.21N±0°.08×127°.06E±0°.09, h52km±7km, mb4.7/21, Error ellipse: s-maj=14.2km s-min=10.2km az=57.0*

ISC 10 19:22:41.1±0.5, 7°.20N±0°.06×127°.17E±0°.07, h60km, n48, σ1°57/54, mb4.5/18, MS3.2/3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.58**	**265**	Pg	**Pn**	**19 23 06.4**	**-0.5**
	319nm,0.3s,baz=345,slow=0.2,SNR=24						
DAV				Lg	Lg	19 23 29.9	
	162nm,0.3s,baz=88,slow=22,SNR=6.5						
DAV	**Davao City (W)**	**1.58**	**265**		**Pn**	**19 23 05.9**	**-1.0**
KCP	**Kidapawan**	**2.07**	**265**	⇑*iP*	**Pn**	**19 23 12.2**	**-1.4**
KCP				*i* S	**Sn**	**19 23 40.9**	**+2.5**
CGP	**Cagayan de Oro**	**2.75**	**297**	⇑*eP*	**Pn**	**19 23 21.7**	**-1.1**
CGP				*eS*	**Sn**	**19 23 59.0**	**+4.2**
SNPH	**Sibulan**	**4.44**	**299**	*eP*	**Pn**	**19 23 44.6**	**-1.4**
SNPH				*eS*	**Sn**	**19 24 33.3**	**-3.1**
TNTI	**Ternate**	**6.39**	**178**	Pn	**Pn**	**19 24 11.5**	**-1.2**
TOLI2	**Tolitoli**	**8.78**	**227**	Pn	**Pn**	**19 24 43.0**	**-2.5**
SIJI	**Sorong**	**9.00**	**153**	Pn	**Pn**	**19 24 47.9**	**-0.5**
	0.9nm,0.3s,baz=49,slow=23,SNR=9.9						
SIJI				Sn	**Sn**	**19 26 24.9**	**-3.4**
	0.4nm,0.3s,baz=231,slow=23,SNR=1.7						
LUWI	**Luwuk**	**9.29**	**208**	Pn	**Pn**	**19 24 55.0**	**+2.6**
FAKI	**Fak Fak**	**11.26**	**153**	Pn	**Pn**	**19 25 20.9**	**+1.6**
MTN	**Manton Dam**	**20.30**	**169**	P	**P**	**19 27 12.6**	**+0.4**
UGM	**Wanagama**	**22.38**	**228**	P	**P**	**19 27 34.4**	**-0.3**
KNRA	**Kununurra**	**22.78**	**176**	P	**P**	**19 27 39.5**	**+0.6**
KNRA				IAmb	IAmb	19 27 57.3	
	comp=Z,46nm,1.7s						
JSU	**Suzuyama**	**24.38**	**7**	P	**P**	**19 27 54.2**	**+0.5**
WB0	**Warramunga Arr**	**27.72**	**165**	P	**P**	**19 28 24.1**	**0.0**
WRAB	**Tennant Creek**	**27.87**	**165**	P	**P**	**19 28 24.7**	**-0.7**
WRAB				IAmb	IAmb	19 28 56.8	
	comp=Z,31nm,1.8s						
WRA	**Warramunga Arr**	**27.88**	**165**	P	**P**	**19 28 25.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=345,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**27.88**	**165**	P	**P**	**19 28 25.0**	**-0.5**
WB2	**Warramunga Arr**	**27.88**	**165**	P	**P**	**19 28 24.6**	**-0.9**
WB2				IAmb	IAmb	19 29 26.1	
	comp=Z,42nm,2.0s						
WR0	**Warramunga Arr**	**27.95**	**165**	P	**P**	**19 28 26.6**	**+0.5**
WR0				IAmb	IAmb	19 28 58.8	
	comp=Z,39nm,1.9s						
JHS	**Saijyo**	**28.20**	**10**	P	**P**	**19 28 27.7**	**-0.5**
JHS				IAmb	IAmb	19 28 35.7	
	comp=Z,64nm,1.9s						
JWT	**Wachi**	**28.96**	**14**	P	**P**	**19 28 35.7**	**+0.8**
JWT				IAmb	IAmb	19 28 47.3	
	comp=Z,47nm,2.0s						
CMAR	**Chiang Mai Arr**	**29.66**	**295**	LR	LR	19 39 12.9	
	comp=Z,26nm,21.2s,baz=208,slow=34						
KSRS	**Korea Array**	**30.12**	**1**	P	**P**	**19 28 46.2**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=180,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**31.37**	**168**	P	**P**	**19 28 58.6**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=340,slow=7.5,SNR=8.9						
ASAR				PcP	**PcP**	**19 31 50.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=349,slow=2.4,SNR=7.1						
ASAR				ScP	**ScP**	**19 35 29.6**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=348,slow=3.2,SNR=5.9						
ASAR	**Alice Springs**	**31.37**	**168**	P	**P**	**19 28 56.0**	**-0.5**
JMM	**Marumori**	**32.94**	**20**	P	**P**	**19 29 09.6**	**-0.3**
JMM				IAmb	IAmb	19 29 12.0	
	comp=Z,34nm,1.3s						
USRK	**Ussuriysk Ar.**	**37.10**	**6**	P	**P**	**19 29 46.9**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=186,slow=8.7,SNR=8.1						
USRK				pP	**pP**	**19 29 57.2**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=192,slow=7.7,SNR=4.1						
JEW	**Eniwo**	**37.67**	**17**	P	**P**	**19 29 51.3**	**+0.8**
FORT	**Forrest**	**37.77**	**179**	P	**P**	**19 29 51.2**	**-0.3**
NWAO	**Narrogin (SRO)**	**41.01**	**193**	P	**P**	**19 30 19.8**	**+1.3**
NWAO				IAmb	IAmb	19 31 34.3	
	comp=Z,89nm,1.8s						
SONM	**Songino Array**	**44.19**	**340**	LR	LR	19 50 53.2	
	comp=Z,30nm,18.2s,baz=127,slow=38						
LIFNC	**LIFOU**	**48.20**	**126**	P	**P**	**19 31 14.9**	**-1.1**
PEA0B	**Petropavlovsk-**	**52.08**	**23**	P	**P**	**19 31 45.8**	**+0.9**
PETK	**Petropavlovsk-**	**52.08**	**23**	P	**P**	**19 31 48.1**	**+3.3**
	comp=Z,2.3nm,0.6s,baz=199,slow=2.3,SNR=7.7						
PETK	**Petropavlovsk-**	**52.08**	**23**	P	**P**	**19 31 45.0**	**+0.1**
MK31	**Makanchi Array**	**55.00**	**324**	P	**P**	**19 32 05.6**	**-0.9**
MKAR	**Makanchi Array**	**55.00**	**324**	P	**P**	**19 32 05.3**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=114,slow=7.5,SNR=18						
MKAR				PcP	**PcP**	**19 33 07.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=104,slow=3.9,SNR=3.9						
MKAR	**Makanchi Array**	**55.00**	**324**	P	**P**	**19 32 05.1**	**-1.4**
MKAR				PcP	**PcP**	**19 33 07.2**	**-0.3**
KK31	**Karatay Array**	**61.04**	**316**	P	**P**	**19 32 47.1**	**-1.7**
KKAR	**Karatay Array**	**61.04**	**316**	P	**P**	**19 32 47.3**	**-1.5**
KKAR	**Karatay Array**	**61.04**	**316**	P	**P**	**19 32 47.2**	**-1.5**
KKAR				IAmb	IAmb	19 32 48.0	
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**64.39**	**1**	P	**P**	**19 33 09.7**	**-0.8**
TIXI				IAmb	IAmb	19 33 58.5	
	comp=Z,10nm,1.7s						
ABKAR	**Akbulak array**	**69.78**	**320**	P	**P**	**19 33 44.0**	**-1.1**
KDAK	**Kodiak Island**	**78.75**	**33**	P	**P**	**19 34 39.5**	**+2.4**
KDAK				IAmb	IAmb	19 37 30.8	
	comp=Z,5.2nm,1.2s						
ILAR	**Eielson Array**	**81.81**	**26**	P	**P**	**19 34 55.2**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=231,slow=8.7,SNR=4.4						
FINES	**FINESS Array B**	**89.00**	**332**	LR	LR	20 18 15.6	
	comp=Z,20nm,21.3s,baz=22,slow=38						
TORD	**Torodi Ar. Bea**	**122.19**	**290**	PKP	**PKPdf**	**19 41 29.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=31,slow=2.7,SNR=3.9						

IDC 10 19:47:52.3±2.1, 1°.60N×126°.73E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/47, mbtmp3.4/3, Error ellipse: s-maj=180.1km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**161**	P	P	19 52 55.4	-0.1
	0.3nm,0.3s,baz=340,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**26.06**	**165**	P	P	19 53 27.9	+0.1
	0.5nm,0.9s,baz=346,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**59.30**	**326**	P	P	19 57 56.0	-0.1
	0.4nm,0.4s,baz=115,slow=8.6,SNR=12						

*DJA **10** 20:15:30.2±0.2, 7°.5S±3°×12°.5E±°, h545km±3km, M4.4/23, mb4.5/23, mB4.8/6, MLv4.5/13, Mw(mB)4.1/6, MwMwp7.3/1, Mwp7.0/1*
*NEIC **10** 20:15:30.7±2.0, 7°.29S±0°.07×124°.9E±0°.1, h545km±5km, mb4.5/35, Error ellipse: s-maj=15.1km s-min=9.8km az=79.0*
*IDC **10** 20:15:30.3±0.8, 7°.27S×124°.98E, h542km±8km, mb3.4/7, mb1 3.6/11, mb1mx3.2/36, mbtmp4.5/11, Error ellipse: s-maj=21.0km s-min=9.4km az=67.0*

ISC 10 20:15:30.6±0.4, 7°.30S±0°.05×124°.93E±0°.07, h550km, n91, σ1°07/98, mb4.4/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.53**	**195**	P	**P**	**20 16 43.8**	**+0.7**
SOEI	**Soe**	**2.53**	**195**	P	**P**	**20 16 42.6**	**-0.4**
SOEI				S	**S**	**20 17 40.3**	**-1.7**
MMRI	**Maumere**	**2.98**	**243**	P	**P**	**20 16 45.2**	**-0.3**
MMRI	**Maumere**	**2.98**	**243**	P	**P**	**20 16 45.1**	**-0.3**
BATI	**Baumata**	**3.15**	**203**	P	**P**	**20 16 47.6**	**+1.0**
	48nm,0.3s,baz=9.0,slow=1.4,SNR=80						
BATI				S	**S**	**20 17 47.2**	**-1.2**
	52nm,0.3s,baz=60,slow=22,SNR=8.5						
BATI	**Baumata**	**3.15**	**203**	P	**P**	**20 16 46.0**	**-0.6**
BATI				S	**S**	**20 17 47.0**	**-1.4**
EDFI	**Ende, Flores**	**3.52**	**246**	P	**P**	**20 16 48.5**	**-0.6**
NLAI	**Namlea**	**4.58**	**28**	P	**P**	**20 16 57.3**	**+0.3**
NLAI				S	**S**	**20 18 06.3**	**-1.1**
SANI	**Sanana**	**5.32**	**12**	P	**P**	**20 17 03.8**	**+0.6**
	0.2nm49nm,0.8s						
BNSI	**Bone**	**5.59**	**301**	P	**P**	**20 17 04.9**	**-0.7**
	0.1nm38nm,0.8s						
MSAI	**Masohi**	**5.59**	**46**	P	**P**	**20 17 04.8**	**-0.8**
	0.1nm713nm19nm,0.4s						
KAPI	**Kappang**	**5.62**	**294**	P	**P**	**20 17 08.4**	**+2.6**
	2.7nm,0.3s,baz=99,slow=2.7,SNR=5.2						
KAPI	**Kappang**	**5.62**	**294**	P	**P**	**20 17 05.0**	**-0.8**
BNDI	**Bandanaira**	**5.67**	**61**	P	**P**	**20 17 07.3**	**+1.1**
	1.0nm205nm,0.7s						
WBSI	**Waikabubak, Su**	**5.95**	**247**	P	**P**	**20 17 07.9**	**-0.9**
	1.1nm2μm162nm,0.6s						
SAUI	**Saumlaki**	**6.35**	**97**	P	**P**	**20 17 11.1**	**-1.4**
SAUI	**Saumlaki**	**6.35**	**97**	P	**P**	**20 17 12.5**	**0.0**
	1.8nm291nm,1.4s						
TTSI	**Tana Toraja**	**6.61**	**309**	P	**P**	**20 17 12.8**	**-2.1**
	0.1nm22nm,0.8s						
PLAI	**Plampang**	**7.24**	**257**	P	**P**	**20 17 19.3**	**-1.6**
	0.5nm2μm120nm,0.5s						
TWSI	**Taliwang, Sumb**	**8.10**	**259**	P	**P**	**20 17 27.6**	**-1.7**
	27nm,0.6s						
MTN	**Manton Dam**	**8.23**	**133**	P	**P**	**20 17 30.9**	**+0.4**
TNTI	**Ternate**	**8.38**	**17**	P	**P**	**20 17 32.4**	**+0.2**
TNTI	**Ternate**	**8.38**	**17**	P	**P**	**20 17 32.1**	**0.0**
	49nm,1.1s						
FAKI	**Fak Fak**	**8.49**	**60**	P	**P**	**20 17 32.1**	**-1.2**
FAKI	**Fak Fak**	**8.49**	**60**	P	**P**	**20 17 32.0**	**-1.2**
	3μm170nm,0.4s						
SWI	**Sorong**	**8.98**	**45**	P	**P**	**20 17 38.2**	**0.0**
	2μm144nm,0.6s						
SIJI	**Sorong**	**8.98**	**45**	P	**P**	**20 17 37.5**	**-0.7**
	17nm,0.3s,baz=216,slow=8.3,SNR=55						
SIJI				S	**S**	**20 19 21.2**	**-1.8**
	1.0nm,0.3s,baz=1.6,slow=22,SNR=3.7						
KNRA	**Kununurra**	**9.13**	**156**	P	**P**	**20 17 40.4**	**+0.7**
KMPI	**Kaimana, Papua**	**9.45**	**68**	P	**P**	**20 17 42.9**	**-0.1**
	147nm,0.5s						
JAGI	**Jajag, Banyuwa**	**10.74**	**263**	P	**P**	**20 17 54.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**10.74**	**263**	P	**P**	**20 17 54.5**	**-1.6**
	152nm,0.8s						
KMMI	**Kalianget**	**10.88**	**271**	P	**P**	**20 17 59.4**	**+1.8**
	71nm,0.8s						
PWJI	**Pagerwojo**	**13.03**	**266**	P	**P**	**20 18 18.9**	**-0.9**
	26nm,1.2s						
PCJI	**Pacitan**	**13.65**	**265**	P	**P**	**20 18 24.3**	**-2.0**
	67nm,1.2s						
UGM	**Wanagama**	**14.29**	**267**	P	**P**	**20 18 31.2**	**-1.7**
PSA00	**Pilbara Seismi**	**15.02**	**199**	P	**P**	**20 18 39.8**	**-0.4**
PSA00				IAmb	IAmb	20 18 40.3	
	comp=Z,16nm,0.7s						
PSA00	**Pilbara Seismi**	**15.02**	**199**	P	**P**	**20 18 39.6**	**-0.6**
PSA00				IAmb	IAmb	20 18 40.7	
	comp=Z,5.2nm,0.6s						
WB0	**Warramunga Arr**	**15.43**	**144**	P	**P**	**20 18 43.8**	**-0.7**
WB0				IAmb	IAmb	20 18 45.2	
	comp=Z,20nm,1.3s						
WRAB	**Tennant Creek**	**15.53**	**145**	P	**P**	**20 18 43.9**	**-1.6**
WRAB				IAmb	IAmb	20 18 46.5	
	comp=Z,6.0nm,0.9s						
WRA	**Warramunga Arr**	**15.54**	**145**	P	**P**	**20 18 44.8**	**-0.8**
	comp=Z,2.6nm,0.3s,baz=324,slow=11,SNR=28						
WRA				S	**S**	**20 21 24.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=329,slow=19,SNR=8.7						
WRA	**Warramunga Arr**	**15.54**	**145**	P	**P**	**20 18 44.0**	**-1.5**
WB2	**Warramunga Arr**	**15.54**	**145**	P	**P**	**20 18 44.7**	**-0.9**
WB2				IAmb	IAmb	20 18 48.8	
	comp=Z,7.5nm,0.9s						
WR0	**Warramunga Arr**	**15.66**	**144**	P	**P**	**20 18 46.2**	**-0.6**
WR0					**S**	**20 21 26.1**	**-1.5**
KPJI	**Karang Pucung**	**15.87**	**269**	P	**P**	**20 18 48.0**	**-0.9**
	comp=Z,47nm,0.7s						
GENI	**Genyem**	**15.88**	**74**	P	**P**	**20 18 48.5**	**-0.6**
	comp=Z,52nm,0.6s						
CISI	**Cisompet, Garu**	**16.97**	**268**	P	**P**	**20 18 57.1**	**-2.1**
CISI	**Cisompet, Garu**	**16.97**	**268**	P	**P**	**20 18 56.9**	**-2.3**
	comp=Z,32nm,0.7s						
CNJI	**Cibinong**	**17.65**	**269**	P	**P**	**20 19 04.8**	**-0.6**
	comp=Z,106nm,1.0s						
DBJI	**Dramaga**	**18.06**	**271**	P	**P**	**20 19 06.8**	**-2.4**
	comp=Z,973μmcomp=Z,30μmcomp=Z,103nm,1.2s						
GIRL	**Giralia**	**18.41**	**213**	P	**P**	**20 19 13.9**	**+1.7**
AS31	**Alice Springs**	**18.42**	**153**	P	**P**	**20 19 13.2**	**+0.8**
AS31				IAmb	IAmb	20 19 13.5	
	comp=Z,7.4nm,0.3s						
ASAR	**Alice Springs**	**18.42**	**153**	P	**P**	**20 19 13.1**	**+0.7**
	comp=Z,3.1nm,0.3s,baz=326,slow=8.6,SNR=262						
ASAR				S	**S**	**20 22 13.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**18.42**	**153**	P	**P**	**20 19 12.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**26.48**	**195**	P	**P**	**20 20 24.2**	**-0.1**
NWAO				IAmb	IAmb	20 20 27.5	
	comp=Z,41nm,1.4s						
STKA	**Stephens Creek**	**28.98**	**150**	P	**P**	**20 20 47.0**	**+0.8**
	comp=Z,5.5nm,0.3s,baz=324,slow=8.9,SNR=47						
STKA	**Stephens Creek**	**28.98**	**150**	P	**P**	**20 20 47.0**	**+0.8**
STKA				IAmb	IAmb	20 20 48.6	
	comp=Z,9.0nm,1.6s						
TWG	**Pinlang**	**30.17**	**353**	P	**P**	**20 20 55.6**	**-1.0**
ARMA	**Armidale**	**33.99**	**136**	P	**P**	**20 21 31.0**	**+1.9**
ARMA				IAmb	IAmb	20 21 35.6	
	comp=Z,28nm,1.5s						
TOO	**Toolangi**	**35.45**	**151**	P	**P**	**20 21 42.3**	**+1.2**
TOO				IAmb	IAmb	20 22 10.6	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**36.22**	**315**	P	**P**	**20 21 48.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=150,slow=7.9,SNR=7.0						
CMAR				ScP	**ScP**	**20 26 53.7**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=145,slow=3.3,SNR=4.8						
JWT	**Wachi**	**43.49**	**12**	P	**P**	**20 22 46.3**	**+0.7**
JWT				IAmb	IAmb	20 23 04.3	
	comp=Z,8.8nm,1.2s						
JSD	**Sado**	**46.78**	**14**	P	**P**	**20 23 10.9**	**+0.1**
LSA	**Lhasa**	**49.06**	**320**	P	**P**	**20 23 29.6**	**+1.1**
QRZ	**Quartz Range**	**53.86**	**136**	P	**P**	**20 24 03.3**	**+0.9**
LBZ	**Lake Benmore**	**53.94**	**141**	P	**P**	**20 24 03.0**	**0.0**
LBZ				IAmb	IAmb	20 24 24.4	
	comp=Z,32nm,1.6s						
RPZ	**Rata Peaks**	**54.17**	**140**	P	**P**	**20 24 05.3**	**+0.8**
RPZ				IAmb	IAmb	20 24 15.5	
	comp=Z,66nm,1.6s						
THZ	**Tophouse**	**54.51**	**137**	P	**P**	**20 24 07.3**	**+0.3**
THZ				IAmb	IAmb	20 24 34.0	
	comp=Z,45nm,1.6s						
NNZ	**Nelson**	**54.61**	**136**	P	**P**	**20 24 08.5**	**+0.8**
KHZ	**Kahutara**	**55.22**	**137**	P	**P**	**20

CEDA				*e*S		**Sn**	**20 30 34.3**	**0.0**
MTO3	**Montecristo**	**1.78**	**75**	*e*P		**Pn**	**20 30 13.8**	**-1.0**
MTO3				*e*S		**Sn**	**20 30 36.9**	**+0.3**
MTO3	**Montecristo**	**1.78**	**75**	*e*P		**Pn**	**20 30 13.8**	**-1.0**
MTO3				*e*S		**Sn**	**20 30 36.9**	**+0.3**
MTO3	**Montecristo**	**1.78**	**75**	Pn		**Pn**	**20 30 13.9**	**-0.9**
BOQS	**Boqueron**	**1.81**	**96**	*e*P		**Pn**	**20 30 14.6**	**-0.6**
BOQS				*e*S		**Sn**	**20 30 37.1**	**-0.3**
BOQS	**Boqueron**	**1.81**	**96**	*e*P		**Pn**	**20 30 14.6**	**-0.6**
BOQS				*e*S		**Sn**	**20 30 37.1**	**-0.3**
ESQI	**Esquipulas**	**1.85**	**70**	*e*P		**Pn**	**20 30 14.8**	**-0.7**
ESQI				*e*S		**Sn**	**20 30 38.9**	**+0.8**
ESQI	**Esquipulas**	**1.85**	**70**	Pn		**Pn**	**20 30 14.9**	**-0.7**
SNET	**Serv Nac Est T**	**1.87**	**97**	Pn		**Pn**	**20 30 15.1**	**-0.7**
LFRS	**El Faro**	**2.04**	**99**	*e*P		**Pn**	**20 30 17.3**	**-0.9**
LFRS				*e*S		**Sn**	**20 30 41.7**	**-1.0**
LFRS	**El Faro**	**2.04**	**99**	*e*P		**Pn**	**20 30 17.3**	**-0.9**
LFRS				*e*S		**Sn**	**20 30 41.7**	**-1.0**
PAVA	**Las Pavas**	**2.15**	**96**	*e*P		**Pn**	**20 30 18.5**	**-1.2**
PAVA	**Las Pavas**	**2.15**	**96**	*e*P		**Pn**	**20 30 18.5**	**-1.2**
COEG	**Centro de Oper**	**2.21**	**98**	*e*P		**Pn**	**20 30 19.6**	**-1.0**
COEG					IAML		20 30 57.8	
	comp=Z,2µm,0.5s							
COEG	**Centro de Oper**	**2.21**	**98**	*e*P		**Pn**	**20 30 19.6**	**-1.0**
COEG					IAML		20 30 57.8	
	comp=Z,2µm,0.5s							
CCIG	**Comitan**	**2.52**	**338**			**Pn**	**20 30 25.9**	**+1.1**
PETF	**Flores**	**3.21**	**22**	Pn		**Pn**	**20 30 34.9**	**+1.0**
LCND	**La Caada**	**3.22**	**101**	*e*P		**Pn**	**20 30 33.5**	**-0.6**
LCND					IAML		20 31 23.7	
	comp=Z,654nm,0.5s							
LCND	**La Caada**	**3.22**	**101**	*e*P		**Pn**	**20 30 33.5**	**-0.6**
LCND					IAML		20 31 23.7	
	comp=Z,654nm,0.5s							
CNCH	**Conchagua**	**3.28**	**101**	*e*P		**Pn**	**20 30 34.4**	**-0.7**
CNCH	**Conchagua**	**3.28**	**101**	*e*P		**Pn**	**20 30 34.4**	**-0.7**
TGUH	**Tegucigalpa,Un**	**3.75**	**88**			**Pn**	**20 30 40.8**	**-0.8**
CRIN	**San Cristobal**	**4.16**	**107**			**Pn**	**20 30 47.8**	**+0.7**
CNGN	**Cerro Negro**	**4.55**	**108**			**Pn**	**20 30 53.7**	**+1.3**
ACON	**Acoyapa**	**6.13**	**108**	Pn		**Pn**	**20 31 13.9**	**-0.1**
DUNO	**Dulce Nombre,**	**6.72**	**124**			**Pn**	**20 31 22.6**	**+0.5**
ESPN	**Las Esperanzas**	**6.88**	**104**	Pn		**Pn**	**20 31 24.5**	**+0.2**
JTS	**Las Juntas de**	**7.05**	**120**	Pn		**Pn**	**20 31 27.4**	**+0.8**
JACO	**JACO, Garabito**	**7.63**	**123**	Pn		**Pn**	**20 31 34.6**	**+0.1**
TLIG	**Tlapa**	**8.01**	**298**			**Pn**	**20 31 41.1**	**+1.3**
RIMA	**Rio Macho**	**8.24**	**119**	Pn		**Pn**	**20 31 44.1**	**+1.2**
PEZE	**Perez Zeledon,**	**8.59**	**121**	Pn		**Pn**	**20 31 48.5**	**+0.7**
SRBA	**San Rafael, Bu**	**8.94**	**121**	Pn		**Pn**	**20 31 52.5**	**0.0**
DRK0	**Durika**	**9.02**	**120**			**Pn**	**20 31 54.9**	**+1.2**
MOIG	**Morelia**	**11.19**	**302**	Pn		**Pn**	**20 32 26.9**	**+3.5**
ZAIG	**Zacatecas**	**13.95**	**311**	Pn		**Pn**	**20 33 02.2**	**+1.3**
553A	**Crawfordville**	**17.32**	**20**	P		**P**	**20 33 44.7**	**+0.9**
TXAR	**Lajitas Array**	**19.22**	**325**	Pn		**Pn**	**20 34 07.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=145,slow=11,SNR=7.1							
Z47A	**Carrollton**	**19.38**	**8**	P		**P**	**20 34 06.6**	**+0.2**
Z47A				IAmb		IAmb	20 34 11.3	
	comp=Z,20nm,1.1s							
LRAL	**Lakeview Retre**	**19.38**	**11**	P		**Pn**	**20 34 06.8**	**-1.4**
LRAL				IAmb		IAmb	20 34 11.5	
	comp=Z,9.9nm,1.0s							
154A	**Montrose**	**19.98**	**20**	P		**Pn**	**20 34 13.5**	**-1.8**
154A				IAmb		IAmb	20 34 48.1	
	comp=Z,18nm,0.9s							
Z51A	**Franklin**	**20.04**	**15**	P		**P**	**20 34 13.9**	**+0.3**
Y49A	**Blount Mountai**	**20.29**	**11**	P		**P**	**20 34 15.8**	**-0.5**
Y49A				IAmb		IAmb	20 34 18.8	
	comp=Z,6.2nm,0.8s							
GOGA	**Godfrey**	**20.60**	**18**	P		Pn	20 34 20.6	-2.0
GOGA				IAmb		IAmb	20 34 24.3	
	comp=Z,15nm,1.6s							
Y52A	**Lilburn**	**20.85**	**17**	P		**P**	**20 34 22.1**	**-0.3**
Y52A				IAmb		IAmb	20 34 24.3	
	comp=Z,10nm,0.8s							
FPAL	**Fort Paine**	**21.11**	**13**	P		**P**	**20 34 24.5**	**-0.8**
FPAL				IAmb		IAmb	20 34 27.5	
	comp=Z,8.8nm,1.1s							
HODGE	**Hodges**	**21.75**	**20**	P		**P**	**20 34 31.2**	**-0.7**
HODGE				IAmb		IAmb	20 34 35.1	
	comp=Z,11nm,1.0s							
HALT	**Halls**	**21.94**	**4**	P		**P**	**20 34 32.5**	**-1.5**
MNTX	**Cornudas Mount**	**21.98**	**326**	P		**P**	**20 34 35.5**	**+1.0**
WVT	**Waverly**	**22.30**	**7**	P		**P**	**20 34 36.1**	**-1.8**
WVT				IAmb		IAmb	20 34 46.4	
	comp=Z,8.6nm,1.1s							
U49A	**Red Boiling Sp**	**22.99**	**11**	P		**P**	**20 34 42.6**	**-2.5**
T50A	**Nancy**	**23.67**	**13**	P		**P**	**20 34 49.0**	**-2.5**
U54A	**Nelsons Funny**	**23.99**	**19**	P		**P**	**20 34 53.5**	**-1.0**
U54A				IAmb		IAmb	20 34 56.6	
	comp=Z,11nm,0.8s							
BNM	**Barren Site**	**24.54**	**328**	P		**P**	**20 34 58.3**	**-1.4**
ACSO	**Alum Creek Sta**	**27.15**	**14**	P		**P**	**20 35 21.8**	**-1.3**
ACSO				IAmb		IAmb	20 35 26.7	
	comp=Z,18nm,1.4s							
NVAR	**Mina Array Bea**	**34.25**	**320**	P		**P**	**20 36 26.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=138,slow=9.8,SNR=6.6							
CMAR	**Chiang Mai Arr**	**146.31**	**343**	PKPbc		**PKPdf**	**20 49 18.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=335,slow=3.2,SNR=9.0							

IPEC ***10*** *20:38:58.4±0.2,50°.10N×19°.02E,h1km,ML2.7/4,Error ellipse: s-maj=3.0km s-min=1.0km az=165.0*
VIE ***10*** *20:38:58.2±0.6,50°.21N×18°.98E,h0km,mb2.2/3,ml2.9/5, Error ellipse: s-maj=12.0km s-min=2.6km az=163.0 5 km S of Katowice Suspected Mining induced.*
BGR ***10*** *20:38:59.1±0.3,50°.27N×19°.00E,h1km,ML3.0/7,Error ellipse: s-maj=11.1km s-min=3.3km az=8.0*
PRU ***10*** *20:38:59.2±0.0,50°.23N×18°.88E,h0km*
IDC ***10*** *20:38:59.7±3.0,50°.16N×18°.93E,h0km,mb1 3.4/3, mb1mx3.2/26,mbtmp3.3/3,ML2.5/3,Error ellipse: s-maj=56.0km s-min=14.9km az=136.0*

ISC 10 20:38:57.6±0.7,50°.24N±0°.03×18°.94E±0°.02,h0km,n62, σ0°85/94,6C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.51**	**252**	*e*PG	**Pb**	**20 39 09.9**	**+0.6**
RAC				*e*SG	**Sb**	**20 39 18.0**	**+0.8**
OJC	**Ojcow**	**0.55**	**92**	*e*Pg	**Pg**	**20 39 08.5**	**+0.4**
OJC				*e*Sg	**Sg**	**20 39 15.9**	**+0.6**
OJC	**Ojcow**	**0.55**	**92**	*e*Pg	**Pg**	**20 39 08.5**	**+0.4**
OJC				*e*Sg	**Sg**	**20 39 15.7**	**+0.5**
OKC	**Ostrava-Krasne**	**0.65**	**232**	*e*PG	**Pb**	**20 39 11.7**	**-0.1**
OKC				*e*SG	**Sg**	**20 39 18.6**	**+0.1**
	comp=Z,63nm,0.3s						
OKC	**Ostrava-Krasne**	**0.65**	**232**	*e*Pg	**Pb**	**20 39 11.8**	**-0.1**
MORC	**Moravsky Berou**	**1.01**	**243**	⇓P	**Pb**	**20 39 18.0**	**-0.1**
MORC	**Moravsky Berou**	**1.01**	**243**	⇓S	**Sb**	**20 39 32.1**	**+0.1**
MORC	**Moravsky Berou**	**1.01**	**243**	*e*Pg	**Pb**	**20 39 18.0**	**-0.1**
	baz=71						
MORC				*e*Sg	**Sg**	**20 39 30.2**	**+0.1**
	130nm,0.3s,baz=71						
MORC	**Moravsky Berou**	**1.01**	**243**	*e*PG	**Pb**	**20 39 18.0**	**-0.1**
MORC				*e*SG	**Sg**	**20 39 30.3**	**+0.1**
ANAC	**Anensky vrch**	**1.02**	**261**	*e*Pg	**Pb**	**20 39 18.5**	**+0.4**
	baz=88						
ANAC				*e*Sg	**Sb**	**20 39 31.4**	**-0.7**
	128nm,0.2s,baz=88						
LANS	**Liptovska Anna**	**1.14**	**162**	*e*PG	**Pb**	**20 39 20.1**	**-0.1**
LANS				*e*SG	**Sb**	**20 39 35.6**	**-0.1**
LANS				*e*LG	Lg	20 39 42.4	
KRLC	**Kraliky**	**1.40**	**264**	*e*PG	**Pg**	**20 39 24.3**	**-0.1**
KRLC				*e*SG	**Sb**	**20 39 42.9**	**-0.1**
	comp=Z,94nm,0.3s						
JAVC	**Velka Javorina**	**1.61**	**211**	*e*Pn	**Pn**	**20 39 26.5**	**-0.8**
	baz=35						
JAVC	**Velka Javorina**	**1.61**	**211**	*e*PN	**Pn**	**20 39 26.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*PG	**Pn**	**20 39 28.9**	**+0.6**
DPC				*e*SG	**Sg**	**20 39 52.4**	**+0.8**
	comp=Z,82nm,0.6s						
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*Pn	**Pn**	**20 39 29.1**	**+0.8**
DPC				*e*Sg	**Sg**	**20 39 52.9**	**+1.2**
STHS	**Stebnicka Huta**	**1.71**	**118**	*e*PN	**Pb**	**20 39 29.7**	**-0.1**
STHS				*e*SN	**Sg**	**20 39 53.3**	**+1.0**
VYHS	**Vyhne**	**1.75**	**182**	*e*PN	**Pn**	**20 39 29.0**	**-0.2**
VYHS				*e*SN	**Sn**	**20 39 52.3**	**+0.1**
VYHS				*e*LG	Lg	20 39 54.0	
OSTC	**Ostas**	**1.77**	**281**	*e*PG	**Pn**	**20 39 30.5**	**+1.0**
OSTC				*e*SG	**Sg**	**20 39 54.8**	**+0.3**
	comp=Z,46nm,0.6s						
VRAC	**Vranov**	**1.79**	**239**	⇑P	**Pn**	**20 39 30.2**	**+0.5**
VRAC	**Vranov**	**1.79**	**239**	⇑S	**Sg**	**20 39 54.9**	**0.0**
VRAC	**Vranov**	**1.79**	**239**	*e*Pn	**Pn**	**20 39 29.9**	**+0.3**
	baz=62						
VRAC				*e*Sg	**Sb**	**20 39 53.5**	**-0.5**
	53nm,0.3s,baz=62						
VRAC	**Vranov**	**1.79**	**239**	*e*PN	**Pn**	**20 39 30.0**	**+0.3**
VRAC				*e*SG	**Sb**	**20 39 53.6**	**-0.5**
KSP	**Ksiaz**	**1.79**	**291**	*e*Pn	**Pn**	**20 39 30.7**	**+0.9**
KSP				*e*Pg	**Pg**	**20 39 33.1**	**+1.1**
KSP				*e*Sg	**Sg**	**20 39 57.6**	**+2.4**
KSP	**Ksiaz**	**1.79**	**291**	*e*Pn	**Pn**	**20 39 30.2**	**+0.5**
KSP				*e*Pg	**Pg**	**20 39 33.1**	**+1.1**
KSP				*e*Sg	**Sg**	**20 39 56.6**	**+1.4**
CHVC	**Chvalec**	**1.88**	**282**	*e*PG	**Pb**	**20 39 32.8**	**0.0**
CHVC				*e*SG	**Sg**	**20 39 57.7**	**-0.2**
	comp=Z,39nm,0.6s						
UPC	**Upice**	**1.89**	**279**	*e*PG	**Pb**	**20 39 33.0**	**0.0**
UPC				*e*SG	**Sg**	**20 39 58.4**	**0.0**
	comp=Z,29nm,0.4s						
KECS	**Kecovo**	**2.03**	**150**	*e*SN	**Sb**	**20 40 01.7**	**+0.6**
KRUC	**Moravsky**	**2.03**	**235**	*e*Pn	**Pn**	**20 39 33.4**	**+0.3**
	baz=58						
KRUC				*e*Sg	**Sb**	**20 40 01.1**	**-0.1**
	39nm,0.4s,baz=58						
KRUC	**Moravsky**	**2.03**	**235**	*e*PN	**Pn**	**20 39 33.4**	**+0.3**
KRUC				*e*SG	**Sb**	**20 40 01.1**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.12**	**128**	*e*PN	**Pb**	**20 39 37.5**	**+0.7**
MODS	**Modra-Piesok**	**2.16**	**211**	*e*PG	Pg	20 39 44.1	+5.1
MODS				*e*SG	**Sg**	**20 40 07.7**	**+0.7**
PSZ	**Piszkesteto**	**2.41**	**165**	⇑P	**Pn**	**20 39 38.6**	**+0.4**
PSZ	**Piszkesteto**	**2.41**	**165**	*e*P	**Pb**	**20 39 40.3**	**-1.5**
SRO	**Srobarova**	**2.46**	**190**	*e*PG	**Pg**	**20 39 46.4**	**+1.6**
KOLS	**Kolonicke sedl**	**2.53**	**120**	*e*PG	**Pg**	**20 39 48.0**	**+1.9**
KOLS				*e*SN	**Sn**	**20 40 10.8**	**-0.7**
PVCC	**Panska Ves**	**2.81**	**278**	*e*SG	**Sg**	**20 40 28.7**	**+0.8**
	comp=Z,33nm,0.2s						
PRU	**Pruhonice**	**2.84**	**267**	*e*SG	**Sg**	**20 40 27.0**	**-1.9**
	comp=Z,29nm,0.6s						
CSKK	**Cskako**	**2.92**	**189**	*e*P	**Pb**	**20 39 51.3**	**+0.9**
CONA	**Conrad Observa**	**3.08**	**222**	*i* Pn	**Pn**	**20 39 47.4**	**0.0**
	0.8nm,0.2s						
CONA				*i* Sn	**Sn**	**20 40 24.4**	**-0.5**
	3.0nm,0.2s						
BRG	**Berggiesshubel**	**3.25**	**283**	Pg	**Pg**	**20 40 00.1**	**+0.3**
BRG				Sg	**Sg**	**20 40 42.7**	**+0.8**
BRG				Amp		20 40 45.8	
	comp=Z,14nm,0.6s						
BRG	**Berggiesshubel**	**3.25**	**283**	*e*Pg	**Pg**	**20 40 00.2**	**+0.3**
CKRC	**Cesky Krumlov**	**3.33**	**247**	*e*SG	**Sg**	**20 40 43.2**	**-1.5**
	comp=Z,18nm,0.4s						
KHC	**Kasperske Hory**	**3.66**	**254**	*e*PN	**Pn**	**20 39 55.9**	**+0.5**
KHC				*e*PG	**Pb**	**20 40 03.2**	**+0.2**
KHC				*e*SG	**Sg**	**20 40 53.2**	**-1.7**
	comp=Z,28nm,0.6s						
GERES	**GERESS Array B**	**3.69**	**250**	Pn	**Pn**	**20 39 57.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=67,slow=14,SNR=6.2						
GERES				Lg	Lg	20 40 55.3	
	comp=Z,6.8nm,0.3s,baz=67,slow=28,SNR=8.9						
MOA	**Molln**	**3.90**	**234**	*e*Pn	**Pn**	**20 39 58.4**	**-0.3**
	comp=Z,0.3nm,0.1s						
MOA				*i* Sn	**Sn**	**20 40 45.8**	**+0.7**
	comp=Z,2.6nm,0.2s						
CLL	**Collm**	**3.92**	**288**	*e*Pg	**Pg**	**20 40 12.0**	**-0.6**
CLL				*e*		20 40 34.0	
CLL				*e*Sg	**Sg**	**20 41 04.0**	**+0.7**
	comp=Z,19nm,0.7s						
CLL	**Collm**	**3.92**	**288**	*e*Pn	**Pn**	**20 40 00.1**	**+1.2**
CLL				*e*Sg	**Sg**	**20 41 03.9**	**+0.5**
WET	**Wettzell**	**4.09**	**257**	*e*Pg	**Pg**	**20 40 16.5**	**+0.7**
NKC	**Novy Kostel**	**4.17**	**272**	*e*SG	**Sg**	**20 41 11.1**	**-0.3**
DRGR		**4.26**	**143**	⇑P	**Pn**	**20 40 04.3**	**+0.5**
MOX	**Moxa**	**4.70**	**278**	*e*Sg	**Sg**	**20 41 29.4**	**+0.9**
KBA	**Koelnbreinsper**	**4.88**	**232**	*e*Sn	**Sn**	**20 41 10.0**	**+0.6**
	comp=Z,3.0nm,0.5s						
BURAR	**Bucovina Array**	**4.90**	**120**	⇓P	**Pn**	**20 40 12.4**	**-0.1**
BZS	**Buzias**	**4.96**	**158**	⇑P	**Pn**	**20 40 13.7**	**+0.4**
FRGS	**Fruska Gora**	**5.12**	**173**	⇑P	**Pn**	**20 40 16.2**	**+0.7**
GZR	**Gura Zlata**	**5.50**	**151**	⇓P	**Pn**	**20 40 20.8**	**+0.1**
ABTA	**Abfaltersbach**	**5.52**	**233**	Sg	**Sg**	**20 41 57.4**	**+2.6**
	comp=Z,2.7nm,0.4s						
WATA	**Walderalm**	**5.67**	**242**	*e*Sg	**Sg**	**20 41 60.0**	**+0.4**
	comp=Z,9.7nm,0.5s						
FETA	**Feichten**	**6.32**	**243**	Sg	**Sg**	**20 42 20.8**	**+0.2**
	comp=Z,2.5nm,0.6s						
FINES	**FINESS Array B**	**11.91**	**17**	Pn	**Pn**	**20 41 45.9**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=5.4						
ARCES	**ARCESS Array B**	**19.61**	**7**	Pn	**P**	**20 43 26.6**	**-0.5**
	baz=184,slow=11,SNR=1.7						

DJA ***10*** *21:07:29.2±0.3,10°.5±5°.×12°.1E±°,h75km±11km,M4.3/7, mb4.7/3,MLv4.1/7*
IDC ***10*** *21:07:30.8±4.6,9°.35S×121°.41E,h116km±49km,mb3.3/1, mb1 3.6/4,mb1mx3.2/37,mbtmp3.9/4,Error ellipse: s-maj=114.2km s-min=17.6km az=47.0*

ISC 10 21:07:28.2±0.9,9°.49S±0°.08×121°.29E±0°.07,h100km,n19, σ2°44/21,Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.83**	**28**	P	**Pn**	**21 07 46.8**	**-0.2**
EDFI				S	**Sn**	**21 08 00.2**	**-0.9**
MMRI	**Maumere**	**1.26**	**48**	P	**Pn**	**21 07 52.1**	**+0.5**
WBSI	**Waikabubak, Su**	**1.88**	**265**	P	**Pn**	**21 07 59.2**	**-0.1**
BATI	**Baumata**	**2.44**	**107**	P	**Pn**	**21 08 08.8**	**+2.1**
	61nm,0.3s,baz=278,slow=10,SNR=81						
BATI				S	**Sn**	**21 08 38.7**	**+2.6**
	48nm,0.3s,baz=230,slow=1.8,SNR=9.3						
BATI	**Baumata**	**2.44**	**107**	P	**Pn**	**21 08 08.7**	**+2.1**
SOEI	**Soe**	**2.94**	**95**	P	**Pn**	**21 08 15.7**	**+2.4**
BSSI	**Bau Bau, Buton**	**3.42**	**346**	P	**Pn**	**21 08 19.6**	**0.0**
PLAI	**Plampang**	**3.53**	**280**	P	**Pn**	**21 08 22.7**	**+1.6**
BKSI	**Bulukumba**	**4.30**	**344**	P	**Pn**	**21 08 33.8**	**+2.4**
TWSI	**Taliwang, Sumb**	**4.42**	**279**	P	**Pn**	**21 08 34.5**	**+1.4**
KAPI	**Kappang**	**4.70**	**341**	P	**Pn**	**21 08 39.2**	**+2.3**
	2.4nm,0.3s,baz=184,slow=14,SNR=4.2						
PWJI	**Pagerwojo**	**9.49**	**278**	P	**Pn**	**21 09 43.5**	**+1.4**
	19nm,1.3s						
PCJI	**Pacitan**	**10.08**	**277**	P	**Pn**	**21 09 50.6**	**+0.6**
SIJI	**Sorong**	**13.11**	**50**	P	**P**	**21 10 36.4**	**-0.6**
	0.9nm,0.3s,baz=56,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**16.34**	**131**	P	**Pn**	**21 11 10.6**	**-1.2**
	0.4nm,0.3s,baz=306,slow=14,SNR=21						
WRA				S	Sn	21 14 00.9	-12
	0.9nm,0.3s,baz=294,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**18.55**	**141**	P	**Pn**	**21 11 39.6**	**+1.0**
	0.4nm,0.3s,baz=319,slow=12,SNR=46						
ASAR				S	**S**	**21 14 55.7**	**-8.0**
	0.2nm,0.3s,baz=314,slow=23,SNR=5.8						
CMAR	**Chiang Mai Arr**	**35.46**	**322**	P	**P**	**21 14 15.5**	**+0.3**
	0.7nm,0.6s,baz=151,slow=7.1,SNR=6.9						
SONM	**Songino Array**	**58.58**	**348**	pP	pP	21 17 43.3	+4.8
	0.7nm,0.7s,baz=149,slow=6.1,SNR=5.3						
TORD	**Torodi Ar. Bea**	**120.77**	**280**	PKP	**PKPdf**	**21 26 10.1**	**+0.5**
	0.2nm,0.5s,baz=66,slow=1.9,SNR=4.7						

IDC ***10*** *21:12:58.7±0.8,27°.71N×86°.22E,h0km,mb3.9/16, mb1 4.0/18,mb1mx3.9/46,mbtmp3.9/18,ML3.8/2,MS3.1/3, Ms1 3.1/3,ms1mx2.7/38,Error ellipse: s-maj=23.1km s-min=15.0km az=40.0*
NEIC ***10*** *21:13:01.0±1.1,27°.73N±0°.07×86°.08E±0°.05,h10km±1km, mb4.2/37,Error ellipse: s-maj=13.9km s-min=3.9km az=207.0*
NDI ***10*** *21:13:03.1±3.8,27°.61N×86°.15E,h10km,ML4.0, mb4.2(NEIC)*

ISC 10 21:13:01.4±0.5,27°.75N±0°.06×86°.20E±0°.04,h19km,n84, σ1°35/87,mb4.1/32,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOK	**Bokaro**	**3.94**	**184**	*e*P	**Pn**	**21 14 02.2**	**+1.2**
LSA	**Lhasa**	**4.76**	**65**	Pn	Pn	21 14 18.4	+5.8
LSA				Sn	**Sb**	**21 15 16.3**	**-5.4**
LSA				smax	smax		
	comp=N,69nm,0.8s						
LSA				smax	smax		
	comp=E,100nm,0.8s						
LSA	**Lhasa**	**4.76**	**65**		**Pn**	**21 14 14.3**	**+1.7**
SHL	**Shillong**	**5.53**	**112**	*e*P	**Pn**	**21 14 25.4**	**+2.5**
SHL				*e*S	**Sn**	**21 15 25.4**	**-0.6**
SHL	**Shillong**	**5.53**	**112**	Pn	**Pn**	**21 14 23.1**	**+0.2**
DDI	**Dehra Dun**	**7.58**	**292**	*e*P	**Pn**	**21 14 52.1**	**+1.1**
DDI				*e*S	**Sn**	**21 16 16.2**	**-0.2**
DDI					IAML		21 16 18.6
	comp=N,246nm,0.5s						
DDI					IAML		21 16 22.1
	comp=E,125nm,0.5s						
SMLA	**Simla**	**8.57**	**295**	*e*P	**Pn**	**21 15 04.9**	**+0.5**
SMLA				*e*S	**Sn**	**21 16 38.5**	**-2.1**
SMLA					IAML		21 16 44.0
	comp=N,67nm,0.8s						
SMLA					IAML		21 16 45.0
	comp=E,48nm,0.3s						
LKP	**Lekhapani**	**8.57**	**91**	*e*P	**Pn**	**21 15 05.1**	**+0.5**
LKP				*e*S	**Sn**	**21 16 38.8**	**-2.0**
BHPL	**Bhopal**	**9.11**	**242**	*e*P	**Pn**	**21 15 11.3**	**-0.7**
BHPL				*e*S	**Sn**	**21 16 47.6**	**-6.4**
HYB	**Hyderabad**	**12.47**	**216**	*i* P	Pn	21 15 52.0	-6.0
HYB				*e*S	Sn	21 18 27.5	+11
NIL	**Nilore**	**12.60**	**301**	Pn	**Pn**	**21 15 57.5**	**-2.2**
CHTO	**Chiang Mai**	**14.69**	**125**	Pn	**Pn**	**21 16 30.8**	**+2.5**
CM31	**Chiang Mai Arr**	**14.92**	**126**	Pn	**Pn**	**21 16 32.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**14.92**	**126**	Pn	**Pn**	**21 16 28.6**	**-2.8**
	comp=E,0.1nm,0.3s,baz=305,slow=13,SNR=9.9						
CMAR					LR	LR	21 22 27.3
	comp=E,39nm,18.4s,baz=205,slow=38						
CMAR	**Chiang Mai Arr**	**14.92**	**126**	Pn	**Pn**	**21 16 32.5**	**+1.1**
WMQ	**Urumqi**	**16.09**	**4**	*e*P	**P**	**21 16 49.1**	**-0.7**
KBL	**Kabul**	**16.17**	**299**		**Pn**	**21 16 48.2**	**+0.4**
KBL					IAmb	IAmb	21 16 52.1
	comp=Z,7.1nm,0.7s						
GTA	**Gaotai**	**16.23**	**41**	*e*P	**P**	**21 16 51.4**	**-0.1**
GTA				pP	pP	21 16 56.6	-1.2
GTA				sP	sP	21 16 59.8	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LZH	**Lanzhou**	**17.11**	**57**	*e*P	**P**	**21 17 01.8**	**+0.4**
LZH				pP	pP	21 17 04.7	-2.7
LZH				sP	sP	21 17 06.5	-3.4
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**17.64**	**330**	LR	LR	21 24 27.5	
	comp=Z,63nm,18.8s,baz=143,slow=39						
AAK	**Ala-Archa**	**17.64**	**330**		**Pn**	**21 17 06.2**	**0.0**
AAK					IAmb	IAmb	21 17 10.0
	comp=Z,8.7nm,1.1s						
BTK	**Batken**	**17.68**	**318**	P	**Pn**	**21 17 04.5**	**-2.3**
CHGR	**Chuyangaron**	**17.91**	**312**	P	**Pn**	**21 17 08.6**	**-0.9**
CHGR					IAmb	IAmb	21 17 18.4
	comp=Z,20nm,0.7s						
MK31	**Makanchi Array**	**19.26**	**352**		**P**	**21 17 24.9**	**+0.1**
MKAR	**Makanchi Array**	**19.26**	**352**	P	**P**	**21 17 25.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=173,slow=11,SNR=16						
MKAR	**Makanchi Array**	**19.26**	**352**	P	**P**	**21 17 24.9**	**+0.1**
MAKZ	**Makanchi**	**19.32**	**351**	P	**Pn**	**21 17 26.3**	**-0.2**
KK31	**Karatay Array**	**19.90**	**324**		**P**	**21 17 31.9**	**0.0**
KKAR	**Karatay Array**	**19.90**	**324**	P	**Pn**	**21 17 32.8**	**-0.8**
KKAR	**Karatay Array**	**19.90**	**324**	P	**P**	**21 17 32.0**	**+0.2**
HRA	**Herat**	**21.54**	**294**	P	**P**	**21 17 49.1**	**-0.7**
KURBB	**Kurchatov Arra**	**23.58**	**348**	P	**P**	**21 18 12.0**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=164,slow=9.2,SNR=13						
HHC	**Hu-ho-hao-te**	**24.59**	**51**	*e*P	**P**	**21 18 21.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,6.6s						

*ISK **10** 21:15:06.8, 34°.69N×28°.40E, h88km, ML3.0/21*
*HLW **10** 21:15:07.0, 34°.48N×28°.56E, h31km±28km, Ml3.5*
*THE **10** 21:15:07.4, 34°.52N×28°.52E, h29km±56km, ML2.6/7, Error ellipse: s-maj=56.2km s-min=1.3km az=141.0*
*DDA **10** 21:15:12.3, 35°.28N×28°.28E, h19km±2km, ML2.6*
ISC 10 21:15:02.5±1.4, 34°.66N±0°.04×28°.67E±0°.04, h18km±6km, n79, σ1°97/102, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.52**	**306**	P	**Pb**	**21 15 31.8**	**+1.5**
KARP	**Karpathos**	**1.52**	**306**	P	**Pb**	**21 15 31.6**	**+1.3**
KARP				S	**Sb**	**21 15 51.2**	**+1.9**
KARP	**Karpathos**	**1.52**	**306**	PN	**Pb**	**21 15 31.3**	**+1.0**
ARG	**Arkhangelos**	**1.62**	**344**	P	**Pg**	**21 15 34.2**	**+0.5**
ARG	**Arkhangelos**	**1.62**	**344**	P	**Pg**	**21 15 34.0**	**+0.3**
ARG				S	**Sg**	**21 15 55.5**	**+0.7**
	78nm,0.4s						
ARG	**Arkhangelos**	**1.62**	**344**	PN	**Pg**	**21 15 33.9**	**+0.3**
AKAS	**Kas**	**1.75**	**26**	PN	**Pg**	**21 15 37.8**	**+1.6**
FETY	**Fethiye**	**2.00**	**10**	P	**Pg**	**21 15 39.7**	**-1.3**
FETY	**Fethiye**	**2.00**	**10**	P	**Pg**	**21 15 39.6**	**-1.4**
FETY				S	**Sg**	**21 16 05.0**	**-2.0**
FETY	**Fethiye**	**2.00**	**10**	PN	**Pg**	**21 15 40.4**	**-0.6**
FETY				SN	**Sg**	**21 16 05.1**	**-2.0**
ZKR	**Zakros**	**2.07**	**283**	P	**Pn**	**21 15 38.0**	**+1.6**
ZKR				S	**Sn**	**21 16 00.9**	**-0.8**
	85nm,0.5s						
ZKR	**Zakros**	**2.07**	**283**	PN	**Pn**	**21 15 38.0**	**+1.6**
TURN	**Turunc**	**2.14**	**351**	*i* P	**Pb**	**21 15 41.4**	**+0.6**
TURN				*i* S	**Sn**	**21 16 02.8**	**-0.7**
TURN	**Turunc**	**2.14**	**351**	PN	**Pb**	**21 15 41.3**	**+0.5**
DALY	**Dalyan (Mula)**	**2.16**	**360**	*i* P	**Pb**	**21 15 41.7**	**+0.7**
DALY				*i* S	**Sn**	**21 16 02.8**	**-1.0**
DALY	**Dalyan (Mula)**	**2.16**	**360**	PN	**Pb**	**21 15 41.9**	**+0.9**
STIA	**Sitia Lasithi**	**2.19**	**285**	P	**Pn**	**21 15 39.8**	**+1.8**
STIA				S	**Sn**	**21 16 04.6**	**0.0**
DAT	**Datca**	**2.25**	**337**	P	**Pb**	**21 15 42.1**	**-0.6**
DAT	**Datca**	**2.25**	**337**	P	**Pb**	**21 15 42.1**	**-0.6**
DAT	**Datca**	**2.25**	**337**	PN	**Pb**	**21 15 42.1**	**-0.6**
NIS1	**Nisyros Isl.**	**2.29**	**328**	P	**Pb**	**21 15 42.6**	**-0.7**
NIS1	**Nisyros Isl.**	**2.29**	**328**	PN	**Pb**	**21 15 42.2**	**-1.1**
ELL	**Elmali**	**2.32**	**25**	PN	**Pg**	**21 15 45.5**	**-1.5**
CAME	**Cameli-Denizli**	**2.34**	**12**	PN	**Pg**	**21 15 45.1**	**-2.3**
FRMA	**Ierapetra Chan**	**2.44**	**279**	P	**Pn**	**21 15 41.5**	**0.0**
FRMA				S	**Sn**	**21 16 07.4**	**-3.5**
	25nm,0.3s						
YER	**Yerkesik**	**2.49**	**353**	P	**Pb**	**21 15 47.1**	**+0.2**
YER	**Yerkesik**	**2.49**	**353**	P	**Pb**	**21 15 47.0**	**+0.2**
YER				S	**Sb**	**21 16 18.5**	**+1.3**
YER	**Yerkesik**	**2.49**	**353**	PN	**Pb**	**21 15 46.1**	**-0.7**
CAEL	**Denizli, Camel**	**2.52**	**12**	*i* P	**Pb**	**21 15 47.9**	**+0.6**
CAEL				*i* S	**Sb**	**21 16 15.0**	**-2.9**
CAEL				IAML		21 16 29.0	
	comp=N,53nm,0.7s						
CAEL				IAML		21 16 59.0	
	comp=E,48nm,1.9s						
NPS	**Neapolis**	**2.58**	**284**	P	**Pn**	**21 15 45.5**	**+2.0**
NPS	**Neapolis**	**2.58**	**284**	P	**Pn**	**21 15 45.4**	**+2.0**
NPS				S	**Sn**	**21 16 13.6**	**-0.8**
	comp=E,70nm,0.5s						
BDRM	**Kayabasi**	**2.60**	**338**	*i* P	**Pn**	**21 15 46.2**	**+2.5**
BDRM				*i* S	**Sn**	**21 16 10.4**	**-4.5**
MULA	**Mugla, Merkez-**	**2.61**	**354**	*i* P	**Pb**	**21 15 49.3**	**+0.4**
MULA				*i* S	**Sn**	**21 16 14.4**	**-0.7**
BODT	**Bodrum**	**2.64**	**336**	P	**Pn**	**21 15 46.9**	**+2.7**
BODT	**Bodrum**	**2.64**	**336**	P	**Pn**	**21 15 47.0**	**+2.7**
BODT				S	**Sn**	**21 16 18.9**	**+3.0**
BODT	**Bodrum**	**2.64**	**336**	PN	**Pn**	**21 15 47.1**	**+2.8**
LAST	**Lasithi**	**2.67**	**282**	P	**Pn**	**21 15 46.3**	**+1.6**
LAST	**Lasithi**	**2.67**	**282**	P	**Pn**	**21 15 46.3**	**+1.6**
LAST				S	**Sn**	**21 16 16.7**	**0.0**
	comp=E,48nm,0.5s						
GOLH	**Golhisar**	**2.67**	**15**	*i* P	**Pb**	**21 15 50.8**	**+0.9**
GOLH				*i* S	**Sn**	**21 16 14.4**	**-2.4**
GOLH				IAML		21 16 26.0	
	comp=N,48nm,0.5s						
KORT	**Korkueli**	**2.71**	**30**	PN	**Pb**	**21 15 50.9**	**+0.4**
MLSB	**Milas**	**2.73**	**345**	PN	**Pb**	**21 15 49.1**	**-1.8**
ANTB	**Antalya**	**2.76**	**35**	PN	**Pb**	**21 15 51.9**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.81**	**4**	*i* P	**Pb**	**21 15 51.4**	**-0.8**
TAVA				*i* S	**Sn**	**21 16 17.7**	**-2.4**
TAVA				IAML		21 16 26.0	
	comp=N,33nm,0.7s						
HRKL	**Herakleio**	**3.00**	**284**	PN	**Pn**	**21 15 50.3**	**+1.1**
IACM	**Heraklion**	**3.03**	**283**	P	**Pn**	**21 15 52.3**	**+2.8**
AYDN	**Tasoluk**	**3.07**	**348**	*i* P	**Pb**	**21 15 54.1**	**-2.5**
AYDN				*i* S	**Sn**	**21 16 24.3**	**-2.0**
SANT	**Santorini**	**3.13**	**304**	PN	**Pn**	**21 15 52.3**	**+1.3**
IDI	**Anoyia**	**3.17**	**283**	P	**Pn**	**21 15 53.3**	**+1.8**
IDI	**Anoyia**	**3.17**	**283**	P	**Pn**	**21 15 53.4**	**+1.9**
IDI				S	**Sn**	**21 16 27.1**	**-1.8**
	comp=N,55nm,0.3s						
IDI	**Anoyia**	**3.17**	**283**	PN	**Pn**	**21 15 52.7**	**+1.2**
SNT5	**Nea Kammeni, S**	**3.19**	**304**	P	**Pn**	**21 15 53.4**	**+1.6**
SIVA	**Sivas**	**3.20**	**278**	P	**Pn**	**21 15 53.6**	**+1.8**
SIVA	**Sivas**	**3.20**	**278**	P	**Pn**	**21 15 53.6**	**+1.8**
SIVA				S	**Sn**	**21 16 28.4**	**-1.1**
	comp=N,162nm,0.5s						
GCAM	**G?zelcaml?**	**3.25**	**339**	*i* P	**Pn**	**21 15 56.0**	**+3.4**
GCAM				*i* S	**Sn**	**21 16 24.5**	**-6.4**
GCAM				IAML		21 16 45.0	
	comp=N,30nm,1.0s						
GCAM	**G?zelcaml?**	**3.25**	**339**	PN	**Pn**	**21 15 55.8**	**+3.2**
AYDB	**Zeytinkoy-Aydi**	**3.34**	**349**	PN	**Pn**	**21 15 57.6**	**+3.6**
APE	**Apeiranthos**	**3.51**	**314**	P	**Pn**	**21 15 59.0**	**+2.8**
APE	**Apeiranthos**	**3.51**	**314**	PN	**Pn**	**21 15 57.9**	**+1.7**
DGB	**zmir**	**3.68**	**337**	*i* P	**Pn**	**21 16 01.3**	**+2.8**
DGB				IAML		21 17 07.0	
	comp=E,17nm,1.5s						
VAM	**Vamos**	**3.75**	**283**	P	**Pn**	**21 16 01.4**	**+2.0**
GVDS	**Gavdos**	**3.78**	**274**	PN	**Pn**	**21 16 01.3**	**+1.5**
GVD	**Gavdhos**	**3.78**	**274**	PN	**Pn**	**21 16 00.9**	**+1.0**
IMMV	**Iera Moni Meta**	**3.93**	**283**	P	**Pn**	**21 16 04.4**	**+2.5**
IMMV	**Iera Moni Meta**	**3.93**	**283**	P	**Pn**	**21 16 04.3**	**+2.4**
IMMV	**Iera Moni Meta**	**3.93**	**283**	PN	**Pn**	**21 16 03.1**	**+1.2**
BLCB	**Balcova**	**3.95**	**341**	P	**Pn**	**21 16 05.0**	**+2.8**
KNDR	**Palaiochora Ch**	**4.14**	**279**	PN	**Pn**	**21 16 06.5**	**+1.8**
SLUM	**Salum**	**4.29**	**224**	P	**Pn**	**21 16 07.4**	**+0.5**
	baz=225						
SLUM				AMP		21 16 00.0	
	baz=225						
SLUM				S	**Sn**	**21 16 51.2**	**-5.3**
	baz=225						
KTHA	**Kythira Island**	**4.85**	**291**	P	**Pn**	**21 16 15.1**	**+0.5**
KTHA	**Kythira Island**	**4.85**	**291**	PN	**Pn**	**21 16 15.4**	**+0.8**
KTHR	**Kythira**	**4.89**	**291**	P	**Pn**	**21 16 15.5**	**+0.3**
VLI	**Veliai**	**5.10**	**295**	P	**Pn**	**21 16 18.4**	**+0.4**
KOT	**Kottamia**	**5.42**	**150**	P	**Pn**	**21 16 24.1**	**+1.6**
	baz=147						
HSAF	**As Saff**	**5.58**	**153**	P	**Pn**	**21 16 26.4**	**+1.7**
	baz=151						
GLL	**Jalalah**	**5.68**	**152**	P	**Pn**	**21 16 27.9**	**+1.9**
	baz=150						
RYAN	**Fayoum**	**5.72**	**166**	P	**Pn**	**21 16 28.1**	**+1.5**
	baz=164						
SWA2		**6.05**	**208**	P	**Pn**	**21 16 31.5**	**+0.5**
	baz=208						
SWA2				AMP		21 17 00.0	
	baz=208						
SWA2				S	Sn	21 17 33.5	-6.4
	baz=208						
TR2	**Tor 2**	**7.59**	**144**	P	**Pn**	**21 16 53.9**	**+1.7**
	baz=142						
HKAT	**Jabal Katrina**	**7.61**	**142**	P	**Pn**	**21 16 55.5**	**+2.7**
	baz=140						

*ISK **10** 21:16:13.3, 34°.59N×28°.49E, h99km±2km, ML3.1/21*
*NIC **10** 21:16:15.8±0.0, 34°.67N×28°.63E, h32km±27km, Ml3.3/2*
*THE **10** 21:16:16.6, 34°.62N×28°.45E, h27km±39km, ML2.8/5, Error ellipse: s-maj=39.4km s-min=1.4km az=142.0*
*DDA **10** 21:16:24.7, 35°.67N×28°.31E, h11km±2km, ML2.4*
ISC 10 21:16:13.8±1.4, 34°.69N±0°.05×28°.49E±0°.03, h112km±16km, n54, σ1°66/77, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.39**	**309**	P	**Pn**	**21 16 39.7**	**+0.3**
KARP	**Karpathos**	**1.39**	**309**	PN	**Pn**	**21 16 39.7**	**+0.3**
KARP				SN	**Sn**	**21 16 58.9**	**0.0**
KARP	**Karpathos**	**1.39**	**309**	P	**Pn**	**21 16 39.7**	**+0.3**
KARP				S	**Sn**	**21 16 59.4**	**+0.5**
ARG	**Arkhangelos**	**1.56**	**349**	P	**Pn**	**21 16 41.9**	**+0.6**
ARG				S	**Sn**	**21 17 02.4**	**+0.1**
	90nm,0.3s						
ARG	**Arkhangelos**	**1.56**	**349**	PN	**Pn**	**21 16 41.9**	**+0.6**
ARG				SN	**Sn**	**21 17 03.6**	**+1.3**
ARG	**Arkhangelos**	**1.56**	**349**	P	**Pn**	**21 16 42.0**	**+0.6**
ARG				S	**Sn**	**21 17 01.7**	**-0.6**
AKAS	**Kas**	**1.79**	**30**	PN	**Pn**	**21 16 45.1**	**+0.8**
AKAS				SN	**Sn**	**21 17 08.7**	**+1.1**
ZKR	**Zakros**	**1.92**	**283**	PN	**Pn**	**21 16 46.0**	**+0.2**
FETY	**Fethiye**	**2.00**	**14**	P	**Pn**	**21 16 47.6**	**+0.7**
FETY				S	**Sn**	**21 17 12.3**	**+0.1**
FETY	**Fethiye**	**2.00**	**14**	PN	**Pn**	**21 16 47.8**	**+0.9**
STIA	**Sitia Lasithi**	**2.04**	**285**	P	**Pn**	**21 16 47.6**	**+0.3**
STIA				S	**Sn**	**21 17 10.9**	**-2.0**
TURN	**Turunc**	**2.09**	**355**	PN	**Pn**	**21 16 49.3**	**+1.3**
DALY	**Dalyan (Mula)**	**2.13**	**3**	*i* P	**Pn**	**21 16 49.4**	**+1.0**
DALY				*i* S	**Sn**	**21 17 10.6**	**-4.4**
DALY	**Dalyan (Mula)**	**2.13**	**3**	PN	**Pn**	**21 16 49.7**	**+1.3**
DAT	**Datca**	**2.17**	**340**	P	**Pn**	**21 16 50.0**	**+0.9**
DAT	**Datca**	**2.17**	**340**	PN	**Pn**	**21 16 50.3**	**+1.2**
NIS1	**Nisyros Isl.**	**2.19**	**331**	PN	**Pn**	**21 16 50.3**	**+1.0**
CAME	**Cameli-Denizli**	**2.35**	**16**	PN	**Pn**	**21 16 52.9**	**+1.5**
ELL	**Elmali**	**2.36**	**29**	PN	**Pn**	**21 16 52.9**	**+1.4**
NPS	**Neapolis**	**2.43**	**284**	P	**Pn**	**21 16 53.3**	**+0.9**
NPS				S	**Sn**	**21 17 22.2**	**+0.1**
	95nm,0.3s						
YER	**Yerkesik**	**2.45**	**356**	P	**Pn**	**21 16 55.3**	**+2.7**
YER				S	**Sn**	**21 17 24.6**	**+2.1**
YER	**Yerkesik**	**2.45**	**356**	PN	**Pn**	**21 16 54.2**	**+1.6**
BDRM	**Kayabasi**	**2.52**	**341**	*i* P	**Pn**	**21 16 54.1**	**+0.6**
BDRM				*i* S	**Sn**	**21 17 20.6**	**-3.5**
CAEL	**Denizli, Camel**	**2.52**	**15**	*i* P	**Pn**	**21 16 55.7**	**+2.1**
CAEL				*i* S	**Sn**	**21 17 18.8**	**-5.5**
CAEL				IAML		21 17 35.0	
	comp=N,65nm,0.4s						
CAEL				IAML		21 17 36.0	
	comp=E,74nm,0.5s						
LAST	**Lasithi**	**2.52**	**282**	P	**Pn**	**21 16 54.2**	**+0.6**
LAST				S	**Sn**	**21 17 22.6**	**-1.6**
	comp=E,60nm,0.4s						
BODT	**Bodrum**	**2.56**	**338**	P	**Pn**	**21 16 54.6**	**+0.6**
BODT				S	**Sn**	**21 17 25.4**	**+0.5**
BODT	**Bodrum**	**2.56**	**338**	PN	**Pn**	**21 16 54.9**	**+0.9**
MULA	**Mugla, Merkez-**	**2.57**	**357**	*i* P	**Pn**	**21 16 56.9**	**+2.7**
MULA				*i* S	**Sn**	**21 17 24.8**	**-0.5**
MULA				IAML		21 17 32.0	
	comp=E,44nm,0.7s						
OSC1	**CSNet OBS 1**	**2.60**	**116**	S	**Sn**	**21 17 24.2**	**-1.6**
MLSB	**Milas**	**2.67**	**348**	PN	**Pn**	**21 16 57.1**	**+1.6**
KORT	**Korkueli**	**2.76**	**33**	PN	**Pn**	**21 16 57.9**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.79**	**7**	*i* P	**Pn**	**21 16 59.5**	**+2.3**
TAVA				*i* S	**Sn**	**21 17 27.2**	**-3.4**
TAVA				IAML		21 17 34.0	
	comp=N,47nm,0.7s						
TAVA				IAML		21 17 38.0	
	comp=E,39nm,0.4s						
ANTB	**Antalya**	**2.82**	**38**	PN	**Pn**	**21 16 58.8**	**+1.4**
HRKL	**Herakleio**	**2.85**	**284**	PN	**Pn**	**21 16 58.9**	**+1.1**
SANT	**Santorini**	**2.99**	**305**	PN	**Pn**	**21 17 00.2**	**+0.5**
AYDN	**Tasoluk**	**3.01**	**351**	*i* P	**Pn**	**21 17 02.5**	**+2.5**
AYDN				*i* S	**Sn**	**21 17 33.8**	**-1.8**
IDI	**Anoyia**	**3.02**	**282**	P	**Pn**	**21 17 01.2**	**+1.1**
IDI				S	**Sn**	**21 17 35.5**	**-0.3**
	comp=E,82nm,0.3s						
IDI	**Anoyia**	**3.02**	**282**	PN	**Pn**	**21 17 00.7**	**+0.6**
SIVA	**Sivas**	**3.05**	**277**	P	**Pn**	**21 17 01.2**	**+0.8**
SIVA				S	**Sn**	**21 17 36.5**	**+0.1**
	comp=E,188nm,0.4s						
GCAM	**G?zelcaml?**	**3.17**	**342**	*i* P	**Pn**	**21 17 03.8**	**+1.6**
GCAM				*i* S	**Sn**	**21 17 34.0**	**-5.4**
GCAM				IAML		21 17 40.0	
	comp=E,24nm,0.4s						
GCAM	**G?zelcaml?**	**3.17**	**342**	PN	**Pn**	**21 17 03.7**	**+1.6**
AKMS	**Akamas**	**3.18**	**83**	P	**Pn**	**21 17 02.2**	**0.0**
AKMS				S	**Sn**	**21 17 38.2**	**-1.3**
AKMS				AML	AML	21 17 39.1	
	comp=E,0.3nm,0.3s						
AKMS				AML	AML	21 17 39.1	
	comp=E,0.3nm,0.3s						
AKMS				AML	AML	21 17 39.1	
	comp=E,0.2nm,0.2s						
AKMS				AML	AML	21 17 39.1	
	comp=E,0.2nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**3.29**	**352**	PN	**Pn**	**21 17 05.3**	**+1.5**
NATA	**Nata**	**3.36**	**87**	P	**Pn**	**21 17 05.3**	**+0.7**
NATA				S	**Sn**	**21 17 43.0**	**-0.9**
APE	**Apeiranthos**	**3.38**	**316**	PN	**Pn**	**21 17 06.2**	**+1.3**
ALFC	**Alefka**	**3.41**	**81**	S	**Sn**	**21 17 44.7**	**-0.3**
ALFC				AML	AML	21 17 45.1	
	comp=E,0.2nm,0.3s						
DGB	**zmir**	**3.60**	**339**	*i* P	**Pn**	**21 17 08.7**	**+0.9**
SZAC	**Souni**	**3.62**	**88**	S	**Sn**	**21 17 49.8**	**-0.2**
GVDS	**Gavdos**	**3.63**	**274**	PN	**Pn**	**21 17 09.0**	**+0.9**
GVD	**Gavdhos**	**3.63**	**274**	PN	**Pn**	**21 17 08.9**	**+0.7**
IMMV	**Iera Moni Meta**	**3.78**	**283**	PN	**Pn**	**21 17 10.9**	**+0.7**
KNDR	**Palaiochora Ch**	**3.99**	**279**	PN	**Pn**	**21 17 14.3**	**+1.4**
MVOU	**Mavrovouni**	**4.24**	**84**	S	**Sn**	**21 18 04.2**	**-0.7**
KTHA	**Kythira Island**	**4.70**	**291**	PN	**Pn**	**21 17 23.3**	**+0.7**

*KRNET **10** 21:59:42.9±0.1, 42°.16N×77°.21E, h18km, mb2.9*
*SOME **10** 21:59:43.0, 42°.18N×77°.20E, h5km*
*NNC **10** 21:59:44.4±0.8, 42°.26N×77°.25E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.9km s-min=2.9km az=12.0*
ISC 10 21:59:43.2±0.9, 42°.18N±0°.03×77°.21E±0°.02, h5km±7km, n57, σ0°70/106, 28C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.06**	**204**	⇑*i* P	**Pg**	**21 59 44.9**	**0.0**
	baz=5.0						
KDJ				⇑*i* S	**Sg**	**21 59 46.4**	**+0.4**
	baz=5.0						
TARG	**Taragay, Kyrgy**	**0.63**	**136**	⇑*i* P	**Pg**	**21 59 54.6**	**-0.9**
	baz=34						
TARG				⇑*i* S	**Sg**	**22 00 02.9**	**-0.9**
	baz=34						
ANVS	**Anan'yevo**	**0.69**	**29**	⇑*i* P	**Pb**	**21 59 57.3**	**-0.5**
	baz=28						
ANVS				⇑*i* S	**Sb**	**22 00 07.5**	**-0.2**
	baz=28						
ULHL	**Ulahol**	**0.72**	**275**	⇓*e* P	**Pg**	**21 59 56.8**	**-0.4**
	baz=77						
ULHL				⇓*i* S	**Sg**	**22 00 07.0**	**+0.4**
	baz=77						
PRZ	**Przheval'sk**	**0.93**	**71**	⇑*i* P	**Pg**	**22 00 01.0**	**-0.1**
	baz=68						
PRZ				⇑*i* S	**Sb**	**22 00 14.3**	**-0.4**
	baz=68						
IZV	**Izvestkoviy**	**0.96**	**333**	*e* P	**Pg**	**22 00 01.7**	**0.0**
	baz=33						
IZV				*e* S	**Sg**	**22 00 14.3**	**+0.1**
	baz=33						
IZV	**Izvestkoviy**	**0.96**	**333**	*e* P	**Pg**	**22 00 01.7**	**0.0**
	4.9nm,0.1s						
IZV				*e* S	**Sg**	**22 00 14.3**	**+0.1**
	19nm,0.2s						
IZV	**Izvestkoviy**	**0.96**	**333**	P	**Pg**	**22 00 01.7**	**0.0**
	3.9nm,0.1s						
IZV				S	**Sg**	**22 00 14.2**	**+0.1**
	23nm,0.2s						
MDOK	**Medeo**	**0.99**	**353**	*e* P	**Pg**	**22 00 01.6**	**-0.6**
	2.9nm,0.1s						
MDOK				*e* S	**Sg**	**22 00 14.6**	**-0.4**
	10nm,0.3s						
MDOK	**Medeo**	**0.99**	**353**	P	**Pg**	**22 00 01.4**	**-0.8**
	0.3nm,0.2s						
MDOK				⇑S	**Sg**	**22 00 14.6**	**-0.4**
	5.5nm,0.4s						
MDOK	**Medeo**	**0.99**	**353**	Pg	**Pg**	**22 00 01.6**	**-0.6**
	3.3nm,0.1s						
MDOK				Lg	Lg	22 00 14.0	
	10.0nm,0.5s						
BOOM	**Boomskoye usch**	**0.99**	**288**	⇑*e* P	**Pg**	**22 00 01.7**	**-0.6**
	baz=90						
BOOM				⇑*i* S	**Sg**	**22 00 15.4**	**+0.3**
	baz=90						
KOTS	**Kotyrbulak**	**1.05**	**356**	*e* P	**Pg**	**22 00 03.1**	**-0.3**
	baz=56						
KOTS				*e* S	**Sg**	**22 00 16.7**	**-0.4**
	baz=56						
KOTS	**Kotyrbulak**	**1.05**	**356**	*e* P	**Pg**	**22 00 03.1**	**-0.3**
	2.7nm,0.1s						
KOTS				*e* S	**Sg**	**22 00 16.7**	**-0.4**
	41nm,0.2s						
KOTS	**Kotyrbulak**	**1.05**	**356**	P	**Pg**	**22 00 03.1**	**-0.3**
	2.7nm,0.1s						
KOTS				S	**Sg**	**22 00 16.7**	**-0.4**
	41nm,0.2s						
SATY	**Saty**	**1.24**	**45**	*e* P	**Pg**	**22 00 06.1**	**-1.0**
	baz=44						
SATY				*e* S	**Sg**	**22 00 22.4**	**-0.8**
	baz=44						
SATY	**Saty**	**1.24**	**45**	*e* P	**Pg**	**22 00 06.1**	**-1.0**
	9.7nm,0.1s						
SATY				*e* S	**Sg**	**22 00 22.3**	**-0.8**
	47nm,0.1s						
SATY	**Saty**	**1.24**	**45**	P	**Pg**	**22 00 06.1**	**-1.0**
	7.1nm,0.1s						
SATY				S	**Sg**	**22 00 22.4**	**-0.8**
	44nm,0.1s						
KST	**Kastek**	**1.26**	**313**	*e* P	**Pg**	**22 00 06.9**	**-0.5**
	baz=14						
KST				*e* S	**Sg**	**22 00 23.5**	**-0.3**
	baz=14						
KST	**Kastek**	**1.26**	**313**	*e* P	**Pg**	**22 00 06.9**	**-0.5**
	11nm,0.2s						
KST				*e* S	**Sg**	**22 00 23.4**	**-0.3**
	11nm,0.3s						
TKM2	**Tokmak 2**	**1.40**	**302**	⇓*i* P	**Pn**	**22 00 09.5**	**-0.2**
	baz=3.0						
TKM2				⇓*i* S	**Sn**	**22 00 28.5**	**-0.1**
	baz=3.0						
DGS	**Degeres**	**1.50**	**315**	*e* P	**Pb**	**22 00 11.2**	**-0.4**
	baz=16						
DGS				*e* S	**Sg**	**22 00 31.0**	**-0.4**
	baz=16						
DGS	**Degeres**	**1.50**	**315**	*e* P	**Pb**	**22 00 11.2**	**-0.4**
	6.2nm,0.2s						
DGS				*e* S	**Sg**	**22 00 31.0**	**-0.4**
	21nm,0.2s						
DGS	**Degeres**	**1.50**	**315**	P	**Pb**	**22 00 11.2**	**-0.4**
	6.2nm,0.2s						
DGS				S	**Sg**	**22 00 31.0**	**-0.4**
	21nm,0.2s						
KTBS	**Karatobe**	**1.58**	**346**	*e* P	**Pb**	**22 00 12.6**	**-0.3**
	baz=46						
KTBS				*e* S	**Sg**	**22 00 33.7**	**-0.3**
	baz=46						
KTBS	**Karatobe**	**1.58**	**346**	*e* P	**Pb**	**22 00 12.6**	**-0.3**
	2.4nm,0.2s						
KTBS				*e* S	**Sg**	**22 00 33.6**	**-0.3**
	17nm,0.2s						
KTBS	**Karatobe**	**1.58**	**346**	P	**Pb**	**22 00 12.6**	**-0.3**
	2.2nm,0.1s						
KTBS				S	**Sg**	**22 00 33.5**	**-0.5**
	16nm,0.2s						
UZB	**Uzynbulak**	**1.65**	**54**	*e* P	**Pn**	**22 00 13.1**	**+0.1**
	10nm,0.2s						
UZB				*e* S	**Sn**	**22 00 33.8**	**-0.8**
	22nm,0.5s						
UZB	**Uzynbulak**	**1.65**	**54**	P	**Pn**	**22 00 13.1**	**+0.1**
	10nm,0.2s						
UZB				S	**Sn**	**22 00 33.7**	**-0.8**
	22nm,0.5s						
CHKK	**Chushkaly**	**1.68**	**354**	*e* P	**Pb**	**22 00 14.6**	**0.0**
	baz=55						
CHKK				*e* S	**Sb**	**22 00 36.2**	**+0.2**
	baz=55						
CHKK	**Chushkaly**	**1.68**	**354**	*e* P	**Pb**	**22 00 14.6**	**0.0**
	4.2nm,0.1s						
CHKK				*e* S	**Sb**	**22 00 36.3**	**+0.2**
	17nm,0.2s						
CHKK	**Chushkaly**	**1.68**	**354**	P	**Pb**	**22 00 14.6**	**0.0**
	4.2nm,0.1s						
CHKK				S	**Sb**	**22 00 36.3**	**+0.2**
	17nm,0.2s						
KPKS	**Kokpek**	**1.68**	**40**	*e* P	**Pb**	**22 00 14.1**	**-0.6**
	baz=39						
KPKS				*e* S	**Sb**	**22 00 35.9**	**-0.2**
	baz=39						
KPKS	**Kokpek**	**1.68**	**40**	*e* P	**Pb**	**22 00 14.1**	**-0.6**
	4.7nm,0.1s						
KPKS				*e* S	**Sb**	**22 00 35.9**	**-0.2**
	28nm,0.3s						
KBK	**Karagaybulak**	**1.74**	**287**	⇑*i* P	**Pb**	**22 00 15.3**	**-0.5**
	baz=87						
KBK				⇑*i* S	**Sg**	**22 00 38.5**	**-0.7**
	baz=87						
KUU	**Kurty**	**1.82**	**340**	*e* P	**Pb**	**22 00 17.0**	**-0.1**
	baz=40						
KUU				*e* S	**Sb**	**22 00 40.5**	**+0.2**
	baz=40						
KUU	**Kurty**	**1.82**	**340**	*e* P	**Pb**	**22 00 17.0**	**-0.1**
	4.1nm,0.2s						
KUU				*e* S	**Sb**	**22 00 40.5**	**+0.2**
	18nm,0.4s						
KUU	**Kurty**	**1.82**	**340**	P	**Pb**	**22 00 17.0**	**-0.1**
	8.4nm,0.3s						
KUU				S	**Sb**	**22 00 40.5**	**+0.2**
	15nm,0.4s						
SHLS	**Shalkode**	**1.92**	**59**	Pg

KAPS	**Kapalarasan**	**3.47**	**26**	*eP*		**Pb**	**22 00 45.8 +0.7**
	1.3nm,0.1s						
KAPS				*eS*		**Sb**	**22 01 30.0 +2.4**
	5.3nm,0.2s						
KAPS	**Kapalarasan**	**3.47**	**26**	Pg		**Pb**	**22 00 45.9 +0.7**
	0.5nm,0.1s						
KAPS				Lg		Lg	22 01 29.9
	6.4nm,0.4s						

*NNC **10** 22:06:09.1±10.0, 37.°96N×77.°53E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=72.7km s-min=64.3km az=152.0*

ISC 10 22:06:13.2±5.5, 38.°2N±0.°3×77.°7E±0.°1, h10km, n6, σ3§37/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.89**	**314**	Pn	**Pg**	**22 06 47.7**	**-1.8**
KSH				Sn	**Sg**	**22 07 16.1**	**+2.1**
KSH				smax	smax		
	comp=N,820nm,0.4s						
KSH				smax	smax		
	comp=E,790nm,0.4s						
MDOK	**Medeo**	**4.97**	**354**	Pg	**Pg**	**22 07 46.9**	**-1.5**
	comp=E,18nm,0.8s						
MDOK				Lg	Lg	22 08 57.7	
	comp=E,58nm,1.0s						
UZB	**Uzynbulak**	**5.02**	**11**	Pg	**Pb**	**22 07 43.9**	**+2.6**
	comp=E,4.1nm,0.5s						
UZB				Lg	Lg	22 08 53.6	
	comp=E,24nm,0.9s						
MRKS	**Merke**	**5.68**	**324**	Pg	**Pb**	**22 07 53.6**	**+1.1**
	comp=E,6.4nm,0.8s						
MRKS				Lg	Lg	22 09 10.3	
	comp=E,22nm,0.7s						
KUU	**Kurty**	**5.77**	**350**	Pg	**Pg**	**22 07 59.7**	**-4.0**
	comp=E,3.6nm,0.7s						
KUU				Lg	Lg	22 09 21.8	
	comp=E,24nm,0.8s						
WMQ	**Urumqi**	**9.38**	**50**	*eP*	Pn	22 08 22.3	-6.2
WMQ				smax	smax		
	comp=N,28nm,0.7s						
WMQ				smax	smax		
	comp=E,32nm,0.5s						

*TUL **10** 22:14:16.3±1.0, 36.°28N±0.°01×97.°50W±0.°02, h2km±7km, ML2.7, mb_Lg2.7/45(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=73.0*

NEIC 10 22:14:16.4±0.8, 36.°28N±0.°01×97.°51W±0.°02, h1km±8km, Error ellipse: s-maj=2.1km s-min=1.6km az=64.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**301**		Pg	22 14 25.2	+0.2
CROK				Sg	Sg	22 14 31.5	+0.7
OK029	**Liberty Lake**	**0.48**	**175**		Pg	22 14 25.7	+0.1
OK029				Sg	Sg	22 14 32.9	+1.0
BLOK	**Blackwell**	**0.54**	**26**		Pg	22 14 26.9	+0.2
BLOK				Sg	Sg	22 14 34.1	+0.4
BCOK	**Bluff Creek, N**	**0.62**	**188**		Pg	22 14 28.3	0.0
BCOK				Sg	Sg	22 14 37.1	+0.7
OK031	**S. Brethren Rd**	**0.63**	**121**		Pg	22 14 28.6	+0.1
OK031				Sg	Sg	22 14 37.1	+0.5
GC02	**Grant County #**	**0.64**	**334**		Pg	22 14 28.8	+0.1
QUOK	**Quay**	**0.65**	**99**		Pg	22 14 29.0	+0.1
OK025	**Westminster Rd**	**0.71**	**169**		Pg	22 14 30.0	0.0
KAN13	**South Haven SW**	**0.73**	**2**		Pg	22 14 30.8	+0.3
OK032	**Salt Plains WL**	**0.78**	**313**	Pg	Pg	22 14 31.3	0.0
KAN17	**Caldwell West**	**0.79**	**345**		Pg	22 14 31.6	-0.1
OKCFA	**Oklahoma City**	**0.86**	**177**		Pg	22 14 32.5	-0.4
KAN09	**Caldwell North**	**0.86**	**354**	Pg	Pg	22 14 32.8	-0.2
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**		Pg	22 14 33.1	0.0
KAN05	**Bluff City Nor**	**0.88**	**341**		Pg	22 14 33.2	-0.1
KS20	**Mayfield South**	**0.95**	**358**	Pg	Pg	22 14 34.4	-0.2
KAN08	**Anthony NE Sta**	**1.02**	**339**	Pg	Pg	22 14 35.3	-0.6
FNO	**Franklin**	**1.02**	**175**		Pg	22 14 35.5	-0.4
FNO				IAmb_Lg		22 14 49.3	
	comp=Z,68nm,1.0s						
T35A	**Sooner Cattle**	**1.02**	**51**		Pg	22 14 35.9	-0.1
KAN12	**Harper NE Stat**	**1.09**	**339**	Pg	Pg	22 14 37.5	+0.2
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	22 14 39.2	-0.5
X34A	**Smith Ranch, M**	**1.69**	**189**		Pb	22 14 47.9	-0.5
WMOK	**Wichita Mounta**	**1.85**	**215**		Pn	22 14 49.6	+0.2
LOOK	**Love County**	**2.29**	**173**	Pn	Pn	22 14 56.5	+1.1
R32A	**Long Quarter,**	**2.35**	**336**	Pn	Pn	22 14 56.3	+0.2
X37A	**Clayton**	**2.42**	**133**	Pn	Pn	22 14 56.4	-0.7
U38A	**Gravette**	**2.52**	**85**		Pn	22 14 59.1	+0.6
HHAR	**Hobbs**	**2.88**	**89**		Pn	22 15 02.8	-0.6
KSU1	**Kansas State U**	**2.91**	**14**	Pn	Pn	22 15 05.1	+1.2
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	Pn	22 15 04.4	+0.1
CBKS	**Cedar Bluff**	**3.09**	**326**	Pn	Pn	22 15 05.7	-0.7
W39A	**Magazine**	**3.21**	**109**		Pn	22 15 06.8	-1.1
W39A				IAmb_Lg		22 16 03.5	
	comp=Z,31nm,1.0s						
S39A	**Bolivar**	**3.63**	**66**		Pn	22 15 14.2	+0.4
S39A				IAmb_Lg		22 16 16.9	
	comp=Z,20nm,0.8s						
MIAR	**Mount Ida**	**3.64**	**117**	Pn	Pn	22 15 14.3	+0.3
Z38A	**Mt. Pleasant**	**3.66**	**145**	IAmb_Lg		22 16 21.4	
	comp=Z,19nm,0.7s						
AMTX	**Amarillo**	**3.68**	**249**		Pn	22 15 15.0	+0.5
AMTX				IAmb_Lg		22 16 17.4	
	comp=Z,15nm,1.0s						
U40A	**Yellville**	**3.76**	**87**		Pn	22 15 16.3	+0.8
U40A				IAmb_Lg		22 16 14.5	
	comp=Z,21nm,1.1s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	IAmb_Lg		22 16 30.1	
	comp=Z,10nm,1.0s						
X40A	**Basin Creek Fa**	**4.21**	**114**		Pn	22 15 21.5	-0.2
X40A				IAmb_Lg		22 16 39.0	
	comp=Z,12nm,0.8s						
WHTX	**Lake Whitney,**	**4.27**	**179**	Pn	Pn	22 15 22.4	-0.2
MGMO	**Mountain Grove**	**4.30**	**77**		Pn	22 15 21.7	-1.2
MGMO				IAmb_Lg		22 16 33.9	
	comp=Z,15nm,1.0s						
WHAR	**Wooly Hollow**	**4.35**	**102**		Pn	22 15 24.7	+1.0
WHAR				IAmb_Lg		22 16 36.9	
	comp=Z,8.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.38**	**93**		Pn	22 15 23.6	-0.3
WLAR	**White Oak Lake**	**4.44**	**124**	IAmb_Lg		22 16 48.8	
	comp=Z,14nm,0.7s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		22 16 52.1	
	comp=Z,11nm,0.7s						
R40A	**Maddies Statio**	**4.63**	**63**	IAmb_Lg		22 16 41.1	
	comp=Z,24nm,0.8s						
N35A	**Tabor**	**4.80**	**17**	IAmb_Lg		22 16 55.1	
	comp=Z,24nm,0.9s						
T42A	**Van Buren**	**5.21**	**80**	Pn	Pn	22 15 35.2	-0.2
CCM	**Cathedral Cave**	**5.31**	**69**	IAmb_Lg		22 17 04.7	
	comp=Z,8.5nm,0.8s						
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		22 17 09.3	
	comp=Z,16nm,0.7s						
PBMO	**Poplar Bluff**	**5.72**	**83**	IAmb_Lg		22 17 24.5	
	comp=Z,19nm,1.1s						
L34A	**Svendsen Farm,**	**5.75**	**8**	IAmb_Lg		22 17 29.0	
	comp=Z,15nm,0.8s						
S44A	**Carbondale**	**6.75**	**75**	IAmb_Lg		22 17 56.1	
	comp=Z,11nm,0.7s						
SIUC	**Southern Illin**	**6.79**	**75**	IAmb_Lg		22 18 00.7	
	comp=Z,12nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.14**	**60**	IAmb_Lg		22 18 13.1	
	comp=Z,14nm,0.8s						
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg		22 18 24.7	
	comp=Z,6.1nm,0.8s						
L42A	**Oliver, Polo**	**8.35**	**44**	IAmb_Lg		22 18 46.6	
	comp=Z,10nm,0.8s						

*TUL **10** 22:19:02.4±1.2, 36.°53N±0.°01×97.°84W±0.°02, h6km±6km, ML2.5, mb_Lg2.4/16(NEIC), Error ellipse: s-maj=1.9km s-min=1.8km az=147.0*

NEIC 10 22:19:02.4±1.0, 36.°52N±0.°01×97.°84W±0.°01, h2km±7km, Error ellipse: s-maj=2.0km s-min=1.6km az=167.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.12**	**264**	Pg	Pg	22 19 05.0	+0.3
CROK				Sg	Sg	22 19 07.0	+0.8
GC02	**Grant County #**	**0.34**	**357**	Pg	Pg	22 19 08.9	+0.1
GC02				Sg	Sg	22 19 13.7	+0.4
OK032	**Salt Plains WL**	**0.41**	**314**		Pg	22 19 10.3	-0.1
OK032					Sg	22 19 16.1	+0.4
KAN17	**Caldwell West**	**0.53**	**6**		Pg	22 19 12.5	-0.1
KAN17				Sg	Sg	22 19 19.8	+0.3
BLOK	**Blackwell**	**0.56**	**64**		Pg	22 19 13.3	+0.1
BLOK				Sg	Sg	22 19 20.8	+0.4
KAN13	**South Haven SW**	**0.57**	**30**		Pg	22 19 13.5	0.0
KAN13				Sg	Sg	22 19 21.1	+0.2
KAN05	**Bluff City Nor**	**0.59**	**357**	Pg	Pg	22 19 13.6	-0.2
KAN05				Sg	Sg	22 19 21.8	+0.3
KAN10	**Anthony SW Sta**	**0.64**	**341**	Pg	Pg	22 19 14.3	-0.4
KAN10				Sg	Sg	22 19 23.1	+0.1
KAN09	**Caldwell North**	**0.64**	**16**	Pg	Pg	22 19 14.5	-0.3
KAN09				Sg	Sg	22 19 24.2	+1.1
KAN08	**Anthony NE Sta**	**0.72**	**352**		Pg	22 19 15.9	-0.3
KAN08					Sg	22 19 25.6	+0.1
KS20	**Mayfield South**	**0.75**	**18**	Pg	Pg	22 19 16.5	-0.3
OK029	**Liberty Lake**	**0.78**	**156**		Pg	22 19 17.5	+0.1
KAN12	**Harper NE Stat**	**0.79**	**351**	Pg	Pg	22 19 17.4	-0.1
BCOK	**Bluff Creek, N**	**0.88**	**168**	Pg	Pg	22 19 18.7	-0.5
U32A	**Winter Ranch,**	**0.95**	**262**	Pg	Pg	22 19 20.1	-0.5
QUOK	**Quay**	**0.98**	**110**		Pg	22 19 21.0	-0.1
OK031	**S. Brethren Rd**	**0.98**	**125**		Pg	22 19 21.2	-0.1
OK025	**Westminster Rd**	**1.02**	**156**	Pg	Pg	22 19 21.5	-0.4
T35A	**Sooner Cattle**	**1.14**	**69**		Pg	22 19 23.8	-0.4
OKCFA	**Oklahoma City**	**1.14**	**164**	Pg	Pg	22 19 24.2	-0.1
OKCSW	**OKLAHOMA CITY**	**1.16**	**164**		Pg	22 19 24.2	-0.4
FNO	**Franklin**	**1.31**	**164**	Pn	Pg	22 19 26.9	-0.6
X34A	**Smith Ranch, M**	**1.91**	**180**		Pn	22 19 36.3	+0.4
X34A					Sg	22 20 03.9	0.0
WMOK	**Wichita Mounta**	**1.93**	**204**	Pn	Pn	22 19 36.5	+0.3
R32A	**Long Quarter,**	**2.02**	**340**	Pn	Pn	22 19 38.1	+0.5
LOOK	**Love County**	**2.58**	**168**		Pn	22 19 42.3	-2.8
KSU1	**Kansas State U**	**2.76**	**20**	Pn	Pn	22 19 47.2	-0.4
X37A	**Clayton**	**2.78**	**133**	Pn	Pb	22 19 50.6	-2.3
X37A				IAmb_Lg		22 20 33.5	
	comp=Z,8.6nm,0.7s						
U38A	**Gravette**	**2.79**	**91**	Pn	Pn	22 19 49.9	+1.9
HHAR	**Hobbs**	**3.15**	**93**	Pn	Pn	22 19 53.0	-0.1
MIAR	**Mount Ida**	**3.99**	**118**	Pn	Pn	22 20 04.5	-0.1
U40A	**Yellville**	**4.02**	**91**	Pn	Pn	22 20 03.9	-1.1
U40A				IAmb_Lg		22 21 09.2	
	comp=Z,7.3nm,0.8s						
ABTX	**Abilene, Hawle**	**4.16**	**201**	Pn	Pn	22 20 06.4	-0.5
MGMO	**Mountain Grove**	**4.51**	**80**	Pn	Pn	22 20 11.0	-0.7
MGMO				IAmb_Lg		22 21 31.1	
	comp=Z,5.5nm,0.7s						
X40A	**Basin Creek Fa**	**4.56**	**115**	Pn	Pn	22 20 12.7	+0.4
P38A	**Dawn**	**4.60**	**46**	Pn	Pn	22 20 12.8	-0.2
P38A				IAmb_Lg		22 21 29.4	
	comp=Z,7.7nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.66**	**96**	IAmb_Lg		22 21 29.4	
	comp=Z,8.0nm,1.0s						
R40A	**Maddies Statio**	**4.78**	**67**	Pn	Pn	22 20 15.0	-0.3
R40A				IAmb_Lg		22 21 39.2	
	comp=Z,4.4nm,0.7s						
SIUC	**Southern Illin**	**6.99**	**78**	IAmb_Lg		22 22 50.1	
	comp=Z,7.2nm,0.7s						
T47A	**Sharon Grove**	**8.63**	**84**	IAmb_Lg		22 23 46.1	
	comp=Z,4.0nm,1.0s						

*SOME **10** 22:19:05.1, 41.°07N×83.°50E, h15km*
*NNC **10** 22:19:09.2±2.3, 41.°07N×83.°36E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=22.3km s-min=15.1km az=38.0*

ISC 10 22:19:13.7±2.3, 41.°24N±0.°10×83.°29E±0.°07, h10km, n37, σ2§43/55, 5C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.10**	**316**	*eP*	**Pb**	**22 20 08.3**	**-0.7**
	27nm,0.3s						
KTMS				*eS*	**Sg**	**22 20 53.5**	**+0.3**
	72nm,0.5s						
KTMS	**Ketmen**	**3.10**	**316**	Pg	**Pb**	**22 20 07.6**	**-1.4**
	27nm,0.3s						
KTMS				Lg	Lg	22 20 53.5	
	72nm,0.5s						
SHLS	**Shalkode**	**3.43**	**305**	*eP*	**Pn**	**22 20 09.2**	**+1.9**
	26nm,0.2s						
SHLS				*eS*	**Sb**	**22 20 55.8**	**-0.5**
	274nm,0.5s						
SHLS	**Shalkode**	**3.43**	**305**	Pg	**Pn**	**22 20 08.6**	**+1.3**
	26nm,0.2s						
SHLS				Lg	Lg	22 20 55.8	
	274nm,0.5s						
PDGK	**Podgornoye**	**3.51**	**308**	Pg	**Pb**	**22 20 12.5**	**-3.5**
	5.6nm,0.3s						
PDGK				Lg	Lg	22 21 02.4	
	30nm,0.6s						
PDGK	**Podgornoye**	**3.51**	**308**	⇑Pn	**Pn**	**22 20 08.6**	**+0.2**
	4.3nm,0.3s						
PDGK				⇑Pg	**Pg**	**22 20 20.4**	**-0.5**
	12nm,0.4s						
PDGK				⇑Sn	**Sn**	**22 20 53.3**	**+3.2**
	36nm,0.4s						
PDGK				⇓Lg	Lg	22 21 11.1	
	51nm,0.6s						
UZB	**Uzynbulak**	**3.70**	**302**	*eP*	**Pb**	**22 20 18.4**	**-0.8**
	10.0nm,0.3s						
UZB				*eS*	**Sg**	**22 21 11.2**	**-1.3**
	80nm,0.3s						
UZB	**Uzynbulak**	**3.70**	**302**	Pg	**Pb**	**22 20 18.0**	**-1.3**
	10.0nm,0.3s						
UZB				Lg	Lg	22 21 11.2	
	80nm,0.3s						
DJR	**Jarkent**	**4.02**	**321**	*eP*	**Pb**	**22 20 25.7**	**+1.0**
	21nm,0.5s						
DJR				*eS*	**Sg**	**22 21 24.2**	**+1.3**
	36nm,0.6s						
DJR	**Jarkent**	**4.02**	**321**	Pg	**Pb**	**22 20 25.7**	**+1.0**
	21nm,0.5s						
DJR				Lg	Lg	22 21 24.2	
	36nm,0.6s						
SATY	**Saty**	**4.06**	**298**	*eP*	**Pb**	**22 20 24.3**	**-1.1**
	8.2nm,0.2s						
SATY				*eS*	**Sg**	**22 21 21.9**	**-2.2**
	48nm,0.5s						
SATY	**Saty**	**4.06**	**298**	Pg	**Pb**	**22 20 24.3**	**-1.1**
	8.2nm,0.2s						
SATY				Lg	Lg	22 21 21.9	
	48nm,0.5s						
KPKS	**Kokpek**	**4.07**	**305**	*eP*	**Pb**	**22 20 24.4**	**-1.2**
	18nm,0.2s						
KPKS				*eS*	**Sg**	**22 21 21.2**	**-3.3**
	86nm,0.3s						
KAPS	**Kapalarasan**	**4.96**	**326**	*eP*	**Pb**	**22 20 40.2**	**-0.5**
	9.1nm,0.7s						
KAPS				*eS*	**Sg**	**22 21 48.6**	**-4.3**
	26nm,0.6s						
KAPS	**Kapalarasan**	**4.96**	**326**	Pg	**Pb**	**22 20 40.2**	**-0.5**
	9.1nm,0.7s						
KAPS				Lg	Lg	22 21 48.6	
	26nm,0.6s						
KOTS	**Kotyrbulak**	**5.00**	**296**	*eP*	**Pb**	**22 20 41.5**	**+0.1**
	9.4nm,0.4s						
KOTS				*eS*	**Sg**	**22 21 50.3**	**-3.9**
	61nm,0.5s						
KOTS	**Kotyrbulak**	**5.00**	**296**	Pg	**Pb**	**22 20 41.5**	**+0.1**
	9.4nm,0.4s						
KOTS				Lg	Lg	22 21 50.3	
	61nm,0.5s						
ARXS	**Arharly**	**5.00**	**308**	*eP*	**Pb**	**22 20 42.1**	**+0.7**
	15nm,0.8s						
ARXS				*eS*	**Sg**	**22 21 51.5**	**-2.8**
	33nm,0.6s						
ARXS	**Arharly**	**5.00**	**308**	Pg	**Pb**	**22 20 42.1**	**+0.7**
	15nm,0.8s						
ARXS				Lg	Lg	22 21 51.5	
	33nm,0.6s						
MDOK	**Medeo**	**5.02**	**295**	*eP*	**Pb**	**22 20 42.9**	**+1.2**
	6.4nm,0.4s						
MDOK				*eS*	**Sg**	**22 21 53.8**	**-1.0**
	31nm,0.6s						
MDOK	**Medeo**	**5.02**	**295**	⇓Pn	**Pn**	**22 20 29.8**	**+0.6**
	5.7nm,0.6s						
MDOK				⇑Pg	**Pg**	**22 20 46.5**	**-3.3**
	5.3nm,0.5s						
MDOK				⇓Lg	Lg	22 21 53.9	
	19nm,0.6s						
MDOK	**Medeo**	**5.02**	**295**	Pg	**Pb**	**22 20 42.9**	**+1.2**
	6.4nm,0.4s						
MDOK				Lg	Lg	22 21 53.8	
	31nm,0.6s						
AAA	**Alma-Ata**	**5.12**	**295**	Pg	**Pb**	**22 20 45.6**	**+2.1**
	20nm,0.4s						
AAA				Lg	Lg	22 21 58.0	
	45nm,0.4s						
TDK	**Taldyqorghan**	**5.19**	**318**	*eP*	**Pb**	**22 20 46.4**	**+1.9**
	54nm,0.6s						
TDK				*eS*	**Sg**	**22 21 59.9**	**-0.3**
	87nm,1.1s						
TDK	**Taldyqorghan**	**5.19**	**318**	Pg	**Pb**	**22 20 46.4**	**+1.9**
	54nm,0.6s						
TDK				Lg	Lg	22 21 59.9	
	87nm,1.1s						
IZV	**Izvestkoviy**	**5.28**	**292**	*eP*	**Pb**	**22 20 47.2**	**+1.1**
	5.8nm,0.4s						
IZV				*eS*	**Sg**	**22 22 00.5**	**-2.7**
	43nm,0.7s						
IZV	**Izvestkoviy**	**5.28**	**292**	Pg	**Pb**	**22 20 47.2**	**+1.1**
	5.8nm,0.4s						
IZV				Lg	Lg	22 22 00.5	
	43nm,0.7s						
CHKK	**Chushkaly**	**5.34**	**301**	*eP*	**Pb**	**22 20 48.5**	**+1.5**
	3.7nm,0.4s						
CHKK				*eS*	**Sg**	**22 22 02.1**	**-2.9**
	19nm,0.5s						
CHKK	**Chushkaly**	**5.34**	**301**	Pg	**Pb**	**22 20 48.5**	**+1.5**
	3.7nm,0.4s						
CHKK				Lg	Lg	22 22 02.2	
	19nm,0.5s						
KTBS	**Karatobe**	**5.47**	**299**	*eP*	**Pb**	**22 20 51.1**	**+1.6**
	5.6nm,0.5s						
KTBS				*eS*	**Sg**	**22 22 07.2**	**-2.2**
	35nm,0.5s						
KTBS	**Karatobe**	**5.47**	**299**	Pg	**Pb**	**22 20 51.1**	**+1.6**
	5.6nm,0.5s						
KTBS				Lg	Lg	22 22 07.2	
	35nm,0.5s						
KUU	**Kurty**	**5.78**	**300**	*eP*	**Pb**	**22 20 55.5**	**+0.9**
	5.5nm,0.6s						
KUU				*eS*	**Sg**	**22 22 14.4**	**-4.7**
	17nm,0.4s						
KUU	**Kurty**	**5.78**	**300**	Pg	**Pb**	**22 20 55.5**	**+0.9**
	5.5nm,0.6s						
KUU				Lg	Lg	22 22 14.4	
	17nm,0.4s						
DGS	**Degeres**	**5.93**	**292**	Pg	**Pb**	**22 20 59.2**	**+2.1**
	3.7nm,0.5s						
DGS				Lg	Lg	22 22 21.1	
	18nm,0.7s						
ZSN	**Zaisan**	**6.31**	**10**	*eP*	**Pb**	**22 21 03.9**	**+0.2**
	8.6nm,1.0s						
ZSN				*eS*	**Sg**	**22 22 29.5**	**-6.8**
	23nm,0.7s						
SGDS	**Sogindy**	**6.78**	**292**	Pg	Pg	22 21 15.8	-7.8
	2.0nm,0.6s						
SGDS				Lg	Lg	22 22 49.8	
	7.1nm,0.6s						
KURBB	**Kurchatov Arra**	**9.95**	**342**	⇑Pg	Pn	22 22 09.8	+33
	2.3nm,0.3s						
KURBB				⇓Sn	**Sn**	**22 23 36.9**	**+8.6**
	12nm,0.8s,baz=138,slow=27						
KURBB				⇓Lg	Lg	22 24 26.0	
	19nm,0.8s,baz=136,slow=25						

*IDC **10** 22:27:34.7±1.0, 25.°87N×90.°37E, h30km±5km, mb3.5/8, mb1 3.7/9, mb1mx3.3/60, mbtmp3.7/9, ML3.7/1, MS2.8/2, Ms1 2.9/2, ms1mx2.5/53, Error ellipse: s-maj=38.3km s-min=14.6km az=60.0*
*NDI **10** 22:27:37.1±1.3, 25.°19N×90.°77E, h15km±13km, ML4.1*

ISC 10 22:27:36.4±1.0, 25.°36N±0.°07×90.°65E±0.°06, h10km, n15, σ1§83/14, mb3.8/8, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.14**	**79**	*eP*	**Pg**	**22 27 56.9**	**-1.4**
SHL				*eS*	**Sg**	**22 28 11.7**	**-1.5**
SHL				IAML		22 28 13.2	
	comp=E,5μm,0.1s						
SHL				IAML		22 28 13.6	
	comp=N,5μm,0.2s						
BRDH	**Bariadhala**	**2.82**	**161**	Pn	**Pg**	**22 28 29.0**	**-1.4**
	comp=N,28nm,0.3s,baz=266,slow=17,SNR=1.3						
BRDH				Sn	**Sg**	**22 29 06.0**	**-1.0**
	comp=N,29nm,0.3s,baz=194,slow=21,SNR=4.4						
ITAN	**ITANAGAR**	**3.29**	**57**	*eP*	**Pn**	**22 28 29.1**	**+1.1**
ITAN				*eS*	**Sn**	**22 29 05.2**	**-1.9**
BOK	**Bokaro**	**4.61**	**251**	*eP*	**Pn**	**22 28 46.1**	**0.0**
BOK				*eS*	**Sn**	**22 29 38.2**	**-1.5**
LKP	**Lekhapani**	**5.06**	**66**	*eP*	**Pn**	**22 28 52.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.31**	**130**	Pn	**Pn**	**22 30 06.4**	**+1.8**
	comp=N,0.2nm,0.3s,baz=308,slow=12,SNR=1.7						
CMAR				LR	LR	22 35 41.8	
	comp=N,38nm,18.7s,baz=220,slow=45						
MKAR	**Makanchi Array**	**22.41**	**345**	P	P	22 32 24.0	-11
	comp=N,1.2nm,0.6s,baz=163,slow=9.8,SNR=11						
SONM	**Songino Array**	**25.65**	**25**	P	P	22 32 58.1	-8.2
	comp=N,0.4nm,0.5s,baz=218,slow=12,SNR=2.7						
SONM				pP	pP	22 33 08.0	-1.6
	comp=N,1.6nm,0.7s,baz=215,slow=10,SNR=6.7						
SONM				sP	sP	22 33 11.1	+0.2
	comp=N,1.2nm,0.5s,baz=206,slow=10,SNR=6.7						
KURBB	**Kurchatov Arra**	**26.90**	**343**	P	P	22 33 07.9	-10
	comp=N,0.4nm,0.2s,baz=157,slow=9.8,SNR=1.9						
KURBB				pP	pP	22 33 18.4	-2.2
	comp=N,0.6nm,0.4s,baz=163,slow=8.7,SNR=4.0						
KURBB				sP	sP	22 33 20.5	-1.4
	comp=N,0.9nm,0.5s,baz=159,slow=9.1,SNR=3.7						
ASAJ	**Asahikawa**	**45.80**	**52**	LR	LR	22 57 53.6	
	comp=N,16nm,20.5s,baz=166,slow=40						
FINES	**FINESS Array B**	**55.93**	**328**	P	P	22 37 04.7	-10
	comp=N,0.8nm,0.6s,baz=99,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**61.90**	**133**	P	**P**	**22 37 55.2**	**-1.2**
	comp=N,0.3nm,0.4s,baz=325,slow=7.0,SNR=1.7						
WRA				pP	**sP**	**22 38 03.5**	**+2.6**
	comp=N,0.4nm,0.6s,baz=321,slow=7.4,SNR=1.7						
HFS	**Hagfors**	**61.90**	**326**	P	P	22 37 46.9	-9.0
	comp=N,1.6nm,0.6s,baz=84,slow=6.1,SNR=8.8						
GERES	**GERESS Array B**	**62.95**	**314**	P	P	22 37 55.2	-8.1
	comp=N,0.2nm,0.4s,baz=77,slow=7.0,SNR=4.2						
ASAR	**Alice Springs**	**64.27**	**136**	P	**P**	**22 38 12.6**	**+0.4**
	comp=N,0.7nm,0.9s,baz=320,slow=7.4,SNR=2.3						
ASA

ATH 10 22:36:19.5, 35°.56N×27°.36E, h13km±2km, ML2.1/3, Error ellipse: s-maj=5.5km s-min=1.1km az=323.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.16**	**267**	P	Pg	22 36 23.0	-0.3
KARP				S	Sg	22 36 26.3	+0.2
KARP				AML	AML	22 36 26.5	
	comp=E,6623μm,0.1s						
KARP				AML	AML	22 36 26.6	
	comp=N,3923μm,0.1s						
ARG	**Arkhangelos**	**0.91**	**43**	P	Pg	22 36 36.4	-0.7
ARG				S	Sg	22 36 49.0	0.0
ARG				AML	AML	22 36 53.4	
	comp=E,162μm,0.2s						
ARG				AML	AML	22 36 55.1	
	comp=N,91μm,0.2s						
ZKR	**Zakros**	**1.03**	**245**	P	Pb	22 36 38.7	-0.5
NIS1	**Nisyros Isl.**	**1.05**	**352**	P	Pb	22 36 39.5	-0.2
NPS	**Neapolis**	**1.45**	**259**	P	Pb	22 36 46.1	-0.3
NPS				AML	AML	22 37 07.9	
	comp=E,128μm,0.4s						
NPS				AML	AML	22 37 08.5	
	comp=N,85μm,0.3s						
LAST	**Lasithi**	**1.58**	**256**	P	Pb	22 36 48.2	-0.5
SNT5	**Nea Kammeni, S**	**1.80**	**299**	P	Pn	22 36 50.7	+0.4
IDI	**Anoyia**	**2.03**	**263**	P	Pn	22 36 53.9	+0.4

*ISK **10** 22:36:52.3, 36°.98N×28°.34E, h5km, ML2.2/13*

DDA 10 22:36:51.2, 36°.98N×28°.34E, h7km±5km, ML1.9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.16**	**345**	PG	Pg	22 36 55.9	+1.4
YER				SG	Sg	22 36 58.9	+2.1
TURN	**Turunc**	**0.22**	**200**	*i* P	Pg	22 36 56.7	+1.2
TURN				*i* S	Sg	22 37 00.1	+1.7
TURN				IAML		22 37 01.0	
	comp=N,364nm,0.4s						
TURN				IAML		22 37 01.0	
	comp=E,288nm,0.2s						
TURN	**Turunc**	**0.22**	**200**	PG	Pg	22 36 56.8	+1.3
TURN				SG	Sg	22 37 00.9	+2.5
MULA	**Mugla, Merkez-**	**0.28**	**358**	*i* P	Pb	22 36 57.7	-0.9
MULA				*i* S	Sg	22 37 01.1	+0.7
MULA				IAML		22 37 02.0	
	comp=E,176nm,0.2s						
MRSB	**Marmaris-Mugla**	**0.29**	**203**	PG	Pg	22 36 57.5	+0.7
MRSB				SG	Sb	22 37 02.9	-0.8
DALY	**Dalyan (Mula)**	**0.30**	**122**	*i* P	Pg	22 36 57.7	+0.5
DALY				*i* S	Sg	22 37 01.4	+0.3
DALY	**Dalyan (Mula)**	**0.30**	**122**	PG	Pb	22 36 58.6	-0.3
DALY				SG	Sb	22 37 02.7	-1.4
MLSB	**Milas**	**0.55**	**305**	PG	Pb	22 37 03.8	+0.7
MLSB				SG	Sb	22 37 11.7	+0.5
DAT	**Datca**	**0.66**	**248**	*i* P	Pg	22 36 58.9	-4.9
DAT				*i* S	Sg	22 37 09.8	-2.6
TAVA	**DENIZLI_Tavas**	**0.67**	**43**	*i* P	Pg	22 37 04.0	-0.1
TAVA				*i* S	Sg	22 37 12.8	0.0
FETY	**Fethiye**	**0.69**	**120**	PG	Pb	22 37 06.2	+0.6
FETY				SG	Sb	22 37 15.7	+0.3
BDRM	**Kayabasi**	**0.72**	**277**	*i* P	Pg	22 37 04.9	-0.1
BDRM				*i* S	Sg	22 37 15.0	+0.6
BDRM				IAML		22 37 22.0	
	comp=N,56nm,0.3s						
AYDN	**Tasoluk**	**0.77**	**332**	*i* P	Pb	22 37 07.1	+0.1
AYDN				*i* S	Sg	22 37 16.5	+0.4
AYDN				IAML		22 37 22.0	
	comp=E,56nm,0.3s						
AYDN				IAML		22 37 23.0	
	comp=N,53nm,0.4s						
CAME	**Cameli-Denizli**	**0.78**	**92**	PG	Pb	22 37 07.9	+0.8
CAEL	**Denizli, Camel**	**0.80**	**79**	*i* P	Pg	22 37 02.9	-3.7
CAEL				*i* S	Sb	22 37 19.1	+0.5
BODT	**Bodrum**	**0.82**	**276**	PG	Pn	22 37 08.8	-0.5
AYDB	**Zeytinkoy-Aydi**	**1.03**	**340**	PG	Pn	22 37 12.5	+0.3
GCAM	**G?zelcaml?**	**1.14**	**310**	*i* P	Pn	22 37 14.4	+0.9
GCAM				*i* S	Sg	22 37 26.7	-1.0
GCAM				IAML		22 37 32.0	
	comp=N,30nm,0.4s						
GCAM	**G?zelcaml?**	**1.14**	**310**	PN	Pn	22 37 14.9	+1.4
AKAS	**Kas**	**1.27**	**126**	PN	Pg	22 37 17.1	+1.6
ELL	**Elmali**	**1.28**	**100**	PN	Pg	22 37 17.5	+1.7
KORT	**Korkueli**	**1.61**	**89**	PN	Pg	22 37 22.1	-0.1

*IDC **10** 22:39:58.6±3.0, 62°.70N×2°.39E, h0km, mb1 3.4/5, mb1mx3.1/56, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=32.0km s-min=27.2km az=124.0*
*NAO **10** 22:40:00.5±3.7, 62°.64N×2°.42E, h12km±22km, ML3.0*
*BER **10** 22:40:01.1±2.4, 62°.77N×2°.22E, h16km±7km, ML2.6, ML3.2(BGS), Confirmed Earthquake*
*BGS **10** 22:40:01.8±0.8, 62°.74N×2°.24E, h26km±16km, ML3.2*
*UPP **10** 22:40:06.6±3.4, 62°.27N×3°.03E, h0km, ML2.6, Suspected explosion*

ISC 10 22:39:58.0±1.1, 62°.69N±0°.06×2°.18E±0°.04, h10km, n116, σ1°89/149, 3D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.73**	**128**	*e*P	**Pn**	**22 40 29.4**	**+1.4**
FOO				IAML		22 40 52.0	
	comp=E,138nm,0.1s						
FOO				IAML		22 40 52.8	
	comp=N,185nm,0.2s						
FOO	**Floro**	**1.73**	**128**	*e*P	**Pn**	**22 40 29.4**	**+1.4**
FOO				IAML		22 40 52.0	
	comp=E,138nm,0.1s						
FOO				IAML		22 40 52.8	
	comp=N,185nm,0.2s						
FOO	**Floro**	**1.73**	**128**	Pn	**Pn**	**22 40 29.6**	**+1.5**
FOO				Lg	Lg	22 40 50.8	
FOO	**Floro**	**1.73**	**128**	*e*P	**Pn**	**22 40 29.4**	**+1.4**
FOO				*e*S	**Sn**	**22 40 49.8**	**-0.3**
FOO				IAML		22 40 52.5	
	comp=Z,481nm,0.2s						
SUE	**Sulen**	**2.04**	**142**	*e*P	**Pn**	**22 40 33.6**	**+1.3**
SUE				*e*S	**Sn**	**22 40 57.2**	**-0.6**
SUE				IAML		22 40 59.8	
	comp=Z,254nm,0.4s						
AKN	**Aaknes**	**2.30**	**101**	Pn	**Pn**	**22 40 37.3**	**+1.4**
AKN				Sn	**Sn**	**22 41 04.0**	**-0.2**
AKN	**Aaknes**	**2.30**	**101**	Pn	**Pn**	**22 40 37.3**	**+1.4**
AKN				Sn	**Sn**	**22 41 04.0**	**-0.2**
HYA	**Hoyanger**	**2.43**	**127**	Pn	**Pn**	**22 40 39.4**	**+1.8**
HYA				Sn	**Sn**	**22 41 06.7**	**-0.7**
HYA	**Hoyanger**	**2.43**	**127**	*e*P	**Pn**	**22 40 39.2**	**+1.5**
HYA				*e*S	**Sn**	**22 41 07.2**	**-0.2**
HYA				IAML		22 41 12.4	
	comp=Z,135nm,0.2s						
MOL	**Molde**	**2.48**	**90**	*e*P	**Pn**	**22 40 38.5**	**+0.1**
MOL				IAML		22 41 08.8	
	comp=N,176nm,0.3s						
MOL				IAML		22 41 09.1	
	comp=E,99nm,0.2s						
MOL	**Molde**	**2.48**	**90**	*e*P	**Pn**	**22 40 38.5**	**+0.1**
MOL				IAML		22 41 08.8	
	comp=N,176nm,0.3s						
MOL				IAML		22 41 09.1	
	comp=E,99nm,0.2s						
MOL	**Molde**	**2.48**	**90**	*e*P	**Pn**	**22 40 39.1**	**+0.7**
MOL				*e*S	**Sn**	**22 41 06.7**	**-2.0**
MOL				IAML		22 41 08.3	
	comp=Z,176nm,0.3s						
ASK	**Askoy**	**2.64**	**146**	‖ *i*P	**Pn**	**22 40 42.0**	**+1.5**
ASK				*e*S	**Sn**	**22 41 11.4**	**-1.1**
ASK				IAML		22 41 15.4	
	comp=Z,138nm,0.5s						
BER	**Bergen**	**2.76**	**145**	*e*P	**Pn**	**22 40 43.5**	**+1.3**
BER				IAML		22 41 16.6	
	comp=N,26nm,0.1s						
BER				IAML		22 41 16.6	
	comp=E,27nm,0.2s						
BER	**Bergen**	**2.76**	**145**	*e*P	**Pn**	**22 40 43.5**	**+1.3**
BER				IAML		22 41 16.6	
	comp=E,27nm,0.2s						
BER	**Bergen**	**2.76**	**145**	Pn	**Pn**	**22 40 43.3**	**+1.2**
BER				Sn	**Sn**	**22 41 14.2**	**-1.2**
BER	**Bergen**	**2.76**	**145**	*e*P	**Pn**	**22 40 43.6**	**+1.4**
BER				*e*S	**Sn**	**22 41 14.3**	**-1.2**
BER				IAML		22 41 17.0	
	comp=Z,65nm,0.3s						
LRW	**Lerwick**	**3.02**	**214**	*e*P	**Pn**	**22 40 47.6**	**+1.8**
LRW				*e*S	**Sn**	**22 41 20.7**	**-1.3**
LRW				IAML		22 41 24.7	
	comp=E,35nm,0.3s						
LRW				IAML		22 41 25.4	
	comp=N,27nm,0.2s						
LRW	**Lerwick**	**3.02**	**214**	*e*P	**Pn**	**22 40 47.6**	**+1.8**
LRW				*e*S	**Sn**	**22 41 20.7**	**-1.3**
LRW				IAML		22 41 24.7	
	comp=E,35nm,0.3s						
LRW				IAML		22 41 25.4	
	comp=N,27nm,0.2s						
LRW	**Lerwick**	**3.02**	**214**	*e*P	**Pn**	**22 40 47.9**	**+2.1**
LRW				*e*S	**Sn**	**22 41 21.5**	**-0.5**
LRW				IAML		22 41 24.7	
	comp=E,35nm,0.3s						
LRW				IAML		22 41 25.4	
	comp=N,27nm,0.2s						
DOMB	**Dombas**	**3.27**	**98**	*e*P	**Pn**	**22 40 50.5**	**+1.2**
DOMB				*e*S	**Sn**	**22 41 27.4**	**-0.9**
DOMB				IAML		22 41 30.3	
	comp=Z,71nm,0.2s						
ODD1	**Odda**	**3.51**	**140**	‖ *e*P	**Pn**	**22 40 54.2**	**+1.6**
ODD1				*e*S	**Sn**	**22 41 32.8**	**-1.4**
ODD1				IAML		22 41 35.5	
	comp=Z,103nm,0.2s						
SKAR	**Skarslia**	**3.54**	**122**	‖ *e*P	**Pn**	**22 40 54.6**	**+1.6**
SKAR				*e*S	**Sn**	**22 41 34.4**	**-0.5**
SKAR				IAML		22 41 50.0	
	comp=Z,78nm,0.3s						
KMY	**Karmoy**	**3.79**	**155**	*e*P	**Pn**	**22 40 57.4**	**+1.0**
KMY				*e*S	**Sn**	**22 41 40.7**	**-0.2**
KMY				IAML		22 41 42.5	
	comp=Z,90nm,0.2s						
BLS5	**Blasjo**	**3.88**	**146**	*e*P	**Pn**	**22 40 59.3**	**+1.7**
BLS5				*e*S	**Sn**	**22 41 40.5**	**-2.6**
NC204	**NORSAR Array S**	**4.29**	**105**	*e*P	**Pn**	**22 41 04.8**	**+1.5**
NC204				*e*S	**Sn**	**22 41 51.6**	**-1.8**
SOFL	**Sornfelli, Far**	**4.30**	**266**	*e*P	**Pn**	**22 41 04.3**	**+0.9**
SOFL				*e*S	**Sn**	**22 41 51.6**	**-2.1**
NAO01	**NORSAR Array S**	**4.53**	**110**	*e*P	**Pn**	**22 41 07.9**	**+1.4**
NAO01				*e*S	**Sn**	**22 41 57.1**	**-2.0**
NB2	**NORSAR Subarra**	**4.59**	**107**	Pn	**Pn**	**22 41 08.4**	**+1.0**
	baz=298,slow=14						
NB2				Sn	**Sn**	**22 41 56.8**	**-3.9**
	baz=301,slow=28						
NB2				Lg	Lg	22 42 14.8	
	baz=293,slow=37						
NB2	**NORSAR Subarra**	**4.59**	**107**	Pn	**Pn**	**22 41 08.4**	**+1.0**
	baz=298,slow=14						
NB2				Sn	**Sn**	**22 41 56.8**	**-3.9**
	baz=301,slow=28						
NB2				Sg	**Sb**	**22 42 14.8**	**+1.1**
	baz=293,slow=37						
NOA	**NORSAR Array B**	**4.59**	**107**	Pn	**Pn**	**22 41 06.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=331,slow=6.1,SNR=22						
NOA				Sn	**Sn**	**22 41 58.3**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=301,slow=21,SNR=7.0						
KONO	**Kongsberg**	**4.71**	**127**	*e*P	**Pn**	**22 41 10.0**	**+1.0**
KONO				*e*S	**Sn**	**22 42 01.1**	**-2.4**
NSS	**Namsos**	**4.75**	**63**	*e*P	**Pn**	**22 41 09.3**	**-0.1**
NSS				*e*S	**Sn**	**22 41 59.3**	**-5.1**
NSS				IAML		22 42 04.2	
	comp=Z,31nm,0.4s						
NRA0	**NORESS Array S**	**4.87**	**110**	Pn	**Pn**	**22 41 12.2**	**+1.1**
	baz=303,slow=12						
NRA0				Sn	**Sn**	**22 42 05.7**	**-1.7**
	baz=295,slow=28						
NRA0	**NORESS Array S**	**4.87**	**110**	Pn	**Pn**	**22 41 12.2**	**+1.1**
	baz=303,slow=12						
NRA0				Sn	**Sn**	**22 42 05.7**	**-1.7**
	baz=295,slow=28						
OSL	**Oslo**	**4.95**	**120**	*e*P	**Pn**	**22 41 13.9**	**+1.6**
OSL				*e*S	**Sn**	**22 42 07.5**	**-2.1**
OSL				IAML		22 42 27.3	
	comp=Z,28nm,0.3s						
SNART	**Snartemo**	**5.02**	**148**	*i* P	**Pn**	**22 41 14.5**	**+1.3**
SNART				*i*		22 42 09.2	
SNART				IAML		22 42 23.8	
	comp=Z,23nm,0.4s						
SNART	**Snartemo**	**5.02**	**148**	*e*P	**Pn**	**22 41 14.4**	**+1.2**
SNART				IAML		22 42 12.6	
	comp=Z,30nm,0.3s						
BIGH	**Upper Bighouse**	**5.17**	**218**	*e*P	**Pn**	**22 41 16.1**	**+0.9**
BIGH				*e*S	**Sn**	**22 42 11.2**	**-3.6**
BIGH				IAML		22 42 13.2	
	comp=N,8.8nm,0.3s						
BIGH				IAML		22 42 14.0	
	comp=E,14nm,0.3s						
HOMB	**Homborsund**	**5.42**	**142**	*i* P	**Pn**	**22 41 20.0**	**+1.3**
HOMB				IAML		22 42 23.6	
	comp=Z,16nm,0.3s						
HOMB	**Homborsund**	**5.42**	**142**	*e*P	**Pn**	**22 41 19.9**	**+1.3**
HOMB				*e*S	**Sn**	**22 42 18.1**	**-2.9**
STRU	**Stroemstad**	**5.72**	**126**	*i* P	**Pn**	**22 41 22.8**	**0.0**
STRU	**Stroemstad**	**5.72**	**126**	*i* P	**Pn**	**22 41 22.8**	**0.0**
MCD	**Coleburn Disti**	**5.79**	**210**	*e*S	**Sn**	**22 42 27.0**	**-3.2**
MCD				IAML		22 42 29.6	
	comp=E,12nm,0.3s						
MCD				IAML		22 42 29.9	
	comp=N,9.9nm,0.2s					

FIA0 Sn Sn 22 44 35.6 -8.8
baz=289,slow=22
FIA0 FINESS Array S 11.26 86 Pn **Pn 22 42 39.5 +0.8**
baz=285,slow=11
FIA0 Sn Sn 22 44 35.6 -8.8
baz=289,slow=22
FINES FINESS Array B 11.26 86 Pn **Pn 22 42 39.5 +0.8**
comp=Z,0.2nm,0.3s,baz=292,slow=10,SNR=9.2
FINES Sn Sn 22 44 35.5 -8.9
comp=Z,0.7nm,0.3s,baz=289,slow=22,SNR=12
ARA0 ARCESS Array S 11.61 44 Pn **Pn 22 42 43.1 -0.4**
baz=240,slow=12
ARA0 ARCESS Array S 11.61 44 Pn **Pn 22 42 43.1 -0.4**
baz=240,slow=12
ARCES ARCESS Array B 11.61 44 Pn **Pn 22 42 43.0 -0.5**
baz=240,slow=11,SNR=7.3
ARCES Sn Sn 22 44 41.3 -12
baz=237,slow=21,SNR=9.3

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*TRN **10** 23:06:13.2, 10.°32N×62.°86W, h20km, MD3.6*
*FUNV **10** 23:06:14.6, 10.°47N×62.°86W, h19km, MW3.4*
ISC 10 23:06:12.0±1.3, 10.°42N±0.°04×62.°88W±0.°04, h17km±10km, n16, σ1°59/26, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.43**	**306**	*eP*	**Pg**	**23 06 20.7**	**-0.1**
CRUV				*eS*	**Sg**	**23 06 27.1**	**+0.4**
TRN	**Trinidad (W)**	**1.47**	**81**	*eP*	**Pb**	**23 06 38.5**	**-0.4**
PCRV	**Puerto La Cruz**	**1.74**	**262**	*eP*	**Pn**	**23 06 43.1**	**+1.5**
GRGR	**Grenville**	**2.09**	**35**	*eP*	**Pb**	**23 06 48.7**	**-0.7**
GRGR				*eS*	**Sb**	**23 07 14.2**	**-0.9**
PRGV	**PARIAGUAN**	**2.40**	**227**	*eP*	**Pn**	**23 06 52.8**	**+2.3**
PRGV				*eS*	**Sn**	**23 07 21.0**	**+1.5**
TOSP	**Speyside**	**2.46**	**69**	*eP*	**Pb**	**23 06 53.7**	**-2.2**
GCMP	**Grenada, Carri**	**2.50**	**35**	*eP*	**Pb**	**23 06 54.7**	**-1.9**
GCMP				*eS*	**Sn**	**23 07 24.1**	**+2.0**
RIOV	**Rio Grande**	**2.56**	**156**	*eP*	**Pb**	**23 06 55.8**	**-1.7**
RIOV				*eS*	**Sn**	**23 07 25.0**	**+1.4**
BIRV	**Birongo**	**3.33**	**271**	*eP*	**Pn**	**23 07 04.9**	**+1.5**
BIRV				*i* Pg	**Pg**	**23 07 16.6**	**+0.6**
BIRV				*eS*	**Sn**	**23 07 42.3**	**-0.4**
MERV	**Las Mercedes**	**3.56**	**251**	*eP*	**Pn**	**23 07 08.6**	**+2.0**
MERV				*eS*	**Sn**	**23 07 48.0**	**-0.3**
CACV	**CAICARA DEL OR**	**4.59**	**232**	*eP*	Pn	23 07 16.5	-4.3
CACV				*eS*	Sn	23 08 04.0	-10
BENV	**Beln**	**4.67**	**265**	*eP*	**Pn**	**23 07 23.0**	**+1.2**
BENV				*eS*	**Sn**	**23 08 14.0**	**-1.7**
LUEV	**Luepa**	**4.76**	**163**	*eP*	**Pn**	**23 07 24.5**	**+1.4**
LUEV				*eS*	**Sn**	**23 08 15.9**	**-2.2**
BAUV	**El Baul**	**5.29**	**254**	*eP*	**Pn**	**23 07 31.4**	**+1.1**
BAUV	**El Baul**	**5.29**	**254**	*eS*	**Sn**	**23 08 30.3**	**-0.8**
BAUV	**El Baul**	**5.29**	**254**	*eP*	**Pn**	**23 07 31.5**	**+1.1**
BAUV				*eS*	**Sn**	**23 08 28.6**	**-2.5**

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*IDC **10** 23:09:16.2±0.8, 36.°72N×98.°39W, h0km, mb3.8/3, mb1 4.2/9, mb1mx3.8/48, mbtmp4.0/9, ML3.9/6, MS3.0/8, Ms1 3.0/8, ms1mx2.7/47, Error ellipse: s-maj=12.3km s-min=10.0km az=138.0*
*TUL **10** 23:09:16.7±1.4, 36.°66N±0.°02×98.°29W±0.°01, h5km±7km, ML4.3, mb_Lg4.2/149(NEIC), Mwr3.7/34(NEIC), Error ellipse: s-maj=2.9km s-min=1.0km az=190.0*
*NEIC **10** 23:09:16.7, 36.°66N×98.°29W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.66; $M_{\theta\theta}$=4.41; $M_{\phi\phi}$=-1.75; $M_{r\theta}$=-0.67; $M_{r\phi}$=2.59; $M_{\theta\phi}$=1.61; Fault plane solution: M_0=4.95000×10^{14} NP1:ϕ=214.53000°, δ59.70000°, λ=-145.39000°. NP2:ϕ=105.33000°, δ60.63000°, λ=-35.37000°. Principal axes: T 5.3569, Plg1.0000°, Azm160.0000°; N -0.9424, Plg45.0000°, Azm251.0000°; P -4.4144, Plg45.0000°, Azm70.0000°;*
*ANF **10** 23:09:16.7±0.3, 36.°68N×98.°18W, h10km, ML5.1/17 Error ellipse: s-maj=3.7km s-min=3.0km az=42.0*
*NEIC **10** 23:09:17.0±1.2, 36.°64N±0.°02×98.°27W±0.°05, h5km±2km, Error ellipse: s-maj=6.3km s-min=3.3km az=99.0*
ISC 10 23:09:17.4±0.8, 36.°68N±0.°02×98.°20W±0.°03, h14km±5km, n180, σ1°20/142, mb3.9/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.12**	**357**		**Pg**	**23 09 20.3**	**-0.5**
OK032				Sg	**Sg**	**23 09 22.9**	**-0.3**
CROK	**Carrier**	**0.25**	**135**		**Pg**	**23 09 22.7**	**-0.1**
CROK				Sg	**Sg**	**23 09 27.1**	**+0.7**
GC02	**Grant County #**	**0.33**	**58**	Pg	**Pg**	**23 09 24.6**	**+0.6**
GC02				Sg	**Sb**	**23 09 30.3**	**+0.2**
KAN10	**Anthony SW Sta**	**0.45**	**11**		**Pg**	**23 09 26.4**	**0.0**
KAN10				Sg	**Sb**	**23 09 33.4**	**-0.3**
KAN05	**Bluff City Nor**	**0.50**	**32**	Pg	**Pg**	**23 09 27.6**	**+0.3**
KAN05				Sg	**Sb**	**23 09 35.5**	**+0.2**
KAN17	**Caldwell West**	**0.51**	**44**		**Pg**	**23 09 27.8**	**+0.4**
KAN17				Sg	**Sb**	**23 09 35.7**	**+0.3**
KAN08	**Anthony NE Sta**	**0.58**	**19**	Pg	**Pb**	**23 09 28.9**	**-0.4**
KAN12	**Harper NE Stat**	**0.64**	**15**		**Pg**	**23 09 29.9**	**0.0**
KAN13	**South Haven SW**	**0.67**	**60**		**Pg**	**23 09 30.8**	**+0.3**
U32A	**Winter Ranch,**	**0.71**	**245**	Pg	**Pg**	**23 09 28.9**	**-2.3**
U32A	**Winter Ranch,**	**0.71**	**245**	P		23 09 29.0	
U32A	baz=64,SNR=128			S		23 09 38.1	
KS21	**Milan North St**	**0.74**	**35**		**Pb**	**23 09 32.2**	**+0.1**
KS20	**Mayfield South**	**0.76**	**43**		**Pg**	**23 09 32.3**	**+0.2**
BLOK	**Blackwell**	**0.80**	**84**		**Pg**	**23 09 33.2**	**+0.3**
OK029	**Liberty Lake**	**1.07**	**145**		**Pg**	**23 09 37.0**	**-1.0**
BCOK	**Bluff Creek, N**	**1.13**	**155**		**Pg**	**23 09 37.8**	**-1.3**
BCOK				IAmb_Lg		23 09 53.6	
OK009	**Oakdale Elemen**	**1.27**	**150**		**Pn**	**23 09 40.6**	**0.0**
OK025	**Westminster Rd**	**1.30**	**147**		**Pn**	**23 09 41.0**	**-0.1**
QUOK	**Quay**	**1.31**	**112**		**Pn**	**23 09 42.0**	**+0.7**
OK005	**Luther M Schoo**	**1.31**	**141**		**Pn**	**23 09 41.6**	**+0.3**
OK031	**S. Brethren Rd**	**1.32**	**123**		**Pn**	**23 09 41.9**	**+0.6**
T35A	**Sooner Cattle**	**1.38**	**80**		**Pn**	**23 09 43.5**	**+1.3**
T35B	**Sooner Cattle**	**1.38**	**80**	P		23 09 43.5	
T35B	baz=260,SNR=944			S		23 10 02.6	
OKCFA	**Oklahoma City**	**1.40**	**154**		**Pn**	**23 09 42.5**	**0.0**
OKCFA				IAmb_Lg		23 10 02.0	
OKCFA	comp=Z,1μm,1.0s **Oklahoma City**	**1.40**	**154**	P		23 09 42.5	
OKCFA	baz=332,SNR=84			S		23 10 02.0	
OKCSW	**OKLAHOMA CITY**	**1.41**	**154**		**Pn**	**23 09 42.8**	**+0.1**
FNO	**Franklin**	**1.56**	**155**		**Pn**	**23 09 45.1**	**+0.4**
FNO				IAmb_Lg		23 10 05.1	
OK011	comp=Z,2μm,0.9s **Prague**	**1.71**	**134**		**Pn**	**23 09 48.1**	**+1.3**
R32A	**Long Quarter,**	**1.79**	**347**		**Pb**	**23 09 49.1**	**-0.8**
R32A				IAmb_Lg		23 10 17.9	
R32A	comp=Z,983nm,0.9s **Long Quarter,**	**1.79**	**347**	P		23 09 49.4	
R32A	baz=169,SNR=266			S		23 10 13.5	
WMOK	**Wichita Mounta**	**1.99**	**194**	P	**Pn**	**23 09 50.7**	**0.0**
WMOK	baz=12,SNR=260			S	**Sn**	**23 10 16.6**	**+1.2**
WMOK	**Wichita Mounta**	**1.99**	**194**		**Pn**	**23 09 50.3**	**-0.4**
WMOK	**Wichita Mounta**	**1.99**	**194**	P		23 09 50.9	
WMOK	baz=12,SNR=450			S		23 10 17.0	
TUL1	**Leonard**	**2.09**	**111**	P	**Pn**	**23 09 51.2**	**-0.8**
TUL1	baz=291,SNR=173 **Leonard**	**2.09**	**111**	P		23 09 53.6	
TUL1	baz=291,SNR=266			S		23 10 20.6	
X34A	**Smith Ranch, M**	**2.10**	**172**		**Pn**	**23 09 53.3**	**+1.2**
X34A				IAmb_Lg		23 10 23.8	
CBKS	comp=Z,1μm,0.9s **Cedar Bluff**	**2.45**	**331**	P	**Pn**	**23 09 57.9**	**+0.9**
CBKS	baz=152,SNR=64			Sb	**Sb**	**23 10 32.6**	**+1.1**
CBKS	**Cedar Bluff**	**2.45**	**331**	Pn	**Pn**	**23 09 57.9**	**+0.9**
CBKS	**Cedar Bluff**	**2.45**	**331**	P		23 09 58.2	
CBKS	baz=152			S		23 10 28.5	
KSU1	**Kansas State U**	**2.73**	**27**	P	**Pn**	**23 10 02.1**	**+1.4**
KSU1	baz=209,SNR=64			Sb	**Sb**	**23 10 41.0**	**+1.8**
KSU1	**Kansas State U**	**2.73**	**27**		**Pn**	**23 10 02.4**	**+1.6**
KSU1	baz=209			IAmb_Lg		23 10 48.2	
KSU1	comp=Z,1μm,0.8s **Kansas State U**	**2.73**	**27**	P		23 10 02.4	
LOOK	baz=209,SNR=23 **Love County**	**2.81**	**162**	Pn	**Pn**	**23 10 02.7**	**+0.9**
LOOK				IAmb_Lg		23 10 52.6	
U38A	comp=Z,445nm,0.8s **Gravette**	**3.08**	**93**		**Pn**	**23 10 07.4**	**+1.7**
U38A				IAmb_Lg		23 11 04.3	
U38A	comp=Z,373nm,0.8s **Gravette**	**3.08**	**93**	P		23 10 07.9	
X37A	baz=275,SNR=34 **Clayton**	**3.11**	**131**		**Pn**	**23 10 07.2**	**+1.2**
X37A				IAmb_Lg		23 11 00.8	
X37A	comp=Z,744nm,1.0s **Clayton**	**3.11**	**131**	P		23 10 07.4	
X37A	baz=312,SNR=86			S		23 10 46.0	
AMTX	baz=312 **Amarillo**	**3.35**	**239**	P	**Pn**	**23 10 09.8**	**+0.5**
AMTX	baz=56 **Amarillo**	**3.35**	**239**	Pn	**Pn**	**23 10 09.8**	**+0.5**
AMTX	**Amarillo**	**3.35**	**239**	P		23 10 10.2	
Z35A	baz=56 **Perchaven, San**	**3.43**	**167**		**Pn**	**23 10 11.1**	**+0.7**
Z35A				IAmb_Lg		23 11 07.2	
Z35A	comp=Z,580nm,1.0s **Perchaven, San**	**3.43**	**167**	P		23 10 11.3	
Z35A	baz=346,SNR=62			S		23 10 52.0	
HHAR	baz=346 **Hobbs**	**3.46**	**95**		**Pn**	**23 10 12.9**	**+2.1**
HHAR				IAmb_Lg		23 11 15.7	
W39A	comp=Z,371nm,0.7s **Magazine**	**3.88**	**111**	P	**Pn**	**23 10 18.5**	**+2.0**
W39A	baz=293,SNR=16 **Magazine**	**3.88**	**111**		**Pn**	**23 10 18.6**	**+2.0**
W39A				IAmb_Lg		23 11 31.5	
W39A	comp=Z,739nm,0.8s **Magazine**	**3.88**	**111**	P		23 10 18.6	
S39A	baz=293,SNR=15 **Bolivar**	**4.03**	**74**		**Pn**	**23 10 19.9**	**+1.3**
S39A				IAmb_Lg		23 11 31.3	
S39A	comp=Z,658nm,0.9s **Bolivar**	**4.03**	**74**	P		23 10 19.8	
N33B	baz=257,SNR=69 **J Bar K, Exete**	**4.09**	**8**	P		23 10 20.1	
N33B	baz=189,SNR=50			S		23 11 08.4	
N33A	baz=189 **J Bar K, Exete**	**4.10**	**8**		**Pn**	**23 10 20.1**	**+0.6**
N33A				IAmb_Lg		23 11 38.3	
KSCO	comp=Z,528nm,0.8s **Kaye Shedlock'**	**4.21**	**305**	P	**Pn**	**23 10 20.9**	**-0.3**
KSCO	baz=123 **Kaye Shedlock'**	**4.21**	**305**		**Pn**	**23 10 21.9**	**+0.7**
KSCO				IAmb_Lg		23 11 39.3	
ABTX	comp=Z,364nm,0.7s **Abilene, Hawle**	**4.22**	**197**	P	**Pn**	**23 10 20.7**	**-0.6**
ABTX	baz=15,SNR=7.6 **Abilene, Hawle**	**4.22**	**197**		**Pn**	**23 10 20.8**	**-0.4**
ABTX				IAmb_Lg		23 11 28.5	
ABTX	comp=Z,745nm,1.2s **Abilene, Hawle**	**4.22**	**197**	P		23 10 21.0	
Z38A	baz=15,SNR=7.2 **Mt. Pleasant**	**4.32**	**141**		**Pn**	**23 10 23.4**	**+0.8**
Z38A				IAmb_Lg		23 11 40.2	
Z38A	comp=Z,753nm,0.8s **Mt. Pleasant**	**4.32**	**141**	P		23 10 23.4	
U40A	baz=322 **Yellville**	**4.32**	**93**	P	**Pn**	**23 10 24.1**	**+1.4**
U40A	baz=276,SNR=42 **Yellville**	**4.32**	**93**		**Pn**	**23 10 24.2**	**+1.6**
U40A				IAmb_Lg		23 11 43.4	
U40A	comp=Z,719nm,0.8s **Yellville**	**4.32**	**93**	P		23 10 24.3	
U40A	baz=276,SNR=111			P		23 10 24.3	
MIAR	baz=276,SNR=111 **Mount Ida**	**4.33**	**118**	P	**Pn**	**23 10 24.0**	**+1.3**
MIAR	baz=300,SNR=30 **Mount Ida**	**4.33**	**118**	Pn	**Pn**	**23 10 24.2**	**+1.5**
MIAR				IAmb_Lg		23 11 47.5	
MIAR	comp=Z,740nm,1.1s **Mount Ida**	**4.33**	**118**	P		23 10 24.2	
MSTX	baz=300,SNR=62 **Muleshoe**	**4.61**	**235**	P	**Pn**	**23 10 26.5**	**-0.3**
MSTX	baz=52,SNR=23 **Muleshoe**	**4.61**	**235**		**Pn**	**23 10 26.6**	**-0.2**
MSTX	**Muleshoe**	**4.61**	**235**	P		23 10 26.8	
N35A	baz=52 **Tabor**	**4.63**	**25**		**Pn**	**23 10 28.6**	**+1.7**
N35A	**Tabor**	**4.63**	**25**	P		23 10 28.6	
P38A	baz=207 **Dawn**	**4.71**	**50**		**Pn**	**23 10 29.5**	**+1.5**
P38A				IAmb_Lg		23 11 53.2	
P38A	comp=Z,632nm,1.0s **Dawn**	**4.71**	**50**	P		23 10 29.6	
WHTX	baz=233,SNR=34 **Lake Whitney,**	**4.72**	**172**	P	**Pn**	**23 10 28.3**	**+0.2**
WHTX	baz=352,SNR=5.7			S	**Sn**	**23 11 22.9**	**+0.3**
WHTX	baz=352 **Lake Whitney,**	**4.72**	**172**		**Pn**	**23 10 28.4**	**+0.2**
WHTX	**Lake Whitney,**	**4.72**	**172**	P		23 10 28.4	
BGNE	baz=352,SNR=33 **Belgrade**	**4.72**	**0**	P	**Pn**	**23 10 29.1**	**+0.9**
BGNE	baz=181,SNR=28 **Belgrade**	**4.72**	**0**		**Pn**	**23 10 29.3**	**+1.1**
BGNE	**Belgrade**	**4.72**	**0**	P		23 10 29.3	
MGMO	baz=181,SNR=49 **Mountain Grove**	**4.78**	**83**		**Pn**	**23 10 31.3**	**+2.3**
MGMO				IAmb_Lg		23 12 00.6	
X40A	comp=Z,534nm,0.9s **Basin Creek Fa**	**4.89**	**115**	P	**Pn**	**23 10 31.3**	**+0.8**
X40A	baz=298 **Basin Creek Fa**	**4.89**	**115**		**Pn**	**23 10 32.5**	**+2.0**
X40A				IAmb_Lg		23 11 53.5	
X40A	comp=Z,322nm,0.8s **Basin Creek Fa**	**4.89**	**115**	P		23 10 32.3	
X40A	baz=298,SNR=46			P		23 10 32.3	
FCAR	baz=298,SNR=46 **Ozark Folk Cen**	**4.97**	**97**	IAmb_Lg		23 12 02.5	
R40A	comp=Z,448nm,0.8s **Maddies Statio**	**4.99**	**69**	IAmb_Lg		23 12 04.5	
R40A	comp=Z,530nm,0.7s **Maddies Statio**	**4.99**	**69**	P		23 10 33.1	
WHAR	baz=253,SNR=42 **Wooly Hollow**	**4.99**	**104**	IAmb_Lg		23 12 05.5	
T25A	comp=Z,620nm,0.8s **Trinidad**	**5.00**	**277**	P	**Pn**	**23 10 32.0**	**-0.1**
T25A	baz=94,SNR=18			Sb	**Sb**	**23 11 49.2**	**+4.4**
T25A	baz=94 **Trinidad**	**5.00**	**277**		**Pn**	**23 10 32.0**	**-0.1**
T25A				IAmb_Lg		23 11 56.1	
W41B	comp=Z,465nm,0.9s **Gary Mavity, V**	**5.06**	**106**	P	**Pn**	**23 10 33.3**	**+0.4**
W41B	baz=289,SNR=14			S	**Sn**	**23 11 32.0**	**+1.0**
W41B	baz=289 **Gary Mavity, V**	**5.06**	**106**	P		23 10 33.9	
237A	baz=289,SNR=38 **Washetta, Mont**	**5.07**	**156**	IAmb_Lg		23 12 08.6	
237A	comp=Z,375nm,0.9s **Washetta, Mont**	**5.07**	**156**	P		23 10 33.3	
WLAR	baz=337,SNR=11 **White Oak Lake**	**5.13**	**124**	IAmb_Lg		23 12 15.8	
OGNE	comp=Z,417nm,0.7s **Ogallala**	**5.20**	**326**	P	**Pn**	**23 10 36.4**	**+1.5**
OGNE	baz=144,SNR=9.6 **Ogallala**	**5.20**	**326**	IAmb_Lg		23 12 03.0	
L34A	comp=Z,570nm,0.8s **Svendsen Farm,**	**5.47**	**14**	P		23 10 38.1	
Z41A	baz=196,SNR=7.6 **Richland Creek**	**5.59**	**126**	P	**Pn**	**23 10 40.5**	**+0.4**
Z41A	baz=309			S	**Sn**	**23 11 43.4**	**-0.9**
P40A	baz=309 **Paris**	**5.63**	**58**	P		23 10 42.1	
N38A	baz=242,SNR=7.1 **Joes South For**	**5.65**	**42**	P		23 10 41.8	
CCM	baz=225,SNR=10 **Cathedral Cave**	**5.71**	**74**	P	**Pn**	**23 10 41.9**	**+0.2**
CCM	baz=258 **Cathedral Cave**	**5.71**	**74**	IAmb_Lg		23 12 35.0	
CCM	comp=Z,359nm,0.8s **Cathedral Cave**	**5.71**	**74**	P		23 10 42.8	
T42A	baz=258,SNR=9.9 **Van Buren**	**5.71**	**84**	IAmb_Lg		23 12 32.8	
T42A	comp=Z,244nm,0.7s **Van Buren**	**5.71**	**84**	P		23 10 43.5	
NATX	baz=268 **Nacogdoches**	**5.72**	**148**	Pb	**Pb**	**23 10 56.5**	**-0.4**
NATX	baz=330			S	**Sn**	**23 11 46.1**	**-1.1**
LCAR	baz=330 **Lake Charles**	**5.72**	**94**	IAmb_Lg		23 12 24.1	
435B	comp=Z,362nm,0.8s **Jarrell**	**5.90**	**175**	P	**Pn**	**23 10 44.9**	**+0.4**
435B	baz=354 **Jarrell**	**5.90**	**175**	IAmb_Lg		23 12 29.2	
435B	comp=Z,508nm,0.8s **Jarrell**	**5.90**	**175**	P		23 10 44.7	
SDCO	baz=354 **Great Sand Dun**	**5.92**	**283**	P	**Pn**	**23 10 45.6**	**+0.7**
CCAR	baz=98,SNR=20 **Cane Creek**	**5.94**	**116**	IAmb_Lg		23 12 33.3	
PBMO	comp=Z,388nm,0.8s **Poplar Bluff**	**6.24**	**87**	IAmb_Lg		23 12 41.5	
JCT	comp=Z,446nm,0.7s **Junction City**	**6.33**	**193**	P	**Pn**	**23 10 50.1**	**-0.2**
SCIA	baz=11 **State Center**	**6.50**	**35**	S	**Sn**	**23 12 08.2**	**+1.8**
ISCO	baz=218 **Idaho Springs**	**6.61**	**300**	P	**Pn**	**23 10 54.3**	**-0.1**
ISCO	baz=116 **Idaho Springs**	**6.61**	**300**	IAmb_Lg		23 12 55.4	
SLM	comp=Z,180nm,0.8s **Saint Louis**	**6.62**	**70**	IAmb_Lg		23 12 52.7	
143A	comp=Z,377nm,0.8s **Socs Landing,**	**6.86**	**123**	IAmb_Lg		23 13 15.1	
MET	comp=Z,272nm,0.9s **Memphis–Engin**	**6.89**	**101**	IAmb_Lg		23 13 05.9	
ANMO	comp=Z,437nm,0.8s **Albuquerque**	**6.93**	**258**	Pn	**Pn**	**23 10 58.6**	**0.0**
ANMO	comp=Z,0.5nm,0.3s,baz=88,slow=14,SNR=13			Pg	**Pb**	**23 11 20.1**	**+2.5**
ANMO	comp=Z,6.1nm,0.3s,baz=79,slow=15,SNR=12			Lg	Lg	23 12 51.7	
ANMO	comp=Z,6.3nm,0.3s,baz=138,slow=20,SNR=9.1			LR	LR	23 13 57.3	
ANMO	comp=Z,80nm,21.0s,baz=74,slow=41 **Albuquerque**	**6.93**	**258**	P	**Pn**	**23 10 58.4**	**-0.2**
S22A	baz=73 **4UR Ranch, Cre**	**6.97**	**281**	P	**Pn**	**23 10 59.4**	**+0.1**
ECSD	baz=96 **EROS Data Cent**	**7.15**	**9**	P	**Pn**	**23 11 00.8**	**-0.7**
ECSD	baz=191,SNR=37			S	**Sn**	**23 12 21.0**	**-1.5**
ECSD	baz=191 **EROS Data Cent**	**7.15**	**9**	IAmb_Lg		23 13 13.3	
ECSD	comp=Z,144nm,0.8s **EROS Data Cent**	**7.15**	**9**	P		23 11 01.0	
S44A	baz=191,SNR=18 **Carbondale**	**7.21**	**79**	IAmb_Lg		23 13 17.8	
PHWY	comp=Z,389nm,0.8s **Pilot Hill**	**7.29**	**311**	IAmb_Lg		23 13 18.6	
N23A	comp=Z,284nm,1.1s **Red Feather La**	**7.37**	**307**	P	**Pn**	**23 11 05.4**	**+0.7**
P43A	baz=123,SNR=10 **Skaggs, Pawnee**	**7.45**	**64**	P		23 11 06.7	
OXF	baz=249 **Oxford**	**7.48**	**104**	P	**Pn**	**23 11 06.8**	**+0.7**
OXF	baz=289,SNR=28 **Oxford**	**7.48**	**104**	IAmb_Lg		23 13 18.0	
OXF	comp=Z,376nm,0.9s **Oxford**	**7.48**	**104**	P		23 11 06.9	
Y22D	baz=289,SNR=11 **IRIS PASSCAL I**	**7.58**	**253**	IAmb_Lg		23 13 31.9	
Y45A	comp=Z,317nm,0.9s **Yeager Farm, C**	**7.62**	**109**	IAmb_Lg		23 13 33.9	
L40A	comp=Z,276nm,0.9s **Anamosa**	**7.62**	**43**	IAmb_Lg		23 13 22.6	
MNTX	comp=Z,366nm,0.8s **Cornudas Mount**	**7.75**	**232**	P	**Pn**	**23 11 08.8**	**-1.0**
MNTX	baz=48,SNR=22 **Cornudas Mount**	**7.75**	**232**	P		23 11 09.2	
SUSD	baz=48 **Miller**	**7.78**	**356**	P	**Pn**	**23 11 10.6**	**+0.5**
SUSD	baz=176			S	**Sn**	**23 12 37.1**	**-0.9**
SUSD	baz=176 **Miller**	**7.78**	**356**	IAmb_Lg		23 13 43.5	
735A	comp=Z,337nm,1.0s **Kenedy**	**7.81**	**177**	IAmb_Lg		23 13 45.0	
HDIL	comp=Z,216nm,0.9s **Hopedale**	**7.97**	**58**	P	**Pn**	**23 11 14.0**	**+1.2**
HDIL	baz=244,SNR=34 **Hopedale**	**7.97**	**58**	P		23 11 14.2	
344A	baz=244,SNR=14 **Westbrook Farm**	**8.10**	**128**	IAmb_Lg		23 13 54.9	
I37A	comp=Z,176nm,1.2s **Lemond, Waseca**	**8.19**	**25**	IAmb_Lg		23 13 54.7	
OLIL	comp=Z,221nm,0.8s **Olney**	**8.27**	**73**	IAmb_Lg		23 13 51.4	
WVT	comp=Z,293nm,0.8s **Waverly**	**8.38**	**91**	P	**Pn**	**23 11 19.0**	**+0.6**
WVT	baz=277 **Waverly**	**8.38**	**91**	IAmb_Lg		23 14 04.6	
833A	comp=Z,135nm,0.7s **Chaparral WMA,**	**8.39**	**187**	P	**Pn**	**23 11 18.3**	**-0.3**
PLAL	baz=6.1 **Pickwick Lake**	**8.40**	**99**	IAmb_Lg		23 13 55.7	
USIN	comp=Z,182nm,0.8s **University of**	**8.49**	**78**	IAmb_Lg		23 13 56.5	
146A	comp=Z,292nm,0.9s **Union**	**8.54**	**115**	IAmb_Lg		23 14 14.0	
RWWY	comp=Z,138nm,1.1s **Rawlins**	**8.60**	**308**	IAmb_Lg		23 14 04.1	
O20A	comp=Z,110nm,0.9s **White River Ci**	**8.60**	**297**	IAmb_Lg		23 14 10.8	
TX31	comp=Z,152nm,1.3s **Lajitas Ar. Si**	**8.64**	**214**	P		23 11 21.4	
TXAR	baz=30 **Lajitas Array**	**8.64**	**214**	Pn	**Pn**	**23 11 20.2**	**-1.9**
TXAR	comp=Z,2.9nm,0.3s,baz=37,slow=11,SNR=94			Lg	Lg	23 13 41.8	
RSSD	comp=Z,6.1nm,0.3s,baz=51,slow=16,SNR=5.3 **Black Hills**	**8.66**	**331**	P	**Pn**	**23 11 23.0**	**+0.6**
RSSD	baz=148 **Black Hills**	**8.66**	**331**	IAmb_Lg		23 14 11.5	
PV04	comp=Z,148nm,0.9s **Paradox Valley**	**8.67**	**285**	IAmb_Lg		23 14 00.0	
JFWS	comp=Z,127nm,1.1s **Jewell Farm**	**8.73**	**42**	P	**Pn**	**23 11 22.7**	**-0.5**
K22A	baz=227,SNR=9.2 **Casper**	**8.76**	**315**	P	**Pn**	**23 11 23.2**	**-0.5**
K22A	baz=131 **Casper**	**8.76**	**315**	IAmb_Lg		23 14 16.9	
T47A	comp=Z,294nm,1.1s **Sharon Grove**	**8.90**	**85**	IAmb_Lg		23 14 12.7	
121A	comp=Z,181nm,0.8s **Cookes Peak, D**	**8.91**	**245**	P	**Pn**	**23 11 25.1**	**-0.8**
Z47A	baz=60 **Carrollton**	**9.01**	**110**	IAmb_Lg		23 14 16.1	
P46A	comp=Z,160nm,1.1s **Rosedale**	**9.14**	**68**	IAmb_Lg		23 14 10.3	
I40A	comp=Z,241nm,0.7s **Norwalk**	**9.24**	**36**	IAmb_Lg		23 14 20.5	
V48A	comp=Z,150nm,0.8s **Smith Brothers**	**9.25**	**92**	IAmb_Lg		23 14 10.9	
F33A	comp=Z,174nm,0.9s **5 Mile Ranch,**	**9.26**	**8**	IAmb_Lg		23 14 26.8	
X48A	comp=Z,120nm,0.7s **Hartselle**	**9.36**	**100**	IAmb_Lg		23 14 26.5	
SFIN	comp=Z,118nm,0.8s **Lafayette**	**9.45**	**64**	P	**Pn**	**23 11 32.9**	**-0.2**
SFIN	baz=251,SNR=5.5 **Lafayette**	**9.45**	**64**	IAmb_Lg		23 14 25.4	
SPMN	comp=Z,206nm,0.7s **Marine on St.**	**9.46**	**24**	P	**Pn**	**23 11 32.5**	**-0.7**
SPMN	baz=208,SNR=9.0 **Marine on St.**	**9.46**	**24**	IAmb_Lg		23 14 24.4	
HQIL	comp=Z,106nm,0.8s **Hanson Quary C**	**9.52**	**54**	IAmb_Lg		23 14 30.5	
	comp=Z,252nm,0.8s						

CLTN	Cedars of Leba	9.59	90	IAmb_Lg			23 14 24.4	
	comp=Z,142nm,0.9s							
WCI	Wyandotte Cave	9.60	77	P		Pn	23 11 36.2	+1.2
	baz=264							
WCI	Wyandotte Cave	9.60	77	IAmb_Lg			23 14 35.6	
	comp=Z,176nm,0.8s							
L44A	Lake County Fo	9.67	52	P		Pn	23 11 36.2	+0.2
	baz=239							
LRAL	Lakeview Retre	9.90	108	P		Pn	23 11 38.5	-0.7
	baz=295							
BW06	Boulder Array	10.65	308	P		Pn	23 11 49.0	-0.7
	baz=121							
PDAR	Pinedale Array	10.65	308	Pn		Pn	23 11 48.7	-1.0
	comp=Z,0.3nm,0.3s,baz=114,slow=15,SNR=20							
PDAR				Pg			23 12 32.9	
	comp=Z,0.9nm,0.3s,baz=86,slow=24,SNR=5.6							
PDAR				LR		LR	23 16 38.0	
	comp=Z,34nm,20.4s,baz=132,slow=42							
P49A	Miami Univ. Ec	11.00	71	P		Pn	23 11 53.5	-0.8
	baz=259							
LAO	LASA Array	11.65	332	P		Pn	23 12 03.2	0.0
	baz=147							
TKL	Tuckaleechee C	11.71	91	Pn		Pn	23 12 06.1	+2.1
	comp=Z,1.1nm,0.3s,baz=236,slow=8.7,SNR=21							
TKL				Lg		Lg	23 15 19.3	
	comp=Z,5.2nm,0.3s,baz=157,slow=13,SNR=10							
TKL				LR		LR	23 15 48.9	
	comp=Z,31nm,21.6s,baz=293,slow=33							
AGMN	Agassiz Nation	11.74	8	P		Pn	23 12 00.8	-3.6
	baz=190,SNR=6.3							
TZTN	Tazewell	11.78	86	P		Pn	23 12 07.0	+2.1
	baz=275							
EYMN	Ely	12.30	22	P		Pn	23 12 08.7	-3.3
	baz=206,SNR=13							
ACSO	Alum Creek Sta	12.45	69	P		Pn	23 12 12.9	-1.2
	baz=259							
AAM	Ann Arbor	12.55	59	P		Pn	23 12 14.6	-0.9
	baz=248							
P52A	Corning	12.99	72	P		Pn	23 12 20.7	-0.8
	baz=262							
GLMI	Grayling	13.11	47	P		Pn	23 12 20.0	-3.1
	baz=236,SNR=5.9							
ULM	Lac du Bonnet	13.67	6	Pn		Pn	23 12 25.9	-4.8
	comp=Z,3.1nm,0.3s,baz=184,slow=12,SNR=15							
ULM				Sn		Sn	23 14 50.7	-12
	comp=Z,1.0nm,0.3s,baz=108,slow=17,SNR=3.9							
ULM				Lg		Lg	23 16 21.4	
	comp=Z,0.9nm,0.3s,baz=272,slow=22,SNR=3.2							
KMSC	Kings Mountain	13.76	91	P		Pn	23 12 32.0	-0.1
	baz=281							
O53A	New Philadelph	13.78	70	P		Pn	23 12 31.0	-1.2
	baz=260							
EGMT	Eagleton	14.17	327	P		Pn	23 12 36.1	-1.6
	baz=139							
BLA	Blacksburg	14.23	83	P		Pn	23 12 37.9	-0.6
	baz=273							
GMRC	Granite Mounta	14.31	268	P		Pn	23 12 40.5	+0.9
	baz=77							
M53A	WI Miller and	14.42	65	P		Pn	23 12 39.3	-1.7
	baz=256							
N54A	Moraine State	14.82	68	P		Pn	23 12 44.7	-1.9
	baz=259							
M54A	Oil Creek Stat	15.18	66	P		Pn	23 12 49.9	-1.3
	baz=258							
PFO	Pinyon Flats O	15.25	264	LR		LR	23 19 06.8	
	comp=Z,64nm,20.8s,baz=35,slow=39							
NVAR	Mina Array Bea	16.04	282	Pn		P	23 13 05.8	-0.3
	comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=9.8							
EDW2	Edwards Air Fo	16.16	270	P		Pn	23 13 02.6	-1.5
	baz=78							
SSPA	Standing Stone	16.35	70	P		Pn	23 13 04.5	-1.9
	baz=263							
NEW	Newport	18.08	316	LR		LR	23 20 50.1	
	comp=Z,47nm,21.9s,baz=120,slow=39							
YBH	Yreka Blue Hor	19.62	292	P		Pn	23 13 46.6	-0.3
	comp=Z,0.1nm,0.3s,baz=88,slow=5.0,SNR=7.4							
CMIG	Matias Romero	19.73	171	LR		LR	23 22 44.9	
	comp=Z,42nm,18.9s,baz=0.0,slow=41							
YKA	Yellowknife Ar	27.77	344	LR		LR	23 26 36.0	
	comp=Z,60nm,18.0s,baz=0.0,slow=38							
FRB	Frobisher Bay	32.50	24	LR		LR	23 28 42.7	
	comp=Z,55nm,19.3s,baz=214,slow=36							
ILAR	Eielson Array	40.11	330	P		P	23 16 53.8	+1.6
	comp=Z,0.6nm,0.7s,baz=108,slow=7.7,SNR=7.4							
ARCES	ARCESS Array B	66.43	19	P		P	23 20 06.2	+0.6
	comp=Z,1.7nm,0.9s,baz=313,slow=5.9,SNR=8.3							
FINES	FINESS Array B	72.30	25	P		P	23 20 43.1	+1.0
	comp=Z,0.8nm,0.7s,baz=343,slow=6.0,SNR=4.6							

*IDC **10** 23:14:47.8±48.0, 16°.88S×176°.87W, h606km±29km, mb3.6/3, mb1 3.7/4, mb1mx2.9/33, mbtmp4.5/4, Error ellipse: s-maj=827.4km s-min=117.6km az=78.0*
*NEIC **10** 23:14:54.0±1.7, 17°.4S±0°.1×177°.6W±0°.2, h608km±17km, mb4.2/26, Error ellipse: s-maj=25.9km s-min=15.4km az=83.0*
ISC 10 23:14:53.2±1.1, 17°.33S±0°.10×177°.7W±0°.2, h600km, n39, σ0°98/39, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.10	264	P		P	23 16 20.6	+1.1
	4.0nm,0.3s,baz=127,slow=9.7,SNR=13							
MSVF	Nonsavu	4.10	264	P		P	23 16 20.5	+1.0
FUNA	Funafuti	9.27	340	P		P	23 17 05.6	+0.7
RAO	Raoul Island	11.87	181	P		P	23 17 31.7	+1.1
MARNC	Mare, Loyalty	14.10	251	P		P	23 17 52.9	-0.2
LIFNC	LIFOU	14.67	254	P		P	23 17 56.5	-2.0
PINNC	Pines Island,	14.94	247	P		P	23 18 00.0	-0.9
OUENC	Ouen Island, N	15.42	248	P		P	23 18 04.7	-0.5
OUENC				IAmb		IAmb	23 18 16.6	
	comp=Z,14nm,0.8s							
KNTN	Kanton	15.60	23	P		P	23 18 06.8	-0.3
KNTN				IAmb		IAmb	23 18 10.8	
	comp=Z,22nm,1.0s							
ONTNC	Ouen Toro	15.73	249	P		P	23 18 08.4	+0.3
OUZ	Omahuta	19.44	202	P		P	23 18 42.5	+0.7
OUZ				IAmb		IAmb	23 19 01.2	
	comp=Z,11nm,1.1s							
MSWZ	Moikau Station	24.77	193	P		P	23 19 27.1	-2.1
LTZ	Lake Taylor	26.78	197	P		P	23 19 47.2	+0.3
LTZ				IAmb		IAmb	23 20 03.2	
	comp=Z,4.8nm,1.2s							
FOZ	Fox Glacier	28.19	199	P		P	23 19 59.7	+0.5
LBZ	Lake Benmore	28.85	198	P		P	23 20 05.3	+0.4
WKZ	Wanaka	29.61	199	P		P	23 20 11.2	-0.2
WKZ				IAmb		IAmb	23 20 27.6	
	comp=Z,6.5nm,0.9s							
EIDS	Eidsvold	30.12	249	P		P	23 20 16.1	-0.1
EIDS				IAmb		IAmb	23 20 33.5	
	comp=Z,5.5nm,1.1s							
MLZ	Mavora Lakes	30.38	200	P		P	23 20 18.0	-0.1
MLZ				IAmb		IAmb	23 20 22.7	
	comp=Z,5.5nm,1.1s							
ARMA	Armidale	30.84	239	P		P	23 20 20.1	-2.2
ARMA				IAmb		IAmb	23 20 29.4	
	comp=Z,6.1nm,1.1s							
WHZ	Wether Hill Ro	30.90	200	P		P	23 20 23.5	+1.1
WHZ				IAmb		IAmb	23 20 30.9	
	comp=Z,10nm,1.1s							
PATS	Pohnpei	33.76	313	P		P	23 20 46.0	-1.0
CTAO	Charters Tower	34.24	260	P		P	23 20 50.8	-0.2
TOO	Toolangi	38.08	231	P		P	23 21 23.6	+1.3
TOO				IAmb		IAmb	23 21 31.9	
	comp=Z,8.2nm,1.0s							
STKA	Stephens Creek	39.52	241	P		P	23 21 35.2	+1.2
	comp=Z,2.8nm,0.4s,baz=86,slow=12,SNR=5.9							
STKA	Stephens Creek	39.52	241	P		P	23 21 34.9	+1.0
MCQ	Macquarie Isla	41.24	201	P		P	23 21 44.9	-2.2
WR0	Warramunga Arr	45.24	259	P		P	23 22 19.2	+0.5
WB0	Warramunga Arr	45.39	259	P		P	23 22 20.1	+0.2
WB2	Warramunga Arr	45.42	259	P		P	23 22 20.3	+0.2
WB2				IAmb		IAmb	23 22 21.0	
	comp=Z,2.4nm,0.5s							
WRA	Warramunga Arr	45.43	259	P		P	23 22 20.5	+0.3
	comp=Z,1.8nm,0.5s,baz=94,slow=6.8,SNR=55							
WRA	Warramunga Arr	45.43	259	P		P	23 22 20.7	+0.5
AS31	Alice Springs	45.62	254	P		P	23 22 22.3	+0.7
AS31				IAmb		IAmb	23 22 23.3	
	comp=Z,4.8nm,0.6s							
ASAR	Alice Springs	45.62	254	P		P	23 22 22.4	+0.7
	comp=Z,16nm,0.5s,baz=88,slow=8.3,SNR=243							
ASAR	Alice Springs	45.62	254	P		P	23 22 21.9	+0.2
FORT	Forrest	50.89	244	P		P	23 23 00.8	+0.3
KNRA	Kununurra	51.25	264	P		P	23 23 03.7	+0.4
KNRA				IAmb		IAmb	23 23 04.7	
	comp=Z,5.1nm,0.8s							
PSA00	Pilbara Seismi	58.73	255	P		P	23 23 55.9	+0.7
NWAO	Narrogin (SRO)	60.10	242	P		P	23 24 03.8	-0.4
NWAO				IAmb		IAmb	23 24 08.7	
	comp=Z,10nm,1.1s							
GIRL	Giralia	63.73	253	P		P	23 24 26.6	-1.2

*MEX **10** 23:51:11.0±1.9, 15°.63N×96°.91W, h16km, MD5.0*
*NEIC **10** 23:51:13.2±1.6, 15°.92N±0°.06×96°.74W±0°.04, h15km±3km, Error ellipse: s-maj=9.4km s-min=4.1km az=208.0*
*IDC **10** 23:51:14.1±6.3, 15°.75N×96°.67W, h34km±45km, mb4.0/14, mb1 4.2/15, mb1mx4.0/41, mbtmp4.2/15, ML3.6/1, MS3.4/10, Ms1 3.5/10, ms1mx3.2/27, Error ellipse: s-maj=35.6km s-min=18.8km az=35.0*
ISC 10 23:51:10.5±0.8, 15°.77N±0°.04×96°.82W±0°.03, h13km±5km, n625, σ1°21/628, mb4.7/158, MS3.5/8, 8C-2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PANG	Puerto Angel	0.35	107	eP		Pg	23 51 18.0	+0.3
PANG				iS		Sg	23 51 23.8	+1.3
PANG	Puerto Angel	0.35	107			Pg	23 51 18.0	+0.3
PANG						Sg	23 51 23.8	+1.3
PEIG	Puerto Escondi	0.39	306	eP		Pg	23 51 18.3	0.0
PEIG				iS		Sg	23 51 24.1	+0.6
HUIG	Huatulco	0.69	90	iP		Pb	23 51 23.5	-0.9
HUIG	Huatulco	0.69	90			Pb	23 51 23.5	-0.9
YOIG	Yosondua	1.28	327	iP		Pn	23 51 33.5	-1.0
YOIG				eS		Sb	23 51 51.6	+0.4
VHO	Vista Hermosa	1.30	4	eP		Pn	23 51 34.5	-0.1
VHO				iS		Sg	23 51 53.6	+1.2
HLIG	Huajuapan de L	2.25	335	eP		Pn	23 51 50.0	+2.2
MGIG	Malinaltepec	2.27	310	eP		Pn	23 51 50.1	+2.3
MGIG				eS		Sb	23 52 20.4	+1.0
CMIG	Matias Romero	2.28	55	Pn		Pn	23 51 46.4	-1.5
	19nm,0.3s,baz=267,slow=24,SNR=193							
CMIG				LR		LR	23 52 17.8	
	comp=Z,454nm,19.6s,baz=208,slow=29							
CMIG				Lg		Lg	23 52 25.9	
	290nm,0.3s,baz=334,slow=20,SNR=17							
CMIG	Matias Romero	2.28	55	eP		Pn	23 51 46.4	-1.5
CMIG				eS		Sg	23 52 24.6	+0.8
CMIG	Matias Romero	2.28	55			Pn	23 51 46.4	-1.5
CMIG						Sg	23 52 24.6	+0.8
TOIG	Toxpalan	2.32	354	eP		Pb	23 51 52.3	-0.1
CRIG	Cruz Grande	2.42	294	eP		Pn	23 51 48.3	-1.5
CRIG	Cruz Grande	2.42	294			Pn	23 51 48.3	-1.5
TLIG	Tlapa	2.44	317	eP		Pn	23 51 50.6	+0.3
TLIG	Tlapa	2.44	317	Pn		Pn	23 51 51.0	+0.7
TPIG	Tehuac#an	2.68	349	eP		Pb	23 51 58.6	0.0
TPIG	Tehuac#an	2.68	349			Pb	23 51 58.6	0.0
DAIG	Los Arroyos	2.98	295	eP		Pn	23 51 59.1	+1.4
DAIG	Los Arroyos	2.98	295			Pn	23 51 59.1	+1.4
MEIG	Mezcala	3.43	309	eP		Pn	23 52 04.6	+0.8
MEIG	Mezcala	3.43	309			Pn	23 52 04.6	+0.8
PCIG		3.47	91	eP		Pn	23 52 03.0	-1.3
PCIG		3.47	91			Pn	23 52 03.0	-1.3
CAIG	El Cayaco	3.54	291	eP		Pn	23 52 06.0	+0.8
CAIG	El Cayaco	3.54	291			Pn	23 52 06.0	+0.8
PLIG	Platanillo	3.66	316	eP		Pb	23 52 13.0	-2.1
PLIG				e			23 56 09.0	
PLIG	Platanillo	3.66	316			Pb	23 52 13.0	-2.1
TGIG		3.69	74	eP		Pn	23 52 04.9	-2.5
TGIG		3.69	74			Pn	23 52 04.9	-2.5
PPM	Popocatepetl	3.70	333	eP		Pn	23 52 10.5	+2.5
LVIG	Laguna Verde	3.95	6	eP		Pn	23 52 11.4	+0.5
LVIG	Laguna Verde	3.95	6			Pn	23 52 11.4	+0.5
MAVM	Malinalco, Edo	4.07	322	eP		Pb	23 52 18.8	-3.4
MAVM	Malinalco, Edo	4.07	322			Pb	23 52 18.8	-3.4
ARIG	Puente Sto Nin	4.19	307	eP		Pn	23 52 15.6	+1.3
ARIG	Puente Sto Nin	4.19	307			Pn	23 52 15.6	+1.3
PTVM	Pico Tres Padr	4.38	330	eP		Pb	23 52 26.0	-1.6
PTVM	Pico Tres Padr	4.38	330			Pb	23 52 26.0	-1.6
VTVM	Tizayuca	4.39	335	eP		Pb	23 52 31.5	+3.7
VTVM	Tizayuca	4.39	335			Pb	23 52 31.5	+3.7
CCIG	Comitan	4.53	83	eP		Pn	23 52 16.3	-2.8
CCIG	Comitan	4.53	83			Pn	23 52 19.2	+0.1
ZIIG	Zihuatanejo	4.81	293	eP		Pn	23 52 22.9	+0.2
ZIIG				eS		Sn	23 53 11.9	-6.4
ZIIG	Zihuatanejo	4.81	293			Pn	23 52 22.9	+0.2
ZIIG						Sn	23 53 11.9	-6.4
DEIG	Demacu	4.97	335	eP		Pn	23 52 29.7	+4.5
ACIG	Acambay	5.10	326	eP		Pb	23 52 41.4	+1.7
RTAL	Retalhuleu	5.11	103	Pn		Pn	23 52 28.1	+1.3
MOIG	Morelia	5.69	314	eP		Pb	23 52 46.1	-3.8
MOIG				eS		Sb	23 53 52.3	-5.9
MMIG	Aquila	6.72	293	eP		Pn	23 52 50.2	+1.2
MMIG				eS		Sb	23 54 27.7	+0.1
MMIG	Aquila	6.72	293			Pn	23 52 50.2	+1.2
MMIG						Sb	23 54 27.7	+0.1
PETF	Flores	6.77	79			Pn	23 52 47.9	-1.9
RPIG	Rio Verde	6.78	334	eP		Pg	23 53 19.0	-1.3
RPIG				eS		Sg	23 54 45.6	-2.5
ESQI	Esquipulas	7.32	98	Pn		Pn	23 52 58.8	+1.4
MTO3	Montecristo	7.34	100			Pn	23 52 59.0	+1.3
GTIG	Gomez Farias	7.59	343	eP		Pb	23 53 25.8	+3.7
ZAIG	Zacatecas	8.82	323	Pn		Pn	23 53 20.4	+2.2
833A	Chaparral WMA,	12.72	350	P		Pn	23 54 11.1	-0.1
	baz=168							
JTS	Las Juntas de	12.78	114	Pn		Pn	23 54 11.1	-1.0
735A	Kenedy	13.05	356	Pn		Pn	23 54 11.7	-4.1
RIMA	Rio Macho	13.97	114	Pn		Pn	23 54 29.1	+0.5
PEZE	Perez Zeledon,	14.31	115	Pn		Pn	23 54 32.0	-1.1
DRK0	Durika	14.74	114	Pn		Pn	23 54 36.6	-2.5
JCT	Junction City	14.89	350	P		Pn	23 54 40.3	-0.7
	baz=168							
JCT	Junction City	14.89	350	Pn		Pn	23 54 41.5	+0.6
JCT				IAmb		IAmb	23 54 56.6	
	comp=Z,16nm,0.8s							
TX31	Lajitas Ar. Si	14.90	336	Pn		Pn	23 54 42.8	+1.8
TX32	Lajitas Array	14.90	336	Pn		Pn	23 54 42.6	+1.5
TXAR	Lajitas Array	14.90	336	Pn		Pn	23 54 42.0	+0.9
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=9.6							
TXAR				Lg		Lg	23 59 12.5	
	comp=Z,0.0nm,0.3s,baz=158,slow=20,SNR=4.1							
TXAR				LR		LR	00 01 07.9	
	comp=Z,235nm,19.9s,baz=0.0,slow=40							
TXAR	Lajitas Array	14.90	336	Pn		Pn	23 54 41.2	+0.1
435B	Jarrell	14.96	357	P		Pn	23 54 41.6	-0.2
	baz=177							
435B	Jarrell	14.96	357			Pn	23 54 41.9	+0.1
435B				IAmb		IAmb	23 55 03.7	
	comp=Z,26nm,0.7s							
NATX	Nacogdoches	16.04	7	Pn		Pn	23 54 56.5	+0.6
342A	Flagon Creek P	16.07	14			Pn	23 54 57.0	+0.8
342A				IAmb		IAmb	23 55 01.7	
	comp=Z,62nm,0.8s							
WHTX	Lake Whitney,	16.16	358	P		Pn	23 54 56.5	-0.9
	baz=177							
WHTX	Lake Whitney,	16.16	358	Pn		Pn	23 54 56.7	-0.7
WHTX				IAmb		IAmb	23 55 31.5	
	comp=Z,32nm,0.9s							
344A	Westbrook Farm	16.57	19	Pn		Pn	23 55 03.6	+0.9
ABTX	Abilene, Hawle	16.97	352	P		Pn	23 55 07.1	-0.7
	baz=170,SNR=7.1							
ABTX	Abilene, Hawle	16.97	352			Pn	23 55 07.8	0.0
VBMS	Vicksburg	17.35	18			Pn	23 55 11.6	-0.8
VBMS				IAmb		IAmb	23 55 25.1	
	comp=Z,79nm,0.8s							
Z35A	Perchaven, San	17.49	359			Pn	23 55 15.2	+1.0
Z38A	Mt. Pleasant	17.49	5	Pn		Pn	23 55 14.1	-0.1
Z38A				IAmb		IAmb	23 55 24.5	
	comp=Z,29nm,0.8s							
143A	Socs Landing,	17.56	15	P		Pn	23 55 14.2	-0.9
143A				IAmb		IAmb	23 55 23.9	
	comp=Z,74nm,1.1s							
MNTX	Cornudas Mount	17.67	335	P		Pn	23 55 16.7	+0.2
	baz=151,SNR=17							
MNTX	Cornudas Mount	17.67	335			Pn	23 55 17.5	+1.0
BRAL	Brewton	17.74	29	Pn		Pn	23 55 16.6	-0.7
BRAL				IAmb		IAmb	23 55 42.9	
	comp=Z,58nm,1.3s							
Z41A	Richland Creek	17.79	11	P		Pn	23 55 17.0	-0.9
	baz=192,SNR=6.8							
LOOK	Love County	18.15	359	P		Pn	23 55 22.5	+0.2
LOOK				IAmb		IAmb	23 55 45.8	
	comp=Z,27nm,0.8s							
WLAR	White Oak Lake	18.15	10			Pn	23 55 21.5	-0.9
WLAR				IAmb		IAmb	23 55 42.8	
	comp=Z,26nm,0.7s							
146A	Union	18.21	21	P		Pn	23 55 21.9	-1.3
146A				IAmb		IAmb	23 55 24.5	
	comp=Z,29nm,0.8s							
SRIG	Santa Rosalia	18.36	311	P		P	23 55 25.5	+0.5
SRIG				IAmb		IAmb	23 56 12.9	
	comp=Z,39nm,0.8s							
CCAR	Cane Creek	18.63	13	P		P	23 55 28.4	+0.5
CCAR				IAmb		IAmb	23 55 37.0	
	comp=Z,78nm,1.1s							
X34A	Smith Ranch, M	18.77	357			P	23 55 29.9	+0.4
X34A				IAmb		IAmb	23 55 58.7	
	comp=Z,20nm,0.7s							
250A	Grady	18.78	29	P		P	23 55 29.8	+0.2
X37A	Clayton	18.78	4	P		Pn	23 55 30.5	+0.4
MSTX	Muleshoe	18.90	345	P		P	23 55 31.1	0.0
	baz=162,SNR=15							
MSTX	Muleshoe	18.90	345	P		P	23 55 30.9	-0.1
MSTX				IAmb		IAmb	23 55 33.7	
	comp=Z,36nm,0.9s							
MIAR	Mount Ida	18.92	8	P		P	23 55 30.2	-0.9
	baz=189,SNR=56							
MIAR	Mount Ida	18.92	8	P		P	23 55 31.0	-0.1
MIAR				IAmb		IAmb	23 55 40.2	
	comp=Z,57nm,0.8s							
060A	Indiantown	18.96	51	P		P	23 55 32.1	+0.4
WMOK	Wichita Mounta	18.97	355	P		P	23 55 31.2	-0.5
	baz=174,SNR=6.4							
WMOK	Wichita Mounta	18.97	355	P		P	23 55 31.9	+0.2
X40A	Basin Creek Fa	18.98	10	P		P	23 55 30.8	-1.0
	baz=192							
X40A	Basin Creek Fa	18.98	10	P		P	23 55 31.0	-0.7
352A	Blakely	19.03	33	P		P	23 55 31.7	-0.7
Z47A	Carrollton	19.07	23	P		P	23 55 32.2	-0.7
Z47A				IAmb		IAmb	23 55 41.9	
	comp=Z,22nm,0.8s							
Y45A	Yeager Farm, C	19.18	19	P		P	23 55 34.0	+0.1
Y45A				IAmb		IAmb	23 55 42.4	
	comp=Z,28nm,0.6s							
319A	Douglas	19.25	326	P		P	23 55 35.1	+0.1
LRAL	Lakeview Retre	19.36	26	P		P	23 55 34.7	-1.2
	baz=210							
LRAL	Lakeview Retre	19.36	26	P		P	23 55 36.3	+0.4
LRAL						Sn	23 59 07.5	-6.5
FNO	Franklin	19.41	359	P		P	23 55 37.5	+1.0
FNO				IAmb		IAmb	23 55 54.1	
	comp=Z,44nm,0.7s							
121A	Cookes Peak, D	19.43	331	P		P	23 55 37.1	+0.1
	baz=146,SNR=6.1							
121A	Cookes Peak, D	19.43	331	P		Pn	23 55 38.8	+0.7
AMTX	Amarillo	19.52	348	P		P	23 55 37.8	-0.1
	baz=165							
AMTX	Amarillo	19.52	348			P	23 55 38.5	+0.6
W39A	Magazine	19.53	7	P		P	23 55 36.2	-1.6
	baz=188							
W39A	Magazine	19.53	7	P		Pn	23 55 39.1	0.0
W39A				IAmb		IAmb	23 56 05.5	
	comp=Z,23nm,0.8s							
OKCFA	Oklahoma City	19.57	358	P		P	23 55 38.9	+0.6
OKCFA				IAmb		IAmb	23 55 41.2	
	comp=Z,25nm,0.8s							
TIGA	Tifton	19.72	35	P		P	23 55 40.4	+0.4
TIGA				IAmb		IAmb	23 55 59.4	
	comp=Z,16nm,0.7s							
OK025	Westminster Rd	19.73	359	P		P	23 55 40.3	+0.2
OK025				IAmb		IAmb	23 55 48.0	
	comp=Z,19nm,0.8s							
W41B	Gary Mavity, V	19.75	11	P		P	23 55 39.9	-0.3
	baz=193							
BCOK	Bluff Creek, N	19.82	358	P		P	23 55 41.5	+0.6
OXF	Oxford	19.82	18	P		P	23 55 40.3	-0.6
	baz=201,SNR=7.5							
OXF	Oxford	19.82	18	P		P	23 55 40.7	-0.2
OXF				IAmb		IAmb	23 55 41.6	
	comp=Z,32nm,0.8s							
WHAR	Wooly Hollow	19.86	11	P		P	23 55 42.0	+0.6
WHAR				IAmb		IAmb	23 56 11.4	
	comp=Z,22nm,0.9s							
OK029	Liberty Lake	19.95	358	P		P	23 55 42.3	-0.1
TUL1	Leonard	20.08	2	P		P	23 55 43.9	+0.1
	baz=182							
152A	Waverly Hall	20.09	31	P		P	23 55 43.1	-0.8
OK031	S. Brethren Rd	20.10	360	P		P	23 55 44.6	+0.6
OK031				IAmb		IAmb	23 55 52.3	
	comp=Z,31nm,1.0s							
Y49A	Blount Mountai	20.31	26	P		P	23 55 45.9	-0.5
Y49A				IAmb		IAmb	23 55 52.8	
	comp=Z,19nm,0.8s							
QUOK	Quay	20.32	0	P		P	23 55 47.9	+1.5
QUOK				IAmb		IAmb	23 55 49.0	
	comp=Z,28nm,0.9s							
BNM	Barren Site	20.32	336			Pn	23 55 49.3	+0.6
Y22D	IRIS PASSCAL I	20.37	335	P		Pn	23 55 49.0	-0.2
Y22D				IAmb		IAmb	23 55 59.5	
	comp=Z,40nm,0.8s							
Z51A	Franklin	20.40	29	P		P	23 55 46.9	-0.4
HBAR	Harrisburg	20.46	15	P		P	23 55 48.4	+0.5

KAN08 Anthony NE Sta 21.39 357 P P 23 55 58.7 +0.7
GLAT Glass 21.49 17 P P 23 55 58.1 -0.9
X51A Calhoun 21.59 28 P P 23 56 00.3 +0.2
MGMO Mountain Grove 21.68 10 P P 23 56 01.3 +0.3
UTMT University of 21.68 18 P P 23 56 00.6 -0.5
PBMO Poplar Bluff 21.68 14 P P 23 56 00.8 -0.3
SWET Sewanee 21.68 25 P P 23 56 00.1 -1.1
SWET IAmb IAmb 23 56 01.0
comp=Z,19nm,0.8s
214A Organ Pipe Nat 21.71 321 P P 23 56 02.1 +0.6
baz=134
214A Organ Pipe Nat 21.71 321 P P 23 56 01.6 +0.1
PARMO Parma 21.74 16 P P 23 56 02.3 +0.6
HICK Hickman 21.76 17 P P 23 56 01.6 -0.4
V48A Smith Brothers 21.80 22 P P 23 56 01.5 -0.9
V48A IAmb IAmb 23 56 02.6
comp=Z,37nm,0.8s
WVT Waverly 21.80 20 P P 23 56 00.6 -1.8
baz=204
WVT Waverly 21.80 20 P P 23 56 01.5 -0.9
WVT IAmb IAmb 23 56 08.2
comp=Z,22nm,0.8s
HENM Henderson Moun 21.86 16 P P 23 56 02.6 -0.4
SJCC San Jacinto, C 21.89 103 P P 23 56 03.0 -0.5
W50A Signal Mountai 21.93 26 P P 23 56 02.6 -1.2
S39A Bolivar 22.05 7 P P 23 56 05.1 0.0
S39A IAmb IAmb 23 56 16.6
comp=Z,21nm,0.9s
X18A Snowflake 22.09 330 P P 23 56 07.4 +1.6
X18A pP 23 56 08.4 -1.2
CLTN Cedars of Leba 22.30 23 P P 23 56 07.0 -0.7
CLTN IAmb IAmb 23 56 07.6
comp=Z,13nm,0.8s
T25A Trinidad 22.32 344 P P 23 56 08.8 +0.6
baz=160,SNR=15
T25A Trinidad 22.32 344 P P 23 56 09.3 +1.0
T25A IAmb IAmb 23 56 13.2
comp=Z,51nm,1.4s
T45A Paducah 22.37 17 P P 23 56 08.4 -0.2
SFX San Felipe 22.41 316 P P 23 56 09.7 +0.7
SFX IAmb IAmb 23 56 57.9
comp=Z,23nm,1.0s
W52A Murphy 22.45 29 P P 23 56 08.2 -1.2
W18A Petrified Fore 22.48 331 P P 23 56 10.1 +0.2
baz=145
W18A Petrified Fore 22.48 331 P P 23 56 11.5 +1.6
CPCT Cooper Cave 22.48 27 P P 23 56 09.6 -0.1
CPCT IAmb IAmb 23 56 11.6
comp=Z,19nm,0.8s
HODGE Hodges 22.58 33 P P 23 56 09.1 -1.7
TUMC Tumaco 22.59 126 P P 23 56 09.6 -1.4
R32A Long Quarter, 22.62 356 P P 23 56 12.2 +0.9
R32A IAmb IAmb 23 56 13.8
comp=Z,29nm,0.9s
CCM Cathedral Cave 22.74 11 P P 23 56 11.3 -1.1
baz=194
CCM Cathedral Cave 22.74 11 P P 23 56 12.2 -0.2
X16A Lo Mia Camp, P 22.75 327 P P 23 56 14.7 +1.8
X16A IAmb IAmb 23 56 18.2
comp=Z,14nm,0.9s
R40A Maddies Statio 22.79 9 P P 23 56 13.3 +0.3
T47A Sharon Grove 22.82 20 P P 23 56 12.2 -1.2
S44A Carbondale 22.84 16 P P 23 56 13.3 -0.1
BG3 Lake Jocassee 22.84 31 P P 23 56 13.2 -0.3
BG3 IAmb IAmb 23 56 16.3
comp=Z,16nm,1.0s
V51A Loudon 22.85 27 P P 23 56 13.4 -0.2
V51A IAmb IAmb 23 56 15.5
comp=Z,22nm,0.8s
113A Mohawk Valley, 22.86 321 P P 23 56 14.7 +1.0
SIUC Southern Illin 22.87 16 P P 23 56 14.4 +0.7
U49A Red Boiling Sp 22.88 23 P P 23 56 12.8 -1.0
U49A IAmb IAmb 23 56 15.7
comp=Z,24nm,0.8s
NHSC New Hope 22.91 38 P P 23 56 12.0 -2.2
baz=225
TKL Tuckaleechee C 22.98 28 P P 23 56 15.4 +0.4
comp=Z,13nm,0.9s,baz=195,slow=8.8,SNR=15
TKL Tuckaleechee C 22.98 28 P P 23 56 15.5 +0.4
TKL IAmb IAmb 23 56 17.1
comp=Z,19nm,1.0s
CBKS Cedar Bluff 23.10 354 P P 23 56 17.0 +0.8
SDCO Great Sand Dun 23.19 342 P P 23 56 17.1 -0.3
baz=158,SNR=14
SDCO Great Sand Dun 23.19 342 P P 23 56 18.2 +0.7
V52A Sevierville 23.22 28 P P 23 56 17.4 0.0
V52A IAmb IAmb 23 56 25.4
comp=Z,15nm,0.9s
Y14A Wickenburg 23.24 324 P P 23 56 19.5 +1.8
KSU1 Kansas State U 23.24 0 P P 23 56 17.7 +0.1
baz=180
KSU1 Kansas State U 23.24 0 P P 23 56 18.1 +0.5
PAULI Pauline 23.27 33 P P 23 56 18.1 +0.2
LGNH Logne 23.30 80 P P 23 56 19.7 +1.4
V53A Saluda 23.44 30 P P 23 56 19.6 -0.1
SLM Saint Louis 23.50 13 P P 23 56 20.2 0.0
SLM IAmb IAmb 23 56 23.9
comp=Z,16nm,0.6s
USIN University of 23.54 18 P P 23 56 20.9 +0.3
WUAZ Wupatki 23.58 329 P P 23 56 22.4 +1.2
baz=142,SNR=7.2
WUAZ Wupatki 23.58 329 P P 23 56 22.9 +1.7
WUAZ IAmb IAmb 23 56 25.4
comp=Z,18nm,0.9s
S22A 4UR Ranch, Cre 23.61 340 P P 23 56 22.9 +1.3
baz=155
T50A Nancy 23.69 24 P P 23 56 20.5 -1.5
GLA Glamis 23.70 320 P P 23 56 23.5 +1.2
baz=132
GLA Glamis 23.70 320 P P 23 56 23.2 +1.0
GLA IAmb IAmb 23 56 25.1
comp=Z,17nm,0.9s
MVCO Mesa Verde 23.73 336 P P 23 56 23.4 +0.6
baz=151,SNR=5.2
MVCO Mesa Verde 23.73 336 P P 23 56 24.1 +1.3
MVCO IAmb IAmb 23 56 33.1
comp=Z,52nm,1.8s
KMSC Kings Mountain 23.77 33 P P 23 56 21.5 -1.3
baz=220
Y58A Scranton 23.78 37 P P 23 56 24.4 +1.5
Y58A IAmb IAmb 23 56 31.1
comp=Z,22nm,0.8s
TZTN Tazewell 23.82 27 P P 23 56 22.9 -0.5
baz=213
TZTN Tazewell 23.82 27 P P 23 56 23.5 +0.1
TZTN IAmb IAmb 23 56 31.6
comp=Z,13nm,0.8s
BIRD Birdtown, Kers 23.86 35 P P 23 56 22.7 -1.0
P38A Dawn 23.94 6 P P 23 56 24.0 -0.4
P38A IAmb IAmb 23 57 03.1
comp=Z,9.2nm,0.6s
P40A Paris 24.04 9 P P 23 56 25.4 +0.1
P40A IAmb IAmb 23 56 32.3
comp=Z,32nm,1.0s
Q44A Meyer Farm, Va 24.04 15 P P 23 56 25.5 +0.1
Q44A IAmb IAmb 23 56 26.1
comp=Z,25nm,0.9s
OLIL Olney 24.13 17 P P 23 56 26.2 0.0
OLIL IAmb IAmb 23 56 26.7
comp=Z,23nm,0.8s
WCI Wyandotte Cave 24.22 21 P P 23 56 26.7 -0.4
baz=205
WCI Wyandotte Cave 24.22 21 P P 23 56 26.8 -0.3
SWSC Sam W. Stewart 24.25 318 P P 23 56 28.2 +0.9
baz=130
IKP In-Ko-Pah, Jac 24.26 317 P P 23 56 29.0 +1.5
baz=129
Y59A Loris 24.31 38 P P 23 56 27.9 0.0
V55A Taylorsville 24.38 32 P P 23 56 27.4 -1.1
V55A IAmb IAmb 23 56 34.8
comp=Z,10.0nm,0.8s
CBX Cerro Bola 24.41 316 P P 23 56 29.1 0.0
URIC Uribia, Colomb 24.45 96 P P 23 56 30.2 +0.9
BC3 Big Chuckawall 24.49 320 P P 23 56 31.0 +1.3
baz=132,SNR=6.4
W57A Gilead 24.49 35 P P 23 56 27.4 -2.2
W57A IAmb IAmb 23 56 28.9
comp=Z,10nm,0.9s
PV01 Paradox Valley 24.57 337 P P 23 56 32.0 +1.5
PV01 IAmb IAmb 23 56 34.5
comp=Z,25nm,1.0s
SDDR Presa de Saban 24.57 79 P 23 56 31.2 +0.7
SDDR IAmb IAmb 23 57 04.8
comp=Z,19nm,1.1s

W13A Hualapai Mount 24.58 325 P P 23 56 32.0 +1.3
U54A Nelsons Funny 24.60 30 P P 23 56 30.1 -0.5
U54A IAmb IAmb 23 56 36.4
comp=Z,16nm,0.8s
MONP2 Monument Peak 24.61 317 P P 23 56 32.3 +1.3
baz=129
P43A Skaggs, Pawnee 24.62 14 P P 23 56 31.1 +0.3
P43A IAmb IAmb 23 56 38.0
comp=Z,19nm,0.9s
ROSC El Rosal 24.63 114 P P 23 56 32.1 +0.6
IRM Iron Mountain 24.64 321 P P 23 56 32.6 +1.6
baz=133,SNR=12
R49A Shelbyville 24.67 22 P P 23 56 30.8 -0.4
R49A IAmb IAmb 23 56 32.3
comp=Z,24nm,0.8s
PV13 Radium Mtn., P 24.68 337 P P 23 56 33.1 +1.5
PV13 IAmb IAmb 23 56 35.2
comp=Z,14nm,0.8s
PV02 Paradox Valley 24.70 337 P P 23 56 33.2 +1.5
PV02 IAmb IAmb 23 56 35.6
comp=Z,16nm,0.8s
Y60A Bolivia 24.71 39 P P 23 56 31.7 +0.1
PV15 Paradox Valley 24.72 338 P P 23 56 33.6 +1.7
PV15 IAmb IAmb 23 56 42.2
comp=Z,21nm,0.9s
PV05 Paradox Valley 24.72 336 P P 23 56 33.2 +1.3
PV05 IAmb IAmb 23 56 35.5
comp=Z,12nm,0.9s
S51A Beattyville 24.73 26 P P 23 56 31.3 -0.4
U15A North Rim 24.76 329 P P 23 56 34.4 +2.1
U15A IAmb IAmb 23 56 43.3
comp=Z,21nm,1.0s
PV03 Paradox Valley 24.78 337 P P 23 56 33.7 +1.3
PV03 IAmb IAmb 23 56 36.2
comp=Z,23nm,1.2s
PV18 Skein Mesa, Pa 24.79 337 P P 23 56 33.7 +1.1
PV18 IAmb IAmb 23 56 35.7
comp=Z,11nm,0.9s
PV12 Saucer Basin, 24.82 337 P P 23 56 34.1 +1.4
PV11 David Mesa, Pa 24.83 337 P P 23 56 34.7 +1.9
PV17 East Wray Mesa 24.84 337 P P 23 56 33.9 +0.9
PV17 IAmb IAmb 23 56 36.7
comp=Z,14nm,0.9s
PV16 Nyswonger Mesa 24.85 337 P P 23 56 35.2 +2.1
PV16 IAmb IAmb 23 56 36.9
comp=Z,43nm,1.6s
PV07 Paradox Valley 24.86 337 P P 23 56 35.0 +1.8
PV07 IAmb IAmb 23 56 38.3
comp=Z,20nm,1.0s
PV19 Morning Glory 24.88 337 P P 23 56 34.0 +0.7
PV19 IAmb IAmb 23 56 37.1
comp=Z,17nm,1.0s
N33A J Bar K, Exete 24.88 359 P P 23 56 33.3 +0.2
PV20 West Nyswonger 24.90 337 P P 23 56 34.6 +1.2
PV20 IAmb IAmb 23 56 43.2
comp=Z,18nm,1.1s
PV04 Paradox Valley 24.92 337 P P 23 56 35.1 +1.4
PV14 Lion Creek, Pa 24.95 337 P P 23 56 36.2 +2.2
PV14 IAmb IAmb 23 56 43.8
comp=Z,15nm,1.0s
PV10 Paradox Valley 24.96 337 P P 23 56 35.3 +1.2
PV10 IAmb IAmb 23 56 48.8
comp=Z,19nm,1.0s
SMCO Snowmass 24.96 341 P P 23 56 34.9 +0.7
R50A Paris 24.98 24 P P 23 56 33.7 -0.3
R50A IAmb IAmb 23 56 42.3
comp=Z,8.1nm,0.8s
BLO Bloomington 25.00 19 P P 23 56 33.6 -0.5
PV22 Blue Mesa, Par 25.00 337 P P 23 56 37.0 +2.6
PV22 IAmb IAmb 23 56 39.7
comp=Z,20nm,0.9s
N35A Tabor 25.02 2 P P 23 56 35.4 +1.1
N35A IAmb IAmb 23 56 50.2
comp=Z,21nm,0.8s
109C Camp Elliot, M 25.06 316 P P 23 56 34.9 +0.1
109C IAmb IAmb 23 56 57.9
comp=Z,14nm,1.1s
BELC Belle Mtn. Jos 25.06 320 P P 23 56 37.1 +2.1
baz=131
TPFO Pinon Flats 25.09 319 P P 23 56 37.2 +2.0
baz=130
PFO Pinyon Flats O 25.10 319 P P 23 56 38.7 +3.5
comp=Z,4.2nm,0.9s,baz=144,slow=12,SNR=5.5
PFO Pinyon Flats O 25.10 319 P P 23 56 36.7 +1.4
baz=130
PFO Pinyon Flats O 25.10 319 P P 23 56 36.9 +1.7
N38A Joes South For 25.12 6 P P 23 56 35.9 +0.7
ISCO Idaho Springs 25.14 344 P P 23 56 37.2 +1.4
baz=159,SNR=14
ISCO Idaho Springs 25.14 344 P P 23 56 37.8 +2.0
ISCO IAmb IAmb 23 56 44.0
comp=Z,10nm,0.9s
U56A King 25.18 32 P P 23 56 36.0 +0.1
U56A IAmb IAmb 23 57 35.0
comp=Z,19nm,1.3s
P46A Rosedale 25.20 18 P P 23 56 36.5 +0.6
RUSC La Rusia 25.27 110 P P 23 56 38.2 +0.9
RUSC IAmb IAmb 23 56 41.5
comp=Z,16nm,1.1s
O44A Mansfield 25.36 15 P P 23 56 36.4 -1.0
O44A IAmb IAmb 23 56 44.8
comp=Z,21nm,0.8s
N41A Harden Midland 25.38 11 P P 23 56 36.9 -0.7
GMRC Granite Mounta 25.38 322 P P 23 56 39.8 +2.0
baz=133
V58A Windy Hill, Pi 25.45 35 P P 23 56 37.0 -1.3
V58A IAmb IAmb 23 57 26.0
comp=Z,23nm,1.4s
KNB Kanab 25.48 329 P P 23 56 40.4 +1.6
KNB IAmb IAmb 23 57 29.8
comp=Z,19nm,1.4s
OGNE Ogallala 25.49 351 P P 23 56 38.9 +0.2
baz=168
OGNE Ogallala 25.49 351 P P 23 56 39.0 +0.3
HDIL Hopedale 25.55 13 P P 23 56 39.4 +0.3
baz=197
HDIL Hopedale 25.55 13 P P 23 56 39.1 0.0
HDIL IAmb IAmb 23 56 46.6
comp=Z,18nm,0.8s
BGNE Belgrade 25.57 358 P P 23 56 39.4 +0.1
baz=177
P48A Milroy 25.62 21 P P 23 56 38.9 -0.9
LCMT Little Creek M 25.69 329 P P 23 56 42.2 +1.7
LCMT IAmb IAmb 23 57 31.6
comp=Z,21nm,2.0s
HEC Hector,Ludlow 25.82 321 P P 23 56 43.6 +1.8
baz=132
BLA Blacksburg 25.83 31 P P 23 56 40.9 -0.9
baz=218
BLA Blacksburg 25.83 31 P P 23 56 41.7 -0.1
BLA IAmb IAmb 23 56 49.7
comp=Z,18nm,0.7s
S54A Dingess, Beckl 25.87 29 P P 23 56 42.2 +0.1
P49A Miami Univ. Ec 25.94 22 P P 23 56 41.4 -1.2
baz=207,SNR=12
P49A Miami Univ. Ec 25.94 22 P P 23 56 41.8 -0.9
SFIN Lafayette 25.94 17 P P 23 56 42.0 -0.6
baz=202
SFIN Lafayette 25.94 17 P P 23 56 42.5 -0.1
TUQ Turquoise Moun 25.99 322 P P 23 56 43.8 +0.5
baz=134
MTPU Mount Pierson 26.00 331 P P 23 56 44.0 +0.4
Q51A Peebles 26.01 24 P P 23 56 43.2 -0.1
R53A Hurricane 26.01 27 P P 23 56 43.8 +0.4
SZCU Shurtz Canyon 26.07 330 P P 23 56 45.0 +0.9
L34A Svendsen Farm, 26.11 1 P P 23 56 44.9 +0.7
L34A IAmb IAmb 23 56 47.6
comp=Z,24nm,0.8s
CCUT Cedar City 26.17 329 P P 23 56 46.3 +1.3
SRU San Rafael Swe 26.17 335 P P 23 56 47.5 +2.5
SCIA State Center 26.23 6 P P 23 56 45.6 +0.4
baz=188
SCIA State Center 26.23 6 P P 23 56 46.2 +0.9
O20A White River Ci 26.24 340 P P 23 56 46.0 +0.4
baz=154
O20A White River Ci 26.24 340 P P 23 56 46.3 +0.7
O20A IAmb IAmb 23 56 48.8
comp=Z,12nm,1.0s
N23A Red Feather La 26.25 344 P P 23 56 46.5 +0.6
baz=159
T57A Hurt 26.27 33 P P 23 56 46.1 +0.4
T57A IAmb IAmb 23 56 52.5
comp=Z,16nm,1.4s
Q16A Castle Valley 26.27 334 P P 23 56 47.6 +1.7
SHPR Sheep Range 26.32 325 P P 23 56 47.5 +1.2

MSU Marysvale 26.38 332 P P 23 56 48.2 +1.3
MVU Marysvale 26.39 332 P P 23 56 47.4 +0.4
MVU IAmb IAmb 23 57 16.4
comp=Z,13nm,0.9s
Q52A Bidwell 26.40 26 P P 23 56 46.8 0.0
GSC Goldstone, Bar 26.42 321 P P 23 56 49.4 +2.2
P51A Williamsport 26.52 24 P P 23 56 47.7 -0.1
P17A Butcher Ranch, 26.57 335 P P 23 56 50.3 +1.7
TMUT Trail Mountain 26.61 335 P P 23 56 51.9 +2.8
TMUT IAmb IAmb 23 56 55.1
comp=Z,28nm,1.8s
M44A Midewin, Midew 26.63 15 P P 23 56 48.9 0.0
M44A IAmb IAmb 23 56 57.0
comp=Z,21nm,1.1s
L40A Anamosa 26.64 9 P P 23 56 49.4 +0.4
L40A IAmb IAmb 23 56 51.2
comp=Z,18nm,0.8s
O49A Covington 26.65 22 P P 23 56 48.6 -0.5
N47A Urbana 26.82 19 P P 23 56 49.6 -1.0
R55A Marlinton 26.82 30 P P 23 56 50.2 -0.5
R55A IAmb IAmb 23 56 58.8
comp=Z,14nm,0.7s
L42A Oliver, Polo 26.86 12 P P 23 56 50.8 -0.1
L42A IAmb IAmb 23 56 57.5
comp=Z,16nm,0.7s
EDW2 Edwards Air Fo 26.88 319 P P 23 56 51.8 +0.5
baz=129
PRN Pahroc Range 26.92 327 P P 23 56 53.5 +1.7
PRN IAmb IAmb 23 57 41.0
comp=Z,5.6nm,0.4s
S57A Dark Hollow, R 27.00 32 P P 23 56 52.8 +0.5
S57A IAmb IAmb 23 57 37.4
comp=Z,44nm,1.9s
K38A Parkersburg 27.01 7 P P 23 56 52.2 -0.1
P52A Corning 27.02 26 P P 23 56 51.1 -1.3
baz=212,SNR=6.5
P52A Corning 27.02 26 P P 23 56 52.1 -0.3
P52A IAmb IAmb 23 56 52.8
comp=Z,26nm,1.0s
Q54A Coxs Mills 27.05 28 P P 23 56 52.5 -0.2
Q54A IAmb IAmb 23 56 59.9
comp=Z,13nm,0.8s
HQIL Hanson Quary C 27.07 15 P P 23 56 52.4 -0.4
LRMC Laurel Mtn Rad 27.08 320 P P 23 56 53.2 0.0
baz=131
RDMU Red Mountain 27.08 338 P P 23 56 55.6 +2.3
RDMU IAmb IAmb 23 57 09.5
comp=Z,11nm,0.6s
PSUT Pine Spring 27.18 330 P P 23 56 56.3 +2.2
ACSO Alum Creek Sta 27.19 24 P P 23 56 52.4 -1.5
baz=210
ACSO Alum Creek Sta 27.19 24 P P 23 56 54.2 +0.3
ACSO IAmb IAmb 23 57 00.4
comp=Z,14nm,0.8s
P53A Whipple 27.21 27 P P 23 56 54.3 +0.1
TPNV Topopah Spring 27.24 324 P P 23 56 57.5 +2.8
baz=135
N49A Columbus Grove 27.36 21 P P 23 56 56.1 +0.7
N49A IAmb IAmb 23 57 26.8
comp=Z,11nm,0.8s
L44A Lake County Fo 27.41 14 P P 23 56 55.6 -0.3
baz=199
L44A Lake County Fo 27.41 14 P P 23 56 56.6 +0.7
NLU North Lily Min 27.52 334 P P 23 56 58.8 +1.5
O52A Adamsville 27.55 25 P P 23 56 57.3 +0.1
O52A IAmb IAmb 23 56 57.7
comp=Z,29nm,1.2s
JFWS Jewell Farm 27.63 10 P P 23 56 57.5 -0.3
baz=194
JFWS Jewell Farm 27.63 10 P P 23 56 57.9 +0.1
ISA Isabella, Lake 27.69 320 P P 23 56 59.0 +0.5
SPR3 Spring Creek 3 27.77 330 P P 23 57 00.4 +0.9
K43A Burlington 27.81 13 P P 23 57 00.1 +0.6
K43A IAmb IAmb 23 57 06.3
comp=Z,20nm,0.9s
Q56A Snyder Ridge, 27.87 30 P P 23 56 59.3 -0.8
Q56A IAmb IAmb 23 57 16.9
comp=Z,31nm,1.6s
ECSD EROS Data Cent 27.87 0 P P 23 57 00.1 +0.1
baz=180
ECSD EROS Data Cent 27.87 0 P P 23 57 01.4 +1.4
R11A Troy Canyon, C 27.91 327 P P 23 56 59.4 -1.2
O53A New Philadelph 27.92 26 P P 23 56 59.9 -0.6
baz=213
O53A New Philadelph 27.92 26 P P 23 57 00.6 0.0
CWC Cottonwood Cre 27.95 321 P P 23 57 03.7 +2.7
baz=131
DUG Dugway, Tooele 28.04 333 P P 23 57 03.6 +1.9
baz=145
DUG Dugway, Tooele 28.04 333 P P 23 57 03.6 +1.9
K22A Casper 28.05 345 P P 23 57 03.1 +1.3
baz=160
K22A Casper 28.05 345 P P 23 57 03.1 +1.3
K22A IAmb IAmb 23 57 48.5
comp=Z,10.0nm,1.1s
L48A N Adams 28.18 20 P P 23 57 02.2 -0.6
L48A IAmb IAmb 23 57 09.0
comp=Z,17nm,0.8s
M50A Fremont 28.18 22 P P 23 57 02.3 -0.5
M50A IAmb IAmb 23 57 22.0
comp=Z,13nm,0.8s
O54A Avella 28.23 27 P P 23 57 03.8 +0.6
O54A IAmb IAmb 23 57 10.1
comp=Z,21nm,1.1s
I37A Lemond, Waseca 28.30 5 P P 23 57 04.0 +0.1
I37A IAmb IAmb 23 58 05.7
comp=Z,22nm,1.2s
I40A Norwalk 28.52 9 P P 23 57 05.7 -0.1
I40A IAmb IAmb 23 57 12.2
comp=Z,11nm,0.6s
N53A Lisbon 28.54 26 P P 23 57 04.5 -1.5
TPH Tonopah 28.59 325 P P 23 57 08.7 +2.0
HWUT Hardware Ranch 28.72 337 P P 23 57 08.8 +1.0
I42A Draeger Farm, 28.82 12 P 23 57 08.0 -0.5
I42A IAmb IAmb 23 57 14.7
comp=Z,8.1nm,0.9s
RSSD Black Hills 28.91 349 P P 23 57 10.1 +0.6
baz=165
RSSD Black Hills 28.91 349 P P 23 57 10.0 +0.5
M52A Chesterland 28.95 24 P P 23 57 08.8 -0.8
PD31 Pinedale Array 29.03 340 P P 23 57 12.2 +1.5
PDAR Pinedale Array 29.03 340 P P 23 57 11.5 +0.9
comp=Z,2.0nm,0.7s,baz=133,slow=10,SNR=19
PDAR LR LR 00 08 24.9
comp=Z,24nm,21.7s,baz=165,slow=35
PDAR Pinedale Array 29.03 340 P P 23 57 11.1 +0.4
N54A Moraine State 29.04 27 P P 23 57 10.0 -0.4
baz=215,SNR=5.8
N54A Moraine State 29.04 27 P P 23 57 10.4 0.0
N54A IAmb IAmb 23 57 17.4
comp=Z,18nm,0.9s
ICMP Isla Caja de M 29.06 81 P P 23 57 10.1 -0.7
O56A Blue Knob Stat 29.13 30 P P 23 57 11.6 +0.3
baz=218
M53A WI Miller and 29.14 25 P P 23 57 11.2 -0.1
baz=213
M53A WI Miller and 29.14 25 P P 23 57 11.2 -0.1
M53A IAmb IAmb 23 57 18.6
comp=Z,10nm,0.7s
MDPB Devils Postpil 29.34 322 P P 23 57 15.5 +2.0
NV11 Mina Array Sit 29.36 324 P P 23 57 15.0 +1.5
LHV Little Huntoon 29.43 324 P P 23 57 15.5 +1.6
NVAR Mina Array Bea 29.44 324 P P 23 57 17.2 +3.0
comp=Z,3.5nm,0.9s,baz=149,slow=9.5,SNR=20
NVAR LR LR 00 10 28.7
comp=Z,108nm,19.3s,baz=132,slow=39
NVAR Mina Array Bea 29.44 324 P P 23 57 15.6 +1.3
ALLY Alegheny Colle 29.53 26 P P 23 57 14.8 -0.1
AHID Auburn Hatcher 29.55 338 P P 23 57 16.0 +0.7
AHID IAmb IAmb 23 57 29.9
comp=Z,4.3nm,0.6s
SPMN Marine on St. 29.56 6 P P 23 57 15.0 0.0
baz=188
SPMN Marine on St. 29.56 6 P P 23 57 15.0 0.0
ELK Elko 29.58 331 P P 23 57 17.9 +2.4
comp=Z,0.6nm,0.3s,baz=135,slow=13,SNR=4.2
ELK Elko 29.58 331 P P 23 57 16.2 +0.7
M54A Oil Creek Stat 29.62 27 P P 23 57 15.2 -0.5
baz=215,SNR=7.1
M54A Oil Creek Stat 29.62 27 P P 23 57 15.2 -0.5
RYN Ryan 29.70 324 P P 23 57 16.9 +0.4
HUMP Col San Antoni 29.70 81 P P 23 57 16.5 -0.1
HUMP IAmb IAmb 23 58 09.3
comp=Z,24nm,1.2s
SSPA Standing Stone 29.74 30 P P 23 57 15.8 -0.8

baz=219
KVN Kaiserville 29.76 325 P P 23 57 19.0 +1.9
G40A Rib Lake 29.93 9 P P 23 57 18.2 -0.1
G40A IAmb IAmb 23 57 25.6
comp=Z,18nm,1.6s
M55A Ridgway 29.99 28 P P 23 57 19.0 +0.2
ERPA Erie 29.99 26 P P 23 57 18.4 -0.5
baz=214
ERPA Erie 29.99 26 P P 23 57 18.0 -0.9
REDW Red Top Meadow 29.99 339 P P 23 57 19.5 +0.3
REDW IAmb IAmb 23 57 22.0
comp=Z,11nm,0.8s
SNOW Snow King Moun 30.05 340 P P 23 57 21.0 +1.3
F36A Milaca 30.13 5 P P 23 57 19.9 -0.1
F36A IAmb IAmb 23 57 26.6
comp=Z,7.9nm,0.8s
LOHW Long Hollow 30.13 340 P P 23 57 22.2 +1.8
LOHW IAmb IAmb 23 57 23.2
comp=Z,13nm,0.9s
WAKR Walker 30.14 323 P P 23 57 21.9 +1.5
TPAW Teton Pass 30.14 339 P P 23 57 22.3 +1.7
TPAW IAmb IAmb 23 57 24.2
comp=Z,5.6nm,0.8s
YERR Yerington 30.35 324 P P 23 57 23.6 +1.3
YERR IAmb IAmb 23 57 35.0
comp=Z,11nm,1.7s
CMB Columbia Colle 30.39 321 P P 23 57 24.0 +1.5
FLWY Flagg Ranch 30.58 340 P P 23 57 25.8 +1.4
FLWY IAmb IAmb 23 57 28.3
comp=Z,7.8nm,0.8s
PNTR Pine Nut 30.63 324 P P 23 57 26.1 +1.2
PNTR IAmb IAmb 23 57 32.7
comp=Z,6.1nm,0.9s
YPP Pitchstone Pla 30.79 340 P P 23 57 27.3 +1.0
WVNY West Valley, N 30.81 27 P P 23 57 26.2 +0.1
COWI Conover 30.91 10 P P 23 57 27.4 +0.4
COWI IAmb IAmb 23 57 33.5
comp=Z,5.9nm,0.9s
PAHR Pah Rah Range 30.93 325 P P 23 57 28.1 +0.7
N59A State Game Lan 31.00 32 P P 23 57 27.7 -0.1
baz=222
YMP Mirror Lake Pl 31.00 341 P P 23 57 31.4 +3.3
YMP IAmb IAmb 23 57 45.2
comp=Z,9.1nm,0.9s
E38A The Farm, Brul 31.05 7 P P 23 57 28.0 -0.2
E38A IAmb IAmb 23 57 34.9
comp=Z,12nm,0.8s
RLMT Red Lodge 31.08 343 P P 23 57 29.2 +0.4
baz=156,SNR=14
RLMT Red Lodge 31.08 343 P P 23 57 30.6 +1.8
YNE Yellowstone No 31.20 342 P P 23 57 30.5 +0.7
YHH Holmes Hill 31.26 341 P P 23 57 32.3 +1.9
YHH IAmb IAmb 23 57 39.5
comp=Z,5.4nm,0.9s
MMNY Mt. Morris Dam 31.38 27 P P 23 57 31.7 +0.6
QLMT Earthquake Lak 31.49 340 P P 23 57 33.9 +1.6
MEDO Medina 31.49 26 P P 23 57 29.1 -3.0
J54A Appleton 31.50 26 P P 23 57 31.6 -0.6
BEKR Beckworth 31.59 324 P P 23 57 35.7 +2.5
K56A Middlesex 31.61 28 P P 23 57 32.4 -0.8
baz=218
BCYI Bear Canyon 31.73 337 P P 23 57 37.2 +2.7
L58A Harry Jones Me 31.80 30 P P 23 57 34.8 -0.1
baz=221
LAO LASA Array 31.81 348 P P 23 57 35.3 +0.4
baz=162
GCMT Greycliff 31.81 343 P P 23 57 36.0 +0.9
J55A Hilton 31.85 27 P P 23 57 32.9 -2.3
BINY Binghamton 31.85 30 P P 23 57 35.6 +0.3
baz=220
D41A Chassel 31.94 11 P P 23 57 35.8 -0.2
MCMT McKenzie Canyo 31.97 338 P P 23 57 39.0 +2.4
PAL Palisades 32.03 34 P P 23 57 35.8 -1.1
baz=225
ORV Oroville 32.03 323 P P 23 57 38.4 +1.5
ORV IAmb IAmb 23 57 40.0
comp=Z,12nm,1.9s
MDND Maddock 32.07 356 P P 23 57 37.5 +0.4
baz=175
MDND Maddock 32.07 356 P P 23 57 35.8 -1.3
MDND IAmb IAmb 23 57 38.5
comp=Z,16nm,1.0s
BOZ Bozeman (W) 32.23 340 P P 23 57 38.9 +0.1
baz=152,SNR=9.1
BOZ Bozeman (W) 32.23 340 P P 23 57 40.3 +1.5
BOZ IAmb IAmb 23 57 42.7
comp=Z,5.9nm,0.9s
J56A Wolcott 32.28 28 P P 23 57 39.4 +0.4
DLMT Dillon 32.35 339 P P 23 57 41.5 +1.7
AGMN Agassiz Nation 32.45 1 P P 23 57 40.6 +0.2
baz=181
AGMN Agassiz Nation 32.45 1 P P 23 57 40.6 +0.2
AGMN IAmb IAmb 23 57 41.3
comp=Z,8.6nm,0.9s
WVOR Wild Horse Val 32.51 329 P P 23 57 42.1 +1.0
WVOR IAmb IAmb 23 57 44.2
comp=Z,11nm,1.4s
SADO Sadowa 32.54 24 P P 23 57 40.1 -1.2
comp=Z,4.7nm,0.7s,baz=240,slow=9.1,SNR=5.2
SADO Sadowa 32.54 24 P P 23 57 40.6 -0.7
SADO IAmb IAmb 23 57 59.3
comp=Z,10nm,1.1s
B35A Bob, Littlefor 32.60 4 P P 23 57 42.1 +0.3
B35A IAmb IAmb 23 57 48.8
comp=Z,6.6nm,0.9s
O03E Paynes Creek 32.70 323 P P 23 57 43.3 +0.5
baz=131
LRM Limekiln Ridge 32.70 340 P P 23 57 44.6 +1.6
PECO Prince Edward 32.74 27 P P 23 57 42.8 -0.3
J57A Williamstown 32.78 29 P P 23 57 44.2 +0.8
DELO Deloro Mine 32.94 26 P P 23 57 44.6 -0.2
MOD Modoc Plateau 32.97 327 P P 23 57 46.3 +1.0
J58A Remsen 33.07 29 P P 23 57 45.2 -0.8
baz=220
J08A Circle Bar Ran 33.12 330 P P 23 57 48.2 +1.6
J08A IAmb IAmb 23 57 49.1
comp=Z,3.8nm,0.7s
HRY Holter Researc 33.29 341 P P 23 57 49.8 +1.8
WDC Whiskeytown Da 33.31 323 P P 23 57 50.5 +2.4
I57A Carthage 33.34 28 P P 23 57 47.8 -0.5
baz=219
I58A Old Forge 33.47 29 P P 23 57 48.5 -0.9
baz=220
BBSR BB Station 33.49 55 P P 23 57 49.0 -0.7
K61A Williamstown 33.55 32 P P 23 57 49.2 -1.0
baz=224
BMO Blue Mountains 33.76 333 P P 23 57 53.2 +1.2
H57A Richville 33.87 28 P P 23 57 52.3 -0.6
baz=219,SNR=6.1
EGMT Eagleton 33.88 344 P P 23 57 53.6 +0.5
baz=157
EGMT Eagleton 33.88 344 P P 23 57 54.5 +1.4
EGMT IAmb IAmb 23 57 55.6
comp=Z,6.2nm,0.9s
ALGO Algonquin Park 33.95 24 P P 23 57 53.0 -0.6
baz=214
MSO Missoula 34.09 339 P P 23 57 54.9 0.0
baz=149,SNR=11
MSO Missoula 34.09 339 P P 23 57 56.2 +1.3
MSO IAmb IAmb 23 57 57.2
comp=Z,8.1nm,0.8s
YBH Yreka Blue Hor 34.16 324 P P 23 57 55.9 +0.3
comp=Z,0.9nm,0.5s,baz=135,slow=12,SNR=6.7
YBH Yreka Blue Hor 34.16 324 P P 23 57 56.1 +0.5
L04D Klamath Falls 34.26 325 P P 23 57 56.9 +0.4
baz=132
LONY Lake Ozonia 34.36 29 P P 23 57 56.6 -0.6
baz=220
LONY Lake Ozonia 34.36 29 P P 23 57 56.9 -0.3
LONY IAmb IAmb 23 58 04.4
comp=Z,10nm,0.9s
H58A Gabriels 34.39 29 P P 23 57 56.7 -0.8
baz=221
I60A Shoreham 34.39 31 P P 23 57 56.8 -0.7
baz=223
ULM Lac du Bonnet 34.40 1 P P 23 57 57.2 -0.2
comp=Z,1.8nm,0.5s,baz=165,slow=12,SNR=3.8
F10A Beach Ranch, E 34.62 335 P P 23 58 00.6 +1.0
G08A Pilot Rock 34.83 332 P P 23 58 02.3 +0.9
FRNY Flat Rock 34.98 29 P P 23 58 03.9 +1.3
FRNY IAmb IAmb 23 58 09.3
comp=Z,11nm,0.9s
JTMT Jette 35.00 339 P P 23 58 03.5 +0.7
JTMT IAmb IAmb 23 58 05.1
comp=Z,8.4nm,1.0s
E09A Wood Farm, Sta 35.44 334 P P 23 58 06.6 +0.2
TOSP Speyside 35.53 93 P P 23 58 07.8 +0.2
G60A Masonville 35.78 30 P P 23 58 09.2 -0.2
baz=223
J01E Myrtle Point 35.78 325 P P 23 58 10.2 +0.8
baz=131
I03D Drain, OR 35.83 326 P P 23 58 10.1 +0.3
baz=132
G05D Wamic, OR 35.89 330 P P 23 58 10.3 -0.1
baz=137
H04A Detroit Lake 35.91 329 P P 23 58 11.5 +0.9
H04A IAmb IAmb 23 58 12.9
comp=Z,8.3nm,0.9s
MOQ Mont Orford 35.97 30 P P 23 58 12.7 +1.6
H62A Milan 35.99 32 P P 23 58 10.9 -0.3
baz=225
WALA Waterton Lakes 36.02 341 P P 23 58 12.5 +0.9
WALA IAmb IAmb 23 58 14.1
comp=Z,7.1nm,0.9s
E58A La Victoria 36.29 28 P P 23 58 13.4 -0.4
baz=220
F05D White Salmon 36.43 331 P P 23 58 15.7 +0.7
baz=137
NEW Newport 36.45 337 P P 23 58 16.3 +1.2
comp=Z,5.6nm,0.9s,baz=144,slow=8.4,SNR=7.8
NEW Newport 36.45 337 P P 23 58 15.7 +0.5
baz=146
NEW Newport 36.45 337 P P 23 58 16.1 +0.9
NEW IAmb IAmb 23 58 17.4
comp=Z,5.3nm,0.8s
C09A Chrisman Ranch 36.52 336 P P 23 58 16.1 +0.4
F60A Warwick 36.60 29 P P 23 58 15.7 -0.6
baz=223
G62A West of Eustis 36.76 32 P P 23 58 16.9 -0.8
baz=225
LSQQ Lebel-sur-Quev 36.95 22 P P 23 58 18.5 -0.8
baz=213
D58A Chemin du LacG 37.02 27 P P 23 58 19.2 -0.7
baz=220
LTY Liberty 37.10 333 P P 23 58 21.7 +1.0
E60A Ste Agathe de 37.13 29 P P 23 58 20.3 -0.6
baz=223
LON Longmire 37.23 331 P P 23 58 22.7 +0.9
LON IAmb IAmb 23 58 25.4
comp=Z,5.5nm,0.8s
LATQ La Tuque 37.28 27 P P 23 58 21.5 -0.7
baz=220
LATQ La Tuque 37.28 27 P P 23 58 22.3 +0.2
LATQ IAmb IAmb 23 58 23.7
comp=Z,11nm,0.8s
MATQ Matagami 37.31 21 P P 23 58 21.4 -0.9
baz=211
B08A Colville Reser 37.39 335 P P 23 58 23.6 +0.4
PKME Peaks-Kenny Pk 37.42 32 P P 23 58 22.7 -0.7
baz=227
E61A Lac Etchemin 37.63 30 P P 23 58 24.8 -0.5
baz=224
D05A Enumclaw 37.64 332 P P 23 58 26.5 +1.3
D05A IAmb IAmb 23 58 34.4
comp=Z,17nm,1.1s
D60A Saint Jean D'O 37.77 29 P P 23 58 26.5 +0.2
baz=223
F63A Nahmakanta, Br 37.82 32 P P 23 58 26.9 +0.2
baz=227
G65A Princeton 38.29 34 P P 23 58 30.2 -0.5
baz=229
D61A St Aubert, Com 38.33 30 P P 23 58 30.8 -0.3
baz=224
D03D Eldon 38.40 331 P P 23 58 32.0 +0.4
baz=136
CHGQ Chibougamau 38.61 23 P P 23 58 33.4 0.0
baz=216
E63A Oxbow 38.65 32 P P 23 58 33.6 -0.2
baz=227
NLWA Neilton Lookou 38.66 330 P P 23 58 35.7 +1.8
NLWA IAmb IAmb 23 58 38.8
comp=Z,21nm,1.4s
D62A Allapoint, All 38.80 31 P P 23 58 34.3 -0.6
baz=226
E64A Bridgewater 38.95 32 P P 23 58 35.7 -0.6
baz=228
FFC Flin Flon 39.08 355 P P 23 58 37.7 +0.5
FFC IAmb IAmb 23 58 38.6
comp=Z,10.0nm,0.8s
D63A Stockholm 39.23 31 P P 23 58 38.4 -0.2
baz=227
EDM Edmonton 39.57 344 P P 23 58 41.7 +0.3
EDM IAmb IAmb 23 58 43.4
comp=Z,14nm,0.8s
LLLB Lillooet 40.19 335 P P 23 58 46.6 0.0
LPAZ La Paz 42.62 137 P P 23 59 08.0 +0.4
comp=Z,0.8nm,0.9s,baz=336,slow=10.0,SNR=3.6
LPAZ LR LR 00 16 19.7
comp=Z,39nm,18.3s,baz=287,slow=35
YKA Yellowknife Ar 48.32 349 P P 23 59 51.3 -0.2
comp=Z,2.2nm,0.7s,baz=158,slow=7.3,SNR=5.3
DLBC Dease Lake 49.20 338 LR LR 00 19 50.8
comp=Z,106nm,20.1s,baz=124,slow=35
DLBC Dease Lake 49.20 338 P P 00 00 00.7 +2.4
DLBC IAmb IAmb 00 00 02.4
comp=Z,12nm,1.1s
H03N2 Juan Fernandez 51.83 161 T T 00 56 17.5
baz=332,slow=77,SNR=36
H03N1 Juan Fernandez 51.84 161 T T 00 56 02.5
baz=332,slow=77,SNR=40
H03N3 Juan Fernandez 51.85 161 T T 00 56 03.5
baz=332,slow=77,SNR=30
WHY Whitehorse 52.52 338 P P 00 00 24.3 +0.9
baz=131
WHY Whitehorse 52.52 338 P P 00 00 25.2 +1.8
DAWY Dawson 56.33 339 P P 00 00 51.2 +0.2
BMRM Bremner River 56.54 334 P P 00 00 53.2 +0.6
BMRM IAmb IAmb 00 00 55.7
comp=Z,20nm,1.8s
BCAR Beaver Creek A 56.58 337 P P 00 00 54.2 +1.4
L27K Beaver Creek, 56.60 337 P P 00 00 53.8 +0.8
baz=125
L27K Beaver Creek, 56.60 337 P P 00 00 54.2 +1.3
N25K Chitina, Valde 56.87 335 P P 00 00 56.6 +1.7
baz=121
N25K Chitina, Valde 56.87 335 P P 00 00 56.5 +1.5
N25K IAmb IAmb 00 00 58.3
comp=Z,4.6nm,1.1s
FID Port Fidalgo 57.22 334 P P 00 00 58.9 +1.6
FID IAmb IAmb 00 01 06.6
comp=Z,5.1nm,0.9s
K27K Chicken 57.25 338 P P 00 00 56.6 -0.9
K27K IAmb IAmb 00 01 06.7
comp=Z,11nm,1.4s
KLU Klutina 57.35 334 P P 00 00 59.5 +1.2
KLU IAmb IAmb 00 01 13.1
comp=Z,12nm,1.7s
EGAK Eagle 57.37 339 P P 00 00 59.3 +0.9
baz=127
EGAK Eagle 57.37 339 P P 00 00 59.2 +0.9
EGAK IAmb IAmb 00 01 06.0
comp=Z,5.0nm,0.8s
INK Inuvik 57.47 345 P P 00 00 59.8 +0.9
INK IAmb IAmb 00 01 06.7
comp=Z,5.7nm,0.8s
HARP HAARP 57.51 336 P P 00 01 00.5 +1.1
baz=121
GLI Glacier Island 57.55 334 P P 00 01 00.4 +0.7
GLI IAmb IAmb 00 02 31.7
comp=Z,3.9nm,0.6s
DOT Dot Lake 57.76 337 P P 00 01 02.3 +1.2
DOT IAmb IAmb 00 01 03.7
comp=Z,5.4nm,1.0s
SCRK Sand Creek 57.91 338 P P 00 01 04.0 +1.7
baz=123
SCRK Sand Creek 57.91 338 P P 00 01 03.5 +1.2
SCRK IAmb IAmb 00 01 04.9
comp=Z,4.5nm,1.0s
RIDG Independent Ri 58.10 337 P P 00 01 04.4 +0.9
baz=122
RIDG Independent Ri 58.10 337 P P 00 01 05.0 +1.4
RIDG IAmb IAmb 00 01 12.4
comp=Z,13nm,1.2s
SML Sawmill 58.51 334 P P 00 01 07.4 +1.0
baz=118
WAT6 Susitna Watana 58.64 335 P P 00 01 08.5 +1.1
baz=119
BRLK Bradley Lake 58.74 331 P P 00 01 09.2 +1.2
BRLK IAmb IAmb 00 01 46.6
comp=Z,5.2nm,1.0s
CNPM China Poot 58.80 331 P P 00 01 09.4 +0.9
CNPM IAmb IAmb 00 01 12.1
comp=Z,8.4nm,1.1s
PRP Porcupine Dome 59.31 339 P P 00 01 13.1 +1.0
baz=122
PRP Porcupine Dome 59.31 339 P P 00 01 12.7 +0.6
SUA Susitna One 59.39 333 P P 00 01 13.7 +1.1
baz=115
SUA Susitna One 59.39 333 P P 00 01 14.2 +1.6
SUA IAmb IAmb 00 01 41.5
comp=Z,6.1nm,0.7s
IL31 59.41 338 P P 00 01 12.4 -0.1
IL31 IAmb IAmb 00 01 14.4
comp=Z,7.1nm,1.1s
ILAR Eielson Array 59.41 338 P P 00 01 13.1 +0.5
comp=Z,3.1nm,0.9s,baz=136,slow=4.7,SNR=22
ILAR LR LR 00 29 29.5
comp=Z,96nm,20.0s,baz=188,slow=39
O20K Slope Mountain 59.67 331 P P 00 01 15.5 +1.0
baz=112
CCB Clear Creek Bu 59.68 337 P P 00 01 15.2 +0.8
WRH Wood River Hil 59.70 337 P P 00 01 15.3 +0.7
WRH IAmb IAmb 00 01 17.5
comp=Z,3.4nm,1.0s
FYU Fort Yukon 59.79 340 P P 00 01 16.4 +1.2
FYU IAmb IAmb 00 01 17.7
comp=Z,7.5nm,0.9s
P19K Oil Pt 59.79 331 P P 00 01 16.4 +1.1
baz=112
RSO Redoubt South 59.88 332 P P 00 01 17.4 +1.3
SKT Skwentna 59.95 334 P P 00 01 17.1 +0.8
SKT IAmb IAmb 00 01 17.8
comp=Z,3.8nm,0.8s
MDM Murphy Dome 60.00 337 P P 00 01 17.7 +1.1
TRF Thorofare Moun 60.07 335 P P 00 01 17.8 +0.4
baz=117
TRF Thorofare Moun 60.07 335 P P 00 01 18.6 +1.2
TRF IAmb IAmb 00 01 20.4
comp=Z,8.3nm,0.8s
BWN Browne 60.08 336 P P 00 01 18.7 +1.5
H24K Noodor Dome 60.31 338 P P 00 01 19.2 +0.3
baz=120
I23K Minto, Yukon-K 60.51 337 P P 00 01 20.5 +0.4
baz=118
I23K Minto, Yukon-K 60.51 337 P P 00 01 21.1 +1.1
I23K IAmb IAmb 00 01 28.4
comp=Z,7.0nm,0.8s
M20K Styx River 60.60 333 P P 00 01 21.6 +0.7
baz=113
BPAW Bear Paw Mtn. 60.64 336 P P 00 01 21.0 -0.1
baz=116
O18K Koktuh Hills 60.80 330 P P 00 01 22.8 +0.6
baz=110
N19K Bonanza Creek 60.80 332 P P 00 01 22.5 +0.2
baz=111
H23K Yukon River 60.90 338 P P 00 01 23.3 +0.5
baz=118
MLY Manley 60.97 337 P P 00 01 24.5 +1.2
baz=117
MLY Manley 60.97 337 P P 00 01 24.4 +1.0
MLY IAmb IAmb 00 01 31.5
comp=Z,5.2nm,1.0s
M19K Big River Lodg 61.16 333 P P 00 01 24.6 0.0
baz=112
PLCA Paso Flores 61.28 157 LR LR 00 21 50.0
comp=Z,43nm,19.3s,baz=336,slow=30
N18K Kilae Creek 61.40 331 P P 00 01 26.5 +0.2
baz=110
L19K White Mountain 61.47 333 P P 00 01 27.1 +0.4
baz=111
I21K Tanana 61.51 337 P P 00 01 27.3 +0.4
baz=116
TOLK Toolik Lake Re 62.30 341 P P 00 01 32.7 +0.5
baz=120
ESDC Sonseca Array 82.26 51 P P 00 03 32.0 -0.1
comp=Z,1.1nm,0.8s,baz=297,slow=5.3,SNR=6.3
ESDC Sonseca Array 82.26 51 P P 00 03 32.0 -0.1
ESDC Sonseca Array 82.26 51 IAmb IAmb 00 03 32.5
comp=Z,4.2nm,1.3s
NOA NORSAR Array B 84.79 28 LR LR 00 43 48.5
comp=Z,8.4nm,18.6s,baz=310,slow=37
ARCES ARCESS Array B 85.88 17 LR LR 00 43 57.0
comp=Z,22nm,20.6s,baz=245,slow=37
WRA Warramunga Arr 131.27 257 PKP PKPdf 00 10 23.2 -0.2
comp=Z,0.5nm,0.8s,baz=93,slow=1.6,SNR=5.0

TIR ***11*** *00:03:24.6, 41°.94N×20°.89E, h15km±4km, Md3.1, Ml3.1*
SKO ***11*** *00:03:24.6, 41°.93N×20°.85E, h15km*
PDG ***11*** *00:03:26.8±0.4, 42°.01N×20°.85E, h8km, ML2.9/13, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
BEO ***11*** *00:03:27.1±0.2, 41°.93N×20°.85E, h5km±2km, ML2.6/14*
THE ***11*** *00:03:27.5, 41°.87N×20°.81E, h1km±3km, ML2.9/6, Error ellipse: s-maj=3.9km s-min=1.3km az=350.0*
ISC 11 00:03:26.4±1.1, 41°.92N±0°.01×20°.85E±0°.01, h3km±9km, n134, σ1°10/194, 17C-15D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.38**	**233**	P	**Pg**	**00 03 33.2**	**-0.6**
PHP				S	**Sg**	**00 03 38.5**	**-0.3**
PHP	**Peshkopia**	**0.38**	**233**	P	**Pg**	**00 03 33.2**	**-0.6**
baz=234							
PHP				S	**Sg**	**00 03 37.9**	**-0.9**
baz=234							
PHP				AMP			
comp=N,6.7nm,0.4s,baz=234							
SKO	**Skopje**	**0.44**	**83**	*e*Pg	**Pg**	**00 03 35.3**	**+0.4**
SKO				*e*Sg	**Sg**	**00 03 41.9**	**+1.2**
SKO	**Skopje**	**0.44**	**83**	*i* Pg	**Pg**	**00 03 35.4**	**+0.4**
SKO				*i* Sg	**Sg**	**00 03 42.1**	**+1.4**
PUK	**Puka**	**0.72**	**280**	P	**Pg**	**00 03 39.3**	**-1.0**
baz=279							
PUK				S	**Sg**	**00 03 50.4**	**+0.7**
baz=279							
BCI	**Bajram Curri**	**0.73**	**308**	P	**Pg**	**00 03 40.0**	**-0.5**
baz=306							
BCI				S	**Sg**	**00 03 50.1**	**+0.1**
baz=306							
BCI				AMP			
comp=N,4.4nm,0.5s,baz=306							
OHR	**Ohrid**	**0.81**	**183**	*i* Pg	**Pg**	**00 03 41.3**	**-0.6**
OHR				*i* Sg	**Sg**	**00 03 53.3**	**+1.0**
OHR				*e*Lg	Lg	00 03 54.1	
comp=E,498nm,0.5s							
TIR	**Tirane**	**0.93**	**233**	*e*Pg	**Pg**	**00 03 45.0**	**+0.7**
TIR				*e*Sg	**Sb**	**00 03 58.1**	**+0.1**
TIR	**Tirane**	**0.93**	**233**	⇑P	**Pb**	**00 03 45.5**	**+0.3**
TIR	**Tirane**	**0.93**	**233**	⇑S	**Sn**	**00 03 59.2**	**-1.2**
TIR	**Tirane**	**0.93**	**233**	P	**Pg**	**00 03 44.0**	**-0.3**
TIR				S	**Sg**	**00 03 56.3**	**-0.1**
comp=E,90nm,0.7s							
TIR	**Tirane**	**0.93**	**233**	P	**Pg**	**00 03 43.7**	**-0.6**
baz=233							
TIR				S	**Sb**	**00 03 58.2**	**+0.2**
baz=233							
TIR	**Tirane**	**0.93**	**233**	*i* Pg	**Pg**	**00 03 44.0**	**-0.3**
PVY	**Plav**	**0.94**	**316**	⇓*i*Pg	**Pg**	**00 03 43.3**	**-1.3**
PVY				*i* Sg	**Sg**	**00 03 57.4**	**+0.6**
STIP	**Stip**	**1.02**	**102**	*i* Pg	**Pn**	**00 03 48.5**	**+0.8**
STIP				*i* Sg	**Sn**	**00 04 05.0**	**+2.3**
STIP				*e*Lg	Lg	00 04 05.7	
comp=E,35nm,0.2s							
BARS	**Barje**	**1.15**	**38**	*e*Pg	**Pg**	**00 03 46.9**	**-1.6**
BARS				*e*Sg	**Sg**	**00 04 02.8**	**-0.5**
BARS	**Barje**	**1.15**	**38**	*i* Pg	**Pg**	**00 03 46.9**	**-1.6**
BARS				*i* Sg	**Sg**	**00 04 03.1**	**-0.2**
BEY	**Berane**	**1.19**	**324**	*e*Pg	**Pg**	**00 03 48.7**	**-0.5**
IVA	**Berane**	**1.19**	**324**	*e*Pg	**Pg**	**00 03 47.5**	**-1.7**
IVA				*i* Sg	**Sb**	**00 04 05.1**	**-0.4**
ULC	**Ulcinj**	**1.20**	**273**	*i* Pg	**Pb**	**00 03 48.7**	**-1.1**
ULC	**Ulcinj**	**1.20**	**273**	⇓*i*Pg	**Pb**	**00 03 49.0**	**-0.8**
ULC				*i* Sg	**Sn**	**00 04 07.8**	**+0.8**
FNA	**Florina**	**1.20**	**161**	*e*Pg	**Pb**	**00 03 48.2**	**-1.7**
FNA				*e*Sg	**Sg**	**00 04 05.6**	**+0.5**
FNA	**Florina**	**1.20**	**161**	P	**Pb**	**00 03 48.4**	**-1.5**
FNA				S	**Sg**	**00 04 05.5**	**+0.5**
comp=E,1μm,0.3s							
FNA	**Florina**	**1.20**	**161**	P	**Pb**	**00 03 48.4**	**-1.5**
baz=161							
FNA				S	**Sg**	**00 04 04.8**	**-0.2**
baz=161							
FNA	**Florina**	**1.20**	**161**	*i* Pg	**Pb**	**00 03 48.4**	**-1.5**
FNA				*i* Sg	**Sg**	**00 04 05.7**	**+0.7**
DRME	**Dracevica, Mon**	**1.27**	**283**	*e*Pn	**Pn**	**00 03 50.3**	**-0.8**
DRME	**Dracevica, Mon**	**1.27**	**283**	⇑*i*Pg	**Pn**	**00 03 50.0**	**-1.1**

DRME				*i* Sg	Sn	00 04 09.5	+0.8
PDG	**Podgorica**	**1.29**	**294**	⇑P	Pn	00 03 49.8	-1.6
PDG	**Podgorica**	**1.29**	**294**	⇓S	Sb	00 04 05.6	-2.8
PDG	**Podgorica**	**1.29**	**294**	*e*Pn	Pn	00 03 49.7	-1.7
PDG	**Podgorica**	**1.29**	**294**	*i* Pg	Pn	00 03 50.3	-1.1
PDG				*i* Sg	Sn	00 04 11.2	+2.1
TTG	**Podgorica**	**1.29**	**294**	⇑*i*Pg	Pn	00 03 50.0	-1.4
TTG				*i* Sg	Sn	00 04 09.7	+0.5
KBN	**Korca**	**1.29**	**182**	P	Pn	00 03 51.1	-0.4
KBN				S	Sn	00 04 09.2	-0.2
	comp=E,415nm,0.8s						
KBN	**Korca**	**1.29**	**182**	P	Pn	00 03 49.3	-2.2
	baz=184						
KBN				S	Sb	00 04 08.3	-0.2
	baz=184						
KBN				AMP			
	comp=N,1.3nm,0.6s,baz=184						
SELS	**Selova**	**1.31**	**9**	*e*Pg	Pn	00 03 51.1	-0.7
SELS				*e*Sg	Sb	00 04 08.4	-0.7
BOSS	**Bosilegrad**	**1.34**	**64**	*e*Pg	Pb	00 03 52.0	-0.3
BOSS				*e*Sg	Sb	00 04 09.2	-0.7
KOME	**Kolasin**	**1.36**	**314**	*e*Pg	Pn	00 03 50.9	-1.5
KOME				*i* Sg	Sg	00 04 11.0	+0.9
VAY	**Valandovo**	**1.42**	**114**	*e*Pg	Pn	00 03 53.1	-0.1
VAY				*e*Sg	Sn	00 04 11.6	-0.8
VAY	**Valandovo**	**1.42**	**114**	*i* Pn	Pn	00 03 53.2	0.0
VAY				*i* Sn	Sg	00 04 12.7	+0.6
VAY				*e*Lg	Lg	00 04 14.6	
	comp=N,165nm,0.5s						
BUM	**Brajici-Budva**	**1.50**	**285**	⇓*i*Pg	Pn	00 03 54.1	-0.3
BUM				*i* Sg	Sg	00 04 16.9	+2.1
NEST	**Nestorio**	**1.51**	**174**	P	Pn	00 03 53.8	-0.7
NEST				S	Sg	00 04 16.2	+1.3
	comp=N,275nm,0.7s						
GRG	**Griva**	**1.51**	**129**	P	Pb	00 03 54.8	-0.4
GRG				S	Sb	00 04 14.7	-0.1
	comp=N,210nm,0.5s						
GRG	**Griva**	**1.51**	**129**	*i* Pn	Pn	00 03 54.7	+0.2
GRG				*i* Sn	Sg	00 04 15.3	+0.3
CEME	**Cevo**	**1.57**	**294**	⇑*i*Pg	Pn	00 03 55.0	-0.3
CEME				*i* Sg	Sg	00 04 18.2	+1.5
NKY	**Niksic**	**1.64**	**304**	⇓*i*Pn	Pn	00 03 56.1	-0.2
NKY				*i* Sn	Sg	00 04 19.6	+0.5
NKME	**Niksic**	**1.64**	**302**	⇓*i*Pn	Pn	00 03 56.2	-0.1
NKME				*i* Sn	Sg	00 04 19.7	+0.5
KNT	**Kendrikon**	**1.71**	**115**	P	Pn	00 03 57.3	+0.1
KNT	**Kendrikon**	**1.71**	**115**	*i* Pn	Pn	00 03 57.1	-0.1
IVAS	**Ivanjica**	**1.73**	**343**	*e*Pn	Pn	00 03 57.0	-0.6
IVAS				*e*Sn	Sn	00 04 19.3	-1.0
KZN	**Kozani**	**1.75**	**156**	P	Pb	00 03 59.1	-0.2
PLE	**Pljevlja**	**1.77**	**323**	⇓*i*Pn	Pn	00 03 58.0	-0.2
PLE				*i* Sn	Sb	00 04 22.3	-0.1
LSK	**Leskovik**	**1.78**	**186**	P	Pb	00 03 59.2	-0.5
LSK				S	Sn	00 04 21.3	0.0
	comp=N,225nm,0.8s						
LSK	**Leskovik**	**1.78**	**186**	P	Pn	00 03 58.8	+0.7
	baz=188						
LSK				S	Sg	00 04 24.0	+0.5
	baz=188						
KTI	**Kastanea**	**1.80**	**147**	P	Pb	00 03 59.4	-0.7
HCY	**Herceg Novi**	**1.83**	**288**	*e*Pn	Pn	00 03 59.3	+0.5
HCY	**Herceg Novi**	**1.83**	**288**	⇓*i*Pn	Pn	00 03 59.4	+0.6
HCY				*i* Sn	Sg	00 04 24.6	-0.6
ZAPS	**Zavoj**	**1.89**	**44**	*e*Pn	Pb	00 04 00.4	-1.2
ZAPS				*e*Sn	Sb	00 04 24.4	-1.3
VTS	**Vitosha**	**1.90**	**68**	*e*Pn	Pn	00 04 00.0	0.0
VTS				*e*Sn	Sn	00 04 24.2	-0.4
VTS	**Vitosha**	**1.90**	**68**	⇓P	Pn	00 04 00.7	+0.7
VTS	**Vitosha**	**1.90**	**68**	⇓S	Sb	00 04 26.4	+0.2
VTS	**Vitosha**	**1.90**	**68**	*i* Pn	Pn	00 04 00.6	+0.6
UPM	**Unac-Piva**	**1.93**	**312**	*e*Pn	Pb	00 04 01.8	-0.5
UPM	**Unac-Piva**	**1.93**	**312**	⇑*i*Pn	Pn	00 04 00.2	-0.1
UPM				*i* Sn	Sb	00 04 26.2	-0.7
GRUS	**Gruza**	**1.97**	**357**	*e*Pn	Pn	00 04 00.7	-0.1
GRUS				*e*Sn	Sb	00 04 26.9	-1.1
RUDO	**Rudo**	**2.02**	**328**	*e*Pn	Pn	00 04 01.0	-0.4
TREB	**Trebinje**	**2.02**	**294**	*e*Pn	Pb	00 04 03.7	-0.1
THE	**Thessaloniki**	**2.05**	**128**	*i* Pn	Pn	00 04 02.6	+0.8
SRN	**Sarande**	**2.14**	**198**	P	Pn	00 04 04.3	+1.3
HORT	**Hortiatis**	**2.15**	**127**	P	Pn	00 04 03.5	+0.2
ZAGS	**Zajecar**	**2.15**	**28**	*e*Pn	Pn	00 04 03.1	-0.1
ZAGS				*e*Sn	Sn	00 04 30.1	-0.3
BLKB	**Belogradchik**	**2.17**	**38**	⇑S	Sn	00 04 30.9	-0.1
SOH	**Sokhos**	**2.18**	**119**	P	Pn	00 04 03.8	+0.1
SRS	**Serrai**	**2.21**	**110**	P	Pn	00 04 04.3	+0.2
BBLS	**Lazići**	**2.22**	**332**	*e*Pn	Pn	00 04 04.2	0.0
BBLS	**Lazići**	**2.22**	**332**	*e*Pn	Pn	00 04 04.3	0.0
DIVS	**Divibare**	**2.27**	**344**	*e*Pn	Pn	00 04 04.6	-0.3
DIVS				*e*Sn	Sn	00 04 32.8	-0.7
DIVS	**Divibare**	**2.27**	**344**	*e*Pn	Pn	00 04 04.6	-0.3
TRUS	**Trudelj**	**2.33**	**352**	*e*Pn	Pn	00 04 05.3	-0.4
TRUS				*e*Sn	Sn	00 04 35.4	+0.6
NVR	**Nevrokopi**	**2.33**	**103**	P	Pn	00 04 06.3	+0.6
KEK	**Kerkira**	**2.34**	**200**	P	Pn	00 04 07.4	+1.5
SVIS	**Svilajnac**	**2.36**	**6**	*e*Pn	Pn	00 04 06.3	+0.2
PLG	**Polygyros**	**2.50**	**127**	P	Pn	00 04 08.6	+0.6
STON	**Ston**	**2.52**	**293**	*e*Pn	Pn	00 04 09.6	+1.3
STON	**Ston**	**2.52**	**293**	*e*Pn	Pn	00 04 09.9	+1.6
STON				Sn	Sn	00 04 40.8	+1.3
KUBS	**Kucevo**	**2.56**	**13**	*e*Pn	Pn	00 04 09.3	+0.4
HAPS	**Han Pijesak,BI**	**2.58**	**328**	*e*Pn	Pn	00 04 08.8	-0.4
TEKS	**Tekeris**	**2.80**	**340**	*e*Pn	Pn	00 04 12.3	+0.1
TEKS	**Tekeris**	**2.80**	**340**	*e*Pn	Pn	00 04 10.8	-1.4
MDVR	**Moldovita**	**2.93**	**12**	⇓P	Pn	00 04 13.8	-0.2
MDVR	**Moldovita**	**2.93**	**12**	⇑S	Sn	00 04 49.2	-0.6
LSTV	**Lastovo**	**3.05**	**287**	*e*Pn	Pn	00 04 17.8	+2.2
LSTV				Sn	Sn	00 04 54.4	+1.7
RICI	**Ricice**	**3.16**	**301**	*e*Pn	Pn	00 04 19.1	+2.0
RICI				Sn	Sn	00 04 56.4	+1.1
FRGS	**Fruska Gora**	**3.33**	**347**	*e*Pn	Pn	00 04 19.2	-0.2
FRGS	**Fruska Gora**	**3.33**	**347**	⇑P	Pn	00 04 19.1	-0.2
FRGS	**Fruska Gora**	**3.33**	**347**	*e*Pn	Pn	00 04 19.2	-0.2
MATE	**Matera**	**3.37**	**249**	⇓P	Pn	00 04 19.3	-0.7
MATE	**Matera**	**3.37**	**249**	⇑S	Sn	00 04 58.8	-1.7
HVAR	**Hvar**	**3.49**	**293**	*e*Pn	Pn	00 04 22.8	+1.2
MGRS	**Mrkonjic Grad**	**3.72**	**313**	*e*Pn	Pn	00 04 28.3	+3.5
BZS	**Buzias**	**3.74**	**8**	⇑P	Pn	00 04 24.3	-0.8
BZS	**Buzias**	**3.74**	**8**	⇑S	Sn	00 05 08.1	-1.4
GZR	**Gura Zlata**	**3.74**	**21**	⇓P	Pn	00 04 25.0	-0.2
KJIV	**Kijevo**	**3.87**	**304**	*e*Pn	Pn	00 04 29.1	+2.2
KIJV				Sn	Sn	00 05 12.9	0.0
BLY	**Banja Luka**	**3.89**	**318**	*e*Pn	Pn	00 04 24.1	-3.1
LOT	**Lotru**	**4.12**	**30**	⇑P	Pn	00 04 30.5	+0.2
ZIRJ	**Zirje**	**4.21**	**296**	*e*Pn	Pn	00 04 32.6	+1.2
ZIRJ				Sn	Sn	00 05 20.8	-0.3
MORI	**Morici**	**4.25**	**299**	*e*Pn	Pn	00 04 33.6	+1.5
MORI				Sn	Sn	00 05 22.7	+0.5
SIRR	**Siria**	**4.39**	**7**	⇑P	Pn	00 04 33.8	-0.2
ARR	**Arges**	**4.41**	**37**	⇓P	Pn	00 04 34.3	0.0
UDBI	**Udbina**	**4.54**	**307**	*e*Pn	Pn	00 04 38.7	+2.6
UDBI				Sn	Sn	00 05 29.2	-0.2
MORH	**Mrgy, Hungar**	**4.58**	**340**	⇓P	Pn	00 04 35.8	-0.8
MORH	**Mrgy, Hungar**	**4.58**	**340**	*e*P	Pn	00 04 36.4	-0.2
MORH	**Mrgy, Hungar**	**4.58**	**340**	*e*Pn	Pn	00 04 35.3	-1.3
KOVH	**Kovagotottos**	**4.62**	**335**	*e*P	Pn	00 04 36.9	-0.2
VOIR		**4.65**	**39**	⇑P	Pn	00 04 38.2	+0.5
DUGI	**Dugi Otok**	**4.73**	**298**	*e*Pn	Pn	00 04 39.9	+1.2
DRGR		**5.05**	**15**	⇑P	Pn	00 04 42.7	-0.5
NVLJ	**Novalja**	**5.10**	**303**	*e*Pn	Pn	00 04 44.8	+1.0
NVLJ				Sn	Sn	00 05 42.6	-0.6
RABC	**Rab**	**5.25**	**305**	*e*Pn	Pn	00 04 46.8	+1.0
KALN	**Kalnik**	**5.27**	**325**	*e*Pn	Pn	00 04 46.0	-0.1
LOBO	**Lobor**	**5.46**	**322**	*e*Pn	Pn	00 04 48.7	0.0
CRES	**Cresnjev**	**5.52**	**317**	*e*Pn	Pn	00 04 50.3	+0.8
AQU	**L'Aquila**	**5.55**	**277**	*e*Pn	Pn	00 04 51.7	+1.6
MPLH	**Magyarpolny**	**5.76**	**337**	*e*S	Sn	00 05 58.2	-1.2
CEY	**Cerknica**	**6.01**	**312**	*e*Pn	Pn	00 04 58.1	+1.8
TRPA	**Tarpa**	**6.33**	**10**	*e*P	Pn	00 05 00.1	-0.4
SOKA	**Soboth**	**6.33**	**321**	*i* Pn	Pn	00 05 01.2	+0.5
	comp=N,0.8nm,0.4s						
OBKA	**Obir**	**6.45**	**318**	*e*Pn	Pn	00 05 04.8	+2.5
	comp=N,1.3nm,0.6s						
OBKA				*e*Sn	Sn	00 06 16.5	+0.1
	comp=N,1.1nm,0.5s						
ARSA	**Arzberg**	**6.55**	**326**	*i* Pn	Pn	00 05 03.6	-0.1
	comp=N,0.9nm,0.3s						
ARSA				*e*Sn	Sn	00 06 20.7	+1.9
	comp=N,0.8nm,0.4s						
KOLS	**Kolonicke sedl**	**7.09**	**8**	*e*PN	Pn	00 05 11.9	+0.9
KOLS				*e*PG	Pg	00 05 46.2	+4.1
KBA	**Koelnbreinsper**	**7.44**	**316**	*i* Pn	Pn	00 05 18.7	+2.6
	comp=N,1.0nm,0.4s						
ABTA	**Abfaltersbach**	**7.68**	**312**	*e*Pn	Pn	00 05 21.2	+1.9
	comp=N,2.3nm,0.5s,SNR=6.0						
WTTA	**Wattenberg**	**8.47**	**312**	*i* Pn	Pn	00 05 32.8	+2.7
	comp=N,2.0nm,0.4s						
MOTA	**Moosalm**	**8.81**	**311**	*i* Pn	Pn	00 05 36.7	+1.9
	comp=N,1.2nm,0.4s						

ROM 11 00:04:31.7±0.1, 40°.011N±0°.003×16°.028E±0°.005, h10km, ML1.2/5, Error ellipse: s-maj=0.4km s-min=0.2km az=228.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0701	**Viggianello (P**	**0.07**	**110**	P	Pg	00 04 34.5	+0.5
T0701				S	Sg	00 04 36.1	+0.5
MMN	**Mormanno**	**0.12**	**193**	P	Pg	00 04 35.1	+0.6
MMN				S	Sg	00 04 37.2	+0.7
CUC	**Castrocucco**	**0.16**	**264**	P	Pg	00 04 35.8	+0.6
CUC				S	Sg	00 04 38.7	+1.0
SCHR	**S. Chirico Rap**	**0.19**	**11**	P	Pg	00 04 36.3	+0.5
SCHR				S	Sg	00 04 39.3	+0.7
SCHR				AML	AML		
	comp=E,129μm,0.4s						
SCHR				AML	AML		
	comp=N,86μm,0.9s						
SCHR				AML	AML		
	comp=E,130μm,0.4s						
SCHR				AML	AML		
	comp=N,87μm,0.9s						
SIRI	**Monte Sirino -**	**0.21**	**324**	P	Pg	00 04 36.9	+0.7
SIRI				S	Sg	00 04 40.7	+1.6
SIRI				AML	AML		
	comp=E,202μm,0.3s						
SIRI				AML	AML		
	comp=N,268μm,0.6s						
SIRI				AML	AML		
	comp=E,213μm,0.3s						
SIRI				AML	AML		
	comp=N,270μm,0.6s						
SALB	**San Lorenzo Be**	**0.28**	**118**	P	Pg	00 04 38.0	+0.6
SALB				S	Sb	00 04 42.8	-1.0
SALB				AML	AML		
	comp=N,53μm,1.4s						
SALB				AML	AML		
	comp=E,57μm,0.8s						
T0702	**Acquaformosa (**	**0.29**	**172**	P	Pg	00 04 38.1	+0.5
ORI	**Oriolo Calabro**	**0.33**	**81**	P	Pb	00 04 39.2	-0.5
MTSN	**Montesano sull**	**0.33**	**320**	P	Pg	00 04 39.0	+0.7
MTSN				S	Sb	00 04 44.5	-0.7
MTSN				AML	AML		
	comp=E,59μm,0.8s						
MTSN				AML	AML		
	comp=N,56μm,0.9s						
MCEL	**Monticello**	**0.36**	**331**	P	Pg	00 04 39.3	+0.5
MCEL				S	Sb	00 04 45.4	-0.7
MGR	**Morigerati**	**0.39**	**289**	P	Pb	00 04 40.0	-0.6
MGR				AML	AML		
	comp=E,38μm,0.3s						
MGR				AML	AML		
	comp=N,32μm,0.3s						
MGR				AML	AML		
	comp=N,34μm,1.3s						

*MOS **11** 00:11:33.8±1.1, 51°.95N×178°.48E, h112km, mb5.0/64, Error ellipse: s-maj=7.1km s-min=5.1km az=114.1*
*BJI **11** 00:11:34.1±0.0, 52°.28N×177°.99E, h100km, mB5.4/26, mb5.2/48*
*IDC **11** 00:11:34.8±0.6, 51°.96N×178°.51E, h108km±4km, mb4.3/33, mb1 4.4/37, mb1mx4.4/47, mbtmp4.7/37, MS3.3/14, Ms1 3.3/14, ms1mx3.0/46, Error ellipse: s-maj=12.0km s-min=7.5km az=170.0*
*NEIC **11** 00:11:34.2±1.8, 51°.90N±0°.09×178°.46E±0°.05, h100km±4km, Error ellipse: s-maj=12.9km s-min=4.1km az=188.0*
*AEIC **11** 00:11:34±2.2, 51°.80N±0°.09×178°.42E±0°.08, h99km±4km, ML4.5/50, mb4.8/330(NEIC), Error ellipse: s-maj=12.4km s-min=6.7km az=189.0*

ISC 11 00:11:34.6±0.4, 52°.00N±0°.05×178°.45E±0°.03, h106km±3km, h108km:pP-P,n788,σ1°25/736, mb4.8/266, 106C-116D, Fault plane solution: NP1:ϕ_s322.65448°, δ71.24072°, λ-120.25795°. **NP2:**ϕ_s203.78792°, δ35.12680°, λ-33.98079°. **Principal axes: T** Plg20.5441°, Azm75.0195°; N Plg28.4979°, Azm333.2801°; P Plg53.6808°, Azm195.6712°; **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.05**	**129**		**Pn**	**00 11 48.3**	**-1.0**
LSSA	**Little Sitkin**	**0.07**	**145**		**Pn**	**00 11 48.4**	**-0.9**
LSPA	**Little Sitkin**	**0.09**	**122**		**Pn**	**00 11 48.6**	**-0.7**
LSSE	**Little Sitkin**	**0.10**	**134**		**Pn**	**00 11 48.5**	**-0.8**
CEAP	**Semis' Anvil P**	**0.70**	**90**		**Pn**	**00 11 52.0**	**-0.6**
CESW	**Semis' Southwe**	**0.70**	**98**		**Pn**	**00 11 51.6**	**-0.9**
CERB	**Semis' Cerberu**	**0.73**	**95**		**Pn**	**00 11 52.4**	**-0.5**
CERAA	**Semis' Rag'd T**	**0.77**	**97**		**Pn**	**00 11 52.4**	**-0.8**
AMKA	**Amchitka**	**0.82**	**139**		**Pn**	**00 11 51.7**	**-2.0**
AMKA				Sn	**Sn**	**00 12 04.2**	**-3.8**
GALAA	**Gareloi Lava P**	**1.74**	**97**		**Pn**	**00 12 03.4**	**-0.7**
GAEA	**Gareloi East**	**1.75**	**96**		**Pn**	**00 12 03.8**	**-0.4**
TASE	**Tanaga Southea**	**2.18**	**93**		**Pn**	**00 12 09.2**	**-0.5**
TAFP	**Tanaga Falls P**	**2.21**	**91**		**Pn**	**00 12 09.4**	**-0.7**
TAFP					**Sn**	**00 12 36.2**	**-1.0**
KIMD	**Kanaga Island**	**2.68**	**93**		**Pn**	**00 12 15.5**	**-0.8**
KIMD					**Sn**	**00 12 46.7**	**-1.6**
KICM	**Kanaga Island**	**2.69**	**90**		**Pn**	**00 12 16.0**	**-0.4**
KIKV	**Kanaga Island**	**2.71**	**91**		**Pn**	**00 12 16.3**	**-0.4**
KIWB	**Kanaga Island**	**2.73**	**91**	Pn	**Pn**	**00 12 16.0**	**-0.9**
KIRH	**Kanaga Island**	**2.76**	**90**		**Pn**	**00 12 16.8**	**-0.5**
SMY	**Shemya**	**2.77**	**287**	P	**Pn**	**00 12 16.5**	**-0.8**
SMY				S	**Sn**	**00 12 48.9**	**-1.3**
SMY	**Shemya**	**2.77**	**287**	Pn	**Pn**	**00 12 16.5**	**-0.8**
SMY				Sn	**Sn**	**00 12 48.4**	**-1.8**
ADK	**Adak**	**3.01**	**90**	P	**Pn**	**00 12 19.8**	**-0.8**
ADK	**Adak**	**3.01**	**90**	Pn	**Pn**	**00 12 19.8**	**-0.8**
ADAG	**Mount Adagdak**	**3.06**	**88**		**Pn**	**00 12 20.6**	**-0.6**
GSTD	**Great Sitkin T**	**3.34**	**87**		**Pn**	**00 12 24.2**	**-0.8**
GSTD					**Sn**	**00 13 03.8**	**-0.1**
GSTR	**Great Sitkin T**	**3.39**	**86**	Pn	**Pn**	**00 12 25.2**	**-0.5**
GSMY	**Great Sitkin M**	**3.39**	**87**		**Pn**	**00 12 25.2**	**-0.5**
KOKL	**Mount Kliuchef**	**4.54**	**83**		**Pn**	**00 12 40.8**	**-0.3**
ATKA	**Atka Island**	**4.54**	**85**	Pn	**Pn**	**00 12 40.6**	**-0.4**
ATKA	**Atka Island**	**4.54**	**85**		**Sn**	**00 13 32.6**	**-0.1**
KOFP	**Korovin Flat P**	**4.60**	**84**		**Pn**	**00 12 42.2**	**+0.3**
KOSE	**Korovin Southe**	**4.63**	**83**		**Pn**	**00 12 42.9**	**+0.6**
NIKH	**Nikolski High**	**7.81**	**78**	P	**Pn**	**00 13 26.8**	**+1.4**
	baz=266,SNR=15						
NIKH	**Nikolski High**	**7.81**	**78**	Pn	**Pn**	**00 13 26.5**	**+1.1**
NIKH	**Nikolski High**	**7.81**	**78**		**Sn**	**00 14 54.9**	**+2.8**
OKSP	**Okmok Steeple**	**8.16**	**76**		**Pn**	**00 13 31.8**	**+1.5**
OKCE	**Okmok Cone E**	**8.25**	**75**		**Pn**	**00 13 33.6**	**+2.2**
OKTU	**Okmok Mt. Tuli**	**8.32**	**75**		**Pn**	**00 13 34.0**	**+1.6**
SPIA	**Saint Paul Isl**	**8.36**	**47**	P	**Pn**	**00 13 36.0**	**+3.2**
	baz=235,SNR=21						
SPIA	**Saint Paul Isl**	**8.36**	**47**		**Pn**	**00 13 35.7**	**+3.0**
MAPS	**Pakushin South**	**9.01**	**73**		**Pn**	**00 13 43.2**	**+1.5**
MGOD	**Makushin Gods**	**9.05**	**73**		**Pn**	**00 13 43.6**	**+1.3**
MSW	**Makushin Switc**	**9.12**	**72**		**Pn**	**00 13 44.8**	**+1.7**
MREP	**Makushin Rep't**	**9.13**	**73**		**Pn**	**00 13 44.6**	**+1.3**
MNAT	**Makushin Natee**	**9.17**	**72**		**Pn**	**00 13 45.7**	**+1.8**
AKRB	**Akutan Reef Bi**	**9.56**	**71**		**Pn**	**00 13 51.2**	**+2.1**
AKMO	**Akutan Morgan**	**9.59**	**71**		**Pn**	**00 13 51.4**	**+1.8**
AKGG	**Akutan Green G**	**9.61**	**71**		**Pn**	**00 13 51.9**	**+2.1**
AKUT	**Akutan**	**9.73**	**71**		**Pn**	**00 13 53.0**	**+1.5**
PET	**Petropavlovsk**	**12.10**	**283**	*e*P	**Pn**	**00 14 19.2**	**-4.1**
PET				*e*S	**Sn**	**00 16 31.1**	**-5.1**
PET				pmax	pmax		
	comp=Z,40nm,0.9s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET	**Petropavlovsk**	**12.10**	**283**		**Pn**	**00 14 23.9**	**+0.6**
PEA0B	**Petropavlovsk-**	**12.67**	**283**	‖*e*P	**Pn**	**00 14 31.7**	**+0.8**
PEA0B	**Petropavlovsk-**	**12.67**	**283**	Pn	**Pn**	**00 14 31.6**	**+0.8**
PETK	**Petropavlovsk-**	**12.67**	**283**	P	**Pn**	**00 14 31.2**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=100,slow=14,SNR=21						
PETK				S	**Sn**	**00 16 43.0**	**-7.2**
	comp=Z,0.5nm,0.3s,baz=114,slow=21,SNR=1.8						
PETK				LR	LR	00 19 13.8	
	comp=Z,48nm,21.9s,baz=81,slow=36						
PETK	**Petropavlovsk-**	**12.67**	**283**	Pn	**Pn**	**00 14 30.0**	**-0.9**
GAMB	**Gambell**	**12.89**	**20**	P	**P**	**00 14 38.4**	**-1.8**
	baz=208						
SDPT	**Sand Point**	**12.92**	**67**	P	**Pn**	**00 14 32.7**	**-1.4**
	baz=263,SNR=6.8						
SDPT	**Sand Point**	**12.92**	**67**	Pn	**Pn**	**00 14 32.6**	**-1.4**
CHNA	**Chernabura Isl**	**13.39**	**69**	P	**Pn**	**00 14 37.4**	**-2.7**
	baz=266,SNR=9.0						
CNBA	**Chernabura Isl**	**13.39**	**69**		**Pn**	**00 14 37.4**	**-2.8**
SKR	**Severo-Kuril's**	**14.02**	**273**	*e*P	**Pn**	**00 14 50.3**	**+2.0**
TNA	**Tin City**	**15.26**	**22**	Pn	**P**	**00 15 05.8**	**-0.6**
N18K	**Kilae Creek**	**16.57**	**48**	P	**P**	**00 15 22.6**	**+1.6**
	baz=249,SNR=37						
O18K	**Koktuh Hills**	**16.63**	**52**	P	**P**	**00 15 23.4**	**+1.7**
	baz=253,SNR=91						
SVW2	**Sparrevohn**	**16.85**	**47**	P	**P**	**00 15 25.6**	**+1.5**
OHAK	**Old Harbor**	**17.11**	**61**	P	**Pn**	**00 15 25.0**	**-1.9**
	baz=264,SNR=13						
OHAK	**Old Harbor**	**17.11**	**61**		**Pn**	**00 15 25.2**	**-1.7**
BILL	**Bilibino**	**17.14**	**344**	*c i*P	**P**	**00 15 29.8**	**+2.6**
BILL				*e*S	**Sn**	**00 18 34.4**	**-3.1**
BILL				pmax	pmax		
	comp=Z,126nm,1.3s						
BILL	**Bilibino**	**17.14**	**344**	P	**P**	**00 15 29.7**	**+2.6**
BILL				IAmb	IAmb	00 15 31.6	
	comp=Z,73nm,0.8s						
O19K	**Port Alsworth**	**17.15**	**51**	P	**P**	**00 15 30.1**	**+2.7**
	baz=253						
MA2	**Magadan**	**17.21**	**307**	P	**Pn**	**00 15 29.5**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=106,slow=11,SNR=5.5						
N19K	**Bonanza Creek**	**17.26**	**49**	P	**Pn**	**00 15 31.1**	**+2.3**
	baz=251,SNR=98						
P19K	**Oil Pt**	**17.54**	**53**	P	**Pn**	**00 15 33.8**	**+1.6**
	baz=256,SNR=62						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**00 15 30.0**	**-1.7**
	comp=Z,4.8nm,0.3s,baz=260,slow=6.8,SNR=97						
KDAK				S	**Sn**	**00 18 42.9**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=315,slow=20,SNR=1.9						
KDAK				LR	LR	00 22 43.2	
	comp=Z,139nm,18.8s,baz=261,slow=38						
KDAK				ScP	**ScP**	**00 23 30.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=194,slow=3.4,SNR=4.2						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**00 15 29.6**	**-2.2**
	baz=262						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**00 15 29.6**	**-2.2**
KDAK				IAmb	IAmb	00 15 33.2	
	comp=Z,32nm,0.8s						
L19K	**White Mountain**	**17.59**	**44**	P	**Pn**	**00 15 34.5**	**+1.8**
	baz=246,SNR=47						
SEY	**Seymchan**	**17.64**	**318**	P	**Pn**	**00 15 33.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=122,slow=7.2,SNR=11						
SEY				PcP	**PcP**	**00 20 05.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=16,slow=21,SNR=5.7						
SEY	**Seymchan**	**17.64**	**318**	‖*e*P	**Pn**	**00 15 34.1**	**+0.8**
M19K	**Big River Lodg**	**17.68**	**45**	P	**Pn**	**00 15 35.7**	**+1.8**
	baz=248,SNR=29						
O20K	**Slope Mountain**	**17.94**	**52**	P	**Pn**	**00 15 38.6**	**+1.6**
	baz=255,SNR=29						
RSO	**Redoubt South**	**17.98**	**51**	P	**Pn**	**00 15 39.1**	**+1.6**
M20K	**Styx River**	**18.23**	**46**	P	**Pn**	**00 15 42.1**	**+1.6**
	baz=249,SNR=88						
HOM	**Homer**	**18.33**	**54**	P	**Pn**	**00 15 42.8**	**+1.2**
	baz=258						
K20K	**Telida**	**18.40**	**41**	P	**Pn**	**00 15 43.1**	**+0.7**
	baz=244						
SPCR	**Spurr Chakacha**	**18.43**	**49**	P	**Pn**	**00 15 44.3**	**+1.4**
	baz=253,SNR=12						
**R

KUR Kuril'sk 21.21 264⇑ eP P 00 16 12.3 +0.7
H23K Yukon River 21.22 37 P P 00 16 13.9 +2.3
baz=244,SNR=10
WRH Wood River Hil 21.27 41 P P 00 16 11.9 -0.2
EYAK Cordova Ski Ar 21.39 52 P P 00 16 13.8 +0.5
baz=262,SNR=9.6
EYAK Cordova Ski Ar 21.39 52 IAmb IAmb 00 16 16.6
comp=Z,54nm,1.0s
M24K Tolsona, Glenn 21.45 48 P P 00 16 16.5 +2.4
baz=259,SNR=14
M24K Tolsona, Glenn 21.45 48 IAmb IAmb 00 16 22.9
comp=Z,48nm,0.9s
KLU Klutina 21.45 50 P P 00 16 15.0 +0.8
baz=259,SNR=30
KLU Klutina 21.45 50 IAmb IAmb 00 16 18.2
comp=Z,49nm,1.1s
COLA College 21.51 40 ceP P 00 16 16.5 +1.9
COLA pmax pmax
comp=Z,12nm,0.8s
HDA Harding Lake 21.72 42 P P 00 16 18.1 +1.2
baz=251
POKR Poker Plat Res 21.76 40 P P 00 16 18.7 +1.4
baz=249,SNR=6.8
POKR Poker Plat Res 21.76 40 P P 00 16 18.4 +1.2
H24K Noodor Dome 21.86 38 P P 00 16 19.6 +1.2
baz=246,SNR=28
IL31 21.86 41 P P 00 16 18.8 +0.5
ILAR Eielson Array 21.86 41 P P 00 16 17.2 -1.2
comp=Z,3.4nm,0.5s,baz=238,slow=9.5,SNR=37
ILAR PcP PcP 00 20 11.8 -1.6
comp=Z,0.9nm,0.6s,baz=285,slow=4.1,SNR=4.4
ILAR ScP ScP 00 23 37.7 -3.0
comp=Z,1.9nm,0.6s,baz=273,slow=3.4,SNR=11
ILAR Eielson Array 21.86 41 P P 00 16 18.8 +0.5
ILAR Eielson Array 21.86 41 P P 00 16 18.8 +0.5
HARP HAARP 21.98 48 P P 00 16 21.4 +1.8
baz=258,SNR=6.2
BMRM Bremner River 22.00 52 P P 00 16 20.1 +0.1
baz=262,SNR=18
BMRM Bremner River 22.00 52 IAmb IAmb 00 16 25.9
comp=Z,43nm,0.9s
N25K Chitina, Valde 22.09 50 P P 00 16 21.3 +0.4
baz=260,SNR=21
TYV Tymovskoe 22.21 281 eP P 00 16 23.2 +1.1
TYV eS Sn 00 21 06.3 +27
TYV pmax pmax
comp=Z,500nm,4.0s
TYV pmax pmax
comp=Z,33nm,0.9s
TYV smax smax
comp=N,11nm,0.3s
SUCK Suckling Hills 22.32 54 P P 00 16 23.6 +0.4
A21K Barrow 22.37 21 P P 00 16 24.7 +1.1
A21K IAmb IAmb 00 16 27.6
comp=Z,73nm,1.1s
RIDG Independent Ri 22.41 44 P P 00 16 24.1 -0.1
baz=255,SNR=23
GLB Gilahina Butte 22.44 50 IAmb IAmb 00 16 28.1
comp=Z,29nm,0.7s
TOLK Toolik Lake Re 22.56 30 P P 00 16 27.3 +1.7
baz=238,SNR=16
TOLK Toolik Lake Re 22.56 30 P P 00 16 27.1 +1.5
VRDI Verde Repeater 22.59 51 IAmb IAmb 00 16 28.8
comp=Z,44nm,0.9s
PRP Porcupine Dome 22.65 40 P P 00 16 27.4 +0.7
baz=250,SNR=5.6
PRP Porcupine Dome 22.65 40 P P 00 16 26.8 +0.2
PRP IAmb IAmb 00 16 29.2
comp=Z,18nm,0.5s
CRQE Cirque 22.71 52 P P 00 16 27.9 +0.6
baz=264,SNR=41
DOT Dot Lake 22.73 45 IAmb IAmb 00 16 29.6
comp=Z,24nm,0.8s
WAX Waxell Ridge 22.80 53 IAmb IAmb 00 16 30.2
comp=Z,47nm,0.8s
MCARA McCarthy VSAT 22.81 51 P P 00 16 29.1 +0.9
baz=263,SNR=24
SCRK Sand Creek 22.84 44 P P 00 16 28.0 -0.6
baz=256,SNR=16
SCRK Sand Creek 22.84 44 P P 00 16 28.0 -0.6
SCRK PcP 00 20 16.2 +0.6
L26K Log Cabin Wild 22.91 46 P P 00 16 30.3 +1.1
baz=258
ISLE Juniper Island 23.07 53 IAmb IAmb 00 16 38.6
comp=Z,29nm,0.8s
FYU Fort Yukon 23.12 37 P P 00 16 31.3 +0.2
MESA MESA 23.24 54 P P 00 16 33.2 +0.7
baz=267,SNR=17
YAH Yahtse 23.35 53 IAmb IAmb 00 16 35.6
comp=Z,35nm,0.7s
YSS Yuzh-Sakhalins 23.57 272 c iP P 00 16 37.3 +1.9
YSS pmax pmax
comp=Z,61nm,0.8s
YSS Yuzh-Sakhalins 23.57 272 P P 00 16 35.9 +0.5
CTG Chitna Glacier 23.59 52 P P 00 16 36.0 +0.4
baz=265,SNR=24
L27K Beaver Creek, 23.60 47 P P 00 16 36.4 +0.8
baz=260,SNR=73
L27K Beaver Creek, 23.60 47 IAmb IAmb 00 16 38.2
comp=Z,42nm,1.0s
BCAR Beaver Creek A 23.62 47 P P 00 16 37.2 +1.4
K27K Chicken 23.67 44 P P 00 16 37.0 +0.9
baz=258
PCA Pinnacle 24.08 54 IAmb IAmb 00 16 41.4
comp=Z,57nm,1.0s
PINM Pinnacle 24.08 54 P P 00 16 40.0 +0.1
baz=268,SNR=15
EGAK Eagle 24.22 43 P P 00 16 41.5 +0.5
baz=257,SNR=34
EGAK Eagle 24.22 43 P P 00 16 41.9 +0.9
EGAK IAmb IAmb 00 16 42.9
comp=Z,44nm,0.9s
DAWY Dawson 24.84 45 IAmb IAmb 00 17 14.2
comp=Z,27nm,0.8s
JKA Kamikawa-asahi 25.02 266 P P 00 16 48.8 +0.3
JKA IAmb IAmb 00 16 50.7
comp=Z,40nm,0.9s
ASAJ Asahikawa 25.02 266 P P 00 16 49.0 +0.5
comp=Z,29nm,0.7s,baz=42,slow=7.8,SNR=17
ERM Erimo 25.82 261⇑ eP P 00 16 56.1 +0.3
ERM pmax pmax
comp=Z,52nm,1.7s
ERM Erimo 25.82 261 P P 00 16 56.9 +1.1
ERM IAmb IAmb 00 16 57.4
comp=Z,41nm,0.8s
GRNR Gornyy 26.00 284⇓ iP P 00 16 57.8 +0.5
GRNR eS S 00 21 22.6 +2.6
GRNR pmax pmax
comp=N,6.0nm,0.8s
GRNR pmax pmax
comp=Z,20nm,0.9s
GRNR smax smax
comp=N,2.0nm,0.7s
EPYK Eagle Plains 26.35 40 P P 00 17 00.9 +0.5
baz=259,SNR=16
WHY Whitehorse 26.74 53 P P 00 17 05.3 +1.2
baz=272
WHY Whitehorse 26.74 53 P P 00 17 05.1 +1.0
YAK Yakutsk 27.71 310⇓ eP P 00 17 12.5 0.0
YAK pmax pmax
comp=Z,14nm,0.5s
INK Inuvik 27.94 36 P P 00 17 15.4 +1.0
comp=Z,2.1nm,0.3s,baz=244,slow=8.6,SNR=22
INK PcP PcP 00 20 26.1 -0.8
comp=Z,1.8nm,0.8s,baz=310,slow=5.8,SNR=2.6
INK Inuvik 27.94 36 P P 00 17 15.5 +1.0
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 27.94 36 P P 00 17 15.6 +1.1
baz=258,SNR=5.8
INK Inuvik 27.94 36 P P 00 17 15.5 +1.0
WRAK Wrangell Islan 28.60 61 P P 00 17 21.8 +1.3
baz=282
TIXI Tiksi 29.25 330 P P 00 17 27.5 +1.4
comp=Z,2.6nm,0.6s,baz=113,slow=5.6,SNR=5.2
TIXI PcP PcP 00 20 29.3 -0.7
comp=Z,3.3nm,0.6s,baz=114,slow=3.3,SNR=2.6
TIXI ScP ScP 00 23 59.9 -1.8
comp=Z,5.8nm,0.7s,baz=102,slow=5.5,SNR=2.6
TIXI Tiksi 29.25 330 P P 00 17 28.5 +2.5
TIXI pmax pmax
comp=Z,14nm,1.4s
TIXI Tiksi 29.25 330 P P 00 17 28.5 +2.5
KLR Kul'dur 29.37 283 P P 00 17 27.6 +0.2
comp=Z,36nm,0.6s,baz=65,slow=8.3,SNR=135
KLR PcP PcP 00 20 28.6 -2.2
comp=Z,1.3nm,0.7s,baz=108,slow=6.4,SNR=2.5
KLR Kul'dur 29.37 283 d iP P 00 17 26.5 -0.8
KLR pmax pmax
comp=Z,41nm,0.7s
DLBC Dease Lake 29.44 57 P P 00 17 29.3 +1.3
comp=Z,5.7nm,0.7s,baz=290,slow=8.1,SNR=20
DLBC Dease Lake 29.44 57 P P 00 17 29.3 +1.3
ZEA Zeya 30.41 294 eP P 00 17 36.1 -0.4
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=Z,20nm,0.8s
JSD Sado 31.22 259 P P 00 17 43.7 0.0
JSD IAmb IAmb 00 17 45.0
comp=Z,17nm,0.7s
JSD PcP 00 20 36.2 +0.4
C36M Paulatuk 31.48 35 P P 00 17 46.8 +1.1
baz=266
C36M Paulatuk 31.48 35 P P 00 17 46.4 +0.7
USA0B Ussuriysk Arra 31.53 274 P P 00 17 45.7 -0.7
USA0B pmax pmax
comp=Z,8.0nm,0.8s
USA0B Ussuriysk Arra 31.53 274 P P 00 17 45.7 -0.7
USRK Ussuriysk Ar. 31.53 274 P P 00 17 46.3 -0.2
comp=Z,8.3nm,0.8s,baz=57,slow=8.2,SNR=15
USRK PcP PcP 00 20 37.2 +0.7
comp=Z,5.0nm,0.6s,baz=76,slow=1.9,SNR=9.0
VLA Vladivostok 32.16 273⇓ eP P 00 17 53.2 +1.2
VLA pmax pmax
comp=Z,29nm,1.6s
MAJO Matsushiro 32.22 257⇓ iP P 00 17 53.1 +0.5
MAJO pmax pmax
comp=Z,24nm,1.1s
MAJO Matsushiro 32.22 257 P P 00 17 52.0 -0.6
MAJO IAmb IAmb 00 17 54.1
comp=Z,17nm,0.9s
MAT Matsushiro 32.22 257 P P 00 17 52.9 +0.3
MJAR Matsushiro Arr 32.22 257 P P 00 17 52.7 +0.1
comp=Z,5.7nm,0.7s,baz=45,slow=6.9,SNR=18
MJAR PcP PcP 00 20 37.7 -0.9
comp=Z,0.9nm,0.5s,baz=93,slow=0.4,SNR=1.3
MJAR LR LR 00 32 04.8
comp=Z,25nm,19.3s,baz=55,slow=38
MJAR Matsushiro Arr 32.22 257 P P 00 17 52.7 +0.1
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 32.22 257 P P 00 17 52.7 +0.1
JGF Kuroka 33.36 257 P P 00 18 03.3 +0.7
JGF IAmb IAmb 00 18 04.4
comp=Z,15nm,0.7s
H11N2 WAKE ISLAND Hy 33.45 200 T T 00 53 26.7
baz=11,slow=76,SNR=32
H11N3 WAKE ISLAND Hy 33.47 200 T T 00 53 30.4
baz=11,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 33.47 200 T T 00 53 37.2
baz=11,slow=76,SNR=30
H11S1 WAKE ISLAND Hy 34.68 200 T T 00 55 08.4
baz=20
H11S2 WAKE ISLAND Hy 34.70 200 T T 00 55 04.3
baz=20
H11S3 WAKE ISLAND Hy 34.70 200 T T 00 55 03.3
baz=20
JWT Wachi 34.76 258 P P 00 18 14.4 -0.2
JWT IAmb IAmb 00 18 17.3
comp=Z,8.7nm,0.6s
YKA Yellowknife Ar 36.04 47 P P 00 18 26.1 +0.9
comp=Z,1.8nm,0.3s,baz=290,slow=11,SNR=16
YKA PcP PcP 00 20 47.7 -1.3
comp=Z,0.6nm,0.6s,baz=289,slow=1.9,SNR=1.7
YKA ScP ScP 00 24 25.0 -0.3
comp=Z,1.3nm,0.8s,baz=272,slow=2.7,SNR=4.0
YKA LR LR 00 33 28.2
comp=Z,61nm,21.7s,baz=0.0,slow=36
BOD Bodaibo 36.23 305 eP P 00 18 26.1 -0.8
BOD pmax pmax
comp=Z,22nm,1.2s
JHS Saijyo 36.34 260 P P 00 18 28.1 0.0
JHS IAmb IAmb 00 18 50.3
comp=Z,27nm,1.4s
PGC Sidney 36.39 72 P P 00 18 28.4 +0.1
LLLB Lillooet 36.41 68 P P 00 18 28.1 -0.6
LLLB IAmb IAmb 00 18 30.3
comp=Z,7.7nm,1.0s
HIA Hailar 36.46 290 d iP P 00 18 28.7 -0.4
HIA pmax pmax
comp=Z,14nm,0.5s
HIA Hailar 36.46 290 P P 00 18 29.1 0.0
NLWA Neilton Lookou 36.74 74 P P 00 18 32.3 +0.8
NLWA IAmb IAmb 00 18 33.2
comp=Z,7.4nm,0.8s
D03D Eldon 37.14 73 P P 00 18 35.4 +0.7
baz=299,SNR=6.4
B05A Bryant 37.37 71 P P 00 18 36.7 +0.1
baz=298,SNR=6.0
E04D Cinebar 37.93 74 P P 00 18 42.3 +0.9
baz=300,SNR=5.4
KSRS Korea Array 37.94 268 P P 00 18 42.7 +1.2
comp=Z,4.7nm,0.5s,baz=59,slow=8.0,SNR=24
KSRS PcP PcP 00 20 56.2 +1.0
comp=Z,3.0nm,0.8s,baz=48,slow=4.1,SNR=8.4
KSRS LR LR 00 31 24.5
comp=Z,47nm,22.0s,baz=76,slow=31
I02D Swisshome 38.45 78 P P 00 18 46.7 +0.8
baz=302
COR Corvallis 38.52 77 P P 00 18 47.2 +0.8
COR pmax pmax
comp=Z,28nm,1.1s
COR Corvallis 38.52 77 P P 00 18 47.2 +0.8
LTY Liberty 38.70 72 P P 00 18 47.7 -0.3
LTY IAmb IAmb 00 18 47.9
comp=Z,4.6nm,0.5s
KEBM Edson Butte 38.84 80 P P 00 18 50.0 +0.8
KEBM IAmb IAmb 00 19 15.9
comp=Z,31nm,1.4s
H04D Lebanon 38.90 77 P P 00 18 50.5 +0.9
baz=302
BUCK Buck Mountain 38.92 78 P P 00 18 50.9 +1.0
BUCK IAmb IAmb 00 19 03.8
comp=Z,19nm,1.4s
TJN Taejon 38.97 267⇑ eP P 00 18 51.0 +0.8
JNU Nakatsue 38.97 260 P P 00 18 51.5 +1.2
comp=Z,7.9nm,0.6s,baz=46,slow=9.7,SNR=4.4
I03D Drain, OR 38.98 79 P P 00 18 51.3 +1.1
baz=303
H04A Detroit Lake 39.14 76 IAmb IAmb 00 19 19.6
comp=Z,13nm,0.9s
KBO Bosley Butte 39.27 81 P P 00 18 54.0 +1.2
KBO IAmb IAmb 00 18 55.6
comp=Z,24nm,1.3s
K02D Willamette Mer 39.34 80 P P 00 18 54.5 +1.1
baz=304
G05D Wamic, OR 39.36 75 P P 00 18 53.8 +0.4
baz=302
L02E Cave Junction 39.69 81 P P 00 18 57.5 +1.3
baz=305,SNR=11
HAWA Hanford 39.82 73 IAmb IAmb 00 18 57.4
comp=Z,8.1nm,0.5s
C09A Chrisman Ranch 39.83 70 IAmb IAmb 00 18 57.0
comp=Z,6.6nm,0.5s
D08A Wollman Farm, 39.83 71 P P 00 18 56.7 -0.6
KRMB Red Mountain 39.86 82 P P 00 18 59.0 +1.2
KRMB IAmb IAmb 00 18 59.8
comp=Z,8.1nm,0.5s
J04D Umpqua Nationa 39.98 78 P P 00 18 59.8 +1.0
baz=304
EDM Edmonton 39.99 60 P P 00 18 58.7 +0.1
EDM pmax pmax
comp=Z,49nm,1.1s
EDM Edmonton 39.99 60 P P 00 18 58.7 +0.1
EUNU Eureka 40.14 16 P P 00 19 01.3 +1.8
EUNU IAmb IAmb 00 19 02.0
comp=Z,19nm,1.4s
JCC Jacoby Creek, 40.20 83 P P 00 19 01.9 +1.5
JCC IAmb IAmb 00 19 27.2
comp=Z,18nm,1.2s
NEW Newport 40.26 69 P P 00 19 00.3 -0.6
NEW pmax pmax
comp=Z,9.0nm,0.5s
NEW Newport 40.26 69 P P 00 19 00.3 -0.6
baz=300,SNR=12
NEW Newport 40.26 69 P P 00 19 00.3 -0.6
NEW IAmb IAmb 00 19 00.9
comp=Z,8.7nm,0.5s
KHMM Horse Mountain 40.35 82 P P 00 19 03.4 +1.6
L04D Klamath Falls 40.44 80 P P 00 19 03.4 +0.8
baz=305,SNR=8.3
YBH Yreka Blue Hor 40.48 81 P P 00 19 03.9 +1.1
YBH pmax pmax
comp=Z,13nm,0.7s
YBH Yreka Blue Hor 40.48 81 P P 00 19 03.9 +1.1
YBH IAmb IAmb 00 19 05.0
comp=Z,12nm,0.7s
J05D Fort Rock, OR 40.48 78 P P 00 19 03.8 +0.8
baz=304,SNR=5.4
M02C Callahan 40.59 81 P P 00 19 05.1 +1.4
baz=305,SNR=8.7
G08A Pilot Rock 40.74 74 P P 00 19 04.5 -0.5
N02D Trinity Center 40.92 82 P P 00 19 07.9 +1.5
baz=306,SNR=15
M04C Macdoel 40.98 80 P P 00 19 07.9 +1.0
baz=305,SNR=11
K05A Summer Lake 41.01 78 P P 00 19 08.5 +1.3
K05A IAmb IAmb 00 19 08.6
comp=Z,8.2nm,0.6s
I07A Izee 41.08 76 P P 00 19 07.8 +0.1
I07A IAmb IAmb 00 19 08.6
comp=Z,5.9nm,0.6s
KCPM Cahto Peak 41.15 84 P P 00 19 09.9 +1.5
KCPM IAmb IAmb 00 19 11.7
comp=Z,10nm,0.7s
WDC Whiskeytown Da 41.25 82 P P 00 19 10.1 +1.0
WDC pmax pmax
comp=Z,8.0nm,0.7s
WDC Whiskeytown Da 41.25 82 P P 00 19 10.1 +1.0
WDC IAmb IAmb 00 19 10.9
comp=Z,8.4nm,0.7s
O02D Mt. Diablo Mer 41.34 83 P P 00 19 11.4 +1.5
baz=307,SNR=13
WALA Waterton Lakes 41.69 66 P P 00 19 12.1 -0.6
WALA IAmb IAmb 00 19 13.0
comp=Z,9.1nm,0.8s
MOD Modoc Plateau 41.84 79 IAmb IAmb 00 19 16.0
comp=Z,7.1nm,0.6s
O03E Paynes Creek 41.88 82 P P 00 19 14.7 +0.4
baz=307,SNR=23
HOPS Hopland Field 41.89 84 IAmb IAmb 00 19 16.1
comp=Z,13nm,0.8s
J08A Circle Bar Ran 42.10 76 IAmb IAmb 00 19 16.8
comp=Z,5.7nm,0.5s
JTMT Jette 42.16 68 P P 00 19 16.2 -0.4
JTMT IAmb IAmb 00 19 16.2
comp=Z,5.2nm,0.5s
ORV Oroville 42.51 82 IAmb IAmb 00 19 20.1
comp=Z,10nm,0.7s
WVOR Wild Horse Val 42.54 77 P P 00 19 19.9 +0.2
WVOR pmax pmax
comp=Z,11nm,0.6s
WVOR Wild Horse Val 42.54 77 IAmb IAmb 00 19 20.5
comp=Z,7.4nm,0.5s
MSO Missoula 42.85 69 P P 00 19 21.2 -0.9
baz=302,SNR=11
MSO Missoula 42.85 69 IAmb IAmb 00 19 21.5
comp=Z,6.9nm,0.5s
NRIK Noril'sk 42.99 329 P P 00 19 23.4 +0.6
comp=Z,14nm,0.8s,baz=72,slow=8.6,SNR=29
NRIK PcP PcP 00 21 11.7 +0.6
comp=Z,3.9nm,0.8s,baz=34,slow=2.5,SNR=3.2
NRIK ScP ScP 00 24 51.5 -0.7
comp=Z,2.3nm,0.7s,baz=82,slow=4.8,SNR=3.1
NRIK Noril'sk 42.99 329 d iP P 00 19 23.2 +0.4
NRIK pmax pmax
comp=Z,15nm,0.8s
NRIK Noril'sk 42.99 329 P P 00 19 24.0 +1.2
NRIK IAmb IAmb 00 19 26.0
comp=Z,14nm,0.8s
BEKR Beckworth 43.02 81 IAmb IAmb 00 19 24.7
comp=Z,8.4nm,0.6s
AFDM Forest Hills D 43.20 83 P P 00 19 25.3 +0.4
BJI Beijing 43.58 280 P P 00 19 28.9 +1.1
BJI pmax pmax
comp=Z,18nm,1.0s
BJI pmax pmax
comp=Z,270nm,6.4s
BJT Baijiatuau 43.59 280 IAmb IAmb 00 19 31.1
comp=Z,19nm,0.9s
PAHR Pah Rah Range 43.71 81 IAmb IAmb 00 19 30.4
comp=Z,8.8nm,0.7s
VCNR Virginia City 43.80 81 P P 00 19 30.7 +0.7
VCNR IAmb IAmb 00 19 31.5
comp=Z,12nm,0.8s
YERR Yerington 44.24 82 IAmb IAmb 00 19 34.9
comp=Z,10nm,0.7s
LRM Limekiln Ridge 44.27 69 P P 00 19 32.4 -1.2
TLY Talaya 44.28 301 LR LR 00 37 44.9
comp=Z,30nm,18.8s,baz=58,slow=35
TLY Talaya 44.28 301 d iP P 00 19 33.8 +0.4
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 44.28 301 P P 00 19 33.9 +0.6
TLY IAmb IAmb 00 19 34.4
comp=Z,7.6nm,0.7s
WAKR Walker 44.42 82 IAmb IAmb 00 19 36.6
comp=Z,14nm,0.7s
DLMT Dillon 44.44 70 P P 00 19 34.5 -0.4
ULN Ulaanbaatar 44.45 294 d iP P 00 19 35.5 +0.6
ULN pmax pmax
comp=Z,22nm,1.0s
ULN Ulaanbaatar 44.45 294 P P 00 19 35.2 +0.3
ULN IAmb IAmb 00 19 36.4
comp=Z,17nm,0.8s
EGMT Eagleton 44.58 65 P P 00 19 35.0 -0.9
baz=303
SONM Songino Array 44.83 295 P P 00 19 38.8 +0.8
comp=Z,15nm,0.6s,baz=62,slow=7.8,SNR=123
SONM PcP PcP 00 21 18.0 +0.1
comp=Z,4.6nm,0.6s,baz=69,slow=2.6,SNR=9.8
SONM ScP ScP 00 25 00.6 +0.3
comp=Z,1.7nm,0.8s,baz=52,slow=3.3,SNR=7.6
SONM LR LR 00 39 17.1
comp=Z,41nm,18.3s,baz=78,slow=37
SONM Songino Array 44.83 295 P P 00 19 38.6 +0.7
SONM pmax pmax
comp=Z,15nm,0.6s
SONM Songino Array 44.83 295 P P 00 19 38.6 +0.7
SONM IAmb IAmb 00 19 39.6
comp=Z,15nm,0.6s
BOZ Bozeman (W) 44.87 69 P P 00 19 37.4 -0.9
baz=304,SNR=17
BOZ Bozeman (W) 44.87 69 IAmb IAmb 00 19 38.1
comp=Z,9.8nm,0.6s
RYN Ryan 44.90 81 IAmb IAmb 00 19 39.9
comp=Z,12nm,0.6s
TULEG Thule 44.91 18 P P 00 19 38.9 +0.9
TULEG IAmb IAmb 00 19 39.6
comp=Z,15nm,0.8s
PMPB Monarch Peak 45.03 86 IAmb IAmb 00 19 45.0
comp=Z,10nm,0.7s
LHV Little Huntoon 45.15 82 IAmb IAmb 00 19 42.4
comp=Z,18nm,1.3s
ZAK Zakamensk 45.16 299 eP P 00 19 40.4 -0.1
ZAK pmax pmax
comp=Z,9.0nm,1.4s
NVAR Mina Array Bea 45.16 82 P P 00 19 41.2 +0.5
comp=Z,8.9nm,0.6s,baz=297,slow=7.4,SNR=103
NVAR pP pP 00 20 05.8 +0.4
comp=Z,3.7nm,0.6s,baz=295,slow=7.7,SNR=5.0
NVAR PcP PcP 00 21 19.4 +0.1
comp=Z,1.8nm,0.8s,baz=295,slow=4.4,SNR=2.2
NVAR ScP ScP 00 25 01.1 -0.8
comp=Z,2.3nm,0.8s,baz=280,slow=4.6,SNR=14
NVAR Mina Array Bea 45.16 82 P P 00 19 41.1 +0.3
MDPB Devils Postpil 45.19 83 IAmb IAmb 00 19 42.8
comp=Z,14nm,0.7s
NV11 Mina Array Sit 45.25 81 IAmb IAmb 00 19 42.7
comp=Z,6.0nm,0.7s
ELK Elko 45.59 77 IAmb IAmb 00 19 44.9
comp=Z,6.6nm,0.6s
YHB Horse Butte 45.60 70 P P 00 19 44.2 0.0
YHB IAmb IAmb 00 19 46.2
comp=Z,11nm,0.7s
MOY Mondy 45.69 302 eP P 00 19 45.0 +0.4
PAGB Antelope Grade 45.69 86 IAmb IAmb 00 20 11.6
comp=Z,16nm,0.7s
YHH Holmes Hill 45.78 70 IAmb IAmb 00 19 45.6
comp=Z,6.7nm,0.6s
HHC Hu-ho-hao-te 45.88 284 eP P 00 19 47.7 +1.5
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,400nm,6.6s
H17A Grant Village 46.17 70 P P 00 19 49.7 +1.0
baz=306
FLWY Flagg Ranch 46.28 70 IAmb IAmb 00 19 50.2
comp=Z,7.6nm,0.7s

VES	Vestal, Richgr	46.34	85	P	P	00 19 49.9	+0.2
	baz=310,SNR=5.4						
RLMT	Red Lodge	46.50	68	P	P	00 19 51.6	+0.4
	baz=306,SNR=8.3						
RLMT	Red Lodge	46.50	68	IAmb	IAmb	00 19 52.1	
	comp=Z,8.8nm,0.8s						
PKM	Mcpherson Peak	46.51	86	P	P	00 19 52.3	+0.9
	baz=311,SNR=5.6						
CWC	Cottonwood Cre	46.56	83	P	P	00 19 52.1	+0.4
	baz=310						
GUMO	Guam	46.82	228	P	P	00 19 57.8	+4.1
	comp=Z,69nm,0.4s,baz=99,slow=16,SNR=2.2						
NJ2	Nanjing	47.09	269	eP	P	00 19 55.6	-0.1
NJ2				pmax	pmax		
	comp=Z,100nm,1.3s						
NEEM	North Greenlan	47.22	13⇓	iP	P	00 19 57.5	+1.0
NEEM				IAmb	IAmb	00 19 58.2	
	comp=Z,70nm,0.7s						
SPR3	Spring Creek 3	47.22	78	IAmb	IAmb	00 19 58.8	
	comp=Z,10nm,0.6s						
FURC	Furnace Creek,	47.29	83	P	P	00 19 57.7	+0.5
	baz=310,SNR=8.3						
TIY	Taiyuan	47.31	280	eP	P	00 19 59.2	+1.8
TIY				LR	LR		
	comp=Z,400nm,6.3s						
TIY				LR	LR		
	comp=Z,400nm,5.6s						
TIY				LR	LR		
	comp=Z,740nm,5.4s						
TPNV	Topopah Spring	47.36	82	P	P	00 19 58.1	+0.2
	baz=310,SNR=17						
TPNV	Topopah Spring	47.36	82	IAmb	IAmb	00 19 59.1	
	comp=Z,16nm,0.8s						
DUG	Dugway, Tooele	47.39	76	P	P	00 19 58.2	+0.1
DUG				pmax	pmax		
	comp=Z,15nm,0.7s						
DUG	Dugway, Tooele	47.39	76	P	P	00 19 58.2	+0.1
	baz=308,SNR=18						
DUG	Dugway, Tooele	47.39	76	IAmb	IAmb	00 19 58.8	
	comp=Z,9.7nm,0.6s						
LRMC	Laurel Mtn Rad	47.44	84	P	P	00 19 58.5	0.0
	baz=311						
EDW2	Edwards Air Fo	47.64	85	P	P	00 20 00.3	+0.3
	baz=311						
BW06	Boulder Array	47.74	71	P	P	00 20 00.0	-0.9
	baz=307,SNR=14						
BW06	Boulder Array	47.74	71	P	P	00 19 59.9	-1.0
PD31	Pinedale Array	47.74	71	P	P	00 20 00.2	-0.7
PDAR	Pinedale Array	47.74	71	P	P	00 20 00.0	-0.9
	comp=Z,5.6nm,0.6s,baz=302,slow=3.6,SNR=58						
PDAR				pP	pP	00 20 25.9	+0.2
	comp=Z,4.0nm,0.7s,baz=297,slow=3.8,SNR=6.1						
PDAR				ScP	ScP	00 25 10.2	-2.4
	comp=Z,0.6nm,0.7s,baz=207,slow=2.7,SNR=5.0						
PDAR				LR	LR	00 39 30.3	
	comp=Z,14nm,18.6s,baz=286,slow=35						
PDAR	Pinedale Array	47.74	71	P	P	00 20 00.2	-0.7
PRN	Pahroc Range	47.80	80	IAmb	IAmb	00 20 28.6	
	comp=Z,21nm,1.1s						
PSUT	Pine Spring	47.80	78	IAmb	IAmb	00 20 03.5	
	comp=Z,10nm,0.5s						
SHOC	Shoshone, Teco	48.02	83	P	P	00 20 03.3	+0.4
	baz=311,SNR=5.5						
GSC	Goldstone, Bar	48.09	84	P	P	00 20 03.9	+0.4
	baz=311,SNR=26						
MPU	Maple Canyon	48.20	75	P	P	00 20 04.3	-0.2
BFSC	Mount Baldy Ra	48.27	85	P	P	00 20 05.4	+0.4
	baz=312						
TUQ	Turquoise Moun	48.54	83	P	P	00 20 07.1	+0.1
	baz=311						
HEC	Hector,Ludlow	48.69	84	P	P	00 20 08.2	+0.1
	baz=311,SNR=11						
MVU	Marysvale	48.81	77	IAmb	IAmb	00 20 11.6	
	comp=Z,13nm,0.7s						
TMUT	Trail Mountain	48.91	76	IAmb	IAmb	00 20 11.1	
	comp=Z,9.8nm,0.7s						
KBS	Kingsbay	49.08	357	iP	P	00 20 11.9	+1.5
KBS				IAmb	IAmb	00 20 12.1	
	comp=Z,34nm,0.8s						
KBS	Kingsbay	49.08	357	⇑eP	P	00 20 11.4	+1.0
KBS				pmax	pmax		
	comp=Z,14nm,0.7s						
KBS	Kingsbay	49.08	357	eP	P	00 20 11.6	+1.2
KBS	Kingsbay	49.08	357	P	P	00 20 11.7	+1.3
KBS				IAmb	IAmb	00 20 12.3	
	comp=Z,14nm,0.8s						
GMRC	Granite Mounta	49.14	83	P	P	00 20 11.7	+0.1
	baz=312,SNR=16						
LCMT	Little Creek M	49.15	79	IAmb	IAmb	00 20 39.1	
	comp=Z,9.0nm,0.9s						
Q16A	Castle Valley	49.18	76	IAmb	IAmb	00 20 13.3	
	comp=Z,6.0nm,0.6s						
KNB	Kanab	49.40	79	IAmb	IAmb	00 20 15.7	
	comp=Z,6.5nm,0.6s						
PFO	Pinyon Flats O	49.43	85	P	P	00 20 12.5	-1.3
PFO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PFO	Pinyon Flats O	49.43	85	P	P	00 20 12.5	-1.3
PKCU	Pink Cliffs	49.44	78	IAmb	IAmb	00 20 15.3	
	comp=Z,5.8nm,0.7s						
SRU	San Rafael Swe	49.44	76	P	P	00 20 14.3	+0.4
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SRU	San Rafael Swe	49.44	76	P	P	00 20 14.3	+0.4
SRU				IAmb	IAmb	00 20 15.1	
	comp=Z,6.3nm,0.8s						
BELC	Belle Mtn. Jos	49.45	84	P	P	00 20 13.7	-0.3
	baz=312,SNR=8.2						
SPITS	Spitsbergen Ar	49.62	355	P	P	00 20 15.0	+0.5
SPITS				pmax	pmax		
	comp=Z,23nm,0.6s						
IRM	Iron Mountain	49.87	84	P	P	00 20 17.2	+0.1
	baz=312,SNR=8.8						
BAR	Barrett	49.93	86	IAmb	IAmb	00 20 44.0	
	comp=Z,9.5nm,0.8s						
UPNV	Upernavik	49.93	18⇓	iP	P	00 20 17.7	+0.8
UPNV				IAmb	IAmb	00 20 18.6	
	comp=Z,38nm,0.6s						
MONP2	Monument Peak	49.94	86	P	P	00 20 17.9	+0.1
	baz=313						
W13A	Hualapai Mount	50.02	82	IAmb	IAmb	00 20 19.1	
	comp=Z,5.5nm,0.8s						
BC3	Big Chuckawall	50.02	84	P	P	00 20 17.9	-0.3
	baz=312						
RSSD	Black Hills	50.09	66	P	P	00 20 17.9	-0.9
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.5s						
RSSD	Black Hills	50.09	66	P	P	00 20 17.9	-0.9
U15A	North Rim	50.11	79	IAmb	IAmb	00 20 46.5	
	comp=Z,11nm,0.7s						
O20A	White River Ci	50.15	73	P	P	00 20 18.6	-0.6
	baz=309,SNR=8.2						
O20A	White River Ci	50.15	73	IAmb	IAmb	00 20 18.8	
	comp=Z,7.4nm,0.6s						
CBX	Cerro Bola	50.18	87	P	P	00 20 20.1	+0.6
CBX				IAmb	IAmb	00 20 21.1	
	comp=Z,7.7nm,0.9s						
MDND	Maddock	50.26	60	P	P	00 20 19.5	-0.3
	baz=307						
IKP	In-Ko-Pah, Jac	50.30	86	P	P	00 20 20.3	0.0
	baz=313						
HOPEN	Hopen	50.63	352	eP	P	00 20 23.2	+1.1
ULM	Lac du Bonnet	50.76	56	P	P	00 20 22.7	-0.7
	comp=Z,2.4nm,0.5s,baz=295,slow=8.3,SNR=3.0						
ULM				LR	LR	00 43 03.5	
	comp=Z,38nm,19.1s,baz=106,slow=37						
PV10	Paradox Valley	50.80	75	P	P	00 20 24.0	-0.2
GLA	Glamis	50.81	84	P	P	00 20 24.4	+0.2
GLA				pmax	pmax		
	comp=Z,17nm,0.8s						
GLA	Glamis	50.81	84	P	P	00 20 24.3	+0.2
	baz=313						
GLA	Glamis	50.81	84	P	P	00 20 24.4	+0.2
PV22	Blue Mesa, Par	50.85	75	P	P	00 20 24.8	+0.2
PV22				IAmb	IAmb	00 20 53.3	
	comp=Z,6.1nm,0.8s						
PV20	West Nyswonger	50.87	75	P	P	00 20 24.0	-0.7
PV20				IAmb	IAmb	00 20 51.3	
	comp=Z,6.2nm,0.7s						
PV04	Paradox Valley	50.87	75	IAmb	IAmb	00 20 51.5	
	comp=Z,8.4nm,0.7s						
PV17	East Wray Mesa	50.91	75	P	P	00 20 24.8	-0.2
PV16	Nyswonger Mesa	50.92	75	P	P	00 20 24.9	-0.2
PV16				IAmb	IAmb	00 20 25.1	
	comp=Z,6.5nm,0.6s						
WHN	Wuhan	50.92	271	⇑P	P	00 20 25.2	+0.3
PV11	David Mesa, Pa	50.95	75	P	P	00 20 24.8	-0.5
PV05	Paradox Valley	50.96	76	P	P	00 20 25.0	-0.4
PV05				IAmb	IAmb	00 20 25.8	
	comp=Z,16nm,1.4s						
PV18	Skein Mesa, Pa	50.96	75	P	P	00 20 25.2	-0.3
PV18				IAmb	IAmb	00 20 52.7	
	comp=Z,12nm,1.0s						
PV12	Saucer Basin,	50.98	75	P	P	00 20 25.8	+0.2
PV12				IAmb	IAmb	00 20 43.6	
	comp=Z,15nm,1.0s						
PV03	Paradox Valley	50.99	75	P	P	00 20 24.6	-1.0
PV03				IAmb	IAmb	00 20 25.8	
	comp=Z,8.3nm,0.7s						
PV07	Paradox Valley	51.00	75	P	P	00 20 26.0	+0.3
PV07				IAmb	IAmb	00 20 26.6	
	comp=Z,4.6nm,0.6s						
N23A	Red Feather La	51.01	71	P	P	00 20 25.2	-0.6
	baz=309						
DAG	Danmarks Havn	51.03	5⇓	iP	P	00 20 25.0	-0.1
DAG				IAmb	IAmb	00 20 25.5	
	comp=Z,4.3nm,0.8s						
DAG	Danmarks Havn	51.03	5⇓	iP	P	00 20 25.0	-0.1
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PV13	Radium Mtn., P	51.07	75	P	P	00 20 25.9	-0.3
PV02	Paradox Valley	51.09	75	P	P	00 20 26.1	-0.3
PV02				IAmb	IAmb	00 20 26.7	
	comp=Z,10nm,0.7s						
PV01	Paradox Valley	51.24	75	IAmb	IAmb	00 20 54.3	
	comp=Z,5.2nm,0.8s						
WUAZ	Wupatki	51.27	80	P	P	00 20 28.1	+0.4
	baz=312						
WUAZ	Wupatki	51.27	80	IAmb	IAmb	00 20 55.0	
	comp=Z,8.3nm,0.8s						
Y14A	Wickenburg	51.33	82	P	P	00 20 28.1	+0.1
SSLB	Suanglung	51.72	260	P	P	00 20 30.9	-0.1
YULB	Yu-li	51.80	259	P	P	00 20 31.9	+0.3
XAN	Xi'an	51.87	278	P	P	00 20 32.0	0.0
XAN				sP	sP	00 21 05.6	-3.4
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
MVCO	Mesa Verde	51.89	76	P	P	00 20 31.1	-1.2
	baz=311						
MVCO	Mesa Verde	51.89	76	IAmb	IAmb	00 20 59.3	
	comp=Z,14nm,1.5s						
ISCO	Idaho Springs	51.91	72	P	P	00 20 32.9	+0.3
	baz=310						
TPUB	Ta-pu	52.28	260	P	P	00 20 34.5	-0.7
ZAA0	Zalesovo Array	52.35	312	P	P	00 20 34.9	-0.3
ZALV	Zalesovo Beam	52.35	312	P	P	00 20 34.8	-0.5
	comp=Z,2.4nm,0.4s,baz=54,slow=6.1,SNR=11						
ZALV				PcP	PcP	00 21 45.2	+0.5
	comp=Z,8.2nm,0.7s,baz=29,slow=3.9,SNR=17						
ZALV				ScP	ScP	00 25 32.1	+0.2
	comp=Z,1.9nm,0.9s,baz=19,slow=5.5,SNR=4.1						
X18A	Snowflake	52.80	80	P	P	00 20 39.3	+0.2
214A	Organ Pipe Nat	52.80	84	P	P	00 20 38.5	-0.4
	baz=314						
214A	Organ Pipe Nat	52.80	84	P	P	00 20 39.0	+0.1
214A				IAmb	IAmb	00 20 39.8	
	comp=Z,6.9nm,0.9s						
BJO1	Bjornoya	53.03	353	eP	P	00 20 40.5	+0.6
B35A	Bob, Littlefor	53.03	57	P	P	00 20 39.7	-0.7
SUMG	Summit	53.09	13	iP	P	00 20 41.4	+0.5
SUMG				IAmb	IAmb	00 20 42.6	
	comp=Z,22nm,0.9s						
SUMG	Summit	53.09	13	iP	P	00 20 41.4	+0.5
SUMG				pmax	pmax		
	comp=Z,22nm,0.9s						
SUMG	Summit	53.09	13	P	P	00 20 41.7	+0.9
SDCO	Great Sand Dun	53.32	74	P	P	00 20 43.0	0.0
	baz=311						
DBG	Daneborg	53.35	6⇓	iP	P	00 20 41.9	-0.4
DBG				IAmb	IAmb	00 20 43.6	
	comp=Z,7.0nm,0.7s						
FRB	Frobisher Bay	53.37	31	LR	LR	00 46 16.9	
	comp=Z,30nm,18.0s,baz=14,slow=39						
LZH	Lanzhou	53.57	284	⇓P	P	00 20 45.7	+1.1
LZH				pP	pP	00 21 09.6	-0.3
LZH				sP	sP	00 21 21.0	-0.6
LZH				pmax	pmax		
	comp=Z,37nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,7.1s						
GTA	Gaotai	53.74	290	⇓P	P	00 20 46.6	+0.8
GTA				pP	pP	00 21 09.7	-1.1
GTA				sP	sP	00 21 21.4	-1.0
GTA				pmax	pmax		
	comp=Z,40nm,0.7s						
ILULI	Ilulissat	53.77	20	P	P	00 20 45.6	+0.2
ILULI				pmax	pmax		
	comp=Z,21nm,0.7s						
ILULI	Ilulissat	53.77	20	P	P	00 20 45.6	+0.2
DGZ	Jazzator, Alta	53.80	306	deP	P	00 20 46.8	+0.7
DGZ				pmax	pmax		
	comp=Z,16nm,0.9s						
TUC	Tucson	53.80	82	P	P	00 20 46.5	+0.2
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TUC	Tucson	53.80	82	P	P	00 20 46.4	+0.1
	baz=314						
TUC	Tucson	53.80	82	P	P	00 20 46.5	+0.2
T25A	Trinidad	54.37	73	P	P	00 20 50.8	+0.2
	baz=312,SNR=7.2						
T25A	Trinidad	54.37	73	IAmb	IAmb	00 20 51.4	
	comp=Z,10nm,1.2s						
EYMN	Ely	54.44	56	P	P	00 20 50.2	-0.5
	baz=310						
EYMN	Ely	54.44	56	P	P	00 20 50.4	-0.3
EYMN				IAmb	IAmb	00 20 50.9	
	comp=Z,9.6nm,1.2s						
ECSD	EROS Data Cent	54.48	63	P	P	00 20 49.5	-1.4
ANMO	Albuquerque	54.63	77⇓	eP	P	00 20 52.2	-0.2
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ANMO	Albuquerque	54.63	77	P	P	00 20 53.4	+1.0
BNM	Barren Site	55.07	78	P	P	00 20 56.1	+0.5
E38A	The Farm, Brul	55.29	57	IAmb	IAmb	00 20 56.5	
	comp=Z,9.8nm,1.1s						
SFJD	Kangerlussuaq	55.69	21	LR	LR	00 48 10.3	
	comp=Z,24nm,19.4s,baz=16,slow=39						
ICESG	Greenland Ices	56.01	15	iP	P	00 21 02.1	+0.1
ICESG				IAmb	IAmb	00 21 02.8	
	comp=Z,17nm,0.7s						
HAMF	Hammerfest	56.32	350	eP	P	00 21 04.8	+1.1
ZSN	Zaisan	56.56	306	eP	P	00 21 05.3	-0.6
	baz=306						
ZSN	Zaisan	56.56	306	eP	P	00 21 05.2	-0.6
KEV	Kevo	56.78	349	P	P	00 21 07.2	+0.2
KEV				pmax	pmax		
	comp=Z,11nm,1.1s						
KEV	Kevo	56.78	349	P	P	00 21 07.2	+0.2
KEV				IAmb	IAmb	00 21 10.5	
	comp=Z,11nm,1.1s						
SEM	Semipalatinsk	56.80	311	eP	P	00 21 06.6	-1.1
	baz=311						
SEM	Semipalatinsk	56.80	311	eP	P	00 21 06.5	-1.1
R32A	Long Quarter,	56.84	69	P	P	00 21 06.2	-1.7
SCO	Scoresbysund	56.94	8	P	P	00 21 08.9	+0.8
SCO				pmax	pmax		
	comp=Z,26nm,1.3s						
SCO	Scoresbysund	56.94	8	P	P	00 21 08.9	+0.8
DY2G	Dye2	57.07	20	iP	P	00 21 09.0	-0.4
DY2G				IAmb	IAmb	00 21 10.8	
	comp=Z,14nm,0.6s						
ARA0	ARCESS Array S	57.17	349	eP	P	00 21 09.4	-0.3
ARCES	ARCESS Array B	57.17	349	P	P	00 21 09.2	-0.5
	comp=Z,4.8nm,0.6s,baz=22,slow=7.2,SNR=30						
ARCES	ARCESS Array B	57.17	349	IAmb	IAmb	00 21 12.3	
	comp=Z,8.3nm,0.8s						
LVZ	Lovozero	57.40	345	⇓eP	P	00 21 10.7	-0.7
LVZ				pmax	pmax		
	comp=Z,24nm,0.7s						
LVZ	Lovozero	57.40	345	P	P	00 21 11.2	-0.3
MSTX	Muleshoe	57.51	75	P	P	00 21 12.2	-0.6
	baz=314						
MSTX	Muleshoe	57.51	75	IAmb	IAmb	00 21 13.4	
	comp=Z,6.4nm,0.6s						
MNTX	Cornudas Mount	57.52	79	P	P	00 21 13.1	+0.3
	baz=314,SNR=9.4						
MNTX	Cornudas Mount	57.52	79	IAmb	IAmb	00 21 40.5	
	comp=Z,5.2nm,0.8s						
AMTX	Amarillo	57.53	74	P	P	00 21 12.6	-0.2
	baz=314						
AMTX	Amarillo	57.53	74	IAmb	IAmb	00 21 14.5	
	comp=Z,5.8nm,0.5s						
WMQ	Urumqi	57.56	301	eP	P	00 21 13.5	+0.5
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,50nm,3.7s						
I40A	Norwalk	57.60	59	P	P	00 21 12.6	-0.6
JETT	Jettan, Norway	57.69	351	eP	P	00 21 14.6	+1.2
TRO	Tromso	57.76	352	eP	P	00 21 14.7	+0.9
E43A	Lone Tree Farm	57.78	55	P	P	00 21 14.3	-0.1
E43A				IAmb	IAmb	00 21 16.1	
	comp=Z,8.2nm,1.1s						
KTK1	Kautokeino	57.92	350	eP	P	00 21 15.6	+0.5
MK31	Makanchi Array	58.30	307	diP	P	00 21 17.5	-0.5
MK31	Makanchi Array	58.30	307	P	P	00 21 17.6	-0.4
MKAR	Makanchi Array	58.30	307	P	P	00 21 17.6	-0.4
	comp=Z,10nm,0.5s,baz=50,slow=6.2,SNR=148						
MKAR				pP	pP	00 21 43.8	+0.5
	comp=Z,3.5nm,0.6s,baz=41,slow=13,SNR=4.1						
MAKZ	Makanchi	58.44	307	P	P	00 21 18.6	-0.4
MAKZ				pmax	pmax		
	comp=Z,17nm,0.7s						
MAKZ	Makanchi	58.44	307	P	P	00 21 18.6	-0.4
JFWS	Jewell Farm	58.47	60	P	P	00 21 18.2	-1.1
	baz=313						
JFWS	Jewell Farm	58.47	60	IAmb	IAmb	00 21 18.6	
	comp=Z,5.2nm,0.7s						
I42A	Draeger Farm,	58.50	58	IAmb	IAmb	00 21 19.5	
	comp=Z,6.1nm,0.9s						
L40A	Anamosa	58.53	61	P	P	00 21 19.3	-0.4
L40A				IAmb	IAmb	00 21 19.4	
	comp=Z,4.4nm,0.6s						
GYA	Guiyang	58.56	274	eP	P	00 21 20.3	0.0
H43A	Windswept, Lux	58.70	57	P	P	00 21 20.4	-0.4
H43A				IAmb	IAmb	00 21 35.6	
	comp=Z,7.3nm,0.8s						
E46A	Sault Ste Mari	59.13	53	P	P	00 21 24.0	+0.2
E46A				IAmb	IAmb	00 21 25.7	
	comp=Z,11nm,1.2s						
BRVK	Borovoye	59.31	318	ciP	P	00 21 25.4	+0.5
BRVK				pmax	pmax		
	comp=Z,14nm,0.5s						
BRVK	Borovoye	59.31	318	P	P	00 21 25.7	+0.8
WMOK	Wichita Mounta	59.34	72	P	P	00 21 25.2	-0.2
	baz=314,SNR=6.6						
WMOK	Wichita Mounta	59.34	72	IAmb	IAmb	00 21 25.7	
	comp=Z,4.1nm,0.6s						
ANGG	Ammassalik, Gr	59.49	16	P	P	00 21 25.4	-0.5
K43A	Burlington	59.63	59	P	P	00 21 26.4	-0.8
K43A				IAmb	IAmb	00 21 27.6	
	comp=Z,13nm,1.1s						
LOF	Lofoten	59.66	354	eP	P	00 21 28.2	+1.2
N41A	Harden Midland	59.67	62	P	P	00 21 26.6	-1.0
SVE	Sverdlovsk	60.13	326	ciP	P	00 21 32.0	+1.6
SVE				pmax	pmax		
	comp=Z,47nm,1.3s						
TX32	Lajitas Array	60.23	80	IAmb	IAmb	00 21 32.4	
	comp=Z,5.1nm,0.7s						
TXAR	Lajitas Array	60.24	80	P	P	00 21 31.5	-0.2
	comp=Z,3.5nm,0.5s,baz=302,slow=4.8,SNR=82						
TXAR				pP	pP	00 21 57.6	+0.1
	comp=Z,2.7nm,0.8s,baz=305,slow=4.5,SNR=4.7						
TXAR				ScP	ScP	00 26 05.8	-1.4
	comp=Z,1.2nm,0.8s,baz=289,slow=3.6,SNR=8.5						
TXAR	Lajitas Array	60.24	80	P	P	00 21 31.8	+0.1
TXAR	Lajitas Array	60.24	80	P	P	00 21 31.8	+0.1
FAUS	Fauske	60.26	353	eP	P	00 21 32.6	+1.5
ABTX	Abilene, Hawle	60.32	74	P	P	00 21 31.9	-0.2
	baz=315						
SLBS	Sierra La Lagu	60.47	89	P	P	00 21 33.6	+0.3
SLBS				IAmb	IAmb	00 21 34.8	
	comp=Z,10nm,0.9s						
R40A	Maddies Statio	60.58	65	P	P	00 21 32.0	-1.8
PRGR	Permogore	60.66	336	eP	P	00 21 34.9	+1.0
PRGR				pmax	pmax		
	comp=Z,52nm,0.9s						
LSQQ	Lebel-sur-Quev	60.68	47	P	P	00 21 33.1	-1.2
	baz=316						
U38A	Gravette	60.69	67	IAmb	IAmb	00 21 33.6	
	comp=Z,3.9nm,0.7s						
HHAR	Hobbs	61.06	67	IAmb	IAmb	00 21 36.3	
	comp=Z,5.1nm,0.5s						
VLDQ	Val d'Or	61.15	48	P	P	00 21 35.5	-1.9
ARU	Arti	61.16	327	diP	P	00 21 38.4	+1.0
ARU				*PP	pwP	00 22 04.3	-1.4
ARU						00 22 17.1	
ARU				S	S	00 29 49.0	+0.9
ARU				SS	SS	00 33 44.7	-4.1
ARU				pmax	pmax		
	comp=Z,46nm,0.8s						
ARU	Arti	61.16	327	P	P	00 21 38.6	+1.2
CHGQ	Chibougamau	61.21	45	P	P	00 21 36.9	-1.0
	baz=318						
CCM	Cathedral Cave	61.32	64	P	P	00 21 37.2	-1.6
CCM				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CCM	Cathedral Cave	61.32	64	P	P	00 21 37.1	-1.6
	baz=315						
CCM	Cathedral Cave	61.32	64	P	P	00 21 37.2	-1.6
O44A	Mansfield	61.35	61	P	P	00 21 38.0	-0.9
O44A				IAmb	IAmb	00 21 41.1	
	comp=Z,6.7nm,0.6s						
TDK	Taldyqorghan	61.48	307	eP	P	00 21 39.4	-0.4
	baz=307						
TDK	Taldyqorghan	61.48	307	eP	P	00 21 39.4	-0.4
MOR8	Moi Rana	61.52	353	eP	P	00 21 39.8	+0.1
U40A	Yellville	61.62	67	P	P	00 21 39.4	-1.5
	baz=315,SNR=5.8						
W39A	Magazine	61.92	68	P	P	00 21 42.1	-0.7
	baz=315						
SFIN	Lafayette	61.93	60	P	P	00 21 42.2	-0.6
	baz=316,SNR=6.9						
KMI	Kunming	61.95	276	⇑P	P	00 21 43.8	+0.3
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
WHTX	Lake Whitney,	62.06	73	P	P	00 21 43.7	-0.2
	baz=316						
WHTX	Lake Whitney,	62.06	73	P	P	00 21 43.8	0.0
KIRV	Kirov	62.25	333	ceP	P	00 21 45.6	+1.0
SHLS	Shalkode	62.29	305	eP	P	00 21 44.3	-1.1
	comp=Z,19nm,0.6s,baz=305						
SHLS	Shalkode	62.29	305	eP	P	00 21 44.2	-1.1
SHLS				pmax	pmax		
	comp=Z,19nm,0.6s						
FCAR	Ozark Folk Cen	62.37	66	P	P	00 21 44.4	-1.5
FCAR				IAmb	IAmb	00 21 44.9	
	comp=Z,8.3nm,0.9s						
KPKS	Kokpek	62.45	306	eP	P	00 21 46.5	0.0
	comp=Z,8.0nm,0.4s,baz=306						
KPKS	Kokpek	62.45	306	eP	P	00 21 46.4	0.0
KPKS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
MIAR	Mount Ida	62.50	68	P	P	00 21 46.2	-0.5
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.

MDOK	Medeo	63.49	307	eP	P	00 21 52.8	-0.6
	baz=307						
MDOK	Medeo	63.49	307	eP	P	00 21 52.7	-0.6
AAA	Alma-Ata	63.52	307	eP	P	00 21 53.7	+0.2
	baz=307						
AAA	Alma-Ata	63.52	307	eP	P	00 21 53.6	+0.2
BTLS	Baital	63.56	310	eP	P	00 21 53.6	0.0
	baz=310						
BTLS	Baital	63.56	310	eP	P	00 21 53.5	0.0
DELO	Deloro Mine	63.72	51	P	P	00 21 54.0	-0.6
LATQ	La Tuque	63.80	46	P	P	00 21 54.3	-0.8
	baz=319						
LATQ	La Tuque	63.80	46	P	P	00 21 54.5	-0.6
LATQ				IAmb	IAmb	00 21 54.9	
	comp=Z,7.4nm,0.5s						
D58A	Chemin du LacG	63.97	46	P	P	00 21 55.1	-1.2
	baz=319						
KDJ	Kajisay	64.19	306	P	P	00 21 58.7	+0.7
KDJ				pmax	pmax		
	comp=Z,18nm,0.6s						
KDJ	Kajisay	64.19	306	P	P	00 21 58.7	+0.7
E58A	La Victoria	64.34	47	P	P	00 21 57.5	-1.2
	baz=319						
T47A	Sharon Grove	64.37	62	IAmb	IAmb	00 22 00.3	
	comp=Z,7.2nm,0.9s						
TKM2	Tokmak 2	64.39	307	P	P	00 22 00.0	+0.7
	SNR=8.3						
SGDS	Sogindy	64.46	308	eP	P	00 21 59.4	-0.3
	baz=308						
SGDS	Sogindy	64.46	308	eP	P	00 21 59.3	-0.3
WVT	Waverly	64.60	63	P	P	00 21 59.9	-0.6
	baz=317						
USP	Ospenovka	64.66	308	P	P	00 22 01.9	+1.0
	SNR=6.9						
CHMS	Chumysh	64.74	308	P	P	00 22 02.4	+0.9
	SNR=6.0						
LMQ	La Malbaie	64.75	44	P	P	00 22 00.5	-0.8
FIA1	FINESS Array S	64.77	346	P	P	00 22 01.1	-0.1
FIA1				IAmb	IAmb	00 22 11.0	
	comp=Z,27nm,1.4s						
FINES	FINESS Array B	64.78	346	P	P	00 22 00.6	-0.7
	comp=Z,3.3nm,0.4s,baz=18,slow=7.4,SNR=52						
FINES				LR	LR	00 55 25.0	
	comp=Z,23nm,18.5s,baz=3.0,slow=41						
FINES	FINESS Array B	64.78	346	P	P	00 22 01.0	-0.2
FINES	FINESS Array B	64.78	346	P	P	00 22 01.0	-0.2
WVNY	West Valley, N	64.81	53	P	P	00 22 01.7	-0.2
WVNY				IAmb	IAmb	00 22 29.8	
	comp=Z,22nm,1.4s						
OXF	Oxford	64.90	66	P	P	00 22 01.8	-0.6
	baz=317						
KBK	Karagaybulak	64.90	308	P	P	00 22 03.6	+1.0
	SNR=6.6						
D60A	Saint Jean D'O	64.98	45	P	P	00 22 02.0	-0.8
	baz=320						
D61A	St Aubert, Com	65.08	44	P	P	00 22 02.9	-0.6
	baz=320						
AAK	Ala-Archa	65.14	308	P	P	00 22 05.1	+1.0
	SNR=8.0						
AAK	Ala-Archa	65.14	308	d iP	P	00 22 04.9	+0.8
AAK				pmax	pmax		
	comp=Z,39nm,0.6s						
AAK	Ala-Archa	65.14	308	P	P	00 22 04.8	+0.7
E60A	Ste Agathe de	65.17	46	P	P	00 22 03.0	-1.0
	baz=320						
K56A	Middlesex	65.22	52	P	P	00 22 04.4	-0.1
	baz=319						
CLTN	Cedars of Leba	65.45	62	IAmb	IAmb	00 22 07.1	
	comp=Z,5.6nm,0.6s						
EKS2	Erkin-Say	65.47	308	P	P	00 22 07.3	+1.1
	SNR=5.8						
L56A	Greenwood	65.53	52	IAmb	IAmb	00 22 33.5	
	comp=Z,13nm,0.8s						
T50A	Nancy	65.58	61	IAmb	IAmb	00 22 07.3	
	comp=Z,4.2nm,0.6s						
LSA	Lhasa	65.62	287	P	P	00 22 09.3	+1.5
LSA				pmax	pmax		
	comp=Z,21nm,0.8s						
LSA	Lhasa	65.62	287	P	P	00 22 09.3	+1.5
D62A	Allapoint, All	65.66	44	P	P	00 22 06.7	-0.5
	baz=321						
E62A	Clayton Lake	65.81	44	P	P	00 22 07.7	-0.6
	baz=321						
AML	Almayashu	65.91	308	P	P	00 22 10.7	+1.3
	SNR=8.2						
DOMB	Dombas	65.99	355	eP	P	00 22 09.0	-0.2
D63A	Stockholm	66.09	43	P	P	00 22 09.7	-0.3
	baz=322						
F62A	Pittston Farm,	66.18	45	P	P	00 22 10.0	-0.6
	baz=321						
BINY	Binghamton	66.25	51	P	P	00 22 10.8	-0.2
	baz=319						
ABKAR	Akbulak array	66.39	321	P	P	00 22 12.7	+0.9
ABKAR	Akbulak array	66.39	321	P	P	00 22 12.9	+1.0
ABKAR				IAmb	IAmb	00 22 13.9	
	comp=Z,26nm,1.1s						
E63A	Oxbow	66.44	44	P	P	00 22 11.2	-1.1
	baz=322						
G62A	West of Eustis	66.46	46	P	P	00 22 11.7	-0.7
	baz=321						
SSPA	Standing Stone	66.50	54	P	P	00 22 12.2	-0.5
	baz=319						
J60A	Lant Hill Farm	66.67	49	P	P	00 22 13.0	-0.8
	baz=320						
H62A	Milan	66.68	47	P	P	00 22 13.2	-0.6
	baz=321,SNR=5.6						
H62A	Milan	66.68	47	P	P	00 22 13.4	-0.3
H62A				IAmb	IAmb	00 22 14.2	
	comp=Z,8.8nm,0.6s						
KK31	Karatay Array	66.69	311	P	P	00 22 14.3	+0.4
KK31				pmax	pmax		
	comp=Z,19nm,0.7s						
KK31	Karatay Array	66.69	311	P	P	00 22 14.3	+0.4
KKAR	Karatay Array	66.69	311	P	P	00 22 14.4	+0.5
KKAR				pmax	pmax		
	comp=Z,19nm,0.7s						
KKAR	Karatay Array	66.69	311	P	P	00 22 14.2	+0.3
KKAR	Karatay Array	66.69	311	P	P	00 22 14.4	+0.5
KKAR				IAmb	IAmb	00 22 15.2	
	comp=Z,19nm,0.7s						
E64A	Bridgewater	66.70	44	P	P	00 22 12.9	-0.9
	baz=322						
F63A	Nahmakanta, Br	66.71	45	P	P	00 22 13.4	-0.5
	baz=321						
KSH	Kashi	66.74	305	P	P	00 22 18.8	+4.4
KSH				S	S	00 31 05.9	+7.9
KSH				pmax	pmax		
	comp=Z,27nm,0.4s						
KSH				pmax	pmax		
	comp=Z,160nm,3.7s						
KSH				LR	LR		
	comp=Z,650nm,11.8s						
KSH				LR	LR		
	comp=Z,230nm,6.9s						
KSH				LR	LR		
	comp=Z,840nm,13.7s						
NB201	NORSAR Array S	66.83	353	IAmb	IAmb	00 22 16.8	
	comp=Z,18nm,0.9s						
NB2	NORSAR Subarra	66.84	353	P	P	00 22 14.1	-0.5
	comp=Z,1.8nm,0.6s,baz=8.1,slow=6.2						
NB2	NORSAR Subarra	66.84	353	P	P	00 22 14.1	-0.5
	baz=8.1,slow=6.2						
NOA	NORSAR Array B	66.84	353	P	P	00 22 14.4	-0.2
	comp=Z,0.7nm,0.5s,baz=2.7,slow=3.0,SNR=14						
F64A	Sherman	66.91	44	P	P	00 22 14.5	-0.7
	baz=322						
G63A	Kingsbury	66.95	46	P	P	00 22 14.9	-0.6
	baz=321						
NC602	NORSAR Array S	67.12	353	eP	P	00 22 16.7	+0.4
NORES	NORESS Array B	67.12	353	P	P	00 22 19.1	+2.8
G64A	Maxfield	67.22	45	P	P	00 22 16.5	-0.6
	baz=322						
N59A	State Game Lan	67.33	52	P	P	00 22 17.7	-0.3
	baz=320						
I63A	Otisfield	67.35	47	P	P	00 22 18.0	0.0
	baz=321						
SKAR	Skarslia	67.39	355	eP	P	00 22 18.8	+0.8
J63A	Strafford	67.72	48	P	P	00 22 19.7	-0.6
	baz=321						
G65A	Princeton	67.78	44	P	P	00 22 20.1	-0.6
	baz=322						
H65A	Eastbrook	67.88	45	P	P	00 22 20.7	-0.6
	baz=322						
OSL	Oslo	67.97	353	eP	P	00 22 21.9	+0.3
H66A	Whiting	68.21	44	P	P	00 22 22.9	-0.5
	baz=322						
SHL	Shillong	68.24	284	P	P	00 22 23.9	-0.2
SHL				pmax	pmax		
	comp=Z,43nm,1.0s						
KONO	Kongsberg	68.34	354	eP	P	00 22 24.5	+0.6
LMN	Caledonia Moun	68.42	42	P	P	00 22 24.4	-0.4
LMN				IAmb	IAmb	00 22 24.9	
	comp=Z,8.7nm,0.8s						
OBN	Obninsk	68.66	338	⇓eP	P	00 22 25.9	-0.1
OBN				e*PP	pwP	00 22 57.4	+2.9
OBN				e		00 24 59.4	
OBN				eS	SKiKP	00 31 54.7	-13
OBN				pmax	pmax		
	comp=Z,21nm,1.0s						
CHTO	Chiang Mai	68.99	274	P	P	00 22 29.1	+0.5
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	Chiang Mai	68.99	274	P	P	00 22 28.8	+0.2
	comp=Z,12nm,0.9s						
CM09	Chiang Mai Arr	69.24	274	P	P	00 22 31.2	+1.1
	comp=Z,12nm,0.7s						
CMAR	Chiang Mai Arr	69.26	274	P	P	00 22 30.4	+0.1
	comp=Z,5.3nm,0.5s,baz=26,slow=7.0,SNR=25						
CMAR				LR	LR	00 55 40.3	
	comp=Z,9.3nm,19.0s,baz=100,slow=38						
CMAR	Chiang Mai Arr	69.26	274	ceP	P	00 22 30.3	0.0
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CM02	Chiang Mai Arr	69.27	274	P	P	00 22 31.0	+0.7
	comp=Z,15nm,0.8s						
CM01	Chiang Mai Arr	69.27	274	P	P	00 22 31.2	+0.8
	comp=Z,12nm,0.9s						
CM04	Chiang Mai Arr	69.28	274	P	P	00 22 31.1	+0.7
	comp=Z,14nm,1.0s						
CM05	Chiang Mai Arr	69.30	274	P	P	00 22 31.2	+0.7
	comp=Z,96nmcomp=Z,9.8nm,1.0s						
CM13	Chiang Mai Arr	69.31	274	P	P	00 22 31.3	+0.7
	comp=Z,9.6nm,0.8s						
TAPN	Taplejung	69.38	288	eP	P	00 22 32.1	+0.8
	comp=Z,94nm,0.8s						
ODAN	Odare	69.94	288	eP	P	00 22 35.2	+0.5
	comp=Z,36nm,0.8s						
JIRN	Jiri	70.04	289	eP	P	00 22 36.5	+1.1
	comp=Z,106nm,0.7s						
RAMN	Ramite	70.33	289	eP	P	00 22 37.7	+0.6
	comp=Z,94nm,0.5s						
KKN	Kakani	70.47	290	eP	P	00 22 38.7	+0.8
	comp=Z,79nm,0.6s						
PKI	Pulchoki	70.56	290	eP	P	00 22 39.1	+0.5
	comp=Z,69nm,0.6s						
PKIN	Phulchoki	70.57	290	eP	P	00 22 39.1	+0.6
	comp=Z,72nm,0.5s						
GKN	Gorkha	70.69	291	eP	P	00 22 39.7	+0.6
	comp=Z,83nm,0.6s						
DMN	Daman	70.71	290	eP	P	00 22 40.2	+0.8
	comp=Z,26nm,0.5s						
DANN	Dangsing	70.93	292	eP	P	00 22 41.6	+0.9
	comp=Z,151nm,0.8s						
UMPA	Umpang Tak	71.02	272	P	P	00 22 43.8	+2.8
	comp=Z,26nm,0.9s						
MNK	Minsk	71.07	342	iP	P	00 22 36.1	-4.6
MNK				i *PP	pP	00 23 05.9	-1.0
MNK				i PPP	PPP	00 26 58.7	
MNK				i S	S	00 31 41.9	-6.3
MNK				i		00 32 28.7	
MNK				i *SS	SKKSac	00 32 35.0	+1.7
MNK				i SS	SS	00 36 19.5	-2.6
MNK				i SSS	SSS	00 39 39.2	
MNK				pmax	pmax		
	comp=N,13nm,0.7s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,19nm,0.7s						
MNK				MLR	MLR		
	comp=Z,119nm,20.3s						
MNK				MLR	MLR		
	comp=N,265nm,25.0s						
MNK	Minsk	71.07	342	iP	P	00 22 36.1	-4.6
	comp=E,2.0nm,0.9s						
MNK				iP	P	00 22 36.1	-4.6
	comp=N,13nm,0.7s						
MNK				iP	P	00 22 36.1	-4.6
	comp=Z,19nm,0.7s,baz=20						
MNK				i PcP	PcP	00 22 55.5	-4.9
MNK				i pP	pP	00 23 05.9	-1.0
MNK				i PP	PP	00 25 14.8	-4.0
MNK				i PPP	PPP	00 26 58.7	
MNK				i S	S	00 31 41.9	-6.3
MNK				i ScS	SKSac	00 32 28.8	-4.4
MNK				i sS	SKKSac	00 32 35.0	+1.7
MNK				i SS	SS	00 36 19.5	-2.6
MNK				i SSS	SSS	00 39 39.2	
MNK				i LRM	MLR	00 58 29.4	
	comp=E,8.0nm,18.8s						
MNK				i LRM	MLR	00 58 42.4	
	comp=Z,119nm,19.6s						
MNK				i LRM	MLR	00 59 09.9	
	comp=N,265nm,24.6s						
NIL	Nilore	72.64	303	P	P	00 22 51.7	+1.1
NIL				pmax	pmax		
	comp=Z,34nm,0.6s						
NIL	Nilore	72.64	303	P	P	00 22 51.7	+1.1
EKA	Eskdalemuir Ar	73.02	1	P	P	00 22 52.0	-0.4
KBL	Kabul	74.09	306	P	P	00 22 59.1	-0.2
KBL				pmax	pmax		
	comp=Z,32nm,0.8s						
KBL	Kabul	74.09	306	P	P	00 22 59.1	-0.2
AKASG	Malin Array Be	74.40	340	P	P	00 23 00.2	-0.3
	comp=Z,7.2nm,0.5s,baz=23,slow=6.5,SNR=17						
AKASG				pP	pP	00 23 28.4	+1.5
	comp=Z,1.3nm,0.5s,baz=25,slow=6.6,SNR=1.5						
AKBB	Malin Array Si	74.40	340	⇑eP	P	00 22 59.6	-0.9
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.6s						
AKBB	Malin Array Si	74.40	340	IAmb	IAmb	00 23 02.2	
	comp=Z,11nm,0.6s						
GOF	Gofitskoye	75.97	329	⇑eP	P	00 23 10.9	+1.3
GOF				pmax	pmax		
	comp=Z,63nm,0.6s						
GEYT	Alibeck	76.45	315	P	P	00 23 13.6	+1.1
	comp=Z,8.9nm,0.4s,baz=48,slow=6.4,SNR=9.9						
GYA0B	ALIBECK ARRAY	76.45	315	IAmb	IAmb	00 23 14.7	
	comp=Z,21nm,1.2s						
DPC	Dobruska-Polom	76.90	348	eP	P	00 23 14.0	-0.9
DPC	Dobruska-Polom	76.90	348	eP	P	00 23 14.0	-0.9
SORM	Soroca	77.02	340	⇓P	P	00 23 15.0	-0.5
KIV	Kislovodsk	77.07	329	⇓P	P	00 23 17.3	+1.4
KIV	Kislovodsk	77.07	329	eP	P	00 23 16.9	+0.9
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV	Kislovodsk	77.07	329	P	P	00 23 17.4	+1.4
KIV				IAmb	IAmb	00 23 19.7	
	comp=Z,13nm,0.7s						
CTA	Charters Tower	77.10	211	P	P	00 23 15.4	-0.7
	comp=Z,3.1nm,0.7s,baz=349,slow=5.5,SNR=5.0						
KRLC	Kraliky	77.11	348	eP	P	00 23 18.5	+2.5
KRLC	Kraliky	77.11	348	eP	P	00 23 18.5	+2.5
NCK	Nalchik	77.19	328	⇑eP	P	00 23 17.9	+1.4
NCK				pmax	pmax		
	comp=Z,27nm,0.7s						
KBZ	Khabaz	77.20	329	P	P	00 23 17.4	+0.9
	comp=Z,9.7nm,0.8s,baz=88,slow=3.4,SNR=21						
KBZ	Khabaz	77.20	329	⇑eP	P	00 23 17.7	+1.1
KBZ				pmax	pmax		
	comp=Z,13nm,0.9s						
KOLS	Kolonicke sedl	77.41	344	eP	P	00 23 20.0	+2.3
KOLS	Kolonicke sedl	77.41	344	eP	P	00 23 20.0	+2.3
MEM	Membach	77.56	355	dP	P	00 23 18.4	-0.1
LANS	Liptovska Anna	77.64	346	eP	P	00 23 21.1	+2.1
LANS	Liptovska Anna	77.64	346	eP	P	00 23 21.1	+2.1
NEY	Neytrino	77.69	329	⇑eP	P	00 23 21.7	+2.1
ZEI	Tsey	77.72	328	eP	P	00 23 20.2	+0.5
ZEI				pmax	pmax		
	comp=Z,18nm,0.6s						
BCLA	Clavier	77.79	356	dPcP	PcP	00 23 29.6	+0.2
ZKTA	Zakatala	77.80	325	P	P	00 23 21.2	+1.2
SEKA	Sheki	77.98	325	P	P	00 23 21.9	+0.9
BUR08	Bucovina Ar. S	78.12	342	IAmb	IAmb	00 23 24.6	
	comp=Z,9.0nm,0.7s						
TRPA	Tarpa	78.14	344	eP	P	00 23 22.2	+0.5
DOU	Dourbes	78.14	356	dP	P	00 23 22.5	+0.8
DOU				dpP	pP	00 23 47.1	-1.1
BURAR	Bucovina Array	78.15	342	⇑P	P	00 23 22.5	+0.6
CHVG	Ch'k'valeri	78.37	329	⇑P	P	00 23 24.7	+1.6
MNGR	Mingechevir, A	78.40	324	P	P	00 23 24.6	+1.3
KHC	Kasperske Hory	78.42	350	eP	P	00 23 23.9	+0.6
KHC	Kasperske Hory	78.42	350	eP	P	00 23 23.9	+0.6
GERES	GERESS Array B	78.69	350	P	P	00 23 25.1	+0.3
	comp=Z,0.5nm,0.6s,baz=31,slow=6.2,SNR=6.5						
MODS	Modra-Piesok	78.72	347	eP	P	00 23 26.7	+1.8
MODS	Modra-Piesok	78.72	347	eP	P	00 23 26.7	+1.8
PSZ	Piszkesteto	78.78	345	eP	P	00 23 27.2	+1.8
GANJ	Ganja	78.78	325	P	P	00 23 26.4	+0.9
ARCR	ARCALIA	78.82	342	⇑P	P	00 23 27.3	+1.8
TESR	Tescani	78.92	341	⇑P	P	00 23 26.3	+0.3
AKH	Akhalkalaki	79.08	327	⇑P	P	00 23 28.7	+1.5
BSZH	Besenyszg	79.32	345	eP	P	00 23 28.4	+0.2
BUD	Budapest	79.34	346	eP	P	00 23 29.3	+1.1
CONA	Conrad Observa	79.34	348	i P	P	00 23 28.7	+0.3
	comp=Z,1.8nm,1.1s						
DRGR		79.41	343	⇑P	P	00 23 29.3	+0.5
SOP	Sopron	79.49	348	eP	P	00 23 28.9	-0.2
OZUR		79.49	341	⇑P	P	00 23 30.4	+1.1
VRI	Vrincioaia	79.52	340	⇑P	P	00 23 30.8	+1.5
PLOR	Plostina	79.55	340	⇑P	P	00 23 30.8	+1.2
CSKK	Cskako	79.57	346	eP	P	00 23 29.0	-0.5
LKRN	Lenkeran, Azer	79.58	322	P	P	00 23 31.2	+1.4
EGYH	Egyhazaskeszo	79.64	347	eP	P	00 23 29.4	-0.6
TLCR		79.72	339	⇑P	P	00 23 31.3	+0.9
GNI	Garni	79.78	326	⇑iP	P	00 23 33.5	+2.5
GNI				pmax	pmax		
	comp=Z,25nm,1.7s						
MPLH	Magyarpolny	79.86	347	eP	P	00 23 32.2	+1.1
CFR	Carcaliu	79.87	339	⇑P	P	00 23 32.8	+1.6
MLR	Muntele Rosu	80.04	341	⇓P	P	00 23 34.0	+1.7
TPGR	Topolog	80.12	339	⇓P	P	00 23 34.1	+1.6
VOIR		80.27	341	⇓P	P	00 23 34.6	+1.1
NAX	Nakhchivan	80.38	325	P	P	00 23 35.1	+0.9
WATA	Walderalm	80.40	351	i P	P	00 23 34.6	+0.3
	comp=Z,3.6nm,0.6s						
ARR	Arges	80.42	342	⇑P	P	00 23 35.6	+1.3
MOTA	Moosalm	80.44	351	i P	P	00 23 35.1	+0.7
	comp=Z,6.1nm,1.4s						
WTTA	Wattenberg	80.47	351	i P	P	00 23 35.2	+0.6
	comp=Z,4.1nm,0.7s						
KBA	Koelnbreinsper	80.47	350	i P	P	00 23 35.3	+0.6
	comp=Z,7.2nm,0.6s						
SOKA	Soboth	80.67	349	eP	P	00 23 36.3	+0.7
	comp=Z,4.4nm,0.6s						
BZS	Buzias	80.73	344	⇓P	P	00 23 35.1	-0.7
GZR	Gura Zlata	80.74	343	⇓P	P	00 23 36.5	+0.5
FETA	Feichten	80.79	352	i P	P	00 23 36.6	+0.3
	comp=Z,2.9nm,1.2s						
KOVH	Kovagotottos	80.84	346	eP	P	00 23 38.3	+2.0
ABTA	Abfaltersbach	80.89	350	i P	P	00 23 36.9	+0.1
	comp=Z,4.0nm,1.1s						
OBKA	Obir	80.90	349	i P	P	00 23 37.0	+0.2
	comp=Z,2.4nm,0.6s						
WRAB	Tennant Creek	81.30	221	⇓iP	P	00 23 38.1	-0.9
WRAB				pmax	pmax		
	comp=Z,21nm,2.5s						
WB2	Warramunga Arr	81.31	221	P	P	00 23 38.2	-0.8
WB2				IAmb	IAmb	00 23 39.2	
	comp=Z,9.7nm,0.8s						
WRA	Warramunga Arr	81.31	221	P	P	00 23 38.0	-1.1
	comp=Z,7.3nm,0.7s,baz=30,slow=5.8,SNR=65						
WRA	Warramunga Arr	81.31	221	i P	P	00 23 38.2	-0.9
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TEOL	Teolo	82.35	351	IAmb	IAmb	00 23 48.6	
	comp=Z,10.0nm,0.7s						
BR131	Keskin Array S	83.64	333	P	P	00 23 51.5	+0.2
BR131				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BR131	Keskin Array S	83.64	333	P	P	00 23 51.5	+0.2
BR131				IAmb	IAmb	00 23 53.8	
	comp=Z,4.7nm,0.6s						
BRTR	Keskin Array B	83.64	333	P	P	00 23 52.0	+0.7
	comp=Z,3.0nm,0.6s,baz=43,slow=2.6,SNR=20						
BRTR	Keskin Array B	83.64	333	P	P	00 23 51.3	0.0
NRCA	Norcia	84.69	349	IAmb	IAmb	00 23 58.4	
	comp=Z,10nm,0.9s						
AS31	Alice Springs	84.82	220	P	P	00 23 56.9	-0.2
ASAR	Alice Springs	84.83	220	P	P	00 23 56.9	-0.2
	comp=Z,5.2nm,0.7s,baz=23,slow=5.6,SNR=43						
ASAR	Alice Springs	84.83	220	P	P	00 23 56.8	-0.4
ARMA	Armidale	85.38	203	P	P	00 24 00.4	+0.6
ARMA				IAmb	IAmb	00 24 18.8	
	comp=Z,15nm,1.4s						
MIB	Mutribah	87.97	319	eP	P	00 24 11.5	-1.1
UMR	Umm Al-Rimmam	88.04	319	eP	P	00 24 12.2	-0.8
RST	Umm Al-Ruwaisa	88.38	319	eP	P	00 24 13.7	-0.8
ESDC	Sonseca Array	88.67	2	P	P	00 24 14.8	-1.0
	comp=Z,0.6nm,0.8s,baz=350,slow=6.5,SNR=4.2						
STKA	Stephens Creek	89.56	211	P	P	00 24 20.0	+0.3
	comp=Z,6.8nm,0.6s,baz=347,slow=4.9,SNR=8.4						
RAYN	Ar Rayn	94.28	318	P	P	00 24 41.2	-0.9
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RAYN	Ar Rayn	94.28	318	P	P	00 24 41.2	-0.9
TORD	Torodi Ar. Bea	115.06	357	PKP	PKiKP	00 30 02.0	-1.4
	comp=Z,2.0nm,0.4s,baz=351,slow=2.2,SNR=39						
KMBO	Kilima Mbogo	119.80	314	PKP	PKiKP	00 30 13.1	+0.2
	comp=Z,1.3nm,0.8s,baz=9.1,slow=4.7,SNR=3.9						
H03N2	Juan Fernandez	122.96	103	T	T	02 45 24.6	
	baz=315						
H03N1	Juan Fernandez	122.97	103	T	T	02 45 24.9	
	baz=315						
H03N3	Juan Fernandez	122.97	103	T	T	02 45 10.8	
	baz=315						
BDFB	Brasilia	128.38	63	PKP	PKPdf	00 30 27.6	-1.4
	comp=Z,2.2nm,0.8s,baz=346,slow=4.2,SNR=3.5						
CPUP	Villa Florida	131.21	81	PKP	PKPdf	00 30 33.0	-0.9
	comp=Z,2.6nm,1.0s,baz=37,slow=10,SNR=5.0						
CPUP				SKPbc	SKPbc	00 33 47.5	-1.3
	comp=Z,4.7nm,0.7s,baz=319,slow=3.6,SNR=14						
CPUP	Villa Florida	131.21	81	PKIKP	PKPdf	00 30 33.0	-0.9
PLCA	Paso Flores	132.79	105	PKP	PKPdf	00 30 36.1	-0.4
	comp=Z,1.7nm,0.6s,baz=347,slow=5.3,SNR=3.7						
PLCA				SKPbc	SKPbc	00 33 54.0	-0.1
	comp=Z,3.6nm,0.8s,baz=356,slow=5.4,SNR=5.0						
MAW	Mawson	145.93	218	PKPbc	PKPdf	00 30 59.5	+0.1
	comp=Z,5.5nm,0.5s,baz=81,slow=3.6,SNR=26						
BOSA	Boshof	149.27	309	PKPbc	PKPbc	00 31 10.9	+0.1
	comp=Z,8.3nm,0.5s,baz=41,slow=2.2,SNR=43						

KRSC 11 00:18:11.5±2.5, 49°.24N×156°.66E, h7km±41km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.49	347	eP

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.62**	**220**	Pn	**Pn**	**00 35 03.1**	**+2.0**
KBL				Sn	**S**	**00 35 39.9**	**+0.3**
CEP	**Cherat**	**2.83**	**166**	P	**Pn**	**00 35 06.6**	**+3.3**
DRK	**Karamyk**	**2.95**	**11**		**Pn**	**00 35 05.6**	**+1.1**
CHCP	**Chirah Chowk**	**3.42**	**148**	P	**Pn**	**00 35 13.5**	**+3.9**
NIL	**Nilore**	**3.43**	**148**	Pn	**Pn**	**00 35 13.7**	**+4.1**
BTK	**Batken**	**3.48**	**357**	Pn	**Pn**	**00 35 11.3**	**+1.2**
THW	**Thamme Wali**	**3.82**	**171**	P	**Pn**	**00 35 17.2**	**+3.1**
TAS	**Tashkent**	**4.94**	**344**	Pn	**Pn**	**00 35 27.5**	**+0.3**
AML	**Almayashu**	**5.91**	**19**	P	**Pn**	**00 35 39.6**	**0.0**
SNR=105							
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**00 35 46.1**	**+0.4**
SNR=10.0							
KK31	**Karatay Array**	**6.53**	**356**	Pn	**Pn**	**00 35 46.7**	**-0.3**
KK31				Sn	**S**	**00 37 04.2**	**+1.4**
KKAR	**Karatay Array**	**6.53**	**356**	Pn	**Pn**	**00 35 46.5**	**-0.5**
KKAR	**Karatay Array**	**6.53**	**356**		**Pn**	**00 35 46.6**	**-0.3**
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**00 35 48.3**	**+0.3**
10nm,0.3s,baz=149,slow=4.1,SNR=23							
AAK				S	**S**	**00 37 01.8**	**-2.9**
1.9nm,0.3s,baz=162,slow=20,SNR=18							
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**00 35 48.7**	**+0.7**
SNR=17							
AAK	**Ala-Archa**	**6.60**	**23**	Pn	**Pn**	**00 35 48.5**	**+0.5**
KBK	**Karagaybulak**	**6.77**	**25**	P	**Pn**	**00 35 51.3**	**+1.2**
SNR=7.3							
FRU1	**Bishkek**	**6.80**	**23**	Pn	**Pn**	**00 35 51.8**	**+1.3**
ULHL	**Ulahol**	**6.93**	**34**	P	**Pn**	**00 35 53.0**	**+0.7**
SNR=9.5							
BOOM	**Boomskoye usch**	**7.00**	**31**		**Pn**	**00 35 53.7**	**+0.7**
CHMS	**Chumysh**	**7.01**	**23**	P	**Pn**	**00 35 53.9**	**+0.8**
SNR=8.0							
USP	**Ospenovka**	**7.18**	**20**	P	**Pn**	**00 35 55.5**	**+0.3**
SNR=7.4							
TKM2	**Tokmak 2**	**7.23**	**27**	P	**Pn**	**00 35 56.8**	**+0.8**
SNR=16							
KDJ	**Kajisay**	**7.29**	**39**	Pn	**Pn**	**00 35 57.5**	**+0.9**
TARG	**Taragay, Kyrgy**	**7.33**	**43**	Pn	**Pn**	**00 35 58.8**	**+1.3**
SMLA	**Simla**	**7.43**	**135**	*eP*	**Pn**	**00 36 01.4**	**+2.9**
SMLA				*eS*	**S**	**00 37 23.5**	**-0.3**
SMLA				IAML		00 37 26.5	
comp=N,145nm,0.5s							
SMLA				IAML		00 37 27.6	
comp=E,111nm,0.5s							
HRA	**Herat**	**7.53**	**256**	Pn	**Pn**	**00 35 59.6**	**-0.2**
KUDL	**Kundal**	**9.58**	**150**	*eP*	**Pn**	**00 36 26.4**	**+0.8**
KUDL				*eS*	**S**	**00 38 08.3**	**-5.3**
GEYT	**Alibeck**	**10.41**	**281**	P	**Pn**	**00 36 35.3**	**-0.8**
comp=E,0.8nm,0.3s,baz=112,slow=12,SNR=5.3							
GEYT				S	**S**	**00 38 33.5**	**+0.6**
comp=E,0.4nm,0.3s,baz=81,slow=26,SNR=1.3							
GYA0B	**ALIBECK ARRAY**	**10.41**	**281**	Pn	**Pn**	**00 36 35.1**	**-1.0**
MAKZ	**Makanchi**	**13.06**	**35**	Pn	**Pn**	**00 37 09.1**	**+0.3**
MK31	**Makanchi Array**	**13.19**	**36**	Pn	**Pn**	**00 37 10.3**	**-0.1**
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**00 37 11.0**	**+0.5**
comp=E,0.3nm,0.3s,baz=202,slow=8.7,SNR=9.1							
MKAR	**Makanchi Array**	**13.19**	**36**	Pn	**Pn**	**00 37 10.8**	**+0.3**
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**P**	**00 37 31.9**	**-0.3**
comp=E,0.2nm,0.3s,baz=212,slow=12,SNR=21							
ABKAR	**Abkulak array**	**15.04**	**331**	P	**P**	**00 37 31.1**	**-1.3**
ABKAR	**Abkulak array**	**15.04**	**331**	P	**P**	**00 37 32.3**	**-0.1**
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**00 37 50.0**	**+0.5**
comp=E,1.4nm,0.3s,baz=197,slow=19,SNR=24							
BRVK	**Borovoye**	**16.49**	**358**		**P**	**00 37 48.7**	**+0.5**
BRVK				IAmb	IAmb	00 37 52.8	
comp=Z,7.5nm,0.5s							
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**00 37 52.3**	**-0.6**
comp=Z,0.7nm,0.3s,baz=144,slow=7.9,SNR=9.5							
UOSS	**Minazif**	**17.23**	**232**	P	**Pn**	**00 37 58.7**	**-0.2**
UOSS				IAmb	IAmb	00 38 15.0	
comp=Z,5.8nm,0.9s							
ZAA0	**Zalesovo Array**	**19.82**	**24**	P	**P**	**00 38 22.9**	**-1.2**
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**00 38 24.9**	**+0.8**
comp=Z,1.5nm,0.4s,baz=215,slow=12,SNR=7.2							
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**00 38 24.7**	**+0.6**
BELG	**Belogornoye**	**22.86**	**321**	P	**P**	**00 38 55.4**	**+1.6**
comp=Z,11nm,0.9s,baz=220,slow=5.9,SNR=3.8							
BRTR	**Keskin Array B**	**29.46**	**286**	P	**P**	**00 39 54.7**	**+1.4**
comp=Z,0.4nm,0.6s,baz=99,slow=7.6,SNR=3.6							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**00 41 02.5**	**+1.1**
comp=Z,1.0nm,0.8s,baz=111,slow=10,SNR=4.5							
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**00 41 01.9**	**+0.5**
KEV	**Kevo**	**40.75**	**338**	P	**P**	**00 41 29.0**	**+0.4**
KEV				IAmb	IAmb	00 41 38.6	
comp=Z,5.9nm,1.0s							
SCTE	**Santa Cesarea**	**40.92**	**291**	P	**P**	**00 41 28.1**	**-2.4**
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**00 41 32.7**	**+1.2**
comp=Z,2.2nm,1.0s,baz=109,slow=6.6,SNR=5.6							
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**00 41 32.6**	**+1.2**
KSRS	**Korea Array**	**44.80**	**71**	P	**P**	**00 41 59.6**	**-1.9**
comp=Z,0.6nm,0.4s,baz=196,slow=5.5,SNR=1.9							
CART	**Cartagena**	**56.13**	**294**	P	**P**	**00 43 23.7**	**-2.3**
MTE	**Manteigas**	**59.71**	**300**	P	**P**	**00 43 53.6**	**+2.8**
VOI	**Vohitsoka**	**62.53**	**205**	P	**P**	**00 44 10.5**	**+0.7**
VOI				IAmb	IAmb	00 44 16.7	
comp=Z,5.4nm,1.0s							
TULEG	**Thule**	**64.37**	**350**	P	**P**	**00 44 21.1**	**+0.1**
TULEG				IAmb	IAmb	00 44 22.1	
comp=Z,6.4nm,0.8s							
TOA0	**Torodi Ar. Sit**	**65.78**	**269**	P	**P**	**00 44 30.9**	**-0.1**
TOA0				IAmb	IAmb	00 44 41.4	
comp=Z,1.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**00 44 30.6**	**-0.4**
comp=Z,0.4nm,0.7s,baz=50,slow=5.7,SNR=13							
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**00 44 30.5**	**-0.5**
DBIC	**Dimbokro**	**74.76**	**267**	P	**P**	**00 45 25.4**	**0.0**

UPA ***11*** *00:53:20.1±1.7, 7.°20N×78.°23W, h0km±13km, MW4.7*
IDC ***11*** *00:53:21.3±0.8, 7.°53N×78.°33W, h0km, mb3.7/7, mb1 4.1/11,mb1mx3.9/32,mbtmp4.0/11,ML4.0/4, Error ellipse: s-maj=25.3km s-min=21.1km az=36.0*
RSNC ***11*** *00:53:22.4±1.0, 7.°26N×78.°28W, h7km±4km, ML3.5, Mw4.0, Fault plane solution: NP1:φs.34.00000°, δ69.00000°, λ-122.00000°.*
NEIC ***11*** *00:53:29.0±2.1, 7.°30N±0.°07×77.°99W±0.°03, h20km±9km, mb4.4/8, Error ellipse: s-maj=9.6km s-min=3.5km az=171.0*

ISC 11 00:53:22.4±1.3, 7.°31N±0.°03×78.°25W±0.°02, h9km±9km, n105, σ1§84/131, mb3.7/9, 6C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.47**	**111⇑**	*iP*	**Pg**	**00 53 31.6**	**+0.1**
PTAC				*eS*	**Sg**	**00 53 37.5**	**-0.1**
PTAC				*i*		00 53 38.9	
comp=Z,12μm,0.1s							
UPD2	**Meteti**	**1.25**	**11⇑**	*eP*	**Pn**	**00 53 45.3**	**-0.8**
UPD2				*eS*	**Sn**	**00 54 03.5**	**+0.4**
UPD2	**Meteti**	**1.25**	**11⇑**	*iP*	**Pn**	**00 53 45.2**	**-0.8**
UPD2				*eS*	**Sb**	**00 54 02.0**	**-0.4**
SOLC	**Bahia Solano**	**1.36**	**142**	*eP*	**Pn**	**00 53 45.3**	**-2.4**
SOLC				*eS*	**Sb**	**00 54 05.4**	**-0.3**
SOLC				*i*		00 54 16.0	
comp=Z,660nm,0.4s							
PCRI3	**Pocri, Los San**	**1.89**	**281**	*eP*	**Pn**	**00 53 54.3**	**-0.5**
ACHO3	**Achotines, Los**	**1.91**	**273**	*eP*	**Pn**	**00 53 54.8**	**-0.4**
TABO3	**Taboga, Panama**	**1.96**	**319**	*eP*	**Pn**	**00 53 54.9**	**-0.9**
CNTA3	**Canitas, Panam**	**2.00**	**342**	*eP*	**Pn**	**00 53 56.7**	**+0.3**
CNTA3				*eS*	**Sb**	**00 54 24.3**	**+0.4**
CHPO	**Chepo, Panama**	**2.04**	**335**	*eP*	**Pn**	**00 53 56.9**	**0.0**
CHPO				*eS*	**Sn**	**00 54 22.7**	**+0.3**
FLAM	**Flamenco Islan**	**2.04**	**321**	*eP*	**Pn**	**00 53 56.1**	**-0.8**
FLAM				*eS*	**Sb**	**00 54 26.4**	**+1.3**
DBBC	**Dabeiba**	**2.04**	**98**	*eP*	**Pn**	**00 53 56.9**	**-0.2**
DBBC				*eS*	**Sn**	**00 54 23.1**	**+0.3**
AZU	**Azuero**	**2.06**	**283**	*eP*	**Pn**	**00 53 56.6**	**-0.7**
AZU				*eS*	**Sn**	**00 54 21.2**	**-1.9**
AZU	**Azuero**	**2.06**	**283⇓**	*eP*	**Pn**	**00 53 56.6**	**-0.7**
AZU				*eS*	**Sn**	**00 54 21.1**	**-2.0**
AZU				*i*		00 54 35.1	
comp=Z,774nm,0.4s							
UPA	**Univ. de Panam**	**2.09**	**323**	*eP*	**Pn**	**00 53 56.7**	**-0.9**
UPA				*eS*	**Sn**	**00 54 24.8**	**+1.0**
UPA	**Univ. de Panam**	**2.09**	**323**	*eP*	**Pn**	**00 53 56.6**	**-0.9**
UPA				*eS*	**Sn**	**00 54 24.2**	**+0.5**
UPA				*i*		00 54 41.1	
comp=Z,263nm,0.4s							
CORZ	**Corozal**	**2.12**	**322**	*eP*	**Pn**	**00 53 57.4**	**-0.6**
MFS3	**Miraflores**	**2.14**	**322**	*eP*	**Pn**	**00 53 57.7**	**-0.7**
PML3	**Paraiso**	**2.17**	**322**	*eP*	**Pn**	**00 53 58.9**	**+0.2**
CHOR3	**La Chorrera**	**2.18**	**317**	*eP*	**Pn**	**00 53 58.5**	**-0.3**
VTON	**El Valle, Cocl**	**2.25**	**305**	*eP*	**Pn**	**00 53 59.6**	**-0.3**
VTON				*eS*	**Sn**	**00 54 28.4**	**+0.4**
ZANG	**Zanguenga, Cho**	**2.29**	**316**	*eP*	**Pn**	**00 53 60.0**	**-0.4**
ZANG				*eS*	**Sb**	**00 54 33.9**	**+1.6**
GAMB1	**Gamboa**	**2.31**	**321**	*eP*	**Pn**	**00 53 59.9**	**-0.7**
GAMB1				*eS*	**Sb**	**00 54 32.9**	**+0.1**
PNME	**Penonome**	**2.37**	**300**	*eP*	**Pn**	**00 54 00.9**	**-0.5**
LCBC	**Los crdobas,**	**2.41**	**50⇓**	*eP*	**Pn**	**00 54 04.0**	**+1.9**
LCBC				*eS*	**Sb**	**00 54 35.2**	**-0.7**
LCBC				*i*		00 54 45.4	
comp=Z,378nm,0.5s							
BCIP	**Isla Barro Col**	**2.42**	**320**	*eP*	**Pn**	**00 54 01.4**	**-0.9**
BCIP				*eS*	**Sb**	**00 54 34.7**	**-1.4**
BCIP	**Isla Barro Col**	**2.42**	**320⇓**	*eP*	**Pn**	**00 54 01.3**	**-0.9**
BCIP				*eS*	**Sn**	**00 54 32.3**	**+0.3**
BCIP				*i*		00 54 47.8	
comp=Z,430nm,0.7s							
CRIS3	**El Cristo, Coc**	**2.53**	**292**	*eP*	**Pn**	**00 54 02.9**	**-0.7**
CACAO	**El Cacao, Vera**	**2.59**	**271**	*eP*	**Pn**	**00 54 04.2**	**-0.3**
CACAO				*eS*	**Sn**	**00 54 32.2**	**-4.0**
CBOC	**Ciudad Bolivar**	**2.65**	**123**	*eP*	**Pn**	**00 54 04.3**	**-1.2**
CBOC				*eS*	**Sb**	**00 54 40.4**	**-2.4**
CBOC				*i*		00 54 58.0	
comp=Z,105nm,0.5s							
UREC	**San Jos de Ur**	**2.73**	**81⇑**	*eP*	**Pn**	**00 54 06.9**	**+0.5**
UREC				*eS*	**Sn**	**00 54 39.7**	**+0.1**
UREC				*i*		00 54 51.2	
comp=Z,120nm,0.6s							
MARI3	**Mariato, Verag**	**2.74**	**277**	*eP*	**Pn**	**00 54 08.1**	**+1.5**
CALO3	**Calobre, Verag**	**2.76**	**291**	*eP*	**Pb**	**00 54 10.4**	**-1.5**
HELC	**Santa Helena**	**2.92**	**112**	*eP*	**Pn**	**00 54 10.5**	**+1.1**
HELC	**Santa Helena**	**2.92**	**112**	*eP*	**Pn**	**00 54 10.1**	**+0.7**
HELC				*eS*	**Sn**	**00 54 44.6**	**-0.2**
HELC				*i*		00 55 00.5	
comp=Z,81nm,0.5s							
MONA	**Monteria**	**2.94**	**60**	*eP*	**Pn**	**00 54 10.2**	**+0.7**
MONA				*eS*	**Sn**	**00 54 46.3**	**+1.3**
MOTC	**Monteria, Cord**	**2.94**	**60⇑**	*eP*	**Pn**	**00 54 10.2**	**+0.8**
MOTC				*eS*	**Sn**	**00 54 45.2**	**+0.3**
MOTC				*i*		00 54 51.8	
comp=Z,153nm,0.5s							
GMAL	**Guarumal, Vera**	**2.99**	**279**	*eP*	**Pn**	**00 54 10.2**	**+0.1**
GMAL				*eS*	**Sn**	**00 54 45.2**	**-0.9**
PLMC	**San Jos del P**	**3.09**	**141**	*eP*	**Pn**	**00 54 09.5**	**-2.0**
ZARC	**Zaragoza, Cauc**	**3.37**	**87⇑**	*eP*	**Pn**	**00 54 16.1**	**+0.9**
ZARC				*eS*	**Sn**	**00 54 54.8**	**-0.6**
ZARC				*i*		00 55 03.1	
comp=Z,228nm,0.5s							
GUY2C	**Guyana, Caldas**	**3.54**	**126**	*eP*	**Pn**	**00 54 19.1**	**+1.1**
GUY2C				*eS*	**Sn**	**00 54 59.5**	**-0.8**
GUY2C				*i*		00 55 12.5	
comp=Z,105nm,0.6s							
NORC	**Norcasia**	**3.78**	**117**	*eP*	**Pn**	**00 54 22.7**	**+1.8**
NORC				*eS*	**Sn**	**00 55 07.1**	**+1.4**
NORC				*i*		00 55 26.5	
comp=Z,33nm,0.6s							
YOTC	**Yotoco, Valle**	**3.81**	**150**	*eP*	**Pn**	**00 54 22.1**	**+0.7**
SJCC	**San Jacinto, C**	**3.98**	**50**	*eP*	**Pn**	**00 54 24.1**	**+0.5**
SJCC				*eS*	**Sn**	**00 55 12.1**	**+1.6**
SJCC	**San Jacinto, C**	**3.98**	**50**	Pn	**Pn**	**00 54 23.8**	**+0.1**
SJCC	**San Jacinto, C**	**3.98**	**50**	*eP*	**Pn**	**00 54 24.1**	**+0.5**
SJCC				*eS*	**Sn**	**00 55 10.7**	**+0.2**
SJCC				*i*		00 55 23.6	
comp=Z,57nm,0.5s							
TOLC	**Tolima**	**3.98**	**133**	*eP*	**Pn**	**00 54 25.5**	**+1.6**
ANIL	**Santa Ana**	**3.98**	**135**	*eP*	**Pb**	**00 54 29.4**	**-3.6**
SMLC	**San Martn de**	**4.39**	**70**	*eP*	**Pn**	**00 54 30.0**	**+0.7**
SMLC				*eS*	**Sn**	**00 55 19.8**	**-0.9**
SMLC				*i*		00 55 24.5	
comp=Z,50nm,0.4s							
BCO2	**Palmira**	**4.46**	**289**	*eP*	**Pn**	**00 54 32.1**	**+1.6**
ORTC	**Ortega, Tolima**	**4.51**	**138**	*eP*	**Pn**	**00 54 33.8**	**+2.8**
ROSC	**El Rosal**	**4.62**	**122**	Pn	Pb	00 54 38.6	-5.2
comp=Z,2.9nm,0.3s,baz=302,slow=19,SNR=2.2							
ROSC				Sn	**Sb**	**00 55 36.8**	**-2.9**
comp=Z,3.8nm,0.3s,baz=28,slow=22,SNR=1.2							
ROSC	**El Rosal**	**4.62**	**122**		Pn	00 54 37.8	+5.1
BRU2	**Volcan**	**4.64**	**289**	*eP*	**Pn**	**00 54 36.1**	**+3.3**
CDITO	**Canoas**	**4.75**	**286**	Pn	**Pb**	**00 54 41.6**	**-4.3**
PRAC	**Prado**	**4.90**	**137**	*eP*	**Pn**	**00 54 39.6**	**+3.3**
OCAC	**Ocana**	**4.97**	**79**	*eP*	**Pn**	**00 54 38.8**	**+1.4**
OCAC				*eS*	**Sn**	**00 55 31.3**	**-3.8**
MARP	**Paez Belalcaza**	**4.99**	**153**	*eP*	**Pn**	**00 54 40.4**	**+2.6**
BARC	**Barichara**	**5.08**	**98**	*eP*	**Pn**	**00 54 40.4**	**+1.4**
RUSC	**La Rusia**	**5.32**	**105**	Pn	**Pn**	**00 54 44.0**	**+1.5**
RUSC	**La Rusia**	**5.32**	**105**	*eP*	**Pn**	**00 54 42.7**	**+0.1**
RUSC				*eS*	**Sn**	**00 55 45.4**	**+1.2**
RUSC				*i*		00 56 09.1	
comp=Z,35nm,0.6s							
BBAC	**Balboa, Cauca**	**5.35**	**169**	*eP*	**Pn**	**00 54 43.9**	**+1.3**
BBAC				*eS*	**Sn**	**00 55 47.0**	**+2.4**
SOTA	**Rioblanco**	**5.40**	**162**	*eP*	**Pn**	**00 54 45.2**	**+1.6**
SOTA				*eS*	**Sn**	**00 55 44.7**	**-1.4**
SOTA				*i*		00 55 52.3	
comp=Z,17nm,0.7s							
SMRC	**Santa Marta, M**	**5.52**	**46**	*eP*	**Pn**	**00 54 45.6**	**+0.9**
SMRC				*eS*	**Sn**	**00 55 47.9**	**-0.5**
PEZE	**Perez Zeledon,**	**5.75**	**291**		Pb	00 54 56.2	-6.9
GARC	**Garzon, Huila**	**5.79**	**152**	*eP*	**Pn**	**00 54 51.1**	**+2.4**
JACO	**JACO, Garabito**	**6.76**	**291**	Pn	Pn	00 55 09.8	+8.0
PRVC	**Isla de Provid**	**6.76**	**333**	Pn	Pn	00 55 07.9	+6.0
OTAV	**Otavalo**	**7.03**	**182**		**Pn**	**00 55 09.0**	**+3.0**
JTS	**Las Juntas de**	**7.25**	**295**	Pn	**Pn**	**00 55 10.1**	**+1.4**
comp=Z,0.5nm,0.3s,baz=43,slow=22,SNR=1.9							
JTS	**Las Juntas de**	**7.25**	**295**	Pn	Pn	00 55 16.0	+7.3
URIC	**Uribia, Colomb**	**7.56**	**54**	Pn	**Pn**	**00 55 13.7**	**+0.9**
DUNO	**Dulce Nombre,**	**7.67**	**292**	Pn	Pn	00 55 23.7	+9.3
ESPN	**Las Esperanzas**	**7.69**	**310**	Pn	Pn	00 55 24.0	+9.4
SDV	**Santo Domingo**	**7.70**	**78**	Pn	**Pn**	**00 55 17.5**	**+2.5**
comp=Z,12nm,0.3s,baz=298,slow=11,SNR=9.2							
SDV				Sn	**Sn**	**00 56 38.7**	**-3.9**
comp=Z,1.7nm,0.3s,baz=354,slow=18,SNR=1.2							
SDV	**Santo Domingo**	**7.70**	**78**	Pn	**Pn**	**00 55 16.5**	**+1.5**
ACON	**Acoyapa**	**8.25**	**305**	Pn	Pn	00 55 31.7	+9.4
CRIN	**San Cristobal**	**10.19**	**302**	Pn	Pn	00 55 57.2	+8.2
JAKH	**Jacmel**	**12.21**	**27**	Pn	**Pn**	**00 56 20.0**	**+3.4**
LGNH	**Logne**	**12.41**	**26**	Pn	**Pn**	**00 56 22.6**	**+3.3**
MTO3	**Montecristo**	**12.98**	**304**	Pn	Pn	00 56 35.1	+7.7
ESQI	**Esquipulas**	**13.05**	**304**	Pn	**P**	**00 56 36.2**	**-2.5**
BANI	**BANI**	**13.43**	**34**		**Pn**	**00 56 34.5**	**+1.1**
SDDR	**Presa de Saban**	**13.43**	**30**		**Pn**	**00 56 35.5**	**+2.1**
SDDR					**Sn**	**00 59 05.8**	**+2.9**
PCRV	**Puerto La Cruz**	**13.75**	**77**	Pn	**Pn**	**00 56 38.8**	**+1.1**
comp=Z,1.0nm,0.3s,baz=217,slow=13,SNR=1.7							
ATAH	**Atahualpa**	**14.35**	**181**	Pn	**Pn**	**00 56 49.9**	**+3.6**
comp=Z,0.1nm,0.3s,baz=343,slow=17,SNR=1.4							
AGPR	**Aguadilla, PR**	**15.51**	**43**	Pn	**P**	**00 57 05.8**	**-0.1**
AOPR	**Arecibo Observ**	**15.67**	**44**	Pn	**P**	**00 57 06.6**	**-1.1**
SJG	**San Juan**	**15.94**	**47**	Pn	**Pn**	**00 57 04.4**	**-2.7**
comp=Z,3.3nm,0.3s,baz=204,slow=4.9,SNR=8.6							
SJG				Sn	**Sn**	**00 59 55.5**	**-8.5**
comp=Z,0.2nm,0.3s,baz=232,slow=19,SNR=1.2							
GCPR	**Guaynabo City**	**16.12**	**46**	Pn	**P**	**00 57 12.6**	**-0.1**
GCPR				IAmb	IAmb	00 57 18.4	
comp=Z,17nm,0.8s							
CBYP	**Canovanas**	**16.26**	**47**	Pn	**P**	**00 57 13.4**	**-0.8**
PTGA	**Pitinga**	**19.91**	**113**	P	**Pn**	**00 57 56.1**	**-0.1**
comp=Z,1.2nm,0.3s,baz=294,slow=19,SNR=1.4							
553A	**Crawfordville**	**23.49**	**346**	P	**P**	**00 58 37.5**	**+4.9**
553A				IAmb	IAmb	00 58 44.2	
comp=Z,29nm,1.1s							
LPAZ	**La Paz**	**25.50**	**157**	P	**P**	**00 58 55.0**	**+3.0**
comp=Z,0.9nm,0.8s,baz=304,slow=12,SNR=4.2							
MNMC	**Minye Minye**	**27.63**	**162**	P	**P**	**00 59 13.3**	**+2.5**
MNMC				IAmb	IAmb	00 59 19.1	
comp=Z,10nm,0.9s							
SIV	**San Ignacio**	**28.73**	**144**	P	**P**	**00 59 20.0**	**-0.4**
comp=Z,0.9nm,0.7s,baz=342,slow=9.0,SNR=4.1							
ULM	**Lac du Bonnet**	**45.26**	**344**	P	**P**	**01 01 38.0**	**-2.2**
comp=Z,2.4nm,0.5s,baz=150,slow=11,SNR=3.4							
NVAR	**Mina Array Bea**	**47.58**	**317**	P	**P**	**01 01 58.8**	**-0.1**
comp=Z,0.3nm,0.5s,baz=116,slow=7.5,SNR=3.9							
ESDC	**Sonseca Array**	**73.28**	**51**	P	**P**	**01 04 54.8**	**+0.3**
comp=Z,0.5nm,0.8s,baz=259,slow=2.6,SNR=2.0							
ILAR	**Eielson Array**	**74.39**	**336**	P	**P**	**01 04 60.0**	**-0.5**
comp=Z,0.1nm,0.3s,baz=102,slow=3.8,SNR=1.6							
TORD	**Torodi Ar. Bea**	**78.62**	**78**	P	**P**	**01 05 25.4**	**0.0**
comp=Z,0.6nm,0.6s,baz=285,slow=6.2,SNR=6.6							
ASAR	**Alice Springs**	**145.13**	**239**	PKPbc	**PKPbc**	**01 13 00.2**	**-0.7**
comp=Z,3.4nm,0.8s,baz=118,slow=3.3,SNR=22							
WRA	**Warramunga Arr**	**146.01**	**245**	PKPbc	**PKPdf**	**01 13 02.6**	**-0.3**
comp=Z,1.6nm,0.6s,baz=100,slow=3.3,SNR=19							
H01W1	**Cape Leeuwin H**	**150.27**	**201**	T	T	04 02 26.9	
baz=152,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**150.27**	**201**	T	T	04 02 27.6	
baz=152,slow=76,SNR=16							
H01W3	**Cape Leeuwin H**	**150.29**	**201**	T	T	04 02 27.2	
baz=152,slow=76,SNR=15							

NEIC ***11*** *00:56:52.6±1.1, 36.°29N±0.°02×97.°51W±0.°04, h5km±6km, Error ellipse: s-maj=5.2km s-min=1.6km az=61.0*
ANF ***11*** *00:56:52.6±0.3, 36.°28N×97.°48W, h3km, ML4.2/13, Error ellipse: s-maj=3.6km s-min=2.5km az=174.0*
TUL ***11*** *00:56:53±1.5, 36.°29N±0.°02×97.°52W±0.°04, h7km±6km, ML3.6, mb_Lg3.4/122(NEIC), Error ellipse: s-maj=5.0km s-min=1.6km az=59.0*

ISC 11 00:56:52.3±1.1, 36.°30N±0.°02×97.°53W±0.°02, h6km±9km, n132, σ1§16/118, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**				**Pg**	**00 57 01.1**	**+0.6**
CROK				Sg	**Sg**	**00 57 07.3**	**+1.3**
OK029	**Liberty Lake**				**Pg**	**00 57 02.1**	**+0.1**
BLOK	**Blackwell**				**Pg**	**00 57 03.0**	**+0.4**
GC02	**Grant County #**				**Pg**	**00 57 04.5**	**+0.4**
GC02				Sg	**Sg**	**00 57 13.1**	**+0.9**
BCOK	**Bluff Creek, N**				**Pg**	**00 57 04.7**	**0.0**
OK031	**S. Brethren Rd**				**Pg**	**00 57 04.9**	**-0.1**
OK031				Sg	**Sg**	**00 57 13.5**	**0.0**
QUOK	**Quay**				**Pg**	**00 57 05.3**	**-0.1**
QUOK				Sg	**Sg**	**00 57 14.4**	**+0.2**
OK005	**Luther M Schoo**			Pg	**Pg**	**00 57 05.7**	**0.0**
KAN13	**South Haven SW**				**Pg**	**00 57 06.4**	**+0.3**
OK009	**Oakdale Elemen**				**Pg**	**00 57 06.2**	**0.0**
OK025	**Westminster Rd**				**Pg**	**00 57 06.3**	**-0.1**
OK025				Sg	**Sg**	**00 57 16.2**	**+0.3**
OK032	**Salt Plains WL**				**Pg**	**00 57 06.9**	**+0.2**
OK001	**Jones High Sch**			Pg	**Pg**	**00 57 06.8**	**-0.2**
KAN17	**Caldwell West**				**Pg**	**00 57 07.4**	**+0.2**
KAN09	**Caldwell North**				**Pg**	**00 57 08.7**	**+0.1**
KAN05	**Bluff City Nor**				**Pg**	**00 57 09.0**	**+0.2**
OKCFA	**Oklahoma City**				**Pg**	**00 57 08.9**	**-0.4**
OKCFA	**Oklahoma City**			P		00 57 09.0	
baz=357,SNR=56							
OKCFA				S		00 57 21.1	
baz=357							
OKCSW	**OKLAHOMA CITY**				**Pg**	**00 57

WHTX	Lake Whitney,	4.29	179		Pn	00 57 58.2	0.0
WHTX	Lake Whitney,	4.29	179	P		00 57 58.8	
	baz=359,SNR=11						
MGMO	Mountain Grove	4.32	77		Pn	00 57 59.5	+1.0
WHAR	Wooly Hollow	4.38	102		Pn	00 58 00.3	+0.9
WHAR				IAmb_Lg		00 59 14.5	
	comp=Z,77nm,0.8s						
FCAR	Ozark Folk Cen	4.40	94		Pn	00 58 00.2	+0.5
FCAR				IAmb_Lg		00 59 14.1	
	comp=Z,54nm,0.7s						
N33A	J Bar K, Exete	4.44	1		Pn	00 57 59.9	-0.3
W41B	Gary Mavity, V	4.44	103	Pn	Pn	00 58 00.6	+0.3
	baz=286						
W41B				Pb	Pb	00 58 10.5	-0.2
	baz=286						
W41B	Gary Mavity, V	4.44	103	P		00 58 00.5	
	baz=286,SNR=20						
WLAR	White Oak Lake	4.47	124		Pn	00 58 01.1	+0.6
WLAR				IAmb_Lg		00 59 15.9	
	comp=Z,58nm,0.8s						
237A	Washetta, Mont	4.52	161		Pn	00 58 00.9	-0.3
237A				IAmb_Lg		00 59 26.9	
	comp=Z,36nm,0.8s						
P38A	Dawn	4.59	42	Pn	Pn	00 58 02.6	+0.4
P38A				IAmb_Lg		00 59 20.2	
	comp=Z,79nm,0.8s						
R40A	Maddies Statio	4.65	63		Pn	00 58 03.5	+0.4
N35A	Tabor	4.79	17	Pn	Pn	00 58 05.5	+0.4
KSCO	Kaye Shedlock'	4.87	305	Pn	Pn	00 58 07.6	+1.4
KSCO				IAmb_Lg		00 59 35.7	
	comp=Z,55nm,0.8s						
MSTX	Muleshoe	4.88	243		Pn	00 58 05.9	-0.5
MSTX				IAmb_Lg		00 59 37.4	
	comp=Z,36nm,0.8s						
Z41A	Richland Creek	4.93	127	P	Pn	00 58 07.0	0.0
	baz=309,SNR=5.3						
Z41A				S	Sn	00 59 03.2	-1.2
	baz=309						
NATX	Nacogdoches	5.11	151	IAmb_Lg		00 59 46.9	
	comp=Z,61nm,1.0s						
BGNE	Belgrade	5.13	355	Pn	Pn	00 58 09.7	0.0
BGNE				IAmb_Lg		00 59 50.7	
	comp=Z,108nm,0.8s						
LCAR	Lake Charles	5.17	91	Pn	Pn	00 58 11.2	+1.1
LCAR				IAmb_Lg		00 59 37.2	
	comp=Z,50nm,0.8s						
CCAR	Cane Creek	5.29	115	Pn	Pn	00 58 09.2	-2.6
CCAR				IAmb_Lg		00 59 46.5	
	comp=Z,75nm,0.7s						
CCM	Cathedral Cave	5.32	69		Pn	00 58 12.5	+0.2
CCM				IAmb_Lg		00 59 39.7	
	comp=Z,90nm,0.8s						
P40A	Paris	5.41	52	IAmb_Lg		00 59 47.1	
	comp=Z,103nm,0.7s						
435B	Jarrell	5.50	180	P	Pn	00 58 14.9	+0.1
	baz=0.6						
435B	Jarrell	5.50	180		Pn	00 58 14.8	+0.1
435B				IAmb_Lg		00 59 58.6	
	comp=Z,42nm,0.9s						
T25A	Trinidad	5.59	281	P	Pn	00 58 16.8	+0.6
	baz=97,SNR=7.7						
T25A				Sb	Sg	00 59 46.3	-5.6
	baz=97						
T25A	Trinidad	5.59	281	Pn	Pn	00 58 16.7	+0.5
T25A				IAmb_Lg		01 00 03.1	
	comp=Z,38nm,0.7s						
N38A	Joes South For	5.61	36	IAmb_Lg		01 00 01.2	
	comp=Z,95nm,0.8s						
L34A	Svendsen Farm,	5.73	9	IAmb_Lg		01 00 05.5	
	comp=Z,66nm,0.7s						
OGNE	Ogallala	5.83	324	P	Pn	00 58 20.9	+1.5
	baz=141						
OGNE	Ogallala	5.83	324	Pn	Pn	00 58 19.8	+0.4
OGNE				IAmb_Lg		01 00 06.1	
	comp=Z,60nm,0.7s						
LPAR	Lepanto	5.91	95	IAmb_Lg		01 00 08.8	
	comp=Z,95nm,1.0s						
GNAR	Gosnell	6.09	91	IAmb_Lg		01 00 08.7	
	comp=Z,81nm,0.8s						
JCT	Junction City	6.10	199	IAmb_Lg		01 00 09.9	
	comp=Z,88nm,1.1s						
143A	Socs Landing,	6.20	124	IAmb_Lg		01 00 13.8	
	comp=Z,44nm,0.8s						
HENM	Henderson Moun	6.51	84	IAmb_Lg		01 00 34.0	
	comp=Z,74nm,0.8s						
SCIA	State Center	6.53	30	IAmb_Lg		01 00 31.5	
	comp=Z,83nm,0.8s						
SDCO	Great Sand Dun	6.54	285	P	Pn	00 58 31.2	+1.9
	baz=100						
SDCO	Great Sand Dun	6.54	285		Pn	00 58 30.6	+1.3
HALT	Halls	6.64	91	IAmb_Lg		01 00 34.3	
	comp=Z,65nm,0.9s						
S44A	Carbondale	6.77	76	IAmb_Lg		01 00 27.7	
	comp=Z,84nm,0.7s						
N41A	Harden Midland	6.84	48		Pn	00 58 34.5	+1.3
OXF	Oxford	6.87	103	Pn	Pn	00 58 33.3	-0.2
OXF				IAmb_Lg		01 00 44.0	
	comp=Z,26nm,0.7s						
W45A	Hickory Valley	6.88	97	Pn	Pn	00 58 33.8	0.0
W45A				IAmb_Lg		01 00 35.7	
	comp=Z,46nm,0.9s						
Y45A	Yeager Farm, C	6.99	108	IAmb_Lg		01 00 50.3	
	comp=Z,37nm,1.2s						
P43A	Skaggs, Pawnee	7.16	60		Pn	00 58 38.6	+1.2
Q44A	Meyer Farm, Va	7.24	66	Pn	Pn	00 58 38.8	+0.1
ISCO	Idaho Springs	7.27	301	P	Pn	00 58 41.3	+1.9
	baz=116,SNR=6.9						
ISCO	Idaho Springs	7.27	301	Pn	Pn	00 58 39.6	+0.2
ISCO				IAmb_Lg		01 00 49.6	
	comp=Z,22nm,0.8s						
K38A	Parkersburg	7.33	29	Pn	Pn	00 58 39.5	-0.4
ECSD	EROS Data Cent	7.46	5	P	Pn	00 58 40.9	-0.8
	baz=186						
ECSD	EROS Data Cent	7.46	5		Pn	00 58 42.3	+0.6
L40A	Anamosa	7.56	38	IAmb_Lg		01 00 54.3	
	comp=Z,41nm,0.8s						
HDIL	Hopedale	7.74	54	S	Sn	01 00 10.3	-3.1
	baz=239						
PHWY	Pilot Hill	7.95	311	IAmb_Lg		01 01 13.8	
	comp=Z,24nm,0.8s						
MNTX	Cornudas Mount	7.97	237	Pn	Pn	00 58 48.6	-0.1
Y22D	IRIS PASSCAL I	8.00	257	IAmb_Lg		01 01 22.1	
	comp=Z,62nm,0.9s						
O44A	Mansfield	8.11	59	IAmb_Lg		01 01 13.3	
	comp=Z,61nm,0.8s						
I37A	Lemond, Waseca	8.33	21	IAmb_Lg		01 01 38.8	
	comp=Z,28nm,0.7s						
L42A	Oliver, Polo	8.35	45	IAmb_Lg		01 01 18.7	
	comp=Z,64nm,1.1s						
TX31	Lajitas Ar. Si	8.65	218	Pn	Pn	00 58 58.3	+0.2
TX32	Lajitas Array	8.65	218	Pn	Pn	00 58 58.6	+0.5
TXAR	Lajitas Array	8.65	218	Pn	Pn	00 58 59.0	+0.9
JFWS	Jewell Farm	8.67	38	P	Pn	00 58 57.9	-0.4
	baz=223						
JFWS	Jewell Farm	8.67	38	Pn	Pn	00 58 57.3	-1.0
JFWS				IAmb_Lg		01 01 27.0	
	comp=Z,36nm,0.8s						
P46A	Rosedale	8.80	65	Pn	Pn	00 59 00.3	+0.2
M44A	Midewin, Midew	8.98	53	Pn	Pn	00 59 02.1	-0.4
M44A				IAmb_Lg		01 01 44.7	
	comp=Z,47nm,0.9s						
CLTN	Cedars of Leba	9.06	88	IAmb_Lg		01 01 41.0	
	comp=Z,19nm,0.8s						
SFIN	Lafayette	9.16	60	Pn	Pn	00 59 05.4	+0.5
SFIN				IAmb_Lg		01 01 39.5	
	comp=Z,44nm,0.8s						
WCI	Wyandotte Cave	9.17	74	P	Pn	00 59 07.3	+2.2
	baz=261						
WCI	Wyandotte Cave	9.17	74	Pn	Pn	00 59 05.7	+0.6
WCI				IAmb_Lg		01 01 45.3	
	comp=Z,30nm,0.7s						
PV13	Radium Mtn., P	9.19	285	Pn	Pn	00 59 04.4	-1.3
I40A	Norwalk	9.25	33	Pn	Pn	00 59 04.5	-1.7
I40A				IAmb_Lg		01 01 57.8	
	comp=Z,22nm,0.8s						
RWWY	Rawlins	9.26	308	IAmb_Lg		01 01 57.3	
	comp=Z,26nm,1.0s						
RSSD	Black Hills	9.26	330	Pn	Pn	00 59 07.6	+1.1
RSSD				IAmb_Lg		01 02 05.0	
	comp=Z,16nm,0.8s						
121A	Cookes Peak, D	9.26	249	IAmb_Lg		01 01 49.2	
	comp=Z,23nm,1.2s						
HQIL	Hanson Quary C	9.32	51	IAmb_Lg		01 01 52.9	
	comp=Z,36nm,0.9s						
K22A	Casper	9.41	315	IAmb_Lg		01 02 11.0	
	comp=Z,36nm,0.9s						
SPMN	Marine on St.	9.61	20	IAmb_Lg		01 02 01.8	
	comp=Z,14nm,0.8s						
FPAL	Fort Paine	9.89	97	IAmb_Lg		01 02 22.4	
	comp=Z,16nm,1.1s						
W50A	Signal Mountai	9.99	93	IAmb_Lg		01 02 18.1	
	comp=Z,17nm,0.7s						

IDC 11 01:14:16.9±3.5, 32°.02S×178°.04W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=80.5km s-min=50.0km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.38	211	Pn	Pn	01 16 05.8	-0.1
	0.6nm,0.3s,baz=299,slow=5.0,SNR=1.6						
URZ				Sn	Sn	01 17 25.1	-5.3
	2.3nm,0.3s,baz=78,slow=22,SNR=17						
ASAR	Alice Springs	43.01	269	P	P	01 22 18.4	0.0
	0.2nm,0.5s,baz=114,slow=7.3,SNR=1.5						
WRA	Warramunga Arr	44.15	274	P	P	01 22 27.3	-0.3
	0.5nm,0.5s,baz=114,slow=7.4,SNR=6.4						
FINES	FINESS Array B	146.65	339	PKPbc	PKPbc	01 33 59.0	-0.7
	1.2nm,0.9s,baz=41,slow=4.4,SNR=1.5						

IDC 11 01:20:32.4±1.6, 0°.31N×121°.74E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.7/3, Error ellipse: s-maj=154.3km s-min=26.6km az=62.0
DJA 11 01:20:54.4±0.9, 0°.N±.8×12°.2E±°, h143km±10km, M3.1/6, MLv3.1/6

ISC 11 01:20:51.2±1.0, 0°.4N±0°.1×122°.1E±0°.1, h171km±9km, n7, σ0°92/8, mb3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.14	312	P	Pn	01 21 14.2	+0.3
GTOI	Gorontalo	0.99	75	P	Pn	01 21 18.9	+0.9
GTOI				S	Sn	01 21 37.4	-1.1
APSI	Ampana	1.34	197	P	Pn	01 21 21.7	+0.7
MPSI	Mapaga	2.15	269	P	Pn	01 21 29.6	+0.2
WRA	Warramunga Arr	23.52	150	P	P	01 25 45.2	-0.8
	0.4nm,0.5s,baz=326,slow=11,SNR=6.8						
SONM	Songino Array	49.19	346	P	P	01 29 22.3	+0.2
	1.0nm,0.7s,baz=161,slow=8.7,SNR=6.3						
MKAR	Makanchi Array	57.79	329	P	P	01 30 24.8	+0.1
	0.6nm,0.3s,baz=130,slow=8.8,SNR=11						

TUL 11 01:21:19.7±1.8, 36°.29N±0°.01×97°.52W±0°.02, h7km±7km, ML3.1, mb_Lg3.0/77(NEIC), Error ellipse: s-maj=2.9km s-min=1.6km az=64.0

NEIC 11 01:21:19.7±1.2, 36°.28N±0°.01×97°.55W±0°.05, h1km±8km, Error ellipse: s-maj=6.5km s-min=0.7km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.41	302		Pg	01 21 28.1	+0.4
CROK				Sg	Sg	01 21 34.1	+1.1
OK029	Liberty Lake	0.49	171		Pg	01 21 29.4	+0.2
OK029				Sg	Sg	01 21 36.3	+0.8
BLOK	Blackwell	0.55	30		Pg	01 21 30.0	-0.2
GC02	Grant County #	0.62	336		Pg	01 21 31.5	-0.1
GC02				Sg	Sg	01 21 40.1	+0.4
BCOK	Bluff Creek, N	0.63	184		Pg	01 21 31.9	+0.1
BCOK				Sg	Sg	01 21 40.6	+0.8
OK031	S. Brethren Rd	0.66	120		Pg	01 21 32.2	-0.3
OK031				Sg	Sg	01 21 41.0	-0.1
QUOK	Quay	0.69	99		Pg	01 21 32.6	-0.4
OK025	Westminster Rd	0.72	166		Pg	01 21 33.6	0.0
KAN13	South Haven SW	0.73	5		Pg	01 21 33.5	-0.3
OK032	Salt Plains WL	0.74	315		Pg	01 21 33.9	-0.1
KAN17	Caldwell West	0.78	347		Pg	01 21 34.3	-0.3
KAN09	Caldwell North	0.85	356		Pg	01 21 35.7	-0.4
KAN05	Bluff City Nor	0.86	343		Pg	01 21 35.9	-0.4
OKCFA	Oklahoma City	0.87	175		Pg	01 21 36.1	-0.3
OKCFA	Oklahoma City	0.87	175	P		01 21 36.2	
	baz=356						
OKCSW	OKLAHOMA CITY	0.88	174		Pg	01 21 36.4	-0.2
KS20	Mayfield South	0.94	360		Pg	01 21 37.3	-0.6
KAN10	Anthony SW Sta	0.94	333		Pg	01 21 37.5	-0.4
KAN08	Anthony NE Sta	1.00	340		Pg	01 21 38.5	-0.4
FNO	Franklin	1.03	173		Pg	01 21 39.0	-0.5
T35A	Sooner Cattle	1.05	53		Pg	01 21 38.9	-0.9
T35B	Sooner Cattle	1.05	53	P		01 21 38.9	
	baz=233						
T35B				S		01 21 52.3	
	baz=233						
U32A	Winter Ranch,	1.18	275		Pg	01 21 41.7	-0.6
U32A	Winter Ranch,	1.18	275	P		01 21 41.6	
	baz=94						
TUL1	Leonard	1.47	104	P		01 21 45.8	
	baz=286						
TUL1				S		01 22 05.5	
	baz=286						
X34A	Smith Ranch, M	1.69	188	Pn	Pn	01 21 50.8	+0.3
WMOK	Wichita Mounta	1.84	213		Pn	01 21 52.6	+0.1
WMOK	Wichita Mounta	1.84	213	P		01 21 52.4	
	baz=33						
WMOK				S		01 22 17.1	
	baz=33						
LOOK	Love County	2.31	172	Pn	Pn	01 21 59.5	+0.6
LOOK				IAmb_Lg		01 22 35.6	
	comp=Z,34nm,0.9s						
R32A	Long Quarter,	2.33	337		Pn	01 21 59.9	+0.7
R32A	Long Quarter,	2.33	337	P		01 22 00.2	
	baz=156						
R32A				S		01 22 27.9	
	baz=156						
X37A	Clayton	2.46	133		Pn	01 22 00.9	0.0
X37A	Clayton	2.46	133	P		01 22 00.8	
	baz=315						
U38A	Gravette	2.56	86	Pn	Pn	01 22 03.4	+1.0
KSU1	Kansas State U	2.91	15	Pn	Pn	01 22 07.1	-0.1
HHAR	Hobbs	2.92	89		Pn	01 22 07.8	+0.5
Z35A	Perchaven, San	2.96	175	Pn	Pn	01 22 07.0	-0.9
CBKS	Cedar Bluff	3.07	326	IAmb_Lg		01 23 01.2	
	comp=Z,39nm,0.8s						
W39A	Magazine	3.25	108		Pn	01 22 12.6	+0.7
W39A				IAmb_Lg		01 23 07.1	
	comp=Z,61nm,0.8s						
AMTX	Amarillo	3.64	249	IAmb_Lg		01 23 26.3	
	comp=Z,27nm,0.8s						
S39A	Bolivar	3.67	66		Pn	01 22 17.2	-0.3
S39A				IAmb_Lg		01 23 22.8	
	comp=Z,26nm,0.7s						
MIAR	Mount Ida	3.68	117	Pn	Pn	01 22 17.5	-0.3
U40A	Yellville	3.79	88		Pn	01 22 20.0	+0.6
U40A				IAmb_Lg		01 23 21.0	
	comp=Z,36nm,0.8s						
ABTX	Abilene, Hawle	4.04	206	Pn	Pn	01 22 23.2	+0.4
ABTX				IAmb_Lg		01 23 31.0	
	comp=Z,22nm,0.8s						
X40A	Basin Creek Fa	4.25	114		Pn	01 22 25.4	-0.1
X40A				IAmb_Lg		01 23 35.8	
	comp=Z,30nm,0.9s						
MGMO	Mountain Grove	4.33	77		Pn	01 22 26.7	0.0
MGMO				IAmb_Lg		01 23 35.9	
	comp=Z,30nm,0.8s						
WHAR	Wooly Hollow	4.39	102	Pn	Pn	01 22 27.9	+0.3
WHAR				IAmb_Lg		01 23 42.2	
	comp=Z,34nm,0.8s						
FCAR	Ozark Folk Cen	4.41	94	Pn	Pn	01 22 28.7	+0.8
WLAR	White Oak Lake	4.47	124	IAmb_Lg		01 23 38.8	
	comp=Z,17nm,0.7s						
P38A	Dawn	4.61	42	Pn	Pn	01 22 31.1	+0.6
P38A				IAmb_Lg		01 23 52.5	
	comp=Z,18nm,0.7s						
R40A	Maddies Statio	4.66	63	Pn	Pn	01 22 30.2	-1.0
LCAR	Lake Charles	5.18	90	Pn	Pn	01 22 39.2	+0.8
CCAR	Cane Creek	5.29	115	IAmb_Lg		01 24 21.8	
	comp=Z,29nm,0.9s						
CCM	Cathedral Cave	5.34	69	Pn	Pn	01 22 40.3	-0.2
CCM				IAmb_Lg		01 24 05.9	
	comp=Z,21nm,0.8s						
P40A	Paris	5.42	52	Pn	Pn	01 22 42.6	+0.8
P40A				IAmb_Lg		01 24 15.0	
	comp=Z,28nm,0.9s						
T25A	Trinidad	5.58	281	Pn	Pn	01 22 43.3	-0.8
T25A				IAmb_Lg		01 24 18.5	
	comp=Z,13nm,0.9s						
N38A	Joes South For	5.63	36	IAmb_Lg		01 24 23.9	
	comp=Z,33nm,0.8s						
L34A	Svendsen Farm,	5.75	9	IAmb_Lg		01 24 36.9	
	comp=Z,21nm,0.8s						
OGNE	Ogallala	5.83	324	IAmb_Lg		01 24 28.0	
	comp=Z,20nm,0.7s						
LPAR	Lepanto	5.92	94	IAmb_Lg		01 24 43.8	
	comp=Z,28nm,0.8s						
GNAR	Gosnell	6.11	91	IAmb_Lg		01 24 37.3	
	comp=Z,28nm,0.7s						
K31A	O'Neill	6.40	352	IAmb_Lg		01 24 55.8	
	comp=Z,28nm,0.7s						
SCIA	State Center	6.55	30	IAmb_Lg		01 24 58.1	
	comp=Z,24nm,0.8s						
S44A	Carbondale	6.79	76	IAmb_Lg		01 24 52.9	
	comp=Z,21nm,0.7s						
SIUC	Southern Illin	6.82	75	IAmb_Lg		01 25 07.1	
	comp=Z,17nm,0.8s						
OXF	Oxford	6.88	103	IAmb_Lg		01 24 58.9	
	comp=Z,16nm,1.0s						
W45A	Hickory Valley	6.90	97	IAmb_Lg		01 25 09.4	
	comp=Z,14nm,0.9s						
K38A	Parkersburg	7.35	29	IAmb_Lg		01 25 25.4	
	comp=Z,24nm,0.8s						
L40A	Anamosa	7.58	38	IAmb_Lg		01 25 35.0	
	comp=Z,12nm,0.8s						
OLIL	Olney	7.90	69	IAmb_Lg		01 25 39.2	
	comp=Z,22nm,0.9s						
PHWY	Pilot Hill	7.95	311	IAmb_Lg		01 25 42.5	
	comp=Z,11nm,1.0s						
O44A	Mansfield	8.12	59	IAmb_Lg		01 25 37.4	
	comp=Z,19nm,0.9s						
I37A	Lemond, Waseca	8.35	21	IAmb_Lg		01 25 57.2	
	comp=Z,10.0nm,0.8s						
L42A	Oliver, Polo	8.37	45	IAmb_Lg		01 25 46.4	
	comp=Z,18nm,1.0s						
JFWS	Jewell Farm	8.69	38	IAmb_Lg		01 25 55.9	
	comp=Z,17nm,0.7s						
M44A	Midewin, Midew	9.00	53	IAmb_Lg		01 26 12.1	
	comp=Z,11nm,0.8s						
SFIN	Lafayette	9.17	60	IAmb_Lg		01 26 07.1	
	comp=Z,15nm,0.9s						
K22A	Casper	9.41	315	IAmb_Lg		01 26 37.5	
	comp=Z,9.9nm,1.0s						

NNC 11 01:45:48.5±1.8, 37°.61N×78°.78E, h0km, mb4.0, mpv3.6, 2C-2D, Error ellipse: s-maj=18.2km s-min=12.2km az=81.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.45	357	Pg	Pg	01 47 29.4	-3.6
	3.3nm,0.3s						
SATY				Lg	Lg	01 48 46.3	
	10nm,0.4s						
UZB	Uzynbulak	5.54	2	Pg	Pb	01 47 29.0	+2.9
	4.4nm,0.6s						
UZB				Lg	Lg	01 48 45.3	
	7.5nm,0.7s						
SHLS	Shalkode	5.57	5	Pg	Pb	01 47 29.7	+3.1
	4.5nm,0.2s						
SHLS				Lg	Lg	01 48 46.1	
	15nm,0.8s						
IZV	Izvestkoviy	5.67	344	Pg	Pb	01 47 32.0	+3.6
	5.3nm,0.3s						
IZV				Lg	Lg	01 48 49.1	
	9.8nm,0.4s						
MDOK	Medeo	5.70	347	Pg	Pb	01 47 32.5	+3.5
	5.2nm,0.7s						
MDOK				Lg	Lg	01 48 50.6	
	12nm,0.8s						
PDGK	Podgornoye	5.74	5	Pg	Pb	01 47 32.7	+3.1
	2.4nm,0.6s						
PDGK				Lg	Lg	01 48 50.4	
	2.2nm,0.5s						
PDGK	Podgornoye	5.74	5	⇓Pn	Pn	01 47 15.9	+0.7
	4.6nm,0.9s						
PDGK				⇑Lg	Lg	01 48 51.2	
	15nm,1.1s						
KOTS	Kotyrbulak	5.76	348	Pg	Pb	01 47 32.4	+2.4
	3.5nm,0.6s						
KOTS				Lg	Lg	01 48 50.3	
	26nm,0.6s						
TKM2	Tokmak 2	5.84	336	⇑Pn	Pn	01 47 16.2	-0.3
	3.9nm,1.1s						
TKM2				⇓Lg	Lg	01 48 47.8	
	4.2nm,0.6s						
KST	Kastek	5.84	339	Pg	Pg	01 47 35.9	-4.5
	4.1nm,0.7s						
KST				Lg	Lg	01 48 56.9	
	6.1nm,0.8s						
DGS	Degeres	6.08	339	Pg	Pb	01 47 39.1	+3.8
	2.6nm,0.5s						
DGS				Lg	Lg	01 49 01.8	
	3.9nm,0.4s						
KTBS	Karatobe	6.30	346	Pg	Pb	01 47 43.4	+4.3
	2.5nm,0.7s						
KTBS				Lg	Lg	01 49 09.5	
	12nm,0.6s						
SGDS	Sogindy	6.64	333	Pg	Pg	01 47 50.9	-4.8
	3.4nm,0.9s						
SGDS				Lg	Lg	01 49 21.8	
	2.9nm,0.7s						
ARXS	Arharly	6.64	354	Pg	Pb	01 47 47.9	+3.0
	3.9nm,0.4s						
ARXS				Lg	Lg	01 49 16.4	
	6.8nm,0.6s						

MOS 11 01:53:55.2±0.9, 4°.90S×153°.61E, h48km, mb5.5/36, MS4.6/5, Error ellipse: s-maj=8.1km s-min=5.8km az=96.5
BJI 11 01:53:56.0±0.0, 4°.52S×153°.71E, h41km, mB5.6/36, mb5.3/64, Ms5.0/9, Ms7 4.7/11
IDC 11 01:53:57.5±1.6, 4°.94S×153°.63E, h54km±12km, mb4.7/27, mb1 4.8/29, mb1mx4.7/34, mbtmp4.9/29, MS4.3/27, Ms1 4.3/27, ms1mx4.3/29, Error ellipse: s-maj=14.7km s-min=9.3km az=89.0
NEIC 11 01:53:58.1±1.8, 4°.93S±0°.06×153°.60E±0°.04, h56km±4km, mb5.2/138, Error ellipse: s-maj=10.2km s-min=3.0km az=214.0
GCMT 11 01:54:00.1±0.1, 5°.06S±0°.01×153°.41E±0°.01, h52km, MW5.3/114, Moment Tensor Solution. s114,c185; s114,c195; Duration: 1ꝑ1 Moment tensor: Scale 10^17 Nm; Mrr1.00±.02; Mθθ0.12±.02; Mφφ-1.12±.02; Mrθ-0.23±.02; Mrφ0.65±.02; Mθφ-0.33±.02; Best double couple: M0 1.29200×10^17 NP1:φs314.00000°, δ45.00000°, λ55.00000°. NP2:φs178.00000°, δ54.00000°, λ120.00000°. Principal axes: T 1.1680, Plg66.0000°, Azm146.0000°; N 0.2480, Plg24.0000°, Azm340.0000°; P -1.4150, Plg5.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
DJA 11 01:54:00.1±0.4, 5°.S±.3×15°.3E±°, h73km±4km, M5.3/50, mb5.4/50, mB5.7/22, MLv5.8/4, Mw(mB)5.2/22, MwMwp5.1/7, Mwp5.3/7

ISC 11 01:53:58.4±0.6, 4°.93S±0°.04×153°.60E±0°.04, h65km±4km, n520, σ1ꝑ50/505, mb5.2/165, 20C-5D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.61	297		Pn	01 54 25.1	+0.4
RABL	Rabaul	1.61	297	P	Pn	01 54 26.1	+1.4
MANU	Manus Island	6.85	295	Pn	Pn	01 55 36.4	+0.1
HNR	Honiara	7.72	126	P	Pn	01 55 52.3	+4.1
	68nm,0.3s,baz=174,slow=8.2,SNR=10						
HNR				S	Sn	01 57 12.9

MMPI Merauke 13.59 254 P **Pn 01 57 07.9 -0.3**
comp=Z,22μmcomp=Z,1μm,0.8s
GENI Genyem 13.61 279 P **Pn 01 57 08.8 +0.3**
comp=Z,4μmcomp=Z,4μmcomp=Z,158nm,1.3s
CTA Charters Tower 16.68 205 P **P 01 57 48.7 -0.6**
comp=Z,0.8nm,0.3s,baz=27,slow=14,SNR=26
CTA S **Sn 02 00 52.9 +0.3**
comp=Z,0.2nm,0.3s,baz=294,slow=7.1,SNR=1.6
CTA LR LR 02 03 55.6
comp=Z,1μm,19.8s,baz=20,slow=36
CTAO Charters Tower 16.68 205 P **Pn 01 57 46.9 -1.1**
CTAO pmax pmax
comp=Z,27nm,0.9s
CTAO Charters Tower 16.68 205 Pn **Pn 01 57 46.9 -1.1**
BAKI Biak 17.86 281 P **Pn 01 58 03.2 +0.6**
KWAJ Kwajalein Atol 19.52 46 P **P 01 58 20.8 +0.1**
KWAJ pmax pmax
comp=Z,457nm,1.3s
KWAJ Kwajalein Atol 19.52 46 P **P 01 58 20.8 +0.1**
TARA Tarawa 20.29 73 P Pn 01 58 30.9 -0.6
TARA IAmb IAmb 01 58 58.7
comp=Z,233nm,1.0s
GUMO Guam 20.34 335 P Pn 01 58 31.5 -0.6
GUMO LR LR 02 05 57.9
comp=Z,306nm,19.6s,baz=147,slow=35
GUMO Guam 20.34 335 P **P 01 58 28.5 -1.0**
EIDS Eidsvold 20.46 187 P **P 01 58 31.7 +0.9**
baz=21,SNR=54
EIDS Eidsvold 20.46 187 P **P 01 58 31.7 +0.9**
EIDS IAmb IAmb 01 58 36.0
comp=Z,137nm,0.8s
LIFNC LIFOU 20.58 141 P **P 01 58 32.0 -0.1**
QIS Mount Isa 20.65 220 P **P 01 58 34.0 +1.1**
baz=21,SNR=35
DZM Mont Dzumac 21.09 145 P **P 01 58 38.2 +0.5**
comp=Z,40nm,0.5s,baz=313,slow=8.5,SNR=62
DZM LR LR 02 06 03.3
comp=Z,1μm,20.9s,baz=304,slow=34
DZM Mont Dzumac 21.09 145 *e*P **P 01 58 37.5 -0.2**
comp=Z,292nm,1.0s
DZM *e*LR LR 02 04 09.8
comp=Z,4μm,26.6s
DZM Mont Dzumac 21.09 145 P **P 01 58 37.3 -0.4**
DZM IAmb IAmb 01 58 43.8
comp=Z,109nm,0.7s
ONTNC Ouen Toro 21.29 145 P **P 01 58 39.0 -0.6**
ONTNC IAmb IAmb 01 58 45.5
comp=Z,100nm,0.9s
FAKI Fak Fak 21.40 275 P **P 01 58 40.0 -1.0**
FAKI Fak Fak 21.40 275 P **P 01 58 41.2 +0.3**
comp=Z,3μmcomp=Z,3μmcomp=Z,295nm,1.0s
OUENC Ouen Island, N 21.59 145 P **P 01 58 42.6 -0.3**
OUENC IAmb IAmb 01 58 58.2
comp=Z,66nm,0.8s
MARNC Mare, Loyalty 21.60 141 P **P 01 58 42.4 -0.6**
RMQ Roma 21.93 192 P **P 01 58 47.4 +0.9**
baz=22,SNR=44
PINNC Pines Island, 22.09 144 P **P 01 58 47.9 -0.4**
PINNC IAmb IAmb 01 59 07.2
comp=Z,73nm,0.9s
KDU Kakadu 22.24 248 P **P 01 58 48.8 -1.2**
baz=22,SNR=47
SIJI Sorong 22.67 280 P **P 01 58 53.4 -1.2**
comp=Z,89nm,0.6s,baz=84,slow=8.1,SNR=21
SIJI LR LR 02 06 39.8
comp=Z,3μm,21.5s,baz=88,slow=34
SWI Sorong 22.67 280 P **P 01 58 54.9 +0.3**
SWI Sorong 22.67 280 P **P 01 58 52.8 -1.8**
comp=Z,2μmcomp=Z,173nm,0.7s
QLP Quilpie 23.32 202 P **P 01 59 00.8 -0.1**
baz=23,SNR=15
MTN Manton Dam 23.53 249 P **P 01 59 03.0 -0.1**
MTN IAmb IAmb 01 59 08.4
comp=Z,123nm,0.8s
WB0 Warramunga Arr 23.82 230 P **P 01 59 04.7 -1.0**
WB0 IAmb IAmb 01 59 30.2
comp=Z,94nm,1.0s
WR0 Warramunga Arr 23.82 230 IAmb IAmb 01 59 20.4
comp=Z,68nm,0.8s
WRAB Tennant Creek 23.95 230 *de*P **P 01 59 06.4 -0.4**
WRAB pmax pmax
comp=Z,32nm,0.7s
WRAB Tennant Creek 23.95 230 P **P 01 59 05.8 -1.0**
WRAB IAmb IAmb 01 59 22.2
comp=Z,61nm,0.7s
WB2 Warramunga Arr 23.95 230 IAmb IAmb 01 59 16.3
comp=Z,65nm,0.8s
WRA Warramunga Arr 23.96 230 P **P 01 59 06.9 0.0**
comp=Z,22nm,0.6s,baz=54,slow=10.0,SNR=173
WRA PcP **PcP 02 02 49.1 +1.2**
comp=Z,18nm,0.9s,baz=57,slow=2.1,SNR=5.2
WRA S **S 02 03 14.5 -4.7**
comp=Z,6.1nm,0.4s,baz=52,slow=9.8,SNR=2.1
WRA LR LR 02 08 10.7
comp=Z,1μm,21.3s,baz=55,slow=36
ARMA Armidale 25.42 184 P **P 01 59 21.3 +1.2**
baz=26,SNR=58
ARMA Armidale 25.42 184 P **P 01 59 20.6 +0.5**
ARMA IAmb IAmb 01 59 22.6
comp=Z,152nm,1.0s
AS31 Alice Springs 26.60 224 P **P 01 59 30.7 -0.1**
ASAR Alice Springs 26.60 224 P **P 01 59 30.9 +0.1**
comp=Z,13nm,0.9s,baz=59,slow=9.1,SNR=64
ASAR PcP **PcP 02 02 55.0 +1.2**
comp=Z,17nm,0.6s,baz=64,slow=2.4,SNR=13
ASAR S **S 02 03 58.3 -2.9**
comp=Z,2.7nm,0.7s,baz=44,slow=14,SNR=4.3
ASAR ScP **ScP 02 06 29.6 +1.3**
comp=Z,2.8nm,0.6s,baz=45,slow=3.0,SNR=6.0
ASAR LR LR 02 09 30.4
comp=Z,1μm,21.5s,baz=56,slow=35
ASAR Alice Springs 26.60 224 P **P 01 59 30.0 -0.8**
ASAR **PcP 02 02 53.5 -0.3**
H11S3 WAKE ISLAND Hy 26.61 29 T T 02 27 58.0
baz=208,slow=73,SNR=13
H11S2 WAKE ISLAND Hy 26.62 29 T T 02 28 04.8
baz=208,slow=73,SNR=163
H11S1 WAKE ISLAND Hy 26.63 29 T T 02 27 52.7
baz=208,slow=73,SNR=99
KNRA Kununurra 26.63 245 P **P 01 59 31.4 +0.2**
baz=27,SNR=35
KNRA Kununurra 26.63 245 P **P 01 59 30.3 -0.8**
MSVF Nonsavu 27.09 120 LR LR 02 10 17.5
comp=Z,1μm,19.1s,baz=297,slow=36
CMSA Cobar Meteorol 27.49 195 P **P 01 59 38.8 +0.2**
baz=28,SNR=14
H11N1 WAKE ISLAND Hy 27.76 28 T T 02 29 43.3
baz=197,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 27.77 28 T T 02 29 47.9
baz=197,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 27.78 28 T T 02 29 20.5
baz=197,slow=76,SNR=14
MGCD Mangrove Creek 28.23 184 P **P 01 59 46.6 +1.4**
baz=28,SNR=13
RIV Riverview 28.84 184 P **P 01 59 52.2 +1.6**
baz=29,SNR=5.1
RIV Riverview 28.84 184 P **P 01 59 51.0 +0.4**
RIV pmax pmax
comp=Z,101nm,0.9s
STKA Stephens Creek 29.07 201 P **P 01 59 52.4 -0.4**
comp=Z,17nm,0.7s,baz=9.2,slow=10.0,SNR=22
STKA LR LR 02 12 22.5
comp=Z,699nm,18.2s,baz=18,slow=38
STKA Stephens Creek 29.07 201 P **P 01 59 51.5 -1.2**
SOEI Soe 29.48 259 P **P 01 59 56.7 0.0**
SOEI IAmb IAmb 02 00 24.6
comp=Z,51nm,0.7s
BATI Baumata 30.12 258 P **P 02 00 03.9 +1.6**
comp=Z,51nm,0.7s
CNB Canberra Magne 30.49 187 P **P 02 00 06.5 +1.2**
baz=31,SNR=7.0
GTOI Gorontalo 31.05 279 P **P 02 00 11.4 +0.9**
comp=Z,22nm,0.9s
MMRI Maumere 31.35 262 P **P 02 00 13.0 -0.2**
WRKA Warakurna 31.46 228 P **P 02 00 13.6 -0.4**
baz=32,SNR=19
EDFI Ende, Flores 31.90 261 P **P 02 00 16.7 -1.4**
comp=Z,39nm,0.6s
APSI Ampana 32.16 276 P **P 02 00 22.2 +2.0**
comp=Z,524nmcomp=Z,50nm,1.3s
ARPS Mount Arapiles 33.48 197 P **P 02 00 32.0 +0.6**
baz=34,SNR=9.6
KAPI Kappang 33.72 268 P **P 02 00 33.3 -0.5**
comp=Z,15nm,0.8s,baz=126,slow=6.9,SNR=7.1
KAPI PcP **PcP 02 03 13.6 +1.2**
comp=Z,7.1nm,0.4s,baz=101,slow=5.7,SNR=4.5

KAPI Kappang 33.72 268 P **P 02 00 33.4 -0.5**
KAPI pmax pmax
comp=Z,69nm,0.7s
KAPI Kappang 33.72 268 P **P 02 00 33.4 -0.5**
MPSI Mapaga 34.07 278 P **P 02 00 36.5 -0.4**
comp=Z,31nm,0.7s
WBSI Waikabubak, Su 34.24 260 P **P 02 00 38.6 +0.2**
comp=Z,121nm,0.6s
FORT Forrest 35.20 220 P **P 02 00 46.3 0.0**
baz=35,SNR=28
FORT Forrest 35.20 220 P **P 02 00 45.6 -0.8**
OUZ Omahuta 35.35 151 IAmb IAmb 02 00 51.3
comp=Z,22nm,0.7s
PLAI Plampang 35.77 262 P **P 02 00 50.3 -1.2**
comp=Z,70nm,0.7s
TWSI Taliwang, Sumb 36.64 262 P **P 02 00 56.7 -2.3**
comp=Z,14nm,0.7s
PSA00 Pilbara Seismi 36.66 240 IAmb IAmb 02 01 15.9
comp=Z,22nm,0.9s
MOO Moorlands 37.78 188 P **P 02 01 10.6 +2.3**
baz=38,SNR=3.5
TAU Tasmania Unive 38.23 187 P **P 02 01 12.8 +0.9**
TAU pmax pmax
comp=Z,209nm,1.5s
TAU Tasmania Unive 38.23 187 P **P 02 01 12.8 +0.9**
BBKI Banjar Baru 38.68 271 P **P 02 01 15.4 -0.8**
URZ Urewera 39.47 150 P **P 02 01 23.4 +0.9**
comp=Z,18nm,0.6s,baz=303,slow=2.9,SNR=22
MEEK Meekatharra 39.76 233 P **P 02 01 24.7 -0.5**
baz=40,SNR=7.2
THZ Tophouse 40.52 158 P **P 02 01 30.7 -0.5**
RPZ Rata Peaks 41.58 161 P **P 02 01 39.7 -0.1**
PWJI Pagerwojo 41.63 264 P **P 02 01 39.9 -0.7**
comp=Z,51nm,1.0s
GIRL Giralia 41.90 241 P **P 02 01 42.6 -0.2**
baz=42,SNR=4.9
PCJI Pacitan 42.26 263 P **P 02 01 45.7 0.0**
comp=Z,121nm,0.7s
KLBR Kellerberrin 42.80 227 P **P 02 01 49.3 -0.6**
baz=43,SNR=6.4
MORW Morawa 42.89 232 P **P 02 01 50.3 -0.4**
baz=43,SNR=3.1
BLDU Ballidu 43.09 229 P **P 02 01 51.4 -0.9**
baz=43,SNR=4.5
JNU Nakatsue 43.55 332 P **P 02 01 55.8 -0.2**
JNU IAmb IAmb 02 01 57.5
comp=Z,54nm,1.1s
MJAR Matsushiro Arr 43.70 342 P **P 02 01 55.7 -1.4**
comp=Z,1.9nm,0.7s,baz=170,slow=8.1,SNR=7.2
MJAR LR LR 02 20 18.8
comp=Z,197nm,18.2s,baz=185,slow=36
MJAR Matsushiro Arr 43.70 342 P **P 02 01 55.4 -1.7**
MAJO Matsushiro 43.70 342‖ *e*P **P 02 01 58.1 +1.0**
MAJO Matsushiro 43.70 342 P **P 02 01 55.4 -1.6**
MAT Matsushiro 43.70 342 P **P 02 01 56.0 -1.1**
MAT *e*S **S 02 08 24.4 +1.9**
KSM Kuching 43.72 277 P **P 02 02 02.0 +4.4**
NWAO Narrogin (SRO) 43.87 226 P **P 02 01 57.8 -0.7**
comp=Z,17nm,0.9s,baz=97,slow=6.0,SNR=6.9
NWAO Narrogin (SRO) 43.87 226 P **P 02 01 58.0 -0.6**
baz=44,SNR=6.3
NWAO Narrogin (SRO) 43.87 226 P **P 02 01 57.8 -0.7**
NWAO pmax pmax
comp=Z,25nm,1.1s
NWAO Narrogin (SRO) 43.87 226 IAmb IAmb 02 01 58.1
comp=Z,25nm,1.1s
MUN Mundaring 44.13 228 P **P 02 02 00.5 -0.1**
baz=44,SNR=5.5
KPJI Karang Pucung 44.47 265 P **P 02 02 04.3 +0.7**
comp=Z,81nm,0.7s
JSD Sado 45.07 343 P **P 02 02 07.5 -0.4**
CISI Cisompet, Garu 45.58 264 P **P 02 02 11.1 -1.4**
CISI Cisompet, Garu 45.58 264 P **P 02 02 12.2 -0.2**
comp=Z,2μmcomp=Z,84nm,0.9s
LEM Lembang 45.77 265 P **P 02 02 14.6 +0.5**
LEM pmax pmax
comp=Z,46nm,0.8s
TPI Tanjungpandan 45.89 271 P **P 02 02 12.4 -2.5**
comp=Z,45nm,0.8s
CNJI Cibinong 46.25 265 P **P 02 02 15.4 -2.3**
comp=Z,206nm,0.9s
TJN Taejon 47.87 331 *de*P **P 02 02 30.4 +0.5**
KSRS Korea Array 48.48 333 P **P 02 02 35.4 +0.8**
comp=Z,12nm,0.9s,baz=150,slow=9.3,SNR=50
KSRS LR LR 02 22 36.0
comp=Z,146nm,18.5s,baz=142,slow=35
KS19 Wonju Array Si 48.55 333 P **P 02 02 35.7 +0.6**
KS19 IAmb IAmb 02 02 36.4
comp=Z,24nm,1.1s
KASI Kota Agung 48.90 267 P **P 02 02 38.1 -0.1**
comp=Z,47nm,1.0s
INCN Inchon 49.11 331 P **P 02 02 39.5 +0.1**
INCN pmax pmax
comp=Z,75nm,0.9s
INCN Inchon 49.11 331 P **P 02 02 39.5 +0.1**
QIZ Qiongzhong 49.23 300 P **P 02 02 40.4 -0.2**
QIZ S **S 02 09 42.3 +0.2**
QIZ LR LR
comp=Z,690nm,12.8s
QIZ LR LR
comp=Z,700nm,21.3s
MDSI Maura Dua 49.25 268 P **P 02 02 40.2 -0.7**
comp=Z,19nm,1.3s
NJ2 Nanjing 49.45 320 *e*P **P 02 02 43.4 +1.3**
NJ2 pmax pmax
comp=Z,16nm,0.6s
ASAJ Asahikawa 49.82 350 P **P 02 02 47.0 +2.3**
comp=Z,5.8nm,0.6s,baz=60,slow=32,SNR=3.6
ASAJ Asahikawa 49.82 350 P **P 02 02 47.0 +2.3**
JRMM Jerantut 51.82 279 P **P 02 03 00.0 -0.3**
YSS Yuzh-Sakhalins 52.55 351 *e*P **P 02 03 04.1 -1.0**
YSS MLR MLR
comp=Z,300nm,16.0s
USRK Ussuriysk Ar. 52.63 341 P **P 02 03 06.5 +0.7**
comp=Z,2.3nm,0.6s,baz=157,slow=7.8,SNR=8.6
USRK LR LR 02 21 52.9
comp=Z,132nm,20.8s,baz=150,slow=32
DL2 Dalian 52.70 329 P **P 02 03 07.5 +1.2**
DL2 pmax pmax
comp=Z,24nm,1.3s
IPM Ipoh 53.34 279 P **P 02 03 13.0 +1.4**
KULM Kulim 53.85 280 P **P 02 03 16.0 +0.7**
MNSI Mandailing Nat 54.26 275 P **P 02 03 17.6 -0.7**
comp=Z,31nm,0.8s
CN2 Changchun 54.75 335 *e*P **P 02 03 21.6 +0.3**
CN2 pmax pmax
comp=Z,20nm,1.2s
NONG Nongkai 54.75 296 P **P 02 03 23.8 +2.1**
comp=Z,36nm,1.4s
ENH Enshi 54.83 313 P **P 02 03 22.2 0.0**
CHAI Chaiyaphum 55.11 293 P **P 02 03 25.6 +1.2**
comp=Z,38nm,0.8s
GYA Guiyang 55.11 307 *e*P **P 02 03 26.1 +1.7**
GYA pmax pmax
comp=Z,3.0nm,0.8s
GSI Gunungsitoli 56.31 275 P **P 02 03 31.9 -1.2**
GSI IAmb IAmb 02 03 32.5
comp=Z,22nm,0.8s
GSI Gunungsitoli 56.31 275 P **P 02 03 31.7 -1.4**
comp=Z,45nm,1.3s
BJI Beijing 56.45 326 P **P 02 03 34.9 +1.4**
BJI PcP **PcP 02 04 30.8 +1.0**
BJI ScS ScS 02 13 17.8 +0.8
BJI pmax pmax
comp=Z,15nm,1.1s
BJI pmax pmax
comp=Z,740nm,4.8s
PPT Papeete 56.92 108 P **P 02 03 41.3 +4.0**
comp=Z,18nm,0.7s,baz=81,slow=13,SNR=2.0
PPT LR LR 02 25 31.1
comp=Z,158nm,19.2s,baz=280,slow=33
PPT2 Papeete2 56.92 108 *e*S **S 02 11 23.9 -3.1**
comp=Z,276nm,25.5s
PPT2 *e*LQ LQ 02 18 02.0
comp=Z,502nm,25.8s
PPT2 *e*LR LR 02 20 26.8
comp=Z,601nm,33.0s
PHIT Phitsanulok 56.93 294 P **P 02 03 39.2 +1.8**
comp=Z,1μmcomp=Z,129nm,0.8s
UTTA Uttaradit 56.98 295 P **P 02 03 39.4 +1.7**
comp=Z,427nmcomp=Z,54nm,0.9s
KLR Kul'dur 57.20 343‖ *i*P **P 02 03 39.9 +1.2**
KLR pmax pmax
comp=Z,17nm,1.2s
XAN Xi'an 57.27 316 ⇑P **P 02 03 40.3 +0.8**
XAN pP pP 02 03 52.5 -2.7

XAN sP pwP 02 03 58.4 -2.7
XAN PcP **PcP 02 04 33.0 -0.2**
XAN pmax pmax
comp=Z,61nm,0.8s
SRDT SRDT 57.32 290 P **P 02 03 42.1 +2.0**
comp=Z,15μmcomp=Z,69nm,0.9s
KMI Kunming 57.72 304 ⇑P **P 02 03 45.1 +2.0**
KMI S **S 02 11 39.9 +2.3**
KMI pmax pmax
comp=Z,26nm,1.3s
KMI LR LR
comp=Z,640nm,29.0s
TBI Tubuai 57.77 114 *e*S **S 02 11 39.9 +2.0**
comp=Z,203nm,30.5s
TBI *e*LQ LQ 02 18 33.5
comp=Z,1μm,32.0s
TBI *e*LR LR 02 20 58.0
comp=Z,1μm,26.5s
PET Petropavlovsk 57.90 4⇑ *e*P **P 02 03 45.4 +2.0**
PET pmax pmax
comp=Z,38nm,1.5s
PET Petropavlovsk 57.90 4 P **P 02 03 42.5 -0.9**
PET IAmb IAmb 02 04 07.7
comp=Z,16nm,0.7s
PEA0B Petropavlovsk- 57.93 3⇑ *e*P **P 02 03 44.8 +1.1**
PEA0B Petropavlovsk- 57.93 3 P **P 02 03 43.5 -0.2**
PETK Petropavlovsk- 57.93 3 P **P 02 03 44.1 +0.4**
comp=Z,6.4nm,0.6s,baz=170,slow=6.5,SNR=26
PETK LR LR 02 24 47.0
comp=Z,182nm,21.3s,baz=174,slow=32
PETK Petropavlovsk- 57.93 3 P **P 02 03 43.8 +0.1**
LAMP Lampang 58.05 295 P **P 02 03 47.4 +2.1**
comp=Z,814nmcomp=Z,50nm,0.8s
UMPA Umpang Tak 58.07 292 P **P 02 03 47.1 +1.7**
comp=Z,6μmcomp=Z,46nm,1.0s
CM04 Chiang Mai Arr 58.61 295 P **P 02 03 51.1 +2.0**
comp=Z,235nmcomp=Z,28nm,1.0s
CM09 Chiang Mai Arr 58.61 295 P **P 02 03 51.4 +2.2**
comp=Z,290nmcomp=Z,32nm,0.9s
CM01 Chiang Mai Arr 58.63 295 P **P 02 03 51.4 +2.1**
comp=Z,204nmcomp=Z,28nm,1.0s
CM05 Chiang Mai Arr 58.64 295 P **P 02 03 51.3 +2.0**
comp=Z,184nmcomp=Z,22nm,1.0s
CM02 Chiang Mai Arr 58.65 295 P **P 02 03 51.5 +2.1**
comp=Z,196nmcomp=Z,28nm,1.0s
CM31 Chiang Mai Arr 58.66 295 P **P 02 03 50.4 +0.9**
CM31 IAmb IAmb 02 03 52.4
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 58.66 295 P **P 02 03 51.2 +1.8**
comp=Z,17nm,0.9s,baz=113,slow=5.2,SNR=53
CMAR PcP **PcP 02 04 40.1 +1.2**
comp=Z,9.5nm,0.9s,baz=110,slow=3.1,SNR=5.5
CMAR LR LR 02 27 27.0
comp=Z,138nm,21.3s,baz=150,slow=34
CMAR Chiang Mai Arr 58.66 295 P **P 02 03 49.8 +0.4**
CM15 Chiang Mai Arr 58.67 295 P **P 02 03 51.7 +2.1**
comp=Z,32nm,0.9s
CM13 Chiang Mai Arr 58.68 295 P **P 02 03 51.6 +2.0**
comp=Z,219nmcomp=Z,26nm,0.9s
CMMT Chiang Mai 58.76 295 P **P 02 03 52.0 +1.8**
comp=Z,26nm,1.3s
CHTO Chiang Mai 58.77 295 P **P 02 03 50.9 +0.7**
CHTO pmax pmax
comp=Z,32nm,1.3s
CHTO Chiang Mai 58.77 295 P **P 02 03 52.0 +1.8**
comp=Z,27nm,1.3s
CHTO Chiang Mai 58.77 295 P **P 02 03 50.9 +0.7**
CHTO IAmb IAmb 02 03 52.8
comp=Z,32nm,1.2s
CD2 Chengdu 59.43 310 P **P 02 03 56.2 +1.5**
CD2 pmax pmax
comp=Z,190nm,0.6s
HHC Hu-ho-hao-te 59.62 324 *e*P **P 02 03 59.3 +3.4**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,270nm,6.6s
LZH Lanzhou 61.88 315 ⇑P **P 02 04 13.4 +2.0**
LZH pmax pmax
comp=Z,99nm,1.5s
LZH pmax pmax
comp=Z,1μm,7.3s
ZEA Zeya 62.50 343 *e*P **P 02 04 16.0 +1.0**
ZEA *e* 02 04 36.0
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 64.34 358 P **P 02 04 27.6 +0.6**
comp=Z,17nm,0.7s,baz=140,slow=6.2,SNR=11
MA2 Magadan 64.34 358 *c i*P **P 02 04 27.1 +0.1**
MA2 pmax pmax
comp=Z,17nm,0.8s
MA2 Magadan 64.34 358 P **P 02 04 27.0 -0.1**
MA2 IAmb IAmb 02 04 51.3
comp=Z,23nm,0.8s
TAOE Nuku Hiva Isla 65.82 97 *e*LR LR 02 24 26.4
comp=Z,1μm,28.7s
GTA Gaotai 66.30 317 ⇑P **P 02 04 42.3 +2.0**
GTA pP pP 02 04 58.9 +2.7
GTA pmax pmax
comp=Z,72nm,1.0s
ULN Ulaanbaatar 66.53 328 *ce*P **P 02 04 42.7 +1.1**
ULN pmax pmax
comp=Z,32nm,1.3s
ULN Ulaanbaatar 66.53 328 P **P 02 04 42.2 +0.6**
ULN IAmb IAmb 02 04 44.2
comp=Z,30nm,1.1s
SONM Songino Array 66.86 327 P **P 02 04 45.0 +1.3**
comp=Z,13nm,0.8s,baz=147,slow=6.1,SNR=64
SONM PKP2bc 02 33 34.0
comp=Z,1.6nm,1.2s,baz=236,slow=1.0,SNR=1.9
SONM LR LR 02 35 06.5
comp=Z,212nm,18.2s,baz=146,slow=37
SONM Songino Array 66.86 327 P **P 02 04 45.0 +1.3**
SONM Songino Array 66.86 327 P **P 02 04 44.3 +0.6**
SHL Shillong 67.06 300 P **P 02 04 45.9 +0.4**
SHL pmax pmax
comp=Z,39nm,1.1s
SHL Shillong 67.06 300 P **P 02 04 45.9 +0.4**
SHL IAmb IAmb 02 05 11.9
comp=Z,39nm,1.1s
SEY Seymchan 67.68 359⇑ *e*P **P 02 04 48.3 0.0**
CASY Casey 68.13 197 P **P 02 04 50.9 -0.2**
CASY IAmb IAmb 02 04 52.1
comp=Z,35nm,0.8s
LSA Lhasa 68.97 304 P **P 02 04 59.9 +2.2**
LSA pmax pmax
comp=Z,27nm,1.2s
YAK Yakutsk 69.26 348 LR LR 02 33 30.9
comp=Z,116nm,21.7s,baz=90,slow=34
YAK Yakutsk 69.26 348 *e*P **P 02 04 58.8 +0.6**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 69.26 348 P **P 02 04 59.2 +1.0**
ZAK Zakamensk 70.02 328 *e*P **P 02 05 03.7 +0.4**
ZAK pmax pmax
comp=Z,31nm,1.2s
BOD Bodaibo 70.20 339 *e*P **P 02 05 04.1 0.0**
BOD pmax pmax
comp=Z,19nm,1.2s
TLY Talaya 70.59 330 LR LR 02 33 19.1
comp=Z,114nm,21.5s,baz=130,slow=33
TLY Talaya 70.59 330 *e*P **P 02 05 07.5 +0.8**
TLY pmax pmax
comp=Z,37nm,1.1s
TLY MLR MLR
comp=Z,166nm,7.0s
TLY Talaya 70.59 330 P **P 02 05 06.5 -0.2**
MOY Mondy 71.94 329 *e*P **P 02 05 16.0 +1.1**
MOY pmax pmax
comp=Z,39nm,1.4s
VNDA Vanda 72.67 178 P **P 02 05 19.9 +1.2**
comp=Z,48nm,0.7s,baz=330,slow=6.6,SNR=396
VNDA LR LR 02 31 40.7
comp=Z,93nm,20.9s,baz=356,slow=31
VNDA Vanda 72.67 178 P **P 02 05 19.3 +0.6**
SBA Scott Base 73.20 177 P **P 02 05 23.5 +1.7**
SBA pmax pmax
comp=Z,96nm,1.2s

SBA	**Scott Base**	73.20	177	P		**P**	02 05 23.5 +1.7
GAMB	**Gambell**	73.29	15	P		**P**	02 05 23.0 +0.5
	baz=216						
BILL	**Bilibino**	73.35	5	*ce*P		**P**	02 05 24.0 +1.2
BILL				*e*			02 08 11.6
BILL				*e*PPP		PPP	02 09 48.6
BILL				pmax		pmax	
	comp=Z,30nm,1.7s						
BILL				MLR		MLR	
	comp=Z,296nm,17.0s						
BILL	**Bilibino**	73.35	5	P		**P**	02 05 23.2 +0.4
BILL				IAmb		IAmb	02 05 46.7
	comp=Z,25nm,1.1s						
OHAK	**Old Harbor**	75.31	27	P		**P**	02 05 35.2 +0.9
	baz=235,SNR=5.2						
OHAK	**Old Harbor**	75.31	27	P		**P**	02 05 33.9 -0.5
OHAK				IAmb		IAmb	02 05 58.1
	comp=Z,29nm,1.2s						
ANM	**Nome**	75.67	17	P		**P**	02 05 37.6 +1.3
	baz=222						
KDAK	**Kodiak Island**	75.94	26	P		**P**	02 05 38.5 +0.5
	comp=Z,5.9nm,0.9s,baz=224,slow=3.7,SNR=9.2						
KDAK	**Kodiak Island**	75.94	26	P		**P**	02 05 39.0 +1.1
	baz=236						
KDAK	**Kodiak Island**	75.94	26	P		**P**	02 05 38.2 +0.3
O18K	**Koktuh Hills**	76.03	24	P		**P**	02 05 38.7 +0.3
	baz=233						
N18K	**Kilae Creek**	76.26	23	P		**P**	02 05 41.4 +1.6
	baz=232						
WMQ	**Urumqi**	76.38	317	*e*P		**P**	02 05 42.4 +1.5
WMQ				pP		pP	02 05 56.0 -1.2
WMQ				sP		pwP	02 06 02.0 -1.3
WMQ				pmax		pmax	
	comp=Z,37nm,0.9s						
WMQ				pmax		pmax	
	comp=Z,210nm,3.7s						
WMQ				LR		LR	
	comp=Z,760nm,29.2s						
WMQ				LR		LR	
	comp=Z,1μm,28.9s						
WMQ				LR		LR	
	comp=Z,560nm,28.3s						
SVW2	**Sparrevohn**	76.63	23	P		**P**	02 05 42.9 +1.1
P19K	**Oil Pt**	76.72	25	P		**P**	02 05 42.8 +0.4
	baz=235						
N19K	**Bonanza Creek**	76.89	23	P		**P**	02 05 44.2 +0.7
	baz=234						
O20K	**Slope Mountain**	77.22	24	P		**P**	02 05 45.7 +0.4
	baz=236						
L19K	**White Mountain**	77.57	22	P		**P**	02 05 48.6 +1.4
	baz=233						
M19K	**Big River Lodg**	77.58	22	P		**P**	02 05 48.7 +1.6
	baz=234						
BRLK	**Bradley Lake**	77.77	25	IAmb		IAmb	02 06 12.6
	comp=Z,48nm,1.2s						
BRSE	**Bradley Lake S**	77.82	25	P		**P**	02 05 49.5 +0.9
	baz=237						
M20K	**Styx River**	78.05	23	P		**P**	02 05 50.9 +1.0
	baz=235						
TIXI	**Tiksi**	78.13	352⇑	*e*P		**P**	02 05 51.2 +1.2
K20K	**Telida**	78.56	21	P		**P**	02 05 53.9 +1.3
	baz=234						
DGZ	**Jazzator, Alta**	78.67	323	*ce*P		**P**	02 05 54.6 +0.9
DGZ				pmax		pmax	
	comp=Z,49nm,1.1s						
SKT	**Skwentna**	78.72	23	P		**P**	02 05 53.0 -0.5
	baz=236						
SUA	**Susitna One**	78.75	24	P		**P**	02 05 53.7 -0.1
	baz=237						
RDOG	**Red Dog Mine**	78.90	15	P		**P**	02 05 57.3 +3.0
	baz=224,SNR=5.9						
RC01	**Rabbit Creek A**	78.96	24	P		**P**	02 05 55.2 +0.4
	baz=238						
RC01	**Rabbit Creek A**	78.96	24	IAmb		IAmb	02 06 19.2
	comp=Z,62nm,1.2s						
PPLA	**Purkeypile**	78.99	22	P		**P**	02 05 55.7 +0.6
	baz=235						
J20K	**Nowinta River**	79.03	21	P		**P**	02 05 56.3 +1.2
	baz=233						
PWL	**Port Wells**	79.43	25	P		**P**	02 05 58.1 +0.7
ZSN	**Zaisan**	79.48	320	*e*P		**P**	02 05 57.7 -0.3
	baz=320						
ZSN	**Zaisan**	79.48	320	*e*P		**P**	02 05 57.7 -0.3
CHUM	**Lake Minchumin**	79.51	21	P		**P**	02 05 58.4 +0.7
	baz=235						
GHO	**Glory Hole Cre**	79.65	24	IAmb		IAmb	02 06 23.0
	comp=Z,23nm,0.9s						
KNK	**Knik Glacier**	79.66	24	P		**P**	02 05 59.8 +1.2
	baz=239						
KTH	**Kantishna Hill**	79.83	22	IAmb		IAmb	02 06 23.2
	comp=Z,23nm,1.0s						
SML	**Sawmill**	79.91	24	P		**P**	02 06 00.0 0.0
SML	**Sawmill**	79.91	24	P		**P**	02 06 00.6 +0.6
	baz=239,SNR=10						
SML	**Sawmill**	79.91	24	P		**P**	02 06 00.0 0.0
GLI	**Glacier Island**	79.96	25	P		**P**	02 06 00.7 +0.5
	baz=240						
GLI	**Glacier Island**	79.96	25	IAmb		IAmb	02 06 24.7
	comp=Z,35nm,1.0s						
TRF	**Thorofare Moun**	80.02	22	P		**P**	02 06 00.4 -0.3
	baz=237,SNR=6.6						
BPAW	**Bear Paw Mtn.**	80.11	22	P		**P**	02 06 00.7 -0.3
	baz=236,SNR=5.8						
FID	**Port Fidalgo**	80.16	26	IAmb		IAmb	02 06 25.7
	comp=Z,34nm,1.1s						
SCM	**Sheep Creek Mo**	80.34	24	IAmb		IAmb	02 06 27.1
	comp=Z,37nm,1.0s						
WAT1	**Susitna Watana**	80.35	23	P		**P**	02 06 02.6 +0.2
	baz=239						
H21K	**Melozitna Rive**	80.36	20	P		**P**	02 06 03.3 +0.9
	baz=234						
I21K	**Tanana**	80.37	20	P		**P**	02 06 03.5 +1.2
	baz=235,SNR=16						
WAT6	**Susitna Watana**	80.55	24	P		**P**	02 06 03.8 +0.2
	baz=240						
MCK	**McKinley**	80.68	22	P		**P**	02 06 03.6 -0.5
MCK				pmax		pmax	
	comp=Z,80nm,1.1s						
MCK	**McKinley**	80.68	22	P		**P**	02 06 04.0 -0.1
	baz=238,SNR=10						
MCK	**McKinley**	80.68	22	P		**P**	02 06 03.6 -0.5
MLY	**Manley**	80.72	21	P		**P**	02 06 04.7 +0.4
	baz=236,SNR=19						
MLY	**Manley**	80.72	21	IAmb		IAmb	02 06 28.8
	comp=Z,20nm,0.7s						
KLU	**Klutina**	80.76	25	P		**P**	02 06 05.9 +1.3
	baz=241,SNR=8.2						
KLU	**Klutina**	80.76	25	IAmb		IAmb	02 06 30.2
	comp=Z,55nm,1.2s						
HMT	**Hamilton**	80.94	26	IAmb		IAmb	02 06 30.5
	comp=Z,44nm,1.3s						
M24K	**Tolsona, Glenn**	80.95	24	P		**P**	02 06 06.9 +1.3
	baz=241						
MK31	**Makanchi Array**	80.95	319	*c i*P		**P**	02 06 07.0 +1.1
MK31	**Makanchi Array**	80.95	319	P		**P**	02 06 06.3 +0.4
MKAR	**Makanchi Array**	80.95	319	P		**P**	02 06 07.0 +1.1
	comp=Z,13nm,0.5s,baz=95,slow=7.6,SNR=140						
MKAR				LR		LR	02 43 28.9
	comp=Z,118nm,19.3s,baz=108,slow=37						
BMRM	**Bremner River**	81.07	26	P		**P**	02 06 07.2 +0.9
	baz=243						
NEA2	**Nenana**	81.08	22	P		**P**	02 06 05.8 -0.4
	baz=238,SNR=11						
NEA2	**Nenana**	81.08	22	IAmb		IAmb	02 06 29.8
	comp=Z,23nm,0.9s						
MAKZ	**Makanchi**	81.16	319	P		**P**	02 06 07.4 +0.4
MAKZ				pmax		pmax	
	comp=Z,30nm,0.7s						
MAKZ	**Makanchi**	81.16	319	P		**P**	02 06 07.4 +0.4
MAKZ				IAmb		IAmb	02 06 08.7
	comp=Z,30nm,0.7s						
I23K	**Minto, Yukon-K**	81.27	21	P		**P**	02 06 06.6 -0.6
	baz=238						
N25K	**Chitina, Valde**	81.37	25	P		**P**	02 06 08.7 +0.8
	baz=243						
N25K	**Chitina, Valde**	81.37	25	IAmb		IAmb	02 06 33.0
	comp=Z,34nm,1.3s						
WRH	**Wood River Hil**	81.38	22	IAmb		IAmb	02 06 31.4
	comp=Z,29nm,1.2s						
H23K	**Yukon River**	81.57	20	P		**P**	02 06 09.6 +0.8
	baz=238,SNR=8.8						
CRQM	**Cirque**	81.62	26	IAmb		IAmb	02 06 34.2
	comp=Z,52nm,1.3s						
GLB	**Gilahina Butte**	81.63	26	IAmb		IAmb	02 06 34.0
	comp=Z,42nm,1.0s						
CRQE	**Cirque**	81.64	26	P		**P**	02 06 10.5 +1.1
	baz=244,SNR=5.3						
TCOL	**CIGO, UAF Yank**	81.67	22	P		**P**	02 06 09.0 -0.2
	baz=239						
TCOL	**CIGO, UAF Yank**	81.67	22	IAmb		IAmb	02 06 32.8
	comp=Z,33nm,1.0s						
COLA	**College**	81.68	22	*c i*P		**P**	02 06 08.1 -1.2
COLA				pmax		pmax	
	comp=Z,17nm,0.9s						
COLA	**College**	81.68	22	P		**P**	02 06 09.0 -0.3
	baz=239						
COLA	**College**	81.68	22	P		**P**	02 06 08.3 -0.9
COLA				IAmb		IAmb	02 06 32.8
	comp=Z,33nm,1.0s						
VRDI	**Verde Repeater**	81.69	26	IAmb		IAmb	02 06 34.4
	comp=Z,27nm,1.0s						
ZALV	**Zalesovo Beam**	81.71	326	P		**P**	02 06 09.7 0.0
	comp=Z,11nm,0.5s,baz=108,slow=6.0,SNR=41						
ZALV				LR		LR	02 40 50.7
	comp=Z,82nm,21.8s,baz=100,slow=34						
ZALV	**Zalesovo Beam**	81.71	326	P		**P**	02 06 09.5 -0.2
SHLS	**Shalkode**	81.89	315	*e*P		**P**	02 06 09.5 -1.6
	comp=Z,27nm,1.3s,baz=315						
SHLS	**Shalkode**	81.89	315	*e*P		**P**	02 06 09.5 -1.6
SHLS				pmax		pmax	
	comp=Z,27nm,1.3s						
MCARA	**McCarthy VSAT**	81.94	26	P		**P**	02 06 12.5 +1.7
	baz=244						
MCARA	**McCarthy VSAT**	81.94	26	IAmb		IAmb	02 06 36.3
	comp=Z,33nm,1.0s						
IL31		81.98	22	P		**P**	02 06 10.1 -0.8
ILAR	**Eielson Array**	81.98	22	P		**P**	02 06 10.0 -0.9
	comp=Z,6.4nm,0.9s,baz=252,slow=5.1,SNR=45						
ILAR				PKKPbc		**PKKPbc**	02 24 40.5 -3.4
	comp=Z,0.5nm,0.6s,baz=354,slow=1.5,SNR=6.0						
ILAR				LR		LR	02 41 12.0
	comp=Z,257nm,18.9s,baz=237,slow=35						
H24K	**Noodor Dome**	82.16	21	P		**P**	02 06 12.5 +0.5
	baz=239						
UZB	**Uzynbulak**	82.20	315	*e*P		**P**	02 06 11.8 -1.0
	comp=Z,16nm,1.1s,baz=315						
UZB	**Uzynbulak**	82.20	315	*e*P		**P**	02 06 11.7 -1.0
UZB				pmax		pmax	
	comp=Z,16nm,1.1s						
RIDG	**Independent Ri**	82.26	23	P		**P**	02 06 12.7 +0.2
	baz=242,SNR=5.4						
RIDG	**Independent Ri**	82.26	23	IAmb		IAmb	02 06 37.0
	comp=Z,28nm,1.2s						
TABL	**Table Mountain**	82.38	27	IAmb		IAmb	02 06 38.3
	comp=Z,26nm,1.0s						
BARN	**Barnard Glacie**	82.40	26	P		**P**	02 06 14.3 +0.8
BARN				IAmb		IAmb	02 06 38.5
	comp=Z,26nm,1.0s						
PRZ	**Przheval'sk**	82.49	314	P		**P**	02 06 14.4 +0.1
PRZ				pmax		pmax	
	comp=Z,93nm,1.2s						
PRZ	**Przheval'sk**	82.49	314	P		**P**	02 06 14.4 +0.1
CTG	**Chitna Glacier**	82.50	26	P		**P**	02 06 15.3 +1.3
	baz=246,SNR=5.9						
CTGM	**Chitina Glacie**	82.51	26	IAmb		IAmb	02 06 39.0
	comp=Z,36nm,1.1s						
KPKS	**Kokpek**	82.52	315	*e*P		**P**	02 06 14.3 -0.1
	comp=Z,57nm,2.0s,baz=315						
KPKS	**Kokpek**	82.52	315	*e*P		**P**	02 06 14.2 -0.1
KPKS				pmax		pmax	
	comp=Z,57nm,2.0s						
DOT	**Dot Lake**	82.53	23	IAmb		IAmb	02 06 38.4
	comp=Z,31nm,0.9s						
L26K	**Log Cabin Wild**	82.53	24	P		**P**	02 06 14.8 +0.9
	baz=244						
LOGN	**Logan Glacier**	82.60	27	IAmb		IAmb	02 06 39.3
	comp=Z,29nm,1.2s						
SATY	**Saty**	82.62	314	*e*P		**P**	02 06 14.5 -0.5
	comp=Z,49nm,2.5s,baz=314						
SATY	**Saty**	82.62	314	*e*P		**P**	02 06 14.4 -0.5
SATY				pmax		pmax	
	comp=Z,49nm,2.5s						
SCRK	**Sand Creek**	82.71	23	P		**P**	02 06 15.1 +0.2
	baz=243						
TARG	**Taragay, Kyrgy**	82.74	313	IAmb		IAmb	02 06 38.4
	comp=Z,42nm,1.5s						
TDK	**Taldyqorghan**	83.08	316	*e*P		**P**	02 06 16.1 -1.1
	baz=316						
TDK	**Taldyqorghan**	83.08	316	*e*P		**P**	02 06 16.0 -1.1
TOLK	**Toolik Lake Re**	83.09	18	P		**P**	02 06 17.4 +0.7
	baz=237						
L27K	**Beaver Creek,**	83.17	24	P		**P**	02 06 18.1 +0.9
	baz=245,SNR=8.4						
L27K	**Beaver Creek,**	83.17	24	IAmb		IAmb	02 06 42.4
	comp=Z,21nm,1.1s						
SEM	**Semipalatinsk**	83.28	322	*e*P		**P**	02 06 16.4 -1.9
	baz=322						
SEM	**Semipalatinsk**	83.28	322	*e*P		**P**	02 06 16.3 -1.9
FYU	**Fort Yukon**	83.46	21	P		**P**	02 06 18.9 +0.4
K27K	**Chicken**	83.49	24	P		**P**	02 06 20.3 +1.5
	baz=245						
MDOK	**Medeo**	83.61	314	*e*P		**P**	02 06 19.5 -0.6
	baz=314						
MDOK	**Medeo**	83.61	314	*e*P		**P**	02 06 19.4 -0.6
KSH	**Kashi**	83.63	311	P		**P**	02 06 23.2 +3.0
KSH				pP		pP	02 06 36.9 +0.2
KSH				S		**S**	02 16 42.5 +4.8
KSH				pmax		pmax	
	comp=Z,35nm,0.8s						
KSH				LR		LR	
	comp=Z,180nm,9.0s						
KSH				LR		LR	
	comp=Z,240nm,6.9s						
AAA	**Alma-Ata**	83.72	314	*e*P		**P**	02 06 20.4 -0.1
	baz=314						
AAA	**Alma-Ata**	83.72	314	*e*P		**P**	02 06 20.4 -0.1
CHKK	**Chushkaly**	83.81	315	*e*P		**P**	02 06 20.8 -0.1
	baz=315						
CHKK	**Chushkaly**	83.81	315	*e*P		**P**	02 06 20.7 -0.1
EGAK	**Eagle**	84.17	23	P		**P**	02 06 23.0 +0.8
	baz=245						
BOOM	**Boomskoye usch**	84.26	313	IAmb		IAmb	02 06 25.8
	comp=Z,32nm,0.8s						
KUU	**Kurty**	84.27	315	*e*P		**P**	02 06 22.6 -0.7
	baz=315						
KUU	**Kurty**	84.27	315	*e*P		**P**	02 06 22.5 -0.7
TKM2	**Tokmak 2**	84.60	314	P		**P**	02 06 26.7 +1.5
	SNR=18						
BESE	**Bessie Mountai**	84.69	30	P		**P**	02 06 25.2 +0.1
BESE				IAmb		IAmb	02 06 50.5
	comp=Z,36nm,1.2s						
NIL	**Nilore**	84.71	304	P		**P**	02 06 25.4 -0.3
NIL				pmax		pmax	
	comp=Z,54nm,0.8s						
NIL	**Nilore**	84.71	304	P		**P**	02 06 25.4 -0.3
KBK	**Karagaybulak**	85.01	313	P		**P**	02 06 28.7 +1.5
	SNR=12						
QSPA	**South Pole Qui**	85.03	180	P		**P**	02 06 27.1 +0.3
	comp=Z,102nm,0.6s,baz=346,slow=1.0,SNR=1136						
QSPA	**South Pole Qui**	85.03	180	P		**P**	02 06 27.1 +0.3
CHMS	**Chumysh**	85.22	314	P		**P**	02 06 29.3 +1.3
	SNR=17						
FRU1	**Bishkek**	85.27	314	P		**P**	02 06 28.4 0.0
FRU1				pmax		pmax	
	comp=Z,68nm,1.1s						
FRU1	**Bishkek**	85.27	314	P		**P**	02 06 28.4 0.0
AAK	**Ala-Archa**	85.34	313	P		**P**	02 06 30.5 +1.7
	SNR=10						
AAK	**Ala-Archa**	85.34	313	*c i*P		**P**	02 06 30.2 +1.4
AAK				pmax		pmax	
	comp=Z,180nm,1.7s						
AAK	**Ala-Archa**	85.34	313	P		**P**	02 06 28.9 +0.1
AAK				IAmb		IAmb	02 06 51.7
	comp=Z,29nm,0.8s						
SGDS	**Sogindy**	85.40	314	*e*P		**P**	02 06 27.6 -1.4
	baz=314						
SGDS	**Sogindy**	85.40	314	*e*P		**P**	02 06 27.6 -1.4
USP	**Ospenovka**	85.45	314	P		**P**	02 06 30.7 +1.5
	SNR=29						
MAW	**Mawson**	85.76	203	P		**P**	02 06 30.7 +0.6
	comp=Z,46nm,0.6s,baz=96,slow=5.8,SNR=253						
MAW				LR		LR	02 42 34.2
	comp=Z,105nm,19.9s,baz=70,slow=34						
MAW	**Mawson**	85.76	203	P		**P**	02 06 30.5 +0.3
	baz=86,SNR=163						
MAW	**Mawson**	85.76	203	P		**P**	02 06 30.4 +0.3
MAW				pmax		pmax	
	comp=Z,11nm,0.7s						
MAW	**Mawson**	85.76	203	P		**P**	02 06 30.4 +0.3
MAW				IAmb		IAmb	02 06 31.3
	comp=Z,11nm,0.7s						
AML	**Almayashu**	85.83	313	P		**P**	02 06 33.5 +2.0
	SNR=32						
EKS2	**Erkin-Say**	85.86	313	P		**P**	02 06 33.1 +1.7
	SNR=15						
BTLS	**Baital**	86.11	316	*e*P		**P**	02 06 31.9 -0.5
	comp=Z,42nm,1.6s,baz=316						
BTLS	**Baital**	86.11	316	*e*P		**P**	02 06 31.8 -0.5
BTLS				pmax		pmax	
	comp=Z,42nm,1.6s						
NRIK	**Noril'sk**	86.35	341	P		**P**	02 06 32.8 -0.2
	comp=Z,3.5nm,0.5s,baz=110,slow=3.9,SNR=5.8						
NRIK				LR		LR	02 43 08.1
	comp=Z,101nm,21.6s,baz=118,slow=34						
NRIK	**Noril'sk**	86.35	341	*ce*P		**P**	02 06 33.1 +0.2
NRIK				pmax		pmax	
	comp=Z,3.0nm,0.9s						
NRIK	**Noril'sk**	86.35	341	P		**P**	02 06 33.1 +0.2
EPYK	**Eagle Plains**	86.48	22	P		**P**	02 06 34.5 +0.7
	baz=249						
EPYK	**Eagle Plains**	86.48	22	IAmb		IAmb	02 06 58.8
	comp=Z,25nm,0.9s						
DLBC	**Dease Lake**	87.08	31	P		**P**	02 06 38.2 +1.3
DLBC				IAmb		IAmb	02 07 02.6
	comp=Z,23nm,1.2s						
GAR	**Garm**	87.87	309	P		**P**	02 06 41.8 +0.6
INK	**Inuvik**	88.29	21	P		**P**	02 06 42.4 +0.1
INK				pmax		pmax	
	comp=Z,8.0nm,1.2s						
INK	**Inuvik**	88.29	21	P		**P**	02 06 42.7 +0.4
	baz=252						
KBL	**Kabul**	88.29	305	P		**P**	02 06 42.8 -0.6
KBL				pmax		pmax	
	comp=Z,9.0nm,0.7s						
KBL	**Kabul**	88.29	305	P		**P**	02 06 42.8 -0.6
KBL				IAmb		IAmb	02 06 43.6
	comp=Z,9.0nm,0.7s						
CHGR	**Chuyangaron**	88.72	309	P		**P**	02 06 45.6 +0.4
BRVK	**Borovoye**	89.89	323	*c i*P		**P**	02 06 49.6 -0.6
BRVK				pmax		pmax	
	comp=Z,59nm,1.7s						
BRVK	**Borovoye**	89.89	323	P		**P**	02 06 49.2 -1.0
BEKR	**Beckworth**	90.09	50	P		**P**	02 06 51.0 -0.7
LHV	**Little Huntoon**	91.36	52	IAmb		IAmb	02 07 23.1
	comp=Z,21nm,1.3s						
NVAR	**Mina Array Bea**	91.54	52	P		**P**	02 06 59.0 +0.5
	comp=Z,1.1nm,0.7s,baz=272,slow=5.1,SNR=9.9						
NVAR				PKKPbc		**PKKPbc**	02 24 20.8 +1.0
	comp=Z,0.4nm,0.6s,baz=114,slow=3.1,SNR=4.9						
NVAR				LR		LR	02 40 22.6
	comp=Z,522nm,21.9s,baz=264,slow=30						
NVAR	**Mina Array Bea**	91.54	52			**P**	02 06 58.1 -0.4
KVN	**Kaiserville**	91.75	51	P		**P**	02 06 59.8 +0.3
KVN				pmax		pmax	
	comp=Z,10.0nm,1.2s						
KVN	**Kaiserville**	91.75	51	P		**P**	02 06 59.8 +0.3
KVN				IAmb		IAmb	02 07 25.4
	comp=Z,10nm,1.2s						
C36M	**Paulatuk**	91.87	21	P		**P**	02 06 58.6 -0.4
	baz=261						
BMO	**Blue Mountains**	92.80	45	P		**P**	02 07 03.5 -0.5
BMO				pmax		pmax	
	comp=Z,14nm,1.5s						
BMO	**Blue Mountains**	92.80	45	P		**P**	02 07 03.5 -0.5
BMO				IAmb		IAmb	02 07 28.6
	comp=Z,14nm,1.4s						
TPNV	**Topopah Spring**	93.05	53	P		**P**	02 07 02.6 -2.9
TPNV				pmax		pmax	
	comp=Z,16nm,1.3s						
TPNV	**Topopah Spring**	93.05	53	P		**P**	02 07 02.6 -2.9
TPNV				IAmb		IAmb	02 07 30.7
	comp=Z,16nm,1.2s						
NEW	**Newport**	93.16	42	P		**P**	02 07 04.2 -1.4
NEW				pmax		pmax	
	comp=Z,9.0nm,1.5s						
NEW	**Newport**	93.16	42	P		**P**	02 07 04.2 -1.4
SYO	**Syowa Base**	93.81	199⇑	*e*P		**P**	02 07 07.8 -0.2
HRA	**Herat**	93.87	304	P		**P**	02 07 09.2 -0.1
HRA				IAmb		IAmb	02 07 10.4
	comp=Z,17nm,1.1s						
SHPR	**Sheep Range**	93.89	54	P		**P**	02 07 10.5 +1.1
SHPR				IAmb		IAmb	02 07 35.1
	comp=Z,19nm,1.5s						
YKA	**Yellowknife Ar**	95.17	28	P		**P**	02 07 14.5 +0.2
	comp=Z,2.7nm,0.9s,baz=275,slow=4.2,SNR=6.4						
YKA				LR		LR	02 44 15.1
	comp=Z,351nm,21.7s,baz=0.0,slow=32						
WALA	**Waterton Lakes**	95.32	41	P		**P**	02 07 16.2 +0.6
ABKAR	**Akbulak array**	96.09	319	P		**P**	02 07 17.9 -1.0
ABKAR				IAmb		IAmb	02 07 18.7
	comp=Z,9.0nm,1.2s						
MTPU	**Mount Pierson**	96.33	52	P		**P**	02 07 19.2 -1.5
ARU	**Arti**	96.87	326	*c i*P		**P**	02 07 20.8 -1.5
ARU				*PP		**pP**	02 07 38.3 -0.7
ARU							02 11 16.9
ARU				S		**SKSac**	02 17 52.3 -1.2
ARU				SP		SP	02 19 57.4 -2.4
ARU				SS		**SS**	02 25 21.7 +5.9
ARU				pmax		pmax	
	comp=Z,18nm,1.3s						
ARU	**Arti**	96.87	326	P		**P**	02 07 20.7 -1.5
GEYT	**Alibeck**	97.33	307	LR		LR	02 52 28.6
	comp=Z,84nm,21.0s,baz=80,slow=36						
GYA0B	**ALIBECK ARRAY**	97.33	307	P		**P**	02 07 24.1 -0.7
GYA0B				IAmb		IAmb	02 07 29.9
	comp=Z,7.7nm,1.1s						
PDAR	**Pinedale Array**	98.34	48	P		**P**	02 07 29.4 -0.1
	comp=Z,0.2nm,0.6s,baz=250,slow=4.4,SNR=3.0						
PDAR				PKKPbc		**PKKPbc**	02 24 01.1 -0.7
	comp=Z,0.3nm,0.5s,baz=136,slow=7.3,SNR=3.7						
PDAR				LR		LR	02 46 05.8
	comp=Z,407nm,20.6s,baz=274,slow=32						
PDAR	**Pinedale Array**	98.34	48	P		Pdif	02 07 29.9 +0.3
SNAA	**Sanae**	102.00	187	P		**Pdif**	02 07 44.6 -0.5
SNAA	**Sanae**	102.00	187	P		**Pdif**	02 07 44.8 -0.3
	comp=Z,1.8nm,0.5s,baz=181,slow=17,SNR=11						
SNAA				PP		**PP**	02 11 55.1 -1.3
	comp=Z,2.2nm,0.9s,baz=144,slow=5.9,SNR=5.0						
SNAA	**Sanae**	102.00	187⇑	*e*P		**Pdif**	02 07 44.7 -0.3
SNAA				pmax		pmax	
	comp=Z,8.0nm,1.4s						
SNAA	**Sanae**	102.00	187	Pdif		**Pdif**	02 07 44.4 -0.6
VNA3	**Neumayer Olymp**	103.17	185	P		**Pdif**	02 07 50.2 0.0
TXAR	**Lajitas Array**	103.49	61	PP		**PKiKP**	02 12 11.1 -0.1
	comp=Z,0.2nm,0.9s,baz=269,slow=4.1,SNR=1.7						
TXAR				PKKPbc		**PKKPbc**	02 23 47.2 +0.9
	comp=Z,0.4nm,0.7s,baz=119

AKASG	Malin Array Be	115.07 325	PKP	PKiKP	02 12 31.8	-0.3
	comp=E,2.1nm,0.6s,baz=59,slow=2.1,SNR=7.4					
AKASG			PP	PP	02 13 33.0	+0.9
	comp=E,0.7nm,0.6s,baz=55,slow=6.7,SNR=5.6					
BRTR	Keskin Array B	115.99 312	PKP	PKPdf	02 12 34.3	-0.1
	comp=E,0.4nm,0.6s,baz=111,slow=4.1,SNR=2.9					
BRTR			PP	PP	02 13 40.1	+0.9
	comp=E,1.3nm,1.0s,baz=122,slow=6.0,SNR=4.0					
NOA	NORSAR Array B	117.31 340	PKP	PKPdf	02 12 35.8	-0.4
	comp=E,0.5nm,0.7s,baz=60,slow=1.7,SNR=2.2					
NOA			PP	PP	02 13 48.6	+1.2
	comp=E,0.9nm,0.9s,baz=79,slow=5.9,SNR=3.4					
PLCA	Paso Flores	119.19 143	PKP	PKPdf	02 12 40.4	-0.1
	comp=E,0.9nm,0.5s,baz=343,slow=6.8,SNR=3.5					
KOLS	Kolonicke sedl	119.87 325	*e*PKiKP	PKiKP	02 12 43.0	+1.4
KOLS	Kolonicke sedl	119.87 325	*e*PKP	PKiKP	02 12 43.0	+1.4
BOSA	Boshof	120.19 233	PKP	PKiKP	02 12 43.2	+0.2
	comp=E,5.3nm,0.6s,baz=118,slow=1.6,SNR=24					
KRLC	Kraliky	122.24 329	*e*PKiKP	PKiKP	02 12 46.2	0.0
KRLC	Kraliky	122.24 329	*e*PKPDF	PKiKP	02 12 46.2	0.0
OSTC	Ostas	122.24 329	AMS	AMS	03 04 20.0	
	comp=E,300nm,23.9s					
CHVC	Chvalec	122.30 329	AMS	AMS	03 04 30.0	
	comp=E,300nm,23.1s					
DPC	Dobruska-Polom	122.31 329	*e*PKiKP	PKiKP	02 12 47.2	+0.8
DPC			*e*		02 13 06.8	
DPC			MLR	MLR		
	comp=Z,300nm,26.6s					
DPC	Dobruska-Polom	122.31 329	*e*PKPDF	PKiKP	02 12 47.2	+0.8
DPC			*ex*	x	02 13 06.8	
DPC			AMS	AMS	03 03 30.0	
	comp=Z,300nm,26.6s					
LSZ	Lusaka	122.33 249	PKiKP	PKPdf	02 12 47.3	0.0
LSZ	Lusaka	122.33 249	PKPdf	PKPdf	02 12 47.3	0.0
UPC	Upice	122.37 329	AMS	AMS	03 04 20.0	
	comp=Z,300nm,23.9s					
CLL	Collm	123.35 332	*e*PKPdf	PKPdf	02 12 47.0	-1.1
	comp=Z,4.0nm,0.7s					
CLL			*ep*PKPdf	pPKPdf	02 13 04.0	-1.4
CLL			*ep*PP		02 14 44.0	
CLL			*e*PS	PS	02 24 18.0	-8.8
CLL			*e*PPS	PPS	02 25 54.0	
CLL			*e*SS	SS	02 31 30.0	+20
CLL			*e*SSS	SSS	02 35 48.0	
CLL	Collm	123.35 332	PKiKP	PKPdf	02 12 47.5	-0.5
CLL	Collm	123.35 332	PKPdf	PKPdf	02 12 47.5	-0.5
PRU	Pruhonice	123.44 330	AMS	AMS	03 05 30.0	
	comp=Z,200nm,25.1s					
I60A	Shoreham	123.47 39	P	PKiKP	02 12 48.7	0.0
	baz=299					
E61A	Lac Etchemin	123.82 35	P	PKPdf	02 12 49.3	+0.1
	baz=304					
CONA	Conrad Observa	124.00 327	*e*P	PKiKP	02 12 49.7	-0.1
	comp=Z,1.8nm,0.6s					
CKRC	Cesky Krumlov	124.28 329	*e*PKPDF	PKiKP	02 12 51.7	+1.4
CKRC			AMS	AMS	03 06 20.0	
	comp=Z,300nm,24.7s					
NKC	Novy Kostel	124.32 331	AMS	AMS	03 09 30.0	
	comp=Z,200nm,19.8s					
FNA	Florina	124.33 317	PKiKP	PKPdf	02 12 49.8	-0.6
FNA	Florina	124.33 317	PKPdf	PKPdf	02 12 49.8	-0.6
KHC	Kasperske Hory	124.47 329	PKiKP	PKPdf	02 12 49.8	-0.6
KHC	Kasperske Hory	124.47 329	*e*PKPDF	PKiKP	02 12 50.5	-0.1
KHC			*ep*PKP	pPKPdf	02 13 04.8	-2.9
KHC			AMS	AMS	03 05 50.0	
	comp=Z,200nm,24.5s					
KHC	Kasperske Hory	124.47 329	PKPdf	PKPdf	02 12 49.8	-0.6
GEC2	GERESS Array S	124.58 329	PKPdf	PKPdf	02 12 50.8	+0.1
GERES	GERESS Array B	124.58 329	PKP	PKPdf	02 12 50.7	+0.1
	comp=Z,1.5nm,0.5s,baz=80,slow=2.0,SNR=20					
MOA	Molln	124.90 328	*e*P	PKPdf	02 12 51.2	0.0
	comp=Z,4.3nm,1.2s					
SOKA	Soboth	125.19 326	*e*P	PKPdf	02 12 51.7	-0.2
	comp=Z,3.9nm,1.1s					
OBKA	Obir	125.56 326	*e*P	PKiKP	02 12 52.8	-0.2
	comp=Z,3.0nm,1.0s					
ABTA	Abfaltersbach	126.52 327	*e*P	PKPdf	02 12 54.0	-0.5
	comp=Z,3.9nm,0.9s					
WTTA	Wattenberg	126.66 328	*i*P	PKPdf	02 12 54.4	-0.4
	comp=Z,4.7nm,0.8s					
ATAH	Atahualpa	126.74 103	PKP	PKiKP	02 12 57.2	+0.6
	comp=Z,4.0nm,0.7s,baz=108,slow=3.2,SNR=2.8					
MOTA	Moosalm	126.88 329	*e*P	PKPdf	02 12 54.2	-1.0
	comp=Z,8.8nm,1.3s					
SQTA	Sankt Quirin	126.91 329	*e*P	PKPdf	02 12 55.2	0.0
	comp=Z,5.5nm,1.0s					
FETA	Feichten	127.28 329	*i*P	PKiKP	02 12 56.4	-0.1
	comp=Z,7.3nm,1.2s					
DAVA	Damuels	127.54 329	*e*P	PKPdf	02 12 56.3	-0.2
	comp=Z,3.5nm,0.7s					
POPC	Popayan, Colom	129.78 91	*e*P	PKPdf	02 12 53.1	-8.7
TSUM	Tsumeb	130.51 240	PKPdf	PKiKP	02 13 03.4	-0.3
GUY2C	Guyana, Caldas	131.23 87	*e*P	PKPdf	02 13 04.2	-0.6
TOLC	Tolima	131.25 88	*e*P	PKPdf	02 13 04.1	-0.5
ORTC	Ortega, Tolima	131.29 89	*e*P	PKPdf	02 13 03.3	-1.1
PRAC	Prado	131.64 89	*e*P	PKPdf	02 13 04.2	-0.8
CZSB	Cruzeiro do Su	132.12 105	*e*P	PKPdf	02 13 05.2	-0.7
LPAZ	La Paz	133.65 118	PKP	PKPdf	02 13 09.4	-0.1
	comp=Z,3.5nm,0.5s,baz=45,slow=1.4,SNR=16					
LPAZ			SKPbc	SKPab	02 16 34.0	-1.1
	comp=Z,2.2nm,0.9s,baz=296,slow=1.9,SNR=5.5					
LPAZ	La Paz	133.65 118	PKPdf	PKPdf	02 13 08.9	-0.6
LPAZ	La Paz	133.65 118	*e*P	PKPdf	02 13 09.4	-0.1
KEST	Kesra	135.04 318	PKhKP	PKPpre	02 13 07.3	
	comp=Z,1.5nm,0.8s,baz=130,slow=7.9,SNR=2.0					
KEST			SKPbc	SKPbc	02 16 34.8	-1.2
	comp=Z,6.0nm,0.9s,baz=5,4,slow=3.2,SNR=5.6					
SDV	Santo Domingo	135.93 82	PKhKP	PKPpre	02 13 09.7	
	comp=Z,27nm,0.3s,baz=172,slow=1.2,SNR=2.4					
CPUP	Villa Florida	136.83 138	PKP	PKPdf	02 13 13.4	-0.9
	comp=Z,1.1nm,0.6s,baz=197,slow=3.6,SNR=4.8					
CPUP			SKPbc	SKPbc	02 16 40.5	-1.3
	comp=Z,3.6nm,1.0s,baz=186,slow=5.4,SNR=4.1					
ETMB	Extrema	137.71 110	*e*P	PKPdf	02 13 14.5	-1.8
SIV	San Ignacio	139.88 122	PKhKP	PKPpre	02 13 10.3	
	comp=Z,0.8nm,0.5s,baz=247,slow=5.6,SNR=2.9					
SIV			PKP	PKPdf	02 13 20.0	-0.2
	comp=Z,2.0nm,0.5s,baz=268,slow=5.0,SNR=11					
SIV			SKPbc	SKiKP	02 16 52.9	-0.6
	comp=Z,0.9nm,0.5s,baz=232,slow=7.2,SNR=4.0					
ESDC	Sonseca Array	139.91 333	PKhKP	PKPpre	02 13 11.1	
	comp=Z,0.4nm,0.8s,baz=8.2,slow=4.8,SNR=2.1					
ESDC			PKP	PKPdf	02 13 19.2	-0.5
	comp=Z,0.5nm,0.8s,baz=67,slow=3.3,SNR=2.7					
ESDC			PP	PP	02 16 15.4	-0.2
	comp=Z,0.2nm,0.3s,baz=48,slow=7.7,SNR=3.3					
AQDB	Aquidauana	141.72 132	*e*P	PKPdf	02 13 23.1	-0.3
PTLB	Pontes e Lacer	141.77 123	*e*P	PKPdf	02 13 23.1	-0.5
VILB	Vilhena	142.01 118	*e*P	PKPdf	02 13 23.9	-0.3
TRCB	Terra Rica	142.36 138	*e*P	PKPdf	02 13 24.0	-0.6
FRTB	Fartura	143.93 142	*e*P	PKPdf	02 13 28.6	+1.3
PP1B	Ponte de Pedra	144.06 129	*e*P	PKPab	02 13 25.2	0.0
PCMB	Pacaembu	144.09 138	*e*P	PKPdf	02 13 27.5	-0.1
SALV	Santo Antonio	144.37 126	*e*P	PKPab	02 13 26.0	-0.4
MACA	Manacapuru-AM	144.81 103	*e*P	PKPab	02 13 26.5	-1.7
SPB	Sao Paulo	145.00 145	*e*P	PKPdf	02 13 30.4	+1.3
TOSP	Speyside	145.64 77	PKPbc	PKPdf	02 13 30.1	-0.4
RCLB	Rio Claro- Sao	145.85 144	*e*P	PKPdf	02 13 30.5	-0.2
BOAV	Boa Vista	145.85 93	*e*P	PKPdf	02 13 30.6	-0.2
PTGA	Pitinga	146.00 99	PKPbc	PKPdf	02 13 30.6	-0.5
	comp=Z,13nm,0.9s,baz=259,slow=2.5,SNR=18					
PTGA	Pitinga	146.00 99		PKPdf	02 13 30.9	-0.3
PTGA	Pitinga	146.00 99	*e*P	PKPdf	02 13 30.4	-0.7
ITRB	Iturama	146.02 137	*e*P	PKPdf	02 13 31.4	+0.3
BB19B	Bebedouro	146.25 141	*e*P	PKPdf	02 13 31.7	+0.3
CLDB	Colider	146.79 118	*e*P	PKPdf	02 13 32.1	-0.3
ESAR	Angra dos Reis	147.10 148	*e*P	PKPab	02 13 35.7	-0.7
ARAG	Araguaiana, MT	147.54 130	*e*P	PKPdf	02 13 33.9	+0.3
VAS01	Vassouras-RJ	148.22 149	*e*P	PKPbc	02 13 38.7	+0.7
BSCB	Bom Sucesso	148.55 146	*e*P	PKPbc	02 13 37.9	-1.0
NPGB	Novo Progresso	148.74 112	*e*P	PKPdf	02 13 37.1	+1.5
DUB01	Friburgo-RJ	148.93 150	*e*P	PKPbc	02 13 39.4	-0.5
ITTB	Itaituba	149.27 107	*e*P	PKPdf	02 13 36.2	-0.3
CAM01	Campos-RJ	149.49 151	*e*P	PKiKP	02 13 41.8	-0.4
SNDB	Serra Nova Dou	150.08 124	*e*P	PKPdf	02 13 37.8	+0.1
BDFB	Brasilia	150.40 134	PKPbc	PKPbc	02 13 42.9	-0.8
	comp=Z,8.2nm,0.6s,baz=358,slow=0.7,SNR=15					
BDFB	Brasilia	150.40 134	PKiKP	PKPbc	02 13 42.1	-1.6
BDFB	Brasilia	150.40 134		PKPbc	02 13 42.1	-1.6
ALF01	Guarapari-ES	150.97 151	*e*P	PKPbc	02 13 43.8	-0.9
TOA0	Torodi Ar. Sit	151.11 288		PKPbc	02 13 44.2	-1.0
TORD	Torodi Ar. Bea	151.11 288	PKP	PKPdf	02 13 39.2	-0.1
	comp=Z,48nm,0.8s,baz=4.1,slow=2.8,SNR=31					
TORD			PKPbc	PKPbc	02 13 45.4	+0.2
	comp=Z,68nm,0.7s,baz=50,slow=2.3,SNR=430					
TORD	Torodi Ar. Bea	151.11 288	PKPdf	PKPdf	02 13 38.1	-1.2
TORD			PKPbc	PKiKP	02 13 46.1	+0.3
TORD			PKPab	PKPab	02 13 53.5	+0.4
DIAM	Diamantina, MG	151.31 144	*e*P	PKPbc	02 13 43.5	-2.4
MALB	Monte Alegre	151.35 103	*e*P	PKPdf	02 13 41.7	+1.9
RIB01	Linhares ES	152.25 151	*e*P	PKPbc	02 13 47.0	-0.7
SJMB	Sao Joao De Ma	152.36 149	*e*P	PKPbc	02 13 46.7	-1.3
MC01	Montes Claros	152.38 141	*e*P	PKPbc	02 13 44.9	-3.2
PEXB	Peixe	152.42 128	*e*P	PKPdf	02 13 43.6	+2.3
BSFB	Barra de Sao F	152.43 149	*e*P	PKPbc	02 13 45.9	-2.2
MDP	Montagnes des	153.86 88	PKPbc	PKPbc	02 13 50.5	-0.9
	comp=Z,5.8nm,0.8s,baz=301,slow=5.9,SNR=1.9					

UPA 11 01:54:35.9±2.1, 8.26N×82.80W, h0km±6km, MW4.4
UCR 11 01:54:36.4±1.7, 8.22N×82.82W, h10km, MW4.6

ISC 11 01:54:35.2±1.1, 8.19N±0.04×82.79W±0.03, h18km±7km, n30, σ1.9±10/47, 2C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAR3	San Bartolo, C	0.16	322	*e*P	Pb	01 54 38.9	-0.6
CCOL	Caracol de Cor	0.28	319	*e*P	Pg	01 54 40.9	-0.5
CCOL				*e*S	Sg	01 54 45.9	+0.2
CDITO	Canoas	0.39	347	*e*P	Pg	01 54 43.1	-0.2
DVD	David	0.41	54	*e*P	Pn	01 54 45.0	-1.3
DVD				⇑*e*S	Sn	01 54 52.6	-0.9
PTAR3	Potrerillos Ar	0.57	30	*e*P	Pg	01 54 47.4	+0.7
BCO2	Palmira	0.58	26	*e*P	Pg	01 54 47.5	+0.6
BCO2				*e*S	Sn	01 54 56.6	-1.4
PIRO	Carate, Puerto	0.58	291	*e*P	Pb	01 54 45.7	-1.3
PIRO				⇑*e*S	Sn	01 54 57.5	-0.3
PIRO	Carate, Puerto	0.58	291	*e*P	Pb	01 54 45.6	-1.3
BRU2	Volcan	0.60	9	*e*P	Pg	01 54 47.5	+0.1
BRU2				*e*S	Sn	01 54 57.5	-1.1
BRU2	Volcan	0.60	9	*e*P	Pg	01 54 47.4	+0.1
BRU2				*e*S	Sn	01 54 57.4	-1.1
PTJ1	Puerto Jimnez	0.61	304	*e*P	Pg	01 54 47.3	-0.1
PTJ1				*e*S	Sn	01 54 57.3	-1.2
PTJ1	Puerto Jimnez	0.61	304	*e*P	Pg	01 54 47.2	-0.1
PTJ1				*e*S	Sn	01 54 58.2	-0.4
EDSV	San Vito	0.65	344	*e*P	Pb	01 54 47.7	-0.5
EDSV				*e*S	Sg	01 54 57.8	+1.0
LNBQ3	Los Naranjos,	0.69	30	*e*P	Pg	01 54 49.0	+0.2
LPLA	Las Palmas La	0.86	345	*e*P	Pb	01 54 51.0	-0.8
LPLA				*e*S	Sg	01 55 03.3	-0.1
EDPN	Palmar Norte	1.01	319	*e*P	Pb	01 54 53.0	-1.3
EDPN				*e*S	Sg	01 55 08.5	+0.3
EDBA	Buenos Aires	1.08	333	*e*P	Pg	01 54 56.8	+0.7
DRK0	Durika	1.16	337	*e*P	Pn	01 54 55.7	-1.1
DRK0				*e*S	Sg	01 55 13.9	+1.1
DRK0	Durika	1.16	337	*e*P	Pn	01 54 55.6	-1.1
CNI2	El Empalme, Bo	1.26	14	*e*P	Pb	01 54 58.3	-0.2
CNI2				*e*S	Sg	01 55 15.8	-0.3
GMAL	Guarumal, Vera	1.60	105	*e*P	Pb	01 55 04.6	+0.4
GMAL				*e*S	Sg	01 55 25.7	-1.1
CDM	Cerro de Muert	1.66	325	*e*P	Pn	01 55 03.5	-0.5
MARI3	Mariato, Verag	1.86	107	*e*P	Pg	01 55 10.2	-0.8
LCR2	La Lucha 2	1.95	322	*e*P	Pb	01 55 09.6	-0.8
BATAN	Batan	1.98	343	*e*P	Pn	01 55 05.8	-2.1
HDC	Heredia	2.22	324	*e*P	Pb	01 55 14.4	-0.6
HDC				*e*S	Sb	01 55 43.4	+1.1
AZU	Azuero	2.52	99	*e*P	Pb	01 55 19.6	-0.4
AZU				*e*S	Sb	01 55 52.5	+1.7
JTS	Las Juntas de	2.99	314	*e*P	Pn	01 55 24.4	+2.6
JTS				*e*S	Sn	01 55 59.2	+2.0
JTS	Las Juntas de	2.99	314	*e*P	Pn	01 55 24.2	+2.4
BCIP	Isla Barro Col	3.07	71	*e*P	Pn	01 55 24.5	+1.6

NEIC 11 01:57:36.7±2.4, 5.00S±0.09×153.8E±0.1, h39km±6km, mb4.6/25, Error ellipse: s-maj=15.3km s-min=12.5km az=68.0
IDC 11 01:57:38.9±2.8, 4.99S×153.62E, h62km±24km, mb4.1/17, mb1 4.2/18, mb1mx4.1/33, mbtmp4.4/18, ML3.1/1, Error ellipse: s-maj=20.8km s-min=13.8km az=84.0

ISC 11 01:57:37.9±0.5, 5.00S±0.07×153.70E±0.08, h56km, n56, σ0.96/53, mb4.4/26, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.73	298	Pn	Pn	01 58 06.3	+0.7
PMG	Port Moresby	7.82	236	P	Pn	01 59 30.2	+1.0
	16nm,0.3s,baz=50,slow=3.3,SNR=2.8						
PMG				S	Sn	02 00 54.1	-2.2
	4.8nm,0.3s,baz=3.9,slow=20,SNR=2.2						
PMG	Port Moresby	7.82	236	Pn	Pn	01 59 28.9	-0.3
EIDS	Eidsvold	20.41	187	P	P	02 02 10.9	+0.4
DZM	Mont Dzumac	20.98	145	P	P	02 02 18.2	+1.4
	24nm,0.7s,baz=286,slow=8.6,SNR=9.3						
DZM	Mont Dzumac	20.98	145	P	P	02 02 15.1	-1.7
DZM				IAmb	IAmb	02 02 23.2	
	comp=Z,32nm,0.9s						
FAKI	Fak Fak	21.50	275	P	P	02 02 22.8	+0.5
SIJI	Sorong	22.77	280	P	P	02 02 37.2	+1.3
	comp=Z,20nm,0.6s,baz=148,slow=9.9,SNR=3.8						
MTN	Manton Dam	23.60	249	P	P	02 02 45.0	+1.1
WB0	Warramunga Arr	23.85	230	P	P	02 02 45.5	-0.8
WB0				IAmb	IAmb	02 02 49.5	
	comp=Z,22nm,0.8s						
WB2	Warramunga Arr	23.98	230	P	P	02 02 45.9	-1.6
WRA	Warramunga Arr	23.99	230	ScP	ScP	02 10 02.2	-0.3
	comp=Z,1.1nm,0.9s,baz=79,slow=4.3,SNR=2.8						
ARMA	Armidale	25.36	184	P	P	02 02 59.5	-0.4
ARMA				IAmb	IAmb	02 03 02.7	
	comp=Z,18nm,0.8s						
ASAR	Alice Springs	26.61	224	P	P	02 03 12.7	+1.3
	comp=Z,2.5nm,0.8s,baz=52,slow=6.2,SNR=1.8						
ASAR				ScP	ScP	02 10 10.2	+0.3
	comp=Z,0.6nm,0.8s,baz=51,slow=3.3,SNR=4.1						
H11S3	WAKE ISLAND Hy	26.63	28	T	T	02 31 53.3	
	baz=199						
H11S2	WAKE ISLAND Hy	26.64	28	T	T	02 31 47.0	
	baz=199,slow=74						
H11S1	WAKE ISLAND Hy	26.65	28	T	T	02 31 41.3	
	baz=199,slow=74						
KNRA	Kununurra	26.69	245	P	P	02 03 11.6	-0.5
STKA	Stephens Creek	29.04	202	P	P	02 03 33.5	+0.5
	comp=Z,3.9nm,0.7s,baz=36,slow=8.7,SNR=1.5						
URZ	Urewera	39.37	150	P	P	02 05 02.6	+0.6
	comp=Z,2.7nm,0.4s,baz=1.3,slow=11,SNR=1.4						
URZ	Urewera	39.37	150	IAmb	IAmb	02 05 11.3	
	comp=Z,11nm,1.1s						
LTZ	Lake Taylor	41.08	159	P	P	02 05 16.6	+0.5
WHZ	Wether Hill Ro	42.58	165	P	P	02 05 28.8	+0.5
WHZ				IAmb	IAmb	02 05 30.5	
	comp=Z,4.2nm,0.5s						
KSRS	Korea Array	48.59	333	P	P	02 06 16.2	+0.4
	comp=Z,0.9nm,0.5s,baz=143,slow=6.1,SNR=2.0						
USRK	Ussuriysk Ar.	52.73	340	P	P	02 06 48.5	+1.5
	comp=Z,1.5nm,0.8s,baz=111,slow=7.9,SNR=2.3						
PETK	Petropavlovsk-	57.99	3	P	P	02 07 24.8	+0.1
	comp=Z,1.7nm,0.7s,baz=190,slow=16,SNR=1.4						
CMAR	Chiang Mai Arr	58.77	295	P	P	02 07 30.2	-0.6
CHTO	Chiang Mai	58.88	295	P	P	02 07 31.5	-0.1
CHTO				IAmb	IAmb	02 07 39.9	
	comp=Z,4.3nm,1.1s						
MA2	Magadan	64.42	358	P	P	02 08 07.8	-0.2
	comp=Z,2.8nm,0.3s,baz=128,slow=19,SNR=2.0						
SONM	Songino Array	66.97	327	P	P	02 08 24.6	-0.3
	comp=Z,0.8nm,0.5s,baz=145,slow=5.3,SNR=2.3						
VNDA	Vanda	72.60	178	P	P	02 08 59.5	+0.7
	comp=Z,11nm,0.7s,baz=327,slow=5.9,SNR=12						
VNDA	Vanda	72.60	178	P	P	02 08 59.9	+1.0
SBA	Scott Base	73.13	177	P	P	02 09 03.0	+1.0
SBA				IAmb	IAmb	02 09 04.7	
	comp=Z,13nm,1.1s						
PWL	Port Wells	79.45	25	P	P	02 09 38.6	+0.5
PWL				IAmb	IAmb	02 09 40.9	
	comp=Z,5.0nm,0.6s						
KLU	Klutina	80.78	25	P	P	02 09 45.7	+0.4
MK31	Makanchi Array	81.06	319	P	P	02 09 46.8	-0.3
MKAR	Makanchi Array	81.06	319	P	P	02 09 46.7	-0.4
	comp=Z,1.1nm,0.5s,baz=93,slow=8.2,SNR=5.4						
CCB	Clear Creek Bu	81.61	22	P	P	02 09 49.9	+0.3
COLA	College	81.71	22	P	P	02 09 49.0	-1.0
COLA				IAmb	IAmb	02 09 52.4	
	comp=Z,4.0nm,0.7s						
ZAA0	Zalesovo Array	81.81	326	P	P	02 09 50.5	-0.4
ZALV	Zalesovo Beam	81.81	326	P	P	02 09 49.2	-1.6
	comp=Z,1.2nm,0.4s,baz=109,slow=6.8,SNR=2.9						
IL31		82.01	22	P	P	02 09 50.7	-1.0
ILAR	Eielson Array	82.01	22	P	P	02 09 53.0	+1.4
	comp=Z,0.8nm,0.5s,baz=246,slow=4.6,SNR=4.5						
BCAR	Beaver Creek A	83.22	24	P	P	02 09 58.3	+0.2
QSPA	South Pole Qui	84.96	180	P	P	02 10 07.1	+0.1
	comp=Z,22nm,0.6s,baz=217,slow=0.6,SNR=28						
QSPA	South Pole Qui	84.96	180	P	P	02 10 07.1	+0.1
AAK	Ala-Archa	85.45	313	P	P	02 10 10.5	+0.5
AAK				IAmb	IAmb	02 10 15.7	
	comp=Z,10.0nm,1.4s						
MAW	Mawson	85.73	203	P	P	02 10 10.4	-0.3
	comp=Z,6.1nm,0.6s,baz=99,slow=5.7,SNR=16						
MAW	Mawson	85.73	203	IAmb	IAmb	02 10 11.2	
	comp=Z,1.4nm,0.6s						
NVAR	Mina Array Bea	91.51	52	P	P	02 10 39.6	+0.6
	comp=Z,0.2nm,0.3s,baz=258,slow=6.3,SNR=2.8						
NV11	Mina Array Sit	91.62	52	P	P	02 10 38.7	-0.8
NV11				IAmb	IAmb	02 10 39.7	
	comp=Z,2.1nm,1.2s						
PDAR	Pinedale Array	98.32	48	P	P	02 11 08.5	-1.6
	comp=Z,0.4nm,0.9s,baz=318,slow=1.2,SNR=2.5						
GERES	GERESS Array B	124.69	329	PKP	PKPdf	02 16 31.6	+0.1
	comp=Z,0.2nm,0.5s,baz=64,slow=4.5,SNR=1.7						
HUMP	Col San Antoni	139.23	68		PKPdf	02 16 57.5	-2.2
TOA0	Torodi Ar. Sit	151.22	288		PKPbc	02 17 24.5	-1.7
TORD	Torodi Ar. Bea	151.22	288	PKPbc	PKPbc	02 17 25.1	-1.0
	comp=Z,6.6nm,0.4s,baz=80,slow=1.9,SNR=19						

THR 11 02:11:43.9±0.4, 30.12N×57.64E, h8km±6km, ML3.6
TEH 11 02:11:43.8, 30.04N×57.61E, h9km, ML3.7

ISC 11 02:11:44.0±1.5, 30.04N±0.05×57.63E±0.04, h4km±15km, n34, σ1.51/38, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	Cheshme madani	0.20	204	*e*Pg	Pg	02 11 48.6	+0.7
CHMN				*e*Sg	Sg	02 11 51.3	+0.8
TVBK	TV Kerman	0.76	266	*e*Pg	Pg	02 11 58.6	+0.1
TVBK				*e*Sg	Sg	02 12 07.2	-1.2
TVBK				*e*		02 12 12.1	
	comp=Z,32μm,0.4s						
KRBR	Kerman	0.76	266	*e*Pg	Pg	02 11 59.1	+0.6
NGRK	Negar Kerman	0.88	243	*e*Pg	Pg	02 12 00.7	-0.1
NGRK				*e*Sg	Sb	02 12 12.8	-1.5
KHGB	Koh Gabri	1.05	289	*e*Pg	Pb	02 12 04.0	-0.9
KBAM	BAM	1.15	141	*e*Sg	Sg	02 12 21.5	+0.5
KBAM				*e*Pg	Pb	02 12 05.7	-0.8
KHNJ	Kahnooj	2.09	178	*e*Pn	Pb	02 12 21.1	-1.3
BSRN	Basiran	2.31	33	*e*Pn	Pn	02 12 23.1	+0.2
IBAF	Bafgh	2.35	311	*e*Pn	Pn	02 12 25.4	+1.8
IBAF				*e*		02 12 28.0	
	comp=Z,6μm,0.4s						
NHDN	Nehbandan	2.48	57	*e*Pn	Pn	02 12 26.2	+0.9
IKOO	Kooshah	2.65	26	*e*Pn	Pn	02 12 28.3	+0.6
IKOO				*e*		02 12 35.9	
	comp=Z,5μm,0.3s						
ZHSF	Zahedan	2.76	98	*e*Pn	Pn	02 12 30.8	+1.6
ZHDN	Zahedan	2.84	102	*e*Pn	Pn	02 12 31.4	+1.2
IMEH	Mehriz	2.93	298	*e*Pn	Pn	02 12 33.0	+1.5
IMEH				*e*		02 13 19.2	
	comp=Z,2μm,0.6s						
GENO	Geno	2.93	206	*e*Pn	Pb	02 12 34.4	-2.5
GENO				*e*		02 13 22.1	
	comp=Z,2μm,0.4s						
BNDS	Bandar-Abbas	2.93	206	*e*Pn	Pb	02 12 33.9	-2.9
BNDS

	comp=Z,25nm,0.9s						
KAN12	Harper NE Stat	1.98	339	Pn	Pn	02 22 42.1	+0.3
Z35A	Perchaven, San	2.12	183	Pn	Pn	02 22 44.5	+0.9
Z35A	Perchaven, San	2.12	183	P		02 22 44.2	
	baz=3.4,SNR=10.0						
Z35A				S		02 23 12.6	
	baz=3.4						
U38A	Gravette	2.41	65	Pn	Pn	02 22 49.1	+1.4
U38A	Gravette	2.41	65	P		02 22 48.8	
	baz=246,SNR=19						
HHAR	Hobbs	2.70	71	Pn	Pn	02 22 51.4	-0.2
W39A	Magazine	2.72	94	Pn	Pn	02 22 52.3	+0.4
W39A				IAmb_Lg		02 23 31.5	
	comp=Z,13nm,1.1s						
MIAR	Mount Ida	3.03	106	Pn	Pn	02 22 57.4	+1.2
MIAR	Mount Ida	3.03	106	P		02 22 57.3	
	baz=288,SNR=18						
ABTX	Abilene, Hawle	3.52	218	Pn	Pn	02 23 01.7	-1.2
U40A	Yellville	3.56	74	Pn	Pn	02 23 03.9	+0.4
U40A				IAmb_Lg		02 24 08.7	
	comp=Z,9.2nm,0.8s						
U40A	Yellville	3.56	74	P		02 23 03.9	
	baz=256,SNR=6.8						
U40A				P		02 23 03.9	
	baz=256,SNR=6.8						
237A	Washetta, Mont	3.60	162	Pn	Pn	02 23 04.4	+0.4
X40A	Basin Creek Fa	3.63	104	Pn	Pn	02 23 06.9	+2.5
WLAR	White Oak Lake	3.73	117	IAmb_Lg		02 24 12.4	
	comp=Z,9.6nm,0.7s						
S39A	Bolivar	3.77	53	Pn	Pn	02 23 06.5	+0.1
S39A				IAmb_Lg		02 24 08.0	
	comp=Z,12nm,0.7s						
AMTX	Amarillo	3.79	263	Pn	Pn	02 23 07.8	+1.1
AMTX				IAmb_Lg		02 24 12.6	
	comp=Z,8.7nm,1.1s						
WHAR	Wooly Hollow	3.94	91	Pn	Pn	02 23 09.1	+0.5
W41B	Gary Mavity, V	3.98	93	P		02 23 09.4	
	baz=275,SNR=8.0						
FCAR	Ozark Folk Cen	4.08	82	Pn	Pn	02 23 11.0	+0.5
MGMO	Mountain Grove	4.26	65	IAmb_Lg		02 24 30.4	
	comp=Z,10nm,0.8s						
R40A	Maddies Statio	4.80	52	Pn	Pn	02 23 20.6	+0.1
LCAR	Lake Charles	4.88	81		Pn	02 23 21.8	+0.3
P38A	Dawn	5.04	33	Pn	Pn	02 23 23.4	-0.4
P38A				IAmb_Lg		02 24 56.9	
	comp=Z,6.9nm,0.7s						
JCT	Junction City	5.45	205	IAmb_Lg		02 25 11.4	
	comp=Z,7.3nm,0.7s						
PBMO	Poplar Bluff	5.56	74	IAmb_Lg		02 25 08.4	
	comp=Z,8.0nm,0.8s						
T25A	Trinidad	6.14	288	IAmb_Lg		02 25 27.8	
	comp=Z,8.3nm,0.8s						
Q44A	Meyer Farm, Va	7.32	60	IAmb_Lg		02 26 13.6	
	comp=Z,9.9nm,0.9s						
O44A	Mansfield	8.29	53	IAmb_Lg		02 26 28.3	

IDC 11 02:39:18.5±2.1, 4°.90S×153°.73E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/33, mbtmp3.6/3, Error ellipse: s-maj=91.8km s-min=36.8km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.90	235	Sn	Sn	02 42 45.7	+0.7
	3.6nm,0.3s,baz=114,slow=18,SNR=6.3						
WRA	Warramunga Arr	24.08	230	P	P	02 44 36.1	+0.2
	1.4nm,0.8s,baz=53,slow=9.6,SNR=7.8						
WRA				PcP	PcP	02 48 17.3	-0.4
	0.9nm,1.0s,baz=57,slow=1.8,SNR=4.7						
ASAR	Alice Springs	26.70	224	P	P	02 44 59.7	0.0
	0.4nm,0.5s,baz=56,slow=8.7,SNR=5.6						
ASAR				PcP	PcP	02 48 23.1	-0.5
	0.3nm,0.7s,baz=68,slow=2.3,SNR=5.6						
MKAR	Makanchi Array	81.01	319	P	P	02 51 36.0	+0.6
	0.4nm,0.6s,baz=102,slow=6.5,SNR=2.5						
TORD	Torodi Ar. Bea	151.21	288	PKPbc	PKPbc	02 59 14.3	-0.7
	1.1nm,0.6s,baz=64,slow=2.0,SNR=8.9						

ATH 11 02:44:13.9, 38°.26N×20°.41E, h14km±1km, ML2.8/3, Error ellipse: s-maj=2.2km s-min=0.8km az=262.0
THE 11 02:44:14.0, 38°.26N×20°.41E, h11km, ML2.4/13, Error ellipse: s-maj=0.9km s-min=0.4km az=266.0

ISC 11 02:44:13.1±0.8, 38°.26N±0°.02×20°.37E±0°.03, h17km±4km, n55, σ0s80/90, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	Damoulianata-K	0.02	181	P	Pg	02 44 16.3	+0.3
DMLN	Damoulianata-K	0.02	181	P	Pg	02 44 16.4	+0.3
DMLN				S	Sg	02 44 18.1	+0.1
KEF4	Livadi, Kephal	0.04	93	P	Pg	02 44 16.1	0.0
KEF4				S	Sg	02 44 17.6	-0.5
KEF4	Livadi, Kephal	0.04	93	P	Pg	02 44 16.1	0.0
KEF4				S	Sg	02 44 17.8	-0.3
KEF3	Kipouria, Keph	0.06	200	P	Pg	02 44 16.3	+0.1
KEF3				S	Sg	02 44 18.2	-0.1
KEF3	Kipouria, Keph	0.06	200	P	Pg	02 44 16.4	+0.1
KEF3				S	Sg	02 44 18.3	-0.1
KEF5	Kardakata, Kep	0.08	76	P	Pg	02 44 16.1	-0.3
KEF5				S	Sg	02 44 17.6	-1.0
KEF5	Kardakata, Kep	0.08	76	P	Pg	02 44 16.2	-0.3
KEF5				S	Sg	02 44 17.7	-0.8
LXRA	Lixouri, Kepha	0.08	140	P	Pg	02 44 16.5	+0.1
LXRA				S	Sg	02 44 18.5	0.0
ARGA	Argostoli. Kep	0.12	135	P	Pg	02 44 17.7	+0.9
ARGA				S	Sg	02 44 19.7	+0.6
ARG2	Argostoli	0.12	132	P	Pg	02 44 16.8	0.0
VLS	Valsamata	0.19	116	P	Pg	02 44 17.5	-0.3
VLS				S	Sg	02 44 20.1	-0.8
	7μm,0.2s						
VLS	Valsamata	0.19	116	P	Pg	02 44 17.5	-0.3
VLS				S	Sg	02 44 20.2	-0.8
VLS				AML	AML	02 44 20.4	
	comp=E,12249μm,0.1s						
VLS				AML	AML	02 44 20.5	
	comp=N,11550μm,0.1s						
PSDA	Pessada-Kefalo	0.22	131	P	Pg	02 44 18.2	0.0
PSDA				S	Sg	02 44 21.2	-0.5
	comp=N,405nm,0.3s						
PSDA	Pessada-Kefalo	0.22	131	P	Pg	02 44 18.3	0.0
PSDA				S	Sg	02 44 21.3	-0.3
FSK	Fiskardo	0.25	37	P	Pg	02 44 18.8	+0.1
FSK				S	Sg	02 44 22.6	+0.1
	comp=N,2μm,0.2s						
FSK	Fiskardo	0.25	37	P	Pg	02 44 18.8	+0.1
FSK				S	Sg	02 44 22.6	+0.1
FSK				AML	AML	02 44 22.9	
	comp=N,2747μm,0.2s						
FSK				AML	AML	02 44 23.6	
	comp=E,3460μm,0.2s						
EVGI	Lefkada island	0.42	31	P	Pg	02 44 21.9	+0.2
EVGI				S	Sg	02 44 28.1	+0.5
	comp=E,902nm,0.1s						
EVGI	Lefkada island	0.42	31	P	Pg	02 44 21.9	+0.2
EVGI				S	Sb	02 44 28.5	+0.1
VLMS	Volimes, Zakyn	0.45	149	P	Pg	02 44 22.1	0.0
VLMS				S	Sb	02 44 29.3	+0.3
	comp=E,2μm,0.4s						
VLMS	Volimes, Zakyn	0.45	149	P	Pg	02 44 22.2	+0.1
VLMS				S	Sb	02 44 29.3	+0.3
VLMS				AML	AML	02 44 29.8	
	comp=E,3494μm,0.3s						
VLMS				AML	AML	02 44 34.6	
	comp=N,3786μm,0.2s						
DRAG	Dragano-Lefkad	0.45	20	P	Pg	02 44 22.4	+0.2
DRAG				S	Sb	02 44 29.6	+0.4
	comp=N,1μm,0.4s						
DRAG	Dragano-Lefkad	0.45	20	P	Pg	02 44 22.5	+0.2
NYDR	Nydri-Lefkada	0.52	29	P	Pg	02 44 23.4	-0.1
NYDR				S	Sg	02 44 30.4	-0.1
	comp=N,210nm,0.6s						
NYDR	Nydri-Lefkada	0.52	29	P	Pg	02 44 23.6	+0.1
LKD2	Lefkada island	0.57	23	P	Pg	02 44 24.6	+0.1
LKD2				S	Sg	02 44 32.5	+0.3
	comp=N,232nm,0.5s						
LKD2	Lefkada island	0.57	23	P	Pg	02 44 24.6	+0.1
TSLK	Tsoukalades, L	0.61	21	P	Pg	02 44 25.2	+0.1
TSLK				S	Sb	02 44 34.4	+0.8
	comp=N,280nm,0.5s						
TSLK	Tsoukalades, L	0.61	21	P	Pg	02 44 25.4	+0.3
LTHK	Lithakia	0.66	146	P	Pg	02 44 25.7	-0.4
LTHK				S	Sg	02 44 35.4	+0.5
	comp=N,508nm,0.4s						
LTHK	Lithakia	0.66	146	P	Pg	02 44 25.8	-0.3
RLS	Riolos of Patr	0.89	103	P	Pg	02 44 29.6	-0.7
RLS				S	Sb	02 44 42.8	+1.2
	comp=N,140nm,0.7s						
PVO	Paravola	0.97	68	P	Pg	02 44 31.8	-0.2
PVO				S	Sn	02 44 46.0	+0.5
	comp=N,405nm,0.3s						
PVO	Paravola	0.97	68	P	Pg	02 44 32.0	0.0
DRO	Drossia	1.10	106	P	Pb	02 44 33.6	-0.1
DRO				S	Sn	02 44 49.3	+0.7
	comp=N,185nm,0.5s						
DRO	Drossia	1.10	106	P	Pb	02 44 33.5	-0.1
EFP	Efpalio	1.22	82	P	Pn	02 44 35.3	-0.1
EFP	Efpalio	1.22	82	P	Pn	02 44 35.3	-0.1
ANX	Ano Chora	1.26	74	P	Pn	02 44 36.5	+0.4
ANX	Ano Chora	1.26	74	P	Pn	02 44 36.9	+0.8
LAKA	Lakka	1.26	90	P	Pn	02 44 36.1	0.0
LAKA	Lakka	1.26	90	P	Pn	02 44 36.2	+0.1
SERG	Sergoula	1.33	83	P	Pn	02 44 36.9	-0.1
TRIZ	Trizonia	1.34	85	P	Pn	02 44 37.4	+0.3
TRIZ	Trizonia	1.34	85	P	Pn	02 44 37.1	0.0
ALIK	Aliki, Aigiali	1.37	89	P	Pn	02 44 38.6	+1.1
KLV	Kalavryta, Ach	1.42	98	P	Pn	02 44 39.0	+0.8
STON	Ston	5.04	337	ePn	Pn	02 45 28.5	+0.6
STON				Sn	Sn	02 46 23.2	-2.5
LSTV	Lastovo	5.23	331	ePn	Pn	02 45 30.9	+0.4
LSTV				Sn	Sn	02 46 28.0	-2.3
HVAR	Hvar	5.75	330	ePn	Pn	02 45 39.1	+1.5
HVAR				Sn	Sn	02 46 41.8	-1.4
RICI	Ricice	5.78	336	ePn	Pn	02 45 39.3	+1.2
RICI				Sn	Sn	02 46 41.8	-2.2
ZIRJ	Zirje	6.47	328	ePn	Pn	02 45 48.6	+1.0
ZIRJ				Sn	Sn	02 46 59.0	-1.9
KIJV	Kijevo	6.47	334	ePn	Pn	02 45 48.9	+1.3
KIJV				Sn	Sn	02 46 59.6	-1.5
MORI	Morici	6.62	329	ePn	Pn	02 45 51.1	+1.5
MORI				Sn	Sn	02 47 03.6	-1.1
DUGI	Dugi Otok	6.99	327	ePn	Pn	02 45 57.0	+2.3
DUGI				Sn	Sn	02 47 12.2	-1.7

NEIC 11 02:49:50.2±2.6, 52°.3N±0°.2×170°.4E±0°.1, h21km±6km, mb4.3/46, ML3.9/27(AEIC), Error ellipse: s-maj=27.2km s-min=10.0km az=177.0
KRSC 11 02:50:02.5±1.0, 53°.25N×171°.97E, h44km±40km, ML4.4
AEIC 11 02:50:05.7±4.5, 53°.6N±0°.2×172°.6E±0°.2, h25km±9km, Error ellipse: s-maj=26.6km s-min=17.2km az=217.0
IDC 11 02:50:08.4±3.9, 53°.67N×172°.14E, h40km±33km, mb3.6/11, mb1 3.9/13, mb1mx3.6/49, mbtmp3.8/13, ML3.2/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/53, Error ellipse: s-maj=44.9km s-min=14.5km az=179.0

ISC 11 02:50:04.1±0.6, 53°.19N±0°.10×172°.03E±0°.05, h22km, n151, σ1s43/139, mb4.1/31, MS2.9/3, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	Shemya	1.33	109	eP	Pn	02 50 25.7	-1.6
SMY				eS	Sn	02 50 44.2	-0.1
SMY	Shemya	1.33	109	Pn	Pn	02 50 27.2	-0.1
BKI	Bering	4.09	302	eP	Pn	02 51 05.0	-0.2
BKI				eS	Sn	02 51 51.3	-1.1
LSNW	Little Sitkin	4.14	105		Pn	02 51 05.6	-0.4
LSPA	Little Sitkin	4.18	105		Pn	02 51 06.5	+0.1
LSSE	Little Sitkin	4.18	105		Pn	02 51 06.7	+0.2
CEAP	Semis' Anvil P	4.75	101		Pn	02 51 13.9	-0.4
CESW	Semis' Southwe	4.77	103		Pn	02 51 14.0	-0.6
AMKA	Amchitka	4.82	109	Pn	Pn	02 51 11.2	-4.1
CERA	Semis' Rag'd T	4.84	102		Pn	02 51 15.2	-0.4
GAEA	Gareloi East	5.81	100		Pn	02 51 27.9	-0.9
TASE	Tanaga Southea	6.21	99		Pn	02 51 33.4	-1.1
TAFP	Tanaga Falls P	6.23	98		Pn	02 51 33.3	-1.4
MKZ	Mys Kozlova	6.25	287	eP	Pn	02 51 35.9	+1.1
MKZ				eS	Sn	02 52 42.4	-3.0
KICM	Kanaga Island	6.69	97		Pn	02 51 39.8	-1.1
KIMD	Kanaga Island	6.71	98		Pn	02 51 40.4	-0.8
KIWB	Kanaga Island	6.74	97		Pn	02 51 39.6	-1.9
SMKR	Semkarok	6.98	303	P	Pn	02 51 45.6	+0.7
ADK	Adak	7.01	96		Pn	02 51 43.6	-1.6
ADAG	Mount Adagdak	7.03	95		Pn	02 51 44.1	-1.6
BZGR	Bezymyannyi-Gr	7.14	297	eP	Pn	02 51 49.1	+1.8
BZGR				eS	Sn	02 53 07.6	-0.1
KZV	Kizimen	7.16	290	eP	Pn	02 51 48.9	+1.4
SPN	Mys Shipunski	7.23	274	eP	Pn	02 51 49.4	+1.1
SPN				eS	Sn	02 53 07.3	-2.3
BZWR	Bezymyannyi-We	7.26	297	P	Pn	02 51 51.0	+2.1
GSTD	Great Sitkin T	7.29	94		Pn	02 51 47.1	-2.1
GSTR	Great Sitkin T	7.33	94		Pn	02 51 48.1	-1.6
GSMY	Great Sitkin M	7.34	94		Pn	02 51 48.1	-1.8
SDLR	Sedlovina	7.89	276	eP	Pn	02 51 59.1	+1.5
AVH	Avacha	7.98	276	eP	Pn	02 52 00.9	+2.2
KOK	Koryaka	8.04	276	eP	Pn	02 52 01.1	+1.5
RUS	Russkaya	8.23	270	eP	Pn	02 52 03.7	+1.7
KOKL	Mount Kliuchef	8.40	90		Pn	02 52 02.9	-1.5
MTVR	Mutnovka	8.42	271	S	Sn	02 53 36.4	-2.7
ATKA	Atka Island	8.43	91	Pn	Pn	02 52 05.4	+0.6
GNL	Ganaly	8.43	279	eP	Pn	02 52 08.1	+3.2
KOFP	Korovin Flat P	8.47	91		Pn	02 52 04.8	-0.6
GRL	Gorelyy	8.47	271	eP	Pn	02 52 08.5	+3.0
PETK	Petropavlovsk-	8.62	275	Pn	Pn	02 52 09.6	+2.2
	2.0nm,0.3s,baz=108,slow=20,SNR=26						
PETK				Sn	Sn	02 53 42.7	-1.2
	1.0nm,0.3s,baz=204,slow=21,SNR=2.0						
PETK				LR	LR	02 55 18.3	
	comp=Z,115nm,20.9s,baz=77,slow=36						
KDTR	Khodutka, Kamc	8.63	266	eP	Pn	02 52 09.1	+1.6
NIKH	Nikolski High	11.50	83	Pn	Pn	02 52 48.9	+2.1
SEY	Seymchan	14.20	321	Pn	Pn	02 53 21.2	-2.4
	0.1nm,0.3s,baz=17,slow=20,SNR=1.2						
BILL	Bilibino	15.15	352	Pn	Pn	02 53 34.3	-2.2
BILL				IAmb	IAmb	02 53 43.5	
	comp=Z,15nm,1.0s						
N18K	Kilae Creek	18.88	54	P	Pn	02 54 24.9	+1.6
	baz=262						
SVW2	Sparrevohn	19.10	53	P	P	02 54 25.2	+0.2
O18K	Koktuh Hills	19.11	57	P	Pn	02 54 26.4	+0.3
	baz=265						
N19K	Bonanza Creek	19.58	54	P	Pn	02 54 32.3	+0.5
	baz=263,SNR=7.4						
L19K	White Mountain	19.65	50	P	Pn	02 54 32.5	0.0
	baz=258,SNR=6.3						
M19K	Big River Lodg	19.80	51	P	Pn	02 54 34.4	0.0
	baz=260						
OHAK	Old Harbor	20.06	64	P	P	02 54 34.9	-0.5
	baz=274,SNR=11						
OHAK	Old Harbor	20.06	64	P	P	02 54 34.4	-1.1
P19K	Oil Pt	20.09	57	P	Pn	02 54 37.2	-0.5
	baz=267,SNR=22						
K20K	Telida	20.27	47	P	P	02 54 38.0	+0.3
	baz=256						
KDAK	Kodiak Island	20.41	63	P	P	02 54 38.2	-1.1
	comp=Z,9.1nm,0.8s,baz=295,slow=7.4,SNR=24						
KDAK	Kodiak Island	20.41	63	P	P	02 54 38.3	-0.9
	baz=273						
KDAK	Kodiak Island	20.41	63	P	P	02 54 38.4	-0.9
KDAK				IAmb	IAmb	02 54 43.0	
	comp=Z,8.2nm,0.9s						
O20K	Slope Mountain	20.42	56	P	P	02 54 40.3	+0.8
	baz=266,SNR=5.9						
J20K	Nowinta River	20.45	44	P	P	02 54 40.2	+0.5
	baz=254						
PPLA	Purkeypile	21.00	48	P	P	02 54 47.7	+1.9
	baz=259						
PPLA	Purkeypile	21.00	48	P	P	02 54 47.1	+1.2
CNPM	China Poot	21.10	58	P	P	02 54 46.3	-0.5
SKT	Skwentna	21.15	51	P	P	02 54 48.2	+0.8
	baz=262						
SKT	Skwentna	21.15	51	P	P	02 54 48.5	+1.2
SKT				IAmb	IAmb	02 54 52.9	
	comp=Z,13nm,1.3s						
BRLK	Bradley Lake	21.28	57	P	P	02 54 48.4	-0.4
BRLK				IAmb	IAmb	02 54 52.6	
	comp=Z,8.1nm,0.6s						
ASAJ	Asahikawa	21.33	257	LR	LR	03 05 12.7	
	comp=Z,49nm,18.7s,baz=41,slow=42						
BRSE	Bradley Lake S	21.36	57	P	P	02 54 49.9	+0.3
	baz=269						
H21K	Melozitna Rive	21.45	41	P	P	02 54 50.8	+0.3
	baz=252						
KTH	Kantishna Hill	21.69	47	P	P	02 54 53.3	+0.2
KTH				IAmb	IAmb	02 54 55.6	
	comp=Z,9.1nm,1.2s						
BPAW	Bear Paw Mtn.	21.78	45	P	P	02 54 56.2	+2.2
	baz=258						
O22K	Cooper Landing	21.89	55	P	P	02 54 55.5	+0.3
TRF	Thorofare Moun	21.95	47	P	P	02 54 58.1	+2.1
	baz=260						
MLY	Manley	22.10	43	P	P	02 54 58.7	+1.2
	baz=256						
MLY	Manley	22.10	43	P	P	02 54 58.0	+0.5
KNK	Knik Glacier	22.55	53	P	P	02 55 03.3	+1.0
	baz=267,SNR=5.2						
KNK	Knik Glacier	22.55	53	P	P	02 55 01.8	-0.6
PWL	Port Wells	22.59	54	P	P	02 55 01.6	-1.1
PWL				IAmb	IAmb	02 55 03.9	
	comp=Z,9.0nm,0.7s						
MCK	McKinley	22.59	47	P	P	02 55 01.7	-1.1
SML	Sawmill	22.64	52	P	P	02 55 04.2	+0.9
	baz=266,SNR=7.5						
SML	Sawmill	22.64	52	P	P	02 55 03.1	-0.2
SML				IAmb	IAmb	02 55 04.8	
	comp=Z,11nm,0.7s						
I23K	Minto, Yukon-K	22.70	43	P	P	02 55 03.4	-0.4
	baz=257						
NEA2	Nenana	22.70	45	P	P	02 55 04.3	+0.5
	baz=258						
NEA2	Nenana	22.70	45	P	P	02 55 03.7	-0.1
SCM	Sheep Creek Mo	23.12	52	P	P	02 55 07.7	-0.6
SCM				IAmb	IAmb	02 55 10.5	
	comp=Z,8.1nm,1.0s						
MDM	Murphy Dome	23.12	44	P	P	02 55 07.9	-0.4
GLI	Glacier Island	23.19	54	P	P	02 55 07.3	-1.7
	baz=270						
CCB	Clear Creek Bu	23.24	45	P	P	02 55 09.0	-0.5
COLA	College	23.26	44	P	P	02 55 08.8	-0.8
COLA				IAmb	IAmb	02 55 11.1	
	comp=Z,11nm,0.8s						
POKR	Poker Plat Res	23.48	44	P	P	02 55 12.8	+0.9
	baz=259						
POKR	Poker Plat Res	23.48	44	IAmb	IAmb	02 55 13.5	
	comp=Z,8.1nm,1.0s						
IL31		23.65	45	P	P	02 55 11.9	-1.5
ILAR	Eielson Array	23.65	45	P	P	02 55 12.1	-1.4
	comp=Z,1.9nm,0.9s,baz=254,slow=7.5,SNR=20						
TOLK	Toolik Lake Re	23.66	35	P	P	02 55 13.2	-0.4
	baz=248						
EYAK	Cordova Ski Ar	23.86	55	P	P	02 55 15.0	-0.4
	baz=272						
PAX	Paxson	24.06	49	P	P	02 55 17.0	-0.4
	baz=266						
PAX	Paxson	24.06	49	IAmb	IAmb	02 55 18.3	
	comp=Z,5.3nm,0.9s						
RIDG	Independent Ri	24.40	47	P	P	02 55 19.6	-0.9
	baz=265						
RIDG	Independent Ri	24.40	47	P	P	02 55 19.0	-1.6
RIDG				IAmb	IAmb	02 55 20.7	
	comp=Z,4.7nm,0.8s						
BMRM	Bremner River	24.41	54	P	P	02 55 20.9	+0.3
	baz=272						
DOT	Dot Lake	24.74	48	IAmb	IAmb	02 55 24.2	
	comp=Z,5.0nm,0.9s						
GLB	Gilahina Butte	24.79	53	IAmb	IAmb	02 55 25.6	
	comp=Z,5.5nm,0.8s						
SCRK	Sand Creek	24.80	47	P	P	02 55 23.2	-1.1
	baz=265,SNR=11						
SCRK	Sand Creek	24.80	47	IAmb	IAmb	02 55 24.6	
	comp=Z,5.1nm,0.8s						
VRDI	Verde Repeater	24.96	53	IAmb	IAmb	02 55 27.5	
	comp=Z,8.8nm,0.8s						
L26K	Log Cabin Wild	25.03	49	P	P	02 55 27.4	+1.2
	baz=268						
CRQE	Cirque	25.16	55	P	P	02 55 29.0	+1.6
	baz=273						
KLR	Kul'dur	25.30	277	P	P	02 55 30.8	+2.1
	comp=Z,0.4nm,0.4s,baz=58,slow=9.2,SNR=4.5						
KLR				LR	LR	03 04 57.6	
	comp=Z,40nm,19.7s,baz=92,slow=35						
K27K	Chicken	25.64	47	P	P	02 55 30.9	-0.8
	baz=267						
L27K	Beaver Creek,	25.72	49	P	P	02 55 33.6	+1.2
	baz=269,SNR=8.9						
L27K	Beaver Creek,	25.72	49	IAmb	IAmb	02 55 34.9	
	comp=Z,4.4nm,0.9s						
EGAK	Eagle	26.09	45	P	P	02 55 34.3	-1.5
	baz=266,SNR=5.2						
EGAK	Eagle	26.09	45	P	P	02 55 34.5	-1.3
EGAK				IAmb	IAmb	02 55 47.6	
	comp=Z,3.1nm,0.7s						
LOGN	Logan Glacier	26.18	54	IAmb	IAmb	02 55 39.7	
	comp=Z,6.8nm,1.0s						
HYT	Haines Junctio	27.88	54	IAmb	IAmb	02 55 52.8	
	comp=Z,6.1nm,1.3s						
INK	Inuvik	29.36	38	LR	LR	03 08 02.7	
	comp=Z,71nm,18.3s,baz=147,slow=37						
H11N2	WAKE ISLAND Hy	33.63	189	T	T	03 32 14.7	
	baz=5.3,slow=76,SNR=472						
H11N3	WAKE ISLAND Hy	33.64	189	T	T	03 32 06.1	
	baz=5.3,slow=76,SNR=580						
H11N1	WAKE ISLAND Hy	33.65	189	T	T	03 32 16.0	
	baz=5.3,slow=76,SNR=665						
H11S1	WAKE ISLAND Hy	34.86	189	T	T	03 33 42.1	
	baz=5.3,slow=76,SNR=295						
H11S3	WAKE ISLAND Hy	34.87	189	T	T	03 33 49.4	
	baz=5.3,slow=76,SNR=160						
H11S2	WAKE ISLAND Hy	34.88	189	T	T	03 33 45.7	
	baz=5.3,slow=76,SNR=134						
YKA	Yellowknife Ar	38.06	46	P	P	02 57 18.5	-1.9
	comp=Z,1.6nm,0.8s,baz=279,slow=8.1,SNR=4.7						
SONM	Songino Array	40.76	290	P	P	02 57 45.2	+1.8
	comp=Z,0.8nm,0.4s,baz=63,slow=7.9,SNR=7.1						
C09A	Chrisman Ranch	43.06	68	P	P	02 57 59.8	-2.1
NEW	Newport	43.44	67	P	P	02 58 05.6	+0.5
	baz=305						
J05D	Fort Rock, OR	44.01	75	P	P	02 58 11.2	+1.3
	baz=308						
L04D	Klamath Falls	44.04	77	P	P	02 58 11.4	+1.3
	baz=309						
M02C	Callahan	44.22	78	P	P	02 58 13.3	+1.8
	baz=309						
N02D	Trinity Center	44.57

comp=Z,0.1nm,0.3s,baz=30,slow=6.1,SNR=2.0

KMA 11 02:55:18.5±0.7,36°.14N×130°.48E,h1^{km}±4^{km}, Error ellipse: s-maj=4.8km s-min=2.4km az=128.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSPHA	**Pohang**	**0.90**	**274**	P	Pg	02 55 35.7	-0.2
KSPHA				S	Sg	02 55 48.4	+0.9
KSPHA	**Pohang**	**0.90**	**274**	P	Pg	02 55 35.7	-0.2
KSPHA				S	Sg	02 55 48.4	+0.9
KSULJ	**Uljin**	**1.03**	**303**	P	Pg	02 55 38.4	0.0
KSULJ	**Uljin**	**1.03**	**303**	P	Pg	02 55 38.4	0.0
KSUSN	**Ulsan** SNR=30	**1.19**	**249**	P	Pg	02 55 40.9	-0.4
KSUSN	**Ulsan** SNR=30	**1.19**	**249**	P	Pg	02 55 40.9	-0.4
KSDAG	**Daegu** SNR=12	**1.34**	**254**	P	Pb	02 55 44.5	0.0
KSDAG	**Daegu** SNR=12	**1.34**	**254**	P	Pb	02 55 44.5	0.0
ULDB	**Ullung-do Bore**	**1.38**	**14**	P	Pg	02 55 45.0	0.0
ULDB	**Ullung-do Bore**	**1.38**	**14**	P	Pg	02 55 45.0	0.0
KSBUS	**Busan**	**1.43**	**232**	P	Pn	02 55 45.6	+0.1
KSBUS	**Busan**	**1.43**	**232**	P	Pn	02 55 45.6	+0.1
KSGWL	**Sabuk** SNR=8.6	**1.71**	**309**	P	Pg	02 55 56.8	+5.5
OKEB	**Okgye-meyeon** SNR=7.6	**1.91**	**321**	P	Pn	02 55 51.2	-1.0
KSDGY	**Daegwallycong** SNR=21	**2.12**	**317**	P	Pn	02 55 54.9	-0.3
KSDGY	**Daegwallycong** SNR=21	**2.12**	**317**	P	Pn	02 55 54.9	-0.3
KSDGY	**Daegwallycong** SNR=21	**2.12**	**317**	P	Pn	02 55 54.9	-0.3
KSJMJ	**Jumunjin** SNR=24	**2.22**	**322**	P	Pn	02 55 56.9	+0.4
KSWJU	**Wonju** SNR=7.0	**2.32**	**304**	P	Pg	02 56 05.0	+1.9
KSSKC	**Sokcho** SNR=11	**2.66**	**324**	P	Pb	02 56 05.9	-1.0
KSCHC	**Chuncheon** SNR=8.2	**2.69**	**308**	P	Pg	02 56 09.0	-1.1

KMA 11 02:57:44.5±1.1,39°.22N×127°.38E,h2^{km}±2^{km}, Error ellipse: s-maj=16.0km s-min=2.1km az=349.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCWO	**Cheorwon** SNR=12	**1.14**	**175**	P	Pg	02 58 06.3	0.0
KSCWO	**Cheorwon** SNR=12	**1.14**	**175**	P	Pg	02 58 06.3	0.0
SEHB	**SEOHWA** SNR=6.6	**1.17**	**144**	P	Pg	02 58 06.8	0.0
SEHB	**SEOHWA** SNR=6.6	**1.17**	**144**	P	Pg	02 58 06.8	0.0
YNCB	**YEONCHEON** SNR=25	**1.23**	**197**	P	Pb	02 58 08.3	-0.1
YNCB	**YEONCHEON** SNR=25	**1.23**	**197**	P	Pb	02 58 08.3	-0.1
KSSKC	**Sokcho** SNR=15	**1.29**	**136**	P	Pg	02 58 08.0	-1.1
KSCHC	**Chuncheon** SNR=13	**1.48**	**167**	P	Pn	02 58 12.2	0.0
KSCHC	**Chuncheon** SNR=13	**1.48**	**167**	P	Pn	02 58 12.2	0.0
KSGAH	**Ganghwa** SNR=8.6	**1.68**	**206**	P	Pb	02 58 16.3	+0.1
KSDGY	**Daegwallycong** SNR=6.9	**1.83**	**146**	P	Pn	02 58 16.7	-0.4

*BJI **11** 03:03:21.9±0.0,5°.26S×153°.86E,h42^{km},mB5.4/16, mb5.0/30*
*NEIC **11** 03:03:26.7±2.6,5°.08S±0°.08×153°.62E±0°.03,h51^{km}±5^{km}, mb4.8/53, Error ellipse: s-maj=12.1km s-min=1.6km az=200.0*
*IDC **11** 03:03:26.0±1.8,4°.97S×153°.65E,h53^{km}±15^{km},mb4.2/20, mb1 4.3/23,mb1mx4.2/35,mbtmp4.5/23,ML3.4/2,MS3.6/22, Ms1 3.6/22,ms1mx3.5/33, Error ellipse: s-maj=14.1km s-min=11.8km az=88.0*
*DJA **11** 03:03:27.3±0.6,5°.S±4°.×15°.4E±°,h57^{km}±6^{km},M5.3/17, mb4.9/17,MLv5.5/3*
ISC 11 03:03:26.3±0.4,4°.98S±0°.05×153°.62E±0°.06,h56^{km},n146, σ1**9**78/135**,mb4.8**/49**,MS3.7**/26**,12C-9D, Fault plane solution: NP1:**φ194.59183°,δ18.82665°,λ142.99168°. **NP2:**φ320.09793°,δ78.79928°,λ74.76967°. **Principal axes:** T Plg53.7679°, Azm211.7807°; N Plg14.9334°, Azm323.1253°; P Plg32.1355°, Azm62.7697°; **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.65**	**298**	Pn	**Pn**	**03 03 53.9**	**+1.0**
MANU	**Manus Island**	**6.89**	**295**	Pn	**Pn**	**03 05 05.6**	**+0.9**
HNR	**Honiara** baz=312,slow=1.7,SNR=2.0	**7.68**	**126**	P	**Pn**	**03 05 15.4**	**-0.2**
HNR	21nm,0.3s,baz=217,slow=12,SNR=0.9			S	**Sn**	**03 06 41.5**	**+0.4**
PMG	**Port Moresby** 8.1nm,0.3s,baz=14,slow=10,SNR=13	**7.77**	**235**	P	**Pn**	**03 05 17.3**	**+0.5**
PMG	4.9nm,0.3s,baz=226,slow=6.9,SNR=3.0			S	**Sn**	**03 06 42.3**	**-1.1**
PMG	**Port Moresby**	**7.77**	**235**	Pn	**Pn**	**03 05 16.5**	**-0.3**
CTA	**Charters Tower** 0.3nm,0.3s,baz=32,slow=13,SNR=11	**16.64**	**205**	P	**P**	**03 07 17.4**	**0.0**
CTAO	**Charters Tower**	**16.64**	**205**	Pn	**Pn**	**03 07 14.5**	**-1.4**
TARA	**Tarawa**	**20.29**	**72**	P	Pn	03 08 00.1	+0.1
GUMO	**Guam** comp=Z,58nm,21.4s,baz=190,slow=33	**20.39**	**335**	LR	LR	03 14 47.2	
EIDS	**Eidsvold**	**20.42**	**187**	P	**P**	**03 07 59.0**	**+0.1**
DZM	**Mont Dzumac** 11nm,0.7s,baz=239,slow=8.2,SNR=19	**21.04**	**145**	P	**P**	**03 08 06.7**	**+0.9**
DZM	comp=Z,214nm,21.3s,baz=26,slow=33			LR	LR	03 15 07.7	
DZM	**Mont Dzumac** 86nm,1.1s	**21.04**	**145**	*e*P	**P**	**03 08 06.8**	**+1.0**
DZM	comp=Z,459nm,26.5s			*e*LR	LR	03 13 05.0	
DZM	**Mont Dzumac**	**21.04**	**145**	P	**P**	**03 08 06.2**	**+0.4**
DZM	comp=Z,30nm,0.9s			IAmb	IAmb	03 08 12.1	
FAKI	**Fak Fak**	**21.42**	**275**	P	**P**	**03 08 09.3**	**-0.5**
FAKI	**Fak Fak** comp=Z,99nm,1.0s	**21.42**	**275**	P	**P**	**03 08 10.0**	**+0.2**
SIJI	**Sorong** comp=Z,19nm,0.6s,baz=158,slow=20,SNR=4.8	**22.69**	**280**	P	**P**	**03 08 24.4**	**+0.9**
SIJI	comp=Z,392nm,21.3s,baz=162,slow=34			LR	LR	03 16 06.6	
SWI	**Sorong**	**22.70**	**280**	P	P	03 08 31.9	+8.4
MTN	**Manton Dam**	**23.53**	**249**	P	**P**	**03 08 30.9**	**-0.8**
MTN	comp=Z,30nm,0.7s			IAmb	IAmb	03 08 40.4	
WB0	**Warramunga Arr**	**23.80**	**230**	P	**P**	**03 08 33.7**	**-0.5**
WB0	comp=Z,28nm,1.1s			IAmb	IAmb	03 08 54.7	
WR0	**Warramunga Arr**	**23.80**	**230**	P	**P**	**03 08 33.1**	**-1.0**
WR0	comp=Z,37nm,1.0s			IAmb	IAmb	03 08 60.0	
WRAB	**Tennant Creek**	**23.93**	**230**	P	**P**	**03 08 34.8**	**-0.6**
WRAB	comp=Z,19nm,0.6s			IAmb	IAmb	03 08 43.8	
WB2	**Warramunga Arr**	**23.93**	**230**	P	**P**	**03 08 35.2**	**-0.2**
WB2	comp=Z,34nm,1.2s			IAmb	IAmb	03 08 45.6	
WRA	**Warramunga Arr** comp=Z,12nm,1.0s,baz=53,slow=9.9,SNR=32	**23.94**	**230**	P	**P**	**03 08 35.0**	**-0.5**
WRA	comp=Z,5.3nm,0.7s,baz=56,slow=2.4,SNR=6.7			PcP	**PcP**	**03 12 17.6**	**+0.7**
WRA	comp=Z,1.3nm,0.7s,baz=46,slow=16,SNR=1.0			S	**S**	**03 12 53.3**	**+4.9**
WRA	comp=Z,2.0nm,1.1s,baz=60,slow=2.9,SNR=4.1			ScP	**ScP**	**03 15 51.3**	**+0.5**
WRA	comp=Z,198nm,21.9s,baz=50,slow=36			LR	LR	03 17 37.9	
WRA	**Warramunga Arr**	**23.94**	**230**	P	**P**	**03 08 35.0**	**-0.5**
ARMA	**Armidale**	**25.37**	**184**	P	**P**	**03 08 48.9**	**+0.5**
AS31	**Alice Springs**	**26.57**	**224**	P	**P**	**03 08 59.3**	**0.0**
ASAR	**Alice Springs**	**26.57**	**224**	P	**P**	**03 08 59.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=57,slow=9.1,SNR=24						
ASAR				PcP	**PcP**	**03 12 23.4**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=57,slow=2.8,SNR=10.0						
ASAR				ScP	**ScP**	**03 15 58.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.8,SNR=4.8						
ASAR				LR	LR	03 18 45.9	
	comp=Z,209nm,21.2s,baz=49,slow=35						
KNRA	**Kunugurra**	**26.63**	**245**	P	**P**	**03 09 01.0**	**+1.1**
MSVF	**Nonsavu**	**27.05**	**120**	LR	LR	03 19 02.8	
	comp=Z,238nm,20.4s,baz=337,slow=35						
STKA	**Stephens Creek**	**29.03**	**201**	P	**P**	**03 09 20.8**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=32,slow=13,SNR=1.2						
STKA				LR	LR	03 21 22.6	
	comp=Z,142nm,18.9s,baz=19,slow=37						
STKA	**Stephens Creek**	**29.03**	**201**	IAmb	IAmb	03 09 26.8	
	comp=Z,1.7nm,1.1s						
BATI	**Baumata**	**30.13**	**258**	LR	LR	03 23 56.5	
	comp=Z,480nm,20.1s,baz=101,slow=41						
TAU	**Tasmania Unive**	**38.18**	**187**	P	**P**	**03 10 39.2**	**-1.2**
THZ	**Tophouse**	**40.47**	**158**	P	**P**	**03 10 59.2**	**-0.4**
MJAR	**Matsushiro Arr**	**43.75**	**342**	LR	LR	03 29 26.2	
	comp=Z,49nm,18.1s,baz=210,slow=36						
MJAR	**Matsushiro Arr**	**43.75**	**342**	P	**P**	**03 11 28.4**	**+2.1**
RAR	**Rarotonga**	**47.96**	**114**	LR	LR	03 29 04.8	
	comp=Z,91nm,21.9s,baz=294,slow=32						
KSRS	**Korea Array**	**48.53**	**333**	P	**P**	**03 12 04.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=147,slow=8.9,SNR=9.6						
KSAR	**Wonju Array Be**	**48.54**	**333**	P	**P**	**03 12 05.1**	**+1.2**
NJ2	**Nanjing**	**49.50**	**320**	*e*P	**P**	**03 12 14.3**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,32nm,0.8s						
ASAJ	**Asahikawa**	**49.87**	**350**	LR	LR	03 31 13.3	
	comp=Z,37nm,20.0s,baz=14,slow=33						
USRK	**Ussuriysk Ar.**	**52.69**	**341**	P	**P**	**03 12 36.8**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=92,slow=10,SNR=3.5						
USRK				LR	LR	03 34 19.0	
	comp=Z,20nm,18.9s,baz=139,slow=35						
PPT2	**Papeete2**	**56.89**	**108**	*e*LR	LR	03 29 41.0	
	comp=Z,102nm,28.5s						
KLR	**Kul'dur**	**57.25**	**343**	LR	LR	03 35 24.3	
	comp=Z,28nm,21.5s,baz=115,slow=34						
XAN	**Xi'an**	**57.32**	**316**	P	**P**	**03 13 08.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
TBI	**Tubuai**	**57.74**	**114**	*e*LR	LR	03 30 09.7	
	comp=Z,141nm,36.2s						
PETK	**Petropavlovsk-**	**57.98**	**3**	P	**P**	**03 13 13.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=180,slow=8.8,SNR=7.6						
PETK				LR	LR	03 36 10.5	
	comp=Z,21nm,20.3s,baz=170,slow=34						
PETK	**Petropavlovsk-**	**57.98**	**3**	P	**P**	**03 13 13.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**58.69**	**295**	P	**P**	**03 13 19.8**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=108,slow=5.4,SNR=8.2						
CMAR				LR	LR	03 36 32.3	
	comp=Z,26nm,21.4s,baz=105,slow=34						
CMAR	**Chiang Mai Arr**	**58.69**	**295**	P	**P**	**03 13 19.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**59.67**	**324**	*e*P	**P**	**03 13 28.0**	**+2.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,440nm,6.6s						
LZH	**Lanzhou**	**61.93**	**316**	*e*P	**P**	**03 13 41.8**	**+1.2**
LZH				pP	pP	03 13 52.1	-2.3
LZH				sP	sP	03 13 59.5	-0.7
LZH				pmax	pmax		
	comp=Z,28nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,6.5s						
MA2	**Magadan**	**64.40**	**358**	P	**P**	**03 13 55.0**	**-1.3**
	comp=Z,5.7nm,0.4s,baz=193,slow=2.6,SNR=4.1						
TAOE	**Nuku Hiva Isla**	**65.80**	**97**	*e*LR	LR	03 33 47.1	
	comp=Z,166nm,29.7s						
GTA	**Gaotai**	**66.34**	**317**	⇓P	**P**	**03 14 11.0**	**+1.5**
GTA				pP	pP	03 14 23.5	+0.1
GTA				sP	sP	03 14 28.8	-0.4
GTA				pmax	pmax		
	comp=Z,15nm,0.7s						
ULN	**Ulaanbaatar**	**66.58**	**328**	P	**P**	**03 14 10.4**	**-0.4**
SONM	**Songino Array**	**66.92**	**327**	P	**P**	**03 14 13.4**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=146,slow=6.0,SNR=22						
SONM	**Songino Array**	**66.92**	**327**	P	**P**	**03 14 12.8**	**-0.1**
SHL	**Shillong**	**67.10**	**300**	P	**P**	**03 14 14.2**	**-0.4**
SHL					**sP**	**03 14 34.1**	**-0.2**
SHL				IAmb	IAmb	03 14 35.2	
	comp=Z,12nm,0.9s						
VNDA	**Vanda**	**72.62**	**178**	P	**P**	**03 14 47.9**	**+0.5**
	comp=Z,10nm,0.7s,baz=330,slow=6.7,SNR=82						
VNDA				LR	LR	03 39 43.1	
	comp=Z,51nm,21.5s,baz=345,slow=30						
VNDA	**Vanda**	**72.62**	**178**	P	**P**	**03 14 47.4**	**0.0**
VNDA				IAmb	IAmb	03 14 49.3	
	comp=Z,13nm,0.8s						
SBA	**Scott Base**	**73.15**	**177**	P	**P**	**03 14 51.9**	**+1.4**
SBA				IAmb	IAmb	03 14 53.1	
	comp=Z,11nm,0.9s						
OHAK	**Old Harbor** baz=235	**75.34**	**27**	P	**P**	**03 15 06.1**	**+2.6**
KDAK	**Kodiak Island** comp=Z,3.2nm,0.9s,baz=42,slow=5.8,SNR=4.4	**75.97**	**26**	P	**P**	**03 15 07.5**	**+0.4**
KDAK	**Kodiak Island** baz=236	**75.97**	**26**	P	**P**	**03 15 07.5**	**+0.4**
KDAK	**Kodiak Island** comp=Z,9.5nm,1.2s	**75.97**	**26**	IAmb	IAmb	03 15 30.4	
O18K	**Koktuh Hills** baz=233	**76.07**	**24**	P	**P**	**03 15 10.2**	**+2.5**
N18K	**Kilae Creek** baz=232	**76.30**	**23**	P	**P**	**03 15 10.1**	**+1.1**
WMQ	**Urumqi**	**76.43**	**317**	*e*P	**P**	**03 15 13.5**	**+3.4**
SVW2	**Sparrevohn**	**76.67**	**23**	P	**P**	**03 15 11.9**	**+0.8**
SVW2				IAmb	IAmb	03 15 34.6	
	comp=Z,6.7nm,0.9s						
P19K	**Oil Pt** baz=235,SNR=15	**76.76**	**25**	P	**P**	**03 15 11.1**	**-0.5**
N19K	**Bonanza Creek** baz=234	**76.93**	**23**	P	**P**	**03 15 12.7**	**+0.1**
CNPM	**China Poot**	**77.53**	**25**	P	**P**	**03 15 16.1**	**+0.2**
L19K	**White Mountain** baz=233,SNR=9.1	**77.61**	**22**	P	**P**	**03 15 16.9**	**+0.6**
M19K	**Big River Lodg** baz=233	**77.62**	**22**	P	**P**	**03 15 17.1**	**+0.8**
BRLK	**Bradley Lake**	**77.81**	**25**	P	**P**	**03 15 17.1**	**-0.4**
BRLK				IAmb	IAmb	03 15 40.5	
	comp=Z,12nm,1.0s						
M20K	**Styx River** baz=235	**78.09**	**23**	P	**P**	**03 15 19.3**	**+0.2**
TIXI	**Tiksi** comp=Z,3.0nm,0.5s,baz=309,slow=6.5,SNR=0.9	**78.19**	**352**	P	**P**	**03 15 20.5**	**+1.2**
K20K	**Telida** baz=234	**78.60**	**21**	P	**P**	**03 15 22.4**	**+0.6**
SKT	**Skwentna** baz=236	**78.77**	**23**	P	**P**	**03 15 24.3**	**+1.6**
SKT	**Skwentna**	**78.77**	**23**	P	**P**	**03 15 21.2**	**-1.5**
SUA	**Susitna One** baz=237	**78.79**	**24**	P	**P**	**03 15 25.4**	**+2.4**
RC01	**Rabbit Creek A** baz=238	**79.00**	**24**	P	**P**	**03 15 26.7**	**+2.8**
J20K	**Nowinta River** baz=233	**79.07**	**21**	P	**P**	**03 15 24.6**	**+0.4**
PWL	**Port Wells**	**79.47**	**25**	P	**P**	**03 15 26.3**	**-0.2**
CHUM	**Lake Minchumin** baz=235,SNR=5.8	**79.55**	**21**	P	**P**	**03 15 27.7**	**+0.8**
KTH	**Kantishna Hill**	**79.88**	**22**	P	**P**	**03 15 27.2**	**-1.6**
KTH				IAmb	IAmb	03 15 51.1	
	comp=Z,11nm,0.9s						
SML	**Sawmill** baz=239,SNR=5.6	**79.95**	**24**	P	**P**	**03 15 29.4**	**+0.2**
SML	**Sawmill**	**79.95**	**24**	P	**P**	**03 15 29.6**	**+0.4**
GLI	**Glacier Island** baz=240	**80.00**	**25**	P	**P**	**03 15 29.2**	**-0.2**
TRF	**Thorofare Moun** baz=237	**80.06**	**22**	P	**P**	**03 15 30.7**	**+0.8**
BPAW	**Bear Paw Mtn.** baz=236	**80.16**	**22**	P	**P**	**03 15 32.2**	**+2.0**
SCM	**Sheep Creek Mo** comp=Z,14nm,1.0s	**80.38**	**24**	IAmb	IAmb	03 15 55.0	
WAT1	**Susitna Watana** baz=239	**80.39**	**23**	P	**P**	**03 15 31.1**	**-0.5**
H21K	**Melozitna Rive** baz=234	**80.41**	**20**	P	**P**	**03 15 31.4**	**-0.1**
I21K	**Tanana** baz=235,SNR=12	**80.41**	**20**	P	**P**	**03 15 31.8**	**+0.3**
RND	**Reindeer** comp=Z,15nm,0.8s	**80.58**	**23**	IAmb	IAmb	03 15 55.0	
MCK	**McKinley** baz=238,SNR=8.0	**80.72**	**22**	P	**P**	**03 15 32.2**	**-1.1**
MLY	**Manley** baz=236,SNR=5.6	**80.76**	**21**	P	**P**	**03 15 33.1**	**-0.4**
MLY	**Manley** comp=Z,11nm,0.8s	**80.76**	**21**	IAmb	IAmb	03 15 56.6	
KLU	**Klutina** baz=241,SNR=6.8	**80.80**	**25**	P	**P**	**03 15 33.3**	**-0.5**
KLU	**Klutina** comp=Z,19nm,1.1s	**80.80**	**25**	IAmb	IAmb	03 15 57.6	
MK31	**Makanchi Array**	**81.00**	**319**	P	**P**	**03 15 34.5**	**-0.7**
MK31				pP	**pP**	**03 15 47.5**	**-2.0**
MK31				IAmb	IAmb	03 15 48.9	
	comp=Z,7.3nm,0.9s						
MKAR	**Makanchi Array** comp=Z,3.7nm,0.5s,baz=93,slow=8.0,SNR=38	**81.00**	**319**	P	**P**	**03 15 35.4**	**+0.3**
MKAR	**Makanchi Array**	**81.00**	**319**	P	**P**	**03 15 35.3**	**+0.2**
NEA2	**Nenana** baz=238,SNR=7.8	**81.12**	**22**	P	**P**	**03 15 34.2**	**-1.2**
MAKZ	**Makanchi**	**81.21**	**319**	P	**P**	**03 15 35.6**	**-0.7**
MAKZ				pP	**pP**	**03 15 49.7**	**-1.0**
MAKZ				IAmb	IAmb	03 15 49.9	
	comp=Z,12nm,0.8s						
I23K	**Minto, Yukon-K** baz=238	**81.32**	**21**	P	**P**	**03 15 39.8**	**+3.5**
H23K	**Yukon River** baz=237	**81.62**	**20**	P	**P**	**03 15 37.9**	**-0.1**
CCB	**Clear Creek Bu** comp=Z,8.2nm,0.9s	**81.62**	**22**	IAmb	IAmb	03 16 00.1	
ZALV	**Zalesovo Beam** comp=Z,3.3nm,0.6s,baz=105,slow=6.7,SNR=9.1	**81.76**	**326**	P	**P**	**03 15 38.1**	**-0.8**
ZALV				LR	LR	03 52 44.6	
	comp=Z,20nm,20.0s,baz=82,slow=36						
ZALV	**Zalesovo Beam**	**81.76**	**326**	P	**P**	**03 15 38.0**	**-1.0**
IL31		**82.02**	**22**	P	**P**	**03 15 39.4**	**-0.6**
IL31				IAmb	IAmb	03 16 02.1	
	comp=Z,7.7nm,0.8s						
ILAR	**Eielson Array** comp=Z,1.5nm,0.7s,baz=247,slow=5.6,SNR=18	**82.02**	**22**	P	**P**	**03 15 38.5**	**-1.6**
ILAR				LR	LR	03 50 41.4	
	comp=Z,38nm,18.4s,baz=210,slow=35						
H24K	**Noodor Dome** baz=239	**82.20**	**21**	P	**P**	**03 15 40.8**	**-0.3**
RIDG	**Independent Ri** baz=242	**82.30**	**23**	P	**P**	**03 15 41.3**	**-0.4**
DOT	**Dot Lake** comp=Z,14nm,0.8s	**82.57**	**23**	IAmb	IAmb	03 16 06.3	
SCRK	**Sand Creek** baz=243,SNR=6.8	**82.75**	**23**	P	**P**	**03 15 43.9**	**-0.1**
L27K	**Beaver Creek,** baz=245,SNR=8.8	**83.22**	**24**	P	**P**	**03 15 46.4**	**0.0**
K27K	**Chicken** baz=245	**83.53**	**24**	P	**P**	**03 15 51.3**	**+3.4**
EGAK	**Eagle** baz=245	**84.21**	**23**	P	**P**	**03 15 51.7**	**+0.3**
NIL	**Nilore**	**84.75**	**304**	P	**P**	**03 15 54.0**	**-0.8**
NIL				IAmb	IAmb	03 16 08.4	
	comp=Z,11nm,0.7s						
QSPA	**South Pole Qui**	**84.98**	**180**	P	**P**	**03 15 55.5**	**0.0**
AAK	**Ala-Archa**	**85.38**	**313**	P	**P**	**03 15 57.0**	**-1.0**
AAK				pP	**pP**	**03 16 11.4**	**-1.1**
MAW	**Mawson** comp=Z,7.9nm,0.6s,baz=100,slow=5.9,SNR=53	**85.72**	**203**	P	**P**	**03 15 59.1**	**+0.2**
MAW	**Mawson**	**85.72**	**203**	P	**P**	**03 15 59.2**	**+0.3**
NRIK	**Noril'sk** comp=Z,3.6nm,0.6s,baz=152,slow=8.1,SNR=2.7	**86.40**	**341**	P	**P**	**03 16 02.3**	**+0.1**
NRIK	**Noril'sk** comp=Z,3.7nm,0.7s	**86.40**	**341**	IAmb	IAmb	03 16 07.5	
EPYK	**Eagle Plains** baz=249	**86.53**	**22**	P	**P**	**03 16 03.0**	**0.0**
EPYK	**Eagle Plains** comp=Z,10nm,0.9s	**86.53**	**22**	IAmb	IAmb	03 16 26.6	
BTK	**Batken**	**87.68**	**310**	P	**P**	**03 16 09.0**	**-0.2**
BTK				IAmb	IAmb	03 16 30.8	
	comp=Z,14nm,1.1s						
KKAR	**Karatay Array**	**88.35**	**313**	P	**P**	**03 16 11.4**	**-0.8**
BRVK	**Borovoye**	**89.94**	**323**	P	**P**	**03 16 18.7**	**-0.8**
BRVK				IAmb	IAmb	03 16 38.9	
	comp=Z,6.2nm,0.9s						
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.5s,baz=261,slow=7.0,SNR=7.6	**91.56**	**52**	P	**P**	**03 16 28.1**	**+0.5**
NVAR				PP	**PP**	**03 20 05.5**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=289,slow=8.5,SNR=2.4						
NVAR				LR	LR	03 49 51.9	
	comp=Z,72nm,21.4s,baz=284,slow=30						
BMO	**Blue Mountains**	**92.82**	**45**	P	**P**	**03 16 34.9**	**+1.8**
YKA	**Yellowknife Ar** comp=Z,45nm,20.9s,baz=0.0,slow=32	**95.21**	**28**	LR	LR	03 53 43.6	
GEYT	**Alibeck** comp=Z,23nm,20.5s,baz=65,slow=36	**97.37**	**307**	LR	LR	04 01 57.1	
PDAR	**Pinedale Array** comp=Z,58nm,20.6s,baz=254,slow=32	**98.37**	**48**	LR	LR	03 55 04.2	
MNK	**Minsk** comp=E,2.0nm,1.0s	**114.17**	**329**	*i* PKP	PKPpre	03 21 48.6	
MNK				*i* PKP	PKPpre	03 21 48.6	
	comp=N,11nm,1.1s						
MNK				*i* PKP	PKPpre	03 21 48.6	
	comp=Z,4.0nm,1.0s,baz=62						
MNK				*i* PP	PP	03 22 43.9	-11
MNK				*i* PPP	PPP	03 25 08.4	
MNK				*i* SKP		03 25 20.6	
MNK				*i* PKS	PKSdf	03 25 25.3	-10
MNK				*i* SKS	**SKSdf**	**03 28 59.9**	**-6.8**
MNK				*i* PS	**PS**	**03 32 21.9**	**-11**
MNK				*i* SS	**SS**	**03 38 33.1**	**-7.9**
MNK				*i* SSS	SSS	03 42 47.9	
MNK				*i* LQ	LQ	04 04 12.6	
MNK				*i* LR	LR	04 06 50.4	
MNK				*i* LRM	MLR	04 10 34.7	
	comp=E,8.0nm,21.0s						
MNK				*i* LRM	MLR	04 11 16.0	
	comp=Z,54nm,22.4s						
MNK				*i* LRM	MLR	04 11 18.2	
	comp=N,271nm,23.9s						
AKASG	**Malin Array Be** comp=N,0.3nm,0.3s,baz=51,slow=2.9,SNR=1.6	**115.12**	**325**	PKP	**PKiKP**	**03 22 00.4**	**-0.8**
BOSA	**Boshof** comp=N,3.0nm,0.8s,baz=238,slow=1.3,SNR=6.0	**120.17**	**233**	PKP	**PKPdf**	**03 22 11.7**	**-0.2**
GERES	**GERESS Array B** comp=N,0.4nm,0.5s,baz=82,slow=2.8,SNR=6.0	**124.63**	**329**	PKP	**PKPdf**	**03 22 19.4**	**-0.4**
LPAZ	**La Paz** comp=N,0.5nm,0.4s,baz=284,slow=4.4,SNR=5.1	**133.61**	**118**	PKP	**PKPdf**	**03 22 37.6**	**-0.8**
BDFB	**Brasilia** comp=N,2.5nm,0.7s,baz=330,slow=1.1,SNR=4.5	**150.36**	**134**	PKPbc	**PKPbc**	**03 23 11.0**	**-1.6**
TORD	**Torodi Ar. Bea** comp=N,10nm,0.4s,baz=67,slow=2.1,SNR=161	**151.14**	**288**	PKPbc	**PKPbc**	**03 23 13.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**151.14**	**288**		**PKPbc**	**03 23 13.5**	**-0.8**

*CNRM **11** 03:10:28.4,35°.84N×0°.03E,h144^{km},ml2.6, Hypocentre not reviewed by the ISC*
*CRAAG **11** 03:10:28.1,35°.49N×0°.10W,Ml3.2*
*MDD **11** 03:10:29.7±0.7,35°.45N×0°.16W,h26^{km}±6^{km},mb3.9/7, Error ellipse: s-maj=9.3km s-min=5.6km az=7.0,PRXIMO*
ISC 11 03:10:27.1±1.2,35°.40N±0°.06×0°.15W±0°.03,h26^{km}±9^{km}, n34,σ1**9**0/50**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.07**	**182**	P	**Pb**	**03 10 31.8**	**0.0**
ODJA	**Bouhanifia**	**0.07**	**182**	P	**Pb**	**03 10 31.8**

0.2nm,0.1s,SNR=7.7
EMUR S **Sn** 03 11 35.3 -2.7
8.8nm,0.3s,SNR=5.7
EBER Berja 2.68 305 P **Pn** 03 11 09.1 +0.5
2.6nm,0.2s,SNR=19
EBER S **Sn** 03 11 41.1 +0.8
9.6nm,0.4s,SNR=7.9
TDRA Tendrara 2.82 214 P 03 11 21.6
TDRA S 03 12 03.4
GORA Gorafe 3.12 313 P **Pn** 03 11 16.5 +1.8
SNR=7.9
ELGU Los Guajares, 3.18 299 P **Pn** 03 11 15.3 -0.1
0.7nm,0.1s,SNR=7.9
ELGU S **Sn** 03 11 51.6 -0.9
8.5nm,0.4s,SNR=7.9
EQUE Quentar 3.21 305 P **Pn** 03 11 17.8 +1.9
0.4nm,0.1s,SNR=18
EBEN2 Beniarda presa 3.27 359 P **Pn** 03 11 17.9 +1.2
0.4nm,0.1s,SNR=4.0
EBEN2 S **Sn** 03 11 51.1 -3.7
7.9nm,0.4s,SNR=7.9
AFON Font Roja 3.28 355 S **Sn** 03 11 53.2 -1.8
14nm,0.6s,SNR=7.9
SESP Santiago Espad 3.33 325 P **Pn** 03 11 19.9 +2.3
14nm,0.2s,SNR=7.9
SESP S **Sn** 03 11 53.4 -2.9
10nm,0.2s,SNR=7.9
EQES Quesada 3.36 316 P **Pn** 03 11 20.6 +2.6
0.8nm,0.1s,SNR=38
EQES S **Sn** 03 11 57.1 0.0
4.9nm,0.2s,SNR=7.9
FIGM Figuig 3.39 196 P 03 11 27.7
FIGM S 03 12 09.8
ETOB Tobarra 3.43 341 P **Pn** 03 11 20.2 +1.4
0.4nm,0.1s,SNR=18
ETOB S **Sn** 03 11 55.8 -2.9
4.0nm,0.3s,SNR=4.9
EGOR Sierra Gorda, 3.63 299 P **Pn** 03 11 23.7 +2.0
0.2nm,0.1s,SNR=4.0
EGOR S **Sn** 03 12 02.4 -1.3
2.6nm,0.5s,SNR=7.9
EIBI Ibiza 3.81 18 P **Pn** 03 11 25.2 +1.2
0.9nm,0.1s,SNR=12
EIBI S **Sn** 03 12 05.2 -2.8
4.7nm,0.2s,SNR=7.9
EMIJ Mijas 3.93 289 P **Pn** 03 11 27.4 +1.7
0.2nm,0.1s,SNR=4.0
EMIJ S **Sn** 03 12 07.4 -3.5
2.4nm,0.4s,SNR=7.9
ECHE Chera 4.24 351 P **Pn** 03 11 31.6 +1.7
0.1nm,0.1s,SNR=7.9
ECHE S **Sn** 03 12 16.6 -2.0
1.6nm,0.3s,SNR=7.9
MDT Midelt 4.51 236 P 03 11 39.3
MDT S 03 12 37.4
MD31 MD31 4.58 238 P 03 11 39.7
ETOS Mallorca 4.96 27 P **Pn** 03 11 41.5 +1.7
0.1nm,0.1s,SNR=7.9
ETOS S **Sn** 03 12 33.5 -2.7
2.6nm,0.4s,SNR=7.9
EMOS Mosqueruela 4.96 357 P **Pn** 03 11 42.4 +2.3
0.1nm,0.1s,SNR=7.9
EMOS S **Sn** 03 12 34.2 -2.5
2.4nm,0.4s,SNR=7.9
ECAB El Cabril 5.01 304 P **Pn** 03 11 41.2 +0.7
0.2nm,0.3s,SNR=7.9
ESDC Sonseca Array 5.24 326 P **Pn** 03 11 45.4 +1.7
baz=140,slow=13,SNR=7.9
PAB San Pablo 5.32 322 P **Pn** 03 11 46.9 +2.0
1.1nm,0.2s,SNR=7.9
PAB S **Sn** 03 12 41.7 -3.6
0.4nm,0.3s,SNR=7.9

IDC 11 03:14:33.7±3.5, 5°.03S×153°.13E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/44, mbtmp3.6/2, Error ellipse: s-maj=144.8km s-min=50.8km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.54**	**229**	P	P	03 19 45.8	-0.1
	0.8nm,0.3s,baz=56,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**26.20**	**223**	P	P	03 20 10.8	+0.3
	0.3nm,0.4s,baz=54,slow=9.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**150.69**	**288**	PKPbc	PKPbc	03 34 28.5	-0.6
	0.6nm,1.1s,baz=78,slow=2.6,SNR=2.5						

IDC 11 03:16:45.9±9.3, 6°.90S×155°.41E, h194km±68km, mb3.7/5, mb1 3.7/7, mb1mx3.3/44, mbtmp4.1/7, Error ellipse: s-maj=81.5km s-min=25.5km az=97.0

ISC 11 03:16:45.8±1.7, 7°.05S±0°.2×155°.5E±0°.2, h200km, n13, σ0s91/8, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.59**	**253**	P	**Pn**	03 18 45.4	-1.4
	3.3nm,0.3s,baz=274,slow=19,SNR=2.3						
PMG				S	**Sn**	03 20 24.3	+0.9
	1.3nm,0.3s,baz=178,slow=12,SNR=1.9						
CTA	**Charters Tower**	**15.82**	**214**	P	**Pn**	03 20 18.4	+0.2
	0.1nm,0.3s,baz=27,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**24.23**	**236**	P	**P**	03 21 45.4	+0.8
	6.6nm,0.7s,baz=60,slow=9.8,SNR=36						
ASAR	**Alice Springs**	**26.55**	**229**	P	**P**	03 22 05.3	-0.1
	1.2nm,0.5s,baz=58,slow=9.5,SNR=15						
H11S3	**WAKE ISLAND Hy**	**27.61**	**23**	T	T	03 50 28.8	
	baz=202,slow=75,SNR=70						
H11S2	**WAKE ISLAND Hy**	**27.61**	**23**	T	T	03 50 44.8	
	baz=202,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy**	**27.63**	**23**	T	T	03 50 41.0	
	baz=202,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.79**	**23**	T	T	03 52 07.5	
	baz=203,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.80**	**23**	T	T	03 52 24.6	
	baz=203,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.81**	**23**	T	T	03 52 11.2	
	baz=203						
SONM	**Songino Array**	**69.58**	**327**	P	**P**	03 27 33.6	+0.4
	1.8nm,0.5s,baz=142,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**83.70**	**319**	P	**P**	03 28 52.8	+0.5
	1.0nm,0.7s,baz=93,slow=7.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**84.43**	**326**	P	**P**	03 28 55.2	-0.5
	0.6nm,0.4s,baz=133,slow=6.3,SNR=1.5						

ISN 11 03:28:57.4±0.7, 35°.73N×45°.19E, h25km, ML2.7
DDA 11 03:29:13.0, 36°.37N×44°.87E, h3km±6km, ML2.4

ISC 11 03:29:01.4±2.8, 35°.78N±0°.06×44°.9E±0°.2, h13km±15km, n5, σ1s83/10, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.59**	**229**	*e*Pg	**Pg**	03 29 11.4	-1.5
IKRK				*e*Sg	**Sg**	03 29 22.8	+2.2
	baz=65						
IKRK				AML	AML	03 29 25.9	
	comp=E,238nm,0.6s						
IKRK				AML	AML	03 29 28.6	
	comp=N,325nm,0.4s						
CUKT	**Cukurca**	**1.79**	**325**	*i* P	**Pg**	03 29 37.1	+1.4
CUKT				*i* S	**Sb**	03 29 54.8	-1.5
CUKT				IAML		03 30 07.0	
	comp=N,79nm,0.5s						
CUKT				IAML		03 30 08.0	
	comp=E,62nm,0.6s						
YOVA	**Hakkari_Yksek**	**1.86**	**345**	*i* P	**Pg**	03 29 37.7	+0.5
YOVA				*i* S	**Sg**	03 29 59.3	-2.1
YOVA				IAML		03 30 06.0	
	comp=E,61nm,0.5s						
HAKT	**HAKKARI**	**2.01**	**332**	*i* P	**Pb**	03 29 38.5	+0.6
HAKT				*i* S	**Sn**	03 30 00.6	+0.3
PERV	**Siirt/Pervari-**	**2.86**	**320**	*i* P	**Pg**	03 29 57.4	+1.2
PERV				*i* S	**Sg**	03 30 31.7	-1.6
PERV				IAML		03 30 40.0	
	comp=N,22nm,0.4s						
PERV				IAML		03 30 52.0	
	comp=E,23nm,0.6s						

IDC 11 03:59:58.2±0.8, 23°.59N×126°.71E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/43, mbtmp3.9/13, ML3.8/2, MS3.0/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=29.0km s-min=15.7km az=77.0
NEIC 11 03:59:59.7±2.3, 23°.69N±0°.04×126°.74E±0°.08, h10km±1km, mb4.2/9, Error ellipse: s-maj=12.6km s-min=5.3km az=247.0
JMA 11 04:00:03.0±0.2, 24°.05N×126°.48E, h128km±5km, M3.5

ISC 11 04:00:00.3±2.3, 23°.88N±0°.09×126°.60E±0°.06, h7km±12km, n48, σ1s46/52, mb3.9/15, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.40**	**309**	P	**Pg**	04 00 27.8	+0.7
JOGS				*e*S	**Sn**	04 00 46.8	+1.8
JMJ2	**Miyako jima3**	**1.44**	**307**	P	**Pg**	04 00 28.5	+0.5
JMJ2				*e*S	**Sn**	04 00 47.6	+1.5
JIRB	**Irabujima**	**1.61**	**306**	P	**Pg**	04 00 30.6	-0.6
JIRB				*e*S	**Sg**	04 00 51.4	-0.6
JIKM	**Ikemajima**	**1.61**	**310**	P	**Pg**	04 00 30.6	-0.7
JTJ	**Tarama**	**1.89**	**294**	*e*S	**Sb**	04 00 56.7	-2.3
JISG	**Ishigakijimahi**	**2.21**	**289**	P	**Pn**	04 00 37.9	+0.5
JISG				*e*S	**Sn**	04 01 03.9	-1.0
JIJ	**Ishigaki jima**	**2.30**	**283**	P	**Pn**	04 00 39.0	+0.4
JIJ				S	**Sn**	04 01 05.5	-1.7
JKRS	**Kuro-shima**	**2.40**	**279**	P	**Pn**	04 00 40.5	+0.5
JKRS				S	**Sn**	04 01 08.3	-1.3
JKE	**Kume jima 2**	**2.44**	**4**	P	**Pn**	04 00 41.1	+0.5
JKE				S	**Sn**	04 01 09.9	-0.9
JJT3	**Tamagusuku3**	**2.50**	**25**	*e*S	**Sn**	04 01 11.2	-1.0
IRIF	**Iriomote-Funau**	**2.66**	**280**	P	**Pn**	04 00 44.0	+0.4
IRIF				*e*S	**Sn**	04 01 14.3	-1.9
JAGN	**Aguni-jima**	**2.76**	**12**	P	**Pn**	04 00 45.2	+0.2
JAGN				S	**Sn**	04 01 17.8	-0.8
JNTH	**Nagotoyohara**	**2.93**	**26**	P	**Pn**	04 00 47.2	-0.1
JOW	**Kunigami**	**3.31**	**27**	Pn	**Pn**	04 00 52.7	+0.1
	9.0nm,0.3s,baz=117,slow=27,SNR=6.1						
JOW				Sn	**Sn**	04 01 28.6	-3.6
	18nm,0.3s,baz=124,slow=28,SNR=3.1						
JOW	**Kunigami**	**3.31**	**27**	P	**Pn**	04 00 52.7	+0.1
JOW				*e*S	**Sn**	04 01 29.3	-2.9
JIH	**Iheya**	**3.38**	**21**	*e*S	**Sn**	04 01 31.2	-2.6
JTK	**Tokunoshima**	**4.43**	**28**	P	**Pn**	04 01 07.4	-0.6
NACB	**Ninganchiao**	**4.58**	**275**		**Pn**	04 01 09.1	-1.1
JMZ	**Minamidaito 2**	**4.62**	**64**	Pn	Pn	04 01 08.0	-2.6
YHNB	**Yeheng**	**4.83**	**280**		**Pn**	04 01 13.9	+0.3
YULB	**Yu-li**	**4.89**	**265**	Pn	**Pn**	04 01 12.5	-1.8
JAMN	**Amaminishikomi**	**4.92**	**28**	P	**Pn**	04 01 14.5	-0.3
JAMN				*e*S	**Sn**	04 02 08.0	-4.0
JAM	**Amami Oshima**	**5.26**	**30**	P	**Pn**	04 01 18.4	-1.0
JNU	**Nakatsue**	**9.95**	**21**	Pn	**Pn**	04 02 26.0	+2.2
	1.1nm,0.3s,baz=198,slow=8.2,SNR=9.0						
JNU				Sn	**Sn**	04 04 14.6	-1.1
	0.4nm,0.3s,baz=304,slow=16,SNR=1.8						
JNU	**Nakatsue**	**9.95**	**21**	Pn	**Pn**	04 02 23.9	+0.2
JWT	**Wachi**	**13.69**	**32**	Pn	**Pn**	04 03 14.8	-0.1
CMAR	**Chiang Mai Arr**	**26.32**	**263**	LR	LR	04 16 23.9	
	comp=Z,32nm,18.1s,baz=145,slow=37						
SONM	**Songino Array**	**28.81**	**331**	P	**P**	04 06 01.9	+2.7
	0.4nm,0.3s,baz=160,slow=8.8,SNR=4.6						
PETK	**Petropavlovsk-**	**37.47**	**31**	P	**P**	04 07 15.2	+0.8
	1.1nm,0.7s,baz=219,slow=1.8,SNR=2.0						
MKAR	**Makanchi Array**	**42.05**	**314**	P	**P**	04 07 54.0	+1.3
	1.9nm,0.8s,baz=96,slow=10,SNR=11						
MAKZ	**Makanchi**	**42.26**	**314**	P	**P**	04 07 53.9	-0.5
MAKZ				IAmb	IAmb	04 07 56.4	
	comp=Z,4.7nm,0.9s						
SEY	**Seymchan**	**42.69**	**17**	P	**P**	04 07 59.4	+1.8
	comp=Z,0.5nm,0.3s,baz=218,slow=19,SNR=2.0						
ZAA0	**Zalesovo Array**	**43.27**	**325**	P	**P**	04 08 01.9	-0.5
ZAA0				IAmb	IAmb	04 08 04.2	
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**43.27**	**325**	P	**P**	04 08 01.9	-0.4
	comp=Z,1.6nm,0.5s,baz=114,slow=8.3,SNR=5.7						
WB0	**Warramunga Arr**	**44.04**	**169**	P	P	04 08 05.7	-3.2
WB0				IAmb	IAmb	04 08 26.8	
	comp=Z,9.8nm,1.2s						
WRA	**Warramunga Arr**	**44.20**	**170**	P	P	04 08 06.6	-3.7
	comp=Z,1.6nm,0.6s,baz=349,slow=8.9,SNR=20						
WRA	**Warramunga Arr**	**44.20**	**170**	IAmb	IAmb	04 08 14.7	
	comp=Z,0.6nm,1.4s						
WB2	**Warramunga Arr**	**44.21**	**170**	P	P	04 08 07.1	-3.2
WB2				IAmb	IAmb	04 08 19.3	
	comp=Z,6.8nm,0.9s						
KURK	**Kurchatov**	**45.55**	**319**	P	**P**	04 08 21.9	+1.2
KURBB	**Kurchatov Arra**	**45.58**	**318**	P	**P**	04 08 21.9	+1.0
	comp=Z,2.6nm,0.8s,baz=107,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**47.79**	**171**	P	P	04 08 36.4	-2.1
	comp=Z,0.4nm,0.6s,baz=355,slow=13,SNR=5.0						
KKAR	**Karatay Array**	**49.60**	**307**	P	**P**	04 08 53.0	+0.6
STKA	**Stephens Creek**	**57.27**	**165**	P	P	04 09 43.8	-4.8
	comp=Z,1.4nm,0.3s,baz=27,slow=2.3,SNR=3.2						
SUCK	**Suckling Hills**	**69.43**	**32**	P	**P**	04 11 07.5	-1.4
TABL	**Table Mountain**	**70.63**	**32**	P	**P**	04 11 15.7	-0.9
AKASG	**Malin Array Be**	**76.35**	**320**	P	**P**	04 11 51.0	+0.9
	comp=Z,0.1nm,0.3s,baz=95,slow=4.6,SNR=4.1						
AKASG	**Malin Array Be**	**76.35**	**320**	IAmb	IAmb	04 12 06.4	
	comp=Z,2.4nm,1.4s						
NVAR	**Mina Array Bea**	**93.20**	**45**	P	**P**	04 13 15.4	-0.6
	comp=Z,0.3nm,0.7s,baz=260,slow=5.4,SNR=2.4						

TUL 11 04:22:35.6±1.4, 36°.04N±0°.02×97°.25W±0°.03, h6km±7km, ML2.6, mb_Lg2.6/36(NEIC), Error ellipse: s-maj=3.6km s-min=2.4km az=98.0

NEIC 11 04:22:35.4±1.0, 36°.07N±0°.02×97°.26W±0°.06, h4km±7km, Error ellipse: s-maj=6.6km s-min=2.5km az=85.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.31**	**210**		Pg	04 22 41.8	+0.4
OK031	**S. Brethren Rd**	**0.36**	**109**	Pg	Pg	04 22 42.4	0.0
QUOK	**Quay**	**0.46**	**77**	Pg	Pg	04 22 44.3	+0.1
OK025	**Westminster Rd**	**0.49**	**187**		Pg	04 22 45.1	+0.3
BCOK	**Bluff Creek, N**	**0.50**	**214**	Pg	Pg	04 22 44.7	-0.2
OKCFA	**Oklahoma City**	**0.67**	**193**		Pg	04 22 48.2	0.0
OKCFA				IAmb_Lg		04 22 56.9	
	comp=Z,62nm,0.8s						
OKCSW	**OKLAHOMA CITY**	**0.68**	**192**		Pg	04 22 48.4	0.0
BLOK	**Blackwell**	**0.69**	**3**	Pg	Pg	04 22 48.7	+0.1
CROK	**Carrier**	**0.73**	**307**		Pg	04 22 49.3	+0.1
FNO	**Franklin**	**0.82**	**188**		Pg	04 22 50.9	-0.2
GC02	**Grant County #**	**0.92**	**329**	Pg	Pg	04 22 53.3	+0.4
KAN13	**South Haven SW**	**0.96**	**350**	Pg	Pg	04 22 53.9	+0.1
T35A	**Sooner Cattle**	**1.04**	**35**	Pg	Pg	04 22 54.7	-0.6
KAN17	**Caldwell West**	**1.05**	**338**	Pg	Pg	04 22 55.2	-0.4
OK032	**Salt Plains WL**	**1.06**	**314**	Pg	Pg	04 22 55.5	-0.2
KAN09	**Caldwell North**	**1.10**	**345**	Pg	Pg	04 22 56.1	-0.4
KAN05	**Bluff City Nor**	**1.15**	**335**	Pg	Pg	04 22 57.2	-0.1
KS20	**Mayfield South**	**1.18**	**349**	Pg	Pg	04 22 57.6	-0.4
KAN10	**Anthony SW Sta**	**1.25**	**328**	Pn	Pg	04 22 58.7	-0.6
KAN08	**Anthony NE Sta**	**1.29**	**334**	Pn	Pg	04 22 59.8	-0.2
U32A	**Winter Ranch,**	**1.44**	**283**		Pn	04 23 02.4	+0.2
X34A	**Smith Ranch, M**	**1.54**	**198**		Pn	04 23 03.5	0.0
WMOK	**Wichita Mounta**	**1.82**	**223**	Pn	Pn	04 23 07.3	-0.1
LOOK	**Love County**	**2.07**	**178**	Pn	Pn	04 23 10.6	-0.3
X37A	**Clayton**	**2.14**	**133**	Pn	Pn	04 23 11.2	-0.5
X37A				IAmb_Lg		04 23 48.3	
	comp=Z,26nm,0.7s						
U38A	**Gravette**	**2.35**	**80**	Pn	Pn	04 23 15.1	+0.3
R32A	**Long Quarter,**	**2.62**	**334**	Pn	Pn	04 23 18.6	+0.2
HHAR	**Hobbs**	**2.70**	**85**	Pn	Pn	04 23 20.0	+0.5
Z35A	**Perchaven, San**	**2.73**	**180**	Pn	Pn	04 23 20.7	+0.8
W39A	**Magazine**	**2.97**	**106**	Pn	Pn	04 23 23.8	+0.7
CBKS	**Cedar Bluff**	**3.37**	**325**	IAmb_Lg		04 24 32.0	
	comp=Z,11nm,0.7s						
Z38A	**Mt. Pleasant**	**3.37**	**146**	IAmb_Lg		04 24 26.7	
	comp=Z,20nm,0.9s						
MIAR	**Mount Ida**	**3.38**	**116**	Pn	Pn	04 23 28.1	-0.7
MIAR				IAmb_Lg		04 24 27.5	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.55**	**62**	Pn	Pn	04 23 31.4	+0.2
U40A	**Yellville**	**3.58**	**84**	Pn	Pn	04 23 30.8	-0.8
AMTX	**Amarillo**	**3.79**	**253**	Pn	Pn	04 23 35.5	+0.8
X40A	**Basin Creek Fa**	**3.95**	**112**	Pn	Pn	04 23 36.5	-0.2
X40A				IAmb_Lg		04 24 43.9	
	comp=Z,9.2nm,1.0s						
WHAR	**Wooly Hollow**	**4.12**	**99**	Pn	Pn	04 23 38.5	-0.6
MGMO	**Mountain Grove**	**4.16**	**73**	IAmb_Lg		04 24 46.1	
	comp=Z,14nm,0.9s						
R40A	**Maddies Statio**	**4.56**	**59**	Pn	Pn	04 23 44.8	-0.3
R40A				IAmb_Lg		04 25 01.3	
	comp=Z,15nm,0.7s						
P38A	**Dawn**	**4.62**	**39**		Pn	04 23 45.7	-0.2
N35A	**Tabor**	**4.95**	**14**	IAmb_Lg		04 25 19.3	
	comp=Z,18nm,0.7s						
CCM	**Cathedral Cave**	**5.21**	**66**	Pn	Pn	04 23 54.6	+0.7
CCM				IAmb_Lg		04 25 18.0	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**5.38**	**49**	Pn	Pn	04 23 55.9	-0.5
P40A				IAmb_Lg		04 25 34.6	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**5.56**	**81**	IAmb_Lg		04 25 36.4	
	comp=Z,14nm,0.7s						
T25A	**Trinidad**	**5.85**	**283**	Pn	Pn	04 24 03.6	+0.6
L34A	**Svendsen Farm,**	**5.93**	**6**	IAmb_Lg		04 25 51.3	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**6.63**	**27**	IAmb_Lg		04 26 07.3	
	comp=Z,8.1nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.14**	**64**	IAmb_Lg		04 26 30.8	
	comp=Z,13nm,0.8s						
JFWS	**Jewell Farm**	**8.72**	**36**	IAmb_Lg		04 27 37.9	
	comp=Z,6.1nm,0.8s						
K43A	**Burlington**	**9.57**	**43**	IAmb_Lg		04 27 46.8	
	comp=Z,5.2nm,0.8s						

IDC 11 05:08:33.1±1.4, 2°.93S×129°.76E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/44, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=39.1km s-min=22.4km az=93.0
DJA 11 05:08:38.3±1.8, 3°.5±5°.5×13°.0E±°, h35km±36km, M3.5/8, MLv3.5/8

ISC 11 05:08:37.1±0.9, 2°.97S±0°.06×129°.82E±0°.06, h25km, n11, σ0s80/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.97**	**247**	P	**Pb**	05 08 55.6	+0.3
MSAI				S	**Sn**	05 09 09.1	+1.0
BNDI	**Bandanaira**	**1.54**	**177**	P	**Pn**	05 09 02.8	-0.3
FAKI	**Fak Fak**	**2.42**	**89**	P	**Pn**	05 09 16.6	+1.4
SIJI	**Sorong**	**2.54**	**35**	Pn	**Pn**	05 09 16.4	-0.4
	19nm,0.3s,baz=31,slow=23,SNR=62						
SIJI				Sn	**Sn**	05 09 47.1	+0.2
	14nm,0.3s,baz=9.7,slow=22,SNR=8.4						
SWI	**Sorong**	**2.54**	**34**	P	**Pn**	05 09 17.4	+0.6
SWI				S	**Sn**	05 09 46.9	0.0
NLAI	**Namlea**	**2.73**	**264**	P	**Pn**	05 09 20.0	+0.6
SANI	**Sanana**	**3.94**	**283**	P	**Pn**	05 09 36.3	+0.2
WRA	**Warramunga Arr**	**17.43**	**166**	P	**Pn**	05 12 37.5	-1.3
	0.3nm,0.3s,baz=351,slow=12,SNR=19						
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	05 13 18.9	+0.6
	2.8nm,0.6s,baz=352,slow=11,SNR=52						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	05 19 12.9	-0.9
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.1						
KURBB	**Kurchatov Arra**	**69.02**	**328**	P	**P**	05 19 40.2	-0.3
	0.4nm,0.6s,baz=127,slow=5.4,SNR=4.2						

IDC 11 05:09:34.4±2.5, 7°.35S×126°.05E, h284km±28km, mb3.3/6, mb1 3.6/9, mb1mx3.2/43, mbtmp4.1/9, Error ellipse: s-maj=38.6km s-min=13.7km az=52.0

ISC 11 05:09:35.5±0.8, 7°.47S±0°.09×126°.1E±0°.1, h300km, n9, σ1s74/11, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.60**	**221**	P	**Pn**	05 10 38.2	+0.7
	24nm,0.3s,baz=60,slow=3.7,SNR=7.0						
BATI				S	**S**	05 11 25.4	-1.7
	26nm,0.3s,baz=104,slow=3.5,SNR=6.5						
WRA	**Warramunga Arr**	**14.77**	**148**	P	**P**	05 12 50.0	-0.1
	1.3nm,0.3s,baz=328,slow=14,SNR=10						
WRA				S	**S**	05 15 28.2	-3.5
	0.3nm,0.3s,baz=332,slow=21,SNR=5.1						
ASAR	**Alice Springs**	**17.78**	**156**	P	**P**	05 13 24.7	+1.8
	4.9nm,0.3s,baz=334,slow=11,SNR=52						
CTA	**Charters Tower**	**23.24**	**125**	P	**P**	05 14 17.7	+0.7
	0.9nm,0.5s,baz=300,slow=8.7,SNR=5.6						
STKA	**Stephens Creek**	**28.27**	**151**	P	**P**	05 15 03.0	+1.3
	1.3nm,0.3s,baz=332,slow=6.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**37.14**	**314**	P	**P**	05 16 18.5	0.0
	1.7nm,0.7s,baz=141,slow=6.7,SNR=7.3						
KSRS	**Korea Array**	**44.73**	**2**	P	**P**	05 17 18.4	-1.2
	0.7nm,0.4s,baz=179,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**66.54**	**329**	P	**P**	05 19 53.2	-0.5
	0.6nm,0.6s,baz=128,slow=8.0,SNR=6.0						
VNDA	**Vanda**	**72.48**	**172**	P	**P**	05 20 30.6	+1.3
	0.4nm,0.7s,baz=280,slow=15,SNR=1.6						

IDC 11 05:19:35.0±4.3, 36°.19N×70°.74E, h158km±40km, mb3.5/10, mb1 3.6/14, mb1mx3.3/47, mbtmp4.0/14, Error ellipse: s-maj=27.2km s-min=18.2km az=32.0
SOME 11 05:19:36.5, 37°.68N×72°.05E, h0km
NEIC 11 05:19:39.9±2.0, 36°.43N±0°.07×70°.69E±0°.05, h197km±7km, mb4.1/10, Error ellipse: s-maj=10.7km s-min=4.2km az=158.0

ISC 11 05:19:39.4±0.6, 36°.44N±0°.05×70°.85E±0°.08, h200km, n55, σ1s93/62, mb3.7/11, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.40**	**218**	Pn	**Pn**	05 20 22.6	+0.1
CEP	**Cherat**	**2.75**	**161**	P	**Pn**	05 20 28.0	+1.7
DRK	**Karamyk**	**3.13**	**14**		**Pn**	05 20 31.6	+0.8
CHCP	**Chirah Chowk**	**3.41**	**144**	P	**Pn**	05 20 36.1	+2.1
NIL	**Nilore**	**3.41**	**144**	Pn	**Pn**	05 20 36.3	+2.3
BTK	**Batken**	**3.62**	**360**	Pn	**Pn**	05 20 37.5	+1.0
THW	**Thamme Wali**	**3.71**	**168**	P	**Pn**	05 20 39.0	+1.3
SARP	**Sargodha**	**4.75**	**161**	P	**Pn**	05 20 51.6	+0.9
AML	**Almayashu**	**6.10**	**20**	P	**Pn**	05 21 08.8	+0.6
	SNR=69						
DZA	**Taraz**	**6.46**	**3**	*e*P	**Pn**	05 21 13.1	+0.6
	110nm,0.2s						
DZA				*e*S	**Sn**	05 22 22.7	-3.7
	578nm,0.4s						
MRKS	**Merke**	**6.56**	**16**	*e*P	**Pn**	05 21 14.3	+0.3
	30nm,0.3s						
MRKS				*e*S	**Sn**	05 22 25.1	-3.8
	153nm,0.8s						
EKS2	**Erkin-

BRVK	**Borovoye**	**16.62**	**359**	Pn	**Pn**	**05 23 21.7 +0.7**
BRVK				IAmb	IAmb	05 23 25.3
	comp=Z,6.7nm,0.7s					
AKTO	**Aktyubinsk**	**16.77**	**331**	P	**Pn**	**05 23 22.8 0.0**
	comp=Z,3.2nm,0.3s,baz=136,slow=10,SNR=52					
AKTO				S	**S**	**05 26 21.2 -5.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=23,SNR=2.3					
ZAA0	**Zalesovo Array**	**20.02**	**25**	P	**P**	**05 23 58.1 +1.4**
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**05 23 57.6 +0.9**
	comp=Z,5.9nm,0.5s,baz=222,slow=11,SNR=22					
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**05 23 58.1 +1.3**
ARU	**Arti**	**21.65**	**341**	P	**P**	**05 24 15.0 +1.2**
	comp=Z,1.3nm,0.5s,baz=187,slow=9.4,SNR=7.2					
ARU	**Arti**	**21.65**	**341**	P	**P**	**05 24 15.1 +1.2**
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**05 26 34.3 +1.1**
	comp=Z,1.4nm,0.6s,baz=115,slow=9.4,SNR=9.7					
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	**05 27 05.1 +1.4**
	comp=Z,1.2nm,0.7s,baz=107,slow=7.8,SNR=5.9					
ARCES	**ARCESS Array B**	**41.16**	**338**	IAmb	IAmb	05 27 16.7
	comp=Z,6.4nm,1.2s					
NC303	**NORSAR Array S**	**44.30**	**323**	P	**P**	**05 27 30.3 +1.3**
NC303				IAmb	IAmb	05 27 48.8
	comp=Z,10nm,1.2s					
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**05 27 30.3 +0.7**
	comp=Z,0.2nm,0.3s,baz=95,slow=7.9					
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**05 27 30.3 +0.7**
	comp=Z,0.1nm,0.3s,baz=101,slow=8.1,SNR=1.8					
TIXI	**Tiksi**	**45.88**	**22**	P	**P**	**05 27 42.9 +1.7**
TIXI				IAmb	IAmb	05 27 44.5
	comp=Z,6.1nm,1.2s					
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P	**P**	**05 30 01.2 -0.9**
	comp=Z,0.5nm,0.5s,baz=51,slow=5.4,SNR=9.8					
INK	**Inuvik**	**73.98**	**9**	P	**P**	**05 30 53.8 +1.4**
	comp=Z,0.4nm,0.5s,baz=131,slow=7.8,SNR=3.1					
BOSA	**Boshof**	**77.62**	**220**	P	**P**	**05 31 12.6 -1.1**
	comp=Z,4.3nm,1.0s,baz=99,slow=5.0,SNR=3.7					
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**05 31 37.7 +0.2**
	comp=Z,0.8nm,0.5s,baz=324,slow=4.9,SNR=5.9					
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**05 31 49.3 +0.2**
	comp=Z,0.6nm,0.6s,baz=308,slow=5.0,SNR=11					

*DNK **11** 05:47:54.5±1.9, 51°.28N×16°.25E, h42km±29km, ML2.1*
*IPEC **11** 05:47:55.1±0.3, 51°.57N×16°.18E, h0km, ML2.2/4, Error ellipse: s-maj=3.2km s-min=1.7km az=83.0*
*VIE **11** 05:47:56.9±1.1, 51°.44N×16°.21E, h0km, mb2.3/6, ml2.8/6, Error ellipse: s-maj=13.7km s-min=5.1km az=60.0 68 km NW of Wroclaw Suspected Mining induced.*
*PRU **11** 05:47:56.7±0.0, 51°.48N×16°.13E, h0km*
*IDC **11** 05:47:57.0±1.1, 51°.31N×16°.37E, h0km, mb1 3.3/4, mb1mx3.2/27, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=26.5km s-min=10.0km az=130.0*
ISC 11 05:47:54.5±0.7, 51°.58N±0°.03×16°.17E±0°.03, h0km, n43, σ1§14/86, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**174**	*e*Pg	**Pg**	**05 48 09.0**	**+0.2**
KSP				*e*Sg	**Sg**	**05 48 17.8**	**-0.7**
CHVC	**Chvalec**	**1.00**	**184**	*e*PG	**Pb**	**05 48 14.9**	**+0.2**
CHVC				*e*SG	**Sg**	**05 48 26.4**	**-0.2**
OSTC	**Ostas**	**1.03**	**178**	*e*PG	**Pg**	**05 48 14.4**	**+0.2**
OSTC				*e*SG	**Sg**	**05 48 26.5**	**-1.0**
	comp=Z,28nm,0.2s						
UPC	**Upice**	**1.08**	**185**	*e*PG	**Pg**	**05 48 15.1**	**-0.1**
UPC				*e*SG	**Sg**	**05 48 28.0**	**-1.2**
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG	**Pg**	**05 48 17.8**	**-0.4**
DPC				*e*SG	**Sg**	**05 48 32.5**	**-1.8**
	comp=Z,29nm,0.3s						
PVCC	**Panska Ves**	**1.46**	**224**	*e*PG	**Pn**	**05 48 22.2**	**+0.1**
PVCC				*e*SG	**Sg**	**05 48 41.1**	**-0.3**
	comp=Z,131nm,0.2s						
KRLC	**Kraliky**	**1.56**	**165**	*e*PG	**Pn**	**05 48 23.2**	**-0.3**
KRLC				*e*SG	**Sn**	**05 48 42.5**	**-2.0**
	comp=Z,40nm,0.3s						
BRG	**Berggiesshubel**	**1.57**	**244**	Pg	**Pg**	**05 48 24.9**	**+0.4**
BRG				Sg	**Sg**	**05 48 45.2**	**+0.4**
BRG				Amp		05 48 46.8	
	comp=Z,32nm,0.4s						
PRU	**Pruhonice**	**1.90**	**213**	*e*PG	**Pb**	**05 48 29.7**	**-0.3**
PRU				*e*SG	**Sn**	**05 48 53.6**	**+0.8**
	comp=Z,39nm,0.4s						
CLL	**Collm**	**2.00**	**263**	*e*Pn	**Pn**	**05 48 29.0**	**-0.5**
CLL				*e*Pg	**Pb**	**05 48 32.0**	**+0.3**
CLL				*e*		05 48 36.0	
CLL				*e*Sg	**Sb**	**05 48 57.0**	**-0.1**
	comp=Z,23nm,0.6s						
MORC	**Moravsky Berou**	**2.01**	**154**	*e*Pn	**Pn**	**05 48 30.1**	**+0.4**
	baz=335						
MORC				*e*Sg	**Sb**	**05 48 57.5**	**0.0**
	comp=Z,14nm,0.2s,baz=335						
MORC	**Moravsky Berou**	**2.01**	**154**	*e*PN	**Pn**	**05 48 30.2**	**+0.5**
MORC				*e*SG	**Sb**	**05 48 57.6**	**0.0**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PG	**Pg**	**05 48 35.8**	**0.0**
OKC				*e*SG	**Sb**	**05 49 01.7**	**+0.1**
VRAC	**Vranov**	**2.29**	**173**	*e*Pn	**Pn**	**05 48 34.0**	**+0.5**
	baz=354						
VRAC				*e*Sg	**Sb**	**05 49 06.3**	**+0.6**
	comp=Z,11nm,0.2s,baz=354						
VRAC	**Vranov**	**2.29**	**173**	*e*PN	**Pn**	**05 48 34.1**	**+0.5**
VRAC				*e*SG	**Sb**	**05 49 06.3**	**+0.6**
TREC	**Trest**	**2.33**	**191**	*e*PG	**Pb**	**05 48 37.3**	**-0.1**
TREC				*e*SG	**Sb**	**05 49 07.2**	**+0.4**
	comp=Z,29nm,0.2s						
PBCC	**Pribram**	**2.35**	**217**	*e*PG	**Pb**	**05 48 37.8**	**+0.1**
PBCC				*e*SG	**Sb**	**05 49 07.3**	**+0.1**
KRUC	**Moravsky**	**2.53**	**177**	*e*Pn	**Pn**	**05 48 37.3**	**+0.5**
	baz=357						
KRUC				*e*Sg	**Sb**	**05 49 13.8**	**+1.4**
	comp=Z,13nm,0.3s,baz=357						
KRUC	**Moravsky**	**2.53**	**177**	*e*PN	**Pn**	**05 48 37.4**	**+0.6**
KRUC				*e*SG	**Sb**	**05 49 13.9**	**+1.5**
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**05 48 46.2**	**+0.4**
OJC				*e*Sg	**Sg**	**05 49 21.1**	**+0.7**
NKC	**Novy Kostel**	**2.71**	**242**	*e*PN	**Pn**	**05 48 39.9**	**+0.5**
NKC				*e*PG	**Pg**	**05 48 46.7**	**+0.2**
NKC				*e*SG	**Sg**	**05 49 21.8**	**+0.2**
	comp=Z,45nm,0.6s						
JAVC	**Velka Javorina**	**2.90**	**160**	*e*Pn	**Pn**	**05 48 42.2**	**+0.4**
	baz=341						
JAVC				*e*Sg	**Sg**	**05 49 25.3**	**-2.1**
	comp=Z,6.4nm,0.3s,baz=341						
JAVC	**Velka Javorina**	**2.90**	**160**	*e*PN	**Pn**	**05 48 42.3**	**+0.4**
JAVC				*e*SG	**Sg**	**05 49 25.4**	**-2.0**
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**05 48 42.7**	**-0.1**
KHC				*e*PG	**Pb**	**05 48 48.7**	**+0.6**
KHC				*e*SN	**Sn**	**05 49 18.0**	**-1.0**
KHC				*e*SG	**Sg**	**05 49 27.8**	**-1.8**
	comp=Z,12nm,0.3s						
CKRC	**Cesky Krumlov**	**3.01**	**204**	*e*PN	**Pn**	**05 48 44.9**	**+1.4**
CKRC				*e*PG	**Pb**	**05 48 50.5**	**+1.5**
CKRC				*e*SG	**Sg**	**05 49 29.6**	**-1.6**
GERES	**GERESS Array B**	**3.17**	**211**	Pn	**Pn**	**05 48 45.9**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=36,slow=12,SNR=27						
GERES				Pg	**Pb**	**05 48 52.0**	**+0.3**
	comp=Z,2.1nm,0.3s,baz=32,slow=18,SNR=20						
GERES				Lg	Lg	05 49 32.4	
	comp=Z,2.9nm,0.3s,baz=34,slow=26,SNR=6.3						
SMOL	**Smolenice**	**3.18**	**165**	*e*SG	**Sg**	**05 49 38.9**	**+2.3**
LANS	**Liptovska Anna**	**3.23**	**138**	*e*PN	**Pn**	**05 48 47.2**	**+0.8**
LANS				*e*PG	**Pg**	**05 48 56.5**	**+0.2**
LANS				*e*SG	**Sg**	**05 49 37.1**	**-1.0**
MODS	**Modra-Piesok**	**3.29**	**167**	*e*SG	**Sg**	**05 49 39.7**	**-0.5**
VYHS	**Vyhne**	**3.54**	**150**	*e*PN	**Pn**	**05 48 50.7**	**0.0**
VYHS				*e*PG	**Pg**	**05 49 03.3**	**+1.0**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* S	**Sn**	**05 49 34.8**	**-0.2**
BSD				IAML		05 49 42.0	
	comp=Z,1.9nm,0.3s						
CONA	**Conrad Observa**	**3.67**	**183**	*i* Pn	**Pn**	**05 48 53.5**	**+1.0**
	comp=Z,1.1nm,0.2s						
CONA				Sg	**Sg**	**05 49 50.3**	**-1.8**
	comp=Z,6.0nm,0.2s						
MOA	**Molln**	**3.94**	**199**	*i* Pn	**Pn**	**05 48 56.6**	**+0.4**
	comp=Z,1.1nm,0.2s						
ARSA	**Arzberg**	**4.36**	**186**	*i* Pn	**Pn**	**05 49 02.7**	**+0.7**
	comp=Z,1.4nm,0.3s						
ARSA				*e*Sg	**Sg**	**05 50 11.0**	**-3.4**
	comp=Z,2.3nm,0.4s						
LUNU	**Lund**	**4.37**	**339**	*i* P	**Pn**	**05 49 02.7**	**+0.7**
LUNU				*i* S	**Sn**	**05 49 54.0**	**+0.4**
BLEU	**Blekinge**	**4.73**	**358**	*i* P	**Pn**	**05 49 08.4**	**+1.4**
BLEU				*e*S	**Sn**	**05 50 01.1**	**-1.5**
BJUU	**Bjuv**	**4.87**	**339**	*i* P	**Pn**	**05 49 08.8**	**-0.1**
BJUU				*i* S	**Sn**	**05 50 02.9**	**-3.0**
KBA	**Koelnbreinsper**	**4.87**	**203**	*i* Pn	**Pn**	**05 49 09.8**	**+0.7**
	comp=Z,0.9nm,0.2s						
KBA				*e*Sg	**Sg**	**05 50 28.7**	**-2.3**
	comp=Z,0.9nm,0.2s						
DEL	**Delary**	**5.08**	**345**	*e*	**Pn**	**05 49 09.8**	**-2.0**
	baz=157,slow=12						
DEL				*i* P	**Pn**	**05 49 12.4**	**+0.6**
DEL				*i* S	**Sn**	**05 50 09.1**	**-2.0**
DEL				IAML		05 50 12.2	
	comp=Z,1.0nm,0.4s						
WTTA	**Wattenberg**	**5.24**	**216**	*i* Pn	**Pn**	**05 49 15.3**	**+1.2**
	comp=Z,1.0nm,0.2s						
WTTA				*e*Sg	**Sg**	**05 50 42.4**	**-0.3**
	comp=Z,3.3nm,0.4s						
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	**05 49 52.6**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=282,slow=12,SNR=1.1						
FINES	**FINESS Array B**	**11.28**	**25**	Pn	**Pn**	**05 50 36.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=213,slow=9.9,SNR=0.9						
ARCES	**ARCESS Array B**	**18.54**	**10**	Pn	**Pn**	**05 52 14.4**	**+2.0**
	baz=212,slow=14,SNR=2.3						

*TUL **11** 05:52:24.8±0.9, 36°.84N±0°.01×97°.68W±0°.01, h5km±6km, ML2.7, mb_Lg2.2/12(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=136.0*
NEIC 11 05:52:25±0.5, 36°.82N±0°.01×97°.67W±0°.01, h6km±6km, Error ellipse: s-maj=1.8km s-min=1.5km az=139.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.15**	**281**	Pg	Pg	05 52 28.1	0.0
GC02				Sg	Sg	05 52 30.6	+0.4
KAN17	**Caldwell West**	**0.23**	**341**	Pg	Pg	05 52 29.6	0.0
KAN17				Sg	Sg	05 52 33.0	+0.3
KAN13	**South Haven SW**	**0.24**	**39**	Pg	Pg	05 52 30.0	+0.2
KAN13				Sg	Sg	05 52 33.5	+0.4
KAN09	**Caldwell North**	**0.32**	**8**	Pg	Pg	05 52 31.2	0.0
KAN09				Sg	Sg	05 52 35.6	+0.2
KAN05	**Bluff City Nor**	**0.33**	**331**	Pg	Pg	05 52 31.3	-0.1
KAN05				Sg	Sg	05 52 35.8	+0.1
BLOK	**Blackwell**	**0.37**	**100**	Pg	Pg	05 52 32.4	+0.1
CROK	**Carrier**	**0.41**	**218**	Pg	Pg	05 52 32.9	+0.1
CROK				Sg	Sg	05 52 38.8	+0.6
KS20	**Mayfield South**	**0.42**	**13**	Pg	Pg	05 52 33.1	0.0
KS20				Sg	Sg	05 52 38.8	+0.3
OK032	**Salt Plains WL**	**0.43**	**268**	Pg	Pg	05 52 33.3	-0.1
KAN10	**Anthony SW Sta**	**0.45**	**312**	Pg	Pg	05 52 33.7	-0.1
KAN10				Sg	Sg	05 52 39.8	+0.2
KAN12	**Harper NE Stat**	**0.54**	**331**	Pg	Pg	05 52 35.2	-0.2
T35A	**Sooner Cattle**	**0.94**	**84**		Pg	05 52 42.5	-0.4
QUOK	**Quay**	**1.01**	**130**	Pg	Pg	05 52 44.6	+0.2
QUOK				Sg	Sg	05 52 57.6	+0.1
OK029	**Liberty Lake**	**1.04**	**170**	Pg	Pg	05 52 44.8	-0.1
OK031	**S. Brethren Rd**	**1.10**	**142**	Pg	Pg	05 52 45.6	-0.4
U32A	**Winter Ranch,**	**1.16**	**248**	Pg	Pg	05 52 46.7	-0.5
BCOK	**Bluff Creek, N**	**1.17**	**177**	Pg	Pg	05 52 47.2	-0.1
OK025	**Westminster Rd**	**1.27**	**168**		Pg	05 52 49.1	-0.2
OKCSW	**OKLAHOMA CITY**	**1.43**	**172**	Pn	Pn	05 52 51.6	0.0
FNO	**Franklin**	**1.58**	**172**		Pn	05 52 53.9	+0.3
X37A	**Clayton**	**2.91**	**139**	IAmb_Lg		05 54 00.0	
	comp=Z,7.5nm,0.8s						
HHAR	**Hobbs**	**3.05**	**99**	IAmb_Lg		05 54 08.1	
	comp=Z,7.6nm,0.9s						
W39A	**Magazine**	**3.55**	**116**	IAmb_Lg		05 54 26.9	
	comp=Z,6.1nm,0.8s						
U40A	**Yellville**	**3.91**	**95**	IAmb_Lg		05 54 38.4	
	comp=Z,4.8nm,0.7s						
P38A	**Dawn**	**4.29**	**48**	IAmb_Lg		05 54 51.6	
	comp=Z,5.6nm,1.1s						
MGMO	**Mountain Grove**	**4.34**	**84**	IAmb_Lg		05 54 40.3	
	comp=Z,7.0nm,0.9s						

IDC 11 06:15:01.4±2.8, 29°.97S×138°.79E, h0km, mb1 3.0/3, mb1mx3.0/36, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=85.6km s-min=15.0km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.07**	**129**	Pn	Pn	06 15 51.0	-0.2
	0.2nm,0.3s,baz=300,slow=14,SNR=2.9						
STKA				Pg	Pb	06 15 58.6	+1.7
	0.6nm,0.3s,baz=309,slow=13,SNR=4.5						
STKA				Sn	Sn	06 16 28.4	-0.3
	0.8nm,0.3s,baz=317,slow=10.0,SNR=5.3						
STKA				Lg	Lg	06 16 38.5	
	1.9nm,0.3s,baz=218,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**7.64**	**324**	Pn	Pn	06 16 53.0	-1.2
	0.1nm,0.3s,baz=152,slow=12,SNR=4.2						
ASAR				Sn	Sn	06 18 22.4	+0.9
	0.1nm,0.3s,baz=148,slow=23,SNR=5.6						
WRA	**Warramunga Arr**	**10.77**	**337**	Pn	Pn	06 17 38.2	+1.2
	0.1nm,0.3s,baz=157,slow=13,SNR=4.6						
WRA				Sn	Sn	06 19 39.2	+0.9
	0.1nm,0.3s,baz=156,slow=23,SNR=1.5						

IDC 11 06:16:12.6±3.2, 53°.48N×90°.53E, h0km, mb1 3.3/3, mb1mx3.1/53, mbtmp3.3/3, ML3.2/2, 3C-2D, Error ellipse: s-maj=27.5km s-min=22.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**280**	*i*		06 37 20.0	
	baz=89,slow=312,SNR=6.5						
ZAA0	**Zalesovo Array**	**3.42**	**280**	⇑Pg	Pn	06 17 10.2	+3.0
	2.3nm,0.8s						
ZAA0				⇑Lg	Lg	06 18 02.0	
	7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**3.42**	**280**	Pn	Pn	06 17 06.5	-0.6
	0.2nm,0.3s,baz=98,slow=15,SNR=4.6						
ZALV				Lg	Lg	06 18 00.4	
	2.1nm,0.3s,baz=99,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**7.93**	**254**	Pn	Pn	06 18 08.7	-0.3
	0.2nm,0.3s,baz=65,slow=15,SNR=12						
KURBB				Sn	Sn	06 19 39.6	+0.2
	0.1nm,0.3s,baz=67,slow=24,SNR=4.2						
KURBB				Lg	Lg	06 20 25.2	
	0.0nm,0.3s,baz=66,slow=34,SNR=3.3						
KURBB	**Kurchatov Arra**	**7.93**	**254**	⇑Pn	Pn	06 18 08.2	-0.8
	4.5nm,0.6s,baz=65,slow=14						
KURBB				⇓Sn	Sn	06 19 39.8	+0.5
	13nm,0.7s,baz=66,slow=26						
KURBB				⇓Lg	Lg	06 20 26.1	
	29nm,0.8s,baz=58,slow=30						
MKAR	**Makanchi Array**	**8.53**	**222**	Pn	Pn	06 18 18.5	+1.2
	0.3nm,0.3s,baz=41,slow=14,SNR=12						
MKAR				Sn	Sn	06 19 51.7	-2.4
	0.0nm,0.3s,baz=30,slow=27,SNR=1.7						
MKAR				Lg	Lg	06 20 39.5	
	0.1nm,0.3s,baz=35,slow=33,SNR=1.7						

*MOS **11** 06:18:33.0±0.9, 42°.47N×142°.44E, h122km, mb4.4/18, Error ellipse: s-maj=7.8km s-min=5.4km az=84.9*
*IDC **11** 06:18:33.7±1.3, 42°.58N×142°.39E, h110km±8km, mb3.8/25, mb1 3.9/31, mb1mx3.9/56, mbtmp4.2/31, Error ellipse: s-maj=14.4km s-min=10.4km az=149.0*
*NEIC **11** 06:18:33.6±1.5, 42°.43N±0°.06×142°.5E±0°.1, h110km±5km, mb4.5/19, Error ellipse: s-maj=11.8km s-min=8.3km az=116.0*
*SKHL **11** 06:18:33.9±0.4, 42°.50N×142°.50E, h116km±6km, mb5.6/12, mbv5.2/2, msha6.0/8*
*NIED **11** 06:18:33.3, 42°.55N×142°.44E, h119km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}0.14; $M_{\theta\theta}$2.26; $M_{\phi\phi}$-2.40; $M_{r\theta}$0.81; $M_{\theta\phi}$0.32; $M_{\phi r}$-0.63; Fault plane solution: $M_0$2.57000×10^15 NP1: ϕ_s132.00000°, δ88.00000°, λ24.00000°. NP2: ϕ_s41.00000°, δ66.00000°, λ177.00000°.*
*JMA **11** 06:18:33.3±0.1, 42°.55N×142°.44E, h119km±2km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s43.00000°, δ69.00000°, λ170.00000°. NP2: ϕ_s136.00000°, δ80.00000°, λ22.00000°. Principal axes: T Plg22.0000°, Azm1.0000°; N Plg66.0000°, Azm159.0000°; P Plg8.0000°, Azm268.0000°;*
JMA Felt II J1.
ISC 11 06:18:34.0±0.5, 42°.51N±0°.04×142°.42E±0°.03, h116km±4km, n195, σ1§09/237, mb4.3/50, 17C-17D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.10**	**161**	⇑P	**Pn**	**06 18 49.8**	**-0.1**
JSHD				*e*S	**Sn**	**06 19 01.9**	**+0.1**
JBT2	**Biratori 2**	**0.28**	**351**	P	**Pn**	**06 18 49.7**	**-0.7**
JBT2				*e*S	**Sn**	**06 19 01.8**	**-0.9**
JNBK	**Urakawa-nobuka**	**0.33**	**133**	⇑P	**Pn**	**06 18 50.7**	**+0.1**
JNBK				*e*S	**Sn**	**06 19 03.6**	**+0.6**
JIAM	**Iburiatsuma**	**0.39**	**288**	⇑P	**Pn**	**06 18 51.1**	**+0.3**
JIAM				S	**Sn**	**06 19 04.4**	**+0.9**
JFR	**Furan**	**0.67**	**11**	⇓P	**Pn**	**06 18 51.8**	**-0.9**
JFR				*e*S	**Sn**	**06 19 05.2**	**-1.6**
JCH	**Churui**	**0.70**	**81**	⇓P	**Pn**	**06 18 52.3**	**-0.6**
JCH				*e*S	**Sn**	**06 19 05.7**	**-1.5**
ERM	**Erimo**	**0.73**	**132**	*c i*PN	**Pn**	**06 18 53.2**	**0.0**
ERM	**Erimo**	**0.73**	**132**	Pn	**Pn**	**06 18 53.4**	**+0.2**
JEM	**Erimo**	**0.73**	**132**	⇑P	**Pn**	**06 18 53.2**	**0.0**
JEM				*e*S	**Sn**	**06 19 07.7**	**+0.1**
JEW	**Eniwo**	**0.79**	**295**	⇓P	**Pn**	**06 18 52.9**	**-0.8**
JEW				*e*S	**Sn**	**06 19 07.9**	**-0.7**
JEW	**Eniwo**	**0.79**	**295**	Pn	**Pn**	**06 18 53.4**	**-0.3**
JAB	**Ashibetsu**	**1.01**	**352**	P	**Pn**	**06 18 55.3**	**-0.4**
JAB				S	**Sn**	**06 19 11.3**	**-0.9**
JNB	**Noboribetsu**	**1.02**	**268**	⇓P	**Pn**	**06 18 54.7**	**-1.2**
JNB				*e*S	**Sn**	**06 19 10.6**	**-1.8**
JISS	**Ishikarishitsu**	**1.07**	**317**	P	**Pn**	**06 18 55.7**	**-0.6**
JISS				*e*S	**Sn**	**06 19 12.4**	**-0.8**
JOB	**Onbets**	**1.11**	**69**	⇓P	**Pn**	**06 18 56.6**	**-0.2**
JOB				*e*S	**Sn**	**06 19 13.8**	**-0.3**
JKB	**Kayabe**	**1.20**	**240**	⇑P	**Pn**	**06 18 56.8**	**-0.9**
JKB				*e*S	**Sn**	**06 19 13.8**	**-1.9**
JAR	**Ashorobuto**	**1.27**	**51**	⇓P	**Pn**	**06 18 57.6**	**-0.9**
JAR				S	**Sn**	**06 19 15.3**	**-1.7**
JHR	**Hokuryu**	**1.34**	**338**	P	**Pn**	**06 18 58.6**	**-0.7**
JHR				*e*S	**Sn**	**06 19 18.0**	**-0.5**
JKK2	**Kamakawa 2**	**1.39**	**10**	⇑P	**Pn**	**06 18 59.3**	**-0.5**
JKK2				S	**Sn**	**06 19 18.4**	**-1.1**
JOT	**Ohata**	**1.52**	**223**	⇑P	**Pn**	**06 19 00.5**	**-0.9**
JOT				S	**Sn**	**06 19 20.1**	**-2.1**
ASAJ	**Asahikawa**	**1.62**	**4**	P	**Pn**	**06 19 01.9**	**-0.6**
	267nm,0.3s,baz=211,slow=12,SNR=798						
ASAJ				S	**Sn**	**06 19 21.9**	**-2.4**
	152nm,0.3s,baz=299,slow=32,SNR=28						
ASAJ				LR	LR	06 19 51.4	
	comp=Z,310nm,19.8s,baz=297,slow=50						
ASAJ	**Asahikawa**	**1.62**	**4**	PN	**Pn**	**06 19 02.0**	**-0.5**
JKA	**Kamikawa-asahi**	**1.62**	**5**	Pn	**Pn**	**06 19 02.0**	**-0.5**
JKA	**Kamikawa-asahi**	**1.62**	**5**	*e*P	**Pn**	**06 19 02.0**	**-0.5**
JSK	**Shakotan**	**1.66**	**301**	P	**Pn**	**06 19 02.2**	**-0.8**
JSK				*e*S	**Sn**	**06 19 24.3**	**-0.9**
JAK	**Akkeshi**	**1.75**	**73**	⇓P	**Pn**	**06 19 03.0**	**-1.0**
JAK				*e*S	**Sn**	**06 19 24.8**	**-2.1**
JTKR	**Abashiri--Toko**	**1.82**	**36**	⇓P	**Pn**	**06 19 04.7**	**-0.3**
JTKR				*e*S	**Sn**	**06 19 27.9**	**-0.8**
AKK	**Akkeshi**	**1.85**	**73**	*e*P	**Pn**	**06 19 04.8**	**-0.6**
AKK				AMB	AMB	06 19 05.1	
	3μm,0.4s						
AKK				*e*S	**Sn**	**06 19 28.0**	**-1.3**
AKK				A	A	06 19 28.3	
	2μm,0.5s						
AKK				A	A	06 19 28.3	
	2μm,0.5s						
JTM	**Tenmabayashi**	**2.00**	**211**	Pn	**Pn**	**06 19 06.2**	**-0.9**
JYG	**Yagishiri**	**2.05**	**340**	P	**Pn**	**06 19 07.2**	**-0.6**
JYG				*e*S	**Sn**	**06 19 32.4**	**-1.4**
NMR	**Nemuro--Hokkai**	**2.58**	**69**	⇓*i*PN	**Pn**	**06 19 13.3**	**-1.2**
NMR				*i* S	**Sn**	**06 19 42.5**	**-3.2**
NMR	**Nemuro--Hokkai**	**2.58**	**69**	*e*P	**Pn**	**06 19 13.4**	**-1.1**
NMR				*i* S	**Sn**	**06 19 42.5**	**-3.2**
GLVR	**Golovnino**	**2.58**	**60**	*e*PN	**Pn**	**06 19 14.4**	**-0.2**
GLVR				*e*S	**Sn**	**06 19 44.8**	**-1.0**
GLVR				pmax	pmax		
	comp=Z,1μm,0.4s						
GLVR				smax	smax		
	comp=E,1μm,0.6s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR	**Golovnino**	**2.58**	**60**	*e*P	**Pn**	**06 19 14.4**	**-0.2**
GLVR				AMB	AMB	06 19 15.2	
	comp=N,1μm,0.3s						
GLVR				*e*S	**Sn**	**06 19 44.8**	**-1.0**
GLVR				A	A	06 19 45.5	
	comp=N,3μm,0.5s						
GLVR				A	A	06 19 45.5	
	comp=N,1μm,0.5s						
RUSJ	**Misakicho**	**2.61**

KUR A A 06 20 40.0
comp=N,280nm,0.4s
KUR A A 06 20 40.0
comp=N,310nm,0.4s
JMM Marumori 4.80 196 Pn 06 19 42.6 -1.5
JSD Sado 5.48 217 Pn **Pn 06 19 52.2 -1.1**
JYT Yasato 6.50 196 Pn **Pn 06 20 03.6 -3.5**
MAJO Matsushiro 6.79 210 *d* iPN **Pn 06 20 11.2 +0.2**
MAJO Matsushiro 6.79 210 Pn **Pn 06 20 10.2 -0.9**
MAT Matsushiro 6.79 210 P **Pn 06 20 10.9 -0.1**
MAT *eS* **Sn 06 21 26.3 -0.5**
MJAR Matsushiro Arr 6.79 210 P **Pn 06 20 11.1 0.0**
comp=N,0.5nm,0.3s,baz=28,slow=14,SNR=50
USA0B Ussuriysk Arra 7.79 286 PN **Pn 06 20 25.4 +0.9**
USA0B Ussuriysk Arra 7.79 286 Pn **Pn 06 20 25.4 +0.9**
USRK Ussuriysk Ar. 7.79 286 P **Pn 06 20 24.7 +0.2**
baz=88,slow=15,SNR=17
JGF Kuroka 7.94 211 Pn **Pn 06 20 26.1 -0.5**
INU Inuyama 8.29 212 Pn 06 20 30.0 -1.4
MSHR Mys Shultsa 8.32 274 *c* iPN **Pn 06 20 32.5 +0.8**
TYV Tymovskoe 8.36 1 *e*PN **Pn 06 20 32.6 +0.4**
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,31nm,1.4s
TYV Tymovskoe 8.36 1 *e*P **Pn 06 20 32.6 +0.4**
TYV AMB AMB 06 20 33.0
comp=Z,200nm,2.2s
TYV AMB AMB 06 20 33.5
comp=Z,30nm,1.0s
JWT Wachi 9.05 219 Pn **Pn 06 20 41.9 +0.3**
MDJ Mudanjiang 9.55 287 Pn **Pn 06 20 49.1 +0.8**
JHJ Hachijo jima 2 9.60 193 P **Pn 06 20 44.5 -4.5**
comp=Z,20nm,0.3s,baz=332,slow=17,SNR=11
JHJ S Sn 06 22 24.1 -11
comp=Z,38nm,0.3s,baz=44,slow=23,SNR=3.2
KLR Kul'dur 10.03 316 P **Pn 06 20 54.1 -0.6**
comp=Z,0.1nm,0.3s,baz=114,slow=13,SNR=4.3
KLR Kul'dur 10.03 316⇑ *e*PN **Pn 06 20 54.3 -0.4**
KLR pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 10.03 316 *e*P **Pn 06 20 54.3 -0.4**
KSRS Korea Array 12.21 250 P **Pn 06 21 24.0 +0.1**
comp=Z,0.2nm,0.3s,baz=62,slow=13,SNR=37
KSRS Korea Array 12.21 250 PN **Pn 06 21 24.0 +0.1**
KSRS Korea Array 12.21 250 *e*P **Pn 06 21 24.0 +0.1**
KS19 Wonju Array Si 12.23 251 Pn **Pn 06 21 23.9 -0.2**
EKMR Ekimchan 12.33 332 *e*P **Pn 06 21 25.0 -0.4**
EKMR AMB AMB 06 21 29.0
comp=Z,10.0nm,0.7s
PEA0B Petropavlovsk- 14.73 39⇑ *e*P **P 06 21 58.2 -1.1**
PETK Petropavlovsk- 14.73 39 P **Pn 06 21 57.4 +1.1**
comp=Z,0.3nm,0.3s,baz=212,slow=8.9,SNR=7.2
ZEA Zeya 15.09 323 *e*P **P 06 22 02.3 -1.1**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 15.09 323 *e*P **Pn 06 21 58.0 -2.9**
ZEA AMB AMB 06 22 03.3
comp=Z,10.0nm,0.7s
ZEA AMB AMB 06 22 03.3
comp=Z,10.0nm,0.7s
ZEA AMB AMB 06 22 03.3
comp=Z,10.0nm,0.7s
BMKR Bomnak 15.12 329 *e*P **Pn 06 21 59.1 -2.2**
BMKR AMB AMB 06 22 04.2
comp=Z,10.0nm,0.6s
KROS Kirovskiy 15.69 325 *e*P **Pn 06 22 06.5 -1.8**
KROS AMB AMB 06 22 10.0
comp=Z,3.0nm,0.6s
MA2 Magadan 17.85 14 P **P 06 22 33.4 -0.4**
comp=Z,1.5nm,0.3s,baz=194,slow=12,SNR=7.7
MA2 Magadan 17.85 14 *d* iP **P 06 22 34.1 +0.3**
MA2 pmax pmax
comp=Z,45nm,1.2s
MA2 Magadan 17.85 14 P **P 06 22 33.7 -0.1**
MA2 IAmb IAmb 06 22 35.5
comp=Z,44nm,1.1s
YAK Yakutsk 20.98 343 *e*P **P 06 23 04.0 -3.5**
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
SEY Seymchan 21.28 13 P **P 06 23 08.5 -2.3**
comp=E,4.4nm,0.4s,baz=193,slow=8.0,SNR=22
SEY Seymchan 21.28 13⇓ *i*P **P 06 23 08.8 -2.0**
SONM Songino Array 25.79 294 P **P 06 23 54.1 0.0**
comp=E,0.8nm,0.4s,baz=83,slow=8.7,SNR=5.9
XAN Xi'an 27.49 263 P **P 06 24 09.6 +0.3**
XAN pP pP 06 24 32.0 -2.5
XAN pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 27.66 303⇓ *e*P **P 06 24 11.8 +1.1**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 27.66 303 *e*P **P 06 24 11.8 +1.1**
H11N2 WAKE ISLAND Hy 30.69 130 T T 06 56 27.9
baz=324,slow=75,SNR=57
H11N1 WAKE ISLAND Hy 30.70 130 T T 06 56 28.3
baz=324,slow=75,SNR=83
H11N3 WAKE ISLAND Hy 30.71 130 T T 06 56 26.0
baz=324,slow=75,SNR=59
H11S1 WAKE ISLAND Hy 31.56 132 T T 06 57 28.8
baz=326,slow=76,SNR=80
H11S3 WAKE ISLAND Hy 31.57 132 T T 06 57 35.3
baz=326,slow=76,SNR=44
H11S2 WAKE ISLAND Hy 31.58 132 T T 06 57 32.2
baz=326,slow=76,SNR=69
GTA Gaotai 32.08 279 *e*P **P 06 24 51.2 +1.2**
GTA pmax pmax
comp=Z,6.0nm,1.1s
NRIK Noril'sk 38.70 332 P **P 06 25 44.7 -1.4**
comp=Z,3.8nm,0.5s,baz=168,slow=1.4,SNR=4.3
NRIK Noril'sk 38.70 332⇓ *e*P **P 06 25 46.4 +0.3**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 39.00 308 P **P 06 25 48.7 0.0**
ZALV Zalesovo Beam 39.00 308 P **P 06 25 48.9 +0.2**
comp=Z,11nm,0.7s,baz=84,slow=8.1,SNR=32
ZALV PcP **PcP 06 27 56.9 +0.3**
comp=Z,0.9nm,0.5s,baz=64,slow=3.4,SNR=2.7
ZALV Zalesovo Beam 39.00 308 *i* P **P 06 25 49.2 +0.5**
ZALV pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 42.09 297 P **P 06 26 14.7 +0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 42.09 297 P **P 06 26 14.7 +0.5**
MKAR Makanchi Array 42.09 297 P **P 06 26 12.6 -1.7**
comp=Z,1.2nm,0.7s,baz=80,slow=9.1,SNR=5.5
RSO Redoubt South 42.22 42 P **P 06 26 16.9 +1.5**
KDAK Kodiak Island 42.62 46 P **P 06 26 18.2 -0.1**
comp=Z,3.2nm,0.7s,baz=296,slow=3.9,SNR=5.0
KDAK Kodiak Island 42.62 46 P **P 06 26 18.2 -0.1**
KDAK pmax pmax
comp=Z,7.0nm,1.3s
KDAK Kodiak Island 42.62 46 IAmb IAmb 06 26 25.0
comp=Z,7.5nm,1.3s
BPAW Bear Paw Mtn. 42.79 36 P **P 06 26 20.3 +0.6**
KTH Kantishna Hill 42.85 37 P **P 06 26 21.5 +1.2**
MLY Manley 42.86 35 P **P 06 26 21.1 +0.8**
TRF Thorofare Moun 43.14 37 P **P 06 26 23.7 +1.0**
KURK Kurchatov 43.35 304 P **P 06 26 25.0 +0.7**
KURK Kurchatov 43.35 304 P **P 06 26 25.0 +0.7**
KURK Kurchatov 43.35 304 *eP* **P 06 26 25.0 +0.7**
KURBB Kurchatov Arra 43.43 304 P **P 06 26 25.0 +0.1**
comp=Z,14nm,0.8s,baz=73,slow=8.8,SNR=47
NEA2 Nenana 43.60 36 P **P 06 26 27.1 +0.9**
NEA2 IAmb IAmb 06 26 28.3
comp=Z,8.4nm,0.8s
RND Reindeer 43.79 37 P **P 06 26 28.9 +1.1**
RND pmax pmax
comp=Z,3.0nm,0.6s
RND Reindeer 43.79 37 P **P 06 26 28.9 +1.1**
RND IAmb IAmb 06 26 29.0
comp=Z,3.2nm,0.6s
GHO Glory Hole Cre 43.93 40 P **P 06 26 29.4 +0.5**
GHO IAmb IAmb 06 26 30.1
comp=Z,7.7nm,0.7s
MDM Murphy Dome 43.93 35 P **P 06 26 30.2 +1.3**
MDM IAmb IAmb 06 26 30.9
comp=Z,4.5nm,0.7s
COLA College 44.10 35 *d* iP **P 06 26 30.9 +0.8**
COLA pmax pmax
comp=Z,9.0nm,0.8s
SML Sawmill 44.20 40 P **P 06 26 31.9 +0.8**
SML IAmb IAmb 06 26 33.0
comp=Z,6.4nm,0.7s
IL31 44.52 35 P **P 06 26 33.9 +0.5**
IL31 IAmb IAmb 06 26 35.2
comp=Z,7.0nm,1.0s
ILAR Eielson Array 44.52 35 P **P 06 26 33.2 -0.3**
comp=Z,3.9nm,0.8s,baz=268,slow=6.4,SNR=44
BMAR Burnt Mountain 45.21 31 P **P 06 26 39.9 +0.8**
VRDI Verde Repeater 46.60 40 P **P 06 26 51.5 +1.3**
VRDI IAmb IAmb 06 26 51.9
comp=Z,3.9nm,0.7s
L27K Beaver Creek, 46.98 37 P **P 06 26 54.2 +1.3**
L27K IAmb IAmb 06 26 55.1
comp=Z,6.4nm,0.8s
BVAR Borovoye Array 47.60 309 P **P 06 26 57.9 0.0**
comp=Z,2.3nm,0.5s,baz=134,slow=4.9,SNR=12
BRVK Borovoye 47.65 309⇓ *e*P **P 06 26 59.1 +0.9**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 47.65 309 *e*P **P 06 26 59.1 +0.9**
BOOM Boomskoye usch 47.83 294 P **P 06 27 00.0 0.0**
BOOM pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 47.83 294 P **P 06 26 60.0 0.0**
INK Inuvik 49.20 29 P **P 06 27 09.8 0.0**
comp=Z,2.7nm,0.4s,baz=302,slow=10,SNR=17
HYT Haines Junctio 49.51 39 P **P 06 27 14.1 +1.7**
SVE Sverdlovsk 51.65 316 *e*P **P 06 27 29.1 +0.7**
SVE pmax pmax
comp=Z,15nm,0.8s
SVE Sverdlovsk 51.65 316 *e*P **P 06 27 29.1 +0.7**
ARU Arti 52.87 316 P **P 06 27 37.6 +0.2**
comp=Z,1.0nm,0.3s,baz=45,slow=6.7,SNR=7.2
ARU Arti 52.87 316 *c* iP **P 06 27 37.6 +0.2**
ARU 06 29 33.9
ARU S **S 06 34 57.5 +0.5**
ARU SS **SS 06 38 36.8 +0.1**
ARU pmax pmax
comp=Z,11nm,1.3s
SPA0 Spitsbergen Ar 55.32 348 *e*P **P 06 27 54.9 0.0**
AKTO Aktyubinsk 55.69 310 P **P 06 27 57.6 -0.4**
comp=Z,1.6nm,0.6s,baz=74,slow=12,SNR=2.8
KIRV Kirov 56.42 321⇑ *e*P **P 06 28 03.7 +0.8**
YKA Yellowknife Ar 58.72 32 P **P 06 28 19.4 +0.4**
comp=Z,1.7nm,0.9s,baz=309,slow=9.0,SNR=7.1
YKA Yellowknife Ar 58.72 32 *i* P **P 06 28 19.7 +0.6**
YKA pmax pmax
comp=Z,3.0nm,1.1s
HAMF Hammerfest 58.93 340 *e*P **P 06 28 20.1 -0.2**
ARA0 ARCESS Array S 59.17 339 *e*P **P 06 28 22.0 -0.1**
ARCES ARCESS Array B 59.17 339 P **P 06 28 21.7 -0.4**
comp=Z,0.4nm,0.4s,baz=48,slow=7.2,SNR=8.9
KLMR Klimovskoe 59.59 326 *e*P **P 06 28 23.9 -1.1**
KLMR pmax pmax
comp=Z,9.0nm,1.1s
KLMR Klimovskoe 59.59 326 *e*P **P 06 28 23.9 -1.1**
KLMR AMP 06 28 27.7
comp=Z,9.0nm,1.1s
NEEM North Greenlan 60.03 3 *i* P **P 06 28 27.5 -0.7**
NEEM IAmb IAmb 06 28 29.5
comp=Z,4.9nm,0.7s
KTK1 Kautokeino 60.13 339 *e*P **P 06 28 28.6 0.0**
BELG Belogornoye 60.39 315 P **P 06 28 30.6 -0.1**
comp=Z,18nm,0.9s,baz=167,slow=1.4,SNR=6.2
DAG Danmarks Havn 60.40 355 *i* P **P 06 28 29.9 -0.5**
DAG IAmb IAmb 06 28 30.0
comp=Z,2.4nm,0.9s
DAG Danmarks Havn 60.40 355 *i* P **P 06 28 29.8 -0.5**
DAG pmax pmax
comp=Z,2.0nm,0.9s
JETT Jettan, Norway 60.49 340 *e*P **P 06 28 31.3 +0.2**
TRO Tromso 60.81 340 *e*P **P 06 28 33.2 0.0**
WRA Warramunga Arr 62.58 189 P **P 06 28 45.5 -0.2**
comp=Z,0.3nm,0.7s,baz=5.4,slow=7.4,SNR=1.7
WRA pP **pP 06 29 14.5 +0.9**
comp=Z,1.7nm,0.7s,baz=7.6,slow=6.8,SNR=8.2
STEI Steigen 62.98 340 *e*P **P 06 28 47.1 -0.6**
LOF Lofoten 63.24 341 *e*P **P 06 28 49.4 -0.1**
FAUS Fauske 63.38 340 *e*P **P 06 28 50.4 0.0**
FINES FINESS Array B 64.36 331 P **P 06 28 56.7 -0.2**
comp=Z,6.6nm,0.4s,baz=52,slow=7.4,SNR=58
MOR8 Moi Rana 64.52 339 *e*P **P 06 28 56.5 -1.4**
SUMG Summit 65.22 0 *i* P **P 06 29 03.0 +0.2**
SUMG IAmb IAmb 06 29 04.3
comp=Z,4.4nm,0.6s
SUMG Summit 65.22 0 P **P 06 29 03.8 +1.0**
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 65.22 0 P **P 06 29 03.8 +1.0**
SUMG IAmb IAmb 06 29 03.8
comp=Z,4.4nm,0.7s
VSU Vasula 66.16 329⇑ *e*P **P 06 29 09.3 +0.8**
VSU pmax pmax
comp=Z,53nm,1.5s
ASAR Alice Springs 66.31 189 P **P 06 29 10.6 +0.7**
comp=Z,0.1nm,0.4s,baz=14,slow=6.7,SNR=1.3
ASAR pP **PcP 06 29 39.2 +0.3**
comp=Z,1.1nm,0.7s,baz=5.0,slow=8.6,SNR=11
NSS Namsos 66.45 339 *e*P **P 06 29 10.3 -0.1**
KIV Kislovodsk 67.96 310 *e*P **P 06 29 18.6 -1.7**
KIV pmax pmax
comp=Z,6.0nm,1.0s
MNK Minsk 68.43 325 *i* P **P 06 29 23.7 +0.8**
MNK *i* *PP **pP 06 29 53.3 +1.6**
MNK *i* 06 31 55.5
MNK *i* PPP PPP 06 33 35.6
MNK *i* S **S 06 38 13.9 -1.0**
MNK *i* *SS **SKiKP 06 39 06.6 +2.1**
MNK *i* SS **SS 06 42 41.2 +1.5**
MNK pmax pmax
comp=Z,15nm,1.0s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK MLR MLR
comp=N,117nm,25.0s
MNK MLR MLR
comp=E,9.0nm,19.0s
MNK MLR MLR
comp=Z,58nm,19.0s
MNK Minsk 68.43 325 *i* P **P 06 29 23.7 +0.8**
comp=E,1.0nm,0.9s
MNK *i* P **P 06 29 23.7 +0.8**
comp=N,16nm,0.9s
MNK *i* P **P 06 29 23.7 +0.8**
comp=Z,15nm,1.0s,baz=47
MNK *i* pP **pP 06 29 53.3 +1.6**
MNK *i* PP **PP 06 31 55.5 +0.8**
MNK *i* PPP PPP 06 33 35.6
MNK *i* S **S 06 38 13.9 -1.0**
MNK *i* sS **SKiKP 06 39 06.6 +2.1**
MNK *i* ScS **ScS 06 39 11.5 0.0**
MNK *i* SS **SS 06 42 41.3 +1.6**
MNK *i* SSS SSS 06 45 58.3
MNK *i* LRM MLR 07 02 09.6
comp=N,117nm,25.3s
MNK *i* LRM MLR 07 02 15.4
comp=E,9.0nm,18.8s
MNK *i* LRM MLR 07 02 32.8
comp=Z,58nm,18.8s
DOMB Dombas 69.24 339 *e*P **P 06 29 28.0 +0.1**
NB2 NORSAR Subarra 69.45 337 P **P 06 29 29.1 -0.1**
comp=Z,3.8nm,0.7s,baz=34,slow=6.5
NB2 NORSAR Subarra 69.45 337 P **P 06 29 29.1 -0.1**
baz=34,slow=6.5
NOA NORSAR Array B 69.45 337 P **P 06 29 29.2 0.0**
comp=Z,3.3nm,0.7s,baz=36,slow=6.2,SNR=24
NC602 NORSAR Array S 69.60 337 *e*P **P 06 29 29.9 -0.2**
AKASG Malin Array Be 70.47 322 P **P 06 29 35.1 -0.4**
comp=Z,1.0nm,0.4s,baz=45,slow=6.1,SNR=8.6
AKASG Malin Array Be 70.47 322 *c e*P **P 06 29 35.4 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 70.47 322⇑ *i* P **P 06 29 35.2 -0.4**
AKBB pmax pmax
comp=Z,6.0nm,1.5s
NVAR Mina Array Bea 71.15 55 P **P 06 29 40.9 +0.7**
comp=Z,0.7nm,0.7s,baz=291,slow=5.6,SNR=7.9
PDAR Pinedale Array 73.32 47 P **P 06 29 53.5 +0.4**
comp=Z,1.4nm,0.7s,baz=270,slow=1.5,SNR=13
BRTR Keskin Array B 75.83 311 P **P 06 30 08.0 +0.5**
comp=Z,0.6nm,0.7s,baz=23,slow=7.8,SNR=1.7
BRTR Keskin Array B 75.83 311 P **P 06 30 08.0 +0.5**
DPC Dobruska-Polom 76.25 328 *e*P **P 06 30 10.6 +1.1**
DPC *e* 06 30 15.7
DPC Dobruska-Polom 76.25 328 *e*P **P 06 30 10.6 +1.1**
DPC *ex* x 06 30 15.7
CLL Collm 76.74 330 *i* P **P 06 30 12.0 -0.2**
CLL *i* Pmax 06 30 17.2
comp=Z,6.0nm,0.6s
CLL Collm 76.74 330 *i* P **P 06 30 12.0 -0.2**
CLL *i* 06 30 17.2
PVCC Panska Ves 76.78 329 *e*P P 06 30 18.3 +5.8
PVCC Panska Ves 76.78 329 *e*P P 06 30 18.3 +5.8
KHC Kasperske Hory 78.29 329 *e*P **P 06 30 21.5 +0.6**
KHC *e* 06 30 27.1
KHC Kasperske Hory 78.29 329 *e*P **P 06 30 21.5 +0.6**
KHC *ex* x 06 30 27.1
GERES GERESS Array B 78.47 328 P **P 06 30 22.0 0.0**
comp=Z,0.2nm,0.3s,baz=34,slow=5.2,SNR=4.7
ANMO Albuquerque 80.50 51⇓ *e*P **P 06 30 34.3 +0.9**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
BFO Black Forest 80.91 331 *i* P **P 06 30 37.5 +2.4**
TXAR Lajitas Array 86.19 53 P **P 06 31 02.9 +0.3**
comp=Z,0.9nm,0.6s,baz=293,slow=3.5,SNR=15
H03N2 Juan Fernandez 146.44 88 T T 09 21 38.2
baz=300,slow=76,SNR=9.1
H03N3 Juan Fernandez 146.46 88 T T 09 21 39.0
baz=300,slow=76,SNR=12
H03N1 Juan Fernandez 146.46 88 T T 09 21 41.0
baz=300,slow=76,SNR=11

IDC ***11*** *06:18:59.7±1.1,5°.27S×152°.27E,h0km,mb4.1/6,*
mb1 4.3/8,mb1mx3.9/41,mbtmp4.1/8,ML2.7/2,MS3.0/2,
Ms1 3.0/2,ms1mx2.6/26,Error ellipse: s-maj=31.4km
s-min=21.6km az=113.0
NEIC ***11*** *06:19:06.8±2.1,5°.44S±0°.06×152°.48E±0°.06,h46km±9km,*
mb4.3/14,Error ellipse: s-maj=10.4km s-min=6.7km
az=145.0
ISC 11 06:19:05.8±0.7,5°.49S±0°.06×152°.40E±0°.10,h40km,n29,
σ1s30/29,mb4.3/13,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.31**	**350**		**Pn**	**06 19 26.6**	**-1.1**
RABL				Sn	**Sn**	**06 19 44.8**	**+0.9**
MANU	**Manus Island**	**6.08**	**304**	Pn	**Pn**	**06 20 36.3**	**+3.0**
PMG	**Port Moresby**	**6.50**	**233**	Pn	**Pn**	**06 20 37.2**	**-1.7**
	2.0nm,0.3s,baz=263,slow=21,SNR=1.9						
PMG				Sn	**Sn**	**06 21 50.1**	**-1.7**
	1.3nm,0.3s,baz=120,slow=19,SNR=2.3						
PMG	**Port Moresby**	**6.50**	**233**		**Pn**	**06 20 41.2**	**+2.3**
HNR	**Honiara**	**8.45**	**118**	LR	LR	06 24 13.6	
	comp=Z,84nm,21.6s,baz=286,slow=36						
CTA	**Charters Tower**	**15.70**	**202**	Pn	**Pn**	**06 22 44.1**	**-0.2**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=1.5						
CTAO	**Charters Tower**	**15.70**	**202**	Pn	**Pn**	**06 22 45.2**	**+0.9**
EIDS	**Eidsvold**	**19.81**	**184**	P	**P**	**06 23 32.9**	**-0.2**
DZM	**Mont Dzumac**	**21.36**	**142**	P	**P**	**06 23 51.8**	**+1.7**
	7.0nm,0.7s,baz=157,slow=15,SNR=5.8						
DZM	**Mont Dzumac**	**21.36**	**142**	P	**P**	**06 23 50.4**	**+0.4**
DZM				IAmb	IAmb	06 23 57.4	
	comp=Z,15nm,1.0s						
ONTNC	**Ouen Toro**	**21.55**	**142**	P	**P**	**06 23 52.1**	**+0.3**
MTN	**Manton Dam**	**22.22**	**249**	P	**P**	**06 23 59.5**	**+0.3**
MTN				IAmb	IAmb	06 24 26.6	
	comp=Z,7.0nm,0.7s						
WB0	**Warramunga Arr**	**22.55**	**229**	P	**P**	**06 24 02.7**	**-0.1**
WB0				IAmb	IAmb	06 24 10.3	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**22.56**	**229**	P	**P**	**06 24 02.6**	**-0.2**
WR0				IAmb	IAmb	06 24 15.2	
	comp=Z,19nm,1.5s						
WRAB	**Tennant Creek**	**22.68**	**229**	P	**P**	**06 24 02.9**	**-1.2**
WRAB				IAmb	IAmb	06 24 11.6	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**22.69**	**229**	P	**P**	**06 24 03.9**	**-0.3**
WB2				IAmb	IAmb	06 24 06.2	
	comp=Z,5.8nm,0.6s						
WRA	**Warramunga Arr**	**22.70**	**229**	P	**P**	**06 24 03.8**	**-0.5**
	comp=Z,4.6nm,0.6s,baz=54,slow=9.9,SNR=48						
KNRA	**Kununurra**	**25.32**	**245**	P	**P**	**06 24 29.5**	**+0.5**
KNRA				IAmb	IAmb	06 24 44.6	
	comp=Z,10.0nm,0.8s						
AS31	**Alice Springs**	**25.38**	**223**	P	**P**	**06 24 31.4**	**+1.8**
ASAR	**Alice Springs**	**25.38**	**223**	P	**P**	**06 24 29.6**	**0.0**
	comp=Z,3.5nm,0.6s,baz=60,slow=8.7,SNR=58						
BKZ	**Black Stump Fm**	**39.98**	**150**	P	**P**	**06 26 36.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**57.81**	**296**	P	**P**	**06 28 51.9**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=87,slow=6.6,SNR=1.8						
PETK	**Petropavlovsk-**	**58.55**	**4**	LR	LR	06 49 39.0	
	comp=Z,16nm,20.2s,baz=118,slow=32						
SONM	**Songino Array**	**66.69**	**328**	P	**P**	**06 29 51.0**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=145,slow=5.4,SNR=3.9						
CASY	**Casey**	**67.25**	**197**	P	**P**	**06 29 57.3**	**+1.4**
ILAR	**Eielson Array**	**82.94**	**22**	P	**P**	**06 31 25.5**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=251,slow=5.2,SNR=20						
QSPA	**South Pole Qui**	**84.48**	**180**	P	**P**	**06 31 35.2**	**+0.8**
QSPA				IAmb	IAmb	06 31 53.9	
	comp=Z,6.0nm,1.4s						
BMAR	**Burnt Mountain**	**85.02**	**20**	P	**P**	**06 31 38.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**150.13**	**287**	PKPbc	**PKPbc**	**06 38 52.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=76,slow=3.4,SNR=3.5						

NNC 11 06:25:26.6±7.6,37°.46N×77°.37E,h0km,mb4.1,mpv3.7,
3C-1D,Error ellipse: s-maj=76.3km s-min=50.4km
az=83.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.62**	**347**	⇑Pg	Pb	06 27 03.8	-1.9
	2.5nm,0.5s						
TKM2				⇑Lg	Lg	06 28 26.9	
	3.5nm,0.5s						
AAK	**Ala-Archa**	**5.62**	**338**	⇓Pg	Pb	06 27 09.5	+3.9
	1.2nm,0.3s						
AAK				⇑Lg	Lg	06 28 29.3	
	21nm,1.1s						
SATY	**Saty**	**5.65**	**8**	Pg	Pg	06 27 11.3	-3.6
	11nm,0.8s						
SATY				Lg	Lg	06 28 24.7	
	14nm,0.7s						
KST	**Kastek**	**5.68**	**350**	Pg	Pg	06 27 12.7	-2.7
	4.0nm,0.5s						
KST				Lg	Lg	06 28 26.7	
	7.1nm,1.0s						
MDOK	**Medeo**	**5.71**	**358**	Pg	Pb	06 27 10.6	+3.5
	5.4nm,0.5s						
MDOK				Lg	Lg	06 28 26.4	
	19nm,1.1s						
MDOK	**Medeo**	**5.71**	**358**	Pg	Pg	06 27 12.0	-3.9
	6.8nm,0.5s						
MDOK				Lg	Lg	06 28 26.0	
	12nm,0.7s						

UPA ***11*** *06:32:58.3±1.6,8°.45N×83°.15W,h42km±13km,MW3.7*
UCR ***11*** *06:32:59.3±2.0,8°.46N×83°.10W,h0km±3km,MW3.9*
ISC 11 06:33:00.5±1.2,8°.48N±0°.04×83°.11W±0°.02,h18km±2km,
n26,σ0s96/39,3D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOL	**Caracol de Cor**	**0.15**	**120**	*e*P	**Pb**	**06 33 03.5**	**-0.2**
CCOL				*e*S	**Sg**	**06 33 07.4**	**-0.3**
PTJ1	**Puerto Jimnez**	**0.20**	**285**	*e*P	**Pb**	**06 33 04.7**	**-0.5**
PTJ1				*e*S	**Sg**	**06 33 11.9**	**+3.0**
PTJ1	**Puerto Jimnez**	**0.20**	**285**	*e*P	**Pb**	**06 33 04.9**	**-0.4**
PIRO	**Carate, Puerto**	**0.24**	**251**	*e*P	**Pb**	**06 33 04.5**	**-1.7**
CDITO	**Canoas**	**0.25**	**69**⇓	*e*P	**Pb**	**06 33 05.4**	**-0.9**
CDITO	**Canoas**	**0.25**	**69**	*e*P	**Pb**	**06 33 05.4**	**-0.9**
CDITO				*e*S	**Sg**	**06 33 10.4**	**+0.2**
SBAR3	**San Bartolo, C**	**0.27**	**127**	*e*P	**Pb**	**06 33 07.9**	**+1.0**
EDSV	**San Vito**	**0.36**	**21**	*e*P	**Pg**	**06 33 08.4**	**+0.1**
EDSV				*e*S	**Sb**	**06 33 15.2**	**+1.3**
BRU2	**Volcan**	**0.51**	**53**⇓	*e*P	**Pb**	**06 33 10.6**	**-0.6**
BRU2				*e*S	**Sb**	**06 33 19.0**	**+0.8**
BRU2	**Volcan**	**0.51**	**53**	*e*P	**Pb**	**06 33 10.5**	**-0.6**
BRU2				*e*S	**Sb**	**06 33 19.0**	**+0.8**

LPLA	Las Palmas La	0.55	10	eP	Pb	06 33 11.2	-0.5
LPLA				eS	Sn	06 33 22.7	+0.3
EDPN	Palmar Norte	0.59	324	eP	Pb	06 33 11.3	-0.9
EDPN				eS	Sn	06 33 22.1	-1.0
BCO2	Palmira	0.62	68	eP	Pb	06 33 12.0	-0.8
BCO2				eS	Sg	06 33 21.8	+0.6
PTAR3	Potrerillos Ar	0.64	71	eP	Pb	06 33 12.4	-0.7
DVD	David	0.65	94	eP	Pb	06 33 12.1	-1.2
DVD				eS	Sb	06 33 21.8	-0.1
EDBA	Buenos Aires	0.70	346	eP	Pb	06 33 13.9	-0.3
LNBQ3	Los Naranjos,	0.72	65	eP	Pb	06 33 13.3	-1.3
DRK0	Durika	0.79	350	eP	Pb	06 33 15.0	-0.8
DRK0				eS	Sn	06 33 28.4	+0.1
DRK0	Durika	0.79	350	eP	Pb	06 33 15.0	-0.8
PEZE	Perez Zeledon,	1.06	328	eP	Pb	06 33 19.5	-0.9
CNI2	El Empalme, Bo	1.12	34	eP	Pn	06 33 20.2	-1.1
CNI2				eS	Sg	06 33 38.7	+1.5
CDM	Cerro de Muert	1.25	329	eP	Pn	06 33 22.7	-0.7
MRVA	Moravia de Chi	1.37	346	eP	Pn	06 33 24.8	-0.1
RIMA	Rio Macho	1.48	330	eP	Pn	06 33 26.2	-0.2
LCR2	La Lucha 2	1.53	325	eP	Pn	06 33 27.4	+0.2
HDC	Heredia	1.81	327	eP	Pb	06 33 33.3	+0.1
HDC				eS	Sg	06 33 58.8	-0.1

TUL ***11*** *06:40:42.8±1.6, 35°.747N±0°.010×97°.383W±0°.008, h3km±6km, ML2.9, mb_Lg2.8/61(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=154.0*

NEIC 11 06:40:43.1±1.4, 35°.747N±0°.006×97°.39W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=215.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.07	312		Pg	06 40 45.1	+0.3
OK029				Sg	Sg	06 40 46.7	+0.7
OK009	Oakdale Elemen	0.17	190		Pg	06 40 46.5	0.0
OK025	Westminster Rd	0.17	166		Pg	06 40 46.5	0.0
OK025				Sg	Sg	06 40 49.3	+0.6
BCOK	Bluff Creek, N	0.20	244		Pg	06 40 47.2	+0.1
BCOK				Sg	Sg	06 40 50.4	+0.7
OKCFA	Oklahoma City	0.34	189		Pg	06 40 49.6	0.0
OKCFA	Oklahoma City	0.34	189	P		06 40 49.6	
	baz=9.6,SNR=80						
OKCFA				S		06 40 54.7	
	baz=9.6						
OKCSW	OKLAHOMA CITY	0.34	187		Pg	06 40 49.7	0.0
FNO	Franklin	0.49	181		Pg	06 40 52.4	-0.1
FNO				Sg	Sg	06 40 59.5	+0.6
OK031	S. Brethren Rd	0.49	65		Pg	06 40 52.6	0.0
OK031				Sg	Sg	06 40 59.4	+0.5
QUOK	Quay	0.69	52		Pg	06 40 56.3	-0.2
QUOK				Sg	Sg	06 41 05.7	+0.2
CROK	Carrier	0.90	328		Pg	06 41 00.1	-0.3
CROK				Sg	Sg	06 41 12.4	+0.4
BLOK	Blackwell	1.02	8		Pg	06 41 02.1	-0.6
GC02	Grant County #	1.17	341		Pg	06 41 04.7	-0.8
X34A	Smith Ranch, M	1.20	198		Pg	06 41 05.6	-0.5
OK032	Salt Plains WL	1.25	328		Pg	06 41 06.2	-0.8
KAN13	South Haven SW	1.27	357		Pg	06 41 06.5	-0.9
TUL1	Leonard	1.31	82	P		06 41 06.2	
	baz=263						
KAN17	Caldwell West	1.33	347		Pn	06 41 07.8	-0.6
T35A	Sooner Cattle	1.36	31		Pn	06 41 08.0	-0.8
T35B	Sooner Cattle	1.36	31	P		06 41 07.9	
	baz=211						
T35B				S		06 41 26.5	
	baz=211						
KAN05	Bluff City Nor	1.42	344		Pn	06 41 09.4	-0.2
U32A	Winter Ranch,	1.45	296	P		06 41 09.6	
	baz=115,SNR=26						
KS20	Mayfield South	1.49	355		Pn	06 41 10.3	-0.3
WMOK	Wichita Mounta	1.52	229		Pn	06 41 10.6	-0.4
WMOK	Wichita Mounta	1.52	229	P		06 41 10.4	
	baz=48,SNR=44						
WMOK				S		06 41 30.8	
	baz=48						
LOOK	Love County	1.76	174	Pn	Pn	06 41 14.6	+0.3
X37A	Clayton	2.02	124		Pn	06 41 18.6	+0.8
X37A	Clayton	2.02	124	P		06 41 17.8	
	baz=306,SNR=41						
X37A				S		06 41 45.0	
	baz=306						
Z35A	Perchaven, San	2.41	177	P		06 41 23.5	
	baz=358,SNR=19						
U38A	Gravette	2.53	73		Pn	06 41 26.3	+1.5
U38A	Gravette	2.53	73	P		06 41 24.7	
	baz=255,SNR=99						
HHAR	Hobbs	2.84	78	P		06 41 28.8	
	baz=260						
W39A	Magazine	2.99	100	S		06 42 08.0	
	baz=282						
MIAR	Mount Ida	3.34	110		Pn	06 41 36.6	+0.6
MIAR				IAmb_Lg		06 42 35.8	
	comp=Z,17nm,0.8s						
MIAR	Mount Ida	3.34	110	P		06 41 36.1	
	baz=292,SNR=31						
MIAR				S		06 42 17.5	
	baz=292						
CBKS	Cedar Bluff	3.59	329	IAmb_Lg		06 42 44.1	
	comp=Z,34nm,0.8s						
AMTX	Amarillo	3.62	257	IAmb_Lg		06 42 46.0	
	comp=Z,16nm,0.7s						
U40A	Yellville	3.72	79		Pn	06 41 40.7	-0.6
U40A	Yellville	3.72	79	P		06 41 41.0	
	baz=262,SNR=8.4						
U40A				P		06 41 41.0	
	baz=262,SNR=8.4						
S39A	Bolivar	3.80	58	IAmb_Lg		06 42 44.8	
	comp=Z,29nm,0.8s						
S39A	Bolivar	3.80	58	P		06 41 42.2	
	baz=240						
X40A	Basin Creek Fa	3.94	107	IAmb_Lg		06 42 52.2	
	comp=Z,17nm,0.7s						
WHAR	Wooly Hollow	4.18	95	Pn	Pn	06 41 47.5	-0.1
WHAR				IAmb_Lg		06 42 54.1	
	comp=Z,30nm,1.2s						
W41B	Gary Mavity, V	4.23	96	P		06 41 47.9	
	baz=279,SNR=10						
FCAR	Ozark Folk Cen	4.28	87	IAmb_Lg		06 43 02.1	
	comp=Z,12nm,0.7s						
MGMO	Mountain Grove	4.36	70	IAmb_Lg		06 43 04.4	
	comp=Z,22nm,0.7s						
435B	Jarrell	4.95	182	IAmb_Lg		06 43 22.2	
	comp=Z,9.7nm,0.7s						
LCAR	Lake Charles	5.07	85	IAmb_Lg		06 43 29.6	
	comp=Z,11nm,1.0s						
N35A	Tabor	5.29	15	IAmb_Lg		06 43 40.3	
	comp=Z,24nm,0.8s						
KSCO	Kaye Shedlock'	5.29	310	IAmb_Lg		06 43 37.3	
	comp=Z,11nm,0.7s						
CCM	Cathedral Cave	5.43	63	IAmb_Lg		06 43 37.8	
	comp=Z,18nm,0.9s						
HBAR	Harrisburg	5.48	90	IAmb_Lg		06 43 52.5	
	comp=Z,15nm,0.7s						
JCT	Junction City	5.63	202	IAmb_Lg		06 43 55.4	
	comp=Z,17nm,0.9s						
PBMO	Poplar Bluff	5.71	78	IAmb_Lg		06 43 50.8	
	comp=Z,12nm,0.7s						
T25A	Trinidad	5.83	286	IAmb_Lg		06 44 03.3	
	comp=Z,9.0nm,0.9s						
PARMO	Parma	6.24	79	IAmb_Lg		06 44 02.7	
	comp=Z,17nm,0.7s						
L34A	Svendsen Farm,	6.26	7	IAmb_Lg		06 44 18.8	
	comp=Z,18nm,0.9s						
OGNE	Ogallala	6.34	326	IAmb_Lg		06 44 06.4	
	comp=Z,16nm,0.8s						
OXF	Oxford	6.65	98	IAmb_Lg		06 44 28.5	
	comp=Z,16nm,1.3s						
SCIA	State Center	6.96	27	IAmb_Lg		06 44 35.9	
	comp=Z,13nm,1.1s						
L40A	Anamosa	7.93	35	IAmb_Lg		06 45 00.0	
	comp=Z,15nm,1.2s						
OLIL	Olney	7.99	65	IAmb_Lg		06 45 03.4	
	comp=Z,14nm,0.9s						
Y22D	IRIS PASSCAL I	8.01	261	IAmb_Lg		06 45 19.2	
	comp=Z,11nm,0.8s						
T47A	Sharon Grove	8.39	78	IAmb_Lg		06 45 16.9	
	comp=Z,8.9nm,0.9s						
PHWY	Pilot Hill	8.41	314	IAmb_Lg		06 45 16.5	
	comp=Z,13nm,1.3s						
L42A	Oliver, Polo	8.67	42	IAmb_Lg		06 45 19.1	
	comp=Z,13nm,0.7s						
WCI	Wyandotte Cave	9.21	71	IAmb_Lg		06 45 36.0	
	comp=Z,8.6nm,0.8s						
RWWY	Rawlins	9.70	311	IAmb_Lg		06 46 15.9	
	comp=Z,4.0nm,0.9s						
K22A	Casper	9.88	317	IAmb_Lg		06 46 24.3	
	comp=Z,10nm,1.1s						

IDC 11 06:42:12.8±3.2, 6°.34S×147°.56E, h0km, mb2.7/1, mb1 3.2/3, mb1mx3.1/27, mbtmp3.0/3, ML0.6/1, Error ellipse: s-maj=78.8km s-min=35.4km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.08	187	Pn	Pn	06 43 04.7	+1.9
	0.7nm,0.3s,baz=302,slow=21,SNR=1.6						
PMG				Sn	Sn	06 43 40.8	+0.6
	2.4nm,0.3s,baz=278,slow=13,SNR=1.7						
WRA	Warramunga Arr	18.66	222	P	Pn	06 46 32.6	-0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=7.1						
ASAR	Alice Springs	21.67	216	P	P	06 47 04.5	-0.8
	0.3nm,0.7s,baz=30,slow=13,SNR=4.6						
TORD	Torodi Ar. Bea	145.72	284	PKPbc	PKPdf	07 01 53.7	-0.8
	0.2nm,0.4s,baz=88,slow=2.2,SNR=1.6						

IPEC ***11*** *06:58:28.7±0.3, 51°.52N×16°.37E, h0km, ML2.1/4, Error ellipse: s-maj=2.8km s-min=1.8km az=63.0*
DNK ***11*** *06:58:28.4±1.4, 51°.22N×16°.33E, h38km±50km, ML2.1*
IDC ***11*** *06:58:29.8±0.9, 51°.41N×16°.26E, h0km, mb1 3.2/7, mb1mx3.1/40, mbtmp3.1/7, ML2.5/7, Error ellipse: s-maj=17.7km s-min=7.7km az=103.0*
PRU ***11*** *06:58:30.6±0.0, 51°.42N×16°.18E, h0km*
VIE ***11*** *06:58:31.6±0.9, 51°.31N×16°.03E, h0km, mb2.5/5, ml2.7/5, Error ellipse: s-maj=9.1km s-min=5.9km az=69.0 72 km WNW of Wroclaw Suspected Mining induced.*

ISC 11 06:58:28.0±0.7, 51°.52N±0°.03×16°.20E±0°.02, h0km, n47, σ0°.99/86, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	175	ePg	Pg	06 58 41.4	+0.3
KSP				eSg	Sg	06 58 49.0	-1.0
CHVC	Chvalec	0.94	186	ePG	Pb	06 58 47.4	+0.2
CHVC				eSG	Sg	06 58 59.3	+1.1
OSTC	Ostas	0.97	179	ePG	Pg	06 58 47.0	+0.4
OSTC				eSG	Sg	06 58 58.0	-1.1
UPC	Upice	1.02	187	ePG	Pg	06 58 47.8	+0.2
UPC				eSG	Sg	06 59 00.6	-0.3
	comp=Z,116nm,0.5s						
DPC	Dobruska-Polom	1.18	176	ePG	Pg	06 58 50.4	-0.2
DPC				eSG	Sg	06 59 04.6	-1.2
	comp=Z,59nm,0.6s						
PVCC	Panska Ves	1.43	227	ePG	Pb	06 58 56.1	+0.5
PVCC				eSG	Sb	06 59 14.9	+0.5
	comp=Z,196nm,0.4s						
KRLC	Kraliky	1.50	165	ePG	Pn	06 58 56.1	-0.1
KRLC				eSG	Sg	06 59 14.9	-1.1
BRG	Berggiesshubel	1.56	246	Pg	Pg	06 58 58.6	+0.7
BRG				Sg	Sg	06 59 19.2	+1.1
BRG				Amp		06 59 21.3	
	comp=Z,40nm,0.4s						
PRA	Prague	1.84	218	eSG	Sb	06 59 26.4	+0.4
PRU	Pruhonice	1.86	215	ePG	Pb	06 59 03.1	+0.2
PRU				eSG	Sn	06 59 25.8	+0.4
	comp=Z,30nm,0.5s						
MORC	Moravsky Berou	1.95	153	ePn	Pn	06 59 02.3	-0.1
	baz=337						
MORC				eSg	Sb	06 59 28.5	-0.6
	comp=Z,11nm,0.3s,baz=337						
MORC	Moravsky Berou	1.95	153	ePN	Pn	06 59 02.3	-0.1
MORC				eSG	Sb	06 59 28.6	-0.6
CLL	Collm	2.01	265	ePn	Pn	06 59 04.0	+0.8
CLL				ePg	Pg	06 59 07.0	+0.4
CLL				eSg	Sg	06 59 33.0	+0.3
	comp=Z,24nm,0.6s						
OKC	Ostrava-Krasne	2.09	143	ePG	Pb	06 59 07.5	+0.7
OKC				eSG	Sb	06 59 33.0	-0.4
	comp=Z,48nm,0.8s						
VRAC	Vranov	2.23	173	Pn	Pn	06 59 05.8	-0.5
	comp=Z,1.7nm,0.3s,baz=350,slow=16,SNR=4.6						
VRAC				Lg	Lg	06 59 37.8	
	comp=Z,2.3nm,0.3s,baz=273,slow=13,SNR=10						
VRAC	Vranov	2.23	173	ePn	Pn	06 59 06.9	+0.7
	baz=356						
VRAC				eSg	Sb	06 59 38.6	+1.2
	comp=Z,9.1nm,0.3s,baz=356						
VRAC	Vranov	2.23	173	ePN	Pn	06 59 07.0	+0.7
VRAC				eSG	Sb	06 59 38.6	+1.2
TREC	Trest	2.28	192	eSG	Sb	06 59 39.0	+0.3
	comp=Z,20nm,0.6s						
PBCC	Pribram	2.31	218	ePG	Pb	06 59 11.5	+0.9
PBCC				eSG	Sb	06 59 40.3	+0.6
	comp=Z,12nm,0.9s						
KRUC	Moravsky	2.47	177	ePn	Pn	06 59 10.5	+1.0
	baz=360						
KRUC				eSg	Sb	06 59 45.6	+1.5
	comp=Z,7.7nm,0.3s,baz=360						
KRUC	Moravsky	2.47	177	ePN	Pn	06 59 10.5	+1.0
KRUC				eSG	Sb	06 59 45.6	+1.5
OJC	Ojcow	2.63	118	ePg	Pg	06 59 19.4	+1.1
OJC				eSg	Sg	06 59 52.8	+0.4
NKC	Novy Kostel	2.71	243	ePG	Pg	06 59 19.8	0.0
NKC				eSG	Sg	06 59 55.6	+0.7
	comp=Z,28nm,0.3s						
JAVC	Velka Javorina	2.83	160	ePn	Pn	06 59 14.5	0.0
	baz=343						
JAVC				eSg	Sb	06 59 56.2	+1.6
	comp=Z,10nm,0.5s,baz=343						
JAVC	Velka Javorina	2.83	160	ePN	Pn	06 59 14.6	0.0
JAVC				eSG	Sb	06 59 56.2	+1.6
KHC	Kasperske Hory	2.92	216	ePN	Pn	06 59 16.5	+0.7
KHC				ePG	Pb	06 59 22.2	+1.1
KHC				ePG	Pg	06 59 22.4	-1.7
KHC				eSG	Sg	07 00 00.1	-1.9
	comp=Z,10nm,0.4s						
SMOL	Smolenice	3.12	165	ePG	Pg	06 59 28.1	+0.4
SMOL				eSG	Sg	07 00 06.4	-1.7
GERES	GERESS Array B	3.12	212	Pn	Pn	06 59 19.5	+0.9
	comp=Z,0.6nm,0.3s,baz=35,slow=13,SNR=14						
GERES				Pg	Pb	06 59 25.9	+1.4
	comp=Z,5.4nm,0.3s,baz=31,slow=17,SNR=50						
GERES				Lg	Lg	07 00 05.3	
	comp=Z,4.1nm,0.3s,baz=36,slow=32,SNR=13						
LANS	Liptovska Anna	3.17	137	ePG	Pg	06 59 29.3	+0.6
LANS				eSG	Sg	07 00 09.8	+0.1
MODS	Modra-Piesok	3.23	167	ePG	Pg	06 59 31.0	+1.1
MODS				eSG	Sg	07 00 11.5	-0.2
ZST	Bratislava	3.38	170	eSG	Sg	07 00 15.9	-0.7
VYHS	Vyhne	3.48	150	ePG	Pg	06 59 34.1	-0.5
VYHS				eSG	Sg	07 00 21.0	+1.3
CONA	Conrad Observa	3.61	184	ePn	Pn	06 59 26.2	+1.0
	comp=Z,0.5nm,0.2s						
CONA				Sg	Sg	07 00 22.3	-1.5
	comp=Z,25nm,0.9s						
BSD	Bornholm Skovb	3.68	348	i P	Pn	06 59 28.2	+2.1
BSD				i S	Sn	07 00 10.3	+0.2
MOA	Molln	3.89	200	i Pn	Pn	06 59 29.5	+0.5
	comp=Z,1.5nm,0.3s						
MOA				Sg	Sg	07 00 31.8	-1.0
	comp=Z,7.3nm,0.4s						
ARSA	Arzberg	4.30	186	i Pn	Pn	06 59 35.5	+0.8
	comp=Z,0.7nm,0.3s						
ARSA				Sg	Sg	07 00 44.7	-1.4
	comp=Z,8.9nm,0.5s						
LUNU	Lund	4.43	339	i P	Pn	06 59 38.4	+2.0
LUNU				i S	Sn	07 00 29.1	+0.4
BLEU	Blekinge	4.80	357	i P	Pn	06 59 42.8	+1.3
BLEU				i S	Sn	07 00 36.6	-1.0
BJUU	Bjuv	4.93	339	i P	Pn	06 59 43.6	+0.3
BJUU				i S	Sn	07 00 39.6	-1.4
DEL	Delary	5.14	345	i P	Pn	06 59 47.1	+0.9
	baz=163,slow=14						
DEL				i S	Sn	07 00 45.9	-0.3
DEL				IAML		07 00 47.9	
	comp=Z,0.9nm,0.3s						
ABTA	Abfaltersbach	5.36	208	Sg	Sg	07 01 17.9	-2.1
	comp=Z,9.8nm,0.9s						
DAVOX	Davos/Dischmat	6.30	224	Pn	Pn	07 00 03.4	+1.1
	comp=Z,0.2nm,0.3s,baz=28,slow=15,SNR=1.6						
DAVOX				Lg	Lg	07 01 47.3	
	comp=Z,0.2nm,0.3s,baz=202,slow=22,SNR=2.2						
HFS	Hagfors	8.74	352	Pn	Pn	07 00 35.5	-0.1
	comp=Z,0.1nm,0.3s,baz=168,slow=14,SNR=1.4						
NOA	NORSAR Array B	9.93	346	Pn	Pn	07 00 51.9	0.0
	comp=Z,0.0nm,0.3s,baz=172,slow=12,SNR=1.9						
FINES	FINESS Array B	11.33	25	Pn	Pn	07 01 10.7	-0.2
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=4.2						
EKA	Eskdalemuir Ar	12.15	296	Pn	Pn	07 01 20.5	-1.7
	baz=102,slow=14,SNR=2.4						
ARCES	ARCESS Array B	18.60	10	Pn	P	07 02 44.4	-2.1
	baz=195,slow=12,SNR=7.4						

IDC ***11*** *07:32:17.5±0.4, 13°.74N×45°.57W, h0km, mb4.5/30, mb1 4.6/32, mb1mx4.5/50, mbtmp4.5/32, ML4.1/2, MS3.7/20, Ms1 3.8/20, ms1mx3.6/33, Error ellipse: s-maj=12.4km s-min=10.7km az=143.0*
NEIC ***11*** *07:32:20.5±1.1, 13°.77N±0°.10×45°.52W±0°.09, h10km±1km, mb4.9/112, Error ellipse: s-maj=16.3km s-min=14.6km az=180.0*

ISC 11 07:32:19.4±0.3, 13°.71N±0°.05×45°.49W±0°.05, h10km, n455, σ0°.94/451, mb4.8/85, MS3.8/20, 2D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	11.09	220	Pn	Pn	07 34 56.0	-2.1
	2.2nm,0.3s,baz=26,slow=16,SNR=51						
MDP				Sn	Sn	07 36 48.8	-13
	3.4nm,0.3s,baz=122,slow=22,SNR=5.2						
MDP				LR	LR	07 38 19.0	
	comp=Z,222nm,21.8s,baz=43,slow=33						
BBGH	Gun Hill	13.70	269	Pn	Pn	07 35 34.7	+0.9
TOSP	Speyside	14.88	262	Pn	Pn	07 35 49.8	-0.2
H05S1	Guadeloupe/Mar	14.90	275	T	T	07 50 53.5	
MPOM	Morne Pois Mar	14.93	275	Pn	Pn	07 35 49.4	-1.2
H05N1	Guadeloupe/Mar	15.26	282	T	T	07 51 21.2	
SVB	Belmont	15.33	270	Pn	Pn	07 35 54.2	-1.8
MCPB	Macapa, AP	15.42	205	eP	Pn	07 35 55.2	-2.0
GRGR	Grenville	15.83	266	Pn	Pn	07 36 03.0	+0.4
GRGR				IAmb	IAmb	07 36 52.2	
	comp=Z,137nm,1.1s						
TMAB	Tom-Au,PA,Br	16.19	189	eP	Pn	07 36 05.1	-1.9
ROSB	Rosrio	16.56	175	eP	Pn	07 36 09.4	-2.4
NBMO	Morrinhos-CE	17.76	162	eP	Pn	07 36 25.9	-0.9
NBPS	Pedro II - PI	18.43	167	eP	P	07 36 34.2	-1.0
BOAV	Boa Vista	18.63	234	eP	Pn	07 36 37.8	+0.2
PLCV	Puerto La Cruz	19.01	261	P	P	07 36 40.8	-0.7
PCRV	Puerto La Cruz	19.05	261	P	P	07 36 40.8	-1.2
	comp=Z,0.4nm,0.3s,baz=96,slow=12,SNR=2.1						
NBCL	Cascavel-CE	19.20	158	eP	P	07 36 43.9	+0.3
STVI	Saint Thomas	19.26	286		Pn	07 36 44.4	-0.8
STVI				IAmb	IAmb	07 36 45.5	
	comp=Z,56nm,0.9s						
CUPR	Culebra, Puert	19.56	286	P	Pn	07 36 47.6	-1.2
MTP	Monte Pirata	19.77	285	P	P	07 36 48.1	-1.8
MTP				IAmb	IAmb	07 36 54.2	
	comp=Z,155nm,1.4s						
NBPB	Pedra_Branca-C	20.01	163	eP	P	07 36 51.8	-0.6
HUMP	Col San Antoni	20.06	285	P	P	07 36 53.1	+0.1
PDPR	Patillas Dam,	20.20	285	P	P	07 36 54.4	-0.1
PDPR				IAmb	IAmb	07 36 59.4	
	comp=Z,134nm,1.5s						
PRPB	Parauapebas	20.22	193	eP	P	07 36 54.0	-0.7
PTGA	Pitinga	20.29	226	P	P	07 36 55.3	-0.2
	comp=Z,11nm,0.6s,baz=46,slow=12,SNR=17						
PTGA				S	S	07 40 28.3	-15
	comp=Z,2.4nm,0.5s,baz=6.4,slow=22,SNR=1.4						
PTGA				LR	LR	07 43 52.3	
	comp=Z,116nm,20.0s,baz=42,slow=34						
PTGA	Pitinga	20.29	226	P	P	07 36 55.3	-0.2
PTGA	Pitinga	20.29	226	eP	P	07 36 55.5	0.0
GCPR	Guaynabo City	20.31	286	P	Pn	07 36 56.2	-1.4
SJG	San Juan	20.34	285	P	P	07 36 55.0	-0.9
	comp=Z,24nm,0.6s,baz=91,slow=8.9,SNR=8.5						
SJG				LR	LR	07 44 07.0	
	comp=Z,249nm,18.3s,baz=99,slow=35						
SJG	San Juan	20.34	285	P	P	07 36 54.9	-1.1
SJG				IAmb	IAmb	07 36 57.8	
	comp=Z,91nm,1.3s						
ITTB	Itaituba	20.64	210	eP	P	07 36 59.8	+0.5
OBIP	Obispado Ponce	20.75	285	P	P	07 37 00.2	-0.4
AOPR	Arecibo Observ	20.94	286		P	07 37 00.5	-2.1
NBPA	Parau_RN	21.05	156	eP	P	07 37 03.7	0.0
MLPR	Magueyes Islan	21.16	284	P	P	07 37 03.3	-1.5
MLPR				IAmb	IAmb	07 37 08.9	
	comp=Z,43nm,0.9s						
SACV	Santiago Islan	21.24	84	P	P	07 37 05.2	-0.6
SACV				IAmb	IAmb	07 37 12.2	
	comp=Z,63nm,1.1s						
MPR	Mayaguez	21.28	285	P	P	07 37 05.1	-1.1
MPR				IAmb	IAmb	07 37 08.1	
	comp=Z,66nm,1.2s						
RCBR	Riachuelo	21.62	153	P	P	07 37 10.7	+0.8
	comp=Z,11nm,0.7s,baz=309,slow=11,SNR=6.7						
RCBR				LR	LR	07 43 33.6	
	comp=Z,204nm,18.6s,baz=318,slow=31						
RCBR	Riachuelo	21.62	153	P	P	07 37 11.2	+1.3
RCBR				IAmb	IAmb	07 37 16.7	
	comp=Z,63nm,1.2s						
RCBR	Riachuelo	21.62	153	eP	P	07 37 11.0	+1.1
NBMA	Muriti-CE	21.98	162	eP	P	07 37 13.6	-0.2
NBPV	Pedro Velho	22.42	153	eP	P	07 37 18.5	+0.1
SMTB	Santa Maria do	22.52	185	eP	P	07 37 19.4	-0.2
MACA	Manacapuru-AM	22.54	223	eP	P	07 37 20.2	+0.4
DR12	Loma Pena Alta	23.47	286	P	P	07 37 29.6	+0.2
NBRF	Rio Formoso -	24.51	155	eP	P	07 37 40.1	+1.0
SC01	Santiago de lo	24.83	287	P	P	07 37 42.1	0.0
NBAN	Anadia - AL	24.97	158	eP	P	07 37 43.5	+0.2
SDV	Santo Domingo	25.11	262	LR	LR	07 47 43.5	
	comp=Z,65nm,19.9s,baz=90,slow=37						
SDV	Santo Domingo	25.11	262	eP	P	07 37 48.2	+3.4
SDDR	Presa de Saban	25.29	285	P	P	07 37 46.3	0.0
PEXB	Peixe	25.80	186	eP	P	07 37 51.3	+0.4
SDBA	SAO DESIDERIO	25.96	179	eP	P	07 37 52.8	+0.5
SNDB	Serra Nova Dou	26.16	193	eP	P	07 37 54.7	+0.6
CLDB	Colider	26.48	203	eP	P	07 37 58.8	+1.8
OCAC	Ocana	27.84	262	eP	P	07 38 08.0	-1.5
GDU01	Guandu, BA	27.88	168	eP	P	07 38 10.3	+0

comp=Z,35nm,1.9s
OTAV Otavalo 35.27 250 *e*P **P 07 39 15.5 +0.3**
OTAV Otavalo 35.27 250 *e*P **P 07 39 17.7 +2.5**
AQDB Aquidauana 35.43 197 P **P 07 39 17.2 +1.4**
AQDB Aquidauana 35.43 197 *e*P **P 07 39 16.4 +0.5**
CAM01 Campos-RJ 35.52 174 *e*P **P 07 39 17.1 +0.5**
PCMB Pacaembu 35.55 189 *e*P **P 07 39 17.0 0.0**
PAC1 Pacto, Paraso 35.57 251 *e*P **P 07 39 18.4 +1.0**
DUB01 Friburgo-RJ 35.70 175 *e*P **P 07 39 18.6 +0.3**
VAS01 Vassouras-RJ 35.83 177 *e*P **P 07 39 19.8 +0.5**
H66A Whiting 36.11 333 P **P 07 39 22.6 +1.1**
baz=142,SNR=7.3
EMMW East Machias 36.11 333 P **P 07 39 21.6 +0.1**
EMMW IAmb IAmb 07 39 23.4
comp=Z,26nm,1.0s
GGN Saint George 36.17 334 P **P 07 39 21.6 -0.4**
GGN IAmb IAmb 07 39 23.4
comp=Z,20nm,1.1s
UCCT U. Connecticut 36.35 325 P **P 07 39 23.1 -0.5**
UCCT IAmb IAmb 07 39 25.2
comp=Z,25nm,0.9s
Y59A Loris 36.35 310 P **P 07 39 24.3 +0.6**
H65A Eastbrook 36.46 332 P **P 07 39 25.1 +0.6**
baz=141
HRV Adam Dziewonsk 36.47 327 P **P 07 39 24.7 +0.1**
baz=134
N62A Caumsett State 36.48 323 P **P 07 39 25.1 +0.3**
I64A Boothbay 36.52 330 P **P 07 39 25.9 +1.0**
baz=138
WSPT Westport, CT 36.56 324 P **P 07 39 25.6 +0.2**
WSPT IAmb IAmb 07 39 26.8
comp=Z,26nm,1.0s
U59A Littleton 36.66 314 P **P 07 39 26.1 -0.2**
U59A IAmb IAmb 07 39 28.0
comp=Z,19nm,1.1s
PAL Palisades 36.79 323 P **P 07 39 28.2 +0.8**
baz=130,SNR=7.0
PAL Palisades 36.79 323 P **P 07 39 27.6 +0.3**
PAL IAmb IAmb 07 39 29.1
comp=Z,33nm,0.9s
H64A Troy 36.86 331 P **P 07 39 29.1 +1.2**
baz=139
TRCB Terra Rica 36.95 191 P **P 07 39 29.6 +0.7**
TRCB IAmb IAmb 07 40 08.7
comp=Z,62nm,1.7s
TRCB Terra Rica 36.95 191 *e*P **P 07 39 29.8 +0.9**
L61B Northampton 37.04 326 P **P 07 39 30.1 +0.6**
baz=133
I63A Otisfield 37.07 330 P **P 07 39 30.8 +1.1**
baz=137
J62A Henniker 37.11 328 P **P 07 39 31.0 +0.9**
baz=134
G64A Maxfield 37.12 332 P **P 07 39 31.2 +1.1**
baz=141,SNR=8.6
SPB Sao Paulo 37.12 183 *e*P **P 07 39 30.8 +0.5**
H63A New Sharon 37.26 331 P **P 07 39 32.3 +1.0**
baz=138,SNR=6.5
LPAZ La Paz 37.27 218 P **P 07 39 32.7 +0.3**
comp=Z,4.2nm,0.6s,baz=44,slow=5.7,SNR=20
LPAZ LR LR 07 54 21.3
comp=Z,99nm,19.7s,baz=50,slow=36
LPAZ La Paz 37.27 218 P **P 07 39 33.0 +0.7**
LPAZ La Paz 37.27 218 *e*P **P 07 39 32.3 -0.1**
I62A Tamworth 37.32 329 P **P 07 39 33.1 +1.3**
baz=136,SNR=6.7
PKME Peaks-Kenny Pk 37.37 332 P **P 07 39 33.2 +1.0**
baz=140,SNR=7.4
F64A Sherman 37.41 333 P **P 07 39 33.3 +0.7**
baz=142,SNR=6.4
H10N3 ASCENSION HYDR 37.48 123 T T 08 19 16.2
baz=304,slow=75,SNR=166
H10N2 ASCENSION HYDR 37.49 123 T T 08 19 12.8
baz=304,slow=75,SNR=147
H10N1 ASCENSION HYDR 37.51 123 T T 08 19 17.7
baz=304,slow=75,SNR=182
K61A Williamstown 37.51 326 P **P 07 39 34.5 +1.0**
baz=132
J61A Chester 37.58 327 P **P 07 39 35.0 +1.0**
baz=134,SNR=7.4
F63A Nahmakanta, Br 37.62 333 P **P 07 39 34.9 +0.5**
baz=140
E64A Bridgewater 37.63 334 P **P 07 39 35.2 +0.8**
baz=143,SNR=6.3
H62A Milan 37.74 330 P **P 07 39 36.5 +1.1**
baz=137
I61A Oroboro, Fairl 37.81 328 P **P 07 39 36.8 +0.8**
baz=135,SNR=5.3
PET01 Itanhaem-SP 37.81 183 *e*P **P 07 39 36.9 +0.7**
N59A State Game Lan 37.84 321 P **P 07 39 37.2 +0.8**
baz=127,SNR=7.5
E63A Oxbow 37.88 334 P **P 07 39 37.7 +1.1**
baz=142
LBNH Lisbon 37.88 329 P **P 07 39 37.9 +1.2**
baz=135
G62A West of Eustis 37.91 331 P **P 07 39 37.7 +0.8**
baz=138,SNR=11
J60A Lant Hill Farm 37.98 326 P **P 07 39 38.2 +0.8**
baz=132
H10S3 ASCENSION HYDR 37.99 125 T T 08 19 46.9
baz=304,slow=74,SNR=213
H10S2 ASCENSION HYDR 38.01 125 T T 08 19 48.2
baz=276,slow=74,SNR=84
H61A Lyndonville 38.09 329 P **P 07 39 39.7 +1.4**
baz=136,SNR=11
D63A Stockholm 38.24 335 P **P 07 39 40.9 +1.4**
baz=143,SNR=6.8
I60A Shoreham 38.31 327 P **P 07 39 41.3 +1.1**
baz=133
G61A St-Isidore-de- 38.43 330 P **P 07 39 42.4 +1.2**
baz=137,SNR=9.7
H60A Morristown 38.50 328 P **P 07 39 43.1 +1.2**
baz=134
E62A Clayton Lake 38.51 333 P **P 07 39 42.7 +0.8**
baz=141
L58A Harry Jones Me 38.57 323 P **P 07 39 43.5 +1.1**
baz=128
I59A Olmsteadville 38.59 327 P **P 07 39 43.4 +0.8**
baz=132
D62A Allapoint, All 38.67 334 P **P 07 39 44.2 +1.1**
baz=142,SNR=8.4
F61A St Evariste 38.69 331 P **P 07 39 44.0 +0.6**
baz=138
G60A Masonville 38.70 329 P **P 07 39 44.9 +1.4**
baz=136,SNR=9.1
BINY Binghamton 38.75 323 P **P 07 39 44.6 +0.7**
baz=128
E61A Lac Etchemin 38.80 332 P **P 07 39 45.3 +1.0**
baz=139,SNR=9.4
BLA Blacksburg 38.92 313 P **P 07 39 46.9 +1.3**
baz=118,SNR=9.9
SSPA Standing Stone 38.98 320 P **P 07 39 47.0 +1.1**
baz=124
H59A Cadyville 39.07 328 P **P 07 39 47.5 +0.9**
baz=133
J58A Remsen 39.08 325 P **P 07 39 47.9 +1.2**
baz=130,SNR=6.0
I58A Old Forge 39.12 326 P **P 07 39 48.0 +0.9**
baz=131,SNR=6.8
F60A Warwick 39.14 331 P **P 07 39 47.2 +0.1**
baz=137,SNR=5.6
H58A Gabriels 39.17 327 P **P 07 39 48.5 +1.0**
baz=132,SNR=7.7
E60A Ste Agathe de 39.19 331 P **P 07 39 48.1 +0.5**
baz=138,SNR=6.8
O56A Blue Knob Stat 39.21 319 P **P 07 39 49.3 +1.4**
baz=123,SNR=9.4
D60A Saint Jean D'O 39.36 332 P **P 07 39 49.8 +0.9**
baz=139,SNR=8.5
GOGA Godfrey 39.66 306 P **P 07 39 52.8 +1.2**
baz=110,SNR=6.1
I57A Carthage 39.66 325 P **P 07 39 52.5 +1.0**
baz=130,SNR=5.0
MCWV Mont Chateau 39.73 317 P **P 07 39 53.3 +1.2**
baz=121
K56A Middlesex 39.84 323 P **P 07 39 53.5 +0.4**
baz=127
D59A Saint-Raymond 39.84 332 P **P 07 39 54.0 +1.0**
baz=138
H57A Richville 39.85 326 P **P 07 39 54.0 +1.0**
baz=131
E58A La Victoria 40.07 330 P **P 07 39 55.8 +0.9**
baz=135
KOWA Kowa 40.20 84 P **P 07 39 57.0 +0.7**
comp=Z,23nm,0.6s,baz=281,slow=7.8,SNR=59
KOWA PcP **PcP 07 41 59.9 -0.7**
comp=Z,1.7nm,0.4s,baz=208,slow=1.9,SNR=2.4
D58A Chemin du LacG 40.40 331 P **P 07 39 58.1 +0.5**
baz=136,SNR=6.9
152A Waverly Hall 40.40 305 P **P 07 39 58.0 +0.2**
PECO Prince Edward 40.40 324 P **P 07 39 57.4 -0.3**
PECO IAmb IAmb 07 39 59.7
comp=Z,27nm,1.0s
TIC Toumodi 40.41 96 *e*P **P 07 39 59.0 +0.9**
WVNY West Valley, N 40.43 321 P **P 07 39 57.7 -0.3**
J55A Hilton 40.47 323 P **P 07 39 58.0 -0.2**
J55A IAmb IAmb 07 39 59.9
comp=Z,27nm,1.2s
LIC Lamto 40.49 96 *e*P **P 07 39 58.9 0.0**
comp=Z,105nm,1.2s
N54A Moraine State 40.50 319 P **P 07 39 59.4 +0.9**
baz=122,SNR=7.2
N54A Moraine State 40.50 319 P **P 07 39 58.5 0.0**
R53A Hurricane 40.52 314 P **P 07 39 58.9 +0.2**
TGUH Tegucigalpa,Un 40.52 276 P **P 07 39 59.2 0.0**
LATQ La Tuque 40.56 331 P **P 07 39 59.7 +0.8**
baz=137,SNR=7.4
LATQ La Tuque 40.56 331 P **P 07 39 58.5 -0.4**
LATQ IAmb IAmb 07 40 00.5
comp=Z,23nm,1.0s
M54A Oil Creek Stat 40.59 320 P **P 07 40 00.2 +0.9**
baz=123,SNR=8.7
M54A Oil Creek Stat 40.59 320 P **P 07 39 59.0 -0.3**
TKL Tuckaleechee C 40.71 309 P **P 07 39 59.6 -0.8**
comp=Z,8.5nm,0.8s,baz=115,slow=8.1,SNR=14
TKL Tuckaleechee C 40.71 309 P **P 07 40 01.4 +1.0**
KIC Kosan Boka 40.74 96 *e*P **P 07 40 01.9 +1.0**
comp=Z,58nm,1.0s
TZTN Tazewell 40.90 311 P **P 07 40 03.0 +1.1**
baz=114,SNR=7.6
TZTN Tazewell 40.90 311 P **P 07 40 03.2 +1.3**
O53A New Philadelph 40.93 317 P **P 07 40 02.8 +0.6**
baz=120,SNR=6.5
N53A Lisbon 40.97 318 P **P 07 40 02.6 +0.2**
Z51A Franklin 40.97 305 P **P 07 40 02.0 -0.6**
Q52A Bidwell 41.02 315 P **P 07 40 02.9 0.0**
Q52A IAmb IAmb 07 40 04.4
comp=Z,16nm,0.8s
ERPA Erie 41.12 320 P **P 07 40 04.4 +0.7**
baz=123
ERPA Erie 41.12 320 P **P 07 40 04.4 +0.7**
ERPA IAmb IAmb 07 40 06.0
comp=Z,20nm,0.9s
M53A WI Miller and 41.19 319 P **P 07 40 05.0 +0.8**
baz=122,SNR=6.5
P52A Corning 41.25 316 P **P 07 40 05.4 +0.7**
baz=118,SNR=7.5
CPUP Villa Florida 41.43 196 P **P 07 40 05.6 -0.7**
comp=Z,2.0nm,0.6s,baz=23,slow=9.4,SNR=8.8
CPUP LR LR 07 57 14.1
comp=Z,50nm,18.8s,baz=28,slow=36
CPUP Villa Florida 41.43 196 *e*P **P 07 40 06.8 +0.5**
MDT Midelt 41.78 56 P **P 07 40 10.2 +0.9**
comp=Z,2.5nm,0.8s,baz=300,slow=10,SNR=4.2
ACSO Alum Creek Sta 42.11 316 P **P 07 40 12.3 +0.6**
baz=118,SNR=7.3
ACSO Alum Creek Sta 42.11 316 P **P 07 40 11.7 0.0**
ACSO IAmb IAmb 07 40 13.4
comp=Z,22nm,0.8s
ALGO Algonquin Park 42.25 326 P **P 07 40 13.2 +0.3**
baz=129
LRAL Lakeview Retre 42.34 304 P **P 07 40 14.9 +1.1**
baz=107,SNR=6.9
MTO3 Montecristo 42.51 276 P **P 07 40 15.6 -0.1**
M50A Fremont 42.71 317 P **P 07 40 16.6 0.0**
PETF Flores 42.85 280 P **P 07 40 18.8 +0.6**
P49A Miami Univ. Ec 42.98 314 P **P 07 40 19.4 +0.5**
baz=116,SNR=8.7
CHGQ Chibougamau 43.12 333 P **P 07 40 20.5 +0.6**
baz=137,SNR=12
P48A Milroy 43.45 314 P **P 07 40 22.4 -0.3**
P48A IAmb IAmb 07 40 23.6
comp=Z,15nm,0.8s
AAM Ann Arbor 43.55 318 P **P 07 40 24.5 +1.1**
baz=119
AAM Ann Arbor 43.55 318 P **P 07 40 23.7 +0.3**
WCI Wyandotte Cave 43.57 312 P **P 07 40 24.6 +1.0**
baz=113
WCI Wyandotte Cave 43.57 312 P **P 07 40 23.9 +0.2**
WCI IAmb IAmb 07 40 25.4
comp=Z,12nm,0.7s
T47A Sharon Grove 43.70 310 P **P 07 40 24.7 0.0**
LSQQ Lebel-sur-Quev 43.73 330 P **P 07 40 25.3 +0.5**
baz=133
PLAL Pickwick Lake 43.78 307 P **P 07 40 25.4 0.0**
PLAL IAmb IAmb 07 40 27.2
comp=Z,36nm,1.4s
WVT Waverly 43.96 308 P **P 07 40 27.3 +0.5**
baz=110
WVT Waverly 43.96 308 P **P 07 40 26.5 -0.3**
WVT IAmb IAmb 07 40 28.3
comp=Z,19nm,0.9s
ITQB Itaqui 44.45 194 *e*P **P 07 40 31.1 +0.4**
MATQ Matagami 44.52 331 P **P 07 40 31.1 0.0**
baz=133,SNR=9.4
CPSB Cacapava Do Su 44.52 190 *e*P **P 07 40 32.4 +1.1**
ESDC Sonseca Array 44.66 47 P **P 07 40 32.5 0.0**
comp=Z,1.3nm,1.1s,baz=249,slow=11,SNR=4.6
ESDC LR LR 07 55 55.7
comp=Z,75nm,19.7s,baz=230,slow=32
OXF Oxford 44.69 305 P **P 07 40 32.7 0.0**
baz=107,SNR=5.1
SFIN Lafayette 45.00 314 P **P 07 40 35.8 +0.7**
baz=114,SNR=10
L46A Eue Claire 45.15 317 P **P 07 40 36.2 0.0**
L46A IAmb IAmb 07 40 37.6
comp=Z,26nm,1.1s
GLMI Grayling 45.41 321 P **P 07 40 39.4 +1.1**
baz=121
SIUC Southern Illin 45.53 310 P **P 07 40 39.7 +0.3**
S44A Carbondale 45.55 310 P **P 07 40 39.8 +0.2**
PARMO Parma 45.60 308 P **P 07 40 39.9 0.0**
TOA0 Torodi Ar. Sit 45.84 85 P **P 07 40 42.3 +0.2**
TORD Torodi Ar. Bea 45.84 85 P **P 07 40 42.0 -0.1**
comp=Z,23nm,0.7s,baz=287,slow=8.1,SNR=148
TORD LR LR 07 57 50.4
comp=Z,240nm,20.7s,baz=270,slow=33
PLTB Pedras Altas 45.88 190 P **P 07 40 43.1 +1.0**
PLTB Pedras Altas 45.88 190 *e*P **P 07 40 43.1 +1.0**
L44A Lake County Fo 46.30 316 P **P 07 40 45.9 +0.6**
baz=115,SNR=5.6
AC02 Maricunga 46.39 210 P **P 07 40 46.9 +0.1**
AC02 IAmb IAmb 07 40 53.1
comp=Z,35nm,1.9s
HDIL Hopedale 46.61 313 P **P 07 40 48.0 +0.2**
baz=112,SNR=7.0
K43A Burlington 46.80 317 P **P 07 40 49.7 +0.4**
K43A IAmb IAmb 07 40 50.5
comp=Z,16nm,0.8s
W41B Gary Mavity, V 47.11 305 P **P 07 40 52.0 +0.1**
baz=105,SNR=12
CCM Cathedral Cave 47.16 310 P **P 07 40 52.3 +0.1**
baz=108
X40A Basin Creek Fa 47.41 304 P **P 07 40 54.5 +0.3**
baz=104,SNR=7.5
U40A Yellville 47.90 307 P **P 07 40 57.6 -0.4**
baz=106,SNR=9.9
MIAR Mount Ida 48.02 304 P **P 07 40 59.1 +0.2**
baz=103
JFWS Jewell Farm 48.18 316 P **P 07 41 00.3 +0.3**
baz=113,SNR=8.3
W39A Magazine 48.34 305 P **P 07 41 02.2 +0.9**
baz=104,SNR=13
NATX Nacogdoches 48.34 300 P **P 07 41 02.3 +0.9**
baz=100
NATX Nacogdoches 48.34 300 P **P 07 41 01.4 -0.1**
L40A Anamosa 48.52 315 P **P 07 41 01.9 -0.7**
I40A Norwalk 48.81 317 P **P 07 41 04.9 0.0**
TUL1 Leonard 50.09 305 P **P 07 41 14.8 0.0**
baz=103,SNR=6.6
435B Jarrell 50.67 299 P **P 07 41 19.2 0.0**
baz=98
SPMN Marine on St. 50.78 318 P **P 07 41 20.1 +0.3**
baz=113,SNR=8.9
EYMN Ely 51.08 322 P **P 07 41 22.2 +0.1**
baz=116
833A Chaparral WMA, 51.98 295 P **P 07 41 29.2 +0.1**
baz=94,SNR=5.4
WMOK Wichita Mounta 52.26 303 P **P 07 41 30.5 -0.7**
baz=100,SNR=9.3
JCT Junction City 52.53 298 P **P 07 41 32.9 -0.3**
baz=96,SNR=6.1
ABTX Abilene, Hawle 52.65 301 P **P 07 41 33.9 -0.1**
baz=98
ECSD EROS Data Cent 52.81 315 P **P 07 41 34.6 -0.5**
baz=108,SNR=8.6
BGNE Belgrade 53.23 312 P **P 07 41 38.1 -0.1**
baz=105
KEST Kesra 53.68 56 P **P 07 41 41.5 -0.1**
comp=Z,6.5nm,0.9s,baz=213,slow=3.5,SNR=7.0
KEST LR LR 08 02 55.7
comp=Z,95nm,20.0s,baz=245,slow=34
KEST Kesra 53.68 56 IAmb IAmb 07 41 43.7
comp=Z,11nm,1.1s
CBKS Cedar Bluff 53.79 308 P **P 07 41 42.7 +0.3**
baz=102
AGMN Agassiz Nation 53.89 320 P **P 07 41 42.1 -0.8**
baz=112,SNR=6.9
SUSD Miller 54.63 315 P **P 07 41 48.2 -0.2**
baz=107
AMTX Amarillo 54.64 303 P **P 07 41 48.6 -0.2**
baz=98
ULM Lac du Bonnet 54.66 323 P **P 07 41 47.2 -1.3**
comp=Z,13nm,0.8s,baz=111,slow=7.8,SNR=17
ULM LR LR 08 01 39.2
comp=Z,190nm,21.3s,baz=100,slow=32
BCLA Clavier 54.97 37 *d*pP pP 07 41 54.2 +1.4
MSTX Muleshoe 55.42 302 P **P 07 41 54.4 0.0**
baz=97,SNR=13
MEM Membach 55.46 37 *d*P **P 07 41 54.7 +0.5**
TX32 Lajitas Array 55.78 296 P **P 07 41 56.5 -0.5**
TXAR Lajitas Array 55.78 296 P **P 07 41 56.2 -0.9**
comp=Z,2.8nm,0.7s,baz=116,slow=7.4,SNR=41
TXAR PcP **PcP 07 42 57.2 +1.0**
comp=Z,1.0nm,0.8s,baz=105,slow=6.9,SNR=2.1
TXAR LR LR 08 04 18.9
comp=Z,96nm,21.8s,baz=0.0,slow=34
DAVA Damuels 56.74 42 *e*P **P 07 42 05.3 +1.7**
comp=Z,3.5nm,1.0s
CLTB Caltabellotta 57.04 54 P **P 07 42 06.4 +0.5**
CLTB IAmb IAmb 07 42 07.4
comp=Z,17nm,0.8s
T25A Trinidad 57.14 305 P **P 07 42 07.4 +0.6**
baz=98,SNR=7.5
FETA Feichten 57.22 43 *e*P **P 07 42 07.3 +0.2**
comp=Z,2.1nm,0.7s
RETA Reutte 57.37 42 *e*P **P 07 42 07.9 -0.1**
comp=Z,2.5nm,1.0s
MNTX Cornudas Mount 57.40 299 P **P 07 42 08.3 -0.1**
baz=94,SNR=17
MOTA Moosalm 57.55 42 *e*P **P 07 42 09.8 +0.4**
comp=Z,5.7nm,1.5s
SDCO Great Sand Dun 58.08 306 P **P 07 42 14.1 +0.6**
baz=97,SNR=25
RSSD Black Hills 58.08 314 P **P 07 42 13.4 +0.1**
baz=102
ABTA Abfaltersbach 58.32 43 *e*P **P 07 42 15.7 +0.9**
comp=Z,3.6nm,1.4s
ISCO Idaho Springs 58.45 308 P **P 07 42 17.4 +1.3**
baz=99,SNR=22
ANMO Albuquerque 58.55 303 P **P 07 42 17.2 +0.6**
baz=95
ZOU Zoufplan 58.59 44 P **P 07 42 16.5 -0.2**
ZOU IAmb IAmb 07 42 26.1
comp=Z,7.0nm,0.8s
N23A Red Feather La 58.87 310 P **P 07 42 19.9 +1.0**
baz=99,SNR=9.9
PLCA Paso Flores 58.94 202 P **P 07 42 18.5 -0.5**
comp=Z,6.6nm,0.8s,baz=43,slow=7.8,SNR=8.7
PLCA Paso Flores 58.94 202 IAmb IAmb 07 42 26.6
comp=Z,10.0nm,1.1s
PLCA Paso Flores 58.94 202 *e*P **P 07 42 19.9 +0.9**
KBA Koelnbreinsper 58.96 43 *e*P **P 07 42 21.8 +2.5**
comp=Z,3.0nm,0.6s
S22A 4UR Ranch, Cre 59.13 306 P **P 07 42 22.1 +1.3**
baz=96,SNR=15
121A Cookes Peak, D 59.48 300 P **P 07 42 24.2 +1.0**
baz=93,SNR=9.9
121A Cookes Peak, D 59.48 300 P **P 07 42 22.6 -0.6**
121A IAmb IAmb 07 42 25.2
comp=Z,12nm,0.8s
KHC Kasperske Hory 59.62 41 *e*P **P 07 42 25.5 +1.8**
KHC *ex* x 07 42 32.8
GERES GERESS Array B 59.63 41 P **P 07 42 23.2 -0.6**
comp=Z,0.2nm,0.5s,baz=255,slow=3.0,SNR=1.6
OBKA Obir 59.63 44 *e*P **P 07 42 24.4 +0.5**
comp=Z,3.0nm,0.7s
CLL Collm 59.86 38 *e*(P) **P 07 42 29.0 +3.8**
CLL *e* 07 42 40.0
LAO LASA Array 60.13 316 P **P 07 42 27.5 +0.3**
baz=102,SNR=7.9
MVCO Mesa Verde 60.39 305 P **P 07 42 30.3 +0.9**
baz=95
ARSA Arzberg 60.45 43 *e*P **P 07 42 32.4 +3.1**
comp=Z,3.2nm,0.9s
O20A White River Ci 60.50 308 P **P 07 42 30.6 +0.5**
baz=97,SNR=8.4
CONA Conrad Observa 60.81 43 *e*P **P 07 42 32.3 +0.4**
comp=Z,3.7nm,1.0s
W18A Petrified Fore 61.24 303 P **P 07 42 35.6 +0.5**
baz=93
BW06 Boulder Array 61.81 311 P **P 07 42 38.4 -0.6**
baz=97,SNR=16
PDAR Pinedale Array 61.81 311 P **P 07 42 38.0 -0.9**
comp=Z,5.4nm,1.1s,baz=101,slow=6.2,SNR=31
PDAR LR LR 08 06 22.3
comp=Z,119nm,21.6s,baz=115,slow=33
RLMT Red Lodge 61.94 314 P **P 07 42 39.8 0.0**
baz=99,SNR=8.5
TUC Tucson 62.01 299 P **P 07 42 41.0 +0.7**
baz=91
NB2 NORSAR Subarra 62.26 27 P **P 07 42 41.4 0.0**
comp=Z,2.5nm,0.8s,baz=247,slow=6.9
NOA NORSAR Array B 62.26 27 P **P 07 42 41.9 +0.4**
comp=Z,1.1nm,0.9s,baz=247,slow=6.4,SNR=3.4
NOA LR LR 08 05 57.1
comp=Z,23nm,18.5s,baz=255,slow=32
WUAZ Wupatki 62.60 303 P **P 07 42 45.5 +1.3**
baz=92,SNR=9.8
EGMT Eagleton 62.75 317 P **P 07 42 44.7 -0.2**
baz=100,SNR=6.2
HFS Hagfors 63.06 29 P **P 07 42 45.7 -1.0**
comp=Z,2.3nm,0.7s,baz=251,slow=4.4,SNR=3.3
MTPU Mount Pierson 63.37 306 P **P 07 42 48.9 -0.8**
MTPU IAmb IAmb 07 42 51.8
comp=Z,15nm,1.0s
BOZ Bozeman (W) 63.66 314 P **P 07 42 50.8 -0.3**
baz=97,SNR=10
214A Organ Pipe Nat 63.73 299 P **P 07 42 52.9 +1.3**
baz=90
SPUT South Promonto 63.80 309 P **P 07 42 51.7 -0.5**
KNB Kanab 63.83 305 P **P 07 42 52.4 -0.1**
KNB IAmb IAmb 07 42 55.6
comp=Z,8.8nm,0.9s
ITM Ithomi 63.91 55 P **P 07 42 53.6 +0.9**
DUG Dugway, Tooele 63.99 308 P **P 07 42 54.1 +0.6**
baz=94,SNR=6.9
PDMCI Parker Dam,Lak 64.84 302 P **P 07 43 00.1 +1.2**
baz=90,SNR=6.7
MSO Missoula 65.39 315 P **P 07 43 01.7 -0.7**
baz=96
IRM Iron Mountain 65.68 301 P **P 07 43 05.8 +1.4**
baz=90,SNR=5.4
BC3 Big Chuckawall 65.94 301 P **P 07 43 07.1 +0.9**
baz=89
R11A Troy Canyon, C 66.06 306 P **P 07 43 07.7 +0.7**
baz=91,SNR=11
GMRC Granite Mounta 66.10 302 P **P 07 43 08.2 +1.0**
baz=90,SNR=8.5
IDI Anoyia 66.27 57 P **P 07 43 08.0 -0.2**
comp=Z,18nm,0.8s,baz=265,slow=7.7,SNR=7.7
IDI Anoyia 66.27 57 P **P 07 43 09.3 +1.1**
TUQ Turquoise Moun 66.31 303 P **P 07 43 09.6 +1.0**
baz=90,SNR=8.9
BELC Belle Mtn. Jos 66.39 301 P **P 07 43 10.4 +1.3**
baz=89,SNR=5.9
TPNV Topopah Spring 66.57 304 P **P 07 43 11.8 +1.6**
baz=90,SNR=12
HEC Hector,Ludlow 66.65 302 P **P 07 43 12.3 +1.6**
baz=89
MONP2 Monument Peak 66.77 300 P **P 07 43 12.9 +1.2**
baz=88
TPFO Pinon Flats 66.78 301 P **P 07 43 12.5 +1.0**
baz=89
PFO Pinyon Flats O 66.78 301 P **P 07 43 12.4 +0.8**
baz=89
GSC Goldstone, Bar 67.03 303 P **P 07 43 14.2 +1.1**
baz=89,SNR=15
GSC Goldstone, Bar 67.03 303 P **P 07 43 13.4 +0.2**
FURC Furnace Creek, 67.07 304 P **P 07 43 14.5 +1.4**
baz=90,SNR=11

BBRC	Big Bear Solar	67.15	302	P		P	07 43 15.5 +1.5
	baz=89						
ALN	Alexandroupoli	67.24	51	P		P	07 43 15.2 +1.1
MLR	Muntele Rosu	67.35	46	P		P	07 43 15.0 0.0
	comp=Z,11nm,1.1s,baz=185,slow=2.1,SNR=7.2						
MLR	Muntele Rosu	67.35	46	P		P	07 43 15.3 +0.3
MLR				IAmb		IAmb	07 43 17.1
	comp=Z,12nm,1.0s						
GRAC	Grapevine Rang	67.47	305	P		P	07 43 16.9 +1.1
	baz=90,SNR=15						
NEW	Newport	67.67	317	P		P	07 43 16.5 -0.4
	baz=94,SNR=18						
LRMC	Laurel Mtn Rad	67.75	303	P		P	07 43 18.9 +1.3
	baz=89,SNR=5.4						
BFSC	Mount Baldy Ra	67.76	302	P		P	07 43 18.5 +0.7
	baz=88,SNR=5.2						
EDW2	Edwards Air Fo	68.02	302	P		P	07 43 20.3 +1.0
	baz=88,SNR=12						
CWC	Cottonwood Cre	68.05	304	P		P	07 43 20.6 +1.0
	baz=89						
NVAR	Mina Array Bea	68.20	306	P		P	07 43 19.9 -0.7
	comp=Z,1.8nm,0.8s,baz=92,slow=6.5,SNR=16						
NVAR				LR		LR	08 13 18.7
	comp=Z,49nm,18.1s,baz=102,slow=36						
YKA	Yellowknife Ar	68.31	332	P		P	07 43 18.8 -1.7
	comp=Z,3.1nm,0.9s,baz=104,slow=7.3,SNR=12						
YKA				LR		LR	08 09 44.6
	comp=Z,153nm,21.5s,baz=0.0,slow=33						
ISA	Isabella, Lake	68.39	303	P		P	07 43 23.3 +1.7
	baz=88,SNR=15						
ARVC	Arvin	68.69	303	P		P	07 43 25.7 +2.2
	baz=88						
FINES	FINESS Array B	69.25	29	P		P	07 43 27.5 +1.1
	comp=Z,2.8nm,1.0s,baz=260,slow=8.3,SNR=2.6						
FINES				LR		LR	08 09 12.9
	comp=Z,46nm,19.7s,baz=230,slow=32						
MNK	Minsk	69.30	37	*i* P		P	07 43 24.5 -2.3
	comp=E,3.0nm,0.9s						
MNK				*i* P		P	07 43 24.5 -2.3
	comp=N,24nm,1.1s						
MNK				*i* P		P	07 43 24.5 -2.3
	comp=Z,8.0nm,0.8s,baz=266						
MNK				*i* PcP		PcP	07 43 48.0 -2.4
MNK				*i* PP		PP	07 45 57.3 -2.5
MNK				*i* PPP		PPP	07 47 37.6
MNK				*i* S		S	07 52 30.6 -2.7
MNK				*i* ScS		SKSac	07 53 25.4 -1.6
MNK				*i* SS		SS	07 56 58.8 -1.0
MNK				*i* SSS		SSS	08 00 15.9
MNK				*i* LR		LR	08 14 05.0
MNK				*i* LRM		MLR	08 16 24.7
	comp=Z,43nm,20.2s						
MNK				*i* LRM		MLR	08 17 13.2
	comp=N,598nm,17.4s						
MNK				*i* LRM		MLR	08 17 14.7
	comp=E,43nm,21.0s						
PKM	Mcpherson Peak	69.51	302	P		P	07 43 29.8 +1.1
	baz=87,SNR=7.5						
ELL	Elmali	70.30	56	P		P	07 43 34.6 +1.1
J05D	Fort Rock, OR	70.38	311	P		P	07 43 35.1 +1.1
	baz=90,SNR=12						
I05D	Terrebonne, OR	70.45	312	P		P	07 43 35.4 +1.1
	baz=90,SNR=5.7						
F05D	White Salmon	70.54	314	P		P	07 43 35.5 +0.9
	baz=90,SNR=7.3						
ARCES	ARCESS Array B	70.62	21	P		P	07 43 34.8 +0.1
	comp=E,2.3nm,1.1s,baz=255,slow=6.4,SNR=1.8						
ARCES				LR		LR	08 07 51.6
	comp=E,56nm,21.7s,baz=340,slow=30						
M04C	Macdoel	70.86	310	P		P	07 43 37.6 +0.7
	baz=88,SNR=17						
O03E	Paynes Creek	70.87	308	P		P	07 43 37.2 +0.3
	baz=88,SNR=7.9						
J04D	Umpqua Nationa	71.02	311	P		P	07 43 38.8 +0.9
	baz=89,SNR=7.2						
L04D	Klamath Falls	71.19	310	P		P	07 43 39.3 +0.4
	baz=88,SNR=18						
H04D	Lebanon	71.45	313	P		P	07 43 40.2 0.0
	baz=89						
N02D	Trinity Center	71.53	309	P		P	07 43 40.3 -0.6
	baz=88,SNR=6.8						
M02C	Callahan	71.63	309	P		P	07 43 41.2 -0.3
	baz=88,SNR=7.7						
O02D	Mt. Diablo Mer	71.63	308	P		P	07 43 41.0 -0.5
	baz=87						
G03D	McMinnville, O	71.81	313	P		P	07 43 43.3 +0.9
	baz=89						
I03D	Drain, OR	71.91	312	P		P	07 43 43.3 +0.3
	baz=88						
L02E	Cave Junction	72.16	310	P		P	07 43 44.9 +0.3
	baz=88,SNR=6.6						
K02D	Willamette Mer	72.18	311	P		P	07 43 44.9 +0.2
	baz=88,SNR=7.0						
KHMM	Horse Mountain	72.31	309	P		P	07 43 45.7 0.0
J01E	Myrtle Point	72.36	311	P		P	07 43 46.6 +0.9
	baz=88						
BR131	Keskin Array S	73.07	52	P		P	07 43 50.4 +0.2
BR131				IAmb		IAmb	07 44 00.1
	comp=Z,9.9nm,1.1s						
BRTR	Keskin Array B	73.07	52	P		P	07 43 50.4 +0.2
	comp=Z,3.1nm,0.8s,baz=256,slow=5.0,SNR=12						
INK	Inuvik	76.64	338	P		P	07 44 09.2 -0.9
	comp=Z,3.1nm,0.7s,baz=48,slow=5.3,SNR=12						
INK	Inuvik	76.64	338	P		P	07 44 09.6 -0.4
	baz=87,SNR=8.1						
WRAK	Wrangell Islan	76.97	325	P		P	07 44 12.7 +0.6
	baz=85						
EPYK	Eagle Plains	78.04	336	P		P	07 44 17.7 -0.4
	baz=83						
SKAG	Skagway	78.23	329	P		P	07 44 19.9 +0.8
	baz=83,SNR=6.7						
KIV	Kislovodsk	79.33	47	P		P	07 44 27.1 +1.5
KIV				IAmb		IAmb	07 44 47.7
	comp=Z,14nm,1.2s						
KBZ	Khabaz	79.51	47	P		P	07 44 26.9 +0.4
	comp=Z,1.9nm,0.8s,baz=270,slow=2.0,SNR=2.3						
GURO	Guroymak-BITLI	79.68	53	P		P	07 44 29.2 +1.4
EGAK	Eagle	80.11	334	P		P	07 44 28.5 -0.8
	baz=79						
BOSA	Boshof	80.24	123	P		P	07 44 30.9 0.0
	comp=Z,6.1nm,0.9s,baz=65,slow=1.5,SNR=4.9						
BOSA				LR		LR	08 11 53.4
	comp=Z,192nm,20.5s,baz=352,slow=30						
LODK	Lodwar	80.32	89	P		P	07 44 33.4 +1.9
K27K	Chicken	80.65	334	P		P	07 44 32.3 0.0
	baz=78						
L27K	Beaver Creek,	80.74	333	P		P	07 44 33.1 +0.2
	baz=78,SNR=9.9						
L27K	Beaver Creek,	80.74	333	P		P	07 44 32.7 -0.1
L26K	Log Cabin Wild	81.43	333	P		P	07 44 36.5 0.0
	baz=77						
GNI	Garni	81.47	51	P		P	07 44 37.4 0.0
	comp=Z,3.8nm,0.4s,baz=44,slow=20,SNR=1.8						
SCRK	Sand Creek	81.48	334	P		P	07 44 36.7 -0.2
	baz=76						
MCARA	McCarthy VSAT	81.66	331	P		P	07 44 38.6 +0.9
	baz=77						
PRP	Porcupine Dome	81.75	336	P		P	07 44 38.9 +0.7
	baz=75,SNR=8.8						
PRP	Porcupine Dome	81.75	336	P		P	07 44 38.7 +0.5
PRP				IAmb		IAmb	07 44 39.8
	comp=Z,12nm,1.1s						
CRQE	Cirque	81.83	331	P		P	07 44 40.3 +1.5
	baz=77						
N25K	Chitina, Valde	82.33	332	P		P	07 44 42.1 +0.8
	baz=76						
TOLK	Toolik Lake Re	82.38	339	P		P	07 44 42.2 +0.8
	baz=72						
ILAR	Eielson Array	82.50	335	P		P	07 44 42.0 0.0
	comp=Z,5.7nm,0.9s,baz=75,slow=4.4,SNR=45						
ILAR				LR		LR	08 20 25.0
	comp=Z,55nm,20.3s,baz=90,slow=35						
H24K	Noodor Dome	82.59	336	P		P	07 44 43.4 +0.9
	baz=73,SNR=5.9						
MDM	Murphy Dome	83.00	335	P		P	07 44 45.0 +0.3
MDM				IAmb		IAmb	07 44 45.8
	comp=Z,11nm,1.2s						
WRH	Wood River Hil	83.08	335	P		P	07 44 44.5 -0.6
WRH				IAmb		IAmb	07 44 46.2
	comp=Z,12nm,1.1s						
EYAK	Cordova Ski Ar	83.15	331	P		P	07 44 46.5 +1.1
	baz=74						
H23K	Yukon River	83.25	336	P		P	07 44 46.7 +0.7
	baz=72,SNR=9.1						
I23K	Minto, Yukon-K	83.39	336	P		P	07 44 47.0 +0.4
	baz=72						
I23K	Minto, Yukon-K	83.39	336	P		P	07 44 46.3 -0.3
	comp=Z,10nm,1.2s						
FID	Port Fidalgo	83.44	331	P		P	07 44 47.3 +0.3
FID				IAmb		IAmb	07 46 20.8
	comp=Z,9.5nm,1.0s						
NEA2	Nenana	83.45	335	P		P	07 44 47.1 +0.1
	baz=72						
NEA2	Nenana	83.45	335	P		P	07 44 46.1 -0.9
NEA2				IAmb		IAmb	07 46 23.9
	comp=Z,6.1nm,0.9s						
WAT6	Susitna Watana	83.49	333	P		P	07 44 47.1 -0.3
	baz=73						
WAT1	Susitna Watana	83.77	333	P		P	07 44 49.4 +0.7
	baz=72						
MLY	Manley	83.98	336	P		P	07 44 50.0 +0.3
	baz=70,SNR=8.7						
MLY	Manley	83.98	336	P		P	07 44 49.3 -0.4
MLY				IAmb		IAmb	07 46 22.7
	comp=Z,5.3nm,0.6s						
TRF	Thorofare Moun	84.32	334	P		P	07 44 52.1 +0.4
	baz=71,SNR=5.7						
TRF	Thorofare Moun	84.32	334	P		P	07 44 51.6 -0.1
TRF				IAmb		IAmb	07 44 53.0
	comp=Z,12nm,1.1s						
BPAW	Bear Paw Mtn.	84.40	335	P		P	07 44 51.8 -0.1
	baz=70,SNR=11						
BPAW	Bear Paw Mtn.	84.40	335	P		P	07 44 51.2 -0.7
BPAW				IAmb		IAmb	07 44 52.7
	comp=Z,9.2nm,1.0s						
I21K	Tanana	84.43	336	P		P	07 44 52.3 +0.3
	baz=69						
KTH	Kantishna Hill	84.56	334	P		P	07 44 52.2 -0.5
KTH				IAmb		IAmb	07 44 53.9
	comp=Z,15nm,1.1s						
H21K	Melozitna Rive	84.58	337	P		P	07 44 53.4 +0.7
	baz=69						
CHUM	Lake Minchumin	85.02	335	P		P	07 44 55.0 0.0
	baz=69,SNR=8.4						
PPLA	Purkeypile	85.33	334	P		P	07 44 56.7 0.0
	baz=69						
SKT	Skwentna	85.36	333	P		P	07 44 56.7 0.0
	baz=70						
SKT	Skwentna	85.36	333	P		P	07 44 56.3 -0.4
SKT				IAmb		IAmb	07 44 57.8
	comp=Z,14nm,1.2s						
BRSE	Bradley Lake S	85.78	331	P		P	07 44 59.2 +0.4
	baz=70,SNR=5.1						
K20K	Telida	85.95	335	P		P	07 44 59.5 -0.1
	baz=67						
CNPM	China Poot	86.09	331	P		P	07 45 00.9 +0.5
M20K	Styx River	86.11	333	P		P	07 45 00.5 -0.1
	baz=68						
M19K	Big River Lodg	86.65	333	P		P	07 45 03.0 -0.1
	baz=67						
L19K	White Mountain	86.74	334	P		P	07 45 03.4 -0.2
	baz=67,SNR=7.3						
KDAK	Kodiak Island	87.37	329	P		P	07 45 07.2 +0.6
	baz=68						
O18K	Koktuh Hills	87.83	332	P		P	07 45 08.6 -0.2
	baz=66,SNR=7.9						
OHAK	Old Harbor	87.93	329	P		P	07 45 09.6 +0.3
	baz=68,SNR=5.3						
VNA1	Neumayer--Stat	87.95	168	P		P	07 45 08.9 0.0
VNA3	Neumayer Olymp	88.17	169	P		P	07 45 10.3 +0.2
ABKAR	Akbulak array	89.52	39	P		P	07 45 17.3 +0.3
SNAA	Sanae	89.85	168	P		P	07 45 17.8 -0.2
SNAA	Sanae	89.85	168	P		P	07 45 18.1 +0.1
KKAR	Karatay Array	98.73	42	P		P	07 45 58.4 -1.0
KKAR				IAmb		IAmb	07 49 34.0
	comp=Z,4.6nm,1.4s						
CD2	Chengdu	126.69	33	PKP		PKPdf	07 51 23.7 -0.2
CMAR	Chiang Mai Arr	132.55	49	PKP		PKPdf	07 51 34.6 -0.6
	comp=Z,0.8nm,0.4s,baz=297,slow=3.3,SNR=1.6						
ASAR	Alice Springs	170.08	177	PKPab		PKPab	07 53 41.5 -1.8
	comp=Z,0.6nm,0.8s,baz=173,slow=3.5,SNR=2.8						
WRA	Warramunga Arr	173.80	179	PKPab		PKPab	07 53 58.1 -1.7
	comp=Z,1.0nm,0.8s,baz=179,slow=3.9,SNR=6.3						

*IDC **11** 07:34:01.5±0.9, 5°.36S×152°.48E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/28, mbtmp4.0/10, ML2.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=30.7km s-min=20.1km az=114.0*

*NEIC **11** 07:34:09.0±1.5, 5°.32S±0°.08×152°.2E±0°.2, h40km±9km, mb4.5/7, Error ellipse: s-maj=26.3km s-min=5.9km az=110.0*

ISC 11 07:34:07.5±0.8, 5°.45S±0°.09×152°.4E±0°.1, h40km, n19, σ1§13/21, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.27	349		Pn	07 34 28.6	-0.2
PMG	Port Moresby	6.51	233	Pn	Pn	07 35 41.4	+0.6
	1.8nm,0.3s,baz=72,slow=8.7,SNR=4.4						
PMG				Sn	Sn	07 36 52.2	-1.7
	3.3nm,0.3s,baz=15,slow=6.5,SNR=3.0						
DZM	Mont Dzumac	21.40	142	P	P	07 38 49.7	-2.3
	6.3nm,1.1s,baz=28,slow=21,SNR=1.4						
WB0	Warramunga Arr	22.57	229	P	P	07 39 05.0	+0.4
WB0				IAmb	IAmb	07 39 31.9	
	comp=Z,18nm,1.4s						
WR0	Warramunga Arr	22.58	229	P	P	07 39 06.3	+1.6
WR0				IAmb	IAmb	07 40 02.4	
	comp=Z,20nm,1.4s						
WB2	Warramunga Arr	22.71	229	P	P	07 39 08.1	+2.1
WRA	Warramunga Arr	22.72	229	P	P	07 39 06.1	0.0
	comp=Z,2.7nm,0.7s,baz=53,slow=9.6,SNR=18						
WRA				PcP	PcP	07 42 58.5	+1.0
	comp=Z,1.0nm,0.8s,baz=46,slow=1.9,SNR=3.4						
WRA				LR	LR	07 48 27.1	
	comp=Z,58nm,21.1s,baz=55,slow=38						
ASAR	Alice Springs	25.40	223	P	P	07 39 32.5	+1.1
	comp=Z,2.4nm,0.7s,baz=61,slow=8.5,SNR=32						
KSRS	Korea Array	48.40	334	P	P	07 42 45.2	-0.4
	comp=Z,0.5nm,0.3s,baz=158,slow=8.3,SNR=2.1						
SONM	Songino Array	66.66	328	P	P	07 44 53.5	-0.7
	comp=Z,0.6nm,0.5s,baz=144,slow=5.1,SNR=4.4						
RC01	Rabbit Creek A	79.93	25	P	P	07 46 12.8	+0.8
MKAR	Makanchi Array	80.55	319	P	P	07 46 15.4	-0.4
	comp=Z,0.9nm,0.9s,baz=99,slow=8.9,SNR=2.2						
KTH	Kantishna Hill	80.76	22	P	P	07 46 16.7	+0.1
KTH				IAmb	IAmb	07 46 17.3	
	comp=Z,8.5nm,1.2s						
ZALV	Zalesovo Beam	81.47	326	P	P	07 46 20.3	-0.1
	comp=Z,1.5nm,0.6s,baz=122,slow=6.3,SNR=2.2						
MLY	Manley	81.63	21	P	P	07 46 21.8	+0.6
WRH	Wood River Hil	82.31	22	P	P	07 46 25.2	+0.5
WRH				IAmb	IAmb	07 46 26.0	
	comp=Z,4.7nm,0.8s						
ILAR	Eielson Array	82.91	22	P	P	07 46 27.2	-0.5
	comp=Z,3.5nm,0.8s,baz=252,slow=5.2,SNR=21						
NVAR	Mina Array Bea	92.80	52	P	P	07 47 17.9	+1.5
	comp=Z,0.3nm,0.5s,baz=254,slow=6.6,SNR=4.2						
TORD	Torodi Ar. Bea	150.12	287	PKPbc	PKPbc	07 53 54.5	-0.6
	comp=Z,1.0nm,0.7s,baz=61,slow=4.1,SNR=5.0						

*SSNC **11** 07:37:35.6±3.3, 19°.91N×73°.02W, h12km±31km, MD3.5, ML2.8*

*OSPL **11** 07:37:38.4±1.5, 19°.73N×73°.18W, h31km±23km, ML3.0*

ISC 11 07:37:31.1±1.3, 19°.95N±0°.08×73°.05W±0°.03, h14km±12km, n14, σ1§48/21, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	Logne	1.49	164	*i* P	Pg	07 38 00.0	+0.2
SDDR	Presa de Saban	1.92	120	*e*Pn	Pb	07 38 06.5	+0.5
SDDR				*e*Sn	Sg	07 38 32.5	-0.4
SDDR	Presa de Saban	1.92	120	*e*P	Pg	07 38 06.8	-1.2
SDDR	Presa de Saban	1.92	120	*i* P	Pg	07 38 06.8	-1.2
SDDR				*e*S	Sb	07 38 29.3	-0.6
SDDR				IAML		07 38 38.2	
	comp=Z,101nm,0.5s						
MOAC	Moa	1.93	292	*e*Pn	Pn	07 38 05.0	+1.4
MOAC				*e*Sn	Sb	07 38 30.3	+0.2
MOAC				*e*Sg	Sg	07 38 33.4	+0.1
MOAC				IAML		07 38 38.3	
	comp=E,52nm,0.4s						
MOAC				IAML		07 38 39.0	
	comp=N,127nm,0.4s						
GTBY	Guantanamo Bay	1.94	270	*e*P	Pb	07 38 06.5	+0.2
GTBY	Guantanamo Bay	1.94	270	*e*P	Pb	07 38 06.4	+0.1
GTBY	Guantanamo Bay	1.94	270	*i* P	Pb	07 38 06.7	+0.3
GTBY				*e*S	Sn	07 38 26.9	-1.1
SC01	Santiago de lo	2.25	103	*i* P	Pg	07 38 13.9	-0.3
SC01				*e*S	Sb	07 38 39.6	+0.4
SC01				IAML		07 38 50.0	
	comp=Z,96nm,0.4s						
GRTK	Grand Turk	2.37	49	*e*P	Pn	07 38 11.4	+1.7
RCC	Rio Carpintero	2.49	271	*e*P	Pn	07 38 12.8	+1.5
RCC				*e*S	Sn	07 38 43.2	+1.7
RCC				IAML		07 38 48.9	
	comp=N,35nm,0.2s						
RCC				IAML		07 38 49.1	
	comp=E,26nm,0.2s						
LMGC	Las Mercedes	3.72	272	*e*P	Pn	07 38 29.1	+0.8
LMGC				*e*		07 38 49.2	
LMGC				*e*S	Sn	07 39 10.6	-1.4
LMGC				IAML		07 39 16.1	
	comp=E,12nm,0.2s						
LMGC				IAML		07 39 16.6	
	comp=N,16nm,0.1s						
CCCC	Cccc	4.59	287	*e*P	Pn	07 38 35.4	-4.8
CCCC				*e*S	Sn	07 39 22.2	-11
CCCC				IAML		07 39 30.6	
	comp=N,2.5nm,0.2s						
CCCC				IAML		07 39 33.5	
	comp=E,3.3nm,0.4s						
MGV	Manicaragua	6.82	290	*e*P	Pn	07 39 06.8	-4.1
MGV				*e*S	Sn	07 40 24.0	-4.4
MGV				IAML		07 40 28.5	
	comp=N,1.5nm,0.3s						
MGV				IAML		07 40 29.4	
	comp=E,1.7nm,0.5s						

*KRNET **11** 07:42:33.8±0.1, 41°.54N×80°.97E, mb3.1*

*NNC **11** 07:42:33.3±2.2, 41°.62N×80°.82E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=14.8km s-min=13.1km az=129.0*

*SOME **11** 07:42:34.0, 41°.70N×80°.82E, h10km*

ISC 11 07:42:34.3±2.6, 41°.79N±0°.08×81°.04E±0°.08, h3km±12km, n39, σ1§34/63, 7C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.73	343	*e*P	Pg	07 43 07.8	+0.4
KTMS				*e*S	Sg	07 43 32.8	+2.9
	27nm,0.3s						
KTMS	Ketmen	1.73	343	P	Pb	07 43 06.1	-0.7
KTMS				S	Sg	07 43 30.0	+0.2
	18nm,0.1s						
SHLS	Shalkode	1.79	320	*e*P	Pn	07 43 04.4	-1.9
SHLS				*e*S	Sn	07 43 26.6	-3.1
	25nm,0.1s						
SHLS	Shalkode	1.79	320	P	Pn	07 43 04.4	-1.9
SHLS				S	Sn	07 43 27.1	-2.6
	25nm,0.1s						
PDGK	Podgornoye	1.91	324	Pg	Pb	07 43 09.3	-0.7
PDGK				Lg	Lg	07 43 35.0	
	5.0nm,0.2s						
PDGK	Podgornoye	1.91	324	⇑Pn	Pb	07 43 08.9	-1.0
PDGK				⇓Sn	Sg	07 43 36.3	+0.5
	5.6nm,0.3s						
UZB	Uzynbulak	2.01	313	*e*P	Pb	07 43 10.8	-0.8
UZB				*e*S	Sg	07 43 37.6	-1.4
	14nm,0.2s						
UZB	Uzynbulak	2.01	313	Pg	Pb	07 43 10.8	-0.8
UZB				Lg	Lg	07 43 37.6	
	14nm,0.2s						
PRZ	Przheval'sk	2.08	290	⇓*i*P	Pb	07 43 12.4	-0.4
PRZ				⇓*i*S	Sg	07 43 40.3	-0.8
	baz=98						
SATY	Saty	2.32	304	*e*P	Pb	07 43 17.6	+0.7
SATY				*e*S	Sg	07 43 49.2	+0.2
	10.0nm,0.2s						
SATY	Saty	2.32	304	Pg	Pb	07 43 16.8	-0.1
SATY				Lg	Lg	07 43 49.2	
	10.0nm,0.2s						
KPKS	Kokpek	2.41	315	*e*P	Pb	07 43 18.4	0.0
KPKS				*e*S	Sg	07 43 50.9	-0.8
	26nm,0.2s						
TARG	Taragay, Kyrgy	2.42	270	⇓*i*P	Pn	07 43 15.6	+0.5
TARG				⇓*i*S	Sb	07 43 46.4	-2.7
	baz=76						
ANVS	Anan'yevo	2.69	293	⇑*i*P	Pb	07 43 21.2	-2.0
ANVS				⇑*i*S	Sb	07 43 55.5	-1.2
	baz=98						
DJR	Jarkent	2.70	341	*e*P	Pb	07 43 23.0	-0.2
DJR				*e*S	Sb	07 43 58.1	+1.3
	3.9nm,0.3s						
DJR	Jarkent	2.70	341	Pg	Pb	07 43 22.5	-0.8
DJR				Lg	Lg	07 43 58.1	
	0.1nm,0.1s						
KURS	Kuram	2.71	310	*e*P	Pb	07 43 23.9	+0.4
KURS				*e*S	Sg	07 43 59.5	-1.8
	7.9nm,0.5s						
KURS	Kuram	2.71	310	Pg	Pb	07 43 23.1	-0.3
KURS				Lg	Lg	07 43 59.5	
	7.9nm,0.5s						
KDJ	Kajisay	2.90	278	⇑*i*P	Pn	07 43 22.3	+0.8
KDJ				⇑*i*S	Sn	07 43 58.4	+1.5
	baz=83						
KOTS	Kotyrbulak	3.24	298	*e*P	Pb	07 43 32.5	0.0
KOTS				*e*S	Sb	07 44 14.4	+1.9
	2.1nm,0.1s						
KOTS	Kotyrbulak	3.24	298	Pg	Pb	07 43 32.5	0.0
KOTS				Lg	Lg	07 44 14.4	
	2.1nm,0.1s						
MDOK	Medeo	3.25	296	*e*P	Pb	07 43 31.9	-0.8
MDOK				*e*S	Sb	07 44 13.6	+0.7
	3.0nm,0.2s						
MDOK	Medeo	3.25	296	Pg	Pb	07 43 30.4	-2.4
MDOK				Lg	Lg	07 44 14.7	
	3.4nm,0.5s						
MDOK	Medeo	3.25	296	Pg	Pb	07 43 32.0	-0.8
MDOK				Lg	Lg	07 44 13.6	
	3.0nm,0.2s						
ARXS	Arharly	3.38	317	*e*P	Pb	07 43 34.6	-0.2
ARXS				*e*S	Sb	07 44 18.1	+1.8
	3.7nm,0.2s						
ARXS	Arharly	3.38	317	Pg	Pb	07 43 34.3	-0.5
ARXS				Lg	Lg	07 44 16.7	
	3.7nm,0.2s						
IZV	Izvestkoviy	3.50	292	*e*P	Pb	07 43 36.6	-0.5
IZV				*e*S	Sb	07 44 21.7	+1.6
	2.1nm,0.1s						
IZV	Izvestkoviy	3.50	292	Pg	Pb	07 43 36.6	-0.5
IZV				Lg	Lg	07 44 21.7	
	2.1nm,0.1s						
ULHL	Ulahol	3.60	279	⇓*e*P	Pn	07 43 32.5	+1.3
ULHL				⇓*i*S	Sn	07 44 15.6	+1.3
	baz=83						
KAPS	Kapalarasan	3.70	341	*e*P	Pg	07 43 44.5	-0.7
KAPS				*e*S	Sg	07 44 34.7	+1.6
	0.2nm,0.2s						
KTBS	Karatobe	3.74	302	*e*P	Pb	07 43 41.0	0.0
KTBS				*e*S	Sb	07 44 28.9	+2.3
	0.9nm,0.5s						
KTBS	Karatobe	3.74	302	Pg	Pb	07 43 40.3	-0.6
KTBS				Lg	Lg	07 44 28.9	
	17nm,0.3s						
	1.3nm,0.2s						

17nm,0.3s
KST Kastek 3.96 290 *e*P **Pb 07 43 44.4 -0.4**
1.5nm,0.2s
KST *e*S **Sb 07 44 35.2 +2.1**
4.9nm,0.4s
KST Kastek 3.96 290 Pg **Pb 07 43 44.4 -0.4**
1.5nm,0.2s
KST Lg Lg 07 44 35.2
4.9nm,0.4s
KUU Kurty 4.04 303 *e*P **Pb 07 43 46.1 0.0**
2.6nm,0.3s
KUU *e*S **Sb 07 44 37.7 +2.3**
4.6nm,0.4s
KUU Kurty 4.04 303 Pg **Pb 07 43 46.1 0.0**
2.6nm,0.3s
KUU Lg Lg 07 44 37.7
4.6nm,0.4s
DGS Degeres 4.15 292 *e*P **Pb 07 43 47.8 -0.3**
3.4nm,0.3s
DGS *e*S **Sb 07 44 40.6 +1.9**
5.0nm,0.3s
DGS Degeres 4.15 292 Pg **Pb 07 43 47.8 -0.3**
3.4nm,0.3s
DGS Lg Lg 07 44 40.6
5.0nm,0.3s
TKM2 Tokmak 2 4.19 287 ⇑Pg **Pn 07 43 40.3 +1.0**
0.9nm,0.4s
TKM2 ⇑Lg Lg 07 44 43.1
3.0nm,0.6s

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*UPA **11** 07:54:50.2±0.8, 8°.48N×83°.09W, h16km±2km, ML4.0, MW4.1*
*UCR **11** 07:54:50.3±1.4, 8°.44N×83°.09W, h10km, MW3.7*
ISC 11 07:54:50.6±1.0, **8°.47N**±0°.03×**83°.09W**±0°.02, **h18**km±4km, **n33**, σ1^{s}**11**/47, **3C-5D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.22**	**287**	*i* P	**Pg**	**07 54 55.2**	**-0.5**
PTJ1				*e*S	**Sg**	**07 55 02.5**	**+3.2**
PTJ1	**Puerto Jimnez**	**0.22**	**287**	*e*P	**Pg**	**07 54 55.2**	**-0.5**
PTJ1				*e*S	**Sg**	**07 54 59.9**	**+0.7**
CDITO	**Canoas**	**0.24**	**66**	⇓*i*P	**Pg**	**07 54 55.8**	**-0.3**
PIRO	**Carate, Puerto**	**0.25**	**254**	*e*P	**Pg**	**07 54 55.3**	**-1.0**
PIRO				*e*S	**Sb**	**07 55 00.7**	**+0.2**
PIRO	**Carate, Puerto**	**0.25**	**254**	*e*P	**Pg**	**07 54 55.2**	**-1.0**
SBAR3	**San Bartolo, C**	**0.26**	**127**	*i* P	**Pg**	**07 54 56.1**	**-0.4**
EDSV	**San Vito**	**0.36**	**19**	*e*P	**Pb**	**07 54 58.7**	**0.0**
BRU2	**Volcan**	**0.51**	**51**	⇓*i*P	**Pb**	**07 55 00.9**	**-0.2**
BRU2				⇑*e*S	**Sb**	**07 55 09.4**	**+1.2**
BRU2	**Volcan**	**0.51**	**51**	*e*P	**Pb**	**07 55 00.8**	**-0.2**
BRU2				*e*S	**Sb**	**07 55 09.2**	**+1.0**
BC3P	**Paso Ancho**	**0.58**	**55**	*i* P	**Pg**	**07 55 02.0**	**-0.4**
BC3P				AMP		07 55 02.2	
comp=Z,10μm,0.2s
BCO2	**Palmira**	**0.61**	**66**	⇓*i*P	**Pg**	**07 55 02.4**	**-0.3**
BCO2				*e*S	**Sb**	**07 55 11.8**	**+0.7**
PTAR3	**Potrerillos Ar**	**0.63**	**70**	⇑*i*P	**Pb**	**07 55 02.8**	**-0.3**
DVD	**David**	**0.64**	**93**	*e*P	**Pg**	**07 55 02.3**	**-0.9**
DVD				*e*S	**Sb**	**07 55 11.7**	**+0.1**
EDBA	**Buenos Aires**	**0.71**	**345**	*e*P	**Pb**	**07 55 04.2**	**-0.2**
LNBQ3	**Los Naranjos,**	**0.72**	**64**	⇓*i*P	**Pg**	**07 55 03.7**	**-1.0**
DRK0	**Durika**	**0.80**	**349**	*i* P	**Pg**	**07 55 05.3**	**-0.9**
DRK0				*e*S	**Sb**	**07 55 16.9**	**+0.3**
DRK0	**Durika**	**0.80**	**349**	*e*P	**Pg**	**07 55 05.3**	**-0.9**
CHGR2	**Aguacate**	**1.04**	**64**	⇑*e*P	**Pg**	**07 55 09.0**	**-1.9**
CHGR2				*e*S	**Sg**	**07 55 22.9**	**-1.8**
PEZE	**Perez Zeledon,**	**1.07**	**327**	*e*P	**Pg**	**07 55 09.8**	**-1.6**
CNI2	**El Empalme, Bo**	**1.13**	**33**	*i* P	**Pb**	**07 55 10.6**	**-1.0**
CNI2				*e*S	**Sn**	**07 55 28.4**	**+1.9**
CDM	**Cerro de Muert**	**1.26**	**328**	*e*P	**Pn**	**07 55 13.1**	**-0.6**
MRVA	**Moravia de Chi**	**1.39**	**346**	*e*P	**Pn**	**07 55 14.6**	**-0.6**
MRVA				*e*S	**Sg**	**07 55 36.0**	**+0.6**
RIMA	**Rio Macho**	**1.49**	**329**	*e*P	**Pn**	**07 55 16.4**	**-0.3**
LCR2	**La Lucha 2**	**1.55**	**325**	*e*P	**Pn**	**07 55 17.4**	**-0.1**
OCM	**Ochomogo**	**1.65**	**329**	*e*P	**Pn**	**07 55 19.6**	**+0.7**
HDC	**Heredia**	**1.82**	**326**	*e*P	**Pb**	**07 55 23.5**	**0.0**
HDC				⇓*e*S	**Sg**	**07 55 49.3**	**-0.1**
HDC	**Heredia**	**1.82**	**326**	*e*P	**Pb**	**07 55 22.9**	**-0.6**
JACO	**JACO, Garabito**	**1.95**	**307**	*e*P	**Pn**	**07 55 23.4**	**+0.6**
GMAL	**Guarumal, Vera**	**1.97**	**111**	*e*P	**Pn**	**07 55 23.1**	**0.0**
GMAL				*e*S	**Sb**	**07 55 50.2**	**0.0**
CACAO	**El Cacao, Vera**	**2.48**	**117**	*e*P	**Pb**	**07 55 33.0**	**-1.6**
CACAO				*e*S	**Sn**	**07 56 02.5**	**+2.6**
ARE1	**Arenal 1**	**2.54**	**321**	*e*P	**Pb**	**07 55 34.4**	**-1.3**
JTS	**Las Juntas de**	**2.57**	**315**	*e*P	**Pb**	**07 55 34.3**	**-2.0**
COVE	**Coope Vega, Sa**	**2.58**	**330**	*e*P	**Pb**	**07 55 35.1**	**-1.2**

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*NEIC **11** 08:12:52.1±2.0, 15°.22S±0°.05×173°.5W±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=20.1km s-min=5.5km az=72.0*
*IDC **11** 08:13:07.0±4.3, 15°.11S×173°.78W, h134km±38km, mb3.7/10, mb1 3.9/12, mb1mx3.7/44, mbtmp4.1/12, MS3.4/14, Ms1 3.5/14, ms1mx3.4/25, Error ellipse: s-maj=31.3km s-min=15.9km az=135.0*
ISC 11 08:12:55.3±0.5, **15°.20S**±0°.09×**173°.5W**±0°.1, **h35**km, **n57**, σ0^{s}**93**/39, **mb4.2**/15, **MS3.5**/13, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.14**	**139**		**Pn**	**08 14 07.8**	**-2.0**
MSVF	**Nonsavu**	**8.51**	**252**	P	Pn	08 15 05.4	+9.2
1.0nm,0.3s,baz=84,slow=15,SNR=10
MSVF LR LR 08 17 55.6
comp=Z,429nm,20.5s,baz=131,slow=35
FUNA	**Funafuti**	**9.76**	**312**	Pn	**Pn**	**08 15 13.7**	**+0.4**
KNTN	**Kanton**	**12.47**	**8**	Pn	**Pn**	**08 15 48.1**	**-2.2**
RAR	**Rarotonga**	**14.33**	**117**	LR	LR	08 19 58.6	
comp=Z,65nm,20.8s,baz=267,slow=28
RAO	**Raoul Island**	**14.57**	**196**	LR	LR	08 21 19.7	
comp=Z,149nm,19.5s,baz=79,slow=34
DZM	**Mont Dzumac**	**20.20**	**247**	P	Pn	08 17 29.7	+0.2
0.3nm,0.3s,baz=83,slow=19,SNR=1.5
DZM LR LR 08 23 07.4
comp=Z,46nm,19.0s,baz=64,slow=30
DZM	**Mont Dzumac**	**20.20**	**247**	*e*LR	LR	08 22 21.0	
comp=Z,279nm,25.2s
PPT	**Papeete**	**23.05**	**99**	LR	LR	08 27 00.2	
comp=Z,34nm,18.1s,baz=182,slow=36
PPT2	**Papeete2**	**23.05**	**99**	*e*LR	LR	08 23 12.2	
comp=Z,79nm,26.2s
TBI	**Tubuai**	**24.05**	**113**	*e*LR	LR	08 23 44.7	
comp=Z,109nm,27.0s
HNR	**Honiara**	**26.57**	**279**	LR	LR	08 27 01.7	
comp=Z,64nm,21.2s,baz=118,slow=32
FOZ	**Fox Glacier**	**31.64**	**203**	P	**P**	**08 19 14.5**	**-0.5**
PMG	**Port Moresby**	**38.84**	**274**	LR	LR	08 33 57.9	
comp=Z,62nm,19.1s,baz=334,slow=32
H11N3	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	09 02 47.1	
baz=150,slow=76,SNR=2.9
H11N1	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	09 02 43.4	
baz=150,slow=76,SNR=4.9
H11N2	**WAKE ISLAND Hy**	**39.72**	**330**	T	T	09 02 57.2	
baz=150,slow=76,SNR=2.8
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**08 21 00.0**	**-0.1**
1.3nm,0.3s,baz=104,slow=8.3,SNR=3.3
WR0	**Warramunga Arr**	**49.62**	**257**	P	**P**	**08 21 42.8**	**-1.0**
WR0 IAmb IAmb 08 22 03.6
comp=Z,8.7nm,1.4s
WB0	**Warramunga Arr**	**49.77**	**257**	P	**P**	**08 21 44.4**	**-0.5**
WB0 IAmb IAmb 08 21 48.5
comp=Z,4.9nm,1.1s
WRA	**Warramunga Arr**	**49.81**	**257**	P	**P**	**08 21 43.6**	**-1.6**
comp=Z,1.1nm,0.4s,baz=91,slow=7.3,SNR=36
AS31	**Alice Springs**	**50.10**	**252**	P	**P**	**08 21 45.8**	**-1.6**
ASAR	**Alice Springs**	**50.10**	**252**	P	**P**	**08 21 45.9**	**-1.5**
comp=Z,4.4nm,0.6s,baz=87,slow=8.2,SNR=78
VNDA	**Vanda**	**63.57**	**186**	P	**P**	**08 23 23.4**	**+1.4**
comp=Z,0.6nm,0.8s,baz=20,slow=7.8,SNR=6.7
VNDA	**Vanda**	**63.57**	**186**	IAmb	IAmb	08 23 24.6	
comp=Z,1.9nm,0.9s
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**08 24 30.0**	**+0.9**
comp=Z,1.3nm,0.6s,baz=228,slow=9.8,SNR=17
NVAR LR LR 08 49 13.2
comp=Z,50nm,21.6s,baz=245,slow=29
KDAK	**Kodiak Island**	**74.74**	**11**	P	**P**	**08 24 31.6**	**+0.4**
comp=Z,2.5nm,0.9s,baz=202,slow=11,SNR=5.9
KDAK	**Kodiak Island**	**74.74**	**11**	IAmb	IAmb	08 24 46.0	
comp=Z,8.1nm,1.4s
QSPA	**South Pole Qui**	**74.84**	**180**	P	**P**	**08 24 33.2**	**+1.1**
KSRS	**Korea Array**	**75.96**	**316**	LR	LR	08 52 54.7	
comp=Z,26nm,19.0s,baz=49,slow=32
TXAR	**Lajitas Array**	**80.56**	**56**	P	**P**	**08 25 06.2**	**+1.6**
comp=Z,0.6nm,0.8s,baz=241,slow=5.2,SNR=8.9
CCB	**Clear Creek Bu**	**81.98**	**11**	P	**P**	**08 25 10.9**	**-0.3**
CCB IAmb IAmb 08 25 25.5
comp=Z,4.7nm,1.0s
SCRK	**Sand Creek**	**82.13**	**13**	P	**P**	**08 25 12.4**	**+0.3**
SCRK IAmb IAmb 08 25 14.3
comp=Z,2.4nm,0.9s
PDAR	**Pinedale Array**	**82.17**	**42**	P	**P**	**08 25 13.1**	**+0.1**
comp=Z,0.8nm,0.7s,baz=197,slow=4.6,SNR=8.8
PDAR LR LR 08 55 26.1
comp=Z,31nm,18.6s,baz=266,slow=31
ILAR	**Eielson Array**	**82.26**	**11**	P	**P**	**08 25 12.8**	**+0.2**
comp=Z,0.7nm,0.7s,baz=219,slow=6.2,SNR=8.3
ILAR LR LR 08 59 52.3
comp=Z,19nm,18.1s,baz=206,slow=34
HRY	**Holter Researc**	**82.74**	**38**	P	**P**	**08 25 16.6**	**+0.9**
PRP	**Porcupine Dome**	**83.19**	**11**	P	**P**	**08 25 18.4**	**+0.7**
PRP IAmb IAmb 08 25 32.0
comp=Z,3.4nm,1.0s
BMAR	**Burnt Mountain**	**85.07**	**11**	P	**P**	**08 25 27.9**	**+0.9**
MAW	**Mawson**	**87.96**	**199**	P	**P**	**08 25 41.7**	**+0.4**
comp=Z,2.3nm,0.6s,baz=151,slow=8.9,SNR=6.5
MAW LR LR 09 04 44.6
comp=Z,40nm,18.4s,baz=222,slow=35
YKA	**Yellowknife Ar**	**89.94**	**23**	LR	LR	08 58 54.1	
comp=Z,30nm,20.9s,baz=0.0,slow=30
ULM	**Lac du Bonnet**	**93.83**	**39**	LR	LR	09 05 17.4	
comp=Z,42nm,18.8s,baz=279,slow=33
DPC	**Dobruska-Polom**	**144.05**	**349**	*e*PKP	**PKPab**	**08 32 25.0**	**+0.3**
KHC	**Kasperske Hory**	**145.67**	**352**	*e*PKP	**PKPab**	**08 32 31.4**	**+0.7**
CKRC	**Cesky Krumlov**	**145.87**	**351**	*e*PKP	**PKPab**	**08 32 32.8**	**+1.3**
GERES	**GERESS Array B**	**145.93**	**352**	PKPbc	**PKPbc**	**08 32 31.1**	**-0.2**
comp=Z,1.9nm,0.9s,baz=29,slow=3.0,SNR=11
BRTR	**Keskin Array B**	**145.95**	**321**	PKPbc	**PKPbc**	**08 32 31.6**	**-0.1**
comp=Z,2.1nm,0.7s,baz=116,slow=3.1,SNR=10.0
CONA	**Conrad Observa**	**146.46**	**349**	*e*P	**PKPbc**	**08 32 32.4**	**-0.5**
comp=Z,3.4nm,0.9s
MOA	**Molln**	**146.82**	**350**	*i* P	**PKPbc**	**08 32 34.5**	**+0.6**
comp=Z,3.6nm,0.8s
ARSA	**Arzberg**	**147.18**	**349**	*i* P	**PKPbc**	**08 32 34.3**	**-0.6**
comp=Z,4.6nm,0.9s
RETA	**Reutte**	**147.61**	**355**	*i* P	**PKPbc**	**08 32 36.0**	**-0.1**
comp=Z,1.7nm,0.5s
WATA	**Walderalm**	**147.68**	**354**	*e*P	**PKPbc**	**08 32 36.3**	**-0.1**
comp=Z,3.3nm,0.9s
MOTA	**Moosalm**	**147.72**	**354**	*e*P	**PKPbc**	**08 32 36.8**	**+0.2**
comp=Z,4.9nm,1.2s
WTTA	**Wattenberg**	**147.75**	**353**	*i* P	**PKPbc**	**08 32 36.3**	**-0.4**
comp=Z,4.3nm,0.7s
SOKA	**Soboth**	**147.82**	**349**	*i* P	**PKPbc**	**08 32 36.4**	**-0.3**
comp=Z,4.2nm,1.1s
DAVA	**Damuels**	**147.88**	**356**	*e*P	**PKPbc**	**08 32 36.8**	**-0.2**
comp=Z,5.5nm,1.1s
FETA	**Feichten**	**148.08**	**355**	*e*P	**PKiKP**	**08 32 38.9**	**-0.5**
comp=Z,4.7nm,1.3s
ABTA	**Abfaltersbach**	**148.15**	**352**	*i* P	**PKPbc**	**08 32 38.1**	**+0.5**
comp=Z,7.6nm,1.0s

NNC 11 08:15:22.2±1.5, **39°.23N**×**75°.44E**, **h0**km±9km, **mb3.7, mpv3.4, 1C-4D, Error ellipse: s-maj=10.1km s-min=9.6km az=5.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.48**	**348**	⇑Pg	Pg	08 16 27.2	-1.7
3.7nm,0.7s
AAK ⇓Lg Lg 08 17 13.8
12nm,1.1s
TKM2	**Tokmak 2**	**3.69**	**2**	⇓Pn	Pn	08 16 20.7	0.0
0.7nm,0.3s
TKM2 ⇓Pg Pb 08 16 29.3 +0.9
3.2nm,0.6s
TKM2 ⇓Lg Lg 08 17 20.0
16nm,0.7s
KST	**Kastek**	**3.83**	**6**	Pg	Pb	08 16 32.7	+1.9
3.2nm,0.2s
KST Lg Lg 08 17 24.8
21nm,0.5s
MRKS	**Merke**	**3.90**	**335**	Pg	Pb	08 16 32.5	+0.7
2.3nm,0.3s
MRKS Lg Lg 08 17 25.1
3.4nm,0.5s
DGS	**Degeres**	**4.02**	**3**	Pg	Pb	08 16 34.6	+0.7
3.6nm,0.3s
DGS Lg Lg 08 17 29.7
11nm,0.4s
MDOK	**Medeo**	**4.12**	**17**	Pg	Pb	08 16 37.5	+1.9
3.8nm,0.2s
MDOK Lg Lg 08 17 33.3
7.5nm,0.6s
SGDS	**Sogindy**	**4.27**	**352**	Pg	Pb	08 16 39.5	+1.4
1.8nm,0.3s
SGDS Lg Lg 08 17 37.4
5.7nm,0.8s
KTBS	**Karatobe**	**4.58**	**11**	Pg	Pb	08 16 44.6	+1.2
2.3nm,0.3s
KTBS Lg Lg 08 17 47.5
9.9nm,0.6s
KUU	**Kurty**	**4.71**	**8**	Pg	Pb	08 16 48.0	+2.3
1.2nm,0.2s
KUU Lg Lg 08 17 51.1
11nm,0.4s
PDGK	**Podgornoye**	**5.11**	**35**	Pg	Pg	08 16 56.3	-3.8
1.5nm,0.3s
PDGK Lg Lg 08 18 05.9
3.2nm,0.6s
ARXS	**Arharly**	**5.29**	**19**	Pg	Pb	08 16 59.2	+3.6
1.3nm,0.1s
ARXS Lg Lg 08 18 09.9
3.6nm,0.4s

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*JMA **11** 08:22:03.4±0.9, 20°.75N×121°.49E, h101km, M3.8*
*IDC **11** 08:22:04.0±7.9, 20°.52N×121°.57E, h86km±75km, mb3.5/11, mb1 3.6/12, mb1mx3.4/46, mbtmp3.8/12, ML3.6/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/28, Error ellipse: s-maj=42.1km s-min=15.3km az=69.0*
ISC 11 08:22:04.2±0.7, **20°.44N**±0°.07×**121°.8E**±0°.1, **h100**km, **n22**, σ1^{s}**98**/21, **mb3.7**/11, **2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.17**	**90**	⇓*i*P	**Pn**	**08 22 18.9**	**+0.6**
BBP *i* S Sn 08 22 19.6 -9.3
APYP	**Conner**	**2.62**	**191**	⇓*i*P	Pn	08 22 39.9	-5.0
APYP *i* S **Sn** **08 23 10.2** **-6.0**
IRIF	**Iriomote-Funau**	**4.27**	**25**	P	**Pn**	**08 23 05.7**	**-1.4**
IRIF *e*S **Sn** **08 23 53.9** **-1.9**
JKRS	**Kuro-shima**	**4.30**	**28**	P	**Pn**	**08 23 06.2**	**-1.3**
JIJ	**Ishigaki jima**	**4.47**	**29**	P	**Pn**	**08 23 08.8**	**-1.0**
JIJ *e*S **Sn** **08 23 58.1** **-2.6**
JISG	**Ishigakijimahi**	**4.74**	**29**	P	**Pn**	**08 23 12.2**	**-1.2**
JISG *e*S **Sn** **08 24 05.2** **-2.0**
KSRS	**Korea Array**	**17.77**	**16**	P	**Pn**	**08 26 04.9**	**-0.2**
0.2nm,0.3s,baz=203,slow=12,SNR=7.8
KSRS LR LR 08 34 08.4
comp=Z,26nm,19.6s,baz=220,slow=41
KAPI	**Kappang**	**25.38**	**185**	LR	LR	08 38 19.1	
comp=Z,58nm,18.7s,baz=46,slow=38
SONM	**Songino Array**	**30.03**	**339**	P	**P**	**08 28 03.7**	**0.0**
0.7nm,0.6s,baz=159,slow=9.8,SNR=6.0
SONM LR LR 08 40 48.6
comp=Z,80nm,18.2s,baz=92,slow=38
MKAR	**Makanchi Array**	**41.45**	**319**	P	**P**	**08 29 41.1**	**0.0**
1.2nm,0.8s,baz=116,slow=9.6,SNR=7.4
WRA	**Warramunga Arr**	**41.98**	**162**	P	**P**	**08 29 47.4**	**+1.8**
0.7nm,0.7s,baz=343,slow=9.2,SNR=8.8
H11S3	**WAKE ISLAND Hy**	**42.28**	**85**	T	T	09 15 07.6	
baz=281,slow=74,SNR=7.2
H11S1	**WAKE ISLAND Hy**	**42.29**	**85**	T	T	09 15 09.1	
baz=281,slow=74,SNR=8.4
H11S2	**WAKE ISLAND Hy**	**42.30**	**85**	T	T	09 15 09.0	
baz=281,slow=74,SNR=6.8
ZALV	**Zalesovo Beam**	**43.70**	**329**	P	**P**	**08 29 58.6**	**-0.5**
1.5nm,0.7s,baz=124,slow=7.2,SNR=5.2
KURBB	**Kurchatov Arra**	**45.35**	**322**	P	**P**	**08 30 11.8**	**-0.5**
0.3nm,0.3s,baz=123,slow=7.5,SNR=2.3
ASAR	**Alice Springs**	**45.41**	**164**	P	**P**	**08 30 15.3**	**+2.3**
0.7nm,0.5s,baz=346,slow=8.1,SNR=11
NRIK	**Noril'sk**	**53.15**	**346**	P	**P**	**08 31 11.2**	**-0.2**
1.4nm,0.5s,baz=156,slow=6.9,SNR=2.0
ILAR	**Eielson Array**	**72.28**	**27**	P	**P**	**08 33 20.4**	**+1.8**
0.4nm,0.7s,baz=282,slow=6.6,SNR=5.1
AKASG	**Malin Array Be**	**76.03**	**319**	P	**P**	**08 33 41.0**	**+0.4**
0.7nm,0.4s,baz=62,slow=6.4,SNR=2.0
NOA	**NORSAR Array B**	**81.78**	**333**	P	**P**	**08 34 11.5**	**-0.4**
1.1nm,0.9s,baz=67,slow=4.5,SNR=3.4
NOA LR LR 09 13 08.7
comp=Z,14nm,18.8s,baz=45,slow=38
GERES	**GERESS Array B**	**86.08**	**321**	P	**P**	**08 34 35.1**	**+1.1**
0.3nm,0.4s,baz=59,slow=3.8,SNR=3.1

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*IDC **11** 08:41:19.3±5.2, 38°.71S×176°.58E, h351km±22km, mb2.7/2, mb1 3.0/2, mb1mx2.8/16, mbtmp3.5/2, Error ellipse: s-maj=318.8km s-min=37.2km az=172.0*
*NOU **11** 08:41:20.1, 37°.71S×176°.20E, h344km, ML3.7, North Island, New Zealand*
*WEL **11** 08:41:24.7±0.8, 38°.5±5°.×17°.6E±°, h298km±7km, M3.1/65, MLv3.1/65, Error ellipse: s-maj=0.0km s-min=0.0km az=58.8*
ISC 11 08:41:20.5±1.1, **37°.76S**±0°.09×**176°.20E**±0°.08, **h333**km±7km, **n159**, σ1^{s}**27**/166, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.06**	**56**	P	**Pn**	**08 42 02.7**	**+0.4**
KMRZ	**Kaimai**	**0.22**	**248**	P	**Pn**	**08 42 03.3**	**+0.9**
KARZ	**Kaharoa**	**0.26**	**172**	P	**Pn**	**08 42 03.2**	**+0.8**
OPRZ	**Ohinepanea**	**0.29**	**106**	P	**Pn**	**08 42 02.5**	**+0.1**
NGRZ	**Ngongotaha**	**0.34**	**182**	P	**Pn**	**08 42 03.5**	**+1.0**
OMRZ	**Omania**	**0.37**	**158**	P	**Pn**	**08 42 03.3**	**+0.7**
UTU	**Utuhina**	**0.41**	**181**	P	**Pn**	**08 42 04.1**	**+1.5**
HLRZ	**Highlands Stat**	**0.50**	**166**	P	**Pn**	**08 42 03.9**	**+1.1**
TARZ	**Mount Tarawera**	**0.53**	**153**	P	**Pn**	**08 42 03.9**	**+1.0**
HSRZ	**Hossack Road**	**0.55**	**176**	P	**Pn**	**08 42 04.1**	**+1.2**
TOZ	**Tahuroa Road**	**0.55**	**273**	P	**Pn**	**08 42 04.1**	**+1.2**
GRRZ	**Galatos Road**	**0.59**	**187**	P	**Pn**	**08 42 04.2**	**+1.2**
RRRZ	**Republican Roa**	**0.63**	**157**	P	**Pn**	**08 42 03.8**	**+0.7**
RRRZ S **S** **08 42 35.8** **-1.4**
PRRZ	**Plateau Road**	**0.75**	**168**	P	**Pn**	**08 42 04.2**	**+0.8**
PRRZ S **S** **08 42 36.7** **-1.0**
WPRZ	**Whakapapatarin**	**0.76**	**182**	P	**Pn**	**08 42 04.6**	**+1.1**
TLZ	**Tolley Road**	**0.77**	**222**	P	**Pn**	**08 42 04.9**	**+1.4**
KUTZ	**Kaahu Road**	**0.78**	**202**	P	**Pn**	**08 42 04.9**	**+1.4**
ALRZ	**Allen Road**	**0.81**	**172**	P	**Pn**	**08 42 04.7**	**+1.1**
MUGZ	**Murupara**	**0.84**	**148**	P	**Pn**	**08 42 04.3**	**+0.6**
URZ	**Urewera**	**0.87**	**125**	P	**Pn**	**08 42 04.1**	**+0.2**
22nm,0.3s,baz=286,slow=7.4,SNR=309
URZ S **S** **08 42 35.1** **-3.4**
69nm,0.3s,baz=346,slow=19,SNR=84
URZ	**Urewera**	**0.87**	**125**	P	**Pn**	**08 42 04.1**	**+0.2**
URZ S **S** **08 42 35.4** **-3.1**
WHTZ	**Whakaora**	**0.92**	**192**	P	**Pn**	**08 42 05.6**	**+1.5**
WATZ	**Wairara**	**1.01**	**201**	P	**Pn**	**08 42 05.9**	**+1.5**
RTZ	**Ruatahuna**	**1.05**	**144**	P	**Pn**	**08 42 05.5**	**+0.9**
RTZ S **S** **08 42 38.4** **-1.6**
MRHZ	**Matea Rd**	**1.08**	**171**	P	**Pn**	**08 42 05.6**	**+0.9**
KUZ	**Kuaotunu**	**1.08**	**339**	P	**Pn**	**08 42 04.7**	**-0.1**
HATZ	**Hinemaiaia**	**1.13**	**184**	P	**Pn**	**08 42 05.7**	**+0.8**
RATZ	**Rangitukua**	**1.15**	**197**	P	**Pn**	**08 42 06.2**	**+1.1**
RUGZ	**Raukumara Rang**	**1.19**	**100**	P	**Pn**	**08 42 04.9**	**-0.4**
MWZ	**Matawai**	**1.19**	**119**	P	**Pn**	**08 42 05.9**	**+0.6**
MTHZ	**Maungataniwha**	**1.20**	**155**	P	**Pn**	**08 42 06.3**	**+1.0**
MTHZ S **S** **08 42 39.6** **-1.6**
RITZ	**Rihia Road**	**1.24**	**192**	P	**Pn**	**08 42 07.0**	**+1.6**
HAZ	**Te Kaha**	**1.25**	**90**	P	**Pn**	**08 42 05.4**	**-0.2**
KATZ	**Kakaramea**	**1.27**	**198**	P	**Pn**	**08 42 07.1**	**+1.4**
WIAZ	**Waiheke Island**	**1.29**	**318**	P	**Pn**	**08 42 06.3**	**+0.5**
ETAZ	**East Tamaki Re**	**1.29**	**308**	P	**Pn**	**08 42 06.6**	**+0.8**
HIZ	**Hauiti**	**1.30**	**234**	P	**Pn**	**08 42 07.4**	**+1.6**
RAHZ	**Arahi**	**1.35**	**149**	P	**Pn**	**08 42 07.5**	**+1.5**
SNGZ	**Shannon Statio**	**1.36**	**139**	P	**Pn**	**08 42 07.3**	**+1.3**
NTVZ	**North Tongarir**	**1.40**	**197**	P	**Pn**	**08 42 08.0**	**+1.6**
KRVZ	**Karewarewa**	**1.40**	**198**	P	**Pn**	**08 42 07.8**	**+1.4**
TMVZ	**Te Maari**	**1.41**	**196**	P	**Pn**	**08 42 07.8**	**+1.4**
NMHZ	**Naumai**	**1.42**	**160**	P	**Pn**	**08 42 08.3**	**+1.9**
BKZ	**Black Stump Fm**	**1.42**	**171**	P	**Pn**	**08 42 07.6**	**+1.1**
AWAZ	**Awhitu Peninsu**	**1.42**	**299**	P	**Pn**	**08 42 07.6**	**+1.1**
ETVZ	**East Tongariro**	**1.42**	**195**	P	**Pn**	**08 42 07.9**	**+1.4**
ETVZ S **S** **08 42 43.2** **-0.2**
WTVZ	**West Tongariro**	**1.43**	**199**	P	**Pn**	**08 42 07.8**	**+1.2**
MBAZ	**Motutapu North**	**1.44**	**313**	P	**Pn**	**08 42 07.2**	**+0.6**
TWVZ	**Taurewa**	**1.44**	**204**	P	**Pn**	**08 42 07.8**	**+1.2**
NNVZ	**North Ngauruho**	**1.44**	**198**	P	**Pn**	**08 42 08.1**	**+1.4**
OTVZ	**Oturere**	**1.46**	**197**	P	**Pn**	**08 42 08.2**	**+1.4**
TKOZ	**Te Karaka**	**1.47**	**118**	P	**Pn**	**08 42 07.6**	**+0.9**
NGZ	**Ngauruhoe**	**1.49**	**198**	P	**Pn**	**08 42 08.3**	**+1.4**
SNVZ	**South Ngauruho**	**1.49**	**197**	P	**Pn**	**08 42 08.3**	**+1.3**
PKGZ	**Pakihiroa**	**1.49**	**95**	P	**Pn**	**08 42 07.3**	**+0.4**
WTAZ	**Waiatarua**	**1.54**	**302**	P	**Pn**	**08 42 08.4**	**+1.2**
WHHZ	**Waihua**	**1.54**	**149**	P	**Pn**	**08 42 08.6**	**+1.6**
RIGZ	**Rimuhau**	**1.55**	**128**	P	**Pn**	**08 42 08.6**	**+1.4**
TUVZ	**Tukino**	**1.56**	**196**	P	**Pn**	**08 42 09.0**	**+1.6**
FWVZ	**Far West T-bar**	**1.57**	**199**	P	**Pn**	**08 42 08.7**	**+1.2**
DRZ	**Dome Shelter**	**1.59**	**198**	P	**Pn**	**08 42 09.4**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.59**	**197**	P	**Pn**	**08 42 09.1**	**+1.4**
ABAZ	**Army Bay**	**1.59**	**316**	P	**Pn**	**08 42 08.3**	**+0.8**
TRVZ	**Turoa**	**1.62**	**198**	P	**Pn**	**08 42 09.3**	**+1.5**
GRZ	**Great Barrier**	**1.62**	**338**	P	**Pn**	**08 42 07.7**	**0.0**
ARHZ	**Aropaoanui**	**1.62**	**158**	P	**Pn**	**08 42 09.3**	**+1.8**
RVAZ	**Riverhead Bore**	**1.63**	**307**	P	**Pn**	**08 42 08.5**	**+0.8**
WNVZ	**Wahianoa**	**1.63**	**197**	P	**Pn**	**08 42 09.1**	**+1.2**
PUZ	**Puketiti**	**1.66**	**101**	P	**Pn**	**08 42 08.2**	**+0.3**
PKVZ	**Pokaka**	**1.67**	**203**	P	**Pn**	**08 42 09.2**	**+1.3**
KWHZ	**Kaweka Forest**	**1.67**	**174**	P	**Pn**	**08 42 09.5**	**+1.5**

KHZ	Kahutara	5.08 203	P	Pn	08 42 41.2	+1.1
DSZ	Denniston Nort	5.22 219	P	Pn	08 42 41.5	-0.3
GVZ	Greta Valley S	5.73 204	P	Pn	08 42 48.3	+0.7
LTZ	Lake Taylor	5.84 210	P	Pn	08 42 49.0	+0.2
AMCZ	Amberley	6.05 205	P	Pn	08 42 51.7	+0.6
INZ	Inchbonnie	6.15 215	P	Pn	08 42 52.5	+0.1
OXZ	Oxford	6.40 208	P	Pn	08 42 55.1	-0.2
OKCZ	Okains Bay	6.41 201	P	Pn	08 42 56.5	+1.1
MQZ	McQueen's Vall	6.52 203	P	Pn	08 42 56.7	+0.1
AKCZ	Akaroa Harbour	6.59 201	P	Pn	08 42 58.1	+0.5
RACZ	Rakaia	6.71 206	P	Pn	08 42 59.1	+0.3
WVZ	Waitaha Valley	6.75 216	P	Pn	08 42 59.4	+0.1
MHCZ	Mount Hutt	6.75 210	P	Pn	08 42 59.4	-0.1
WACZ	Wakanui South	7.00 207	P	Pn	08 43 03.2	+0.8
RPZ	Rata Peaks	7.11 212	P	Pn	08 43 03.8	+0.1
GCSZ	Gaunt Creek Bo	7.12 217	P	Pn	08 43 03.9	0.0
ARCZ	Arundel	7.25 210	P	Pn	08 43 05.7	+0.3
FOZ	Fox Glacier	7.53 218	P	Pn	08 43 08.2	-0.5
TMZ	Timaru	7.69 209	P	Pn	08 43 11.5	+1.0
LBZ	Lake Benmore	8.02 213	P	Pn	08 43 15.1	+0.5
ODZ	Otahua Downs	8.38 208	P	Pn	08 43 20.4	+1.6
JCZ	Jackson Bay	8.44 219	P	Pn	08 43 19.6	0.0
WKZ	Wanaka	8.89 215	P	Pn	08 43 24.9	0.0
EAZ	Earnscleugh	9.07 213	P	Pn	08 43 27.3	+0.1
MSZ	Milford Sound	9.30 219	P	Pn	08 43 30.4	+0.6
MLZ	Mavora Lakes	9.71 216	P	Pn	08 43 35.9	+1.0
WHZ	Wether Hill Ro	10.19 215	P	Pn	08 43 40.9	+0.3
ASAR	Alice Springs	38.66 279	P	P	08 48 14.2	+1.0
	0.5nm,0.5s,baz=123,slow=8.0,SNR=9.8					
WRA	Warramunga Arr	40.35 284	P	P	08 48 27.9	+0.8
	0.3nm,0.3s,baz=127,slow=6.7,SNR=12					
ARCES	ARCESS Array B	144.48 343	PKPbc	PKPab	09 00 14.8	-1.0
	2.6nm,1.0s,baz=19,slow=3.8,SNR=6.1					

KMA 11 08:54:59.2±0.2, 37°.17N×127°.94E, h11km, Error ellipse: s-maj=2.6km s-min=1.7km az=24.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSWJU	**Wonju**	**0.25**	**20**	P	Pg	08 55 04.3	0.0
	SNR=18						
KSWJU	**Wonju**	**0.25**	**20**	P	Pg	08 55 04.3	0.0
	SNR=18						
KSCHJ	**Chungju**	**0.30**	**175**	P	Pg	08 55 04.6	-0.6
	SNR=7.2						
KSCHJ	**Chungju**	**0.30**	**175**	P	Pg	08 55 04.5	-0.7
	SNR=6.3						
KSCHJ	**Chungju**	**0.30**	**175**	P	Pg	08 55 04.6	-0.6
	SNR=7.2						
KSCHJ	**Chungju**	**0.30**	**175**	P	Pg	08 55 04.5	-0.7
	SNR=6.3						
EMSB	**Eumseong**	**0.32**	**233**	P	Pg	08 55 05.1	-0.6
HOES	**Hoengseong**	**0.33**	**7**	P	Pg	08 55 05.7	-0.1
KSICN	**Icheon**	**0.44**	**286**	P	Pg	08 55 07.5	-0.3
KSCHC	**Chuncheon**	**0.62**	**350**	P	Pg	08 55 11.2	0.0
	SNR=8.4						
KSCHC	**Chuncheon**	**0.62**	**350**	P	Pg	08 55 11.2	0.0
	SNR=8.4						
KSCHC				S	Sg	08 55 19.7	+0.4
KSDGY	**Daegwallycong**	**0.78**	**48**	P	Pg	08 55 14.2	-0.1
	SNR=8.7						
KSDGY	**Daegwallycong**	**0.78**	**48**	P	Pg	08 55 14.2	-0.1
	SNR=8.7						
KSJMJ	**Jumunjin**	**0.96**	**42**	P	Pg	08 55 17.6	-0.1
	SNR=5.8						
KSJMJ	**Jumunjin**	**0.96**	**42**	P	Pg	08 55 17.6	-0.1
	SNR=5.8						
SEHB	**SEOHWA**	**1.12**	**12**	P	Pb	08 55 20.7	0.0
	SNR=8.4						

*IDC **11** 09:17:09.8±2.2, 17°.86S×178°.59W, h638km±20km, mb3.2/6, mb1 3.4/8, mb1mx3.2/25, mbtmp4.2/8, Error ellipse: s-maj=66.6km s-min=17.7km az=142.0*
*NEIC **11** 09:17:10.0±0.8, 17°.9S±0°.1×178°.5W±0°.2, h642km±8km, mb4.1/24, Error ellipse: s-maj=21.3km s-min=14.2km az=77.0*

ISC 11 09:17:10.5±0.8, 18°.0S±0°.1×178°.6W±0°.1, h650km, n36, σ0°.73/36, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**274**	P	P	**09 18 33.4**	**-1.7**
	5.0nm,0.3s,baz=108,slow=9.6,SNR=26						
MSVF	**Nonsavu**	**3.21**	**274**	P	P	**09 18 33.8**	**-1.3**
DZM	**Mont Dzumac**	**14.64**	**251**	P	P	**09 20 13.9**	**+0.4**
	0.3nm,0.3s,baz=128,slow=19,SNR=1.1						
THZ	**Tophouse**	**24.81**	**195**	P	P	**09 21 44.0**	**-0.5**
WKZ	**Wanaka**	**28.72**	**199**	P	P	**09 22 16.8**	**-1.7**
EIDS	**Eidsvold**	**29.08**	**250**	P	P	**09 22 22.4**	**+0.5**
EIDS				IAmb	IAmb	09 22 22.9	
	comp=Z,8.5nm,1.1s						
ARMA	**Armidale**	**29.76**	**240**	P	P	**09 22 28.7**	**+0.9**
ARMA				IAmb	IAmb	09 22 40.1	
	comp=Z,9.8nm,1.2s						
CTAO	**Charters Tower**	**33.26**	**261**	P	P	**09 22 57.9**	**+0.5**
TOO	**Toolangi**	**36.99**	**231**	P	P	**09 23 28.9**	**+1.1**
TOO				IAmb	IAmb	09 23 34.4	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**38.45**	**241**	P	P	**09 23 40.3**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=114,slow=18,SNR=9.6						
STKA	**Stephens Creek**	**38.45**	**241**	P	P	**09 23 40.8**	**+1.1**
WR0	**Warramunga Arr**	**44.26**	**260**	P	P	**09 24 25.6**	**+0.3**
WB0	**Warramunga Arr**	**44.41**	**260**	P	P	**09 24 26.6**	**+0.1**
WB0				IAmb	IAmb	09 24 54.4	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**44.44**	**260**	P	P	**09 24 26.7**	**0.0**
WB2				IAmb	IAmb	09 24 37.6	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**44.44**	**260**	P	P	**09 24 26.6**	**-0.1**
WRAB				IAmb	IAmb	09 24 27.9	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**44.45**	**260**	P	P	**09 24 26.8**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=95,slow=7.5,SNR=74						
AS31	**Alice Springs**	**44.60**	**254**	P	P	**09 24 28.3**	**+0.4**
AS31				IAmb	IAmb	09 24 29.3	
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	**09 24 28.2**	**+0.3**
	comp=Z,5.1nm,0.4s,baz=86,slow=8.9,SNR=117						
MTN	**Manton Dam**	**48.62**	**269**	P	P	**09 24 57.8**	**-0.2**
YULB	**Yu-li**	**71.65**	**303**	P	P	**09 27 27.8**	**-1.2**
QSPA	**South Pole Qui**	**72.09**	**180**	P	P	**09 27 31.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**73.69**	**345**	P	P	**09 27 40.7**	**+0.7**
PETK	**Petropavlovsk-**	**73.69**	**345**	P	P	**09 27 40.5**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=130,slow=7.8,SNR=3.9						
BEKR	**Beckworth**	**79.05**	**42**	P	P	**09 28 09.9**	**+0.2**
NVAR	**Mina Array Bea**	**79.59**	**44**	P	P	**09 28 12.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=223,slow=9.4,SNR=6.8						
SUA	**Susitna One**	**82.23**	**13**	P	P	**09 28 25.0**	**-0.4**
SUA				IAmb	IAmb	09 28 25.5	
	comp=Z,3.1nm,0.7s						
GLI	**Glacier Island**	**82.56**	**15**	P	P	**09 28 26.5**	**-0.4**
GLI				IAmb	IAmb	09 28 45.5	
	comp=Z,3.5nm,0.8s						
GHO	**Glory Hole Cre**	**82.91**	**14**	P	P	**09 28 28.7**	**-0.1**
GHO				IAmb	IAmb	09 28 29.1	
	comp=Z,4.3nm,0.6s						
SCM	**Sheep Creek Mo**	**83.33**	**14**	P	P	**09 28 30.6**	**-0.2**
SCM				IAmb	IAmb	09 28 31.2	
	comp=Z,4.1nm,0.6s						
N25K	**Chitina, Valde**	**83.81**	**16**	P	P	**09 28 33.4**	**+0.2**
N25K				IAmb	IAmb	09 28 33.8	
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**85.99**	**13**	P	P	**09 28 42.5**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=223,slow=4.8,SNR=14						
DAWY	**Dawson**	**87.19**	**16**	P	P	**09 28 49.7**	**+0.5**
EGAK	**Eagle**	**87.32**	**15**	P	P	**09 28 50.2**	**+0.5**
BMAR	**Burnt Mountain**	**88.76**	**12**	P	P	**09 28 57.0**	**+0.5**
CLL	**Collm**	**145.48**	**347**	*i* PKPbc	PKPbc	**09 35 38.1**	**+0.4**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**147.62**	**345**	PKPbc	PKPbc	**09 35 43.9**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=41,slow=4.3,SNR=7.9						

*IDC **11** 09:23:35.2±1.9, 36°.09N×97°.14W, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.5/35, mbtmp3.4/4, ML3.6/3, MS2.7/3, Ms1 2.6/3, ms1mx2.6/9, Error ellipse: s-maj=30.3km s-min=11.8km az=105.0*
*NEIC **11** 09:23:35.3±1.2, 36°.041N±0°.004×97°.11W±0°.02, h4km±6km, Error ellipse: s-maj=2.8km s-min=0.7km az=87.0*
*NEIC **11** 09:23:35.3, 36°.03N×97°.11W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.26; $M_{\theta\theta}$2.60; $M_{\phi\phi}$-2.34; $M_{r\theta}$-0.81; $M_{\theta\phi}$2.74; $M_{\phi r}$-0.80; Fault plane solution: $M_0$3.87000×10^{14} NP1:ϕ_s291.78000°, δ75.01000°, λ4.79000°. NP2:ϕ_s200.54000°, δ85.37000°, λ164.96000°. Principal axes: T 4.0821, Plg14.0000°, Azm155.0000°; N -0.4739, Plg74.0000°, Azm4.0000°; P -3.6083, Plg7.0000°, Azm247.0000°;*
*TUL **11** 09:23:35.3±1.2, 36°.03N±0°.01×97°.11W±0°.01, h4km±7km, ML3.8, mb_Lg3.8/156(NEIC), Mwr3.7/71(NEIC) Error ellipse: s-maj=1.9km s-min=0.9km az=147.0*
*ANF **11** 09:23:35.8±0.2, 36°.00N×97°.07W, h4km, ML4.8/16, Error ellipse: s-maj=2.9km s-min=1.7km az=177.0*

ISC 11 09:23:35.6±0.9, 36°.04N±0°.02×97°.12W±0°.02, h12km±7km, n189, σ1$34/200, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.24**	**111**		**Pg**	**09 23 40.1**	**-0.6**
OK031				Sg	**Sg**	**09 23 43.6**	**-0.6**
QUOK	**Quay**	**0.36**	**68**		**Pg**	**09 23 42.5**	**-0.3**
QUOK				Sg	**Sg**	**09 23 47.5**	**-0.2**
OK029	**Liberty Lake**	**0.36**	**228**		**Pg**	**09 23 42.7**	**-0.2**
OK029				Sg	**Sg**	**09 23 47.9**	**+0.1**
OK005	**Luther M Schoo**	**0.39**	**188**		**Pg**	**09 23 43.0**	**-0.4**
OK025	**Westminster Rd**	**0.49**	**201**		**Pg**	**09 23 44.9**	**-0.3**
OK025				Sg	**Sg**	**09 23 51.8**	**+0.1**
OK009	**Oakdale Elemen**	**0.52**	**208**		**Pg**	**09 23 45.6**	**-0.1**
BCOK	**Bluff Creek, N**	**0.55**	**226**		**Pg**	**09 23 46.2**	**-0.2**
BCOK				Sg	**Sg**	**09 23 53.7**	**0.0**
BCOK				IAmb_Lg		09 23 54.0	
	comp=Z,2μm,0.7s						
OK011	**Prague**	**0.66**	**147**		**Pg**	**09 23 47.9**	**-0.5**
OKCFA	**Oklahoma City**	**0.68**	**203**		**Pg**	**09 23 48.2**	**-0.6**
OKCFA				Sg	**Sg**	**09 23 57.7**	**0.0**
OKCFA	**Oklahoma City**	**0.68**	**203**	P		09 23 48.4	
	baz=24						
OKCFA				S		09 23 58.0	
	baz=24						
OKCSW	**OKLAHOMA CITY**	**0.68**	**202**		**Pg**	**09 23 48.4**	**-0.5**
OKCSW				Sg	**Sg**	**09 23 57.9**	**+0.1**
BLOK	**Blackwell**	**0.72**	**354**		**Pg**	**09 23 49.5**	**-0.1**
BLOK				Sg	**Sg**	**09 23 58.2**	**-0.9**
FNO	**Franklin**	**0.81**	**196**		**Pg**	**09 23 50.6**	**-0.7**
FNO				Sg	**Sg**	**09 24 01.6**	**-0.3**
CROK	**Carrier**	**0.84**	**304**		**Pg**	**09 23 51.7**	**-0.1**
CROK				Sg	**Sg**	**09 24 03.0**	**+0.3**
T35A	**Sooner Cattle**	**1.00**	**29**		**Pg**	**09 23 54.4**	**-0.5**
T35A				Sg	**Sg**	**09 24 07.9**	**-0.1**
T35B	**Sooner Cattle**	**1.00**	**29**	P		09 23 54.4	
	baz=209,SNR=279						
T35B				S		09 24 08.0	
	baz=209						
GC02	**Grant County #**	**1.00**	**324**		**Pg**	**09 23 54.6**	**-0.3**
GC02				Sg	**Sg**	**09 24 08.3**	**+0.2**
KAN13	**South Haven SW**	**1.01**	**344**		**Pg**	**09 23 54.8**	**-0.3**
KAN13					**Sb**	**09 24 08.8**	**+0.5**
TUL1	**Leonard**	**1.09**	**96**	P	**Pg**	**09 23 55.1**	**-1.3**
	baz=277,SNR=225						
TUL1				S	**Sg**	**09 24 09.7**	**-0.9**
	baz=277						
TUL1	**Leonard**	**1.09**	**96**	P		09 23 55.1	
	baz=277						
TUL1				S		09 24 09.7	
	baz=277						
KAN17	**Caldwell West**	**1.13**	**333**		**Pg**	**09 23 56.9**	**-0.4**
KAN17				Sg	**Sb**	**09 24 12.2**	**+0.6**
OK032	**Salt Plains WL**	**1.16**	**311**		**Pg**	**09 23 57.5**	**-0.5**
OK032				Sg	**Sg**	**09 24 13.1**	**0.0**
KAN09	**Caldwell North**	**1.17**	**340**		**Pg**	**09 23 57.5**	**-0.5**
KAN09				Sg	**Sg**	**09 24 13.2**	**0.0**
KAN05	**Bluff City Nor**	**1.23**	**331**		**Pg**	**09 23 58.7**	**-0.5**
KAN05					**Sb**	**09 24 15.4**	**+0.9**
KS20	**Mayfield South**	**1.24**	**344**	Pg	**Pg**	**09 23 58.8**	**-0.6**
KS20				Sg	**Sb**	**09 24 15.9**	**+1.1**
KS21	**Milan North St**	**1.32**	**341**	IAmb_Lg		09 24 20.6	
	comp=Z,430nm,0.7s						
KAN10	**Anthony SW Sta**	**1.34**	**324**		**Pn**	**09 24 00.6**	**+0.6**
KAN08	**Anthony NE Sta**	**1.37**	**330**		**Pn**	**09 24 01.1**	**+0.7**
KAN12	**Harper NE Stat**	**1.44**	**331**		**Pn**	**09 24 02.3**	**+0.9**
X34A	**Smith Ranch, M**	**1.55**	**202**	Pn	**Pn**	**09 24 03.9**	**+1.0**
X34A				IAmb_Lg		09 24 25.6	
	comp=Z,424nm,0.8s						
U32A	**Winter Ranch,**	**1.56**	**283**	Pn	**Pn**	**09 24 04.0**	**+0.9**
U32A	**Winter Ranch,**	**1.56**	**283**	P		09 24 04.2	
	baz=102,SNR=62						
U32A				S		09 24 26.0	
	baz=102						
WMOK	**Wichita Mounta**	**1.88**	**227**	P	**Pn**	**09 24 08.7**	**+1.2**
	baz=46						
WMOK				S	**Sb**	**09 24 34.6**	**+1.4**
	baz=46						
WMOK	**Wichita Mounta**	**1.88**	**227**		**Pn**	**09 24 08.7**	**+1.2**
WMOK				IAmb_Lg		09 24 38.7	
	comp=Z,492nm,0.8s						
WMOK	**Wichita Mounta**	**1.88**	**227**	P		09 24 08.8	
	baz=46,SNR=612						
WMOK				S		09 24 34.2	
	baz=46						
X37A	**Clayton**	**2.04**	**135**	Pn	**Pn**	**09 24 10.6**	**+1.0**
X37A				IAmb_Lg		09 24 43.8	
	comp=Z,796nm,0.8s						
X37A	**Clayton**	**2.04**	**135**	P		09 24 10.6	
	baz=316,SNR=164						
LOOK	**Love County**	**2.04**	**181**	Pn	**Pn**	**09 24 10.8**	**+1.1**
LOOK				IAmb_Lg		09 24 43.5	
	comp=Z,762nm,0.9s						
U38A	**Gravette**	**2.25**	**79**	Pn	**Pn**	**09 24 14.2**	**+1.7**
U38A				IAmb_Lg		09 24 46.9	
	comp=Z,539nm,0.9s						
U38A	**Gravette**	**2.25**	**79**	P		09 24 13.9	
	baz=261,SNR=404						
HHAR	**Hobbs**	**2.58**	**84**		**Pn**	**09 24 18.0**	**+0.8**
HHAR				IAmb_Lg		09 25 03.8	
	comp=Z,304nm,0.7s						
HHAR	**Hobbs**	**2.58**	**84**	P		09 24 18.1	
	baz=266						
R32A	**Long Quarter,**	**2.70**	**332**		**Pn**	**09 24 20.0**	**+1.3**
R32A	**Long Quarter,**	**2.70**	**332**	P		09 24 20.1	
	baz=151,SNR=29						
Z35A	**Perchaven, San**	**2.71**	**182**	Pn	**Pn**	**09 24 19.8**	**+1.0**
Z35A				IAmb_Lg		09 25 03.3	
	comp=Z,184nm,1.0s						
Z35A	**Perchaven, San**	**2.71**	**182**	P		09 24 20.0	
	baz=2.4,SNR=32						
W39A	**Magazine**	**2.85**	**106**	P	**Pn**	**09 24 21.7**	**+1.0**
	baz=288,SNR=30						
W39A				S	**Sn**	**09 24 57.4**	**+2.5**
	baz=288						
W39A	**Magazine**	**2.85**	**106**		**Pn**	**09 24 22.0**	**+1.2**
W39A	**Magazine**	**2.85**	**106**	P		09 24 21.7	
	baz=288,SNR=19						
KSU1	**Kansas State U**	**3.08**	**7**	P		09 24 25.7	
	baz=188,SNR=17						
KSU1	**Kansas State U**	**3.08**	**7**	P	**Pn**	**09 24 25.7**	**+1.7**
	baz=188,SNR=12						
KSU1				Sb	**Sg**	**09 25 13.0**	**-1.6**
	baz=188						
KSU1	**Kansas State U**	**3.08**	**7**		**Pn**	**09 24 25.3**	**+1.2**
KSU1				IAmb_Lg		09 25 18.4	
	comp=Z,309nm,0.8s						
MIAR	**Mount Ida**	**3.26**	**116**	P	**Pn**	**09 24 27.7**	**+1.2**
	baz=298,SNR=25						
MIAR				S	**Sn**	**09 25 06.7**	**+1.5**
	baz=298						
MIAR	**Mount Ida**	**3.26**	**116**	Pn	**Pn**	**09 24 27.6**	**+1.2**
MIAR				IAmb_Lg		09 25 23.1	
	comp=Z,398nm,1.1s						
MIAR	**Mount Ida**	**3.26**	**116**	P		09 24 27.5	
	baz=298,SNR=91						
MIAR				S		09 25 06.8	
	baz=298						
Z38A	**Mt. Pleasant**	**3.29**	**147**	Pn	**Pn**	**09 24 27.2**	**+0.4**
Z38A				IAmb_Lg		09 25 25.6	
	comp=Z,224nm,0.7s						
Z38A	**Mt. Pleasant**	**3.29**	**147**	P		09 24 27.6	
	baz=328,SNR=13						
Z38A				S		09 25 07.2	
	baz=328						
S39A	**Bolivar**	**3.46**	**60**	Pn	**Pn**	**09 24 30.5**	**+1.2**
S39A				IAmb_Lg		09 25 33.3	
	comp=Z,228nm,0.9s						
S39A	**Bolivar**	**3.46**	**60**	P		09 24 30.4	
	baz=243,SNR=48						
CBKS	**Cedar Bluff**	**3.46**	**324**	Pn	**Pn**	**09 24 30.5**	**+1.1**
	baz=142,SNR=37						
CBKS				Pb	**Pb**	**09 24 38.8**	**+2.0**
	baz=142						
CBKS				Sb	**Sg**	**09 25 25.0**	**-1.8**
	baz=142						
CBKS	**Cedar Bluff**	**3.46**	**324**		**Pn**	**09 24 30.2**	**+0.9**
CBKS				IAmb_Lg		09 25 30.8	
	comp=Z,293nm,0.8s						
CBKS	**Cedar Bluff**	**3.46**	**324**	P		09 24 30.2	
	baz=142,SNR=11						
U40A	**Yellville**	**3.47**	**84**	P	**Pn**	**09 24 29.7**	**+0.4**
	baz=266,SNR=79						
U40A	**Yellville**	**3.47**	**84**	Pn	**Pn**	**09 24 29.2**	**-0.1**
U40A				IAmb_Lg		09 25 33.1	
	comp=Z,230nm,0.8s						
U40A	**Yellville**	**3.47**	**84**	P		09 24 29.8	
	baz=266,SNR=65						
U40A				P		09 24 29.8	
	baz=266,SNR=65						
X40A	**Basin Creek Fa**	**3.83**	**113**	P	**Pn**	**09 24 35.4**	**+1.1**
	baz=295,SNR=12						
X40A				S	**Sn**	**09 25 21.7**	**+2.4**
	baz=295						
X40A	**Basin Creek Fa**	**3.83**	**113**		**Pn**	**09 24 35.4**	**+1.1**
X40A	**Basin Creek Fa**	**3.83**	**113**	P		09 24 35.3	
	baz=295,SNR=33						
X40A				P		09 24 35.3	
	baz=295,SNR=33						
X40A				S		09 25 21.6	
	baz=295						
X40A				S		09 25 21.6	
	baz=295						
AMTX	**Amarillo**	**3.90**	**254**	Pn	**Pn**	**09 24 37.4**	**+2.1**
	baz=71						
AMTX				Pb	**Pb**	**09 24 44.2**	**0.0**
	baz=71						
AMTX				Sb	**Sb**	**09 25 36.6**	**+5.2**
	baz=71						
AMTX	**Amarillo**	**3.90**	**254**	Pn	**Pn**	**09 24 36.5**	**+1.2**
AMTX				IAmb_Lg		09 25 40.8	
	comp=Z,263nm,0.7s						
AMTX	**Amarillo**	**3.90**	**254**	P		09 24 36.1	
	baz=71,SNR=26						
ABTX	**Abilene, Hawle**	**4.00**	**212**	Pb	**Pb**	**09 24 46.7**	**+0.8**
	baz=31,SNR=15						
ABTX	**Abilene, Hawle**	**4.00**	**212**		**Pn**	**09 24 37.0**	**+0.4**
ABTX				IAmb_Lg		09 25 43.2	
	comp=Z,199nm,0.8s						
WHAR	**Wooly Hollow**	**4.00**	**99**	Pn	**Pn**	**09 24 37.5**	**+0.8**
WHAR				IAmb_Lg		09 25 52.1	
	comp=Z,287nm,0.8s						
WLAR	**White Oak Lake**	**4.05**	**124**	Pn	**Pn**	**09 24 37.9**	**+0.6**
WLAR				IAmb_Lg		09 25 41.7	
	comp=Z,198nm,0.7s						
WHTX	**Lake Whitney,**	**4.05**	**184**	P	**Pn**	**09 24 38.5**	**+1.2**
	baz=3.9						
WHTX				Sb	**Sb**	**09 25 38.2**	**+2.6**
	baz=3.9						
WHTX	**Lake Whitney,**	**4.05**	**184**		**Pn**	**09 24 38.1**	**+0.8**
FCAR	**Ozark Folk Cen**	**4.06**	**91**		**Pn**	**09 24 37.8**	**+0.5**
FCAR				IAmb_Lg		09 25 51.0	
	comp=Z,222nm,0.7s						
MGMO	**Mountain Grove**	**4.06**	**73**		**Pn**	**09 24 38.5**	**+1.0**
MGMO				IAmb_Lg		09 25 47.6	
	comp=Z,188nm,0.9s						
W41B	**Gary Mavity, V**	**4.06**	**101**	P	**Pn**	**09 24 38.2**	**+0.7**
	baz=284,SNR=18						
W41B				S	**Sn**	**09 25 25.9**	**+1.0**
	baz=284						
W41B	**Gary Mavity, V**	**4.06**	**101**	P		09 24 38.0	
	baz=284,SNR=52						
237A	**Washetta, Mont**	**4.17**	**164**	Pn	**Pn**	**09 24 39.0**	**0.0**
237A				IAmb_Lg		09 25 58.3	
	comp=Z,124nm,1.0s						
237A	**Washetta, Mont**	**4.17**	**164**	P		09 24 39.2	
	baz=345						
R40A	**Maddies Statio**	**4.48**	**58**		**Pn**	**09 24 44.2**	**+1.0**
R40A				IAmb_Lg		09 26 01.1	
	comp=Z,343nm,0.8s						
R40A	**Maddies Statio**	**4.48**	**58**	P		09 24 44.2	
	baz=241,SNR=32						
Z41A	**Richland Creek**	**4.51**	**127**	S	**Sn**	**09 25 36.1**	**+0.1**
	baz=309						
P38A	**Dawn**	**4.57**	**37**		**Pn**	**09 24 44.4**	**0.0**
P38A				IAmb_Lg		09 26 04.1	
	comp=Z,333nm,0.7s						
N33B	**J Bar K, Exete**	**4.70**	**357**	P		09 24 46.7	
	baz=177,SNR=14						
N33A	**J Bar K, Exete**	**4.70**	**357**		**Pn**	**09 24 47.1**	**+0.9**
N33A				IAmb_Lg		09 26 14.8	
	comp=Z,197nm,0.9s						
NATX	**Nacogdoches**	**4.73**	**154**		**Pn**	**09 24 46.6**	**-0.1**
LCAR	**Lake Charles**	**4.83**	**88**		**Pn**	**09 24 48.4**	**+0.3**
LCAR				IAmb_Lg		09 26 13.6	
	comp=Z,171nm,0.8s						
CCAR	**Cane Creek**	**4.88**	**114**	Pn	**Pn**	**09 24 50.1**	**+1.5**
CCAR				IAmb_Lg		09 26 14.8	
	comp=Z,320nm,1.0s						
CCAR	**Cane Creek**	**4.88**	**114**	P		09 24 49.6	
	baz=297,SNR=10						
CCAR				S		09 25 46.9	
	baz=297						
N35A	**Tabor**	**4.95**	**13**		**Pn**	**09 24 50.1**	**+0.4**
N35A	**Tabor**	**4.95**	**13**	P		09 24 50.5	
	baz=194,SNR=8.8						
T42A	**Van Buren**	**4.95**	**77**		**Pn**	**09 24 50.5**	**+0.8**
MSTX	**Muleshoe**	**5.08**	**248**	P	**Pn**	**09 24 53.2**	**+1.6**
	baz=64						
MSTX	**Muleshoe**	**5.08**	**248**		**Pn**	**09 24 51.5**	**0.0**
CCM	**Cathedral Cave**	**5.11**	**65**	P	**Pn**	**09 24 53.7**	**+1.8**
	baz=248						
CCM				Sb	**Sb**	**09 26 12.2**	**+5.9**
	baz=248						
CCM	**Cathedral Cave**	**5.11**	**65**		**Pn**	**09 24 52.9**	**+0.9**
CCM				IAmb_Lg		09 26 29.1	
	comp=Z,152nm,0.7s						
435B	**Jarrell**	**5.26**	**184**	IAmb_Lg		09 26 28.5	
	comp=Z,138nm,0.7s						
HBAR	**Harrisburg**	**5.28**	**93**		**Pn**	**09 24 52.9**	**-1.2**
KSCO	**Kaye Shedlock'**	**5.29**	**306**	P	**Pn**	**09 24 56.8**	**+2.4**
	baz=122,SNR=24						
KSCO	**Kaye Shedlock'**	**5.29**	**306**		**Pn**	**09 24 55.3**	**+0.8**
KSCO				IAmb_Lg		09 26 32.7	
	comp=Z,171nm,0.7s						
P40A	**Paris**	**5.32

OXF	Oxford	6.49	101	Pn	Pn	09 25 10.9	0.0
OXF				IAmb_Lg		09 27 16.2	
	comp=Z,196nm,1.0s						
S44A	Carbondale	6.52	73		Pn	09 25 12.2	+1.0
S44A				IAmb_Lg		09 26 59.4	
	comp=Z,178nm,0.8s						
SIUC	Southern Illin	6.55	73		Pn	09 25 11.3	-0.3
SIUC				IAmb_Lg		09 27 00.8	
	comp=Z,229nm,0.9s						
Y45A	Yeager Farm, C	6.59	107		Pn	09 25 12.7	+0.5
Y45A				IAmb_Lg		09 27 16.9	
	comp=Z,146nm,0.8s						
SCIA	State Center	6.60	26	P	Pn	09 25 13.0	+0.7
	baz=209						
SCIA				S	Sn	09 26 26.0	-1.5
	baz=209						
SCIA	State Center	6.60	26		Pn	09 25 13.4	+1.1
VBMS	Vicksburg	6.67	123		Pn	09 25 12.6	-0.7
K31A	O'Neill	6.70	350	IAmb_Lg		09 27 13.1	
	comp=Z,204nm,0.7s						
SDCO	Great Sand Dun	6.93	287	P	Pn	09 25 19.4	+2.3
	baz=102						
SDCO	Great Sand Dun	6.93	287		Pn	09 25 19.4	+2.3
SDCO				IAmb_Lg		09 27 21.0	
	comp=Z,64nm,0.8s						
SDCO	Great Sand Dun	6.93	287	P		09 25 19.2	
	baz=102,SNR=12						
P43A	Skaggs, Pawnee	7.00	57		Pn	09 25 18.6	+0.7
Q24A	Divide	7.02	297	P	Pn	09 25 20.5	+2.1
	baz=112						
Q44A	Meyer Farm, Va	7.05	64		Pn	09 25 19.0	+0.5
GDL2	Guadalupe Moun	7.12	240		Pn	09 25 20.5	+0.8
735A	Kenedy	7.19	185	IAmb_Lg		09 27 35.0	
	comp=Z,61nm,0.8s						
K38A	Parkersburg	7.41	26	Pn	Pn	09 25 23.6	+0.2
K38A	Parkersburg	7.41	26	P		09 25 23.6	
	baz=208,SNR=5.6						
PLAL	Pickwick Lake	7.45	96		Pn	09 25 24.4	+0.3
PLAL				IAmb_Lg		09 27 32.1	
	comp=Z,103nm,1.0s						
146A	Union	7.48	115	IAmb_Lg		09 27 43.2	
	comp=Z,58nm,0.8s						
WVT	Waverly	7.52	87	Pn	Pn	09 25 24.7	-0.3
WVT				IAmb_Lg		09 27 55.3	
	comp=Z,55nm,0.8s						
L40A	Anamosa	7.56	36		Pn	09 25 25.8	+0.2
L40A				IAmb_Lg		09 27 35.9	
	comp=Z,185nm,0.9s						
HDIL	Hopedale	7.63	51	P	Pn	09 25 27.3	+0.9
	baz=236,SNR=7.7						
HDIL	Hopedale	7.63	51	Pn	Pn	09 25 26.0	-0.4
OLIL	Olney	7.67	67	IAmb_Lg		09 27 50.4	
	comp=Z,135nm,0.8s						
ISCO	Idaho Springs	7.69	302	P	Pn	09 25 29.9	+2.3
	baz=117						
ISCO	Idaho Springs	7.69	302		Pn	09 25 28.7	+1.1
ISCO				IAmb_Lg		09 27 50.9	
	comp=Z,76nm,0.8s						
ANMO	Albuquerque	7.69	265		Pn	09 25 29.2	+1.6
ECSD	EROS Data Cent	7.69	3	P	Pn	09 25 26.8	-0.6
	baz=183,SNR=22						
ECSD	EROS Data Cent	7.69	3		Pn	09 25 27.2	-0.2
ECSD				IAmb_Lg		09 27 43.4	
	comp=Z,58nm,0.9s						
ECSD	EROS Data Cent	7.69	3	P		09 25 26.8	
	baz=183,SNR=56						
BNM	Barren Site	8.02	259		Pn	09 25 32.0	0.0
MNTX	Cornudas Mount	8.12	240	P	Pn	09 25 35.0	+1.7
	baz=55						
MNTX	Cornudas Mount	8.12	240		Pn	09 25 33.5	+0.2
MNTX				IAmb_Lg		09 28 00.7	
	comp=Z,68nm,1.1s						
T47A	Sharon Grove	8.12	80		Pn	09 25 33.2	0.0
T47A				IAmb_Lg		09 28 06.5	
	comp=Z,120nm,0.8s						
LENM	Lemitar	8.29	260		Pn	09 25 35.7	0.0
L42A	Oliver, Polo	8.31	42		Pn	09 25 36.1	+0.3
V48A	Smith Brothers	8.36	89	IAmb_Lg		09 28 12.3	
	comp=Z,77nm,1.2s						
PHWY	Pilot Hill	8.37	311	Pn	Pn	09 25 38.5	+1.6
PHWY				IAmb_Lg		09 28 19.7	
	comp=Z,58nm,0.8s						
X48A	Hartselle	8.39	98	IAmb_Lg		09 28 03.8	
	comp=Z,107nm,1.1s						
N23A	Red Feather La	8.45	308	P	Pn	09 25 40.0	+2.0
	baz=122						
SUSD	Miller	8.51	351	IAmb_Lg		09 28 25.8	
	comp=Z,82nm,0.8s						
TXAR	Lajitas Array	8.67	221	Pn	Pn	09 25 40.5	-0.3
	comp=Z,0.2nm,0.3s,baz=39,slow=11,SNR=15						
TXAR				Lg	Lg	09 28 05.2	
	comp=Z,5.5nm,0.3s,baz=40,slow=24,SNR=9.6						
TXAR				LR	LR	09 29 31.2	
	comp=Z,30nm,21.7s,baz=0.0,slow=41						
TX31	Lajitas Ar. Si	8.67	221	Pn	Pn	09 25 40.5	-0.3
TX32	Lajitas Array	8.67	221	Pn	Pn	09 25 40.8	-0.1
JFWS	Jewell Farm	8.68	36	Pn	Pn	09 25 41.4	+0.6
CLTN	Cedars of Leba	8.74	86	IAmb_Lg		09 28 17.3	
	comp=Z,81nm,1.1s						
LRAL	Lakeview Retre	8.87	107	Pn	Pn	09 25 43.4	-0.1
WCI	Wyandotte Cave	8.92	73	IAmb_Lg		09 28 17.2	
	comp=Z,107nm,0.8s						
BLO	Bloomington	8.97	66		Pn	09 25 46.0	+1.1
BLO				IAmb_Lg		09 28 24.1	
	comp=Z,134nm,0.7s						
SFIN	Lafayette	9.00	58	IAmb_Lg		09 28 30.9	
	comp=Z,125nm,0.7s						
Y49A	Blount Mountai	9.06	101	Pn	Pn	09 25 47.0	+0.9
Y49A				IAmb_Lg		09 28 27.1	
	comp=Z,62nm,0.8s						
SWET	Sewanee	9.15	92	IAmb_Lg		09 28 24.3	
	comp=Z,54nm,0.8s						
U49A	Red Boiling Sp	9.17	84	Pn	Pn	09 25 47.0	-0.6
I40A	Norwalk	9.29	30		Pn	09 25 49.5	+0.2
I40A				IAmb_Lg		09 28 40.9	
	comp=Z,117nm,0.8s						
L44A	Lake County Fo	9.42	47	Pn	Pn	09 25 51.8	+0.8
K43A	Burlington	9.51	43		Pn	09 25 52.5	+0.2
PV02	Paradox Valley	9.53	287	IAmb_Lg		09 28 44.9	
	comp=Z,52nm,1.3s						
FPAL	Fort Paine	9.53	96	IAmb_Lg		09 28 51.3	
	comp=Z,66nm,0.9s						
PV11	David Mesa, Pa	9.65	287	IAmb_Lg		09 28 57.3	
	comp=Z,49nm,1.2s						
RSSD	Black Hills	9.65	329	P	Pn	09 25 55.8	+1.4
	baz=144						
RSSD	Black Hills	9.65	329	Pn	Pn	09 25 54.8	+0.4
RSSD				IAmb_Lg		09 28 53.6	
	comp=Z,40nm,1.0s						
W50A	Signal Mountai	9.65	92	IAmb_Lg		09 28 47.1	
	comp=Z,125nm,0.9s						
RWWY	Rawlins	9.68	309	IAmb_Lg		09 29 02.7	
	comp=Z,46nm,1.0s						
SPMN	Marine on St.	9.74	18	P	Pn	09 25 55.0	-0.4
	baz=201						
SPMN	Marine on St.	9.74	18		Pn	09 25 54.7	-0.7
SPMN				IAmb_Lg		09 28 50.7	
	comp=Z,124nm,1.2s						
R49A	Shelbyville	9.80	73	IAmb_Lg		09 28 58.9	
	comp=Z,45nm,0.8s						
F33A	5 Mile Ranch,	9.81	3	IAmb_Lg		09 28 44.3	
	comp=Z,56nm,0.9s						
K22A	Casper	9.82	315	Pn	Pn	09 25 57.8	+1.0
K22A				IAmb_Lg		09 29 12.9	
	comp=Z,60nm,0.9s						
P48A	Milroy	9.87	66	Pn	Pn	09 25 56.7	-0.5
P48A				IAmb_Lg		09 28 45.2	
	comp=Z,98nm,0.8s						
250A	Grady	9.88	111	Pn	Pn	09 25 56.9	-0.4
T50A	Nancy	9.93	81	Pn	Pn	09 25 58.0	-0.1
T50A				IAmb_Lg		09 28 58.8	
	comp=Z,44nm,0.8s						
X51A	Calhoun	10.13	95	Pn	Pn	09 26 00.7	-0.1
F36A	Milaca	10.18	14	Pn	Pn	09 25 59.6	-1.8
CPCT	Cooper Cave	10.26	90	Pn	Pn	09 26 02.3	-0.2
L46A	Eue Claire	10.31	51		Pn	09 26 02.3	-1.0
V51A	Loudon	10.36	88		Pn	09 26 04.0	+0.1
R50A	Paris	10.45	74	Pn	Pn	09 26 05.4	+0.2
G40A	Rib Lake	10.61	28		Pn	09 26 06.5	-0.7
TKL	Tuckaleechee C	10.84	88	Pn	Pn	09 26 10.2	-0.4
S51A	Beattyville	10.96	78		Pn	09 26 12.2	+0.1
V52A	Sevierville	10.97	87	Pn	Pn	09 26 12.7	+0.4
H43A	Windswept, Lux	11.04	37	Pn	Pn	09 26 12.3	-0.8
Q51A	Peebles	11.34	71	Pn	Pn	09 26 17.3	0.0
L48A	N Adams	11.49	55		Pn	09 26 18.4	-1.0
COWI	Conover	11.71	28		Pn	09 26 22.8	+0.4
PDAR	Pinedale Array	11.73	309	Pn	Pn	09 26 23.3	+0.4
	comp=Z,0.2nm,0.3s,baz=123,slow=16,SNR=5.1						
PDAR				Lg	Lg	09 29 41.6	
	comp=Z,0.4nm,0.3s,baz=120,slow=31,SNR=2.7						
PDAR				LR	LR	09 31 08.7	
	comp=Z,38nm,21.4s,baz=75,slow=39						
ACSO	Alum Creek Sta	11.89	65		Pn	09 26 23.5	-1.4
AGMN	Agassiz Nation	12.29	4	P	Pn	09 26 27.5	-2.7
	baz=185,SNR=9.4						
AGMN				S	Sn	09 28 40.9	-6.1
	baz=185						
P52A	Corning	12.38	69	Pn	Pn	09 26 31.4	-0.1
EYMN	Ely	12.61	18		Pn	09 26 32.3	-2.3
LOHW	Long Hollow	12.82	310	Pn	Pn	09 26 37.0	-0.8
E43A	Lone Tree Farm	12.82	33	Pn	Pn	09 26 35.4	-2.1
ULM	Lac du Bonnet	14.23	3	Pn	Pn	09 26 52.4	-4.4
	comp=Z,0.9nm,0.3s,baz=179,slow=12,SNR=8.0						
ULM				Sn	Sn	09 29 22.5	-12
	comp=Z,0.5nm,0.3s,baz=122,slow=13,SNR=2.2						
ULM				Lg	Lg	09 30 53.4	
	comp=Z,0.1nm,0.3s,baz=107,slow=17,SNR=3.3						
ULM				LR	LR	09 32 20.0	
	comp=Z,55nm,21.7s,baz=272,slow=37						
ILAR	Eielson Array	41.10	330	P	P	09 31 20.3	+1.5
	comp=Z,0.3nm,0.7s,baz=112,slow=7.3,SNR=3.1						

IDC ***11*** *09:24:04.6±2.3, 17°.79S×178°.72W, h640km±20km, mb3.1/6, mb1 3.3/8, mb1mx3.0/27, mbtmp4.1/8, Error ellipse: s-maj=67.4km s-min=18.9km az=141.0*

ISC 11 09:24:05.3±1.8, 17°.8S±0°.4×178.7W±0°.3, h650km, n8, σ0°81/10, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.06	270	P	P	09 25 27.5	-1.5
	3.6nm,0.3s,baz=95,slow=11,SNR=18						
DZM	Mont Dzumac	14.57	251	P	P	09 27 08.6	+0.9
	0.2nm,0.3s,baz=72,slow=20,SNR=1.4						
STKA	Stephens Creek	38.42	241	P	P	09 30 34.1	-0.1
	3.3nm,0.5s,baz=76,slow=9.8,SNR=13						
WRA	Warramunga Arr	44.35	259	P	P	09 31 20.4	-0.4
	1.8nm,0.3s,baz=95,slow=7.4,SNR=54						
WRA				PcP	PcP	09 32 50.3	+0.3
	0.4nm,0.6s,baz=99,slow=3.0,SNR=2.3						
ASAR	Alice Springs	44.52	254	P	P	09 31 22.4	+0.3
	10nm,0.6s,baz=86,slow=8.8,SNR=175						
ASAR				PcP	PcP	09 32 50.5	-0.1
	0.4nm,0.4s,baz=97,slow=4.0,SNR=3.0						
PETK	Petropavlovsk-	73.48	345	P	P	09 34 34.4	+0.8
	0.4nm,0.5s,baz=133,slow=8.5,SNR=1.3						
NVAR	Mina Array Bea	79.55	44	P	P	09 35 07.6	+0.4
	0.4nm,0.7s,baz=234,slow=7.7,SNR=4.3						
ILAR	Eielson Array	85.83	13	P	P	09 35 36.9	-0.7
	0.3nm,0.4s,baz=226,slow=4.0,SNR=4.4						

MEX ***11*** *09:34:22.7±0.3, 30°.36N×114°.37W, h18km±21km, MD3.9*
ECX ***11*** *09:34:24.2±1.1, 31°.46N×114°.48W, h0km±18km, MD2.5, ML2.4*

ISC 11 09:34:21.6±3.0, 31°.39N±0°.09×114°.4W±0°.2, h11km, n6, σ0°43/10, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.55	230	eP	Pb	09 34 33.5	+0.1
SFX				eS	Sb	09 34 41.9	+0.7
SFX				IAML		09 34 42.1	
	comp=N,240nm,0.2s						
SFX				⇓e		09 34 42.6	
SFX				IAML		09 34 42.6	
	comp=E,330nm,0.2s						
ECBX	El Chinero	0.60	278	eP	Pg	09 34 32.9	-0.4
ECBX				eS	Sg	09 34 41.0	-0.3
SPIG	San Pedro Mart	1.01	250	eP	Pg	09 34 40.9	-0.3
	baz=126,slow=12						
SPIG				i S	Sb	09 34 55.1	+0.2
SPIG	San Pedro Mart	1.01	250	eP	Pb	09 34 41.6	+0.2
SPIG				eS	Sb	09 34 55.1	+0.2
CBX	Cerro Bola	2.17	296	eP	Pn	09 34 57.4	-0.4
TJIG	Tijuana	2.23	298	eP	Pg	09 35 04.9	+0.5

NEIC ***11*** *09:56:05.0±1.7, 31°.42N±0°.06×114°.41W±0°.05, h11km±7km, Error ellipse: s-maj=9.9km s-min=4.5km az=155.0*
PAS ***11*** *09:56:05.4±1.8, 31°.50N±0°.02×114°.33W±0°.04, h10km±2km, ML3.0/18, ML2.8/27(NEIC), Error ellipse: s-maj=6.3km s-min=3.0km az=285.0*
MEX ***11*** *09:56:06.9±0.3, 31°.05N×114°.18W, h10km, MD4.1*

ISC 11 09:56:05.7±1.2, 31°.45N±0°.06×114°.41W±0°.05, h11km, n18, σ1°23/20, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.56	223		Pg	09 56 17.3	+0.7
SFX				IAML		09 56 26.2	
	comp=N,911nm,0.7s						
SPIG	San Pedro Mart	0.99	246	eP	Pg	09 56 24.9	+0.1
	baz=90,slow=11						
SPIG				i S	Sg	09 56 39.0	+1.1
SPIG	San Pedro Mart	0.99	246		Pg	09 56 24.9	+0.1
SPIG					Sg	09 56 39.0	+1.1
GUVIX	Guadalupe Vict	1.02	326	Pg	Pb	09 56 24.6	-0.8
113A	Mohawk Valley,	1.42	22		Pn	09 56 29.3	-2.2
113A				IAML		09 56 48.9	
	comp=E,107nm,0.7s						
214A	Organ Pipe Nat	1.45	69		Pn	09 56 30.0	-1.9
214A				IAML		09 56 51.0	
	comp=N,251nm,0.4s						
214A				IAML		09 56 51.3	
	comp=E,256nm,0.3s						
GLA	Glamis	1.64	347		Pn	09 56 33.0	-1.5
CBX	Cerro Bola	2.10	295		Pn	09 56 40.1	-0.9
CBX				IAML		09 57 26.0	
	comp=E,95nm,0.6s						
TJIG	Tijuana	2.16	298	eP	Pn	09 56 40.5	-1.3
TJIG	Tijuana	2.16	298		Pn	09 56 40.5	-1.3
BAR	Barrett	2.28	303		Pn	09 56 42.2	-1.2
BAR				IAML		09 57 21.2	
	comp=E,51nm,0.4s						
BAR				IAML		09 57 30.3	
	comp=N,52nm,0.8s						
109C	Camp Elliot, M	2.70	303		Pn	09 56 48.4	-0.7
109C				IAML		09 57 33.2	
	comp=E,47nm,0.6s						
109C				IAML		09 57 34.7	
	comp=N,38nm,0.3s						
Y14A	Wickenburg	2.75	25		Pn	09 56 49.0	-0.8
Y14A				IAML		09 57 35.9	
	comp=E,64nm,0.5s						
PFO	Pinyon Flats O	2.77	322		Pn	09 56 51.5	+1.4
TUC	Tucson	3.20	73		Pn	09 56 56.8	+0.8
TUC				IAML		09 57 57.7	
	comp=E,17nm,1.0s						
W13A	Hualapai Mount	3.67	7		Pn	09 57 02.1	-0.4
W13A				IAML		09 58 13.0	
	comp=E,15nm,0.6s						
X16A	Lo Mia Camp, P	3.87	39	Pn	Pn	09 57 05.6	+0.3
X16A				IAML		09 58 19.5	
	comp=E,14nm,1.0s						
X16A				IAML		09 58 20.2	
	comp=N,16nm,0.8s						
SHPR	Sheep Range	5.08	353		Pg	09 57 44.5	+1.5
SHPR				IAML		09 59 11.1	
	comp=E,4.0nm,1.2s						

IDC ***11*** *09:58:43.6±7.1, 12°.35N×93°.60E, h117km±58km, mb3.3/6, mb1 3.4/7, mb1mx3.2/36, mbtmp3.7/7, Error ellipse: s-maj=56.0km s-min=19.3km az=65.0*

ISC 11 09:58:41.4±1.4, 12°.3N±0°.1×93°.4E±0°.1, h100km, n19, σ1°39/19, mb3.7/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLT	Khaolaem Dam	5.60	63	P	Pn	10 00 04.4	+2.1
	0.2nm54nm,0.9s						
PHET	Kaeng Krachan	6.10	84	P	Pn	10 00 10.0	+1.0
	0.1nm230nm16nm,0.6s						
UMPA	Umpang Tak	6.54	53	P	Pn	10 00 14.0	-1.1
	0.1nm1μm29nm,0.7s						
UTHA	Uthaitani	6.68	61	P	Pn	10 00 18.1	+1.2
	0.1nm243nm20nm,0.7s						
PATY	Pattaya	7.30	85	P	Pn	10 00 27.0	+1.6
	0.3nm24nm,0.4s						
CM05	Chiang Mai Arr	8.06	41	P	Pn	10 00 37.2	+1.5
	0.0nm99nm10nm,0.7s						
CM04	Chiang Mai Arr	8.08	41	P	Pn	10 00 37.5	+1.6
	0.1nm149nm16nm,0.7s						
CM01	Chiang Mai Arr	8.08	41	P	Pn	10 00 37.9	+1.8
	0.0nm171nm13nm,0.6s						
CM02	Chiang Mai Arr	8.08	41	P	Pn	10 00 38.0	+2.0
	0.0nm6.6nm,0.6s						
CMAR	Chiang Mai Arr	8.10	41	P	Pn	10 00 37.2	+1.0
	1.1nm,0.3s,baz=231,slow=15,SNR=28						
CMAR				S	Sn	10 02 04.7	-1.5
	0.2nm,0.3s,baz=227,slow=25,SNR=1.1						
CM09	Chiang Mai Arr	8.12	41	P	Pn	10 00 38.0	+1.5
	0.1nm14nm,0.7s						
PHIT	Phitsanulok	8.32	54	P	Pn	10 00 47.4	+8.1
CM35	Chiang Mai Arr	8.39	41	P	Pn	10 00 41.0	+0.7
MKAR	Makanchi Array	35.61	347	P	P	10 05 29.4	0.0
	0.2nm,0.3s,baz=160,slow=8.1,SNR=2.7						
SONM	Songino Array	37.02	15	P	P	10 05 42.0	+0.5
	0.3nm,0.3s,baz=203,slow=7.9,SNR=5.3						
KSRS	Korea Array	39.71	45	P	P	10 06 02.9	-1.1
	0.4nm,0.6s,baz=243,slow=9.6,SNR=1.7						
ZALV	Zalesovo Beam	42.07	352	P	P	10 06 23.6	+0.5
	1.2nm,0.5s,baz=166,slow=8.5,SNR=4.1						
WRA	Warramunga Arr	51.49	128	P	P	10 07 36.4	-0.7
	0.5nm,0.6s,baz=304,slow=8.7,SNR=7.3						
ASAR	Alice Springs	53.37	132	P	P	10 07 50.2	-0.7
	0.4nm,0.5s,baz=308,slow=6.5,SNR=10						

PAS ***11*** *10:22:19.6±1.4, 31°.48N±0°.05×114°.34W±0°.05, h20km±6km, ML3.1/21, ML3.0/28(NEIC), Error ellipse: s-maj=8.1km s-min=3.9km az=146.0*
NEIC ***11*** *10:22:19.3±1.1, 31°.49N±0°.05×114°.39W±0°.04, h17km±6km, Error ellipse: s-maj=8.2km s-min=2.5km az=146.0*
MEX ***11*** *10:22:20.7±0.3, 31°.33N×114°.17W, h15km, MD3.9*

ISC 11 10:22:19.0±1.2, 31°.48N±0°.07×114°.39W±0°.05, h11km, n20, σ1°35/23, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.59	222		Pg	10 22 31.2	+0.6
SFX				Sg	Sg	10 22 39.4	+1.1
SPIG	San Pedro Mart	1.02	245	eP	Pg	10 22 38.7	-0.1
	baz=75,slow=8.6						
SPIG				eS	Sg	10 22 52.7	+0.7
SPIG	San Pedro Mart	1.02	245		Pg	10 22 38.7	-0.1
SPIG					Sg	10 22 52.7	+0.7
113A	Mohawk Valley,	1.39	22		Pn	10 22 43.0	-1.4
214A	Organ Pipe Nat	1.42	70		Pn	10 22 43.4	-1.5
214A				IAML		10 23 04.9	
	comp=E,325nm,0.4s						
GLA	Glamis	1.61	347		Pn	10 22 46.7	-0.8
GLA				IAML		10 23 21.2	
	comp=E,256nm,0.7s						
RMX	La Rumorosa	1.82	308		Pn	10 22 47.3	-3.2
RMX				IAML		10 23 34.9	
	comp=N,93nm,0.8s						
CBX	Cerro Bola	2.11	294		Pn	10 22 53.4	-1.0
CBX				IAML		10 23 39.9	
	comp=E,84nm,0.7s						
CBX				IAML		10 23 40.6	
	comp=N,105nm,0.6s						
TJIG	Tijuana	2.17	297	eP	Pn	10 22 54.1	-1.0
TJIG	Tijuana	2.17	297		Pn	10 22 54.1	-1.0
BAR	Barrett	2.28	302		Pn	10 22 55.5	-1.2
BAR				IAML		10 23 44.1	
	comp=N,60nm,0.6s						
109C	Camp Elliot, M	2.70	302		Pn	10 23 01.6	-0.8
109C				IAML		10 23 44.6	
	comp=E,40nm,0.5s						
109C				IAML		10 23 48.5	
	comp=N,44nm,0.3s						
Y14A	Wickenburg	2.72	25		Pn	10 23 02.7	0.0
Y14A				IAML		10 23 48.2	
	comp=E,75nm,0.3s						
PFO	Pinyon Flats O	2.76	321		Pn	10 23 04.6	+1.2
X16A	Lo Mia Camp, P	3.84	39		Pn	10 23 17.8	-0.4
X16A				IAML		10 24 26.2	
	comp=N,18nm,1.0s						
X16A				IAML		10 24 28.1	
	comp=E,17nm,0.6s						
GSC	Goldstone, Bar	4.32	333	Pn	Pn	10 23 25.0	+0.3
GSC				IAML		10 24 58.2	
	comp=E,11nm,1.4s						
319A	Douglas	4.36	90		Pn	10 23 24.8	-0.6
U15A	North Rim	5.24	19		Pn	10 23 39.5	+2.0
U15A				IAML		10 25 15.5	
	comp=N,10.0nm,1.0s						
U15A				IAML		10 25 20.9	
	comp=E,8.1nm,1.3s						
LCMT	Little Creek M	5.60	9	Pn	Pn	10 23 43.4	+1.0
KNB	Kanab	5.68	13	Pn	Pn	10 23 40.8	-2.6

MEX ***11*** *10:26:34.7±0.3, 30°.94N×114°.13W, h15km, MD3.6*
ECX ***11*** *10:26:35.7±1.0, 31°.43N×114°.42W, h14km±16km, MD2.7, ML2.9*

ISC 11 10:26:32.2±2.4, 31°.44N±0°.09×114°.3W±0°.1, h11km, n8, σ0°71/12, 2C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	San Felipe	0.61	230	⇓eP	Pb	10 26 45.3	+0.3
SFX				eS	Sb	10 26 53.3	-0.3
SFX				IAML		10 26 53.9	
	comp=N,571nm,0.2s						
SFX				⇓e		10 26 53.9	
SFX				IAML		10 26 54.4	
	comp=E,1μm,0.5s						
ECBX	El Chinero	0.64	273	⇑iP	Pg	10 26 44.8	+0.1
ECBX				eS	Sg	10 26 53.1	+0.1
SPIG	San Pedro Mart	1.07	249	eP	Pb	10 26 52.9	0.0
	baz=95,slow=12						
SPIG				i S	Sb	10 27 07.1	0.0
SPIG	San Pedro Mart	1.07	249	eP	Pb	10 26 52.9	0.0
SPIG				eS	Sg	10 27 06.8	0.0
CPBX	Cerro Prieto	1.30	319	eP	Pg	10 26 57.5	+0.3
CPBX				IAML		10 27 19.5	
	comp=E,553nm,0.3s						
CPBX				⇑e		10 27 19.5	
CPBX				⇓e		10 27 23.2	
CPBX				IAML		10 27 23.2	
	comp=N,502nm,0.3s						
GLA	Glamis	1.67	345	eP	Pg	10 27 04.4	+0.1
CBX	Cerro Bola	2.19	294	eP	Pn	10 27 09.9	+1.2
TJIG	Tijuana	2.25	297	eP	Pn	10 27 07.7	-1.6

JMA ***11*** *10:27:58.8±0.2, 24°.91N×122°.86E, h23km±3km, M2.3*
TAP ***11*** *10:27:59.4, 24°.63N×122°.80E, h5km±1km, ML3.0, D*

ISC 11 10:27:59.3±1.2, 24.72N±0°.05×122.84E±0°.03, h13km±10km, n65, σ0°86/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.29

TWE	Neicheng	1.07 270	eP	Pg	10 28 19.7	-0.1
	baz=275					
ENTT	Nioudou	1.16 266	eP	Pg	10 28 21.2	-0.4
	baz=270					
ENTT			eS	Sg	10 28 37.0	+0.3
	baz=270					
NDT	Datong Townshi	1.21 265	eP	Pg	10 28 22.2	-0.4
	baz=268					
NDT			eS	Sg	10 28 38.7	+0.3
	baz=268					
NWLT	Wulai	1.22 273	eP	Pg	10 28 22.4	-0.3
	baz=277					
NWLT			eS	Sg	10 28 38.9	+0.3
	baz=277					
YM01	YM01	1.23 290	eP	Pg	10 28 22.9	0.0
	baz=294					
JIJ	Ishigaki jima	1.24 107	P	Pn	10 28 22.3	-0.1
JIJ			S	Sn	10 28 38.9	-0.1
ETL	Fush Village	1.24 243	eP	Pn	10 28 22.4	-0.1
	baz=246					
ETL			eS	Sg	10 28 39.4	0.0
	baz=246					
NACB	Ninganchiao	1.26 244	eP	Pn	10 28 22.2	-0.4
	baz=247					
NACB			eS	Sg	10 28 40.0	+0.1
	baz=247					
TWD	Chiawan	1.30 241	eP	Pb	10 28 23.5	-0.1
	baz=243					
YHNB	Yeheng	1.33 268	eP	Pb	10 28 23.6	-0.6
	baz=271					
YHNB			eS	Sg	10 28 41.4	-0.9
	baz=271					
ETLH	Xiulin Townshi	1.34 248	eP	Pb	10 28 24.5	+0.1
	baz=250					
ETLH			eS	Sg	10 28 42.9	+0.4
	baz=250					
JISG	Ishigakijimahi	1.35 96	P	Pn	10 28 22.4	-1.4
JISG			eS	Sn	10 28 38.7	-2.9
NSK	Sanguang	1.35 268	eP	Pb	10 28 24.3	-0.1
	baz=272					
NSK			eS	Sg	10 28 41.8	-1.0
	baz=272					
NNSB	Datong	1.36 258	eP	Pb	10 28 24.4	-0.3
	baz=261					
NNSB			eS	Sg	10 28 42.5	-0.5
	baz=261					
NNSH	Datong	1.36 258	eP	Pb	10 28 24.5	-0.2
	baz=261					
NNSH			eS	Sg	10 28 43.2	+0.1
	baz=261					
NNS	Nan Shan	1.36 258	eP	Pb	10 28 24.3	-0.5
	baz=261					
NNS			eS	Sg	10 28 43.4	+0.1
	baz=261					
ETM	Tongmen	1.44 239	eP	Pn	10 28 25.1	0.0
	baz=241					
FUSS	Fushou	1.53 252	eP	Pb	10 28 27.1	-0.5
	baz=255					
WHF	Hehuan Shan	1.55 248	eP	Pn	10 28 27.0	0.0
	baz=250					
ESL	Shilin	1.57 235	eP	Pn	10 28 26.6	-0.4
	baz=236					
TDCB	Techi	1.60 253	eP	Pb	10 28 28.2	-0.6
	baz=256					
TDCB			eS	Sb	10 28 49.1	0.0
	baz=256					
CHGB	Renai	1.66 247	eP	Pn	10 28 28.4	+0.1
	baz=249					
LIOB	Emei	1.66 268	eP	Pb	10 28 29.6	-0.1
	baz=270					
EGFH	Guangfu	1.66 231	eP	Pn	10 28 27.0	-1.2
	baz=232					
NSTT	Nanjuang	1.67 267	eP	Pb	10 28 30.2	+0.2
	baz=270					
OWD	Renai	1.70 244	eP	Pn	10 28 28.5	-0.3
	baz=245					
WHP	Taichung City	1.78 256	eP	Pb	10 28 30.9	-1.0
	baz=258					
HGSD	Ruisui	1.78 227	eP	Pn	10 28 28.4	-1.4
	baz=228					
HGSD			eS	Sn	10 28 50.5	-1.9
	baz=228					
DPDB	Guoxing	1.87 249	eP	Pn	10 28 31.9	+0.7
	baz=250					
WCS	Beigang Elemen	1.88 250	eP	Pn	10 28 31.4	+0.3
	baz=251					
TWQ1	Liyutan	1.92 259	eP	Pb	10 28 33.8	-0.3
	baz=261					
YULB	Yu-li	1.93 227	eP	Pn	10 28 32.0	+0.1
	baz=228					
EYUL	Yuli	1.95 226	eP	Pn	10 28 32.1	0.0
	baz=226					
SMLT	Sun Moon Lake	1.96 245	eP	Pn	10 28 32.4	+0.1
	baz=246					
SSLB	Suanglung	1.96 242	eP	Pn	10 28 32.3	0.0
	baz=243					
TWF1	Yuli	1.96 226	eP	Pn	10 28 31.4	-0.9
	baz=227					
TYC	Yuchr	1.98 246	eP	Pn	10 28 32.6	0.0
	baz=247					
FULB	Fuli	2.07 223	eP	Pn	10 28 32.7	-1.2
	baz=224					
ALS	Alishan	2.22 237	eP	Pn	10 28 36.3	+0.3
	baz=238					
EDH	Donghe	2.24 219	eP	Pn	10 28 34.7	-1.4
	baz=219					
ELDTW	Lidau	2.26 228	eP	Pn	10 28 35.4	-1.2
	baz=228					
CHN5	Tsauling	2.27 241	eP	Pn	10 28 37.7	+1.1
	baz=242					
STYH	Taoyuan	2.44 231	eP	Pn	10 28 39.1	+0.3
	baz=231					
STYT	Tauyuan	2.46 231	eP	Pn	10 28 39.4	+0.2
	baz=231					
CHN4	Tsaushan	2.47 237	eP	Pn	10 28 40.0	+0.7
	baz=237					
TPUB	Ta-pu	2.47 235	eP	Pn	10 28 40.0	+0.7
	baz=236					
WTP	Ta-pu	2.51 235	eP	Pn	10 28 40.4	+0.5
	baz=235					
TWK	Hsinying	2.59 236	eP	Pn	10 28 42.4	+1.3
	baz=237					
CHN1	Nanshi	2.61 235	eP	Pn	10 28 42.4	+1.1
	baz=235					
SGST	Jiashian	2.63 232	eP	Pn	10 28 43.2	+1.6
	baz=232					
SLGT	Liugui	2.65 230	eP	Pn	10 28 42.8	+1.1
	baz=230					
CHN3	Shinhua	2.80 235	eP	Pn	10 28 43.6	-0.1
	baz=235					
SCST	Cishan	2.82 230	eP	Pn	10 28 45.4	+1.3
	baz=230					
SSD	Sandimen	2.82 226	eP	Pn	10 28 43.5	-0.7
	baz=226					
TSMG	Majia	2.84 225	eP	Pn	10 28 43.9	-0.5
	baz=225					
SCZT	Fangliau	3.10 221	eP	Pn	10 28 47.1	-0.9
	baz=221					

*IDC **11** 10:39:46.6±12.0, 37°.98N×74°.12E, h160km±116km, mb3.2/2, mb1 3.4/4, mb1mx2.9/35, mbtmp3.8/4, MS2.7/1, Ms1 2.8/1, ms1mx2.2/25, Error ellipse: s-maj=88.3km s-min=38.6km az=11.0*

ISC 11 10:39:45.6±1.4, 37°.9N±0°.2×74°.2E±0°.2, h150km, n11, σ0°69/10, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.28	355	P	Pn	10 40 50.2	+0.3
	SNR=9.3						
ULHL	Ulahol	4.65	19	P	Pn	10 40 54.9	+0.4
	SNR=7.5						
EKS2	Erkin-Say	4.80	356	P	Pn	10 40 57.7	+1.1
	SNR=5.7						
CHMS	Chumysh	5.15	4	P	Pn	10 41 01.4	+0.4
	SNR=7.6						
TKM2	Tokmak 2	5.16	11	P	Pn	10 41 01.7	+0.3
	SNR=20						
USP	Ospenovka	5.40	2	P	Pn	10 41 04.3	-0.1
	SNR=5.7						
MKAR	Makanchi Array	10.74	31	P	Pn	10 42 15.4	+0.1
	0.1nm,0.3s,baz=216,slow=15,SNR=12						
ZALV	Zalesovo Beam	17.67	21	P	P	10 43 40.0	-0.9
	0.7nm,0.3s,baz=211,slow=12,SNR=11						
NOA	NORSAR Array B	44.86	322	LR	LR	11 06 34.9	
	comp=Z,9.7nm,19.6s,baz=75,slow=36						
TORD	Torodi Ar. Bea	68.30	270	P	P	10 50 30.3	-0.5
	0.2nm,0.4s,baz=46,slow=5.4,SNR=4.1						
WRA	Warramunga Arr	80.58	124	P	P	10 51 42.1	+0.5
	0.7nm,1.1s,baz=318,slow=5.0,SNR=1.8						

*IDC **11** 10:45:38.3±1.0, 15°.23S×173°.29W, h0km, mb3.6/6, mb1 4.0/7, mb1mx3.8/32, mbtmp3.7/7, ML3.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.6/37, Error ellipse: s-maj=42.1km s-min=22.1km az=148.0*

ISC 11 10:45:43.5±1.0, 15°.4S±0°.2×173°.2W±0°.1, h35km, n14, σ1°09/7, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.72	253	LR	LR	10 51 04.5	
	comp=Z,45nm,18.3s,baz=156,slow=38						
RAR	Rarotonga	13.99	116	Pn	Pn	10 48 58.8	-0.6
	0.8nm,0.3s,baz=325,slow=23,SNR=1.7						
RAR				LR	LR	10 52 35.7	
	comp=Z,31nm,20.7s,baz=232,slow=30						
URZ	Urewera	24.35	199	P	P	10 50 59.4	+1.3
	4.1nm,0.4s,baz=176,slow=0.7,SNR=8.3						
H11S2	WAKE ISLAND Hy	39.05	329	T	T	11 33 26.2	
	baz=146,slow=75,SNR=5.9						
H11S3	WAKE ISLAND Hy	39.06	329	T	T	11 33 31.7	
	baz=146,slow=75,SNR=7.1						
H11S1	WAKE ISLAND Hy	39.07	329	T	T	11 33 33.0	
	baz=146,slow=75,SNR=4.4						
H11N3	WAKE ISLAND Hy	39.99	330	T	T	11 34 42.9	
	baz=147,slow=76,SNR=1.6						
H11N1	WAKE ISLAND Hy	40.00	330	T	T	11 34 39.4	
	baz=147,slow=76,SNR=1.6						
H11N2	WAKE ISLAND Hy	40.01	330	T	T	11 34 41.7	
	baz=147,slow=76,SNR=1.7						
WRA	Warramunga Arr	50.05	257	P	P	10 54 34.3	-0.8
	0.4nm,0.5s,baz=95,slow=7.8,SNR=11						
ASAR	Alice Springs	50.31	252	P	P	10 54 36.6	-0.5
	0.4nm,0.3s,baz=88,slow=7.5,SNR=17						
NVAR	Mina Array Bea	74.18	42	P	P	10 57 17.7	+0.7
	0.1nm,0.5s,baz=233,slow=7.5,SNR=1.6						
TXAR	Lajitas Array	80.43	56	P	P	10 57 52.8	+0.7
	0.2nm,0.6s,baz=211,slow=9.5,SNR=3.4						
PDAR	Pinedale Array	82.11	42	P	P	10 57 60.0	-0.9
	0.3nm,0.8s,baz=201,slow=4.8,SNR=2.0						

*TUL **11** 10:50:24.5±1.0, 36°.00N±0°.01×96°.76W±0°.03, h1km±7km, ML2.5, mb_Lg2.1/9(NEIC), Error ellipse: s-maj=3.7km s-min=1.3km az=117.0*

NEIC 11 10:50:25.0±0.8, 36°.01N±0°.01×96°.78W±0°.02, h5km±3km, Error ellipse: s-maj=2.9km s-min=1.0km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.08	221		Pg	10 50 26.6	0.0
OK031				Sg	Sg	10 50 28.1	+0.3
QUOK	Quay	0.17	20		Pg	10 50 28.5	+0.2
QUOK				Sg	Sg	10 50 31.3	+0.7
OK029	Liberty Lake	0.59	249		Pg	10 50 36.4	+0.1
OK025	Westminster Rd	0.62	227	Pg	Pg	10 50 36.8	-0.2
OK025				Sg	Sg	10 50 45.7	+0.6
BCOK	Bluff Creek, N	0.76	243	Pg	Pg	10 50 39.5	-0.1
BCOK				Sg	Sg	10 50 50.3	+0.9
BLOK	Blackwell	0.83	335		Pg	10 50 40.8	-0.1
FNO	Franklin	0.91	214	Pg	Pg	10 50 41.9	-0.4
T35A	Sooner Cattle	0.93	13		Pg	10 50 42.4	-0.4
T35A				Sg	Sg	10 50 54.8	-0.1
CROK	Carrier	1.09	297	Pg	Pg	10 50 45.7	-0.2
KAN13	South Haven SW	1.15	331	Pg	Pg	10 50 46.7	-0.3
GC02	Grant County #	1.21	314	Pg	Pg	10 50 47.8	-0.4
KAN09	Caldwell North	1.31	329		Pn	10 50 49.7	-0.3
KS20	Mayfield South	1.37	333	Pn	Pn	10 50 50.3	-0.5
KAN08	Anthony NE Sta	1.55	322	Pn	Pn	10 50 53.3	+0.1
X34A	Smith Ranch, M	1.65	212	Pn	Pn	10 50 54.9	+0.3
X37A	Clayton	1.83	141	Pn	Pn	10 50 57.3	+0.3
U32A	Winter Ranch,	1.83	282	IAmb_Lg		10 51 26.8	
	comp=Z,11nm,0.7s						
U38A	Gravette	1.98	77		Pn	10 50 59.5	+0.3
X40A	Basin Creek Fa	3.57	114	IAmb_Lg		10 52 19.0	
	comp=Z,4.7nm,1.1s						
N38A	Joes South For	5.53	29	IAmb_Lg		10 53 21.2	
	comp=Z,4.1nm,0.7s						

ROM 11 10:50:59.0±0.2, 43°.011N±0°.005×13°.29E±0°.01, h25km±1km, ML1.3/7, 3C-5D, Error ellipse: s-maj=0.7km s-min=0.6km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	Fiordimonte	0.15	280	⇓P	Pb	10 51 03.9	-0.2
FDMO				S	Sb	10 51 07.6	0.0
FDMO				AML	AML		
	comp=E,248μm,0.2s						
FDMO				AML	AML		
	comp=N,205μm,0.4s						
MNTP	Montappone	0.18	46	⇑P	Pb	10 51 00.7	-3.7
NRCA	Norcia	0.22	216	⇑P	Pb	10 51 04.9	0.0
NRCA				S	Sb	10 51 09.4	+0.4
NRCA				AML	AML		
	comp=E,378μm,0.1s						
NRCA				AML	AML		
	comp=N,387μm,1.2s						
CESI	CESI - Serrava	0.28	269	⇓P	Pb	10 51 05.8	-0.1
CESI				S	Sb	10 51 11.1	+0.6
CESI				AML	AML		
	comp=E,83μm,0.4s						
CESI				AML	AML		
	comp=E,84μm,0.4s						
CESI				AML	AML		
	comp=N,45μm,0.2s						
EL6	Elcito	0.35	336	P	Pb	10 51 06.7	-0.1
EL6				S	Sb	10 51 12.9	+0.8
SNTG	Esanatoglia	0.35	314	P	Pb	10 51 06.8	-0.1
SNTG				AML	AML		
	comp=E,55μm,0.3s						
SNTG				AML	AML		
	comp=N,52μm,1.1s						
CING	Cingoli	0.37	349	⇓P	Pb	10 51 07.2	+0.1
CING				S	Sb	10 51 13.4	+0.7
CING				AML	AML		
	comp=E,33μm,0.1s						
CING				AML	AML		
	comp=N,25μm,0.3s						
CING				AML	AML		
	comp=E,33μm,0.1s						
SMA1	SAN MARTINO	0.38	175	P	Pb	10 51 07.4	+0.1
SMA1				S	Sb	10 51 13.9	+0.9
ASSB	Assisi San Ben	0.47	274	⇓P	Pb	10 51 08.4	-0.3
ASSB				S	Sb	10 51 16.1	+0.8
ASSB				AML	AML		
	comp=N,54μm,0.3s						
ASSB				AML	AML		
	comp=E,42μm,0.2s						
GUMA	Gualdo di Mace	0.47	83	P	Pb	10 51 03.5	-5.3
GUMA				S	Sb	10 51 07.0	-8.5
CAMP	Campotosto	0.48	170	S	Sb	10 51 10.0	-5.8
ARVD	Arcevia	0.55	332	S	Sn	10 51 20.0	+0.2
MOMA	Monte Martano	0.57	249	P	Pb	10 51 10.4	-0.1
MOMA				S	Sn	10 51 19.4	-0.9
PIEI	Pieia	0.76	314	P	Pb	10 51 13.2	-0.5
PIEI				S	Sn	10 51 24.9	-0.1
PIEI				AML	AML		
	comp=E,17μm,1.5s						
PIEI				AML	AML		
	comp=N,19μm,0.2s						
LPEL	Lama dei Pelig	1.17	145	S	Sn	10 51 28.0	-7.0
MA9	Marino	1.32	201	P	Pn	10 51 16.9	-5.0
MA9				AML	AML		
	comp=N,190μm,0.5s						
MA9				AML	AML		
	comp=E,129μm,0.4s						
GRAM	Graiana	2.77	303	S	Sn	10 52 15.0	+0.5
CGRP	Cima Grappa	3.06	340	P	Pb	10 51 56.5	+3.6
STON	Ston	3.24	91	P	Pn	10 51 46.9	-1.3
CTI	Castel Tesino	3.26	339	P	Pn	10 51 50.1	+1.5
EUCT	Pavia	3.71	308	P	Pn	10 51 54.1	-0.6
EUCT				P	Pb	10 52 07.8	+4.1
EUCT				S	Sn	10 52 37.0	-0.6
VPL	Vulcano Piano	4.80	164	⇑P	Pb	10 52 18.6	-3.8
HMDC	Modica	6.15	169	⇓P	Pn	10 52 34.2	+5.9

*IDC **11** 10:51:51.0±0.7, 51°.50N×16°.05E, h0km, mb3.5/2, mb1 3.4/9, mb1mx3.3/45, mbtmp3.4/9, ML3.0/7, Error ellipse: s-maj=9.9km s-min=6.2km az=118.0*
*DNK **11** 10:51:50.7±1.1, 51°.55N×15°.97E, h0km, ML2.1*
*PRU **11** 10:51:52.1±0.0, 51°.49N×16°.10E, h0km*
*BGR **11** 10:51:52.3±0.5, 51°.47N×16°.15E, h1km, ML3.2/12, Error ellipse: s-maj=7.8km s-min=3.3km az=17.0*
*VIE **11** 10:51:52.1±0.8, 51°.41N×16°.15E, h0km, mb2.9/11, ml3.1/11, Error ellipse: s-maj=8.4km s-min=4.1km az=53.0*
70 km WNW of Wroclaw Suspected Mining induced.
*IPEC **11** 10:51:53.5±0.4, 51°.42N×16°.17E, h2km±2km, ML2.8/4, Error ellipse: s-maj=2.4km s-min=1.6km az=178.0*
*LDG **11** 10:51:53.1±0.7, 51°.32N×16°.14E, h1km, Ml3.3/8, Error ellipse: s-maj=15.5km s-min=4.9km az=12.0, Suspected Mining induced.*

ISC 11 10:51:48.6±0.6, 51°.53N±0°.03×16°.13E±0°.02, h0km, n88, σ1°92/150, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	172	ePg	Pb	10 52 04.2	+0.6
KSP				eSg	Sg	10 52 12.9	+1.9
KSP	Ksiaz	0.70	172	ePg	Pb	10 52 04.2	+0.6
KSP				eSg	Sb	10 52 13.1	-0.7
CHVC	Chvalec	0.95	183	ePG	Pn	10 52 10.1	+0.9
CHVC				eSG	Sb	10 52 22.2	+1.1
	comp=Z,143nm,0.5s						
OSTC	Ostas	0.98	177	ePG	Pn	10 52 09.7	0.0
OSTC				eSG	Sb	10 52 22.1	+0.1
	comp=Z,165nm,0.5s						
UPC	Upice	1.03	184	ePG	Pn	10 52 10.3	0.0
UPC				eSG	Sb	10 52 23.1	-0.3
	comp=Z,258nm,0.4s						
DPC	Dobruska-Polom	1.19	174	ePG	Pn	10 52 13.0	+0.4
DPC				eSG	Sg	10 52 27.7	+0.8
	comp=Z,132nm,0.7s						
DPC	Dobruska-Polom	1.19	174	ePg	Pn	10 52 13.0	+0.4
PVCC	Panska Ves	1.41	225	ePG	Pb	10 52 17.6	+1.8
PVCC				eSG	Sn	10 52 36.5	+1.7
	comp=Z,305nm,0.4s						
KRLC	Kraliky	1.52	164	ePG	Pg	10 52 18.6	+0.9
KRLC				eSG	Sg	10 52 37.7	+0.4
BRG	Berggiesshubel	1.53	245	Pn	Pg	10 52 18.5	+0.6
BRG				Pg	Pb	10 52 20.2	+2.4
BRG				Sg	Sn	10 52 40.1	+2.4
BRG				Amp		10 52 40.9	
	comp=Z,126nm,0.5s						
BRG	Berggiesshubel	1.53	245	ePn	Pg	10 52 19.7	+1.8
BRG				ePg	Pb	10 52 20.4	+2.6
BRG				eSg	Sn	10 52 40.1	+2.4
PRA	Prague	1.82	217	ePN	Pb	10 52 22.9	+0.1
PRA				ePG	Pg	10 52 25.5	+2.0
PRA				eSG	Sg	10 52 49.0	+2.0
	comp=Z,131nm,0.9s						
PRU	Pruhonice	1.85	214	ePN	Pb	10 52 22.9	-0.4
PRU				ePG	Pg	10 52 24.7	+0.7
PRU				eSG	Sg	10 52 48.5	+0.6
	comp=Z,87nm,0.5s						
FBE	Freiberg	1.85	252	ePn	Pg	10 52 25.9	+1.8
FBE				eSg	Sg	10 52 49.9	+1.8
CLL	Collm	1.97	265	ePn	Pb	10 52 25.0	-0.4
CLL				ePg	Pg	10 52 28.0	+1.6
CLL				e		10 52 31.0	
CLL				e		10 52 42.0	
CLL				eSg	Sg	10 52 53.0	+1.1
	comp=Z,94nm,0.6s						
CLL	Collm	1.97	265	ePn	Pb	10 52 24.7	-0.7
MORC	Moravsky Berou	1.98	152	eSg	Sg	10 52 51.9	-0.1
	comp=Z,33nm,0.3s,baz=333						
MORC	Moravsky Berou	1.98	152	ePN	Pb	10 52 24.8	-0.7
MORC				eSG	Sg	10 52 52.0	-0.1
OKC	Ostrava-Krasne	2.13	142	ePn	Pn	10 52 26.5	+1.1
VRAC	Vranov	2.25	172	Pn	Pn	10 52 28.7	+1.6
	comp=Z,1.8nm,0.3s,baz=347,slow=16,SNR=9.9						
VRAC				Pg	Pg	10 52 32.8	+1.2
	comp=Z,5.4nm,0.3s,baz=349,slow=15,SNR=19						
VRAC				Lg	Lg	10 53 01.0	
	comp=Z,5.8nm,0.3s,baz=270,slow=20,SNR=7.0						
VRAC	Vranov	2.25	172	ePn	Pb	10 52 29.8	-0.3
	baz=353						
VRAC				eSg	Sg	10 53 00.4	-0.4
	comp=Z,87nm,0.7s,baz=353						
VRAC	Vranov	2.25	172	ePN	Pb	10 52 29.8	-0.3
VRAC				eSG	Sg	10 53 00.4	-0.4
TREC	Trest	2.28	191	ePG	Pg	10 52 33.3	+1.0
TREC				eSG	Sg	10 53 02.1	+0.3
	comp=Z,58nm,0.5s						
PBCC	Pribram	2.30	217	ePN	Pn	10 52 29.0	+1.3
KRUC	Moravsky	2.48	176	ePn	Pb	10 52 33.0	-1.0
	baz=357						
KRUC				eSg	Sg	10 53 07.3	-1.0
	comp=Z,59nm,0.7s,baz=357						
KRUC	Moravsky	2.48	176	eSG	Sg	10 53 07.4	-0.9
KRUC	Moravsky	2.48	176	ePN	Pb	10 52 33.1	-1.0
WERD	Werda	2.65	247	ePg	Pg	10 52 41.9	+2.5
OJC	Ojcow	2.67	118	ePg	Pg	10 52 41.8	+2.0
OJC				eSg	Sg	10 53 17.2	+2.8
OJC	Ojcow	2.67	118	ePg	Pg	10 52 42.0	+2.2
NKC	Novy Kostel	2.67	242	ePN	Pb	10 52 35.6	-1.7
NKC				ePG	Pg	10 52 41.4	+1.6
NKC				eSG	Sg	10 53 16.0	+1.6
	comp=Z,82nm,0.5s						
JAVC	Velka Javorina	2.85	159	ePn	Pb	10 52 38.8	-1.6
	baz=340						
JAVC				eSg	Sg	10 53 19.6	-0.7
	comp=Z,48nm,0.6s,baz=340						
JAVC	Velka Javorina	2.85	159	ePN	Pb	10 52 38.8	-1.6
JAVC				eSG	Sg	10 53 19.7	-0.6
KHC	Kasperske Hory	2.91	215	ePN	Pn	10 52 37.8	+1.6
KHC				ePG	Pg	10 52 44.2	-0.2
KHC				eSN	Sn	10 53 13.0	+1.1
KHC				eSG	Sg	10 53 22.4	+0.4
	comp=Z,60nm,0.6s						
CKRC	Cesky Krumlov	2.96	204	ePN	Pb	10 52 40.3	-1.9
CKRC				ePG	Pg	10 52 46.2	+0.9
CKRC				eSG	Sg	10 53 24.6	+1.0
	comp=Z,56nm,0.7s						
MOX	Moxa	2.98	254	ePn	Pn	10 52 39.1	+1.9
MOX				eSg	Sg	10 53 27.3	+2.9
ROTZ	Rotzenmuhle	3.06	236	ePn	Pn	10 52 40.4	+2.1
GEC2	GERESS Array S	3.11	211	ePn	Pn	10 52 41.3	+2.3
GERES	GERESS Array B	3.11	211	Pn	Pn	10 52 40.4	+1.4
	comp=Z,2.0nm,0.3s,baz=32,slow=13,SNR=40						
GERES				Pg	Pg	10 52 47.3	-0.9
	comp=Z,5.2nm,0.3s,baz=28,slow=17,SNR=36						
GERES				Sn	Sn	10 53 16.3	-0.6
	comp=Z,3.0nm,0.3s,baz=28,slow=20,SNR=7.8						
GERES				Lg	Lg	10 53 26.9	
	comp=Z,3.0nm,0.3s,baz=32,slow=26,SNR=5.4						
SMOL	Smolenice	3.14	164	ePG	Pg	10 52 50.1	+1.4
SMOL				eSG	Sg	10 53 31.4	+2.1
WET	Wettzell	3.17	222	ePn	Pn	10 52 41.7	+1.9
LANS	Liptovska Anna	3.20	137	ePG	Pg	10 52 51.0	+1.0
LANS				eSG	Sg	10 53 33.9	+2.4
MODS	Modra-Piesok	3.25	166	ePG	Pg	10 52 53.0	+2.1
MODS				eSG	Sg	10 53 36.2	+3.2
ZST	Bratislava	3.40	169	ePG	Pg	10 52 54.2	+0.5
ZST				eSG	Sg	10 53 41.1	+3.3
VYHS	Vyhne	3.51	149	ePN	Pn	10 52 45.7	+1.3
VYHS				ePG	Pg	10 52 57.1	+1.3
VYHS				eSG	Sg	10 53 42.7	+1.5
CLZ	Clausthal	3.60	277	ePn	Pn	10 52 48.5	+2.9
CONA	Conrad Observa	3.61	183	i Pn	Pn	10 52 48.1	+2.1
	comp=Z,2.2nm,0.4s,SNR=5.6						
CONA				Sg	Sg	10 53 46.7	+2.0
	comp=Z,48nm,0.5s						
GRF	Grafenberg Arr	3.63	241	ePn	Pn	10 52 48.3	+2.2
MOA	Molln	3.88	199	i Pn	Pn	10 52 51.7	+2.1
	comp=Z,3.3nm,0.3s,SNR=8.5						
MOA				Sg	Sg	10 53 53.9	+0.6
	comp=Z,49nm,0.6s						
STHS	Stebnicka Huta	3.89	121	ePG	Pg	10 53 04.6	+1.4
STHS				eSG	Sg	10 53 59.4	+5.8
ARSA	Arzberg	4.31	186	ePn	Pn	10 52 56.4	+1.0
	comp=Z,1.0nm,0.3s						
ARSA				Sg	Sg

BLEU	**Blekinge**	**4.78**	**358**	*i* P	**Pn**	**10 53 04.5**	**+2.7**
BLEU				*i* S	**Sn**	**10 53 57.1**	**-0.8**
KBA	**Koelnbreinsper**	**4.82**	**203**	Sg	**Sg**	**10 54 23.3**	**0.0**
	comp=Z,8.5nm,0.4s						
BJUU	**Bjuv**	**4.91**	**339**	*i* P	**Pn**	**10 53 05.0**	**+1.4**
BJUU				*i* S	**Sn**	**10 53 59.5**	**-1.4**
DEL	**Delary**	**5.12**	**346**	*e*	**Pn**	**10 53 07.1**	**+0.6**
	baz=169,slow=12						
DEL				*i* P	**Pn**	**10 53 08.0**	**+1.5**
DEL				IAML		10 54 07.9	
	comp=Z,1.2nm,0.4s						
OBKA	**Obir**	**5.14**	**192**	Pg	**Pg**	**10 53 27.7**	**+0.7**
	comp=Z,4.8nm,0.5s						
OBKA				Sg	**Sg**	**10 54 34.5**	**+0.9**
	comp=Z,23nm,0.6s						
WATA	**Walderalm**	**5.15**	**217**	*e*Pn	**Pn**	**10 53 09.9**	**+2.8**
	comp=Z,1μm,0.0s						
MYKA	**Terra Mystica**	**5.17**	**199**	*e*Sg	**Sg**	**10 54 35.7**	**+0.9**
	comp=Z,13nm,0.6s						
MOTA	**Moosalm**	**5.32**	**220**	⇓*i*Pn	**Pn**	**10 53 11.3**	**+1.9**
	comp=Z,1.1nm,0.2s						
MOTA				*e*Sg	**Sg**	**10 54 37.5**	**-2.0**
	comp=Z,8.8nm,0.5s						
SQTA	**Sankt Quirin**	**5.38**	**219**	*e*Sg	**Sg**	**10 54 41.7**	**+0.3**
	comp=Z,6.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn	**Pn**	**10 53 24.1**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=46,slow=14,SNR=4.1						
DAVOX				Pg	**Pg**	**10 53 48.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=58,slow=15,SNR=4.0						
DAVOX				Lg	Lg	10 55 08.7	
	comp=Z,0.3nm,0.3s,baz=0.0,slow=20,SNR=2.9						
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn	**Pn**	**10 53 28.0**	**+2.3**
CDF				*e*Sn	**Sn**	**10 54 36.5**	**-4.2**
CDF				*e*Sg	**Sg**	**10 55 13.9**	**-3.7**
	comp=Z,59nm,1.1s						
HINF	**Hinteralfeld**	**7.08**	**242**	*e*Pn	**Pn**	**10 53 34.7**	**+1.3**
HINF				*e*Sn	**Sn**	**10 54 50.0**	**-4.5**
HINF				*e*Sg	**Sg**	**10 55 31.1**	**-4.7**
	comp=Z,44nm,1.2s						
HAU	**Haudompre**	**7.25**	**245**	*e*Pn	**Pn**	**10 53 37.9**	**+2.1**
HAU	**Haudompre**	**7.25**	**245**	*e*Pg	**Pg**	**10 54 07.0**	**-0.5**
HAU				*e*Sg	**Sg**	**10 55 36.6**	**-4.8**
	comp=Z,40nm,1.1s						
GIVF	**Givet**	**7.31**	**263**	*e*Sg	**Sg**	**10 55 41.4**	**-1.7**
	comp=Z,2.8nm,0.3s						
BAIF	**Baives**	**7.70**	**264**	*e*Sg	**Sg**	**10 55 54.2**	**-1.6**
	comp=Z,0.7nm,0.3s						
CABF	**La Chapelle**	**8.23**	**237**	*e*Pn	**Pn**	**10 53 50.7**	**+1.4**
CABF				*e*Sg	**Sg**	**10 56 06.2**	**-6.5**
	comp=Z,0.4nm,0.2s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**10 53 49.5**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=279,slow=12,SNR=8.9						
AKASG				Sn	**Sn**	**10 55 19.9**	**-4.2**
	comp=Z,0.8nm,0.3s,baz=273,slow=22,SNR=1.9						
AKASG				Lg	Lg	10 56 12.9	
	comp=Z,0.3nm,0.3s,baz=278,slow=27,SNR=0.9						
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**10 53 55.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=17,SNR=1.4						
HFS				Lg	Lg	10 56 23.5	
	comp=Z,0.0nm,0.3s,baz=174,slow=28,SNR=1.9						
LOR	**Lormes**	**9.07**	**247**	*e*Pn	**Pn**	**10 54 02.4**	**+1.7**
MBDF	**Montbardon**	**9.24**	**226**	*e*Pn	**Pn**	**10 54 04.3**	**+1.1**
SMF	**Signal de Mont**	**9.43**	**244**	*e*Sg	Sn	10 56 44.5	+52
	comp=Z,1.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**9.51**	**230**	*e*Pn	**Pn**	**10 54 08.3**	**+1.4**
VIVF	**Saint-Julien-l**	**10.15**	**233**	*e*Pn	**Pn**	**10 54 16.5**	**+1.0**
FRF	**La Foret Royal**	**10.23**	**222**	*e*Pn	**Pn**	**10 54 18.0**	**+1.4**
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pn	**Pn**	**10 54 20.0**	**+1.5**
SMRF	**Simiane la Rot**	**10.37**	**227**	*e*Pg	Pn	10 55 02.1	+44
SMRF				*e*Sn	Sn	10 56 06.6	-8.8
	comp=Z,0.4nm,0.2s						
LMR	**La Mourre**	**10.47**	**222**	*e*Pn	**Pn**	**10 54 20.6**	**+0.7**
LASF	**Ste Croix**	**11.12**	**233**	*e*Pn	**Pn**	**10 54 27.7**	**-1.1**
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**10 54 29.7**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=4.1						
FINES				Sn	**Sn**	**10 56 33.9**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=211,slow=18,SNR=4.6						
FINES				Lg	Lg	10 57 48.6	
	comp=Z,0.1nm,0.3s,baz=215,slow=41,SNR=1.8						
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn	**Pn**	**10 54 42.2**	**0.0**
	baz=99,slow=14,SNR=1.8						
ARCES	**ARCESS Array B**	**18.60**	**10**	P	**P**	**10 56 06.3**	**-0.7**
	baz=199,slow=13,SNR=8.3						
AKTO	**Aktyubinsk**	**26.14**	**76**	P	**P**	**10 57 26.8**	**+2.7**
	comp=Z,0.6nm,0.4s,baz=281,slow=10,SNR=2.1						
TORD	**Torodi Ar. Bea**	**40.03**	**202**	P	**P**	**10 59 27.6**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=11,slow=8.8,SNR=1.7						

IDC 11 10:52:07.0±3.6, 4°.38S×152°.69E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/34, mbtmp3.1/2, Error ellipse: s-maj=146.9km s-min=52.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**228**	P	P	10 57 20.8	+0.7
	0.5nm,0.8s,baz=54,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**26.39**	**222**	P	P	10 57 45.5	+0.2
	0.2nm,0.7s,baz=53,slow=9.4,SNR=1.5						
TORD	**Torodi Ar. Bea**	**150.07**	**289**	PKPbc	PKPbc	11 11 59.7	-1.1
	0.3nm,0.6s,baz=80,slow=3.4,SNR=1.6						

*TRN **11** 11:03:29.6, 10°.76N×62°.28W, h75km, MD3.3*
*FUNV **11** 11:03:30.0, 10°.70N×62°.21W, h26km, MW3.7*
ISC 11 11:03:28.3±1.3, 10°.72N±0°.04×62°.26W±0°.04, h92km±13km, n21, σ1°50/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.85**	**94**	*e*P	**Pn**	**11 03 47.4**	**+1.0**
TRN				*e*S	**Sn**	**11 03 59.4**	**-0.7**
CRUV	**Carupano**	**0.96**	**268**	*e*P	**Pn**	**11 03 48.1**	**+0.5**
CRUV				*e*S	**Sn**	**11 04 01.0**	**-1.1**
GRGR	**Grenville**	**1.53**	**23**	*e*P	**Pn**	**11 03 54.9**	**+0.3**
GRGR				*e*S	**Sn**	**11 04 13.6**	**-0.9**
GRGR	**Grenville**	**1.53**	**23**	*e*P	**Pn**	**11 03 54.8**	**+0.3**
GRGR				*e*S	**Sn**	**11 04 14.0**	**-0.4**
TOSP	**Speyside**	**1.79**	**71**	*e*P	**Pn**	**11 03 58.6**	**+0.7**
TOSP				*e*S	**Sn**	**11 04 20.4**	**0.0**
GCMP	**Grenada, Carri**	**1.94**	**25**	*e*P	**Pn**	**11 04 00.6**	**+0.7**
GCMP				*e*S	**Sn**	**11 04 23.1**	**-0.8**
PCRV	**Puerto La Cruz**	**2.39**	**257**	*e*P	**Pn**	**11 04 06.8**	**+0.9**
PCRV				*e*S	**Sn**	**11 04 34.7**	**+0.1**
SVB	**Belmont**	**2.73**	**21**	*e*P	**Pn**	**11 04 11.7**	**+1.4**
SVB				*e*S	**Sn**	**11 04 40.8**	**-1.7**
PRGV	**PARIAGUAN**	**3.05**	**231**	*e*P	**Pn**	**11 04 16.9**	**+2.3**
PRGV				*e*S	**Sn**	**11 04 49.6**	**-0.6**
MCLT	**Moule a Chique**	**3.25**	**23**	*e*P	**Pn**	**11 04 18.3**	**+1.1**
MCLT				*e*S	**Sn**	**11 04 53.2**	**-1.8**
SLBI	**Saint Lucia, B**	**3.52**	**21**	*e*P	**Pn**	**11 04 21.9**	**+1.0**
SLBI				*e*S	**Sn**	**11 05 00.7**	**-0.9**
BIRV	**Birongo**	**3.94**	**267**	*e*P	**Pn**	**11 04 27.7**	**+1.0**
BIRV				*e*S	**Sn**	**11 05 11.8**	**-0.2**
TACV	**Tcata**	**4.72**	**263**	*e*P	**Pn**	**11 04 38.9**	**+1.7**
TACV				*e*S	**Sn**	**11 05 29.6**	**-1.2**
LUEV	**Luepa**	**4.91**	**171**	*e*P	**Pn**	**11 04 41.2**	**+1.3**
LUEV				*e*S	**Sn**	**11 05 32.5**	**-3.0**
CACV	**CAICARA DEL OR**	**5.26**	**234**	*e*P	Pn	11 04 40.1	-4.4
CACV				*e*S	Sn	11 05 32.5	-11
BENV	**Beln**	**5.30**	**262**	*e*P	**Pn**	**11 04 47.1**	**+2.0**
BENV				*e*S	**Sn**	**11 05 43.4**	**-1.7**
TURV	**Turiamo**	**5.49**	**268**	*e*P	**Pn**	**11 04 49.3**	**+1.7**
TURV				*e*S	**Sn**	**11 05 48.6**	**-0.8**
BAUV	**El Baul**	**5.96**	**253**	*e*S	**Sn**	**11 05 58.5**	**-2.5**
BAUV	**El Baul**	**5.96**	**253**	*e*P	**Pn**	**11 04 54.7**	**+0.7**
BAUV				*e*S	**Sn**	**11 05 57.7**	**-3.3**
MAPV	**Macapo**	**6.16**	**262**	*e*P	**Pn**	**11 04 58.1**	**+1.3**
MAPV				*e*S	**Sn**	**11 06 03.6**	**-2.3**
MONV	**Montecano**	**7.66**	**280**	*e*P	**Pn**	**11 05 18.8**	**+1.5**

*NEIC **11** 11:08:49.1±1.3, 7°.33S±0°.08×129°.17E±0°.07, h170km±9km, mb4.0/11, Error ellipse: s-maj=13.4km s-min=8.5km az=145.0*
*IDC **11** 11:08:50.7±3.2, 7°.41S×129°.02E, h148km±27km, mb3.6/3, mb1 3.7/5, mb1mx3.2/53, mbtmp4.2/5, MS4.4/1, Ms1 4.4/1, ms1mx2.8/35, Error ellipse: s-maj=32.3km s-min=18.8km az=39.0*
ISC 11 11:08:49.1±0.8, 7°.64S±0°.08×129°.29E±0°.08, h150km, n27, σ2°71/29, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.02**	**100**	Pn	**Pn**	**11 09 27.8**	**+3.4**
SOEI	**Soe**	**5.39**	**247**		**Pn**	**11 10 08.1**	**+0.2**
MTN	**Manton Dam**	**5.48**	**161**	Pn	**Pn**	**11 10 13.6**	**+4.7**
FAKI	**Fak Fak**	**5.54**	**32**	Pn	**Pn**	**11 10 06.8**	**-2.9**
BATI	**Baumata**	**6.12**	**245**	P	**Pn**	**11 10 17.9**	**+0.5**
	24nm,0.3s,baz=97,slow=4.8,SNR=11						
BATI				S	**Sn**	**11 11 25.0**	**-1.5**
	40nm,0.3s,baz=65,slow=16,SNR=11						
KNRA	**Kununurra**	**8.00**	**184**		**Pn**	**11 10 45.3**	**+2.7**
WB0	**Warramunga Arr**	**13.03**	**158**	Pn	**Pn**	**11 11 50.4**	**+1.7**
WRAB	**Tennant Creek**	**13.17**	**159**	Pn	**Pn**	**11 11 53.0**	**+2.5**
WRA	**Warramunga Arr**	**13.17**	**159**	P	**Pn**	**11 11 51.0**	**+0.4**
	1.5nm,0.3s,baz=333,slow=14,SNR=53						
WRA				S	**Sn**	**11 14 12.6**	**-3.8**
	4.7nm,0.3s,baz=338,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.18**	**159**	Pn	**Pn**	**11 11 52.9**	**+2.2**
WR0	**Warramunga Arr**	**13.26**	**158**	Pn	**Pn**	**11 11 53.2**	**+1.5**
AS31	**Alice Springs**	**16.54**	**165**		**Pn**	**11 12 34.6**	**+2.1**
AS31				IAmb	IAmb	11 12 38.9	
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**16.54**	**165**	P	**Pn**	**11 12 35.5**	**+3.0**
	comp=Z,0.8nm,0.3s,baz=338,slow=10.0,SNR=60						
ASAR				S	**S**	**11 15 29.9**	**-6.4**
	comp=Z,0.3nm,0.3s,baz=331,slow=16,SNR=4.0						
ASAR				ScP	**ScP**	**11 20 37.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=357,slow=2.0,SNR=4.2						
PSA00	**Pilbara Seismi**	**16.58**	**212**		**Pn**	**11 12 33.3**	**+0.3**
PSA00				IAmb	IAmb	11 12 58.3	
	comp=Z,31nm,1.5s						
PSA00	**Pilbara Seismi**	**16.58**	**212**		**P**	**11 12 32.9**	**0.0**
PSA00				IAmb	IAmb	11 12 44.5	
	comp=Z,2.0nm,1.0s						
CTA	**Charters Tower**	**20.57**	**129**	P	Pn	11 13 22.2	+1.9
	comp=Z,2.1nm,0.9s,baz=302,slow=14,SNR=1.9						
CTAO	**Charters Tower**	**20.57**	**129**	P	**P**	**11 13 16.4**	**+0.1**
CTAO				IAmb	IAmb	11 13 39.1	
	comp=Z,6.5nm,1.3s						
FORT	**Forrest**	**23.05**	**183**	P	**P**	**11 13 42.2**	**+0.9**
STKA	**Stephens Creek**	**26.70**	**156**	P	**P**	**11 14 19.2**	**+4.8**
	comp=Z,2.6nm,0.4s,baz=348,slow=10,SNR=12						
STKA	**Stephens Creek**	**26.70**	**156**	P	**P**	**11 14 15.3**	**+1.0**
STKA				IAmb	IAmb	11 14 23.1	
	comp=Z,3.3nm,1.4s						
MJAR	**Matsushiro Arr**	**44.74**	**10**	LR	LR	11 33 53.1	
	comp=Z,482nm,21.9s,baz=45,slow=34						
WHZ	**Wether Hill Ro**	**50.57**	**146**	P	**P**	**11 17 32.5**	**+0.1**
WHZ				IAmb	IAmb	11 17 59.6	
	comp=Z,23nm,1.3s						
RPZ	**Rata Peaks**	**51.16**	**142**	P	**P**	**11 17 36.9**	**0.0**
MK31	**Makanchi Array**	**68.38**	**327**	P	**P**	**11 19 30.0**	**-4.5**
MK31				IAmb	IAmb	11 19 33.4	
	comp=Z,1.4nm,1.0s						
MKAR	**Makanchi Array**	**68.38**	**327**	P	**P**	**11 19 34.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=120,slow=7.5,SNR=9.2						
VNDA	**Vanda**	**71.90**	**173**		**P**	**11 19 55.7**	**+0.3**
QSPA	**South Pole Qui**	**82.34**	**180**	P	**P**	**11 20 52.6**	**-1.4**
QSPA				IAmb	IAmb	11 21 10.8	
	comp=Z,2.6nm,1.3s						

*IDC **11** 11:14:05.3±1.3, 38°.56N×70°.50E, h0km, mb3.8/7, mb1 3.9/12, mb1mx3.6/54, mbtmp3.9/12, ML3.5/5, MS4.1/2, Ms1 4.1/2, ms1mx2.6/51, Error ellipse: s-maj=20.5km s-min=13.4km az=149.0*
*KRNET **11** 11:14:09.0±0.1, 38°.92N×70°.46E, h12km, mb3.8*
ISC 11 11:14:07.7±1.6, 38°.83N±0°.07×70°.40E±0°.04, h8km±8km, n22, σ2°10/27, mb3.8/6, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.19**	**340**	⇓*i*P	**Pg**	**11 14 12.1**	**+0.5**
	baz=7.0						
GAR				⇓*i*S	**Sg**	**11 14 14.4**	**+0.2**
	baz=7.0						
CHGR	**Chuyangaron**	**0.98**	**261**	⇓*i*P	**Pn**	**11 14 29.1**	**+1.1**
	baz=56						
CHGR				⇓*i*S	**Sn**	**11 14 43.2**	**+1.0**
	baz=56						
DRK	**Karamyk**	**1.27**	**59**	⇑*i*P	**Pg**	**11 14 31.2**	**-0.9**
	baz=61						
DRK				⇑*i*S	**Sg**	**11 14 47.6**	**-1.1**
	baz=61						
BTK	**Batken**	**1.27**	**15**	⇑*i*P	**Pn**	**11 14 31.2**	**-0.8**
	baz=13						
BTK				⇑*i*S	**Sb**	**11 14 47.1**	**-1.6**
	baz=13						
TRKS	**Terek-Say**	**2.76**	**12**	⇑*i*P	**Pn**	**11 14 53.2**	**+0.7**
	baz=12						
TRKS				⇑*i*S	**Sn**	**11 15 26.2**	**0.0**
	baz=12						
AAK	**Ala-Archa**	**4.92**	**38**	Pn	**Pn**	**11 15 26.5**	**+4.4**
	3.6nm,0.3s,baz=188,slow=6.5,SNR=6.9						
AAK				Sn	**Sn**	**11 16 25.9**	**+6.6**
	3.6nm,0.3s,baz=168,slow=9.3,SNR=12						
AAK				Lg	Lg	11 16 47.2	
	3.9nm,0.3s,baz=51,slow=20,SNR=2.1						
GEYT	**Alibeck**	**9.69**	**269**	Sn	**Sn**	**11 18 16.1**	**-0.3**
	0.4nm,0.3s,baz=260,slow=34,SNR=2.4						
GEYT				LR	LR	11 20 53.3	
	comp=Z,42nm,20.4s,baz=205,slow=42						
MKAR	**Makanchi Array**	**11.81**	**44**	Pn	**Pn**	**11 16 55.3**	**-1.2**
	0.0nm,0.3s,baz=232,slow=15,SNR=1.3						
MKAR				Lg	Lg	11 20 13.3	
	0.1nm,0.3s,baz=244,slow=30,SNR=2.3						
KURBB	**Kurchatov Arra**	**13.13**	**23**	Pn	**Pn**	**11 17 14.0**	**-0.3**
	0.4nm,0.3s,baz=215,slow=11,SNR=3.1						
KURBB				Lg	Lg	11 20 55.7	
	0.1nm,0.3s,baz=222,slow=30,SNR=1.6						
BVAR	**Borovoye Array**	**14.20**	**360**	Pn	**Pn**	**11 17 27.1**	**-2.0**
	0.2nm,0.3s,baz=197,slow=19,SNR=1.9						
AKTO	**Aktyubinsk**	**14.55**	**327**	Pn	**Pn**	**11 17 33.6**	**-0.3**
	0.3nm,0.3s,baz=148,slow=14,SNR=11						
AKTO				Sn	**Sn**	**11 20 11.9**	**-3.3**
	0.1nm,0.3s,baz=38,slow=20,SNR=1.7						
ZALV	**Zalesovo Beam**	**18.05**	**28**	P	**Pn**	**11 18 17.9**	**-0.8**
	0.2nm,0.3s,baz=225,slow=12,SNR=3.6						
BELG	**Belogornoye**	**20.81**	**318**	P	**P**	**11 18 50.3**	**+1.0**
	10nm,0.8s,baz=136,slow=21,SNR=2.7						
FINES	**FINESS Array B**	**35.30**	**324**	P	**P**	**11 21 04.4**	**+1.5**
	0.8nm,0.5s,baz=120,slow=11,SNR=5.2						
ARCES	**ARCESS Array B**	**38.82**	**337**	P	**P**	**11 21 33.0**	**+0.3**
	1.4nm,0.9s,baz=110,slow=9.2,SNR=4.2						
NB2	**NORSAR Subarra**	**42.25**	**322**	P	**P**	**11 22 02.1**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**42.25**	**322**	P	**P**	**11 22 02.8**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=110,slow=7.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**65.32**	**267**	P	**P**	**11 24 48.6**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=62,slow=6.2,SNR=3.2						
INK	**Inuvik**	**71.69**	**9**	P	**P**	**11 25 30.9**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=253,slow=8.4,SNR=1.8						
WRA	**Warramunga Arr**	**83.62**	**122**	P	**P**	**11 26 35.9**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=317,slow=5.5,SNR=2.6						
ASAR	**Alice Springs**	**85.97**	**125**	LR	LR	12 08 51.9	
	comp=Z,92nm,19.9s,baz=14,slow=38						
ULM	**Lac du Bonnet**	**90.48**	**351**	LR	LR	12 12 32.6	
	comp=Z,115nm,21.0s,baz=314,slow=39						

*IDC **11** 11:21:05.5±1.1, 38°.77N×70°.38E, h0km, mb3.8/9, mb1 3.9/17, mb1mx3.7/60, mbtmp3.8/17, ML3.2/8, MS2.6/1, Ms1 2.6/1, ms1mx2.2/52, Error ellipse: s-maj=17.6km s-min=10.3km az=145.0*
*KRNET **11** 11:21:06.0±0.1, 38°.92N×70°.45E, h8km, mb4.0*
ISC 11 11:21:07.4±0.7, 38°.97N±0°.06×70°.24E±0°.05, h10km, n32, σ2°35/42, mb3.7/9, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.07**	**60**	⇑*e*P	**Pg**	**11 21 09.0**	**-0.8**
	baz=10.0						
GAR				⇑*e*S	**Sg**	**11 21 11.2**	**-0.2**
	baz=10.0						
CHGR	**Chuyangaron**	**0.90**	**250**	⇑*i*P	**Pn**	**11 21 25.9**	**-0.4**
	baz=56						
CHGR				⇑*i*S	**Sn**	**11 21 39.9**	**+0.5**
	baz=56						
BTK	**Batken**	**1.18**	**22**	⇑*i*P	**Pn**	**11 21 28.2**	**-1.8**
	baz=14						
BTK				⇑*e*S	**Sb**	**11 21 44.2**	**-1.1**
	baz=14						
DRK	**Karamyk**	**1.31**	**67**	⇑*i*P	**Pn**	**11 21 27.9**	**-4.2**
	baz=61						
DRK				⇑*i*S	**Sb**	**11 21 45.0**	**-4.4**
	baz=61						
TRKS	**Terek-Say**	**2.65**	**15**	⇓*i*P	**Pn**	**11 21 50.1**	**-0.3**
	baz=12						
TRKS				⇓*i*S	**Sn**	**11 22 22.9**	**+0.2**
	baz=12						
AML	**Almayashu**	**4.11**	**39**	P	**Pn**	**11 22 13.2**	**+2.5**
	SNR=6.6						
EKS2	**Erkin-Say**	**4.56**	**35**	P	**Pn**	**11 22 19.3**	**+2.7**
	SNR=13						
AAK	**Ala-Archa**	**4.88**	**40**	Pn	**Pn**	**11 22 23.7**	**+2.7**
	8.5nm,0.3s,baz=179,slow=6.5,SNR=17						
AAK				Pg	**Pb**	**11 22 35.8**	**+2.6**
	4.1nm,0.3s,baz=284,slow=9.2,SNR=6.5						
AAK				Sn	**Sn**	**11 23 22.9**	**+5.2**
	5.7nm,0.3s,baz=336,slow=18,SNR=8.8						
AAK				Lg	Lg	11 23 42.1	
	2.5nm,0.3s,baz=40,slow=19,SNR=1.6						
AAK				LR	LR	11 24 32.2	
	comp=Z,65nm,20.0s,baz=226,slow=42						
AAK	**Ala-Archa**	**4.88**	**40**	P	**Pn**	**11 22 24.1**	**+3.0**
	SNR=13						
KBK	**Karagaybulak**	**5.13**	**43**	P	**Pn**	**11 22 27.7**	**+3.2**
	SNR=13						
CHMS	**Chumysh**	**5.28**	**39**	P	**Pn**	**11 22 30.2**	**+3.9**
	SNR=11						
USP	**Ospenovka**	**5.36**	**35**	P	**Pn**	**11 22 29.6**	**+2.0**
	SNR=6.2						
TKM2	**Tokmak 2**	**5.66**	**44**	P	**Pn**	**11 22 33.4**	**+1.6**
	SNR=37						
GEYT	**Alibeck**	**9.57**	**268**	Sn	**Sn**	**11 25 11.4**	**-1.5**
	0.9nm,0.3s,baz=329,slow=43,SNR=1.5						
MKAR	**Makanchi Array**	**11.79**	**45**	Pn	**Pn**	**11 23 57.1**	**+1.5**
	0.1nm,0.3s,baz=234,slow=12,SNR=4.9						
MKAR				Lg	Lg	11 27 03.3	
	0.1nm,0.3s,baz=239,slow=23,SNR=1.8						
KURBB	**Kurchatov Arra**	**13.04**	**24**	Pn	**Pn**	**11 24 12.8**	**+0.2**
	0.1nm,0.3s,baz=213,slow=12,SNR=1.3						
KURBB				Lg	Lg	11 27 50.2	
	0.1nm,0.3s,baz=155,slow=23,SNR=1.8						
BVAR	**Borovoye Array**	**14.06**	**0**	Pn	**Pn**	**11 24 26.5**	**-0.1**
	0.2nm,0.3s,baz=202,slow=14,SNR=2.2						
BVAR				Sn	**Sn**	**11 26 58.8**	**-3.8**
	0.4nm,0.3s,baz=188,slow=38,SNR=4.3						
BVAR				Lg	Lg	11 28 17.8	
	0.2nm,0.3s,baz=282,slow=41,SNR=2.1						
AKTO	**Aktyubinsk**	**14.37**	**327**	Pn	**Pn**	**11 24 31.1**	**+0.3**
	0.4nm,0.3s,baz=137,slow=12,SNR=12						
AKTO				Sn	**Sn**	**11 27 05.3**	**-4.7**
	0.2nm,0.3s,baz=139,slow=7.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**17.98**	**29**	P	**Pn**	**11 25 16.4**	**-0.9**
	0.3nm,0.3s,baz=227,slow=13,SNR=2.7						
WSAR	**Wadi Sarin**	**18.54**	**216**	P	**Pn**	**11 25 23.2**	**-1.1**
	0.1nm,0.3s,baz=75,slow=16,SNR=1.7						
ARU	**Arti**	**19.11**	**340**	P	**Pn**	**11 25 31.9**	**+0.8**
	0.0nm,0.3s,baz=180,slow=17,SNR=2.1						
ARU				S	**Sn**	**11 28 59.9**	**-5.0**
	0.0nm,0.3s,baz=119,slow=20,SNR=1.4						
BELG	**Belogornoye**	**20.62**	**318**	P	**P**	**11 25 45.9**	**-0.9**
	15nm,0.8s,baz=109,slow=3.9,SNR=4.2						
KBZ	**Khabaz**	**21.03**	**292**	P	**P**	**11 25 51.8**	**+0.6**
	1.4nm,0.8s,baz=62,slow=11,SNR=2.1						
BRTR	**Keskin Array B**	**28.20**	**283**	P	**P**	**11 27 01.9**	**+1.6**
	0.4nm,0.4s,baz=74,slow=6.2,SNR=1.6						
FINES	**FINESS Array B**	**35.12**	**324**	P	**P**	**11 28 01.8**	**+1.1**
	1.3nm,0.7s,baz=121,slow=7.4,SNR=5.7						
ARCES	**ARCESS Array B**	**38.64**	**337**	P	**P**	**11 28 31.4**	**+0.8**
	6.1nm,1.2s,baz=98,slow=6.2,SNR=6.4						
NB2	**NORSAR Subarra**	**42.06**	**321**	P	**P**	**11 28 59.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**42.06**	**321**	P	**P**	**11 28 59.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=90,slow=7.7,SNR=3.7						
ESDC	**Sonseca Array**	**55.80**	**296**	P	**P**	**11 30 45.8**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=72,slow=9.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**65.21

KUR smax smax
comp=N,38μm,0.6s
KUR smax smax
comp=E,15μm,0.7s
KUR Kuril'sk 1.32 356 *i* P **Pn 11 27 24.9 +0.6**
KUR AMB AMB 11 27 25.0
comp=E,540nm,0.4s
KUR AMB AMB 11 27 25.0
comp=E,2μm,0.4s
KUR *i* S **Sn 11 27 42.5 +1.4**
KUR A A 11 27 43.8
comp=E,34μm,1.2s
KUR A A 11 27 43.8
comp=E,86μm,2.4s
KUR A A 11 27 44.0
comp=E,38μm,0.7s
KUR A A 11 27 44.0
comp=E,15μm,0.7s
YUK Yuzh-Kuril'sk 1.55 275 *d i* PN **Pn 11 27 28.0 +0.6**
YUK *i* S **Sn 11 27 46.7 +0.3**
YUK pmax pmax
comp=Z,27μm,0.3s
YUK pmax pmax
comp=N,1μm,0.1s
YUK pmax pmax
comp=E,2μm,0.1s
YUK pmax pmax
comp=Z,28μm,1.1s
YUK smax smax
comp=E,118μm,0.8s
YUK smax smax
comp=N,45μm,0.4s
YUK smax smax
comp=E,102μm,0.5s
YUK smax smax
comp=N,20μm,0.3s
YUK Yuzh-Kuril'sk 1.55 275 *i* P **Pn 11 27 27.8 +0.4**
YUK AMB AMB 11 27 28.5
comp=N,1μm,0.1s
YUK AMB AMB 11 27 28.5
comp=N,2μm,0.1s
YUK AMB AMB 11 27 28.5
comp=N,27μm,0.3s
YUK *i* S **Sn 11 27 47.0 +0.6**
YUK A A 11 27 47.8
comp=N,44μm,0.5s
YUK A A 11 27 47.8
comp=N,118μm,0.8s
YUK A A 11 27 48.1
comp=N,20μm,0.5s
YUK A A 11 27 48.1
comp=N,102μm,0.5s
GRPR Tuman 1.61 274 *d i* PN **Pn 11 27 28.4 +0.2**
GRPR *i* S **Sn 11 27 47.7 -0.3**
GRPR pmax pmax
comp=Z,17μm,0.4s
GRPR pmax pmax
comp=N,2μm,0.2s
GRPR pmax pmax
comp=E,8μm,0.5s
GRPR smax smax
comp=N,59μm,0.4s
GRPR smax smax
comp=E,25μm,0.3s
GRPR Tuman 1.61 274 *i* P **Pn 11 27 28.4 +0.2**
GRPR AMB AMB 11 27 29.9
comp=E,8μm,0.5s
GRPR AMB AMB 11 27 29.9
comp=E,16μm,0.5s
GRPR AMB AMB 11 27 29.9
comp=E,2μm,0.2s
GRPR *i* S **Sn 11 27 47.7 -0.3**
GRPR A A 11 27 49.0
comp=E,59μm,0.4s
GRPR A A 11 27 49.0
comp=E,25μm,0.4s
NEM2 Nemuro 2 1.73 252 ⇓P **Pn 11 27 29.4 -0.4**
NEM2 *e*S **Sn 11 27 49.5 -1.3**
NMR Nemuro--Hokkai 1.74 253 ⇓ *i* PN **Pn 11 27 29.4 -0.5**
NMR *i* S **Sn 11 27 49.6 -1.4**
NMR Nemuro--Hokkai 1.74 253 *i* P **Pn 11 27 29.6 -0.3**
NMR *i* S **Sn 11 27 49.7 -1.3**
GLVR Golovnino 1.81 265 *d i* PN **Pn 11 27 31.4 +0.6**
GLVR *i* S **Sn 11 27 53.7 +1.1**
GLVR pmax pmax
comp=Z,38μm,0.6s
GLVR pmax pmax
comp=N,4μm,0.3s
GLVR pmax pmax
comp=E,5μm,0.3s
GLVR smax smax
comp=E,248μm,1.0s
GLVR smax smax
comp=N,117μm,1.1s
GLVR smax smax
comp=N,95μm,0.5s
GLVR smax smax
comp=E,140μm,0.5s
GLVR Golovnino 1.81 265 *i* P **Pn 11 27 31.4 +0.6**
GLVR AMB AMB 11 27 32.4
comp=E,4μm,0.6s
GLVR AMB AMB 11 27 32.4
comp=E,5μm,0.6s
GLVR AMB AMB 11 27 32.4
comp=E,38μm,0.6s
GLVR *i* S **Sn 11 27 53.7 +1.1**
GLVR A A 11 27 55.0
comp=E,117μm,1.0s
GLVR A A 11 27 55.0
comp=E,248μm,1.0s
GLVR A A 11 27 59.1
comp=E,95μm,0.6s
GLVR A A 11 27 59.1
comp=E,140μm,0.6s
RUSJ Misakicho 2.00 276 *i* PN **Pn 11 27 34.8 +1.4**
RUSJ *i* S **Sn 11 27 59.4 +2.1**
JRA Rausu 2.08 272 ⇓P **Pn 11 27 35.4 +0.8**
JRA *e*S **Sn 11 28 00.7 +1.4**
JNSB Nemuroshibetsu 2.17 267 ⇓P **Pn 11 27 36.8 +1.0**
JNSB *e*S **Sn 11 28 02.7 +1.1**
JKHN Kushirohamanak 2.23 249 ⇓P **Pn 11 27 36.4 -0.2**
JKHN *e*S **Sn 11 28 02.5 -0.4**
JNK Nakash 2.40 263 ⇓P **Pn 11 27 39.3 +0.4**
JNK *e*S **Sn 11 28 07.5 +0.3**
JAK Akkeshi 2.58 250 ⇓P **Pn 11 27 40.8 -0.5**
JAK *e*S **Sn 11 28 09.1 -2.3**
JTKR Abashiri--Toko 2.96 273 ⇓P **Pn 11 27 48.0 +1.5**
JAR Ashorobuto 3.13 260 ⇓P **Pn 11 27 49.9 +0.9**
JAR *e*S **Sn 11 28 25.7 +0.5**
JOB Onbets 3.20 253 ⇓P **Pn 11 27 50.0 +0.2**
JOB *e*S **Sn 11 28 25.9 -0.8**
JMP Maruseppu 3.35 273 ⇓P **Pn 11 27 53.8 +1.8**
JMP *e*S **Sn 11 28 31.0 +0.4**
JCH Churui 3.63 251 ⇓P **Pn 11 27 55.3 -0.4**
JCH *e*S **Sn 11 28 35.9 -1.4**
JKK2 Kamakawa 2 3.80 271 ⇓P **Pn 11 28 00.0 +2.0**
JKK2 *e*S **Sn 11 28 45.5 +4.1**
JKA Kamikawa-asahi 3.90 275 Pn **Pn 11 28 01.7 +2.3**
JKA Kamikawa-asahi 3.90 275 *e*P **Pn 11 28 01.7 +2.3**
ASAJ Asahikawa 3.90 275 P **Pn 11 28 01.6 +2.2**
comp=E,159nm,0.3s,baz=79,slow=16,SNR=1150
ASAJ LR LR 11 29 31.5
comp=E,4μm,21.8s,baz=51,slow=39
JFR Furan 4.00 261 ⇓P **Pn 11 28 02.4 +1.5**
JFR *e*S **Sn 11 28 46.4 -0.1**
JSE Soyaes 4.02 287 ⇓P **Pn 11 28 03.0 +2.0**
ERM Erimo 4.03 244 *de*PN **Pn 11 28 01.3 +0.1**
ERM pmax pmax
comp=Z,3μm,0.5s
ERM Erimo 4.03 244 Pn **Pn 11 28 00.8 -0.3**
JEM Erimo 4.03 244 **Pn 11 28 00.8 -0.4**
JEM Sn **Sn 11 28 46.8 -0.3**
JNBK Urakawa-nobuka 4.18 249 ⇓P **Pn 11 28 02.8 -0.4**
JNBK *e*S **Sn 11 28 48.5 -2.2**
JHR Hokuryu 4.54 270 ⇓P **Pn 11 28 11.1 +2.8**
JWK2 Keihoku 4.58 290 P **Pn 11 28 12.1 +3.4**
JYG Yagishiri 4.76 278 P **Pn 11 28 13.7 +2.5**
YSS Yuzh-Sakhalins 4.78 311κ *i* PN **Pn 11 28 13.8 +2.3**
YSS *e*S **Sn 11 29 09.3 +3.7**
YSS pmax pmax
comp=Z,630nm,1.1s
YSS smax smax
comp=E,1.0nm,0.6s
YSS MLR MLR
comp=Z,4μm,14.0s
YSS Yuzh-Sakhalins 4.78 311 **Pn 11 28 13.2 +1.7**
YSS Yuzh-Sakhalins 4.78 311 *i* P **Pn 11 28 13.8 +2.3**
YSS *i* P **Pn 11 28 13.8 +2.3**
YSS AMB AMB 11 28 14.8
comp=Z,630nm,1.1s
YSS *e*S **Sn 11 29 07.0 +1.4**
YSS A A 11 29 11.2
comp=Z,2μm,2.4s
YSS A A 11 29 30.5
comp=Z,120nm,0.5s
YSS AMS AMS 11 30 00.0
comp=Z,4μm,14.0s
JEW Eniwo 4.89 260 ⇓P **Pn 11 28 14.8 +1.7**
JEW *e*S **Sn 11 29 10.4 +2.1**
JEW Eniwo 4.89 260 Pn **Pn 11 28 14.9 +1.9**
JTM Tenmabayashi 6.01 241 Pn **Pn 11 28 27.2 -1.2**
JKZ Kuzumaki 6.33 234 P **Pn 11 28 31.0 -1.8**
UGL Uglegorsk 6.59 324 *e*PN **Pn 11 28 39.4 +3.2**
UGL pmax pmax
comp=Z,250nm,0.9s
UGL MLR MLR
comp=N,2μm,7.0s
UGL MLR MLR
comp=E,2μm,15.0s
UGL Uglegorsk 6.59 324 *i* P **Pn 11 28 38.8 +2.6**
UGL AMB AMB 11 28 41.2
comp=E,250nm,0.6s
UGL *e*S **Sn 11 29 50.7 +0.8**
UGL A A 11 29 56.2
comp=E,1μm,0.6s
UGL A A 11 29 56.2
comp=E,2μm,0.6s
UGL AMS AMS 11 31 40.0
comp=E,2μm,11.0s
UGL AMS AMS 11 31 40.0
comp=E,2μm,11.0s
UGL AMS AMS 11 31 40.0
comp=E,3μm,11.0s
OFUJ Ofunato 6.77 227 P **Pn 11 28 36.5 -2.3**
TYV Tymovskoe 7.84 334 *e*PN **Pn 11 28 56.1 +2.8**
TYV *e*S **Sn 11 30 27.2 +6.7**
TYV pmax pmax
comp=Z,800nm,4.6s
TYV pmax pmax
comp=Z,85nm,1.0s
TYV smax smax
comp=E,179nm,0.8s
TYV MLR MLR
comp=N,2μm,15.0s
TYV Tymovskoe 7.84 334 *i* P **Pn 11 28 55.7 +2.4**
TYV AMB AMB 11 28 57.1
comp=N,800nm,4.6s
TYV AMB AMB 11 28 57.2
comp=N,90nm,1.0s
TYV *e*S **Sn 11 30 21.0 +0.5**
TYV A A 11 30 35.0
comp=N,180nm,0.8s
TYV AMS AMS 11 31 55.0
comp=N,2μm,16.0s
TYV AMS AMS 11 31 55.0
comp=N,2μm,16.0s
TYV AMS AMS 11 31 55.0
comp=N,2μm,16.0s
JMM Marumori 8.14 225 **Pn 11 28 54.2 -3.3**
JYA Atsumi 8.20 232 P **Pn 11 28 57.4 -0.9**
SKR Severo-Kuril's 8.73 36 *e*PN **Pn 11 29 04.6 -0.9**
SKR pmax pmax
comp=Z,105nm,0.8s
SKR MLR MLR
comp=Z,1μm,16.0s
SKR MLR MLR
comp=Z,900nm,13.0s
SKR Severo-Kuril's 8.73 36 *e*P **Pn 11 29 05.4 -0.1**
SKR AMB AMB 11 29 08.9
comp=Z,150nm,0.7s
SKR AMB AMB 11 29 08.9
comp=Z,330nm,0.7s
SKR AMS AMS 11 32 01.8
comp=Z,900nm,13.0s
SKR AMS AMS 11 32 01.8
comp=Z,900nm,13.0s
JSD Sado 9.41 235 Pn **Pn 11 29 12.9 -2.1**
PAU Pauzhetka 9.61 35 *e*P **Pn 11 29 16.9 -0.6**
PAU AMB AMB 11 29 18.5
comp=Z,280nm,0.7s
PAU AMB AMB 11 29 18.5
comp=Z,40nm,0.4s
PAU AMB AMB 11 29 18.5
comp=Z,80nm,0.4s
PAU *e*S **Sn 11 30 59.4 -4.3**
PAU A A 11 31 05.8
comp=Z,320nm,0.9s
PAU A A 11 31 05.8
comp=Z,270nm,0.9s
PAU A A 11 31 25.7
comp=Z,300nm,4.0s
PAU A A 11 31 25.7
comp=Z,400nm,4.0s
JYT Yasato 9.73 221 Pn **Pn 11 29 15.5 -3.7**
JAG Ashikaga 9.93 224 P **Pn 11 29 19.5 -2.5**
OKH Okha 10.21 343 *c i* PN **Pn 11 29 29.6 +4.0**
OKH pmax pmax
comp=Z,500nm,6.6s
OKH MLR MLR
comp=E,1μm,16.0s
OKH MLR MLR
comp=N,1μm,14.0s
OKH MLR MLR
comp=Z,1μm,14.0s
OKH Okha 10.21 343 *e*P **Pn 11 29 29.3 +3.7**
OKH AMB AMB 11 29 31.6
comp=Z,500nm,6.6s
OKH AMS AMS 11 35 09.7
comp=Z,1μm,14.0s
OKH AMS AMS 11 35 09.7
comp=Z,1μm,14.0s
OKH AMS AMS 11 35 09.7
comp=Z,1μm,14.0s
GRNR Gornyy 10.42 315 ⇑ *i* PN **Pn 11 29 31.7 +3.1**
GRNR *e*S **Sn 11 31 30.7 +6.9**
GRNR pmax pmax
comp=N,9.0nm,0.9s
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,10.0nm,0.9s
GRNR MLR MLR
comp=Z,460nm,14.0s
GRNR Gornyy 10.42 315 *i* P **Pn 11 29 31.7 +3.1**
GRNR AMB AMB 11 29 32.8
comp=Z,10.0nm,0.9s
GRNR AMB AMB 11 29 32.8
comp=Z,10.0nm,0.9s
GRNR AMB AMB 11 29 32.8
comp=Z,10.0nm,0.9s
GRNR AMS AMS 11 35 32.0
comp=Z,500nm,14.0s
NKL Nikolayevsk 10.43 335 *e*PN **Pn 11 29 28.0 -0.7**
NKL *e*S **Sn 11 31 28.2 +4.3**
NKL pmax pmax
comp=E,48nm,1.1s
NKL pmax pmax
comp=N,403nm,1.2s
NKL pmax pmax
comp=Z,85nm,1.2s
NKL pmax pmax
comp=N,32nm,1.2s
NKL smax smax
comp=E,75nm,1.6s
NKL smax smax
comp=N,430nm,2.0s
NKL MLR MLR
comp=E,2μm,19.0s
NKL MLR MLR
comp=N,8μm,13.0s
NKL MLR MLR
comp=Z,937nm,18.0s
NKL Nikolayevsk 10.43 335 *i* P **Pn 11 29 30.4 +1.7**
NKL AMB AMB 11 29 33.3
comp=Z,340nm,0.7s
NKL AMS AMS 11 33 46.0
comp=Z,8μm,18.0s
NKL AMS AMS 11 33 46.0
comp=Z,2μm,18.0s
NKL AMS AMS 11 33 46.0
comp=Z,900nm,18.0s
MAJO Matsushiro 10.49 229 PN **Pn 11 29 27.8 -1.9**
MAJO Matsushiro 10.49 229 Pn **Pn 11 29 27.8 -1.9**
MAT Matsushiro 10.49 229 P **Pn 11 29 28.0 -1.7**
MAT S **Sn 11 31 23.8 -1.9**
MAT Matsushiro 10.49 229 P **Pn 11 29 28.1 -1.7**
MJAR Matsushiro Arr 10.49 229 P **Pn 11 29 28.3 -1.4**
comp=Z,2.7nm,0.3s,baz=28,slow=14,SNR=173
MJAR S **Sn 11 31 20.9 -4.8**
comp=Z,0.5nm,0.3s,baz=69,slow=6.9,SNR=4.8
JNG Nsakai 10.65 229 P **Pn 11 29 30.4 -1.5**
JTT Ttatey 10.94 232 P **Pn 11 29 35.0 -0.7**
PEA0B Petropavlovsk- 11.21 31 *ce*PN **Pn 11 29 39.0 -0.4**
PEA0B Petropavlovsk- 11.21 31 Pn **Pn 11 29 38.0 -1.4**
PETK Petropavlovsk- 11.21 31 P **Pn 11 29 37.6 -1.9**
comp=Z,4.4nm,0.3s,baz=164,slow=6.0,SNR=83
PETK LR LR 11 34 25.6
comp=Z,924nm,18.9s,baz=225,slow=40
PET Petropavlovsk 11.52 34 *e*PN **Pn 11 29 43.1 -0.5**
PET pmax pmax
comp=Z,41nm,0.9s
PET MLR MLR
comp=Z,1μm,17.0s
PET Petropavlovsk 11.52 34 *e*P **Pn 11 29 43.1 -0.5**
PET AMB AMB 11 29 53.4
comp=Z,40nm,0.9s
PET AMS AMS 11 35 30.6
comp=Z,1μm,17.0s
PET AMS AMS 11 35 30.6
comp=Z,1μm,17.0s
USA0B Ussuriysk Arra 11.53 277 PN **Pn 11 29 43.6 -0.2**
USA0B Ussuriysk Arra 11.53 277 Pn **Pn 11 29 43.6 -0.2**
USRK Ussuriysk Ar. 11.53 277 P **Pn 11 29 43.7 0.0**
baz=88,slow=13,SNR=69
USRK LR LR 11 34 17.8
comp=Z,1μm,19.5s,baz=84,slow=38
JGF Kuroka 11.65 228 **Pn 11 29 43.8 -1.8**
INU Inuyama 12.03 228 **Pn 11 29 48.4 -2.2**
MSHR Mys Shultsa 12.36 270 *ce*PN **Pn 11 29 55.7 +0.6**
MSHR pmax pmax
comp=Z,46nm,0.7s
KLR Kul'dur 12.38 301 P **Pn 11 29 55.8 +0.5**
comp=Z,1.6nm,0.3s,baz=104,slow=14,SNR=22
KLR LR LR 11 35 10.8
comp=Z,2μm,18.4s,baz=116,slow=40
KLR Kul'dur 12.38 301 *ce*PN **Pn 11 29 57.9 +2.6**
KLR pmax pmax
comp=Z,38nm,0.7s
KLR MLR MLR
comp=Z,1μm,15.0s
KLR Kul'dur 12.38 301 *e*P **Pn 11 29 56.0 +0.7**
KLR AMB AMB 11 30 07.9
comp=Z,40nm,0.7s
KLR AMS AMS 11 35 17.4
comp=Z,1μm,15.0s
JHJ Hachijo jima 2 12.54 214 P **Pn 11 29 55.1 -2.6**
comp=Z,33nm,0.3s,baz=105,slow=12,SNR=8.3
JHJ S Sn 11 32 01.5 -14
comp=Z,62nm,0.3s,baz=336,slow=19,SNR=5.7
JHJ LR LR 11 36 10.6
comp=Z,112nm,18.1s,baz=39,slow=44
JWT Wachi 12.98 233 Pn **Pn 11 30 01.9 -1.6**
MDJ Mudanjiang 13.22 279 P **Pn 11 30 06.4 -0.4**
MDJ S **Sn 11 32 34.1 +2.1**
MDJ pmax pmax
comp=Z,24nm,1.3s
MDJ pmax pmax
comp=Z,500nm,5.5s
MDJ LR LR
comp=Z,600nm,15.6s
MDJ LR LR
comp=Z,1μm,21.0s
MDJ LR LR
comp=Z,2μm,19.2s
MDJ Mudanjiang 13.22 279 Pn **Pn 11 30 05.8 -1.0**
EKMR Ekimchan 13.52 318 *i* P **Pn 11 30 11.3 +0.4**
EKMR AMB AMB 11 30 22.0
comp=Z,60nm,0.8s
JHS Saijyo 14.52 237 Pn **Pn 11 30 23.2 -1.1**
JMN Monobe 14.96 232 Pn **Pn 11 30 26.9 -3.1**
KSSKC Sokcho 15.71 256 P **Pn 11 30 38.2 -1.3**
SNR=13
KSSKC Sokcho 15.71 256 P **Pn 11 30 38.2 -1.3**
SNR=13
KSSKC Sokcho 15.71 256 P **Pn 11 30 38.2 -1.3**
SNR=13
KSJMJ Jumunjin 15.74 254 P **Pn 11 30 38.5 -1.3**
SNR=13
KSJMJ Jumunjin 15.74 254 P **Pn 11 30 38.5 -1.3**
SNR=13
KSJMJ Jumunjin 15.74 254 P **Pn 11 30 38.5 -1.3**
SNR=13
MA2 Magadan 15.78 5 P **Pn 11 30 39.0 -1.2**
comp=Z,20nm,0.3s,baz=174,slow=8.2,SNR=77
MA2 LR LR 11 36 08.4
comp=Z,914nm,22.0s,baz=191,slow=35
MA2 Magadan 15.78 5 *ce*P **Pn 11 30 39.5 -0.7**
MA2 pmax pmax
comp=Z,430nm,0.8s
MA2 Magadan 15.78 5 **Pn 11 30 38.8 -1.4**
MA2 IAmb IAmb 11 30 43.6
comp=Z,422nm,0.7s
MA2 Magadan 15.78 5 *e*P **Pn 11 30 39.5 -0.7**
MA2 AMB AMB 11 30 40.3
comp=Z,430nm,0.8s
KSDGY Daegwallycong 15.89 254 P **Pn 11 30 41.0 -0.8**
SNR=12
KSDGY Daegwallycong 15.89 254 P **Pn 11 30 41.0 -0.8**
SNR=12
KSDGY Daegwallycong 15.89 254 P **Pn 11 30 41.0 -0.8**
SNR=12
KSDGY Daegwallycong 15.89 254 P **Pn 11 30 41.0 -0.8**
SNR=12
KSULJ Uljin 15.89 249 P **Pn 11 30 42.0 +0.2**
SNR=6.7
KSULJ Uljin 15.89 249 P **Pn 11 30 42.0 +0.2**
SNR=6.7
KSULJ Uljin 15.89 249 P **Pn 11 30 42.0 +0.2**
SNR=6.7
KSULJ Uljin 15.89 249 P **Pn 11 30 42.0 +0.2**
SNR=6.7
SEHB SEOHWA 15.91 256 P **Pn 11 30 40.2 -1.8**
SNR=22
SEHB SEOHWA 15.91 256 P **Pn 11 30 40.2 -1.8**
SNR=22
SEHB SEOHWA 15.91 256 P **Pn 11 30 40.2 -1.8**
SNR=22
SEHB SEOHWA 15.91 256 P **Pn 11 30 40.2 -1.8**
SNR=22
KSTBA Taebaek 15.98 251 P **Pn 11 30 42.9 -0.2**
SNR=20
KSTBA Taebaek 15.98 251 P **Pn 11 30 42.9 -0.2**
SNR=20
KSTBA Taebaek 15.98 251 P **Pn 11 30 42.9 -0.2**
SNR=20
KSTBA Taebaek 15.98 251 P **Pn 11 30 42.9 -0.2**
SNR=20
KSIJA INJE 16.14 255 P **Pn 11 30 43.8 -1.2**
SNR=16
KSIJA INJE 16.14 255 P **Pn 11 30 43.8 -1.2**
SNR=16
KSIJA INJE 16.14 255 P **Pn 11 30 43.8 -1.2**
SNR=16
KSIJA INJE 16.14 255 P **Pn 11 30 43.8 -1.2**
SNR=16
CN2 Changchun 16.26 277 *e*P **Pn 11 30 44.0 -2.5**
CN2 *e*S **Sn 11 33 43.6 -2.3**
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
KSYOW Yeongwol 16.29 252 P **Pn 11 30 46.4 -0.5**
SNR=9.7
KSYOW Yeongwol 16.29 252 P **Pn 11 30 46.4 -0.5**
SNR=9.7
KSYOW Yeongwol 16.29 252 P **Pn 11 30 46.4 -0.5**
SNR=9.7
KSYOW Yeongwol 16.29 252 P **Pn 11 30 46.4 -0.5**
SNR=9.7
KSADO Andong 16.36 249 P **Pn 11 30 48.0 +0.3**
SNR=15
KSADO Andong 16.36 249 P **Pn 11 30 48.0 +0.3**

SNR=15
KSADO **Andong** 16.36 249 P Pn 11 30 48.0 +0.3
SNR=15
KSADO **Andong** 16.36 249 P Pn 11 30 48.0 +0.3
SNR=15
KSCHC **Chuncheon** 16.44 255 P Pn 11 30 48.0 -0.8
SNR=16
KSCHC **Chuncheon** 16.44 255 P Pn 11 30 48.0 -0.8
SNR=16
KSCHC **Chuncheon** 16.44 255 P Pn 11 30 48.0 -0.8
SNR=16
KSCHC **Chuncheon** 16.44 255 P Pn 11 30 48.0 -0.8
SNR=16
BMKR **Bomnak** 16.46 318 *e*P Pn 11 30 48.1 -0.7
BMKR AMB AMB 11 30 52.8
comp=Z,90nm,0.8s
KSWJU **Wonju** 16.46 254 P Pn 11 30 49.0 0.0
SNR=15
KSWJU **Wonju** 16.46 254 P Pn 11 30 49.0 0.0
SNR=15
KSWJU **Wonju** 16.46 254 P Pn 11 30 49.0 0.0
SNR=15
KSWJU **Wonju** 16.46 254 P Pn 11 30 49.0 0.0
SNR=15
KSCWO **Cheorwon** 16.51 256 P Pn 11 30 48.6 -1.0
SNR=21
KSCWO **Cheorwon** 16.51 256 P Pn 11 30 48.6 -1.0
SNR=21
KSCWO **Cheorwon** 16.51 256 P Pn 11 30 48.6 -1.0
SNR=21
KSCWO **Cheorwon** 16.51 256 P Pn 11 30 48.6 -1.0
SNR=21
KSRS **Korea Array** 16.52 254 P Pn 11 30 49.0 -0.8
comp=Z,1.4nm,0.3s,baz=63,slow=12,SNR=102
KSRS S Sn 11 33 54.5 +2.3
comp=Z,0.4nm,0.3s,baz=68,slow=26,SNR=2.8
KSRS PcP PcP 11 35 38.8 +1.1
baz=92,slow=0.4,SNR=8.3
KSRS **Korea Array** 16.52 254 *e*P Pn 11 30 49.0 -0.8
KS19 **Wonju Array Si** 16.54 254 Pn Pn 11 30 48.4 -1.5
ZEA **Zeya** 16.77 313 *ce*P Pn 11 30 52.7 -0.1
ZEA *e* 11 33 59.1
ZEA pmax pmax
comp=E,50nm,1.3s
ZEA pmax pmax
comp=N,70nm,1.4s
ZEA pmax pmax
comp=Z,100nm,1.5s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
ZEA **Zeya** 16.77 313 *e*P Pn 11 30 50.5 -2.3
ZEA AMB AMB 11 30 55.9
comp=Z,70nm,1.0s
ZEA AMB AMB 11 30 55.9
comp=Z,50nm,1.0s
ZEA AMB AMB 11 30 55.9
comp=Z,100nm,1.0s
ZEA AMS AMS 11 37 39.0
comp=Z,500nm,16.0s
ZEA AMS AMS 11 37 39.0
comp=Z,500nm,16.0s
YNCB **YEONCHEON** 16.94 257 P Pn 11 30 54.0 -1.0
SNR=7.7
YNCB **YEONCHEON** 16.94 257 P Pn 11 30 54.0 -1.0
SNR=7.7
YNCB **YEONCHEON** 16.94 257 P Pn 11 30 54.0 -1.0
SNR=7.7
YNCB **YEONCHEON** 16.94 257 P Pn 11 30 54.0 -1.0
SNR=7.7
KSCPR **CHUPUNGNYEONG** 17.12 250 P Pn 11 30 57.1 -0.1
SNR=5.8
KSCPR **CHUPUNGNYEONG** 17.12 250 P Pn 11 30 57.1 -0.1
SNR=5.8
KSCPR **CHUPUNGNYEONG** 17.12 250 P Pn 11 30 57.1 -0.1
SNR=5.8
KSCPR **CHUPUNGNYEONG** 17.12 250 P Pn 11 30 57.1 -0.1
SNR=5.8
KSMUS **Musan** 17.13 257 P Pn 11 30 56.1 -1.2
SNR=9.2
KSMUS **Musan** 17.13 257 P Pn 11 30 56.1 -1.2
SNR=9.2
KSMUS **Musan** 17.13 257 P Pn 11 30 56.1 -1.2
SNR=9.2
KSMUS **Musan** 17.13 257 P Pn 11 30 56.1 -1.2
SNR=9.2
JNU **Nakatsue** 17.16 237 P Pn 11 30 57.4 -0.3
comp=Z,0.4nm,0.3s,baz=51,slow=14,SNR=2.4
JNU LR LR 11 37 57.3
comp=Z,823nm,21.6s,baz=48,slow=38
JNU **Nakatsue** 17.16 237 P Pn 11 30 57.5 -0.3
KROS **Kirovskiy** 17.25 315 *i* P Pn 11 30 58.1 -0.5
KROS AMB AMB 11 31 02.5
comp=Z,30nm,0.6s
KSSWO **Suwon** 17.28 255 P Pn 11 30 58.1 -1.1
SNR=8.4
KSSWO **Suwon** 17.28 255 P Pn 11 30 58.1 -1.1
SNR=8.4
KSSWO **Suwon** 17.28 255 P Pn 11 30 58.1 -1.1
SNR=8.4
KSSWO **Suwon** 17.28 255 P Pn 11 30 58.1 -1.1
SNR=8.4
KSCEA **Cheonan** 17.30 253 P Pn 11 30 59.5 +0.1
SNR=13
KSCEA **Cheonan** 17.30 253 P Pn 11 30 59.5 +0.1
SNR=13
KSCEA **Cheonan** 17.30 253 P Pn 11 30 59.5 +0.1
SNR=13
KSCEA **Cheonan** 17.30 253 P Pn 11 30 59.5 +0.1
SNR=13
INCN **Inchon** 17.41 256 P Pn 11 30 58.0 -2.7
INCN pmax pmax
comp=Z,38nm,0.8s
INCN **Inchon** 17.41 256 P Pn 11 30 58.0 -2.7
JCJ **Chichijima** 17.43 198 S Sn 11 33 58.0 -16
comp=Z,22nm,0.3s,baz=86,slow=23,SNR=7.5
JCJ LR LR 11 36 14.3
comp=Z,589nm,20.3s,baz=30,slow=32
TJN **Taejon** 17.45 251 *ce*P P 11 31 02.3 +0.5
HAWB **Hwaseong-si** 17.50 254 P Pn 11 31 01.0 -0.9
SNR=7.8
HAWB **Hwaseong-si** 17.50 254 P Pn 11 31 01.0 -0.9
SNR=7.8
HAWB **Hwaseong-si** 17.50 254 P Pn 11 31 01.0 -0.9
SNR=7.8
HAWB **Hwaseong-si** 17.50 254 P Pn 11 31 01.0 -0.9
SNR=7.8
KOJ2 **Gongju-si** 17.56 252 P P 11 31 03.1 +0.2
SNR=10
KOJ2 **Gongju-si** 17.56 252 P P 11 31 03.1 +0.2
SNR=10
KOJ2 **Gongju-si** 17.56 252 P P 11 31 03.1 +0.2
SNR=10
KOJ2 **Gongju-si** 17.56 252 P P 11 31 03.1 +0.2
SNR=10
KSSES **Seosan** 17.87 254 P Pn 11 31 07.0 +0.6
SNR=5.9
KSSES **Seosan** 17.87 254 P Pn 11 31 07.0 +0.6
SNR=5.9
KSSES **Seosan** 17.87 254 P Pn 11 31 07.0 +0.6
SNR=5.9
KSSES **Seosan** 17.87 254 P Pn 11 31 07.0 +0.6
SNR=5.9
KSDEI **Deokjeokdo** 17.89 256 P P 11 31 05.8 -0.7
SNR=9.4
KSDEI **Deokjeokdo** 17.89 256 P P 11 31 05.8 -0.7
SNR=9.4
KSDEI **Deokjeokdo** 17.89 256 P P 11 31 05.8 -0.7
SNR=9.4
KSDEI **Deokjeokdo** 17.89 256 P P 11 31 05.8 -0.7
SNR=9.4
SNY **Shenyang** 18.01 272 ⇑P Pn 11 31 09.4 +1.4
SNY pmax pmax
comp=Z,88nm,0.7s
SNY LR LR
comp=Z,760nm,14.5s
SNY LR LR
comp=Z,670nm,16.3s
SNY LR LR
comp=Z,980nm,16.6s
KSJEU **Jeongeup** 18.23 250 P Pn 11 31 13.6 +2.9
SNR=6.3
KSJEU **Jeongeup** 18.23 250 P Pn 11 31 13.6 +2.9
SNR=6.3
KSJEU **Jeongeup** 18.23 250 P Pn 11 31 13.6 +2.9
SNR=6.3
GOCB **Gochang-gun** 18.53 250 P Pn 11 31 17.1 +2.6
SNR=5.2
GOCB **Gochang-gun** 18.53 250 P Pn 11 31 17.1 +2.6
SNR=5.2
KSBAR **Backryungdo** 18.54 259 P Pn 11 31 15.7 +1.3
SNR=9.8
KSBAR **Backryungdo** 18.54 259 P Pn 11 31 15.7 +1.3
SNR=9.8
KSBAR **Backryungdo** 18.54 259 P Pn 11 31 15.7 +1.3
SNR=9.8
DACB **Daecheong-do R** 18.61 259 P Pn 11 31 16.0 +0.7
SNR=37
DACB **Daecheong-do R** 18.61 259 P Pn 11 31 16.0 +0.7
SNR=37
DACB **Daecheong-do R** 18.61 259 P Pn 11 31 16.0 +0.7
SNR=37
DACB **Daecheong-do R** 18.61 259 P Pn 11 31 16.0 +0.7
SNR=37
SEY **Seymchan** 19.22 6 P P 11 31 19.5 -1.5
comp=Z,7.6nm,0.3s,baz=185,slow=9.0,SNR=117
SEY S S 11 34 51.2 -4.1
baz=15,slow=16,SNR=1.4
SEY **Seymchan** 19.22 6 *c i*P P 11 31 18.8 -2.2
HIA **Hailar** 20.08 295 P P 11 31 28.2 -2.3
HIA pmax pmax
comp=Z,59nm,0.8s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA **Hailar** 20.08 295 P P 11 31 28.2 -2.3
HIA **Hailar** 20.08 295 IAMs_20 IAMs_20 11 39 49.8
comp=Z,1μm,19.0s
DL2 **Dalian** 20.36 265 P P 11 31 34.6 +1.0
DL2 sP sP 11 31 55.1 +1.2
DL2 S S 11 35 16.4 -1.9
DL2 pmax pmax
comp=Z,100nm,1.1s
YAK **Yakutsk** 21.10 336 P P 11 31 38.6 -2.6
comp=Z,736nm,0.7s,baz=135,slow=3.6,SNR=107
YAK S S 11 35 24.4 -8.1
comp=Z,17nm,0.4s,baz=156,slow=20,SNR=3.0
YAK **Yakutsk** 21.10 336 *c i*P P 11 31 38.4 -2.8
YAK *e**PP sP 11 32 07.1 +5.4
YAK *e*S S 11 35 24.0 -8.4
YAK *e**SS sS 11 36 18.6 +26
YAK *e* 11 42 55.4
YAK pmax pmax
comp=Z,324nm,0.6s
YAK pmax pmax
comp=N,119nm,0.7s
YAK pmax pmax
comp=E,169nm,0.8s
YAK smax smax
comp=N,115nm,1.0s
YAK smax smax
comp=E,82nm,1.1s
YAK **Yakutsk** 21.10 336 P P 11 31 38.5 -2.8
BJI **Beijing** 23.89 272 P P 11 32 10.3 +0.2
BJI S S 11 36 23.9 +1.9
BJI pmax pmax
comp=E,54nm,1.1s
BJI pmax pmax
comp=E,520nm,4.6s
BJI LR LR
comp=E,510nm,18.1s
BJI LR LR
comp=E,630nm,21.3s
BJT **Baijiatuau** 23.91 272 P P 11 32 10.2 0.0
BJT pmax pmax
comp=Z,82nm,0.9s
BJT MLR MLR
comp=Z,800nm,20.0s
BJT **Baijiatuau** 23.91 272 P P 11 32 10.2 0.0
BJT IAmb IAmb 11 32 12.7
comp=Z,82nm,0.9s
BJT **Baijiatuau** 23.91 272 IAMs_20 IAMs_20 11 41 57.3
comp=Z,769nm,20.0s
CIT **Chita** 24.26 302 *e*P P 11 32 11.7 -1.7
CIT *e* 11 32 36.9
CIT *e* 11 32 53.2
CIT *e* 11 35 52.8
CIT *e* 11 36 21.4
CIT pmax pmax
comp=Z,109nm,1.4s
TIA **Tai'an** 24.75 262 ⇑P P 11 32 18.5 +0.6
TIA pmax pmax
comp=Z,34nm,0.9s
BOD **Bodaibo** 25.24 315 *e*P P 11 32 19.1 -3.1
BOD pmax pmax
comp=Z,99nm,1.4s
NJ2 **Nanjing** 25.71 252 *e*P P 11 32 27.2 +0.6
NJ2 sP pP 11 32 41.7 +0.7
NJ2 pmax pmax
comp=Z,66nm,0.5s
BILL **Bilibino** 26.04 16 *c i*P P 11 32 27.6 -1.6
BILL *i* *PP pP 11 32 43.4 -0.4
BILL *e* 11 33 10.8
BILL *i* S S 11 36 52.0 -3.6
BILL *e*SS SnSn 11 38 05.1 +6.9
BILL pmax pmax
comp=Z,120nm,0.8s
BILL MLR MLR
comp=Z,401nm,20.0s
HHC **Hu-ho-hao-te** 26.95 276 *e*P P 11 32 38.7 +0.8
HHC pP pP 11 32 47.2 -5.3
HHC S S 11 37 10.6 -0.2
HHC pmax pmax
comp=Z,43nm,1.3s
HHC pmax pmax
comp=Z,290nm,6.6s
HHC LR LR
comp=Z,470nm,19.9s
HHC LR LR
comp=Z,520nm,18.0s
HHC LR LR
comp=Z,770nm,19.7s
TIY **Taiyuan** 27.47 269 *e*P P 11 32 45.1 +2.5
TIY pP pP 11 32 57.1 0.0
TIY sP sP 11 33 03.0 -1.1
TIY S S 11 37 28.2 +9.2
TIY pmax pmax
comp=Z,45nm,0.8s
TIY pmax pmax
comp=Z,430nm,4.4s
TIY LR LR
comp=Z,470nm,5.4s
TIY LR LR
comp=Z,250nm,5.1s
TIY LR LR
comp=Z,460nm,7.1s
BTO **Baotou** 28.14 277 *e*P P 11 32 49.3 +0.8
ULN **Ulaanbaatar** 28.53 293 *c i*P P 11 32 52.6 +0.6
ULN pmax pmax
comp=Z,153nm,0.8s
ULN **Ulaanbaatar** 28.53 293 P P 11 32 52.5 +0.4
ULN IAmb IAmb 11 32 54.0
comp=Z,130nm,0.7s
ULN **Ulaanbaatar** 28.53 293 IAMs_20 IAMs_20 11 45 12.5
comp=Z,906nm,19.0s
ULN **Ulaanbaatar** 28.53 293 *i* P P 11 32 52.6 +0.6
H11N2 **WAKE ISLAND Hy** 28.83 141 T T 12 03 55.4
baz=331,slow=76,SNR=348
H11N1 **WAKE ISLAND Hy** 28.84 141 T T 12 03 42.9
baz=331,slow=76,SNR=416
H11N3 **WAKE ISLAND Hy** 28.85 141 T T 12 03 43.1
baz=331,slow=76,SNR=450
SONM **Songino Array** 28.98 293 P P 11 32 56.6 +0.7
comp=Z,87nm,0.7s,baz=81,slow=8.3,SNR=592
SONM PcP PcP 11 36 03.5 +0.2
comp=Z,6.5nm,0.9s,baz=93,slow=2.8,SNR=3.1
SONM LR LR 11 45 18.8
comp=Z,878nm,19.7s,baz=84,slow=38
TIXI **Tiksi** 29.33 348 P P 11 32 54.8 -3.8
comp=Z,32nm,0.7s,baz=134,slow=6.7,SNR=30
TIXI **Tiksi** 29.33 348 *ce*P P 11 32 55.0 -3.6
TIXI **Tiksi** 29.33 348 P P 11 32 54.7 -3.9
WHN **Wuhan** 29.71 255 ⇓P P 11 33 02.5 +0.1
H11S1 **WAKE ISLAND Hy** 29.81 142 T T 12 04 59.0
baz=332,slow=76,SNR=813
H11S3 **WAKE ISLAND Hy** 29.82 142 T T 12 04 59.4
baz=332,slow=76,SNR=1872
H11S2 **WAKE ISLAND Hy** 29.83 142 T T 12 04 59.8
baz=332,slow=76,SNR=588
GAMB **Gambell** 30.22 35 P P 11 33 07.2 +0.7
baz=248
GAMB **Gambell** 30.22 35 P P 11 33 06.7 +0.2
TLY **Talaya** 30.39 301 P P 11 33 09.0 +0.7
comp=Z,22nm,0.6s,baz=97,slow=5.1,SNR=37
TLY PcP PcP 11 36 07.1 +0.5
comp=Z,8.3nm,0.7s,baz=170,slow=6.1,SNR=5.6
TLY LR LR 11 46 34.6
comp=Z,841nm,18.6s,baz=83,slow=39
TLY **Talaya** 30.39 301 *e*P P 11 33 08.5 +0.2
TLY *e* 11 34 23.4
TLY *e*S S 11 38 10.0 +5.4
TLY pmax pmax
comp=Z,74nm,0.7s
TLY MLR MLR
comp=Z,1μm,13.0s
TLY **Talaya** 30.39 301 P P 11 33 08.1 -0.2
TLY IAMs_20 IAMs_20 11 46 22.6
comp=Z,829nm,19.0s
ZAK **Zakamensk** 30.72 298 *e*P P 11 33 11.2 -0.1
ZAK *e* 11 36 07.9
ZAK pmax pmax
comp=Z,31nm,1.0s
XAN **Xi'an** 31.68 265 ⇑P P 11 33 20.2 +0.3
XAN pP pP 11 33 32.7 -1.8
XAN sP sP 11 33 39.6 -1.9
XAN PcP PcP 11 36 11.6 +1.2
XAN pmax pmax
comp=Z,46nm,0.8s
MOY **Mondy** 32.04 301 *e*P P 11 33 23.3 +0.4
MOY pmax pmax
comp=Z,70nm,1.6s
TNA **Tin City** 32.38 33 P P 11 33 26.8 +1.3
baz=250,SNR=16
ANM **Nome** 33.10 35 P P 11 33 33.5 +1.6
ANM pmax pmax
comp=Z,121nm,1.0s
ANM MLR MLR
comp=Z,300nm,19.0s
ANM **Nome** 33.10 35 P P 11 33 33.8 +1.9
baz=254,SNR=5.1
ANM **Nome** 33.10 35 P P 11 33 33.5 +1.6
ENH **Enshi** 33.29 259 P P 11 33 33.8 -0.2
ENH IAmb IAmb 11 33 34.8
comp=Z,41nm,0.7s
LZH **Lanzhou** 34.38 272 ⇑P P 11 33 44.9 +1.4
LZH pP pP 11 33 59.2 +0.9
LZH sP sP 11 34 04.3 -1.0
LZH S S 11 39 08.1 +0.9
LZH pmax pmax
comp=Z,57nm,1.3s
LZH pmax pmax
comp=Z,370nm,5.4s
LZH LR LR
comp=Z,710nm,13.6s
LZH LR LR
comp=Z,770nm,13.2s
LZH LR LR
comp=Z,750nm,16.3s
RDOG **Red Dog Mine** 35.08 30 P P 11 33 51.2 +2.2
baz=252,SNR=8.4
RDOG **Red Dog Mine** 35.08 30 P P 11 33 48.2 -0.7
RDOG IAmb IAmb 11 33 52.4
comp=Z,98nm,1.2s
GTA **Gaotai** 35.87 280 ⇑P P 11 33 57.6 +1.3
GTA pP pP 11 34 09.8 -1.3
GTA sP sP 11 34 14.8 -3.3
GTA PcP PcP 11 36 23.6 +1.2
GTA pmax pmax
comp=Z,56nm,1.1s
GTA pmax pmax
comp=Z,170nm,9.2s
GTA LR LR
comp=Z,280nm,15.5s
GTA LR LR
comp=Z,640nm,17.9s
GTA LR LR
comp=Z,450nm,18.3s
N18K **Kilae Creek** 36.87 43 P P 11 34 06.2 +1.8
baz=269,SNR=82
CD2 **Chengdu** 37.03 265 P P 11 34 06.8 +0.6
O18K **Koktuh Hills** 37.21 44 P P 11 34 08.6 +1.3
baz=271
L19K **White Mountain** 37.41 40 P P 11 34 10.2 +1.3
baz=268,SNR=38
GYA **Guiyang** 37.56 256 ⇓P P 11 34 11.2 +0.5
GYA pP pP 11 34 24.9 -0.7
GYA PcP PcP 11 36 28.7 +1.1
GYA S S 11 39 54.1 -1.7
GYA pmax pmax
comp=Z,140nm,6.2s
N19K **Bonanza Creek** 37.56 43 P P 11 34 11.8 +1.5
baz=270,SNR=59
M19K **Big River Lodg** 37.62 41 P P 11 34 12.2 +1.5
baz=269
O19K **Port Alsworth** 37.65 44 P P 11 34 12.4 +1.5
baz=271
K20K **Telida** 37.82 39 P P 11 34 13.7 +1.3
baz=267
J20K **Nowinta River** 37.84 37 P P 11 34 13.9 +1.4
baz=266
J20K S S 11 40 00.3 +1.3
baz=266
A21K **Barrow** 38.13 25 P P 11 34 15.4 +0.5
baz=254,SNR=8.3
A21K **Barrow** 38.13 25 P P 11 34 15.3 +0.5
A21K IAMs_20 IAMs_20 11 51 29.7
comp=Z,372nm,20.0s
P19K **Oil Pt** 38.22 45 P P 11 34 17.0 +1.2
baz=273,SNR=8.7
M20K **Styx River** 38.22 41 P P 11 34 17.5 +1.7
baz=270
OHAK **Old Harbor** 38.36 49 P P 11 34 16.5 -0.5
baz=276,SNR=11
RSO **Redoubt South** 38.42 43 P P 11 34 18.3 +0.6
O20K **Slope Mountain** 38.50 44 P P 11 34 18.7 +0.5
baz=272,SNR=6.5
H21K **Melozitna Rive** 38.52 35 P P 11 34 19.6 +1.4
baz=265,SNR=155
H21K S S 11 40 11.3 +2.0
baz=265
CHUM **Lake Minchumin** 38.63 38 P P 11 34 20.9 +1.8
baz=268,SNR=41
CHUM S S 11 40 14.0 +3.1
baz=268
PPLA **Purkeypile** 38.66 39 P P 11 34 21.5 +1.9
baz=269,SNR=40
PPLA S S 11 40 14.6 +2.8
baz=269
SPCR **Spurr Chakacha** 38.67 42 P P 11 34 21.2 +1.6
baz=272,SNR=10
KDAK **Kodiak Island** 38.68 48 P P 11 34 19.4 -0.3
KDAK pmax pmax
comp=Z,30nm,0.8s
KDAK **Kodiak Island** 38.68 48 P P 11 34 19.4 -0.3
baz=276
KDAK **Kodiak Island** 38.68 48 P P 11 34 19.4 -0.3
SPU **Mount Spurr** 38.74 42 P P 11 34 21.4 +1.2
I21K **Tanana** 38.83 36 P P 11 34 22.5 +1.7
baz=267,SNR=20
SKT **Skwentna** 38.97 41 P P 11 34 22.7 +0.7
baz=271
SKT **Skwentna** 38.97 41 P P 11 34 22.8 +0.7
HOM **Homer** 39.02 44 P P 11 34 22.9 +0.4
baz=274
HOM **Homer** 39.02 44 P P 11 34 23.2 +0.7
HOM IAmb IAmb 11 34 24.3
comp=Z,87nm,1.0s
CAPN **Captain Cook N** 39.20 43 P P 11 34 24.5 +0.6
baz=273
BPAW **Bear Paw Mtn.** 39.22 37 P P 11 34 25.4 +1.3
baz=269,SNR=79
BPAW **Bear Paw Mtn.** 39.22 37 P P 11 34 24.9 +0.8
BPAW IAmb IAmb 11 34 27.0
comp=Z,41nm,0.8s
CNPM **China Poot** 39.24 45 P P 11 34 24.4 +0.1
KTH **Kantishna Hill** 39.24 38 P P 11 34 25.4 +1.1
KTH IAmb IAmb 11 34 26.9
comp=Z,102nm,0.9s
MLY **Manley** 39.35 36 P P 11 34 26.7 +1.5
baz=268,SNR=114
MLY S S 11 40 24.1 +2.3
baz=268
MLY **Manley** 39.35 36 P P 11 34 25.9 +0.7
MLY IAmb IAmb 11 34 27.7
comp=Z,45nm,0.7s
SUA **Susitna One** 39.36 42 P P 11 34 25.7 +0.3
baz=272,SNR=26
SUA **Susitna One** 39.36 42 P P 11 34 25.4 0.0
BRLK **Bradley Lake** 39.40 44 P P 11 34 25.9 +0.3
NRIK **Noril'sk** 39.41 331 P P 11 34 23.5 -2.0

comp=Z,11nm,0.5s,baz=108,slow=7.5,SNR=31
NRIK PcP **PcP** **11 36 32.8 +0.3**
comp=Z,17nm,0.5s,baz=115,slow=2.1,SNR=6.7
NRIK LR LR 11 53 11.7
comp=Z,414nm,18.4s,baz=100,slow=40
NRIK Noril'sk 39.41 331 *ceP* **P** **11 34 22.7 -2.8**
NRIK pmax pmax
comp=Z,72nm,1.5s
NRIK MLR MLR
comp=Z,356nm,16.0s
BRSE Bradley Lake S 39.47 44 P **P** **11 34 26.7 +0.5**
baz=274,SNR=18
TRF Thorofare Moun 39.52 38 P **P** **11 34 27.7 +0.9**
baz=270,SNR=35
TRF Thorofare Moun 39.52 38 P **P** **11 34 27.1 +0.2**
CUT Chulitna 39.55 40 P **P** **11 34 27.4 +0.5**
baz=272,SNR=8.8
CUT Chulitna 39.55 40 P **P** **11 34 26.6 -0.3**
CUT IAmb IAmb 11 34 28.6
comp=Z,53nm,0.9s
RC01 Rabbit Creek A 39.87 42 P **P** **11 34 29.9 +0.4**
baz=274,SNR=30
RC01 Rabbit Creek A 39.87 42 P **P** **11 34 28.8 -0.8**
RC01 IAmb IAmb 11 34 30.8
comp=Z,48nm,0.8s
H23K Yukon River 39.88 35 P **P** **11 34 31.4 +1.8**
baz=268,SNR=178
H23K S **S** **11 40 32.7 +3.0**
baz=268
BWN Browne 39.89 37 P **P** **11 34 31.0 +1.4**
O22K Cooper Landing 39.92 43 P **P** **11 34 30.3 +0.4**
baz=274
O22K Cooper Landing 39.92 43 P **P** **11 34 30.1 +0.2**
O22K IAmb IAmb 11 34 38.9
comp=Z,76nm,0.7s
O22K IAMs_20 IAMs_20 11 54 12.5
comp=Z,338nm,19.0s
I23K Minto, Yukon-K 39.94 36 P **P** **11 34 31.5 +1.5**
baz=269,SNR=87
I23K Minto, Yukon-K 39.94 36 P **P** **11 34 30.7 +0.7**
TOLK Toolik Lake Re 40.03 30 P **P** **11 34 32.0 +1.1**
baz=265,SNR=99
TOLK Toolik Lake Re 40.03 30 P **P** **11 34 31.9 +1.1**
TOLK IAmb IAmb 11 34 32.9
comp=Z,91nm,0.7s
TOLK IAMs_20 IAMs_20 11 51 14.0
comp=Z,424nm,21.0s
NEA2 Nenana 40.06 37 P **P** **11 34 32.3 +1.3**
baz=270,SNR=154
NEA2 Nenana 40.06 37 P **P** **11 34 31.8 +0.7**
NEA2 IAmb IAmb 11 34 33.1
comp=Z,88nm,0.6s
SEW Seward 40.09 44 P **P** **11 34 31.2 -0.1**
baz=275,SNR=26
MCK McKinley 40.13 38 P **P** **11 34 31.5 -0.1**
MCK pmax pmax
comp=Z,45nm,0.9s
MCK MLR MLR
comp=Z,200nm,19.0s
MCK McKinley 40.13 38 P **P** **11 34 32.2 +0.6**
baz=271,SNR=38
MCK McKinley 40.13 38 P **P** **11 34 31.5 -0.1**
MCK IAmb IAmb 11 34 33.3
comp=Z,45nm,0.9s
RND Reindeer 40.17 38 P **P** **11 34 31.8 -0.3**
RND pmax pmax
comp=Z,50nm,1.0s
RND MLR MLR
comp=Z,200nm,20.0s
RND Reindeer 40.17 38 P **P** **11 34 31.8 -0.3**
RND IAmb IAmb 11 34 33.4
comp=Z,50nm,1.0s
GHO Glory Hole Cre 40.22 41 P **P** **11 34 32.8 +0.3**
GHO IAmb IAmb 11 34 34.0
comp=Z,44nm,0.8s
WAT1 Susitna Watana 40.33 39 P **P** **11 34 33.5 +0.2**
baz=273
QIZ Qiongzhong 40.39 244 P **P** **11 34 34.9 +0.6**
QIZ S **S** **11 40 40.4 +2.1**
QIZ LR LR
comp=Z,540nm,24.2s
QIZ LR LR
comp=Z,430nm,28.0s
MDM Murphy Dome 40.41 36 P **P** **11 34 35.3 +1.2**
MDM IAmb IAmb 11 34 37.2
comp=Z,80nm,0.8s
KNK Knik Glacier 40.46 42 P **P** **11 34 35.0 +0.6**
baz=274,SNR=25
KNK Knik Glacier 40.46 42 IAMs_20 IAMs_20 11 54 33.9
comp=Z,397nm,21.0s
WRH Wood River Hil 40.48 37 P **P** **11 34 34.4 -0.1**
WRH IAmb IAmb 11 34 37.7
comp=Z,56nm,0.7s
SML Sawmill 40.49 41 P **P** **11 34 35.4 +0.7**
SML Sawmill 40.49 41 P **P** **11 34 35.4 +0.7**
baz=274,SNR=98
SML S **S** **11 40 39.5 +0.5**
baz=274
SML Sawmill 40.49 41 P **P** **11 34 35.4 +0.7**
SML IAmb IAmb 11 34 37.0
comp=Z,139nm,1.0s
H24K Noodor Dome 40.56 35 P **P** **11 34 37.0 +1.8**
baz=270,SNR=125
H24K S **S** **11 40 42.8 +2.8**
baz=270
PWL Port Wells 40.57 42 P **P** **11 34 35.0 -0.3**
PWL IAmb IAmb 11 34 36.4
comp=Z,44nm,0.8s
PWL IAMs_20 IAMs_20 11 49 23.7
comp=Z,337nm,20.0s
TCOL CIGO, UAF Yank 40.57 36 P **P** **11 34 36.6 +1.3**
baz=271,SNR=28
TCOL CIGO, UAF Yank 40.57 36 P **P** **11 34 36.5 +1.3**
TCOL IAmb IAmb 11 34 40.1
comp=Z,118nm,0.9s
COLA College 40.58 36 *c iP* **P** **11 34 36.2 +1.0**
COLA pmax pmax
comp=Z,99nm,0.9s
COLA College 40.58 36 P **P** **11 34 36.6 +1.3**
baz=271
COLA College 40.58 36 P **P** **11 34 36.2 +1.0**
COLA IAmb IAmb 11 34 40.1
comp=Z,125nm,0.9s
CCB Clear Creek Bu 40.60 37 P **P** **11 34 35.8 +0.3**
WAT6 Susitna Watana 40.72 40 P **P** **11 34 36.9 +0.2**
baz=274,SNR=45
WAT6 S **S** **11 40 42.6 0.0**
baz=274
POKR Poker Plat Res 40.75 36 P **P** **11 34 38.4 +1.6**
baz=271,SNR=172
POKR S **S** **11 40 44.2 +1.4**
baz=271
POKR Poker Plat Res 40.75 36 P **P** **11 34 38.4 +1.6**
DGZ Jazzator, Alta 40.87 300 *c iP* **P** **11 34 38.4 +0.3**
DGZ pmax pmax
comp=Z,55nm,0.7s
SCM Sheep Creek Mo 40.97 41 P **P** **11 34 39.4 +0.7**
SCM pmax pmax
comp=Z,48nm,1.0s
SCM Sheep Creek Mo 40.97 41 P **P** **11 34 39.4 +0.7**
HDA Harding Lake 40.98 37 P **P** **11 34 38.8 +0.2**
baz=272,SNR=73
HDA Harding Lake 40.98 37 P **P** **11 34 38.3 -0.3**
HDA IAmb IAmb 11 34 40.8
comp=Z,59nm,0.8s
ILAR Eielson Array 40.99 36 P **P** **11 34 39.0 +0.2**
comp=Z,26nm,0.6s,baz=253,slow=7.9,SNR=399
ILAR ScP **ScP** **11 40 22.1 0.0**
comp=Z,0.8nm,1.0s,baz=279,slow=2.9,SNR=2.6
ILAR S **S** **11 40 47.2 +0.9**
comp=Z,0.2nm,0.8s,baz=339,slow=2.3,SNR=2.9
ILAR LR LR 11 53 27.4
comp=Z,149nm,18.9s,baz=286,slow=39
KMI Kunming 41.15 258 ⇑P **P** **11 34 41.9 +1.1**
KMI pP pP 11 34 55.9 0.0
KMI sP sP 11 35 00.5 -2.2
KMI S **S** **11 40 51.7 +1.8**
KMI SS **SS** **11 43 47.3 -7.2**
KMI pmax pmax
comp=Z,76nm,1.1s
KMI LR LR
comp=Z,380nm,24.9s
KMI LR LR
comp=Z,460nm,27.9s
KMI LR LR
comp=Z,470nm,26.5s

GLI Glacier Island 41.17 42 P **P** **11 34 40.5 +0.2**
baz=276,SNR=15
GLI Glacier Island 41.17 42 P **P** **11 34 40.1 -0.1**
ZALV Zalesovo Beam 41.39 307 P **P** **11 34 40.7 -1.4**
comp=Z,21nm,0.5s,baz=69,slow=7.7,SNR=66
ZALV PcP **PcP** **11 36 39.6 +0.5**
comp=Z,42nm,0.6s,baz=86,slow=3.0,SNR=22
ZALV ScP **ScP** **11 40 23.9 0.0**
comp=Z,0.8nm,0.5s,baz=84,slow=4.1,SNR=1.5
ZALV LR LR 11 53 03.6
comp=Z,361nm,18.0s,baz=68,slow=38
ZALV Zalesovo Beam 41.39 307 *i* P **P** **11 34 41.0 -1.1**
ZALV pmax pmax
comp=Z,21nm,0.5s
M24K Tolsona, Glenn 41.48 40 P **P** **11 34 44.4 +1.5**
baz=276,SNR=26
M24K Tolsona, Glenn 41.48 40 P **P** **11 34 44.0 +1.1**
M24K IAmb IAmb 11 35 07.8
comp=Z,65nm,0.7s
FID Port Fidalgo 41.48 42 P **P** **11 34 42.5 -0.4**
HIN Hinchinbrook I 41.52 43 P **P** **11 34 43.1 0.0**
PRP Porcupine Dome 41.54 35 P **P** **11 34 43.9 +0.5**
baz=272,SNR=185
PRP Porcupine Dome 41.54 35 P **P** **11 34 43.8 +0.4**
PRP IAmb IAmb 11 34 45.7
comp=Z,78nm,0.6s
FYU Fort Yukon 41.63 34 P **P** **11 34 45.1 +1.2**
KLU Klutina 41.67 41 P **P** **11 34 45.3 +0.9**
baz=276,SNR=59
KLU Klutina 41.67 41 P **P** **11 34 45.3 +0.9**
KLU IAmb IAmb 11 34 46.9
comp=Z,94nm,1.2s
PAX Paxson 41.73 39 P **P** **11 34 45.5 +0.6**
baz=275,SNR=32
BMAR Burnt Mountain 41.87 32 P **P** **11 34 47.2 +1.3**
EYAK Cordova Ski Ar 41.87 43 P **P** **11 34 46.9 +1.0**
baz=278,SNR=15
HARP HAARP 41.93 40 P **P** **11 34 47.6 +1.2**
baz=276,SNR=16
RIDG Independent Ri 41.94 38 P **P** **11 34 46.6 0.0**
baz=275,SNR=77
RIDG Independent Ri 41.94 38 P **P** **11 34 46.7 0.0**
RIDG IAmb IAmb 11 34 49.2
comp=Z,52nm,0.8s
N25K Chitina, Valde 42.28 41 P **P** **11 34 50.1 +0.6**
baz=277,SNR=21
N25K Chitina, Valde 42.28 41 P **P** **11 34 49.5 +0.1**
SCRK Sand Creek 42.30 37 P **P** **11 34 49.7 +0.1**
baz=275,SNR=134
SCRK Sand Creek 42.30 37 P **P** **11 34 49.6 0.0**
SCRK IAmb IAmb 11 34 58.0
comp=Z,48nm,0.6s
BMRM Bremner River 42.37 42 P **P** **11 34 51.2 +1.2**
baz=278,SNR=30
BMRM Bremner River 42.37 42 P **P** **11 34 50.7 +0.7**
BMRM IAmb IAmb 11 34 52.1
comp=Z,59nm,0.9s
BMRM IAMs_20 IAMs_20 11 52 20.2
comp=Z,360nm,22.0s
WMQ Urumqi 42.61 292 *eP* **P** **11 34 53.6 +1.3**
WMQ sP pP 11 35 10.6 +3.2
WMQ PP **PcP** **11 36 38.2 -5.3**
WMQ S **S** **11 41 13.0 +2.2**
WMQ pmax pmax
comp=Z,190nm,0.7s
WMQ pmax pmax
comp=Z,650nm,3.9s
WMQ LR LR
comp=Z,530nm,17.9s
WMQ LR LR
comp=Z,850nm,18.9s
WMQ LR LR
comp=Z,820nm,25.1s
HMT Hamilton 42.63 43 P **P** **11 34 52.4 +0.3**
GLB Gilahina Butte 42.68 41 P **P** **11 34 53.3 +0.6**
GLB IAMs_20 IAMs_20 11 53 50.5
comp=Z,349nm,21.0s
L26K Log Cabin Wild 42.69 39 P **P** **11 34 54.0 +1.4**
baz=277
L26K S **S** **11 41 13.5 +2.1**
baz=277
SLVN Son La 42.79 253 P **P** **11 34 52.8 -1.2**
VRDI Verde Repeater 42.88 41 P **P** **11 34 55.3 +0.9**
VRDI IAMs_20 IAMs_20 11 54 14.8
comp=Z,390nm,22.0s
MCARA McCarthy VSAT 43.06 41 P **P** **11 34 57.2 +1.6**
baz=279,SNR=11
CRQM Cirque 43.11 42 IAMs_20 IAMs_20 11 53 34.7
comp=Z,313nm,20.0s
CRQE Cirque 43.13 42 P **P** **11 34 57.8 +1.5**
baz=280,SNR=34
K27K Chicken 43.13 37 P **P** **11 34 57.4 +1.3**
baz=277
K27K Chicken 43.13 37 P **P** **11 34 57.1 +1.0**
K27K IAmb IAmb 11 34 58.6
comp=Z,106nm,0.8s
ZSN Zaisan 43.18 298 *i* P **P** **11 34 57.6 +0.8**
comp=Z,37nm,0.7s,baz=297
ZSN Zaisan 43.18 298 *i* P **P** **11 34 57.5 +0.8**
ZSN pmax pmax
comp=Z,37nm,0.7s
TGL Tana Glacier 43.26 42 P **P** **11 34 58.1 +0.8**
TGL IAmb IAmb 11 34 59.7
comp=Z,64nm,1.1s
TGL IAMs_20 IAMs_20 11 54 03.8
comp=Z,349nm,21.0s
WAX Waxell Ridge 43.30 42 P **P** **11 34 58.9 +1.3**
WAX IAmb IAmb 11 35 00.1
comp=Z,98nm,0.7s
L27K Beaver Creek, 43.37 39 P **P** **11 34 59.7 +1.6**
baz=278,SNR=169
L27K Beaver Creek, 43.37 39 P **P** **11 34 59.8 +1.6**
L27K IAmb IAmb 11 35 09.9
comp=Z,72nm,0.8s
EGAK Eagle 43.44 36 P **P** **11 34 59.1 +0.4**
baz=277,SNR=104
EGAK S **S** **11 41 22.9 +0.6**
baz=277
EGAK Eagle 43.44 36 P **P** **11 34 59.0 +0.4**
EGAK IAmb IAmb 11 35 00.2
comp=Z,66nm,0.7s
ISLE Juniper Island 43.52 42 P **P** **11 35 00.6 +1.0**
ISLE IAmb IAmb 11 35 01.5
comp=Z,60nm,0.8s
BARN Barnard Glacie 43.77 41 P **P** **11 35 02.2 +0.7**
BARN IAmb IAmb 11 35 03.9
comp=Z,56nm,0.8s
MESA MESA 43.79 43 P **P** **11 35 02.9 +1.2**
baz=281,SNR=7.5
MESA MESA 43.79 43 P **P** **11 35 02.4 +0.7**
MESA IAmb IAmb 11 35 12.5
comp=Z,71nm,0.7s
YAH Yahtse 43.85 42 P **P** **11 35 03.4 +1.1**
YAH IAmb IAmb 11 35 04.7
comp=Z,80nm,0.8s
CTG Chitna Glacier 43.94 42 P **P** **11 35 04.1 +1.3**
baz=281,SNR=29
LOGN Logan Glacier 44.13 42 P **P** **11 35 04.9 +0.5**
TABL Table Mountain 44.13 42 P **P** **11 35 05.5 +1.0**
TABL IAmb IAmb 11 35 06.4
comp=Z,64nm,0.8s
DAWY Dawson 44.30 37 P **P** **11 35 06.0 +0.4**
PINM Pinnacle 44.64 43 P **P** **11 35 09.2 +0.8**
baz=282
LKP Lekhapani 44.76 266 *ex* P **P** **11 35 10.7 +1.1**
LKP *i* x **pP** **11 35 25.2 +0.4**
EPYK Eagle Plains 45.05 33 P **P** **11 35 12.9 +1.4**
baz=279,SNR=102
EPYK Eagle Plains 45.05 33 P **P** **11 35 12.4 +0.9**
EPYK IAmb IAmb 11 35 13.7
comp=Z,87nm,0.8s
MK31 Makanchi Array 45.05 298 *c iP* **P** **11 35 12.1 +0.3**
MKAR Makanchi Array 45.05 298 P **P** **11 35 12.0 +0.2**
comp=Z,156nm,0.8s,baz=78,slow=8.6,SNR=807
MKAR PcP **PcP** **11 36 52.1 +0.4**
comp=Z,20nm,0.8s,baz=70,slow=5.6,SNR=3.7
MKAR S **S** **11 41 43.5 -2.7**
comp=Z,2.3nm,0.8s,baz=69,slow=18,SNR=5.1
MKAR LR LR 11 55 27.8
comp=Z,923nm,18.9s,baz=65,slow=38
MKAR Makanchi Array 45.05 298 *i* P **P** **11 35 12.6 +0.7**
MKAR pmax pmax
comp=Z,159nm,0.8s
MKAR Makanchi Array 45.05 298 *i* P **P** **11 35 12.5 +0.7**
SEM Semipalatinsk 45.07 303 *eP* **P** **11 35 10.8 -1.4**
comp=Z,146nm,0.6s,baz=303

SEM Semipalatinsk 45.07 303 *eP* **P** **11 35 10.7 -1.4**
SEM pmax pmax
comp=Z,146nm,0.6s
MAKZ Makanchi 45.25 298 P **P** **11 35 13.4 0.0**
MAKZ pmax pmax
comp=Z,182nm,0.9s
MAKZ MLR MLR
comp=Z,1μm,18.0s
MAKZ Makanchi 45.25 298 P **P** **11 35 13.4 0.0**
NONG Nongkai 45.54 250 P **P** **11 35 17.2 +1.3**
comp=Z,4μmcomp=Z,135nm,0.8s
NONG Nongkai 45.54 250 P **P** **11 35 17.0 +1.1**
SKNT Sakolnakorn 45.74 248 P **P** **11 35 18.6 +1.1**
comp=Z,1μmcomp=Z,130nm,0.8s
HYT Haines Junctio 45.80 41 P **P** **11 35 19.2 +1.6**
KURK Kurchatov 45.95 304 P **P** **11 35 18.9 +0.1**
KURK 11 36 55.4
KURK Kurchatov 45.95 304 *eP* **P** **11 35 18.9 +0.1**
INK Inuvik 45.95 30 P **P** **11 35 19.8 +1.3**
comp=Z,198nm,0.8s,baz=291,slow=6.9,SNR=627
INK S **S** **11 42 00.0 +1.6**
comp=Z,1.0nm,0.7s,baz=180,slow=18,SNR=5.7
INK Inuvik 45.95 30 P **P** **11 35 19.8 +1.3**
INK pmax pmax
comp=Z,173nm,0.8s
INK Inuvik 45.95 30 P **P** **11 35 19.9 +1.4**
baz=280,SNR=300
INK S **S** **11 41 58.6 +0.2**
baz=280
INK Inuvik 45.95 30 P **P** **11 35 19.8 +1.3**
KURBB Kurchatov Arra 46.03 304 P **P** **11 35 18.9 -0.5**
comp=Z,133nm,0.5s,baz=73,slow=8.8,SNR=208
KURBB PcP **PcP** **11 36 55.4 +0.4**
comp=Z,28nm,0.7s,baz=75,slow=3.4,SNR=10
KURBB S **S** **11 41 57.3 -2.9**
comp=Z,0.5nm,0.2s,baz=84,slow=13,SNR=1.6
MOKO MOKOCHONG 46.31 266 *eP* **P** **11 35 23.4 +1.3**
MOKO IAmb IAmb 11 35 26.1
comp=Z,68nm,1.3s
MOKO *i* x **pP** **11 35 37.6 +0.2**
ITAN ITANAGAR 46.40 267 *eP* **P** **11 35 22.2 -0.4**
LSA Lhasa 46.80 272 P **P** **11 35 27.5 +1.2**
LSA pmax pmax
comp=Z,280nm,0.9s
LSA Lhasa 46.80 272 P **P** **11 35 27.8 +1.4**
LSA Lhasa 46.80 272 P **P** **11 35 27.7 +1.4**
LSA pmax pmax
comp=Z,53nm,0.8s
LSA Lhasa 46.80 272 P **P** **11 35 27.7 +1.4**
LSA IAmb IAmb 11 35 28.9
comp=Z,53nm,0.8s
LSA Lhasa 46.80 272 *eP* **P** **11 35 27.7 +1.4**
KOHI KOHIMA 46.96 266 *eP* **P** **11 35 27.8 +0.6**
SIJI Sorong 47.03 203 P **P** **11 35 28.2 +0.6**
comp=Z,9.9nm,0.7s,baz=18,slow=20,SNR=2.1
WHY Whitehorse 47.09 41 P **P** **11 35 29.3 +1.6**
baz=286,SNR=12
WHY Whitehorse 47.09 41 P **P** **11 35 28.4 +0.7**
LOEI Loei 47.21 251 P **P** **11 35 27.9 -1.1**
comp=Z,0.3nmcomp=Z,98nm,1.0s
SKAG Skagway 47.21 43 P **P** **11 35 30.3 +1.8**
baz=287,SNR=11
UTTA Uttaradit 47.53 252 P **P** **11 35 32.8 +1.3**
comp=Z,692nmcomp=Z,80nm,1.0s
UTTA Uttaradit 47.53 252 P **P** **11 35 32.8 +1.3**
comp=Z,0.1nmcomp=Z,173nmcomp=Z,20nm,1.0s
IMP Imphal 47.61 265 *eP* **P** **11 35 32.5 +0.3**
LAMP Lampang 47.64 254 P **P** **11 35 33.8 +1.5**
comp=Z,1μmcomp=Z,179nm,0.9s
LAMP Lampang 47.64 254 P **P** **11 35 33.9 +1.6**
CM34 Chiang Mai Arr 47.75 254 P **P** **11 35 34.0 +0.8**
CHAI Chaiyaphum 47.84 249 P **P** **11 35 34.8 +0.9**
comp=Z,2μmcomp=Z,236nm,0.9s
CHAI Chaiyaphum 47.84 249 P **P** **11 35 34.9 +1.0**
CM35 Chiang Mai Arr 47.87 254 P **P** **11 35 35.0 +0.9**
CM33 Chiang Mai Arr 47.92 255 P **P** **11 35 35.0 +0.5**
CMMT Chiang Mai 47.92 255 P **P** **11 35 35.5 +1.0**
comp=Z,1μmcomp=Z,125nm,1.1s
CMMT Chiang Mai 47.92 255 P **P** **11 35 35.6 +1.0**
comp=Z,0.4nmcomp=Z,1μmcomp=Z,125nm,1.1s
CHTO Chiang Mai 47.92 255 P **P** **11 35 34.5 0.0**
CHTO pmax pmax
comp=Z,104nm,1.0s
CHTO Chiang Mai 47.92 255 P **P** **11 35 35.5 +1.0**
comp=Z,925nmcomp=Z,127nm,1.1s
CHTO Chiang Mai 47.92 255 P **P** **11 35 34.5 0.0**
PHIT Phitsanulok 48.01 252 P **P** **11 35 36.7 +1.5**
comp=Z,2μmcomp=Z,269nm,1.0s
PHIT Phitsanulok 48.01 252 P **P** **11 35 36.7 +1.5**
comp=Z,0.2nmcomp=Z,490nmcomp=Z,67nm,1.0s
CM36 Chiang Mai Arr 48.02 254 P **P** **11 35 36.0 +0.7**
RABL Rabaul 48.03 174 P **P** **11 35 34.1 -1.2**
JIS Juneau Island 48.03 44 P **P** **11 35 36.3 +1.4**
JIS IAmb IAmb 11 35 37.8
comp=Z,30nm,0.8s
CM32 Chiang Mai Arr 48.10 255 P **P** **11 35 37.0 +1.1**
CM09 Chiang Mai Arr 48.14 254 P **P** **11 35 37.7 +1.5**
comp=Z,397nmcomp=Z,48nm,1.0s
CM09 Chiang Mai Arr 48.14 254 P **P** **11 35 37.8 +1.5**
comp=Z,0.2nmcomp=Z,397nmcomp=Z,48nm,1.0s
CM31 Chiang Mai Arr 48.16 254 P **P** **11 35 37.5 +1.1**
comp=Z,3.9nmcomp=Z,11μmcomp=Z,1μm,1.0s
CM31 Chiang Mai Arr 48.16 254 P **P** **11 35 38.3 +1.9**
SNR=14
CM31 P **P** **11 35 38.3 +1.9**
SNR=14
CMAR Chiang Mai Arr 48.16 254 P **P** **11 35 37.4 +0.9**
comp=Z,9.0nm,0.8s,baz=41,slow=7.3,SNR=49
CMAR PcP **PcP** **11 37 03.4 +0.3**
comp=Z,6.0nm,1.0s,baz=39,slow=1.7,SNR=2.2
CMAR ScP **ScP** **11 40 53.0 +0.7**
comp=Z,1.0nm,0.4s,baz=9.2,slow=3.3,SNR=4.9
CMAR LR LR 11 56 22.2
comp=Z,272nm,21.6s,baz=87,slow=37
CMAR Chiang Mai Arr 48.16 254 *i* P **P** **11 35 37.7 +1.3**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CM02 Chiang Mai Arr 48.17 254 P **P** **11 35 38.0 +1.5**
comp=Z,380nmcomp=Z,54nm,1.1s
CM02 Chiang Mai Arr 48.17 254 P **P** **11 35 38.0 +1.5**
comp=Z,0.2nmcomp=Z,380nmcomp=Z,54nm,1.1s
CM01 Chiang Mai Arr 48.18 254 P **P** **11 35 37.7 +1.2**
comp=Z,379nmcomp=Z,46nm,1.1s
CM01 Chiang Mai Arr 48.18 254 P **P** **11 35 37.0 +0.5**
comp=Z,0.1nmcomp=Z,379nmcomp=Z,46nm,1.1s
CM04 Chiang Mai Arr 48.18 254 P **P** **11 35 37.9 +1.4**
comp=Z,385nmcomp=Z,45nm,1.0s
CM04 Chiang Mai Arr 48.18 254 P **P** **11 35 38.0 +1.4**
comp=Z,0.1nmcomp=Z,385nmcomp=Z,45nm,1.0s
CM15 Chiang Mai Arr 48.18 254 P **P** **11 35 37.9 +1.4**
comp=Z,381nmcomp=Z,51nm,1.0s
CM15 Chiang Mai Arr 48.18 254 P **P** **11 35 37.0 +0.5**
comp=Z,0.2nmcomp=Z,381nmcomp=Z,51nm,1.0s
CM05 Chiang Mai Arr 48.20 254 P **P** **11 35 38.0 +1.3**
comp=Z,272nmcomp=Z,35nm,1.0s
CM05 Chiang Mai Arr 48.20 254 P **P** **11 35 38.0 +1.3**
comp=Z,0.1nmcomp=Z,272nmcomp=Z,35nm,1.0s
CM13 Chiang Mai Arr 48.21 254 P **P** **11 35 38.1 +1.3**
comp=Z,328nmcomp=Z,44nm,1.0s
CM13 Chiang Mai Arr 48.21 254 P **P** **11 35 38.2 +1.4**
comp=Z,0.1nmcomp=Z,328nmcomp=Z,44nm,1.0s
TDK Taldyqorghan 48.25 297 *i* P **P** **11 35 38.1 +1.2**
comp=Z,157nm,0.6s,baz=296
TDK Taldyqorghan 48.25 297 *i* P **P** **11 35 38.0 +1.2**
TDK pmax pmax
comp=Z,157nm,0.6s
SHLS Shalkode 48.35 294 ⇑*iP* **P** **11 35 36.3 -1.5**
comp=Z,53nm,0.6s,baz=294
SHLS *eS* **S** **11 42 29.8 -3.8**
baz=294
SHLS Shalkode 48.35 294 *c iP* **P** **11 35 36.2 -1.5**
SHLS *eS* **S** **11 42 29.8 -3.8**
SHLS pmax pmax
comp=Z,53nm,0.6s
SILR SILCHAR 48.47 266 *eP* **P** **11 35 40.1 +1.5**
SILR *i* pP **pP** **11 35 55.4 +1.3**
UZB Uzynbulak 48.65 294 ⇑*iP* **P** **11 35 40.7 +0.6**
comp=Z,22nm,0.5s,baz=294
UZB *eS* **S** **11 42 36.6 -1.3**
baz=294
UZB Uzynbulak 48.65 294 *c iP* **P** **11 35 40.6 +0.6**
UZB *eS* **S** **11 42 36.5 -1.3**
UZB pmax pmax
comp=Z,22nm,0.5s
SHL Shillong 48.66 267 P **P** **11 35 40.2 -0.2**
SHL pmax pmax

comp=Z,95nm,0.9s
SHL Shillong 48.66 267 *e*P **P 11 35 40.5 +0.1**
SHL *i* pP **pP 11 35 55.6 -0.1**
SHL Shillong 48.66 267 P **P 11 35 40.1 -0.2**
SHL Shillong 48.66 267 P **P 11 35 40.9 +0.6**
SNR=10
KPKS Kokpek 48.73 295⇑ *i*P **P 11 35 41.6 +1.0**
comp=Z,78nm,0.7s,baz=295
KPKS *e*S **S 11 42 38.2 -0.7**
baz=295
KPKS Kokpek 48.73 295*c i*P **P 11 35 41.6 +1.0**
KPKS *e*S **S 11 42 38.2 -0.7**
KPKS pmax pmax
comp=Z,78nm,0.7s
C36M Paulatuk 49.05 28 P **P 11 35 43.5 +1.1**
baz=287,SNR=158
C36M S **S 11 42 42.1 -0.3**
baz=287
C36M Paulatuk 49.05 28 P **P 11 35 43.2 +0.7**
MHMT Maesarieng 49.06 255 P **P 11 35 45.1 +1.9**
comp=Z,2μmcomp=Z,223nm,0.8s
MHMT Maesarieng 49.06 255 P **P 11 35 45.1 +1.9**
SATY Saty 49.09 295⇑ *i*P **P 11 35 44.5 +1.0**
comp=Z,85nm,1.4s,baz=294
SATY *e*S **S 11 42 42.8 -1.3**
baz=294
SATY Saty 49.09 295*c i*P **P 11 35 44.4 +1.0**
SATY *e*S **S 11 42 42.7 -1.3**
SATY pmax pmax
comp=Z,85nm,1.4s
SRAK Srakaew 49.16 247 P **P 11 35 42.6 -1.4**
comp=Z,12μmcomp=Z,2μm,0.8s
PRZ Przheval'sk 49.35 294 P **P 11 35 46.7 +1.2**
PRZ pmax pmax
comp=Z,81nm,0.8s
PRZ MLR MLR
comp=Z,800nm,19.0s
PRZ Przheval'sk 49.35 294 P **P 11 35 46.7 +1.2**
CRAG Craig 49.64 47 P **P 11 35 49.3 +2.0**
baz=292
CHKK Chushkaly 49.66 296 *e*P **P 11 35 46.9 -0.8**
baz=296
CHKK Chushkaly 49.66 296 *e*P **P 11 35 46.8 -0.8**
WRAK Wrangell Islan 49.70 46 P **P 11 35 49.6 +2.0**
baz=291,SNR=9.8
WRAK Wrangell Islan 49.70 46 P **P 11 35 49.6 +2.0**
UMPA Umpang Tak 49.76 252 P **P 11 35 52.1 +3.4**
comp=Z,5μmcomp=Z,152nm,1.0s
UTHA Uthaitani 49.81 251 P **P 11 35 51.1 +2.1**
BVAR Borovoye Array 49.88 310 P **P 11 35 48.7 -0.4**
comp=Z,53nm,0.6s,baz=149,slow=3.0,SNR=172
BVAR PcP **PcP 11 37 08.3 -0.4**
comp=Z,23nm,0.8s,baz=76,slow=3.3,SNR=5.2
BVAR S **S 11 42 54.3 -0.1**
comp=Z,2.2nm,0.8s,baz=142,slow=7.5,SNR=4.9
BRVK Borovoye 49.92 310*c i*P **P 11 35 49.1 -0.3**
BRVK pmax pmax
comp=Z,158nm,1.0s
BRVK Borovoye 49.92 310 P **P 11 35 49.5 0.0**
BRVK Borovoye 49.92 310 *i* P **P 11 35 49.1 -0.3**
MDOK Medeo 49.93 295 *e*P **P 11 35 48.3 -1.6**
baz=295
MDOK *e*S **S 11 42 54.5 -1.4**
baz=295
MDOK Medeo 49.93 295 *e*P **P 11 35 48.2 -1.6**
MDOK *e*S **S 11 42 54.4 -1.4**
GTK Tadong 50.00 271 *e*P **P 11 35 51.0 +0.5**
GTK IAmb IAmb 11 35 54.4
comp=Z,42nm,0.7s
AAA Alma-Ata 50.00 295 *e*P **P 11 35 50.3 0.0**
baz=295
AAA Alma-Ata 50.00 295 *e*P **P 11 35 50.2 0.0**
AAA Alma-Ata 50.00 295 *e*P **P 11 35 50.2 0.0**
KUU Kurty 50.07 296⇑ *i*P **P 11 35 51.0 +0.2**
comp=Z,68nm,0.6s,baz=296
KUU *e*S **S 11 42 55.9 -1.6**
baz=296
KUU Kurty 50.07 296*c i*P **P 11 35 50.9 +0.2**
KUU *e*S **S 11 42 55.8 -1.6**
KUU pmax pmax
comp=Z,68nm,0.6s
TARG Taragay, Kyrgy 50.09 293 P **P 11 35 52.1 +0.7**
TARG IAmb IAmb 11 35 58.3
comp=Z,36nm,0.7s
DLBC Dease Lake 50.14 43 P **P 11 35 53.1 +2.0**
KDJ Kajisay 50.32 294 P **P 11 35 53.6 +0.7**
KDJ pmax pmax
comp=Z,69nm,0.8s
KDJ MLR MLR
comp=Z,800nm,20.0s
KDJ Kajisay 50.32 294 P **P 11 35 53.5 +0.7**
KDJ IAMs_20 IAMs_20 11 58 58.6
comp=Z,764nm,20.0s
BRDH Bariadhala 50.60 264 P **P 11 35 54.9 0.0**
comp=Z,166nm,0.4s,baz=272,slow=18,SNR=1.7
PATY Pattaya 50.73 247 P **P 11 36 00.1 +4.1**
comp=Z,14μmcomp=Z,228nm,0.9s
DIB Dawson Inlet, 50.86 50 P **P 11 35 57.5 +1.1**
ULHL Ulahol 50.88 295 P **P 11 35 58.3 +1.2**
SNR=42
KHLT Khaolaem Dam 50.93 251 P **P 11 36 00.7 +3.2**
comp=Z,74nm,1.3s
KHLT Khaolaem Dam 50.93 251 P **P 11 36 00.7 +3.2**
KHLT P **pP 11 36 14.8 +2.0**
BOOM Boomskoye usch 50.97 295 P **P 11 35 58.7 +1.0**
BOOM pmax pmax
comp=Z,94nm,0.8s
BOOM Boomskoye usch 50.97 295 P **P 11 35 58.7 +1.0**
TKM2 Tokmak 2 50.99 296 P **P 11 35 59.2 +1.3**
SNR=99
BTLS Baital 51.02 299⇑ *i*P **P 11 35 58.0 +0.1**
comp=Z,55nm,1.4s,baz=298
BTLS *e*S **S 11 43 09.0 -1.6**
baz=298
BTLS Baital 51.02 299*c i*P **P 11 35 57.9 +0.1**
BTLS *e*S **S 11 43 08.9 -1.6**
BTLS pmax pmax
comp=Z,55nm,1.4s
SGDS Sogindy 51.37 297⇑ *i*P **P 11 36 01.4 +0.7**
comp=Z,80nm,1.5s,baz=296
SGDS *e*S **S 11 43 14.2 -1.4**
baz=296
SGDS Sogindy 51.37 297*c i*P **P 11 36 01.3 +0.7**
SGDS *e*S **S 11 43 14.2 -1.4**
SGDS pmax pmax
comp=Z,80nm,1.5s
CHMS Chumysh 51.50 296 P **P 11 36 02.5 +0.9**
SNR=13
KBK Karagaybulak 51.54 296 P **P 11 36 03.3 +1.3**
SNR=21
USP Ospenovka 51.54 297 P **P 11 36 02.9 +1.1**
SNR=19
PHET Kaeng Krachan 51.57 248 P **P 11 36 04.5 +2.2**
comp=Z,2μmcomp=Z,312nm,0.9s
AAK Ala-Archa 51.84 296 P **P 11 36 04.7 +0.5**
comp=Z,28nm,0.5s,baz=101,slow=5.3,SNR=48
AAK LR LR 11 58 33.8
comp=Z,226nm,20.0s,baz=97,slow=36
AAK Ala-Archa 51.84 296 P **P 11 36 05.3 +1.1**
SNR=24
AAK Ala-Archa 51.84 296 *i* P **P 11 36 05.2 +0.9**
SNR=8.1
AAK Ala-Archa 51.84 296*c i*P **P 11 36 05.0 +0.8**
AAK pmax pmax
comp=Z,296nm,1.5s
AAK Ala-Archa 51.84 296 P **P 11 36 05.1 +0.9**
AAK IAMs_20 IAMs_20 11 58 23.1
comp=Z,244nm,19.0s
AAK Ala-Archa 51.84 296 *i* P **P 11 36 05.0 +0.8**
SBUM Sibu 52.04 228 P **P 11 36 07.0 +1.3**
EKS2 Erkin-Say 52.30 296 P **P 11 36 08.7 +1.2**
SNR=49
KSH Kashi 52.37 292 P P 11 36 13.0 +4.8
KSH pP pP 11 36 26.8 +3.1
KSH S **S 11 43 36.5 +7.0**
KSH SS **SKiKP 11 47 17.6 -7.3**
KSH pmax pmax
comp=Z,52nm,0.7s
KSH LR LR
comp=Z,500nm,15.2s
KSH LR LR
comp=Z,550nm,10.9s
KSH LR LR
comp=Z,1μm,19.5s
EUNU Eureka 52.59 10 P **P 11 36 08.6 -0.6**
EUNU IAMs_20 IAMs_20 12 01 36.5
comp=Z,206nm,18.0s
AML Almayashu 52.60 296 P **P 11 36 11.7 +1.6**
SNR=24
AML Almayashu 52.60 296 *i* P **P 11 36 11.6 +1.5**
SNR=24
AIN Ainahou 52.84 99 P **P 11 36 11.4 -0.4**
ALE Alert 52.90 5 IAMs_20 IAMs_20 11 59 33.0
comp=Z,394nm,21.0s
SVE Sverdlovsk 53.44 317*d i*P **P 11 36 15.0 -0.6**
SVE *e*S **S 11 43 40.5 -2.8**
SVE pmax pmax
comp=Z,156nm,0.9s
SVE Sverdlovsk 53.44 317 *i* P **P 11 36 15.0 -0.6**
DZA Taraz 53.76 298 *e*P **P 11 36 17.4 -0.8**
baz=297
DZA Taraz 53.76 298 *e*P **P 11 36 17.3 -0.9**
KSM Kuching 53.89 229 P **P 11 36 21.0 +1.6**
BOK Bokaro 54.06 270 *e*P **P 11 36 21.1 +0.5**
KKAR Karatay Array 54.18 298 P **P 11 36 21.7 +0.4**
KKAR pmax pmax
comp=Z,57nm,0.9s
KKAR Karatay Array 54.18 298 P **P 11 36 21.7 +0.4**
KKAR IAmb IAmb 11 36 22.9
comp=Z,57nm,0.8s
NOR Nord 54.47 357 *i* P **P 11 36 20.6 -2.2**
NOR IAmb IAmb 11 36 23.3
comp=Z,40nm,0.8s
NOR Nord 54.47 357 *i* P **P 11 36 20.5 -2.2**
NOR pmax pmax
comp=Z,40nm,0.8s
HOPEN Hopen 54.59 346 *e*P **P 11 36 22.3 -1.4**
RES Resolute Bay 54.63 17 P **P 11 36 24.1 +0.1**
RES pmax pmax
comp=Z,151nm,1.2s
RES MLR MLR
comp=Z,400nm,22.0s
RES Resolute Bay 54.63 17 P **P 11 36 24.1 +0.1**
RES IAMs_20 IAMs_20 12 02 38.5
comp=Z,401nm,22.0s
ARU Arti 54.65 317*c i*P **P 11 36 23.4 -1.0**
ARU *PP **pP 11 36 39.1 -0.9**
ARU *SP **sP 11 36 45.2 -1.6**
ARU 11 37 25.4
ARU 11 38 23.3
ARU S **S 11 43 59.8 +0.2**
ARU SS **SS 11 47 41.7 -0.7**
ARU pmax pmax
comp=Z,151nm,0.7s
ARU MLR MLR
comp=Z,339nm,16.0s
ARU Arti 54.65 317 P **P 11 36 23.4 -1.0**
ARU IAMs_20 IAMs_20 12 02 02.6
comp=Z,373nm,20.0s
KBS Kingsbay 54.73 351 *i* P **P 11 36 23.6 -1.0**
KBS IAmb IAmb 11 36 24.3
comp=Z,212nm,0.8s
KBS Kingsbay 54.73 351*d i*P **P 11 36 23.4 -1.2**
KBS pmax pmax
comp=Z,102nm,0.8s
KBS Kingsbay 54.73 351 *e*P **P 11 36 23.4 -1.2**
KBS Kingsbay 54.73 351 P **P 11 36 23.6 -1.0**
SPA0 Spitsbergen Ar 54.74 349 *e*P **P 11 36 22.8 -2.0**
KAPI Kappang 54.95 215 IAMs_20 IAMs_20 11 59 06.0
comp=Z,207nm,21.0s
DRK Karamyk 55.17 294 P **P 11 36 29.0 +0.2**
KRAB Krabi 55.29 245 P **P 11 36 26.6 -3.0**
comp=Z,37μmcomp=Z,2μm,0.7s
YKA Yellowknife Ar 55.32 34 P **P 11 36 29.0 -0.2**
comp=Z,17nm,0.7s,baz=300,slow=6.6,SNR=45
YKA PcP **PcP 11 37 29.4 +0.4**
comp=Z,4.4nm,0.7s,baz=311,slow=3.4,SNR=4.3
BTK Batken 55.52 295 P **P 11 36 31.2 +0.1**
BTK pmax pmax
comp=Z,52nm,0.6s
BTK Batken 55.52 295 P **P 11 36 31.1 +0.1**
HSPB Hornsund (broa 55.75 348 *e*P **P 11 36 30.4 -1.6**
HSPB *e*L L 11 56 22.1
comp=Z,362nm,32.6s
HSPB Hornsund (broa 55.75 348 *e*P **P 11 36 30.9 -1.2**
DDI Dehra Dun 55.84 281 *e*P **P 11 36 34.5 +1.1**
DGPR DIGLIPUR 55.97 254 *ex* pP 11 36 51.2 +1.1
SMLA Simla 56.01 282 *e*P **P 11 36 35.3 +0.7**
GAR Garm 56.41 294 P **P 11 36 37.7 +0.2**
JRMM Jerantut 56.51 239 P **P 11 36 40.0 +1.7**
KULM Kulim 56.57 241 P **P 11 36 40.0 +1.3**
IPM Ipoh 56.96 240 P **P 11 36 42.0 +0.5**
BJO1 Bjornoya 57.09 346 *e*P **P 11 36 39.5 -2.1**
NIL Nilore 57.33 287 P **P 11 36 44.9 +0.9**
NIL pmax pmax
comp=Z,370nm,1.2s
NIL Nilore 57.33 287 P **P 11 36 44.9 +0.9**
CHGR Chuyangaron 57.35 294 P **P 11 36 44.7 +0.6**
NDI New Delhi 57.38 280 *e*P **P 11 36 45.5 +1.2**
ABKAR Akbulak array 57.44 309 P **P 11 36 45.1 +0.6**
TULEG Thule 57.56 10 *i* P **P 11 36 43.9 -1.0**
TULEG IAmb IAmb 11 36 45.2
comp=Z,173nm,0.7s
TULEG Thule 57.56 10 P **P 11 36 43.8 -1.0**
TULEG IAMs_20 IAMs_20 12 04 49.4
comp=Z,217nm,20.0s
PRGR Permogore 57.77 327 *e*P **P 11 36 44.4 -2.1**
PRGR *e* 11 37 38.2
PRGR pmax pmax
comp=Z,218nm,1.0s
KIRV Kirov 57.84 322 P **P 11 36 46.9 -0.2**
comp=Z,110nm,0.6s,baz=46,slow=6.3,SNR=34
KIRV PcP **PcP 11 37 39.0 +0.1**
comp=Z,68nm,0.6s,baz=55,slow=1.1,SNR=8.4
KIRV Kirov 57.84 322*c i*P **P 11 36 46.1 -1.0**
LVZ Lovozero 57.90 336*c i*P **P 11 36 45.6 -1.8**
LVZ pmax pmax
comp=Z,80nm,0.9s
LVZ Lovozero 57.90 336 P **P 11 36 45.7 -1.8**
LVZ IAMs_20 IAMs_20 12 04 11.1
comp=Z,410nm,21.0s
NEEM North Greenlan 58.33 5 *i* P **P 11 36 49.7 -1.0**
NEEM IAmb IAmb 11 36 51.2
comp=Z,233nm,0.9s
A04D Lummi Island 58.41 51 P **P 11 36 52.0 +0.8**
baz=302
NLWA Neilton Lookou 58.46 53 P **P 11 36 52.3 +0.6**
NLWA IAmb IAmb 11 36 53.8
comp=Z,24nm,0.9s
APA Apatity 58.48 336⇑ *i*P **P 11 36 48.9 -2.5**
APA *i* 11 37 01.5
APA *i* S S 11 44 39.0 -11
APA pmax pmax
comp=Z,44nm,1.0s
MTN Manton Dam 58.54 199 P **P 11 36 52.2 -0.1**
MTN IAmb IAmb 11 37 13.2
comp=Z,57nm,1.0s
A05A Maple Falls 58.61 50 P **P 11 36 53.3 +0.7**
KEV Kevo 58.78 340 P **P 11 36 52.3 -1.1**
KEV pmax pmax
comp=Z,106nm,0.7s
KEV Kevo 58.78 340 P **P 11 36 52.3 -1.1**
D03D Eldon 58.83 52 P **P 11 36 55.3 +1.2**
baz=302,SNR=10
HAMF Hammerfest 58.95 341 *e*P **P 11 36 53.2 -1.4**
B05A Bryant 59.00 51 P **P 11 36 55.9 +0.6**
baz=303,SNR=9.1
E03A Lebam 59.09 54 P **P 11 36 57.0 +1.1**
E03A IAmb IAmb 11 37 15.8
comp=Z,22nm,0.9s
D04E Lakebay 59.20 53 P **P 11 36 58.5 +1.8**
baz=303
B06A Marblemount 59.21 51 P **P 11 36 57.0 +0.3**
DAG Danmarks Havn 59.30 356⇑ *i*P **P 11 36 55.6 -1.4**
DAG IAmb IAmb 11 36 57.5
comp=Z,92nm,1.0s
DAG Danmarks Havn 59.30 356⇑ *i*P **P 11 36 55.5 -1.4**
DAG pmax pmax
comp=Z,93nm,1.0s
ARA0 ARCESS Array S 59.31 340 *e*P **P 11 36 56.3 -0.8**
ARCES ARCESS Array B 59.31 340 P **P 11 36 56.7 -0.5**
comp=Z,29nm,0.5s,baz=44,slow=7.5,SNR=235
ARCES PcP **PcP 11 37 45.0 +0.4**
comp=Z,19nm,0.7s,baz=38,slow=6.9,SNR=6.9
ARCES LR LR 12 06 19.9
comp=Z,255nm,21.0s,baz=45,slow=40
PSI Prapat 59.58 241 P **P 11 36 59.7 -0.1**
PSI pmax pmax
comp=Z,58nm,1.2s
D05A Enumclaw 59.65 52 P **P 11 37 00.6 +0.8**
RPSI Rantau Prapat 59.66 241 P **P 11 36 59.6 -0.6**
RPSI IAmb IAmb 11 37 18.3
comp=Z,58nm,1.2s
E04D Cinebar 59.66 53 P **P 11 37 01.5 +1.6**
baz=303,SNR=8.8
KBL Kabul 59.71 290 P **P 11 37 00.5 -0.2**
SNR=31
KBL P **P 11 37 00.5 -0.2**
SNR=31
LON Longmire 59.99 53 P **P 11 37 02.6 +0.4**
LON pmax pmax
comp=Z,10.0nm,1.3s
LON Longmire 59.99 53 P **P 11 37 02.6 +0.4**
G03D McMinnville, O 59.99 55 P **P 11 37 03.5 +1.3**
baz=304
KTK1 Kautokeino 60.25 340 *e*P **P 11 37 03.0 -0.6**
I02D Swisshome 60.25 56 P **P 11 37 05.5 +1.5**
baz=304
COR Corvallis 60.31 55 P **P 11 37 05.2 +0.8**
COR pmax pmax
comp=Z,52nm,1.3s
COR Corvallis 60.31 55 P **P 11 37 05.2 +0.8**
COR IAmb IAmb 11 37 11.1
comp=Z,52nm,1.2s
LTY Liberty 60.36 52 P **P 11 37 04.8 0.0**
B08A Colville Reser 60.49 50 P **P 11 37 05.6 0.0**
B08A IAmb IAmb 11 37 07.1
comp=Z,42nm,1.6s
BHPL Bhopal 60.51 275 *e*P **P 11 37 05.8 -0.4**
JETT Jettan, Norway 60.52 341 *e*P **P 11 37 05.9 +0.4**
KULLO Kullorsuaq 60.59 8 *i* P **P 11 37 05.3 -0.5**
KULLO IAmb IAmb 11 37 05.9
comp=Z,118nm,0.6s
KULLO Kullorsuaq 60.59 8 *i* P **P 11 37 05.3 -0.5**
KULLO pmax pmax
comp=Z,120nm,0.6s
KLMR Klimovskoe 60.63 328*c i*P **P 11 37 05.1 -1.2**
KLMR *e* 11 37 48.3
KLMR *e*S **S 11 45 18.2 +0.6**
KLMR pmax pmax
comp=Z,85nm,0.7s
KLMR Klimovskoe 60.63 328⇑ *i*P **P 11 37 05.1 -1.2**
KLMR ⇑ *i*P **P 11 37 05.1 -1.2**
KLMR ⇑ *i*P **P 11 37 05.1 -1.2**
KLMR AMP 11 37 06.9
comp=Z,85nm,0.7s
KLMR *e*PcP **PcP 11 37 48.3 -1.7**
KLMR *e*PP **PP 11 39 14.2 -5.7**
KLMR *e*S **S 11 45 18.3 +0.6**
KLMR *e*S **S 11 45 18.3 +0.6**
KLMR LQ LQ 11 59 51.4
KLMR LQ LQ 11 59 51.4
KLMR LR LR 12 00 37.4
F05D White Salmon 60.67 53 P **P 11 37 07.9 +1.0**
baz=304
H04D Lebanon 60.68 55 P **P 11 37 08.4 +1.4**
baz=304
BUCK Buck Mountain 60.72 56 P **P 11 37 07.8 +0.5**
BUCK IAmb IAmb 11 37 09.7
comp=Z,18nm,0.8s
J01E Myrtle Point 60.73 57 P **P 11 37 08.9 +1.6**
baz=304,SNR=5.3
I03D Drain, OR 60.78 56 P **P 11 37 09.2 +1.6**
baz=304,SNR=7.9
TRO Tromso 60.80 342 *e*P **P 11 37 06.7 -0.5**
H04A Detroit Lake 60.92 55 P **P 11 37 09.3 +0.7**
H04A IAmb IAmb 11 37 10.6
comp=Z,28nm,1.0s
G05D Wamic, OR 61.12 54 P **P 11 37 11.3 +1.4**
baz=304,SNR=8.8
K02D Willamette Mer 61.15 57 P **P 11 37 11.5 +1.3**
baz=304,SNR=7.9
C09A Chrisman Ranch 61.39 50 P **P 11 37 11.7 0.0**
D08A Wollman Farm, 61.46 51 P **P 11 37 12.5 +0.3**
HAWA Hanford 61.49 52 P **P 11 37 12.5 +0.1**
L02E Cave Junction 61.50 58 P **P 11 37 14.0 +1.5**
baz=305,SNR=5.7
F07A Phinny Hill Vi 61.55 53 P **P 11 37 13.9 +1.1**
F07A IAmb IAmb 11 37 14.9
comp=Z,37nm,0.7s
I05D Terrebonne, OR 61.61 55 P **P 11 37 14.3 +1.0**
baz=305,SNR=12
HUMO Hull Mountain 61.63 57 P **P 11 37 14.5 +1.0**
KRMB Red Mountain 61.67 58 P **P 11 37 15.4 +1.5**
E08A Dider Farm, El 61.70 52 P **P 11 37 14.1 +0.3**
NEW Newport 61.76 49 P **P 11 37 14.6 +0.4**
NEW pmax pmax
comp=Z,17nm,0.9s
NEW Newport 61.76 49 P **P 11 37 14.8 +0.5**
baz=305,SNR=16
NEW Newport 61.76 49 P **P 11 37 14.6 +0.4**
J04D Umpqua Nationa 61.78 56 P **P 11 37 16.1 +1.5**
baz=305,SNR=11
DBG Daneborg 61.80 356 *i* P **P 11 37 13.2 -0.8**
DBG IAmb IAmb 11 37 14.0
comp=Z,52nm,0.9s
KHMM Horse Mountain 62.15 59 P **P 11 37 17.9 +0.8**
KHMM IAmb IAmb 11 37 40.2
comp=Z,27nm,1.0s
PINE Pine Mountain 62.16 55 P **P 11 37 18.7 +1.5**
PINE IAmb IAmb 11 37 19.7
comp=Z,37nm,0.8s
E09A Wood Farm, Sta 62.20 51 P **P 11 37 18.1 +0.9**
E09A IAmb IAmb 11 37 19.0
comp=Z,26nm,1.0s
L04D Klamath Falls 62.25 57 P **P 11 37 19.0 +1.2**
baz=305,SNR=36
J05D Fort Rock, OR 62.28 56 P **P 11 37 19.5 +1.6**
baz=305,SNR=31
YBH Yreka Blue Hor 62.29 58 P **P 11 37 19.1 +1.2**
YBH pmax pmax
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 62.29 58 P **P 11 37 19.1 +1.2**
LEM Lembang 62.29 227 P **P 11 37 18.6 +0.4**
comp=Z,18nm,0.4s,baz=78,slow=6.3,SNR=5.0
M02C Callahan 62.40 58 P **P 11 37 20.3 +1.6**
baz=305,SNR=18
UPNV Upernavik 62.40 8⇑ *i*P **P 11 37 17.5 -0.5**
UPNV IAmb IAmb 11 37 18.4
comp=Z,148nm,0.8s
G08A Pilot Rock 62.45 53 P **P 11 37 19.7 +0.7**
KMRM Mail Ridge 62.54 60 P **P 11 37 21.1 +1.4**
N02D Trinity Center 62.73 58 P **P 11 37 22.5 +1.6**
baz=306,SNR=24
N2IH Innhavet 62.78 342 *e*P **P 11 37 20.0 -0.6**
M04C Macdoel 62.79 57 P **P 11 37 22.6 +1.3**
baz=306,SNR=25
K05A Summer Lake 62.81 56 P **P 11 37 23.1 +1.6**
K05A IAmb IAmb 11 37 24.1
comp=Z,47nm,1.0s
I07A Izee 62.84 54 P **P 11 37 22.4 +0.8**
N2VI Vinje 62.88 342 *e*P **P 11 37 21.1 -0.2**
KCPM Cahto Peak 62.94 60 P **P 11 37 22.9 +0.6**
STEI Steigen 62.97 342 *e*P **P 11 37 21.3 -0.6**
WALA Waterton Lakes 63.02 47 P **P 11 37 22.7 0.0**
WALA IAmb IAmb 11 37 24.3
comp=Z,21nm,0.9s
F10A Beach Ranch, E 63.04 51 P **P 11 37 23.1 +0.2**
WDC Whiskeytown Da 63.06 59 P **P 11 37 23.3 +0.3**
WDC pmax pmax
comp=Z,18nm,1.1s
WDC Whiskeytown Da 63.06 59 P **P 11 37 23.3 +0.3**
O02D Mt. Diablo Mer 63.14 59 P **P 11 37 25.1 +1.4**
baz=306,SNR=19
LOF Lofoten 63.18 343 *e*P **P 11 37 22.4 -0.9**
N2TV Tvrnvik 63.29 342 *e*P **P 11 37 23.8 -0.2**
HYB Hyderabad 63.40 269 *i* P **P 11 37 25.0 -0.5**
HYB *e*PcP **pP 11 37 43.0 +1.5**
FAUS Fauske 63.40 341 *e*P **P 11 37 24.4 -0.4**
JTMT Jette 63.61 48 P **P 11 37 26.3 -0.3**
MOD Modoc Plateau 63.65 56 P **P 11 37 27.5 +0.4**
BMO Blue Mountains 63.66 52 P **P 11 37 26.7 -0.3**
BMO pmax pmax
comp=Z,11nm,1.2s
BMO Blue Mountains 63.66 52 P **P 11 37 26.7 -0.3**
HOPS Hopland Field 63.66 60 P **P 11 37 27.6 +0.7**
O03E Paynes Creek 63.68 59 P **P 11 37 27.7 +0.5**
baz=306,SNR=38
CTA Charters Tower 63.71 182 P **P 11 37 27.1 -0.2**
comp=Z,1.6nm,0.4s,baz=11,slow=7.8,SNR=6.5
SUMG Summit 63.73 2 *i* P **P 11 37 27.9 +0.6**
SUMG IAmb IAmb 11 37 28.9
comp=Z,161nm,0.6s
SUMG Summit 63.73 2 *i* P **P 11 37 27.9 +0.6**

SUMG pmax pmax
comp=Z,160nm,0.6s
SUMG Summit 63.73 2 P **P 11 37 27.2 -0.1**
SUMG IAMs_20 IAMs_20 12 07 14.7
comp=Z,398nm,19.0s
N2VA Vr_y 63.75 343 *e*P **P 11 37 26.4 -0.6**
NUUG Nuugaatsiaq 63.87 7 *i* P **P 11 37 27.6 -0.2**
NUUG IAmb IAmb 11 37 28.1
comp=Z,40nm,0.9s
J08A Circle Bar Ran 63.87 54 P **P 11 37 29.1 +0.7**
GDXM Geysers 63.95 60 P **P 11 37 30.4 +1.5**
N2RO R_st 64.00 343 *e*P **P 11 37 28.5 -0.1**
NBB30 Finnes 64.09 342 *e*P **P 11 37 28.6 -0.6**
ORV Oroville 64.31 59 P **P 11 37 31.5 +0.3**
ORV pmax pmax
comp=Z,16nm,1.1s
ORV Oroville 64.31 59 P **P 11 37 31.5 +0.3**
WVOR Wild Horse Val 64.33 55 P **P 11 37 32.1 +0.6**
WVOR pmax pmax
comp=Z,21nm,1.1s
WVOR Wild Horse Val 64.33 55 P **P 11 37 32.1 +0.6**
MSO Missoula 64.35 49 P **P 11 37 32.1 +0.6**
baz=308,SNR=30
MSO Missoula 64.35 49 P **P 11 37 31.3 -0.2**
MSO IAmb IAmb 11 37 33.1
comp=Z,30nm,0.9s
NBB13 Alf Garage 64.47 342 *e*P **P 11 37 31.0 -0.8**
MOR8 Moi Rana 64.58 341 *e*P **P 11 37 31.0 -1.6**
KONS Konsvik 64.62 342 *e*P **P 11 37 32.3 -0.5**
MOS Moscow 64.68 324 *e*P P 11 37 28.2 -5.1
MOS *e**PP pP 11 37 41.8 -7.5
MOS *e* 11 37 50.7
MOS *e*S **S 11 46 02.1 -6.5**
MOS pmax pmax
comp=Z,500nm,2.0s
MOS pmax pmax
comp=Z,250nm,1.6s
WRAB Tennant Creek 64.75 194 *i* P **P 11 37 35.2 +1.0**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 64.75 194 P **P 11 37 34.0 -0.2**
WRA Warramunga Arr 64.77 194 P **P 11 37 33.4 -0.9**
comp=Z,4.2nm,0.8s,baz=14,slow=6.6,SNR=30
WRA LR LR 12 02 58.4
comp=Z,53nm,20.4s,baz=200,slow=33
WRA PKPPKP **P'P'df 12 06 21.6 +6.5**
comp=Z,3.5nm,0.9s,baz=203,slow=2.8,SNR=9.3
WRA Warramunga Arr 64.77 194 *i* P **P 11 37 33.9 -0.3**
WRA pmax pmax
comp=Z,4.0nm,0.8s
PUL Pulkovo 64.77 330 *i* P **P 11 37 33.2 -0.6**
PUL pmax pmax
comp=Z,83nm,0.7s
PUL Pulkovo 64.77 330 *i* P **P 11 37 33.2 -0.6**
STOK Stokkvaagen 64.78 342 *e*P **P 11 37 34.0 +0.2**
BEKR Beckworth 64.83 58 P **P 11 37 35.1 +0.3**
BEKR IAmb IAmb 11 37 36.5
comp=Z,27nm,1.0s
GEYT Alibeck 64.90 299 P **P 11 37 35.6 +0.4**
comp=Z,50nm,0.8s,baz=36,slow=2.8,SNR=47
GEYT LR LR 12 08 34.3
comp=Z,429nm,18.3s,baz=45,slow=38
GYA0B ALIBECK ARRAY 64.90 299 P **P 11 37 35.7 +0.6**
GYA0B IAmb IAmb 11 37 36.9
comp=Z,54nm,0.8s
AFDM Forest Hills D 65.00 59 P **P 11 37 36.1 +0.4**
FIA1 FINESS Array S 65.01 333 P **P 11 37 34.7 -0.6**
FINES FINESS Array B 65.01 333 P **P 11 37 34.4 -0.9**
comp=Z,125nm,0.6s,baz=42,slow=7.1,SNR=448
FINES LR LR 12 10 16.0
comp=Z,288nm,18.3s,baz=47,slow=40
FFC Flin Flon 65.20 37 P **P 11 37 37.0 +0.3**
FFC pmax pmax
comp=Z,55nm,0.9s
FFC Flin Flon 65.20 37 P **P 11 37 37.0 +0.3**
FFC IAmb IAmb 11 37 38.4
comp=Z,55nm,0.9s
MFID Camas Ranch 65.37 53 P **P 11 37 38.9 +0.7**
RUBR Rubicon Trail 65.44 59 P **P 11 37 39.6 +0.7**
RUBR IAmb IAmb 11 38 02.9
comp=Z,23nm,0.9s
PAHR Pah Rah Range 65.52 58 P **P 11 37 38.4 -0.9**
PAHR IAmb IAmb 11 37 41.1
comp=Z,33nm,1.1s
OBN Obninsk 65.55 324 P **P 11 37 38.9 0.0**
comp=Z,25nm,0.8s,baz=67,slow=2.2,SNR=47
OBN Obninsk 65.55 324 *c i* P **P 11 37 38.3 -0.6**
OBN *e* 11 38 09.7
OBN pmax pmax
comp=Z,205nm,1.0s
OBN MLR MLR
comp=Z,236nm,15.0s
OBN Obninsk 65.55 324 P **P 11 37 38.5 -0.4**
OBN IAMs_20 IAMs_20 12 08 38.5
comp=Z,349nm,18.0s
OBN Obninsk 65.55 324 *i* P **P 11 37 38.3 -0.6**
HRY Holter Researc 65.56 48 P **P 11 37 40.2 +0.8**
FCC Fort Churchill 65.57 30 P **P 11 37 39.3 +0.3**
FCC pmax pmax
comp=Z,42nm,0.7s
FCC Fort Churchill 65.57 30 P **P 11 37 39.3 +0.3**
FCC IAmb IAmb 11 37 39.7
comp=Z,42nm,0.7s
VCNR Virginia City 65.61 58 P **P 11 37 40.4 +0.5**
SCO Scoresbysund 65.68 356 *i* P **P 11 37 40.1 +0.5**
SCO IAmb IAmb 11 37 41.1
comp=Z,73nm,0.9s
SCO Scoresbysund 65.68 356 P **P 11 37 39.9 +0.3**
SCO pmax pmax
comp=Z,68nm,0.8s
SCO Scoresbysund 65.68 356 P **P 11 37 39.9 +0.3**
PNTR Pine Nut 65.77 59 P **P 11 37 42.1 +1.1**
PNTR IAmb IAmb 11 37 43.1
comp=Z,26nm,0.9s
LRM Limekiln Ridge 65.78 49 P **P 11 37 41.6 +0.6**
VRH Novokhopyorsk 65.81 319 *e*P **P 11 37 39.8 -0.9**
VRH pmax pmax
comp=Z,260nm,0.8s
EGMT Eagleton 65.83 46 P **P 11 37 41.4 +0.4**
baz=309,SNR=15
EGMT Eagleton 65.83 46 P **P 11 37 41.8 +0.7**
EGMT IAmb IAmb 11 37 42.6
comp=Z,27nm,0.9s
EGMT IAMs_20 IAMs_20 12 05 28.9
comp=Z,168nm,19.0s
CMB Columbia Colle 65.92 60 P **P 11 37 42.5 +0.8**
CMB pmax pmax
comp=Z,25nm,1.3s
CMB Columbia Colle 65.92 60 P **P 11 37 42.5 +0.8**
DLMT Dillon 65.99 50 P **P 11 37 41.8 -0.4**
YERR Yerington 66.05 58 P **P 11 37 43.8 +1.0**
YERR IAmb IAmb 11 37 44.8
comp=Z,46nm,1.1s
MCMT McKenzie Canyo 66.18 50 P **P 11 37 44.1 +0.5**
LPSR Galich'ya Gora 66.19 321 *e*P **P 11 37 43.1 0.0**
LPSR pmax pmax
comp=Z,210nm,0.8s
BCYI Bear Canyon 66.20 51 P **P 11 37 43.4 -0.3**
WAKR Walker 66.22 59 P **P 11 37 43.8 -0.1**
ILULI Ilulissat 66.31 7⇑ *i* P **P 11 37 43.5 -0.2**
ILULI IAmb IAmb 11 37 44.3
comp=Z,103nm,0.7s
ILULI Ilulissat 66.31 7⇑ *i* P **P 11 37 43.4 -0.2**
ILULI pmax pmax
comp=Z,100nm,0.7s
ILULI Ilulissat 66.31 7 P **P 11 37 43.0 -0.6**
BOZ Bozeman (W) 66.37 49 P **P 11 37 45.1 +0.4**
BOZ pmax pmax
comp=Z,28nm,0.8s
BOZ Bozeman (W) 66.37 49 P **P 11 37 45.4 +0.8**
baz=309,SNR=65
BOZ Bozeman (W) 66.37 49 P **P 11 37 45.0 +0.4**
BOZ IAmb IAmb 11 37 46.4
comp=Z,28nm,0.8s
MEF Metsahovi 66.47 333 *e*P **P 11 37 44.7 -0.1**
NSS Namsos 66.53 341 *e*P **P 11 37 45.0 -0.1**
VORR Voronezh 66.68 320 *e*P **P 11 37 44.0 -2.3**
VORR pmax pmax
comp=Z,500nm,1.2s
KVN Kaiserville 66.71 58 P **P 11 37 48.0 +1.0**
KVN pmax pmax
comp=Z,42nm,1.0s
KVN Kaiserville 66.71 58 P **P 11 37 48.0 +1.0**
KVN IAmb IAmb 11 37 49.0
comp=Z,42nm,1.0s
RYN Ryan 66.71 58 P **P 11 37 47.2 +0.2**
RYN IAmb IAmb 11 37 48.9
comp=Z,26nm,1.0s
LHV Little Huntoon 66.96 59 P **P 11 37 49.6 +1.3**
LHV IAmb IAmb 11 37 50.9
comp=Z,67nm,1.1s
QLMT Earthquake Lak 66.97 49 P **P 11 37 49.1 +0.6**
NVAR Mina Array Bea 66.97 58 P **P 11 37 48.9 +0.2**
comp=Z,20nm,0.8s,baz=291,slow=6.8,SNR=151
NVAR LR LR 12 04 41.8
comp=Z,23nm,21.9s,baz=306,slow=34
MDPB Devils Postpil 66.98 59 P **P 11 37 49.7 +0.9**
VSU Vasula 67.00 331 *e*P **P 11 37 49.1 +1.0**
VSU Vasula 67.00 331 *c i* P **P 11 37 47.6 -0.5**
VSU pmax pmax
comp=Z,223nm,1.0s
VORD Divnogorie 67.12 319 *e*P **P 11 37 49.1 +0.1**
VORD pmax pmax
comp=Z,220nm,0.8s
MLAC Mammoth, Mammo 67.14 59 P **P 11 37 51.3 +1.6**
baz=309
YHB Horse Butte 67.14 49 P **P 11 37 51.9 +2.2**
YHB IAmb IAmb 11 37 53.5
comp=Z,25nm,0.9s
ICESG Greenland Ices 67.17 3⇑ *i* P **P 11 37 50.4 +0.8**
ICESG IAmb IAmb 11 37 51.1
comp=Z,463nm,0.9s
MSVF Nonsavu 67.23 149 LR LR 12 01 19.0
comp=Z,143nm,20.9s,baz=3.4,slow=31
GCMT Greycliff 67.31 48 P **P 11 37 50.4 -0.2**
YHH Holmes Hill 67.31 49 P **P 11 37 51.6 +0.8**
YMR Madison River 67.32 49 P **P 11 37 51.5 +0.7**
YMR IAmb IAmb 11 37 52.8
comp=Z,26nm,1.0s
ELK Elko 67.37 55 P **P 11 37 51.8 +0.6**
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 67.37 55 P **P 11 37 51.8 +0.6**
PAGB Antelope Grade 67.43 62 P **P 11 37 52.1 +0.8**
YNR Norris Junctio 67.45 49 P **P 11 37 53.2 +1.6**
YNE Yellowstone No 67.63 49 P **P 11 37 53.6 +0.9**
YPP Pitchstone Pla 67.67 50 P **P 11 37 54.1 +1.0**
H17A Grant Village 67.71 49 P **P 11 37 55.9 +2.6**
baz=310,SNR=18
H17A Grant Village 67.71 49 P **P 11 37 55.4 +2.1**
H17A IAmb IAmb 11 37 56.8
comp=Z,32nm,0.9s
YMP Mirror Lake Pl 67.72 49 P **P 11 37 54.2 +0.8**
DZM Mont Dzumac 67.81 162 P **P 11 37 53.5 -0.2**
comp=Z,9.3nm,0.8s,baz=348,slow=10,SNR=5.2
DZM LR LR 12 07 27.1
comp=Z,82nm,18.2s,baz=65,slow=36
DZM Mont Dzumac 67.81 162 *e*P P 11 37 59.4 +5.7
comp=Z,93nm,1.4s
DZM Mont Dzumac 67.81 162 *e*LR LR 11 58 29.7
comp=Z,429nm,33.5s
DZM Mont Dzumac 67.81 162 P **P 11 37 54.7 +1.0**
DZM IAmb IAmb 11 38 16.5
comp=Z,46nm,1.2s
MTSE Matsula 67.81 332 *e*P **P 11 37 51.0 -2.3**
FLWY Flagg Ranch 67.85 50 P **P 11 37 54.6 +0.5**
TPH Tonopah 67.86 58 P **P 11 37 54.2 0.0**
TPH pmax pmax
comp=Z,140nm,1.0s
TPH Tonopah 67.86 58 P **P 11 37 54.2 0.0**
TPAW Teton Pass 68.09 50 P **P 11 37 56.8 +1.1**
TPAW IAmb IAmb 11 37 58.2
comp=Z,34nm,0.8s
VES Vestal, Richgr 68.10 61 P **P 11 37 55.5 0.0**
baz=309,SNR=6.5
MAK Makhachkala 68.12 309 *e*P **P 11 37 52.8 -2.7**
MAK *e**PP **pP 11 38 09.6 -2.0**
MAK *e**SP **sP 11 38 17.0 -1.2**
MAK *e*S **S 11 46 48.6 -2.1**
MAK *e**SS **sS 11 47 17.8 -0.1**
MAK pmax pmax
comp=Z,181nm,0.9s
MAK MLR MLR
comp=Z,138nm,14.0s
LOHW Long Hollow 68.20 50 P **P 11 37 57.3 +0.9**
LOHW IAmb IAmb 11 37 58.7
comp=Z,55nm,1.7s
LOHW IAMs_20 IAMs_20 12 00 48.7
comp=Z,214nm,20.0s
SNOW Snow King Moun 68.22 50 P **P 11 37 56.3 -0.2**
SNOW IAmb IAmb 11 37 58.9
comp=Z,30nm,1.1s
REDW Red Top Meadow 68.22 50 P **P 11 37 55.7 -0.8**
REDW IAmb IAmb 11 37 58.8
comp=Z,34nm,1.1s
PKM Mcpherson Peak 68.23 62 P **P 11 37 57.7 +1.1**
baz=309,SNR=6.4
CWC Cottonwood Cre 68.35 60 P **P 11 37 57.8 +0.5**
baz=309
GRAC Grapevine Rang 68.44 59 P **P 11 37 59.1 +1.3**
baz=309,SNR=12
AHID Auburn Hatcher 68.47 51 P **P 11 37 58.2 +0.2**
ASAR Alice Springs 68.48 194 P **P 11 37 57.6 -0.3**
comp=Z,2.1nm,0.6s,baz=13,slow=6.0,SNR=27
ASAR PKP2bc 12 06 14.3
comp=Z,3.7nm,1.1s,baz=180,slow=4.4,SNR=9.7
SFJD Kangerlussuaq 68.51 8⇑ *i* P **P 11 37 57.6 +0.1**
SFJD IAmb IAmb 11 37 58.4
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 68.51 8⇑ *i* P **P 11 37 57.6 +0.1**
SFJD pmax pmax
comp=Z,44nm,0.8s
SFJD Kangerlussuaq 68.51 8 P **P 11 37 56.9 -0.6**
LAO LASA Array 68.53 45 P **P 11 37 59.1 +0.9**
baz=312,SNR=17
LAO LASA Array 68.53 45 P **P 11 37 58.0 -0.1**
LAO IAmb IAmb 11 38 00.1
comp=Z,33nm,1.0s
LAO LASA Array 68.53 45 P 11 37 59.1
baz=312,SNR=17
BGU Big Grassy Mou 68.55 54 P **P 11 37 59.6 +1.1**
ISA Isabella, Lake 68.59 61 P **P 11 37 58.8 +0.1**
ISA pmax pmax
comp=Z,10.0nm,1.1s
ISA Isabella, Lake 68.59 61 P **P 11 37 58.8 +0.1**
baz=309,SNR=7.0
ISA Isabella, Lake 68.59 61 P **P 11 37 58.8 +0.1**
R11A Troy Canyon, C 68.68 57 P **P 11 38 00.1 +0.7**
baz=310,SNR=19
R11A Troy Canyon, C 68.68 57 P **P 11 38 00.0 +0.7**
ARVC Arvin 68.71 61 P **P 11 38 00.2 +0.9**
baz=309
UPP Uppsala 68.87 336 *e*P **P 11 38 00.1 +0.2**
GROC Groznyy 68.92 310 *e*P **P 11 38 00.1 -0.4**
GROC *e**SP **pP 11 38 14.9 -1.7**
GROC *e*S **S 11 47 07.9 +7.7**
GROC pmax pmax
comp=Z,71nm,0.5s
HWUT Hardware Ranch 68.96 52 P **P 11 38 01.2 +0.2**
SPR3 Spring Creek 3 69.02 56 P **P 11 38 02.2 +0.6**
FURC Furnace Creek, 69.09 59 P **P 11 38 02.8 +1.1**
baz=310,SNR=51
DUG Dugway, Tooele 69.15 54 P **P 11 38 02.3 +0.1**
DUG pmax pmax
comp=Z,25nm,1.0s
DUG Dugway, Tooele 69.15 54 P **P 11 38 03.1 +0.9**
baz=310,SNR=24
DUG Dugway, Tooele 69.15 54 P **P 11 38 02.3 +0.1**
SLIT Slitere, Latvi 69.17 332 *e*P **P 11 38 01.3 -0.5**
TPNV Topopah Spring 69.17 59 P **P 11 38 02.2 -0.2**
TPNV pmax pmax
comp=Z,34nm,1.0s
TPNV Topopah Spring 69.17 59 P **P 11 38 03.2 +0.9**
baz=310,SNR=51
TPNV Topopah Spring 69.17 59 P **P 11 38 02.2 -0.2**
TPNV IAmb IAmb 11 38 04.3
comp=Z,34nm,1.0s
GOF Gofitskoye 69.19 313⇑ *i* P **P 11 38 03.4 +1.3**
GOF *e*S **S 11 47 07.8 +4.5**
GOF pmax pmax
comp=Z,455nm,0.7s
GOF smax smax
comp=E,100nm,0.9s
LRMC Laurel Mtn Rad 69.21 61 P **P 11 38 03.0 +0.4**
baz=310,SNR=8.9
MOL Molde 69.24 342 *e*P **P 11 38 02.4 +0.3**
BW06 Boulder Array 69.33 50 P **P 11 38 03.9 +0.4**
baz=311,SNR=29
BW06 Boulder Array 69.33 50 P **P 11 38 03.5 +0.1**
PDAR Pinedale Array 69.33 50 P **P 11 38 03.2 -0.2**
comp=E,11nm,0.8s,baz=267,slow=2.0,SNR=99
PDAR LR LR 12 04 42.2
comp=E,53nm,21.8s,baz=326,slow=33
PDAR PKP2bc 12 06 08.8
comp=E,1.0nm,1.0s,baz=116,slow=3.4,SNR=5.3
DOMB Dombas 69.34 341 *e*P **P 11 38 02.9 0.0**
IDID Didziasalis 69.35 329 *e*P **P 11 38 04.1 +1.2**
ISAL Salakas 69.39 329 *e*P **P 11 38 04.3 +1.1**
EDW2 Edwards Air Fo 69.39 61 P **P 11 38 04.4 +0.8**
baz=310,SNR=12
DY2G Dye2 69.40 6⇑ *i* P **P 11 38 03.7 +0.3**
DY2G IAmb IAmb 11 38 04.5
comp=Z,133nm,0.8s
CTU Camp Tracy 69.44 53 P **P 11 38 04.6 +0.5**
IIGN Ignalina 69.52 329 *e*P **P 11 38 05.2 +1.2**
MNK Minsk 69.52 327 *i* P **P 11 38 04.5 +0.5**
MNK *i* *PP **pP 11 38 20.9 +0.7**
MNK *i* 11 38 27.3
MNK *i* 11 40 38.4
MNK *i* PPP PPP 11 42 19.7
MNK *i* S **S 11 47 06.3 -0.6**
MNK *i* *SS **sS 11 47 35.9 +1.7**
MNK *i* 11 48 00.2
MNK *i* SS **SS 11 51 36.8 +2.5**
MNK pmax pmax
comp=Z,419nm,0.9s
MNK pmax pmax
comp=N,202nm,1.1s
MNK pmax pmax
comp=E,26nm,1.1s
MNK MLR MLR
comp=N,271nm,20.0s
MNK MLR MLR
comp=Z,213nm,19.0s
MNK Minsk 69.52 327 *i* P **P 11 38 04.6 +0.6**
comp=E,26nm,1.1s
MNK *i* P **P 11 38 04.6 +0.6**
comp=N,202nm,1.1s
MNK *i* P **P 11 38 04.6 +0.6**
comp=Z,419nm,0.9s,baz=222
MNK *i* pP **pP 11 38 21.0 +0.8**
MNK *i* PcP **PcP 11 38 27.3 +0.5**
MNK *i* PP **PP 11 40 38.4 +0.7**
MNK *i* PPP PPP 11 42 19.8
MNK *i* S **S 11 47 06.4 -0.5**
MNK *i* sS **sS 11 47 36.0 +1.8**
MNK *i* ScS **ScS 11 48 00.3 +0.3**
MNK *i* SS **SS 11 51 36.8 +2.5**
MNK *i* SSS SSS 11 54 54.6
MNK *i* LQ LQ 12 03 48.5
MNK *i* LR LR 12 06 28.6
MNK *i* LRM MLR 12 10 48.1
comp=E,16nm,21.0s
MNK *i* LRM MLR 12 11 13.5
comp=N,271nm,19.6s
MNK *i* LRM MLR 12 11 13.5
comp=Z,213nm,18.8s
LGD Lagodekhi 69.56 309 P **P 11 38 05.2 +0.7**
PSUT Pine Spring 69.60 56 P **P 11 38 05.5 +0.4**
PRN Pahroc Range 69.61 57 P **P 11 38 05.5 +0.5**
NB2 NORSAR Subarra 69.67 339 P **P 11 38 04.9 0.0**
comp=Z,127nm,0.7s,baz=31,slow=6.5
NB2 NORSAR Subarra 69.67 339 P **P 11 38 04.9 0.0**
baz=31,slow=6.5
NOA NORSAR Array B 69.67 339 P **P 11 38 04.3 -0.6**
comp=Z,118nm,0.7s,baz=32,slow=6.4,SNR=710
NOA LR LR 12 11 48.0
comp=Z,252nm,21.7s,baz=25,slow=39
JLU Jordanelle 69.68 53 P **P 11 38 05.6 0.0**
AKN Aaknes 69.71 342 *e*P **P 11 38 06.4 +1.3**
NLU North Lily Min 69.74 54 P **P 11 38 06.5 +0.6**
MWC Mount Wilson 69.77 62 P **P 11 38 06.5 +0.3**
MWC pmax pmax
comp=Z,15nm,1.1s
MWC Mount Wilson 69.77 62 P **P 11 38 06.5 +0.3**
SHOC Shoshone, Teco 69.82 59 P **P 11 38 07.0 +0.7**
baz=310,SNR=12
NC602 NORSAR Array S 69.85 339 *e*P **P 11 38 05.5 -0.4**
NORES NORESS Array B 69.85 339 P **P 11 38 05.6 -0.3**
NORES pmax pmax
comp=Z,45nm,0.6s
GSC Goldstone, Bar 69.87 60 P **P 11 38 07.2 +0.5**
GSC pmax pmax
comp=Z,15nm,1.1s
GSC Goldstone, Bar 69.87 60 P **P 11 38 07.2 +0.5**
baz=310,SNR=13
GSC Goldstone, Bar 69.87 60 P **P 11 38 07.2 +0.5**
DDFL Dedoflistskaro 69.89 308 P **P 11 38 09.6 +3.0**
MPU Maple Canyon 69.95 54 P **P 11 38 07.4 +0.2**
BFSC Mount Baldy Ra 70.02 62 P **P 11 38 08.3 +0.7**
baz=310,SNR=10
CIS Catalina Islan 70.07 63 P **P 11 38 08.4 +0.6**
baz=310
KVAR Kislovodsk Arr 70.11 312 P **P 11 38 07.9 0.0**
baz=90,slow=20
KVAR LR LR 12 13 13.6
comp=Z,362nm,20.4s,baz=258,slow=40
KIV Kislovodsk 70.11 312⇑ P **P 11 38 09.5 +1.5**
KIV Kislovodsk 70.11 312 *i* P **P 11 38 09.4 +1.4**
SNR=45
KIV Kislovodsk 70.11 312 *e*P **P 11 38 09.1 +1.1**
KIV *e*S **S 11 47 16.0 +1.6**
KIV pmax pmax
comp=Z,48nm,3.2s
KIV pmax pmax
comp=Z,278nm,1.0s
KIV MLR MLR
comp=Z,300nm,18.0s
KIV Kislovodsk 70.11 312 P **P 11 38 09.0 +1.0**
KIV IAMs_20 IAMs_20 12 11 59.8
comp=Z,444nm,22.0s
KIV Kislovodsk 70.11 312 *e*P **P 11 38 09.1 +1.1**
SHPR Sheep Range 70.12 58 P **P 11 38 08.8 +0.5**
GUDG Gudauri 70.13 310 P **P 11 38 06.3 -2.0**
KBZ Khabaz 70.15 312 P **P 11 38 08.9 +0.8**
comp=Z,195nm,0.9s,baz=67,slow=4.2,SNR=222
KBZ LR LR 12 13 43.5
comp=Z,458nm,18.7s,baz=40,slow=40
KBZ Khabaz 70.15 312 *c i* P **P 11 38 09.3 +1.2**
KBZ pmax pmax
comp=Z,198nm,0.9s
KBZ Khabaz 70.15 312 *i* P **P 11 38 09.3 +1.2**
PABE Paberze 70.23 330 *e*P **P 11 38 09.3 +0.9**
PABE Paberze 70.23 330 P **P 11 38 08.1 -0.2**
PABE IAMs_20 IAMs_20 12 11 00.1
comp=Z,283nm,20.0s
ZEI Tsey 70.23 311 *e*P **P 11 38 08.7 -0.2**
ZEI pmax pmax
comp=Z,176nm,0.9s
SHA1 Shidzhatmaz 70.27 312 *c i* P **P 11 38 10.3 +1.2**
TUQ Turquoise Moun 70.34 60 P **P 11 38 10.4 +0.8**
baz=310,SNR=24
TCRU Three Creeks R 70.39 55 P **P 11 38 11.3 +1.3**
SEAG Tbilisi Sea 70.42 309 P **P 11 38 11.6 +1.8**
BBRC Big Bear Solar 70.47 61 P **P 11 38 11.1 +0.6**
baz=310,SNR=5.6
HEC Hector,Ludlow 70.47 60 P **P 11 38 11.3 +0.9**
baz=310,SNR=12
CCUT Cedar City 70.54 56 P **P 11 38 11.5 +0.6**
PBUR Paburge 70.55 331 *e*P **P 11 38 10.9 +0.6**
NEY Neytrino 70.57 312 *c i* P **P 11 38 12.2 +1.3**
NEY pmax pmax
comp=Z,18nm,0.7s
MVU Marysvale 70.60 55 P **P 11 38 11.8 +0.5**
MVU IAmb IAmb 11 38 13.5
comp=Z,46nm,1.0s
ONI Oni 70.61 311 P **P 11 38 12.4 +1.4**
ONI pmax pmax
comp=Z,122nm,0.9s
ONI MLR MLR
comp=Z,400nm,20.0s
ONI Oni 70.61 311 P **P 11 38 12.4 +1.4**
ONI IAMs_20 IAMs_20 12 13 05.2
comp=Z,420nm,20.0s
MSU Marysvale 70.62 55 P **P 11 38 12.7 +1.4**
MSU Marysvale 70.62 55 P **P 11 38 12.7 +1.4**
FOO Floro 70.66 342 *e*P **P 11 38 11.2 +0.3**
TMUT Trail Mountain 70.67 54 P **P 11 38 12.1 +0.3**
SZCU Shurtz Canyon 70.67 56 P **P 11 38 12.0 +0.4**
SKAR Skarslia 70.71 340 *e*P **P 11 38 11.8 +0.6**
ANGG Ammassalik, Gr 70.72 2⇑ *i* P **P 11 38 10.9 -0.2**
ANGG IAmb IAmb 11 38 11.6
comp=Z,49nm,0.7s
ANGG Ammassalik, Gr 70.72 2 P **P 11 38 10.8 -0.3**

MURC Murrieta 70.72 62 P **P 11 38 12.3 +0.5**
baz=310,SNR=7.0
ISOG Isortoq, Green 70.74 3⇑*i*P **P 11 38 11.3 0.0**
ISOG IAmb IAmb 11 38 12.0
comp=Z,88nm,0.7s
OSL Oslo 70.74 339 *e*P **P 11 38 11.9 +0.6**
RDMU Red Mountain 70.78 52 P **P 11 38 12.4 +0.1**
RDMU IAmb IAmb 11 38 14.1
comp=Z,64nm,0.9s
HYA Hoyanger 70.78 341 *e*P **P 11 38 11.9 +0.3**
P17A Butcher Ranch, 70.83 53 P **P 11 38 13.1 +0.6**
P17A IAmb IAmb 11 38 14.4
comp=Z,33nm,1.0s
KZRT Kazreti 70.89 309 P **P 11 38 13.7 +1.0**
MTPU Mount Pierson 70.92 55 P **P 11 38 13.9 +0.5**
GMRC Granite Mounta 70.92 60 P **P 11 38 13.9 +0.7**
baz=311,SNR=16
LCMT Little Creek M 70.96 57 P **P 11 38 14.2 +0.9**
ULM Lac du Bonnet 71.00 38 P **P 11 38 12.9 -0.2**
comp=Z,12nm,0.6s,baz=313,slow=6.9,SNR=17
ULM Lac du Bonnet 71.00 38 P **P 11 38 13.0 -0.2**
MDND Maddock 71.01 41 P **P 11 38 13.9 +0.6**
baz=315,SNR=8.1
MDND Maddock 71.01 41 P **P 11 38 13.6 +0.3**
MDND IAmb IAmb 11 38 14.9
comp=Z,75nm,0.9s
MDND Maddock 71.01 41 P 11 38 14.1
baz=315,SNR=8.1
K22A Casper 71.08 49 P **P 11 38 14.2 +0.2**
baz=313,SNR=16
K22A Casper 71.08 49 P **P 11 38 14.0 0.0**
K22A IAmb IAmb 11 38 15.4
comp=Z,38nm,1.1s
K22A Casper 71.08 49 P 11 38 14.3
baz=313,SNR=16
NUUK Nuuk 71.13 9⇑*i*P **P 11 38 14.5 +0.9**
NUUK IAmb IAmb 11 38 14.9
comp=Z,93nm,0.7s
PFO Pinyon Flats O 71.18 61 P **P 11 38 14.3 -0.4**
PFO pmax pmax
comp=Z,12nm,1.0s
PFO Pinyon Flats O 71.18 61 P **P 11 38 15.2 +0.5**
baz=311,SNR=11
PFO Pinyon Flats O 71.18 61 P **P 11 38 14.3 -0.4**
SRU San Rafael Swe 71.19 54 P **P 11 38 15.1 +0.3**
SRU pmax pmax
comp=Z,36nm,0.9s
SRU San Rafael Swe 71.19 54 P **P 11 38 15.1 +0.3**
SRU IAmb IAmb 11 38 16.8
comp=Z,36nm,0.9s
SUE Sulen 71.20 342 *e*P **P 11 38 14.7 +0.6**
KNB Kanab 71.21 57 P **P 11 38 15.5 +0.6**
KNB pmax pmax
comp=Z,31nm,1.1s
KNB Kanab 71.21 57 P **P 11 38 15.4 +0.6**
BELC Belle Mtn. Jos 71.22 61 P **P 11 38 14.9 -0.1**
baz=311,SNR=9.7
109C Camp Elliot, M 71.24 62 P **P 11 38 15.6 +0.7**
baz=311
109C Camp Elliot, M 71.24 62 P **P 11 38 15.4 +0.5**
KONO Kongsberg 71.28 339 P **P 11 38 14.1 -0.5**
KONO pmax pmax
comp=Z,73nm,0.9s
KONO MLR MLR
comp=Z,400nm,21.0s
KONO Kongsberg 71.28 339 *e*P **P 11 38 14.9 +0.2**
KONO Kongsberg 71.28 339 P **P 11 38 14.1 -0.5**
KONO IAmb IAmb 11 38 16.0
comp=Z,73nm,0.8s
KONO Kongsberg 71.28 339 IAMs_20 IAMs_20 12 12 23.6
comp=Z,442nm,21.0s
RWWY Rawlins 71.35 50 P **P 11 38 15.4 -0.4**
RWWY IAmb IAmb 11 38 17.1
comp=Z,33nm,1.1s
BORG Borgarnes 71.36 355 P **P 11 38 16.4 +1.4**
BORG pmax pmax
comp=Z,158nm,0.8s
BORG Borgarnes 71.36 355 P **P 11 38 16.4 +1.4**
AKH Akhalkalaki 71.38 310 ⇓P **P 11 38 18.1 +2.3**
AKH Akhalkalaki 71.38 310 *e*P **P 11 38 17.5 +1.7**
AKH Akhalkalaki 71.38 310 P **P 11 38 17.6 +1.7**
E28A Huff 71.38 43 P **P 11 38 15.6 0.0**
E28A IAmb IAmb 11 38 16.9
comp=Z,35nm,0.8s
STRU Stroemstad 71.39 338 *i*P **P 11 38 15.6 +0.3**
RSSD Black Hills 71.40 46 P **P 11 38 15.7 -0.3**
RSSD pmax pmax
comp=Z,19nm,0.9s
RSSD Black Hills 71.40 46 P **P 11 38 16.0 +0.1**
baz=314
RSSD Black Hills 71.40 46 P **P 11 38 15.7 -0.3**
RSSD Black Hills 71.40 46 P 11 38 16.1
baz=314,SNR=14
GNI Garni 71.53 308 LR LR 12 13 17.2
comp=Z,236nm,18.2s,baz=38,slow=39
GNI Garni 71.53 308 P **P 11 38 18.8 +2.1**
GNI Garni 71.53 308 P **P 11 38 18.1 +1.4**
GNI pmax pmax
comp=Z,82nm,0.9s
GNI MLR MLR
comp=Z,300nm,19.0s
GNI Garni 71.53 308 P **P 11 38 18.1 +1.4**
GNI IAmb IAmb 11 38 26.0
comp=Z,82nm,0.9s
GNI Garni 71.53 308 IAMs_20 IAMs_20 12 13 05.0
comp=Z,268nm,19.0s
ASK Askoy 71.62 342 *e*P **P 11 38 17.2 +0.6**
BAR Barrett 71.65 62 P **P 11 38 17.4 0.0**
IRM Iron Mountain 71.65 60 P **P 11 38 18.2 +0.8**
baz=311,SNR=18
MONP2 Monument Peak 71.67 62 P **P 11 38 18.1 +0.3**
baz=311,SNR=8.4
BER Bergen 71.67 341 *e*P **P 11 38 17.7 +0.7**
SUW Suwalki 71.68 329 *i*P **P 11 38 16.9 -0.3**
SUW *e*L L 12 09 20.1
comp=Z,399nm,29.6s
SUW Suwalki 71.68 329 *e*P **P 11 38 17.4 +0.2**
SUW Suwalki 71.68 329 P **P 11 38 16.9 -0.3**
SUW pmax pmax
comp=Z,383nm,1.1s
SUW Suwalki 71.68 329 P **P 11 38 16.9 -0.3**
BC3 Big Chuckawall 71.79 61 P **P 11 38 18.8 +0.4**
baz=311,SNR=11
ODD1 Odda 71.79 341 *e*P **P 11 38 18.6 +0.8**
AKASG Malin Array Be 71.81 324 P **P 11 38 18.0 0.0**
comp=Z,146nm,0.7s,baz=38,slow=6.3,SNR=333
AKASG S **S 11 47 34.6 +1.0**
comp=Z,0.2nm,0.3s,baz=38,slow=12,SNR=11
AKASG LR LR 12 14 30.2
comp=Z,72nm,19.1s,baz=35,slow=40
AKASG Malin Array Be 71.81 324 *i*P **P 11 38 18.2 +0.2**
AKASG pmax pmax
comp=Z,142nm,0.7s
O20A White River Ci 71.82 52 P **P 11 38 18.9 +0.4**
baz=312,SNR=14
O20A White River Ci 71.82 52 P **P 11 38 18.5 -0.1**
W13A Hualapai Mount 71.82 59 P **P 11 38 18.9 +0.3**
U15A North Rim 71.92 57 P **P 11 38 19.9 +0.6**
SOC Sochi 71.94 313 *e*P **P 11 38 18.8 -0.1**
SOC *e* 11 40 57.4
SOC *e*PPP PPP 11 42 42.0
SOC *e*S **S 11 47 37.0 +1.7**
SOC *e*SSS SSS 11 55 30.2
SOC pmax pmax
comp=Z,67nm,0.5s
SOC MLR MLR
comp=Z,282nm,16.0s
IKP In-Ko-Pah, Jac 72.03 62 P **P 11 38 20.4 +0.7**
baz=311,SNR=6.8
SWSC Sam W. Stewart 72.03 61 P **P 11 38 19.7 0.0**
baz=311
TJOU Tjoern 72.13 337 *i*P **P 11 38 19.8 +0.1**
KARS Kars 72.14 309 P **P 11 38 21.5 +1.1**
KARS pmax pmax
comp=Z,285nm,0.8s
KARS Kars 72.14 309 P **P 11 38 21.5 +1.1**
PDMCI Parker Dam,Lak 72.19 59 P **P 11 38 21.3 +0.8**
baz=311,SNR=11
BATM Batumi 72.24 311 ⇓P **P 11 38 22.3 +1.6**
BATM Batumi 72.24 311 *e*P **P 11 38 21.9 +1.1**
BATM Batumi 72.24 311 P **P 11 38 21.7 +0.9**
BLS5 Blasjo 72.26 340 *e*P **P 11 38 21.4 +0.8**
ANN Anapa 72.27 316 *c*P **P 11 38 21.1 +0.3**
ANN *i* *PP **pP 11 38 34.9 -2.2**
ANN *e*S **S 11 47 39.4 +0.4**
ANN pmax pmax
comp=Z,69nm,0.5s
ANN Anapa 72.27 316 *e*P **P 11 38 21.1 +0.3**
KLNR Kaliningrad 72.27 331 *i*P **P 11 38 20.2 -0.5**
KLNR pmax pmax
comp=Z,340nm,1.0s
BLEU Blekinge 72.34 334 *i*P **P 11 38 20.4 -0.7**
AGMN Agassiz Nation 72.43 39 P **P 11 38 21.6 -0.2**
baz=317,SNR=15
AGMN Agassiz Nation 72.43 39 P **P 11 38 21.9 +0.1**
AGMN IAmb IAmb 11 38 22.5
comp=Z,33nm,1.0s
AGMN Agassiz Nation 72.43 39 P 11 38 21.6
baz=317,SNR=15
PV14 Lion Creek, Pa 72.56 53 P **P 11 38 22.8 -0.3**
PV14 IAmb IAmb 11 38 24.6
comp=Z,47nm,1.3s
PHWY Pilot Hill 72.58 49 P **P 11 38 23.6 +0.4**
GLA Glamis 72.58 61 P **P 11 38 23.2 +0.2**
GLA pmax pmax
comp=Z,33nm,1.2s
GLA Glamis 72.58 61 P **P 11 38 23.9 +1.0**
baz=311
GLA Glamis 72.58 61 P **P 11 38 23.2 +0.2**
PV22 Blue Mesa, Par 72.59 53 P **P 11 38 23.6 +0.5**
ONAU Onsala 72.59 337 *i*P **P 11 38 22.1 -0.4**
N23A Red Feather La 72.59 50 P **P 11 38 24.1 +0.8**
baz=313,SNR=21
CLDR Caldiran 72.68 308 *e*P **P 11 38 25.8 +2.1**
PV05 Paradox Valley 72.71 54 IAMs_20 IAMs_20 12 03 06.2
comp=Z,278nm,20.0s
PV12 Saucer Basin, 72.72 53 IAMs_20 IAMs_20 12 08 35.7
comp=Z,367nm,19.0s
KMY Karmoy 72.74 341 *e*P **P 11 38 24.1 +0.7**
D32A Dogwood Acres, 72.75 40 P **P 11 38 22.9 -0.7**
D32A IAmb IAmb 11 38 24.4
comp=Z,58nm,0.7s
HOMB Homborsund 72.76 339 *i*P **P 11 38 23.0 -0.5**
HOMB Homborsund 72.76 339 *e*P **P 11 38 24.3 +0.8**
DEL Delary 72.80 335 *i*P **P 11 38 23.4 -0.4**
PV15 Paradox Valley 72.89 53 P **P 11 38 25.3 +0.2**
AGRB Hanur-Agry 72.91 309 *e*P **P 11 38 27.2 +2.2**
PV01 Paradox Valley 72.98 53 P **P 11 38 25.4 -0.2**
SNART Snartemo 73.03 340 *i*P **P 11 38 25.8 +0.6**
SNART Snartemo 73.03 340 *e*P **P 11 38 25.8 +0.6**
WUAZ Wupatki 73.08 57 P **P 11 38 27.3 +1.2**
baz=312,SNR=16
WUAZ Wupatki 73.08 57 P **P 11 38 26.8 +0.7**
CHOM Cayeli-Rize 73.10 311 *e*P **P 11 38 27.0 +1.1**
Y14A Wickenburg 73.13 59 P **P 11 38 26.9 +0.6**
SMCO Snowmass 73.19 52 P **P 11 38 26.8 -0.2**
B35A Bob, Littlefor 73.34 38 P **P 11 38 26.2 -1.0**
B35A IAmb IAmb 11 38 27.9
comp=Z,35nm,0.8s
B35A Bob, Littlefor 73.34 38 P 11 38 26.8
baz=318,SNR=39
BJUU Bjuv 73.39 336 *i*P **P 11 38 27.6 +0.3**
ISCO Idaho Springs 73.53 50 P **P 11 38 28.7 -0.1**
ISCO pmax pmax
comp=Z,17nm,1.0s
ISCO Idaho Springs 73.53 50 P **P 11 38 29.8 +1.0**
baz=314,SNR=18
ISCO Idaho Springs 73.53 50 P **P 11 38 28.7 -0.1**
ISCO Idaho Springs 73.53 50 P 11 38 29.8
baz=314,SNR=18
BSD Bornholm Skovb 73.62 334 *e*P **P 11 38 29.1 +0.5**
BSD Bornholm Skovb 73.62 334⇑*i*P **P 11 38 28.7 +0.1**
BSD IAmb IAmb 11 38 29.6
comp=Z,171nm,0.8s
BSD Bornholm Skovb 73.62 334⇑*i*P **P 11 38 28.7 +0.1**
BSD pmax pmax
comp=Z,170nm,0.8s
LUNU Lund 73.64 335 *i*P **P 11 38 28.8 +0.1**
GOET G??ttrup 73.65 338⇑*i*P **P 11 38 29.8 +1.0**
GOET IAmb IAmb 11 38 30.5
comp=Z,316nm,0.8s
MVCO Mesa Verde 73.65 54 P **P 11 38 30.0 +0.5**
baz=313,SNR=16
MVCO Mesa Verde 73.65 54 P **P 11 38 29.5 0.0**
BANOM Banah 73.67 290 *i*P **P 11 38 30.1 +0.6**
SNR=13
SHME Shamm 73.69 290 *i*P **P 11 38 30.0 +0.4**
SNR=6.4
AKDM Akdamar-Van 73.77 308 *e*P **P 11 38 31.5 +1.4**
X16A Lo Mia Camp, P 73.78 58 P **P 11 38 30.6 +0.4**
SIM Simferopol' 73.81 317 *c*P **P 11 38 29.5 -0.5**
SIM *e*S **S 11 47 55.0 -1.6**
SIM *e*SS **SS 11 52 48.0 +7.6**
SIM pmax pmax
comp=Z,162nm,0.9s
COP Copenhagen 73.90 336⇑*i*P **P 11 38 31.0 +0.7**
COP IAmb IAmb 11 38 31.6
comp=Z,199nm,0.8s
COP Copenhagen 73.90 336⇑*i*P **P 11 38 30.9 +0.7**
COP pmax pmax
comp=Z,200nm,0.8s
BIDO Bidbid 74.00 287 P **P 11 38 32.9 +1.5**
SNR=6.0
F33A 5 Mile Ranch, 74.03 41 P **P 11 38 30.6 -0.7**
F33A IAmb IAmb 11 38 32.4
comp=Z,35nm,1.0s
F33A 5 Mile Ranch, 74.04 41 P 11 38 31.5
baz=317,SNR=17
MDH Madha 74.08 290 P **P 11 38 31.7 -0.2**
SORM Soroca 74.12 323⇑P **P 11 38 32.1 +0.4**
MSFE Esma-Masafi 74.13 290 *i*P **P 11 38 32.7 +0.5**
SNR=8.5
GURO Guroymak-BITLI 74.15 308 P **P 11 38 34.5 +2.2**
GURO IAmb IAmb 12 15 21.0
comp=Z,144nm,21.0s
MUD Monsted U'grnd 74.17 338⇑*i*P **P 11 38 32.4 +0.6**
MUD IAmb IAmb 11 38 33.3
comp=Z,90nm,0.8s
MUD Monsted U'grnd 74.17 338⇑*i*P **P 11 38 32.4 +0.6**
MUD pmax pmax
comp=Z,90nm,0.8s
S22A 4UR Ranch, Cre 74.25 53 P **P 11 38 34.2 +1.1**
baz=314,SNR=18
BEL Belsk 74.29 329 *i*P **P 11 38 33.7 +1.1**
BEL *e*L L 12 10 23.5
comp=Z,500nm,32.6s
W18A Petrified Fore 74.34 56 P **P 11 38 34.6 +1.2**
baz=313,SNR=6.1
W18A Petrified Fore 74.34 56 P **P 11 38 33.6 +0.1**
Q24A Divide 74.36 51 P **P 11 38 34.5 +0.7**
baz=314
UOSS Minazif 74.38 290 *i*P **P 11 38 33.9 +0.4**
SNR=13
UOSS Minazif 74.38 290 P **P 11 38 34.0 +0.4**
UOSS IAmb IAmb 11 38 35.0
comp=Z,76nm,0.9s
GKP Gorka Klasztor 74.39 332 *i*P **P 11 38 33.7 +0.6**
GKP *e*L L 12 14 36.2
comp=Z,400nm,19.8s
GKP Gorka Klasztor 74.39 332 *e*P **P 11 38 34.1 +0.9**
HATD Hatta, Dubai 74.50 290 *i*P **P 11 38 35.0 +0.7**
SNR=18
HATD Hatta, Dubai 74.50 290 P **P 11 38 35.4 +1.1**
SNR=10
HOQ Hoqain 74.52 288 P **P 11 38 35.2 +0.8**
SNR=5.2
214A Organ Pipe Nat 74.58 61 P **P 11 38 35.5 +0.8**
baz=312
214A Organ Pipe Nat 74.58 61 P **P 11 38 35.3 +0.6**
RGN Rugen 74.59 335 P **P 11 38 34.8 +0.5**
RGN Rugen 74.59 335 *e*P **P 11 38 35.1 +0.8**
comp=Z,147nm,0.8s,baz=31,slow=5.6
X18A Snowflake 74.61 57 P **P 11 38 35.5 +0.4**
BNGB Bingl 74.61 309 *e*P **P 11 38 36.6 +1.7**
EYMN Ely 74.63 37 P **P 11 38 34.6 -0.1**
baz=320,SNR=30
EYMN Ely 74.63 37 P **P 11 38 33.1 -1.6**
EYMN IAmb IAmb 11 38 35.6
comp=Z,40nm,0.9s
LVV L'vov 74.63 326 *e*P **P 11 38 35.0 +0.3**
EYMN Ely 74.63 37 P 11 38 34.6
baz=320,SNR=30
SIRT Sirnak 74.65 307 P **P 11 38 35.6 +0.5**
ASHO Ashiyiah 74.65 289 *i*P **P 11 38 35.8 +0.6**
SNR=13
ASHO Ashiyiah 74.65 289 P **P 11 38 36.4 +1.2**
SNR=8.7
PURM Purcari 74.65 321 ⇓P **P 11 38 35.7 +0.9**
OGNE Ogallala 74.68 48 P **P 11 38 35.8 +0.6**
baz=315,SNR=5.3
OGNE Ogallala 74.68 48 P **P 11 38 35.3 +0.1**
OGNE IAmb IAmb 11 38 36.6
comp=Z,89nm,0.9s
OGNE Ogallala 74.68 48 P 11 38 36.0
baz=315,SNR=5.3
SOHO SOHO 74.69 289 *i*P **P 11 38 35.7 +0.3**
SNR=11
NRS Narsarsuaq 74.72 7 *e*P **P 11 38 35.4 +0.5**
NRS Narsarsuaq 74.72 7 *e*P **P 11 38 35.4 +0.5**
NRS Narsarsuaq 74.72 7 P **P 11 38 35.8 +0.9**
NRS IAmb IAmb 11 38 36.7
comp=Z,30nm,0.8s
NAZ Nazwa, Dubai 74.72 290 *i*P **P 11 38 35.9 +0.4**
SNR=7.3
JMDO Jabal Madar 74.77 286 P **P 11 38 36.8 +0.9**
SNR=5.1
KIS Kishinev 74.77 322⇑*e*P **P 11 38 36.0 +0.5**
comp=Z,200nm,4.2s
KIS Kishinev 74.77 322 *e*PP PP 11 41 35.0 +12
KIS *e*LR LR 12 12 02.0
comp=Z,130nm,16.5s
FAQ Al Faqa, Dubai 74.92 290 *i*P **P 11 38 37.1 +0.3**
SNR=9.1
SDCO Great Sand Dun 75.01 52 P **P 11 38 38.2 +0.7**
baz=314,SNR=14
SDCO Great Sand Dun 75.01 52 P **P 11 38 35.7 -1.8**
SDCO Great Sand Dun 75.01 52 P 11 38 37.9
baz=314,SNR=14
BSY Bisya 75.15 287 P **P 11 38 39.2 +1.1**
SNR=6.4
K31A O'Neill 75.18 45 P **P 11 38 38.3 +0.3**
IAS Iasi 75.18 323⇑P **P 11 38 38.2 +0.4**
IAS Iasi 75.18 323 P **P 11 38 38.4 +0.5**
ASUD Al Ashush, Dub 75.18 290 *i*P **P 11 38 38.9 +0.6**
SNR=8.3
LNIZ Loecknitz 75.20 334 *e*P **P 11 38 38.6 +0.8**
comp=Z,92nm,0.7s,baz=31,slow=5.6
ALNE Al Ain 75.27 289 *i*P **P 11 38 39.3 +0.5**
SNR=19
ALNE Al Ain 75.27 289 P **P 11 38 39.5 +0.7**
SNR=8.4
F36A Milaca 75.31 39 P **P 11 38 38.3 -0.4**
F36A Milaca 75.31 39 P 11 38 38.1
baz=319,SNR=12
KWP Kalwaria Pacla 75.31 327 *i*P **P 11 38 39.8 +1.2**
KWP *e*L L 12 11 36.4
comp=Z,328nm,26.0s
KWP Kalwaria Pacla 75.31 327 P **P 11 38 38.4 -0.2**
KWP Kalwaria Pacla 75.31 327 P **P 11 38 38.4 -0.2**
BIGH Upper Bighouse 75.33 345⇑*e*P **P 11 38 38.9 +0.4**
BIGH IAmb IAmb 11 38 39.6
comp=Z,617nm,1.8s
MLA1 Latheron 75.40 345 *e*P **P 11 38 39.3 +0.4**
ECSD EROS Data Cent 75.43 43 P **P 11 38 39.3 -0.1**
baz=318,SNR=33
ECSD EROS Data Cent 75.43 43 P **P 11 38 39.0 -0.4**
ECSD IAmb IAmb 11 38 40.5
comp=Z,46nm,1.1s
ECSD EROS Data Cent 75.43 43 P 11 38 39.4
baz=318,SNR=33
VASR Vaslui 75.50 322 ⇓P **P 11 38 40.3 +0.5**
TUC Tucson 75.60 59 P **P 11 38 40.6 -0.1**
TUC Tucson 75.60 59 P **P 11 38 41.6 +0.9**
baz=313
TUC Tucson 75.60 59 P **P 11 38 40.6 -0.1**
SKMB Sankelmark Bun 75.61 337 *e*P **P 11 38 41.1 +1.0**
comp=Z,117nm,0.9s,baz=31,slow=5.6
SKMB *e*pP **pP 11 38 58.6 +2.1**
DIKM Dikmen 75.63 314 ⇓P **P 11 38 42.6 +2.1**
KVT Kavak 75.63 314 P **P 11 38 42.5 +1.9**
E38A The Farm, Brul 75.63 38 P **P 11 38 40.1 -0.4**
E38A IAmb IAmb 11 38 41.0
comp=Z,54nm,0.8s
E38A The Farm, Brul 75.63 38 P 11 38 40.2
baz=320,SNR=28
DYBB Diyarbakir 75.64 309 *e*P **P 11 38 42.4 +1.6**
STKA Stephens Creek 75.65 186 P **P 11 38 41.6 +1.0**
comp=Z,2.3nm,0.8s,baz=350,slow=12,SNR=1.4
STKA LR LR 12 15 01.3
comp=Z,73nm,18.5s,baz=23,slow=38
STKA Stephens Creek 75.65 186 P **P 11 38 40.7 +0.2**
KSCO Kaye Shedlock' 75.73 49 P **P 11 38 41.7 +0.3**
baz=315
KSCO Kaye Shedlock' 75.73 49 P **P 11 38 41.9 +0.6**
KSCO IAmb IAmb 11 38 43.5
comp=Z,46nm,1.2s
MHTO MHTO 75.78 285 P **P 11 38 43.0 +1.3**
SNR=7.7
ARPR Arapgir-MALATY 75.83 311 *e*P **P 11 38 44.0 +2.0**
BIR Birlad 75.86 322 ⇓P **P 11 38 43.3 +1.5**
BURAR Bucovina Array 75.87 324 ⇓P **P 11 38 43.3 +1.4**
BURAR Bucovina Array 75.87 324 P **P 11 38 42.2 +0.3**
LINV Loch Inver, As 75.89 346⇑*e*P **P 11 38 41.9 +0.2**
LINV IAmb IAmb 11 38 42.9
comp=Z,326nm,2.0s
TOKT Tokat 75.92 313 *e*P **P 11 38 43.6 +1.3**
OJC Ojcow 75.96 329 *i*P **P 11 38 43.1 +0.9**
OJC *e*L L 12 12 14.2
comp=Z,336nm,27.4s
OJC Ojcow 75.96 329 P **P 11 38 43.2 +0.9**
OJC pmax pmax
comp=Z,143nm,0.8s
OJC MLR MLR
comp=Z,300nm,19.0s
OJC Ojcow 75.96 329 P **P 11 38 43.2 +0.9**
OJC IAMs_20 IAMs_20 12 16 57.7
comp=Z,259nm,19.0s
SVSK Karacayir 75.97 312 *e*P **P 11 38 44.2 +1.7**
BSEG Bad Segeberg 76.03 336 *e*P **P 11 38 43.4 +0.8**
comp=Z,115nm,0.8s,baz=31,slow=5.6
KOLS Kolonicke sedl 76.04 327 *e*P **P 11 38 43.8 +1.0**
KOLS Kolonicke sedl 76.04 327 *e*P **P 11 38 43.8 +1.0**
VARL Varlezi 76.04 322⇑P **P 11 38 44.0 +1.2**
BZK Bozkurt 76.05 315 *e*P **P 11 38 43.9 +1.0**
BZK Bozkurt 76.05 315 P **P 11 38 43.6 +0.8**
MCD Coleburn Disti 76.06 345 *e*P **P 11 38 42.9 +0.2**
T25A Trinidad 76.06 52 P **P 11 38 43.8 +0.5**
baz=315,SNR=16
T25A Trinidad 76.06 52 P **P 11 38 42.8 -0.6**
TESR Tescani 76.11 323⇑P **P 11 38 43.8 +0.6**
GHRR 76.12 322⇑P **P 11 38 43.1 -0.1**
SPMN Marine on St. 76.12 39 P **P 11 38 43.3 0.0**
baz=320,SNR=11
SPMN Marine on St. 76.12 39 P **P 11 38 42.5 -0.8**
SPMN IAmb IAmb 11 38 44.1
comp=Z,28nm,0.8s
SPMN Marine on St. 76.12 39 P 11 38 43.5
baz=320,SNR=11
TLCR 76.15 321⇑P **P 11 38 44.3 +0.9**
LEWI Lewis, Hebride 76.18 347⇑*e*P **P 11 38 43.5 +0.2**
LEWI IAmb IAmb 11 38 44.3
comp=Z,41nm,0.7s
RUE Ruedersdorf 76.20 333 *e*P **P 11 38 44.3 +0.8**
comp=Z,122nm,0.8s,baz=31,slow=5.6
UZH Uzhgorod 76.27 326 *e*P **P 11 38 44.0 -0.1**
UZH *e* 11 38 53.8
UZH *e* 11 39 03.2
MALT Malatya 76.33 310 *e*P **P 11 38 47.0 +2.2**
MALT Malatya 76.33 310 P **P 11 38 46.7 +1.9**
MDO Dochfour 76.40 345⇑*e*P **P 11 38 44.7 +0.1**
ANMO Albuquerque 76.41 55 P **P 11 38 45.7 +0.3**
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 76.41 55 P **P 11 38 46.2 +0.8**
baz=314
ANMO Albuquerque 76.41 55 P **P 11 38 45.7 +0.3**
ANMO Albuquerque 76.41 55 P 11 38 46.3
baz=314,SNR=20
JURR Jurilovca 76.44 320 ⇓P **P 11 38 46.0 +1.0**
PETR Petresti 76.45 322 ⇓P **P 11 38 47.5 +2.4**
CFR Carcaliu 76.46 321 ⇓P **P 11 38 45.5 +0.3**
ODBI Odobesti 76.50 322 ⇓P **P 11 38 48.0 +2.5**
HLG Helgoland 76.51 337 *e*P **P 11 38 46.1 +0.8**
comp=Z,179nm,0.9s,baz=31,slow=5.6
KAC Achnashellach 76.51 346⇑*e*P **P 11 38 45.7 +0.4**
DRUM Mains of Drumt 76.53 344⇑*e*P **P 11 38 45.3 0.0**
BMR Baia Mare 76.54 325 ⇓P **P 11 38 46.0 +0.4**
BMR Baia Mare 76.54 325 P **P 11 38 47.0 +1.4**
VRI Vrincioaia 76.57 322 ⇑P **P 11 38 46.9 +1.0**
VRI Vrincioaia 76.57 322 *e*P **P 11 38 46.3 +0.5**
VRI Vrincioaia 76.57 322 P **P 11 38 46.6 +0.8**
TRPA Tarpa 76.57 326 *e*P P 11 38 40.3 -5.4
D41A Chassel 76.58 36 P **P 11 38 45.7 -0.1**
D41A IAmb IAmb 11 38 47.1

comp=Z,90nm,1.2s
D41A Chassel 76.58 36 P 11 38 46.1
baz=322,SNR=17
TPGR Topolog 76.58 321 ⇓P **P 11 38 46.9 +0.9**
PLOR Plostina 76.61 322 ⇑P **P 11 38 46.3 +0.2**
LENM Lemitar 76.64 55 P **P 11 38 48.0 +1.3**
ARCR ARCALIA 76.65 324 ⇑P **P 11 38 48.0 +1.8**
DARE Darende-Malaty 76.67 311 *e*P **P 11 38 48.7 +2.1**
KSP Ksiaz 76.72 331 *i* P **P 11 38 47.3 +0.7**
KSP *e*L L 12 10 38.6
comp=Z,214nm,30.7s
KPL Plockton 76.73 346⇑*e*P **P 11 38 46.9 +0.4**
KPL IAmb IAmb 11 38 47.7
comp=Z,158nm,1.1s
URFA Urfa 76.74 309 *e*P **P 11 38 48.9 +1.9**
I37A Lemond, Waseca 76.76 41 P **P 11 38 47.5 +0.6**
I37B Waseca 76.76 41 P 11 38 47.6
baz=319,SNR=27
BISRR Bisoca 76.82 322 ⇑P **P 11 38 49.5 +2.1**
L34A Svendsen Farm, 76.86 44 P **P 11 38 47.5 -0.1**
L34A IAmb IAmb 11 38 48.1
comp=Z,45nm,0.8s
L34A Svendsen Farm, 76.86 44 P 11 38 47.3
baz=318,SNR=6.6
BNM Barren Site 76.86 55 P **P 11 38 48.7 +0.7**
TIRR Tirgusor 76.89 320 ⇓P **P 11 38 48.4 +0.8**
TIRR Tirgusor 76.89 320 P **P 11 38 46.8 -0.8**
TIRR pmax pmax
comp=Z,144nm,0.9s
TIRR MLR MLR
comp=Z,500nm,22.0s
TIRR Tirgusor 76.89 320 P **P 11 38 46.8 -0.8**
OKC Ostrava-Krasne 76.89 329 *e*P **P 11 38 48.5 +1.0**
OKC MLR MLR
comp=Z,200nm,21.7s
OKC Ostrava-Krasne 76.89 329⇑*e*P **P 11 38 48.5 +1.0**
OKC AMS AMS 12 16 50.0
comp=Z,200nm,21.7s
UMR Umm Al-Rimmam 76.90 298 *e*P **P 11 38 47.8 -0.1**
HARR Harsova 76.93 321 ⇑P **P 11 38 48.9 +1.0**
LANS Liptovska Anna 76.96 328 *e*P **P 11 38 49.7 +1.7**
LANS pmax pmax
comp=Z,92nm,1.1s
LANS Liptovska Anna 76.96 328 *e*P **P 11 38 49.7 +1.7**
MIB Mutribah 76.96 299 *e*P **P 11 38 47.8 -0.5**
TLBR Topalu 76.99 321 ⇑P **P 11 38 48.9 +0.7**
OSTC Ostas 76.99 331 ⇑*i*P **P 11 38 49.1 +1.0**
CHVC Chvalec 77.02 331 ⇑*i*P **P 11 38 50.2 +1.9**
CHVC AMS AMS 12 15 50.0
comp=Z,300nm,18.6s
CORM Corum 77.03 314 *e*P **P 11 38 50.4 +1.7**
YOZ Yozgat 77.06 313 *e*P **P 11 38 49.6 +0.7**
DOPR Dopca 77.08 323 ⇑P **P 11 38 50.1 +1.3**
COWI Conover 77.08 37 P **P 11 38 48.5 -0.3**
COWI IAmb IAmb 11 38 49.0
comp=Z,22nm,0.7s
COWI Conover 77.08 37 P 11 38 48.6
baz=322,SNR=25
MFTR Murfatlar 77.10 320 ⇓P **P 11 38 49.9 +1.1**
UPC Upice 77.10 331 ⇑*i*P **P 11 38 49.6 +0.8**
UPC MLR MLR
comp=Z,300nm,19.6s
UPC Upice 77.10 331 ⇑*i*P **P 11 38 49.6 +0.8**
UPC AMS AMS 12 15 40.0
comp=Z,300nm,19.6s
KECS Kecovo 77.11 327 *e*P **P 11 38 49.5 +0.7**
KECS pmax pmax
comp=Z,39nm,1.1s
KECS Kecovo 77.11 327 *e*P **P 11 38 49.5 +0.7**
DPC Dobruska-Polom 77.12 331 ⇑*i*P **P 11 38 50.1 +1.2**
DPC MLR MLR
comp=Z,300nm,21.9s
DPC Dobruska-Polom 77.12 331 ⇑*i*P **P 11 38 50.1 +1.2**
DPC AMS AMS 12 17 00.0
comp=Z,300nm,21.9s
FLTG Flechtingen 77.14 334 *e*P **P 11 38 49.2 +0.3**
comp=Z,148nm,0.8s,baz=31,slow=5.6
CVDA Cernavoda 77.16 320 ⇓P **P 11 38 50.4 +1.3**
MORC Moravsky Berou 77.16 330 ⇑P **P 11 38 50.2 +1.1**
MORC Moravsky Berou 77.16 330 *e*P **P 11 38 49.6 +0.5**
319A Douglas 77.17 59 P **P 11 38 50.5 +0.8**
319A IAmb IAmb 11 38 51.5
comp=Z,31nm,0.9s
MESR Meseseni 77.18 325 ⇑P **P 11 38 50.9 +1.7**
KRLC Kraliky 77.19 330 *e*P **P 11 38 50.2 +0.9**
KRLC MLR MLR
comp=Z,300nm,22.3s
KRLC Kraliky 77.19 330⇑*e*P **P 11 38 50.2 +0.9**
KRLC AMS AMS 12 16 50.0
comp=Z,300nm,22.3s
MLR Muntele Rosu 77.21 322 LR LR 12 16 08.4
comp=Z,268nm,19.0s,baz=44,slow=38
MLR Muntele Rosu 77.21 322 ⇓P **P 11 38 50.6 +1.0**
MLR Muntele Rosu 77.21 322 P **P 11 38 49.3 -0.3**
MLR pmax pmax
comp=Z,76nm,0.7s
MLR MLR MLR
comp=Z,300nm,20.0s
MLR Muntele Rosu 77.21 322 P **P 11 38 49.3 -0.3**
MLR IAMs_20 IAMs_20 12 15 05.0
comp=Z,256nm,20.0s
N33A J Bar K, Exete 77.22 45 P **P 11 38 49.2 -0.4**
N33A IAmb IAmb 11 38 49.9
comp=Z,55nm,1.2s
CBBR Cluj-Babes-Bol 77.24 324 ⇑P **P 11 38 50.1 +0.5**
CJR Cluj-Napoca 77.26 324 ⇑P **P 11 38 51.2 +1.5**
G40A Rib Lake 77.27 38 P **P 11 38 49.3 -0.4**
G40A IAmb IAmb 11 38 50.4
comp=Z,29nm,0.8s
G40A Rib Lake 77.27 38 P 11 38 49.5
baz=321,SNR=26
121A Cookes Peak, D 77.29 57 P **P 11 38 51.5 +1.1**
baz=314,SNR=15
121A Cookes Peak, D 77.29 57 P **P 11 38 50.7 +0.3**
121A Cookes Peak, D 77.29 57 P 11 38 51.6
baz=314,SNR=15
INVG Invergeldie, C 77.29 345⇑*e*P **P 11 38 49.8 +0.1**
INVG IAmb IAmb 11 38 50.6
comp=Z,35nm,0.9s
QRN Al-Qurain 77.32 298 *e*P **P 11 38 50.5 +0.2**
NRDL Niedersach Rie 77.34 335 *e*P **P 11 38 50.5 +0.5**
comp=Z,52nm,0.9s,baz=31,slow=5.6
BNN Bunyan 77.35 312 *e*P **P 11 38 51.8 +1.3**
BNN Bunyan 77.35 312 P **P 11 38 50.9 +0.4**
SARI SarD1z-Kayseri 77.36 312 *e*P **P 11 38 51.9 +1.2**
RST Umm Al-Ruwaisa 77.39 299 *e*P **P 11 38 50.3 -0.4**
LTVH Ltavrtes, Hu 77.43 326 *e*P **P 11 38 51.5 +0.9**
ICOR Ion Corvin 77.43 320 ⇓P **P 11 38 52.4 +1.8**
CBKS Cedar Bluff 77.44 48 P **P 11 38 50.3 -0.6**
CBKS pmax pmax
comp=Z,21nm,0.9s
CBKS Cedar Bluff 77.44 48 P **P 11 38 50.4 -0.5**
baz=317
CBKS Cedar Bluff 77.44 48 P **P 11 38 50.3 -0.6**
CLL Collm 77.45 333 ⇑*i*P **P 11 38 50.9 +0.2**
comp=Z,209nm,0.9s
CLL *e*PP **PP 11 41 43.0 -2.1**
CLL *e*PPS PPS 11 49 36.0
CLL *e*SS SS 11 53 54.0 +19
CLL *e* 11 58 00.0
CLL *e*SSSS 11 59 12.0
CLL LmV 12 17 00.0
comp=Z,300nm,18.1s
CLL Collm 77.45 333 ⇑*i*P **P 11 38 50.9 +0.2**
CLL pmax pmax
comp=Z,209nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.1s
CLL Collm 77.45 333 P **P 11 38 50.7 0.0**
CLL IAMs_20 IAMs_20 12 17 37.6
comp=Z,300nm,18.0s
CLL Collm 77.45 333 *e*P **P 11 38 51.0 +0.4**
comp=Z,171nm,0.8s,baz=31,slow=5.6
ESY Stoneypath 77.48 344⇑*e*P **P 11 38 51.0 +0.2**
ASSE Asse, Remlinge 77.49 335 *e*P **P 11 38 51.6 +0.8**
comp=Z,24nm,0.9s,baz=31,slow=5.6
SECR 77.51 322 ⇓P **P 11 38 52.3 +1.1**
BRG Berggiesshubel 77.51 332 ⇑*i*P **P 11 38 51.4 +0.4**
BRG Amp 11 38 53.2
comp=Z,77nm,1.2s
BRG Berggiesshubel 77.51 332 P P 11 39 00.5 +9.5
BRG Amp 11 39 01.2
comp=Z,19nm,0.9s
BRG Amp 12 16 42.0
comp=E,0.2nm,17.3s
BRG Amp 12 16 44.0
comp=Z,0.3nm,17.7s
BRG Amp 12 16 48.0
comp=N,0.1nm,15.3s
BRG Berggiesshubel 77.51 332 *e*P **P 11 38 51.5 +0.5**
comp=N,45nm,0.9s,baz=31,slow=5.6
DRGR 77.57 325 ⇑P **P 11 38 52.1 +0.6**
DRGR 77.57 325 P **P 11 38 51.9 +0.4**
EAB Aberfoyle 77.57 345⇑*e*P **P 11 38 51.6 +0.3**
PVCC Panska Ves 77.59 332 *e*P **P 11 38 52.4 +1.0**
PVCC MLR MLR
comp=Z,500nm,17.7s
PVCC Panska Ves 77.59 332⇑*e*P **P 11 38 52.4 +1.0**
PVCC AMS AMS 12 16 30.0
comp=Z,500nm,17.7s
EDI Edinburgh 77.59 344 *e*P **P 11 38 51.5 +0.1**
VOIR 77.64 323 ⇓P **P 11 38 53.6 +1.7**
FBE Freiberg 77.67 333 *e*P **P 11 38 52.6 +0.7**
comp=Z,116nm,1.0s,baz=31,slow=5.6
SULR 77.70 322 ⇓P **P 11 38 53.0 +0.8**
LAWE Loch Awe, Argy 77.70 345⇑*e*P **P 11 38 52.4 +0.4**
LAWE IAmb IAmb 11 38 52.7
comp=Z,52nm,0.7s
EBL Broad Law 77.71 344⇑*e*P **P 11 38 52.4 +0.4**
VYHS Vyhne 77.73 328 *e*P **P 11 38 53.4 +1.1**
VYHS pmax pmax
comp=Z,59nm,0.9s
VYHS Vyhne 77.73 328 *e*P **P 11 38 53.4 +1.1**
HSIG 77.75 62 P **P 11 38 53.2 +0.5**
E43A Lone Tree Farm 77.78 35 P **P 11 38 51.4 -1.2**
E43A IAmb IAmb 11 38 52.9
comp=Z,29nm,0.7s
E43A Lone Tree Farm 77.78 35 P 11 38 52.5
baz=323,SNR=21
F42A Maple Grove Fa 77.78 36 P **P 11 38 52.3 -0.4**
F42A IAmb IAmb 11 38 53.6
comp=Z,36nm,0.8s
F42A Maple Grove Fa 77.79 36 P 11 38 52.8
baz=322,SNR=6.9
PSZ Piszkesteto 77.80 327 ⇓P **P 11 38 53.8 +1.0**
PSZ Piszkesteto 77.80 327 *e*P **P 11 38 53.6 +0.9**
PSZ Piszkesteto 77.80 327 P **P 11 38 53.0 +0.2**
PSZ pmax pmax
comp=Z,138nm,1.3s
PSZ MLR MLR
comp=Z,400nm,18.0s
PSZ Piszkesteto 77.80 327 P **P 11 38 53.0 +0.2**
GAZ Gaziantep 77.82 310 *e*P **P 11 38 54.7 +1.6**
GAZ Gaziantep 77.82 310 P **P 11 38 54.2 +1.1**
GAZ IAmb IAmb 11 38 55.6
comp=Z,38nm,0.9s
GAZ IAMs_20 IAMs_20 12 16 51.1
comp=Z,213nm,22.0s
CLZ Clausthal 77.83 335 *e*P **P 11 38 53.8 +1.0**
comp=Z,138nm,0.9s,baz=31,slow=5.6
JAVC Velka Javorina 77.87 329 *e*P **P 11 38 54.7 +1.6**
BR131 Keskin Array S 77.88 314 P **P 11 38 54.4 +0.9**
SNR=16
BRTR Keskin Array B 77.88 314 P **P 11 38 53.9 +0.5**
comp=Z,21nm,0.7s,baz=82,slow=3.5,SNR=81
BRTR LR LR 12 18 13.0
comp=Z,205nm,20.7s,baz=73,slow=40
BRTR Keskin Array B 77.88 314 *e*P **P 11 38 54.3 +0.8**
BRTR Keskin Array B 77.88 314 *i* P **P 11 38 54.2 +0.8**
BRTR pmax pmax
comp=Z,21nm,0.7s
VRAC Vranov 77.90 330 LR LR 12 18 00.2
comp=Z,315nm,19.4s,baz=33,slow=39
VRAC Vranov 77.90 330 ⇑P **P 11 38 54.6 +1.4**
VRAC Vranov 77.90 330 *e*P **P 11 38 53.9 +0.7**
NEUB Neuenburg 77.94 334 *e*P **P 11 38 53.9 +0.5**
comp=Z,159nm,0.9s,baz=31,slow=5.6
PGBU Glenifferbraes 77.96 345⇑*e*P **P 11 38 54.0 +0.7**
PGBU IAmb IAmb 11 38 55.0
comp=Z,114nm,0.8s
PRA Prague 78.02 331 ⇑*i*P **P 11 38 54.9 +1.1**
PRA Prague 78.02 331 ⇑*i*P **P 11 38 54.9 +1.1**
N35A Tabor 78.05 44 P **P 11 38 54.1 -0.1**
N35A IAmb IAmb 11 38 55.2
comp=Z,46nm,0.7s
PRU Pruhonice 78.05 331 ⇑*i*P **P 11 38 54.9 +0.9**
PRU MLR MLR
comp=Z,300nm,17.4s
PRU Pruhonice 78.05 331 ⇑*i*P **P 11 38 54.9 +0.9**
PRU AMS AMS 12 16 40.0
comp=Z,300nm,17.4s
K38A Parkersburg 78.10 41 P **P 11 38 53.6 -0.8**
K38A IAmb IAmb 11 38 55.3
comp=Z,34nm,1.1s
EKA Eskdalemuir Ar 78.14 344 LR LR 12 21 16.2
comp=Z,90nm,18.2s,baz=260,slow=42
EKA Eskdalemuir Ar 78.14 344 P **P 11 38 54.1 -0.3**
EKA pmax pmax
comp=Z,2.0nm,0.4s
I40A Norwalk 78.15 39 P **P 11 38 54.1 -0.6**
I40A IAmb IAmb 11 38 55.4
comp=Z,55nm,1.4s
BSZH Besenyszg 78.15 327 *e*P **P 11 38 55.7 +1.1**
ESK Eskdalemuir 78.17 344⇑*e*P **P 11 38 54.8 +0.2**
ESK IAmb IAmb 11 38 55.8
comp=Z,66nm,0.7s
ESK Eskdalemuir 78.17 344 P **P 11 38 55.0 +0.5**
ESK pmax pmax
comp=Z,68nm,0.7s
ESK Eskdalemuir 78.17 344 P **P 11 38 55.0 +0.5**
KRUC Moravsky 78.17 330 *e*P **P 11 38 55.3 +0.6**
ANTO Ankara 78.21 315 *e*P **P 11 38 56.5 +1.4**
ANTO Ankara 78.21 315 P **P 11 38 56.6 +1.4**
ANTO pmax pmax
comp=Z,113nm,0.8s
ANTO Ankara 78.21 315 P **P 11 38 56.6 +1.4**
LOD Lodumlu 78.21 315 *e*P **P 11 38 56.5 +1.3**
IBBN Ibbenburen 78.21 336 *e*P **P 11 38 55.8 +1.0**
comp=Z,102nm,0.8s,baz=31,slow=5.6
DEV Deva 78.21 324 ⇑P **P 11 38 56.7 +1.7**
GTTG Gottingen 78.21 335 *e*P **P 11 38 55.7 +0.8**
comp=Z,133nm,0.9s,baz=31,slow=5.6
SMOL Smolenice 78.25 329 *e*P **P 11 38 56.6 +1.4**
SMOL pmax pmax
comp=Z,58nm,1.3s
SMOL Smolenice 78.25 329 *e*P **P 11 38 56.6 +1.4**
R32A Long Quarter, 78.27 47 P **P 11 38 55.1 -0.4**
TREC Trest 78.31 330 *e*P **P 11 38 56.3 +0.8**
TREC Trest 78.31 330⇑*e*P **P 11 38 56.3 +0.8**
KOZT Kozan 78.36 311 *e*P **P 11 38 57.3 +1.3**
EDMD Edmundbyers 78.36 343⇑*e*P **P 11 38 55.8 +0.1**
EDMD IAmb IAmb 11 38 58.1
comp=Z,37nm,0.7s
YUVA Yuva-Kibriscik 78.38 316 *e*P **P 11 38 57.5 +1.3**
WERD Werda 78.42 333 *e*P **P 11 38 56.6 +0.5**
baz=31,slow=5.6
MODS Modra-Piesok 78.42 329 *e*P **P 11 38 58.4 +2.3**
MODS pmax pmax
comp=Z,97nm,1.1s
MODS Modra-Piesok 78.42 329 *e*P **P 11 38 58.4 +2.3**
SIRR Siria 78.42 325 ⇓P **P 11 38 57.3 +1.2**
SCIA State Center 78.45 42 P **P 11 38 57.0 +0.5**
baz=320,SNR=6.7
SCIA State Center 78.45 42 P **P 11 38 57.0 +0.5**
SCIA IAmb IAmb 11 38 57.7
comp=Z,74nm,0.9s
SCIA State Center 78.45 42 P 11 38 57.0
baz=320,SNR=6.7
MOX Moxa 78.47 333 *e*P **P 11 38 57.0 +0.6**
comp=Z,70nm,1.0s,baz=31,slow=5.6
GUNZ Gunzen 78.48 333 *e*P **P 11 38 57.1 +0.6**
comp=Z,36nm,0.7s,baz=31,slow=5.6
BUD Budapest 78.49 327 *e*P **P 11 38 57.3 +0.8**
GDLE Glaisdale, N Y 78.49 342⇑*e*P **P 11 38 56.7 +0.3**
GDLE IAmb IAmb 11 38 58.4
comp=Z,74nm,0.9s
SRO Srobarova 78.49 328 *e*P **P 11 38 58.0 +1.5**
SRO pmax pmax
comp=Z,111nm,0.9s
SRO Srobarova 78.49 328 *e*P **P 11 38 58.0 +1.5**
PBCC Pribram 78.50 332 ⇑*i*P **P 11 38 57.2 +0.7**
SRO2 Moca 78.50 328 *e*P **P 11 38 56.7 +0.2**
SRO2 pmax pmax
comp=Z,113nm,1.2s
SRO2 Moca 78.50 328 *e*P **P 11 38 56.6 +0.1**
WERN Wernitzgruen 78.53 333 *e*P **P 11 38 57.4 +0.7**
comp=Z,41nm,0.7s,baz=31,slow=5.6
NKC Novy Kostel 78.55 333 *e*P **P 11 38 57.6 +0.8**
NKC MLR MLR
comp=Z,300nm,15.1s
NKC Novy Kostel 78.55 333⇑*e*P **P 11 38 57.6 +0.8**
NKC AMS AMS 12 17 30.0
comp=Z,300nm,15.1s
MATQ Matagami 78.56 28 P **P 11 38 56.6 -0.2**
baz=328,SNR=15
MDUB Mudurnu 78.57 316 *e*P **P 11 38 58.3 +1.1**
MDUB Mudurnu 78.57 316 P **P 11 38 58.2 +1.0**
COPA Copaceanca 78.59 322 ⇑P **P 11 38 57.5 +0.4**
ZST Bratislava 78.63 329 *e*P **P 11 38 58.5 +1.2**
ZST pmax pmax
comp=Z,155nm,1.2s
ZST Bratislava 78.63 329 *e*P **P 11 38 58.5 +1.2**
GZR Gura Zlata 78.66 324 ⇑P **P 11 38 58.0 +0.5**
CMRD Camardi-Nigde 78.68 312 *e*P **P 11 38 59.3 +1.4**
CEYT Ceyhan 78.75 311 *e*P **P 11 38 59.7 +1.6**
SAUV Serdivan-Sakar 78.80 317 *e*P **P 11 38 59.2 +0.9**
KESW Keswick, Cumbr 78.83 343⇑*e*P **P 11 38 58.9 +0.7**
KESW IAmb IAmb 11 38 59.8
comp=Z,166nm,1.0s
UBBA Unterbreizbach 78.84 334 *e*P **P 11 38 59.0 +0.8**
comp=Z,30nm,0.7s,baz=31,slow=5.6
MANZ Manzenberg 78.88 333 *e*P **P 11 38 59.2 +0.5**
comp=Z,51nm,1.0s,baz=31,slow=5.6
CSKK Cskako 78.89 328 *e*P **P 11 38 59.5 +0.8**
GAL1 Galloway 78.89 344⇑*e*P **P 11 38 58.8 +0.3**
GAL1 IAmb IAmb 11 39 00.0
comp=Z,79nm,0.7s
E46A Sault Ste Mari 78.89 34 P **P 11 38 58.4 -0.3**
E46A IAmb IAmb 11 38 59.3
comp=Z,78nm,1.6s
E46A Sault Ste Mari 78.89 34 P 11 38 58.4
baz=324,SNR=8.5
I42A Draeger Farm, 78.92 38 P **P 11 38 58.5 -0.4**
I42A IAmb IAmb 11 38 59.7
comp=Z,33nm,0.8s
I42A Draeger Farm, 78.92 38 P 11 38 58.8
baz=322,SNR=17
CLGH Cloghs, Cushen 78.95 345⇑*e*P **P 11 38 59.5 +0.6**
CLGH IAmb IAmb 11 39 00.2
comp=Z,106nm,0.8s
H43A Windswept, Lux 78.96 37 P **P 11 38 58.2 -1.0**
H43A IAmb IAmb 11 39 10.1
comp=Z,37nm,0.7s
BZS Buzias 78.96 325 ⇑P **P 11 38 59.5 +0.4**
H43A Windswept, Lux 78.96 37 P 11 38 59.2
baz=323,SNR=11
TAHT Tahtakopru-Hat 78.97 310 *e*P **P 11 39 00.5 +1.2**
KASTN Kahler Asten 78.99 335 *e*P **P 11 38 59.9 +0.7**
comp=Z,55nm,0.9s,baz=31,slow=5.6
ROTZ Rotzenmuhle 79.03 333 *e*P **P 11 38 59.8 +0.4**
baz=31,slow=5.6
SULT Sultanhani-AKS 79.07 313 *e*P **P 11 39 00.9 +0.9**
JFWS Jewell Farm 79.08 40 P **P 11 38 59.8 0.0**
JFWS pmax pmax
comp=Z,20nm,1.2s
JFWS Jewell Farm 79.08 40 P **P 11 38 59.3 -0.6**
baz=321
JFWS Jewell Farm 79.08 40 P **P 11 38 59.8 0.0**
HPK Haverah Park 79.10 342⇑*e*P **P 11 39 00.5 +0.8**
HPK IAmb IAmb 11 39 01.3
comp=Z,238nm,0.7s
CHBY Cihanbeyli 79.11 314 *e*P **P 11 39 00.9 +0.7**
KHC Kasperske Hory 79.11 331 P **P 11 39 00.2 +0.2**
KHC pmax pmax
comp=Z,111nm,0.7s
KHC MLR MLR
comp=Z,500nm,20.0s
KHC Kasperske Hory 79.11 331 ⇑*i*P **P 11 39 00.9 +1.0**
KHC *ex* **PP 11 41 57.0 -2.1**
KHC AMS AMS 12 17 20.0
comp=Z,300nm,18.0s
KHC Kasperske Hory 79.11 331 P **P 11 39 00.2 +0.2**
BUG Bochum--Univer 79.11 336 *e*P **P 11 39 00.8 +1.0**
comp=Z,71nm,0.8s,baz=31,slow=5.6
CKRC Cesky Krumlov 79.12 331 ⇑*i*P **P 11 39 01.6 +1.6**
CKRC AMS AMS 12 16 50.0
comp=Z,300nm,16.6s
SRCK Saricakaya, Es 79.18 316 *e*P **P 11 39 00.9 +0.5**
EGYH Egyhazaskeszo 79.19 328 *e*P **P 11 38 57.8 -2.5**
AMTX Amarillo 79.21 52 P **P 11 39 01.4 +0.6**
baz=316
AMTX Amarillo 79.21 52 P **P 11 39 00.9 +0.1**
AMTX IAmb IAmb 11 39 02.5
comp=Z,27nm,0.9s
AMTX Amarillo 79.21 52 P 11 39 01.5
baz=316,SNR=9.2
HERR Herculane 79.22 324 ⇑P **P 11 39 00.5 0.0**
MSTX Muleshoe 79.25 53 P **P 11 39 01.3 +0.2**
baz=316
MSTX Muleshoe 79.25 53 P **P 11 39 01.2 +0.2**
YESY Yesilyurt 79.26 313 *e*P **P 11 39 02.1 +1.1**
SOP Sopron 79.26 329 *e*P **P 11 39 01.9 +1.1**
L40A Anamosa 79.28 41 P **P 11 39 00.1 -0.9**
L40A IAmb IAmb 11 39 01.5
comp=Z,34nm,0.9s
L40A Anamosa 79.29 41 P 11 39 00.5
baz=321,SNR=18
GEC2 GERESS Array S 79.31 331 *e*P **P 11 39 01.8 +0.6**
comp=Z,26nm,0.7s,baz=31,slow=5.6
GERES GERESS Array B 79.31 331 P **P 11 39 01.4 +0.3**
comp=Z,30nm,0.5s,baz=38,slow=6.3,SNR=200
GERES LR LR 12 17 54.5
comp=Z,410nm,20.0s,baz=39,slow=38
CONA Conrad Observa 79.32 330 *i* P **P 11 39 02.3 +1.1**
comp=Z,79nm,0.7s,SNR=81
MPLH Magyarpolny 79.32 328 *e*P **P 11 39 01.9 +0.8**
ADVT Abdulvahap 79.32 317 *e*P **P 11 39 02.2 +1.0**
MNTX Cornudas Mount 79.33 56 P **P 11 39 02.1 +0.8**
baz=315,SNR=25
MNTX Cornudas Mount 79.33 56 P **P 11 39 01.5 +0.1**
MNTX Cornudas Mount 79.33 56 P 11 39 02.1
baz=315,SNR=25
WET Wettzell 79.34 332 *e*P **P 11 39 01.7 +0.5**
comp=Z,48nm,0.9s,baz=31,slow=5.6
LSQQ Lebel-sur-Quev 79.38 28 P **P 11 39 01.3 -0.1**
baz=329
SHAO Shalim 79.39 285 P **P 11 39 02.7 +0.8**
YLV Yalova 79.40 317 *e*P **P 11 39 02.4 +0.7**
TIH Tihany 79.41 328 *e*P **P 11 39 02.3 +0.7**
KIZT Kizilcal 79.41 315 *e*P **P 11 39 02.7 +0.8**
GRA1 Grafenberg Arr 79.42 333 P **P 11 39 01.6 0.0**
GRF Grafenberg Arr 79.42 333 P **P 11 39 01.6 0.0**
GRF pmax pmax
comp=Z,239nm,0.9s
GRF Grafenberg Arr 79.42 333 *e*P **P 11 39 02.2 +0.6**
baz=31,slow=5.6
GRFO Grafenberg 79.42 333 P **P 11 39 01.9 +0.3**
GRFO pmax pmax
comp=Z,230nm,0.9s
GRFO Grafenberg 79.42 333 P **P 11 39 01.9 +0.3**
CIFT Cifteler, Eski 79.47 315 *e*P **P 11 39 02.6 +0.5**
CHGQ Chibougamau 79.51 26 P **P 11 39 01.8 -0.2**
baz=330,SNR=35
MERS Mersin 79.52 312 *e*P **P 11 39 03.3 +0.9**
KAN08 Anthony NE Sta 79.55 48 P **P 11 39 02.6 +0.1**
KAN08 IAmb IAmb 11 39 03.1
comp=Z,42nm,0.8s
WIM Isle of Man 79.56 344 *e*P **P 11 39 02.3 +0.1**
MDVR Moldovita 79.60 324 ⇑P **P 11 39 02.9 +0.2**
U32A Winter Ranch, 79.61 49 P **P 11 39 03.3 +0.4**
LBWR Ladybower, Pea 79.64 342⇑*e*P **P 11 39 03.5 +0.9**
LBWR IAmb IAmb 11 39 04.3
comp=Z,292nm,0.8s
ARMT Armutlu 79.65 317 *e*P **P 11 39 03.6 +0.6**
LADK Ladik-KONYA 79.67 314 *e*P **P 11 39 04.1 +0.8**
MORH Mrgy, Hungar 79.68 327 ⇓P **P 11 39 02.9 -0.1**
MORH Mrgy, Hungar 79.68 327 *e*P **P 11 39 02.8 -0.1**
MORH Mrgy, Hungar 79.68 327 ⇑*i*P **P 11 39 02.9 -0.1**
GMM Mts of Mourne 79.72 345 *e*P **P 11 39 03.2 +0.1**
WACR West Acre 79.72 341 *e*P **P 11 39 03.8 +0.7**
WACR IAmb IAmb 11 39 06.0
comp=Z,271nm,1.0s
OK032 Salt Plains WL 79.73 48 P **P 11 39 03.6 +0.1**
OK032 IAmb IAmb 11 39 04.5
comp=Z,30nm,1.0s
KS20 Mayfield South 79.77 48 P **P 11 39 03.3 -0.4**
KS20 IAmb IAmb 11 39 04.4
comp=Z,37nm,1.0s
KAN17 Caldwell West 79.79 48 P **P 11 39 03.7 -0.2**
KAN17 IAmb IAmb 11 39 04.7
comp=Z,48nm,1.2s
TNS Taunus Mts 79.84 335 *e*P **P 11 39 04.5 +0.6**
comp=Z,45nm,0.9s,baz=31,slow=5.6
MILB Miltenberg 79.92 334 *e*P **P 11 39 04.9 +0.6**

baz=31,slow=5.6
MOA Molln 79.96 330 *i* P **P 11 39 05.2 +0.6**
comp=Z,36nm,0.8s,SNR=24
AHRW Bad Neuenahr-A 79.97 336 *e*P **P 11 39 05.7 +1.2**
baz=31,slow=5.6
I45A Fountain 79.97 36 P **P 11 39 04.7 +0.1**
I45A IAmb IAmb 11 39 05.9
comp=Z,58nm,0.9s
ARSA Arzberg 80.01 329 *i* P **P 11 39 05.6 +0.7**
comp=Z,55nm,1.1s,SNR=26
GLMI Grayling 80.02 35 P **P 11 39 05.0 +0.1**
baz=324
GLMI Grayling 80.02 35 P **P 11 39 04.9 +0.1**
VLDQ Val d'Or 80.02 29 P **P 11 39 03.4 -1.4**
P38A Dawn 80.04 44 P **P 11 39 04.0 -1.1**
P38A IAmb IAmb 11 39 05.7
comp=Z,32nm,0.8s
P38A Dawn 80.04 44 P 11 39 05.2
baz=320,SNR=13
L42A Oliver, Polo 80.06 40 P **P 11 39 04.4 -0.8**
L42A IAmb IAmb 11 39 05.4
comp=Z,29nm,0.8s
L42A Oliver, Polo 80.06 40 P 11 39 04.3
baz=322,SNR=10.0
CROK Carrier 80.07 48 P **P 11 39 05.6 +0.3**
CROK IAmb IAmb 11 39 06.4
comp=Z,52nm,0.9s
FRGS Fruska Gora 80.08 326⇑P **P 11 39 05.8 +0.5**
FRGS Fruska Gora 80.08 326⇑*i*P **P 11 39 05.5 +0.3**
K43A Burlington 80.11 39 P **P 11 39 04.6 -0.8**
K43A IAmb IAmb 11 39 05.9
comp=Z,72nm,1.3s
K43A Burlington 80.11 39 P 11 39 05.0
baz=322,SNR=11
BEBN Eben Emael 80.15 337 *d*P **P 11 39 05.9 +0.5**
comp=Z,216nm,0.9s
CWF Charnwood Fore 80.16 342⇑*e*P **P 11 39 05.8 +0.3**
CWF IAmb IAmb 11 39 08.7
comp=Z,58nm,0.8s
BEHE Becsehely 80.19 328 *e*P **P 11 39 06.1 +0.3**
WME Mynd Eilian 80.19 344 *e*P **P 11 39 05.8 +0.2**
BTNL Ternell 80.20 336 *d*P **P 11 39 05.7 -0.1**
comp=Z,68nm,1.0s
TVSB Tavsanli 80.21 316 *e*P **P 11 39 07.0 +0.9**
MEM Membach 80.22 337 *d*P **P 11 39 06.2 +0.3**
comp=Z,89nm,1.1s
MRMT Marmara Adasi 80.24 318 *e*P **P 11 39 07.1 +0.9**
GZKV Gazikoy-Tekird 80.25 318 *e*P **P 11 39 08.4 +2.2**
MAR2 Marsite Statio 80.28 318 *e*P **P 11 39 07.5 +1.1**
BLOK Blackwell 80.30 48 P **P 11 39 06.4 -0.2**
BLOK IAmb IAmb 11 39 07.6
comp=Z,40nm,1.0s
WLF1 Llynfaes 80.31 344 *e*P **P 11 39 05.5 -0.8**
WLF1 IAmb IAmb 11 39 08.2
comp=Z,74nm,0.8s
SHUT Suhut-Afyon 80.34 315 *e*P **P 11 39 08.2 +1.3**
BSTI Sart Tilman 80.37 337 *d*P **P 11 39 07.2 +0.6**
comp=Z,27nm,0.7s
RKY Sarkoy-Tekirda 80.37 319 *e*P **P 11 39 07.9 +1.0**
YRC Rhoscolyn 80.39 344 *e*P **P 11 39 07.9 +1.2**
YLL Llanberis 80.41 343 *e*P **P 11 39 06.8 0.0**
KOGS Kog 80.41 328 *i* P **P 11 39 07.1 +0.1**
TEVE Tevekalti-Mers 80.42 312 *e*P **P 11 39 07.9 +0.6**
PLD Plovdiv 80.42 321 *e*P **P 11 39 07.7 +0.6**
IKL Isikli 80.43 312 *e*P **P 11 39 07.7 +0.5**
SBD1 Bryn Du 80.44 343⇑*e*P P 11 39 20.0 +13
FOEL Foel Wylfa 80.44 343 *e*P **P 11 39 07.7 +0.7**
FOEL IAmb IAmb 11 39 08.7
comp=Z,154nm,0.8s
BHOU Houvegnez 80.45 336 *b*P **P 11 39 07.7 +0.6**
comp=Z,74nm,1.0s
N41A Harden Midland 80.51 41 P **P 11 39 07.1 -0.5**
N41A IAmb IAmb 11 39 08.5
comp=Z,62nm,0.8s
UCC Uccle 80.52 338 *d*P **P 11 39 07.5 +0.1**
UCC Uccle 80.52 338 P **P 11 39 07.3 -0.1**
UCC pmax pmax
comp=Z,40nm,0.8s
UCC Uccle 80.52 338 P **P 11 39 07.3 -0.1**
UCC IAmb IAmb 11 39 10.3
comp=Z,40nm,0.8s
KRBG Karabiga-Canak 80.54 318 *e*P **P 11 39 08.9 +1.1**
SEYD Seydisehir-KON 80.54 314 *e*P **P 11 39 09.2 +1.2**
T35A Sooner Cattle 80.55 47 P **P 11 39 07.8 -0.2**
T35A IAmb IAmb 11 39 09.1
comp=Z,61nm,0.9s
T35B Sooner Cattle 80.56 47 P 11 39 08.2
baz=319,SNR=18
RJOB Jochberg 80.58 331 *e*P **P 11 39 08.6 +0.7**
comp=Z,136nm,0.8s,baz=31,slow=5.6
BCLA Clavier 80.59 337 *b*P **P 11 39 07.8 0.0**
comp=Z,77nm,1.0s
BCLA *d*pP **pP 11 39 21.5 -2.8**
BERE Bereket-Mersin 80.60 312 *e*P **P 11 39 08.6 +0.2**
VTS Vitosha 80.67 322⇑P **P 11 39 09.8 +1.2**
VTS Vitosha 80.67 322 P **P 11 39 08.6 0.0**
VTS pmax pmax
comp=Z,80nm,0.9s
VTS MLR MLR
comp=Z,300nm,21.0s
VTS Vitosha 80.67 322 P **P 11 39 08.6 0.0**
VTS IAmb IAmb 11 39 10.8
comp=Z,80nm,0.9s
VTS IAMs_20 IAMs_20 12 17 39.8
comp=Z,308nm,21.0s
SOKA Soboth 80.67 329 *i* P **P 11 39 08.9 +0.5**
comp=Z,152nm,1.0s,SNR=96
PERS Pernice 80.68 329 *i* P **P 11 39 08.9 +0.4**
BGES Gesves 80.68 337 *b*P **P 11 39 08.5 +0.2**
comp=Z,70nm,1.0s
HLM1 Long Mynd 80.72 342⇑*e*P **P 11 39 09.2 +0.6**
HLM1 IAmb IAmb 11 39 09.9
comp=Z,136nm,1.2s
L44A Lake County Fo 80.72 39 P **P 11 39 08.3 -0.4**
baz=323
L44A Lake County Fo 80.72 39 P **P 11 39 08.3 -0.4**
L44A IAmb IAmb 11 39 09.5
comp=Z,48nm,1.1s
FUR Furstenfeldbru 80.73 332 *e*P **P 11 39 08.9 +0.2**
comp=Z,99nm,0.9s,baz=31,slow=5.6
ALN Alexandroupoli 80.75 319 P **P 11 39 08.5 -0.3**
ALN Alexandroupoli 80.75 319 *e*P **P 11 39 09.6 +0.8**
ALN Alexandroupoli 80.75 319 P **P 11 39 09.0 +0.2**
ALN pmax pmax
comp=Z,85nm,1.2s
ALN MLR MLR
comp=Z,100nm,18.0s
ALN Alexandroupoli 80.75 319 P **P 11 39 09.0 +0.2**
ALN IAmb IAmb 11 39 10.7
comp=Z,85nm,1.2s
ALN IAMs_20 IAMs_20 12 18 21.9
comp=Z,108nm,18.0s
DSB Dublin 80.75 345 P **P 11 39 08.3 -0.3**
DSB IAmb IAmb 11 39 10.2
comp=Z,98nm,1.1s
RDO Rodhopi 80.79 320 P **P 11 39 09.4 +0.3**
RDO Rodhopi 80.79 320 *e*P **P 11 39 10.2 +1.1**
SNF Seneffe 80.80 337 *d*P **P 11 39 09.0 +0.1**
comp=Z,79nm,0.8s
TEKE Tekeli-Mersin 80.81 312 *e*P **P 11 39 09.4 +0.1**
ENEZ Enez 80.82 319 P **P 11 39 10.4 +1.2**
ENEZ Enez 80.82 319 *e*P **P 11 39 10.2 +1.0**
BALB Balikesir 80.84 317 *e*P **P 11 39 10.2 +0.8**
BALB Balikesir 80.84 317 P **P 11 39 10.1 +0.7**
BALB IAmb IAmb 11 39 11.2
comp=Z,75nm,0.8s
P40A Paris 80.85 43 P **P 11 39 08.9 -0.5**
P40A IAmb IAmb 11 39 10.6
comp=Z,54nm,1.1s
P40A Paris 80.85 43 P 11 39 09.6
baz=321,SNR=31
BMRD Maredsous 80.85 337 *d*P **P 11 39 09.5 +0.3**
comp=Z,107nm,1.0s
RCHB Rochefort 80.85 337 *d*P **P 11 39 09.3 +0.1**
comp=Z,61nm,1.2s
RCHB *d*PcP **PcP 11 39 15.3 -0.4**
DIVS Divibare 80.87 325⇑*i*P **P 11 39 09.8 +0.2**
DIVS Divibare 80.87 325 P **P 11 39 09.2 -0.3**
DIVS IAmb IAmb 11 39 12.3
comp=Z,50nm,0.8s
DIVS IAMs_20 IAMs_20 12 18 24.9
comp=Z,232nm,18.0s
STU Stuttgart 80.88 334 P **P 11 39 09.7 +0.3**
STU pmax pmax
comp=Z,141nm,1.0s
STU Stuttgart 80.88 334 P **P 11 39 09.7 +0.3**
STU Stuttgart 80.88 334 *e*P **P 11 39 10.0 +0.5**
comp=Z,61nm,0.8s,baz=31,slow=5.6
OK029 Liberty Lake 80.89 48 P **P 11 39 10.0 +0.2**
OK029 IAmb IAmb 11 39 11.0
comp=Z,36nm,0.8s
ISP Isparta 80.91 315 *e*P **P 11 39 10.2 +0.3**
ISP Isparta 80.91 315 IAMs_20 IAMs_20 12 21 34.3
comp=Z,282nm,18.0s
GELI Tayfur-Gelibol 80.93 319 *e*P **P 11 39 10.6 +0.8**
WMOK Wichita Mounta 80.94 50 P **P 11 39 09.7 -0.4**
WMOK pmax pmax
comp=Z,19nm,1.2s
WMOK Wichita Mounta 80.94 50 P **P 11 39 10.2 +0.2**
baz=318,SNR=15
WMOK Wichita Mounta 80.94 50 P **P 11 39 09.7 -0.4**
WMOK Wichita Mounta 80.94 50 P 11 39 10.2
baz=318,SNR=15
KBA Koelnbreinsper 80.95 331 *i* P **P 11 39 10.5 +0.5**
comp=Z,85nm,0.8s,SNR=61
OBKA Obir 81.00 329 *i* P **P 11 39 10.3 +0.1**
comp=Z,34nm,0.7s,SNR=32
QUOK Quay 81.01 48 P **P 11 39 10.4 +0.1**
QUOK IAmb IAmb 11 39 11.6
comp=Z,50nm,1.4s
GIVF Givet 81.01 337 *e*P **P 11 39 09.3 -0.8**
GIVF pmax pmax
comp=Z,45nm,1.0s
WLF Walferdange 81.02 336 *d*P **P 11 39 10.3 +0.2**
comp=Z,39nm,1.2s
WLF Walferdange 81.02 336 P **P 11 39 11.1 +0.9**
WLF pmax pmax
comp=Z,43nm,0.9s
WLF MLR MLR
comp=Z,400nm,19.0s
WLF Walferdange 81.02 336 P **P 11 39 11.1 +0.9**
WLF IAmb IAmb 11 39 15.6
comp=Z,43nm,0.9s
WLF Walferdange 81.02 336 *e*P **P 11 39 11.7 +1.5**
baz=31,slow=5.6
HQIL Hanson Quary C 81.05 39 P **P 11 39 10.4 0.0**
HQIL IAmb IAmb 11 39 11.3
comp=Z,65nm,1.1s
ELSH Elham, Standar 81.05 340⇑*e*P **P 11 39 11.0 +0.8**
ELSH IAmb IAmb 11 39 11.8
comp=Z,292nm,0.8s
DOU Dourbes 81.08 337 *d*P **P 11 39 10.4 -0.1**
comp=Z,39nm,1.2s
OK031 S. Brethren Rd 81.10 48 P **P 11 39 10.7 -0.2**
OK031 IAmb IAmb 11 39 12.1
comp=Z,28nm,0.9s
OK025 Westminster Rd 81.11 49 P **P 11 39 10.9 0.0**
OK025 IAmb IAmb 11 39 12.1
comp=Z,62nm,0.8s
OKCFA Oklahoma City 81.17 49 P **P 11 39 11.9 +0.6**
OKCFA IAmb IAmb 11 39 12.6
comp=Z,65nm,1.0s
J47A Sunmer 81.22 36 P **P 11 39 10.5 -0.8**
J47A IAmb IAmb 11 39 12.2
comp=Z,38nm,0.7s
MYKA Terra Mystica 81.22 330 *i* P **P 11 39 11.2 -0.2**
comp=Z,25nm,0.6s,SNR=24
J47A Sunmer 81.22 36 P 11 39 11.9
baz=324,SNR=8.5
J47A P 11 39 11.9
baz=324,SNR=8.5
BAIF Baives 81.22 337 *e*P **P 11 39 10.5 -0.7**
BAIF pmax pmax
comp=Z,56nm,1.1s
LFK Lefkose 81.23 311 *e*P **P 11 39 12.2 +0.6**
MCH1 Michaelchurch 81.23 342⇑*e*P **P 11 39 11.8 +0.6**
MCH1 IAmb IAmb 11 39 12.6
comp=Z,139nm,0.7s
CRES Cresnjev 81.23 329⇑*i*P **P 11 39 11.5 +0.1**
M44A Midewin, Midew 81.29 39 P **P 11 39 10.7 -1.0**
M44A IAmb IAmb 11 39 12.6
comp=Z,86nm,1.0s
M44A Midewin, Midew 81.29 39 P 11 39 11.7
baz=323,SNR=21
BBLS Lazići 81.31 325⇑*i*P **P 11 39 12.6 +0.7**
FNO Franklin 81.32 49 P **P 11 39 12.0 0.0**
FNO IAmb IAmb 11 39 13.5
comp=Z,53nm,0.9s
WATA Walderalm 81.34 332 *i* P **P 11 39 12.8 +0.7**
comp=Z,71nm,0.5s,SNR=52
HDIL Hopedale 81.37 40 P **P 11 39 12.5 +0.3**
baz=322,SNR=19
HDIL Hopedale 81.37 40 P **P 11 39 11.5 -0.7**
HDIL Hopedale 81.37 40 P 11 39 12.2
baz=322,SNR=19
WTTA Wattenberg 81.38 332 *i* P **P 11 39 13.2 +0.8**
comp=Z,92nm,0.5s,SNR=65
NVR Nevrokopi 81.40 321 P **P 11 39 12.9 +0.5**
NWAO Narrogin (SRO) 81.47 206 P **P 11 39 12.7 +0.2**
comp=Z,3.5nm,0.6s,baz=29,slow=10,SNR=1.7
WOL Wolverton 81.47 341⇑*e*P **P 11 39 12.9 +0.4**
BLY Banja Luka 81.47 327⇑*i*P **P 11 39 12.6 0.0**
I49A Point Hope 81.48 34 P **P 11 39 12.7 0.0**
I49A IAmb IAmb 11 39 13.9
comp=Z,52nm,0.9s
RETA Reutte 81.49 332 *i* P **P 11 39 13.4 +0.6**
comp=Z,142nm,1.2s,SNR=11
MOTA Moosalm 81.50 332 *i* P **P 11 39 13.6 +0.6**
comp=Z,91nm,0.7s,SNR=105
HMNX Herstmonceux 81.50 340⇑*e*P **P 11 39 13.9 +1.3**
HMNX IAmb IAmb 11 39 14.8
comp=Z,469nm,1.0s
RUDO Rudo 81.52 325⇑*i*P **P 11 39 12.6 -0.4**
ABTA Abfaltersbach 81.52 331 *i* P **P 11 39 12.6 -0.4**
comp=Z,39nm,1.3s,SNR=14
ZOU Zoufplan 81.52 330 P **P 11 39 12.7 -0.4**
UBR Ueberruh 81.54 333 *e*P **P 11 39 13.5 +0.5**
comp=Z,14nm,0.7s,baz=31,slow=5.6
UBR *e*pP **pP 11 39 29.7 +0.2**
BFO Black Forest 81.54 334 P **P 11 39 13.0 0.0**
BFO pmax pmax
comp=Z,60nm,0.8s
BFO Black Forest 81.54 334 P **P 11 39 13.0 0.0**
BFO IAmb IAmb 11 39 15.8
comp=Z,60nm,0.8s
BFO Black Forest 81.54 334 *e*P **P 11 39 13.4 +0.4**
comp=Z,38nm,0.8s,baz=31,slow=5.6
SQTA Sankt Quirin 81.57 332 *i* P **P 11 39 14.0 +0.7**
comp=Z,73nm,0.6s,SNR=43
X34A Smith Ranch, M 81.57 50 P **P 11 39 14.0 +0.7**
X34A IAmb IAmb 11 41 04.7
comp=Z,24nm,0.7s
L46A Eue Claire 81.57 38 P **P 11 39 13.6 +0.4**
CSS Mathiatis 81.58 311 *e*P **P 11 39 14.2 +0.8**
CSS Mathiatis 81.58 311 P **P 11 39 14.1 +0.7**
CSS IAmb IAmb 11 39 16.4
comp=Z,79nm,1.1s
CSS IAMs_20 IAMs_20 12 19 12.4
comp=Z,133nm,19.0s
BOJS Bojanci 81.58 329 *i* P **P 11 39 13.2 0.0**
S39A Bolivar 81.62 45 P **P 11 39 12.8 -0.8**
S39A IAmb IAmb 11 39 13.9
comp=Z,34nm,0.9s
S39A Bolivar 81.62 45 P 11 39 12.8
baz=320,SNR=26
RSBS Rosebush, Pemb 81.65 343 *e*P **P 11 39 13.3 -0.1**
RSBS IAmb IAmb 11 39 14.2
comp=Z,51nm,0.7s
ALGO Algonquin Park 81.65 31 P **P 11 39 12.9 -0.6**
baz=328,SNR=8.1
TUL1 Leonard 81.69 47 P **P 11 39 14.2 +0.3**
baz=319
CEY Cerknica 81.69 329⇑*i*P **P 11 39 13.5 -0.3**
R40A Maddies Statio 81.69 44 P **P 11 39 12.2 -1.7**
R40A IAmb IAmb 11 39 14.7
comp=Z,39nm,0.8s
R40A Maddies Statio 81.69 44 P 11 39 13.8
baz=321,SNR=24
SRS Serrai 81.71 321 P **P 11 39 13.9 -0.1**
PLE Pljevlja 81.75 325 *e*P **P 11 39 14.4 +0.1**
DKL Dikili 81.76 318 *e*P **P 11 39 13.9 -0.3**
MGRS Mrkonjic Grad 81.79 327 *e*P **P 11 39 15.5 +1.1**
CDF Champ du Feu 81.80 335 *e*P **P 11 39 13.8 -0.6**
CDF pmax pmax
comp=Z,71nm,0.9s
MMAI Mount Meron Ar 81.87 308 P **P 11 39 14.7 -0.3**
comp=Z,54nm,0.6s,baz=36,slow=7.2,SNR=64
STAL STALIGIAL 81.87 330 P **P 11 39 13.6 -1.1**
STAL IAmb IAmb 11 39 14.8
comp=Z,54nm,0.7s
STIP Stip 81.88 322 *i* P **P 11 39 14.4 -0.5**
FETA Feichten 81.90 332 *i* P **P 11 39 15.7 +0.6**
comp=Z,36nm,0.8s,SNR=28
IVA Berane 81.92 324 *e*P **P 11 39 15.1 0.0**
PRK Paraskevi 81.93 318 P **P 11 39 16.3 +1.2**
LIA Limnos Island 81.94 319 P **P 11 39 15.6 +0.4**
DAVA Damuels 81.96 333 *i* P **P 11 39 15.9 +0.5**
comp=Z,79nm,0.9s,SNR=40
P43A Skaggs, Pawnee 81.98 41 P **P 11 39 14.8 -0.6**
P43A IAmb IAmb 11 39 16.3
comp=Z,39nm,0.9s
SKO Skopje 81.98 323 *i* P **P 11 39 16.4 +1.0**
VAY Valandovo 82.01 322 *i* P **P 11 39 16.1 +0.6**
ECH Echery 82.01 335 P **P 11 39 14.7 -0.8**
ECH pmax pmax
comp=Z,59nm,0.8s
ECH Echery 82.01 335 P **P 11 39 14.7 -0.8**
ECH IAmb IAmb 11 39 18.2
comp=Z,59nm,0.8s
ABTX Abilene, Hawle 82.02 52 P **P 11 39 16.4 +0.6**
baz=318
ABTX Abilene, Hawle 82.02 52 P **P 11 39 15.8 0.0**
U38A Gravette 82.03 46 P **P 11 39 14.8 -1.0**
U38A IAmb IAmb 11 39 16.6
comp=Z,27nm,0.9s
U38A Gravette 82.03 46 P 11 39 15.4
baz=320,SNR=16
ELL Elmali 82.05 314 P **P 11 39 15.9 -0.1**
ELL pmax pmax
comp=Z,189nm,0.8s
ELL Elmali 82.05 314 P **P 11 39 15.9 -0.1**
TX31 Lajitas Ar. Si 82.05 57 P 11 39 16.8
baz=316,SNR=73
TXAR Lajitas Array 82.05 57 P **P 11 39 16.6 +0.5**
comp=Z,22nm,0.7s,baz=299,slow=4.0,SNR=307
TXAR PKKPbc **PKKPbc 11 57 46.1 +3.2**
comp=Z,1.2nm,0.8s,baz=142,slow=6.3,SNR=14
TXAR LR LR 12 11 05.1
comp=Z,55nm,21.8s,baz=0.0,slow=32
UPM Unac-Piva 82.06 325⇑*i*P **P 11 39 15.5 -0.5**
UPM Unac-Piva 82.06 325 *e*P **P 11 39 15.7 -0.3**
O44A Mansfield 82.07 40 P **P 11 39 14.9 -1.0**
O44A Mansfield 82.07 40 P 11 39 15.9
baz=323,SNR=7.3
KOME Kolasin 82.09 324 *e*P **P 11 39 16.1 0.0**
PVY Plav 82.11 324 *e*P **P 11 39 16.1 -0.1**
AYDB Zeytinkoy-Aydi 82.15 316 *e*P **P 11 39 16.9 +0.4**
SIGR SIGRI 82.16 318 *e*P **P 11 39 17.4 +1.1**
LATQ La Tuque 82.23 27 P **P 11 39 16.4 -0.1**
baz=332
LATQ La Tuque 82.23 27 P **P 11 39 15.7 -0.8**
SADO Sadowa 82.25 32 P **P 11 39 15.7 -1.0**
MMLI Mount Malkishu 82.28 308 *e*P **P 11 39 18.9 +1.7**
PLG Polygyros 82.37 321 P **P 11 39 17.3 -0.2**
GRG Griva 82.38 322 P **P 11 39 16.6 -0.9**
LOOK Love County 82.38 50 P **P 11 39 17.9 +0.3**
CCM Cathedral Cave 82.39 43 P **P 11 39 16.8 -0.7**
CCM pmax pmax
comp=Z,44nm,0.8s
CCM Cathedral Cave 82.39 43 P **P 11 39 17.6 0.0**
baz=321
CCM Cathedral Cave 82.39 43 P **P 11 39 16.8 -0.7**
CCM IAmb IAmb 11 39 18.5
comp=Z,44nm,0.8s
HHAR Hobbs 82.39 46 P **P 11 39 17.0 -0.6**
CCM Cathedral Cave 82.39 43 P 11 39 17.5
baz=321,SNR=42
NKME Niksic 82.40 325 *e*P **P 11 39 17.2 -0.4**
DAVOX Davos/Dischmat 82.40 332 LR LR 12 21 01.3
comp=Z,130nm,18.0s,baz=79,slow=39
CTI Castel Tesino 82.43 331 P **P 11 39 16.8 -1.0**
CTI pmax pmax
comp=Z,52nm,0.6s
CTI MLR MLR
comp=Z,400nm,21.0s
CTI Castel Tesino 82.43 331 P **P 11 39 16.8 -1.0**
L48A N Adams 82.44 37 P **P 11 39 17.6 -0.2**
L48A N Adams 82.44 37 P 11 39 18.1
baz=325,SNR=14
L48A P 11 39 18.1
baz=325,SNR=14
HAU Haudompre 82.44 335 *e*P **P 11 39 16.8 -0.9**
HAU pmax pmax
comp=Z,59nm,0.8s
D58A Chemin du LacG 82.45 27 P **P 11 39 17.4 -0.3**
baz=332,SNR=9.2
BRY Bratogost 82.46 325⇑*i*P **P 11 39 17.4 -0.6**
BRY Bratogost 82.46 325 *e*P **P 11 39 17.5 -0.6**
HINF Hinteralfeld 82.46 335 *e*P **P 11 39 16.8 -1.0**
HINF pmax pmax
comp=Z,24nm,0.8s
AAM Ann Arbor 82.48 36 P **P 11 39 18.1 +0.1**
AAM pmax pmax
comp=Z,37nm,0.8s
AAM Ann Arbor 82.48 36 P **P 11 39 18.6 +0.6**
baz=325
AAM Ann Arbor 82.48 36 P **P 11 39 18.1 +0.1**
AAM IAmb IAmb 11 39 19.3
comp=Z,37nm,0.8s
RAYN Ar Rayn 82.49 295 *i* P **P 11 39 19.2 +0.8**
SNR=32
RAYN Ar Rayn 82.49 295 P **P 11 39 18.6 +0.2**
RAYN pmax pmax
comp=Z,147nm,1.7s
RAYN Ar Rayn 82.49 295 P **P 11 39 18.6 +0.2**
HTL Hartland 82.50 343 *e*P **P 11 39 18.6 +0.8**
HTL IAmb IAmb 11 39 19.5
comp=Z,129nm,1.0s
SFIN Lafayette 82.52 39 P **P 11 39 18.2 0.0**
baz=323,SNR=19
SFIN Lafayette 82.52 39 P **P 11 39 17.3 -0.9**
SFIN IAmb IAmb 11 39 19.3
comp=Z,71nm,1.2s
SFIN Lafayette 82.53 39 P 11 39 18.3
baz=323,SNR=19
K50A Casco 82.53 35 P **P 11 39 18.0 -0.2**
K50A IAmb IAmb 11 39 19.4
comp=Z,55nm,1.0s
HPIG 82.53 60 P **P 11 39 18.9 +0.1**
PDG Podgorica 82.55 324⇑P **P 11 39 18.5 +0.2**
PDG Podgorica 82.55 324⇑*i*P **P 11 39 18.3 0.0**
PDG Podgorica 82.55 324 P **P 11 39 17.9 -0.4**
PDG IAMs_20 IAMs_20 12 19 11.2
comp=Z,247nm,20.0s
TTG Podgorica 82.55 324 *e*P **P 11 39 18.2 0.0**
MGMO Mountain Grove 82.57 44 P **P 11 39 17.4 -1.2**
MGMO IAMs_20 IAMs_20 12 16 43.0
comp=Z,197nm,20.0s
YER Yerkesik 82.58 316 P **P 11 39 19.3 +0.6**
YER Yerkesik 82.58 316 *e*P **P 11 39 19.8 +1.1**
CEME Cevo 82.59 325 *e*P **P 11 39 18.3 -0.3**
PUK Puka 82.59 324 P **P 11 39 17.9 -0.8**
DALY Dalyan (Mula) 82.64 315 *e*P **P 11 39 19.7 +0.8**
PHP Peshkopia 82.65 323 P **P 11 39 19.0 0.0**
TREB Trebinje 82.69 325 *e*P **P 11 39 18.0 -1.1**
VAL Valentia 82.69 347⇑*e*P **P 11 39 19.2 +0.4**
N47A Urbana 82.75 38 P **P 11 39 18.6 -0.8**
N47A IAmb IAmb 11 39 20.1
comp=Z,66nm,0.9s
N47A Urbana 82.75 38 P 11 39 19.1
baz=324,SNR=22
N47A P 11 39 19.1
baz=324,SNR=22
DRME Dracevica, Mon 82.78 324⇑*i*P **P 11 39 19.6 0.0**
DRME Dracevica, Mon 82.78 324 *e*P **P 11 39 19.5 0.0**
PLVO Plevna 82.79 30 P **P 11 39 18.8 -0.7**
PLVO IAmb IAmb 11 39 20.1
comp=Z,33nm,0.9s
Q44A Meyer Farm, Va 82.80 41 P **P 11 39 18.2 -1.5**
Q44A IAmb IAmb 11 39 20.8
comp=Z,63nm,1.1s
Q44A Meyer Farm, Va 82.80 41 P 11 39 19.9
baz=322,SNR=12
BUM Brajici-Budva 82.81 325 *e*P **P 11 39 19.5 -0.3**
STON Ston 82.83 326⇑*i*P **P 11 39 18.7 -1.0**
Z35A Perchaven, San 82.84 50 P **P 11 39 18.7 -1.3**
Z35A IAmb IAmb 11 39 20.8
comp=Z,31nm,1.0s
TUE Stuetta 82.85 333 P **P 11 39 20.1 0.0**
D59A Saint-Raymond 82.87 26 P **P 11 39 20.1 +0.2**
baz=332
U40A Yellville 82.89 45 P **P 11 39 20.1 -0.1**
baz=321,SNR=47
U40A Yellville 82.89 45 P **P 11 39 19.9 -0.4**
U40A IAmb IAmb 11 39 21.0
comp=Z,46nm,0.8s

U40A Yellville 82.89 45 P 11 39 20.1
baz=321,SNR=47
U40A P 11 39 20.1
baz=321,SNR=47
DYA Yadsworthy 82.90 342⇑ *e*P **P 11 39 20.3 +0.3**
DYA IAmb IAmb 11 39 21.2
comp=Z,265nm,1.3s
X37A Clayton 82.92 48 P **P 11 39 20.0 -0.4**
X37A Clayton 82.92 48 P 11 39 20.5
baz=320,SNR=7.6
ULC Ulcinj 82.94 324 *e*P **P 11 39 20.1 -0.3**
E58A La Victoria 82.96 27 P **P 11 39 20.4 0.0**
baz=331,SNR=21
OHR Ohrid 82.96 323 *i* P **P 11 39 20.4 -0.2**
FNA Florina 82.97 322 P **P 11 39 18.9 -1.7**
FNA Florina 82.97 322 *e*P **P 11 39 19.4 -1.2**
FNA Florina 82.97 322 P **P 11 39 19.9 -0.7**
FNA pmax pmax
comp=Z,43nm,0.8s
FNA MLR MLR
comp=Z,300nm,19.0s
FNA Florina 82.97 322 P **P 11 39 19.9 -0.7**
FNA IAmb IAmb 11 39 21.6
comp=Z,43nm,0.8s
FNA IAMs_20 IAMs_20 12 17 48.6
comp=Z,318nm,19.0s
TEOL Teolo 83.02 331 P **P 11 39 20.1 -0.6**
LIT Litokhoron 83.03 321 P **P 11 39 20.3 -0.6**
LIT Litokhoron 83.03 321 P **P 11 39 20.4 -0.5**
LIT pmax pmax
comp=Z,42nm,1.0s
LIT Litokhoron 83.03 321 P **P 11 39 20.4 -0.5**
LIT IAmb IAmb 11 39 21.7
comp=Z,42nm,1.0s
DELO Deloro Mine 83.03 31 P **P 11 39 19.8 -1.0**
DELO IAmb IAmb 11 39 21.5
comp=Z,31nm,1.0s
P46A Rosedale 83.08 40 P **P 11 39 21.2 0.0**
P46A Rosedale 83.08 40 P 11 39 21.5
baz=323,SNR=29
BODT Bodrum 83.13 316 *e*P **P 11 39 21.6 +0.2**
TIR Tirane 83.17 323 P **P 11 39 20.9 -0.7**
TIR pmax pmax
comp=Z,110nm,0.7s
TIR MLR MLR
comp=Z,300nm,20.0s
TIR Tirane 83.17 323 P **P 11 39 20.9 -0.7**
TIR IAMs_20 IAMs_20 12 19 27.9
comp=Z,297nm,20.0s
KZN Kozani 83.18 322 P **P 11 39 21.2 -0.6**
SALO Salr 83.19 331 P **P 11 39 21.0 -0.7**
D61A St Aubert, Com 83.21 25 P **P 11 39 21.6 0.0**
baz=333
D60A Saint Jean D'O 83.24 26 P **P 11 39 21.5 -0.3**
baz=333,SNR=9.5
DAT Datca 83.25 316 P **P 11 39 21.9 -0.3**
DAT Datca 83.25 316 *e*P **P 11 39 22.0 -0.3**
W39A Magazine 83.30 47 P **P 11 39 22.4 0.0**
baz=320,SNR=11
W39A Magazine 83.30 47 P **P 11 39 20.6 -1.8**
W39A IAmb IAmb 11 39 23.3
comp=Z,31nm,1.1s
W39A Magazine 83.30 47 P 11 39 22.4
baz=320,SNR=11
OLIL Olney 83.37 41 P **P 11 39 22.6 0.0**
OLIL IAmb IAmb 11 39 23.9
comp=Z,30nm,0.9s
OLIL Olney 83.37 41 P 11 39 23.1
baz=323,SNR=7.2
N49A Columbus Grove 83.39 37 P **P 11 39 22.6 -0.1**
N49A IAmb IAmb 11 39 23.7
comp=Z,46nm,0.9s
N49A Columbus Grove 83.39 37 P 11 39 22.9
baz=325,SNR=15
N49A P 11 39 22.9
baz=325,SNR=15
CCA1 Carnmenellis 83.42 343⇑ *e*P **P 11 39 23.3 +0.6**
CCA1 IAmb IAmb 11 39 23.6
comp=Z,77nm,0.8s
KYMI Kymi, Euboea I 83.45 319 P **P 11 39 22.6 -0.5**
M50A Fremont 83.48 36 P **P 11 39 23.1 -0.1**
M50A IAmb IAmb 11 39 24.1
comp=Z,40nm,0.7s
M50A Fremont 83.48 36 P 11 39 23.3
baz=326,SNR=5.6
M50A P 11 39 23.3
baz=326,SNR=5.6
JCT Junction City 83.50 54 P **P 11 39 23.5 -0.1**
JCT pmax pmax
comp=Z,41nm,1.1s
JCT Junction City 83.50 54 P **P 11 39 23.8 +0.2**
baz=318,SNR=17
JCT Junction City 83.50 54 P **P 11 39 23.4 -0.1**
JCT IAmb IAmb 11 39 24.9
comp=Z,41nm,1.1s
JCT Junction City 83.51 54 P 11 39 23.9
baz=318,SNR=17
E60A Ste Agathe de 83.56 26 P **P 11 39 23.5 +0.1**
baz=332,SNR=16
PPT Papeete 83.58 122 LR LR 12 08 46.2
comp=Z,129nm,20.2s,baz=325,slow=30
PPT2 Papeete2 83.60 122 *e*S **S 11 49 46.6 +5.0**
comp=Z,65nm,25.5s
PPT2 Papeete2 83.60 122 *e*LR LR 12 05 29.9
comp=Z,1um,31.8s,baz=318
PPT2 Papeete2 83.60 122 *e*T T 13 11 10.2
comp=Z,7.9nm,0.3s
CLF Chambon-Foret 83.61 338 P **P 11 39 24.1 +0.5**
SENIN Lac Senin/Sane 83.61 334 P **P 11 39 23.8 -0.2**
SENIN IAmb IAmb 11 39 25.4
comp=Z,50nm,0.7s
FCAR Ozark Folk Cen 83.62 45 P **P 11 39 22.8 -1.2**
FCAR IAmb IAmb 11 39 24.6
comp=Z,31nm,1.0s
JQE Queens East 83.63 341⇑ *e*P **P 11 39 24.3 +0.6**
S44A Carbondale 83.64 42 P **P 11 39 24.0 -0.1**
S44A Carbondale 83.64 42 P 11 39 24.5
baz=322,SNR=26
SIUC Southern Illin 83.64 42 P **P 11 39 23.8 -0.3**
PAE Paea 83.65 122 *e*T T 13 11 13.2
comp=Z,1.5nm,0.3s
JVM Valle D.L. Mar 83.65 341⇑ *e*P **P 11 39 24.2 +0.4**
FLN La Foliniere 83.65 340 *e*P **P 11 39 23.3 -0.6**
FLN pmax pmax
comp=Z,131nm,1.0s
D62A Allapoint, All 83.66 24 P **P 11 39 24.2 +0.2**
baz=334,SNR=19
D62A Allapoint, All 83.66 24 P **P 11 39 23.7 -0.2**
D62A IAmb IAmb 11 39 25.0
comp=Z,30nm,0.7s
D62A Allapoint, All 83.66 24 P 11 39 24.2
baz=334,SNR=19
D62A P 11 39 24.2
baz=334,SNR=19
JSA Saint Aubin 83.67 341⇑ *e*P **P 11 39 24.5 +0.6**
JSA IAmb IAmb 11 39 25.4
comp=Z,145nm,0.9s
J54A Appleton 83.70 32 P **P 11 39 24.1 -0.1**
J54A IAmb IAmb 11 39 25.3
comp=Z,54nm,0.8s
J54A Appleton 83.71 32 P 11 39 24.8
baz=328,SNR=6.6
J54A P 11 39 24.8
baz=328,SNR=6.6
TIAR Tiarei 83.71 122 *e*T T 13 11 18.9
comp=Z,3.0nm,0.3s
LDF La Druitiere 83.72 339 *e*P **P 11 39 23.8 -0.4**
LDF pmax pmax
comp=Z,89nm,1.0s
F60A Warwick 83.75 27 P **P 11 39 24.1 -0.3**
baz=332,SNR=5.5
BLO Bloomington 83.76 40 P **P 11 39 24.5 -0.1**
BLO pmax pmax
comp=Z,19nm,0.7s
BLO Bloomington 83.76 40 P **P 11 39 24.5 -0.1**
BLO IAmb IAmb 11 39 25.2
comp=Z,19nm,0.7s
PECO Prince Edward 83.76 31 P **P 11 39 23.3 -1.3**
PECO IAmb IAmb 11 39 25.1
comp=Z,27nm,0.8s
CABF La Chapelle 83.77 335 *e*P **P 11 39 24.1 -0.6**
CABF pmax pmax
comp=Z,35nm,0.7s
PBMO Poplar Bluff 83.79 43 P **P 11 39 24.7 -0.1**
PBMO IAmb IAmb 11 39 26.2
comp=Z,30nm,0.9s
PBMO Poplar Bluff 83.79 43 P 11 39 24.8
baz=322,SNR=5.8
E61A Lac Etchemin 83.81 26 P **P 11 39 24.8 0.0**
baz=333,SNR=7.7
LOR Lormes 83.85 336 *e*P **P 11 39 24.2 -0.8**
LOR pmax pmax
comp=Z,68nm,0.8s
MEDO Medina 83.87 32 P **P 11 39 24.3 -0.8**
MEDO IAmb IAmb 11 39 25.1
comp=Z,34nm,0.9s
BMNY Brushton-Moira 83.88 29 P 11 39 24.7
baz=331,SNR=14
H57A Richville 83.89 30 P **P 11 39 24.6 -0.6**
baz=330,SNR=13
MIAR Mount Ida 83.90 47 P **P 11 39 25.3 -0.2**
MIAR pmax pmax
comp=Z,41nm,0.9s
MIAR Mount Ida 83.90 47 P **P 11 39 25.8 +0.4**
baz=320,SNR=38
MIAR Mount Ida 83.90 47 P **P 11 39 25.3 -0.2**
MIAR IAmb IAmb 11 39 26.8
comp=Z,40nm,0.9s
MIAR Mount Ida 83.91 47 P 11 39 25.8
baz=320,SNR=38
O49A Covington 83.92 38 P **P 11 39 25.2 -0.3**
O49A IAmb IAmb 11 39 26.4
comp=Z,32nm,1.0s
O49A Covington 83.92 38 P 11 39 25.5
baz=325,SNR=8.2
O49A P 11 39 25.5
baz=325,SNR=8.2
E62A Clayton Lake 83.94 25 P **P 11 39 25.4 0.0**
baz=334,SNR=20
E62A Clayton Lake 83.94 25 P **P 11 39 24.5 -0.9**
E62A IAmb IAmb 11 39 26.3
comp=Z,35nm,0.8s
E62A Clayton Lake 83.94 25 P 11 39 25.4
baz=334,SNR=20
E62A P 11 39 25.4
baz=334,SNR=20
LKR Lokris 83.95 320 P **P 11 39 23.9 -1.7**
AGG Agios Georgios 83.97 320 P **P 11 39 25.4 -0.4**
AGG pmax pmax
comp=Z,30nm,0.9s
AGG Agios Georgios 83.97 320 P **P 11 39 25.4 -0.4**
AGG IAmb IAmb 11 39 25.7
comp=Z,30nm,0.9s
LCAR Lake Charles 83.98 44 P **P 11 39 24.8 -1.0**
LCAR IAmb IAmb 11 39 26.8
comp=Z,52nm,1.7s
D63A Stockholm 83.98 24 P **P 11 39 25.7 +0.1**
baz=335,SNR=9.8
WHAR Wooly Hollow 84.00 46 P **P 11 39 25.9 -0.1**
WHAR IAmb IAmb 11 39 26.9
comp=Z,56nm,1.0s
PRMA PARMA 84.01 331 P **P 11 39 25.2 -0.6**
P48A Milroy 84.02 39 P **P 11 39 25.1 -0.9**
P48A IAmb IAmb 11 39 26.3
comp=Z,25nm,0.8s
P48A Milroy 84.03 39 P 11 39 25.9
baz=324,SNR=11
P48A P 11 39 25.9
baz=324,SNR=11
J55A Hilton 84.03 32 P **P 11 39 25.1 -0.8**
J55A IAmb IAmb 11 39 26.6
comp=Z,42nm,0.9s
J55A Hilton 84.03 32 P 11 39 25.8
baz=329,SNR=7.8
J55A P 11 39 25.8
baz=329,SNR=7.8
LONY Lake Ozonia 84.04 29 P **P 11 39 25.5 -0.5**
baz=331,SNR=8.3
LONY Lake Ozonia 84.04 29 P **P 11 39 25.0 -1.0**
F61A St Evariste 84.05 26 P **P 11 39 26.6 +0.6**
baz=333,SNR=30
M52A Chesterland 84.07 35 P **P 11 39 26.3 +0.1**
M52A Chesterland 84.08 35 P 11 39 26.8
baz=327,SNR=9.3
M52A P 11 39 26.8
baz=327,SNR=9.3
GRR Gorron 84.09 340 *e*P **P 11 39 25.9 -0.3**
GRR pmax pmax
comp=Z,180nm,0.9s
W41B Gary Mavity, V 84.11 46 P **P 11 39 26.4 -0.1**
baz=321,SNR=18
W41B Gary Mavity, V 84.11 46 P 11 39 26.4
baz=321,SNR=18
JAN Janina 84.12 322 P **P 11 39 26.9 +0.4**
SSF Saint Saulge 84.14 336 *e*P **P 11 39 26.6 +0.2**
SSF pmax pmax
comp=Z,55nm,0.9s
ERPA Erie 84.15 34 P **P 11 39 27.1 +0.5**
baz=327,SNR=5.6
ERPA Erie 84.15 34 P **P 11 39 26.4 -0.2**
ERPA Erie 84.15 34 P 11 39 27.1
baz=327,SNR=5.6
N51A Ashland 84.17 36 P **P 11 39 24.8 -1.9**
N51A IAmb IAmb 11 39 37.7
comp=Z,36nm,0.7s
N51A Ashland 84.17 36 P 11 39 26.8
baz=326,SNR=7.5
N51A P 11 39 26.8
baz=326,SNR=7.5
USIN University of 84.19 41 P **P 11 39 26.6 -0.2**
USIN IAmb IAmb 11 39 28.2
comp=Z,46nm,1.1s
FRNY Flat Rock 84.20 28 P **P 11 39 26.5 -0.3**
FRNY Flat Rock 84.20 28 P 11 39 26.1
baz=331,SNR=5.0
PARMO Parma 84.21 43 P **P 11 39 27.3 +0.4**
WCNY West Carthage 84.22 30 P 11 39 26.7
baz=330,SNR=5.7
MOQ Mont Orford 84.23 27 P **P 11 39 27.5 +0.5**
I57A Carthage 84.25 30 P **P 11 39 26.6 -0.4**
baz=330,SNR=6.7
HRFI Mount Harif 84.28 307 *e*P **P 11 39 28.7 +1.2**
P49A Miami Univ. Ec 84.28 38 P **P 11 39 27.2 -0.1**
baz=325,SNR=16
P49A Miami Univ. Ec 84.28 38 P **P 11 39 27.1 -0.2**
P49A IAmb IAmb 11 39 28.2
comp=Z,57nm,0.9s
P49A Miami Univ. Ec 84.28 38 P 11 39 27.4
baz=325,SNR=16
H59A Cadyville 84.33 28 P **P 11 39 26.8 -0.6**
baz=331,SNR=10.0
X40A Basin Creek Fa 84.34 46 P **P 11 39 28.2 +0.5**
baz=321,SNR=11
X40A Basin Creek Fa 84.34 46 P **P 11 39 27.9 +0.2**
X40A IAmb IAmb 11 39 29.0
comp=Z,23nm,1.1s
PQI Presque Isle 84.34 24 P **P 11 39 26.8 -0.7**
PQI IAmb IAmb 11 39 27.7
comp=Z,23nm,0.9s
X40A Basin Creek Fa 84.34 46 P 11 39 28.4
baz=321,SNR=11
X40A P 11 39 28.4
baz=321,SNR=11
H58A Gabriels 84.36 29 P **P 11 39 27.3 -0.3**
baz=331,SNR=16
J56A Wolcott 84.38 31 P **P 11 39 26.1 -1.6**
J56A IAmb IAmb 11 39 28.2
comp=Z,32nm,0.9s
J56A Wolcott 84.38 31 P 11 39 27.3
baz=329,SNR=6.7
J56A P 11 39 27.3
baz=329,SNR=6.7
G60A Masonville 84.39 27 P **P 11 39 27.7 -0.1**
baz=332,SNR=5.4
SMF Signal de Mont 84.42 336 *e*P **P 11 39 27.3 -0.6**
SMF pmax pmax
comp=Z,93nm,0.7s
AVF Avril sur Loir 84.43 336 *e*P **P 11 39 27.4 -0.5**
AVF pmax pmax
comp=Z,69nm,0.8s
M53A WI Miller and 84.44 35 P **P 11 39 28.2 +0.1**
baz=327,SNR=15
M53A WI Miller and 84.44 35 P **P 11 39 27.8 -0.3**
E63A Oxbow 84.44 24 P **P 11 39 27.6 -0.4**
baz=334,SNR=14
E63A Oxbow 84.44 24 P **P 11 39 27.1 -0.9**
E63A IAmb IAmb 11 39 28.7
comp=Z,37nm,1.1s
E63A Oxbow 84.45 24 P 11 39 27.8
baz=334,SNR=14
E63A P 11 39 27.8
baz=334,SNR=14
F62A Pittston Farm, 84.45 26 P **P 11 39 28.3 +0.3**
baz=334,SNR=34
F62A Pittston Farm, 84.45 26 P **P 11 39 27.9 -0.1**
F62A Pittston Farm, 84.45 26 P 11 39 28.4
baz=334,SNR=34
F62A P 11 39 28.4
baz=334,SNR=34
MMNY Mt. Morris Dam 84.45 32 P **P 11 39 27.3 -0.8**
WVNY West Valley, N 84.45 33 P **P 11 39 27.7 -0.4**
WVNY IAmb IAmb 11 39 29.2
comp=Z,50nm,0.9s
WVNY West Valley, N 84.45 33 P 11 39 28.3
baz=328,SNR=7.7
IGT Igoumenitsa 84.46 322 P **P 11 39 25.6 -2.6**
ACSO Alum Creek Sta 84.47 37 P **P 11 39 28.6 +0.3**
baz=326,SNR=9.8
ACSO Alum Creek Sta 84.47 37 P **P 11 39 28.2 0.0**
ACSO IAmb IAmb 11 39 29.4
comp=Z,49nm,0.9s
ACSO Alum Creek Sta 84.47 37 P 11 39 28.6
baz=326,SNR=9.8
ALLY Alegheny Colle 84.48 34 P **P 11 39 28.1 -0.2**
ALLY Alegheny Colle 84.48 34 P 11 39 29.0
baz=327,SNR=9.9
G61A St-Isidore-de- 84.50 27 P **P 11 39 28.9 +0.6**
baz=332,SNR=29
ANX Ano Chora 84.50 320 P **P 11 39 27.9 -0.6**
VLC Villacollemand 84.51 331 P **P 11 39 27.7 -0.7**
VLC IAMs_20 IAMs_20 12 21 06.9
comp=Z,285nm,19.0s
MURB Monte Urbino 84.52 329 P **P 11 39 28.5 0.0**
KEK Kerkira 84.54 322 P **P 11 39 27.5 -1.1**
SGRT San Giovanni R 84.55 326 P **P 11 39 27.7 -1.0**
SGRT IAmb IAmb 11 39 29.4
comp=Z,54nm,0.9s
LPG La Plagne 84.56 334 *e*P **P 11 39 28.8 -0.1**
LPG pmax pmax
comp=Z,82nm,0.7s
J57A Williamstown 84.58 31 P **P 11 39 28.8 +0.1**
J57A IAmb IAmb 11 39 30.3
comp=Z,28nm,0.9s
EIL Elat 84.60 306 P **P 11 39 29.7 +0.6**
comp=Z,40nm,0.6s,baz=97,slow=2.7,SNR=49
EIL Elat 84.60 306 *e*P **P 11 39 30.3 +1.2**
TRIZ Trizonia 84.61 320 P **P 11 39 28.2 -0.8**
WCI Wyandotte Cave 84.62 40 P **P 11 39 28.7 -0.3**
WCI pmax pmax
comp=Z,38nm,1.0s
WCI Wyandotte Cave 84.62 40 P **P 11 39 29.4 +0.4**
baz=324
WCI Wyandotte Cave 84.62 40 P **P 11 39 28.7 -0.3**
WCI IAmb IAmb 11 39 30.3
comp=Z,38nm,1.0s
WCI Wyandotte Cave 84.62 40 P 11 39 29.3
baz=324,SNR=11
E64A Bridgewater 84.62 24 P **P 11 39 28.9 0.0**
baz=335,SNR=20
HBAR Harrisburg 84.63 44 P **P 11 39 29.8 +0.7**
SGMF Saint Gilles 84.64 341 *e*P **P 11 39 28.7 -0.2**
SGMF pmax pmax
comp=Z,111nm,0.7s
EFP Efpalio 84.64 320 P **P 11 39 28.8 -0.3**
NRCA Norcia 84.66 328 P **P 11 39 29.1 -0.2**
MSSA Maissana 84.68 331 P **P 11 39 29.0 -0.3**
MSSA IAmb IAmb 11 39 33.2
comp=Z,46nm,0.8s
MSSA IAMs_20 IAMs_20 12 22 06.3
comp=Z,264nm,18.0s
K56A Middlesex 84.70 32 P **P 11 39 29.2 -0.1**
baz=329,SNR=11
I58A Old Forge 84.71 30 P **P 11 39 29.1 -0.3**
baz=330,SNR=7.7
ROSF Rostrenen 84.73 341⇑ *e*P **P 11 39 29.6 +0.2**
ROSF Rostrenen 84.73 341 *e*P **P 11 39 29.2 -0.2**
ROSF pmax pmax
comp=Z,160nm,0.8s
NCB Newcomb 84.73 29 P **P 11 39 28.8 -0.7**
NCB IAmb IAmb 11 39 30.4
comp=Z,26nm,1.0s
NCB Newcomb 84.74 29 P 11 39 29.4
baz=331,SNR=12
H60A Morristown 84.74 28 P **P 11 39 29.8 +0.2**
baz=332,SNR=8.1
MEH Mehetia 84.75 121 *e*T T 13 12 35.5
comp=Z,63nm,0.2s
LPAR Lepanto 84.77 44 P **P 11 39 30.2 +0.4**
BGF Bois d'Agland 84.78 337 *e*P **P 11 39 29.9 +0.2**
BGF pmax pmax
comp=Z,58nm,1.0s
M54A Oil Creek Stat 84.79 34 P **P 11 39 30.1 +0.2**
baz=328,SNR=19
M54A Oil Creek Stat 84.79 34 P **P 11 39 29.6 -0.2**
M54A IAmb IAmb 11 39 31.0
comp=Z,49nm,0.9s
M54A Oil Creek Stat 84.79 34 P 11 39 30.1
baz=328,SNR=19
WLAR White Oak Lake 84.81 47 P **P 11 39 30.6 +0.6**
WLAR IAmb IAmb 11 39 31.6
comp=Z,45nm,0.9s
SCTE Santa Cesarea 84.83 324 P **P 11 39 29.8 -0.2**
SCTE IAMs_20 IAMs_20 12 06 03.6
comp=Z,84nm,18.0s
G62A West of Eustis 84.87 26 P **P 11 39 30.7 +0.5**
baz=333,SNR=20
G62A West of Eustis 84.87 26 P **P 11 39 30.1 0.0**
G62A IAmb IAmb 11 39 31.9
comp=Z,54nm,0.9s
G62A West of Eustis 84.88 26 P 11 39 30.9
baz=333,SNR=20
G62A P 11 39 30.9
baz=333,SNR=20
J58A Remsen 84.89 30 P **P 11 39 30.0 -0.3**
baz=330,SNR=14
J58A Remsen 84.89 30 P **P 11 39 29.3 -0.9**
J58A IAmb IAmb 11 39 31.0
comp=Z,39nm,1.0s
F63A Nahmakanta, Br 84.89 25 P **P 11 39 30.4 +0.1**
baz=334,SNR=8.8
F63A Nahmakanta, Br 84.89 25 P **P 11 39 31.3 +1.1**
F63A IAmb IAmb 11 39 31.6
comp=Z,39nm,1.2s
J58A Remsen 84.89 30 P 11 39 30.1
baz=330,SNR=14
J58A P 11 39 30.1
baz=330,SNR=14
F63A Nahmakanta, Br 84.89 25 P 11 39 30.5
baz=334,SNR=8.8
F63A P 11 39 30.5
baz=334,SNR=8.8
N53A Lisbon 84.90 35 P **P 11 39 30.1 -0.4**
N53A Lisbon 84.90 35 P 11 39 30.7
baz=327,SNR=21
N53A P 11 39 30.7
baz=327,SNR=21
LKD2 Lefkada island 84.92 321 P **P 11 39 29.7 -0.8**
VT1 Waterbury 84.93 28 P **P 11 39 29.4 -1.1**
VT1 Waterbury 84.93 28 P 11 39 31.2
baz=332,SNR=16
NYDR Nydri-Lefkada 84.96 321 P **P 11 39 30.1 -0.6**
AQU L'Aquila 84.96 328 P **P 11 39 30.5 -0.2**
AQU pmax pmax
comp=Z,69nm,0.9s
AQU MLR MLR
comp=Z,400nm,22.0s
AQU L'Aquila 84.96 328 P **P 11 39 30.5 -0.2**
F64A Sherman 84.97 25 P **P 11 39 30.6 0.0**
baz=335,SNR=15
F64A Sherman 84.97 25 P **P 11 39 30.0 -0.7**
F64A IAmb IAmb 11 39 31.7
comp=Z,57nm,1.3s
F64A Sherman 84.97 25 P 11 39 30.6
baz=335,SNR=15
F64A P 11 39 30.6
baz=335,SNR=15
BNI Bardonecchia 84.97 334 P **P 11 39 31.0 +0.1**
BNI pmax pmax
comp=Z,29nm,0.8s
BNI MLR MLR
comp=Z,300nm,22.0s
BNI Bardonecchia 84.97 334 P **P 11 39 31.0 +0.1**
BNI IAmb IAmb 11 39 32.7
comp=Z,29nm,0.8s
BNI IAMs_20 IAMs_20 12 19 53.6
comp=Z,348nm,22.0s
K57A Scipio Center 84.97 31 P **P 11 39 29.6 -1.2**
K57A IAmb IAmb 11 39 31.4

comp=Z,72nm,1.7s
I59A Olmsteadville 85.01 29 P P 11 39 30.6 -0.3
baz=331,SNR=9.8
H61A Lyndonville 85.03 27 P P 11 39 31.6 +0.6
baz=332,SNR=28
P51A Williamsport 85.06 37 P P 11 39 30.4 -0.8
P51A Williamsport 85.06 37 P 11 39 31.5
baz=326,SNR=6.9
P51A P 11 39 31.5
baz=326,SNR=6.9
O52A Adamsville 85.06 36 P P 11 39 30.4 -0.8
O52A IAmb IAmb 11 39 42.5
comp=Z,43nm,0.8s
O52A Adamsville 85.06 36 P 11 39 31.5
baz=326,SNR=16
O52A P 11 39 31.5
baz=326,SNR=16
INTR Introdacqua 85.06 328 P P 11 39 30.4 -0.9
J59A Piesco 85.08 30 P P 11 39 30.5 -0.7
J59A IAmb IAmb 11 39 31.9
comp=Z,29nm,0.8s
J59A Piesco 85.08 30 P 11 39 31.0
baz=331,SNR=15
J59A P 11 39 31.0
baz=331,SNR=15
R49A Shelbyville 85.09 39 P P 11 39 31.2 -0.2
L56A Greenwood 85.09 32 P P 11 39 30.1 -1.2
L56A IAmb IAmb 11 39 32.2
comp=Z,38nm,0.8s
R49A Shelbyville 85.09 39 P 11 39 31.9
baz=325,SNR=5.3
R49A P 11 39 31.9
baz=325,SNR=5.3
L56A Greenwood 85.09 32 P 11 39 31.5
baz=329,SNR=18
L56A P 11 39 31.5
baz=329,SNR=18
MATE Matera 85.09 325 ⇓P P 11 39 31.5 +0.2
QUIF Quistinic 85.09 341 eP P 11 39 30.8 -0.4
QUIF pmax pmax
comp=Z,62nm,0.7s
DRO Drossia 85.12 320 P P 11 39 31.7 +0.2
N54A Moraine State 85.12 34 P P 11 39 31.8 +0.2
baz=328,SNR=16
N54A Moraine State 85.12 34 P P 11 39 31.1 -0.4
N54A Moraine State 85.12 34 P 11 39 31.9
baz=328,SNR=16
RLS Riolos of Patr 85.14 320 P P 11 39 31.7 +0.1
I60A Shoreham 85.17 29 P P 11 39 31.7 +0.1
baz=332,SNR=9.6
MCVT Middlebury Col 85.18 28 P 11 39 31.9
baz=332,SNR=6.6
M55A Ridgway 85.19 33 P P 11 39 31.7 -0.2
M55A Ridgway 85.19 33 P 11 39 32.2
baz=328,SNR=22
M55A P 11 39 32.2
baz=328,SNR=22
ZKR Zakros 85.20 316 eP P 11 39 31.7 -0.3
TCF Toulx Ste Croi 85.21 337 eP P 11 39 31.6 -0.3
TCF pmax pmax
comp=Z,72nm,0.9s
O53A New Philadelph 85.21 36 P P 11 39 32.2 +0.2
baz=327,SNR=19
O53A New Philadelph 85.21 36 P P 11 39 31.6 -0.4
PKME Peaks-Kenny Pk 85.22 25 P P 11 39 32.2 +0.3
baz=334,SNR=14
PKME Peaks-Kenny Pk 85.22 25 P P 11 39 31.7 -0.2
PKME IAmb IAmb 11 39 33.3
comp=Z,30nm,0.9s
PKME Peaks-Kenny Pk 85.22 25 P 11 39 32.1
baz=334,SNR=14
MBDF Montbardon 85.23 333 eP P 11 39 31.3 -0.9
MBDF pmax pmax
comp=Z,35nm,0.6s
T47A Sharon Grove 85.24 41 P P 11 39 32.1 0.0
T47A Sharon Grove 85.24 41 P 11 39 32.7
baz=324,SNR=28
H62A Milan 85.25 27 P P 11 39 32.8 +0.7
baz=333,SNR=28
H62A Milan 85.25 27 P P 11 39 32.2 +0.1
H62A Milan 85.25 27 P 11 39 32.8
baz=333,SNR=28
H62A P 11 39 32.8
baz=333,SNR=28
G63A Kingsbury 85.25 26 P P 11 39 32.6 +0.5
baz=334,SNR=13
VLX Vlachokerasia 85.28 319 P P 11 39 31.5 -1.0
LBNH Lisbon 85.29 28 P P 11 39 32.4 +0.1
LBNH Lisbon 85.29 28 P P 11 39 32.9 +0.7
baz=332,SNR=6.5
LBNH Lisbon 85.29 28 P P 11 39 32.4 +0.1
LBNH IAmb IAmb 11 39 39.8
comp=Z,15nm,0.8s
LBNH Lisbon 85.29 28 P 11 39 33.1
baz=332,SNR=6.5
Q51A Peebles 85.31 38 P P 11 39 32.3 -0.2
Q51A Peebles 85.31 38 P 11 39 32.9
baz=326,SNR=33
Q51A P 11 39 32.9
baz=326,SNR=33
X43A Marvell 85.33 45 P 11 39 30.9
baz=322,SNR=5.0
P52A Corning 85.33 36 P P 11 39 32.4 -0.2
baz=326,SNR=14
P52A Corning 85.33 36 P P 11 39 31.8 -0.8
P52A IAmb IAmb 11 39 33.4
comp=Z,32nm,0.9s
833A Chaparral WMA, 85.34 55 P P 11 39 33.5 +0.7
baz=318
CCAR Cane Creek 85.34 46 P P 11 39 33.4 +0.7
ORIF Oris-en-Rattie 85.35 334 eP P 11 39 32.5 -0.2
ORIF pmax pmax
comp=Z,50nm,0.6s
G64A Maxfield 85.40 25 P P 11 39 33.3 +0.5
baz=334,SNR=16
KEF5 Kardakata, Kep 85.42 321 P P 11 39 32.3 -0.7
ACCN Adirondack Com 85.44 29 P P 11 39 32.7 -0.3
ACCN IAmb IAmb 11 39 33.5
comp=Z,20nm,0.8s
ACCN Adirondack Com 85.44 29 P 11 39 33.1
baz=331,SNR=13
NATX Nacogdoches 85.45 49 P P 11 39 34.5 +1.3
baz=320
AMT Artemida-Makis 85.46 320 P P 11 39 32.5 -0.8
I61A Oroboro, Fairl 85.46 28 P P 11 39 33.6 +0.5
baz=332,SNR=10.0
R50A Paris 85.48 39 P P 11 39 32.8 -0.6
R50A IAmb IAmb 11 39 34.1
comp=Z,19nm,0.8s
R50A Paris 85.48 39 P 11 39 33.8
baz=325,SNR=7.4
R50A P 11 39 33.8
baz=325,SNR=7.4
PSDB Penn State Uni 85.48 34 P 11 39 33.8
baz=328,SNR=13
UPAO U. Pittsburgh 85.51 35 P 11 39 34.3
baz=328,SNR=17
H63A New Sharon 85.53 26 P P 11 39 34.1 +0.7
baz=334,SNR=7.7
CASP Castiglione de 85.53 330 P P 11 39 32.5 -1.0
CASP IAmb IAmb 11 39 33.9
comp=Z,28nm,0.8s
LAST Lasithi 85.53 316 P P 11 39 33.5 -0.3
KEF3 Kipouria, Keph 85.53 321 P P 11 39 32.0 -1.6
VLI Veliai 85.54 319 P P 11 39 32.4 -1.2
WVT Waverly 85.58 42 P P 11 39 33.7 -0.1
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 85.58 42 P P 11 39 34.1 +0.3
baz=323
WVT Waverly 85.58 42 P P 11 39 33.7 -0.1
WVT IAmb IAmb 11 39 34.6
comp=Z,18nm,0.8s
WVT Waverly 85.58 42 P 11 39 34.0
baz=323,SNR=21
O54A Avella 85.62 35 P P 11 39 34.3 +0.3
O54A Avella 85.62 35 P 11 39 34.5
baz=327,SNR=17
O54A P 11 39 34.5
baz=327,SNR=17
BINY Binghamton 85.63 31 P P 11 39 34.1 0.0
baz=330,SNR=7.6
BINY Binghamton 85.63 31 P P 11 39 33.8 -0.2
BINY IAmb IAmb 11 39 35.0
comp=Z,29nm,1.1s
BINY Binghamton 85.63 31 P 11 39 34.1
baz=330,SNR=7.6
PAOL Paolisi 85.64 327 P P 11 39 33.5 -0.6
PAOL IAmb IAmb 11 39 34.5
comp=Z,18nm,1.0s
HNH Hanover 85.64 28 P P 11 39 33.9 -0.1
HNH IAmb IAmb 11 39 35.0
comp=Z,17nm,0.8s
HNH Hanover 85.64 28 P 11 39 34.7
baz=332,SNR=6.6
ITM Ithomi 85.64 320 P P 11 39 33.3 -0.9
ITM Ithomi 85.64 320 eP P 11 39 33.4 -0.8
ITM Ithomi 85.64 320 P P 11 39 33.3 -0.8
ITM IAMs_20 IAMs_20 12 19 39.5
comp=Z,134nm,20.0s
J60A Lant Hill Farm 85.65 29 P P 11 39 34.1 0.0
baz=331,SNR=7.1
W45A Hickory Valley 85.68 44 P P 11 39 34.4 0.0
W45A IAmb IAmb 11 39 35.7
comp=Z,54nm,1.0s
IDI Anoyia 85.73 317 ⇓P P 11 39 34.9 +0.2
IDI Anoyia 85.73 317 P P 11 39 32.7 -2.0
IDI Anoyia 85.73 317 P P 11 39 34.1 -0.6
WVL Waterville 85.74 26 P P 11 39 34.2 -0.2
WVL IAmb IAmb 11 39 35.8
comp=Z,33nm,1.0s
WVL Waterville 85.74 26 P 11 39 34.9
baz=334,SNR=8.3
P53A Whipple 85.77 36 P P 11 39 34.4 -0.4
P53A IAmb IAmb 11 39 35.9
comp=Z,31nm,0.9s
P53A Whipple 85.78 36 P 11 39 35.3
baz=327,SNR=11
P53A P 11 39 35.3
baz=327,SNR=11
VIVF Saint-Julien-l 85.78 335 eP P 11 39 34.8 0.0
VIVF pmax pmax
comp=Z,93nm,1.0s
SBF Sospel 85.78 333 eP P 11 39 33.7 -1.1
SBF pmax pmax
comp=Z,61nm,0.8s
H64A Troy 85.81 26 P P 11 39 35.2 +0.4
baz=334,SNR=9.6
G65A Princeton 85.81 24 P P 11 39 35.2 +0.4
baz=335,SNR=13
G65A Princeton 85.81 24 P P 11 39 34.6 -0.2
G65A IAmb IAmb 11 39 36.2
comp=Z,62nm,1.3s
G65A Princeton 85.81 24 P 11 39 35.2
baz=335,SNR=13
G65A P 11 39 35.2
baz=335,SNR=13
I62A Tamworth 85.81 27 P P 11 39 35.3 +0.5
baz=333,SNR=5.3
I62A Tamworth 85.81 27 P P 11 39 34.6 -0.3
I62A IAmb IAmb 11 39 36.5
comp=Z,54nm,1.5s
I62A Tamworth 85.81 27 P 11 39 35.7
baz=333,SNR=5.3
I62A P 11 39 35.7
baz=333,SNR=5.3
L58A Harry Jones Me 85.82 31 P P 11 39 35.0 0.0
baz=330,SNR=14
Q52A Bidwell 85.83 37 P P 11 39 34.5 -0.6
Q52A IAmb IAmb 11 39 36.0
comp=Z,31nm,1.0s
Q52A Bidwell 85.83 37 P 11 39 35.4
baz=326,SNR=8.3
Q52A P 11 39 35.4
baz=326,SNR=8.3
KTHA Kythira Island 85.85 318 P P 11 39 32.6 -2.6
J61A Chester 85.86 28 P P 11 39 35.4 +0.3
baz=332,SNR=9.3
J61A Chester 85.86 28 P 11 39 35.6
baz=332,SNR=9.3
J61A P 11 39 35.6
baz=332,SNR=9.3
I63A Otisfield 85.90 27 P P 11 39 36.1 +0.8
baz=333,SNR=17
I63A Otisfield 85.90 27 P P 11 39 35.9 +0.6
I63A Otisfield 85.90 27 P 11 39 36.3
baz=333,SNR=17
I63A P 11 39 36.3
baz=333,SNR=17
M57A Sunshine Farm, 85.94 32 P P 11 39 35.6 +0.1
M57A Sunshine Farm, 85.94 32 P 11 39 36.0
baz=329,SNR=20
M57A P 11 39 36.0
baz=329,SNR=20
PYL PYLOS 85.96 320 P P 11 39 32.5 -3.2
SIVA Sivas 85.98 316 P P 11 39 35.4 -0.4
L59A Walton 85.99 31 P P 11 39 35.7 -0.2
L59A Walton 85.99 31 P 11 39 36.0
baz=330,SNR=18
L59A P 11 39 36.0
baz=330,SNR=18
LMN Caledonia Moun 86.00 22 P P 11 39 35.3 -0.4
TRY Troy 86.02 29 P P 11 39 35.6 -0.3
TRY IAmb IAmb 11 39 37.0
comp=Z,36nm,1.2s
IMMV Iera Moni Meta 86.04 317 P P 11 39 36.8 +0.7
H65A Eastbrook 86.06 25 P P 11 39 36.4 +0.3
baz=335,SNR=7.0
FFD Franklin Falls 86.06 28 P P 11 39 36.2 +0.2
OXF Oxford 86.08 44 P P 11 39 35.9 -0.5
OXF pmax pmax
comp=Z,55nm,1.0s
OXF Oxford 86.08 44 P P 11 39 36.6 +0.2
baz=322,SNR=13
OXF Oxford 86.08 44 P P 11 39 35.9 -0.5
OXF Oxford 86.08 44 P 11 39 36.9
baz=322,SNR=13
GGN Saint George 86.09 24 P P 11 39 35.6 -0.6
GGN IAmb IAmb 11 39 37.4
comp=Z,51nm,1.4s
K61A Williamstown 86.21 29 P P 11 39 37.2 +0.4
baz=332,SNR=9.7
J62A Henniker 86.22 28 P P 11 39 37.5 +0.6
baz=332,SNR=5.2
SSPA Standing Stone 86.24 33 P P 11 39 37.4 +0.4
baz=329
SSPA Standing Stone 86.24 33 P P 11 39 37.3 +0.2
SSPA IAmb IAmb 11 39 37.9
comp=Z,30nm,0.8s
SSPA Standing Stone 86.24 33 P 11 39 37.4
baz=329,SNR=15
U49A Red Boiling Sp 86.25 41 P P 11 39 37.0 -0.1
U49A Red Boiling Sp 86.25 41 P 11 39 37.5
baz=324,SNR=42
H66A Whiting 86.26 24 P P 11 39 37.3 +0.3
baz=335,SNR=9.2
KSPA Keystone Colle 86.27 31 P P 11 39 36.7 -0.4
KSPA IAmb IAmb 11 39 38.1
comp=Z,27nm,0.7s
KSPA Keystone Colle 86.27 31 P 11 39 37.3
baz=330,SNR=9.5
T50A Nancy 86.28 40 P P 11 39 37.4 +0.1
MCWV Mont Chateau 86.28 35 P P 11 39 38.1 +0.8
baz=328,SNR=11
MCWV Mont Chateau 86.28 35 P P 11 39 37.4 +0.2
MCWV Mont Chateau 86.28 35 P 11 39 38.1
baz=328,SNR=11
EMMW East Machias 86.28 24 P P 11 39 37.4 +0.2
EMMW IAmb IAmb 11 39 38.5
comp=Z,61nm,1.4s
EMMW IAMs_20 IAMs_20 12 16 00.1
comp=Z,222nm,20.0s
O56A Blue Knob Stat 86.28 34 P P 11 39 37.8 +0.4
baz=328,SNR=31
O56A Blue Knob Stat 86.28 34 P P 11 39 37.2 -0.2
EMMW East Machias 86.29 24 P 11 39 37.8
baz=335,SNR=10
O56A Blue Knob Stat 86.29 34 P 11 39 37.8
baz=328,SNR=31
RJF Les Rejaudoux 86.31 337 eP P 11 39 37.2 -0.1
RJF pmax pmax
comp=Z,63nm,0.9s
FRF La Foret Royal 86.31 333 eP P 11 39 36.6 -0.8
FRF pmax pmax
comp=Z,85nm,1.3s
I64A Boothbay 86.32 26 P P 11 39 37.7 +0.3
baz=334
CLTN Cedars of Leba 86.33 41 P P 11 39 37.7 +0.2
CLTN IAmb IAmb 11 39 38.5
comp=Z,20nm,0.7s
S51A Beattyville 86.34 39 P P 11 39 37.4 -0.2
S51A Beattyville 86.34 39 P 11 39 37.7
baz=326,SNR=11
S51A P 11 39 37.7
baz=326,SNR=11
PLAL Pickwick Lake 86.37 43 P P 11 39 37.3 -0.5
PLAL IAmb IAmb 11 39 38.6
comp=Z,62nm,1.8s
V48A Smith Brothers 86.38 42 P P 11 39 37.3 -0.5
V48A IAmb IAmb 11 39 38.4
comp=Z,16nm,0.8s
V48A Smith Brothers 86.38 42 P 11 39 38.0
baz=324,SNR=10
PSWB Penn State Wil 86.39 32 P 11 39 37.9
baz=330,SNR=8.0
PGF Pioggiola 86.41 331 eP P 11 39 36.8 -1.2
PGF pmax pmax
comp=Z,27nm,0.7s
J63A Strafford 86.42 27 P P 11 39 38.6 +0.7
baz=333,SNR=5.3
Q54A Coxs Mills 86.43 36 P P 11 39 38.0 0.0
Q54A Coxs Mills 86.43 36 P 11 39 38.6
baz=327,SNR=34
Q54A P 11 39 38.6
baz=327,SNR=34
R53A Hurricane 86.49 37 P P 11 39 37.9 -0.4
R53A IAmb IAmb 11 39 39.7
comp=Z,48nm,1.3s
R53A Hurricane 86.50 37 P 11 39 38.8
baz=326,SNR=5.7
R53A P 11 39 38.8
baz=326,SNR=5.7
CAF Calviac 86.50 337 eP P 11 39 38.7 +0.4
CAF pmax pmax
comp=Z,97nm,0.8s
Y45A Yeager Farm, C 86.52 45 P P 11 39 38.9 +0.4
Y45A Yeager Farm, C 86.53 45 P 11 39 39.3
baz=322,SNR=9.4
N58A Sunbury 86.53 32 P P 11 39 38.3 -0.1
N58A IAmb IAmb 11 39 39.7
comp=Z,54nm,1.1s
N58A Sunbury 86.53 32 P 11 39 38.8
baz=329,SNR=16
N58A P 11 39 38.8
baz=329,SNR=16
LMR La Mourre 86.56 333 eP P 11 39 37.9 -0.7
LMR pmax pmax
comp=Z,139nm,1.0s
K62A Royalston 86.57 29 P P 11 39 39.4 +0.8
baz=332,SNR=5.0
K62A Royalston 86.57 29 P P 11 39 39.2 +0.6
K62A IAmb IAmb 11 39 39.7
comp=Z,22nm,1.0s
K62A Royalston 86.58 29 P 11 39 39.5
baz=332,SNR=5.0
K62A P 11 39 39.5
baz=332,SNR=5.0
L61B Northampton 86.61 29 P P 11 39 39.0 +0.2
baz=332
UNH University of 86.66 27 P 11 39 39.7
baz=333,SNR=6.7
NPNY Mohonk Preserv 86.70 30 P 11 39 39.7
baz=331,SNR=5.7
K63A Dunstable 86.80 28 P P 11 39 40.1 +0.4
baz=333,SNR=5.5
K63A Dunstable 86.80 28 P P 11 39 40.3 +0.6
K63A IAmb IAmb 11 39 40.9
comp=Z,31nm,1.0s
N59A State Game Lan 86.82 32 P P 11 39 40.3 +0.4
baz=330,SNR=16
N59A State Game Lan 86.82 32 P P 11 39 40.3 +0.4
N59A State Game Lan 86.82 32 P 11 39 40.4
baz=330,SNR=16
HRV Adam Dziewonsk 86.95 28 P P 11 39 40.9 +0.5
HRV pmax pmax
comp=Z,38nm,1.2s
HRV Adam Dziewonsk 86.95 28 P P 11 39 41.4 +0.9
baz=333
HRV Adam Dziewonsk 86.95 28 P P 11 39 40.9 +0.5
HRV IAmb IAmb 11 39 42.2
comp=Z,38nm,1.1s
KSCT Kent School, K 86.96 30 P P 11 39 40.1 -0.4
KSCT IAmb IAmb 11 39 42.0
comp=Z,70nm,1.6s
BRNY Black Rk. Fore 87.05 30 P 11 39 41.2
baz=331,SNR=7.4
PAGS Pennsylvania G 87.05 33 P P 11 39 40.2 -0.8
Q56A Snyder Ridge, 87.07 35 P P 11 39 40.3 -0.8
Q56A IAmb IAmb 11 39 42.5
comp=Z,35nm,0.9s
Q56A Snyder Ridge, 87.07 35 P 11 39 41.5
baz=328,SNR=13
Q56A P 11 39 41.5
baz=328,SNR=13
ODNJ Ogdensburg 87.11 31 P P 11 39 41.0 -0.3
ODNJ IAmb IAmb 11 39 42.3
comp=Z,23nm,1.0s
WES Weston 87.14 28 P P 11 39 41.5 +0.2
WES pmax pmax
comp=Z,64nm,1.2s
WES Weston 87.14 28 P P 11 39 41.5 +0.2
WES IAmb IAmb 11 39 43.0
comp=Z,64nm,1.2s
WES Weston 87.14 28 P 11 39 42.0
baz=333,SNR=7.1
P57A Homestead Farm 87.17 34 P P 11 39 41.2 -0.4
P57A IAmb IAmb 11 39 43.0
comp=Z,27nm,1.1s
P57A Homestead Farm 87.18 34 P 11 39 41.8
baz=329,SNR=10
P57A P 11 39 41.8
baz=329,SNR=10
TRNY Table Rock, Ra 87.20 31 P P 11 39 41.6 -0.1
TRNY IAmb IAmb 11 39 43.0
comp=Z,42nm,1.0s
S54A Dingess, Beckl 87.21 37 P P 11 39 41.6 -0.3
S54A IAmb IAmb 11 39 42.7
comp=Z,21nm,0.7s
S54A Dingess, Beckl 87.22 37 P 11 39 42.3
baz=327,SNR=8.2
S54A P 11 39 42.3
baz=327,SNR=8.2
SWET Sewanee 87.23 42 P P 11 39 40.8 -1.2
SWET IAmb IAmb 11 39 42.8
comp=Z,40nm,0.8s
LUPA Lehigh Univers 87.25 32 P P 11 39 42.0 +0.1
TZTN Tazewell 87.26 39 P P 11 39 42.4 +0.3
baz=326,SNR=14
TZTN Tazewell 87.26 39 P P 11 39 41.9 -0.3
TZTN Tazewell 87.26 39 P 11 39 42.6
baz=326,SNR=14
GBN Guysborough 87.28 20 P P 11 39 42.2 +0.2
GBN IAmb IAmb 11 39 49.0
comp=Z,36nm,0.9s
X48A Hartselle 87.30 43 P P 11 39 41.4 -0.9
X48A IAmb IAmb 11 39 43.0
comp=Z,93nm,1.9s
X48A Hartselle 87.31 43 P 11 39 42.0
baz=324,SNR=11
VBMS Vicksburg 87.32 46 P P 11 39 42.5 +0.1
R55A Marlinton 87.32 36 P P 11 39 42.4 -0.1
R55A Marlinton 87.32 36 P 11 39 43.0
baz=328,SNR=16
R55A P 11 39 43.0
baz=328,SNR=16
UCCT U. Connecticut 87.35 29 P P 11 39 42.3 -0.1
UCCT IAmb IAmb 11 39 43.8
comp=Z,38nm,0.9s
MVL Millersville 87.39 33 P P 11 39 42.5 -0.1
MVL IAmb IAmb 11 39 43.9
comp=Z,30nm,0.7s
PAL Palisades 87.44 30 P P 11 39 42.8 -0.1
PAL pmax pmax
comp=Z,31nm,0.9s
PAL Palisades 87.44 30 P P 11 39 43.0 +0.2
baz=331
PAL Palisades 87.44 30 P P 11 39 42.8 -0.1
PAL IAmb IAmb 11 39 43.6
comp=Z,31nm,0.8s
HAL Halifax 87.45 22 P P 11 39 43.1 +0.3
HAL pmax pmax
comp=Z,29nm,0.8s
HAL Halifax 87.45 22 P P 11 39 43.0 +0.3
HAL IAmb IAmb 11 39 49.9
comp=Z,29nm,0.8s
HAL IAMs_20 IAMs_20 12 10 09.4
comp=Z,240nm,22.0s
BRYW Bryant College 87.47 28 P P 11 39 43.6 +0.5

BRYW IAmb IAmb 11 39 53.1
comp=Z,14nm,0.7s
BRNJ Basking Ridge 87.48 31 P 11 39 43.9
baz=331,SNR=6.7
V51A Loudon 87.50 40 P **P 11 39 42.8 -0.5**
V51A IAmb IAmb 11 39 44.5
comp=Z,33nm,1.0s
V51A Loudon 87.50 40 P 11 39 43.5
baz=325,SNR=12
L63A North Scituate 87.50 28 P **P 11 39 43.8 +0.7**
baz=333
WSPT Westport, CT 87.50 30 P **P 11 39 42.9 -0.3**
WSPT IAmb IAmb 11 39 44.0
comp=Z,18nm,1.0s
YLE Yale 87.52 30 IAMs_20 IAMs_20 12 18 49.7
comp=Z,273nm,22.0s
W50A Signal Mountai 87.53 41 P **P 11 39 43.0 -0.5**
W50A IAmb IAmb 11 39 44.5
comp=Z,22nm,0.8s
W50A Signal Mountai 87.54 41 P 11 39 43.7
baz=325,SNR=12
PANJ Princeton 87.69 31 P 11 39 44.4
baz=331,SNR=11
TUPA Temple Univers 87.69 32 P 11 39 44.7
baz=330,SNR=13
L64A Middleborough 87.70 28 P **P 11 39 44.8 +0.7**
baz=333
L64A Middleborough 87.70 28 P **P 11 39 44.4 +0.4**
CPCT Cooper Cave 87.70 40 P **P 11 39 44.2 -0.1**
CPCT IAmb IAmb 11 39 45.4
comp=Z,26nm,0.8s
SDMD Soldier's Deli 87.71 33 P **P 11 39 43.4 -0.8**
WUPA West Chester U 87.74 32 P **P 11 39 44.2 -0.1**
146A Union 87.74 45 P **P 11 39 44.8 +0.3**
146A Union 87.75 45 P 11 39 45.6
baz=323,SNR=14
M63A Gales Ferry 87.75 29 P **P 11 39 44.3 -0.1**
M63A IAmb IAmb 11 39 45.4
comp=Z,26nm,1.0s
Z47A Carrollton 87.80 44 P **P 11 39 44.4 -0.3**
Z47A IAmb IAmb 11 39 45.9
comp=Z,36nm,0.9s
Z47A Carrollton 87.80 44 P 11 39 45.1
baz=323,SNR=6.8
344A Westbrook Farm 87.81 47 P **P 11 39 45.7 +1.0**
V52A Sevierville 87.81 40 P **P 11 39 44.3 -0.5**
V52A Sevierville 87.81 40 P 11 39 45.2
baz=326,SNR=25
P60A Greenville 87.83 32 P **P 11 39 45.0 +0.3**
baz=330,SNR=7.2
P60A Greenville 87.83 32 P **P 11 39 44.0 -0.8**
P60A IAmb IAmb 11 39 46.0
comp=Z,49nm,1.1s
P60A Greenville 87.83 32 P 11 39 45.0
baz=330,SNR=7.2
TKL Tuckaleechee C 87.88 40 P 11 39 45.5
baz=326,SNR=24
FPAL Fort Paine 87.93 42 P **P 11 39 44.8 -0.5**
FPAL IAmb IAmb 11 39 46.3
comp=Z,20nm,0.9s
TBI Tubuai 88.06 125 *e*S **S 11 50 29.1 +4.2**
comp=Z,76nm,26.8s
TBI Tubuai 88.06 125 *e*LR LR 12 07 20.8
comp=Z,436nm,32.8s,baz=323
TBI Tubuai 88.06 125 *e*T T 13 16 42.6
comp=Z,5.5nm,0.3s
U54A Nelsons Funny 88.06 38 P **P 11 39 45.7 -0.3**
U54A IAmb IAmb 11 39 47.2
comp=Z,31nm,0.8s
U54A Nelsons Funny 88.06 38 P 11 39 46.4
baz=327,SNR=8.9
U54A P 11 39 46.4
baz=327,SNR=8.9
Y49A Blount Mountai 88.09 43 P **P 11 39 45.7 -0.4**
Y49A IAmb IAmb 11 39 46.5
comp=Z,20nm,0.8s
BLA Blacksburg 88.09 37 P **P 11 39 45.9 -0.2**
BLA pmax pmax
comp=Z,42nm,1.1s
BLA Blacksburg 88.09 37 P **P 11 39 46.6 +0.5**
baz=327,SNR=9.8
BLA Blacksburg 88.09 37 P **P 11 39 45.9 -0.2**
BLA IAmb IAmb 11 39 47.5
comp=Z,42nm,1.1s
Y49A Blount Mountai 88.09 43 P 11 39 46.0
baz=324,SNR=10
BLA Blacksburg 88.09 37 P 11 39 46.5
baz=327,SNR=9.8
S57A Dark Hollow, R 88.25 35 P **P 11 39 46.8 0.0**
S57A IAmb IAmb 11 39 47.8
comp=Z,17nm,0.9s
S57A Dark Hollow, R 88.25 35 P 11 39 47.2
baz=328,SNR=8.0
S57A P 11 39 47.2
baz=328,SNR=8.0
X51A Calhoun 88.27 41 P **P 11 39 46.5 -0.5**
X51A IAMs_20 IAMs_20 12 16 59.7
comp=Z,223nm,22.0s
X51A Calhoun 88.27 41 P 11 39 47.3
baz=325,SNR=5.1
X51A P 11 39 47.3
baz=325,SNR=5.1
W52A Murphy 88.27 40 P **P 11 39 46.5 -0.5**
V53A Saluda 88.31 39 P **P 11 39 47.3 +0.1**
V53A IAmb IAmb 11 39 48.5
comp=Z,22nm,1.2s
V53A Saluda 88.32 39 P 11 39 47.6
baz=326,SNR=9.1
V53A P 11 39 47.6
baz=326,SNR=9.1
LRAL Lakeview Retre 88.47 43 P **P 11 39 47.7 -0.2**
baz=324,SNR=7.8
LRAL Lakeview Retre 88.47 43 P **P 11 39 46.9 -0.9**
LRAL Lakeview Retre 88.47 43 P 11 39 47.7
baz=324,SNR=7.8
R58B Mineral 88.53 35 P **P 11 39 48.1 0.0**
CBN Corbin Frederi 88.53 34 P **P 11 39 48.7 +0.6**
baz=329
EPF Esparros 88.73 337 *e*P **P 11 39 48.6 -0.4**
EPF pmax pmax
comp=Z,19nm,0.9s
T57A Hurt 88.77 36 P **P 11 39 48.8 -0.4**
T57A IAmb IAmb 11 39 50.0
comp=Z,20nm,0.7s
T57A Hurt 88.77 36 P 11 39 49.7
baz=328,SNR=8.9
T57A P 11 39 49.7
baz=328,SNR=8.9
BG3 Lake Jocassee 88.82 40 P **P 11 39 49.9 +0.4**
CASEE Lake Jocassee 88.82 40 P 11 39 50.3
baz=326,SNR=23
U56A King 88.83 37 P **P 11 39 49.1 -0.5**
U56A IAmb IAmb 11 39 50.8
comp=Z,20nm,0.8s
U56A King 88.84 37 P 11 39 50.0
baz=327,SNR=6.2
U56A P 11 39 50.0
baz=327,SNR=6.2
V55A Taylorsville 88.88 38 P **P 11 39 49.4 -0.5**
V55A IAmb IAmb 11 39 50.5
comp=Z,12nm,0.8s
V55A Taylorsville 88.88 38 P 11 39 50.0
baz=327,SNR=6.1
V55A P 11 39 50.0
baz=327,SNR=6.1
SJPF Ste Jean 89.09 338 *e*P **P 11 39 51.6 +0.9**
SJPF pmax pmax
comp=Z,10.0nm,0.8s
Z51A Franklin 89.13 42 P **P 11 39 50.5 -0.5**
Z51A Franklin 89.13 42 P 11 39 51.5
baz=325,SNR=8.4
Y52A Lilburn 89.22 41 P **P 11 39 51.8 +0.3**
Y52A IAmb IAmb 11 39 52.9
comp=Z,26nm,0.8s
Y52A Lilburn 89.22 41 P 11 39 52.1
baz=325,SNR=10
Y52A P 11 39 52.1
baz=325,SNR=10
KMSC Kings Mountain 89.42 38 P **P 11 39 52.6 +0.3**
baz=327,SNR=11
KMSC Kings Mountain 89.42 38 P **P 11 39 51.9 -0.4**
KMSC IAmb IAmb 11 39 53.5
comp=Z,25nm,0.9s
KMSC Kings Mountain 89.42 38 P 11 39 52.7
baz=327,SNR=11
PAULI Pauline 89.47 39 P **P 11 39 52.5 0.0**

PAULI IAmb IAmb 11 39 53.7
comp=Z,27nm,0.8s
PAULI Pauline 89.47 39 P 11 39 53.1
baz=327,SNR=7.4
OXZ Oxford 89.48 163 P **P 11 39 53.6 +1.6**
T59A Double "B" Far 89.51 35 P **P 11 39 52.5 -0.2**
T59A IAmb IAmb 11 39 54.3
comp=Z,29nm,1.3s
250A Grady 89.68 44 P **P 11 39 53.1 -0.5**
250A Grady 89.68 44 P 11 39 54.5
baz=324,SNR=10.0
HODGE Hodges 89.76 40 P **P 11 39 53.7 -0.3**
HODGE IAmb IAmb 11 39 54.9
comp=Z,18nm,0.9s
HODGE Hodges 89.76 40 P 11 39 54.6
baz=326,SNR=9.3
V58A Windy Hill, Pi 89.85 37 P **P 11 39 53.9 -0.4**
V58A Windy Hill, Pi 89.85 37 P 11 39 54.6
baz=328,SNR=8.0
V58A P 11 39 54.6
baz=328,SNR=8.0
GOGA Godfrey 89.87 41 P **P 11 39 54.2 -0.3**
GOGA pmax pmax
comp=Z,20nm,1.3s
GOGA Godfrey 89.87 41 P **P 11 39 54.6 +0.1**
baz=326,SNR=6.5
GOGA Godfrey 89.87 41 P **P 11 39 54.2 -0.3**
GOGA IAmb IAmb 11 39 56.0
comp=Z,20nm,1.2s
GOGA Godfrey 89.87 41 P 11 39 54.9
baz=326,SNR=6.5
152A Waverly Hall 89.88 42 P **P 11 39 54.1 -0.5**
152A IAmb IAmb 11 39 55.4
comp=Z,11nm,0.7s
152A Waverly Hall 89.88 42 P 11 39 54.6
baz=325,SNR=5.9
U59A Littleton 89.94 35 P **P 11 39 53.9 -0.8**
U59A IAmb IAmb 11 39 55.5
comp=Z,23nm,1.1s
W57A Gilead 90.01 38 P **P 11 39 54.8 -0.2**
W57A IAmb IAmb 11 39 56.2
comp=Z,21nm,0.8s
W57A Gilead 90.01 38 P 11 39 55.5
baz=328,SNR=7.3
W57A P 11 39 55.5
baz=328,SNR=7.3
JSC Jenkinsville 90.17 39 P **P 11 39 56.3 +0.4**
JSC pmax pmax
comp=Z,15nm,0.8s
JSC Jenkinsville 90.17 39 P **P 11 39 56.2 +0.4**
JSC IAmb IAmb 11 39 57.1
comp=Z,15nm,0.8s
JSC Jenkinsville 90.17 39 P 11 39 56.3
baz=327,SNR=5.1
BIRD Birdtown, Kers 90.23 38 P **P 11 39 56.4 +0.3**
BIRD IAmb IAmb 11 39 57.4
comp=Z,17nm,0.9s
BIRD Birdtown, Kers 90.23 38 P 11 39 56.8
baz=327,SNR=6.9
154A Montrose 90.70 41 P **P 11 39 58.4 +0.1**
352A Blakely 90.75 43 P **P 11 39 58.9 +0.3**
HAW Hawthorne Fire 90.78 40 P 11 39 59.2
baz=327,SNR=7.2
Y58A Scranton 91.20 38 P **P 11 40 00.5 -0.1**
TIGA Tifton 91.44 42 P **P 11 40 00.4 -1.4**
TIGA IAmb IAmb 11 40 02.9
comp=Z,18nm,0.7s
PBRG Braganca 91.70 341 *e*P **P 11 40 02.0 -0.9**
PGAV Gavieira, Arco 91.89 343 *e*P **P 11 40 03.5 -0.3**
PGAV Gavieira, Arco 91.89 343 *e*LR LR 12 13 20.6
comp=Z,94nm,20.0s
KEST Kesra 92.27 327 P **P 11 40 05.5 -0.2**
comp=Z,9.1nm,0.5s,baz=352,slow=2.0,SNR=13
KEST LR LR 12 27 31.2
comp=Z,356nm,18.5s,baz=320,slow=39
POLO Lamas de Olo 92.35 342 *e*P **P 11 40 05.3 -0.7**
comp=Z,19nm,1.4s
MVO Moncorvo 92.38 341 *e*P **P 11 40 05.3 -0.8**
comp=Z,21nm,1.0s
MVO Moncorvo 92.38 341 *e*LR LR 12 13 38.6
comp=Z,174nm,20.0s
PVRL Vila Real 92.43 342 *e*P **P 11 40 05.3 -0.9**
comp=Z,40nm,1.3s
PVIS Viseu 93.00 342 *e*P **P 11 40 08.4 -0.5**
comp=Z,28nm,1.8s
ESDC Sonseca Array 93.03 339 P **P 11 40 08.6 -0.5**
comp=Z,10nm,0.9s,baz=17,slow=3.9,SNR=55
ESDC PP **PP 11 43 51.7 +0.2**
comp=Z,0.7nm,1.0s,baz=18,slow=8.7,SNR=3.2
ESDC LR LR 12 26 23.6
comp=Z,207nm,22.0s,baz=5.0,slow=38
MTE Manteigas 93.22 342 *e*P **P 11 40 09.5 -0.5**
comp=Z,19nm,1.0s
MTE Manteigas 93.22 342 *e*LR LR 12 14 37.3
comp=Z,146nm,22.0s
PAB San Pablo 93.25 339 P **P 11 40 09.5 -0.6**
PAB pmax pmax
comp=Z,17nm,1.3s
PAB San Pablo 93.25 339 P **P 11 40 09.5 -0.6**
PAB IAmb IAmb 11 40 10.7
comp=Z,17nm,1.2s
PAB San Pablo 93.25 339 IAMs_20 IAMs_20 12 26 27.8
comp=Z,242nm,20.0s
COI Coimbra 93.60 342 P **P 11 40 10.4 -1.2**
COI pmax pmax
comp=Z,29nm,0.9s
COI Coimbra 93.60 342 P **P 11 40 10.4 -1.2**
PCBR Castelo Branco 93.74 341 *e*P **P 11 40 12.4 +0.1**
PCAS Casmilo, Conde 93.77 342 *e*P **P 11 40 11.6 -0.8**
comp=Z,44nm,1.6s
PMRV Marv??o 94.11 341 *e*P **P 11 40 12.9 -1.1**
comp=Z,35nm,1.7s
PMRV Marv??o 94.11 341 *e*LR LR 12 15 38.9
comp=Z,142nm,22.0s
PSBE So Bento 94.35 342 *e*P **P 11 40 14.3 -0.8**
PESTR Estremoz 94.69 341 *e*P **P 11 40 16.1 -0.6**
PESTR Estremoz 94.69 341 IAMs_20 IAMs_20 12 24 25.9
comp=Z,123nm,20.0s
PMAFR Mafra 94.99 342 *e*P **P 11 40 17.3 -0.7**
PNCL Nicolau / Gran 95.63 342 *e*P **P 11 40 20.1 -0.8**
MESJ Messejana 95.82 341 *e*P **P 11 40 21.6 -0.2**
MESJ IAmb IAmb 11 40 22.3
comp=Z,8.2nm,0.9s
MESJ Messejana 95.82 341 *e*P **P 11 40 21.6 -0.2**
MESJ pmax pmax
comp=Z,8.0nm,0.9s
MESJ Messejana 95.82 341 *e*P **P 11 40 21.6 -0.2**
PCVE Castro Verde 95.98 341 *e*P **P 11 40 22.7 +0.2**
PVAQ Vaqueiros 96.12 341 *e*P **P 11 40 22.5 -0.7**
PVAQ Vaqueiros 96.12 341 *e*LR LR 12 16 14.9
comp=Z,103nm,18.0s
MORF Marmelete 96.43 341 *e*P **P 11 40 25.6 +0.9**
SFS San Fernando 96.64 339 IAMs_20 IAMs_20 12 19 04.4
comp=Z,295nm,22.0s
TORD Torodi Ar. Bea 115.44 323 PKP **PKiKP 11 45 36.7 -0.7**
comp=Z,2.1nm,0.5s,baz=22,slow=2.0,SNR=16
TORD PP **PP 11 46 36.8 -1.8**
comp=Z,6.2nm,0.9s,baz=21,slow=6.8,SNR=6.7
VNDA Vanda 121.46 176 PKP **PKiKP 11 45 47.6 +0.4**
comp=Z,1.2nm,0.7s,baz=330,slow=5.9,SNR=6.9
VNDA PKKPbc **PKKPbc 11 55 47.4 -1.5**
comp=Z,3.7nm,1.1s,baz=190,slow=6.1,SNR=7.4
VNDA Vanda 121.46 176 PKIKP **PKPdf 11 45 47.1 0.0**
VNDA Vanda 121.46 176 **PKPdf 11 45 47.1 0.0**
LSZ Lusaka 121.85 280 PKIKP **PKPdf 11 45 49.7 -0.2**
LSZ Lusaka 121.85 280 **PKPdf 11 45 49.7 -0.2**
TIC Toumodi 124.08 327 *e*PKP1 **PKPdf 11 45 54.3 +0.2**
KIC Kosan Boka 124.23 327 *e*PKP1 **PKiKP 11 45 54.8 +0.1**
comp=Z,27nm,1.1s
LIC Lamto 124.47 327 *e*PKP1 **PKPdf 11 45 54.2 -0.7**
comp=Z,18nm,0.6s
MAW Mawson 127.94 209 PKP **PKPdf 11 45 59.6 -0.1**
comp=Z,4.1nm,1.0s,baz=77,slow=3.5,SNR=4.2
MAW Mawson 127.94 209 PKIKP **PKPdf 11 45 59.1 -0.6**
MAW Mawson 127.94 209 **PKPdf 11 45 59.1 -0.6**
PTGA Pitinga 130.32 38 **PKPdf 11 46 06.3 +0.3**
BOSA Boshof 132.30 269 PKP **PKPdf 11 46 07.9 -1.5**
comp=Z,4.0nm,0.9s,baz=320,slow=7.9,SNR=2.3
MCPB Macapa, AP 133.09 28 *e*P **PKPdf 11 46 11.8 +0.5**
QSPA South Pole Qui 133.65 180 PKP **PKPdf 11 46 10.7 0.0**
comp=Z,2.5nm,0.7s,baz=274,slow=1.5,SNR=3.1
QSPA South Pole Qui 133.65 180 **PKPdf 11 46 11.1 +0.4**
ITTB Itaituba 135.40 35 *e*P **PKPdf 11 46 15.6 0.0**
SYO Syowa Base 136.63 210 *e*X **Pdif 11 43 20.8 -1.6**
SYO Syowa Base 136.63 210 *e*pPdiff pPdif 11 43 37.4 -1.5
LPAZ La Paz 138.87 59 PKP **PKiKP 11 46 23.8 -1.0**
comp=Z,2.0nm,0.7s,baz=22,slow=4.5,SNR=7.2
LPAZ La Paz 138.87 59 PKIKP **PKPdf 11 46 22.3 -0.3**
LPAZ La Paz 138.87 59 **PKPdf 11 46 22.3 -0.3**
LPAZ La Paz 138.87 59 *e*P **PKPdf 11 46 23.2 +0.6**
VILB Vilhena 140.79 47 *e*P **PKPdf 11 46 25.6 +0.1**
CLDB Colider 141.18 39 *e*P **PKPdf 11 46 26.1 0.0**
H03N2 Juan Fernandez 142.35 90 T T 14 25 30.6
baz=305,slow=77,SNR=50
H03N3 Juan Fernandez 142.36 90 T T 14 25 34.7
baz=305,slow=77,SNR=22
H03N1 Juan Fernandez 142.36 90 T T 14 25 34.0
baz=305,slow=77,SNR=61
SMTB Santa Maria do 142.53 26 *e*P **PKPdf 11 46 28.6 0.0**
PTLB Pontes e Lacer 143.43 48 *e*P **PKPdf 11 46 29.8 -0.2**
GO02 Mina Guanaco 144.21 71 PKPdf PKPbc 11 46 30.6 +0.7
SHEL Horse Pasture 144.33 313 PKIKP PKPbc 11 46 30.8 +0.7
SHEL Horse Pasture 144.33 313 PKPdf PKPbc 11 46 30.8 +0.7
NBRF Rio Formoso - 144.79 5 *e*P **PKPab 11 46 31.3 -0.2**
PEXB Peixe 145.33 29 *e*P **PKPab 11 46 33.8 +0.3**
SALV Santo Antonio 145.59 43 *e*P **PKPab 11 46 34.2 -0.1**
NBAN Anadia - AL 145.68 7 *e*P **PKPdf 11 46 34.0 0.0**
GO04 Tololo Observa 146.45 79 **PKPbc 11 46 36.2 -0.4**
SDBA SAO DESIDERIO 146.70 23 *e*P **PKPbc 11 46 37.3 -0.2**
CO02 Combarbal 146.88 81 **PKPbc 11 46 37.9 +0.2**
ARAG Araguaiana, MT 147.22 37 *e*P **PKPbc 11 46 38.- -0.8**
VA01 Torpederas 147.39 84 **PKPbc 11 46 38.2 -0.6**
PP1B Ponte de Pedra 147.44 44 *e*P **PKPdf 11 46 36.7 -0.2**
MT02 Curacav 147.88 84 **PKPbc 11 46 38.8 -1.4**
VA03 San Esteban 148.04 83 **PKPdf 11 46 39.1 +1.5**
GO05 Huala 148.17 88 **PKPbc 11 46 39.5 -1.5**
MT05 Renca 148.24 84 **PKPbc 11 46 40.7 -0.5**
MT09 Talagante 148.25 85 PKPdf **PKPdf 11 46 36.9 -1.1**
MT03 Universidad Ad 148.45 84 **PKPbc 11 46 40.4 -1.5**
BO01 Tunca 148.49 86 **PKPbc 11 46 40.0 -1.7**
BDFB Brasilia 148.70 31 PKPbc **PKPbc 11 46 43.3 +0.3**
comp=Z,22nm,0.7s,baz=315,slow=3.0,SNR=26
BDFB PP **PP 11 50 14.1 +1.7**
comp=Z,6.3nm,0.8s,baz=328,slow=6.0,SNR=3.7
BDFB Brasilia 148.70 31 **PKPbc 11 46 42.9 -0.1**
ZON Zonda 148.73 79 PKIKP **PKPdf 11 46 39.8 +1.1**
ZON Zonda 148.73 79 PKPdf **PKPdf 11 46 39.8 +1.1**
SNAA Sanae 148.79 197 P **PKPbc 11 46 41.6 +0.1**
SNAA Sanae 148.79 197 PKP2 **PKPbc 11 46 41.8 +0.3**
SNAA Sanae 148.79 197 **PKPbc 11 46 41.8 +0.3**
GDU01 Guandu, BA 149.22 14 *e*P **PKPdf 11 46 39.8 -0.1**
JANB Januaria 149.38 24 *e*P **PKPdf 11 46 40.9 +0.7**
BI02 San Fabin de 149.40 90 **PKPbc 11 46 44.3 +0.1**
AQDB Aquidauana 149.41 48 **PKPdf 11 46 37.8 -2.2**
AQDB Aquidauana 149.41 48 *e*P **PKPdf 11 46 41.0 +1.0**
LC01 Cunco 149.88 94 **PKPbc 11 46 44.6 -0.5**
LL04 Puerto Octay 150.22 98 **PKPbc 11 46 46.2 +0.4**
NBIT Itapeh - BA 150.43 15 *e*P **PKPdf 11 46 41.7 0.0**
VNA3 Neumayer Olymp 150.49 194 P **PKPbc 11 46 45.9 +0.3**
LL01 San Ignacio de 150.68 101 **PKPbc 11 46 46.5 -0.4**
VNA1 Neumayer--Stat 150.71 196 P **PKiKP 11 46 46.5 -0.2**
IPMB Ipameri, GO 150.76 33 *e*P **PKPdf 11 46 42.1 -0.2**
CMC01 Camacan, BA 150.83 15 *e*P **PKPdf 11 46 43.5 +1.2**
MC01 Montes Claros 151.05 24 *e*P **PKPdf 11 46 42.5 -0.2**
ITRB Iturama 151.39 38 *e*P **PKPdf 11 46 44.5 +1.3**
PLCA Paso Flores 151.49 97 PKPbc **PKiKP 11 46 49.6 +0.2**
comp=Z,12nm,0.7s,baz=260,slow=2.4,SNR=31
PLCA Paso Flores 151.49 97 *e*P **PKPdf 11 46 42.6 -0.2**
GUA01 Guaratinga, BA 151.96 16 *e*P **PKPdf 11 46 44.1 0.0**
TRCB Terra Rica 152.92 46 *e*P **PKPdf 11 46 46.1 +0.7**
CPUP Villa Florida 153.02 58 PKP **PKPdf 11 46 45.2 -0.1**
comp=Z,2.6nm,0.8s,baz=308,slow=1.9,SNR=5.0
CPUP PKPbc **PKPbc 11 46 52.7 0.0**
comp=Z,3.6nm,0.6s,baz=341,slow=3.5,SNR=7.6
CPUP PKPab **PKPab 11 47 04.3 +0.1**
comp=Z,7.4nm,0.8s,baz=329,slow=3.4,SNR=12
CPUP Villa Florida 153.02 58 PKIKP **PKPdf 11 46 44.2 -1.2**
CPUP Villa Florida 153.02 58 **PKPdf 11 46 44.1 -1.2**
NAN01 Guarapari, ES 153.12 17 *e*P **PKPdf 11 46 46.3 +0.6**
SJMB Sao Joao De Ma 153.71 20 *e*P **PKPdf 11 46 47.3 +0.7**
BSFB Barra de Sao F 153.91 19 *e*P **PKPdf 11 46 48.6 +1.8**
PLTB Pedras Altas 159.13 62 **PKPab 11 47 29.8 -0.6**

ISK ***11*** *11:31:06.5, 39°.78N×26°.14E, h6km, ML2.8/14*
THE ***11*** *11:31:07.3, 39°.79N×26°.13E, h6km±1km, ML2.5/11, Error ellipse: s-maj=1.5km s-min=0.6km az=84.0*
DDA ***11*** *11:31:07.7, 39°.77N×26°.15E, h5km, ML2.6*
ATH ***11*** *11:31:07.6, 39°.76N×26°.08E, h30km±8km, ML2.5/7, Error ellipse: s-maj=8.6km s-min=1.0km az=177.0*
ISC 11 11:31:06.6±0.8, **39°.79N**±0°.01×**26°.16E**±0°.02, **h13**km±5km, **n59**, rms**0**°**62**/102, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.10**	**302**	*i* P	**Pg**	**11 31 09.5**	**0.0**
BOZC				*i* S	**Sg**	**11 31 10.9**	**-0.7**
BOZC				IAML		11 31 12.0	
comp=E,2μm,0.4s							
EZN	**Ezine**	**0.13**	**75**	P	**Pg**	**11 31 10.3**	**+0.3**
EZN				S	**Sg**	**11 31 12.7**	**+0.3**
comp=E,4μm,0.2s							
EZN	**Ezine**	**0.13**	**75**	PG	**Pg**	**11 31 10.2**	**+0.3**
EZN				SG	**Sg**	**11 31 12.7**	**+0.3**
ECEA	**Canakkale, Ece**	**0.25**	**3**	*i* P	**Pb**	**11 31 13.0**	**-0.1**
ECEA				*i* S	**Sb**	**11 31 16.9**	**-0.5**
ECEA				IAML		11 31 18.0	
comp=E,707nm,0.3s							
ECEA				IAML		11 31 19.0	
comp=N,709nm,0.4s							
KOCA	**Canakkale, Ayv**	**0.29**	**183**	*i* P	**Pg**	**11 31 12.6**	**0.0**
KOCA				*i* S	**Sg**	**11 31 16.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.30**	**99**	*i* P	**Pb**	**11 31 13.3**	**-0.6**
BAYC				*i* S	**Sg**	**11 31 17.4**	**+0.4**
GOKA	**anakkale-Gk**	**0.44**	**334**	*i* P	**Pb**	**11 31 16.4**	**0.0**
GOKA				*i* S	**Sb**	**11 31 22.8**	**-0.2**
GADA	**Gvkgeada**	**0.45**	**333**	P	**Pb**	**11 31 16.5**	**+0.1**
GADA				S	**Sb**	**11 31 22.7**	**-0.3**
comp=N,645nm,0.3s							
GADA	**Gvkgeada**	**0.45**	**333**	PG	**Pg**	**11 31 15.7**	**+0.2**
GADA				SG	**Sb**	**11 31 22.6**	**-0.4**
PRK	**Paraskevi**	**0.55**	**171**	P	**Pb**	**11 31 18.7**	**+0.5**
PRK				S	**Sg**	**11 31 25.6**	**+0.9**
comp=N,785nm,0.4s							
PRK	**Paraskevi**	**0.55**	**171**	P	**Pb**	**11 31 18.7**	**+0.5**
PRK				S	**Sb**	**11 31 26.3**	**+0.3**
PRK				AML	AML	11 31 27.3	
comp=E,1714μm,0.6s							
PRK				AML	AML	11 31 27.4	
comp=N,1436μm,0.3s							
SIGR	**SIGRI**	**0.62**	**202**	P	**Pg**	**11 31 18.7**	**-0.1**
SIGR				S	**Sg**	**11 31 27.7**	**+0.7**
comp=N,935nm,0.2s							
SIGR	**SIGRI**	**0.62**	**202**	P	**Pg**	**11 31 18.7**	**-0.1**
SIGR				S	**Sg**	**11 31 26.5**	**-0.6**
SIGR				AML	AML	11 31 31.1	
comp=E,1571μm,0.2s							
SIGR				AML	AML	11 31 31.1	
comp=N,2142μm,0.2s							
SIGR	**SIGRI**	**0.62**	**202**	PG	**Pg**	**11 31 18.7**	**-0.1**
SIGR				SG	**Sg**	**11 31 27.7**	**+0.7**
AYVA	**Ayvalik**	**0.63**	**139**	*i* P	**Pg**	**11 31 19.1**	**+0.1**
AYVA				*i* S	**Sg**	**11 31 26.8**	**-0.6**
AYVA				IAML		11 31 32.0	
comp=N,358nm,0.5s							
GELI	**Tayfur-Gelibol**	**0.65**	**22**	PG	**Pb**	**11 31 19.9**	**0.0**
GELI				SG	**Sn**	**11 31 29.6**	**-2.2**
LIA	**Limnos Island**	**0.76**	**278**	P	**Pg**	**11 31 21.4**	**0.0**
LIA				S	**Sg**	**11 31 31.8**	**+0.5**
comp=N,262nm,0.3s							
LIA	**Limnos Island**	**0.76**	**278**	P	**Pg**	**11 31 21.3**	**0.0**
LIA				S	**Sg**	**11 31 31.1**	**-0.2**
LIA				AML	AML	11 31 35.5	
comp=E,546μm,0.3s							
LIA				AML	AML	11 31 36.0	
comp=N,507μm,0.3s							
SMTH	**Samothraki Isl**	**0.83**	**325**	P	**Pg**	**11 31 23.2**	**+0.4**
SMTH				S	**Sg**	**11 31 35.1**	**+1.4**
comp=N,330nm,0.2s							
SMTH	**Samothraki Isl**	**0.83**	**325**	P	**Pg**	**11 31 23.2**	**+0.4**
SMTH				S	**Sb**	**11 31 33.3**	**-0.8**
SMTH				AML	AML	11 31 37.8	
comp=N,827μm,0.2s							
SMTH				AML	AML	11 31 38.5	
comp=E,487μm,0.2s							
CAVK	**Edirne/Enez-Ca**	**0.90**	**0**	*i* P	**Pn**	**11 31 24.8**	**-0.2**
CAVK				*i* S	**Sg**	**11 31 35.8**	**-0.1**
CAVK				IAML		11 31 41.0	

comp=N,150nm,0.3s
DKL Dikili 0.92 141 PG **Pg 11 31 24.8 +0.4**
EFSA Agios Efstrati 0.94 255 P **Pb 11 31 24.6 -0.2**
EFSA S **Sb 11 31 35.9 -1.2**
EFSA AML AML 11 31 42.2
comp=E,807μm,0.3s
EFSA AML AML 11 31 42.5
comp=N,845μm,0.6s
ENEZ Enez 0.94 360 P **Pn 11 31 25.7 +0.1**
ENEZ S **Sn 11 31 38.5 -0.5**
comp=N,555nm,0.4s
ENEZ Enez 0.94 360 PG **Pn 11 31 25.3 -0.3**
ENEZ SG **Sn 11 31 39.1 +0.1**
KRBG Karabiga-Canak 1.06 55 PG **Pg 11 31 27.4 +0.3**
ZEDA zmir-Bergama 1.09 139 *i* P **Pn 11 31 27.6 -0.1**
ZEDA *i* S **Sn 11 31 42.2 -0.4**
ZEDA IAML 11 31 45.0
comp=N,115nm,0.5s
KESN Edirne-Kesan 1.11 21 *i* P **Pn 11 31 27.9 -0.4**
KESN *i* S **Sn 11 31 43.5 -0.1**
KESN IAML 11 31 47.0
comp=N,266nm,0.4s
KESN IAML 11 31 48.0
comp=E,226nm,0.4s
ALN Alexandroupoli 1.11 356 P **Pg 11 31 27.9 -0.1**
ALN S **Sn 11 31 43.5 +0.4**
comp=E,208nm,0.4s
ALN Alexandroupoli 1.11 356 P **Pg 11 31 28.0 0.0**
ALN S **Sn 11 31 43.2 +0.1**
ALN AML AML 11 31 45.2
comp=E,508μm,0.4s
ALN AML AML 11 31 45.5
comp=N,328μm,0.6s
ALN Alexandroupoli 1.11 356 PN **Pg 11 31 28.3 +0.3**
ALN SN **Sn 11 31 44.2 +1.1**
BALY Balya 1.13 92 *i* P **Pg 11 31 30.0 +1.6**
BALY *i* S **Sn 11 31 43.0 -0.6**
BALY IAML 11 31 46.0
comp=N,116nm,0.4s
RKY Sarkoy-Tekirda 1.19 41 PN **Pg 11 31 29.9 +0.4**
SART Tekirdag 1.19 41 *i* P **Pg 11 31 29.6 0.0**
SART *i* S **Sg 11 31 46.6 +1.5**
SART IAML 11 31 49.0
comp=E,100nm,0.6s
GONE Gonen-Balikesi 1.20 77 PN **Pg 11 31 29.3 -0.5**
MAR6 Marsite Statio 1.25 43 PN **Pg 11 31 31.3 +0.7**
MAR6 SN **Sg 11 31 48.8 +2.0**
STEP BALIKESIR_Sava 1.27 108 *i* P **Pg 11 31 31.3 +0.2**
STEP *i* S **Sg 11 31 48.0 +0.3**
MAR2 Marsite Statio 1.28 43 PN **Pg 11 31 31.7 +0.5**
GZKV Gazikoy-Tekird 1.31 43 PN **Pg 11 31 31.9 +0.1**
MAR4 Marsite Statio 1.32 41 PN **Pg 11 31 32.1 0.0**
BALB Balikesir 1.34 96 PN **Pg 11 31 32.0 -0.3**
BALB SN **Sg 11 31 50.5 +0.8**
MRMT Marmara Adasi 1.37 53 PN **Pg 11 31 32.6 -0.3**
MRMT SN **Sg 11 31 51.7 +1.0**
THAS Thassos island 1.37 307 P **Pb 11 31 32.3 +0.1**
UKOP Uzunkopru-Edir 1.38 15 PN **Pg 11 31 32.9 -0.3**
CHOS Chios island 1.40 183 P **Pn 11 31 32.3 +0.3**
CHOS S **Sg 11 31 52.0 +0.1**
comp=E,160nm,0.3s
CHOS Chios island 1.40 183 P **Pn 11 31 32.1 0.0**
EDC Edincik 1.42 66 PN **Pg 11 31 33.4 -0.5**
EDC SN **Sg 11 31 53.2 +0.8**
RDO Rodhopi 1.44 341 P **Pb 11 31 33.2 0.0**
RDO S **Sg 11 31 52.5 -0.3**
comp=E,108nm,0.5s
RDO Rodhopi 1.44 341 P **Pb 11 31 33.7 +0.5**
RDO S **Sb 11 31 51.5 +0.1**
RDO AML AML 11 31 54.1
comp=N,211μm,0.3s
RDO AML AML 11 31 56.4
comp=E,131μm,0.3s
URLA Izmir 1.47 166 *i* P **Pn 11 31 33.1 +0.3**
URLA *i* S **Sn 11 31 51.9 -0.1**
ZEYE Izmir, Urla-Ze 1.57 170 *i* P **Pb 11 31 35.8 +0.2**
ZEYE IAML 11 32 02.0
comp=N,59nm,0.4s
KAVA Kavala 1.74 314 P **Pn 11 31 37.6 +1.0**
KAVA S **Sn 11 31 58.8 +0.1**
comp=N,40nm,0.4s
KAVA Kavala 1.74 314 P **Pn 11 31 37.3 +0.7**
DURS Dursunbey 1.80 95 *i* P **Pg 11 31 40.2 -0.9**
DURS *i* S **Sb 11 32 01.6 -0.3**
DURS IAML 11 32 04.0
comp=E,78nm,1.3s
DURS IAML 11 32 05.0
comp=N,97nm,0.8s
DGB zmir 1.83 162 *i* P **Pb 11 31 39.3 -0.6**
DGB IAML 11 32 07.0
comp=N,45nm,0.3s
PAIG Paliouri 1.91 275 P **Pn 11 31 38.5 -0.5**
KYMI Kymi, Euboea I 1.97 235 P **Pn 11 31 40.4 +0.6**
DEMI Demirci 2.12 110 *i* P **Pb 11 31 45.2 +0.2**
DEMI *i* S **Sb 11 32 11.3 +0.2**
DEMI IAML 11 32 18.0
comp=E,42nm,0.2s
VIZE Kirklareli, Vi 2.20 35 *i* P **Pb 11 31 44.5 -1.7**

VIE 11 11:43:38.0±0.4, 47°25N×15°76E, h0km, mb0.2/1, ml1.1/4, Error ellipse: s-maj=3.1km s-min=1.7km az=119.0 11 km ENE of Weiz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.16**	**272**	*e*Pg	Pg	11 43 41.0	-0.1
ARSA	0.5nm,0.1s			*i* Sg	Sg	11 43 43.2	+0.1
	31nm,0.3s						
CONA	**Conrad Observa**	**0.69**	**6**	*i* Pg	Pg	11 43 51.5	+0.4
CONA	0.2nm,0.1s			*e*Sg	Sg	11 44 00.3	+0.3
	0.7nm,0.2s						
SOKA	**Soboth**	**0.76**	**222**	*i* Pg	Pg	11 43 52.5	+0.1
SOKA	0.5nm,0.2s			*e*Sg	Sg	11 44 02.8	+0.6
	1.6nm,0.4s						
MOA	**Molln**	**1.18**	**301**	*e*Pg	Pn	11 44 01.5	-0.2
MOA	1.4nm,0.2s			*e*Sg	Sb	11 44 17.2	+0.1
	1.4nm,0.2s						

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*NEIC **11** 11:43:52.5±0.8, 20°4S±0°1×178°2W±0°3, h566km±24km, mb4.2/13, Error ellipse: s-maj=38.5km s-min=13.2km az=64.0*
*IDC **11** 11:43:52.8±2.3, 20°12S×178°31W, h577km±24km, mb3.1/5, mb1 3.3/6, mb1mx2.9/28, mbtmp4.0/6, Error ellipse: s-maj=34.2km s-min=28.5km az=153.0*
ISC 11 11:43:53.9±1.2, 20°2S±0°2×178°4W±0°2, h600km, n21, σ1§44/21, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**305**	P	**P**	**11 45 17.8**	**-2.9**
	5.6nm,0.3s,baz=135,slow=8.6,SNR=31						
MSVF	**Nonsavu**	**4.17**	**305**	P	**P**	**11 45 18.3**	**-2.5**
THZ	**Tophouse**	**22.76**	**197**	P	**P**	**11 48 09.8**	**-2.4**
THZ				IAmb	IAmb	11 48 30.4	
	comp=Z,11nm,1.3s						
WHZ	**Wether Hill Ro**	**28.02**	**201**	P	**P**	**11 48 57.0**	**-1.2**
EIDS	**Eidsvold**	**28.61**	**254**	P	**P**	**11 49 04.4**	**+0.7**
EIDS				IAmb	IAmb	11 49 31.4	
	comp=Z,3.5nm,1.0s						
ARMA	**Armidale**	**28.90**	**243**	P	**P**	**11 49 07.4**	**+1.1**
CTAO	**Charters Tower**	**33.18**	**264**	P	**P**	**11 49 43.8**	**+0.9**
CTAO				IAmb	IAmb	11 49 44.8	
	comp=Z,3.2nm,0.8s						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**11 50 20.2**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=75,slow=12,SNR=1.5						
STKA	**Stephens Creek**	**37.62**	**244**	P	**P**	**11 50 19.1**	**-0.2**
WR0	**Warramunga Arr**	**44.12**	**262**	P	**P**	**11 51 11.3**	**+0.6**
WR0				IAmb	IAmb	11 51 21.8	
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**44.26**	**256**	P	**P**	**11 51 13.0**	**+1.1**
ASAR	**Alice Springs**	**44.26**	**256**	P	**P**	**11 51 12.9**	**+1.1**
	comp=Z,3.8nm,0.5s,baz=88,slow=8.0,SNR=114						
WB0	**Warramunga Arr**	**44.28**	**262**	P	**P**	**11 51 12.8**	**+0.8**
WB0				IAmb	IAmb	11 51 13.2	
	comp=Z,9.7nm,1.3s						
WB2	**Warramunga Arr**	**44.30**	**262**	P	**P**	**11 51 12.7**	**+0.6**
WB2				IAmb	IAmb	11 51 14.1	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**44.31**	**262**	P	**P**	**11 51 12.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=97,slow=7.6,SNR=79						
MTN	**Manton Dam**	**48.82**	**270**	P	**P**	**11 51 47.7**	**+1.5**
MTN				IAmb	IAmb	11 52 07.1	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**50.34**	**266**	P	**P**	**11 51 58.8**	**+1.5**
QSPA	**South Pole Qui**	**69.89**	**180**	P	**P**	**11 54 06.5**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=50,slow=2.2,SNR=6.2						
QSPA	**South Pole Qui**	**69.89**	**180**	P	**P**	**11 54 05.9**	**+0.3**
ILAR	**Eielson Array**	**88.07**	**13**	P	**P**	**11 55 42.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=208,slow=3.7,SNR=3.1						
AKASG	**Malin Array Be**	**142.56**	**331**	PKP	**PKPdf**	**12 02 18.5**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=38,slow=3.7,SNR=6.1						

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*BGR **11** 11:43:53.0±0.3, 50°07N×8°12E, h21km, ML1.5/3, Error ellipse: s-maj=3.3km s-min=2.2km az=164.0*
*BNS **11** 11:43:54.0±0.3, 50°08N×8°16E, h10km±3km, ML1.2*
LDG 11 11:43:53.3±0.1, 50°05N×8°13E, h17km, Md1.4/1, Ml2.0/5, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.9km az=100.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWBE	**Wiesbaden**	**0.06**	**30**	Pg	Pg	11 43 56.5	0.0
GWBE				Sg	Sg	11 43 58.3	-0.4
GWBD	**Espenschied/He**	**0.16**	**292**	Pg	Pg	11 43 57.6	0.0
GWBD				Sg	Sg	11 44 00.3	-0.2
BODE	**Bodenheim**	**0.18**	**143**	Pg	Pg	11 43 57.8	0.0
BODE				*e*Sg	Sb	11 44 01.4	+0.1
NAST	**IGS Nastaetten**	**0.23**	**309**	⇓*e*Pg	Pg	11 43 58.5	0.0
NAST				*e*Sg	Sg	11 44 01.8	-0.3
	72nm,0.1s						
TNS	**Taunus Mts**	**0.26**	**50**	Pg	Pg	11 43 59.0	-0.2
TNS				*e*Sg	Sg	11 44 02.7	-0.6
FACH	**Fachingen**	**0.32**	**344**	Pg	Pg	11 43 59.9	-0.1
FACH				Sg	Sg	11 44 04.3	-0.3
GWBC	**Aumenau**	**0.35**	**14**	Pg	Pg	11 44 00.6	-0.1
GWBC				Sg	Sg	11 44 05.5	-0.2
WBB	**Darmstadt**	**0.40**	**121**	Sg	Sg	11 44 07.2	+0.1
ABH	**Alteburg**	**0.41**	**246**	Pg	Pg	11 44 01.5	-0.3
ABH				*e*Sg	Sg	11 44 07.0	-0.5
KOE	**Koeppel**	**0.45**	**326**	*e*Pg	Pg	11 44 02.5	0.0
IMS	**Imsbach**	**0.48**	**198**	Pg	Pg	11 44 02.6	-0.4
IMS				Sg	Sg	11 44 09.2	-0.3
BGG	**Burgeitz**	**0.53**	**287**	⇑*e*Pg	Pb	11 44 04.2	-0.1
TOD	**Tromm**	**0.62**	**136**	P*	Pg	11 44 05.1	-0.5
TOD				S*	Sg	11 44 13.3	-0.6
TOD				SmS		11 44 15.5	
BIW	**Bindweide**	**0.70**	**345**	Pg	Pg	11 44 06.8	-0.4
BIW				Sg	Sg	11 44 15.3	-1.2
MILB	**Miltenberg**	**0.78**	**106**	*e*Pg	Pg	11 44 09.0	+0.4
MILB				*e*Sg	Sb	11 44 18.7	-0.1
AHRW	**Bad Neuenahr-A**	**0.83**	**306**	*e*Pg	Pb	11 44 09.4	+0.1
AHRW				*e*Sg	Sb	11 44 19.7	-0.5
RIVT	**Riveris**	**0.95**	**249**	*e*Pg	Pb	11 44 11.1	-0.1
RIVT				*e*Sg	Sb	11 44 23.1	-0.4
HILG	**Hillesheim**	**0.96**	**285**	*e*Pg	Pb	11 44 11.8	+0.2
KASTN	**Kahler Asten**	**1.17**	**9**	*e*Pg	Pn	11 44 14.7	-0.2
KASTN				*e*Sg	Sb	11 44 28.5	-1.4
WLF	**Walferdange**	**1.34**	**254**	*e*Sg	Sg	11 44 36.0	-0.6
BFO	**Black Forest**	**1.73**	**176**	*e*Pg	Pg	11 44 26.2	-0.3
BFO				*e*Sg	Sg	11 44 47.8	-1.2
CDF	**Champ du Feu**	**1.74**	**199**	*e*Pg	Pb	11 44 25.7	+1.0
CDF				*e*Sn	Sn	11 44 41.4	-3.1
CDF				*e*Sg	Sb	11 44 47.3	+1.0
	1.5nm,0.2s						
ECH	**Echery**	**1.95**	**200**	*e*Sg	Sb	11 44 53.9	+1.6
GRF	**Grafenberg Arr**	**2.03**	**99**	*e*Sg	Sg	11 44 58.0	-0.6
HAU	**Haudompre**	**2.36**	**210**	*e*Pg	Pg	11 44 37.5	-1.1
HAU				*e*Sg	Sg	11 45 07.5	-1.7
	1.5nm,0.2s						
HINF	**Hinteralfeld**	**2.39**	**201**	*e*Pg	Pg	11 44 38.0	-1.2
HINF				*e*Sg	Sg	11 45 07.9	-2.3
	0.8nm,0.2s						
SAVF	**Savonnieres en**	**2.44**	**235**	*e*Pg	Pg	11 44 38.7	-1.3
SAVF				*e*Sn	Sn	11 44 58.5	-3.2
SAVF				*e*Sg	Sg	11 45 10.2	-1.4
	3.2nm,0.4s						
BAIF	**Baives**	**2.53**	**272**	*e*Pn	Pn	11 44 32.2	-1.4
BAIF	**Baives**	**2.53**	**272**	*e*Pg	Pg	11 44 40.1	-1.7
BAIF				*e*Sn	Sn	11 45 00.2	-3.8
BAIF				*e*Sg	Sg	11 45 13.1	-1.5
	1.4nm,0.2s						

IDC 11 11:57:53.5±3.2, 5°22S×154°17E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/42, mbtmp3.5/3, ML1.9/1, Error ellipse: s-maj=135.2km s-min=48.9km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.10**	**239**	Pn	Pn	11 59 54.1	+1.6
	0.8nm,0.3s,baz=63,slow=9.0,SNR=1.7						
PMG				Sn	Sn	12 01 17.5	-7.3
	1.0nm,0.3s,baz=328,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**24.21**	**231**	P	P	12 03 13.0	+0.8
	0.2nm,0.3s,baz=58,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**26.79**	**225**	P	P	12 03 35.5	+0.1
	0.4nm,1.0s,baz=57,slow=9.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**151.73**	**288**	PKPbc	PKPbc	12 17 49.8	-1.4
	0.3nm,0.3s,baz=52,slow=2.2,SNR=2.3						

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*SOME **11** 12:37:26.9, 41°08N×83°53E, h5km*
*NNC **11** 12:37:29.9±6.1, 42°21N×84°17E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=48.0km s-min=32.8km az=158.0*
ISC 11 12:37:32.1±2.7, 41°2N±0°1×83°3E±0°1, h10km, n19, σ2§79/29, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.17**	**317**	*e*P	**Pb**	**12 38 30.0**	**+1.4**
	7.2nm,0.3s						
KTMS				*e*S	**Sg**	**12 39 16.6**	**+2.8**
	26nm,0.3s						
KTMS	**Ketmen**	**3.17**	**317**	Pg	**Pb**	**12 38 30.0**	**+1.4**
	7.2nm,0.3s						
KTMS				Lg	Lg	12 39 12.8	
	26nm,0.3s						
SHLS	**Shalkode**	**3.49**	**306**	*e*P	**Pb**	**12 38 30.9**	**-3.1**
	6.1nm,0.1s						
SHLS				*e*S	**Sb**	**12 39 16.9**	**+0.4**
	86nm,0.3s						
SHLS	**Shalkode**	**3.49**	**306**	Pg	**Pb**	**12 38 32.9**	**-1.2**
	6.1nm,0.1s						
SHLS				Lg	Lg	12 39 17.0	
	86nm,0.3s						
PDGK	**Podgornoye**	**3.57**	**308**	⇓Pg	**Pb**	**12 38 32.8**	**-2.7**
	3.5nm,0.5s						
PDGK				⇑Lg	Lg	12 39 24.3	
	17nm,0.5s						
UZB	**Uzynbulak**	**3.76**	**303**	*e*P	**Pb**	**12 38 39.9**	**+1.2**
	2.0nm,0.4s						
UZB				*e*S	**Sg**	**12 39 32.3**	**-0.6**
	16nm,0.6s						
DJR	**Jarkent**	**4.09**	**322**	*e*P	**Pb**	**12 38 47.1**	**+2.9**
	1.4nm,0.3s						
DJR				*e*S	**Sg**	**12 39 44.6**	**+1.1**
	13nm,0.7s						
SATY	**Saty**	**4.12**	**299**	*e*P	**Pg**	**12 38 50.2**	**-0.8**
	1.7nm,0.4s						
SATY				*e*S	**Sg**	**12 39 49.8**	**+5.5**
	27nm,0.5s						
KPKS	**Kokpek**	**4.14**	**305**	*e*P	**Pb**	**12 38 45.8**	**+0.8**
	2.9nm,0.2s						
KPKS				*e*S	**Sg**	**12 39 42.3**	**-2.6**
	32nm,0.5s						
MDOK	**Medeo**	**5.07**	**295**	*e*P	**Pg**	**12 39 06.5**	**-2.8**
	2.4nm,0.5s						
MDOK				*e*S	**Sg**	**12 40 17.3**	**+2.4**
	8.6nm,0.4s						
MDOK	**Medeo**	**5.07**	**295**	Pg	**Pg**	**12 39 06.5**	**-2.8**
	1.8nm,0.2s						
MDOK				Lg	Lg	12 40 15.8	
	8.6nm,0.4s						
KTBS	**Karatobe**	**5.53**	**299**	*e*P	**Pb**	**12 39 12.3**	**+3.5**
	1.6nm,0.8s						
KTBS				*e*S	**Sg**	**12 40 28.4**	**-1.2**
	9.9nm,0.4s						
KTBS	**Karatobe**	**5.53**	**299**	Pg	**Pg**	**12 39 14.0**	**-4.0**
	0.8nm,0.2s						
KTBS				Lg	Lg	12 40 28.4	
	9.9nm,0.4s						
MAKZ	**Makanchi**	**5.72**	**351**	⇓Pg	**Pn**	**12 38 57.3**	**+0.3**
	1.9nm,1.1s						
MAKZ				⇓Lg	Lg	12 40 01.5	
	1.2nm,0.4s						
KST	**Kastek**	**5.79**	**291**	*e*P	**Pb**	**12 39 17.7**	**+4.5**
	2.5nm,0.7s						
KST				*e*S	**Sg**	**12 40 38.1**	**+0.2**
	6.5nm,0.8s						
KST	**Kastek**	**5.79**	**291**	Pg	**Pg**	**12 39 19.7**	**-3.2**
	1.3nm,0.2s						
KST				Lg	Lg	12 40 38.1	
	6.5nm,0.8s						
DGS	**Degeres**	**5.98**	**293**	*e*P	**Pb**	**12 39 20.8**	**+4.4**
	1.6nm,0.4s						
DGS				*e*S	**Sg**	**12 40 43.3**	**-0.7**
	7.7nm,0.4s						
DGS	**Degeres**	**5.98**	**293**	Pg	**Pg**	**12 39 22.7**	**-3.9**
	1.6nm,0.4s						
DGS				Lg	Lg	12 40 43.3	
	7.7nm,0.4s						
SGDS	**Sogindy**	**6.84**	**292**	Pg	**Pg**	**12 39 40.5**	**-2.5**
	0.9nm,0.2s						
SGDS				Lg	Lg	12 41 11.1	
	2.3nm,0.7s						

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*SOME **11** 12:44:29.6, 44°63N×82°18E, h20km*
*NNC **11** 12:44:31.2±1.8, 44°70N×82°10E, h0km, mb3.2, mpv3.5, Error ellipse: s-maj=18.9km s-min=6.2km az=118.0*
ISC 11 12:44:27.3±2.6, 44°66N±0°05×82°37E±0°09, h3km±18km, n20, σ0§58/33, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.87**	**261**	*e*P	**Pb**	**12 45 02.8**	**+0.5**
	1.0nm,0.1s						
DJR				*e*S	**Sg**	**12 45 27.0**	**-0.5**
	0.8nm,0.2s						
DJR	**Jarkent**	**1.87**	**261**	P	**Pb**	**12 45 02.7**	**+0.5**
	1.0nm,0.1s						
DJR				S	**Sg**	**12 45 27.0**	**-0.5**
	0.8nm,0.2s						
KTMS	**Ketmen**	**1.89**	**231**	*e*P	**Pb**	**12 45 03.2**	**+0.6**
	13nm,0.1s						
KTMS				*e*S	**Sb**	**12 45 26.9**	**+0.2**
	35nm,0.3s						
KTMS	**Ketmen**	**1.89**	**231**	P	**Pb**	**12 45 03.2**	**+0.6**
	13nm,0.1s						
KTMS				S	**Sb**	**12 45 26.9**	**+0.2**
	35nm,0.3s						
MAKZ	**Makanchi**	**2.17**	**353**	⇑Pn	**Pb**	**12 45 07.4**	**+0.2**
	2.3nm,0.3s						
MAKZ				⇑Sn	**Sg**	**12 45 36.1**	**-0.8**
	9.4nm,0.7s						
KAPS	**Kapalarasan**	**2.23**	**287**	*e*P	**Pb**	**12 45 08.5**	**+0.2**
	0.9nm,0.1s						
KAPS				*e*S	**Sb**	**12 45 36.4**	**+0.2**
	1.4nm,0.1s						
KAPS	**Kapalarasan**	**2.23**	**287**	Pg	**Pb**	**12 45 08.5**	**+0.2**
	0.9nm,0.1s						
KAPS				Lg	Lg	12 45 36.4	
	1.4nm,0.1s						
PDGK	**Podgornoye**	**2.46**	**238**	Pg	**Pb**	**12 45 12.5**	**+0.2**
	2.4nm,0.2s						
PDGK				Lg	Lg	12 45 43.6	
	12nm,0.5s						
PDGK	**Podgornoye**	**2.46**	**238**	⇑Pn	**Pb**	**12 45 11.6**	**-0.8**
	1.1nm,0.2s						
PDGK				⇓Sn	**Sb**	**12 45 44.0**	**+0.8**
	20nm,0.6s						
SHLS	**Shalkode**	**2.58**	**235**	*e*P	**Pn**	**12 45 10.7**	**+0.6**
	12nm,0.2s						
SHLS				*e*S	**Sn**	**12 45 40.2**	**-1.9**
	27nm,0.3s						
SHLS	**Shalkode**	**2.58**	**235**	Pg	**Pn**	**12 45 10.7**	**+0.6**
	12nm,0.2s						
SHLS				Lg	Lg	12 45 40.2	
	27nm,0.3s						
UZB	**Uzynbulak**	**2.85**	**239**	*e*P	**Pb**	**12 45 18.8**	**-0.2**
	5.5nm,0.1s						
UZB				*e*S	**Sb**	**12 45 54.5**	**+0.2**
	6.7nm,0.1s						
UZB	**Uzynbulak**	**2.85**	**239**	Pg	**Pb**	**12 45 18.8**	**-0.2**
	5.5nm,0.1s						
UZB				Lg	Lg	12 45 54.5	
	6.7nm,0.1s						
KPKS	**Kokpek**	**2.91**	**247**	*e*P	**Pb**	**12 45 20.0**	**+0.1**
	21nm,0.1s						
KPKS				*e*S	**Sb**	**12 45 56.3**	**+0.4**
	25nm,0.4s						
SATY	**Saty**	**3.28**	**242**	*e*P	**Pb**	**12 45 26.1**	**-0.1**
	2.3nm,0.1s						
SATY				*e*S	**Sb**	**12 46 07.0**	**+0.4**
	14nm,0.1s						
SATY	**Saty**	**3.28**	**242**	Pg	**Pb**	**12 45 26.1**	**-0.1**
	2.3nm,0.1s						
SATY				Lg	Lg	12 46 07.0	
	14nm,0.1s						
ARXS	**Arharly**	**3.28**	**264**	*e*P	**Pb**	**12 45 26.6**	**+0.3**
	5.9nm,0.1s						
ARXS				*e*S	**Sb**	**12 46 06.9**	**+0.3**
	11nm,0.2s						
ARXS	**Arharly**	**3.28**	**264**	Pg	**Pb**	**12 45 26.6**	**+0.3**
	5.9nm,0.1s						
ARXS				Lg	Lg	12 46 06.9	
	11nm,0.2s						
KTBS	**Karatobe**	**4.20**	**259**	*e*P	**Pb**	**12 45 41.9**	**0.0**
	0.8nm,0.2s						
KTBS				*e*S	**Sb**	**12 46 33.7**	**+0.8**
	4.8nm,0.5s						
KTBS	**Karatobe**	**4.20**	**259**	Pg	**Pb**	**12 45 41.9**	**0.0**
	0.8nm,0.2s						
KTBS				Lg	Lg	12 46 33.7	
	4.8nm,0.5s						

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*NEIC **11** 13:18:31.4±1.2, 21°79S±0°06×68°58W±0°08, h114km±6km, Error ellipse: s-maj=10.8km s-min=8.2km az=81.0*
*SJA **11** 13:18:31.2±1.2, 21°80S×68°74W, h126km±7km, ML4.0, MW3.9*
*IDC **11** 13:18:31.0±0.7, 21°82S×68°31W, h103km±8km, mb3.7/7, mb1 3.7/11, mb1mx3.6/24, mbtmp4.0/11, Error ellipse: s-maj=25.9km s-min=13.8km az=112.0*
*GUC **11** 13:18:32.6±0.7, 21°79S×68°65W, h113km±4km, ML4.1*
*VAO **11** 13:18:33.4±0.3, 21°69S×68°54W, h132km, mb4.3*
ISC 11 13:18:31.3±0.6, 21°75S±0°03×68°60W±0°05, h117km±6km, n114, σ1§27/132, mb3.9/7, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.59**	**266**	⇑*i*P	**Pn**	**13 18 50.1**	**+0.4**
PB09				*i* S	**Sn**	**13 19 03.5**	**-0.1**
PB09				IAML		13 19 06.6	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.59**	**266**		**Pn**	**13 18 49.8**	**+0.1**
PB09	**IPOC Station P**	**0.59**	**266**	*i* P	**Pn**	**13 18 49.8**	**+0.1**
PB09				*e*S	**Sn**	**13 19 04.5**	**+0.9**
PB09				IAML		13 19 06.2	
	comp=Z,2μm,0.2s						
LVC	**Limon Verde**	**0.90**	**198**	LR	LR	13 18 50.0	
	comp=Z,58nm,21.4s,baz=30,slow=20						
LVC				P	**Pn**	**13 18 52.5**	**-0.1**
	comp=Z,206nm,0.3s,baz=37,slow=10,SNR=1563						
LVC				S	**Sn**	**13 19 07.5**	**-1.0**
	comp=Z,395nm,0.3s,baz=115,slow=22,SNR=25						
LVC	**Limon Verde**	**0.90**	**198**		**Pn**	**13 18 52.6**	**+0.1**
PB01	**IPOC Station P**	**1.08**	**310**	⇑*i*P	**Pn**	**13 18 54.2**	**+0.1**
PB01				*i* S	**Sn**	**13 19 11.3**	**+0.1**
PB01				IAML		13 19 13.0	
	comp=N,7μm,0.3s						
PB01	**IPOC Station P**	**1.08**	**310**		**Pn**	**13 18 54.2**	**+0.1**
PB01	**IPOC Station P**	**1.08**	**310**	*i* P	**Pn**	**13 18 54.5**	**+0.5**
PB01				IAML		13 19 13.7	
	comp=Z,3μm,0.3s						
PB03	**IPOC Station P**	**1.11**	**254**	⇑*i*P	**Pn**	**13 18 54.0**	**-0.4**
PB03				*i* S	**Sn**	**13 19 10.8**	**-1.0**
PB03				IAML		13 19 11.9	
	comp=N,10μm,0.2s						
PB03	**IPOC Station P**	**

PB07 IAML 13 19 14.5
comp=N,9μm,0.2s
PB07 IPOC Station P 1.19 271 Pn 13 18 54.9 -0.4
PB07 IPOC Station P 1.19 271 *e*S **Sn 13 19 14.0 +0.6**
PB07 IAML 13 19 14.7
comp=Z,6μm,0.2s
AF01 San Pedro de A 1.26 162 *e*P **Pn 13 18 56.8 +0.6**
AF01 *i* S **Sn 13 19 16.5 +1.6**
PB06 IPOC Station P 1.31 223⇑*i*P **Pn 13 18 56.6 0.0**
PB06 *i* S **Sn 13 19 15.3 -0.2**
PB06 IAML 13 19 17.4
comp=E,4μm,0.5s
PB06 IPOC Station P 1.31 223 Pn 13 18 56.5 0.0
PB06 IPOC Station P 1.31 223 *i* P **Pn 13 18 56.7 +0.2**
PB06 *e*S **Sn 13 19 15.7 +0.1**
PB06 IAML 13 19 17.9
comp=Z,2μm,0.3s
PB04 IPOC Station P 1.55 248⇑*i*P **Pn 13 18 59.1 -0.2**
PB04 *i* S **Sn 13 19 19.8 -0.7**
PB04 IAML 13 19 21.6
comp=E,4μm,0.5s
PB04 IPOC Station P 1.55 248 Pn 13 18 59.0 -0.3
PB04 IPOC Station P 1.55 248 *i* P **Pn 13 18 59.1 -0.2**
PB04 *e*S **Sn 13 19 20.6 +0.1**
PB04 IAML 13 19 22.3
comp=Z,3μm,0.1s
PB15 IPOC Station P 1.66 209 *i* P **Pn 13 19 00.8 +0.2**
PB15 *i* S **Sn 13 19 23.3 +0.3**
PB15 IPOC Station P 1.66 209 Pn 13 19 01.0 +0.3
PB15 IPOC Station P 1.66 209 *i* P **Pn 13 19 00.9 +0.3**
PB15 IAML 13 19 28.6
comp=Z,6μm,0.2s
PB08 IPOC Station P 1.68 342 *e*P **Pn 13 19 02.5 +1.3**
PB08 *i* S **Sn 13 19 25.3 +1.6**
PB08 IAML 13 19 27.8
comp=E,3μm,0.7s
PB08 IPOC Station P 1.68 342 Pn 13 19 02.6 +1.5
PB08 IPOC Station P 1.68 342 *i* P **Pn 13 19 02.8 +1.7**
PB08 *e*S **Sn 13 19 26.1 +2.3**
PB08 IAML 13 19 27.9
comp=Z,859nm,0.3s
PB05 IPOC Station P 1.84 233⇑*i*P **Pn 13 19 02.5 -0.2**
PB05 *i* S **Sn 13 19 25.5 -1.3**
PB05 IAML 13 19 27.3
comp=N,1μm,0.5s
PB05 IPOC Station P 1.84 233 *i* P **Pn 13 19 02.6 -0.2**
PB05 IAML 13 19 32.2
comp=Z,1μm,0.5s
TA01 Diego Aracena 1.89 308⇑*i*P **Pn 13 19 03.0 -0.2**
TA01 *i* S **Sn 13 19 26.9 -0.6**
TA01 IAML 13 19 30.3
comp=N,5μm,0.4s
TA01 Diego Aracena 1.89 308 Pn **Pn 13 19 03.2 0.0**
TA02 Huaiquique 2.05 316 Pn 13 19 05.9 +0.6
PB10 IPOC Station P 2.51 225 *e*P **Pn 13 19 10.4 -0.8**
PB10 IAML 13 19 50.3
comp=N,400nm,0.8s
PB10 IPOC Station P 2.51 225 Pn **Pn 13 19 11.2 +0.1**
PB10 IPOC Station P 2.51 225 *i* P **Pn 13 19 10.8 -0.4**
PB10 IAML 13 19 41.5
comp=Z,209nm,0.2s
PSGC Pisagua 2.57 326⇑*i*P **Pn 13 19 11.1 -0.9**
PSGC *i* S **Sn 13 19 41.7 -1.6**
PSGC IAML 13 19 50.1
comp=N,917nm,0.5s
PSGCX Pisagua 2.57 326 Pn **Pn 13 19 11.4 -0.7**
PSGCX Pisagua 2.57 326 *i* P **Pn 13 19 12.0 -0.1**
PSGCX IAML 13 19 47.9
comp=Z,631nm,0.3s
MNMC Minye Minye 2.77 340 Pn **Pn 13 19 14.5 -0.3**
MNMCX Minye Minye 2.77 340 *i* P **Pn 13 19 16.6 +1.8**
MNMCX IAML 13 19 57.0
comp=Z,825nm,0.3s
HJA Humahuaca 3.29 117 *i* P **Pn 13 19 24.8 +3.1**
HJA IAML 13 20 09.3
comp=Z,18nm,0.8s
PB14 IPOC Station P 3.31 210 *e*P **Pn 13 19 21.1 -0.7**
PB14 IAML 13 20 12.9
comp=N,101nm,0.2s
PB14 IPOC Station P 3.31 210 Pn **Pn 13 19 21.1 -0.7**
PB14 IPOC Station P 3.31 210 *i* P **Pn 13 19 21.1 -0.7**
PB14 IAML 13 20 20.5
comp=Z,260nm,0.6s
GO02 Mina Guanaco 3.51 195 *e*P **Pn 13 19 23.9 -0.7**
GO02 Mina Guanaco 3.51 195 Pn **Pn 13 19 24.1 -0.5**
SLA San Lorenzo 4.11 137 *i* P **Pn 13 19 35.0 +2.6**
SLA IAML 13 20 27.0
comp=Z,24nm,2.1s
FSA Cafayete 4.96 152 *i* P **Pn 13 19 45.2 +1.3**
AC02 Maricunga 5.08 185 Pn **Pn 13 19 45.3 -0.5**
LPAZ La Paz 5.45 5 P **Pn 13 19 53.0 +2.0**
comp=Z,2.5nm,0.3s,baz=187,slow=6.1,SNR=29
LPAZ La Paz 5.45 5 Pn 13 19 52.9 +2.0
LPAZ La Paz 5.45 5 *e*P **Pn 13 19 53.0 +2.0**
LPAZ La Paz 5.45 5 *i* P **Pn 13 19 53.3 +2.3**
SIV San Ignacio 9.14 52 P **Pn 13 20 37.9 -2.5**
comp=Z,4.1nm,0.3s,baz=244,slow=12,SNR=30
SIV S **Sn 13 22 13.8 -7.8**
comp=Z,0.5nm,0.3s,baz=145,slow=24,SNR=6.3
CPUP Villa Florida 11.27 116 P **Pn 13 21 05.5 -3.4**
comp=Z,0.1nm,0.3s,baz=274,slow=13,SNR=5.2
CPUP Villa Florida 11.27 116 Pn 13 21 05.3 -3.6
VILB Vilhena 11.87 44 *e*P **Pn 13 21 15.9 -1.1**
AQDB Aquidauana 12.11 86 *e*P **Pn 13 21 22.4 +2.2**
TRCB Terra Rica 14.82 97 Pn 13 21 53.7 -1.5
TRCB Terra Rica 14.82 97 *e*P **P 13 21 57.4 -0.6**
ITAB Concordia 15.95 113 P **P 13 22 10.4 -0.1**
ITAB IAmb IAmb 13 22 11.5
comp=Z,38nm,0.8s
ITAB Concordia 15.95 113 *e*P **P 13 22 10.6 +0.2**
CPSB Cacapava Do Su 16.11 125 *e*P **P 13 22 11.7 -0.5**
PCMB Pacaembu 16.12 93 *e*P **P 13 22 12.6 +0.2**
CLDB Colider 16.36 51 *e*P **P 13 22 15.3 +0.2**
PLTB Pedras Altas 16.68 130 P **Pn 13 22 17.9 -0.3**
PLTB IAmb IAmb 13 22 19.4
comp=Z,9.3nm,1.1s
PLTB Pedras Altas 16.68 130 *e*P **P 13 22 19.4 +0.8**
ARAG Araguaiana, MT 17.00 72 *e*P **P 13 22 22.7 +0.6**
ITRB Iturama 17.19 86 *e*P **P 13 22 24.3 +0.1**
TRQA Tornquist 17.23 162 P **P 13 22 22.7 -1.8**
TRQA IAmb IAmb 13 22 26.6
comp=Z,46nm,1.8s
TRQA Tornquist 17.23 162 *e*P **Pn 13 22 25.7 +1.0**
FRTB Fartura 17.66 99 *e*P **Pn 13 22 30.1 -0.1**
BB19B Bebedouro 18.71 92 *e*P **P 13 22 41.0 +0.1**
PLCA Paso Flores 19.00 185 P **P 13 22 42.8 -1.1**
comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=1.8
SNDB Serra Nova Dou 19.19 62 *e*P **P 13 22 45.1 -1.0**
NPGB Novo Progresso 19.43 43 *e*P **P 13 22 49.5 +0.7**
IPMB Ipameri, GO 19.54 83 *e*P **P 13 22 48.9 -1.1**
PET01 Itanhaem-SP 19.79 101 *e*P **P 13 22 52.3 -0.3**
VAO Valinhos 20.05 98 *e*P **P 13 22 55.2 -0.3**
BDFB Brasilia 20.42 76 P **P 13 22 57.1 -2.4**
comp=Z,2.0nm,0.4s,baz=216,slow=10.0,SNR=4.4
ITTB Itaituba 21.32 38 *e*P **P 13 23 07.7 -1.4**
PEXB Peixe 21.64 67 *e*P **P 13 23 11.3 -1.3**
BSCB Bom Sucesso 22.20 92 *e*P **P 13 23 18.6 +0.2**
PTGA Pitinga 22.53 23 P **P 13 23 20.8 -0.9**
comp=Z,1.8nm,0.3s,baz=189,slow=9.3,SNR=5.7
PTGA Pitinga 22.53 23 *e*P **P 13 23 20.8 -0.9**
MC01 Montes Claros 23.81 82 *e*P **P 13 23 32.3 -1.4**
OTAV Otavalo 23.88 335 *e*P **P 13 23 35.6 +0.9**
PRPB Parauapebas 23.88 52 *e*P **P 13 23 33.7 -0.6**
SMTB Santa Maria do 23.94 61 *e*P **P 13 23 34.9 0.0**
JANB Januaria 23.97 78 *e*P **P 13 23 34.9 -0.4**
MALB Monte Alegre 24.21 37 *e*P **P 13 23 37.8 +0.5**
DUB01 Friburgo-RJ 24.33 96 *e*P **P 13 23 39.4 +1.0**
SDBA SAO DESIDERIO 24.46 72 *e*P **P 13 23 39.6 -0.1**
BOAV Boa Vista 25.27 19 *e*P **P 13 23 47.5 +0.6**
SJMB Sao Joao De Ma 25.89 88 *e*P **P 13 23 53.0 +0.4**
BSFB Barra de Sao F 26.18 89 *e*P **P 13 23 54.9 -0.3**
RIB01 Linhares ES 26.51 90 *e*P **P 13 23 57.5 -0.7**
GUA01 Guaratinga, BA 27.66 84 *e*P **P 13 24 08.4 0.0**
GDU01 Guandu, BA 28.74 79 *e*P **P 13 24 16.9 -1.2**
NBMA Muriti-CE 32.14 68 *e*P **P 13 24 48.9 +0.8**
NBPB Pedra_Branca-C 32.38 64 *e*P **P 13 24 49.5 -0.6**
NBPA Parau_RN 34.37 67 *e*P **P 13 25 07.4 +0.1**
PMSA Palmer Station 43.11 177 *e*P **P 13 26 20.2 +0.6**
VNA3 Neumayer Olymp 59.75 161 P **P 13 28 24.5 +1.0**
VNA1 Neumayer--Stat 59.95 160 P **P 13 28 26.2 +1.4**
TXAR Lajitas Array 61.00 325 pP pP 13 29 01.2 -0.8
comp=Z,0.2nm,0.7s,baz=138,slow=8.5,SNR=3.1
SNAA Sanae 61.95 161 P **P 13 28 39.3 +0.8**
SNAA Sanae 61.95 161 P **P 13 28 39.2 +0.7**
comp=Z,1.8nm,0.6s,baz=273,slow=8.4,SNR=33
TORD Torodi Ar. Bea 77.17 70 P **P 13 30 12.5 -0.3**
comp=Z,2.0nm,0.6s,baz=254,slow=5.3,SNR=19
BOSA Boshof 83.08 118 P **P 13 30 44.6 +0.1**
baz=266,slow=5.5
MAW Mawson 84.01 163 P **P 13 30 48.6 +0.3**
comp=Z,0.7nm,0.4s,baz=187,slow=8.1,SNR=1.6
ESDC Sonseca Array 85.81 44 P **P 13 30 57.9 +0.1**
comp=Z,0.5nm,0.8s,baz=252,slow=4.0,SNR=3.1
YKA Yellowknife Ar 91.52 340 P **P 13 31 25.5 +1.3**
comp=Z,0.3nm,0.6s,baz=128,slow=4.9,SNR=3.0
WRA Warramunga Arr 132.88 210 PKP **PKiKP 13 37 35.0 +0.2**
comp=Z,0.8nm,1.0s,baz=159,slow=1.6,SNR=2.5
MKAR Makanchi Array 145.67 36 PKPbc **PKPab 13 37 57.5 +0.5**
comp=Z,1.2nm,0.6s,baz=319,slow=4.5,SNR=15

*IDC **11** 13:46:40.6±0.6, 5°.73S×131°.07E, h90km±4km, mb4.0/12, mb1 4.3/16, mb1mx4.1/33, mbtmp4.5/16, MS2.9/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=20.2km s-min=12.1km az=71.0*
*NEIC **11** 13:46:42.1±1.8, 5°.72S±0°.06×131°.0E±0°.1, h94km±9km, mb4.7/20, Error ellipse: s-maj=14.9km s-min=9.2km az=87.0*
*DJA **11** 13:46:49.7±3.3, 5°.5S±28°×13°.1E±1°.2, h100km±24km, M4.8/7, mb4.8/1, mB4.9/1, MLv4.8/7, Mw(mB)4.2/1*
ISC 11 13:46:41.7±0.4,**5°.76S**±0°.04×**131°.07E**±0°.06,**h100**km,**n93,** σ1**°35/95,mb4.7**/35,**25C-18D,Fault plane solution: NP1:**φs277.06476°,δ50.08205°,λ53.43968°. **NP2:** φs146.19553°,δ51.97184°,λ125.44929°. **Principal axes:** T Plg62.7924°, Azm119.9582°; N Plg27.1845°, Azm302.5132°; P Plg1.0389°, Azm211.9796°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.69**	**317**	P	**Pn**	**13 47 11.8**	**+1.5**
SAUI	**Saumlaki**	**2.22**	**174**	Pn	**Pn**	**13 47 19.0**	**+1.8**
SAUI	**Saumlaki**	**2.22**	**174**	P	**Sn**	**13 47 42.0**	**-2.3**
FAKI	**Fak Fak**	**3.06**	**23**	Pn	**Pn**	**13 47 27.6**	**-0.6**
FAKI	**Fak Fak**	**3.06**	**23**	P	**Pn**	**13 47 27.8**	**-0.4**
MSAI	**Masohi**	**3.21**	**318**	P	**Pn**	**13 47 30.8**	**+0.6**
NLAI	**Namlea**	**4.68**	**302**	P	**Pn**	**13 47 53.5**	**+3.4**
SIJI	**Sorong**	**4.86**	**2**	P	**Pn**	**13 47 50.2**	**-2.4**
	106nm,0.3s,baz=212,slow=12,SNR=233						
SIJI				S	**Sn**	**13 48 41.6**	**-6.1**
	91nm,0.3s,baz=172,slow=23,SNR=23						
SWI	**Sorong**	**4.87**	**2**	P	**Pn**	**13 47 51.2**	**-1.4**
SANI	**Sanana**	**6.26**	**306**	P	**Pn**	**13 48 11.6**	**0.0**
BAKI	**Biak**	**6.77**	**48**	P	**Pn**	**13 48 20.2**	**+1.7**
MTN	**Manton Dam**	**7.04**	**179**	Pn	**Pn**	**13 48 21.4**	**-0.7**
SOEI	**Soe**	**7.82**	**239**	Pn	**Pn**	**13 48 33.6**	**+0.8**
BATI	**Baumata**	**8.56**	**238**	P	**Pn**	**13 48 43.3**	**+0.5**
	17nm,0.3s,baz=100,slow=5.3,SNR=18						
BATI				S	**Sn**	**13 50 15.3**	**-2.5**
	20nm,0.3s,baz=84,slow=18,SNR=4.7						
KNRA	**Kununurra**	**10.11**	**193**	Pn	**Pn**	**13 49 02.0**	**-2.0**
KAPI	**Kappang**	**11.29**	**273**	LR	LR	13 54 28.8	
	comp=Z,65nm,19.3s,baz=86,slow=42						
TOLI2	**Tolitoli**	**12.33**	**303**	Pn	**Pn**	**13 49 33.2**	**-0.6**
WRAB	**Tennant Creek**	**14.45**	**168**	Pn	Pn	13 49 56.2	-5.2
WRA	**Warramunga Arr**	**14.45**	**168**	P	Pn	13 49 56.2	-5.4
	5.7nm,0.3s,baz=352,slow=14,SNR=128						
WRA				S	Sn	13 52 27.7	-13
	14nm,0.3s,baz=347,slow=23,SNR=10						
WB2	**Warramunga Arr**	**14.46**	**168**	Pn	Pn	13 49 56.8	-4.7
PMG	**Port Moresby**	**16.36**	**104**	P	**P**	**13 50 26.4**	**-0.2**
	1.0nm,0.3s,baz=273,slow=15,SNR=3.2						
PMG	**Port Moresby**	**16.36**	**104**	P	**P**	**13 50 27.5**	**+0.9**
ASAR	**Alice Springs**	**18.01**	**172**	P	**P**	**13 50 43.1**	**-1.7**
	8.8nm,0.3s,baz=346,slow=9.5,SNR=128						
ASAR				S	S	13 53 55.8	-11
	2.7nm,0.3s,baz=352,slow=28,SNR=8.2						
PSA00	**Pilbara Seismi**	**19.11**	**214**	P	**P**	**13 50 57.0**	**+0.2**
PSA00				IAmb	IAmb	13 51 15.5	
	comp=Z,63nm,1.4s						
CTA	**Charters Tower**	**20.51**	**135**	P	**P**	**13 51 13.3**	**+1.3**
	comp=Z,20nm,0.8s,baz=315,slow=12,SNR=28						
CTA				S	**S**	**13 54 55.0**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=104,slow=18,SNR=1.8						
CTAO	**Charters Tower**	**20.51**	**135**	P	**P**	**13 51 13.5**	**+1.4**
CTAO				IAmb	IAmb	13 51 18.1	
	comp=Z,19nm,0.8s						
CISI	**Cisompet, Garu**	**23.16**	**264**	P	**P**	**13 51 37.6**	**-2.3**
CISI				IAmb	IAmb	13 51 42.8	
	comp=Z,24nm,1.0s						
LEM	**Lembang**	**23.33**	**266**	P	**P**	**13 51 41.5**	**-0.1**
	comp=Z,21nm,0.5s,baz=30,slow=20,SNR=6.0						
GIRL	**Giralia**	**23.36**	**222**	P	**P**	**13 51 40.6**	**-0.9**
FORT	**Forrest**	**25.05**	**186**	P	**P**	**13 51 56.5**	**-0.2**
MORW	**Morawa**	**27.19**	**210**	P	**P**	**13 52 15.2**	**-0.8**
MORW				IAmb	IAmb	13 52 39.7	
	comp=Z,35nm,1.5s						
STKA	**Stephens Creek**	**27.79**	**161**	P	**P**	**13 52 21.2**	**-0.1**
	comp=Z,6.5nm,0.4s,baz=330,slow=8.6,SNR=18						
STKA	**Stephens Creek**	**27.79**	**161**	IAmb	IAmb	13 52 22.9	
	comp=Z,4.8nm,1.3s						
YULB	**Yu-li**	**30.50**	**342**	P	**P**	**13 52 47.3**	**+1.9**
ARMA	**Armidale**	**31.24**	**144**	P	**P**	**13 52 53.2**	**+1.1**
TOO	**Toolangi**	**34.29**	**159**	P	**P**	**13 53 19.6**	**+1.2**
TOO				IAmb	IAmb	13 53 31.5	
	comp=Z,24nm,1.5s						
CHAI	**Chaiyaphum**	**35.95**	**307**	P	**P**	**13 53 32.5**	**-0.4**
	comp=Z,24nm,1.2s						
PHIT	**Phitsanulok**	**37.91**	**308**	P	**P**	**13 53 49.8**	**+0.3**
	comp=Z,1μcomp=Z,77nm,0.8s						
PHIT	**Phitsanulok**	**37.91**	**308**	P	**P**	**13 53 49.8**	**+0.3**
UTTA	**Uttaradit**	**38.12**	**308**	P	**P**	**13 53 51.3**	**+0.1**
	comp=Z,14nm,0.9s						
UTTA	**Uttaradit**	**38.12**	**308**	P	**P**	**13 53 51.0**	**-0.2**
	comp=Z,3.4nm,0.9s						
LAMP	**Lampang**	**39.28**	**309**	P	**P**	**13 54 01.7**	**+0.7**
	comp=Z,17nm,0.6s						
LAMP	**Lampang**	**39.28**	**309**	P	**P**	**13 54 01.8**	**+0.7**
	comp=Z,4.3nm,0.6s						
NJ2	**Nanjing**	**39.36**	**344**	*e*P	**P**	**13 54 02.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CM36	**Chiang Mai Arr**	**39.70**	**308**	P	**P**	**13 54 04.0**	**-0.5**
CM04	**Chiang Mai Arr**	**39.72**	**308**	P	**P**	**13 54 04.9**	**+0.2**
	comp=Z,14nm,0.8s						
CM04	**Chiang Mai Arr**	**39.72**	**308**	P	**P**	**13 54 04.0**	**-0.7**
	comp=Z,14nm,0.8s						
CM09	**Chiang Mai Arr**	**39.74**	**308**	P	**P**	**13 54 06.3**	**+1.5**
	comp=Z,9.4nm,1.3s						
CM09	**Chiang Mai Arr**	**39.74**	**308**	P	**P**	**13 54 06.0**	**+1.2**
	comp=Z,9.4nm,1.3s						
CM35	**Chiang Mai Arr**	**39.74**	**308**	P	**P**	**13 54 04.0**	**-0.8**
CM01	**Chiang Mai Arr**	**39.75**	**308**	P	**P**	**13 54 05.1**	**+0.2**
	comp=Z,120nmcomp=Z,12nm,0.9s						
CM01	**Chiang Mai Arr**	**39.75**	**308**	P	**P**	**13 54 05.2**	**+0.3**
	comp=Z,120nmcomp=Z,12nm,0.9s						
CM05	**Chiang Mai Arr**	**39.75**	**308**	P	**P**	**13 54 05.0**	**+0.2**
	comp=Z,118nmcomp=Z,8.6nm,0.7s						
CM05	**Chiang Mai Arr**	**39.75**	**308**	P	**P**	**13 54 05.1**	**+0.2**
	comp=Z,118nmcomp=Z,8.6nm,0.7s						
CM02	**Chiang Mai Arr**	**39.77**	**308**	P	**P**	**13 54 05.6**	**+0.6**
	comp=Z,76nmcomp=Z,8.4nm,0.7s						
CM02	**Chiang Mai Arr**	**39.77**	**308**	P	**P**	**13 54 05.7**	**+0.6**
	comp=Z,76nmcomp=Z,8.4nm,0.7s						
CM31	**Chiang Mai Arr**	**39.78**	**308**	P	**P**	**13 54 05.4**	**+0.2**
	comp=Z,5μmcomp=Z,314nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.78**	**308**	P	**P**	**13 54 05.0**	**-0.1**
	comp=Z,5.5nm,0.5s,baz=135,slow=7.1,SNR=38						
CM13	**Chiang Mai Arr**	**39.79**	**308**	P	**P**	**13 54 05.4**	**+0.2**
	comp=Z,106nmcomp=Z,9.5nm,0.8s						
CM13	**Chiang Mai Arr**	**39.79**	**308**	P	**P**	**13 54 05.5**	**+0.2**
	comp=Z,106nmcomp=Z,9.5nm,0.8s						
CM15	**Chiang Mai Arr**	**39.79**	**308**	P	**P**	**13 54 05.4**	**+0.1**
	comp=Z,102nmcomp=Z,8.8nm,0.6s						
CM15	**Chiang Mai Arr**	**39.79**	**308**	P	**P**	**13 54 05.0**	**-0.3**
	comp=Z,102nmcomp=Z,8.8nm,0.6s						
CM34	**Chiang Mai Arr**	**39.84**	**309**	P	**P**	**13 54 05.0**	**-0.7**
CM32	**Chiang Mai Arr**	**39.97**	**308**	P	**P**	**13 54 07.0**	**+0.3**
CMMT	**Chiang Mai**	**39.98**	**308**	P	**P**	**13 54 06.6**	**-0.2**
	comp=Z,16nm,0.8s						
CMMT	**Chiang Mai**	**39.98**	**308**	P	**P**	**13 54 06.7**	**-0.2**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**39.98**	**308**	P	**P**	**13 54 06.6**	**-0.2**
	comp=Z,16nm,0.8s						
CHTO	**Chiang Mai**	**39.98**	**308**	P	**P**	**13 54 06.3**	**-0.5**
CHTO				IAmb	IAmb	13 54 07.3	
	comp=Z,12nm,0.8s						
CM33	**Chiang Mai Arr**	**39.98**	**308**	P	**P**	**13 54 06.0**	**-0.8**
JWT	**Wachi**	**41.03**	**5**	P	**P**	**13 54 14.6**	**-0.5**
JWT				IAmb	IAmb	13 54 16.5	
	comp=Z,13nm,1.1s						
MAJO	**Matsushiro**	**42.61**	**9**	P	**P**	**13 54 25.8**	**-2.3**
MAT	**Matsushiro**	**42.61**	**9**	P	**P**	**13 54 26.2**	**-1.8**
MJAR	**Matsushiro Arr**	**42.61**	**9**	P	**P**	**13 54 26.9**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=178,slow=9.7,SNR=7.5						
KSRS	**Korea Array**	**43.09**	**356**	P	**P**	**13 54 32.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=172,slow=8.8,SNR=6.1						
JMM	**Marumori**	**44.34**	**11**	P	**P**	**13 54 42.3**	**+0.4**
JMM				IAmb	IAmb	13 55 04.8	
	comp=Z,14nm,1.1s						
XAN	**Xi'an**	**44.78**	**334**	P	**P**	**13 54 49.6**	**+4.0**
XAN				pP	pwP	13 55 15.6	-0.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHL	**Shillong**	**49.17**	**311**	P	**P**	**13 55 18.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**49.72**	**341**	*e*P	**P**	**13 55 26.9**	**+3.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,64nm,6.6s						
USRK	**Ussuriysk Ar.**	**49.74**	**1**	P	**P**	**13 55 23.8**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=124,slow=4.9,SNR=4.4						
QRZ	**Quartz Range**	**50.89**	**140**	P	**P**	**13 55 33.4**	**+0.8**
SONM	**Songino Array**	**57.62**	**341**	P	**P**	**13 56 21.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=162,slow=6.7,SNR=14						
SONM				sP	**sP**	**13 56 53.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=167,slow=7.0,SNR=3.2						
WMQ	**Urumqi**	**62.95**	**326**	*e*P	**P**	**13 57 00.6**	**+2.8**
MKAR	**Makanchi Array**	**67.78**	**326**	P	**P**	**13 57 29.0**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=114,slow=8.0,SNR=88						
MKAR				pP	**pP**	**13 57 52.5**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=122,slow=7.0,SNR=2.5						
MKAR				sP	**sP**	**13 58 01.8**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=115,slow=8.2,SNR=6.3						
MAKZ	**Makanchi**	**67.97**	**326**	P	**P**	**13 57 30.2**	**+0.2**
MAKZ				IAmb	IAmb	13 57 30.8	
	comp=Z,7.3nm,1.1s						
ZALV	**Zalesovo Beam**	**70.95**	**333**	P	**P**	**13 57 47.1**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=121,slow=5.7,SNR=6.8						
ZALV				sP	**pwP**	**13 58 20.5**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=107,slow=5.1,SNR=4.1						
VNDA	**Vanda**	**73.55**	**173**	P	**P**	**13 58 03.0**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=330,slow=6.6,SNR=7.0						
BRVK	**Borovoye**	**77.66**	**327**	P	**P**	**13 58 26.4**	**-0.7**
ABPO	**Ambohimpanom**	**82.34**	**252**	P	**P**	**13 58 53.3**	**0.0**
ABPO				IAmb	IAmb	13 59 01.6	
	comp=Z,18nm,1.4s						
SYO	**Syowa Base**	**85.19**	**201**⇓*e*P		**P**	**13 59 07.0**	**+0.4**
SYO	**Syowa Base**	**85.19**	**201**⇓*e*sP		sP	13 59 42.4	+2.2
ILAR	**Eielson Array**	**91.78**	**25**	P	**P**	**13 59 36.1**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=270,slow=4.5,SNR=2.8						
ILAR				pP	**pP**	**14 00 02.6**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=270,slow=3.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**129.60**	**282**	PKP	**PKPdf**	**14 05 40.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=80,slow=2.1,SNR=3.6						
LPAZ	**La Paz**	**151.00**	**139**	PKPbc	**PKiKP**	**14 06 25.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=270,slow=1.0,SNR=2.6						

*JMA **11** 14:01:29.4±0.2, 32°.34N×141°.77E, h0km, M3.3*
*IDC **11** 14:01:29.1±4.1, 31°.73N×141°.14E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=157.4km s-min=26.6km az=71.0*
ISC 11 14:01:31.1±1.5,**32°.08N**±0°.10×**141°.9E**±0°.2,**h35**km,**n10,** σ0**°66/12,mb3.6/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.05**	**301**	P	**Pn**	**14 02 02.5**	**-0.6**
BSO1	**Boso 1**	**2.68**	**343**	P	**Pn**	**14 02 11.1**	**-0.2**
JHU	**Hanno**	**4.35**	**330**	P	**Pn**	**14 02 34.6**	**-0.1**
JHU				*e*S	**Sn**	**14 03 23.5**	**-0.7**
JHO	**Hitachi**	**4.65**	**346**	P	**Pn**	**14 02 38.2**	**-0.7**
JRY	**Ryogami san**	**4.65**	**328**	P	**Pn**	**14 02 39.6**	**+0.7**
JAG	**Ashikaga**	**4.79**	**335**	P	**Pn**	**14 02 41.6**	**+0.9**
JAG				*e*S	**Sn**	**14 03 34.6**	**-0.4**
MJAR	**Matsushiro Arr**	**5.40**	**326**	Pn	**Pn**	**14 02 50.0**	**+0.7**
	0.1nm,0.3s,baz=150,slow=14,SNR=1.3						
MKAR	**Makanchi Array**	**47.24**	**306**	P	**P**	**14 10 01.4**	**+0.7**
	0.3nm,0.4s,baz=86,slow=9.1,SNR=6.0						
WRA	**Warramunga Arr**	**52.24**	**189**	P	**P**	**14 10 38.4**	**-0.5**
	0.7nm,0.9s,baz=5.2,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**55.96**	**189**	P	**P**	**14 11 06.0**	**0.0**
	0.4nm,0.8s,baz=1.8,slow=5.7,SNR=4.2						

*IDC **11** 14:10:56.0±1.3, 23°.59S×66°.65W, h217km±14km, mb2.9/2, mb1 3.2/7, mb1mx3.1/22, mbtmp3.7/7, Error ellipse: s-maj=22.3km s-min=17.0km az=132.0*
*GUC **11** 14:10:55.5±0.6, 23°.91S×67°.04W, h246km±8km, ML4.1*
ISC 11 14:10:55.2±1.1,**23°.82S**±0°.06×**66°.8W**±0°.1,**h222**km±12km,
n24,σ1**°35/37,11C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.53**	**304**	*e*P	**Pn**	**14 11 32.7**	**+1.1**
LVC	**Limon Verde**	**2.29**	**301**	P	**Pn**	**14 11 39.3**	**+0.6**
	27nm,0.3s,baz=120,slow=7.9,SNR=208						
LVC				S	**S**	**14 12 12.8**	**+0.4**
	22nm,0.3s,baz=270,slow=21,SNR=30						
PB15	**IPOC Station P**	**2.53**	**283**⇑*i*P		**Pn**	**14 11 41.4**	**+0.4**
PB15				*i* S	**S**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.10**	**204**	*i* P	**Pg**	**14 19 32.0**	**+0.3**
KOTA				IAML		14 19 35.0	
	comp=E,19μm,0.7s						
KOTA				*i* S	**Sg**	**14 19 35.1**	**+1.4**
KOTA				IAML		14 19 36.0	
	comp=N,15μm,0.4s						
AGRB	**Hanur-Agry**	**0.38**	**213**	PG	**Pg**	**14 19 35.7**	**-0.8**
AGRB				SG	**Sb**	**14 19 42.9**	**-1.0**
VNNZ	**Vanand**	**0.48**	**64**	*i* P	**Pb**	**14 19 39.0**	**-0.6**
VNNZ				*i* S	**Sb**	**14 19 47.8**	**+1.1**
DYDN	**Diyadin**	**0.48**	**136**	*i* P	**Pg**	**14 19 38.3**	**-0.1**
DYDN				*i* S	**Sb**	**14 19 45.6**	**-1.2**
DYDN				IAML		14 19 48.0	
	comp=E,4μm,0.6s						
DYDN				IAML		14 19 53.0	
	comp=N,4μm,0.5s						
DIGO	**Kars**	**0.53**	**10**	*i* P	**Pg**	**14 19 37.9**	**-1.3**
DIGO				IAML		14 19 53.0	
	comp=E,2μm,0.8s						
DIGO				IAML		14 20 00.0	
	comp=N,2μm,0.5s						
EATA	**Eleskirt**	**0.59**	**267**	*i* P	**Pg**	**14 19 39.6**	**-0.8**
EATA				*i* S	**Sg**	**14 19 48.5**	**+0.2**
EATA				IAML		14 19 51.0	
	comp=E,3μm,0.9s						
EATA				IAML		14 19 54.0	
	comp=N,2μm,0.7s						
IGDI	**IGDIR**	**0.63**	**92**	*i* P	**Pg**	**14 19 40.6**	**-0.6**
IGDI				*i* S	**Sg**	**14 19 47.6**	**-1.9**
METS	**Metsamor**	**0.68**	**68**	*i* P	**Pb**	**14 19 42.7**	**-0.2**
KARS	**Kars**	**0.75**	**349**	PG	**Pg**	**14 19 41.6**	**-1.8**
KARS				SG	**Sg**	**14 19 53.1**	**0.0**
ARUZ	**Aruch**	**0.75**	**58**	*i* P	**Pg**	**14 19 42.9**	**-0.5**
ARUZ				*i* S	**Sb**	**14 19 54.7**	**+0.2**
EAK	**Akyaka**	**0.83**	**18**	*i* P	**Pg**	**14 19 44.5**	**-0.5**
EAK				*i* S	**Sg**	**14 19 54.2**	**-1.8**
EAK				IAML		14 20 06.0	
	comp=E,1μm,0.8s						
EAK				IAML		14 20 08.0	
	comp=N,2μm,0.8s						
CLDR	**Caldiran**	**0.91**	**146**	*i* P	**Pg**	**14 19 45.5**	**-0.9**
CLDR				*i* S	**Sb**	**14 19 58.2**	**-0.8**
CLDR	**Caldiran**	**0.91**	**146**	PG	**Pg**	**14 19 44.9**	**-1.5**
CLDR				SG	**Sb**	**14 19 58.3**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.93**	**216**	PG	**Pg**	**14 19 46.4**	**-0.5**
VMUR	**Van-Muradiye**	**0.94**	**165**	*i* P	**Pb**	**14 19 46.8**	**-0.5**
VMUR				*i* S	**Sb**	**14 19 59.2**	**-0.7**
SENK	**Senkaya-Erzuru**	**0.96**	**314**	PG	**Pg**	**14 19 46.7**	**-0.8**
NRKZ	**NAREK**	**1.08**	**84**	*i* P	**Pn**	**14 19 50.4**	**+0.2**
NRKZ				*i* S	**Sn**	**14 20 08.1**	**+2.7**
EKAR	**Karacoban**	**1.12**	**236**	*i* P	**Pn**	**14 19 50.9**	**0.0**
EKAR				*i* S	**Sn**	**14 20 07.5**	**+1.0**
ADCV	**BITLIS_Adilcev**	**1.16**	**201**	*i* P	**Pb**	**14 19 50.2**	**-1.0**
ADCV				*i* S	**Sn**	**14 20 06.7**	**-0.7**
GNI	**Garni**	**1.17**	**77**	*i* P	**Pb**	**14 19 50.6**	**-0.7**
GNI				*i* S	**Sn**	**14 20 08.7**	**+1.1**
KAPZ	**Kaputan**	**1.19**	**68**	*i* P	**Pb**	**14 19 50.8**	**-0.8**
KAPZ				*i* S	**Sn**	**14 20 08.7**	**+0.7**
VANB	**Van**	**1.30**	**175**	PN	**Pg**	**14 19 54.3**	**+0.4**
OZAP	**Van, Ozalp-Mer**	**1.36**	**155**	*i* P	**Pg**	**14 19 55.0**	**0.0**
STE	**Stepanavan**	**1.39**	**37**	⇓*i* P	**Pb**	**14 19 54.5**	**-0.6**
STE				⇓*i* S	**Sg**	**14 20 18.4**	**+4.6**
ERZM	**Erzurum**	**1.46**	**271**	*i* P	**Pn**	**14 19 55.4**	**-0.1**
EJDE	**Erzurum, Palan**	**1.51**	**268**	*i* P	**Pn**	**14 19 56.6**	**+0.3**
EJDE				IAML		14 20 29.0	
	comp=N,462nm,0.6s						
EJDE				IAML		14 20 29.0	
	comp=E,1μm,0.9s						
DDEM	**Demirkent**	**1.52**	**311**	*i* P	**Pn**	**14 19 56.7**	**+0.3**
DDEM				IAML		14 20 25.0	
	comp=N,853nm,0.4s						
DDEM				IAML		14 20 27.0	
	comp=E,383nm,0.5s						
DAGI	**Agillar**	**1.56**	**320**	*i* P	**Pn**	**14 19 56.9**	**-0.1**
DAGI				*i* S	**Sb**	**14 20 18.1**	**+0.1**
VRTB	**Varto-Mus**	**1.57**	**243**	*i* P	**Pb**	**14 19 58.6**	**+0.3**
VRTB				*i* S	**Sg**	**14 20 19.8**	**+0.2**
VRTB				IAML		14 20 38.0	
	comp=N,832nm,1.0s						
VRTB				IAML		14 20 41.0	
	comp=E,793nm,2.2s						
VRTB	**Varto-Mus**	**1.57**	**243**	PN	**Pb**	**14 19 57.7**	**-0.5**
DBAD	**Bademkaya**	**1.64**	**314**	*i* P	**Pn**	**14 19 58.2**	**+0.3**
DBAD				*i* S	**Sn**	**14 20 19.1**	**0.0**
GURO	**Guroymak-BITLI**	**1.65**	**216**	PN	**Pb**	**14 19 58.6**	**-0.8**
EPOS	**Posof**	**1.66**	**346**	*i* P	**Pn**	**14 19 58.0**	**-0.3**
BLIS	**Bitlis-Merkez**	**1.72**	**211**	*i* P	**Pb**	**14 19 59.9**	**-0.9**
BLIS				*i* S	**Sg**	**14 20 24.1**	**-0.3**
BLIS				IAML		14 20 28.0	
	comp=N,548nm,0.6s						
BLIS				IAML		14 20 31.0	
	comp=E,348nm,1.4s						
KZRT	**Kazreti**	**1.73**	**30**	*i* P	**Pn**	**14 19 59.3**	**+0.2**
EMRE	**Erzurum,Aziziy**	**1.76**	**275**	*i* P	**Pn**	**14 19 59.8**	**+0.1**
EMRE				IAML		14 20 32.0	
	comp=N,319nm,0.7s						
EMRE				IAML		14 20 36.0	
	comp=E,438nm,0.6s						
MUSM	**Mu-Merkez**	**1.79**	**230**	*i* P	**Pn**	**14 20 00.7**	**+0.7**
MUSM				*i* S	**Sn**	**14 20 23.2**	**+0.4**
MUSM				IAML		14 20 29.0	
	comp=E,293nm,0.9s						
KRIK	**Erzurum-spir**	**1.84**	**285**	*i* P	**Pn**	**14 20 01.3**	**+0.4**
KRIK				*i* S	**Sg**	**14 20 30.7**	**+2.6**
DBOC	**Borcka**	**1.89**	**321**	*i* P	**Pn**	**14 20 01.8**	**+0.5**
BASK	**Baskale_VAN**	**1.93**	**162**	*i* P	**Pg**	**14 20 05.1**	**-0.8**
SLHN	**Bingol, Solhan**	**1.97**	**242**	*i* P	**Pb**	**14 20 03.9**	**-1.0**
SLHN				*i* S	**Sb**	**14 20 30.4**	**+0.8**
SLHN				IAML		14 20 39.0	
	comp=E,296nm,0.8s						
KOPT	**Kop Dagi**	**2.13**	**274**	*i* P	**Pb**	**14 20 06.9**	**-0.8**
SRTM	**Siirt_Merkez**	**2.17**	**209**	*i* P	**Pb**	**14 20 07.3**	**-1.0**
SRTM				*i* S	**Sn**	**14 20 32.8**	**+0.6**
SRTM				IAML		14 20 46.0	
	comp=E,205nm,0.9s						
BNGB	**Bingl**	**2.19**	**247**	PN	**Pn**	**14 20 06.4**	**+0.9**
CHOM	**Cayeli-Rize**	**2.25**	**303**	PN	**Pn**	**14 20 07.1**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.37**	**223**	*i* P	**Pb**	**14 20 11.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**2.37**	**223**	PN	**Pn**	**14 20 09.1**	**+1.2**

CRAAG ***11*** *14:25:48.9, 36°.21N×2°.80E, Ml3.9*
IDC ***11*** *14:25:48.8±1.6, 36°.30N×2°.89E, h0km, mb3.2/2, mb1 3.4/5, mb1mx3.2/36, mbtmp3.3/5, ML3.3/3, MS2.6/2, Ms1 2.7/2, ms1mx2.3/20, Error ellipse: s-maj=28.2km s-min=19.0km az=166.0*
MDD ***11*** *14:25:51.5±0.8, 36°.01N×2°.96E, h29km±21km, mb4.4/34, Error ellipse: s-maj=19.7km s-min=5.8km az=148.0, PRXIMO*
LDG ***11*** *14:25:52.3±0.3, 36°.33N×2°.73E, h30km, Ml3.2/12, Error ellipse: s-maj=7.1km s-min=3.4km az=150.0*
CNRM ***11*** *14:25:55.8, 36°.00N×2°.58E, h72km, ml3.9, Hypocentre not reviewed by the ISC*
ISC 11 14:25:49.9±0.7, 36°.20N±0°.04×2°.79E±0°.03, h10km, n119, σ1s77/152, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.14**	**90**	P	**Pg**	**14 25 52.9**	**-0.2**
EMHD	**Djebel Mahouad**	**0.14**	**90**	P	**Pg**	**14 25 52.9**	**-0.2**
ADJB	**Djebel Djouab**	**0.53**	**95**	P	**Pg**	**14 26 00.0**	**-0.2**
ADJB	**Djebel Djouab**	**0.53**	**95**	P	**Pg**	**14 26 00.0**	**-0.2**
ABA	**Alger-Bouzarea**	**0.63**	**18**	P	**Pg**	**14 26 02.7**	**+0.5**
ABA	**Alger-Bouzarea**	**0.63**	**18**	P	**Pg**	**14 26 02.7**	**+0.5**
ABMS	**Boumerdes**	**0.78**	**45**	P	**Pg**	**14 26 05.8**	**+0.8**
ABMS	**Boumerdes**	**0.78**	**45**	P	**Pg**	**14 26 05.8**	**+0.8**
AKET	**Djebel Ketaf**	**0.90**	**100**	P	**Pb**	**14 26 08.2**	**+0.5**
AKET	**Djebel Ketaf**	**0.90**	**100**	P	**Pb**	**14 26 08.2**	**+0.5**
EBNR	**Beni Rached**	**1.02**	**275**	P	**Pn**	**14 26 10.6**	**+0.3**
ECHA	**Ech Chlef**	**1.15**	**268**	P	**Pb**	**14 26 11.8**	**-0.1**
ECHF	**Ech Chlef**	**1.17**	**268**	P	**Pb**	**14 26 11.8**	**-0.4**
ATAF	**Djebel Tarf**	**1.25**	**105**	P	**Pn**	**14 26 13.9**	**+0.3**
ATAF	**Djebel Tarf**	**1.25**	**105**	P	**Pn**	**14 26 13.9**	**+0.3**
EANR	**'Ain N'Sour**	**1.39**	**260**	P	**Pb**	**14 26 16.0**	**0.0**
EANR	**'Ain N'Sour**	**1.39**	**260**	P	**Pb**	**14 26 16.0**	**0.0**
ETRT	**Tiaret**	**1.46**	**237**	P	**Pg**	**14 26 18.2**	**+0.4**
ETRT	**Tiaret**	**1.46**	**237**	P	**Pg**	**14 26 18.2**	**+0.4**
SET	**Setif**	**2.11**	**89**	P	**Pb**	**14 26 30.0**	**+1.6**
SET	**Setif**	**2.11**	**89**	P	**Pb**	**14 26 30.0**	**+1.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**3.04**	**338**	⇓P	**Pn**	**14 26 39.4**	**+1.2**
	29nm,0.2s,SNR=18						
EIBI				S	**Sn**	**14 27 12.6**	**-2.0**
	83nm,0.5s,SNR=7.3						
EBEN2	**Beniarda presa**	**3.42**	**317**	P	**Pn**	**14 26 44.5**	**+1.1**
	5.3nm,0.3s,SNR=7.9						
EBEN2				S	**Sn**	**14 27 21.3**	**-2.7**
	29nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.56**	**0**	P	**Pn**	**14 26 46.0**	**+0.7**
	49nm,0.4s,SNR=86						
ETOS				S	**Sn**	**14 27 26.2**	**-1.2**
	18nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**3.61**	**314**	P	**Pn**	**14 26 49.1**	**+3.0**
	4.1nm,0.2s,SNR=5.7						
AFON				S	**Sn**	**14 27 25.8**	**-3.1**
	12nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**298**	P	**Pn**	**14 26 46.4**	**+0.4**
	7.5nm,0.4s,SNR=11						
EMUR				S	**Sn**	**14 27 29.2**	**+0.4**
	10.0nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**4.09**	**282**	P	**Pn**	**14 26 52.7**	**+0.2**
	5.2nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**14 27 37.9**	**-2.6**
	20nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.22**	**307**	P	**Pn**	**14 26 56.2**	**+1.7**
	5.5nm,0.2s,SNR=36						
ETOB				S	**Sn**	**14 27 44.2**	**+0.3**
	7.8nm,0.3s,SNR=7.9						
TAF	**Taforalt**	**4.46**	**253**	P		14 26 58.3	
TAF				S		14 27 48.7	
ECHE	**Chera**	**4.50**	**320**	P	**Pn**	**14 27 00.6**	**+2.4**
	4.8nm,0.4s,SNR=7.9						
ECHE				S	**Sn**	**14 27 48.6**	**-2.0**
	5.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**4.62**	**280**	P	**Pn**	**14 27 00.3**	**+0.3**
	9.8nm,0.3s,SNR=30						
EBER				S	**Sn**	**14 27 52.6**	**-1.2**
	24nm,0.5s,SNR=4.8						
SESP	**Santiago Espad**	**4.67**	**296**	P	**Pn**	**14 27 03.1**	**+2.5**
	6.9nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**14 27 54.2**	**-0.7**
	18nm,0.3s,SNR=7.9						
EALB	**Alboran**	**4.72**	**269**	S	**Sn**	**14 27 54.2**	**-1.8**
	22nm,0.4s,SNR=7.9						
JBK	**JBK**	**4.76**	**249**	P		14 27 03.2	
JBK				S		14 27 56.4	
GOG	**Mont Gurugu**	**4.81**	**260**	P		14 27 00.9	
GOG				S		14 27 54.7	
EMOS	**Mosqueruela**	**4.88**	**329**	P	**Pn**	**14 27 05.2**	**+1.6**
	20nm,0.4s,SNR=51						
EMOS				S	**Sn**	**14 27 58.0**	**-2.2**
	25nm,0.4s,SNR=7.9						
EQES	**Quesada**	**4.95**	**291**	P	**Pn**	**14 27 06.7**	**+2.2**
	7.8nm,0.5s,SNR=18						
EQES				S	**Sn**	**14 28 01.9**	**0.0**
	13nm,0.4s,SNR=4.6						
TDRA	**Tendrara**	**5.07**	**233**	P		14 27 07.2	
TDRA				S		14 28 06.5	
EQUE	**Quentar**	**5.10**	**283**	P	**Pn**	**14 27 07.7**	**+1.2**
	7.0nm,0.4s,SNR=18						
EQUE				S	**Sn**	**14 28 04.0**	**-1.6**
	7.5nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**5.12**	**339**	P	**Pn**	**14 27 07.5**	**+0.8**
	5.5nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**14 28 04.2**	**-1.7**
	4.0nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**5.21**	**279**	P	**Pn**	**14 27 08.4**	**+0.4**
	4.1nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**14 28 06.7**	**-1.4**
	17nm,0.4s,SNR=7.9						
FIGM	**Figuig**	**5.27**	**221**	P		14 27 09.5	
FIGM				S		14 28 03.9	
EPOB	**Poblet**	**5.31**	**346**	P	**Pn**	**14 27 10.2**	**+0.8**
	4.8nm,0.5s,SNR=7.9						
EPOB				S	**Sn**	**14 28 07.0**	**-3.7**
	2.3nm,0.3s,SNR=7.9						
KEST	**Kesra**	**5.34**	**93**	Pn	**Pn**	**14 27 10.8**	**+1.0**
	1.1nm,0.3s,baz=260,slow=14,SNR=13						
KEST				Sn	**Sn**	**14 28 09.8**	**-1.6**
	0.3nm,0.3s,baz=33,slow=22,SNR=2.2						
CFON	**Fontmartina**	**5.56**	**357**	P	**Pn**	**14 27 13.7**	**+0.9**
	29nm,0.4s,SNR=7.9						
CFON				S	**Sn**	**14 28 12.7**	**-4.1**
	8.1nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.62**	**281**	P	**Pn**	**14 27 16.1**	**+2.4**
	2.1nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	**14 28 18.0**	**-0.3**
	3.8nm,0.7s,SNR=7.9						
EMIR	**Miracle**	**5.79**	**351**	P	**Pn**	**14 27 17.8**	**+1.9**
	9.7nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**14 28 21.1**	**-1.2**
	23nm,0.4s,SNR=7.9						
ETOR	**Torete**	**5.97**	**322**	P	**Pn**	**14 27 22.0**	**+3.6**
	8.4nm,0.3s,SNR=7.9						
ETOR				S	**Sn**	**14 28 25.4**	**-1.6**
	3.8nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**6.11**	**276**	S	**Sn**	**14 28 25.2**	**-5.1**
	5.2nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**6.20**	**291**	P	**Pn**	**14 27 22.0**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**14 28 29.5**	**-2.9**
	1.3nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**6.24**	**1**	P	**Pn**	**14 27 23.7**	**+1.7**
	8.8nm,0.3s,SNR=17						
EJON				S	**Sn**	**14 28 30.1**	**-3.4**
	3.1nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**6.28**	**1**	P	**Pn**	**14 27 24.0**	**+1.5**
	5.0nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**14 28 32.6**	**-1.7**
	4.8nm,0.5s,SNR=7.9						
CSOR	**Sort**	**6.30**	**349**	P	**Pn**	**14 27 24.6**	**+1.7**
	3.9nm,0.3s,SNR=7.9						
CSOR				S	**Sn**	**14 28 32.9**	**-2.1**
	4.8nm,0.4s,SNR=7.9						
CLLI	**Llivia**	**6.30**	**355**	P	**Pn**	**14 27 25.5**	**+2.5**
	2.8nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**14 28 32.2**	**-2.9**
	2.7nm,0.5s,SNR=7.9						
ESDC	**Sonseca Array**	**6.36**	**305**	Pn	**Pn**	**14 27 25.3**	**+1.5**
	0.3nm,0.3s,baz=119,slow=13,SNR=21						
ESDC				Sn	**Sn**	**14 28 36.7**	**+0.2**
	0.2nm,0.3s,baz=114,slow=24,SNR=3.6						
ESDC				LR	LR	14 29 58.7	
	comp=Z,64nm,18.3s,baz=190,slow=39						
ESDC	**Sonseca Array**	**6.36**	**305**	P	**Pn**	**14 27 25.2**	**+1.5**
	2.4nm,0.4s,baz=116,slow=13,SNR=16						
ESDC				S	**Sn**	**14 28 33.8**	**-2.7**
	2.8nm,0.6s,baz=118,slow=24,SNR=5.2						
PAB	**San Pablo**	**6.56**	**303**	P	**Pn**	**14 27 27.9**	**+1.4**
	1.6nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**14 28 41.6**	**+0.3**
	0.5nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.82**	**288**	P	**Pn**	**14 27 30.7**	**+0.7**
	0.1nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**14 28 46.2**	**-1.5**
	2.1nm,0.6s,SNR=7.9						
MDT	**Midelt**	**6.97**	**243**	Pn	**Pn**	**14 27 34.7**	**+2.5**
	0.3nm,0.3s,baz=90,slow=14,SNR=15						
MDT				Lg	Lg	14 29 32.9	
	0.4nm,0.3s,baz=154,slow=16,SNR=2.1						
GUD	**Guadarrama**	**7.02**	**311**	P	**Pn**	**14 27 35.2**	**+2.3**
	3.7nm,0.6s,SNR=7.6						
GUD				S	**Sn**	**14 28 50.9**	**-2.0**
	0.7nm,0.3s,SNR=7.9						
MD31	**MD31**	**7.06**	**244**	P		14 27 35.3	
MD31				S		14 28 49.5	
EPF	**Esparros**	**7.08**	**345**	P	**Pn**	**14 27 35.5**	**+1.9**
EPF				S	Sn	14 28 43.9	-10
	1.2nm,0.3s						
EPF	**Esparros**	**7.08**	**345**	*e*P	**Pn**	**14 27 35.5**	**+1.9**
EPF				*e*Sn	Sn	14 28 43.9	-10
	2.5nm,0.3s						
MTLF	**Montolieu**	**7.14**	**357**	P	**Pn**	**14 27 36.9**	**+2.4**
MTLF				S	Sn	14 28 45.3	-10
	1.8nm,0.5s						
MTLF	**Montolieu**	**7.14**	**357**	*e*P	**Pn**	**14 27 36.9**	**+2.4**
MTLF				*e*Sn	Sn	14 28 45.3	-10
	3.5nm,0.5s						
ETSF	**Etsaut**	**7.17**	**340**	P	**Pn**	**14 27 37.1**	**+2.2**
ETSF				S	Sn	14 28 45.3	-11
	0.8nm,0.4s						
ETSF	**Etsaut**	**7.17**	**340**	*e*P	**Pn**	**14 27 37.1**	**+2.2**
ETSF				*e*Sn	Sn	14 28 45.3	-11
	1.6nm,0.4s						
ATE	**Arette**	**7.38**	**340**	P	**Pn**	**14 27 40.1**	**+2.3**
	1.5nm,0.3s,SNR=7.9						
ATE				S	**Sn**	**14 28 59.1**	**-2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	2.1nm,0.3s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.39**	**336**	P	**Pn**	**14 27 40.0**	**+2.0**
	1.2nm,0.3s,SNR=7.9						
EORO				S	**Sn**	**14 28 57.8**	**-4.0**
	4.0nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**7.56**	**337**	P	**Pn**	**14 27 42.6**	**+2.4**
SJPF				S	Sn	14 28 55.5	-11
	2.5nm,0.6s						
SJPF	**Ste Jean**	**7.56**	**337**	*e*P	**Pn**	**14 27 42.6**	**+2.4**
SJPF				*e*Sn	Sn	14 28 55.5	-11
	4.9nm,0.6s						
LMR	**La Mourre**	**7.68**	**21**	P	**Pn**	**14 27 42.2**	**+0.4**
LMR				S	Sn	14 29 00.2	-8.6
	1.1nm,0.2s						
LMR	**La Mourre**	**7.68**	**21**	*e*P	**Pn**	**14 27 42.2**	**+0.4**
LMR				*e*Sn	Sn	14 29 00.2	-8.6
	2.2nm,0.2s						
EMIN	**Mina Concepcio**	**7.73**	**284**	P	**Pn**	**14 27 42.7**	**+0.2**
	1.1nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	**14 29 05.3**	**-4.8**
	2.2nm,0.4s,SNR=7.9						
LASF	**Ste Croix**	**7.91**	**6**	P	**Pn**	**14 27 46.1**	**+1.1**
LASF				S	Sn	14 29 03.7	-11
	1.7nm,0.6s						
LASF	**Ste Croix**	**7.91**	**6**	*e*P	**Pn**	**14 27 46.1**	**+1.1**
LASF				*e*Sn	Sn	14 29 03.7	-11
	3.3nm,0.6s						
FRF	**La Foret Royal**	**7.92**	**21**	P	**Pn**	**14 27 46.0**	**+0.8**
FRF				S	Sn	14 29 05.1	-10
	1.2nm,0.3s						
FRF	**La Foret Royal**	**7.92**	**21**	*e*P	**Pn**	**14 27 46.0**	**+0.8**
FRF				*e*Sn	Sn	14 29 05.1	-10
	2.5nm,0.3s						
PGF	**Pioggiola**	**7.96**	**35**	P	**Pn**	**14 27 46.0**	**+0.3**
PGF				S	Sn	14 29 07.3	-8.5
	2.3nm,0.5s						
PGF	**Pioggiola**	**7.96**	**35**	*e*P	**Pn**	**14 27 46.0**	**+0.3**
PGF				*e*Sn	Sn	14 29 07.3	-8.5
	4.6nm,0.5s						
SMRF	**Simiane la Rot**	**8.05**	**15**	P	**Pn**	**14 27 47.7**	**+0.7**
SMRF				S	Sn	14 29 07.6	-10
SMRF	**Simiane la Rot**	**8.05**	**15**	*e*P	**Pn**	**14 27 47.7**	**+0.7**
SMRF				*e*Sn	Sn	14 29 07.6	-10
SBF	**Sospel**	**8.44**	**24**	P	**Pn**	**14 27 52.4**	**+0.1**
SBF				S	Sn	14 29 17.0	-11
	1.3nm,0.3s						
SBF	**Sospel**	**8.44**	**24**	*e*P	**Pn**	**14 27 52.4**	**+0.1**
SBF				*e*Sn	Sn	14 29 17.0	-11
	2.6nm,0.3s						
ELAN	**Lanestosa**	**8.50**	**328**	P	**Pn**	**14 27 56.5**	**+3.4**
	1.4nm,0.2s,SNR=7.3						
CAF	**Calviac**	**8.73**	**357**	P	**Pn**	**14 27 58.5**	**+2.2**
CAF	**Calviac**	**8.73**	**357**	*e*P	**Pn**	**14 27 58.5**	**+2.2**
VIVF	**Saint-Julien-l**	**8.76**	**9**	P	**Pn**	**14 27 58.4**	**+1.7**
VIVF				S	Sn	14 29 23.7	-12
	0.6nm,0.4s						
VIVF	**Saint-Julien-l**	**8.76**	**9**	*e*P	**Pn**	**14 27 58.4**	**+1.7**
VIVF				*e*Sn	Sn	14 29 23.7	-12
	1.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**9.02**	**14**	P	**Pn**	**14 28 02.1**	**+1.9**
ORIF	**Oris-en-Rattie**	**9.02**	**14**	*e*P	**Pn**	**14 28 02.1**	**+1.9**
MVO	**Moncorvo**	**9.13**	**306**	P	**Pn**	**14 28 04.0**	**+2.2**
	1.2nm,0.2s,SNR=7.9						
RJF	**Les Rejaudoux**	**9.14**	**354**	P	**Pn**	**14 28 02.5**	**+0.6**
RJF	**Les Rejaudoux**	**9.14**	**354**	*e*P	**Pn**	**14 28 02.5**	**+0.6**
ECAL	**Calabor**	**9.36**	**311**	P	**Pn**	**14 28 06.9**	**+1.9**
	3.8nm,0.3s,SNR=6.9						
EARI	**Arriondas**	**9.39**	**321**	P	**Pn**	**14 28 07.8**	**+2.6**
	6.8nm,0.5s,SNR=16						
TCF	**Toulx Ste Croi**	**10.09**	**358**	P	**Pn**	**14 28 15.3**	**+0.5**
TCF	**Toulx Ste Croi**	**10.09**	**358**	*e*P	**Pn**	**14 28 15.3**	**+0.5**
EPON	**Pontenova**	**10.44**	**316**	P	**Pn**	**14 28 20.8**	**+1.1**
	1.1nm,0.4s,SNR=7.9						
SMF	**Signal de Mont**	**10.46**	**4**	P	**Pn**	**14 28 18.9**	**-1.1**
SMF	**Signal de Mont**	**10.46**	**4**	*e*P	**Pn**	**14 28 18.9**	**-1.1**
AVF	**Avril sur Loir**	**10.59**	**2**	P	**Pn**	**14 28 23.5**	**+1.9**
AVF	**Avril sur Loir**	**10.59**	**2**	*e*P	**Pn**	**14 28 23.5**	**+1.9**
CABF	**La Chapelle**	**10.69**	**12**	P	**Pn**	**14 28 25.4**	**+2.3**
CABF	**La Chapelle**	**10.69**	**12**	*e*P	**Pn**	**14 28 25.4**	**+2.3**
HINF	**Hinteralfeld**	**11.99**	**13**	P	**Pn**	**14 28 41.9**	**+1.0**
HINF	**Hinteralfeld**	**11.99

```
     baz=275
H11S2 WAKE ISLAND Hy 19.87  86  T    T    15 40 54.2
     baz=275
H11N1 WAKE ISLAND Hy 20.02  83  T    T    15 41 07.2
     baz=267
H11N2 WAKE ISLAND Hy 20.03  82  T    T    15 41 06.4
     baz=267
H11N3 WAKE ISLAND Hy 20.04  83  T    T    15 41 00.4
     baz=267
RABL  Rabaul         23.21 164  P    P    15 19 54.1 -0.4
RABL                            IAmb IAmb 15 19 57.0
     comp=Z,24nm,0.5s
NACB  Ninganchiao    23.27 289  P    P    15 19 51.2 -3.8
NACB                            IAmb IAmb 15 19 59.5
     comp=Z,22nm,1.0s
SIJI  Sorong         23.79 218  P    P    15 20 00.2 +0.4
     comp=Z,4.4nm,0.5s,baz=39,slow=13,SNR=4.1
KSRS  Korea Array    24.69 324  pP   pP   15 20 52.8 -0.3
     comp=Z,2.2nm,0.8s,baz=150,slow=8.6,SNR=6.3
FAKI  Fak Fak        24.93 214  P    P    15 20 12.3 +2.2
FAKI                            IAmb IAmb 15 20 29.1
     comp=Z,35nm,1.3s
PMG   Port Moresby   27.55 177  P    P    15 20 30.5 -3.0
PMG                             IAmb IAmb 15 20 38.7
     comp=Z,26nm,1.2s
MTN   Manton Dam     34.14 206  P    P    15 21 32.0 +0.9
PETK  Petropavlovsk- 35.97  12  P    P    15 21 47.5 +1.2
     comp=Z,0.9nm,0.8s,baz=204,slow=6.3,SNR=4.2
KNRA  Kununurra      37.68 207  P    P    15 22 02.4 +1.3
KNRA                            IAmb IAmb 15 22 03.3
     comp=Z,14nm,0.7s
CTA   Charters Tower 38.14 179  P    P    15 22 05.6 +0.7
     comp=Z,1.0nm,0.4s,baz=4.3,slow=9.6,SNR=3.5
CTAO  Charters Tower 38.14 179  P    P    15 22 04.5 -0.4
WB0   Warramunga Arr 39.43 197  P    P    15 22 16.1 +0.5
WB0                             IAmb IAmb 15 22 17.7
     comp=Z,4.7nm,0.6s
WR0   Warramunga Arr 39.58 197  P    P    15 22 17.7 +1.0
WRAB  Tennant Creek  39.60 197  P    P    15 22 18.3 +1.4
WRAB                            IAmb IAmb 15 22 18.7
     comp=Z,22nm,1.4s
WB2   Warramunga Arr 39.61 197  P    P    15 22 18.2 +1.2
WB2                             IAmb IAmb 15 22 19.2
     comp=Z,13nm,1.1s
WRA   Warramunga Arr 39.62 197  P    P    15 22 18.4 +1.4
     comp=Z,3.7nm,0.4s,baz=19,slow=8.7,SNR=85
WRA                             PcP  PcP  15 24 19.8 +0.9
     comp=Z,1.1nm,0.5s,baz=17,slow=3.4,SNR=6.5
AS31  Alice Springs  43.28 196  P    P    15 22 48.0 +1.2
ASAR  Alice Springs  43.28 196  P    P    15 22 47.8 +1.0
     comp=Z,1.4nm,0.6s,baz=12,slow=6.3,SNR=52
ASAR                            PcP  PP   15 24 32.1 -1.0
     comp=Z,1.1nm,0.7s,baz=28,slow=4.9,SNR=5.1
ASAR  Alice Springs  43.28 196  P    P    15 22 48.0 +1.3
SONM  Songino Array  43.50 322  P    P    15 22 48.8 +0.4
     comp=Z,0.3nm,0.5s,baz=114,slow=7.2,SNR=2.3
CMAR  Chiang Mai Arr 44.34 278  P    P    15 22 56.1 +0.8
     comp=Z,1.0nm,1.0s,baz=70,slow=7.8,SNR=4.2
DZM   Mont Dzumac    44.92 152  P    P    15 23 01.5 +1.6
     comp=Z,12nm,0.7s,baz=14,slow=17,SNR=6.3
GSI   Gunungsitoli   50.19 256  P    P    15 23 41.7 +1.3
FORT  Forrest        51.67 199  P    P    15 23 51.9 +0.9
MORW  Morawa         55.14 212  P    P    15 24 17.1 +0.8
MORW                            IAmb IAmb 15 24 32.6
     comp=Z,12nm,1.1s
TOO   Toolangi       55.56 180  P    P    15 24 18.2 -0.8
TOO                             IAmb IAmb 15 24 36.0
     comp=Z,20nm,1.4s
NWAO  Narrogin (SRO) 57.77 208  P    P    15 24 35.4 +0.8
MKAR  Makanchi Array 58.79 314  P    P    15 24 42.0 +0.4
     comp=Z,0.3nm,0.5s,baz=90,slow=7.8,SNR=4.9
MKAR                            pP   pP   15 25 37.3 +1.3
     comp=Z,0.4nm,0.6s,baz=96,slow=6.9,SNR=3.4
MKAR  Makanchi Array 58.79 314  P    P    15 24 41.6  0.0
BPAW  Bear Paw Mtn.  62.09  26  P    P    15 24 59.8 -3.8
ILAR  Eielson Array  63.98  26  P    P    15 25 15.8 -0.1
     comp=Z,0.4nm,0.7s,baz=259,slow=5.1,SNR=5.4
ILAR                            pP   pP   15 26 08.8 -2.5
     comp=Z,0.6nm,0.8s,baz=254,slow=5.1,SNR=4.3
BRVK  Borovoye       66.90 321  P    P    15 25 33.6 -1.1
BRVK                            IAmb IAmb 15 25 35.6
     comp=Z,2.3nm,0.6s
KKAR  Karatay Array  67.08 310  P    P    15 25 36.1  0.0
INK   Inuvik         69.72  23  P    P    15 25 52.2 +0.4
     comp=Z,0.5nm,0.6s,baz=259,slow=5.7,SNR=3.8
INK   Inuvik         69.72  23  P    P    15 25 49.9 -2.0
ARCES ARCESS Array B 82.90 342  P    P    15 27 06.3 +0.5
     comp=Z,1.6nm,0.9s,baz=75,slow=4.8,SNR=2.0
NVAR  Mina Array Bea 83.34  52  P    P    15 27 11.2 +2.3
     comp=Z,1.7nm,0.6s,baz=264,slow=6.0,SNR=19
NVAR                            pP   pP   15 28 07.0 -0.4
     comp=Z,1.5nm,0.8s,baz=271,slow=6.1,SNR=6.7
FINES FINESS Array B 87.28 335  P    P    15 27 25.1 -2.5
     comp=Z,1.2nm,0.6s,baz=57,slow=5.1,SNR=7.1
PDAR  Pinedale Array 88.06  45  P    P    15 27 32.8 +0.8
     comp=Z,0.1nm,0.4s,baz=147,slow=0.7,SNR=5.0
PDAR                            pP   pP   15 28 30.4 -0.7
     comp=Z,0.2nm,0.4s,baz=318,slow=1.2,SNR=3.0
LPAZ  La Paz        147.60  92  PKPbc PKiKP 15 34 27.6 -0.1
     comp=Z,3.9nm,0.9s,baz=266,slow=3.1,SNR=10
```

MEX 11 15:15:22.5±0.3, 14°.21N×92°.23W, h16km±999km, MD3.5, Near coast of Chiapas

IDC 11 15:19:08.1±0.7, 9°.39S×158°.50E, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.1/33, mbtmp4.1/13, ML4.0/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/33, Error ellipse: s-maj=21.1km s-min=16.8km az=130.0
NEIC 11 15:19:09.5±0.8, 9°.5S±0°.1×158°.71E±0°.06, h10km±1km, mb4.5/15, Error ellipse: s-maj=20.1km s-min=9.7km az=12.0
ISC 11 15:19:12.4±0.5, 9°.60S±0°.09×158°.56E±0°.07, h30km, n42, σ1§78/36, mb4.2/19, MS3.5/10, Bougainville-Solomon Islands region

```
Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
HNR   Honiara        1.38  83   Pn    Pn  15 19 34.6 -1.0
     374nm,0.3s,baz=223,slow=4.5,SNR=107
HNR                             Sn    Sn  15 19 52.5 -0.3
     1μm,0.3s,baz=307,slow=17,SNR=9.2
HNR   Honiara        1.38  83         Pn  15 19 33.7 -1.9
RABL  Rabaul         8.32 310   Pn    Pn  15 21 13.3 +2.2
PMG   Port Moresby  11.25 270   LR    LR  15 25 37.8
     comp=Z,246nm,18.7s,baz=121,slow=35
DZM   Mont Dzumac   14.53 150   LR    LR  15 27 28.2
     comp=Z,276nm,18.9s,baz=18,slow=34
DZM   Mont Dzumac   14.53 150   eP    P   15 22 50.7 +8.3
     64nm,1.4s
DZM                             eLR   LR  15 26 11.3
     comp=Z,555nm,26.4s
CTA   Charters Tower 15.81 227  Pn    Pn  15 22 53.4 +0.4
     0.4nm,0.3s,baz=52,slow=14,SNR=14
CTA                             Sn    Sn  15 25 39.8 -7.5
     baz=317,slow=22,SNR=2.4
CTAO  Charters Tower 15.81 227         Pn  15 22 53.9 +0.9
CTAO                            IAmb IAmb 15 23 01.0
     comp=Z,18nm,0.8s
EIDS  Eidsvold      17.22 203   P     P   15 23 12.2 +0.1
EIDS                            IAmb IAmb 15 23 24.4
     comp=Z,17nm,1.0s
WR0   Warramunga Arr 25.37 243  P     P   15 24 37.6 +0.4
WB0   Warramunga Arr 25.43 244  P     P   15 24 37.9 +0.2
WB0                             IAmb IAmb 15 24 38.9
     comp=Z,12nm,0.9s
WB2   Warramunga Arr 25.53 244  P     P   15 24 38.9 +0.2
WB2                             IAmb IAmb 15 24 45.2
     comp=Z,9.4nm,0.7s
WRA   Warramunga Arr 25.54 244  P     P   15 24 39.1 +0.3
     comp=Z,7.8nm,0.7s,baz=69,slow=9.7,SNR=26
WRA                             PcP  PcP  15 28 11.0 +1.2
     comp=Z,0.6nm,0.8s,baz=68,slow=2.6,SNR=2.3
WRA   Warramunga Arr 25.54 244  P     P   15 24 37.8 -1.0
GUMO  Guam          26.75 329   LR    LR  15 33 55.0
     comp=Z,60nm,21.4s,baz=175,slow=33
MTN   Manton Dam    27.09 261   P     P   15 24 51.5 -1.2
MTN                             IAmb IAmb 15 25 03.3
     comp=Z,7.0nm,0.8s
STKA  Stephens Creek 27.18 213  P     P   15 24 54.2 +0.8
     comp=Z,4.1nm,0.7s,baz=46,slow=14,SNR=7.1
STKA  Stephens Creek 27.18 213  P     P   15 24 55.5 +2.1
AS31  Alice Springs  27.39 236  P     P   15 24 56.0 +0.5
ASAR  Alice Springs  27.39 236  P     P   15 24 55.2 -0.2
     comp=Z,3.4nm,0.9s,baz=63,slow=9.4,SNR=12
ASAR                            PcP  PcP  15 28 15.2 +1.0
     comp=Z,0.6nm,0.4s,baz=82,slow=2.6,SNR=8.6
ASAR  Alice Springs  27.39 236  P     P   15 24 55.6 +0.2
RAO   Raoul Island  29.46 135   LR    LR  15 35 32.0
     comp=Z,89nm,19.5s,baz=52,slow=33
KNRA  Kununurra     29.67 255   P     P   15 25 15.4 -0.4
KNRA                            IAmb IAmb 15 25 23.1
     comp=Z,11nm,1.1s
KAPI  Kappang       38.74 274   LR    LR  15 45 12.7
     comp=Z,34nm,18.4s,baz=76,slow=40
PSA00 Pilbara Seismi 39.03 248  P     P   15 26 36.7  0.0
PSA00                           IAmb IAmb 15 26 37.0
     comp=Z,15nm,1.5s
MORW  Morawa        44.24 238   P     P   15 27 19.7 +0.3
MORW                            IAmb IAmb 15 27 30.1
     comp=Z,11nm,1.0s
NWAO  Narrogin (SRO) 44.56 232  P     P   15 27 22.3 +0.5
MJAR  Matsushiro Arr 49.73 338  P     P   15 27 59.3 -2.6
     comp=Z,1.0nm,0.7s,baz=182,slow=8.4,SNR=4.5
JNU   Nakatsue      50.00 329   P     P   15 28 03.7 -0.4
PPT2  Papeete2      50.90 105   eLR   LR  15 43 00.1
     comp=Z,56nm,23.0s
TBI   Tubuai        51.42 112   eLR   LR  15 43 09.8
     comp=Z,75nm,26.8s
KSRS  Korea Array   54.90 330   P     P   15 28 38.8 -1.6
     comp=Z,1.7nm,0.8s,baz=146,slow=8.7,SNR=6.6
KSRS                            LR    LR  15 51 58.5
     comp=Z,19nm,19.0s,baz=125,slow=36
PETK  Petropavlovsk- 62.46 359  P     P   15 29 31.5 -1.2
     comp=Z,2.2nm,0.9s,baz=176,slow=7.5,SNR=3.7
PETK                            LR    LR  15 53 50.8
     comp=Z,42nm,20.9s,baz=168,slow=34
CMAR  Chiang Mai Arr 65.08 295  P     P   15 29 51.9 +1.2
     comp=Z,0.4nm,0.5s,baz=127,slow=0.7,SNR=4.9
VNDA  Vanda         67.92 179   P     P   15 30 10.1 +2.3
     comp=Z,0.7nm,0.8s,baz=7.3,slow=6.3,SNR=3.8
SONM  Songino Array 73.43 326   P     P   15 30 41.5 -0.5
     comp=Z,1.6nm,0.8s,baz=142,slow=5.2,SNR=9.2
SONM                            LR    LR  16 03 40.4
     comp=Z,30nm,18.3s,baz=80,slow=36
KDAK  Kodiak Island 78.01  24   LR    LR  16 01 39.0
     comp=Z,148nm,18.9s,baz=241,slow=33
QSPA  South Pole Qui 80.39 180  P     P   15 31 21.5 +0.6
QSPA                            IAmb IAmb 15 31 31.7
     comp=Z,6.6nm,1.1s
ILAR  Eielson Array 84.52  21   P     P   15 31 40.9 -1.3
     comp=Z,0.4nm,0.4s,baz=242,slow=5.1,SNR=8.0
MKAR  Makanchi Array 87.68 318  P     P   15 31 57.0 -1.2
     comp=Z,0.4nm,0.5s,baz=87,slow=5.7,SNR=5.2
ZALV  Zalesovo Beam 88.30 325   LR    LR  16 12 23.8
     comp=Z,12nm,19.0s,baz=91,slow=36
NVAR  Mina Array Bea 90.57  51  P     P   15 32 14.3 +2.0
     comp=Z,0.7nm,0.9s,baz=245,slow=8.2,SNR=4.5
```

JMA 11 15:19:15.4±0.2, 43°.66N×147°.77E, h0km, M3.8
SKHL 11 15:19:16.9±0.3, 43°.90N×148°.00E, h30km±5km, mb4.1/4
ISC 11 15:19:14.0±2.6, 43°.73N±0°.09×148°.3E±0°.1, h35km, n22, σ1§45/39, East of Kuril Islands

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Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
KUR   Kuril'sk      1.54 349    eP    Pn  15 19 39.2 +0.3
KUR                             AMB   AMB 15 19 40.2
     40nm,0.2s
KUR                             i S   Sn  15 19 56.1 -1.5
KUR                             A     A   15 19 58.9
     220nm,0.2s
KUR                             A     A   15 19 58.9
     350nm,0.2s
YUK   Yuzh-Kuril'sk 1.77 281    i P   Pn  15 19 42.4 +0.3
YUK                             AMB   AMB 15 19 43.0
     40nm,0.2s
YUK                             eS    Sn  15 20 01.3 -2.1
YUK                             A     A   15 20 03.9
     500nm,0.4s
YUK                             A     A   15 20 03.9
     520nm,0.4s
NEM2  Nemuro 2      1.87 260    P     Pn  15 19 43.8 +0.3
NEM2                            eS    Sn  15 20 03.7 -2.3
NMR   Nemuro--Hokkai 1.88 260   eP    Pn  15 19 43.8 +0.1
NMR                             eS    Sn  15 20 03.7 -2.5
GLVR  Golovnino     2.00 271    i P   Pn  15 19 46.0 +0.8
GLVR                            AMB   AMB 15 19 46.6
     50nm,0.2s
GLVR                            eS    Sn  15 20 07.9 -1.0
GLVR                            A     A   15 20 13.0
     580nm,0.3s
GLVR                            A     A   15 20 13.0
     510nm,0.3s
JRA   Rausu         2.29 276    P     Pn  15 19 49.9 +0.6
JRA                             eS    Sn  15 20 15.8 -0.4
JKHN  Kushirohamanak 2.36 255   P     Pn  15 19 51.0 +0.8
JKHN                            eS    Sn  15 20 16.5 -1.4
JNSB  Nemuroshibetsu 2.37 272   P     Pn  15 19 51.3 +1.0
JNSB                            eS    Sn  15 20 17.6 -0.6
JNK   Nakash        2.58 268    P     Pn  15 19 54.0 +0.7
JNK                             eS    Sn  15 20 22.4 -1.1
AKK   Akkeshi       2.60 255    eP    Pn  15 19 54.2 +0.7
AKK                             eS    Sn  15 20 22.4 -1.5
JAK   Akkeshi       2.71 256    P     Pn  15 19 55.6 +0.6
JAK                             eS    Sn  15 20 24.3 -2.2
JTKR  Abashiri--Toko 3.17 276   P     Pn  15 20 02.6 +1.3
JTKR                            eS    Sn  15 20 39.2 +1.4
JAR   Ashorobuto    3.30 264    P     Pn  15 20 04.7 +1.5
JAR                             eS    Sn  15 20 40.9 -0.3
JOB   Onbets        3.34 257    P     Pn  15 20 04.8 +1.1
JOB                             eS    Sn  15 20 41.1 -1.1
JMP   Maruseppu     3.56 276    P     Pn  15 20 08.4 +1.6
JCH   Churui        3.76 254    P     Pn  15 20 10.4 +0.9
JCH                             eS    Sn  15 20 50.3 -2.2
JKK2  Kamakawa 2    4.00 274    P     Pn  15 20 14.9 +2.1
JFR   Furan         4.17 264    P     Pn  15 20 17.6 +2.4
JNBK  Urakawa-nobuka 4.30 252   P     Pn  15 20 18.2 +1.3
JNBK                            eS    Sn  15 21 04.6 -1.2
YSS   Yuzh-Sakhalins 5.05 312   i P   Pn  15 20 28.5 +1.3
YSS                             AMB   AMB 15 20 28.8
     10.0nm,0.5s
YSS                             eS    Sn  15 21 22.9 -1.4
YSS                             A     A   15 21 26.2
     10.0nm,0.5s
YSS                             A     A   15 21 26.2
     10.0nm,0.5s
JEW   Eniwo         5.06 262    P     Pn  15 20 30.3 +3.0
EKMR  Ekimchan     13.79 318    eP    Pn  15 22 27.0 +0.1
```

IDC 11 15:32:15.7±3.6, 4°.84S×133°.30E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, ML2.7/2, Error ellipse: s-maj=191.2km s-min=33.9km az=76.0, Irian Jaya region

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Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
WRA   Warramunga Arr 15.05 176  Pn    Pn  15 35 51.4 +1.5
     0.0nm,0.3s,baz=355,slow=11,SNR=2.3
ASAR  Alice Springs 18.73 178   P     P   15 36 35.4 -0.8
     0.0nm,0.3s,baz=1.0,slow=10,SNR=5.8
MKAR  Makanchi Array 68.29 325  P     P   15 43 18.8 +0.1
     0.2nm,0.5s,baz=112,slow=8.1,SNR=2.3
```

DJA 11 15:36:08.4±0.4, 4°.S±4°.×12°.9E±°, h185km±5km, M3.9/10, mb3.8/1, MLv3.9/10
IDC 11 15:36:08.0±3.9, 4°.36S×129°.61E, h188km±48km, mb3.0/2, mb1 3.4/5, mb1mx3.0/36, mbtmp3.7/5, Error ellipse: s-maj=80.6km s-min=18.3km az=80.0
ISC 11 15:36:07.1±0.9, 4°.43S±0°.06×129°.44E±0°.07, h200km, n13, σ2§93/18, Banda Sea

```
Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
BNDI  Bandanaira    0.47 101    P     Pn  15 36 35.2 +1.0
BNDI                            S     Sn  15 36 55.7 +0.7
MSAI  Masohi        1.19 335    P     Pn  15 36 38.2 -0.1
MSAI                            S     Sn  15 36 59.2 -3.4
NLAI  Namlea        2.62 297    P     Pn  15 36 54.5 +2.1
FAKI  Fak Fak       3.18  62    P     Pn  15 37 00.3 +1.3
SAUI  Saumlaki      3.98 152    P     Pn  15 37 10.4 +1.6
SIJI  Sorong        3.98  27    P     Pn  15 37 09.0 +0.2
     11nm,0.3s,baz=217,slow=20,SNR=112
SIJI                            S     Sn  15 37 53.9 -3.4
     31nm,0.3s,baz=69,slow=22,SNR=43
SWI   Sorong        3.99  27    P     Pn  15 37 09.9 +1.1
SANI  Sanana        4.18 304    P     Pn  15 37 11.0 -0.2
KMPI  Kaimana, Papua 4.33  80   P     Pn  15 37 14.8 +1.8
WRA   Warramunga Arr 16.14 163  P     P   15 39 43.0 +0.2
     0.3nm,0.3s,baz=342,slow=12,SNR=28
WRA                             S     S   15 42 33.1 -8.7
     0.1nm,0.3s,baz=343,slow=22,SNR=1.7
ASAR  Alice Springs 19.60 168   P     Pn  15 40 22.9 -1.4
     0.8nm,0.3s,baz=348,slow=12,SNR=104
ASAR                            S     S   15 43 49.3 -1.5
     0.1nm,0.3s,baz=352,slow=25,SNR=6.9
MKAR  Makanchi Array 65.79 326  P     P   15 46 33.5 +2.7
     0.1nm,0.4s,baz=121,slow=7.2,SNR=4.2
VNDA  Vanda         75.05 173   P     P   15 47 28.2 +1.9
     0.5nm,0.8s,baz=317,slow=7.6,SNR=2.0
```

ANF 11 15:38:36.7±1.7, 31°.52N×114°.30W, h0km, ML3.4/7, Error ellipse: s-maj=21.7km s-min=4.5km az=7.0
MEX 11 15:38:39.9±0.8, 31°.50N×114°.26W, h12km±21km, MD4.1
ISC 11 15:38:36.2±1.3, 31°.48N±0°.07×114°.31W±0°.03, h7km±13km, n12, σ1§40/19, Gulf of California

```
Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
SPIG  San Pedro Mart 1.08 247   eP    Pg  15 38 57.9 +0.9
SPIG                            eS    Sg  15 39 12.0 +0.9
214A  Organ Pipe Nat 1.36  69   P     Pg  15 39 03.0 +0.7
     baz=250
214A                            S     Sg  15 39 20.3 +0.3
     baz=250
214A  Organ Pipe Nat 1.36  69   eP    Pg  15 39 03.1 +0.8
214A                            i S   Sg  15 39 20.1 +0.2
GLA   Glamis        1.63 344    P     Pb  15 39 06.2 -0.4
     baz=165
IKP   In-Ko-Pah, Jac 1.93 308   P     Pn  15 39 08.9 -0.5
     baz=128
CBX   Cerro Bola    2.17 293    eP    Pn  15 39 13.4 +0.6
CBX                             i S   Sg  15 39 46.2 +0.2
TJIG  Tijuana       2.23 296    i P   Pn  15 39 13.4 -0.1
TJIG                            i S   Sg  15 39 46.2 -1.5
BC3   Big Chuckawall 2.38 336   P     Pb  15 39 16.9 -2.4
     baz=156
BC3                             S     Sn  15 39 45.5 +0.4
     baz=156
109C  Camp Elliot, M 2.76 301   Sb    Sg  15 40 03.8 -1.0
     baz=121
BELC  Belle Mtn. Jos 2.89 331   P     Pn  15 39 24.7 +1.9
     baz=151
TUC   Tucson        3.11  74    eP    Pb  15 39 28.8 -3.0
TUC                             eS    Sb  15 40 10.9 +1.0
HEC   Hector,Ludlow 3.75 334    P     Pn  15 39 36.1 +1.6
     baz=153
```

IDC 11 15:41:23.9±7.5, 6°.50S×129°.37E, h113km±95km, mb3.0/1, mb1 3.0/4, mb1mx2.9/40, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=166.9km s-min=26.5km az=81.0, Banda Sea

```
Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
SIJI  Sorong        5.91  19    P     Pn  15 42 49.0  0.0
     0.4nm,0.3s,baz=270,slow=20,SNR=1.5
SIJI                            S     Sn  15 43 48.5 -7.0
     1.5nm,0.3s,baz=210,slow=22,SNR=11
WRA   Warramunga Arr 14.20 161  P     Pn  15 44 40.4 +0.4
     0.2nm,0.3s,baz=343,slow=12,SNR=6.3
WRA                             S     Sn  15 47 04.8 -12
     0.2nm,0.3s,baz=336,slow=22,SNR=6.3
ASAR  Alice Springs 17.61 166   P     P   15 45 21.4 -0.3
     0.1nm,0.3s,baz=347,slow=10.0,SNR=4.8
MKAR  Makanchi Array 67.47 327  P     P   15 52 07.7 +0.1
     0.3nm,0.7s,baz=119,slow=6.2,SNR=2.3
```

ZUR 11 15:54:31.6, 47°.13N×10°.11E, h-1km±4km, MLh1.9/19, Error ellipse: s-maj=9.0km s-min=1.5km az=246.0
VIE 11 15:54:32.0±0.2, 47°.12N×10°.10E, h7km±3km, mb1.7/9, ml2.1/12, Error ellipse: s-maj=1.2km s-min=0.9km az=171.0 2 km SW of Langen am Arlberg
STR 11 15:54:32.6±1.0, 47°.N±5°.×1°.0E±°, h20km, MLv2.4/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary
LDG 11 15:54:32.5±0.2, 47°.09N×10°.08E, h2km, Md2.0/1, Ml2.3/5, Error ellipse: s-maj=4.3km s-min=2.5km az=44.0
BGR 11 15:54:33.4±0.5, 47°.11N×10°.08E, h10km, ML1.9/10, Error ellipse: s-maj=4.4km s-min=2.2km az=161.0
ROM 11 15:54:33.4±0.6, 47°.04N±0°.02×10°.03E±0°.02, h10km±4km, ML1.7/9, 1C-5D, Error ellipse: s-maj=1.5km s-min=1.4km az=187.0, Austria

```
Code  Station Name     Δ°   AZ°  Phase ID  Time      Res
                                Op    ISC h m s     ISC
DAVA  Damuels       0.27 338    Pg    Pg  15 54 36.5 -2.4
DAVA                            Pg    Pg  15 54 36.5 -2.4
     0.3nm,SNR=19
DAVA  Damuels       0.27 338    i Pg  Pg  15 54 36.5 -2.4
     6.0nm,0.1s,SNR=37
DAVA                            i Sg  Sg  15 54 39.7 -2.8
     32nm,0.2s
DAVA  Damuels       0.27 338    ePg   Pg  15 54 36.5 -2.3
DAVA                            eSg   Sg  15 54 39.9 -2.6
DAVOX Davos/Dischmat 0.28 201   Pg    Pg  15 54 39.6 +0.4
     0.2nm,SNR=6.9
DAVOX                           Pg    Pg  15 54 39.6 +0.4
DAVOX Davos/Dischmat 0.28 201   P     Pg  15 54 39.6 +0.4
DAVOX                           S     Sb  15 54 44.5 -0.9
DAVOX                           AML   AML
     comp=N,124μm,0.4s
DAVOX                           AML   AML
     comp=E,158μm,0.8s
PLONS Plons/SG      0.44 271    ||Pg  Pg  15 54 41.7 -0.4
     comp=E,0.2nm,SNR=9.3
PLONS                           ||Pg  Pg  15 54 41.7 -0.4
PLONS Plons/SG      0.44 271    P     Pg  15 54 41.6 -0.5
PLONS                           S     Sg  15 54 48.8 +0.9
PLONS                           AML   AML
     comp=E,60μm,0.5s
PLONS                           AML   AML
     comp=N,110μm,0.2s
PLONS Plons/SG      0.44 271    ePg   Pg  15 54 41.7 -0.4
PLONS                           eSg   Sg  15 54 48.8 +0.8
LIENZ Kamor/St.Gall 0.44 305    Pg    Pg  15 54 41.1 -1.1
LIENZ                           Pg    Pg  15 54 41.1 -1.1
     comp=N,0.2nm,SNR=4.4
FETA  Feichten      0.48  92    Pg    Pg  15 54 40.5 -2.3
     comp=N,0.1nm,SNR=3.9
FETA                            Pg    Pg  15 54 40.5 -2.3
FETA  Feichten      0.48  92    ePg   Pg  15 54 40.8 -2.1
     comp=N,1.2nm,0.1s,SNR=6.7
FETA                            eSg   Sg  15 54 46.8 -2.4
     comp=N,3.7nm,0.1s,SNR=6.2
MOSI  Grossmontoni  0.56 140    ||Pg  Pg  15 54 43.7 -0.5
     comp=N,0.4nm,SNR=9.4
MOSI                            ||Pg  Pg  15 54 43.7 -0.5
MOSI  Grossmontoni  0.56 140    ||P   Pg  15 54 43.7 -0.6
MOSI                            S     Sg  15 54 52.4 +0.8
MOSI                            AML   AML
     comp=E,228μm,0.4s
MOSI                            AML   AML
     comp=N,234μm,0.9s
MOSI                            AML   AML
     comp=E,229μm,0.4s
BRMO  Bormio        0.61 157    P     Pg  15 54 44.9 -0.4
BRMO                            S     Sg  15 54 53.7 +0.3
BRMO                            AML   AML
     comp=N,29μm,0.8s
BRMO                            AML   AML
     comp=E,31μm,0.5s
BERNI Berninapass   0.63 180    Pg    Pg  15 54 46.0 +0.3
BERNI                           Pg    Pg  15 54 46.0 +0.3
     comp=E,0.1nm,SNR=2.4
BERNI Berninapass   0.63 180    P     Pg  15 54 45.9 +0.2
BERNI                           S     Sb  15 54 55.1 -0.5
UBR   Ueberruh      0.64  5     ePg   Pg  15 54 44.0 -1.9
UBR                             eSg   Sg  15 54 52.9 -1.5
SGT03 Degersheim    0.65 300    Pg    Pg  15 54 45.4 -0.6
SGT03                           Pg    Pg  15 54 45.4 -0.6
     comp=E,0.2nm,SNR=3.6
RETA  Reutte        0.67  48    ePg   Pg  15 54 43.8 -2.6
     comp=E,1.4nm,0.1s,SNR=4.7
RETA                            eSg   Sg  15 54 51.8 -3.4
     comp=E,7.8nm,0.2s,SNR=6.9
```

TUE	**Stuetta**	**0.74**	**220**	P	Pg	15 54 48.0	+0.3
TUE				S	Sb	15 54 58.3	-0.4
TUE				AML	AML		
	comp=N,27μm,1.6s						
TUE				AML	AML		
	comp=E,26μm,0.4s						
TUE				AML	AML		
	comp=N,27μm,1.6s						
MOTA	**Moosalm**	**0.80**	**67**	*e*Pg	Pg	15 54 45.4	-3.4
	comp=N,0.6nm,0.1s						
MOTA				*e*Sg	Sg	15 54 55.7	-3.5
	comp=N,7.0nm,0.2s,SNR=6.5						
SQTA	**Sankt Quirin**	**0.83**	**77**	*e*Pg	Pg	15 54 46.5	-2.9
	comp=N,1.8nm,0.2s,SNR=6.0						
SQTA				*e*Sg	Sg	15 54 57.0	-3.2
	comp=N,5.2nm,0.2s						
WILA	**Wila**	**0.85**	**297**	*e*Pg	Pg	15 54 49.4	-0.4
WILA				*e*Sg	Sb	15 55 01.6	-0.1
ABSI	**Aberstueckl**	**0.94**	**109**	P	Pg	15 54 50.4	-1.2
ABSI				AML	AML		
	comp=E,86μm,0.3s						
ABSI				AML	AML		
	comp=N,55μm,0.3s						
ZUR	**Degenried**	**1.04**	**289**	Pg	Pn	15 54 54.2	+0.1
ZUR	**Degenried**	**1.04**	**289**	Sg	Sn	15 55 08.9	+0.2
MABI	**Malga Bissina**	**1.04**	**161**	P	Pg	15 54 52.9	-0.5
MABI				S	Sg	15 55 07.1	+0.1
MABI				AML	AML		
	comp=N,22μm,0.3s						
MABI				AML	AML		
	comp=E,23μm,0.7s						
WATA	**Walderalm**	**1.10**	**74**	Pg	Pg	15 54 51.9	-2.6
	comp=E,5.5nm,0.2s,SNR=6.5						
WATA				*e*Sg	Sg	15 55 07.8	-1.0
	comp=E,5.9nm,0.2s						
FUSIO	**Fusio**	**1.11**	**238**	P	Pg	15 54 54.5	-0.2
FUSIO				S	Sn	15 55 10.5	+0.1
BNALP	**Bannalp**	**1.11**	**262**	P	Pg	15 54 54.3	-0.5
WTTA	**Wattenberg**	**1.12**	**78**	*e*Pg	Pg	15 54 52.3	-2.6
	comp=E,5.7nm,0.1s,SNR=17						
WTTA				*e*Sg	Sg	15 55 07.6	-1.9
	comp=E,6.5nm,0.2s						
WTTA	**Wattenberg**	**1.12**	**78**	P	Pg	15 54 55.0	0.0
WTTA	**Wattenberg**	**1.12**	**78**	*e*Pg	Pn	15 54 55.3	-0.1
EMING	**Emmingen-Lipti**	**1.17**	**317**	*e*Pg	Pb	15 54 55.3	-0.5
EMING				*e*Sg	Sb	15 55 11.0	0.0
GUT	**Gutenstein**	**1.20**	**329**	Sg	Sb	15 55 11.0	-0.9
GUT	**Gutenstein**	**1.20**	**329**	Pg	Pb	15 54 55.2	-1.1
SLE	**Schleitheim**	**1.27**	**305**	Pg	Pn	15 54 57.1	-0.2
SLE	**Schleitheim**	**1.27**	**305**	*e*Pg	Pn	15 54 57.2	-0.1
SLE				*e*Sg	Sg	15 55 14.3	0.0
MAGA	**Magasa**	**1.33**	**162**	P	Pb	15 54 58.6	+0.1
MAGA				AML	AML		
	comp=E,85μm,0.9s						
MAGA				AML	AML		
	comp=N,55μm,0.5s						
METMA	**Mettma DE**	**1.38**	**300**	*e*Pg	Pb	15 54 59.2	-0.1
METMA				*e*Sg	Sg	15 55 17.6	-0.2
SULZ	**Cheisacher**	**1.39**	**291**	Pg	Pg	15 54 59.9	-0.2
SULZ	**Cheisacher**	**1.39**	**291**	*e*Pg	Pb	15 54 59.7	+0.2
SULZ				*e*Sg	Sg	15 55 18.9	+0.8
FUR	**Furstenfeldbru**	**1.41**	**36**	*e*Sg	Sn	15 55 15.4	-2.4
RISI	**Rein**	**1.41**	**93**	P	Pb	15 54 59.9	0.0
RISI				AML	AML		
	comp=N,259μm,0.4s						
RISI				AML	AML		
	comp=E,88μm,0.3s						
BERGE	**Lenzkirch (DE)**	**1.50**	**304**	*e*Pg	Pb	15 55 01.2	-0.2
BERGE				*e*Sg	Sb	15 55 21.1	+0.4
LEOD	**Capriano del C**	**1.58**	**178**	⇑P	Pb	15 55 03.1	+0.4
BALST	**Balsthal**	**1.62**	**281**	Pn	Pn	15 55 01.5	-0.5
BALST				Pg	Pb	15 55 03.8	+0.5
BALST	**Balsthal**	**1.62**	**281**	*e*Pg	Pg	15 55 04.0	-0.5
BALST				*e*Sg	Sg	15 55 26.1	+0.7
KIZ	**Kirchzarten**	**1.70**	**303**	Pg	Pb	15 55 04.5	-0.2
KIZ	**Kirchzarten**	**1.70**	**303**	Sg	Sb	15 55 26.9	+0.7
ABTA	**Abfaltersbach**	**1.73**	**99**	*e*Pg	Pb	15 55 04.6	-0.7
	comp=E,0.4nm,0.1s,SNR=4.2						
ABTA				*e*Sg	Sb	15 55 28.0	+0.9
	comp=E,2.0nm,0.2s						
HINF	**Hinteralfeld**	**2.29**	**291**	*e*Pg	Pb	15 55 14.9	+0.1
HINF				*e*Sn	Sn	15 55 36.2	-3.3
HINF				*e*Sg	Sb	15 55 45.0	+1.8
	comp=E,3.5nm,0.3s						
CDF	**Champ du Feu**	**2.31**	**307**	*e*P	Pn	15 55 10.4	-1.2
CDF	**Champ du Feu**	**2.31**	**307**	*e*Pg	Pb	15 55 16.2	+1.0
CDF				*e*Sn	Sn	15 55 36.3	-3.8
CDF				*e*Sg	Sb	15 55 44.9	+1.1
	comp=E,2.9nm,0.3s						
HAU	**Haudompre**	**2.67**	**293**	*e*P	Pn	15 55 16.8	+0.3
HAU	**Haudompre**	**2.67**	**293**	*e*Pg	Pb	15 55 21.6	+0.3
HAU				*e*Sn	Sn	15 55 45.1	-3.9
HAU				*e*Sg	Sb	15 55 56.1	+1.9
	comp=E,4.2nm,0.3s						
CABF	**La Chapelle**	**2.74**	**262**	*e*Pg	Pb	15 55 23.7	+1.2
CABF				*e*Sg	Sg	15 55 59.9	-1.4
	comp=E,3.1nm,0.5s						
GRF	**Grafenberg Arr**	**2.77**	**16**	*e*Sg	Sb	15 55 58.1	+1.2
MILB	**Miltenberg**	**2.83**	**350**	*e*Sg	Sg	15 56 02.0	-2.4
GEC2	**GERESS Array S**	**3.06**	**53**	*e*Pg	Pg	15 55 30.3	-1.7
LOR	**Lormes**	**4.21**	**275**	*e*Pg	Pb	15 55 50.4	+2.8
LOR				*e*Sg	Sg	15 56 45.5	-3.2
	comp=E,1.4nm,0.3s						
BRG	**Berggiesshubel**	**4.62**	**32**	Pg	Pg	15 55 59.7	-2.2
BRG				Sg	Sn	15 56 19.6	-17
BRG				Amp		15 56 20.6	
	comp=Z,1.9nm,0.3s						

*IDC **11** 15:55:03.3±6.9, 36°.21N×71°.53E, h95km±60km, mb3.2/4, mb1 3.3/8, mb1mx3.0/49, mbtmp3.6/8, ML3.3/4, Error ellipse: s-maj=67.9km s-min=45.9km az=145.0*

ISC 11 15:55:04.6±2.2, 36°.4N±0°.2×71°.5E±0°.2, h100km, n15, σ0s72/16, mb3.5/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.00**	**16**	P	**Pn**	**15 56 32.0**	**+0.8**
	SNR=31						
EKS2	**Erkin-Say**	**6.53**	**15**	P	**Pn**	**15 56 38.3**	**+0.2**
	SNR=15						
AAK	**Ala-Archa**	**6.67**	**19**	P	**Pn**	**15 56 40.9**	**+0.8**
	3.9nm,0.3s,baz=197,slow=5.8,SNR=9.9						
AAK				S	**Sn**	**15 57 53.7**	**-1.0**
	0.4nm,0.3s,baz=147,slow=23,SNR=5.5						
AAK	**Ala-Archa**	**6.67**	**19**	P	**Pn**	**15 56 41.1**	**+1.0**
	SNR=7.4						
CHMS	**Chumysh**	**7.08**	**20**	P	**Pn**	**15 56 46.3**	**+0.8**
	SNR=6.5						
USP	**Ospenovka**	**7.27**	**18**	P	**Pn**	**15 56 48.1**	**0.0**
	SNR=6.4						
TKM2	**Tokmak 2**	**7.27**	**25**	P	**Pn**	**15 56 49.4**	**+1.1**
	SNR=13						
MKAR	**Makanchi Array**	**13.17**	**34**	P	**Pn**	**15 58 07.5**	**-0.1**
	0.0nm,0.3s,baz=219,slow=14,SNR=2.3						
KURBB	**Kurchatov Arra**	**15.12**	**17**	P	**P**	**15 58 34.7**	**-0.8**
	0.0nm,0.3s,baz=206,slow=11,SNR=4.2						
AKTO	**Aktyubinsk**	**17.09**	**330**	P	**P**	**15 58 57.4**	**+0.1**
	0.4nm,0.3s,baz=149,slow=12,SNR=5.5						
ZALV	**Zalesovo Beam**	**19.87**	**24**	P	**P**	**15 59 28.0**	**+0.4**
	1.3nm,0.5s,baz=219,slow=12,SNR=6.7						
FINES	**FINESS Array B**	**37.81**	**326**	P	**P**	**16 02 11.5**	**+0.6**
	0.6nm,0.6s,baz=114,slow=9.2,SNR=5.2						
NB2	**NORSAR Subarra**	**44.72**	**323**	P	**P**	**16 03 07.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.72**	**323**	P	**P**	**16 03 07.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.11**	**269**	P	**P**	**16 05 40.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=47,slow=6.2,SNR=4.7						

PRU 11 15:55:31.8±0.0, 51°.48N×16°.14E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**0.90**	**183**	*e*PG	Pb	15 55 49.6	-0.6
CHVC				*e*SG	Sb	15 56 01.7	-1.0
OSTC	**Ostas**	**0.93**	**177**	*e*SG	Sg	15 56 01.3	-0.2
	comp=Z,2.8nm,0.7s						
UPC	**Upice**	**0.98**	**185**	*e*PG	Pg	15 55 49.7	-0.8
UPC				*e*SG	Sg	15 56 03.0	-0.1
	comp=Z,4.2nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*PG	Pg	15 55 52.5	-1.1
DPC				*e*SG	Sg	15 56 07.1	-1.2
PVCC	**Panska Ves**	**1.38**	**227**	*e*SG	Sg	15 56 15.5	-0.5
	comp=Z,5.4nm,0.2s						
KRLC	**Kraliky**	**1.46**	**164**	*e*SG	Sb	15 56 19.2	+0.1

IDC 11 16:12:22.1±2.0, 5°.66S×130°.82E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.5/31, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=132.6km s-min=26.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.60**	**167**	Pn	Pn	16 15 49.0	-1.2
	0.3nm,0.3s,baz=349,slow=12,SNR=21						
WRA				Sn	Sn	16 18 23.9	-9.0
	1.1nm,0.3s,baz=338,slow=22,SNR=12						
ASAR	**Alice Springs**	**18.14**	**171**	P	P	16 16 37.2	+1.0
	0.6nm,0.3s,baz=348,slow=11,SNR=44						
ASAR				S	Sn	16 19 48.0	-11
	0.3nm,0.3s,baz=0.8,slow=28,SNR=6.5						
STKA	**Stephens Creek**	**27.96**	**160**	P	P	16 18 14.0	-0.5
	6.7nm,1.1s,baz=5.2,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**67.57**	**326**	P	P	16 23 20.6	+0.1
	0.3nm,0.3s,baz=115,slow=7.9,SNR=4.9						

*MOS **11** 17:09:45.3±0.9, 43°.19N×146°.84E, h62km, mb4.2/3, Error ellipse: s-maj=16.5km s-min=10.3km az=124.9*
*JMA **11** 17:09:45.1±0.1, 43°.11N×146°.85E, h56km±2km, M3.6*
*SKHL **11** 17:09:45.6±0.3, 43°.10N×146°.90E, h67km±4km, mb4.5/7*
*NIED **11** 17:09:45.2, 43°.11N×146°.85E, h56km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.59; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$-2.58; $M_{r\theta}$0.94; $M_{\theta\phi}$-1.02; $M_{\phi r}$0.12; Fault plane solution: $M_0$3.45000×10^{14} NP1:ϕ_s37.00000°, δ50.00000°, λ103.00000°. NP2:ϕ_s197.00000°, δ41.00000°, λ74.00000°.*
*IDC **11** 17:09:50.8±3.2, 43°.68N×146°.77E, h72km±35km, mb3.3/10, mb1 3.6/12, mb1mx3.4/33, mbtmp3.6/12, ML3.4/2, MS2.2/1, Ms1 2.2/1, ms1mx2.0/24 Error ellipse: s-maj=48.8km s-min=21.9km az=2.0*

ISC 11 17:09:45.1±1.6, 43°.12N±0°.06×146°.90E±0°.06, h43km±14km, n58, σ1s09/73, mb3.6/13, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.88**	**286**	P	**Pn**	**17 10 01.3**	**+0.3**
NEM2				*e*S	**Sn**	**17 10 12.6**	**-0.1**
NMR	**Nemuro--Hokkai**	**0.89**	**286**	⇓*i*PN	**Pn**	**17 10 01.3**	**+0.1**
NMR				*e*S	**Sn**	**17 10 12.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.89**	**286**	*i* P	**Pn**	**17 10 01.4**	**+0.2**
NMR				*i* S	**Sn**	**17 10 13.2**	**+0.3**
GLVR	**Golovnino**	**1.18**	**302**	*d i*PN	**Pn**	**17 10 05.3**	**+0.2**
GLVR				*e*S	**Sn**	**17 10 19.2**	**-0.8**
GLVR				pmax	pmax		
	comp=N,169nm,0.2s						
GLVR				pmax	pmax		
	comp=Z,754nm,0.2s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR				smax	smax		
	comp=N,557nm,0.2s						
GLVR	**Golovnino**	**1.18**	**302**	*e*P	**Pn**	**17 10 05.3**	**+0.2**
GLVR				AMB	AMB	17 10 05.8	
	comp=N,20nm,0.2s						
GLVR				AMB	AMB	17 10 05.8	
	comp=N,80nm,0.2s						
GLVR				*e*S	**Sn**	**17 10 19.7**	**-0.3**
GLVR				A	A	17 10 23.3	
	comp=N,560nm,0.3s						
GLVR				A	A	17 10 23.3	
	comp=N,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.18**	**321**	*d i*PN	**Pn**	**17 10 05.5**	**+0.3**
YUK				*e*S	**Sn**	**17 10 20.8**	**+0.7**
YUK				pmax	pmax		
	comp=E,216nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=N,223nm,0.1s						
YUK				smax	smax		
	comp=N,643nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.18**	**321**	*i* P	**Pn**	**17 10 05.5**	**+0.3**
YUK				AMB	AMB	17 10 06.1	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	17 10 06.1	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	17 10 06.1	
	comp=E,150nm,0.2s						
YUK				*e*S	**Sn**	**17 10 20.5**	**+0.4**
YUK				A	A	17 10 21.2	
	comp=E,640nm,0.4s						
YUK				A	A	17 10 21.2	
	comp=E,2μm,0.4s						
GRPR	**Tuman**	**1.20**	**317**	*e*PN	**Pn**	**17 10 05.2**	**-0.1**
GRPR				*e*S	**Sn**	**17 10 20.1**	**-0.3**
GRPR				pmax	pmax		
	comp=N,104nm,0.2s						
GRPR				pmax	pmax		
	comp=E,43nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,201nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
GRPR				smax	smax		
	comp=N,2μm,0.2s						
GRPR	**Tuman**	**1.20**	**317**	*e*P	**Pn**	**17 10 05.2**	**-0.1**
GRPR				AMB	AMB	17 10 05.8	
	comp=N,200nm,0.2s						
GRPR				*e*S	**Sn**	**17 10 20.1**	**-0.3**
GRPR				A	A	17 10 22.0	
	comp=N,2μm,0.4s						
GRPR				A	A	17 10 22.0	
	comp=N,1μm,0.4s						
JKHN	**Kushirohamanak**	**1.28**	**269**	P	**Pn**	**17 10 06.7**	**+0.3**
JKHN				*e*S	**Sn**	**17 10 22.7**	**+0.4**
AKK	**Akkeshi**	**1.51**	**267**	*e*P	**Pn**	**17 10 09.9**	**+0.2**
AKK				AMB	AMB	17 10 10.3	
	comp=N,300nm,0.5s						
AKK				*e*S	**Sn**	**17 10 27.8**	**-0.3**
AKK				A	A	17 10 28.8	
	comp=N,550nm,0.5s						
AKK				A	A	17 10 28.8	
	comp=N,940nm,0.5s						
JNSB	**Nemuroshibetsu**	**1.53**	**296**	P	**Pn**	**17 10 10.0**	**+0.1**
JNSB				*e*S	**Sn**	**17 10 29.0**	**+0.5**
JRA	**Rausu**	**1.53**	**303**	P	**Pn**	**17 10 10.3**	**+0.4**
JRA				*e*S	**Sn**	**17 10 28.9**	**+0.4**
RUSJ	**Misakicho**	**1.55**	**310**	*e*PN	**Pn**	**17 10 11.0**	**+0.8**
RUSJ				*e*S	**Sn**	**17 10 30.8**	**+1.7**
JAK	**Akkeshi**	**1.62**	**266**	P	**Pn**	**17 10 11.3**	**+0.2**
JAK				*e*S	**Sn**	**17 10 30.5**	**-0.3**
JNK	**Nakash**	**1.66**	**287**	P	**Pn**	**17 10 11.5**	**-0.2**
JNK				*e*S	**Sn**	**17 10 31.4**	**-0.3**
KUR	**Kuril'sk**	**2.22**	**18**	*e*PN	**Pn**	**17 10 20.2**	**+0.8**
KUR				*e*S	**Sn**	**17 10 45.9**	**+0.3**
KUR				pmax	pmax		
	comp=Z,25nm,0.3s						
KUR				smax	smax		
	comp=N,211nm,0.2s						
KUR				smax	smax		
	comp=E,203nm,0.4s						
KUR	**Kuril'sk**	**2.22**	**18**	*e*P	**Pn**	**17 10 19.8**	**+0.4**
KUR				AMB	AMB	17 10 23.5	
	comp=E,30nm,0.3s						
KUR				*e*S	**Sn**	**17 10 45.6**	**0.0**
KUR				A	A	17 10 49.0	
	comp=E,210nm,0.3s						
KUR				A	A	17 10 49.0	
	comp=E,200nm,0.3s						
JOB	**Onbets**	**2.26**	**265**	P	**Pn**	**17 10 20.2**	**+0.3**
JOB				*e*S	**Sn**	**17 10 46.2**	**-0.3**
JAR	**Ashorobuto**	**2.30**	**275**	P	**Pn**	**17 10 20.9**	**+0.5**
JAR				*e*S	**Sn**	**17 10 47.9**	**+0.4**
JTKR	**Abashiri--Toko**	**2.34**	**292**	P	**Pn**	**17 10 22.0**	**+1.1**
JTKR				*e*S	**Sn**	**17 10 48.4**	**0.0**
JCH	**Churui**	**2.65**	**260**	P	**Pn**	**17 10 25.4**	**+0.1**
JCH				*e*S	**Sn**	**17 10 55.4**	**-0.8**
JMP	**Maruseppu**	**2.72**	**290**	P	**Pn**	**17 10 27.6**	**+1.3**
JEM	**Erimo**	**2.98**	**249**	P	**Pn**	**17 10 31.6**	**+1.8**
ERM	**Erimo**	**2.98**	**249**	*i* PN	**Pn**	**17 10 31.5**	**+1.7**
JKK2	**Kamakawa 2**	**3.11**	**285**	P	**Pn**	**17 10 33.3**	**+1.6**
JKK2				*e*S	**Sn**	**17 11 08.4**	**+0.8**
JFR	**Furan**	**3.15**	**272**	P	**Pn**	**17 10 33.4**	**+1.2**
JFR				*e*S	**Sn**	**17 11 09.2**	**+0.6**
JNBK	**Urakawa-nobuka**	**3.17**	**256**	P	**Pn**	**17 10 33.2**	**+0.8**
JNBK				*e*S	**Sn**	**17 11 07.8**	**-1.2**
JKA	**Kamikawa-asahi**	**3.28**	**289**	*e*P	**Pn**	**17 10 36.1**	**+2.2**
ASAJ	**Asahikawa**	**3.28**	**289**	P	**Pn**	**17 10 36.0**	**+2.1**
	comp=E,8.8nm,0.3s,baz=106,slow=14,SNR=41						
ASAJ				S	**Sn**	**17 11 17.2**	**+5.5**
	baz=17,slow=33,SNR=1.3						
ASAJ				LR	LR	17 11 18.3	
	comp=E,33nm,18.1s,baz=140,slow=29						
YSS	**Yuzh-Sakhalins**	**4.83**	**324**	*e*P	**Pn**	**17 10 57.0**	**+1.9**
YSS				AMB	AMB	17 10 57.4	
	comp=E,10.0nm,0.5s						
YSS				AMB	AMB	17 10 57.4	
	comp=E,20nm,0.5s						
YSS				*e*S	**Sn**	**17 11 48.8**	**-0.9**
YSS				A	A	17 11 52.3	
	comp=E,20nm,0.5s						
YSS				A	A	17 11 52.3	
	comp=E,10.0nm,0.5s						
MJAR	**Matsushiro Arr**	**9.37**	**228**	P	Pn	17 12 08.0	+10
	comp=E,0.0nm,0.3s,baz=20,slow=12,SNR=2.7						
MJAR	**Matsushiro Arr**	**9.37**	**228**	PN	Pn	17 12 08.0	+10
EKMR	**Ekimchan**	**13.61**	**322**	*e*P	**Pn**	**17 12 54.8**	**-0.6**
ZEA	**Zeya**	**16.76**	**316**	*e*P	**P**	**17 13 37.2**	**-1.0**
ZEA	**Zeya**	**16.76**	**316**	*e*P	**Pn**	**17 13 34.0**	**-2.4**
HIA	**Hailar**	**19.72**	**298**	*i* P	P	17 13 54.9	-16
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK	**Yakutsk**	**21.51**	**338**	*i* P	P	17 14 13.9	-16
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BILL	**Bilibino**	**27.01**	**16**	⇑*e*P	P	17 15 09.7	-13
BILL				*e*		17 16 07.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**28.55**	**294**	P	**P**	**17 15 37.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=81,slow=8.9,SNR=4.4						
SONM	**Songino Array**	**28.55**	**294**	P	**P**	**17 15 37.0**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.75**	**138**	T	T	17 46 29.7	
	baz=329,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.76**	**138**	T	T	17 46 31.4	
	baz=329,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.77**	**138**	T	T	17 46 25.6	
	baz=329,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**29.70**	**140**	T	T	17 47 37.2	
	baz=330,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.71**	**140**	T	T	17 47 36.3	
	baz=330,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**29.72**	**140**	T	T	17 47 42.6	
	baz=330,slow=76,SNR=21						
NRIK	**Noril'sk**	**39.71**	**331**	*i* P	P	17 16 57.1	-16
NRIK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**42.10**	**36**	P	**P**	**17 17 32.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=270,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**44.72**	**298**	P	**P**	**17 17 54.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=75,slow=9.3,SNR=4.3						
YKA	**Yellowknife Ar**	**56.42**	**33**	P	**P**	**17 19 21.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=295,slow=6.1,SNR=2.2						
FINES	**FINESS Array B**	**65.35**	**333**	P	**P**	**17 20 21.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=20,slow=6.1,SNR=6.2						
NVAR	**Mina Array Bea**	**68.07**	**58**	P	**P**	**17 20 41.5**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=294,slow=7.0,SNR=4.9						
NB2	**NORSAR Subarra**	**70.12**	**339**	P	**P**	**17 20 51.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**70.12**	**339**	P	**P**	**17 20 51.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=30,slow=6.6,SNR=4.8						
PDAR	**Pinedale Array**	**70.45**	**49**	P	**P**	**17 20 55.4**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=279,slow=6.3,SNR=3.9						
AKASG	**Malin Array Be**	**71.98**	**324**	P	**P**	**17 21 03.2**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=42,slow=6.3,SNR=5.6						
TXAR	**Lajitas Array**	**83.15**	**56**	P	**P**	**17 22 07.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=3.6						

*VAO **11** 17:22:23.7±0.3, 2°.47S×79°.67W, h10km, mb4.8*
*NEIC **11** 17:22:36.5±2.4, 2°.30S±0°.06×79°.02W±0°.08, h84km±6km, mb4.6/118, Error ellipse: s-maj=12.3km s-min=8.2km az=73.0*
*IGQ **11** 17:22:37±0.2, 2°.S±1°.×7°.9W±°, h76km*
*IDC **11** 17:22:37.0±2.5, 2°.28S×79°.07W, h95km±25km, mb3.9/14, mb1 4.2/19, mb1mx4.0/30, mbtmp4.4/19, MS2.8/1, Ms1 2.8/1, ms1mx2.5/25, Error ellipse: s-maj=20.1km s-min=13.0km az=41.0*

ISC 11 17:22:35.6±0.4, 2°.39S±0°.03×79°.33W±0°.04, h89km±3km, h90km:pP-P, n297, σ1s37/317, mb4.5/67, 2C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	**Cochancay**	**0.10**	**137**	P	**Pn**	**17 22 48.0**	**-0.3**
COHC				S	**Sn**	**17 22 57.0**	**-0.6**
AMIL	**Milagro (Trans**	**0.37**	**313**	P	**Pn**	**17 22 49.0**	**-0.4**
AMIL				S	**Sn**	**17 23 00.0**	**+0.4**
ACUE	**Ecuador-Cuenca**	**0.63**	**145**	P	**Pn**	**17 22 54.0**	**+2.2**
ACUE				S	**Sn**	**17 23 07.0**	**+3.1**
AGUAY	**Guayaquil**	**0.71**	**298**	P	**Pn**	**17 22 52.0**	**-0.2**
AGUAY				S	**Sn**	**17 23 05.0**	**+0.5**
ARIO	**Riobamba**	**0.96**	**41**	P	**Pn**	**17 22 56.0**	**+0.7**
ARIO				S	**Sn**	**17 23 10.0**	**+0.1**
ACH2	**Ecuador-Machal**	**0.99**	**209**	P	**Pn**	**17 22 57.0**	**+1.8**
ACH2				S	**Sn**	**17 23 13.0**	**+3.1**
CHSH	**Refugio Sur-Vo**	**1.00**	**27**	P	**Pn**	**17 22 56.0**	**+0.1**
CHSH				S	**Sn**	**17 23 11.0**	**0.0**
TAMH	**Tambohuasha Ch**	**1.00**	**33**	P	**Pn**	**17 22 57.0**	**+1.2**
TAMH				S	**Sn**	**17 23 12.0**	**+1.1**
SANGA	**Volcan Sangay**	**1.01**	**71**	P	**Pn**	**17 22 57.0**	**+1.1**
SANGA				S	**Sn**	**17 23 12.0**	**+1.0**
MORR	**

BV15 Puerto Quito-O 2.53 2 P **Pn 17 23 14.0 -1.0**
PAC1 Pacto, Paraso 2.69 11 *e*P **Pn 17 23 17.9 +0.7**
PAC1 Pacto, Paraso 2.69 11 P **Pn 17 23 17.0 -0.2**
CAYR Refugio Cayamb 2.73 29 P **Pn 17 23 20.0 +1.9**
OTAV Otavalo 2.75 19 Pn **Pn 17 23 19.3 +1.0**
OTAV Otavalo 2.75 19 *e*P **Pn 17 23 19.1 +0.8**
OTAV *i* P **Pn 17 23 19.5 +1.2**
CUSE Cuicocha Este 2.83 19 *e*P **Pn 17 23 20.9 +1.5**
CUSE Cuicocha Este 2.83 19 P **Pn 17 23 20.0 +0.6**
REVS Reventador Sur 2.84 37 P **Pn 17 23 20.0 +0.8**
CUIC Cuicocha-Domo 2.84 20 P **Pn 17 23 20.0 +0.5**
CONE Cono NE Rev Vo 2.85 36 P **Pn 17 23 20.0 +0.5**
REVN San Rafael 2.86 36 P **Pn 17 23 20.0 +0.5**
IMBA Imbabura, San 2.88 23 P **Pn 17 23 21.0 +1.0**
COTA Cotacachi 2.88 20 P **Pn 17 23 22.0 +1.9**
URCU Urcuqui 3.01 21 P **Pn 17 23 23.0 +1.3**
CASC Dorado de Casc 3.20 38 P **Pn 17 23 25.0 +1.0**
PTGL Punta Galera 3.23 347 *e*P **Pn 17 23 24.8 +0.4**
PTGL Punta Galera 3.23 347 P **Pn 17 23 24.0 -0.3**
LNGL El Angel-Carch 3.38 23 P **Pn 17 23 28.0 +1.2**
TULM Tulcn-Chalpat 3.45 27 *e*P **Pn 17 23 28.2 +0.5**
TULM Tulcn-Chalpat 3.45 27 P **Pn 17 23 29.0 +1.3**
ECEN Cerro Negro 3.47 23 P **Pn 17 23 30.0 +2.0**
CHL2 Volc¡n Chiles 3.47 24 P **Pn 17 23 29.0 +1.0**
GCUF Volcan Galeras 4.10 29 *e*P **Pn 17 23 38.5 +2.0**
CCUFI Cufio, Nario 4.10 29 *e*P **Pn 17 23 39.8 +3.3**
TUMC Tumaco 4.23 8 **Pn 17 23 38.7 +0.9**
TUMC Tumaco 4.23 8 *e*P **Pn 17 23 35.9 -2.0**
ATAH Atahualpa 4.80 169 P **Pn 17 23 48.7 +2.7**
26nm,0.3s,baz=9.3,slow=9.9,SNR=129
ATAH S **Sn 17 24 39.4 -1.3**
22nm,0.3s,baz=0.1,slow=15,SNR=2.2
BBAC Balboa, Cauca 4.85 25 *e*P **Pn 17 23 47.2 +0.7**
PTLC Puerto Leguiza 5.19 61⇑ *e*P **Pn 17 23 46.4 -4.6**
SOTA Rioblanco 5.25 31 *e*P **Pn 17 23 52.1 -0.1**
PCON Cinco Dias 5.53 32 *e*P **Pn 17 23 58.8 +2.9**
POPC Popayan, Colom 5.57 28 *e*P Pn 17 23 49.7 -6.6
GARC Garzon, Huila 5.95 40 *e*P **Pn 17 24 01.4 -0.1**
MARP Paez Belalcaza 6.19 33 *e*P **Pn 17 24 05.5 +0.7**
BETC Betania 6.36 38 *e*P **Pn 17 24 08.4 +1.5**
YOTC Yotoco, Valle 7.00 25⇑ *e*P **Pn 17 24 13.2 -2.4**
MACC Macarena, Meta 7.09 51 *e*P **Pn 17 24 16.7 -0.1**
ORTC Ortega, Tolima 7.47 33 *e*P **Pn 17 24 24.1 +2.1**
PRAC Prado 7.51 36 *e*P **Pn 17 24 23.5 +0.9**
PLMC San Jos del P 7.86 23 *e*P **Pn 17 24 23.3 -4.1**
ANIL Santa Ana 7.88 30 *e*P **Pn 17 24 27.6 -0.3**
TOLC Tolima 8.00 30 *e*P **Pn 17 24 27.8 -1.7**
VILC Villavicencio, 8.57 41 *e*P **Pn 17 24 40.4 +3.4**
CHIC Chingaza 8.94 39 *e*P **Pn 17 24 42.9 +0.5**
TBTG Tabatinga, AM 9.57 101 *e*P **Pn 17 24 47.0 -3.6**
NNA Nana 9.85 166 P **Pn 17 24 55.3 +0.8**
24nm,0.3s,baz=330,slow=12,SNR=21
NNA S **Sn 17 26 42.8 -0.5**
23nm,0.3s,baz=227,slow=18,SNR=10
NNA LR LR 17 29 33.3
comp=Z,54nm,19.5s,baz=340,slow=42
NNA Nana 9.85 166 Pn **Pn 17 24 55.1 +0.7**
NNA **Sn 17 26 42.9 -0.4**
DBBC Dabeiba 9.85 18 *e*P **Pn 17 24 56.3 +1.8**
RUSC La Rusia 10.32 37 Pn Pn 17 24 54.9 -6.4
PAYG Puerto Ayora 11.09 279 Pn Pn 17 25 16.6 +5.3
DRK0 Durika 12.22 341 **Pn 17 25 28.2 +1.5**
PEZE Perez Zeledon, 12.47 340 **Pn 17 25 32.2 +2.1**
JTS Las Juntas de 13.79 336 P **P 17 25 52.1 -0.7**
0.5nm,0.3s,baz=88,slow=23,SNR=1.9
JTS Las Juntas de 13.79 336 **P 17 25 54.4 +1.6**
ETMB Extrema 14.97 120 *e*P **Pn 17 25 58.5 -4.2**
ESPN Las Esperanzas 15.31 341 P **P 17 26 09.1 -0.6**
ESPN IAmb IAmb 17 26 13.5
comp=Z,29nm,1.0s
LPAZ La Paz 17.67 142 P **Pn 17 26 37.6 +0.9**
comp=Z,0.3nm,0.3s,baz=333,slow=13,SNR=11
LPAZ La Paz 17.67 142 P **P 17 26 36.4 -0.1**
LPAZ La Paz 17.67 142 *e*P **P 17 26 31.1 -5.3**
MNMC Minye Minye 19.17 151 P **Pn 17 26 54.3 -0.1**
PCRV Puerto La Cruz 19.23 49 P **P 17 26 52.5 -0.5**
comp=Z,0.3nm,0.3s,baz=273,slow=1.9,SNR=2.1
MTO3 Montecristo 19.42 329 P **Pn 17 26 58.0 +0.8**
MTO3 IAmb IAmb 17 26 58.9
comp=Z,19nm,0.8s
PTGA Pitinga 19.42 85 P **P 17 26 51.6 -3.4**
comp=Z,4.6nm,0.3s,baz=272,slow=10,SNR=45
PTGA Pitinga 19.42 85 **P 17 26 53.9 -1.2**
PTGA IAmb IAmb 17 26 56.1
comp=Z,24nm,0.7s
PB08 IPOC Station P 20.25 151 P **P 17 27 05.2 +0.8**
MTDJ Mount Denham 20.56 5 P **P 17 27 08.9 +1.5**
PB07 IPOC Station P 21.30 155 P **P 17 27 17.7 +2.3**
PB07 IAmb IAmb 17 27 39.3
comp=Z,15nm,0.7s
PB09 IPOC Station P 21.64 154 P **P 17 27 20.6 +1.6**
SIV San Ignacio 22.49 128 P **P 17 27 27.4 -0.6**
comp=Z,3.8nm,0.4s,baz=323,slow=10,SNR=20
LVC Limon Verde 22.50 154 P **P 17 27 30.6 +2.3**
LVC IAmb IAmb 17 27 53.0
comp=Z,38nm,1.6s
TOSP Speyside 23.11 54 P **P 17 27 31.6 -2.6**
MLPR Magueyes Islan 23.57 30 P **P 17 27 36.8 -1.6**
MLPR IAmb IAmb 17 27 46.2
comp=Z,16nm,0.8s
ITTB Itaituba 23.63 95 *e*P **P 17 27 38.0 -1.1**
MPR Mayaguez 23.73 30 P **P 17 27 39.7 -0.1**
MPR IAmb IAmb 17 27 53.2
comp=Z,32nm,1.1s
PTLB Pontes e Lacer 23.75 124 *e*P **P 17 27 39.2 -0.9**
OBIP Obispado Ponce 23.86 31 P **P 17 27 41.1 +0.2**
OBIP IAmb IAmb 17 27 44.3
comp=Z,16nm,0.9s
AOPR Arecibo Observ 24.04 30 P **P 17 27 42.8 +0.2**
PDPR Patillas Dam, 24.15 32 P **P 17 27 43.7 +0.2**
PDPR IAmb IAmb 17 27 45.9
comp=Z,19nm,0.8s
SJG San Juan 24.16 32 P **P 17 27 43.5 -0.1**
comp=Z,22nm,0.7s,baz=219,slow=8.8,SNR=8.4
SJG San Juan 24.16 32 P **P 17 27 43.2 -0.3**
SJG IAmb IAmb 17 27 44.8
comp=Z,25nm,0.8s
NPGB Novo Progresso 24.32 102 *e*P **P 17 27 44.1 -1.2**
HUMP Col San Antoni 24.34 33 P **P 17 27 45.2 -0.1**
GCPR Guaynabo City 24.35 32 P **P 17 27 44.3 -1.1**
CBYP Canovanas 24.44 32 P **P 17 27 42.1 -4.2**
MTP Monte Pirata 24.46 33 P **P 17 27 45.4 -1.1**
MTP IAmb IAmb 17 27 48.1
comp=Z,21nm,0.7s
CMIG Matias Romero 24.71 322 P **P 17 27 50.2 +1.5**
comp=Z,5.6nm,0.8s,baz=89,slow=23,SNR=5.8
CUPR Culebra, Puert 24.78 33 P **P 17 27 48.3 -1.0**
CUPR IAmb IAmb 17 27 52.0
comp=Z,15nm,0.8s
CLDB Colider 24.82 111 *e*P **P 17 27 49.5 -0.3**
STVI Saint Thomas 25.00 34 P **P 17 27 50.0 -1.3**
STVI IAmb IAmb 17 28 08.4
comp=Z,18nm,0.9s
MALB Monte Alegre 25.05 89 *e*P **P 17 27 51.4 -0.5**
SALV Santo Antonio 26.87 121 *e*P **P 17 28 08.2 -0.1**
MCPB Macapa, AP 27.33 86 *e*P **P 17 28 11.7 -0.8**
MDP Montagnes des 27.68 74 P **P 17 28 13.9 -1.6**
comp=Z,9.8nm,0.5s,baz=256,slow=8.8,SNR=16
PP1B Ponte de Pedra 28.36 124 *e*P **P 17 28 20.0 -1.5**
AQDB Aquidauana 29.23 130 P **P 17 28 28.5 -0.7**
AQDB Aquidauana 29.23 130 *e*P **P 17 28 28.7 -0.5**
SNDB Serra Nova Dou 29.36 110 *e*P **P 17 28 30.3 -0.3**
PRPB Paraauapebas 29.66 98 *e*P **P 17 28 32.3 -0.9**
ARAG Araguaiana, MT 30.16 118 *e*P **P 17 28 36.4 -1.1**
TMAB Tom-Au,PA,Br 31.20 91 *e*P **P 17 28 46.7 0.0**
SMTB Santa Maria do 32.21 103 *e*P **P 17 28 55.6 -0.1**
PEXB Peixe 32.22 109 *e*P **P 17 28 55.5 -0.2**
TRCB Terra Rica 32.89 130 *e*P **P 17 28 59.0 -2.5**
BDFB Brasilia 33.54 115 P **P 17 29 06.5 -0.8**
comp=Z,1.2nm,0.4s,baz=195,slow=12,SNR=3.6
BDFB Brasilia 33.54 115 IAmb IAmb 17 29 14.5
comp=Z,16nm,1.7s
IPMB Ipameri, GO 34.22 119 *e*P **P 17 29 12.4 -0.8**
ROSB Rosrio 35.16 92 *e*P **P 17 29 20.3 -0.9**
152A Waverly Hall 35.24 352 P **P 17 29 21.1 -0.6**
152A IAmb IAmb 17 29 22.7
comp=Z,12nm,1.1s
BB19B Bebedouro 35.27 124 *e*P **P 17 29 20.9 -1.3**
SDBA SAO DESIDERIO 35.51 108 *e*P **P 17 29 23.6 -0.6**
Z51A Franklin 35.94 352 P **P 17 29 26.4 -1.2**
Z51A IAmb IAmb 17 29 27.9
comp=Z,6.4nm,0.9s

LRAL Lakeview Retre 35.97 349 P **P 17 29 27.4 -0.5**
LRAL IAmb IAmb 17 29 28.7
comp=Z,13nm,1.2s
RCLB Rio Claro- Sao 36.73 125 *e*P **P 17 29 32.7 -1.9**
JANB Januaria 36.75 112 *e*P **P 17 29 34.0 -0.8**
CPSB Cacapava Do Su 37.11 141 *e*P **P 17 29 37.8 +0.1**
FPAL Fort Paine 37.21 351 P **P 17 29 36.8 -1.7**
FPAL IAmb IAmb 17 29 38.6
comp=Z,8.8nm,1.3s
Y45A Yeager Farm, C 37.33 346 P **P 17 29 39.2 -0.2**
BG3 Lake Jocassee 37.34 355 P **P 17 29 38.5 -1.0**
MC01 Montes Claros 37.58 115 *e*P **P 17 29 41.5 -0.4**
W50A Signal Mountai 37.81 352 P **P 17 29 43.2 -0.3**
W50A IAmb IAmb 17 29 44.0
comp=Z,9.9nm,1.4s
NBPS Pedro II - PI 37.86 94 *e*P **P 17 29 43.9 -0.4**
SWET Sewanee 37.92 351 P **P 17 29 43.5 -1.0**
SWET IAmb IAmb 17 29 44.5
comp=Z,6.5nm,1.2s
CPCT Cooper Cave 37.96 353 P **P 17 29 44.6 -0.1**
CPCT IAmb IAmb 17 29 45.3
comp=Z,6.4nm,0.8s
PLTB Pedras Altas 37.96 143 *e*P **P 17 29 42.0 -2.9**
JCT Junction City 38.08 331 P **P 17 29 47.2 +1.3**
WHTX Lake Whitney, 38.28 335 P **P 17 29 48.4 +0.9**
V51A Loudon 38.28 353 P **P 17 29 46.8 -0.6**
V51A IAmb IAmb 17 29 47.8
comp=Z,5.7nm,0.8s
DIAM Diamantina, MG 38.35 117 *e*P **P 17 29 48.2 -0.2**
BSCB Bom Sucesso 38.40 121 *e*P **P 17 29 48.5 -0.2**
V48A Smith Brothers 38.58 350 P **P 17 29 49.0 -0.9**
V48A IAmb IAmb 17 29 50.1
comp=Z,13nm,1.2s
TZTN Tazewell 38.93 355 P **P 17 29 52.3 -0.6**
TZTN IAmb IAmb 17 29 52.7
comp=Z,4.1nm,0.7s
PLCA Paso Flores 38.98 169 P **P 17 29 55.1 +1.8**
comp=Z,1.9nm,1.0s,baz=353,slow=7.7,SNR=3.5
PLCA Paso Flores 38.98 169 IAmb IAmb 17 30 19.6
comp=Z,7.7nm,1.3s
MIAR Mount Ida 39.11 341 P **P 17 29 54.5 +0.2**
WVT Waverly 39.14 349 P **P 17 29 52.7 -1.9**
T57A Hurt 39.19 0 P **P 17 29 54.7 -0.3**
T57A IAmb IAmb 17 29 55.4
comp=Z,4.5nm,0.7s
T59A Double "B" Far 39.20 2 P **P 17 29 54.8 -0.2**
T59A IAmb IAmb 17 29 55.9
comp=Z,5.0nm,0.6s
TXAR Lajitas Array 39.22 325 P **P 17 29 57.3 +1.8**
comp=Z,1.2nm,0.8s,baz=142,slow=9.2,SNR=12
TXAR PcP **PcP 17 32 04.1 +1.0**
comp=Z,0.7nm,0.7s,baz=166,slow=5.9,SNR=6.9
TXAR Lajitas Array 39.22 325 P **P 17 29 56.9 +1.4**
NBMO Morrinhos-CE 39.24 92 *e*P **P 17 29 55.1 -0.7**
Z35A Perchaven, San 39.36 336 P **P 17 29 57.6 +1.1**
WHAR Wooly Hollow 39.40 343 P **P 17 29 55.9 -0.9**
WHAR IAmb IAmb 17 29 57.4
comp=Z,6.8nm,0.9s
X37A Clayton 39.76 339 P **P 17 30 00.6 +0.8**
X37A IAmb IAmb 17 30 02.1
comp=Z,18nm,1.6s
NBPB Pedra_Branca-C 39.76 96 *e*P **P 17 29 59.2 -1.0**
W39A Magazine 39.77 341 P **P 17 30 00.3 +0.5**
W39A IAmb IAmb 17 30 01.5
comp=Z,6.4nm,0.8s
ABTX Abilene, Hawle 39.78 333 P **P 17 30 01.4 +1.4**
ABTX IAmb IAmb 17 30 02.6
comp=Z,10nm,0.8s
LCAR Lake Charles 39.83 345 P **P 17 29 59.5 -0.8**
LCAR IAmb IAmb 17 30 00.5
comp=Z,7.4nm,0.8s
T47A Sharon Grove 39.84 350 P **P 17 29 58.9 -1.5**
T47A IAmb IAmb 17 29 60.0
comp=Z,8.1nm,1.1s
LOOK Love County 39.91 337 P **P 17 30 02.1 +1.1**
U40A Yellville 40.56 343 P **P 17 30 05.9 -0.5**
U40A IAmb IAmb 17 30 07.2
comp=Z,7.6nm,0.8s
NBMA Muriti-CE 40.70 98 *e*P **P 17 30 06.8 -1.1**
X34A Smith Ranch, M 40.70 336 P **P 17 30 09.2 +1.6**
SJMB Sao Joao De Ma 40.71 116 *e*P **P 17 30 06.8 -1.0**
R50A Paris 40.73 354 P **P 17 30 06.7 -1.0**
RHAR Hobbs 40.82 342 P **P 17 30 08.2 -0.3**
GDU01 Guandu, BA 40.86 108 *e*P **P 17 30 08.6 -0.6**
DUB01 Friburgo-RJ 40.88 122 *e*P **P 17 30 08.2 -1.1**
USIN University of 40.89 350 P **P 17 30 07.8 -1.2**
WCI Wyandotte Cave 40.93 352 P **P 17 30 07.8 -1.6**
S44A Carbondale 40.93 348 P **P 17 30 08.3 -1.1**
S44A IAmb IAmb 17 30 09.7
comp=Z,12nm,1.2s
SIUC Southern Illin 40.94 348 P **P 17 30 08.4 -1.1**
SIUC IAmb IAmb 17 30 09.3
comp=Z,14nm,1.1s
NBCL Cascavel-CE 41.00 94 *e*P **P 17 30 09.6 -0.7**
BSFB Barra de Sao F 41.05 116 *e*P **P 17 30 10.2 -0.5**
MGMO Mountain Grove 41.14 344 P **P 17 30 10.6 -0.5**
MGMO IAmb IAmb 17 30 11.7
comp=Z,6.8nm,0.8s
WMOK Wichita Mounta 41.20 335 P **P 17 30 12.3 +0.6**
WMOK IAmb IAmb 17 30 13.6
comp=Z,7.9nm,0.9s
NBIT Itapeh - BA 41.27 110 *e*P **P 17 30 11.7 -0.7**
CMC01 Camacan, BA 41.29 111 *e*P **P 17 30 12.1 -0.5**
CAM01 Campos-RJ 41.39 121 *e*P **P 17 30 13.3 -0.2**
OK031 S. Brethren Rd 41.51 338 P **P 17 30 14.3 +0.2**
OK029 Liberty Lake 41.60 338 P **P 17 30 15.1 +0.2**
RIB01 Linhares ES 41.61 117 *e*P **P 17 30 14.5 -0.8**
QUOK Quay 41.65 339 P **P 17 30 15.9 +0.6**
OLIL Olney 41.71 350 P **P 17 30 14.6 -1.2**
OLIL IAmb IAmb 17 30 15.2
comp=Z,11nm,0.8s
CCM Cathedral Cave 41.73 346 P **P 17 30 14.1 -1.8**
MNTX Cornudas Mount 41.98 326 P **P 17 30 18.6 +0.5**
Q44A Meyer Farm, Va 42.05 349 P **P 17 30 16.7 -1.8**
Q44A IAmb IAmb 17 30 18.4
comp=Z,10nm,1.1s
T35A Sooner Cattle 42.25 339 P **P 17 30 20.8 +0.6**
T35A IAmb IAmb 17 30 22.1
comp=Z,12nm,1.0s
MVL Millersville 42.27 3 P **P 17 30 18.0 -2.3**
MVL IAmb IAmb 17 30 21.6
comp=Z,7.6nm,0.8s
MSTX Muleshoe 42.38 331 P **P 17 30 22.3 +0.9**
CROK Carrier 42.42 338 P **P 17 30 22.3 +0.7**
NBLV Livramento - P 42.52 98 *e*P **P 17 30 22.9 0.0**
LUPA Lehigh Univers 42.94 4 P **P 17 30 25.9 +0.3**
LUPA IAmb IAmb 17 30 27.2
comp=Z,10nm,0.9s
N59A State Game Lan 43.22 4 P **P 17 30 28.6 +0.6**
N59A IAmb IAmb 17 30 29.4
comp=Z,8.9nm,0.7s
NBAN Anadia - AL 43.38 101 *e*P **P 17 30 29.3 -0.4**
M57A Sunshine Farm, 43.57 2 P **P 17 30 31.2 +0.5**
M57A IAmb IAmb 17 30 31.9
comp=Z,9.1nm,0.7s
HDIL Hopedale 43.70 349 P **P 17 30 30.2 -1.6**
121A Cookes Peak, D 43.96 325 P **P 17 30 36.6 +2.4**
R32A Long Quarter, 44.38 338 P **P 17 30 38.7 +1.3**
NBRF Rio Formoso - 44.40 100 *e*P **P 17 30 37.5 -0.4**
BINY Binghamton 44.48 4 P **P 17 30 38.2 +0.2**
BNM Barren Site 44.51 327 P **P 17 30 40.2 +1.5**
LENM Lemitar 44.71 327 P **P 17 30 42.9 +2.7**
ANMO Albuquerque 45.02 328 P **P 17 30 44.2 +1.5**
ANMO IAmb IAmb 17 30 45.5
comp=Z,8.5nm,1.0s
TUC Tucson 45.60 322 P **P 17 30 48.9 +1.7**
T25A Trinidad 45.72 332 P **P 17 30 49.9 +1.7**
T25A IAmb IAmb 17 30 52.0
comp=Z,16nm,1.6s
J59A Piesco 45.85 5 P **P 17 30 48.7 -0.2**
J59A IAmb IAmb 17 30 49.5
comp=Z,7.3nm,0.7s
SCIA State Center 45.86 346 P **P 17 30 48.6 -0.3**
SDCO Great Sand Dun 46.72 331 P **P 17 30 57.7 +1.6**
WUAZ Wupatki 48.17 324 P **P 17 31 09.5 +2.2**
ECSD EROS Data Cent 48.47 343 P **P 17 31 08.6 -0.6**
ECSD IAmb IAmb 17 31 09.5
comp=Z,6.0nm,1.1s
PV12 Saucer Basin, 48.81 329 P **P 17 31 13.5 +1.3**
SHPR Sheep Range 51.09 323 P **P 17 31 31.5 +2.0**
SHPR IAmb IAmb 17 31 32.6
comp=Z,5.7nm,1.3s
GSC Goldstone, Bar 51.34 320 P **P 17 31 33.2 +2.0**

GSC IAmb IAmb 17 31 34.5
comp=Z,7.3nm,1.4s
TPNV Topopah Spring 52.04 322 P **P 17 31 38.8 +2.2**
SPR3 Spring Creek 3 52.28 326 P **P 17 31 38.9 +0.4**
PDAR Pinedale Array 52.58 332 P **P 17 31 41.2 +0.7**
comp=Z,0.8nm,0.5s,baz=126,slow=10,SNR=8.5
NVAR Mina Array Bea 54.24 322 P **P 17 31 54.8 +2.1**
comp=Z,1.4nm,0.7s,baz=132,slow=6.7,SNR=11
NVAR pP **pP 17 32 14.6 -0.1**
comp=Z,1.1nm,0.7s,baz=132,slow=7.7,SNR=5.7
NVAR sP **sP 17 32 25.4 +0.7**
comp=Z,1.3nm,0.7s,baz=133,slow=7.7,SNR=6.4
NVAR Mina Array Bea 54.24 322 P **P 17 31 53.9 +1.2**
ULM Lac du Bonnet 54.33 347 P **P 17 31 51.8 -1.1**
comp=Z,4.5nm,0.5s,baz=170,slow=7.8,SNR=5.2
ULM Lac du Bonnet 54.33 347 IAmb IAmb 17 31 52.7
comp=Z,5.1nm,0.6s
EGMT Eagleton 56.80 336 P **P 17 32 11.0 +0.3**
EGMT pP **pP 17 32 32.0 -0.9**
EGMT sP **sP 17 32 40.6 -2.2**
EGMT PcP **PcP 17 33 08.8 +3.3**
ORV Oroville 56.90 322 P **P 17 32 13.5 +2.1**
ORV IAmb IAmb 17 32 14.5
comp=Z,6.9nm,1.1s
ORV pP **pP 17 32 35.2 +1.6**
ORV sP **sP 17 32 44.4 +0.8**
WVOR Wild Horse Val 57.01 326 P **P 17 32 13.1 +0.8**
WVOR IAmb IAmb 17 32 14.5
comp=Z,5.7nm,1.1s
WVOR **pP 17 32 35.1 +0.5**
I07A Izee 58.57 327 P **P 17 32 24.0 +0.8**
I07A IAmb IAmb 17 32 26.3
comp=Z,5.2nm,1.2s
F10A Beach Ranch, E 58.66 330 P **P 17 32 24.5 +0.7**
G08A Pilot Rock 59.08 328 P **P 17 32 27.8 +1.0**
G08A IAmb IAmb 17 32 28.9
comp=Z,4.0nm,1.0s
WALA Waterton Lakes 59.34 334 P **P 17 32 29.4 +0.8**
WALA IAmb IAmb 17 32 30.0
comp=Z,5.6nm,0.8s
NEW Newport 60.22 332 P **P 17 32 35.0 +0.6**
YKA Yellowknife Ar 70.00 343 P **P 17 33 37.0 -0.3**
comp=Z,2.1nm,0.8s,baz=136,slow=6.1,SNR=17
DLBC Dease Lake 72.69 335 P **P 17 33 54.9 +1.2**
LIC Lamto 74.67 83 *e*P **P 17 34 06.3 +0.1**
comp=Z,24nm,1.2s
TIC Toumodi 74.71 82 *e*P **P 17 34 09.6 +3.2**
DBIC Dimbokro 74.87 82 P **P 17 34 06.0 -1.3**
KIC Kosan Boka 74.96 83 *e*P **P 17 34 08.3 +0.4**
comp=Z,12nm,0.6s
INK Inuvik 79.70 342 P **P 17 34 33.3 +0.1**
ESDC Sonseca Array 80.30 49 P **P 17 34 37.3 +0.2**
comp=Z,0.9nm,0.9s,baz=257,slow=6.4,SNR=5.2
ESDC Sonseca Array 80.30 49 IAmb IAmb 17 34 38.6
comp=Z,1.5nm,1.1s
EGAK Eagle 80.52 337 P **P 17 34 38.2 +0.5**
TORD Torodi Ar. Bea 81.80 76 P **P 17 34 44.5 -1.1**
comp=Z,1.0nm,0.6s,baz=282,slow=5.7,SNR=6.3
ILAR Eielson Array 82.76 336 P **P 17 34 49.5 0.0**
comp=Z,1.0nm,0.5s,baz=124,slow=4.6,SNR=11
ILAR PP **PP 17 38 02.4 +1.8**
comp=Z,0.7nm,0.9s,baz=112,slow=7.1,SNR=8.5
BPAW Bear Paw Mtn. 84.21 335 P **P 17 34 57.2 +0.3**
BPAW IAmb IAmb 17 34 58.0
comp=Z,6.2nm,0.8s
PPLA Purkeypile 84.38 334 P **P 17 34 58.1 +0.1**
MLY Manley 84.40 336 P **P 17 34 58.1 +0.2**
ZALV Zalesovo Beam 126.98 12 PKP **PKPdf 17 41 29.5 +0.3**
comp=Z,0.5nm,0.4s,baz=326,slow=1.9,SNR=2.8
MKAR Makanchi Array 132.96 17 PKP **PKPdf 17 41 40.6 -0.3**
comp=Z,0.1nm,0.5s,baz=41,slow=2.7,SNR=1.8
SONM Songino Array 134.46 355 PKP **PKiKP 17 41 45.1 -0.1**
comp=Z,0.2nm,0.4s,baz=5.7,slow=2.9,SNR=1.9
KSRS Korea Array 137.05 328 PKP **PKPdf 17 41 49.2 +0.5**
comp=Z,0.5nm,0.7s,baz=7.4,slow=1.4,SNR=1.9
ASAR Alice Springs 138.57 229 PKP **PKPdf 17 41 51.2 -0.9**
comp=Z,0.4nm,0.8s,baz=98,slow=1.9,SNR=4.1
XAN Xi'an 147.58 347 PKPbc **PKPdf 17 42 06.1 -1.5**
XAN pPKP PKiKP 17 42 12.4 0.0

IDC 11 17:35:40.0±1.3, 1°.08N×123°.77E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/41, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/41, Error ellipse: s-maj=75.4km s-min=20.7km az=71.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32 154**		P	P	17 40 50.0	+0.1
6.2nm,0.6s,baz=336,slow=10.0,SNR=50							
ASAR	**Alice Springs**	**26.50 159**		P	P	17 41 19.0	-0.3
0.4nm,0.4s,baz=336,slow=7.0,SNR=34							
SONM	**Songino Array**	**48.95 345**		P	P	17 44 28.9	+0.6
0.3nm,0.5s,baz=161,slow=9.2,SNR=2.0							
MKAR	**Makanchi Array**	**58.11 328**		P	P	17 45 34.4	-1.0
0.5nm,0.6s,baz=114,slow=8.4,SNR=3.0							
PETK	**Petropavlovsk-**	**59.00 23**		P	P	17 45 42.1	+0.6
0.7nm,0.8s,baz=198,slow=5.3,SNR=1.9							
PETK				LR	LR	18 13 31.1	
comp=Z,15nm,18.4s,baz=141,slow=38							

*IDC **11** 17:37:02.3±0.8, 37°.80N×142°.12E, h0km, mb3.7/10, mb1 3.9/14, mb1mx3.7/53, mbtmp3.7/14, ML3.7/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/34, Error ellipse: s-maj=21.7km s-min=15.8km az=109.0*
*JMA **11** 17:37:06.2±0.1, 37°.86N×141°.98E, h35km±1km, M3.9*
JMA Felt II J1.
*NIED **11** 17:37:06.2, 37°.86N×141°.98E, h35km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.27; $M_{\theta\theta}$1.40; $M_{\phi\phi}$1.86; $M_{r\theta}$2.31; $M_{\theta\phi}$-4.81; $M_{\phi r}$1.68; Fault plane solution: $M_0$6.26000×10^{14} NP1: ϕ_s281.00000°, δ62.00000°, λ-143.00000°. NP2: ϕ_s172.00000°, δ58.00000°, λ-34.00000°.*

ISC 11 17:37:04.4±1.8, 37.84N±0°.04×142°.06E±0°.06, h14km±11km, n38, σ1§17/49, mb3.5/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.66 315**		P	**Pn**	**17 37 18.3**	**-1.1**
JIKH				S	**Sb**	**17 37 26.5**	**-0.3**
JIO	**Ouri**	**0.83 317**		P	**Pg**	**17 37 20.8**	**+0.3**
JIO				S	**Sb**	**17 37 30.9**	**-0.7**
JMST	**Minamisoumatoc**	**0.94 263**		P	**Pg**	**17 37 22.1**	**-0.5**
JMST				S	**Sb**	**17 37 33.2**	**-1.5**
JMM	**Marumori**	**1.01 272**		P	**Pn**	**17 37 23.3**	**-0.8**
JMM				S	**Sb**	**17 37 35.2**	**-1.5**
JFK	**Kawauchi**	**1.06 244**		P	**Pb**	**17 37 23.8**	**-0.7**
JFK				S	**Sb**	**17 37 36.5**	**-1.7**
JKMT	**Kesennumamotoy**	**1.07 335**		P	**Pb**	**17 37 24.3**	**-0.4**
JKMT				S	**Sb**	**17 37 36.7**	**-1.9**
JOU	**Okura**	**1.22 296**		P	**Pb**	**17 37 26.9**	**-0.4**
JOU				S	**Sb**	**17 37 41.9**	**-1.0**
JMK	**Ichinoseki**	**1.29 329**		P	**Pn**	**17 37 27.6**	**-0.4**
JMK				S	**Sn**	**17 37 42.9**	**-2.1**
JFT	**Otama**	**1.41 257**		P	**Pb**	**17 37 29.9**	**-0.6**
JFT				S	**Sb**	**17 37 47.1**	**-1.2**
JYS	**Shirataka**	**1.62 284**		P	**Pn**	**17 37 32.5**	**-0.1**
JYS				*e*S	**Sn**	**17 37 52.4**	**-0.9**
JYK	**Kaneyama**	**1.72 309**		P	**Pn**	**17 37 33.8**	**-0.1**
JYK				S	**Sn**	**17 37 54.2**	**-1.4**
JOM	**Ohasama**	**1.74 340**		P	**Pn**	**17 37 34.1**	**0.0**
JOM				S	**Sn**	**17 37 54.5**	**-1.6**
JRG	**Rokugo**	**1.91 325**		P	**Pn**	**17 37 37.0**	**+0.4**
JRG				S	**Sn**	**17 38 00.8**	**+0.4**
JFY	**Yanaizu**	**1.92 258**		P	**Pn**	**17 37 37.0**	**+0.3**
JFY				S	**Sn**	**17 38 00.1**	**-0.6**
JYA	**Atsumi**	**2.00 293**		P	**Pn**	**17 37 38.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.34 248**		Pn	**Pn**	**17 37 56.6**	**+0.4**
1.6nm,0.3s,baz=68,slow=9.6,SNR=52							
MJAR				Sn	**Sn**	**17 38 37.8**	**+2.1**
0.6nm,0.3s,baz=74,slow=23,SNR=4.7							
MJAR				LR	LR	17 38 48.8	
comp=Z,76nm,18.3s,baz=125,slow=32							
MAT	**Matsushiro**	**3.34 248**		P	**Pn**	**17 37 57.5**	**+1.3**
MAT				*e*S	**Sn**	**17 38 36.0**	**+0.3**
JHJ	**Hachijo jima 2**	**5.07 202**		Pn	**Pn**	**17 38 20.0**	**+0.1**
20nm,0.3s,baz=100,slow=19,SNR=12							
JHJ				Sn	**Sn**	**17 39 15.1**	**-3.1**
33nm,0.3s,baz=266,slow=23,SNR=2.5							
ASAJ	**Asahikawa**	**6.28 4**		Pn	**Pn**	**17 38 36.8**	**+0.3**
1.9nm,0.3s,baz=215,slow=14,SNR=40							
ASAJ				Sn	**Sn**	**17 39 47.5**	**-0.6**

0.5nm,0.3s,baz=322,slow=32,SNR=3.0
ASAJ LR LR 17 41 26.1
comp=Z,60nm,18.6s,baz=174,slow=42
USRK Ussuriysk Ar. 9.91 313 Pn **Pn 17 39 28.3 +2.0**
baz=122,slow=14,SNR=5.2
KSRS Korea Array 11.22 272 Pn **Pn 17 39 47.5 +3.2**
0.1nm,0.3s,baz=85,slow=14,SNR=2.2
KLR Kul'dur 13.60 330 LR LR 17 45 01.3
comp=Z,42nm,19.0s,baz=204,slow=35
SEY Seymchan 25.90 11 P **P 17 42 36.9 +1.4**
0.9nm,0.4s,baz=187,slow=5.6,SNR=5.1
SONM Songino Array 27.77 303 P **P 17 42 52.4 -0.4**
0.8nm,0.8s,baz=108,slow=8.4,SNR=5.0
H11N2 WAKE ISLAND Hy 28.14 123 T T 18 13 09.2
baz=316,slow=75,SNR=349
H11N1 WAKE ISLAND Hy 28.14 123 T T 18 13 10.6
baz=316,slow=75,SNR=218
H11N3 WAKE ISLAND Hy 28.15 123 T T 18 13 16.1
baz=316,slow=75,SNR=238
H11S1 WAKE ISLAND Hy 28.88 125 T T 18 14 08.2
baz=317,slow=76,SNR=43
H11S3 WAKE ISLAND Hy 28.88 125 T T 18 14 05.3
baz=317,slow=76,SNR=70
H11S2 WAKE ISLAND Hy 28.90 125 T T 18 14 14.7
baz=317,slow=76,SNR=32
ZALV Zalesovo Beam 41.76 312 P **P 17 44 53.0 +0.1**
0.5nm,0.5s,baz=97,slow=6.1,SNR=2.2
MKAR Makanchi Array 44.13 302 P **P 17 45 13.1 +0.8**
0.4nm,0.8s,baz=82,slow=10,SNR=3.1
KDAK Kodiak Island 46.15 42 P **P 17 45 27.7 -0.4**
1.3nm,0.6s,baz=283,slow=12,SNR=7.4
ILAR Eielson Array 48.53 33 P **P 17 45 47.2 +0.6**
0.2nm,0.6s,baz=272,slow=6.2,SNR=2.3
WRA Warramunga Arr 57.94 189 P **P 17 46 55.8 -0.4**
2.8nm,0.5s,baz=5.5,slow=7.2,SNR=20
ASAR Alice Springs 61.66 189 P **P 17 47 21.9 +0.1**
0.9nm,0.7s,baz=1.5,slow=5.8,SNR=7.9
AKASG Malin Array Be 73.97 322 P **P 17 48 39.2 +0.1**
0.1nm,0.3s,baz=46,slow=6.2,SNR=2.3
TXAR Lajitas Array 89.22 53 P **P 17 50 00.5 +0.4**
0.1nm,0.6s,baz=291,slow=5.4,SNR=1.8

IDC 11 17:37:22.0±2.9,3°25S×139°24E,h0km,mb3.5/2, mb1 3.8/4,mb1mx3.4/33,mbtmp3.7/4,ML3.8/2,Error ellipse: s-maj=76.6km s-min=30.3km az=80.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**8.31**	**286**	Pn	Pn	17 39 23.9	0.0
	1.2nm,0.3s,baz=126,slow=19,SNR=3.0						
SIJI				Sn	Sn	17 40 53.9	-4.8
	0.3nm,0.3s,baz=116,slow=22,SNR=1.8						
WRA	**Warramunga Arr**	**17.27**	**196**	P	Pn	17 41 23.7	-1.1
	0.4nm,0.3s,baz=16,slow=12,SNR=6.0						
WRA				S	Sn	17 44 23.9	-14
	0.2nm,0.3s,baz=19,slow=24,SNR=2.9						
ASAR	**Alice Springs**	**20.94**	**194**	P	P	17 42 06.8	+0.2
	1.0nm,0.7s,baz=18,slow=10.0,SNR=13						
ASAR				S	S	17 45 52.2	-8.9
	0.9nm,1.0s,baz=12,slow=22,SNR=2.3						
MKAR	**Makanchi Array**	**70.54**	**322**	P	P	17 48 39.1	+0.2
	0.4nm,0.5s,baz=118,slow=6.2,SNR=4.6						

*ISK **11** 17:45:33.5,36°87N×27°01E,h14km, ML2.8/8*
*DDA **11** 17:45:33.6,36°86N×27°00E,h7km±2km, ML2.6*
*ATH **11** 17:45:34.4,36°90N×27°07E,h16km±2km, ML2.8/5, Error ellipse: s-maj=3.1km s-min=0.9km az=177.0*
*THE **11** 17:45:34.1,36°87N×27°02E,h13km±1km, ML2.9/6, Error ellipse: s-maj=1.7km s-min=0.9km az=172.0*

ISC 11 17:45:34.0±0.8,36°87N±0°02×27°01E±0°02,h14km±6km, n44,σ0§56/74,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.12**	**193**	P	**Pg**	**17 45 37.3**	**-0.1**
KOSK				S	**Sg**	**17 45 39.8**	**+0.1**
	15μm,0.4s						
KOSK	**Kos Island**	**0.12**	**193**	PG	**Pg**	**17 45 37.2**	**-0.1**
KOSK				SG	**Sg**	**17 45 39.8**	**+0.1**
NISR	**Nisiros**	**0.28**	**161**	P	**Pg**	**17 45 38.8**	**-1.0**
NISR				S	**Sb**	**17 45 44.9**	**-0.3**
	4μm,0.2s						
NISR	**Nisiros**	**0.28**	**161**	P	**Pg**	**17 45 40.2**	**+0.4**
NISR				S	**Sb**	**17 45 45.0**	**-0.2**
NISR				AML	AML	17 45 45.5	
	comp=E,10433μm,0.3s						
NISR				AML	AML	17 45 45.7	
	comp=N,6705μm,0.1s						
NIS1	**Nisyros Isl.**	**0.30**	**154**	P	**Pg**	**17 45 40.4**	**+0.2**
NIS1	**Nisyros Isl.**	**0.30**	**154**	P	**Pg**	**17 45 40.6**	**+0.4**
NIS1				S	**Sb**	**17 45 45.6**	**-0.4**
NIS1				AML	AML	17 45 46.9	
	comp=E,4836μm,0.1s						
NIS1				AML	AML	17 45 52.7	
	comp=N,5930μm,0.2s						
NIS1	**Nisyros Isl.**	**0.30**	**154**	PG	**Pg**	**17 45 40.5**	**+0.2**
NIS1				SG	**Sg**	**17 45 45.1**	**+0.6**
BODT	**Bodrum**	**0.30**	**51**	P	**Pg**	**17 45 40.3**	**0.0**
BODT				S	**Sg**	**17 45 45.0**	**+0.5**
BODT	**Bodrum**	**0.30**	**51**	PG	**Pg**	**17 45 40.2**	**0.0**
BODT				SG	**Sg**	**17 45 45.1**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.33**	**40**	PG	**Pg**	**17 45 40.6**	**-0.1**
YKAV				SG	**Sg**	**17 45 46.0**	**+0.7**
BDRM	**Kayabasi**	**0.39**	**61**	*i* P	**Pg**	**17 45 41.6**	**-0.3**
BDRM				*i* S	**Sg**	**17 45 47.5**	**+0.2**
BDRM				IAML		17 45 48.0	
	comp=E,630nm,0.7s						
BDRM				IAML		17 45 49.0	
	comp=N,949nm,0.3s						
DAT	**Datca**	**0.47**	**108**	P	**Pg**	**17 45 43.2**	**-0.2**
DAT				S	**Sb**	**17 45 50.5**	**-0.6**
DAT	**Datca**	**0.47**	**108**	*i* P	**Pg**	**17 45 43.2**	**-0.2**
DAT				*i* S	**Sg**	**17 45 50.4**	**+0.6**
DAT				IAML		17 45 51.0	
	comp=E,212nm,0.4s						
DAT				IAML		17 45 54.0	
	comp=N,260nm,0.2s						
DAT	**Datca**	**0.47**	**108**	PG	**Pg**	**17 45 43.1**	**-0.3**
DDIM	**Aydin, Didim**	**0.61**	**17**	*i* P	**Pb**	**17 45 46.4**	**0.0**
DDIM				*i* S	**Sb**	**17 45 55.2**	**+0.3**
DDIM				IAML		17 45 58.0	
	comp=E,754nm,0.5s						
DDIM				IAML		17 45 58.0	
	comp=N,442nm,0.4s						
MLSB	**Milas**	**0.74**	**55**	PG	**Pg**	**17 45 48.3**	**-0.1**
MLSB				SG	**Sb**	**17 45 59.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.84**	**12**	*i* P	**Pb**	**17 45 50.4**	**0.0**
GCAM				*i* S	**Sb**	**17 46 02.4**	**+0.8**
GCAM				IAML		17 46 04.0	
	comp=E,250nm,0.2s						
GCAM				IAML		17 46 07.0	
	comp=N,307nm,0.2s						
SMG	**Samos**	**0.84**	**350**	P	**Pg**	**17 45 50.0**	**-0.4**
SMG				S	**Sb**	**17 46 02.4**	**+0.7**
	comp=N,1μm,0.3s						
SMG	**Samos**	**0.84**	**350**	P	**Pg**	**17 45 50.0**	**-0.4**
SMG				S	**Sg**	**17 46 01.5**	**0.0**
SMG				AML	AML	17 46 05.2	
	comp=N,2752μm,0.4s						
SMG				AML	AML	17 46 05.6	
	comp=E,2803μm,0.3s						
MRSB	**Marmaris-Mugla**	**0.96**	**99**	PG	**Pb**	**17 45 52.5**	**+0.1**
MRSB				SG	**Sn**	**17 46 06.4**	**-0.2**
TURN	**Turunc**	**0.99**	**95**	*i* P	**Pb**	**17 45 52.1**	**-0.8**
TURN				*i* S	**Sn**	**17 46 07.7**	**+0.5**
TURN				IAML		17 46 08.0	
	comp=N,351nm,0.3s						
TURN				IAML		17 46 09.0	
	comp=E,294nm,0.3s						
AYDN	**Tasoluk**	**1.05**	**41**	*i* P	**Pb**	**17 45 53.5**	**-0.4**
AYDN				*i* S	**Sb**	**17 46 07.2**	**-0.3**
AYDN				IAML		17 46 09.0	
	comp=E,90nm,0.3s						
AYDN				IAML		17 46 12.0	
	comp=N,106nm,0.5s						
YER	**Yerkesik**	**1.05**	**75**	P	**Pb**	**17 45 54.0**	**+0.1**
YER				S	**Sb**	**17 46 07.1**	**-0.5**
YER	**Yerkesik**	**1.05**	**75**	PG	**Pb**	**17 45 54.1**	**+0.1**
ARG	**Arkhangelos**	**1.11**	**126**	P	**Pb**	**17 45 54.6**	**-0.3**
ARG				S	**Sb**	**17 46 08.9**	**-0.3**
	comp=N,260nm,0.5s						
ARG	**Arkhangelos**	**1.11**	**126**	P	**Pb**	**17 45 54.6**	**-0.3**
ARG				S	**Sb**	**17 46 08.1**	**-1.1**
ARG				AML	AML	17 46 12.8	
	comp=E,714μm,0.5s						
ARG				AML	AML	17 46 14.7	
	comp=N,385μm,0.5s						
ARG	**Arkhangelos**	**1.11**	**126**	PN	**Pb**	**17 45 54.6**	**-0.3**
MULA	**Mugla, Merkez-**	**1.11**	**70**	*i* P	**Pb**	**17 45 54.7**	**-0.3**
MULA				*i* S	**Sn**	**17 46 11.3**	**+0.9**
MULA				IAML		17 46 14.0	
	comp=N,75nm,0.5s						
MULA				IAML		17 46 18.0	
	comp=E,143nm,0.7s						
DGB	**zmir**	**1.18**	**355**	*i* P	**Pn**	**17 45 55.2**	**-0.8**
DGB				*i* S	**Sb**	**17 46 11.5**	**+0.2**
APE	**Apeiranthos**	**1.20**	**280**	P	**Pb**	**17 45 56.8**	**+0.2**
APE				S	**Sb**	**17 46 10.8**	**-1.2**
	comp=E,252nm,0.4s						
APE	**Apeiranthos**	**1.20**	**280**	P	**Pn**	**17 45 56.4**	**0.0**
APE				S	**Sg**	**17 46 12.9**	**0.0**
APE				AML	AML	17 46 18.1	
	comp=N,560μm,0.2s						
APE				AML	AML	17 46 18.2	
	comp=E,443μm,0.3s						
DALY	**Dalyan (Mula)**	**1.32**	**92**	*i* P	**Pb**	**17 45 58.6**	**+0.2**
DALY				*i* S	**Sg**	**17 46 18.6**	**+2.2**
DALY				IAML		17 46 22.0	
	comp=N,109nm,0.7s						
DALY				IAML		17 46 27.0	
	comp=E,64nm,0.6s						
DALY	**Dalyan (Mula)**	**1.32**	**92**	PN	**Pn**	**17 45 58.1**	**+0.2**
THR8	**Santorini-Mono**	**1.32**	**250**	P	**Pn**	**17 45 58.2**	**+0.3**
THR2	**Thira island,**	**1.34**	**252**	P	**Pg**	**17 46 00.6**	**+0.8**
THR3	**Thira Island,**	**1.38**	**251**	P	**Pg**	**17 46 00.8**	**+0.3**
SNT5	**Nea Kammeni, S**	**1.38**	**251**	P	**Pg**	**17 46 01.1**	**+0.5**
THR6	**Thira Island,**	**1.40**	**249**	P	**Pb**	**17 46 00.3**	**+0.4**
THR5	**Thira Island,**	**1.42**	**252**	P	**Pg**	**17 46 01.4**	**+0.2**
TNSA	**Tinos**	**1.62**	**295**	P	**Pb**	**17 46 03.9**	**+0.2**
CHOS	**Chios island**	**1.69**	**334**	P	**Pn**	**17 46 02.3**	**-0.9**
CHOS				S	**Sn**	**17 46 23.4**	**-1.3**
	comp=E,168nm,0.6s						
CHOS	**Chios island**	**1.69**	**334**	P	**Pn**	**17 46 04.0**	**+0.8**
CHOS				S	**Sb**	**17 46 25.8**	**-0.2**
LAST	**Lasithi**	**2.11**	**217**	P	**Pb**	**17 46 11.7**	**-0.4**
SIGR	**SIGRI**	**2.51**	**339**	P	**Pn**	**17 46 13.6**	**-0.7**

*NEIC **11** 17:57:44.0±2.3,51°19N±0°04×173°77W±0°08,h7km±4km, mb3.8/50,ML3.6/33(AEIC),Error ellipse: s-maj=7.6km s-min=6.3km az=71.0*
*IDC **11** 17:57:44.6±1.0,51°46N×173°87W,h0km,mb3.7/17, mb1 3.9/19,mb1mx3.8/42,mbtmp3.7/19,ML3.5/2,MS3.2/4, Ms1 3.2/4,ms1mx2.7/47, Error ellipse: s-maj=27.7km s-min=16.3km az=165.0*
*AEIC **11** 17:57:49.0±4.7,51°38N±0°07×174°03W±0°07,h15km±3km, Error ellipse: s-maj=10.9km s-min=6.6km az=185.0*

ISC 11 17:57:45.9±0.6,51°37N±0°08×173°88W±0°05,h10km, n119,σ1§50/111,mb3.7/20,MS3.3/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.86**	**347**		**Sn**	**17 58 17.7**	**+1.1**
ATKA	**Atka Island**	**0.86**	**347**		**Pn**	**17 58 04.3**	**+0.3**
KOFP	**Korovin Flat P**	**0.92**	**352**		**Pn**	**17 58 06.0**	**+1.0**
KOKL	**Mount Kliuchef**	**0.98**	**348**		**Pn**	**17 58 06.5**	**+0.8**
KOSE	**Korovin Soutbe**	**0.99**	**354**		**Pn**	**17 58 07.7**	**+1.9**
GSMY	**Great Sitkin M**	**1.52**	**297**		**Pn**	**17 58 13.3**	**+0.2**
GSTR	**Great Sitkin T**	**1.54**	**299**	Pn	**Pn**	**17 58 14.1**	**+0.7**
GSTD	**Great Sitkin T**	**1.57**	**297**		**Pn**	**17 58 14.2**	**+0.3**
GSTD					**Sn**	**17 58 34.6**	**+0.3**
GSSP	**Great Sitkin S**	**1.60**	**298**		**Pn**	**17 58 14.6**	**+0.4**
ADK	**Adak**	**1.82**	**288**	Pn	**Pn**	**17 58 17.1**	**-0.2**
ADK				Sn	**Sn**	**17 58 38.3**	**-2.2**
KIWB	**Kanaga Island**	**2.10**	**285**	Pn	**Pn**	**17 58 21.6**	**+0.6**
KIKV	**Kanaga Island**	**2.12**	**285**		**Pn**	**17 58 22.9**	**+1.6**
KIMD	**Kanaga Island**	**2.13**	**282**		**Pn**	**17 58 22.5**	**+1.0**
KICM	**Kanaga Island**	**2.14**	**286**		**Pn**	**17 58 23.0**	**+1.4**
TAFP	**Tanaga Falls P**	**2.61**	**283**		**Pn**	**17 58 30.0**	**+1.8**
TASE	**Tanaga Southea**	**2.64**	**282**		**Pn**	**17 58 30.3**	**+1.8**
GAEA	**Gareloi East**	**3.07**	**280**		**Pn**	**17 58 36.5**	**+2.2**
NIKH	**Nikolski High**	**3.48**	**61**	Pn	**Pn**	**17 58 40.0**	**-0.1**
CERAA	**Semis' Rag'd T**	**4.05**	**280**		**Pn**	**17 58 50.5**	**+2.7**
OKCE	**Okmok Cone E**	**4.06**	**57**		**Pn**	**17 58 52.1**	**+4.0**
OKRE	**Okmok R'deer P**	**4.11**	**56**		**Pn**	**17 58 52.0**	**+3.3**
OKTU	**Okmok Mt. Tuli**	**4.11**	**58**		**Pn**	**17 58 51.8**	**+3.1**
CEAP	**Semis' Anvil P**	**4.12**	**281**		**Pn**	**17 58 50.7**	**+1.8**
AMKA	**Amchitka**	**4.27**	**273**	Pn	**Pn**	**17 58 49.2**	**-1.7**
LSPA	**Little Sitkin**	**4.74**	**280**		**Pn**	**17 58 58.8**	**+1.5**
LSNW	**Little Sitkin**	**4.77**	**280**		**Pn**	**17 58 59.4**	**+1.6**
MGOD	**Makushin Gods**	**4.92**	**58**		**Pn**	**17 59 02.3**	**+2.5**
MREP	**Makushin Rep't**	**4.99**	**58**		**Pn**	**17 59 03.5**	**+2.7**
MSW	**Makushin Switc**	**5.02**	**57**		**Pn**	**17 59 04.1**	**+2.9**
AKUT	**Akutan**	**5.65**	**57**	Pn	**Pn**	**17 59 09.0**	**-0.8**
SPIA	**Saint Paul Isl**	**6.20**	**19**	Pn	**Pn**	**17 59 20.5**	**+3.1**
SMY	**Shemya**	**7.54**	**285**	Pn	**Pn**	**17 59 33.4**	**-2.3**
SDPT	**Sand Point**	**8.95**	**58**	Pn	**Pn**	**17 59 53.6**	**-1.4**
KDAK	**Kodiak Island**	**13.88**	**54**	Pn	**Pn**	**18 01 01.0**	**-1.5**
	0.7nm,0.3s,baz=8.6,slow=21,SNR=11						
KDAK	**Kodiak Island**	**13.88**	**54**	Pn	**Pn**	**18 01 00.8**	**-1.7**
SVW2	**Sparrevohn**	**14.04**	**39**	Pn	**Pn**	**18 01 04.2**	**-0.4**
RSO	**Redoubt South**	**14.87**	**44**	Pn	**Pn**	**18 01 15.1**	**-1.1**
CNPM	**China Poot**	**15.16**	**49**	Pn	**Pn**	**18 01 19.5**	**-0.3**
BRLK	**Bradley Lake**	**15.41**	**48**	P	**P**	**18 01 26.8**	**-1.1**
BRLK				IAmb	IAmb	18 01 36.2	
	comp=Z,8.9nm,1.3s						
CAPN	**Captain Cook N**	**15.72**	**44**		**P**	**18 01 30.0**	**-1.1**
SKT	**Skwentna**	**16.14**	**40**		**Pn**	**18 01 33.8**	**+1.1**
SEW	**Seward**	**16.21**	**48**	Pn	**Pn**	**18 01 33.0**	**-0.5**
SEW				IAmb	IAmb	18 01 40.8	
	comp=Z,6.5nm,1.0s						
SUA	**Susitna One**	**16.21**	**43**		**Pn**	**18 01 34.8**	**+1.1**
PPLA	**Purkeypile**	**16.39**	**37**		**P**	**18 01 39.0**	**+0.3**
PPLA				IAmb	IAmb	18 01 50.5	
	comp=Z,7.7nm,1.3s						
RC01	**Rabbit Creek A**	**16.48**	**44**	Pn	**Pn**	**18 01 37.1**	**+0.2**
PWL	**Port Wells**	**17.01**	**46**	P	**Pn**	**18 01 42.3**	**-1.3**
PWL				IAmb	IAmb	18 01 49.6	
	comp=Z,4.9nm,0.4s						
KTH	**Kantishna Hill**	**17.23**	**36**	P	**P**	**18 01 48.8**	**+0.8**
KTH				IAmb	IAmb	18 01 50.2	
	comp=Z,7.0nm,1.2s						
SML	**Sawmill**	**17.40**	**43**	P	**P**	**18 01 49.1**	**-0.7**
SML				IAmb	IAmb	18 01 59.5	
	comp=Z,6.0nm,1.2s						
TRF	**Thorofare Moun**	**17.41**	**37**		**P**	**18 01 50.8**	**+0.7**
TRF				IAmb	IAmb	18 02 23.0	
	comp=Z,5.9nm,1.3s						
PEA0B	**Petropavlovsk-**	**17.45**	**287**		**Pn**	**18 01 49.0**	**-0.1**
PETK	**Petropavlovsk-**	**17.45**	**287**	P	**P**	**18 01 50.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=98,slow=14,SNR=6.5						
BPAW	**Bear Paw Mtn.**	**17.52**	**35**	P	**P**	**18 01 50.3**	**-0.8**
RDOG	**Red Dog Mine**	**17.58**	**14**		**Pn**	**18 01 49.4**	**-1.3**
RDOG				IAmb	IAmb	18 02 03.4	
	comp=Z,8.3nm,0.8s						
GLI	**Glacier Island**	**17.58**	**47**	P	**Pn**	**18 01 48.9**	**-1.8**
GLI				IAmb	IAmb	18 02 08.8	
	comp=Z,5.1nm,1.0s						
HIN	**Hinchinbrook I**	**17.70**	**49**	P	**Pn**	**18 01 51.0**	**-1.2**
HIN				IAmb	IAmb	18 02 20.9	
	comp=Z,7.3nm,1.0s						
FID	**Port Fidalgo**	**17.82**	**48**	P	**Pn**	**18 01 51.5**	**-2.3**
FID				IAmb	IAmb	18 01 58.8	
	comp=Z,6.4nm,1.0s						
SCM	**Sheep Creek Mo**	**17.84**	**44**	P	**Pn**	**18 01 54.0**	**-0.1**
SCM				IAmb	IAmb	18 01 56.8	
	comp=Z,6.2nm,0.9s						
BWN	**Browne**	**18.11**	**36**	P	**P**	**18 01 57.9**	**+0.3**
MLY	**Manley**	**18.17**	**32**	P	**P**	**18 01 58.0**	**-0.3**
MLY				IAmb	IAmb	18 02 03.5	
	comp=Z,10nm,1.2s						
KLU	**Klutina**	**18.33**	**46**	P	**Pn**	**18 01 58.1**	**-1.9**
KLU				IAmb	IAmb	18 02 02.6	
	comp=Z,3.5nm,0.4s						
M24K	**Tolsona, Glenn**	**18.45**	**44**	P	**Pn**	**18 01 59.7**	**-1.8**
NEA2	**Nenana**	**18.49**	**35**	P	**P**	**18 02 00.9**	**-0.9**
I23K	**Minto, Yukon-K**	**18.71**	**33**	P	**Pn**	**18 02 05.5**	**+1.0**
I23K				IAmb	IAmb	18 02 12.4	
	comp=Z,4.3nm,0.6s						
BMRM	**Bremner River**	**18.76**	**48**	P	**P**	**18 02 04.5**	**-0.4**
BMRM				IAmb	IAmb	18 02 08.2	
	comp=Z,13nm,1.5s						
WRH	**Wood River Hil**	**18.78**	**36**	P	**P**	**18 02 04.2**	**-0.8**
N25K	**Chitina, Valde**	**18.97**	**46**	P	**P**	**18 02 05.8**	**-1.4**
CCB	**Clear Creek Bu**	**18.98**	**36**	P	**P**	**18 02 06.1**	**-1.0**
MDM	**Murphy Dome**	**19.00**	**34**	P	**P**	**18 02 05.3**	**-2.0**
PAX	**Paxson**	**19.10**	**42**	P	**P**	**18 02 08.1**	**-0.5**
HDA	**Harding Lake**	**19.17**	**37**	P	**P**	**18 02 09.2**	**0.0**
HDA				IAmb	IAmb	18 02 11.3	
	comp=Z,6.0nm,0.8s						
GLB	**Gilahina Butte**	**19.27**	**47**	P	**P**	**18 02 07.9**	**-2.5**
GLB				IAmb	IAmb	18 02 31.5	
	comp=Z,4.6nm,1.1s						
BILL	**Bilibino**	**19.32**	**337**	P	**Pn**	**18 02 12.5**	**+0.6**
BILL				IAmb	IAmb	18 02 18.6	
	comp=Z,11nm,1.2s						
VRDI	**Verde Repeater**	**19.37**	**48**	P	**P**	**18 02 08.6**	**-3.1**
VRDI				IAmb	IAmb	18 02 48.6	
	comp=Z,7.8nm,1.4s						
IL31		**19.38**	**36**	P	**P**	**18 02 11.1**	**-0.4**
ILAR	**Eielson Array**	**19.38**	**36**	P	**P**	**18 02 09.8**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=238,slow=9.3,SNR=19						
ILAR	**Eielson Array**	**19.38**	**36**	P	**Pn**	**18 02 12.1**	**-0.5**
CRQM	**Cirque**	**19.39**	**49**	P	**Pn**	**18 02 13.0**	**+0.1**
CRQM				IAmb	IAmb	18 02 38.6	
	comp=Z,5.8nm,1.0s						
RIDG	**Independent Ri**	**19.68**	**40**	P	**P**	**18 02 14.1**	**-0.7**
RIDG				IAmb	IAmb	18 02 28.8	
	comp=Z,2.7nm,0.6s						
MENT	**Mentasta**	**19.82**	**43**	P	**Pn**	**18 02 16.9**	**-1.0**
DOT	**Dot Lake**	**19.96**	**41**	P	**P**	**18 02 17.4**	**-0.5**
DOT				IAmb	IAmb	18 02 24.1	
	comp=Z,3.0nm,0.6s						
SCRK	**Sand Creek**	**20.12**	**40**	P	**P**	**18 02 19.2**	**-0.6**
L27K	**Beaver Creek,**	**20.67**	**43**	P	**P**	**18 02 23.4**	**-2.2**
BCAR	**Beaver Creek A**	**20.69**	**43**	P	**P**	**18 02 23.9**	**-2.0**
TOLK	**Toolik Lake Re**	**20.89**	**25**	P	**P**	**18 02 27.9**	**-0.1**
SEY	**Seymchan**	**21.36**	**316**	P	**P**	**18 02 34.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=360,slow=21,SNR=2.2						
MA2	**Magadan**	**21.43**	**306**	LR	LR	18 11 33.1	
	comp=Z,23nm,18.2s,baz=86,slow=39						
EGAK	**Eagle**	**21.57**	**39**	P	**P**	**18 02 35.3**	**+0.1**
HYT	**Haines Junctio**	**22.11**	**51**	P	**P**	**18 02 39.9**	**-1.3**
HYT				IAmb	IAmb	18 03 26.5	
	comp=Z,3.8nm,1.3s						
BESE	**Bessie Mountai**	**23.25**	**57**	P	**P**	**18 02 50.0**	**-3.2**
BESE				IAmb	IAmb	18 02 58.0	
	comp=Z,4.4nm,1.2s						
INK	**Inuvik**	**25.73**	**34**	P	**P**	**18 03 16.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=233,slow=7.7,SNR=16						
INK	**Inuvik**	**25.73**	**34**	P	**P**	**18 03 14.9**	**-1.0**
BBB	**Bella Bella**	**27.97**	**70**	P	**P**	**18 03 32.6**	**-3.7**
YAK	**Yakutsk**	**31.74**	**312**	LR	LR	18 17 12.9	
	comp=Z,56nm,18.8s,baz=99,slow=37						
YKA	**Yellowknife Ar**	**32.99**	**47**	P	**P**	**18 04 20.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=279,slow=13,SNR=5.5						
YKA				LR	LR	18 17 30.6	
	comp=Z,50nm,18.1s,baz=0.0,slow=36						
H11N2	**WAKE ISLAND Hy**	**35.01**	**213**	T	T	18 42 36.8	
	baz=21,slow=76,SNR=6.5						
H11N3	**WAKE ISLAND Hy**	**35.02**	**213**	T	T	18 42 36.9	
	baz=21,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**35.03**	**213**	T	T	18 42 37.3	
	baz=21,slow=76,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**36.21**	**212**	T	T	18 43 52.6	
	baz=20,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**36.23**	**212**	T	T	18 43 52.4	
	baz=20,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**36.23**	**212**	T	T	18 44 02.6	
	baz=20,slow=75,SNR=6.5						
USRK	**Ussuriysk Ar.**	**36.35**	**280**	P	**P**	**18 04 50.0**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=58,slow=8.9,SNR=15						
KSRS	**Korea Array**	**42.72**	**274**	P	**P**	**18 05 45.9**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=55,slow=7.6,SNR=2.0						
PDAR	**Pinedale Array**	**43.35**	**75**	P	**P**	**18 05 48.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=330,slow=3.4,SNR=2.6						
SONM	**Songino Array**	**49.38**	**299**	P	**P**	**18 06 35.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=50,slow=7.7,SNR=5.5						
SONM	**Songino Array**	**49.38**	**299**	IAmb	IAmb	18 06 36.5	
	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**55.59**	**85**	P	**P**	**18 07 22.5**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=330,slow=8.3,SNR=3.0						
ARCES	**ARCESS Array B**	**58.58**	**352**	P	**P**	**18 07 41.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=17,slow=6.8,SNR=7.7						
ARCES				PcP	**PcP**	**18 08 32.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=23,slow=4.9,SNR=6.1						
ARCES	**ARCESS Array B**	**58.58**	**352**	IAmb	IAmb	18 07 41.6	
	comp=Z,11nm,1.4s						
MKAR	**Makanchi Array**	**62.41**	**311**	P	**P**	**18 08 08.0**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=46,slow=5.7,SNR=23						
FINES	**FINESS Array B**	**66.41**	**350**	P	**P**	**18 08 33.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=18,slow=7.5,SNR=10						
FINES				PcP	**PcP**	**18 09 03.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=3.2,SNR=5.3						
**NOA

comp=N,21μm,0.6s
MAHB Mahabad 1.29 33 *e* 18 28 25.5
comp=Z,96μm,0.4s
MAHB *e*Pg **Pn** **18 28 03.2 -1.6**
IDHR Dehrash 1.60 127 *e*Pg **Pb** **18 28 11.6 +0.6**
IDHR *e* 18 28 40.7
comp=Z,29μm,0.7s
CUKT Cukurca 1.85 328 *i* P **Pn** **18 28 12.5 0.0**
CUKT *i* S **Sb** **18 28 37.5 -0.6**
CUKT IAML 18 28 45.0
comp=N,6μm,0.7s
CUKT IAML 18 28 45.0
comp=E,9μm,0.9s
CUKT Cukurca 1.85 328 *e*Pn **Pn** **18 28 12.5 0.0**
ILIN Lien 1.90 113 *e*Pn **Pb** **18 28 15.9 -0.2**
YOVA Hakkari_Yksek 1.96 347 *i* P **Pn** **18 28 14.7 +0.6**
YOVA *i* S **Sb** **18 28 40.0 -1.1**
YOVA IAML 18 28 44.0
comp=E,4μm,0.6s
YOVA IAML 18 28 47.0
comp=N,3μm,0.7s
YOVA Hakkari_Yksek 1.96 347 *e*Pn **Pn** **18 28 14.6 +0.6**
IGHG Ghaleghazi 1.96 133 *e*Pn **Pn** **18 28 16.1 +2.0**
IGHG *e* 18 28 59.5
comp=Z,33μm,0.8s
HAKT HAKKARI 2.08 335 *i* P **Pn** **18 28 15.0 -0.8**
HAKT *i* S **Sb** **18 28 43.6 -1.2**
HAKT IAML 18 28 47.0
comp=N,2μm,0.5s
HAKT IAML 18 28 52.0
comp=E,1μm,0.6s
HAKT HAKKARI 2.08 335 *e*Pn **Pn** **18 28 15.0 -0.8**
KER Kermanshah 2.28 124 *e*Pn **Pb** **18 28 21.7 -0.9**
KCHF Cheshme Sefid, 2.29 127 *e*Pn **Pn** **18 28 21.6 +3.0**
KCHF *e* 18 28 30.5
comp=Z,13μm,0.7s
IHSH Hashtrud 2.54 50 *e*Pn **Pn** **18 28 24.1 +1.9**
SIRT Sirnak 2.65 314 **Pn** **18 28 22.7 -0.8**
SIRT Sirnak 2.65 314 *e*Pn **Pn** **18 28 23.4 0.0**
TABZ Tabriz 2.66 26 *e*Pn **Pn** **18 28 23.8 +0.2**
IBDR Badra 2.72 160 *e*Pn **Pn** **18 28 28.0 +3.8**
IBDR *e*Sn **Sb** **18 29 03.0 +0.3**
ITBZ Tabriz 2.76 22 *e*Pn **Pn** **18 28 25.0 0.0**
ITBZ *e* 18 29 11.7
comp=Z,10μm,0.5s
IBZA Bozab 2.76 115 *e*Pn **Pn** **18 28 27.1 +2.0**
IALM Almabolaq 2.85 106 *e*Pn **Pn** **18 28 29.0 +2.7**
AKDM Akdamar-Van 3.03 331 *e*Pn **Pn** **18 28 29.8 +1.0**
IMRD Marand 3.11 13 *e*Pn **Pn** **18 28 31.4 +1.6**
IMRD *e* 18 28 43.1
comp=Z,18μm,0.9s
ISRB Sarab 3.12 46 *e*Pn **Pn** **18 28 32.2 +2.1**
ISRB *e* 18 28 43.3
comp=Z,6μm,0.6s
VANB Van 3.13 339 *e*Pn **Pn** **18 28 30.9 +0.8**
IHRS Heris 3.17 33 *e*Pn **Pn** **18 28 32.3 +1.6**
IHRS *e* 18 29 35.5
comp=Z,16μm,1.0s
MIDY Mardin/Midyat- 3.26 303 *i* P **Pn** **18 28 33.0 +1.2**
MIDY *i* S **Sb** **18 29 18.6 +0.1**
MIDY IAML 18 29 28.0
comp=E,3μm,0.5s
MIDY IAML 18 29 29.0
comp=N,2μm,0.6s
IKFM Kafar-mosalman 3.28 130 *e*Pn **Pn** **18 28 35.4 +3.4**
SRTM Siirt_Merkez 3.28 316 *i* P **Pn** **18 28 32.9 +0.7**
SRTM *i* S **Sb** **18 29 21.6 +2.5**
SRTM IAML 18 29 34.0
comp=N,2μm,0.6s
SRTM IAML 18 29 41.0
comp=E,1μm,0.7s
SRTM Siirt_Merkez 3.28 316 *e*Pn **Pn** **18 28 32.8 +0.7**
IDOB Doab 3.34 123 *e*Pn **Pn** **18 28 35.8 +2.8**
HSAM Samen 3.42 114 *e*Pn **Pn** **18 28 37.4 +3.2**
VMUR Van-Muradiye 3.46 343 *i* P **Pn** **18 28 35.8 +1.2**
VMUR IAML 18 29 40.0
comp=N,409nm,1.1s
VMUR IAML 18 29 41.0
comp=E,341nm,0.9s
VMUR Van-Muradiye 3.46 343 *e*Pn **Pn** **18 28 35.8 +1.2**
CLDR Caldiran 3.54 348 *e*Pn **Pn** **18 28 37.4 +1.7**
QSDN Sirdan 3.61 76 *e*Pn **Pn** **18 28 39.1 +2.3**
DHL1 Dehloran 3.61 145 *e*Pn **Pn** **18 28 39.9 +3.3**
HAGD Aghdareh 3.62 102 *e*Pn **Pn** **18 28 40.5 +3.5**
GURO Guroymak-BITLI 3.64 323 **Pn** **18 28 35.1 -2.0**
MARD Mardin 3.65 298 *i* P **Pn** **18 28 38.0 +0.8**
MARD IAML 18 29 42.0
comp=N,3μm,0.5s
MARD IAML 18 29 42.0
comp=E,2μm,0.7s
SVAN Silvan-Diyarba 3.82 311 *i* P **Pn** **18 28 39.8 +0.3**
SVAN IAML 18 29 48.0
comp=N,511nm,1.0s
SVAN IAML 18 29 58.0
comp=E,365nm,0.8s
BMDN Meydan 3.85 120 *e*Pn **Pn** **18 28 43.5 +3.5**
QABG Abgarm-Qazvin 3.86 88 *e*Pn **Pn** **18 28 43.0 +2.7**
MUSM Mu-Merkez 4.04 320 *i* P **Pn** **18 28 42.9 +0.4**
MUSM IAML 18 29 54.0
comp=E,142nm,0.5s
IRAZ Razeghan 4.16 92 *e*Pn **Pn** **18 28 47.0 +2.7**
GNI Garni 4.46 359 Pn **Pn** **18 28 52.5 +4.0**
comp=E,1.1nm,0.3s,baz=128,slow=17,SNR=2.2
GNI Pg **Pb** **18 29 03.0 +3.2**
comp=E,3.3nm,0.3s,baz=203,slow=2.5,SNR=26
GNI Lg Lg 18 30 05.9
baz=17,slow=20,SNR=1.1
GNI LR LR 18 30 55.6
comp=E,352nm,18.3s,baz=180,slow=43
GNI Garni 4.46 359 P **Pn** **18 28 49.5 +1.1**
GNI Garni 4.46 359 Pn **Pn** **18 28 49.5 +1.1**
NSR Nassriya 4.78 166 *e*Pn **Pn** **18 28 57.0 +4.4**
NSR *e*Sn **Sn** **18 29 54.0 +6.6**
KARS Kars 5.13 345 P **Pn** **18 28 57.3 -0.3**
KARS Kars 5.13 345 Pn **Pn** **18 28 57.3 -0.3**
IQOM Qom 5.17 97 *e*Pn **Pn** **18 29 00.4 +2.2**
IVRN Varamin 5.67 95 *e*Pn **Pn** **18 29 07.6 +2.6**
QAMS Qamsar 5.74 108 *e*Pn **Pn** **18 29 08.6 +2.5**
MALT Malatya 5.76 299 P **Pn** **18 29 09.6 +3.4**
AKH Akhalkalaki 5.82 350 P **Pn** **18 29 08.0 +0.9**
IPIR Pirpir 5.84 119 *e*Pn **Pn** **18 29 10.4 +2.9**
IKLH Kolahrood 6.04 111 *e*Pn **Pn** **18 29 13.2 +2.9**
ISFB Sefidab 6.22 100 *e*Pn **Pn** **18 29 13.5 +1.0**
MIB Mutribah 6.23 160 *e*P **Pn** **18 29 13.0 +0.5**
KRSH Karshahi 6.24 104 *e*Pn **Pn** **18 29 14.0 +1.1**
GAZ Gaziantep 6.33 286 Pn **Pn** **18 29 10.1 -3.8**
RST Umm Al-Ruwaisa 6.42 163 *e*P **Pn** **18 29 15.2 0.0**
IFIR Firoozkooh 6.45 88 *e*Pn **Pn** **18 29 18.5 +2.7**
UMR Umm Al-Rimmam 6.57 158 *e*P **Pn** **18 29 17.2 0.0**
GUDG Gudauri 6.78 358 P **Pn** **18 29 20.9 +0.6**
IZEF Zefreh 6.79 112 *e*Pn **Pn** **18 29 23.9 +3.3**
ISHM Shahmirzad 6.88 86 *e*Pn **Pn** **18 29 25.0 +3.3**
ONI Oni 6.99 352 P **Pn** **18 29 25.6 +2.6**
ONI Oni 6.99 352 Pn **Pn** **18 29 22.2 -0.7**
ZEI Tsey 7.14 354 *e*P Pn 18 29 32.8 +7.6
ZEI pmax pmax
comp=Z,22nm,1.4s
KLNJ Kolanjah 7.32 128 *e*Pn **Pn** **18 29 29.3 +1.4**
IRAM Ramesheh 7.38 119 *e*Pn **Pn** **18 29 29.9 +1.4**
QRN Al-Qurain 7.39 158 *e*P **Pn** **18 29 28.8 +0.3**
GROC Groznyy 7.55 5 *e*P **Pn** **18 29 30.2 -0.4**
GROC S **Sn** **18 30 59.1 +3.6**
GROC pmax pmax
comp=Z,21nm,0.6s
MAK Makhachkala 7.56 15 *e*P **Pn** **18 29 33.7 +2.9**
MAK *e*S **Sn** **18 31 00.6 +4.9**
MAK pmax pmax
comp=Z,178nm,1.5s
MAK MLR MLR
comp=Z,263nm,9.0s
BNN Bunyan 7.83 297 Pn **Pn** **18 29 31.9 -2.8**
KBZ Khabaz 8.18 350 Pn Pn 18 29 44.0 +4.8
comp=Z,0.1nm,0.3s,baz=172,slow=5.3,SNR=4.9
KBZ LR LR 18 32 25.6
comp=Z,48nm,18.7s,baz=152,slow=35
KBZ Khabaz 8.18 350*c*e*P Pn 18 29 44.3 +5.1
KBZ Khabaz 8.18 350 Pn 18 29 44.0 +4.8
MMAI Mount Meron Ar 8.24 254 Pn **Pn** **18 29 41.3 +1.1**
comp=Z,2.7nm,0.3s,baz=80,slow=17,SNR=12
MMAI Lg Lg 18 31 57.5
comp=Z,5.1nm,0.3s,baz=25,slow=24,SNR=2.9
MMAI Mount Meron Ar 8.24 254 **Pn** **18 29 41.3 +1.1**
KVAR Kislovodsk Arr 8.43 349 Pn Pn 18 29 48.0 +5.2
baz=110,slow=12,SNR=2.2
KIV Kislovodsk 8.43 349 *e*P **Pn** **18 29 47.2 +4.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,73nm,10.0s
KIV Kislovodsk 8.43 349 **Pn** **18 29 42.8 0.0**
SOC Sochi 8.82 335 *e*P **Pn** **18 29 49.8 +1.7**
SOC *e* 18 31 29.0
SOC pmax pmax
comp=Z,15nm,0.9s
SOC MLR MLR
comp=Z,179nm,13.0s
GHAJ Ghor Haditha 8.88 243 Pn **Pn** **18 29 48.0 -1.0**
BR131 Keskin Array S 9.75 298 P **Pn** **18 30 00.5 -0.4**
BR131 Keskin Array S 9.75 298 Pn **Pn** **18 30 00.5 -0.4**
BRTR Keskin Array B 9.75 298 Pn **Pn** **18 30 05.5 +4.6**
comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=6.9
BRTR Keskin Array B 9.75 298 *i* P **Pn** **18 30 05.0 +4.1**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 9.75 298 Pn **Pn** **18 30 00.7 -0.2**
EIL Elat 10.26 237 Pn **Pn** **18 30 07.3 -0.5**
comp=Z,0.2nm,0.3s,baz=113,slow=9.3,SNR=2.3
EIL Lg Lg 18 33 07.6
comp=Z,1.0nm,0.3s,baz=82,slow=23,SNR=3.3
EIL LR LR 18 34 53.9
comp=Z,113nm,19.8s,baz=80,slow=42
ANN Anapa 10.72 330 *e*P **Pn** **18 30 14.7 +0.7**
ANN *e*S **Sn** **18 32 15.5 +2.2**
ANN pmax pmax
comp=Z,75nm,1.5s
ANN MLR MLR
comp=Z,208nm,14.0s
GEYT Alibeck 10.88 74 Pn **Pn** **18 30 16.6 +0.2**
comp=Z,0.3nm,0.3s,baz=350,slow=7.6,SNR=1.4
GEYT LR LR 18 35 42.0
comp=Z,38nm,21.7s,baz=200,slow=44
GYA0B ALIBECK ARRAY 10.88 74 **Pn** **18 30 16.7 +0.3**
ELL Elmali 12.11 279 P **Pn** **18 30 34.0 +0.8**
ELL Elmali 12.11 279 Pn **Pn** **18 30 34.0 +0.8**
RAYN Ar Rayn 12.13 177 P Pn 18 30 29.2 -4.3
RAYN Ar Rayn 12.13 177 Pn Pn 18 30 29.2 -4.3
HRA Herat 14.33 90 Pn **Pn** **18 31 02.7 -0.9**
UOSS Minazif 14.51 134 Pn **Pn** **18 31 04.0 -1.9**
SANT Santorini 15.70 278 P **P** **18 31 26.3 +0.7**
HARR Harsova 15.72 310 ⇑P **P** **18 31 26.2 +0.5**
HARR Harsova 15.72 310 ⇑P **P** **18 31 26.2 +0.5**
IDI Anoyia 16.25 274 Pn **P** **18 31 32.7 +0.9**
comp=Z,1.2nm,0.3s,baz=136,slow=24,SNR=3.5
IDI Anoyia 16.25 274 P **Pn** **18 31 29.1 +0.2**
IDI IAmb IAmb 18 31 38.5
comp=Z,58nm,1.1s
BELG Belogornoye 16.83 6 Pn **Pn** **18 31 34.2 -1.8**
comp=Z,0.5nm,0.3s,baz=146,slow=2.0,SNR=5.8
BELG LR LR 18 40 14.7
comp=Z,107nm,18.4s,baz=260,slow=45
BELG Belogornoye 16.83 6 P **Pn** **18 31 34.2 -1.8**
VRI Vrincioaia 17.04 312 ⇑P **P** **18 31 42.1 +1.7**
VRI Vrincioaia 17.04 312 ⇑P **P** **18 31 42.1 +1.7**
WSAR Wadi Sarin 17.24 132 P **Pn** **18 31 37.8 -3.6**
comp=Z,0.7nm,0.3s,baz=338,slow=13,SNR=8.4
MLR Muntele Rosu 17.34 310 ⇓P **P** **18 31 46.2 +2.3**
MLR Muntele Rosu 17.34 310 ⇓P **P** **18 31 46.2 +2.3**
SRS Serrai 17.50 294 P **P** **18 31 48.2 +2.7**
SRS pmax pmax
comp=Z,10.0nm,1.3s
ABKAR Akbulak array 17.51 35 P **Pn** **18 31 43.1 -1.4**
ABKAR Akbulak array 17.51 35 P **Pn** **18 31 42.8 -1.7**
AKTO Aktyubinsk 17.57 29 P **P** **18 31 45.4 -0.9**
comp=Z,0.5nm,0.3s,baz=210,slow=12,SNR=17
SOH Sokhos 17.62 293 P **P** **18 31 50.2 +3.3**
SOH pmax pmax
comp=Z,11nm,1.0s
VOIR 17.88 309 ⇑P **P** **18 31 51.7 +2.0**
VOIR 17.88 309 ⇑P **P** **18 31 51.7 +2.0**
DOPR Dopca 17.91 311 ⇓P **P** **18 31 51.5 +1.5**
VTS Vitosha 18.10 299 ⇑P **P** **18 31 57.4 +5.1**
VTS Vitosha 18.10 299 ⇑P **P** **18 31 57.4 +5.1**
VTS Vitosha 18.10 299 **Pn** **18 31 49.1 -2.9**
LIT Litokhoron 18.17 291 P **Pn** **18 31 52.4 -0.4**
LIT pmax pmax
comp=Z,8.0nm,0.9s
LIT Litokhoron 18.17 291 **Pn** **18 31 52.4 -0.4**
AGG Agios Georgios 18.19 287 P **Pn** **18 31 53.2 +0.1**
AGG pmax pmax
comp=Z,21nm,1.4s
AGG Agios Georgios 18.19 287 P **Pn** **18 31 53.2 +0.1**
ITM Ithomi 18.49 281 **P** **18 31 55.3 -1.1**
ITM IAmb IAmb 18 32 02.8
comp=Z,14nm,0.8s
KMPD K-Podol'skiy 18.69 319 P **P** **18 31 58.0 -0.5**
LOT Lotru 18.70 308 ⇑P **Pn** **18 32 01.6 +2.4**
AKASG Malin Array Be 18.78 328 P **P** **18 31 58.7 -0.8**
comp=Z,0.6nm,0.3s,baz=131,slow=12,SNR=15
AKASG Malin Array Be 18.78 328 P **P** **18 31 57.3 -2.2**
AKBB Malin Array Si 18.78 328*c*e*P **P** **18 31 59.6 +0.1**
AKBB Malin Array Si 18.78 328 P **P** **18 31 57.7 -1.8**
KIEV Kiev 18.78 328 P **Pn** **18 32 00.0 -0.1**
BUR4R Bucovina Array 18.84 315 ⇓P **Pn** **18 32 01.1 +0.2**
BUR4R Bucovina Array 18.84 315 P **P** **18 31 59.2 -1.1**
BUR08 Bucovina Ar. S 18.86 315 P **P** **18 31 58.8 -1.8**
FNA Florina 19.10 293 P **P** **18 32 03.8 +0.6**
FNA pmax pmax
comp=Z,10.0nm,0.8s
FNA Florina 19.10 293 P **P** **18 32 03.8 +0.6**
GZR Gura Zlata 19.32 307 ⇑P **Pn** **18 32 08.0 +1.3**
HERR Herculane 19.37 305 ⇓P **Pn** **18 32 09.2 +2.0**
IGT Igoumenitsa 19.77 289 P **P** **18 32 10.3 -0.2**
IGT pmax pmax
comp=Z,20nm,1.6s
DRGR 19.93 311 ⇓P **Pn** **18 32 13.8 -0.2**
DRGR 19.93 311 ⇓P **Pn** **18 32 13.8 -0.2**
OBN Obninsk 20.26 346 P **P** **18 32 15.1 -0.5**
comp=Z,4.3nm,0.4s,baz=170,slow=8.0,SNR=5.1
OBN LR LR 18 41 06.7
comp=Z,23nm,20.4s,baz=194,slow=40
OBN Obninsk 20.26 346*c*i*P **P** **18 32 16.1 +0.5**
OBN *e*S Sn 18 36 02.3 -2.6
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,121nm,15.0s
OBN Obninsk 20.26 346 P **P** **18 32 14.6 -1.0**
OBN IAmb IAmb 18 32 17.0
comp=Z,18nm,0.9s
SIRR Siria 20.38 308 ⇑P Pn 18 32 18.6 -0.5
PUK Puka 20.40 296 P **P** **18 32 18.3 +0.9**
GAR Garm 20.51 73 P **P** **18 32 17.0 -1.6**
MOS Moscow 20.66 348 *e*P **P** **18 32 17.8 -2.2**
MOS pmax pmax
comp=Z,28nm,0.9s
DIVS Divibare 20.78 301 P **P** **18 32 21.0 -0.5**
DIVS IAmb IAmb 18 32 27.1
comp=Z,14nm,1.2s
BTK Batken 20.94 70 P **P** **18 32 20.2 -3.1**
BTK pmax pmax
comp=Z,11nm,1.3s
BTK Batken 20.94 70 P **P** **18 32 20.1 -3.1**
UZH Uzhgorod 21.04 315 *e*P **P** **18 32 25.0 +0.9**
UZH *e* 18 32 30.8
KK31 Karatay Array 21.13 62 P **P** **18 32 22.8 -2.4**
KK31 pmax pmax
comp=Z,13nm,1.6s
KK31 Karatay Array 21.13 62 P **P** **18 32 22.8 -2.5**
KKAR Karatay Array 21.13 62 P **P** **18 32 23.7 -1.5**
KKAR Karatay Array 21.13 62 P **P** **18 32 23.7 -1.5**
KKAR Karatay Array 21.13 62 P **P** **18 32 23.3 -2.0**
KKAR IAmb IAmb 18 32 45.0
comp=Z,13nm,1.6s
KOLS Kolonicke sedl 21.20 316 *e*P **P** **18 32 27.5 +1.6**
KOLS Kolonicke sedl 21.20 316 *e*P **P** **18 32 27.5 +1.6**
KWP Kalwaria Pacla 21.32 318 P **P** **18 32 23.7 -3.5**
KWP pmax pmax
comp=Z,153nm,0.9s
KWP Kalwaria Pacla 21.32 318 P **P** **18 32 23.7 -3.5**
CRVS Cervenica-Dubn 21.65 315 *e*P **P** **18 32 33.6 +2.8**
CRVS Cervenica-Dubn 21.65 315 *e*P **P** **18 32 33.6 +2.8**
DRK Karamyk 21.67 72 P **P** **18 32 31.6 +0.2**
PSZ Piszkesteto 22.14 311 *e*P **P** **18 32 40.1 +3.9**
PSZ Piszkesteto 22.14 311 P **P** **18 32 34.5 -1.6**
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 22.14 311 **P** **18 32 34.5 -1.6**
MNK Minsk 22.20 333 *i* P **P** **18 32 33.0 -3.5**
MNK *i* 18 32 57.4
MNK *i* S **S** **18 36 34.2 -5.5**
MNK pmax pmax
comp=N,19nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,36nm,0.9s
MNK Minsk 22.20 333 *i* P **P** **18 32 33.0 -3.5**
comp=E,2.0nm,0.9s
MNK *i* P **P** **18 32 33.0 -3.5**
comp=N,19nm,1.0s
MNK *i* P **P** **18 32 33.0 -3.5**
comp=Z,36nm,0.9s,baz=322
MNK *i* pP **pP** **18 32 46.2 +3.3**
MNK *i* PP **PnPn** **18 32 57.4 -1.6**
MNK *i* S **S** **18 36 34.2 -5.4**
MNK *i* sS Sn 18 36 56.5 +5.0
MNK *i* SS **SnSn** **18 37 05.8 -1.3**
MNK *i* LR LR 18 40 37.7
MNK *i* LRM MLR 18 42 23.3
comp=Z,26nm,11.7s
MNK *i* LRM MLR 18 42 23.8
comp=E,5.0nm,15.2s
MNK *i* LRM MLR 18 42 30.9
comp=N,38nm,13.6s
MORH Mrgy, Hungar 22.31 306 *e*P **P** **18 32 40.4 +2.5**
KOVH Kovagotottos 22.63 306 *e*P **P** **18 32 46.8 +5.6**
ARU Arti 22.75 20 P **P** **18 32 41.8 -0.6**
comp=N,2.5nm,0.6s,baz=191,slow=8.1,SNR=13
ARU Arti 22.75 20*d*i*P **P** **18 32 42.4 0.0**
ARU 18 33 08.9
ARU S **S** **18 36 48.5 -1.3**
ARU pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 22.75 20 P **P** **18 32 41.5 -0.9**
ARU IAmb IAmb 18 32 47.5
comp=Z,17nm,1.2s
KIRV Kirov 23.12 6 P **P** **18 32 45.5 -0.6**
comp=Z,11nm,0.5s,baz=163,slow=8.5,SNR=5.8
KIRV Kirov 23.12 6*c*e*P **P** **18 32 47.4 +1.3**
CEL Celeste 23.23 285 P **P** **18 32 48.7 +1.2**
CEL IAmb IAmb 18 32 57.8
comp=Z,21nm,1.0s
OJC Ojcow 23.24 316 P **P** **18 32 47.0 -0.5**
OJC pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 23.24 316 P **P** **18 32 47.0 -0.5**
OJC IAmb IAmb 18 32 53.5
comp=Z,13nm,1.0s
IDID Didziasalis 23.25 333 *e*P **P** **18 32 48.2 +0.8**
MPLH Magyarpolny 23.34 308 *e*P **P** **18 32 49.2 +0.7**
NIL Nilore 23.43 87 P **P** **18 32 51.4 +1.8**
NIL pmax pmax
comp=Z,13nm,1.4s
NIL Nilore 23.43 87 P **P** **18 32 51.4 +1.8**
NIL IAmb IAmb 18 33 00.8
comp=Z,13nm,1.4s
IIGN Ignalina 23.46 333 *e*P **P** **18 32 50.5 +0.9**
ISAL Salakas 23.67 333 *e*P **P** **18 32 52.9 +1.2**
MODS Modra-Piesok 23.94 311 *e*P **P** **18 33 00.8 +6.5**
MODS Modra-Piesok 23.94 311 *e*P **P** **18 33 00.8 +6.5**
SOP Sopron 24.14 309 *e*P **P** **18 33 00.1 +3.9**
SOP Sopron 24.14 309 P **P** **18 32 56.9 +0.7**
SOP pmax pmax
comp=Z,11nm,0.8s
MORC Moravsky Berou 24.34 314 *e*P **P** **18 32 58.3 +0.3**
BOJS Bojanci 24.39 303 *i* P **P** **18 32 58.9 +0.4**
PABE Paberze 24.45 331 *e*P **P** **18 32 59.4 +0.5**
PABE Paberze 24.45 331 P **P** **18 32 59.0 +0.1**
LEGS Legarje 24.46 304 *i* P **P** **18 32 59.7 +0.6**
CONA Conrad Observa 24.67 309 *e*P **P** **18 33 01.7 +0.6**
comp=Z,8.5nm,0.9s
ARSA Arzberg 24.67 307 *i* P **P** **18 33 02.0 +0.9**
comp=Z,4.2nm,0.9s
VRAC Vranov 24.71 312 P **P** **18 33 01.4 0.0**
comp=Z,4.0nm,0.7s,baz=115,slow=7.7,SNR=8.6
VRAC Vranov 24.71 312 P **P** **18 33 02.4 +1.0**
VRAC pmax pmax
comp=Z,9.0nm,1.1s
VRAC Vranov 24.71 312 *e*P **P** **18 33 01.7 +0.3**
KRUC Moravsky 24.73 312 P **P** **18 33 02.6 +1.0**
KRUC pmax pmax
comp=Z,8.0nm,1.6s
KRUC Moravsky 24.73 312 *e*P **P** **18 33 01.9 +0.3**
SOKA Soboth 24.84 305 *i* P **P** **18 33 03.4 +0.8**
comp=Z,4.0nm,0.8s
KRLC Kraliky 24.91 314 *e*P **P** **18 33 03.6 +0.4**
KRLC Kraliky 24.91 314 *e*P **P** **18 33 03.6 +0.4**
BRVK Borovoye 24.95 38*c*e*P **P** **18 33 04.4 +0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 24.95 38 P **P** **18 33 03.6 +0.1**
BRVK IAmb IAmb 18 33 13.8
comp=Z,6.5nm,1.0s
BVAR Borovoye Array 24.98 38 P **P** **18 33 03.9 +0.1**
comp=Z,1.8nm,0.7s,baz=238,slow=22,SNR=14
BOOM Boomskoye usch 24.99 65 P **P** **18 33 04.6 +0.4**
BOOM pmax pmax
comp=Z,11nm,1.5s
BOOM Boomskoye usch 24.99 65 P **P** **18 33 04.6 +0.4**
BOOM IAmb IAmb 18 33 11.8
comp=Z,11nm,1.5s
OBKA Obir 25.11 305 *e*P **P** **18 33 06.0 +0.9**
comp=Z,4.8nm,0.8s
CRNS Crni Vrh 25.20 304 *i* P **P** **18 33 06.5 +0.6**
AQU L'Aquila 25.22 295 P **P** **18 33 07.2 +1.1**
AQU pmax pmax
comp=Z,25nm,1.3s
AQU L'Aquila 25.22 295 P **P** **18 33 07.2 +1.1**
DPC Dobruska-Polom 25.29 314 *e*P **P** **18 33 07.1 +0.5**
DPC *e* 18 33 11.2
DPC Dobruska-Polom 25.29 314 *e*P **P** **18 33 07.1 +0.5**
DPC *e*pP **pP** **18 33 11.2 -2.3**
CORL Corleone 25.29 284 P **P** **18 33 07.1 +0.3**
CORL IAmb IAmb 18 33 28.7
comp=Z,14nm,1.0s
CLTB Caltabellotta 25.39 284 P **P** **18 33 07.3 -0.4**
KLMR Klimovskoe 25.42 354 *e*P **P** **18 33 05.5 -2.1**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 25.42 354 *e*P **P** **18 33 05.5 -2.1**
KLMR AMP 18 33 10.6
comp=Z,12nm,0.9s
OSTC Ostas 25.44 315 *e*P **P** **18 33 08.4 +0.5**
OSTC *e*x x 18 33 12.6
KSP Ksiaz 25.52 315 P **P** **18 33 09.4 +0.8**
UPC Upice 25.54 314 *e*P **P** **18 33 09.4 +0.6**
UPC Upice 25.54 314 *e*P **P** **18 33 09.4 +0.6**
CHVC Chvalec 25.54 315 *e*P **P** **18 33 10.6 +1.7**
MOA Molln 25.66 308 *e*P **P** **18 33 10.9 +0.9**
comp=Z,10nm,0.8s
VSU Vasula 25.75 338 *e*P **P** **18 33 11.3 +0.7**
VSU Vasula 25.75 338 P **P** **18 33 13.1 +2.5**
KDJ Kajisay 25.88 66 P **P** **18 33 12.2 -0.1**
KDJ pmax pmax
comp=Z,4.0nm,1.0s
KDJ Kajisay 25.88 66 P **P** **18 33 12.2 -0.1**
CKRC Cesky Krumlov 25.94 310 *e*P **P** **18 33 14.0 +1.5**
MURB Monte Urbino 25.95 297 P **P** **18 33 13.7 +1.0**
MURB IAmb IAmb 18 33 20.1
comp=Z,13nm,0.9s
PRGR Permogore 25.98 1 *e*P **P** **18 33 11.5 -1.2**
PRGR pmax pmax
comp=Z,33nm,1.2s
ZOU Zoufplan 26.18 304 P **P** **18 33 15.3 +0.4**
ZOU IAmb IAmb 18 33 23.0
comp=Z,5.2nm,0.8s
PRU Pruhonice 26.20 312 *e*P **P** **18 33 17.5 +2.7**
PRU Pruhonice 26.20 312 *e*P **P** **18 33 17.5 +2.7**
GEC2 GERESS Array S 26.33 310 P **P** **18 33 15.7 -0.5**
GEC2 IAmb IAmb 18 33 22.4
comp=Z,6.5nm,1.3s
GERES GERESS Array B 26.33 310 P **P** **18 33 16.1 0.0**
comp=Z,1.0nm,0.7s,baz=112,slow=10,SNR=8.5
GERES LR LR 18 46 37.3
comp=Z,52nm,18.5s,baz=324,slow=43
GERES GERESS Array B 26.33 310 P **P** **18 33 15.8 -0.3**
KHC Kasperske Hory 26.50 310 *e*P **P** **18 33 18.0 +0.4**
KHC Kasperske Hory 26.50 310 *e*P **P** **18 33 18.0 +0.4**
ABTA Abfaltersbach 26.53 305 *e*P **P** **18 33 18.5 +0.5**
comp=Z,6.5nm,1.0s
TEOL Teolo 26.84 301 P **P** **18 33 19.9 -0.8**

BRG	**Berggiesshubel**	**26.89 314**	*e*P	**P**	**18 33 24.8**	**+3.8**
BRG			Amp		18 33 26.4	
comp=Z,6.1nm,1.2s						
CTI	**Castel Tesino**	**26.97 303**	P	**P**	**18 33 21.5**	**-0.5**
CTI			pmax	pmax		
comp=Z,8.0nm,1.0s						
CTI	**Castel Tesino**	**26.97 303**	P	**P**	**18 33 21.5**	**-0.5**
CTI			IAmb	IAmb	18 33 30.6	
comp=Z,7.8nm,1.0s						
VLC	**Villacollemand**	**27.58 298**	P	**P**	**18 33 26.9**	**-0.5**
CLL	**Collm**	**27.60 314**	*e*P	**P**	**18 33 28.0**	**+0.5**
comp=Z,4.0nm,0.8s						
CLL			*i*		18 33 37.3	
comp=Z,10.0nm,1.3s						
CLL	**Collm**	**27.60 314**	*e*P	**P**	**18 33 28.0**	**+0.5**
CLL			*i*		18 33 37.3	
CLL			pmax	pmax		
comp=Z,4.0nm,0.8s						
CLL	**Collm**	**27.60 314**	P	**P**	**18 33 27.9**	**+0.5**
CLL			IAmb	IAmb	18 33 38.7	
comp=Z,6.5nm,1.1s						
MSSA	**Maissana**	**28.22 299**	P	**P**	**18 33 32.9**	**-0.2**
MSSA			IAmb	IAmb	18 33 38.7	
comp=Z,11nm,0.9s						
VSL	**Villasalto**	**28.24 288**	P	**P**	**18 33 34.5**	**+1.2**
VSL			IAmb	IAmb	18 33 39.0	
comp=Z,9.1nm,0.8s						
FIA1	**FINESS Array S**	**28.40 341**	P	**P**	**18 33 33.3**	**-1.1**
FINES	**FINESS Array B**	**28.40 341**	P	**P**	**18 33 34.3**	**-0.1**
comp=Z,1.4nm,0.3s,baz=144,slow=11,SNR=18						
FINES	**FINESS Array B**	**28.40 341**	P	**P**	**18 33 34.1**	**-0.3**
KURBB	**Kurchatov Arra**	**28.47 48**	P	**P**	**18 33 36.1**	**+1.0**
comp=Z,0.9nm,0.6s,baz=258,slow=9.0,SNR=6.0						
KURBB			PcP	**PcP**	**18 36 46.4**	**-0.3**
comp=Z,1.0nm,0.9s,baz=258,slow=2.6,SNR=4.6						
KURBB			ScP	**ScP**	**18 40 30.2**	**+3.8**
comp=Z,0.4nm,0.7s,baz=254,slow=3.4,SNR=4.1						
KURK	**Kurchatov**	**28.55 48**	P	**P**	**18 33 36.1**	**+0.2**
KURK					18 36 46.4	
TUE	**Stuetta**	**28.62 303**	P	**P**	**18 33 34.8**	**-2.1**
TUE			IAmb	IAmb	18 33 42.0	
comp=Z,5.6nm,1.0s						
KEST	**Kesra**	**28.72 281**	P	**P**	**18 33 39.0**	**+1.3**
comp=Z,5.5nm,0.9s,baz=32,slow=4.8,SNR=4.6						
KEST	**Kesra**	**28.72 281**	P	**P**	**18 33 37.8**	**+0.1**
KEST			IAmb	IAmb	18 33 46.8	
comp=Z,4.8nm,0.8s						
DEL	**Delary**	**29.49 325**	*i* P	**P**	**18 33 44.6**	**+0.5**
BFO	**Black Forest**	**29.64 307**	P	**P**	**18 33 47.2**	**+1.6**
BFO			pmax	pmax		
comp=Z,6.0nm,1.3s						
BFO	**Black Forest**	**29.64 307**	P	**P**	**18 33 47.2**	**+1.6**
BFO			IAmb	IAmb	18 33 55.2	
comp=Z,5.5nm,1.3s						
SBF	**Sospel**	**29.68 297**	*e*P	**P**	**18 33 47.0**	**+0.9**
SBF			pmax	pmax		
comp=Z,24nm,0.8s						
MAKZ	**Makanchi**	**29.80 57**	P	**P**	**18 33 47.4**	**+0.3**
MAKZ			pmax	pmax		
comp=Z,1.0nm,0.8s						
MAKZ	**Makanchi**	**29.80 57**	P	**P**	**18 33 47.4**	**+0.3**
SENIN	**Lac Senin/Sane**	**30.01 302**	P	**P**	**18 33 48.8**	**-0.4**
SENIN			IAmb	IAmb	18 34 28.2	
comp=Z,12nm,1.6s						
MK31	**Makanchi Array**	**30.01 57**	P	**P**	**18 33 49.2**	**+0.2**
MK31			pmax	pmax		
comp=Z,5.0nm,1.5s						
MK31	**Makanchi Array**	**30.01 57**	P	**P**	**18 33 49.2**	**+0.2**
MKAR	**Makanchi Array**	**30.01 57**	P	**P**	**18 33 49.8**	**+0.8**
comp=Z,1.9nm,0.8s,baz=256,slow=7.6,SNR=14						
MKAR			LR	LR	18 48 27.0	
comp=Z,22nm,20.1s,baz=296,slow=42						
MKAR	**Makanchi Array**	**30.01 57**	P	**P**	**18 33 49.5**	**+0.5**
MBDF	**Montbardon**	**30.21 299**	*e*P	**P**	**18 33 50.8**	**-0.1**
MBDF			pmax	pmax		
comp=Z,5.0nm,0.6s						
LPG	**La Plagne**	**30.29 301**	*e*P	**P**	**18 33 53.1**	**+1.4**
LPG			pmax	pmax		
comp=Z,3.0nm,0.6s						
BNI	**Bardonecchia**	**30.30 300**	P	**P**	**18 33 51.2**	**-0.5**
BNI			pmax	pmax		
comp=Z,12nm,0.8s						
BNI	**Bardonecchia**	**30.30 300**	P	**P**	**18 33 51.2**	**-0.5**
LPL	**La Plagne**	**30.31 301**	*e*P	**P**	**18 33 51.6**	**-0.2**
LPL			pmax	pmax		
comp=Z,8.0nm,1.0s						
LMR	**La Mourre**	**30.34 296**	*e*P	**P**	**18 33 51.4**	**-0.4**
LMR			pmax	pmax		
comp=Z,10.0nm,0.9s						
ORIF	**Oris-en-Rattie**	**30.86 299**	*e*P	**P**	**18 33 57.9**	**+1.4**
ORIF			pmax	pmax		
comp=Z,4.0nm,0.7s						
HFS	**Hagfors**	**31.63 330**	P	**P**	**18 34 03.1**	**+0.1**
comp=Z,10nm,0.7s,baz=126,slow=6.7,SNR=27						
HFS			LR	LR	18 48 03.3	
comp=Z,35nm,20.8s,baz=118,slow=39						
VIVF	**Saint-Julien-l**	**31.71 299**	*e*P	**P**	**18 34 03.1**	**-0.9**
VIVF			pmax	pmax		
comp=Z,6.0nm,0.8s						
LOR	**Lormes**	**32.46 304**	*e*P	**P**	**18 34 09.7**	**-0.8**
LOR			pmax	pmax		
comp=Z,4.0nm,0.8s						
AVF	**Avril sur Loir**	**32.76 303**	*e*P	**P**	**18 34 15.9**	**+2.8**
AVF			pmax	pmax		
comp=Z,6.0nm,1.0s						
NC602	**NORSAR Array S**	**32.85 330**	P	**P**	**18 34 13.9**	**+0.2**
NC405	**NORSAR Array S**	**33.00 331**	P	**P**	**18 34 14.8**	**-0.2**
KONO	**Kongsberg**	**33.08 328**	P	**P**	**18 34 16.1**	**+0.4**
KONO			pmax	pmax		
comp=Z,25nm,1.5s						
KONO	**Kongsberg**	**33.08 328**	P	**P**	**18 34 16.1**	**+0.4**
NB201	**NORSAR Array S**	**33.13 331**	P	**P**	**18 34 17.1**	**+0.9**
NB201			IAmb	IAmb	18 34 53.0	
comp=Z,6.6nm,0.9s						
NB2	**NORSAR Subarra**	**33.15 330**	P	**P**	**18 34 15.9**	**-0.5**
comp=Z,4.6nm,1.1s,baz=124,slow=9.3						
NOA	**NORSAR Array B**	**33.15 330**	P	**P**	**18 34 16.4**	**0.0**
comp=Z,1.2nm,0.8s,baz=124,slow=8.8,SNR=5.6						
NOA			LR	LR	18 49 19.3	
comp=Z,29nm,18.6s,baz=120,slow=39						
ZALV	**Zalesovo Beam**	**33.17 44**	P	**P**	**18 34 17.1**	**+0.6**
comp=Z,0.7nm,0.4s,baz=262,slow=10,SNR=4.7						
ZALV			LR	LR	18 47 41.2	
comp=Z,25nm,21.4s,baz=130,slow=36						
ZALV	**Zalesovo Beam**	**33.17 44**	*i* P	P	18 34 21.1	+4.6
ZALV			pmax	pmax		
comp=Z,1.0nm,0.4s						
NAO01	**NORSAR Array S**	**33.18 330**	P	**P**	**18 34 16.8**	**+0.2**
NC303	**NORSAR Array S**	**33.20 331**	P	**P**	**18 34 18.7**	**+1.9**
RJF	**Les Rejaudoux**	**33.96 300**	*e*P	**P**	**18 34 23.6**	**0.0**
RJF			pmax	pmax		
comp=Z,4.0nm,0.8s						
KEV	**Kevo**	**35.50 349**	P	**P**	**18 34 36.7**	**+0.2**
KEV			pmax	pmax		
comp=Z,12nm,1.2s						
KEV	**Kevo**	**35.50 349**	P	**P**	**18 34 36.7**	**+0.2**
KEV			IAmb	IAmb	18 35 08.2	
comp=Z,12nm,1.2s						
ARCES	**ARCESS Array B**	**35.54 348**	P	**P**	**18 34 36.6**	**-0.3**
comp=Z,2.2nm,0.7s,baz=150,slow=9.8,SNR=16						
ARCES			LR	LR	18 50 26.5	
comp=Z,28nm,18.8s,baz=325,slow=38						
ARCES	**ARCESS Array B**	**35.54 348**	P	**P**	**18 34 37.1**	**+0.2**
ARCES			pmax	pmax		
comp=Z,14nm,1.6s						
ARCES	**ARCESS Array B**	**35.54 348**	P	**P**	**18 34 37.1**	**+0.2**
ARCES			IAmb	IAmb	18 34 46.6	
comp=Z,14nm,1.6s						
GRR	**Gorron**	**35.72 305**	*e*P	**P**	**18 34 37.7**	**-1.0**
GRR			pmax	pmax		
comp=Z,8.0nm,0.6s						
SJPF	**Ste Jean**	**35.99 296**	*e*P	**P**	**18 34 42.9**	**+1.8**
SJPF			pmax	pmax		
comp=Z,14nm,1.4s						
SGMF	**Saint Gilles**	**36.84 305**	*e*P	**P**	**18 34 47.3**	**-1.0**
SGMF			pmax	pmax		
comp=Z,39nm,1.4s						
QUIF	**Quistinic**	**37.24 304**	*e*P	**P**	**18 34 50.5**	**-1.2**
QUIF			pmax	pmax		
comp=Z,68nm,1.6s						
ROSF	**Rostrenen**	**37.32 305**	*e*P	**P**	**18 34 51.3**	**-1.1**
ROSF			pmax	pmax		
comp=Z,121nm,2.1s						
ESK	**Eskdalemuir**	**38.04 316**	P	**P**	**18 34 59.8**	**+1.4**
ESK			pmax	pmax		
comp=Z,34nm,1.5s						
ESK	**Eskdalemuir**	**38.04 316**	P	**P**	**18 34 59.8**	**+1.4**
ESBB	**Sonseca Array**	**38.45 291**	P	**P**	**18 35 01.8**	**-0.3**
ESBB			IAmb	IAmb	18 35 02.9	
comp=Z,5.1nm,1.1s						
ESDC	**Sonseca Array**	**38.45 291**	P	**P**	**18 35 01.8**	**-0.3**
comp=Z,1.2nm,0.6s,baz=69,slow=8.9,SNR=13						
ESDC	**Sonseca Array**	**38.45 291**	P	**P**	**18 35 01.5**	**-0.6**
PAB	**San Pablo**	**38.77 291**	P	**P**	**18 35 04.5**	**-0.3**
PAB			pmax	pmax		
comp=Z,6.0nm,1.1s						
PAB	**San Pablo**	**38.77 291**	P	**P**	**18 35 04.5**	**-0.3**
PAB			IAmb	IAmb	18 35 08.7	
comp=Z,6.3nm,1.1s						
LSA	**Lhasa**	**39.15 85**	P	**P**	**18 35 07.1**	**-1.5**
LSA			pmax	pmax		
comp=Z,7.0nm,0.9s						
LSA	**Lhasa**	**39.15 85**	P	**P**	**18 35 07.1**	**-1.5**
LSA			IAmb	IAmb	18 35 11.2	
comp=Z,6.6nm,0.9s						
NRIK	**Noril'sk**	**40.96 22**	P	**P**	**18 35 23.3**	**+0.7**
comp=Z,2.4nm,0.4s,baz=198,slow=3.7,SNR=6.5						
NRIK	**Noril'sk**	**40.96 22**	*ce*P	**P**	**18 35 24.0**	**+1.5**
NRIK	**Noril'sk**	**40.96 22**	P	**P**	**18 35 22.2**	**-0.4**
NRIK			IAmb	IAmb	18 35 28.1	
comp=Z,11nm,1.2s						
PCBR	**Castelo Branco**	**41.08 292**	*e*P	**P**	**18 35 25.2**	**+1.3**
PMRV	**Marv??o**	**41.10 291**	*e*P	**P**	**18 35 24.1**	**0.0**
PESTR	**Estremoz**	**41.37 291**	*e*P	**P**	**18 35 26.1**	**-0.2**
PESTR	**Estremoz**	**41.37 291**	P	**P**	**18 35 24.8**	**-1.6**
PESTR			IAmb	IAmb	18 35 26.8	
comp=Z,8.0nm,1.1s						
SHL	**Shillong**	**41.39 91**	P	**P**	**18 35 25.5**	**-1.3**
SHL			pmax	pmax		
comp=Z,7.0nm,1.3s						
SHL	**Shillong**	**41.39 91**	P	**P**	**18 35 25.5**	**-1.3**
SHL			IAmb	IAmb	18 35 27.7	
comp=Z,7.3nm,1.3s						
PSBE	**So Bento**	**42.15 292**	*e*P	**P**	**18 35 34.6**	**+1.9**
GTA	**Gaotai**	**43.19 68**	*e*P	**P**	**18 35 42.7**	**+1.4**
GTA			pP	pP	18 35 47.2	-1.3
GTA			sP	sP	18 35 50.6	-0.6
GTA			pmax	pmax		
comp=Z,4.0nm,1.2s						
SPITS	**Spitsbergen Ar**	**44.30 352**	P	**P**	**18 35 48.8**	**-0.7**
SPITS			pmax	pmax		
comp=Z,14nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.77 251**	P	**P**	**18 35 53.1**	**-1.0**
comp=Z,2.4nm,1.1s,baz=49,slow=2.2,SNR=7.6						
TORD			LR	LR	18 58 56.5	
comp=Z,19nm,20.2s,baz=200,slow=42						
TORD	**Torodi Ar. Bea**	**44.77 251**	P	**P**	**18 35 53.6**	**-0.4**
TORD			IAmb	IAmb	18 35 57.7	
comp=Z,3.6nm,1.1s						
KBS	**Kingsbay**	**45.42 352**	P	**P**	**18 35 59.1**	**+0.6**
KBS			pmax	pmax		
comp=Z,8.0nm,0.9s						
KBS	**Kingsbay**	**45.42 352**	P	**P**	**18 35 59.1**	**+0.6**
KBS			IAmb	IAmb	18 36 21.0	
comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**46.35 55**	P	**P**	**18 36 06.4**	**0.0**
comp=Z,0.3nm,0.4s,baz=282,slow=8.9,SNR=3.4						
SONM			PcP	**PcP**	**18 37 39.3**	**-1.9**
comp=Z,0.5nm,0.7s,baz=270,slow=2.9,SNR=3.2						
SONM	**Songino Array**	**46.35 55**	P	**P**	**18 36 06.4**	**0.0**
SONM					18 37 39.3	
SONM			pmax	pmax		
comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**46.35 55**		**PcP**	**18 37 39.3**	**-1.9**
SONM	**Songino Array**	**46.35 55**	P	**P**	**18 36 06.4**	**0.0**
ULN	**Ulaanbaatar**	**46.78 55**	P	**P**	**18 36 10.2**	**+0.4**
ULN			pmax	pmax		
comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**46.78 55**	P	**P**	**18 36 10.2**	**+0.4**
ULN			IAmb	IAmb	18 36 11.5	
comp=Z,1.9nm,0.7s						
CHTO	**Chiang Mai**	**50.34 95**	P	**P**	**18 36 36.5**	**-0.8**
CHTO			pmax	pmax		
comp=Z,2.0nm,0.7s						
CHTO	**Chiang Mai**	**50.34 95**	P	**P**	**18 36 36.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**50.52 95**	P	**P**	**18 36 38.3**	**-0.4**
comp=Z,1.1nm,0.7s,baz=297,slow=8.3,SNR=9.5						
XAN	**Xi'an**	**51.76 72**	P	**P**	**18 36 47.8**	**-0.1**
XAN			sP	pP	18 36 55.5	+0.3
XAN			pmax	pmax		
comp=Z,18nm,1.6s						
SUMG	**Summit**	**54.38 338**	*e*	**P**	**18 37 07.0**	**0.0**
SUMG	**Summit**	**54.38 338**	P	**P**	**18 37 08.0**	**+0.9**
SUMG			pmax	pmax		
comp=Z,7.0nm,1.2s						
SUMG	**Summit**	**54.38 338**	P	**P**	**18 37 08.0**	**+0.9**
SUMG			IAmb	IAmb	18 37 12.7	
comp=Z,7.4nm,1.2s						
TIXI	**Tiksi**	**54.72 23**	P	**P**	**18 37 08.8**	**-0.2**
TIXI			pmax	pmax		
comp=Z,5.0nm,0.9s						
TIXI	**Tiksi**	**54.72 23**	P	**P**	**18 37 08.8**	**-0.2**
TIXI			IAmb	IAmb	18 37 13.2	
comp=Z,4.9nm,0.9s						
EUNU	**Eureka**	**61.41 351**	P	**P**	**18 37 56.4**	**+0.5**
KLR	**Kul'dur**	**62.15 48**	*ce*P	**P**	**18 38 00.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**64.38 53**	P	**P**	**18 38 14.9**	**-1.1**
comp=Z,1.5nm,0.7s,baz=268,slow=5.7,SNR=4.1						
KS19	**Wonju Array Si**	**64.50 61**	P	**P**	**18 38 16.9**	**-0.1**
MSHR	**Mys Shultsa**	**64.53 55**	*ce*P	**P**	**18 38 14.2**	**-2.9**
MSHR			pmax	pmax		
comp=Z,6.0nm,0.9s						
KSAR	**Wonju Array Be**	**64.54 61**	P	**P**	**18 38 16.0**	**-1.2**
KSAR	**Wonju Array Be**	**64.54 61**	P	**P**	**18 38 16.0**	**-1.2**
KSRS	**Korea Array**	**64.56 61**	P	**P**	**18 38 16.8**	**-0.5**
comp=Z,2.3nm,0.5s,baz=289,slow=6.9,SNR=18						
BOSA	**Boshof**	**66.56 199**	P	**P**	**18 38 31.0**	**+0.7**
comp=Z,6.6nm,1.0s,baz=19,slow=7.8,SNR=4.1						
BILL	**Bilibino**	**67.77 20**	⇑*e*P	**P**	**18 38 37.7**	**+0.2**
BILL			*e*		18 41 07.0	
BILL			*e*S	**SKiKP**	**18 48 35.5**	**+2.7**
BILL			pmax	pmax		
comp=Z,4.0nm,0.9s						
BILL			MLR	MLR		
comp=Z,114nm,17.0s						
C36M	**Paulatuk**	**74.96 356**	P	**P**	**18 39 19.8**	**-1.1**
C36M			IAmb	IAmb	18 39 28.5	
comp=Z,8.1nm,1.4s						
GBN	**Guysborough**	**75.48 316**	P	**P**	**18 39 23.2**	**-1.1**
LMN	**Caledonia Moun**	**77.06 318**	P	**P**	**18 39 33.2**	**0.0**
EPYK	**Eagle Plains**	**78.27 1**	P	**P**	**18 39 38.8**	**-0.9**
EPYK			IAmb	IAmb	18 39 41.9	
comp=Z,7.4nm,1.3s						
D62A	**Allapoint, All**	**78.54 320**	P	**P**	**18 39 41.0**	**-0.5**
D62A			IAmb	IAmb	18 40 04.6	
comp=Z,5.7nm,1.1s						
MLY	**Manley**	**78.88 7**	P	**P**	**18 39 41.8**	**-1.3**
MLY			IAmb	IAmb	18 39 49.8	
comp=Z,3.8nm,1.6s						
F64A	**Sherman**	**78.97 319**	P	**P**	**18 39 43.4**	**-0.4**
F64A			IAmb	IAmb	18 40 19.6	
comp=Z,9.1nm,1.4s						
E62A	**Clayton Lake**	**79.09 320**	P	**P**	**18 39 44.4**	**-0.1**
E62A			IAmb	IAmb	18 39 48.8	
comp=Z,4.7nm,0.9s						
BPAW	**Bear Paw Mtn.**	**79.77 7**	P	**P**	**18 39 46.8**	**-1.1**
BPAW			IAmb	IAmb	18 39 51.7	
comp=Z,3.6nm,1.3s						
SCRK	**Sand Creek**	**80.43 4**	P	**P**	**18 39 51.2**	**-0.4**
SCRK			IAmb	IAmb	18 39 52.5	
comp=Z,2.8nm,1.1s						
YKA	**Yellowknife Ar**	**80.77 350**	P	**P**	**18 39 52.6**	**-0.7**
comp=Z,0.6nm,0.6s,baz=19,slow=5.5,SNR=6.1						
YKA	**Yellowknife Ar**	**80.77 350**	*i* P	**P**	**18 39 55.0**	**+1.7**
YKA			pmax	pmax		
comp=Z,1.0nm,0.8s						

BJI ***11*** *18:39:41.0±0.0,25°.80N×128°.45E,h18km,mB5.0/40, mb5.0/63,Ms4.5/44,Ms7 4.2/43*

IDC ***11*** *18:39:42.7±0.6,26°.05N×128°.28E,h0km,mb4.6/26, mb1 4.7/30,mb1mx4.6/47,mbtmp4.6/30,ML3.3/3,MS3.7/23, Ms1 3.7/23,ms1mx3.6/36,Error ellipse: s-maj=15.3km s-min=13.5km az=90.0*

NEIC ***11*** *18:39:44.9±1.7,25°.97N±0°.04×128°.33E±0°.06,h14km±4km, mb5.0/160,Error ellipse: s-maj=7.9km s-min=5.3km az=89.0*

GCMT ***11*** *18:39:45.9±0.4,25°.97N±0°.02×128°.36E±0°.02,h26km±1km, MW4.8/70,Moment Tensor Solution. s16,c16; s70,c99; Duration:0 Moment tensor: Scale 10¹⁶Nm; Mrr~0.11±.12; Mθθ~0.46±.09; Mφφ0.56±.09; Mrθ~0.24±.15; Mθφ1.83±.07; Mφr1.09±.17; Best double couple: M0=2.20700×10¹⁶ NP1:φs81.00000°,δ60.00000°,λ-3.00000°. NP2: φs173.00000°,δ87.00000°,λ-150.00000°. Principal axes: T 2.1990, Plg19.0000°, Azm303.0000°; N 0.0150, Plg59.0000°, Azm178.0000°; P -2.2140, Plg23.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***11*** *18:39:45.2±1.1,26°.05N×128°.21E,h28km,mb5.2/28, MS4.3/12 Error ellipse: s-maj=6.9km s-min=4.7km az=111.3*

JMA ***11*** *18:39:46.8±0.3,26°.03N×128°.31E,h47km±4km,M4.6*

JMA Felt II J1.

NIED ***11*** *18:39:46.9,26°.04N×128°.31E,h47km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr~0.04; Mθθ~0.50; Mφφ0.54; Mrθ~0.14; Mθφ1.20; Mφr0.49; Fault plane solution: M0 1.41000×10¹⁶ NP1: φs169.00000°,δ88.00000°,λ-159.00000°. NP2: φs78.00000°,δ69.00000°,λ-2.00000°.*

ISC 11 18:39:46.5±0.7,26°.00N±0°.04×128°.37E±0°.03,h24km±4km, n561,σ1§71/547,mb4.9/188,MS4.1/46,26C-15D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
JJT3	**Tamagusuku3**	**0.55**	**286**	P	**Pb**	**18 39 57.6**		**+0.1**
JJT3				S	**Sn**	**18 40 06.4**		**-0.9**
JNTH	**Nagotoyohara**	**0.61**	**329**	P	**Pb**	**18 39 58.1**		**-0.5**
JNTH				S	**Sb**	**18 40 06.3**		**-0.4**
JOW	**Kunigami**	**0.84**	**354**	P	**Pb**	**18 40 02.1**		**-0.3**
JOW				S	**Sb**	**18 40 12.8**		**-0.5**
JOW	**Kunigami**	**0.84**	**354**		**Pb**	**18 40 02.2**		**-0.3**
JOW					**Sb**	**18 40 12.7**		**-0.7**
JYRO	**Yoronjima**	**1.03**	**4**	P	**Pn**	**18 40 04.7**		**-0.8**
JYRO				S	**Sb**	**18 40 17.6**		**-1.1**
JIH	**Iheya**	**1.10**	**341**	P	**Pn**	**18 40 06.2**		**-0.2**
JIH				*e*S	**Sb**	**18 40 19.0**		**-1.7**
JAGN	**Aguni-jima**	**1.17**	**301**	P	**Pn**	**18 40 06.6**		**-0.9**
JOKE	**Okinoerabujima**	**1.37**	**7**	P	**Pn**	**18 40 09.7**		**-0.5**
JOKE				*e*S	**Sn**	**18 40 26.4**		**-1.3**
JKE	**Kume jima 2**	**1.46**	**283**	P	**Pn**	**18 40 09.9**		**-1.5**
JKE				S	**Sn**	**18 40 27.0**		**-2.9**
JTK	**Tokunoshima**	**1.86**	**16**	P	**Pn**	**18 40 16.4**		**-0.5**
JMZ	**Minamidaito 2**	**2.57**	**93**	Pn	**Pn**	**18 40 25.1**		**-1.6**
JMZ				Sn	**Sn**	**18 40 52.9**		**-4.4**
JKDJ	**Kitadaitoujima**	**2.63**	**90**	P	**Pn**	**18 40 26.0**		**-1.6**
JKDJ				S	**Sn**	**18 40 55.0**		**-3.8**
YOJ	**Yonaguni jima**	**5.09**	**254**	P	**Pn**	**18 40 58.2**		**-3.1**
YOJ	**Yonaguni jima**	**5.09**	**254**	Pn	**Pn**	**18 40 58.2**		**-3.1**
JSU	**Suzuyama**	**5.79**	**18**	Pn	**Pn**	**18 41 10.6**		**-0.4**
TATO	**Taipei**	**6.30**	**262**		**Pn**	**18 41 17.6**		**-0.5**
NACB	**Ninganchiao**	**6.41**	**255**		**Pn**	**18 41 16.3**		**-3.2**
YHNB	**Yeheng**	**6.47**	**260**	Pn	**Pn**	**18 41 19.3**		**-1.0**
YULB	**Yu-li**	**6.94**	**250**	Pn	Pn	18 41 21.7		-5.0
SSLB	**Suanglung**	**7.08**	**254**	Pn	**Pn**	**18 41 25.2**		**-3.6**
TWG	**Pinlang**	**7.37**	**246**	Pn	Pn	18 41 27.4		-5.2
JNU	**Nakatsue**	**7.43**	**16**	Pn	**Pn**	**18 41 34.5**		**+1.0**
15nm,0.3s,baz=220,slow=2.0,SNR=67								
JNU				Sn	**Sn**	**18 42 54.3**		**-2.8**
1.3nm,0.3s,baz=144,slow=17,SNR=0.9								
JNU	**Nakatsue**	**7.43**	**16**	Pn	**Pn**	**18 41 34.3**		**+0.7**
TPUB	**Ta-pu**	**7.54**	**251**		**Pn**	**18 41 32.4**		**-2.6**
JTU	**Tsushima**	**8.55**	**6**	Pn	**Pn**	**18 41 49.2**		**+0.4**
QZH	**Quanzhou**	**8.90**	**265**	⇑*i*P	**Pn**	**18 41 52.1**		**-1.6**
QZH				*e*S	**Sn**	**18 43 33.1**		**-0.1**
JMN	**Monobe**	**9.07**	**31**	Pn	**Pn**	**18 41 55.1**		**-0.9**
KNMB	**Chin-men Tao**	**9.17**	**263**	Pn	**Pn**	**18 41 54.8**		**-2.5**
JHS	**Saijyo**	**9.86**	**23**	Pn	**Pn**	**18 42 05.8**		**-1.1**
NJ2	**Nanjing**	**10.28**	**308**	*e*P	**Pn**	**18 42 12.7**		**+0.1**
NJ2				pmax	pmax			
comp=Z,19nm,0.5s								
JWT	**Wachi**	**11.06**	**31**	Pn	**Pn**	**18 42 22.8**		**-0.4**
SZP	**Santa**	**11.16**	**223**	Pn	**Pn**	**18 42 21.8**		**-2.9**
KSRS	**Korea Array**	**11.43**	**358**	Pn	**Pn**	**18 42 26.9**		**-1.4**
0.4nm,0.3s,baz=175,slow=14,SNR=25								
KSRS				LR	LR	18 47 11.3		
comp=Z,642nm,18.6s,baz=178,slow=40								
KS19	**Wonju Array Si**	**11.48**	**358**	Pn	**Pn**	**18 42 29.4**		**+0.4**
INU	**Inuyama**	**11.92**	**37**		**Pn**	**18 42 34.5**		**-0.6**
JSG	**Sagara**	**12.11**	**42**	Pn	**Pn**	**18 42 34.3**		**-3.3**
JHJ	**Hachijo jima 2**	**12.20**	**52**	Pn	**Pn**	**18 42 40.5**		**+1.6**
49nm,0.3s,baz=91,slow=16,SNR=12								
JHJ				LR	LR	18 46 55.4		
comp=Z,301nm,18.8s,baz=269,slow=35								
JHJ2	**Mitsune**	**12.22**	**52**	Pn	**Pn**	**18 42 40.3**		**+1.2**
JGF	**Kuroka**	**12.29**	**37**	Pn	**Pn**	**18 42 39.8**		**-0.4**
JCJ	**Chichijima**	**12.42**	**82**	LR	LR	18 47 14.7		
comp=Z,131nm,18.6s,baz=198,slow=36								
WHN	**Wuhan**	**13.16**	**293**	⇑P	**P**	**18 43 02.3**		**+0.5**
WHN				S	S	18 45 52.7		+11
WHN				pmax	pmax			
comp=Z,54nm,0.7s								
WHN				LR	LR			
comp=Z,4μm,18.0s								
MAJO	**Matsushiro**	**13.46**	**36**	P	**Pn**	**18 42 56.1**		**+0.1**
MAJO	**Matsushiro**	**13.46**	**36**	Pn	**Pn**	**18 42 56.0**		**+0.1**
MAT	**Matsushiro**	**13.46**	**36**	P	**Pn**	**18 42 54.4**		**-1.6**
MAT				*e*S	**Sn**	**18 45 27.2**		**+2.4**
MJAR	**Matsushiro Arr**	**13.46**	**36**	Pn	**Pn**	**18 42 56.5**		**+0.5**
comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=16	

comp=Z,62nm,0.7s
XAN pmax pmax
comp=Z,510nm,3.9s
XAN LR LR
comp=Z,1μm,16.0s
XAN LR LR
comp=Z,1μm,16.0s
GYA Guiyang 19.48 276 ⇑P Pn 18 44 12.7 -0.6
JEW Eniwo 19.93 29 P P 18 44 14.7 -1.9
JEW IAmb IAmb 18 44 23.9
comp=Z,77nm,0.9s
ERM Erimo 20.09 34 *ce*P **P 18 44 17.4 -0.9**
ERM pmax pmax
comp=Z,43nm,1.0s
ERM Erimo 20.09 34 P P 18 44 18.1 -0.2
ERM IAmb IAmb 18 44 18.5
comp=Z,49nm,0.8s
HHC Hu-ho-hao-te 20.35 321 *e*P **P 18 44 20.8 -0.5**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.7s
HHC LR LR
comp=Z,470nm,13.3s
HHC LR LR
comp=Z,490nm,12.2s
HHC LR LR
comp=Z,490nm,15.7s
ASAJ Asahikawa 21.45 29 P P 18 44 31.4 -1.7
comp=Z,35nm,0.8s,baz=220,slow=14,SNR=21
ASAJ LR LR 18 53 29.1
comp=Z,284nm,19.7s,baz=230,slow=38
JKA Kamikawa-asahi 21.45 29 P P 18 44 31.1 -1.9
JKA IAmb IAmb 18 44 36.2
comp=Z,42nm,0.8s
CD2 Chengdu 22.17 288 P P 18 44 39.4 -1.6
CD2 pmax pmax
comp=Z,60nm,0.5s
SLVN Son La 22.87 263 P P 18 44 46.1 -2.4
SLVN IAmb IAmb 18 44 51.9
comp=Z,30nm,0.9s
YUK Yuzh-Kuril'sk 22.92 34 *e*P **P 18 44 49.8 +1.1**
YUK *e*S **S 18 48 59.7 +2.5**
YUK pmax pmax
comp=Z,316nm,1.8s
YUK pmax pmax
comp=N,123nm,1.0s
YUK pmax pmax
comp=Z,184nm,1.0s
YUK pmax pmax
comp=E,54nm,1.1s
YUK MLR MLR
comp=Z,313nm,21.0s
KMI Kunming 23.13 273 ⇓P P 18 44 50.8 -0.6
KMI pP pP 18 44 53.6 -4.0
KMI sP pwP 18 44 55.5 -4.1
KMI S **S 18 48 58.1 -3.6**
KMI SS **SnSn 18 49 42.0 +6.7**
KMI pmax pmax
comp=Z,80nm,0.8s
KMI pmax pmax
comp=Z,240nm,4.3s
KMI LR LR
comp=Z,410nm,15.6s
KMI LR LR
comp=Z,710nm,13.9s
KMI LR LR
comp=Z,470nm,17.3s
LZH Lanzhou 23.24 302 *e*P **P 18 44 50.4 -1.9**
LZH pP pP 18 44 54.4 -4.1
LZH sP pwP 18 44 57.6 -3.3
LZH PP **PnPn 18 45 17.1 -1.1**
LZH SS Sn 18 49 44.7 +23
LZH pmax pmax
comp=Z,59nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.5s
LZH LR LR
comp=Z,630nm,12.6s
LZH LR LR
comp=Z,790nm,12.1s
LZH LR LR
comp=Z,670nm,14.5s
KLR Kul'dur 23.34 6 P P 18 44 51.6 -1.4
comp=Z,3.1nm,0.5s,baz=203,slow=5.4,SNR=15
KLR LR LR 18 53 27.0
comp=Z,112nm,21.1s,baz=184,slow=35
KLR Kul'dur 23.34 6 *ce*P **P 18 44 53.1 +0.1**
KLR pmax pmax
comp=Z,21nm,1.5s
YSS Yuzh-Sakhalins 23.83 25 *be*P **P 18 44 58.8 +1.1**
YSS *e*S **S 18 49 15.8 +3.7**
YSS pmax pmax
comp=Z,390nm,1.3s
YSS pmax pmax
comp=N,200nm,1.1s
YSS pmax pmax
comp=E,140nm,0.8s
YSS MLR MLR
comp=Z,300nm,12.0s
YSS MLR MLR
comp=E,200nm,15.0s
YSS Yuzh-Sakhalins 23.83 25 P P 18 44 57.6 -0.1
SPMM Sapulut 24.04 210 P P 18 45 00.0 0.0
NONG Nongkai 24.65 256 P P 18 45 06.5 +1.0
comp=E,12μmcomp=E,37nm,1.0s
NONG Nongkai 24.65 256 P P 18 45 06.6 +1.0
comp=E,12μmcomp=E,36nm,1.0s
UGL Uglegorsk 25.39 21 *e*P P 18 45 01.7 -10
UGL *e* 18 45 14.8
GRNR Gornyy 25.50 12⇑ *i*P **P 18 45 13.7 +0.8**
GRNR *e*S **S 18 49 42.9 +4.1**
GRNR pmax pmax
comp=E,30nm,0.7s
GRNR pmax pmax
comp=N,10.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.6s
GRNR MLR MLR
comp=E,110nm,14.0s
CHAI Chaiyaphum 26.56 253 P P 18 45 33.8 +11
CHAI Chaiyaphum 26.56 253 P P 18 45 33.9 +11
comp=E,3.7nm,0.8s
SIJI Sorong 26.85 174 LR LR 18 56 25.7
comp=E,62nm,18.1s,baz=90,slow=37
UTTA Uttaradit 27.05 258 P P 18 45 29.2 +2.0
comp=E,16nm,0.8s
UTTA Uttaradit 27.05 258 P P 18 45 29.2 +2.0
comp=E,3.9nm,0.8s
TYV Tymovskoe 27.14 20 *e*P **P 18 45 29.0 +1.3**
TYV pmax pmax
comp=Z,14nm,1.5s
GTA Gaotai 27.37 306 ⇑P P 18 45 27.7 -2.4
GTA pP pP 18 45 32.2 -4.4
GTA sP pwP 18 45 35.6 -3.6
GTA pmax pmax
comp=Z,120nm,0.7s
GTA pmax pmax
comp=Z,190nm,7.2s
GTA LR LR
comp=Z,360nm,13.5s
GTA LR LR
comp=Z,720nm,18.3s
GTA LR LR
comp=Z,480nm,16.7s
PHIT Phitsanulok 27.38 257 P P 18 45 31.1 +0.9
comp=Z,83nm,0.9s
PHIT Phitsanulok 27.38 257 P P 18 45 31.2 +0.9
comp=Z,21nm,0.9s
SRAK Srakaew 27.40 249 P P 18 45 37.5 +7.1
ULN Ulaanbaatar 27.52 328 P P 18 45 29.8 -1.6
ULN pmax pmax
comp=Z,14nm,0.9s
ULN Ulaanbaatar 27.52 328 P P 18 45 29.8 -1.6
LAMP Lampang 27.58 260 P P 18 45 32.6 +0.6
comp=Z,346nmcomp=Z,37nm,0.8s
LAMP Lampang 27.58 260 P P 18 45 32.7 +0.6
comp=Z,86nmcomp=Z,9.2nm,0.8s
ZEA Zeya 27.72 359 *e*P **P 18 45 35.4 +2.5**
SONM Songino Array 27.82 327 P P 18 45 32.2 -1.8
comp=Z,17nm,0.9s,baz=142,slow=9.4,SNR=50
SONM Songino Array 27.82 327 P P 18 45 32.3 -1.8
SONM pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 27.82 327 P P 18 45 32.3 -1.8
SONM IAmb IAmb 18 45 36.2
comp=Z,16nm,0.9s
CM34 Chiang Mai Arr 27.89 261 P P 18 45 35.0 +0.2
CM35 Chiang Mai Arr 27.95 261 P P 18 45 35.0 -0.3
CM36 Chiang Mai Arr 28.05 261 P P 18 45 37.0 +0.7
CM33 Chiang Mai Arr 28.08 261 P P 18 45 36.0 -0.5
CHTO Chiang Mai 28.09 261 P P 18 45 35.5 -1.1
CHTO pmax pmax
comp=Z,18nm,0.8s
CHTO Chiang Mai 28.09 261 P P 18 45 36.3 -0.3
comp=Z,28nm,1.4s
CHTO Chiang Mai 28.09 261 P P 18 45 35.5 -1.1
CHTO IAmb IAmb 18 45 38.6
comp=Z,18nm,0.8s
SBUM Sibu 28.09 216 P P 18 45 41.0 +4.4
CM09 Chiang Mai Arr 28.17 261 P P 18 45 39.3 +2.0
comp=Z,14nm,0.9s
CM09 Chiang Mai Arr 28.17 261 P P 18 45 39.0 +1.7
comp=Z,14nm,0.9s
CM04 Chiang Mai Arr 28.20 260 P P 18 45 39.5 +1.9
comp=Z,103nmcomp=Z,14nm,1.0s
CM04 Chiang Mai Arr 28.20 260 P P 18 45 39.5 +1.9
comp=Z,103nmcomp=Z,14nm,1.0s
CM01 Chiang Mai Arr 28.21 261 P P 18 45 39.7 +2.1
comp=Z,11nm,1.3s
CM01 Chiang Mai Arr 28.21 261 P P 18 45 39.8 +2.1
comp=Z,11nm,1.3s
CM31 Chiang Mai Arr 28.21 261 P P 18 45 39.3 +1.6
comp=Z,324nm,0.9s
CM31 Chiang Mai Arr 28.21 261 P P 18 45 36.7 -1.0
CMAR Chiang Mai Arr 28.21 261 P P 18 45 37.7 0.0
comp=Z,7.4nm,0.8s,baz=60,slow=7.1,SNR=36
CMAR LR LR 18 56 35.2
comp=Z,171nm,22.0s,baz=80,slow=36
CMAR Chiang Mai Arr 28.21 261 P P 18 45 36.6 -1.1
CM02 Chiang Mai Arr 28.21 261 P P 18 45 39.6 +1.9
comp=Z,100nmcomp=Z,14nm,0.9s
CM02 Chiang Mai Arr 28.21 261 P P 18 45 39.0 +1.3
comp=Z,100nmcomp=Z,14nm,0.9s
CM05 Chiang Mai Arr 28.23 260 P P 18 45 39.8 +2.0
comp=Z,8.3nm,1.0s
CM05 Chiang Mai Arr 28.23 260 P P 18 45 39.0 +1.2
comp=Z,8.3nm,1.0s
CM15 Chiang Mai Arr 28.23 261 P P 18 45 39.7 +1.9
comp=Z,12nm,1.0s
CM15 Chiang Mai Arr 28.23 261 P P 18 45 39.0 +1.2
comp=Z,12nm,1.0s
CM13 Chiang Mai Arr 28.25 261 P P 18 45 39.9 +1.8
comp=Z,92nmcomp=Z,8.4nm,0.8s
CM13 Chiang Mai Arr 28.25 261 P P 18 45 39.0 +0.9
comp=Z,92nmcomp=Z,8.4nm,0.8s
MHMT Maesarieng 29.21 261 P P 18 45 49.5 +3.0
comp=Z,24nm,0.8s
MHMT Maesarieng 29.21 261 P P 18 45 49.0 +2.5
KSM Kuching 29.95 218 P P 18 45 59.0 +5.9
KAPI Kappang 31.94 196 LR LR 18 58 18.5
comp=Z,89nm,19.3s,baz=352,slow=35
SHL Shillong 32.79 277 P P 18 46 16.7 -1.6
SHL pmax pmax
comp=Z,38nm,0.9s
SHL Shillong 32.79 277 P P 18 46 16.7 -1.6
LSA Lhasa 33.03 285 P P 18 46 19.6 -1.1
LSA pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 33.03 285 P P 18 46 19.6 -1.1
KULM Kulim 33.56 237 P P 18 46 30.0 +5.1
IPM Ipoh 33.82 235 P P 18 46 30.0 +2.9
PEA0B Petropavlovsk- 34.83 31 *ce*P **P 18 46 36.2 +0.7**
PEA0B Petropavlovsk- 34.83 31 P P 18 46 35.1 -0.4
PETK Petropavlovsk- 34.83 31 P P 18 46 34.8 -0.7
comp=Z,4.9nm,0.9s,baz=225,slow=4.0,SNR=8.6
PETK LR LR 19 01 24.9
comp=Z,151nm,20.9s,baz=228,slow=37
PET Petropavlovsk 35.23 32 *e*P **P 18 46 39.2 +0.3**
PET *e*S **S 18 52 09.6 -1.3**
PET pmax pmax
comp=Z,37nm,1.1s
PET MLR MLR
comp=Z,300nm,14.0s
PET Petropavlovsk 35.23 32 P P 18 46 39.0 +0.2
PET IAmb IAmb 18 46 40.6
comp=Z,36nm,1.2s
H11N1 WAKE ISLAND Hy 35.95 92 T T 19 25 23.5
baz=290,slow=74,SNR=4.0
H11N2 WAKE ISLAND Hy 35.95 92 T T 19 25 20.3
baz=290,slow=74,SNR=6.1
H11N3 WAKE ISLAND Hy 35.96 92 T T 19 25 24.4
baz=290,slow=74,SNR=5.8
YAK Yakutsk 36.04 1 P **P 18 46 44.6 -1.1**
comp=Z,6.0nm,0.6s,baz=180,slow=1.9,SNR=11
YAK Yakutsk 36.04 1 *e*P **P 18 46 44.6 -1.1**
YAK *e**PP **pwP 18 46 54.7 0.0**
YAK *e* 18 48 05.2
YAK *e*PPP PPP 18 48 22.3
YAK *e* 18 49 12.6
YAK *e*S **S 18 52 21.3 -1.8**
YAK *e**SS **sS 18 52 38.5 +4.5**
YAK *e*SS **SnSn 18 54 47.9 -0.6**
YAK *e* 18 57 00.0
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,13nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.3s
YAK pmax pmax
comp=Z,36nm,2.8s
YAK pmax pmax
comp=N,18nm,2.8s
YAK pmax pmax
comp=E,36nm,2.7s
YAK smax smax
comp=N,33nm,2.5s
YAK smax smax
comp=E,74nm,2.5s
YAK Yakutsk 36.04 1 P **P 18 46 44.7 -1.1**
YAK IAmb IAmb 18 46 45.9
comp=Z,17nm,0.8s
TAPN Taplejung 36.25 281 *e*P **P 18 46 47.4 -1.0**
ODAN Odare 36.60 281 *e*P **P 18 46 50.8 -0.5**
comp=Z,252nm,0.7s
WMQ Urumqi 37.36 309 *e*P **P 18 46 56.2 -1.2**
WMQ sP pP 18 47 04.7 +0.8
WMQ pmax pmax
comp=Z,49nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.8s
WMQ LR LR
comp=Z,300nm,6.9s
WMQ LR LR
comp=Z,86nm,12.5s
JIRN Jiri 37.55 282 *e*P **P 18 46 59.0 -0.5**
PKI Pulchoki 38.25 282 *e*P **P 18 47 03.9 -1.5**
comp=Z,178nm,0.8s
PKIN Phulchoki 38.26 282 *e*P **P 18 47 04.0 -1.4**
comp=Z,112nm,0.7s
KKN Kakani 38.33 283 *e*P **P 18 47 04.8 -1.1**
comp=Z,166nm,0.8s
DMN Daman 38.51 282 *e*P **P 18 47 06.7 -0.8**
MTN Manton Dam 38.70 176 P **P 18 47 09.6 +0.9**
GKN Gorkha 38.87 283 *e*P **P 18 47 09.2 -1.2**
comp=Z,215nm,1.0s
DANN Dangsing 39.59 284 *e*P **P 18 47 16.4 -0.2**
comp=Z,283nm,0.6s
KOLN Koldanda 39.81 283 *e*P **P 18 47 17.8 -0.5**
SEY Seymchan 40.21 17 *d i*P **P 18 47 21.2 +0.4**
ZSN Zaisan 40.26 314 *e*P **P 18 47 19.0 -2.5**
baz=314
ZSN Zaisan 40.26 314 *e*P **P 18 47 19.0 -2.5**
PYUN Piuthan 40.30 284 *e*P **P 18 47 22.3 0.0**
KNRA Kununurra 41.42 179 P **P 18 47 32.2 +0.9**
KNRA IAmb IAmb 18 47 34.5
comp=Z,24nm,0.9s
MK31 Makanchi Array 41.78 312 *e*P **P 18 47 32.5 -1.6**
MK31 Makanchi Array 41.78 312 P **P 18 47 32.1 -2.0**
MKAR Makanchi Array 41.78 312 P **P 18 47 32.6 -1.6**
comp=Z,7.0nm,0.4s,baz=94,slow=9.1,SNR=124
MKAR LR LR 19 06 59.6
comp=Z,117nm,18.6s,baz=100,slow=39
MKAR Makanchi Array 41.78 312 *i* P **P 18 47 32.2 -1.9**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR Makanchi Array 41.78 312 P **P 18 47 31.9 -2.2**
MAKZ Makanchi 42.00 312 P **P 18 47 33.9 -2.0**
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ Makanchi 42.00 312 P **P 18 47 33.9 -2.0**
MAKZ IAmb IAmb 18 47 36.1
comp=Z,30nm,1.1s
ZAA0 Zalesovo Array 42.51 323 P **P 18 47 38.1 -1.8**
ZALV Zalesovo Beam 42.51 323 P **P 18 47 38.0 -1.8**
comp=Z,5.4nm,0.6s,baz=111,slow=7.6,SNR=21
ZALV LR LR 19 07 44.4
comp=Z,156nm,18.2s,baz=112,slow=40
ZALV Zalesovo Beam 42.51 323 *i* P **P 18 47 38.2 -1.7**
ZALV pmax pmax
comp=Z,5.0nm,0.6s
ZALV Zalesovo Beam 42.51 323 P **P 18 47 37.8 -2.1**
SHLS Shalkode 43.12 306 *e*P P 18 47 39.9 -5.3
baz=306
SHLS Shalkode 43.12 306 *e*P P 18 47 39.8 -5.4
KPKS Kokpek 43.72 307⇑ *i*P **P 18 47 48.1 -1.9**
comp=Z,20nm,1.0s,baz=306
KPKS Kokpek 43.72 307 *c i*P **P 18 47 48.0 -1.9**
KPKS pmax pmax
comp=Z,20nm,1.0s
PRZ Przheval'sk 43.82 305 P **P 18 47 49.5 -1.4**
PRZ pmax pmax
comp=Z,19nm,0.9s
PRZ Przheval'sk 43.82 305 P **P 18 47 49.5 -1.4**
PRZ IAmb IAmb 18 47 52.5
comp=Z,19nm,0.9s
SATY Saty 43.87 306 *e*P **P 18 47 49.8 -1.5**
comp=Z,16nm,1.3s,baz=306
SATY Saty 43.87 306 *e*P **P 18 47 49.7 -1.5**
SATY pmax pmax
comp=Z,16nm,1.3s
SEM Semipalatinsk 43.99 317 *e*P **P 18 47 49.6 -2.6**
comp=Z,25nm,1.2s,baz=317
SEM Semipalatinsk 43.99 317 *e*P **P 18 47 49.6 -2.6**
SEM pmax pmax
comp=Z,25nm,1.2s
TDK Taldyqorghan 44.12 309 *e*P **P 18 47 51.4 -1.7**
baz=309
TDK Taldyqorghan 44.12 309 *e*P **P 18 47 51.3 -1.7**
KDJ Kajisay 44.69 304 P **P 18 47 56.7 -1.2**
KDJ pmax pmax
comp=Z,18nm,1.0s
KDJ Kajisay 44.69 304 P **P 18 47 56.7 -1.2**
KDJ IAmb IAmb 18 47 59.0
comp=Z,18nm,0.9s
MDOK Medeo 44.87 306 *e*P **P 18 47 56.6 -2.7**
baz=306
MDOK Medeo 44.87 306 *e*P **P 18 47 56.6 -2.7**
CHKK Chushkaly 44.98 307 *e*P **P 18 47 57.4 -2.6**
baz=307
CHKK Chushkaly 44.98 307 *e*P **P 18 47 57.4 -2.6**
KURK Kurchatov 45.08 317 P **P 18 47 59.5 -1.0**
KURK Kurchatov 45.08 317 P **P 18 47 59.5 -1.0**
KURBB Kurchatov Arra 45.11 317 P **P 18 47 59.5 -1.3**
comp=Z,11nm,0.7s,baz=106,slow=7.7,SNR=45
KUU Kurty 45.46 307 *e*P **P 18 48 00.3 -3.5**
comp=Z,58nm,2.0s,baz=307
KUU Kurty 45.46 307 *e*P **P 18 48 00.2 -3.5**
KUU pmax pmax
comp=Z,58nm,2.0s
BOOM Boomskoye usch 45.63 305 P **P 18 48 04.2 -1.2**
BOOM pmax pmax
comp=Z,19nm,1.6s
BOOM Boomskoye usch 45.63 305 P **P 18 48 04.2 -1.2**
BOOM IAmb IAmb 18 49 50.6
comp=Z,19nm,1.6s
TIXI Tiksi 45.69 0 P **P 18 48 04.9 -0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 45.69 0 P **P 18 48 04.9 -0.2**
WB0 Warramunga Arr 45.86 172 P **P 18 48 07.2 +0.2**
WB0 IAmb IAmb 18 48 21.7
comp=Z,15nm,1.2s
AMKA Amchitka 45.96 43 P **P 18 48 07.5 0.0**
WRA Warramunga Arr 46.03 172 P **P 18 48 07.8 -0.6**
comp=Z,3.9nm,0.7s,baz=353,slow=8.4,SNR=24
WRA Warramunga Arr 46.03 172 P **P 18 48 07.3 -1.1**
WB2 Warramunga Arr 46.03 172 P **P 18 48 07.8 -0.5**
WB2 IAmb IAmb 18 48 26.1
comp=Z,50nm,2.0s
WR0 Warramunga Arr 46.07 172 P **P 18 48 08.2 -0.5**
WR0 IAmb IAmb 18 48 18.1
comp=Z,21nm,1.4s
SGDS Sogindy 46.66 306 *e*P **P 18 48 10.6 -2.6**
baz=306
SGDS Sogindy 46.66 306 *e*P **P 18 48 10.6 -2.6**
AAK Ala-Archa 46.71 305 P **P 18 48 12.3 -1.5**
comp=Z,1.5nm,0.3s,baz=179,slow=5.5,SNR=5.3
AAK Ala-Archa 46.71 305 *ce*P **P 18 48 13.8 0.0**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 46.71 305 IAmb IAmb 18 48 14.7
comp=Z,4.6nm,0.9s
BTLS Baital 47.19 308 *e*P **P 18 48 14.7 -2.6**
comp=Z,6.8nm,0.8s,baz=308
BTLS Baital 47.19 308 *e*P **P 18 48 14.7 -2.6**
BTLS pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 47.85 18 *ce*P **P 18 48 22.3 +0.2**
BILL *e* 18 50 11.9
BILL pmax pmax
comp=Z,17nm,1.7s
BILL MLR MLR
comp=Z,114nm,17.0s
NIL Nilore 47.95 293 P **P 18 48 22.2 -1.3**
NIL pmax pmax
comp=Z,26nm,0.6s
NIL Nilore 47.95 293 P **P 18 48 22.2 -1.3**
CTA Charters Tower 48.99 158 P **P 18 48 31.6 +0.2**
comp=Z,2.5nm,0.9s,baz=355,slow=8.3,SNR=3.0
PALK Pallekele 49.00 256 LR LR 19 09 01.9
comp=Z,127nm,20.3s,baz=163,slow=36
BTK Batken 49.46 302 P **P 18 48 33.9 -1.1**
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 49.46 302 P **P 18 48 33.9 -1.1**
BTK IAmb IAmb 18 48 35.2
comp=Z,6.2nm,0.6s
KK31 Karatay Array 49.65 306 P **P 18 48 35.4 -0.9**
KK31 18 49 59.2
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KK31 Karatay Array 49.65 306 P **P 18 48 35.4 -0.9**
KK31 IAmb IAmb 18 48 37.5
comp=Z,10nm,0.8s
KK31 PcP **PcP 18 49 59.2 +1.7**
KKAR Karatay Array 49.65 306 P **P 18 48 35.2 -1.1**
KKAR 18 49 59.2
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 49.65 306 P **P 18 48 34.8 -1.6**
KKAR Karatay Array 49.65 306 P **P 18 48 35.2 -1.1**
KKAR IAmb IAmb 18 48 37.5
comp=Z,10nm,0.8s
KKAR PcP **PcP 18 49 59.2 +1.7**
ASAR Alice Springs 49.66 173 P **P 18 48 36.5 +0.1**
comp=Z,1.9nm,0.7s,baz=2.1,slow=13,SNR=23
BVAR Borovoye Array 50.53 318 P **P 18 48 41.2 -1.6**
comp=Z,6.2nm,0.5s,baz=205,slow=6.6,SNR=56
BRVK Borovoye 50.60 318 *ce*P **P 18 48 42.7 -0.7**
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 50.60 318 P **P 18 48 42.5 -0.8**
BRVK PcP **PcP 18 50 01.1 +0.4**
KBL Kabul 51.32 295 P **P 18 48 48.0 -1.3**
KBL pmax pmax
comp=Z,39nm,0.7s
KBL Kabul 51.32 295 P **P 18 48 48.0 -1.3**
SVE Sverdlovsk 56.52 322 *e*P **P 18 49 26.3 -0.4**
SVE pmax pmax
comp=Z,17nm,0.8s
SVE MLR MLR
comp=Z,247nm,15.0s
ABKAR Akbulak array 56.90 313 P **P 18 49 28.0 -1.5**
ABKAR Akbulak array 56.90 313 P **P 18 49 28.3 -1.2**
ABKAR PcP **PcP 18 50 28.8 +4.0**
ARU Arti 57.66 322 *c i*P **P 18 49 34.0 -0.7**
ARU 18 51 40.7
ARU S **S 18 57 34.3 +2.7**
ARU SS **SS 19 01 18.8 -2.8**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU MLR MLR
comp=Z,357nm,17.0s

ARU	**Arti**	57.66	322	P	**P**	18 49 33.0	-1.7
ARU				IAmb	IAmb	18 49 34.7	
	comp=Z,12nm,0.6s						
ARU				PcP	**PcP**	18 50 30.4	+2.8
STKA	**Stephens Creek**	58.92	167	LR	LR	19 18 19.6	
	comp=Z,35nm,18.2s,baz=223,slow=39						
GEYT	**Alibeck**	59.52	300	P	**P**	18 49 47.6	-0.4
	comp=Z,3.6nm,0.5s,baz=43,slow=3.0,SNR=7.2						
N18K	**Kilae Creek**	60.75	33	P	**P**	18 49 57.7	+1.5
	baz=271,SNR=9.8						
SVW2	**Sparrevohn**	60.89	33	P	**P**	18 49 57.8	+0.7
SVW2				IAmb	IAmb	18 49 59.3	
	comp=Z,11nm,1.0s						
O18K	**Koktuh Hills**	61.12	34	P	**P**	18 49 59.9	+1.3
	baz=272						
L19K	**White Mountain**	61.21	31	P	**P**	18 50 00.7	+1.5
	baz=272,SNR=10.0						
N19K	**Bonanza Creek**	61.44	33	P	**P**	18 50 02.3	+1.4
	baz=273,SNR=6.4						
M19K	**Big River Lodg**	61.44	32	P	**P**	18 50 02.0	+1.3
	baz=272						
J20K	**Nowinta River**	61.49	29	P	**P**	18 50 02.4	+1.4
	baz=271						
K20K	**Telida**	61.54	30	P	**P**	18 50 02.9	+1.5
	baz=272						
H21K	**Melozitna Rive**	62.03	27	P	**P**	18 50 06.0	+1.3
	baz=271,SNR=15						
M20K	**Styx River**	62.04	32	P	**P**	18 50 06.2	+1.4
	baz=273						
P19K	**Oil Pt**	62.13	34	P	**P**	18 50 06.0	+0.5
	baz=274,SNR=5.7						
CHUM	**Lake Minchumin**	62.30	29	P	**P**	18 50 08.1	+1.6
	baz=273						
RSO	**Redoubt South**	62.31	33	P	**P**	18 50 05.9	-1.0
I21K	**Tanana**	62.39	28	P	**P**	18 50 08.4	+1.4
	baz=272,SNR=8.4						
O20K	**Slope Mountain**	62.40	34	P	**P**	18 50 07.6	+0.3
	baz=274						
PPLA	**Purkeypile**	62.42	31	P	**P**	18 50 08.4	+1.0
	baz=273,SNR=6.5						
PPLA	**Purkeypile**	62.42	31	P	**P**	18 50 07.9	+0.4
PPLA				IAmb	IAmb	18 50 09.0	
	comp=Z,8.4nm,0.7s						
SPU	**Mount Spurr**	62.60	32	P	**P**	18 50 09.1	+0.5
KDAK	**Kodiak Island**	62.63	36	P	**P**	18 50 08.6	-0.2
KDAK				pmax	pmax		
	comp=Z,19nm,0.9s						
KDAK	**Kodiak Island**	62.63	36	P	**P**	18 50 09.0	+0.2
	baz=276						
KDAK	**Kodiak Island**	62.63	36	P	**P**	18 50 08.6	-0.2
SKT	**Skwentna**	62.78	32	P	**P**	18 50 09.7	-0.1
	baz=274						
SKT	**Skwentna**	62.78	32	P	**P**	18 50 09.6	-0.2
SKT				IAmb	IAmb	18 50 10.7	
	comp=Z,8.1nm,1.1s						
BPAW	**Bear Paw Mtn.**	62.88	29	P	**P**	18 50 11.2	+0.8
	baz=274,SNR=9.2						
BPAW	**Bear Paw Mtn.**	62.88	29	P	**P**	18 50 11.0	+0.6
BPAW				IAmb	IAmb	18 50 12.4	
	comp=Z,13nm,1.2s						
MLY	**Manley**	62.92	28	P	**P**	18 50 11.8	+1.1
	baz=274,SNR=17						
MLY	**Manley**	62.92	28	P	**P**	18 50 11.2	+0.5
MLY				IAmb	IAmb	18 50 12.8	
	comp=Z,18nm,1.3s						
CNPM	**China Poot**	63.15	34	P	**P**	18 50 12.4	+0.1
CNPM				IAmb	IAmb	18 50 14.7	
	comp=Z,10.0nm,0.8s						
TOLK	**Toolik Lake Re**	63.18	24	P	**P**	18 50 13.5	+1.2
	baz=273,SNR=6.2						
SUA	**Susitna One**	63.20	32	P	**P**	18 50 12.8	+0.1
	baz=275,SNR=19						
TRF	**Thorofare Moun**	63.24	30	P	**P**	18 50 13.0	+0.1
	baz=275						
TRF	**Thorofare Moun**	63.24	30	P	**P**	18 50 12.5	-0.4
TRF				IAmb	IAmb	18 50 59.0	
	comp=Z,18nm,1.7s						
CUT	**Chulitna**	63.34	31	P	**P**	18 50 13.6	+0.2
	baz=275						
H23K	**Yukon River**	63.37	27	P	**P**	18 50 15.2	+1.6
	baz=274,SNR=18						
BRSE	**Bradley Lake S**	63.38	34	P	**P**	18 50 15.1	+1.4
	baz=276,SNR=12						
I23K	**Minto, Yukon-K**	63.50	28	P	**P**	18 50 15.5	+1.1
	baz=275,SNR=5.5						
I23K	**Minto, Yukon-K**	63.50	28	P	**P**	18 50 14.8	+0.4
I23K				IAmb	IAmb	18 50 16.4	
	comp=Z,9.5nm,1.2s						
NEA2	**Nenana**	63.67	29	P	**P**	18 50 16.2	+0.6
	baz=275,SNR=16						
RC01	**Rabbit Creek A**	63.73	32	P	**P**	18 50 16.5	+0.5
	baz=276,SNR=5.4						
RC01	**Rabbit Creek A**	63.73	32	IAmb	IAmb	18 50 17.6	
	comp=Z,13nm,1.1s						
MCK	**McKinley**	63.81	29	P	**P**	18 50 16.6	0.0
MCK				pmax	pmax		
	comp=Z,15nm,0.7s						
MCK	**McKinley**	63.81	29	P	**P**	18 50 17.3	+0.7
	baz=276,SNR=7.9						
MCK	**McKinley**	63.81	29	P	**P**	18 50 16.6	0.0
SEW	**Seward**	63.98	34	P	**P**	18 50 17.5	-0.2
	baz=277,SNR=5.9						
SEW	**Seward**	63.98	34	P	**P**	18 50 17.2	-0.4
H24K	**Noodor Dome**	64.05	27	P	**P**	18 50 19.4	+1.3
	baz=276,SNR=11						
PRGR	**Permogore**	64.07	328	*e*P	**P**	18 50 16.1	-2.1
PRGR				pmax	pmax		
	comp=Z,19nm,0.5s						
WAT1	**Susitna Watana**	64.08	30	P	**P**	18 50 18.4	0.0
	baz=277						
CCB	**Clear Creek Bu**	64.21	28	P	**P**	18 50 18.6	-0.4
KNK	**Knik Glacier**	64.30	32	P	**P**	18 50 20.2	+0.4
	baz=277						
KNK	**Knik Glacier**	64.30	32	IAmb	IAmb	18 50 20.9	
	comp=Z,13nm,0.9s						
SML	**Sawmill**	64.31	32	P	**P**	18 50 20.2	+0.3
	baz=277,SNR=5.9						
POKR	**Poker Plat Res**	64.31	28	P	**P**	18 50 21.2	+1.4
	baz=276						
PWL	**Port Wells**	64.43	33	P	**P**	18 50 20.4	-0.2
PWL				IAmb	IAmb	18 50 21.5	
	comp=Z,16nm,1.0s						
WAT6	**Susitna Watana**	64.48	31	P	**P**	18 50 21.4	+0.2
	baz=277,SNR=11						
ILAR	**Eielson Array**	64.58	28	P	**P**	18 50 21.1	-0.5
	comp=Z,2.2nm,0.7s,baz=269,slow=5.7,SNR=28						
ILAR				LR	LR	19 22 58.0	
	comp=Z,34nm,19.4s,baz=286,slow=40						
HDA	**Harding Lake**	64.60	29	P	**P**	18 50 21.5	-0.2
	baz=277,SNR=10						
SCM	**Sheep Creek Mo**	64.78	31	P	**P**	18 50 23.0	0.0
SCM				pmax	pmax		
	comp=Z,13nm,0.9s						
SCM	**Sheep Creek Mo**	64.78	31	P	**P**	18 50 22.9	0.0
SCM				IAmb	IAmb	18 50 24.3	
	comp=Z,13nm,0.9s						
GLI	**Glacier Island**	65.03	32	P	**P**	18 50 24.7	+0.1
	baz=279,SNR=7.5						
PRP	**Porcupine Dome**	65.06	27	P	**P**	18 50 25.9	+1.1
	baz=278						
M24K	**Tolsona, Glenn**	65.28	31	P	**P**	18 50 26.9	+0.7
	baz=279,SNR=5.3						
FID	**Port Fidalgo**	65.35	33	IAmb	IAmb	18 50 27.7	
	comp=Z,13nm,1.0s						
PAX	**Paxson**	65.46	30	P	**P**	18 50 27.9	+0.5
	baz=279						
KLU	**Klutina**	65.49	32	P	**P**	18 50 28.2	+0.5
	baz=280,SNR=6.1						
KLU	**Klutina**	65.49	32	P	**P**	18 50 27.9	+0.2
KLU				IAmb	IAmb	18 50 29.0	
	comp=Z,6.3nm,0.8s						
RIDG	**Independent Ri**	65.61	29	P	**P**	18 50 28.3	0.0
	baz=279,SNR=8.7						
RIDG	**Independent Ri**	65.61	29	IAmb	IAmb	18 50 29.4	
	comp=Z,25nm,1.6s						
HARP	**HAARP**	65.70	31	P	**P**	18 50 30.0	+1.2
	baz=280						
EYAK	**Cordova Ski Ar**	65.74	33	P	**P**	18 50 29.9	+0.8
	baz=280						
EYAK	**Cordova Ski Ar**	65.74	33	IAmb	IAmb	18 50 30.7	
	comp=Z,6.3nm,0.8s						
SCRK	**Sand Creek**	65.95	29	P	**P**	18 50 30.8	+0.2
	baz=280,SNR=21						
SCRK	**Sand Creek**	65.95	29	IAmb	IAmb	18 50 31.5	
	comp=Z,8.5nm,0.9s						
DOT	**Dot Lake**	65.97	29	IAmb	IAmb	18 50 31.4	
	comp=Z,12nm,0.8s						
N25K	**Chitina, Valde**	66.10	31	P	**P**	18 50 32.4	+0.8
	baz=281						
N25K	**Chitina, Valde**	66.10	31	P	**P**	18 50 31.8	+0.2
BMRM	**Bremner River**	66.21	32	P	**P**	18 50 33.0	+0.8
	baz=281,SNR=8.1						
MENT	**Mentasta**	66.25	30	P	**P**	18 50 33.5	+1.0
MENT				IAmb	IAmb	18 50 34.2	
	comp=Z,9.9nm,0.8s						
L26K	**Log Cabin Wild**	66.41	30	P	**P**	18 50 34.4	+1.0
	baz=281,SNR=7.8						
VRDI	**Verde Repeater**	66.71	32	IAmb	IAmb	18 50 36.9	
	comp=Z,8.2nm,0.8s						
K27K	**Chicken**	66.77	29	P	**P**	18 50 36.8	+1.1
	baz=282,SNR=11						
K27K	**Chicken**	66.77	29	P	**P**	18 50 35.8	+0.1
K27K				IAmb	IAmb	18 50 37.5	
	comp=Z,12nm,1.1s						
MCARA	**McCarthy VSAT**	66.88	32	P	**P**	18 50 38.3	+1.9
	baz=282						
CRQM	**Cirque**	66.96	32	P	**P**	18 50 37.1	0.0
CRQE	**Cirque**	66.98	32	P	**P**	18 50 37.8	+0.5
	baz=282						
EGAK	**Eagle**	67.00	28	P	**P**	18 50 37.4	+0.3
	baz=282,SNR=6.1						
L27K	**Beaver Creek,**	67.08	30	P	**P**	18 50 38.6	+0.9
	baz=282,SNR=11						
BCAR	**Beaver Creek A**	67.09	30	P	**P**	18 50 38.4	+0.5
KLMR	**Klimovskoe**	67.11	328	*e*P	**P**	18 50 36.4	-1.5
KLMR				*e*		18 53 04.9	
KLMR				pmax	pmax		
	comp=Z,28nm,1.5s						
KLMR	**Klimovskoe**	67.11	328	*e*P	**P**	18 50 36.4	-1.5
KLMR				AMP		18 50 49.3	
	comp=Z,28nm,1.5s						
KLMR				*e*PP	**PP**	18 53 05.0	-0.5
KLMR				LR	LR	19 22 29.6	
LGD	**Lagodekhi**	67.56	307	P	**P**	18 50 42.2	+1.1
CTG	**Chitna Glacier**	67.77	32	P	**P**	18 50 43.2	+0.9
	baz=284						
CTGM	**Chitina Glacie**	67.77	32	IAmb	IAmb	18 50 43.9	
	comp=Z,9.6nm,0.8s						
EPYK	**Eagle Plains**	68.42	26	P	**P**	18 50 46.7	+0.6
	baz=285,SNR=11						
EPYK	**Eagle Plains**	68.42	26	IAmb	IAmb	18 50 47.6	
	comp=Z,12nm,0.8s						
PINM	**Pinnacle**	68.50	33	P	**P**	18 50 47.9	+1.1
	baz=285						
GUDG	**Gudauri**	68.65	308	P	**P**	18 50 45.8	-2.4
ZEI	**Tsey**	68.97	308	*e*P	**P**	18 50 48.0	-2.2
ZEI				pmax	pmax		
	comp=Z,26nm,1.0s						
INK	**Inuvik**	69.05	23	P	**P**	18 50 49.8	-0.1
INK				pmax	pmax		
	comp=Z,16nm,1.4s						
INK	**Inuvik**	69.05	23	P	**P**	18 50 50.6	+0.6
	baz=287,SNR=7.8						
INK	**Inuvik**	69.05	23	P	**P**	18 50 49.8	-0.1
INK				IAmb	IAmb	18 50 51.5	
	comp=Z,16nm,1.4s						
GNI	**Garni**	69.11	305	P	**P**	18 50 50.3	-0.8
GNI				pmax	pmax		
	comp=Z,89nm,0.9s						
GNI	**Garni**	69.11	305	PN	**P**	18 50 50.5	-0.6
GNI	**Garni**	69.11	305	P	**P**	18 50 50.3	-0.8
MOS	**Moscow**	69.34	323	*e*P	**P**	18 50 48.9	-3.0
MOS				*e*		18 51 01.2	
MOS				MLR	MLR		
	comp=Z,500nm,21.0s						
ONI	**Oni**	69.34	308	P	**P**	18 50 54.6	+2.3
KBZ	**Khabaz**	69.41	309	P	**P**	18 50 52.5	-0.1
	comp=Z,19nm,0.8s,baz=111,slow=3.5,SNR=23						
KIV	**Kislovodsk**	69.49	310	*e*P	**P**	18 50 53.1	-0.1
KIV				pmax	pmax		
	comp=Z,31nm,1.1s						
KIV				MLR	MLR		
	comp=Z,65nm,17.0s						
KIV	**Kislovodsk**	69.49	310	P	**P**	18 50 53.0	-0.3
HYT	**Haines Junctio**	69.62	31	IAmb	IAmb	18 50 55.8	
	comp=Z,9.6nm,1.0s						
AKH	**Akhalkalaki**	69.66	307	P	**P**	18 50 55.7	+1.3
AKH	**Akhalkalaki**	69.66	307	PN	**P**	18 50 56.2	+1.8
ARCES	**ARCESS Array B**	70.27	339	P	**P**	18 50 58.6	+1.1
	comp=Z,2.6nm,0.8s,baz=57,slow=6.6,SNR=6.9						
ARCES				LR	LR	19 28 31.8	
	comp=Z,96nm,18.2s,baz=125,slow=42						
ARCES	**ARCESS Array B**	70.27	339	P	**P**	18 50 58.3	+0.8
ARCES				IAmb	IAmb	18 51 00.2	
	comp=Z,18nm,1.4s						
VANB	**Van**	70.58	304	PN	**P**	18 50 55.4	-4.7
SGF	**Sodankyl**	70.68	336	P	**P**	18 50 59.8	-0.2
WHY	**Whitehorse**	70.89	31	P	**P**	18 51 02.6	+1.1
	baz=289						
WHY	**Whitehorse**	70.89	31	IAmb	IAmb	18 51 03.5	
	comp=Z,24nm,1.6s						
AKDM	**Akdamar-Van**	70.97	304	PN	P	18 50 57.7	-4.8
SKAG	**Skagway**	71.07	32	P	**P**	18 51 03.7	+1.2
	baz=289						
SKAG	**Skagway**	71.07	32	IAmb	IAmb	18 51 04.6	
	comp=Z,9.1nm,0.9s						
OUL	**Oulu**	71.79	334	P	**P**	18 51 06.4	-0.3
OUL				pmax	pmax		
	comp=Z,20nm,1.0s						
C36M	**Paulatuk**	71.87	21	P	**P**	18 51 07.2	+0.1
	baz=296						
C36M	**Paulatuk**	71.87	21	P	**P**	18 51 06.4	-0.7
C36M				IAmb	IAmb	18 51 08.3	
	comp=Z,16nm,1.0s						
JIS	**Juneau Island**	71.93	33	IAmb	IAmb	18 51 09.8	
	comp=Z,8.6nm,0.8s						
EUNU	**Eureka**	72.50	6	P	**P**	18 51 10.6	-0.2
ANN	**Anapa**	72.81	312	*e*P	**P**	18 51 13.0	-0.2
ANN				pmax	pmax		
	comp=Z,101nm,1.6s						
FINES	**FINESS Array B**	73.13	331	P	**P**	18 51 14.1	-0.7
	comp=Z,7.3nm,0.6s,baz=71,slow=5.1,SNR=43						
FINES				LR	LR	19 27 22.6	
	comp=Z,186nm,19.0s,baz=68,slow=39						
RAYN	**Ar Rayn**	74.00	289	P	**P**	18 51 20.0	-0.7
RAYN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
RAYN	**Ar Rayn**	74.00	289	P	**P**	18 51 20.0	-0.7
VSU	**Vasula**	74.01	328	*e*P	**P**	18 51 20.6	+0.6
MALT	**Malatya**	74.35	305	P	**P**	18 51 23.8	+1.3
MEF	**Metsahovi**	74.38	330	*e*P	**P**	18 51 22.7	+0.6
MNK	**Minsk**	75.02	324	*i* P	**P**	18 51 25.6	-0.3
MNK				*i*		18 51 39.4	
MNK				*i*		18 54 12.6	
MNK				*i* PPP	PPP	18 55 58.2	
MNK				*i* S	**S**	19 01 02.7	+0.4
MNK				*i* SS	**SS**	19 05 51.7	+1.2
MNK				pmax	pmax		
	comp=N,12nm,0.8s						
MNK				pmax	pmax		
	comp=Z,18nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=N,119nm,18.0s						
MNK				MLR	MLR		
	comp=Z,218nm,22.0s						
MNK				MLR	MLR		
	comp=E,20nm,22.0s						
MNK	**Minsk**	75.02	324	*i* P	**P**	18 51 25.7	-0.2
	comp=E,2.0nm,1.0s						
MNK				*i* P	**P**	18 51 25.7	-0.2
	comp=N,12nm,0.8s						
MNK				*i* P	**P**	18 51 25.7	-0.2
	comp=Z,18nm,0.8s,baz=66						
MNK				*i* PcP	**PcP**	18 51 39.5	-0.1
MNK				*i* PP	**PP**	18 54 12.6	-0.9
MNK				*i* PPP	PPP	18 55 58.3	
MNK				*i* S	**S**	19 01 02.8	+0.5
MNK				*i* SS	**SS**	19 05 51.7	+1.2
MNK				*i* SSS	SSS	19 08 54.2	
MNK				*i* LQ	LQ	19 19 21.4	
MNK				*i* LR	LR	19 24 43.0	
MNK				*i* LRM	MLR	19 27 02.6	
	comp=N,119nm,18.1s						
MNK				*i* LRM	MLR	19 27 30.9	
	comp=Z,218nm,22.4s						
MNK				*i* LRM	MLR	19 27 32.3	
	comp=E,20nm,21.7s						
IDID	**Didziasalis**	75.29	325	*e*P	**P**	18 51 27.1	-0.3
MTSE	**Matsula**	75.30	329	*e*P	**P**	18 51 25.3	-2.1
IIGN	**Ignalina**	75.54	325	*e*P	**P**	18 51 28.8	-0.1
GAZ	**Gaziantep**	75.66	304	IAmb	IAmb	18 51 31.1	
	comp=Z,18nm,0.9s						
AKASG	**Malin Array Be**	75.79	320	P	**P**	18 51 29.6	-0.8
	comp=Z,9.8nm,0.6s,baz=59,slow=6.7,SNR=20						
AKBB	**Malin Array Si**	75.79	320	*ce*P	**P**	18 51 29.5	-1.0
AKBB	**Malin Array Si**	75.79	320	P	**P**	18 51 29.2	-1.3
KIEV	**Kiev**	75.80	320	P	**P**	18 51 30.0	-0.5
PABE	**Paberze**	76.64	326	*e*P	**P**	18 51 35.1	0.0
PABE	**Paberze**	76.64	326	P	**P**	18 51 34.7	-0.4
BRTR	**Keskin Array B**	77.28	308	P	**P**	18 51 39.1	-0.2
	comp=Z,9.8nm,0.7s,baz=101,slow=4.4,SNR=22						
UPP	**Uppsala**	77.56	331	*e*P	**P**	18 51 40.9	+0.6
SUW	**Suwalki**	77.72	324	*e*P	**P**	18 51 40.6	-0.6
KMPD	**K-Podol'skiy**	78.32	318	P	**P**	18 51 44.0	-0.7
YKA	**Yellowknife Ar**	78.68	25	P	**P**	18 51 46.7	+0.2
	comp=Z,3.2nm,0.7s,baz=302,slow=5.0,SNR=32						
YKA				LR	LR	19 29 51.0	
	comp=Z,31nm,18.0s,baz=0.0,slow=38						
TPGR	**Topolog**	78.71	314	⇓P	**P**	18 51 47.1	+0.2
CFR	**Carcaliu**	78.75	315	⇓P	**P**	18 51 48.7	+1.5
HARR	**Harsova**	79.09	314	⇑P	**P**	18 51 49.5	+0.5
TESR	**Tescani**	79.11	316	⇑P	**P**	18 51 48.8	-0.3
VRI	**Vrincioaia**	79.34	316	⇓P	**P**	18 51 51.5	+1.1
VRI	**Vrincioaia**	79.34	316	P	**P**	18 51 51.1	+0.7
VRI				pmax	pmax		
	comp=Z,18nm,1.0s						
PLOR	**Plostina**	79.40	316	⇑P	**P**	18 51 50.5	-0.2
CSS	**Mathiatis**	79.41	304	P	**P**	18 51 50.7	-0.3
BURAR	**Bucovina Array**	79.49	318	⇓P	**P**	18 51 51.0	-0.3
BURAR	**Bucovina Array**	79.49	318	P	**P**	18 51 51.2	-0.1
BURAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BURAR	**Bucovina Array**	79.49	318	P	**P**	18 51 51.2	-0.1
BISRR	**Bisoca**	79.50	316	⇑P	**P**	18 51 52.7	+1.4
NB2	**NORSAR Subarra**	79.58	334	P	**P**	18 51 50.5	-1.0
	comp=Z,4.1nm,0.7s,baz=54,slow=5.9						
NOA	**NORSAR Array B**	79.58	334	P	**P**	18 51 50.2	-1.2
	comp=Z,3.2nm,0.7s,baz=52,slow=5.7,SNR=16						
NOA				LR	LR	19 30 38.8	
	comp=Z,79nm,19.6s,baz=60,slow=38						
NORES	**NORESS Array B**	79.63	334	P	**P**	18 51 54.5	+2.9
MLR	**Muntele Rosu**	80.00	316	⇓P	**P**	18 51 54.2	+0.1
DOPR	**Dopca**	80.13	316	⇓P	**P**	18 51 54.9	+0.2
BMR	**Baia Mare**	80.49	319	⇑P	**P**	18 51 57.0	+0.3
VOIR		80.59	316	⇓P	**P**	18 51 58.8	+1.5
KOLS	**Kolonicke sedl**	80.61	320	*e*P	**P**	18 51 59.3	+2.0
KOLS	**Kolonicke sedl**	80.61	320	*e*P	**P**	18 51 59.2	+2.0
HUMR	**Humele**	81.05	315	⇑P	**P**	18 51 59.3	-0.3
ELL	**Elmali**	81.18	306	P	**P**	18 52 01.1	+0.4
SUMG	**Summit**	81.28	356	P	**P**	18 52 00.6	-0.2
SUMG				pmax	pmax		
	comp=Z,13nm,0.7s						
SUMG	**Summit**	81.28	356	P	**P**	18 52 00.6	-0.2
SUMG				IAmb	IAmb	18 52 05.7	
	comp=Z,12nm,0.7s						
BSD	**Bornholm Skovb**	81.32	328	*e*P	**P**	18 52 01.2	+0.4
OJC	**Ojcow**	81.38	322	P	**P**	18 52 00.3	-1.0
OJC				pmax	pmax		
	comp=Z,12nm,1.0s						
OJC	**Ojcow**	81.38	322	P	**P**	18 52 00.3	-1.0
OJC				IAmb	IAmb	18 52 04.6	
	comp=Z,12nm,1.0s						
DRGR		81.39	318	⇓P	**P**	18 52 01.9	+0.4
GZR	**Gura Zlata**	82.02	317	⇑P	**P**	18 52 04.2	-0.6
LANS	**Liptovska Anna**	82.11	321	*e*P	**P**	18 52 08.2	+3.0
LANS	**Liptovska Anna**	82.11	321	*e*P	**P**	18 52 08.2	+3.0
OKC	**Ostrava-Krasne**	82.49	322	AMS	AMS	19 31 20.0	
	comp=Z,200nm,19.4s						
HERR	**Herculane**	82.49	316	⇓P	**P**	18 52 06.9	-0.3
BZS	**Buzias**	82.62	317	⇑P	**P**	18 52 07.9	0.0
D03D	**Eldon**	82.72	40	P	**P**	18 52 10.1	+1.7
	baz=301						
VYHS	**Vyhne**	82.80	321	*e*P	**P**	18 52 10.8	+2.0
VYHS	**Vyhne**	82.80	321	*e*P	**P**	18 52 10.8	+2.0
MORC	**Moravsky Berou**	82.85	322	⇑P	**P**	18 52 11.0	+1.9
MORC	**Moravsky Berou**	82.85	322	*e*P	**P**	18 52 11.2	+2.1
B05A	**Bryant**	82.92	39	P	**P**	18 52 10.4	+1.0
	baz=301						
MDVR	**Moldovita**	82.98	317	⇓P	**P**	18 52 10.0	+0.1
VTS	**Vitosha**	83.07	314	⇑P	**P**	18 52 11.7	+1.2
VTS	**Vitosha**	83.07	314	IAmb	IAmb	18 52 13.9	
	comp=Z,6.7nm,0.9s						
KRLC	**Kraliky**	83.11	323	*e*P	**P**	18 52 11.8	+1.4
KRLC				MLR	MLR		
	comp=Z,200nm,19.8s						
KRLC	**Kraliky**	83.11	323	*e*P	**P**	18 52 11.8	+1.4
KRLC				AMS	AMS	19 31 50.0	
	comp=Z,200nm,19.8s						
OSTC	**Ostas**	83.15	323	AMS	AMS	19 33 10.0	
	comp=Z,200nm,15.0s						
DPC	**Dobruska-Polom**	83.21	323	*e*P	**P**	18 52 13.3	+2.4
DPC				MLR	MLR		
	comp=Z,200nm,20.8s						
DPC	**Dobruska-Polom**	83.21	323	*e*P	**P**	18 52 13.3	+2.4
DPC				AMS	AMS	19 32 00.0	
	comp=Z,200nm,20.8s						
CHVC	**Chvalec**	83.22	324	*e*P	**P**	18 52 14.3	+3.3
JAVC	**Velka Javorina**	83.27	322	*e*P	**P**	18 52 14.9	+3.6
UPC	**Upice**	83.29	324	AMS	AMS	19 32 00.0	
	comp=Z,200nm,17.3s						
VRAC	**Vranov**	83.62

comp=Z,2.9nm,0.8s,baz=53,slow=5.1
KHC Kasperske Hory 85.37 323 *e*P **P 18 52 24.3 +2.4**
KHC *e* 18 52 35.7
KHC MLR MLR
comp=Z,200nm,17.8s
KHC Kasperske Hory 85.37 323 *e*P **P 18 52 24.3 +2.4**
KHC *ex* x 18 52 35.7
KHC AMS AMS 19 33 10.0
comp=Z,200nm,17.8s
D08A Wollman Farm, 85.38 39 IAmb IAmb 18 52 23.6
comp=Z,9.4nm,1.0s
HAWA Hanford 85.39 40 P **P 18 52 21.0 -1.1**
HAWA IAmb IAmb 18 52 24.0
comp=Z,8.5nm,1.1s
CLZ Clausthal 85.42 327 *e*P **P 18 52 25.0 +2.9**
comp=Z,9.6nm,0.8s,baz=53,slow=5.1
GEC2 GERESS Array S 85.46 323 *e*P **P 18 52 25.1 +2.7**
comp=Z,1.9nm,0.7s,baz=53,slow=5.1
GERES GERESS Array B 85.46 323 P **P 18 52 22.9 +0.4**
comp=Z,2.9nm,0.6s,baz=58,slow=7.3,SNR=35
GERES LR LR 19 33 59.1
comp=Z,174nm,19.2s,baz=60,slow=38
GERES GERESS Array B 85.46 323 P **P 18 52 21.9 -0.6**
MOX Moxa 85.52 325 *e*P **P 18 52 25.5 +3.0**
baz=53,slow=5.1
J04D Umpqua Nationa 85.54 44 P **P 18 52 24.3 +1.2**
baz=302
MANZ Manzenberg 85.65 325 *e*P **P 18 52 26.3 +3.0**
baz=53,slow=5.1
NEW Newport 85.71 38 P **P 18 52 24.1 +0.5**
baz=305
MOA Molln 85.72 322 *i*P **P 18 52 26.9 +3.2**
comp=Z,2.4nm,0.6s,SNR=4.0
ROTZ Rotzenmuhle 85.73 324 *e*P **P 18 52 26.7 +3.1**
comp=Z,2.2nm,0.7s,baz=53,slow=5.1
WET Wettzell 85.73 324 *e*P **P 18 52 26.8 +3.1**
baz=53,slow=5.1
GTTG Gottingen 85.81 327 *e*P **P 18 52 26.8 +2.8**
comp=Z,8.5nm,0.7s,baz=53,slow=5.1
YBH Yreka Blue Hor 85.95 45 P **P 18 52 25.4 +0.4**
YBH pmax pmax
comp=Z,8.0nm,1.2s
YBH Yreka Blue Hor 85.95 45 P **P 18 52 25.4 +0.4**
YBH IAmb IAmb 18 52 27.1
comp=Z,7.9nm,1.1s
SOKA Soboth 85.95 321 *e*P **P 18 52 27.7 +2.8**
comp=Z,4.3nm,0.9s,SNR=6.1
L04D Klamath Falls 85.95 45 P **P 18 52 26.2 +1.1**
baz=302
PINE Pine Mountain 85.97 43 IAmb IAmb 18 52 27.6
comp=Z,14nm,1.0s
M02C Callahan 86.03 46 P **P 18 52 26.7 +1.3**
baz=301
J05D Fort Rock, OR 86.06 43 P **P 18 52 26.7 +1.1**
baz=302
E09A Wood Farm, Sta 86.12 39 IAmb IAmb 18 52 27.6
comp=Z,8.3nm,1.0s
UBBA Unterbreizbach 86.23 326 *e*P **P 18 52 28.9 +2.9**
comp=Z,2.7nm,0.7s,baz=53,slow=5.1
GRF Grafenberg Arr 86.29 325 *e*P **P 18 52 29.3 +2.9**
baz=53,slow=5.1
OBKA Obir 86.32 321 *i*P **P 18 52 29.5 +2.8**
comp=Z,2.4nm,0.5s
IBBN Ibbenburen 86.41 328 *e*P **P 18 52 29.9 +3.0**
comp=Z,11nm,0.7s,baz=53,slow=5.1
M04C Macdoel 86.47 45 P **P 18 52 28.8 +1.2**
baz=302
K05A Summer Lake 86.57 44 IAmb IAmb 18 52 30.4
comp=Z,9.1nm,0.9s
RJOB Jochberg 86.60 322 *e*P **P 18 52 31.3 +3.2**
baz=53,slow=5.1
WDC Whiskeytown Da 86.66 46 P **P 18 52 28.9 +0.5**
WDC pmax pmax
comp=Z,4.0nm,0.9s
WDC Whiskeytown Da 86.66 46 P **P 18 52 28.9 +0.5**
KBA Koelnbreinsper 86.67 322 *i*P **P 18 52 31.4 +2.8**
comp=Z,5.6nm,0.6s
O02D Mt. Diablo Mer 86.71 47 P **P 18 52 29.9 +1.1**
baz=302
KASTN Kahler Asten 86.78 327 *e*P **P 18 52 32.2 +3.4**
comp=Z,4.9nm,0.7s,baz=53,slow=5.1
FUR Furstenfeldbru 87.17 323 *e*P **P 18 52 34.1 +3.4**
baz=53,slow=5.1
ZOU Zoufplan 87.19 321 P **P 18 52 30.6 -0.5**
ZOU IAmb IAmb 18 52 33.4
comp=Z,6.7nm,0.6s
MILB Miltenberg 87.20 325 *e*P **P 18 52 34.0 +3.2**
comp=Z,4.6nm,0.7s,baz=53,slow=5.1
ABTA Abfaltersbach 87.33 322 *e*P **P 18 52 33.9 +2.2**
comp=Z,6.0nm,0.6s
MOD Modoc Plateau 87.38 44 IAmb IAmb 18 52 33.9
comp=Z,9.9nm,0.9s
WATA Walderalm 87.50 323 *e*P **P 18 52 35.3 +2.8**
comp=Z,3.9nm,0.5s,SNR=5.4
STAL STALIGIAL 87.50 321 P **P 18 52 33.6 +1.2**
STAL IAmb IAmb 18 52 35.0
comp=Z,4.7nm,0.7s
WTTA Wattenberg 87.51 322 *i*P **P 18 52 34.9 +2.2**
comp=Z,7.9nm,0.9s,SNR=7.6
J08A Circle Bar Ran 87.70 42 IAmb IAmb 18 52 35.6
comp=Z,5.2nm,0.9s
MOTA Moosalm 87.75 323 *i*P **P 18 52 36.6 +2.9**
comp=Z,2.8nm,0.5s
SQTA Sankt Quirin 87.77 323 *i*P **P 18 52 36.8 +3.0**
comp=Z,3.6nm,0.6s
RETA Reutte 87.85 323 *e*P **P 18 52 37.3 +3.1**
comp=Z,1.4nm,0.4s,SNR=4.0
ORV Oroville 87.88 47 P **P 18 52 34.2 -0.1**
ORV pmax pmax
comp=Z,8.0nm,1.3s
ORV Oroville 87.88 47 P **P 18 52 34.2 -0.1**
ORV IAmb IAmb 18 52 35.2
comp=Z,7.5nm,1.3s
STU Stuttgart 87.90 325 *e*P **P 18 52 37.6 +3.4**
comp=Z,3.5nm,0.8s,baz=53,slow=5.1
UBR Ueberruh 88.09 323 *e*P **P 18 52 38.6 +3.3**
comp=Z,7.1nm,0.7s,baz=53,slow=5.1
FETA Feichten 88.15 323 *e*P **P 18 52 38.8 +3.1**
comp=Z,3.1nm,0.6s,SNR=4.9
CTI Castel Tesino 88.23 322 IAmb IAmb 18 52 40.0
comp=Z,3.7nm,0.7s
MSO Missoula 88.29 37 P **P 18 52 37.0 +0.7**
baz=307
BEKR Beckworth 88.45 46 IAmb IAmb 18 52 38.6
comp=Z,4.8nm,0.8s
DAVA Damuels 88.45 323 *i*P **P 18 52 40.1 +3.0**
comp=Z,9.1nm,0.6s
BFO Black Forest 88.63 325 *e*P **P 18 52 41.2 +3.5**
comp=Z,1.9nm,0.7s,baz=53,slow=5.1
FFC Flin Flon 88.74 27 P **P 18 52 37.9 -0.2**
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 88.74 27 P **P 18 52 37.9 -0.2**
FFC IAmb IAmb 18 52 39.2
comp=Z,11nm,0.9s
WLF Walferdange 88.88 327 *e*P **P 18 52 42.8 +4.0**
comp=Z,4.7nm,0.7s,baz=53,slow=5.1
EKA Eskdalemuir Ar 89.04 335 P **P 18 52 41.8 +2.4**
TUE Stuetta 89.24 323 IAmb IAmb 18 52 45.2
comp=Z,7.9nm,0.8s
MFID Camas Ranch 89.25 41 P **P 18 52 40.4 -0.5**
DLMT Dillon 89.93 38 IAmb IAmb 18 52 45.9
comp=Z,5.5nm,0.8s
BOZ Bozeman (W) 90.32 37 P **P 18 52 46.7 +0.8**
baz=309
RYN Ryan 90.32 46 P **P 18 52 46.2 +0.2**
NVAR Mina Array Bea 90.58 46 P **P 18 52 47.9 +0.6**
comp=Z,1.3nm,0.7s,baz=299,slow=5.6,SNR=13
NVAR LR LR 19 26 24.5
comp=Z,26nm,22.0s,baz=271,slow=31
PPT Papeete 90.69 109 LR LR 19 28 23.6
comp=Z,35nm,18.1s,baz=344,slow=32
RLMT Red Lodge 91.90 37 P **P 18 52 54.3 +1.0**
baz=311
RLMT Red Lodge 91.90 37 IAmb IAmb 18 52 55.2
comp=Z,3.9nm,0.8s
R11A Troy Canyon, C 92.37 45 P **P 18 52 56.6 +1.0**
baz=306
R11A Troy Canyon, C 92.37 45 P **P 18 52 53.7 -1.9**
FURC Furnace Creek, 92.63 47 P **P 18 52 57.5 +0.9**
baz=305
TPNV Topopah Spring 92.76 46 P **P 18 52 58.2 +0.8**
baz=306
TPNV Topopah Spring 92.76 46 IAmb IAmb 18 52 59.0
comp=Z,5.5nm,0.9s
EDW2 Edwards Air Fo 92.78 49 P **P 18 52 58.8 +1.4**
baz=304

PDAR Pinedale Array 93.27 39 P **P 18 52 59.9 +0.2**
comp=Z,1.2nm,0.8s,baz=307,slow=1.2,SNR=10
GSC Goldstone, Bar 93.34 48 P **P 18 53 01.0 +1.0**
baz=305
SHPR Sheep Range 93.73 46 IAmb IAmb 18 53 03.9
comp=Z,3.8nm,0.9s
TUQ Turquoise Moun 93.85 48 P **P 18 53 03.5 +1.1**
baz=306
GMRC Granite Mounta 94.41 48 P **P 18 53 05.9 +1.0**
baz=306
PFO Pinyon Flats O 94.55 49 P **P 18 53 04.2 -1.4**
PFO Pinyon Flats O 94.55 49 P **P 18 53 06.4 +0.8**
baz=305
PFO Pinyon Flats O 94.55 49 P **P 18 53 04.2 -1.4**
PFO IAmb IAmb 18 53 07.2
comp=Z,8.3nm,1.1s
ULM Lac du Bonnet 94.57 27 LR LR 19 38 44.2
comp=Z,36nm,18.6s,baz=316,slow=38
BELC Belle Mtn. Jos 94.63 49 P **P 18 53 06.4 +0.4**
baz=306
P17A Butcher Ranch, 94.68 42 P **P 18 53 06.1 -0.1**
P17A IAmb IAmb 18 53 08.2
comp=Z,6.1nm,1.3s
BC3 Big Chuckawall 95.20 49 P **P 18 53 09.6 +1.0**
baz=306
TXAR Lajitas Array 105.72 46 Pdiff **Pdif 18 53 59.8 +4.1**
comp=Z,0.2nm,0.7s,baz=270,slow=5.4,SNR=3.5
TORD Torodi Ar. Bea 115.16 300 PP **PP 18 59 25.8 -0.4**
comp=Z,0.6nm,0.9s,baz=49,slow=7.6,SNR=3.5

*ISK **11** 18:50:27.1,39.°91N×43.°27E,h5km,ML2.7/9*
DDA 11 18:50:28.5,39.°93N×43.°26E,h13km±1km,ML2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.13**	**199**	*i* P	Pg	18 50 31.9	-0.3
KOTA				IAML		18 50 35.0	
	comp=E,2μm,0.6s						
KOTA				IAML		18 50 35.0	
	comp=N,2μm,0.6s						
KOTA				*i* S	Sg	18 50 35.2	+0.5
AGRB	**Hanur-Agry**	**0.41**	**211**	PG	Pg	18 50 35.9	-0.8
AGRB				SG	Sg	18 50 42.7	+0.4
DIGO	**Kars**	**0.49**	**10**	*i* P	Pg	18 50 38.1	-0.2
DIGO				IAML		18 50 49.0	
	comp=N,261nm,0.6s						
DIGO				IAML		18 50 52.0	
	comp=E,288nm,0.8s						
DYDN	**Diyadin**	**0.51**	**139**	*i* P	Pg	18 50 38.3	-0.2
DYDN				*i* S	Sb	18 50 46.2	-0.4
DYDN				IAML		18 50 51.0	
	comp=E,524nm,0.4s						
EATA	**Eleskirt**	**0.60**	**264**	*i* P	Pg	18 50 39.2	-1.0
EATA				*i* S	Sb	18 50 49.4	0.0
EATA				IAML		18 50 51.0	
	comp=E,239nm,0.5s						
EATA				IAML		18 50 53.0	
	comp=N,296nm,0.4s						
IGDI	**IGDIR**	**0.63**	**95**	*i* P	Pb	18 50 41.1	-0.3
IGDI				*i* S	Sn	18 50 54.4	+1.3
IGDI				IAML		18 50 55.0	
	comp=N,94nm,0.4s						
IGDI				IAML		18 51 00.0	
	comp=E,93nm,0.4s						
KARS	**Kars**	**0.71**	**349**	PG	Pg	18 50 41.9	-0.5
KARS				SG	Sb	18 50 53.1	+0.5
TASB	**TASBURUN-IGDIR**	**0.75**	**85**	PG	Pg	18 50 42.9	-0.2
EAK	**Akyaka**	**0.80**	**19**	*i* P	Pb	18 50 44.7	+0.3
CLDR	**Caldiran**	**0.93**	**147**	*i* P	Pg	18 50 45.6	-1.0
CLDR				*i* S	Sn	18 51 00.2	-0.6
CLDR				IAML		18 51 03.0	
	comp=E,80nm,0.6s						
CLDR				IAML		18 51 08.0	
	comp=N,70nm,0.4s						
CLDR	**Caldiran**	**0.93**	**147**	PG	Pg	18 50 45.5	-1.1
CLDR				SG	Sb	18 50 59.8	+0.8
SENK	**Senkaya-Erzuru**	**0.94**	**312**	PG	Pg	18 50 46.3	-0.5
SENK				SG	Sn	18 51 01.8	+0.8
MLAZ	**Malazgirt-MUS**	**0.96**	**215**	PG	Pb	18 50 46.6	-0.5
VMUR	**Van-Muradiye**	**0.97**	**166**	*i* P	Pb	18 50 47.1	-0.1
VMUR				*i* S	Sn	18 51 01.5	-0.1
VMUR				IAML		18 51 09.0	
	comp=N,85nm,0.7s						
VMUR				IAML		18 51 09.0	
	comp=E,98nm,1.0s						
KOPR	**Koprukoy-ERZUR**	**1.08**	**274**	PN	Pb	18 50 48.7	-0.5
KOPR				SN	Sn	18 51 05.2	+0.7
ADCV	**BITLIS_Adilcev**	**1.19**	**201**	*i* P	Pn	18 50 50.6	-0.4
ADCV				*i* S	Sb	18 51 06.7	+0.3
ADCV				IAML		18 51 11.0	
	comp=N,48nm,0.8s						
ADCV				IAML		18 51 12.0	
	comp=E,40nm,1.0s						

IDC 11 19:00:42.2±2.4,1.°95N×126.°59E,h0km,mb3.2/3,
mb1 3.4/3,mb1mx3.2/32,mbtmp3.3/3,Error ellipse:
s-maj=203.7km s-min=28.1km az=66.0,Northern
Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.05**	**161**	P	P	19 05 49.2	-0.1
	0.6nm,0.6s,baz=340,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**26.44**	**165**	P	P	19 06 21.1	+0.1
	0.1nm,0.3s,baz=347,slow=8.2,SNR=6.2						
MKAR	**Makanchi Array**	**58.93**	**326**	P	P	19 10 43.2	-0.1
	0.3nm,0.7s,baz=119,slow=7.5,SNR=2.5						

*NNC **11** 19:06:18.0±0.9,42.°89N×78.°55E,h1km±3km,mpv2.7,*
Error ellipse: s-maj=6.6km s-min=3.3km az=2.0
*KRNET **11** 19:06:17.4±0.1,42.°87N×78.°53E,h17km,mb2.2*
*SOME **11** 19:06:18.4,42.°93N×78.°50E,h5km*
ISC 11 19:06:17.4±1.1,42.°85N±0.°02×78.°55E±0.°02,h4km±10km,
n25,σ0.°46/49,8C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.23**	**333**	*e*P	**Pg**	**19 06 22.0**	**+0.1**
	baz=34						
SATY				*e*S	**Sg**	**19 06 24.9**	**0.0**
	baz=34						
SATY	**Saty**	**0.23**	**333**	*e*P	**Pg**	**19 06 22.0**	**+0.1**
	5.7nm,0.1s						
SATY				*e*S	**Sg**	**19 06 24.9**	**0.0**
	97nm,0.1s						
SATY	**Saty**	**0.23**	**333**	P	**Pg**	**19 06 22.0**	**+0.1**
	5.7nm,0.1s						
SATY				S	**Sg**	**19 06 24.9**	**0.0**
	97nm,0.1s						
PRZ	**Przheval'sk**	**0.39**	**196**	⇑*i*P	**Pg**	**19 06 25.0**	**+0.1**
	baz=95						
PRZ				⇑*i*S	**Sg**	**19 06 30.0**	**+0.1**
	baz=95						
KPKS	**Kokpek**	**0.62**	**9**	*e*P	**Pg**	**19 06 29.3**	**0.0**
	baz=10.0						
KPKS				*e*S	**Sg**	**19 06 37.6**	**+0.2**
	baz=10.0						
KPKS	**Kokpek**	**0.62**	**9**	*e*P	**Pg**	**19 06 29.3**	**0.0**
	4.8nm,0.1s						
KPKS				*e*S	**Sg**	**19 06 37.7**	**+0.2**
	4.2nm,0.3s						
ANVS	**Anan'yevo**	**0.65**	**264**	⇓*i*P	**Pg**	**19 06 30.0**	**+0.1**
	baz=63						
ANVS				⇓*i*S	**Sg**	**19 06 38.6**	**+0.2**
	baz=63						
PDGK	**Podgornoye**	**0.84**	**55**	P	**Pg**	**19 06 33.8**	**+0.3**
	0.2nm,0.1s						
PDGK				S	**Sg**	**19 06 44.9**	**+0.5**
	0.5nm,0.2s						
KDJ	**Kajisay**	**1.24**	**235**	⇑*i*P	**Pg**	**19 06 40.2**	**-1.0**
	baz=34						
KDJ				⇑*i*S	**Sg**	**19 06 57.0**	**-0.4**
	baz=34						
TARG	**Taragay, Kyrgy**	**1.25**	**206**	⇑*i*P	**Pg**	**19 06 41.1**	**-0.3**
	baz=6.0						
TARG				⇑*i*S	**Sg**	**19 06 58.0**	**+0.4**
	baz=6.0						
KTMS	**Ketmen**	**1.45**	**65**	*e*P	**Pn**	**19 06 44.5**	**-0.1**
	baz=66						
KTMS				*e*S	**Sb**	**19 07 03.2**	**-0.7**
	baz=66						
KTMS	**Ketmen**	**1.45**	**65**	*e*P	**Pn**	**19 06 44.5**	**-0.1**
	1.0nm,0.1s						
KTMS				*e*S	**Sb**	**19 07 03.2**	**-0.7**
	1.6nm,0.2s						
KTMS	**Ketmen**	**1.45**	**65**	P	**Pn**	**19 06 44.5**	**-0.1**
	1.0nm,0.1s						
KTMS				S	**Sb**	**19 07 03.2**	**-0.7**
	1.6nm,0.2s						
ARXS	**Arharly**	**1.46**	**339**	*e*P	**Pg**	**19 06 45.1**	**-0.2**
	0.6nm,0.1s						
ARXS				*e*S	**Sn**	**19 07 04.1**	**-0.2**
	1.4nm,0.2s						
ARXS	**Arharly**	**1.46**	**339**	P	**Pg**	**19 06 45.1**	**-0.2**
	0.6nm,0.1s						
ARXS				S	**Sn**	**19 07 04.1**	**-0.2**
	1.4nm,0.2s						
KTBS	**Karatobe**	**1.61**	**303**	*e*P	**Pn**	**19 06 47.2**	**+0.5**
	baz=3.0						
KTBS				*e*S	**Sb**	**19 07 08.1**	**-0.4**
	baz=3.0						
KTBS	**Karatobe**	**1.61**	**303**	*e*P	**Pn**	**19 06 47.2**	**+0.5**
	0.4nm,0.1s						
KTBS				*e*S	**Sb**	**19 07 08.1**	**-0.4**
	3.1nm,0.2s						
KTBS	**Karatobe**	**1.61**	**303**	P	**Pn**	**19 06 47.2**	**+0.5**
	0.4nm,0.1s						
KTBS				S	**Sb**	**19 07 08.1**	**-0.4**
	3.1nm,0.2s						
DJR	**Jarkent**	**1.73**	**31**	*e*P	**Pb**	**19 06 50.1**	**+0.3**
	0.1nm,0.1s						
DJR				*e*S	**Sg**	**19 07 12.7**	**-0.4**
	0.4nm,0.4s						
DJR	**Jarkent**	**1.73**	**31**	P	**Pb**	**19 06 50.1**	**+0.3**
	0.1nm,0.1s						
DJR				S	**Sg**	**19 07 12.7**	**-0.4**
	0.4nm,0.4s						
ULHL	**Ulahol**	**1.81**	**251**	⇓*i*P	**Pn**	**19 06 50.2**	**+0.6**
	baz=51						
ULHL				⇓*i*S	**Sn**	**19 07 14.1**	**+1.0**
	baz=51						
BOOM	**Boomskoye usch**	**1.96**	**260**	⇑*i*P	**Pn**	**19 06 52.2**	**+0.6**
	baz=60						
BOOM				⇑*i*S	**Sb**	**19 07 18.3**	**-0.3**
	baz=60						
DGS	**Degeres**	**2.07**	**282**	*e*P	**Pb**	**19 06 55.9**	**+0.2**
	baz=81						
DGS				*e*S	**Sg**	**19 07 22.9**	**-1.0**
	baz=81						
DGS	**Degeres**	**2.07**	**282**	*e*P	**Pb**	**19 06 55.9**	**+0.2**
	0.3nm,0.1s						
DGS				*e*S	**Sg**	**19 07 22.9**	**-1.0**
	3.4nm,0.4s						
DGS	**Degeres**	**2.07**	**282**	Pg	**Pb**	**19 06 55.9**	**+0.2**
	0.3nm,0.1s						
DGS				Lg	Lg	19 07 22.9	
	3.4nm,0.4s						

*IDC **11** 19:07:03.2±1.1,52.°36N×169.°52W,h0km,mb3.7/13,*
mb1 3.9/15,mb1mx3.7/45,mbtmp3.7/15,ML3.6/2,Error
ellipse: s-maj=31.7km s-min=17.7km az=172.0
*AEIC **11** 19:07:06.5±2.7,52.°17N±0.°06×169.°34W±0.°06,h21km±5km,*
ML3.5/34,mb4.0/17(NEIC),Error ellipse: s-maj=9.1km
s-min=5.1km az=181.0
*NEIC **11** 19:07:08.2±2.7,52.°20N±0.°06×169.°41W±0.°08,h36km±4km,*
Error ellipse: s-maj=9.2km s-min=6.7km az=167.0
ISC 11 19:07:07.9±0.8,52.°2N±0.°1×169.°34W±0.°06,h35km,n78,
σ1°31/76,mb3.8/16,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.82**	**21**		**Pn**	**19 07 22.1**	**-0.8**
OKSP	**Okmok Steeple**	**1.22**	**31**		**Pn**	**19 07 28.1**	**-0.5**
OKCE	**Okmok Cone E**	**1.41**	**30**		**Pn**	**19 07 31.6**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.42**	**33**		**Pn**	**19 07 31.0**	**-0.2**
OKNC	**Okmok New Cone**	**1.45**	**30**		**Pn**	**19 07 31.6**	**-0.1**
OKFG	**Magazine Ridge**	**1.48**	**35**		**Pn**	**19 07 32.0**	**0.0**
MAPS	**Pakushin South**	**2.16**	**41**		**Pn**	**19 07 42.0**	**+0.7**
MAPS					**Sn**	**19 08 09.6**	**+2.7**
MGOD	**Makushin Gods**	**2.18**	**42**		**Pn**	**19 07 42.0**	**+0.4**
MSW	**Makushin Switc**	**2.30**	**41**		**Pn**	**19 07 44.1**	**+0.7**
MNAT	**Makushin Natee**	**2.32**	**43**		**Pn**	**19 07 44.5**	**+0.9**
MNAT					**Sn**	**19 08 14.6**	**+3.7**
MTBL	**Makushin Table**	**2.38**	**41**		**Pn**	**19 07 45.4**	**+0.9**
AKBBA	**Akutan Broad B**	**2.79**	**46**		**Pn**	**19 07 51.3**	**+1.3**
AKGG	**Akutan Green G**	**2.83**	**44**		**Pn**	**19 07 52.1**	**+1.5**
AKUT	**Akutan**	**2.89**	**47**		**Pn**	**19 07 51.2**	**-0.1**
KOFP	**Korovin Flat P**	**2.93**	**273**		**Pn**	**19 07 53.0**	**+1.0**
ATKA	**Atka Island**	**2.99**	**272**		**Pn**	**19 07 52.0**	**-0.7**
KOKL	**Mount Kliuchef**	**2.99**	**274**		**Pn**	**19 07 53.6**	**+0.8**
GSTR	**Great Sitkin T**	**4.14**	**271**		**Pn**	**19 08 08.6**	**0.0**
GSMY	**Great Sitkin M**	**4.14**	**270**		**Pn**	**19 08 09.1**	**+0.4**
GSTD	**Great Sitkin T**	**4.20**	**271**		**Pn**	**19 08 09.8**	**+0.4**
GSTD					**Sn**	**19 08 58.3**	**+1.0**
ADK	**Adak**	**4.55**	**269**		**Pn**	**19 08 14.1**	**-0.1**
KIWB	**Kanaga Island**	**4.84**	**269**		**Pn**	**19 08 18.2**	**+0.1**
KIMD	**Kanaga Island**	**4.90**	**268**		**Pn**	**19 08 19.6**	**+0.6**
SPIA	**Saint Paul Isl**	**5.01**	**354**		**Pn**	**19 08 22.0**	**+1.6**
TASE	**Tanaga Southea**	**5.39**	**269**		**Pn**	**19 08 26.1**	**+0.3**
GAEA	**Gareloi East**	**5.83**	**270**		**Pn**	**19 08 33.6**	**+1.8**
SDPT	**Sand Point**	**6.12**	**56**		**Pn**	**19 08 37.6**	**+1.9**
AMKA	**Amchitka**	**7.10**	**268**		**Pn**	**19 08 48.9**	**-0.2**
KDAK	**Kodiak Island**	**11.11**	**53**	Pn	**Pn**	**19 09 43.9**	**-0.1**
	0.3nm,0.3s,baz=234,slow=9.3,SNR=5.5						
KDAK				Sn	**Sn**	**19 11 42.8**	**-4.1**
	0.0nm,0.3s,baz=179,slow=23,SNR=1.6						
KDAK	**Kodiak Island**	**11.11**	**53**	Pn	**Pn**	**19 09 43.7**	**-0.3**
SVW2	**Sparrevohn**	**11.66**	**35**	Pn	**Pn**	**19 09 54.7**	**+3.0**
CNPM	**China Poot**	**12.50**	**47**	Pn	**Pn**	**19 10 04.4**	**+1.4**
SUA	**Susitna One**	**13.71**	**40**	Pn	**Pn**	**19 10 20.3**	**+0.6**
GLI	**Glacier Island**	**14.96**	**46**	Pn	**Pn**	**19 10 33.4**	**-3.1**
HIN	**Hinchinbrook I**	**15.03**	**48**	Pn	**Pn**	**19 10 35.0**	**-2.4**
HIN				IAmb	IAmb	19 10 40.5	
	comp=Z,8.2nm,1.1s						
FID	**Port Fidalgo**	**15.18**	**47**	Pn	**Pn**	**19 10 36.8**	**-2.6**
FID				IAmb	IAmb	19 10 51.0	
	comp=Z,8.9nm,1.4s						
SCM	**Sheep Creek Mo**	**15.30**	**42**	Pn	**Pn**	**19 10 39.0**	**-2.0**
SCM				IAmb	IAmb	19 10 44.4	
	comp=Z,14nm,1.5s						
KLU	**Klutina**	**15.74**	**45**	Pn	**Pn**	**19 10 45.4**	**-1.4**
KLU				IAmb	IAmb	19 10 45.8	
	comp=Z,4.6nm,0.4s						
MLY	**Manley**	**16.00**	**29**		**P**	**19 10 52.6**	**-0.6**
N25K	**Chitina, Valde**	**16.36**	**45**	Pn	**Pn**	**19 10 53.8**	**-0.9**
GLB	**Gilahina Butte**	**16.64**	**46**	Pn	**Pn**	**19 10 56.7**	**-1.5**
ILAR	**Eielson Array**	**17.07**	**34**	P	**Pn**	**19 11 03.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=4.0						
SCRK	**Sand Creek**	**17.69**	**38**		**Pn**	**19 11 11.6**	**+0.3**
HYT	**Haines Junctio**	**19.39**	**51**	P	**Pn**	**19 11 33.8**	**+1.9**
BMAR	**Burnt Mountain**	**19.46**	**29**	P	**Pn**	**19 11 32.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**19.92**	**286**	P	**P**	**19 11 35.9**	**-0.5**
PETK	**Petropavlovsk-**	**19.92**	**286**	P	**P**	**19 11 35.3**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=86,slow=13,SNR=57						
PETK	**Petropavlovsk-**	**19.92**	**286**	P	**P**	**19 11 35.0**	**-1.4**
WHY	**Whitehorse**	**20.62**	**52**	P	Pn	19 11 47.1	+0.7
WHY				IAmb	IAmb	19 12 01.9	
	comp=Z,4.3nm,0.9s						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**19 12 12.6**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=238,slow=7.0,SNR=14						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**19 12 13.1**	**-0.7**
INK				IAmb	IAmb	19 12 37.3	
	comp=Z,3.3nm,1.2s						
YKA	**Yellowknife Ar**	**30.33**	**49**	P	**P**	**19 13 16.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=272,slow=7.8,SNR=7.6						
TIXI	**Tiksi**	**32.88**	**329**	P	**P**	**19 13 39.4**	**+1.4**
YAK	**Yakutsk**	**33.29**	**311**	P	**P**	**19 13 41.3**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	19 54 09.8	
	baz=23,slow=75,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**37.35**	**219**	T	T	19 54 14.8	
	baz=23,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**37.36**	**219**	T	T	19 54 11.3	
	baz=23,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**38.53**	**218**	T	T	19 55 43.4	
	baz=23,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	19 55 32.4	
	baz=23,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.55**	**218**	T	T	19 55 41.4	
	baz=23,slow=76,SNR=8.9						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**19 14 44.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=297,slow=3.8,SNR=5.9						
SONM	**Songino

comp=Z,0.2nm,0.5s,baz=295,slow=5.8,SNR=2.8
ZALV Zalesovo Beam 57.55 318 P P 19 16 53.1 -0.4
comp=Z,0.6nm,0.6s,baz=35,slow=5.3,SNR=2.2
ARCES ARCESS Array B 58.08 354 P P 19 16 56.6 -0.4
comp=Z,0.6nm,0.4s,baz=14,slow=7.5,SNR=9.8
MK31 Makanchi Array 63.93 313 P P 19 17 35.9 -1.1
MK31 IAmb IAmb 19 17 54.9
comp=Z,2.0nm,1.4s
MKAR Makanchi Array 63.93 313 P P 19 17 35.6 -1.4
comp=Z,0.2nm,0.3s,baz=51,slow=5.2,SNR=8.1
MKAR Makanchi Array 63.93 313 P P 19 17 36.0 -1.0
MAKZ Makanchi 64.06 314 P P 19 17 36.8 -1.1
MAKZ IAmb IAmb 19 17 49.8
comp=Z,1.6nm,1.2s
FINES FINESS Array B 66.03 352 P P 19 17 49.7 -0.6
comp=Z,0.8nm,0.5s,baz=14,slow=8.6,SNR=7.1
FINES FINESS Array B 66.03 352 P P 19 17 50.1 -0.3
NB2 NORSAR Subarra 67.10 360 P P 19 17 57.2 -0.1
comp=Z,0.4nm,0.5s,baz=359,slow=6.2
NOA NORSAR Array B 67.10 360 P P 19 17 56.6 -0.6
comp=Z,0.4nm,0.5s,baz=0.2,slow=6.3,SNR=3.6
KK31 Karatay Array 71.92 318 P P 19 18 27.1 -0.3
KK31 IAmb IAmb 19 18 27.9
comp=Z,1.5nm,0.8s
KKAR Karatay Array 71.92 318 P P 19 18 27.2 -0.1
AKASG Malin Array Be 76.27 348 P P 19 18 51.3 -1.1
comp=Z,0.9nm,0.4s,baz=16,slow=5.8,SNR=8.1
CMAR Chiang Mai Arr 76.67 283 P P 19 18 56.0 +0.8
comp=Z,0.6nm,0.6s,baz=23,slow=6.5,SNR=7.4
ASAR Alice Springs 90.31 230 P P 19 20 04.9 -0.1
comp=Z,0.2nm,0.6s,baz=33,slow=5.5,SNR=1.5

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*IDC **11** 19:07:34.9±1.2, 6°82N×92°48E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.7/7, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/27, Error ellipse: s-maj=43.6km s-min=21.7km az=51.0*

ISC 11 19:07:39.8±1.1, 6°7N±0°2×92°4E±0°1, h35km, n11, σ0s86/8, mb3.6/6, Gales/Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.59**	**273**	**Pn**	**Pn**	**19 10 23.1**	**+0.1**
	1.5nm,0.3s,baz=135,slow=8.6,SNR=9.8						
PALK				Sn	Sn	19 12 19.0	-12
	0.2nm,0.3s,baz=112,slow=19,SNR=1.1						
CMAR	**Chiang Mai Arr**	**13.31**	**28**	Pn	**Pn**	**19 10 47.2**	**+0.8**
	0.1nm,0.3s,baz=235,slow=14,SNR=4.5						
H08S3	**Diego Garcia H**	**24.42**	**235**	T	T	19 39 22.7	
	baz=54,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**24.42**	**235**	T	T	19 39 14.3	
	baz=54,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**24.44**	**235**	T	T	19 39 16.6	
	baz=54,slow=76,SNR=14						
MKAR	**Makanchi Array**	**40.86**	**349**	P	**P**	**19 15 17.1**	**-1.2**
	0.6nm,0.7s,baz=159,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**42.69**	**14**	P	**P**	**19 15 32.4**	**-1.0**
	0.1nm,0.3s,baz=167,slow=6.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**47.49**	**354**	P	**P**	**19 16 11.6**	**+0.3**
	0.3nm,0.3s,baz=166,slow=13,SNR=1.9						
WRA	**Warramunga Arr**	**49.06**	**124**	P	**P**	**19 16 23.6**	**-0.3**
	1.4nm,0.8s,baz=301,slow=8.9,SNR=6.9						
ASAR	**Alice Springs**	**50.56**	**128**	P	**P**	**19 16 35.5**	**+0.3**
	1.0nm,0.8s,baz=302,slow=7.6,SNR=9.6						
ASAR				LR	LR	19 40 01.5	
	comp=Z,72nm,18.2s,baz=244,slow=38						
GERES	**GERESS Array B**	**77.52**	**318**	P	**P**	**19 19 32.8**	**+0.6**
	0.4nm,0.8s,baz=85,slow=3.2,SNR=3.4						

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*UPA **11** 19:17:53.8±1.7, 8°55N×83°10W, h14km±9km, MW4.7*
*UCR **11** 19:17:53.5±1.8, 8°46N×83°12W, h6km±9km, MD3.8, MW4.4, mb4.3(NEIC)*
*IDC **11** 19:17:54.6±9.3, 8°93N×82°78W, h0km, mb3.5/4, mb1 4.0/6, mb1mx3.7/27, mbtmp3.8/6, ML4.2/2, Error ellipse: s-maj=269.5km s-min=33.0km az=14.0*
*NEIC **11** 19:17:54.5±1.2, 8°56N±0°06×83°16W±0°06, h6km±2km, mb4.3/9, Error ellipse: s-maj=10.0km s-min=6.7km az=218.0*

ISC 11 19:17:54.8±0.8, 8°51N±0°03×83°10W±0°02, h15km±5km, n99, σ1s28/119, mb4.3/9, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.20**	**277**	*e*P	**Pg**	**19 17 58.2**	**-1.2**
PTJ1				*e*S	**Sg**	**19 18 06.3**	**+3.8**
PTJ1	**Puerto Jimnez**	**0.20**	**277**	*i* P	**Pg**	**19 17 58.2**	**-1.2**
PTJ1				⇓*e*S	**Sg**	**19 18 02.7**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.20**	**277**	*e*P	**Pg**	**19 17 57.9**	**-1.5**
PTJ1				*e*S	**Sg**	**19 18 02.7**	**+0.2**
CDITO	**Canoas**	**0.23**	**75**	⇓*e*P	**Pg**	**19 17 59.2**	**-0.7**
CDITO	**Canoas**	**0.23**	**75**	Pg	**Pg**	**19 17 59.2**	**-0.7**
CDITO				Sg	**Sg**	**19 18 04.0**	**+0.5**
PIRO	**Carate, Puerto**	**0.26**	**245**	*e*P	**Pg**	**19 17 58.3**	**-2.0**
PIRO				*e*S	**Sg**	**19 18 04.9**	**+0.8**
PIRO	**Carate, Puerto**	**0.26**	**245**	*i* P	**Pg**	**19 17 58.3**	**-2.0**
PIRO				*e*S	**Sg**	**19 18 04.2**	**+0.1**
PIRO	**Carate, Puerto**	**0.26**	**245**	*e*P	**Pg**	**19 17 58.3**	**-2.0**
SBAR3	**San Bartolo, C**	**0.29**	**132**	*e*P	**Pb**	**19 18 01.8**	**+0.1**
SBAR3	**San Bartolo, C**	**0.29**	**132**	*e*P	**Pg**	**19 17 59.6**	**-1.3**
EDSV	**San Vito**	**0.33**	**23**	*e*P	**Pb**	**19 18 01.8**	**-0.7**
EDSV				*i* S	**Sb**	**19 18 09.1**	**+1.4**
BRU2	**Volcan**	**0.49**	**55**	⇓*i*P	**Pg**	**19 18 04.4**	**-0.2**
BRU2				*e*S	**Sb**	**19 18 12.8**	**+0.4**
BRU2	**Volcan**	**0.49**	**55**	*e*P	**Pg**	**19 18 04.2**	**-0.4**
BRU2				*e*S	**Sb**	**19 18 12.8**	**+0.4**
LPLA	**Las Palmas La**	**0.52**	**10**	*i* P	**Pb**	**19 18 04.7**	**-1.1**
LPLA				*e*S	**Sb**	**19 18 13.8**	**+0.6**
EDPN	**Palmar Norte**	**0.57**	**322**	*i* P	**Pg**	**19 18 04.7**	**-1.3**
EDPN				*e*S	**Sb**	**19 18 14.2**	**-0.3**
BC3P	**Paso Ancho**	**0.57**	**58**	*i* P	**Pg**	**19 18 05.4**	**-0.7**
BCO2	**Palmira**	**0.60**	**70**	*i* P	**Pg**	**19 18 05.9**	**-0.8**
BCO2				*e*S	**Sb**	**19 18 15.5**	**0.0**
PTAR3	**Potrerillos Ar**	**0.62**	**73**	*e*P	**Pg**	**19 18 06.3**	**-0.8**
PTAR3	**Potrerillos Ar**	**0.62**	**73**	*i* P	**Pg**	**19 18 06.3**	**-0.8**
DVD	**David**	**0.65**	**97**	*i* P	**Pg**	**19 18 05.8**	**-1.7**
DVD				⇑*e*S	**Sg**	**19 18 16.0**	**-0.1**
EDBA	**Buenos Aires**	**0.67**	**345**	*i* P	**Pb**	**19 18 07.4**	**-0.8**
EDBA				*e*S	**Sn**	**19 18 18.9**	**-1.2**
LNBQ3	**Los Naranjos,**	**0.71**	**67**	*e*P	**Pg**	**19 18 07.2**	**-1.5**
DRK0	**Durika**	**0.76**	**349**	*i* P	**Pg**	**19 18 08.7**	**-0.9**
DRK0				*e*S	**Sb**	**19 18 20.4**	**+0.4**
DRK0	**Durika**	**0.76**	**349**	*e*P	**Pg**	**19 18 08.5**	**-1.1**
DRK0	**Durika**	**0.76**	**349**	Pg	**Pg**	**19 18 08.6**	**-1.1**
SRBA	**San Rafael, Bu**	**0.76**	**340**		**Pg**	**19 18 08.4**	**-1.2**
PSOM3	**Paja de Sombre**	**0.79**	**77**	*e*P	**Pg**	**19 18 08.3**	**-1.9**
PEZE	**Perez Zeledon,**	**1.03**	**327**	*e*P	**Pg**	**19 18 12.7**	**-2.1**
PEZE	**Perez Zeledon,**	**1.03**	**327**		**Pg**	**19 18 12.8**	**-2.1**
CHGR2	**Aguacate**	**1.04**	**66**	*e*P	**Pg**	**19 18 12.4**	**-2.4**
CHGR2				*e*S	**Sg**	**19 18 26.8**	**-1.6**
CHGR2	**Aguacate**	**1.04**	**66**	*e*P	**Pg**	**19 18 12.4**	**-2.4**
CHGR2				*e*S	**Sg**	**19 18 26.9**	**-1.5**
RGM0	**Gandoca**	**1.18**	**24**	*e*P	**Pn**	**19 18 17.3**	**+0.5**
RGM0				*e*S	**Sn**	**19 18 35.8**	**+3.3**
RGM0	**Gandoca**	**1.18**	**24**	*e*P	**Pn**	**19 18 16.8**	**0.0**
RGM0	**Gandoca**	**1.18**	**24**	Pn	**Pn**	**19 18 16.7**	**0.0**
CDM	**Cerro de Muert**	**1.22**	**328**	*e*P	**Pg**	**19 18 15.9**	**-2.6**
MRVA	**Moravia de Chi**	**1.35**	**346**	*e*P	**Pn**	**19 18 18.6**	**-0.7**
NANC3	**Nancito, Chiri**	**1.38**	**101**	*e*P	**Pn**	**19 18 17.8**	**-1.8**
RIMA	**Rio Macho**	**1.46**	**329**	*e*P	**Pn**	**19 18 19.5**	**-1.3**
RIMA	**Rio Macho**	**1.46**	**329**	Pn	**Pn**	**19 18 19.0**	**-1.8**
LCR2	**La Lucha 2**	**1.51**	**324**	*e*P	**Pn**	**19 18 20.6**	**-1.0**
PVID3	**Puerto Vidal,**	**1.55**	**107**	*e*P	**Pn**	**19 18 20.4**	**-1.5**
BATAN	**Batan**	**1.60**	**350**	Pn	**Pn**	**19 18 21.6**	**-0.9**
OCM	**Ochomogo**	**1.61**	**328**	*e*P	**Pn**	**19 18 22.2**	**-0.8**
CVTR	**Volcan Turrial**	**1.63**	**337**	*e*P	**Pn**	**19 18 23.1**	**-0.3**
CVTR	**Volcan Turrial**	**1.63**	**337**	Pn	**Pn**	**19 18 22.8**	**-0.6**
HDC	**Heredia**	**1.79**	**326**	*e*P	**Pb**	**19 18 27.0**	**-0.3**
HDC				*e*S	**Sg**	**19 18 51.8**	**-0.5**
HDC	**Heredia**	**1.79**	**326**	*i* P	**Pb**	**19 18 27.0**	**-0.3**
HDC				*e*S	**Sg**	**19 18 51.9**	**-0.5**
HDC	**Heredia**	**1.79**	**326**	*e*P	**Pn**	**19 18 25.9**	**+0.6**
JACO	**JACO, Garabito**	**1.92**	**307**	*e*P	**Pn**	**19 18 25.9**	**-1.1**
JACO	**JACO, Garabito**	**1.92**	**307**		**Pn**	**19 18 25.7**	**-1.3**
MESA3	**La Mesa, Verag**	**1.93**	**101**	*e*P	**Pn**	**19 18 25.9**	**-1.2**
GMAL	**Guarumal, Vera**	**1.99**	**112**	*e*P	**Pn**	**19 18 26.7**	**-1.3**
GMAL				*e*S	**Sn**	**19 18 53.7**	**+1.0**
SRA1	**San Ramn**	**2.07**	**319**	*e*P	**Pn**	**19 18 30.2**	**+1.0**
STIA3	**Santiago, Vera**	**2.15**	**101**	*e*P	**Pn**	**19 18 29.7**	**-0.4**
CALO3	**Calobre, Verag**	**2.24**	**95**	*e*P	**Pn**	**19 18 29.6**	**-1.9**
MARI3	**Mariato, Verag**	**2.26**	**112**	*e*P	**Pn**	**19 18 32.1**	**+0.4**
CAO2	**Cobano, Puntar**	**2.30**	**301**	Pn	**Pn**	**19 18 30.7**	**-1.6**
CACAO	**El Cacao, Vera**	**2.50**	**117**	*e*P	**Pn**	**19 18 35.0**	**-0.1**
CACAO				*e*S	**Sn**	**19 19 06.9**	**+1.6**
COVE	**Coope Vega, Sa**	**2.54**	**330**	*e*P	**Pn**	**19 18 36.8**	**+1.2**
COVE	**Coope Vega, Sa**	**2.54**	**330**	Pn	**Pn**	**19 18 35.7**	**+0.2**
JTS	**Las Juntas de**	**2.54**	**314**	Pn	**Pn**	**19 18 37.0**	**+1.4**
	71nm,0.3s,baz=155,slow=18,SNR=66						
JTS				Sn	**Sn**	**19 19 05.7**	**-0.6**
	39nm,0.3s,baz=134,slow=22,SNR=8.4						
JTS	**Las Juntas de**	**2.54**	**314**		**Pn**	**19 18 35.3**	**-0.2**
DUNO	**Dulce Nombre,**	**2.83**	**304**	Pn	**Pn**	**19 18 39.7**	**+0.2**
GRZA	**Playa Garza**	**2.86**	**299**	*e*P	**Pn**	**19 18 39.2**	**-0.7**
CUI	**Cuipilapa**	**2.95**	**316**	*e*P	**Pn**	**19 18 43.5**	**+2.3**
GUAI	**GUAI**	**2.95**	**306**	*e*P	**Pn**	**19 18 41.8**	**+0.7**
HORNC	**Hornillas**	**3.00**	**317**	*e*P	**Pn**	**19 18 44.0**	**+2.1**
SAJU	**San Juanillo,**	**3.00**	**301**	*e*P	**Pn**	**19 18 41.5**	**-0.4**
LAPC	**Finca la Perla**	**3.21**	**314**	*e*P	**Pn**	**19 18 46.7**	**+1.9**
BUEV	**Buena Vista**	**3.21**	**315**	*e*P	**Pn**	**19 18 47.0**	**+2.1**
BUAI	**Buenos Aires**	**3.22**	**317**	*e*P	**Pn**	**19 18 46.6**	**+1.7**
GB1A	**Borinquen Arri**	**3.22**	**316**	*e*P	**Pn**	**19 18 47.5**	**+2.5**
GBS3	**Finca Las Img**	**3.24**	**314**	*e*P	**Pn**	**19 18 47.2**	**+2.1**
BCIP	**Isla Barro Col**	**3.29**	**78**	Pn	**Pn**	**19 18 46.8**	**+1.0**
HZTE	**Horizontes, Gu**	**3.29**	**312**	Pn	**Pn**	**19 18 47.0**	**+1.1**
ESPN	**Las Esperanzas**	**3.84**	**342**	Pn	**Pn**	**19 18 53.3**	**-0.1**
ACON	**Acoyapa**	**3.99**	**329**	Pn	**Pn**	**19 18 56.2**	**+0.6**
PRVC	**Isla de Provid**	**5.12**	**19**	Pn	**Pn**	**19 19 10.2**	**-0.9**
CRIN	**San Cristobal**	**5.69**	**317**	Pn	**Pn**	**19 19 18.8**	**-0.2**
MTO3	**Montecristo**	**8.48**	**314**	Pn	**Pn**	**19 19 58.0**	**+0.7**
CMIG	**Matias Romero**	**14.30**	**308**	Pn	**Pn**	**19 21 18.6**	**+1.7**
	0.6nm,0.3s,baz=90,slow=20,SNR=6.2						
HPIG		**28.15**	**313**	P	**P**	**19 23 46.0**	**-0.9**
LCAR	**Lake Charles**	**28.40**	**346**	P	**P**	**19 23 48.2**	**-0.5**
MGMO	**Mountain Grove**	**29.70**	**345**	P	**P**	**19 24 00.1**	**-0.2**
MGMO				IAmb	IAmb	19 24 06.5	
	comp=Z,5.3nm,1.1s						
SFIN	**Lafayette**	**31.93**	**354**	P	**P**	**19 24 19.4**	**-0.5**
P38A	**Dawn**	**32.36**	**345**	P	**P**	**19 24 23.5**	**-0.2**
P38A				IAmb	IAmb	19 24 24.6	
	comp=Z,7.4nm,1.4s						
M63A	**Gales Ferry**	**34.19**	**15**	P	**P**	**19 24 39.7**	**0.0**
H03N2	**Juan Fernandez**	**41.91**	**175**	T	T	20 10 19.8	
	baz=354,slow=76,SNR=3.7						
H03N1	**Juan Fernandez**	**41.91**	**175**	T	T	20 10 20.6	
	baz=354,slow=76,SNR=3.6						
H03N3	**Juan Fernandez**	**41.92**	**175**	T	T	20 10 19.5	
	baz=354,slow=76,SNR=6.0						
NVAR	**Mina Array Bea**	**43.46**	**319**	P	**P**	**19 25 60.0**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=125,slow=8.5,SNR=3.8						
YKA	**Yellowknife Ar**	**58.55**	**343**	P	**P**	**19 27 50.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=131,slow=8.2,SNR=4.4						
BCAR	**Beaver Creek A**	**68.59**	**335**	P	**P**	**19 28 57.8**	**+0.8**
DOT	**Dot Lake**	**69.77**	**335**	P	**P**	**19 29 04.7**	**+0.4**
DOT				IAmb	IAmb	19 29 23.3	
	comp=Z,3.2nm,1.3s						
IL31		**71.33**	**336**	P	**P**	**19 29 14.7**	**+1.1**
IL31				IAmb	IAmb	19 29 32.5	
	comp=Z,4.0nm,1.5s						
ILAR	**Eielson Array**	**71.33**	**336**	P	**P**	**19 29 13.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=119,slow=5.1,SNR=6.9						
ILAR	**Eielson Array**	**71.33**	**336**	P	**P**	**19 29 13.9**	**+0.2**
RND	**Reindeer**	**71.69**	**334**	P	**P**	**19 29 16.9**	**+0.9**
RND				IAmb	IAmb	19 29 19.6	
	comp=Z,3.8nm,1.1s						
ESDC	**Sonseca Array**	**76.27**	**51**	P	**P**	**19 29 42.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=268,slow=5.5,SNR=4.0						

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*TEH **11** 19:29:11.8, 32°11N×59°81E, h6km, ML3.8*
*THR **11** 19:29:12.9±1.0, 32°06N×59°75E, h15km±8km, ML3.8*

ISC 11 19:29:13.5±0.9, 32°13N±0°03×59°79E±0°04, h10km, n36, σ1s36/37, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSRN	**Basiran**	**0.58**	**254**	*e*Pg	**Pg**	**19 29 23.4**	**-1.4**
BSRN				*e*Sg	**Sg**	**19 29 31.2**	**-1.3**
BSRN				IAML		19 29 32.4	
	comp=N,2μm,0.3s						
IDAH	**Dahanechah**	**0.62**	**7**	*e*Pg	**Pg**	**19 29 24.8**	**-0.8**
IKOO	**Kooshah**	**0.72**	**294**	*e*Pg	**Pg**	**19 29 25.9**	**-1.7**
IKOO				*e*		19 29 38.6	
	comp=Z,55μm,0.1s						
NHDN	**Nehbandan**	**0.76**	**163**	*e*Pg	**Pg**	**19 29 26.9**	**-1.4**
NHDN				*e*Sg	**Sg**	**19 29 38.2**	**-0.1**
NHDN				*e*		19 29 44.2	
	comp=Z,99μm,0.3s						
ITEG	**Tejag**	**1.17**	**312**	*e*Pg	**Pb**	**19 29 34.0**	**-1.9**
AFRZ	**Afriz**	**1.45**	**334**	*e*Pg	**Pn**	**19 29 39.5**	**-0.5**
SHRT	**Shahrakht**	**1.58**	**16**	*e*Pg	**Pb**	**19 29 43.1**	**+0.2**
ZHSF	**Zahedan**	**2.65**	**161**	*e*Pn	**Pn**	**19 29 56.6**	**+0.1**
TKDS	**Koohdasht(Taba**	**2.69**	**304**	*e*Pn	**Pn**	**19 29 58.0**	**+1.0**
TKDS				*e*		19 30 44.1	
	comp=Z,2μm,1.0s						
TABS	**Tabas**	**2.71**	**305**	*e*Pn	**Pn**	**19 29 58.0**	**+0.7**
TABS				*e*Sg	**Sb**	**19 30 38.5**	**+2.9**
TPRV	**Parvadeh(Tabas**	**2.77**	**290**	*e*Pn	**Pn**	**19 29 58.7**	**+0.6**
TPRV				*e*		19 30 49.9	
	comp=Z,5μm,0.7s						
ZHDN	**Zahedan**	**2.86**	**162**	*e*Pn	**Pn**	**19 29 59.5**	**+0.2**
CHMN	**Cheshme madani**	**2.97**	**221**	*e*Pn	**Pn**	**19 30 02.1**	**+1.0**
CHMN				*e*		19 30 53.4	
	comp=Z,3μm,0.4s						
KBAM	**BAM**	**3.19**	**201**	*e*Pn	**Pn**	**19 30 05.2**	**+1.3**
TNSJ	**Nastanj**	**3.24**	**305**	*e*Pn	**Pn**	**19 30 05.2**	**+0.7**
KHGB	**Koh Gabri**	**3.33**	**239**	*e*Pn	**Pn**	**19 30 07.4**	**+1.5**
TVBK	**TV Kerman**	**3.36**	**231**	*e*Pn	**Pn**	**19 30 08.1**	**+1.7**
KRBR	**Kerman**	**3.36**	**231**	IAML		19 31 08.8	
	comp=N,148nm,0.6s						
KRBR				IAML		19 31 08.9	
	comp=E,142nm,0.3s						
NGRK	**Negar Kerman**	**3.61**	**228**	*e*Pn	**Pn**	**19 30 11.0**	**+1.1**
NGRK				*e*		19 31 10.9	
	comp=Z,1μm,0.8s						
IBAF	**Bafgh**	**3.63**	**263**	*e*Pn	**Pn**	**19 30 11.8**	**+1.8**
JRKH	**Jarkhoshk**	**3.80**	**7**	*e*Pn	**Pn**	**19 30 13.4**	**+1.1**
IPAY	**Payeh**	**4.36**	**352**	*e*Pn	**Pn**	**19 30 20.5**	**+0.4**
YZKH	**Yazd**	**4.41**	**275**	*e*Pn	**Pn**	**19 30 22.2**	**+1.6**
YZKH				IAML		19 31 37.6	
	comp=E,166nm,0.5s						
YZKH				IAML		19 31 38.4	
	comp=N,91nm,0.6s						
IMEH	**Mehriz**	**4.47**	**262**	*e*Pn	**Pn**	**19 30 23.3**	**+1.8**
KHNJ	**Kahnooj**	**4.54**	**204**	*e*Pn	**Pn**	**19 30 23.2**	**+0.9**
IAKL	**Akhelmad**	**4.55**	**350**	*e*Pn	**Pn**	**19 30 23.7**	**+1.0**
ICHK	**Chekchek**	**4.56**	**273**	*e*		19 31 46.0	
	comp=Z,1μm,0.5s						
SBZV	**Sabzevar**	**4.62**	**338**	*e*Pn	**Pn**	**19 30 24.7**	**+1.1**
SHRO	**Shahrood**	**4.97**	**322**	*e*Pn	**Pn**	**19 30 29.1**	**+0.8**
ANAR	**Anarak**	**5.22**	**283**	*e*Pn	**Pn**	**19 30 32.9**	**+1.1**
SRVN	**Saravan**	**5.22**	**154**	*e*Pn	**Pn**	**19 30 33.9**	**+2.0**
MRVT	**Maraveh tapeh**	**6.30**	**332**	*e*Pn	**Pn**	**19 30 47.5**	**+0.9**
IZEF	**Zefreh**	**6.34**	**279**	*e*Pn	**Pn**	**19 30 49.4**	**+2.0**
KRSH	**Karshahi**	**6.68**	**288**	*e*Pn	**Pn**	**19 30 53.3**	**+1.4**
ISFB	**Sefidab**	**6.70**	**291**	*e*Pn	**Pn**	**19 30 53.2**	**+1.1**
IKLH	**Kolahrood**	**7.02**	**282**	*e*Pn	**Pn**	**19 30 58.0**	**+1.4**

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*UCR **11** 19:43:52.9±0.8, 13°83N×90°86W, h70km±13km, ML4.1, mb4.0(NEIC)*
*SNET **11** 19:43:52.9±0.9, 13°82N×90°86W, h71km±13km, ML4.2*
*NEIC **11** 19:43:56.3±1.9, 13°85N±0°10×90°67W±0°06, h66km±18km, mb4.0/14, Md4.2(SNET), Error ellipse: s-maj=14.5km s-min=7.8km az=198.0*
*GCG **11** 19:43:58.4±0.3, 13°91N×90°69W, h50km, MD4.0*

ISC 11 19:43:56.7±1.1, 13°87N±0°08×90°65W±0°08, h73km, n77, σ0s95/79, mb4.0/4, 15D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.52**	**5**	*e*P	**Pn**	**19 44 10.4**	**0.0**
FUG	**Fuego 3**	**0.60**	**342**	*e*P	**Pn**	**19 44 10.9**	**-0.2**
NBG	**Las Nubes**	**0.77**	**22**	⇓*e*P	**Pn**	**19 44 13.8**	**+0.8**
NBG				*e*S	**Sn**	**19 44 26.9**	**+2.0**
SLOZ	**Alcaldia de Sa**	**0.85**	**80**	⇓*e*P	**Pn**	**19 44 12.7**	**-1.0**
SLOZ				*e*S	**Sn**	**19 44 28.4**	**+2.1**
SLOZ				IAML		19 44 34.4	
	comp=Z,2μm,0.4s						
RTR	**El Retiro**	**0.98**	**88**	*e*P	**Pn**	**19 44 14.6**	**-0.7**
RTR	**El Retiro**	**0.98**	**88**	*e*P	**Pn**	**19 44 14.6**	**-0.7**
SBLS	**San Blas**	**1.00**	**92**	*e*P	**Pn**	**19 44 14.8**	**-0.8**
SBLS	**San Blas**	**1.00**	**92**	*e*P	**Pn**	**19 44 14.8**	**-0.8**
JAYA	**Jayaque - finc**	**1.19**	**100**	⇓*i*P	**Pn**	**19 44 16.7**	**-1.2**
JAYA				IAML		19 44 35.8	
	comp=Z,8μm,0.2s						
JAYA	**Jayaque - finc**	**1.19**	**100**	⇓*i*P	**Pn**	**19 44 16.7**	**-1.2**
JAYA				IAML		19 44 35.8	
	comp=Z,8μm,0.2s						
RTAL	**Retalhuleu**	**1.20**	**303**	Pn	**Pn**	**19 44 16.7**	**-1.3**
CEDA	**San Andres**	**1.22**	**93**	*e*P	**Pn**	**19 44 17.1**	**-1.1**
CEDA				IAML		19 44 47.9	
	comp=Z,3μm,0.3s						
CEDA	**San Andres**	**1.22**	**93**	*e*P	**Pn**	**19 44 17.1**	**-1.1**
CEDA				IAML		19 44 47.9	
	comp=Z,3μm,0.3s						
TACO	**Tacachico**	**1.26**	**85**	⇓*i*P	**Pn**	**19 44 17.4**	**-1.3**
TACO	**Tacachico**	**1.26**	**85**	⇓*i*P	**Pn**	**19 44 17.4**	**-1.3**
BOQS	**Boqueron**	**1.34**	**96**	⇓*e*P	**Pn**	**19 44 18.9**	**-1.0**
BOQS	**Boqueron**	**1.34**	**96**	⇓*e*P	**Pn**	**19 44 18.9**	**-1.0**
LALI	**Alcalda de L**	**1.35**	**106**	⇓*e*P	**Pn**	**19 44 19.0**	**-0.8**
LALI	**Alcalda de L**	**1.35**	**106**	⇓*e*P	**Pn**	**19 44 19.0**	**-0.8**
MTO3	**Montecristo**	**1.36**	**67**	⇓*i*P	**Pn**	**19 44 19.0**	**-1.1**
MTO3	**Montecristo**	**1.36**	**67**	⇓*i*P	**Pn**	**19 44 19.0**	**-1.1**
MTO3	**Montecristo**	**1.36**	**67**	Pn	**Pn**	**19 44 19.1**	**-1.1**
UEES	**Universidad Ev**	**1.38**	**96**	*e*P	**Pn**	**19 44 19.3**	**-1.0**
UEES				IAML		19 44 46.0	
	comp=Z,5μm,0.3s						
UEES	**Universidad Ev**	**1.38**	**96**	*e*P	**Pn**	**19 44 19.3**	**-1.0**
UEES				IAML		19 44 46.0	
	comp=Z,5μm,0.3s						
SNET	**Serv Nac Est T**	**1.39**	**97**	*e*P	**Pn**	**19 44 19.6**	**-0.9**
SNET	**Serv Nac Est T**	**1.39**	**97**	*e*P	**Pn**	**19 44 19.6**	**-0.9**
SNET	**Serv Nac Est T**	**1.39**	**97**	Pn	**Pn**	**19 44 19.2**	**-1.3**
ESQI	**Esquipulas**	**1.44**	**62**	⇓*i*P	**Pn**	**19 44 20.6**	**-0.6**
ESQI	**Esquipulas**	**1.44**	**62**	Pn	**Pn**	**19 44 20.4**	**-0.7**
LFRS	**El Faro**	**1.56**	**99**	*e*P	**Pn**	**19 44 21.5**	**-1.3**
LFRS	**El Faro**	**1.56**	**99**	*e*P	**Pn**	**19 44 21.5**	**-1.3**
LBRS	**Las Brisas**	**1.57**	**95**	⇓*e*P	**Pn**	**19 44 21.8**	**-1.0**
LBRS	**Las Brisas**	**1.57**	**95**	⇓*e*P	**Pn**	**19 44 21.8**	**-1.0**
SJTE	**Alcalda de S**	**1.62**	**99**	*e*P	**Pn**	**19 44 22.3**	**-1.1**
SJTE	**Alcalda de S**	**1.62**	**99**	*e*P	**Pn**	**19 44 22.3**	**-1.1**
PAVA	**Las Pavas**	**1.67**	**95**	*e*P	**Pn**	**19 44 23.2**	**-1.0**
PAVA	**Las Pavas**	**1.67**	**95**	*e*P	**Pn**	**19 44 23.2**	**-1.0**
COEG	**Centro de Oper**	**1.74**	**98**	*e*P	**Pn**	**19 44 24.5**	**-0.6**
COEG				IAML		19 44 52.6	
	comp=Z,3μm,0.3s						
COEG	**Centro de Oper**	**1.74**	**98**	*e*P	**Pn**	**19 44 24.5**	**-0.6**
COEG				IAML		19 44 52.6	
	comp=Z,3μm,0.3s						
TECO	**Alcaldia de Te**	**1.85**	**100**	*e*P

KTBS Lg Lg 20 41 49.6
16nm,0.4s
KUU Kurty 6.60 348 Pg **Pb 20 40 32.3 +2.6**
2.8nm,0.5s
KUU Lg Lg 20 41 56.2
6.3nm,0.7s
ARXS Arharly 6.78 358 Pg **Pb 20 40 35.6 +2.9**
6.3nm,0.5s
ARXS Lg Lg 20 42 01.4
13nm,0.4s
MAKZ Makanchi 9.78 16 ⇑Pn **Pn 20 40 55.0 -0.3**
1.6nm,0.5s
MAKZ ⇑Sn **Sn 20 42 41.9 -2.8**
0.9nm,0.6s
MKAR Makanchi Array 9.84 17 Pn **Pn 20 40 56.6 +0.6**
0.8nm,0.3s,baz=200,slow=13,SNR=39
MKAR Sn **Sn 20 42 41.2 -4.9**
0.7nm,0.3s,baz=185,slow=26,SNR=5.2
ZALV Zalesovo Beam 17.14 13 Pn **Pn 20 42 33.8 -0.2**
0.1nm,0.3s,baz=203,slow=10,SNR=1.7
AKTO Aktyubinsk 19.40 318 LR LR 20 50 53.4
comp=Z,20nm,20.8s,baz=103,slow=38
ARU Arti 23.09 332 P **P 20 43 38.8 -1.2**
0.4nm,0.2s,baz=119,slow=19,SNR=1.7
SONM Songino Array 23.11 54 P **P 20 43 40.8 +0.3**
0.2nm,0.4s,baz=250,slow=11,SNR=2.5
FINES FINESS Array B 40.02 324 P **P 20 46 08.9 -0.1**
0.5nm,0.5s,baz=110,slow=12,SNR=6.3
TORD Torodi Ar. Bea 71.44 273 P **P 20 49 54.3 -0.9**
0.2nm,0.4s,baz=39,slow=5.1,SNR=1.5

IDC 11 20:40:40.5±3.2, 5°90S×151°33E, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.4/35, mbtmp3.8/3, ML1.3/1, Error ellipse: s-maj=124.7km s-min=43.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.41**	**230**	Pn	Pn	20 42 03.6	+1.1
PMG	0.6nm,0.3s,baz=336,slow=20,SNR=1.6			Sn	Sn	20 42 59.8	-5.6
WRA	**Warramunga Arr**	**21.63**	**228**	P	P	20 45 32.1	-0.4
ASAR	1.1nm,0.3s,baz=324,slow=19,SNR=2.8 **Alice Springs**	**24.36**	**222**	P	P	20 46 00.5	0.0
TORD	1.4nm,0.4s,baz=54,slow=10,SNR=18 **Torodi Ar. Bea**	**149.23**	**286**	PKPbc	PKPbc	21 00 31.7	-0.5
	2.2nm,0.7s,baz=58,slow=9.1,SNR=34						
	1.1nm,0.6s,baz=55,slow=3.1,SNR=6.6						

IDC 11 20:44:60.0±2.2, 7°23S×129°18E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=111.7km s-min=30.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.59**	**159**	Pn	Pn	20 48 15.2	+1.1
WRA	0.1nm,0.3s,baz=338,slow=12,SNR=2.7			Sn	Sn	20 50 45.3	-0.8
ASAR	0.1nm,0.3s,baz=350,slow=24,SNR=1.3 **Alice Springs**	**16.96**	**165**	Pn	Pn	20 48 58.6	-0.2
MKAR	0.0nm,0.3s,baz=348,slow=10.0,SNR=5.4 **Makanchi Array**	**67.98**	**327**	P	P	20 56 00.9	0.0
	0.1nm,0.5s,baz=114,slow=6.6,SNR=1.9						

IDC 11 21:00:29.8±2.9, 6°20S×152°81E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.3/33, mbtmp3.5/3, ML2.2/1, Error ellipse: s-maj=117.4km s-min=42.1km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.44**	**240**	Pn	Pn	21 02 07.7	+1.7
PMG	3.2nm,0.3s,baz=29,slow=8.4,SNR=6.6			Sn	Sn	21 03 18.6	-1.6
WRA	0.5nm,0.3s,baz=222,slow=12,SNR=1.7 **Warramunga Arr**	**22.55**	**231**	P	P	21 05 30.6	-1.1
ASAR	0.3nm,0.7s,baz=56,slow=9.9,SNR=2.1 **Alice Springs**	**25.14**	**224**	P	P	21 05 57.2	+0.4
TORD	0.8nm,0.7s,baz=58,slow=9.2,SNR=7.8 **Torodi Ar. Bea**	**150.72**	**286**	PKPbc	PKPbc	21 20 24.8	-0.4
	0.5nm,0.9s,baz=58,slow=2.4,SNR=2.7						

IDC 11 21:23:35.9±8.5, 7°64S×128°52E, h159km±91km, mb2.9/1, mb1 3.0/4, mb1mx2.8/27, mbtmp3.5/4, Error ellipse: s-maj=86.3km s-min=27.3km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.44**	**242**	P	Pn	21 24 56.8	+1.5
BATI	8.8nm,0.3s,baz=84,slow=3.5,SNR=9.0			S	Sn	21 25 57.1	-0.3
WRA	12nm,0.3s,baz=42,slow=24,SNR=8.4 **Warramunga Arr**	**13.47**	**156**	P	Pn	21 26 39.3	-1.5
WRA	0.1nm,0.3s,baz=334,slow=13,SNR=1.8			S	Sn	21 29 00.6	-10
ASAR	0.7nm,0.3s,baz=334,slow=23,SNR=9.8 **Alice Springs**	**16.75**	**163**	P	Pn	21 27 21.9	+0.5
ASAR	0.1nm,0.3s,baz=339,slow=13,SNR=1.1			S	S	21 30 21.3	-5.9
MKAR	0.2nm,0.3s,baz=346,slow=26,SNR=8.3 **Makanchi Array**	**67.97**	**328**	P	P	21 34 17.5	-0.2
	0.2nm,0.5s,baz=113,slow=8.2,SNR=4.9						

*ANF **11** 21:36:02.9±0.9, 42°55N×124°54W, h7km±3km, ML2.7/8, Error ellipse: s-maj=6.6km s-min=3.3km az=83.0*
*SEA **11** 21:36:03.9±2.1, 42°57N±0°01×124°48W±0°04, h10km±3km, ML2.6/15, ML2.2/24(NEIC), Error ellipse: s-maj=3.8km s-min=1.7km az=82.0*
*NEIC **11** 21:36:04.6±2.0, 42°55N±0°01×124°39W±0°03, h10km±4km, Error ellipse: s-maj=2.9km s-min=1.6km az=78.0*

ISC 11 21:36:04.5±1.4, 42°57N±0°02×124°41W±0°06, h12km±10km, n34, σ0°71/43, Near coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**0.31**	**10**		**Pg**	**21 36 10.8**	**0.0**
KEBM					**Sb**	**21 36 17.2**	**+0.2**
KEBM	**Edson Butte**	**0.31**	**10**	IAML		21 36 18.3	
KEBM	comp=N,1μm,0.5s			IAML		21 36 18.8	
KBO	comp=E,2μm,0.4s **Bosley Butte**	**0.38**	**160**		**Pg**	**21 36 12.1**	**-0.1**
KBO					**Sb**	**21 36 18.6**	**-0.6**
KBO	**Bosley Butte**	**0.38**	**160**	IAML		21 36 23.4	
K02D	comp=E,498nm,0.5s **Willamette Mer**	**0.56**	**77**	P	**Pg**	**21 36 15.1**	**-0.4**
K02D	baz=258,SNR=241			S	**Sb**	**21 36 24.7**	**+0.4**
K02D	baz=258 **Willamette Mer**	**0.56**	**77**		**Pg**	**21 36 15.3**	**-0.2**
K02D					**Sb**	**21 36 24.7**	**+0.4**
J01E	**Myrtle Point**	**0.69**	**30**	P	**Pg**	**21 36 17.5**	**-0.3**
J01E	baz=214,SNR=129			S	**Sb**	**21 36 29.6**	**+1.8**
L02E	baz=214 **Cave Junction**	**0.72**	**124**	P	**Pg**	**21 36 18.2**	**-0.3**
L02E	baz=303,SNR=161			S	**Sb**	**21 36 29.2**	**+0.3**
L02E	baz=303 **Cave Junction**	**0.72**	**124**		**Pg**	**21 36 18.3**	**-0.3**
L02E					**Sb**	**21 36 29.5**	**+0.6**
KSXB	**Camp Six Broad**	**0.84**	**152**		**Pg**	**21 36 20.3**	**-0.4**
KSXB					**Sn**	**21 36 33.9**	**-0.6**
DBO	**Dodson Butte**	**1.01**	**57**		**Pg**	**21 36 23.2**	**-0.9**
UMPQ	**Umpqua Communi**	**1.07**	**47**		**Pg**	**21 36 24.1**	**-1.0**
HUMO	**Hull Mountain**	**1.07**	**88**		**Pg**	**21 36 23.7**	**-1.4**
HUMO				IAML		21 36 44.8	
HUMO	comp=E,46nm,0.9s			IAML		21 36 44.9	
HUMO	comp=N,48nm,0.6s **Hull Mountain**	**1.07**	**88**		**Sn**	**21 36 39.8**	**-0.3**
KRMB	**Red Mountain**	**1.11**	**160**		**Pg**	**21 36 24.5**	**-1.4**
HSO	**Harness Mounta**	**1.36**	**45**		**Pn**	**21 36 28.6**	**-0.7**
I03D	**Drain, OR**	**1.37**	**34**	P	**Pn**	**21 36 28.4**	**-1.0**
I03D	baz=217,SNR=95			S	**Sg**	**21 36 48.6**	**+0.2**
I03D	baz=217 **Drain, OR**	**1.37**	**34**		**Pn**	**21 36 28.4**	**-1.0**
I03D					**Sg**	**21 36 48.7**	**+0.2**
RNO	**Roman Nose**	**1.43**	**20**		**Pn**	**21 36 30.3**	**0.0**
YBH	**Yreka Blue Hor**	**1.51**	**123**		**Pn**	**21 36 31.8**	**+0.3**
YBH	**Yreka Blue Hor**	**1.51**	**123**	Pn	**Pn**	**21 36 31.6**	**+0.1**
YBH	**Yreka Blue Hor**	**1.51**	**123**	IAML		21 36 59.0	
L04D	comp=N,28nm,0.6s **Klamath Falls**	**1.59**	**102**	P	**Pn**	**21 36 33.0**	**+0.3**
L04D	baz=283,SNR=94			S	**Sg**	**21 36 56.4**	**+0.6**
L04D	baz=283 **Klamath Falls**	**1.59**	**102**		**Pn**	**21 36 33.0**	**+0.3**
M02C	**Callahan**	**1.65**	**135**	P	**Pn**	**21 36 33.5**	**+0.2**
I04A	baz=315,SNR=19 **Tendick Farm,**	**1.90**	**49**	P	**Pn**	**21 36 37.1**	**+0.3**
I04A	baz=232			S	**Sb**	**21 37 04.1**	**+1.2**
BUCK	baz=232 **Buck Mountain**	**1.93**	**32**		**Pn**	**21 36 37.9**	**+0.7**
BUCK				IAML		21 37 11.5	
K04D	comp=N,29nm,1.5s **Chiloquin, OR**	**1.96**	**88**	Pb	**Pb**	**21 36 39.9**	**-0.2**
KMRM	comp=N,28nm,5.1 **Mail Ridge**	**2.40**	**167**		**Pn**	**21 36 45.1**	**+1.4**
KMRM				IAML		21 37 46.5	
KMRM	comp=E,10nm,3.5s			IAML		21 37 56.8	
WDC	comp=N,11nm,3.5s **Whiskeytown Da**	**2.43**	**144**		**Pn**	**21 36 44.5**	**+0.4**
K05A	**Summer Lake**	**2.59**	**85**		**Pn**	**21 36 47.6**	**+1.1**
K05A				IAML		21 37 31.7	
H04A	comp=N,12nm,1.1s **Detroit Lake**	**2.66**	**37**	Pn	**Pn**	**21 36 46.9**	**-0.3**
PINE	**Pine Mountain**	**2.81**	**63**		**Pn**	**21 36 49.8**	**+0.3**
PINE				IAML		21 38 19.7	
PINE	comp=N,7.6nm,4.7s			IAML		21 38 27.7	
I07A	comp=E,7.7nm,3.1s **Izee**	**3.88**	**65**		**Pn**	**21 37 04.6**	**+0.5**
I07A				IAML		21 37 36.4	
I07A	comp=N,3.4nm,3.2s			IAML		21 37 55.8	
	comp=E,3.8nm,3.1s						

IDC 11 21:37:00.7±22.0, 20°39S×179°04W, h448km±68km, mb2.9/3, mb1 3.0/4, mb1mx2.8/20, mbtmp3.7/4, Error ellipse: s-maj=452.5km s-min=116.8km az=87.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.81**	**313**	P	P	21 38 14.3	0.0
STKA	1.3nm,0.3s,baz=121,slow=18,SNR=5.7 **Stephens Creek**	**36.96**	**244**	P	P	21 43 29.6	-0.7
ASAR	2.2nm,0.9s,baz=87,slow=18,SNR=3.3 **Alice Springs**	**43.59**	**257**	P	P	21 44 24.1	+0.1
WRA	0.9nm,0.8s,baz=96,slow=7.9,SNR=8.3 **Warramunga Arr**	**43.65**	**262**	P	P	21 44 24.3	-0.1
	0.3nm,0.4s,baz=96,slow=7.7,SNR=13						

*TUL **11** 21:52:09.1±1.0, 36°53N±0°02×98°47W±0°04, h5km±7km, ML3.1, mb_Lg2.7/53(NEIC), Error ellipse: s-maj=4.9km s-min=2.9km az=86.0*

NEIC 11 21:52:09.8±1.9, 36°54N±0°02×98°47W±0°04, h15km±6km, Error ellipse: s-maj=5.3km s-min=3.0km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.33**	**39**	Pg	Pg	21 52 16.2	-0.5
OK032				Sg	Sg	21 52 21.2	-0.2
CROK	**Carrier**	**0.39**	**95**	Pg	Pg	21 52 16.9	-0.8
CROK				Sg	Sg	21 52 22.6	-0.5
U32A	**Winter Ranch,**	**0.46**	**249**	Pg	Pg	21 52 18.2	-0.8
GC02	**Grant County #**	**0.58**	**58**	Pg	Pg	21 52 20.5	-0.7
GC02				Sg	Sg	21 52 28.7	-0.2
KAN10	**Anthony SW Sta**	**0.65**	**27**	Pg	Pg	21 52 22.1	-0.5
KAN05	**Bluff City Nor**	**0.74**	**40**	Pg	Pg	21 52 23.5	-0.8
KAN05				Sg	Sg	21 52 33.9	-0.1
KAN17	**Caldwell West**	**0.75**	**48**	Pg	Pg	21 52 23.8	-0.7
KAN17				Sg	Sg	21 52 34.3	-0.1
KAN08	**Anthony NE Sta**	**0.79**	**30**	Pg	Pg	21 52 24.6	-0.6
KAN08				Sg	Sg	21 52 35.6	0.0
KAN12	**Harper NE Stat**	**0.84**	**26**	Pg	Pg	21 52 25.8	-0.4
KAN09	**Caldwell North**	**0.90**	**49**	Pg	Pb	21 52 26.4	-0.8
KAN09				IAmb_Lg		21 52 38.6	
	comp=Z,122nm,1.0s						
KAN13	**South Haven SW**	**0.92**	**59**	Pg	Pb	21 52 26.8	-0.8
KS20	**Mayfield South**	**1.00**	**47**	Pg	Pb	21 52 28.7	-0.2
BLOK	**Blackwell**	**1.03**	**77**	Pg	Pb	21 52 28.6	-0.9
OK029	**Liberty Lake**	**1.11**	**132**		Pb	21 52 29.7	-1.0
BCOK	**Bluff Creek, N**	**1.13**	**142**	Pg	Pb	21 52 29.8	-1.2
OK025	**Westminster Rd**	**1.33**	**136**		Pn	21 52 33.4	-0.5
OKCFA	**Oklahoma City**	**1.40**	**143**	Pn	Pn	21 52 34.5	-0.3
OKCSW	**OKLAHOMA CITY**	**1.41**	**143**	Pn	Pn	21 52 34.8	-0.3
OK031	**S. Brethren Rd**	**1.44**	**114**		Pn	21 52 35.8	+0.4
QUOK	**Quay**	**1.47**	**104**		Pn	21 52 36.1	+0.3
FNO	**Franklin**	**1.55**	**146**		Pn	21 52 37.1	+0.2
T35A	**Sooner Cattle**	**1.61**	**76**		Pb	21 52 38.6	-0.7
WMOK	**Wichita Mounta**	**1.82**	**188**	Pn	Pn	21 52 40.9	+0.3
R32A	**Long Quarter,**	**1.89**	**354**		Pb	21 52 43.5	-0.5
X34A	**Smith Ranch, M**	**2.01**	**165**		Pb	21 52 44.7	-1.3
X34A				IAmb_Lg		21 53 15.0	
	comp=Z,41nm,0.8s						
CBKS	**Cedar Bluff**	**2.48**	**336**	Pn	Pn	21 52 50.6	+0.9
LOOK	**Love County**	**2.75**	**157**		Pn	21 52 54.2	+0.8
AMTX	**Amarillo**	**3.09**	**239**		Pn	21 52 58.1	-0.1
AMTX				IAmb_Lg		21 53 47.4	
	comp=Z,16nm,0.8s						
X37A	**Clayton**	**3.19**	**127**	Pn	Pn	21 53 00.1	+0.6
X37A				IAmb_Lg		21 53 56.7	
	comp=Z,21nm,0.8s						
U38A	**Gravette**	**3.29**	**91**		Pn	21 53 01.8	+0.9
Z35A	**Perchaven, San**	**3.36**	**162**	Pn	Pn	21 53 02.0	+0.3
HHAR	**Hobbs**	**3.66**	**93**		Pn	21 53 06.2	+0.2
ABTX	**Abilene, Hawle**	**4.03**	**194**		Pn	21 53 11.5	+0.4
W39A	**Magazine**	**4.04**	**108**		Pn	21 53 12.6	+1.5
W39A				IAmb_Lg		21 54 20.1	
	comp=Z,25nm,0.9s						
N33A	**J Bar K, Exete**	**4.26**	**10**	Pn	Pn	21 53 14.5	+0.2
N33A				IAmb_Lg		21 54 33.0	
	comp=Z,19nm,0.8s						
S39A	**Bolivar**	**4.27**	**73**		Pn	21 53 15.1	+0.8
S39A				IAmb_Lg		21 54 24.0	
	comp=Z,16nm,0.9s						
MSTX	**Muleshoe**	**4.36**	**235**	IAmb_Lg		21 54 32.4	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**4.46**	**115**	Pn	Pn	21 53 17.7	+0.8
MIAR				IAmb_Lg		21 54 42.7	
	comp=Z,15nm,1.0s						
U40A	**Yellville**	**4.53**	**91**	Pn	Pn	21 53 18.9	+1.0
T25A	**Trinidad**	**4.80**	**279**	IAmb_Lg		21 54 48.2	
	comp=Z,20nm,0.9s						
BGNE	**Belgrade**	**4.86**	**3**	Pn	Pn	21 53 23.6	+1.1
BGNE				IAmb_Lg		21 54 56.7	
	comp=Z,20nm,0.8s						
P38A	**Dawn**	**4.96**	**50**	IAmb_Lg		21 54 52.2	
	comp=Z,10nm,0.8s						
X40A	**Basin Creek Fa**	**5.03**	**112**		Pn	21 53 26.1	+1.3
X40A				IAmb_Lg		21 54 56.7	
	comp=Z,15nm,0.7s						
237A	**Washetta, Mont**	**5.04**	**153**	Pn	Pn	21 53 25.1	+0.2
WHAR	**Wooly Hollow**	**5.17**	**102**		Pn	21 53 27.3	+0.6
WHAR				IAmb_Lg		21 54 55.9	
	comp=Z,8.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.17**	**95**		Pn	21 53 27.8	+1.1
R40A	**Maddies Statio**	**5.23**	**69**		Pn	21 53 28.5	+0.9
JCT	**Junction City**	**6.15**	**191**	IAmb_Lg		21 55 36.1	
	comp=Z,13nm,0.9s						
PBMO	**Poplar Bluff**	**6.47**	**86**	IAmb_Lg		21 55 49.3	
	comp=Z,8.1nm,1.0s						
ISCO	**Idaho Springs**	**6.50**	**302**	IAmb_Lg		21 55 45.8	
	comp=Z,8.0nm,0.9s						
PHWY	**Pilot Hill**	**7.23**	**313**	IAmb_Lg		21 56 15.0	
	comp=Z,7.7nm,0.8s						
S44A	**Carbondale**	**7.45**	**78**	IAmb_Lg		21 56 12.7	
	comp=Z,9.6nm,0.8s						
SIUC	**Southern Illin**	**7.48**	**78**	IAmb_Lg		21 56 09.9	
	comp=Z,8.1nm,0.8s						
L40A	**Anamosa**	**7.87**	**43**	IAmb_Lg		21 56 27.0	
	comp=Z,8.4nm,0.9s						
RSSD	**Black Hills**	**8.68**	**332**	IAmb_Lg		21 56 58.3	
	comp=Z,5.0nm,1.0s						
K22A	**Casper**	**8.71**	**317**	IAmb_Lg		21 57 03.5	
	comp=Z,5.0nm,0.9s						
L42A	**Oliver, Polo**	**8.73**	**49**	IAmb_Lg		21 56 44.8	
	comp=Z,9.1nm,0.8s						
P46A	**Rosedale**	**9.39**	**68**	IAmb_Lg		21 57 09.8	
	comp=Z,6.6nm,0.8s						
BLO	**Bloomington**	**9.80**	**71**	IAmb_Lg		21 57 36.0	
	comp=Z,9.1nm,0.9s						
WCI	**Wyandotte Cave**	**9.84**	**77**	IAmb_Lg		21 57 40.4	
	comp=Z,4.0nm,0.7s						

*IDC **11** 22:13:37.8±0.8, 3°50N×126°47E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/49, mbtmp4.0/10, ML4.4/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/41, Error ellipse: s-maj=57.1km s-min=15.6km az=71.0*
*DJA **11** 22:13:42.3±3.2, 4°N±15°×12°7E±°, h27km±36km, M4.3/6, mb4.5/4, MLv4.2/6*
*NEIC **11** 22:13:43.8±1.3, 3°50N±0°08×126°54E±0°09, h35km±1km, mb4.5/21, Error ellipse: s-maj=16.2km s-min=11.4km az=55.0*

ISC 11 22:13:45.0±0.5, 3°50N±0°06×126°68E±0°07, h53km, n53, σ1°26/55, mb4.4/17, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.17**	**279**	P	**Pn**	**22 14 04.4**	**-0.6**
SGSI				S	**Sn**	**22 14 21.1**	**+1.1**
TNTI	**Ternate**	**2.80**	**166**		**Pn**	**22 14 27.0**	**-0.3**
TNTI				Sn	**Sn**	**22 14 59.0**	**-0.8**
TNTI	**Ternate**	**2.80**	**166**	P	**Pn**	**22 14 29.2**	**+1.9**
KCP	**Kidapawan**	**3.83**	**336**	‖*eP*	**Pn**	**22 14 43.9**	**+2.4**
KCP				*i* S	Sn	22 15 38.6	+13
GTOI	**Gorontalo**	**4.65**	**232**	P	**Pn**	**22 14 53.1**	**+0.5**
MRSI	**Marisa**	**5.61**	**238**	P	**Pn**	**22 15 08.5**	**+2.6**
LUWI	0.2nm58nm,0.7s **Luwuk**	**5.97**	**221**	Pn	**Pn**	**22 15 07.7**	**-3.1**
LUWI	**Luwuk**	**5.97**	**221**	P	**Pn**	**22 15 11.3**	**+0.5**
SWI	**Sorong**	**6.30**	**133**	P	**Pn**	**22 15 14.5**	**-0.9**
SIJI	0.1nm42nm,1.0s **Sorong**	**6.31**	**133**	Pn	**Pn**	**22 15 15.7**	**+0.2**
SIJI	8.6nm,0.3s,baz=330,slow=18,SNR=19			Sn	**Sn**	**22 16 26.0**	**-0.3**
TOLI2	1.4nm,0.3s,baz=210,slow=22,SNR=7.6 **Tolitoli**	**6.36**	**248**		**Pn**	**22 15 14.8**	**-1.3**
APSI	**Ampana**	**6.67**	**229**	P	**Pn**	**22 15 24.9**	**+4.4**
NLAI	**Namlea**	**6.71**	**176**	P	**Pn**	**22 15 21.1**	**+0.2**
FAKI	**Fak Fak**	**8.46**	**139**		**Pn**	**22 15 46.0**	**+1.0**
KAPI	**Kappang**	**10.93**	**219**	LR	LR	22 20 00.1	
MTN	comp=Z,46nm,21.6s,baz=68,slow=35 **Manton Dam**	**16.83**	**165**	Pn	**Pn**	**22 17 34.7**	**-2.4**
KNRA	**Kununurra**	**19.17**	**174**	P	**P**	**22 18 04.3**	**+0.1**
KNRA				IAmb	IAmb	22 18 08.0	
YULB	comp=Z,11nm,0.8s **Yu-li**	**20.45**	**346**	P	**P**	**22 18 16.4**	**-1.7**
YULB				IAmb	IAmb	22 18 30.6	
PMG	comp=Z,30nm,1.2s **Port Moresby**	**24.10**	**122**	LR	LR	22 30 30.9	
WB0	comp=Z,20nm,20.8s,baz=47,slow=42 **Warramunga Arr**	**24.33**	**162**	P	**P**	**22 18 57.3**	**-0.6**
WRA	**Warramunga Arr**	**24.48**	**162**	P	**P**	**22 18 58.9**	**-0.4**
WRA	comp=Z,13nm,0.8s,baz=342,slow=10,SNR=70			PcP	**PcP**	**22 22 38.0**	**+0.9**
WRA	comp=Z,0.4nm,0.4s,baz=340,slow=2.2,SNR=2.5 **Warramunga Arr**	**24.48**	**162**	P	**P**	**22 18 57.8**	**-1.6**
PSA00	**Pilbara Seismi**	**25.80**	**195**	P	**P**	**22 19 10.2**	**-1.1**
PSA00				IAmb	IAmb	22 19 23.6	
AS31	comp=Z,37nm,1.4s **Alice Springs**	**27.90**	**166**	P	**P**	**22 19 30.1**	**-0.1**
ASAR	**Alice Springs**	**27.91**	**166**	P	**P**	**22 19 29.9**	**-0.3**
ASAR	comp=Z,0.6nm,0.4s,baz=353,slow=7.8,SNR=16			PcP	**PcP**	**22 22 46.1**	**+1.2**
ASAR	comp=Z,0.6nm,0.4s,baz=348,slow=2.1,SNR=6.5 **Alice Springs**	**27.91**	**166**	P	**P**	**22 19 29.5**	**-0.7**
KSRS	**Korea Array**	**33.81**	**2**	P	**P**	**22 20 22.4**	**+0.4**
FORT	comp=Z,0.6nm,0.5s,baz=191,slow=10,SNR=5.0 **Forrest**	**34.11**	**178**	P	**P**	**22 20 24.9**	**+0.1**
EIDS	**Eidsvold**	**37.20**	**142**	P	**P**	**22 20 51.3**	**0.0**
EIDS				IAmb	IAmb	22 20 57.9	
STKA	comp=Z,23nm,1.5s **Stephens Creek**	**37.93**	**159**	P	**P**	**22 20 57.9**	**+0.5**
STKA	comp=Z,2.0nm,0.3s,baz=346,slow=8.7,SNR=5.0 **Stephens Creek**	**37.93**	**159**	P	**P**	**22 20 57.7**	**+0.3**
SHL	**Shillong**	**39.97**	**307**	P	**P**	**22 21 14.2**	**-0.7**
SHL				IAmb	IAmb	22 21 15.8	
ARMA	comp=Z,6.5nm,0.6s **Armidale**	**41.30**	**146**	P	**P**	**22 21 26.0**	**+0.4**
ARMA				IAmb	IAmb	22 21 29.8	
PALK	comp=Z,23nm,1.3s **Pallekele**	**45.91**	**277**	LR	LR	22 42 58.7	
SONM	comp=Z,36nm,18.0s,baz=265,slow=38 **Songino Array**	**47.50**	**342**	P	**P**	**22 22 15.4**	**+0.5**
PETK	comp=Z,0.6nm,0.6s,baz=150,slow=12,SNR=3.0 **Petropavlovsk-**	**55.66**	**22**	P	**P**	**22 23 16.0**	**+0.4**
MK31	**Makanchi Array**	**57.72**	**325**	P	**P**	**22 23 30.7**	**+0.3**
MKAR	**Makanchi Array**	**57.72**	**325**	P	**P**	**22 23 29.9**	**-0.5**
MKAR	comp=Z,0.8nm,0.4s,baz=124,slow=7.6,SNR=20 **Makanchi Array**	**57.72**	**325**	P	**P**	**22 23 30.0**	**-0.4**
MAKZ	**Makanchi**	**57.90**	**325**	P	**P**	**22 23 32.3**	**+0.6**
MAKZ				IAmb	IAmb	22 23 33.2	
LBZ	comp=Z,5.1nm,1.3s **Lake Benmore**	**61.52**	**146**	P	**P**	**22 23 57.7**	**+1.1**
THZ	**Tophouse**	**61.55**	**142**	P	**P**	**22 23 57.6**	**+0.7**
KKAR	**Karatay Array**	**63.37**	**317**	P	**P**	**22 24 09.5**	**+0.5**
HRA	**Herat**	**67.03**	**306**	P	**P**	**22 24 31.9**	**-1.2**
ABKAR	**Akbulak array**	**72.30**	**321**	P	**P**	**22 25 04.7**	**-0.2**
ARU	**Arti**	**75.10**	**328**	P	**P**	**22 25 20.8**	**-0.5**
ARU				IAmb	IAmb	22 25 23.9	
VNDA	comp=Z,1.8nm,0.7s **Vanda**	**83.21**	**173**	P	**P**	**22 26 06.1**	**+1.0**
VNDA	comp=Z,0.3nm,0.4s,baz=315,slow=7.4,SNR=2.1 **Vanda**	**83.21**	**173**	P	**P**	**22 26 06.0**	**+0.9**
VNDA				IAmb	IAmb	22 26 16.6	
SUA	comp=Z,1.6nm,1.2s **Susitna One**	**83.38**	**29**	P	**P**	**22 26 07.1**	**+0.6**
SUA				IAmb	IAmb	22 26 09.1	
MLY	comp=Z,3.1nm,0.8s **Manley**	**83.70**	**25**	P	**P**	**22 26 09.3**	**+1.3**
MLY				IAmb	IAmb	22 26 15.8	
ILAR	comp=Z,3.6nm,1.4s **Eielson Array**	**85.33**	**25**	P	**P**	**22 26 15.6**	**-0.5**
BCAR	comp=Z,0.3nm,0.6s,baz=256,slow=4.4,SNR=1.8 **Beaver Creek A**	**87.60**	**27**	P	**P**	**22 26 28.5**	**+1.1**
ARCES	**ARCESS Array B**	**90.64**	**340**	P	**P**	**22 26 39.8**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=76,slow=4.8,SNR=4.5						

KMA 11 22:23:52.0±0.3, 36°82N×127°63E, h17km±4km, Error ellipse: s-maj=1.2km s-min=0.8km az=16.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMSB	**Eumseong**	**0.16**	**358**	P	Pg	22 23 56.3	0.0
KSCHJ	**Chungju**	**0.28**	**78**	P	Pg	22 23 58.2	0.0
	SNR=18						
KSCHJ	**Chung

NIED ***11*** *22:24:26.6, 38'.34N×144'.59E, h42km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-1.59; Mθθ0.36; Mφφ1.23; Mrθ-0.02; Mθφ-0.02; Mφr1.80; Fault plane solution: M0 2.29000×10^14 NP1: φs179.00000°, δ71.00000°, λ-90.00000°. NP2: φs358.00000°, δ19.00000°, λ-91.00000°.*

JMA 11 22:24:26.5±0.1, 38'.34N×144'.59E, h42km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**289**	P	Pn	22 25 04.6	+1.3
OFUJ				eS	Sn	22 25 32.5	+1.0
JIKH	**Ishinomakikobu**	**2.46**	**270**	P	Pn	22 25 05.3	+1.3
JIKH				S	Sn	22 25 33.6	+0.8
JKMT	**Kesennumamotoy**	**2.49**	**282**	P	Pn	22 25 05.9	+1.4
JKMT				S	Sn	22 25 34.9	+1.3
MIYJ	**Miyakonagasawa**	**2.49**	**301**	P	Pn	22 25 05.8	+1.3
MIYJ				S	Sn	22 25 34.5	+0.9
JIO	**Ouri**	**2.55**	**274**	P	Pn	22 25 06.7	+1.4
JIO				S	Sn	22 25 36.2	+1.1
JMK	**Ichinoseki**	**2.71**	**284**	P	Pn	22 25 09.3	+1.8
JMK				S	Sn	22 25 41.6	+2.6
JOM	**Ohasama**	**2.81**	**295**	P	Pn	22 25 10.7	+1.8
JOM				S	Sn	22 25 44.5	+2.9
JANG	**Nango**	**3.13**	**311**	P	Pn	22 25 14.8	+1.5
JANG				eS	Sn	22 25 51.0	+1.5
JYK	**Kaneyama**	**3.36**	**281**	P	Pn	22 25 19.3	+2.8
JYK				S	Sn	22 25 57.7	+2.5
JFT	**Otama**	**3.46**	**258**	P	Pn	22 25 19.8	+1.9
JFT				S	Sn	22 25 59.3	+1.7
JOT	**Ohata**	**4.08**	**319**	eS	Sn	22 26 14.8	+2.0
JCH	**Churui**	**4.37**	**348**	P	Pn	22 25 31.2	+0.9
JCH				eS	Sn	22 26 19.0	-1.0
JRY	**Ryogami san**	**5.10**	**245**	P	Pn	22 25 41.7	+1.3
JRY				eS	Sn	22 26 37.7	-0.3
JTKR	**Abashiri--Toko**	**5.65**	**355**	P	Pn	22 25 47.7	-0.2
JTKR				eS	Sn	22 26 49.4	-2.0

KRSZO ***11*** *22:34:24.8±0.8, 43'.07N×17'.50E, h6km±6km, ML3.3/25, Error ellipse: s-maj=2.8km s-min=2.3km az=34.0*
PDG ***11*** *22:34:25.6±0.3, 43'.08N×17'.56E, h8km, ML2.9/14, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
RHSSO ***11*** *22:34:26.5±0.2, 43'.05N×17'.59E, h10km±2km, ML3.0/15*
BEO ***11*** *22:34:26.1±0.3, 43'.09N×17'.53E, h7km±2km, ML2.9/17*
LDG ***11*** *22:34:26.7±0.2, 43'.12N×17'.61E, h10km, Ml3.4/15, Error ellipse: s-maj=7.5km s-min=3.4km az=11.0*
PRU ***11*** *22:34:27.7±0.0, 43'.15N×17'.62E, h0km*
ISC 11 22:34:25.5±0.9, 43'.06N±0'.02×17'.49E±0'.02, h13km±6km, n183, σ1§83/299, 28C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.24**	**140**	*e*Pg	**Pg**	**22 34 30.5**	**-0.2**
STON				eSg	**Sg**	**22 34 34.7**	**+0.5**
STON	**Ston**	**0.24**	**140**	⇑*i*Pg	**Pg**	**22 34 30.5**	**-0.2**
STON				eSg	**Sg**	**22 34 34.6**	**+0.4**
STON	**Ston**	**0.24**	**140**	*e*Pg	**Pg**	**22 34 30.1**	**-0.6**
STON				Sg	**Sg**	**22 34 34.2**	**+0.1**
RICI	**Ricice**	**0.51**	**330**	*i*Pg	**Pg**	**22 34 34.7**	**-0.8**
RICI				Sg	**Sg**	**22 34 42.2**	**-0.1**
LSTV	**Lastovo**	**0.52**	**237**	*e*Pg	**Pg**	**22 34 35.4**	**-0.4**
LSTV				Sg	**Sg**	**22 34 43.1**	**+0.4**
TREB	**Trebinje**	**0.72**	**118**	*e*Pg	**Pg**	**22 34 38.1**	**-1.4**
TREB				eSg	**Sb**	**22 34 49.7**	**-0.1**
TREB	**Trebinje**	**0.72**	**118**	⇓*i*Pg	**Pg**	**22 34 38.1**	**-1.4**
TREB				eSg	**Sg**	**22 34 48.7**	**-0.3**
HVAR	**Hvar**	**0.77**	**279**	*e*Pg	**Pg**	**22 34 39.7**	**-0.8**
HVAR				Sg	**Sg**	**22 34 51.5**	**+1.0**
BRY	**Bratogost**	**0.79**	**101**	⇑*i*Pg	**Pg**	**22 34 39.3**	**-1.5**
BRY				eSg	**Sg**	**22 34 50.2**	**-1.0**
BRY	**Bratogost**	**0.79**	**101**	⇑*i*Pg	**Pg**	**22 34 39.3**	**-1.5**
BRY				*i* Sg	**Sg**	**22 34 51.1**	**-0.1**
HCY	**Herceg Novi**	**0.96**	**129**	⇑*i*Pg	**Pg**	**22 34 42.4**	**-1.7**
HCY				eSg	**Sg**	**22 34 55.9**	**-0.7**
HCY	**Herceg Novi**	**0.96**	**129**	*e*Pg	**Pg**	**22 34 42.8**	**-1.3**
HCY				*i* Sg	**Sb**	**22 34 57.7**	**+1.0**
UPM	**Unac-Piva**	**1.05**	**82**	⇑*i*Pg	**Pg**	**22 34 43.7**	**-2.1**
UPM				eSg	**Sg**	**22 34 58.1**	**-1.4**
UPM	**Unac-Piva**	**1.05**	**82**	*e*Pg	**Pg**	**22 34 43.9**	**-1.9**
UPM				*i* Sg	**Sb**	**22 34 59.8**	**+0.4**
NKME	**Niksic**	**1.12**	**105**	⇑*i*Pg	**Pb**	**22 34 45.4**	**-1.3**
NKME				*i* Sg	**Sn**	**22 35 02.4**	**+0.2**
NKY	**Niksic**	**1.13**	**102**	*e*Pg	**Pb**	**22 34 45.6**	**-1.5**
NKY				*i* Sg	**Sn**	**22 35 03.0**	**+0.3**
CEME	**Cevo**	**1.17**	**115**	⇑*i*Pg	**Pb**	**22 34 46.5**	**-1.2**
CEME				*i* Sg	**Sn**	**22 35 04.5**	**+0.9**
KIJV	**Kijevo**	**1.23**	**321**	*e*Pg	**Pn**	**22 34 47.6**	**-0.9**
KIJV				Sg	**Sn**	**22 35 05.6**	**+0.6**
BUM	**Brajici-Budva**	**1.28**	**126**	*e*Pg	**Pn**	**22 34 48.8**	**-0.5**
BUM				*i* Sg	**Sg**	**22 35 08.7**	**+1.7**
MGRS	**Mrkonjic Grad**	**1.39**	**348**	*e*Pg	**Pb**	**22 34 51.5**	**+0.1**
MGRS				eSg	**Sg**	**22 35 11.4**	**+1.1**
PLE	**Pljevlja**	**1.42**	**78**	⇓*i*Pg	**Pn**	**22 34 50.7**	**-0.5**
PLE				*i* Sg	**Sg**	**22 35 12.4**	**+1.1**
PDG	**Podgorica**	**1.45**	**115**	*e*Pg	**Pn**	**22 34 51.9**	**+0.5**
PDG				eSg	**Sg**	**22 35 12.7**	**+0.6**
PDG	**Podgorica**	**1.45**	**115**	⇓P	**Pg**	**22 34 54.0**	**+0.7**
PDG	**Podgorica**	**1.45**	**115**	⇑S	**Sg**	**22 35 13.8**	**+1.8**
PDG	**Podgorica**	**1.45**	**115**	*e*Pg	**Pn**	**22 34 51.3**	**-0.1**
PDG				eSg	**Sn**	**22 35 10.6**	**+0.4**
TTG	**Podgorica**	**1.45**	**115**	⇓*i*Pg	**Pn**	**22 34 51.5**	**+0.1**
TTG				*i* Sg	**Sg**	**22 35 13.9**	**+1.8**
ZIRJ	**Zirje**	**1.47**	**295**	*e*Pn	**Pn**	**22 34 51.9**	**+0.2**
ZIRJ				Sg	**Sg**	**22 35 12.7**	**-0.1**
HAPS	**Han Pijesak,BI**	**1.48**	**46**	*e*Pg	**Pn**	**22 34 51.8**	**-0.2**
HAPS				eSg	**Sn**	**22 35 11.4**	**+0.1**
HAPS	**Han Pijesak,BI**	**1.48**	**46**	*e*Pg	**Pn**	**22 34 51.8**	**-0.2**
HAPS				eSg	**Sg**	**22 35 12.3**	**-0.9**
RUDO	**Rudo**	**1.48**	**67**	*e*Pg	**Pn**	**22 34 51.6**	**-0.4**
RUDO				eSg	**Sb**	**22 35 11.8**	**0.0**
KOME	**Kolasin**	**1.50**	**97**	*e*Pg	**Pn**	**22 34 52.5**	**+0.2**
KOME				*i* Sg	**Sg**	**22 35 15.3**	**+1.3**
DRME	**Dracevica, Mon**	**1.53**	**124**	*e*Pg	**Pn**	**22 34 53.1**	**+0.6**
DRME				eSg	**Sb**	**22 35 13.2**	**+0.3**
DRME	**Dracevica, Mon**	**1.53**	**124**	⇑*i*Pg	**Pn**	**22 34 53.2**	**+0.7**
DRME				*i* Sg	**Sg**	**22 35 16.3**	**+1.6**
MORI	**Morici**	**1.53**	**303**	*e*Pn	**Pn**	**22 34 53.0**	**+0.5**
MORI				Sg	**Sg**	**22 35 14.4**	**-0.3**
BBLS	**Lazići**	**1.61**	**59**	*e*Pg	**Pb**	**22 34 54.8**	**-0.4**
BBLS				eSg	**Sg**	**22 35 17.5**	**0.0**
BBLS	**Lazići**	**1.61**	**59**	*e*Pn	**Pb**	**22 34 54.6**	**-0.6**
BBLS				eSn	**Sn**	**22 35 14.2**	**-0.3**
BBLS	**Lazići**	**1.61**	**59**	Pg	**Pg**	**22 34 56.0**	**-0.6**
	comp=Z,2.9nm,SNR=40						
BBLS				Lg	Lg	22 35 18.4	
ULC	**Ulcinj**	**1.70**	**129**	⇓*i*Pn	**Pb**	**22 34 56.2**	**-0.4**
ULC				*i* Sn	**Sg**	**22 35 20.6**	**+0.4**
BLY	**Banja Luka**	**1.71**	**353**	*e*Pg	**Pb**	**22 34 57.1**	**+0.4**
BLY				eSg	**Sg**	**22 35 19.8**	**-0.6**
BLY	**Banja Luka**	**1.71**	**353**	⇑*i*Pn	**Pb**	**22 34 56.9**	**+0.2**
BLY				eSn	**Sb**	**22 35 18.8**	**+0.7**
BLY	**Banja Luka**	**1.71**	**353**	Pb	**Pg**	**22 34 57.6**	**-0.6**
	comp=Z,0.5nm,SNR=33						
BLY				Sg	**Sg**	**22 35 19.6**	**-0.8**
IVA	**Berane**	**1.78**	**95**	⇑*i*Pn	**Pn**	**22 34 56.9**	**+0.8**
IVA				*i* Sn	**Sg**	**22 35 21.9**	**-0.8**
PVY	**Plav**	**1.88**	**103**	⇑*i*Pn	**Pn**	**22 34 58.4**	**+0.9**
PVY				*i* Sn	**Sb**	**22 35 24.3**	**+1.1**
UDBI	**Udbina**	**1.93**	**320**	Sn	**Sb**	**22 35 25.4**	**+0.9**
DUGI	**Dugi Otok**	**2.00**	**299**	*e*Pn	**Pn**	**22 35 00.2**	**+1.2**
DUGI				Sn	**Sb**	**22 35 26.6**	**+0.1**
PRIJ	**Prijedor**	**2.00**	**344**	*e*Pn	**Pb**	**22 35 00.7**	**-1.0**
PRIJ				eSn	**Sb**	**22 35 26.0**	**-0.5**
IVAS	**Ivanjica**	**2.02**	**74**	*e*Pn	**Pn**	**22 35 00.5**	**+1.2**
IVAS				eSn	**Sn**	**22 35 24.6**	**+0.2**
DIVS	**Divibare**	**2.10**	**59**	*e*Pn	**Pn**	**22 35 01.5**	**+1.0**
DIVS				eSn	**Sn**	**22 35 27.3**	**+0.8**
DIVS	**Divibare**	**2.10**	**59**	*e*Pn	**Pn**	**22 35 01.3**	**+0.8**
DIVS				eSn	**Sn**	**22 35 26.1**	**-0.4**
DIVS	**Divibare**	**2.10**	**59**	Pn	**Pb**	**22 35 02.2**	**-1.3**
	comp=Z,0.3nm,SNR=16						
DIVS				Lg	Lg	22 35 30.1	
NVLJ	**Novalja**	**2.42**	**309**	*e*Pn	**Pn**	**22 35 06.2**	**+1.5**
NVLJ				Sn	**Sb**	**22 35 37.2**	**-1.3**
TRUS	**Trudelj**	**2.42**	**60**	*e*Pn	**Pn**	**22 35 05.8**	**+1.0**
TRUS				eSn	**Sn**	**22 35 35.8**	**+1.5**
TIR	**Tirane**	**2.46**	**133**	⇑P	**Pb**	**22 35 08.6**	**-1.0**
TIR	**Tirane**	**2.46**	**133**	⇑S	**Sb**	**22 35 40.9**	**+1.1**
MATE	**Matera**	**2.48**	**194**	⇑P	**Pb**	**22 35 09.5**	**-0.3**
MATE	**Matera**	**2.48**	**194**	⇑S	**Sg**	**22 35 44.0**	**-1.1**
MATE	**Matera**	**2.48**	**194**	Pg	**Pb**	**22 35 11.9**	**+2.0**
	comp=Z,0.2nm,SNR=8.3						
GRUS	**Gruza**	**2.49**	**69**	*e*Pn	**Pn**	**22 35 06.8**	**+1.0**
GRUS				eSn	**Sn**	**22 35 35.7**	**-0.4**
RABC	**Rab**	**2.58**	**312**	*e*Pn	**Pn**	**22 35 08.1**	**+1.1**
RABC				Sn	**Sb**	**22 35 41.6**	**-1.8**
SELS	**Selova**	**2.67**	**85**	*e*Pn	**Pn**	**22 35 09.5**	**+1.3**
SELS				eSn	**Sn**	**22 35 40.7**	**+0.3**
FRGS	**Fruska Gora**	**2.69**	**38**	*e*Pn	**Pn**	**22 35 08.3**	**-0.2**
FRGS				eSn	**Sn**	**22 35 40.6**	**-0.3**
FRGS	**Fruska Gora**	**2.69**	**38**	⇑P	**Pn**	**22 35 08.6**	**+0.1**
FRGS	**Fruska Gora**	**2.69**	**38**	⇓S	**Sn**	**22 35 41.3**	**+0.4**
FRGS	**Fruska Gora**	**2.69**	**38**	*e*Pn	**Pn**	**22 35 09.4**	**+0.9**
FRGS				eSn	**Sn**	**22 35 41.1**	**+0.2**
BEO	**Beograd**	**2.78**	**50**	Pn	**Pn**	**22 35 12.0**	**+2.2**
	comp=Z,0.1nm,SNR=2.6						
BEO				Sn	**Sn**	**22 35 45.0**	**+1.9**
BOJS	**Bojanci**	**2.92**	**328**	*i* Pn	**Pn**	**22 35 13.9**	**+2.2**
BOJS				*i* Sn	**Sb**	**22 35 50.5**	**-2.7**
BOJS				IAML		22 35 59.6	
	comp=Z,25nm,0.3s						
OZLJ	**Ozalj**	**2.94**	**331**	*e*Pn	**Pn**	**22 35 13.7**	**+1.8**
OZLJ				Sn	**Sn**	**22 35 50.4**	**+3.3**
ZAG	**Zagreb**	**2.97**	**339**	*e*Pn	**Pn**	**22 35 14.4**	**+2.0**
ZAG				Sn	**Sn**	**22 35 49.8**	**+2.0**
PTJ	**Puntijarka**	**3.05**	**340**	*e*Pn	**Pn**	**22 35 15.0**	**+1.4**
PTJ				Sn	**Sn**	**22 35 52.1**	**+2.2**
PTJ	**Puntijarka**	**3.05**	**340**	Pg	**Pn**	**22 35 15.2**	**+1.7**
	comp=Z,0.2nm,SNR=7.5						
PTJ				Lg	Lg	22 35 51.9	
KOVH	**Kovagotottos**	**3.06**	**8**	*e*P	**Pn**	**22 35 14.2**	**+0.6**
KOVH				eS	**Sn**	**22 35 50.7**	**+0.6**
KOVH	**Kovagotottos**	**3.06**	**8**	Pn	**Pn**	**22 35 14.2**	**+0.6**
	comp=Z,0.1nm,SNR=4.2						
KOVH				Sn	**Sn**	**22 35 50.7**	**+0.6**
AQU	**L'Aquila**	**3.09**	**258**	*e*Pn	**Pn**	**22 35 16.6**	**+2.5**
AQU				eSn	**Sn**	**22 35 53.3**	**+2.4**
CRES	**Cresnjev**	**3.13**	**333**	*e*Pn	**Pn**	**22 35 16.3**	**+1.8**
CRES				eSn	**Sn**	**22 35 54.2**	**+2.5**
CRES	**Cresnjev**	**3.13**	**333**	Pn	**Pn**	**22 35 16.4**	**+1.9**
	comp=Z,0.1nm,SNR=14						
CRES				Sn	**Sn**	**22 35 54.6**	**+2.9**
RIY	**Rijeka**	**3.13**	**317**	Sn	**Sn**	**22 35 53.7**	**+1.9**
KALN	**Kalnik**	**3.16**	**347**	*i* Pn	**Pn**	**22 35 16.3**	**+1.3**
BARS	**Barje**	**3.19**	**93**	*e*Pn	**Pn**	**22 35 15.6**	**+0.2**
BARS				eSn	**Sn**	**22 35 54.0**	**+0.7**
LOBO	**Lobor**	**3.26**	**342**	*i* Pn	**Pn**	**22 35 18.0**	**+1.7**
MORH	**Mrgy, Hungar**	**3.26**	**14**	⇑P	**Pn**	**22 35 17.0**	**+0.6**
MORH	**Mrgy, Hungar**	**3.26**	**14**	*e*P	**Pn**	**22 35 16.9**	**+0.6**
MORH				eS	**Sn**	**22 35 55.7**	**+0.6**
MORH	**Mrgy, Hungar**	**3.26**	**14**	⇑*i*Pn	**Pn**	**22 35 17.0**	**+0.6**
MORH				eSn	**Sn**	**22 35 55.5**	**+0.4**
MORH	**Mrgy, Hungar**	**3.26**	**14**	Pg	**Pn**	**22 35 16.9**	**+0.6**
	comp=Z,0.1nm,SNR=7.0						
MORH				Lg	Lg	22 35 55.7	
BEHE	**Becsehely**	**3.45**	**352**	*e*P	**Pn**	**22 35 21.0**	**+2.0**
BEHE				eS	**Sn**	**22 36 00.6**	**+1.0**
BEHE	**Becsehely**	**3.45**	**352**	⇑*i*Pn	**Pn**	**22 35 20.6**	**+1.6**
BEHE				eSn	**Sn**	**22 36 00.1**	**+0.4**
BEHE	**Becsehely**	**3.45**	**352**	Pg	**Pn**	**22 35 21.0**	**+2.0**
	comp=Z,0.2nm,SNR=4.4						
BEHE				Lg	Lg	22 36 00.6	
CEY	**Cerknica**	**3.46**	**322**	*e*Pn	**Pn**	**22 35 21.3**	**+2.1**
CEY	**Cerknica**	**3.46**	**322**	*e*Pn	**Pn**	**22 35 21.1**	**+1.9**
CEY				eSn	**Sn**	**22 36 02.4**	**+2.3**
KOGS	**Kog**	**3.50**	**346**	Pn	**Pn**	**22 35 21.4**	**+1.7**
	comp=Z,0.4nm,SNR=6.0						
KOGS				Sn	**Sn**	**22 36 01.4**	**+0.4**
MDVR	**Moldovita**	**3.51**	**59**	*e*Pn	**Pn**	**22 35 20.5**	**+0.7**
MDVR	**Moldovita**	**3.51**	**59**	⇓P	**Pn**	**22 35 21.0**	**+1.2**
MDVR	**Moldovita**	**3.51**	**59**	⇓S	**Sn**	**22 36 01.5**	**+0.3**
SKDS	**Skadanscina**	**3.52**	**316**	*e*Pn	**Pn**	**22 35 21.0**	**+1.0**
ZAGS	**Zajecar**	**3.54**	**76**	*e*Pn	**Pn**	**22 35 21.0**	**+0.8**
ZAGS				eSn	**Sn**	**22 36 01.7**	**-0.2**
LJU	**Ljubljana**	**3.66**	**326**	*e*Pn	**Pn**	**22 35 23.7**	**+1.9**
LJU	**Ljubljana**	**3.66**	**326**	*e*Pn	**Pn**	**22 35 23.2**	**+1.4**
LJU				eSn	**Sn**	**22 36 06.7**	**+1.9**
BOSS	**Bosilegrad**	**3.72**	**97**	*e*Pn	**Pn**	**22 35 23.6**	**+0.9**
BOSS				eSn	**Sn**	**22 36 05.5**	**-0.9**
STIP	**Stip**	**3.74**	**110**	*i* Pn	**Pg**	**22 35 34.4**	**-2.8**
ZAPS	**Zavoj**	**3.77**	**85**	*e*Pn	**Pn**	**22 35 25.1**	**+1.7**
ZAPS				eSn	**Sn**	**22 36 07.7**	**0.0**
BLKB	**Belogradchik**	**3.83**	**80**	⇓S	**Sn**	**22 36 10.8**	**+1.7**
BZS	**Buzias**	**3.92**	**48**	⇑P	**Pn**	**22 35 26.4**	**+1.0**
BZS	**Buzias**	**3.92**	**48**	⇑S	**Sn**	**22 36 10.8**	**-0.4**
BZS	**Buzias**	**3.92**	**48**	Pg	**Pn**	**22 35 26.7**	**+1.3**
	SNR=3.9						
BZS				Lg	Lg	22 36 09.5	
HERR	**Herculane**	**4.00**	**61**	⇑P	**Pn**	**22 35 28.0**	**+1.5**
HERR	**Herculane**	**4.00**	**61**	⇑S	**Sn**	**22 36 14.2**	**+0.9**
SOKA	**Soboth**	**4.02**	**335**	*i* Pn	**Pn**	**22 35 28.6**	**+1.7**
	comp=Z,3.8nm,0.3s,SNR=26						
SOKA				*i* Sn	**Sn**	**22 36 14.8**	**+1.0**
	comp=Z,2.8nm,0.2s						
OBKA	**Obir**	**4.04**	**330**	*e*Pn	**Pn**	**22 35 29.7**	**+2.6**
	comp=Z,2.5nm,0.3s,SNR=9.6						
OBKA				*i* Sn	**Sn**	**22 36 17.3**	**+3.1**
	comp=Z,8.0nm,0.3s						
OBKA	**Obir**	**4.04**	**330**	Pg	**Pn**	**22 35 30.4**	**+3.3**
	comp=Z,0.1nm,SNR=3.3						
MPLH	**Magyarpolny**	**4.11**	**1**	*e*Pn	**Pn**	**22 35 29.8**	**+1.7**
MPLH				eS	**Sn**	**22 36 17.4**	**+1.4**
MPLH	**Magyarpolny**	**4.11**	**1**	Pn	**Pn**	**22 35 29.8**	**+1.7**
	SNR=3.9						
MPLH				Sn	**Sn**	**22 36 17.4**	**+1.4**
VTS	**Vitosha**	**4.25**	**94**	⇑P	**Pn**	**22 35 32.1**	**+1.9**
VTS	**Vitosha**	**4.25**	**94**	⇓S	**Sn**	**22 36 23.1**	**+3.4**
VTS	**Vitosha**	**4.25**	**94**	Pn	**Pn**	**22 35 32.2**	**+2.1**
	SNR=2.6						
VTS				Sn	**Sn**	**22 36 21.0**	**+1.3**
EGYH	**Egyhazaskeszo**	**4.36**	**359**	*e*P	**Pn**	**22 35 30.7**	**-0.8**
EGYH	**Egyhazaskeszo**	**4.36**	**359**	Pn	**Pn**	**22 35 30.7**	**-0.8**
	comp=Z,0.1nm,SNR=1.9						
SIRR	**Siria**	**4.38**	**41**	*e*Pn	**Pn**	**22 35 31.3**	**-0.4**
SIRR	**Siria**	**4.38**	**41**	⇓P	**Pn**	**22 35 31.4**	**-0.3**
SIRR	**Siria**	**4.38**	**41**	⇓S	**Sn**	**22 36 21.7**	**-0.9**
SIRR	**Siria**	**4.38**	**41**	Pb	**Pn**	**22 35 31.8**	**+0.1**
	SNR=2.7						
ARSA	**Arzberg**	**4.42**	**342**	*e*Pn	**Pn**	**22 35 34.1**	**+1.9**
	comp=Z,14nm,0.3s,SNR=30						
ARSA				*i* Sn	**Sn**	**22 36 24.3**	**+0.8**
	comp=Z,3.1nm,0.4s						
ARSA	**Arzberg**	**4.42**	**342**	Pn	**Pn**	**22 35 34.1**	**+1.9**
	comp=Z,0.1nm,SNR=4.7						
ARSA				Sn	**Sn**	**22 36 24.5**	**+0.9**
GZR	**Gura Zlata**	**4.46**	**57**	⇑P	**Pn**	**22 35 33.7**	**+0.8**
GZR	**Gura Zlata**	**4.46**	**57**	⇑S	**Sn**	**22 36 26.1**	**+1.3**
GZR	**Gura Zlata**	**4.46**	**57**	Pg	**Pn**	**22 35 35.3**	**+2.4**
	SNR=3.5						
GZR				Sn	**Sn**	**22 36 23.7**	**-1.1**
MYKA	**Terra Mystica**	**4.50**	**324**	*i* Pn	**Pn**	**22 35 35.1**	**+1.7**
	comp=Z,0.9nm,0.2s						
MYKA				eSn	**Sn**	**22 36 27.6**	**+2.0**
	comp=Z,5.7nm,0.5s						
CONA	**Conrad Observa**	**5.00**	**347**	*i* Pn	**Pn**	**22 35 42.5**	**+2.1**
	comp=Z,1.2nm,0.2s,SNR=7.8						
CONA				*i* Sn	**Sn**	**22 36 38.1**	**0.0**
	comp=Z,3.3nm,0.3s						
ABTA	**Abfaltersbach**	**5.11**	**318**	*i* Pn	**Pn**	**22 35 43.2**	**+1.4**
	comp=Z,0.6nm,0.1s						
ABTA				eSn	**Sn**	**22 36 42.3**	**+1.6**
	comp=Z,1.8nm,0.2s						
LOT	**Lotru**	**5.11**	**60**	⇑S	**Sn**	**22 36 42.5**	**+1.8**
LOT	**Lotru**	**5.11**	**60**	Pn	**Pn**	**22 35 44.6**	**+2.7**
	SNR=2.0						
LOT				Sn	**Sn**	**22 36 42.7**	**+1.9**
ZST	**Bratislava**	**5.15**	**357**	Pn	**Pn**	**22 35 44.0**	**+1.7**
	comp=Z,55nm,1.2s,SNR=1.2						
ZST				Sn	**Sn**	**22 36 40.7**	**-0.8**
ZST	**Bratislava**	**5.15**	**357**	*e*PN	**Pn**	**22 35 43.8**	**+1.6**
ZST				eSN	**Sn**	**22 36 39.1**	**-2.4**
PSZ	**Piszkesteto**	**5.15**	**18**	⇓P	**Pn**	**22 35 43.1**	**+0.8**
PSZ	**Piszkesteto**	**5.15**	**18**	*e*P	**Pn**	**22 35 43.0**	**+0.6**
PSZ				eS	**Sn**	**22 36 40.9**	**-0.7**
PSZ	**Piszkesteto**	**5.15**	**18**	Pg	**Pn**	**22 35 43.0**	**+0.6**
	SNR=3.0						
PSZ				Sn	**Sn**	**22 36 40.9**	**-0.7**
DRGR		**5.26**	**43**	⇓P	**Pn**	**22 35 44.6**	**+0.7**
DRGR		**5.26**	**43**	⇓S	**Sn**	**22 36 45.5**	**+1.0**
DRGR		**5.26**	**43**	Lg	Lg	22 36 43.4	
MOA	**Molln**	**5.30**	**336**	*e*Pn	**Pn**	**22 35 47.4**	**+3.0**
	comp=Z,4.4nm,0.3s,SNR=9.8						
MOA				*i* Sn	**Sn**	**22 36 47.3**	**+2.0**
	comp=Z,7.5nm,0.3s						
MODS	**Modra-Piesok**	**5.32**	**359**	*e*PN	**Pn**	**22 35 47.2**	**+2.5**
MODS				eSN	**Sn**	**22 36 42.8**	**-3.0**
VYHS	**Vyhne**	**5.52**	**9**	Pn	**Pn**	**22 35 49.7**	**+2.3**
	comp=Z,1.9nm,1.2s,SNR=1.7						
VYHS	**Vyhne**	**5.52**	**9**	*e*PN	**Pn**	**22 35 49.4**	**+2.0**
VYHS				eSN	**Sn**	**22 36 51.1**	**+0.4**
KOLL	**Kolacno**	**5.56**	**6**	*e*PN	**Pn**	**22 35 49.6**	**+1.7**
KOLL				eSN	**Sn**	**22 36 50.8**	**-0.9**
HUMR	**Humele**	**5.62**	**72**	⇓P	**Pn**	**22 35 50.0**	**+1.2**
JAVC	**Velka Javorina**	**5.80**	**1**	Pn	**Pn**	**22 35 53.3**	**+1.9**
WTTA	**Wattenberg**	**5.90**	**318**	*i* Pn	**Pn**	**22 35 54.9**	**+2.2**
	comp=Z,1.1nm,0.2s						
WTTA				*i* Sn	**Sn**	**22 37 02.6**	**+2.3**
	comp=Z,2.6nm,0.3s						
WATA	**Walderalm**	**5.98**	**318**	*i* Pn	**Pn**	**22 35 55.9**	**+2.1**
	comp=Z,1.3nm,0.2s						
WATA				eSn	**Sn**	**22 37 04.3**	**+2.2**
	comp=Z,1.7nm,0.2s						
KRUC	**Moravsky**	**6.05**	**353**	Pn	**Pn**	**22 35 57.0**	**+2.3**
KRUC				Sn	**Sn**	**22 37 05.1**	**+1.3**
SQTA	**Sankt Quirin**	**6.08**	**315**	*i* Pn	**Pn**	**22 35 57.9**	**+2.6**
	comp=Z,0.8nm,0.1s						
SQTA				*i* Sn	**Sn**	**22 37 08.4**	**+3.6**
	comp=Z,3.3nm,0.3s						
CKRC	**Cesky Krumlov**	**6.17**	**340**	*e*PN	**Pn**	**22 35 59.6**	**+3.2**
CKRC				eSN	**Sn**	**22 37 06.6**	**-0.2**
CKRC	**Cesky Krumlov**	**6.17**	**340**	Sn	**Sn**	**22 37 07.5**	**+0.7**
TRPA	**Tarpa**	**6.19**	**33**	*e*P	**Pn**	**22 35 58.4**	**+1.8**
TRPA	**Tarpa**	**6.19**	**33**	Pn	**Pn**	**22 35 58.4**	**+1.8**
	comp=Z,1.1nm,1.0s,SNR=3.1						
FETA	**Feichten**	**6.21**	**312**	*i* Pn	**Pn**	**22 35 59.9**	**+2.8**
	comp=Z,0.3nm,0.2s						
FETA				*i* Sn	**Sn**	**22 37 11.9**	**+3.9**
	comp=Z,1.0nm,0.4s						
MOTA	**Moosalm**	**6.22**	**316**	*i* Pn	**Pn**	**22 35 59.1**	**+1.9**
	comp=Z,2.7nm,0.4s,SNR=7.8						
MOTA				eSn	**Sn**	**22 37 10.6**	**+2.4**
	comp=Z,4.0nm,0.4s						
LANS	**Liptovska Anna**	**6.25**	**12**	Pn	**Pn**	**22 35 59.3**

KMPI Kaimana, Papua 3.86 48 P **Pn 22 49 31.6 +0.5**
NLAI Namlea 4.79 309 P **Pn 22 49 46.1 +2.4**
SIJI Sorong 5.39 5 P **Pn 22 49 49.4 -2.4**
484nm,0.3s,baz=204,slow=9.7,SNR=611
SIJI S **Sn 22 50 46.8 -5.8**
125nm,0.3s,baz=203,slow=22,SNR=10
SWI Sorong 5.39 5 P **Pn 22 49 50.5 -1.4**
SANI Sanana 6.40 311 P **Pn 22 50 06.5 +1.0**
0.9nm3µm160nm,0.6s
MTN Manton Dam 6.53 177 P **Pn 22 50 06.9 -0.4**
baz=6.6,SNR=719
MTN S **Sn 22 51 17.7 -2.8**
baz=6.6
MTN Manton Dam 6.53 177 Pn **Pn 22 50 06.6 -0.7**
KDU Kakadu 6.57 166 P **Pn 22 50 06.9 -0.9**
baz=6.6,SNR=1000
KDU S **Sn 22 51 16.5 -4.8**
baz=6.6
SRPI Serui, Papua 6.94 51 P **Pn 22 50 12.8 -0.1**
4.1nm195nm,0.6s
BAKI Biak 7.29 46 P **Pn 22 50 19.0 +1.3**
6µm529nm,0.6s
SOEI Soe 7.37 242 Pn **Pn 22 50 18.8 0.0**
SOEI Soe 7.37 242 P **Pn 22 50 19.3 +0.6**
2.9nm3µm324nm,0.8s
TNTI Ternate 7.81 334 Pn **Pn 22 50 22.9 -1.8**
TNTI Ternate 7.81 334 P **Pn 22 50 24.0 -0.7**
0.3nm74nm,1.0s
BATI Baumata 8.10 241 P **Pn 22 50 28.2 -0.5**
39nm,0.3s,baz=109,slow=3.2,SNR=24
BATI S **Sn 22 51 54.4 -4.2**
82nm,0.3s,baz=70,slow=23,SNR=8.1
BATI Baumata 8.10 241 P **Pn 22 50 29.0 +0.3**
2µm138nm,0.6s
MMRI Maumere 8.84 254 Pn **Pn 22 50 39.7 +1.0**
MMRI Maumere 8.84 254 P **Pn 22 50 43.4 +4.7**
EDFI Ende, Flores 9.39 254 P **Pn 22 50 47.6 +1.3**
470nm32nm,0.8s
KNRA Kununurra 9.56 192 P **Pn 22 50 46.2 -2.2**
baz=9.6,SNR=1000
KNRA Kununurra 9.56 192 Pn **Pn 22 50 46.3 -2.2**
LUWI Luwuk 9.58 303 Pn **Pn 22 50 48.5 -0.2**
MMPI Merauke 9.72 104 P **Pn 22 50 53.4 +2.8**
GENI Genyem 10.00 69 P **Pn 22 50 58.1 +3.7**
BNSI Bone 10.84 279 P **Pn 22 51 04.6 -1.3**
81nm,1.0s
KAPI Kappang 11.10 276 Pn **Pn 22 51 10.4 +1.0**
MRSI Marisa 11.13 307 P **Pn 22 51 10.5 +0.7**
TTSI Tana Toraja 11.44 286 P **Pn 22 51 17.4 +3.5**
WBSI Waikabubak, Su 11.81 253 P **Pn 22 51 17.5 -1.5**
1µm96nm,0.9s
TOLI2 Tolitoli 12.43 306 Pn **Pn 22 51 26.9 -0.2**
MPSI Mapaga 12.74 301 P **Pn 22 51 33.4 +2.2**
26nm,0.8s
PLAI Plampang 13.19 258 P **Pn 22 51 34.3 -2.8**
WRA Warramunga Arr 14.01 166 P **Pn 22 51 43.3 -4.4**
23nm,0.3s,baz=344,slow=13,SNR=117
WRA S Sn 22 54 10.6 -11
35nm,0.3s,baz=350,slow=24,SNR=11
TWSI Taliwang, Sumb 14.05 259 P **Pn 22 51 46.6 -1.6**
KBKI Kotabaru 14.91 281 P **Pn 22 52 00.6 +1.3**
2µm119nm,1.0s
BBKI Banjar Baru 16.18 279 P **P 22 52 17.6 +1.2**
5µm189nm,0.9s
PMG Port Moresby 16.47 102 P **P 22 52 19.4 -0.2**
7.1nm,0.3s,baz=282,slow=11,SNR=11
PMG S **Sn 22 55 11.6 -10**
1.0nm,0.3s,baz=135,slow=19,SNR=1.8
PMG Port Moresby 16.47 102 **P 22 52 19.8 +0.2**
PMG IAmb IAmb 22 52 22.5
comp=Z,60nm,0.9s
JAGI Jajag, Banyuwa 16.69 261 **Pn 22 52 20.0 -1.5**
MTKI Muara Teweh, K 16.76 288 P **P 22 52 23.9 +1.0**
KMMI Kalianget 16.77 266 P **P 22 52 24.4 +1.4**
comp=Z,111nm,0.6s
MANU Manus Island 17.01 76 P **P 22 52 28.3 +2.6**
AS31 Alice Springs 17.54 171 P **P 22 52 29.6 -1.8**
AS31 IAmb IAmb 22 52 34.8
comp=Z,62nm,0.5s
ASAR Alice Springs 17.54 171 P **P 22 52 30.9 -0.5**
comp=Z,15nm,0.3s,baz=345,slow=10.0,SNR=409
ASAR S Sn 22 55 35.5 -12
comp=Z,7.4nm,0.3s,baz=355,slow=28,SNR=7.0
ASAR Alice Springs 17.54 171 P **P 22 52 29.5 -1.9**
PSA00 Pilbara Seismi 18.55 214 P **P 22 52 42.1 -0.4**
PSA00 Pilbara Seismi 18.55 214 P **P 22 52 43.0 +0.5**
PSA00 IAmb IAmb 22 52 45.2
comp=Z,99nm,1.1s
WRKA Warakurna 18.81 187 P **P 22 52 45.5 +0.1**
baz=19,SNR=594
PBKI Pangkalan Bun 19.43 280 P **Pn 22 52 53.4 -0.9**
comp=Z,9µ3µcomp=Z,144nm,0.8s
UGM Wanagama 20.22 264 P **P 22 52 58.9 -1.8**
CTA Charters Tower 20.32 134 P Pn 22 53 03.5 -1.1
comp=Z,19nm,0.8s,baz=322,slow=12,SNR=21
CTA S **S 22 56 40.1 -3.8**
comp=Z,4.7nm,0.6s,baz=45,slow=20,SNR=2.2
CTAO Charters Tower 20.32 134 P Pn 22 53 03.7 -1.0
STKI Sintang 20.32 287 P **P 22 53 02.9 +1.1**
SBUM Sibu 20.51 294 P **P 22 53 04.0 +0.2**
KPJI Karang Pucung 21.77 266 P **P 22 53 14.8 -2.5**
KSM Kuching 21.89 290 P **P 22 53 19.0 +0.4**
GIRL Giralia 22.83 223 P **P 22 53 28.6 +0.5**
CISI Cisompet, Garu 22.89 265 P **P 22 53 27.7 -1.2**
CISI Cisompet, Garu 22.89 265 P **P 22 53 28.0 -0.9**
LEM Lembang 23.07 267 P **P 22 53 29.8 -1.0**
comp=Z,71nm,0.7s,baz=34,slow=9.2,SNR=10
MEEK Meekatharra 23.36 209 P **P 22 53 33.4 +0.2**
baz=23,SNR=16
CNJI Cibinong 23.56 266 P **P 22 53 31.6 -3.5**
CBJI Citeko 23.84 268 P **P 22 53 36.5 -1.1**
QLP Quilpie 23.89 149 P **P 22 53 40.5 +2.6**
baz=24,SNR=4.5
DBJI Dramaga 23.93 268 P **P 22 53 39.5 +1.0**
comp=Z,4µ3µcomp=Z,48nm,0.9s
FORT Forrest 24.52 186 P **P 22 53 44.1 +0.6**
baz=25,SNR=26
FORT Forrest 24.52 186 P **P 22 53 43.6 +0.1**
PPBI Pangkal Pinang 24.96 278 P **P 22 53 49.8 +2.0**
MDSI Maura Dua 26.60 272 P **P 22 54 05.6 +3.0**
comp=Z,9.9nm,0.7s
MORW Morawa 26.63 210 P **P 22 54 03.5 +0.7**
baz=27,SNR=5.8
MORW Morawa 26.63 210 P **P 22 54 02.9 +0.1**
MORW IAmb IAmb 22 54 34.0
comp=Z,46nm,1.3s
STKA Stephens Creek 27.39 160 P **P 22 54 09.6 +0.2**
comp=Z,17nm,0.6s,baz=335,slow=9.4,SNR=36
STKA LR LR 23 06 56.3
comp=Z,126nm,18.9s,baz=348,slow=40
STKA Stephens Creek 27.39 160 P **P 22 54 10.0 +0.6**
BLDU Ballidu 27.61 207 P **P 22 54 13.4 +1.9**
baz=28,SNR=8.4
KLBR Kellerberrin 28.00 204 P **P 22 54 15.4 +0.5**
baz=28,SNR=11
CMSA Cobar Meteorol 28.72 153 P **P 22 54 22.6 +1.2**
baz=29,SNR=15
NWAO Narrogin (SRO) 29.38 204 P **P 22 54 27.5 +0.3**
comp=Z,3.9nm,0.4s,baz=30,slow=8.7,SNR=9.9
NWAO Narrogin (SRO) 29.38 204 P **P 22 54 27.9 +0.7**
baz=29,SNR=6.0
NWAO Narrogin (SRO) 29.38 204 P **P 22 54 27.5 +0.3**
NWAO IAmb IAmb 22 55 19.1
comp=Z,22nm,0.9s
JRMM Jerantut 30.06 289 P **P 22 54 32.0 -1.4**
ARMA Armidale 30.96 143 P **P 22 54 41.8 +0.5**
ARMA IAmb IAmb 22 55 30.1
comp=Z,27nm,1.2s
TPUB Ta-pu 31.04 342 P **P 22 54 40.5 -1.5**
SSLB Suanglung 31.40 342 P **P 22 54 44.3 -0.8**
SSLB IAmb IAmb 22 55 04.5
comp=Z,70nm,1.6s
IPM Ipoh 31.62 289 P **P 22 54 46.0 -1.2**
ARPS Mount Arapiles 31.98 163 P **P 22 54 51.6 +1.6**
baz=32,SNR=8.4
MNSI Mandailing Nat 31.98 282 P **P 22 54 48.3 -2.0**
KULM Kulim 32.25 290 P **P 22 54 51.0 -1.7**
YNG Young 32.27 152 P **P 22 54 54.7 +2.0**
baz=32,SNR=7.0
CNB Canberra Magne 33.56 152 P **P 22 55 05.6 +1.7**
baz=34,SNR=9.8
TOO Toolangi 33.89 159 P **P 22 55 09.0 +2.3**
baz=34,SNR=21
TOO Toolangi 33.89 159 P **P 22 55 09.0 +2.3**
TOO IAmb IAmb 22 55 56.7
comp=Z,57nm,1.5s

GSI Gunungsitoli 34.05 282 P **P 22 55 06.0 -2.3**
GSI Gunungsitoli 34.05 282 P **P 22 55 09.9 +1.6**
CHAI Chaiyaphum 36.07 308 P **P 22 55 25.1 -0.6**
comp=Z,590nmcomp=Z,59nm,0.8s
CHAI Chaiyaphum 36.07 308 P **P 22 55 25.1 -0.6**
comp=Z,147nmcomp=Z,15nm,0.8s
NONG Nongkai 36.49 312 P **P 22 55 29.4 +0.2**
comp=Z,22nm,1.1s
NONG Nongkai 36.49 312 P **P 22 55 29.5 +0.2**
comp=Z,22nm,1.1s
LOEI Loei 37.57 309 P **P 22 55 35.9 -2.5**
comp=Z,39nm,1.1s
UTHA Uthaitani 37.91 305 P **P 22 55 40.9 -0.3**
comp=Z,106nmcomp=Z,13nm,0.8s
PHIT Phitsanulok 38.04 308 P **P 22 55 42.4 +0.1**
comp=Z,2µ3µcomp=Z,200nm,0.9s
PHIT Phitsanulok 38.04 308 P **P 22 55 42.5 +0.1**
comp=Z,434nmcomp=Z,50nm,0.9s
SLVN Son La 38.09 317 P **P 22 55 42.5 -0.3**
UTTA Uttaradit 38.26 309 P **P 22 55 44.1 0.0**
comp=Z,427nmcomp=Z,54nm,0.8s
UTTA Uttaradit 38.26 309 P **P 22 55 44.1 0.0**
comp=Z,107nmcomp=Z,13nm,0.8s
TAU Tasmania Unive 39.29 161 P **P 22 55 53.8 +1.4**
TAU IAmb IAmb 22 57 20.9
comp=Z,74nm,1.6s
LAMP Lampang 39.42 309 P **P 22 55 54.4 +0.5**
comp=Z,27nm,1.0s
NJ2 Nanjing 39.79 344 *e*P **P 22 55 58.8 +2.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
CM04 Chiang Mai Arr 39.86 309 P **P 22 55 58.1 +0.6**
comp=Z,95nmcomp=Z,14nm,1.0s
CM09 Chiang Mai Arr 39.87 309 P **P 22 55 58.2 +0.6**
comp=Z,131nmcomp=Z,15nm,1.0s
WHN Wuhan 39.87 338 ⇓P **P 22 55 58.4 +1.0**
CM01 Chiang Mai Arr 39.88 309 P **P 22 55 58.2 +0.5**
comp=Z,148nmcomp=Z,15nm,1.0s
CM05 Chiang Mai Arr 39.88 309 P **P 22 55 58.2 +0.5**
comp=Z,100nmcomp=Z,12nm,0.9s
CM02 Chiang Mai Arr 39.90 309 P **P 22 55 58.2 +0.3**
comp=Z,125nmcomp=Z,15nm,0.9s
CM31 Chiang Mai Arr 39.92 309 P **P 22 55 57.8 -0.2**
CM31 IAmb IAmb 22 55 59.1
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 39.92 309 P **P 22 55 57.6 -0.3**
comp=Z,7.8nm,0.8s,baz=140,slow=7.3,SNR=46
CMAR PcP **PcP 22 58 02.1 +0.3**
comp=Z,0.9nm,0.5s,baz=131,slow=2.5,SNR=1.5
CMAR ScP **ScP 23 01 40.1 -1.3**
comp=Z,1.6nm,0.8s,baz=146,slow=4.6,SNR=7.1
CMAR LR LR 23 14 18.0
comp=Z,33nm,18.1s,baz=194,slow=39
CM13 Chiang Mai Arr 39.92 309 P **P 22 55 58.1 +0.1**
comp=Z,136nmcomp=Z,14nm,1.2s
CM15 Chiang Mai Arr 39.93 309 P **P 22 55 58.6 +0.5**
GYA Guiyang 40.10 325 *e*P **P 22 55 59.5 0.0**
CHTO Chiang Mai 40.12 309 P **P 22 55 59.4 -0.2**
comp=Z,34nm,1.1s
CHTO Chiang Mai 40.12 309 P **P 22 55 59.5 -0.2**
CHTO IAmb IAmb 22 56 00.5
comp=Z,36nm,1.1s
MHMT Maesarieng 40.55 307 P **P 22 56 04.6 +1.4**
comp=Z,25nm,1.3s
JHS Saijyo 41.11 3 P **P 22 56 09.6 +2.1**
JHS IAmb IAmb 22 57 09.6
comp=Z,41nm,1.5s
KMI Kunming 41.49 320 ⇑P **P 22 56 11.4 +0.3**
KMI pmax pmax
comp=Z,11nm,1.3s
JWT Wachi 41.56 6 P **P 22 56 11.3 +0.1**
JWT IAmb IAmb 22 56 33.5
comp=Z,10nm,0.7s
ENH Enshi 41.71 332 P **P 22 56 11.9 -0.7**
ENH IAmb IAmb 22 56 12.8
comp=Z,20nm,0.6s
MJAR Matsushiro Arr 43.15 9 P **P 22 56 22.9 -1.2**
comp=Z,1.3nm,0.6s,baz=171,slow=9.4,SNR=8.6
MAJO Matsushiro 43.15 9 P **P 22 56 23.4 -0.7**
MAT Matsushiro 43.15 9 P **P 22 56 22.7 -1.4**
KSRS Korea Array 43.59 357 P **P 22 56 26.0 -1.5**
comp=Z,0.8nm,0.5s,baz=175,slow=8.9,SNR=2.7
JSD Sado 44.62 8 P **P 22 56 36.0 +0.2**
JMM Marumori 44.88 11 P **P 22 56 38.0 +0.1**
JMM IAmb IAmb 22 57 11.2
comp=Z,13nm,0.7s
XAN Xi'an 45.14 334 ⇑P **P 22 56 39.3 -0.8**
XAN pP pP 22 57 01.7 -1.9
XAN sP sP 22 57 14.2 -0.8
XAN pmax pmax
comp=Z,28nm,0.7s
JTM Tenmabayashi 47.77 10 P **P 22 57 00.5 +0.1**
JTM IAmb IAmb 22 57 18.5
comp=Z,47nm,1.3s
BJT Baijiatuau 48.01 345 P **P 22 57 02.2 -0.1**
BJT IAmb IAmb 22 57 03.1
comp=Z,12nm,0.6s
BJI Beijing 48.03 345 P **P 22 57 02.6 +0.2**
BJI pP **pP 22 57 26.2 +1.1**
BJI sP **sP 22 57 40.2 +4.2**
BJI pmax pmax
comp=Z,20nm,0.6s
BJI pmax pmax
comp=Z,210nm,4.4s
LZH Lanzhou 49.17 331 ⇓P **P 22 57 10.3 -1.2**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,100nm,7.0s
SHL Shillong 49.33 312 P **P 22 57 11.7 -1.3**
HHC Hu-ho-hao-te 50.12 341 *e*P P 22 57 23.4 +4.8
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,65nm,5.7s
USRK Ussuriysk Ar. 50.25 1 P **P 22 57 17.4 -1.9**
comp=Z,2.2nm,0.6s,baz=187,slow=8.7,SNR=5.7
MLZ Mavora Lakes 50.61 146 P **P 22 57 23.5 +1.4**
QRZ Quartz Range 50.65 139 P **P 22 57 24.5 +2.0**
QRZ IAmb IAmb 22 57 49.0
comp=Z,26nm,1.2s
RPZ Rata Peaks 51.30 143 P **P 22 57 29.2 +1.8**
RPZ IAmb IAmb 22 57 57.2
comp=Z,59nm,1.8s
LSA Lhasa 52.26 315 P **P 22 57 34.8 -0.4**
LSA IAmb IAmb 22 57 36.6
comp=Z,10nm,0.7s
ODAN Odare 53.42 310 *e*P **P 22 57 42.9 -0.6**
comp=Z,20nm,0.4s
TAPN Taplejung 53.44 311 *e*P **P 22 57 43.3 -0.4**
comp=Z,26nm,0.5s
GTA Gaotai 53.75 330 ⇑P **P 22 57 46.0 +0.4**
GTA pP pP 22 58 09.4 -0.1
GTA sP sP 22 58 20.5 -0.1
GTA pmax pmax
comp=Z,19nm,0.9s
RAMN Ramite 54.07 310 *e*P **P 22 57 48.2 -0.1**
comp=Z,67nm,0.5s
JIRN Jiri 54.75 310 *e*P **P 22 57 52.8 -0.5**
PKI Pulchoki 55.30 310 *e*P **P 22 57 56.3 -0.9**
PKIN Phulchoki 55.31 310 *e*P **P 22 57 56.2 -1.0**
GKN Gorkha 56.10 310 *e*P **P 22 58 02.4 -0.4**
comp=Z,43nm,0.5s
HYB Hyderabad 56.75 295 *i* P **P 22 58 06.0 -1.4**
KOLN Koldanda 56.78 309 *e*P **P 22 58 07.5 -0.2**
DANN Dangsing 56.95 310 *e*P **P 22 58 08.7 -0.2**
ULN Ulaanbaatar 57.84 341 P **P 22 58 15.5 +0.8**
ULN IAmb IAmb 22 58 16.4
comp=Z,16nm,0.7s
SONM Songino Array 58.03 341 P **P 22 58 16.4 +0.4**
comp=Z,5.2nm,0.6s,baz=161,slow=6.6,SNR=29
SONM Songino Array 58.03 341 P **P 22 58 16.9 +1.0**
WMQ Urumqi 63.25 326 *e*P **P 22 58 51.3 -0.1**
WMQ pmax pmax
comp=Z,41nm,0.7s
WMQ pmax pmax
comp=Z,29nm,3.7s
PETK Petropavlovsk- 63.38 18 P **P 22 58 52.7 +0.7**
comp=Z,1.6nm,0.6s,baz=177,slow=6.5,SNR=7.9
PETK PcP **sP 22 59 26.8 +1.0**
comp=Z,4.0nm,0.8s,baz=196,slow=4.1,SNR=6.2
PETK Petropavlovsk- 63.38 18 P **P 22 58 53.2 +1.2**
NIL Nilore 67.38 310 P **P 22 59 18.0 -0.2**
NIL IAmb IAmb 22 59 18.9
comp=Z,16nm,0.7s
MA2 Magadan 67.53 11 P **P 22 59 19.0 +0.4**

comp=Z,2.4nm,0.4s,baz=178,slow=13,SNR=3.6
TARG Taragay, Kyrgy 67.94 320 P **P 22 59 22.9 +0.8**
TARG IAmb IAmb 22 59 32.9
comp=Z,12nm,1.0s
PRZ Przheval'sk 67.96 321 P **P 22 59 23.2 +1.3**
PRZ IAmb IAmb 22 59 24.4
comp=Z,28nm,0.8s
MK31 Makanchi Array 68.08 326 P **P 22 59 22.9 +0.5**
MKAR Makanchi Array 68.08 326 P **P 22 59 22.9 +0.6**
comp=Z,66nm,0.7s,baz=113,slow=9.1,SNR=670
YAK Yakutsk 68.11 359 P **P 22 59 22.4 +0.2**
YAK IAmb IAmb 22 59 23.1
comp=Z,24nm,0.8s
MAKZ Makanchi 68.26 326 P **P 22 59 23.6 +0.2**
KDJ Kajisay 68.55 320 P **P 22 59 26.3 +0.7**
KDJ IAmb IAmb 22 59 27.3
comp=Z,27nm,0.7s
ULHL Ulahol 69.21 320 P **P 22 59 30.4 +0.7**
SNR=12
BOOM Boomskoye usch 69.53 320 P **P 22 59 32.2 +0.6**
BOOM IAmb IAmb 22 59 33.3
comp=Z,24nm,0.8s
TKM2 Tokmak 2 69.96 320 P **P 22 59 35.0 +0.7**
SNR=46
KBK Karagaybulak 70.25 320 P **P 22 59 37.0 +1.0**
SNR=12
AAK Ala-Archa 70.53 319 P **P 22 59 38.9 +1.1**
SNR=9.4
AAK Ala-Archa 70.53 319 P **P 22 59 38.6 +0.9**
AAK IAmb IAmb 22 59 39.6
comp=Z,18nm,0.7s
CHMS Chumysh 70.54 320 P **P 22 59 38.0 +0.4**
SNR=13
AML Almayashu 70.81 319 P **P 22 59 40.9 +1.1**
SNR=33
USP Ospenovka 70.83 320 P **P 22 59 40.1 +0.7**
SNR=50
DRK Karamyk 70.91 315 P **P 22 59 40.5 +0.2**
KBL Kabul 70.94 310 P **P 22 59 40.5 0.0**
KBL IAmb IAmb 22 59 41.8
comp=Z,19nm,0.7s
SEY Seymchan 70.95 10 P **P 22 59 40.1 +0.5**
comp=Z,7.6nm,0.7s,baz=205,slow=3.6,SNR=24
EKS2 Erkin-Say 71.01 319 P **P 22 59 41.6 +1.0**
SNR=37
ZAA0 Zalesovo Array 71.31 333 P **P 22 59 41.2 -0.8**
ZAA0 IAmb IAmb 22 59 42.3
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 71.31 333 P **P 22 59 41.2 -0.7**
comp=Z,10nm,0.8s,baz=112,slow=4.5,SNR=37
GAR Garm 71.75 314 P **P 22 59 45.0 -0.1**
CHGR Chuyangaron 72.44 314 P **P 22 59 49.1 -0.1**
VNDA Vanda 73.06 173 P **P 22 59 52.9 +0.8**
comp=Z,1.1nm,0.6s,baz=322,slow=7.4,SNR=12
VNDA Vanda 73.06 173 P **P 22 59 53.2 +1.2**
KK31 Karatay Array 73.35 318 P **P 22 59 54.5 +0.2**
KK31 IAmb IAmb 22 59 55.6
comp=Z,14nm,0.9s
KKAR Karatay Array 73.35 318 P **P 22 59 54.6 +0.2**
KKAR Karatay Array 73.35 318 P **P 22 59 54.5 +0.1**
KKAR IAmb IAmb 22 59 55.7
comp=Z,14nm,0.9s
TAS Tashkent 73.42 316 P **P 22 59 55.4 +0.6**
MAW Mawson 75.92 201 P **P 23 00 09.8 +1.1**
comp=Z,1.4nm,0.5s,baz=85,slow=5.6,SNR=7.5
MAW Mawson 75.92 201 P **P 23 00 10.0 +1.3**
HRA Herat 76.17 308 P **P 23 00 11.0 -0.1**
TIXI Tiksi 77.78 359 P **P 23 00 19.1 +0.1**
BRVK Borovoye 77.97 327 P **P 23 00 20.4 -0.1**
BRVK IAmb IAmb 23 00 21.3
comp=Z,14nm,0.8s
SOCY Socotra 78.56 284 P **P 23 00 23.9 -0.7**
UOSS Minazif 78.83 297 P **P 23 00 25.9 +0.1**
UOSS IAmb IAmb 23 03 09.1
comp=Z,31nm,1.3s
GEYT Alibeck 80.38 310 P **P 23 00 33.2 -0.8**
comp=Z,9.9nm,0.6s,baz=193,slow=5.8,SNR=8.4
GYA0B ALIBECK ARRAY 80.38 310 P **P 23 00 34.2 +0.1**
NRIK Noril'sk 81.06 346 P **P 23 00 36.5 -0.4**
comp=Z,7.6nm,0.7s,baz=128,slow=4.8,SNR=14
NRIK Noril'sk 81.06 346 P **P 23 00 37.1 +0.2**
NRIK IAmb IAmb 23 00 39.7
comp=Z,9.7nm,0.8s
VOI Vohitsoka 82.18 249 P **P 23 00 43.9 -0.1**
ABKAR Akbulak array 82.46 321 P **P 23 00 44.3 -0.4**
ABKAR Akbulak array 82.46 321 P **P 23 00 44.3 -0.4**
QSPA South Pole Qui 83.70 180 P **P 23 00 51.6 +0.6**
QSPA IAmb IAmb 23 01 08.1
comp=Z,37nm,2.0s
SYO Syowa Base 84.63 201 ⇓*e*P **P 23 00 56.7 +1.3**
SYO Syowa Base 84.63 201 ⇓*e*pP pP 23 01 21.2 +0.5
ARU Arti 85.53 328 P **P 23 00 59.9 -0.2**
ARU IAmb IAmb 23 01 00.4
comp=Z,15nm,1.2s
O18K Koktuh Hills 87.43 29 P **P 23 01 10.2 +0.9**
baz=253
SVW2 Sparrevohn 87.62 28 P **P 23 01 11.6 +1.4**
N19K Bonanza Creek 88.05 28 P **P 23 01 14.0 +1.7**
baz=254
KDAK Kodiak Island 88.17 31 P **P 23 01 14.4 +1.5**
baz=255
KDAK Kodiak Island 88.17 31 P **P 23 01 13.6 +0.7**
L19K White Mountain 88.27 27 P **P 23 01 14.9 +1.6**
baz=253
M19K Big River Lodg 88.40 27 P **P 23 01 16.1 +2.2**
baz=254
K20K Telida 88.95 26 P **P 23 01 17.8 +1.4**
baz=254
M20K Styx River 88.97 27 P **P 23 01 18.2 +1.5**
baz=255
J20K Nowinta River 89.14 25 P **P 23 01 18.6 +1.3**
baz=254
SUA Susitna One 89.97 28 P **P 23 01 22.0 +0.6**
baz=257
SUA Susitna One 89.97 28 P **P 23 01 22.0 +0.6**
MLY Manley 90.78 25 P **P 23 01 25.5 +0.5**
baz=257
I23K Minto, Yukon-K 91.38 25 P **P 23 01 28.2 +0.5**
baz=258
H23K Yukon River 91.44 24 P **P 23 01 28.5 +0.4**
baz=258
CCB Clear Creek Bu 91.93 25 P **P 23 01 29.5 -0.8**
TOLK Toolik Lake Re 92.02 21 P **P 23 01 31.2 +0.5**
baz=258
H24K Noodor Dome 92.12 24 P **P 23 01 31.6 +0.4**
baz=260
ILAR Eielson Array 92.34 25 P **P 23 01 30.6 -1.6**
comp=Z,1.3nm,0.7s,baz=280,slow=4.5,SNR=12
KMBO Kilima Mbogo 93.44 268 P **P 23 01 38.6 -0.1**
comp=Z,2.1nm,0.9s,baz=59,slow=7.1,SNR=5.2
BMAR Burnt Mountain 93.67 23 P **P 23 01 39.0 +0.7**
K27K Chicken 94.32 26 P **P 23 01 42.5 +1.3**
baz=265
L27K Beaver Creek, 94.34 27 P **P 23 01 41.8 +0.3**
baz=265
EGAK Eagle 94.78 25 P **P 23 01 43.9 +0.5**
baz=266
ARCES ARCESS Array B 101.19 340 P **Pdif 23 02 10.9 -1.3**
comp=Z,1.2nm,0.7s,baz=90,slow=6.3,SNR=6.4
FINES FINESS Array B 102.53 332 P **Pdif 23 02 16.3 -1.9**
comp=Z,1.3nm,0.8s,baz=39,slow=7.1,SNR=3.8
FINES FINESS Array B 102.53 332 **Pdif 23 02 16.7 -1.5**
MNK Minsk 102.60 324 *i* P **Pdif 23 02 18.0 -0.7**
comp=E,1.0nm,0.8s
MNK *i* P **Pdif 23 02 18.0 -0.7**
comp=N,8.0nm,0.8s
MNK *i* P **Pdif 23 02 18.0 -0.7**
comp=Z,25nm,0.9s,baz=85
MNK *i* pP **pPdif 23 02 44.5 +0.5**
MNK *i* sP **sPdif 23 02 55.4 +1.2**
MNK *i* PP **PP 23 06 32.5 -0.5**
MNK *i* PPP PPP 23 08 42.7
MNK *i* S **SKSac 23 12 48.1 -0.6**
MNK *i* sS **SKKSac 23 13 36.3 +7.8**
MNK *i* SP **SP 23 15 29.3 +0.3**
MNK *i* PS **PS 23 15 37.9 -4.5**
MNK *i* SS **SS 23 21 04.7 +0.6**
MNK *i* SS **SS 23 21 11.0 +6.9**
MNK *i* SSS SSS 23 24 59.3
MNK *i* LQ LQ 23 42 51.2
MNK *i* LR LR 23 46 13.3
MNK *i* LRM MLR 23 48 52.7
comp=Z,35nm,17.2s
MNK *i* LRM MLR 23 49 09.3
comp=N,141nm,26.9s

MNK			*i* LRM		MLR	23 49 25.3
	comp=E,4.0nm,22.4s					
YKA	**Yellowknife Ar**	**106.74 26**	PKiKP		**PKiKP**	**23 06 46.0 -0.6**
	comp=E,0.3nm,0.5s,baz=312,slow=0.8,SNR=3.3					
GERES	**GERESS Array B**	**112.40 321**	PKiKP		**PKiKP**	**23 06 57.1 -0.7**
	comp=E,0.6nm,0.6s,baz=106,slow=2.9,SNR=5.9					
WTTA	**Wattenberg**	**114.19 319**	*i* P		**PKiKP**	**23 07 01.5 0.0**
	comp=E,2.1nm,0.4s					
WATA	**Walderalm**	**114.21 319**	*i* P		PKPdf	23 07 01.2 -0.2
	comp=E,1.0nm,0.5s					
MOTA	**Moosalm**	**114.51 320**	*i* P		PKPdf	23 07 01.7 -0.3
	comp=E,1.6nm,0.5s					
DAVA	**Damuels**	**115.32 320**	*i* P		**PKPdf**	**23 07 03.6 +0.1**
	comp=E,1.4nm,0.4s					
TXAR	**Lajitas Array**	**123.85 59**	PKP		**PKiKP**	**23 07 21.1 +0.4**
	comp=E,0.3nm,0.8s,baz=270,slow=2.7,SNR=3.1					
TXAR	**Lajitas Array**	**123.85 59**			**PKiKP**	**23 07 20.9 +0.2**
S39A	**Bolivar**	**129.19 45**			**PKPdf**	**23 07 30.6 +0.3**
PLCA	**Paso Flores**	**129.26 159**	SKPbc		SKPab	23 10 42.0 +0.2
	comp=E,1.3nm,0.7s,baz=135,slow=2.9,SNR=3.7					
TORD	**Torodi Ar. Bea**	**129.48 282**	PKP		**PKPdf**	**23 07 31.0 -0.4**
	comp=E,2.1nm,0.7s,baz=53,slow=2.1,SNR=10					
TORD			SKPbc		SKPab	23 10 42.5 -0.9
	comp=E,1.3nm,0.7s,baz=74,slow=4.3,SNR=7.5					
TORD	**Torodi Ar. Bea**	**129.48 282**			**PKPdf**	**23 07 31.2 -0.2**
CPUP	**Villa Florida**	**146.63 167**	PKPbc		**PKPdf**	**23 08 03.2 +0.8**
	comp=E,1.8nm,0.7s,baz=182,slow=5.5,SNR=3.9					
MNMC	**Minye Minye**	**147.71 142**			**PKiKP**	**23 08 08.9 -0.8**
LPAZ	**La Paz**	**150.76 140**	PKPbc		**PKiKP**	**23 08 17.3 +0.9**
	comp=E,2.2nm,0.4s,baz=219,slow=4.6,SNR=12					
TRCB	**Terra Rica**	**150.91 173**			**PKiKP**	**23 08 15.6 -0.3**

*IDC **11** 22:49:23.4±1.4, 62°.34N×149°.49W, h58km±19km, mb3.3/5, mb1 3.7/10, mb1mx3.3/49, mbtmp3.5/10, ML3.4/5, Error ellipse: s-maj=28.6km s-min=9.2km az=109.0*

*NEIC **11** 22:49:25.2±1.3, 62°.33N±0°.01×148°.93W±0°.05, h40km±12km, Error ellipse: s-maj=3.6km s-min=1.6km az=95.0*

*AEIC **11** 22:49:25±1.1, 62°.34N±0°.02×148°.96W±0°.05, h39km±8km, ML3.5, ML3.7/131(NEIC), Error ellipse: s-maj=3.5km s-min=3.0km az=89.0*

ISC 11 22:49:24.5±0.8, 62°.35N±0°.03×148°.92W±0°.03, h47km±8km, n263, σ0=95/251, mb3.3/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAT7	**Susitna Watana**	**0.49**	**4**		**Pn**	**22 49 35.7**	**+0.1**
WAT7					**Sn**	**22 49 44.2**	**+0.7**
WAT1	**Susitna Watana**	**0.52**	**19**	P	**Pn**	**22 49 35.8**	**0.0**
	baz=201						
WAT1				S	**Sn**	**22 49 44.6**	**+0.7**
	baz=201						
WAT1	**Susitna Watana**	**0.52**	**19**		**Pn**	**22 49 35.8**	**0.0**
WAT1					**Sn**	**22 49 44.6**	**+0.7**
GHO	**Glory Hole Cre**	**0.57**	**180**		**Pn**	**22 49 36.4**	**-0.2**
GHO					**Sn**	**22 49 45.5**	**+0.3**
GHO	**Glory Hole Cre**	**0.57**	**180**	IAML		22 49 47.6	
	comp=E,4μm,0.3s						
WAT6	**Susitna Watana**	**0.60**	**66**	P	**Pn**	**22 49 36.8**	**-0.2**
	baz=247						
WAT6				S	**Sn**	**22 49 46.1**	**+0.2**
	baz=247						
WAT6	**Susitna Watana**	**0.60**	**66**		**Pn**	**22 49 36.8**	**-0.2**
WAT6					**Sn**	**22 49 46.1**	**+0.2**
SML	**Sawmill**	**0.61**	**152**	P	**Pn**	**22 49 36.6**	**-0.4**
	baz=331						
SML				S	**Sn**	**22 49 46.2**	**+0.3**
	baz=331						
SML	**Sawmill**	**0.61**	**152**		**Pn**	**22 49 36.6**	**-0.4**
SML					**Sn**	**22 49 46.2**	**+0.3**
SML	**Sawmill**	**0.61**	**152**	IAML		22 49 47.0	
	comp=N,5μm,0.7s						
SML				IAML		22 49 47.1	
	comp=E,5μm,0.7s						
CUT	**Chulitna**	**0.63**	**276**	P	**Pn**	**22 49 37.2**	**0.0**
	baz=96						
CUT				S	**Sn**	**22 49 46.8**	**+0.5**
	baz=96						
CUT	**Chulitna**	**0.63**	**276**		**Pn**	**22 49 37.2**	**0.0**
CUT					**Sn**	**22 49 46.8**	**+0.5**
CUT	**Chulitna**	**0.63**	**276**	IAML		22 49 47.3	
	comp=E,6μm,0.4s						
HUR	**Hurricane**	**0.71**	**333**		**Pn**	**22 49 38.6**	**+0.2**
SCM	**Sheep Creek Mo**	**0.91**	**124**		**Pn**	**22 49 40.7**	**-0.3**
SCM	**Sheep Creek Mo**	**0.91**	**124**	IAML		22 49 58.9	
	comp=N,2μm,0.7s						
SCM				IAML		22 49 59.2	
	comp=E,2μm,0.3s						
KNK	**Knik Glacier**	**0.96**	**167**	P	**Pn**	**22 49 41.7**	**0.0**
	baz=346						
KNK	**Knik Glacier**	**0.96**	**167**		**Pn**	**22 49 41.7**	**0.0**
KNK	**Knik Glacier**	**0.96**	**167**	IAML		22 49 59.4	
	comp=N,3μm,0.4s						
RND	**Reindeer**	**1.07**	**2**		**Pn**	**22 49 43.5**	**+0.4**
RND					**Sn**	**22 49 57.5**	**+0.7**
RND	**Reindeer**	**1.07**	**2**	IAML		22 49 58.2	
	comp=E,3μm,0.3s						
RND				IAML		22 49 58.4	
	comp=N,3μm,0.4s						
SUA	**Susitna One**	**1.24**	**225**	P	**Pn**	**22 49 45.6**	**+0.1**
	baz=43						
SUA	**Susitna One**	**1.24**	**225**		**Pn**	**22 49 45.6**	**+0.1**
SUA	**Susitna One**	**1.24**	**225**	IAML		22 50 04.8	
	comp=N,1μm,0.7s						
TRF	**Thorofare Moun**	**1.27**	**331**	P	**Pn**	**22 49 46.3**	**+0.2**
	baz=151						
TRF				S	**Sn**	**22 50 02.5**	**+0.5**
	baz=151						
TRF	**Thorofare Moun**	**1.27**	**331**		**Pn**	**22 49 46.3**	**+0.2**
TRF					**Sn**	**22 50 02.5**	**+0.5**
SKT	**Skwentna**	**1.28**	**254**	P	**Pn**	**22 49 46.0**	**+0.1**
	baz=72						
SKT	**Skwentna**	**1.28**	**254**		**Pn**	**22 49 46.0**	**+0.1**
SKT	**Skwentna**	**1.28**	**254**	IAML		22 50 06.1	
	comp=N,1μm,0.3s						
SKT				IAML		22 50 06.5	
	comp=E,905nm,0.3s						
M24K	**Tolsona, Glenn**	**1.31**	**99**	P	**Pn**	**22 49 47.6**	**+1.2**
	baz=281						
M24K	**Tolsona, Glenn**	**1.31**	**99**		**Pn**	**22 49 47.6**	**+1.2**
M24K	**Tolsona, Glenn**	**1.31**	**99**	IAML		22 50 08.3	
	comp=E,2μm,0.7s						
M24K				IAML		22 50 09.2	
	comp=N,1μm,0.5s						
RC01	**Rabbit Creek A**	**1.32**	**197**	P	**Pn**	**22 49 46.9**	**+0.4**
	baz=16						
RC01				S	**Sn**	**22 50 04.7**	**+1.8**
	baz=16						
RC01	**Rabbit Creek A**	**1.32**	**197**		**Pn**	**22 49 46.9**	**+0.4**
RC01					**Sn**	**22 50 04.7**	**+1.8**
FIS	**Fire Island**	**1.35**	**208**		**Pn**	**22 49 48.3**	**+1.3**
MCK	**McKinley**	**1.39**	**360**	P	**Pn**	**22 49 48.3**	**+0.7**
	baz=180						
MCK				S	**Sn**	**22 50 05.7**	**+1.0**
	baz=180						
MCK	**McKinley**	**1.39**	**360**		**Pn**	**22 49 48.3**	**+0.7**
MCK					**Sn**	**22 50 05.7**	**+1.0**
MCK	**McKinley**	**1.39**	**360**	IAML		22 50 07.4	
	comp=N,1μm,0.9s						
PWL	**Port Wells**	**1.52**	**169**		**Pn**	**22 49 49.8**	**+0.6**
PWL					**Sn**	**22 50 10.1**	**+2.3**
KTH	**Kantishna Hill**	**1.52**	**324**		**Pn**	**22 49 49.7**	**+0.4**
PPLA	**Purkeypile**	**1.61**	**292**	P	**Pn**	**22 49 50.8**	**+0.3**
	baz=109						
PPLA	**Purkeypile**	**1.61**	**292**		**Pn**	**22 49 50.8**	**+0.3**
STLK	**Strandline Lak**	**1.62**	**240**		**Pn**	**22 49 51.0**	**+0.3**
PS11	**TAPS Pump St11**	**1.64**	**98**		**Pn**	**22 49 52.8**	**+1.9**
KLU	**Klutina**	**1.66**	**120**	P	**Pn**	**22 49 52.0**	**+0.8**
	baz=302						
KLU	**Klutina**	**1.66**	**120**		**Pn**	**22 49 52.0**	**+0.8**
KLU	**Klutina**	**1.66**	**120**	IAML		22 50 15.7	
	comp=E,1μm,0.4s						
JPK	**Jack Peak**	**1.70**	**138**		**Pn**	**22 49 52.4**	**+0.6**
GLI	**Glacier Island**	**1.71**	**148**	P	**Pn**	**22 49 52.1**	**+0.3**
	baz=330						
GLI	**Glacier Island**	**1.71**	**148**		**Pn**	**22 49 52.1**	**+0.3**
PAX	**Paxson**	**1.71**	**67**	P	**Pn**	**22 49 53.5**	**+1.6**
	baz=250						
PAX	**Paxson**	**1.71**	**67**		**Pn**	**22 49 53.5**	**+1.6**
HARP	**HAARP**	**1.76**	**87**	P	**Pn**	**22 49 54.4**	**+1.9**
	baz=270						
HARP	**HAARP**	**1.76**	**87**		**Pn**	**22 49 54.4**	**+1.9**
VMT	**TAPS Tl Valdez**	**1.76**	**135**		**Pn**	**22 49 52.8**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.81**	**236**		**Pn**	**22 49 54.0**	**+0.7**
BWN	**Browne**	**1.85**	**353**		**Pn**	**22 49 54.2**	**+0.5**
BWN	**Browne**	**1.85**	**353**	IAML		22 50 32.2	
	comp=E,648nm,0.8s						
BWN				IAML		22 50 34.5	
	comp=N,877nm,0.8s						
SPCP	**Crater Peak Br**	**1.88**	**236**		**Pn**	**22 49 55.4**	**+1.2**
CRP	**Crater Peak**	**1.88**	**236**		**Pn**	**22 49 55.3**	**+1.0**
CAPN	**Captain Cook N**	**1.91**	**215**	P	**Pn**	**22 49 56.7**	**+2.2**
	baz=33						
CAPN	**Captain Cook N**	**1.91**	**215**		**Pn**	**22 49 56.7**	**+2.2**
O22K	**Cooper Landing**	**1.91**	**192**	P	**Pn**	**22 49 55.1**	**+0.6**
	baz=11						
O22K	**Cooper Landing**	**1.91**	**192**		**Pn**	**22 49 55.1**	**+0.6**
SPCN	**Chakachatna No**	**1.91**	**235**		**Pn**	**22 49 55.6**	**+0.9**
DIV	**Divide**	**1.93**	**128**		**Pn**	**22 49 55.2**	**+0.2**
SPCR	**Spurr Chakacha**	**1.94**	**235**	P	**Pn**	**22 49 56.1**	**+1.1**
	baz=52						
SPCR	**Spurr Chakacha**	**1.94**	**235**		**Pn**	**22 49 56.1**	**+1.1**
SLKM	**Skilak Lake**	**1.95**	**199**		**Pn**	**22 49 55.5**	**+0.4**
SPBG	**Spurr Blockage**	**1.97**	**238**		**Pn**	**22 49 56.8**	**+1.4**
FID	**Port Fidalgo**	**1.98**	**143**		**Pn**	**22 49 55.9**	**+0.3**
FID	**Port Fidalgo**	**1.98**	**143**	IAML		22 50 22.8	
	comp=E,890nm,0.5s						
FID				IAML		22 50 24.7	
	comp=N,853nm,0.4s						
PS12	**TAPS Pump St12**	**1.99**	**114**		**Pn**	**22 49 56.3**	**+0.7**
BPAW	**Bear Paw Mtn.**	**1.99**	**333**	P	**Pn**	**22 49 55.7**	**0.0**
	baz=152						
BPAW	**Bear Paw Mtn.**	**1.99**	**333**		**Pn**	**22 49 55.7**	**0.0**
BPAW	**Bear Paw Mtn.**	**1.99**	**333**	IAML		22 50 36.6	
	comp=N,383nm,0.5s						
M20K	**Styx River**	**2.03**	**259**	P	**Pn**	**22 49 57.3**	**+1.0**
	baz=75						
M20K	**Styx River**	**2.03**	**259**		**Pn**	**22 49 57.3**	**+1.0**
WRH	**Wood River Hil**	**2.17**	**10**		**Pn**	**22 49 58.2**	**+0.1**
N25K	**Chitina, Valde**	**2.17**	**108**	P	**Pn**	**22 49 58.9**	**+0.7**
	baz=292						
N25K	**Chitina, Valde**	**2.17**	**108**		**Pn**	**22 49 58.9**	**+0.7**
N25K	**Chitina, Valde**	**2.17**	**108**	IAML		22 50 34.5	
	comp=N,361nm,0.4s						
CHUM	**Lake Minchumin**	**2.18**	**317**	P	**Pn**	**22 49 58.6**	**+0.3**
	baz=134						
CHUM	**Lake Minchumin**	**2.18**	**317**		**Pn**	**22 49 58.6**	**+0.3**
HDA	**Harding Lake**	**2.25**	**22**	P	**Pn**	**22 49 59.7**	**+0.4**
	baz=204						
HDA	**Harding Lake**	**2.25**	**22**		**Pn**	**22 49 59.7**	**+0.4**
HDA	**Harding Lake**	**2.25**	**22**	IAML		22 50 30.2	
	comp=N,756nm,0.5s						
HDA				IAML		22 50 30.4	
	comp=E,531nm,0.3s						
NEA2	**Nenana**	**2.26**	**358**	P	**Pn**	**22 49 59.3**	**0.0**
	baz=179						
NEA2	**Nenana**	**2.26**	**358**		**Pn**	**22 49 59.3**	**0.0**
SEW	**Seward**	**2.26**	**187**	P	**Pn**	**22 50 00.1**	**+0.7**
	baz=5.8						
SEW	**Seward**	**2.26**	**187**		**Pn**	**22 50 00.1**	**+0.7**
HIN	**Hinchinbrook I**	**2.28**	**148**		**Pn**	**22 49 59.8**	**+0.2**
HIN	**Hinchinbrook I**	**2.28**	**148**	IAML		22 50 36.8	
	comp=E,673nm,0.8s						
HIN				IAML		22 50 39.0	
	comp=N,503nm,0.7s						
RIDG	**Independent Ri**	**2.33**	**51**	P	**Pn**	**22 50 02.4**	**+2.1**
	baz=235						
RIDG	**Independent Ri**	**2.33**	**51**		**Pn**	**22 50 02.4**	**+2.1**
RIDG	**Independent Ri**	**2.33**	**51**	IAML		22 50 35.2	
	comp=N,656nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.36**	**138**	P	**Pn**	**22 50 01.6**	**+0.9**
	baz=321						
EYAK	**Cordova Ski Ar**	**2.36**	**138**		**Pn**	**22 50 01.6**	**+0.9**
CCB	**Clear Creek Bu**	**2.37**	**12**		**Pn**	**22 50 00.8**	**0.0**
CCB	**Clear Creek Bu**	**2.37**	**12**	IAML		22 50 34.5	
	comp=E,290nm,0.3s						
PS08	**TAPS Pump Stn8**	**2.40**	**22**		**Pn**	**22 50 01.6**	**+0.3**
MENT	**Mentasta**	**2.48**	**74**		**Pn**	**22 50 03.6**	**+1.2**
MENT	**Mentasta**	**2.48**	**74**	IAML		22 50 39.0	
	comp=E,446nm,0.4s						
MENT				IAML		22 50 49.0	
	comp=N,339nm,0.6s						
BMRM	**Bremner River**	**2.48**	**122**	P	**Pn**	**22 50 02.9**	**+0.5**
	baz=306						
BMRM	**Bremner River**	**2.48**	**122**		**Pn**	**22 50 02.9**	**+0.5**
BMRM	**Bremner River**	**2.48**	**122**	IAML		22 50 42.5	
	comp=E,533nm,0.6s						
BMRM				IAML		22 50 43.1	
	comp=N,541nm,0.6s						
DFR	**Drift River**	**2.52**	**227**		**Pn**	**22 50 03.4**	**+0.3**
K20K	**Telida**	**2.57**	**296**	P	**Pn**	**22 50 03.6**	**0.0**
	baz=111						
K20K	**Telida**	**2.57**	**296**		**Pn**	**22 50 03.6**	**0.0**
DOT	**Dot Lake**	**2.58**	**57**		**Pn**	**22 50 05.5**	**+1.8**
TCOL	**CIGO, UAF Yank**	**2.58**	**10**	P	**Pn**	**22 50 04.1**	**+0.4**
	baz=191						
TCOL	**CIGO, UAF Yank**	**2.58**	**10**		**Pn**	**22 50 04.1**	**+0.4**
COLA	**College**	**2.58**	**10**		**Pn**	**22 50 04.0**	**+0.3**
GLB	**Gilahina Butte**	**2.58**	**108**		**Pn**	**22 50 04.5**	**+0.6**
GLB	**Gilahina Butte**	**2.58**	**108**	IAML		22 50 44.3	
	comp=N,360nm,0.9s						
GLB				IAML		22 50 49.3	
	comp=E,220nm,0.4s						
IL31		**2.60**	**20**		**Pn**	**22 50 04.1**	**+0.1**
ILAR	**Eielson Array**	**2.60**	**20**	P	**Pn**	**22 50 04.1**	**+0.1**
	comp=E,14nm,0.3s,baz=203,slow=14,SNR=112						
ILAR				S	**Sn**	**22 50 36.5**	**+2.2**
	comp=E,51nm,0.3s,baz=200,slow=24,SNR=18						
M19K	**Big River Lodg**	**2.61**	**263**	P	**Pn**	**22 50 04.5**	**+0.4**
	baz=78						
M19K	**Big River Lodg**	**2.61**	**263**		**Pn**	**22 50 04.5**	**+0.4**
NCT	**North Crescent**	**2.63**	**229**		**Pn**	**22 50 05.3**	**+0.8**
RSO	**Redoubt South**	**2.64**	**226**		**Pn**	**22 50 05.8**	**+1.0**
MDM	**Murphy Dome**	**2.64**	**6**		**Pn**	**22 50 04.9**	**+0.3**
L26K	**Log Cabin Wild**	**2.66**	**73**	P	**Pn**	**22 50 06.7**	**+1.8**
	baz=258						
L26K	**Log Cabin Wild**	**2.66**	**73**		**Pn**	**22 50 06.7**	**+1.8**
RED	**Redoubt Volcan**	**2.68**	**225**		**Pn**	**22 50 06.1**	**+0.9**
BRSE	**Bradley Lake S**	**2.76**	**200**	P	**Pn**	**22 50 06.5**	**+0.3**
	baz=18						
BRSE	**Bradley Lake S**	**2.76**	**200**		**Pn**	**22 50 06.5**	**+0.3**
BRLK	**Bradley Lake**	**2.76**	**201**		**Pn**	**22 50 06.7**	**+0.4**
BRLK	**Bradley Lake**	**2.76**	**201**	IAML		22 50 49.0	
	comp=N,220nm,0.5s						
SCRK	**Sand Creek**	**2.77**	**52**	P	**Pn**	**22 50 07.7**	**+1.1**
	baz=236						
SCRK	**Sand Creek**	**2.77**	**52**		**Pn**	**22 50 07.7**	**+1.1**
SCRK	**Sand Creek**	**2.77**	**52**	IAML		22 50 43.3	
	comp=N,218nm,0.5s						
SCRK				IAML		22 50 47.5	
	comp=E,242nm,0.6s						
L19K	**White Mountain**	**2.78**	**269**	P	**Pn**	**22 50 06.9**	**+0.4**
	baz=84						
L19K	**White Mountain**	**2.78**	**269**		**Pn**	**22 50 06.9**	**+0.4**
MLY	**Manley**	**2.81**	**344**	P	**Pn**	**22 50 07.2**	**+0.2**
	baz=163						
MLY	**Manley**	**2.81**	**344**		**Pn**	**22 50 07.2**	**+0.2**
MLY	**Manley**	**2.81**	**344**	IAML		22 50 43.1	
	comp=N,173nm,0.3s						
I23K	**Minto, Yukon-K**	**2.82**	**356**	P	**Pn**	**22 50 07.5**	**+0.4**
	baz=176						
I23K	**Minto, Yukon-K**	**2.82**	**356**		**Pn**	**22 50 07.5**	**+0.4**
VRDI	**Verde Repeater**	**2.83**	**111**		**Pn**	**22 50 07.5**	**+0.2**
VRDI	**Verde Repeater**	**2.83**	**111**	IAML		22 50 50.5	
	comp=N,176nm,1.0s						
POKR	**Poker Plat Res**	**2.86**	**13**	P	**Pn**	**22 50 08.0**	**+0.4**
	baz=194						
POKR	**Poker Plat Res**	**2.86**	**13**		**Pn**	**22 50 08.0**	**+0.4**
POKR	**Poker Plat Res**	**2.86**	**13**	IAML		22 50 44.5	
	comp=E,193nm,0.4s						
POKR				IAML		22 50 44.6	
	comp=N,218nm,0.2s						
O20K	**Slope Mountain**	**2.89**	**220**	P	**Pn**	**22 50 09.2**	**+1.2**
	baz=36						
O20K	**Slope Mountain**	**2.89**	**220**		**Pn**	**22 50 09.2**	**+1.2**
MCARA	**McCarthy VSAT**	**2.96**	**106**	P	**Pn**	**22 50 10.3**	**+1.3**
	baz=292						
MCARA	**McCarthy VSAT**	**2.96**	**106**		**Pn**	**22 50 10.3**	**+1.3**
MCARA	**McCarthy VSAT**	**2.96**	**106**	IAML		22 50 56.3	
	comp=N,423nm,0.3s						
MCARA				IAML		22 51 01.0	
	comp=E,363nm,0.7s						
PS07	**TAPS Pump Stn7**	**2.99**	**5**		**Pn**	**22 50 10.1**	**+0.7**
J20K	**Nowinta River**	**2.99**	**310**	P	**Pn**	**22 50 09.6**	**+0.2**
	baz=126						
J20K	**Nowinta River**	**2.99**	**310**		**Pn**	**22 50 09.6**	**+0.2**
HMT	**Hamilton**	**3.02**	**130**		**Pn**	**22 50 10.1**	**+0.3**
CNPM	**China Poot**	**3.05**	**203**		**Pn**	**22 50 11.2**	**+1.1**
CNPM	**China Poot**	**3.05**	**203**	IAML		22 50 56.0	
	comp=E,233nm,0.5s						
IVE	**Iliamna Volcan**	**3.06**	**222**		**Pn**	**22 50 11.1**	**+0.6**
N19K	**Bonanza Creek**	**3.07**	**242**	P	**Pn**	**22 50 11.5**	**+1.0**
	baz=58						
N19K	**Bonanza Creek**	**3.07**	**242**		**Pn**	**22 50 11.5**	**+1.0**
ILS	**Iliamna Low So**	**3.13**	**222**		**Pn**	**22 50 12.5**	**+1.2**
I21K	**Tanana**	**3.15**	**336**	P	**Pn**	**22 50 12.0**	**+0.4**
	baz=153						
I21K	**Tanana**	**3.15**	**336**		**Pn**	**22 50 12.0**	**+0.4**
MID	**Middleton Isla**	**3.19**	**156**		**Pn**	**22 50 13.5**	**+1.4**
MID	**Middleton Isla**	**3.19**	**156**	IAML		22 51 18.4	
	comp=N,130nm,0.9s						
MID				IAML		22 51 21.2	
	comp=E,151nm,0.9s						
NICHA	**Nichawak Mount**	**3.19**	**129**		**Pn**	**22 50 12.5**	**+0.3**
CRQM	**Cirque**	**3.19**	**117**		**Pn**	**22 50 13.2**	**+0.8**
CRQE	**Cirque**	**3.22**	**117**	P	**Pn**	**22 50 13.2**	**+0.6**
	baz=302						
PTPK	**Patty Peak**	**3.28**	**108**		**Pn**	**22 50 15.3**	**+1.7**
TGL	**Tana Glacier**	**3.32**	**116**		**Pn**	**22 50 14.3**	**+0.3**
TGL				IAML		22 51 04.8	
	comp=N,285nm,0.6s						
TGL				IAML		22 51 04.9	
	comp=E,311nm,0.6s						
TTA	**Tatalina**	**3.33**	**283**	Pn	**Pn**	**22 50 14.8**	**+0.7**
TT01	**Tatalina**	**3.33**	**283**		**Pn**	**22 50 13.9**	**0.0**
KHIT	**Khitrov Hills**	**3.33**	**122**		**Pn**	**22 50 15.1**	**+0.9**
L27K	**Beaver Creek,**	**3.35**	**74**	P	**Pn**	**22 50 15.3**	**+1.0**
	baz=261						
L27K	**Beaver Creek,**	**3.35**	**74**		**Pn**	**22 50 15.2**	**+0.9**
BC03		**3.37**	**74**		**Pn**	**22 50 15.6**	**+1.1**
BCAR	**Beaver Creek A**	**3.37**	**74**		**Pn**	**22 50 15.3**	**+0.7**
SUCK	**Suckling Hills**	**3.38**	**130**		**Pn**	**22 50 14.8**	**+0.1**
BC05	**Beaver Creek A**	**3.38**	**75**		**Pn**	**22 50 15.6**	**+0.9**
BALM	**Baldy**	**3.40**	**110**		**Pn**	**22 50 16.2**	**+1.1**
GRIN	**Grindle Hills**	**3.40**	**125**		**Pn**	**22 50 15.8**	**+0.7**
SVW2	**Sparrevohn**	**3.41**	**251**		**Pn**	**22 50 15.3**	**+0.2**
OPT	**Oil Point**	**3.42**	**220**	P	**Pn**	**22 50 16.3**	**+1.1**
	baz=36						
OPT	**Oil Point**	**3.42**	**220**		**Pn**	**22 50 16.4**	**+1.1**
P19K	**Oil Pt**	**3.42**	**220**	P	**Pn**	**22 50 16.3**	**+1.0**
	baz=36						
P19K	**Oil Pt**	**3.42**	**220**		**Pn**	**22 50 16.3**	**+1.0**
KIAG	**Kiagna River**	**3.44**	**112**		**Pn**	**22 50 16.5**	**+0.8**
WAX	**Waxell Ridge**	**3.48**	**120**		**Pn**	**22 50 17.0**	**+0.8**
H23K	**Yukon River**	**3.50**	**356**	P	**Pn**	**22 50 16.9**	**+0.5**
	baz=176						
H23K	**Yukon River**	**3.50**	**356**		**Pn**	**22 50 16.9**	**+0.5**
PRP	**Porcupine Dome**	**3.52**	**24**	P	**Pn**	**22 50 17.4**	**+0.6**
	baz=207						
PRP	**Porcupine Dome**	**3.52**	**24**		**Pn**	**22 50 17.3**	**+0.6**
PRP				IAML		22 51 00.8	
	comp=N,191nm,0.6s						
PRP				IAML		22 51 01.9	
	comp=E,229nm,0.7s						
K27K	**Chicken**	**3.53**	**58**	P	**Pn**	**22 50 18.1**	**+1.3**
	baz=245						
K27K	**Chicken**	**3.53**	**58**		**Pn**	**22 50 18.1**	**+1.3**
H24K	**Noodor Dome**	**3.54**	**7**	P	**Pn**	**22 50 17.4**	**+0.5**
	baz=188						
H24K	**Noodor Dome**	**3.54**	**7**		**Pn**	**22 50 17.4**	**+0.5**
ISLE	**Juniper Island**	**3.61**	**116**		**Pn**	**22 50 18.6**	**+0.6**
ISLE				IAML		22 51 12.1	
	comp=E,225nm,0.8s						
ISLE				IAML		22 51 18.1	
	comp=N,166nm,0.7s						
KULT	**Kultieth River**	**3.66**	**122**		**Pn**	**22 50 19.5**	**+0.9**
AU22	**Augustine Moun**	**3.69**	**218**		**Pn**	**22 50 20.5**	**+1.5**
BARN	**Barnard Glacie**	**3.69**	**107**		**Pn**	**22 50 19.8**	**+0.6**
BARN	**Barnard Glacie**	**3.69**	**107**	IAML		22 51 16.4	
	comp=E,110nm,0.5s						
BARN				IAML		22 51 16.7	
	comp=N,83nm,0.7s						
AUL	**Augustine Lava**	**3.70**	**219**		**Pn**	**22 50 20.8**	**+1.7**
AUQ	**Augustine Qik'**	**3.72**	**218**		**Pn**	**22 50 20.9**	**+1.5**
AGU	**Augustine-Summ**	**3.72**	**218**		**Pn**	**22 50 21.0**	**+1.5**
AUCH	**Augustine Cone**	**3.72**	**218**		**Pn**	**22 50 21.1**	**+1.7**
AUW	**Augustine West**	**3.72**	**219**		**Pn**	**22 50 21.0**	**+1.6**
N18K	**Kilae Creek**	**3.73**	**247**	P	**Pn**	**22 50 19.6**	**0.0**
	baz=60						
N18K	**Kilae Creek**	**3.73**	**247**		**Pn**	**22 50 19.6**	**0.0**
H21K	**Melozitna Rive**	**3.74**	**335**	P	**Pn**	**22 50 19.9**	**+0.3**
	baz=151						
H21K	**Melozitna Rive**	**3.74**	**335**		**Pn**	**22 50 19.9**	**+0.3**
BAGL	**Bagley Icefiel**	**3.77**	**117**		**Pn**	**22 50 20.7**	**+0.6**
**

INK	**Inuvik**	**8.77**	**40**	P		**Pn**	**22 51 28.9 +0.5**
	baz=234						
INK	**Inuvik**	**8.77**	**40**			**Pn**	**22 51 29.7 +1.2**
TNA	**Tin City**	**8.95**	**299**	Pn		**Pn**	**22 51 32.0 +1.1**
DLBC	**Dease Lake**	**10.12**	**104**	P		**Pn**	**22 51 48.8 +1.6**
	comp=N,0.2nm,0.3s,baz=354,slow=18,SNR=1.7						
C36M	**Paulatuk**	**12.27**	**45**	Pn		**Pn**	**22 52 15.1 -1.2**
DIB	**Dawson Inlet,**	**12.65**	**129**	Pn		**Pn**	**22 52 20.4 -1.1**
YKA	**Yellowknife Ar**	**15.79**	**74**	P		**Pn**	**22 53 05.2 +1.9**
	comp=N,0.1nm,0.3s,baz=284,slow=16,SNR=4.9						
NEW	**Newport**	**22.63**	**114**	P		**P**	**22 54 21.9 +0.7**
	comp=N,1.4nm,0.5s,baz=328,slow=8.4,SNR=4.0						
NEW	**Newport**	**22.63**	**114**	P		**P**	**22 54 21.6 +0.4**
PDAR	**Pinedale Array**	**30.23**	**112**	P		**P**	**22 55 30.9 +0.3**
	comp=N,0.4nm,0.7s,baz=324,slow=5.9,SNR=4.9						
NVAR	**Mina Array Bea**	**30.36**	**128**	P		**P**	**22 55 32.2 +0.4**
	comp=N,0.4nm,0.7s,baz=311,slow=8.2,SNR=3.7						
TXAR	**Lajitas Array**	**44.12**	**117**	P		**P**	**22 57 26.6 -1.5**
	comp=N,0.1nm,0.4s,baz=328,slow=6.7,SNR=2.7						
ARCES	**ARCESS Array B**	**48.35**	**3**	P		**P**	**22 57 58.5 -2.3**
	comp=N,1.0nm,0.7s,baz=12,slow=9.2,SNR=3.6						

IGQ ***11*** *22:55:48*$_{\pm}$*0.6, 4°S*$_{\pm}$*4°×8°1W*$_{\pm}$°*, h12km*
VAO ***11*** *22:55:48.9*$_{\pm}$*0.3, 3°.94S*$_{\times}$*80°.45W, h10km, mb4.9*
ARE ***11*** *22:55:49*$_{\pm}$*2.9, 3°.98S*$_{\pm}$*0°.06*$_{\times}$*80°.88W*$_{\pm}$*0°.08, h34km*$_{\pm}$*4km,*
Error ellipse: s-maj=0.0km s-min=0.0km az=153.0
NEIC ***11*** *22:55:52.9*$_{\pm}$*1.3, 3°.85S*$_{\pm}$*0°.06*$_{\times}$*80°.62W*$_{\pm}$*0°.09, h49km*$_{\pm}$*6km,*
mb4.6/86, ML4.5(ARE), Error ellipse: s-maj=12.8km
s-min=8.9km az=71.0
IDC ***11*** *22:55:53.4*$_{\pm}$*1.8, 3°.89S*$_{\times}$*80°.66W, h68km*$_{\pm}$*17km, mb4.0/20,*
mb1 4.2/25, mb1mx4.0/41, mbtmp4.3/25, MS3.6/13,
Ms1 3.7/13, ms1mx3.4/33, Error ellipse: s-maj=14.6km
s-min=9.5km az=48.0
ISC 11 22:55:51.0$_{\pm}$**0.9, 3°.85S**$_{\pm}$**0°.04**$_{\times}$**80°.71W**$_{\pm}$**0°.05, h44**km$_{\pm}$**8km,**
n282, σ**1$05/284, mb4.5/54, MS3.6/6, Peru-Ecuador**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**0.92**	**124**	P		**Pn**	**22 56 06.0 -1.5**
MCRA				S		**Sn**	**22 56 18.0 -1.6**
ACH1	**Ecuador-Univer**	**0.98**	**55**	P		**Pn**	**22 56 07.0 -1.3**
ACH1				S		**Sn**	**22 56 22.0 +1.0**
ACH2	**Ecuador-Machal**	**1.07**	**57**	P		**Pn**	**22 56 09.0 -0.6**
ACH2				S		**Sn**	**22 56 26.0 +2.7**
MORR	**Playas El Morr**	**1.26**	**17**	P		**Pn**	**22 56 12.0 -0.2**
MORR				S		**Sn**	**22 56 28.0 +0.1**
GONZ	**Gonzanam**	**1.37**	**106**	P		**Pn**	**22 56 14.0 0.0**
GONZ				S		**Sn**	**22 56 31.0 -0.2**
AGUAY	**Guayaquil**	**1.94**	**23**	P		**Pn**	**22 56 20.0 -1.5**
ACUE	**Ecuador-Cuenca**	**1.98**	**62**	P		**Pn**	**22 56 23.0 +0.6**
COHC	**Cochancay**	**2.00**	**47**	P		**Pn**	**22 56 22.0 -0.3**
AMIL	**Milagro (Trans**	**2.04**	**33**	P		**Pn**	**22 56 22.0 -0.8**
PPLP	**Puerto Lpez**	**2.29**	**358**	P		**Pn**	**22 56 25.0 -1.4**
PPLP				S		**Sn**	**22 56 51.0 -2.4**
BOSC	**San Juan Bosco**	**2.32**	**73**	P		**Pn**	**22 56 28.0 +1.1**
LOJ1	**Universidad t**	**2.35**	**93**	P		Pn	22 56 17.0 -10
LOJ1				S		Sn	22 56 36.0 -19
SANGA	**Volcan Sangay**	**2.94**	**53**	P		**Pn**	**22 56 36.0 +0.3**
CHSH	**Refugio Sur-Vo**	**2.98**	**38**	P		**Pn**	**22 56 36.0 -0.3**
TAMH	**Tambohuasha Ch**	**3.00**	**40**	P		**Pn**	**22 56 36.0 -0.4**
PORT	**Chimborazo Vol**	**3.06**	**39**	P		**Pn**	**22 56 37.0 -0.4**
IGUA	**Igualata**	**3.13**	**42**	P		**Pn**	**22 56 38.0 -0.4**
BMAS	**Trigal station**	**3.23**	**44**	P		**Pn**	**22 56 40.0 +0.5**
ARRY	**Arrayan**	**3.24**	**44**	P		**Pn**	**22 56 40.0 -0.7**
BBIL	**Ulba Tungurahu**	**3.26**	**43**	P		**Pn**	**22 56 40.0 +0.1**
RETU	**Refugio**	**3.29**	**44**	P		**Pn**	**22 56 41.0 +0.5**
BULB	**Ulba Tungurahu**	**3.32**	**44**	P		**Pn**	**22 56 42.0 +1.2**
CAB1	**Cabo Pasado-Ma**	**3.45**	**5**	P		**Pn**	**22 56 43.0 +0.7**
CABP	**Cabo Pasado**	**3.45**	**5**	P		**Pn**	**22 56 43.0 +0.7**
PUYO	**Puyo, Santa Ro**	**3.56**	**49**	P		**Pn**	**22 56 45.0 +1.1**
FLF1	**Flavio Alfaro-**	**3.58**	**14**	P		**Pn**	**22 56 43.0 -1.0**
PIS1	**Pisayambo**	**3.62**	**40**	P		**Pn**	**22 56 47.0 +2.0**
ILLI	**Illinizas Sur**	**3.69**	**33**	P		**Pn**	**22 56 47.0 +1.0**
PIAT	**Ana Tenorio**	**3.75**	**41**	P		**Pn**	**22 56 48.0 +1.3**
SLOR	**San Lorenzo -**	**3.81**	**36**	P		**Pn**	**22 56 49.0 +1.4**
CAMI	**Rancho Maria**	**3.85**	**35**	P		**Pn**	**22 56 50.0 +1.9**
BNAS	**Cotopaxi Volca**	**3.87**	**35**	P		**Pn**	**22 56 51.0 +2.6**
MAG1	**Magdalena**	**3.87**	**14**	P		**Pn**	**22 56 48.0 0.0**
BREF	**Cotopaxi Volca**	**3.89**	**36**	P		**Pn**	**22 56 50.0 +1.1**
NAS2	**Nasa**	**3.89**	**35**	P		**Pn**	**22 56 50.0 +1.2**
BTAM	**Cotopaxi Volca**	**3.91**	**36**	P		**Pn**	**22 56 51.0 +1.9**
TAMB	**Tambo**	**3.91**	**37**	P		**Pn**	**22 56 51.0 +1.9**
BVC2	**Cotopaxi Volca**	**3.92**	**36**	P		**Pn**	**22 56 51.0 +1.8**
VC1	**Cotopaxi 1**	**3.93**	**36**	P		**Pn**	**22 56 51.0 +1.6**
PITA	**Cotopaxi Volc**	**3.98**	**35**	P		**Pn**	**22 56 52.0 +2.0**
ATAH	**Atahualpa**	**4.00**	**145**	P		**Pn**	**22 56 52.4 +2.3**
	13nm,0.3s,baz=357,slow=8.7,SNR=66						
ATAH				S		**Sn**	**22 57 37.8 +1.9**
	122nm,0.3s,baz=247,slow=14,SNR=5.6						
ATAH				LR		LR	22 58 34.9
	comp=Z,1μm,19.7s,baz=310,slow=41						
HPAL	**Hacienda Las P**	**4.15**	**30**	P		**Pn**	**22 56 53.0 +0.7**
GGPT	**Toaza - Volcan**	**4.16**	**30**	P		**Pn**	**22 56 53.0 +0.6**
ANTS	**Antisana-Sarah**	**4.19**	**37**	P		**Pn**	**22 56 54.0 +1.1**
GGPC	**Guagua Pichinc**	**4.21**	**30**	P		**Pn**	**22 56 54.0 +0.7**
TERV	**Terraza Guagua**	**4.21**	**30**	P		**Pn**	**22 56 54.0 +0.7**
PINO	**Pino**	**4.23**	**30**	P		**Pn**	**22 56 54.0 +0.5**
ANTI	**Antisana**	**4.23**	**37**	P		**Pn**	**22 56 54.0 +0.5**
BV15	**Puerto Quito-O**	**4.25**	**21**	P		**Pn**	**22 56 52.0 -1.3**
YANA	**Yana**	**4.28**	**30**	P		**Pn**	**22 56 55.0 +0.9**
PULU	**Pululahua**	**4.43**	**30**	P		**Pn**	**22 56 57.0 +0.8**
PAC1	**Pacto, Paraso**	**4.52**	**25**	*eP*		**Pn**	**22 56 56.5 -0.5**
PAC1	**Pacto, Paraso**	**4.52**	**25**	P		**Pn**	**22 56 56.0 -1.1**
OTAV	**Otavalo**	**4.65**	**29**	Pn		**Pn**	**22 56 59.9 +0.8**
OTAV	**Otavalo**	**4.65**	**29**	*eP*		**Pn**	**22 56 59.9 +0.8**
OTAV	**Otavalo**	**4.65**	**29**	*eP*		**Pn**	**22 56 59.9 +0.8**
PTGL	**Punta Galera**	**4.65**	**8**	*eP*		**Pn**	**22 56 58.3 -0.5**
PTGL	**Punta Galera**	**4.65**	**8**	P		**Pn**	**22 56 58.0 -0.8**
CAYR	**Refugio Cayamb**	**4.70**	**35**	P		**Pn**	**22 57 02.0 +2.0**
CUSE	**Cuicocha Este**	**4.73**	**29**	*eP*		**Pn**	**22 57 01.7 +1.4**
CUSE	**Cuicocha Este**	**4.73**	**29**	P		**Pn**	**22 57 01.0 +0.7**
CUSW	**Cuicocha Oeste**	**4.74**	**30**	P		**Pn**	**22 57 01.0 +0.7**
CUIC	**Cuicocha-Domo**	**4.75**	**30**	P		**Pn**	**22 57 01.0 +0.5**
COTA	**Cotacachi**	**4.79**	**30**	P		**Pn**	**22 57 02.0 +0.9**
IMBA	**Imbabura, San**	**4.81**	**32**	P		**Pn**	**22 57 03.0 +1.7**
REVS	**Reventador Sur**	**4.83**	**40**	P		**Pn**	**22 57 02.0 +0.5**
LAV4	**Lava4-Reventad**	**4.84**	**40**	P		**Pn**	**22 57 03.0 +1.4**
URCU	**Urcuqui**	**4.92**	**30**	P		**Pn**	**22 57 04.0 +1.2**
YAHU	**Yahuarcocha**	**4.95**	**32**	P		**Pn**	**22 57 05.0 +1.7**
CASC	**Dorado de Casc**	**5.20**	**40**	P		**Pn**	**22 57 07.0 +0.6**
LNGL	**El Angel-Carch**	**5.30**	**31**	P		**Pn**	**22 57 08.0 -0.2**
ECEN	**Cerro Negro**	**5.39**	**31**	P		**Pn**	**22 57 10.0 +0.6**
CHL2	**Volcn Chiles**	**5.40**	**31**	P		**Pn**	**22 57 10.0 +0.5**
TUMC	**Tumaco**	**5.97**	**19**	Pn		**Pn**	**22 57 18.6 +1.7**
TUMC	**Tumaco**	**5.97**	**19**	*eP*		**Pn**	**22 57 18.4 +1.4**
GCUF	**Volcan Galeras**	**6.06**	**34**	*eP*		**Pn**	**22 57 20.3 +1.7**
BBAC	**Balboa, Cauca**	**6.78**	**31**	*eP*		**Pn**	**22 57 27.0 -1.3**
PTLC	**Puerto Leguiza**	**7.13**	**56**	*eP*		Pn	22 57 24.1 -8.8
SOTA	**Rioblanco**	**7.22**	**35**	*eP*		**Pn**	**22 57 34.6 +0.1**
POPC	**Popayan, Colom**	**7.52**	**32**	*eP*		Pn	22 57 28.9 -10
MARP	**Paez Belalcaza**	**8.17**	**36**	*eP*		**Pn**	**22 57 43.4 -4.0**
CZSB	**Cruzeiro do Su**	**8.85**	**116**	*eP*		**Pn**	**22 57 54.1 -2.3**
YOTC	**Yotoco, Valle**	**8.92**	**29**	*eP*		**Pn**	**22 57 54.7 -2.8**
YOTC				*eP*		**Pn**	**22 57 56.6 -0.9**
NNA	**Nana**	**8.95**	**155**	P		**Pn**	**22 57 58.5 +0.7**
	4.6nm,0.3s,baz=326,slow=10,SNR=7.7						
NNA				S		**Sn**	**22 59 34.1 -3.2**
	5.4nm,0.3s,baz=197,slow=17,SNR=1.9						
NNA				LR		LR	23 01 54.3
	comp=Z,226nm,19.2s,baz=320,slow=41						
MACC	**Macarena, Meta**	**9.08**	**49**	*eP*		**Pn**	**22 58 01.7 +2.0**
ORTC	**Ortega, Tolima**	**9.45**	**35**	*eP*		Pn	22 57 57.6 -7.0
PLMC	**San Jos del P**	**9.76**	**27**	*eP*		Pn	22 58 03.3 -5.6
PLMC				*eP*		Pn	22 58 03.3 -5.6
ANIL	**Santa Ana**	**9.84**	**33**	*eP*		Pn	22 58 05.0 -5.2
PAYG	**Puerto Ayora**	**10.07**	**288**	Pn		**Pn**	**22 58 13.6 +0.4**
ROSC	**El Rosal**	**10.74**	**37**	LR		LR	23 03 07.5
	comp=Z,624nm,18.3s,baz=237,slow=40						
RUSC	**La Rusia**	**12.32**	**38**			**Pn**	**22 58 45.8 +1.5**
DRK0	**Durika**	**13.27**	**349**	Pn		**Pn**	**22 58 59.7 +2.6**
JTS	**Las Juntas de**	**14.67**	**343**	P		**P**	**22 59 18.9 -2.4**
	0.4nm,0.3s,baz=137,slow=1.8,SNR=5.8						
JTS				LR		LR	23 04 19.1
	comp=Z,146nm,18.6s,baz=211,slow=34						
JTS	**Las Juntas de**	**14.67**	**343**			**Pn**	**22 59 18.0 +2.1**
SJCC	**San Jacinto, C**	**14.73**	**22**	Pn		**Pn**	**22 59 17.9 +1.2**
ETMB	**Extrema**	**15.56**	**113**	*eP*		**Pn**	**22 59 23.3 -4.3**
SDV	**Santo Domingo**	**16.16**	**38**	P		**P**	**22 59 37.7 -0.3**
	2.6nm,0.3s,baz=228,slow=8.8,SNR=17						
SDV				LR		LR	23 06 48.1
	comp=Z,250nm,19.7s,baz=218,slow=40						
SDV	**Santo Domingo**	**16.16**	**38**			**P**	**22 59 38.1 +0.1**
LPAZ	**La Paz**	**17.48**	**136**	P		**Pn**	**22 59 51.2 -1.1**
	0.4nm,0.3s,baz=337,slow=12,SNR=21						
LPAZ				LR		LR	23 07 57.3
	comp=Z,515nm,19.4s,baz=302,slow=42						
LPAZ	**La Paz**	**17.48**	**136**	Pn		**Pn**	**22 59 51.0 -1.3**
LPAZ	**La Paz**	**17.48**	**136**	*eP*		**Pn**	**22 59 51.6 -0.7**
URIC	**Uribia, Colomb**	**17.72**	**29**			**Pn**	**22 59 54.0 -0.6**
MNMC	**Minye Minye**	**18.67**	**145**	P		**P**	**23 00 05.5 -0.3**
PSGCX	**Pisagua**	**18.75**	**147**	P		**P**	**23 00 06.0 -0.5**
TGUH	**Tegucigalpa,Un**	**18.94**	**340**	P		**Pn**	**23 00 10.1 +0.4**
TGUH				IAmb		IAmb	23 00 19.5
	comp=Z,37nm,1.3s						
TA01	**Diego Aracena**	**19.52**	**149**	P		**P**	**23 00 15.3 +0.5**
TA01				IAmb		IAmb	23 00 37.0
	comp=Z,41nm,1.4s						
PB08	**IPOC Station P**	**19.73**	**146**	P		**P**	**23 00 18.3 +0.8**
MACA	**Manacapuru-AM**	**20.00**	**89**	*eP*		**P**	**23 00 19.8 -0.3**
MTO3	**Montecristo**	**20.06**	**335**	P		Pn	23 00 23.0 0.0
MTO3				IAmb		IAmb	23 00 24.1
	comp=Z,34nm,0.8s						
ESQI	**Esquipulas**	**20.19**	**335**	P		Pn	23 00 23.7 -0.8
PB01	**IPOC Station P**	**20.28**	**148**	P		**P**	**23 00 24.0 +0.8**
PB07	**IPOC Station P**	**20.65**	**150**	P		**P**	**23 00 27.9 +0.6**
PB07				IAmb		IAmb	23 00 32.7
	comp=Z,18nm,0.7s						
PTGA	**Pitinga**	**20.96**	**82**	P		**P**	**23 00 30.0 -0.5**
	comp=Z,11nm,0.5s,baz=264,slow=12,SNR=27						
PTGA				S		**S**	**23 04 20.7 -1.1**
	comp=Z,2.2nm,0.6s,baz=301,slow=19,SNR=1.6						
PTGA	**Pitinga**	**20.96**	**82**	P		**P**	**23 00 29.4 -1.1**
PB09	**IPOC Station P**	**21.03**	**149**	P		**P**	**23 00 31.1 -0.2**
PB09				IAmb		IAmb	23 00 37.2
	comp=Z,19nm,0.8s						
BOAV	**Boa Vista**	**21.11**	**73**	*eP*		**P**	**23 00 32.0 -0.2**
PCRV	**Puerto La Cruz**	**21.23**	**49**	P		**P**	**23 00 34.6 +1.2**
	comp=Z,26nm,0.5s,baz=214,slow=4.4,SNR=18						
PB06	**IPOC Station P**	**21.63**	**151**	P		**P**	**23 00 38.1 +0.3**
PB06				IAmb		IAmb	23 00 39.7
	comp=Z,13nm,0.7s						
LVC	**Limon Verde**	**21.87**	**150**	P		**P**	**23 00 41.4 +0.8**
	comp=Z,18nm,0.9s,baz=310,slow=8.5,SNR=17						
LVC	**Limon Verde**	**21.87**	**150**	P		**P**	**23 00 40.9 +0.3**
LVC				IAmb		IAmb	23 00 45.1
	comp=Z,18nm,0.9s						
PB10	**IPOC Station P**	**21.87**	**154**	P		**P**	**23 00 40.9 +0.7**
PB10				IAmb		IAmb	23 00 44.1
	comp=Z,21nm,0.9s						
VILB	**Vilhena**	**22.20**	**115**	*eP*		**P**	**23 00 44.2 +0.4**
SIV	**San Ignacio**	**22.77**	**123**	P		**P**	**23 00 49.1 -0.8**
	comp=Z,5.3nm,0.5s,baz=296,slow=9.3,SNR=30						
PB14	**IPOC Station P**	**22.92**	**155**	P		**P**	**23 00 52.2 +0.6**
PB14				IAmb		IAmb	23 01 05.5
	comp=Z,15nm,1.0s						
GO02	**Mina Guanaco**	**23.74**	**154**	P		**P**	**23 01 00.5 +0.9**
GO02				IAmb		IAmb	23 01 02.7
	comp=Z,20nm,0.8s						
PTLB	**Pontes e Lacer**	**24.16**	**120**	*eP*		**P**	**23 01 03.8 +0.6**
GTBY	**Guantanamo Bay**	**24.26**	**13**	P		**P**	**23 01 04.4 +0.3**
SDDR	**Presa de Saban**	**24.51**	**22**	P		**P**	**23 01 07.4 +0.9**
SDDR				IAmb		IAmb	23 01 35.1
	comp=Z,25nm,1.1s						
ITTB	**Itaituba**	**24.92**	**92**	*eP*		**P**	**23 01 10.4 +0.1**
CMIG	**Matias Romero**	**25.08**	**326**	P		**P**	**23 01 12.1 +0.5**
	comp=Z,6.3nm,1.0s,baz=91,slow=23,SNR=4.9						
TOSP	**Speyside**	**25.09**	**53**	P		**P**	**23 01 12.4 +0.6**
AC02	**Maricunga**	**25.40**	**155**	P		**P**	**23 01 16.1 +1.0**
AC02				IAmb		IAmb	23 01 29.3
	comp=Z,15nm,1.1s						
NPGB	**Novo Progresso**	**25.43**	**98**	*eP*		**P**	**23 01 14.5 -0.4**
CLDB	**Colider**	**25.66**	**107**	*eP*		**P**	**23 01 16.1 -0.9**
MPR	**Mayaguez**	**25.68**	**31**	P		**P**	**23 01 18.0 +0.9**
OBIP	**Obispado Ponce**	**25.82**	**32**	P		**P**	**23 01 18.9 +0.6**
AOPR	**Arecibo Observ**	**26.00**	**32**	P		**P**	**23 01 20.7 +0.7**
PDPR	**Patillas Dam,**	**26.11**	**33**	P		**P**	**23 01 21.5 +0.5**
PDPR				IAmb		IAmb	23 01 23.4
	comp=Z,18nm,0.8s						
SJG	**San Juan**	**26.12**	**33**	P		**P**	**23 01 21.2 +0.1**
	comp=Z,25nm,0.7s,baz=211,slow=4.4,SNR=7.3						
SJG				LR		LR	23 12 51.2
	comp=Z,88nm,21.3s,baz=258,slow=39						
SJG	**San Juan**	**26.12**	**33**	P		**P**	**23 01 21.4 +0.3**
HUMP	**Col San Antoni**	**26.31**	**33**	P		**P**	**23 01 23.4 +0.6**
HUMP				IAmb		IAmb	23 01 27.6
	comp=Z,23nm,0.8s						
MALB	**Monte Alegre**	**26.49**	**86**	*eP*		**P**	**23 01 24.7 +0.3**
SALV	**Santo Antonio**	**27.36**	**118**	*eP*		**P**	**23 01 32.6 +0.4**
GO04	**Tololo Observa**	**27.81**	**161**	P		**P**	**23 01 36.9 +0.5**
GO04				IAmb		IAmb	23 02 01.0
	comp=Z,17nm,1.1s						
CO02	**Combarbal**	**28.71**	**162**	P		**P**	**23 01 44.8 +0.5**
PP1B	**Ponte de Pedra**	**28.77**	**120**	*eP*		**P**	**23 01 45.4 +0.5**
MCPB	**Macapa, AP**	**28.84**	**84**	*eP*		**P**	**23 01 45.5 -0.1**
MDP	**Montagnes des**	**29.42**	**73**	P		**P**	**23 01 49.8 -0.9**
	comp=Z,12nm,1.0s,baz=252,slow=7.8,SNR=5.6						
AQDB	**Aquidauana**	**29.43**	**126**	P		**P**	**23 01 50.5 -0.1**
AQDB				IAmb		IAmb	23 01 51.8
	comp=Z,25nm,1.2s						
AQDB	**Aquidauana**	**29.43**	**126**	*eP*		**P**	**23 01 51.0 +0.3**
SNDB	**Serra Nova Dou**	**30.21**	**107**	*eP*		**P**	**23 01 57.7 +0.1**
VA03	**San Esteban**	**30.30**	**163**	P		**P**	**23 01 59.2 +0.9**
VA03				IAmb		IAmb	23 02 00.3
	comp=Z,17nm,1.1s						
MT02	**Curacav**	**30.60**	**164**	P		**P**	**23 02 01.7 +0.8**
MT02				IAmb		IAmb	23 02 03.0
	comp=Z,5.7nm,0.6s						
ARAG	**Araguaiana, MT**	**30.77**	**115**	*eP*		**P**	**23 02 02.5 0.0**
MT09	**Talagante**	**31.12**	**164**	P		**P**	**23 02 06.5 +0.8**
MT09				IAmb		IAmb	23 02 07.1
	comp=Z,9.0nm,0.8s						
CPUP	**Villa Florida**	**31.64**	**137**	P		**P**	**23 02 08.9 -1.3**
	comp=Z,4.2nm,0.7s,baz=308,slow=8.4,SNR=12						
CPUP				LR		LR	23 17 31.9
	comp=Z,175nm,18.7s,baz=324,slow=41						
CPUP	**Villa Florida**	**31.64**	**137**	P		**P**	**23 02 09.9 -0.2**
CPUP				IAmb		IAmb	23 02 11.1
	comp=Z,5.1nm,0.8s						
CPUP	**Villa Florida**	**31.64**	**137**	*eP*		**P**	**23 02 10.4 +0.2**
BO01	**Tunca**	**31.68**	**165**	P		**P**	**23 02 10.7 +0.4**
BO01				IAmb		IAmb	23 02 28.7
	comp=Z,10nm,1.2s						
GO05	**Huala**	**32.06**	**166**	P		**P**	**23 02 13.0 -0.7**
TMAB	**Tom-Au,PA,Br**	**32.60**	**88**	*eP*		**P**	**23 02 17.4 -1.3**
TRCB	**Terra Rica**	**33.06**	**127**	P		**P**	**23 02 22.3 -0.4**
TRCB	**Terra Rica**	**33.06**	**127**	*eP*		**P**	**23 02 22.4 -0.3**
PEXB	**Peixe**	**33.10**	**106**	*eP*		**P**	**23 02 23.3 +0.2**
ITRB	**Iturama**	**33.53**	**120**	*eP*		**P**	**23 02 26.4 -0.5**
PCMB	**Pacaembu**	**33.60**	**124**	*eP*		**P**	**23 02 26.9 -0.5**
ZAIG	**Zacatecas**	**34.00**	**322**	P		**P**	**23 02 32.0 +0.9**
ZAIG				IAmb		IAmb	23 02 51.4
	comp=Z,3.0nm,0.4s						
BDFB	**Brasilia**	**34.23**	**112**	P		**P**	**23 02 32.0 -1.0**
	comp=Z,4.1nm,0.7s,baz=287,slow=12,SNR=7.1						
BDFB	**Brasilia**	**34.23**	**112**	P		**P**	**23 02 32.2 -0.8**
BDFB				IAmb		IAmb	23 02 33.8
	comp=Z,5.8nm,1.0s						
ITQB	**Itaqui**	**34.35**	**141**	P		**P**	**23 02 34.4 +0.6**
ITQB	**Itaqui**	**34.35**	**141**	*eP*		**P**	**23 02 34.9 +1.1**
IPMB	**Ipameri, GO**	**34.78**	**116**	*eP*		**P**	**23 02 37.4 -0.3**
BB19B	**Bebedouro**	**35.66**	**121**	*eP*		**P**	**23 02 44.6 -0.6**
ITAB	**Concordia**	**35.85**	**133**	P		**P**	**23 02 46.6 -0.1**
ITAB	**Concordia**	**35.85**	**133**	*eP*		**P**	**23 02 46.6 -0.1**
SDBA	**SAO DESIDERIO**	**36.41**	**106**	*eP*		**P**	**23 02 51.3 -0.5**
ROSB	**Rosrio**	**36.53**	**90**	*eP*		**P**	**23 02 52.6 -0.2**
CPSB	**Cacapava Do Su**	**36.89**	**139**	*eP*		**P**	**23 02 55.5 -0.1**
RCLB	**Rio Claro- Sao**	**37.06**	**123**	*eP*		**P**	**23 02 57.0 -0.2**
TIJ01	**Guaruva-PR**	**37.19**	**128**	*eP*		**P**	**23 03 01.2 +2.8**
JANB	**Januaria**	**37.52**	**110**	*eP*		**P**	**23 03 00.9 -0.3**
LL04	**Puerto Octay**	**37.65**	**170**	P		**P**	**23 03 02.2 +0.4**
SPB	**Sao Paulo**	**37.65**	**124**	*eP*		**P**	**23 03 01.5 -0.6**
PLTB	**Pedras Altas**	**37.67**	**141**	P		**P**	**23 03 02.2 -0.1**
PLTB				IAmb		IAmb	23 03 04.7
	comp=Z,13nm,1.2s						
PLTB	**Pedras Altas**	**37.67**	**141**	*eP*		**P**	**23 03 02.5 +0.2**
VAO	**Valinhos**	**37.78**	**123**	*eP*		**P**	**23 03 02.5 -0.9**
PLCA	**Paso Flores**	**37.84**	**167**	P		**P**	**23 03 02.6 -0.9**
	comp=Z,2.6nm,0.7s,baz=342,slow=12,SNR=7.1						
PLCA				PcP		**PcP**	**23 05 18.9 -0.5**
	comp=Z,1.8nm,0.9s,baz=284,slow=4.2,SNR=2.9						
PLCA				LR		LR	23 17 37.9
	comp=Z,67nm,18.5s,baz=357,slow=34						
PLCA	**Paso Flores**	**37.84**	**167**	P		**P**	**23 03 03.5 -0.1**
PLCA				IAmb		IAmb	23 03 06.2
	comp=Z,7.0nm,1.1s						
PLCA	**Paso Flores**	**37.84**	**167**	*eP*		**P**	**23 03 04.3 +0.7**
PET01	**Itanhaem-SP**	**38.09**	**125**	*eP*		**P**	**23 03 05.0 -0.8**
TRQA	**Tornquist**	**38.11**	**156**	P		**P**	**23 03 05.9 +0.1**
TRQA				IAmb		IAmb	23 03 05.9
	comp=Z,13nm,1.2s						
TRQA	**Tornquist**	**38.11**	**156**	*eP*		**P**	**23 03 05.6 -0.2**
MC01	**Montes Claros**	**38.28**	**112**	*eP*		**P**	**23 03 07.2 -0.4**
JCT	**Junction City**	**38.71**	**333**	P		**P**	**23 03 12.1 +1.1**
JCT				IAmb		IAmb	23 03 12.8
	comp=Z,6.1nm,0.8s						
TER01	**Tubaro-SC**	**38.78**	**133**	*eP*		**P**	**23 03 11.9 +0.3**
BSCB	**Bom Sucesso**	**38.87**	**119**	*eP*		**P**	**23 03 11.4 -1.1**
DIAM	**Diamantina, MG**	**38.97**	**114**	*eP*		**P**	**23 03 12.9 -0.6**
PARB	**Paraibuna**	**39.04**	**123**	*eP*		**P**	**23 03 13.2 -0.8**
NBPS	**Pedro II - PI**	**39.16**	**92**	*eP*		**P**	**23 03 15.2 +0.1**
TKL	**Tuckaleechee C**	**39.41**	**356**	P		**P**	**23 03 18.2 +1.5**
	comp=Z,0.6nm,0.5s,baz=180,slow=3.0,SNR=1.4						
SLBS	**Sierra La Lagu**	**39.51**	**315**	P		**P**	**23 03 19.2 +1.5**
TXAR	**Lajitas Array**	**39.67**	**328**	P		**P**	**23 03 18.6 -0.4**
	comp=Z,0.7nm,0.7s,baz=146,slow=11,SNR=10						
TXAR				PcP		**PcP**	**23 05 25.6 +0.2**
	comp=Z,0.4nm,0.8s,baz=151,slow=6.2,SNR=3.2						
TXAR	**Lajitas Array**	**39.67**	**328**	P		**P**	**23 03 19.7 +0.6**
TX32	**Lajitas Array**	**39.67**	**328**	P		**P**	**

BGR ***11*** *23:16:23.3±0.0, 33.°12N×142.°92E, h54km±1km, mb4.8*
BJI ***11*** *23:16:25.2±0.0, 32.°99N×141.°37E, h55km, mB5.0/28, mb4.5/42, Ms4.3/9, Ms7 4.1/9*
NIED ***11*** *23:16:29.2, 33.°25N×141.°03E, h53km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.96; Mθθ0.09; Mφφ-1.05; Mrθ0.20; Mθφ-0.03; Mφr-0.30; Fault plane solution: M₀1.07000×10¹⁶ NP1: φs170.00000°, δ54.00000°, λ75.00000°. NP2:φs14.00000°, δ38.00000°, λ109.00000°.*
MOS ***11*** *23:16:29.5±1.0, 33.°18N×140.°86E, h55km, mb5.2/30 Error ellipse: s-maj=7.8km s-min=4.2km az=110.9*
JMA ***11*** *23:16:29.1±0.1, 33.°25N×141.°03E, h53km, M4.7*
NEIC ***11*** *23:16:30.3±2.0, 33.°20N±0.°06×140.°97E±0.°07, h43km±4km, mb4.9/190, Error ellipse: s-maj=8.9km s-min=7.7km az=148.0*
IDC ***11*** *23:16:31.7±0.9, 33.°22N×140.°87E, h62km±8km, mb4.3/29, mb1 4.5/33, mb1mx4.4/44, mbtmp4.6/33, MS3.6/24, Ms1 3.6/24, ms1mx3.5/43, Error ellipse: s-maj=11.2km s-min=8.7km az=100.0*
ISC 11 23:16:30.8±0.4, 33.°19N±0.°03×140.°98E±0.°04, h55km±3km, h55km:pP-P, n702, σ1§13/750, mb4.8/207, MS3.8/27, 104C-77D, Fault plane solution: NP1:ϕ_s154.83720°, δ41.91022°, λ81.18037°. **NP2:**ϕ_s346.61426°, δ48.69500°, λ97.83579°. **Principal axes:** T Plg83.1981°, Azm311.0986°; N Plg5.8783°, Azm161.4239°; P Plg3.4103°, Azm71.0723°; **Southeast of Honshu**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.98 266**	⇓P	**Pn**	**23 16 47.6**	**-0.7**
JHJ2			*e*S	**Sn**	**23 17 00.7**	**-0.6**
JHJ2	**Mitsune**	**0.98 266**		**Pn**	**23 16 47.7**	**-0.7**
JHJ2				**Sn**	**23 16 59.7**	**-1.7**
JHCJ	**Hachijojimakas**	**1.00 263**	⇓P	**Pn**	**23 16 47.7**	**-0.9**
JHCJ			*e*S	**Sn**	**23 17 01.1**	**-0.7**
JHJ	**Hachijo jima 2**	**1.00 266**	P	**Pn**	**23 16 47.6**	**-1.2**
	4μm,0.3s,baz=151,slow=7.1,SNR=634					
JHJ			S	**Sn**	**23 17 01.7**	**-0.2**
	3μm,0.3s,baz=59,slow=19,SNR=9.9					
JAOM	**Aogashimamukai**	**1.25 235**	⇓P	**Pn**	**23 16 51.6**	**-0.5**
JAOM			*e*S	**Sn**	**23 17 08.1**	**+0.1**
JMKN	**Mikurajimanish**	**1.35 301**	P	**Pn**	**23 16 52.4**	**-1.0**
JMKN			S	**Sn**	**23 17 09.1**	**-1.2**
BSO1	**Boso 1**	**1.46 360**	P	**Pn**	**23 16 53.0**	**-1.3**
BSO1			S	**Sn**	**23 17 10.4**	**-1.7**
BSO3	**Boso 3**	**1.65 347**	P	**Pn**	**23 16 55.8**	**-1.4**
JIM2	**Oshima 3**	**1.99 320**	P	**Pn**	**23 17 00.7**	**-1.4**
JIZS	**Izushimoda**	**2.32 312**	⇓P	**Pn**	**23 17 06.1**	**-0.4**
JIZS			S	**Sn**	**23 17 33.3**	**-0.5**
JOD2	**Odawara 2**	**2.59 323**	P	**Pn**	**23 17 09.3**	**-1.0**
JSG	**Sagara**	**2.75 303**		**Pn**	**23 17 12.8**	**+0.3**
JFNN	**Fujinakano**	**2.76 317**	P	**Pn**	**23 17 12.9**	**+0.3**
JFNN			S	**Sn**	**23 17 45.2**	**+0.6**
TK02	**Tokai 2**	**2.79 287**	P	**Pn**	**23 17 13.3**	**+0.5**
TK02			S	**Sn**	**23 17 46.8**	**+1.6**
TK04	**Tokai 4**	**2.84 296**	P	**Pn**	**23 17 14.4**	**+0.7**
SHZ3	**Shizuoka 3**	**2.96 310**	P	**Pn**	**23 17 16.0**	**+0.6**
JYT	**Yasato**	**3.10 348**		**Pn**	**23 17 15.7**	**-1.5**
JRY	**Ryogami san**	**3.30 329**	⇓P	**Pn**	**23 17 19.3**	**-0.7**
JRY			S	**Sn**	**23 17 56.6**	**-1.4**
JGF	**Kuroka**	**3.84 310**		**Pn**	**23 17 28.4**	**+1.0**
INU	**Inuyama**	**3.92 304**		**Pn**	**23 17 29.2**	**+0.7**
MJAR	**Matsushiro Arr**	**4.04 327**	P	**Pn**	**23 17 29.8**	**-0.4**
	5.1nm,0.3s,baz=150,slow=10,SNR=391					
MJAR			S	**Sn**	**23 18 15.6**	**-0.7**
	4.6nm,0.3s,baz=19,slow=9.6,SNR=8.5					
MJAR			LR	LR	23 19 15.2	
	comp=Z,606nm,20.8s,baz=145,slow=42					
MJAR	**Matsushiro Arr**	**4.04 327**	P	**Pn**	**23 17 30.1**	**-0.1**
MJAR	**Matsushiro Arr**	**4.04 327**	Pn	**Pn**	**23 17 30.1**	**-0.1**
MAJO	**Matsushiro**	**4.05 327**	*c i* P	**Pn**	**23 17 30.6**	**+0.4**
MAJO	**Matsushiro**	**4.05 327**		**Pn**	**23 17 30.7**	**+0.4**
MAT	**Matsushiro**	**4.05 327**	P	**Pn**	**23 17 30.5**	**+0.3**
MAT			*e*S	**Sn**	**23 18 15.0**	**-1.3**
MJB9	**Matsu-Tunnel**	**4.05 327**		**Pn**	**23 17 30.9**	**+0.6**
JMM	**Marumori**	**4.67 358**	Pn	**Pn**	**23 17 37.5**	**-1.2**
JWT	**Wachi**	**5.07 296**		**Pn**	**23 17 45.0**	**+0.8**
JSD	**Sado**	**5.32 336**		**Pn**	**23 17 46.5**	**-1.2**
JMN	**Monobe**	**5.96 277**	Pn	**Pn**	**23 17 57.1**	**+0.7**
JCJ	**Chichijima**	**6.16 170**	P	**Pn**	**23 17 55.3**	**-4.0**
	17nm,0.3s,baz=289,slow=16,SNR=4.7					
JCJ			S	**Sn**	**23 19 06.2**	**-2.2**
	14nm,0.3s,baz=311,slow=19,SNR=1.9					
JCJ	**Chichijima**	**6.16 170**	Pn	**Pn**	**23 17 58.7**	**-0.6**
JHS	**Saijyo**	**6.77 288**		**Pn**	**23 18 08.9**	**+1.4**
JTM	**Tenmabayashi**	**7.58 1**	Pn	**Pn**	**23 18 17.6**	**-1.0**
JNU	**Nakatsue**	**8.47 272**	P	**Pn**	**23 18 31.4**	**+0.5**
	1.3nm,0.3s,baz=108,slow=5.2,SNR=10					
JNU	**Nakatsue**	**8.47 272**		**Pn**	**23 18 32.1**	**+1.2**
ERM	**Erimo**	**8.98 10**	*i* P	**Pn**	**23 18 34.7**	**-3.0**
ERM	**Erimo**	**8.98 10**		**Pn**	**23 18 35.4**	**-2.3**
JEW	**Eniwo**	**9.64 2**	Pn	**Pn**	**23 18 45.2**	**-1.6**
NMR	**Nemuro--Hokkai**	**10.82 19**	*e*P	**Pn**	**23 18 58.3**	**-4.6**
ASAJ	**Asahikawa**	**10.98 6**	P	**Pn**	**23 19 01.9**	**-3.3**
	3.5nm,0.3s,baz=199,slow=13,SNR=15					
ASAJ			S	Sn	23 20 55.3	-11
	0.9nm,0.3s,baz=90,slow=20,SNR=1.8					
ASAJ	**Asahikawa**	**10.98 6**	P	**Pn**	**23 19 02.3**	**-2.8**
JKA	**Kamikawa-asahi**	**10.98 6**		**Pn**	**23 19 02.3**	**-2.8**
GLVR	**Golovnino**	**11.11 17**	P	**Pn**	**23 19 02.5**	**-4.4**
RUSJ	**Misakicho**	**11.39 16**	*e*P	**Pn**	**23 19 07.4**	**-3.3**
GRPR	**Tuman**	**11.41 18**	*e*P	**Pn**	**23 19 06.9**	**-4.1**
YUK	**Yuzh-Kuril'sk**	**11.48 18**	P	**Pn**	**23 19 07.6**	**-4.3**
KSRS	**Korea Array**	**11.48 295**	P	**Pn**	**23 19 13.6**	**+1.6**
	0.4nm,0.3s,baz=113,slow=14,SNR=30					
KSRS			LR	LR	23 23 38.3	
	comp=Z,401nm,19.3s,baz=102,slow=37					
KSAR	**Wonju Array Be**	**11.50 295**	P	**Pn**	**23 19 14.7**	**+2.4**
KSAR	**Wonju Array Be**	**11.50 295**	Pn	**Pn**	**23 19 14.7**	**+2.4**
KS19	**Wonju Array Si**	**11.54 296**		**Pn**	**23 19 14.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**13.03 330**	P	**Pn**	**23 19 34.0**	**+0.9**
	baz=116,slow=11,SNR=2.8					
USRK			LR	LR	23 24 31.9	
	comp=Z,135nm,19.1s,baz=139,slow=37					
KUR	**Kuril'sk**	**13.15 22**	*e*P	Pn	23 19 29.3	-5.4
YSS	**Yuzh-Sakhalins**	**13.81 5**	*e*P	**P**	**23 19 47.7**	**-2.8**
YSS			MLR	MLR		
	comp=Z,200nm,16.0s					
UGL	**Uglegorsk**	**15.89 3**	*e*P	**P**	**23 20 16.0**	**+2.5**
UGL			pmax	pmax		
	comp=Z,58nm,1.4s					
CN2	**Changchun**	**16.10 316**	*e*P	**Pn**	**23 20 13.7**	**+0.3**
CN2			pmax	pmax		
	comp=Z,10.0nm,1.2s					
KLR	**Kul'dur**	**17.44 339**	P	**Pn**	**23 20 27.7**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=151,slow=8.3,SNR=13					
KLR			LR	LR	23 27 32.0	
	comp=Z,196nm,18.3s,baz=155,slow=38					
KLR	**Kul'dur**	**17.44 339**	*ce*P	**Pn**	**23 20 28.5**	**-1.6**
KLR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
TYV	**Tymovskoe**	**17.70 3**	*e*P	**P**	**23 20 34.4**	**+0.9**
TYV			pmax	pmax		
	comp=Z,6.0nm,0.8s					
TYV			pmax	pmax		
	comp=Z,100nm,3.8s					
GRNR	**Gornyy**	**17.88 351**	*e*P	**P**	**23 20 36.0**	**+0.4**
GRNR			MLR	MLR		
	comp=E,90nm,13.0s					
GRNR			MLR	MLR		
	comp=N,150nm,15.0s					
NJ2	**Nanjing**	**18.67 273**	*e*P	**P**	**23 20 43.6**	**-0.7**
NJ2			pmax	pmax		
	comp=N,16nm,0.7s					
YHNB	**Yeheng**	**19.12 249**	P	**P**	**23 20 47.7**	**-1.7**
NACB	**Ninganchiao**	**19.21 247**	P	**P**	**23 20 48.2**	**-2.1**
GUMO	**Guam**	**19.83 169**	LR	LR	23 27 32.6	
	comp=N,294nm,21.8s,baz=356,slow=33					
SSLB	**Suanglung**	**19.91 247**	P	**P**	**23 20 57.2**	**-0.8**
SSLB			IAmb	IAmb	23 21 20.8	
	comp=Z,53nm,1.3s					
TPUB	**Ta-pu**	**20.42 246**	P	**P**	**23 21 02.7**	**-0.9**
TPUB			IAmb	IAmb	23 21 09.4	
	comp=Z,54nm,1.2s					
SKR	**Severo-Kuril's**	**20.72 28**	*ce*P	**P**	**23 21 05.6**	**-0.9**
HIA	**Hailar**	**22.53 322**	*i* P	**P**	**23 21 25.6**	**-0.4**
HIA			pmax	pmax		
	comp=Z,6.0nm,0.6s					
HIA	**Hailar**	**22.53 322**	P	**P**	**23 21 24.7**	**-1.3**
ZEA	**Zeya**	**22.75 339**	⇓*e*P	**P**	**23 21 28.5**	**+0.3**
ZEA			*e*		23 21 41.6	
ZEA			pmax	pmax		
	comp=E,10.0nm,0.5s					
ZEA			pmax	pmax		
	comp=N,20nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,30nm,0.9s					
PETK	**Petropavlovsk-**	**23.24 26**	P	**P**	**23 21 33.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=219,slow=8.5,SNR=3.2					
PETK			LR	LR	23 32 10.4	
	comp=Z,87nm,20.0s,baz=217,slow=40					
PETK	**Petropavlovsk-**	**23.24 26**	P	**P**	**23 21 33.4**	**+0.3**
HHC	**Hu-ho-hao-te**	**24.62 297**	*e*P	**P**	**23 21 47.2**	**+1.1**
HHC			pmax	pmax		
	comp=Z,11nm,0.7s					
HHC			pmax	pmax		
	comp=Z,160nm,6.6s					
HHC			LR	LR		
	comp=Z,330nm,16.1s					
HHC			LR	LR		
	comp=Z,360nm,16.1s					
HHC			LR	LR		
	comp=Z,250nm,18.9s					
XAN	**Xi'an**	**26.66 281**	⇑P	**P**	**23 22 04.0**	**-0.6**
XAN			sP	sP	23 22 23.0	-1.3
XAN			pmax	pmax		
	comp=Z,7.0nm,0.9s					
H11N2	**WAKE ISLAND Hy**	**26.71 114**	T	T	23 50 16.2	
	baz=306,slow=74					
H11N1	**WAKE ISLAND Hy**	**26.71 114**	T	T	23 50 15.5	
	baz=306,slow=74					
H11N3	**WAKE ISLAND Hy**	**26.73 114**	T	T	23 50 16.2	
	baz=306,slow=74					
ENH	**Enshi**	**26.89 272**	P	**P**	**23 22 04.9**	**-1.7**
MA2	**Magadan**	**27.18 11**	P	**P**	**23 22 09.1**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=200,slow=7.2,SNR=7.3					
MA2			LR	LR	23 33 58.7	
	comp=Z,66nm,19.3s,baz=128,slow=38					
MA2	**Magadan**	**27.18 11**	*de*P	**P**	**23 22 09.3**	**+0.4**
MA2			pmax	pmax		
	comp=Z,11nm,0.9s					
MA2	**Magadan**	**27.18 11**	P	**P**	**23 22 09.2**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**27.28 116**	T	T	23 51 42.4	
	baz=307,slow=76					
H11S1	**WAKE ISLAND Hy**	**27.28 116**	T	T	23 51 47.9	
	baz=307,slow=76					
H11S2	**WAKE ISLAND Hy**	**27.30 116**	T	T	23 51 50.2	
	baz=307,slow=76					
ULN	**Ulaanbaatar**	**29.39 310**	P	**P**	**23 22 29.3**	**+0.4**
ULN			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ULN	**Ulaanbaatar**	**29.39 310**	P	**P**	**23 22 29.3**	**+0.4**
YAK	**Yakutsk**	**29.75 349**	P	**P**	**23 22 30.4**	**-1.3**
	comp=Z,9.3nm,0.5s,baz=133,slow=0.7,SNR=5.1					
YAK			LR	LR	23 35 19.1	
	comp=Z,150nm,18.7s,baz=90,slow=38					
YAK	**Yakutsk**	**29.75 349**	*e*P	**P**	**23 22 30.4**	**-1.3**
YAK			*e**PP	**pP**	**23 22 43.9**	**-1.0**
YAK			*e*		23 23 34.9	
YAK			*e*		23 25 32.1	
YAK			*e*S	**S**	**23 27 23.5**	**-0.4**
YAK			*e**SS	**sS**	**23 27 51.2**	**+5.1**
YAK			*e*SS	**SnSn**	**23 28 59.6**	**+1.7**
YAK			*e*		23 33 08.7	
YAK			pmax	pmax		
	comp=Z,28nm,1.0s					
YAK			pmax	pmax		
	comp=N,6.0nm,1.1s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,177nm,4.6s					
YAK			pmax	pmax		
	comp=E,110nm,3.8s					
YAK			pmax	pmax		
	comp=N,97nm,3.5s					
YAK			smax	smax		
	comp=E,27nm,2.5s					
YAK	**Yakutsk**	**29.75 349**	P	**P**	**23 22 31.3**	**-0.4**
YAK			IAmb	IAmb	23 22 32.2	
	comp=Z,24nm,0.7s					
SONM	**Songino Array**	**29.80 310**	P	**P**	**23 22 32.6**	**+0.1**
	comp=Z,7.4nm,0.9s,baz=113,slow=7.7,SNR=34					
SONM			PcP	**PcP**	**23 25 35.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=105,slow=2.0,SNR=3.8					
SONM			LR	LR	23 34 55.0	
	comp=Z,231nm,18.9s,baz=88,slow=37					
SONM	**Songino Array**	**29.80 310**	P	**P**	**23 22 32.7**	**+0.1**
SONM			pmax	pmax		
	comp=Z,6.0nm,0.9s					
SONM	**Songino Array**	**29.80 310**	P	**P**	**23 22 32.7**	**+0.2**
LZH	**Lanzhou**	**30.57 286**	*e*P	**P**	**23 22 38.7**	**-0.8**
LZH			pP	pP	23 22 48.2	-4.7
LZH			sP	sP	23 22 55.2	-4.0
LZH			pmax	pmax		
	comp=Z,25nm,1.2s					
LZH			pmax	pmax		
	comp=Z,97nm,5.0s					
LZH			LR	LR		
	comp=Z,340nm,13.4s					
LZH			LR	LR		
	comp=Z,290nm,15.4s					
SEY	**Seymchan**	**30.62 10**	P	**P**	**23 22 38.9**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=202,slow=11,SNR=9.4					
SEY	**Seymchan**	**30.62 10**	*i* P	**P**	**23 22 39.3**	**-0.1**
BOD	**Bodaibo**	**30.66 332**	*e*P	**P**	**23 22 39.5**	**-0.3**
BOD			pmax	pmax		
	comp=Z,23nm,1.1s					
CD2	**Chengdu**	**31.52 276**	*e*P	**P**	**23 22 50.6**	**+2.8**
ZAK	**Zakamensk**	**32.51 313**	*e*P	**P**	**23 22 56.1**	**-0.2**
ZAK			pmax	pmax		
	comp=Z,5.0nm,1.8s					
TLY	**Talaya**	**32.70 316**	LR	LR	23 36 47.7	
	comp=Z,114nm,19.6s,baz=114,slow=37					
TLY	**Talaya**	**32.70 316**	*e*P	**P**	**23 22 59.2**	**+1.3**
TLY			pmax	pmax		
	comp=Z,32nm,1.6s					
TLY			MLR	MLR		
	comp=Z,279nm,15.0s					
TLY	**Talaya**	**32.70 316**	P	**P**	**23 22 58.1**	**+0.2**
GTA	**Gaotai**	**33.53 293**	*e*P	**P**	**23 23 05.4**	**0.0**
GTA			pP	pP	23 23 17.1	-1.8
GTA			sP	sP	23 23 22.2	-3.0
GTA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
MANU	**Manus Island**	**35.56 169**	P	**P**	**23 23 22.2**	**-0.7**
SKNT	**Sakolnakorn**	**36.97 253**	P	**P**	**23 23 34.6**	**-0.3**
	comp=Z,21nm,1.7s					
SKNT	**Sakolnakorn**	**36.97 253**	P	**P**	**23 23 34.7**	**-0.3**
	comp=Z,0.1nmcomp=Z,21nm,1.7s					
NONG	**Nongkai**	**37.06 255**	P	**P**	**23 23 35.4**	**-0.3**
	comp=Z,8μmcomp=Z,17nm,0.9s					
NONG	**Nongkai**	**37.06 255**	P	**P**	**23 23 35.5**	**-0.3**
	comp=Z,0.2nmcomp=Z,8μmcomp=Z,17nm,0.9s					
BILL	**Bilibino**	**37.81 15**	⇑*e*P	**P**	**23 23 41.6**	**+0.1**
BILL			pmax	pmax		
	comp=Z,5.0nm,1.0s					
TIXI	**Tiksi**	**39.06 354**	P	**P**	**23 23 51.3**	**-0.7**
	comp=Z,6.2nm,0.7s,baz=140,slow=7.3,SNR=18					
TIXI			PcP	**PcP**	**23 26 00.4**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=112,slow=5.4,SNR=3.1					
TIXI	**Tiksi**	**39.06 354**	*ce*P	**P**	**23 23 51.6**	**-0.3**
TIXI	**Tiksi**	**39.06 354**	P	**P**	**23 23 51.2**	**-0.7**
CHAI	**Chaiyaphum**	**39.15 254**	P	**P**	**23 23 52.0**	**-1.3**
	comp=Z,407nmcomp=Z,23nm,0.8s					
CHAI	**Chaiyaphum**	**39.15 254**	P	**P**	**23 23 52.1**	**-1.3**
	comp=Z,101nmcomp=Z,5.8nm,0.8s					
UTTA	**Uttaradit**	**39.34 257**	P	**P**	**23 23 54.0**	**-0.9**
	comp=Z,20nm,0.8s					
UTTA	**Uttaradit**	**39.34 257**	P	**P**	**23 23 54.0**	**-0.9**
	comp=Z,4.9nm,0.8s					
LAMP	**Lampang**	**39.70 259**	P	**P**	**23 24 00.0**	**+2.1**
	comp=Z,10nm,0.8s					
LAMP	**Lampang**	**39.70 259**	P	**P**	**23 24 00.1**	**+2.1**
	comp=Z,2.6nm,0.8s					
CM34	**Chiang Mai Arr**	**39.94 260**	P	**P**	**23 23 58.0**	**-1.9**
CM35	**Chiang Mai Arr**	**40.02 259**	P	**P**	**23 23 59.0**	**-1.6**
CHTO	**Chiang Mai**	**40.13 260**	P	**P**	**23 24 00.7**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CHTO	**Chiang Mai**	**40.13 260**	P	**P**	**23 24 00.8**	**-0.8**
	comp=Z,8.0nm,1.0s					
CHTO	**Chiang Mai**	**40.13 260**	P	**P**	**23 24 00.7**	**-0.8**
CM31	**Chiang Mai Arr**	**40.30 259**	P	**P**	**23 24 01.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**40.30 259**	P	**P**	**23 24 01.1**	**-1.9**
	comp=Z,2.6nm,0.7s,baz=48,slow=7.6,SNR=22					
CMAR			PcP	**PcP**	**23 26 05.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=34,slow=3.0,SNR=7.6					
CMAR			LR	LR	23 41 16.5	
	comp=Z,86nm,18.7s,baz=118,slow=37					
CMAR	**Chiang Mai Arr**	**40.30 259**	*ce*P	**P**	**23 24 02.0**	**-1.0**
CMAR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**40.30 259**	P	**P**	**23 24 01.6**	**-1.3**
WMQ	**Urumqi**	**42.37 301**	*e*P	**P**	**23 24 20.0**	**+0.3**
WMQ			pmax	pmax		
	comp=Z,15nm,0.7s					
WMQ			pmax	pmax		
	comp=Z,57nm,3.7s					
ZAA0	**Zalesovo Array**	**44.31 315**	P	**P**	**23 24 34.3**	**-0.8**
ZALV	**Zalesovo Beam**	**44.31 315**	P	**P**	**23 24 33.4**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=107,slow=7.9,SNR=6.3					
ZALV			PcP	**PcP**	**23 26 18.1**	**-0.4**
	comp=Z,8.9nm,0.6s,baz=100,slow=3.1,SNR=20					
ZALV			ScP	**ScP**	**23 30 04.8**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=107,slow=3.5,SNR=2.4					
ZALV			LR	LR	23 42 40.4	
	comp=Z,63nm,21.3s,baz=88,slow=36					
ZALV	**Zalesovo Beam**	**44.31 315**	P	**P**	**23 24 34.3**	**-0.8**
MK31	**Makanchi Array**	**45.95 305**	P	**P**	**23 24 47.8**	**-0.4**
MK31			pmax	pmax		
	comp=Z,9.0nm,1.0s					
MK31	**Makanchi Array**	**45.95 305**	P	**P**	**23 24 47.8**	**-0.4**
MKAR	**Makanchi Array**	**45.95 305**	P	**P**	**23 24 47.7**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=91,slow=9.6,SNR=34					
MKAR			PcP	**PcP**	**23 26 23.6**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=70,slow=5.9,SNR=4.9					
MKAR			ScP	**ScP**	**23 30 11.6**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=85,slow=6.1,SNR=3.9					
MKAR			LR	LR	23 44 48.8	
	comp=Z,114nm,20.3s,baz=82,slow=37					
MAKZ	**Makanchi**	**46.16 305**	P	**P**	**23 24 49.4**	**-0.5**
MAKZ			pmax	pmax		
	comp=Z,8.0nm,1.0s					
MAKZ	**Makanchi**	**46.16 305**	P	**P**	**23 24 49.4**	**-0.5**
NRIK	**Noril'sk**	**46.63 337**	P	**P**	**23 24 52.1**	**-1.1**
	comp=Z,8.2nm,1.1s,baz=135,slow=7.8,SNR=7.4					
NRIK			PcP	**PcP**	**23 26 26.2**	**0.0**
	comp=Z,7.8nm,0.9s,baz=133,slow=5.1,SNR=5.2					
NRIK			LR	LR	23 45 47.7	
	comp=Z,65nm,18.3s,baz=110,slow=38					
NRIK	**Noril'sk**	**46.63 337**	*ce*P	**P**	**23 24 52.8**	**-0.3**
NRIK			pmax	pmax		
	comp=Z,12nm,1.2s					
NRIK	**Noril'sk**	**46.63 337**	P	**P**	**23 24 52.9**	**-0.3**
NRIK			IAmb	IAmb	23 24 54.5	
	comp=Z,11nm,1.1s					
MTN	**Manton Dam**	**46.73 193**	P	**P**	**23 24 54.3**	**-0.3**
MTN			IAmb	IAmb	23 24 55.4	
	comp=Z,13nm,0.7s					
N18K	**Kilae Creek**	**48.64 36**	P	**P**	**23 25 10.6**	**+1.7**
	baz=265,SNR=6.8					
SVW2	**Sparrevohn**	**48.82 35**	P	**P**	**23 25 11.3**	**+1.0**
O18K	**Koktuh Hills**	**48.92 37**	P	**P**	**23 25 12.8**	**+1.7**
	baz=267,SNR=7.4					
L19K	**White Mountain**	**49.26 34**	P	**P**	**23 25 15.1**	**+1.4**
	baz=265,SNR=6.7					
PRZ	**Przheval'sk**	**49.28 300**	P	**P**	**23 25 14.7**	**+0.4**
PRZ			pmax	pmax		
	comp=Z,16nm,0.8s					
PRZ	**Przheval'sk**	**49.28 300**	P	**P**	**23 25 14.7**	**+0.4**
N19K	**Bonanza Creek**	**49.34 36**	P	**P**	**23 25 15.9**	**+1.6**
	baz=266					
M19K	**Big River Lodg**	**49.46 34**	P	**P**	**23 25 16.7**	**+1.5**
	baz=266					
K20K	**Telida**	**49.73 32**	P	**P**	**23 25 18.9**	**+1.7**
	baz=265					
J20K	**Nowinta River**	**49.78 31**	P	**P**	**23 25 19.2**	**+1.7**
	baz=264					
TARG	**Taragay, Kyrgy**	**49.87 299**	P	**P**	**23 25 18.9**	**-0.1**
TARG			IAmb	IAmb	23 25 20.6	
	comp=Z,10.0nm,1.1s					
P19K	**Oil Pt**	**49.91 37**	P	**P**	**23 25 19.9**	**+1.2**
	baz=268					
KNRA	**Kununurra**	**49.98 195**	P	**P**	**23 25 19.5**	**0.0**
M20K	**Styx River**	**50.05 34**	P	**P**	**23 25 21.2**	**+1.5**
	baz=267					
RSO	**Redoubt South**	**50.17 36**	P	**P**	**23 25 21.5**	**+0.6**
KDAK	**Kodiak Island**	**50.23 40**	P	**P**	**23 25 21.1**	**0.0**
	comp=Z,13nm,0.8s,baz=300,slow=5.0,SNR=14					
KDAK	**Kodiak Island**	**50.23 40**	P	**P**	**23 25 21.3**	**+0.2**
KDAK			pmax	pmax		
	comp=Z,13nm,0.9s					
KDAK	**Kodiak Island**	**50.23 40**	P	**P**	**23 25 21.5**	**+0.5**
	baz=271					
KDAK	**Kodiak Island**	**50.23 40**	P	**P**	**23 25 21.2**	**+0.2**
KDAK			IAmb	IAmb	23 25 22.4	
	comp=Z,13nm,0.8s					
KDJ	**Kajisay**	**50.24 300**	P	**P**	**23 25 19.6**	**-2.0**
KDJ			pmax	pmax		
	comp=Z,4.0nm,0.8s					
KDJ	**Kajisay**	**50.24 300**	P	**P**	**23 25 19.6**	**-2.0**
SPCR	**Spurr Chakacha**	**50.46 35**	P	**P**	**23 25 24.6**	**+1.7**
	baz=268					
H21K	**Melozitna Rive**	**50.51 29**	P	**P**	**23 25 24.7**	**+1.7**
	baz=264,SNR=7.8					
PPLA	**Purkeypile**	**50.55 33**	P	**P**	**23 25 25.3**	**+1.8**
	baz=267					
PPLA	**Purkeypile**	**50.55 33**	P	**P**	**23 25 25.0**	**+1.5**
PPLA			IAmb	IAmb	23 25 26.2	
	comp=Z,8.2nm,0.8s					
I21K	**Tanana**	**50.80 30**	P	**P**	**23 25 27.2**	**+2.0**
	baz=265					
SKT	**Skwentna**	**50.81 34**	P	**P**	**23 25 26.9**	**+1.5**
	baz=268					
SKT	**Skwentna**	**50.81 34**	P	**P**	**23 25 26.1**	**+0.7**
CNPM	**China Poot**	**50.92 37**	P	**P**	**23 25 26.9**	**+0.6**
CNPM			IAmb	IAmb	23 25 41.6

NEA2	**Nenana**	**52.01**	**31**	P	**P**	**23 25 35.3**	**+1.0**
NEA2				IAmb	IAmb	23 25 36.6	
	comp=Z,17nm,0.9s						
MCK	**McKinley**	**52.05**	**32**	P	**P**	**23 25 35.3**	**+0.7**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MCK	**McKinley**	**52.05**	**32**	P	**P**	**23 25 35.3**	**+0.7**
MCK				IAmb	IAmb	23 25 38.1	
	comp=Z,7.4nm,0.9s						
TOLK	**Toolik Lake Re**	**52.06**	**26**	P	**P**	**23 25 36.4**	**+1.6**
	baz=265,SNR=8.0						
TOLK	**Toolik Lake Re**	**52.06**	**26**	P	**P**	**23 25 35.7**	**+1.0**
TOLK				IAmb	IAmb	23 25 37.2	
	comp=Z,15nm,1.1s						
AAK	**Ala-Archa**	**52.08**	**301**	*ceP*	**P**	**23 25 35.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.7s						
AAK	**Ala-Archa**	**52.08**	**301**	P	**P**	**23 25 35.4**	**0.0**
RND	**Reindeer**	**52.08**	**32**	P	**P**	**23 25 35.3**	**+0.4**
RND				pmax	pmax		
	comp=Z,9.0nm,0.8s						
RND	**Reindeer**	**52.08**	**32**	P	**P**	**23 25 35.3**	**+0.4**
RND				IAmb	IAmb	23 25 36.2	
	comp=Z,8.7nm,0.8s						
WAT1	**Susitna Watana**	**52.21**	**33**	P	**P**	**23 25 36.3**	**+0.4**
	baz=270						
KNK	**Knik Glacier**	**52.27**	**35**	P	**P**	**23 25 37.1**	**+0.8**
	baz=271						
KNK	**Knik Glacier**	**52.27**	**35**	P	**P**	**23 25 36.8**	**+0.5**
KNK				IAmb	IAmb	23 25 37.9	
	comp=Z,12nm,0.8s						
SML	**Sawmill**	**52.33**	**34**	P	**P**	**23 25 37.5**	**+0.8**
	baz=271,SNR=14						
SML	**Sawmill**	**52.33**	**34**	P	**P**	**23 25 37.4**	**+0.6**
SML				IAmb	IAmb	23 25 38.4	
	comp=Z,17nm,0.8s						
PWL	**Port Wells**	**52.35**	**36**	P	**P**	**23 25 37.1**	**+0.3**
MDM	**Murphy Dome**	**52.38**	**30**	P	**P**	**23 25 38.1**	**+1.0**
MDM				IAmb	IAmb	23 25 39.3	
	comp=Z,15nm,0.8s						
H24K	**Noodor Dome**	**52.55**	**29**	P	**P**	**23 25 40.2**	**+1.9**
	baz=268,SNR=7.6						
CCB	**Clear Creek Bu**	**52.55**	**31**	P	**P**	**23 25 39.0**	**+0.7**
WAT6	**Susitna Watana**	**52.59**	**34**	P	**P**	**23 25 39.4**	**+0.6**
	baz=271,SNR=5.2						
POKR	**Poker Plat Res**	**52.72**	**30**	P	**P**	**23 25 41.3**	**+1.7**
	baz=269						
AML	**Almayashu**	**52.77**	**300**	P	**P**	**23 25 41.2**	**+0.5**
	SNR=18						
HDA	**Harding Lake**	**52.92**	**31**	P	**P**	**23 25 41.2**	**+0.1**
	baz=270						
IL31		**52.95**	**31**	P	**P**	**23 25 41.1**	**-0.1**
IL31				IAmb	IAmb	23 25 42.4	
	comp=Z,6.6nm,0.8s						
ILAR	**Eielson Array**	**52.95**	**31**	P	**P**	**23 25 41.4**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=268,slow=6.1,SNR=28						
ILAR				PcP	**PcP**	**23 26 49.0**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=279,slow=3.6,SNR=2.4						
GLI	**Glacier Island**	**52.95**	**36**	P	**P**	**23 25 42.0**	**+0.6**
	baz=273						
GLI	**Glacier Island**	**52.95**	**36**	P	**P**	**23 25 41.8**	**+0.5**
GLI				IAmb	IAmb	23 25 42.9	
	comp=Z,9.7nm,0.8s						
BRVK	**Borovoye**	**53.01**	**315**	*ceP*	**P**	**23 25 41.6**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**53.01**	**315**	P	**P**	**23 25 41.7**	**-0.1**
BRVK				IAmb	IAmb	23 25 42.5	
	comp=Z,8.9nm,1.1s						
WB0	**Warramunga Arr**	**53.03**	**188**	P	**P**	**23 25 41.8**	**-0.5**
WRAB	**Tennant Creek**	**53.20**	**188**	*ceP*	**P**	**23 25 42.6**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,38nm,0.7s						
WR0	**Warramunga Arr**	**53.21**	**188**	P	**P**	**23 25 43.5**	**-0.1**
WB2	**Warramunga Arr**	**53.21**	**188**	P	**P**	**23 25 43.4**	**-0.3**
WRA	**Warramunga Arr**	**53.21**	**188**	P	**P**	**23 25 43.0**	**-0.6**
	comp=Z,43nm,0.7s,baz=4.8,slow=7.6,SNR=300						
WRA				PcP	**PcP**	**23 26 51.7**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=5.6,slow=4.1,SNR=1.8						
WRA	**Warramunga Arr**	**53.21**	**188**	*ceP*	**P**	**23 25 43.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,43nm,0.7s						
WRA	**Warramunga Arr**	**53.21**	**188**	P	**P**	**23 25 42.3**	**-1.3**
HIN	**Hinchinbrook I**	**53.27**	**36**	P	**P**	**23 25 45.0**	**+1.3**
M24K	**Tolsona, Glenn**	**53.33**	**34**	P	**P**	**23 25 45.6**	**+1.4**
	baz=273						
KLU	**Klutina**	**53.49**	**35**	P	**P**	**23 25 46.7**	**+1.3**
	baz=273,SNR=8.2						
PRP	**Porcupine Dome**	**53.52**	**30**	P	**P**	**23 25 46.3**	**+0.7**
	baz=271						
PAX	**Paxson**	**53.62**	**33**	P	**P**	**23 25 47.2**	**+0.9**
PAX				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PAX	**Paxson**	**53.62**	**33**	P	**P**	**23 25 47.5**	**+1.2**
	baz=273,SNR=5.3						
PAX	**Paxson**	**53.62**	**33**	P	**P**	**23 25 47.2**	**+0.9**
EYAK	**Cordova Ski Ar**	**53.63**	**36**	P	**P**	**23 25 47.7**	**+1.4**
	baz=274						
HARP	**HAARP**	**53.79**	**34**	P	**P**	**23 25 49.3**	**+1.8**
	baz=273						
RIDG	**Independent Ri**	**53.86**	**32**	P	**P**	**23 25 48.5**	**+0.5**
	baz=273						
BMAR	**Burnt Mountain**	**53.88**	**27**	P	**P**	**23 25 50.3**	**+2.1**
BMAR					**PcP**	**23 26 55.3**	**+2.3**
N25K	**Chitina, Valde**	**54.11**	**35**	P	**P**	**23 25 51.3**	**+1.4**
	baz=274,SNR=5.2						
N25K	**Chitina, Valde**	**54.11**	**35**	P	**P**	**23 25 51.4**	**+1.5**
BMRM	**Bremner River**	**54.16**	**35**	P	**P**	**23 25 51.8**	**+1.5**
	baz=275,SNR=9.1						
DOT	**Dot Lake**	**54.22**	**32**	P	**P**	**23 25 50.9**	**+0.3**
SCRK	**Sand Creek**	**54.23**	**32**	P	**P**	**23 25 51.5**	**+0.7**
	baz=273,SNR=12						
SCRK	**Sand Creek**	**54.23**	**32**	P	**P**	**23 25 51.0**	**+0.2**
SCRK				IAmb	IAmb	23 25 52.4	
	comp=Z,8.1nm,0.9s						
L26K	**Log Cabin Wild**	**54.58**	**33**	P	**P**	**23 25 55.1**	**+1.8**
	baz=274,SNR=9.2						
KK31	**Karatay Array**	**54.81**	**302**	P	**P**	**23 25 54.9**	**-0.3**
KK31				pmax	pmax		
	comp=Z,15nm,1.0s						
KK31	**Karatay Array**	**54.81**	**302**	P	**P**	**23 25 54.9**	**-0.3**
KK31				IAmb	IAmb	23 26 10.8	
	comp=Z,15nm,1.0s						
KKAR	**Karatay Array**	**54.81**	**302**	P	**P**	**23 25 54.9**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,15nm,1.0s						
KKAR	**Karatay Array**	**54.81**	**302**	P	**P**	**23 25 54.9**	**-0.3**
KKAR				IAmb	IAmb	23 26 10.8	
	comp=Z,15nm,1.0s						
KKAR	**Karatay Array**	**54.81**	**302**	P	**P**	**23 25 54.8**	**-0.3**
DRK	**Karamyk**	**54.85**	**298**	P	**P**	**23 25 55.9**	**0.0**
DRK				IAmb	IAmb	23 25 56.5	
	comp=Z,12nm,0.7s						
MCARA	**McCarthy VSAT**	**54.88**	**35**	P	**P**	**23 25 57.3**	**+1.8**
	baz=276						
CRQE	**Cirque**	**54.92**	**36**	P	**P**	**23 25 57.5**	**+1.7**
	baz=276						
K27K	**Chicken**	**55.07**	**32**	P	**P**	**23 25 58.0**	**+1.3**
	baz=275						
L27K	**Beaver Creek,**	**55.27**	**33**	P	**P**	**23 26 00.0**	**+1.8**
	baz=276,SNR=11						
L27K	**Beaver Creek,**	**55.27**	**33**	P	**P**	**23 25 59.8**	**+1.5**
L27K				IAmb	IAmb	23 26 00.7	
	comp=Z,8.3nm,0.9s						
BCAR	**Beaver Creek A**	**55.29**	**33**	P	**P**	**23 25 59.9**	**+1.5**
BCAR				PcP	**PcP**	**23 27 00.9**	**+2.4**
EGAK	**Eagle**	**55.40**	**31**	P	**P**	**23 25 59.6**	**+0.6**
	baz=275,SNR=5.7						
EGAK	**Eagle**	**55.40**	**31**	P	**P**	**23 25 59.7**	**+0.6**
NIL	**Nilore**	**55.55**	**291**	P	**P**	**23 26 00.3**	**-0.4**
NIL				pmax	pmax		
	comp=Z,11nm,0.8s						
NIL	**Nilore**	**55.55**	**291**	P	**P**	**23 26 00.3**	**-0.4**
NIL				IAmb	IAmb	23 26 02.0	
	comp=Z,11nm,0.8s						
CTG	**Chitna Glacier**	**55.74**	**35**	P	**P**	**23 26 03.1**	**+1.4**
	baz=278						
GAR	**Garm**	**56.09**	**298**	P	**P**	**23 26 04.2**	**-0.5**
DAWY	**Dawson**	**56.24**	**31**	P	**P**	**23 26 06.4**	**+1.3**
AS31	**Alice Springs**	**56.94**	**188**	P	**P**	**23 26 10.5**	**-0.1**
AS31				IAmb	IAmb	23 26 12.9	
	comp=Z,7.8nm,0.6s						
ASAR	**Alice Springs**	**56.94**	**188**	P	**P**	**23 26 10.4**	**-0.1**
	comp=Z,18nm,0.9s,baz=16,slow=12,SNR=123						
ASAR				PcP	**PcP**	**23 27 06.2**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=1.2,slow=4.5,SNR=4.8						
ASAR				PKP2bc		23 56 14.4	
	comp=Z,0.9nm,0.8s,baz=199,slow=2.0,SNR=6.4						
ASAR	**Alice Springs**	**56.94**	**188**	P	**P**	**23 26 10.3**	**-0.3**
ASAR				PcP	**PcP**	**23 27 06.7**	**+1.4**
EPYK	**Eagle Plains**	**57.05**	**28**	P	**P**	**23 26 12.5**	**+1.6**
	baz=278,SNR=20						
EPYK	**Eagle Plains**	**57.05**	**28**	P	**P**	**23 26 12.2**	**+1.3**
CHGR	**Chuyangaron**	**57.06**	**298**	P	**P**	**23 26 10.8**	**-0.6**
HYT	**Haines Junctio**	**57.62**	**35**	P	**P**	**23 26 16.8**	**+1.8**
HYT				IAmb	IAmb	23 26 17.8	
	comp=Z,6.9nm,0.8s						
SVE	**Sverdlovsk**	**57.83**	**320⇓**	*eP*	**P**	**23 26 16.3**	**-0.1**
SVE				pmax	pmax		
	comp=Z,16nm,0.9s						
INK	**Inuvik**	**57.98**	**26**	P	**P**	**23 26 17.6**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=287,slow=7.2,SNR=27						
INK	**Inuvik**	**57.98**	**26**	P	**P**	**23 26 18.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
INK	**Inuvik**	**57.98**	**26**	P	**P**	**23 26 18.2**	**+1.0**
	baz=280,SNR=13						
INK	**Inuvik**	**57.98**	**26**	P	**P**	**23 26 18.0**	**+0.7**
INK				IAmb	IAmb	23 26 19.0	
	comp=Z,7.6nm,0.7s						
PSA00	**Pilbara Seismi**	**58.07**	**203**	P	**P**	**23 26 17.7**	**-0.8**
PSA00	**Pilbara Seismi**	**58.07**	**203**	P	**P**	**23 26 18.1**	**-0.4**
PSA00				IAmb	IAmb	23 26 18.9	
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**58.52**	**293**	P	**P**	**23 26 21.2**	**-0.7**
KBL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KBL	**Kabul**	**58.52**	**293**	P	**P**	**23 26 21.1**	**-0.7**
WHY	**Whitehorse**	**58.91**	**35**	P	**P**	**23 26 26.1**	**+2.1**
	baz=283,SNR=6.1						
WHY	**Whitehorse**	**58.91**	**35**	P	**P**	**23 26 25.9**	**+1.9**
WHY				IAmb	IAmb	23 26 26.9	
	comp=Z,9.5nm,0.8s						
SKAG	**Skagway**	**58.97**	**36**	P	**P**	**23 26 26.6**	**+2.3**
	baz=284,SNR=5.4						
SKAG	**Skagway**	**58.97**	**36**	P	**P**	**23 26 26.1**	**+1.8**
SKAG				IAmb	IAmb	23 26 27.4	
	comp=Z,13nm,1.0s						
EIDS	**Eidsvold**	**59.02**	**169**	P	**P**	**23 26 25.4**	**+0.4**
ARU	**Arti**	**59.03**	**320**	*c iP*	**P**	**23 26 24.1**	**-0.7**
ARU				*PP	**pP**	**23 26 39.7**	**+0.5**
ARU						23 27 11.8	
ARU				S	**S**	**23 34 29.8**	**+2.5**
ARU				SS	**SS**	**23 38 17.0**	**-4.3**
ARU				pmax	pmax		
	comp=Z,17nm,0.7s						
ARU	**Arti**	**59.03**	**320**	P	**P**	**23 26 24.2**	**-0.6**
JIS	**Juneau Island**	**59.74**	**38**	P	**P**	**23 26 31.3**	**+1.7**
JIS				IAmb	IAmb	23 26 32.6	
	comp=Z,12nm,0.9s						
ABKAR	**Akbulak array**	**60.18**	**312**	P	**P**	**23 26 32.2**	**-0.6**
ABKAR	**Akbulak array**	**60.18**	**312**	P	**P**	**23 26 32.3**	**-0.6**
ABKAR				IAmb	IAmb	23 26 33.0	
	comp=Z,9.8nm,0.7s						
C36M	**Paulatuk**	**61.07**	**24**	P	**P**	**23 26 39.4**	**+0.8**
	baz=287,SNR=12						
C36M	**Paulatuk**	**61.07**	**24**	P	**P**	**23 26 39.3**	**+0.8**
DLBC	**Dease Lake**	**61.89**	**37**	P	**P**	**23 26 45.0**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=293,slow=8.9,SNR=6.9						
DLBC	**Dease Lake**	**61.89**	**37**	P	**P**	**23 26 45.7**	**+1.3**
DLBC				IAmb	IAmb	23 26 47.6	
	comp=Z,8.2nm,1.1s						
KIRV	**Kirov**	**63.12**	**324**	*ceP*	**P**	**23 26 52.3**	**-0.1**
HRA	**Herat**	**63.78**	**295**	P	**P**	**23 26 57.3**	**-0.3**
HRA				IAmb	IAmb	23 26 58.5	
	comp=Z,6.5nm,0.8s						
PRGR	**Permogore**	**63.81**	**328**	*eP*	**P**	**23 26 55.3**	**-1.6**
PRGR				pmax	pmax		
	comp=Z,38nm,1.1s						
EUNU	**Eureka**	**64.03**	**8**	P	**P**	**23 26 58.7**	**+0.4**
EUNU				IAmb	IAmb	23 26 59.5	
	comp=Z,8.9nm,0.8s						
ARMA	**Armidale**	**64.06**	**170**	P	**P**	**23 27 00.2**	**+1.2**
ARMA				IAmb	IAmb	23 27 01.3	
	comp=Z,14nm,0.8s						
SPITS	**Spitsbergen Ar**	**64.22**	**349**	P	**P**	**23 27 00.2**	**+0.8**
SPITS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KBS	**Kingsbay**	**64.38**	**350**	*i* P	**P**	**23 27 01.0**	**+0.6**
KBS				IAmb	IAmb	23 27 02.4	
	comp=Z,28nm,0.8s						
KBS	**Kingsbay**	**64.38**	**350**	P	**P**	**23 27 01.4**	**+1.0**
KBS				pmax	pmax		
	comp=Z,12nm,0.9s						
KBS	**Kingsbay**	**64.38**	**350**	P	**P**	**23 27 01.4**	**+1.0**
KBS				IAmb	IAmb	23 27 02.6	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**64.72**	**179**	P	**P**	**23 27 03.0**	**-0.1**
	comp=Z,7.8nm,0.7s,baz=321,slow=9.4,SNR=9.0						
STKA				LR	LR	23 55 11.5	
	comp=Z,43nm,18.1s,baz=206,slow=36						
STKA	**Stephens Creek**	**64.72**	**179**	P	**P**	**23 27 03.6**	**+0.4**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
STKA	**Stephens Creek**	**64.72**	**179**	P	**P**	**23 27 03.6**	**+0.4**
FORT	**Forrest**	**64.79**	**192**	P	**P**	**23 27 04.0**	**+0.4**
GEYT	**Alibeck**	**65.42**	**300**	P	**P**	**23 27 08.2**	**+0.2**
	comp=Z,115nm,0.7s,baz=186,slow=1.5,SNR=9.1						
GYA0B	**ALIBECK ARRAY**	**65.42**	**300**	P	**P**	**23 27 08.2**	**+0.2**
GYA0B				IAmb	IAmb	23 27 09.3	
	comp=Z,8.6nm,0.9s						
MORW	**Morawa**	**66.28**	**204**	P	**P**	**23 27 13.3**	**0.0**
RES	**Resolute Bay**	**66.41**	**14**	P	**P**	**23 27 14.3**	**+0.7**
RES				pmax	pmax		
	comp=Z,16nm,0.8s						
RES	**Resolute Bay**	**66.41**	**14**	P	**P**	**23 27 14.3**	**+0.7**
KLMR	**Klimovskoe**	**66.82**	**329**	*eP*	**P**	**23 27 14.7**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,11nm,0.8s						
KLMR	**Klimovskoe**	**66.82**	**329**	*eP*	**P**	**23 27 14.8**	**-1.7**
KLMR				AMP		23 27 16.8	
	comp=Z,11nm,0.8s						
YKA	**Yellowknife Ar**	**67.32**	**29**	P	**P**	**23 27 19.8**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=296,slow=5.9,SNR=28						
ARCES	**ARCESS Array B**	**67.47**	**340**	P	**P**	**23 27 20.0**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=94,slow=16,SNR=7.0						
ARCES				LR	LR	00 02 10.5	
	comp=Z,47nm,18.5s,baz=60,slow=41						
ARCES	**ARCESS Array B**	**67.47**	**340**	P	**P**	**23 27 20.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,14nm,1.4s						
ARCES	**ARCESS Array B**	**67.47**	**340**	P	**P**	**23 27 20.2**	**-0.2**
ARCES				IAmb	IAmb	23 27 26.8	
	comp=Z,14nm,1.4s						
TULEG	**Thule**	**68.95**	**7**	P	**P**	**23 27 30.0**	**+0.4**
NEEM	**North Greenlan**	**69.38**	**3**	*i P*	**P**	**23 27 32.8**	**+0.2**
NEEM				IAmb	IAmb	23 27 33.8	
	comp=Z,18nm,0.9s						
NWAO	**Narrogin (SRO)**	**69.47**	**201**	P	**P**	**23 27 33.4**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,44nm,0.9s						
NWAO	**Narrogin (SRO)**	**69.47**	**201**	P	**P**	**23 27 33.4**	**+0.1**
DAG	**Danmarks Havn**	**69.56**	**355⇑**	*iP*	**P**	**23 27 33.5**	**+0.1**
DAG				IAmb	IAmb	23 27 34.3	
	comp=Z,12nm,0.8s						
DAG	**Danmarks Havn**	**69.56**	**355⇑**	*iP*	**P**	**23 27 33.4**	**+0.1**
DAG				pmax	pmax		
	comp=Z,12nm,0.8s						
NLWA	**Neilton Lookou**	**69.60**	**46**	P	**P**	**23 27 35.5**	**+1.4**
NLWA				IAmb	IAmb	23 27 38.4	
	comp=Z,20nm,1.2s						
D03D	**Eldon**	**70.00**	**46**	P	**P**	**23 27 39.4**	**+2.8**
	baz=298,SNR=5.3						
MOS	**Moscow**	**70.13**	**324**	*eP*	**P**	**23 27 35.9**	**-1.3**
E03A	**Lebam**	**70.17**	**47**	P	**P**	**23 27 39.1**	**+1.5**
E03A				IAmb	IAmb	23 27 41.1	
	comp=Z,13nm,0.8s						
VRH	**Novokhopyorsk**	**70.20**	**319**	*eP*	**P**	**23 27 36.1**	**-1.6**
VRH				pmax	pmax		
	comp=Z,20nm,0.6s						
B05A	**Bryant**	**70.26**	**45**	P	**P**	**23 27 40.4**	**+2.3**
	baz=298,SNR=5.1						
TOO	**Toolangi**	**70.53**	**176**	P	**P**	**23 27 41.1**	**+1.4**
TOO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TOO	**Toolangi**	**70.53**	**176**	P	**P**	**23 27 41.1**	**+1.4**
TOO				IAmb	IAmb	23 27 41.4	
	comp=Z,7.4nm,0.8s						
E04D	**Cinebar**	**70.77**	**47**	P	**P**	**23 27 44.6**	**+3.3**
	baz=298						
OBN	**Obninsk**	**70.97**	**324**	*ceP*	**P**	**23 27 41.9**	**-0.4**
OBN				*e*		23 30 21.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,63nm,19.0s						
OBN	**Obninsk**	**70.97**	**324**	P	**P**	**23 27 41.9**	**-0.4**
OBN				IAmb	IAmb	23 27 42.7	
	comp=Z,14nm,0.9s						
LPSR	**Galich'ya Gora**	**71.03**	**321**	*eP*	**P**	**23 27 41.8**	**-0.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
I03D	**Drain, OR**	**71.64**	**50**	P	**P**	**23 27 49.2**	**+2.6**
	baz=299						
VORD	**Divnogorie**	**71.66**	**319**	*eP*	**P**	**23 27 45.4**	**-1.1**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KBO	**Bosley Butte**	**71.78**	**51**	P	**P**	**23 27 49.3**	**+1.7**
DBG	**Daneborg**	**72.05**	**355**	*i P*	**P**	**23 27 47.8**	**-0.6**
DBG				IAmb	IAmb	23 27 49.2	
	comp=Z,3.0nm,0.8s						
FIA1	**FINESS Array S**	**72.05**	**333**	P	**P**	**23 27 48.4**	**-0.3**
FIA1				IAmb	IAmb	23 28 13.9	
	comp=Z,13nm,1.1s						
FINES	**FINESS Array B**	**72.05**	**333**	P	**P**	**23 27 48.2**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=72,slow=5.0,SNR=20						
FINES	**FINESS Array B**	**72.05**	**333**	P	**P**	**23 27 48.4**	**-0.3**
FINES	**FINESS Array B**	**72.05**	**333**	P	**P**	**23 27 48.4**	**-0.3**
I04A	**Tendick Farm,**	**72.19**	**49**	P	**P**	**23 27 51.9**	**+2.0**
	baz=299						
EDM	**Edmonton**	**72.59**	**37**	P	**P**	**23 27 52.8**	**+0.6**
EDM				pmax	pmax		
	comp=Z,12nm,0.9s						
EDM	**Edmonton**	**72.59**	**37**	P	**P**	**23 27 52.8**	**+0.6**
EDM				IAmb	IAmb	23 27 53.9	
	comp=Z,12nm,0.9s						
UOSS	**Minazif**	**72.67**	**289**	P	**P**	**23 27 52.9**	**-0.2**
UOSS				IAmb	IAmb	23 28 09.1	
	comp=Z,24nm,1.2s						
HAWA	**Hanford**	**72.69**	**46**	P	**P**	**23 27 54.4**	**+1.6**
HAWA				IAmb	IAmb	23 27 55.6	
	comp=Z,13nm,1.2s						
YBH	**Yreka Blue Hor**	**73.00**	**51**	P	**P**	**23 27 55.9**	**+1.0**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YBH	**Yreka Blue Hor**	**73.00**	**51**	P	**P**	**23 27 55.9**	**+1.0**
L04D	**Klamath Falls**	**73.03**	**50**	P	**P**	**23 27 56.9**	**+1.8**
	baz=300,SNR=5.4						
M02C	**Callahan**	**73.08**	**51**	P	**P**	**23 27 57.5**	**+2.2**
	baz=300,SNR=9.6						
PINE	**Pine Mountain**	**73.12**	**49**	P	**P**	**23 27 57.2**	**+1.5**
KBZ	**Khabaz**	**73.15**	**311**	P	**P**	**23 27 55.0**	**-0.5**
	comp=Z,14nm,0.8s,baz=70,slow=2.0,SNR=27						
KBZ				LR	LR	00 04 28.2	
	comp=Z,64nm,18.0s,baz=42,slow=39						
KBZ	**Khabaz**	**73.15**	**311**	*ceP*	**P**	**23 27 56.0**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,18nm,0.9s						
NEW	**Newport**	**73.15**	**43**	P	**P**	**23 27 56.6**	**+1.0**
NEW	**Newport**	**73.15**	**43**	P	**P**	**23 27 57.0**	**+1.4**
	baz=301,SNR=15						
NEW	**Newport**	**73.15**	**43**	P	**P**	**23 27 56.6**	**+1.0**
NEW				IAmb	IAmb	23 27 58.0	
	comp=Z,16nm,0.9s						
KIV	**Kislovodsk**	**73.17**	**312**	*eP*	**P**	**23 27 56.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV				MLR	MLR		
	comp=Z,34nm,18.0s						
KIV	**Kislovodsk**	**73.17**	**312**	P	**P**	**23 27 55.8**	**0.0**
KIV				IAmb	IAmb	23 27 57.8	
	comp=Z,18nm,0.8s						
J05D	**Fort Rock, OR**	**73.19**	**49**	P	**P**	**23 27 58.1**	**+2.1**
	baz=300,SNR=10.0						
SHA1	**Shidzhatmaz**	**73.30**	**312**	*i P*	**P**	**23 27 56.0**	**-0.8**
N02D	**Trinity Center**	**73.38**	**52**	P	**P**	**23 27 59.5**	**+2.4**
	baz=300,SNR=9.5						
M04C	**Macdoel**	**73.54**	**51**	P	**P**	**23 28 00.1**	**+2.0**
	baz=300,SNR=8.9						
WDC	**Whiskeytown Da**	**73.68**	**52**	P	**P**	**23 28 00.2**	**+1.4**
WDC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WDC	**Whiskeytown Da**	**73.68**	**52**	P	**P**	**23 28 00.2**	**+1.4**
O02D	**Mt. Diablo Mer**	**73.72**	**53**	P	**P**	**23 28 01.4**	**+2.3**
	baz=300,SNR=14						
HOPS	**Hopland Field**	**74.11**	**54**	P	**P**	**23 28 03.0**	**+1.7**
O03E	**Paynes Creek**	**74.31**	**52**	P	**P**	**23 28 03.6**	**+1.1**
	baz=300,SNR=8.2						
SUMG	**Summit**	**74.52**	**360⇑**	*iP*	**P**	**23 28 04.8**	**+1.2**
SUMG				IAmb	IAmb	23 28 05.6	
	comp=Z,15nm,0.9s						
SUMG	**Summit**	**74.52**	**360**	P	**P**	**23 28 04.8**	**+1.2**
SUMG				pmax	pmax		
	comp=Z,16nm,0.9s						
SUMG	**Summit**	**74.52**	**360**	P	**P**	**23 28 04.8**	**+1.2**
SUMG				IAmb	IAmb	23 28 05.9	
	comp=Z,16nm,0.9s						
WALA	**Waterton Lakes**	**74.54**	**41**	P	**P**	**23 28 05.2**	**+1.4**
WALA				IAmb	IAmb	23 28 06.2	
	comp=Z,13nm,0.9s						
BMO	**Blue Mountains**	**74.82**	**46**	P	**P**	**23 28 07.0**	**+1.5**
BMO				pmax	pmax		
	comp=Z,16nm,0.9s						
BMO	**Blue Mountains**	**74.82**	**46**	P	**P**	**23 28 07.0**	**+1.5**
BMO				IAmb	IAmb	23 28 08.1	
	comp=Z,16nm,0.8s						
ORV	**Oroville**	**74

comp=Z,9.6nm,0.7s
SCO Scoresbysund 75.89 354 P P 23 28 11.8 +0.8
SCO pmax pmax
comp=Z,32nm,1.4s
SCO Scoresbysund 75.89 354 P P 23 28 11.8 +0.8
UPP Uppsala 76.25 334 *e*P **P 23 28 13.0 -0.1**
GURO Guroymak-BITLI 76.35 307 P P 23 28 15.8 +1.4
GURO IAmb IAmb 23 28 17.1
comp=Z,7.7nm,0.8s
MFID Camas Ranch 76.49 47 P P 23 28 16.7 +1.6
MFID IAmb IAmb 23 28 17.8
comp=Z,17nm,1.1s
PABE Paberze 76.62 329 *e*P **P 23 28 15.3 -0.1**
PABE Paberze 76.62 329 P P 23 28 15.4 0.0
AKASG Malin Array Be 77.12 323 P P 23 28 17.7 -0.6
comp=Z,7.2nm,0.6s,baz=48,slow=6.3,SNR=52
AKASG LR LR 00 04 12.8
comp=Z,83nm,21.0s,baz=20,slow=37
AKASG Malin Array Be 77.12 323 P P 23 28 17.9 -0.4
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 77.12 323 P P 23 28 17.9 -0.4
AKBB Malin Array Si 77.12 323 *ce*P **P 23 28 17.8 -0.5**
AKBB Malin Array Si 77.12 323 P P 23 28 17.9 -0.5
KIEV Kiev 77.13 323 P P 23 28 18.0 -0.3
FFC Flin Flon 77.14 32 P P 23 28 18.4 +0.1
FFC pmax pmax
comp=Z,15nm,0.9s
FFC Flin Flon 77.14 32 P P 23 28 18.4 +0.1
FFC IAmb IAmb 23 28 19.8
comp=Z,15nm,0.8s
NC405 NORSAR Array S 77.37 337 P P 23 28 18.6 -1.0
EGMT Eagleton 77.40 40 P P 23 28 21.3 +1.2
baz=306,SNR=5.5
EGMT Eagleton 77.40 40 P P 23 28 20.6 +0.5
EGMT IAmb IAmb 23 28 22.3
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 77.59 337 P P 23 28 19.8 -1.0
comp=Z,12nm,0.9s,baz=41,slow=5.9
NOA NORSAR Array B 77.59 337 P P 23 28 19.9 -0.8
comp=Z,7.4nm,0.9s,baz=40,slow=5.7,SNR=24
NOA LR LR 00 08 43.3
comp=Z,30nm,18.2s,baz=50,slow=40
NOA NORSAR Array B 77.59 337 P P 23 28 20.0 -0.8
NVAR Mina Array Bea 77.60 52 P P 23 28 22.4 +0.9
comp=Z,6.2nm,0.7s,baz=287,slow=5.4,SNR=52
NVAR LR LR 23 55 32.8
comp=Z,42nm,21.8s,baz=274,slow=30
NVAR Mina Array Bea 77.60 52 P P 23 28 22.9 +1.4
FCC Fort Churchill 77.60 26 P P 23 28 21.0 +0.2
FCC pmax pmax
comp=Z,8.0nm,0.8s
FCC Fort Churchill 77.60 26 P P 23 28 20.9 +0.2
FCC IAmb IAmb 23 28 21.3
comp=Z,8.4nm,0.8s
NV11 Mina Array Sit 77.69 52 P P 23 28 23.3 +1.4
BOZ Bozeman (W) 77.76 43 P P 23 28 23.6 +1.4
baz=305,SNR=17
SIM Simferopol' 77.82 316 *e*P **P 23 28 21.3 -1.0**
SIM pmax pmax
comp=Z,14nm,0.7s
SUW Suwalki 77.93 328 *e*P **P 23 28 22.3 -0.4**
SUW Suwalki 77.93 328 *e*P **P 23 28 22.4 -0.3**
SUW Suwalki 77.93 328 P P 23 28 22.6 -0.1
SUW pmax pmax
comp=Z,21nm,0.9s
SUW Suwalki 77.93 328 P P 23 28 22.6 -0.1
HIZ Hauiti 77.98 153 P P 23 28 24.8 +1.8
ICESG Greenland Ices 78.02 0⇑ *i*P **P 23 28 24.5 +1.0**
ICESG IAmb IAmb 23 28 25.2
comp=Z,11nm,0.8s
ELK Elko 78.32 49 P P 23 28 27.2 +1.7
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 78.32 49 P P 23 28 27.2 +1.7
PKM Mcpherson Peak 78.47 56 P P 23 28 28.1 +1.8
baz=302,SNR=5.3
TPH Tonopah 78.50 52 P P 23 28 27.8 +1.3
TPH pmax pmax
comp=Z,40nm,1.0s
TPH Tonopah 78.50 52 P P 23 28 27.8 +1.3
CWC Cottonwood Cre 78.82 54 P P 23 28 29.2 +1.0
baz=303
ISA Isabella, Lake 78.97 55 P P 23 28 29.3 +0.3
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 78.97 55 P P 23 28 29.3 +0.3
baz=303
ISA Isabella, Lake 78.97 55 P P 23 28 29.3 +0.3
H17A Grant Village 79.07 44 P P 23 28 32.9 +3.4
baz=306
FLWY Flagg Ranch 79.18 44 P P 23 28 31.4 +1.3
FLWY IAmb IAmb 23 28 33.8
comp=Z,24nm,1.5s
RLMT Red Lodge 79.39 43 P P 23 28 33.1 +1.8
baz=307,SNR=5.1
R11A Troy Canyon, C 79.43 51 P P 23 28 33.1 +1.6
baz=304,SNR=5.3
R11A Troy Canyon, C 79.43 51 P P 23 28 32.7 +1.1
R11A IAmb IAmb 23 28 34.0
comp=Z,11nm,1.1s
FURC Furnace Creek, 79.63 53 P P 23 28 33.9 +1.5
baz=304,SNR=6.7
EDW2 Edwards Air Fo 79.73 55 P P 23 28 34.2 +1.1
baz=303,SNR=8.7
TPNV Topopah Spring 79.77 53 P P 23 28 34.5 +1.1
TPNV pmax pmax
comp=Z,14nm,1.0s
TPNV Topopah Spring 79.77 53 P P 23 28 35.0 +1.6
baz=304,SNR=8.7
TPNV Topopah Spring 79.77 53 P P 23 28 34.5 +1.1
TPNV IAmb IAmb 23 28 35.7
comp=Z,14nm,0.9s
NNZ Nelson 79.84 156 P P 23 28 33.6 +0.5
KMPD K-Podol'skiy 79.86 322 P P 23 28 34.0 +0.6
HWUT Hardware Ranch 80.11 47 P P 23 28 36.9 +1.7
HWUT IAmb IAmb 23 28 38.0
comp=Z,12nm,1.1s
DUG Dugway, Tooele 80.16 48 P P 23 28 36.7 +1.3
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway, Tooele 80.16 48 P P 23 28 37.1 +1.7
baz=305,SNR=10
DUG Dugway, Tooele 80.16 48 P P 23 28 36.7 +1.3
DUG IAmb IAmb 23 28 38.1
comp=Z,9.2nm,0.8s
BNN Bunyan 80.24 310 P P 23 28 36.7 +0.9
GAZ Gaziantep 80.30 308 P P 23 28 37.0 +0.8
GAZ IAmb IAmb 23 28 37.8
comp=Z,11nm,0.8s
PRN Pahroc Range 80.31 52 P P 23 28 37.5 +1.3
GSC Goldstone, Bar 80.31 54 P P 23 28 37.3 +1.1
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 80.31 54 P P 23 28 37.5 +1.3
baz=304,SNR=5.7
GSC Goldstone, Bar 80.31 54 P P 23 28 37.3 +1.1
BFSC Mount Baldy Ra 80.31 55 P P 23 28 37.1 +0.8
baz=304
SHOC Shoshone, Teco 80.34 53 P P 23 28 37.8 +1.5
baz=304
VASR Vaslui 80.36 320 ⇑P P 23 28 36.4 +0.2
DY2G Dye2 80.50 3⇑ *i*P **P 23 28 37.5 +0.7**
DY2G IAmb IAmb 23 28 38.6
comp=Z,8.9nm,0.8s
PD31 Pinedale Array 80.63 45 P P 23 28 39.1 +1.1
PDAR Pinedale Array 80.63 45 P P 23 28 38.3 +0.3
comp=Z,1.0nm,0.7s,baz=254,slow=2.1,SNR=9.9
PDAR LR LR 00 04 10.8
comp=Z,13nm,18.7s,baz=276,slow=35
PRAR RASCA 80.74 321 ⇓P P 23 28 38.2 -0.1
VARL Varlezi 80.79 319 ⇓P P 23 28 38.3 -0.2
TUQ Turquoise Moun 80.83 54 P P 23 28 40.7 +1.6
baz=304,SNR=5.1
HEC Hector,Ludlow 80.89 54 P P 23 28 40.7 +1.3
baz=304
GKP Gorka Klasztor 81.03 330 *e*P **P 23 28 39.7 +0.1**
KWP Kalwaria Pacla 81.04 325 *e*P **P 23 28 40.6 +0.8**
KWP Kalwaria Pacla 81.04 325 P P 23 28 40.4 +0.6
KWP Kalwaria Pacla 81.04 325 P P 23 28 40.4 +0.6
TESR Tescani 81.06 320 ⇑P P 23 28 39.8 -0.1
CFR Carcaliu 81.09 319 ⇓P P 23 28 39.9 -0.1
BUR08 Bucovina Ar. S 81.09 322 P P 23 28 40.3 +0.1
BUR08 IAmb IAmb 23 28 41.3
comp=Z,7.3nm,0.8s
BURAR Bucovina Array 81.10 322 ⇑P P 23 28 40.5 +0.2
BURAR Bucovina Array 81.10 322 P P 23 28 40.4 +0.1
BURAR IAmb IAmb 23 28 41.3
comp=Z,9.4nm,0.7s
TPGR Topolog 81.13 318 ⇓P P 23 28 40.7 +0.3
BR131 Keskin Array S 81.14 312 P P 23 28 40.7 +0.1
BR131 pmax pmax
comp=Z,13nm,1.0s
BR131 Keskin Array S 81.14 312 P P 23 28 40.7 +0.1
BR131 IAmb IAmb 23 28 57.6
comp=Z,13nm,1.0s
BRTR Keskin Array B 81.14 312 P P 23 28 40.8 +0.1
comp=Z,4.7nm,0.9s,baz=112,slow=3.3,SNR=17
BRTR LR LR 00 07 00.9
comp=Z,48nm,20.4s,baz=72,slow=37
ODBI Odobesti 81.31 320 ⇓P P 23 28 42.1 +0.8
GMRC Granite Mounta 81.38 54 P P 23 28 43.3 +1.3
baz=304,SNR=5.2
VRI Vrincioaia 81.42 320 ⇑P P 23 28 42.8 +1.0
VRI Vrincioaia 81.42 320 P P 23 28 43.3 +1.4
PLOR Plostina 81.47 320 ⇓P P 23 28 42.0 -0.2
PFO Pinyon Flats O 81.49 55 P P 23 28 42.3 -0.3
comp=Z,8.8nm,0.9s,baz=295,slow=4.3,SNR=8.2
PFO Pinyon Flats O 81.49 55 P P 23 28 43.6 +1.0
PFO pmax pmax
comp=Z,21nm,1.3s
PFO Pinyon Flats O 81.49 55 P P 23 28 43.6 +1.0
baz=304,SNR=7.2
PFO Pinyon Flats O 81.49 55 P P 23 28 43.5 +1.0
PFO IAmb IAmb 23 28 44.7
comp=Z,21nm,1.3s
HARR Harsova 81.50 318 ⇑P P 23 28 42.2 -0.1
BELC Belle Mtn. Jos 81.59 55 P P 23 28 44.1 +1.0
baz=304
BISRR Bisoca 81.64 320 ⇑P P 23 28 44.1 +1.1
KOLS Kolonicke sedl 81.72 324 *e*P **P 23 28 43.4 0.0**
KOLS Kolonicke sedl 81.72 324 *e*P **P 23 28 43.4 0.0**
OZUR 81.78 320 ⇑P P 23 28 44.6 +0.8
P17A Butcher Ranch, 81.87 48 P P 23 28 45.9 +1.3
P17A IAmb IAmb 23 28 47.2
comp=Z,13nm,0.8s
ARCR ARCALIA 81.89 322 ⇓P P 23 28 45.6 +1.3
UZH Uzhgorod 81.91 324 *e*P **P 23 28 44.2 -0.1**
UZH *e* 23 28 55.6
MONP2 Monument Peak 81.92 56 P P 23 28 46.2 +1.2
baz=304
BMR Baia Mare 81.95 323 ⇑P P 23 28 45.4 +0.8
OJC Ojcow 82.03 326 *e*P **P 23 28 45.5 +0.5**
OJC Ojcow 82.03 326 P P 23 28 45.5 +0.5
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 82.03 326 P P 23 28 45.5 +0.5
OJC IAmb IAmb 23 28 46.2
comp=Z,14nm,0.9s
CBX Cerro Bola 82.07 57 P P 23 28 46.9 +1.2
DOPR Dopca 82.08 321 ⇓P P 23 28 46.5 +1.1
IRM Iron Mountain 82.08 54 P P 23 28 46.9 +1.3
baz=305
LNIZ Loeoknitz 82.12 331 *e*P **P 23 28 45.9 +0.5**
comp=Z,50nm,1.5s,baz=38,slow=4.9
LNIZ *e*pP **pP 23 29 01.3 +1.1**
TRPA Tarpa 82.12 324 ⇓P P 23 28 46.5 +1.0
TRPA Tarpa 82.12 324 *e*P **P 23 28 46.1 +0.7**
CRVS Cervenica-Dubn 82.14 325 *e*P **P 23 28 45.9 +0.3**
CRVS Cervenica-Dubn 82.14 325 *e*P **P 23 28 45.9 +0.3**
BC3 Big Chuckawall 82.16 55 P P 23 28 47.4 +1.3
baz=305,SNR=5.3
IKP In-Ko-Pah, Jac 82.27 56 P P 23 28 48.0 +1.3
baz=305
SWSC Sam W. Stewart 82.32 56 P P 23 28 48.3 +1.5
baz=305
CBBR Cluj-Babes-Bol 82.52 322 ⇓P P 23 28 48.5 +0.9
CJR Cluj-Napoca 82.53 322 ⇓P P 23 28 48.6 +0.9
MESR Meseseni 82.57 323 ⇑P P 23 28 48.7 +0.9
VOIR 82.60 320 ⇑P P 23 28 48.4 +0.2
U15A North Rim 82.68 51 P P 23 28 50.3 +1.3
ULM Lac du Bonnet 82.91 33 P P 23 28 49.1 -0.5
comp=Z,1.7nm,0.5s,baz=310,slow=7.5,SNR=4.6
ULM Lac du Bonnet 82.91 33 P P 23 28 49.7 +0.2
ULM pmax pmax
comp=Z,10.0nm,1.2s
ULM Lac du Bonnet 82.91 33 P P 23 28 49.7 +0.2
ULM IAmb IAmb 23 28 50.6
comp=Z,10.0nm,1.2s
LANS Liptovska Anna 82.92 326 *e*P **P 23 28 50.5 +0.8**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 82.92 326 *e*P **P 23 28 50.5 +0.8**
DRGR 82.93 322 ⇑P P 23 28 50.1 +0.3
O20A White River Ci 83.01 46 P P 23 28 51.9 +1.4
baz=308
O20A White River Ci 83.01 46 P P 23 28 51.6 +1.0
O20A IAmb IAmb 23 28 52.6
comp=Z,25nm,1.6s
OKC Ostrava-Krasne 83.06 327 *e*P **P 23 28 50.4 +0.1**
OKC Ostrava-Krasne 83.06 327 *e*P **P 23 28 50.4 +0.1**
KSP Ksiaz 83.17 328 *e*P **P 23 28 51.4 +0.5**
PPT Papeete 83.26 116 LR LR 00 02 17.3
comp=Z,61nm,20.6s,baz=356,slow=33
PPT2 Papeete2 83.27 116 *e*LR LR 23 54 41.0
comp=Z,92nm,24.8s
LOT Lotru 83.28 321 ⇓P P 23 28 51.9 +0.3
BSEG Bad Segeberg 83.32 333 *e*P **P 23 28 51.2 -0.3**
comp=Z,3.3nm,0.8s,baz=38,slow=4.9
MORC Moravsky Berou 83.38 327 ⇓P P 23 28 52.5 +0.4
MORC Moravsky Berou 83.38 327 *e*P **P 23 28 51.9 -0.1**
OSTC Ostas 83.42 328 *e*P **P 23 28 52.8 +0.6**
OSTC *e*P **P 23 28 52.8 +0.6**
CHVC Chvalec 83.46 328 *e*P **P 23 28 52.7 +0.3**
KRLC Kraliky 83.51 328 *e*P **P 23 28 53.0 +0.3**
KRLC Kraliky 83.51 328 *e*P **P 23 28 53.0 +0.3**
DPC Dobruska-Polom 83.52 328 *e*P **P 23 28 53.2 +0.5**
DPC Dobruska-Polom 83.52 328 *e*P **P 23 28 53.2 +0.5**
PSZ Piszkesteto 83.57 325 ⇓P P 23 28 53.6 +0.5
PSZ Piszkesteto 83.57 325 *e*P **P 23 28 53.5 +0.3**
PSZ Piszkesteto 83.57 325 P P 23 28 53.4 +0.3
PSZ pmax pmax
comp=Z,18nm,0.9s
PSZ Piszkesteto 83.57 325 P P 23 28 53.4 +0.3
PV14 Lion Creek, Pa 83.60 48 P P 23 28 54.8 +1.1
VYHS Vyhne 83.68 325 *e*P **P 23 28 53.9 +0.3**
VYHS pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 83.68 325 *e*P **P 23 28 53.9 +0.3**
WUAZ Wupatki 83.81 51 P P 23 28 56.4 +1.7
baz=307
WUAZ Wupatki 83.81 51 P P 23 28 55.7 +0.9
WUAZ IAmb IAmb 23 28 57.2
comp=Z,8.6nm,1.0s
SIRR Siria 83.82 323 ⇑P P 23 28 54.3 -0.1
GZR Gura Zlata 83.83 321 ⇓P P 23 28 54.7 +0.2
VLAD Vladila 83.89 320 ⇑P P 23 28 54.7 0.0
N23A Red Feather La 83.91 45 P P 23 28 56.9 +1.7
baz=309,SNR=8.5
JAVC Velka Javorina 83.97 326 *e*P **P 23 28 56.3 +1.2**
CSS Mathiatis 84.14 308 P P 23 28 56.0 -0.2
CSS IAmb IAmb 23 29 14.8
comp=Z,14nm,0.9s
VRAC Vranov 84.14 327 ⇑P P 23 28 56.4 +0.5
VRAC Vranov 84.14 327 *e*P **P 23 28 56.0 +0.1**
PVCC Panska Ves 84.16 329 *e*P **P 23 28 56.3 +0.4**
PVCC Panska Ves 84.16 329 *e*P **P 23 28 56.3 +0.4**
BRG Berggiesshubel 84.17 329 *e*P **P 23 28 55.7 -0.3**
BRG Amp 23 28 57.0
comp=Z,8.7nm,0.9s
BRG Berggiesshubel 84.17 329 *e*P **P 23 28 56.1 +0.1**
comp=Z,6.0nm,0.9s,baz=38,slow=4.9
FLTG Flechtingen 84.19 332 *e*P **P 23 28 55.4 -0.7**
comp=Z,7.3nm,1.0s,baz=38,slow=4.9
FLTG *e*pP **pP 23 29 11.1 +0.2**
CLL Collm 84.25 330⇑ *i*P **P 23 28 55.8 -0.5**
comp=Z,19nm,1.0s
CLL *e*(pP) **pP 23 29 11.0 -0.3**
CLL *e*PP **PP 23 32 09.0 -1.7**
CLL Collm 84.25 330⇑ *i*P **P 23 28 55.8 -0.5**
CLL *e* 23 29 11.0
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 84.25 330 P P 23 28 55.9 -0.4
CLL Collm 84.25 330 *e*P **P 23 28 56.2 -0.1**
comp=Z,11nm,0.9s,baz=38,slow=4.9
BZS Buzias 84.29 322 ⇑P P 23 28 56.2 -0.5
SMOL Smolenice 84.33 326 *e*P **P 23 28 57.8 +0.9**
SMOL pmax pmax
comp=Z,13nm,0.9s
SMOL Smolenice 84.33 326 *e*P **P 23 28 57.8 +0.9**
HERR Herculane 84.37 321 ⇑P P 23 28 56.8 -0.3
SMCO Snowmass 84.37 46 P P 23 28 58.8 +1.1
SMCO IAmb IAmb 23 29 00.2
comp=Z,11nm,1.1s
FBE Freiberg 84.39 330 *e*P **P 23 28 57.1 0.0**
comp=Z,11nm,0.9s,baz=38,slow=4.9
SRO2 Moca 84.41 325 *e*P **P 23 28 57.1 -0.1**
SRO2 pmax pmax
comp=Z,15nm,0.9s
SRO2 Moca 84.41 325 *e*P **P 23 28 57.1 -0.1**
SRO Srobarova 84.41 325 *e*P **P 23 28 58.1 +0.9**
SRO pmax pmax
comp=Z,15nm,0.8s
SRO Srobarova 84.41 325 *e*P **P 23 28 58.1 +0.9**
KRUC Moravsky 84.41 327 *e*P **P 23 28 57.1 -0.2**
MODS Modra-Piesok 84.50 326 *e*P **P 23 28 59.0 +1.3**
MODS pmax pmax
comp=Z,22nm,1.2s
MODS Modra-Piesok 84.50 326 *e*P **P 23 28 59.0 +1.3**
PRA Prague 84.55 329 *e*P **P 23 28 58.3 +0.4**
PRA Prague 84.55 329 *e*P **P 23 28 58.3 +0.4**
PRU Pruhonice 84.57 329 *e*P **P 23 28 58.2 +0.2**
PRU Pruhonice 84.57 329 *e*P **P 23 28 58.2 +0.2**
MVCO Mesa Verde 84.64 49 P P 23 29 00.2 +1.3
baz=308
ZST Bratislava 84.71 326 *e*P **P 23 28 59.5 +0.7**
ZST pmax pmax
comp=Z,28nm,1.0s
ZST Bratislava 84.71 326 *e*P **P 23 28 59.5 +0.7**
CSKK Cskako 84.75 325 *e*P **P 23 28 59.2 +0.2**
GHAJ Ghor Haditha 84.78 304 P P 23 28 59.9 +0.5
ISCO Idaho Springs 84.79 45 P P 23 29 01.3 +1.5
baz=310,SNR=5.6
MDVR Moldovita 84.80 321 ⇓P P 23 28 59.2 -0.2
NEUB Neuenburg 84.83 331 *e*P **P 23 28 59.4 +0.1**
comp=Z,12nm,0.9s,baz=38,slow=4.9
CLZ Clausthal 84.91 332 *e*P **P 23 28 59.5 -0.2**
comp=Z,14nm,1.1s,baz=38,slow=4.9
214A Organ Pipe Nat 84.95 55 P P 23 29 01.9 +1.5
baz=306
EGYH Egyhazaskeszo 85.16 325 *e*P **P 23 28 57.7 -3.3**
WERD Werda 85.18 330 *e*P **P 23 29 00.6 -0.5**
comp=Z,4.4nm,0.8s,baz=38,slow=4.9
MPLH Magyarpolny 85.23 325 *e*P **P 23 29 01.6 +0.2**
GUNZ Gunzen 85.23 330 *e*P **P 23 29 01.3 -0.1**
comp=Z,4.7nm,0.9s,baz=38,slow=4.9
ELL Elmali 85.27 311 P P 23 29 02.5 +0.5
ELL pmax pmax
comp=Z,49nm,1.2s
ELL Elmali 85.27 311 P P 23 29 02.5 +0.5
WERN Wernitzgruen 85.27 330 *e*P **P 23 29 01.5 -0.1**
comp=Z,6.8nm,0.9s,baz=38,slow=4.9
NKC Novy Kostel 85.28 330 *e*P **P 23 29 01.6 -0.1**
NKC Novy Kostel 85.28 330 *e*P **P 23 29 01.6 -0.1**
GTTG Gottingen 85.30 332 *e*P **P 23 29 01.5 -0.1**
comp=Z,8.5nm,0.8s,baz=38,slow=4.9
MOX Moxa 85.32 330 *e*P **P 23 29 01.5 -0.3**
comp=Z,3.1nm,0.8s,baz=38,slow=4.9
MOX *e*pP **pP 23 29 16.9 +0.2**
SOP Sopron 85.33 326 *e*P **P 23 29 02.6 +0.7**
S22A 4UR Ranch, Cre 85.35 47 P P 23 29 04.4 +1.9
baz=309,SNR=8.4
MORH Mrgy, Hungar 85.37 324 ⇑P P 23 29 01.5 -0.6
MORH Mrgy, Hungar 85.37 324 *e*P **P 23 29 01.5 -0.6**
VTS Vitosha 85.44 319 ⇑P P 23 29 02.8 0.0
VTS Vitosha 85.44 319 P P 23 29 03.5 +0.7
VTS pmax pmax
comp=Z,3.0nm,0.9s
VTS Vitosha 85.44 319 P P 23 29 03.5 +0.7
CONA Conrad Observa 85.48 327 *e*P **P 23 29 03.0 +0.3**
comp=Z,10nm,0.9s,SNR=12
FRGS Fruska Gora 85.53 323 ⇑P P 23 29 03.3 +0.3
CKRC Cesky Krumlov 85.53 328 *e*P **P 23 29 03.9 +1.0**
IBBN Ibbenburen 85.56 333 *e*P **P 23 29 02.3 -0.6**
baz=38,slow=4.9
Q24A Divide 85.60 46 P P 23 29 05.3 +1.4
baz=310
TAOE Nuku Hiva Isla 85.61 103 *e*LR LR 23 55 58.0
comp=Z,143nm,24.9s
MANZ Manzenberg 85.61 330 *e*P **P 23 29 03.1 -0.2**
comp=Z,4.5nm,0.9s,baz=38,slow=4.9
KHC Kasperske Hory 85.62 328 P P 23 29 03.5 +0.1
KHC pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 85.62 328 *e*P **P 23 29 03.2 -0.2**
KHC *e*pP **pP 23 29 18.2 -0.1**
KHC Kasperske Hory 85.62 328 P P 23 29 03.5 +0.1
KHC IAmb IAmb 23 29 04.3
comp=Z,6.2nm,0.8s
KOVH Kovagotottos 85.73 324 *e*P **P 23 29 02.9 -1.0**
ROTZ Rotzenmuhle 85.74 330 *e*P **P 23 29 03.7 -0.2**
comp=Z,5.3nm,1.0s,baz=38,slow=4.9
GEC2 GERESS Array S 85.78 328 P P 23 29 04.0 -0.2
GEC2 IAmb IAmb 23 29 04.7
comp=Z,5.2nm,0.9s
GEC2 GERESS Array S 85.78 328 *e*P **P 23 29 04.0 -0.2**
comp=Z,3.5nm,0.8s,baz=38,slow=4.9
GEC2 *e*pP **pP 23 29 19.3 +0.1**
GERES GERESS Array B 85.78 328 P P 23 29 03.7 -0.6
comp=Z,3.4nm,0.8s,baz=46,slow=5.8,SNR=33
GERES GERESS Array B 85.78 328 P P 23 29 04.0 -0.2
GERES GERESS Array B 85.78 328 P P 23 29 04.0 -0.2
F33A 5 Mile Ranch, 85.83 36 P P 23 29 04.5 +0.1
F33A IAmb IAmb 23 29 05.8
comp=Z,8.3nm,0.8s
UBBA Unterbreizbach 85.85 331 *e*P **P 23 29 03.8 -0.4**
baz=38,slow=4.9
WET Wettzell 85.92 329 *e*P **P 23 29 04.9 +0.1**
comp=Z,1.8nm,0.8s,baz=38,slow=4.9
ARSA Arzberg 86.13 326 *e*P **P 23 29 05.5 -0.4**
comp=Z,6.2nm,1.0s
SDCO Great Sand Dun 86.17 47 P P 23 29 08.1 +1.5
baz=310,SNR=7.1
SDCO Great Sand Dun 86.17 47 P P 23 29 07.8 +1.1
DIVS Divibare 86.17 322 P P 23 29 05.9 -0.4
KASTN Kahler Asten 86.17 332 *e*P **P 23 29 05.8 -0.3**
comp=Z,5.1nm,0.8s,baz=38,slow=4.9
GRA1 Grafenberg Arr 86.21 330 P P 23 29 06.9 +0.6
GRA1 IAmb IAmb 23 29 07.5
comp=Z,11nm,0.9s
GRF Grafenberg Arr 86.21 330 P P 23 29 06.9 +0.6
GRF pmax pmax
comp=Z,11nm,0.9s
GRF Grafenberg Arr 86.21 330 *e*P **P 23 29 06.0 -0.2**
comp=Z,6.9nm,0.8s,baz=38,slow=4.9
GRFO Grafenberg 86.21 330 P P 23 29 06.7 +0.4
GRFO pmax pmax
comp=Z,11nm,0.9s
GRFO Grafenberg 86.21 330 P P 23 29 06.7 +0.4
GRFO IAmb IAmb 23 29 07.5
comp=Z,11nm,0.9s
MOA Molln 86.27 327 *e*P **P 23 29 05.8 -0.8**
comp=Z,6.5nm,1.1s
BUG Bochum--Univer 86.43 333 *e*P **P 23 29 06.9 -0.3**
comp=Z,7.7nm,0.9s,baz=38,slow=4.9
EYMN Ely 86.56 32 P P 23 29 08.2 +0.2
baz=318
EYMN Ely 86.56 32 P P 23 29 08.0 0.0
EYMN IAmb IAmb 23 29 09.0
comp=Z,6.9nm,1.0s
EKA Eskdalemuir Ar 86.63 340 P P 23 29 08.0 -0.1
PERS Pernice 86.77 326 *i* P **P 23 29 08.5 -0.6**
SOKA Soboth 86.78 326 *e*P **P 23 29 08.5 -0.6**
comp=Z,11nm,1.3s,SNR=8.5
TBI Tubuai 86.88 120 *e*LR LR 23 56 29.0
comp=Z,70nm,25.8s
RJOB Jochberg 87.01 328 *e*P **P 23 29 10.1 -0.2**
comp=Z,12nm,0.9s,baz=38,slow=4.9
ECSD EROS Data Cent 87.16 38 P P 23 29 11.2 +0.2
baz=315,SNR=11
ECSD EROS Data Cent 87.16 38 P P 23 29 11.2 +0.2
ECSD IAmb IAmb 23 29 12.2
comp=Z,8.6nm,0.9s
T25A Trinidad 87.22 47 P P 23 29 12.9 +1.2
baz=310
ANMO Albuquerque 87.34 49 P P 23 29 12.0 -0.2
comp=Z,1.0nm,0.8s,baz=286,slow=9.5,SNR=4.8
ANMO Albuquerque 87.34 49 *ce*P **P 23 29 12.4 +0.1**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ANMO Albuquerque 87.34 49 P P 23 29 13.7 +1.4
baz=309
PDG Podgorica 87.72 321 ⇓P P 23 29 13.0 -0.7

JAVS	Javornik	87.81	326	*i* P		P	23 29 12.6	-1.5
ZOU	Zoufplan	87.82	327	P		P	23 29 12.8	-1.6
ZOU				IAmb		IAmb	23 29 13.5	
	comp=Z,15nm,1.6s							
ABTA	Abfaltersbach	87.89	327	*e*P		P	23 29 13.8	-0.7
	comp=Z,2.4nm,0.7s							
WTTA	Wattenberg	87.89	328	*i* P		P	23 29 14.9	+0.3
	comp=Z,2.5nm,0.8s							
MOTA	Moosalm	88.06	329	*e*P		P	23 29 15.3	-0.1
	comp=Z,3.7nm,1.0s							
RETA	Reutte	88.10	329	*e*P		P	23 29 15.7	+0.2
	comp=Z,5.2nm,1.1s							
STAL	STALIGIAL	88.16	327	P		P	23 29 14.2	-1.6
STAL				IAmb		IAmb	23 29 14.8	
	comp=Z,5.0nm,0.7s							
BMRD	Maredsous	88.29	334	*d*P		P	23 29 15.2	-1.0
	comp=Z,7.7nm,0.9s							
SNF	Seneffe	88.30	334	*d*P		P	23 29 16.2	0.0
	comp=Z,7.8nm,0.8s							
FETA	Feichten	88.47	329	*e*P		P	23 29 17.4	0.0
	comp=Z,4.6nm,1.1s							
BFO	Black Forest	88.47	331	*e*P		P	23 29 16.9	-0.3
	comp=Z,2.9nm,0.9s,baz=38,slow=4.9							
BFO				*e*pP		pP	23 29 32.2	-0.1
DAVA	Damuels	88.63	329	*e*P		P	23 29 18.3	+0.2
	comp=Z,6.9nm,1.1s							
COWI	Conover	89.02	32	P		P	23 29 19.7	-0.1
COWI				IAmb		IAmb	23 29 21.0	
	comp=Z,8.0nm,1.1s							
TEOL	Teolo	89.32	327	P		P	23 29 21.1	-0.1
TUE	Stuetta	89.50	329	P		P	23 29 22.1	-0.1
TUE				IAmb		IAmb	23 29 39.5	
	comp=Z,7.9nm,1.1s							
E43A	Lone Tree Farm	89.74	31	P		P	23 29 23.3	+0.1
NRCA	Norcia	90.54	324	P		P	23 29 26.7	-0.4
NRCA				IAmb		IAmb	23 29 27.7	
	comp=Z,9.3nm,1.1s							
L40A	Anamosa	91.09	36	P		P	23 29 29.7	+0.2
CHGQ	Chibougamau	91.52	22	P		P	23 29 31.5	+0.1
	baz=331							
T35A	Sooner Cattle	92.02	43	P		P	23 29 34.3	+0.3
WMOK	Wichita Mounta	92.22	45	P		P	23 29 35.5	+0.6
WMOK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
WMOK	Wichita Mounta	92.22	45	P		P	23 29 35.7	+0.7
	baz=314							
WMOK	Wichita Mounta	92.22	45	P		P	23 29 35.5	+0.6
WMOK				IAmb		IAmb	23 29 36.4	
	comp=Z,4.1nm,0.8s							
TX31	Lajitas Ar. Si	92.75	52	P		P	23 29 38.5	+0.9
TXAR	Lajitas Array	92.75	52	P		P	23 29 38.6	+1.0
	comp=Z,7.8nm,0.8s,baz=293,slow=3.1,SNR=90							
TXAR				LR		LR	00 09 25.8	
	comp=Z,28nm,19.0s,baz=0.0,slow=34							
TXAR	Lajitas Array	92.75	52	P		P	23 29 38.5	+0.9
U40A	Yellville	94.47	41	P		P	23 29 45.3	+0.1
	baz=317							
MIAR	Mount Ida	95.39	42	P		P	23 29 49.9	+0.5
MIAR				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MIAR	Mount Ida	95.39	42	P		P	23 29 49.9	+0.5
	baz=317							
MIAR	Mount Ida	95.39	42	P		P	23 29 49.9	+0.5
MIAR				IAmb		IAmb	23 29 51.3	
	comp=Z,6.4nm,1.1s							
TORD	Torodi Ar. Bea	119.73	313	PKP		PKPdf	23 35 14.3	-1.1
	comp=Z,0.9nm,0.6s,baz=5.9,slow=1.9,SNR=11							
TORD	Torodi Ar. Bea	119.73	313			PKPdf	23 35 14.7	-0.7
QSPA	South Pole Qui	122.94	180	PKP		PKPdf	23 35 19.5	-0.5
	comp=Z,3.9nm,0.8s,baz=281,slow=1.5,SNR=10							
QSPA	South Pole Qui	122.94	180			PKPdf	23 35 19.9	-0.1
SNAA	Sanae	136.97	196	PKPdf		PKiKP	23 35 48.2	-0.1
SNAA	Sanae	136.97	196	*c i* PKIKP		PKPdf	23 35 46.3	-0.2
SNAA				pmax		pmax		
	comp=Z,10.0nm,2.5s							
VNA3	Neumayer Olymp	138.76	194	PKPdf		PKPdf	23 35 49.5	-0.3
VNA1	Neumayer--Stat	138.93	195	PKPdf		PKPdf	23 35 49.0	-1.0
LPAZ	La Paz	148.81	64	PKPbc		PKPbc	23 36 14.1	+0.6
	comp=Z,9.3nm,0.7s,baz=297,slow=2.5,SNR=38							
LPAZ	La Paz	148.81	64			PKPbc	23 36 14.2	+0.7
LVC	Limon Verde	151.65	76	PKPbc		PKiKP	23 36 20.4	+0.1
	comp=Z,1.7nm,0.6s,baz=250,slow=2.6,SNR=4.0							
LVC				PKPab		pPKPdf	23 36 30.3	+1.2
	comp=Z,7.4nm,0.8s,baz=286,slow=1.0,SNR=4.9							
LVC	Limon Verde	151.65	76			PKiKP	23 36 21.0	+0.7
SIV	San Ignacio	153.72	55	PKP		PKPdf	23 36 16.8	+0.4
	comp=Z,0.9nm,0.9s,baz=194,slow=2.4,SNR=9.9							
SIV				PKPbc		PKiKP	23 36 24.6	+0.3
	comp=Z,2.2nm,0.7s,baz=294,slow=2.8,SNR=12							
SIV				PKPab		PKPab	23 36 36.8	-0.4
	comp=Z,6.2nm,0.8s,baz=351,slow=2.9,SNR=15							
PLCA	Paso Flores	153.81	116	PKPbc		PKiKP	23 36 24.3	+0.4
	comp=Z,3.0nm,0.8s,baz=283,slow=3.3,SNR=5.7							
PLCA				PKPab		sPKPdf	23 36 36.6	-0.3
	comp=Z,3.0nm,0.9s,baz=238,slow=3.2,SNR=4.8							
PLCA	Paso Flores	153.81	116			PKiKP	23 36 24.5	+0.6
CPUP	Villa Florida	162.71	72	PKPab		PKPab	23 37 16.2	+0.4
	comp=Z,3.3nm,1.0s,baz=0.6,slow=5.0,SNR=3.5							

IDC 11 23:17:27.2±5.7, 18°.41N×106°.34W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/41, mbtmp3.3/4, ML3.3/2, MS3.3/8, Ms1 3.4/8, ms1mx3.2/18 Error ellipse: s-maj=102.4km s-min=39.3km az=32.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	4.36	276	T	T	23 22 55.2	
	SNR=35						
LPIG	La Paz	6.76	328	LR	LR	23 21 05.3	
	comp=Z,373nm,18.5s,baz=200,slow=32						
CMIG	Matias Romero	10.99	95	Pn	Pn	23 20 05.5	-0.3
	0.4nm,0.3s,baz=270,slow=20,SNR=2.0						
CMIG				LR	LR	23 24 19.1	
	comp=Z,83nm,20.6s,baz=1.0,slow=38						
TXAR	Lajitas Array	11.14	12	Pn	Pn	23 20 08.2	+0.3
	0.0nm,0.3s,baz=182,slow=9.4,SNR=5.3						
ANMO	Albuquerque	16.47	360	LR	LR	23 27 26.4	
	comp=Z,62nm,21.2s,baz=184,slow=36						
PFO	Pinyon Flats O	17.64	331	LR	LR	23 27 19.8	
	comp=Z,72nm,18.5s,baz=158,slow=34						
NVAR	Mina Array Bea	22.51	335	P	P	23 22 27.7	-1.0
	1.3nm,1.0s,baz=145,slow=9.8,SNR=7.1						
NVAR				LR	LR	23 29 56.7	
	comp=Z,79nm,19.3s,baz=94,slow=33						
PDAR	Pinedale Array	24.43	354	P	P	23 22 49.4	+1.5
	0.3nm,0.7s,baz=171,slow=12,SNR=4.4						
ATAH	Atahualpa	37.48	130	LR	LR	23 36 49.8	
	comp=Z,56nm,21.7s,baz=350,slow=31						
LPAZ	La Paz	51.03	130	LR	LR	23 44 49.0	
	comp=Z,44nm,19.4s,baz=186,slow=32						
FRB	Frobisher Bay	52.06	20	LR	LR	23 49 09.6	
	comp=Z,68nm,18.0s,baz=4.0,slow=36						

MEX 11 23:34:36.6±0.5, 14°.70N×93°.76W, h38km±57km, MD4.3
NEIC 11 23:34:37.6±2.3, 14°.85N±0°.01×93°.71W±0°.04, h27km±9km, Error ellipse: s-maj=5.3km s-min=1.6km az=106.0

ISC 11 23:34:33.0±2.0, 14°.72N±0°.06×93°.76W±0°.04, h4km±12km, n33, σ1°.37/44, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.11	28	*i* P		Pg	23 34 54.3	0.0
PCIG				*i* S		Sg	23 35 07.7	-0.9
PCIG		1.11	28			Pg	23 34 54.3	0.0
PCIG						Sg	23 35 07.7	-0.9
THIG		1.46	83	*i* P		Pn	23 34 58.7	-1.5
THIG				*i* S		Sn	23 35 17.6	-2.2
THIG		1.46	83			Pn	23 34 58.7	-1.5
THIG						Sn	23 35 17.6	-2.2
RTAL	Retalhuleu	2.01	95			Pn	23 35 07.2	-0.6
TGIG		2.14	17	*e*P		Pn	23 35 10.5	+1.0
TGIG				*i* S		Sn	23 35 37.4	+0.8
TGIG		2.14	17			Pn	23 35 10.5	+1.0
TGIG						Sn	23 35 37.4	+0.8
CCIG	Comitan	2.21	45	*i* P		Pn	23 35 12.4	+1.8
CCIG				*i* S		Sn	23 35 38.5	0.0
CCIG	Comitan	2.21	45			Pn	23 35 12.4	+1.8
HUEH	Huehuetenango	2.26	74			Pn	23 35 12.6	+1.2
HUIG	Huatulco	2.49	295	*e*P		Pn	23 35 13.0	-1.4
HUIG				*i* S		Sn	23 35 46.4	+1.1
HUIG	Huatulco	2.49	295			Pn	23 35 13.0	-1.4
HUIG						Sn	23 35 46.4	+1.1
CMIG	Matias Romero	2.59	336	*i* P		Pn	23 35 15.1	-0.7
CMIG				*i* S		Sn	23 35 45.0	-2.8
CMIG	Matias Romero	2.59	336			Pn	23 35 15.1	-0.7
CMIG						Sn	23 35 45.0	-2.8
MTO3	Montecristo	4.27	94			Pn	23 35 40.3	+1.2
ESQI	Esquipulas	4.28	92	Pn		Pn	23 35 41.8	+2.7
PETF	Flores	4.34	59			Pn	23 35 42.0	+2.2
TLIG	Tlapa	5.41	302	Pn		Pn	23 35 56.6	+1.9
CRIN	San Cristobal	6.83	106	Pn		Pn	23 36 14.6	+0.5
SRBA	San Rafael, Bu	11.54	117	Pn		Pn	23 37 20.0	+1.1
DRK0	Durika	11.63	117	Pn		Pn	23 37 21.1	+1.0
SOR	Soroa	12.96	50	Pn		Pn	23 37 38.3	+0.2
TXAR	Lajitas Array	17.18	329			Pn	23 38 32.9	-1.3
TX31	Lajitas Ar. Si	17.18	329			Pn	23 38 34.2	0.0
TX31				IAmb		IAmb	23 38 54.0	
	comp=Z,12nm,1.4s							
LRAL	Lakeview Retre	19.24	17	P		P	23 38 58.1	-0.3
LRAL				IAmb		IAmb	23 39 03.4	
	comp=Z,7.8nm,1.2s							
MIAR	Mount Ida	19.74	0	P		P	23 39 03.5	-0.3
MIAR				IAmb		IAmb	23 39 11.1	
	comp=Z,5.6nm,1.1s							
WHAR	Wooly Hollow	20.52	3	P		P	23 39 12.2	-0.2
WHAR				IAmb		IAmb	23 39 20.2	
	comp=Z,4.9nm,1.0s							
X48A	Hartselle	20.56	16	P		P	23 39 12.0	-0.7
X48A				IAmb		IAmb	23 39 19.7	
	comp=Z,4.8nm,0.8s							
MSTX	Muleshoe	20.83	339	P		P	23 39 16.2	+0.4
FCAR	Ozark Folk Cen	21.13	4	P		P	23 39 18.7	-0.3
AMTX	Amarillo	21.31	342	P		P	23 39 19.5	-1.4
HHAR	Hobbs	21.47	360	P		P	23 39 23.0	+0.4
121A	Cookes Peak, D	21.85	327	P		P	23 39 26.9	-0.1
121A				IAmb		IAmb	23 39 38.8	
	comp=Z,4.0nm,0.9s							

LDG 11 23:36:53.9±0.6, 32°.40N×16°.17W, h30km, Error ellipse: s-maj=24.4km s-min=6.6km az=111.0
MDD 11 23:36:56.5±0.4, 32°.46N×16°.50W, h33km±17km, mb4.4/20, Error ellipse: s-maj=7.8km s-min=4.5km az=110.0, PRXIMO
IGIL 11 23:36:58.3, 32°.46N×16°.37W, h10km
CNRM 11 23:36:60.0, 32°.78N×16°.22W, h50km, ml3.3, Hypocentre not reviewed by the ISC
INMG 11 23:36:59.3±1.9, 32°.53N×16°.44W, h10km, MD2.9, ML3.2, Error ellipse: s-maj=5.8km s-min=2.7km az=79.0

ISC 11 23:36:53.5±0.5, 32°.49N±0°.02×16°.32W±0°.04, h48km±9km, n78, σ2°.61/98, 4C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	Funchal	0.51	288	P	Pn	23 37 05.1	+0.4
FUL				S	Sn	23 37 10.3	-2.4
	1μm,0.2s						
FUL	Funchal	0.51	288	⇑*i* P	Pn	23 37 05.1	+0.4
FUL				*e*S	Sn	23 37 10.3	-2.4
FUL				A	A	23 37 14.8	
	3μm,0.2s						
PMAR	Madeira	0.55	295	P	Pn	23 37 05.9	+0.4
PMAR				S	Sn	23 37 12.0	-2.0
	2μm,0.2s						
PMAR	Madeira	0.55	295	⇑*i* P	Pn	23 37 05.9	+0.4
PMAR				*e*S	Sn	23 37 12.0	-2.0
PMAR				A	A	23 37 14.6	
	5μm,0.2s						
PMPS	Porto Santo	0.56	359	P	Pn	23 37 07.0	+1.5
PMPS				S	Sn	23 37 13.4	-0.6
	286nm,0.2s						
PMPS	Porto Santo	0.56	359	⇑*i* P	Pn	23 37 07.0	+1.5
PMPS				*e*S	Sn	23 37 13.4	-0.6
PMPS				A	A	23 37 19.1	
	573nm,0.2s						
PMPST	Porto Santo, M	0.58	359	⇑*i* P	Pn	23 37 07.3	+1.6
PMPST				*e*S	Sn	23 37 13.9	-0.6
PMPST				A	A	23 37 15.3	
	870nm,0.2s						
PMOZ	Porto Moniz, M	0.81	294	P	Pn	23 37 09.5	+0.8
	131nm,0.2s,SNR=7.9						
PMOZ				S	Sn	23 37 18.8	-1.0
	1μm,0.3s,SNR=7.9						
PMOZ	Porto Moniz, M	0.81	294	*e*P	Pn	23 37 09.6	+0.8
PMOZ				*e*S	Sn	23 37 19.0	-0.8
PMOZ				A	A	23 37 21.7	
	628nm,0.2s						
PMOZ	Porto Moniz, M	0.81	294	P		23 37 10.0	
PMOZ				S		23 37 24.2	
EBAJ	Bajamar	3.94	180	P	Pn	23 37 53.7	+2.2
	4.3nm,0.2s,SNR=7.9						
EBAJ				S	Sn	23 38 35.2	-1.3
	16nm,0.2s,SNR=7.9						
TBT	Taburiente	4.04	200	P	Pn	23 37 54.5	+1.6
	4.3nm,0.1s,SNR=7.9						
TBT				S	Sn	23 38 36.0	-2.9
	7.7nm,0.1s,SNR=7.9						
EFAM	Famara	4.12	144	P	Pn	23 37 59.8	+5.7
	8.5nm,0.3s,SNR=7.9						
EFAM				S	Sn	23 38 41.3	+0.3
	2.9nm,0.2s,SNR=7.9						
EHIG	Higuera	4.13	198	S	Sn	23 38 39.4	-1.8
	31nm,0.1s,SNR=7.9						
CGUI	Guimar, Teneri	4.16	181	P	Pn	23 37 57.9	+3.3
	4.6nm,0.2s,SNR=7.9						
CGUI				S	Sn	23 38 40.8	-1.2
	22nm,0.2s,SNR=7.9						
CRAJ	Montana Rajada	4.22	183	S	Sn	23 38 44.8	+1.0
	15nm,0.1s,SNR=7.9						
MACI	Morro de la Ar	4.23	182	P	Pn	23 37 57.8	+2.1
	3.4nm,0.2s,SNR=7.9						
MACI				S	Sn	23 38 43.1	-0.8
	12nm,0.2s,SNR=7.9						
CCAN	Las Canadas	4.26	183	P	Pn	23 37 57.5	+1.3
	2.5nm,0.2s,SNR=7.9						
CCAN				S	Sn	23 38 42.6	-2.2
	2.8nm,0.1s,SNR=7.9						
CFUE	Fuerteventura	4.35	151	P	Pn	23 38 00.8	+3.7
	15nm,0.1s,SNR=7.9						
CFUE				S	Sn	23 38 45.5	-1.1
	20nm,0.1s,SNR=7.9						
EGOM	La Gomera	4.39	190	P	Pn	23 37 58.4	+0.8
	11nm,0.2s,SNR=9.8						
EGOM				S	Sn	23 38 43.8	-3.6
	24nm,0.2s,SNR=7.2						
GGC	Guia, Gran Can	4.40	172	S	Sn	23 38 47.3	-0.5
	2.1nm,0.0s,SNR=7.9						
EOSO	Osorio	4.46	171	P	Pn	23 38 01.7	+3.1
	3.1nm,0.2s,SNR=7.9						
EOSO				S	Sn	23 38 48.1	-1.1
	3.8nm,0.1s,SNR=7.9						
CFTV	Fuerteventura	4.50	154	P	Pn	23 38 03.4	+4.2
	4.1nm,0.2s,SNR=7.9						
CFTV				S	Sn	23 38 49.5	-0.8
	14nm,0.1s,SNR=7.9						
CGIN	Giniginamar, F	4.69	155	P	Pn	23 38 05.2	+3.4
	7.0nm,0.1s,SNR=7.9						
CGIN				S	Sn	23 38 53.9	-1.0
	4.7nm,0.1s,SNR=7.9						
CTAN	El Hierro	4.95	198	S	Sn	23 39 00.9	-0.6
	38nm,0.1s,SNR=7.9						
CHIE	El Hierro	4.96	197	P	Pn	23 38 06.6	+1.1
	0.9nm,0.1s,SNR=7.9						
CHIE				S	Sn	23 38 59.2	-2.3
	11nm,0.5s,SNR=7.9						
EAH	EAH	5.78	97	P		23 38 24.3	
EAH				S		23 39 26.9	
TTIG	Tnine Tigouga,	7.00	104	P		23 38 38.9	
SRHM	Skhour des Reh	7.12	88	P		23 38 42.9	
SRHM				S		23 39 54.8	
OUK	Oukaimeden	7.31	98	P		23 38 45.6	
OUK				S		23 40 03.6	
PFVI	Vila Bisbo	7.71	51	P		23 38 46.5	
PFVI				S		23 40 09.2	
PTEO	Sao Teotonio	8.01	49	P	Pn	23 38 54.0	+6.7
PTEO	Sao Teotonio	8.01	49	*e*P	Pn	23 38 54.0	+6.7
ZHG	ZHG	8.19	81	P		23 38 55.3	
ZHG				S		23 40 21.6	
PBDV	Barranco-do-Ve	8.37	53	P	Pn	23 38 57.6	+5.4
PBDV				S	Sn	23 40 25.8	+0.5
PBDV	Barranco-do-Ve	8.37	53	*e*P	Pn	23 38 57.6	+5.4
PBDV				*e*S	Sn	23 40 25.8	+0.5
PNCL	Nicolau / Gran	8.48	46	P	Pn	23 38 59.2	+5.4
PNCL				S	Sn	23 40 25.9	-2.2
PNCL	Nicolau / Gran	8.48	46	*e*P	Pn	23 38 59.2	+5.4
PNCL				*e*S	Sn	23 40 25.9	-2.2
PCVE	Castro Verde	8.51	51	P	Pn	23 38 58.3	+4.2
PCVE				S	Sn	23 40 28.9	+0.2
PCVE	Castro Verde	8.51	51	*e*P	Pn	23 38 58.3	+4.2
PCVE				*e*S	Sn	23 40 28.9	+0.2
MESJ	Messejana	8.51	49	*e*P	Pn	23 38 58.5	+4.4
MESJ	Messejana	8.51	49	P	Pn	23 38 58.5	+4.4
MESJ	Messejana	8.51	49	*e*P	Pn	23 38 59.5	+5.4
PVAQ	Vaqueiros	8.60	53	P	Pn	23 38 59.5	+4.2
PVAQ				S	Sn	23 40 29.4	-1.5
PVAQ	Vaqueiros	8.60	53	*e*P	Pn	23 38 59.5	+4.2
PVAQ				*e*S	Sn	23 40 29.4	-1.5
PVAQ	Vaqueiros	8.60	53	P		23 38 59.5	
PVAQ				S		23 40 30.0	
PMAFR	Mafra	8.62	40	P	Pn	23 39 00.6	+4.9
	2.2nm,0.1s,SNR=7.9						
PMAFR				S	Sn	23 40 27.6	-3.8
	1.9nm,0.0s,SNR=7.9						
PMAFR	Mafra	8.62	40	*e*P	Pn	23 39 00.8	+5.2
	3.2nm,0.4s,SNR=7.9						
EGRO	El Granado	8.82	53	S	Sn	23 40 35.4	-1.0
	3.2nm,0.4s,SNR=7.9						
CMLA	Cha da Macela	9.19	307	P		23 39 08.5	
CMLA				S		23 40 50.7	
PSBE	So Bento	9.29	39	*e*P	Pn	23 39 08.4	+3.6
PMTG	Montargil	9.29	43	P	Pn	23 39 08.8	+4.0
PMTG				S	Sn	23 40 46.9	-0.9
PMTG	Montargil	9.29	43	*e*P	Pn	23 39 08.8	+4.0
PMTG				*e*S	Sn	23 40 46.9	-0.9
EMIN	Mina Concepcio	9.49	54	P	Pn	23 39 12.9	+5.3
	0.8nm,0.2s,SNR=7.6						
EMIN				S	Sn	23 40 52.5	-0.4
	0.1nm,0.0s,SNR=7.9						
CZD	Col de Zad	9.52	84	P		23 39 15.1	
CZD				S		23 40 56.3	
PESTR	Estremoz	9.53	46	*e*P	Pn	23 39 14.0	+5.9
PESTR	Estremoz	9.53	46	P		23 39 12.2	
PESTR				S		23 40 55.2	
ESPR	Espera	9.66	60	P	Pn	23 39 13.5	+3.7
	1.5nm,0.2s,SNR=5.2						
ESPR				S	Sn	23 40 56.8	-0.1
	5.0nm,0.3s,SNR=7.9						
MD31	MD31	9.75	85	P		23 39 18.2	
MD31				S		23 41 02.6	
EBAD	Badajoz	9.82	48	P	Pn	23 39 16.6	+4.6
	1.4nm,0.3s,SNR=8.9						
EBAD				S	Sn	23 40 57.6	-3.2
	1.3nm,0.3s,SNR=5.8						
PCAS	Casmilo, Conde	9.84	38	P	Pn	23 39 16.1	+3.8
PCAS	Casmilo, Conde	9.84	38	*e*P	Pn	23 39 16.1	+3.8
MDT	Midelt	9.88	85	P		23 39 19.5	
MDT				S		23 41 05.2	
PMRV	Marv??o	10.01	44	P	Pn	23 39 18.7	+4.0
PMRV				S	Sn	23 41 02.1	-3.5
PMRV	Marv??o	10.01	44	*e*P	Pn	23 39 18.7	+4.0
PMRV				*e*S	Sn	23 41 02.1	-3.5
PCBR	Castelo Branco	10.24	42	P	Pn	23 39 23.7	+6.0
PCBR	Castelo Branco	10.24	42	*e*P	Pn	23 39 23.7	+6.0
ECAB	El Cabril	10.51	55	P	Pn	23 39 26.2	+4.7
	0.1nm,0.2s,SNR=7.9						
ECAB				S	Sn	23 41 15.4	-2.4
	1.0nm,0.3s,SNR=7.9						
PVIS	Viseu	10.64	37	P	Pn	23 39 28.2	+4.9
PVIS	Viseu	10.64	37	*e*P	Pn	23 39 28.2	+4.9
EGOR	Sierra Gorda,	11.04	62	P	Pn	23 39 33.4	+4.4
	0.1nm,0.2s,SNR=7.9						
EGOR				S	Sn	23 41 30.0	-1.0
	1.2nm,0.3s,SNR=7.9						
EADA	Adamuz	11.13	56	P	Pn	23 39 34.8	+4.7
	0.5nm,0.2s,SNR=7.9						
EADA				S	Sn	23 41 31.8	-1.4
	0.2nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	11.18	35	P	Pn	23 39 34.2	+3.5
POLO				S	Sn	23 41 28.0	-6.3
POLO	Lamas de Olo	11.18	35	*e*P	Pn	23 39 34.2	+3.5
POLO				*e*S	Sn	23 41 28.0	-6.3
ELGU	Los Guajares,	11.32	64	P	Pn	23 39 38.7	+6.0
	0.7nm,0.3s,SNR=7.9						
MVO	Moncorvo	11.41	38	P	Pn	23 39 37.0	+3.1
	1.1nm,0.3s,SNR=7.9						
ELOB	Lobios	11.44	33	P	Pn	23 39 38.6	+4.4
	1.5nm,0.4s,SNR=6.9						
ELOB				S	Sn	23 41 37.2	-3.4
	0.4nm,0.3s,SNR=7.9						
JBK	JBK	11.64	77	P		23 39 41.1	
PAB	San Pablo	11.97	51	P	Pn	23 39 46.1	+4.5
	0.2nm,0.1s,SNR=7.9						
PAB				S	Sn	23 41 50.2	-3.5
	0.0nm,0.0s,SNR=7.9						
ECAL	Calabor	12.13	36	P	Pn	23 39 47.0	+3.3
	1.6nm,0.3s,SNR=7.9						
ESDC	Sonseca Array	12.29	51	P	Pn	23 39 50.3	+4.4
	1.3nm,0.4s,baz=242,slow=13,SNR=9.4						
EPON	Pontenova	13.01	31	P	P	23 40 00.7	-4.1
	0.8nm,0.3s,SNR=7.9						
ETOB	Tobarra	13.50	59	P	Pn	23 40 05.7	+3.3
	0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	23 42 28.3	-2.6
	0.2nm,0.2s,SNR=7.9						
ETOR	Torete	14.14	50	P	P	23 40 16.4	-1.1
	3.3nm,0.3s,SNR=6.6						
SJPF	Ste Jean	15.94	44	*e*P	P	23 40 37.4	0.0
ETSF	Etsaut	16.21	46	*e*Pn	Pn	23 40 37.4	-0.6
EPF	Esparros	16.83	47	*e*Pn	Pn	23 40 45.2	-0.6
MTLF	Montolieu	18.16	48	*e*Pn	P	23 41 01.4	-0.5
RJF	Les Rejaudoux	18.83	42	*e*Pn	Pn	23 41 12.0	+1.9
CAF	Calviac	18.92	44	*e*Pn

UPP 11 23:41:36.5±0.2, 67°.84N×20°.21E, h0km, ML3.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	P	Pg	23 41 39.0	+0.2
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 41 41.2	+0.2
RATU				S	Sg	23 41 44.3	+0.3
RATU	**Laukkuluspa**	**0.24**	**265**	P	Pg	23 41 41.2	+0.2
RATU				S	Sg	23 41 44.3	+0.3
KOVU	**Salmi**	**0.38**	**357**	P	Pg	23 41 43.8	0.0
KOVU	**Salmi**	**0.38**	**357**	P	Pg	23 41 43.8	0.0

*IDC **11** 23:48:03.7±0.8, 40°.14S×45°.99E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/37, mbtmp3.8/7, MS3.4/7, Ms1 3.4/7, ms1mx3.2/24, Error ellipse: s-maj=34.2km s-min=22.2km az=49.0*
*NEIC **11** 23:48:06.1±2.4, 40°.1S±0°.1×46°.1E±0°.2, h10km±1km, mb4.2/6, Error ellipse: s-maj=30.6km s-min=19.2km az=59.0*

ISC 11 23:48:04.9±0.7, 40°.1S±0°.1×46°.1E±0°.2, h10km, n34, σ0§69/26, mb3.9/7, MS3.3/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**18.10**	**2**	Pn	**Pn**	**23 52 15.1**	**-1.5**
SUR	**Sutherland**	**21.71**	**283**	LR	LR	23 58 58.0	
	comp=Z,75nm,20.0s,baz=154,slow=30						
LBTB	**Lobatse**	**22.77**	**305**	P	**P**	**23 53 08.8**	**+1.2**
	3.7nm,0.8s,baz=136,slow=11,SNR=2.7						
LBTB				LR	LR	00 00 04.0	
	comp=Z,113nm,20.2s,baz=148,slow=32						
LBTB	**Lobatse**	**22.77**	**305**	P	**P**	**23 53 07.4**	**-0.2**
LBTB				IAmb	IAmb	23 53 23.1	
	comp=Z,24nm,1.4s						
MATP	**Matopo**	**24.66**	**317**	P	**P**	**23 53 25.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=55,slow=7.8,SNR=2.0						
MATP				LR	LR	00 01 55.4	
	comp=Z,91nm,18.8s,baz=190,slow=34						
MAW	**Mawson**	**29.13**	**167**	LR	LR	00 02 57.1	
	comp=Z,43nm,19.9s,baz=28,slow=31						
LSZ	**Lusaka**	**29.20**	**323**	LR	LR	00 04 29.0	
	comp=Z,145nm,18.5s,baz=118,slow=34						
SNAA	**Sanae**	**39.85**	**202**	P	**P**	**23 55 37.5**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=180,slow=21,SNR=5.1						
SNAA	**Sanae**	**39.85**	**202**	P	**P**	**23 55 38.2**	**0.0**
SNAA				IAmb	IAmb	23 55 40.9	
	comp=Z,7.6nm,1.4s						
QSPA	**South Pole Qui**	**50.15**	**180**	P	**P**	**23 56 59.3**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=239,slow=4.2,SNR=2.3						
QSPA	**South Pole Qui**	**50.15**	**180**	P	**P**	**23 56 59.4**	**-0.9**
QSPA				IAmb	IAmb	23 57 03.6	
	comp=Z,1.2nm,0.8s						
H01W2	**Cape Leeuwin H**	**53.09**	**108**	T	T	00 54 49.8	
	baz=243,slow=75						
H01W3	**Cape Leeuwin H**	**53.10**	**107**	T	T	00 54 48.2	
	baz=243,slow=75						
H01W1	**Cape Leeuwin H**	**53.11**	**108**	T	T	00 54 51.1	
	baz=243,slow=75						
VNDA	**Vanda**	**56.44**	**166**	LR	LR	00 20 19.5	
	comp=Z,33nm,18.4s,baz=244,slow=34						
TOA0	**Torodi Ar. Sit**	**67.06**	**312**	P	**P**	**23 58 58.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**67.06**	**312**	P	**P**	**23 58 59.5**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=129,slow=5.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**67.06**	**312**	P	**P**	**23 58 58.5**	**0.0**
TORD				IAmb	IAmb	23 59 06.8	
	comp=Z,2.7nm,1.1s						
ASAR	**Alice Springs**	**73.61**	**107**	P	**P**	**23 59 39.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=218,slow=6.9,SNR=4.8						
ASAR	**Alice Springs**	**73.61**	**107**	P	**P**	**23 59 39.2**	**+0.5**
WRA	**Warramunga Arr**	**76.18**	**104**	P	**P**	**23 59 54.7**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=228,slow=5.0,SNR=3.8						
ESDC	**Sonseca Array**	**91.54**	**324**	LR	LR	00 44 34.2	
	comp=Z,17nm,18.0s,baz=255,slow=37						
O44A	**Mansfield**	**145.50**	**285**		**PKPab**	**00 07 43.3**	**0.0**
PBMO	**Poplar Bluff**	**145.99**	**279**	PKPdf	**PKPbc**	**00 07 44.8**	**+0.1**
WHAR	**Wooly Hollow**	**146.90**	**275**	PKPbc	**PKPbc**	**00 07 47.5**	**+0.2**
CCM	**Cathedral Cave**	**147.00**	**281**	PKPbc	**PKPbc**	**00 07 47.5**	**-0.1**
R40A	**Maddies Statio**	**147.84**	**281**	PKPbc	**PKPbc**	**00 07 50.1**	**+0.2**
INK	**Inuvik**	**151.69**	**360**	PKPbc	**PKiKP**	**00 07 59.2**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=360,slow=4.8,SNR=14						
INK	**Inuvik**	**151.69**	**360**		**PKPbc**	**00 07 58.6**	**+0.3**
TXAR	**Lajitas Array**	**153.02**	**256**	PKPbc	**PKiKP**	**00 08 03.5**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=139,slow=5.3,SNR=20						
TX31	**Lajitas Ar. Si**	**153.02**	**256**	PKPbc	**PKiKP**	**00 08 03.4**	**+0.5**
MLY	**Manley**	**153.16**	**16**	PKPbc	**PKiKP**	**00 08 02.6**	**+0.6**
ILAR	**Eielson Array**	**154.12**	**13**	PKPbc	**PKPbc**	**00 08 03.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=313,slow=3.3,SNR=5.2						
ILAR	**Eielson Array**	**154.12**	**13**	PKPbc	**PKPbc**	**00 08 03.3**	**-0.6**

*IDC **11** 23:49:11.2±1.2, 29°.09N×142°.19E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/37, mbtmp3.6/7, ML2.9/1, Error ellipse: s-maj=45.1km s-min=19.9km az=75.0*

ISC 11 23:49:15.5±1.0, 29°.05N±0°.09×142°.1E±0°.3, h30km, n8, σ0§74/9, mb3.5/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.95**	**178**	Pn	**Pn**	**23 49 46.8**	**+0.2**
	3.3nm,0.3s,baz=127,slow=20,SNR=1.5						
JCJ				Sn	**Sn**	**23 50 09.0**	**-1.0**
	12nm,0.3s,baz=285,slow=20,SNR=2.4						
MJAR	**Matsushiro Arr**	**8.16**	**337**	Pn	**Pn**	**23 51 11.4**	**-0.5**
	0.2nm,0.3s,baz=153,slow=11,SNR=11						
SONM	**Songino Array**	**33.28**	**314**	P	**P**	**23 55 49.7**	**-0.7**
	0.4nm,0.5s,baz=105,slow=9.1,SNR=1.9						
MKAR	**Makanchi Array**	**49.19**	**308**	P	**P**	**23 58 01.9**	**+1.0**
	0.3nm,0.6s,baz=98,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**49.28**	**190**	P	**P**	**23 58 02.1**	**+0.4**
	0.6nm,0.5s,baz=8.9,slow=8.0,SNR=5.1						
KURBB	**Kurchatov Arra**	**51.64**	**313**	P	**P**	**23 58 19.7**	**+0.5**
	1.4nm,0.6s,baz=90,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**53.00**	**189**	P	**P**	**23 58 29.9**	**+0.3**
	0.4nm,0.9s,baz=17,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**79.38**	**52**	P	**P**	**00 01 19.1**	**0.0**
	0.2nm,0.5s,baz=309,slow=5.7,SNR=1.9						

*MEX **12** 00:26:50.3±0.5, 32°.43N×114°.94W, h38km±4km, MD3.8*
*ECX **12** 00:26:52.1±0.5, 32°.23N×115°.31W, h2km±4km, MD2.5, ML2.6*

ISC 12 00:26:50.6±1.0, 32°.28N±0°.04×115°.22W±0°.05, h25km±8km, n14, σ0§50/22, 6C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUVIX	**Guadalupe Vict**	**0.12**	**79**	⇑*i* P	**Pb**	**00 26 56.1**	**+0.7**
MBIG	**Mexicali**	**0.13**	**6**	*i* P	**Pn**	**00 26 55.9**	**-1.2**
MBIG				*i* P		00 26 56.3	
MBIG				*i* S	**Sb**	**00 26 57.8**	**-1.0**
MBIG				*i* S		00 27 00.8	
CPBX	**Cerro Prieto**	**0.16**	**331**	*e*P	**Pb**	**00 26 55.9**	**+0.1**
CPBX				⇑*e*		00 27 00.7	
CPBX				IAML		00 27 00.7	
	comp=N,4μm,0.3s						
CPBX				IAML		00 27 01.1	
	comp=E,4μm,0.2s						
CPBX				⇓*e*		00 27 01.1	
EMSC	**East Mesa**	**0.50**	**23**	*e*P	**Pn**	**00 27 02.8**	**+0.7**
SGL	**Mount Signal**	**0.57**	**311**	*e*P	**Pb**	**00 27 02.4**	**+0.4**
COA	**Coachella**	**0.59**	**8**	*e*P	**Pn**	**00 27 03.8**	**+0.4**
YUH2	**Yuha Desert**	**0.70**	**302**	⇑*i* P	**Pb**	**00 27 04.3**	**+0.1**
YUH2				*e*S	**Sb**	**00 27 13.3**	**-0.2**
ECBX	**El Chinero**	**0.82**	**170**	*e*P	**Pb**	**00 27 05.7**	**-0.5**
ECBX				*e*S	**Sb**	**00 27 17.0**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.84**	**296**	⇑*e*P	**Pb**	**00 27 06.6**	**-0.1**
IKP				*e*S	**Sb**	**00 27 17.2**	**-0.4**
CBX	**Cerro Bola**	**1.23**	**272**	*i* P	**Pn**	**00 27 12.5**	**+0.2**
CBX				*i* S	**Sn**	**00 27 28.1**	**-0.1**
CBX	**Cerro Bola**	**1.23**	**272**	*e*P	**Pn**	**00 27 12.5**	**+0.2**
CBX				*e*S	**Sn**	**00 27 28.3**	**+0.1**
CBX				IAML		00 27 33.6	
	comp=E,97nm,0.3s						
CBX				⇑*e*		00 27 33.6	
TJIG	**Tijuana**	**1.25**	**277**	*e*P	**Pn**	**00 27 12.7**	**+0.2**
TJIG				*e*S	**Sn**	**00 27 28.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.25**	**190**	*i* P	**Pn**	**00 27 12.7**	**-0.1**
SPIG				*i* S	**Sn**	**00 27 29.2**	**+0.2**
BAR	**Barrett**	**1.29**	**288**	*e*P	**Pn**	**00 27 13.6**	**+0.4**
BAR				⇓*e*		00 27 31.5	
BAR				IAML		00 27 31.5	
	comp=E,85nm,0.2s						
BAR				⇑*e*		00 27 32.3	
BAR				IAML		00 27 32.3	
	comp=N,179nm,0.2s						

*IDC **12** 00:50:25.7±0.8, 3°.47S×135°.48E, h45km±7km, mb3.8/8, mb1 4.2/12, mb1mx3.9/31, mbtmp4.3/12, ML4.5/3, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=26.7km s-min=14.9km az=65.0*
*NEIC **12** 00:50:25.6±1.6, 3°.47S±0°.09×135°.47E±0°.09, h45km±6km, mb4.3/23, Error ellipse: s-maj=16.0km s-min=10.2km az=47.0*
*DJA **12** 00:50:25.9±0.4, 3°.5S±4°.×13°.5E±°, h101km±10km, M4.6/6, mb4.7/2, mB5.7/1, MLv4.5/6, Mw(mB)5.2/1*

ISC 12 00:50:22.3±0.4, 3°.51S±0°.05×135°.53E±0°.04, h22km, n57, σ1§79/65, mb4.3/17, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.77**	**24**	P	**Pb**	**00 50 53.9**	**-0.3**
KMPI	**Kaimana, Papua**	**1.82**	**265**	P	**Pb**	**00 50 55.9**	**+0.9**
KMPI				S	**Sb**	**00 51 18.2**	**+0.8**
BAKI	**Biak**	**2.37**	**14**	P	**Pb**	**00 51 02.5**	**-1.9**
FAKI	**Fak Fak**	**3.32**	**280**		**Pn**	**00 51 14.7**	**+1.7**
FAKI				Sn	**Sn**	**00 51 50.3**	**-1.5**
FAKI	**Fak Fak**	**3.32**	**280**	P	**Pn**	**00 51 15.3**	**+2.3**
FAKI				S	**Sn**	**00 51 52.0**	**+0.1**
GENI	**Genyem**	**4.72**	**79**	P	Pn	00 51 37.3	+5.0
SIJI	**Sorong**	**5.00**	**302**	P	**Pn**	**00 51 37.3**	**+1.2**
	10nm,0.3s,baz=43,slow=19,SNR=47						
SIJI				S	**Sn**	**00 52 29.8**	**-3.5**
	18nm,0.3s,baz=120,slow=20,SNR=8.6						
SWI	**Sorong**	**5.01**	**302**	P	**Pn**	**00 51 38.4**	**+2.2**
MTN	**Manton Dam**	**10.24**	**205**		**Pn**	**00 52 49.6**	**+1.5**
PMG	**Port Moresby**	**12.96**	**117**	P	**Pn**	**00 53 28.2**	**+2.9**
	2.3nm,0.3s,baz=318,slow=12,SNR=5.5						
PMG				S	**Sn**	**00 55 44.8**	**-4.1**
	2.4nm,0.3s,baz=321,slow=23,SNR=1.7						
PMG				LR	LR	01 00 01.5	
	comp=Z,86nm,18.2s,baz=326,slow=44						
PMG	**Port Moresby**	**12.96**	**117**		**Pn**	**00 53 27.9**	**+2.6**
BATI	**Baumata**	**13.52**	**240**	P	**Pn**	**00 53 33.8**	**+0.7**
	4.7nm,0.3s,baz=83,slow=6.0,SNR=2.3						
BATI				S	**Sn**	**00 55 57.3**	**-5.5**
	2.0nm,0.3s,baz=150,slow=16,SNR=1.7						
KNRA	**Kununurra**	**13.80**	**208**		**Pn**	**00 53 35.8**	**-1.0**
TOLI2	**Tolitoli**	**15.43**	**287**		**P**	**00 54 01.7**	**-1.5**
WB0	**Warramunga Arr**	**16.20**	**184**		**Pn**	**00 54 05.8**	**-3.0**
WB0				IAmb	IAmb	00 54 06.8	
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**16.38**	**184**	P	**Pn**	**00 54 08.0**	**-3.1**
	comp=Z,2.7nm,0.3s,baz=1.3,slow=13,SNR=49						
WRA				S	Sn	00 56 58.4	-14
	comp=Z,1.1nm,0.3s,baz=8.9,slow=22,SNR=6.7						
WRA	**Warramunga Arr**	**16.38**	**184**		**Pn**	**00 54 06.5**	**-4.5**
CTA	**Charters Tower**	**19.52**	**148**	P	**Pn**	**00 54 50.3**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=326,slow=11,SNR=13						
CTAO	**Charters Tower**	**19.52**	**148**		**P**	**00 54 49.7**	**+1.3**
CTAO				IAmb	IAmb	00 55 04.4	
	comp=Z,9.9nm,0.8s						
AS31	**Alice Springs**	**20.10**	**184**	P	**P**	**00 54 55.6**	**+0.8**
AS31				IAmb	IAmb	00 55 12.2	
	comp=Z,9.7nm,0.5s						
ASAR	**Alice Springs**	**20.10**	**184**	P	**P**	**00 54 56.4**	**+1.6**
	comp=Z,15nm,0.7s,baz=4.2,slow=11,SNR=80						
ASAR				S	S	00 58 28.5	-11
	comp=Z,0.8nm,0.5s,baz=100,slow=24,SNR=3.0						
ASAR				LR	LR	01 03 14.2	
	comp=Z,187nm,21.5s,baz=0.5,slow=38						
ASAR	**Alice Springs**	**20.10**	**184**	P	**P**	**00 54 56.2**	**+1.5**
PSA00	**Pilbara Seismi**	**23.55**	**219**	P	**P**	**00 55 31.1**	**-0.2**
PSA00	**Pilbara Seismi**	**23.55**	**219**	P	**P**	**00 55 31.1**	**-0.2**
PSA00				IAmb	IAmb	00 55 45.7	
	comp=Z,9.6nm,1.2s						
FORT	**Forrest**	**28.03**	**194**	P	**P**	**00 56 11.8**	**-0.2**
STKA	**Stephens Creek**	**28.79**	**169**	P	**P**	**00 56 18.4**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=327,slow=9.0,SNR=4.5						
STKA	**Stephens Creek**	**28.79**	**169**	P	**P**	**00 56 18.3**	**-0.5**
JWT	**Wachi**	**38.58**	**360**	P	**P**	**00 57 43.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**42.12**	**303**	P	**P**	**00 58 13.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=123,slow=4.5,SNR=1.6						
CMAR	**Chiang Mai Arr**	**42.12**	**303**	P	**P**	**00 58 12.8**	**-0.6**
TUWZ	**Tuamarina**	**51.09**	**143**	P	**P**	**00 59 23.2**	**-0.1**
SHL	**Shillong**	**51.22**	**307**	P	**P**	**00 59 23.3**	**-1.5**
PETK	**Petropavlovsk-**	**59.41**	**15**	P	**P**	**01 00 24.6**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=178,slow=7.2,SNR=2.2						
MK31	**Makanchi Array**	**68.51**	**324**	P	**P**	**01 01 22.6**	**-0.5**
MK31				IAmb	IAmb	01 01 39.1	
	comp=Z,5.2nm,1.4s						
MKAR	**Makanchi Array**	**68.51**	**324**	P	**P**	**01 01 23.4**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=108,slow=8.5,SNR=31						
MKAR				pP	**sP**	**01 01 36.8**	**+3.9**
	comp=Z,1.6nm,0.7s,baz=113,slow=8.1,SNR=8.0						
MKAR	**Makanchi Array**	**68.51**	**324**	P	**P**	**01 01 23.0**	**-0.1**
MAKZ	**Makanchi**	**68.70**	**324**	P	**P**	**01 01 24.4**	**+0.1**
MAKZ				IAmb	IAmb	01 01 39.5	
	comp=Z,3.8nm,0.9s						
NIL	**Nilore**	**69.28**	**308**	P	**P**	**01 01 28.0**	**-0.2**
NIL				IAmb	IAmb	01 01 29.2	
	comp=Z,5.3nm,0.8s						
BOOM	**Boomskoye usch**	**70.56**	**317**	P	**P**	**01 01 36.4**	**+0.3**
BOOM				IAmb	IAmb	01 01 43.2	
	comp=Z,2.9nm,1.1s						
ZALV	**Zalesovo Beam**	**71.06**	**331**	P	**P**	**01 01 37.5**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=106,slow=4.8,SNR=4.0						
ZALV				pP	**sP**	**01 01 52.2**	**+3.8**
	comp=Z,1.2nm,0.5s,baz=106,slow=5.3,SNR=3.9						
KK31	**Karatay Array**	**74.49**	**316**	P	**P**	**01 01 59.4**	**+0.2**
KKAR	**Karatay Array**	**74.49**	**316**	P	**P**	**01 01 59.5**	**+0.2**
VNDA	**Vanda**	**75.29**	**174**	P	**P**	**01 02 03.6**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=284,slow=2.9,SNR=3.6						
BRVK	**Borovoye**	**78.24**	**326**	P	**P**	**01 02 20.0**	**-0.3**
BRVK				IAmb	IAmb	01 02 35.2	
	comp=Z,3.8nm,0.8s						
ABKAR	**Abkulak array**	**83.28**	**320**	P	**P**	**01 02 47.0**	**-0.4**
ABKAR	**Abkulak array**	**83.28**	**320**	P	**P**	**01 02 47.5**	**+0.2**
ABKAR				IAmb	IAmb	01 02 49.0	
	comp=Z,1.2nm,0.9s						
MLY	**Manley**	**86.35**	**24**	P	**P**	**01 03 02.5**	**0.0**
MLY				IAmb	IAmb	01 03 17.0	
	comp=Z,2.0nm,1.0s						
QSPA	**South Pole Qui**	**86.45**	**180**	P	**P**	**01 03 02.6**	**-0.5**
I23K	**Minto, Yukon-K**	**86.94**	**24**	P	**P**	**01 03 05.2**	**-0.1**
I23K				IAmb	IAmb	01 03 06.2	
	comp=Z,2.0nm,0.7s						
CCB	**Clear Creek Bu**	**87.46**	**25**	P	**P**	**01 03 07.0**	**-0.9**
CCB				IAmb	IAmb	01 03 07.5	
	comp=Z,1.6nm,0.7s						
IL31		**87.88**	**25**	P	**P**	**01 03 08.4**	**-1.4**
IL31				IAmb	IAmb	01 03 09.0	
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**87.88**	**25**	P	**P**	**01 03 08.5**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=269,slow=4.8,SNR=9.6						
ILAR				pP	**sP**	**01 03 22.4**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=273,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**87.88**	**25**	P	**P**	**01 03 08.6**	**-1.3**
ARCES	**ARCESS Array B**	**100.20**	**340**	P	**Pdif**	**01 04 05.5**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=84,slow=5.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**133.40**	**285**	PKP	**PKPdf**	**01 09 37.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=76,slow=2.6,SNR=1.4						
CPUP	**Villa Florida**	**147.84**	**158**	PKPbc	**PKPbc**	**01 10 06.6**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=204,slow=3.3,SNR=12						
LPAZ	**La Paz**	**149.44**	**131**	PKPbc	**PKiKP**	**01 10 12.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=306,slow=2.5,SNR=9.1						

IDC 12 01:17:44.7±4.3, 14°.51N×91°.40W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/36, mbtmp3.3/4, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/16, Error ellipse: s-maj=136.1km s-min=55.1km az=31.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**4.23**	**308**	Pn	Pn	01 18 48.8	-1.6
	1.0nm,0.3s,baz=90,slow=20,SNR=7.9						
CMIG				Sn	Sn	01 19 37.8	-2.7
	1.3nm,0.3s,baz=90,slow=21,SNR=4.9						
TXAR	**Lajitas Array**	**18.61**	**324**	P	Pn	01 22 05.1	+1.0
	0.0nm,0.3s,baz=146,slow=12,SNR=8.3						
SADO	**Sadowa**	**31.91**	**17**	LR	LR	01 37 43.0	
	comp=Z,33nm,19.1s,baz=248,slow=38						
NVAR	**Mina Array Bea**	**33.65**	**320**	P	P	01 24 28.1	+0.6
	0.3nm,0.6s,baz=137,slow=9.8,SNR=2.8						
YKA	**Yellowknife Ar**	**50.67**	**346**	P	P	01 26 44.7	-0.9
	0.2nm,0.7s,baz=143,slow=9.3,SNR=3.5						
CMAR	**Chiang Mai Arr**	**145.70**	**342**	PKPbc	PKPdf	01 37 25.7	-0.5
	0.9nm,0.3s,baz=347,slow=3.7,SNR=5.6						

*IDC **12** 01:20:09.6±1.5, 11°.83N×87°.03W, h0km, mb3.6/6, mb1 4.0/6, mb1mx3.6/37, mbtmp3.6/6, ML2.3/1, Error ellipse: s-maj=49.8km s-min=26.2km az=48.0*

ISC 12 01:20:17.1±1.2, 11°.8N±0°.2×86°.9W±0°.2, h68km, n8, σ1§66/11, mb3.5/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**2.36**	**128**	Pn	**Pn**	**01 20 52.2**	**-1.4**
	0.6nm,0.3s,baz=258,slow=19,SNR=2.1						
JTS				Sn	**Sn**	**01 21 22.4**	**+0.8**
	3.1nm,0.3s,baz=14,slow=22,SNR=6.9						
TXAR	**Lajitas Array**	**23.48**	**321**	P	**P**	**01 25 19.3**	**-1.8**
	0.9nm,0.7s,baz=134,slow=11,SNR=16						
TXAR				PcP	**PcP**	**01 29 07.5**	**+2.3**
	0.3nm,0.8s,baz=152,slow=5.8,SNR=3.2						
TKL	**Tuckaleechee C**	**23.96**	**6**	P	**P**	**01 25 26.9**	**+1.7**
	2.0nm,0.6s,baz=214,slow=8.0,SNR=2.9						
SADO	**Sadowa**	**33.56**	**10**	P	**P**	**01 26 50.8**	**+0.3**
	2.5nm,0.5s,baz=201,slow=7.4,SNR=6.0						
PDAR	**Pinedale Array**	**36.66**	**332**	P	**P**	**01 27 16.1**	**-1.4**
	0.3nm,0.5s,baz=131,slow=8.3,SNR=4.4						
NVAR	**Mina Array Bea**	**38.61**	**319**	P	**P**	**01 27 34.8**	**+0.8**
	0.1nm,0.4s,baz=146,slow=9.8,SNR=2.7						
NVAR				PcP	**PcP**	**01 29 47.1**	**+1.9**
	0.3nm,0.6s,baz=108,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**54.44**	**345**	P	**P**	**01 29 35.9**	**-1.3**
	0.3nm,0.6s,baz=137,slow=8.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**149.44**	**349**	PKPbc	**PKiKP**	**01 40 00.1**	**-0.5**
	1.4nm,0.3s,baz=338,slow=4.6,SNR=4.5						

NEIC 12 01:28:22.8±1.1, 37°.05N±0°.01×97°.916W±0°.008, h5km±2km, mb_Lg2.5/28, Error ellipse: s-maj=3.1km s-min=2.0km az=310.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.07**	**31**		Pg	01 28 24.3	-0.1
KAN17	**Caldwell West**	**0.12**	**93**		Pg	01 28 25.6	+0.3
KAN17				Sg	Sg	01 28 27.8	+0.8
KAN10	**Anthony SW Sta**	**0.16**	**297**		Pg	01 28 25.4	-0.6
KAN10				Sg	Sg	01 28 27.6	-0.6
KAN08	**Anthony NE Sta**	**0.18**	**346**		Pg	01 28 26.1	-0.4
KAN08				Sg	Sg	01 28 28.8	-0.1
GC02	**Grant County #**	**0.20**	**167**		Pg	01 28 26.9	+0.1
GC02				Sg	Sg	01 28 29.9	+0.4
KAN09	**Caldwell North**	**0.25**	**70**		Pg	01 28 27.9	+0.1
KAN09				Sg	Sg	01 28 31.7	+0.6
KAN12	**Harper NE Stat**	**0.25**	**345**		Pg	01 28 27.4	-0.4
KAN12				Sg	Sg	01 28 31.0	-0.1
KS20	**Mayfield South**	**0.34**	**58**	Pg	Pg	01 28 29.4	0.0
KS20				Sg	Sg	01 28 34.6	+0.8
OK032	**Salt Plains WL**	**0.34**	**224**	Pg	Pg	01 28 29.0	-0.4
OK032				Sg	Sg	01 28 33.7	-0.2
KAN13	**South Haven SW**	**0.35**	**96**	Pg	Pg	01 28 29.8	+0.2
KAN13				Sg	Sg	01 28 34.8	+0.5
CROK	**Carrier**	**0.55**	**186**		Pg	01 28 33.1	-0.3
CROK				Sg	Sg	01 28 40.6	+0.2
BLOK	**Blackwell**	**0.63**	**117**		Pg	01 28 34.9	0.0
BLOK				Sg	Sg	01 28 44.1	+0.9
U32A	**Winter Ranch,**	**1.10**	**233**	Pg	Pg	01 28 42.8	-1.1
T35A	**Sooner Cattle**	**1.13**	**96**		Pg	01 28 43.9	-0.7
T35A				Sg	Sg	01 28 58.9	-0.3
OK029	**Liberty Lake**	**1.31**	**163**		Pn	01 28 46.8	-0.9
QUOK	**Quay**	**1.31**	**132**		Pn	01 28 47.1	-0.7
OK031	**S. Brethren Rd**	**1.40**	**141**	Pn	Pn	01 28 48.6	-0.4
BCOK	**Bluff Creek, N**	**1.41**	**170**	Pn	Pn	01 28 48.8	-0.4
R32A	**Long Quarter,**	**1.51**	**336**		Pn	01 28 49.9	-0.6
OK025	**Westminster Rd**	**1.54**	**162**	Pn	Pn

SABA			IAML			01 37 30.2
	comp=E,455nm,0.7s					
CDVI	**St. Croix**	**2.60 202**		**Pn**	**01 36 56.4**	**+1.9**
MTP	**Monte Pirata**	**2.69 220**	⇑*eP*	**Pn**	**01 36 57.5**	**+1.8**
MTP	**Monte Pirata**	**2.69 220**		**Pn**	**01 36 57.5**	**+1.8**
MTP	**Monte Pirata**	**2.69 220**	IAML		01 37 33.1	
	comp=N,352nm,0.3s					
CBYP	**Canovanas**	**2.76 227**	⇓*eP*	**Pn**	**01 36 57.9**	**+1.2**
CBYP	**Canovanas**	**2.76 227**	*eS*	**Sn**	**01 37 27.3**	**-1.6**
CBYP	**Canovanas**	**2.76 227**		**Sn**	**01 37 27.3**	**-1.6**
CBYP	**Canovanas**	**2.76 227**		**Pn**	**01 36 57.5**	**+0.8**
CBYP	**Canovanas**	**2.76 227**	IAML		01 37 29.3	
	comp=E,1μm,0.2s					
CBYP			IAML		01 37 29.8	
	comp=N,1μm,0.2s					
HUMP	**Col San Antoni**	**2.85 225**	⇓*eP*	**Pn**	**01 36 59.3**	**+1.5**
HUMP	**Col San Antoni**	**2.85 225**	*eS*	**Sn**	**01 37 28.7**	**-2.2**
HUMP	**Col San Antoni**	**2.85 225**		**Pn**	**01 36 59.3**	**+1.5**
HUMP				**Sn**	**01 37 28.7**	**-2.2**
HUMP	**Col San Antoni**	**2.85 225**	IAML		01 37 30.6	
	comp=E,435nm,0.2s					
HUMP			IAML		01 37 31.9	
	comp=N,326nm,0.2s					
GCPR	**Guaynabo City**	**2.90 230**		**Pn**	**01 36 59.1**	**+0.6**
SKI	**Saint Kitts**	**2.98 161**	*eP*	**Pn**	**01 37 01.3**	**+1.6**
SKI			*eS*	**Sn**	**01 37 34.0**	**-0.2**
SKI	**Saint Kitts**	**2.98 161**		**Pn**	**01 37 00.6**	**+0.9**
PDPR	**Patillas Dam,**	**3.05 226**		**Pn**	**01 37 01.4**	**+0.8**
PDPR			IAML		01 37 34.8	
	comp=E,279nm,0.5s					
SJG	**San Juan**	**3.07 228**		**Pn**	**01 37 01.8**	**+0.8**
SJG			IAML		01 37 36.4	
	comp=E,213nm,0.3s					
ANWB	**Willy Bob**	**3.10 143**	*eP*	**Pn**	**01 37 02.0**	**+0.7**
ANWB			*eS*	**Sn**	**01 37 34.9**	**-2.3**
ANWB	**Willy Bob**	**3.10 143**	Pn	**Pn**	**01 37 02.1**	**+0.7**
EMPR	**Esperanza - Ma**	**3.14 238**	⇑*eP*	**Pn**	**01 37 03.8**	**+2.0**
EMPR	**Esperanza - Ma**	**3.14 238**	*eS*	**Sn**	**01 37 36.7**	**-1.3**
EMPR	**Esperanza - Ma**	**3.14 238**	Pn	**Pn**	**01 37 03.8**	**+2.0**
EMPR			IAML		01 37 39.6	
	comp=E,292nm,0.6s					
EMPR			IAML		01 37 42.2	
	comp=N,249nm,0.4s					
IGPR	**InterUniversit**	**3.14 226**	⇓*eP*	**Pn**	**01 37 03.5**	**+1.6**
IGPR	**InterUniversit**	**3.14 226**	*eS*	**Sn**	**01 37 36.1**	**-2.1**
AOPR	**Arecibo Observ**	**3.39 238**	⇑*eP*	**Pn**	**01 37 07.1**	**+1.8**
AOPR	**Arecibo Observ**	**3.39 238**		**Pn**	**01 37 06.4**	**+1.1**
AOPR			IAML		01 37 45.6	
	comp=N,292nm,0.3s					
CELP	**Cerrillos**	**3.41 233**	⇑*eP*	**Pn**	**01 37 07.1**	**+1.5**
CELP	**Cerrillos**	**3.41 233**	*eS*	**Sn**	**01 37 43.2**	**-1.6**
CELP	**Cerrillos**	**3.41 233**		**Pn**	**01 37 07.1**	**+1.5**
CELP				**Sn**	**01 37 43.2**	**-1.6**
OBIP	**Obispado Ponce**	**3.45 232**	⇑*eP*	**Pn**	**01 37 07.8**	**+1.8**
OBIP	**Obispado Ponce**	**3.45 232**	*eS*	**Sn**	**01 37 44.0**	**-1.8**
OBIP	**Obispado Ponce**	**3.45 232**		**Sn**	**01 37 44.0**	**-1.8**
OBIP	**Obispado Ponce**	**3.45 232**		**Pn**	**01 37 07.9**	**+1.8**
OBIP	**Obispado Ponce**	**3.45 232**	IAML		01 37 46.7	
	comp=E,97nm,0.6s					
OBIP			IAML		01 37 48.5	
	comp=N,120nm,0.3s					
ANOC	**Antigua Open C**	**3.54 149**	*eP*	**Pn**	**01 37 08.5**	**+1.2**
ANOC			*eS*	**Sn**	**01 37 45.3**	**-2.6**
ANDO	**Antigua, Disas**	**3.54 149**	*eP*	**Pn**	**01 37 08.7**	**+1.3**
ANDO			*eS*	**Sn**	**01 37 46.8**	**-1.3**
BPA	**Boggy Peak**	**3.58 150**	*eP*	**Pn**	**01 37 09.1**	**+1.0**
BPA			*eS*	**Sn**	**01 37 46.8**	**-2.4**
AGPR	**Aguadilla, PR**	**3.62 243**	⇑*eP*	**Pn**	**01 37 09.7**	**+1.3**
AGPR	**Aguadilla, PR**	**3.62 243**	*eS*	**Sn**	**01 37 48.2**	**-1.7**
AGPR	**Aguadilla, PR**	**3.62 243**		**Sn**	**01 37 48.2**	**-1.7**
AGPR	**Aguadilla, PR**	**3.62 243**	Pn	**Pn**	**01 37 10.4**	**+2.0**
AGPR			IAML		01 37 49.8	
	comp=N,154nm,0.3s					
AGPR			IAML		01 37 50.5	
	comp=E,133nm,0.4s					
ANBD	**Bethesda, Anti**	**3.63 149**	*eP*	**Pn**	**01 37 09.4**	**+0.9**
ANBD			*eS*	**Sn**	**01 37 48.0**	**-2.1**
LSP	**Las Mesas**	**3.74 238**	⇑*eP*	**Pn**	**01 37 12.2**	**+2.0**
LSP	**Las Mesas**	**3.74 238**	*eS*	**Sn**	**01 37 51.4**	**-1.6**
LSP	**Las Mesas**	**3.74 238**		**Pn**	**01 37 12.2**	**+2.0**
LSP				**Sn**	**01 37 51.4**	**-1.6**
MLPR	**Magueyes Islan**	**3.83 236**	⇑*eP*	**Pn**	**01 37 12.1**	**+0.9**
MLPR	**Magueyes Islan**	**3.83 236**	*eS*	**Sn**	**01 37 52.3**	**-2.7**
MLPR	**Magueyes Islan**	**3.83 236**		**Sn**	**01 37 52.3**	**-2.7**
MLPR	**Magueyes Islan**	**3.83 236**	Pn	**Pn**	**01 37 12.3**	**+1.0**
MLPR			IAML		01 37 56.3	
	comp=E,94nm,0.4s					
IDE	**Isla Desecheo**	**3.96 244**	*eS*	**Sn**	**01 37 57.0**	**-1.4**
IDE	**Isla Desecheo**	**3.96 244**		**Sn**	**01 37 57.0**	**-1.4**
ABD	**La Joyeuse, An**	**4.25 150**	*eP*	**Pn**	**01 37 18.1**	**+0.9**
ABD	**La Joyeuse, An**	**4.25 150**	*eS*	**Sn**	**01 38 04.7**	**-0.9**
CBE	**Ff, Capester**	**4.56 153**	*eP*	**Pn**	**01 37 23.0**	**+1.6**
CBE	**Ff, Capester**	**4.56 153**	*eS*	**Sn**	**01 38 12.0**	**-1.2**
PCDR	**Punta Cana, DR**	**4.69 250**	*eS*	**Sn**	**01 38 15.4**	**-1.0**
TBG	**Guadaloupe-3**	**4.74 155**	*eP*	**Pn**	**01 37 25.6**	**+1.8**
TDBA	**Terre de Bas,**	**4.74 155**	*eP*	**Pn**	**01 37 25.7**	**+1.8**
MAGL	**Barre de l'ile**	**4.81 151**	*eP*	**Pn**	**01 37 26.3**	**+1.5**
DSLB	**Salisbury**	**5.20 155**	*eP*	**Pn**	**01 37 32.0**	**+1.8**
BIM	**Bigot**	**6.17 155**	Pn	**Pn**	**01 37 44.8**	**+1.1**
MPOM	**Morne Pois Mar**	**6.33 154**	Pn	**Pn**	**01 37 47.2**	**+1.5**
SLBI	**Saint Lucia, B**	**6.66 156**	*eP*	**Pn**	**01 37 51.6**	**+1.3**

MEX 12 01:36:33.6±0.5, 14°.49N×92°.10W, h164km±43km, MD3.8, Near coast of Chiapas

*IDC **12** 01:36:39.1±0.8, 29°.27N×139°.60E, h409km±19km, mb2.9/7, mb1 3.0/11, mb1mx2.8/41, mbtmp3.7/11, Error ellipse: s-maj=58.6km s-min=10.0km az=74.0*
*JMA **12** 01:36:40.5±0.2, 29°.48N×140°.08E, h413km±5km, M3.8*
ISC 12 01:36:39.0±0.8, 29°.23N±0°.09×139°.4E±0°.2, h400km, n18, σ0°.89/22, mb3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.23**	**131**	P	**Pn**	**01 37 45.2**	**+1.0**
CBIJ				*eS*	**S**	**01 38 36.3**	**-0.6**
JCJ	**Chichijima**	**3.23**	**131**	P	**Pn**	**01 37 45.2**	**+1.0**
	12nm,0.3s,baz=333,slow=21,SNR=2.5						
JCJ				S	**S**	**01 38 36.9**	**0.0**
	80nm,0.3s,baz=288,slow=19,SNR=20						
JHH2	**Haha-jima-NKT2**	**3.55**	**136**	P	**Pn**	**01 37 48.2**	**+1.2**
JHH2				S	**S**	**01 38 41.5**	**-0.5**
JHJ	**Hachijo jima 2**	**3.89**	**4**	P	**Pn**	**01 37 51.4**	**+1.4**
	3.2nm,0.3s,baz=252,slow=19,SNR=3.6						
JHJ				S	**S**	**01 38 47.7**	**+0.2**
	13nm,0.3s,baz=142,slow=19,SNR=1.9						
JNY	**Yasuok**	**6.25**	**348**	P	**Pn**	**01 38 16.2**	**+1.9**
JHU	**Hanno**	**6.61**	**359**	P	**P**	**01 38 18.9**	**+0.2**
JRY	**Ryogami san**	**6.78**	**356**	P	**P**	**01 38 20.6**	**-0.1**
JAG	**Ashikaga**	**7.18**	**0**	P	**Pn**	**01 38 23.7**	**-0.8**
MJAR	**Matsushiro Arr**	**7.36**	**352**	P	**Pn**	**01 38 25.8**	**-0.9**
	0.1nm,0.3s,baz=172,slow=11,SNR=7.2						
JHO	**Hitachi**	**7.42**	**7**	P	**Pn**	**01 38 26.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**16.08**	**340**	P	**P**	**01 40 03.9**	**+1.0**
	baz=137,slow=10,SNR=9.3						
KLR	**Kul'dur**	**20.82**	**346**	P	**P**	**01 40 51.3**	**+0.7**
	0.5nm,0.4s,baz=152,slow=1.9,SNR=3.9						
MKAR	**Makanchi Array**	**47.25**	**308**	P	**P**	**01 44 33.6**	**-0.2**
	0.4nm,0.3s,baz=82,slow=10,SNR=12						
WRA	**Warramunga Arr**	**49.13**	**186**	P	**P**	**01 44 47.9**	**-0.4**
	0.3nm,0.3s,baz=1.5,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**52.86**	**186**	P	**P**	**01 45 15.8**	**+0.2**
	0.2nm,0.5s,baz=6.1,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**01 47 36.4**	**-0.8**
	0.5nm,0.5s,baz=67,slow=4.9,SNR=6.6						
AKASG	**Malin Array Be**	**79.46**	**323**	P	**P**	**01 48 01.4**	**-0.7**
	0.5nm,0.4s,baz=57,slow=3.7,SNR=2.1						
NOA	**NORSAR Array B**	**80.72**	**337**	P	**P**	**01 48 07.8**	**-0.9**
	0.3nm,0.8s,baz=48,slow=4.7,SNR=1.5						

IDC 12 01:45:58.3±0.8, 55°.27S×27°.15W, h45km±7km, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.8/3, Error ellipse: s-maj=40.1km s-min=25.2km az=96.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.36**	**183**	P	P	01 54 26.5	-0.6
	0.8nm,1.0s,baz=179,slow=4.9,SNR=2.4						
VNDA				pP	sP	01 54 39.7	-2.1
	1.1nm,0.7s,baz=179,slow=6.3,SNR=4.5						
LPAZ	**La Paz**	**49.94**	**305**	P	P	01 54 48.0	-0.4
	0.5nm,0.5s,baz=164,slow=7.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**72.36**	**30**	P	P	01 57 19.2	-0.1
	1.1nm,0.5s,baz=201,slow=6.4,SNR=13						
TORD				pP	sP	01 57 32.5	-1.5
	0.4nm,0.6s,baz=195,slow=5.5,SNR=2.2						
INK	**Inuvik**	**145.21**	**321**	PKPbc	PKPbc	02 05 28.0	-1.0
	1.8nm,0.8s,baz=90,slow=1.9,SNR=5.8						
INK				pPKPbc	pPKPdf	02 05 41.9	+1.5
	2.0nm,0.9s,baz=111,slow=3.5,SNR=4.2						
ILAR	**Eielson Array**	**149.60**	**313**	PKPbc	PKPbc	02 05 41.5	+0.2
	0.9nm,0.8s,baz=117,slow=1.6,SNR=7.9						
ILAR				pPKPbc	pPKPbc	02 05 54.4	+1.9
	1.0nm,0.7s,baz=114,slow=2.2,SNR=5.6						

KMA 12 01:56:23.1±0.8, 33°.26N×127°.01E, h19km±2km, Error ellipse: s-maj=9.0km s-min=3.9km az=166.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSSP	**Seongsanpo**	**0.17**	**319**	P	Pg	01 56 27.6	-0.2
KSSSP	**Seongsanpo**	**0.17**	**319**	P	Pg	01 56 27.6	-0.2
KSSSP	**Seongsanpo**	**0.17**	**319**	P	Pg	01 56 27.6	-0.2
KSSSP				S	Sg	01 56 31.0	+0.2
KSSSP	**Seongsanpo**	**0.17**	**319**	P	Pg	01 56 27.6	-0.2
KSJJU	**Jeju**	**0.42**	**293**	P	Pg	01 56 32.0	+0.1
KSJJU				S	Sb	01 56 38.6	+0.5
KSJJU	**Jeju**	**0.42**	**293**	P	Pg	01 56 32.0	+0.1
KSJJU				S	Sb	01 56 38.6	+0.5
KSJJU	**Jeju**	**0.42**	**293**	P	Pg	01 56 32.0	+0.1
KSJJU				S	Sb	01 56 38.6	+0.5
KSJJU	**Jeju**	**0.42**	**293**	P	Pg	01 56 32.0	+0.1
KSSGP	**Seogwipo**	**0.43**	**270**	P	Pg	01 56 32.0	0.0
KSSGP	**Seogwipo**	**0.43**	**270**	P	Pg	01 56 32.0	0.0
KSSGP	**Seogwipo**	**0.43**	**270**	P	Pg	01 56 32.0	0.0
KSSGP	**Seogwipo**	**0.43**	**270**	P	Pg	01 56 32.0	0.0
HALB	**Hallimjungang-**	**0.63**	**283**	P	Pg	01 56 35.7	-0.1
	SNR=8.2						
HALB	**Hallimjungang-**	**0.63**	**283**	P	Pg	01 56 35.7	-0.1
	SNR=8.2						
HALB	**Hallimjungang-**	**0.63**	**283**	P	Pg	01 56 35.7	-0.1
	SNR=8.2						
HALB				S	Sg	01 56 45.1	+0.9

URZ	**Urewera**	**1.14 196**	P	**Pn**	**03 25 24.5**	**+1.0**
URZ			S	**Sn**	**03 25 44.6**	**-1.5**
MWZ	**Matawai**	**1.17 180**	P	**Pn**	**03 25 25.1**	**+1.3**
MWZ			S	**Sn**	**03 25 45.3**	**-1.3**
TKGZ	**Te Karaka**	**1.30 168**	P	**Pn**	**03 25 26.6**	**+1.8**
TKGZ			S	**Sn**	**03 25 47.4**	**-1.0**
OMRZ	**Omania**	**1.31 224**	P	**Pn**	**03 25 26.3**	**+1.4**
KARZ	**Kaharoa**	**1.32 229**	P	**Pn**	**03 25 26.5**	**+1.4**
TARZ	**Mount Tarawera**	**1.34 216**	P	**Pn**	**03 25 27.2**	**+1.9**
KMRZ	**Kaimai**	**1.43 241**	P	**Pn**	**03 25 27.3**	**+1.3**
HLRZ	**Highlands Stat**	**1.43 220**	P	**Pn**	**03 25 27.9**	**+1.9**
CNGZ	**Carnagh Statio**	**1.43 158**	P	**Pn**	**03 25 28.5**	**+2.5**
CNGZ			S	**Sn**	**03 25 52.4**	**+1.9**
MUGZ	**Murupara**	**1.44 204**	P	**Pn**	**03 25 27.5**	**+1.4**
MUGZ			S	**Sn**	**03 25 49.9**	**-0.8**
KUZ	**Kuaotunu**	**1.50 286**	P	**Pn**	**03 25 26.8**	**+0.2**
RTZ	**Ruatahuna**	**1.51 196**	P	**Pn**	**03 25 28.0**	**+1.2**
RTZ			S	**Sn**	**03 25 51.1**	**-0.9**
RIGZ	**Rimuhau**	**1.55 173**	P	**Pn**	**03 25 29.1**	**+1.9**
HRRZ	**Handcock Road**	**1.57 218**	P	**Pn**	**03 25 29.4**	**+2.1**
SNGZ	**Shannon Statio**	**1.62 185**	P	**Pn**	**03 25 29.6**	**+1.7**
ALRZ	**Allen Road**	**1.68 213**	P	**Pn**	**03 25 30.2**	**+1.8**
TOZ	**Tahuroa Road**	**1.70 250**	P	**Pn**	**03 25 30.2**	**+1.6**
WPRZ	**Whakapapatarin**	**1.73 218**	P	**Pn**	**03 25 31.1**	**+2.2**
MTHZ	**Maungataniwha**	**1.77 197**	P	**Pn**	**03 25 31.4**	**+2.0**
PRGZ	**Paritu Road**	**1.78 171**	P	**Pn**	**03 25 31.4**	**+2.0**
RAHZ	**Arahi**	**1.79 191**	P	**Pn**	**03 25 31.4**	**+1.9**
KNZ	**Kokohu**	**1.86 176**	P	**Pn**	**03 25 31.8**	**+1.6**
MRHZ	**Matea Rd**	**1.88 207**	P	**Pn**	**03 25 32.2**	**+1.7**
KUTZ	**Kaahu Road**	**1.89 225**	P	**Pn**	**03 25 33.1**	**+2.6**
GRZ	**Great Barrier**	**1.89 298**	P	**Pn**	**03 25 31.2**	**+0.6**
WHHZ	**Waihua**	**1.93 187**	P	**Pn**	**03 25 33.0**	**+2.1**
WIAZ	**Waiheke Island**	**1.94 280**	P	**Pn**	**03 25 32.4**	**+1.3**
TLZ	**Tolley Road**	**1.95 233**	P	**Pn**	**03 25 33.4**	**+2.2**
MHGZ	**Mahia Peninsul**	**2.01 171**	P	**Pn**	**03 25 34.2**	**+2.4**
NMHZ	**Naumai**	**2.01 196**	P	**Pn**	**03 25 34.2**	**+2.3**
ETAZ	**East Tamaki Re**	**2.08 275**	P	**Pn**	**03 25 34.5**	**+1.9**
MBAZ	**Motutapu North**	**2.13 280**	P	**Pn**	**03 25 34.8**	**+1.7**
ARHZ	**Aropaoanui**	**2.14 191**	P	**Pn**	**03 25 35.3**	**+2.1**
BKZ	**Black Stump Fm**	**2.16 202**	P	**Pn**	**03 25 35.1**	**+1.6**
ABAZ	**Army Bay**	**2.22 284**	P	**Pn**	**03 25 35.9**	**+1.7**
EPAZ	**Eden Park BICE**	**2.24 276**	P	**Pn**	**03 25 36.4**	**+2.1**
HBAZ	**Herne Bay Bore**	**2.25 277**	P	**Pn**	**03 25 36.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**2.30 272**	P	**Pn**	**03 25 37.0**	**+2.0**
MCHZ	**McNeill Hill**	**2.37 196**	P	**Pn**	**03 25 37.9**	**+2.1**
RVAZ	**Riverhead Bore**	**2.38 279**	P	**Pn**	**03 25 37.9**	**+1.9**
KWHZ	**Kaweka Forest**	**2.42 201**	P	**Pn**	**03 25 38.0**	**+1.6**
NTVZ	**North Tongarir**	**2.42 216**	P	**Pn**	**03 25 39.0**	**+2.5**
TMVZ	**Te Maari**	**2.42 216**	P	**Pn**	**03 25 38.6**	**+2.1**
ETVZ	**East Tongariro**	**2.43 215**	P	**Pn**	**03 25 38.5**	**+1.9**
WTVZ	**West Tongariro**	**2.47 217**	P	**Pn**	**03 25 41.1**	**+4.0**
NNVZ	**North Ngauruho**	**2.47 217**	P	**Pn**	**03 25 40.9**	**+3.8**
OTVZ	**Oturere**	**2.47 216**	P	**Pn**	**03 25 39.1**	**+1.9**
HIZ	**Hauiti**	**2.50 237**	P	**Pn**	**03 25 40.2**	**+2.9**
SNVZ	**South Ngauruho**	**2.50 216**	P	**Pn**	**03 25 39.5**	**+1.9**
NGZ	**Ngauruhoe**	**2.51 216**	P	**Pn**	**03 25 40.5**	**+2.9**
TWVZ	**Taurewa**	**2.51 220**	P	**Pn**	**03 25 40.1**	**+2.5**
CKHZ	**Cape Kidnapper**	**2.52 188**	P	**Pn**	**03 25 39.1**	**+1.6**
BHHZ	**Black Hill Sta**	**2.59 206**	P	**Pn**	**03 25 39.9**	**+1.5**
WHVZ	**Whangaehu Hut**	**2.60 215**	P	**Pn**	**03 25 41.3**	**+2.6**
KRHZ	**Kereru**	**2.64 200**	P	**Pn**	**03 25 40.0**	**+1.1**
KRHZ			S	**Sn**	**03 26 12.8**	**-0.8**
MOVZ	**Moawhango**	**2.64 211**	P	**Pn**	**03 25 40.2**	**+1.2**
WNVZ	**Wahianoa**	**2.64 214**	P	**Pn**	**03 25 40.7**	**+1.6**
KAHZ	**Kahuranaki**	**2.68 191**	P	**Pn**	**03 25 41.2**	**+1.7**
KAHZ			S	**Sn**	**03 26 16.0**	**+1.5**
PKVZ	**Pokaka**	**2.73 218**	P	**Pn**	**03 25 42.2**	**+2.2**
WCZ	**Waipu Caves**	**2.83 295**	P	**Pn**	**03 25 42.5**	**+1.2**
PXZ	**Pawanui**	**2.91 190**	P	**Pn**	**03 25 43.6**	**+1.5**
PXZ			S	**Sn**	**03 26 18.8**	**-0.6**
PNHZ	**Pukenui**	**2.94 200**	P	**Pn**	**03 25 43.5**	**+1.0**
PNHZ			S	**Sn**	**03 26 19.0**	**-1.0**
TSZ	**Takapari Road**	**3.14 202**	P	**Pn**	**03 25 44.4**	**-0.6**
PRHZ	**Porangahau**	**3.18 192**	P	**Pn**	**03 25 46.5**	**+1.2**
DVHZ	**Dannevirke**	**3.31 198**	P	**Pn**	**03 25 47.6**	**+0.6**
DVHZ			S	**Sn**	**03 26 26.9**	**-1.1**
ANWZ	**Angora Road**	**3.39 194**	P	**Pn**	**03 25 49.2**	**+1.2**
ANWZ			S	**Sn**	**03 26 28.9**	**-1.0**
POWZ	**Post Office Ro**	**3.50 202**	P	**Pn**	**03 25 50.2**	**+0.8**
BFZ	**Birch Farm**	**3.65 195**	P	**Pn**	**03 25 51.9**	**+0.6**
OUZ	**Omahuta**	**3.71 300**	P	**Pn**	**03 25 53.7**	**+1.6**
MRZ	**Mangatainoka R**	**3.81 203**	P	**Pn**	**03 25 53.4**	**+0.1**
TIWZ	**Tintock**	**3.83 199**	P	**Pn**	**03 25 54.0**	**+0.5**
HOWZ	**Holdsworth Sta**	**4.04 202**	P	**Pn**	**03 25 56.1**	**-0.1**
OGWZ	**Otaki Gorge**	**4.08 206**	P	**Pn**	**03 25 56.9**	**+0.2**
TMWZ	**Te Maipa**	**4.14 197**	P	**Pn**	**03 25 57.6**	**+0.2**
KIW	**Kapiti Island**	**4.21 208**	P	**Pn**	**03 25 58.2**	**-0.2**
MTW	**Mount Morrison**	**4.29 201**	P	**Pn**	**03 25 58.9**	**-0.4**
CAW	**Cannon Point**	**4.38 205**	P	**Pn**	**03 26 00.1**	**-0.4**
DUWZ	**D'Urville Isla**	**4.59 217**	P	**Pn**	**03 26 04.2**	**+1.0**
MSWZ	**Moikau Station**	**4.60 202**	P	**Pn**	**03 26 02.9**	**-0.4**
PLWZ	**Palliser**	**4.74 201**	P	**Pn**	**03 26 04.4**	**-0.7**
TCW	**Tory Channel**	**4.76 211**	P	**Pn**	**03 26 05.2**	**-0.1**
TUWZ	**Tuamarina**	**5.08 212**	P	**Pn**	**03 26 11.0**	**+1.5**
NNZ	**Nelson**	**5.17 217**	P	**Pn**	**03 26 10.7**	**+0.1**
QRZ	**Quartz Range**	**5.34 225**	P	**Pn**	**03 26 12.2**	**-0.7**
THZ	**Tophouse**	**5.82 216**	P	**Pn**	**03 26 18.3**	**-0.9**
KHZ	**Kahutara**	**6.08 209**	P	**Pn**	**03 26 22.5**	**+0.1**
LTZ	**Lake Taylor**	**6.91 214**	P	**Pn**	**03 26 33.5**	**+0.1**
INZ	**Inchbonnie**	**7.25 218**	P	**Pn**	**03 26 38.9**	**+1.0**
OKCZ	**Okains Bay**	**7.38 206**	P	**Pn**	**03 26 39.4**	**-0.2**
MQZ	**McQueen's Vall**	**7.51 208**	P	**Pn**	**03 26 40.8**	**-0.5**
RACZ	**Rakaia**	**7.73 210**	P	**Pn**	**03 26 44.2**	**0.0**
TMZ	**Timaru**	**8.74 212**	P	**Pn**	**03 26 56.7**	**-0.7**

*IDC **12** 04:09:14.5±1.3, 7.°71N×126.°16E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/46, mbtmp3.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=26.6km s-min=11.8km az=122.0*
*MAN **12** 04:09:18.4, 7.°67N×125.°38E, h11km, mb4.7, ML3.6, MS3.5*
ISC 12 04:09:20.3±1.1, 7.°57N±0.°06×125.°3E±0.°1, h41km, n9, σ1§96/12, **mb3.5/5, 2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.39**	**321**	⇓*i*P	**Pn**	**04 09 27.3**	**-2.5**
BUKP				*i* S	**Sn**	**04 09 36.4**	**-0.1**
DAV	**Davao City (W)**	**0.56**	**152**	Pg	**Pn**	**04 09 30.9**	**-1.1**
	174nm,0.3s,baz=242,slow=3.6,SNR=6.9						
DAV				Lg	Lg	04 09 43.3	
	255nm,0.3s,baz=128,slow=22,SNR=9.1						
KCP	**Kidapawan**	**0.60**	**201**	⇑*e*P	**Pn**	**04 09 31.5**	**-1.0**
KCP				*i* S	**Sn**	**04 09 41.3**	**+0.2**
CGP	**Cagayan de Oro**	**1.07**	**325**	⇑*e*P	**Pn**	**04 09 37.4**	**-1.5**
CGP				*i* S	**Sn**	**04 09 53.1**	**+0.6**
WRA	**Warramunga Arr**	**28.75**	**162**	P	**P**	**04 15 12.6**	**-1.6**
	0.4nm,0.9s,baz=338,slow=13,SNR=1.4						
ASAR	**Alice Springs**	**32.16**	**165**	P	**P**	**04 15 43.2**	**-1.1**
	0.1nm,0.4s,baz=337,slow=7.0,SNR=5.2						
MKAR	**Makanchi Array**	**53.62**	**324**	P	**P**	**04 18 40.7**	**+3.0**
	0.4nm,0.9s,baz=126,slow=7.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**56.55**	**333**	P	**P**	**04 19 01.0**	**+2.5**
	0.5nm,0.3s,baz=142,slow=7.3,SNR=1.2						
KURBB	**Kurchatov Arra**	**57.77**	**327**	P	**P**	**04 19 09.3**	**+2.0**
	0.4nm,0.7s,baz=122,slow=7.1,SNR=2.0						

*IDC **12** 04:15:45.8±0.8, 9.°31S×157.°92E, h0km, mb4.2/9, mb1 4.4/11, mb1mx4.1/35, mbtmp4.2/11, ML3.9/2, MS3.9/4, Ms1 3.9/4, ms1mx3.4/40, Error ellipse: s-maj=29.8km s-min=17.7km az=138.0*
*NEIC **12** 04:15:48.4±1.8, 9.°6S±0.°1×158.°05E±0.°08, h10km±1km, mb4.8/27, Error ellipse: s-maj=24.8km s-min=12.3km az=169.0*
ISC 12 04:15:50.5±0.5, 9.°7S±0.°1×158.°07E±0.°07, h27km, n72, σ1§38/64, **mb4.8**/38, **MS4.0/8, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.87**	**82**	Pn	**Pn**	**04 16 20.8**	**+0.1**
	145nm,0.3s,baz=240,slow=9.3,SNR=24						
HNR				Sn	**Sn**	**04 16 43.9**	**+0.5**
	372nm,0.3s,baz=140,slow=22,SNR=7.6						
HNR	**Honiara**	**1.87**	**82**	Pn	**Pn**	**04 16 19.9**	**-0.8**
DZM	**Mont Dzumac**	**14.69**	**148**	*e*LR	LR	04 22 43.0	
	comp=Z,2μm,26.4s						
CTA	**Charters Tower**	**15.39**	**227**	Pn	**Pn**	**04 19 25.8**	**-0.1**
	0.2nm,0.3s,baz=61,slow=14,SNR=8.0						
CTAO	**Charters Tower**	**15.39**	**227**		**Pn**	**04 19 24.5**	**-1.4**
WR0	**Warramunga Arr**	**24.90**	**243**	P	**P**	**04 21 10.4**	**-1.0**
WB0	**Warramunga Arr**	**24.96**	**244**	P	**P**	**04 21 11.3**	**-0.7**
WB0				IAmb	IAmb	04 21 14.4	
	comp=Z,29nm,1.1s						
WRAB	**Tennant Creek**	**25.05**	**243**	P	**P**	**04 21 11.3**	**-1.6**
WB2	**Warramunga Arr**	**25.06**	**243**	P	**P**	**04 21 13.4**	**+0.6**
WB2				IAmb	IAmb	04 21 15.5	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**25.07**	**243**	P	**P**	**04 21 12.7**	**-0.2**
	comp=Z,20nm,0.8s,baz=68,slow=9.6,SNR=59						
WRA	**Warramunga Arr**	**25.07**	**243**	P	**P**	**04 21 12.5**	**-0.4**
STKA	**Stephens Creek**	**26.84**	**212**	P	**P**	**04 21 30.7**	**+1.9**
	comp=Z,7.8nm,0.8s,baz=25,slow=13,SNR=6.8						
STKA				LR	LR	04 31 33.1	
	comp=Z,371nm,20.1s,baz=36,slow=35						
ASAR	**Alice Springs**	**26.93**	**236**	P	**P**	**04 21 29.8**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=63,slow=9.4,SNR=26						
ASAR	**Alice Springs**	**26.93**	**236**	P	**P**	**04 21 28.5**	**-1.4**
PPT2	**Papeete2**	**51.34**	**105**	*e*LR	LR	04 39 42.0	
	comp=Z,161nm,24.0s						
TBI	**Tubuai**	**51.83**	**112**	*e*S	**S**	**04 32 16.2**	**-1.5**
	comp=Z,68nm,29.5s						
TBI				*e*LR	LR	04 39 52.8	
	comp=Z,181nm,32.2s						
NJ2	**Nanjing**	**55.93**	**320**	*e*P	**P**	**04 25 28.4**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KRAB	**Krabi**	**61.27**	**285**	P	**P**	**04 26 01.8**	**-2.2**
	comp=Z,147μmcomp=Z,2μm,0.8s						
PETK	**Petropavlovsk-**	**62.56**	**360**	P	**P**	**04 26 10.2**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=163,slow=6.2,SNR=4.2						
XAN	**Xi'an**	**63.76**	**316**	P	P	04 26 26.3	+6.0
XAN				pP	pwP	04 26 32.3	-0.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LAMP	**Lampang**	**64.10**	**296**	P	P	04 26 14.9	-7.9
	comp=Z,2μmcomp=Z,94nm,0.8s						
LAMP	**Lampang**	**64.10**	**296**	P	P	04 26 14.0	-8.8
	comp=Z,0.1nmcomp=Z,396nmcomp=Z,24nm,0.8s						
CM36	**Chiang Mai Arr**	**64.58**	**296**	P	**P**	**04 26 25.0**	**-0.9**
CM35	**Chiang Mai Arr**	**64.58**	**296**	P	**P**	**04 26 26.0**	**0.0**
CM04	**Chiang Mai Arr**	**64.64**	**296**	P	**P**	**04 26 24.5**	**-1.8**
	comp=Z,199nmcomp=Z,21nm,0.8s						
CM04	**Chiang Mai Arr**	**64.64**	**296**	P	**P**	**04 26 24.6**	**-1.8**
	comp=Z,0.1nmcomp=Z,199nmcomp=Z,21nm,0.8s						
CM09	**Chiang Mai Arr**	**64.64**	**296**	P	**P**	**04 26 25.2**	**-1.2**
	comp=Z,0.1nmcomp=Z,252nmcomp=Z,19nm,0.9s						
CM34	**Chiang Mai Arr**	**64.65**	**296**	P	**P**	**04 26 25.0**	**-1.4**
CM01	**Chiang Mai Arr**	**64.67**	**296**	P	**P**	**04 26 25.5**	**-0.9**
	comp=Z,204nmcomp=Z,26nm,0.9s						
CM01	**Chiang Mai Arr**	**64.67**	**296**	P	**P**	**04 26 25.6**	**-0.9**
	comp=Z,0.1nmcomp=Z,204nmcomp=Z,26nm,0.9s						
CM05	**Chiang Mai Arr**	**64.67**	**296**	P	**P**	**04 26 25.4**	**-1.1**
	comp=Z,0.1nmcomp=Z,205nmcomp=Z,21nm,0.9s						
CM02	**Chiang Mai Arr**	**64.68**	**296**	P	**P**	**04 26 25.3**	**-1.3**
	comp=Z,181nmcomp=Z,25nm,0.9s						
CM02	**Chiang Mai Arr**	**64.68**	**296**	P	**P**	**04 26 25.0**	**-1.6**
	comp=Z,0.1nmcomp=Z,181nmcomp=Z,25nm,0.9s						
CM15	**Chiang Mai Arr**	**64.71**	**296**	P	**P**	**04 26 26.2**	**-0.5**
	comp=Z,0.5nmcomp=Z,2μmcomp=Z,20nm,0.5s						
CM13	**Chiang Mai Arr**	**64.71**	**296**	P	**P**	**04 26 26.1**	**-0.7**
	comp=Z,0.1nmcomp=Z,182nmcomp=Z,17nm,0.8s						
CM33	**Chiang Mai Arr**	**64.82**	**296**	P	**P**	**04 26 27.0**	**-0.5**
CHTO	**Chiang Mai**	**64.82**	**296**	P	**P**	**04 26 28.2**	**+0.7**
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**64.82**	**296**	P	**P**	**04 26 26.9**	**-0.6**
CHTO				IAmb	IAmb	04 26 28.1	
	comp=Z,6.1nm,0.7s						
HHC	**Hu-ho-hao-te**	**66.07**	**323**	*e*P	**P**	**04 26 38.8**	**+3.5**
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
VNDA	**Vanda**	**67.83**	**179**	P	**P**	**04 26 48.0**	**+2.2**
	comp=Z,1.1nm,0.8s,baz=340,slow=10,SNR=3.0						
LZH	**Lanzhou**	**68.37**	**315**	*e*P	**P**	**04 26 51.4**	**+1.3**
LZH				pP	sP	04 27 00.5	+0.5
LZH				sP	pwP	04 27 04.5	+1.8
LZH				PP	PP	04 29 34.2	+13
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,91nm,7.4s						
LZH				LR	LR		
	comp=N,580nm,16.5s						
LZH				LR	LR		
	comp=E,840nm,16.3s						
LZH				LR	LR		
	comp=Z,380nm,18.6s						
GTA	**Gaotai**	**72.78**	**316**	*e*P	**P**	**04 27 19.1**	**+2.2**
GTA				pP	sP	04 27 25.6	-1.2
GTA				sP	pwP	04 27 28.3	-1.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**73.25**	**326**	P	**P**	**04 27 19.4**	**-0.1**
SHL	**Shillong**	**73.28**	**300**	P	**P**	**04 27 19.3**	**-0.9**
KDAK	**Kodiak Island**	**78.30**	**25**	LR	LR	04 56 53.9	
	comp=Z,89nm,21.6s,baz=273,slow=32						
SVW2	**Sparrevohn**	**79.38**	**21**	P	**P**	**04 27 55.2**	**+1.4**
SVW2				IAmb	IAmb	04 28 04.6	
	comp=Z,11nm,1.4s						
WMQ	**Urumqi**	**82.87**	**317**	*e*P	**P**	**04 28 16.1**	**+3.2**
WMQ				LR	LR		
	comp=N,1μm,19.7s						
WMQ				LR	LR		
	comp=E,760nm,14.7s						
WMQ				LR	LR		
	comp=Z,480nm,18.7s						
RND	**Reindeer**	**83.28**	**21**	P	**P**	**04 28 13.8**	**-0.8**
RND				IAmb	IAmb	04 28 21.9	
	comp=Z,14nm,1.4s						
MLY	**Manley**	**83.64**	**19**	P	**P**	**04 28 16.8**	**+0.5**
MLY				IAmb	IAmb	04 28 24.1	
	comp=Z,4.9nm,1.3s						
WRH	**Wood River Hil**	**84.19**	**21**	P	**P**	**04 28 19.5**	**+0.4**
WRH				IAmb	IAmb	04 28 32.8	
	comp=Z,9.4nm,1.5s						
MDM	**Murphy Dome**	**84.44**	**20**	P	**P**	**04 28 20.2**	**-0.2**
TCOL	**CIGO, UAF Yank**	**84.51**	**20**	P	**P**	**04 28 20.0**	**-0.7**
IL31		**84.79**	**21**	P	**P**	**04 28 20.9**	**-1.2**
IL31				IAmb	IAmb	04 28 30.3	
	comp=Z,5.1nm,1.3s						
ILAR	**Eielson Array**	**84.79**	**21**	P	**P**	**04 28 18.9**	**-3.2**
	comp=Z,1.1nm,1.0s,baz=244,slow=5.6,SNR=9.0						
RIDG	**Independent Ri**	**84.93**	**22**	P	**P**	**04 28 23.7**	**+0.8**
RIDG				IAmb	IAmb	04 28 31.7	
	comp=Z,6.2nm,1.1s						
DOT	**Dot Lake**	**85.17**	**22**	P	**P**	**04 28 24.0**	**0.0**
DOT				IAmb	IAmb	04 28 32.2	
	comp=Z,5.7nm,1.2s						
HYT	**Haines Junctio**	**86.41**	**26**	P	**P**	**04 28 30.0**	**-0.5**
MK31	**Makanchi Array**	**87.44**	**318**	P	**P**	**04 28 34.1**	**-1.5**
MKAR	**Makanchi Array**	**87.44**	**318**	P	**P**	**04 28 32.9**	**-2.8**
	comp=Z,1.2nm,0.8s,baz=106,slow=5.7,SNR=7.2						
MKAR	**Makanchi Array**	**87.44**	**318**	P	**P**	**04 28 34.0**	**-1.6**
MAKZ	**Makanchi**	**87.65**	**318**	P	**P**	**04 28 35.5**	**-1.1**
BBB	**Bella Bella**	**87.86**	**36**	LR	LR	04 59 43.6	
	comp=Z,52nm,20.2s,baz=292,slow=30						
YERR	**Yerington**	**90.41**	**51**	P	**P**	**04 28 49.6**	**-0.4**
YERR				IAmb	IAmb	04 28 53.0	
	comp=Z,4.6nm,0.7s						
RYN	**Ryan**	**90.88**	**51**	P	**P**	**04 28 52.6**	**+0.4**
RYN				IAmb	IAmb	04 29 02.8	
	comp=Z,3.8nm,1.1s						
NVAR	**Mina Array Bea**	**91.01**	**51**	P	**P**	**04 28 52.6**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=239,slow=6.0,SNR=3.5						
NV11	**Mina Array Sit**	**91.12**	**51**	P	**P**	**04 28 54.8**	**+1.5**
NV11				IAmb	IAmb	04 29 04.5	
	comp=Z,6.7nm,1.2s						
KVN	**Kaiserville**	**91.29**	**51**	P	**P**	**04 28 54.2**	**+0.1**
KVN				IAmb	IAmb	04 29 04.6	
	comp=Z,5.2nm,1.3s						
ELK	**Elko**	**93.76**	**49**	LR	LR	05 04 06.4	
	comp=Z,29nm,20.9s,baz=280,slow=31						
SPR3	**Spring Creek 3**	**94.17**	**51**	P	**P**	**04 29 08.9**	**+1.3**
SPR3				IAmb	IAmb	04 29 19.7	
	comp=Z,3.6nm,1.3s						
PDAR	**Pinedale Array**	**98.24**	**48**	P	**P**	**04 29 25.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=263,slow=4.5,SNR=1.4						
BDFB	**Brasilia**	**143.92**	**134**	PKP	**PKPdf**	**04 35 24.0**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=194,slow=5.0,SNR=4.8						
BDFB	**Brasilia**	**143.92**	**134**		PKPbc	04 35 22.7	+0.3

*IDC **12** 04:18:31.6±0.7, 9.°36S×158.°01E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/33, mbtmp4.2/13, ML3.7/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/38, Error ellipse: s-maj=20.4km s-min=16.6km az=158.0*
*NEIC **12** 04:18:34.1±1.5, 9.°6S±0.°1×158.°08E±0.°10, h10km±1km, mb4.8/42, Error ellipse: s-maj=26.4km s-min=13.4km az=157.0*
ISC 12 04:18:36.5±0.4, 9.°58S±0.°09×158.°03E±0.°07, h27km, n76, σ1§18/62, **mb4.7**/34, **MS3.9/7, 1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.89**	**86**	Pn	**Pn**	**04 19 06.7**	**-0.3**
	96nm,0.3s,baz=309,slow=2.7,SNR=1.3						
HNR				Sn	**Sn**	**04 19 30.4**	**+0.4**
	218nm,0.3s,baz=208,slow=21,SNR=8.4						
HNR	**Honiara**	**1.89**	**86**	Pn	**Pn**	**04 19 05.1**	**-2.0**
PMG	**Port Moresby**	**10.73**	**270**	LR	LR	04 25 04.5	
	comp=Z,964nm,18.4s,baz=110,slow=37						
DZM	**Mont Dzumac**	**14.81**	**148**	LR	LR	04 27 10.0	
	comp=Z,692nm,18.1s,baz=324,slow=34						
DZM	**Mont Dzumac**	**14.81**	**148**	*e*LR	LR	04 25 32.9	
	comp=Z,2μm,26.1s						
CTA	**Charters Tower**	**15.44**	**226**	Pn	**Pn**	**04 22 11.3**	**-1.3**
	0.2nm,0.3s,baz=58,slow=15,SNR=7.9						
CTAO	**Charters Tower**	**15.44**	**226**	Pn	**Pn**	**04 22 11.2**	**-1.3**
TARA	**Tarawa**	**18.38**	**55**	P	**P**	**04 22 48.3**	**-1.2**
TARA				IAmb	IAmb	04 22 51.2	
	comp=Z,106nm,1.4s						
MSVF	**Nonsavu**	**21.05**	**115**	P	**P**	**04 23 19.5**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=4.4,slow=18,SNR=1.7						
WR0	**Warramunga Arr**	**24.91**	**243**	P	**P**	**04 23 56.8**	**-0.7**
WB0	**Warramunga Arr**	**24.98**	**243**	P	**P**	**04 23 57.1**	**-1.0**
WRAB	**Tennant Creek**	**25.07**	**243**	P	**P**	**04 23 58.9**	**0.0**
WB2	**Warramunga Arr**	**25.07**	**243**	P	**P**	**04 23 58.3**	**-0.7**
WRA	**Warramunga Arr**	**25.09**	**243**	P	**P**	**04 23 58.8**	**-0.3**
	comp=Z,22nm,0.9s,baz=68,slow=10.0,SNR=22						
GUMO	**Guam**	**26.47**	**330**	LR	LR	04 32 56.9	
	comp=Z,189nm,21.4s,baz=144,slow=33						
STKA	**Stephens Creek**	**26.91**	**212**	P	**P**	**04 24 16.3**	**+0.8**
	comp=Z,7.5nm,0.9s,baz=19,slow=12,SNR=4.4						
AS31	**Alice Springs**	**26.97**	**236**	P	**P**	**04 24 14.3**	**-1.9**
ASAR	**Alice Springs**	**26.97**	**236**	P	**P**	**04 24 15.0**	**-1.1**
	comp=Z,5.7nm,0.9s,baz=60,slow=9.8,SNR=12						
ASAR				PcP	**PcP**	**04 27 37.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=93,slow=1.9,SNR=1.5						
ASAR	**Alice Springs**	**26.97**	**236**	P	**P**	**04 24 15.3**	**-0.8**
FORT	**Forrest**	**34.97**	**229**	P	**P**	**04 25 25.4**	**-1.1**
PPT2	**Papeete2**	**51.41**	**105**	*e*LR	LR	04 42 44.6	
	comp=Z,140nm,23.8s						
TBI	**Tubuai**	**51.91**	**112**	*e*LR	LR	04 42 54.8	
	comp=Z,191nm,31.0s						
RSD	**Rainshed**	**54.30**	**58**	P	**P**	**04 28 01.3**	**+0.3**
ASAJ	**Asahikawa**	**55.25**	**347**	LR	LR	04 48 19.6	
	comp=Z,281nm,20.9s,baz=170,slow=32						
NJ2	**Nanjing**	**55.82**	**320**	*e*P	**P**	**04 28 12.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s				

comp=Z,0.8nm,0.9s,baz=241,slow=7.2,SNR=4.7
NVAR Mina Array Bea 90.97 51 P **P 04 31 40.0 +1.3**
NV11 Mina Array Sit 91.08 51 P **P 04 31 39.2 +0.1**
NV11 IAmb IAmb 04 31 50.4
comp=Z,7.5nm,1.2s
KVN Kaiserville 91.25 51 P **P 04 31 40.7 +0.8**
KVN IAmb IAmb 04 31 50.5
comp=Z,3.5nm,1.0s
BDFB Brasilia 144.03 134 PKP **PKPdf 04 38 09.6 -1.2**
comp=Z,3.4nm,0.9s,baz=216,slow=5.5,SNR=5.2

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*BJI **12** 04:37:26.7±0.0,2°.67N×128°.58E,h121km,mB5.6/55, mb5.5/85*
*NEIC **12** 04:37:29.8,3°.03N×128°.21E,h114km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.52; Mθθ1.36; Mφφ-1.88; Mrθ0.92; Mrφ0.89; Mθφ0.35; Fault plane solution: M0 2.14000×10^17^ NP1:φs124.94000°, δ66.78000°,λ20.87000°. NP2:φs26.39000°,δ70.89000°, λ155.34000°. Principal axes: T 2.1689, Plg31.0000°, Azm345.0000°; N -0.0589, Plg59.0000°, Azm171.0000°; P -2.1100, Plg3.0000°, Azm76.0000°;*
*MOS **12** 04:37:31.6±0.9,2°.99N×128°.15E,h140km,mb5.1/64 Error ellipse: s-maj=8.0km s-min=4.4km az=111.0*
*KLM **12** 04:37:31,3°.16N×127°.95E,h109km,mb5.5*
*NEIC **12** 04:37:31.3±2.0,2°.99N±0°.06×128°.19E±0°.08,h115km±1km, mb5.2/167,Mwb5.5/24,Mwc5.6(GCMT),Error ellipse: s-maj=13.5km s-min=9.1km az=245.0*
*DJA **12** 04:37:32.2±0.3,3°N±2°×12°8E±°,h111km±2km,M5.4/71, mB5.8/49,mb5.5/71,MLv5.9/15,Mw(mB)5.3/49, MwMwp5.2/17,Mwp5.4/17*
*IDC **12** 04:37:33.1±1.3,2°.90N×128°.17E,h144km±11km,mb4.7/52, mb1 4.7/56,mb1mx4.6/69,mbtmp5.1/56,MS4.2/21, Ms1 4.2/21,ms1mx4.1/33,Error ellipse: s-maj=11.4km s-min=6.6km az=81.0*
*GCMT **12** 04:37:34.3±0.1,3°.04N±0°.01×128°.03E±0°.01,h127km±1km, MW5.6/138,Moment Tensor Solution. s129,c201; s138,c278; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr0.36±.03; Mθθ1.88±.03; Mφφ-2.24±.03; Mrθ0.88±.02; Mθφ1.36±.04; Mφr0.64±.03; Best double couple: M0 2.71600×10^17^ NP1:φs121.00000°,δ68.00000°, λ12.00000°. NP2:φs26.00000°,δ79.00000°,λ158.00000°. Principal axes: T 2.7390, Plg24.0000°, Azm342.0000°; N -0.0460, Plg65.0000°, Azm180.0000°; P -2.6930, Plg7.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 04:37:34,3°.13N×128°.01E,h127km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.34; Mθθ1.93; Mφφ-2.27; Mrθ0.85; Mθφ1.49; Mφr0.57; Fault plane solution: M0 2.79000×10^17^ NP1:φs119.00000°, δ71.00000°,λ12.00000°. NP2:φs25.00000°,δ79.00000°, λ160.00000°. Principal axes: T 2.8042, Plg22.0000°, Azm341.0000°; N -0.0311, Plg67.0000°, Azm177.0000°; P -2.7731, Plg6.0000°, Azm73.0000°;*
ISC 12 04:37:31.8±0.4,2°.93N±0°.03×128°.23E±0°.04,h128km±3km, h129km:pP-P,n643,σ1984/659,mb5.2/215,107C-22D, Fault plane solution: NP1:φs130.80640°,δ53.80633°, λ42.37500°. NP2:φs12.49313°,δ57.04916°,λ135.27391°. Principal axes: T Plg53.3376°, Azm339.7787°; N Plg36.5975°, Azm163.7200°; P Plg1.8882°, Azm72.3171°;

Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.31**	**202**	Pn	**Pn**	**04 38 10.0**	**+0.5**
TNTI	**Ternate**	**2.31**	**202**	P	**Pn**	**04 38 09.8**	**+0.3**
TNTI				S	**Sn**	**04 38 39.0**	**+0.6**
SGSI	**Sangihe**	**2.80**	**286**	P	**Pn**	**04 38 14.8**	**-1.0**
MNI	**Manado**	**3.69**	**247**	P	**Pn**	**04 38 27.0**	**-0.5**
SWI	**Sorong**	**4.83**	**141**	P	**Pn**	**04 38 44.0**	**+1.4**
SWI				pmax	pmax		
	comp=Z,2μm,0.8s						
SWI	**Sorong**	**4.83**	**141**	P	**Pn**	**04 38 43.7**	**+1.1**
SIJI	**Sorong**	**4.84**	**141**	P	**Pn**	**04 38 43.5**	**+0.8**
	comp=Z,378nm,0.3s,baz=336,slow=20,SNR=246						
SIJI				S	**Sn**	**04 39 34.6**	**-3.3**
	comp=Z,192nm,0.3s,baz=76,slow=20,SNR=12						
SIJI				LR	LR	04 40 11.4	
	comp=Z,2μm,18.2s,baz=336,slow=33						
DAV	**Davao City (W)**	**4.89**	**327**	P	**Pn**	**04 38 43.9**	**+0.5**
	comp=Z,518nm,0.3s,baz=148,slow=1.0,SNR=31						
DAV				S	**Sn**	**04 39 37.1**	**-2.1**
	comp=Z,236nm,0.3s,baz=81,slow=23,SNR=1.5						
DAV	**Davao City (W)**	**4.89**	**327**		**Pn**	**04 38 44.2**	**+0.8**
KCP	**Kidapawan**	**5.12**	**322**	⇑*i*P	**Pn**	**04 38 46.0**	**-0.6**
KCP				*i*S	**Sn**	**04 39 45.3**	**+0.5**
SANI	**Sanana**	**5.43**	**204**	P	**Pn**	**04 38 49.5**	**-1.1**
	comp=Z,5.3nmcomp=Z,11μmcomp=Z,25μmcomp=Z,607nm,0.9s						
GTOI	**Gorontalo**	**5.69**	**247**	P	**Pn**	**04 38 54.5**	**+0.3**
	comp=Z,7.4nmcomp=Z,24μmcomp=Z,2μm,1.1s						
BUKP	**Musuan**	**5.85**	**327**	⇑*i*P	**Pn**	**04 38 56.1**	**-0.2**
BUKP				*e*S	**Sn**	**04 40 02.2**	**0.0**
NLAI	**Namlea**	**6.23**	**190**	P	**Pn**	**04 39 02.1**	**+0.7**
	comp=Z,1.9nmcomp=Z,5μmcomp=Z,289nm,0.7s						
MSAI	**Masohi**	**6.27**	**174**	P	**Pn**	**04 39 05.5**	**+3.6**
	comp=Z,0.6nmcomp=Z,225nmcomp=Z,2μmcomp=Z,179nm,0.6s						
CGP	**Cagayan de Oro**	**6.52**	**328**	‖*e*P	**Pn**	**04 39 04.3**	**-1.1**
LUWI	**Luwuk**	**6.73**	**234**		**Pn**	**04 39 06.5**	**-1.7**
LUWI	**Luwuk**	**6.73**	**234**	P	**Pn**	**04 39 07.1**	**-1.1**
	comp=Z,33nmcomp=Z,15μmcomp=Z,24μmcomp=Z,3μm,0.9s						
MRSI	**Marisa**	**6.74**	**249**	P	**Pn**	**04 39 08.7**	**+0.4**
	comp=Z,26nmcomp=Z,17μmcomp=Z,84μmcomp=Z,10μm,1.0s						
PAGZ	**Pagadian**	**6.87**	**316**	⇑*e*P	**Pn**	**04 39 08.6**	**-1.4**
FAKI	**Fak Fak**	**7.06**	**145**	Pn	**Pn**	**04 39 13.6**	**+1.0**
FAKI	**Fak Fak**	**7.06**	**145**	P	**Pn**	**04 39 14.7**	**+2.1**
	comp=Z,3.8nmcomp=Z,8μmcomp=Z,13μmcomp=Z,1μm,0.9s						
DCPH	**Dipolog City**	**7.43**	**319**	⇑*e*P	**Pn**	**04 39 19.5**	**+2.0**
BNDI	**Bandanaira**	**7.58**	**167**	P	**Pn**	**04 39 20.7**	**+1.0**
	comp=Z,8.4nmcomp=Z,12μmcomp=Z,25μmcomp=Z,2μm,1.3s						
APSI	**Ampana**	**7.60**	**240**	P	**Pn**	**04 39 19.3**	**-0.6**
	comp=Z,9.6nmcomp=Z,7μmcomp=Z,20μmcomp=Z,2μm,1.0s						
TOLI2	**Tolitoli**	**7.66**	**257**	Pn	**Pn**	**04 39 19.5**	**-1.2**
MSLP	**Maasin**	**7.91**	**335**	‖*i*P	**Pn**	**04 39 22.6**	**-1.4**
MSLP				*e*S	**Sn**	**04 40 53.6**	**+1.7**
SNPH	**Sibulan**	**8.08**	**322**	⇑*e*P	**Pn**	**04 39 25.8**	**-0.6**
LLP	**Lapu-Lapu**	**8.48**	**330**	*e*P	**Pn**	**04 39 30.2**	**-1.5**
KMPI	**Kaimana, Papua**	**8.53**	**140**	P	**Pn**	**04 39 37.0**	**+4.6**
	comp=Z,7μmcomp=Z,493nm,0.7s						
MPSI	**Mapaga**	**8.72**	**253**	P	**Pn**	**04 39 34.7**	**-0.2**
	comp=Z,9μmcomp=Z,8μmcomp=Z,513nm,1.3s						
CNOP	**Candoni, Negro**	**8.82**	**321**	⇑*i*P	**Pn**	**04 39 35.4**	**-1.0**
CNOP				*e*S	Sn	04 40 59.1	-15
BAKI	**Biak**	**8.87**	**117**	P	**Pn**	**04 39 39.5**	**+2.5**
	comp=Z,15μmcomp=Z,2μm,1.0s						
SRPI	**Serui, Papua**	**9.32**	**121**	P	**Pn**	**04 39 47.5**	**+4.5**
	comp=Z,9μmcomp=Z,848nm,1.0s						
RCP	**Roxas**	**10.16**	**328**	‖*e*P	**Pn**	**04 39 53.7**	**-0.6**
TTSI	**Tana Toraja**	**10.29**	**235**	P	**Pn**	**04 39 54.3**	**-1.8**
	comp=Z,8μmcomp=Z,1μm,0.9s						
BNSI	**Bone**	**10.90**	**228**	P	**Pn**	**04 40 02.5**	**-1.8**
	comp=Z,5μmcomp=Z,654nm,0.9s						
SAUI	**Saumlaki**	**11.26**	**164**	Pn	**Pn**	**04 40 08.5**	**-0.5**
SAUI	**Saumlaki**	**11.26**	**164**	P	**Pn**	**04 40 09.4**	**+0.3**
	comp=Z,845nm,0.9s						
SMKI	**Samarinda**	**11.52**	**253**	P	**Pn**	**04 40 13.0**	**+0.5**
	comp=Z,10μmcomp=Z,17μmcomp=Z,2μm,1.1s						
BKSI	**Bulukumba**	**11.52**	**225**	P	**Pn**	**04 40 11.2**	**-1.3**
	comp=Z,6μmcomp=Z,298nm,1.1s						
KAPI	**Kappang**	**11.57**	**227**	P	**Pn**	**04 40 13.6**	**+0.4**
	comp=Z,24nm,0.3s,baz=48,slow=3.6,SNR=66						
KAPI				S	**Sn**	**04 42 13.8**	**-7.1**
	comp=Z,35nm,0.3s,baz=57,slow=22,SNR=12						
KAPI	**Kappang**	**11.57**	**227**	Pn	**Pn**	**04 40 11.7**	**-1.6**
BSSI	**Bau Bau, Buton**	**11.87**	**221**	P	**Pn**	**04 40 18.4**	**+1.3**
	comp=Z,5μmcomp=Z,371nm,1.1s						
BKB	**Balikpapan**	**12.07**	**250**	Pn	**Pn**	**04 40 18.1**	**-1.6**
BKB	**Balikpapan**	**12.07**	**250**	P	**Pn**	**04 40 19.8**	**+0.1**
	comp=Z,10μmcomp=Z,6μmcomp=Z,800nm,1.1s						
MMRI	**Maumere**	**12.95**	**207**	Pn	**Pn**	**04 40 31.0**	**-0.2**
GENI	**Genyem**	**13.13**	**115**	P	**P**	**04 40 36.6**	**-2.3**
	comp=Z,3μmcomp=Z,7μmcomp=Z,724nm,0.9s						
SOEI	**Soe**	**13.20**	**197**	Pn	**Pn**	**04 40 32.5**	**-2.0**
SOEI	**Soe**	**13.20**	**197**	P	**Pn**	**04 40 33.3**	**-1.3**
	comp=Z,4μmcomp=Z,198nm,0.9s						
TGY	**Tagaytay City**	**13.24**	**327**	‖*e*P	**Pn**	**04 40 32.5**	**-2.5**
EDFI	**Ende, Flores**	**13.31**	**209**	P	**Pn**	**04 40 36.3**	**+0.4**
	comp=Z,1μmcomp=Z,95nm,0.7s						
KBKI	**Kotabaru**	**13.55**	**243**	P	**Pn**	**04 40 38.6**	**-0.4**
	comp=Z,3μmcomp=Z,433nm,1.0s						
BATI	**Baumata**	**13.82**	**199**	P	**Pn**	**04 40 43.1**	**+0.7**
	comp=Z,16nm,0.3s,baz=348,slow=1.7,SNR=8.7						
BATI				S	**Sn**	**04 43 11.4**	**-3.6**
	comp=Z,4.7nm,0.3s,baz=195,slow=18,SNR=1.5						
BATI	**Baumata**	**13.82**	**199**	P	**Pn**	**04 40 43.9**	**+1.5**
	comp=Z,1μmcomp=Z,108nm,0.7s						
MTKI	**Muara Teweh, K**	**13.87**	**254**	P	**Pn**	**04 40 42.9**	**-0.2**
	comp=Z,4μmcomp=Z,6μmcomp=Z,175nm,1.0s						
PCPH	**Palayan**	**14.39**	**331**	‖*e*P	**Pn**	**04 40 49.0**	**-0.7**
BBKI	**Banjar Baru**	**14.81**	**245**	P	**Pn**	**04 40 54.7**	**-0.3**
	comp=Z,3μmcomp=Z,4μmcomp=Z,137nm,1.1s						
WBSI	**Waikabubak, Su**	**15.28**	**215**	P	**P**	**04 41 02.3**	**-0.5**
	comp=Z,3μmcomp=Z,215nm,0.9s						
PLAI	**Plampang**	**15.65**	**222**	P	**P**	**04 41 07.0**	**+0.1**
	comp=Z,4μmcomp=Z,394nm,0.9s						
MTN	**Manton Dam**	**15.93**	**170**	P	**Pn**	**04 41 07.9**	**-1.0**
	baz=16,SNR=16						
MTN	**Manton Dam**	**15.93**	**170**	Pn	**Pn**	**04 41 07.0**	**-1.8**
SBUM	**Sibu**	**16.00**	**269**	P	**Pn**	**04 41 10.0**	**+0.2**
KDU	**Kakadu**	**16.07**	**165**	P	**Pn**	**04 41 09.6**	**-1.0**
	baz=16,SNR=18						
TWSI	**Taliwang, Sumb**	**16.20**	**224**	P	**P**	**04 41 13.4**	**+0.5**
	comp=Z,2μmcomp=Z,189nm,1.0s						
APYP	**Conner**	**16.35**	**336**	‖*e*P	**Pn**	**04 41 13.7**	**-0.3**
SZP	**Santa**	**16.42**	**333**	Pn	**Pn**	**04 41 12.7**	**-2.1**
SRBI	**Singaraja**	**16.98**	**230**	P	**P**	**04 41 21.5**	**0.0**
	comp=Z,4μmcomp=Z,226nm,0.9s						
STKI	**Sintang**	**16.99**	**261**	P	**Pn**	**04 41 22.6**	**+0.8**
	comp=Z,3μmcomp=Z,99nm,1.3s						
KMMI	**Kalianget**	**17.35**	**235**	P	**Pn**	**04 41 27.8**	**+1.6**
	comp=Z,7μmcomp=Z,398nm,1.4s						
DNP	**Denpasar**	**17.36**	**228**	P	**Pn**	**04 41 28.8**	**+2.5**
DNP	**Denpasar**	**17.36**	**228**	P	**Pn**	**04 41 28.0**	**+1.7**
PBKI	**Pangkalan Bun**	**17.47**	**251**	P	**P**	**04 41 26.5**	**-0.5**
	comp=Z,446nm,1.2s						
KSM	**Kuching**	**17.97**	**266**	P	**Pn**	**04 41 34.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**18.04**	**231**	P	**P**	**04 41 32.4**	**-0.8**
JAGI	**Jajag, Banyuwa**	**18.04**	**231**	P	**Pn**	**04 41 34.7**	**+0.3**
	comp=Z,6μmcomp=Z,6μmcomp=Z,446nm,1.2s						
KNRA	**Kununurra**	**18.49**	**178**	P	**P**	**04 41 38.7**	**+0.7**
	baz=19,SNR=39						
KNRA	**Kununurra**	**18.49**	**178**	P	**P**	**04 41 38.8**	**+0.7**
KNRA				IAmb	IAmb	04 41 41.3	
	comp=Z,92nm,0.7s						
PWJI	**Pagerwojo**	**19.67**	**236**	P	**P**	**04 41 51.3**	**+0.4**
	comp=Z,4μmcomp=Z,447nm,1.1s						
MANU	**Manus Island**	**19.75**	**104**	P	**P**	**04 41 52.7**	**+0.7**
MANU				IAmb	IAmb	04 41 59.1	
	comp=Z,94nm,1.4s						
PCJI	**Pacitan**	**20.28**	**237**	P	**P**	**04 41 58.6**	**+1.0**
	comp=Z,4μmcomp=Z,517nm,0.9s						
SMRI	**Semarang**	**20.33**	**241**	P	**P**	**04 41 57.5**	**-0.6**
SMRI	**Semarang**	**20.33**	**241**	P	**P**	**04 41 58.6**	**+0.4**
	comp=Z,273nm,1.0s						
UGM	**Wanagama**	**20.69**	**239**	P	**P**	**04 42 00.0**	**-1.9**
UGM	**Wanagama**	**20.69**	**239**	P	**P**	**04 42 02.4**	**+0.4**
	comp=Z,222nm,1.1s						
YOGI	**Yogyakarta**	**20.83**	**239**	P	**P**	**04 42 04.4**	**+0.9**
	comp=Z,4μmcomp=Z,277nm,1.2s						
TWG	**Pinlang**	**20.96**	**341**	P	**P**	**04 42 01.5**	**-3.3**
TWG				IAmb	IAmb	04 42 15.5	
	comp=Z,103nm,0.6s						
TPI	**Tanjungpandan**	**21.33**	**255**	P	**P**	**04 42 09.2**	**+0.4**
	comp=Z,2μmcomp=Z,174nm,1.3s						
YULB	**Yu-li**	**21.43**	**342**	P	**P**	**04 42 07.3**	**-2.5**
YULB				IAmb	IAmb	04 42 18.6	
	comp=Z,55nm,0.6s						
KPJI	**Karang Pucung**	**21.79**	**242**	P	**P**	**04 42 13.3**	**-0.4**
	comp=Z,3μmcomp=Z,277nm,1.5s						
SSLB	**Suanglung**	**21.90**	**342**	P	**P**	**04 42 12.4**	**-2.5**
SSLB				IAmb	IAmb	04 42 22.3	
	comp=Z,124nm,0.8s						
JCJI	**Jatiwangi**	**22.02**	**245**	P	**P**	**04 42 18.0**	**+1.9**
	comp=Z,177nm,0.4s						
NACB	**Ninganchiao**	**22.08**	**344**	P	**P**	**04 42 15.0**	**-1.5**
NACB				IAmb	IAmb	04 42 20.4	
	comp=Z,68nm,0.8s						
PMG	**Port Moresby**	**22.49**	**123**	*i*P	**P**	**04 42 21.0**	**+0.2**
PMG				pmax	pmax		
	comp=Z,18nm,1.1s						
PMG	**Port Moresby**	**22.49**	**123**	P	**P**	**04 42 21.3**	**+0.5**
PPBI	**Pangkal Pinang**	**22.66**	**257**	P	**P**	**04 42 22.9**	**+0.4**
	comp=Z,51nm,1.2s						
LEM	**Lembang**	**22.74**	**245**	P	**P**	**04 42 21.1**	**-2.3**
	comp=Z,85nm,0.8s,baz=311,slow=24,SNR=4.8						
LEM	**Lembang**	**22.74**	**245**	P	**P**	**04 42 25.6**	**+2.1**
	comp=Z,2μmcomp=Z,113nm,1.1s						
TATO	**Taipei**	**22.87**	**344**	P	**P**	**04 42 23.1**	**-1.2**
TATO				IAmb	IAmb	04 42 30.1	
	comp=Z,202nm,1.3s						
CISI	**Cisompet, Garu**	**22.88**	**243**	P	**P**	**04 42 23.5**	**-1.2**
CISI				IAmb	IAmb	04 42 25.3	
	comp=Z,142nm,1.3s						
CISI	**Cisompet, Garu**	**22.88**	**243**	P	**P**	**04 42 24.0**	**-0.7**
	comp=Z,1μmcomp=Z,74nm,1.1s						
WB0	**Warramunga Arr**	**23.35**	**165**	P	**P**	**04 42 28.9**	**0.0**
WB0				IAmb	IAmb	04 42 35.4	
	comp=Z,104nm,0.8s						
CNJI	**Cibinong**	**23.38**	**244**	P	**P**	**04 42 28.8**	**-0.5**
	comp=Z,3μmcomp=Z,294nm,1.4s						
WRAB	**Tennant Creek**	**23.50**	**165**	*ce*P	**P**	**04 42 30.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,47nm,0.7s						
WRAB	**Tennant Creek**	**23.50**	**165**	P	**P**	**04 42 30.5**	**+0.2**
WRAB				IAmb	IAmb	04 42 36.5	
	comp=Z,94nm,0.8s						
WRA	**Warramunga Arr**	**23.50**	**165**	P	**P**	**04 42 30.0**	**-0.4**
	comp=Z,39nm,0.7s,baz=348,slow=10,SNR=126						
WRA				S	**S**	**04 46 31.6**	**-3.1**
	comp=Z,3.3nm,0.9s,baz=337,slow=20,SNR=1.1						
WRA				ScP	**ScP**	**04 49 36.4**	**-2.7**
	comp=Z,2.1nm,0.9s,baz=338,slow=2.3,SNR=1.6						
WRA				LR	LR	04 54 50.5	
	comp=Z,462nm,18.3s,baz=350,slow=44						
WRA	**Warramunga Arr**	**23.50**	**165**	*ce*P	**P**	**04 42 29.3**	**-1.0**
WRA				pmax	pmax		
	comp=Z,40nm,0.7s						
WB2	**Warramunga Arr**	**23.51**	**165**	IAmb	IAmb	04 42 36.5	
	comp=Z,113nm,0.8s						
WR0	**Warramunga Arr**	**23.57**	**165**	IAmb	IAmb	04 42 37.2	
	comp=Z,92nm,1.0s						
JOW	**Kunigami**	**23.77**	**0**	P	**P**	**04 42 32.6**	**-0.1**
QZH	**Quanzhou**	**23.78**	**338**	⇑*i*P	**P**	**04 42 33.2**	**+0.5**
QZH				S	**S**	**04 46 42.3**	**+3.3**
QZH				pmax	pmax		
	comp=Z,260nm,1.4s						
QZH				pmax	pmax		
	comp=Z,1μm,7.3s						
QIZ	**Qiongzhong**	**24.08**	**313**	P	**P**	**04 42 35.8**	**+0.3**
QIZ				S	**S**	**04 46 46.6**	**+2.6**
QIZ				pmax	pmax		
	comp=Z,110nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,890nm,4.6s						
QIZ				LR	LR		
	comp=Z,720nm,13.0s						
QIZ				LR	LR		
	comp=Z,650nm,16.0s						
QIZ				LR	LR		
	comp=Z,730nm,20.0s						
MYKOM	**Kota Tinggi**	**24.39**	**268**	P	**P**	**04 42 40.0**	**+1.6**
GZH	**Guangzhou**	**24.69**	**326**	P	**P**	**04 42 44.1**	**+3.1**
GZH				sP	**sP**	**04 43 27.5**	**+5.0**
GZH				S	**S**	**04 46 59.2**	**+5.6**
GZH				pmax	pmax		
	comp=Z,110nm,0.9s						
RABL	**Rabaul**	**24.94**	**106**	P	**P**	**04 42 43.8**	**+0.4**
RABL				IAmb	IAmb	04 42 49.0	
	comp=Z,38nm,0.5s						
JMBI	**JAMBI**	**25.00**	**260**	P	**P**	**04 42 50.1**	**+6.2**
	comp=Z,207nm,1.1s						
MDSI	**Maura Dua**	**25.14**	**253**	P	**P**	**04 42 46.6**	**+1.4**
	comp=Z,2μmcomp=Z,1μmcomp=Z,143nm,1.2s						
KASI	**Kota Agung**	**25.15**	**251**	P	**P**	**04 42 46.2**	**+0.9**
	comp=Z,2μmcomp=Z,205nm,1.5s						
LWLI	**Liwa**	**25.41**	**252**	P	**P**	**04 42 53.3**	**+5.5**
	comp=Z,6μmcomp=Z,260nm,0.9s						
LHSI	**Lahat**	**25.59**	**255**	P	**P**	**04 42 53.4**	**+4.1**
	comp=Z,114nm,1.1s						
QIS	**Mount Isa**	**25.87**	**155**	P	**P**	**04 42 51.9**	**+0.1**
	baz=26,SNR=29						
XMIS	**Christmas Isla**	**26.13**	**239**	P	**P**	**04 42 53.7**	**-0.5**
MASI	**Maura Aman, Be**	**26.67**	**257**	P	**P**	**04 43 05.6**	**+6.5**
	comp=Z,289nm,1.0s						
AS31	**Alice Springs**	**27.00**	**168**	P	**P**	**04 43 01.9**	**-0.1**
ASAR	**Alice Springs**	**27.00**	**168**	P	**P**	**04 43 01.5**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=346,slow=6.6,SNR=23						
ASAR				S	**S**	**04 47 28.0**	**-2.2**
	comp=Z,4.5nm,0.9s,baz=350,slow=20,SNR=3.1						
ASAR				ScP	**ScP**	**04 49 46.3**	**-2.8**
	comp=Z,2.1nm,0.7s,baz=356,slow=2.8,SNR=2.5						
ASAR				LR	LR	04 55 48.3	
	comp=Z,963nm,18.6s,baz=31,slow=41						
BKNI	**Bangkinang**	**27.30**	**265**	P	**P**	**04 43 04.7**	**0.0**
JCJ	**Chichijima**	**27.50**	**28**	P	**P**	**04 43 05.8**	**-0.5**
	comp=Z,54nm,0.5s,baz=287,slow=22,SNR=2.7						
JCJ				LR	LR	04 54 37.8	
	comp=Z,235nm,18.3s,baz=224,slow=37						
JCJ	**Chichijima**	**27.50**	**28**	P	**P**	**04 43 05.5**	**-0.8**
WRKA	**Warakurna**	**27.80**	**180**	P	**P**	**04 43 09.0**	**0.0**
	baz=28,SNR=23						
SRAK	**Srakaew**	**28.11**	**295**	P	**P**	**04 43 07.6**	**-4.3**
	comp=Z,4μmcomp=Z,393nm,0.8s						
MNSI	**Mandailing Nat**	**28.71**	**266**	P	**P**	**04 43 20.2**	**+2.9**
	comp=Z,924nmcomp=Z,17nm,0.8s						
TRTT	**Trang**	**28.82**	**281**	P	**P**	**04 43 22.4**	**+4.2**
	comp=Z,30nm,0.8s						
TRTT	**Trang**	**28.82**	**281**	P	**P**	**04 43 22.4**	**+4.2**
	comp=Z,30nm,0.8s						
CHAI	**Chaiyaphum**	**28.87**	**298**	P	**P**	**04 43 19.1**	**+0.5**
	comp=Z,396nmcomp=Z,59nm,0.8s						
CTA	**Charters Tower**	**28.92**	**143**	P	**P**	**04 43 19.3**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=305,slow=13,SNR=5.5						
CTAO	**Charters Tower**	**28.92**	**143**	P	**P**	**04 43 20.0**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s						
CTAO	**Charters Tower**	**28.92**	**143**	P	**P**	**04 43 20.0**	**+1.0**
SLVN	**Son La**	**29.91**	**310**	P	**P**	**04 43 27.1**	**-0.8**
PHET	**Kaeng Krachan**	**29.98**	**291**	P	**P**	04 43 33.7	+5.3
	comp=Z,35nm,1.5s						
PHET	**Kaeng Krachan**	**29.98**	**291**	P	**P**	04 43 33.8	+5.4
	comp=Z,8.9nm,1.5s						
JNU	**Nakatsue**	**30.14**	**4**	P	**P**	**04 43 29.9**	**+0.2**
	comp=Z,58nm,0.9s,baz=206,slow=4.0,SNR=18						
JNU				LR	LR	04 54 53.4	
	comp=Z,294nm,19.8s,baz=218,slow=34						
JNU	**Nakatsue**	**30.14**	**4**	IAmb	IAmb	04 43 30.4	
	comp=Z,77nm,1.0s						
NJ2	**Nanjing**	**30.29**	**344**	⇑*i*P	**P**	**04 43 31.6**	**+0.7**
NJ2				pP	**pP**	**04 43 54.6**	**-3.7**
NJ2				pmax	pmax		
	comp=Z,63nm,0.8s						
WHN	**Wuhan**	**30.45**	**336**	⇑*i*P	**P**	**04 43 34.1**	**+1.7**
WHN				sP	**sP**	**04 44 12.7**	**-1.5**
WHN				S	**S**	**04 48 25.8**	**+1.7**
WHN				pmax	pmax		
	comp=Z,150nm,0.9s						
WHN				LR	LR		
	comp=Z,2μm,22.7s						
GSI	**Gunungsitoli**	**30.68**	**268**	P	**P**	**04 43 34.8**	**+0.2**
GSI				IAmb	IAmb	04 43 36.3	
	comp=Z,32nm,0.7s						
PHIT	**Phitsanulok**	**30.77**	**299**	P	**P**	**04 43 36.8**	**+1.4**
	comp=Z,3μmcomp=Z,415nm,0.8s						
PHIT	**Phitsanulok**	**30.77**	**299**	P	**P**	**04 43 36.8**	**+1.4**
	comp=Z,707nmcomp=Z,103nm,0.8s						
MEEK	**Meekatharra**	**30.82**	**197**	P	**P**	**04 43 35.7**	**-0.1**
	baz=31,SNR=21						
UTTA	**Uttaradit**	**30.88**	**300**	P	**P**	**04 43 37.5**	**+1.2**
	comp=Z,407nmcomp=Z,54nm,1.0s						
UTTA	**Uttaradit**	**30.88**	**300**	P	**P**	**04 43 37.5**	**+1.2**
	comp=Z,102nmcomp=Z,13nm,1.0s						
UTHA	**Uthaitani**	**31.00**	**296**	P	**P**	**04 43 38.3**	**+0.8**
	comp=Z,753nmcomp=Z,85nm,0.7s						
UTHA	**Uthaitani**	**31.00**	**296**	P	**P**	**04 43 38.4**	**+0.9**
	comp=Z,187nmcomp=Z,21nm,0.7s						
GYA	**Guiyang**	**31.23**	**321**	⇑P	**P**	**04 43 40.5**	**+1.0**
GYA				sP	sP	04 44 18.8	-1.9
GYA				S	**S**	**04 48 35.9**	**-0.8**
GYA				pmax	pmax		
	comp=Z,71nm,4.1s						
GYA				LR	LR		
	comp=Z,120nm,16.1s						
GYA				LR	LR		
	comp=Z,140nm,17.2s						
GYA				LR	LR		
	comp=Z,160nm,16.8s						
**KH

comp=Z,1μmcomp=Z,118nm,0.8s
FORT Forrest 33.52 180 P P 04 43 59.3 +0.1
MORW Morawa 33.89 199 P P 04 44 03.1 +0.6
baz=34,SNR=4.1
KSAR Wonju Array Be 34.35 360 P P 04 44 06.3 0.0
KSAR Wonju Array Be 34.35 360 P P 04 44 06.3 0.0
KSRS Korea Array 34.36 360 P P 04 44 06.3 -0.1
comp=Z,18nm,0.8s,baz=177,slow=9.5,SNR=42
KS19 Wonju Array Si 34.41 359 IAmb IAmb 04 44 08.5
comp=Z,84nm,1.2s
TIA Tai'an 34.68 344 ⇑P **P 04 44 08.9 -0.3**
TIA pmax pmax
comp=Z,58nm,0.9s
MJAR Matsushiro Arr 34.70 14 LR LR 04 57 22.5
comp=Z,629nm,19.8s,baz=195,slow=34
BLDU Ballidu 35.12 197 P P 04 44 13.4 +0.4
baz=35,SNR=9.9
RMQ Roma 35.34 147 P P 04 44 15.1 +0.1
baz=36,SNR=4.7
KLBR Kellerberrin 35.74 195 P P 04 44 19.2 +0.9
baz=36,SNR=9.3
EIDS Eidsvold 35.80 143 P P 04 44 18.7 -0.2
baz=36,SNR=4.7
EIDS Eidsvold 35.80 143 P P 04 44 18.8 -0.2
XAN Xi'an 35.81 332 ⇑P **P 04 44 19.4 +0.4**
XAN pP pP 04 44 46.0 -0.7
XAN sP sP 04 44 59.8 -1.4
XAN PcP **PcP 04 46 44.5 +0.5**
XAN S **S 04 49 44.0 -3.2**
XAN ScP **ScP 04 50 18.1 -0.3**
XAN sS sS 04 50 33.2 -1.2
XAN SS **SnSn 04 52 20.1 -4.6**
XAN ScS **ScS 04 54 26.3 +2.3**
XAN pmax pmax
comp=Z,240nm,1.2s
XAN LR LR
comp=Z,690nm,17.1s
XAN LR LR
comp=Z,660nm,17.1s
XAN LR LR
comp=Z,820nm,21.4s
CD2 Chengdu 36.18 323 ⇑P **P 04 44 22.9 +0.7**
CD2 S **S 04 49 49.9 -3.0**
CD2 pmax pmax
comp=Z,210nm,1.0s
CD2 pmax pmax
comp=Z,870nm,5.0s
CD2 LR LR
comp=Z,1μm,18.4s
CD2 LR LR
comp=Z,1μm,19.8s
CD2 LR LR
comp=Z,1μm,17.5s
DL2 Dalian 36.32 351 P P 04 44 23.5 +0.4
DL2 pmax pmax
comp=Z,150nm,0.8s
MUN Mundaring 36.54 197 P P 04 44 26.0 +0.8
baz=37,SNR=4.7
STKA Stephens Creek 36.87 161 P P 04 44 28.0 +0.1
comp=Z,21nm,0.5s,baz=350,slow=8.0,SNR=28
STKA LR LR 05 02 41.6
comp=Z,266nm,19.7s,baz=339,slow=41
STKA Stephens Creek 36.87 161 P P 04 44 28.5 +0.5
STKA pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 36.87 161 P P 04 44 28.4 +0.5
NWAO Narrogin (SRO) 37.15 195 P P 04 44 30.2 -0.1
comp=Z,20nm,1.0s,baz=22,slow=7.6,SNR=15
NWAO Narrogin (SRO) 37.15 195 P P 04 44 33.5 +3.2
baz=37,SNR=4.1
NWAO Narrogin (SRO) 37.15 195 P P 04 44 32.2 +1.9
NWAO pmax pmax
comp=Z,17nm,1.1s
NWAO Narrogin (SRO) 37.15 195 P P 04 44 32.2 +1.9
TIY Taiyuan 37.53 339 *e*P **P 04 44 34.2 +0.6**
TIY pmax pmax
comp=Z,62nm,0.6s
TIY pmax pmax
comp=Z,570nm,4.6s
TIY LR LR
comp=Z,190nm,4.4s
TIY LR LR
comp=Z,200nm,5.1s
TIY LR LR
comp=Z,490nm,5.8s
CMSA Cobar Meteorol 38.09 155 P P 04 44 38.7 +0.5
baz=38,SNR=6.3
BJI Beijing 38.53 345 P P 04 44 41.8 0.0
BJI pP **pP 04 45 06.6 -3.3**
BJI PP **PP 04 46 13.7 +1.1**
BJI S **S 04 50 31.2 +3.2**
BJI pmax pmax
comp=Z,170nm,0.8s
BJI LR LR
comp=Z,560nm,30.3s
JTM Tenmabayashi 39.43 15 P P 04 44 47.6 -1.7
MSHR Mys Shultsa 39.57 3*ce*P **P 04 44 50.9 +0.5**
MSHR pmax pmax
comp=Z,20nm,0.7s
LZH Lanzhou 39.96 329 ⇑P **P 04 44 55.7 +1.7**
LZH pP pP 04 45 17.0 -5.0
LZH sP sP 04 45 33.9 -2.4
LZH PP **PnPn 04 46 31.1 -2.0**
LZH S **S 04 50 48.9 -1.1**
LZH sS sS 04 51 39.5 +1.8
LZH SS **SS 04 53 50.0 -2.1**
LZH pmax pmax
comp=Z,350nm,1.3s
LZH pmax pmax
comp=Z,690nm,5.7s
LZH LR LR
comp=Z,2μm,14.1s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,2μm,16.0s
ARMA Armidale 39.98 148 P P 04 44 54.9 +0.7
baz=40,SNR=21
ARMA Armidale 39.98 148 P P 04 44 54.4 +0.3
ARMA IAmb IAmb 04 44 57.3
comp=Z,27nm,0.7s
VLA Vladivostok 40.15 4 *i* P **P 04 44 55.9 +0.7**
VLA pmax pmax
comp=Z,106nm,1.4s
BRDH Bariadhala 40.53 302 P P 04 44 58.4 -0.2
comp=Z,66nm,0.3s,baz=111,slow=7.3,SNR=5.9
HHC Hu-ho-hao-te 40.64 340 ⇑*i*P **P 04 44 59.9 +0.5**
HHC S **S 04 51 02.2 +2.4**
HHC sS sS 04 51 46.5 -1.2
HHC pmax pmax
comp=Z,89nm,0.9s
HHC pmax pmax
comp=Z,540nm,5.6s
H11S3 WAKE ISLAND Hy 40.70 65 T T 05 28 49.3
baz=252,slow=75,SNR=42
H11S2 WAKE ISLAND Hy 40.71 65 T T 05 28 44.7
baz=252,slow=75,SNR=51
H11S1 WAKE ISLAND Hy 40.71 65 T T 05 28 40.1
baz=252,slow=75,SNR=37
CN2 Changchun 40.78 357 *e*P **P 04 44 59.4 -1.0**
CN2 *e*S **S 04 51 01.0 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,500nm,16.0s
ERM Erimo 41.16 17*ce*P **P 04 45 03.3 -0.2**
ERM pmax pmax
comp=Z,97nm,1.7s
USRK Ussuriysk Ar. 41.24 4 P **P 04 45 04.2 +0.2**
comp=Z,43nm,0.8s,baz=186,slow=7.5,SNR=74
USRK LR LR 05 00 21.7
comp=Z,224nm,20.3s,baz=180,slow=33
H11N1 WAKE ISLAND Hy 41.26 63 T T 05 29 22.8
baz=250,slow=75,SNR=53
H11N2 WAKE ISLAND Hy 41.27 63 T T 05 29 33.2
baz=250,slow=75,SNR=38
H11N3 WAKE ISLAND Hy 41.28 63 T T 05 29 24.2
baz=250,slow=75,SNR=53
ARPS Mount Arapiles 41.48 163 P **P 04 45 08.0 +1.8**
baz=42,SNR=12

MDJ Mudanjiang 41.54 1 P **P 04 45 06.9 +0.4**
MDJ pP pP 04 45 30.5 -4.2
MDJ PcS **PcS 04 50 50.8 -2.2**
MDJ S **S 04 51 16.4 +3.6**
MDJ sS sS 04 51 58.4 -2.4
MDJ ScS **ScS 04 54 56.0 -0.7**
MDJ pmax pmax
comp=Z,100nm,1.1s
MDJ pmax pmax
comp=Z,570nm,5.7s
MDJ Mudanjiang 41.54 1 P **P 04 45 06.6 +0.1**
SHL Shillong 41.56 306 P **P 04 45 07.3 0.0**
SHL pmax pmax
comp=Z,216nm,0.7s
SHL Shillong 41.56 306 P **P 04 45 07.3 0.0**
ASAJ Asahikawa 42.95 15 P **P 04 45 18.4 +0.4**
comp=Z,14nm,0.5s,baz=230,slow=9.7,SNR=14
ASAJ Asahikawa 42.95 15 P **P 04 45 18.4 +0.4**
ASAJ pmax pmax
comp=Z,34nm,0.9s
JKA Kamikawa-asahi 42.95 15 P **P 04 45 18.4 +0.4**
JKA IAmb IAmb 04 45 34.0
comp=Z,34nm,0.9s
YUK Yuzh-Kuril'sk 43.81 18 *i* P **P 04 45 24.3 -0.6**
LSA Lhasa 44.09 311 P **P 04 45 29.7 +1.7**
LSA pmax pmax
comp=Z,310nm,1.1s
LSA Lhasa 44.09 311 P **P 04 45 28.5 +0.5**
LSA pmax pmax
comp=Z,69nm,0.7s
LSA Lhasa 44.09 311 P **P 04 45 28.5 +0.5**
GTA Gaotai 44.56 328 ⇑P **P 04 45 32.1 +0.9**
GTA pP pP 04 45 57.6 -2.1
GTA sP sP 04 46 09.0 -4.9
GTA PP **PP 04 47 19.0 +1.3**
GTA S **S 04 51 59.2 +1.8**
GTA sS sS 04 52 47.4 +1.5
GTA SS **ScS 04 55 17.2 +1.1**
GTA pmax pmax
comp=Z,86nm,1.0s
GTA pmax pmax
comp=Z,470nm,10.8s
GTA LR LR
comp=Z,760nm,15.9s
GTA LR LR
comp=Z,690nm,15.5s
GTA LR LR
comp=Z,530nm,24.7s
DZM Mont Dzumac 44.85 126 *e*LR LR 04 58 16.0
comp=Z,573nm,26.2s
YSS Yuzh-Sakhalins 45.64 14 *e*P **P 04 45 39.4 +0.1**
YSS *e* 04 46 25.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 45.64 14 P **P 04 45 39.0 -0.3**
YSS IAmb IAmb 04 45 40.0
comp=Z,22nm,0.8s
KLR Kul'dur 46.23 3 P **P 04 45 43.8 -0.2**
comp=Z,34nm,0.7s,baz=201,slow=4.3,SNR=105
HIA Hailar 46.74 352 P **P 04 45 47.9 -0.1**
HIA pmax pmax
comp=Z,66nm,1.4s
HIA Hailar 46.74 352 P **P 04 45 47.9 -0.1**
HIA IAmb IAmb 04 45 49.4
comp=Z,66nm,1.4s
UGL Uglegorsk 47.48 12 *e*P **P 04 45 54.3 +0.6**
UGL pmax pmax
comp=Z,130nm,1.1s
PALK Pallekele 47.52 277 P **P 04 45 54.3 -0.4**
comp=Z,12nm,0.8s,baz=201,slow=9.6,SNR=2.6
PALK Pallekele 47.52 277 P **P 04 45 54.3 -0.4**
PALK pmax pmax
comp=Z,37nm,1.3s
PALK Pallekele 47.52 277 IAmb IAmb 04 45 57.1
comp=Z,37nm,1.2s
GRNR Gornyy 48.17 7 ⇑*i*P **P 04 45 59.6 +0.6**
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR MLR MLR
comp=N,140nm,13.0s
ULN Ulaanbaatar 48.35 341 P **P 04 46 00.8 +0.2**
ULN pmax pmax
comp=Z,98nm,0.9s
ULN Ulaanbaatar 48.35 341 P **P 04 46 00.8 +0.2**
SONM Songino Array 48.54 340 P **P 04 46 02.1 0.0**
comp=Z,35nm,0.7s,baz=154,slow=8.9,SNR=39
SONM LR LR 05 07 10.0
comp=Z,308nm,21.1s,baz=154,slow=37
SONM Songino Array 48.54 340 P **P 04 46 01.5 -0.6**
SONM IAmb IAmb 04 46 03.1
comp=Z,39nm,0.9s
TAU Tasmania Unive 48.77 161 P **P 04 46 05.7 +2.0**
TAU pmax pmax
comp=Z,25nm,1.2s
TAU Tasmania Unive 48.77 161 P **P 04 46 05.7 +2.0**
TAU IAmb IAmb 04 46 10.0
comp=Z,25nm,1.1s
TYV Tymovskoe 49.29 12 *e*P **P 04 46 08.4 +0.8**
TYV *e*S **S 04 53 07.3 +3.3**
TYV pmax pmax
comp=Z,17nm,1.1s
TYV pmax pmax
comp=Z,200nm,2.5s
TYV smax smax
comp=E,400nm,6.2s
NFK Norfolk Island 49.59 133 P **P 04 46 09.1 -1.1**
baz=50,SNR=3.4
CIT Chita 50.44 348 *e*P **P 04 46 17.0 +0.7**
CIT *e* 04 46 51.8
CIT *e* 04 47 01.0
CIT pmax pmax
comp=Z,182nm,1.8s
ZEA Zeya 50.66 359 *e*P **P 04 46 17.1 -0.7**
ZEA *e*S **S 04 53 24.2 +1.4**
ZEA pmax pmax
comp=Z,30nm,0.9s
HYB Hyderabad 50.80 290 *i* P **P 04 46 20.0 +0.5**
HYB *e*sP **sP 04 47 00.0 -2.3**
ZAK Zakamensk 51.78 340 *e*P **P 04 46 25.3 -1.1**
ZAK pmax pmax
comp=Z,22nm,1.5s
TLY Talaya 52.77 341 P **P 04 46 33.6 0.0**
comp=Z,5.5nm,0.6s,baz=180,slow=5.9,SNR=5.1
TLY Talaya 52.77 341 *e*P **P 04 46 34.4 +0.8**
TLY *e*S **S 04 53 58.6 +6.7**
TLY *e*SS **SS 04 57 32.2 -0.1**
TLY pmax pmax
comp=Z,90nm,1.6s
TLY MLR MLR
comp=Z,531nm,18.0s
TLY Talaya 52.77 341 P **P 04 46 34.0 +0.5**
TLY IAmb IAmb 04 46 35.6
comp=Z,28nm,1.2s
IRK Irkutsk 53.05 342 *e*P **P 04 46 32.6 -3.0**
IRK pmax pmax
comp=Z,99nm,2.1s
MSVF Nonsavu 53.22 115 LR LR 05 08 17.9
comp=Z,147nm,20.0s,baz=306,slow=35
MSVF Nonsavu 53.22 115 P **P 04 46 39.3 +1.8**
MSVF pmax pmax
comp=Z,44nm,1.5s
MSVF Nonsavu 53.22 115 P **P 04 46 39.3 +1.8**
MSVF IAmb IAmb 04 46 49.2
comp=Z,44nm,1.4s
MOY Mondy 53.65 339 *e*P **P 04 46 41.0 +0.8**
MOY pmax pmax
comp=Z,135nm,2.3s
WMQ Urumqi 54.24 325 P **P 04 46 46.0 +1.5**
WMQ pP pP 04 47 14.9 +1.0
WMQ sP sP 04 47 23.1 -4.6
WMQ PP **PP 04 48 47.9 +0.2**
WMQ S **S 04 54 12.8 +0.6**
WMQ pmax pmax
comp=Z,130nm,0.9s
WMQ pmax pmax
comp=Z,670nm,5.1s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,780nm,15.7s
WMQ LR LR
comp=Z,560nm,19.1s
PEA0B Petropavlovsk- 55.62 21*ce*P **P 04 46 54.9 +0.7**

PEA0B Petropavlovsk- 55.62 21 P **P 04 46 54.4 +0.2**
PETK Petropavlovsk- 55.62 21 P **P 04 46 54.2 0.0**
comp=Z,61nm,0.8s,baz=203,slow=6.4,SNR=143
PETK LR LR 05 10 19.0
comp=Z,121nm,20.0s,baz=204,slow=35
BOD Bodaibo 55.88 351 *e*P **P 04 46 55.5 -0.4**
BOD pmax pmax
comp=Z,43nm,1.3s
PET Petropavlovsk 55.90 22 ⇓*i*P **P 04 46 57.1 +0.9**
PET *e*S **S 04 54 33.8 0.0**
PET *e*SS **SS 04 58 17.7 -3.9**
PET pmax pmax
comp=Z,121nm,1.2s
PET pmax pmax
comp=Z,300nm,10.0s
PET pmax pmax
comp=Z,200nm,10.2s
ZSN Zaisan 57.99 327 *e*P **P 04 47 10.6 -0.6**
comp=Z,14nm,1.0s,baz=327
ZSN Zaisan 57.99 327 *e*P **P 04 47 10.5 -0.6**
ZSN pmax pmax
comp=Z,13nm,1.0s
DGZ Jazzator, Alta 58.03 330*c i*P **P 04 47 11.4 -0.1**
DGZ pmax pmax
comp=Z,36nm,0.9s
SHLS Shalkode 58.92 320 *e*P **P 04 47 14.2 -3.6**
comp=Z,46nm,1.1s,baz=320
SHLS Shalkode 58.92 320 *e*P **P 04 47 14.1 -3.6**
SHLS pmax pmax
comp=Z,46nm,1.1s
YAK Yakutsk 58.98 1 P **P 04 47 17.4 -0.1**
comp=Z,138nm,0.7s,baz=9.5,slow=0.5,SNR=66
YAK Yakutsk 58.98 1*c i*P **P 04 47 17.4 -0.1**
YAK *e* 04 48 07.1
YAK *e* 04 49 25.3
YAK *e*S **S 04 55 13.0 -0.7**
YAK *e*SS **SS 04 59 06.7 -2.9**
YAK pmax pmax
comp=Z,292nm,0.9s
YAK pmax pmax
comp=N,68nm,1.1s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=Z,49nm,1.6s
YAK pmax pmax
comp=N,47nm,1.7s
YAK pmax pmax
comp=E,30nm,1.9s
YAK smax smax
comp=E,142nm,4.4s
YAK smax smax
comp=N,80nm,3.0s
YAK Yakutsk 58.98 1 P **P 04 47 17.6 0.0**
MK31 Makanchi Array 59.07 325*c i*P **P 04 47 18.8 +0.2**
MK31 Makanchi Array 59.07 325 IAmb IAmb 04 47 19.6
comp=Z,34nm,0.8s
MKAR Makanchi Array 59.07 325 P **P 04 47 18.8 +0.2**
comp=Z,34nm,0.7s,baz=122,slow=8.1,SNR=331
MKAR PP **PP 04 49 28.1 -2.4**
comp=Z,3.7nm,0.7s,baz=130,slow=6.0,SNR=0.9
MKAR LR LR 05 13 56.9
comp=Z,400nm,20.2s,baz=113,slow=37
MKAR Makanchi Array 59.07 325*ce*P **P 04 47 19.0 +0.4**
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR Makanchi Array 59.07 325 P **P 04 47 18.7 +0.1**
MA2 Magadan 59.13 13 P **P 04 47 19.3 +0.6**
comp=Z,52nm,0.8s,baz=199,slow=6.0,SNR=24
MA2 Magadan 59.13 13 *e*P **P 04 47 19.4 +0.7**
MA2 pmax pmax
comp=Z,65nm,0.8s
MA2 Magadan 59.13 13 P **P 04 47 18.3 -0.4**
UZB Uzynbulak 59.20 320 *e*P **P 04 47 18.9 -0.9**
comp=Z,60nm,1.8s,baz=320
UZB Uzynbulak 59.20 320 *e*P **P 04 47 18.8 -0.9**
UZB pmax pmax
comp=Z,60nm,1.8s
MAKZ Makanchi 59.26 325 P **P 04 47 19.4 -0.5**
MAKZ pmax pmax
comp=Z,58nm,0.9s
MAKZ Makanchi 59.26 325 P **P 04 47 19.4 -0.5**
PRZ Przheval'sk 59.29 319 P **P 04 47 21.1 +0.7**
PRZ pmax pmax
comp=Z,56nm,0.9s
PRZ Przheval'sk 59.29 319 P **P 04 47 21.1 +0.7**
TARG Taragay, Kyrgy 59.35 318 IAmb IAmb 04 47 24.5
comp=Z,32nm,1.2s
SATY Saty 59.55 319 *e*P **P 04 47 21.1 -1.0**
comp=Z,25nm,0.7s,baz=320
SATY Saty 59.55 319 *e*P **P 04 47 21.1 -1.0**
SATY pmax pmax
comp=Z,25nm,0.7s
KPKS Kokpek 59.57 320 *e*P **P 04 47 21.6 -0.5**
comp=Z,47nm,0.8s,baz=320
KPKS Kokpek 59.57 320 *e*P **P 04 47 21.6 -0.5**
KPKS pmax pmax
comp=Z,47nm,0.8s
NIL Nilore 59.60 308 P **P 04 47 22.1 -0.4**
NIL pmax pmax
comp=Z,27nm,0.9s
NIL Nilore 59.60 308 P **P 04 47 22.1 -0.4**
NIL IAmb IAmb 04 47 26.8
comp=Z,27nm,0.9s
KSH Kashi 59.67 315 P **P 04 47 24.9 +1.9**
KSH pP pP 04 47 50.2 -2.6
KSH S **S 04 55 25.6 +1.8**
KSH pmax pmax
comp=Z,31nm,0.9s
KSH pmax pmax
comp=Z,370nm,4.5s
KDJ Kajisay 59.94 318 P **P 04 47 25.2 +0.3**
KDJ pmax pmax
comp=Z,33nm,0.8s
KDJ Kajisay 59.94 318 P **P 04 47 25.2 +0.3**
TDK Taldyqorghan 60.47 321 *e*P **P 04 47 27.1 -1.2**
baz=321
TDK Taldyqorghan 60.47 321 *e*P **P 04 47 27.0 -1.2**
MDOK Medeo 60.49 319 *e*P **P 04 47 28.3 -0.2**
baz=319
MDOK Medeo 60.49 319 *e*P **P 04 47 28.3 -0.2**
ULHL Ulahol 60.62 318 P **P 04 47 30.2 +0.7**
SNR=15
CHKK Chushkaly 60.84 320 *e*P **P 04 47 29.6 -1.2**
baz=320
CHKK Chushkaly 60.84 320 *e*P **P 04 47 29.5 -1.2**
BOOM Boomskoye usch 60.93 318 P **P 04 47 31.4 -0.1**
BOOM pmax pmax
comp=Z,18nm,1.0s
BOOM Boomskoye usch 60.93 318 P **P 04 47 31.4 -0.1**
BOOM IAmb IAmb 04 47 32.7
comp=Z,18nm,1.0s
KUU Kurty 61.27 320 ⇑*i*P **P 04 47 33.3 -0.4**
comp=Z,167nm,1.8s,baz=320
KUU Kurty 61.27 320*c i*P **P 04 47 33.2 -0.4**
KUU pmax pmax
comp=Z,167nm,1.8s
TKM2 Tokmak 2 61.34 318 P **P 04 47 34.9 +0.6**
SNR=21
AAK Ala-Archa 61.96 318 P **P 04 47 38.4 -0.1**
comp=Z,2.8nm,0.4s,baz=130,slow=6.0,SNR=18
AAK Ala-Archa 61.96 318*ce*P **P 04 47 39.1 +0.6**
AAK pmax pmax
comp=Z,77nm,1.6s
AAK Ala-Archa 61.96 318 P **P 04 47 38.1 -0.4**
AAK IAmb IAmb 04 47 39.8
comp=Z,29nm,1.5s
ZAA0 Zalesovo Array 61.98 333 IAmb IAmb 04 47 38.0
comp=Z,24nm,0.9s
ZALV Zalesovo Beam 61.98 333 P **P 04 47 37.4 -0.8**
comp=Z,16nm,0.7s,baz=112,slow=6.3,SNR=43
ZALV PP **PP 04 49 56.3 +0.2**
comp=Z,3.1nm,0.4s,baz=260,slow=41,SNR=1.3
ZALV LR LR 05 17 54.4
comp=Z,183nm,18.0s,baz=132,slow=39
ZALV Zalesovo Beam 61.98 333 *i* P **P 04 47 37.4 -0.8**
ZALV pmax pmax
comp=Z,17nm,0.8s
ZALV Zalesovo Beam 61.98 333 P **P 04 47 37.2 -0.9**
SEM Semipalatinsk 62.18 327 *e*P **P 04 47 37.3 -2.5**
baz=328
SEM Semipalatinsk 62.18 327 *e*P **P 04 47 37.3 -2.5**
SGDS Sogindy 62.20 318 *e*P **P 04 47 38.4 -1.5**
baz=318
SGDS Sogindy 62.20 318 *e*P **P 04 47 38.4 -1.5**
USP Ospenovka 62.21 318 P **P 04 47 40.2 +0.2**

SNR=23
AML Almayashu 62.30 317 P P 04 47 42.0 +1.0
SNR=21
EKS2 Erkin-Say 62.45 317 P P 04 47 42.6 +0.9
SNR=23
SEY Seymchan 62.49 12 P P 04 47 42.3 +1.0
comp=Z,42nm,0.9s,baz=220,slow=5.1,SNR=93
SEY Seymchan 62.49 12 *c iP* **P 04 47 42.6 +1.3**
DRK Karamyk 62.65 313 IAmb IAmb 04 47 51.4
comp=Z,28nm,0.7s
KBL Kabul 63.20 307 P **P 04 47 45.9 -1.0**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 63.20 307 P **P 04 47 45.9 -1.0**
KBL IAmb IAmb 04 47 53.5
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 63.22 327 P **P 04 47 46.0 -0.5**
comp=Z,41nm,0.7s,baz=124,slow=6.1,SNR=261
KURBB PP **PP 04 50 06.9 -0.2**
comp=Z,4.9nm,0.8s,baz=128,slow=9.4,SNR=4.5
KURK Kurchatov 63.22 327 P **P 04 47 46.0 -0.4**
BTLS Baital 63.25 320 *eP* **P 04 47 46.0 -0.9**
comp=Z,21nm,1.7s,baz=320
BTLS Baital 63.25 320 *eP* **P 04 47 45.9 -0.9**
BTLS pmax pmax
comp=Z,21nm,1.7s
BTK Batken 63.56 314 IAmb IAmb 04 47 51.6
comp=Z,41nm,1.2s
CHGR Chuyangaron 64.32 312 P **P 04 47 54.0 0.0**
CHGR IAmb IAmb 04 47 55.7
comp=Z,50nm,1.1s
KK31 Karatay Array 64.84 317 P **P 04 47 57.3 +0.1**
KK31 pmax pmax
comp=Z,22nm,1.0s
KK31 Karatay Array 64.84 317 P **P 04 47 57.3 +0.1**
KK31 IAmb IAmb 04 47 57.9
comp=Z,22nm,0.9s
KKAR Karatay Array 64.84 317 P **P 04 47 57.1 -0.1**
KKAR Karatay Array 64.84 317 P **P 04 47 57.1 -0.1**
TAS Tashkent 65.07 315 P **P 04 47 59.5 +0.7**
TAS pmax pmax
comp=Z,65nm,0.9s
TAS Tashkent 65.07 315 P **P 04 47 59.5 +0.7**
ATKA Atka Island 68.31 34 P **P 04 48 18.7 -0.3**
TIXI Tiksi 68.63 0 P **P 04 48 19.7 -1.0**
comp=Z,30nm,0.7s,baz=146,slow=6.3,SNR=92
TIXI Tiksi 68.63 0 *ceP* **P 04 48 19.6 -1.0**
TIXI Tiksi 68.63 0 P **P 04 48 19.7 -1.0**
TIXI IAmb IAmb 04 48 21.4
comp=Z,51nm,0.9s
BVAR Borovoye Array 68.81 327 P **P 04 48 21.7 -0.5**
comp=Z,15nm,0.9s,baz=184,slow=15,SNR=74
BRVK Borovoye 68.88 327 *ceP* **P 04 48 22.3 -0.3**
BRVK pmax pmax
comp=Z,74nm,1.7s
BRVK Borovoye 68.88 327 P **P 04 48 22.5 -0.1**
BRVK IAmb IAmb 04 48 23.6
comp=Z,44nm,1.1s
BILL Bilibino 69.95 14 *d iP* **P 04 48 28.5 -0.3**
BILL *i* 04 48 48.6
BILL pmax pmax
comp=Z,12nm,1.0s
BILL Bilibino 69.95 14 P **P 04 48 28.6 -0.3**
WSAR Wadi Sarin 70.12 294 P **P 04 48 30.1 -0.7**
comp=Z,13nm,0.9s,baz=120,slow=8.5,SNR=3.9
CASY Casey 70.21 188 P **P 04 48 32.5 +2.1**
NRIK Noril'sk 71.57 346 P **P 04 48 37.8 -0.8**
comp=Z,33nm,0.7s,baz=129,slow=5.9,SNR=37
NRIK LR LR 05 21 58.4
comp=Z,204nm,21.2s,baz=150,slow=37
NRIK Noril'sk 71.57 346 *ceP* **P 04 48 38.3 -0.3**
NRIK pmax pmax
comp=Z,52nm,0.8s
NRIK Noril'sk 71.57 346 IAmb IAmb 04 48 39.1
comp=Z,44nm,0.8s
GEYT Alibeck 72.56 309 P **P 04 48 44.3 -0.9**
comp=Z,91nm,1.1s,baz=175,slow=6.7,SNR=11
GYA0B ALIBECK ARRAY 72.56 309 P **P 04 48 46.0 +0.7**
ABKAR Akbulak array 73.72 321 P **P 04 48 51.2 -0.6**
AKUT Akutan 73.74 34 P **P 04 48 52.8 +1.1**
GAMB Gambell 74.52 24 P **P 04 48 57.5 +1.4**
baz=244
AKTO Aktyubinsk 75.22 322 P **P 04 49 00.0 -0.4**
comp=Z,12nm,0.9s,baz=103,slow=7.0,SNR=25
SVE Sverdlovsk 75.43 328 *eP* **P 04 49 00.8 -0.7**
SVE pmax pmax
comp=Z,44nm,1.4s
ARU Arti 76.41 328 P **P 04 49 06.1 -1.0**
comp=Z,3.8nm,0.6s,baz=112,slow=2.9,SNR=26
ARU PP **PP 04 52 00.6 +0.2**
comp=Z,1.3nm,0.5s,baz=133,slow=6.2,SNR=3.6
ARU Arti 76.41 328 *c iP* **P 04 49 06.0 -1.0**
ARU *PP **pP** 04 49 36.3 -1.9
ARU 04 51 57.5
ARU S **S 04 58 42.4 +0.5**
ARU SS **SS 05 03 35.0 -4.0**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 76.41 328 P **P 04 49 05.6 -1.5**
ARU IAmb IAmb 04 49 06.7
comp=Z,18nm,0.8s
ANM Nome 77.38 24 P **P 04 49 13.8 +1.5**
baz=250
RDOG Red Dog Mine 79.49 21 P **P 04 49 27.2 +3.4**
baz=251
RDOG Red Dog Mine 79.49 21 IAmb IAmb 04 49 28.0
comp=Z,55nm,1.2s
N18K Kilae Creek 80.56 29 P **P 04 49 31.3 +1.6**
baz=259
O18K Koktuh Hills 80.74 30 P **P 04 49 32.0 +1.2**
baz=260
N19K Bonanza Creek 81.26 29 P **P 04 49 35.2 +1.6**
baz=260,SNR=20
OHAK Old Harbor 81.31 33 P **P 04 49 35.1 +1.4**
baz=262,SNR=6.9
OHAK Old Harbor 81.31 33 IAmb IAmb 04 49 35.5
comp=Z,26nm,1.0s
L19K White Mountain 81.32 28 P **P 04 49 35.3 +1.5**
baz=260
M19K Big River Lodg 81.49 28 P **P 04 49 36.4 +1.7**
baz=260
KIRV Kirov 81.68 329 P **P 04 49 35.3 -0.4**
comp=Z,27nm,0.7s,baz=258,slow=23,SNR=17
KIRV Kirov 81.68 329 *ceP* **P 04 49 35.5 -0.2**
P19K Oil Pt 81.69 30 P **P 04 49 36.0 +0.2**
baz=262
KDAK Kodiak Island 81.77 32 P **P 04 49 36.6 +0.4**
comp=Z,22nm,0.9s,baz=262,slow=4.7,SNR=21
KDAK Kodiak Island 81.77 32 P **P 04 49 36.6 +0.4**
KDAK pmax pmax
comp=Z,18nm,0.9s
KDAK Kodiak Island 81.77 32 P **P 04 49 37.3 +1.1**
baz=262
KDAK Kodiak Island 81.77 32 P **P 04 49 36.6 +0.4**
K20K Telida 81.88 26 P **P 04 49 38.4 +1.7**
baz=260
BELG Belogornoye 81.96 322 P **P 04 49 36.3 -0.9**
comp=Z,32nm,1.0s,baz=286,slow=7.2,SNR=8.4
J20K Nowinta River 81.99 26 P **P 04 49 39.1 +1.9**
baz=260
M20K Styx River 82.08 28 P **P 04 49 39.5 +1.6**
baz=261
VNDA Vanda 82.45 173 P **P 04 49 39.8 +0.4**
comp=Z,4.5nm,0.9s,baz=314,slow=6.0,SNR=26
VNDA LR LR 05 24 38.2
comp=Z,220nm,20.4s,baz=340,slow=34
VNDA Vanda 82.45 173 P **P 04 49 40.4 +1.1**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 82.45 173 P **P 04 49 40.4 +1.1**
GROC Groznyy 82.49 313 *eP* **P 04 49 40.2 -0.1**
GROC pmax pmax
comp=Z,13nm,0.4s
PPLA Purkeypile 82.66 27 P **P 04 49 41.8 +0.9**
baz=262,SNR=12
PPLA Purkeypile 82.66 27 IAmb IAmb 04 49 42.5
comp=Z,21nm,1.0s
CNPM China Poot 82.68 30 IAmb IAmb 04 49 43.0
comp=Z,17nm,0.8s
CHUM Lake Minchumin 82.74 26 P **P 04 49 42.7 +1.6**
baz=262,SNR=8.8
H21K Melozitna Rive 82.80 24 P **P 04 49 43.1 +1.7**
baz=261,SNR=55
SKT Skwentna 82.84 28 P **P 04 49 42.0 +0.3**
baz=263
SKT Skwentna 82.84 28 IAmb IAmb 04 49 42.9
comp=Z,28nm,1.0s
BRSE Bradley Lake S 82.96 30 P **P 04 49 43.0 +0.6**
baz=264,SNR=6.1
I21K Tanana 83.07 25 P **P 04 49 44.4 +1.6**
baz=262,SNR=33
GNI Garni 83.15 310 P **P 04 49 43.7 -0.3**
comp=Z,5.9nm,0.6s,baz=264,slow=10,SNR=3.6
GNI Garni 83.15 310 P **P 04 49 43.6 -0.3**
SUA Susitna One 83.15 29 P **P 04 49 43.6 +0.2**
baz=264,SNR=28
SUA Susitna One 83.15 29 IAmb IAmb 04 49 45.9
comp=Z,30nm,0.9s
KTH Kantishna Hill 83.31 26 IAmb IAmb 04 49 46.1
comp=Z,47nm,1.2s
SBA Scott Base 83.34 172 P **P 04 49 46.5 +2.6**
SBA pmax pmax
comp=Z,3.0nm,0.8s
SBA Scott Base 83.34 172 P **P 04 49 46.5 +2.6**
BPAW Bear Paw Mtn. 83.35 26 P **P 04 49 45.3 +0.9**
baz=263,SNR=18
BPAW Bear Paw Mtn. 83.35 26 IAmb IAmb 04 49 45.8
comp=Z,29nm,1.3s
PPT Papeete 83.44 108 LR LR 05 24 05.9
comp=Z,63nm,20.9s,baz=281,slow=33
PPT2 Papeete2 83.44 108 *eS* **S 04 59 54.0 -3.2**
comp=Z,205nm,31.2s
PPT2 Papeete2 83.44 108 *eLQ* LQ 05 12 37.5
comp=Z,988nm,33.5s
PPT2 *eLR* LR 05 16 07.8
comp=Z,371nm,29.0s
CUT Chulitna 83.48 28 P **P 04 49 45.4 +0.5**
baz=264
MAW Mawson 83.53 201 P **P 04 49 44.9 -0.2**
comp=Z,7.9nm,1.1s,baz=69,slow=3.6,SNR=9.6
MAW Mawson 83.53 201 P **P 04 49 46.6 +1.6**
MAW Mawson 83.53 201 P **P 04 49 46.5 +1.6**
O22K Cooper Landing 83.54 30 P **P 04 49 45.9 +0.6**
baz=265
O22K Coper Landing 83.54 30 IAmb IAmb 04 49 59.9
comp=Z,33nm,0.8s
MLY Manley 83.57 25 P **P 04 49 46.6 +1.1**
baz=263,SNR=35
MLY Manley 83.57 25 IAmb IAmb 04 49 47.8
comp=Z,23nm,1.0s
TRF Thorofare Moun 83.58 27 P **P 04 49 46.1 +0.4**
baz=264,SNR=11
TRF Thorofare Moun 83.58 27 IAmb IAmb 04 49 47.2
comp=Z,37nm,1.2s
RC01 Rabbit Creek A 83.59 29 P **P 04 49 46.0 +0.4**
baz=264,SNR=14
RC01 Rabbit Creek A 83.59 29 IAmb IAmb 04 49 47.0
comp=Z,25nm,0.9s
SEW Seward 83.64 30 P **P 04 49 46.3 +0.5**
baz=265
ZEI Tsey 83.86 313 *eP* **P 04 49 46.5 -1.1**
ZEI pmax pmax
comp=Z,14nm,1.3s
PRGR Permogore 83.92 332 *eP* P 04 49 35.4 -12
PRGR *e*PP pP 04 50 14.6 -4.1
PRGR pmax pmax
comp=Z,13nm,0.7s
BWN Browne 84.02 26 IAmb IAmb 04 49 49.8
comp=Z,50nm,1.2s
GHO Glory Hole Cre 84.05 28 IAmb IAmb 04 49 49.1
comp=Z,22nm,1.1s
TBI Tubuai 84.09 114 *eS* **S 05 00 00.5 -2.9**
comp=Z,99nm,26.5s
TBI Tubuai 84.09 114 *eLQ* LQ 05 12 54.8
comp=Z,550nm,30.8s
TBI *eLR* LR 05 16 25.6
comp=Z,410nm,35.0s
H23K Yukon River 84.16 24 P **P 04 49 49.9 +1.5**
baz=264,SNR=32
I23K Minto, Yukon-K 84.16 25 P **P 04 49 49.3 +1.0**
baz=264,SNR=28
I23K Minto, Yukon-K 84.16 25 IAmb IAmb 04 49 50.2
comp=Z,32nm,1.1s
ONI Oni 84.19 312 P **P 04 49 50.0 +0.9**
ONI pmax pmax
comp=Z,14nm,1.4s
ONI Oni 84.19 312 P **P 04 49 50.0 +0.9**
MCK McKinley 84.21 26 P **P 04 49 49.1 +0.4**
baz=265,SNR=15
MCK McKinley 84.21 26 IAmb IAmb 04 49 51.1
comp=Z,45nm,1.3s
RND Reindeer 84.22 27 IAmb IAmb 04 49 50.0
comp=Z,35nm,1.1s
NEA2 Nenana 84.23 25 P **P 04 49 49.4 +0.6**
baz=265,SNR=13
KNK Knik Glacier 84.24 29 P **P 04 49 49.6 +0.7**
baz=266,SNR=11
WAT1 Susitna Watana 84.31 27 P **P 04 49 49.8 +0.6**
baz=265
SML Sawmill 84.33 28 P **P 04 49 50.1 +0.7**
baz=266,SNR=26
KARS Kars 84.43 310 P **P 04 49 51.1 +0.6**
KARS pmax pmax
comp=Z,73nm,0.9s
KARS Kars 84.43 310 P **P 04 49 51.1 +0.6**
TOLK Toolik Lake Re 84.44 21 P **P 04 49 51.5 +1.7**
baz=264,SNR=17
TOLK Toolik Lake Re 84.44 21 IAmb IAmb 04 49 52.7
comp=Z,33nm,0.9s
KBZ Khabaz 84.62 313 P **P 04 49 50.5 -0.6**
comp=Z,1.6nm,0.7s,baz=3.8,slow=2.6,SNR=6.8
KBZ Khabaz 84.62 313 *ceP* **P 04 49 50.9 -0.2**
KBZ pmax pmax
comp=Z,19nm,1.9s
WRH Wood River Hil 84.64 26 IAmb IAmb 04 49 52.2
comp=Z,35nm,1.4s
WAT6 Susitna Watana 84.66 28 P **P 04 49 52.0 +0.8**
baz=266,SNR=32
KIV Kislovodsk 84.77 314 *eP* **P 04 49 51.4 -0.7**
KIV *e* 05 00 03.5
KIV *e*SS SS 05 05 42.0 -2.4
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,109nm,20.0s
KIV Kislovodsk 84.77 314 P **P 04 49 51.9 -0.2**
COLA College 84.78 25 P **P 04 49 52.0 +0.5**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 84.78 25 P **P 04 49 52.0 +0.5**
CCB Clear Creek Bu 84.78 25 IAmb IAmb 04 49 52.6
comp=Z,32nm,1.4s
SCM Sheep Creek Mo 84.81 28 IAmb IAmb 04 49 53.9
comp=Z,48nm,0.9s
H24K Noodor Dome 84.84 24 P **P 04 49 53.6 +1.7**
baz=266,SNR=16
GLI Glacier Island 84.86 29 P **P 04 49 53.2 +1.2**
baz=267,SNR=9.0
GLI Glacier Island 84.86 29 IAmb IAmb 04 49 53.9
comp=Z,29nm,0.9s
HDA Harding Lake 85.13 26 P **P 04 49 54.7 +1.4**
baz=267
FID Port Fidalgo 85.16 29 IAmb IAmb 04 49 54.9
comp=Z,21nm,0.8s
ILAR Eielson Array 85.18 25 P **P 04 49 52.9 -0.7**
comp=Z,1.2nm,0.7s,baz=255,slow=5.8,SNR=15
ILAR PP **PP 04 53 09.1 -3.5**
comp=Z,3.3nm,1.3s,baz=238,slow=6.3,SNR=1.4
ILAR LR LR 05 24 28.7
comp=Z,58nm,21.8s,baz=273,slow=33
ILAR Eielson Array 85.18 25 P **P 04 49 52.2 -1.4**
GURO Guroymak-BITLI 85.22 308 IAmb IAmb 04 49 57.6
comp=Z,26nm,1.0s
M24K Tolsona, Glenn 85.36 28 P **P 04 49 56.2 +1.7**
baz=268
M24K Tolsona, Glenn 85.36 28 IAmb IAmb 04 49 57.2
comp=Z,55nm,1.0s
KLU Klutina 85.46 29 P **P 04 49 56.3 +1.2**
baz=268,SNR=9.2
KLU Klutina 85.46 29 IAmb IAmb 04 49 57.4
comp=Z,24nm,1.1s
VRH Novokhopyorsk 85.55 321 *eP* **P 04 49 54.1 -1.5**
VRH pmax pmax
comp=Z,30nm,1.2s
PAX Paxson 85.72 27 P **P 04 49 57.7 +1.3**
baz=268,SNR=13
PAX Paxson 85.72 27 IAmb IAmb 04 49 58.6
comp=Z,18nm,1.0s
HARP HAARP 85.85 28 P **P 04 49 58.7 +1.8**
baz=268
FYU Fort Yukon 85.95 24 IAmb IAmb 04 50 04.5
comp=Z,20nm,1.2s
RIDG Independent Ri 86.03 26 P **P 04 49 58.0 +0.2**
baz=269,SNR=8.3
RIDG Independent Ri 86.03 26 P **P 04 49 57.5 -0.4**
BMRM Bremner River 86.08 29 P **P 04 49 58.9 +0.8**
baz=269,SNR=6.3
BMRM Bremner River 86.08 29 IAmb IAmb 04 50 00.4
comp=Z,22nm,1.0s
N25K Chitina, Valde 86.09 29 P **P 04 49 59.3 +1.1**
baz=269
N25K Chitina, Valde 86.09 29 IAmb IAmb 04 50 01.6
comp=Z,33nm,1.4s
GLB Gilahina Butte 86.47 29 IAmb IAmb 04 50 02.5
comp=Z,18nm,1.1s
L26K Log Cabin Wild 86.69 27 P **P 04 50 01.9 +0.8**
baz=270
CRQM Cirque 86.80 29 P **P 04 50 02.3 +0.6**
CRQE Cirque 86.82 29 P **P 04 50 02.7 +0.8**
baz=270
KLMR Klimovskoe 86.84 331 *eP* **P 04 49 59.3 -2.4**
KLMR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 86.84 331 *eP* **P 04 49 59.4 -2.3**
SOC Sochi 86.93 313 *eP* **P 04 50 00.3 -2.2**
SOC *e* 04 53 27.0
SOC *e*PPP PPP 04 55 19.5
SOC *e*S **SKSac 05 00 15.0 -2.9**
SOC pmax pmax
comp=Z,13nm,0.9s
WAX Waxell Ridge 86.94 30 IAmb IAmb 04 50 09.4
comp=Z,13nm,0.8s
VORD Divnogorie 87.08 321 *eP* **P 04 50 01.4 -1.7**
VORD pmax pmax
comp=Z,10.0nm,1.0s
K27K Chicken 87.26 26 P **P 04 50 05.1 +1.4**
baz=271
LPSR Galich'ya Gora 87.27 322 *eP* **P 04 50 02.5 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
L27K Beaver Creek, 87.39 27 P **P 04 50 05.2 +0.8**
baz=271
EGAK Eagle 87.64 25 P **P 04 50 05.6 +0.2**
baz=272
CTG Chitna Glacier 87.67 29 P **P 04 50 07.3 +1.4**
baz=272
MOS Moscow 87.95 326 *eP* **P 04 50 04.8 -2.3**
MOS *e* 04 53 30.0
MOS *e* 05 00 31.8
OBN Obninsk 88.58 325 P **P 04 50 08.7 -1.4**
comp=Z,2.9nm,0.4s,baz=37,slow=4.6,SNR=7.5
OBN Obninsk 88.58 325 *ceP* **P 04 50 08.7 -1.4**
OBN *i* 04 53 41.3
OBN *i* S **SKSac 05 00 22.9 -4.4**
OBN pmax pmax
comp=Z,12nm,0.9s
OBN MLR MLR
comp=Z,184nm,19.0s
OBN Obninsk 88.58 325 P **P 04 50 09.3 -0.8**
OBN IAmb IAmb 04 50 10.8
comp=Z,16nm,0.6s
EPYK Eagle Plains 89.37 24 P **P 04 50 13.7 0.0**
baz=276
BNN Bunyan 90.05 309 P **P 04 50 17.5 -0.1**
BNN IAmb IAmb 04 50 27.6
comp=Z,13nm,0.9s
KIBK Kibwezi 90.30 268 P **P 04 50 20.3 +1.1**
INK Inuvik 90.35 22 P **P 04 50 17.7 -0.5**
comp=Z,3.1nm,0.7s,baz=282,slow=4.4,SNR=9.5
INK Inuvik 90.35 22 P **P 04 50 18.1 0.0**
baz=279
WHY Whitehorse 90.85 29 P **P 04 50 20.8 0.0**
baz=278
EIL Elat 91.42 300 P **P 04 50 23.6 -0.3**
comp=Z,3.6nm,0.8s,baz=88,slow=9.2,SNR=4.3
SPITS Spitsbergen Ar 91.55 349 P **P 04 50 22.8 -0.8**
comp=Z,8.3nm,0.8s,baz=84,slow=8.6,SNR=8.9
BRTR Keskin Array B 91.69 310 P **P 04 50 24.1 -1.1**
comp=Z,0.8nm,0.7s,baz=98,slow=7.4,SNR=2.3
BRTR PP **PP 04 54 08.1 +2.8**
comp=Z,2.0nm,0.7s,baz=95,slow=7.6,SNR=4.5
ARCES ARCESS Array B 91.72 340 P **P 04 50 23.2 -1.3**
comp=Z,6.4nm,0.7s,baz=79,slow=6.3,SNR=18
ARCES LR LR 05 37 28.3
comp=Z,177nm,18.5s,baz=65,slow=39
ARCES ARCESS Array B 91.72 340 P **P 04 50 23.1 -1.3**
ARCES IAmb IAmb 04 50 23.9
comp=Z,9.8nm,0.8s
TAOE Nuku Hiva Isla 92.04 99 *eT* T 06 32 26.4
comp=Z,23nm,0.2s
WRAK Wrangell Islan 92.79 33 P **P 04 50 31.0 +1.3**
baz=280
WRAK Wrangell Islan 92.79 33 P **P 04 50 30.1 +0.4**
WRAK IAmb IAmb 04 50 31.6
comp=Z,12nm,0.9s
QSPA South Pole Qui 92.84 180 P **P 04 50 31.2 +1.4**
QSPA IAmb IAmb 04 50 36.3
comp=Z,7.1nm,0.9s
H02S1 DAWSON INLET T 93.24 36 T T 06 34 17.1
FINES FINESS Array B 93.24 332 P **P 04 50 30.4 -1.3**
comp=Z,1.8nm,0.8s,baz=67,slow=5.0,SNR=7.2
FINES LR LR 05 35 29.9
comp=Z,214nm,20.6s,baz=62,slow=37
FINES FINESS Array B 93.24 332 *ceP* **P 04 50 31.2 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 93.46 321 P **P 04 50 31.0 -1.9**
comp=Z,1.8nm,0.8s,baz=64,slow=4.1,SNR=9.3
AKASG PP **PP 04 54 21.1 +2.4**
comp=Z,0.3nm,0.4s,baz=74,slow=8.0,SNR=5.0
AKASG LR LR 05 37 18.7
comp=Z,105nm,18.8s,baz=70,slow=38
AKASG Malin Array Be 93.46 321 P **P 04 50 31.6 -1.3**
AKASG pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 93.46 321 P **P 04 50 31.6 -1.3**
AKBB Malin Array Si 93.46 321 *ceP* **P 04 50 31.9 -1.0**
C36M Paulatuk 93.46 20 P **P 04 50 32.5 0.0**
baz=288
C36M Paulatuk 93.46 20 IAmb IAmb 04 50 32.8
comp=Z,11nm,0.9s
MDUB Mudurnu 93.47 311 P **P 04 50 32.8 -0.5**
MNK Minsk 93.64 325 *i* P P 04 50 28.8 -4.8
MNK *i* S **SKSac 05 00 51.5 -4.7**
MNK *i* PS **PS 05 03 10.1 +8.2**
MNK pmax pmax
comp=E,1.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK MLR MLR
comp=E,16nm,20.0s
MNK MLR MLR
comp=N,233nm,20.0s
MNK MLR MLR
comp=Z,229nm,20.0s
MNK Minsk 93.64 325 *i* P **P 04 50 28.9 -4.7**
comp=E,1.0nm,0.9s
MNK *i* P **P 04 50 28.9 -4.7**
comp=N,8.0nm,0.9s
MNK *i* P **P 04 50 28.9 -4.7**
comp=Z,6.0nm,0.9s,baz=80
MNK *i* sP **pwP 04 51 12.9 +3.0**
MNK *i* sP **pwP 04 51 12.9 +3.0**
MNK *i* PP **PP 04 54 12.4 -7.6**
MNK *i* PPP PPP 04 56 15.9
MNK *i* S **SKSac 05 00 51.6 -4.7**
MNK *i* sS ScS 05 01 45.7 +13
MNK *i* SP SP 05 02 26.9 -18
MNK *i* PS **PS 05 03 10.1 +8.2**
MNK *i* SS SS 05 07 35.3 -17
MNK *i* SSS SSS 05 10 18.4
MNK *i* LRM MLR 05 34 34.4
comp=E,16nm,20.0s
MNK *i* LRM MLR 05 35 47.2
comp=N,233nm,20.0s
MNK *i* LRM MLR 05 35 50.7
comp=Z,229nm,20.0s
DLBC Dease Lake 93.66 31 P **P 04 50 33.4 -0.4**
comp=Z,3.6nm,0.9s,baz=303,slow=2.6,SNR=6.4
DLBC Dease Lake 93.66 31 P **P 04 50 34.1 +0.3**
MLR Muntele Rosu 96.52 316 P **P 04 50 47.2 +0.1**
comp=Z,1.4nm,0.7s,baz=231,slow=8.1,SNR=3.5
MLR PP **PP 04 54 41.0 -1.8**
comp=Z,3.8nm,0.8s,baz=144,slow=9.4,SNR=4.0
BURAR Bucovina Array 96.59 318 P **P 04 50 46.5 -0.9**
DAG Danmarks Havn 98.24 353 *i iP* **P 04 50 52.8 -1.3**
DAG IAmb IAmb 04 50 53.2

comp=Z,6.5nm,0.7s
DAG Danmarks Havn 98.24 353 ⇑*i* P **P 04 50 52.8 -1.3**
DAG pmax pmax
comp=Z,7.0nm,0.7s
UZH Uzhgorod 98.28 320 *e*P Pdif 04 51 07.3 +12
UZH *e* 04 51 38.7
UZH *e* 04 55 03.5
RES Resolute Bay 98.33 11 P **P 04 50 53.6 -0.9**
comp=Z,6.3nm,0.7s,baz=298,slow=4.7,SNR=11
RES Resolute Bay 98.33 11 P **P 04 50 54.4 -0.1**
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 98.33 11 P **P 04 50 54.4 -0.1**
RES IAmb IAmb 04 50 55.7
comp=Z,7.9nm,0.8s
VTS Vitosha 99.01 314 ⇑P **Pdif 04 51 04.8 +6.3**
VTS Vitosha 99.01 314 ⇑P **Pdif 04 51 04.8 +6.3**
IDI Anoyia 99.17 306 ⇓P **Pdif 04 51 10.8 +12**
YKA Yellowknife Ar 99.60 25 P **Pdif 04 50 59.3 -1.1**
comp=Z,1.6nm,0.8s,baz=302,slow=4.3,SNR=11
NEEM North Greenlan 99.73 360 *i* P **Pdif 04 51 01.5 +0.3**
NEEM IAmb IAmb 04 51 03.1
comp=Z,7.4nm,0.8s
NB2 NORSAR Subarra100.17 334 P **Pdif 04 51 00.5 -2.6**
comp=Z,6.5nm,1.1s,baz=65,slow=4.6
NB2 NORSAR Subarra100.17 334 P **Pdif 04 51 00.5 -2.6**
baz=65,slow=4.6
NOA NORSAR Array B100.17 334 P **Pdif 04 51 00.9 -2.2**
comp=Z,1.6nm,0.8s,baz=66,slow=4.5,SNR=7.7
DBG Daneborg 100.54 352 *i* P **Pdif 04 51 04.1 -0.3**
DBG IAmb IAmb 04 51 04.5
comp=Z,5.0nm,0.9s
CONA Conrad Observa 102.60 320 *e*P **Pdif 04 51 13.3 -0.9**
comp=Z,3.9nm,1.9s
CONA *e*P **PP 04 55 31.3 +2.7**
comp=Z,7.6nm,1.5s
BRG Berggiesshubel 102.77 324 Amp 05 40 38.0
comp=E,0.1nm,19.2s
BRG Berggiesshubel 102.77 324 P **PKiKP 04 55 31.6 -3.2**
BRG Berggiesshubel 102.77 324 Amp 04 55 37.4
comp=Z,6.9nm,1.3s
BRG Berggiesshubel 102.77 324 Amp 05 40 25.0
comp=N,0.2nm,20.0s
BRG Berggiesshubel 102.77 324 Amp 05 40 31.0
comp=Z,0.3nm,25.0s
ARSA Arzberg 103.03 320 *e*P **Pdif 04 51 16.4 +0.3**
comp=Z,1.4nm,0.8s
ARSA *e*P **PKiKP 04 55 35.3 -0.1**
comp=Z,2.3nm,1.0s
SOKA Soboth 103.54 319 *e*P **PKiKP 04 55 37.6 +1.2**
comp=Z,3.6nm,1.0s
MOA Molln 103.64 321 *e*P **Pdif 04 51 18.1 -0.7**
comp=Z,2.0nm,1.0s
MOA *e*P **PKiKP 04 55 36.5 0.0**
comp=Z,5.2nm,1.3s
GERES GERESS Array B 103.64 322 Pdiff **Pdif 04 51 18.1 -0.7**
comp=Z,0.1nm,0.4s,baz=90,slow=4.9,SNR=1.6
GERES PP **PKiKP 04 55 37.7 +1.1**
comp=Z,0.6nm,0.7s,baz=64,slow=6.1,SNR=4.2
OBKA Obir 103.91 319 *e*P **Pdif 04 51 22.8 +2.7**
comp=Z,2.6nm,1.4s
OBKA *e*P **PP 04 55 38.8 +0.3**
comp=Z,4.7nm,1.4s
GRF Grafenberg Arr 104.83 323 *e*P PKiKP 04 55 47.4 +8.7
comp=Z,18nm,1.9s,baz=71,slow=5.8
ABTA Abfaltersbach 105.14 320 *e*P **Pdif 04 51 25.8 +0.2**
comp=Z,1.8nm,0.9s
ABTA *e*P **PKiKP 04 55 39.4 0.0**
comp=Z,2.4nm,1.0s
WTTA Wattenberg 105.51 321 *e*P **Pdif 04 51 24.8 -2.5**
comp=Z,2.9nm,1.1s
WTTA *e*P **PKiKP 04 55 41.2 +1.0**
comp=Z,18nm,2.0s
WATA Walderalm 105.52 321 *e*P **Pdif 04 51 28.4 +1.0**
comp=Z,1.6nm,0.8s
WATA *e*P **PKiKP 04 55 42.3 +2.1**
comp=Z,8.5nm,1.8s
SQTA Sankt Quirin 105.80 321 *e*P **Pdif 04 51 28.9 +0.4**
comp=Z,1.2nm,0.5s
SQTA *e*P **PKiKP 04 55 41.9 +1.3**
comp=Z,8.3nm,1.6s
MOTA Moosalm 105.81 321 *e*P **Pdif 04 51 25.1 -3.6**
comp=Z,2.5nm,1.0s
MOTA *e*P **PKiKP 04 55 42.4 +1.6**
comp=Z,8.9nm,1.1s
RETA Reutte 105.97 321 *e*P **Pdif 04 51 28.8 -0.5**
comp=Z,2.5nm,1.0s
RETA *e*P **PKiKP 04 55 39.6 -1.3**
comp=Z,5.8nm,1.1s
FETA Feichten 106.17 321 *e*P **Pdif 04 51 25.0 -5.2**
comp=Z,1.9nm,1.3s
FETA *e*P **PKiKP 04 55 41.8 +0.4**
comp=Z,5.7nm,1.3s
NVAR Mina Array Bea 106.32 49 Pdiff **Pdif 04 51 32.8 +1.7**
comp=Z,0.5nm,0.8s,baz=256,slow=4.4,SNR=4.2
NVAR PP **PP 04 56 02.6 +5.9**
comp=Z,0.2nm,0.5s,baz=276,slow=4.3,SNR=3.7
DAVA Damuels 106.60 321 *e*P **Pdif 04 51 27.0 -5.2**
comp=Z,5.4nm,1.2s
DAVA *e*P **PKiKP 04 55 42.9 +0.7**
comp=Z,5.4nm,1.0s
DAVOX Davos/Dischmat 106.81 321 PP **PP 04 55 59.4 -0.5**
comp=Z,1.7nm,0.7s,baz=60,slow=6.2,SNR=3.3
PDAR Pinedale Array 110.96 42 PP **PP 04 56 29.4 -0.8**
comp=Z,0.2nm,0.7s,baz=96,slow=1.5,SNR=4.0
PDAR PKKP **PKKPab 05 07 02.5 +3.0**
comp=Z,0.2nm,0.5s,baz=125,slow=7.8,SNR=4.2
KEST Kesra 111.29 310 PP **PP 04 56 28.6 -4.0**
comp=Z,3.3nm,0.8s,baz=326,slow=4.2,SNR=5.0
F36A Milaca 118.97 32 **PKiKP 04 56 05.7 +0.1**
ESDC Sonseca Array 119.04 319 PP PP 04 57 26.3 -0.4
comp=Z,1.4nm,0.9s,baz=43,slow=6.0,SNR=6.3
TXAR Lajitas Array 120.89 53 PKP **PKPdf 04 56 09.0 -0.9**
comp=Z,0.5nm,0.8s,baz=267,slow=2.9,SNR=6.1
TXAR PKKPbc **PKKPab 05 06 15.2 -0.5**
comp=Z,0.6nm,1.0s,baz=104,slow=7.5,SNR=2.3
TXAR Lajitas Array 120.89 53 PKIKP **PKiKP 04 56 11.0 +1.0**
TXAR Lajitas Array 120.89 53 PKPdf **PKiKP 04 56 11.0 +1.0**
E46A Sault Ste Mari 123.12 26 PKPdf **PKPdf 04 56 12.8 -0.7**
JCT Junction City 123.43 50 PKIKP **PKPdf 04 56 14.5 -0.1**
JCT Junction City 123.43 50 P **PKiKP 04 56 15.3 +0.4**
baz=297
JCT Junction City 123.43 50 PKPdf **PKPdf 04 56 14.5 -0.1**
CHGQ Chibougamau 123.88 17 P **PKPdf 04 56 14.8 -0.1**
baz=333
S39A Bolivar 124.20 40 PKPdf **PKiKP 04 56 16.1 -0.1**
R40A Maddies Statio 124.49 38 **PKPdf 04 56 15.7 -0.7**
TOA0 Torodi Ar. Sit 124.59 288 PKPdf **PKPdf 04 56 15.4 -1.8**
TORD Torodi Ar. Bea 124.59 288 PKP **PKPdf 04 56 16.4 -0.8**
comp=Z,2.8nm,0.8s,baz=34,slow=1.9,SNR=14
TORD Torodi Ar. Bea 124.59 288 PKPdf **PKPdf 04 56 16.2 -1.0**
U40A Yellville 125.29 41 P **PKiKP 04 56 18.2 -0.2**
baz=307
U40A Yellville 125.29 41 PKPdf **PKPdf 04 56 17.3 -0.7**
MIAR Mount Ida 125.86 43 PKIKP **PKPdf 04 56 18.9 -0.2**
MIAR Mount Ida 125.86 43 P **PKiKP 04 56 20.2 +0.6**
baz=305
MIAR Mount Ida 125.86 43 PKPdf **PKPdf 04 56 18.9 -0.2**
WVT Waverly 128.60 38 P **PKPdf 04 56 24.5 +0.2**
baz=311
M54A Oil Creek Stat 129.01 27 P **PKPdf 04 56 25.3 +0.3**
baz=323
M54A Oil Creek Stat 129.01 27 **PKPdf 04 56 25.1 +0.2**
TKL Tuckaleechee C 131.32 35 PKP **PKPdf 04 56 29.7 +0.2**
comp=Z,2.4nm,0.7s,baz=207,slow=4.5,SNR=1.4
PLCA Paso Flores 138.72 158 PKP **PKPdf 04 56 41.9 -1.3**
comp=Z,0.9nm,0.5s,baz=315,slow=14,SNR=2.1
ESPN Las Esperanzas 144.35 64 PKPdf **PKPdf 04 56 54.2 +0.4**
MT09 Talagante 144.44 152 PKPbc 04 56 53.0 +0.4
JTS Las Juntas de 144.45 68 *e*P **PKPab 04 56 52.4 -0.3**
MT02 Curacav 144.80 151 PKPdf PKPbc 04 56 53.6 +0.2
MT05 Renca 144.88 152 PKPdf **PKPdf 04 56 54.7 +0.3**
VA03 San Esteban 145.48 151 PKPbc **PKPab 04 56 56.2 +0.1**
CVTR Volcan Turrial 145.64 68 **PKPdf 04 56 55.0 -1.7**
CO02 Combarbal 146.53 149 PKPbc **PKPbc 04 56 59.3 +0.3**
SACV Santiago Islan 146.93 303 PKPbc **PKPbc 04 57 00.2 -0.2**
ZON Zonda 147.37 153 PKP2 **PKPbc 04 57 01.3 0.0**
ZON Zonda 147.37 153 PKPbc **PKPbc 04 57 01.2 0.0**
GO04 Tololo Observa 147.45 148 PKPbc **PKPbc 04 57 01.4 -0.4**
LCO Las Campanas 148.42 147 PKP2 **PKiKP 04 57 05.6 -0.3**
LCO Las Campanas 148.42 147 PKPab **PKiKP 04 57 05.6 -0.3**
GO03 Copiap 149.78 146 PKPbc **PKPbc 04 57 07.5 -0.1**
PAC1 Pacto, Paraso 152.80 84 *e*P **PKPab 04 57 26.9 +0.4**
ATAH Atahualpa 153.16 100 PKP **PKPdf 04 57 07.5 -1.2**
comp=Z,2.1nm,0.5s,baz=268,slow=13,SNR=2.6
UREC San Jos de Ur 154.03 66 *e*P **PKPdf 04 57 04.8 -4.5**
BBAC Balboa, Cauca 154.06 79 *e*P **PKPbc 04 57 17.3 -0.6**
CBOC Ciudad Bolivar 154.26 70 *e*P **PKiKP 04 57 19.6 +1.3**
YOTC Yotoco, Valle 154.50 75 *e*P **PKPab 04 57 31.1 -2.5**
POPC Popayan, Colom 154.52 78 *e*P **PKPdf 04 57 10.5 +0.1**
SOTA Rioblanco 154.66 79 *e*P **PKPbc 04 57 15.6 -3.9**
ZARC Zaragoza, Cauc 154.74 66 *e*P PKPab 04 57 45.7 +11
GUY2C Guyana, Caldas 155.08 71 *e*P PKPdf 04 57 21.6 +10
URIC Uribia, Colomb 155.19 54 *e*P **PKPdf 04 57 18.2 +7.3**
TOLC Tolima 155.31 72 *e*P PKPdf 04 57 20.1 +8.5
MACC Macarena, Meta 157.36 77 *e*P PKPdf 04 57 23.6 +10
LPAZ La Paz 159.13 131 PKPab **PKPab 04 57 53.0 -1.0**
comp=Z,1.9nm,0.7s,baz=52,slow=5.0,SNR=3.8
LPAZ La Paz 159.13 131 PKP2 **PKPab 04 57 53.0 -1.0**
LPAZ La Paz 159.13 131 **PKPab 04 57 52.2 -1.7**

*IDC **12** 04:42:57.7±0.9, 35°.22N×141°.25E, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.8/82, mbtmp3.8/10, ML3.5/3, MS3.0/3, Ms1 3.0/3, ms1mx2.8/38 Error ellipse: s-maj=27.9km s-min=19.5km az=91.0*
*JMA **12** 04:43:00.5±0.1, 35°.23N×141°.22E, h37km±2km, M3.6*
*NIED **12** 04:43:00.6, 35°.23N×141°.22E, h37km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.34; $M_{r\theta}$0.57; $M_{\theta\phi}$-0.39; $M_{\phi r}$0.82; Fault plane solution: $M_0$1.29000×10^{15} NP1:ϕ_s38.00000°, δ71.00000°, λ82.00000°. NP2:ϕ_s241.00000°, δ21.00000°, λ111.00000°.*
ISC 12 04:43:03.5±0.9, 35°.23N±0°.06×141°.13E±0°.09, h48km, n31, σ1°.96/24, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.52**	**335**	P	**Pn**	**04 43 11.8**	**-3.1**
CHOJ				*e*S	**Sn**	**04 43 20.1**	**-2.9**
BSO1	**Boso 1**	**0.59**	**192**	P	**Pn**	**04 43 12.4**	**-2.8**
BSO3	**Boso 3**	**0.67**	**230**	P	**Pn**	**04 43 14.3**	**-2.2**
KTR	**Katsuura**	**0.67**	**263**	P	**Pn**	**04 43 14.7**	**-2.1**
JSMT	**Sammumatsuo**	**0.69**	**307**	P	**Pn**	**04 43 15.3**	**-1.8**
BSO4	**Boso 4**	**0.69**	**250**	P	**Pn**	**04 43 15.2**	**-1.8**
JKUC	**kamogawauchiur**	**0.77**	**265**	P	**Pn**	**04 43 16.0**	**-2.0**
JHO	**Hitachi**	**1.45**	**342**	P	**Pn**	**04 43 26.7**	**-0.6**
JIM2	**Oshima 3**	**1.49**	**250**	P	**Pn**	**04 43 25.1**	**-2.7**
JHJ	**Hachijo jima 2**	**2.38**	**208**	**Pn**	**Pn**	**04 43 38.8**	**-1.4**
	32nm,0.3s,baz=86,slow=13,SNR=6.1						
JHJ				Sn	**Sn**	**04 44 05.5**	**-2.7**
	79nm,0.3s,baz=89,slow=22,SNR=6.4						
JHJ				LR	LR	04 44 07.8	
	comp=Z,82nm,18.6s,baz=129,slow=29						
MJAR	**Matsushiro Arr**	**2.71**	**300**	Pn	**Pn**	**04 43 45.0**	**+0.5**
	1.2nm,0.3s,baz=169,slow=8.4,SNR=44						
MJAR				LR	LR	04 44 25.0	
	comp=Z,164nm,21.7s,baz=110,slow=32						
MAT	**Matsushiro**	**2.71**	**300**	P	**Pn**	**04 43 44.7**	**+0.1**
MAT				*e*S	**Sn**	**04 44 16.4**	**+0.2**
ASAJ	**Asahikawa**	**8.94**	**7**	Pn	**Pn**	**04 45 06.9**	**-3.1**
	1.0nm,0.3s,baz=218,slow=14,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**27.47**	**117**	T	T	05 17 43.4	
	baz=310,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy**	**27.48**	**117**	T	T	05 17 43.8	
	baz=310,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**27.49**	**117**	T	T	05 17 37.5	
	baz=310,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	05 18 30.9	
	baz=312,slow=76,SNR=441						
H11S3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	05 18 32.2	
	baz=312,slow=76,SNR=403						
H11S2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	05 18 28.1	
	baz=312,slow=76,SNR=320						
MKAR	**Makanchi Array**	**44.90**	**304**	P	**P**	**04 51 14.2**	**+0.9**
	1.3nm,0.7s,baz=90,slow=8.0,SNR=1.6						
KURBB	**Kurchatov Arra**	**46.95**	**309**	P	**P**	**04 51 30.2**	**+0.9**
	1.9nm,0.3s,baz=83,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**55.25**	**188**	P	**P**	**04 52 32.1**	**+0.2**
	2.3nm,0.7s,baz=0.6,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**58.98**	**188**	P	**P**	**04 52 59.4**	**+1.2**
	0.6nm,0.8s,baz=360,slow=6.1,SNR=2.0						
NB2	**NORSAR Subarra**	**75.76**	**337**	P	**P**	**04 54 44.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.76**	**337**	P	**P**	**04 54 44.8**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=40,slow=5.7,SNR=2.8						
NVAR	**Mina Array Bea**	**76.26**	**53**	P	**P**	**04 54 48.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=292,slow=4.8,SNR=3.0						
PDAR	**Pinedale Array**	**79.09**	**45**	P	**P**	**04 55 04.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=153,slow=0.7,SNR=3.7						
BRTR	**Keskin Array B**	**79.87**	**312**	LR	LR	05 33 51.5	
	comp=Z,75nm,20.4s,baz=88,slow=38						
H03N2	**Juan Fernandez**	**147.02**	**99**	T	T	07 47 07.5	
	baz=289,slow=76,SNR=10						
H03N3	**Juan Fernandez**	**147.03**	**99**	T	T	07 47 06.2	
	baz=289,slow=76,SNR=11						
H03N1	**Juan Fernandez**	**147.04**	**99**	T	T	07 47 13.3	
	baz=289,slow=76,SNR=11						

*NOU **12** 04:53:26.2, 14°.35S×168°.01E, h143km, ML4.4, Vanuatu Islands*
*IDC **12** 04:53:32.6±13.0, 15°.04S×165°.95E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/24, mbtmp4.1/4, ML4.4/1, Error ellipse: s-maj=232.1km s-min=36.8km az=57.0*
ISC 12 04:53:15.1±4.9, 13°.6S±0°.3×168°.2E±0°.4, h35km, n13, σ0°.58/12, mb4.1/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.09**	**208**	P	Pn	04 53 53.9	+6.3
LIFNC	**LIFOU**	**7.21**	**187**	P	**Pn**	**04 54 57.8**	**-0.2**
MARNC	**Mare, Loyalty**	**7.85**	**181**	P	**Pn**	**04 55 06.8**	**0.0**
KOUNC	**Koumac, New Ca**	**7.87**	**208**	P	**Pn**	**04 55 07.1**	**0.0**
YATNC	**Mamie plateau,**	**8.52**	**188**	P	**Pn**	**04 55 16.4**	**+0.4**
DZM	**Mont Dzumac**	**8.60**	**191**	Pn	**Pn**	**04 55 17.4**	**+0.2**
	6.1nm,0.3s,baz=56,slow=9.7,SNR=103						
DZM				Sn	Sn	04 56 36.5	-17
	3.8nm,0.3s,baz=107,slow=22,SNR=9.3						
DZM	**Mont Dzumac**	**8.60**	**191**	P	**Pn**	**04 55 17.7**	**+0.5**
NOUC	**Port Laguerre**	**8.66**	**192**	P	**Pn**	**04 55 18.4**	**+0.5**
ONTNC	**Ouen Toro**	**8.83**	**191**	P	**Pn**	**04 55 20.8**	**+0.5**
OUENC	**Ouen Island, N**	**8.88**	**188**	P	**Pn**	**04 55 21.3**	**+0.4**
STKA	**Stephens Creek**	**30.42**	**229**	P	**P**	**04 59 23.2**	**-1.1**
	2.5nm,0.4s,baz=56,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**32.99**	**254**	P	**P**	**04 59 47.8**	**+0.8**
	0.4nm,0.7s,baz=84,slow=8.5,SNR=4.7						
ASAR	**Alice Springs**	**33.94**	**248**	P	**P**	**04 59 55.7**	**+0.4**
	1.8nm,0.7s,baz=79,slow=9.1,SNR=16						

IDC 12 04:59:15.0±7.5, 4°.40S×12°.15W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/32, mbtmp3.8/5, MS3.4/2, Ms1 3.5/2, ms1mx3.1/27, Error ellipse: s-maj=363.5km s-min=26.7km az=141.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.12**	**214**	T	T	05 04 25.2	
	baz=34,slow=74,SNR=642						
H10N1	**ASCENSION HYDR**	**4.13**	**214**	T	T	05 04 25.2	
	baz=34,slow=74,SNR=917						
H10N3	**ASCENSION HYDR**	**4.14**	**214**	T	T	05 04 26.6	
	baz=34,slow=74,SNR=637						
H10S2	**ASCENSION HYDR**	**5.16**	**209**	T	T	05 05 39.0	
	baz=191,slow=74,SNR=76						
H10S3	**ASCENSION HYDR**	**5.16**	**209**	T	T	05 05 39.2	
	baz=29,slow=74,SNR=178						
TORD	**Torodi Ar. Bea**	**22.21**	**38**	P	P	05 04 14.2	+1.0
	1.7nm,0.6s,baz=221,slow=11,SNR=8.1						
TORD				LR	LR	05 12 12.2	
	comp=Z,40nm,18.0s,baz=165,slow=35						
BDFB	**Brasilia**	**36.97**	**250**	P	P	05 06 26.7	+0.2
	2.9nm,0.8s,baz=70,slow=12,SNR=5.4						
GERES	**GERESS Array B**	**57.62**	**20**	P	P	05 09 07.1	+0.2
	0.4nm,0.6s,baz=193,slow=7.0,SNR=2.5						
AKASG	**Malin Array Be**	**65.36**	**28**	P	P	05 09 57.9	-1.2
	0.2nm,0.3s,baz=225,slow=5.4,SNR=1.9						
NOA	**NORSAR Array B**	**67.74**	**12**	LR	LR	05 39 56.5	
	comp=Z,48nm,19.3s,baz=70,slow=36						
FINES	**FINESS Array B**	**71.97**	**18**	P	P	05 10 40.1	0.0
	2.0nm,0.9s,baz=239,slow=7.5,SNR=1.9						

TRN 12 05:08:05.8, 10°.76N×62°.31W, h74km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.89**	**97**	*e*P	Pn	05 08 24.2	+1.0
TRN				*e*S	Sn	05 08 36.0	-0.3
GRGR	**Grenville**	**1.51**	**25**	*e*P	Pn	05 08 31.1	0.0
GRGR				*e*S	Sn	05 08 49.7	-0.5
TOSP	**Speyside**	**1.82**	**73**	*e*P	Pn	05 08 34.9	-0.3
TOSP				*e*S	Sn	05 08 57.3	-0.2
GCMP	**Grenada, Carri**	**1.92**	**27**	*e*P	Pn	05 08 36.9	+0.3
GCMP				*e*S	Sn	05 08 59.9	0.0
BAUV	**El Baul**	**5.93**	**253**	*e*S	Sn	05 10 34.5	-3.3

IDC 12 06:03:32.4±2.2, 8°.38S×126°.62E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.3/20, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=215.5km s-min=34.7km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.71**	**148**	Pn	Pn	06 06 49.1	+0.9
	0.0nm,0.3s,baz=323,slow=14,SNR=1.8						
WRA				Sn	Sn	06 09 16.1	-5.3
	0.1nm,0.3s,baz=313,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**16.73**	**156**	Pn	Pn	06 07 27.4	-0.9
	baz=328,slow=12,SNR=1.2						
MKAR	**Makanchi Array**	**67.60**	**329**	P	P	06 14 31.0	0.0
	0.1nm,0.5s,baz=137,slow=7.4,SNR=1.8						

*NIED **12** 06:05:04.8, 37°.97N×141°.83E, h42km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.21; $M_{\theta\theta}$1.48; $M_{\phi\phi}$2.73; $M_{r\theta}$0.79; $M_{\theta\phi}$-1.50; $M_{\phi r}$-0.37; Fault plane solution: $M_0$4.07000×10^{14} NP1: ϕ_s321.00000°, δ51.00000°, λ-97.00000°. NP2: ϕ_s151.00000°, δ40.00000°, λ-82.00000°.*
JMA 12 06:05:04.7±0.1, 37°.97N×141°.83E, h42km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.45**	**320**	P	Pn	06 05 14.9	+0.1
JIKH				S	Sn	06 05 21.7	-0.2
JIO	**Ouri**	**0.61**	**322**	P	Pn	06 05 17.1	+0.1
JIO				S	Sn	06 05 25.6	-0.2
JMST	**Minamisoumatoc**	**0.79**	**252**	P	Pn	06 05 19.3	0.0
JMST				S	Sn	06 05 29.7	-0.2
JMM	**Marumori**	**0.83**	**263**	P	Pn	06 05 20.0	+0.1
JMM				S	Sn	06 05 31.0	+0.1
JKMT	**Kesennumamotoy**	**0.89**	**342**	P	Pn	06 05 20.5	-0.2
JKMT				S	Sn	06 05 31.7	-0.7
JFK	**Kawauchi**	**0.97**	**232**	P	Pn	06 05 21.7	-0.2
JFK				S	Sn	06 05 33.6	-0.9
JOU	**Okura**	**1.00**	**294**	P	Pn	06 05 22.9	+0.6
JOU				S	Sn	06 05 36.0	+0.8
JMK	**Ichinoseki**	**1.09**	**334**	P	Pn	06 05 23.7	+0.2
JMK				S	Sn	06 05 37.2	-0.2
JFT	**Otama**	**1.27**	**250**	P	Pn	06 05 26.9	+1.0
JFT				*e*S	Sn	06 05 42.9	+1.1
JYS	**Shirataka**	**1.42**	**281**	P	Pn	06 05 28.8	+0.8
JYK	**Kaneyama**	**1.49**	**310**	P	Pn	06 05 30.0	+1.0
JOM	**Ohasama**	**1.56**	**345**	P	Pn	06 05 30.4	+0.5
JOM				*e*S	Sn	06 05 49.1	+0.2
JRG	**Rokugo**	**1.70**	**327**	P	Pn	06 05 32.9	+1.0
MAT	**Matsushiro**	**3.22**	**245**	P	Pn	06 05 54.6	+1.8
MAT				*e*S	Sn	06 06 32.0	+2.0

*ROM **12** 06:26:39.2±0.1, 41°.603N±0°.004×16°.039E±0°.007, h30km, ML3.4/97, Mw3.4, Error ellipse: s-maj=0.7km s-min=0.2km az=238.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.55; $M_{\theta\theta}$-0.48; $M_{\phi\phi}$-0.07; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.64; $M_{\phi r}$1.01; Fault plane solution: $M_0$1.33505×10^{14} NP1:ϕ_s267.00000°, δ30.00000°, λ151.00000°. NP2:ϕ_s23.00000°, δ76.00000°, λ63.00000°.*
*PDG **12** 06:26:39.2±0.5, 41°.62N×16°.03E, h24km, ML3.2/14 Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*
*LDG **12** 06:26:42.0±0.1, 41°.54N×15°.96E, h25km, Ml3.7/13, Error ellipse: s-maj=4.8km s-min=2.6km az=61.0*
*PRU **12** 06:26:44.2±0.0, 41°.97N×15°.70E, h0km*
ISC 12 06:26:39.7±0.8, 41°.61N±0°.02×15°.99E±0°.02, h29km±6km, n281, σ1°.91/339, 32C-31D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.12**	**332**	⇓P	**Pb**	**06 26 44.9**	**-0.3**
MSAG				S	**Sb**	**06 26 48.8**	**-0.2**
MSAG				AML	AML		
	comp=N,93050μm,0.4s						
MSAG				AML	AML		
	comp=E,45550μm,0.7s						
MSAG				AML	AML		
	comp=N,93150μm,0.4s						
MSAG				AML	AML		
	comp=E,45550μm,0.7s						
MSAG				AML	AML		
	comp=N,93300μm,0.4s						
MSAG				AML	AML		
	comp=E,48550μm,0.7s						
MSAG				AML	AML		
MSAG				AML	AML		
	comp=N,93300μm,0.4s						
MSAG				AML	AML		
MSAG				AML	AML		
	comp=E,45550μm,0.7s						
MSAG				AML	AML		
	comp=E,48550μm,0.7s						
SGRT	**San Giovanni R**	**0.23**	**309**	⇓P	**Pb**	**06 26 46.0**	**-0.3**
SGRT				S	**Sb**	**06 26 51.1**	**+0.2**
SGRT				AML	AML		
	comp=N,20850μm,0.7s						
SGRT				AML	AML		
	comp=E,20250μm,0.9s						
SGRT				AML	AML		
	comp=N,20850μm,0.7s						
CAPA	**Cerignola FG**	**0.47**	**196**	P	**Pb**	**06 26 49.6**	**+0.1**
CAPA				S	**Sb**	**06 26 56.5**	**+0.3**
CAPA				AML	AML		
	comp=E,15000μm,0.4s						
CAPA				AML	AML		
	comp=N,6325μm,0.4s						
CAPA				AML	AML		
	comp=E,15000μm,0.4s						
MRVN	**Minervino Murg**	**0.57**	**164**	P	**Pb**	**06 26 50.7**	**-0.5**
MRVN				S	**Sb**	**06 26 58.9**	**-0.2**
MRVN				AML	AML		
	comp=N,3930μm,0.5s						
MRVN				AML	AML		
	comp=E,6390μm,1.2s						
TREM	**Isole Tremiti**	**0.63**	**326**	P	**Pn**	**06 26 52.7**	**0.0**
TREM				S	**Sn**	**06 27 02.0**	**+0.3**
TREM				AML	AML		
	comp=E,29650μm,0.3s						
TREM				AML	AML		
	comp=N,33100μm,1.4s						
TREM				AML	AML		
	comp=N,33100μm,1.4s						
TREM				AML	AML		
	comp=E,29650μm,0.3s						
MELA	**Melanico ??? S**	**0.65**	**279**	P	**Pn**	**06 26 52.9**	**-0.1**
MELA				S	**Sn**	**06 27 02.9**	**+0.6**
MELA				AML	AML		

MOCO				AML	AML	
	comp=E,5520μm,0.6s					
MOCO				AML	AML	
	comp=N,2625μm,1.2s					
MOCO				AML	AML	
	comp=E,5350μm,0.6s					
MOCO				AML	AML	
	comp=N,2400μm,0.6s					
VULT	**Monte Vulture**	**0.71 203**	P	**Pn**	**06 26 53.9 0.0**	
VULT			S	**Sn**	**06 27 03.9 +0.1**	
VULT			AML	AML		
	comp=E,8870μm,0.3s					
VULT			AML	AML		
	comp=N,12350μm,0.2s					
VULT			AML	AML		
	comp=N,12850μm,0.2s					
VULT			AML	AML		
	comp=N,12300μm,0.2s					
VULT			AML	AML		
	comp=E,8895μm,0.3s					
VULT			AML	AML		
	comp=E,9180μm,0.3s					
CAFE	**Carife**	**0.81 225**	P	**Pb**	**06 26 55.1 -0.2**	
CAFE			S	**Sn**	**06 27 07.4 +1.1**	
CAFE			AML	AML		
	comp=E,4865μm,0.7s					
CAFE			AML	AML		
	comp=N,2710μm,1.0s					
CAFE			AML	AML		
	comp=N,2835μm,1.0s					
CAFE			AML	AML		
	comp=E,4860μm,0.7s					
CAFE			AML	AML		
	comp=N,2705μm,1.0s					
CAFE			AML	AML		
	comp=E,5020μm,0.7s					
CIGN	**Sant'Elia a Pi**	**0.81 274**	P	**Pb**	**06 26 55.7 +0.4**	
CIGN			S	**Sn**	**06 27 07.3 +1.0**	
CIGN			AML	AML		
	comp=N,3015μm,0.6s					
CIGN			AML	AML		
	comp=E,3170μm,0.8s					
CIGN			AML	AML		
	comp=N,3010μm,0.6s					
GATE	**Gambatesa**	**0.81 264**	P	**Pb**	**06 26 56.0 +0.6**	
GATE			AML	AML		
	comp=E,2040μm,0.3s					
GATE			AML	AML		
	comp=E,2035μm,0.3s					
GATE			AML	AML		
	comp=E,4330μm,1.0s					
GATE			AML	AML		
	comp=N,4400μm,0.5s					
GATE			AML	AML		
	comp=N,4440μm,0.5s					
ACER	**Acerenza**	**0.82 182**	P	**Pb**	**06 26 55.5 +0.1**	
ACER			S	**Sn**	**06 27 06.9 +0.4**	
ACER			AML	AML		
	comp=E,6355μm,0.3s					
ACER			AML	AML		
	comp=E,5985μm,0.3s					
ACER			AML	AML		
	comp=N,4155μm,0.7s					
ACER			AML	AML		
	comp=N,4500μm,0.7s					
AMUR	**Altamura**	**0.84 146**	P	**Pn**	**06 26 55.2 -0.4**	
AMUR			S	**Sb**	**06 27 06.1 -0.6**	
AMUR			AML	AML		
	comp=E,3635μm,0.6s					
AMUR			AML	AML		
	comp=N,2750μm,0.3s					
SNAL	**S. Angelo Dei**	**0.90 221**	P	**Pn**	**06 26 56.1 -0.3**	
SNAL			S	**Sb**	**06 27 09.9 +1.5**	
SNAL			AML	AML		
	comp=E,3450μm,0.7s					
SNAL			AML	AML		
	comp=E,3585μm,0.7s					
SNAL			AML	AML		
	comp=N,3615μm,0.3s					
SNAL			AML	AML		
	comp=N,3360μm,1.0s					
MRB1	**Monte Rocchett**	**0.90 238**	P	**Pb**	**06 26 57.0 +0.2**	
MRB1			AML	AML		
	comp=E,2655μm,0.4s					
MRB1			AML	AML		
	comp=N,2695μm,0.4s					
MRB1			AML	AML		
	comp=N,2905μm,0.4s					
MRB1			AML	AML		
	comp=E,2750μm,0.4s					
MRB1			AML	AML		
	comp=N,2690μm,0.4s					
MRLC	**Muro Lucano**	**0.93 204**	P	**Pn**	**06 26 56.6 -0.2**	
MRLC			S	**Sb**	**06 27 10.6 +1.3**	
MRLC			AML	AML		
	comp=E,3460μm,1.0s					
MRLC			AML	AML		
	comp=N,2105μm,0.3s					
MRLC			AML	AML		
	comp=N,1955μm,0.5s					
MRLC			AML	AML		
	comp=E,3455μm,1.0s					
MRLC			AML	AML		
	comp=N,2100μm,0.3s					
MRLC			AML	AML		
	comp=E,3340μm,0.7s					
PSB1	**Pescosannita**	**0.96 247**	P	**Pn**	**06 26 57.4 +0.1**	
PSB1			AML	AML		
	comp=E,970μm,0.6s					
PSB1			AML	AML		
	comp=N,1060μm,0.8s					
PSB1			AML	AML		
	comp=E,1024μm,0.6s					
PSB1			AML	AML		
	comp=N,1125μm,0.8s					
PSB1			AML	AML		
	comp=N,1060μm,0.8s					
PSB1			AML	AML		
	comp=E,973μm,0.6s					
SACR	**S. Croce Del S**	**0.98 258**	P	**Pn**	**06 26 57.8 +0.1**	
SACR			S	**Sb**	**06 27 12.4 +1.5**	
SACR			AML	AML		
	comp=E,2130μm,0.8s					
SACR			AML	AML		
	comp=N,1528μm,0.7s					
SACR			AML	AML		
	comp=N,1525μm,0.7s					
SACR			AML	AML		
	comp=E,2200μm,0.8s					
SACR			AML	AML		
	comp=E,2125μm,0.8s					
SACR			AML	AML		
	comp=N,1615μm,0.7s					
MCRV	**Calabrutti - M**	**1.03 217**	AML	AML		
	comp=E,2845μm,0.2s					
MCRV			AML	AML		
	comp=N,3705μm,1.0s					
BSSO	**Busso**	**1.05 267**	P	**Pb**	**06 26 58.9 -0.4**	
BSSO			S	**Sb**	**06 27 13.8 +1.1**	
BSSO			AML	AML		
	comp=E,1920μm,0.4s					
BSSO			AML	AML		
	comp=N,1665μm,0.6s					
BSSO			AML	AML		
	comp=E,872μm,0.7s					
BSSO			AML	AML		
	comp=N,608μm,0.2s					
FRES	**Fresagrandinar**	**1.05 291**	P	**Pb**	**06 26 59.5 +0.2**	
FRES			AML	AML		
	comp=E,2355μm,0.9s					
FRES			AML	AML		
	comp=N,1490μm,0.4s					
MIGL	**Miglionico**	**1.06 161**	P	**Pn**	**06 26 58.2 -0.4**	
MIGL			S	**Sb**	**06 27 13.0 +0.1**	
MIGL			AML	AML		
	comp=E,5495μm,0.7s					
MIGL			AML	AML		
	comp=N,4890μm,1.1s					
PTRP	**Pietrapertosa**	**1.08 177**	P	**Pb**	**06 26 59.9 -0.1**	
TRIV	**Trivento**	**1.09 279**	P	**Pb**	**06 26 59.5 -0.4**	
TRIV			S	**Sb**	**06 27 14.9 +1.1**	
TRIV			AML	AML		
	comp=N,2515μm,0.8s					
TRIV			AML	AML		
	comp=N,2650μm,0.8s					
TRIV			AML	AML		
	comp=E,3065μm,0.6s					
TRIV			AML	AML		
	comp=E,2980μm,0.6s					
MATE	**Matera**	**1.10 150**	P	**Pn**	**06 26 58.9 -0.2**	
MATE			S	**Sn**	**06 27 13.2 -0.1**	
MATE			AML	AML		
	comp=E,2200μm,0.3s					
MATE			AML	AML		
	comp=N,2030μm,0.4s					
VITU	**Vitulano (BN)**	**1.10 248**	AML	AML		
	comp=E,1225μm,1.4s					
VITU			AML	AML		
	comp=N,2015μm,0.9s					
VITU			AML	AML		
	comp=N,2010μm,0.9s					
VITU			AML	AML		
	comp=N,2140μm,0.9s					
VITU			AML	AML		
	comp=E,2365μm,0.3s					
PTRJ	**Pietraroja**	**1.12 258**	P	**Pn**	**06 26 59.6 +0.1**	
NOCI	**Noci**	**1.15 135**	P	**Pn**	**06 26 59.6 -0.3**	
NOCI			AML	AML		
	comp=E,3345μm,0.3s					
NOCI			AML	AML		
	comp=N,3780μm,1.1s					
PAOL	**Paolisi**	**1.21 242**	AML	AML		
	comp=E,1052μm,0.4s					
PAOL			AML	AML		
	comp=N,1220μm,0.3s					
PAOL			AML	AML		
	comp=N,1315μm,1.1s					
PAOL			AML	AML		
	comp=E,1013μm,0.4s					
SGG	**Gregorio Mates**	**1.23 260**	AML	AML		
	comp=E,5.5nm,1.5s					
SGG			AML	AML		
	comp=E,1785μm,1.5s					
SGG			AML	AML		
	comp=N,1925μm,0.4s					
SGG			AML	AML		
	comp=N,8.5nm,1.5s					
CDRU	**Civita di Ruta**	**1.23 205**	P	**Pn**	**06 27 00.5 -0.5**	
CDRU			AML	AML		
	comp=N,798μm,0.9s					
CDRU			AML	AML		
	comp=E,1595μm,0.3s					
CDRU			AML	AML		
	comp=N,798μm,0.9s					
CRAC	**Craco**	**1.29 165**	P	**Pn**	**06 27 01.7 0.0**	
CRAC			AML	AML		
	comp=E,4295μm,0.3s					
CRAC			AML	AML		
	comp=N,4665μm,0.3s					
MCEL	**Monticello**	**1.29 186**	P	**Pn**	**06 27 01.6 -0.2**	
MCEL			AML	AML		
	comp=N,936μm,0.4s					
MCEL			AML	AML		
	comp=E,1126μm,1.1s					
MCEL			AML	AML		
	comp=N,968μm,0.4s					
MCEL			AML	AML		
	comp=E,1090μm,1.1s					
MIDA	**Miranda**	**1.30 272**	P	**Pn**	**06 27 02.3 +0.3**	
MIDA			AML	AML		
	comp=E,2235μm,0.2s					
MIDA			AML	AML		
	comp=N,1875μm,1.1s					
MIDA			AML	AML		
	comp=E,2365μm,0.2s					
MIDA			AML	AML		
	comp=N,1995μm,1.1s					
VAGA	**Valle Agricola**	**1.33 262**	P	**Pn**	**06 27 03.0 +0.6**	
VAGA			AML	AML		
	comp=N,2505μm,0.4s					
VAGA			AML	AML		
	comp=N,2630μm,0.4s					
VAGA			AML	AML		
	comp=E,1515μm,0.3s					
VAGA			AML	AML		
	comp=N,2500μm,0.4s					
VAGA			AML	AML		
	comp=E,1600μm,0.3s					
LSTV	**Lastovo**	**1.34 30**	*e*Pn	**Pn**	**06 27 02.9 +0.4**	
MTSN	**Montesano sull**	**1.35 188**	P	**Pn**	**06 27 02.3 -0.4**	
MTSN			AML	AML		
	comp=N,974μm,0.3s					
MTSN			AML	AML		
	comp=E,782μm,1.1s					
RNI2	**Rionero Sannit**	**1.38 275**	P	**Pn**	**06 27 03.5 +0.5**	
RNI2			AML	AML		
	comp=E,1955μm,0.2s					
RNI2			AML	AML		
	comp=N,1610μm,0.5s					
RNI2			AML	AML		
	comp=N,1665μm,0.5s					
RNI2			AML	AML		
	comp=E,2080μm,0.2s					
CMPR	**Campora**	**1.39 202**	P	**Pn**	**06 27 02.9 -0.2**	
SCHR	**S. Chirico Rap**	**1.41 177**	P	**Pn**	**06 27 03.2 -0.3**	
SCHR			AML	AML		
	comp=E,527μm,0.7s					
SCHR			AML	AML		
	comp=N,543μm,0.6s					
LPEL	**Lama dei Pelig**	**1.42 289**	P	**Pb**	**06 27 04.7 -0.9**	
LPEL			AML	AML		
	comp=N,3200μm,0.2s					
LPEL			AML	AML		
	comp=E,2905μm,1.0s					
PIGN	**Pignataro Magg**	**1.42 254**	P	**Pn**	**06 27 03.8 +0.3**	
PIGN			AML	AML		
	comp=E,618μm,1.3s					
PIGN			AML	AML		
	comp=N,706μm,0.5s					
PIGN			AML	AML		
	comp=N,717μm,0.5s					
PIGN			AML	AML		
	comp=E,578μm,0.5s					
SIRI	**Monte Sirino -**	**1.43 184**	P	**Pn**	**06 27 03.5 -0.3**	
SIRI			AML	AML		
	comp=E,1170μm,0.3s					
SIRI			AML	AML		
	comp=N,1310μm,1.5s					
SIRI			AML	AML		
	comp=N,1360μm,1.5s					
SIRI			AML	AML		
	comp=E,1120μm,0.3s					
OVO	**Vesuviano**	**1.43 237**	P	**Pn**	**06 27 04.0 +0.3**	
CERA	**Filignano**	**1.48 270**	P	**Pn**	**06 27 05.2 +0.8**	
CERA			AML	AML		
	comp=E,1505μm,1.3s					
CERA			AML	AML		
	comp=N,1645μm,1.3s					
CERA			AML	AML		
	comp=E,1455μm,1.3s					
CERA			AML	AML		
	comp=N,1540μm,1.3s					
MGR	**Morigerati**	**1.50 193**	P	**Pn**	**06 27 04.4 -0.3**	
MGR			AML	AML		
	comp=N,546μm,0.4s					
MGR			AML	AML		
	comp=N,594μm,1.1s					
MGR			AML	AML		
	comp=E,438μm,0.8s					
MGR			AML	AML		
	comp=E,454μm,0.4s					
MSC	**Monte Massico**	**1.57 255**	P	**Pn**	**06 27 06.5 +0.8**	
ORI	**Oriolo Calabro**	**1.58 167**	P	**Pn**	**06 27 06.2 +0.4**	
BULG	**Bulgheria - Ca**	**1.59 197**	P	**Pn**	**06 27 06.1 +0.1**	
BULG			AML	AML		
	comp=N,1180μm,0.5s					
BULG			AML	AML		
	comp=E,716μm,0.8s					
HVAR	**Hvar**	**1.61 12**	*e*Pn	**Pn**	**06 27 06.1 -0.1**	
INTR	**Introdacqua**	**1.61 285**	P	**Pn**	**06 27 06.9 +0.7**	
INTR			AML	AML		
	comp=E,1780μm,0.4s					
INTR			AML	AML		
	comp=N,2200μm,0.8s					
CUC	**Castrocucco**	**1.62 185**	P	**Pn**	**06 27 06.2 -0.1**	
CUC			AML	AML		
	comp=N,318μm,1.0s					
CUC			AML	AML		
	comp=E,612μm,0.4s					
CUC			AML	AML		
	comp=N,387μm,1.1s					
CUC			AML	AML		
	comp=E,490μm,0.4s					
MODR	**Mondragone**	**1.65 255**	P	**Pn**	**06 27 06.9 +0.2**	
MODR			AML	AML		
	comp=N,526μm,0.6s					
MODR			AML	AML		
	comp=E,471μm,0.4s					
POFI	**Posta Fibreno**	**1.71 274**	P	**Pn**	**06 27 08.2 +0.6**	
POFI			AML	AML		
	comp=E,800μm,1.5s					
POFI			AML	AML		
	comp=N,774μm,0.4s					
MMN	**Mormanno**	**1.71 180**	P	**Pn**	**06 27 08.6 +1.0**	
MESG	**Mesagne**	**1.74 125**	P	**Pn**	**06 27 08.3 +0.4**	
SALB	**San Lorenzo Be**	**1.75 171**	P	**Pn**	**06 27 08.0 -0.2**	
SALB			AML	AML		
	comp=N,456μm,1.3s					
SALB			AML	AML		
	comp=E,594μm,0.5s					
T0110	**Collepietro**	**1.76 291**	P	**Pn**	**06 27 09.2 +0.9**	
T0110			AML	AML		
	comp=E,2080μm,1.3s					
T0110			AML	AML		
	comp=N,1805μm,0.8s					
VCEL	**Villa Celiera**	**1.78 297**	P	**Pn**	**06 27 09.6 +1.0**	
VCEL			AML	AML		
	comp=E,2080μm,0.6s					
VCEL			AML	AML		
	comp=N,1830μm,0.4s					
VVLD	**Villa Vallelon**	**1.79 279**	P	**Pn**	**06 27 09.1 +0.4**	
VVLD			AML	AML		
	comp=E,376μm,1.6s					
VVLD			AML	AML		
	comp=N,356μm,0.7s					
STON	**Ston**	**1.79 45**	*e*Pn	**Pn**	**06 27 08.8 +0.1**	
STON	**Ston**	**1.79 45**	*e*Pn	**Pn**	**06 27 08.7 +0.1**	
STON	**Ston**	**1.79 45**	P	**Pn**	**06 27 09.0 +0.3**	
STON			AML	AML		
	comp=N,306μm,0.5s					
STON			AML	AML		
	comp=E,346μm,0.7s					
LIK	**San Giovanni I**	**1.82 268**	P	**Pn**	**06 27 10.4 +1.3**	
LIK	**San Giovanni I**	**1.82 268**	AML	AML		
	comp=N,1236μm,0.5s					
LIK			AML	AML		
	comp=E,745μm,0.7s					
T0702	**Acquaformosa (**	**1.89 178**	P	**Pn**	**06 27 10.5 +0.5**	
FAGN	**Fagnano**	**1.91 291**	P	**Pn**	**06 27 11.2 +0.9**	
FAGN			AML	AML		
	comp=N,1590μm,0.3s					
FAGN			AML	AML		
	comp=E,2870μm,0.5s					
TRTR	**Tortoreto Alta**	**1.95 309**	P	**Pn**	**06 27 12.3 +1.4**	
TRTR			AML	AML		
	comp=N,2465μm,1.0s					
TRTR			AML	AML		
	comp=E,2335μm,1.1s					
TERO	**Teramo**	**2.04 301**	P	**Pn**	**06 27 13.1 +0.9**	
TERO			AML	AML		
	comp=E,252μm,0.8s					
TERO			AML	AML		
	comp=N,257μm,0.7s					
GIUL	**Giuliano Di Ro**	**2.05 270**	P	**Pn**	**06 27 12.4 +0.2**	
GIUL			AML	AML		
	comp=N,401μm,0.7s					
GIUL			AML	AML		
	comp=E,289μm,0.6s					
HCY	**Herceg Novi**	**2.05 65**	*e*Pn	**Pn**	**06 27 13.5 +1.3**	
HCY	**Herceg Novi**	**2.05 65**	⇑*i*Pn	**Pn**	**06 27 12.6 +0.4**	
HCY			*i* Sn	**Sn**	**06 27 38.8 +2.0**	
ZIRJ	**Zirje**	**2.06 353**	*e*Pn	**Pn**	**06 27 12.2 -0.2**	
ZIRJ			Sn	**Sn**	**06 27 35.5 -1.6**	
AQU	**L'Aquila**	**2.07 292**	*e*Pn	**Pb**	**06 27 14.8 -1.8**	
RICI	**Ricice**	**2.07 24**	*e*Pn	**Pn**	**06 27 12.4 -0.1**	
CET2	**Cetraro**	**2.08 181**	P	**Pn**	**06 27 12.7 +0.1**	
TREB	**Trebinje**	**2.08 57**	*e*Pn	**Pb**	**06 27 15.1 -1.7**	
CAMP	**Campotosto**	**2.13 297**	P	**Pn**	**06 27 14.6 +1.1**	
CAMP			AML	AML		
	comp=E,332μm,0.8s					
CAMP			AML	AML		
	comp=N,482μm,0.6s					
OFFI	**Offida**	**2.16 309**	P	**Pn**	**06 27 14.7 +0.9**	
OFFI			AML	AML		
	comp=E,1485μm,0.5s					
OFFI			AML	AML		
	comp=N,1640μm,0.8s					
CELI	**Celico**	**2.24 170**	P	**Pn**	**06 27 15.4 +0.5**	
CELI			AML	AML		
	comp=E,532μm,0.9s					
CELI			AML	AML		
	comp=N,381μm,0.8s					
FIAM	**Fiamignano**	**2.24 288**	P	**Pn**	**06 27 15.5 +0.5**	
FIAM			AML	AML		
	comp=N,336μm,0.7s					
FIAM			AML	AML		
	comp=E,376μm,1.3s					
RM33	**Pellescritta (**	**2.25 295**	P	**Pn**	**06 27 16.0 +0.9**	
RM33			AML	AML		
	comp=N,355μm,0.6s					
RM33			AML	AML		
	comp=E,518μm,1.0s					
MORI	**Morici**	**2.27 355**	*e*Pn	**Pn**	**06 27 15.2 0.0**	
MORI			Sn	**Sn**	**06 27 41.2 -0.9**	
CERT	**Cerreto**	**2.27 280**	P	**Pn**	**06 27 16.2 +0.9**	
CERT			AML	AML		
	comp=E,368μm,0.5s					
CERT			AML	AML		
	comp=N,244μm,0.5s					
BUM	**Brajici-Budva**	**2.28 71**	*e*Pn	**Pn**	**06 27 15.7 +0.3**	
BUM			*i* Sn	**Sn**	**06 27 44.3 +1.8**	
BRY	**Bratogost**	**2.29 55**	*e*Pn	**Pn**	**06 27 18.0 +2.3**	
BRY	**Bratogost**	**2.29 55**	⇓*i*Pn	**Pn**	**06 27 16.1 +0.4**	
BRY			*i* Sn	**Sn**	**06 27 44.9 +1.8**	
CEME	**Cevo**	**2.38 66**	⇑*i*Pn	**Pn**	**06 27 17.2 +0.4**	
CEME			*i* Sn	**Sn**	**06 27 46.8 +1.8**	
LNSS	**Leonessa**	**2.41 295**	P	**Pn**	**06 27 18.2 +1.0**	
LNSS			AML	AML		
	comp=E,436μm,0.7s					
LNSS			AML	AML		
	comp=N,396μm,1.3s					
KIJV	**Kijevo**	**2.42 7**	*e*Pn	**Pn**	**06 27 17.9 +0.6**	
KIJV			Sn	**Sn**	**06 27 43.5 -2.4**	
DRME	**Dracevica, Mon**	**2.46 75**	*e*Pn	**Pn**	**06 27 18.0 +0.2**	
DRME	**Dracevica, Mon**	**2.46 75**	⇓*i*Pn	**Pn**	**06 27 18.3 +0.5**	
DRME			*i* Sn	**Sn**	**06 27 48.7 +1.8**	
NRCA	**Norcia**	**2.46 301**	P	**Pn**	**06 27 18.9 +0.9**	
NRCA			AML	AML		
	comp=N,457μm,0.4s					
NRCA			AML	AML		
	comp=E,425μm,1.1s					
ULC	**Ulcinj**	**2.46 81**	*e*Pn	**Pn**	**06 27 18.3 +0.4**	
ULC			*i* Sn	**Sn**	**06 27 48.9 +1.8**	
RMP	**Rome, Mte Porz**	**2.47 276**	⇑P	**Pn**	**06 27 18.9 +1.0**	
RMP			AML	AML		
	comp=E,256μm,0.7s					
RMP			AML	AML		
	comp=N,279μm,0.9s					
DUGI	**Dugi Otok**	**2.48 344**	*e*Pn	**Pn**	**06 27 17.9 -0.3**	
DUGI			Sn	**Sn**	**06 27 45.6 -1.8**	
NKME	**Niksic**	**2.49 61**	*e*Pn	**Pn**	**06 27 18.8 +0.5**	
NKME			*i* Sn	**Sn**	**06 27 49.5 +1.7**	
PP3	**Marolino**	**2.50 316**	AML	AML		
	comp=N,714μm,0.8s					
PP3			AML	AML		
	comp=E,692μm,1.0s					
PP3			AML	AML		
	comp=N,786μm,0.8s					
PP3			AML	AML		
	comp=E,772μm,1.0s					
NKY	**Niksic**	**2.54 61**	⇓*i*Pn	**Pn**	**06 27 19.5 +0.5**	
NKY			*i* Sn	**Sn**	**06 27 50.8 +1.8**	
PDG	**Podgorica**	**2.57 70**	*e*Pn	**Pn**	**06 27 20.5 +1.1**	
TTG	**Podgorica**	**2.57 70**	*e*Pn	**Pn**	**06 27 19.9 +0.5**	
TTG			*i* Sn	**Sn**	**06 27 51.5 +1.8**	
FDMO	**Fiordimonte**	**2.58 305**	P	**Pn**	**06 27 20.4 +0.8**	
FDMO			AML	AML		
	comp=E,298μm,0.8s					
FDMO			AML	AML		
	comp=N,349μm,0.8s					
ARRO	**Arrone**	**2.59 293**	⇑P	**Pn**	**06 27 22.4 +2.8**	
ARRO			AML	AML		
	comp=E,150μm,0.3s					
ARRO			AML	AML		
	comp=N,151μm,0.6s					
SERS	**Sersale**	**2.62 168**	⇑P	**Pn**	**06 27 21.9 +1.7**	
SERS			AML	AML		
	comp=N,116μm,0.6s					
SERS			AML	AML		

comp=E,117μm,0.8s
CESI CESI - Serrava 2.68 302 ⇓P Pn 06 27 23.1 +2.2
CESI AML AML
comp=E,239μm,0.3s
CESI AML AML
comp=N,184μm,0.8s
UPM Unac-Piva 2.69 53 *e*Pn Pn 06 27 21.1 -0.1
UPM Unac-Piva 2.69 53 ⇑*i*Pn Pn 06 27 21.5 +0.3
UPM *i* Sn Sn 06 27 54.3 +1.5
CING Cingoli 2.72 312 P Pn 06 27 21.4 0.0
CING AML AML
comp=N,224μm,0.8s
CING AML AML
comp=E,220μm,0.6s
EL6 Elcito 2.74 310 P Pn 06 27 21.9 +0.1
SNTG Esanatoglia 2.79 307 ⇓P Pn 06 27 23.7 +1.2
SNTG AML AML
comp=N,246μm,1.1s
SNTG AML AML
comp=E,164μm,0.7s
MOMA Monte Martano 2.81 296 ⇑P Pn 06 27 25.0 +2.3
MOMA AML AML
comp=N,280μm,0.5s
MOMA AML AML
comp=E,226μm,0.3s
ASSB Assisi San Ben 2.85 301 ⇓P Pn 06 27 25.3 +2.0
ASSB AML AML
comp=E,218μm,1.4s
ASSB AML AML
comp=N,238μm,1.1s
ISTR Stromboli Gino 2.88 192 S Sn 06 27 55.0 -2.3
KOME Kolasin 2.90 63 ⇑*i*Pn Pn 06 27 24.5 +0.5
KOME *i* Sn Sn 06 27 59.5 +1.5
FOSV Fossato di Vic 2.92 306 ⇑P Pn 06 27 25.6 +1.4
FOSV AML AML
comp=N,199μm,0.8s
FOSV AML AML
comp=E,164μm,1.1s
MGRS Mrkonjic Grad 2.92 16 *e*Pn Pn 06 27 26.8 +2.5
UDBI Udbina 2.92 357 *e*Pn Pn 06 27 24.4 +0.1
UDBI Sn Sn 06 27 56.4 -2.1
ARVD Arcevia 2.94 311 ⇓P Pn 06 27 25.5 +1.0
ARVD AML AML
comp=E,119μm,0.5s
ARVD AML AML
comp=N,89μm,0.7s
ATCC AVT- Casa Cast 2.94 304 ⇑P Pn 06 27 26.4 +1.9
ATCC AML AML
comp=N,320μm,1.4s
ATCC AML AML
comp=E,280μm,0.9s
JOPP Joppolo 3.00 181 ⇑P Pn 06 27 25.6 +0.4
JOPP AML AML
comp=E,76μm,0.8s
JOPP AML AML
comp=N,79μm,0.7s
TOLF Tolfa 3.01 280 ⇑P Pn 06 27 27.1 +1.6
TOLF AML AML
comp=N,61μm,1.1s
TOLF AML AML
comp=E,68μm,0.7s
PLE Pljevlja 3.05 54 *e*Pn Pn 06 27 26.6 +0.5
PLE *i* Sn Sn 06 28 03.1 +1.4
NVLJ Novalja 3.07 345 *e*Pn Pn 06 27 26.7 +0.6
NVLJ Sn Sn 06 28 01.3 -0.5
FRON Frontone 3.07 310 P Pn 06 27 27.7 +1.3
FRON AML AML
comp=E,142μm,0.8s
FRON AML AML
comp=N,271μm,0.6s
ATFO Monte Foce - G 3.08 306 ⇓P Pn 06 27 28.2 +1.8
ATFO AML AML
comp=N,142μm,1.0s
ATFO AML AML
comp=E,212μm,0.3s
PVY Plav 3.12 70 ⇑*i*Pn Pn 06 27 27.5 +0.5
PVY *i* Sn Sn 06 28 04.6 +1.3
MPAG Monte Paganucc 3.12 311 ⇓P Pn 06 27 28.1 +1.0
MPAG AML AML
comp=E,114μm,0.5s
MPAG AML AML
comp=N,132μm,0.9s
FSSB Fossombrone 3.15 312 ⇓P Pn 06 27 28.4 +1.0
FSSB AML AML
comp=N,378μm,0.4s
FSSB AML AML
comp=E,306μm,0.5s
MGAB Montegabbione 3.16 296 ⇑P Pn 06 27 29.4 +1.9
MGAB AML AML
comp=N,134μm,0.5s
MGAB AML AML
comp=E,175μm,0.6s
IVA Berane 3.17 65 ⇓*i*Pn Pn 06 27 28.1 +0.5
IVA *i* Sn Sn 06 28 05.8 +1.3
PLAC Placanica 3.17 174 ⇑P Pn 06 27 29.9 +2.2
PLAC AML AML
comp=E,104μm,0.9s
PLAC AML AML
comp=N,92μm,0.8s
ATVO AVT- Monte Val 3.19 305 ⇑P Pn 06 27 30.1 +2.2
ATVO AML AML
comp=E,121μm,0.6s
ATVO AML AML
comp=N,108μm,0.4s
PIEI Pieia 3.20 308 ⇑P Pn 06 27 29.2 +1.2
PIEI AML AML
comp=E,115μm,1.1s
PIEI AML AML
comp=N,92μm,0.8s
RUDO Rudo 3.21 50 *e*Pn Pn 06 27 21.9 -6.2
ATPI Pietralunga - 3.23 306 P Pn 06 27 30.4 +1.9
ATPI AML AML
comp=N,122μm,1.4s
ATPI AML AML
comp=E,126μm,0.6s
ATMI Monte Miggiano 3.25 303 ⇓P Pn 06 27 32.0 +3.3
ATMI AML AML
comp=N,262μm,0.9s
ATMI AML AML
comp=E,206μm,0.7s
BLY Banja Luka 3.26 15 *e*Pn Pn 06 27 32.4 +3.5
RABC Rab 3.26 345 *e*Pn Pn 06 27 29.6 +0.7
RABC Sn Sn 06 28 06.0 -0.7
SACS San Casciano d 3.27 294 ⇓P Pn 06 27 30.9 +1.8
SACS AML AML
comp=E,78μm,1.2s
SACS AML AML
comp=N,83μm,0.7s
PESA Pesaro 3.29 316 ⇓P Pn 06 27 30.9 +1.7
PESA AML AML
comp=E,330μm,0.2s
PESA AML AML
comp=N,362μm,0.9s
HAPS Han Pijesak,BI 3.30 40 *e*Pn Pb 06 27 35.5 -2.1
PE3 Peglio 3.31 310 ⇓P Pn 06 27 30.7 +1.1
PE3 AML AML
comp=E,284μm,0.6s
PE3 AML AML
comp=N,349μm,1.0s
BADI Badiali 3.35 306 ⇓P Pn 06 27 33.0 +2.8
BADI AML AML
comp=E,103μm,0.5s
BADI AML AML
comp=N,138μm,0.9s
MSRU Castanea 3.36 186 ⇑P Pn 06 27 30.7 +0.5
BBLS Lazići 3.38 47 *e*Pn Pn 06 27 33.1 +2.5
CAFI Castiglion Fio 3.44 301 ⇓P Pn 06 27 33.2 +1.9
CAFI AML AML
comp=E,56μm,0.5s
CAFI AML AML
comp=N,77μm,0.8s
PARC Parchiule 3.44 308 ⇓P Pn 06 27 33.1 +1.8
PARC AML AML
comp=E,83μm,1.6s
PARC AML AML
comp=N,78μm,0.9s
KEK Kerkira 3.46 122 P Pn 06 27 32.6 +1.0
KEK Kerkira 3.46 122 P Pn 06 27 31.8 +0.1
KEK AML AML
comp=N,40μm,0.5s
KEK AML AML
comp=E,32μm,0.5s
CPGN Carpegna, Ital 3.48 310 ⇑P Pn 06 27 34.4 +2.4
CPGN AML AML
comp=N,160μm,1.4s
CPGN AML AML
comp=E,170μm,1.4s
SRN Sarande 3.50 118 P Pn 06 27 32.2 0.0
SRN Sarande 3.50 118 P Pn 06 27 31.9 -0.2
SRN AML AML
comp=N,106μm,1.3s
SRN AML AML
comp=E,106μm,0.6s
CRE Caprese Michel 3.59 305 ⇑P Pn 06 27 34.9 +1.3
CRE AML AML
comp=E,62μm,0.3s
CRE AML AML
comp=N,78μm,0.3s
BLLA Bellaria 3.62 316 S Sb 06 28 34.0 +7.6
MPAZ Palizzi 3.65 180 ⇑P Pn 06 27 36.0 +1.8
MPAZ AML AML
comp=N,52μm,1.0s
MPAZ AML AML
comp=E,42μm,0.4s
OHR Ohrid 3.66 96 *i* Pn Pn 06 27 36.7 +2.3
DIVS Divibare 3.86 48 *e*Pn Pn 06 27 38.0 +0.9
IGT Igoumenitsa 3.91 121 P Pn 06 27 38.8 +1.1
BOJS Bojanci 3.93 352 P Pn 06 27 39.7 +1.6
RUFI Rufina 3.98 306 ⇑P Pn 06 27 40.4 +1.6
CASP Castiglione de 3.98 289 P Pn 06 27 40.7 +1.9
LMD Lutirano 4.00 310 ⇑P Pn 06 27 41.0 +2.0
LMD AML AML
comp=E,69μm,0.2s
LMD AML AML
comp=N,70μm,0.4s
NEST Nestorio 4.01 106 P Pn 06 27 41.7 +2.4
OZLJ Ozalj 4.03 355 *e*Pn Pn 06 27 40.4 +1.1
OZLJ Sn Sn 06 28 23.7 -1.7
KNDS Knezji Dol 4.09 344 *i* Pn Pn 06 27 40.6 +0.2
KNDS *e*Sn Sn 06 28 26.2 -1.0
FNA Florina 4.15 100 P Pn 06 27 42.8 +1.7
JAN Janina 4.18 116 P Pn 06 27 43.4 +1.8
SKDS Skadanscina 4.19 341 *e*Pn Pn 06 27 41.6 -0.1
SKDS *e*Sn Sn 06 28 27.3 -2.4
SKDS IAML 06 28 33.0
comp=Z,17nm,0.2s
SEI Scarperia 4.19 307 ⇑P Pn 06 27 45.1 +3.4
SEI AML AML
comp=E,82μm,0.4s
SEI AML AML
comp=N,150μm,0.3s
CRES Cresnjev 4.24 355 *e*Pn Pn 06 27 43.7 +1.4
VISS Visnje 4.28 349 *i* Pn Pn 06 27 43.7 +0.9
VISS *e*Sn Sn 06 28 30.1 -1.7
CEY Cerknica 4.28 345 *e*Pn Pn 06 27 41.9 -1.0
PTJ Puntijarka 4.30 360 *e*Pn Pn 06 27 44.0 +0.8
PTJ Sn Sn 06 28 30.4 -2.0
HLNI Lentini 4.34 192 P Pn 06 27 46.0 +2.4
HLNI AML AML
comp=N,20μm,1.6s
HLNI AML AML
comp=E,18μm,0.7s
FRGS Fruska Gora 4.51 37 *e*Pn Pn 06 27 46.4 +0.3
TSLK Tsoukalades, L 4.53 126 P Pn 06 27 47.6 +1.3
KALN Kalnik 4.54 4 *e*Pn Pn 06 27 47.0 +0.6
KALN Sn Sn 06 28 35.9 -2.3
LOBO Lobor 4.55 1 *e*Pn Pn 06 27 47.0 +0.5
LOBO Sn Sn 06 28 35.3 -3.1
LKD2 Lefkada island 4.55 127 P Pn 06 27 48.0 +1.4
POPM Popiglio 4.55 304 P Pn 06 27 48.0 +1.4
POPM Popiglio 4.55 304 ⇓P Pn 06 27 48.3 +1.6
POPM AML AML
comp=E,44μm,0.2s
POPM AML AML
comp=N,51μm,0.8s
LJU Ljubljana 4.56 347 *e*Pn Pn 06 27 43.8 -2.9
LJU Ljubljana 4.56 347 P Pn 06 27 47.9 +1.2
LJU AML AML
comp=E,546μm,0.2s
LJU AML AML
comp=N,872μm,0.4s
KZN Kozani 4.57 105 P Pn 06 27 48.8 +1.9
DRAG Dragano-Lefkad 4.57 128 P Pn 06 27 47.7 +0.8
NYDR Nydri-Lefkada 4.62 127 P Pn 06 27 48.5 +0.9
CRNS Crni Vrh 4.64 345 *i* Pn Pn 06 27 48.3 +0.4
CRNS *e*Sn Sn 06 28 39.6 -1.2
STIP Stip 4.65 87 *i* Pn Pn 06 27 51.6 +3.7
MAIM Mastiano 4.66 302 P Pn 06 27 50.2 +2.2
MAIM S Pn 06 27 50.6 +2.6
EVGI Lefkada island 4.66 128 P Pn 06 27 48.9 +0.8
SABO M.te Sabotino 4.70 339 ⇓P Pn 06 27 48.8 +0.1
FSK Fiskardo 4.71 130 P Pn 06 27 49.5 +0.7
KOVH Kovagotottos 4.73 18 *e*P Pn 06 27 53.7 +4.6
DMLN Damoulianata-K 4.76 133 P Pn 06 27 50.4 +0.9
KEF3 Kipouria, Keph 4.78 134 P Pn 06 27 50.5 +0.8
KEF5 Kardakata, Kep 4.79 133 P Pn 06 27 50.6 +0.7
SARO Sassorosso 4.84 304 P Pn 06 27 51.8 +1.1
KOGS Kog 4.84 2 ⇑P Pn 06 27 52.3 +1.7
CAVE Cavezzo 4.88 314 ⇓P Pb 06 28 11.4 +7.0
VLS Valsamata 4.93 133 P Pn 06 27 52.4 +0.6
VLS Valsamata 4.93 133 ⇑P Pn 06 27 52.8 +1.0
VLS AML AML
comp=E,22μm,1.5s
VLS AML AML
comp=N,19μm,0.4s
PSDA Pessada-Kefalo 4.97 133 P Pn 06 27 53.0 +0.7
MORH Mrgy, Hungar 4.99 22 *e*P Pb 06 28 08.6 +2.3
OBKA Obir 5.01 349 *e*Pn Pn 06 27 54.8 +1.8
comp=N,1.1nm,0.2s
OBKA *e*Sn Sn 06 28 48.9 -1.0
comp=N,9.6nm,0.3s
THL Klokotos Trika 5.02 112 P Pn 06 27 54.7 +1.6
SOKA Soboth 5.12 353 *e*Pn Pn 06 27 55.1 +0.7
comp=N,0.8nm,0.2s
SOKA *e*Sn Sn 06 28 51.0 -1.6
comp=N,2.7nm,0.3s
VLMS Volimes, Zakyn 5.18 134 P Pn 06 27 55.4 +0.1
PVO Paravola 5.19 123 P Pn 06 27 57.2 +1.8
EVR Evrytania 5.20 119 P Pn 06 27 58.3 +2.7
GRAM Graiana 5.21 306 P Pn 06 27 58.4 +2.7
GRAM Graiana 5.21 306 ⇓P Pn 06 27 58.6 +2.9
STAL STALIGIAL 5.22 334 ⇓P Pn 06 27 55.6 -0.2
CGRP Cima Grappa 5.24 326 ⇑P Pn 06 27 56.5 +0.3
PGF Pioggiola 5.28 283 *e*Pn Pn 06 27 57.4 +0.6
PGF Pioggiola 5.28 283 *e*P Pn 06 28 00.6 +3.8
MYKA Terra Mystica 5.30 342 *e*Pn Pn 06 27 57.5 +0.5
comp=N,0.9nm,0.1s
MYKA *e*Sn Sn 06 28 55.3 -1.7
comp=N,1.5nm,0.2s
ROVR Rover Verones 5.39 320 ⇓P Pn 06 27 57.8 -0.4
AGG Agios Georgios 5.49 116 P Pn 06 28 01.4 +1.8
RLS Riolos of Patr 5.51 128 P Pn 06 28 01.3 +1.5
EFP Efpalio 5.54 123 P Pn 06 28 02.1 +1.9
SALO Salr 5.64 317 ⇓P Pn 06 28 02.1 +0.6
SERG Sergoula 5.65 122 P Pn 06 28 03.6 +1.9
ARSA Arzberg 5.65 357 *e*Pn Pn 06 28 02.3 +0.6
comp=N,1.1nm,0.2s
ARSA *e*Sn Sn 06 29 02.7 -3.0
comp=N,2.8nm,0.5s
TRIZ Trizonia 5.69 123 P Pn 06 28 04.1 +1.9
MAGA Magasa 5.70 319 ⇓P Pn 06 28 01.9 -0.5
LAKA Lakka 5.70 124 P Pn 06 28 04.3 +1.8
ABTA Abfaltersbach 5.71 335 *e*Pn Pn 06 28 02.8 +0.1
comp=N,0.5nm,0.1s
ABTA *e*Sn Sn 06 29 07.8 +0.5
comp=N,2.4nm,0.2s
DRO Drossia 5.72 128 P Pn 06 28 04.3 +1.6
BOB Bobbio (Coli) 5.73 306 ⇓P Pn 06 28 05.3 +2.5
GORR Gorreto 5.74 304 P Pn 06 28 05.4 +2.4
ALIK Aliki, Aigiali 5.77 123 P Pn 06 28 05.6 +2.2
KBA Koelnbreinsper 5.79 342 *e*Pn Pn 06 28 04.4 +0.7
comp=N,1.4nm,0.3s
KBA *e*Sn Sn 06 29 08.0 -1.3
comp=N,1.8nm,0.3s
KOSI Kohlern 5.88 327 ⇓P Pn 06 28 05.4 +0.4
KLV Kalavryta, Ach 5.93 125 P Pn 06 28 07.6 +2.0
MABI Malga Bissina 5.95 320 ⇑P Pn 06 28 06.3 +0.3
RISI Rein 6.03 334 ⇑P Pn 06 28 08.0 +0.9
ABSI Aberstueckl 6.12 328 ⇑P Pn 06 28 08.6 +0.3
ROSI Rosskopf 6.25 330 ⇑P Pn 06 28 12.3 +2.2
CONA Conrad Observa 6.32 359 *e*Pn Pn 06 28 13.0 +2.0
comp=N,0.2nm,0.1s
CONA *e*Sn Sn 06 29 22.9 +0.6
comp=N,0.8nm,0.3s
MOA Molln 6.36 349 Pn **Pn 06 28 12.9 +1.4**
comp=N,0.4nm,0.1s,SNR=4.9
MOA *e*Sn Sn 06 29 20.9 -2.2
comp=N,2.4nm,0.2s
WTTA Wattenberg 6.46 333 *e*Pn Pn 06 28 14.4 +1.5
comp=N,0.3nm,0.1s
WTTA *e*Sn Sn 06 29 25.4 -0.3
comp=N,3.6nm,0.2s
WATA Walderalm 6.54 333 Pn **Pn 06 28 15.3 +1.3**
comp=N,1.2nm,0.2s,SNR=4.6
WATA *e*Sn Sn 06 29 27.9 +0.3
comp=N,1.9nm,0.2s
SQTA Sankt Quirin 6.57 330 *e*Pn Pn 06 28 14.9 +0.4
comp=N,0.9nm,0.2s
SQTA *e*Sn Sn 06 29 28.5 +0.1
comp=N,3.1nm,0.2s
FETA Feichten 6.60 327 *e*Pn Pn 06 28 15.8 +1.0
comp=N,0.2nm,0.1s
FETA *e*Sn Sn 06 29 28.0 -1.0
comp=N,0.8nm,0.1s
SBF Sospel 6.69 293 *e*Pn Pn 06 28 16.8 +0.8
SBF Sospel 6.69 293 *e*P Pn 06 28 21.2 +5.2
MOTA Moosalm 6.71 330 *e*Pn Pn 06 28 16.5 +0.1
comp=N,0.2nm,0.1s
MOTA *e*Sn Sn 06 29 31.3 -0.7
comp=N,3.7nm,0.3s
TUE Stuetta 6.82 318 ⇑P Pn 06 28 19.4 +1.4
RETA Reutte 6.96 329 *e*Pn Pn 06 28 20.9 +1.1
comp=N,0.6nm,0.1s
RETA *e*Sn Sn 06 29 38.7 +0.7
comp=N,1.0nm,0.2s
DAVA Damuels 7.16 325 Pn **Pn 06 28 24.8 +2.2**
comp=N,3.4nm,0.2s,SNR=16
DAVA *e*Sn Sn 06 29 43.9 +0.9
comp=N,4.9nm,0.3s
FRF La Foret Royal 7.16 289 *e*Pn Pn 06 28 24.6 +2.1
VYHS Vyhne 7.18 15 *e*PN Pn 06 28 27.2 +4.6
VYHS *e*SN Sn 06 29 39.8 -3.3
LMR La Mourre 7.22 287 *e*Pn Pn 06 28 25.1 +1.9
CKRC Cesky Krumlov 7.31 351 *e*SN Sn 06 29 43.2 -3.2
MBDF Montbardon 7.42 298 *e*Pn Pn 06 28 27.0 +0.8
MBDF Montbardon 7.42 298 *e*P Pn 06 28 32.0 +5.8
MBDF *e*Sn Sn 06 29 44.6 -4.8
comp=N,0.9nm,0.2s
REMY Saint-Rhmy-en 7.67 306 ⇓P Pn 06 28 31.6 +2.0
KHC Kasperske Hory 7.71 348 *e*PN Pn 06 28 32.0 +2.0
KHC *e*SN Sn 06 29 51.2 -5.2
LPG La Plagne 7.75 303 *e*Pn Pn 06 28 30.6 -0.2
LPG La Plagne 7.75 303 *e*P Pn 06 28 36.7 +5.9
LPG *e*Sn Sn 06 29 51.6 -6.1
comp=N,3.4nm,0.3s
LPL La Plagne 7.77 303 *e*Pn Pn 06 28 30.2 -0.8
LPL La Plagne 7.77 303 *e*P Pn 06 28 36.8 +5.8
LPL *e*Sn Sn 06 29 52.1 -6.0
comp=N,4.4nm,0.3s
ORIF Oris-en-Rattie 8.08 298 *e*Pn Pn 06 28 36.6 +1.4
ORIF Oris-en-Rattie 8.08 298 *e*P Pn 06 28 40.5 +5.3
CABF La Chapelle 8.70 308 *e*Pn Pn 06 28 43.5 -0.1
CABF *e*Sn Sn 06 30 15.1 -5.6
comp=N,5.1nm,0.4s
VIVF Saint-Julien-l 8.87 295 *e*Pn Pn 06 28 45.3 -0.7
HINF Hinteralfeld 8.99 317 *e*Pn Pn 06 28 47.1 -0.4
HINF Hinteralfeld 8.99 317 *e*P Pn 06 28 53.7 +6.2
HINF *e*Sn Sn 06 30 19.1 -8.6
comp=N,5.2nm,0.3s
CDF Champ du Feu 9.18 321 *e*Pn Pn 06 28 50.4 +0.2
CDF Champ du Feu 9.18 321 *e*P Pn 06 28 55.1 +4.9
CDF *e*Sn Sn 06 30 24.5 -8.0
comp=N,1.4nm,0.2s
HAU Haudompre 9.37 316 *e*Pn Pn 06 28 52.4 -0.3
HAU Haudompre 9.37 316 *e*P Pn 06 28 57.9 +5.2
HAU *e*Sn Sn 06 30 28.2 -8.8
comp=N,10nm,0.3s
SMF Signal de Mont 10.08 304 *e*Pn Pn 06 29 00.7 -1.7
SMF Signal de Mont 10.08 304 *e*P Pn 06 29 07.7 +5.3
SMF *e*Sn Sn 06 30 47.9 -6.5
comp=N,1.9nm,0.2s
SFTF Sexfontaines 10.18 314 *e*Pn Pn 06 29 02.6 -1.2
baz=139
SFTF *e*Sn Sn 06 30 48.9 -8.1
comp=N,2.3nm,0.3s
LOR Lormes 10.35 307 *e*Pn Pn 06 29 05.5 -0.7
baz=135
LOR *e*Sn Sn 06 30 51.0 -10
comp=N,5.6nm,0.3s
MEZF Maizieres J'vi 10.36 315 *e*Sn Sn 06 30 54.4 -6.8
comp=N,5.7nm,0.4s
SAVF Savonnieres en 10.39 316 *e*Pn Pn 06 29 07.1 +0.5
baz=142
AVF Avril sur Loir 10.44 304 *e*P Pn 06 29 13.3 +5.9
SSF Saint Saulge 10.47 306 *e*Pn Pn 06 29 07.3 -0.4
SSF *e*Sn Sn 06 30 54.8 -9.1
comp=N,3.9nm,0.5s

GCMT ***12*** *06:26:47.0±0.4,53°.37N±0°.04×158°.37E±0°.06,h31km, MW5.1/102,Moment Tensor Solution. s14,c17; s102,c120; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-7.37±.34; Mθθ4.34±.28; Mφφ3.03±.22; Mrθ-0.27±.31; Mθφ0.08±.15; Mφr1.40±.22; Best double couple: M0 5.95500×1016 NP1:φs260.00000°,δ45.00000°, λ-101.00000°. NP2:φs95.00000°,δ46.00000°, λ-80.00000°. Principal axes: T 4.3480, Plg1.0000°, Azm178.0000°; N 3.2130, Plg8.0000°, Azm268.0000°; P -7.5610, Plg82.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 12 06:27:21.1±1.1,52°.90N×158°.56E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.4/61,mbtmp3.5/5,MS3.8/24, Ms1 3.8/24,ms1mx3.7/33 Error ellipse: s-maj=30.3km s-min=15.8km az=20.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.56**	**292**	Pg	Pg		Pg	06 27 32.1	+0.3
	5.1nm,0.3s,baz=82,slow=19,SNR=7.2								
PETK				LR		LR	LR	06 27 55.6	
	comp=Z,2μm,19.3s,baz=63,slow=61								
KLR	**Kul'dur**	**17.21**	**268**	LR		LR	LR	06 37 31.6	
	comp=Z,379nm,21.6s,baz=66,slow=36								
USRK	**Ussuriysk Ar.**	**19.53**	**254**	LR		LR	LR	06 39 09.9	
	comp=Z,442nm,20.5s,baz=50,slow=36								
MJAR	**Matsushiro Arr**	**21.71**	**229**	LR		LR	LR	06 40 44.3	
	comp=Z,502nm,20.1s,baz=40,slow=37								
TIXI	**Tiksi**	**22.88**	**336**	P		P	P	06 32 24.6	-1.1
	2.2nm,0.8s,baz=119,slow=11,SNR=4.9								
KSRS	**Korea Array**	**26.29**	**246**	LR		LR	LR	06 42 40.6	
	comp=Z,356nm,21.6s,baz=56,slow=35								
ILAR	**Eielson Array**	**29.61**	**45**	LR		LR	LR	06 44 48.9	
	comp=Z,95nm,19.3s,baz=297,slow=35								
TLY	**Talaya**	**32.93**	**290**	LR		LR	LR	06 47 07.2	
	comp=Z,239nm,20.4s,baz=60,slow=36								
SONM	**Songino Array**	**33.04**	**283**	LR		LR	LR	06 47 09.0	
	comp=Z,356nm,21.4s,baz=86,slow=36								
INK	**Inuvik**	**34.59**	**37**	LR		LR	LR	06 48 45.1	
	comp=Z,94nm,19.5s,baz=248,slow=37								
NRIK	**Noril'sk**	**35.53**	**325**	LR		LR	LR	06 49 56.2	
	comp=Z,244nm,19.1s,baz=74,slow=38								
ZALV	**Zalesovo Beam**	**42.10**	**302**	LR		LR	LR	06 52 53.4	
	comp=Z,242nm,18.7s,baz=59,slow=36								
MKAR	**Makanchi Array**	**47.40**	**295**	LR		LR	LR	06 57 17.1	
	comp=Z,105nm,19.8s,baz=45,slow=38								
ARCES	**ARCESS Array B**	**53.18**	**341**	LR		LR	LR	07 02 32.9	
	comp=Z,70nm,19.1s,baz=35,slow=40								
CMAR	**Chiang Mai Arr**	**57.24**	**257**	LR		LR	LR	07 03 47.8	
	comp=Z,133nm,19.3s,baz=45,slow=38								
PDAR	**Pinedale Array**	**58.42**	**60**	P		P	P	06 37 19.4	+0.9
	0.2nm,0.4s,baz=339,slow=2.3,SNR=3.2								
PDAR				LR		LR	LR	07 02 02.7	
	comp=Z,33nm,18.4s,baz=322,slow=36								
ULM	**Lac du Bonnet**	**59.62**	**46**	LR		LR	LR	07 03 48.8	
	comp=Z,78nm,18.9s,baz=327,slow=37								
FINES	**FINESS Array B**	**59.93**	**336**	LR		LR	LR	07 06 34.7	
	comp=Z,54nm,19.4s,baz=29,slow=39								
NOA	**NORSAR Array B**	**63.47**	**343**	LR		LR	LR	07 09 03.2	
	comp=Z,39nm,18.5s,baz=25,slow=39								
GEYT	**Alibeck**	**66.41**	**302**	LR		LR	LR	07 08 44.2	
	comp=Z,171nm,18.6s,baz=60,slow=37								
AKASG	**Malin Array Be**	**68.30**	**328**	LR		LR	LR	07 12 08.9	
	comp=Z,85nm,18.1s,baz=70,slow=39								
KBZ	**Khabaz**	**69.04**	**316**	LR		LR	LR	07 11 10.7	
	comp=Z,104nm,19.9s,baz=28,slow=38								
TXAR	**Lajitas Array**	**71.56**	**66**	P		P	P	06 38 43.8	-0.2
	0.1nm,0.7s,baz=305,slow=5.3,SNR=1.6								
TXAR				LR		LR	LR	07 08 33.6	
	comp=Z,30nm,19.2s,baz=0.0,slow=35								

GERES	GERESS Array B	74.34 337	LR	LR	07 14 55.4	
	comp=Z,54nm,21.7s,baz=28,slow=38					
WRA	Warramunga Arr	75.52 203	P	P	06 39 07.2	+0.1
	0.6nm,1.0s,baz=18,slow=5.8,SNR=2.2					
BRTR	Keskin Array B	76.18 319	LR	LR	07 18 06.4	
	comp=Z,41nm,18.3s,baz=24,slow=40					
ASAR	Alice Springs	79.21 203	P	P	06 39 27.3	-0.4
	0.2nm,0.3s,baz=19,slow=5.9,SNR=2.0					
ESDC	Sonseca Array	86.57 347	LR	LR	07 26 28.7	
	comp=Z,47nm,18.1s,baz=20,slow=41					

IDC 12 06:27:52.8±283.0, 53°.19N×158°.09E, h0km, Error ellipse: s-maj=182.1km s-min=101.3km az=131.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	19.35	253	*i*		08 31 10.0	
	baz=53,slow=324,SNR=1.3						
I30JP	ISUMI INFRASON	21.84	222	*i*		08 37 50.0	
	baz=29,slow=321,SNR=1.9						
I53US	FAIRBANKS INFR	29.19	45	*i*		09 24 20.0	
	baz=274,slow=314,SNR=17						
I46RU	ZALESOVO INFRA	41.70	302	*i*		10 43 20.0	
	baz=56,slow=296,SNR=1.5						
I18DK	QAANAAQ INFRA	56.33	13	*i*		11 14 10.0	
	baz=329,slow=305,SNR=26						
I39PW	PALAU INFRASON	49.38	211	*i*		11 34 00.0	
	baz=19,slow=286,SNR=6.1						

*IDC **12** 06:54:48.3±4.2, 32°.08S×70°.79W, h53km±32km, mb3.9/3, mb1 3.8/7, mb1mx3.5/26, mbtmp3.9/7, ML3.6/4, Error ellipse: s-maj=63.0km s-min=20.7km az=112.0*
*GUC **12** 06:54:49.7±0.7, 32°.09S×71°.15W, h71km±6km, ML4.1*
*NEIC **12** 06:54:50.0±0.9, 32°.08S±0°.02×71°.17W±0°.09, h62km±7km, Error ellipse: s-maj=10.7km s-min=2.4km az=83.0*

ISC 12 06:54:49.4±0.7, 32°.09S±0°.04×71°.09W±0°.07, h68km±7km, n69, σ1°13/80, mb4.1/5, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	San Esteban	0.81	146	*eP*	Pn	06 55 06.1	+0.6
VA03				*i* S	Sn	06 55 18.7	+1.2
VA03				IAML		06 55 20.1	
	comp=E,18μm,0.1s						
VA03	San Esteban	0.81	146		Pn	06 55 06.2	+0.6
VA03				Sn	Sn	06 55 18.6	+1.1
ROCH	El Roble	0.88	176	*eP*	Pn	06 55 06.9	+0.4
ROCH				*i* S	Sn	06 55 20.0	+0.8
CO02	Combarbal	0.89	5	*eP*	Pn	06 55 07.0	+0.4
CO02				*i* S	Sn	06 55 20.1	+0.9
CO02	Combarbal	0.89	5		Pn	06 55 06.9	+0.4
CO02				Sn	Sn	06 55 19.9	+0.7
VA01	Torpederas	1.04	207	*eP*	Pn	06 55 08.2	0.0
VA01				*i* S	Sn	06 55 22.9	+0.6
VA01	Torpederas	1.04	207		Pn	06 55 08.6	+0.4
MT02	Curacav	1.16	182	*eP*	Pn	06 55 10.5	+0.6
MT02				*i* S	Sn	06 55 26.1	+0.9
MT02	Curacav	1.16	182		Pn	06 55 10.6	+0.7
MT02				Sn	Sn	06 55 25.5	+0.3
MT05	Renca	1.33	167	*eP*	Pn	06 55 12.8	+0.7
MT05				*i* S	Sn	06 55 30.9	+1.8
MT05				IAML		06 55 35.8	
	comp=N,5μm,0.2s						
MT05	Renca	1.33	167		Pn	06 55 12.9	+0.8
MT03	Universidad Ad	1.48	161⇑	*eP*	Pn	06 55 15.0	+0.9
MT03				*i* S	Sn	06 55 34.2	+1.4
MT03				IAML		06 55 37.9	
	comp=N,4μm,0.2s						
MT03	Universidad Ad	1.48	161	Pn	Pn	06 55 15.4	+1.3
MT03				Sn	Sn	06 55 34.9	+2.2
CO06	Fray Jorge	1.49	342	*eP*	Pn	06 55 14.8	+0.6
VA05	Santo Domingo	1.62	196⇑	*eP*	Pn	06 55 16.2	+0.4
VA05				*eS*	Sn	06 55 36.0	+0.1
VA05				IAML		06 55 47.3	
	comp=E,2μm,0.4s						
VA05	Santo Domingo	1.62	196		Pn	06 55 16.3	+0.4
MT09	Talagante	1.68	177	*eP*	Pn	06 55 17.7	+0.8
MT09				*i* S	Sn	06 55 39.0	+1.5
MT09				IAML		06 55 43.2	
	comp=E,2μm,0.3s						
MT09	Talagante	1.68	177		Pn	06 55 17.7	+0.8
GO04	Tololo Observa	1.93	8	*eP*	Pn	06 55 20.9	+0.6
GO04				*i* S	Sn	06 55 44.6	+0.9
GO04	Tololo Observa	1.93	8	Pn	Pn	06 55 20.9	+0.6
ZON	Zonda	2.13	76		Pn	06 55 25.3	+2.5
CO05	La Serena	2.17	357⇑	*eP*	Pn	06 55 23.9	+0.6
CO05				*eS*	Sn	06 55 49.8	+0.6
CO05				IAML		06 56 08.8	
	comp=E,2μm,0.8s						
BO01	Tunca	2.29	180⇑	*eP*	Pn	06 55 25.3	+0.3
BO01				*eS*	Sn	06 55 52.5	+0.4
BO01	Tunca	2.29	180	Pn	Pn	06 55 25.5	+0.6
BO02	Sierra Bellavi	2.71	175		Pn	06 55 31.3	+0.7
GO05	Huala	2.99	193	Pn	Pn	06 55 34.4	0.0
LCO	Las Campanas	3.09	6	Pn	Pn	06 55 36.8	+0.7
ML02	Panimavida	3.67	184	Pn	Pn	06 55 43.6	-0.1
AC04	Llanos de Chal	3.88	0⇑	*eP*	Pn	06 55 46.7	+0.2
AC04				*eS*	Sn	06 56 29.9	-1.0
AC04	Llanos de Chal	3.88	0	Pn	Pn	06 55 46.9	+0.3
GO03	Copiap	4.55	10	Pn	Pn	06 55 56.3	+0.5
BI02	San Fabin de	4.56	182		Pn	06 55 56.7	+0.8
AC02	Maricunga	5.51	19	Pn	Pn	06 56 10.1	+0.7
H03N1	Juan Fernandez	6.72	256	T	T	07 03 08.3	
	baz=84,slow=73,SNR=387						
H03N3	Juan Fernandez	6.74	256	T	T	07 03 12.7	
	baz=84,slow=73,SNR=338						
H03N2	Juan Fernandez	6.74	256	T	T	07 03 08.7	
	baz=84,slow=73,SNR=366						
H03S1	Juan Fernandez	6.79	253	T	T	07 03 05.4	
	baz=86,slow=75,SNR=5.2						
H03S3	Juan Fernandez	6.79	253	T	T	07 03 06.5	
	baz=86,slow=75,SNR=7.9						
H03S2	Juan Fernandez	6.81	253	T	T	07 03 05.5	
	baz=86,slow=75,SNR=6.5						
LC01	Cunco	6.82	185	Pn	Pn	06 56 24.9	-1.9
GO02	Mina Guanaco	7.03	11	Pn	Pn	06 56 28.5	-1.5
PB14	IPOC Station P	7.46	5	Pn	Pn	06 56 33.0	-3.0
PLCA	Paso Flores	8.63	177	P	Pn	06 56 50.5	-1.1
	comp=E,0.4nm,0.3s,baz=345,slow=12,SNR=8.8						
PLCA	Paso Flores	8.63	177	Pn	Pn	06 56 51.9	+0.3
LL04	Puerto Octay	8.86	186	Pn	Pn	06 56 52.9	-1.8
TRQA	Torrquist	9.54	131	Pn	Pn	06 57 04.3	+0.3
LVC	Limon Verde	9.64	12	P	Pn	06 57 01.2	-4.6
	comp=E,0.1nm,0.3s,baz=190,slow=15,SNR=1.6						
LVC				S	Sn	06 58 54.6	+1.9
	comp=E,0.6nm,0.3s,baz=254,slow=9.5,SNR=1.6						
LVC	Limon Verde	9.64	12		Pn	06 57 06.4	+0.7
PB09	IPOC Station P	10.39	10	Pn	Pn	06 57 15.1	-0.7
ITQB	Itaqui	12.66	83	Pn	Pn	06 57 45.0	-1.5
CPUP	Villa Florida	13.32	68	P	Pn	06 57 50.8	-4.6
	comp=E,0.1nm,0.3s,baz=236,slow=7.3,SNR=1.5						
CPUP				S	Sn	07 00 12.8	-8.9
	comp=E,0.1nm,0.3s,baz=281,slow=9.1,SNR=2.0						
PLTB	Pedras Altas	14.86	93	Pn	Pn	06 58 12.6	-3.1
LPAZ	La Paz	15.96	10	P	Pn	06 58 30.1	-0.3
	comp=E,0.0nm,0.3s,baz=270,slow=8.6,SNR=2.8						
LPAZ	La Paz	15.96	10		Pn	06 58 31.0	+0.6
SIV	San Ignacio	18.44	32	P	P	06 58 57.7	-1.9
	comp=E,0.1nm,0.3s,baz=208,slow=6.0,SNR=4.8						
BDFB	Brasilia	26.62	57	P	P	07 00 20.4	-1.4
	comp=E,2.7nm,0.7s,baz=242,slow=6.8,SNR=5.7						
BDFB	Brasilia	26.62	57	P	P	07 00 21.1	-0.7
BDFB				IAmb	IAmb	07 00 21.8	
	comp=Z,9.6nm,1.3s						
OTAV	Otavalo	32.90	346	P	P	07 01 21.6	+3.8
OTAV				IAmb	IAmb	07 01 40.6	
	comp=Z,7.2nm,1.5s						
VNA3	Neumayer Olymp	50.83	159	P	P	07 03 43.2	+0.6
QSPA	South Pole Qui	58.14	180	P	P	07 04 36.6	+0.8
	comp=Z,2.5nm,0.8s,baz=156,slow=3.5,SNR=9.1						
QSPA	South Pole Qui	58.14	180	P	P	07 04 36.8	+1.0
TXAR	Lajitas Array	68.48	330	pP	pP	07 06 03.5	+0.8
	comp=Z,0.2nm,0.6s,baz=156,slow=8.9,SNR=3.2						
TORD	Torodi Ar. Bea	82.81	70	P	P	07 07 05.9	-0.7
	comp=Z,1.8nm,0.7s,baz=233,slow=5.3,SNR=7.6						
TORD				pP	pP	07 07 25.8	0.0
	comp=Z,0.3nm,0.5s,baz=227,slow=2.6,SNR=1.8						
BVAR	Borovoye Array	145.34	41	PKPbc	PKPdf	07 14 18.6	-0.3
	comp=Z,1.1nm,0.6s,baz=251,slow=14,SNR=6.8						
KURBB	Kurchatov Arra	150.93	42	PKPbc	PKPbc	07 14 33.7	-0.2
	comp=Z,1.4nm,0.7s,baz=298,slow=3.1,SNR=15						
KURK	Kurchatov	150.94	41		PKPbc	07 14 33.7	-0.2
ZALV	Zalesovo Beam	152.19	31	PKPbc	PKPbc	07 14 36.5	-0.1
	comp=Z,3.9nm,0.4s,baz=323,slow=2.2,SNR=7.0						
ZALV	Zalesovo Beam	152.19	31	PKPdf	PKPdf	07 14 30.0	0.0
ZALV					PKPbc	07 14 36.5	-0.1
MKAR	Makanchi Array	154.90	47	PKPab	PKPab	07 14 58.0	-0.4
	comp=Z,0.5nm,0.6s,baz=312,slow=3.7,SNR=6.4						

*IDC **12** 07:04:03.6±1.3, 21°.05S×176°.48W, h177km±10km, mb4.3/18, mb1 4.5/21, mb1mx4.5/30, mbtmp4.9/21, MS3.6/6, Ms1 3.6/6, ms1mx3.2/37, Error ellipse: s-maj=13.3km s-min=11.3km az=141.0*
*NOU **12** 07:04:04.5, 21°.025×175°.86W, h221km, MLv6.0, Tonga Islands*
*NEIC **12** 07:04:04.3±2.6, 21°.15S±0°.07×176°.21W±0°.08, h184km±5km, mb4.8/12, Error ellipse: s-maj=11.1km s-min=10.1km az=59.0*
*GCMT **12** 07:04:06.3±0.2, 21°.19S±0°.02×176°.10W±0°.02, h206km±2km, MW5.2/102, Moment Tensor Solution. s51,c66; s102,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88±.18; $M_{\theta\theta}$4.41±.23; $M_{\phi\phi}$-3.53±.21; $M_{r\theta}$-1.08±.17; $M_{\theta\phi}$4.00±.17; $M_{\phi r}$-4.26±.15; Best double couple: $M_0$7.18400×10^{16} NP1:ϕ_s290.00000°, δ52.00000°, λ-8.00000°. NP2:ϕ_s25.00000°, δ84.00000°, λ-142.00000°. Principal axes: T 7.0760, Plg21.0000°, Azm151.0000°; N 0.2230, Plg52.0000°, Azm33.0000°; P -7.2930, Plg31.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **12** 07:04:06.2±0.0, 21°.11S×176°.24W, h203km*

ISC 12 07:04:05.1±0.2, 21°.36S±0°.04×176°.20W±0°.05, h200km, n602, σ1°86/685, mb4.8/98, 84C-51D, Fault plane solution: NP1:ϕ_s283.38461°, δ79.62789°, λ-0.21170°. NP2:ϕ_s13.42273°, δ89.79176°, λ-169.62782°. Principal axes: T Plg7.1656°, Azm147.9322°; N Plg79.6258°, Azm14.5603°; P Plg7.4625°, Azm238.8758°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	3.96	321	P	Pn	07 05 05.5	-1.0
TAVE	Taveuni	5.80	322	P	Pn	07 05 28.8	-1.1
NIUE	Niue	6.31	70	P	Pn	07 05 32.7	-3.7
	baz=6.2,SNR=233						
NIUE				S	Sn	07 06 35.2	-14
	baz=6.2						
NIUE	Niue	6.31	70		Pn	07 05 32.8	-3.7
NIUE				Sn	Sn	07 06 37.0	-12
NIUE	Niue	6.31	70	P	Pn	07 05 32.6	-3.9
DGTI	Dogotuki	6.33	322	P	Pn	07 05 35.7	-1.1
MSVF	Nonsavu	6.51	303	P	Pn	07 05 38.3	-0.8
	21nm,0.3s,baz=134,slow=14,SNR=72						
MSVF				LR	LR	07 07 39.4	
	comp=Z,536nm,20.3s,baz=153,slow=35						
MSVF	Nonsavu	6.51	303		Pn	07 05 38.4	-0.7
MSVF	Nonsavu	6.51	303	P	Pn	07 05 38.3	-0.8
RIZ	Raoul Island	8.01	191	P	Pn	07 05 57.7	-0.7
RIZ				S	Sn	07 07 28.2	-0.6
RAO	Raoul Island	8.01	191	P	Pn	07 05 58.5	0.0
	118nm,0.3s,baz=295,slow=19,SNR=4.2						
RAO				S	Sn	07 07 28.6	-0.3
	482nm,0.3s,baz=117,slow=22,SNR=11						
RAO	Raoul Island	8.01	191	Pn	Pn	07 05 58.7	+0.2
GLKZ	Green Lake	8.02	191	P	Pn	07 05 59.0	+0.4
GLKZ				S	Sn	07 07 28.2	-0.9
FUNA	Funafuti	13.51	340		Pn	07 07 05.9	-3.1
MARNC	Mare, Loyalty	14.69	267		P	07 07 24.8	+0.2
MARNC	Mare, Loyalty	14.69	267	P	P	07 07 26.5	+1.9
PINNC	Pines Island,	15.22	262		P	07 07 32.5	+2.0
PINNC	Pines Island,	15.22	262	P	P	07 07 33.7	+3.2
RAR	Rarotonga	15.32	92	P	P	07 07 34.1	+2.6
	19nm,0.3s,baz=243,slow=4.6,SNR=32						
RAR				S	S	07 10 15.2	-6.2
	3.6nm,0.3s,baz=103,slow=20,SNR=1.8						
RAR	Rarotonga	15.32	92	P	Pn	07 07 29.0	-2.3
LIFNC	LIFOU	15.47	269		P	07 07 33.7	+0.4
LIFNC	LIFOU	15.47	269	P	P	07 07 34.6	+1.3
YATNC	Mamie plateau,	15.73	264	P	Pn	07 07 38.4	+2.1
OUENC	Ouen Island, N	15.78	263	Pn	Pn	07 07 40.0	+3.2
OUENC	Ouen Island, N	15.78	263	P	Pn	07 07 39.8	+3.0
ONTNC	Ouen Toro	16.13	263	Pn	Pn	07 07 43.4	+2.2
ONTNC	Ouen Toro	16.13	263	P	Pn	07 07 43.6	+2.5
DZM	Mont Dzumac	16.14	264	P	Pn	07 07 43.2	+1.8
	14nm,0.3s,baz=78,slow=22,SNR=199						
DZM	Mont Dzumac	16.14	264	*eP*	Pn	07 07 43.6	+2.2
	1μm,1.2s						
DZM	Mont Dzumac	16.14	264	Pn	Pn	07 07 43.5	+2.1
DZM	Mont Dzumac	16.14	264	P	Pn	07 07 44.2	+2.8
NFK	Norfolk Island	16.26	239	P	Pn	07 07 44.8	+2.3
	baz=16,SNR=3.4						
NOUC	Port Laguerre	16.27	264	P	Pn	07 07 45.0	+2.2
OUZ	Omahuta	16.46	211	P	Pn	07 07 46.5	+1.5
OUZ				IAmb	IAmb	07 08 07.5	
	comp=Z,38nm,1.0s						
OUZ	Omahuta	16.46	211	P	Pn	07 07 47.0	+2.1
GRZ	Great Barrier	16.53	204	P	P	07 07 44.4	-0.4
WCZ	Waipu Caves	16.71	208	P	Pn	07 07 49.6	+1.6
SANVU	Saraoutou	16.80	288	P	Pn	07 07 49.9	+0.7
MXZ	Matakaoa Point	16.84	195	P	P	07 07 47.9	-0.3
KUZ	Kuaotunu	16.87	203	P	P	07 07 49.2	+0.6
WMGZ	Waiomatatini S	17.05	195	P	P	07 07 47.0	-3.5
ABAZ	Army Bay	17.08	205	P	Pn	07 07 53.0	+0.7
WIAZ	Waiheke Island	17.13	204	P	Pn	07 07 53.9	+1.0
HAZ	Te Kaha	17.15	196	P	P	07 07 50.0	-1.6
PKGZ	Pakihiroa	17.20	195	P	P	07 07 47.4	-4.8
PUZ	Puketiti	17.33	195	P	P	07 07 50.9	-2.8
RUGZ	Raukumara Rang	17.38	196	P	P	07 07 55.2	+0.9
WHRZ	Whale Island	17.47	198	P	Pn	07 07 56.9	0.0
CNGZ	Carnagh Statio	17.74	195	P	P	07 07 57.7	-0.3
URZ	Urewera	17.81	197	P	P	07 07 59.8	+1.0
	comp=Z,30nm,0.3s,baz=358,slow=6.2,SNR=86						
URZ				S	S	07 11 04.0	-8.9
	comp=Z,8.8nm,0.3s,baz=73,slow=20,SNR=2.5						
URZ	Urewera	17.81	197	P	P	07 07 59.6	+0.9
URZ	Urewera	17.81	197	P	P	07 07 59.4	+0.7
MKRZ	Makatiti	17.88	199	P	Pn	07 08 03.7	+1.9
TARZ	Mount Tarawera	17.96	199	P	Pn	07 08 03.4	+0.7
UTU	Utuhina	18.00	200	P	Pn	07 08 05.2	+2.1
HLRZ	Highlands Stat	18.02	199	P	Pn	07 08 04.3	+0.9
RRRZ	Republican Roa	18.05	199	P	Pn	07 08 03.8	+0.1
RRRZ				S	S	07 11 16.7	-1.3
RIGZ	Rimuhau	18.05	195	P	Pn	07 08 03.8	0.0
RIGZ				S	S	07 11 09.8	-8.2
MUGZ	Murupara	18.11	198	P	P	07 08 02.0	-0.1
MUGZ				S	S	07 11 12.3	-6.7
HSRZ	Hossack Road	18.11	199	P	Pn	07 08 03.6	-0.7
HRRZ	Handcock Road	18.17	199	P	Pn	07 08 05.3	+0.2
RTZ	Ruatahuna	18.18	197	P	Pn	07 08 04.7	-0.5
RTZ				S	S	07 11 10.7	-10
GRRZ	Galatos Road	18.19	200	P	Pn	07 08 05.9	+0.6
PRGZ	Paritu Road	18.23	195	P	P	07 08 04.6	+1.2
PRGZ				S	S	07 11 11.9	-10
SNGZ	Shannon Statio	18.23	196	P	P	07 08 02.6	-0.9
SNGZ				S	S	07 11 15.0	-6.5
PRRZ	Plateau Road	18.24	199	P	Pn	07 08 05.2	-0.7
PRRZ				S	S	07 11 19.3	-2.2
KOUNC	Koumac, New Ca	18.24	269	P	Pn	07 08 05.8	-0.3
WPRZ	Whakapapatarin	18.33	199	P	Pn	07 08 06.5	-0.4
TLZ	Tolley Road	18.35	201	P	Pn	07 08 07.0	-0.2
KNZ	Kokohu	18.38	195	P	Pn	07 08 07.2	-0.2
KNZ				S	S	07 11 17.1	-7.2
KUTZ	Kaahu Road	18.41	200	P	Pn	07 08 08.2	+0.4
RAHZ	Arahi	18.43	197	P	P	07 08 06.0	+0.4
RAHZ				S	S	07 11 16.3	-9.1
MTHZ	Maungataniwha	18.43	197	P	P	07 08 06.0	+0.4
MTHZ				S	S	07 11 13.3	-12
MHGZ	Mahia Peninsul	18.44	195	P	P	07 08 07.2	+1.5
MHGZ				S	S	07 11 18.3	-7.3
MRHZ	Matea Rd	18.54	198	P	P	07 08 07.8	+1.0
MRHZ				S	S	07 11 21.5	-6.1
WHHZ	Waihua	18.54	196	P	Pn	07 08 09.3	-0.1
WHHZ				S	S	07 11 20.0	-7.5
WATZ	Wairara	18.63	200	P	Pn	07 08 09.9	-0.7
NMHZ	Naumai	18.67	197	P	P	07 08 07.6	-0.7
NMHZ				S	S	07 11 23.5	-6.8
HIZ	Hauiti	18.75	202	P	Pn	07 08 11.3	-0.6
HIZ	Hauiti	18.75	202	P	Pn	07 08 12.0	0.0
RATZ	Rangitukua	18.77	200	P	P	07 08 10.9	+1.7
ARHZ	Aropaoanui	18.78	197	P	P	07 08 10.9	+1.6
ARHZ				S	S	07 11 26.8	-5.5
BKZ	Black Stump Fm	18.82	198	P	P	07 08 10.7	+0.8
BKZ				S	S	07 11 29.1	-4.1
RITZ	Rihia Road	18.84	199	P	P	07 08 11.0	+1.0
RITZ				S	S	07 11 38.4	+4.9
KATZ	Kakaramea	18.89	200	P	Pn	07 08 12.8	-0.9
NTVZ	North Tongarir	19.01	200	P	P	07 08 12.3	+0.4
TMVZ	Te Maari	19.02	200	P	P	07 08 12.4	+0.4
KRVZ	Karewarewa	19.02	200	P	P	07 08 13.3	+1.3
KRVZ				S	S	07 11 38.2	+1.0
ETVZ	East Tongariro	19.03	200	P	P	07 08 11.6	-0.5
WTVZ	West Tongariro	19.05	200	P	P	07 08 13.6	+1.2
NNVZ	North Ngauruho	19.06	200	P	P	07 08 13.6	+1.1
TWVZ	Taurewa	19.06	200	P	P	07 08 13.2	+0.8
OTVZ	Oturere	19.07	200	P	P	07 08 11.0	-1.7
OTVZ				S	S	07 11 33.2	-5.1
SNVZ	South Ngauruho	19.10	200	P	P	07 08 12.0	-1.0
NGZ	Ngauruhoe	19.10	200	P	P	07 08 12.7	-0.3
NGZ				S	S	07 11 35.0	-3.9
CKHZ	Cape Kidnapper	19.13	196	P	P	07 08 14.8	+1.7
TUVZ	Tukino	19.17	200	P	P	07 08 13.6	-0.1
TUVZ				S	S	07 11 34.6	-5.7
FWVZ	Far West T-bar	19.19	200	P	P	07 08 13.0	-1.0
FWVZ				S	S	07 11 36.2	-4.6
WHVZ	Whangaehu Hut	19.20	200	P	P	07 08 13.5	-0.7
WHVZ				S	S	07 11 33.6	-7.4
TRVZ	Turoa	19.23	200	P	P	07 08 15.2	+0.8
WNVZ	Wahianoa	19.24	200	P	P	07 08 13.1	-1.4
MOVZ	Moawhango	19.27	199	P	P	07 08 13.9	-0.8
MOVZ				S	S	07 11 34.0	-8.0
PKVZ	Pokaka	19.29	200	P	P	07 08 14.3	-0.6
KAHZ	Kahuranaki	19.31	196	P	P	07 08 16.4	+1.3
VRZ	Vera Road	19.33	202	P	Pn	07 08 18.8	0.0
PXZ	Pawanui	19.53	196	P	P	07 08 18.1	+0.7
PNHZ	Pukenui	19.60	198	P	P	07 08 18.4	+0.1
PKE	Pukeiti	19.67	203	P	Pn	07 08 23.0	+0.2
WPHZ	Waipukurau	19.68	197	P	P	07 08 20.2	+1.2
NEZ	North Egmont	19.70	203	P	Pn	07 08 22.7	-0.5
PREZ	Palmer Road	19.74	203	P	Pn	07 08 25.0	+1.3
KHEZ	Kahui Hut	19.75	203	P	Pn	07 08 23.0	-0.9
NBEZ	Newall Road No	19.78	203	P	Pn	07 08 24.5	+0.4
TSZ	Takapari Road	19.81	198	P	P	07 08 20.3	-0.1
PRHZ	Porangahau	19.81	196	P	P	07 08 21.8	+1.4
WAZ	Wanganui	19.83	200	P	P	07 08 21.4	+0.8
NMEZ	Namu Road	19.90	203	P	Pn	07 08 25.7	0.0
DVHZ	Dannevirke	19.97	197	P	P	07 08 22.0	-0.1
ANWZ	Angora Road	20.04	196	P	P	07 08 24.1	+1.3
POWZ	Post Office Ro	20.17	198	P	P	07 08 24.2	0.0
PRWZ	Pori Road	20.26	197	P	P	07 08 25.7	+0.4
BFZ	Birch Farm	20.31	197	P	P	07 08 26.1	+0.4
MRZ	Mangatainoka R	20.47	198	P	P	07 08 26.2	-1.2
TIWZ	Tintock	20.49	197	P	P	07 08 28.2	+0.5
CPWZ	Castlepoint	20.53	197	P	P	07 08 30.8	+2.8
HOWZ	Holdsworth Sta	20.71	198	P	P	07 08 29.0	-1.0
OGWZ	Otaki Gorge	20.74	199	P	P	07 08 28.4	-1.9
TMWZ	Te Maipa	20.80	197	P	P	07 08 31.6	+0.7
KIW	Kapiti Island	20.86	199	P	P	07 08 29.9	-1.7
MTW	Mount Morrison	20.95	198	P	P	07 08 32.2	-0.3
CAW	Cannon Point	21.04	199	P	P	07 08 32.5	-0.9
DUWZ	D'Urville Isla	21.12	201	P	P	07 08 33.3	-1.1
TRWZ	Traveller	21.13	197	P	P	07 08 34.9	+0.6
PAWZ	Paruwai Farm	21.18	198	P	P	07 08 34.6	-0.4
MSWZ	Moikau Station	21.27	198	P	P	07 08 34.9	-0.9
SNZO	South Karori	21.33	199	P	P	07 08 38.9	+2.5
BHW	Baring Head	21.37	199	P	P	07 08 36.8	-0.1
TCW	Tory Channel	21.37	200	P	P	07 08 35.2	-1.7
PLWZ	Palliser	21.41	198	P	P	07 08 36.8	-0.6
CMWZ	Cape Campbell	21.88	200	P	P	07 08 42.8	+0.8
BSWZ	Blackbirch Sta	21.96	200	P	P	07 08 44.0	+1.2
CTZ	Chatham Island	22.32	181	P	P	07 09 00.7	+15
TBI	Tubuai	24.80	100	*eT*	T	07 33 48.3	
	comp=Z,25nm,0.3s						
PAE	Paea	25.35	86	*eT*	T	07 34 47.0	
	comp=Z,53nm,0.4s						
PPT2	Papeete2	25.37	86	*eP*	P	07 09 15.9	+1.7
	comp=Z,84nm,1.2s						
PPT2	Papeete2	25.37	86	*eT*	T	07 34 47.8	
	comp=Z,29nm,0.3s						
PPT	Papeete	25.37	86	P	P	07 09 16.3	+2.1
	comp=Z,49nm,0.8s,baz=217,slow=17,SNR=6.0						
TIAR

WRA Warramunga Arr 46.15 262 P **P** **07 12 08.6 -1.5**
GENI Genyem 46.35 288 P **P** **07 12 10.8 -0.8**
KDU Kakadu 49.65 271 P **P** **07 12 35.6 -1.3**
baz=50,SNR=23
FORT Forrest 50.51 247 P **P** **07 12 42.1 -1.0**
baz=51,SNR=19
FORT Forrest 50.51 247 P **P** **07 12 42.4 -0.8**
BAKI Biak 50.59 287 P **P** **07 12 43.9 -0.1**
MTN Manton Dam 50.85 271 P **P** **07 12 44.2 -1.7**
baz=51,SNR=25
MTN Manton Dam 50.85 271 P **P** **07 12 44.6 -1.3**
WRKA Warakurna 50.85 255 P **P** **07 12 45.0 -0.9**
baz=51,SNR=284
KNRA Kununurra 52.28 266 P **P** **07 12 55.5 -1.0**
baz=52,SNR=34
KNRA Kununurra 52.28 266 P **P** **07 12 55.7 -0.8**
FAKI Fak Fak 53.33 283 P **P** **07 13 03.1 -1.0**
SWI Sorong 55.09 285 P **P** **07 13 16.3 -0.6**
comp=Z,2µmcomp=Z,249nm,1.0s
MSAI Masohi 56.19 281 P **P** **07 13 24.0 -0.7**
comp=Z,32nm,0.6s
SBA Scott Base 57.14 184 P P 07 13 35.7 +5.3
VNDA Vanda 57.22 186 P **P** **07 13 34.9 +3.9**
comp=Z,1.4nm,0.7s,baz=16,slow=7.7,SNR=8.3
VNDA LR LR 07 35 14.3
comp=Z,60nm,21.8s,baz=1.0,slow=32
VNDA Vanda 57.22 186 P **P** **07 13 35.5 +4.5**
VNDA IAmb IAmb 07 13 48.4
comp=Z,14nm,0.6s
NLAI Namlea 57.91 280 P **P** **07 13 36.4 -0.3**
comp=Z,92nm,1.4s
SOEI Soe 58.20 272 P **P** **07 13 40.4 +1.4**
SOEI Soe 58.20 272 P **P** **07 13 39.5 +0.5**
comp=Z,2µmcomp=Z,196nm,0.8s
LBMI Labuha 58.59 283 P **P** **07 13 41.4 -0.1**
comp=Z,177nm,0.8s
BATI Baumata 58.62 271 P **P** **07 13 41.7 -0.1**
comp=Z,64nm,0.8s
PSA00 Pilbara Seismi 59.11 257 P **P** **07 13 44.1 -0.9**
PSA00 Pilbara Seismi 59.11 257 P **P** **07 13 43.4 -1.6**
PSA00 IAmb IAmb 07 13 44.8
comp=Z,30nm,1.1s
KLBR Kellerberrin 59.22 245 P **P** **07 13 44.9 -0.8**
baz=59,SNR=60
MEEK Meekatharra 59.23 251 P **P** **07 13 44.4 -1.4**
baz=59,SNR=36
TNTI Ternate 59.30 284 P **P** **07 13 45.7 -0.7**
TNTI Ternate 59.30 284 P **P** **07 13 46.1 -0.3**
comp=Z,1µmcomp=Z,148nm,1.0s
SANI Sanana 59.39 281 P **P** **07 13 46.2 -0.8**
comp=Z,142nm,1.0s
NWAO Narrogin (SRO) 59.49 244 P **P** **07 13 47.0 -0.4**
baz=60,SNR=18
NWAO Narrogin (SRO) 59.49 244 P **P** **07 13 47.0 -0.4**
NWAO IAmb IAmb 07 13 51.1
comp=Z,28nm,0.8s
BLDU Ballidu 60.24 246 P **P** **07 13 51.7 -0.9**
baz=60,SNR=65
MUN Mundaring 60.47 245 P **P** **07 13 53.7 -0.5**
baz=61,SNR=15
EDFI Ende, Flores 60.94 272 P **P** **07 13 56.4 -1.2**
comp=Z,26nm,0.9s
MORW Morawa 61.06 248 P **P** **07 13 57.4 -0.8**
baz=61,SNR=18
MORW Morawa 61.06 248 P **P** **07 13 57.7 -0.5**
LUWI Luwuk 62.74 280 P **P** **07 14 09.4 -0.2**
GTOI Gorontalo 63.20 282 P **P** **07 14 13.2 +0.7**
comp=Z,43nm,1.3s
CASY Casey 63.91 206 P **P** **07 14 18.7 +2.3**
GIRL Giralia 63.94 255 P **P** **07 14 17.7 +0.4**
baz=64,SNR=6.7
GIRL Giralia 63.94 255 P **P** **07 14 17.3 0.0**
TOLI2 Tolitoli 65.42 282 P **P** **07 14 25.9 -1.1**
TOLI2 IAmb IAmb 07 14 29.5
comp=Z,23nm,0.5s
MPSI Mapaga 65.92 280 P **P** **07 14 29.3 -0.9**
comp=Z,3µmcomp=Z,17nm,0.5s
QSPA South Pole Qui 68.72 180 P **P** **07 14 50.6 +3.5**
QSPA IAmb IAmb 07 15 03.7
comp=Z,19nm,0.7s
JYT Yasato 70.56 324 P **P** **07 14 57.6 -0.9**
JYT IAmb IAmb 07 14 58.2
comp=Z,33nm,0.8s
PCJI Pacitan 70.92 268 P **P** **07 15 00.6 -0.6**
comp=Z,76nm,0.6s
MJAR Matsushiro Arr 71.90 323 P **P** **07 15 04.3 -2.2**
comp=Z,6.2nm,0.6s,baz=160,slow=5.7,SNR=23
MJAR Matsushiro Arr 71.90 323 P **P** **07 15 04.6 -1.9**
MAJO Matsushiro 71.90 323 P **P** **07 15 05.3 -1.2**
MAJO IAmb IAmb 07 15 05.3
comp=Z,8.5nm,0.7s
MAT Matsushiro 71.90 323 P **P** **07 15 04.8 -1.7**
MAT *e*S **S** **07 24 11.4 +0.3**
JSD Sado 72.94 324 P **P** **07 15 11.8 -0.8**
JSD IAmb IAmb 07 15 12.4
comp=Z,16nm,1.0s
LEM Lembang 74.70 269 P **P** **07 15 22.9 -0.8**
comp=Z,40nm,0.7s,baz=118,slow=15
JKA Kamikawa-asahi 75.28 331 P **P** **07 15 26.4 +0.4**
JKA IAmb IAmb 07 15 30.7
comp=Z,86nm,2.0s
AKUT Akutan 75.72 6 P **P** **07 15 29.4 +1.2**
TPUB Ta-pu 75.85 302 P **P** **07 15 28.2 -1.6**
TPUB IAmb IAmb 07 15 28.2
comp=Z,38nm,0.8s
PETK Petropavlovsk- 77.54 344 P **P** **07 15 37.1 -1.3**
comp=Z,5.0nm,0.8s,baz=123,slow=7.4,SNR=11
PETK LR LR 07 46 08.2
comp=Z,22nm,19.7s,baz=191,slow=33
PETK Petropavlovsk- 77.54 344 P **P** **07 15 37.4 -1.1**
KSRS Korea Array 78.64 318 P **P** **07 15 44.4 -0.5**
comp=Z,2.1nm,0.7s,baz=127,slow=5.8,SNR=5.4
KSAR Wonju Array Be 78.66 318 P **P** **07 15 43.6 -1.4**
MDSI Maura Dua 78.72 270 P **P** **07 15 44.0 -1.9**
comp=Z,10nm,0.8s
ISA Isabella, Lake 78.75 45 P **P** **07 15 47.3 +1.6**
CMB Columbia Colle 78.96 42 P **P** **07 15 47.6 +0.8**
AFDM Forest Hills D 79.17 41 P **P** **07 15 49.1 +1.3**
ORV Oroville 79.23 40 P **P** **07 15 49.2 +1.1**
WDC Whiskeytown Da 79.28 39 P **P** **07 15 49.4 +1.1**
WDC IAmb IAmb 07 16 40.7
comp=Z,13nm,1.2s
MDPB Devils Postpil 79.54 43 P **P** **07 15 51.4 +1.3**
WAKR Walker 79.84 42 P **P** **07 15 53.6 +1.9**
PNTR Pine Nut 80.10 41 P **P** **07 15 54.1 +1.1**
PNTR IAmb IAmb 07 16 44.8
comp=Z,17nm,1.1s
BEKR Beckworth 80.12 40 P **P** **07 15 54.2 +1.1**
VCNR Virginia City 80.19 41 P **P** **07 15 54.2 +0.7**
VCNR IAmb IAmb 07 16 45.4
comp=Z,17nm,1.5s
YERR Yerington 80.26 42 P **P** **07 15 54.7 +0.8**
YERR IAmb IAmb 07 16 45.5
comp=Z,15nm,1.3s
HUMO Hull Mountain 80.35 37 P **P** **07 15 55.5 +1.4**
KSI Kapahiang 80.49 270 P **P** **07 15 53.8 -1.8**
NVAR Mina Array Bea 80.50 42 P **P** **07 15 56.4 +1.2**
comp=Z,0.7nm,0.6s,baz=220,slow=8.2,SNR=7.4
NVAR PKKPbc **PKKPbc** **07 34 38.2 +1.7**
comp=Z,0.4nm,0.8s,baz=124,slow=4.5,SNR=4.2
NVAR LR LR 07 45 26.6
comp=Z,27nm,18.3s,baz=265,slow=31
OHAK Old Harbor 80.61 12 P **P** **07 15 55.2 +0.2**
OHAK IAmb IAmb 07 17 29.9
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 80.62 325 P **P** **07 15 55.2 -0.2**
comp=Z,8.4nm,0.8s,baz=140,slow=3.4,SNR=16
MAW Mawson 81.33 199 P **P** **07 16 01.1 +2.3**
comp=Z,6.0nm,0.6s,baz=131,slow=9.9,SNR=15
MAW Mawson 81.33 199 P **P** **07 16 01.4 +2.5**
baz=82,SNR=16
MAW Mawson 81.33 199 P **P** **07 16 00.9 +2.1**
Y14A Wickenburg 81.47 49 P **P** **07 16 01.8 +1.5**
K05A Summer Lake 81.59 38 P **P** **07 16 02.3 +1.4**
K05A IAmb IAmb 07 16 52.5
comp=Z,12nm,0.9s
NJ2 Nanjing 81.72 309 *e*P **P** **07 16 03.7 +2.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PRN Pahroc Range 82.00 45 P **P** **07 16 04.7 +1.6**
PRN IAmb IAmb 07 16 55.7
comp=Z,16nm,1.3s
H04A Detroit Lake 82.13 36 P **P** **07 16 04.2 +0.8**
MDJ Mudanjiang 82.19 324 P **P** **07 16 03.8 +0.2**
MDJ pP pP 07 16 44.6 -6.9
MDJ S **S** **07 26 10.0 +8.3**
MDJ sS sS 07 27 21.0 -4.1
MDJ pmax pmax
comp=Z,24nm,0.9s
MDJ pmax pmax
comp=Z,200nm,5.0s
MDJ Mudanjiang 82.19 324 P **P** **07 16 03.2 -0.4**
MDJ IAmb IAmb 07 16 04.6
comp=Z,19nm,0.9s
TUC Tucson 82.20 51 P **P** **07 16 05.9 +1.8**
PINE Pine Mountain 82.24 37 P **P** **07 16 05.4 +1.2**
PINE IAmb IAmb 07 16 56.4
comp=Z,13nm,1.0s
E03A Lebam 82.62 34 P **P** **07 16 06.5 +0.7**
E03A IAmb IAmb 07 16 19.6
comp=Z,20nm,1.1s
WVOR Wild Horse Val 82.72 39 P **P** **07 16 07.9 +1.3**
X16A Lo Mia Camp, P 82.83 49 P **P** **07 16 09.0 +1.5**
ELK Elko 83.78 42 LR LR 07 46 05.4
comp=Z,30nm,20.5s,baz=250,slow=30
H03S2 Juan Fernandez 84.12 124 T T 08 48 53.7
baz=247,slow=75,SNR=578
KLR Kul'dur 84.12 329 P **P** **07 16 12.9 -0.5**
comp=Z,2.0nm,0.8s,baz=123,slow=8.4,SNR=3.3
H03S1 Juan Fernandez 84.14 124 T T 08 48 53.9
baz=247,slow=75,SNR=530
H03S3 Juan Fernandez 84.14 124 T T 08 48 52.6
baz=247,slow=75,SNR=493
G08A Pilot Rock 84.28 37 P **P** **07 16 15.6 +1.0**
G08A IAmb IAmb 07 17 06.6
comp=Z,14nm,1.0s
121A Cookes Peak, D 84.50 52 P **P** **07 16 16.8 +0.8**
MNSI Mandailing Nat 84.90 273 P **P** **07 16 16.5 -1.7**
PWL Port Wells 84.97 13 P **P** **07 16 17.1 -0.4**
PWL IAmb IAmb 07 16 17.9
comp=Z,10.0nm,1.0s
SUA Susitna One 85.03 12 P **P** **07 16 17.2 -0.6**
SUA IAmb IAmb 07 16 18.1
comp=Z,8.3nm,0.7s
D08A Wollman Farm, 85.39 35 P **P** **07 16 20.7 +0.8**
F10A Beach Ranch, E 85.67 37 P **P** **07 16 22.2 +0.8**
F10A IAmb IAmb 07 17 11.5
comp=Z,13nm,1.2s
GHO Glory Hole Cre 85.68 13 P **P** **07 16 20.7 -0.3**
GHO IAmb IAmb 07 16 21.6
comp=Z,12nm,0.8s
MNTX Cornudas Mount 85.89 54 P **P** **07 16 24.8 +2.1**
B08A Colville Reser 85.98 34 P **P** **07 16 22.9 +0.1**
SCM Sheep Creek Mo 86.06 13 P **P** **07 16 23.0 +0.1**
SCM IAmb IAmb 07 16 23.7
comp=Z,9.8nm,0.8s
CRQM Cirque 86.09 16 P **P** **07 16 23.3 +0.1**
CRQM IAmb IAmb 07 19 26.9
comp=Z,17nm,0.7s
TXAR Lajitas Array 86.11 57 P **P** **07 16 25.8 +1.9**
comp=Z,4.0nm,1.1s,baz=213,slow=7.2,SNR=23
TXAR PKKPbc **PKKPbc** **07 34 24.5 +1.9**
comp=Z,0.3nm,0.5s,baz=100,slow=2.7,SNR=8.1
TXAR Lajitas Array 86.11 57 P **P** **07 16 26.2 +2.3**
SYO Syowa Base 86.26 192‖ *e*P **P** **07 16 25.2 +1.4**
SYO Syowa Base 86.26 192‖ *e*PcP **PcP** **07 16 27.2 +1.1**
BARN Barnard Glacie 86.72 16 P **P** **07 16 26.5 +0.2**
BARN IAmb IAmb 07 19 11.7
comp=Z,21nm,0.7s
KTH Kantishna Hill 86.92 11 P **P** **07 16 25.8 -1.2**
TRF Thorofare Moun 86.94 11 P **P** **07 16 26.2 -1.1**
TRF IAmb IAmb 07 16 27.3
comp=Z,13nm,0.8s
SKNT Sakolnakorn 86.98 289 P **P** **07 16 29.2 +0.9**
comp=Z,25nm,1.0s
SKNT Sakolnakorn 86.98 289 P **P** **07 16 29.0 +0.7**
RND Reindeer 87.17 12 P **P** **07 16 28.2 0.0**
RND IAmb IAmb 07 17 19.6
comp=Z,21nm,1.0s
VNA3 Neumayer Olymp 87.17 176 P **P** **07 16 30.1 +1.9**
LC01 Cunco 87.34 131 P **P** **07 16 31.5 +1.8**
LC01 IAmb IAmb 07 17 22.9
comp=Z,26nm,1.2s
MCK McKinley 87.45 12 P **P** **07 16 28.9 -0.6**
MCK IAmb IAmb 07 17 20.7
comp=Z,16nm,0.9s
PLCA Paso Flores 87.47 133 P **P** **07 16 33.4 +3.0**
comp=Z,3.7nm,0.7s,baz=242,slow=6.1,SNR=12
PLCA Paso Flores 87.47 133 P **P** **07 16 33.6 +3.3**
PLCA IAmb IAmb 07 17 24.1
comp=Z,12nm,1.2s
HYT Haines Junctio 87.66 18 P **P** **07 16 30.7 +0.1**
HYT IAmb IAmb 07 19 18.6
comp=Z,9.8nm,0.7s
VNA1 Neumayer--Stat 87.85 176 P **P** **07 16 33.7 +2.3**
ENH Enshi 87.91 304 P **P** **07 16 32.1 -0.4**
ENH IAmb IAmb 07 16 33.5
comp=Z,27nm,1.1s
WRH Wood River Hil 88.28 12 P **P** **07 16 33.0 -0.4**
WRH IAmb IAmb 07 17 24.7
comp=Z,16nm,1.1s
MLY Manley 88.31 11 P **P** **07 16 32.6 -1.0**
DOT Dot Lake 88.38 14 P **P** **07 16 34.0 +0.1**
L27K Beaver Creek, 88.39 15 P **P** **07 16 34.3 +0.4**
BCAR Beaver Creek A 88.40 15 P **P** **07 16 34.2 +0.2**
PDAR Pinedale Array 88.44 43 P **P** **07 16 35.9 +0.9**
comp=Z,0.3nm,0.5s,baz=227,slow=3.3,SNR=5.3
PDAR Pinedale Array 88.44 43 P **P** **07 16 34.8 -0.2**
HDA Harding Lake 88.45 12 P **P** **07 16 33.7 -0.4**
CCB Clear Creek Bu 88.49 12 P **P** **07 16 33.0 -1.3**
CCB IAmb IAmb 07 17 27.1
comp=Z,9.8nm,1.2s
I23K Minto, Yukon-K 88.66 11 P **P** **07 16 35.2 +0.1**
I23K IAmb IAmb 07 17 29.5
comp=Z,28nm,2.0s
SCRK Sand Creek 88.68 14 P **P** **07 16 35.1 -0.3**
TCOL CIGO, UAF Yank 88.69 12 P **P** **07 16 34.3 -0.9**
TCOL IAmb IAmb 07 17 28.8
comp=Z,31nm,1.6s
MDM Murphy Dome 88.70 12 P **P** **07 16 34.8 -0.5**
MDM IAmb IAmb 07 17 26.5
comp=Z,13nm,1.3s
IL31 88.78 12 P **P** **07 16 34.4 -1.3**
ILAR Eielson Array 88.78 12 P **P** **07 16 34.9 -0.8**
comp=Z,6.7nm,1.2s,baz=228,slow=5.2,SNR=13
ILAR Eielson Array 88.78 12 P **P** **07 16 34.8 -0.9**
MSTX Muleshoe 88.88 53 P **P** **07 16 36.9 -0.1**
MSTX IAmb IAmb 07 17 33.9
comp=Z,22nm,1.6s
POKR Poker Plat Res 88.99 12 P **P** **07 16 35.9 -0.8**
POKR IAmb IAmb 07 17 30.5
comp=Z,14nm,1.4s
K27K Chicken 89.16 14 P **P** **07 16 38.2 +0.7**
K27K IAmb IAmb 07 17 30.1
comp=Z,12nm,1.4s
PRP Porcupine Dome 89.72 12 P **P** **07 16 39.5 -0.7**
PRP IAmb IAmb 07 17 33.4
comp=Z,19nm,1.8s
DAWY Dawson 89.83 15 P **P** **07 16 40.8 +0.1**
DAWY IAmb IAmb 07 16 42.1
comp=Z,6.9nm,0.8s
XAN Xi'an 89.99 307 ‖P **P** **07 16 41.9 -0.2**
XAN pP pP 07 17 25.1 -5.8
XAN sP sP 07 17 46.2 -5.3
XAN pmax pmax
comp=Z,22nm,1.1s
XAN Xi'an 89.99 307 P **P** **07 16 42.4 +0.3**
EGAK Eagle 90.01 14 P **P** **07 16 41.7 +0.3**
EGAK IAmb IAmb 07 16 42.6
comp=Z,5.5nm,0.8s
PHIT Phitsanulok 90.21 288 P **P** **07 16 46.0 +2.6**
PHIT Phitsanulok 90.21 288 P **P** **07 16 46.0 +2.6**
HHC Hu-ho-hao-te 91.15 314 *e*P **P** **07 16 51.0 +3.6**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.3s
LAMP Lampang 91.40 289 P **P** **07 16 51.4 +2.5**
comp=Z,1µmcomp=Z,22nm,1.1s
CM04 Chiang Mai Arr 91.93 289 P **P** **07 16 53.6 +2.2**
comp=Z,137nmcomp=Z,11nm,0.9s
CM04 Chiang Mai Arr 91.93 289 P **P** **07 16 53.0 +1.6**
CM09 Chiang Mai Arr 91.94 289 P **P** **07 16 54.5 +3.1**
comp=Z,9.2nm,0.9s
CM09 Chiang Mai Arr 91.94 289 P **P** **07 16 54.6 +3.1**
CM01 Chiang Mai Arr 91.95 289 P **P** **07 16 54.6 +3.1**
comp=Z,109nmcomp=Z,6.6nm,1.0s
CM01 Chiang Mai Arr 91.95 289 P **P** **07 16 54.6 +3.1**
CM05 Chiang Mai Arr 91.96 289 P **P** **07 16 53.6 +2.0**
comp=Z,97nmcomp=Z,8.3nm,1.0s
CM05 Chiang Mai Arr 91.96 289 P **P** **07 16 53.0 +1.4**
CM02 Chiang Mai Arr 91.97 289 P **P** **07 16 54.1 +2.5**
comp=Z,7.9nm,0.9s
CM02 Chiang Mai Arr 91.97 289 P **P** **07 16 54.1 +2.5**
CMAR Chiang Mai Arr 91.98 289 P **P** **07 16 51.9 +0.2**
comp=Z,6.1nm,1.0s,baz=115,slow=3.0,SNR=28
CMAR LR LR 07 58 20.6
comp=Z,31nm,18.5s,baz=189,slow=36
CM15 Chiang Mai Arr 92.00 289 P **P** **07 16 54.1 +2.4**
CM13 Chiang Mai Arr 92.00 289 P **P** **07 16 53.8 +2.1**
comp=Z,9.6nm,0.9s
CM13 Chiang Mai Arr 92.00 289 P **P** **07 16 53.9 +2.1**
CHTO Chiang Mai 92.11 289 P **P** **07 16 53.6 +1.4**
comp=Z,9.5nm,0.9s
CHTO Chiang Mai 92.11 289 P **P** **07 16 52.0 -0.2**
CHTO IAmb IAmb 07 16 53.9
comp=Z,11nm,1.1s
EPYK Eagle Plains 92.37 15 P **P** **07 16 52.1 -0.2**
EPYK IAmb IAmb 07 17 45.3
comp=Z,28nm,1.6s
LCO Las Campanas 92.50 122 P **P** **07 16 57.6 +3.4**
LZH Lanzhou 94.62 307 ⇑P **P** **07 17 03.3 -0.3**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,100nm,4.8s
INK Inuvik 94.66 15 P **P** **07 17 02.7 -0.1**
INK IAmb IAmb 07 17 54.5
comp=Z,7.5nm,1.4s
ZALV Zalesovo Beam 112.21 321 PKiKP **PKiKP** **07 22 15.7 -0.9**
comp=Z,7.3nm,0.6s,baz=153,slow=0.7,SNR=25
MKAR Makanchi Array 113.01 313 Pdiff **Pdif** **07 18 26.2 +1.0**
comp=Z,0.2nm,0.7s,baz=115,slow=2.4,SNR=1.9
MKAR PKiKP **PKiKP** **07 22 17.8 -0.7**
comp=Z,6.9nm,0.6s,baz=153,slow=0.2,SNR=106
MKAR Makanchi Array 113.01 313 PKiKP **PKiKP** **07 22 17.6 -0.8**
KURK Kurchatov 115.76 317 **PKPdf** **07 22 22.9 -0.6**
KURBB Kurchatov Arra 115.81 317 PKP **PKPdf** **07 22 22.9 -0.7**
comp=Z,11nm,0.6s,baz=97,slow=1.8,SNR=129
ULHL Ulahol 116.83 308 P **PKiKP** **07 22 26.3 +0.1**
SNR=7.3
TKM2 Tokmak 2 117.36 308 P **PKPdf** **07 22 26.6 -0.5**
SNR=13
CHMS Chumysh 117.98 308 P **PKiKP** **07 22 28.1 0.0**
SNR=6.1
AAK Ala-Archa 118.15 308 PKP **PKPdf** **07 22 28.1 -0.5**
comp=Z,2.9nm,0.5s,baz=161,slow=4.4,SNR=4.8
AAK Ala-Archa 118.15 308 **PKPdf** **07 22 28.2 -0.4**
USP Ospenovka 118.18 309 P **PKiKP** **07 22 28.2 -0.3**
SNR=11
EKS2 Erkin-Say 118.68 308 P **PKiKP** **07 22 29.7 +0.1**
SNR=6.4
AML Almayashu 118.70 307 P **PKiKP** **07 22 29.8 -0.2**
SNR=9.1
BVAR Borovoye Array 120.81 320 PKP **PKPdf** **07 22 32.2 -1.0**
comp=Z,20nm,0.8s,baz=206,slow=9.5,SNR=57
DY2G Dye2 124.88 22 *i* P **PKiKP** **07 22 41.4 +0.1**
DY2G IAmb IAmb 07 22 41.5
comp=Z,9.7nm,0.9s
BOSA Boshof 126.18 203 PKP **PKiKP** **07 22 46.0 +1.1**
comp=Z,2.5nm,0.8s,baz=82,slow=4.8
ARU Arti 126.86 325 PKP **PKiKP** **07 22 45.1 0.0**
comp=Z,6.7nm,0.4s,baz=67,slow=0.9,SNR=35
ARU Arti 126.86 325 PKPdf **PKiKP** **07 22 44.9 -0.3**
AKTO Aktyubinsk 128.82 318 PKP **PKPdf** **07 22 48.6 0.0**
comp=Z,11nm,0.7s,baz=83,slow=3.9,SNR=38
WSAR Wadi Sarin 129.49 283 PKP **PKiKP** **07 22 51.3 -0.1**
comp=Z,9.6nm,1.0s,baz=145,slow=3.2,SNR=2.7
ARCES ARCESS Array B 130.05 350 PKP **PKPdf** **07 22 50.0 -0.3**
comp=Z,1.7nm,0.5s,baz=34,slow=0.9,SNR=18
ARCES SKPbc **SKPab** **07 25 57.0 +2.8**
comp=Z,3.3nm,0.7s,baz=14,slow=4.0,SNR=5.5
KIRV Kirov 130.53 330 PKP **PKiKP** **07 22 52.4 0.0**
comp=Z,24nm,0.6s,baz=156,slow=2.7,SNR=9.6
GEYT Alibeck 130.66 302 PKP **PKiKP** **07 22 52.8 -0.6**
comp=Z,120nm,1.2s,baz=31,slow=10,SNR=16
GEYT SKPbc **SKPab** **07 25 58.6 +0.7**
comp=Z,3.0nm,0.7s,baz=41,slow=6.8,SNR=5.4
KLMR Klimovskoe 133.33 337 *e*PKPdf **PKPdf** **07 22 56.3 -0.5**
KLMR AMP 07 22 57.8
comp=Z,13nm,1.0s
KLMR *e*SKPbc **SKPbc** **07 26 06.1 -0.1**
BELG Belogornoye 134.28 324 PKP **PKiKP** **07 22 59.4 -0.8**
comp=Z,47nm,0.8s,baz=86,slow=3.4,SNR=6.7
FINES FINESS Array B 137.05 344 PKhKP PKPpre 07 22 51.5
comp=Z,0.7nm,0.5s,baz=64,slow=4.4,SNR=6.6
FINES PKP **PKiKP** **07 23 04.3 -1.2**
comp=Z,2.7nm,0.6s,baz=35,slow=5.1,SNR=9.9
FINES SKP 07 26 20.5
comp=Z,4.6nm,0.7s,baz=90,slow=5.6,SNR=10.0
MTSE Matsula 139.99 344 *e*P **PKPdf** **07 23 02.6 -6.5**
NB2 NORSAR Subarra 140.01 354 PKP PKPpre 07 23 00.9
comp=Z,4.1nm,0.8s,baz=21,slow=4.0
NOA NORSAR Array B 140.01 354 PKhKP PKPpre 07 23 01.2
comp=Z,2.6nm,0.8s,baz=21,slow=2.5,SNR=10.0
NOA SKPbc **SKiKP** **07 26 28.4 -0.5**
comp=Z,4.9nm,0.9s,baz=14,slow=4.4,SNR=13
UPP Uppsala 140.30 349 *e*P **PKPdf** **07 23 04.0 -5.7**
KMBO Kilima Mbogo 140.40 240 PKhKP PKPpre 07 23 05.0
comp=Z,3.4nm,0.6s,baz=73,slow=5.8,SNR=8.3
GNI Garni 140.55 308 PKP **PKPdf** **07 23 12.0 +0.9**
comp=Z,3.9nm,0.4s,baz=45,slow=13,SNR=2.3
KBZ Khabaz 140.70 314 PKP **PKPdf** **07 23 09.6 -1.3**
comp=Z,3.5nm,0.8s,baz=166,slow=4.2,SNR=1.7
AKH Akhalkalaki 141.09 310 ⇑P **PKPdf** **07 23 12.9 +0.9**
IDID Didziasalis 141.98 339 *e*P **PKPdf** **07 23 09.6 -3.2**
STRU Stroemstad 141.99 354 *e*P **PKPdf** **07 23 08.5 -4.3**
IIGN Ignalina 142.12 339 *e*P **PKPdf** **07 23 10.5 -2.6**
MNK Minsk 142.23 337 *i* PKP **PKPdf** **07 23 09.9 -3.4**
comp=E,2.0nm,1.0s
MNK *i* PKP **PKPdf** **07 23 09.9 -3.4**
comp=N,7.0nm,1.0s
MNK *i* PKP **PKPdf** **07 23 09.9 -3.4**
comp=Z,25nm,1.0s,baz=218
MNK *i* pPKP **pPKPdf** **07 24 01.8 -2.7**
MNK *i* sPKP 07 24 22.4
MNK *i* PP **PP** **07 26 18.1 -3.4**
MNK *i* SKP 07 26 25.1
MNK *i* PKS PKSdf 07 27 02.9 +14
MNK *i* PPP PPP 07 29 26.9
MNK *i* SKS **SKSdf** **07 30 00.4 -3.5**
MNK *i* SKKS SKKPbc 07 35 14.2 +22
MNK *i* SPP SPP 07 42 14.5
MNK *i* PPS PPS 07 42 38.8
MNK *i* SS SS 07 44 13.9 -25
MNK *i* SSS SSS 07 48 56.6
MNK *i* LRM MLR 08 28 28.9
comp=Z,130nm,20.6s
MNK *i* LRM MLR 08 31 30.4
comp=N,295nm,21.0s
MNK *i* LRM MLR 08 36 26.8
comp=E,14nm,20.7s
PABE Paberze 142.71 341 *e*P **PKPdf** **07 23 11.1 -3.0**
TJOU Tjoern 142.93 353 *i* P **PKPdf** **07 23 10.4 -4.0**
ONAU Onsala 143.51 353 *e*P PKPab 07 23 12.0 -0.3
BLEU Blekinge 143.98 349 *i* P PKPab 07 23 13.4 -0.7
GOET G??ttrup 144.14 355 *i* P **PKPdf** **07 23 15.8 -0.8**
DEL Delary 144.15 350 *i* P PKPbc 07 23 14.7 -0.6
SUW Suwalki 144.22 340 *e*PKP PKPbc 07 23 15.4 -0.1
SUW Suwalki 144.22 340 *e*P PKPbc 07 23 15.6 +0.1
AKASG Malin Array Be 144.56 332 PKP **PKPab** **07 23 15.4 -1.2**
comp=E,8.8nm,0.8s,baz=44,slow=4.7,SNR=52
AKASG SKPbc **SKiKP** **07 26 39.9 +1.4**
comp=E,4.3nm,0.9s,baz=42,slow=2.7,SNR=6.3
AKASG Malin Array Be 144.56 332 **PKPab** **07 23 15.9 -0.7**
BJUU Bjuv 144.66 351 *i* P PKPbc 07 23 16.4 -0.4
MUD Monsted U'grnd 144.72 355 *i* P **PKPdf** **07 23 16.9 -0.6**
MUD *i* P PKPbc 07 23 17.2 +0.2
LUNU Lund 145.02 350 *i* P **PKPab** **07 23 17.6 -0.5**
COP Copenhagen 145.12 351 *i* P **PKPdf** **07 23 18.0 -0.3**
COP *i* P **PKPab** **07 23 18.1 -0.4**
BSD Bornholm Skovb 145.27 349 *e*P **PKPbc** **07 23 18.5 -0.3**
BSD Bornholm Skovb 145.27 349 *i* P **PKPbc** **07 23 18.4 -0.3**
BSD *i* P **PKPbc** **07 23 18.4 -0.3**
URFA Urfa 145.77 306 *e*P **PKPab** **07 23 21.4 -0.3**
RSDY Resadiye-TOKAT 145.81 311 *e*P **PKPab** **07 23 21.6 -0.1**
DARE Darende-Malaty 146.39 308 *e*P **PKPab** **07 23 23.6 -0.5**
GKP Gorka Klasztor 146.51 345 *e*PKP **PKPbc** **07 23 22.7 +0.1**
GKP Gorka Klasztor 146.51 345 *e*P **PKPab** **07 23 23.3 -0.6**
SORM Soroca 146.80 329 ⇑P **PKPbc** **07 23 23.4 -0.1**
BEL Belsk 146.83 341 *e*PKP **PKPab** **07 23 24.2 -1.0**
LNIZ Loecknitz 146.94 349 *e*PKPbc **PKPab** **07 23 24.4 -1.2**
baz=12,slow=2.5
BNN Bunyan 147.47 310 *e*P **PKPbc** **07 23 26.0 +0.1**
CORM Corum 147.77 313 *e*P **PKiKP** **07 23 27.7 -0.7**

RUE	Ruedersdorf	147.99	348	*e*PKPbc	PKiKP	07 23 27.1	-1.1
	baz=12,slow=2.5						
KWP	Kalwaria Pacla	148.04	337	*e*PKP	PKiKP	07 23 27.4	-1.2
VASR	Vaslui	148.12	328	⇑P	PKPbc	07 23 27.5	+0.3
CANT	Cankiri	148.26	314	*e*P	PKiKP	07 23 28.4	-1.0
PRAR	RASCA	148.35	330	⇑P	PKPbc	07 23 27.9	+0.2
NRDL	Niedersach Rie	148.54	353	*e*PKPbc	PKiKP	07 23 28.3	-1.1
	baz=12,slow=2.5						
FLTG	Flechtingen	148.55	351	*e*PKPbc	PKPbc	07 23 28.2	+0.1
	baz=12,slow=2.5						
FLTG				*e*PKPab	PKPab	07 23 31.9	-0.2
	baz=12,slow=2.5						
TLCR		148.58	325	⇑P	PKiKP	07 23 28.7	-1.0
VARL	Varlezi	148.60	327	⇑P	PKiKP	07 23 29.0	-0.8
BURAR	Bucovina Array	148.62	332	⇑P	PKiKP	07 23 29.6	-0.3
BRTR	Keskin Array B	148.66	312	PKPbc	PKPbc	07 23 28.6	-0.3
	comp=E,15nm,0.8s,baz=130,slow=1.9,SNR=37						
GHRR		148.72	328	⇑P	PKiKP	07 23 29.7	-0.3
STHS	Stebnicka Huta	148.75	338	*e*PKP	PKPbc	07 23 29.0	+0.3
TESR	Tescani	148.77	329	⇑P	PKPbc	07 23 28.4	-0.5
KOLS	Kolonicke sedl	148.78	336	*e*PKP	PKiKP	07 23 29.9	-0.2
CFR	Carcaliu	148.94	326	⇑P	PKPbc	07 23 29.3	+0.1
IBBN	Ibbenburen	148.95	355	*e*PKPbc	PKiKP	07 23 29.8	-0.4
	baz=12,slow=2.5						
IBBN				*e*PKPab	PKPab	07 23 33.9	+0.2
	baz=12,slow=2.5						
KSP	Ksiaz	148.98	345	*e*PKP	PKiKP	07 23 30.1	-0.3
TPGR	Topolog	149.00	325	⇑P	PKiKP	07 23 30.2	-0.5
ODBI	Odobesti	149.10	327	⇑P	PKiKP	07 23 31.1	+0.3
CRVS	Cervenica-Dubn	149.11	337	*e*PKP	PKiKP	07 23 30.4	-0.4
CLZ	Clausthal	149.14	352	*e*PKPbc	PKiKP	07 23 30.0	-0.8
	baz=12,slow=2.5						
CLZ				*e*PKPab	PKPab	07 23 34.5	-0.1
	baz=12,slow=2.5						
LOD	Lodumlu	149.18	313	*e*P	PKiKP	07 23 30.5	-0.8
VRI	Vrincioaia	149.19	328	⇑P	PKiKP	07 23 30.3	-0.7
MERS	Mersin	149.19	307	*e*P	PKPbc	07 23 30.2	-0.1
PLOR	Plostina	149.24	328	⇑P	PKiKP	07 23 30.4	-0.8
CLL	Collm	149.25	349	*e*PKPdf	PKPdf	07 23 26.0	+0.6
CLL				⇓*i*PKPbc	PKiKP	07 23 30.3	-0.6
	comp=Z,53nm,0.9s						
CLL				⇑*i*PKPab	PKPab	07 23 34.5	-0.5
	comp=Z,26nm,0.7s						
CLL				*e*pPKPab	pPKPab	07 24 24.0	-0.3
OSTC	Ostas	149.26	344	⇑*e*PKP	PKiKP	07 23 30.9	-0.1
TIRR	Tirgusor	149.27	324	⇑P	PKPbc	07 23 30.2	+0.1
CHVC	Chvalec	149.27	345	⇑*e*PKP	PKiKP	07 23 31.8	+0.7
BMR	Baia Mare	149.31	333	⇑P	PKiKP	07 23 30.8	-0.4
TRPA	Tarpa	149.34	335	⇑P	PKiKP	07 23 30.9	-0.3
UPC	Upice	149.36	345	⇑*e*PKP	PKiKP	07 23 30.9	-0.3
HARR	Harsova	149.38	325	⇑P	PKPbc	07 23 30.5	+0.1
OKC	Ostrava-Krasne	149.39	342	⇑*e*PKP	PKiKP	07 23 31.0	-0.3
ARCR	ARCALIA	149.40	332	⇑P	PKiKP	07 23 30.6	-0.8
KULU	Kulu	149.40	312	*e*P	PKiKP	07 23 31.3	-0.5
TLBR	Topalu	149.41	325	⇑P	PKiKP	07 23 31.2	-0.2
DPC	Dobruska-Polom	149.43	344	⇑*e*PKP	PKiKP	07 23 31.1	-0.3
MFTR	Murfatlar	149.44	324	⇑P	PKiKP	07 23 30.7	-0.8
BRG	Berggiesshubel	149.48	347	Amp		07 24 08.3	
	comp=Z,7.3nm,1.3s						
BRG				P	pPKPdf	07 24 06.2	-11
BRG	Berggiesshubel	149.48	347	Amp		07 24 29.3	
	comp=Z,5.1nm,0.9s						
BRG				P	pPKPab	07 24 27.7	+2.4
BRG	Berggiesshubel	149.48	347	*e*PKPbc	PKiKP	07 23 31.2	-0.2
	baz=12,slow=2.5						
OZUR		149.48	329	⇑P	PKiKP	07 23 31.2	-0.5
GTTG	Gottingen	149.49	352	*e*PKPbc	PKiKP	07 23 31.3	-0.2
	baz=12,slow=2.5						
GTTG				*e*PKPab	PKPab	07 23 36.0	+0.1
	baz=12,slow=2.5						
FBE	Freiberg	149.56	348	*e*PKPbc	PKiKP	07 23 31.7	+0.1
	baz=12,slow=2.5						
FBE				*e*PKPab	PKPab	07 23 36.3	+0.1
	baz=12,slow=2.5						
KRLC	Kraliky	149.56	343	⇑*e*PKP	PKiKP	07 23 31.4	-0.3
NEUB	Neuenburg	149.56	350	*e*PKPbc	PKiKP	07 23 31.4	-0.2
	baz=12,slow=2.5						
LANS	Liptovska Anna	149.58	339	*e*PKP	PKiKP	07 23 32.5	+0.7
MORC	Moravsky Berou	149.62	342	⇑P	PKiKP	07 23 31.6	-0.3
MORC	Moravsky Berou	149.62	342	*e*PKP	PKiKP	07 23 31.4	-0.4
CHBY	Cihanbeyli	149.69	311	*e*P	PKiKP	07 23 31.7	-0.7
NEHR	Nehoiu	149.72	328	⇑P	PKiKP	07 23 31.7	-0.5
DOPR	Dopca	149.77	329	⇑P	PKiKP	07 23 32.0	-0.2
KECS	Kecovo	149.81	338	*e*PKP	PKiKP	07 23 32.6	+0.4
MLR	Muntele Rosu	149.84	328	⇑P	PKiKP	07 23 31.9	-0.6
BUG	Bochum--Univer	149.85	356	*e*PKPbc	PKiKP	07 23 32.0	-0.1
	baz=12,slow=2.5						
BUG				*e*PKPab	PKPab	07 23 37.4	0.0
	baz=12,slow=2.5						
EREN	Erenkoy	149.93	305	*e*P	PKiKP	07 23 32.4	-0.4
MDUB	Mudurnu	149.93	316	*e*P	PKiKP	07 23 32.3	-0.6
MESR	Meseseni	149.95	333	⇑P	PKiKP	07 23 32.7	+0.1
KASTN	Kahler Asten	149.99	354	*e*PKPbc	PKiKP	07 23 32.3	-0.3
	baz=12,slow=2.5						
CJR	Cluj-Napoca	150.02	332	⇑P	PKiKP	07 23 32.6	-0.1
IKL	Isikli	150.05	306	*e*P	PKPbc	07 23 32.3	0.0
SECR		150.11	327	⇑P	PKiKP	07 23 32.4	-0.5
MOX	Moxa	150.13	350	*e*PKPbc	PKiKP	07 23 32.6	-0.2
	baz=12,slow=2.5						
MOX				*e*PKPab	PKPab	07 23 38.1	-0.5
	baz=12,slow=2.5						
PRA	Prague	150.14	346	⇑*e*PKP	PKiKP	07 23 33.0	+0.2
TEVE	Tevekalti-Mers	150.16	307	*e*P	PKiKP	07 23 32.8	-0.6
PRU	Pruhonice	150.19	346	⇑*e*PKP	PKiKP	07 23 32.8	-0.1
UBBA	Unterbreizbach	150.19	352	*e*PKPbc	PKiKP	07 23 32.7	0.0
	baz=12,slow=2.5						
WERD	Werda	150.20	349	*e*PKPbc	PKiKP	07 23 33.3	+0.3
	baz=12,slow=2.5						
WERD				*e*PKPab	PKPab	07 23 39.0	0.0
	baz=12,slow=2.5						
LADK	Ladik-KONYA	150.22	311	*e*P	PKPbc	07 23 32.3	-0.5
SVRH	Sivrihisar-ESK	150.23	313	*e*P	PKPbc	07 23 32.6	-0.2
KIZT	Kizilcal	150.25	312	*e*P	PKPbc	07 23 32.9	0.0
GUNZ	Gunzen	150.28	349	*e*PKPbc	PKiKP	07 23 33.3	+0.2
	baz=12,slow=2.5						
VRAC	Vranov	150.31	343	⇑P	PKiKP	07 23 33.6	+0.4
VRAC	Vranov	150.31	343	*e*PKP	PKiKP	07 23 33.1	-0.1
VOIR		150.32	329	⇑P	PKiKP	07 23 32.8	-0.7
DRGR		150.34	333	⇑P	PKiKP	07 23 32.8	-0.6
KONT	Konya--Tatoy	150.34	310	*e*P	PKPbc	07 23 32.7	-0.3
WERN	Wernitzgruen	150.34	349	*e*PKPbc	PKiKP	07 23 33.4	+0.1
	baz=12,slow=2.5						
WERN				*e*PKPab	PKPab	07 23 39.8	+0.2
	baz=12,slow=2.5						
BERE	Bereket-Mersin	150.36	307	*e*P	PKiKP	07 23 33.3	-0.6
VYHS	Vyhne	150.36	340	*e*PKP	PKiKP	07 23 33.5	+0.1
NKC	Novy Kostel	150.38	349	⇑*e*PKP	PKiKP	07 23 33.4	0.0
NKC				*e*PKPAB	PKPab	07 23 39.5	-0.2
GULT	Gulveren	150.40	316	*e*P	PKiKP	07 23 33.2	-0.6
JAVC	Velka Javorina	150.40	341	*e*PKP	PKiKP	07 23 34.4	+0.9
PSZ	Piszkesteto	150.50	338	⇑P	PKiKP	07 23 33.7	0.0
LFK	Lefkose	150.51	304	*e*P	PKiKP	07 23 33.6	-0.5
TEKE	Tekeli-Mersin	150.51	306	*e*P	PKPbc	07 23 33.1	-0.3
SRCK	Saricakaya, Es	150.53	315	*e*P	PKPbc	07 23 33.3	0.0
CIFT	Cifteler, Eski	150.58	314	*e*P	PKiKP	07 23 34.0	-0.2
KRUC	Moravsky	150.58	343	*e*PKP	PKiKP	07 23 33.6	-0.2
PBCC	Pribram	150.59	346	⇑*e*PKP	PKiKP	07 23 33.5	-0.3
PBCC				*e*PKPAB	PKPab	07 23 40.3	-0.3
TREC	Trest	150.61	344	⇑*e*PKP	PKiKP	07 23 34.0	+0.1
MANZ	Manzenberg	150.68	349	*e*PKPbc	PKiKP	07 23 34.5	+0.5
	baz=12,slow=2.5						
HRT	Hereke	150.73	317	*e*P	PKiKP	07 23 34.1	-0.3
MEM	Membach	150.75	357	*d*PKPbc	PKiKP	07 23 33.7	-0.3
MEM				*d*PKPab	PKPab	07 23 40.9	-0.3
AHRW	Bad Neuenahr-A	150.76	356	*e*PKPbc	PKiKP	07 23 34.8	+0.7
	baz=12,slow=2.5						
AHRW				*e*PKPab	PKPab	07 23 41.2	0.0
	baz=12,slow=2.5						
BTNL	Ternell	150.77	357	*d*PKPbc	PKiKP	07 23 33.9	-0.2
SMOL	Smolenice	150.78	341	*e*PKP	PKiKP	07 23 35.2	+1.0
BSTI	Sart Tilman	150.80	358	*d*PKPbc	PKiKP	07 23 34.2	0.0
BSTI				*d*PKPab	PKPab	07 23 40.4	-1.0
ROTZ	Rotzenmuhle	150.88	349	*e*PKPbc	PKiKP	07 23 34.8	+0.4
	baz=12,slow=2.5						
ADVT	Abdulvahap	150.90	317	*e*P	PKiKP	07 23 34.3	-0.4
SNF	Seneffe	150.90	359	*d*PKPbc	PKiKP	07 23 34.3	-0.1
SNF				*d*PKPab	PKPab	07 23 41.2	-0.6
MODS	Modra-Piesok	150.95	341	*e*PKP	PKiKP	07 23 36.5	+1.9
TNS	Taunus Mts	150.96	354	*e*PKPbc	PKiKP	07 23 35.0	+0.4
	baz=12,slow=2.5						
TNS				*e*PKPab	PKPab	07 23 42.2	0.0
	baz=12,slow=2.5						
DEV	Deva	150.97	332	⇑P	PKiKP	07 23 34.1	-0.6
BCLA	Clavier	150.97	358	*d*PKPab	PKPab	07 23 41.2	-0.9
BHOU	Houvegnez	151.01	357	*d*PKP	PKiKP	07 23 34.7	+0.1
BHOU				*d*PKPab	PKPab	07 23 42.3	0.0
HUMR	Humele	151.01	328	⇑P	PKiKP	07 23 34.3	-0.5
BGES	Gesves	151.01	358	*d*PKPab	PKPab	07 23 41.8	-0.5
LEF	Lefka	151.06	305	⇑P	PKPbc	07 23 34.6	-0.1
LEF	Lefka	151.06	305	*e*P	PKiKP	07 23 34.7	-0.5
BMRD	Maredsous	151.10	359	*d*PKPbc	PKiKP	07 23 34.8	0.0
BMRD				*d*PKPab	PKPab	07 23 42.3	-0.4
GRF	Grafenberg Arr	151.12	350	*e*PKPbc	PKiKP	07 23 35.5	+0.6
	baz=12,slow=2.5						
GRF				*e*PKPab	PKPab	07 23 42.9	+0.1
	baz=12,slow=2.5						
ZST	Bratislava	151.16	341	*e*PKP	PKiKP	07 23 36.0	+1.0
BUD	Budapest	151.18	338	*e*PKP	PKiKP	07 23 36.0	+1.0
SIRR	Siria	151.19	334	⇑P	PKiKP	07 23 35.6	+0.5
KHC	Kasperske Hory	151.21	347	*e*PKPDF	PKPdf	07 23 29.4	+0.8
KHC				⇑*e*PKP	PKiKP	07 23 35.1	0.0
KHC				*e*PKPAB	PKPab	07 23 43.5	+0.3
KHC				*e*pPKP	pPKPab	07 24 30.5	-2.0
MILB	Miltenberg	151.25	353	*e*PKPbc	PKiKP	07 23 35.7	+0.5
	baz=12,slow=2.5						
MILB				*e*PKPab	PKPab	07 23 43.6	+0.3
	baz=12,slow=2.5						
DOU	Dourbes	151.31	359	*d*PKP	PKiKP	07 23 35.3	+0.1
SHUT	Suhut-Afyon	151.32	313	*e*P	PKiKP	07 23 35.8	0.0
CKRC	Cesky Krumlov	151.34	345	⇑*e*PKP	PKiKP	07 23 36.5	+1.1
CKRC				*ex*	x	07 24 31.8	
WET	Wettzell	151.34	348	*e*PKPbc	PKiKP	07 23 36.0	+0.7
	baz=12,slow=2.5						
ARMT	Armutlu	151.38	318	*e*P	PKiKP	07 23 35.2	-0.5
GZR	Gura Zlata	151.40	331	⇑P	PKPbc	07 23 35.1	-0.2
ZIMR		151.43	326	⇑P	PKiKP	07 23 35.6	-0.1
GEC2	GERESS Array S	151.45	346	*e*PKPbc	PKiKP	07 23 36.2	+0.5
	baz=12,slow=2.5						
GERES	GERESS Array B	151.45	346	PKP	PKPdf	07 23 29.1	+0.1
	comp=Z,0.9nm,0.8s,baz=0.0,slow=2.0,SNR=7.5						
GERES				PKPbc	PKiKP	07 23 35.4	-0.3
	comp=Z,11nm,1.0s,baz=45,slow=1.9,SNR=48						
TVSB	Tavsanli	151.60	315	*e*P	PKiKP	07 23 36.4	+0.1
WLF	Walferdange	151.69	357	*d*PKPbc	PKiKP	07 23 36.7	+0.6
WLF	Walferdange	151.69	357	*e*PKPbc	PKiKP	07 23 37.0	+1.0
	baz=12,slow=2.5						
BZS	Buzias	151.73	333	⇑P	PKiKP	07 23 35.9	-0.4
CONA	Conrad Observa	151.76	343	*i* P	PKiKP	07 23 36.6	+0.2
	comp=Z,16nm,0.8s,SNR=16						
CONA				*e*P	PKPab	07 23 46.2	+0.5
	comp=Z,13nm,0.9s						
SRE	Strehaia	151.77	330	⇓P	PKiKP	07 23 36.8	+0.5
SOP	Sopron	151.79	342	*e*PKP	PKiKP	07 23 36.8	+0.5
EGYH	Egyhazaskeszo	151.79	340	*e*PKP	PKPbc	07 23 33.3	-2.7
BCK	Bucak	151.81	311	*e*P	PKPbc	07 23 36.1	-0.4
KCTX	Karacabey (Bur	151.87	318	*e*P	PKiKP	07 23 36.4	-0.3
MPLH	Magyarpolny	151.94	340	*e*PKP	PKiKP	07 23 36.7	+0.1
HERR	Herculane	151.96	331	⇑P	PKiKP	07 23 36.3	-0.4
MOA	Molln	152.25	345	*i* P	PKiKP	07 23 37.5	+0.1
	comp=Z,13nm,1.6s,SNR=6.3						
MOA				*e*P	PKPab	07 23 47.4	-0.2
	comp=Z,10nm,1.0s						
STU	Stuttgart	152.31	352	*e*PKPbc	PKiKP	07 23 37.8	+0.4
	baz=12,slow=2.5						
MDVR	Moldovita	152.35	332	⇑P	PKiKP	07 23 37.4	-0.2
MORH	Mrgy, Hungar	152.40	337	⇑P	PKiKP	07 23 37.8	+0.2
ARSA	Arzberg	152.48	343	*e*P	PKiKP	07 23 37.8	0.0
	comp=Z,5.7nm,1.2s						
ARSA				*e*P	PKPab	07 23 48.2	-0.4
	comp=Z,6.9nm,1.4s						
BALB	Balikesir	152.52	317	*e*P	PKiKP	07 23 37.8	-0.3
FUR	Furstenfeldbru	152.58	349	*e*PKPbc	PKiKP	07 23 38.5	+0.5
	baz=12,slow=2.5						
FUR				*e*PKPab	PKPab	07 23 48.8	-0.2
	baz=12,slow=2.5						
KULA	Kula-Manisa	152.62	314	*e*P	PKiKP	07 23 38.6	+0.2
RJOB	Jochberg	152.70	347	*e*PKPab	PKPab	07 23 50.0	+0.5
	baz=12,slow=2.5						
KOVH	Kovagotottos	152.70	338	*e*PKP	PKiKP	07 23 38.2	0.0
FRGS	Fruska Gora	152.85	335	⇑P	PKiKP	07 23 38.5	-0.1
GELI	Tayfur-Gelibol	152.95	320	*e*P	PKiKP	07 23 38.6	-0.3
SOKA	Soboth	153.14	343	*i* P	PKiKP	07 23 39.1	-0.2
	comp=Z,11nm,1.1s,SNR=6.9						
SOKA				*e*P	PKPab	07 23 51.4	0.0
	comp=Z,14nm,1.3s						
KBA	Koelnbreinsper	153.20	345	*e*P	PKiKP	07 23 39.1	-0.4
	comp=Z,10nm,1.9s						
KBA				*e*P	PKPab	07 23 52.1	+0.3
	comp=Z,9.1nm,0.7s						
FETY	Fethiye	153.26	310	*e*P	PKiKP	07 23 39.8	+0.1
VTS	Vitosha	153.27	327	⇑P	PKiKP	07 23 39.6	-0.1
WATA	Walderalm	153.33	348	*e*P	PKiKP	07 23 39.7	0.0
	comp=Z,3.4nm,0.5s						
WATA				*e*P	PKPab	07 23 51.6	-0.7
	comp=Z,8.9nm,0.9s						
RETA	Reutte	153.33	349	*e*P	PKiKP	07 23 39.5	-0.1
	comp=Z,1.2nm,0.5s						
RETA				*e*P	PKPab	07 23 51.8	-0.4
	comp=Z,11nm,1.0s						
WTTA	Wattenberg	153.38	348	*e*P	PKiKP	07 23 39.8	0.0
	comp=Z,3.9nm,0.5s						
WTTA				*e*P	PKPab	07 23 52.4	-0.2
	comp=Z,12nm,0.7s						
EZN	Ezine	153.39	319	*e*P	PKiKP	07 23 39.7	-0.1
MOTA	Moosalm	153.41	349	*e*P	PKPdf	07 23 32.6	+0.5
	comp=Z,4.2nm,1.0s						
MOTA				*e*P	PKiKP	07 23 40.0	+0.1
	comp=Z,6.8nm,1.2s						
MOTA				*e*P	PKPab	07 23 52.0	-0.6
	comp=Z,12nm,0.8s						
OBKA	Obir	153.42	343	*e*P	PKiKP	07 23 39.8	-0.1
	comp=Z,5.0nm,1.2s						
OBKA				*e*P	PKPab	07 23 51.9	-0.8
	comp=Z,9.1nm,0.9s						
AYDB	Zeytinkoy-Aydi	153.44	314	*e*P	PKiKP	07 23 40.5	+0.3
SQTA	Sankt Quirin	153.51	349	*e*P	PKPdf	07 23 33.0	+0.9
	comp=Z,3.5nm,0.8s						
SQTA				*e*P	PKiKP	07 23 41.0	+0.9
	comp=Z,8.3nm,1.2s						
SQTA				*e*P	PKPab	07 23 52.6	-0.5
	comp=Z,3.6nm,0.6s						
MYKA	Terra Mystica	153.54	345	*e*P	PKPbc	07 23 39.3	-0.7
	comp=Z,5.7nm,1.0s						
MYKA				*e*P	PKPab	07 23 52.5	-0.6
	comp=Z,13nm,0.9s						
DAVA	Damuels	153.67	351	*e*P	PKPbc	07 23 39.0	-1.4
	comp=Z,7.9nm,1.2s						
DAVA				*e*P	PKPab	07 23 53.0	-0.8
	comp=Z,7.7nm,0.7s						
ABTA	Abfaltersbach	153.70	346	*e*P	PKPdf	07 23 32.3	-0.1
	comp=Z,5.8nm,0.9s						
ABTA				*e*P	PKiKP	07 23 40.8	+0.4
	comp=Z,1.3nm,0.4s						
ABTA				*e*P	PKPab	07 23 53.3	-0.5
	comp=Z,9.6nm,0.7s						
FETA	Feichten	153.79	349	*e*P	PKPdf	07 23 33.5	+0.9
	comp=Z,4.0nm,0.8s						
FETA				*e*P	PKiKP	07 23 41.9	+1.2
	comp=Z,5.2nm,1.0s						
FETA				*e*P	PKPab	07 23 54.3	0.0
	comp=Z,7.5nm,1.1s						
LJU	Ljubljana	153.86	343	*i* PKPdf	PKPdf	07 23 32.7	+0.2
LJU				*i* PKPbc	PKiKP	07 23 40.6	0.0
LJU				*i*		07 23 47.6	
CRNS	Crni Vrh	153.90	343	*e*PKPdf	PKPdf	07 23 32.4	-0.2
CRNS				*i* PKPbc	PKPbc	07 23 40.3	-0.4
CRNS				*i* PKPab	PKPab	07 23 53.5	-1.1
GBAS	Gorenja Brezov	153.98	343	*e*PKPbc	PKiKP	07 23 40.9	-0.1
BOJS	Bojanci	154.14	341	*e*PKPdf	PKPdf	07 23 33.2	+0.3
BOJS				*i* PKPbc	PKiKP	07 23 41.6	+0.4
STIP	Stip	154.47	327	*i* P	PKPbc	07 23 41.6	-0.4
VAY	Valandovo	154.54	326	*i* P	PKPbc	07 23 39.9	-2.3
SKO	Skopje	154.64	328	*i* P	PKiKP	07 23 42.6	+0.2
PDG	Podgorica	155.30	332	⇑P	PKPdf	07 23 43.9	+9.4
OHR	Ohrid	155.60	328	*i* P	PKPdf	07 23 44.8	+10
ESDC	Sonseca Array	160.57	18	PKP	PKPdf	07 23 41.8	+0.6
	comp=Z,1.3nm,1.0s,baz=334,slow=3.0,SNR=5.9						
ESDC				PKPab	PKPab	07 24 23.4	-0.2
	comp=Z,1.1nm,0.9s,baz=329,slow=2.3,SNR=6.3						
ESDC	Sonseca Array	160.57	18	PKPdf	PKPdf	07 23 41.0	-0.2
KEST	Kesra	164.88	342	PKP	PKPdf	07 23 46.6	+1.0
	comp=Z,2.7nm,0.8s,baz=305,slow=6.5,SNR=4.1						
KEST				PKPab	PKPab	07 24 42.2	-0.5
	comp=Z,7.0nm,1.0s,baz=46,slow=2.7,SNR=7.4						
TORD	Torodi Ar. Bea	171.59	166	PKP	PKPdf	07 23 50.5	0.0
	comp=Z,1.5nm,0.9s,baz=190,slow=0.1,SNR=6.5						
TORD				PKPab	PKPab	07 25 14.6	+2.0
	comp=Z,1.8nm,0.8s,baz=200,slow=3.4,SNR=6.1						
TORD	Torodi Ar. Bea	171.59	166		PKPdf	07 23 50.4	-0.1

IDC 12 07:26:54.1±1.2, 19°.83N×144°.91E, h0^{km}, mb3.7/4, mb1 4.0/4, mb1mx3.5/57, mbtmp3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/48 Error ellipse: s-maj=73.3km s-min=28.8km az=106.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	24.29	356	LR	LR	07 41 15.1	
	comp=Z,66nm,19.1s,baz=130,slow=35						
WRA	Warramunga Arr	40.87	195	P	P	07 34 36.9	-1.1
	0.5nm,0.6s,baz=12,slow=8.6,SNR=7.8						
ASAR	Alice Springs	44.55	194	P	P	07 35 09.2	+1.3
	0.2nm,0.7s,baz=13,slow=7.3,SNR=1.6						
NVAR	Mina Array Bea	83.03	52	P	P	07 39 21.5	-0.4
	0.6nm,0.7s,baz=261,slow=5.4,SNR=6.1						
FINES	FINESS Array B	85.55	335	P	P	07 39 34.5	+0.5
	2.1nm,1.0s,baz=74,slow=5.4,SNR=6.1						
FINES				LR	LR	08 21 40.7	
	comp=Z,32nm,18.4s,baz=172,slow=38						

NNC 12 07:30:42.9±0.4, 50°.01N×78°.71E, h0^{km}, mb3.9, mpv3.5, 16C-6D, Error ellipse: s-maj=5.3km s-min=2.1km az=74.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.59	348	⇓P	Pg	07 30 54.4	+0.3
KUR07				⇓S	Sb	07 31 03.4	-1.6
KUR06	Kurchatov Arra	0.60	348	⇑P	Pg	07 30 54.7	+0.2
KUR06				⇓S	Sg	07 31 03.7	+1.4
KUR14	Kurchatov Arra	0.61	353	⇑P	Pg	07 30 54.8	+0.3
KUR14				⇓S	Sg	07 31 03.6	+1.1
KUR15	Kurchatov Arra	0.62	351	⇓P	Pg	07 30 54.8	+0.1
KUR15				⇓S	Sb	07 31 04.7	-1.1
KURBB	Kurchatov Arra	0.62	349	⇑P	Pg	07 30 54.9	+0.1
	47nm,0.3s						
KURBB				⇑S	Sg	07 31 03.5	+0.6
	95nm,0.4s						
KUR16	Kurchatov Arra	0.63	348	⇑P	Pg	07 30 55.2	+0.2
KUR16				⇑S	Sg	07 31 04.4	+1.2
KUR17	Kurchatov Arra	0.64	346	⇑P	Pg	07 30 55.4	+0.2
KUR17				⇑S	Sg	07 31 04.5	+1.0
SEM	Semipalatinsk	1.06	67	S	Sg	07 31 17.8	+0.7
	109nm,0.3s						
MAKZ	Makanchi	3.87	145	⇑Pn	Pn	07 31 43.5	-0.2
	0.2nm,0.1s						
MAKZ				⇑Pg	Pb	07 31 50.3	-1.8
	2.7nm,0.5s						
MAKZ				⇑Lg	Lg	07 32 45.9	
	21nm,0.6s						
MK31	Makanchi Array	4.00	142	⇑Pn	Pn	07 31 47.2	+1.7
	0.3nm,0.1s						
MK31				⇑Pg	Pb	07 31 54.7	+0.4
	0.7nm,0.2s						
MK31				⇑Lg	Lg	07 32 50.6	
	12

CASC	Dorado de Casc	4.15	349	P	Pn	07 32 35.0	-0.1
CAYR	Refugio Cayamb	4.22	340	P	Pn	07 32 36.0	-0.4
GGPT	Toaza - Volcan	4.25	331	P	Pn	07 32 37.0	+0.3
HPAL	Hacienda Las P	4.28	331	P	Pn	07 32 38.0	+1.1
PINO	Pino	4.31	331	P	Pn	07 32 38.0	+0.4
PULU	Pululahua	4.42	334	P	Pn	07 32 40.0	+1.1
YAHU	Yahuarcocha	4.57	341	P	Pn	07 32 43.0	+2.1
CUIC	Cuicocha-Domo	4.61	337	P	Pn	07 32 43.0	+1.5
CUSE	Cuicocha Este	4.63	336	eP	Pn	07 32 45.6	+3.8
CUSE	Cuicocha Este	4.63	336	P	Pn	07 32 43.0	+1.2
URCU	Urcuqui	4.70	339	P	Pn	07 32 44.0	+1.3
PAC1	Pacto, Paraso	4.76	332	eP	Pn	07 32 49.6	+6.3
TULM	Tulcn-Chalpat	4.81	345	eP	Pn	07 32 45.6	+1.3
TULM	Tulcn-Chalpat	4.81	345	P	Pn	07 32 44.0	-0.3
PPLP	Puerto Lpez	4.86	300	P	Pn	07 32 43.0	-1.5
FLF1	Flavio Alfaro-	4.87	317	P	Pn	07 32 45.0	+0.4
BV15	Puerto Quito-O	4.89	327	P	Pn	07 32 46.0	+1.1
MAG1	Magdalena	5.03	320	P	Pn	07 32 48.0	+1.1
SOTA	Rioblanco	6.06	359	eP	Pn	07 33 01.8	+0.5
GARC	Garzon, Huila	6.21	10	eP	Pn	07 33 02.8	-0.2
MACC	Macarena, Meta	6.65	24	eP	Pn	07 33 07.8	-1.0
MARP	Paez Belalcaza	6.79	5	eP	Pn	07 33 11.5	+0.5
LPAZ	La Paz	14.78	147	P	Pn	07 34 58.4	+0.2
	0.1nm,0.3s,baz=340,slow=7.5,SNR=3.2						
ANMO	Albuquerque	47.84	326	P	P	07 40 01.6	-0.1
	0.8nm,0.6s,baz=124,slow=12,SNR=5.2						
PDAR	Pinedale Array	55.28	331	P	P	07 40 56.3	-0.7
	0.4nm,0.7s,baz=131,slow=9.7,SNR=3.9						
NVAR	Mina Array Bea	57.18	322	P	P	07 41 11.2	+0.5
	0.3nm,0.6s,baz=133,slow=7.5,SNR=4.5						
TORD	Torodi Ar. Bea	79.49	76	P	P	07 43 29.0	-0.9
	0.3nm,0.5s,baz=277,slow=6.3,SNR=2.0						
TORD				pP	pP	07 43 57.5	+1.7
	0.4nm,0.5s,baz=284,slow=5.8,SNR=3.1						
ILAR	Eielson Array	85.31	336	P	P	07 43 59.2	0.0
	0.3nm,0.6s,baz=110,slow=2.4,SNR=2.2						
ASAR	Alice Springs	139.56	226	PKP	PKPdf	07 50 50.0	-0.5
	0.3nm,0.7s,baz=114,slow=2.3,SNR=1.9						
WRA	Warramunga Arr	141.45	231	PKhKP	PKPpre	07 50 49.5	
	0.3nm,0.6s,baz=126,slow=2.6,SNR=1.5						
WRA				PKP	PKPdf	07 50 54.8	+0.8
	0.8nm,1.0s,baz=120,slow=1.9,SNR=4.7						

*NOU **12** 07:47:45.8, 39.°66S×175.°35E, h86km, ML3.8, North Island, New Zealand*
*WEL **12** 07:47:47.1, 40.°3S×174.°75E×, h61km±4km, M3.6/78, ML3.9/78, MLv3.6/78, Error ellipse: s-maj=0.0km s-min=0.0km az=53.3*
*IDC **12** 07:47:48.1±6.0, 39.°52S×175.°48E, h88km±65km, mb3.0/2, mb1 3.3/2, mb1mx3.1/29, mbtmp3.4/2, Error ellipse: s-maj=72.9km s-min=32.9km az=11.0*

ISC 12 07:47:46.1±0.9, **39.°68S**±0.°03×**175.°40E**±0.°03, **h70**km±5km, **n159**, σ0.91/172, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTVZ	**Mangateitei**	**0.30**	**11**	P	**Pn**	**07 47 57.5**	**+0.1**
MTVZ				S	**Sn**	07 48 05.2	-0.4
WAZ	**Wanganui**	**0.32**	**257**	P	**Pn**	**07 47 58.3**	**+0.8**
WNVZ	**Wahianoa**	**0.39**	**24**	P	**Pn**	**07 47 58.2**	**0.0**
MOVZ	**Moawhango**	**0.39**	**45**	P	**Pn**	**07 47 57.8**	**-0.2**
MOVZ				S	**Sn**	07 48 05.9	-0.8
PKVZ	**Pokaka**	**0.40**	**354**	P	**Pn**	**07 47 58.2**	**+0.1**
PKVZ				S	**Sn**	07 48 06.6	-0.2
TRVZ	**Turoa**	**0.40**	**17**	P	**Pn**	**07 47 58.3**	**0.0**
TRVZ				S	**Sn**	07 48 06.7	-0.5
WHVZ	**Whangaehu Hut**	**0.43**	**21**	P	**Pn**	**07 47 58.5**	**0.0**
WHVZ				S	**Sn**	07 48 07.1	-0.5
DRZ	**Dome Shelter**	**0.43**	**18**	P	**Pn**	**07 47 58.6**	**0.0**
DRZ				S	**Sn**	07 48 07.5	-0.3
FWVZ	**Far West T-bar**	**0.45**	**16**	P	**Pn**	**07 47 58.6**	**-0.1**
FWVZ				S	**Sn**	07 48 07.3	-0.5
TUVZ	**Tukino**	**0.46**	**26**	P	**Pn**	**07 47 58.9**	**+0.1**
TUVZ				S	**Sn**	**07 48 08.0**	**+0.1**
OHWZ	**Ohakea**	**0.53**	**187**	P	**Pn**	**07 48 00.4**	**+1.3**
NGZ	**Ngauruhoe**	**0.53**	**18**	P	**Pn**	**07 47 59.4**	**0.0**
NGZ				S	**Sn**	07 48 08.9	-0.2
SNVZ	**South Ngauruho**	**0.53**	**21**	P	**Pn**	**07 47 59.5**	**+0.1**
BHHZ	**Black Hill Sta**	**0.55**	**70**	P	**Pn**	**07 47 59.2**	**-0.2**
BHHZ				S	**Sn**	07 48 08.7	-0.6
OTVZ	**Oturere**	**0.56**	**22**	P	**Pn**	**07 47 59.8**	**+0.1**
OTVZ				S	**Sn**	07 48 09.6	0.0
TSZ	**Takapari Road**	**0.57**	**131**	P	**Pn**	**07 48 00.6**	**+0.9**
NNVZ	**North Ngauruho**	**0.58**	**17**	P	**Pn**	**07 47 59.8**	**0.0**
WTVZ	**West Tongariro**	**0.59**	**15**	P	**Pn**	**07 47 59.8**	**-0.1**
ETVZ	**East Tongariro**	**0.60**	**24**	P	**Pn**	**07 48 00.0**	**0.0**
TWVZ	**Taurewa**	**0.61**	**3**	P	**Pn**	**07 47 59.9**	**-0.2**
TMVZ	**Te Maari**	**0.61**	**23**	P	**Pn**	**07 48 00.2**	**0.0**
KRVZ	**Karewarewa**	**0.62**	**18**	P	**Pn**	**07 48 00.2**	**-0.1**
NTVZ	**North Tongarir**	**0.62**	**21**	P	**Pn**	**07 48 00.4**	**+0.1**
PNHZ	**Pukenui**	**0.66**	**111**	P	**Pn**	**07 48 01.3**	**+0.7**
KATZ	**Kakaramea**	**0.74**	**18**	P	**Pn**	**07 48 01.7**	**0.0**
VRZ	**Vera Road**	**0.74**	**318**	P	**Pn**	**07 48 01.7**	**+0.2**
KRHZ	**Kereru**	**0.75**	**87**	P	**Pn**	**07 48 02.4**	**+0.8**
POWZ	**Post Office Ro**	**0.76**	**158**	P	**Pn**	**07 48 02.3**	**+0.6**
RITZ	**Rihia Road**	**0.79**	**27**	P	**Pn**	**07 48 02.3**	**+0.2**
LREZ	**Lake Rotokare**	**0.80**	**286**	P	**Pn**	**07 48 02.9**	**+0.8**
KWHZ	**Kaweka Forest**	**0.83**	**72**	P	**Pn**	**07 48 03.5**	**+0.9**
DVHZ	**Dannevirke**	**0.85**	**136**	P	**Pn**	**07 48 03.0**	**+0.2**
RATZ	**Rangitukua**	**0.87**	**20**	P	**Pn**	**07 48 03.5**	**+0.5**
WPHZ	**Waipukurau**	**0.89**	**116**	P	**Pn**	**07 48 03.9**	**+0.7**
HATZ	**Hinemaiaia**	**0.96**	**35**	P	**Pn**	**07 48 03.8**	**-0.2**
PRWZ	**Pori Road**	**0.98**	**153**	P	**Pn**	**07 48 05.5**	**+1.2**
MRZ	**Mangatainoka R**	**0.99**	**172**	P	**Pn**	**07 48 05.0**	**+0.6**
BKZ	**Black Stump Fm**	**0.99**	**59**	P	**Pn**	**07 48 04.7**	**+0.2**
WATZ	**Wairara**	**1.01**	**15**	P	**Pn**	**07 48 04.8**	**+0.1**
PREZ	**Palmer Road**	**1.01**	**289**	P	**Pn**	**07 48 06.1**	**+1.3**
MHEZ	**Mangahewa**	**1.03**	**306**	P	**Pn**	**07 48 06.0**	**+1.1**
MCHZ	**McNeill Hill**	**1.03**	**77**	P	**Pn**	**07 48 06.2**	**+1.2**
DREZ	**Durham Road**	**1.05**	**298**	P	**Pn**	**07 48 06.1**	**+1.0**
NEZ	**North Egmont**	**1.09**	**292**	P	**Pn**	**07 48 06.9**	**+1.2**
WHTZ	**Whakaora**	**1.11**	**23**	P	**Pn**	**07 48 06.8**	**+0.8**
PRHZ	**Porangahau**	**1.12**	**122**	P	**Pn**	**07 48 06.3**	**+0.2**
ANWZ	**Angora Road**	**1.14**	**133**	P	**Pn**	**07 48 07.1**	**+0.9**
KHEZ	**Kahui Hut**	**1.14**	**290**	P	**Pn**	**07 48 07.4**	**+1.0**
OGWZ	**Otaki Gorge**	**1.15**	**189**	P	**Pn**	**07 48 07.3**	**+0.9**
KAHZ	**Kahuranaki**	**1.15**	**96**	P	**Pn**	**07 48 06.8**	**+0.4**
TIWZ	**Tintock**	**1.15**	**161**	P	**Pn**	**07 48 07.2**	**+0.6**
MRHZ	**Matea Rd**	**1.16**	**43**	P	**Pn**	**07 48 06.4**	**-0.3**
PXZ	**Pawanui**	**1.18**	**108**	P	**Pn**	**07 48 07.7**	**+0.9**
BFZ	**Birch Farm**	**1.19**	**147**	P	**Pn**	**07 48 07.4**	**+0.4**
PKE	**Pukeiti**	**1.20**	**294**	P	**Pn**	**07 48 08.2**	**+1.1**
NMEZ	**Namu Road**	**1.20**	**282**	P	**Pn**	**07 48 08.2**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.22**	**176**	P	**Pn**	**07 48 07.8**	**+0.4**
KIW	**Kapiti Island**	**1.23**	**197**	P	**Pn**	**07 48 08.3**	**+0.7**
KUTZ	**Kaahu Road**	**1.24**	**16**	P	**Pn**	**07 48 07.8**	**+0.1**
NMHZ	**Naumai**	**1.24**	**62**	P	**Pn**	**07 48 09.1**	**+1.4**
HIZ	**Hauiti**	**1.24**	**340**	P	**Pn**	**07 48 07.8**	**+0.2**
NBEZ	**Newall Road No**	**1.25**	**289**	P	**Pn**	**07 48 08.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.30**	**89**	P	**Pn**	**07 48 11.8**	**+3.5**
WPRZ	**Whakapapatarin**	**1.31**	**27**	P	**Pn**	**07 48 08.9**	**+0.4**
ARHZ	**Aropaoanui**	**1.31**	**72**	P	**Pn**	**07 48 09.3**	**+0.8**
ALRZ	**Allen Road**	**1.34**	**34**	P	**Pn**	**07 48 09.1**	**+0.1**
TLZ	**Tolley Road**	**1.36**	**5**	P	**Pn**	**07 48 09.0**	**-0.2**
CPWZ	**Castlepoint**	**1.37**	**154**	P	**Pn**	**07 48 13.3**	**+4.0**
MTHZ	**Maungataniwha**	**1.40**	**54**	P	**Pn**	**07 48 10.0**	**+0.3**
PRRZ	**Plateau Road**	**1.42**	**34**	P	**Pn**	**07 48 10.1**	**+0.2**
GRRZ	**Galatos Road**	**1.44**	**23**	P	**Pn**	**07 48 11.5**	**+1.2**
CAW	**Cannon Point**	**1.44**	**190**	P	**Pn**	**07 48 10.7**	**+0.4**
HRRZ	**Handcock Road**	**1.47**	**28**	P	**Pn**	**07 48 11.8**	**+1.2**
TMWZ	**Te Maipa**	**1.47**	**165**	P	**Pn**	**07 48 10.9**	**+0.2**
MTW	**Mount Morrison**	**1.48**	**177**	P	**Pn**	**07 48 10.8**	**+0.1**
RAHZ	**Arahi**	**1.52**	**60**	P	**Pn**	**07 48 12.2**	**+0.9**
HSRZ	**Hossack Road**	**1.52**	**26**	P	**Pn**	**07 48 12.7**	**+1.4**
WHHZ	**Waihua**	**1.55**	**68**	P	**Pn**	**07 48 12.6**	**+1.0**
DUWZ	**D'Urville Isla**	**1.59**	**225**	P	**Pn**	**07 48 12.9**	**+0.6**
RRRZ	**Republican Roa**	**1.60**	**33**	P	**Pn**	**07 48 12.8**	**+0.4**
MUGZ	**Murupara**	**1.61**	**42**	P	**Pn**	**07 48 12.5**	**0.0**
HLRZ	**Highlands Stat**	**1.61**	**28**	P	**Pn**	**07 48 14.6**	**+2.1**
UTU	**Utuhina**	**1.63**	**23**	P	**Pn**	**07 48 14.2**	**+1.4**
RTZ	**Ruatahuna**	**1.63**	**50**	P	**Pn**	**07 48 13.0**	**+0.1**
WEL	**Wellington**	**1.67**	**196**	P	**Pn**	**07 48 13.6**	**+0.4**
TARZ	**Mount Tarawera**	**1.69**	**31**	P	**Pn**	**07 48 14.8**	**+1.2**
NGRZ	**Ngongotaha**	**1.70**	**22**	P	**Pn**	**07 48 15.1**	**+1.4**
PAWZ	**Paruwai Farm**	**1.70**	**179**	P	**Pn**	**07 48 13.5**	**-0.2**
TRWZ	**Traveller**	**1.73**	**173**	P	**Pn**	**07 48 14.0**	**-0.1**
MSWZ	**Moikau Station**	**1.73**	**184**	P	**Pn**	**07 48 14.0**	**-0.2**
TCW	**Tory Channel**	**1.75**	**209**	P	**Pn**	**07 48 14.7**	**+0.4**
OMRZ	**Omania**	**1.75**	**26**	P	**Pn**	**07 48 15.3**	**+0.9**
MKRZ	**Makatiti**	**1.75**	**29**	P	**Pn**	**07 48 16.0**	**+1.5**
SNGZ	**Shannon Statio**	**1.76**	**60**	P	**Pn**	**07 48 15.2**	**+0.7**
BHW	**Baring Head**	**1.77**	**193**	P	**Pn**	**07 48 14.5**	**-0.1**
KARZ	**Kaharoa**	**1.79**	**22**	P	**Pn**	**07 48 16.3**	**+1.4**
KMRZ	**Kaimai**	**1.88**	**13**	P	**Pn**	**07 48 16.4**	**+0.2**
KNZ	**Kokohu**	**1.89**	**70**	P	**Pn**	**07 48 16.2**	**0.0**
PLWZ	**Palliser**	**1.89**	**183**	P	**Pn**	**07 48 15.8**	**-0.4**
EDRZ	**Edgecumbe**	**1.89**	**34**	P	**Pn**	**07 48 17.4**	**+1.1**
TOZ	**Tahuroa Road**	**1.95**	**2**	P	**Pn**	**07 48 17.1**	**0.0**
URZ	**Urewera**	**1.95**	**44**	P	**Pn**	**07 48 16.8**	**-0.2**
	57nm,0.3s,baz=235,slow=8.4,SNR=164						
URZ				S	**Sn**	**07 48 40.1**	**-0.5**
	145nm,0.3s,baz=97,slow=17,SNR=31						
URZ	**Urewera**	**1.95**	**44**	P	**Pn**	**07 48 16.9**	**-0.2**
MARZ	**Manawahe**	**1.97**	**31**	P	**Pn**	**07 48 18.2**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.02**	**76**	P	**Pn**	**07 48 18.1**	**+0.1**
OPRZ	**Ohinepanea**	**2.05**	**27**	P	**Pn**	**07 48 19.2**	**+0.9**
TGRZ	**Tauranga**	**2.07**	**19**	P	**Pn**	**07 48 19.8**	**+1.2**
TUWZ	**Tuamarina**	**2.07**	**212**	P	**Pn**	**07 48 18.7**	**+0.1**
PRGZ	**Paritu Road**	**2.07**	**69**	P	**Pn**	**07 48 18.7**	**-0.1**
RIGZ	**Rimuhau**	**2.08**	**63**	P	**Pn**	**07 48 19.0**	**+0.1**
MWZ	**Matawai**	**2.14**	**52**	P	**Pn**	**07 48 19.5**	**-0.2**
NNZ	**Nelson**	**2.17**	**224**	P	**Pn**	**07 48 20.5**	**+0.5**
WHRZ	**Whale Island**	**2.20**	**35**	P	**Pn**	**07 48 22.9**	**+2.4**
CMWZ	**Cape Campbell**	**2.25**	**203**	P	**Pn**	**07 48 23.2**	**+2.1**
TKGZ	**Te Karaka**	**2.28**	**58**	P	**Pn**	**07 48 21.5**	**0.0**
BSWZ	**Blackbirch Sta**	**2.33**	**209**	P	**Pn**	**07 48 22.2**	**0.0**
QRZ	**Quartz Range**	**2.47**	**242**	P	**Pn**	**07 48 23.9**	**-0.2**
RUGZ	**Raukumara Rang**	**2.47**	**47**	P	**Pn**	**07 48 23.5**	**-0.8**
MYRZ	**Mayor Island**	**2.49**	**16**	P	**Pn**	**07 48 26.0**	**+1.6**
CNGZ	**Carnagh Statio**	**2.50**	**62**	P	**Pn**	**07 48 24.3**	**-0.1**
AWAZ	**Awhitu Peninsu**	**2.68**	**347**	P	**Pn**	**07 48 27.6**	**+0.7**
HAZ	**Te Kaha**	**2.68**	**45**	P	**Pn**	**07 48 25.7**	**-1.2**
ETAZ	**East Tamaki Re**	**2.75**	**352**	P	**Pn**	**07 48 28.3**	**+0.4**
PUZ	**Puketiti**	**2.75**	**55**	P	**Pn**	**07 48 27.1**	**-0.8**
PKGZ	**Pakihiroa**	**2.76**	**50**	P	**Pn**	**07 48 27.6**	**-0.4**
THZ	**Tophouse**	**2.81**	**222**	P	**Pn**	**07 48 28.7**	**0.0**
WTAZ	**Waiatarua**	**2.82**	**346**	P	**Pn**	**07 48 29.9**	**+1.0**
EPAZ	**Eden Park BICE**	**2.85**	**349**	P	**Pn**	**07 48 29.7**	**+0.5**
HBAZ	**Herne Bay Bore**	**2.88**	**349**	P	**Pn**	**07 48 30.1**	**+0.5**
WIAZ	**Waiheke Island**	**2.89**	**356**	P	**Pn**	**07 48 30.1**	**+0.3**
MBAZ	**Motutapu North**	**2.94**	**352**	P	**Pn**	**07 48 30.7**	**+0.3**
KUZ	**Kuaotunu**	**2.94**	**5**	P	**Pn**	**07 48 30.2**	**-0.4**
RVAZ	**Riverhead Bore**	**2.98**	**347**	P	**Pn**	**07 48 31.7**	**+0.8**
WMGZ	**Waiomatatini S**	**3.01**	**53**	P	**Pn**	**07 48 30.6**	**-0.7**
KHZ	**Kahutara**	**3.07**	**207**	P	**Pn**	**07 48 31.2**	**-0.9**
ABAZ	**Army Bay**	**3.11**	**352**	P	**Pn**	**07 48 33.2**	**+0.5**
MXZ	**Matakaoa Point**	**3.11**	**48**	P	**Pn**	**07 48 32.4**	**-0.4**
DSZ	**Denniston Nort**	**3.42**	**232**	P	**Pn**	**07 48 36.1**	**-0.9**
GVZ	**Greta Valley S**	**3.73**	**208**	P	**Pn**	**07 48 40.0**	**-1.3**
WCZ	**Waipu Caves**	**3.83**	**347**	P	**Pn**	**07 48 43.3**	**+0.8**
LTZ	**Lake Taylor**	**3.89**	**216**	P	**Pn**	**07 48 41.9**	**-1.5**
AMCZ	**Amberley**	**4.05**	**210**	P	**Pn**	**07 48 44.6**	**-1.0**
INZ	**Inchbonnie**	**4.26**	**223**	P	**Pn**	**07 48 48.8**	**+0.4**
OXZ	**Oxford**	**4.43**	**214**	P	**Pn**	**07 48 49.0**	**-1.7**
AKCZ	**Akaroa Harbour**	**4.58**	**203**	P	**Pn**	**07 48 50.9**	**-1.9**
OUZ	**Omahuta**	**4.68**	**342**	P	**Pn**	**07 48 54.6**	**+0.4**
RACZ	**Rakaia**	**4.72**	**210**	P	**Pn**	**07 48 53.1**	**-1.6**
MHCZ	**Mount Hutt**	**4.80**	**215**	P	**Pn**	**07 48 54.0**	**-1.8**
WVZ	**Waitaha Valley**	**4.87**	**224**	P	**Pn**	**07 48 58.2**	**+1.4**
WACZ	**Wakanui South**	**5.02**	**211**	P	**Pn**	**07 48 57.3**	**-1.4**
RPZ	**Rata Peaks**	**5.17**	**217**	P	**Pn**	**07 49 00.4**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**5.26**	**225**	P	**Pn**	**07 49 03.9**	**+1.8**
ARCZ	**Arundel**	**5.30**	**215**	P	**Pn**	**07 49 01.5**	**-1.2**
FOZ	**Fox Glacier**	**5.68**	**226**	P	**Pn**	**07 49 09.4**	**+1.6**
JCZ	**Jackson Bay**	**6.60**	**226**	P	**Pn**	**07 49 21.2**	**+0.7**
CTZ	**Chatham Island**	**7.22**	**127**	P	**Pn**	**07 49 27.6**	**-1.2**
ASAR	**Alice Springs**	**38.38**	**282**	P	**P**	**07 55 01.0**	**+0.3**
	0.2nm,0.4s,baz=121,slow=6.5,SNR=6.4						
WRA	**Warramunga Arr**	**40.26**	**287**	P	**P**	**07 55 16.7**	**+0.3**
	0.5nm,0.8s,baz=123,slow=8.1,SNR=1.3						
TORD	**Torodi Ar. Bea**	**152.99**	**194**	PKPbc	**PKPbc**	**08 07 35.4**	**-0.4**
	0.6nm,0.8s,baz=168,slow=2.6,SNR=2.5						
TORD				PKPab	**PKPab**	**08 07 47.8**	**+0.6**
	0.6nm,0.7s,baz=160,slow=4.3,SNR=2.6						

*IDC **12** 08:06:29.3±5.3, 22.°02S×178.°83W, h635km±61km, mb2.7/4, mb1 3.0/7, mb1mx2.7/31, mbtmp4.0/7, Error ellipse: s-maj=137.7km s-min=46.1km az=62.0*

ISC 12 08:06:29.9±2.6, **22.°4S**±0.°1×**179.°1W**±0.°3, **h600**km, **n7**, σ1.9**27**/8, **mb3.6**/4, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.38**	**329**	P	**P**	**08 08 06.0**	**-0.1**
	2.8nm,0.3s,baz=218,slow=12,SNR=16						
DZM	**Mont Dzumac**	**13.43**	**269**	P	**P**	**08 09 24.7**	**+1.4**
	0.2nm,0.3s,baz=108,slow=20,SNR=1.7						
URZ	**Urewera**	**16.14**	**191**	P	**P**	**08 09 49.8**	**+1.5**
	0.2nm,0.3s,baz=347,slow=20,SNR=1.4						
URZ				S	**S**	**08 12 28.6**	**-1.5**
	0.2nm,0.3s,baz=305,slow=12,SNR=1.5						
CTA	**Charters Tower**	**32.37**	**268**	P	**P**	**08 12 11.2**	**-0.8**
	1.2nm,0.6s,baz=85,slow=11,SNR=1.5						
STKA	**Stephens Creek**	**36.10**	**246**	P	**P**	**08 12 42.9**	**0.0**
	1.0nm,0.4s,baz=73,slow=11,SNR=1.8						
ASAR	**Alice Springs**	**43.15**	**259**	P	**P**	**08 13 39.2**	**-0.1**
	1.3nm,0.8s,baz=97,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**43.39**	**264**	P	**P**	**08 13 40.2**	**-1.1**
	0.4nm,0.2s,baz=95,slow=7.7,SNR=31						

*NEIC **12** 08:23:28.1±0.4, 17.°7S±0.°2×178.°20W±0.°08, h623km±14km, mb4.2/12, Error ellipse: s-maj=26.5km s-min=8.7km az=195.0*
*IDC **12** 08:23:29.9±2.2, 17.°73S×178.°58W, h621km±21km, mb2.9/7, mb1 3.2/9, mb1mx2.9/39, mbtmp3.9/9, Error ellipse: s-maj=101.6km s-min=18.0km az=153.0*

ISC 12 08:23:28.5±0.7, **17.°8S**±0.°1×**178.°3W**±0.°1, **h623**km, **n26**, σ1.9**06**/27, **mb4.0**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.46**	**271**	P	**P**	**08 24 52.0**	**-0.3**
	3.0nm,0.3s,baz=129,slow=9.8,SNR=15						
MSVF	**Nonsavu**	**3.46**	**271**	P	**P**	**08 24 52.2**	**-0.1**
NIUE	**Niue**	**8.07**	**100**	P	**P**	**08 25 27.6**	**-1.7**
FUNA	**Funafuti**	**9.54**	**345**	P	**P**	**08 25 41.4**	**-2.0**
DZM	**Mont Dzumac**	**14.94**	**251**	P	**P**	**08 26 35.3**	**0.0**
	0.2nm,0.3s,baz=159,slow=20,SNR=1.5						
THZ	**Tophouse**	**25.03**	**196**	P	**P**	**08 28 04.3**	**-1.4**
EIDS	**Eidsvold**	**29.38**	**250**	P	**P**	**08 28 44.0**	**+0.2**
EIDS				IAmb	IAmb	08 28 50.5	
	comp=Z,13nm,1.3s						
CTA	**Charters Tower**	**33.54**	**260**	P	**P**	**08 29 19.3**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=91,slow=7.6,SNR=2.2						
CTAO	**Charters Tower**	**33.54**	**260**	P	**P**	**08 29 19.5**	**+0.3**
CTAO				IAmb	IAmb	08 29 28.2	
	comp=Z,17nm,1.4s						
TAU	**Tasmania Unive**	**38.37**	**222**	P	**P**	**08 29 58.9**	**+0.6**
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**08 30 01.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=104,slow=8.3,SNR=7.8						
STKA	**Stephens Creek**	**38.75**	**241**	P	**P**	**08 30 01.9**	**+0.4**
WR0	**Warramunga Arr**	**44.54**	**259**	P	**P**	**08 30 47.4**	**+0.3**
WR0				IAmb	IAmb	08 31 01.3	
	comp=Z,5.1nm,1.1s						
WB0	**Warramunga Arr**	**44.70**	**260**	P	**P**	**08 30 48.1**	**-0.3**
WB0				IAmb	IAmb	08 30 48.5	
	comp=Z,3.9nm,0.6s						
WB2	**Warramunga Arr**	**44.72**	**259**	P	**P**	**08 30 48.2**	**-0.3**
WB2				IAmb	IAmb	08 31 06.1	
	comp=Z,6.6nm,1.1s						
WRA	**Warramunga Arr**	**44.73**	**259**	P	**P**	**08 30 48.2**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=94,slow=7.4,SNR=64						
WRA	**Warramunga Arr**	**44.73**	**259**	P	**P**	**08 30 48.5**	**-0.1**
AS31	**Alice Springs**	**44.90**	**254**	P	**P**	**08 30 49.9**	**0.0**
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**08 30 49.8**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=90,slow=8.3,SNR=112						
ASAR				PcP	**PcP**	**08 32 18.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=115,slow=3.8,SNR=1.1						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**08 30 49.3**	**-0.5**
MTN	**Manton Dam**	**48.88**	**268**	P	**P**	**08 31 19.6**	**-0.1**
MTN				IAmb	IAmb	08 31 36.2	
	comp=Z,21nm,1.3s						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**08 34 33.7**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=219,slow=7.0,SNR=2.2						
PMSA	**Palmer Station**	**83.87**	**157**	P	**P**	**08 34 53.6**	**-0.2**
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**	**08 35 06.8**	**+2.5**
	comp=Z,0.3nm,0.7s,baz=222,slow=6.8,SNR=5.5						
GDL2	**Guadalupe Moun**	**86.45**	**55**	P	**P**	**08 35 05.8**	**-1.1**
PDAR	**Pinedale Array**	**87.22**	**43**	P	**P**	**08 35 12.3**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=210,slow=5.2,SNR=2.3						

*IDC **12** 08:32:48.7±0.9, 36.°88N×28.°44E, h0km, mb3.9/6, mb1 4.0/13, mb1mx3.7/46, mbtmp3.9/13, ML3.8/7, MS2.7/2, Ms1 2.7/2, ms1mx2.2/51, Error ellipse: s-maj=17.9km s-min=14.9km az=159.0*
*HLW **12** 08:32:49.0, 37.°05N×28.°44E, h11km±28km, Ml4.2*
*ISK **12** 08:32:49.9, 36.°98N×28.°37E, h7km, ML4.0/16*
*DDA **12** 08:32:49.9, 36.°98N×28.°35E, h4km±2km, MW3.9*
*ATH **12** 08:32:50.5, 36.°96N×28.°35E, h10km±3km, ML3.8/7, Error ellipse: s-maj=3.6km s-min=1.5km az=200.0*
*THE **12** 08:32:50.4, 36.°96N×28.°36E, h2km±1km, ML3.8/7, Error ellipse: s-maj=1.9km s-min=0.7km az=51.0*
*NEIC **12** 08:32:51.2±1.8, 36.°91N±0.°05×28.°40E±0.°06, h9km±5km, Error ellipse: s-maj=7.6km s-min=6.3km az=122.0*
*NIC **12** 08:32:52.0±0.0, 36.°87N×28.°46E, h10km±1km, Ml4.0/5*

ISC 12 08:32:50.5±0.8, **36.°97N**±0.°02×**28.°37E**±0.°01, **h10**km±5km, **n154**, σ1.9**12**/202, **mb3.9**/8, **4C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**337**	P	**Pg**	**08 32 54.1**	**-0.3**
YER				S	**Sg**	**08 32 57.1**	**-0.1**
YER	**Yerkesik**	**0.18**	**337**	PG	**Pg**	**08 32 53.5**	**-0.9**
YER				SG	**Sg**	**08 32 56.7**	**-0.5**
TURN	**Turunc**	**0.22**	**208**	*i* P	**Pg

SMG	**Samos**	**1.43 302**	P	**Pn**	**08 33 15.7**	**-0.8**
SMG			S	**Sn**	**08 33 35.7**	**+0.4**
SMG			AML	AML	08 33 43.0	
	comp=E,5092µm,0.4s					
SMG			AML	AML	08 33 43.5	
	comp=N,7522µm,0.5s					
DEMR	**Demre-Antalya**	**1.43 120**	PN	**Pb**	**08 33 16.9**	**-0.4**
MANT	**Manisa**	**1.53 5**	*i* P	**Pn**	**08 33 18.2**	**+0.2**
MANT			IAML		08 33 45.0	
	comp=Z,368nm,0.7s					
BRDR	**BURDUR-Merkez**	**1.53 61**	*i* P	**Pg**	**08 33 19.7**	**-0.2**
BRDR			IAML		08 33 51.0	
	comp=Z,313nm,0.9s					
KULA	**Kula-Manisa**	**1.56 8**	P	**Pn**	**08 33 18.2**	**-0.2**
KULA	**Kula-Manisa**	**1.56 8**	PN	**Pn**	**08 33 18.5**	**+0.1**
DGB	**zmir**	**1.60 313**	*i* P	**Pn**	**08 33 18.1**	**-0.8**
DGB			*i* S	**Sn**	**08 33 40.3**	**+0.7**
DGB			IAML		08 33 48.0	
	comp=N,729nm,1.0s					
DGB			IAML		08 33 49.0	
	comp=Z,337nm,1.2s					
BASM	**Basmaki-Afyon**	**1.64 54**	PN	**Pn**	**08 33 19.6**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.71 112**	*i* P	**Pg**	**08 33 24.7**	**+1.4**
AKUM			*i* S	**Sg**	**08 33 48.0**	**+2.4**
KARP	**Karpathos**	**1.72 215**	P	**Pn**	**08 33 20.6**	**0.0**
KARP			S	**Sn**	**08 33 42.9**	**+0.3**
	comp=Z,3µm,0.5s					
KARP	**Karpathos**	**1.72 215**	P	**Pn**	**08 33 20.6**	**0.0**
KARP			S	**Sn**	**08 33 42.9**	**+0.3**
KARP			AML	AML	08 33 49.2	
	comp=E,5646µm,0.6s					
KARP			AML	AML	08 33 50.4	
	comp=N,5013µm,0.5s					
KARP	**Karpathos**	**1.72 215**	PN	**Pn**	**08 33 21.2**	**+0.6**
KARP	**Karpathos**	**1.72 215**		**Pn**	**08 33 20.9**	**+0.3**
KARP	**Karpathos**	**1.72 215**	⇑P	**Pn**	**08 33 21.4**	**+0.8**
KARP			S	**Sb**	**08 33 44.2**	**+0.2**
KARP			AML	AML	08 33 49.8	
	comp=N,5.0nm,0.5s					
KARP			AML	AML	08 33 49.8	
	comp=N,5.0nm,0.5s					
KARP			AML	AML	08 33 50.9	
	comp=N,5.8nm,0.4s					
KARP			AML	AML	08 33 50.9	
	comp=N,5.8nm,0.4s					
GOMA	**Golmarmara-Man**	**1.77 348**	PN	**Pn**	**08 33 21.6**	**+0.4**
BUCA	**Burdur, Bucak-**	**1.78 78**	*i* P	**Pg**	**08 33 24.1**	**-0.6**
KEMT	**Kemer-ANTALYA**	**1.79 101**	PN	**Pb**	**08 33 22.0**	**-1.4**
BCK	**Bucak**	**1.84 74**	PN	**Pn**	**08 33 22.6**	**+0.4**
ISP	**Isparta**	**1.91 63**	PN	**Pn**	**08 33 23.6**	**+0.4**
ISP	**Isparta**	**1.91 63**	Pn	**Pb**	**08 33 24.7**	**-0.8**
AKHS	**Akhisar**	**1.96 347**	*i* P	**Pn**	**08 33 23.1**	**-0.6**
AKHS			IAML		08 34 01.0	
	comp=Z,136nm,0.6s					
DEMI	**Demirci**	**2.09 7**	*i* P	**Pn**	**08 33 26.0**	**+0.3**
DEMI			IAML		08 34 06.0	
	comp=Z,142nm,0.6s					
SHAP	**Saphane-Kutahy**	**2.16 18**	PN	**Pn**	**08 33 26.6**	**0.0**
KRBN	**Karaburun**	**2.17 319**	PN	**Pn**	**08 33 27.3**	**+0.6**
FOCM	**Foa**	**2.17 324**	PN	**Pn**	**08 33 27.4**	**+0.7**
GEDZ	**Gediz**	**2.23 21**	PN	**Pn**	**08 33 27.8**	**+0.2**
APE	**Apeiranthos**	**2.28 273**	P	**Pn**	**08 33 28.7**	**+0.5**
APE	**Apeiranthos**	**2.28 273**	P	**Pn**	**08 33 28.8**	**+0.7**
APE			AML	AML	08 34 10.9	
	comp=N,637µm,0.5s					
APE			AML	AML	08 34 15.7	
	comp=E,639µm,0.6s					
APE	**Apeiranthos**	**2.28 273**	PN	**Pn**	**08 33 28.9**	**+0.7**
CHOS	**Chios island**	**2.32 308**	P	**Pn**	**08 33 28.2**	**-0.6**
CHOS			S	**Sn**	**08 33 58.4**	**+1.0**
	comp=E,830nm,1.1s					
CHOS	**Chios island**	**2.32 308**	PN	**Pn**	**08 33 29.3**	**+0.5**
CAND	**Candarli**	**2.34 328**	PN	**Pn**	**08 33 29.5**	**+0.5**
DKL	**Dikili**	**2.40 332**	PN	**Pn**	**08 33 29.5**	**-0.3**
ZKR	**Zakros**	**2.54 224**	P	**Pn**	**08 33 30.8**	**-1.0**
ZKR			S	**Sn**	**08 34 04.0**	**+1.1**
	comp=E,445nm,0.5s					
ZKR	**Zakros**	**2.54 224**	P	**Pn**	**08 33 31.9**	**+0.1**
STIA	**Sitia Lasithi**	**2.55 227**	P	**Pn**	**08 33 31.6**	**-0.3**
DURS	**Dursunbey**	**2.63 2**	*i* P	**Pn**	**08 33 32.9**	**-0.1**
BALB	**Balikesir**	**2.69 352**		**Pn**	**08 33 33.9**	**0.0**
SEDI	**Konya, Seydise**	**2.74 79**	*i* P	**Pb**	**08 33 37.3**	**-2.4**
SEDI			IAML		08 34 27.0	
	comp=Z,79nm,0.8s					
NPS	**Neapolis**	**2.81 234**	P	**Pn**	**08 33 35.6**	**+0.1**
NPS	**Neapolis**	**2.81 234**	P	**Pn**	**08 33 35.7**	**+0.1**
PRK	**Paraskevi**	**2.81 325**	P	**Pn**	**08 33 36.3**	**+0.8**
PRK	**Paraskevi**	**2.81 325**	P	**Pn**	**08 33 36.4**	**+0.8**
LAST	**Lasithi**	**2.96 233**	P	**Pn**	**08 33 37.8**	**+0.2**
SIGR	**SIGRI**	**2.99 319**	P	**Pn**	**08 33 37.5**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**3.12 333**	*i* P	**Pn**	**08 33 39.6**	**-0.2**
BAYC			IAML		08 34 47.0	
	comp=Z,83nm,1.0s					
ULDT	**Uludag**	**3.22 10**	*i* P	**Pg**	**08 33 50.4**	**-1.9**
EZN	**Ezine**	**3.27 331**	P	**Pn**	**08 33 41.5**	**-0.3**
IDI	**Anoyia**	**3.28 240**	Pn	**Pn**	**08 33 42.4**	**+0.5**
	comp=Z,7.9nm,0.3s,baz=60,slow=18,SNR=32					
IDI			Sn	**Sn**	**08 34 21.0**	**-0.1**
	comp=Z,22nm,0.3s,baz=110,slow=21,SNR=8.5					
IDI	**Anoyia**	**3.28 240**	P	**Pn**	**08 33 42.5**	**+0.5**
IDI	**Anoyia**	**3.28 240**	Pn	**Pn**	**08 33 42.6**	**+0.6**
GOKA	**anakkale-Gk**	**3.75 330**	*i* P	**Pn**	**08 33 48.7**	**+0.3**
GOKA			IAML		08 34 42.0	
	comp=Z,75nm,0.9s					
GADA	**Gvkgeada**	**3.76 330**	P	**Pn**	**08 33 48.6**	**+0.1**
AKMS	**Akamas**	**3.76 120**	P	**Pn**	**08 33 49.2**	**+0.7**
AKMS			S	**Sn**	**08 34 33.0**	**+0.2**
AKMS			AML	AML	08 34 33.4	
	comp=Z,0.8nm,0.8s					
AKMS			AML	AML	08 34 33.4	
	comp=Z,0.8nm,0.8s					
AKMS			AML	AML	08 34 34.4	
	comp=Z,1.6nm,0.7s					
AKMS			AML	AML	08 34 34.4	
	comp=Z,1.6nm,0.7s					
LIA	**Limnos Island**	**3.85 320**	P	**Pn**	**08 33 49.8**	**+0.1**
ALFC	**Alefka**	**3.87 117**	⇑P	**Pn**	**08 33 50.8**	**+0.7**
ALFC			S	**Sn**	**08 34 36.0**	**+0.3**
ALFC			AML	AML	08 34 36.4	
	comp=Z,0.4nm,0.7s					
ALFC			AML	AML	08 34 36.4	
	comp=Z,0.4nm,0.7s					
ALFC			AML	AML	08 34 36.8	
	comp=Z,0.6nm,0.5s					
ALFC			AML	AML	08 34 36.8	
	comp=Z,0.6nm,0.5s					
NATA	**Nata**	**4.05 121**	P	**Pn**	**08 33 53.4**	**+0.8**
NATA			S	**Sn**	**08 34 40.4**	**+0.4**
MDUB	**Mudurnu**	**4.14 31**	Pn	**Pn**	**08 33 56.0**	**+2.2**
SMTH	**Samothraki Isl**	**4.14 328**	P	**Pn**	**08 33 53.7**	**-0.1**
OSC1	**CSNet OBS 1**	**4.20 145**	P	**Pn**	**08 33 54.3**	**-0.3**
SZAC	**Souni**	**4.28 120**	⇓P	**Pn**	**08 33 56.2**	**+0.5**
SZAC			AML	AML	08 34 48.1	
	comp=Z,0.7nm,0.4s					
SZAC			AML	AML	08 34 48.8	
	comp=Z,0.7nm,0.5s					
ALN	**Alexandroupoli**	**4.32 336**	P	**Pn**	**08 33 55.5**	**-0.7**
ALN	**Alexandroupoli**	**4.32 336**	Pn	**Pn**	**08 33 56.2**	**0.0**
CSS	**Mathiatis**	**4.49 115**	Pn	**Pn**	**08 33 58.6**	**0.0**
CSS	**Mathiatis**	**4.49 115**	⇑P	**Pn**	**08 33 58.9**	**+0.2**
BR231	**Keskin MP Arra**	**4.49 49**	Pn	**Pn**	**08 33 59.4**	**+0.7**
ANTO	**Ankara**	**4.52 49**	Pn	**Pn**	**08 34 00.6**	**+1.6**
RDO	**Rodhopi**	**4.72 333**	P	**Pn**	**08 34 02.1**	**+0.4**
BR131	**Keskin Array S**	**4.97 55**		**Pn**	**08 34 06.9**	**+1.6**
BRTR	**Keskin Array B**	**4.97 55**	Pn	**Pn**	**08 34 07.2**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=235,slow=17,SNR=25					
BRTR			Sn	**Sn**	**08 35 02.9**	**0.0**
	baz=231,slow=16,SNR=1.8					
BRTR	**Keskin Array B**	**4.97 55**	Pn	**Pn**	**08 34 07.5**	**+2.2**
OSC2	**CSNet OBS 4**	**5.03 139**	S	**Sn**	**08 35 03.4**	**-0.7**
ITM	**Ithomi**	**5.16 274**	Pn	**Pn**	**08 34 10.0**	**+2.2**
AGG	**Agios Georgios**	**5.19 295**	Pn	**Pn**	**08 34 09.7**	**+1.4**
LIT	**Litokhoron**	**5.57 306**	Pn	**Pn**	**08 34 14.7**	**+1.2**
NVR	**Nevrokopi**	**5.61 323**	P	**Pn**	**08 34 14.4**	**+0.5**
SLUM	**Salum**	**6.06 207**	P	**Pn**	**08 34 20.7**	**+0.6**
	baz=207					
SLUM			AMP		08 35 00.0	
	baz=207					
SLUM			S	**Sn**	**08 35 25.0**	**-4.5**
	baz=207					
FNA	**Florina**	**6.66 307**	Pn	**Pn**	**08 34 30.6**	**+2.2**
VTS	**Vitosha**	**6.89 327**	Pn	**Pn**	**08 34 32.9**	**+1.2**
MMAI	**Mount Meron Ar**	**6.99 122**	Pn	**Pn**	**08 34 31.4**	**-1.5**
	comp=Z,11nm,0.3s,baz=309,slow=13,SNR=13					
MMAI			Sn	**Sn**	**08 35 50.1**	**-2.4**
	comp=Z,13nm,0.3s,baz=324,slow=26,SNR=9.3					
TIRR	**Tirgusor**	**7.48 0**	Pn	**Pn**	**08 34 40.3**	**+0.7**
GLL	**Jalalah**	**7.88 158**	P	**Pn**	**08 34 45.1**	**-0.1**
	baz=158					
RYAN	**Fayoum**	**8.03 168**	P	**Pn**	**08 34 46.5**	**-0.6**
	baz=168					
RYAN			S	**Sn**	**08 36 13.1**	**-4.9**
	baz=168					
SUZ	**Suez**	**8.03 151**	P	**Pn**	**08 34 47.0**	**-0.2**
	baz=151					
SWA2		**8.08 198**	P	**Pn**	**08 34 47.8**	**-0.1**
	baz=199					
SWA2			AMP		08 36 00.0	
	baz=199					
SWA2			S	**Sn**	**08 36 15.6**	**-3.7**
	baz=199					
PUK	**Puka**	**8.28 310**		**Pn**	**08 34 53.4**	**+2.7**
MLR	**Muntele Rosu**	**8.71 349**	Pn	**Pn**	**08 34 57.7**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=124,slow=7.3,SNR=6.9					
MLR	**Muntele Rosu**	**8.71 349**	Pn	**Pn**	**08 34 58.2**	**+1.6**
EIL	**Elat**	**9.12 141**	Pn	**Pn**	**08 35 01.6**	**-0.6**
	comp=Z,2.3nm,0.3s,baz=246,slow=19,SNR=14					
EIL			Sn	**Sn**	**08 36 39.2**	**-5.8**
	comp=Z,1.8nm,0.3s,baz=63,slow=18,SNR=4.3					
GRB	**Gharib**	**9.44 156**	P	**Pn**	**08 35 05.4**	**-1.1**
	baz=156					
DIVS	**Divibare**	**9.56 321**	Pn	**Pn**	**08 35 10.2**	**+2.0**
HKAT	**Jabal Katrina**	**9.66 149**	P	**Pn**	**08 35 09.0**	**-0.7**
	baz=149					
KEST	**Kesra**	**15.38 271**	Pn	**Pn**	**08 36 30.0**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=127,slow=20,SNR=1.7					
GERES	**GERESS Array B**	**15.98 323**	Pn	**P**	**08 36 39.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=13,SNR=6.7					
SENIN	**Lac Senin/Sane**	**18.28 307**	P	**P**	**08 37 05.5**	**+1.0**
SENIN			IAmb	IAmb	08 37 14.1	
	comp=Z,6.2nm,0.9s					
STU	**Stuttgart**	**18.29 316**	P	**P**	**08 37 04.9**	**+0.5**
STU			IAmb	IAmb	08 37 33.3	
	comp=Z,5.9nm,0.8s					
FINES	**FINESS Array B**	**24.54 357**	P	**P**	**08 38 10.0**	**0.0**
	comp=Z,2.3nm,0.7s,baz=141,slow=12,SNR=5.0					
FINES	**FINESS Array B**	**24.54 357**	P	**P**	**08 38 10.2**	**+0.2**
FIA1	**FINESS Array S**	**24.54 357**	P	**P**	**08 38 10.3**	**+0.3**
HFS	**Hagfors**	**25.02 343**	P	**P**	**08 38 16.5**	**+2.1**
	comp=Z,2.7nm,1.1s,baz=244,slow=16,SNR=2.2					
HFS			LR	LR	08 49 24.9	
	comp=Z,24nm,20.4s,baz=138,slow=40					
ESDC	**Sonseca Array**	**25.44 286**	P	**P**	**08 38 17.4**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=83,slow=9.3,SNR=4.4					
NOA	**NORSAR Array B**	**26.42 341**	LR	LR	08 50 12.6	
	comp=Z,10nm,18.4s,baz=35,slow=39					
GAR	**Garm**	**32.91 73**	P	**P**	**08 39 23.7**	**-1.4**
GAR			IAmb	IAmb	08 39 31.7	
	comp=Z,4.9nm,0.8s					
TOA0	**Torodi Ar. Sit**	**33.65 232**	P	**P**	**08 39 31.6**	**+0.1**
TOA0			IAmb	IAmb	08 39 32.0	
	comp=Z,2.7nm,0.6s					
TORD	**Torodi Ar. Bea**	**33.65 232**	P	**P**	**08 39 30.5**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=33,slow=8.8,SNR=34					
TORD	**Torodi Ar. Bea**	**33.65 232**	P	**P**	**08 39 31.6**	**+0.1**
TORD			IAmb	IAmb	08 39 42.0	
	comp=Z,1.6nm,0.9s					
MK31	**Makanchi Array**	**40.61 59**	P	**P**	**08 40 30.5**	**+0.1**
MKAR	**Makanchi Array**	**40.61 59**	P	**P**	**08 40 29.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=278,slow=11,SNR=3.8					
KSRS	**Korea Array**	**75.12 54**	P	**P**	**08 44 32.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=317,slow=3.3,SNR=2.6					

NEIC ***12*** *08:56:41.0±2.0, 14°.54N±0°.07×93°.88W±0°.05, h10km±2km, mb4.3/36, Md4.6/18(MEX), Error ellipse: s-maj=12.1km s-min=6.9km az=198.0*
IDC ***12*** *08:56:46.4±1.5, 15°.26N×93°.16W, h0km, mb3.8/10, mb1 4.1/12, mb1mx3.9/33, mbtmp3.8/12, ML3.8/2, MS3.5/21, Ms1 3.5/21, ms1mx3.5/33, Error ellipse: s-maj=68.6km s-min=18.6km az=49.0*
MEX ***12*** *08:56:46.8±0.6, 14°.57N×93°.80W, h60km±46km, MD4.6*
ISC 12 08:56:42.9±3.9, 14°.63N±0°.06×93°.87W±0°.04, h10km±26km, n101, σ2°44/89, mb4.2/20, MS3.5/20, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.57**	**80**	*i* P	**Pn**	**08 57 10.6**	**-0.4**
THIG				*i* S	**Sn**	**08 57 27.7**	**-3.7**
THIG		**1.57**	**80**		**Pn**	**08 57 10.6**	**-0.4**
THIG					**Sn**	**08 57 27.7**	**-3.7**
RTAL	**Retalhuleu**	**2.11**	**93**	Pn	**Pn**	**08 57 18.8**	**+0.5**
RTAL				Sn	**Sn**	**08 57 42.7**	**-1.9**
TGIG		**2.25**	**19**	*i* P	**Pn**	**08 57 22.0**	**+1.7**
TGIG				*i* S	**Sn**	**08 57 47.7**	**-0.5**
TGIG		**2.25**	**19**		**Pn**	**08 57 22.0**	**+1.7**
TGIG					**Sn**	**08 57 47.7**	**-0.5**
CCIG	**Comitan**	**2.34**	**45**	*i* P	**Pn**	**08 57 23.8**	**+2.2**
CCIG				*i* S	**Sn**	**08 57 48.8**	**-1.7**
CCIG	**Comitan**	**2.34**	**45**		**Pn**	**08 57 23.8**	**+2.2**
HUEH	**Huehuetenango**	**2.38**	**73**		**Pn**	**08 57 23.6**	**+1.3**
HUIG	**Huatulco**	**2.44**	**298**	*eP*	**Pn**	**08 57 24.2**	**+1.4**
HUIG				*i* S	**Sn**	**08 57 49.8**	**-3.0**
HUIG	**Huatulco**	**2.44**	**298**		**Pn**	**08 57 24.2**	**+1.4**
HUIG					**Sn**	**08 57 49.8**	**-3.0**
CMIG	**Matias Romero**	**2.63**	**338**	Pn	**Pn**	**08 57 26.4**	**+0.9**
	25nm,0.3s,baz=142,slow=15,SNR=262						
CMIG				Sn	**Sn**	**08 57 55.9**	**-1.6**
	70nm,0.3s,baz=151,slow=19,SNR=9.1						
CMIG				LR	LR	08 58 36.8	
	comp=Z,726nm,19.8s,baz=170,slow=45						
CMIG	**Matias Romero**	**2.63**	**338**	*i* P	**Pn**	**08 57 26.4**	**+0.9**
CMIG				*i* S	**Sn**	**08 57 55.7**	**-1.8**
MTO3	**Montecristo**	**4.37**	**93**		**Pn**	**08 57 49.4**	**-0.2**
ESQI	**Esquipulas**	**4.38**	**90**		**Pn**	**08 57 49.6**	**-0.1**
PETF	**Flores**	**4.47**	**59**		**Pn**	**08 57 51.8**	**+1.0**
SNET	**Serv Nac Est T**	**4.59**	**101**		**Pn**	**08 57 52.6**	**0.0**
TLIG	**Tlapa**	**5.37**	**303**	Pn	**Pn**	**08 58 06.1**	**+2.7**
TGUH	**Tegucigalpa,Un**	**6.42**	**94**		**Pn**	**08 58 17.6**	**-0.2**
CRIN	**San Cristobal**	**6.90**	**105**		**Pn**	**08 58 24.0**	**-0.3**
MOIG	**Morelia**	**8.61**	**307**	Pn	**Pn**	**08 58 49.7**	**+1.8**
ACON	**Acoyapa**	**8.87**	**106**	Pn	**Pn**	**08 58 50.2**	**-1.0**
JTS	**Las Juntas de**	**9.72**	**115**	Pn	Pn	08 59 08.6	+5.7
	1.0nm,0.3s,baz=312,slow=17,SNR=3.9						
JTS	**Las Juntas de**	**9.72**	**115**		**Pn**	**08 59 01.9**	**-1.0**
CAO2	**Cobano, Puntar**	**9.87**	**119**	Pn	**Pn**	**08 59 02.7**	**-2.4**
RIMA	**Rio Macho**	**10.91**	**115**		**Pn**	**08 59 16.5**	**-3.0**
PEZE	**Perez Zeledon,**	**11.25**	**117**	Pn	**Pn**	**08 59 20.8**	**-3.2**
ZAIG	**Zacatecas**	**11.54**	**316**	Pn	**Pn**	**08 59 28.6**	**+0.4**
SRBA	**San Rafael, Bu**	**11.60**	**116**		**Pn**	**08 59 27.0**	**-1.7**
DRK0	**Durika**	**11.68**	**116**	Pn	**Pn**	**08 59 28.8**	**-1.2**
CDITO	**Canoas**	**12.34**	**118**	Pn	**Pn**	**08 59 36.6**	**-2.2**
SOR	**Soroa**	**13.10**	**50**		**Pn**	**08 59 47.1**	**-2.0**
441A	**DeRidder**	**16.05**	**2**		**Pn**	**09 00 29.2**	**+0.4**
441A				IAmb	IAmb	09 00 42.1	
	comp=Z,34nm,1.2s						
344A	**Westbrook Farm**	**16.99**	**9**	P	**Pn**	**09 00 41.1**	**+0.4**
344A				IAmb	IAmb	09 00 50.3	
	comp=Z,36nm,1.2s						
NATX	**Nacogdoches**	**17.06**	**358**	P	**Pn**	**09 00 41.5**	**-0.2**
346A	**Big Creek Wild**	**17.16**	**13**	P	**Pn**	**09 00 41.2**	**-1.7**
346A				IAmb	IAmb	09 00 48.3	
	comp=Z,31nm,1.2s						
TX31	**Lajitas Ar. Si**	**17.21**	**330**	P	**Pn**	**09 00 43.0**	**-0.6**
TX32	**Lajitas Array**	**17.21**	**330**	P	**Pn**	**09 00 43.0**	**-0.6**
TXAR	**Lajitas Array**	**17.21**	**330**	Pn	**P**	**09 00 47.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=8.9,SNR=22						
TXAR				LR	LR	09 07 51.6	
	comp=Z,65nm,19.3s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**17.21**	**330**	P	**Pn**	**09 00 44.1**	**+0.5**
VBMS	**Vicksburg**	**17.77**	**9**	P	**Pn**	**09 00 49.1**	**-1.4**
VBMS				IAmb	IAmb	09 01 07.6	
	comp=Z,19nm,0.9s						
143A	**Socs Landing,**	**18.13**	**7**	P	**Pn**	**09 00 53.9**	**-1.0**
LPIG	**La Paz**	**18.13**	**304**	LR	LR	09 08 01.7	
	comp=Z,195nm,18.8s,baz=126,slow=37						
Z35A	**Perchaven, San**	**18.87**	**351**	P	**P**	**09 01 00.4**	**-2.9**
DBBC	**Dabeiba**	**18.91**	**112**	*eP*	Pn	09 01 16.4	+12
WLAR	**White Oak Lake**	**18.98**	**2**	P	**P**	**09 01 00.6**	**-4.0**
WLAR				IAmb	IAmb	09 01 12.2	
	comp=Z,15nm,0.8s						
CBOC	**Ciudad Bolivar**	**19.60**	**115**	*eP*	**Pn**	**09 01 15.9**	**+2.9**
OXF	**Oxford**	**20.20**	**11**	P	**P**	**09 01 11.7**	**-6.2**
X34A	**Smith Ranch, M**	**20.20**	**350**	P	**P**	**09 01 16.3**	**-1.7**
X34A				IAmb	IAmb	09 01 43.8	
	comp=Z,19nm,1.0s						
GUY2C	**Guyana, Caldas**	**20.47**	**115**	*eP*	Pn	09 01 25.4	+1.8
W39A	**Magazine**	**20.48 0**	P	**P**	**09 01 19.3**	**-1.6**
W39A			IAmb	IAmb	09 01 29.1	
	comp=Z,13nm,1.2s						
BBAC	**Balboa, Cauca**	**20.65**	**126**	*eP*	Pn	09 01 26.8	+1.3
FNO	**Franklin**	**20.78**	**352**	P	**P**	**09 01 22.6**	**-1.7**
POPC	**Popayan, Colom**	**20.79**	**124**	*eP*	**P**	**09 01 21.0**	**-3.8**
TOLC	**Tolima**	**20.82**	**117**	*eP*	Pn	09 01 32.4	+4.8
OTAV	**Otavalo**	**20.91**	**132**	P	**P**	**09 01 22.3**	**-4.0**
SOTA	**Rioblanco**	**21.09**	**124**	*eP*	**P**	**09 01 32.6**	**+4.4**
FPAL	**Fort Paine**	**21.18 19**	P	**P**	**09 01 26.3**	**-2.3**
FPAL			IAmb	IAmb	09 01 47.0	
	comp=Z,12nm,1.0s						
ORTC	**Ortega, Tolima**	**21.22**	**118**	*eP*	**P**	**09 01 32.0**	**+2.8**
FCAR	**Ozark Folk Cen**	**21.23 4**	P	**P**	**09 01 27.3**	**-1.7**
FCAR			IAmb	IAmb	09 01 35.5	
	comp=Z,9.0nm,0.9s						
AMTX	**Amarillo**	**21.36**	**342**	P	**P**	**09 01 29.2**	**-1.3**
ROSC	**El Rosal**	**21.56**	**115**	P	**P**	**09 01 37.8**	**+4.5**
	comp=Z,4.1nm,0.3s,baz=337,slow=16,SNR=5.4						
ROSC			LR	LR	09 10 07.6	
	comp=Z,78nm,19.3s,baz=144,slow=38						
QUOK	**Quay**	**21.60**	**354**	P	**P**	**09 01 30.9**	**-2.1**
U40A	**Yellville**	**21.65 2**	P	**P**	**09 01 32.0**	**-1.6**
U40A			IAmb	IAmb	09 01 40.6	
	comp=Z,11nm,1.2s						
PEBM	**Pemiscott Bayo**	**21.69 9**	P	**P**	**09 01 31.5**	**-2.5**
U38A	**Gravette**	**21.72**	**359**	P	**P**	**09 01 33.4**	**-1.0**
CHIC	**Chingaza**	**22.18**	**115**	*eP*	**P**	**09 01 45.6**	**+5.7**
RUSC	**La Rusia**	**22.20**	**111**	*eP*	**P**	**09 01 42.7**	**+2.4**
PBMO	**Poplar Bluff**	**22.27 7**	P	**P**	**09 01 38.2**	**-2.0**
PBMO			IAmb	IAmb	09 01 52.3	
	comp=Z,19nm,1.4s						
TKL	**Tuckaleechee C**	**22.81 22**	LR	LR	09 11 59.0	
	comp=Z,106nm,21.0s,baz=191,slow=42						
S39A	**Bolivar**	**22.97 1**	P	**P**	**09 01 46.7**	**-1.0**
S39A			IAmb	IAmb	09 01 59.7	
	comp=Z,7.2nm,0.9s						
ANMO	**Albuquerque**	**23.19 333**	P	**P**	**09 01 54.7**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=170,slow=15,SNR=1.8						
ANMO	**Albuquerque**	**23.19 333**	P	**P**	**09 01 47.4**	**-2.7**
SDV	**Santo Domingo**	**23.44 102**	LR	LR	09 11 56.2	
	comp=Z,128nm,19.2s,baz=295,slow=40						
WCI	**Wyandotte Cave**	**24.44 15**	P	**P**	**09 01 56.4**	**-5.5**
WCI			IAmb	IAmb	09 02 20.3	
	comp=Z,8.6nm,1.1s						
CBKS	**Cedar Bluff**	**24.64**	**349**	P	**P**	**09 01 59.9**	**-3.9**
P38A	**Dawn**	**24.90 1**	P	**P**	**09 02 04.2**	**-1.9**
P38A			IAmb	IAmb	09 02 19.3	
	comp=Z,4.7nm,0.8s						
SDCO	**Great Sand Dun**	**25.23**	**338**	P	**P**	**09 02 05.9**	**-3.5**
WUAZ	**Wupatki**	**26.07**	**326**	P	**P**	**09 02 12.9**	**-4.0**
WUAZ			IAmb	IAmb	09 02 31.6	
	comp=Z,6.6nm,0.9s						
ATAH	**Atahualpa**	**26.52**	**144**	LR	LR	09 11 25.7	
	comp=Z,127nm,20.0s,baz=325,slow=33						
SJG	**San Juan**	**26.81 79**	LR	LR	09 12 20.6	
	comp=Z,88nm,21.8s,baz=249,slow=36						
PV17	**East Wray Mesa**	**27.07**	**333**	P	**P**	**09 02 24.0**	**-2.0**
PFO	**Pinyon Flats O**	**27.86**	**317**	LR	LR	09 14 07.8	
	comp=Z,70nm,19.0s,baz=134,slow=37						
PDAR	**Pinedale Array**	**31.12**	**337**	P	**P**	**09 03 03.5**	**+1.6**
	comp=Z,0.6nm,1.0s,baz=144,slow=11,SNR=3.8						
PDAR			LR	LR	09 16 49.1	
	comp=Z,78nm,19.7s,baz=146,slow=39						
NVAR	**Mina Array Bea**	**32.05**	**322**	P	P	09 03 14.9	+4.7
	comp=Z,0.7nm,0.7s,baz=141,slow=9.1,SNR=7.2						
NVAR			LR	LR	09 17 58.0	
	comp=Z,235nm,18.1s,baz=136,slow=40						
REDW	**Red Top Meadow**	**32.12**	**336**	P	**P**	**09 03 08.1**	**-2.6**
REDW			IAmb	IAmb	09 03 25.1	
	comp=Z,5.4nm,1.1s						
ULM	**Lac du Bonnet**	**35.56**	**358**	LR	LR

6.9nm,0.3s
PDGK ⇑S Sn 09 14 59.2 +9.2
53nm,1.0s
DGS Degeres 6.30 346 *eP* **Pb 09 13 54.6 -0.2**
22nm,0.7s
DGS *eS* **Sb 09 15 12.6 +2.3**
20nm,0.5s
KPKS Kokpek 6.34 5 *eP* **Pb 09 13 54.7 -0.8**
30nm,0.4s
KPKS *eS* **Sb 09 15 12.8 +1.3**
34nm,0.5s
KTMS Ketmen 6.57 16 *eP* **Pb 09 13 58.7 -0.7**
11nm,0.3s
KTMS *eS* **Sb 09 15 19.2 +1.2**
19nm,0.9s
KTBS Karatobe 6.62 352 *eP* **Pb 09 13 58.3 -2.0**
8.8nm,0.3s
KTBS *eS* **Sb 09 15 18.5 -1.0**
24nm,0.6s
MRKS Merke 6.64 329 *eP* **Pb 09 14 01.8 +1.1**
6.7nm,0.6s
MRKS *eS* **Sb 09 15 24.6 +4.5**
21nm,0.7s
CHKK Chushkaly 6.74 354 *eP* **Pb 09 14 01.4 -0.8**
7.2nm,0.4s
CHKK *eS* **Sb 09 15 24.0 +1.3**
28nm,0.6s
KUU Kurty 6.84 351 *eP* **Pb 09 14 04.3 +0.3**
4.7nm,0.4s
KUU *eS* **Sb 09 15 29.0 +3.2**
22nm,0.8s
DJR Jarkent 7.32 11 *eP* **Pb 09 14 13.7 +1.5**
0.5nm,0.4s
DJR *eS* **Sb 09 15 44.9 +5.3**
1.2nm,0.7s
KK31 Karatay Array 8.21 319 ⇓P Pb 09 14 15.9 -11
0.5nm,0.3s,baz=132,slow=13
KK31 ⇓S Sb 09 16 05.9 +0.9
2.2nm,0.5s,baz=138,slow=24
WMQ Urumqi 10.01 45 *eP* **Pn 09 14 28.9 +0.1**
WMQ smax smax
comp=N,19nm,0.9s
WMQ smax smax
comp=E,25nm,1.1s
MAKZ Makanchi 10.12 16 ⇑P **Pn 09 14 28.6 -1.7**
5.5nm,0.7s
MAKZ ⇑S **Sn 09 16 26.7 +2.8**
2.4nm,0.7s
MK31 Makanchi Array 10.18 17 ⇑P **Pn 09 14 29.5 -1.6**
1.6nm,0.5s
MK31 ⇓S **Sn 09 16 27.9 +2.6**
2.9nm,0.5s
MKAR Makanchi Array 10.18 17 Pn **Pn 09 14 26.9 -4.2**
1.2nm,0.3s,baz=201,slow=13,SNR=55
MKAR Sn Sn 09 16 10.5 -15
0.9nm,0.3s,baz=193,slow=19,SNR=2.9
KURBB Kurchatov Arra 13.48 2 Pn **Pn 09 15 11.9 -4.3**
0.0nm,0.3s,baz=186,slow=13,SNR=2.3
KURBB Lg Lg 09 19 03.5
0.0nm,0.3s,baz=188,slow=30,SNR=3.3
ZALV Zalesovo Beam 17.48 14 P **Pn 09 16 04.2 -4.4**
baz=195,slow=10,SNR=1.4
WSAR Wadi Sarin 21.61 235 LR LR 09 27 32.2
comp=Z,72nm,20.9s,baz=47,slow=42
ARU Arti 23.25 332 LR LR 09 27 14.2
comp=Z,16nm,19.8s,baz=146,slow=40
TLY Talaya 23.28 43 LR LR 09 25 45.7
comp=Z,25nm,19.7s,baz=159,slow=36
FINES FINESS Array B 40.12 324 P **P 09 19 40.1 -0.4**
2.3nm,0.9s,baz=114,slow=8.8,SNR=9.5
NB2 NORSAR Subarra 47.22 322 P **P 09 20 37.1 -0.6**
comp=Z,0.5nm,0.6s,baz=89,slow=7.9
NOA NORSAR Array B 47.22 322 P **P 09 20 37.2 -0.6**
comp=Z,0.2nm,0.5s,baz=79,slow=7.4,SNR=3.6
ESDC Sonseca Array 61.99 300 P **P 09 22 25.5 +0.2**
comp=Z,0.2nm,0.4s,baz=38,slow=6.5,SNR=2.1
TORD Torodi Ar. Bea 71.24 272 P **P 09 23 25.4 +0.7**
comp=Z,0.3nm,0.4s,baz=41,slow=5.3,SNR=5.1
WRA Warramunga Arr 77.78 127 P **P 09 24 03.2 +0.6**
comp=Z,1.2nm,1.2s,baz=320,slow=8.5,SNR=1.8
ASAR Alice Springs 80.24 130 P **P 09 24 16.3 +0.4**
comp=Z,0.3nm,0.9s,baz=319,slow=4.9,SNR=1.6

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*DDA **12** 09:14:57.9, 37.°17N×43.°76E, h6km±2km, ML2.9*
*ISK **12** 09:15:00.6, 37.°25N×43.°66E, h5km, ML2.8/8*
*ISN **12** 09:15:03.6±2.6, 37.°15N×43.°77E, h25km, ML3.1*
ISC 12 09:14:59.8±1.1, 37.°24N±0.°04×43.°69E±0.°03, h4km±9km, n28, σ1°28/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.07**	**279**	*i* P	**Pg**	**09 15 01.0**	**-0.4**
CUKT	**Cukurca**	**0.07**	**279**	PG	**Pg**	**09 15 01.6**	**+0.2**
HAKT	**HAKKARI**	**0.32**	**2**	*i* P	**Pg**	**09 15 06.1**	**+0.1**
HAKT				*i* S	**Sg**	**09 15 11.7**	**+1.3**
HAKT				IAML		09 15 12.0	
	comp=N,540nm,0.3s						
HAKT				IAML		09 15 12.0	
	comp=E,807nm,0.3s						
YOVA	**Hakkari_Yksek**	**0.59**	**53**	*i* P	**Pg**	**09 15 09.9**	**-1.2**
YOVA				*i* S	**Sg**	**09 15 17.9**	**-0.9**
YOVA				IAML		09 15 19.0	
	comp=N,599nm,0.4s						
YOVA				IAML		09 15 22.0	
	comp=E,457nm,0.3s						
BASK	**Baskale_VAN**	**0.85**	**17**	*i* P	**Pg**	**09 15 16.2**	**+0.1**
SIRT	**Sirnak**	**1.03**	**285**	PG	**Pn**	**09 15 21.0**	**-0.1**
SIRT				SG	**Sn**	**09 15 35.7**	**-0.4**
SIRN	**Srnak**	**1.05**	**285**	*i* P	**Pb**	**09 15 20.4**	**-0.2**
SIRN				*i* S	**Sn**	**09 15 35.4**	**-1.1**
SIRN				IAML		09 15 41.0	
	comp=N,500nm,0.4s						
SIRN				IAML		09 15 42.0	
	comp=E,298nm,0.5s						
PERV	**Siirt/Pervari-**	**1.16**	**308**	*i* P	**Pb**	**09 15 21.4**	**-1.0**
PERV				*i* S	**Sb**	**09 15 37.3**	**-0.5**
PERV				IAML		09 15 46.0	
	comp=N,587nm,0.4s						
AKDM	**Akdamar-Van**	**1.23**	**333**	PN	**Pg**	**09 15 24.4**	**+1.1**
AKDM				SN	**Sn**	**09 15 42.9**	**+1.9**
VANB	**Van**	**1.38**	**350**	PN	**Pn**	**09 15 25.2**	**-0.7**
SRTM	**Siirt_Merkez**	**1.60**	**299**	*i* P	**Pg**	**09 15 30.6**	**+0.3**
SRTM				*i* S	**Sg**	**09 15 53.5**	**+2.4**
SRTM				IAML		09 15 58.0	
	comp=E,146nm,0.6s						
SRTM				IAML		09 16 00.0	
	comp=N,143nm,0.6s						
BLIS	**Bitlis-Merkez**	**1.72**	**314**	*i* P	**Pb**	**09 15 32.1**	**+0.2**
BLIS				*i* S	**Sg**	**09 15 58.2**	**+3.3**
BLIS				IAML		09 15 59.0	
	comp=N,96nm,0.5s						
ADCV	**BITLIS_Adilcev**	**1.75**	**334**	*i* P	**Pg**	**09 15 33.7**	**+0.5**
VMUR	**Van-Muradiye**	**1.75**	**357**	*i* P	**Pb**	**09 15 32.3**	**-0.3**
MIDY	**Mardin/Midyat-**	**1.84**	**276**	*i* P	**Pb**	**09 15 33.6**	**-0.4**
MIDY				*i* S	**Sg**	**09 15 59.1**	**+0.2**
MIDY				IAML		09 16 05.0	
	comp=N,173nm,0.3s						
GURO	**Guroymak-BITLI**	**1.86**	**315**	PN	**Pb**	**09 15 34.6**	**+0.3**
IKRK	**Kirkuk**	**1.91**	**164**	*e*Pg	**Pn**	**09 15 34.0**	**+1.0**
	baz=345						
IKRK				*e*Sg	**Sb**	**09 16 01.0**	**+1.8**
IKRK				AML	AML	09 16 04.5	
	comp=E,243nm,0.4s						
IKRK				AML	AML	09 16 14.3	
	comp=N,219nm,0.7s						
CLDR	**Caldiran**	**1.91**	**5**	PN	**Pb**	**09 15 35.5**	**+0.2**
BTMN	**Batman**	**2.03**	**289**	*i* P	**Pg**	**09 15 38.6**	**-0.2**
BTMN				*i* S	**Sg**	**09 16 05.8**	**+0.7**
BTMN				IAML		09 16 14.0	
	comp=N,127nm,0.7s						
SVAN	**Silvan-Diyarba**	**2.18**	**296**	*i* P	**Pb**	**09 15 39.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.18**	**296**	PN	**Pb**	**09 15 39.0**	**-0.7**
MUSM	**Mu-Merkez**	**2.28**	**311**	*i* P	**Pb**	**09 15 40.4**	**-1.1**
MUSM				*i* S	**Sg**	**09 16 11.3**	**-1.6**
MARD	**Mardin**	**2.33**	**273**	*i* P	**Pb**	**09 15 42.5**	**+0.2**
MARD				*i* S	**Sg**	**09 16 13.8**	**-0.7**
MARD				IAML		09 16 20.0	
	comp=N,267nm,0.5s						
MARD				IAML		09 16 22.0	
	comp=E,116nm,0.6s						
AGRB	**Hanur-Agry**	**2.40**	**347**	PN	**Pb**	**09 15 42.3**	**-1.3**
MAZI	**Mazidag**	**2.60**	**276**	PN	**Pb**	**09 15 44.9**	**-2.0**
HANI	**Diyarbakir_Han**	**2.86**	**295**	*i* P	**Pg**	**09 15 54.2**	**-0.4**
DYBB	**Diyarbakir**	**2.91**	**285**	PN	**Pb**	**09 15 49.6**	**-2.7**
BNGB	**Bingl**	**2.95**	**307**	PN	**Pb**	**09 15 50.2**	**-2.8**

*VAO **12** 09:46:30.8±0.4, 1.°94S×77.°67W, h10km, mb4.6*
*IDC **12** 09:47:03.7±0.7, 3.°10S×75.°66W, h140km±6km, mb3.7/12, mb1 3.9/21, mb1mx3.9/32, mbtmp4.3/21, Error ellipse: s-maj=16.5km s-min=11.0km az=47.0*
*NEIC **12** 09:47:04.3±1.3, 2.°96S±0.°09×75.°6W±0.°1, h135km±10km, mb4.3/74, Error ellipse: s-maj=17.2km s-min=10.2km az=54.0*
*IGQ **12** 09:47:05±0.8, 3.°S±5.°×7.°6W±.°, h10km*
ISC 12 09:47:03.6±0.4, 3.°15S±0.°04×75.°82W±0.°05, h150km, n223, σ1°56/231, mb4.2/51, 1C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**2.67**	**270**	P	**Pn**	**09 47 45.0**	**-2.0**
BOSC				S	**Sn**	**09 48 16.0**	**-4.5**
APUY	**Puyo**	**2.75**	**308**	P	**Pn**	**09 47 46.0**	**-1.9**
APUY				S	**Sn**	**09 48 18.0**	**-4.2**
PUYO	**Puyo, Santa Ro**	**2.75**	**307**	P	**Pn**	**09 47 47.0**	**-1.0**
PUYO				S	**Sn**	**09 48 19.0**	**-3.2**
BULB	**Ulba Tungurahu**	**3.10**	**303**	P	**Pn**	**09 47 52.0**	**-0.6**
ARRY	**Arrayan**	**3.10**	**302**	P	**Pn**	**09 47 51.0**	**-1.6**
BRUN	**Tungurahua Vol**	**3.11**	**304**	P	**Pn**	**09 47 51.0**	**-1.7**
BMAS	**Trigal station**	**3.12**	**302**	P	**Pn**	**09 47 51.0**	**-1.9**
BBIL	**Ulba Tungurahu**	**3.16**	**302**	P	**Pn**	**09 47 52.0**	**-1.3**
BBIL				S	**Sn**	**09 48 27.0**	**-4.7**
PIAT	**Ana Tenorio**	**3.25**	**311**	P	**Pn**	**09 47 53.0**	**-1.5**
IGUA	**Igualata**	**3.27**	**300**	P	**Pn**	**09 47 55.0**	**+0.1**
TAMH	**Tambohuasha Ch**	**3.36**	**298**	P	**Pn**	**09 47 56.0**	**-0.1**
PORT	**Chimborazo Vol**	**3.40**	**300**	P	**Pn**	**09 47 56.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**3.46**	**298**	P	**Pn**	**09 47 57.0**	**-0.5**
COHC	**Cochancay**	**3.50**	**281**	P	**Pn**	**09 47 57.0**	**-0.3**
REVS	**Reventador Sur**	**3.52**	**329**	P	**Pn**	**09 47 56.0**	**-1.9**
TAMB	**Tambo**	**3.53**	**314**	P	**Pn**	**09 47 57.0**	**-1.3**
ANTS	**Antisana-Sarah**	**3.53**	**318**	P	**Pn**	**09 47 57.0**	**-1.4**
LAV4	**Lava4-Reventad**	**3.54**	**329**	P	**Pn**	**09 47 56.0**	**-2.1**
REVN	**San Rafael**	**3.55**	**329**	P	**Pn**	**09 47 56.0**	**-2.3**
ANTI	**Antisana**	**3.56**	**319**	P	**Pn**	**09 47 57.0**	**-1.7**
BTAM	**Cotopaxi Volca**	**3.56**	**314**	P	**Pn**	**09 47 58.0**	**-0.7**
CONE	**Cono NE Rev Vo**	**3.56**	**329**	P	**Pn**	**09 47 56.0**	**-2.5**
BVC2	**Cotopaxi Volca**	**3.59**	**314**	P	**Pn**	**09 47 58.0**	**-1.0**
VC1	**Cotopaxi 1**	**3.59**	**314**	P	**Pn**	**09 47 58.0**	**-1.0**
SLOR	**San Lorenzo -**	**3.60**	**312**	P	**Pn**	**09 47 58.0**	**-1.1**
CASC	**Dorado de Casc**	**3.60**	**335**	P	**Pn**	**09 47 57.0**	**-1.8**
BNAS	**Cotopaxi Volca**	**3.63**	**313**	P	**Pn**	**09 47 59.0**	**-0.5**
NAS2	**Nasa**	**3.63**	**313**	P	**Pn**	**09 47 58.0**	**-1.6**
CAMI	**Rancho Maria**	**3.64**	**312**	P	**Pn**	**09 47 59.0**	**-0.6**
ILLI	**Illinizas Sur**	**3.78**	**310**	P	**Pn**	**09 48 02.0**	**+0.5**
CAYR	**Refugio Cayamb**	**3.83**	**325**	P	**Pn**	**09 48 01.0**	**-1.3**
GGPT	**Toaza - Volcan**	**4.04**	**316**	P	**Pn**	**09 48 04.0**	**-0.7**
GGPC	**Guagua Pichinc**	**4.05**	**317**	P	**Pn**	**09 48 06.0**	**+0.9**
HPAL	**Hacienda Las P**	**4.06**	**316**	P	**Pn**	**09 48 05.0**	**0.0**
PINO	**Pino**	**4.08**	**317**	P	**Pn**	**09 48 05.0**	**-0.4**
YANA	**Yana**	**4.08**	**318**	P	**Pn**	**09 48 05.0**	**-0.4**
PULU	**Pululahua**	**4.14**	**320**	P	**Pn**	**09 48 06.0**	**-0.1**
IMBA	**Imbabura, San**	**4.16**	**325**	P	**Pn**	**09 48 07.0**	**+0.7**
CUIC	**Cuicocha-Domo**	**4.27**	**323**	P	**Pn**	**09 48 08.0**	**+0.2**
OTAV	**Otavalo**	**4.27**	**322**	Pn	**Pn**	**09 48 07.4**	**-0.4**
OTAV	**Otavalo**	**4.27**	**322**	*e*P	**Pn**	**09 48 08.0**	**+0.1**
OTAV				*e*S	Sn	09 48 39.3	-19
URCU	**Urcuqui**	**4.32**	**326**	P	**Pn**	**09 48 09.0**	**+0.5**
CHL2	**Volc¡n Chiles**	**4.45**	**332**	P	**Pn**	**09 48 09.0**	**-1.3**
ECEN	**Cerro Negro**	**4.50**	**331**	P	**Pn**	**09 48 10.0**	**-0.9**
PAC1	**Pacto, Paraso**	**4.51**	**319**	P	**Pn**	**09 48 11.0**	**+0.3**
MORR	**Playas El Morr**	**4.54**	**276**	P	**Pn**	**09 48 09.0**	**-2.0**
ATAH	**Atahualpa**	**4.71**	**213**	P	**Pn**	**09 48 15.0**	**+1.4**
	23nm,0.3s,baz=22,slow=9.5,SNR=178						
ATAH				S	**Sn**	**09 49 02.1**	**-6.1**
	3.9nm,0.3s,baz=229,slow=20,SNR=1.2						
FLF1	**Flavio Alfaro-**	**4.89**	**305**	P	**Pn**	**09 48 15.0**	**-0.6**
PPLP	**Puerto Lpez**	**5.20**	**288**	P	**Pn**	**09 48 20.0**	**+0.2**
SOTA	**Rioblanco**	**5.31**	**351**	*e*P	**Pn**	**09 48 20.6**	**-1.1**
SOTA				*e*S	Sn	09 48 58.7	-24
SOTA				*i*		09 49 07.6	
	comp=Z,104nm,0.4s						
GARC	**Garzon, Huila**	**5.31**	**4**	*e*P	**Pn**	**09 48 19.4**	**-2.1**
GARC				*e*S	Sn	09 48 55.5	-27
GARC				*i*		09 49 04.0	
	comp=Z,757nm,0.3s						
PCON	**Cinco Dias**	**5.47**	**354**	*e*P	**Pn**	**09 48 22.9**	**-0.9**
PCON				*e*S	Sn	09 49 01.5	-25
PCON				*i*		09 49 14.4	
	comp=Z,124nm,0.8s						
CZSB	**Cruzeiro do Su**	**5.50**	**146**	*e*P	**Pn**	**09 48 22.6**	**-1.1**
MACC	**Macarena, Meta**	**5.62**	**21**	⇑*i*P	**Pn**	**09 48 23.3**	**-2.0**
POPC	**Popayan, Colom**	**5.72**	**351**	*e*P	Pn	09 48 18.2	-8.7
POPC				*e*S	Sn	09 48 58.4	-34
BETC	**Betania**	**5.81**	**4**	*e*P	**Pn**	**09 48 25.3**	**-2.6**
MARP	**Paez Belalcaza**	**5.96**	**359**	*e*P	**Pn**	**09 48 28.9**	**-1.1**
MARP				*e*S	Sn	09 49 09.5	-28
MARP				*i*		09 49 16.2	
	comp=Z,34nm,0.4s						
ORTC	**Ortega, Tolima**	**7.04**	**5**	*e*P	**Pn**	**09 48 43.1**	**-1.2**
YOTC	**Yotoco, Valle**	**7.11**	**356**	*e*P	**Pn**	**09 48 43.9**	**-1.3**
YOTC				*e*S	Sn	09 49 37.5	-27
YOTC				*i*		09 49 38.5	
	comp=Z,21nm,0.6s						
ROSC	**El Rosal**	**8.08**	**11**	P	**Pn**	**09 48 59.1**	**+0.7**
	comp=Z,4.2nm,0.3s,baz=284,slow=18,SNR=9.4						
ROSC	**El Rosal**	**8.08**	**11**	Pn	**Pn**	**09 48 56.5**	**-2.0**
NNA	**Nana**	**8.84**	**187**	P	**Pn**	**09 49 09.9**	**+1.7**
	comp=Z,21nm,0.3s,baz=357,slow=12,SNR=29						
NNA				S	**Sn**	**09 50 40.3**	**-6.2**
	comp=Z,7.9nm,0.3s,baz=223,slow=11,SNR=2.4						
NNA	**Nana**	**8.84**	**187**	Pn	**Pn**	**09 49 10.5**	**+2.2**
ETMB	**Extrema**	**11.61**	**125**	*e*P	**Pn**	**09 49 47.9**	**+3.0**
SDV	**Santo Domingo**	**13.03**	**23**	P	**Pn**	**09 50 03.7**	**+0.3**
	comp=Z,5.1nm,0.3s,baz=104,slow=6.5,SNR=3.9						
LPAZ	**La Paz**	**15.08**	**150**	P	**Pn**	**09 50 28.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=330,slow=6.5,SNR=20						
LPAZ				S	Sn	09 53 05.9	-12
	baz=164,slow=19,SNR=0.8						
LPAZ	**La Paz**	**15.08**	**150**	Pn	**Pn**	**09 50 30.4**	**+0.7**
LPAZ	**La Paz**	**15.08**	**150**	*e*P	**Pn**	**09 50 29.2**	**-0.5**
MACA	**Manacapuru-AM**	**15.11**	**90**	*e*P	**Pn**	**09 50 29.2**	**-0.3**
URIC	**Uribia, Colomb**	**15.24**	**14**	P	**Pn**	**09 50 28.7**	**-2.4**
PTGA	**Pitinga**	**16.02**	**82**	P	**Pn**	**09 50 40.2**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=247,slow=21,SNR=7.7						
PTGA				S	S	09 53 19.7	-20
	comp=Z,0.4nm,0.3s,baz=268,slow=23,SNR=1.6						
PTGA	**Pitinga**	**16.02**	**82**	P	**Pn**	**09 50 39.1**	**-1.7**
PTGA	**Pitinga**	**16.02**	**82**	*e*P	**Pn**	**09 50 38.5**	**-2.2**
JTS	**Las Juntas de**	**16.16**	**326**	P	**P**	**09 50 43.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=74,slow=14,SNR=2.7						
BOAV	**Boa Vista**	**16.25**	**70**	*e*P	**Pn**	**09 50 38.3**	**-5.2**
MNMC	**Minye Minye**	**17.01**	**159**		**Pn**	**09 50 54.5**	**+1.6**
PSGCX	**Pisagua**	**17.27**	**162**		**Pn**	**09 50 58.3**	**+2.5**
PCRV	**Puerto La Cruz**	**17.30**	**40**	P	**P**	**09 50 55.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=210,slow=16,SNR=1.9						
TA02	**Huaiquique**	**17.89**	**162**	P	**Pn**	**09 51 04.6**	**+1.4**
TA01	**Diego Aracena**	**18.16**	**163**	P	**Pn**	**09 51 08.2**	**+1.8**
VILB	**Vilhena**	**18.26**	**123**	*e*P	**Pn**	**09 51 07.8**	**+0.2**
SIV	**San Ignacio**	**19.32**	**132**	P	**P**	**09 51 18.3**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=312,slow=12,SNR=18						
PB09	**IPOC Station P**	**19.60**	**162**	P	**Pn**	**09 51 22.9**	**-0.5**
ITTB	**Itaituba**	**20.08**	**94**	*e*P	**P**	**09 51 23.8**	**-1.8**
LVC	**Limon Verde**	**20.47**	**161**	P	Pn	09 51 35.9	+2.0
	comp=Z,17nm,0.8s,baz=336,slow=7.9,SNR=14						
LVC				S	**S**	**09 55 11.2**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=221,slow=20,SNR=1.0						
LVC	**Limon Verde**	**20.47**	**161**	P	Pn	09 51 32.4	-1.5
LVC				IAmb	IAmb	09 51 39.2	
	comp=Z,16nm,0.8s						
LVC	**Limon Verde**	**20.47**	**161**	*e*P	**P**	**09 51 29.4**	**-0.6**
PTLB	**Pontes e Lacer**	**20.48**	**128**	*e*P	Pn	09 51 32.6	-1.0
NPGB	**Novo Progresso**	**20.74**	**102**	*e*P	**P**	**09 51 31.7**	**-0.9**
CLDB	**Colider**	**21.29**	**112**	*e*P	**P**	**09 51 37.6**	**-0.9**
MALB	**Monte Alegre**	**21.57**	**87**	*e*P	**P**	**09 51 42.3**	**+0.7**
PB14	**IPOC Station P**	**21.98**	**167**	P	**P**	**09 51 48.5**	**+2.5**
GO02	**Mina Guanaco**	**22.69**	**165**	P	**P**	**09 51 55.1**	**+2.2**
GO02				IAmb	IAmb	09 52 07.4	
	comp=Z,10nm,0.7s						
SALV	**Santo Antonio**	**23.51**	**124**	*e*P	**P**	**09 52 01.8**	**+1.6**
MCPB	**Macapa, AP**	**23.91**	**84**	*e*P	**P**	**09 52 04.0**	**+0.1**
MDP	**Montagnes des**	**24.56**	**71**	P	**P**	**09 52 09.6**	**-0.2**
	comp=Z,5.5nm,0.4s,baz=242,slow=8.2,SNR=25						
PP1B	**Ponte de Pedra**	**25.06**	**126**	*e*P	**P**	**09 52 15.3**	**+1.1**
SNDB	**Serra Nova Dou**	**25.82**	**111**	*e*P	**P**	**09 52 22.3**	**+1.1**
PRPB	**Parauapebas**	**26.09**	**98**	*e*P	**P**	**09 52 22.7**	**-0.9**
AQDB	**Aquidauana**	**26.10**	**133**	P	**P**	**09 52 24.5**	**+0.9**
AQDB				IAmb	IAmb	09 52 25.2	
	comp=Z,11nm,0.7s						
AQDB	**Aquidauana**	**26.10**	**133**	*e*P	**P**	**09 52 25.1**	**+1.5**
CMIG	**Matias Romero**	**27.55**	**318**	P	**P**	**09 52 38.8**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=81,slow=19,SNR=2.0						
PEXB	**Peixe**	**28.66**	**110**	*e*P	**P**	**09 52 47.6**	**+1.1**
CPUP	**Villa Florida**	**29.08**	**144**	P	**P**	**09 52 50.8**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=333,slow=6.8,SNR=1.9						
CPUP	**Villa Florida**	**29.08**	**144**	*e*P	**P**	**09 52 50.1**	**0.0**
TRCB	**Terra Rica**	**29.77**	**133**	*e*P	**P**	**09 52 57.3**	**+1.1**
BDFB	**Brasilia**	**30.05**	**116**	P	**P**	**09 52 59.2**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=279,slow=8.9,SNR=3.7						
IPMB	**Ipameri, GO**	**30.81**	**121**	*e*P	**P**	**09 53 06.6**	**+1.1**
PTGB	**Pitanga**	**31.36**	**135**	*e*P	**P**	**09 53 11.4**	**+1.1**
ROSB	**Rosrio**	**31.65**	**90**	*e*P	**P**	**09 53 11.4**	**-1.5**
SDBA	**SAO DESIDERIO**	**31.95**	**108**	*e*P	**P**	**09 53 16.1**	**+0.6**
FRTB	**Fartura**	**32.37**	**131**	*e*P	**P**	**09 53 19.4**	**+0.2**
JANB	**Januaria**	**33.22**	**113**	*e*P	**P**	**09 53 27.0**	**+0.3**
NBPS	**Pedro II - PI**	**34.32**	**93**	*e*P	**P**	**09 53 34.5**	**-1.7**
CPSB	**Cacapava Do Su**	**34.39**	**144**	*e*P	**P**	**09 53 36.2**	**-0.4**
DIAM	**Diamantina, MG**	**34.89**	**118**	*e*P	**P**	**09 53 41.3**	**+0.2**
BSCB	**Bom Sucesso**	**35.03**	**123**	*e*P	**P**	**09 53 42.3**	**+0.1**
PLTB	**Pedras Altas**	**35.31**	**146**	*e*P	**P**	**09 53 43.9**	**-0.5**
PARB	**Paraibuna**	**35.44**	**127**	*e*P	**P**	**09 53 46.0**	**+0.3**
NBPB	**Pedra_Branca-C**	**36.20**	**95**	*e*P	**P**	**09 53 50.9**	**-1.4**
ESAR	**Angra dos Reis**	**36.23**	**126**	*e*P	**P**	**09 53 52.8**	**+0.5**
VAS01	**Vassouras-RJ**	**36.71**	**124**	*e*P	**P**	**09 53 57.1**	**+0.7**
NBMA	**Muriti-CE**	**37.12**	**98**	*e*P	**P**	**09 54 00.1**	**0.0**
SJMB	**Sao Joao De Ma**	**37.24**	**117**	*e*P	**P**	**09 54 00.7**	**-0.3**
GDU01	**Guandu, BA**	**37.30**	**109**	*e*P	**P**	**09 54 01.1**	**-0.4**
DUB01	**Friburgo-RJ**	**37.51**	**123**	*e*P	**P**	**09 54 03.8**	**+0.5**
BSFB	**Barra de Sao F**	**37.58**	**117**	*e*P	**P**	**09 54 03.6**	**-0.3**
NBIT	**Itapeh - BA**	**37.72**	**110**	*e*P	**P**	**09 54 05.2**	**+0.2**
CMC01	**Camacan, BA**	**37.75**	**111**	*e*P	**P**	**09 54 05.3**	**0.0**
GUA01	**Guaratinga, BA**	**37.81**	**113**	*e*P	**P**	**09 54 05.7**	**-0.1**
NAN01	**Guarapari, ES**	**37.90**	**115**	*e*P	**P**	**09 54 06.7**	**+0.2**
CAM01	**Campos-RJ**	**38.01**	**122**	*e*P	**P**	**09 54 07.6**	**+0.2**
RIB01	**Linhares ES**	**38.15**	**118**	*e*P	**P**	**09 54 08.1**	**-0.5**
ALF01	**Guarapari-ES**	**38.33**	**120**	*e*P	**P**	**09 54 09.6**	**-0.4**
NBLV	**Livramento - P**	**38.95**	**98**	*e*P	**P**	**09 54 13.2**	**-2.2**
NBAN	**Anadia - AL**	**39.80**	**101**	*e*P	**P**	**09 54 21.4**	**-1.0**
V48A	**Smith Brothers**	**40.04**	**346**	P	**P**	**09 54 24.1**	**0.0**
TZTN	**Tazewell**	**40.15**	**350**	P	**P**	**09 54 25.2**	**+0.3**
TZTN				IAmb	IAmb	09 54 37.8	
	comp=Z,12nm,1.3s						
NBRF	**Rio Formoso -**	**40.82**	**100**	*e*P	**P**	**09 54 29.1**	**-1.7**
TXAR	**Lajitas Array**	**41.90**	**322**	P	**P**	**09 54 41.5**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=146,slow=9.1,SNR=22						
TXAR				PcP	**PcP**	**09 56 34.6**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=152,slow=6.4,SNR=12						
TXAR	**Lajitas Array**	**41.90**	**322**	P	**P**	**09 54 41.2**	**+1.7**
TX31	**Lajitas Ar. Si**	**41.90**	**322**	P	**P**	**09 54 41.2**	**+1.7**
TX32	**Lajitas Array**	**41.90**	**322**	P	**P**	**09 54 41.2**	**+1.6**
PBMO	**Poplar Bluff**	**42.00**	**342**	P	**P**	**09 54 39.8**	**-0.2**
U40A	**Yellville**	**42.40**	**339**	P	**P**	**09 54 43.2**	**-0.2**
T42A	**Van Buren**	**42.43**	**342**	IAmb	IAmb	09 54 43.2	
	comp=Z,3.7nm,0.6s						
T42A				P	**P**	**09 54 43.4**	**-0.2**
FNO	**Franklin**	**43.24**	**334**	P	**P**	**09 54 50.8**	**+0.7**
BLO	**Bloomington**	**43.26**	**348**	P	**P**	**09 54 49.7**	**-0.5**
CCM	**Cathedral Cave**	**43.42**	**342**	P	**P**	**09 54 51.2**	**-0.3**
WMOK	**Wichita Mounta**	**43.43**	**332**	P	**P**	**09 54 52.2**	**+0.5**
N54A	**Moraine State**	**44.07**	**355**	P	**P**	**09 54 56.7**	**+0.1**
N54A				IAmb	IAmb	09 54 58.3	
	comp=Z,7.8nm,0.9s						
M54A	**Oil Creek Stat**	**44.59**	**356**	P	**P**	**09 55 00.8**	**+0.1**
M54A				IAmb	IAmb	09 55 02.7	
	comp=Z,8.0nm,0.8s						
MNTX	**Cornudas Mount**

RYN				IAmb	IAmb	09 56 38.2	
	comp=Z,2.8nm,1.1s						
YERR	**Yerington**	**57.93**	**321**	P	**P**	**09 56 42.4**	**+1.9**
YERR				IAmb	IAmb	09 56 43.3	
	comp=Z,4.3nm,1.3s						
BOZ	**Bozeman (W)**	**58.02**	**331**	P	**P**	**09 56 41.8**	**+0.9**
BOZ				IAmb	IAmb	09 56 43.0	
	comp=Z,2.6nm,0.8s						
VCNR	**Virginia City**	**58.37**	**321**	P	**P**	**09 56 45.4**	**+1.8**
VCNR				IAmb	IAmb	09 56 46.6	
	comp=Z,2.6nm,0.9s						
MFID	**Camas Ranch**	**58.67**	**327**	P	**P**	**09 56 47.0**	**+1.6**
MFID				IAmb	IAmb	09 56 48.1	
	comp=Z,3.9nm,0.8s						
ORV	**Oroville**	**59.69**	**320**	P	**P**	**09 56 54.6**	**+2.2**
ORV				IAmb	IAmb	09 56 55.6	
	comp=Z,6.0nm,1.0s						
F10A	**Beach Ranch, E**	**61.11**	**328**	P	**P**	**09 57 04.2**	**+2.2**
F10A				IAmb	IAmb	09 57 07.4	
	comp=Z,2.7nm,1.0s						
I07A	**Izee**	**61.15**	**325**	P	**P**	**09 57 04.1**	**+1.8**
I07A				IAmb	IAmb	09 57 05.0	
	comp=Z,3.3nm,0.8s						
PINE	**Pine Mountain**	**61.80**	**324**	P	**P**	**09 57 08.3**	**+1.5**
PINE				IAmb	IAmb	09 57 10.1	
	comp=Z,7.5nm,1.2s						
LIC	**Lamto**	**71.29**	**82**	*e*P	**P**	**09 58 07.3**	**-0.1**
	comp=Z,12nm,0.3s						
TIC	**Toumodi**	**71.34**	**82**	*e*P	**P**	**09 58 08.7**	**+1.0**
KIC	**Kosan Boka**	**71.59**	**82**	*e*P	**P**	**09 58 10.0**	**+0.8**
	comp=Z,11nm,0.3s						
YKA	**Yellowknife Ar**	**71.76**	**342**	P	**P**	**09 58 09.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=141,slow=6.4,SNR=3.5						
ESDC	**Sonseca Array**	**78.16**	**49**	P	**P**	**09 58 46.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=263,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**78.58**	**76**	P	**P**	**09 58 49.0**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=282,slow=5.8,SNR=46						
SUMG	**Summit**	**79.22**	**11**	*i* P	**P**	**09 58 52.4**	**+0.3**
SUMG				IAmb	IAmb	09 58 53.3	
	comp=Z,9.7nm,0.6s						
NEEM	**North Greenlan**	**81.66**	**5**	*i* P	**P**	**09 59 05.6**	**+0.7**
ILAR	**Eielson Array**	**84.87**	**336**	P	**P**	**09 59 22.1**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=106,slow=4.1,SNR=10						
ILAR				pP	**pP**	**09 59 57.6**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=104,slow=4.5,SNR=2.6						
DAG	**Danmarks Havn**	**85.90**	**11**	*i* P	**P**	**09 59 26.0**	**-0.1**
DAG				IAmb	IAmb	09 59 26.9	
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**126.94**	**14**	PKP	**PKiKP**	**10 05 50.9**	**+0.8**
	comp=Z,2.9nm,0.4s,baz=266,slow=2.9,SNR=9.9						
ZALV				pPKP	**pPKPdf**	**10 06 27.7**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=241,slow=2.1,SNR=3.8						
KLR	**Kul'dur**	**128.43**	**337**	PKP	**PKiKP**	**10 05 53.0**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=0.0,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**132.55**	**20**	PKP	**PKiKP**	**10 06 01.6**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=308,slow=2.6,SNR=20						
MKAR				pPKP	**pPKPdf**	**10 06 38.3**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=313,slow=1.9,SNR=3.1						
KSRS	**Korea Array**	**139.50**	**330**	PKP	**PKiKP**	**10 06 15.2**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=50,slow=1.4,SNR=4.4						
ASAR	**Alice Springs**	**140.65**	**226**	PKhKP	PKPpre	10 06 10.2	
	comp=Z,0.7nm,0.4s,baz=124,slow=3.9,SNR=18						
WRA	**Warramunga Arr**	**142.53**	**231**	PKhKP	PKPpre	10 06 17.2	
	comp=Z,2.6nm,0.5s,baz=122,slow=2.6,SNR=45						
XAN	**Xi'an**	**148.95**	**352**	PKP	**PKiKP**	**10 06 35.4**	**-0.3**
XAN				pPKP	PKPab	10 06 47.5	+8.7
XAN				sPKP		10 06 52.3	

IDC ***12*** *10:09:39.6±5.4,36°.23N×71°.52E,h189km±48km,mb3.1/6, mb1 3.3/11,mb1mx3.1/51,mbtmp3.8/11,Error ellipse: s-maj=58.3km s-min=37.8km az=143.0*
NNC ***12*** *10:09:42.9±8.2,37°.09N×70°.70E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=65.6km s-min=49.5km az=173.0*
ISC 12 10:09:43.6±1.4,36°.7N±0°.1×71°.2E±0°.1,h188km,n24, σ1§42/29,mb3.4/6,6C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.74**	**19**	P	**Pn**	**10 11 08.8**	**+1.2**
	SNR=89						
EKS2	**Erkin-Say**	**6.26**	**18**	P	**Pn**	**10 11 15.6**	**+1.5**
	SNR=15						
KK31	**Karatay Array**	**6.38**	**356**	⇓P	**Pn**	**10 11 13.9**	**-1.8**
	7.4nm,0.5s,baz=178,slow=13						
KK31				⇓S	**Sn**	**10 12 25.3**	**-3.2**
	7.9nm,0.3s,baz=186,slow=25						
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**10 11 17.6**	**+1.2**
	6.0nm,0.3s,baz=201,slow=7.2,SNR=22						
AAK				S	**Sn**	**10 12 28.7**	**-1.1**
	1.1nm,0.3s,baz=328,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**10 11 18.1**	**+1.7**
	SNR=5.8						
AAK	**Ala-Archa**	**6.43**	**22**	⇑P	**Pn**	**10 11 17.2**	**+0.7**
	12nm,0.4s						
AAK				⇑S	**Sn**	**10 12 29.0**	**-0.8**
	13nm,0.6s						
KBK	**Karagaybulak**	**6.60**	**25**	P	**Pn**	**10 11 19.9**	**+1.3**
	SNR=13						
ULHL	**Ulahol**	**6.76**	**34**	P	**Pn**	**10 11 21.6**	**+0.8**
	SNR=6.0						
CHMS	**Chumysh**	**6.84**	**23**	P	**Pn**	**10 11 22.6**	**+0.9**
	SNR=7.8						
USP	**Ospenovka**	**7.01**	**20**	P	**Pn**	**10 11 24.4**	**+0.6**
	SNR=9.9						
TKM2	**Tokmak 2**	**7.06**	**28**	P	**Pn**	**10 11 25.3**	**+0.6**
	SNR=36						
TKM2	**Tokmak 2**	**7.06**	**28**	⇑P	**Pn**	**10 11 24.8**	**+0.1**
	38nm,1.1s						
TKM2				⇑S	**Sn**	**10 12 43.4**	**-1.3**
	3.5nm,0.9s						
MKAR	**Makanchi Array**	**13.03**	**36**	P	**Pn**	**10 12 40.7**	**-1.0**
	0.1nm,0.3s,baz=205,slow=9.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**14.86**	**19**	P	**Pn**	**10 13 04.0**	**-0.4**
	0.1nm,0.3s,baz=206,slow=9.8,SNR=1.6						
AB31	**Akbulak array**	**14.95**	**330**	⇑P	**P**	**10 13 10.0**	**+3.5**
	1.6nm,0.7s						
AB31				⇑S	**Sn**	**10 15 51.7**	**-0.7**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**16.65**	**329**	P	**Pn**	**10 13 27.1**	**+1.0**
	1.0nm,0.3s,baz=133,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**19.65**	**25**	P	**P**	**10 13 57.2**	**-0.6**
	0.5nm,0.3s,baz=215,slow=12,SNR=4.4						
AKASG	**Malin Array Be**	**32.90**	**309**	P	**P**	**10 16 00.0**	**+0.2**
	0.5nm,0.5s,baz=82,slow=6.5,SNR=2.2						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**10 16 38.5**	**+0.7**
	1.0nm,0.6s,baz=120,slow=11,SNR=8.8						
ARCES	**ARCESS Array B**	**40.98**	**337**	P	**P**	**10 17 08.3**	**+0.7**
	0.7nm,0.4s,baz=119,slow=8.4,SNR=12						
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**10 17 33.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**10 17 34.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=7.8,SNR=4.9						
ESDC	**Sonseca Array**	**57.47**	**298**	P	**P**	**10 19 12.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=61,slow=5.7,SNR=4.3						
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P	**P**	**10 20 06.7**	**-2.6**
	comp=Z,0.2nm,0.4s,baz=50,slow=7.7,SNR=1.2						

IDC ***12*** *10:11:26.8±0.7,16°.44S×177°.66E,h0km,mb4.0/13, mb1 4.3/13,mb1mx4.1/29,mbtmp4.0/13,MS3.6/16, Ms1 3.6/16,ms1mx3.5/30,Error ellipse: s-maj=21.9km s-min=17.5km az=123.0*
NEIC ***12*** *10:11:32.6±1.3,16°.64S±0°.09×177°.8E±0°.1,h31km±4km, mb4.5/11,Error ellipse: s-maj=16.1km s-min=11.3km az=57.0*
ISC 12 10:11:30.8±0.5,16°.52S±0°.07×177°.7E±0°.1,h24km,n64, σ1§93/48,mb4.2/18,MS3.7/16,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.25**	**163**	P	**Pn**	**10 11 52.2**	**-0.8**
	175nm,0.3s,baz=310,slow=12,SNR=289						
MSVF				Sn	**Sb**	**10 12 10.3**	**+0.6**
	749nm,0.3s,baz=252,slow=20,SNR=8.6						
MSVF				LR	LR	10 12 36.3	
	comp=Z,1μm,21.0s,baz=347,slow=51						
DZM	**Mont Dzumac**	**11.95**	**241**	LR	LR	10 18 16.7	
	comp=Z,313nm,21.1s,baz=70,slow=34						
DZM	**Mont Dzumac**	**11.95**	**241**	*e*LR	LR	10 16 46.1	
	comp=Z,668nm,26.9s						
RAO	**Raoul Island**	**13.30**	**163**	LR	LR	10 18 29.1	
	comp=Z,406nm,19.9s,baz=319,slow=32						
HNR	**Honiara**	**18.65**	**290**	LR	LR	10 22 22.4	
	comp=Z,207nm,18.0s,baz=128,slow=35						
URZ	**Urewera**	**21.66**	**181**	P	**P**	**10 16 21.1**	**+1.5**
	10nm,0.9s,baz=353,slow=17,SNR=1.9						
URZ				LR	LR	10 23 37.9	
	comp=Z,158nm,20.7s,baz=5.5,slow=34						
RAR	**Rarotonga**	**21.84**	**106**	LR	LR	10 23 04.5	
	comp=Z,100nm,20.1s,baz=274,slow=32						
LTZ	**Lake Taylor**	**26.57**	**189**	P	**P**	**10 17 06.9**	**-0.2**
LTZ				IAmb	IAmb	10 17 17.8	
	comp=Z,10nm,0.8s						
CTA	**Charters Tower**	**30.02**	**258**	P	**P**	**10 17 38.5**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=73,slow=11,SNR=2.7						
PMG	**Port Moresby**	**30.54**	**280**	LR	LR	10 27 36.6	
	comp=Z,150nm,18.3s,baz=330,slow=32						
PPT2	**Papeete2**	**31.31**	**97**	*e*LQ	LQ	10 24 31.0	
	comp=Z,536nm,27.0s						
PPT2				*e*LR	LR	10 25 50.5	
	comp=Z,386nm,29.2s						
PPT	**Papeete**	**31.31**	**97**	LR	LR	10 27 43.9	
	comp=Z,30nm,19.3s,baz=263,slow=31						
TBI	**Tubuai**	**31.58**	**108**	*e*LQ	LQ	10 24 37.9	
	comp=Z,400nm,25.0s						
TBI				*e*LR	LR	10 25 58.3	
	comp=Z,454nm,31.0s						
STKA	**Stephens Creek**	**36.09**	**238**	P	**P**	**10 18 30.6**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=91,slow=13,SNR=4.4						
STKA				LR	LR	10 32 01.2	
	comp=Z,120nm,18.5s,baz=40,slow=34						
STKA	**Stephens Creek**	**36.09**	**238**	P	**P**	**10 18 30.7**	**-0.2**
STKA				IAmb	IAmb	10 18 40.5	
	comp=Z,2.2nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**36.43**	**342**	T	T	10 56 53.8	
	baz=162,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**36.44**	**342**	T	T	10 56 54.1	
	baz=162,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**36.45**	**342**	T	T	10 56 55.3	
	baz=162,slow=76,SNR=5.0						
WRA	**Warramunga Arr**	**41.22**	**258**	P	**P**	**10 19 13.1**	**-1.1**
	comp=Z,4.7nm,1.2s,baz=90,slow=8.0,SNR=5.4						
WRA	**Warramunga Arr**	**41.22**	**258**	P	**P**	**10 19 16.0**	**+1.8**
AS31	**Alice Springs**	**41.59**	**253**	P	**P**	**10 19 17.7**	**+0.5**
ASAR	**Alice Springs**	**41.59**	**253**	P	**P**	**10 19 17.0**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=80,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**41.59**	**253**	P	**P**	**10 19 19.0**	**+1.8**
TAOE	**Nuku Hiva Isla**	**41.78**	**85**	*e*LR	LR	10 30 33.0	
	comp=Z,146nm,29.8s						
SDHHI	**Sand Hill**	**44.50**	**38**	P	**P**	**10 19 41.0**	**+0.2**
KNRA	**Kununurra**	**46.91**	**264**	P	**P**	**10 19 59.3**	**-0.5**
SBA	**Scott Base**	**61.59**	**183**	P	**P**	**10 21 43.0**	**-2.8**
SBA				IAmb	IAmb	10 21 58.1	
	comp=Z,13nm,1.5s						
MJAR	**Matsushiro Arr**	**64.61**	**325**	P	**P**	**10 22 04.6**	**-1.8**
	comp=Z,2.6nm,1.0s,baz=161,slow=6.3,SNR=5.7						
MJAR				LR	LR	10 45 33.7	
	comp=Z,47nm,21.6s,baz=160,slow=32						
KSRS	**Korea Array**	**71.21**	**320**	LR	LR	10 46 44.1	
	comp=Z,64nm,21.9s,baz=130,slow=30						
PETK	**Petropavlovsk-**	**71.46**	**347**	P	**P**	**10 22 50.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=147,slow=8.1,SNR=2.1						
QSPA	**South Pole Qui**	**73.52**	**180**	P	**P**	**10 23 02.7**	**+1.2**
QSPA				IAmb	IAmb	10 23 08.7	
	comp=Z,9.1nm,1.0s						
YBH	**Yreka Blue Hor**	**79.88**	**41**	P	**P**	**10 23 36.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=260,slow=6.1,SNR=3.5						
YBH	**Yreka Blue Hor**	**79.88**	**41**	P	**P**	**10 23 38.2**	**+0.5**
YBH				IAmb	IAmb	10 23 46.5	
	comp=Z,2.6nm,1.2s						
NVAR	**Mina Array Bea**	**81.08**	**46**	P	**P**	**10 23 44.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=230,slow=10,SNR=4.1						
NVAR				LR	LR	10 52 00.0	
	comp=Z,57nm,20.7s,baz=248,slow=30						
NVAR	**Mina Array Bea**	**81.08**	**46**	P	**P**	**10 23 43.8**	**-0.6**
RND	**Reindeer**	**83.82**	**14**	P	**P**	**10 23 59.0**	**+1.0**
RND				IAmb	IAmb	10 24 06.4	
	comp=Z,5.2nm,1.1s						
U15A	**North Rim**	**84.43**	**50**	P	**P**	**10 24 02.1**	**+0.1**
U15A				IAmb	IAmb	10 24 05.2	
	comp=Z,3.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**84.89**	**291**	P	**P**	**10 24 03.6**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=123,slow=3.3,SNR=1.2						
CMAR				LR	LR	11 00 18.1	
	comp=Z,28nm,19.9s,baz=192,slow=34						
ILAR	**Eielson Array**	**85.44**	**14**	P	**P**	**10 24 04.1**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=223,slow=6.0,SNR=7.2						
ILAR	**Eielson Array**	**85.44**	**14**	P	**P**	**10 24 04.6**	**-1.4**
TXAR	**Lajitas Array**	**88.46**	**59**	P	**P**	**10 24 22.8**	**+1.1**
	comp=Z,1.6nm,1.2s,baz=241,slow=2.6,SNR=5.1						
TXAR	**Lajitas Array**	**88.46**	**59**	P	**P**	**10 24 21.0**	**-0.7**
PDAR	**Pinedale Array**	**88.97**	**45**	P	**P**	**10 24 23.0**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=218,slow=5.7,SNR=2.0						
PDAR				LR	LR	10 56 47.8	
	comp=Z,33nm,19.9s,baz=258,slow=31						
SONM	**Songino Array**	**90.08**	**320**	LR	LR	10 58 20.2	
	comp=Z,44nm,21.0s,baz=108,slow=31						
INK	**Inuvik**	**91.58**	**16**	LR	LR	10 59 23.0	
	comp=Z,26nm,19.3s,baz=126,slow=31						
YKA	**Yellowknife Ar**	**94.67**	**26**	LR	LR	10 59 10.9	
	comp=Z,40nm,21.8s,baz=0.0,slow=30						
KHC	**Kasperske Hory**	**144.99**	**342**	*e*PKP	**PKiKP**	**10 31 14.2**	**+4.2**
CKRC	**Cesky Krumlov**	**145.04**	**341**	*e*PKP	**PKiKP**	**10 31 15.2**	**+5.2**
GERES	**GERESS Array B**	**145.21**	**341**	PKPbc	**PKPab**	**10 31 06.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=4.9,SNR=3.7						
GERES	**GERESS Array B**	**145.21**	**341**		**PKPbc**	**10 31 05.5**	**-0.7**
CONA	**Conrad Observa**	**145.29**	**338**	*e*P	**PKiKP**	**10 31 14.5**	**+3.8**
	comp=Z,7.5nm,1.2s						
MOA	**Molln**	**145.91**	**340**	*e*P	**PKiKP**	**10 31 16.6**	**+4.7**
	comp=Z,6.1nm,1.4s						
SOKA	**Soboth**	**146.65**	**338**	*e*P	**PKPab**	**10 31 11.2**	**-0.6**
	comp=Z,3.0nm,1.4s						
KBA	**Koelnbreinsper**	**146.88**	**340**	*e*P	**PKiKP**	**10 31 16.4**	**+2.3**
	comp=Z,3.1nm,1.2s						
OBKA	**Obir**	**146.97**	**338**	*e*P	**PKiKP**	**10 31 17.5**	**+3.3**
	comp=Z,4.7nm,1.2s						
MYKA	**Terra Mystica**	**147.18**	**340**	*e*P	**PKiKP**	**10 31 18.0**	**+3.4**
	comp=Z,3.7nm,0.9s						
WATA	**Walderalm**	**147.19**	**342**	*e*P	**PKiKP**	**10 31 16.2**	**+1.5**
	comp=Z,1.9nm,0.8s						
WTTA	**Wattenberg**	**147.24**	**342**	*e*P	**PKiKP**	**10 31 18.9**	**+4.1**
	comp=Z,4.2nm,0.8s						
RETA	**Reutte**	**147.29**	**343**	*e*P	**PKPab**	**10 31 14.0**	**-0.2**
	comp=Z,3.7nm,1.1s						
MOTA	**Moosalm**	**147.32**	**343**	*e*P	**PKiKP**	**10 31 15.1**	**+0.1**
	comp=Z,4.5nm,0.9s						
SQTA	**Sankt Quirin**	**147.41**	**343**	*e*P	**PKiKP**	**10 31 15.1**	**0.0**
	comp=Z,1.7nm,0.7s						
ABTA	**Abfaltersbach**	**147.44**	**341**	*e*P	**PKPab**	**10 31 14.7**	**-0.2**
	comp=Z,2.0nm,1.0s						
DAVA	**Samuels**	**147.71**	**344**	*e*P	**PKPbc**	**10 31 13.0**	**-0.7**
	comp=Z,5.2nm,1.2s						
FETA	**Feichten**	**147.72**	**343**	*e*P	**PKiKP**	**10 31 14.8**	**-1.0**
	comp=Z,1.7nm,0.8s						

GUC ***12*** *10:20:44.9±0.8,20°.88S×68°.81W,h100km±5km,ML3.8*
IDC ***12*** *10:20:46.2±1.4,21°.01S×68°.21W,h100km±17km,mb3.3/1, mb1 3.4/4,mb1mx3.2/21,mbtmp3.7/4,Error ellipse: s-maj=49.3km s-min=14.9km az=111.0*
ISC 12 10:20:44.5±0.9,20°.85S±0°.04×68°.88W±0°.08,h103km±9km, n17,σ1§09/27,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.59**	**251**	*e*P	**Pn**	**10 21 01.1**	**-0.3**
PB01				*i* S	**Sn**	**10 21 14.2**	**0.0**
PB01				IAML		10 21 15.6	
	comp=E,5μm,0.2s						
PB08	**IPOC Station P**	**0.75**	**340**	*e*P	**Pn**	**10 21 03.6**	**+0.4**
PB08				*i* S	**Sn**	**10 21 18.1**	**+1.0**
PB08				IAML		10 21 19.5	
	comp=E,3μm,0.3s						
PB02	**IPOC Station P**	**1.05**	**244**	*e*P	**Pn**	**10 21 05.8**	**-0.1**
PB02				*i* S	**Sn**	**10 21 22.5**	**+0.5**
PB02				IAML		10 21 24.1	
	comp=E,5μm,0.2s						
TA01	**Diego Aracena**	**1.25**	**283**	*e*P	**Pn**	**10 21 07.6**	**-0.3**
TA01				*i* S	**Sn**	**10 21 26.1**	**+0.4**
TA01				IAML		10 21 27.2	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**1.28**	**227**	*e*P	**Pn**	**10 21 08.4**	**0.0**
PB07				*i* S	**Sn**	**10 21 26.8**	**+0.2**
PB07				IAML		10 21 28.1	
	comp=N,3μm,0.2s						
TA02	**Huaiquique**	**1.30**	**296**	*e*P	**Pn**	**10 21 08.5**	**-0.1**
TA02				*e*S	**Sn**	**10 21 27.5**	**+0.7**
PSGC	**Pisagua**	**1.71**	**317**	*e*P	**Pn**	**10 21 13.6**	**-0.1**
PSGC				*i* S	**Sn**	**10 21 36.8**	**+1.0**
PSGC				IAML		10 21 37.8	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**1.75**	**181**	P	**Pn**	**10 21 15.2**	**+0.8**
	comp=E,16nm,0.3s,baz=36,slow=15,SNR=113						
LVC				S	**Sn**	**10 21 37.9**	**+0.8**
	comp=E,33nm,0.3s,baz=40,slow=9.8,SNR=26						
LVC	**Limon Verde**	**1.75**	**181**	*e*P	**Pn**	**10 21 14.9**	**+0.5**
LVC				*e*S	**Sn**	**10 21 37.5**	**+0.5**
MNMC	**Minye Minye**	**1.84**	**339**	*e*P	**Pn**	**10 21 16.4**	**+0.9**
PB04	**IPOC Station P**	**1.89**	**218**	*e*P	**Pn**	**10 21 15.8**	**-0.1**
PB04				*i* S	**Sn**	**10 21 40.5**	**+0.6**
PB05	**IPOC Station P**	**2.34**	**211**	*e*P	**Pn**	**10 21 21.6**	**-0.1**
PB05				IAML		10 21 58.8	
	comp=E,286nm,0.2s						
LPAZ	**La Paz**	**4.60**	**9**	P	**Pn**	**10 21 55.4**	**+3.0**
	comp=E,1.3nm,0.3s,baz=187,slow=6.9,SNR=41						
SIV	**San Ignacio**	**8.85**	**58**	P	**Pn**	**10 22 46.4**	**-3.3**
	comp=E,0.8nm,0.3s,baz=248,slow=12,SNR=17						
PLCA	**Paso Flores**	**19.87**	**184**	P	**Pn**	**10 25 10.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=16,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	**P**	**10 32 26.1**	**-1.1**
	comp=E,0.3nm,0.4s,baz=255,slow=5.1,SNR=4.1						
MKAR	**Makanchi Array**	**145.10**	**35**	PKP	**PKPdf**	**10 40 09.8**	**0.0**
	comp=E,0.5nm,0.7s,baz=330,slow=3.6,SNR=5.6						

SOME ***12*** *10:29:10.1,41°.78N×81°.03E,h10km*
NNC ***12*** *10:29:11.1±2.1,41°.72N×80°.98E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=18.7km s-min=13.5km az=56.0*
ISC 12 10:29:07.9±3.1,41°.9N±0°.1×81°.6E±0°.2,h17km±16km,n15, σ1§23/25,3C-1D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.82**	**331**	*e*P	**Pg**	**10 29 42.9**	**-0.1**
	7.9nm,0.2s						
KTMS				*e*S	**Sg**	**10 30 06.6**	**-0.1**
	86nm,0.2s						
KTMS	**Ketmen**	**1.82**	**331**	P	**Pg**	**10 29 42.9**	**-0.1**
	7.9nm,0.2s						
KTMS				S	**Sg**	**10 30 06.6**	**-0.1**
	86nm,0.2s						
SHLS	**Shalkode**	**2.02**	**311**	*e*P	**Pn**	**10 29 41.5**	**+0.2**
	18nm,0.2s						
SHLS				*e*S	**Sn**	**10 30 04.0**	**-2.3**
	50nm,0.3s						
SHLS	**Shalkode**	**2.02**	**311**	P	**Pn**	**10 29 41.5**	**+0.2**
	18nm,0.2s						
SHLS				S	**Sn**	**10 30 04.0**	**-2.3**
	50nm,0.3s						
PDGK	**Podgornoye**	**2.12**	**315**	Pg	**Pb**	**10 29 46.4**	**+0.4**
	7.2nm,0.3s						
PDGK				Lg	Lg	10 30 12.5	
	6.4nm,0.4s						
PDGK	**Podgornoye**	**2.12**	**315**	⇑P	**Pb**	**10 29 46.2**	**+0.2**
	7.1nm,0.4s						
PDGK				⇓S	**Sb**	**10 30 13.5**	**+1.5**
	20nm,0.7s						
UZB	**Uzynbulak**	**2.27**	**306**	*e*P	**Pb**	**10 29 48.7**	**+0.1**
	16nm,0.3s						
UZB				*e*S	**Sb**	**10 30 16.2**	**-0.2**
	29nm,0.2s						
UZB	**Uzynbulak**	**2.27**	**306**	Pg	**Pb**	**10 29 48.7**	**+0.1**
	16nm,0.3s						
UZB				Lg	Lg	10 30 16.2	
	29nm,0.2s						
SATY	**Saty**	**2.62**	**299**	*e*P	**Pb**	**10 29 52.5**	**-1.9**
	4.6nm,0.2s						
SATY				*e*S	**Sn**	**10 30 23.2**	**+2.1**
	22nm,0.2s						
SATY	**Saty**	**2.62**	**299**	Pg	**Pb**	**10 29 52.5**	**-1.9**
	4.6nm,0.2s						
SATY				Lg	Lg	10 30 23.2	
	22nm,0.2s						
KPKS	**Kokpek**	**2.66**	**308**	*e*P	**Pb**	**10 29 54.5**	**-0.6**
	6.4nm,0.1s						
KPKS				*e*S	**Sb**	**10 30 26.4**	**-1.1**
	40nm,0.3s						
ARXS	**Arharly**	**3.61**	**312**	*e*P	**Pb**	**10 30 11.5**	**+0.3**
	4.2nm,0.4s						
ARXS				*e*S	**Sb**	**10 30 56.0**	**+1.2**
	4.3nm,0.3s						
KTBS	**Karatobe**	**4.04**	**299**	*e*P	**Pb**	**10 30 19.1**	**+0.6**
	0.9nm,0.2s						
KTBS				*e*S	**Sb**	**10 31 08.7**	**+1.7**
	5.6nm,0.4s						
KTBS	**Karatobe**	**4.04**	**299**	Pg

comp=Z,425nm,20.3s,baz=160,slow=34
CPUP Villa Florida 35.75 312 P **P 10 42 51.7 -0.1**
CPUP Villa Florida 35.75 312 *eP* **P 10 42 51.5 -0.2**
ALF01 Guarapari-ES 35.87 340 *eP* **P 10 42 53.5 +0.7**
BO01 Tunca 35.92 288 P **P 10 42 52.1 -1.1**
BO01 IAmb IAmb 10 43 18.0
comp=Z,26nm,1.1s
GO05 Huala 35.92 286 P **P 10 42 51.9 -1.4**
MT03 Universidad Ad 36.29 289 P **P 10 42 55.7 -0.8**
MT03 IAmb IAmb 10 43 11.7
comp=Z,28nm,0.9s
MT09 Talagante 36.34 289 P **P 10 42 56.4 -0.5**
VA05 Santo Domingo 36.77 288 P **P 10 43 00.2 -0.2**
ZON Zonda 36.83 293 P **P 10 43 01.2 +0.2**
ZON IAmb IAmb 10 43 01.6
comp=Z,20nm,0.8s
VA03 San Esteban 36.87 290 P **P 10 43 01.0 -0.4**
RIB01 Linhares ES 37.08 341 *eP* **P 10 43 03.5 +0.4**
BSFB Barra de Sao F 37.63 341 *eP* **P 10 43 08.4 +0.6**
PCMB Pacaembu 37.73 324 *eP* **P 10 43 08.3 -0.4**
SJMB Sao Joao De Ma 37.82 340 *eP* **P 10 43 09.8 +0.4**
CO02 Combarbal 38.32 291 P **P 10 43 13.8 +0.1**
CO02 IAmb IAmb 10 43 16.3
comp=Z,34nm,0.7s
NAN01 Guarapari, ES 38.46 342 *eP* **P 10 43 15.2 +0.4**
DIAM Diamantina, MG 38.73 337 *eP* **P 10 43 19.5 +2.2**
GO04 Tololo Observa 39.03 293 P **P 10 43 19.6 -0.2**
GO04 IAmb IAmb 10 43 24.6
comp=Z,27nm,0.8s
ITRB Iturama 39.21 326 *eP* **P 10 43 21.6 +0.5**
GUA01 Guaratinga, BA 39.64 343 *eP* **P 10 43 25.4 +0.7**
IPMB Ipameri, GO 40.19 330 *eP* **P 10 43 29.7 +0.3**
MC01 Montes Claros 40.33 337 *eP* **P 10 43 31.4 +0.9**
AQDB Aquidauana 40.35 319 P **P 10 43 30.2 -0.3**
AQDB Aquidauana 40.35 319 *eP* **P 10 43 30.3 -0.3**
AC04 Llanos de Chal 40.74 294 P **P 10 43 33.4 -0.3**
CMC01 Camacan, BA 40.80 344 *eP* **P 10 43 34.6 +0.4**
GO03 Copiap 40.80 296 P **P 10 43 33.6 -0.7**
GO03 IAmb IAmb 10 43 35.2
comp=Z,33nm,1.0s
AC02 Maricunga 40.85 297 P **P 10 43 35.2 0.0**
AC02 IAmb IAmb 10 43 38.4
comp=Z,36nm,1.1s
MAW Mawson 41.18 144 P **P 10 43 36.4 -0.5**
comp=Z,2.6nm,0.7s,baz=237,slow=9.4,SNR=3.2
MAW Mawson 41.18 144 P **P 10 43 36.5 -0.4**
SUR Sutherland 41.24 77 P **P 10 43 39.2 +1.1**
comp=Z,10nm,0.8s,baz=205,slow=8.9,SNR=2.2
JANB Januaria 42.01 337 *eP* **P 10 43 44.1 -0.2**
BDFB Brasilia 42.37 332 P **P 10 43 48.5 +1.3**
comp=Z,3.7nm,0.7s,baz=157,slow=6.9,SNR=8.2
BDFB Brasilia 42.37 332 P **P 10 43 47.6 +0.3**
GDU01 Guandu, BA 42.41 344 *eP* **P 10 43 48.5 +1.0**
PP1B Ponte de Pedra 42.69 321 *eP* **P 10 43 50.5 +0.7**
PB14 IPOC Station P 43.32 298 P **P 10 43 54.4 -0.8**
ARAG Araguaiana, MT 43.42 326 *eP* **P 10 43 56.3 +0.6**
LVC Limon Verde 44.26 301 P **P 10 44 03.0 +0.2**
LVC IAmb IAmb 10 44 05.8
comp=Z,19nm,0.7s
LVC Limon Verde 44.26 301 *eP* **P 10 44 04.1 +1.2**
SALV Santo Antonio 44.55 321 *eP* **P 10 44 05.0 +0.3**
SDBA SAO DESIDERIO 44.70 337 *eP* **P 10 44 07.4 +1.4**
PB07 IPOC Station P 45.48 301 P **P 10 44 12.2 -0.1**
PB07 IAmb IAmb 10 44 13.4
comp=Z,34nm,1.3s
PEXB Peixe 45.82 333 *eP* **P 10 44 15.5 +0.6**
PB01 IPOC Station P 45.87 302 P **P 10 44 15.7 +0.4**
PTLB Pontes e Lacer 46.24 317 *eP* **P 10 44 17.8 -0.3**
SBA Scott Base 46.72 184 P **P 10 44 21.0 -0.2**
SBA IAmb IAmb 10 44 23.4
comp=Z,14nm,1.3s
SNDB Serra Nova Dou 46.78 329 *eP* **P 10 44 23.1 +0.7**
NBRF Rio Formoso - 46.84 351 *eP* **P 10 44 22.9 +0.1**
VNDA Vanda 47.23 183 P **P 10 44 25.4 +0.2**
comp=Z,6.3nm,0.6s,baz=190,slow=6.9,SNR=36
VNDA LR LR 11 04 00.7
comp=Z,102nm,18.3s,baz=153,slow=36
VNDA Vanda 47.23 183 P **P 10 44 25.1 -0.1**
VNDA IAmb IAmb 10 44 27.5
comp=Z,8.0nm,0.8s
PSGCX Pisagua 47.41 302 P **P 10 44 27.7 +0.3**
PSGCX IAmb IAmb 10 44 42.9
comp=Z,30nm,1.4s
MNMC Minye Minye 47.55 303 P **P 10 44 28.8 +0.1**
H10S2 ASCENSION HYDR 47.58 19 T T 11 35 50.1
baz=190,slow=74,SNR=9.4
H10S3 ASCENSION HYDR 47.58 19 T T 11 36 18.1
baz=30,slow=74,SNR=17
H10N1 ASCENSION HYDR 48.70 19 T T 11 37 46.9
baz=190,slow=75,SNR=10.0
H10N3 ASCENSION HYDR 48.70 19 T T 11 37 17.0
baz=190,slow=75,SNR=22
H10N2 ASCENSION HYDR 48.71 19 T T 11 37 18.9
baz=190,slow=75,SNR=18
SMTB Santa Maria do 48.76 335 *eP* **P 10 44 38.9 +1.2**
VILB Vilhena 48.93 317 *eP* **P 10 44 39.4 +0.3**
CLDB Colider 49.25 324 *eP* **P 10 44 41.1 -0.3**
LPAZ La Paz 49.32 306 P **P 10 44 43.3 +0.6**
comp=Z,17nm,0.6s,baz=121,slow=4.4,SNR=92
LPAZ LR LR 11 04 02.3
comp=Z,188nm,21.9s,baz=166,slow=34
LPAZ La Paz 49.32 306 P **P 10 44 43.3 +0.6**
LPAZ La Paz 49.32 306 *eP* **P 10 44 43.3 +0.6**
LBTB Lobatse 49.58 75 P **P 10 44 43.9 -0.2**
comp=Z,6.3nm,0.8s,baz=208,slow=8.9,SNR=6.3
LBTB Lobatse 49.58 75 P **P 10 44 44.4 +0.4**
NBPA Parau_RN 49.93 349 *eP* **P 10 44 47.3 +0.7**
TSUM Tsumeb 50.05 63 P **P 10 44 48.4 +0.7**
NBPB Pedra_Branca-C 50.45 346 *eP* **P 10 44 51.1 +0.6**
NBCL Cascavel-CE 51.58 348 *eP* P 10 45 04.1 +5.1
PRPB Paraiapebas 51.90 333 *eP* **P 10 45 02.2 +0.7**
NPGB Novo Progresso 52.69 326 *eP* **P 10 45 07.2 -0.1**
NBMO Morrinhos-CE 52.71 346 *eP* **P 10 45 08.0 +0.6**
ETMB Extrema 54.21 312 *eP* **P 10 45 18.2 -0.2**
CASY Casey 54.83 161 P **P 10 45 20.6 -1.8**
PTGA Pitinga 60.13 323 P **P 10 45 57.0 -3.3**
OTAV Otavalo 68.60 305 *eP* **P 10 46 57.7 +1.4**
TULM Tulcn-Chalpat 68.72 306 *eP* **P 10 46 58.7 +1.7**
BBAC Balboa, Cauca 69.62 307 *eP* **P 10 47 02.5 +0.2**
POPC Popayan, Colom 69.82 308 *eP* P 10 46 55.9 -7.6
PRAC Prado 70.06 310 *eP* **P 10 47 04.9 +0.1**
ORTC Ortega, Tolima 70.39 310 *eP* **P 10 47 06.4 -0.4**
ROSC El Rosal 70.82 311 P **P 10 47 10.9 +1.1**
comp=Z,5.5nm,0.4s,baz=123,slow=9.1,SNR=4.6
YOTC Yotoco, Valle 70.95 309 *eP* **P 10 47 09.3 -1.0**
TOLC Tolima 71.03 310 *eP* **P 10 47 11.2 +0.1**
RUSC La Rusia 71.24 313 P **P 10 47 11.2 -1.3**
RUSC IAmb IAmb 10 47 12.7
comp=Z,12nm,1.0s
NORC Norcasia 71.71 311 *eP* **P 10 47 12.3 -2.5**
PLMC San Jos del P 71.74 309 *eP* **P 10 47 13.6 -1.4**
CBOC Ciudad Bolivar 72.47 310 *eP* **P 10 47 18.7 -0.8**
TOA0 Torodi Ar. Sit 72.85 31 P **P 10 47 21.6 +0.1**
TOA0 IAmb IAmb 10 47 36.9
comp=Z,13nm,0.8s
TORD Torodi Ar. Bea 72.85 31 P **P 10 47 21.9 +0.5**
comp=Z,10.0nm,0.7s,baz=202,slow=6.3,SNR=48
TORD LR LR 11 12 33.1
comp=Z,555nm,21.5s,baz=205,slow=30
TORD Torodi Ar. Bea 72.85 31 P **P 10 47 21.6 +0.1**
TORD IAmb IAmb 10 47 23.1
comp=Z,10nm,0.8s
DBBC Dabeiba 73.59 310 *eP* **P 10 47 25.8 -0.3**
LTZ Lake Taylor 80.64 195 P **P 10 48 05.2 -0.1**
LTZ IAmb IAmb 10 48 06.0
comp=Z,13nm,1.0s
MTO3 Montecristo 86.13 302 P **P 10 48 34.6 +0.7**
MTO3 IAmb IAmb 10 48 58.3
comp=Z,13nm,1.0s
TBI Tubuai 86.89 232 *eS* S 10 59 23.5 +10
comp=Z,85nm,24.0s
TBI Tubuai 86.89 232 *eLR* LR 11 16 13.0
comp=Z,306nm,29.8s
PPT2 Papeete2 91.94 235 *eS* **S 11 00 08.1 +7.6**
comp=Z,105nm,27.5s
PPT2 Papeete2 91.94 235 *eLR* LR 11 18 32.8
comp=Z,225nm,23.0s
PPT Papeete 91.96 235 LR LR 11 21 08.2
comp=Z,129nm,20.0s,baz=156,slow=30
TAOE Nuku Hiva Isla 94.69 247 *eLR* LR 11 19 51.8
comp=Z,223nm,24.6s
KEST Kesra 96.36 30 LR LR 11 28 22.3
comp=Z,453nm,19.5s,baz=172,slow=33
ESDC Sonseca Array 96.97 19 LR LR 11 27 41.9
comp=Z,160nm,21.5s,baz=240,slow=32
ASAR Alice Springs 99.89 164 P **Pdif 10 49 36.1 -1.3**
comp=Z,2.2nm,0.9s,baz=181,slow=4.7,SNR=11
ASAR PKiKP **PKiKP 10 54 05.2 -0.2**
comp=Z,0.5nm,1.0s,baz=189,slow=0.9,SNR=1.6
ASAR PKKPbc **PKKPdf 11 05 56.8 -0.5**
comp=Z,0.4nm,0.7s,baz=16,slow=1.7,SNR=4.7
DZM Mont Dzumac 101.83 194 *eLR* LR 11 23 06.0
comp=Z,329nm,23.4s
WRA Warramunga Arr 103.61 163 Pdiff **Pdif 10 49 52.6 -1.4**
comp=Z,0.4nm,0.8s,baz=200,slow=4.3,SNR=1.8
WRA PKiKP **PKiKP 10 54 11.2 -1.1**
comp=Z,0.5nm,0.7s,baz=215,slow=1.5,SNR=4.6
TXAR Lajitas Array 105.76 299 PKiKP **PKiKP 10 54 16.1 +0.3**
comp=Z,0.1nm,0.6s,baz=134,slow=3.9,SNR=1.4
SRU San Rafael Swe 116.96 300 PKPdf 10 54 36.6 -0.3
MSU Marysvale 117.32 299 PKiKP 10 54 39.0 +1.4
MVU Marysvale 117.33 299 PKiKP 10 54 38.2 +0.5
EDW2 Edwards Air Fo 117.54 292 P **PKiKP 10 54 38.6 +0.6**
baz=140
TPNV Topopah Spring 118.20 295 P **PKiKP 10 54 40.2 +0.8**
baz=140
ISA Isabella, Lake 118.39 292 P **PKiKP 10 54 41.3 +1.7**
baz=140
CWC Cottonwood Cre 118.77 293 P **PKiKP 10 54 41.5 +1.0**
baz=140
SPR3 Spring Creek 3 118.78 298 PKiKP 10 54 41.5 +0.9
DUG Dugway, Tooele 118.92 299 P **PKiKP 10 54 41.7 +1.1**
baz=140
PDAR Pinedale Array 119.30 303 PKP **PKPdf 10 54 40.5 -0.8**
comp=Z,0.8nm,0.5s,baz=141,slow=4.5,SNR=11
HWUT Hardware Ranch 119.38 301 PKiKP 10 54 41.7 +0.2
MDPB Devils Postpil 120.19 293 PKiKP 10 54 44.7 +1.4
NVAR Mina Array Bea 120.39 294 PKP **PKiKP 10 54 44.6 +1.0**
comp=Z,0.9nm,0.5s,baz=131,slow=2.6,SNR=17
LOHW Long Hollow 120.44 303 PKiKP 10 54 43.9 +0.4
ELK Elko 120.55 298 PKPdf **PKiKP 10 54 44.1 +0.3**
MOOW Moose Ponds 120.61 303 PKiKP 10 54 43.8 0.0
YERR Yerington 121.29 294 PKiKP 10 54 46.6 +1.3
YHH Holmes Hill 121.44 304 PKiKP 10 54 46.1 +0.5
AFDM Forest Hills D 122.17 293 PKPdf **PKiKP 10 54 47.7 +0.8**
BEKR Beckworth 122.52 294 PKiKP 10 54 49.0 +1.3
HRY Holter Researc 123.32 305 PKiKP 10 54 49.7 +0.7
EGMT Eagleton 123.33 307 P **PKiKP 10 54 49.9 +0.9**
baz=138
WVOR Wild Horse Val 123.52 297 PKiKP 10 54 50.0 +0.5
O03E Paynes Creek 123.59 294 P **PKiKP 10 54 50.2 +0.5**
baz=137
MOD Modoc Plateau 123.98 296 PKPdf **PKiKP 10 54 50.9 +0.4**
O02D Mt. Diablo Mer 124.02 293 P **PKiKP 10 54 51.8 +1.3**
baz=137
J08A Circle Bar Ran 124.10 298 PKiKP 10 54 51.4 +0.8
FINES FINESS Array B 124.14 28 PKP **PKPdf 10 54 49.5 -0.1**
comp=Z,1.1nm,0.5s,baz=207,slow=0.6,SNR=16
WDC Whiskeytown Da 124.18 293 PKPdf **PKiKP 10 54 50.5 -0.3**
ICESG Greenland Ices 124.40 355 *eP* **PKiKP 10 54 52.7 +2.0**
ICESG IAmb IAmb 10 54 52.9
comp=Z,11nm,1.1s
MSO Missoula 124.40 304 P **PKiKP 10 54 51.4 +0.3**
baz=137
MSO Missoula 124.40 304 PKPdf **PKiKP 10 54 50.9 -0.2**
N02D Trinity Center 124.56 294 P **PKiKP 10 54 52.0 +0.4**
baz=136
BMO Blue Mountains 124.60 300 PKiKP 10 54 51.3 -0.3
M04C Macdoel 124.69 295 P **PKiKP 10 54 52.4 +0.6**
baz=136
K05A Summer Lake 124.88 296 PKiKP 10 54 52.9 +0.6
M02C Callahan 124.93 294 P **PKiKP 10 54 53.4 +1.0**
baz=136
YBH Yreka Blue Hor 125.10 294 PKPdf 10 54 51.8 -0.5
I07A Izee 125.14 298 PKiKP 10 54 53.4 +0.7
L04D Klamath Falls 125.24 295 P **PKiKP 10 54 53.6 +0.7**
baz=136
J05D Fort Rock, OR 125.45 296 P **PKiKP 10 54 54.1 +0.7**
baz=136
PINE Pine Mountain 125.66 297 PKiKP 10 54 54.8 +1.0
G08A Pilot Rock 125.73 300 PKiKP 10 54 53.9 +0.1
HUMO Hull Mountain 125.86 295 PKiKP 10 54 55.0 +0.9
J04D Umpqua Nationa 125.87 296 P **PKiKP 10 54 55.7 +1.4**
baz=136
L02E Cave Junction 125.87 294 P **PKiKP 10 54 54.8 +0.7**
baz=136
CMAR Chiang Mai Arr 126.06 111 PKP **PKiKP 10 54 54.7 -0.5**
comp=Z,1.4nm,0.6s,baz=241,slow=4.3,SNR=9.3
CMAR Chiang Mai Arr 126.06 111 PKPdf 10 54 54.3 -0.4
I05D Terrebonne, OR 126.25 297 P **PKiKP 10 54 55.8 +1.0**
baz=135
K02D Willamette Mer 126.29 294 P **PKiKP 10 54 55.8 +0.8**
baz=135
I04A Tendick Farm, 126.42 296 P **PKiKP 10 54 55.7 +0.6**
baz=135
E08A Dider Farm, El 126.63 301 PKiKP 10 54 55.6 +0.2
NEW Newport 126.94 303 PKP **PKiKP 10 54 56.1 +0.1**
comp=Z,1.3nm,0.6s,baz=174,slow=4.6,SNR=2.9
H04D Lebanon 127.10 297 P **PKiKP 10 54 57.3 +0.9**
baz=135
ABKAR Abkulak array 127.63 56 PKPdf **PKiKP 10 54 57.0 -0.3**
ABKAR Abkulak array 127.63 56 PKPdf **PKiKP 10 54 57.2 -0.1**
SUMG Summit 127.82 356 *i* P **PKiKP 10 54 58.0 +0.5**
SUMG IAmb IAmb 10 55 05.7
comp=Z,15nm,1.3s
SUMG Summit 127.82 356 PKiKP 10 54 57.5 0.0
LTY Liberty 127.96 300 PKiKP 10 54 58.1 0.0
B08A Colville Reser 128.06 302 PKPdf 10 54 57.5 -0.2
LON Longmire 128.17 299 PKiKP 10 54 58.3 -0.2
D05A Enumclaw 128.56 299 PKiKP 10 54 59.3 +0.1
KKAR Karatay Array 128.69 68 PKPdf 10 54 59.0 0.0
KSH Kashi 129.15 75 *e*PKP **PKiKP 10 55 00.9 0.0**
D03D Eldon 129.35 299 P **PKiKP 10 55 01.5 +0.7**
baz=133
B05A Bryant 129.35 300 P **PKiKP 10 55 01.4 +0.6**
baz=133
ARCES ARCESS Array B 130.59 22 PKP **PKiKP 10 55 02.6 0.0**
comp=Z,5.8nm,0.9s,baz=188,slow=2.5,SNR=7.2
KMI Kunming 133.51 110 PKP **PKiKP 10 55 11.2 +1.0**
YKA Yellowknife Ar 135.12 319 PKP **PKPdf 10 55 10.8 +0.3**
comp=Z,2.2nm,0.6s,baz=116,slow=2.7,SNR=6.4
RES Resolute Bay 136.92 339 PKP **PKPdf 10 55 14.0 +0.5**
comp=Z,3.5nm,0.9s,baz=105,slow=6.8,SNR=5.5
MKAR Makanchi Array 137.42 72 PKP **PKPdf 10 55 15.4 +0.1**
comp=Z,0.4nm,0.6s,baz=242,slow=3.1,SNR=4.9
MKAR SKPbc **SKPbc 10 58 46.3 +0.6**
comp=Z,3.9nm,1.2s,baz=232,slow=1.6,SNR=8.9
WMQ Urumqi 138.55 79 *e*PKP **PKiKP 10 55 19.0 -0.7**
WMQ AMB AMB
comp=Z,190nm,4.9s
EUNU Eureka 139.07 347 PKiKP 10 55 18.6 -1.1
DLBC Dease Lake 139.26 308 PKhKP PKPpre 10 55 15.7
comp=Z,1.1nm,0.6s,baz=202,slow=10,SNR=3.2
DLBC Dease Lake 139.26 308 PKiKP 10 55 19.3 -1.3
ZALV Zalesovo Beam 142.78 64 PKP **PKPdf 10 55 23.4 -1.3**
comp=Z,0.8nm,0.4s,baz=258,slow=6.9,SNR=2.8
HYT Haines Junctio 143.73 308 PKPdf **PKPdf 10 55 27.8 +1.4**
XAN Xi'an 143.81 108 PKP **PKiKP 10 55 31.0 +0.2**
XAN pPKP sPKPdf 10 55 41.4 +0.8
BCPM Bancas Point 144.35 306 PKPdf 10 55 26.9 -0.4
PINM Pinnacle 144.69 306 P **PKPdf 10 55 28.5 +0.5**
baz=114
PCA Pinnacle 144.69 306 PKPdf 10 55 28.1 +0.1
INK Inuvik 144.76 321 PKP **PKPdf 10 55 27.1 -0.6**
comp=Z,14nm,0.9s,baz=72,slow=4.1,SNR=28
INK Inuvik 144.76 321 P **PKPdf 10 55 27.7 -0.1**
baz=107
TABL Table Mountain 145.23 307 PKPdf 10 55 29.6 +0.5
LOGN Logan Glacier 145.31 307 PKPab 10 55 29.9 +0.6
EPYK Eagle Plains 145.37 318 P **PKPab 10 55 29.3 +0.1**
baz=107
YAH Yahtse 145.48 306 PKPab 10 55 30.1 +0.2
CTGM Chitina Glacie 145.51 307 PKPab 10 55 30.6 +0.6
CTG Chitna Glacier 145.52 307 P **PKPab 10 55 30.5 +0.5**
baz=112
BARN Barnard Glacie 145.70 307 PKPab 10 55 31.6 +0.8
DAWY Dawson 145.73 313 PKPdf **PKPbc 10 55 29.9 -0.3**
BCAR Beaver Creek A 146.43 311 PKPdf 10 55 30.9 +0.1
L27K Beaver Creek, 146.45 311 P **PKPab 10 55 33.1 -0.2**
baz=108,SNR=22
L27K Beaver Creek, 146.45 311 PKPdf **PKPbc 10 55 31.6 -0.8**
EGAK Eagle 146.68 314 P **PKPab 10 55 33.4 -0.7**
baz=106,SNR=14
EGAK Eagle 146.68 314 PKPdf **PKPbc 10 55 32.4 -0.5**
K27K Chicken 146.85 312 P **PKPab 10 55 34.0 -0.9**
baz=107
K27K Chicken 146.85 312 PKPbc 10 55 33.1 -0.3
BMRM Bremner River 147.01 306 P **PKPab 10 55 35.0 -0.6**
baz=110,SNR=6.9
BMRM Bremner River 147.01 306 PKPbc 10 55 34.2 +0.2
L26K Log Cabin Wild 147.10 310 P **PKPbc 10 55 34.7 +0.5**
baz=108
N25K Chitina, Valde 147.22 307 P **PKPbc 10 55 35.3 +0.6**
baz=109
N25K Chitina, Valde 147.22 307 PKPbc 10 55 35.2 +0.6
MENT Mentasta 147.24 310 PKPbc 10 55 34.6 0.0
NJ2 Nanjing 147.38 122 *e*PKPbc **PKPbc 10 55 34.7 -1.2**
EYAK Cordova Ski Ar 147.40 305 P **PKPab 10 55 36.0 -1.1**
baz=110,SNR=5.3
DOT Dot Lake 147.59 311 PKPdf **PKPdf 10 55 32.6 -0.1**
SCRK Sand Creek 147.64 312 P **PKPbc 10 55 36.4 +0.6**
baz=106,SNR=39
SCRK Sand Creek 147.64 312 PKPbc 10 55 36.4 +0.6
HARP HAARP 147.71 309 P **PKiKP 10 55 36.8 -1.0**
baz=107
KLU Klutina 147.78 307 P **PKiKP 10 55 37.3 -0.8**
baz=108
KLU Klutina 147.78 307 PKPbc 10 55 36.2 0.0
RIDG Independent Ri 147.95 311 P **PKiKP 10 55 37.6 -0.8**
baz=105,SNR=52
RIDG Independent Ri 147.95 311 PKPdf 10 55 34.1 +0.7
PAX Paxson 148.01 310 P **PKPbc 10 55 37.5 +0.7**
baz=106,SNR=22
PAX Paxson 148.01 310 PKPbc 10 55 36.3 -0.4
M24K Tolsona, Glenn 148.08 308 P **PKiKP 10 55 38.1 -0.5**
baz=107
M24K Tolsona, Glenn 148.08 308 PKPbc 10 55 37.5 +0.6
GLI Glacier Island 148.13 305 PKiKP 10 55 38.2 -0.5
SCM Sheep Creek Mo 148.52 307 PKiKP 10 55 38.7 -0.9
BMAR Burnt Mountain 148.63 318 PKiKP 10 55 39.0 -0.6
PRP Porcupine Dome 148.65 314 P **PKiKP 10 55 39.0 -0.9**
baz=102,SNR=53
PRP Porcupine Dome 148.65 314 PKiKP 10 55 38.9 -0.9
PWL Port Wells 148.70 305 PKPbc 10 55 39.0 +0.5
FYU Fort Yukon 148.74 316 PKiKP 10 55 39.0 -0.7
WAT6 Susitna Watana 148.91 308 P **PKiKP 10 55 39.7 -0.7**
baz=105,SNR=19
KNK Knik Glacier 148.92 306 P **PKiKP 10 55 40.4 0.0**
baz=106
KNK Knik Glacier 148.92 306 PKiKP 10 55 39.8 -0.6
NRIK Noril'sk 148.96 38 PKPbc **PKiKP 10 55 40.2 +0.1**
comp=Z,3.6nm,0.7s,baz=299,slow=0.3,SNR=6.0
NRIK Noril'sk 148.96 38 PKiKP 10 55 40.3 +0.2
SML Sawmill 148.97 307 P **PKiKP 10 55 39.9 -0.6**
baz=106,SNR=9.6
SML Sawmill 148.97 307 PKPbc 10 55 39.3 +0.1
SEW Seward 149.00 303 P **PKPbc 10 55 39.6 +0.4**
baz=108,SNR=8.2
SEW Seward 149.00 303 PKPbc 10 55 39.7 +0.4
HDA Harding Lake 149.00 312 P **PKiKP 10 55 39.7 -0.7**
baz=103
HDA Harding Lake 149.00 312 PKPbc 10 55 39.3 +0.1
IL31 149.06 313 PKPbc 10 55 39.2 0.0
ILAR Eielson Array 149.06 313 PKPbc **PKPbc 10 55 39.5 +0.2**
comp=Z,33nm,0.6s,baz=120,slow=1.7,SNR=304
GHO Glory Hole Cre 149.24 307 PKPbc 10 55 40.3 +0.4
WAT1 Susitna Watana 149.34 309 P **PKiKP 10 55 41.1 -0.1**
baz=104
POKR Poker Plat Res 149.35 313 P **PKPbc 10 55 40.0 0.0**
baz=101
POKR Poker Plat Res 149.35 313 PKPbc 10 55 40.0 0.0
CCB Clear Creek Bu 149.42 312 PKPbc 10 55 40.2 +0.1
RC01 Rabbit Creek A 149.43 305 P **PKiKP 10 55 41.8 +0.5**
baz=106
RC01 Rabbit Creek A 149.43 305 PKiKP 10 55 41.0 -0.4
COLA College 149.48 313 P **PKiKP 10 55 40.9 -0.5**
baz=101
COLA College 149.48 313 PKiKP 10 55 40.7 -0.6
TCOL CIGO, UAF Yank 149.49 313 PKiKP 10 55 40.7 -0.7
BRSE Bradley Lake S 149.51 302 P **PKiKP 10 55 41.3 -0.4**
baz=106,SNR=7.9
BRLK Bradley Lake 149.59 302 PKPbc 10 55 41.0 +0.3
RND Reindeer 149.60 310 PKiKP 10 55 41.4 -0.4
MDM Murphy Dome 149.66 313 PKPbc 10 55 40.3 -0.5
H24K Noodor Dome 149.67 315 P **PKiKP 10 55 41.3 -0.5**
baz=100,SNR=20
CNPM China Poot 149.68 302 PKiKP 10 55 41.6 -0.3
MCK McKinley 149.71 310 P **PKiKP 10 55 42.2 +0.3**
baz=102
MCK McKinley 149.71 310 PKiKP 10 55 41.7 -0.2
KDAK Kodiak Island 149.79 298 PKPbc **PKiKP 10 55 41.8 -0.4**
comp=Z,21nm,0.6s,baz=180,slow=5.9,SNR=52
KDAK Kodiak Island 149.79 298 P **PKiKP 10 55 41.8 -0.4**
baz=110
KDAK Kodiak Island 149.79 298 PKPbc 10 55 41.1 -0.1
HOM Homer 149.92 302 P **PKiKP 10 55 43.1 +0.7**
baz=107
NEA2 Nenana 149.94 312 P **PKPbc 10 55 41.6 +0.2**
baz=101,SNR=29
OHAK Old Harbor 149.96 297 P **PKiKP 10 55 42.6 +0.1**
baz=110
OHAK Old Harbor 149.96 297 PKiKP 10 55 42.0 -0.5
SUA Susitna One 150.00 306 P **PKiKP 10 55 43.2 +0.5**
baz=105
SUA Susitna One 150.00 306 PKiKP 10 55 42.1 -0.6
CUT Chulitna 150.01 308 P **PKiKP 10 55 42.5 +0.1**
baz=104,SNR=8.2
CUT Chulitna 150.01 308 PKiKP 10 55 42.4 -0.1
BWN Browne 150.03 311 PKPbc 10 55 41.6 0.0
I23K Minto, Yukon-K 150.16 313 P **PKPbc 10 55 41.8 -0.1**
baz=100,SNR=20
HHC Hu-ho-hao-te 150.17 102 *e*PKPbc **PKPdf 10 55 39.3 +1.5**
TRF Thorofare Moun 150.25 310 P **PKiKP 10 55 43.1 -0.1**
baz=102,SNR=9.9
H23K Yukon River 150.34 314 P **PKiKP 10 55 43.0 -0.2**
baz=98,SNR=12
SKT Skwentna 150.48 306 P **PKiKP 10 55 43.5 -0.1**
baz=104
O20K Slope Mountain 150.52 302 P **PKiKP 10 55 43.8 0.0**
baz=106
SPU Mount Spurr 150.53 305 PKPbc 10 55 43.0 -0.1
KTH Kantishna Hill 150.54 310 PKiKP 10 55 43.4 -0.3
TOLK Toolik Lake Re 150.63 320 P **PKiKP 10 55 43.8 +0.1**
baz=93,SNR=49
TOLK Toolik Lake Re 150.63 320 PKiKP 10 55 43.8 +0.1
BPAW Bear Paw Mtn. 150.67 311 P **PKiKP 10 55 43.5 -0.4**
baz=100,SNR=46
RSO Redoubt South 150.68 303 PKiKP 10 55 44.1 -0.1
P19K Oil Pt 150.69 301 P **PKiKP 10 55 44.0 -0.1**
baz=106
MLY Manley 150.72 313 P **PKPbc 10 55 43.2 -0.1**
baz=99,SNR=20
MLY Manley 150.72 313 PKPbc 10 55 42.9 -0.5
PPLA Purkeypile 150.98 308 P **PKiKP 10 55 44.4 -0.3**
baz=102,SNR=7.4
M20K Styx River 151.20 306 P **PKPbc 10 55 44.6 0.0**
baz=103
CHUM Lake Minchumin 151.21 310 P **PKiKP 10 55 44.8 -0.2**
baz=100,SNR=11
I21K Tanana 151.26 313 P **PKiKP 10 55 44.8 -0.2**
baz=98,SNR=7.5
O19K Port Alsworth 151.37 302 P **PKiKP 10 55 45.5 +0.1**
baz=105,SNR=6.5
SONM Songino Array 151.48 86 PKPbc **PKPbc 10 55 45.7 0.0**
comp=Z,4.6nm,0.8s,baz=246,slow=1.9,SNR=13
SONM Songino Array 151.48 86 PKPdf 10 55 39.3 -0.3
SONM PKPbc **PKiKP 10 55 46.2 0.0**
N19K Bonanza Creek 151.59 303 P **PKPbc 10 55 45.3 -0.3**
baz=104,SNR=12
H21K Melozitna Rive 151.66 314 P **PKiKP 10 55 46.1 +0.2**
baz=96
O18K Koktuh Hills 151.71 301 P **PKiKP 10 55 46.0 -0.1**
baz=105
M19K Big River Lodg 151.79 306 P **PKiKP 10 55 46.2 -0.1**
baz=102
ULN Ulaanbaatar 151.87 87 PKiKP 10 55 47.2 +0.1
K20K Telida 151.90 309 P **PKiKP 10 55 46.4 -0.1**
baz=99
J20K Nowinta River 152.06 311 P **PKiKP 10 55 46.7 0.0**
baz=98
L19K White Mountain 152.06 306 P **PKiKP 10 55 46.6 -0.3**
baz=101
SVW2 Sparrevohn 152.18 304 PKiKP 10 55 47.4 +0.3
N18K Kilae Creek 152.24 303 P **PKiKP 10 55 47.2 0.0**
baz=103
SDPT Sand Point 153.07 290 P **PKiKP 10 55 49.6 +0.5**
baz=110
PETK Petropavlovsk- 175.68 241 PKP **PKPdf 10 56 01.9 +0.5**
comp=Z,2.2nm,1.0s,baz=191,slow=6.6,SNR=3.0

*JMA **12** 10:51:55.0±0.1,28°.47N×143°.63E,h117km,M4.0*
*IDC **12** 10:52:00.6±0.6,28°.74N×142°.62E,h0km,mb4.1/22,*
mb1 4.3/25,mb1mx4.2/37,mbtmp4.1/25,ML3.4/3,MS3.4/7,

Ms1 3.5/7, ms1mx3.1/37, Error ellipse: s-maj=17.8km s-min=13.3km az=93.0
*BJI **12** 10:52:00.3±0.0, 28°.63N×142°.96E, h31km, mB5.1/29, mb4.5/36, Ms4.5/6, Ms7 4.5/3*
*NEIC **12** 10:52:02.2±1.1, 28°.73N±0°.07×143°.2E±0°.1, h35km±6km, mb4.8/26, Error ellipse: s-maj=18.3km s-min=9.5km az=94.0*

ISC 12 10:52:04.6±0.5, **28°.77N**±0°.05×**142°.69E**±0°.08, **h35**km, **n107**, σ1§**75**/109, **mb4.6**/43, **MS3.6**/5, **2C, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.73**	**195**	P	Pn	10 52 27.1	-5.1
CBIJ				S	**Sn**	**10 52 51.6**	**-1.5**
JCJ	**Chichijima**	**1.73**	**195**	Pn	**Pn**	**10 52 30.4**	**-1.8**
	14nm,0.3s,baz=288,slow=20,SNR=2.2						
JCJ				Sn	**Sn**	**10 52 50.3**	**-2.8**
	128nm,0.3s,baz=73,slow=23,SNR=16						
JCJ	**Chichijima**	**1.73**	**195**		**Pn**	**10 52 30.6**	**-1.6**
JHJ2	**Mitsune**	**4.98**	**331**	Pn	**Pn**	**10 53 17.2**	**+0.3**
JHJ	**Hachijo jima 2**	**5.00**	**331**	Pn	**Pn**	**10 53 16.8**	**-0.4**
	14nm,0.3s,baz=89,slow=23,SNR=5.4						
JHJ				Sn	**Sn**	**10 54 10.5**	**-3.3**
	13nm,0.3s,baz=74,slow=22,SNR=2.2						
JHJ				LR	LR	10 55 01.1	
	comp=Z,197nm,19.6s,baz=114,slow=36						
BSO1	**Boso 1**	**6.04**	**346**	P	**Pn**	**10 53 30.6**	**-0.4**
JHU	**Hanno**	**7.62**	**339**	P	**Pn**	**10 53 52.7**	**-0.5**
JYT	**Yasato**	**7.73**	**345**	Pn	**Pn**	**10 53 53.5**	**-1.1**
JRY	**Ryogami san**	**7.90**	**337**	P	**Pn**	**10 53 57.1**	**+0.1**
JRY				S	**Sn**	**10 55 23.8**	**-1.4**
JHO	**Hitachi**	**8.02**	**348**	P	**Pn**	**10 53 56.1**	**-2.5**
JAG	**Ashikaga**	**8.10**	**341**	P	**Pn**	**10 53 58.7**	**-1.1**
JAG				S	**Sn**	**10 55 25.4**	**-4.8**
INU	**Inuyama**	**8.13**	**325**	Pn	**Pn**	**10 54 00.9**	**+0.7**
MJAR	**Matsushiro Arr**	**8.62**	**335**	Pn	**Pn**	**10 54 06.2**	**-0.7**
	0.8nm,0.3s,baz=149,slow=8.3,SNR=41						
MJAR				Sn	**Sn**	**10 55 39.5**	**-3.3**
	0.2nm,0.3s,baz=160,slow=21,SNR=2.7						
MJAR	**Matsushiro Arr**	**8.62**	**335**	Pn	**Pn**	**10 54 06.7**	**-0.2**
MAJO	**Matsushiro**	**8.62**	**335**	Pn	**Pn**	**10 54 06.8**	**0.0**
MAT	**Matsushiro**	**8.62**	**335**	P	**Pn**	**10 54 07.2**	**+0.3**
MAT				S	**Sn**	**10 55 41.6**	**-1.3**
JWT	**Wachi**	**8.96**	**318**	Pn	**Pn**	**10 54 12.7**	**+1.0**
JMM	**Marumori**	**9.21**	**351**		**Pn**	**10 54 14.0**	**-0.9**
JSD	**Sado**	**9.95**	**339**	Pn	**Pn**	**10 54 23.9**	**-1.2**
JHS	**Saijyo**	**10.23**	**310**	Pn	**Pn**	**10 54 30.4**	**+1.4**
JTM	**Tenmabayashi**	**12.06**	**354**	Pn	**Pn**	**10 54 52.8**	**-1.2**
JEW	**Eniwo**	**14.07**	**356**	Pn	**Pn**	**10 55 18.6**	**-2.8**
KSRS	**Korea Array**	**15.09**	**309**	Pn	**P**	**10 55 38.8**	**-1.2**
	0.6nm,0.3s,baz=110,slow=12,SNR=11						
KSRS				LR	LR	11 01 23.8	
	comp=Z,100nm,18.8s,baz=125,slow=37						
KSAR	**Wonju Array Be**	**15.11**	**309**	Pn	**Pn**	**10 55 36.9**	**+1.5**
GUMO	**Guam**	**15.24**	**172**	Pn	**Pn**	**10 55 37.5**	**+0.2**
	18nm,0.3s,baz=336,slow=19,SNR=2.5						
ASAJ	**Asahikawa**	**15.31**	**360**	Pn	**Pn**	**10 55 36.1**	**-2.0**
	0.5nm,0.3s,baz=222,slow=13,SNR=5.1						
USRK	**Ussuriysk Ar.**	**17.61**	**334**	P	**Pn**	**10 56 06.0**	**-1.2**
	baz=144,slow=12,SNR=7.8						
MDJ	**Mudanjiang**	**18.94**	**330**	P	**Pn**	**10 56 23.8**	**+0.4**
MDJ				S	**Sn**	**10 59 51.4**	**-3.0**
MDJ				PcS	**PcS**	**11 04 17.5**	**-6.7**
MDJ				pmax	pmax		
	comp=Z,17nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,470nm,5.3s						
MDJ				LR	LR		
	comp=N,560nm,4.3s						
MDJ				LR	LR		
	comp=E,360nm,4.3s						
MDJ				LR	LR		
	comp=Z,330nm,5.6s						
YHNB	**Yeheng**	**19.47**	**263**	P	**P**	**10 56 29.9**	**+1.3**
YHNB				IAmb	IAmb	10 56 56.0	
	comp=Z,58nm,1.5s						
YULB	**Yu-li**	**19.94**	**259**		**P**	**10 56 34.9**	**+1.2**
YULB				IAmb	IAmb	10 56 39.0	
	comp=Z,54nm,1.3s						
SSLB	**Suanglung**	**20.11**	**261**	P	**P**	**10 56 37.1**	**+1.7**
TPUB	**Ta-pu**	**20.55**	**260**	P	**P**	**10 56 41.5**	**+1.2**
TPUB				IAmb	IAmb	10 57 01.2	
	comp=Z,40nm,1.1s						
NJ2	**Nanjing**	**20.81**	**285**	*eP*	**P**	**10 56 43.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KLR	**Kul'dur**	**22.08**	**341**	P	**P**	**10 56 58.9**	**+2.4**
	comp=Z,4.3nm,0.7s,baz=164,slow=8.7,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**23.80**	**107**	T	T	11 22 37.0	
	baz=296,slow=74,SNR=30						
H11N1	**WAKE ISLAND Hy**	**23.80**	**107**	T	T	11 22 24.7	
	baz=296,slow=74,SNR=25						
H11N3	**WAKE ISLAND Hy**	**23.81**	**107**	T	T	11 22 22.9	
	baz=296,slow=74,SNR=24						
H11S3	**WAKE ISLAND Hy**	**24.20**	**110**	T	T	11 23 15.3	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**24.21**	**110**	T	T	11 22 57.0	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**24.22**	**110**	T	T	11 22 52.0	
	baz=304						
PETK	**Petropavlovsk-**	**26.71**	**20**	P	**P**	**10 57 40.0**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=183,slow=5.3,SNR=3.3						
HHC	**Hu-ho-hao-te**	**28.11**	**304**	*eP*	**P**	**10 57 55.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,5.6s						
GYA	**Guiyang**	**31.93**	**275**	⇑P	**P**	**10 58 27.6**	**+0.3**
GYA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**33.44**	**315**	P	**P**	**10 58 39.9**	**-0.4**
SONM	**Songino Array**	**33.84**	**314**	P	**P**	**10 58 44.7**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=116,slow=6.8,SNR=6.2						
SEY	**Seymchan**	**34.75**	**8**	P	**P**	**10 58 53.4**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=173,slow=10,SNR=4.9						
KMI	**Kunming**	**35.69**	**274**	⇑P	**P**	**10 59 02.7**	**+2.6**
KMI				sP	pwP	10 59 15.0	+1.0
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SLVN	**Son La**	**35.79**	**267**	P	**P**	**10 59 00.7**	**-0.1**
SLVN				IAmb	IAmb	10 59 02.8	
	comp=Z,14nm,1.2s						
TLY	**Talaya**	**36.95**	**319**	P	**P**	**10 59 09.7**	**-0.6**
TLY				IAmb	IAmb	10 59 13.7	
	comp=Z,8.6nm,0.8s						
NONG	**Nongkai**	**37.67**	**262**	P	**P**	**10 59 17.8**	**+1.1**
	comp=Z,32nm,1.0s						
CHAI	**Chaiyaphum**	**39.58**	**260**	P	**P**	**10 59 33.5**	**+0.7**
	comp=Z,24nm,0.9s						
SRAK	**Srakaew**	**40.39**	**257**	P	**P**	**10 59 36.8**	**-2.7**
	comp=Z,263nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.18**	**265**	P	**P**	**10 59 46.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=59,slow=7.9,SNR=7.2						
CMAR				LR	LR	11 17 21.7	
	comp=Z,48nm,18.4s,baz=192,slow=37						
WMQ	**Urumqi**	**45.98**	**304**	*eP*	**P**	**11 00 27.1**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,20nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.1s						
ZALV	**Zalesovo Beam**	**48.53**	**318**	P	**P**	**11 00 44.0**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=105,slow=6.7,SNR=6.5						
ZALV				LR	LR	11 22 22.1	
	comp=Z,65nm,18.0s,baz=90,slow=38						
ZALV	**Zalesovo Beam**	**48.53**	**318**	P	**P**	**11 00 44.0**	**-0.1**
WB0	**Warramunga Arr**	**48.92**	**190**	P	**P**	**11 00 44.7**	**-2.7**
WB0				IAmb	IAmb	11 00 56.5	
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**49.09**	**190**	P	**P**	**11 00 46.6**	**-2.0**
WRAB				IAmb	IAmb	11 00 53.0	
	comp=Z,18nm,1.2s						
WB2	**Warramunga Arr**	**49.10**	**190**	P	**P**	**11 00 46.1**	**-2.6**
WB2				IAmb	IAmb	11 00 51.6	
	comp=Z,7.2nm,0.7s						
WRA	**Warramunga Arr**	**49.10**	**190**	P	**P**	**11 00 49.2**	**+0.4**
	comp=Z,5.3nm,0.7s,baz=17,slow=9.0,SNR=49						
WRA	**Warramunga Arr**	**49.10**	**190**	P	**P**	**11 00 47.0**	**-1.8**
JIRN	**Jiri**	**49.39**	**283**	*eP*	**P**	**11 00 52.3**	**+0.8**
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**49.59**	**283**	*eP*	**P**	**11 00 53.8**	**+0.8**
MK31	**Makanchi Array**	**49.77**	**309**	P	**P**	**11 00 53.7**	**-0.1**
MKAR	**Makanchi Array**	**49.77**	**309**	P	**P**	**11 00 54.7**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=92,slow=9.9,SNR=23						
MKAR				PcP	**PcP**	**11 02 16.1**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=90,slow=4.9,SNR=2.8						
MKAR				LR	LR	11 22 35.5	
	comp=Z,53nm,18.3s,baz=72,slow=37						
MKAR	**Makanchi Array**	**49.77**	**309**	P	**P**	**11 00 53.7**	**0.0**
MAKZ	**Makanchi**	**49.99**	**309**	P	**P**	**11 00 55.0**	**-0.3**
PKI	**Pulchoki**	**50.08**	**283**	*eP*	**P**	**11 00 56.7**	**0.0**
PKIN	**Phulchoki**	**50.09**	**283**	*eP*	**P**	**11 00 56.6**	**-0.1**
KKN	**Kakani**	**50.14**	**283**	*eP*	**P**	**11 00 57.0**	**0.0**
GKN	**Gorkha**	**50.63**	**284**	*eP*	**P**	**11 01 00.9**	**+0.3**
NRIK	**Noril'sk**	**51.26**	**338**	P	**P**	**11 01 06.1**	**+1.6**
	comp=Z,3.2nm,0.6s,baz=104,slow=7.2,SNR=3.6						
DANN	**Dangsing**	**51.28**	**285**	*eP*	**P**	**11 01 06.5**	**+0.8**
KOLN	**Koldanda**	**51.57**	**284**	*eP*	**P**	**11 01 08.2**	**+0.4**
	comp=Z,42nm,0.9s						
PYUN	**Piuthan**	**52.00**	**285**	*eP*	**P**	**11 01 11.8**	**+0.8**
	comp=Z,62nm,0.5s						
KDAK	**Kodiak Island**	**52.76**	**37**	P	**P**	**11 01 17.6**	**+1.7**
	comp=Z,4.8nm,0.8s,baz=283,slow=1.7,SNR=18						
ASAR	**Alice Springs**	**52.82**	**190**	P	**P**	**11 01 17.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=9.6,slow=7.4,SNR=9.9						
KSH	**Kashi**	**55.12**	**300**	*eP*	**P**	**11 01 34.5**	**+0.9**
KSH				pmax	pmax		
	comp=Z,160nm,4.2s						
ILAR	**Eielson Array**	**56.03**	**29**	P	**P**	**11 01 40.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=257,slow=6.3,SNR=7.8						
BRVK	**Borovoye**	**57.19**	**317**	P	**P**	**11 01 47.5**	**-0.4**
BRVK				IAmb	IAmb	11 01 50.4	
	comp=Z,6.6nm,0.7s						
KK31	**Karatay Array**	**58.48**	**305**	P	**P**	**11 01 57.2**	**-0.1**
KKAR	**Karatay Array**	**58.48**	**305**	P	**P**	**11 01 57.4**	**+0.1**
KKAR				IAmb	IAmb	11 02 10.6	
	comp=Z,3.9nm,0.8s						
KKAR	**Karatay Array**	**58.48**	**305**	P	**P**	**11 01 57.2**	**-0.1**
NIL	**Nilore**	**58.58**	**294**	P	**P**	**11 01 57.0**	**-1.1**
NIL				IAmb	IAmb	11 02 04.3	
	comp=Z,13nm,1.1s						
GAR	**Garm**	**59.52**	**300**	P	**P**	**11 02 04.3**	**-0.4**
GAR				IAmb	IAmb	11 02 09.3	
	comp=Z,9.0nm,0.7s						
EPYK	**Eagle Plains**	**60.26**	**27**	P	**P**	**11 02 06.1**	**-3.0**
EPYK				IAmb	IAmb	11 02 30.0	
	comp=Z,14nm,1.4s						
CHGR	**Chuyangaron**	**60.48**	**300**	P	**P**	**11 02 11.0**	**-0.2**
INK	**Inuvik**	**61.32**	**25**	P	**P**	**11 02 17.2**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=322,slow=4.0,SNR=12						
INK	**Inuvik**	**61.32**	**25**	P	**P**	**11 02 12.0**	**-4.3**
ABKAR	**Akbulak array**	**64.26**	**314**	P	**P**	**11 02 35.7**	**-0.5**
ABKAR	**Akbulak array**	**64.26**	**314**	P	**P**	**11 02 35.5**	**-0.6**
ABKAR				IAmb	IAmb	11 02 38.3	
	comp=Z,5.5nm,0.7s						
DLBC	**Dease Lake**	**64.58**	**36**	LR	LR	11 28 46.8	
	comp=Z,38nm,20.4s,baz=268,slow=34						
ARCES	**ARCESS Array B**	**72.11**	**341**	P	**P**	**11 03 26.2**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=66,slow=9.0,SNR=5.0						
FINES	**FINESS Array B**	**76.65**	**334**	P	**P**	**11 03 52.9**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=63,slow=5.9,SNR=6.6						
KBZ	**Khabaz**	**77.20**	**313**	P	**P**	**11 03 57.1**	**+2.1**
	comp=Z,4.7nm,0.8s,baz=114,slow=2.7,SNR=7.8						
ONI	**Oni**	**77.36**	**312**	P	**P**	**11 03 54.9**	**-1.2**
NVAR	**Mina Array Bea**	**79.13**	**52**	P	**P**	**11 04 08.5**	**+2.4**
	comp=Z,0.5nm,0.8s,baz=290,slow=5.7,SNR=6.0						
AKASG	**Malin Array Be**	**81.53**	**324**	P	**P**	**11 04 20.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.8,SNR=2.8						
NB2	**NORSAR Subarra**	**82.22**	**338**	P	**P**	**11 04 23.1**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=41,slow=5.1						
NOA	**NORSAR Array B**	**82.22**	**338**	P	**P**	**11 04 22.9**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=41,slow=5.1,SNR=8.0						
NOA				LR	LR	11 42 49.5	
	comp=Z,34nm,21.5s,baz=200,slow=37						
PDAR	**Pinedale Array**	**82.71**	**45**	P	**P**	**11 04 27.9**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=270,slow=6.3,SNR=2.6						
BNN	**Bunyan**	**84.23**	**311**	P	**P**	**11 04 31.1**	**-1.8**
BRTR	**Keskin Array B**	**85.19**	**313**	P	**P**	**11 04 39.6**	**+1.9**
	comp=Z,4.2nm,1.0s,baz=110,slow=3.3,SNR=9.2						
BRTR	**Keskin Array B**	**85.19**	**313**	P	**P**	**11 04 37.3**	**-0.5**
P38A	**Dawn**	**94.17**	**40**	P	**P**	**11 05 15.6**	**-4.4**
TXAR	**Lajitas Array**	**94.24**	**53**	P	**P**	**11 05 22.4**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=286,slow=2.1,SNR=5.8						
LPAZ	**La Paz**	**149.03**	**73**	PKPbc	**PKiKP**	**11 11 52.8**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=319,slow=0.3,SNR=12						

IDC 12 10:56:39.3±1.7, **0°.78S**×**15°.88W**, **h0**km, **mb3.7**/3, **mb1 3.9**/4, **mb1mx3.6**/31, **mbtmp3.8**/4, **ML3.7**/1, **MS4.0**/11, **Ms1 4.0**/11, **ms1mx3.7**/30, **Error ellipse: s-maj=44.3km s-min=39.3km az=131.0, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**7.14**	**169**	T	T	11 04 57.5	
	baz=348,slow=74,SNR=82						
H10N3	**ASCENSION HYDR**	**7.15**	**169**	T	T	11 04 58.8	
	baz=348,slow=74,SNR=81						
H10N1	**ASCENSION HYDR**	**7.16**	**169**	T	T	11 04 57.9	
	baz=348,slow=74,SNR=102						
H10S3	**ASCENSION HYDR**	**8.21**	**172**	T	T	11 06 20.5	
	baz=351,slow=74,SNR=50						
H10S2	**ASCENSION HYDR**	**8.22**	**171**	T	T	11 06 20.6	
	baz=229,slow=74,SNR=14						
KOWA	**Kowa**	**19.19**	**37**	P	Pn	11 01 05.4	-0.3
	0.2nm,0.3s,baz=205,slow=11,SNR=2.2						
RCBR	**Riachuelo**	**20.60**	**255**	LR	LR	11 06 55.0	
	comp=Z,443nm,21.6s,baz=140,slow=30						
TORD	**Torodi Ar. Bea**	**22.25**	**51**	P	P	11 01 37.7	-0.4
	0.9nm,0.7s,baz=235,slow=9.6,SNR=4.3						
BDFB	**Brasília**	**34.98**	**243**	LR	LR	11 15 47.3	
	comp=Z,244nm,21.6s,baz=146,slow=33						
CPUP	**Villa Florida**	**47.27**	**234**	LR	LR	11 22 19.7	
	comp=Z,158nm,21.9s,baz=54,slow=33						
BOSA	**Boshof**	**48.04**	**129**	P	P	11 05 20.9	0.0
	5.4nm,0.8s,baz=312,slow=7.7,SNR=3.4						
LPAZ	**La Paz**	**53.73**	**250**	LR	LR	11 28 22.7	
	comp=Z,217nm,18.8s,baz=90,slow=35						
ROSC	**El Rosal**	**58.64**	**276**	LR	LR	11 30 20.1	
	comp=Z,295nm,18.5s,baz=73,slow=34						
PLCA	**Paso Flores**	**63.37**	**224**	LR	LR	11 32 59.4	
	comp=Z,50nm,18.5s,baz=58,slow=34						
SADO	**Sadowa**	**71.88**	**318**	LR	LR	11 33 14.2	
	comp=Z,65nm,21.3s,baz=146,slow=30						
GEYT	**Alibeck**	**77.89**	**51**	LR	LR	11 45 44.9	
	comp=Z,207nm,19.6s,baz=190,slow=38						
MAW	**Mawson**	**84.99**	**158**	LR	LR	11 38 53.8	
	comp=Z,45nm,18.7s,baz=255,slow=30						
TXAR	**Lajitas Array**	**88.45**	**299**	P	P	11 09 34.1	-0.1
	0.0nm,0.3s,baz=104,slow=5.7,SNR=1.4						
MKAR	**Makanchi Array**	**96.17**	**43**	LR	LR	11 57 30.7	
	comp=Z,93nm,19.3s,baz=244,slow=38						
ZALV	**Zalesovo Beam**	**96.93**	**36**	LR	LR	11 57 25.2	
	comp=Z,68nm,20.9s,baz=230,slow=38						
ASAR	**Alice Springs**	**141.89**	**132**	PKhKP	PKPpre	11 16 10.1	
	0.9nm,0.7s,baz=224,slow=2.7,SNR=7.4						
WRA	**Warramunga Arr**	**144.28**	**127**	PKP	PKPdf	11 16 17.8	-0.6
	1.0nm,0.8s,baz=233,slow=2.6,SNR=6.2						

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*ISK **12** 11:03:07.7, 39°.91N×43°.27E, h5km, ML3.6/17*
*DDA **12** 11:03:08.0, 39°.92N×43°.24E, h20km, MW3.6*
*NSSP **12** 11:03:08.9, 39°.93N×43°.23E, h10km, Ms3.3*

ISC 12 11:03:08.8±0.9, **39°.93N**±0°.02×**43°.24E**±0°.02, **h14**km±6km, **n49**, σ1§**09**/67, **6C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.12**	**190**	*i* P	**Pg**	**11 03 12.2**	**-0.3**
KOTA				*i* S	**Sg**	**11 03 15.6**	**+0.6**
KOTA				IAML		11 03 16.0	
	comp=E,20μm,0.6s						
KOTA				IAML		11 03 16.0	
	comp=N,14μm,0.6s						
AGRB	**Hanur-Agry**	**0.40**	**208**	PG	**Pb**	**11 03 16.6**	**-1.1**
AGRB				SG	**Sb**	**11 03 23.5**	**-0.2**
VNNZ	**Vanand**	**0.48**	**68**	⇑*i* P	**Pb**	**11 03 19.0**	**-0.2**
VNNZ				⇓*i* S	**Sb**	**11 03 27.0**	**+0.8**
DIGO	**Kars**	**0.50**	**12**	*i* P	**Pg**	**11 03 18.0**	**-0.8**
DYDN	**Diyadin**	**0.52**	**137**	*i* P	**Pb**	**11 03 18.6**	**-1.2**
DYDN				*i* S	**Sb**	**11 03 26.1**	**-1.1**
DYDN				IAML		11 03 28.0	
	comp=E,6μm,0.6s						
DYDN				IAML		11 03 33.0	
	comp=N,6μm,0.4s						
IGDI	**IGDIR**	**0.65**	**95**	*i* P	**Pb**	**11 03 21.2**	**-0.8**
IGDI				*i* S	**Sn**	**11 03 33.3**	**-0.5**
IGDI				IAML		11 03 38.0	
	comp=E,1μm,0.8s						
METS	**Metsamor**	**0.69**	**71**	*eP*	**Pn**	**11 03 23.1**	**-1.1**
METS				*eS*	**Sn**	**11 03 33.2**	**-1.5**
KARS	**Kars**	**0.71**	**350**	PG	**Pg**	**11 03 22.2**	**-0.6**
ARUZ	**Aruch**	**0.75**	**61**	⇑*i* P	**Pb**	**11 03 23.1**	**-0.6**
ARUZ				⇑*i* S	**Sg**	**11 03 32.7**	**-0.5**
TASB	**TASBURUN-IGDIR**	**0.77**	**85**	PG	**Pb**	**11 03 23.5**	**-0.6**
EAK	**Akyaka**	**0.81**	**20**	*i* P	**Pb**	**11 03 24.7**	**-0.1**
SENK	**Senkaya-Erzuru**	**0.93**	**313**	PG	**Pb**	**11 03 26.9**	**+0.1**
SENK				SG	**Sn**	**11 03 41.9**	**+1.0**
CLDR	**Caldiran**	**0.94**	**146**	*i* P	**Pg**	**11 03 26.0**	**-1.1**
CLDR				*i* S	**Sb**	**11 03 39.7**	**+0.2**
CLDR				IAML		11 03 44.0	
	comp=E,1μm,0.7s						
CLDR				IAML		11 03 49.0	
	comp=N,685nm,0.4s						
CLDR	**Caldiran**	**0.94**	**146**	PG	**Pb**	**11 03 26.2**	**-0.9**
CLDR				SG	**Sn**	**11 03 40.4**	**-0.8**
VMUR	**Van-Muradiye**	**0.97**	**164**	*i* P	**Pn**	**11 03 27.3**	**-0.9**
HOMI	**Horasan**	**1.03**	**277**	*i* P	**Pg**	**11 03 27.9**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**1.06**	**274**	PN	**Pb**	**11 03 28.9**	**-0.2**
NRKZ	**NAREK**	**1.10**	**86**	*eP*	**Pn**	**11 03 30.7**	**+0.8**
NRKZ				*eS*	**Sn**	**11 03 46.6**	**+1.8**
GNI	**Garni**	**1.18**	**79**	⇑*i* P	**Pn**	**11 03 31.2**	**+0.2**
GNI				⇓*i* S	**Sn**	**11 03 47.2**	**+0.3**
GNI	**Garni**	**1.18**	**79**	PN	**Pn**	**11 03 31.3**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.18**	**200**	*i* P	**Pb**	**11 03 30.3**	**-0.9**
ADCV				*i* S	**Sn**	**11 03 47.0**	**-0.1**
ADCV				IAML		11 03 52.0	
	comp=E,447nm,1.2s						
ADCV				IAML		11 03 56.0	
	comp=N,371nm,0.5s						
KAPZ	**Kaputan**	**1.19**	**70**	*eP*	**Pg**	**11 03 31.2**	**-0.6**
KAPZ				*eS*	**Sn**	**11 03 47.1**	**-0.1**
VANB	**Van**	**1.33**	**175**	PN	**Pg**	**11 03 35.8**	**+1.3**
OZAP	**Van, Ozalp-Mer**	**1.39**	**155**	*i* P	**Pg**	**11 03 35.4**	**-0.2**
OZAP				*i* S	**Sg**	**11 03 57.4**	**+3.7**
OZAP				IAML		11 04 01.0	
	comp=E,658nm,0.9s						
OZAP				IAML		11 04 05.0	
	comp=N,532nm,1.5s						
ERZM	**Erzurum**	**1.44**	**270**	*i* P	**Pg**	**11 03 37.1**	**+0.6**
EJDE	**Erzurum, Palan**	**1.49**	**267**	*i* P	**Pg**	**11 03 36.7**	**-0.8**
DDEM	**Demirkent**	**1.49**	**311**	*i* P	**Pg**	**11 03 37.2**	**-0.2**
AKH	**Akhalkalaki**	**1.50**	**7**	PN	**Pg**	**11 03 36.9**	**-0.7**
VRTB	**Varto-Mus**	**1.57**	**242**	PN	**Pg**	**11 03 38.1**	**-1.0**
AKDM	**Akdamar-Van**	**1.61**	**187**	PN	**Pb**	**11 03 37.9**	**-0.5**
EPOS	**Posof**	**1.62**	**346**	*i* P	**Pg**	**11 03 39.0**	**-1.0**
GURO	**Guroymak-BITLI**	**1.66**	**215**	PN	**Pb**	**11 03 39.0**	**-0.2**
EMRE	**Erzurum,Aziziy**	**1.74**	**274**	*i* P	**Pg**	**11 03 41.9**	**-0.4**
BLIS	**Bitlis-Merkez**	**1.74**	**210**	*i* P	**Pb**	**11 03 40.6**	**0.0**
BLIS				*i* S	**Sg**	**11 04 04.8**	**-0.1**
BLIS				IAML		11 04 09.0	
	comp=N,526nm,0.6s						
BLIS				IAML		11 04 11.0	
	comp=E,398nm,1.4s						
MUSM	**Mu-Merkez**	**1.80**	**229**	*i* P	**Pg**	**11 03 42.2**	**-1.1**
MUSM				*i* S	**Sg**	**11 04 06.3**	**-0.3**
MUSM				IAML		11 04 09.0	
	comp=E,294nm,1.0s						
MUSM				IAML		11 04 13.0	
	comp=N,225nm,1.0s						
KARO	**Karliova-Bingo**	**1.80**	**251**	PN	**Pb**	**11 03 41.2**	**-0.4**
KRIK	**Erzurum-spir**	**1.82**	**284**	*i* P	**Pb**	**11 03 41.5**	**-0.4**
SLHN	**Bingol, Solhan**	**1.97**	**241**	*i* P	**Pb**	**11 03 44.5**	**0.0**
BATM	**Batumi**	**2.05**	**326**	PN	**Pb**	**11 03 45.1**	**-0.6**
KOPT	**Kop Dagi**	**2.11**	**273**	*i* P	**Pg**	**11 03 48.6**	**-0.7**
YEDI	**Yedisu-Bingol**	**2.13**	**258**	PN	**Pb**	**11 03 46.3**	**-1.0**
BNGB	**Bingl**	**2.19**	**246**	PN	**Pb**	**11 03 47.1**	**-1.1**
CHOM	**Cayeli-Rize**	**2.22**	**303**	PN	**Pb**	**11 03 47.9**	**-0.8**
**

QSPA				IAmb	IAmb	11 17 10.8	
	comp=Z,2.4nm,0.8s						
I23K	**Minto, Yukon-K**	**84.44**	**22**	P	**P**	**11 16 46.0**	**-0.2**
I23K				IAmb	IAmb	11 16 58.6	
	comp=Z,2.3nm,1.3s						
PLCA	**Paso Flores**	**121.97**	**147**	PKP	**PKiKP**	**11 23 08.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=258,slow=3.1,SNR=6.5						
PLCA	**Paso Flores**	**121.97**	**147**		**PKiKP**	**11 23 08.6**	**+0.1**
GERES	**GERESS Array B**	**122.06**	**326**	PKP	**PKPdf**	**11 23 07.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=20,slow=3.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**145.47**	**285**	PKPbc	**PKPdf**	**11 23 52.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=72,slow=3.4,SNR=11						
BDFB	**Brasilia**	**153.70**	**145**	PKPbc	**PKiKP**	**11 24 13.8**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=32,slow=4.4,SNR=4.0						
BDFB	**Brasilia**	**153.70**	**145**		**PKPbc**	**11 24 12.6**	**-0.9**

*ISK **12** 11:07:28.5, 39.°90N×43.°33E, h6km, ML2.5/7*
*DDA **12** 11:07:28.7, 39.°93N×43.°29E, h7km±1km, ML2.2*
ISC 12 11:07:28.2±1.1, 39.°96N±0.°04×43.°31E±0.°04, h12km±8km, n13, σ0°50/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.17**	**208**	*i* P	**Pg**	**11 07 32.1**	**-0.2**
KOTA				*i* S	**Sg**	**11 07 34.9**	**-0.2**
KOTA				IAML		11 07 36.0	
	comp=E,945nm,0.5s						
AGRB	**Hanur-Agry**	**0.45**	**213**	PG	**Pg**	**11 07 37.1**	**-0.1**
AGRB				SG	**Sg**	**11 07 43.4**	**+0.2**
DIGO	**Kars**	**0.46**	**6**	*i* P	**Pb**	**11 07 38.2**	**-0.3**
DYDN	**Diyadin**	**0.50**	**145**	*i* P	**Pg**	**11 07 38.5**	**+0.4**
DYDN				*i* S	**Sb**	**11 07 46.2**	**-0.4**
DYDN				IAML		11 07 48.0	
	comp=E,238nm,0.3s						
DYDN				IAML		11 07 48.0	
	comp=N,234nm,0.2s						
IGDI	**IGDIR**	**0.60**	**98**	*i* P	**Pb**	**11 07 40.8**	**+0.1**
KARS	**Kars**	**0.69**	**345**	PG	**Pb**	**11 07 42.9**	**+0.5**
KARS				SG	**Sn**	**11 07 53.9**	**-1.0**
CLDR	**Caldiran**	**0.94**	**150**	*i* P	**Pb**	**11 07 46.5**	**0.0**
CLDR				*i* S	**Sn**	**11 08 00.5**	**-0.4**
CLDR				IAML		11 08 04.0	
	comp=E,51nm,0.3s						
CLDR	**Caldiran**	**0.94**	**150**	PG	**Pg**	**11 07 45.9**	**-0.4**
VMUR	**Van-Muradiye**	**0.98**	**168**	*i* P	**Pb**	**11 07 47.6**	**+0.3**
VMUR				*i* S	**Sb**	**11 08 00.3**	**-0.1**
VMUR				IAML		11 08 02.0	
	comp=N,38nm,0.3s						
GNI	**Garni**	**1.11**	**79**	PN	**Pn**	**11 07 50.3**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**1.12**	**272**	PN	**Pn**	**11 07 50.8**	**+0.8**
AKDM	**Akdamar-Van**	**1.64**	**189**	PN	**Pn**	**11 07 57.8**	**+0.6**
GURO	**Guroymak-BITLI**	**1.72**	**216**	PN	**Pb**	**11 07 59.4**	**-0.5**

*ISK **12** 11:08:03.4, 36.°99N×28.°38E, h16km, ML2.5/10*
*DDA **12** 11:08:04.8, 37.°00N×28.°43E, h7km±3km, ML2.0*
ISC 12 11:08:04.0±1.0, 36.°98N±0.°03×28.°39E±0.°03, h15km±8km, n15, σ0°49/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**329**	PG	**Pg**	**11 08 08.0**	**-0.4**
YER				SG	**Sg**	**11 08 11.4**	**+0.2**
DALY	**Dalyan (Mula)**	**0.27**	**129**	*i* P	**Pb**	**11 08 10.8**	**+0.3**
DALY				*i* S	**Sg**	**11 08 14.1**	**+0.5**
DALY				IAML		11 08 15.0	
	comp=N,282nm,0.3s						
DALY				IAML		11 08 15.0	
	comp=E,418nm,0.3s						
DALY	**Dalyan (Mula)**	**0.27**	**129**	PG	**Pg**	**11 08 09.9**	**+0.2**
DALY				SG	**Sb**	**11 08 14.6**	**-0.3**
MULA	**Mugla, Merkez-**	**0.28**	**348**	*i* P	**Pg**	**11 08 09.4**	**-0.6**
MULA				*i* S	**Sg**	**11 08 14.5**	**+0.4**
MRSB	**Marmaris-Mugla**	**0.31**	**211**	PG	**Pg**	**11 08 09.6**	**-0.9**
MRSB				SG	**Sg**	**11 08 15.4**	**+0.4**
MLSB	**Milas**	**0.58**	**302**	PG	**Pg**	**11 08 15.1**	**-0.4**
MLSB				SG	**Sg**	**11 08 23.8**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.64**	**41**	*i* P	**Pb**	**11 08 16.8**	**-0.1**
FETY	**Fethiye**	**0.65**	**122**	PG	**Pb**	**11 08 17.1**	**-0.1**
DAT	**Datca**	**0.70**	**249**	PG	**Pg**	**11 08 17.1**	**-0.7**
DAT				SG	**Sb**	**11 08 28.2**	**+0.6**
CAME	**Cameli-Denizli**	**0.73**	**93**	PG	**Pg**	**11 08 17.6**	**-0.7**
ARG	**Arkhangelos**	**0.80**	**196**	PG	**Pg**	**11 08 19.1**	**-0.4**
BODT	**Bodrum**	**0.87**	**275**	PG	**Pg**	**11 08 20.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**338**	PG	**Pg**	**11 08 28.0**	**-0.2**
NIS1	**Nisyros Isl.**	**1.05**	**249**	PG	**Pb**	**11 08 24.1**	**+0.2**
MANT	**Manisa**	**1.51**	**5**	*i* P	**Pb**	**11 08 32.0**	**+0.1**

*PGC **12** 11:20:24.4±0.0, 66.°16N×135.°15W, h5km, ML2.8/7, 145km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada*
ISC 12 11:20:22.2±0.7, 66.°08N±0.°03×135.°01W±0.°04, h10km, n23, σ2°27/40, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**0.75**	**293**	P	**Pg**	**11 20 36.4**	**-0.3**
	baz=108						
EPYK				S	**Sg**	**11 20 45.2**	**-1.2**
	baz=108						
INK	**Inuvik**	**2.31**	**14**	Pn	**Pb**	**11 21 01.7**	**-2.2**
INK				Sn	**Sn**	**11 21 28.9**	**+0.3**
INK	**Inuvik**	**2.31**	**14**	P	**Pb**	**11 21 01.6**	**-2.2**
	baz=197						
INK				S	**Sn**	**11 21 29.1**	**+0.6**
	baz=197						
DAWY	**Dawson**	**2.75**	**224**	Pn	**Pb**	**11 21 09.1**	**-2.3**
DAWY				Sg	**Sb**	**11 21 47.1**	**+2.1**
EGAK	**Eagle**	**2.88**	**246**	P	**Pn**	**11 21 09.1**	**+0.9**
	baz=58						
EGAK				S	**Sn**	**11 21 42.0**	**-0.8**
	baz=58						
K27K	**Chicken**	**3.63**	**239**	P	**Pn**	**11 21 19.1**	**+0.7**
	baz=51						
L27K	**Beaver Creek,**	**4.22**	**227**	P	**Pn**	**11 21 28.7**	**+2.1**
	baz=40						
SCRK	**Sand Creek**	**4.35**	**245**	P	**Pn**	**11 21 29.7**	**+1.3**
	baz=56						
PRP	**Porcupine Dome**	**4.37**	**267**	P	**Pn**	**11 21 28.9**	**+0.3**
	baz=77						
BVCY	**Beaver Creek**	**4.48**	**217**	Pn	**Pn**	**11 21 32.5**	**+2.5**
BVCY				Sg	**Sg**	**11 22 42.3**	**-3.6**
DOT	**Dot Lake**	**4.57**	**242**	Pn	**Pn**	**11 21 32.8**	**+1.5**
DOT				Sg	**Sb**	**11 22 40.6**	**+3.2**
YUK1	**Sand Pete Hill**	**4.63**	**214**	Pn	**Pn**	**11 21 34.8**	**+2.5**
YUK2	**White River**	**5.02**	**213**	Pn	**Pn**	**11 21 39.5**	**+1.9**
YUK2				Sg	**Sg**	**11 23 00.6**	**-2.6**
H24K	**Noodor Dome**	**5.27**	**273**	P	**Pn**	**11 21 42.5**	**+1.6**
	baz=81						
C36M	**Paulatuk**	**5.29**	**47**	Pn	**Pn**	**11 21 42.4**	**+1.2**
C36M				Sn	**Sn**	**11 22 39.9**	**-2.2**
C36M	**Paulatuk**	**5.29**	**47**	P	**Pn**	**11 21 42.6**	**+1.4**
	baz=238						
YUK6	**Outpost Mounta**	**5.37**	**198**	Pn	Pn	11 21 47.3	+4.8
YUK6				Pg	**Pg**	**11 22 04.0**	**-1.0**
YUK6				Sg	**Sg**	**11 23 13.7**	**-0.8**
HYT	**Haines Junctio**	**5.40**	**193**	Pn	**Pn**	**11 21 46.8**	**+4.0**
HYT				Sg	**Sg**	**11 23 12.1**	**-3.1**
WHY	**Whitehorse**	**5.45**	**179**	Pn	**Pn**	**11 21 47.1**	**+3.6**
WHY				Pg	**Pg**	**11 22 06.5**	**+0.1**
WHY				Sg	**Sg**	**11 23 14.3**	**-2.6**
PAX	**Paxson**	**5.49**	**240**	Pn	**Pn**	**11 21 46.3**	**+2.3**
PAX				Sn	**Sn**	**11 22 45.6**	**-1.5**
PAX				Sg	**Sb**	**11 23 09.0**	**+5.1**
DHRN	**Dharma Camp**	**6.26**	**74**	Pn	**Pn**	**11 21 56.4**	**+1.9**
DHRN				Sn	**Sn**	**11 23 05.1**	**-0.8**
KUKN	**Kugluktuk,NWT**	**8.00**	**68**	Pn	**Pn**	**11 22 19.5**	**+1.2**
KUKN				Sn	**Sn**	**11 23 45.6**	**-3.0**
DLBC	**Dease Lake**	**8.02**	**161**	Pn	Pn	11 22 23.9	+5.2
DLBC				Sg	**Sg**	**11 24 36.7**	**-2.4**

IDC 12 11:32:40.7±5.2, 13.°26S×167.°73E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.5/3, Error ellipse: s-maj=259.6km s-min=33.0km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.64**	**254**	P	P	11 39 14.4	-0.2
	0.4nm,0.9s,baz=87,slow=8.7,SNR=1.4						
ASAR	**Alice Springs**	**33.63**	**247**	P	P	11 39 23.4	+0.1
	0.4nm,0.4s,baz=74,slow=9.8,SNR=15						
ILAR	**Eielson Array**	**85.00**	**18**	P	P	11 45 17.6	0.0
	0.2nm,0.4s,baz=240,slow=5.1,SNR=8.5						

IDC 12 11:38:55.2±3.8, 9.°04S×113.°73E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/37, mbtmp3.1/3, Error ellipse: s-maj=237.6km s-min=29.4km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**121**	P	P	11 43 58.6	+0.1
	0.4nm,0.7s,baz=310,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**24.16**	**129**	P	P	11 44 13.4	0.0
	0.1nm,0.5s,baz=302,slow=8.9,SNR=6.2						
MKAR	**Makanchi Array**	**62.25**	**336**	P	P	11 49 18.9	0.0
	0.2nm,0.5s,baz=154,slow=9.2,SNR=2.5						

*NAO **12** 11:44:27.8±1.9, 71.°72N×1.°94W, ML3.6*
*DNK **12** 11:44:28.5±1.8, 71.°24N×2.°23W, h82km±999km, ML3.0*
*IDC **12** 11:44:30.2±0.9, 71.°60N×1.°37W, h0km, mb3.5/10, mb1 3.8/16, mb1mx3.6/63, mbtmp3.6/16, ML3.2/5, MS2.9/5, Ms1 3.0/5, ms1mx2.7/43, Error ellipse: s-maj=20.8km s-min=15.1km az=55.0*
*BER **12** 11:44:31.1±2.3, 71.°67N×2.°29W, h14km±16km, ML2.5, ML3.0(DNK), Confirmed Earthquake*
ISC 12 11:44:28.9±0.7, 71.°84N±0.°07×2.°20W±0.°07, h10km, n82, σ1°74/73, mb3.4/10, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.19**	**250**	LR	LR	11 45 44.1	
	comp=Z,56nm,21.1s,baz=42,slow=31						
DBG	**Daneborg**	**5.80**	**304**	*i* P	**Pn**	**11 45 54.8**	**0.0**
DBG	**Daneborg**	**5.80**	**304**	Pn	**Pn**	**11 45 55.1**	**+0.3**
DBG	**Daneborg**	**5.80**	**304**	*i* P	**Pn**	**11 45 54.8**	**0.0**
DBG				*e*S	**Sn**	**11 46 56.5**	**-4.9**
LOF	**Lofoten**	**6.54**	**117**	*e*P	**Pn**	**11 46 03.5**	**-1.5**
LOF				*e*S	Sn	11 47 11.3	-8.3
LOF				IAML		11 47 14.7	
	comp=Z,6.3nm,0.4s						
N2SV	**S,rvÞgen**	**6.56**	**120**	*e*P	**Pn**	**11 46 03.8**	**-1.5**
N2SV				IAML		11 47 15.4	
	comp=Z,4.9nm,0.3s						
N2RO	**R,st**	**6.59**	**124**	*e*P	**Pn**	**11 46 04.2**	**-1.5**
N2RO				*e*S	Sn	11 47 12.2	-8.6
N2RO				IAML		11 47 18.2	
	comp=Z,4.7nm,0.6s						
N2VA	**Vr,y**	**6.64**	**122**	*e*P	**Pn**	**11 46 04.9**	**-1.4**
N2VA				*e*S	Sn	11 47 13.2	-8.7
N2VA				IAML		11 47 16.0	
	comp=Z,8.0nm,0.7s						
DAG	**Danmarks Havn**	**6.64**	**326**	*e*	Pn	11 46 02.6	-3.7
	baz=132,slow=16						
DAG				*i* P	**Pn**	**11 46 06.4**	**+0.1**
DAG				*i*		11 47 12.9	
DAG				IAML		11 47 16.6	
	comp=Z,16nm,0.4s						
DAG	**Danmarks Havn**	**6.64**	**326**	*e*	Pn	11 46 02.6	-3.7
	baz=132,slow=16						
DAG				*i* P	**Pn**	**11 46 06.4**	**+0.1**
DAG				*i*		11 47 12.9	
DAG				IAML		11 47 16.6	
	comp=Z,16nm,0.4s						
BJO1	**Bjornoya**	**6.69**	**57**	Pn	**Pn**	**11 46 07.4**	**+0.4**
BJO1	**Bjornoya**	**6.69**	**57**	*e*P	**Pn**	**11 46 07.8**	**+0.9**
BJO1				*e*S	**Sn**	**11 47 19.2**	**-3.7**
BJO1				IAML		11 47 27.6	
	comp=Z,7.9nm,0.6s						
HSPB	**Hornsund (broa**	**7.01**	**34**	Pn	**Pn**	**11 46 12.2**	**+0.7**
HSPB	**Hornsund (broa**	**7.01**	**34**	*e*P	**Pn**	**11 46 12.3**	**+0.9**
STEI	**Steigen**	**7.16**	**115**	*e*P	**Pn**	**11 46 12.1**	**-1.3**
STEI				*e*S	Sn	11 47 26.2	-8.5
STEI				IAML		11 47 30.0	
	comp=Z,7.7nm,0.5s						
TRO	**Tromso**	**7.31**	**97**	*e*P	**Pn**	**11 46 14.0**	**-1.5**
TRO				*e*S	Sn	11 47 30.2	-8.2
TRO				IAML		11 47 36.6	
	comp=Z,2.4nm,0.7s						
N2IH	**Innhavet**	**7.33**	**113**	*e*P	**Pn**	**11 46 14.7**	**-1.1**
N2TV	**TÞrnvik**	**7.37**	**117**	*e*P	**Pn**	**11 46 14.1**	**-2.2**
N2TV				IAML		11 47 32.6	
	comp=Z,16nm,0.8s						
NBB30	**Finnes**	**7.42**	**123**	*e*P	**Pn**	**11 46 15.2**	**-1.8**
NBB05	**Inndyr**	**7.45**	**122**	*e*P	**Pn**	**11 46 15.6**	**-1.8**
FAUS	**Fauske**	**7.54**	**118**	*e*P	**Pn**	**11 46 17.1**	**-1.6**
FAUS				*e*S	Sn	11 47 34.9	-9.3
FAUS				IAML		11 47 36.8	
	comp=Z,4.0nm,0.5s						
BRBB	**Barentsburg B**	**7.55**	**26**	Pn	**Pn**	**11 46 20.1**	**+1.2**
BRBB	**Barentsburg B**	**7.55**	**26**	*e*P	**Pn**	**11 46 19.9**	**+1.1**
NBB15	**Halsa Church**	**7.55**	**125**	*e*P	**Pn**	**11 46 17.5**	**-1.3**
NBB15	**Halsa Church**	**7.55**	**125**	IAML		11 47 38.6	
	comp=Z,5.0nm,0.4s						
NBB13	**Alf Garage**	**7.58**	**126**	*e*P	**Pn**	**11 46 17.3**	**-1.9**
NBB13	**Alf Garage**	**7.58**	**126**	*e*S	Sn	11 47 35.4	-10
NBB13	**Alf Garage**	**7.58**	**126**	IAML		11 47 38.3	
	comp=Z,4.2nm,0.4s						
NBB40	**Tonnes**	**7.59**	**127**	*e*P	**Pn**	**11 46 17.3**	**-2.0**
NBB40				IAML		11 47 38.3	
	comp=Z,5.0nm,0.3s						
NBB17	**Glomfjord BÞr**	**7.60**	**124**	*e*P	**Pn**	**11 46 17.5**	**-2.0**
NBB17	**Glomfjord BÞr**	**7.60**	**124**	*e*S	Sn	11 47 36.4	-9.1
NBB17	**Glomfjord BÞr**	**7.60**	**124**	IAML		11 47 39.8	
	comp=Z,30nm,0.3s						
KONS	**Konsvik**	**7.63**	**127**	*e*P	**Pn**	**11 46 17.7**	**-2.1**
KONS				*e*S	Sn	11 47 36.1	-10
KONS				IAML		11 47 39.0	
	comp=Z,8.7nm,0.6s						
STOK	**Stokkvaagen**	**7.73**	**128**	*e*P	**Pn**	**11 46 18.9**	**-2.4**
JETT	**Jettan, Norway**	**7.81**	**96**	*e*P	**Pn**	**11 46 21.5**	**-0.9**
JETT				*e*S	Sn	11 47 42.0	-8.6
JETT				IAML		11 47 44.5	
	comp=Z,5.4nm,0.6s						
SPA0	**Spitsbergen Ar**	**7.93**	**28**	Pn	**Pn**	**11 46 26.0**	**+2.1**
	baz=215,slow=14						
SPA0	**Spitsbergen Ar**	**7.93**	**28**	Pn	**Pn**	**11 46 26.0**	**+2.1**
	baz=215,slow=14						
SPITS	**Spitsbergen Ar**	**7.93**	**28**	Pn	**Pn**	**11 46 26.1**	**+2.1**
	baz=205,slow=14,SNR=58						
KBS	**Kingsbay**	**7.93**	**20**	*i* P	**Pn**	**11 46 24.9**	**+0.9**
KBS	**Kingsbay**	**7.93**	**20**	Pn	**Pn**	**11 46 26.3**	**+2.3**
KBS	**Kingsbay**	**7.93**	**20**	*e*P	**Pn**	**11 46 25.2**	**+1.2**
KBS				*e*S	Sn	11 47 49.5	-4.2
KBS				IAML		11 48 17.7	
	comp=Z,1.2nm,0.9s						
KIF	**Kilpisjarvi**	**8.20**	**99**	Pn	**Pn**	**11 46 26.1**	**-1.5**
KIF	**Kilpisjarvi**	**8.20**	**99**	*e*P	**Pn**	**11 46 26.2**	**-1.4**
KIF				*e*S	Sn	11 47 51.0	-9.2
MOR8	**Moi Rana**	**8.22**	**126**	*e*P	**Pn**	**11 46 25.6**	**-2.4**
MOR8				*e*S	Sn	11 47 48.5	-12
MOR8				IAML		11 47 56.8	
	comp=Z,5.0nm,0.5s						
HAMF	**Hammerfest**	**8.39**	**86**	Pn	Pn	11 46 27.6	-2.8
HAMF	**Hammerfest**	**8.39**	**86**	*e*P	Pn	11 46 27.5	-2.8
HAMF				IAML		11 48 09.7	
	comp=Z,3.1nm,0.5s						
SALU	**Saltoluokta**	**8.46**	**112**	*e*P	**Pn**	**11 46 29.5**	**-1.9**
KTK1	**Kautokeino**	**8.95**	**96**	*e*P	**Pn**	**11 46 36.5**	**-1.5**
KTK1				IAML		11 48 28.0	
	comp=Z,16nm,0.6s						
NSS	**Namsos**	**9.00**	**137**	*e*P	**Pn**	**11 46 35.2**	**-3.5**
NSS				*e*S	Sn	11 48 07.8	-12
HEF	**Hetta**	**9.40**	**99**	*e*P	**Pn**	**11 46 42.4**	**-1.8**
ARA0	**ARCESS Array S**	**9.41**	**91**	Pn	**Pn**	**11 46 42.8**	**-1.6**
	baz=291,slow=11						
ARA0	**ARCESS Array S**	**9.41**	**91**	Pn	**Pn**	**11 46 42.8**	**-1.6**
	baz=291,slow=11						
ARCES	**ARCESS Array B**	**9.41**	**91**	Pn	**Pn**	**11 46 42.9**	**-1.4**
	baz=296,slow=11,SNR=37						
ARCES				LR	LR	11 49 28.2	
	comp=Z,78nm,21.9s,baz=265,slow=33						
KEV	**Kevo**	**9.78**	**88**	*e*P	**Pn**	**11 46 47.4**	**-2.0**
NOR	**Nord**	**10.30**	**348**	*i* P	**Pn**	**11 46 57.9**	**+1.5**
NOR				*e*S	Sn	11 48 44.4	-7.3
NOR				IAML		11 48 48.7	
	comp=Z,1.1nm,0.4s						
NOR	**Nord**	**10.30**	**348**	Pn	**Pn**	**11 46 56.7**	**+0.3**
NOR	**Nord**	**10.30**	**348**	*i* P	**Pn**	**11 46 57.9**	**+1.5**
NOR				*e*S	Sn	11 48 44.4	-7.3
NOR				IAML		11 48 48.7	
	comp=Z,1.1nm,0.4s						
AKN	**Aaknes**	**10.33**	**155**	Pn	**Pn**	**11 46 56.4**	**-0.5**
AKN	**Aaknes**	**10.33**	**155**	Pn	**Pn**	**11 46 56.4**	**-0.5**
NOD	**Norderasen**	**10.58**	**134**	*e*P	Pn	11 46 55.3	-5.1
NOA	**NORSAR Array B**	**12.05**	**147**	Pn	**Pn**	**11 47 19.4**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=339,slow=13,SNR=3.7						
NOA				LR	LR	11 51 44.2	
	comp=Z,87nm,19.5s,baz=345,slow=37						
NRA0	**NORESS Array S**	**12.39**	**147**	Pn	**Pn**	**11 47 24.8**	**-0.3**
	baz=340,slow=18						
NRA0	**NORESS Array S**	**12.39**	**147**	Pn	**Pn**	**11 47 24.8**	**-0.3**
	baz=340,slow=18						
APA0	**Apatity Array**	**12.77**	**92**	Pn	**Pn**	**11 47 28.4**	**-1.8**
	baz=310,slow=18						
APA0	**Apatity Array**	**12.77**	**92**	Pn	**Pn**	**11 47 28.4**	**-1.8**
	baz=310,slow=18						
HFS	**Hagfors**	**13.34**	**144**	Pn	**Pn**	**11 47 37.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=345,slow=11,SNR=24						
HFS				LR	LR	11 52 42.5	
	comp=Z,90nm,18.0s,baz=340,slow=38						
HFS	**Hagfors**	**13.34**	**144**	Pn	**Pn**	**11 47 37.3**	**-0.7**
	baz=352,slow=16						
HFS	**Hagfors**	**13.34**	**144**	Pn	**Pn**	**11 47 37.3**	**-0.7**
	baz=352,slow=16						
FIA0	**FINESS Array S**	**15.10**	**119**	P	**Pn**	**11 48 00.1**	**-1.9**
	baz=334,slow=12						
FIA0	**FINESS Array S**	**15.10**	**119**	P	**Pn**	**11 48 00.1**	**-1.9**
	baz=334,slow=12						
FINES	**FINESS Array B**	**15.10**	**119**	Pn	**Pn**	**11 48 00.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=328,slow=18,SNR=8.1						
FINES				LR	LR	11 53 13.5	
	comp=Z,126nm,18.9s,baz=29,slow=36						
EKA	**Eskdalemuir Ar**	**16.57**	**182**	Pn	**P**	**11 48 22.5**	**-1.1**
	baz=14,slow=10,SNR=1.6						
GERES	**GERESS Array B**	**24.20**	**154**	P	**P**	**11 49 47.0**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=357,slow=9.4,SNR=4.9						
AKASG	**Malin Array Be**	**25.44**	**129**	P	**P**	**11 49 55.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=338,slow=9.1,SNR=1.6						
ARU	**Arti**	**29.00**	**90**	P	**P**	**11 50 28.6**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=342,slow=4.8,SNR=4.0						
MLR	**Muntele Rosu**	**29.61**	**138**	P	**P**	**11 50 31.7**	**-2.2**
	comp=Z,2.5nm,0.6s,baz=274,slow=9.1,SNR=3.2						
ESDC	**Sonseca Array**	**32.25**	**183**	P	**P**	**11 50 58.7**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=354,slow=9.6,SNR=2.0						
YKA	**Yellowknife Ar**	**38.23**	**316**	P	P	11 51 55.0	+6.7
	comp=Z,1.4nm,0.8s,baz=23,slow=7.9,SNR=2.7						
ILAR	**Eielson Array**	**41.56**	**338**	P	P	11 52 21.8	+5.8
	comp=Z,0.3nm,0.7s,baz=19,slow=5.8,SNR=4.5						
MKAR	**Makanchi Array**	**44.71**	**76**	P	**P**	**11 52 43.8**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=349,slow=4.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**58.71**	**176**	P	**P**	**11 54 26.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=352,slow=8.1,SNR=2.2						
TXAR	**Lajitas Array**	**65.90**	**290**	P	**P**	**11 55 18.1**	**+3.5**
	comp=Z,0.3nm,0.9s,baz=51,slow=7.1,SNR=2.2						

*IDC **12** 11:48:21.7±1.4, 37.°20N×28.°81E, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.4/50, mbtmp3.8/6, ML3.9/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/44, Error ellipse: s-maj=29.6km s-min=20.2km az=146.0*
*DDA **12** 11:48:21.8, 37.°14N×28.°74E, h2km±2km, ML3.3*
*ISK **12** 11:48:21.8, 37.°14N×28.°74E, h1km, ML3.5/21*
*ATH **12** 11:48:23.1, 37.°16N×28.°72E, h48km±17km, ML3.3/4, Error ellipse: s-maj=18.0km s-min=1.8km az=184.0*
*THE **12** 11:48:23.2, 37.°18N×28.°70E, h0km±1km, ML3.3/4, Error ellipse: s-maj=3.8km s-min=1.5km az=32.0*
ISC 12 11:48:22.7±1.1, 37.°17N±0.°02×28.°73E±0.°02, h6km±9km, n63, σ1°09/88, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.33**	**27**	*i* P	**Pg**	**11 48 28.8**	**-0.4**
TAVA				*i* S	**Sg**	**11 48 34.4**	**+0.7**
TAVA				IAML		11 48 35.0	
	comp=E,3μm,0.3s						
MULA	**Mugla, Merkez-**	**0.34**	**285**	*i* P	**Pg**	**11 48 29.6**	**+0.3**
MULA				*i* S	**Sb**	**11 48 35.1**	**-1.7**
DALY	**Dalyan (Mula)**	**0.35**	**189**	*i* P	**Pg**	**11 48 29.1**	**-0.5**
DALY	**Dalyan (Mula)**	**0.35**	**189**	PG	**Pg**	**11 48 29.2**	**-0.4**
DALY				SG	**Sb**	**11 48 35.2**	**-2.0**
YER	**Yerkesik**	**0.36**	**265**	P	**Pg**	**11 48 29.8**	**+0.1**
YER				S	**Sb**	**11 48 36.1**	**-1.3**
YER	**Yerkesik**	**0.36**	**265**	PG	**Pb**	**11 48 30.1**	**-1.4**
YER				SG	**Sb**	**11 48 36.3**	**-1.1**
CAEL	**Denizli, Camel**	**0.48**	**95**	*i* P	**Pg**	**11 48 31.1**	**-0.8**
CAME	**Cameli-Denizli**	**0.51**	**116**	PG	**Pg**	**11 48 31.5**	**-1.1**
CAME				SG	**Sb**	**11 48 39.9**	**-2.0**
TURN	**Turunc**	**0.55**	**225**	*i* P	**Pg**	**11 48 32.5**	**-0.8**
FETY	**Fethiye**	**0.60**	**152**	PG	**Pb**	**11 48 34.1**	**-1.6**
MRSB	**Marmaris-

comp=E,1492µm,0.4s
DGB zmir 1.71 302 *i* P **Pb 11 48 54.0 -0.5**
DEMI Demirci 1.87 360 *i* P **Pn 11 48 55.4 +0.1**
SHAP Saphane-Kutahy 1.89 12 PN **Pb 11 48 56.6 -1.1**
GEDZ Gediz 1.95 16 PN **Pb 11 48 57.4 -1.3**
AFYO Afyonkarahisar 2.04 37 *i* P **Pg 11 49 01.3 -0.5**
AFYO *i* S **Sg 11 49 30.2 +1.9**
AFYO IAML 11 49 40.0
comp=E,263nm,1.0s
KARP Karpathos 2.05 218 P **Pb 11 48 58.9 -1.5**
KARP S **Sb 11 49 25.8 -0.4**
KARP Karpathos 2.05 218 P **Pn 11 49 00.1 -0.3**
KARP Karpathos 2.05 218 PN **Pn 11 48 58.3 +0.5**
DKL Dikili 2.38 323 PN **Pn 11 49 03.6 +1.3**
CHOS Chios island 2.44 301 P **Pn 11 49 03.0 -0.2**
CHOS Chios island 2.44 301 PN **Pn 11 49 04.3 +1.1**
APE Apeiranthos 2.56 269 PN **Pn 11 49 05.8 +1.1**
IDI Anoyia 3.62 240 Pn **Pn 11 49 22.0 +2.5**
comp=E,14nm,0.3s,baz=60,slow=14,SNR=56
IDI Sn **Sn 11 50 06.1 +3.6**
comp=E,8.7nm,0.3s,baz=297,slow=13,SNR=6.5
BRTR Keskin Array B 4.62 55 Pn **Pn 11 49 34.5 +1.2**
comp=E,3.7nm,0.3s,baz=245,slow=16,SNR=44
MMAI Mount Meron Ar 6.86 125 Pn **Pn 11 50 02.4 -1.5**
comp=E,5.4nm,0.3s,baz=320,slow=13,SNR=8.1
EIL Elat 9.11 143 Pn **Pn 11 50 34.8 +0.2**
comp=E,0.5nm,0.3s,baz=165,slow=4.0,SNR=2.4
FINES FINESS Array B 24.36 357 P **P 11 53 40.7 -0.5**
comp=E,1.2nm,0.7s,baz=158,slow=12,SNR=2.1
TORD Torodi Ar. Bea 33.99 232 P **P 11 55 07.0 -0.3**
comp=E,0.6nm,0.4s,baz=37,slow=9.3,SNR=8.8
TLY Talaya 53.12 49 LR LR 12 22 31.6
comp=E,65nm,19.2s,baz=72,slow=39

*IDC **12** 11:52:07.2±1.4, 7°28S×146°88E, h130km±17km, mb3.7/11, mb1 3.9/13, mb1mx3.7/32, mbtmp4.1/13, MS2.6/1, Ms1 2.6/1, ms1mx2.4/23, Error ellipse: s-maj=32.0km s-min=11.1km az=109.0*
*NEIC **12** 11:52:08±1.5, 7°32S±0°06×146°8E±0°1, h137km±7km, mb4.3/31, Error ellipse: s-maj=21.3km s-min=5.8km az=107.0*
ISC 12 11:52:07.7±0.5, 7°31S±0°05×146°8E±0°1, h137km, n63, σ0°91/66, mb4.2/25, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.12**	**169**	P	**Pn**	**11 52 43.7**	**+0.2**
	40nm,0.3s,baz=14,slow=11,SNR=118						
PMG				S	**Sn**	**11 53 10.4**	**-0.6**
	63nm,0.3s,baz=236,slow=22,SNR=14						
PMG				LR	LR	11 53 46.2	
	comp=Z,134nm,20.0s,baz=152,slow=46						
PMG	**Port Moresby**	**2.12**	**169**	P	**Pn**	**11 52 42.9**	**-0.6**
PMG	**Port Moresby**	**2.12**	**169**	P	**Pn**	**11 52 43.6**	**+0.1**
RABL	**Rabaul**	**6.20**	**60**	Pn	**Pn**	**11 53 37.9**	**+0.9**
CTA	**Charters Tower**	**12.72**	**182**	P	**P**	**11 55 09.9**	**+0.4**
	0.6nm,0.3s,baz=6.1,slow=12,SNR=8.7						
CTAO	**Charters Tower**	**12.72**	**182**	Pn	**Pn**	**11 55 02.3**	**-1.5**
WB0	**Warramunga Arr**	**17.25**	**223**	P	**P**	**11 55 58.5**	**-1.3**
WR0	**Warramunga Arr**	**17.29**	**222**		**P**	**11 55 58.6**	**-1.5**
WRAB	**Tennant Creek**	**17.39**	**223**	P	**P**	**11 56 00.8**	**-0.5**
WB2	**Warramunga Arr**	**17.40**	**223**	P	**P**	**11 56 01.6**	**+0.2**
WB2				IAmb	IAmb	11 56 29.2	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**17.41**	**223**	P	**P**	**11 56 01.0**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=48,slow=11,SNR=48						
WRA	**Warramunga Arr**	**17.41**	**223**	P	**P**	**11 56 00.2**	**-1.3**
KNRA	**Kununurra**	**19.49**	**243**	P	**P**	**11 56 22.7**	**-1.5**
KNRA				IAmb	IAmb	11 56 27.0	
	comp=Z,9.0nm,0.7s						
AS31	**Alice Springs**	**20.42**	**216**	P	**P**	**11 56 35.5**	**+1.3**
ASAR	**Alice Springs**	**20.42**	**216**	P	**P**	**11 56 34.7**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=54,slow=9.1,SNR=80						
ASAR				pP	**pP**	**11 57 01.5**	**+2.9**
	comp=Z,8.1nm,0.9s,baz=46,slow=11,SNR=13						
ASAR				S	**S**	**12 00 18.8**	**+3.1**
	comp=Z,2.2nm,0.8s,baz=35,slow=20,SNR=8.0						
ASAR	**Alice Springs**	**20.42**	**216**	P	**P**	**11 56 34.4**	**+0.1**
ARMA	**Armidale**	**23.44**	**169**	P	**P**	**11 57 05.5**	**+0.6**
ARMA				IAmb	IAmb	11 57 33.7	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**24.92**	**190**	P	**P**	**11 57 19.1**	**+1.0**
	comp=Z,3.4nm,0.5s,baz=5.0,slow=10,SNR=12						
STKA	**Stephens Creek**	**24.92**	**190**	P	**P**	**11 57 18.6**	**+0.5**
FORT	**Forrest**	**29.19**	**214**	P	**P**	**11 57 55.5**	**-0.9**
MORW	**Morawa**	**36.14**	**229**	P	**P**	**11 58 56.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.42**	**223**	P	**P**	**11 59 07.6**	**-0.1**
TPUB	**Ta-pu**	**39.73**	**321**	P	**P**	**11 59 26.2**	**-0.9**
NACB	**Ninganchiao**	**39.78**	**323**	P	**P**	**11 59 27.3**	**-0.1**
YHNB	**Yeheng**	**40.28**	**323**	P	**P**	**11 59 31.7**	**0.0**
JWT	**Wachi**	**43.69**	**347**	P	**P**	**11 59 58.5**	**-0.6**
JWT				IAmb	IAmb	12 00 22.2	
	comp=Z,18nm,1.4s						
MJAR	**Matsushiro Arr**	**44.35**	**350**	P	**P**	**12 00 03.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=171,slow=11,SNR=4.0						
JSD	**Sado**	**45.80**	**351**	P	**P**	**12 00 15.0**	**-0.8**
JSD				IAmb	IAmb	12 00 25.8	
	comp=Z,6.1nm,1.4s						
KSRS	**Korea Array**	**47.88**	**340**	P	**P**	**12 00 32.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=177,slow=7.2,SNR=3.5						
JTM	**Tenmabayashi**	**48.14**	**354**	P	**P**	**12 00 33.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**52.98**	**347**	P	**P**	**12 01 11.0**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=167,slow=7.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**53.67**	**299**	P	**P**	**12 01 16.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=121,slow=5.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**53.67**	**299**	P	**P**	**12 01 15.2**	**-0.5**
PETK	**Petropavlovsk-**	**60.89**	**8**	P	**P**	**12 02 06.6**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=156,slow=5.0,SNR=7.0						
PETK	**Petropavlovsk-**	**60.89**	**8**	P	**P**	**12 02 06.2**	**+0.5**
SONM	**Songino Array**	**65.43**	**331**	P	**P**	**12 02 36.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=123,slow=5.3,SNR=4.3						
SONM	**Songino Array**	**65.43**	**331**	P	**P**	**12 02 35.2**	**-0.7**
GSTR	**Great Sitkin T**	**67.16**	**24**	P	**P**	**12 02 46.1**	**-0.6**
MKAR	**Makanchi Array**	**78.35**	**321**	P	**P**	**12 03 54.0**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=98,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**78.35**	**321**	P	**P**	**12 03 53.2**	**+0.2**
MAKZ	**Makanchi**	**78.55**	**321**	P	**P**	**12 03 54.5**	**+0.5**
MAKZ				IAmb	IAmb	12 03 55.6	
	comp=Z,7.4nm,1.1s						
ZALV	**Zalesovo Beam**	**79.99**	**328**	P	**P**	**12 04 01.2**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=107,slow=5.7,SNR=6.3						
ZALV	**Zalesovo Beam**	**79.99**	**328**	P	**P**	**12 04 01.5**	**-0.2**
OHAK	**Old Harbor**	**80.55**	**29**	P	**P**	**12 04 04.4**	**-0.1**
OHAK				IAmb	IAmb	12 04 33.5	
	comp=Z,9.3nm,1.2s						
BOOM	**Boomskoye usch**	**81.03**	**315**	P	**P**	**12 04 08.0**	**+0.3**
BOOM				IAmb	IAmb	12 04 09.5	
	comp=Z,3.2nm,0.7s						
SVW2	**Sparrevohn**	**81.52**	**25**	P	**P**	**12 04 10.5**	**+0.8**
SVW2				IAmb	IAmb	12 04 31.9	
	comp=Z,3.5nm,1.2s						
CNPM	**China Poot**	**82.61**	**27**	P	**P**	**12 04 15.0**	**-0.4**
CNPM				IAmb	IAmb	12 04 17.0	
	comp=Z,4.5nm,0.8s						
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**12 04 15.8**	**0.0**
QSPA				IAmb	IAmb	12 04 32.8	
	comp=Z,5.7nm,1.4s						
KTH	**Kantishna Hill**	**84.64**	**23**	P	**P**	**12 04 25.6**	**-0.2**
KTH				IAmb	IAmb	12 04 52.9	
	comp=Z,5.7nm,1.4s						
TRF	**Thorofare Moun**	**84.84**	**24**	P	**P**	**12 04 27.0**	**+0.1**
TRF				IAmb	IAmb	12 04 46.8	
	comp=Z,6.2nm,1.4s						
KKAR	**Karatay Array**	**85.03**	**314**	P	**P**	**12 04 28.3**	**+0.2**
RND	**Reindeer**	**85.40**	**24**	P	**P**	**12 04 29.5**	**0.0**
RND				IAmb	IAmb	12 04 30.1	
	comp=Z,4.6nm,0.7s						
MLY	**Manley**	**85.41**	**22**	P	**P**	**12 04 29.4**	**-0.1**
MLY				IAmb	IAmb	12 04 30.9	
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**86.77**	**23**	P	**P**	**12 04 35.5**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=254,slow=5.1,SNR=27						
ILAR	**Eielson Array**	**86.77**	**23**	P	**P**	**12 04 35.2**	**-1.0**
BCAR	**Beaver Creek A**	**88.21**	**26**	P	**P**	**12 04 43.4**	**+0.3**
BMAR	**Burnt Mountain**	**88.69**	**21**	P	**P**	**12 04 46.3**	**+1.0**
EGAK	**Eagle**	**89.05**	**24**	P	**P**	**12 04 47.5**	**+0.6**
EGAK				IAmb	IAmb	12 05 16.8	
	comp=Z,3.4nm,1.4s						
DAWY	**Dawson**	**89.55**	**25**	P	**P**	**12 04 49.7**	**+0.3**
DAWY				IAmb	IAmb	12 04 51.9	
	comp=Z,4.7nm,1.4s						
ABKAR	**Akbulak array**	**93.40**	**319**	P	**P**	**12 05 06.3**	**-1.2**
GERES	**GERESS Array B**	**122.84**	**325**	PKP	**PKPdf**	**12 10 46.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=69,slow=7.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**145.16**	**282**	PKPbc	**PKPab**	**12 11 30.7**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=80,slow=4.2,SNR=14						
TORD				pPKPbc	pPKPab	12 12 06.0	-0.2
	comp=Z,1.4nm,0.7s,baz=75,slow=3.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**145.16**	**282**		**PKPab**	**12 11 31.0**	**+0.9**

*IDC **12** 11:57:32.9±0.8, 2°87N×84°38W, h0km, mb3.7/10, mb1 4.0/10, mb1mx3.8/35, mbtmp3.8/10, ML4.9/1, MS3.6/19, Ms1 3.6/19, ms1mx3.5/27, Error ellipse: s-maj=33.0km s-min=18.4km az=46.0*
*NEIC **12** 11:57:34.5±1.6, 2°63N±0°10×84°5W±0°1, h10km±2km, mb4.4/13, Error ellipse: s-maj=21.6km s-min=12.7km az=234.0*
ISC 12 11:57:36.6±0.5, 2°69N±0°06×84°51W±0°09, h26km, n122, σ1°41/108, mb4.2/13, MS3.6/17, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PTGL	**Punta Galera**	**4.86**	**113**	*eP*	**Pn**	**11 58 45.4**	**-2.7**
TUMC	**Tumaco**	**5.84**	**98**		**Pn**	**11 59 01.0**	**-0.5**
PAC1	**Pacto, Paraso**	**6.20**	**113**	*eP*	**Pn**	**11 59 04.5**	**-2.1**
OTAV	**Otavalo**	**6.53**	**112**	Pn	**Pn**	**11 59 09.0**	**-2.4**
OTAV	**Otavalo**	**6.53**	**112**	*eP*	**Pn**	**11 59 09.6**	**-1.8**
OTAV	**Otavalo**	**6.53**	**112**	*eP*	**Pn**	**11 59 09.2**	**-2.3**
SRBA	**San Rafael, Bu**	**6.60**	**10**		**Pn**	**11 59 11.1**	**-1.0**
DRK0	**Durika**	**6.65**	**11**		**Pn**	**11 59 11.4**	**-1.5**
PEZE	**Perez Zeledon,**	**6.70**	**7**		**Pn**	**11 59 14.0**	**+0.5**
JACO	**JACO, Garabito**	**6.93**	**359**	Pn	**Pn**	**11 59 16.5**	**0.0**
CAO2	**Cobano, Puntar**	**6.98**	**355**	Pn	**Pn**	**11 59 16.1**	**-1.1**
RIMA	**Rio Macho**	**7.06**	**5**		**Pn**	**11 59 18.9**	**+0.4**
MALC	**Bahia Malaga**	**7.28**	**79**	*eP*	**Pn**	**11 59 21.5**	**+0.1**
BBAC	**Balboa, Cauca**	**7.29**	**95**	*eP*	**Pn**	**11 59 20.8**	**-0.8**
GCUF	**Volcan Galeras**	**7.31**	**101**	*eP*	**Pn**	**11 59 21.4**	**-0.7**
CVTR	**Volcan Turrial**	**7.32**	**6**		**Pn**	**11 59 22.7**	**+0.4**
DUNO	**Dulce Nombre,**	**7.41**	**352**	Pn	**Pn**	**11 59 23.1**	**0.0**
JTS	**Las Juntas de**	**7.57**	**357**	Pn	**Pn**	**11 59 24.4**	**-0.9**
	20nm,0.3s,baz=158,slow=9.7,SNR=53						
JTS				Sn	**Sn**	**12 00 44.6**	**-5.7**
	0.9nm,0.3s,baz=17,slow=19,SNR=0.9						
JTS				LR	LR	12 01 39.2	
	comp=Z,1µm,21.8s,baz=260,slow=33						
JTS	**Las Juntas de**	**7.57**	**357**		**Pn**	**11 59 25.0**	**-0.3**
JTS	**Las Juntas de**	**7.57**	**357**	*eP*	**Pn**	**11 59 25.2**	**-0.1**
POPC	**Popayan, Colom**	**7.83**	**91**	*eP*	Pn	11 59 20.5	-8.6
SOTA	**Rioblanco**	**7.92**	**94**	*eP*	**Pn**	**11 59 30.7**	**+0.2**
COVE	**Coope Vega, Sa**	**7.98**	**1**		**Pn**	**11 59 31.8**	**+0.8**
HZTE	**Horizontes, Gu**	**8.05**	**352**	Pn	**Pn**	**11 59 32.5**	**+0.7**
PCON	**Cinco Dias**	**8.11**	**92**	*eP*	**Pn**	**11 59 33.8**	**+0.5**
YOTC	**Yotoco, Valle**	**8.25**	**81**	*eP*	**Pn**	**11 59 34.2**	**-0.6**
PLMC	**San Jos del P**	**8.50**	**75**	*eP*	**Pn**	**11 59 37.5**	**-0.7**
MARP	**Paez Belalcaza**	**8.55**	**89**	*eP*	**Pn**	**11 59 40.8**	**+1.9**
UPD2	**Meteti**	**8.70**	**48**	*eP*	**Pn**	**11 59 44.3**	**+3.5**
CBOC	**Ciudad Bolivar**	**9.04**	**69**	*eP*	**Pn**	**11 59 45.4**	**-0.2**
ACON	**Acoyapa**	**9.24**	**356**	Pn	**Pn**	**11 59 48.6**	**+0.3**
ANIL	**Santa Ana**	**9.26**	**79**	*eP*	**Pn**	**11 59 49.3**	**+0.4**
DBBC	**Dabeiba**	**9.32**	**62**	*eP*	**Pn**	**11 59 51.4**	**+2.0**
ORTC	**Ortega, Tolima**	**9.33**	**82**	*eP*	**Pn**	**11 59 50.6**	**+1.1**
TOLC	**Tolima**	**9.36**	**78**	*eP*	**Pn**	**11 59 51.4**	**+1.1**
GUY2C	**Guyana, Caldas**	**9.46**	**74**	*eP*	**Pn**	**11 59 53.2**	**+1.5**
HELC	**Santa Helena**	**9.61**	**68**	*eP*	**Pn**	**11 59 55.6**	**+2.0**
PRAC	**Prado**	**9.66**	**84**	*eP*	**Pn**	**11 59 55.3**	**+1.2**
NORC	**Norcasia**	**10.03**	**73**	*eP*	**Pn**	**12 00 01.3**	**+2.2**
UREC	**San Jos de Ur**	**10.26**	**60**	*eP*	**Pn**	**12 00 05.0**	**+2.8**
CRIN	**San Cristobal**	**10.26**	**346**	Pn	**Pn**	**12 00 03.1**	**+0.8**
ROSC	**El Rosal**	**10.39**	**78**	Pn	**Pn**	**12 00 07.3**	**+2.9**
	1.1nm,0.3s,baz=245,slow=9.6,SNR=5.9						
MACC	**Macarena, Meta**	**10.67**	**93**	*eP*	**Pn**	**12 00 08.0**	**+0.2**
ZARC	**Zaragoza, Cauc**	**10.73**	**63**	*eP*	**Pn**	**12 00 10.5**	**+1.8**
CHIC	**Chingaza**	**10.93**	**80**	*eP*	**Pn**	**12 00 13.6**	**+1.8**
ATAH	**Atahualpa**	**11.51**	**148**	Pn	Pn	12 00 25.9	+6.2
	0.2nm,0.3s,baz=343,slow=12,SNR=3.5						
TGUH	**Tegucigalpa,Un**	**11.62**	**347**		**Pn**	**12 00 21.1**	**+0.1**
BARC	**Barichara**	**11.94**	**71**	*eP*	**Pn**	**12 00 28.5**	**+3.0**
SDV	**Santo Domingo**	**15.11**	**65**	Sn	Sn	12 03 45.0	-10
	5.8nm,0.3s,baz=351,slow=4.6,SNR=1.6						
CZSB	**Cruzeiro do Su**	**15.68**	**131**	*eP*	**Pn**	**12 01 13.9**	**-2.0**
CMIG	**Matias Romero**	**17.57**	**325**	LR	LR	12 06 08.5	
	comp=Z,80nm,18.1s,baz=180,slow=30						
PCRV	**Puerto La Cruz**	**21.09**	**68**	P	**P**	**12 02 18.8**	**-0.5**
	13nm,0.9s,baz=318,slow=4.9,SNR=5.0						
ETMB	**Extrema**	**22.06**	**125**	*eP*	**P**	**12 02 28.7**	**-0.9**
BOAV	**Boa Vista**	**23.97**	**90**	*eP*	**P**	**12 02 48.3**	**-0.8**
PTGA	**Pitinga**	**24.77**	**98**	P	**P**	**12 02 56.4**	**-0.1**
	1.0nm,0.4s,baz=267,slow=23,SNR=1.9						
LPAZ	**La Paz**	**24.85**	**140**	P	**P**	**12 02 59.3**	**+1.5**
	6.1nm,1.1s,baz=325,slow=9.9,SNR=13						
LPAZ				LR	LR	12 13 45.5	
	comp=Z,248nm,19.9s,baz=251,slow=39						
LPAZ	**La Paz**	**24.85**	**140**	P	**P**	**12 02 58.6**	**+0.8**
LPAZ	**La Paz**	**24.85**	**140**	*eP*	**P**	**12 02 59.0**	**+1.1**
VILB	**Vilhena**	**28.71**	**123**	*eP*	**P**	**12 03 31.4**	**-0.5**
LVC	**Limon Verde**	**29.40**	**150**	*eP*	**P**	**12 03 39.8**	**+1.4**
NPGB	**Novo Progresso**	**30.66**	**109**	*eP*	**P**	**12 03 48.1**	**-1.2**
GO02	**Mina Guanaco**	**31.24**	**153**	P	**P**	**12 03 53.9**	**-0.7**
CLDB	**Colider**	**31.59**	**116**	*eP*	**P**	**12 03 57.2**	**-0.3**
TXAR	**Lajitas Array**	**32.15**	**327**	P	**P**	**12 04 02.0**	**-0.3**
	0.1nm,0.6s,baz=141,slow=12,SNR=1.9						
TXAR				PcP	**PcP**	**12 06 50.5**	**-0.6**
	0.3nm,0.8s,baz=101,slow=4.7,SNR=3.6						
TXAR				LR	LR	12 16 17.2	
	comp=Z,57nm,21.8s,baz=0.0,slow=35						
X37A	**Clayton**	**33.31**	**344**	P	**P**	**12 04 12.2**	**0.0**
SALV	**Santo Antonio**	**33.96**	**124**	*eP*	**P**	**12 04 18.5**	**+0.3**
HHAR	**Hobbs**	**34.55**	**346**	P	**P**	**12 04 22.8**	**-0.3**
HHAR				IAmb	IAmb	12 04 30.6	
	comp=Z,4.0nm,0.9s						
MGMO	**Mountain Grove**	**35.03**	**349**	P	**P**	**12 04 26.7**	**-0.6**
MGMO				IAmb	IAmb	12 04 42.3	
	comp=Z,5.8nm,1.1s						
PRPB	**Parauapebas**	**35.74**	**104**	*eP*	**P**	**12 04 33.3**	**-0.4**
H03N2	**Juan Fernandez**	**36.32**	**172**	T	T	12 43 06.8	
	baz=351,slow=76,SNR=4.6						
H03N1	**Juan Fernandez**	**36.32**	**172**	T	T	12 43 11.9	
	baz=351,slow=76,SNR=5.0						
H03N3	**Juan Fernandez**	**36.33**	**172**	T	T	12 43 10.5	
	baz=351,slow=76,SNR=6.9						
AQDB	**Aquidauana**	**36.44**	**130**	*eP*	**P**	**12 04 40.4**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**36.75**	**98**	*eP*	**P**	**12 04 41.5**	**-0.8**
ARAG	**Araguaiana, MT**	**37.15**	**120**	*eP*	**P**	**12 04 46.1**	**+0.5**
RPN	**Rapa Nui**	**38.10**	**217**	LR	LR	12 16 10.3	
	comp=Z,194nm,20.4s,baz=288,slow=29						
SMTB	**Santa Maria do**	**38.55**	**108**	*eP*	**P**	**12 04 58.5**	**+1.0**
PEXB	**Peixe**	**38.87**	**113**	*eP*	**P**	**12 05 00.9**	**+0.8**
CPUP	**Villa Florida**	**39.02**	**139**	LR	LR	12 23 01.0	
	comp=Z,74nm,21.2s,baz=325,slow=39						
CPUP	**Villa Florida**	**39.02**	**139**	*eP*	**P**	**12 05 03.5**	**+2.3**
SDCO	**Great Sand Dun**	**39.85**	**334**	P	**P**	**12 05 09.2**	**+0.8**
BDFB	**Brasilia**	**40.43**	**118**	LR	LR	12 23 22.4	
	comp=Z,102nm,18.1s,baz=240,slow=38						
IPMB	**Ipameri, GO**	**41.24**	**121**	*eP*	**P**	**12 05 20.2**	**+0.3**
U15A	**North Rim**	**42.24**	**326**	P	**P**	**12 05 27.8**	**-0.3**
U15A				IAmb	IAmb	12 05 44.9	
	comp=Z,9.2nm,1.4s						
PFO	**Pinyon Flats O**	**42.86**	**320**	LR	LR	12 20 51.8	
	comp=Z,64nm,19.6s,baz=136,slow=33						
RDMU	**Red Mountain**	**43.99**	**332**	P	**P**	**12 05 42.7**	**+0.7**
TIJ01	**Guaruva-PR**	**44.27**	**131**	*eP*	**P**	**12 05 46.1**	**+1.7**
CPSB	**Cacapava Do Su**	**44.30**	**140**	*eP*	**P**	**12 05 45.4**	**+0.9**
MC01	**Montes Claros**	**44.45**	**117**	*eP*	**P**	**12 05 45.8**	**-0.1**
VAO	**Valinhos**	**44.63**	**127**	*eP*	**P**	**12 05 47.3**	**0.0**
PET01	**Itanhaem-SP**	**45.04**	**129**	*eP*	**P**	**12 05 51.6**	**+1.2**
PLCA	**Paso Flores**	**45.06**	**165**	LR	LR	12 20 53.1	
	comp=Z,64nm,18.6s,baz=351,slow=31						
PLCA	**Paso Flores**	**45.06**	**165**	*eP*	**P**	**12 05 53.6**	**+3.2**
PLTB	**Pedras Altas**	**45.12**	**142**	*eP*	**P**	**12 05 54.0**	**+3.0**
DIAM	**Diamantina, MG**	**45.29**	**119**	*eP*	**P**	**12 05 53.4**	**+0.7**
PDAR	**Pinedale Array**	**45.74**	**334**	P	**P**	**12 05 56.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=146,slow=5.5,SNR=2.3						
PDAR				PcP	**PcP**	**12 07 33.4**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=126,slow=4.6,SNR=4.5						
PDAR				LR	LR	12 25 57.6	
	comp=Z,128nm,19.1s,baz=132,slow=37						
ESAR	**Angra dos Reis**	**46.67**	**125**	*eP*	**P**	**12 06 04.5**	**+1.2**
NBCL	**Cascavel-CE**	**46.70**	**98**	*eP*	**P**	**12 06 04.8**	**+1.1**
NBMA	**Muriti-CE**	**46.73**	**103**	*eP*	**P**	**12 06 03.7**	**-0.3**
NVAR	**Mina Array Bea**	**47.09**	**323**	P	**P**	**12 06 08.1**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=139,slow=7.0,SNR=4.7						
NVAR				PcP	**PcP**	**12 07 38.6**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=138,slow=4.2,SNR=3.0						
NVAR				LR	LR	12 24 45.4	
	comp=Z,91nm,18.9s,baz=134,slow=35						
SJMB	**Sao Joao De Ma**	**47.63**	**118**	*eP*	**P**	**12 06 10.1**	**-0.8**
NBIT	**Itapeh - BA**	**47.94**	**113**	*eP*	**P**	**12 06 13.8**	**+0.5**
DUB01	**Friburgo-RJ**	**47.96**	**123**	*eP*	**P**	**12 06 13.1**	**-0.4**
CMC01	**Camacan, BA**	**47.99**	**113**	*eP*	**P**	**12 06 13.4**	**-0.3**
NAN01	**Guarapari, ES**	**48.26**	**117**	*eP*	**P**	**12 06 16.4**	**+0.6**
ULM	**Lac du Bonnet**	**48.36**	**350**	LR	LR	12 26 54.8	
	comp=Z,37nm,20.3s,baz=124,slow=36						
ALF01	**Guarapari-ES**	**48.76**	**120**	*eP*	**P**	**12 06 20.3**	**+0.7**
PPT	**Papeete**	**67.19**	**250**	LR	LR	12 30 18.7	
	comp=Z,106nm,18.6s,baz=88,slow=29						
BCAR	**Beaver Creek A**	**73.30**	**336**	P	**P**	**12 09 06.1**	**+0.5**
ILAR	**Eielson Array**	**76.08**	**337**	P	**P**	**12 09 20.6**	**-1.0**
	comp=Z,0.8nm,1.1s,baz=131,slow=3.6,SNR=5.1						
ILAR				LR	LR	12 44 23.3	
	comp=Z,60nm,20.7s,baz=96,slow=37						
ESDC	**Sonseca Array**	**81.01**	**50**	P	**P**	**12 09 48.5**	**-1.0**
	comp=Z,1.5nm,1.0s,baz=295,slow=3.1,SNR=8.1						
ESDC				LR	LR	12 39 52.4	
	comp=Z,15nm,21.2s,baz=70,slow=31						
ESDC	**Sonseca Array**	**81.01**	**50**	P	**P**	**12 09 48.0**	**-1.4**
ESDC				IAmb	IAmb	12 09 57.9	
	comp=Z,5.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**85.70**	**77**	P	**P**	**12 10 12.7**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=253,slow=4.4,SNR=2.4						
NOA	**NORSAR Array B**	**90.45**	**29**	LR	LR	12 46 37.5	
	comp=Z,13nm,21.3s,baz=30,slow=33						
QSPA	**South Pole Qui**	**92.72**	**180**	P	**P**	**12 10 48.9**	**+2.6**
	comp=Z,0.8nm,0.8s,baz=55,slow=6.0,SNR=1.9						
ARCES	**ARCESS Array B**	**94.40**	**19**	LR	LR	12 54 38.1	
	comp=Z,18nm,18.1s,baz=125,slow=36						
FINES	**FINESS Array B**	**97.35**	**27**	LR	LR	12 47 56.1	
	comp=Z,23nm,22.0s,baz=25,slow=31						
VNDA	**Vanda**	**97.62**	**192**	LR	LR	12 47 05.2	
	comp=Z,39nm,18.4s,baz=116,slow=30						
KURBB	**Kurchatov Arra**	**124.94**	**13**	PKP	**PKPdf**	**12 16 32.4**	**-2.1**
	comp=Z,0.7nm,0.8s,baz=327,slow=2.4,SNR=5.3						
MKAR	**Makanchi Array**	**129.37**	**12**	PKP	**PKPdf**	**12 16 42.4**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=343,slow=2.0,SNR=3.7						
ASAR	**Alice Springs**	**137.41**	**237**	PKP	**PKPdf**	**12 16 59.0**	**+0.1**
	comp=Z,1.1nm,1.1s,baz=106,slow=1.3,SNR=3.0						
WRA	**Warramunga Arr**	**138.39**	**243**	PKP	**PKiKP**	**12 17 02.6**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=102,slow=2.7,SNR=3.5						

*IDC **12**

s-maj=202.0km s-min=51.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**227**	P	P	12 25 10.2	+0.3
	1.0nm,1.1s,baz=52,slow=9.2,SNR=2.3						
ASAR	**Alice Springs**	**26.43**	**221**	P	P	12 25 35.0	-0.1
	0.2nm,0.8s,baz=55,slow=9.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.95**	**289**	PKPbc	PKPbc	12 39 49.4	-0.5
	0.2nm,0.4s,baz=57,slow=2.3,SNR=5.4						

*TUL **12** 12:24:50.5±0.8, 36°.29N±0°.01×97°.51W±0°.02, h12km±6km, ML2.7, mb_Lg2.6/40(NEIC), Error ellipse: s-maj=1.8km s-min=1.5km az=83.0*

NEIC 12 12:24:50.4±1.1, 36°.29N±0°.01×97°.51W±0°.02, h6km±7km, Error ellipse: s-maj=2.3km s-min=1.5km az=53.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**299**		Pg	12 24 59.0	+0.1
CROK				Sg	Sg	12 25 05.1	+0.5
OK029	**Liberty Lake**	**0.50**	**175**		Pg	12 25 00.1	+0.1
OK029				Sg	Sg	12 25 06.8	+0.4
BLOK	**Blackwell**	**0.53**	**27**		Pg	12 25 00.9	+0.3
BLOK				Sg	Sg	12 25 08.5	+1.0
GC02	**Grant County #**	**0.62**	**333**		Pg	12 25 02.4	0.0
GC02				Sg	Sg	12 25 10.8	+0.1
BCOK	**Bluff Creek, N**	**0.64**	**187**		Pg	12 25 02.6	-0.1
BCOK				Sg	Sg	12 25 11.2	+0.2
OK031	**S. Brethren Rd**	**0.64**	**122**		Pg	12 25 02.9	+0.1
OK031				Sg	Sg	12 25 11.6	+0.5
QUOK	**Quay**	**0.66**	**100**		Pg	12 25 03.3	+0.1
QUOK				Sg	Sg	12 25 12.2	+0.5
KAN13	**South Haven SW**	**0.72**	**2**		Pg	12 25 04.3	0.0
KAN13				Sg	Sg	12 25 13.8	+0.2
OK025	**Westminster Rd**	**0.72**	**169**		Pg	12 25 04.2	-0.1
OK025				Sg	Sg	12 25 14.2	+0.5
OK032	**Salt Plains WL**	**0.76**	**312**		Pg	12 25 05.0	0.0
OK032				Sg	Sg	12 25 14.9	0.0
KAN17	**Caldwell West**	**0.78**	**345**		Pg	12 25 05.2	-0.1
KAN17				Sg	Sg	12 25 15.6	+0.1
KAN09	**Caldwell North**	**0.85**	**354**	Pg	Pg	12 25 06.6	-0.1
KAN09				Sg	Sg	12 25 18.0	+0.3
KAN05	**Bluff City Nor**	**0.87**	**341**		Pg	12 25 06.9	-0.2
KAN05				Sg	Sg	12 25 18.4	0.0
OKCFA	**Oklahoma City**	**0.88**	**177**		Pg	12 25 06.9	-0.3
OKCFA				Sg	Sg	12 25 18.9	+0.4
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**		Pg	12 25 07.1	-0.3
OKCSW				Sg	Sb	12 25 19.9	-0.4
KS20	**Mayfield South**	**0.94**	**358**	Pg	Pg	12 25 08.2	-0.3
KS20				Sg	Sg	12 25 20.6	0.0
KAN10	**Anthony SW Sta**	**0.95**	**331**	Pg	Pg	12 25 08.4	-0.4
KAN10				Sg	Sg	12 25 21.1	0.0
KAN08	**Anthony NE Sta**	**1.00**	**339**		Pg	12 25 09.4	-0.3
KAN08					Sg	12 25 23.0	+0.2
T35A	**Sooner Cattle**	**1.02**	**52**		Pg	12 25 09.9	-0.1
FNO	**Franklin**	**1.04**	**175**		Pg	12 25 09.7	-0.6
KAN12	**Harper NE Stat**	**1.08**	**339**		Pg	12 25 10.7	-0.4
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	12 25 12.6	-0.9
X34A	**Smith Ranch, M**	**1.71**	**189**		Pb	12 25 21.7	-0.5
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	12 25 23.4	+0.5
LOOK	**Love County**	**2.31**	**173**	Pn	Pn	12 25 27.2	-1.8
R32A	**Long Quarter,**	**2.33**	**336**	Pn	Pn	12 25 27.9	-1.4
X37A	**Clayton**	**2.44**	**134**	Pn	Pn	12 25 31.9	+1.2
U38A	**Gravette**	**2.53**	**86**		Pn	12 25 31.3	-0.8
HHAR	**Hobbs**	**2.89**	**89**		Pn	12 25 36.0	-1.0
Z35A	**Perchaven, San**	**2.96**	**176**	Pn	Pn	12 25 37.9	-0.1
W39A	**Magazine**	**3.22**	**109**		Pn	12 25 40.2	-1.4
W39A				IAmb_Lg		12 26 39.1	
	comp=Z,17nm,0.7s						
MIAR	**Mount Ida**	**3.66**	**117**	Pn	Pn	12 25 48.1	+0.5
Z38A	**Mt. Pleasant**	**3.67**	**145**	Pn	Pn	12 25 46.8	-1.0
Z38A				IAmb_Lg		12 26 54.8	
	comp=Z,24nm,0.8s						
AMTX	**Amarillo**	**3.68**	**249**	IAmb_Lg		12 26 49.9	
	comp=Z,9.8nm,0.9s						
U40A	**Yellville**	**3.76**	**88**		Pn	12 25 49.1	+0.1
U40A				IAmb_Lg		12 26 48.7	
	comp=Z,13nm,0.8s						
ABTX	**Abilene, Hawle**	**4.06**	**206**	IAmb_Lg		12 26 59.4	
	comp=Z,8.7nm,0.9s						
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	Pn	12 25 54.4	-1.0
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	Pn	12 25 55.4	-1.0
MGMO				IAmb_Lg		12 27 09.6	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**102**		Pn	12 25 58.0	+0.8
WHAR				IAmb_Lg		12 27 11.2	
	comp=Z,7.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.38**	**94**	Pn	Pn	12 25 57.8	+0.3
WLAR	**White Oak Lake**	**4.45**	**124**	IAmb_Lg		12 27 21.0	
	comp=Z,9.5nm,0.8s						
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		12 27 22.2	
	comp=Z,7.1nm,0.8s						
R40A	**Maddies Statio**	**4.63**	**63**	Pn	Pn	12 26 00.0	-0.9
N35A	**Tabor**	**4.79**	**17**		Pn	12 26 02.4	-0.7
N35A				IAmb_Lg		12 27 26.3	
	comp=Z,16nm,0.7s						
LCAR	**Lake Charles**	**5.15**	**91**	Pn	Pn	12 26 05.2	-2.9
T42A	**Van Buren**	**5.21**	**80**	Pn	Pn	12 26 09.1	+0.1
T42A				IAmb_Lg		12 27 33.5	
	comp=Z,6.9nm,0.8s						
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		12 27 42.0	
	comp=Z,7.9nm,0.7s						
P40A	**Paris**	**5.39**	**52**	IAmb_Lg		12 27 45.0	
	comp=Z,11nm,0.7s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		12 27 56.5	
	comp=Z,13nm,0.8s						
T25A	**Trinidad**	**5.61**	**281**	Pn	Pn	12 26 14.0	-0.6
PBMO	**Poplar Bluff**	**5.72**	**83**	Pn	Pn	12 26 16.5	+0.6
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		12 28 08.4	
	comp=Z,9.7nm,1.1s						
S44A	**Carbondale**	**6.75**	**76**	Pn	Pn	12 26 28.9	-1.1
SIUC	**Southern Illin**	**6.79**	**75**	IAmb_Lg		12 28 27.8	
	comp=Z,8.6nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.14**	**60**	IAmb_Lg		12 28 41.7	
	comp=Z,9.2nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.23**	**66**	Pn	Pn	12 26 35.5	-1.1
K38A	**Parkersburg**	**7.33**	**29**	IAmb_Lg		12 28 56.2	
	comp=Z,8.9nm,0.7s						
ECSD	**EROS Data Cent**	**7.46**	**5**	Pn	Pn	12 26 39.8	-0.1
L40A	**Anamosa**	**7.55**	**38**	Pn	Pn	12 26 41.0	-0.1
Z47A	**Carrollton**	**8.36**	**109**	IAmb_Lg		12 29 10.3	
	comp=Z,5.2nm,1.3s						
JFWS	**Jewell Farm**	**8.67**	**38**	IAmb_Lg		12 29 25.8	
	comp=Z,5.6nm,0.8s						

TRN 12 12:50:14.1, 15°.28N×61°.22W, h150km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.06**	**332**	*e*P	Pn	12 50 35.4	+1.1
DLPL				*e*S	Sn	12 50 50.8	+1.1
DSLB	**Salisbury**	**0.25**	**309**	*e*P	Pn	12 50 36.1	+1.5
DSLB				*e*S	Sn	12 50 51.4	+1.3
SVN	**Savane Anatole**	**0.44**	**174**	*e*P	Pn	12 50 36.6	+1.3
PCM	**Pelee Case Pet**	**0.46**	**179**	*e*P	Pn	12 50 36.3	+0.9
BAMF	**Morne Balai**	**0.47**	**172**	*e*P	Pn	12 50 36.9	+1.4
CXM	**Morne La Croix**	**0.47**	**174**	*e*P	Pn	12 50 36.7	+1.1
GBMF	**Grand Be**	**0.48**	**174**	*e*P	Pn	12 50 36.9	+1.4
PML	**Morne Lenard**	**0.50**	**176**	*e*P	Pn	12 50 36.9	+1.4
FDF	**Fort de France**	**0.55**	**173**	*e*P	Pn	12 50 37.1	+1.2
FDF				*e*S	Sn	12 50 53.3	+0.9
ILAM	**Ilet Lapin Mar**	**0.60**	**146**	*e*P	Pn	12 50 37.2	+1.1
ILAM				*e*S	Sn	12 50 53.1	+0.3
MAGL	**Barre de l'ile**	**0.67**	**355**	*e*P	Pn	12 50 38.1	+1.7
MAGL				*e*S	Sn	12 50 54.5	+1.0
TDBA	**Terre de Bas,**	**0.69**	**325**	*e*P	Pn	12 50 37.4	+0.8
TDBA				*e*S	Sn	12 50 55.0	+1.2
TBG	**Guadaloupe-3**	**0.70**	**324**	*e*S	Sn	12 50 54.8	+1.0
ZAM	**Aeronautique**	**0.73**	**165**	*e*P	Pn	12 50 38.2	+1.3
BIM	**Bigot**	**0.77**	**169**	*e*P	Pn	12 50 38.3	+1.1
BIM				*e*S	Sn	12 50 56.9	+2.0
CBE	**Ff, Capester**	**0.87**	**335**	*e*P	Pn	12 50 39.2	+1.3
CBE				*e*S	Sn	12 50 57.4	+1.3
MPOM	**Morne Pois Mar**	**0.90**	**157**	*e*P	Pn	12 50 39.0	+0.8
MPOM				*e*S	Sn	12 50 56.7	+0.3
ABD	**La Joyeuse, An**	**1.21**	**348**	*e*P	Pn	12 50 42.3	+1.5
ABD				*e*S	Sn	12 51 02.2	+0.9
SLBI	**Saint Lucia, B**	**1.27**	**169**	*e*P	Pn	12 50 42.2	+0.8
SLBI				*e*S	Sn	12 51 02.7	+0.4
MCLT	**Moule a Chique**	**1.59**	**170**	*e*P	Pn	12 50 45.8	+1.1
MCLT				*e*S	Sn	12 51 08.4	+0.3
ANBD	**Bethesda, Anti**	**1.83**	**343**	*e*P	Pn	12 50 48.5	+1.2
ANBD				*e*S	Sn	12 51 12.7	-0.2
BPA	**Boggy Peak**	**1.86**	**341**	*e*P	Pn	12 50 48.8	+1.1
BPA				*e*S	Sn	12 51 13.7	+0.2
ANOC	**Antigua Open C**	**1.92**	**342**	*e*P	Pn	12 50 49.6	+1.3
ANOC				*e*S	Sn	12 51 14.9	+0.2
SVB	**Belmont**	**2.00**	**181**	*e*P	Pn	12 50 50.0	+0.8
SVB				*e*S	Sn	12 51 16.8	+0.5
ANWB	**Willy Bob**	**2.44**	**347**	*e*P	Pn	12 50 55.6	+1.2
ANWB				*e*S	Sn	12 51 25.9	+0.3
BBGH	**Gun Hill**	**2.67**	**143**	*e*P	Pn	12 50 57.1	-0.2
BBGH				*e*S	Sn	12 51 31.6	+0.9

*PNSN **12** 13:01:42.4, 48°.25N×121°.68W, h9km, MD2.5, Fault plane solution: NP1:φ=60.00000°, δ65.00000°, λ50.00000°.*
*SEA **12** 13:01:42.4±2.3, 48°.25N±0°.02×121°.68W±0°.02, h11km±5km, ML2.6/34, ML2.4/36(NEIC), Error ellipse: s-maj=2.6km s-min=2.1km az=223.0*

NEIC 12 13:01:41.8±1.9, 48°.21N±0°.01×121°.68W±0°.02, h1km±5km, Error ellipse: s-maj=1.7km s-min=1.6km az=51.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCW	**Jim Creek**	**0.17**	**264**		Pg	13 01 46.1	+1.1
RPW	**Rockport**	**0.26**	**26**		Pg	13 01 47.2	+0.4
B05A	**Bryant**	**0.28**	**281**		Pg	13 01 47.8	+0.6
B05A					Sg	13 01 52.0	+1.2
B06A	**Marblemount**	**0.33**	**23**		Pg	13 01 48.3	+0.1
B06A					Sg	13 01 52.8	+0.2
B06A	**Marblemount**	**0.33**	**23**	IAML		13 01 53.1	
	comp=N,882nm,0.2s						
B06A				IAML		13 01 53.1	
	comp=E,1μm,0.3s						
MBPA	**Monroe Substat**	**0.34**	**204**		Sg	13 01 54.6	+1.9
CMW	**Cultus Mountai**	**0.36**	**306**		Pg	13 01 49.1	+0.4
GPW	**Glacier Peak**	**0.38**	**104**		Pg	13 01 49.7	+0.6
C05A	**Toll Reservoir**	**0.52**	**180**		Pg	13 01 52.2	+0.5
C05A					Sg	13 01 59.4	+1.0
MBW	**Mount Baker**	**0.59**	**346**		Pg	13 01 52.7	-0.4
C06D	**Leavenworth**	**0.60**	**118**		Pg	13 01 53.4	+0.1
SHUK	**Shuksan-Mt. Ba**	**0.64**	**0**		Pg	13 01 53.3	-0.7
WRW	**Wenatchee Ridg**	**0.65**	**123**		Pg	13 01 54.3	+0.1
SP2	**Seward Park 2**	**0.76**	**210**		Pb	13 01 57.8	0.0
RATT	**Rattlesnake La**	**0.79**	**186**		Pg	13 01 57.2	+0.3
A05A	**Maple Falls**	**0.83**	**341**		Pg	13 01 57.0	-0.7
A05A				IAML		13 02 10.7	
	comp=E,147nm,0.4s						
A05A				IAML		13 02 16.4	
	comp=N,102nm,0.5s						
A04D	**Lummi Island**	**0.85**	**307**		Pg	13 01 58.4	+0.3
MCW	**Mount Constitu**	**0.90**	**302**		Pg	13 01 59.1	+0.2
SLFW	**Sugar Loaf**	**0.90**	**120**		Pg	13 01 59.0	-0.1
NLW	**Nelson Butte**	**0.91**	**98**		Pg	13 01 59.2	0.0
B013	**Quilcene**	**0.92**	**245**		Pg	13 01 59.0	-0.4
B013	**Quilcene**	**0.92**	**245**		Pg	13 01 59.1	-0.2
B013					Sg	13 02 11.6	+0.5
SQM	**Sequim**	**0.92**	**262**		Pb	13 02 00.0	-0.5
GMW	**Gold Mountain**	**1.00**	**229**		Pg	13 02 00.4	-0.5
C04A	**Brinnon**	**1.00**	**241**		Pg	13 02 00.3	-0.5
GNW	**Green Mountain**	**1.00**	**230**		Pg	13 02 00.5	-0.5
GSM	**Grass Mountain**	**1.01**	**184**		Pg	13 02 01.2	0.0
D05A	**Enumclaw**	**1.04**	**191**		Pg	13 02 01.8	0.0
HDW	**Hoodsport**	**1.08**	**239**		Pg	13 02 01.7	-0.8
ETW	**Entiat**	**1.09**	**123**		Pg	13 02 02.2	-0.5
VGZ	**Gonzales**	**1.11**	**281**		Pg	13 02 02.5	-0.6
D03D	**Eldon**	**1.16**	**235**		Pg	13 02 02.9	-1.2
LTY	**Liberty**	**1.18**	**144**		Pg	13 02 03.6	-0.7
LTY				IAML		13 02 22.2	
	comp=E,63nm,0.5s						
LTY				IAML		13 02 22.3	
	comp=N,59nm,0.5s						
CBSW	**Chelan Butte S**	**1.18**	**110**		Pg	13 02 03.8	-0.6
B04A	**Port Angeles**	**1.23**	**263**		Pg	13 02 04.4	-1.0
GHW	**Garrison Hill**	**1.24**	**199**		Pg	13 02 05.2	-0.3
PGC	**Sidney**	**1.25**	**291**	Pn	Pg	13 02 04.2	-1.6
PGC				IAML		13 02 22.9	
	comp=N,59nm,0.2s						
D04E	**Lakebay**	**1.27**	**216**		Pg	13 02 05.9	-0.2
TBM	**Table Mountain**	**1.28**	**144**		Pg	13 02 05.9	-0.3
FMW	**Mount Fremont**	**1.28**	**180**		Pg	13 02 05.3	-1.1
OBSR	**Observation Ro**	**1.32**	**184**		Pg	13 02 06.3	-0.7
PANH	**Panhandle Gap,**	**1.35**	**179**		Pg	13 02 06.7	-1.1
REMR	**Mount Rainier-**	**1.40**	**184**		Pg	13 02 07.4	-1.2
LON	**Longmire**	**1.47**	**183**		Pn	13 02 08.5	-0.9
LON	**Longmire**	**1.47**	**183**		Pn	13 02 08.1	-1.3
LON				IAML		13 02 28.4	
	comp=E,57nm,0.3s						
LON				IAML		13 02 28.7	
	comp=N,35nm,0.2s						
EBG	**Ellensburg**	**1.51**	**149**		Pn	13 02 10.1	+0.1
WPW	**White Pass**	**1.52**	**176**		Pn	13 02 09.3	-0.9
B08A	**Colville Reser**	**1.58**	**84**	Pn	Pn	13 02 10.4	-0.5
B08A				IAML		13 02 32.6	
	comp=N,33nm,0.5s						
NAC	**Naches**	**1.59**	**158**		Pb	13 02 11.6	-0.4
EPH	**Ephrata**	**1.65**	**121**		Pn	13 02 11.8	-0.1
GLK	**Glacier Lake**	**1.65**	**178**		Pn	13 02 11.9	-0.1
NLWA	**Neilton Lookou**	**1.69**	**242**	Pn	Pn	13 02 12.0	-0.5
VT2	**Vantage 2**	**1.69**	**137**		Pb	13 02 13.8	+0.2
LCW	**Lucas Creek**	**1.69**	**204**		Pn	13 02 12.0	-0.4
B017	**Montesano**	**1.76**	**227**		Pb	13 02 14.6	-0.2
PNT	**Penticton**	**1.76**	**50**		Pn	13 02 12.6	-0.8
E04D	**Cinebar**	**1.76**	**200**		Pn	13 02 13.3	-0.1
NLLB	**Nanaimo Lost L**	**1.83**	**305**		Pn	13 02 14.2	-0.2
BVW	**Beverly**	**1.86**	**138**		Pb	13 02 16.9	+0.3
MXC	**Moxie City**	**1.89**	**149**		Pb	13 02 17.1	0.0
TDL	**Tradedollar La**	**1.90**	**191**		Pn	13 02 15.7	+0.3
FHE	**Frenchman Hill**	**1.94**	**130**		Pb	13 02 18.0	0.0
B201	**Coldwater, Mou**	**1.95**	**192**		Pn	13 02 16.4	+0.3
ERK	**Elk Rock**	**1.96**	**193**		Pn	13 02 16.5	+0.2
B202	**Windy Ridge, M**	**1.99**	**189**		Pn	13 02 17.2	+0.5
SOSW	**Source of Smit**	**1.99**	**189**		Pn	13 02 17.3	+0.6
SHB	**Sechelt**	**2.00**	**315**		Pn	13 02 15.8	-1.1
STD	**Studebaker Rid**	**2.01**	**191**		Pn	13 02 17.8	+0.9
ESD	**East Dome**	**2.04**	**189**		Pn	13 02 18.5	+1.1
WAH2	**Wahluke Slope**	**2.04**	**135**		Pb	13 02 19.7	-0.1
ASR	**Mount Adams--S**	**2.06**	**178**		Pb	13 02 19.3	-0.8
MDW	**Midway**	**2.06**	**140**		Pb	13 02 19.9	-0.2
FL2	**Flat Top 2**	**2.07**	**193**		Pn	13 02 18.4	+0.7
E07A	**Sunnyside**	**2.07**	**142**	Pn	Pn	13 02 17.2	-0.5
JLK	**June Lake**	**2.09**	**189**		Pn	13 02 19.0	+1.0
E03A	**Lebam**	**2.10**	**218**	Pn	Pn	13 02 17.9	-0.1
E03A				IAML		13 02 50.9	
	comp=N,30nm,1.3s						
E03A				IAML		13 02 53.5	
	comp=E,46nm,0.7s						
CDFW	**Cedar Flats**	**2.11**	**187**		Pb	13 02 19.7	-1.1
GBB	**Gable Butte**	**2.13**	**138**		Pb	13 02 21.2	+0.1
LOCW	**Locke Island**	**2.14**	**134**		Pb	13 02 21.3	0.0
MGB	**Mount Grey**	**2.15**	**293**		Pn	13 02 19.6	+0.7
RVW	**Rose Valley**	**2.19**	**200**		Pn	13 02 20.0	+0.7
D08A	**Wollman Farm,**	**2.20**	**121**	Pn	Pn	13 02 19.2	-0.2
D08A				IAML		13 02 52.4	
	comp=E,15nm,0.5s						
LVP	**Lakeview Peak**	**2.20**	**193**		Pn	13 02 20.7	+1.1
MTMW	**Mount Mitchell**	**2.22**	**190**		Pb	13 02 21.3	-1.4
SNIWA	**Snively Ranch**	**2.23**	**141**		Pb	13 02 22.7	-0.1
B927	**Port Alberni**	**2.30**	**297**		Pn	13 02 21.9	+1.1
B023	**Clatskanie**	**2.31**	**205**		Pn	13 02 22.1	+1.2
RSW	**Rattlesnake Hi**	**2.31**	**141**		Pb	13 02 24.2	-0.1
C09A	**Chrisman Ranch**	**2.33**	**99**	Pn	Pn	13 02 20.0	-1.2
HAWA	**Hanford**	**2.34**	**140**	Pn	Pn	13 02 20.9	-0.5
HAWA				IAML		13 02 57.5	
	comp=E,25nm,0.4s						
HAWA				IAML		13 02 58.1	
	comp=E,18nm,0.5s						
F07A	**Phinny Hill Vi**	**2.61**	**152**	Pn	Pn	13 02 23.5	-1.6
F07A				IAML		13 03 06.5	
	comp=E,26nm,0.5s						
NEW	**Newport**	**3.05**	**87**	Pn	Pn	13 02 29.7	-1.5
F10A	**Beach Ranch, E**	**3.78**	**125**	Pn	Pn	13 02 40.3	-1.0
F10A				IAML		13 03 53.2	
	comp=N,11nm,1.0s						
BMO	**Blue Mountains**	**4.52**	**136**	Pn	Pn	13 02 50.9	-0.6
BMO				IAML		13 03 36.8	
	comp=N,2.4nm,4.5s						
BMO				IAML		13 04 28.8	
	comp=N,2.4nm,3.6s						
HSO	**Harness Mounta**	**4.79**	**192**		Pb	13 03 07.8	+1.3
JTMT	**Jette**	**4.99**	**93**	Pn	Pn	13 02 56.1	-1.9
LKVW	**Lakeview**	**6.06**	**171**		Pb	13 03 22.4	-5.9
MOD	**Modoc Plateau**	**6.38**	**171**		Pn	13 03 18.8	+1.7
MOD					Pb	13 03 30.5	-3.2

*NEIC **12** 13:08:32.3±2.6, 14°.4N±0°.1×93°.89W±0°.09, h58km±13km, mb4.1/8, Md3.9/12(MEX), Error ellipse: s-maj=17.9km s-min=11.0km az=201.0*
*MEX **12** 13:08:35.7±0.4, 14°.71N×93°.72W, h71km, MD3.9*

ISC 12 13:08:29.4±1.5, 14°.4N±0°.1×93°.88W±0°.07, h30km, n19, σ1§44/25, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.63**	**73**	*i* P	**Pb**	**13 08 57.9**	**-1.1**
THIG				*e*S	**Sn**	**13 09 15.3**	**-0.9**
THIG		**1.63**	**73**		**Pb**	**13 08 57.9**	**-1.1**
THIG					**Sn**	**13 09 15.3**	**-0.9**
RTAL	**Retalhuleu**	**2.12**	**87**	Pn	**Pb**	**13 09 06.3**	**-0.9**
HUEH	**Huehuetenango**	**2.46**	**69**	Pn	**Pn**	**13 09 10.3**	**+2.6**
CCIG	**Comitan**	**2.49**	**42**	*i* P	**Pb**	**13 09 12.2**	**-1.5**
CCIG				*i* S	**Sn**	**13 09 38.9**	**+1.2**
CCIG	**Comitan**	**2.49**	**42**		**Pb**	**13 09 12.2**	**-1.5**
CCIG					**Sn**	**13 09 38.9**	**+1.2**
CMIG	**Matias Romero**	**2.82**	**340**	*e*P	**Pn**	**13 09 14.9**	**+2.5**
CMIG				*e*S	**Sn**	**13 09 44.4**	**-1.0**
CMIG	**Matias Romero**	**2.82**	**340**		**Pn**	**13 09 14.9**	**+2.5**
CMIG					**Sn**	**13 09 44.4**	**-1.0**
342A	**Flagon Creek P**	**16.93**	**5**	P	**P**	**13 12 25.0**	**-0.8**
342A				IAmb	IAmb	13 12 32.1	
	comp=Z,20nm,0.6s						
X40A	**Basin Creek Fa**	**19.99**	**3**	P	**P**	**13 12 58.5**	**-1.1**
Y49A	**Blount Mountai**	**20.49**	**18**	P	**P**	**13 13 04.1**	**-0.9**
Y49A				IAmb	IAmb	13 13 30.5	
	comp=Z,7.6nm,1.3s						
OK031	**S. Brethren Rd**	**21.60**	**353**	P	**P**	**13 13 16.7**	**-0.2**
LENM	**Lemitar**	**22.95**	**331**	P	**P**	**13 13 33.7**	**+2.2**
T25A	**Trinidad**	**24.49**	**339**	P	**P**	**13 13 47.3**	**+1.0**
BLO	**Bloomington**	**25.48**	**13**	P	**P**	**13 13 53.7**	**-1.3**
BLO				IAmb	IAmb	13 14 07.2	
	comp=Z,3.8nm,0.7s						
LKWY	**Lake**	**33.16**	**338**	P	**P**	**13 15 03.6**	**+0.1**
BCYI	**Bear Canyon**	**34.11**	**335**	P	**P**	**13 15 11.2**	**-0.6**
LRM	**Limekiln Ridge**	**34.99**	**337**	P	**P**	**13 15 18.8**	**-0.6**
HYT	**Haines Junctio**	**55.98**	**336**	P	**P**	**13 18 03.9**	**-1.1**
HYT				IAmb	IAmb	13 18 28.2	
	comp=Z,2.2nm,0.9s						

*IDC **12** 13:19:44.7±5.2, 3°.48N×124°.47E, h317km±53km, mb3.3/7, mb1 3.4/7, mb1mx3.1/43, mbtmp4.0/7, Error ellipse: s-maj=34.1km s-min=13.1km az=84.0*
*NEIC **12** 13:19:45.1±0.7, 3°.53N±0°.10×124°.54E±0°.09, h315km±3km, mb4.2/20, Error ellipse: s-maj=14.1km s-min=13.3km az=196.0*
*DJA **12** 13:19:47.0±0.7, 3°N±5°×12°5E±°, h284km±6km, M4.2/8, mB4.8/2, mb4.1/5, MLv4.2/8, Mw(mB)4.1/2*

ISC 12 13:19:45.3±0.6, 3°.44N±0°.06×124°.61E±0°.10, h331km, n45, σ1§83/47, mb4.1/14, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.94**	**75**	P	**Pn**	**13 20 26.1**	**-2.7**
SGSI				S	**S**	**13 20 56.2**	**-7.3**
GTOI	**Gorontalo**	**3.21**	**210**	P	**Pn**	**13 20 43.3**	**-2.0**
TNTI	**Ternate**	**3.82**	**134**	Pn	**Pn**	**13 20 51.3**	**-0.1**
MRSI	**Marisa**	**3.97**	**222**	P	**Pn**	**13 20 52.4**	**-0.5**
TOLI2	**Tolitoli**	**4.47**	**239**		**Pn**	**13 20 56.8**	**-1.5**
LUWI	**Luwuk**	**4.82**	**203**	Pn	**Pn**	**13 21 01.4**	**-0.6**
LUWI	**Luwuk**	**4.82**	**203**	P	**Pn**	**13 21 00.9**	**-1.2**
LUWI				S	**S**	**13 21 59.9**	**-4.1**
APSI	**Ampana**	**5.24**	**215**	P	**Pn**	**13 21 04.5**	**-2.3**
	0.2nm36nm,0.8s						
SANI	**Sanana**	**5.62**	**166**	P	Pn	13 21 07.9

0.8nm,0.6s,baz=338,slow=10,SNR=2.6
ASAR Alice Springs 26.83 164 P P 13 26 34.2 +1.3
0.2nm,0.4s,baz=347,slow=11,SNR=1.9
MKAR Makanchi Array 58.38 326 P P 13 30 47.7 -0.1
0.2nm,0.4s,baz=115,slow=8.1,SNR=2.0

*IDC **12** 13:26:05.5±1.9, 36.°13N×142.°11E, h0km, mb3.3/3, mb1 3.5/6, mb1mx3.3/39, mbtmp3.5/6, ML3.0/3, Error ellipse: s-maj=45.7km s-min=26.0km az=78.0*
*JMA **12** 13:26:09.5±0.1, 36.°17N×141.°94E, h68km±4km, M2.9*
ISC 12 13:26:08.0±1.2, 36.°23N±0.°05×142.°04E±0.°08, h23km, n19, σ1°23/26, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.09**	**241**	P	**Pb**	**13 26 28.2**	**0.0**
CHOJ				S	**Sn**	**13 26 41.9**	**-0.4**
JHYU	**Hitachinakayam**	**1.18**	**276**	P	**Pb**	**13 26 29.6**	**0.0**
JHYU				S	**Sb**	**13 26 44.3**	**-0.1**
JHO	**Hitachi**	**1.24**	**288**	P	**Pb**	**13 26 30.2**	**-0.6**
JIHU	**Itakohorinouch**	**1.25**	**258**	P	**Pb**	**13 26 30.4**	**-0.5**
JIHU				S	**Sb**	**13 26 46.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.32**	**311**	P	**Pb**	**13 26 31.9**	**-0.2**
JFK	**Kawauchi**	**1.47**	**321**	P	**Pb**	**13 26 34.2**	**-0.4**
BSO1	**Boso 1**	**1.80**	**209**	P	**Pn**	**13 26 37.2**	**+0.1**
JFT	**Otama**	**1.87**	**314**	P	**Pb**	**13 26 40.8**	**-0.7**
BSO3	**Boso 3**	**1.90**	**222**	P	**Pn**	**13 26 38.9**	**+0.2**
BSO3				*e*S	**Sn**	**13 27 01.0**	**-0.7**
JMM	**Marumori**	**1.91**	**329**	P	**Pb**	**13 26 40.3**	**-1.8**
JAG	**Ashikaga**	**2.10**	**276**	P	**Pn**	**13 26 42.5**	**+0.8**
JRY	**Ryogami san**	**2.55**	**266**	P	**Pn**	**13 26 48.6**	**+0.7**
MJAR	**Matsushiro Arr**	**3.10**	**277**	Pn	**Pn**	**13 26 56.2**	**+0.6**
0.7nm,0.3s,baz=114,slow=9.5,SNR=38
MAT	**Matsushiro**	**3.10**	**277**	P	**Pn**	**13 26 57.3**	**+1.7**
MAT				*e*S	**Sn**	**13 27 30.1**	**-1.9**
JHJ	**Hachijo jima 2**	**3.62**	**212**	Pn	**Pn**	**13 27 02.6**	**-0.1**
19nm,0.3s,baz=99,slow=21,SNR=6.6
JHJ				Sn	**Sn**	**13 27 41.5**	**-3.2**
4.9nm,0.3s,baz=81,slow=20,SNR=1.6
ASAJ	**Asahikawa**	**7.89**	**3**	Pn	**Pn**	**13 28 03.1**	**+1.9**
0.2nm,0.3s,baz=195,slow=16,SNR=1.5
ASAJ				Sn	**Sn**	**13 29 27.9**	**-1.8**
0.0nm,0.3s,baz=322,slow=33,SNR=2.2
MKAR	**Makanchi Array**	**44.97**	**303**	P	**P**	**13 34 23.2**	**+1.9**
0.5nm,0.7s,baz=84,slow=8.8,SNR=4.6
WRA	**Warramunga Arr**	**56.34**	**189**	P	**P**	**13 35 47.4**	**+0.2**
0.3nm,0.5s,baz=4.2,slow=7.0,SNR=1.5
ASAR	**Alice Springs**	**60.07**	**189**	P	**P**	**13 36 13.6**	**+0.3**
0.2nm,0.7s,baz=12,slow=9.6,SNR=1.3

*DJA **12** 14:09:44.8±2.7, 4.°N±15.°×12.°6E±1.°8, h11km±8km, M4.4/7, mb4.6/4, mB5.1/2, MLv4.3/7, Mw(mB)4.5/2*
*IDC **12** 14:09:55.7±8.0, 2.°64N×126.°87E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/47, mbtmp3.6/3, Error ellipse: s-maj=183.4km s-min=124.1km az=74.0*
ISC 12 14:09:44.7±1.1, 3.°84N±0.°06×125.°90E±0.°10, h10km, n9, σ0°66/11, mb3.6/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.40**	**248**	P	**Pb**	**14 09 53.7**	**-0.2**
SGSI				S	**Sb**	**14 10 00.2**	**+0.1**
KCP	**Kidapawan**	**3.25**	**346**	↑*e*P	**Pn**	**14 10 35.6**	**-0.3**
KCP				*i* S	**Sn**	**14 11 15.5**	**+0.8**
GTOI	**Gorontalo**	**4.29**	**222**	P	**Pn**	**14 10 49.4**	**-0.8**
MRSI	**Marisa**	**5.17**	**230**	P	**Pn**	**14 11 02.1**	**-0.2**
0.5nm2μm93nm,0.4s
LUWI	**Luwuk**	**5.77**	**213**	P	**Pn**	**14 11 11.3**	**+0.9**
0.2nm2μm58nm,0.8s
APSI	**Ampana**	**6.35**	**222**	P	**Pn**	**14 11 18.5**	**+0.1**
WRA	**Warramunga Arr**	**25.05**	**161**	P	**P**	**14 15 08.2**	**-1.1**
1.0nm,0.6s,baz=341,slow=10,SNR=8.8
ASAR	**Alice Springs**	**28.43**	**164**	P	**P**	**14 15 40.0**	**+0.1**
0.2nm,0.3s,baz=342,slow=9.9,SNR=8.5
STKA	**Stephens Creek**	**38.53**	**158**	P	**P**	**14 17 07.8**	**+0.2**
1.0nm,0.6s,baz=336,slow=12,SNR=1.2

*IDC **12** 14:23:32.8±0.9, 5.°12N×125.°11E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/50, mbtmp3.8/7, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/34, Error ellipse: s-maj=48.4km s-min=19.5km az=70.0*
*DJA **12** 14:23:40.1±0.4, 5.°N±2.°×12.°5E±.°, h55km±24km, M4.2/7, mb4.1/2, mB4.7/1, MLv4.2/7, Mw(mB)3.9/1*
*MAN **12** 14:23:41.0, 5.°15N×125.°05E, h44km, mb4.8, ML3.7, MS3.7*
*NEIC **12** 14:23:41.4±1.9, 5.°06N±0.°04×125.°12E±0.°10, h56km±9km, mb4.4/21, Error ellipse: s-maj=15.0km s-min=3.5km az=108.0*
ISC 12 14:23:39.9±0.6, 4.°98N±0.°04×125.°00E±0.°07, h50km, n41, σ1°66/46, mb4.3/16, 3C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.39**	**158**	P	**Pn**	**14 24 04.3**	**+1.4**
SGSI				S	**Sn**	**14 24 22.0**	**+1.9**
KCP	**Kidapawan**	**2.02**	**2**	↑*i*P	**Pn**	**14 24 12.2**	**+0.6**
KCP				*i* S	**Sn**	**14 24 36.1**	**+0.4**
DAV	**Davao City (W)**	**2.16**	**15**	Sn	**Sn**	**14 24 40.2**	**+1.3**
41nm,0.3s,baz=243,slow=21,SNR=2.1
DAV	**Davao City (W)**	**2.16**	**15**	Pn	**Pn**	**14 24 13.4**	**0.0**
BUKP	**Musuan**	**2.88**	**1**	↓*i*P	**Pn**	**14 24 24.3**	**+0.9**
BUKP				*i* S	**Sn**	**14 25 03.5**	**+6.6**
PAGZ	**Pagadian**	**3.27**	**331**	↑*i*P	**Pn**	**14 24 28.9**	**+0.1**
PAGZ				*i* S	**Sn**	**14 25 05.5**	**-1.0**
CGP	**Cagayan de Oro**	**3.47**	**355**	↑*e*P	Pn	14 24 44.5	+13
CGP				*e*S	**Sn**	**14 25 10.7**	**-0.6**
GTOI	**Gorontalo**	**4.75**	**205**	P	**Pn**	**14 24 50.4**	**+1.4**
GTOI				S	**Sn**	**14 25 41.8**	**-1.0**
TNTI	**Ternate**	**4.80**	**150**	Pn	**Pn**	**14 24 51.1**	**+1.4**
TOLI2	**Tolitoli**	**5.70**	**228**		**Pn**	**14 25 02.7**	**+0.6**
LUWI	**Luwuk**	**6.38**	**200**	Pn	**Pn**	**14 25 16.1**	**+4.7**
SIJI	**Sorong**	**8.54**	**133**	Pn	**Pn**	**14 25 39.5**	**-1.5**
1.0nm,0.3s,baz=300,slow=21,SNR=2.1
SIJI				LR	LR	14 29 11.3	
comp=Z,62nm,21.9s,baz=54,slow=40
MTN	**Manton Dam**	**18.72**	**161**	P	**P**	**14 27 53.6**	**-0.9**
MTN				IAmb	IAmb	14 28 09.3	
comp=Z,16nm,1.1s
WB0	**Warramunga Arr**	**26.27**	**160**	P	**P**	**14 29 12.9**	**+2.2**
WB0				IAmb	IAmb	14 29 22.6	
comp=Z,11nm,1.4s
WRAB	**Tennant Creek**	**26.41**	**160**	P	**P**	**14 29 13.2**	**+1.3**
WRAB				IAmb	IAmb	14 29 31.4	
comp=Z,12nm,1.2s
WRA	**Warramunga Arr**	**26.41**	**160**	P	**P**	**14 29 12.3**	**+0.3**
comp=Z,0.5nm,0.8s,baz=336,slow=10,SNR=2.2
WRA	**Warramunga Arr**	**26.41**	**160**	P	**P**	**14 29 11.8**	**-0.2**
WB2	**Warramunga Arr**	**26.41**	**160**	P	**P**	**14 29 11.8**	**-0.2**
WB2				IAmb	IAmb	14 29 14.3	
comp=Z,14nm,1.4s
WR0	**Warramunga Arr**	**26.50**	**160**	P	**P**	**14 29 12.7**	**-0.1**
WR0				IAmb	IAmb	14 29 41.4	
comp=Z,9.2nm,1.2s
JNU	**Nakatsue**	**28.53**	**10**	P	**P**	**14 29 30.2**	**-0.7**
JNU				IAmb	IAmb	14 29 50.4	
comp=Z,54nm,1.4s
AS31	**Alice Springs**	**29.76**	**163**	P	**P**	**14 29 42.7**	**+0.7**
ASAR	**Alice Springs**	**29.77**	**163**	P	**P**	**14 29 42.4**	**+0.4**
comp=Z,0.4nm,0.7s,baz=342,slow=7.3,SNR=8.2
ASAR				PcP	**PcP**	**14 32 44.7**	**-0.2**
comp=Z,0.1nm,0.4s,baz=344,slow=2.6,SNR=1.8
JHS	**Saijyo**	**30.80**	**13**	P	**P**	**14 29 52.7**	**+1.7**
JHS				IAmb	IAmb	14 30 10.8	
comp=Z,26nm,1.3s
JWT	**Wachi**	**31.65**	**16**	P	**P**	**14 29 59.3**	**+0.9**
JWT				IAmb	IAmb	14 30 25.9	
comp=Z,16nm,1.4s
JSD	**Sado**	**35.06**	**18**	P	**P**	**14 30 25.2**	**-2.8**
JSD				IAmb	IAmb	14 30 26.2	
comp=Z,3.0nm,0.6s
JMM	**Marumori**	**35.77**	**22**	P	**P**	**14 30 32.5**	**-1.6**
JTM	**Tenmabayashi**	**38.46**	**20**	P	**P**	**14 30 55.5**	**-1.4**
USA0B	**Ussuriysk Arra**	**39.55**	**8**	P	**P**	**14 31 05.1**	**-0.8**
USA0B				IAmb	IAmb	14 31 30.3	
comp=Z,5.5nm,1.1s
ERM	**Erimo**	**40.28**	**21**	P	**P**	**14 31 11.8**	**-0.3**
JEM	**Erimo**	**40.28**	**21**	P	P	14 31 25.8	+14
PEA0B	**Petropavlovsk-**	**54.95**	**23**	P	**P**	**14 33 05.5**	**-0.3**
PETK	**Petropavlovsk-**	**54.95**	**23**	P	**P**	**14 33 05.2**	**-0.6**
comp=Z,0.9nm,0.6s,baz=192,slow=4.6,SNR=6.8

MK31	**Makanchi Array**	**55.56**	**326**	P	**P**	**14 33 09.7**	**-0.6**
MKAR	**Makanchi Array**	**55.56**	**326**	P	**P**	**14 33 10.1**	**-0.2**
comp=Z,1.0nm,0.5s,baz=121,slow=8.3,SNR=15
MKAR	**Makanchi Array**	**55.56**	**326**	P	**P**	**14 33 09.7**	**-0.6**
KURBB	**Kurchatov Arra**	**59.77**	**328**	P	**P**	**14 33 39.0**	**-0.7**
comp=Z,1.1nm,0.3s,baz=123,slow=6.7,SNR=2.9
KK31	**Karatay Array**	**61.15**	**317**	P	**P**	**14 33 50.6**	**+1.2**
KKAR	**Karatay Array**	**61.15**	**317**	P	**P**	**14 33 50.6**	**+1.3**
I23K	**Minto, Yukon-K**	**83.68**	**25**	P	**P**	**14 36 02.5**	**-0.5**
I23K				IAmb	IAmb	14 36 03.7	
comp=Z,2.7nm,0.8s
ILAR	**Eielson Array**	**84.72**	**25**	P	**P**	**14 36 06.1**	**-2.3**
comp=Z,0.6nm,0.8s,baz=252,slow=5.1,SNR=5.4
TXAR	**Lajitas Array**	**122.17**	**51**	PKP	**PKPdf**	**14 42 29.5**	**-0.6**
comp=Z,0.3nm,0.8s,baz=238,slow=1.7,SNR=3.0

*ISK **12** 14:25:06.8, 40.°02N×40.°15E, h8km, ML3.0/8*
*DDA **12** 14:25:07.1, 40.°01N×40.°08E, h7km±2km, ML2.4*
ISC 12 14:25:07.1±1.0, 40.°01N±0.°02×40.°11E±0.°02, h9km±9km, n23, σ0°85/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYB	**BAYBURT**	**0.28**	**25**	*i* P	**Pg**	**14 25 12.7**	**0.0**
BAYB				IAML		14 25 17.0	
comp=N,2μm,0.3s
BAYB				IAML		14 25 17.0	
comp=E,2μm,0.3s
BAYB				*i* S	**Sg**	**14 25 17.4**	**+0.9**
KOPT	**Kop Dagi**	**0.30**	**88**	*i* P	**Pg**	**14 25 13.7**	**+0.4**
KOPT				*i* S	**Sb**	**14 25 18.8**	**-1.2**
KOPT				IAML		14 25 20.0	
comp=N,878nm,0.6s
KOPT				IAML		14 25 23.0	
comp=E,664nm,0.3s
BAYT	**Aydıntepe-Bayb**	**0.39**	**4**	PG	**Pg**	**14 25 14.6**	**-0.2**
BAYT				SG	**Sg**	**14 25 20.3**	**+0.4**
EUZM	**Uzumlu**	**0.43**	**226**	*i* P	**Pg**	**14 25 16.1**	**+0.4**
GUMT	**Gumushane**	**0.66**	**313**	PG	**Pb**	**14 25 20.3**	**-0.5**
GUMT				SG	**Sb**	**14 25 30.2**	**+0.1**
YEDI	**Yedisu-Bingol**	**0.66**	**149**	PG	**Pg**	**14 25 19.9**	**-0.1**
KRIK	**Erzurum-spir**	**0.71**	**62**	*i* P	**Pg**	**14 25 20.6**	**-0.2**
KRIK				*i* S	**Sb**	**14 25 31.6**	**-0.1**
KRIK				IAML		14 25 33.0	
comp=E,137nm,0.4s
EJDE	**Erzurum, Palan**	**0.94**	**100**	*i* P	**Pg**	**14 25 25.1**	**-0.1**
ERZM	**Erzurum**	**0.97**	**96**	*i* P	**Pg**	**14 25 24.7**	**-1.2**
KTUT	**Trabzon**	**1.01**	**345**	PG	**Pb**	**14 25 26.7**	**-0.1**
KTUT				SG	**Sb**	**14 25 40.5**	**+0.4**
BNGB	**Bingl**	**1.11**	**156**	PN	**Pg**	**14 25 28.3**	**-0.1**
BNGB				SN	**Sn**	**14 25 44.1**	**-0.2**
CHAY	**Cayeli-Rize**	**1.18**	**23**	PN	**Pg**	**14 25 29.3**	**-0.4**
CHOM	**Cayeli-Rize**	**1.20**	**24**	PN	**Pg**	**14 25 29.6**	**-0.5**
REFA	**Refahiye_ERZN**	**1.20**	**240**	*i* P	**Pg**	**14 25 29.3**	**-0.9**
REFA				*i* S	**Sg**	**14 25 42.8**	**-3.1**
SLHN	**Bingol, Solhan**	**1.27**	**146**	*i* P	**Pg**	**14 25 32.0**	**+0.6**
SLHN				*i* S	**Sn**	**14 25 49.6**	**+1.4**
SLHN				IAML		14 25 52.0	
comp=E,79nm,0.8s
SLHN				IAML		14 25 53.0	
comp=N,58nm,0.4s
KOVA	**Elazig, Kovanc**	**1.32**	**190**	*i* P	**Pn**	**14 25 32.0**	**+0.2**
KOVA				*i* S	**Sn**	**14 25 50.0**	**+0.4**
ESPY	**Espiye-Giresun**	**1.39**	**311**	PN	**Pg**	**14 25 33.4**	**-0.4**
ESPY				SN	**Sg**	**14 25 52.6**	**+0.8**
DDEM	**Demirkent**	**1.53**	**54**	*i* P	**Pn**	**14 25 34.4**	**-0.4**
HANI	**Diyarbakir_Han**	**1.61**	**172**	*i* P	**Pg**	**14 25 38.0**	**0.0**
MUSM	**Mu-Merkez**	**1.68**	**139**	*i* P	**Pb**	**14 25 38.3**	**0.0**
MUSM				*i* S	**Sg**	**14 26 01.9**	**+0.6**
MUSM				IAML		14 26 03.0	
comp=N,25nm,1.3s
DAGI	**Agillar**	**1.74**	**52**	*i* P	**Pb**	**14 25 38.5**	**-0.8**
DAGI				*i* S	**Sb**	**14 26 00.8**	**-0.6**
DAGI				IAML		14 26 05.0	
comp=N,33nm,0.5s
BATM	**Batumi**	**2.00**	**37**	PN	**Pn**	**14 25 41.4**	**+0.4**
SVSK	**Karacayir**	**2.39**	**269**	PN	**Pn**	**14 25 48.1**	**+1.7**

*IDC **12** 14:31:12.5±5.4, 16.°64S×176.°02W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/39, mbtmp4.1/3, Error ellipse: s-maj=162.7km s-min=106.3km az=156.0*
*NEIC **12** 14:32:13.0±0.5, 18.°2S±0.°2×177.°5W±0.°3, h491km±24km, mb4.2/12, Error ellipse: s-maj=52.9km s-min=19.8km az=119.0*
ISC 12 14:32:13.6±1.7, 18.°2S±0.°2×177.°6W±0.°3, h500km, n17, σ0°71/17, mb4.2/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**29.59**	**201**	P	**P**	**14 37 36.8**	**-0.4**
STKA	**Stephens Creek**	**39.19**	**242**	P	**P**	**14 38 59.1**	**+1.1**
0.7nm,0.5s,baz=96,slow=10,SNR=3.1
STKA	**Stephens Creek**	**39.19**	**242**	P	**P**	**14 38 59.1**	**+1.1**
STKA	**Stephens Creek**	**39.19**	**242**	IAmb	IAmb	14 39 01.4	
comp=Z,2.3nm,1.2s
WR0	**Warramunga Arr**	**45.18**	**260**	P	**P**	**14 39 45.2**	**-0.3**
WR0				IAmb	IAmb	14 39 48.5	
comp=Z,13nm,1.4s
WB0	**Warramunga Arr**	**45.34**	**260**	P	**P**	**14 39 46.5**	**-0.3**
WB0				IAmb	IAmb	14 40 00.8	
comp=Z,12nm,1.4s
WB2	**Warramunga Arr**	**45.36**	**260**	P	**P**	**14 39 46.4**	**-0.5**
WB2				IAmb	IAmb	14 40 04.3	
comp=Z,8.0nm,1.4s
WRA	**Warramunga Arr**	**45.37**	**260**	P	**P**	**14 39 46.5**	**-0.5**
comp=Z,0.2nm,0.3s,baz=94,slow=7.7,SNR=16
WRA	**Warramunga Arr**	**45.37**	**260**	P	**P**	**14 39 46.5**	**-0.5**
AS31	**Alice Springs**	**45.49**	**254**	P	**P**	**14 39 48.6**	**+0.8**
ASAR	**Alice Springs**	**45.49**	**254**	P	**P**	**14 39 48.7**	**+0.8**
comp=Z,4.2nm,0.6s,baz=89,slow=8.2,SNR=144
ASAR				PcP	**pP**	**14 41 19.2**	**-1.3**
comp=Z,0.1nm,0.5s,baz=99,slow=4.4,SNR=1.0
ASAR	**Alice Springs**	**45.49**	**254**	P	**P**	**14 39 47.5**	**-0.4**
MIDW	**Midway**	**46.16**	**0**	P	**P**	**14 39 52.4**	**-0.3**
KNRA	**Kununurra**	**51.26**	**264**	P	**P**	**14 40 30.8**	**-0.2**
KNRA				IAmb	IAmb	14 40 37.8	
comp=Z,19nm,1.4s
JGF	**Kuroka**	**68.48**	**322**	P	**P**	**14 42 25.1**	**-0.3**
JGF				IAmb	IAmb	14 42 46.3	
comp=Z,13nm,1.3s
JSD	**Sado**	**69.66**	**324**	P	**P**	**14 42 33.1**	**+0.6**
JSD				IAmb	IAmb	14 42 45.6	
comp=Z,5.8nm,1.3s
ATKA	**Atka Island**	**70.18**	**2**	P	**P**	**14 42 35.5**	**+0.3**

*IDC **12** 14:32:22.2±1.1, 2.°68N×84.°60W, h0km, mb3.6/7, mb1 4.1/9, mb1mx3.8/34, mbtmp3.8/9, ML4.1/2, MS3.7/22, Ms1 3.7/22, ms1mx3.6/28, Error ellipse: s-maj=86.2km s-min=19.7km az=58.0*
*NEIC **12** 14:32:23.6±2.0, 2.°58N±0.°08×84.°47W±0.°08, h10km±1km, mb4.1/12, Error ellipse: s-maj=14.7km s-min=13.0km az=231.0*
ISC 12 14:32:23.6±0.7, 2.°64N±0.°07×84.°55W±0.°09, h10km, n77, σ1°55/58, mb3.8/9, MS3.7/17, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTGL	**Punta Galera**	**4.88**	**112**	*e*P	**Pn**	**14 33 35.1**	**-2.1**
PAC1	**Pacto, Paraso**	**6.22**	**112**	*e*P	**Pn**	**14 33 54.2**	**-1.5**
OTAV	**Otavalo**	**6.55**	**111**		**Pn**	**14 33 59.1**	**-1.4**
OTAV	**Otavalo**	**6.55**	**111**	*e*P	**Pn**	**14 33 59.3**	**-1.2**
CUSE	**Cuicocha Este**	**6.57**	**111**	*e*P	**Pn**	**14 34 00.1**	**-0.7**
PAYG	**Puerto Ayora**	**6.61**	**240**	Pn	**Pn**	**14 34 01.7**	**+0.7**
SRBA	**San Rafael, Bu**	**6.65**	**10**		**Pn**	**14 34 01.2**	**-0.4**
DRK0	**Durika**	**6.70**	**11**		**Pn**	**14 34 01.6**	**-0.7**
PEZE	**Perez Zeledon,**	**6.75**	**7**		**Pn**	**14 34 02.1**	**-0.8**
JACO	**JACO, Garabito**	**6.97**	**359**	Pn	**Pn**	**14 34 05.5**	**-0.4**
CAO2	**Cobano, Puntar**	**7.02**	**356**	Pn	**Pn**	**14 34 06.5**	**-0.1**
RIMA	**Rio Macho**	**7.11**	**5**		**Pn**	**14 34 07.7**	**-0.3**
BBAC	**Balboa, Cauca**	**7.32**	**95**	*e*P	**Pn**	**14 34 11.0**	**0.0**
GCUF	**Volcan Galeras**	**7.34**	**101**	*e*P	**Pn**	**14 34 13.2**	**+1.9**
BATAN	**Batan**	**7.50**	**9**	Pn	**Pn**	**14 34 14.1**	**+1.0**
JTS	**Las Juntas de**	**7.61**	**357**	Pn	**Pn**	**14 34 15.7**	**+1.0**
9.5nm,0.3s,baz=138,slow=13,SNR=31
JTS				Sn	**Sn**	**14 35 36.4**	**-4.6**
0.5nm,0.3s,baz=17,slow=21,SNR=1.0
JTS	**Las Juntas de**	**7.61**	**357**		**Pn**	**14 34 15.2**	**+0.5**
JTS	**Las Juntas de**	**7.61**	**357**	*e*P	**Pn**	**14 34 15.6**	**+1.0**

POPC	**Popayan, Colom**	**7.87**	**91**	*e*P	Pn	14 34 10.6	-7.8
SOTA	**Rioblanco**	**7.95**	**93**	*e*P	**Pn**	**14 34 22.6**	**+2.8**
COVE	**Coope Vega, Sa**	**8.02**	**1**		**Pn**	**14 34 21.9**	**+1.6**
HZTE	**Horizontes, Gu**	**8.08**	**353**	Pn	**Pn**	**14 34 22.7**	**+1.5**
YOTC	**Yotoco, Valle**	**8.30**	**81**	*e*P	**Pn**	**14 34 24.7**	**+0.5**
PLMC	**San Jos del P**	**8.55**	**75**	*e*P	**Pn**	**14 34 27.3**	**-0.4**
MARP	**Paez Belalcaza**	**8.59**	**88**	*e*P	**Pn**	**14 34 29.3**	**+0.9**
CBOC	**Ciudad Bolivar**	**9.10**	**69**	*e*P	**Pn**	**14 34 36.5**	**+1.3**
ANIL	**Santa Ana**	**9.31**	**78**	*e*P	**Pn**	**14 34 40.6**	**+2.3**
ORTC	**Ortega, Tolima**	**9.37**	**82**	*e*P	**Pn**	**14 34 40.2**	**+1.3**
DBBC	**Dabeiba**	**9.38**	**62**	*e*P	**Pn**	**14 34 40.9**	**+1.9**
TOLC	**Tolima**	**9.41**	**78**	*e*P	**Pn**	**14 34 41.0**	**+1.3**
GUY2C	**Guyana, Caldas**	**9.52**	**74**	*e*P	**Pn**	**14 34 44.2**	**+2.9**
PRAC	**Prado**	**9.71**	**83**	*e*P	**Pn**	**14 34 43.1**	**-0.4**
NORC	**Norcasia**	**10.08**	**73**	*e*P	**Pn**	**14 34 51.4**	**+2.7**
ROSC	**El Rosal**	**10.44**	**78**	LR	LR	14 38 51.1	
comp=Z,392nm,18.2s,baz=242,slow=37
MACC	**Macarena, Meta**	**10.71**	**92**	*e*P	**Pn**	**14 34 58.3**	**+1.1**
ZARC	**Zaragoza, Cauc**	**10.79**	**63**	*e*P	**Pn**	**14 35 01.6**	**+3.3**
CHIC	**Chingaza**	**10.98**	**79**	*e*P	**Pn**	**14 35 03.4**	**+2.2**
ATAH	**Atahualpa**	**11.49**	**148**	Pn	**Pn**	**14 35 10.6**	**+2.3**
0.4nm,0.3s,baz=15,slow=5.4,SNR=4.8
ATAH				LR	LR	14 39 05.6	
comp=Z,492nm,18.8s,baz=323,slow=35
SDV	**Santo Domingo**	**15.17**	**65**	LR	LR	14 41 16.3	
comp=Z,312nm,21.9s,baz=247,slow=35
URIC	**Uribia, Colomb**	**15.36**	**54**	Pn	**Pn**	**14 35 59.8**	**-0.9**
URIC				IAmb	IAmb	14 36 00.3	
comp=Z,16nm,0.9s
NNA	**Nana**	**16.43**	**152**	LR	LR	14 42 31.1	
comp=Z,143nm,18.1s,baz=316,slow=37
CMIG	**Matias Romero**	**17.58**	**325**	P	**P**	**14 36 32.1**	**+2.1**
comp=Z,0.1nm,0.3s,baz=90,slow=5.1,SNR=3.6
CMIG				LR	LR	14 41 59.8	
comp=Z,267nm,21.7s,baz=182,slow=33
SJG	**San Juan**	**23.70**	**48**	LR	LR	14 47 26.5	
comp=Z,39nm,18.1s,baz=252,slow=38
PTGA	**Pitinga**	**24.80**	**97**	LR	LR	14 47 17.9	
comp=Z,218nm,19.0s,baz=252,slow=36
LPAZ	**La Paz**	**24.84**	**140**	P	**P**	**14 37 47.6**	**+0.5**
comp=Z,2.1nm,0.7s,baz=330,slow=10.0,SNR=8.7
LPAZ	**La Paz**	**24.84**	**140**	P	**P**	**14 37 44.0**	**-3.2**
LPAZ				IAmb	IAmb	14 37 57.5	
comp=Z,8.0nm,1.2s
LVC	**Limon Verde**	**29.38**	**149**	LR	LR	14 51 06.5	
comp=Z,144nm,18.5s,baz=306,slow=38
SIV	**San Ignacio**	**29.69**	**129**	LR	LR	14 50 42.6	
comp=Z,479nm,19.4s,baz=294,slow=37
TXAR	**Lajitas Array**	**32.17**	**328**	P	**P**	**14 38 51.5**	**-0.3**
comp=Z,0.2nm,0.7s,baz=152,slow=9.9,SNR=3.0
TXAR				LR	LR	14 51 18.4	
comp=Z,91nm,18.2s,baz=0.0,slow=35
S51A	**Beattyville**	**34.84**	**1**	P	**P**	**14 39 14.7**	**-0.2**
MNTX	**Cornudas Mount**	**34.94**	**328**	P	**P**	**14 39 16.1**	**+0.2**
MNTX				IAmb	IAmb	14 39 17.0	
comp=Z,1.2nm,0.8s
CPRX	**Cap Rock**	**35.24**	**331**	P	**P**	**14 39 17.7**	**-0.9**
H03N2	**Juan Fernandez**	**36.28**	**172**	T	T	15 17 51.2	
baz=351,slow=76,SNR=20
H03N1	**Juan Fernandez**	**36.28**	**172**	T	T	15 17 52.3	
baz=351,slow=76,SNR=26
H03N3	**Juan Fernandez**	**36.30**	**172**	T	T	15 17 51.0	
baz=351,slow=76,SNR=27
ANMO	**Albuquerque**	**38.05**	**330**	P	**P**	**14 39 43.6**	**+1.0**
CPUP	**Villa Florida**	**39.02**	**139**	LR	LR	14 57 58.2	
comp=Z,142nm,18.0s,baz=26,slow=39
SDCO	**Great Sand Dun**	**39.87**	**334**	P	**P**	**14 39 57.6**	**-0.4**
BDFB	**Brasilia**	**40.45**	**118**	LR	LR	14 56 30.8	
comp=Z,149nm,18.3s,baz=290,slow=36
CBX	**Cerro Bola**	**42.20**	**318**	P	**P**	**14 40 18.4**	**+1.4**
ECSD	**EROS Data Cent**	**42.30**	**347**	P	**P**	**14 40 17.2**	**-0.3**
ECSD				IAmb	IAmb	14 40 23.6	
comp=Z,4.6nm,1.1s
PLCA	**Paso Flores**	**45.03**	**165**	LR	LR	14 55 19.5	
comp=Z,82nm,20.0s,baz=342,slow=31
PDAR	**Pinedale Array**	**45.76**	**334**	P	**P**	**14 40 45.6**	**0.0**
comp=Z,0.5nm,0.8s,baz=144,slow=7.8,SNR=4.4
PDAR				PcP	**PcP**	**14 42 23.0**	**-0.3**
comp=Z,0.4nm,0.9s,baz=127,slow=3.9,SNR=2.7
PDAR				LR	LR	15 00 39.3	
comp=Z,151nm,20.3s,baz=155,slow=37
NVAR	**Mina Array Bea**	**47.10**	**323**	P	**P**	**14 40 57.2**	**+0.9**
comp=Z,0.7nm,0.7s,baz=132,slow=7.0,SNR=7.9
NVAR				PcP	**PcP**	**14 42 28.6**	**+0.5**
comp=Z,0.5nm,0.7s,baz=129,slow=4.0,SNR=2.9
NVAR				LR	LR	14 59 01.3	
comp=Z,72nm,21.8s,baz=128,slow=34
NVAR	**Mina Array Bea**	**47.10**	**323**	P	**P**	**14 40 55.8**	**-0.4**
YBH	**Yreka Blue Hor**	**51.81**	**324**	P	**P**	**14 41 31.2**	**-0.7**
comp=Z,0.2nm,0.3s,baz=90,slow=7

BKZ				S	Sn	15 16 27.0	-2.7
LTZ	Lake Taylor	13.22	213	Pn	Pn	15 16 00.8	+0.6
PINNC	Pines Island,	15.96	302	Pn	Pn	15 16 36.8	-0.4
PINNC				IAmb	IAmb	15 16 58.5	
	comp=Z,129nm,1.3s						
RAR	Rarotonga	19.50	61	P	Pn	15 17 20.3	-0.7
	comp=Z,1.3nm,0.3s,baz=246,slow=20,SNR=1.6						
RAR	Rarotonga	19.50	61	P	Pn	15 17 20.9	-0.2
RAR				IAmb	IAmb	15 17 23.8	
	comp=Z,67nm,1.4s						
TOO	Toolangi	30.36	249	P	P	15 19 05.5	+1.0
TOO				IAmb	IAmb	15 19 08.4	
	comp=Z,29nm,1.2s						
AS31	Alice Springs	43.05	269	P	P	15 20 52.6	-0.1
ASAR	Alice Springs	43.05	269	P	P	15 20 53.7	+1.0
	comp=Z,0.9nm,0.6s,baz=105,slow=7.1,SNR=22						
ASAR				PcP	PcP	15 22 41.9	-0.9
	comp=Z,0.4nm,0.9s,baz=95,slow=4.0,SNR=1.4						
ASAR	Alice Springs	43.05	269	P	P	15 20 52.5	-0.2
WR0	Warramunga Arr	44.01	274	P	P	15 21 01.0	+0.6
WB2	Warramunga Arr	44.17	274	P	P	15 21 02.2	+0.5
WB2				IAmb	IAmb	15 21 04.0	
	comp=Z,8.4nm,1.2s						
WRA	Warramunga Arr	44.19	274	P	P	15 21 02.5	+0.7
	comp=Z,1.8nm,0.5s,baz=112,slow=7.8,SNR=20						
WRA	Warramunga Arr	44.19	274	P	P	15 21 02.2	+0.4
WB0	Warramunga Arr	44.22	274	P	P	15 21 02.2	+0.1
WB0				IAmb	IAmb	15 21 13.3	
	comp=Z,9.5nm,1.4s						
FORT	Forrest	45.66	257	P	P	15 21 14.2	+0.8
SOEI	Soe	57.60	279	P	P	15 22 42.2	-0.9
GUMO	Guam	57.64	316	P	P	15 22 42.2	-0.8
QSPA	South Pole Qui	58.09	180	P	P	15 22 48.2	+2.4
	comp=Z,0.4nm,0.6s,baz=3.8,slow=2.3,SNR=1.2						
QSPA	South Pole Qui	58.09	180	IAmb	IAmb	15 23 14.4	
	comp=Z,4.6nm,0.9s						
SYO	Syowa Base	75.54	193⇑	eP	P	15 24 36.3	-0.4
SYO	Syowa Base	75.54	193⇓	ePcP	PcP	15 24 48.0	-1.6
NVAR	Mina Array Bea	89.43	43	P	P	15 25 49.8	+0.1
	comp=Z,0.2nm,0.7s,baz=193,slow=3.6,SNR=2.5						
FINES	FINESS Array B	146.66	339	PKPbc	PKPab	15 32 34.1	-0.7
	comp=Z,2.7nm,0.6s,baz=40,slow=3.9,SNR=17						

*DJA **12** 15:22:18.3±0.2, 9°S±3°×11°6E±°, h89km±4km, M4.5/22, mB5.0/9, mb4.7/18, MLv4.7/22, Mw(mB)4.3/9*
*NEIC **12** 15:22:18.1±1.6, 8°64S±0°08×116°23E±0°07, h112km±5km, mb4.6/42, Error ellipse: s-maj=11.4km s-min=9.7km az=177.0*
*IDC **12** 15:22:18.2±1.8, 8°60S×116°23E, h117km±15km, mb4.0/17, mb1 4.0/20, mb1mx3.9/31, mbtmp4.4/20, Error ellipse: s-maj=17.0km s-min=9.6km az=84.0*

ISC 12 15:22:17.3±0.3, 8°75S±0°05×116°26E±0°05, h110km, n119, σ1§55/124, mb4.5/34, 1C, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	0.62	89	P	Pn	15 22 35.4	+0.4
TWSI				S	Sn	15 22 48.5	+0.1
DNP	Denpasar	1.04	274	P	Pn	15 22 39.5	+0.6
SRBI	Singaraja	1.22	302	P	Pn	15 22 42.1	+1.2
PLAI	Plampang	1.50	93	P	Pn	15 22 45.6	+1.4
JAGI	Jajag, Banyuwa	2.10	277		Pn	15 22 52.3	+0.8
JAGI	Jajag, Banyuwa	2.10	277	P	Pn	15 22 52.4	+0.8
ABJI	Asem Bagus	2.21	295	P	Pn	15 22 55.3	+2.2
KMMI	Kalianget	2.83	306	P	Pn	15 23 03.3	+2.2
PWJI	Pagerwojo	4.46	279	P	Pn	15 23 23.2	+0.3
BSSI	Bau Bau, Buton	4.93	59	P	Pn	15 23 31.2	+1.9
PCJI	Pacitan	5.05	276	P	Pn	15 23 31.4	+0.5
	1.6nm4μm88nm,0.5s						
KAPI	Kappang	5.08	43	P	Pn	15 23 32.7	+1.4
	17nm,0.3s,baz=209,slow=6.3,SNR=77						
KAPI				S	Sn	15 24 29.0	+0.1
	3.1nm,0.3s,baz=192,slow=20,SNR=8.0						
KAPI	Kappang	5.08	43		Pn	15 23 33.1	+1.8
BKSI	Bulukumba	5.13	49	P	Pn	15 23 33.7	+1.8
	1.1nm3μm288nm,0.5s						
EDFI	Ende, Flores	5.37	90	P	Pn	15 23 35.4	+0.1
	0.2nm690nm26nm,0.8s						
KBKI	Kotabaru	5.41	359	P	Pn	15 23 38.2	+2.4
	0.3nm919nm84nm,0.6s						
BBKI	Banjar Baru	5.44	345	P	Pn	15 23 39.3	+3.2
	0.2nm2μm35nm,1.4s						
UGM	Wanagama	5.73	278	Pn	Pn	15 23 40.8	+0.7
UGM	Wanagama	5.73	278	P	Pn	15 23 41.7	+1.6
	1.2nm72nm,1.4s						
BNSI	Bone	5.77	42	P	Pn	15 23 44.4	+3.8
	0.3nm1μm80nm,0.5s						
MMRI	Maumere	5.92	89	Pn	Pn	15 23 42.3	-0.3
MMRI	Maumere	5.92	89	P	Pn	15 23 43.7	+1.1
	0.5nm107nm,0.7s						
SMRI	Semarang	6.00	286	Pn	Pn	15 23 44.1	+0.3
TTSI	Tana Toraja	6.68	32	P	Pn	15 23 56.6	+3.6
	0.3nm708nm88nm,0.8s						
KPJI	Karang Pucung	7.39	280	P	Pn	15 24 04.8	+2.2
	0.3nm36nm,0.6s						
BATI	Baumata	7.45	102	P	Pn	15 24 03.4	-0.1
	7.6nm,0.3s,baz=221,slow=3.1,SNR=8.8						
BATI				S	Sn	15 25 23.5	-2.9
	2.9nm,0.3s,baz=54,slow=22,SNR=1.4						
BATI	Baumata	7.45	102	P	Pn	15 24 03.8	+0.4
	0.2nm26nm,0.5s						
BKB	Balikpapan	7.46	5	Pn	Pn	15 24 04.2	+0.6
MTKI	Muara Teweh, K	7.87	350	P	Pn	15 24 12.3	+3.1
	32nm,0.8s						
SOEI	Soe	7.97	98	Pn	Pn	15 24 09.2	-1.4
CISI	Cisompet, Garu	8.44	277		Pn	15 24 16.5	-0.4
CISI	Cisompet, Garu	8.44	277	P	Pn	15 24 17.2	+0.3
	2μm37nm,0.7s						
CNJI	Cibinong	9.15	278	P	Pn	15 24 26.2	-0.3
	46nm,1.3s						
MPSI	Mapaga	9.73	22	P	Pn	15 24 37.6	+3.3
	9.7nm,1.7s						
STKI	Sintang	9.97	331	P	Pn	15 24 42.3	+4.7
XMIS	Christmas Isla	10.60	260	Pn	Pn	15 24 44.9	-1.3
PSA00	Pilbara Seismi	13.21	165	Pn	Pn	15 25 18.8	-1.9
PSA00	Pilbara Seismi	13.21	165	Pn	Pn	15 25 18.8	-1.9
GIRL	Giralia	13.95	188	Pn	Pn	15 25 29.7	-0.6
KNRA	Kununurra	14.03	121	P	Pn	15 25 30.8	-0.5
MTN	Manton Dam	15.17	107	Pn	Pn	15 25 46.7	+0.8
SIJI	Sorong	16.87	63	P	Pn	15 26 06.1	-0.9
	0.9nm,0.3s,baz=240,slow=20,SNR=16						
FAKI	Fak Fak	16.93	71	P	Pn	15 26 06.3	-1.4
FAKI				IAmb	IAmb	15 26 17.8	
	comp=Z,49nm,1.2s						
MORW	Morawa	20.22	181	P	P	15 26 44.1	+0.5
MORW				IAmb	IAmb	15 26 49.4	
	comp=Z,15nm,0.8s						
WB0	Warramunga Arr	20.69	124	P	P	15 26 49.1	+0.3
WB0				IAmb	IAmb	15 27 13.8	
	comp=Z,17nm,1.4s						
WRA	Warramunga Arr	20.73	124	P	P	15 26 49.5	+0.2
	comp=Z,1.3nm,0.3s,baz=298,slow=12,SNR=60						
WRA				S	S	15 30 33.0	-1.8
	comp=Z,0.7nm,0.7s,baz=246,slow=24,SNR=2.5						
WRA				ScP	ScP	15 34 19.7	-1.9
	comp=Z,1.5nm,0.5s,baz=311,slow=1.8,SNR=7.7						
WRA	Warramunga Arr	20.73	124	P	P	15 26 49.3	+0.1
WRAB	Tennant Creek	20.73	124	P	P	15 26 50.2	+0.9
WRAB				IAmb	IAmb	15 27 00.8	
	comp=Z,9.8nm,0.6s						
WB2	Warramunga Arr	20.74	124	P	P	15 26 49.6	+0.2
WB2				IAmb	IAmb	15 27 09.6	
	comp=Z,21nm,1.5s						
WR0	Warramunga Arr	20.90	124	P	P	15 26 51.6	+0.4
WR0				IAmb	IAmb	15 26 57.3	
	comp=Z,7.5nm,0.5s						
TSI	Tuntungan	21.43	304	P	P	15 26 58.7	+1.9
	comp=Z,56nm,0.8s						
AS31	Alice Springs	22.48	133	P	P	15 27 08.1	+0.3
ASAR	Alice Springs	22.48	133	P	P	15 27 08.3	+0.6
	comp=Z,16nm,1.1s,baz=308,slow=9.7,SNR=91						
ASAR				S	S	15 31 09.4	+2.5
	comp=Z,1.1nm,0.8s,baz=322,slow=26,SNR=2.1						
ASAR				ScP	ScP	15 34 24.2	-1.7
	comp=Z,0.5nm,0.6s,baz=312,slow=2.2,SNR=5.0						
NWAO	Narrogin (SRO)	24.08	178	P	P	15 27 22.9	+0.3
	comp=Z,10nm,0.6s,baz=360,slow=8.1,SNR=12						
NWAO				S	S	15 31 47.9	+16
	comp=Z,6.7nm,0.3s,baz=0.0,slow=20,SNR=7.3						
NWAO	Narrogin (SRO)	24.08	178	P	P	15 27 22.2	-0.4
NWAO				IAmb	IAmb	15 27 23.8	
	comp=Z,34nm,1.4s						
FORT	Forrest	24.53	155	P	P	15 27 27.8	+1.1
FORT				IAmb	IAmb	15 27 46.7	
	comp=Z,19nm,0.8s						
TWG	Pinlang	31.73	8	P	P	15 28 31.7	+0.8
TWG				IAmb	IAmb	15 28 59.2	
	comp=Z,16nm,0.9s						
CMAR	Chiang Mai Arr	31.98	328	P	P	15 28 32.1	-1.1
	comp=Z,1.0nm,0.8s,baz=154,slow=6.2,SNR=10.0						
CMAR				ScP	ScP	15 34 52.7	-1.8
	comp=Z,1.0nm,0.7s,baz=181,slow=3.2,SNR=7.2						
CMAR	Chiang Mai Arr	31.98	328	P	P	15 28 32.8	-0.4
YULB	Yu-li	32.32	9	P	P	15 28 35.0	-1.1
STKA	Stephens Creek	32.91	138	P	P	15 28 42.2	+0.9
	comp=Z,2.6nm,0.5s,baz=314,slow=9.4,SNR=8.3						
STKA	Stephens Creek	32.91	138	P	P	15 28 42.3	+0.9
YHNB	Yeheng	33.59	8	P	P	15 28 46.5	-0.7
TOO	Toolangi	39.00	142	P	P	15 29 36.0	+2.8
ENH	Enshi	39.34	351	P	P	15 29 35.6	-0.4
ENH				IAmb	IAmb	15 29 36.7	
	comp=Z,12nm,0.7s						
ARMA	Armidale	39.43	128	P	P	15 29 39.9	+2.9
ARMA				IAmb	IAmb	15 30 02.4	
	comp=Z,28nm,1.4s						
NJ2	Nanjing	40.65	3	eP	P	15 29 48.3	+1.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CD2	Chengdu	41.21	344	eP	P	15 29 51.4	-0.1
SHL	Shillong	41.55	326	P	P	15 29 53.4	-1.0
SHL				IAmb	IAmb	15 29 54.0	
	comp=Z,8.7nm,0.8s						
HNR	Honiara	43.13	94	P	P	15 30 08.6	+1.4
	comp=Z,10nm,0.4s,baz=232,slow=12,SNR=1.4						
H08S2	Diego Garcia H	43.31	268	T	T	16 16 21.9	
	baz=96,slow=75,SNR=8.4						
H08S3	Diego Garcia H	43.32	268	T	T	16 16 11.5	
	baz=96						
H08S1	Diego Garcia H	43.33	268	T	T	16 16 22.4	
	baz=96,slow=75,SNR=2.8						
LZH	Lanzhou	46.10	346	⇑P	P	15 30 32.0	+1.3
LZH				pP	pP	15 30 36.5	-19
LZH				pmax	pmax		
	comp=Z,26nm,1.3s						
LZH				pmax	pmax		
	comp=Z,99nm,5.6s						
KSRS	Korea Array	47.24	13	P	P	15 30 39.1	-0.2
	comp=Z,4.4nm,0.8s,baz=191,slow=7.4,SNR=9.0						
JWT	Wachi	47.38	21	P	P	15 30 40.6	+0.2
JWT				IAmb	IAmb	15 30 46.8	
	comp=Z,20nm,1.3s						
INU	Inuyama	48.04	23	P	P	15 30 44.7	-0.9
INU				IAmb	IAmb	15 31 02.6	
	comp=Z,20nm,1.5s						
HHC	Hu-ho-hao-te	49.54	355	eP	P	15 30 59.4	+2.3
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
MAJO	Matsushiro	49.55	23	P	P	15 30 55.8	-1.3
MAJO				IAmb	IAmb	15 30 56.6	
	comp=Z,6.1nm,0.7s						
MAT	Matsushiro	49.55	23	P	P	15 30 55.8	-1.3
MJAR	Matsushiro Arr	49.55	23	P	P	15 30 55.9	-1.3
	comp=Z,7.6nm,0.8s,baz=190,slow=8.5,SNR=26						
MJAR	Matsushiro Arr	49.55	23	P	P	15 30 55.9	-1.3
MJAR				IAmb	IAmb	15 30 57.6	
	comp=Z,2.9nm,0.8s						
GTA	Gaotai	50.29	343	eP	P	15 31 03.5	+0.7
GTA				pP	pP	15 31 33.0	+4.6
GTA				sP	sP	15 31 45.6	+4.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JSD	Sado	50.88	22	P	P	15 31 05.9	-1.2
JMM	Marumori	51.73	25	P	P	15 31 12.9	-0.6
JTM	Tenmabayashi	54.34	23	P	P	15 31 31.7	-0.9
USRK	Ussuriysk Ar.	54.59	14	P	P	15 31 33.1	-1.2
	comp=Z,2.3nm,0.6s,baz=176,slow=6.9,SNR=6.7						
ULN	Ulaanbaatar	56.95	353	P	P	15 31 50.3	-1.0
SONM	Songino Array	57.01	352	P	P	15 31 50.7	-1.0
	comp=Z,3.6nm,0.7s,baz=166,slow=7.5,SNR=16						
SONM				PcP	PcP	15 32 44.2	-1.4
	comp=Z,0.9nm,0.6s,baz=174,slow=6.9,SNR=2.5						
SONM	Songino Array	57.01	352	P	P	15 31 50.7	-1.0
SONM				IAmb	IAmb	15 31 51.5	
	comp=Z,4.2nm,0.9s						
WHZ	Wether Hill Ro	57.58	140	P	P	15 31 57.0	+1.3
WHZ				IAmb	IAmb	15 32 07.6	
	comp=Z,14nm,1.1s						
CASY	Casey	57.58	183	P	P	15 31 55.9	+0.6
CASY				IAmb	IAmb	15 32 23.8	
	comp=Z,4.4nm,1.1s						
JKA	Kamikawa-asahi	57.77	22	P	P	15 31 56.7	-0.3
JKA				IAmb	IAmb	15 32 17.8	
	comp=Z,12nm,1.2s						
WMQ	Urumqi	58.39	336	eP	P	15 32 02.0	+0.7
THZ	Tophouse	59.55	134	P	P	15 32 10.4	+0.9
NNZ	Nelson	59.74	133	P	P	15 32 12.1	+1.4
YSS	Yuzh-Sakhalins	60.27	21	P	P	15 32 13.4	-0.7
BKZ	Black Stump Fm	61.54	130	P	P	15 32 24.6	+1.5
BKZ				IAmb	IAmb	15 32 50.5	
	comp=Z,12nm,1.2s						
MK31	Makanchi Array	63.03	334	P	P	15 32 30.6	-2.1
MKAR	Makanchi Array	63.03	334	P	P	15 32 31.1	-1.7
	comp=Z,1.0nm,0.5s,baz=153,slow=7.1,SNR=12						
MKAR	Makanchi Array	63.03	334	P	P	15 32 30.5	-2.3
ZALV	Zalesovo Beam	67.87	341	P	P	15 33 01.1	-2.6
	comp=Z,0.5nm,0.3s,baz=134,slow=6.4,SNR=3.8						
MAW	Mawson	68.56	199	P	P	15 33 08.5	+0.6
	comp=Z,2.9nm,0.5s,baz=46,slow=7.5,SNR=4.7						
MAW	Mawson	68.56	199	IAmb	IAmb	15 33 16.6	
	comp=Z,1.4nm,0.9s						
PETK	Petropavlovsk-	70.96	25	P	P	15 33 22.4	-0.4
	comp=Z,2.3nm,0.8s,baz=226,slow=6.0,SNR=5.8						
VNDA	Vanda	72.67	171	P	P	15 33 34.4	+1.8
	comp=Z,1.0nm,0.4s,baz=314,slow=7.3,SNR=17						
VNDA	Vanda	72.67	171	P	P	15 33 34.1	+1.4
MA2	Magadan	73.47	18	P	P	15 33 37.7	+0.2
MA2				IAmb	IAmb	15 33 38.3	
	comp=Z,3.0nm,0.7s						
ABKAR	Akbulak array	75.81	326	P	P	15 33 49.0	-2.3
TIXI	Tiksi	80.66	4	P	P	15 34 15.1	-2.4
QSPA	South Pole Qui	81.25	180	P	P	15 34 21.7	+0.6
	comp=Z,1.0nm,0.4s,baz=281,slow=5.2,SNR=26						
QSPA	South Pole Qui	81.25	180	IAmb	IAmb	15 34 25.2	
	comp=Z,3.5nm,1.0s						
BOSA	Boshof	86.74	242	P	P	15 34 50.6	+0.9
	comp=Z,2.8nm,0.9s,baz=79,slow=5.2						
TORD	Torodi Ar. Bea	115.75	280	PKP	PKPdf	15 40 47.1	-0.8
	comp=Z,0.4nm,0.6s,baz=48,slow=1.7,SNR=2.4						
TXAR	Lajitas Array	137.36	56	SKPbc	SKPbc	15 44 48.9	-3.4
	comp=Z,0.1nm,0.5s,baz=225,slow=1.3,SNR=3.8						
CPUP	Villa Florida	144.58	190	PKP	PKPdf	15 41 42.3	+0.5
	comp=Z,7.7nm,0.6s,baz=158,slow=2.3,SNR=18						
BDFB	Brasilia	151.19	213	PKPbc	PKiKP	15 41 59.5	0.0
	comp=Z,1.8nm,0.5s,baz=109,slow=1.6,SNR=5.0						
BDFB				PKPab	PKPab	15 42 08.4	+1.4
	comp=Z,1.5nm,0.5s,baz=163,slow=11,SNR=3.0						
LPAZ	La Paz	154.75	170	PKPab	PKPab	15 42 24.9	+2.4
	comp=Z,1.8nm,0.4s,baz=151,slow=5.4,SNR=9.8						
LPAZ	La Paz	154.75	170		PKPab	15 42 22.8	+0.3

*PRE **12** 15:38:55.6±0.7, 26°43S×27°52E, h2km, ML2.7*
*NEIC **12** 15:39:02.2±0.9, 25°5S±0°1×27°65E±0°09, h5km±2km, mb4.2/6, Error ellipse: s-maj=24.5km s-min=8.9km az=153.0*
*IDC **12** 15:39:05.3±50.0, 24°54S×27°92E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/24, mbtmp3.8/3, Error ellipse: s-maj=1547.0km s-min=102.9km az=16.0*

ISC 12 15:38:56.0±1.2, 26°46S±0°04×27°52E±0°04, h4km±8km, n23, σ1§44/32, mb4.1/4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.09	290	eP	Pg	15 38 58.0	+0.1
WDLM				eS	Sg	15 38 58.6	-0.6
WDLM				AML	AML	15 39 04.0	
	comp=Z,2μm,0.4s						
PRYS	Parys	0.49	197	eP	Pg	15 39 05.9	+0.5
PRYS				eS	Sb	15 39 13.2	-1.7
PRYS				AML	AML	15 39 19.1	
	comp=Z,257nm,0.6s						
KSR	Koster	0.82	317	eP	Pg	15 39 11.1	-0.6
KSR				eS	Sg	15 39 22.2	-0.1
KSR				AML	AML	15 39 33.0	
	comp=Z,788nm,0.2s						
SLR	Silverton	0.99	44	eP	Pg	15 39 14.3	-0.8
SLR				eS	Sg	15 39 27.9	-0.1
SLR				AML	AML	15 39 32.5	
	comp=Z,268nm,0.3s						
SWZ	Schweizer	2.08	249	eP	Pn	15 39 33.0	+1.2
SWZ				eS	Sb	15 39 59.2	-1.5
SWZ				AML	AML	15 40 05.3	
	comp=Z,160nm,0.6s						
LBTB	Lobatse	2.25	309		Pn	15 39 35.7	+1.6
CRLN	Carolina, Mapu	2.30	79	eP	Pn	15 39 35.2	+0.4
CRLN				eS	Sn	15 40 04.0	+0.3
CRLN				AML	AML	15 40 19.3	
	comp=Z,35nm,0.3s						
POGA	Pongola	3.84	104	eP	Pn	15 39 56.7	+0.7
POGA				eS	Sn	15 40 40.9	-0.8
POGA				AML	AML	15 40 57.2	
	comp=Z,75nm,0.4s						
PKA	Prieska	5.29	232	eP	Pn	15 40 16.6	+0.7
PKA				eS	Sn	15 41 16.2	-1.1
PKA				AML	AML	15 42 01.1	
	comp=Z,5.7nm,0.3s						
UPI	Upington	5.88	250	eP	Pn	15 40 25.7	+1.6
UPI				eS	Sn	15 41 30.3	-1.7
UPI				AML	AML	15 42 06.3	
	comp=Z,13nm,0.6s						
ARMS	Ukamas	7.10	255	eP	Pn	15 40 42.1	+1.4
ARMS				eS	Sn	15 41 59.6	-2.4
ARMS				AML	AML	15 42 46.5	
	comp=Z,28nm,0.4s						
GRAN	Grantham	7.46	217	eP	Pn	15 40 47.6	+1.8
GRAN				eS	Sn	15 42 07.9	-3.0
GRAN				AML	AML	15 42 14.4	
	comp=Z,5.8nm,0.3s						
LSZ	Lusaka	11.14	3	Pn	Pn	15 41 28.6	-7.7
TSUM	Tsumeb	11.66	306	Pn	Pn	15 41 42.8	-0.5
FURI	Furi	36.77	19	P	P	15 46 03.2	-2.1
ASCN	Ascension	43.78	287	P	P	15 47 06.4	+3.2
TOA0	Torodi Ar. Sit	46.69	324	P	P	15 47 26.4	+0.2
TORD	Torodi Ar. Bea	46.69	324	P	P	15 47 25.5	-0.6
	comp=Z,0.4nm,0.5s,baz=156,slow=8.3,SNR=6.9						
TORD	Torodi Ar. Bea	46.69	324	P	P	15 47 24.9	-1.2
TORD				IAmb	IAmb	15 47 36.8	
	comp=Z,2.4nm,1.4s						
ESDC	Sonseca Array	72.04	335	P	P	15 50 21.9	+0.7
	comp=Z,0.3nm,0.5s,baz=147,slow=5.7,SNR=4.1						
ESDC	Sonseca Array	72.04	335	IAmb	IAmb	15 50 24.7	
	comp=Z,1.1nm,1.2s						
BFO	Black Forest	76.41	347	P	P	15 50 47.2	+0.8
BFO				IAmb	IAmb	15 51 02.6	
	comp=Z,4.2nm,1.3s						
FINES	FINESS Array B	87.59	359	P	P	15 51 45.5	+0.7
	comp=Z,1.4nm,0.9s,baz=152,slow=6.3,SNR=3.8						

*IDC **12** 15:41:06.7±1.9, 6°54S×130°28E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.6/28, mbtmp3.8/4, ML3.9/2, Error ellipse: s-maj=137.6km s-min=29.4km az=71.0*
*DJA **12** 15:41:20.0±0.4, 7°S±3°×13°0E±°, h187km±9km, M4.2/7, mb3.9/7, MLv4.4/7*

ISC 12 15:41:20.7±0.9, 7°12S±0°07×130°03E±0°09, h150km, n11, σ3§73/14, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.53	124	P	Pn	15 41 52.9	+2.4
SAUI				S	Sn	15 42 18.7	+5.3
BNDI	Bandanaira	2.59	357	P	Pn	15 42 02.2	-0.7
FAKI	Fak Fak	4.73	28	P	Pn	15 42 27.4	-3.1
KMPI	Kaimana, Papua	5.02	47	P	Pn	15 42 33.2	-1.2
SWI	Sorong	6.34	11	P	Pn	15 42 49.4	-2.6
	0.2nm16nm,0.8s						
BATI	Baumata	7.00	244	P	Pn	15 43 01.3	+0.6
	0.2nm30nm,1.0s						
EDFI	Ende, Flores	8.41	258	P	Pn	15 43 21.7	+2.0
	4.8nm,1.3s						
WRA	Warramunga Arr	13.41	162	Pn	Pn	15 44 25.0	-0.2
	0.6nm,0.3s,baz=347,slow=12,SNR=32						
WRA				Sn	Sn	15 46 48.5	-5.3
	2.1nm,0.3s,baz=334,slow=22,SNR=10						
ASAR	Alice Springs	16.87	168	P	Pn	15 45 10.9	+2.9
	0.4nm,0.3s,baz=338,slow=9.7,SNR=54						
ASAR				S	S	15 48 08.3	-7.3
	0.5nm,0.3s,baz=353,slow=28,SNR=8.5						
MKAR	Makanchi Array	68.34	327	P	P	15 52 08.1	+2.2
	1.2nm,0.6s,baz=120,slow=7.3,SNR=15						
ZALV	Zalesovo Beam	71.70	334	P	P	15 52 27.4	+1.3
	0.4nm,0.4s,baz=130,slow=4.3,SNR=2.0						

IDC 12 15:50:04.6±5.0, 5°99S×148°01E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/27, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=147.8km s-min=36.6km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.20	223	P	P	15 54 30.1	-0.2
	0.1nm,0.3s,baz=47,slow=11,SNR=7.4						
ASAR	Alice Springs	22.20	216	P	P	15 55 02.9	0.0
	0.2nm,0.4s,baz=52,slow=8.7,SNR=10						
MKAR	Makanchi Array	78.13	320	P	P	16 02 05.9	+0.1
	0.1nm,0.4s,baz=125,slow=5.0,SNR=1.6						

*IDC **12** 15:50:34.9±2.6, 32°92N×140°98E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/35, mbtmp3.6/4, ML2.1/1, Error ellipse: s-maj=55.2km s-min=19.0km az=42.0*
*JMA **12** 15:50:38.5±1.2, 33°26N×140°99E, h65km, M2.7*

**ISC 12 15:50:38.5±1.4, 33°11N±0°09

H11N2	**WAKE ISLAND Hy 34.92 213**	T	T	16 39 02.7
	baz=23			
H11N3	**WAKE ISLAND Hy 34.93 213**	T	T	16 39 01.4
	baz=23			
H11N1	**WAKE ISLAND Hy 34.94 213**	T	T	16 39 12.6
	baz=23			
H11S1	**WAKE ISLAND Hy 36.12 212**	T	T	16 40 25.9
	baz=16,slow=74,SNR=4.5			
H11S2	**WAKE ISLAND Hy 36.14 212**	T	T	16 40 26.0
	baz=16,slow=74,SNR=3.9			
H11S3	**WAKE ISLAND Hy 36.14 212**	T	T	16 40 25.0
	baz=16			
SONM	**Songino Array 49.43 299**	P	**P**	**16 02 58.1 +0.9**
	0.4nm,0.6s,baz=63,slow=6.6,SNR=1.6			
TXAR	**Lajitas Array 55.60 85**	P	P	16 03 55.0 +12
	0.1nm,0.4s,baz=297,slow=6.0,SNR=2.3			
MKAR	**Makanchi Array 62.48 311**	P	**P**	**16 04 29.9 -0.5**
	0.3nm,0.4s,baz=47,slow=5.5,SNR=9.5			

*IDC **12** 16:10:06.5±0.7, 37°.83N×21°.85E, h0km, mb4.0/17, mb1 4.0/28, mb1mx3.9/48, mbtmp4.0/28, ML3.5/11, MS3.2/12, Ms1 3.2/12, ms1mx2.9/55, Error ellipse: s-maj=14.7km s-min=13.1km az=11.0*

*MOS **12** 16:10:08.1±1.1, 37°.77N×21°.80E, h17km, mb4.5/14, Error ellipse: s-maj=6.3km s-min=3.4km az=82.0*

*NEIC **12** 16:10:10.8±2.8, 37°.80N±0°.04×21°.84E±0°.06, h19km±4km, mb4.5/35, ML4.2(CSEM), Error ellipse: s-maj=7.3km s-min=6.0km az=124.0*

*ATH **12** 16:10:10.8, 37°.80N×21°.78E, h23km±3km, ML3.9/9, Error ellipse: s-maj=3.4km s-min=0.9km az=273.0*

*MED_RC **12** 16:10:10.0±0.4, 37°.80N×21°.79E, h32km±2km, MW4.3/13, Moment Tensor Solution.Mantle waves: s13,c17; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr0.07±1.09; Mθθ3.61±.56; Mϕϕ-3.68±.60; Mrθ0.42±.31; Mθϕ1.08±.35; Mϕr0.84±.37; Best double couple: M0=3.91000×10^15 NP1:ϕs=126.00000°, δ76.00000°, λ-2.00000°. NP2:ϕs=217.00000°, δ88.00000°, λ-166.00000°. Principal axes: T 3.8400, Plg8.0000°, Azm351.0000°; N 0.1400, Plg76.0000°, Azm225.0000°; P -3.9900, Plg11.0000°, Azm83.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*THE **12** 16:10:10.7, 37°.80N×21°.79E, h18km, ML4.1/27 Error ellipse: s-maj=0.7km s-min=0.4km az=252.0*

*HLW **12** 16:10:12.6, 37°.88N×22°.85E, h8km±15km, Ml4.3*

ISC 12 16:10:09.8±0.7,**37°.81N**±0°.01×**21°.78E**±0°.02,**h17**km±4km, **n363**,σ1§**69**/416,**mb4.3**/41,**MS3.0**/6,**21C-7D**,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.15**	**339**	P	**Pb**	**16 10 15.3**	**+1.0**
DRO				S	**Sb**	**16 10 19.3**	**+2.1**
	166μm,0.2s						
DRO	**Drossia**	**0.15**	**339**	P	**Pb**	**16 10 15.4**	**+1.2**
DRO				S	**Sb**	**16 10 19.5**	**+2.3**
AMT	**Artemida-Makis**	**0.28**	**192**	P	**Pb**	**16 10 17.0**	**+0.6**
AMT				S	**Sb**	**16 10 22.3**	**+1.4**
	106μm,0.3s						
AMT	**Artemida-Makis**	**0.28**	**192**	P	**Pb**	**16 10 17.1**	**+0.6**
AMT				S	**Sb**	**16 10 22.4**	**+1.5**
RLS	**Riolos of Patr**	**0.35**	**315**	P	**Pb**	**16 10 17.9**	**+0.3**
RLS				S	**Sb**	**16 10 24.3**	**+1.5**
	31μm,0.9s						
RLS	**Riolos of Patr**	**0.35**	**315**	P	**Pb**	**16 10 18.2**	**+0.6**
RLS				S	**Sb**	**16 10 24.3**	**+1.5**
RLS				AML	AML	16 10 24.8	
	comp=N,51686μm,0.5s						
RLS				AML	AML	16 10 25.2	
	comp=E,29268μm,0.3s						
KLV	**Kalavryta, Ach**	**0.38**	**51**	P	**Pb**	**16 10 18.0**	**0.0**
KLV				S	**Sb**	**16 10 24.1**	**+0.5**
	comp=E,43μm,0.2s						
KLV	**Kalavryta, Ach**	**0.38**	**51**	P	**Pb**	**16 10 18.1**	**0.0**
KLV				S	**Sb**	**16 10 24.1**	**+0.5**
KLV				AML	AML	16 10 24.7	
	comp=N,68124μm,0.2s						
KLV				AML	AML	16 10 24.8	
LAKA	**Lakka**	**0.46**	**20**	P	**Pb**	**16 10 19.4**	**-0.1**
LAKA				S	**Sb**	**16 10 26.8**	**+0.8**
	comp=N,124μm,0.8s						
LAKA	**Lakka**	**0.46**	**20**	P	**Pb**	**16 10 19.5**	**+0.1**
LAKA				S	**Sb**	**16 10 26.8**	**+0.8**
UPR	**University Cam**	**0.47**	**1**	P	**Pb**	**16 10 20.2**	**+0.5**
VTN	**Vitineika**	**0.48**	**283**	P	**Pb**	**16 10 20.6**	**+0.8**
ALIK	**Aliki, Aigiali**	**0.52**	**30**	P	**Pb**	**16 10 20.5**	**0.0**
TRIZ	**Trizonia**	**0.60**	**23**	P	**Pg**	**16 10 21.6**	**-0.1**
TRIZ				S	**Sb**	**16 10 30.8**	**+0.7**
	comp=N,18μm,1.3s						
TRIZ	**Trizonia**	**0.60**	**23**	P	**Pb**	**16 10 21.9**	**0.0**
TRIZ				S	**Sn**	**16 10 32.0**	**-0.9**
EFP	**Efpalio**	**0.62**	**9**	P	**Pb**	**16 10 22.5**	**+0.2**
EFP				S	**Sn**	**16 10 32.3**	**-1.2**
	comp=N,16μm,0.9s						
EFP	**Efpalio**	**0.62**	**9**	P	**Pb**	**16 10 22.5**	**+0.2**
EFP				S	**Sn**	**16 10 32.2**	**-1.3**
EFP				AML	AML	16 10 34.2	
	comp=N,26638μm,0.6s						
EFP				AML	AML	16 10 35.9	
	comp=E,31568μm,0.5s						
ITM	**Ithomi**	**0.64**	**169**	P	**Pg**	**16 10 22.4**	**-0.1**
ITM				S	**Sb**	**16 10 32.3**	**+1.1**
	comp=E,13μm,0.4s						
ITM	**Ithomi**	**0.64**	**169**	P	**Pb**	**16 10 22.6**	**0.0**
ITM				S	**Sn**	**16 10 32.9**	**-1.0**
ITM				AML	AML	16 10 35.4	
	comp=N,23621μm,0.5s						
ITM				AML	AML	16 10 36.7	
	comp=E,26797μm,0.3s						
ITM	**Ithomi**	**0.64**	**169**	Pg	**Pg**	**16 10 22.4**	**-0.1**
ITM				Sg	**Sb**	**16 10 31.3**	**+0.1**
SERG	**Sergoula**	**0.64**	**20**	P	**Pg**	**16 10 22.4**	**-0.1**
SERG				S	**Sb**	**16 10 32.4**	**+1.1**
	comp=E,14μm,0.6s						
SERG	**Sergoula**	**0.64**	**20**	P	**Pb**	**16 10 22.7**	**+0.1**
SERG				S	**Sn**	**16 10 33.0**	**-0.9**
SERG				AML	AML	16 10 33.5	
	comp=N,26330μm,0.5s						
SERG				AML	AML	16 10 33.7	
	comp=E,28615μm,0.7s						
VLX	**Vlachokerasia**	**0.65**	**132**	P	**Pg**	**16 10 22.3**	**-0.3**
VLX				S	**Sb**	**16 10 31.8**	**+0.3**
	comp=E,42μm,0.7s						
VLX	**Vlachokerasia**	**0.65**	**132**	P	**Pg**	**16 10 22.5**	**-0.1**
VLX				S	**Sb**	**16 10 32.2**	**+0.7**
VLX				AML	AML	16 10 35.3	
	comp=N,97965μm,0.8s						
VLX				AML	AML	16 10 35.7	
	comp=E,59618μm,0.5s						
THAL	**Thalero**	**0.73**	**72**	P	**Pb**	**16 10 23.8**	**-0.3**
THAL	**Thalero**	**0.73**	**72**	P	**Pb**	**16 10 24.0**	**-0.1**
LTHK	**Lithakia**	**0.75**	**263**	P	**Pb**	**16 10 24.4**	**-0.1**
LTHK				S	**Sg**	**16 10 35.6**	**+1.0**
	comp=E,11μm,0.8s						
LTHK	**Lithakia**	**0.75**	**263**	P	**Pg**	**16 10 25.1**	**+0.5**
PVO	**Paravola**	**0.83**	**346**	P	**Pb**	**16 10 25.8**	**0.0**
PVO				S	**Sn**	**16 10 38.2**	**-0.4**
	comp=E,5μm,0.6s						
PVO	**Paravola**	**0.83**	**346**	P	**Pg**	**16 10 25.9**	**-0.1**
PVO				S	**Sn**	**16 10 39.0**	**+0.4**
PVO				AML	AML	16 10 44.7	
	comp=N,7505μm,0.6s						
PVO				AML	AML	16 10 49.5	
	comp=E,10625μm,0.4s						
DLFA	**Delphi**	**0.87**	**40**	P	**Pn**	**16 10 27.4**	**0.0**
DLFA				S	**Sn**	**16 10 40.1**	**+0.4**
VLMS	**Volimes, Zakyn**	**0.89**	**275**	P	**Pb**	**16 10 26.6**	**-0.2**
VLMS	**Volimes, Zakyn**	**0.89**	**275**	P	**Pg**	**16 10 27.0**	**-0.1**
VLMS				AML	AML	16 10 53.6	
	comp=N,9820μm,0.4s						
VLMS				AML	AML	16 10 54.8	
	comp=E,5824μm,0.5s						
PYL	**PYLOS**	**0.91**	**182**	P	**Pb**	**16 10 26.7**	**-0.5**
PYL	**PYLOS**	**0.91**	**182**	P	**Pg**	**16 10 27.6**	**+0.1**
LOUT	**Loutraki**	**0.96**	**79**	P	**Pb**	**16 10 27.7**	**-0.3**
LOUT				S	**Sn**	**16 10 42.0**	**+0.2**
	comp=E,7μm,0.6s						
LOUT	**Loutraki**	**0.96**	**79**	P	**Pn**	**16 10 28.9**	**+0.4**
LTK	**Loutraki**	**0.96**	**77**	P	**Pb**	**16 10 27.9**	**-0.2**
LTK				S	**Sn**	**16 10 41.7**	**-0.2**
	comp=E,8μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.99**	**288**	P	**Pb**	**16 10 28.0**	**-0.5**
VLS	**Valsamata**	**1.01**	**292**	P	**Pb**	**16 10 28.4**	**-0.4**
VLS	**Valsamata**	**1.01**	**292**	P	**Pb**	**16 10 28.4**	**-0.4**
EVR	**Evrytania**	**1.10**	**1**	P	**Pb**	**16 10 30.4**	**-0.1**
EVR				S	**Sg**	**16 10 47.0**	**+1.2**
	comp=E,5μm,0.7s						
EVR	**Evrytania**	**1.10**	**1**	P	**Pg**	**16 10 31.0**	**-0.3**
EVR				S	**Sg**	**16 10 46.0**	**+0.2**
EVR				AML	AML	16 10 50.6	
	comp=E,7493μm,0.6s						
EVR				AML	AML	16 10 52.4	
	comp=N,9925μm,0.6s						
KEF5	**Kardakata, Kep**	**1.14**	**295**	P	**Pn**	**16 10 30.6**	**-0.3**
FSK	**Fiskardo**	**1.16**	**304**	P	**Pn**	**16 10 30.9**	**-0.3**
FSK				S	**Sg**	**16 10 48.3**	**+0.9**
	comp=N,3μm,0.8s						
KEF4	**Livadi, Kephal**	**1.16**	**293**	P	**Pn**	**16 10 31.1**	**-0.1**
KRND	**KRANIDI**	**1.17**	**111**	P	**Pg**	**16 10 32.6**	**+0.2**
KRND				S	**Sn**	**16 10 47.0**	**+0.1**
	comp=N,13μm,0.7s						
KRND	**KRANIDI**	**1.17**	**111**	P	**Pg**	**16 10 32.9**	**+0.4**
DMLN	**Damoulianata-K**	**1.19**	**291**	P	**Pn**	**16 10 31.7**	**0.0**
KEF3	**Kipouria, Keph**	**1.20**	**290**	P	**Pn**	**16 10 31.4**	**-0.4**
EVGI	**Lefkada island**	**1.20**	**313**	P	**Pn**	**16 10 31.8**	**0.0**
MAKR	**Makrakomi, Fth**	**1.23**	**13**	P	**Pb**	**16 10 32.8**	**+0.1**
MAKR				S	**Sg**	**16 10 50.0**	**+0.2**
	comp=N,5μm,1.6s						
NYDR	**Nydri-Lefkada**	**1.24**	**317**	P	**Pn**	**16 10 32.3**	**0.0**
VILL	**Villia**	**1.26**	**73**	P	**Pn**	**16 10 32.6**	**-0.1**
VILL				S	**Sb**	**16 10 48.8**	**-0.3**
	comp=N,6μm,0.8s						
LKR	**Lokris**	**1.27**	**48**	P	**Pb**	**16 10 33.1**	**-0.3**
LKR				S	**Sn**	**16 10 49.5**	**0.0**
	comp=N,6μm,0.5s						
AGG	**Agios Georgios**	**1.28**	**19**	P	**Pn**	**16 10 33.0**	**0.0**
AGG				S	**Sn**	**16 10 50.3**	**+0.4**
	comp=N,3μm,0.6s						
AGG	**Agios Georgios**	**1.28**	**19**	P	**Pn**	**16 10 32.8**	**-0.2**
AGG	**Agios Georgios**	**1.28**	**19**	Pn	**Pn**	**16 10 32.8**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.29**	**313**	P	**Pn**	**16 10 33.2**	**+0.1**
LKD2	**Lefkada island**	**1.32**	**318**	P	**Pb**	**16 10 33.9**	**-0.2**
TSLK	**Tsoukalades, L**	**1.34**	**319**	P	**Pb**	**16 10 34.4**	**-0.2**
VLI	**Veliai**	**1.43**	**139**	P	**Pb**	**16 10 35.8**	**-0.2**
VLI				S	**Sb**	**16 10 54.0**	**+0.1**
	comp=N,7μm,0.7s						
ATH	**Athens Observa**	**1.54**	**83**	P	**Pn**	**16 10 36.8**	**+0.3**
ATH				S	**Sb**	**16 10 57.4**	**+0.3**
	comp=N,5μm,0.8s						
ATH	**Athens Observa**	**1.54**	**83**	P	**Pn**	**16 10 36.8**	**+0.3**
ATH				S	**Sb**	**16 10 57.4**	**+0.3**
SMIA	**Simia**	**1.55**	**46**	P	**Pn**	**16 10 37.2**	**+0.6**
SMIA				S	**Sb**	**16 10 57.3**	**-0.1**
	comp=N,11μm,0.6s						
ATHU	**Athens Univers**	**1.59**	**84**	P	**Pn**	**16 10 37.4**	**+0.2**
ATHU				S	**Sn**	**16 10 57.5**	**+0.1**
	comp=N,1μm,0.4s						
VLY	**Voula,Athens**	**1.59**	**88**	P	**Pn**	**16 10 37.4**	**+0.2**
VLY				S	**Sb**	**16 10 58.2**	**-0.5**
	comp=N,4μm,0.7s						
DION	**Dionisos Attik**	**1.72**	**80**	P	**Pn**	**16 10 39.5**	**+0.5**
DION				S	**Sn**	**16 11 00.3**	**-0.3**
	comp=N,10μm,0.6s						
THL	**Klokotos Trika**	**1.76**	**6**	P	**Pb**	**16 10 41.4**	**-0.3**
EREA	**Eretria**	**1.80**	**70**	P	**Pn**	**16 10 40.5**	**+0.4**
NEO	**Neokhori**	**1.88**	**37**	P	**Pn**	**16 10 41.3**	**+0.2**
XOR	**Xorichti**	**1.91**	**35**	P	**Pn**	**16 10 42.0**	**+0.4**
KYMI	**Kymi, Euboea I**	**2.00**	**65**	P	**Pn**	**16 10 43.3**	**+0.4**
IGT	**Igoumenitsa**	**2.06**	**327**	P	**Pb**	**16 10 45.5**	**-1.3**
IGT	**Igoumenitsa**	**2.06**	**327**	P	**Pb**	**16 10 45.5**	**-1.3**
KARY	**Karystos**	**2.11**	**83**	P	**Pn**	**16 10 44.8**	**+0.4**
LIT	**Litokhoron**	**2.35**	**13**	P	**Pn**	**16 10 48.5**	**+0.8**
LIT	**Litokhoron**	**2.35**	**13**	P	**Pn**	**16 10 48.2**	**+0.5**
LIT	**Litokhoron**	**2.35**	**13**		**Pn**	**16 10 48.2**	**+0.5**
KZN	**Kozani**	**2.49**	**360**	P	**Pb**	**16 10 52.2**	**-2.0**
KZN	**Kozani**	**2.49**	**360**	P	**Pb**	**16 10 52.2**	**-2.0**
PAIG	**Paliouri**	**2.58**	**34**	P	**Pn**	**16 10 50.9**	**+0.1**
PAIG	**Paliouri**	**2.58**	**34**	P	**Pn**	**16 10 50.9**	**+0.1**
PLG	**Polygyros**	**2.87**	**26**	P	**Pn**	**16 10 54.9**	**+0.1**
PLG	**Polygyros**	**2.87**	**26**	P	**Pn**	**16 10 54.9**	**+0.1**
KBN	**Korca**	**2.91**	**345**	P	**Pn**	**16 10 57.2**	**+1.7**
KBN	**Korca**	**2.91**	**345**		**Pn**	**16 10 57.2**	**+1.7**
IMMV	**Iera Moni Meta**	**2.94**	**142**	P	**Pn**	**16 10 58.4**	**+2.7**
HORT	**Hortiatis**	**2.97**	**20**	P	**Pn**	**16 10 56.7**	**+0.5**
FNA	**Florina**	**2.99**	**354**	P	**Pn**	**16 10 58.0**	**+1.6**
FNA	**Florina**	**2.99**	**354**	Pn	**Pn**	**16 10 58.0**	**+1.6**
KNDR	**Palaiochora Ch**	**2.99**	**149**	P	**Pn**	**16 10 58.5**	**+2.0**
APE	**Apeiranthos**	**3.08**	**103**	P	**Pn**	**16 10 59.4**	**+1.8**
APE	**Apeiranthos**	**3.08**	**103**	P	**Pn**	**16 10 59.4**	**+1.8**
GRG	**Griva**	**3.18**	**9**	P	**Pn**	**16 11 01.3**	**+2.2**
SOH	**Sokhos**	**3.25**	**22**	P	**Pn**	**16 11 01.3**	**+1.3**
SOH	**Sokhos**	**3.25**	**22**	P	**Pn**	**16 11 01.3**	**+1.3**
SANT	**Santorini**	**3.27**	**115**	Pn	**Pn**	**16 11 00.1**	**-0.3**
LIA	**Limnos Island**	**3.38**	**51**	P	**Pn**	**16 11 01.8**	**+0.1**
OHR	**Ohrid**	**3.38**	**347**	*i* Pn	**Pn**	**16 11 04.6**	**+2.7**
CHOS	**Chios island**	**3.42**	**79**	P	**Pn**	**16 11 03.3**	**+0.9**
SCTE	**Santa Cesarea**	**3.43**	**312**		**Pn**	**16 11 03.4**	**+0.9**
SIGR	**SIGRI**	**3.49**	**65**	P	**Pn**	**16 11 03.9**	**+0.6**
GVDS	**Gavdos**	**3.50**	**147**	P	**Pn**	**16 11 04.7**	**+1.3**
GVD	**Gavdhos**	**3.50**	**147**	P	**Pn**	**16 11 05.1**	**+1.6**
IDI	**Anoyia**	**3.55**	**134**	Pn	**Pn**	**16 11 04.6**	**+0.4**
	comp=N,5.8nm,0.3s,baz=322,slow=16,SNR=26						
IDI				Sn	**Sn**	**16 11 48.8**	**+3.1**
	comp=N,48nm,0.3s,baz=311,slow=18,SNR=8.0						
IDI	**Anoyia**	**3.55**	**134**	⇓P	**Pn**	**16 11 04.9**	**+0.7**
IDI	**Anoyia**	**3.55**	**134**	⇑S	**Sn**	**16 11 47.1**	**+1.4**
IDI	**Anoyia**	**3.55**	**134**	P	**Pn**	**16 11 05.5**	**+1.3**
IDI	**Anoyia**	**3.55**	**134**	Pn	**Pn**	**16 11 05.2**	**+1.0**
SRS	**Serrai**	**3.59**	**22**	P	**Pn**	**16 11 06.9**	**+2.2**
SIVA	**Sivas**	**3.71**	**138**	P	**Pn**	**16 11 07.1**	**+0.8**
TIR	**Tirane**	**3.83**	**338**	⇓P	**Pn**	**16 11 09.9**	**+1.9**
TIR	**Tirane**	**3.83**	**338**	P	**Pn**	**16 11 09.1**	**+1.1**
TIR	**Tirane**	**3.83**	**338**		**Pn**	**16 11 09.1**	**+1.1**
STIP	**Stip**	**3.89**	**4**	*i* Pn	**Pn**	**16 11 11.6**	**+2.8**
LAST	**Lasithi**	**3.98**	**130**	P	**Pn**	**16 11 12.2**	**+2.0**
NPS	**Neapolis**	**4.00**	**128**	P	**Pn**	**16 11 12.6**	**+2.3**
NPS	**Neapolis**	**4.00**	**128**	P	**Pn**	**16 11 12.6**	**+2.3**
SMG	**Samos**	**4.01**	**90**	P	**Pn**	**16 11 11.6**	**+1.2**
SKO	**Skopje**	**4.17**	**357**	P	**Pn**	**16 11 15.0**	**+2.4**
SKO	**Skopje**	**4.17**	**357**	*i* Pn	**Pn**	**16 11 14.4**	**+1.9**
BODT	**Bodrum**	**4.46**	**98**	P	**Pn**	**16 11 18.5**	**+1.8**
PUK	**Puka**	**4.47**	**342**		**Pn**	**16 11 17.6**	**+0.8**
ALN	**Alexandroupoli**	**4.52**	**46**	P	**Pn**	**16 11 17.9**	**+0.5**
ALN	**Alexandroupoli**	**4.52**	**46**	Pn	**Pn**	**16 11 17.9**	**+0.5**
ULC	**Ulcinj**	**4.58**	**336**	P	**Pn**	**16 11 22.9**	**+4.5**
DRME	**Dracevica, Mon**	**4.80**	**336**	*e*Pn	**Pn**	**16 11 22.0**	**+0.6**
PLD	**Plovdiv**	**4.84**	**27**	P	**Pn**	**16 11 25.8**	**+3.9**
MATE	**Matera**	**4.85**	**307**	⇑P	**Pn**	**16 11 22.0**	**0.0**
KARP	**Karpathos**	**4.88**	**116**		**Pn**	**16 11 23.8**	**+1.4**
VTS	**Vitosha**	**4.93**	**13**	⇑P	**Pn**	**16 11 25.4**	**+2.2**
VTS	**Vitosha**	**4.93**	**13**	P	**Pn**	**16 11 24.3**	**+1.1**
VTS	**Vitosha**	**4.93**	**13**	Pn	**Pn**	**16 11 24.3**	**+1.1**
PDG	**Podgorica**	**5.00**	**338**	⇑P	**Pn**	**16 11 25.2**	**+1.1**
PDG	**Podgorica**	**5.00**	**338**	*e*Pn	**Pn**	**16 11 22.6**	**-1.5**
PDG	**Podgorica**	**5.00**	**338**	Pn	**Pn**	**16 11 24.1**	**0.0**
BALB	**Balikesir**	**5.11**	**67**		**Pn**	**16 11 24.7**	**-0.8**
HCY	**Herceg Novi**	**5.27**	**332**	P	**Pn**	**16 11 28.3**	**+0.5**
HCY	**Herceg Novi**	**5.27**	**332**	*e*Pn	**Pn**	**16 11 26.8**	**-1.0**
TREB	**Trebinje**	**5.56**	**333**	*e*Pn	**Pn**	**16 11 30.3**	**-1.4**
BRY	**Bratogost**	**5.66**	**335**	*e*Pn	**Pn**	**16 11 32.3**	**-0.9**
UPM	**Unac-Piva**	**5.81**	**339**	*e*Pn	**Pn**	**16 11 36.3**	**+0.9**
BOVS	**Bovan**	**5.82**	**359**	⇑P	**Pn**	**16 11 35.5**	**+0.2**
VAE	**Valguarnera**	**5.86**	**269**	Pn	**Pn**	**16 11 38.0**	**+2.1**
	comp=N,1.1nm,0.3s,baz=359,slow=22,SNR=3.7						
RAFF	**Raffo Rosso**	**5.93**	**267**		**Pn**	**16 11 37.0**	**+0.2**
STON	**Ston**	**5.94**	**330**	*e*Pn	**Pn**	**16 11 35.9**	**-1.0**
STON	**Ston**	**5.94**	**330**	*e*Pn	**Pn**	**16 11 35.9**	**-1.0**
STON				Sn	**Sn**	**16 12 37.6**	**-6.8**
RUDO	**Rudo**	**6.08**	**343**	*e*Pn	**Pn**	**16 11 39.1**	**+0.2**
SGRT	**San Giovanni R**	**6.09**	**312**		**Pn**	**16 11 38.4**	**-0.7**
WDD	**Wied Dalam**	**6.14**	**254**	Pn	**Pn**	**16 11 39.4**	**-0.4**
LSTV	**Lastovo**	**6.20**	**325**	*e*Pn	**Pn**	**16 11 39.0**	**-1.5**
LSTV				Sn	Sn	16 12 41.8	-9.2
BBLS	**Lazići**	**6.31**	**344**	*e*Pn	**Pn**	**16 11 41.8**	**-0.3**
DIVS	**Divibare**	**6.43**	**348**	*e*Pn	**Pn**	**16 11 43.5**	**-0.2**
DIVS	**Divibare**	**6.43**	**348**	Pn	**Pn**	**16 11 42.7**	**-1.0**
PAOL	**Paolisi**	**6.44**	**302**	Pn	**Pn**	**16 11 46.3**	**+2.3**
HAPS	**Han Pijesak,BI**	**6.62**	**342**	*e*Pn	**Pn**	**16 11 46.5**	**0.0**
RICI	**Ricice**	**6.69**	**330**	*e*Pn	**Pn**	**16 11 46.5**	**-0.6**
RICI				Sn	**Sn**	**16 12 56.0**	**-7.0**
CORL	**Corleone**	**6.71**	**273**	Pn	**Pn**	**16 11 49.7**	**+2.2**
HVAR	**Hvar**	**6.73**	**325**	*e*Pn	**Pn**	**16 11 47.1**	**-0.7**
HVAR				Sn	**Sn**	**16 12 55.6**	**-8.3**
CLTB	**Caltabellotta**	**6.79**	**271**	Pn	**Pn**	**16 11 50.9**	**+2.1**
SLUM	**Salum**	**6.91**	**155**	P	**Pn**	**16 11 50.3**	**0.0**
	baz=162						
SLUM				AMP		16 13 00.0	
	baz=162						
SLUM				S	**Sn**	**16 13 02.4**	**-6.1**
	baz=162						
ISP	**Isparta**	**6.92**	**87**	P	**Pn**	**16 11 51.3**	**+0.7**
ISP	**Isparta**	**6.92**	**87**	Pn	**Pn**	**16 11 51.3**	**+0.7**
MDVR	**Moldovita**	**6.97**	**360**	⇑P	**Pn**	**16 11 51.9**	**+0.8**
INTR	**Introdacqua**	**7.36**	**307**	Pn	**Pn**	**16 11 58.8**	**+2.2**
KIJV	**Kijevo**	**7.41**	**328**	*e*Pn	**Pn**	**16 11 56.9**	**-0.1**
KIJV				Sn	**Sn**	**16 13 13.3**	**-7.4**
ZIRJ	**Zirje**	**7.47**	**323**	*e*Pn	**Pn**	**16 11 57.0**	**-0.9**
ZIRJ				Sn	**Sn**	**16 13 13.8**	**-8.3**
FRGS	**Fruska Gora**	**7.49**	**349**	⇑P	**Pn**	**16 11 59.9**	**+1.7**
FRGS	**Fruska Gora**	**7.49**	**349**	*e*Pn	**Pn**	**16 11 57.2**	**-1.0**
MGRS	**Mrkonjic Grad**	**7.49**	**333**	*e*Pn	**Pn**	**16 11 57.2**	**-1.1**
MORI	**Morici**	**7.60**	**325**	*e*Pn	**Pn**	**16 11 58.7**	**-1.0**
MORI				Sn	Sn	16 13 16.4	-9.0
GZR	**Gura Zlata**	**7.61**	**5**	⇑P	**Pn**	**16 12 01.0**	**+1.0**
BLY	**Banja Luka**	**7.75**	**335**	*e*Pn	**Pn**	**16 12 01.0**	**-0.7**
BZS	**Buzias**	**7.80**	**359**	⇑P	**Pn**	**16 12 04.9**	**+2.4**
BZS	**Buzias**	**7.80**	**359**	P	**Pn**	**16 12 04.8**	**+2.4**
AQU	**L'Aquila**	**7.86**	**308**	P	**Pn**	**16 12 05.1**	**+1.7**
AQU	**L'Aquila**	**7.86**	**308**	*e*Pn	**Pn**	**16 12 04.7**	**+1.3**
AQU	**L'Aquila**	**7.86**	**308**	Pn	**Pn**	**16 12 05.1**	**+1.7**
DUGI	**Dugi Otok**	**8.00**	**323**	*e*Pn	**Pn**	**16 12 04.9**	**-0.4**
DUGI				Sn	Sn	16 13 25.9	-9.4
VOIR		**8.00**	**17**	⇑P	**Pn**	**16 12 08.1**	**+2.8**
VOIR		**8.00**	**17**	P	**Pn**	**16 12 08.1**	**+2.8**
UDBI	**Udbina**	**8.10**	**328**	*e*Pn	**Pn**	**16 12 07.0**	**+0.4**
UDBI				Sn	**Sn**	**16 13 29.6**	**-8.2**
MLR	**Muntele Rosu**	**8.28**	**21**	Pn	**Pn**	**16 12 10.2**	**+1.0**
	comp=N,0.4nm,0.3s,baz=236,slow=3.0,SNR=14						
MLR				LR	LR	16 15 45.2	
	comp=N,181nm,20.9s,baz=224,slow=41						
MLR	**Muntele Rosu**	**8.28**	**21**	⇑P	**Pn**	**16 12 12.1**	**+2.9**
NRCA	**Norcia**	**8.30**	**310**		**Pn**	**16 12 10.9**	**+1.4**
TIRR	**Tirgusor**	**8.31**	**35**	P	**Pn**	**16 12 09.3**	**-0.2**
TIRR	**Tirgusor**	**8.31**	**35**	Pn	**Pn**	**16 12 09.3**	**-0.2**
NVLJ	**Novalja**	**8.52**	**325**	*e*Pn	**Pn**	**16 12 12.2**	**-0.1**
NVLJ				Sn	Sn	16 13 38.5	-9.5
TPGR	**Topolog**	**8.63**	**33**	⇓P	**Pn**	**16 12 16.6**	**+2.7**
KOVH	**Kovagotottos**	**8.71**	**343**	*e*P	**Pn**	**16 12 13.0**	**-2.0**
MORH	**Mrgy, Hungar**	**8.72**	**345**	*e*P	**Pn**	**16 12 13.8**	**-1.2**
MORH				*e*S	**Sn**	**16 13 50.6**	**-2.2**
MORH	**Mrgy, Hungar**	**8.72**	**345**	*e*Pn	**Pn**	**16 12 12.9**	**-2.1**
PLOR	**Plostina**	**8.82**	**23**	⇑P	**Pn**	**16 12 18.9**	**+2.4**
PLOR	**Plostina**	**8.82**	**23**	P	**Pn**	**16 12 18.8**	**+2.4**
VRI	**Vrincioaia**	**8.85**	**23**	⇓P	**Pn**	**16 12 19.1**	**+2.1**
VRI	**Vrincioaia**	**8.85**	**23**	P	**Pn**	**16 12 19.0**	**+2.1**
MURB	**Monte Urbino**	**8.90**	**311**		**Pn**	**16 12 19.8**	**+2.1**
DRGR		**9.00**	**4**	⇑P	**Pn**	**16 12 20.7**	**+1.7**

CLL	**Collm**	**14.86**	**338**	P	**P**	**16 13 46.1**	**+1.4**
CLL	**Collm**	**14.86**	**338**	P	**P**	**16 13 46.1**	**+1.4**
CLL	**Collm**	**14.86**	**338**	*es*P	**P**	**16 13 46.0**	**+1.4**
	comp=Z,7.0nm,1.0s						
SUW	**Suwalki**	**16.23**	**3**	*e*P	**Pn**	**16 13 56.5**	**-0.4**
SUW	**Suwalki**	**16.23**	**3**	P	**Pn**	**16 13 56.2**	**-0.7**
SUW				pmax	pmax		
	comp=Z,58nm,1.0s						
SUW	**Suwalki**	**16.23**	**3**	Pn	**Pn**	**16 13 56.2**	**-0.7**
SUW				IAmb	IAmb	16 14 00.8	
	comp=Z,58nm,1.0s						
KARS	**Kars**	**16.74**	**74**	P	**Pn**	**16 14 03.7**	**+0.1**
KARS				pmax	pmax		
	comp=Z,94nm,1.3s						
KARS	**Kars**	**16.74**	**74**	Pn	**Pn**	**16 14 03.7**	**+0.1**
KARS				IAmb	IAmb	16 14 17.3	
	comp=Z,94nm,1.3s						
KIV	**Kislovodsk**	**16.94**	**62**	*e*P	**Pn**	**16 14 06.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,12nm,14.0s						
KBZ	**Khabaz**	**17.04**	**63**	Pn	**Pn**	**16 14 06.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=297,slow=2.3,SNR=1.4						
KBZ	**Khabaz**	**17.04**	**63⇑**	*e*P	**Pn**	**16 14 05.1**	**-2.0**
MNK	**Minsk**	**17.21**	**12**	*i* P	**Pn**	**16 14 07.2**	**-2.0**
MNK				*i* S	**Sn**	**16 17 19.6**	**-0.5**
MNK				pmax	pmax		
	comp=E,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,11nm,0.8s						
MNK				pmax	pmax		
	comp=E,1.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,9.0nm,11.0s						
MNK				MLR	MLR		
	comp=N,72nm,12.0s						
MNK				MLR	MLR		
	comp=Z,67nm,12.0s						
MNK	**Minsk**	**17.21**	**12**	*i* P	**Pn**	**16 14 07.2**	**-2.0**
	comp=E,1.0nm,0.8s						
MNK				*i* P	**Pn**	**16 14 07.2**	**-2.0**
	comp=N,8.0nm,0.8s						
MNK				*i* P	**Pn**	**16 14 07.2**	**-2.0**
	comp=Z,11nm,0.8s,baz=17						
MNK				*i* PP	**sP**	**16 14 17.2**	**-1.0**
MNK				*i* S	**Sn**	**16 17 19.7**	**-0.4**
MNK				*i* SS	**SnSn**	**16 17 35.2**	**+1.8**
MNK				*i* LQ	LQ	16 19 14.9	
MNK				*i* LR	LR	16 20 19.3	
MNK				*i* LRM	MLR	16 20 42.9	
	comp=E,9.0nm,11.2s						
MNK				*i* LRM	MLR	16 21 32.2	
	comp=N,72nm,11.7s						
MNK				*i* LRM	MLR	16 21 32.4	
	comp=Z,67nm,11.7s						
PABE	**Paberze**	**17.76**	**4**	*e*P	**Pn**	**16 14 15.0**	**-1.1**
PABE	**Paberze**	**17.76**	**4**	P	**Pn**	**16 14 14.6**	**-1.4**
PABE				IAmb	IAmb	16 14 16.1	
	comp=Z,47nm,0.7s						
GNI	**Garni**	**18.00**	**75**	LR	LR	16 21 37.9	
	comp=Z,56nm,21.1s,baz=285,slow=39						
OBN	**Obninsk**	**20.01**	**25**	LR	LR	16 22 52.8	
	comp=Z,21nm,18.8s,baz=25,slow=38						
OBN	**Obninsk**	**20.01**	**25**	P	Pn	16 14 42.3	-0.9
OBN				IAmb	IAmb	16 14 43.1	
	comp=Z,20nm,0.5s						
ESBB	**Sonseca Array**	**20.15**	**283**	P	Pn	16 14 44.9	-0.2
ESDC	**Sonseca Array**	**20.15**	**283**	P	**P**	**16 14 43.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=76,slow=10,SNR=18						
ESDC	**Sonseca Array**	**20.15**	**283**	P	Pn	16 14 44.2	-0.9
PAB	**San Pablo**	**20.45**	**283**	P	**P**	**16 14 47.6**	**+1.1**
PAB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PAB	**San Pablo**	**20.45**	**283**	P	**P**	**16 14 47.6**	**+1.1**
MOS	**Moscow**	**20.87**	**26**	*e*P	**P**	**16 14 48.8**	**-2.0**
MOS				*e*		16 14 58.9	
VSU	**Vasula**	**20.92**	**7**	*e*P	**P**	**16 14 51.1**	**-0.1**
VSU	**Vasula**	**20.92**	**7**	*ce*P	**P**	**16 14 50.9**	**-0.3**
VSU				pmax	pmax		
	comp=Z,77nm,0.8s						
MTSE	**Matsula**	**20.96**	**3**	*e*P	**P**	**16 14 51.4**	**-0.3**
MTE	**Manteigas**	**22.86**	**286**	P	**P**	**16 15 14.9**	**+2.6**
MTE				IAmb	IAmb	16 15 35.5	
	comp=Z,15nm,1.1s						
HFS	**Hagfors**	**22.93**	**350**	P	**P**	**16 15 10.9**	**-1.9**
	comp=Z,8.5nm,0.7s,baz=160,slow=11,SNR=28						
HFS				LR	LR	16 25 18.3	
	comp=Z,70nm,21.9s,baz=171,slow=40						
BELG	**Belogornoye**	**23.18**	**43**	P	**P**	**16 15 13.0**	**-2.4**
	comp=Z,15nm,0.7s,baz=322,slow=19,SNR=3.9						
KONO	**Kongsberg**	**23.21**	**344**	P	**P**	**16 15 14.7**	**-0.9**
KONO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KONO	**Kongsberg**	**23.21**	**344**	P	**P**	**16 15 14.7**	**-0.9**
KONO				IAmb	IAmb	16 15 15.0	
	comp=Z,7.6nm,1.0s						
FINES	**FINESS Array B**	**23.81**	**5**	P	**P**	**16 15 20.1**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=180,slow=11,SNR=2.5						
FIA1	**FINESS Array S**	**23.81**	**5**	P	**P**	**16 15 20.0**	**-1.4**
FIA1				IAmb	IAmb	16 15 27.4	
	comp=Z,12nm,1.2s						
NC602	**NORSAR Array S**	**23.84**	**348**	P	**P**	**16 15 19.9**	**-1.9**
NORES	**NORESS Array B**	**23.84**	**348**	P	**P**	**16 15 21.2**	**-0.6**
NORES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NAO01	**NORSAR Array S**	**24.06**	**347**	P	**P**	**16 15 22.2**	**-1.6**
NC405	**NORSAR Array S**	**24.17**	**348**	P	**P**	**16 15 23.0**	**-1.9**
NC405				IAmb	IAmb	16 15 35.1	
	comp=Z,21nm,1.1s						
NB201	**NORSAR Array S**	**24.18**	**348**	P	**P**	**16 15 24.0**	**-1.0**
NB201				IAmb	IAmb	16 15 42.7	
	comp=Z,31nm,1.2s						
NB2	**NORSAR Subarra**	**24.18**	**347**	P	**P**	**16 15 24.1**	**-1.0**
	comp=Z,10nm,1.1s,baz=162,slow=10						
NOA	**NORSAR Array B**	**24.18**	**347**	P	**P**	**16 15 23.6**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=160,slow=9.1,SNR=24						
NOA				LR	LR	16 26 34.3	
	comp=Z,42nm,20.5s,baz=170,slow=41						
NBO00	**NORSAR Array S**	**24.25**	**347**	P	**P**	**16 15 24.1**	**-1.6**
NBO00				IAmb	IAmb	16 15 44.7	
	comp=Z,31nm,1.4s						
EKA	**Eskdalemuir Ar**	**24.30**	**324**	P	**P**	**16 15 25.7**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=121,slow=9.3,SNR=17						
ESK	**Eskdalemuir**	**24.32**	**324**	P	**P**	**16 15 25.1**	**-1.2**
ESK				pmax	pmax		
	comp=Z,31nm,1.5s						
ESK	**Eskdalemuir**	**24.32**	**324**	P	**P**	**16 15 25.1**	**-1.2**
ESK				IAmb	IAmb	16 15 33.8	
	comp=Z,31nm,1.5s						
NC303	**NORSAR Array S**	**24.33**	**348**	P	**P**	**16 15 25.2**	**-1.2**
NC303				IAmb	IAmb	16 15 33.9	
	comp=Z,7.8nm,0.8s						
NC204	**NORSAR Array S**	**24.48**	**347**	P	**P**	**16 15 27.2**	**-0.6**
KLMR	**Klimovskoe**	**25.63**	**20**	*e*P	**P**	**16 15 37.7**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KLMR	**Klimovskoe**	**25.63**	**20**	*e*P	**P**	**16 15 37.7**	**-0.4**
KLMR				AMP		16 15 39.6	
	comp=Z,10.0nm,1.0s						
KIRV	**Kirov**	**27.43**	**32⇑**	*e*P	**P**	**16 15 56.2**	**+1.8**
AKTO	**Aktyubinsk**	**28.61**	**52**	P	**P**	**16 16 05.4**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=247,slow=5.3,SNR=3.5						
AKTO				LR	LR	16 29 43.9	
	comp=Z,25nm,19.6s,baz=260,slow=41						
ABKAR	**Akbulak array**	**29.63**	**55**	P	**P**	**16 16 15.7**	**+1.6**
TOA0	**Torodi Ar. Sit**	**30.39**	**221**	P	**P**	**16 16 21.6**	**+0.5**
TOA0				IAmb	IAmb	16 16 29.4	
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**30.39**	**221**	P	**P**	**16 16 21.0**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=29,slow=9.1,SNR=12						
TORD	**Torodi Ar. Bea**	**30.39**	**221**	P	**P**	**16 16 21.2**	**+0.1**
ARU	**Arti**	**30.68**	**41**	*c i* P	**P**	**16 16 23.1**	**-0.2**
ARU						16 17 19.7	
ARU				S	**S**	**16 21 27.8**	**+2.9**
ARU				SS	**SnSn**	**16 23 03.6**	**+0.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ARCES	**ARCESS Array B**	**31.85**	**2**	P	**P**	**16 16 31.4**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=171,slow=8.6,SNR=4.9						
UOSS	**Minazif**	**31.88**	**104**	P	**P**	**16 16 34.4**	**+0.1**
BRVK	**Borovoye**	**36.54**	**49⇑**	*e*P	**P**	**16 17 14.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**36.54**	**49**	P	**P**	**16 17 14.3**	**+0.1**
BRVK				IAmb	IAmb	16 17 27.5	
	comp=Z,6.8nm,1.2s						
KK31	**Karatay Array**	**37.03**	**66**	P	**P**	**16 17 20.3**	**+1.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**37.03**	**66**	P	**P**	**16 17 20.3**	**+1.6**
KKAR	**Karatay Array**	**37.03**	**66**	P	**P**	**16 17 19.0**	**+0.3**
KKAR	**Karatay Array**	**37.03**	**66**	P	**P**	**16 17 19.0**	**+0.3**
KKAR	**Karatay Array**	**37.03**	**66**	P	**P**	**16 17 20.3**	**+1.6**
KKAR				IAmb	IAmb	16 17 32.5	
	comp=Z,1.6nm,0.7s						
DBIC	**Dimbokro**	**39.31**	**225**	P	**P**	**16 17 38.3**	**+0.3**
DBIC	**Dimbokro**	**39.31**	**225**	P	**P**	**16 17 38.3**	**+0.3**
SCO	**Scoresbysund**	**39.89**	**339**	P	**P**	**16 17 41.4**	**-0.8**
SCO				pmax	pmax		
	comp=Z,12nm,1.0s						
SCO	**Scoresbysund**	**39.89**	**339**	P	**P**	**16 17 41.4**	**-0.8**
SCO				IAmb	IAmb	16 17 41.5	
	comp=Z,12nm,1.0s						
SPITS	**Spitsbergen Ar**	**40.54**	**358**	P	**P**	**16 17 46.1**	**-1.5**
	comp=Z,3.2nm,0.9s,baz=183,slow=7.2,SNR=1.8						
SPITS	**Spitsbergen Ar**	**40.54**	**358**	P	**P**	**16 17 49.6**	**+2.0**
SPITS				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BOOM	**Boomskoye usch**	**41.07**	**66**	P	**P**	**16 17 53.5**	**+0.9**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BOOM	**Boomskoye usch**	**41.07**	**66**	P	**P**	**16 17 53.5**	**+0.9**
MK31	**Makanchi Array**	**44.65**	**58**	*de*P	**P**	**16 18 20.9**	**-0.5**
MK31	**Makanchi Array**	**44.65**	**58**	P	**P**	**16 18 20.5**	**-0.9**
MK31				IAmb	IAmb	16 18 33.6	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**44.65**	**58**	P	**P**	**16 18 20.8**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=273,slow=7.1,SNR=30						
MKAR	**Makanchi Array**	**44.65**	**58**	P	**P**	**16 18 20.6**	**-0.8**
ZAA0	**Zalesovo Array**	**45.20**	**48**	P	**P**	**16 18 24.6**	**-0.9**
ZAA0				IAmb	IAmb	16 18 32.7	
	comp=Z,4.7nm,0.9s						
ZALV	**Zalesovo Beam**	**45.20**	**48**	P	**P**	**16 18 24.9**	**-0.7**
	comp=Z,4.3nm,0.5s,baz=274,slow=8.5,SNR=18						
ZALV	**Zalesovo Beam**	**45.20**	**48**	*i* P	**P**	**16 18 24.7**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**45.20**	**48**	P	**P**	**16 18 24.6**	**-1.0**
NRIK	**Noril'sk**	**46.68**	**26**	P	**P**	**16 18 37.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=266,slow=6.6,SNR=4.0						
DGZ	**Jazzator, Alta**	**47.44**	**53⇑**	*e*P	**P**	**16 18 43.8**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WMQ	**Urumqi**	**49.07**	**61**	*e*P	**P**	**16 19 00.3**	**+4.3**
EUNU	**Eureka**	**56.07**	**349**	P	**P**	**16 19 49.7**	**+2.3**
TIXI	**Tiksi**	**59.65**	**21⇓**	*e*P	**P**	**16 20 14.1**	**+1.7**
SONM	**Songino Array**	**59.92**	**51**	P	**P**	**16 20 13.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=299,slow=5.9,SNR=3.1						
RES	**Resolute Bay**	**60.40**	**344**	P	**P**	**16 20 19.0**	**+1.5**
RES				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RES	**Resolute Bay**	**60.40**	**344**	P	**P**	**16 20 19.0**	**+1.5**
RES				IAmb	IAmb	16 20 29.0	
	comp=Z,4.5nm,1.3s						
LZH	**Lanzhou**	**63.48**	**64**	*e*P	**P**	**16 20 42.3**	**+3.2**
LZH				pP	sP	16 20 46.7	-0.3
LZH				sP	pP	16 20 51.6	+6.6
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
YAK	**Yakutsk**	**64.94**	**30**	LR	LR	16 50 21.4	
	comp=Z,28nm,18.7s,baz=270,slow=37						
YAK	**Yakutsk**	**64.94**	**30⇑**	*e*P	**P**	**16 20 47.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**66.42**	**56**	*e*P	**P**	**16 20 59.4**	**+1.3**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,150nm,5.5s						
RCBR	**Riachuelo**	**68.92**	**244**	P	**P**	**16 21 15.2**	**+1.1**
RCBR				pmax	pmax		
	comp=Z,49nm,1.2s						
RCBR	**Riachuelo**	**68.92**	**244**	P	**P**	**16 21 15.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**68.95**	**83**	P	**P**	**16 21 12.0**	**-2.3**
	comp=Z,1.1nm,0.7s,baz=305,slow=7.3,SNR=11						
CMAR	**Chiang Mai Arr**	**68.95**	**83**	*ce*P	**P**	**16 21 13.6**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.95**	**83**	P	**P**	**16 21 12.9**	**-1.4**
SUR	**Sutherland**	**69.84**	**181**	P	**P**	**16 21 19.9**	**+0.4**
NJ2	**Nanjing**	**76.14**	**60**	*e*P	**P**	**16 21 59.1**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ILAR	**Eielson Array**	**77.36**	**355**	P	**P**	**16 22 02.8**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=353,slow=3.9,SNR=3.2						
KSRS	**Korea Array**	**78.79**	**51**	P	**P**	**16 22 10.6**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=313,slow=4.7,SNR=2.6						
YNE	**Yellowstone No**	**86.80**	**328**	P	**P**	**16 22 54.8**	**+1.4**
NVAR	**Mina Array Bea**	**95.69**	**330**	LR	LR	17 07 18.2	
	comp=Z,27nm,21.5s,baz=128,slow=36						
WRA	**Warramunga Arr**	**119.53**	**93**	PKP	**PKPdf**	**16 28 58.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=315,slow=1.8,SNR=1.8						
ASAR	**Alice Springs**	**121.14**	**97**	PKP	**PKPdf**	**16 29 01.0**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=311,slow=1.7,SNR=1.8						
ASAR	**Alice Springs**	**121.14**	**97**	PKIKP	**PKPdf**	**16 29 01.0**	**-0.9**

MEX 12 16:11:42.9±0.3, 14°.88N×93°.14W, h37km±123km, MD3.5, Near coast of Chiapas

IDC 12 16:29:35.8±2.4, 7°.20S×129°.33E, h126km±29km, mb2.9/1, mb1 3.5/5, mb1mx3.1/39, mbtmp3.8/5, Error ellipse: s-maj=28.7km s-min=21.7km az=125.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.35**	**242**	P	Pn	16 31 09.0	+1.9
	10.0nm,0.3s,baz=37,slow=18,SNR=18						
BATI				S	Sn	16 32 17.8	-0.6
	6.4nm,0.3s,baz=90,slow=18,SNR=7.8						
SIJI	**Sorong**	**6.58**	**17**	P	Pn	16 31 09.7	-0.5
	0.7nm,0.3s,baz=217,slow=20,SNR=1.6						
SIJI				S	Sn	16 32 18.6	-5.3
	1.4nm,0.3s,baz=230,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**13.57**	**160**	P	Pn	16 32 41.7	-1.6
	0.7nm,0.3s,baz=329,slow=13,SNR=41						
WRA				S	Sn	16 35 07.2	-5.9
	0.7nm,0.3s,baz=333,slow=23,SNR=2.7						
ASAR	**Alice Springs**	**16.95**	**165**	P	Pn	16 33 26.1	+0.6
	0.5nm,0.3s,baz=349,slow=9.9,SNR=28						
ASAR				S	Sn	16 36 29.1	-5.5
	0.2nm,0.3s,baz=327,slow=22,SNR=3.7						
MKAR	**Makanchi Array**	**68.03**	**327**	P	P	16 40 21.7	0.0
	0.1nm,0.3s,baz=112,slow=8.1,SNR=2.5						

*IDC **12** 16:36:44.9±0.7, 19°.20N×121°.18E, h0km, mb3.8/12, mb1 3.9/13, mb1mx3.7/63, mbtmp3.8/13, ML3.8/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/41, Error ellipse: s-maj=28.1km s-min=15.2km az=68.0*

*NEIC **12** 16:36:46.3±2.5, 19°.21N±0°.05×121°.1E±0°.1, h10km±1km, mb4.5/23, Error ellipse: s-maj=17.4km s-min=8.8km az=100.0*

*MAN **12** 16:36:49.2, 19°.30N×121°.18E, h13km, mb5.0, ML3.9, MS4.0*

ISC 12 16:36:49.8±0.5, 19°.32N±0°.03×120°.97E±0°.06, h35km, n75, σ1§67/68, mb4.3/23, MS3.2/8, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.46**	**40**	*i* P	**Pn**	**16 37 13.6**	**0.0**
BBP				*i* S	**Sn**	**16 37 33.2**	**+1.6**
SIPP	**Brgy, Tapao**	**1.47**	**199⇑**	*e*P	**Pn**	**16 37 16.4**	**+2.5**
SIPP				*i* S	Sn	16 37 44.0	+12
APYP	**Conner**	**1.47**	**170**	⇓*i* P	**Pn**	**16 37 14.1**	**+0.2**
APYP				*i* S	**Sn**	**16 37 34.3**	**+2.4**
SGCP	**Mt. Cagua**	**1.48**	**136**	⇓*i* P	**Pn**	**16 37 13.3**	**-0.6**
SGCP				*i* S	**Sn**	**16 37 31.6**	**-0.6**
CVP	**Callao Caves**	**1.80**	**153**	⇓*i* P	**Pn**	**16 37 18.6**	**+0.2**
CVP				*i* S	**Sn**	**16 37 41.7**	**+1.7**
SZP	**Santa**	**1.82**	**196**	Pn	**Pn**	**16 37 15.7**	**-3.1**
TWG	**Pinlang**	**3.49**	**2**		**Pn**	**16 37 39.8**	**-1.8**
PCPH	**Palayan**	**3.74**	**178⇑**	*e*P	**Pn**	**16 37 48.3**	**+3.2**
TPUB	**Ta-pu**	**3.97**	**356**		**Pn**	**16 37 47.1**	**-1.3**
YULB	**Yu-li**	**4.07**	**4**		**Pn**	**16 37 47.9**	**-1.6**
SSLB	**Suanglung**	**4.45**	**360**		**Pn**	**16 37 53.9**	**-0.9**
NACB	**Ninganchiao**	**4.87**	**7**		**Pn**	**16 37 59.5**	**-1.1**
LQP	**Lukban**	**5.21**	**174**	*e*P	Pn	16 38 10.5	+5.0
YHNB	**Yeheng**	**5.34**	**4**		**Pn**	**16 38 06.8**	**-0.3**
YOJ	**Yonaguni jima**	**5.46**	**20**	Pn	**Pn**	**16 38 09.1**	**+0.5**
TATO	**Taipei**	**5.65**	**5**		**Pn**	**16 38 12.2**	**+0.9**
KNMB	**Chin-men Tao**	**5.65**	**335**	Pn	**Pn**	**16 38 09.7**	**-1.7**
QIZ	**Qiongzhong**	**10.52**	**270**	Pn	**Pn**	**16 39 17.7**	**-0.5**
KSRS	**Korea Array**	**19.06**	**17**	P	**P**	**16 41 08.3**	**-0.8**
	0.3nm,0.3s,baz=198,slow=12,SNR=6.8						
KSRS				LR	LR	16 49 18.4	
	comp=Z,79nm,18.9s,baz=194,slow=39						
CMAR	**Chiang Mai Arr**	**20.86**	**271**	P	**P**	**16 41 31.1**	**+2.2**
	0.9nm,0.7s,baz=74,slow=9.6,SNR=7.6						
CMAR				LR	LR	16 49 54.7	
	comp=Z,26nm,19.5s,baz=312,slow=38						
CMAR	**Chiang Mai Arr**	**20.86**	**271**	P	**P**	**16 41 28.8**	**-0.1**
KAPI	**Kappang**	**24.21**	**183**	LR	LR	16 51 59.5	
	comp=Z,50nm,18.9s,baz=48,slow=38						
JMM	**Marumori**	**25.29**	**39**	P	**P**	**16 42 10.5**	**-2.6**
JMM				IAmb	IAmb	16 42 30.6	
	comp=Z,22nm,1.5s						
UGM	**Wanagama**	**28.95**	**202**	P	**P**	**16 42 45.0**	**-1.1**
SOEI	**Soe**	**29.07**	**173**	P	**P**	**16 42 44.9**	**-2.4**
SOEI				IAmb	IAmb	16 43 04.9	
	comp=Z,36nm,1.2s						
MNAI	**Manna**	**29.46**	**219**	P	**P**	**16 42 49.6**	**-1.0**
ASAJ	**Asahikawa**	**30.63**	**31**	LR	LR	16 54 08.5	
	comp=Z,38nm,19.4s,baz=254,slow=34						
SONM	**Songino Array**	**30.82**	**341**	P	**P**	**16 43 02.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=176,slow=5.9,SNR=3.5						
SONM				LR	LR	16 56 51.9	
	comp=Z,47nm,19.3s,baz=249,slow=39						
TLY	**Talaya**	**35.05**	**341**	LR	LR	16 59 41.1	
	comp=Z,42nm,19.9s,baz=150,slow=39						
TLY	**Talaya**	**35.05**	**341**	P	**P**	**16 43 40.7**	**+1.4**
TLY				IAmb	IAmb	16 43 40.9	
	comp=Z,3.1nm,0.8s						
KNRA	**Kununurra**	**35.61**	**167**	P	**P**	**16 43 43.1**	**-1.2**
PSA00	**Pilbara Seismi**	**40.66**	**182**	P	**P**	**16 44 25.5**	**-1.3**
PSA00				IAmb	IAmb	16 44 44.0	
	comp=Z,42nm,1.4s						
WB0	**Warramunga Arr**	**41.01**	**161**	P	**P**	**16 44 27.1**	**-2.8**
WB0				IAmb	IAmb	16 44 46.0	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**41.16**	**161**	P	**P**	**16 44 28.4**	**-2.6**
	comp=Z,0.7nm,0.4s,baz=344,slow=9.2,SNR=32						
WRA				PcP	**PcP**	**16 46 30.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=339,slow=2.7,SNR=2.2						
WRA	**Warramunga Arr**	**41.16**	**161**	IAmb	IAmb	16 44 37.1	
	comp=Z,0.5nm,1.5s						
WB2	**Warramunga Arr**	**41.16**	**161**	P	**P**	**16 44 28.8**	**-2.3**
WB2				IAmb	IAmb	16 44 32.0	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**41.24**	**160**	P	**P**	**16 44 29.2**	**-2.5**
WR0				IAmb	IAmb	16 44 57.0	
	comp=Z,9.6nm,1.2s						
MK31	**Makanchi Array**	**41.80**	**320**	P	**P**	**16 44 37.5**	**+1.4**
MKAR	**Makanchi Array**	**41.80**	**320**	P	**P**	**16 44 38.2**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=116,slow=9.4,SNR=22						
MKAR	**Makanchi Array**	**41.80**	**320**	P	**P**	**16 44 37.9**	**+1.8**
MAKZ	**Makanchi**	**42.00**	**320**	P	**P**	**16 44 39.8**	**+2.1**
H11S3	**WAKE ISLAND Hy**	**43.16**	**83**	T	T	17 30 30.4	
	baz=276,slow=74,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**43.17**	**83**	T	T	17 30 30.3	
	baz=276,slow=74,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**43.18**	**83**	T	T	17 30 32.7	
	baz=276,slow=74,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**43.18**	**82**	T	T	17 30 27.1	
	baz=278,slow=75,SNR=37						
H11N2	**WAKE ISLAND Hy**	**43.19**	**81**	T	T	17 30 26.4	
	baz=278,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**43.20**	**81**	T	T	17 30 28.8	
	baz=278,slow=75,SNR=14						
PEA0B	**Petropavlovsk-**	**44.05**	**31**	P	**P**	**16 44 54.2**	**0.0**
PEA0B				IAmb	IAmb	16 45 22.5	
	comp=Z,24nm,1.4s						
PETK	**Petropavlovsk-**	**44.05**	**31**	P	**P**	**16 44 54.7**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=243,slow=14,SNR=4.0						
PETK	**Petropavlovsk-**	**44.05**	**31**	P	**P**	**16 44 54.0**	**-0.1**
ZALV	**Zalesovo Beam**	**44.27**	**330**	P	**P**	**16 44 57.4**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=127,slow=9.8,SNR=4.9						
ZALV				LR	LR	17 04 22.8	
	comp=Z,38nm,20.6s,baz=144,slow=37						
ZALV	**Zalesovo Beam**	**44.27**	**330**	P	**P**	**16 44 55.6**	**-0.3**
AS31	**Alice Springs**	**44.55**	**163**	P	**P**	**16 44 55.2**	**-3.3**
ASAR	**Alice Springs**	**44.55**	**163**	P	**P**	**16 44 57.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=345,slow=6.8,SNR=24						
ASAR				PcP	**PcP**

CHCP Chirah Chowk 3.75 164 P **Pn 16 46 52.9 -3.4**
NIL Nilore 3.76 164 PN **Pn 16 46 52.7 -3.7**
NIL Nilore 3.76 164 Pn **Pn 16 46 52.7 -3.7**
KSH Kashi 3.85 53 P Pn 16 46 50.4 -7.1
KSH S Sn 16 47 30.4 -14
KSH smax smax
comp=N,880nm,0.4s
KSH smax smax
comp=E,1μm,0.4s
THW Thamme Wali 4.47 183 P **Pn 16 47 01.0 -4.3**
AML Almayashu 5.03 15 P **Pn 16 47 09.7 -2.9**
SNR=326
MRKS Merke 5.55 9 *e*P **Pn 16 47 17.8 -1.2**
34nm,0.3s
MRKS *e*S Sn 16 48 15.6 -7.8
137nm,0.6s
MRKS Merke 5.55 9 *e*PN **Pn 16 47 17.8 -1.2**
EKS2 Erkin-Say 5.56 14 P **Pn 16 47 16.9 -2.1**
SNR=36
DZA Taraz 5.64 355 *e*P **Pn 16 47 18.9 -1.1**
102nm,0.2s
DZA *e*S **Sn 16 48 17.9 -7.4**
355nm,1.6s
DZA Taraz 5.64 355 *e*PN **Pn 16 47 18.9 -1.1**
AAK Ala-Archa 5.69 19 P **Pn 16 47 18.8 -2.1**
20nm,0.3s,baz=192,slow=5.6,SNR=52
AAK S Sn 16 48 14.5 -12
3.2nm,0.3s,baz=222,slow=9.5,SNR=5.8
AAK Ala-Archa 5.69 19 P **Pn 16 47 18.9 -2.1**
SNR=34
AAK Ala-Archa 5.69 19 ⇓P **Pn 16 47 18.6 -2.3**
37nm,0.5s
AAK ⇓S **Sn 16 48 22.0 -4.8**
110nm,0.8s
AAK Ala-Archa 5.69 19*d i*PN **Pn 16 47 18.6 -2.3**
AAK pmax pmax
comp=Z,86nm,0.5s
AAK Ala-Archa 5.69 19 Pn **Pn 16 47 18.3 -2.6**
KBK Karagaybulak 5.84 22 P **Pn 16 47 21.0 -1.8**
SNR=22
FRU1 Bishkek 5.89 19 PN **Pn 16 47 21.5 -1.9**
FRU1 Bishkek 5.89 19 **Pn 16 47 21.4 -1.9**
KK31 Karatay Array 5.93 349 ⇑P Pn 16 47 16.9 -7.0
comp=Z,18nm,0.6s,baz=160,slow=12
KK31 ⇑S Sn 16 48 23.5 -8.7
comp=Z,119nm,0.5s,baz=162,slow=23
KK31 Karatay Array 5.93 349 PN **Pn 16 47 20.7 -3.2**
KK31 Karatay Array 5.93 349 **Pn 16 47 20.7 -3.2**
KKAR Karatay Array 5.93 349 PN **Pn 16 47 20.6 -3.2**
KKAR Karatay Array 5.93 349 Pn **Pn 16 47 20.6 -3.2**
ULHL Ulahol 5.95 32 P **Pn 16 47 21.5 -2.8**
SNR=23
BOOM Boomskoye usch 6.03 29 PN **Pn 16 47 22.3 -3.0**
BOOM Boomskoye usch 6.03 29 **Pn 16 47 22.3 -3.0**
CHMS Chumysh 6.10 19 P **Pn 16 47 24.0 -2.0**
SNR=19
TKM2 Tokmak 2 6.28 25 P **Pn 16 47 26.4 -2.1**
SNR=9.6
TKM2 Tokmak 2 6.28 25 ⇓P **Pn 16 47 25.9 -2.6**
comp=Z,21nm,0.6s
TKM2 ⇓S **Sn 16 48 36.6 -4.1**
comp=Z,27nm,0.8s
TKM2 Tokmak 2 6.28 25 PN **Pn 16 47 25.9 -2.6**
TKM2 S **Sn 16 48 36.6 -4.1**
USP Ospenovka 6.29 17 P **Pn 16 47 26.8 -1.6**
SNR=13
SGDS Sogindy 6.49 17 *e*PN **Pn 16 47 27.9 -3.2**
SGDS pmax pmax
comp=Z,2.0nm,0.3s
KST Kastek 6.52 27 *e*P Pn 16 47 43.4 +12
comp=Z,20nm,0.5s
KST *e*S Sn 16 49 01.6 +16
comp=Z,38nm,1.0s
DGS Degeres 6.63 25 *e*P Pn 16 47 44.6 +12
comp=Z,32nm,0.4s
DGS *e*S Sn 16 49 04.1 +15
comp=Z,20nm,0.9s
IZV Izvestkoviy 6.76 30 *e*P Pn 16 47 48.4 +14
comp=Z,18nm,0.9s
IZV *e*S Sn 16 49 11.3 +20
comp=Z,26nm,0.8s
MDOK Medeo 7.04 32 *e*P Pn 16 47 51.6 +13
comp=Z,8.8nm,0.3s
MDOK *e*S Sn 16 49 16.2 +18
comp=Z,14nm,0.9s
MDOK Medeo 7.04 32 P **Pn 16 47 35.2 -3.1**
MDOK S **Sn 16 49 01.9 +3.5**
MDOK Medeo 7.04 32 PN **Pn 16 47 35.2 -3.1**
MDOK S **Sn 16 49 01.9 +3.5**
PRZ Przheval'sk 7.17 41 PN **Pn 16 47 38.0 -2.0**
PRZ Przheval'sk 7.17 41 Pn **Pn 16 47 38.0 -2.0**
KTBS Karatobe 7.36 28 *e*P Pn 16 47 53.5 +11
comp=Z,5.1nm,0.5s
KTBS *e*S Sn 16 49 20.0 +14
comp=Z,15nm,1.2s
KUU Kurty 7.39 25 *e*P Pn 16 47 56.4 +14
comp=Z,4.4nm,0.6s
KUU *e*S Sn 16 49 25.0 +18
comp=Z,23nm,0.7s
SMLA Simla 7.48 144 *e*P **Pn 16 47 40.2 -3.7**
SMLA *e*S Sn 16 48 58.0 -11
SMLA IAML 16 49 03.0
comp=E,190nm,0.1s
SMLA IAML 16 49 03.2
comp=N,296nm,0.6s
SATY Saty 7.58 38 *e*P Pn 16 48 03.2 +18
comp=N,16nm,0.8s
SATY *e*S Sn 16 49 37.4 +26
comp=N,18nm,0.6s
CHKK Chushkaly 7.59 28 *e*P Pn 16 48 01.1 +16
comp=N,4.8nm,0.4s
CHKK *e*S Sn 16 49 34.2 +23
comp=N,5.9nm,0.4s
KURS Kuram 7.79 35 *e*P Pn 16 48 06.2 +18
comp=N,12nm,0.8s
KURS *e*S Sn 16 49 42.6 +27
comp=N,12nm,0.8s
UZB Uzynbulak 7.96 40 *e*PN **Pn 16 47 47.7 -2.6**
UZB pmax pmax
comp=Z,11nm,0.6s
SHLS Shalkode 8.20 42 *e*PN **Pn 16 47 54.1 +0.7**
SHLS pmax pmax
comp=Z,14nm,0.8s
ARXS Arharly 8.23 31 *e*P Pn 16 48 11.4 +18
comp=Z,17nm,0.6s
ARXS *e*S Sn 16 49 52.4 +26
comp=Z,13nm,0.5s
PDGK Podgornoye 8.33 41 ⇓P **Pn 16 47 52.5 -2.6**
comp=Z,35nm,0.7s
PDGK ⇑S Sn 16 49 46.7 +18
comp=Z,23nm,1.2s
PDGK Podgornoye 8.33 41 PN **Pn 16 47 52.5 -2.6**
HRA Herat 8.42 253 Pn **Pn 16 47 52.5 -4.0**
DDI Dehra Dun 8.57 142 *e*S Sn 16 49 25.0 -10
KUDL Kundal 9.86 156 *e*P Pn 16 48 08.9 -6.0
KUDL *e*S Sn 16 49 46.0 -19
GEYT Alibeck 11.03 278 P Pn 16 48 24.2 -5.8
comp=Z,3.6nm,0.3s,baz=130,slow=9.8,SNR=22
GEYT S Sn 16 50 19.9 -13
comp=Z,3.9nm,0.3s,baz=151,slow=19,SNR=4.7
GYA0B ALIBECK ARRAY 11.03 278 Pn Pn 16 48 24.0 -6.0
MAKZ Makanchi 12.07 35 ⇑P **Pn 16 48 39.2 -3.9**
comp=Z,12nm,1.1s
MAKZ ⇑S S 16 51 56.3 +59
comp=Z,3.5nm,1.4s
MAKZ Makanchi 12.07 35 P **Pn 16 48 39.9 -3.2**
MAKZ Makanchi 12.07 35 Pn **Pn 16 48 39.9 -3.2**
MK31 Makanchi Array 12.20 36 ⇑P **Pn 16 48 43.5 -1.4**
comp=Z,3.8nm,0.8s
MK31 ⇓S S 16 51 47.7 +47
comp=Z,2.1nm,0.8s
MK31 Makanchi Array 12.20 36⇑*e*P **Pn 16 48 42.7 -2.1**
MK31 Makanchi Array 12.20 36 Pn **Pn 16 48 43.1 -1.7**
MKAR Makanchi Array 12.20 36 P **Pn 16 48 42.8 -2.1**
comp=Z,0.3nm,0.3s,baz=223,slow=14,SNR=29
MKAR Makanchi Array 12.20 36 *i* P **Pn 16 48 42.7 -2.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 12.20 36 Pn **Pn 16 48 42.5 -2.4**
DANN Dangsing 13.30 129 *e*Pn **Pn 16 48 55.9 -3.2**
DANN *e*Sn S 16 51 13.0 -14
comp=Z,35nm,0.4s
WMQ Urumqi 13.61 56 *e*P **P 16 49 03.5 -1.4**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,130nm,3.9s
GKN Gorkha 14.09 127 *e*Pn **Pn 16 49 06.5 -2.3**
GKN *e*Sn S 16 51 31.3 -14
comp=Z,50nm,0.3s
KURBB Kurchatov Arra 14.14 17 P **Pn 16 49 05.9 -3.1**
comp=Z,0.0nm,0.3s,baz=205,slow=12,SNR=8.8
KURBB Kurchatov Arra 14.14 17 ⇓P **P 16 49 10.3 -0.4**
comp=Z,4.1nm,0.6s
KURBB Kurchatov Arra 14.14 17 P **P 16 49 10.3 -0.4**
KKN Kakani 14.65 126 *e*Pn **Pn 16 49 13.5 -2.2**
KKN *e*Sn S 16 51 46.4 -12
DMN Daman 14.66 127 *e*Pn **Pn 16 49 13.4 -2.5**
DMN *e*Sn S 16 51 45.1 -14
comp=Z,26nm,0.4s
BHPL Bhopal 14.75 160 *e*S S 16 51 45.3 -15
AB31 Akbulak array 14.82 328 ⇓P **P 16 49 15.7 -2.5**
comp=Z,3.0nm,0.5s
AB31 ⇑S S 16 51 48.2 -14
comp=Z,4.6nm,0.5s
AB31 Akbulak array 14.82 328 P **P 16 49 15.7 -2.5**
AB31 S S 16 51 48.2 -14
ABKAR Akbulak array 14.82 328 **Pn 16 49 14.4 -3.0**
PKIN Phulchoki 14.87 127 *e*Pn **Pn 16 49 15.9 -2.6**
PKIN *e*Sn S 16 51 50.7 -13
comp=Z,34nm,0.5s
PKI Pulchoki 14.88 127 *e*Pn **Pn 16 49 16.3 -2.4**
PKI *e*Sn S 16 51 51.2 -13
comp=Z,25nm,0.5s
BVAR Borovoye Array 15.79 356 P **Pn 16 49 28.2 -1.0**
comp=Z,0.4nm,0.3s,baz=144,slow=11,SNR=6.8
BRVK Borovoye 15.83 356⇓*e*P **Pn 16 49 28.6 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
AKTO Aktyubinsk 16.54 327 P **Pn 16 49 36.6 -1.4**
comp=Z,2.1nm,0.3s,baz=144,slow=8.7,SNR=22
AKTO S **S 16 52 32.3 -7.4**
comp=Z,0.3nm,0.3s,baz=336,slow=23,SNR=3.9
AKTO Aktyubinsk 16.54 327 ⇑P **Pn 16 49 36.9 -1.1**
comp=Z,6.7nm,0.7s
AKTO ⇓S **S 16 52 32.7 -7.1**
comp=Z,6.6nm,0.8s
DGZ Jazzator, Alta 16.69 37*c i*P **Pn 16 49 39.2 -0.8**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
WSAR Wadi Sarin 18.10 223 P **P 16 49 50.1 -4.5**
comp=Z,0.1nm,0.3s,baz=344,slow=2.6,SNR=1.7
ZAA0 Zalesovo Array 18.89 24 P **Pn 16 50 02.9 -2.7**
ZALV Zalesovo Beam 18.89 24 P **Pn 16 50 02.7 -3.0**
comp=Z,1.1nm,0.3s,baz=217,slow=10,SNR=17
ZALV Zalesovo Beam 18.89 24 *i* P **Pn 16 50 03.7 -2.0**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV Zalesovo Beam 18.89 24 P **Pn 16 50 02.5 -3.2**
ARU Arti 21.18 339 P **P 16 50 27.0 -0.1**
comp=Z,2.2nm,0.5s,baz=175,slow=8.7,SNR=10
ARU Arti 21.18 339*c i*P **P 16 50 27.3 +0.2**
ARU 16 51 02.2
ARU S **S 16 54 12.4 +2.3**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 21.18 339 P **P 16 50 26.7 -0.4**
ARU IAmb IAmb 16 50 30.3
comp=Z,7.7nm,0.7s
GTA Gaotai 21.90 76 ⇑P **P 16 50 37.6 +2.8**
GTA pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 22.80 319 P **P 16 50 43.1 +0.3**
comp=Z,14nm,0.7s,baz=189,slow=9.0,SNR=5.8
BELG LR LR 17 01 09.7
comp=Z,51nm,21.0s,baz=125,slow=40
KBZ Khabaz 22.97 295⇑*e*P **P 16 50 46.3 +1.9**
KBZ pmax pmax
comp=Z,10.0nm,2.5s
KIV Kislovodsk 23.15 296 *e*P **P 16 50 47.0 +0.8**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIRV Kirov 25.91 333 P **P 16 51 11.6 +0.8**
comp=Z,9.8nm,0.6s,baz=88,slow=5.3,SNR=4.3
KIRV Kirov 25.91 333⇓*e*P **P 16 51 10.5 -0.3**
SONM Songino Array 27.25 56 P **P 16 51 25.1 +2.0**
comp=Z,1.2nm,1.0s,baz=263,slow=10.0,SNR=3.3
SONM Songino Array 27.25 56 P **P 16 51 25.1 +2.0**
SONM pmax pmax
comp=Z,2.0nm,1.4s
KMI Kunming 28.83 106 ⇑P P 16 51 41.5 +4.1
KMI pmax pmax
comp=Z,15nm,0.6s
OBN Obninsk 29.88 318⇓*e*P **P 16 51 47.5 +1.4**
OBN *e* 16 52 51.9
OBN pmax pmax
comp=Z,6.0nm,0.6s
BR131 Keskin Array S 29.96 287 P **P 16 51 48.5 +1.2**
BR131 pmax pmax
comp=Z,7.0nm,1.0s
BR131 Keskin Array S 29.96 287 P **P 16 51 48.5 +1.2**
BR131 IAmb IAmb 16 51 51.4
comp=Z,6.5nm,1.0s
BRTR Keskin Array B 29.96 287 P **P 16 51 48.0 +0.8**
comp=Z,1.4nm,0.6s,baz=122,slow=2.6,SNR=5.3
BRTR Keskin Array B 29.96 287*ce*P P 16 51 48.9 +1.6
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 29.96 287 P **P 16 51 48.6 +1.4**
HHC Hu-ho-hao-te 30.75 71 *e*P **P 16 51 56.7 +2.5**
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.5s
KLMR Klimovskoe 31.21 330 *e*P **P 16 51 57.8 +0.1**
KLMR pmax pmax
comp=Z,4.0nm,0.7s
KLMR Klimovskoe 31.21 330 *e*P **P 16 51 57.8 +0.1**
KLMR AMP 16 51 58.9
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 33.09 308 P **P 16 52 14.8 +0.6**
comp=Z,3.7nm,0.6s,baz=80,slow=7.1,SNR=11
AKASG Malin Array Be 33.09 308 P **P 16 52 14.9 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 33.09 308 P **P 16 52 14.9 +0.6**
AKBB Malin Array Si 33.09 308⇓*e*P **P 16 52 15.3 +1.1**
AKBB Malin Array Si 33.09 308 P **P 16 52 14.9 +0.6**
AKBB IAmb IAmb 16 52 15.9
comp=Z,3.9nm,0.8s
NRIK Noril'sk 33.23 10 P **P 16 52 17.1 +1.9**
comp=Z,3.6nm,0.6s,baz=204,slow=7.0,SNR=8.8
NRIK Noril'sk 33.23 10⇑*e*P **P 16 52 17.3 +2.1**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 33.23 10 P **P 16 52 15.1 -0.1**
NRIK IAmb IAmb 16 52 18.3
comp=Z,3.7nm,0.7s
ELL Elmali 33.41 282 P P 16 52 18.9 +1.6
ELL pmax pmax
comp=Z,34nm,0.8s
ELL Elmali 33.41 282 P P 16 52 18.9 +1.6
MLR Muntele Rosu 35.11 298 P **P 16 52 32.1 +0.3**
MLR pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 35.11 298 P **P 16 52 32.1 +0.3**
MLR IAmb IAmb 16 52 35.7
comp=Z,4.9nm,0.9s
FIA1 FINESS Array S 37.29 325 P **P 16 52 50.5 +0.6**
FIA1 IAmb IAmb 16 53 16.9
comp=Z,11nm,1.2s
FINES FINESS Array B 37.30 325 P **P 16 52 51.2 +1.3**
comp=Z,2.3nm,0.5s,baz=108,slow=9.8,SNR=15
FINES FINESS Array B 37.30 325 *i* P **P 16 52 51.4 +1.5**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 37.30 325 P **P 16 52 50.7 +0.7**
ARCES ARCESS Array B 40.74 337 P **P 16 53 19.7 +1.3**
comp=Z,8.7nm,1.1s,baz=117,slow=8.0,SNR=17
ARCES ARCESS Array B 40.74 337 *e*P **P 16 53 20.1 +1.7**
ARCES ARCESS Array B 40.74 337 P **P 16 53 20.0 +1.6**
ZEA Zeya 40.96 48 *e*P P 16 53 24.0 +3.6
KTK1 Kautokeino 41.24 336 *e*P **P 16 53 23.5 +1.1**
HAMF Hammerfest 41.80 338 *e*P **P 16 53 28.2 +1.2**
JETT Jettan, Norway 42.38 336 *e*P **P 16 53 31.3 -0.4**
BRG Berggiesshubel 42.78 308 *i* P **P 16 53 36.8 +1.7**
BRG Amp 16 53 37.6
comp=Z,4.1nm,0.6s
GSI Gunungsitoli 42.87 141 P **P 16 53 38.1 +1.8**
YAK Yakutsk 42.88 36*de*P **P 16 53 36.5 +0.8**
YAK pmax pmax
comp=Z,7.0nm,0.6s
TRO Tromso 42.89 336 *e*P **P 16 53 36.5 +0.8**
SGRT San Giovanni R 42.97 294 P **P 16 53 37.6 +0.7**
GEC2 GERESS Array S 43.14 305 P **P 16 53 39.9 +1.7**
GERES GERESS Array B 43.14 305 P **P 16 53 39.2 +1.0**
comp=Z,0.2nm,0.4s,baz=49,slow=6.2,SNR=2.0
KHC Kasperske Hory 43.18 305 P P 16 53 40.9 +2.4
KHC pmax pmax
comp=Z,6.0nm,1.5s
KHC Kasperske Hory 43.18 305 *e*P **P 16 53 36.0 -2.5**
KHC Kasperske Hory 43.18 305 P P 16 53 40.9 +2.4
CLL Collm 43.33 308 *e*P **P 16 53 41.0 +1.4**
CLL Collm 43.33 308 *e*P **P 16 53 41.0 +1.4**
NC405 NORSAR Array S 44.01 323 P **P 16 53 44.7 -0.2**
NC405 IAmb IAmb 16 53 49.0
comp=Z,14nm,1.4s
NC602 NORSAR Array S 44.07 322 *e*P **P 16 53 46.0 +0.7**
NC602 NORSAR Array S 44.07 322 P **P 16 53 45.7 +0.4**
NORES NORESS Array B 44.07 322 P **P 16 53 46.4 +1.1**
NC303 NORSAR Array S 44.19 323 P **P 16 53 47.5 +1.3**
NC303 IAmb IAmb 16 53 48.2
comp=Z,7.2nm,0.6s
NB201 NORSAR Array S 44.21 323 P **P 16 53 47.4 +1.0**
NB2 NORSAR Subarra 44.25 323 P **P 16 53 47.5 +0.7**
comp=Z,2.2nm,0.5s,baz=92,slow=7.9
NB2 NORSAR Subarra 44.25 323 P **P 16 53 47.5 +0.7**
baz=92,slow=7.9
NOA NORSAR Array B 44.25 323 P **P 16 53 47.1 +0.3**
comp=Z,3.9nm,0.7s,baz=95,slow=7.7,SNR=25
LOF Lofoten 44.32 333 *e*P **P 16 53 47.5 +0.4**
OSL Oslo 44.43 321 *e*P **P 16 53 48.9 +0.7**
HOPEN Hopen 44.44 346 *e*P **P 16 53 48.4 +0.4**
NBO00 NORSAR Array S 44.46 322 P **P 16 53 47.6 -0.8**
NC204 NORSAR Array S 44.48 323 P **P 16 53 49.3 +0.6**
TIXI Tiksi 44.76 22*ce*P **P 16 53 52.1 +1.5**
TIXI Tiksi 44.76 22 P **P 16 53 51.8 +1.2**
TIXI IAmb IAmb 16 53 53.0
comp=Z,5.6nm,0.8s
BJO1 Bjornoya 44.77 342 *e*P **P 16 53 51.8 +1.2**
MURB Monte Urbino 44.94 297 P P 16 53 55.0 +2.5
MURB IAmb IAmb 16 53 56.2
comp=Z,8.8nm,0.7s
KONO Kongsberg 44.99 320 P **P 16 53 53.5 +0.9**
KONO pmax pmax
comp=Z,7.0nm,0.8s
KONO Kongsberg 44.99 320 *e*P **P 16 53 53.6 +0.9**
KONO Kongsberg 44.99 320 P **P 16 53 53.5 +0.9**
KONO IAmb IAmb 16 53 54.3
comp=Z,6.6nm,0.8s
DOMB Dombas 45.34 324 *e*P **P 16 53 56.0 +0.7**
SKAR Skarslia 45.66 322 *e*P **P 16 53 58.0 +0.2**
HSPB Hornsund (broa 46.60 345 *e*P **P 16 54 05.7 +0.8**
MSSA Maissana 46.80 299 P **P 16 54 08.1 +1.0**
SPITS Spitsbergen Ar 46.93 347 P **P 16 54 09.6 +2.1**
SPITS pmax pmax
comp=Z,12nm,1.2s
SENIN Lac Senin/Sane 47.84 302 P **P 16 54 16.1 +0.8**
SENIN IAmb IAmb 16 54 17.1
comp=Z,3.6nm,0.7s
KBS Kingsbay 48.04 347 P **P 16 54 17.9 +1.9**
KBS pmax pmax
comp=Z,5.0nm,0.8s
KBS Kingsbay 48.04 347 P **P 16 54 17.9 +1.9**
KBS IAmb IAmb 16 54 19.0
comp=Z,4.8nm,0.8s
KEST Kesra 49.55 288 P **P 16 54 29.0 +0.8**
comp=Z,1.7nm,0.5s,baz=10,slow=9.9,SNR=4.7
KEST Kesra 49.55 288 IAmb IAmb 16 54 30.5
comp=Z,5.4nm,1.1s
KMBO Kilima Mbogo 49.94 228 *i* P P 16 54 33.7 +2.2
EKA Eskdalemuir Ar 52.29 316 P **P 16 54 49.3 +1.1**
SEY Seymchan 53.34 34⇑*e*P **P 16 54 57.2 +1.5**
COCO West Island 54.46 150 *i* P **P 16 55 06.0 +1.6**
ESBB Sonseca Array 57.80 298 P **P 16 55 28.7 +0.8**
ESBB IAmb IAmb 16 55 30.0
comp=Z,4.2nm,0.8s
ESDC Sonseca Array 57.80 298 P **P 16 55 29.3 +1.3**
comp=Z,2.5nm,0.6s,baz=55,slow=7.5,SNR=30
ESDC Sonseca Array 57.80 298 P **P 16 55 28.9 +0.9**
PAB San Pablo 58.12 298 P **P 16 55 31.5 +1.3**
PAB pmax pmax
comp=Z,10.0nm,1.5s
PAB San Pablo 58.12 298 P **P 16 55 31.5 +1.3**
SUMG Summit 60.59 341 P **P 16 55 48.4 +1.5**
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 60.59 341 P **P 16 55 48.4 +1.5**
SUMG IAmb IAmb 16 55 50.2
comp=Z,4.7nm,0.9s
VOI Vohitsoka 63.47 206 P **P 16 56 06.7 +0.3**
TOA0 Torodi Ar. Sit 66.53 269 P **P 16 56 25.6 -0.6**
TOA0 IAmb IAmb 16 56 29.6
comp=Z,8.9nm,1.4s
TORD Torodi Ar. Bea 66.53 269 P **P 16 56 25.1 -1.1**
comp=Z,0.8nm,0.4s,baz=50,slow=6.3,SNR=13
TORD Torodi Ar. Bea 66.53 269 P **P 16 56 25.4 -0.8**
NRS Narsarsuaq 69.55 333 P **P 16 56 45.2 +1.0**
NRS pmax pmax
comp=Z,14nm,0.8s
NRS Narsarsuaq 69.55 333 P **P 16 56 45.2 +1.0**
TOLK Toolik Lake Re 69.97 15 P **P 16 56 48.6 +1.8**
TOLK IAmb IAmb 16 56 49.8
comp=Z,4.0nm,0.9s
FYU Fort Yukon 72.62 15 P **P 16 57 03.3 +0.7**
FYU IAmb IAmb 16 57 32.2
comp=Z,6.7nm,1.3s
MLY Manley 72.71 18 P **P 16 57 03.7 +0.5**
KIWB Kanaga Island 72.73 37 P **P 16 57 04.7 +1.2**
INK Inuvik 73.01 10 P **P 16 57 06.8 +2.0**
comp=Z,2.4nm,0.5s,baz=326,slow=6.8,SNR=12
INK Inuvik 73.01 10 P **P 16 57 06.6 +1.8**
INK IAmb IAmb 16 57 07.4
comp=Z,3.0nm,0.7s
C36M Paulatuk 73.03 6 P **P 16 57 06.5 +1.6**
MDM Murphy Dome 73.36 17 P **P 16 57 09.0 +2.0**
NEA2 Nenana 73.47 17 P **P 16 57 08.7 +1.1**
COLA College 73.51 17*de*P **P 16 57 09.6 +1.8**
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 73.82 16 P **P 16 57 10.3 +0.6**
comp=Z,1.1nm,0.9s,baz=322,slow=5.0,SNR=9.3
ILAR Eielson Array 73.82 16 P **P 16 57 10.6 +0.9**
ILAR Eielson Array 73.82 16 P **P 16 57 10.6 +0.9**
PPLA Purkeypile 74.10 19 P **P 16 57 13.1 +1.6**
PPLA IAmb IAmb 16 57 13.9
comp=Z,3.0nm,0.5s
TRF Thorofare Moun 74.13 18 P **P 16 57 13.0 +1.3**
TRF IAmb IAmb 16 57 30.3
comp=Z,8.4nm,1.4s
MCK McKinley 74.23 18 P **P 16 57 13.3 +1.2**
MCK pmax pmax
comp=Z,3.0nm,0.6s
MCK McKinley 74.23 18 P **P 16 57 13.3 +1.2**
MCK IAmb IAmb 16 57 14.3
comp=Z,3.0nm,0.6s
RND Reindeer 74.52 18 P **P 16 57 14.2 +0.4**
RND pmax pmax
comp=Z,6.0nm,1.3s
RND Reindeer 74.52 18 P **P 16 57 14.2 +0.4**
RND IAmb IAmb 16 57 27.1
comp=Z,6.0nm,1.3s
SKT Skwentna 75.03 20 P **P 16 57 18.4 +1.8**
SKT IAmb IAmb 16 57 19.0
comp=Z,4.1nm,0.6s
SCRK Sand Creek 75.14 16 P **P 16 57 18.5 +1.1**
DOT Dot Lake 75.42 16 P **P 16 57 19.3 +0.4**
SML Sawmill 76.00 18 P **P 16 57 23.7 +1.4**
SML Sawmill 76.00 18 P **P 16 57 23.7 +1.4**
SCM Sheep Creek Mo 76.23 18 P **P 16 57 25.1 +1.5**
SCM pmax pmax
comp=Z,4.0nm,0.6s
SCM Sheep Creek Mo 76.23 18 P **P 16 57 25.1 +1.5**
SCM IAmb IAmb 16 57 25.6
comp=Z,4.0nm,0.6s
BCAR Beaver Creek A 76.42 15 P **P 16 57 26.6 +2.1**
N25K Chitina, Valde 77.09 17 P **P 16 57 29.8 +1.4**
N25K IAmb IAmb 16 57 55.3
comp=Z,6.1nm,1.2s
MORW Morawa 77.85 141 P **P 16 57 32.9 +0.1**
MORW IAmb IAmb 16 57 44.9
comp=Z,9.7nm,1.1s
HYT Haines Junctio 79.31 14 P **P 16 57 42.7 +2.0**
HYT IAmb IAmb 16 57 46.9
comp=Z,3.0nm,0.7s

WHY	**Whitehorse**	**79.96**	**13**	P	**P**	**16 57 46.4**	**+2.3**
WHY				IAmb	IAmb	16 58 15.7	
	comp=Z,5.9nm,0.7s						
YKA	**Yellowknife Ar**	**80.44**	**3**	P	**P**	**16 57 48.4**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=354,slow=5.1,SNR=6.3						
WRA	**Warramunga Arr**	**81.73**	**123**	P	**P**	**16 57 54.0**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=328,slow=4.6,SNR=6.1						
WRA	**Warramunga Arr**	**81.73**	**123**	*i* P	**P**	**16 57 54.4**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**84.05**	**126**	P	**P**	**16 58 05.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=305,slow=5.4,SNR=5.9						

*TAP **12** 16:58:29.9,22°.42N×121°.41E,h20km,ML3.5,C*
*JMA **12** 16:58:30.0±0.1,22°.53N×121°.50E,h17km±3km,M3.5*
ISC 12 16:58:29.8±1.0,**22°.41N**±0°.02×**121°.46E**±0°.02,**h24**km±8km,
n107,σ1º**13**/197,**1C-5D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.26**	**1**	⇑*i*P	**Pb**	**16 58 36.3**	**+0.1**
	baz=22						
LDUT				*i* S	**Sb**	**16 58 41.1**	**+0.6**
	baz=22						
LAY	**Lan-yu**	**0.38**	**168**	*i* P	**Pb**	**16 58 38.1**	**+0.1**
	baz=160						
LAY				S	**Sb**	**16 58 44.1**	**+0.5**
	baz=160						
TTN	**Taitung**	**0.45**	**319**	*i* P	**Pb**	**16 58 39.5**	**+0.4**
	baz=332						
TTN				S	**Sb**	**16 58 46.2**	**+0.7**
	baz=332						
ECL	**Taimali**	**0.51**	**291**	⇓*i*P	**Pb**	**16 58 39.0**	**-1.1**
	baz=293						
ECL				S	**Sb**	**16 58 46.1**	**-1.0**
	baz=293						
TAW	**Tawu**	**0.53**	**264**	*i* P	**Pb**	**16 58 39.3**	**-1.2**
	baz=262						
TAW				*i* S	**Sb**	**16 58 45.8**	**-1.9**
	baz=262						
TWGBT	**Beinan**	**0.54**	**319**	P	**Pb**	**16 58 40.0**	**-0.6**
	baz=309						
TWGBT				*e*S	**Sb**	**16 58 48.0**	**0.0**
	baz=309						
TWG	**Pinlang**	**0.55**	**318**	⇓*i*P	**Pb**	**16 58 40.1**	**-0.7**
	baz=309						
TWG				S	**Sb**	**16 58 48.3**	**+0.1**
	baz=309						
EAST	**Anshuo**	**0.57**	**267**	⇓*i*P	**Pb**	**16 58 40.0**	**-1.2**
	baz=265						
EAST				S	**Sb**	**16 58 47.3**	**-1.7**
	baz=265						
EDH	**Donghe**	**0.58**	**345**	*i* P	**Pb**	**16 58 40.8**	**-0.6**
EDH				*i* S	**Sb**	**16 58 49.2**	**+0.1**
LONT	**Longtian**	**0.58**	**328**	*i* P	**Pb**	**16 58 41.1**	**-0.3**
	baz=314						
SLIU	**Shizi**	**0.65**	**253**	*i* P	**Pb**	**16 58 41.2**	**-1.3**
	baz=250						
SLIU				S	**Sb**	**16 58 48.8**	**-2.3**
	baz=250						
CHKT	**Chengkung**	**0.69**	**352**	*i* P	**Pb**	**16 58 42.5**	**-0.7**
	baz=6.0						
CHKT				S	**Sb**	**16 58 51.8**	**-0.6**
	baz=6.0						
ECS	**Chishang**	**0.72**	**342**	*i* P	**Pn**	**16 58 43.8**	**-0.7**
	baz=329						
ECS				S	**Sn**	**16 58 54.0**	**-0.7**
	baz=329						
TSEB	**Hengchuen, Pin**	**0.73**	**226**	*e*P	**Pb**	**16 58 43.9**	**+0.1**
	baz=234						
TSEB				*i* S	**Sb**	**16 58 53.7**	**+0.2**
	baz=234						
TWKBT	**Hengchun**	**0.76**	**232**	P	**Pb**	**16 58 43.6**	**-0.9**
	baz=229						
TWKBT				S	**Sb**	**16 58 53.3**	**-1.1**
	baz=229						
SCZT	**Fangliau**	**0.78**	**267**	*i* P	**Pb**	**16 58 43.4**	**-1.4**
	baz=266						
SCZT				S	**Sb**	**16 58 52.7**	**-2.2**
	baz=266						
HEN	**Hengchun**	**0.79**	**239**	*i* P	**Pb**	**16 58 44.2**	**-0.6**
	baz=226						
HEN				*i* S	**Sb**	**16 58 53.7**	**-1.3**
	baz=226						
MASBT	**Mashibuluo**	**0.79**	**285**	⇓P	**Pb**	**16 58 43.5**	**-1.5**
	baz=285						
MASBT				*e*S	**Sb**	**16 58 54.0**	**-1.3**
	baz=285						
FULB	**Fuli**	**0.80**	**349**	*i* P	**Pb**	**16 58 44.3**	**-0.8**
	baz=336						
FULB				*i* S	**Sn**	**16 58 56.0**	**-0.7**
	baz=336						
SNW	**Nanwan**	**0.80**	**236**	*e*P	**Pb**	**16 58 43.9**	**-1.1**
	baz=223						
SNW				*i* S	**Sb**	**16 58 55.0**	**-0.5**
	baz=223						
TSMG	**Majia**	**0.81**	**291**	*i* P	**Pb**	**16 58 43.9**	**-1.4**
	baz=292						
SSPT	**Xinbi**	**0.83**	**275**	*i* P	**Pb**	**16 58 44.9**	**-0.7**
	baz=275						
SSPT				*e*S	**Sb**	**16 58 54.9**	**-1.5**
	baz=275						
SSD	**Sandimen**	**0.84**	**294**	⇓*i*P	**Pb**	**16 58 44.1**	**-1.6**
	baz=294						
ELDTW	**Lidau**	**0.88**	**332**	*i* P	**Pb**	**16 58 44.8**	**-1.6**
	baz=323						
TSPT	**Pingtung City**	**0.93**	**287**	P	**Pn**	**16 58 47.9**	**+0.5**
	baz=282						
TSPT				*e*S	**Sn**	**16 58 59.8**	**-0.1**
	baz=282						
EYUL	**Yuli**	**0.94**	**352**	*i* P	**Pn**	**16 58 47.2**	**-0.3**
	baz=340						
EYUL				S	**Sn**	**16 59 00.4**	**+0.2**
	baz=340						
TWF1	**Yuli**	**0.95**	**351**	*i* P	**Pb**	**16 58 46.4**	**-1.2**
	baz=340						
TWF1				S	**Sn**	**16 59 00.9**	**+0.5**
	baz=340						
SLGT	**Liugui**	**0.95**	**308**	*i* P	**Pb**	**16 58 47.2**	**-0.4**
	baz=309						
SLGT				*e*S	**Sb**	**16 58 59.3**	**-0.6**
	baz=309						
SGLT	**Jiouru**	**0.95**	**289**	*i* P	**Pb**	**16 58 47.3**	**-0.3**
	baz=290						
SGLT				*e*S	**Sn**	**16 58 59.9**	**-0.5**
	baz=290						
STYH	**Taoyuan**	**0.99**	**320**	*i* P	**Pb**	**16 58 47.1**	**-1.1**
	baz=322						
STYH				*e*S	**Sb**	**16 58 59.5**	**-1.3**
	baz=322						
YULB	**Yu-li**	**0.99**	**351**	P	**Pb**	**16 58 47.1**	**-1.2**
	baz=341						
STYT	**Tauyuan**	**0.99**	**319**	*i* P	**Pb**	**16 58 47.1**	**-1.3**
	baz=330						
WLCH	**Liuqiu**	**1.01**	**267**	*i* P	**Pn**	**16 58 50.3**	**+2.0**
	baz=255						
WLCH				*e*S	**Sn**	**16 59 03.3**	**+1.6**
	baz=255						
SCST	**Cishan**	**1.01**	**298**	*i* P	**Pb**	**16 58 48.3**	**-0.4**
	baz=299						
SCST				*e*S	**Sn**	**16 59 02.9**	**+0.9**
	baz=299						
TWP	**Hsiaoliuchiu**	**1.02**	**267**	*i* P	**Pn**	**16 58 50.5**	**+2.0**
	baz=255						
TWP				S	**Sn**	**16 59 03.6**	**+1.5**
	baz=255						
TWM1	**Shoushan**	**1.05**	**293**	*i* P	**Pn**	**16 58 49.3**	**+0.3**
	baz=297						
TWM1				*e*S	**Sn**	**16 59 04.6**	**+1.8**
	baz=297						
SGST	**Jiashian**	**1.05**	**310**	*i* P	**Pb**	**16 58 48.2**	**-1.2**
	baz=311						
SGST				*e*S	**Sn**	**16 59 03.3**	**+0.4**
	baz=311						
HGSD	**Ruisui**	**1.08**	**358**	P	**Pb**	**16 58 48.1**	**-1.6**
	baz=9.0						
KAU	**Kaohsiung**	**1.08**	**278**	P	**Pn**	**16 58 50.5**	**+1.1**
	baz=277						
KAU				*e*S	**Sn**	**16 59 05.8**	**+2.2**
	baz=277						
EHY	**Hungye**	**1.10**	**353**	*i* P	**Pb**	**16 58 48.8**	**-1.3**
	baz=343						
SNJT	**Kaohsiung City**	**1.10**	**288**	P	**Pn**	**16 58 51.5**	**+1.4**
	baz=288						
SNJT				S	**Sn**	**16 59 07.6**	**+3.6**
	baz=288						
WTP	**Ta-pu**	**1.14**	**317**	*i* P	**Pb**	**16 58 50.4**	**-0.5**
	baz=327						
WTP				S	**Sn**	**16 59 07.4**	**+2.1**
	baz=327						
CHN1	**Nanshi**	**1.16**	**312**	*i* P	**Pb**	**16 58 51.0**	**-0.1**
	baz=313						
CHN1				*i* S	**Sn**	**16 59 07.7**	**+2.1**
	baz=313						
TPUB	**Ta-pu**	**1.17**	**319**	P	**Pb**	**16 58 51.0**	**-0.4**
	baz=321						
TPUB				S	**Sn**	**16 59 06.4**	**+0.5**
	baz=321						
SNST	**Tainan City**	**1.20**	**312**	*i* P	**Pb**	**16 58 52.2**	**+0.4**
	baz=314						
SNST				*i* S	**Sn**	**16 59 09.0**	**+2.4**
	baz=314						
CHN3	**Shinhua**	**1.21**	**303**	*i* P	**Pb**	**16 58 53.7**	**+1.6**
	baz=304						
CHN3				S	**Sn**	**16 59 10.5**	**+3.7**
	baz=304						
CHN4	**Tsaushan**	**1.23**	**320**	*i* P	**Pb**	**16 58 52.2**	**-0.2**
	baz=321						
CHN4				*i* S	**Sn**	**16 59 10.1**	**+2.7**
	baz=321						
ALS	**Alishan**	**1.25**	**331**	*i* P	**Pn**	**16 58 52.1**	**+0.1**
	baz=325						
ALS				S	**Sn**	**16 59 10.4**	**+2.1**
	baz=325						
EGFH	**Guangfu**	**1.25**	**358**	*i* P	**Pn**	**16 58 51.9**	**+0.1**
	baz=347						
CHN5	**Tsauling**	**1.38**	**329**	*i* P	**Pb**	**16 58 54.6**	**-0.4**
	baz=331						
CHN5				S	**Sb**	**16 59 14.3**	**+2.0**
	baz=331						
ESL	**Shilin**	**1.40**	**359**	*i* P	**Pn**	**16 58 53.5**	**-0.2**
	baz=2.0						
ESL				S	**Sn**	**16 59 11.5**	**0.0**
	baz=2.0						
SCLT	**Jiali**	**1.40**	**303**	P	**Pb**	**16 58 54.6**	**-0.6**
	baz=304						
SCLT				*i* S	**Sb**	**16 59 13.2**	**+0.6**
	baz=304						
WHYT	**Xinyi Township**	**1.40**	**336**	*i* P	**Pb**	**16 58 55.4**	**+0.1**
	baz=346						
WHYT				S	**Sb**	**16 59 13.4**	**+0.7**
	baz=346						
CHN2	**Minshiung**	**1.44**	**321**	P	**Pb**	**16 58 55.5**	**-0.4**
	baz=323						
CHN2				*i* S	**Sb**	**16 59 15.0**	**+1.1**
	baz=323						
ICHU	**Yijhu**	**1.44**	**311**	*i* P	**Pb**	**16 58 55.3**	**-0.7**
	baz=312						
ICHU				*i* S	**Sb**	**16 59 13.9**	**-0.1**
	baz=312						
CHY	**Chiayi**	**1.45**	**319**	*i* P	**Pb**	**16 58 56.6**	**+0.6**
	baz=320						
CHY				*i* S	**Sb**	**16 59 15.2**	**+1.2**
	baz=320						
SSLB	**Suanglung**	**1.45**	**341**	P	**Pb**	**16 58 55.2**	**-0.9**
	baz=354						
SSLB				S	**Sb**	**16 59 15.2**	**+1.0**
	baz=354						
TEYL	**Yanliau Villag**	**1.46**	**5**	S	**Sb**	**16 59 14.9**	**+0.6**
	baz=18						
CHN8	**Yiju**	**1.48**	**309**	*i* P	**Pb**	**16 58 55.9**	**-0.8**
	baz=310						
CHN8				S	**Sb**	**16 59 15.2**	**+0.1**
	baz=310						
WGK	**Gukeng**	**1.52**	**327**	*i* P	**Pb**	**16 58 57.3**	**0.0**
	baz=329						
WGK				*i* S	**Sb**	**16 59 17.9**	**+1.8**
	baz=329						
WDLH	**Douliu**	**1.53**	**326**	*i* P	**Pb**	**16 58 57.4**	**-0.1**
	baz=328						
WDLH				*i* S	**Sb**	**16 59 17.6**	**+1.1**
	baz=328						
ETM	**Tongmen**	**1.55**	**1**	P	**Pn**	**16 58 55.6**	**-0.2**
	baz=352						
ETM				*e*S	**Sn**	**16 59 15.5**	**+0.3**
	baz=352						
SMLT	**Sun Moon Lake**	**1.55**	**341**	*i* P	**Pb**	**16 58 58.1**	**+0.2**
	baz=343						
SMLT				S	**Sb**	**16 59 18.8**	**+1.5**
	baz=343						
OWD	**Renai**	**1.56**	**350**	*i* P	**Pn**	**16 58 56.5**	**+0.4**
	baz=4.0						
OWD				S	**Sb**	**16 59 17.2**	**-0.2**
	baz=4.0						
WJS	**Zhushan**	**1.56**	**334**	*i* P	**Pb**	**16 58 58.2**	**+0.2**
	baz=337						
WJS				*i* S	**Sb**	**16 59 19.3**	**+2.0**
	baz=337						
HWA	**Hwalien**	**1.56**	**5**	*e*S	**Sb**	**16 59 18.0**	**+0.6**
	baz=18						
TYC	**Yuchr**	**1.59**	**340**	*i* P	**Pb**	**16 58 58.5**	**0.0**
	baz=342						
TYC				S	**Sb**	**16 59 19.7**	**+1.6**
	baz=342						
WTK	**Tuku**	**1.61**	**322**	*i* P	**Pb**	**16 58 57.8**	**-1.1**
	baz=324						
WTK				*i* S	**Sb**	**16 59 18.6**	**-0.2**
	baz=324						
WNT	**Mingjian**	**1.63**	**334**	*i* P	**Pb**	**16 58 59.2**	**+0.1**
	baz=336						
WNT				*i* S	**Sb**	**16 59 20.4**	**+1.1**
	baz=336						
WNT1	**Nantou City**	**1.65**	**334**	P	**Pb**	**16 58 59.8**	**+0.2**
	baz=337						
WNT1				S	**Sb**	**16 59 21.6**	**+1.6**
	baz=337						
CHGB	**Renai**	**1.66**	**351**	P	**Pn**	**16 58 57.8**	**+0.2**
	baz=6.0						
TWD	**Chiawan**	**1.67**	**4**	*i* P	**Pn**	**16 58 57.2**	**-0.2**
	baz=355						
TWD				S	**Sn**	**16 59 17.9**	**-0.2**
	baz=355						
WSF	**Szhu**	**1.67**	**317**	*i* P	**Pn**	**16 58 58.5**	**+0.9**
	baz=318						
WSF				*i* S	**Sb**	**16 59 20.1**	**-0.5**
	baz=318						
DPDB	**Guoxing**	**1.69**	**343**	P	**Pb**	**16 58 59.9**	**-0.4**
	baz=357						
DPDB				S	**Sb**	**16 59 21.9**	**+0.8**
	baz=357						
WCS	**Beigang Elemen**	**1.71**	**343**	*i* P	**Pb**	**16 58 59.9**	**-0.7**
	baz=359						
WCS				S	**Sb**	**16 59 22.4**	**+0.6**
	baz=359						
WHF	**Hehuan Shan**	**1.73**	**354**	*i* P	**Pn**	**16 58 59.3**	**+0.4**
	baz=357						
WHF				S	**Sb**	**16 59 22.9**	**+0.1**
	baz=357						
ETL	**Fush Village**	**1.75**	**5**	*e*S	**Sb**	**16 59 21.6**	**-1.1**
	baz=17						
NACB	**Ninganchiao**	**1.76**	**4**	P	**Pn**	**16 58 58.4**	**-0.4**
	baz=355						
NACB				S	**Sn**	**16 59 20.4**	**0.0**
	baz=355						
WWF	**Wufeng**	**1.77**	**337**	P	**Pb**	**16 59 01.0**	**-0.5**
	baz=322						
WWF				S	**Sb**	**16 59 23.9**	**+0.5**
	baz=322						
ETLH	**Xiulin Townshi**	**1.79**	**1**	P	**Pn**	**16 58 59.5**	**+0.3**
	baz=3.0						
WRL	**Guolierlin Hig**	**1.79**	**326**	*i* P	**Pb**	**16 59 00.3**	**-1.6**
	baz=328						
WRL				*i* S	**Sb**	**16 59 22.8**	**-1.1**
	baz=328						
FUSS	**Fushou**	**1.84**	**354**	*i* P	**Pn**	**16 59 00.7**	**+0.6**
	baz=7.0						
TWT	**Tachien**	**1.85**	**352**	*i* P	**Pb**	**16 59 01.8**	**-1.3**
	baz=353						
TDCB	**Techi**	**1.85**	**351**	P	**Pb**	**16 59 01.8**	**-1.4**
	baz=5.0						
TDCB				S	**Sn**	**16 59 23.6**	**+0.7**
	baz=5.0						
WCHH	**Zhanghua**	**1.86**	**334**	*i* P	**Pb**	**16 59 02.0**	**-1.0**
	baz=318						
WCHH				*i* S	**Sb**	**16 59 25.3**	**-0.5**
	baz=318						
WDGT	**Dungji**	**1.87**	**297**	*i* P	**Pn**	**16 58 59.9**	**-0.4**
	baz=297						
WDGT				S	**Sn**	**16 59 21.3**	**-1.7**
	baz=297						
TCU	**Taichung**	**1.87**	**337**	P	**Pb**	**16 59 02.8**	**-0.5**
	baz=340						
TCU				*i* S	**Sb**	**16 59 26.1**	**-0.3**
	baz=340						
WHP	**Taichung City**	**1.92**	**346**	*i* P	**Pb**	**16 59 03.4**	**-0.8**
	baz=359						
WHP				*i* S	**Sb**	**16 59 27.9**	**+0.2**
	baz=359						
NNSB	**Datong**	**2.01**	**358**	P	**Pn**	**16 59 03.0**	**+0.7**
NNSB				S	**Sb**	**16 59 28.4**	**-2.0**
NNSH	**Datong**	**2.01**	**358**	*i* P	**Pn**	**16 59 03.2**	**+0.9**
NNSH				S	**Sn**	**16 59 27.8**	**+1.1**
NNS	**Nan Shan**	**2.02**	**358**	*i* P	**Pn**	**16 59 03.8**	**+1.3**
NNS				S	**Sb**	**16 59 28.4**	**-2.3**
TWQ1	**Liyutan**	**2.03**	**342**	*i* P	**Pb**	**16 59 05.3**	**-0.7**
	baz=326						
TWQ1				*i* S	**Sb**	**16 59 31.0**	**+0.1**
	baz=326						
VCHM	**Qimei**	**2.04**	**293**	P	**Pn**	**16 59 02.0**	**-0.6**
	baz=293						
VCHM				S	**Sn**	**16 59 25.7**	**-1.5**
	baz=293						
EWUT	**Wuta**	**2.04**	**8**	*i* P	**Pn**	**16 59 02.5**	**-0.2**
	baz=23						
EWUT				S	**Sn**	**16 59 28.4**	**+1.0**
	baz=23						
PHUB	**P'eng-hu**	**2.06**	**303**	P	**Pn**	**16 59 02.5**	**-0.4**
	baz=302						
PHUB				S	**Sn**	**16 59 26.3**	**-1.5**
	baz=302						
WDJ	**Dajia District**	**2.07**	**339**	*e*P	**Pb**	**16 59 04.9**	**-1.8**
	baz=341						
WDJ				S	**Sb**	**16 59 31.5**	**-0.5**
	baz=341						
PNG	**Penghu**	**2.10**	**304**	*i* P	**Pn**	**16 59 03.1**	**-0.3**
	baz=303						
PNG				*i* S	**Sn**	**16 59 27.5**	**-1.3**
	baz=303						
NDT	**Datong Townshi**	**2.18**	**1**	P	**Pb**	**16 59 06.6**	**-2.0**
	baz=4.0						
NDT				*e*S	**Sb**	**16 59 32.7**	**-2.5**
	baz=4.0						
NMLH	**Miaoli**	**2.20**	**344**	P	**Pb**	**16 59 07.8**	**-1.2**
	baz=346						
NMLH				S	**Sb**	**16 59 34.9**	**-1.0**
	baz=346						
YOJ	**Yonaguni jima**	**2.49**	**35**	P	**Pn**	**16 59 10.3**	**+1.6**
YOJ				S	**Sn**	**16 59 39.2**	**+0.9**
HATJ	**Hateruma jima**	**2.71**	**52**	P	**Pn**	**16 59 12.5**	**+0.7**
IRIF	**Iriomote-Funau**	**2.83**	**47**	P	**Pn**	**16 59 14.6**	**+1.2**
IRIF				S	**Sn**	**16 59 47.2**	**+0.4**
JKRS	**Kuro-shima**	**2.96**	**52**	P	**Pn**	**16 59 16.8**	**+1.5**
JKRS				S	**Sn**	**16 59 50.7**	**+0.6**
JIJ	**Ishigaki jima**	**3.14**	**51**	P	**Pn**	**16 59 18.6**	**+0.9**
JIJ				S	**Sn**	**16 59 54.0**	**-0.4**
JISG	**Ishigakijimahi**	**3.39**	**50**	P	**Pn**	**16 59 20.5**	**-0.7**
JISG				S	**Sn**	**17 00 00.1**	**-0.6**
JTJ	**Tarama**	**3.71**	**53**	P	**Pn**	**16 59 26.8**	**+1.2**
JTJ				S	**Sn**	**17 00 07.9**	**-0.6**
JIRB	**Irabujima**	**4.17**	**54**	P	**Pn**	**16 59 33.1**	**+1.3**
JIRB				*e*S	**Sn**	**17 00 19.8**	**0.0**

*IDC **12** 17:18:16.8±1.6,6°.25S×108°.02W,h0km,mb3.9/10,*
mb1 4.2/10,mb1mx4.0/29,mbtmp3.9/10,MS3.7/5,
Ms1 3.7/5,ms1mx3.3/30,Error ellipse: s-maj=59.1km
s-min=22.1km az=53.0
ISC 12 17:18:17.9±1.6,**6°.3S**±0°.3×**108°.1W**±0°.3,**h10**km,**n31,**
σ1º**06**/13,**mb4.0**/10,**MS3.7**/9,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**25.06**	**354**	T	T	17 49 47.9	
	SNR=4.2						
JTS	**Las Juntas de**	**28.32**	**55**	LR	LR	17 32 14.6	
	comp=Z,361nm,20.7s,baz=284,slow=30						
LPIG	**La Paz**	**30.28**	**356**	LR	LR	17 33 18.6	
	comp=Z,136nm,21.6s,baz=219,slow=30						
TAOE	**Nuku Hiva Isla**	**31.88**	**263**	*e*LR	LR	17 33 09.0	
	comp=Z,170nm,25.8s						
ROSC	**El Rosal**	**35.48**	**73**	LR	LR	17 36 35.7	
	comp=Z,115nm,18.2s,baz=234,slow=31						
TXAR	**Lajitas Array**	**35.66**	**7**	P	**P**	**17 25 16.1**	**-0.3**
	1.1nm,0.9s,baz=173,slow=8.2,SNR=8.8						
TXAR				LR	LR	17 37 04.9	
	comp=Z,81nm,19.6s,baz=0.0,slow=32						
H03N2	**Juan Fernandez**	**38.23**	**139**	T	T	18 05 34.4	
	baz=312,slow=77,SNR=61						
H03N1	**Juan Fernandez**	**38.24**	**139**	T	T	18 05 44.5	
	baz=312,slow=77,SNR=51						
H03N3	**Juan Fernandez**	**38.25**	**139**	T	T	18 05 35.2	
	baz=312,slow=77,SNR=68						
LPAZ	**La Paz**	**40.35**	**108**	P	**P**	**17 25 56.9**	**+0.1**
	1.9nm,0.8s,baz=283,slow=5.5,SNR=7.3						
PPT2	**Papeete2**	**42.02**	**251**	*e*LR	LR	17 37 58.9	
	comp=Z,250nm,26.2s						
TBI	**Tubuai**	**43.24**	**242**	*e*LR	LR	17 38 26.9	
	comp=Z,214nm,28.0s						
NVAR	**Mina Array Bea**	**45.49**	**349**	P	**P**	**17 26 39.6**	**+1.9**
	1.3nm,0.8s,baz=168,slow=9.2,SNR=6.5						
SJG	**San Juan**	**47.95**	**59**	LR	LR	17 46 36.6	
	comp=Z,54nm,18.2s,baz=253,slow=36						
PDAR	**Pinedale Array**	**48.83**	**359**	P	**P**	**17 27 04.6**	**+0.9**
	0.6nm,0.7s,baz=157,slow=8.0,SNR=5.3						
YBH	**Yreka Blue Hor**	**49.62**	**346**	P	**P**	**17 27 10.1**	**+0.5**
	1.1nm,0.7s,baz=77,slow=9.6,SNR=5.5						
CPUP	**Villa Florida**	**52.24**	**118**	P	**P**	**17 27 30.0**	**+0.4**
	2.5nm,1.0s,baz=217,slow=6.7,SNR=2.9						
ULM	**Lac du Bonnet**	**57.29**	**9**	P	**P**	**17 28 04.5**	**-1.1**
	1.7nm,0.5s,baz=197,slow=7.7,SNR=2.9						
YKA	**Yellowknife Ar**	**68.76**	**357**	P	**P**	**17 29 20.5**	**-1.2**
	1.4nm,0.8s,baz=161,slow=5.9,SNR=3.4						
ILAR	**Eielson Array**	**76.48**	**344**	P	**P**	**17 30 07.5**	**-0.2**
	1.0nm,0.9s,baz=150,slow=4.5,SNR=7.8						
INK	**Inuvik**	**76.54**	**351**	P	**P**	**17 30 09.5**	**+1.6**
	1.2nm,0.8s,baz=233,slow=4.4,SNR=5.2						
DZM	**Mont Dzumac**	**83.49**	**249**	*e*LR	LR	17 57 13.2	
	comp=Z,50nm,22.9s						
H11N3	**WAKE ISLAND Hy**	**87.42**	**290**	T	T	19 08 27.8	
	baz=97,slow=75,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**87.43**	**290**	T	T	19 08 27.3	
	baz=97,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**87.43**	**290**	T	T	19 08 27.5	
	baz=97,slow=75,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**87.45**	**289**	T	T	19 08 31.7	
	baz=98,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**87.45**	**289**	T	T	19 08 30.0	
	baz=98,slow=75,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**87.47**	**289**	T	T	19 08 36.8	
	baz=98,slow=75,SNR=10						
MKAR	**Makanchi Array**	**138.66**	**349**	PKP	**PKiKP**	**17 37 45.5**	**-1.1**
	0.3nm,0.8s,baz=26,slow=3.7,SNR=3.0						
GEYT	**Alibeck**	**146.09**	**20**	PKPbc	**PKPab**	**17 37 59.1**	**-0.1**
	1.6nm,0.8s,baz=338,slow=7.2,SNR=2.1						
CMAR	**Chiang Mai Arr**	**151.01**	**297**	PKPbc	**PKPbc**	**17 38 11.9**	**-0.2**
	0.5nm,0.8s,baz=49,slow=1.2,SNR=3.6						

IDC 12 17:28:27.6±2.2,**7°.57S**×**127°.71E,h0**km,**mb3.8**/1,
mb1 3.6/3,**mb1mx3.4**/21,**mbtmp3.4**/3,**ML3.5**/2,**Error**
ellipse: s-maj=280.1km s-min=31.6km az=64.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**153**	Pn	Pn	17 31 44.6	-1.2
	0.3nm,0.3s,baz=330,slow=14,SNR=7.0						
WRA				Sn	Sn	17 34 03.8	-17
	0.5nm,0.3s,baz=331,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**17.08**	**160**	P	P	17 32 29.0	-0.9
	0.1nm,0.3s,baz=340,slow=8.5,SNR=7.4						
ASAR				S	Sn	17 35 27.0	-12
	0.1nm,0.3s,baz=357,slow=18,SNR=1.5						
MKAR	**Makanchi Array**	**67.48**	**328**	P	P

VNA1			S	Sn	17 37 39.8	-5.1
VNA3	**Neumayer Olymp**	**11.22 164**	P	Pn	17 35 47.8	+0.1
VNA3			S	Sn	17 37 42.6	-10
HOPE	**Hope Point**	**11.36 297**	Pn	Pn	17 35 49.7	+0.1
PMSA	**Palmer Station**	**20.64 239**	Pn	Pn	17 37 52.3	+3.2
QSPA	**South Pole Qui**	**29.52 180**	P	P	17 39 13.4	+1.7
	4.5nm,0.6s,baz=217,slow=1.6,SNR=65					
QSPA			LR	LR	17 51 23.2	
	comp=Z,40nm,20.2s,baz=214,slow=37					
QSPA	**South Pole Qui**	**29.52 180**	P	P	17 39 13.1	+1.4
QSPA			IAmb	IAmb	17 39 13.7	
	comp=Z,8.9nm,0.8s					
MAW	**Mawson**	**33.82 137**	LR	LR	17 51 45.3	
	comp=Z,152nm,21.8s,baz=234,slow=33					
MAW	**Mawson**	**33.82 137**	P	P	17 39 48.9	-0.4
TRQA	**Tornquist**	**35.04 291**	P	P	17 39 57.8	-2.4
TRQA			IAmb	IAmb	17 40 06.8	
	comp=Z,10nm,1.1s					
PLTB	**Pedras Altas**	**36.77 306**	P	P	17 40 13.9	-1.1
PLTB			IAmb	IAmb	17 40 21.9	
	comp=Z,19nm,1.3s					
PLCA	**Paso Flores**	**37.00 279**	P	P	17 40 18.7	+1.6
	comp=Z,1.7nm,0.8s,baz=220,slow=23,SNR=2.4					
SBA	**Scott Base**	**41.63 182**	P	P	17 40 58.2	+3.1
SBA			IAmb	IAmb	17 41 11.7	
	comp=Z,8.8nm,1.4s					
VNDA	**Vanda**	**42.01 180**	P	P	17 41 00.4	+2.2
	comp=Z,0.9nm,0.6s,baz=190,slow=8.0,SNR=12					
VNDA			LR	LR	17 58 33.3	
	comp=Z,62nm,18.4s,baz=197,slow=36					
VNDA	**Vanda**	**42.01 180**	P	P	17 40 59.7	+1.5
CPUP	**Villa Florida**	**43.07 306**	P	P	17 41 07.5	+0.1
	comp=Z,11nm,1.1s,baz=158,slow=6.5,SNR=7.8					
CPUP	**Villa Florida**	**43.07 306**	P	P	17 41 08.2	+0.9
CPUP			IAmb	IAmb	17 41 09.2	
	comp=Z,16nm,1.2s					
BOSA	**Boshof**	**43.60 63**	P	P	17 41 13.3	+1.5
	comp=Z,2.3nm,0.5s,baz=314,slow=7.2,SNR=1.7					
BDFB	**Brasilia**	**49.63 322**	P	P	17 41 59.1	-0.1
	comp=Z,2.8nm,0.8s,baz=200,slow=1.5,SNR=3.3					
LVC	**Limon Verde**	**51.26 295**	P	P	17 42 12.7	+1.0
	comp=Z,3.3nm,0.9s,baz=163,slow=11,SNR=3.1					
H10S2	**ASCENSION HYDR**	**51.76 6**	T	T	18 38 08.2	
	baz=182,slow=74,SNR=8.4					
H10S3	**ASCENSION HYDR**	**51.77 6**	T	T	18 38 10.6	
	baz=38,slow=74,SNR=15					
H10N1	**ASCENSION HYDR**	**52.87 6**	T	T	18 39 34.4	
	baz=190,slow=78,SNR=4.1					
H10N3	**ASCENSION HYDR**	**52.88 6**	T	T	18 39 35.8	
	baz=190,slow=78,SNR=18					
H10N2	**ASCENSION HYDR**	**52.89 6**	T	T	18 39 36.0	
	baz=190,slow=78,SNR=8.1					
PB08	**IPOC Station P**	**53.53 296**	P	P	17 42 27.9	-0.7
SIV	**San Ignacio**	**53.86 307**	P	P	17 42 30.8	+0.1
	comp=Z,3.1nm,0.9s,baz=187,slow=6.9,SNR=7.4					
MNMC	**Minye Minye**	**54.61 296**	P	P	17 42 35.0	-1.5
LPAZ	**La Paz**	**56.50 300**	P	P	17 42 49.4	-0.9
	comp=Z,3.8nm,0.9s,baz=121,slow=13,SNR=14					
LPAZ	**La Paz**	**56.50 300**	P	P	17 42 49.1	-1.3
TORD	**Torodi Ar. Bea**	**75.47 21**	P	P	17 44 52.0	+0.4
	comp=Z,2.7nm,1.1s,baz=198,slow=6.8,SNR=5.9					
TORD	**Torodi Ar. Bea**	**75.47 21**	P	P	17 44 50.8	-0.8
TORD			IAmb	IAmb	17 44 53.4	
	comp=Z,4.9nm,1.4s					
SDV	**Santo Domingo**	**80.31 308**	LR	LR	18 19 32.2	
	comp=Z,104nm,21.1s,baz=132,slow=35					
ASAR	**Alice Springs**	**93.09 155**	P	P	17 46 21.6	+0.2
	comp=Z,0.5nm,0.5s,baz=192,slow=3.7,SNR=13					
FINES	**FINESS Array B**	**126.66 25**	PKP	**PKiKP**	17 52 09.0	-0.9
	comp=Z,3.8nm,1.0s,baz=106,slow=3.0,SNR=4.5					
MKAR	**Makanchi Array**	**134.36 70**	PKP	**PKPdf**	17 52 23.9	-0.7
	comp=Z,0.4nm,0.9s,baz=3.8,slow=4.3,SNR=2.4					
LZH	**Lanzhou**	**136.63 98**	*e*PKP	**PKiKP**	17 52 31.7	+0.6
LZH			pPKP	sPKPdf	17 52 37.1	+5.1
LZH			sPKP		17 52 41.7	
SONM	**Songino Array**	**146.68 88**	PKPbc	**PKPab**	17 52 49.5	-0.2
	comp=Z,5.1nm,1.0s,baz=211,slow=4.0,SNR=17					
SONM	**Songino Array**	**146.68 88**		**PKPab**	17 52 48.7	-1.0
INK	**Inuvik**	**152.14 314**	PKPbc	**PKPbc**	17 52 59.8	-1.5
	comp=Z,4.4nm,1.0s,baz=78,slow=3.5,SNR=4.9					
INK	**Inuvik**	**152.14 314**		**PKPbc**	17 53 00.5	-0.8
ILAR	**Eielson Array**	**156.35 302**	PKPbc	PKPdf	17 53 09.6	+8.9
	comp=Z,1.1nm,1.1s,baz=90,slow=0.7,SNR=5.2					

*NEIC **12** 17:38:24.1±1.9, 7°.07S±0°.04×106°.8W±0°.2, h10km±2km, mb4.6/34, Error ellipse: s-maj=28.1km s-min=7.7km az=264.0*
*IDC **12** 17:38:28.6±1.4, 6°.05S×107°.33W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.9/34, mbtmp3.8/7, MS4.0/12, Ms1 4.0/12, ms1mx3.8/29, Error ellipse: s-maj=130.8km s-min=27.5km az=90.0*
ISC 12 17:38:29.6±1.1, 6°.1S±0°.2×106°.6W±0°.2, h10km, n65, σ1§40/42, mb4.5/23, MS4.0/15, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**17.18**	**72**	Pn	**Pn**	**17 42 28.5**	**-1.6**
PAYG				IAmb	IAmb	17 42 38.3	
	comp=Z,53nm,1.1s						
RPN	**Rapa Nui**	**21.05**	**187**	LR	LR	17 49 10.5	
	comp=Z,270nm,21.7s,baz=114,slow=30						
TLIG	**Tlapa**	**24.85**	**19**	P	**P**	**17 43 50.2**	**-2.4**
TLIG				IAmb	IAmb	17 43 59.4	
	comp=Z,14nm,1.3s						
H06E1	**SOCORRO T-PHAS**	**25.11**	**350**	T	T	18 09 52.6	
CRIN	**San Cristobal**	**26.99**	**46**	P	**P**	**17 44 13.4**	**+1.4**
ATAH	**Atahualpa**	**28.06**	**94**	LR	LR	17 53 20.8	
	comp=Z,178nm,18.4s,baz=265,slow=31						
LPIG	**La Paz**	**30.26**	**353**	LR	LR	17 53 38.3	
	comp=Z,292nm,20.6s,baz=186,slow=30						
TAOE	**Nuku Hiva Isla**	**33.34**	**263**	*e*LR	LR	17 53 18.8	
	comp=Z,416nm,25.9s						
ROSC	**El Rosal**	**34.05**	**72**	LR	LR	17 56 45.6	
	comp=Z,273nm,18.2s,baz=246,slow=32						
HSIG		**35.19**	**353**	P	**P**	**17 45 22.4**	**-1.6**
TXAR	**Lajitas Array**	**35.37**	**4**	P	**P**	**17 45 25.8**	**+0.1**
	comp=Z,1.1nm,1.1s,baz=190,slow=9.7,SNR=5.6						
TXAR				LR	LR	17 57 24.1	
	comp=Z,97nm,18.0s,baz=0.0,slow=32						
H03N2	**Juan Fernandez**	**37.41**	**140**	T	T	18 25 48.6	
	baz=312,slow=77,SNR=61						
H03N1	**Juan Fernandez**	**37.42**	**140**	T	T	18 25 47.6	
	baz=312,slow=77,SNR=56						
H03N3	**Juan Fernandez**	**37.42**	**140**	T	T	18 26 03.3	
	baz=312,slow=77,SNR=61						
MNTX	**Cornudas Mount**	**37.63**	**2**	P	**P**	**17 45 45.8**	**+0.9**
MSTX	**Muleshoe**	**40.04**	**5**	P	**P**	**17 46 04.6**	**-0.6**
MSTX				IAmb	IAmb	17 46 10.8	
	comp=Z,10.0nm,1.2s						
MVCO	**Mesa Verde**	**43.15**	**358**	P	**P**	**17 46 32.3**	**+1.6**
PPT	**Papeete**	**43.44**	**251**	LR	LR	17 59 13.7	
	comp=Z,208nm,19.5s,baz=75,slow=29						
PPT2	**Papeete2**	**43.44**	**251**	*e*S	S	17 52 45.5	-17
	comp=Z,79nm,28.0s						
PPT2				*e*LQ	LQ	17 56 13.5	
	comp=Z,495nm,29.2s						
PPT2				*e*LR	LR	17 58 09.6	
	comp=Z,614nm,26.2s,baz=80						
SDCO	**Great Sand Dun**	**43.66**	**1**	P	**P**	**17 46 36.9**	**+2.0**
TPNV	**Topopah Spring**	**43.78**	**349**	P	**P**	**17 46 35.8**	**-0.1**
PLAL	**Pickwick Lake**	**44.47**	**22**	P	**P**	**17 46 43.7**	**+2.5**
PLAL				IAmb	IAmb	17 46 48.0	
	comp=Z,13nm,1.4s						
TBI	**Tubuai**	**44.60**	**243**	*e*S	S	17 53 05.5	-13
	comp=Z,66nm,25.2s						
TBI				*e*LR	LR	17 58 53.2	
	comp=Z,484nm,27.2s,baz=74						
TPH	**Tonopah**	**45.07**	**348**	P	**P**	**17 46 46.8**	**+0.7**
PBMO	**Poplar Bluff**	**45.29**	**18**	P	**P**	**17 46 50.7**	**+3.0**
SPR3	**Spring Creek 3**	**45.46**	**352**	P	**P**	**17 46 51.4**	**+2.1**
SPR3				IAmb	IAmb	17 46 53.5	
	comp=Z,9.6nm,1.5s						
LHV	**Little Huntoon**	**45.51**	**347**	P	**P**	**17 46 51.3**	**+2.0**
LHV				IAmb	IAmb	17 46 53.9	
	comp=Z,8.6nm,1.2s						
NV11	**Mina Array Sit**	**45.61**	**347**	P	**P**	**17 46 50.8**	**+0.4**
NVAR	**Mina Array Bea**	**45.64**	**347**	P	**P**	**17 46 49.2**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=174,slow=9.8,SNR=4.9						
NVAR				LR	LR	18 01 42.2	
	comp=Z,178nm,18.9s,baz=170,slow=31						
NVAR	**Mina Array Bea**	**45.64**	**347**	P	**P**	**17 46 51.9**	**+1.3**
CMB	**Columbia Colle**	**45.76**	**345**	P	**P**	**17 46 51.9**	**+0.4**
CMB				IAmb	IAmb	17 46 55.0	
	comp=Z,6.1nm,1.4s						
RYN	**Ryan**	**45.88**	**347**	P	**P**	**17 46 52.5**	**0.0**
WAKR	**Walker**	**45.97**	**346**	P	**P**	**17 46 54.0**	**+0.7**
WAKR				IAmb	IAmb	17 46 57.6	
	comp=Z,7.0nm,1.3s						
O20A	**White River Ci**	**46.05**	**358**	P	**P**	**17 46 55.8**	**+1.9**
MPU	**Maple Canyon**	**46.14**	**355**	P	**P**	**17 46 56.3**	**+1.7**
MPU				IAmb	IAmb	17 47 03.5	
	comp=Z,5.2nm,1.1s						
CCM	**Cathedral Cave**	**46.23**	**17**	P	**P**	**17 46 55.3**	**+0.2**
CCM				IAmb	IAmb	17 47 01.8	
	comp=Z,4.9nm,1.1s						
YERR	**Yerington**	**46.38**	**346**	P	**P**	**17 46 56.7**	**+0.2**
YERR				IAmb	IAmb	17 47 00.7	
	comp=Z,8.2nm,1.2s						
DUG	**Dugway, Tooele**	**46.44**	**353**	P	**P**	**17 46 57.7**	**+0.8**
DUG				IAmb	IAmb	17 47 06.3	
	comp=Z,6.9nm,1.4s						
PNTR	**Pine Nut**	**46.56**	**346**	P	**P**	**17 46 58.2**	**+0.3**
PLCA	**Paso Flores**	**47.19**	**142**	LR	LR	18 01 50.4	
	comp=Z,418nm,21.4s,baz=322,slow=29						
ELK	**Elko**	**47.31**	**351**	P	**P**	**17 47 05.3**	**+1.5**
WDC	**Whiskeytown Da**	**48.73**	**344**	P	**P**	**17 47 14.1**	**-0.3**
WDC				IAmb	IAmb	17 47 17.4	
	comp=Z,5.3nm,1.2s						
PDAR	**Pinedale Array**	**48.73**	**357**	P	**P**	**17 47 13.1**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=192,slow=8.3,SNR=1.6						
FLWY	**Flagg Ranch**	**50.11**	**356**	P	**P**	**17 47 26.6**	**+1.3**
FLWY				IAmb	IAmb	17 47 29.3	
	comp=Z,13nm,1.4s						
K05A	**Summer Lake**	**50.32**	**346**	P	**P**	**17 47 27.8**	**+0.9**
K05A				IAmb	IAmb	17 47 31.5	
	comp=Z,12nm,1.3s						
YHH	**Holmes Hill**	**50.82**	**356**	P	**P**	**17 47 30.6**	**-0.2**
YHH				IAmb	IAmb	17 47 32.7	
	comp=Z,7.3nm,1.5s						
MCMT	**McKenzie Canyo**	**51.03**	**354**	P	**P**	**17 47 32.8**	**+0.6**
CPUP	**Villa Florida**	**51.05**	**119**	LR	LR	18 05 34.0	
	comp=Z,110nm,21.0s,baz=224,slow=31						
F36A	**Milaca**	**53.06**	**11**	P	**P**	**17 47 47.0**	**0.0**
F36A				IAmb	IAmb	17 47 52.0	
	comp=Z,11nm,1.4s						
NEW	**Newport**	**54.94**	**351**	LR	LR	18 07 31.8	
	comp=Z,126nm,20.5s,baz=180,slow=32						
YKA	**Yellowknife Ar**	**68.69**	**356**	P	**P**	**17 49 33.4**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=164,slow=7.1,SNR=3.3						
RCBR	**Riachuelo**	**70.29**	**94**	LR	LR	18 20 03.2	
	comp=Z,163nm,18.2s,baz=320,slow=35						
RAO	**Raoul Island**	**70.71**	**241**	LR	LR	18 12 48.5	
	comp=Z,190nm,19.6s,baz=148,slow=29						
EPYK	**Eagle Plains**	**75.53**	**348**	P	**P**	**17 50 12.8**	**-1.3**
INK	**Inuvik**	**76.63**	**350**	P	**P**	**17 50 20.7**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=170,slow=7.3,SNR=3.5						
ILAR	**Eielson Array**	**76.73**	**343**	P	**P**	**17 50 20.8**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=149,slow=3.9,SNR=8.1						
QSPA	**South Pole Qui**	**83.94**	**180**	P	**P**	**17 51 01.2**	**+1.4**
	comp=Z,2.9nm,0.9s,baz=136,slow=4.2,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**88.72**	**290**	T	T	19 28 35.9	
	baz=97,slow=75,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**88.74**	**290**	T	T	19 28 38.4	
	baz=97,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**88.74**	**290**	T	T	19 28 39.3	
	baz=97,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**88.77**	**289**	T	T	19 28 38.9	
	baz=98,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**88.78**	**289**	T	T	19 28 37.5	
	baz=98,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**88.79**	**289**	T	T	19 28 38.7	
	baz=98,slow=75,SNR=15						
MKAR	**Makanchi Array**	**138.76**	**351**	PKP	**PKPdf**	**17 57 54.4**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=46,slow=6.2,SNR=2.4						
CMAR	**Chiang Mai Arr**	**152.22**	**298**	PKPbc	**PKPbc**	**17 58 24.7**	**-2.0**
	comp=Z,2.2nm,1.1s,baz=29,slow=1.0,SNR=6.1						

*IDC **12** 17:39:10.1±0.9, 10°.26N×74°.30W, h0km, mb3.5/4, mb1 4.0/9, mb1mx3.8/41, mbtmp3.9/9, ML3.5/5, MS3.5/4, Ms1 3.5/4, ms1mx2.9/32, Error ellipse: s-maj=26.8km s-min=11.5km az=30.0*
*FUNV **12** 17:39:12.9, 9°.86N×74°.47W, h7km, MW4.3*
*RSNC **12** 17:39:14.3±0.8, 9°.89N×74°.44W, h18km±2km, ML3.6, Mw3.9, Fault plane solution: NP1:φs13.00000°, δ85.00000°, λ-2.00000°.*
ISC 12 17:39:12.5±0.6, 9°.89N±0°.03×74°.42W±0°.03, h21km±1km, n64, σ2§57/105, mb3.6/4, MS3.4/3, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**0.17**	**101**	↑*e*P	**Pb**	**17 39 19.1**	**+0.6**
ARGC				*e*S	**Sb**	**17 39 22.3**	**-0.4**
ARGC				*i*		17 39 22.5	
	comp=Z,12μm,0.2s						
SJCC	**San Jacinto, C**	**0.75**	**270**	↑*e*P	**Pb**	**17 39 27.3**	**+0.4**
SJCC				*e*S	**Sb**	**17 39 37.5**	**+0.8**
SJCC				*i*		17 39 42.2	
	comp=Z,2μm,0.4s						
LL1C	**La Loma 1 Cana**	**0.92**	**112**	↓*e*P	**Pn**	**17 39 31.1**	**+0.8**
LL1C				*e*S	**Sn**	**17 39 44.0**	**+1.2**
LL1C				*i*		17 39 50.1	
	comp=Z,4μm,0.4s						
LL2C	**La Loma 2 Cana**	**1.02**	**109**	↓*e*P	**Pb**	**17 39 32.5**	**+1.0**
LL2C				*e*S	**Sb**	**17 39 46.0**	**+1.5**
LL2C				*i*		17 39 49.3	
	comp=Z,4μm,0.3s						
SMLC	**San Martn de**	**1.14**	**162**	*e*P	**Pn**	**17 39 32.7**	**-0.6**
SMLC				*e*S	**Sb**	**17 39 48.4**	**+0.5**
SMLC				*i*		17 39 49.2	
	comp=Z,1μm,0.2s						
SMRC	**Santa Marta, M**	**1.28**	**9**	*e*P	**Pb**	**17 39 36.1**	**+0.1**
SMRC				*e*S	**Sb**	**17 39 53.6**	**+1.7**
SMRC				*i*		17 39 59.5	
	comp=Z,485nm,0.4s						
MOTC	**Monteria, Cord**	**1.66**	**228**	↑*e*P	**Pn**	**17 39 41.1**	**+0.7**
MOTC				*e*S	**Sn**	**17 40 01.9**	**+0.9**
MOTC				*i*		17 40 21.1	
	comp=Z,204nm,0.6s						
MCQV	**Machiques**	**1.86**	**85**	*e*P	**Pn**	**17 39 45.4**	**+2.2**
MCQV				*e*S	**Sb**	**17 40 09.9**	**+1.2**
OCAC	**Ocana**	**1.97**	**146**	↓*e*P	**Pn**	**17 39 45.6**	**+0.7**
OCAC				*e*S	**Sn**	**17 40 10.5**	**+1.5**
LCBC	**Los crdobas,**	**2.18**	**242**	*e*P	**Pn**	**17 39 49.0**	**+1.4**
LCBC				*e*S	**Sb**	**17 40 17.9**	**0.0**
LCBC				*i*		17 40 19.3	
	comp=Z,260nm,0.6s						
UREC	**San Jos de Ur**	**2.40**	**207**	*e*P	**Pn**	**17 39 52.3**	**+1.7**
UREC				*e*S	**Sn**	**17 40 19.5**	**+0.2**
UREC				*i*		17 40 43.3	
	comp=Z,129nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.42**	**190**	*e*P	**Pn**	**17 39 52.8**	**+1.8**
ZARC				*e*S	**Sn**	**17 40 22.0**	**+2.0**
ZARC				*i*		17 40 29.0	
	comp=Z,368nm,0.4s						
CAPV	**Capacho**	**2.90**	**134**	*e*P	**Pn**	**17 39 59.1**	**+1.5**
CAPV				*e*S	**Sn**	**17 40 33.2**	**+1.2**
URIC	**Uribia, Colomb**	**2.98**	**53**	*e*P	**Pn**	**17 39 59.5**	**+0.9**
URIC				*e*S	**Sn**	**17 40 35.2**	**+1.3**
URIC				*i*		17 40 58.3	
	comp=Z,180nm,0.3s						
PAMC	**Pamplona, Colo**	**3.05**	**146**	*e*P	**Pn**	**17 40 04.0**	**+4.0**
PAMC				*e*S	**Sn**	**17 40 40.1**	**+3.9**
PAMC				*i*		17 40 51.8	
	comp=Z,234nm,0.6s						
DBBC	**Dabeiba**	**3.36**	**212**	*e*P	**Pn**	**17 40 08.3**	**+4.3**
BARC	**Barichara**	**3.50**	**159**	*e*P	**Pn**	**17 40 07.1**	**+1.1**
BARC				*e*S	**Sb**	**17 40 54.9**	**-1.3**
BARC				*i*		17 41 09.8	
	comp=Z,265nm,0.4s						
HELC	**Santa Helena**	**3.84**	**197**	*e*P	**Pn**	**17 40 13.2**	**+2.4**
HELC				*e*S	**Sn**	**17 40 55.9**	**+0.4**
HELC				*i*		17 41 24.8	
	comp=Z,61nm,0.5s						
HELC	**Santa Helena**	**3.84**	**197**	*e*P	**Pn**	**17 40 10.8**	**+0.1**
DABV	**Dabajuro**	**3.86**	**74**	*e*P	**Pn**	**17 40 12.3**	**+1.6**
DABV				*e*S	**Sn**	**17 40 56.5**	**+1.0**
SOCV	**Socops**	**3.86**	**114**	*e*P	**Pn**	**17 40 12.3**	**+1.5**
SOCV				*e*S	**Sn**	**17 40 57.8**	**+2.2**
SOCV	**Socops**	**3.86**	**114**	*e*P	**Pn**	**17 40 11.9**	**+1.1**
SOCV				*e*S	**Sn**	**17 40 56.2**	**+0.6**
SDV	**Santo Domingo**	**3.87**	**105**	Pn	**Pn**	**17 40 12.6**	**+1.6**
	comp=Z,51nm,0.3s,baz=270,slow=2.6,SNR=44						
SDV				Sn	**Sn**	**17 40 59.8**	**+3.9**
	comp=Z,33nm,0.3s,baz=331,slow=6.2,SNR=2.4						
SDV				Lg	Lg	17 41 13.4	
	comp=Z,86nm,0.3s,baz=283,slow=20,SNR=5.9						
SDV				LR	LR	17 42 13.7	
	comp=Z,348nm,20.5s,baz=260,slow=48						
SDV	**Santo Domingo**	**3.87**	**105**	*e*P	**Pn**	**17 40 13.6**	**+2.6**
SDV				*e*S	**Sn**	**17 40 58.2**	**+2.3**
SDV				*i*		17 41 23.7	
	comp=Z,236nm,0.5s						
SDV	**Santo Domingo**	**3.87**	**105**	*e*P	**Pn**	**17 40 12.3**	**+1.3**
SDV				*e*S	**Sn**	**17 40 56.5**	**+0.6**
RUSC	**La Rusia**	**4.19**	**161**	*e*P	Pn	17 40 20.8	+5.1
RUSC				*e*S	**Sn**	**17 41 11.0**	**+6.8**
RUSC				*i*		17 41 25.1	
	comp=Z,99nm,0.8s						
NORC	**Norcasia**	**4.32**	**186**	*e*P	**Pn**	**17 40 18.3**	**+1.2**
NORC				*e*S	**Sn**	**17 41 07.2**	**+0.2**
NORC				*i*		17 41 28.9	
	comp=Z,45nm,0.4s						
CURV	**Curarigua**	**4.39**	**88**	*e*P	**Pn**	**17 40 19.9**	**+1.7**
CURV				*e*S	**Sn**	**17 41 08.6**	**-0.2**
SIQV	**Siquisique**	**4.60**	**80**	*e*P	**Pn**	**17 40 22.4**	**+1.5**
SIQV				*e*S	**Sn**	**17 41 13.6**	**-0.2**
GUY2C	**Guyana, Caldas**	**4.73**	**192**	*e*P	**Pn**	**17 40 24.8**	**+1.6**
GUY2C				*e*S	**Sb**	**17 41 30.2**	**-1.6**
GUY2C				*i*		17 42 05.6	
	comp=Z,60nm,0.7s						
MONV	**Montecano**	**4.82**	**64**	*e*P	**Pn**	**17 40 25.2**	**+1.2**
MONV				*e*S	**Sn**	**17 41 18.3**	**-1.0**
ROSC	**El Rosal**	**5.02**	**179**	Pn	Pn	17 40 32.3	+5.3
	comp=Z,5.0nm,0.3s,baz=235,slow=9.9,SNR=6.0						
ROSC				Sn	**Sb**	**17 41 38.2**	**-1.9**
	comp=Z,10nm,0.3s,baz=237,slow=21,SNR=5.9						
ROSC	**El Rosal**	**5.02**	**179**	*e*P	Pn	17 40 33.4	+6.3
ROSC				*e*S	**Sn**	**17 41 32.6**	**+7.9**
ROSC				*i*		17 41 53.5	
	comp=Z,41nm,0.6s						
UPA	**Univ. de Panam**	**5.13**	**260**	*e*P	**Pn**	**17 40 28.9**	**+0.8**
UPA				*e*S	**Sn**	**17 41 25.5**	**-1.3**
CHIC	**Chingaza**	**5.27**	**173**	*e*P	**Pn**	**17 40 33.6**	**+3.1**
CHIC				*e*S	**Sb**	**17 41 40.3**	**-7.1**
CHIC				*i*		17 42 08.1	
	comp=Z,30nm,0.6s						
PLMC	**San Jos del P**	**5.29**	**201**	*e*P	**Pn**	**17 40 33.5**	**+3.1**
PLMC				*e*S	**Sn**	**17 41 33.6**	**+2.8**
PLMC				*i*		17 42 08.4	
	comp=Z,18nm,0.6s						
TOLC	**Tolima**	**5.35**	**190**	*e*P	Pn	17 40 36.8	+5.3
TOLC				*e*S	**Sn**	**17 41 38.4**	**+5.7**
TOLC				*i*		17 42 18.7	
	comp=Z,38nm,0.6s						
BCIP	**Isla Barro Col**	**5.39**	**263**	*e*P	**Pn**	**17 40 32.9**	**+1.1**
BCIP				*e*S	**Sn**	**17 41 33.6**	**+0.3**
BCIP				*i*		17 41 37.6	
	comp=Z,29nm,0.4s						
ELOV	**Elorza**	**5.67**	**120**	*e*P	**Pn**	**17 40 37.1**	**+1.5**
ELOV				*e*S	**Sn**	**17 41 41.0**	**+1.0**
ELOV	**Elorza**	**5.67**	**120**	*e*P	**Pn**	**17 40 35.9**	**+0.3**
ELOV				*e*S	**Sn**	**17 41 37.8**	**-2.3**
ORTC	**Ortega, Tolima**	**6.00**	**188**	*e*P	**Pn**	**17 40 44.5**	**+4.2**
AZU	**Azuero**	**6.15**	**251**	*e*P	**Pn**	**17 40 43.6**	**+1.4**
AZU				*e*S	**Sn**	**17 41 49.6**	**-2.4**
AZU				*i*		17 41 55.0	
	comp=Z,26nm,0.4s						
BAUV	**El Baul**	**6.36**	**98**	*e*P	**Pn**	**17 40 45.6**	**+0.4**
BAUV				*e*S	**Sn**	**17 41 54.7**	**-2.5**
TURV	**Turiamo**	**6.50**	**85**	*e*P	**Pn**	**17 40 47.1**	**+0.1**
TURV				*e*S	**Sn**	**17 41 57.4**	**-3.2**
BENV	**Beln**	**6.72**	**89**	*e*P	**Pn**	**17 40 50.6**	**+0.5**
BENV				*e*S	**Sn**	**17 42 01.9**	**-4.2**
TACV	**Tcata**	**7.28**	**87**	*e*P	**Pn**	**17 40 58.6**	**+0.7**
TACV				*e*S	**Sn**	**17 42 16.0**	**-4.1**
MACC	**Macarena, Meta**	**7.72**	**176**	*e*P	**Pn**	**17 41 05.2**	**+1.5**
PAYV	**Puerto Ayacuch**	**8.04**	**123**	*e*P	**Pn**	**17 41 07.4**	**-0.8**
PAYV				*e*S	**Sn**	**17 42 32.8**	**-5.8**
BIRV	**Birongo**	**8.04**	**85**	*e*P	**Pn**	**17 41 09.3**	**+1.1**
BIRV				*e*S	**Sn**	**17 42 33.8**	**-4.8**
CACV	**CAICARA DEL OR**	**8.12**	**106**	*e*P	Pn	17 41 16.5	+7.2
CACV				*e*S	**Sn**	**17 42 48.2**	**+7.6**
PCRV	**Puerto La Cruz**	**9.64**	**87**	Pn	**Pn**	**17 41 32.6**	**+2.4**
	comp=Z,5.3nm,0.3s,baz=279,slow=5.2,SNR=17						
PCRV				Sn	**Sn**	**17 43 20.2**	**+2.3**
	comp=Z,0.7nm,0.3

BJI **12** *17:52:00.8±0.0, 32°.74N×132°.20E, h60km, mB5.6/57, mb5.4/85, Ms5.1/88, Ms7 4.8/79*
MOS **12** *17:52:03.3±1.1, 32°.93N×131°.67E, h52km, mb5.6/56, MS4.8/25, Error ellipse: s-maj=5.6km s-min=3.4km az=109.3*
KMA **12** *17:52:04.0, 32°.94N×131°.81E, h15km*
NIED **12** *17:52:05.9, 32°.99N×131°.86E, h58km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr0.17; Mθθ-0.78; Mφφ0.61; Mrθ0.28; Mθφ1.54; Mφr0.99; Fault plane solution: M0 1.97000×10^17 NP1: φs345.00000°, δ78.00000°, λ153.00000°. NP2: φs81.00000°, δ64.00000°, λ13.00000°.*
JMA **12** *17:52:05.9, 32°.99N×131°.86E, h58km±1km, M5.7 Broadband fault plane solution: P waves. NP1: φs80.00000°, δ77.00000°, λ5.00000°. NP2:φs349.00000°, δ85.00000°, λ167.00000°. Principal axes: T Plg13.0000°, Azm304.0000°; N Plg76.0000°, Azm149.0000°; P Plg6.0000°, Azm35.0000°;*
NEIC **12** *17:52:06.1, 33°.01N×131°.81E, h53km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.35; Mθθ-0.92; Mφφ0.57; Mrθ0.16; Mθφ1.21; Mφr0.98; Fault plane solution: M0 1.76000×10^17 NP1:φs340.50000°, δ76.01000°, λ147.63000°. NP2:φs79.22000°, δ58.70000°, λ16.44000°. Principal axes: T 1.8463, Plg33.0000°, Azm296.0000°; N -0.1820, Plg55.0000°, Azm140.0000°; P -1.6643, Plg11.0000°, Azm33.0000°;*
IDC **12** *17:52:07.0±0.4, 33°.00N×131°.72E, h69km±2km, mb4.9/40, mb1 5.0/45, mb1mx5.0/50, mbtmp5.2/45, MS4.5/37, Ms1 4.5/37, ms1mx4.4/49 Error ellipse: s-maj=9.0km s-min=6.3km az=175.0*
NEIC **12** *17:52:06.2±1.9, 33°.02N±0°.05×131°.75E±0°.06, h53km±1km, mb5.5/227, Mwb5.4/31, Mwr5.4/18, Mww5.5, Mwc5.5(GCMT), Error ellipse: s-maj=9.6km s-min=8.0km az=136.0*
NEIC **12** *17:52:06, 33°.01N×131°.79E, h53km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.18; Mθθ-0.37; Mφφ0.19; Mrθ0.34; Mθφ1.25; Mφr1.11; Fault plane solution: M0 1.73000×10^17 NP1:φs89.41000°, δ52.35000°, λ11.70000°. NP2:φs352.20000°, δ80.76000°, λ141.77000°. Principal axes: T 1.8923, Plg33.0000°, Azm304.0000°; N -0.3795, Plg51.0000°, Azm161.0000°; P -1.5127, Plg19.0000°, Azm46.0000°;*
GCMT **12** *17:52:07.2±0.1, 33°.04N±0°.01×131°.77E±0°.01, h58km, MW5.5/143, Moment Tensor Solution. s125, c231; s143, c282; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr0.14±.02; Mθθ-0.82±.02; Mφφ0.68±.02; Mrθ0.15±.02; Mθφ1.68±.02; Mφr1.10±.02; Best double couple: M0 2.14400×10^17 NP1:φs81.00000°, δ61.00000°, λ9.00000°. NP2:φs346.00000°, δ82.00000°, λ151.00000°. Principal axes: T 2.2590, Plg26.0000°, Azm300.0000°; N -0.2290, Plg60.0000°, Azm152.0000°; P -2.0300, Plg14.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR **12** *17:52:07.4±0.0, 33°.06N×131°.76E, h33km, mb5.4, Ms4.8*
NEIC **12** *17:52:08, 33°.03N×131°.79E, h56km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.07; Mθθ-0.86; Mφφ0.79; Mrθ0.10; Mθφ1.77; Mφr1.11; Fault plane solution: M0 2.25000×10^17 NP1:φs80.00000°, δ62.00000°, λ7.00000°. NP2:φs346.00000°, δ84.00000°, λ152.00000°. Principal axes: T 2.3584, Plg24.0000°, Azm300.0000°; N -0.2381, Plg61.0000°, Azm155.0000°; P -2.1203, Plg15.0000°, Azm36.0000°;*
NEIC **12** *17:52:10, 32°.93N×131°.87E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.16; Mθθ-0.91; Mφφ0.75; Mrθ0.18; Mθφ1.54; Mφr1.11; Fault plane solution: M0 2.09000×10^17 NP1:φs79.00000°, δ61.00000°, λ11.00000°. NP2:φs344.00000°, δ80.00000°, λ150.00000°. Principal axes: T 2.2220, Plg27.0000°, Azm298.0000°; N -0.2929, Plg59.0000°, Azm148.0000°; P -1.9290, Plg13.0000°, Azm35.0000°;*
ISC 12 17:52:06.0±0.2, 32°.98N±0°.02×131°.86E±0°.02, h62km±1km, h62km:pP-P, n1313, σ1962/1431, mb5.4/336, 275C-185D, Fault plane solution: NP1:φs76.60520°, δ81.16769°, λ5.88362°. **NP2:**φs345.69870°, δ84.18639°, λ171.12166°. **Principal axes:** T Plg10.3812°, Azm300.9548°; N Plg79.4004°, Azm132.7375°; P Plg2.1174°, Azm31.3429°; **Fault plane solution: NP1:**φs97.33449°, δ35.28742°, λ1.18919°. **NP2:**φs6.36375°, δ89.31307°, λ125.28160°. **Principal axes:** T Plg35.8499°, Azm306.6208°; N Plg35.2787°, Azm185.8777°; P Plg34.6602°, Azm66.5925°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JUS	**Usuki**	**0.13**	**314**	⇓P		**Pn**	**17 52 14.6**	**-0.8**
JUS				S		**Sn**	**17 52 21.2**	**-1.0**
JSKE	**Saikikamae**	**0.18**	**169**	⇑P		**Pn**	**17 52 15.2**	**-0.4**
JSKE				S		**Sn**	**17 52 22.1**	**-0.4**
JKIT	**Kitakata**	**0.49**	**225**	⇓P		**Pn**	**17 52 17.5**	**-0.5**
JKIT				S		**Sn**	**17 52 26.2**	**-0.6**
JBEP	**Beppuamama**	**0.52**	**313**	P		**Pn**	**17 52 18.1**	**-0.3**
JHHC	**Hyugahichiya**	**0.56**	**200**	⇓P		**Pn**	**17 52 19.0**	**+0.2**
JHHC				S		**Sn**	**17 52 28.7**	**+0.6**
UWA2	**Uwa jima 2**	**0.68**	**70**	⇓P		**Pn**	**17 52 19.7**	**-0.5**
UWA2				S		**Sn**	**17 52 30.4**	**-0.2**
JKI	**Kunimi**	**0.70**	**340**	P		**Pn**	**17 52 20.2**	**-0.1**
JNA	**Nagahama**	**0.78**	**42**	⇓P		**Pn**	**17 52 21.0**	**-0.3**
JNA				S		**Sn**	**17 52 32.6**	**0.0**
JTSN	**Tsuno**	**0.79**	**203**	⇓P		**Pn**	**17 52 21.7**	**+0.3**
JTSN				S		**Sn**	**17 52 33.5**	**+0.7**
JTO	**Tosashimizu**	**0.80**	**98**	⇑P		**Pn**	**17 52 20.8**	**-0.8**
JTO				S		**Sn**	**17 52 32.6**	**-0.4**
JNU	**Nakatsue**	**0.84**	**280**	P		**Pn**	**17 52 22.8**	**+0.7**
	6μm,0.3s,baz=86,slow=4.0							
JNU				S		**Sn**	**17 52 34.8**	**+0.8**
	18μm,0.3s,baz=267,slow=7.1,SNR=27							
JNU	**Nakatsue**	**0.84**	**280**	⇑P		**Pn**	**17 52 21.9**	**-0.2**
JNU				S		**Sn**	**17 52 34.3**	**+0.3**
JNU	**Nakatsue**	**0.84**	**280**			**Pn**	**17 52 22.0**	**-0.1**
JIU3	**Izumi3**	**0.98**	**245**	⇓P		**Pn**	**17 52 23.9**	**0.0**
JIU3				S		**Sn**	**17 52 37.4**	**+0.3**
JKU	**Kubokawa**	**1.06**	**71**	⇓P		**Pn**	**17 52 24.3**	**-0.6**
JKU				S		**Sn**	**17 52 38.4**	**-0.6**
JKD	**Kudamatsu**	**1.07**	**1**	⇓P		**Pn**	**17 52 25.2**	**+0.1**
JTA	**Tamana**	**1.12**	**270**	⇑P		**Pn**	**17 52 25.6**	**0.0**
JFA	**Akaike**	**1.16**	**310**	⇑P		**Pn**	**17 52 25.7**	**-0.4**
JTZ	**Takazaki**	**1.26**	**212**	⇓P		**Pn**	**17 52 28.2**	**+0.7**
JET	**Tanbara**	**1.28**	**51**	⇓P		**Pn**	**17 52 27.4**	**-0.3**
JET				S		**Sn**	**17 52 43.7**	**-0.3**
JHM	**Kurahashi**	**1.29**	**25**	⇓P		**Pn**	**17 52 28.0**	**+0.2**
JFI	**Itaya**	**1.31**	**290**	⇑P		**Pn**	**17 52 28.2**	**-0.1**
JZO	**Okuchi**	**1.35**	**232**	⇓P		**Pn**	**17 52 29.2**	**+0.4**
JNKG	**Nichinankitago**	**1.37**	**198**	⇓P		**Pn**	**17 52 29.6**	**+0.6**
JTY	**Toyota**	**1.45**	**333**	⇑P		**Pn**	**17 52 30.1**	**+0.1**
JTY				S		**Sn**	**17 52 48.5**	**+0.5**
JNAR	**Kushima--Naru**	**1.53**	**199**	⇓P		**Pn**	**17 52 31.5**	**+0.4**
JHD	**Hondo**	**1.54**	**251**	⇓P		**Pn**	**17 52 31.3**	**+0.1**
JHIK	**Hikimi**	**1.55**	**2**	⇓P		**Pn**	**17 52 31.8**	**+0.4**
JUR	**Ureshino**	**1.61**	**275**	⇑P		**Pn**	**17 52 32.2**	**0.0**
NGSJ	**Nagasakinomoza**	**1.77**	**259**	⇑P		**Pn**	**17 52 34.3**	**0.0**
JMN	**Monobe**	**1.85**	**66**	⇓P		**Pn**	**17 52 34.8**	**-0.6**
JMN	**Monobe**	**1.85**	**66**	Pn		**Pn**	**17 52 35.0**	**-0.4**
JSU	**Suzuyama**	**1.89**	**219**	⇓P		**Pn**	**17 52 36.2**	**+0.2**
JSU	**Suzuyama**	**1.89**	**219**			**Pn**	**17 52 36.3**	**+0.3**
JHGM	**Hagimishima**	**1.90**	**342**	⇑P		**Pn**	**17 52 36.7**	**+0.6**
JHGM				S		**Sn**	**17 53 00.2**	**+1.3**
MRT2	**Murotomisaki 2**	**1.96**	**77**	⇓P		**Pn**	**17 52 35.4**	**-1.5**
JII	**Iki**	**1.96**	**295**	⇑P		**Pn**	**17 52 36.7**	**-0.2**
JTSR	**Tashiro 2**	**1.97**	**204**	⇓P		**Pn**	**17 52 37.1**	**0.0**
JJS	**Sakaide**	**2.22**	**51**	⇓P		**Pn**	**17 52 39.9**	**-0.5**
JSJ	**Shimokoshiki**	**2.23**	**235**	⇓P		**Pn**	**17 52 40.0**	**-0.6**
JHS	**Saijyo**	**2.27**	**27**	⇓P		**Pn**	**17 52 41.4**	**+0.2**
JHS	**Saijyo**	**2.27**	**27**	Pn		**Pn**	**17 52 41.5**	**+0.4**
JAI	**Aioi**	**2.31**	**69**	⇓P		**Pn**	**17 52 40.9**	**-0.8**
JTN	**Tanegashima 3**	**2.43**	**198**	⇓P		**Pn**	**17 52 43.4**	**0.0**
JTSM	**Tsushimamitsus**	**2.47**	**304**	⇑P		**Pn**	**17 52 43.2**	**-0.6**
JTU	**Tsushima**	**2.57**	**308**	⇑P		**Pn**	**17 52 44.6**	**-0.6**
JTU	**Tsushima**	**2.57**	**308**	Pn		**Pn**	**17 52 44.7**	**-0.4**
JFU	**Fukue jima 2**	**2.64**	**264**	P		**Pn**	**17 52 46.2**	**+0.1**
JYAK	**Yakushimahirau**	**2.96**	**203**	⇓P		**Pn**	**17 52 50.1**	**-0.5**
KSBSA	**Busan_acc** SNR=231	**3.17**	**313**	P		**Pn**	**17 52 53.0**	**-0.3**
KSBSA	**Busan_acc** SNR=231	**3.17**	**313**	P		**Pn**	**17 52 53.0**	**-0.3**
KSBSA	**Busan_acc** SNR=28	**3.17**	**313**	P		**Pn**	**17 52 53.7**	**+0.4**
JKS	**Kasai**	**3.19**	**50**	⇓P		**Pn**	**17 52 53.1**	**-0.5**
KSBUS	**Busan** SNR=622	**3.21**	**316**	P		**Pn**	**17 52 53.6**	**-0.4**
KSBUS	**Busan** SNR=629	**3.21**	**316**	P		**Pn**	**17 52 53.6**	**-0.4

	SNR=438					
KSSEO	Seoul	6.05 319	P	Pn	17 53 33.5	+0.7
	SNR=49					
KSSEO	Seoul	6.05 319	P	Pn	17 53 33.5	+0.7
	SNR=50					
KSSEO	Seoul	6.05 319	P	Pn	17 53 33.5	+0.7
	SNR=49					
KSSEO	Seoul	6.05 319	P	Pn	17 53 33.5	+0.7
	SNR=50					
SHHB	Siheung-si	6.07 317	P	Pn	17 53 34.0	+1.0
	SNR=19					
SHHB	Siheung-si	6.07 317	P	Pn	17 53 34.0	+1.0
	SNR=19					
JFNN	Fujinakano	6.08 67	P	Pn	17 53 34.1	+0.9
JYN	Shimob	6.08 64	⇓P	Pn	17 53 33.5	+0.2
JNG	Nsakai	6.17 55	⇓P	Pn	17 53 35.7	+1.1
KSCWO	Cheorwon	6.21 326	P	Pn	17 53 35.9	+1.0
	SNR=6.4					
KSCWO	Cheorwon	6.21 326	P	Pn	17 53 35.9	+1.0
	SNR=6.4					
INCN	Inchon	6.21 318	P	Pn	17 53 35.3	+0.4
INCN	Inchon	6.21 318	Pn	Pn	17 53 35.3	+0.4
INCN	Inchon	6.21 318	P	Pn	17 53 35.6	+0.6
JHTM	Izuhatsuma	6.26 70	P	Pn	17 53 35.7	0.0
JSKK	Shikinejimakit	6.28 76	⇓P	Pn	17 53 35.9	0.0
MAJO	Matsushiro	6.32 54	P	Pn	17 53 37.5	+1.0
MAJO	Matsushiro	6.32 54	Pn	Pn	17 53 37.5	+1.0
MAT	Matsushiro	6.32 54	P	Pn	17 53 37.4	+0.9
MAT			S	Sn	17 54 46.6	-0.7
MAT	Matsushiro	6.32 54	P	Pn	17 53 37.4	+0.9
MJB9	Matsu-Tunnel	6.32 54		Pn	17 53 37.8	+1.3
MJAR	Matsushiro Arr	6.32 54	P	Pn	17 53 37.3	+0.8
	94nm,0.3s,baz=241,slow=14,SNR=1042					
MJAR			S	Sn	17 54 47.4	+0.1
	13nm,0.3s,baz=226,slow=25,SNR=5.0					
MJAR			LR	LR	17 56 20.2	
	comp=Z,8μm,20.4s,baz=245,slow=39					
MJAR	Matsushiro Arr	6.32 54		Pn	17 53 36.8	+0.3
KSGBI	Gyogryolbido	6.33 307	P	Pn	17 53 37.7	+1.0
	SNR=9.7					
KSGBI	Gyogryolbido	6.33 307	P	Pn	17 53 37.7	+1.0
	SNR=9.7					
JSZ	Suzu	6.34 44	⇓P	Pn	17 53 38.2	+1.5
KSDEI	Deokjeokdo	6.36 314	P	Pn	17 53 38.0	+1.0
	SNR=11					
KSDEI	Deokjeokdo	6.36 314	P	Pn	17 53 38.0	+1.0
	SNR=11					
JHG	Hegura jima	6.38 39	⇓P	Pn	17 53 39.0	+1.8
KSMUS	Musan	6.43 321	P	Pn	17 53 38.5	+0.5
	SNR=100					
KSMUS	Musan	6.43 321	P	Pn	17 53 38.5	+0.5
	SNR=100					
YNCB	YEONCHEON	6.46 323	P	Pn	17 53 39.4	+1.0
	SNR=33					
YNCB	YEONCHEON	6.46 323	P	Pn	17 53 39.4	+1.0
	SNR=33					
KSGAH	Ganghwa	6.47 318	P	Pn	17 53 39.2	+0.7
	SNR=78					
KSGAH	Ganghwa	6.47 318	P	Pn	17 53 39.2	+0.7
	SNR=78					
JRY	Ryogami san	6.56 60	⇓P	Pn	17 53 40.5	+0.8
JJN	Nakama	6.61 50	⇓P	Pn	17 53 42.8	+2.4
JSGW	Sagamiharawaka	6.62 65	P	Pn	17 53 41.0	+0.4
JGK	Kuni	6.62 55	⇓P	Pn	17 53 42.4	+1.7
JHJ	Hachijo jima 2	6.65 87	P	Pn	17 53 41.2	+0.2
	304nm,0.3s,baz=210,slow=21,SNR=61					
JHJ			S	Sn	17 54 52.4	-3.0
	112nm,0.3s,baz=122,slow=15,SNR=12					
JHJ			LR	LR	17 56 20.5	
	comp=Z,7μm,21.1s,baz=276,slow=37					
JHJ2	Mitsune	6.68 87		Pn	17 53 41.2	-0.2
JOW	Kunigami	6.87 208	Pn	Pn	17 53 42.1	-1.9
JAG	Ashikaga	7.13 59	⇓P	Pn	17 53 48.8	+1.1
JKT	Katashina	7.15 56	P	Pn	17 53 49.3	+1.3
JMZ	Minamidaito 2	7.15 185		Pn	17 53 47.7	-0.2
JIZZ	Izumozaki	7.21 49	⇓P	Pn	17 53 51.2	+2.5
JSD	Sado	7.26 44	⇓P	Pn	17 53 50.8	+1.5
JSD	Sado	7.26 44		Pn	17 53 50.5	+1.1
BSO4	Boso 4	7.32 72	P	Pn	17 53 51.7	+1.6
BSO3	Boso 3	7.42 73	P	Pn	17 53 52.3	+1.0
DACB	Daecheong-do R	7.59 312	P	Pn	17 53 54.4	+0.6
	SNR=16					
DACB	Daecheong-do R	7.59 312	P	Pn	17 53 54.4	+0.6
	SNR=16					
JYT	Yasato	7.60 62	Pn	Pn	17 53 54.8	+0.9
KSBAR	Backryungdo	7.67 313	P	Pn	17 53 55.5	+0.5
	SNR=24					
KSBAR	Backryungdo	7.67 313	P	Pn	17 53 55.5	+0.5
	SNR=24					
JNS	Sasagawa	7.77 49	P	Pn	17 53 58.6	+2.3
JHO	Hitachi	8.03 61	P	Pn	17 53 59.8	0.0
JAW	Awa shima	8.12 46	⇓P	Pn	17 54 03.1	+2.0
JMM	Marumori	8.77 54	Pn	Pn	17 54 12.1	+2.1
SSE	Sheshan	9.25 261	P	Pn	17 54 19.2	+2.6
SSE			S	Sn	17 56 00.0	+0.8
SSE			pmax	pmax		
	comp=Z,58nm,0.7s					
SSE			pmax	pmax		
	comp=Z,780nm,3.5s					
SSE			LR	LR		
	comp=N,4μm,18.2s					
SSE			LR	LR		
	comp=E,2μm,18.6s					
MSHR	Mys Shultsa	9.60 357	⇓eP	Pn	17 54 22.8	+1.5
MSHR			pmax	pmax		
	comp=Z,98nm,0.7s					
JAH	Hinai	10.07 42	P	Pn	17 54 30.4	+2.6
VLA	Vladivostok	10.13 0c	iP	Pn	17 54 30.2	+1.7
DL2	Dalian	10.19 308	P	Pn	17 54 30.0	+0.7
DL2			sP		17 54 48.3	
DL2			S	Sn	17 56 26.7	+4.8
DL2			pmax	pmax		
	comp=Z,340nm,1.2s					
DL2			pmax	pmax		
	comp=Z,2μm,4.4s					
DL2			LR	LR		
	comp=Z,5μm,8.2s					
DL2			LR	LR		
	comp=Z,5μm,7.9s					
DL2			LR	LR		
	comp=Z,5μm,18.8s					
JCJ	Chichijima	10.69 121	P	Pn	17 54 39.7	+3.4
	comp=Z,21nm,0.3s,baz=1.6,slow=3.8,SNR=14					
JCJ			S	Sn	17 56 32.0	-2.4
	comp=Z,16nm,0.3s,baz=282,slow=21,SNR=1.7					
JCJ			LR	LR	17 58 22.0	
	comp=Z,2μm,19.7s,baz=340,slow=35					
JTM	Tenmabayashi	10.72 41		Pn	17 54 39.0	+2.4
SNY	Shenyang	11.01 326	⇑P	Pn	17 54 45.5	+4.9
SNY			S	Sn	17 56 52.4	+10
SNY			pmax	pmax		
	comp=Z,390nm,1.7s					
SNY			pmax	pmax		
	comp=Z,1μm,8.8s					
SNY			LR	LR		
	comp=Z,12μm,23.5s					
SNY			LR	LR		
	comp=Z,12μm,16.3s					
SNY			LR	LR		
	comp=Z,6μm,18.1s					
NJ2	Nanjing	11.02 269	⇑iP	Pn	17 54 43.0	+2.2
NJ2			sP		17 55 01.2	
NJ2			S	Sn	17 56 49.7	+7.3
NJ2			SS	SnSn	17 57 01.5	+6.8
NJ2			pmax	pmax		
	comp=Z,170nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,3μm,3.5s					
NJ2			LR	LR		
	comp=Z,7μm,15.2s					
NJ2			LR	LR		
	comp=Z,5μm,14.0s					
NJ2			LR	LR		
	comp=Z,5μm,14.2s					
USRK	Ussuriysk Ar.	11.21 0	P	Pn	17 54 45.6	+2.4
	baz=181,slow=12,SNR=60					
USRK			S	Sn	17 56 50.7	+3.9
	baz=187,slow=18,SNR=1.7					
USRK			LR	LR	17 59 00.8	
	comp=Z,1μm,18.2s,baz=171,slow=37					
JYM2	Yakumo 2	11.34 34	P	Pn	17 54 48.3	+3.2
MDJ	Mudanjiang	11.76 352	P	Pn	17 54 53.9	+3.2
MDJ			sP		17 55 10.0	
MDJ			S	Sn	17 57 00.2	0.0
MDJ			pmax	pmax		
	comp=Z,250nm,1.7s					
MDJ			pmax	pmax		
	comp=Z,2μm,3.5s					
MDJ			LR	LR		
	comp=Z,2μm,12.0s					
MDJ			LR	LR		
	comp=Z,2μm,10.5s					
MDJ			LR	LR		
	comp=Z,2μm,11.5s					
CN2	Changchun	11.92 337	eP	Pn	17 54 57.2	+4.3
CN2			eS	Sn	17 57 07.8	+3.7
CN2			pmax	pmax		
	comp=Z,40nm,0.7s					
CN2			pmax	pmax		
	comp=Z,1μm,3.2s					
CN2			LR	LR		
	comp=Z,3μm,13.0s					
CN2			LR	LR		
	comp=Z,4μm,13.0s					
CN2			LR	LR		
	comp=Z,3μm,13.1s					
JNB	Noboribetsu	11.93 35	P	Pn	17 54 56.3	+3.2
TATO	Taipei	12.08 231	P	Pn	17 54 53.5	-1.7
TIA	Tai'an	12.56 289	eP	Pn	17 55 03.2	+1.3
TIA			S	Sn	17 57 29.9	+10
TIA			pmax	pmax		
	comp=Z,560nm,1.7s					
TIA			pmax	pmax		
	comp=Z,4μm,5.5s					
TIA			LR	LR		
	comp=Z,3μm,14.2s					
TIA			LR	LR		
	comp=Z,4μm,20.8s					
TIA			LR	LR		
	comp=Z,5μm,20.6s					
ERM	Erimo	12.71 42c	iP	Pn	17 55 04.2	+0.4
ERM			pmax	pmax		
	comp=Z,278nm,0.8s					
ERM	Erimo	12.71 42		Pn	17 55 03.3	-0.5
SSLB	Suanglung	13.26 229		Pn	17 55 09.5	-1.8
JAB	Ashibetsu	13.28 35	P	Pn	17 55 12.5	+1.0
JKK2	Kamakawa 2	13.81 35	P	Pn	17 55 18.1	-0.6
ASAJ	Asahikawa	13.92 34	P	Pn	17 55 20.5	+0.3
	comp=Z,14nm,0.3s,baz=225,slow=12,SNR=279					
ASAJ			LR	LR	18 00 27.1	
	comp=Z,4μm,20.4s,baz=216,slow=36					
ASAJ	Asahikawa	13.92 34	P	Pn	17 55 19.9	-0.2
QZH	Quanzhou	14.10 239	P	P	17 55 27.4	-1.0
QZH			sP	Pn	17 55 45.0	+22
QZH			S	Sn	17 58 05.9	+8.5
QZH			pmax	pmax		
	comp=Z,120nm,1.2s					
QZH			pmax	pmax		
	comp=Z,1μm,10.2s					
QZH			LR	LR		
	comp=N,3μm,15.7s					
QZH			LR	LR		
	comp=E,4μm,18.2s					
QZH			LR	LR		
	comp=Z,4μm,19.9s					
JMP	Maruseppu	14.21 36	P	Pn	17 55 22.6	-1.3
BJI	Beijing	14.44 304	P	Pn	17 55 28.5	+1.5
BJI			pmax	pmax		
	comp=Z,220nm,1.1s					
BJI			pmax	pmax		
	comp=Z,3μm,3.1s					
WHN	Wuhan	15.10 265	⇑P	Pn	17 55 36.4	+0.9
WHN			pP	P	17 55 41.1	+1.7
WHN			S	S	17 58 30.8	-4.8
WHN			pmax	pmax		
	comp=Z,290nm,1.8s					
WHN			LR	LR		
	comp=Z,5μm,7.3s					
WHN			LR	LR		
	comp=Z,7μm,10.5s					
WHN			LR	LR		
	comp=Z,7μm,12.0s					
YUK	Yuzh-Kuril'sk	15.53 41d	eP	Pn	17 55 37.6	-3.4
KLR	Kul'dur	16.24 360	P	P	17 55 52.0	0.0
	comp=Z,6.7nm,0.3s,baz=179,slow=11,SNR=91					
KLR			S	Sn	17 58 51.2	+2.1
	baz=78,slow=14,SNR=1.3					
KLR			LR	LR	18 01 49.3	
	comp=Z,1μm,19.0s,baz=178,slow=36					
YSS	Yuzh-Sakhalins	16.24 28κ	iP	Pn	17 55 49.7	-0.3
YSS			eS	Sn	17 58 48.7	-0.5
YSS			pmax	pmax		
	comp=Z,2μm,3.9s					
YSS			pmax	pmax		
	comp=Z,230nm,1.2s					
YSS			MLR	MLR		
	comp=Z,2μm,11.0s					
YSS	Yuzh-Sakhalins	16.24 28		Pn	17 55 49.9	-0.1
YSS			IAmb	IAmb	17 56 09.3	
	comp=Z,425nm,1.0s					
TIY	Taiyuan	16.54 292	eP	P	17 55 55.5	+0.1
TIY			pP	pP	17 56 05.1	-3.7
TIY			sP	sP	17 56 13.4	-3.4
TIY			S	Sn	17 58 56.1	-0.5
TIY			sS	S	17 59 11.4	+6.2
TIY			pmax	pmax		
	comp=Z,57nm,0.8s					
TIY			pmax	pmax		
	comp=Z,3μm,4.5s					
TIY			LR	LR		
	comp=Z,1μm,5.5s					
TIY			LR	LR		
	comp=Z,1μm,9.7s					
TIY			LR	LR		
	comp=Z,3μm,21.0s					
KUR	Kuril'sk	17.40 41d	iP	Pn	17 56 03.0	-1.3
KUR			pmax	pmax		
	comp=Z,961nm,0.8s					
KUR			pmax	pmax		
	comp=E,139nm,0.9s					
KUR			pmax	pmax		
	comp=N,119nm,0.7s					
KUR			pmax	pmax		
	comp=Z,4μm,1.5s					
KUR			MLR	MLR		
	comp=N,1μm,16.0s					
KUR			MLR	MLR		
	comp=Z,1μm,16.0s					
KUR			MLR	MLR		
	comp=E,2μm,14.0s					
UGL	Uglegorsk	17.80 22	⇓iP	Pn	17 56 09.4	+0.1
UGL			eS	Sn	17 59 26.8	-0.1
UGL			pmax	pmax		
	comp=N,950nm,4.0s					
UGL			pmax	pmax		
	comp=Z,2μm,2.0s					
UGL			pmax	pmax		
	comp=E,270nm,1.0s					
UGL			pmax	pmax		
	comp=N,150nm,1.1s					
UGL			pmax	pmax		
	comp=Z,530nm,1.2s					
UGL			smax	smax		
	comp=E,2μm,5.0s					
UGL			smax	smax		
	comp=N,3μm,8.0s					
HHC	Hu-ho-hao-te	18.01 302	⇑iP	Pn	17 56 14.1	+2.1
HHC			pP	pP	17 56 25.3	+0.2
HHC			sP	sP	17 56 33.7	+0.6
HHC			S	Sn	17 59 29.8	-2.4
HHC			sS	sS	17 59 47.3	-9.2
HHC			pmax	pmax		
	comp=N,270nm,1.3s					
HHC			pmax	pmax		
	comp=N,4μm,5.2s					
HHC			LR	LR		
	comp=N,1μm,13.0s					
HHC			LR	LR		
	comp=N,3μm,12.4s					
HHC			LR	LR		
	comp=N,4μm,15.1s					
GRNR	Gornyy	18.09 9	⇓iP	P	17 56 12.3	-0.2
GRNR			eS	Sn	17 59 30.7	-3.2
GRNR			pmax	pmax		
	comp=N,20nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,30nm,1.0s					
GRNR			smax	smax		
	comp=N,10.0nm,0.9s					
BTO	Baotou	19.05 300	eP	Pn	17 56 25.8	+1.3
BTO			S	Sn	18 00 02.4	+5.2
BTO			LR	LR		
	comp=N,5μm,12.0s					
BTO			LR	LR		
	comp=N,7μm,11.8s					
XAN	Xi'an	19.16 279	⇑P	P	17 56 24.8	+0.5
XAN			PP	PnPn	17 56 40.9	+0.6
XAN			sP	sP	17 56 44.8	-1.0
XAN			S	Sn	17 59 59.4	-0.4
XAN			sS	sS	18 00 17.6	-2.2
XAN			SS	SnSn	18 00 26.7	+12
XAN			ScS	ScS	18 07 50.6	-7.5
XAN			pmax	pmax		
	comp=N,270nm,1.7s					
XAN			LR	LR		
	comp=N,4μm,20.3s					
XAN			LR	LR		
	comp=N,2μm,20.3s					
XAN			LR	LR		
	comp=N,4μm,24.9s					
TYV	Tymovskoe	19.56 21	eP	Pn	17 56 29.8	-0.4
TYV			eS	Sn	18 00 08.4	-0.7
TYV			pmax	pmax		
	comp=Z,2μm,2.9s					
TYV			pmax	pmax		
	comp=Z,145nm,1.6s					
TYV			smax	smax		
	comp=N,16nm,2.0s					
TYV			MLR	MLR		
	comp=Z,1μm,16.0s					
TYV			MLR	MLR		
	comp=E,2μm,11.0s					
ZEA	Zeya	21.01 352	eP	P	17 56 45.5	+1.3
ZEA			e		17 57 01.5	
ZEA			eS	S	18 00 29.9	-4.7
ZEA			pmax	pmax		
	comp=N,400nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,700nm,1.5s					
ZEA			pmax	pmax		
	comp=N,210nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,440nm,0.9s					
ZEA			smax	smax		
	comp=N,1μm,6.1s					
ZEA			smax	smax		
	comp=E,2μm,6.8s					
ZEA			MLR	MLR		
	comp=N,900nm,7.0s					
ZEA			MLR	MLR		
	comp=Z,700nm,9.0s					
NKL	Nikolayevsk	21.14 15	eP	P	17 56 44.7	-0.8
NKL			eS	S	18 00 40.0	+3.0
NKL			pmax	pmax		
	comp=N,262nm,1.1s					
NKL			pmax	pmax		
	comp=Z,201nm,1.1s					
NKL			pmax	pmax		
	comp=E,50nm,0.7s					
NKL			smax	smax		
	comp=N,468nm,0.8s					
NKL			MLR	MLR		
	comp=E,2μm,15.0s					
NKL			MLR	MLR		
	comp=N,10μm,19.0s					
NKL			MLR	MLR		
	comp=Z,1μm,13.0s					
GUMO	Guam	22.66 145	LR	LR	18 05 02.9	
	comp=Z,772nm,20.1s,baz=340,slow=34					
GYA	Guiyang	22.80 260	⇓P	P	17 57 01.9	-1.8
GYA			sP	sP	17 57 24.5	-0.9
GYA			S	S	18 01 08.1	-0.1
GYA			LR	LR		
	comp=Z,280nm,9.1s					
GYA			LR	LR		
	comp=Z,220nm,7.5s					
RCP	Roxas	22.90 204	⇓eP	P	17 57 17.9	+13
CIT	Chita	23.21 330	eP	P	17 57 08.2	+0.7
CIT			e		17 57 19.6	
CIT			e		17 57 31.2	
CIT			e		17 57 43.7	
CIT			e		18 01 17.8	
CIT			pmax	pmax		
	comp=Z,449nm,1.9s					
LZH	Lanzhou	23.26 286	⇑P	P	17 57 07.6	-0.6
LZH			pP	pP	17 57 24.2	+1.8
LZH			sP	sP	17 57 30.8	+0.5
LZH			S	S	18 01 13.6	-2.1
LZH			sS	Sn	18 01 37.9	-0.3
LZH			SS	SnSn	18 01 58.6	+3.4
LZH			pmax	pmax		
	comp=Z,230nm,1.1s					
LZH			pmax	pmax		
	comp=Z,1μm,5.2s					
LZH			LR	LR		
	comp=Z,3μm,12.6s					
LZH			LR	LR		
	comp=Z,2μm,12.1s					
LZH			LR	LR		
	comp=Z,2μm,14.6s					
MSLP	Maasin	23.63 197	⇓iP	P	17 57 11.4	-0.2
LLP	Lapu-Lapu	23.70 200	eP	P	17 57 11.7	-0.4
ULN	Ulaanbaatar	23.90 316	P	P	17 57 14.2	+0.2
ULN			pmax	pmax		
	comp=Z,241nm,0.8s					
ULN	Ulaanbaatar	23.90 316	P	P	17 57 14.2	+0.2
ULN			IAmb	IAmb	17 57 18.3	
	comp=Z,241nm,0.8s					
ULN	Ulaanbaatar	23.90 316	P	P	17 57 14.1	+0.2
ULN			P	P	17 57 14.1	+0.2
CD2	Chengdu	23.91 273	⇑P	P	17 57 13.2	-0.9
CD2			sP	sP	17 57 33.5	-3.2
CD2			S	S	18 01 28.2	+2.1
CD2			pmax	pmax		
	comp=Z,750nm,0.9s					
CD2			pmax	pmax		
	comp=Z,1μm,4.0s					
CD2			LR	LR		
	comp=Z,8μm,21.4s					
CD2			LR	LR		
	comp=Z,5μm,15.9s					
CD2			LR	LR		
	comp=Z,4μm,18.6s					
QIZ	Qiongzhong	24.11 240	P	P	17 57 16.8	+0.9
QIZ			S	S	18 01 31.7	+2.3
QIZ			pmax	pmax		
	comp=Z,210nm,8.5s					
QIZ			LR	LR		
	comp=Z,2μm,20.4s					
QIZ			LR	LR		
	comp=Z,840nm,20.1s					
QIZ			LR	LR		
	comp=Z,2μm,14.3s					
SONM	Songino Array	24.27 315	P	P	17 57 17.3	+0.1
	comp=Z,243nm,0.8s,baz=125,slow=9.5,SNR=156					
SONM			PcP	PcP	18 00 57.2	+1.3
	comp=Z,4.1nm,0.8s,baz=186,slow=3.3,SNR=4.2					
SONM			LR	LR	18 07 39.6	
	comp=Z,3μm,18.4s,baz=120,slow=39					
SONM	Songino Array	24.27 315	P	P	17 57 17.4	+0.1
SKR	Severo-Kuril's	25.11 38	eP	P	17 57 25.7	+1.0
SKR			e*PP	sP	17 57 43.6	-3.6
SKR			ePPP	PPP	17 58 19.2	
SKR			eS	S	18 01 47.1	+2.3
SKR			e*SS	sS	18 02 06.4	-4.3
SKR			pmax	pmax		
	comp=Z,1μm,3.2s					
SKR			pmax	pmax		
	comp=Z,341nm,0.9s					
SKR			pmax	pmax		
	comp=Z,300nm,3.0s					
SKR			MLR	MLR		
	comp=Z,1μm,14.0s					
SKR			MLR	MLR		
	comp=Z,900nm,16.0s					
CGP	Cagayan de Oro	25.29 197	⇓eP	P	17 57 27.5	+0.8
BUKP	Musuan	25.76 196	eP	P	17 57 30.5	-0.5
GTA	Gaotai	26.56 293	⇑P	P	17 57 37.2	-0.9
GTA			pP	pP	17 57 52.1	-1.3
GTA			sP	sP	17 58 01.3	+0.5
GTA			PcP	PcP	18 01 00.8	-0.4
GTA			S	S	18 02 05.4	-2.8
GTA			sS	sS	18 02 30.4	-3.9
GTA			ScP	ScP	18 04 36.8	+1.0
GTA			PcS	PcS	18 04 42.7	+0.2
GTA			pmax	pmax		

comp=Z,45nm,1.1s
GTA pmax pmax
comp=Z,500nm,10.8s
GTA LR LR
comp=Z,2μm,17.9s
GTA LR LR
comp=Z,2μm,20.7s
GTA LR LR
comp=Z,3μm,18.7s
KMI Kunming 26.57 260 AMB AMB
comp=Z,300nm,7.5s
KMI Kunming 26.57 260 ⇓P **P 17 57 38.1 -0.4**
KMI pP pP 17 57 50.2 -3.7
KMI sP sP 17 57 56.8 -4.6
KMI PP PP 17 58 23.9 -16
KMI S **S 18 02 07.1 -1.8**
KMI sS sS 18 02 28.3 -6.6
KMI PcS **PcS 18 04 36.4 -6.8**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI LR LR
comp=Z,1μm,12.0s
KMI LR LR
comp=Z,2μm,15.0s
KMI LR LR
comp=Z,2μm,17.0s
KCP Kidapawan 26.59 195⇓*e*P **P 17 57 38.5 -0.1**
ZAK Zakamensk 27.29 318 *e*P **P 17 57 43.6 -0.9**
ZAK pmax pmax
comp=Z,61nm,1.4s
PEA0B Petropavlovsk- 27.34 35*d i*P **P 17 57 45.6 +0.8**
PEA0B Petropavlovsk- 27.34 35 P **P 17 57 45.8 +1.0**
PETK Petropavlovsk- 27.34 35 P **P 17 57 45.6 +0.8**
comp=Z,25nm,0.9s,baz=219,slow=10,SNR=72
PETK ScP **ScP 18 04 36.3 -1.3**
comp=Z,4.8nm,0.9s,baz=216,slow=7.1,SNR=5.6
PETK LR LR 18 08 56.7
comp=Z,1μm,20.2s,baz=227,slow=37
PETK Petropavlovsk- 27.34 35 P **P 17 57 45.0 +0.2**
SLVN Son La 27.36 252 P **P 17 57 44.6 -0.8**
BOD Bodaibo 27.65 339 *e*P **P 17 57 47.8 +0.2**
BOD pmax pmax
comp=Z,75nm,1.3s
TLY Talaya 27.74 321 P **P 17 57 48.9 +0.5**
comp=Z,21nm,0.7s,baz=138,slow=5.6,SNR=8.4
TLY LR LR 18 10 10.5
comp=Z,1μm,18.2s,baz=120,slow=39
TLY Talaya 27.74 321*c i*P **P 17 57 48.7 +0.2**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY Talaya 27.74 321 P **P 17 57 48.6 0.0**
TLY Talaya 27.74 321 P **P 17 57 48.5 0.0**
TLY P **P 17 57 48.5 0.0**
TLY P **P 17 57 48.5 0.0**
PET Petropavlovsk 27.75 36κ *i*P **P 17 57 50.0 +1.5**
PET *e**PP **pP 17 58 03.8 +0.1**
PET *e*S **S 18 02 26.9 +0.4**
PET *e**SS **sS 18 02 50.4 -2.1**
PET pmax pmax
comp=Z,337nm,1.3s
PET pmax pmax
comp=Z,300nm,12.7s
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 27.75 36 P **P 17 57 49.8 +1.3**
YAK Yakutsk 29.10 358 P **P 17 57 59.7 -0.7**
comp=Z,18nm,0.7s,baz=176,slow=1.8,SNR=20
YAK ScP **ScP 18 04 42.0 -0.9**
comp=Z,9.8nm,0.9s,baz=248,slow=3.7,SNR=7.0
YAK LR LR 18 09 09.2
comp=Z,504nm,19.0s,baz=175,slow=35
YAK Yakutsk 29.10 358 *e*P **P 17 57 59.6 -0.7**
YAK *e**PP **pP 17 58 13.8 -1.8**
YAK *e* 17 58 53.0
YAK *e* 18 01 08.0
YAK *e*S **S 18 02 48.8 +1.3**
YAK *e**SS **sS 18 03 13.0 -0.6**
YAK *e*SS **SnSn 18 04 21.3 +4.3**
YAK *e* 18 04 41.7
YAK *e* 18 08 30.7
YAK pmax pmax
comp=Z,44nm,1.0s
YAK pmax pmax
comp=N,27nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.5s
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=E,32nm,1.3s
YAK smax smax
comp=N,71nm,2.1s
YAK smax smax
comp=E,35nm,1.5s
YAK Yakutsk 29.10 358 P **P 17 57 59.5 -0.9**
YAK IAmb IAmb 17 58 17.7
comp=Z,75nm,0.7s
MOY Mondy 29.17 319 *e*P **P 17 58 01.3 0.0**
MOY pmax pmax
comp=Z,52nm,2.1s
MA2 Magadan 29.42 20 P **P 17 58 04.0 +0.7**
comp=Z,37nm,0.8s,baz=213,slow=7.8,SNR=42
MA2 ScP **ScP 18 04 44.2 +0.2**
comp=Z,6.3nm,0.8s,baz=268,slow=2.0,SNR=4.6
MA2 Magadan 29.42 20*d i*P **P 17 58 03.6 +0.3**
MA2 pmax pmax
comp=Z,43nm,0.9s
MA2 Magadan 29.42 20 P **P 17 58 03.9 +0.6**
SGSI Sangihe 29.74 193 P **P 17 58 06.7 +0.2**
comp=Z,5μmcomp=Z,667nm,0.7s
NONG Nongkai 29.74 247 P **P 17 58 06.5 0.0**
comp=Z,78nm,0.9s
NONG Nongkai 29.74 247 P **P 17 58 06.0 -0.5**
LKP Lekhapani 31.54 269 *e*P **P 17 58 21.6 -0.8**
LKP IAmb IAmb 17 58 27.1
comp=Z,354nm,1.7s
SPMM Sapulut 31.59 210 P **P 17 58 25.0 +2.2**
CHAI Chaiyaphum 31.92 245 P **P 17 58 24.7 -1.0**
comp=Z,387nmcomp=Z,42nm,0.8s
CHAI Chaiyaphum 31.92 245 P **P 17 58 24.8 -1.0**
comp=Z,96nmcomp=Z,10nm,0.8s
UTTA Uttaradit 31.95 249 P **P 17 58 26.0 +0.1**
comp=Z,346nmcomp=Z,39nm,0.8s
UTTA Uttaradit 31.95 249 P **P 17 58 26.0 +0.1**
comp=Z,86nmcomp=Z,9.8nm,0.8s
LAMP Lampang 32.25 251 P **P 17 58 28.6 0.0**
comp=Z,651nmcomp=Z,76nm,1.1s
LAMP Lampang 32.25 251 P **P 17 58 28.6 0.0**
comp=Z,162nmcomp=Z,19nm,1.1s
TNTI Ternate 32.31 188 P **P 17 58 29.1 0.0**
comp=Z,2μmcomp=Z,164nm,1.0s
TNTI pP **sP 17 58 51.4 -0.4**
comp=Z,2μmcomp=Z,164nm,1.0s
PHIT Phitsanulok 32.37 249 P **P 17 58 30.1 +0.4**
comp=Z,1μmcomp=Z,142nm,1.0s
PHIT Phitsanulok 32.37 249 P **P 17 58 30.1 +0.4**
comp=Z,333nmcomp=Z,35nm,1.0s
CMMT Chiang Mai 32.64 253 P **P 17 58 31.4 -0.7**
comp=Z,35nm,1.2s
CMMT Chiang Mai 32.64 253 P **P 17 58 31.5 -0.7**
comp=Z,35nm,1.2s
CHTO Chiang Mai 32.65 253 P **P 17 58 30.8 -1.3**
CHTO pmax pmax
comp=Z,40nm,1.1s
CHTO Chiang Mai 32.65 253 P **P 17 58 31.4 -0.7**
comp=Z,35nm,1.0s
CHTO Chiang Mai 32.65 253 P **P 17 58 30.8 -1.3**
CHTO Chiang Mai 32.65 253 P **P 17 58 31.7 -0.4**
SEY Seymchan 32.66 17 P **P 17 58 32.7 +0.9**
comp=Z,42nm,1.1s,baz=213,slow=6.9,SNR=59
SEY ScP **ScP 18 04 54.7 0.0**
comp=Z,7.4nm,1.0s,baz=100,slow=3.6,SNR=4.3
SEY LR LR 18 13 03.7
comp=Z,708nm,18.7s,baz=190,slow=38
SEY Seymchan 32.66 17*d i*P **P 17 58 32.9 +1.1**
CM09 Chiang Mai Arr 32.80 252 P **P 17 58 33.4 -0.1**
comp=Z,266nmcomp=Z,33nm,1.0s
CM09 Chiang Mai Arr 32.80 252 P **P 17 58 33.0 -0.5**
comp=Z,266nmcomp=Z,33nm,1.0s
CM32 Chiang Mai Arr 32.81 252 P **P 17 58 33.0 -0.5**
CM31 Chiang Mai Arr 32.84 252 P **P 17 58 33.7 -0.1**
comp=Z,706nm,0.7s
CM31 Chiang Mai Arr 32.84 252 P **P 17 58 32.8 -1.0**
CMAR Chiang Mai Arr 32.84 252 P **P 17 58 33.5 -0.3**
comp=Z,8.3nm,0.6s,baz=54,slow=6.9,SNR=56
CMAR pP **pP 17 58 48.6 -0.7**
comp=Z,16nm,0.8s,baz=51,slow=7.7,SNR=8.3
CMAR PcP **PcP 18 01 18.2 +0.7**
comp=Z,3.8nm,0.6s,baz=35,slow=2.4,SNR=8.3
CMAR ScP **ScP 18 04 56.6 +0.4**
comp=Z,6.2nm,1.1s,baz=32,slow=2.4,SNR=11
CMAR LR LR 18 13 21.3
comp=Z,816nm,18.4s,baz=101,slow=39
CMAR Chiang Mai Arr 32.84 252 P **P 17 58 33.5 -0.3**
CM04 Chiang Mai Arr 32.84 252 P **P 17 58 33.7 -0.1**
comp=Z,216nmcomp=Z,23nm,0.9s
CM04 Chiang Mai Arr 32.84 252 P **P 17 58 33.8 -0.1**
comp=Z,216nmcomp=Z,23nm,0.9s
CM01 Chiang Mai Arr 32.84 252 P **P 17 58 33.7 -0.1**
comp=Z,249nmcomp=Z,29nm,1.0s
CM01 Chiang Mai Arr 32.84 252 P **P 17 58 33.8 -0.1**
comp=Z,249nmcomp=Z,29nm,1.0s
CM02 Chiang Mai Arr 32.84 252 P **P 17 58 33.8 0.0**
comp=Z,240nmcomp=Z,33nm,1.0s
CM02 Chiang Mai Arr 32.84 252 P **P 17 58 33.9 0.0**
comp=Z,240nmcomp=Z,33nm,1.0s
CM15 Chiang Mai Arr 32.85 252 P **P 17 58 33.7 -0.2**
comp=Z,213nmcomp=Z,25nm,1.2s
CM15 Chiang Mai Arr 32.85 252 P **P 17 58 33.8 -0.2**
comp=Z,213nmcomp=Z,25nm,1.2s
CM05 Chiang Mai Arr 32.86 252 P **P 17 58 33.8 -0.2**
comp=Z,125nmcomp=Z,13nm,0.8s
CM05 Chiang Mai Arr 32.86 252 P **P 17 58 33.9 -0.1**
comp=Z,125nmcomp=Z,13nm,0.8s
CM13 Chiang Mai Arr 32.88 252 P **P 17 58 34.0 -0.2**
comp=Z,153nmcomp=Z,17nm,1.0s
CM13 Chiang Mai Arr 32.88 252 P **P 17 58 34.0 -0.2**
comp=Z,153nmcomp=Z,17nm,1.0s
MOKO MOKOCHONG 33.00 268 *e*P **P 17 58 34.3 -1.1**
MOKO IAmb IAmb 17 58 37.8
comp=Z,51nm,0.9s
SRAK Srakaew 33.05 242 P **P 17 58 31.8 -3.8**
comp=Z,3μmcomp=Z,288nm,0.9s
GTOI Gorontalo 33.23 196 P **P 17 58 39.6 +2.4**
comp=Z,521nmcomp=Z,30nm,1.2s
TOLI2 Tolitoli 33.37 200 P **P 17 58 38.4 0.0**
TOLI2 IAmb IAmb 17 58 54.3
comp=Z,145nm,1.2s
ITAN ITANAGAR 33.39 270 *e*P **P 17 58 38.2 -0.3**
ITAN IAmb IAmb 17 58 43.5
comp=Z,305nm,1.3s
MRSI Marisa 33.65 198 P **P 17 58 43.7 +2.9**
comp=Z,2μmcomp=Z,147nm,1.3s
SWI Sorong 33.66 181 P **P 17 58 41.5 +0.6**
comp=Z,79nm,0.9s
UTHA Uthaitani 34.08 247 P **P 17 58 45.0 +0.5**
comp=Z,101nmcomp=Z,8.3nm,0.9s
UMPA Umpang Tak 34.15 249 P **P 17 58 50.0 +4.8**
comp=Z,66nm,0.9s
UMPA Umpang Tak 34.15 249 P **P 17 58 50.0 +4.8**
comp=Z,16nm,0.9s
MPSI Mapaga 34.37 202 P **P 17 58 47.0 0.0**
comp=Z,1μmcomp=Z,87nm,1.4s
MPSI pP **pP 17 59 02.3 -0.2**
comp=Z,1μmcomp=Z,87nm,1.4s
LSA Lhasa 34.77 276 P **P 17 58 50.7 -0.4**
LSA S **S 18 04 16.5 -1.0**
LSA pmax pmax
comp=Z,72nm,1.4s
LSA LR LR
comp=Z,2μm,17.1s
LSA LR LR
comp=Z,5μm,26.3s
LSA LR LR
comp=Z,8μm,26.3s
LSA Lhasa 34.77 276 P **P 17 58 51.7 +0.6**
LUWI Luwuk 34.91 196 P **P 17 58 51.8 +0.1**
comp=Z,3μmcomp=Z,166nm,1.2s
APSI Ampana 35.06 198 P **P 17 58 53.5 +0.5**
comp=Z,1μmcomp=Z,75nm,1.1s
SANI Sanana 35.28 190 P **P 17 58 56.5 +1.6**
comp=Z,2μmcomp=Z,125nm,1.1s
SHL Shillong 35.48 269 P **P 17 58 54.9 -2.0**
SHL pmax pmax
comp=Z,28nm,0.8s
SHL Shillong 35.48 269 *e*P **P 17 58 54.9 -2.0**
SHL Shillong 35.48 269 P **P 17 58 54.9 -2.0**
SHL Shillong 35.48 269 P **P 17 58 55.7 -1.2**
SBUM Sibu 35.52 215 P **P 17 58 57.0 0.0**
PHET Kaeng Krachan 35.56 243 P P 17 59 06.8 +9.5
PHET Kaeng Krachan 35.56 243 P P 17 59 06.8 +10
FAKI Fak Fak 35.70 179 P **P 17 58 59.3 +0.8**
WMQ Urumqi 35.88 301 P **P 17 59 00.1 +0.1**
WMQ pP pP 17 59 17.7 +2.1
WMQ sP sP 17 59 24.0 +1.0
WMQ PP **PP 18 00 28.4 +6.0**
WMQ S **S 18 04 32.1 -1.4**
WMQ SS **SnSn 18 06 59.8 -2.1**
WMQ pmax pmax
comp=Z,190nm,1.5s
WMQ pmax pmax
comp=Z,1μm,4.7s
WMQ LR LR
comp=Z,1μm,21.9s
WMQ LR LR
comp=Z,1μm,22.3s
WMQ LR LR
comp=Z,2μm,25.9s
MSAI Masohi 36.23 185 P **P 17 59 05.6 +2.6**
comp=Z,343nmcomp=Z,32nm,1.3s
GENI Genyem 36.24 166 P **P 17 59 05.3 +2.2**
comp=Z,161nm,1.9s
NLAI Namlea 36.30 188 P **P 17 59 04.9 +1.3**
comp=Z,2μmcomp=Z,114nm,1.2s
DGZ Jazzator, Alta 36.70 310*c i*P **P 17 59 06.4 -0.6**
DGZ pmax pmax
comp=Z,14nm,0.6s
DGZ MLR MLR
comp=Z,2μm,19.0s
KSM Kuching 37.31 217 P **P 17 59 13.0 +0.8**
MTKI Muara Teweh, K 37.34 209 P **P 17 59 12.5 0.0**
comp=Z,1μmcomp=Z,72nm,1.1s
TTSI Tana Toraja 37.60 200 P **P 17 59 13.7 -0.9**
comp=Z,1μmcomp=Z,36nm,1.0s
MANU Manus Island 37.79 154 P **P 17 59 16.9 +0.6**
ZSN Zaisan 38.10 306⇑*i*P **P 17 59 17.1 -1.5**
comp=Z,61nm,2.1s,baz=306
ZSN *e*PP **PP 18 00 42.4 -4.2**
baz=306
ZSN *e*S **S 18 05 06.0 -1.0**
baz=306
ZSN Zaisan 38.10 306*c i*P **P 17 59 17.1 -1.5**
ZSN *e* 18 00 42.4
ZSN *e*S **S 18 05 06.0 -1.0**
ZSN pmax pmax
comp=Z,61nm,2.1s
TIXI Tiksi 38.77 358 P **P 17 59 23.9 +0.1**
comp=Z,12nm,0.8s,baz=139,slow=5.0,SNR=24
TIXI Tiksi 38.77 358*c i*P **P 17 59 23.8 -0.1**
TIXI Tiksi 38.77 358 P **P 17 59 24.2 +0.3**
BNSI Bone 38.81 199 P **P 17 59 26.4 +1.6**
comp=Z,48nm,1.1s
AMKA Amchitka 38.88 47 P **P 17 59 27.5 +2.4**
KBKI Kotabaru 39.02 205 P **P 17 59 26.9 +0.3**
comp=Z,663nmcomp=Z,58nm,1.0s
ZAA0 Zalesovo Array 39.15 317 P **P 17 59 26.6 -0.7**
ZALV Zalesovo Beam 39.15 317 P **P 17 59 26.5 -0.8**
comp=Z,13nm,0.7s,baz=91,slow=7.8,SNR=21
ZALV pP **pP 17 59 43.7 +0.8**
comp=Z,17nm,0.8s,baz=88,slow=7.2,SNR=8.6
ZALV PcP **PcP 18 01 34.6 -1.1**
comp=Z,13nm,0.9s,baz=134,slow=4.3,SNR=4.1
ZALV ScP **ScP 18 05 16.0 -2.6**
comp=Z,3.9nm,0.9s,baz=116,slow=3.4,SNR=3.6
ZALV LR LR 18 17 02.4
comp=Z,1μm,18.2s,baz=104,slow=38
ZALV Zalesovo Beam 39.15 317 *i* P **P 17 59 28.8 +1.5**
ZALV pmax pmax
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 39.15 317 P **P 17 59 26.3 -1.0**
BBKI Banjar Baru 39.66 207 P **P 17 59 32.4 +0.4**
comp=Z,3μmcomp=Z,254nm,0.9s
BKSI Bulukumba 39.69 198 P **P 17 59 34.7 +2.6**
comp=Z,966nmcomp=Z,86nm,0.9s
MK31 Makanchi Array 39.81 305*c i*P **P 17 59 31.9 -1.1**
MK31 Makanchi Array 39.81 305 P **P 17 59 32.5 -0.5**
MK31 IAmb IAmb 17 59 36.0
comp=Z,70nm,1.1s
MKAR Makanchi Array 39.81 305 P **P 17 59 32.2 -0.7**
comp=Z,29nm,0.6s,baz=93,slow=10,SNR=292
MKAR pP **pP 17 59 48.8 +0.1**
comp=Z,34nm,0.9s,baz=95,slow=9.3,SNR=6.6
MKAR ScP **ScP 18 05 20.5 -0.9**
comp=Z,17nm,1.1s,baz=83,slow=5.0,SNR=11
MKAR LR LR 18 17 30.1
comp=Z,1μm,21.1s,baz=95,slow=38
MKAR Makanchi Array 39.81 305 P **P 17 59 32.6 -0.4**
MAKZ Makanchi 40.03 305 P **P 17 59 34.1 -0.7**
MAKZ pmax pmax
comp=Z,54nm,0.9s
MAKZ Makanchi 40.03 305 P **P 17 59 34.1 -0.7**
MAKZ IAmb IAmb 17 59 37.9
comp=Z,54nm,0.9s
KULM Kulim 40.05 233 P **P 17 59 35.0 -0.2**
BILL Biliibino 40.29 19*c i*P **P 17 59 37.3 +0.7**
BILL *i* *PP **pP 17 59 53.9 +1.6**
BILL *i* 17 59 59.0
BILL *i* SS SS 18 08 36.1 -3.4
BILL pmax pmax
comp=Z,109nm,1.1s
BILL MLR MLR
comp=Z,554nm,16.0s
IPM Ipoh 40.40 232 P **P 17 59 37.0 -1.1**
MYKOM Kota Tinggi 40.66 226 P **P 17 59 41.0 +0.7**
BOK Bokaro 41.20 269 *e*P **P 17 59 43.9 -0.8**
BOK *i* PCP **PcP 18 01 44.9 +2.1**
SEM Semipalatinsk 41.38 311⇑*i*P **P 17 59 44.6 -1.6**
comp=Z,23nm,0.5s,baz=311
SEM Semipalatinsk 41.38 311*c i*P **P 17 59 44.5 -1.6**
SEM pmax pmax
comp=Z,23nm,0.5s
ADK Adak 41.43 47 P **P 17 59 47.4 +1.2**
ADK pmax pmax
comp=Z,159nm,1.0s
ADK Adak 41.43 47 P **P 17 59 47.4 +1.2**
ADK IAmb IAmb 17 59 48.4
comp=Z,159nm,1.0s
RABL Rabaul 41.67 149 P **P 17 59 51.3 +2.7**
RABL IAmb IAmb 18 00 07.2
comp=Z,158nm,1.0s
GSTR Great Sitkin T 41.84 47 P **P 17 59 50.6 +1.1**
SHLS Shalkode 41.88 300⇑*i*P **P 17 59 45.5 -4.8**
comp=Z,54nm,1.3s,baz=300
SHLS *e*PP **PP 18 01 22.2 -5.8**
baz=300
SHLS *e*S **S 18 05 57.0 -6.9**
baz=300
SHLS Shalkode 41.88 300*c i*P **P 17 59 45.4 -4.8**
SHLS *e* 18 01 22.1
SHLS *e*S **S 18 05 56.9 -6.9**
SHLS pmax pmax
comp=Z,54nm,1.3s
UZB Uzynbulak 42.20 300⇑*i*P **P 17 59 51.1 -1.8**
comp=Z,69nm,1.6s,baz=300
UZB *e*PP **PP 18 01 32.1 +0.7**
baz=300
UZB *i* S **S 18 06 06.8 -1.8**
comp=Z,28nm,1.7s,baz=300
UZB Uzynbulak 42.20 300*c i*P **P 17 59 51.0 -1.8**
UZB *e* 18 01 32.1
UZB *i* S **S 18 06 06.8 -1.8**
UZB pmax pmax
comp=Z,69nm,1.6s
UZB smax smax
comp=N,27nm,1.7s
MMRI Maumere 42.38 194 P **P 17 59 56.8 +2.5**
comp=N,3μmcomp=N,168nm,1.5s
KPKS Kokpek 42.43 300⇑*i*P **P 17 59 52.1 -2.5**
comp=N,104nm,2.0s,baz=300
KPKS *e*PP **PP 18 01 33.5 -0.2**
baz=300
KPKS Kokpek 42.43 300*c i*P **P 17 59 52.1 -2.5**
KPKS *e* 18 01 33.5
KPKS pmax pmax
comp=Z,104nm,2.0s
KURK Kurchatov 42.44 311 P **P 17 59 53.8 -0.7**
KURK Kurchatov 42.44 311 P **P 17 59 53.8 -0.7**
KURBB Kurchatov Arra 42.49 311 P **P 17 59 53.8 -1.1**
comp=Z,15nm,0.7s,baz=100,slow=9.5,SNR=56
KURBB pP **pP 18 00 11.4 +0.7**
comp=Z,22nm,0.8s,baz=97,slow=8.8,SNR=8.9
KURBB ScP **ScP 18 05 29.9 -2.0**
comp=Z,3.0nm,0.9s,baz=94,slow=4.6,SNR=4.9
TDK Taldyqorghan 42.53 303 *i* P **P 17 59 54.5 -0.8**
comp=Z,172nm,1.7s,baz=302
TDK *e*PP **PP 18 01 35.4 +0.6**
baz=302
TDK *i* S **S 18 06 12.2 -1.0**
baz=302
TDK Taldyqorghan 42.53 303 *i* P **P 17 59 54.5 -0.8**
TDK *e* 18 01 35.4
TDK *i* S **S 18 06 12.2 -1.0**
TDK pmax pmax
comp=Z,172nm,1.7s
SATY Saty 42.66 300⇑*i*P **P 17 59 55.1 -1.5**
comp=Z,63nm,1.8s,baz=300
SATY *e*S **S 18 06 13.9 -1.5**
baz=300
SATY Saty 42.66 300*c i*P **P 17 59 55.0 -1.5**
SATY *e*S **S 18 06 13.8 -1.5**
SATY pmax pmax
comp=Z,63nm,1.8s
TSI Tuntungan 42.77 234 P **P 17 59 56.7 -0.8**
comp=Z,102nm,0.8s
ATKA Atka Island 42.99 47 P **P 17 59 59.9 +1.0**
ATKA IAmb IAmb 18 00 00.8
comp=Z,185nm,1.0s
ARXS Arharly 42.99 301 *e*P **P 17 59 58.5 -0.6**
BKNI Bangkinang 43.54 228 P **P 18 00 02.6 -1.1**
comp=Z,1μmcomp=Z,106nm,1.0s
CHKK Chushkaly 43.62 301⇑*i*P **P 18 00 03.2 -0.9**
baz=301
CHKK Chushkaly 43.62 301⇑*i*P **P 18 00 03.2 -0.9**
MDOK Medeo 43.64 300 *i* P **P 18 00 03.5 -1.0**
baz=300
MDOK *e*PP **PP 18 01 46.9 0.0**
baz=300
MDOK *e*S **S 18 06 29.3 -0.5**
baz=300
MDOK Medeo 43.64 300 *i* P **P 18 00 03.5 -1.0**
MDOK *e* 18 01 46.9
MDOK *e*S **S 18 06 29.2 -0.5**
PLAI Plampang 43.68 200 P **P 18 00 06.1 +1.3**
comp=Z,2μmcomp=Z,209nm,0.9s
AAA Alma-Ata 43.73 300 *e*P **P 18 00 03.1 -2.0**
baz=300
AAA *e*S **S 18 06 30.7 -0.3**
baz=300
AAA Alma-Ata 43.73 300 *e*P **P 18 00 03.1 -2.0**
AAA *e*S **S 18 06 30.6 -0.3**
TWSI Taliwang, Sumb 43.87 202 P **P 18 00 06.3 0.0**
comp=Z,2μmcomp=Z,168nm,0.7s
NRIK Noril'sk 43.95 339 P **P 18 00 06.8 +0.4**
comp=Z,177nm,0.9s,baz=119,slow=8.7,SNR=84
NRIK ScP **ScP 18 05 36.0 -1.5**
comp=Z,6.3nm,0.9s,baz=122,slow=3.8,SNR=5.5
NRIK LR LR 18 18 31.2
comp=Z,533nm,20.8s,baz=124,slow=36
NRIK Noril'sk 43.95 339*c i*P **P 18 00 06.6 +0.2**
NRIK pmax pmax
comp=Z,181nm,0.9s
NRIK MLR MLR
comp=Z,595nm,13.0s
KUU Kurty 44.09 301⇑*i*P **P 18 00 06.3 -1.6**
comp=Z,148nm,1.3s,baz=301
KUU *e*PP **PP 18 01 49.5 -1.9**
baz=301
KUU *i* S **S 18 06 34.0 -2.0**
comp=Z,129nm,3.3s,baz=301
KUU Kurty 44.09 301*c i*P **P 18 00 06.3 -1.6**
KUU *e* 18 01 49.5
KUU *i* S **S 18 06 33.9 -2.0**
KUU pmax pmax
comp=Z,148nm,1.3s
KUU smax smax
comp=E,129nm,3.3s
MNSI Mandailing Nat 44.11 230 P **P 18 00 06.7 -1.6**
comp=E,3μmcomp=E,87nm,0.9s
ULHL Ulahol 44.33 299 P **P 18 00 09.8 -0.3**
SNR=62
BOOM Boomskoye usch 44.52 299 P **P 18 00 11.0 -0.6**
BOOM pmax pmax
comp=Z,72nm,1.2s
BOOM Boomskoye usch 44.52 299 P **P 18 00 11.0 -0.6**
BOOM IAmb IAmb 18 00 15.1
comp=Z,72nm,1.1s

TKM2	Tokmak 2	44.73	300	P	P	18 00 13.3 +0.1
	SNR=336					
PWJI	Pagerwojo	45.02	209	P	P	18 00 15.1 -0.4
	comp=Z,143nm,1.0s					
GSI	Gunungsitoli	45.04	233	P	P	18 00 14.6 -1.1
	comp=Z,174nm,0.8s					
JCJI	Jatiwangi	45.20	214	P	P	18 00 18.6 +1.7
	comp=Z,260nm,0.9s					
KBK	Karagaybulak	45.23	299	P	P	18 00 17.1 -0.1
	SNR=59					
CHMS	Chumysh	45.33	300	P	P	18 00 17.6 -0.2
	SNR=73					
SGDS	Sogindy	45.37	301⇑	*i*P	P	18 00 17.1 -1.0
	comp=Z,14nm,0.5s,baz=300					
SGDS				*e*S	S	18 06 54.5 -0.1
	comp=Z,28nm,3.9s,baz=300					
SGDS	Sogindy	45.37	301	*c i*P	P	18 00 17.1 -1.0
SGDS				*e*S	S	18 06 54.5 -0.1
SGDS				pmax	pmax	
	comp=Z,14nm,0.5s					
SGDS				smax	smax	
	comp=N,28nm,3.9s					
FRU1	Bishkek	45.45	300	P	P	18 00 18.0 -0.8
FRU1				pmax	pmax	
	comp=Z,170nm,1.0s					
FRU1	Bishkek	45.45	300	P	P	18 00 18.0 -0.8
UGM	Wanagama	45.45	210	P	P	18 00 18.2 -0.7
UGM	Wanagama	45.45	210	P	P	18 00 18.7 -0.2
	comp=Z,243nm,1.1s					
DDI	Dehra Dun	45.47	282	*e*P	P	18 00 18.4 -0.7
USP	Ospenovka	45.48	300	P	P	18 00 18.6 -0.4
	SNR=108					
AAK	Ala-Archa	45.57	300	P	P	18 00 19.6 -0.2
	comp=Z,38nm,0.5s,baz=106,slow=5.6,SNR=38					
AAK	Ala-Archa	45.57	300	P	P	18 00 19.7 -0.2
	SNR=32					
AAK	Ala-Archa	45.57	300	*i* P	P	18 00 19.9 +0.1
	SNR=12					
AAK	Ala-Archa	45.57	300	*c i*P	P	18 00 19.4 -0.4
AAK				pmax	pmax	
	comp=Z,424nm,1.7s					
AAK	Ala-Archa	45.57	300	P	P	18 00 19.1 -0.7
AAK				IAmb	IAmb	18 00 22.1
	comp=Z,53nm,0.7s					
AAK	Ala-Archa	45.57	300	P	P	18 00 19.5 -0.2
MTN	Manton Dam	45.57	181	P	P	18 00 19.7 -0.1
KPJI	Karang Pucung	45.64	213	P	P	18 00 20.7 +0.3
	comp=Z,2µmcomp=Z,211nm,1.0s					
SPIA	Saint Paul Isl	45.76	40	P	P	18 00 23.3 +2.4
	baz=264					
CBJI	Citeko	45.83	216	P	P	18 00 21.5 -0.4
	comp=Z,13µmcomp=Z,80nm,0.6s					
SMLA	Simla	45.95	283	*e*P	P	18 00 21.1 -1.7
SMLA				*i* pP	pP	18 00 40.9 +2.1
VIS	Vishakhapatnam	46.02	263	*e*P	P	18 00 23.9 +0.5
EKS2	Erkin-Say	46.09	300	P	P	18 00 23.4 -0.5
	SNR=53					
AML	Almayashu	46.22	299	P	P	18 00 25.5 +0.2
	SNR=113					
AML	Almayashu	46.22	299	*i* P	P	18 00 25.9 +0.6
	SNR=112					
AML	Almayashu	46.22	299	P	P	18 00 25.9 +0.6
GAMB	Gambell	46.23	31	P	P	18 00 26.0 +1.5
	baz=256					
BRZS	Berezniki	46.23	310⇑	*i*P	P	18 00 22.1 -2.7
	comp=Z,33nm,2.2s,baz=310					
BRZS				*e*PP	PP	18 02 15.7 +1.7
	baz=310					
BRZS				*e*S	S	18 07 04.9 -1.9
	comp=Z,42nm,3.9s,baz=310					
BRZS	Berezniki	46.23	310	*c i*P	P	18 00 22.9 -1.9
BRZS				*e*		18 02 15.6
BRZS				*e*S	S	18 07 04.8 -1.9
BRZS				pmax	pmax	
	comp=Z,33nm,2.2s					
BRZS				smax	smax	
	comp=E,42nm,3.9s					
BVAR	Borovoye Array	47.61	314	P	P	18 00 34.0 -1.4
	comp=E,25nm,0.6s,baz=208,slow=8.4,SNR=75					
BVAR				ScP	ScP	18 05 52.9 -0.1
	comp=E,2.2nm,0.8s,baz=211,slow=8.4,SNR=3.6					
BVAR	Borovoye Array	47.61	314	P	P	18 00 34.0 -1.4
BRVK	Borovoye	47.67	314	*c i*P	P	18 00 35.1 -0.8
BRVK				pmax	pmax	
	comp=Z,72nm,1.0s					
BRVK	Borovoye	47.67	314	P	P	18 00 34.9 -1.0
BRVK				IAmb	IAmb	18 00 38.9
	comp=Z,50nm,0.6s					
BRVK	Borovoye	47.67	314	P	P	18 00 35.6 -0.3
DZA	Taraz	47.83	300	*e*P	P	18 00 36.0 -1.4
	baz=300					
DZA	Taraz	47.83	300	*e*P	P	18 00 36.0 -1.4
TNA	Tin City	48.22	29	P	P	18 00 42.1 +2.2
	baz=258					
TNA	Tin City	48.22	29	P	P	18 00 41.8 +1.9
NIL	Nilore	48.40	288	P	P	18 00 41.3 -0.6
NIL				pmax	pmax	
	comp=Z,64nm,0.8s					
NIL	Nilore	48.40	288	P	P	18 00 41.3 -0.6
NIL				IAmb	IAmb	18 00 45.1
	comp=Z,64nm,0.8s					
NIL	Nilore	48.40	288	P	P	18 00 41.9 +0.1
BHPL	Bhopal	48.53	273	*e*P	P	18 00 41.1 -1.9
BHPL				IAmb	IAmb	18 00 44.0
	comp=Z,141nm,1.7s					
BTK	Batken	48.73	297	IAmb	IAmb	18 00 47.8
	comp=Z,116nm,1.2s					
ANM	Nome	49.10	31	P	P	18 00 48.5 +1.8
ANM				pmax	pmax	
	comp=Z,78nm,0.9s					
ANM	Nome	49.10	31	P	P	18 00 49.3 +2.6
	baz=262,SNR=6.6					
ANM	Nome	49.10	31	P	P	18 00 48.5 +1.8
ANM				IAmb	IAmb	18 00 50.5
	comp=Z,78nm,0.9s					
HNR	Honiara	49.95	143	LR	LR	18 20 04.3
	comp=Z,113nm,21.4s,baz=320,slow=34					
HYB	Hyderabad	50.16	266	*i* P	P	18 00 55.0 -0.5
HYB				*es*P	sP	18 01 17.5 -1.4
HYB	Hyderabad	50.16	266	*i* x	x	18 00 55.0
CHGR	Chuyangaron	50.30	295	P	P	18 00 55.6 -0.7
RDOG	Red Dog Mine	50.63	26	P	P	18 01 01.6 +3.3
	baz=261,SNR=11					
RDOG	Red Dog Mine	50.63	26	IAmb	IAmb	18 01 04.5
	comp=Z,64nm,1.2s					
SDPT	Sand Point	51.16	43	P	P	18 01 05.2 +2.8
	baz=274					
KBL	Kabul	51.48	290	P	P	18 01 04.1 -1.4
KBL				pmax	pmax	
	comp=Z,46nm,1.0s					
KBL	Kabul	51.48	290	P	P	18 01 04.1 -1.4
KBL				IAmb	IAmb	18 01 10.4
	comp=Z,46nm,1.0s					
KBL	Kabul	51.48	290	P	P	18 01 05.0 -0.5
WRAB	Tennant Creek	52.66	177⇑	*e*P	P	18 01 12.0 -2.0
WRAB				pmax	pmax	
	comp=Z,7.0nm,0.9s					
WB2	Warramunga Arr	52.67	177	P	P	18 01 15.2 +1.1
WB2				IAmb	IAmb	18 01 30.4
	comp=Z,72nm,0.8s					
WRA	Warramunga Arr	52.67	177	P	P	18 01 14.1 0.0
	comp=Z,10nm,0.9s,baz=355,slow=8.2,SNR=42					
WRA				LR	LR	18 23 19.8
	comp=Z,141nm,22.0s,baz=345,slow=36					
WRA	Warramunga Arr	52.67	177	P	P	18 01 14.7 +0.7
WRA				pmax	pmax	
	comp=Z,4.0nm,0.9s					
WRA	Warramunga Arr	52.67	177	P	P	18 01 14.7 +0.7
WR0	Warramunga Arr	52.70	177	P	P	18 01 17.1 +2.9
A21K	Barrow	53.23	22	P	P	18 01 18.9 +1.4
	baz=265					
N18K	Kilae Creek	53.30	36	P	P	18 01 20.8 +2.6
	baz=273					
SVW2	Sparrevohn	53.42	35	P	P	18 01 21.4 +2.3
SVW2				IAmb	IAmb	18 01 23.0
	comp=Z,77nm,1.0s					
O18K	Koktuh Hills	53.69	37	P	P	18 01 23.5 +2.4
	baz=274					
L19K	White Mountain	53.71	34	P	P	18 01 23.6 +2.3
	baz=273					
PALK	Pallekele	53.77	253	P	P	18 01 22.5 +0.2
PALK				pmax	pmax	
	comp=Z,39nm,0.9s					
PALK	Pallekele	53.77	253	P	P	18 01 22.5 +0.2
PALK				IAmb	IAmb	18 01 23.4
	comp=Z,39nm,0.9s					
PALK	Pallekele	53.77	253	P	P	18 01 22.8 +0.5
M19K	Big River Lodg	53.95	34	P	P	18 01 25.5 +2.6
	baz=274					
J20K	Nowinta River	53.95	31	P	P	18 01 25.5 +2.6
	baz=272					
N19K	Bonanza Creek	53.98	36	P	P	18 01 25.7 +2.4
	baz=274,SNR=38					
K20K	Telida	54.02	32	P	P	18 01 26.1 +2.6
	baz=273					
O19K	Port Alsworth	54.10	36	P	P	18 01 26.5 +2.4
	baz=275,SNR=20					
ARU	Arti	54.22	319	P	P	18 01 23.9 -1.1
	comp=Z,25nm,1.0s,baz=76,slow=5.1,SNR=43					
ARU	Arti	54.22	319	*c i*P	P	18 01 23.8 -1.2
ARU				*PP	pP	18 01 41.3 -0.1
ARU						18 02 23.5
ARU						18 03 24.3
ARU				S	S	18 08 57.4 -0.1
ARU						18 11 03.6
ARU				SS	SS	18 12 42.0 +2.4
ARU				pmax	pmax	
	comp=Z,50nm,0.8s					
ARU				MLR	MLR	
	comp=Z,407nm,15.0s					
ARU	Arti	54.22	319	P	P	18 01 23.7 -1.3
ARU				IAmb	IAmb	18 01 29.6
	comp=Z,53nm,0.7s					
H21K	Melozitna Rive	54.46	30	P	P	18 01 28.8 +2.2
	baz=272,SNR=50					
ABKAR	Akbulak array	54.54	310	IAmb	IAmb	18 01 29.2
	comp=Z,47nm,0.7s					
P19K	Oil Pt	54.70	37	P	P	18 01 30.0 +1.5
	baz=276,SNR=12					
CHUM	Lake Minchumin	54.77	32	P	P	18 01 31.7 +2.8
	baz=274					
I21K	Tanana	54.83	30	P	P	18 01 32.0 +2.7
	baz=273,SNR=43					
PPLA	Purkeypile	54.90	33	P	P	18 01 32.4 +2.4
	baz=275					
O20K	Slope Mountain	54.96	36	P	P	18 01 31.5 +1.1
	baz=276,SNR=5.1					
OHAK	Old Harbor	54.97	40	P	P	18 01 31.6 +1.2
	baz=278,SNR=15					
OHAK	Old Harbor	54.97	40	IAmb	IAmb	18 01 32.9
	comp=Z,93nm,1.0s					
SPCR	Spurr Chakacha	55.05	35	P	P	18 01 33.4 +2.4
	baz=276					
KDAK	Kodiak Island	55.27	39	P	P	18 01 33.9 +1.4
	comp=Z,88nm,0.8s,baz=304,slow=4.1,SNR=72					
KDAK	Kodiak Island	55.27	39	P	P	18 01 33.7 +1.2
	baz=278					
KDAK	Kodiak Island	55.27	39	P	P	18 01 33.8 +1.2
SKT	Skwentna	55.29	34	P	P	18 01 34.1 +1.4
	baz=276					
SKT	Skwentna	55.29	34	IAmb	IAmb	18 01 35.4
	comp=Z,55nm,1.0s					
BPAW	Bear Paw Mtn.	55.34	31	P	P	18 01 35.1 +2.1
	baz=275,SNR=54					
BPAW	Bear Paw Mtn.	55.34	31	IAmb	IAmb	18 01 36.5
	comp=Z,73nm,1.1s					
MLY	Manley	55.37	30	P	P	18 01 35.6 +2.3
	baz=275,SNR=86					
MLY	Manley	55.37	30	P	P	18 01 35.5 +2.3
MLY				IAmb	IAmb	18 01 36.9
	comp=Z,76nm,1.0s					
HOM	Homer	55.50	37	P	P	18 01 36.4 +2.2
	baz=278					
TOLK	Toolik Lake Re	55.59	26	P	P	18 01 36.4 +1.6
	baz=273,SNR=15					
TRF	Thorofare Moun	55.70	32	P	P	18 01 37.5 +1.6
	baz=276,SNR=30					
TRF	Thorofare Moun	55.70	32	IAmb	IAmb	18 01 38.8
	comp=Z,42nm,1.1s					
SUA	Susitna One	55.72	35	P	P	18 01 37.2 +1.4
	baz=277,SNR=31					
CNPM	China Poot	55.73	37	IAmb	IAmb	18 01 40.0
	comp=Z,58nm,0.9s					
H23K	Yukon River	55.80	29	P	P	18 01 39.1 +2.8
	baz=275,SNR=99					
CUT	Chulitna	55.83	33	P	P	18 01 37.9 +1.4
	baz=277,SNR=11					
I23K	Minto, Yukon-K	55.94	30	P	P	18 01 39.4 +2.2
	baz=276,SNR=30					
BRSE	Bradley Lake S	55.94	37	P	P	18 01 39.2 +1.7
	baz=278,SNR=26					
NEA2	Nenana	56.12	31	P	P	18 01 40.7 +2.1
	baz=276,SNR=37					
RC01	Rabbit Creek A	56.25	35	P	P	18 01 40.7 +1.2
	baz=278,SNR=16					
RC01	Rabbit Creek A	56.25	35	IAmb	IAmb	18 01 42.0
	comp=Z,114nm,1.2s					
MCK	McKinley	56.27	32	P	P	18 01 41.2 +1.5
	baz=277,SNR=28					
MCK	McKinley	56.27	32	IAmb	IAmb	18 01 42.6
	comp=Z,84nm,1.2s					
ASAR	Alice Springs	56.36	178	P	P	18 01 41.2 +0.5
	comp=Z,11nm,0.8s,baz=8.2,slow=6.4,SNR=89					
ASAR				PKPPKP	P'P'df	18 31 38.5 +6.5
	comp=Z,0.9nm,0.9s,baz=165,slow=3.2,SNR=5.6					
H24K	Noodor Dome	56.48	29	P	P	18 01 43.8 +2.7
	baz=277,SNR=60					
SEW	Seward	56.53	36	P	P	18 01 42.7 +1.2
	baz=279,SNR=20					
WRH	Wood River Hil	56.55	31	IAmb	IAmb	18 01 46.3
	comp=Z,33nm,1.0s					
WAT1	Susitna Watana	56.56	33	P	P	18 01 42.9 +1.1
	baz=278					
TCOL	CIGO, UAF Yank	56.60	30	P	P	18 01 44.2 +2.2
TCOL				IAmb	IAmb	18 02 03.4
	comp=Z,36nm,0.8s					
COLA	College	56.60	30	*d i*P	P	18 01 43.4 +1.4
COLA				pmax	pmax	
	comp=Z,52nm,1.3s					
COLA	College	56.60	30	P	P	18 01 44.3 +2.3
	baz=277					
COLA	College	56.60	30	P	P	18 01 44.0 +2.0
COLA				IAmb	IAmb	18 02 03.4
	comp=Z,34nm,0.7s					
POKR	Poker Plat Res	56.75	30	P	P	18 01 45.3 +2.3
	baz=277					
KNK	Knik Glacier	56.81	34	P	P	18 01 45.3 +1.7
	baz=279,SNR=20					
SML	Sawmill	56.81	34	P	P	18 01 45.2 +1.6
	baz=279,SNR=20					
PWL	Port Wells	56.96	35	IAmb	IAmb	18 01 47.1
	comp=Z,88nm,1.0s					
WAT6	Susitna Watana	56.97	33	P	P	18 01 46.2 +1.3
	baz=279,SNR=20					
ILAR	Eielson Array	57.03	30	P	P	18 01 45.8 +0.8
	comp=Z,8.5nm,0.8s,baz=277,slow=5.2,SNR=85					
ILAR				LR	LR	18 28 43.0
	comp=Z,271nm,18.7s,baz=286,slow=38					
ILAR				PKP2bc		18 31 49.7
	comp=Z,0.4nm,0.9s,baz=142,slow=2.1,SNR=2.2					
HDA	Harding Lake	57.05	31	P	P	18 01 46.0 +0.8
	baz=278,SNR=66					
HDA	Harding Lake	57.05	31	IAmb	IAmb	18 01 47.4
	comp=Z,79nm,1.0s					
PRP	Porcupine Dome	57.49	29	P	P	18 01 49.9 +1.5
	baz=279,SNR=44					
PRP	Porcupine Dome	57.49	29	IAmb	IAmb	18 01 51.6
	comp=Z,32nm,0.9s					
GLI	Glacier Island	57.55	35	P	P	18 01 50.2 +1.5
	baz=280,SNR=7.8					
M24K	Tolsona, Glenn	57.77	33	P	P	18 01 52.6 +2.2
	baz=280					
PAX	Paxson	57.94	32	P	P	18 01 53.2 +1.6
	baz=280,SNR=24					
PAX	Paxson	57.94	32	IAmb	IAmb	18 01 54.4
	comp=Z,44nm,1.2s					
KLU	Klutina	58.00	34	P	P	18 01 53.8 +1.8
	baz=281,SNR=16					
KLU	Klutina	58.00	34	IAmb	IAmb	18 01 55.1
	comp=Z,57nm,1.2s					
RIDG	Independent Ri	58.07	31	P	P	18 01 53.3 +0.8
	baz=280,SNR=17					
HARP	HAARP	58.18	33	P	P	18 01 55.8 +2.6
	baz=281,SNR=11					
EYAK	Cordova Ski Ar	58.27	35	P	P	18 01 55.8 +2.1
	baz=282					
SCRK	Sand Creek	58.40	31	P	P	18 01 56.2 +1.4
	baz=281,SNR=81					
DOT	Dot Lake	58.43	31	P	P	18 01 56.0 +1.1
DOT				IAmb	IAmb	18 01 57.3
	comp=Z,55nm,1.0s					
N25K	Chitina, Valde	58.60	34	P	P	18 01 58.4 +2.2
	baz=282					
N25K	Chitina, Valde	58.60	34	P	P	18 01 58.7 +2.5
N25K				IAmb	IAmb	18 02 00.5
	comp=Z,63nm,1.2s					
KIRV	Kirov	58.71	323	*c i*P	P	18 01 55.4 -1.4
MENT	Mentasta	58.73	32	P	P	18 01 59.6 +2.6
BMRM	Bremner River	58.73	35	P	P	18 01 59.1 +2.0
	baz=282,SNR=25					
GEYT	Alibeck	58.83	297	P	P	18 01 57.9 -0.2
	comp=Z,45nm,0.8s,baz=48,slow=2.2,SNR=20					
GEYT				LR	LR	18 30 00.1
	comp=Z,825nm,21.1s,baz=175,slow=39					
GYA0B	ALIBECK ARRAY	58.83	297	P	P	18 01 57.8 -0.3
GYA0B				IAmb	IAmb	18 02 00.6
	comp=Z,18nm,0.8s					
L26K	Log Cabin Wild	58.87	32	P	P	18 02 00.2 +2.2
	baz=282					
GLB	Gilahina Butte	59.00	34	IAmb	IAmb	18 02 02.4
	comp=Z,72nm,1.2s					
K27K	Chicken	59.22	31	P	P	18 02 02.5 +2.2
	baz=283					
VRDI	Verde Repeater	59.22	34	IAmb	IAmb	18 02 03.8
	comp=Z,80nm,1.1s					
MCARA	McCarthy VSAT	59.38	34	P	P	18 02 03.8 +2.3
	baz=283,SNR=20					
EGAK	Eagle	59.44	30	P	P	18 02 03.2 +1.4
	baz=283,SNR=12					
CRQE	Cirque	59.50	35	P	P	18 02 04.6 +2.1
	baz=284,SNR=20					
L27K	Beaver Creek,	59.54	32	P	P	18 02 05.0 +2.4
	baz=284,SNR=78					
L27K	Beaver Creek,	59.54	32	IAmb	IAmb	18 02 06.3
	comp=Z,68nm,1.1s					
TGL	Tana Glacier	59.62	35	P	P	18 02 04.4 +1.1
M27K	Edge Creek, AK	59.68	33	P	P	18 02 06.0 +2.3
	baz=284					
PRGR	Permogore	59.85	327	*e*P	P	18 02 04.5 -0.1
PRGR				pmax	pmax	
	comp=Z,87nm,0.8s					
BARN	Barnard Glacie	60.10	34	IAmb	IAmb	18 02 16.1
	comp=Z,44nm,1.0s					
MESA	MESA	60.19	35	P	P	18 02 09.2 +1.9
	baz=285,SNR=7.1					
CTG	Chitna Glacier	60.28	34	P	P	18 02 10.0 +2.1
	baz=285,SNR=17					
CTGM	Chitina Glacie	60.28	34	IAmb	IAmb	18 02 11.2
	comp=Z,62nm,1.0s					
EPYK	Eagle Plains	60.83	27	P	P	18 02 13.5 +2.1
	baz=286,SNR=28					
EPYK	Eagle Plains	60.83	27	P	P	18 02 13.2 +1.9
EPYK				IAmb	IAmb	18 02 14.4
	comp=Z,76nm,1.0s					
EIDS	Eidsvold	60.84	160	P	P	18 02 13.3 +1.4
PINM	Pinnacle	61.03	35	P	P	18 02 15.0 +2.2
	baz=286,SNR=12					
INK	Inuvik	61.46	25	P	P	18 02 16.8 +1.3
	comp=Z,23nm,0.8s,baz=293,slow=6.3,SNR=49					
INK				LR	LR	18 33 23.9
	comp=Z,223nm,18.2s,baz=263,slow=40					
INK	Inuvik	61.46	25	P	P	18 02 17.1 +1.6
	baz=288,SNR=28					
INK	Inuvik	61.46	25	IAmb	IAmb	18 02 18.1
	comp=Z,34nm,1.0s					
HOPEN	Hopen	62.01	345	*e*P	P	18 02 21.1 +2.0
LVZ	Lovozero	62.52	335	*d i*P	P	18 02 23.3 +0.6
LVZ				pmax	pmax	
	comp=Z,117nm,2.5s					
LVZ	Lovozero	62.52	335	P	P	18 02 22.0 -0.7
LVZ				IAmb	IAmb	18 02 24.2
	comp=Z,48nm,1.0s					
KLMR	Klimovskoe	62.90	327	*e*P	P	18 02 23.0 -2.3
KLMR				pmax	pmax	
	comp=Z,87nm,1.2s					
KLMR	Klimovskoe	62.90	327	*e*P	P	18 02 23.0 -2.3
KLMR				AMP		18 02 28.4
	comp=Z,87nm,1.2s					
KLMR				LQ	LQ	18 23 15.7
KLMR				LQ	LQ	18 23 15.7
KLMR				LR	LR	18 27 05.9
SPA0	Spitsbergen Ar	62.90	348	*e*P	P	18 02 25.8 +0.7
SPITS	Spitsbergen Ar	62.90	348	P	P	18 02 25.6 +0.5
	comp=Z,88nm,0.7s,baz=89,slow=9.3,SNR=90					
SPITS				LR	LR	18 32 12.0
	comp=Z,335nm,18.6s,baz=45,slow=38					
APA	Apatity	63.08	335⇑	*i*P	P	18 02 24.5 -1.8
APA				*i*		18 02 45.0
APA				*i* S	S	18 10 46.0 -6.0
APA				*i* SSS	SSS	18 17 40.0
APA				pmax	pmax	
	comp=Z,66nm,0.8s					
KBS	Kingsbay	63.23	349	*i* P	P	18 02 29.2 +2.0
KBS				IAmb	IAmb	18 02 30.2
	comp=Z,187nm,0.8s					
KBS	Kingsbay	63.23	349	*c i*P	P	18 02 29.1 +1.9
KBS				pmax	pmax	
	comp=Z,72nm,0.6s					
KBS	Kingsbay	63.23	349	*e*P	P	18 02 28.4 +1.2
KBS	Kingsbay	63.23	349	P	P	18 02 27.8 +0.6
WHY	Whitehorse	63.39	33	P	P	18 02 31.3 +2.6
	baz=290,SNR=48					
WHY	Whitehorse	63.39	33	IAmb	IAmb	18 02 32.4
	comp=Z,84nm,1.0s					
MORW	Morawa	63.51	195	P	P	18 02 28.7 -0.9
MORW				IAmb	IAmb	18 02 45.9
	comp=Z,54nm,1.1s					
FORT	Forrest	63.51	184	P	P	18 02 30.2 +0.6
SKAG	Skagway	63.59	35	P	P	18 02 32.7 +2.8
	baz=290,SNR=44					
SKAG	Skagway	63.59	35	IAmb	IAmb	18 02 34.4
	comp=Z,95nm,1.1s					
HSPB	Hornsund (broa	63.69	347	*e*P	P	18 02 30.4 +0.1
DZM	Mont Dzumac	63.92	144	*e*P	P	18 02 34.2 +1.6
	comp=Z,399nm,1.1s					
DZM	Mont Dzumac	63.92	144	*e*LR	LR	18 21 15.5
	comp=Z,2µm,26.6s					
DZM	Mont Dzumac	63.92	144	P	P	18 02 35.1 +2.5
BESE	Bessie Mountai	64.14	36	P	P	18 02 35.3 +1.7
BESE				IAmb	IAmb	18 02 37.2
	comp=Z,47nm,1.0s					
C36M	Paulatuk	64.28	22	P	P	18 02 35.7 +1.5
	baz=295,SNR=30					
BJO1	Bjornoya	64.28	344	*e*P	P	18 02 33.6 -0.5
KEV	Kevo	64.35	338	P	P	18 02 34.4 -0.3
KEV				pmax	pmax	
	comp=Z,100nm,0.7s					
KEV	Kevo	64.35	338	P	P	18 02 34.4 -0.3
SIT	Sitka	64.46	37	P	P	18 02 37.9 +2.3
SIT				pmax	pmax	
	comp=Z,81nm,1.0s					
SIT	Sitka	64.46	37	P	P	18 02 38.3 +2.7
	baz=292,SNR=18					
SIT	Sitka	64.46	37	P	P	18 02 37.9 +2.3
SIT				IAmb	IAmb	18 02 39.6
	comp=Z,81nm,1.0s					
NOR	Nord	64.51	355	*i* P	P	18 02 36.2 +0.6
NOR				IAmb	IAmb	18 02 38.4
	comp=Z,25nm,0.8s					
NOR	Nord	64.51	355	*i* P	P	18 02 36.2 +0.6
NOR				pmax	pmax	
	comp=Z,25nm,0.8s					
MAK	Makhachkala	64.62	306	*e*P	P	18 02 34.8 -2.1
MAK				*e**PP	pP	18 02 54.7 +1.0
MAK				*e*		18 04 53.8
MAK				*e*S	S	18 11 07.6 -4.4
MAK				*e**SS	sS	18 11 42.5 +1.9
MAK				*e*SS	SS	18 15 25.6 +2.5
MAK				pmax	pmax	
	comp=Z,89nm,1.2s					
MAK				MLR	MLR	
	comp=Z,546nm,15.0s					
SMDO	Samad	64.73	282	P	P	18 02 38.2 +0.1
BANOM	Banah	64.90	286	P	P	18 02 40.1 +1.1
ARA0	ARCESS Array S	64.92	338	*e*P	P	18 02 37.5 -0.9
ARCES	ARCESS Array B	64.92	338	P	P	18 02 37.7 -0.7
	comp=Z,44nm,0.6s,baz=62,slow=7.1,SNR=80					
ARCES				LR	LR	18 36 10.5
	comp=Z,373nm,18.5s,baz=75,slow=41					
ARCES	ARCESS Array B	64.92	338	IAmb	IAmb	18 02 40.9
	comp=Z,51nm,0.7s					
HAMF	Hammerfest	64.96	340	*e*P	P	18 02 37.9 -0.7
SHME	Shamm	64.97	286	*i* P	P	18 02 39.8 +0.3
	SNR=7.0					
SHME	Shamm	64.97	286	P	P	18 02 39.8 +0.3
	SNR=7.0					
JMDO	Jabal Madar	65.

STKA pmax pmax
comp=Z,17nm,1.0s
STKA Stephens Creek 65.16 171 P P 18 02 41.9 +1.6
VRH Novokhopyorsk 65.18 316 *eP* **P 18 02 38.3 -2.1**
VRH pmax pmax
comp=Z,40nm,0.6s
EUNU Eureka 65.24 7 IAmb IAmb 18 03 01.4
comp=Z,26nm,0.6s
MASF Masafi 65.25 285 P **P 18 02 42.1 +0.7**
MSFE Esma-Masafi 65.26 285 P **P 18 02 41.7 +0.3**
LKRN Lenkeran, Azer 65.38 301 P **P 18 02 41.4 -0.5**
UOSS Minazif 65.40 285 P **P 18 02 43.4 +1.2**
SOHO SOHO 65.50 284 P **P 18 02 42.5 -0.3**
SOHO SOHO 65.50 284 P **P 18 02 43.0 +0.2**
SEKA Sheki 65.51 304 P **P 18 02 41.8 -1.0**
HATD Hatta, Dubai 65.51 285 P **P 18 02 42.8 -0.2**
HATD Hatta, Dubai 65.51 285 P **P 18 02 43.3 +0.3**
BSY Bisya 65.58 282 P **P 18 02 43.3 -0.2**
ASHO Ashiyiah 65.64 285 P **P 18 02 43.3 -0.6**
ASHO Ashiyiah 65.64 285 P **P 18 02 44.0 +0.1**
GROC Groznyy 65.69 307 *eP* **P 18 02 42.0 -1.8**
GROC *e**PP **pP 18 02 56.6 -4.1**
GROC *e**SP **sP 18 03 02.4 -5.3**
GROC *e* 18 03 11.9
GROC pmax pmax
comp=Z,37nm,0.8s
MOS Moscow 65.69 322 *eP* **P 18 02 40.6 -3.0**
MOS *e**PP **PcP 18 03 20.6 +6.1**
MOS *e* 18 05 17.3
MOS *e*PPP PPP 18 06 46.3
MOS *e*S **S 18 11 20.5 -4.1**
MOS pmax pmax
comp=Z,100nm,1.5s
MOS pmax pmax
comp=Z,54nm,1.1s
MOS MLR MLR
comp=Z,700nm,21.0s
ZKTA Zakatala 65.74 305 P **P 18 02 43.4 -0.8**
MHTO MHTO 65.75 280 P **P 18 02 44.4 -0.1**
MNGR Mingechevir, A 65.76 304 P **P 18 02 43.7 -0.6**
ARQ Araqi 65.86 283 P **P 18 02 45.6 +0.3**
KTK1 Kautokeino 65.88 338 *eP* **P 18 02 43.9 -0.7**
LGD Lagodekhi 65.92 305 P **P 18 02 44.8 -0.6**
FAQ Al Faqa, Dubai 65.99 285 P **P 18 02 45.5 -0.6**
DDFL Dedoflistskaro 66.16 305 P **P 18 02 48.7 +1.7**
ALNE Al Ain 66.17 284 P **P 18 02 46.9 -0.4**
ALNE Al Ain 66.17 284 P **P 18 02 47.4 +0.1**
CRAG Craig 66.20 38 P **P 18 02 49.6 +2.7**
baz=294,SNR=6.8
WRAK Wrangell Islan 66.22 37 P **P 18 02 49.6 +2.7**
baz=294,SNR=18
LPSR Galich'ya Gora 66.23 318 *eP* **P 18 02 44.3 -2.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
ASUD Al Ashush, Dub 66.26 285 P **P 18 02 47.4 -0.4**
ASUD Al Ashush, Dub 66.26 285 P **P 18 02 46.7 -1.0**
GANJ Ganja 66.34 304 P **P 18 02 47.8 -0.3**
JETT Jettan, Norway 66.47 339 *eP* **P 18 02 48.9 +0.5**
OBN Obninsk 66.49 321*c i P* **P 18 02 47.1 -1.6**
OBN *i* 18 03 14.1
OBN *e* 18 05 15.7
OBN *i* S **S 18 11 33.3 -1.1**
OBN *e*SS **SS 18 15 56.6 +5.1**
OBN pmax pmax
comp=Z,29nm,1.0s
OBN MLR MLR
comp=Z,644nm,19.0s
GOF Gofitskoye 66.77 310⇑ *eP* **P 18 02 49.6 -1.1**
GOF pmax pmax
comp=Z,112nm,0.9s
GUDG Gudauri 66.87 307 P **P 18 02 48.8 -2.9**
TRO Tromso 66.87 339 *eP* **P 18 02 50.0 -0.9**
NWAO Narrogin (SRO) 66.99 193 P **P 18 02 52.3 +0.3**
NWAO pmax pmax
comp=Z,31nm,1.0s
NWAO Narrogin (SRO) 66.99 193 P **P 18 02 52.3 +0.3**
NWAO IAmb IAmb 18 03 08.6
comp=Z,31nm,0.9s
NCK Nalchik 67.04 308⇓ *eP* **P 18 02 51.5 -1.0**
NCK pmax pmax
comp=Z,21nm,0.9s
ZEI Tsey 67.13 307 *eP* **P 18 02 51.1 -2.2**
ZEI pmax pmax
comp=Z,43nm,0.9s
KZRT Kazreti 67.37 305 P **P 18 02 55.1 +0.4**
KBZ Khabaz 67.41 308 P **P 18 02 54.6 -0.1**
comp=Z,68nm,0.9s,baz=102,slow=3.0,SNR=60
KBZ LR LR 18 35 29.4
comp=Z,980nm,21.0s,baz=64,slow=39
KBZ Khabaz 67.41 308*c i P* **P 18 02 53.8 -0.9**
KBZ pmax pmax
comp=Z,69nm,0.9s
KIV Kislovodsk 67.45 309⇑P **P 18 02 55.4 +0.2**
KIV Kislovodsk 67.45 309 *i P* **P 18 02 55.1 -0.1**
SNR=11
KIV Kislovodsk 67.45 309 *eP* **P 18 02 54.3 -0.9**
KIV *eS* **S 18 11 46.5 -0.1**
KIV pmax pmax
comp=Z,83nm,4.1s
KIV pmax pmax
comp=Z,108nm,1.1s
KIV MLR MLR
comp=Z,848nm,17.0s
KIV Kislovodsk 67.45 309 P **P 18 02 54.8 -0.4**
KIV IAmb IAmb 18 02 58.0
comp=Z,80nm,0.9s
KIV Kislovodsk 67.45 309 P **P 18 02 54.6 -0.6**
KIV P **P 18 02 54.6 -0.6**
DIB Dawson Inlet, 67.49 40 IAmb IAmb 18 02 59.8
comp=Z,108nm,1.5s
ONI Oni 67.51 307 P **P 18 02 56.6 +1.0**
NAX Nakhchivan 67.53 303 P **P 18 02 55.0 -0.7**
GNI Garni 67.65 304 P **P 18 02 57.2 +0.6**
GNI Garni 67.65 304*c i P* **P 18 02 56.6 0.0**
GNI pmax pmax
comp=Z,40nm,1.1s
GNI Garni 67.65 304 P **P 18 02 55.3 -1.3**
GNI IAmb IAmb 18 03 04.6
comp=Z,57nm,1.1s
NEY Neytrino 67.72 308*deP* **P 18 02 57.3 +0.3**
NEY pmax pmax
comp=Z,9.0nm,1.0s
AKH Akhalkalaki 67.98 306⇓P **P 18 02 58.7 +0.1**
AKH Akhalkalaki 67.98 306 P **P 18 02 59.0 +0.3**
RES Resolute Bay 68.33 12 P **P 18 03 00.5 +0.4**
comp=Z,29nm,0.8s,baz=320,slow=6.2,SNR=24
RES pP **pP 18 03 19.5 +2.6**
comp=Z,34nm,0.8s,baz=303,slow=5.7,SNR=9.1
RES Resolute Bay 68.33 12 IAmb IAmb 18 03 20.6
comp=Z,43nm,0.9s
FIA1 FINESS Array S 68.58 330 IAmb IAmb 18 03 05.9
comp=Z,35nm,1.1s
FINES FINESS Array B 68.58 330 P **P 18 03 00.3 -1.5**
comp=Z,16nm,0.6s,baz=72,slow=5.9,SNR=129
FINES LR LR 18 34 54.9
comp=Z,306nm,20.1s,baz=62,slow=38
KARS Kars 68.59 305 P **P 18 03 04.5 +2.0**
STEI Steigen 68.95 339 *eP* **P 18 03 02.9 -1.1**
DAG Danmarks Havn 68.98 353⇑ *iP* **P 18 03 04.0 -0.1**
DAG IAmb IAmb 18 03 07.3
comp=Z,159nm,0.8s
DAG Danmarks Havn 68.98 353⇑ *iP* **P 18 03 03.9 -0.1**
DAG pmax pmax
comp=Z,160nm,0.8s
FAUS Fauske 69.26 338 *eP* **P 18 03 05.0 -0.9**
LOF Lofoten 69.34 339 *eP* **P 18 03 06.5 +0.1**
SOC Sochi 69.56 309 *eP* **P 18 03 05.7 -2.5**
SOC *eS* **S 18 12 09.1 -2.2**
SOC *e*SS **SS 18 16 37.2 -2.2**
SOC pmax pmax
comp=Z,41nm,0.7s
SOC MLR MLR
comp=Z,990nm,20.0s
VSU Vasula 69.78 327 *eP* **P 18 03 08.3 -0.9**
VSU Vasula 69.78 327*deP* **P 18 03 07.2 -2.1**
VSU pmax pmax
comp=Z,71nm,0.9s
DMTO DMTO 69.80 278 P **P 18 03 09.1 -1.0**
NEEM North Greenlan 69.82 1 *i P* **P 18 03 10.1 +0.5**
NEEM IAmb IAmb 18 03 13.8
comp=Z,90nm,0.8s
NEEM *i* 18 03 37.6
MEF Metsahovi 69.91 330 *eP* **P 18 03 08.7 -1.3**
TULEG Thule 69.98 5 *i P* **P 18 03 10.2 0.0**
TULEG *i* P **P 18 03 11.0 +0.8**
TULEG IAmb IAmb 18 03 14.3
comp=Z,43nm,1.0s
DOK Doka 70.05 280 P **P 18 03 12.1 +0.5**
SNR=7.2
UMR Umm Al-Rimmam 70.09 293 *eP* **P 18 03 10.6 -1.1**
MOR8 Moi Rana 70.26 337 *eP* **P 18 03 09.7 -2.5**
MIB Mutribah 70.27 293 *eP* **P 18 03 11.1 -1.7**
QRN Al-Qurain 70.30 292 *eP* **P 18 03 11.4 -1.6**
ANN Anapa 70.47 311 *eP* **P 18 03 12.5 -1.3**
ANN *e* 18 05 47.4
ANN *e*S **S 18 12 19.5 -2.5**
ANN pmax pmax
comp=Z,69nm,1.1s
ANN MLR MLR
comp=E,803nm,23.0s
ANN MLR MLR
comp=Z,1μm,22.0s
RBK Rabkut 70.53 279 P **P 18 03 13.3 -1.3**
RST Umm Al-Ruwaisa 70.67 293 *eP* **P 18 03 13.5 -1.7**
WHFO Wadi Hawf 70.68 279 P **P 18 03 14.2 -1.4**
SNR=12
MTSE Matsula 70.96 328 *eP* **P 18 03 16.0 -0.5**
YKA Yellowknife Ar 71.10 27 P **P 18 03 18.8 +1.6**
comp=Z,28nm,0.8s,baz=301,slow=5.5,SNR=59
MNK Minsk 71.24 323 *i P* **P 18 03 18.5 +0.3**
MNK *i* *PP **pP 18 03 34.9 -0.4**
MNK *i* *SP **sP 18 03 41.9 -0.3**
MNK *i* PPP PPP 18 07 40.2
MNK *i* S **S 18 12 30.4 -0.2**
MNK *i* *SS **sS 18 13 02.5 +3.2**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=E,45nm,17.0s
MNK MLR MLR
comp=N,380nm,17.0s
MNK MLR MLR
comp=Z,560nm,17.0s
MNK Minsk 71.24 323 *i P* **P 18 03 18.5 +0.3**
comp=E,2.0nm,0.9s
MNK *i* P **P 18 03 18.5 +0.3**
comp=N,13nm,0.9s
MNK *i* P **P 18 03 18.5 +0.3**
comp=Z,34nm,0.9s,baz=60
MNK *i* pP **pP 18 03 34.9 -0.3**
MNK *i* sP **sP 18 03 41.9 -0.3**
MNK *i* PP PP 18 05 35.9 -21
MNK *i* PPP PPP 18 07 40.2
MNK *i* S **S 18 12 30.4 -0.1**
MNK *i* sS **sS 18 13 02.5 +3.2**
MNK *i* SS SS 18 16 40.2 -24
MNK *i* SSS SSS 18 18 35.7
MNK *i* LQ LQ 18 29 08.5
MNK *i* LR LR 18 31 48.6
MNK *i* LRM MLR 18 37 36.1
comp=E,45nm,17.4s
MNK *i* LRM MLR 18 37 37.5
comp=N,380nm,17.4s
MNK *i* LRM MLR 18 37 46.6
comp=Z,560nm,17.4s
ABTO Aybut 71.35 279 P **P 18 03 18.5 -1.1**
DBG Daneborg 71.39 352 *i P* **P 18 03 18.7 -0.1**
DBG IAmb IAmb 18 03 22.2
comp=Z,26nm,0.7s
IDID Didziasalis 71.39 324 *eP* **P 18 03 18.7 -0.4**
ISAL Salakas 71.56 325 *eP* **P 18 03 19.6 -0.5**
IIGN Ignalina 71.62 325 *eP* **P 18 03 20.3 -0.2**
MARD Mardin 71.68 303 IAmb IAmb 18 03 23.9
comp=Z,41nm,0.7s
NSS Namsos 72.10 337 *eP* **P 18 03 22.1 -1.2**
SLIT Slitere, Latvi 72.23 328 *eP* **P 18 03 24.1 0.0**
AKASG Malin Array Be 72.47 319 P **P 18 03 24.1 -1.6**
comp=Z,10nm,0.5s,baz=55,slow=6.6,SNR=53
AKASG pP **PcP 18 03 45.1 +2.0**
comp=Z,9.2nm,0.6s,baz=51,slow=6.6,SNR=4.6
AKASG LR LR 18 38 16.5
comp=Z,507nm,18.9s,baz=75,slow=38
AKBB Malin Array Si 72.47 319*c i P* **P 18 03 23.8 -1.9**
PABE Paberze 72.63 325 *eP* **P 18 03 25.8 -0.7**
PABE Paberze 72.63 325 IAmb IAmb 18 03 27.5
comp=Z,40nm,0.8s
MALT Malatya 72.85 305 P **P 18 03 28.9 +0.6**
UPP Uppsala 72.93 331 *eP* **P 18 03 26.9 -1.3**
KVT Kavak 73.13 308 P **P 18 03 30.7 +0.8**
PBUR Paburge 73.30 327 *eP* **P 18 03 29.8 -0.7**
SOCY Socotra 73.36 274 P **P 18 03 29.3 -2.4**
SUW Suwalki 73.83 324 *eP* **P 18 03 32.6 -1.1**
SUW Suwalki 73.83 324 *eP* **P 18 03 32.7 -1.0**
BZK Bozkurt 74.03 310⇑P **P 18 03 34.3 -0.7**
SORM Soroca 74.30 317⇓P **P 18 03 35.0 -1.5**
UPNV Upernavik 74.38 2 *i P* **P 18 03 38.7 +2.2**
UPNV IAmb IAmb 18 03 40.4
comp=Z,63nm,0.9s
NC405 NORSAR Array S 74.42 334 IAmb IAmb 18 03 36.8
comp=Z,68nm,0.8s
SUMG Summit 74.52 357 *i P* **P 18 03 38.9 +1.0**
SUMG IAmb IAmb 18 03 42.2
comp=Z,148nm,1.1s
SUMG Summit 74.52 357 *i P* **P 18 03 38.8 +1.0**
SUMG pmax pmax
comp=Z,150nm,1.1s
NB201 NORSAR Array S 74.62 334 IAmb IAmb 18 03 38.9
comp=Z,60nm,0.9s
KIS Kishinev 74.63 316 *eP* **P 18 03 37.0 -1.4**
KIS *e*LQ LQ 18 29 12.0
comp=Z,400nm,22.0s
KIS *e*LR LR 18 37 06.0
comp=Z,250nm,19.0s
NB2 NORSAR Subarra 74.65 334 P **P 18 03 36.2 -2.2**
comp=Z,18nm,0.9s,baz=50,slow=6.2
NB2 NORSAR Subarra 74.65 334 P **P 18 03 36.2 -2.2**
baz=50,slow=6.2
NOA NORSAR Array B 74.65 334 P **P 18 03 36.5 -1.8**
comp=Z,7.1nm,0.6s,baz=49,slow=5.7,SNR=49
NOA pP **pP 18 03 57.8 +2.3**
comp=Z,7.7nm,0.7s,baz=48,slow=5.8,SNR=4.8
NOA PP **PP 18 06 24.9 -0.4**
comp=Z,7.1nm,0.9s,baz=48,slow=8.6,SNR=4.7
NOA LR LR 18 38 44.8
comp=Z,274nm,19.1s,baz=55,slow=38
NC204 NORSAR Array S 74.66 335 IAmb IAmb 18 03 39.3
comp=Z,34nm,0.9s
PGC Sidney 74.68 42 P **P 18 03 39.0 +0.4**
PGC IAmb IAmb 18 03 41.8
comp=Z,38nm,0.8s
NC602 NORSAR Array S 74.73 334 *eP* **P 18 03 36.7 -2.1**
NORES NORESS Array B 74.73 334 P **P 18 03 40.1 +1.3**
NORES pmax pmax
comp=Z,2.0nm,0.4s
DOMB Dombas 74.74 336 *eP* **P 18 03 37.5 -1.3**
MOL Molde 74.89 337 *eP* **P 18 03 40.3 +0.7**
A04D Lummi Island 75.06 41 P **P 18 03 43.4 +2.5**
baz=303,SNR=5.7
SCO Scoresbysund 75.12 351 *i P* **P 18 03 43.2 +2.3**
SCO IAmb IAmb 18 03 44.2
comp=Z,52nm,1.1s
SCO Scoresbysund 75.12 351 P **P 18 03 41.8 +1.0**
SCO pmax pmax
comp=Z,44nm,1.0s
SCO Scoresbysund 75.12 351 P **P 18 03 41.8 +1.0**
SCO IAmb IAmb 18 03 44.4
comp=Z,44nm,1.0s
AKN Aaknes 75.35 337 *eP* **P 18 03 42.1 -0.2**
BR131 Keskin Array S 75.40 308 IAmb IAmb 18 03 44.7
comp=Z,43nm,0.9s
BRTR Keskin Array B 75.40 308 P **P 18 03 42.4 -0.8**
comp=Z,29nm,0.9s,baz=102,slow=4.8,SNR=48
BRTR LR LR 18 43 31.1
comp=Z,242nm,18.5s,baz=64,slow=41
BRTR Keskin Array B 75.40 308 *i P* **P 18 03 42.0 -1.2**
BRTR pmax pmax
comp=Z,29nm,0.9s
BRTR Keskin Array B 75.40 308 P **P 18 03 42.9 -0.3**
VASR Vaslui 75.42 316⇑P **P 18 03 42.6 -0.3**
D03D Eldon 75.49 43 P **P 18 03 46.2 +2.8**
baz=303,SNR=29
OSL Oslo 75.57 334 *eP* **P 18 03 41.9 -1.7**
TLCR 75.59 315⇑P **P 18 03 43.5 -0.5**
B05A Bryant 75.65 42 P **P 18 03 46.7 +2.4**
baz=304,SNR=18
NUUG Nuugaatsiaq 75.72 2 *i P* **P 18 03 47.6 +3.4**
NUUG IAmb IAmb 18 03 48.1
comp=Z,15nm,0.9s
LVV L'vov 75.76 320 *eP* **P 18 03 44.4 -0.5**
LVV *e* 18 04 07.4
LVV *e*S **S 18 13 19.3 -2.5**
LVV *e*PS PnS 18 13 49.5 -16
LVV *e*SS **SS 18 18 08.9 -4.8**
LVV pmax pmax
comp=Z,80nm,1.5s
JURR Jurilovca 75.78 314⇑P **P 18 03 45.3 +0.3**
D04E Lakebay 75.87 43 P **P 18 03 48.9 +3.4**
baz=304,SNR=5.0
ANTO Ankara 75.88 308 P **P 18 03 45.4 -0.5**
PRAR RASCA 75.92 318⇑P **P 18 03 45.2 -0.7**
SKAR Skarslia 75.94 335 *eP* **P 18 03 45.1 -0.7**
CFR Carcaliu 76.00 315⇓P **P 18 03 45.5 -0.9**
TPGR Topolog 76.00 315⇑P **P 18 03 45.6 -0.8**
TESR Tescani 76.15 317⇑P **P 18 03 46.1 -1.1**
KONO Kongsberg 76.18 334⇓ *eP* **P 18 03 47.4 +0.3**
KONO pmax pmax
comp=Z,26nm,1.7s
KONO Kongsberg 76.18 334 *eP* **P 18 03 47.3 +0.3**
KONO Kongsberg 76.18 334 P **P 18 03 46.8 -0.3**
TIRR Tirgusor 76.22 314⇑P **P 18 03 47.1 -0.5**
TIRR Tirgusor 76.22 314 P **P 18 03 45.8 -1.8**
BEL Belsk 76.27 323 *eP* **P 18 03 45.9 -1.9**
D05A Enumclaw 76.31 42 P **P 18 03 50.1 +2.0**
D05A IAmb IAmb 18 03 51.7
comp=Z,44nm,0.9s
E04D Cinebar 76.33 43 P **P 18 03 50.5 +2.4**
baz=304,SNR=14
F04D Rainier, OR 76.33 44 P **P 18 03 50.9 +2.6**
baz=304
HYA Hoyanger 76.34 336 *eP* **P 18 03 47.6 -0.3**
BURAR Bucovina Array 76.35 318⇑P **P 18 03 47.7 -0.7**
HARR Harsova 76.39 315⇑P **P 18 03 48.2 -0.4**
TLBR Topalu 76.40 314⇑P **P 18 03 48.3 -0.3**
FOO Floro 76.41 337 *eP* **P 18 03 47.1 -1.2**
VRI Vrincioaia 76.46 316⇑P **P 18 03 49.4 +0.5**
VRI Vrincioaia 76.46 316 P **P 18 03 49.0 0.0**
PLOR Plostina 76.51 316⇑P **P 18 03 49.6 +0.4**
C06D Leavenworth 76.51 41 P **P 18 03 51.4 +2.1**
baz=304
KWP Kalwaria Pacla 76.57 321 *eP* **P 18 03 48.8 -0.7**
KWP Kalwaria Pacla 76.57 321 P **P 18 03 49.6 +0.1**
KWP Kalwaria Pacla 76.57 321 P **P 18 03 49.6 +0.1**
BISRR Bisoca 76.64 316⇑P **P 18 03 50.3 +0.3**
G03D McMinnville, O 76.66 45 P **P 18 03 52.8 +2.7**
baz=304,SNR=7.1
OZUR 76.88 317⇑P **P 18 03 51.0 -0.4**
I02D Swisshome 76.92 46 P **P 18 03 54.5 +2.9**
baz=303,SNR=5.0
BSD Bornholm Skovb 77.02 328 *eP* **P 18 03 52.1 +0.2**
BSD Bornholm Skovb 77.02 328 *i P* **P 18 03 50.5 -1.4**
BSD IAmb IAmb 18 03 52.2
comp=Z,40nm,0.9s
BSD Bornholm Skovb 77.02 328 *i P* **P 18 03 50.5 -1.4**
BSD pmax pmax
comp=Z,40nm,0.9s
ODD1 Odda 77.08 335 *eP* **P 18 03 52.6 +0.4**
B08A Colville Reser 77.12 40 IAmb IAmb 18 04 11.7
comp=Z,53nm,0.8s
MLR Muntele Rosu 77.12 316⇑P **P 18 03 53.1 +0.2**
GKP Gorka Klasztor 77.13 326 *eP* **P 18 03 51.7 -0.9**
ASK Askoy 77.17 336 *eP* **P 18 03 51.6 -1.0**
DOPR Dopca 77.18 317⇑P **P 18 03 53.0 0.0**
BER Bergen 77.19 336 *eP* **P 18 03 51.8 -1.0**
KOLS Kolonicke sedl 77.21 320 *eP* **P 18 03 52.9 -0.2**
KOLS Kolonicke sedl 77.21 320 *eP* **P 18 03 52.9 -0.2**
F05D White Salmon 77.34 43 P **P 18 03 56.3 +2.3**
baz=305
H04D Lebanon 77.36 45 P **P 18 03 56.7 +2.7**
baz=304,SNR=8.4
UZH Uzhgorod 77.37 320 *eP* **P 18 03 52.9 -1.1**
UZH *e* 18 04 04.9
UZH *e* 18 06 48.5
UZH *e*S **S 18 13 36.9 -2.5**
UZH *e*SS **SS 18 18 41.9 +3.9**
J01E Myrtle Point 77.39 47 P **P 18 03 56.8 +2.5**
baz=304,SNR=16
I03D Drain, OR 77.45 46 P **P 18 03 57.2 +2.7**
baz=304,SNR=26
BLS5 Blasjo 77.49 335 *eP* **P 18 03 54.2 -0.3**
TRPA Tarpa 77.53 320 *eP* **P 18 03 57.0 +2.1**
HOMB Homborsund 77.55 333 *eP* **P 18 03 53.1 -1.6**
H04A Detroit Lake 77.59 45 IAmb IAmb 18 04 14.3
comp=Z,39nm,0.8s
CRVS Cervenica-Dubn 77.66 321 *eP* **P 18 03 55.0 -0.6**
CRVS pmax pmax
comp=Z,19nm,1.0s
CRVS Cervenica-Dubn 77.66 321 *eP* **P 18 03 55.0 -0.6**
VOIR 77.67 316⇑P **P 18 03 55.6 -0.3**
COP Copenhagen 77.73 330 *eP* **P 18 03 55.1 -0.7**
COP *i P* **P 18 03 55.1 -0.7**
COP IAmb IAmb 18 03 55.6
comp=Z,23nm,0.7s
COP Copenhagen 77.73 330 *eP* **P 18 03 55.0 -0.7**
COP pmax pmax
comp=Z,23nm,0.7s
KBO Bosley Butte 77.73 48 IAmb IAmb 18 04 16.0
comp=Z,43nm,1.0s
OJC Ojcow 77.74 322 *eP* **P 18 03 55.3 -0.8**
OJC Ojcow 77.74 322 IAmb IAmb 18 03 57.5
comp=Z,42nm,0.9s
CJR Cluj-Napoca 77.77 318⇑P **P 18 03 54.9 -1.5**
G05D Wamic, OR 77.79 44 P **P 18 03 58.5 +2.1**
baz=305,SNR=8.4
K02D Willamette Mer 77.81 47 P **P 18 03 58.9 +2.2**
baz=304,SNR=32
MESR Meseseni 77.88 319⇑P **P 18 03 56.8 -0.1**
I04A Tendick Farm, 77.96 45 P **P 18 03 59.5 +2.0**
baz=304,SNR=33
SNART Snartemo 77.99 334 *eP* **P 18 03 56.4 -0.9**
ICESG Greenland Ices 78.04 357 *i P* **P 18 03 58.5 +0.6**
ICESG IAmb IAmb 18 04 01.4
comp=Z,102nm,0.9s
ILULI Ilulissat 78.09 1 *i P* **P 18 03 58.1 +0.4**
ILULI IAmb IAmb 18 04 01.4
comp=Z,84nm,0.9s
ILULI Ilulissat 78.09 1 *i P* **P 18 03 58.0 +0.4**
ILULI pmax pmax
comp=Z,84nm,0.9s
D08A Wollman Farm, 78.10 41 IAmb IAmb 18 04 17.1
comp=Z,52nm,0.8s
GOET G??ttrup 78.12 332 *i P* **P 18 03 57.9 -0.1**
GOET IAmb IAmb 18 03 59.1
comp=Z,64nm,0.9s
L02E Cave Junction 78.15 47 P **P 18 04 00.9 +2.5**
baz=304,SNR=16
HAWA Hanford 78.15 42 IAmb IAmb 18 04 17.6
comp=Z,40nm,0.9s
DRGR 78.22 318⇑P **P 18 03 58.2 -0.7**
I05D Terrebonne, OR 78.29 45 P **P 18 04 01.6 +2.3**
baz=305,SNR=9.4
COPA Copaceanca 78.31 315⇑P **P 18 03 58.2 -1.1**
E08A Dider Farm, El 78.36 42 IAmb IAmb 18 04 18.7
comp=Z,43nm,0.9s
NEW Newport 78.37 40 P **P 18 04 01.4 +1.7**
comp=Z,27nm,0.9s,baz=309,slow=4.5,SNR=40
NEW pP **pP 18 04 17.9 +1.1**
comp=Z,39nm,0.8s,baz=313,slow=3.5,SNR=17
NEW Newport 78.37 40 P **P 18 04 01.6 +1.9**
baz=307,SNR=30
NEW Newport 78.37 40 IAmb IAmb 18 04 18.6
comp=Z,46nm,0.8s
LNIZ Loecknitz 78.39 327 *eP* **P 18 03 59.3 -0.2**
comp=Z,110nm,0.8s,baz=46,slow=5.3
GHAJ Ghor Haditha 78.39 300 IAmb IAmb 18 04 01.9
comp=Z,50nm,0.7s
LOT Lotru 78.40 317⇑P **P 18 03 59.2 -0.8**
J04D Umpqua Nationa 78.45 46 P **P 18 04 02.9 +2.5**
baz=305,SNR=12
ISP Isparta 78.47 308 P **P 18 04 00.3 -0.1**
MUD Monsted U'grnd 78.55 332 *i P* **P 18 03 59.0 -1.3**
MUD IAmb IAmb 18 04 01.1
comp=Z,31nm,1.0s
MUD Monsted U'grnd 78.55 332⇑ *iP* **P 18 03 59.0 -1.3**
MUD pmax pmax
comp=Z,31nm,1.0s
LANS Liptovska Anna 78.56 322 *eP* **P 18 04 01.2 +0.5**
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 78.56 322 *eP* **P 18 04 01.2 +0.5**

OKC Ostrava-Krasne 78.82 323 *e*P **P 18 04 01.6 -0.4**
OKC MLR MLR
comp=Z,700nm,15.1s
OKC Ostrava-Krasne 78.82 323 *e*P **P 18 04 01.6 -0.4**
OKC AMS AMS 18 42 20.0
comp=Z,700nm,15.1s
PINE Pine Mountain 78.84 45 IAmb IAmb 18 04 22.1
comp=Z,91nm,0.8s
L04D Klamath Falls 78.91 47 P **P 18 04 04.9 +2.0**
baz=305,SNR=26
J05D Fort Rock, OR 78.95 45 P **P 18 04 05.5 +2.4**
baz=305,SNR=44
GZR Gura Zlata 79.00 317 ⇑P **P 18 04 02.5 -0.7**
K04D Chiloquin, OR 79.02 46 P **P 18 04 06.0 +2.6**
baz=305
M02C Callahan 79.04 48 P **P 18 04 06.0 +2.5**
baz=304,SNR=23
PSZ Piszkesteto 79.09 321 ⇑P **P 18 04 03.1 -0.5**
PSZ Piszkesteto 79.09 321 *e*P **P 18 04 04.1 +0.5**
PSZ Piszkesteto 79.09 321 P **P 18 04 04.4 +0.8**
PSZ pmax pmax
comp=Z,22nm,1.1s
KSP Ksiaz 79.11 324 *e*P **P 18 04 03.1 -0.5**
SIRR Siria 79.12 318 ⇑P **P 18 04 03.4 -0.4**
MORC Moravsky Berou 79.16 323 ⇑P **P 18 04 03.1 -0.8**
MORC Moravsky Berou 79.16 323 *e*P **P 18 04 03.3 -0.6**
RUE Ruedersdorf 79.25 327 *e*P **P 18 04 03.9 -0.3**
comp=Z,60nm,1.1s,baz=46,slow=5.3
VYHS Vyhne 79.29 321 *e*P **P 18 04 04.3 -0.4**
VYHS pmax pmax
comp=Z,18nm,1.2s
VYHS Vyhne 79.29 321 *e*P **P 18 04 04.3 -0.4**
OSTC Ostas 79.33 324 *e*P **P 18 04 04.6 -0.2**
OSTC AMS AMS 18 42 40.0
comp=Z,900nm,17.4s
KRLC Kraliky 79.36 324 *e*P **P 18 04 04.7 -0.3**
KRLC *e*S **S 18 13 59.9 -0.8**
KRLC MLR MLR
comp=Z,1μm,17.0s
KRLC Kraliky 79.36 324 *e*P **P 18 04 04.7 -0.3**
KRLC *e*S **S 18 13 59.9 -0.8**
KRLC AMS AMS 18 42 50.0
comp=Z,1μm,17.0s
N02D Trinity Center 79.37 48 P **P 18 04 07.6 +2.3**
baz=305
CHVC Chvalec 79.39 324 *e*P **P 18 04 05.6 +0.5**
CHVC AMS AMS 18 42 50.0
comp=Z,900nm,15.5s
DPC Dobruska-Polom 79.41 324 *e*P **P 18 04 05.2 -0.1**
DPC MLR MLR
comp=Z,1μm,15.0s
DPC Dobruska-Polom 79.41 324 *e*P **P 18 04 05.2 -0.1**
DPC AMS AMS 18 42 50.0
comp=Z,1μm,15.0s
M04C Macdoel 79.44 47 P **P 18 04 07.9 +2.2**
baz=305,SNR=15
UPC Upice 79.46 324 *e*P **P 18 04 05.2 -0.3**
UPC *e*S **S 18 14 02.3 +0.5**
UPC MLR MLR
comp=Z,900nm,15.9s
UPC Upice 79.46 324 *e*P **P 18 04 05.2 -0.3**
UPC *e*S **S 18 14 02.3 +0.5**
UPC AMS AMS 18 42 50.0
comp=Z,900nm,15.9s
ELL Elmali 79.46 307 P **P 18 04 04.9 -1.0**
K05A Summer Lake 79.48 46 IAmb IAmb 18 04 27.5
comp=Z,44nm,0.9s
HERR Herculane 79.51 317 ⇑P **P 18 04 04.9 -1.0**
BZS Buzias 79.53 318 ⇑P **P 18 04 04.8 -1.1**
WALA Waterton Lakes 79.56 38 IAmb IAmb 18 04 25.4
comp=Z,47nm,0.8s
SKMB Sankelmark Bun 79.64 330 *e*P **P 18 04 05.7 -0.7**
comp=Z,61nm,1.0s,baz=46,slow=5.3
JAVC Velka Javorina 79.67 322 *e*P **P 18 04 07.1 +0.3**
O02D Mt. Diablo Mer 79.77 49 P **P 18 04 09.9 +2.4**
baz=305,SNR=26
BSEG Bad Segeberg 79.81 329 *e*P **P 18 04 06.4 -0.9**
comp=Z,38nm,1.0s,baz=46,slow=5.3
VRAC Vranov 79.94 323 ⇑P **P 18 04 07.9 -0.2**
VRAC Vranov 79.94 323 *e*P **P 18 04 07.7 -0.4**
MDVR Moldovita 79.97 317 ⇑P **P 18 04 07.3 -1.2**
SMOL Smolenice 80.01 322 *e*P **P 18 04 08.7 +0.2**
SMOL pmax pmax
comp=Z,14nm,1.0s
SMOL Smolenice 80.01 322 *e*P **P 18 04 08.7 +0.2**
EZN Ezine 80.08 311 P **P 18 04 09.6 +0.5**
PVCC Panska Ves 80.15 325 *e*P **P 18 04 09.1 -0.1**
PVCC Panska Ves 80.15 325 *e*P **P 18 04 09.1 -0.1**
MODS Modra-Piesok 80.18 322 *e*P **P 18 04 10.1 +0.6**
MODS pmax pmax
comp=Z,22nm,1.0s
MODS Modra-Piesok 80.18 322 *e*P **P 18 04 10.1 +0.6**
JTMT Jette 80.19 39 IAmb IAmb 18 04 29.0
comp=Z,53nm,0.8s
KRUC Moravsky 80.19 323 *e*P **P 18 04 08.8 -0.7**
BRG Berggiesshubel 80.23 325 *e*P **P 18 04 08.8 -0.8**
BRG Amp 18 04 11.1
comp=Z,17nm,0.9s
BRG Berggiesshubel 80.23 325 S **S 18 14 10.0 +0.2**
BRG Berggiesshubel 80.23 325 SS SS 18 19 29.0 +8.3
BRG Amp 18 36 10.0
comp=E,0.4nm,20.4s
BRG Amp 18 36 22.0
comp=N,0.4nm,16.3s
BRG Amp 18 42 03.0
comp=Z,0.7nm,23.2s
BRG Berggiesshubel 80.23 325 *e*P **P 18 04 09.1 -0.5**
comp=Z,18nm,1.2s,baz=46,slow=5.3
O03E Paynes Creek 80.32 48 P **P 18 04 12.0 +1.5**
baz=305,SNR=13
SFJD Kangerlussuaq 80.32 1 *i* P **P 18 04 10.0 +0.1**
SFJD IAmb IAmb 18 04 13.4
comp=Z,40nm,0.8s
SFJD Kangerlussuaq 80.32 1 P **P 18 04 09.9 +0.1**
SFJD pmax pmax
comp=Z,66nm,0.9s
SFJD Kangerlussuaq 80.32 1 P **P 18 04 09.9 +0.1**
SFJD IAmb IAmb 18 04 13.7
comp=Z,66nm,0.8s
YER Yerkesik 80.33 308 P **P 18 04 11.2 +0.6**
VTS Vitosha 80.37 315 ⇑P **P 18 04 10.5 -0.3**
ZST Bratislava 80.38 322 *e*P **P 18 04 10.6 +0.1**
ZST pmax pmax
comp=Z,35nm,1.0s
ZST Bratislava 80.38 322 *e*P **P 18 04 10.6 +0.1**
CLL Collm 80.38 326 *i* P **P 18 04 09.6 -0.9**
comp=Z,52nm,0.9s
CLL *e*(PcP) **PcP 18 04 14.0 -3.4**
CLL *e*pP **pP 18 04 27.0 -0.8**
CLL *e*sP **sP 18 04 32.0 -2.7**
CLL *e*PP **PP 18 07 11.0 -2.4**
CLL *e* 18 07 52.0
CLL *e*PPPP 18 10 18.0
CLL *e*S **S 18 14 09.0 -2.4**
CLL *e*PPS PPS 18 15 18.0
CLL *e*SS **SS 18 19 30.0 +7.0**
CLL *e*SSSS 18 25 24.0
CLL *e*PKPPKPdf**P'P'df 18 30 55.0 -4.6**
CLL Collm 80.38 326 *i* P **P 18 04 09.6 -0.9**
CLL *e**SP **sP 18 04 32.0 -2.7**
CLL *e*S **S 18 14 09.0 -2.4**
CLL pmax pmax
comp=Z,52nm,0.9s
CLL Collm 80.38 326 IAmb IAmb 18 04 12.1
comp=Z,48nm,0.9s
CLL Collm 80.38 326 *e*P **P 18 04 09.6 -0.9**
comp=Z,41nm,1.0s,baz=46,slow=5.3
FBE Freiberg 80.47 326 *e*P **P 18 04 10.1 -0.8**
comp=Z,37nm,1.0s,baz=46,slow=5.3
TREC Trest 80.50 324 *e*P **P 18 04 10.8 -0.4**
TREC Trest 80.50 324 *e*P **P 18 04 10.8 -0.4**
FLTG Flechtingen 80.50 328 *e*P **P 18 04 10.1 -1.0**
comp=Z,44nm,1.0s,baz=46,slow=5.3
PRA Prague 80.52 325 AMS AMS 18 43 30.0
comp=Z,500nm,15.6s
PRU Pruhonice 80.52 324 *e*P **P 18 04 10.8 -0.4**
PRU *e*S **S 18 14 09.6 -3.3**
PRU MLR MLR
comp=Z,700nm,17.1s
PRU Pruhonice 80.52 324 *e*P **P 18 04 10.8 -0.4**
PRU *e*S **S 18 14 09.6 -3.3**
PRU AMS AMS 18 43 30.0
comp=Z,700nm,17.1s
BOVS Bovan 80.67 316 ⇑P **P 18 04 11.4 -0.7**

MORH Mrgy, Hungar 80.81 320 ⇑P **P 18 04 11.9 -0.9**
MORH Mrgy, Hungar 80.81 320 *e*P **P 18 04 12.8 0.0**
MORH Mrgy, Hungar 80.81 320 ⇑*i*P **P 18 04 11.5 -1.3**
FRGS Fruska Gora 80.82 318 ⇑P **P 18 04 12.7 -0.3**
FRGS Fruska Gora 80.82 318 ⇑*i*P **P 18 04 12.2 -0.8**
DY2G Dye2 80.86 359 ⇑*i*P **P 18 04 13.2 +0.2**
DY2G IAmb IAmb 18 04 16.8
comp=Z,171nm,0.8s
NRDL Niedersach Rie 80.90 328 *e*P **P 18 04 12.2 -0.9**
comp=Z,20nm,1.0s,baz=46,slow=5.3
MSO Missoula 80.95 39 P **P 18 04 15.1 +1.4**
baz=309,SNR=16
PBCC Pribram 80.98 324 *e*P **P 18 04 13.1 -0.6**
WVOR Wild Horse Val 81.00 45 P **P 18 04 15.3 +1.2**
WVOR pmax pmax
comp=Z,18nm,1.0s
WVOR Wild Horse Val 81.00 45 P **P 18 04 15.3 +1.2**
NEUB Neuenburg 81.02 327 *e*P **P 18 04 13.1 -0.7**
comp=Z,92nm,1.6s,baz=46,slow=5.3
FFC Flin Flon 81.17 28 P **P 18 04 16.3 +1.7**
FFC pmax pmax
comp=Z,89nm,1.1s
FFC Flin Flon 81.17 28 P **P 18 04 16.2 +1.7**
FFC IAmb IAmb 18 04 33.2
comp=Z,89nm,1.1s
KOVH Kovagotottos 81.18 320 *e*P **P 18 04 13.4 -1.4**
CONA Conrad Observa 81.19 322 *i* P **P 18 04 14.7 -0.3**
comp=Z,20nm,0.9s,SNR=23
CLZ Clausthal 81.23 328 *e*P **P 18 04 14.4 -0.7**
comp=Z,60nm,1.0s,baz=46,slow=5.3
WERD Werda 81.29 326 *e*P **P 18 04 14.8 -0.5**
comp=Z,16nm,0.9s,baz=46,slow=5.3
GUNZ Gunzen 81.33 326 *e*P **P 18 04 15.3 -0.3**
comp=Z,25nm,0.9s,baz=46,slow=5.3
PLN Plauen 81.33 326 *e*P **P 18 04 14.9 -0.6**
comp=Z,12nm,1.1s,baz=46,slow=5.3
WERN Wernitzgruen 81.36 326 *e*P **P 18 04 15.1 -0.7**
comp=Z,31nm,0.9s,baz=46,slow=5.3
NKC Novy Kostel 81.36 326 *e*P **P 18 04 15.7 -0.1**
NKC MLR MLR
comp=Z,700nm,15.9s
NKC Novy Kostel 81.36 326 *e*P **P 18 04 15.7 -0.1**
NKC AMS AMS 18 43 50.0
comp=Z,700nm,15.9s
DIVS Divibare 81.37 317 ⇑*i*P **P 18 04 14.8 -1.2**
ANGG Ammassalik, Gr 81.39 356 *i* P **P 18 04 17.3 +1.8**
ANGG IAmb IAmb 18 04 18.2
comp=Z,48nm,1.0s
CKRC Cesky Krumlov 81.40 324 *e*P **P 18 04 16.5 +0.5**
CKRC AMS AMS 18 44 10.0
comp=Z,1μm,16.5s
BEKR Beckworth 81.47 48 IAmb IAmb 18 04 36.9
comp=Z,32nm,0.8s
MOX Moxa 81.48 326 *e*P **P 18 04 15.5 -0.8**
comp=Z,14nm,1.0s,baz=46,slow=5.3
MOX *e*L L 18 42 51.4
comp=Z,451nm,21.8s
ISOG Isortoq, Green 81.54 356 *i* P **P 18 04 17.7 +1.4**
ISOG IAmb IAmb 18 04 18.7
comp=Z,54nm,1.0s
STIP Stip 81.55 315 *i* P **P 18 04 14.9 -1.9**
KHC Kasperske Hory 81.56 324 *e*P **P 18 04 16.2 -0.6**
KHC *e*S **S 18 14 22.7 -1.1**
KHC MLR MLR
comp=Z,800nm,15.4s
KHC Kasperske Hory 81.56 324 *e*P **P 18 04 16.2 -0.6**
KHC *e*S **S 18 14 22.7 -1.1**
KHC AMS AMS 18 44 00.0
comp=Z,800nm,15.4s
GTTG Gottingen 81.62 328 *e*P **P 18 04 16.2 -0.8**
comp=Z,41nm,0.8s,baz=46,slow=5.3
GEC2 GERESS Array S 81.68 324 *e*P **P 18 04 17.1 -0.5**
comp=Z,12nm,0.9s,baz=46,slow=5.3
GERES GERESS Array B 81.68 324 P **P 18 04 16.6 -1.0**
comp=Z,8.4nm,0.8s,baz=55,slow=5.1,SNR=52
GERES PKKPbc **PKKPbc 18 22 47.8 -1.1**
comp=Z,0.4nm,0.7s,baz=212,slow=3.5,SNR=2.2
GERES LR LR 18 44 34.0
comp=Z,894nm,18.2s,baz=50,slow=39
MANZ Manzenberg 81.69 326 *e*P **P 18 04 16.8 -0.7**
comp=Z,18nm,0.9s,baz=46,slow=5.3
ROTZ Rotzenmuhle 81.79 325 *e*P **P 18 04 17.4 -0.6**
baz=46,slow=5.3
ARSA Arzberg 81.81 322 *i* P **P 18 04 17.3 -0.8**
comp=Z,4.3nm,0.6s,SNR=16
SKO Skopje 81.82 315 *i* P **P 18 04 17.9 -0.4**
BBLS Lazići 81.84 318 ⇑*i*P **P 18 04 17.7 -0.8**
WET Wettzell 81.89 325 *e*P **P 18 04 17.9 -0.6**
comp=Z,9.7nm,1.0s,baz=46,slow=5.3
MFID Camas Ranch 82.04 43 IAmb IAmb 18 04 38.3
comp=Z,62nm,1.1s
IBBN Ibbenburen 82.06 329 *e*P **P 18 04 18.3 -1.0**
comp=Z,38nm,0.9s,baz=46,slow=5.3
MOA Molln 82.06 323 *i* P **P 18 04 19.3 -0.1**
comp=Z,14nm,1.1s,SNR=9.0
UBBA Unterbreizbach 82.11 327 *e*P **P 18 04 18.8 -0.7**
baz=46,slow=5.3
PAHR Pah Rah Range 82.17 48 P **P 18 04 21.6 +1.2**
FRB Frobisher Bay 82.25 9 P **P 18 04 21.6 +1.5**
GRF Grafenberg Arr 82.31 326 *e*P **P 18 04 19.9 -0.9**
comp=Z,65nm,1.0s,baz=46,slow=5.3
GRF *e*L L 18 43 49.7
comp=Z,519nm,21.7s
EGMT Eagleton 82.34 37 P **P 18 04 22.8 +1.8**
baz=312,SNR=18
PERS Pernice 82.42 322 *i* P **P 18 04 20.7 -0.7**
SOKA Soboth 82.44 322 *i* P **P 18 04 20.9 -0.6**
comp=Z,41nm,0.9s,SNR=43
BLY Banja Luka 82.53 319 ⇑*i*P **P 18 04 21.2 -0.7**
UPM Unac-Piva 82.54 317 *e*P **P 18 04 22.7 +0.4**
KASTN Kahler Asten 82.55 328 *e*P **P 18 04 21.1 -0.9**
comp=Z,23nm,0.9s,baz=46,slow=5.3
DLMT Dillon 82.61 40 IAmb IAmb 18 04 41.7
comp=Z,73nm,0.8s
OHR Ohrid 82.73 315 *i* P **P 18 04 22.1 -1.1**
CRES Cresnjev 82.77 321 ⇑*i*P **P 18 04 21.9 -1.3**
MGRS Mrkonjic Grad 82.80 319 *e*P **P 18 04 23.2 -0.2**
OBKA Obir 82.80 322 *i* P **P 18 04 22.4 -1.0**
comp=Z,13nm,0.8s,SNR=8.4
PDG Podgorica 82.82 316 ⇑P **P 18 04 22.7 -0.7**
PDG Podgorica 82.82 316 ⇑*i*P **P 18 04 22.1 -1.4**
RJOB Jochberg 82.87 324 *e*P **P 18 04 22.9 -0.9**
baz=46,slow=5.3
BUG Bochum--Univer 82.89 329 *e*P **P 18 04 23.1 -0.5**
baz=46,slow=5.3
KAC Achnashellach 82.92 338 *e*P **P 18 04 22.0 -1.7**
BRY Bratogost 82.94 317 *e*P **P 18 04 21.5 -2.8**
BOZ Bozeman (W) 82.97 39 P **P 18 04 26.1 +1.7**
baz=311,SNR=22
BOZ Bozeman (W) 82.97 39 IAmb IAmb 18 04 43.5
comp=Z,32nm,0.8s
DRME Dracevica, Mon 83.02 316 ⇑*i*P **P 18 04 23.4 -1.1**
KBA Koelnbreinsper 83.04 323 *i* P **P 18 04 24.2 -0.6**
comp=Z,13nm,1.0s,SNR=7.6
BOJS Bojanci 83.09 321 *i* P **P 18 04 24.0 -0.8**
LJU Ljubljana 83.11 321 ⇑*i*P **P 18 04 23.7 -1.3**
LJU Ljubljana 83.11 321 *e*P **P 18 04 23.9 -1.0**
LJU *e*S **S 18 14 34.5 -5.3**
MILB Miltenberg 83.12 327 *e*P **P 18 04 24.0 -0.9**
comp=Z,18nm,0.9s,baz=46,slow=5.3
NUUK Nuuk 83.13 2 *i* P **P 18 04 25.6 +1.0**
NUUK IAmb IAmb 18 04 28.4
comp=Z,75nm,1.0s
TIR Tirane 83.14 315 P **P 18 04 26.4 +1.2**
KPL Plockton 83.16 338 *e*P **P 18 04 23.8 -1.1**
KPL IAmb IAmb 18 04 27.2
comp=Z,123nm,1.6s
TREB Trebinje 83.16 317 *e*P **P 18 04 24.6 -0.7**
MYKA Terra Mystica 83.19 322 *i* P **P 18 04 24.5 -0.9**
comp=Z,7.0nm,0.7s,SNR=6.5
TNS Taus Mts 83.23 327 *e*P **P 18 04 25.0 -0.5**
baz=46,slow=5.3
HCY Herceg Novi 83.25 317 *e*P **P 18 04 24.5 -1.2**
FUR Furstenfeldbru 83.33 325 *e*P **P 18 04 25.7 -0.3**
comp=Z,70nm,1.0s,baz=46,slow=5.3
KVN Kaiserville 83.36 47 IAmb IAmb 18 04 45.3
comp=Z,36nm,0.8s
CEY Cerknica 83.37 321 ⇑*i*P **P 18 04 25.0 -1.3**
INVG Invergeldie, C 83.39 337 *e*P **P 18 04 24.4 -1.8**
STON Ston 83.44 318 *e*P **P 18 04 25.3 -1.3**
JAVS Javornik 83.46 322 *e*P **P 18 04 24.9 -1.9**
JAVS *e*S **S 18 14 38.8 -4.6**
LHV Little Huntoon 83.59 48 IAmb IAmb 18 04 31.1
comp=Z,32nm,1.0s
NVAR Mina Array Bea 83.61 48 P **P 18 04 29.7 +1.8**

comp=Z,13nm,0.8s,baz=292,slow=4.8,SNR=114
NVAR pP **pP 18 04 45.9 +0.6**
comp=Z,16nm,0.7s,baz=290,slow=4.9,SNR=17
NVAR PP **PP 18 07 37.5 -3.2**
comp=Z,1.4nm,0.8s,baz=294,slow=6.8,SNR=2.5
NVAR LR LR 18 40 29.0
comp=Z,84nm,19.1s,baz=292,slow=35
AHRW Bad Neuenahr-A 83.62 328 *e*P **P 18 04 27.2 -0.3**
comp=Z,51nm,1.0s,baz=46,slow=5.3
IDI Anoyia 83.64 308 ⇑P **P 18 04 26.5 -1.5**
ABTA Abfaltersbach 83.68 323 *i* P **P 18 04 26.4 -1.6**
comp=Z,15nm,0.9s,SNR=11
WATA Walderalm 83.75 324 *i* P **P 18 04 27.3 -1.1**
comp=Z,10.0nm,0.8s,SNR=5.6
MLAC Mammoth, Mammo 83.76 49 P **P 18 04 31.3 +2.6**
baz=307
WTTA Wattenberg 83.77 324 *i* P **P 18 04 27.4 -1.1**
comp=Z,16nm,0.9s,SNR=7.3
STU Stuttgart 83.91 326 P **P 18 04 29.8 +0.8**
STU pmax pmax
comp=Z,49nm,1.0s
STU Stuttgart 83.91 326 *e*P **P 18 04 29.0 0.0**
comp=Z,41nm,0.9s,baz=46,slow=5.3
PAGB Antelope Grade 83.98 51 IAmb IAmb 18 04 50.0
comp=Z,37nm,0.7s
EKA Eskdalemuir Ar 83.98 336 P **P 18 04 28.2 -1.0**
MOTA Moosalm 83.98 324 *i* P **P 18 04 28.3 -1.3**
comp=Z,17nm,0.8s,SNR=12
BTNL Ternell 84.00 329 *d*P **P 18 04 29.1 -0.4**
comp=Z,25nm,1.1s
ESK Eskdalemuir 84.01 336 *e*P **P 18 04 27.4 -1.9**
ESK Eskdalemuir 84.01 336 P **P 18 04 29.6 +0.3**
ESK pmax pmax
comp=Z,20nm,1.1s
ESK Eskdalemuir 84.01 336 P **P 18 04 29.6 +0.3**
SQTA Sankt Quirin 84.02 324 *i* P **P 18 04 28.6 -1.1**
comp=Z,18nm,0.8s,SNR=11
MEM Membach 84.04 329 *d*P **P 18 04 29.7 +0.1**
comp=Z,26nm,1.0s
BEBN Eben Emael 84.05 329 *d*P **P 18 04 28.6 -1.0**
comp=Z,44nm,0.9s
RETA Reutte 84.05 324 *i* P **P 18 04 29.3 -0.6**
comp=Z,28nm,1.1s,SNR=14
BHOU Houvegnez 84.23 329 *d*P **P 18 04 31.0 +0.4**
UBR Ueberruh 84.24 325 *e*P **P 18 04 30.2 -0.5**
baz=46,slow=5.3
BSTI Sart Tilman 84.25 329 *d*P **P 18 04 31.0 +0.4**
comp=Z,5.2nm,0.8s
FETA Feichten 84.39 324 *i* P **P 18 04 30.7 -1.0**
comp=Z,18nm,1.0s,SNR=11
SMMC Simmler 84.39 51 P **P 18 04 34.2 +2.5**
baz=307,SNR=7.0
ITM Ithomi 84.43 311 IAmb IAmb 18 04 31.6
comp=Z,74nm,0.9s
BCLA Clavier 84.48 329 *d*P **P 18 04 30.8 -1.0**
comp=Z,14nm,1.1s
TIN Tinemaha, Big 84.49 49 P **P 18 04 34.6 +2.3**
baz=308,SNR=8.4
RLMT Red Lodge 84.53 39 P **P 18 04 34.7 +2.2**
baz=312
HPK Haverah Park 84.54 334 *e*P **P 18 04 31.1 -0.9**
HPK IAmb IAmb 18 04 33.3
comp=Z,110nm,1.3s
KESW Keswick, Cumbr 84.56 336 *e*P **P 18 04 30.4 -1.7**
KESW IAmb IAmb 18 04 33.6
comp=Z,80nm,1.2s
BGES Gesves 84.61 329 *d*P **P 18 04 32.2 -0.2**
BGES *d*pP **pP 18 04 50.3 +0.4**
DAVA Damuels 84.62 325 *i* P **P 18 04 31.9 -1.0**
comp=Z,50nm,0.9s,SNR=22
BFO Black Forest 84.63 326 P **P 18 04 31.9 -0.8**
BFO pmax pmax
comp=Z,38nm,0.9s
BFO Black Forest 84.63 326 P **P 18 04 31.9 -0.8**
BFO IAmb IAmb 18 04 34.3
comp=Z,38nm,0.9s
BFO Black Forest 84.63 326 *e*P **P 18 04 32.1 -0.5**
comp=Z,45nm,1.0s,baz=46,slow=5.3
WLF Walferdange 84.67 328 *d*P **P 18 04 33.3 +0.5**
comp=Z,38nm,1.0s
WLF Walferdange 84.67 328 *e*P **P 18 04 32.7 -0.1**
baz=46,slow=5.3
VES Vestal, Richgr 84.67 50 P **P 18 04 34.2 +1.1**
baz=307,SNR=6.7
RCHB Rochefort 84.71 329 *d*P **P 18 04 32.8 -0.2**
comp=Z,24nm,0.9s
RCHB *d*pP **pP 18 04 49.3 -1.1**
TPAW Teton Pass 84.72 41 IAmb IAmb 18 04 53.3
comp=Z,21nm,0.8s
PKM Mcpherson Peak 84.77 52 P **P 18 04 35.9 +2.0**
baz=307,SNR=13
BMRD Maredsous 84.80 329 *d*P **P 18 04 33.5 +0.1**
comp=Z,28nm,1.0s
SNF Seneffe 84.86 329 *d*P **P 18 04 33.6 -0.1**
comp=Z,32nm,1.1s
SNF *d*sP **sP 18 04 56.5 -1.6**
GAL1 Galloway 84.89 336 *e*P **P 18 04 32.7 -1.1**
GAL1 IAmb IAmb 18 04 34.8
comp=Z,80nm,1.4s
CWC Cottonwood Cre 84.96 50 P **P 18 04 36.3 +1.6**
baz=308
LBWR Ladybower, Pea 85.02 334 *e*P **P 18 04 32.9 -1.6**
LBWR IAmb IAmb 18 04 35.7
comp=Z,122nm,0.9s
DOU Dourbes 85.03 329 κP **P 18 04 33.7 -0.9**
TEOL Teolo 85.06 322 IAmb IAmb 18 04 35.9
comp=Z,34nm,0.8s
GRAC Grapevine Rang 85.07 49 P **P 18 04 37.2 +2.0**
baz=308,SNR=5.6
ISA Isabella, Lake 85.18 50 P **P 18 04 36.4 +0.6**
baz=308,SNR=8.8
ARVC Arvin 85.27 51 P **P 18 04 37.5 +1.4**
baz=308
R11A Troy Canyon, C 85.34 47 P **P 18 04 38.4 +1.8**
baz=309,SNR=21
R11A Troy Canyon, C 85.34 47 IAmb IAmb 18 04 55.4
comp=Z,19nm,0.8s
CWF Charnwood Fore 85.39 334 *e*P **P 18 04 34.1 -2.2**
CWF IAmb IAmb 18 04 37.0
comp=Z,72nm,1.3s
TUE Stuetta 85.45 324 P **P 18 04 37.1 +0.1**
TUE IAmb IAmb 18 04 38.2
comp=Z,35nm,0.9s
OSI Osito Audit: C 85.65 51 P **P 18 04 40.3 +2.2**
baz=308
SPR3 Spring Creek 3 85.69 46 P **P 18 04 41.7 +3.2**
FURC Furnace Creek, 85.72 49 P **P 18 04 40.4 +2.2**
baz=308,SNR=15
LRMC Laurel Mtn Rad 85.80 50 P **P 18 04 40.6 +1.7**
baz=308,SNR=6.6
TPNV Topopah Spring 85.80 48 P **P 18 04 41.0 +2.1**
TPNV pmax pmax
comp=Z,29nm,0.8s
TPNV Topopah Spring 85.80 48 P **P 18 04 40.6 +1.7**
baz=309,SNR=27
TPNV Topopah Spring 85.80 48 P **P 18 04 41.0 +2.1**
TPNV IAmb IAmb 18 04 58.6
comp=Z,29nm,0.8s
DUG Dugway, Tooele 85.82 44 P **P 18 04 40.9 +2.0**
DUG pmax pmax
comp=Z,32nm,1.0s
DUG Dugway, Tooele 85.82 44 P **P 18 04 41.4 +2.4**
baz=311,SNR=15
DUG Dugway, Tooele 85.82 44 P **P 18 04 40.9 +2.0**
DUG IAmb IAmb 18 04 58.0
comp=Z,32nm,1.0s
WME Myndd Eilian 85.94 335 *e*P **P 18 04 37.2 -1.8**
FOEL Foel Wylfa 85.96 335 *e*P **P 18 04 38.0 -1.2**
FOEL IAmb IAmb 18 04 39.9
comp=Z,74nm,1.1s
EDW2 Edwards Air Fo 85.96 51 P **P 18 04 41.5 +1.9**
baz=308,SNR=16
BW06 Boulder Array 85.96 40 P **P 18 04 41.1 +1.4**
baz=312,SNR=7.2
BW06 Boulder Array 85.96 40 P **P 18 04 40.8 +1.1**
BW06 IAmb IAmb 18 04 57.8
comp=Z,28nm,1.2s
PD31 Pinedale Array 85.96 40 P **P 18 04 41.6 +1.9**
PD31 IAmb IAmb 18 04 57.7
comp=Z,25nm,1.2s
PDAR Pinedale Array 85.96 40 P **P 18 04 40.9 +1.2**
comp=Z,4.8nm,0.8s,baz=278,slow=0.6,SNR=25
PDAR pP **pP 18 04 57.9 +0.7**
comp=Z,7.3nm,0.6s,baz=314,slow=1.5,SNR=11
PDAR PP **PP 18 07 58.2 -1.4**
comp=Z,0.2nm,0.5s,baz=325,slow=4.4,SNR=2.4
PDAR PKKPbc **PKKPbc 18 22 38.6 -0.5**

comp=Z,0.4nm,0.6s,baz=148,slow=5.2,SNR=3.3
PDAR LR LR 18 44 07.1
comp=Z,117nm,21.8s,baz=333,slow=36
PDAR Pinedale Array 85.96 40 P P 18 04 40.6 +0.9
NRCA Norcia 86.01 320 P P 18 04 40.1 +0.4
NRCA IAmb IAmb 18 04 42.4
comp=Z,50nm,1.0s
WLF1 Llynfaes 86.06 335 *e*P **P 18 04 37.8 -1.8**
YLL Llanberis 86.11 335 *e*P **P 18 04 38.8 -1.1**
DECC Green Verdugo 86.12 51 P P 18 04 42.3 +1.9
baz=308
YRC Rhoscolyn 86.16 335 *e*P **P 18 04 38.7 -1.3**
AQU L'Aquila 86.17 319 P **P 18 04 41.0 +0.5**
AQU L'Aquila 86.17 319⇑ *i*P **P 18 04 40.4 -0.1**
NRS Narsarsuaq 86.18 359 *i* P **P 18 04 41.2 +1.1**
NRS IAmb IAmb 18 04 42.7
comp=Z,20nm,0.7s
NRS Narsarsuaq 86.18 359 *i* P **P 18 04 41.1 +1.1**
NRS pmax pmax
comp=Z,20nm,0.7s
PSUT Pine Spring 86.27 46 IAmb IAmb 18 05 01.6
comp=Z,24nm,1.0s
NLU North Lily Min 86.41 44 IAmb IAmb 18 05 00.9
comp=Z,26nm,1.0s
SHOC Shoshone, Teco 86.44 49 P **P 18 04 43.8 +1.9**
baz=309
GSC Goldstone, Bar 86.47 50 P P 18 04 44.0 +1.8
baz=309,SNR=13
BFSC Mount Baldy Ra 86.57 51 P P 18 04 43.9 +1.2
baz=308
MCH1 Michaelchurch 86.61 334 *e*P **P 18 04 40.6 -1.7**
MCH1 IAmb IAmb 18 04 43.4
comp=Z,72nm,1.1s
TUQ Turquoise Moun 86.95 49 P P 18 04 46.5 +2.0
baz=309
ULM Lac du Bonnet 86.99 28 P P 18 04 45.0 +0.7
comp=Z,21nm,0.9s,baz=321,slow=5.2,SNR=17
ULM LR LR 18 48 13.8
comp=Z,240nm,18.6s,baz=316,slow=39
HEC Hector,Ludlow 87.07 50 P P 18 04 47.0 +1.9
baz=309,SNR=9.8
MDND Maddock 87.27 32 P P 18 04 47.4 +1.7
baz=319
MURC Murrieta 87.27 51 P P 18 04 46.8 +0.8
baz=308
P17A Butcher Ranch, 87.50 43 IAmb IAmb 18 05 06.3
comp=Z,48nm,1.0s
GMRC Granite Mounta 87.53 50 P P 18 04 49.3 +2.0
baz=309,SNR=9.8
K22A Casper 87.67 39 P P 18 04 50.0 +2.1
baz=314
PFO Pinyon Flats O 87.74 51 P P 18 04 50.2 +1.8
PFO pmax pmax
comp=Z,11nm,1.0s
PFO Pinyon Flats O 87.74 51 P P 18 04 50.4 +2.0
baz=309,SNR=6.8
PFO Pinyon Flats O 87.74 51 P P 18 04 50.2 +1.8
109C Camp Elliot, M 87.77 52 P P 18 04 49.3 +0.9
baz=308
BNI Bardonecchia 87.78 325 P P 18 04 47.1 -1.2
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 87.78 325 P P 18 04 47.1 -1.2
BELC Belle Mtn. Jos 87.80 50 P P 18 04 50.5 +1.8
baz=309,SNR=6.2
RSSD Black Hills 87.91 37 P P 18 04 50.4 +1.3
RSSD Black Hills 87.91 37 P P 18 04 51.6 +2.5
baz=316
RSSD Black Hills 87.91 37 P P 18 04 50.4 +1.3
RSSD IAmb IAmb 18 05 07.5
comp=Z,29nm,1.1s
RWWY Rawlins 87.97 40 IAmb IAmb 18 05 08.4
comp=Z,32nm,0.8s
MONP2 Monument Peak 88.22 51 P P 18 04 52.7 +1.9
baz=309
IRM Iron Mountain 88.25 50 P P 18 04 52.8 +2.2
baz=310,SNR=9.4
BC3 Big Chuckawall 88.37 50 P P 18 04 53.6 +2.3
baz=309,SNR=6.2
O20A White River Ci 88.47 42 P P 18 04 53.5 +1.6
baz=313,SNR=5.2
AGMN Agassiz Nation 88.53 30 P P 18 04 52.3 +0.7
baz=322
IKP In-Ko-Pah, Jac 88.57 51 P P 18 04 54.7 +2.4
baz=309
SWSC Sam W. Stewart 88.59 51 P P 18 04 53.8 +1.5
baz=309
PDMCI Parker Dam,Lak 88.80 49 P P 18 04 55.2 +2.0
baz=310
GLA Glamis 89.16 50 P P 18 04 57.6 +2.6
baz=310
N23A Red Feather La 89.21 40 P P 18 04 57.9 +2.5
baz=315,SNR=7.5
PV22 Blue Mesa, Par 89.26 43 IAmb IAmb 18 05 15.6
comp=Z,24nm,1.1s
WUAZ Wupatki 89.74 47 P P 18 05 00.3 +2.5
baz=312,SNR=10.0
SMCO Snowmass 89.84 42 P P 18 05 01.0 +2.5
SMCO IAmb IAmb 18 05 17.7
comp=Z,22nm,1.1s
PMOR Pomariorio Ree 90.10 108 *e*T T 19 43 34.8
comp=Z,29nm,0.2s
SUSD Miller 90.14 34 P P 18 05 01.0 +1.7
baz=320
ISCO Idaho Springs 90.16 41 P P 18 05 01.8 +1.9
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 90.16 41 P P 18 05 02.0 +2.1
baz=315
ISCO Idaho Springs 90.16 41 P P 18 05 01.8 +1.9
PPT Papeete 90.20 111 LR LR 18 40 48.7
comp=Z,199nm,18.2s,baz=318,slow=32
PPT2 Papeete2 90.21 111 *e*S **S 18 15 45.7 -3.6**
comp=Z,182nm,25.5s
PPT2 Papeete2 90.21 111 *e*LQ LQ 18 29 47.0
comp=Z,633nm,28.8s
PPT2 *e*LR LR 18 33 22.9
comp=Z,860nm,24.8s,baz=304
MVCO Mesa Verde 90.33 44 P P 18 05 03.1 +2.5
baz=313,SNR=6.6
EYMN Ely 90.56 27 P P 18 05 02.5 +1.3
baz=325,SNR=9.0
S22A 4UR Ranch, Cre 90.92 43 P P 18 05 06.2 +2.8
baz=314,SNR=12
Q24A Divide 91.00 41 P P 18 05 05.5 +1.7
baz=315
214A Organ Pipe Nat 91.17 50 P P 18 05 06.7 +2.3
baz=311
OGNE Ogallala 91.23 38 P P 18 05 08.3 +3.7
baz=317
SDCO Great Sand Dun 91.67 42 P P 18 05 09.2 +2.3
baz=315,SNR=7.4
ECSD EROS Data Cent 91.76 33 P P 18 05 08.4 +1.5
baz=321,SNR=11
TUC Tucson 92.23 49 P P 18 05 09.7 +0.4
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC Tucson 92.23 49 P P 18 05 11.4 +2.1
baz=312
TUC Tucson 92.23 49 P P 18 05 09.7 +0.4
SPMN Marine on St. 92.25 30 P P 18 05 10.6 +1.5
baz=324
T25A Trinidad 92.71 42 P P 18 05 13.3 +1.7
baz=316,SNR=7.7
BGNE Belgrade 92.83 35 P P 18 05 13.5 +1.6
baz=320
KEST Kesra 93.02 317 P P 18 05 12.8 -0.1
comp=Z,10nm,1.0s,baz=321,slow=3.0,SNR=11
KEST LR LR 18 49 43.1
comp=Z,308nm,21.2s,baz=344,slow=37
KEST Kesra 93.02 317 P P 18 05 11.0 -1.9
KEST Kesra 93.02 317 P P 18 05 12.7 -0.2
SNR=5.7
ANMO Albuquerque 93.08 44 P P 18 05 16.5 +3.1
ANMO pmax pmax
comp=Z,22nm,1.5s
ANMO Albuquerque 93.08 44 P P 18 05 16.0 +2.6
baz=314
TBI Tubuai 93.54 115 *e*S **S 18 16 14.4 -4.4**
comp=Z,206nm,28.0s
TBI Tubuai 93.54 115 *e*LQ LQ 18 31 03.8
comp=Z,325nm,38.0s
TBI *e*LR LR 18 34 53.0
comp=Z,1μm,26.8s,baz=306
121A Cookes Peak, D 93.95 47 P P 18 05 19.5 +2.1
baz=314
LSQQ Lebel-sur-Quev 94.38 19 P P 18 05 18.9 +0.1
baz=336
KMBO Kilima Mbogo 94.48 272 P P 18 05 20.2 +0.1
comp=Z,4.2nm,0.9s,baz=53,slow=5.5,SNR=7.6
AMTX Amarillo 95.87 42 P P 18 05 27.9 +1.9
baz=317
MNTX Cornudas Mount 95.99 46 P P 18 05 28.6 +2.1
baz=315
ESDC Sonseca Array 96.94 327 P P 18 05 30.8 +0.1
comp=Z,0.9nm,1.0s,baz=234,slow=33,SNR=4.6
ESDC PP PP 18 09 17.4 -8.5
comp=Z,1.7nm,0.9s,baz=27,slow=7.3,SNR=5.1
ESDC LR LR 18 54 43.2
comp=Z,162nm,18.3s,baz=25,slow=39
TXAR Lajitas Array 98.71 47 P Pdif 18 05 40.7 +1.8
comp=Z,0.8nm,0.5s,baz=298,slow=2.7,SNR=12
TXAR pP pP 18 05 57.4 +0.9
comp=Z,3.5nm,0.7s,baz=297,slow=3.0,SNR=12
TXAR PKiKP **PKiKP 18 10 09.6 -0.5**
comp=Z,2.0nm,1.1s,baz=291,slow=2.8,SNR=3.5
TXAR PKKPbc **PKKPbc 18 22 07.1 +0.9**
comp=Z,0.5nm,0.8s,baz=165,slow=7.1,SNR=3.7
TXAR LR LR 18 48 12.2
comp=Z,91nm,20.6s,baz=0.0,slow=34
TXAR Lajitas Array 98.71 47 P Pdif 18 05 40.9 +1.9
U40A Yellville 99.35 35 P **Pdif 18 05 42.3 +0.7**
baz=323
VNDA Vanda 111.74 173 PKiKP **PKiKP 18 10 32.8 +0.4**
comp=Z,1.2nm,0.7s,baz=26,slow=8.3,SNR=2.9
TORD Torodi Ar. Bea 113.94 305 PKiKP **PKiKP 18 10 36.7 -1.7**
comp=Z,0.8nm,0.4s,baz=43,slow=1.2,SNR=7.9
TORD PP **PP 18 11 25.9 -6.3**
comp=Z,1.6nm,0.8s,baz=40,slow=5.6,SNR=3.6
TORD PKKP **PKKPdf 18 21 37.7 -2.9**
comp=Z,2.8nm,0.9s,baz=251,slow=3.3,SNR=8.6
SYO Syowa Base 121.15 205⇑ *e*Pdiff **Pdif 18 07 18.2 +0.8**
SYO Syowa Base 121.15 205⇑ *e*X pPdif 18 07 32.5 -2.6
TIC Toumodi 123.18 306 *e*PKiKP **PKiKP 18 10 58.7 +2.2**
KIC Kosan Boka 123.19 305 *e*PKiKP **PKiKP 18 10 58.5 +2.0**
comp=Z,15nm,0.6s
LIC Lamto 123.48 305 *e*PKiKP **PKiKP 18 10 58.4 +1.3**
comp=Z,75nm,1.3s
ZARC Zaragoza, Cauc 132.40 37 *e*P **PKPdf 18 11 14.4 +0.5**
OCAC Ocana 132.52 35 *e*P **PKPdf 18 11 13.8 -0.4**
SDV Santo Domingo 133.18 31 PKP **PKPdf 18 11 15.4 -0.2**
comp=Z,29nm,0.6s,baz=298,slow=2.7,SNR=6.3
PLMC San Jos del P 133.83 41 *e*P **PKPdf 18 11 17.1 +0.5**
GUY2C Guyana, Caldas 134.06 39 *e*P **PKPdf 18 11 17.3 -0.2**
YOTC Yotoco, Valle 134.56 41 *e*P **PKPdf 18 11 15.3 -2.7**
TOLC Tolima 134.62 40 *e*P **PKiKP 18 11 20.0 +0.1**
CHIC Chingaza 135.41 38 *e*P **PKPdf 18 11 20.4 +0.4**
POPC Popayan, Colom 135.55 43 *e*P PKPdf 18 11 12.2 -7.9
BBAC Balboa, Cauca 135.64 44 *e*P **PKPdf 18 11 19.5 -0.7**
MARP Paez Belalcaza 135.71 42 *e*P **PKPdf 18 11 19.1 -1.3**
VNA3 Neumayer Olymp 136.51 197 PKPdf **PKiKP 18 11 20.9 -0.6**
VNA3 Neumayer Olymp 136.51 197 PKiKP **PKiKP 18 11 25.5 +4.0**
VNA1 Neumayer--Stat 136.53 198 PKPdf **PKiKP 18 11 21.1 -0.4**
VNA1 Neumayer--Stat 136.53 198 PKiKP **PKiKP 18 11 24.4 +2.9**
MDP Montagnes des 141.89 7 PKhKP PKPpre 18 11 27.9
comp=Z,5.1nm,0.8s,baz=283,slow=1.0,SNR=1.5
ATAH Atahualpa 141.94 54 PKP **PKPdf 18 11 31.1 -0.8**
comp=Z,7.2nm,0.8s,baz=328,slow=1.6,SNR=5.1
TBTG Tabatinga, AM 144.87 40 *e*P **PKPab 18 11 34.1 -1.6**
PTGA Pitinga 146.05 22 PKPbc **PKPbc 18 11 39.3 -0.1**
comp=Z,55nm,0.9s,baz=358,slow=3.3,SNR=60
NNA Nana 146.43 58 PKPbc **PKPbc 18 11 40.1 -0.5**
comp=Z,19nm,0.7s,baz=284,slow=3.6,SNR=9.6
RCBR Riachuelo 150.68 334 PKPbc **PKPbc 18 11 50.1 -1.6**
comp=Z,39nm,1.0s,baz=327,slow=3.5,SNR=6.8
RCBR Riachuelo 150.68 334 PKiKP **PKPbc 18 11 49.6 -2.1**
RCBR Riachuelo 150.68 334 PKPbc 18 11 49.6 -2.1
LPAZ La Paz 155.45 52 PKP **PKPdf 18 11 53.4 -0.3**
comp=Z,2.4nm,0.8s,baz=305,slow=1.0,SNR=10
LPAZ PKPab pPKPbc 18 12 20.5 -0.5
comp=Z,3.1nm,0.8s,baz=5.1,slow=5.2,SNR=4.4
LPAZ La Paz 155.45 52 *e*P **PKPdf 18 11 52.2 -1.5**
SIV San Ignacio 159.43 38 PKP **PKPdf 18 11 58.6 +0.7**
comp=Z,3.0nm,0.8s,baz=261,slow=1.1,SNR=14
SIV PKPab **PKPab 18 12 35.9 +0.1**
comp=Z,6.4nm,0.8s,baz=338,slow=2.6,SNR=7.4
SIV PP **PP 18 16 21.5 +5.0**
comp=Z,1.6nm,0.8s,baz=268,slow=3.4,SNR=2.2
BDFB Brasilia 162.74 360 PKP **PKPdf 18 12 01.6 0.0**
comp=Z,7.1nm,1.0s,baz=7.5,slow=4.5,SNR=5.7
BDFB PKPab **PKPab 18 12 49.9 -0.4**
comp=Z,13nm,0.9s,baz=9.8,slow=8.9,SNR=5.8

MAN 12 17:54:31.4, 9°.83N×125°.97E, h1km, mb4.4, ML3.3, MS3.0, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.14**	**286⇓**	*i*P		Pg	17 54 53.4	+0.1
MSLP				*i* S		Sn	17 55 17.7	+6.9
CGP	**Cagayan de Oro**	**1.86**	**223⇓**	*e*P		Pn	17 55 04.6	+0.2
CGP				*e*S		Sg	17 55 38.6	+7.5
PCPH	**Palayan**	**7.42**	**321⇓**	*e*P		Pb	17 56 41.3	+0.2

*IDC **12** 18:11:52.8±1.8, 6°.31S×107°.32W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/34, mbtmp4.1/9, MS4.1/5, Ms1 4.1/5, ms1mx3.6/21, Error ellipse: s-maj=55.7km s-min=19.7km az=41.0*
*NEIC **12** 18:11:54.7±1.4, 6°.3S±0°.1×107°.3W±0°.1, h10km±1km, mb4.5/31, Error ellipse: s-maj=27.7km s-min=19.0km az=221.0*
ISC 12 18:11:54.2±1.1, 6°.3S±0°.2×107°.3W±0°.2, h10km, n56, σ0.74/43, mb4.5/25, MS4.2/5, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**26.27**	**28**	LR		LR	18 25 30.3	
	comp=Z,157nm,21.6s,baz=178,slow=31							
JTS	**Las Juntas de**	**27.69**	**54**	LR		LR	18 26 00.2	
	comp=Z,578nm,18.3s,baz=305,slow=31							
ATAH	**Atahualpa**	**28.73**	**93**	P		**P**	**18 17 53.5 +0.9**	
	4.0nm,0.8s,baz=263,slow=16,SNR=2.4							
ATAH				LR		LR	18 26 38.0	
	comp=Z,177nm,20.9s,baz=244,slow=31							
NNA	**Nana**	**30.60**	**103**	P		**P**	**18 18 08.9 +0.2**	
	11nm,0.9s,baz=321,slow=5.1,SNR=4.0							
NNA	**Nana**	**30.60**	**103**	P		**P**	**18 18 08.7 0.0**	
TXAR	**Lajitas Array**	**35.58**	**5**	P		**P**	**18 18 52.3 +0.2**	
	0.7nm,0.8s,baz=195,slow=9.1,SNR=7.4							
TXAR	**Lajitas Array**	**35.58**	**5**	P		**P**	**18 18 52.2 +0.1**	
TX31	**Lajitas Ar. Si**	**35.58**	**5**	P		**P**	**18 18 54.1 +2.0**	
TX31				IAmb		IAmb	18 19 04.5	
	comp=Z,6.2nm,0.9s							
TX32	**Lajitas Array**	**35.58**	**5**	P		**P**	**18 18 52.3 +0.2**	
H03N2	**Juan Fernandez**	**37.73**	**139**	T		T	18 59 15.2	
	baz=312,slow=77,SNR=59							
H03N1	**Juan Fernandez**	**37.74**	**139**	T		T	18 59 21.6	
	baz=312,slow=77,SNR=68							
H03N3	**Juan Fernandez**	**37.74**	**140**	T		T	18 59 18.3	
	baz=312,slow=77,SNR=68							
MNTX	**Cornudas Mount**	**37.81**	**3**	P		**P**	**18 19 11.6 +0.6**	
PB01	**IPOC Station P**	**39.44**	**116**	P		**P**	**18 19 25.4 +0.4**	
PB01				IAmb		IAmb	18 19 27.4	
	comp=Z,10.0nm,1.0s							
PB08	**IPOC Station P**	**39.50**	**114**	P		**P**	**18 19 24.8 -1.0**	
LPAZ	**La Paz**	**39.62**	**108**	P		**P**	**18 19 28.1 +1.0**	
	comp=Z,2.1nm,0.8s,baz=313,slow=6.8,SNR=6.5							
LPAZ	**La Paz**	**39.62**	**108**	P		**P**	**18 19 27.8 +0.7**	
MSTX	**Muleshoe**	**40.26**	**6**	P		**P**	**18 19 32.2 +0.6**	
GSC	**Goldstone, Bar**	**42.32**	**348**	P		**P**	**18 19 48.4 -0.1**	
GSC				IAmb		IAmb	18 19 51.4	
	comp=Z,9.3nm,1.3s							
MIAR	**Mount Ida**	**42.63**	**17**	P		**P**	**18 19 50.6 -0.3**	
MIAR				IAmb		IAmb	18 19 56.2	
	comp=Z,6.2nm,0.9s							
SDCO	**Great Sand Dun**	**43.83**	**2**	P		**P**	**18 20 00.7 -0.2**	
LCAR	**Lake Charles**	**44.78**	**19**	P		**P**	**18 20 07.1 -1.0**	
LCAR				IAmb		IAmb	18 20 11.0	
	comp=Z,6.0nm,0.9s							
PLAL	**Pickwick Lake**	**44.88**	**23**	P		**P**	**18 20 09.2 +0.2**	
MDPB	**Devils Postpil**	**45.05**	**347**	P		**P**	**18 20 08.4 -2.2**	
MDPB				IAmb		IAmb	18 20 15.6	
	comp=Z,4.1nm,1.0s							
TPH	**Tonopah**	**45.08**	**349**	P		**P**	**18 20 11.4 +0.6**	
LHV	**Little Huntoon**	**45.51**	**348**	P		**P**	**18 20 14.8 +0.9**	
LHV				IAmb		IAmb	18 20 29.6	
	comp=Z,8.2nm,1.1s							
P17A	**Butcher Ranch,**	**45.63**	**356**	P		**P**	**18 20 15.1 0.0**	
P17A				IAmb		IAmb	18 20 17.7	
	comp=Z,7.2nm,1.3s							
NVAR	**Mina Array Bea**	**45.64**	**348**	P		**P**	**18 20 15.8 +0.5**	
	comp=Z,1.6nm,0.8s,baz=174,slow=9.5,SNR=11							
NVAR	**Mina Array Bea**	**45.64**	**348**	P		**P**	**18 20 15.2 -0.1**	
CMB	**Columbia Colle**	**45.74**	**346**	P		**P**	**18 20 15.4 -0.4**	
RYN	**Ryan**	**45.88**	**348**	P		**P**	**18 20 17.7 +0.7**	
RYN				IAmb		IAmb	18 20 20.1	
	comp=Z,7.8nm,1.2s							
SWET	**Sewanee**	**45.93**	**25**	P		**P**	**18 20 17.6 +0.3**	
SWET				IAmb		IAmb	18 20 19.7	
	comp=Z,4.9nm,0.9s							
WAKR	**Walker**	**45.96**	**347**	P		**P**	**18 20 18.4 +0.6**	
WAKR				IAmb		IAmb	18 20 21.0	
	comp=Z,6.4nm,1.3s							
YERR	**Yerington**	**46.38**	**347**	P		**P**	**18 20 20.7 -0.3**	
AFDM	**Forest Hills D**	**46.75**	**345**	P		**P**	**18 20 24.1 +0.4**	
AFDM				IAmb		IAmb	18 20 26.4	
	comp=Z,2.9nm,0.9s							
VCNR	**Virginia City**	**46.77**	**347**	P		**P**	**18 20 24.5 +0.5**	
VCNR				IAmb		IAmb	18 20 27.1	
	comp=Z,6.5nm,1.1s							
PLCA	**Paso Flores**	**47.48**	**142**	LR		LR	18 35 28.1	
	comp=Z,241nm,18.6s,baz=328,slow=30							
PTGA	**Pitinga**	**47.56**	**85**	P		**P**	**18 20 29.0 -1.5**	
	comp=Z,6.7nm,1.0s,baz=233,slow=3.3,SNR=6.0							
WDC	**Whiskeytown Da**	**48.69**	**345**	P		**P**	**18 20 38.8 +0.1**	
WDC				IAmb		IAmb	18 20 40.2	
	comp=Z,5.0nm,1.1s							
PDAR	**Pinedale Array**	**48.86**	**358**	P		**P**	**18 20 40.7 +0.5**	
	comp=Z,0.7nm,0.8s,baz=174,slow=5.8,SNR=6.5							
COWI	**Conover**	**54.61**	**15**	P		**P**	**18 21 22.8 -0.2**	
COWI				IAmb		IAmb	18 21 25.1	
	comp=Z,6.8nm,1.1s							
DAWY	**Dawson**	**74.17**	**346**	P		**P**	**18 23 29.8 -1.0**	
INK	**Inuvik**	**76.66**	**350**	P		**P**	**18 23 45.4 +0.5**	
	comp=Z,2.0nm,0.9s,baz=156,slow=9.9,SNR=3.0							
INK	**Inuvik**	**76.66**	**350**	P		**P**	**18 23 45.3 +0.5**	
INK				IAmb		IAmb	18 23 46.5	
	comp=Z,7.0nm,1.3s							
ILAR	**Eielson Array**	**76.69**	**344**	P		**P**	**18 23 45.6 +0.5**	
	comp=Z,0.6nm,1.0s,baz=144,slow=6.7,SNR=5.3							
ILAR	**Eielson Array**	**76.69**	**344**	P		**P**	**18 23 45.1 -0.1**	
PRP	**Porcupine Dome**	**76.90**	**345**	P		**P**	**18 23 46.1 -0.4**	
PRP				IAmb		IAmb	18 23 48.0	
	comp=Z,7.1nm,1.3s							
QSPA	**South Pole Qui**	**83.78**	**180**	P		**P**	**18 24 24.1 +0.4**	
VNDA	**Vanda**	**84.09**	**193**	LR		LR	18 55 15.8	
	comp=Z,205nm,20.8s,baz=338,slow=31							
H11N3	**WAKE ISLAND Hy**	**88.14**	**290**	T		T	20 02 05.0	
	baz=97,slow=75,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**88.15**	**290**	T		T	20 02 05.4	
	baz=97,slow=75,SNR=9.2							
H11N1	**WAKE ISLAND Hy**	**88.16**	**290**	T		T	20 01 59.8	
	baz=97,slow=75,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**88.17**	**289**	T		T	20 02 06.1	
	baz=98,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**88.18**	**289**	T		T	20 02 05.9	
	baz=98,slow=75,SNR=7.0							
H11S3	**WAKE ISLAND Hy**	**88.19**	**289**	T		T	20 02 09.5	
	baz=98,slow=75,SNR=7.7							
CMAR	**Chiang Mai Arr**	**151.69**	**298**	PKPbc		**PKPbc**	**18 31 49.7 -0.3**	
	comp=Z,1.5nm,0.8s,baz=9.3,slow=1.2,SNR=5.2							

IDC 12 18:51:49.2±14.0, 20°.12S×178°.59W, h620km±150km, mb3.1/4, mb1 3.4/4, mb1mx2.9/27, mbtmp4.2/4, Error ellipse: s-maj=245.7km s-min=40.3km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.98**	**264**	P		P	18 57 35.8	+0.4
	5.8nm,0.4s,baz=99,slow=12,SNR=14							
ASAR	**Alice Springs**	**44.07**	**256**	P		P	18 59 04.5	0.0
	3.4nm,0.6s,baz=95,slow=7.7,SNR=86							
ASAR				PcP		PcP	19 00 35.6	0.0
	0.5nm,1.1s,baz=100,slow=3.9,SNR=1.6							
WRA	**Warramunga Arr**	**44.11**	**262**	P		P	18 59 04.3	-0.4
	2.4nm,0.7s,baz=98,slow=8.4,SNR=80							
NVAR	**Mina Array Bea**	**81.13**	**44**	P		P	19 03 01.8	0.0
	0.2nm,0.5s,baz=227,slow=4.8,SNR=2.5							

TAP 12 19:16:16.8, 22°.88N×121°.14E, h6km, ML2.0, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.03**	**337**	*i* P		Pg	19 16 18.3	+0.3
LONT	baz=336							
				i S		Sg	19 16 19.7	+0.8
TWGBT	**Beinan**	**0.08**	**226**	P		Pg	19 16 19.5	+0.8
TWGBT	baz=225							
				S		Sg	19 16 21.7	+1.7
TTN	**Taitung**	**0.12**	**179**	*i* P		Pg	19 16 20.0	+0.7
TTN	baz=175							
				S		Sg	19 16 24.5	+3.6
EDH	**Donghe**	**0.18**	**57**	*i* P		Pg	19 16 20.7	+0.4
EDH	baz=56							
				S		Sg	19 16 23.9	+1.2
ECS	**Chishang**	**0.23**	**18**	P		Pg	19 16 22.6	+1.3
ECS	baz=17							
				S		Sg	19 16 26.8	+2.4
ECL	**Taimali**	**0.33**	**212**	P		Pg	19 16 24.1	+0.9
ECL	baz=211							
				S		Sb	19 16 30.0	-0.6
ELDTW	**Lidau**	**0.33**	**340**	*i* P		Pg	19 16 24.0	+0.6
ELDTW	baz=340							
				S		Sg	19 16 28.8	+1.0
FULB	**Fuli**	**0.35**	**23**	*i* P		Pb	19 16 25.4	-0.1
FULB	baz=23							
				S		Sb	19 16 32.2	+0.8
STYH	**Taoyuan**	**0.45**	**311**	*i* P		Pb	19 16 26.8	-0.4
STYH	baz=310							
				S		Sb	19 16 34.2	0.0
STYT	**Tauyuan**	**0.46**	**309**	P		Pb	19 16 26.9	-0.4
STYT	baz=309							
				S		Sb	19 16 33.7	-0.8
SLGT	**Liugui**	**0.47**	**285**	P		Pb	19 16 27.0	-0.6
SSD	baz=284							
SSD	**Sandimen**	**0.49**	**255**	P		Pb	19 16 27.3	-0.5
SSD	baz=254							
				S		Sb	19 16 35.2	-0.1
TSMG	**Majia**	**0.49**	**250**	P		Pb	19 16 27.2	-0.6
TSMG	baz=249							
				S		Sb	19 16 35.4	0.0
TWF1	**Yuli**	**0.49**	**16**	P		Pb	19 16 27.7	-0.3
TWF1	baz=17							
				S		Sb	19 16 35.0	-0.5
EYUL	**Yuli**	**0.50**	**19**	P		Pb	19 16 28.1	+0.1
YULB	**Yu-li**	**0.53**	**15**	P		Pg	19 16 27.8	+0.7
YULB	baz=15							
				S		Sb	19 16 35.7	-0.9
MASBT	**Mashibuluo**	**0.54**	**241**	P		Pb	19 16 28.1	-0.6
MASBT	baz=240							
				S		Sb	19 16 36.9	+0.2
SGST	**Jiashian**	**0.56**	**292**	P		Pg	19 16 28.2	+0.6
EAST	**Anshuo**	**0.56**	**209**	*i* P		Pb	19 16 28.8	-0.3
EAST	baz=208							
				S		Sb	19 16 38.9	+1.5
SCST	**Cishan**	**0.60**	**271**	P		Pb	19 16 29.9	+0.1
SCST	baz=270							
				S		Sb	19 16 38.5	+0.1
WTP	**Ta-pu**	**0.61**	**307**	*i* P		Pb	19 16 30.5	+0.5
TPUB	baz=307							
TPUB	**Ta-pu**	**0.64**	**312**	P		Pb	19 16 30.8	+0.4
TPUB	baz=311							
				S		Sb	19 16 40.1	+0.6
CHN1	**Nanshi**	**0.65**	**299**	*i* P		Pn	19 16 31.7	-0.9

	baz=298						
EHY	**Hungye**	**0.65**	**15**	P	Pg	19 16 29.9	+0.6
	baz=15						
HGSD	**Ruisui**	**0.67**	**23**	P	Pb	19 16 31.8	+0.9
	baz=22						
HGSD				S	Sn	19 16 42.1	-1.5
	baz=22						
CHN4	**Tsaushan**	**0.69**	**313**	*i* P	Pb	19 16 32.0	+0.6
	baz=313						
CHN4				S	Sb	19 16 42.3	+1.0
	baz=313						
ALS	**Alishan**	**0.70**	**334**	*i* P	Pb	19 16 31.7	0.0
	baz=334						
ALS				S	Sb	19 16 41.4	-0.5
	baz=334						
SLIU	**Shizi**	**0.73**	**206**	P	Pb	19 16 31.8	-0.1
	baz=205						
SLIU				S	Sb	19 16 42.5	+0.3
	baz=205						
CHN5	**Tsauling**	**0.84**	**329**	P	Pb	19 16 34.5	+0.6
	baz=329						
CHN5				S	Sb	19 16 44.9	-0.5
	baz=329						
SSLB	**Suanglung**	**0.93**	**349**	P	Pn	19 16 36.2	-0.3
	baz=349						

TAP 12 19:16:26.2, 22°.89N×121°.14E, h6km, ML2.2, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.02**	**323**	P	Pg	19 16 27.6	+0.3
	baz=322						
LONT				S	Sg	19 16 29.0	+0.9
	baz=322						
TWGBT	**Beinan**	**0.09**	**220**	P	Pg	19 16 28.8	+0.5
	baz=219						
TWGBT				S	Sg	19 16 31.2	+1.5
	baz=219						
TTN	**Taitung**	**0.13**	**179**	*e*P	Pg	19 16 32.5	+3.5
	baz=175						
TTN				*e*S	Sg	19 16 34.1	+3.3
	baz=175						
EDH	**Donghe**	**0.17**	**61**	*i* P	Pg	19 16 30.2	+0.6
	baz=60						
EDH				S	Sg	19 16 33.2	+1.3
	baz=60						
ECS	**Chishang**	**0.22**	**19**	P	Pg	19 16 31.6	+1.0
	baz=18						
ECS				S	Sg	19 16 35.3	+1.9
	baz=18						
CHKT	**Chengkung**	**0.29**	**44**	P	Pb	19 16 33.1	-0.8
	baz=45						
CHKT				S	Sb	19 16 38.0	-1.1
	baz=45						
ELDTW	**Lidau**	**0.32**	**339**	*e*P	Pb	19 16 34.5	0.0
	baz=339						
ELDTW				S	Sg	19 16 38.2	+1.4
	baz=339						
FULB	**Fuli**	**0.34**	**24**	P	Pb	19 16 35.3	+0.6
	baz=24						
FULB				*e*S	Sb	19 16 41.1	+0.7
	baz=24						
ECL	**Taimali**	**0.34**	**211**	P	Pg	19 16 33.7	+0.9
	baz=209						
ECL				S	Sb	19 16 39.9	-0.5
	baz=209						
STYH	**Taoyuan**	**0.44**	**310**	*i* P	Pb	19 16 36.1	-0.3
	baz=309						
STYH				S	Sb	19 16 43.1	-0.2
	baz=309						
STYT	**Tauyuan**	**0.45**	**307**	P	Pb	19 16 36.4	-0.2
	baz=307						
STYT				S	Sb	19 16 43.1	-0.5
	baz=307						
TWF1	**Yuli**	**0.48**	**17**	P	Pb	19 16 38.1	+0.9
	baz=17						
TWF1				S	Sb	19 16 44.7	+0.1
	baz=17						
EYUL	**Yuli**	**0.48**	**19**	P	Pb	19 16 37.5	+0.3
	baz=19						
EYUL				S	Sb	19 16 44.6	0.0
	baz=19						
EYUL	**Yuli**	**0.48**	**19**	S	Pb	19 16 37.1	-0.1
	baz=18						
SSD	**Sandimen**	**0.49**	**253**	P	Pg	19 16 36.4	+0.7
	baz=252						
SSD				S	Sb	19 16 44.5	-0.3
	baz=252						
TSMG	**Majia**	**0.50**	**248**	P	Pb	19 16 37.1	-0.3
	baz=248						
TSMG				S	Sb	19 16 44.7	-0.2
	baz=248						
YULB	**Yu-li**	**0.52**	**16**	P	Pb	19 16 37.6	-0.2
	baz=15						
YULB				S	Sb	19 16 46.8	+1.1
	baz=15						
MASBT	**Mashibuluo**	**0.55**	**240**	P	Pb	19 16 37.9	-0.4
	baz=239						
MASBT				S	Sb	19 16 46.8	+0.4
	baz=239						
EAST	**Anshuo**	**0.57**	**209**	P	Pb	19 16 39.5	+0.8
	baz=207						
EAST				S	Sb	19 16 47.8	+0.6
	baz=207						
WTP	**Ta-pu**	**0.60**	**306**	*e*P	Pb	19 16 40.3	+1.0
	baz=306						
WTP				S	Sb	19 16 48.3	+0.2
	baz=306						
WTP	**Ta-pu**	**0.60**	**306**	S	Pb	19 16 40.1	+0.8
	baz=307						
TPUB	**Ta-pu**	**0.63**	**311**	*e*P	Pn	19 16 41.5	-0.3
	baz=310						
TPUB				S	Sb	19 16 49.9	+1.1
	baz=310						
EHY	**Hungye**	**0.64**	**15**	P	Pb	19 16 39.7	-0.1
	baz=15						
EHY	**Hungye**	**0.64**	**15**	S	Pb	19 16 39.6	-0.2
	baz=15						
CHN1	**Nanshi**	**0.64**	**298**	*e*P	Pn	19 16 41.2	-0.7
	baz=297						
CHN1				*e*S	Sn	19 16 52.1	-0.4
	baz=297						
CHN1	**Nanshi**	**0.64**	**298**	S	Pn	19 16 41.4	-0.6
	baz=298						
ALS	**Alishan**	**0.69**	**333**	P	Pb	19 16 40.8	-0.1
	baz=333						

*TUL **12** 19:27:49±1.2, 36°.02N±0°.01×97°.10W±0°.01, h3km±7km, ML2.3, mb_Lg2.2/18(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=144.0*

NEIC 12 19:27:48.9±0.9, 36°.036N±0°.009×97°.10W±0°.02, h6km±7km, Error ellipse: s-maj=2.2km s-min=0.8km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.23**	**111**	Pg	Pg	19 27 53.6	+0.1
OK031				Sg	Sg	19 27 57.0	+0.5
QUOK	**Quay**	**0.35**	**67**	Pg	Pg	19 27 55.9	+0.2
QUOK				Sg	Sg	19 28 00.8	+0.5
OK029	**Liberty Lake**	**0.37**	**230**		Pg	19 27 56.2	0.0
OK029				Sg	Sg	19 28 01.4	+0.4
OK025	**Westminster Rd**	**0.49**	**203**	Pg	Pg	19 27 58.5	0.0
OK025				Sg	Sg	19 28 05.4	+0.6
BCOK	**Bluff Creek, N**	**0.56**	**227**		Pg	19 27 59.6	-0.1
BCOK				Sg	Sg	19 28 07.5	+0.5
BLOK	**Blackwell**	**0.73**	**353**	Pg	Pg	19 28 02.9	-0.1
BLOK				Sg	Sg	19 28 12.9	+0.5
FNO	**Franklin**	**0.81**	**197**	Pg	Pg	19 28 04.0	-0.6
FNO				Sg	Sg	19 28 15.3	+0.2
CROK	**Carrier**	**0.85**	**304**	Pg	Pg	19 28 05.1	-0.1
CROK				Sg	Sg	19 28 16.8	+0.4
T35A	**Sooner Cattle**	**1.00**	**28**	Pg	Pg	19 28 07.9	-0.2
T35A				Sg	Sg	19 28 21.3	+0.2
GC02	**Grant County #**	**1.02**	**323**		Pg	19 28 08.1	-0.4
KAN13	**South Haven SW**	**1.02**	**343**	Pg	Pg	19 28 08.3	-0.2
KAN17	**Caldwell West**	**1.14**	**332**	Pg	Pg	19 28 10.4	-0.4
KAN09	**Caldwell North**	**1.17**	**339**	Pg	Pg	19 28 11.0	-0.4
OK032	**Salt Plains WL**	**1.18**	**311**	Pg	Pg	19 28 10.9	-0.6
KS20	**Mayfield South**	**1.25**	**343**	Pg	Pg	19 28 12.5	-0.3
KAN10	**Anthony SW Sta**	**1.35**	**324**	Pn	Pn	19 28 13.9	-0.4
KAN08	**Anthony NE Sta**	**1.38**	**330**	Pn	Pn	19 28 14.6	-0.2
KAN12	**Harper NE Stat**	**1.45**	**331**	Pn	Pn	19 28 16.0	+0.3
U32A	**Winter Ranch,**	**1.57**	**283**	IAmb_Lg		19 28 42.8	
	comp=Z,17nm,0.8s						
WMOK	**Wichita Mounta**	**1.89**	**227**	Pn	Pn	19 28 21.9	+0.2
WMOK				IAmb_Lg		19 28 50.6	
	comp=Z,10.0nm,1.0s						
X37A	**Clayton**	**2.02**	**135**	IAmb_Lg		19 28 56.6	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.25**	**116**	IAmb_Lg		19 29 39.4	
	comp=Z,7.4nm,1.1s						
X40A	**Basin Creek Fa**	**3.82**	**113**	IAmb_Lg		19 29 55.5	
	comp=Z,7.6nm,0.8s						
AMTX	**Amarillo**	**3.91**	**254**	IAmb_Lg		19 29 58.2	
	comp=Z,5.0nm,0.8s						
WHAR	**Wooly Hollow**	**3.99**	**99**	IAmb_Lg		19 30 03.0	
	comp=Z,5.4nm,0.8s						
MGMO	**Mountain Grove**	**4.05**	**73**	IAmb_Lg		19 30 06.9	
	comp=Z,7.3nm,1.2s						
P38A	**Dawn**	**4.56**	**37**	IAmb_Lg		19 30 20.8	
	comp=Z,5.0nm,0.8s						
CCM	**Cathedral Cave**	**5.10**	**65**	IAmb_Lg		19 30 37.9	
	comp=Z,5.7nm,1.2s						

*IDC **12** 19:37:01.3±6.9, 23°.95S×179°.99E, h560km±88km, mb2.9/5, mb1 3.2/6, mb1mx3.0/31, mbtmp3.9/6, Error ellipse: s-maj=64.8km s-min=27.0km az=7.0*

ISC 12 19:37:00.5±1.0, 23°.9S±0°.1×180°.0W±0°.2, h550km, n7, σ0°.44/8, mb3.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.51**	**189**	P	**P**	**19 40 04.7**	**0.0**
	1.2nm,0.3s,baz=14,slow=8.3,SNR=6.2						
URZ				S	**S**	**19 42 36.5**	**-0.1**
	0.2nm,0.3s,baz=78,slow=14,SNR=0.9						
CTA	**Charters Tower**	**31.48**	**270**	P	**P**	**19 42 38.0**	**+0.2**
	2.7nm,0.3s,baz=91,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**19 44 04.8**	**+0.3**
	0.6nm,0.5s,baz=102,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**42.41**	**266**	P	**P**	**19 44 07.0**	**-0.4**
	0.7nm,0.4s,baz=103,slow=8.3,SNR=17						
NVAR	**Mina Array Bea**	**84.76**	**44**	P	**P**	**19 48 36.9**	**-0.4**
	0.1nm,0.4s,baz=230,slow=7.0,SNR=2.7						
TXAR	**Lajitas Array**	**90.44**	**58**	P	**P**	**19 49 04.6**	**+0.6**
	0.2nm,0.7s,baz=230,slow=5.6,SNR=3.4						
AKASG	**Malin Array Be**	**144.98**	**327**	PKPbc	**PKPdf**	**19 55 34.6**	**-0.4**
	0.6nm,0.5s,baz=47,slow=4.5,SNR=6.4						

IDC 12 19:39:39.8±4.4, 7°.52S×126°.04E, h469km±63km, mb2.3/1, mb1 2.6/4, mb1mx2.5/33, mbtmp3.4/4, Error ellipse: s-maj=121.6km s-min=26.2km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.55**	**221**	P	P	19 40 53.5	+0.9
	4.9nm,0.3s,baz=25,slow=1.2,SNR=6.0						
BATI				S	S	19 41 51.7	-0.1
	3.4nm,0.3s,baz=275,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**14.73**	**148**	P	P	19 42 45.9	-2.0
	0.2nm,0.3s,baz=324,slow=11,SNR=21						
ASAR	**Alice Springs**	**17.73**	**156**	P	P	19 43 19.6	+0.4
	0.3nm,0.3s,baz=327,slow=9.8,SNR=17						
MKAR	**Makanchi Array**	**66.58**	**329**	P	P	19 49 42.3	-0.2
	0.1nm,0.5s,baz=132,slow=8.2,SNR=2.1						

*IDC **12** 19:50:08.4±1.7, 37°.45N×27°.40E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.2/36, mbtmp3.3/4, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/23, Error ellipse: s-maj=41.2km s-min=25.7km az=155.0*

*ISK **12** 19:50:09.4, 37°.85N×27°.21E, h11km, ML3.6/17*

*ATH **12** 19:50:09.2, 37°.88N×27°.25E, h12km±3km, ML3.5/8, Error ellipse: s-maj=4.0km s-min=1.6km az=240.0*

*DDA **12** 19:50:09.3, 37°.79N×27°.20E, h13km±1km, ML3.6*

*THE **12** 19:50:10.2, 37°.81N×27°.20E, h2km±2km, ML3.5/9, Error ellipse: s-maj=2.3km s-min=0.9km az=183.0*

ISC 12 19:50:09.6±0.8, 37°.83N±0°.01×27°.22E±0°.02, h12km±6km, n95, σ1°.03/132, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.12**	**174**	*i* P	**Pg**	**19 50 12.8**	**+0.1**
GCAM				*i* S	**Sg**	**19 50 14.6**	**-0.4**
GCAM				IAML		19 50 16.0	
	comp=N,16μm,0.3s						
SMG	**Samos**	**0.32**	**249**	P	**Pg**	**19 50 16.2**	**0.0**
SMG				S	**Sg**	**19 50 20.7**	**+0.2**
	comp=N,31μm,0.2s						
SMG	**Samos**	**0.32**	**249**	P	**Pg**	**19 50 16.2**	**0.0**
SMG				S	**Sb**	**19 50 21.5**	**-1.0**
SMG				AML	AML	19 50 22.6	
	comp=N,60041μm,0.2s						
SMG				AML	AML	19 50 22.8	
	comp=E,64661μm,0.2s						
DGB	**zmir**	**0.35**	**311**	*i* P	**Pg**	**19 50 16.8**	**+0.2**
DDIM	**Aydin, Didim**	**0.37**	**177**	*i* P	**Pb**	**19 50 17.3**	**-0.8**
DDIM				*i* S	**Sg**	**19 50 21.6**	**-0.3**
DIDI	**Didim-Aydin**	**0.45**	**178**	PG	**Pg**	**19 50 18.4**	**0.0**
DIDI				SG	**Sb**	**19 50 26.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.55**	**77**	PG	**Pg**	**19 50 20.5**	**+0.2**
AYDB				SG	**Sb**	**19 50 28.6**	**-0.5**
AYDN	**Tasoluk**	**0.55**	**107**	*i* P	**Pb**	**19 50 20.8**	**-0.4**
MLSB	**Milas**	**0.69**	**140**	PG	**Pb**	**19 50 23.6**	**0.0**
ZEYE	**Izmir, Urla-Ze**	**0.70**	**306**	*i* P	**Pg**	**19 50 23.3**	**+0.1**
ZEYE				IAML		19 50 35.0	
	comp=N,5μm,0.5s						
ZEYE				IAML		19 50 36.0	
	comp=E,2μm,0.3s						
URLA	**Izmir**	**0.73**	**318**	*i* P	**Pg**	**19 50 23.8**	**+0.1**
URLA				*i* S	**Sg**	**19 50 33.2**	**0.0**
URLA				IAML		19 50 36.0	
	comp=N,3μm,0.5s						
URLA				IAML		19 50 38.0	
	comp=E,2μm,0.5s						
BODT	**Bodrum**	**0.77**	**174**	P	**Pb**	**19 50 24.4**	**-0.4**
BODT				S	**Sn**	**19 50 36.1**	**-1.6**
BODT	**Bodrum**	**0.77**	**174**	PG	**Pb**	**19 50 24.9**	**+0.1**
BODT				SG	**Sn**	**19 50 36.5**	**-1.2**
BDRM	**Kayabasi**	**0.78**	**167**	*i* P	**Pg**	**19 50 24.1**	**-0.6**
BDRM				*i* S	**Sg**	**19 50 34.7**	**-0.2**
BDRM				IAML		19 50 38.0	
	comp=E,2μm,0.6s						
BDRM				IAML		19 50 40.0	
	comp=N,2μm,0.3s						
KRBN	**Karaburun**	**0.93**	**326**	PG	**Pg**	**19 50 27.3**	**-0.2**
KRBN				SG	**Sb**	**19 50 40.4**	**+0.5**
FOCM	**Foa**	**0.97**	**337**	PG	**Pb**	**19 50 27.9**	**-0.4**
GOMA	**Golmarmara-Man**	**1.04**	**32**	PG	**Pb**	**19 50 29.5**	**0.0**
MULA	**Mugla, Merkez-**	**1.04**	**123**	*i* P	**Pn**	**19 50 30.4**	**+0.3**
CHOS	**Chios island**	**1.07**	**302**	P	**Pg**	**19 50 30.2**	**-0.1**
CHOS				S	**Sn**	**19 50 45.4**	**-0.1**
	comp=N,4μm,0.7s						
CHOS	**Chios island**	**1.07**	**302**	P	**Pb**	**19 50 30.0**	**-0.2**
CHOS				S	**Sg**	**19 50 44.3**	**0.0**
CHOS				AML	AML	19 50 46.3	
	comp=N,4396μm,0.3s						
CHOS				AML	AML	19 50 46.9	
	comp=E,8205μm,0.5s						
CHOS	**Chios island**	**1.07**	**302**	PG	**Pg**	**19 50 30.2**	**-0.1**
KOSK	**Kos Island**	**1.09**	**190**	P	**Pb**	**19 50 29.9**	**-0.4**
KOSK				S	**Sn**	**19 50 45.2**	**-0.4**
	comp=E,2μm,0.4s						
KOSK	**Kos Island**	**1.09**	**190**	PN	**Pn**	**19 50 31.2**	**+0.6**
YER	**Yerkesik**	**1.09**	**129**	P	**Pn**	**19 50 31.2**	**+0.4**
YER				S	**Sn**	**19 50 45.3**	**-0.5**
YER	**Yerkesik**	**1.09**	**129**	PN	**Pn**	**19 50 31.1**	**+0.3**
DAT	**Datca**	**1.13**	**165**	P	**Pb**	**19 50 30.6**	**-0.5**
DAT				S	**Sn**	**19 50 48.7**	**+1.9**
DAT	**Datca**	**1.13**	**165**	PN	**Pb**	**19 50 30.8**	**-0.3**
ZEDA	**zmir-Bergama**	**1.15**	**355**	*i* P	**Pb**	**19 50 30.9**	**-0.4**
CAND	**Candarli**	**1.17**	**344**	PN	**Pb**	**19 50 31.9**	**+0.1**
NISR	**Nisiros**	**1.21**	**183**	P	**Pb**	**19 50 32.2**	**-0.3**
NIS1	**Nisyros Isl.**	**1.22**	**181**	P	**Pg**	**19 50 32.9**	**-0.2**
NIS1				S	**Sg**	**19 50 49.5**	**+0.6**
	comp=E,3μm,0.6s						
NIS1	**Nisyros Isl.**	**1.22**	**181**	P	**Pg**	**19 50 32.5**	**-0.5**
NIS1				S	**Sg**	**19 50 50.0**	**+1.0**
NIS1				AML	AML	19 50 55.2	
	comp=N,5306μm,0.6s						
NIS1				AML	AML	19 51 00.4	
	comp=E,5700μm,0.6s						
NIS1	**Nisyros Isl.**	**1.22**	**181**	PN	**Pg**	**19 50 33.4**	**+0.3**
MANT	**Manisa**	**1.25**	**57**	*i* P	**Pg**	**19 50 33.8**	**+0.2**
DKL	**Dikili**	**1.27**	**349**	PN	**Pb**	**19 50 33.3**	**-0.1**
TURN	**Turunc**	**1.33**	**142**	*i* P	**Pb**	**19 50 33.9**	**-0.5**
KULA	**Kula-Manisa**	**1.33**	**58**	PN	**Pn**	**19 50 34.3**	**+0.2**
TAVA	**DENIZLI_Tavas**	**1.39**	**104**	*i* P	**Pg**	**19 50 36.1**	**-0.2**
PSRA	**Psara**	**1.49**	**299**	P	**Pb**	**19 50 36.7**	**-0.4**
PSRA				S	**Sb**	**19 50 55.4**	**-0.5**
PSRA				AML	AML	19 51 01.7	
	comp=N,2728μm,0.3s						
PSRA				AML	AML	19 51 03.4	
	comp=E,2514μm,0.3s						
DALY	**Dalyan (Mula)**	**1.52**	**131**	*i* P	**Pb**	**19 50 37.2**	**-0.6**
DALY				*i* S	**Sn**	**19 50 55.9**	**-0.4**
DALY	**Dalyan (Mula)**	**1.52**	**131**	PN	**Pb**	**19 50 37.5**	**-0.3**
APE	**Apeiranthos**	**1.54**	**241**	P	**Pn**	**19 50 36.9**	**0.0**
APE				S	**Sg**	**19 50 59.1**	**-0.1**
	comp=E,920nm,0.4s						
APE	**Apeiranthos**	**1.54**	**241**	P	**Pn**	**19 50 36.9**	**0.0**
APE				S	**Sg**	**19 50 59.0**	**-0.2**
APE				AML	AML	19 51 05.0	
	comp=N,2016μm,0.5s						
APE				AML	AML	19 51 06.5	
	comp=E,1763μm,0.6s						
STEP	**BALIKESIR_Sava**	**1.60**	**14**	*i* P	**Pg**	**19 50 40.0**	**-0.3**
STEP				*i* S	**Sn**	**19 50 55.6**	**-2.7**
STEP				IAML		19 51 05.0	
	comp=N,982nm,0.6s						
PRK	**Paraskevi**	**1.60**	**333**	P	**Pn**	**19 50 38.1**	**+0.4**
PRK				S	**Sg**	**19 51 00.7**	**-0.4**
	comp=N,2μm,0.5s						
TNSA	**Tinos**	**1.66**	**261**	P	**Pn**	**19 50 38.6**	**+0.2**
USAK	**Uak-Merkez**	**1.67**	**57**	*i* P	**Pb**	**19 50 40.8**	**+0.5**
USAK				*i* S	**Sn**	**19 50 55.9**	**-4.2**
BUHA	**Balikesir, Bur**	**1.68**	**356**	*i* P	**Pg**	**19 50 41.4**	**-0.5**
BUHA				*i* S	**Sn**	**19 50 60.0**	**-0.2**
DEMI	**Demirci**	**1.69**	**44**	*i* P	**Pg**	**19 50 41.7**	**-0.4**
DEMI				*i* S	**Sn**	**19 50 59.8**	**-0.9**
SIGR	**SIGRI**	**1.75**	**323**	P	**Pb**	**19 50 41.3**	**-0.3**
SIGR				S	**Sb**	**19 51 02.7**	**-0.9**
	comp=N,895nm,0.4s						
SIGR	**SIGRI**	**1.75**	**323**	P	**Pn**	**19 50 39.5**	**-0.2**
SIGR				S	**Sb**	**19 51 02.6**	**-0.9**
SIGR				AML	AML	19 51 09.1	
	comp=E,1563μm,0.5s						
SIGR				AML	AML	19 51 09.5	
	comp=N,2053μm,0.4s						
ARG	**Arkhangelos**	**1.76**	**155**	P	**Pb**	**19 50 41.0**	**-0.9**
ARG				S	**Sn**	**19 51 01.7**	**-0.6**
	comp=N,685nm,1.1s						
ARG	**Arkhangelos**	**1.76**	**155**	PN	**Pb**	**19 50 40.9**	**-0.9**
PASA	**Karahalli, USA**	**1.87**	**73**	*i* P	**Pn**	**19 50 41.1**	**-0.3**
PASA				*i* S	**Sn**	**19 51 05.0**	**+0.1**
KOCA	**Canakkale, Ayv**	**1.88**	**334**	*i* P	**Pn**	**19 50 41.2**	**-0.3**
KOCA				*i* S	**Sn**	**19 51 05.8**	**+0.7**
KOCA				IAML		19 51 13.0	
	comp=E,517nm,0.6s						
KOCA				IAML		19 51 19.0	
	comp=N,540nm,0.9s						
FETY	**Fethiye**	**1.90**	**128**	P	**Pb**	**19 50 43.4**	**-0.9**
FETY	**Fethiye**	**1.90**	**128**	PN	**Pb**	**19 50 42.9**	**-1.4**
GOLH	**Golhisar**	**1.95**	**107**	*i* P	**Pb**	**19 50 44.2**	**-1.0**
GOLH				*i* S	**Sn**	**19 51 07.6**	**+0.4**
THR2	**Thira island,**	**1.98**	**227**	P	**Pb**	**19 50 45.8**	**+0.2**
THR8	**Santorini-Mono**	**1.98**	**225**	P	**Pb**	**19 50 45.2**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.98**	**345**	*i* P	**Pn**	**19 50 42.4**	**-0.6**
BAYC				*i* S	**Sn**	**19 51 06.9**	**-0.9**
SANT	**Santorini**	**2.02**	**225**	⇓S	**Sg**	**19 51 18.9**	**+4.4**
SANT	**Santorini**	**2.02**	**225**	PN	**Pb**	**19 50 44.5**	**-1.8**
THR3	**Thira Island,**	**2.03**	**226**	P	**Pg**	**19 50 47.6**	**-0.9**
DURS	**Dursunbey**	**2.03**	**29**	*i* P	**Pb**	**19 50 46.0**	**-0.4**
DURS				*i* S	**Sn**	**19 51 07.1**	**-1.9**
SNT5	**Nea Kammeni, S**	**2.03**	**226**	P	**Pb**	**19 50 45.3**	**-1.1**
SAP3	**Santorini-Thir**	**2.04**	**228**	P	**Pb**	**19 50 46.9**	**+0.3**
EZN	**Ezine**	**2.12**	**341**	P	**Pb**	**19 50 46.6**	**-1.3**
GDZ	**Gediz**	**2.18**	**54**	*i* P	**Pn**	**19 50 45.1**	**-0.7**
GDZ				*i* S	**Sn**	**19 51 10.5**	**-2.3**
BOZC	**Bozcaada**	**2.21**	**336**	*i* P	**Pn**	**19 50 46.5**	**+0.4**
BOZC				*i* S	**Sn**	**19 51 11.5**	**-1.8**
BOZC				IAML		19 51 24.0	
	comp=N,315nm,0.4s						
KARP	**Karpathos**	**2.27**	**181**	P	**Pn**	**19 50 46.9**	**-0.1**
KARP				S	**Sb**	**19 51 18.4**	**-0.3**
	comp=N,220nm,0.8s						
KZIL	**AFYON_Kizioren**	**2.35**	**78**	*i* P	**Pn**	**19 50 48.3**	**+0.2**
KZIL				*i* S	**Sn**	**19 51 17.3**	**+0.3**
KSL	**Kastellorizon**	**2.53**	**131**	P	**Pb**	**19 50 54.0**	**-0.9**
KSL				AML	AML	19 51 39.4	
	comp=E,304μm,0.5s						
KSL				AML	AML	19 51 45.2	
	comp=N,277μm,1.2s						
LIA	**Limnos Island**	**2.61**	**323**	P	**Pn**	**19 50 51.9**	**+0.4**
LIA	**Limnos Island**	**2.61**	**323**	P	**Pn**	**19 50 52.0**	**+0.4**
LIA				AML	AML	19 51 36.4	
	comp=N,334μm,0.6s						
LIA				AML	AML	19 51 41.9	
	comp=E,324μm,0.4s						
SMTH	**Samothraki Isl**	**2.95**	**334**	P	**Pn**	**19 50 56.4**	**+0.1**
IDI	**Anoyia**	**3.15**	**217**	⇑P	**Pg**	**19 51 08.8**	**-1.2**
IDI	**Anoyia**	**3.15**	**217**	⇑S	**Sg**	**19 51 47.7**	**-3.1**
ALN	**Alexandroupoli**	**3.20**	**344**	P	**Pn**	**19 50 59.8**	**+0.1**
RDO	**Rodhopi**	**3.56**	**339**	P	**Pn**	**19 51 05.3**	**+0.6**
BRTR	**Keskin Array B**	**5.37**	**67**	Pn	**Pn**	**19 51 31.4**	**+1.8**
	comp=E,0.5nm,0.3s,baz=251,slow=14,SNR=7.8						
BRTR				Pg	**Pg**	**19 51 52.8**	**+0.4**
	comp=E,0.2nm,0.3s,baz=260,slow=15,SNR=5.3						
BRTR				Sn	**Sn**	**19 52 30.0**	**-1.3**
	comp=E,0.2nm,0.3s,baz=230,slow=34,SNR=1.2						
STIP	**Stip**	**5.47**	**316**	*i* Pn	**Pn**	**19 51 31.4**	**+0.4**
VTS	**Vitosha**	**5.67**	**329**	⇓P	**Pn**	**19 51 35.3**	**+1.5**
ICOR	**Ion Corvin**	**6.30**	**4**	⇓P	Pn	19 51 47.5	+5.2
TIRR	**Tirgusor**	**6.69**	**7**	⇑P	Pn	19 51 53.5	+5.9
BOVS	**Bovan**	**7.15**	**326**	⇓P	**Pn**	**19 51 53.8**	**-0.2**
MLR	**Muntele Rosu**	**7.72**	**353**	⇑P	**Pn**	**19 52 05.2**	**+3.3**
VOIR		**7.78**	**349**	⇓P	**Pn**	**19 52 04.9**	**+2.3**
VRI	**Vrincioaia**	**8.04**	**358**	⇑P	Pn	19 52 11.0	+4.8
MDVR	**Moldovita**	**8.09**	**331**	⇓P	**Pn**	**19 52 07.5**	**+0.6**
BZS	**Buzias**	**

KUR				A	A	20 24 37.0
	comp=E,2µm,0.3s					
KUR				A	A	20 24 37.0
	comp=E,560nm,0.3s					
YUK	**Yuzh-Kuril'sk**	**4.59 248**	*de*PN		**Pn**	**20 24 27.3 +1.6**
YUK	**Yuzh-Kuril'sk**	**4.59 248**	*e*P		**Pn**	**20 24 27.4 +1.7**
YUK				AMB	AMB	20 24 27.7
	comp=E,130nm,0.3s					
YUK				*e*S	**Sn**	**20 25 18.1 +0.3**
YUK				A	A	20 25 19.0
	comp=E,460nm,0.4s					
YUK				A	A	20 25 19.0
	comp=E,570nm,0.4s					
GRPR	**Tuman**	**4.67 248**	*e*PN		**Pn**	**20 24 27.7 +1.0**
GRPR				*e*S	**Sn**	**20 25 19.3 -0.4**
GRPR				smax	smax	
	comp=N,499nm,0.2s					
GRPR				smax	smax	
	comp=E,506nm,0.3s					
GRPR	**Tuman**	**4.67 248**	*e*P		**Pn**	**20 24 27.7 +1.0**
GRPR				*e*S	**Sn**	**20 25 19.3 -0.4**
GRPR				A	A	20 25 22.3
	comp=E,500nm,0.4s					
GRPR				A	A	20 25 22.3
	comp=E,510nm,0.4s					
GLVR	**Golovnino**	**4.95 246**	*e*PN		**Pn**	**20 24 31.0 +0.5**
GLVR				*e*S	**Sn**	**20 25 25.4 -1.0**
GLVR				smax	smax	
	comp=N,452nm,0.2s					
GLVR				smax	smax	
	comp=E,648nm,0.3s					
GLVR	**Golovnino**	**4.95 246**	*e*P		**Pn**	**20 24 31.0 +0.5**
GLVR				*e*S	**Sn**	**20 25 25.4 -1.0**
GLVR				A	A	20 25 27.0
	comp=E,450nm,0.4s					
GLVR				A	A	20 25 27.0
	comp=E,650nm,0.4s					
RUSJ	**Misakicho**	**4.96 251**	*e*PN		**Pn**	**20 24 34.0 +3.3**
RUSJ				*e*S	**Sn**	**20 25 30.5 +3.7**
NEM2	**Nemuro 2**	**5.00 241**	P		**Pn**	**20 24 30.3 -0.9**
NEM2				*e*S	**Sn**	**20 25 22.5 -5.2**
NMR	**Nemuro--Hokkai**	**5.00 241**	*e*PN		**Pn**	**20 24 30.4 -0.9**
NMR				*e*S	**Sn**	**20 25 24.8 -3.1**
NMR	**Nemuro--Hokkai**	**5.00 241**	*i* P		**Pn**	**20 24 30.9 -0.4**
NMR				*e*S	**Sn**	**20 25 25.1 -2.8**
JRA	**Rausu**	**5.11 249**	P		**Pn**	**20 24 34.1 +1.4**
JRA				*e*S	**Sn**	**20 25 31.4 +0.9**
JNK	**Nakash**	**5.53 247**	P		**Pn**	**20 24 39.4 +1.0**
JNK				*e*S	**Sn**	**20 25 40.0 -0.7**
SKR	**Severo-Kuril's**	**5.57 30**	*e*PN		**Pn**	**20 24 36.8 -2.2**
SKR				*e*S	**Sn**	**20 25 34.7 -6.9**
SKR				smax	smax	
	comp=E,266nm,0.6s					
SKR				smax	smax	
	comp=N,192nm,0.5s					
SKR	**Severo-Kuril's**	**5.57 30**	*e*P		**Pn**	**20 24 40.1 +1.1**
SKR				AMB	AMB	20 24 41.0
	comp=N,50nm,0.4s					
SKR				*e*S	**Sn**	**20 25 40.5 -1.1**
SKR				A	A	20 25 44.0
	comp=N,180nm,0.5s					
SKR				A	A	20 25 44.0
	comp=N,290nm,0.5s					
JAK	**Akkeshi**	**5.84 242**	P		**Pn**	**20 24 41.6 -1.0**
JAK				*e*S	**Sn**	**20 25 43.0 -5.2**
JTKR	**Abashiri--Toko**	**5.90 253**	P		**Pn**	**20 24 44.7 +1.2**
JMP	**Maruseppu**	**6.26 255**	P		**Pn**	**20 24 49.7 +1.4**
JAR	**Ashorobuto**	**6.28 248**	P		**Pn**	**20 24 49.3 +0.7**
JAR				*e*S	**Sn**	**20 25 58.5 -0.3**
YSS	**Yuzh-Sakhalins**	**6.30 283**	*i* PN		**Pn**	**20 24 51.5 +2.6**
YSS				*e*S	**Sn**	**20 26 02.6 +3.3**
YSS				pmax	pmax	
	comp=Z,40nm,0.5s					
YSS				smax	smax	
	comp=N,20nm,0.5s					
YSS	**Yuzh-Sakhalins**	**6.30 283**			**Pn**	**20 24 47.8 -1.0**
YSS	**Yuzh-Sakhalins**	**6.30 283**	*i* P		**Pn**	**20 24 50.9 +2.0**
YSS				AMB	AMB	20 24 51.7
	comp=N,40nm,0.5s					
YSS				*e*S	**Sn**	**20 25 59.3 0.0**
YSS				A	A	20 26 08.0
	comp=N,30nm,0.5s					
YSS				A	A	20 26 08.0
	comp=N,70nm,0.5s					
JKK2	**Kamakawa 2**	**6.72 255**	P		**Pn**	**20 24 56.2 +1.6**
JKA	**Kamikawa-asahi**	**6.73 258**	Pn		**Pn**	**20 24 55.6 +0.8**
JKA	**Kamikawa-asahi**	**6.73 258**	*e*P		**Pn**	**20 24 56.5 +1.7**
JKA				*e*S	**Sn**	**20 26 11.5 +1.5**
ASAJ	**Asahikawa**	**6.74 258**	P		**Pn**	**20 24 56.5 +1.7**
	comp=N,2.3nm,0.3s,baz=63,slow=15,SNR=32					
ASAJ				S	**Sn**	**20 26 11.5 +1.5**
	comp=N,0.4nm,0.3s,baz=174,slow=18,SNR=1.9					
ASAJ				LR	LR	20 27 24.6
	comp=N,69nm,20.9s,baz=330,slow=36					
ASAJ	**Asahikawa**	**6.74 258**	P		**Pn**	**20 24 57.0 +2.2**
JCH	**Churui**	**6.87 244**	P		**Pn**	**20 24 56.0 -0.7**
JCH				*e*S	**Sn**	**20 26 08.4 -5.0**
ERM	**Erimo**	**7.33 241**	⇓*e*PN		**Pn**	**20 25 05.2 +2.3**
ERM	**Erimo**	**7.33 241**	Pn		**Pn**	**20 25 02.4 -0.5**
JBT2	**Biratori 2**	**7.43 248**	P		**Pn**	**20 25 04.7 +0.4**
JNBK	**Urakawa-nobuka**	**7.43 244**	P		**Pn**	**20 25 03.2 -1.1**
JEW	**Eniwo**	**8.00 251**	Pn		**Pn**	**20 25 11.8 -0.2**
PEA0B	**Petropavlovsk-**	**8.15 26**	PN		**Pn**	**20 25 12.4 -1.6**
PEA0B	**Petropavlovsk-**	**8.15 26**	Pn		**Pn**	**20 25 12.4 -1.6**
PETK	**Petropavlovsk-**	**8.15 26**	P		**Pn**	**20 25 15.0 +0.9**
	comp=N,0.1nm,0.3s,baz=203,slow=11,SNR=1.8					
PETK				S	**Sn**	**20 26 47.9 +3.5**
	comp=N,0.1nm,0.3s,baz=228,slow=19,SNR=1.0					
PETK	**Petropavlovsk-**	**8.15 26**	PN		**Pn**	**20 25 15.0 +0.9**
PETK	**Petropavlovsk-**	**8.15 26**			**Pn**	**20 25 11.4 -2.6**
JNB	**Noboribetsu**	**8.44 250**	P		**Pn**	**20 25 17.7 -0.3**
JKB	**Kayabe**	**8.73 246**	P		**Pn**	**20 25 20.7 -1.2**
JSH	**Shimam**	**9.02 253**	P		**Pn**	**20 25 26.6 +0.8**
JYM2	**Yakumo 2**	**9.04 249**	P		**Pn**	**20 25 26.0 -0.2**
JANG	**Nango**	**9.31 237**	P		**Pn**	**20 25 27.4 -2.5**
JANG				*e*S	Sn	20 27 03.5 -9.3
JTM	**Tenmabayashi**	**9.32 240**	P		**Pn**	**20 25 28.3 -1.7**
JTM				*e*S	Sn	20 27 04.2 -8.8
OFUJ	**Ofunato**	**10.11 231**	P		**Pn**	**20 25 38.6 -2.1**
JRG	**Rokugo**	**10.47 235**	P		**Pn**	**20 25 44.2 -1.4**
MA2	**Magadan**	**13.68 358**	*ce*PN		**Pn**	**20 26 24.9 -3.2**
MA2				pmax	pmax	
	comp=Z,12nm,2.5s					
MA2	**Magadan**	**13.68 358**	*e*P		**Pn**	**20 26 24.9 -3.2**
MJAR	**Matsushiro Arr**	**13.83 232**	P		**P**	**20 26 36.8 +1.5**
	comp=Z,0.2nm,0.3s,baz=54,slow=9.0,SNR=6.7					
KLR	**Kul'dur**	**13.89 291**	P		**Pn**	**20 26 30.5 -0.4**
	comp=Z,0.1nm,0.3s,baz=108,slow=5.7,SNR=6.4					
KLR	**Kul'dur**	**13.89 291**	⇓*e*P		**Pn**	**20 26 31.8 +0.9**
KLR	**Kul'dur**	**13.89 291**	*e*P		**Pn**	**20 26 31.1 +0.2**
USA0B	**Ussuriysk Arra**	**14.07 270**	P		**Pn**	**20 26 33.0 -0.3**
USA0B	**Ussuriysk Arra**	**14.07 270**	Pn		**Pn**	**20 26 33.0 -0.3**
USRK	**Ussuriysk Ar.**	**14.07 270**	P		**Pn**	**20 26 33.4 0.0**
	baz=73,slow=13,SNR=9.1					
EKMR	**Ekimchan**	**14.12 307**	*e*P		**Pn**	**20 26 33.0 -0.9**
EKMR				AMB	AMB	20 26 39.0
	comp=Z,10.0nm,0.6s					
BMKR	**Bomnak**	**17.00 309**	*e*P		**Pn**	**20 27 08.8 -1.1**
BMKR				AMB	AMB	20 27 13.0
	comp=Z,10.0nm,0.7s					
KROS	**Kirovskiy**	**17.93 307**	*e*P		**P**	**20 27 19.8 -0.6**
KROS				AMB	AMB	20 27 24.0
	comp=Z,10.0nm,0.8s					
KSRS	**Korea Array**	**19.65 253**	P		**Pn**	**20 27 42.5 +0.8**
	comp=Z,0.2nm,0.3s,baz=59,slow=11,SNR=6.9					
YAK	**Yakutsk**	**20.52 330**	P		**P**	**20 27 47.4 -1.1**
	comp=Z,6.6nm,0.4s,baz=120,slow=4.7,SNR=11					
YAK	**Yakutsk**	**20.52 330**	*e*P		**P**	**20 27 47.1 -1.4**
YAK				*e*S	**S**	**20 31 30.7 -1.6**
YAK				*e*		20 31 52.2
YAK				*e**SS	**sS**	**20 32 03.4 -0.3**
YAK				*e*		20 39 08.4
YAK				pmax	pmax	
	comp=Z,13nm,1.1s					
YAK				pmax	pmax	
	comp=E,3.0nm,1.4s					
YAK				pmax	pmax	
	comp=N,6.0nm,1.3s					
YAK				smax	smax	
	comp=E,57nm,3.6s					
YAK				smax	smax	
	comp=N,24nm,3.4s					
YAK	**Yakutsk**	**20.52 330**	P		**P**	**20 27 44.7 -3.8**
BILL	**Bilibino**	**23.40 14**	*i* P		**P**	**20 28 16.4 -1.8**
BILL				pmax	pmax	
	comp=Z,4.0nm,0.9s					
TIXI	**Tiksi**	**28.00 345**	P		**P**	**20 28 57.4 -2.1**
	comp=Z,1.3nm,0.4s,baz=146,slow=9.5,SNR=7.6					
TIXI	**Tiksi**	**28.00 345**	P		**P**	**20 28 55.9 -3.6**
H11N2	**WAKE ISLAND Hy**	**28.96 149**	T		T	20 59 53.1
	baz=339,slow=74					
H11N1	**WAKE ISLAND Hy**	**28.98 149**	T		T	20 59 56.3
	baz=339					
H11N3	**WAKE ISLAND Hy**	**28.98 149**	T		T	20 59 53.9
	baz=339,slow=74					
H11S1	**WAKE ISLAND Hy**	**30.02 151**	T		T	21 01 13.5
	baz=334,slow=76					
H11S3	**WAKE ISLAND Hy**	**30.03 151**	T		T	21 01 16.6
	baz=334,slow=76					
H11S2	**WAKE ISLAND Hy**	**30.04 151**	T		T	21 01 14.9
	baz=334,slow=76					
TLY	**Talaya**	**31.72 298**	⇑*e*P		**P**	**20 29 34.0 +1.3**
TLY				pmax	pmax	
	comp=Z,3.0nm,0.8s					
TLY	**Talaya**	**31.72 298**	*e*P		**P**	**20 29 34.0 +1.3**
XAN	**Xi'an**	**34.51 265**	P		P	20 30 08.2 +11
XAN				pP	pP	20 30 19.9 +0.5
GTA	**Gaotai**	**38.17 279**	*e*P		**P**	**20 30 29.4 +1.1**
GTA				pmax	pmax	
	comp=Z,2.0nm,0.9s					
DGZ	**Jazzator, Alta**	**42.18 299**	⇓*e*P		**P**	**20 31 05.4 +4.1**
DGZ				pmax	pmax	
	comp=Z,1.0nm,0.9s					
ZALV	**Zalesovo Beam**	**42.33 306**	P		**P**	**20 30 59.7 -2.5**
	comp=Z,0.4nm,0.4s,baz=72,slow=7.1,SNR=2.3					
MK31	**Makanchi Array**	**46.48 297**	*i* P		**P**	**20 31 34.7 -0.7**
MK31				*i* *PP	**pP**	**20 31 53.3 -5.0**
MK31	**Makanchi Array**	**46.48 297**	P		**P**	**20 31 34.5 -0.9**
MKAR	**Makanchi Array**	**46.48 297**	P		**P**	**20 31 34.8 -0.6**
	comp=Z,1.4nm,0.6s,baz=66,slow=6.2,SNR=20					
MKAR				PcP	**PcP**	**20 33 09.8 +1.5**
	comp=Z,0.5nm,0.6s,baz=68,slow=4.0,SNR=5.3					
MKAR				ScP	**ScP**	**20 36 54.3 +1.8**
	comp=Z,0.6nm,0.9s,baz=48,slow=2.1,SNR=4.3					
MKAR	**Makanchi Array**	**46.48 297**	*i* P		**P**	**20 31 34.7 -0.7**
MKAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
MKAR	**Makanchi Array**	**46.48 297**	*e*P		**P**	**20 31 34.7 -0.7**
LSA	**Lhasa**	**49.37 273**	P		**P**	**20 32 00.9 +2.4**
LSA				pmax	pmax	
	comp=Z,3.0nm,0.5s					
LSA	**Lhasa**	**49.37 273**	P		**P**	**20 32 00.9 +2.4**
LSA				IAmb	IAmb	20 32 02.2
	comp=Z,3.2nm,0.5s					
BRVK	**Borovoye**	**50.69 310**	*i* P		**P**	**20 32 05.9 -1.6**
BRVK				pmax	pmax	
	comp=Z,1.0nm,0.4s					
CMAR	**Chiang Mai Arr**	**51.26 256**	P		**P**	**20 32 13.9 +1.7**
	comp=Z,1.2nm,0.6s,baz=41,slow=6.9,SNR=11					
CMAR	**Chiang Mai Arr**	**51.26 256**	*i* P		**P**	**20 32 15.0 +2.8**
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.6s					
BOOM	**Boomskoye usch**	**52.52 295**	P		**P**	**20 32 20.1 -1.5**
BOOM				pmax	pmax	
	comp=Z,2.0nm,0.7s					
BOOM	**Boomskoye usch**	**52.52 295**	P		**P**	**20 32 20.1 -1.5**
SPITS	**Spitsbergen Ar**	**53.25 350**	P		**P**	**20 32 26.0 -0.2**
SPITS				pmax	pmax	
	comp=Z,5.0nm,1.1s					
AAK	**Ala-Archa**	**53.35 296**	⇑*e*P		**P**	**20 32 27.7 +0.1**
AAK				pmax	pmax	
	comp=Z,4.0nm,0.6s					
AAK	**Ala-Archa**	**53.35 296**	*e*P		**P**	**20 32 27.7 +0.1**
ARU	**Arti**	**54.97 317**	*d i*P		**P**	**20 32 38.1 -0.9**
ARU						20 33 35.9
ARU				S	**S**	**20 40 13.1 +0.2**
ARU				SS	**SS**	**20 43 52.8 -4.3**
ARU				pmax	pmax	
	comp=Z,12nm,1.5s					
ARU	**Arti**	**54.97 317**	*e*P		**P**	**20 32 38.1 -0.9**
ABKAR	**Akbulak array**	**58.22 310**	P		**P**	**20 33 01.5 -0.6**
ABKAR				IAmb	IAmb	20 33 02.1
	comp=Z,2.6nm,1.1s					
ARCES	**ARCESS Array B**	**58.31 341**	P		**P**	**20 33 01.6 -0.8**
	comp=Z,2.1nm,0.9s,baz=41,slow=7.2,SNR=1.5					
SUMG	**Summit**	**61.58 3**	P		**P**	**20 33 26.1 +0.9**
SUMG				pmax	pmax	
	comp=Z,6.0nm,0.8s					
SUMG	**Summit**	**61.58 3**	P		**P**	**20 33 26.1 +0.9**
BELG	**Belogornoye**	**62.51 318**	P		**P**	**20 33 30.1 -1.1**
	comp=Z,5.0nm,0.4s,baz=224,slow=1.8,SNR=5.5					
NVAR	**Mina Array Bea**	**63.65 61**	P		**P**	**20 33 42.2 +2.9**
	comp=Z,0.4nm,0.7s,baz=288,slow=9.4,SNR=2.2					
FIA1	**FINESS Array S**	**64.37 334**	P		**P**	**20 33 42.1 -1.2**
FINES	**FINESS Array B**	**64.37 334**	P		**P**	**20 33 42.3 -1.0**
	comp=Z,5.8nm,0.7s,baz=33,slow=6.6,SNR=29					
PDAR	**Pinedale Array**	**65.99 53**	P		**P**	**20 33 56.0 +1.5**
	comp=Z,0.3nm,0.7s,baz=276,slow=6.7,SNR=3.5					
GEYT	**Alibeck**	**66.21 300**	P		**P**	**20 33 56.4 +0.7**
	comp=Z,27nm,0.9s,baz=276,slow=2.7,SNR=6.7					
WRA	**Warrannunga Arr**	**67.44 198**	P		**P**	**20 34 02.6 -0.8**
	comp=Z,0.4nm,0.8s,baz=9.7,slow=6.4,SNR=1.8					
NB2	**NORSAR Subarra**	**68.69 341**	P		**P**	**20 34 10.5 -0.4**
	comp=Z,0.6nm,0.4s,baz=26,slow=6.5					
NOA	**NORSAR Array B**	**68.69 341**	P		**P**	**20 34 10.2 -0.7**
	comp=Z,0.7nm,0.4s,baz=30,slow=6.6,SNR=19					
NORES	**NORESS Array B**	**68.88 340**	P		**P**	**20 34 11.7 -0.3**
NORES				pmax	pmax	
	comp=Z,1.0nm,0.3s					
KIV	**Kislovodsk**	**70.69 314**	*e*P		**P**	**20 34 25.2 +1.7**
KIV				pmax	pmax	
	comp=Z,6.0nm,1.1s					
KIV	**Kislovodsk**	**70.69 314**	*e*P		**P**	**20 34 25.2 +1.7**
KBZ	**Khabaz**	**70.74 313**	P		**P**	**20 34 24.8 +1.1**
	comp=Z,2.6nm,0.7s,baz=70,slow=7.0,SNR=6.1					
KBZ	**Khabaz**	**70.74 313**	*ce*P		**P**	**20 34 24.9 +1.2**
KBZ				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KBZ	**Khabaz**	**70.74 313**	*e*P		**P**	**20 34 24.9 +1.2**
AKASG	**Malin Array Be**	**71.69 326**	P		**P**	**20 34 28.6 -0.7**
	comp=Z,2.3nm,0.4s,baz=38,slow=6.3,SNR=16					
AKBB	**Malin Array Si**	**71.69 326**	⇓*e*P		**P**	**20 34 28.1 -1.2**
ANN	**Anapa**	**72.64 317**	*e*P		**P**	**20 34 31.9 -3.1**
ANN				pmax	pmax	
	comp=Z,28nm,0.9s					
BUR08	**Bucovina Ar. S**	**75.72 326**			**P**	**20 34 53.8 +0.7**
BUR08				IAmb	IAmb	20 34 54.6
	comp=Z,3.6nm,0.6s					
BURAR	**Bucovina Array**	**75.74 326**	⇑P		**P**	**20 34 53.9 +0.8**
BURAR	**Bucovina Array**	**75.74 326**			**P**	**20 34 53.7 +0.5**
BURAR				IAmb	IAmb	20 34 55.0
	comp=Z,5.1nm,0.6s					
KOLS	**Kolonicke sedl**	**75.77 328**	*e*P		**P**	**20 34 54.3 +1.1**
KOLS	**Kolonicke sedl**	**75.77 328**	*e*P		**P**	**20 34 54.3 +1.1**
TESR	**Tescani**	**76.07 324**	⇑P		**P**	**20 34 55.8 +0.9**
CHVC	**Chvalec**	**76.50 333**	*e*P		**P**	**20 35 00.0 +2.7**
CFR	**Carcaliu**	**76.52 323**	⇑P		**P**	**20 34 57.1 -0.3**
LANS	**Liptovska Anna**	**76.59 330**	*e*P		**P**	**20 34 58.9 +1.0**
LANS	**Liptovska Anna**	**76.59 330**	*e*P		**P**	**20 34 58.9 +1.0**
DPC	**Dobruska-Polom**	**76.62 332**	*e*P		**P**	**20 34 59.3 +1.3**
DPC	**Dobruska-Polom**	**76.62 332**	*e*P		**P**	**20 34 59.3 +1.3**
TPGR	**Topolog**	**76.66 322**	⇑P		**P**	**20 34 59.1 +0.8**
MORC	**Moravsky Berou**	**76.71 331**	⇓P		**P**	**20 34 58.6 0.0**
CLL	**Collm**	**76.81 335**	*i* P		**P**	**20 34 59.2 +0.2**
	comp=Z,6.0nm,1.1s					
CLL				*e*PP	**PP**	**20 37 51.0 -1.2**
CLL	**Collm**	**76.81 335**	*i* P		**P**	**20 34 59.2 +0.2**
CLL				pmax	pmax	
	comp=Z,6.0nm,1.1s					
EKA	**Eskdalemuir Ar**	**76.90 346**	P		**P**	**20 35 00.1 +0.7**
MLR	**Muntele Rosu**	**77.18 324**	⇓P		**P**	**20 35 03.0 +1.6**
DRGR		**77.39 327**	⇑P		**P**	**20 35 00.7 -1.7**
VRAC	**Vranov**	**77.43 332**	⇓P		**P**	**20 35 03.5 +1.0**
VOIR		**77.59 325**	⇓P		**P**	**20 35 05.2 +1.6**
BRTR	**Keskin Array B**	**78.33 316**	P		**P**	**20 35 09.1 +1.2**
	comp=Z,1.1nm,0.7s,baz=123,slow=3.7,SNR=4.7					
GZR	**Gura Zlata**	**78.53 326**	⇑P		**P**	**20 35 09.4 +0.6**
KHC	**Kasperske Hory**	**78.55 333**	*e*P		**P**	**20 35 09.4 +0.6**
KHC	**Kasperske Hory**	**78.55 333**	*e*P		**P**	**20 35 09.4 +0.6**
KHC	**Kasperske Hory**	**78.55 333**	P		**P**	**20 35 08.1 -0.6**
KHC				IAmb	IAmb	20 35 10.7
	comp=Z,3.4nm,0.8s					
CKRC	**Cesky Krumlov**	**78.60 333**	*e*P		**P**	**20 35 10.8 +1.8**
TXAR	**Lajitas Array**	**78.72 60**	P		**P**	**20 35 12.2 +2.1**
	comp=Z,0.3nm,0.6s,baz=295,slow=3.4,SNR=4.9					
TXAR	**Lajitas Array**	**78.72 60**	P		**P**	**20 35 12.0 +1.9**
TXAR	**Lajitas Array**	**78.72 60**	P		**P**	**20 35 12.0 +1.9**
GERES	**GERESS Array B**	**78.77 333**	P		**P**	**20 35 10.8 +0.7**
	comp=Z,1.2nm,0.7s,baz=41,slow=5.7,SNR=11					
BZS	**Buzias**	**78.79 327**	⇑P		**P**	**20 35 11.1 +1.0**
CONA	**Conrad Observa**	**78.87 332**	*e*P		**P**	**20 35 11.6 +1.0**
	comp=Z,2.3nm,0.7s					
MOA	**Molln**	**79.46 332**	*e*P		**P**	**20 35 15.0 +1.3**
	comp=Z,2.1nm,1.0s					
SOKA	**Soboth**	**80.24 331**	*e*P		**P**	**20 35 18.8 +0.8**
	comp=Z,3.5nm,1.2s					
KBA	**Koelnbreinsper**	**80.44 333**	*e*P		**P**	**20 35 21.2 +2.0**
	comp=Z,3.9nm,0.9s					
OBKA	**Obir**	**80.55 332**	*e*P		**P**	**20 35 21.9 +2.2**
	comp=Z,3.1nm,1.2s					
VTS	**Vitosha**	**80.66 324**	⇑P		**P**	**20 35 21.6 +1.2**
WATA	**Walderalm**	**80.77 334**	*e*P		**P**	**20 35 21.7 +0.8**
	comp=Z,2.0nm,0.5s					
WTTA	**Wattenberg**	**80.81 334**	*e*P		**P**	**20 35 22.4 +1.2**
	comp=Z,2.2nm,0.6s					
RETA	**Reutte**	**80.88 334**	*e*P		**P**	**20 35 22.6 +1.2**
	comp=Z,2.5nm,1.1s					
MOTA	**Moosalm**	**80.90 334**	*e*P		**P**	**20 35 23.1 +1.4**
	comp=Z,4.6nm,1.2s					
SQTA	**Sankt Quirin**	**80.98 334**	*e*P		**P**	**20 35 23.8 +1.8**
	comp=Z,1.8nm,0.9s					
ABTA	**Abfaltersbach**	**81.00 333**	*e*P		**P**	**20 35 22.5 +0.4**
	comp=Z,2.3nm,1.0s					
FETA	**Feichten**	**81.31 334**	*e*P		**P**	**20 35 23.0 -0.8**
	comp=Z,3.6nm,1.7s					
DAVA	**Damuels**	**81.32 335**	*e*P		**P**	**20 35 21.4 -2.5**
	comp=Z,5.2nm,1.2s					
H03N2	**Juan Fernandez**	**139.69 90**	T		T	23 18 31.0
	baz=307,slow=77,SNR=12					
H03N3	**Juan Fernandez**	**139.71 90**	T		T	23 18 34.8
	baz=307,slow=77,SNR=18					
H03N1	**Juan Fernandez**	**139.71 90**	T		T	23 18 36.2
	baz=307,slow=77,SNR=15					
PLCA	**Paso Flores**	**149.07 96**	PKPbc		**PKiKP**	**20 42 57.0 +1.1**
	comp=Z,1.4nm,0.7s,baz=215,slow=3.1,SNR=5.2					
PLCA	**Paso Flores**	**149.07 96**	PKP2		**PKiKP**	**20 42 57.0 +1.1**

ATH ***12*** *20:28:35.5,38°.78N×26°.51E,h45km±4km,ML2.3/6,Error ellipse: s-maj=4.7km s-min=1.2km az=260.0*
ISK ***12*** *20:28:35.6,38°.77N×26°.64E,h11km,ML2.4/5*
DDA ***12*** *20:28:35.8,38°.78N×26°.66E,h7km±3km,ML2.6*
THE ***12*** *20:28:36.6,38°.77N×26°.54E,h7km±2km,ML2.3/6,Error ellipse: s-maj=2.5km s-min=0.6km az=256.0*
ISC 12 20:28:35.6±0.8,38°.79N±0'.02×26°.64E±0'.02,h16km±5km, n40,σ1s04/72,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.10**	**136**	PG	**Pg**	**20 28 38.4**	**-0.6**
FOCM				SG	**Sg**	**20 28 40.7**	**-0.5**
KRBN	**Karaburun**	**0.20**	**199**	PG	**Pg**	**20 28 40.1**	**-0.3**
KRBN				SG	**Sg**	**20 28 43.6**	**0.0**
CAND	**Candarli**	**0.21**	**38**	PG	**Pg**	**20 28 40.6**	**+0.1**
CAND				SG	**Sg**	**20 28 44.9**	**+1.1**
DKL	**Dikili**	**0.35**	**36**	PG	**Pg**	**20 28 43.1**	**+0.3**
ZEDA	**zmir-Bergama**	**0.39**	**62**	*i* P	**Pg**	**20 28 43.8**	**+0.3**
ZEDA				*i* S	**Sg**	**20 28 48.3**	**-0.5**
URLA	**Izmir**	**0.43**	**184**	*i* P	**Pg**	**20 28 44.1**	**-0.1**
URLA				*i* S	**Sg**	**20 28 49.3**	**-0.8**
AYVA	**Ayvalik**	**0.52**	**4**	*i* P	**Pg**	**20 28 45.9**	**-0.1**
AYVA				*i* S	**Sg**	**20 28 53.1**	**+0.2**
PRK	**Paraskevi**	**0.54**	**328**	P	**Pb**	**20 28 47.1**	**+0.4**
PRK				S	**Sb**	**20 28 54.6**	**+0.4**
	490nm,0.4s						
PRK	**Paraskevi**	**0.54**	**328**	P	**Pb**	**20 28 47.0**	**+0.4**
PRK				S	**Sb**	**20 28 54.9**	**+0.7**
PRK				AML	AML	20 28 55.2	
	comp=E,1275µm,0.4s						
PRK				AML	AML	20 28 56.4	
	comp=N,699µm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**0.56**	**191**	*i* P	**Pb**	**20 28 47.3**	**+0.3**
ZEYE				*i* S	**Sg**	**20 28 53.4**	**-0.6**
ZEYE				IAML		20 29 01.0	
	comp=E,360nm,0.5s						
CHOS	**Chios island**	**0.61**	**229**	P	**Pg**	**20 28 47.1**	**-0.4**
CHOS				S	**Sg**	**20 28 55.0**	**-0.7**
	comp=E,295nm,0.4s						
CHOS	**Chios island**	**0.61**	**229**	P	**Pg**	**20 28 47.2**	**-0.4**
CHOS				AML	AML	20 28 55.4	
	comp=N,539µm,0.3s						
CHOS				S	**Sg**	**20 28 55.4**	**-0.3**
CHOS				AML	AML	20 28 57.8	
	comp=E,747µm,0.3s						
CHOS	**Chios island**	**0.61**	**229**	PG	**Pg**	**20 28 47.9**	**+0.3**
SIGR	**SIGRI**	**0.74**	**305**	P	**Pg**	**20 28 49.8**	**-0.3**
SIGR				S	**Sg**	**20 29 00.0**	**+0.1**
	comp=E,310nm,0.5s						
SIGR	**SIGRI**	**0.74**	**305**	P	**Pg**	**20 28 49.7**	**-0.3**
SIGR				S	**Sg**	**20 28 59.0**	**-0.9**
SIGR				AML	AML	20 29 02.9	
	comp=E,542µm,0.6s

	comp=E,42μm,0.5s					
ALN				AML	AML	20 29 51.1
	comp=N,49μm,1.4s					
THAS	**Thassos island**	**2.34**	**321**	P	**Pn**	**20 29 15.1 +1.7**

*THE **12** 21:28:08.8, 37°.81N×21°.80E, h25km±1km, ML1.9/4, Error ellipse: s-maj=1.1km s-min=0.3km az=295.0*
ATH 12 21:28:08.8, 37°.80N×21°.80E, h27km±2km, ML2.0/9, Error ellipse: s-maj=2.0km s-min=0.7km az=263.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRO	**Drossia**	**0.16**	**335**	P	Pb	21 28 13.9	-0.4
DRO				S	Sb	21 28 18.0	0.0
	1μm,0.1s						
DRO	**Drossia**	**0.16**	**335**	P	Pb	21 28 13.9	-0.4
DRO				S	Sb	21 28 17.6	-0.4
DRO				AML	AML	21 28 18.1	
	comp=N,3108μm,0.1s						
DRO				AML	AML	21 28 18.3	
	comp=E,2297μm,0.2s						
AMT	**Artemida-Makis**	**0.28**	**195**	P	Pb	21 28 15.5	-0.2
AMT	**Artemida-Makis**	**0.28**	**195**	P	Pb	21 28 15.5	-0.2
AMT				S	Sb	21 28 21.0	+0.6
AMT				AML	AML	21 28 21.1	
	comp=N,612μm,0.3s						
AMT				AML	AML	21 28 21.5	
	comp=E,573μm,0.2s						
RLS	**Riolos of Patr**	**0.36**	**314**	P	Pb	21 28 16.6	-0.3
RLS	**Riolos of Patr**	**0.36**	**314**	P	Pb	21 28 16.6	-0.3
RLS				S	Sb	21 28 22.8	+0.4
RLS				AML	AML	21 28 23.3	
	comp=N,836μm,0.4s						
RLS				AML	AML	21 28 23.6	
	comp=E,578μm,0.4s						
KLV	**Kalavryta, Ach**	**0.37**	**49**	P	Pb	21 28 16.4	-0.6
KLV				S	Sb	21 28 22.8	+0.2
	comp=E,260nm,0.1s						
KLV	**Kalavryta, Ach**	**0.37**	**49**	P	Pb	21 28 16.4	-0.6
KLV				S	Sb	21 28 22.5	-0.1
KLV				AML	AML	21 28 23.1	
	comp=E,692μm,0.1s						
KLV				AML	AML	21 28 23.6	
	comp=N,406μm,0.1s						
LAKA	**Lakka**	**0.46**	**18**	P	Pb	21 28 18.0	-0.4
LAKA				S	Sb	21 28 24.9	0.0
LAKA				AML	AML	21 28 25.9	
	comp=N,342μm,0.2s						
LAKA				AML	AML	21 28 26.4	
	comp=E,440μm,0.2s						
VTN	**Vitineika**	**0.50**	**283**	P	Pb	21 28 19.0	0.0
ALIK	**Aliki, Aigiali**	**0.52**	**28**	P	Pb	21 28 19.0	-0.4
TRIZ	**Trizonia**	**0.60**	**21**	P	Pb	21 28 20.4	-0.3
TRIZ	**Trizonia**	**0.60**	**21**	P	Pb	21 28 20.1	-0.6
TRIZ				S	Sb	21 28 28.8	-0.1
EFP	**Efpalio**	**0.63**	**8**	P	Pb	21 28 21.0	-0.2
EFP	**Efpalio**	**0.63**	**8**	P	Pb	21 28 21.0	-0.2
EFP				S	Sb	21 28 29.3	-0.3
EFP				AML	AML	21 28 31.6	
	comp=E,244μm,0.2s						
EFP				AML	AML	21 28 34.2	
	comp=N,249μm,0.2s						
ITM	**Ithomi**	**0.63**	**171**	P	Pb	21 28 20.9	-0.3
ITM				S	Sb	21 28 30.4	+0.7
	comp=N,40nm,0.1s						
ITM	**Ithomi**	**0.63**	**171**	P	Pb	21 28 20.8	-0.4
ITM				S	Sb	21 28 29.2	-0.5
VLX	**Vlachokerasia**	**0.63**	**133**	P	Pb	21 28 21.1	-0.2
VLX				S	Sn	21 28 30.6	-0.7
	comp=N,128nm,0.5s						
VLX	**Vlachokerasia**	**0.63**	**133**	P	Pb	21 28 21.6	+0.3
VLX				S	Sb	21 28 29.2	-0.7
SERG	**Sergoula**	**0.64**	**18**	P	Pb	21 28 21.1	-0.4
SERG				S	Sb	21 28 30.7	+0.6
SERG				AML	AML	21 28 32.5	
	comp=N,294μm,0.2s						
SERG				AML	AML	21 28 32.5	
	comp=E,337μm,0.2s						
THAL	**Thalero**	**0.72**	**71**	P	Pb	21 28 22.5	-0.2
THAL				S	Sb	21 28 31.9	-0.4
THAL				AML	AML	21 28 36.2	
	comp=N,559μm,0.4s						
THAL				AML	AML	21 28 37.9	
	comp=E,302μm,0.3s						
PVO	**Paravola**	**0.84**	**345**	P	Pb	21 28 24.3	-0.4
PVO				S	Sn	21 28 36.2	-0.1
PVO				AML	AML	21 28 40.0	
	comp=E,104μm,0.2s						
PVO				AML	AML	21 28 42.2	
	comp=N,75μm,0.4s						
VLMS	**Volimes, Zakyn**	**0.90**	**275**	P	Pn	21 28 24.9	-0.7
PYL	**PYLOS**	**0.91**	**183**	P	Pn	21 28 25.7	0.0
LTK	**Loutraki**	**0.95**	**76**	P	Pn	21 28 26.1	-0.2
VLS	**Valsamata**	**1.02**	**292**	P	Pn	21 28 27.0	-0.4
EVR	**Evrytania**	**1.11**	**0**	P	Pn	21 28 28.9	+0.2
KEF5	**Kardakata, Kep**	**1.15**	**295**	P	Pn	21 28 29.1	0.0
KRND	**KRANIDI**	**1.15**	**111**	P	Pb	21 28 30.6	+0.6
FSK	**Fiskardo**	**1.17**	**304**	P	Pn	21 28 29.6	+0.2
EVGI	**Lefkada island**	**1.21**	**313**	P	Pn	21 28 30.3	+0.4
MAKR	**Makrakomi, Fth**	**1.24**	**12**	P	Pb	21 28 31.5	+0.1
LKR	**Lokris**	**1.27**	**48**	P	Pb	21 28 32.0	0.0
AGG	**Agios Georgios**	**1.29**	**19**	P	Pb	21 28 32.2	-0.1
LKD2	**Lefkada island**	**1.33**	**318**	P	Pb	21 28 32.5	-0.6
TSLK	**Tsoukalades, L**	**1.36**	**319**	P	Pb	21 28 33.3	-0.2

*NAO **12** 21:30:08.1±3.2, 72°.70N×5°.46E, ML2.3*
*BER **12** 21:30:10.6±2.9, 72°.84N×4°.83E, h26km±44km, ML1.8, ML2.3(NAO), Confirmed Earthquake*
ISC 12 21:30:09.2±1.9, 72°.74N±0°.08×5°.8E±0°.1, h10km, n14, σ19, 61/19, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**4.13**	**59**	*e*P	**Pn**	**21 31 14.8**	**+2.6**
HSPB	**Hornsund (broa**	**4.97**	**26**	*e*P	**Pn**	**21 31 21.0**	**-2.7**
TRO	**Tromso**	**5.27**	**120**	*e*P	**Pn**	**21 31 28.9**	**+1.1**
TRO				*e*S	**Sn**	**21 32 27.0**	**-1.5**
TRO				IAML		21 32 29.2	
	comp=Z,2.3nm,0.5s						
LOF	**Lofoten**	**5.31**	**147**	*e*P	**Pn**	**21 31 30.9**	**+2.5**
LOF				*e*S	Sn	21 32 24.6	-5.0
LOF				IAML		21 32 36.3	
	comp=Z,3.3nm,0.8s						
STEI	**Steigen**	**5.79**	**142**	*e*P	**Pn**	**21 31 36.5**	**+1.6**
STEI				*e*S	**Sn**	**21 32 40.2**	**-1.0**
STEI				IAML		21 32 43.4	
	comp=Z,1.6nm,0.4s						
SPA0	**Spitsbergen Ar**	**6.06**	**21**	Pn	**Pn**	**21 31 38.2**	**-0.6**
	baz=222,slow=16						
SPA0	**Spitsbergen Ar**	**6.06**	**21**	Pn	**Pn**	**21 31 38.2**	**-0.6**
	baz=222,slow=16						
KIF	**Kilpisjarvi**	**6.18**	**120**	*e*P	**Pn**	**21 31 42.2**	**+1.8**
KIF				*e*S	**Sn**	**21 32 49.6**	**-1.4**
KONS	**Konsvik**	**6.77**	**154**	*e*P	**Pn**	**21 31 47.9**	**-0.5**
KONS				*e*S	Sn	21 33 00.9	-4.5
KONS				IAML		21 33 13.5	
	comp=Z,1.9nm,0.7s						
ARA0	**ARCESS Array S**	**7.13**	**107**	Pn	**Pn**	**21 31 54.9**	**+1.5**
	baz=316,slow=11						
ARA0				Sn	**Sn**	**21 33 14.2**	**-0.1**
	baz=299,slow=22						
ARA0	**ARCESS Array S**	**7.13**	**107**	Pn	**Pn**	**21 31 54.9**	**+1.5**
	baz=316,slow=11						
ARA0				Sn	**Sn**	**21 33 14.2**	**-0.1**
	baz=299,slow=22						
KEV	**Kevo**	**7.44**	**103**	*e*P	**Pn**	**21 31 57.2**	**-0.3**
HFS	**Hagfors**	**13.03**	**162**	Pn	**Pn**	**21 33 15.4**	**+1.3**
	baz=352,slow=14						
HFS	**Hagfors**	**13.03**	**162**	Pn	**Pn**	**21 33 15.4**	**+1.3**
	baz=352,slow=14						

*NNC **12** 21:36:45.8±4.6, 36°.96N×70°.36E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=38.1km s-min=28.2km az=9.0*
*IDC **12** 21:36:48.2±2.2, 36°.42N×71°.08E, h188km±19km, mb3.6/17, mb1 3.7/23, mb1mx3.4/53, mbtmp4.1/23, MS2.8/1, Ms1 2.8/1, ms1mx2.1/36, Error ellipse: s-maj=15.3km s-min=11.0km az=3.0*
*SOME **12** 21:36:48.3, 37°.78N×72°.80E, h5km*

*BJI **12** 21:36:50.2±0.0, 36°.86N×71°.03E, h192km, mB4.8/5, mb4.4/11*
*NEIC **12** 21:36:51.6±1.7, 36°.63N±0°.06×70°.98E±0°.08, h214km±5km, mb4.1/28, Error ellipse: s-maj=9.6km s-min=9.0km az=83.0*
ISC 12 21:36:49.8±0.4, 36°.57N±0°.04×71°.01E±0°.04, h200km, n134, σ29, 03/154, mb4.1/28, 15C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.48**	**347**	Pn	**Pn**	**21 37 35.7**	**+2.1**
GAR				Sn	**Sn**	**21 38 07.4**	**-0.5**
CHGR	**Chuyangaron**	**2.55**	**325**	Pn	**Pn**	**21 37 36.1**	**+1.9**
KBL	**Kabul**	**2.59**	**219**	Pn	**Pn**	**21 37 37.7**	**+2.8**
CEP	**Cherat**	**2.84**	**165**	P	**Pn**	**21 37 40.9**	**+3.1**
DRK	**Karamyk**	**2.97**	**12**		**Pn**	**21 37 41.3**	**+2.1**
CHCP	**Chirah Chowk**	**3.45**	**147**	P	**Pn**	**21 37 47.9**	**+3.1**
NIL	**Nilore**	**3.45**	**147**	Pn	**Pn**	**21 37 48.0**	**+3.1**
BTK	**Batken**	**3.48**	**358**	Pn	**Pn**	**21 37 47.8**	**+2.6**
THW	**Thamme Wali**	**3.82**	**171**	P	**Pn**	**21 37 52.2**	**+2.8**
SARP	**Sargodha**	**4.84**	**163**	P	**Pn**	**21 38 04.1**	**+1.9**
TAS	**Tashkent**	**4.93**	**345**	Pn	**Pn**	**21 38 04.9**	**+1.7**
TAS				Sn	**Sn**	**21 38 58.7**	**-2.5**
AML	**Almayashu**	**5.93**	**20**	P	**Pn**	**21 38 17.4**	**+1.1**
	SNR=131						
DZA	**Taraz**	**6.32**	**2**	*e*P	**Pn**	**21 38 22.3**	**+1.3**
	43nm,0.2s						
DZA				*e*S	**Sn**	**21 39 30.1**	**-3.2**
	700nm,0.3s						
MRKS	**Merke**	**6.39**	**15**	*e*P	**Pn**	**21 38 23.1**	**+0.9**
	23nm,0.3s						
MRKS				*e*S	**Sn**	**21 39 31.7**	**-3.6**
	158nm,0.6s						
EKS2	**Erkin-Say**	**6.44**	**19**	P	**Pn**	**21 38 24.4**	**+1.6**
	SNR=12						
KK31	**Karatay Array**	**6.53**	**357**	⇑P	Pn	21 38 19.0	-4.8
	8.0nm,0.3s,baz=172,slow=12						
KK31				⇑S	**Sn**	**21 39 30.4**	**-8.1**
	71nm,0.4s,baz=187,slow=24						
KK31	**Karatay Array**	**6.53**	**357**		**Pn**	**21 38 24.5**	**+0.7**
KKAR	**Karatay Array**	**6.53**	**357**	Pn	**Pn**	**21 38 24.4**	**+0.6**
KKAR	**Karatay Array**	**6.53**	**357**	Pn	**Pn**	**21 38 24.6**	**+0.8**
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**21 38 26.9**	**+1.7**
	3.6nm,0.3s,baz=210,slow=9.4,SNR=12						
AAK				S	**Sn**	**21 39 38.9**	**-1.9**
	5.8nm,0.3s,baz=337,slow=23,SNR=17						
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**21 38 26.6**	**+1.5**
	SNR=6.9						
AAK	**Ala-Archa**	**6.62**	**23**	⇓P	**Pn**	**21 38 26.3**	**+1.1**
	8.1nm,0.5s						
AAK				⇑S	**Sn**	**21 39 38.8**	**-2.1**
	68nm,0.8s						
AAK	**Ala-Archa**	**6.62**	**23**	Pn	**Pn**	**21 38 26.7**	**+1.5**
KBK	**Karagaybulak**	**6.79**	**25**	P	**Pn**	**21 38 29.2**	**+1.9**
	SNR=7.3						
FRU1	**Bishkek**	**6.82**	**23**		**Pn**	**21 38 29.1**	**+1.5**
ULHL	**Ulahol**	**6.96**	**34**	P	**Pn**	**21 38 30.5**	**+0.9**
	SNR=5.3						
BOOM	**Boomskoye usch**	**7.03**	**31**		**Pn**	**21 38 31.4**	**+1.0**
CHMS	**Chumysh**	**7.03**	**23**	P	**Pn**	**21 38 32.1**	**+1.8**
	SNR=10						
USP	**Ospenovka**	**7.20**	**21**	P	**Pn**	**21 38 33.6**	**+1.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.25**	**28**	P	**Pn**	**21 38 34.7**	**+1.3**
	SNR=7.2						
TKM2	**Tokmak 2**	**7.25**	**28**	⇑P	**Pn**	**21 38 32.4**	**-1.0**
	12nm,0.8s						
TKM2				⇓S	**Sn**	**21 39 54.4**	**-1.4**
	19nm,0.8s						
SMLA	**Simla**	**7.46**	**135**	*e*P	**Pn**	**21 38 37.2**	**+1.2**
SMLA				*e*S	**Sn**	**21 39 57.8**	**-2.7**
SMLA				IAML		21 40 02.0	
	comp=E,286nm,0.5s						
SMLA				IAML		21 40 04.1	
	comp=N,195nm,0.3s						
HRA	**Herat**	**7.48**	**256**	Pn	**Pn**	**21 38 37.9**	**+1.5**
KST	**Kastek**	**7.50**	**29**	*e*P	**Pn**	**21 38 38.0**	**+1.4**
	comp=N,15nm,0.1s						
KST				*e*S	**Sn**	**21 39 57.0**	**-4.4**
	comp=N,13nm,1.0s						
DGS	**Degeres**	**7.60**	**27**	*e*P	**Pn**	**21 38 38.9**	**+1.1**
	comp=N,4.2nm,0.0s						
DGS				*e*S	**Sn**	**21 39 58.5**	**-5.2**
	comp=N,7.5nm,0.6s						
IZV	**Izvestkoviy**	**7.76**	**32**	*e*P	**Pn**	**21 38 41.9**	**+1.9**
	comp=N,5.2nm,0.3s						
IZV				*e*S	**Sn**	**21 40 03.9**	**-3.7**
	comp=N,10nm,0.5s						
MDOK	**Medeo**	**8.05**	**33**	*e*P	**Pn**	**21 38 45.2**	**+1.5**
	comp=N,7.5nm,0.5s						
MDOK				*e*S	**Sn**	**21 40 09.2**	**-5.3**
	comp=N,7.3nm,0.7s						
MDOK	**Medeo**	**8.05**	**33**	⇑P	**Pn**	**21 38 44.6**	**+0.9**
	comp=N,5.5nm,0.5s						
MDOK				⇑S	**Sn**	**21 40 14.6**	**+0.1**
	comp=N,9.9nm,0.8s						
DDI	**Dehra Dun**	**8.57**	**135**	*e*P	**Pn**	**21 38 51.5**	**+0.9**
DDI				*e*S	**Sn**	**21 40 23.2**	**-3.7**
CHKK	**Chushkaly**	**8.59**	**30**	*e*P	Pn	21 38 55.8	+5.3
	comp=N,1.3nm,0.1s						
CHKK				*e*S	**Sn**	**21 40 27.4**	**+0.4**
	comp=N,3.2nm,0.0s						
PDGK	**Podgornoye**	**9.37**	**41**	⇑P	**Pn**	**21 39 00.3**	**-0.6**
	comp=N,5.8nm,1.2s						
PDGK				⇑S	**Sn**	**21 40 49.9**	**+4.1**
	comp=N,10nm,1.1s						
NDI	**New Delhi**	**9.45**	**145**	*e*P	**Pn**	**21 39 00.4**	**-1.4**
NDI				*e*S	Sn	21 40 38.4	-9.3
KUDL	**Kundal**	**9.60**	**150**	*e*P	**Pn**	**21 39 03.6**	**-0.2**
KUDL				*e*S	**Sn**	**21 40 44.2**	**-6.9**
GEYT	**Alibeck**	**10.37**	**281**	P	**Pn**	**21 39 13.3**	**-0.5**
	comp=N,2.6nm,0.3s,baz=109,slow=13,SNR=16						
GEYT				S	**Sn**	**21 41 07.7**	**-1.8**
	comp=N,1.0nm,0.3s,baz=17,slow=16,SNR=1.5						
GYA0B	**ALIBECK ARRAY**	**10.37**	**281**		**Pn**	**21 39 13.2**	**-0.5**
MAKZ	**Makanchi**	**13.09**	**35**	⇑P	**P**	**21 39 51.2**	**-0.2**
	comp=N,2.1nm,0.5s						
MAKZ	**Makanchi**	**13.09**	**35**		**Pn**	**21 39 48.5**	**+0.2**
MK31	**Makanchi Array**	**13.23**	**36**	⇑P	**P**	**21 39 52.9**	**0.0**
	comp=N,1.0nm,0.5s						
MK31	**Makanchi Array**	**13.23**	**36**		**Pn**	**21 39 49.9**	**0.0**
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**21 39 50.3**	**+0.4**
	comp=N,0.2nm,0.3s,baz=208,slow=11,SNR=12						
MKAR	**Makanchi Array**	**13.23**	**36**	Pn	**Pn**	**21 39 49.9**	**-0.1**
BHPL	**Bhopal**	**14.40**	**156**	*e*P	**P**	**21 40 09.5**	**+3.4**
BHPL				*e*S	**S**	**21 42 39.0**	**-5.9**
WMQ	**Urumqi**	**14.65**	**55**	*e*P	**P**	**21 40 09.9**	**+1.2**
AB31	**Akbulak array**	**15.02**	**331**	⇑P	**Pn**	**21 40 11.4**	**-0.6**
	comp=N,4.0nm,0.4s						
AB31				⇑S	**S**	**21 42 53.2**	**-5.5**
	comp=N,2.6nm,0.5s						
ABKAR	**Akbulak array**	**15.02**	**331**		**Pn**	**21 40 12.1**	**0.0**
ABKAR	**Akbulak array**	**15.02**	**331**		**Pn**	**21 40 11.8**	**-0.2**
ABKAR					**S**	**21 42 55.8**	**-2.9**
KURBB	**Kurchatov Arra**	**15.05**	**19**	P	**Pn**	**21 40 12.4**	**+0.1**
	comp=N,0.1nm,0.3s,baz=212,slow=8.3,SNR=14						
KURBB				S	**S**	**21 43 00.3**	**+1.0**
	baz=198,slow=15,SNR=2.1						
KURBB	**Kurchatov Arra**	**15.05**	**19**	⇑P	**Pn**	**21 40 07.4**	**-5.0**
	comp=N,1.9nm,0.6s						
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**21 40 30.0**	**+0.7**
	comp=N,0.7nm,0.3s,baz=189,slow=25,SNR=2.0						
BRVK	**Borovoye**	**16.49**	**358**	⇓P	**P**	**21 40 24.2**	**-4.7**
	comp=N,1.7nm,0.6s						
BRVK	**Borovoye**	**16.49**	**358**	P	**P**	**21 40 29.2**	**+0.3**
AKTO	**Aktyubinsk**	**16.72**	**330**	P	**Pn**	**21 40 33.1**	**+0.6**
	comp=N,1.8nm,0.3s,baz=137,slow=9.3,SNR=28						
AKTO				S	**S**	**21 43 33.3**	**-2.4**
	comp=N,0.2nm,0.3s,baz=14,slow=20,SNR=2.3						
AKTO	**Aktyubinsk**	**16.72**	**330**	⇑P	**Pn**	**21 40 32.9**	**+0.4**
	comp=N,8.6nm,0.8s						
AKTO				⇓S	**S**	**21 43 31.9**	**-3.8**
	comp=N,7.0nm,1.2s						
LSA	**Lhasa**	**18.19**	**106**	P	**Pn**	**21 40 50.4**	**-0.1**
LSA				IAmb	IAmb	21 40 52.8	
	comp=Z,7.5nm,0.8s						
ZAA0	**Zalesovo Array**	**19.84**	**25**	⇑Lg	Lg	21 41 04.7	
	comp=Z,0.7nm,0.8s						
ZAA0	**Zalesovo Array**	**19.84**	**25**	P	**P**	**21 41 05.5**	**+0.3**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**21 41 05.5**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=213,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**21 41 05.0**	**-0.2**
GNI	**Garni**	**20.88**	**288**	LR	LR	21 51 43.0	
	comp=Z,24nm,18.8s,baz=138,slow=43						
ARU	**Arti**	**21.57**	**341**	P	**P**	**21 41 24.6**	**+1.2**
ARU				IAmb	IAmb	21 41 26.6	
	comp=Z,4.2nm,0.7s						
BELG	**Belogornoye**	**22.84**	**321**	P	**P**	**21 41 37.0**	**+1.7**
	comp=Z,8.4nm,0.7s,baz=191,slow=8.7,SNR=4.2						
BRTR	**Keskin Array B**	**29.42**	**288**	P	**P**	**21 42 36.8**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=123,slow=5.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**30.48**	**119**	P	**P**	**21 42 44.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=300,slow=7.2,SNR=1.8						
PBA	**Port Blair**	**31.61**	**136**	P	P	21 42 55.5	+1.6
HHC	**Hu-ho-hao-te**	**31.73**	**70**	*e*P	**P**	**21 42 57.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**21 43 05.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=81,slow=6.9,SNR=4.5						
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**21 43 05.3**	**+0.4**
NRIK	**Noril'sk**	**34.05**	**10**	P	**P**	**21 43 16.0**	**+1.4**
	comp=Z,4.4nm,0.5s,baz=164,slow=3.7,SNR=3.6						
KWP	**Kalwaria Pacla**	**36.97**	**306**	P	**P**	**21 43 39.0**	**-0.7**
KOLS	**Kolonicke sedl**	**37.24**	**305**	*e*P	**P**	**21 43 44.7**	**+2.8**
LVZ	**Lovozero**	**37.39**	**338**	P	**P**	**21 43 42.5**	**-0.5**
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**21 43 44.3**	**+1.0**
	comp=Z,2.6nm,0.4s,baz=122,slow=9.5,SNR=50						
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**21 43 44.1**	**+0.8**
AGG	**Agios Georgios**	**38.18**	**289**	P	**P**	**21 43 50.2**	**+0.2**
ARA0	**ARCESS Array S**	**41.08**	**338**	*e*P	**P**	**21 44 13.9**	**+0.5**
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**21 44 14.6**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=114,slow=8.1,SNR=25						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**21 44 13.9**	**+0.5**
ARCES				IAmb	IAmb	21 44 19.9	
	comp=Z,5.7nm,1.1s						
KTK1	**Kautokeino**	**41.55**	**336**	*e*P	**P**	**21 44 18.0**	**+0.8**
HAMF	**Hammerfest**	**42.16**	**339**	*e*P	**P**	**21 44 23.6**	**+1.5**
SGRT	**San Giovanni R**	**42.54**	**295**	P	**P**	**21 44 25.0**	**-0.7**
SGRT				IAmb	IAmb	21 44 42.4	
	comp=Z,7.2nm,1.1s						
JETT	**Jettan, Norway**	**42.69**	**336**	*e*P	**P**	**21 44 26.7**	**+0.2**
TRO	**Tromso**	**43.20**	**336**	*e*P	**P**	**21 44 31.2**	**+0.7**
FAUS	**Fauske**	**43.74**	**332**	*e*P	**P**	**21 44 35.4**	**+0.6**
MOR8	**Moi Rana**	**43.76**	**331**	*e*P	**P**	**21 44 35.2**	**+0.2**
STEI	**Steigen**	**43.91**	**333**	*e*P	**P**	**21 44 35.9**	**-0.2**
NC602	**NORSAR Array S**	**44.14**	**323**	*e*P	**P**	**21 44 38.3**	**+0.2**
NC300	**NORSAR Array S**	**44.25**	**323**	P	**P**	**21 44 39.9**	**+0.9**
NC303	**NORSAR Array S**	**44.27**	**323**	P	**P**	**21 44 39.5**	**+0.4**
NC303				IAmb	IAmb	21 44 40.4	
	comp=Z,5.7nm,0.6s						
NB201	**NORSAR Array S**	**44.29**	**323**	P	**P**	**21 44 39.8**	**+0.5**
NB201				IAmb	IAmb	21 44 40.3	
	comp=Z,9.0nm,0.9s						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**21 44 39.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=94,slow=7.9						
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**21 44 39.8**	**+0.2**
	baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**21 44 40.0**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=96,slow=7.7,SNR=19						
KONS	**Konsvik**	**44.35**	**331**	*e*P	**P**	**21 44 40.3**	**+0.7**
NSS	**Namsos**	**44.44**	**328**	*e*P	**P**	**21 44 40.5**	**+0.1**
NBO00	**NORSAR Array S**	**44.54**	**323**	P	**P**	**21 44 40.6**	**-0.6**
NBO00				IAmb	IAmb	21 44 50.8	
	comp=Z,9.3nm,1.1s						
NC204	**NORSAR Array S**	**44.57**	**323**	P	**P**	**21 44 41.8**	**+0.2**
NC204				IAmb	IAmb	21 44 42.5	
	comp=Z,5.0nm,0.7s						
LOF	**Lofoten**	**44.58**	**333**	*e*P	**P**	**21 44 41.8**	**+0.3**
RAFF	**Raffo Rosso**	**44.71**	**289**	P	**P**	**21 44 42.6**	**-0.4**
RAFF				IAmb	IAmb	21 44 45.8	
	comp=Z,8.5nm,0.9s						
KONO	**Kongsberg**	**45.03**	**321**	*e*P	**P**	**21 44 45.6**	**+0.5**
KONO	**Kongsberg**	**45.03**	**321**	P	**P**	**21 44 45.7**	**+0.5**
KONO				IAmb	IAmb	21 45 03.3	
	comp=Z,9.8nm,1.1s						
BJO1	**Bjornoya**	**45.20**	**343**	*e*P	**P**	**21 44 46.7**	**+0.5**
HOMB	**Homborsund**	**45.57**	**319**	*e*P	**P**	**21 44 50.2**	**+0.9**
TIXI	**Tiksi**	**45.70**	**22**	P	**P**	**21 44 50.7**	**+0.5**
	comp=Z,3.4nm,0.3s,baz=265,slow=3.9,SNR=17						
TIXI	**Tiksi**	**45.70**	**22**	P	**P**	**21 44 50.9**	**+0.7**
TIXI				IAmb	IAmb	21 44 51.4	
	comp=Z,4.6nm,0.8s						
HSPB	**Hornsund (broa**	**47.07**	**345**	*e*P	**P**	**21 45 01.5**	**+0.7**
SPA0	**Spitsbergen Ar**	**47.42**	**347**	*e*P	**P**	**21 45 04.3**	**+0.8**
KBS	**Kingsbay**	**48.54**	**347**	*e*P	**P**	**21 45 12.8**	**+0.7**
KBS	**Kingsbay**	**48.54**	**347**	P	**P**	**21 45 13.3**	**+1.3**
KEST	**Kesra**	**49.02**	**288**	P	**P**	**21 45 17.4**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=302,slow=3.0,SNR=4.8						
KEST	**Kesra**	**49.02**	**288**	P	**P**	**21 45 17.4**	**+1.0**
EKA	**Eskdalemuir Ar**	**52.24**	**316**	P	**P**	**21 45 41.5**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=102,slow=7.1,SNR=4.5		

LEF				SN	Sn	21 48 57.6	+0.7
AKDN	Akdeniz- Kıbrı	1.47	103	PN	Pg	21 48 40.1	-0.6
BOZY	Bozyazi-Mersin	1.50	72	PN	Pg	21 48 41.1	-0.2
BOZY				SN	Sg	21 49 01.2	+0.5
KORT	Korkueli	1.52	333	*i* P	Pg	21 48 43.6	+1.8
KORT				*i* S	Sg	21 49 03.0	+1.3
KORT				IAML		21 49 11.0	
	comp=Z,75nm,0.9s						
TEKE	Tekeli-Mersin	1.61	72	PN	Pb	21 48 41.9	+0.1
TEKE				SN	Sg	21 49 03.8	-0.7
SZAC	Souni	1.62	123	P	Pb	21 48 42.7	+0.7
SZAC				AML	AML	21 49 16.5	
	comp=Z,2.4nm,0.5s						
SZAC				AML	AML	21 49 22.1	
	comp=Z,2.5nm,0.5s						
ERMK	Ermenek	1.69	54	*i* P	Pg	21 48 44.5	-0.5
ERMK				*i* S	Sg	21 49 07.2	+0.2
ERMK				IAML		21 49 20.0	
	comp=Z,166nm,0.4s						
ERMK				IAML		21 49 22.0	
	comp=E,218nm,0.6s						
BUCA	Burdur, Bucak-	1.76	343	*i* P	Pg	21 48 47.5	+1.1
BUCA				*i* S	Sg	21 49 07.5	-1.7
BUCA				IAML		21 49 18.0	
	comp=Z,62nm,0.4s						
BERE	Bereket-Mersin	1.77	66	PN	Pb	21 48 44.9	+0.4
BERE				SN	Sb	21 49 08.0	+1.5
YORU	Yoruktepe-Mers	1.84	73	PN	Pb	21 48 45.9	+0.1
YORU				SN	Sb	21 49 09.2	+0.6
ATHAL	Athalassa	1.85	105	P	Pn	21 48 45.2	+1.7
ATHAL				S	Sn	21 49 06.6	+0.2
SEDI	Konya, Seydise	1.85	13	*i* P	Pb	21 48 46.0	+0.1
SEDI				*i* S	Sb	21 49 08.4	-0.5
SEDI				IAML		21 49 13.0	
	comp=E,178nm,0.9s						
SEDI				IAML		21 49 16.0	
	comp=Z,133nm,0.5s						
SEDI				IAML		21 49 18.0	
	comp=N,162nm,0.5s						
CSS	Mathiatis	1.85	111	PN	Pn	21 48 45.2	+1.6
CSS	Mathiatis	1.85	111	P	Pn	21 48 45.1	+1.6
ASGA	Asgata	1.87	117	P	Pb	21 48 46.3	+0.1
BCK	Bucak	1.88	344	PN	Pb	21 48 46.7	+0.3
OREN	Orenkoy-Mersin	1.90	72	PN	Pb	21 48 46.8	+0.1
LFK	Lefkose	1.92	100	PN	Pb	21 48 46.5	-0.6
AKIN	Akıncılar- Kıb	1.94	108	PN	Pn	21 48 46.5	+1.8
AKK1	Akkuyu-Mersin	1.95	75	PN	Pb	21 48 47.4	-0.1
AKK2	Akkuyu-Mersin	1.95	75	PN	Pb	21 48 47.5	-0.1
AKKU	Akkuyu-Mersin	1.96	74	PN	Pb	21 48 48.2	+0.5
GULN	MERSIN_Gulnar	1.96	73	*i* P	Pb	21 48 48.3	+0.6
GULN				*i* S	Sn	21 49 07.6	-1.6
GULN				IAML		21 49 19.0	
	comp=Z,90nm,0.6s						
GULN				IAML		21 49 22.0	
	comp=N,138nm,0.7s						
TEVE	Tevekalti-Mers	1.96	66	PN	Pb	21 48 47.8	-0.1
TEPK	Tepekoy-MERSIN	1.97	72	PN	Pb	21 48 47.8	-0.1
YESI	Yesilovacik-Me	2.04	74	PN	Pb	21 48 48.8	-0.3
TISA	Tisan-Mersin	2.06	75	PN	Pb	21 48 48.6	-0.8
MVOU	Mavrovouni	2.07	107	P	Pn	21 48 47.7	+1.2
GOLH	Golhisar	2.08	320	*i* P	Pb	21 48 49.3	-0.5
IKL	Isikli	2.08	73	PN	Pb	21 48 49.8	0.0
KARG	Kargicak-Mersi	2.09	74	PN	Pb	21 48 49.5	-0.5
KKBE	Karaman, Kazim	2.09	41	*i* P	Pb	21 48 50.7	+0.6
KKBE				*i* S	Sn	21 49 12.6	-0.1
KKBE				IAML		21 49 24.0	
	comp=N,165nm,0.6s						
KKBE				IAML		21 49 25.0	
	comp=Z,122nm,0.5s						
KKBE				IAML		21 49 31.0	
	comp=E,170nm,1.3s						
OSC1	CSNet OBS 1	2.14	179	P	Pn	21 48 48.3	+0.8
OSC1				S	Sn	21 49 12.3	-1.4
KEBE	Keben-Mersin	2.17	68	PN	Pb	21 48 50.5	-0.9
ISP	Isparta	2.24	346	PN	Pb	21 48 52.5	-0.1
BRDR	BURDUR-Merkez	2.25	336	*i* P	Pb	21 48 53.2	+0.5
BRDR				IAML		21 49 36.0	
	comp=Z,20nm,0.9s						
BAGO	Egridir - ISPA	2.36	352	*i* P	Pb	21 48 54.4	-0.3
BAGO				*i* S	Sn	21 49 17.1	-2.2
BAGO				IAML		21 49 31.0	
	comp=Z,26nm,0.7s						
DALY	Dalyan (Mula)	2.38	300	*i* P	Pn	21 48 50.8	+0.1
EREN	Erenkoy	2.41	92	*i* P	Pb	21 48 56.2	+0.9
EREN				*i* S	Sn	21 49 21.0	+0.8
EREN				IAML		21 49 33.0	
	comp=N,136nm,0.7s						
EREN				IAML		21 49 38.0	
	comp=E,194nm,0.6s						
EREN				IAML		21 49 41.0	
	comp=Z,117nm,0.7s						
EREN	Erenkoy	2.41	92	PN	Pb	21 48 54.2	-1.1
KONT	Konya--Tatoy	2.47	21	*i* P	Pb	21 48 56.1	-0.3
KONT				*i* S	Sb	21 49 26.9	+0.3
KONT				IAML		21 49 35.0	
	comp=Z,69nm,0.6s						
KONT	Konya--Tatoy	2.47	21	PN	Pb	21 48 55.3	-1.1
DOGA	KONYA_Doganhis	2.48	8	*i* P	Pb	21 48 56.5	-0.2
DOGA				*i* S	Sn	21 49 20.0	-2.3
DOGA				IAML		21 49 43.0	
	comp=Z,64nm,0.6s						
KIZK	Mersin	2.51	70	*i* P	Pb	21 48 56.6	-0.5
KIZK				*i* S	Sn	21 49 22.1	-0.7
KIZK				IAML		21 49 32.0	
	comp=Z,61nm,0.6s						
KIZK				IAML		21 49 35.0	
	comp=E,93nm,0.6s						
KIZK				IAML		21 49 37.0	
	comp=N,92nm,0.5s						
TAVA	DENIZLI_Tavas	2.60	315	*i* P	Pn	21 48 55.1	+1.3
YVAC	Isparta, Yalva	2.62	0	*i* P	Pb	21 48 57.6	-1.5
YVAC				IAML		21 49 46.0	
	comp=Z,23nm,0.6s						
LADK	Ladik-KONYA	2.71	19	PN	Pb	21 48 58.2	-2.4
KERG	Konya-Eregli	2.93	52	*i* P	Pb	21 49 02.8	-1.6
KERG				*i* S	Sn	21 49 31.1	-2.2
KERG				IAML		21 49 52.0	
	comp=N,77nm,0.5s						
KERG				IAML		21 49 52.0	
	comp=E,67nm,0.5s						
KERG				IAML		21 49 57.0	
	comp=Z,41nm,0.4s						
MERS	Mersin	2.93	64	PN	Pn	21 49 01.5	+3.1
KDHN	Kadinhani	2.96	14	*i* P	Pb	21 49 02.0	-2.8
KDHN				IAML		21 49 47.0	
	comp=Z,13nm,0.5s						
ALIN	Konya, Altinte	2.96	26	*i* P	Pn	21 49 01.6	+2.8
ALIN				*i* S	Sn	21 49 29.9	-4.2
ALIN				IAML		21 49 48.0	
	comp=Z,18nm,0.5s						
SULT	Sultanhani-AKS	3.14	35	PN	Pn	21 49 04.8	+3.5
DED	Mersin	3.17	65	*i* P	Pn	21 49 05.3	+3.6
DED				*i* S	Sn	21 49 35.9	-3.3
DED				IAML		21 49 54.0	
	comp=Z,34nm,0.8s						
DED				IAML		21 50 03.0	
	comp=N,51nm,0.6s						
GULE	Gulek	3.30	59	*i* P	Pb	21 49 08.8	-1.8
GULE				IAML		21 49 59.0	
	comp=Z,56nm,0.4s						
GULE				IAML		21 50 11.0	
	comp=E,88nm,0.5s						
KRTS	Karatas	3.49	73	PN	Pn	21 49 09.4	+3.4
YURE	YUREGIR	3.75	70	*i* P	Pn	21 49 13.8	+4.1
AKO	Adana	3.85	61	*i* P	Pn	21 49 15.3	+4.3
AKO				IAML		21 50 24.0	
	comp=Z,21nm,0.7s						
AKO				IAML		21 50 25.0	
	comp=E,29nm,0.9s						
CEYT	Ceyhan	3.90	68	PN	Pn	21 49 15.2	+3.6
TAHT	Tahtakopru-Hat	4.09	78	PN	Pn	21 49 17.4	+3.1
KOZT	Kozan	4.13	62	PN	Pn	21 49 18.4	+3.5
KMRS	Kahramanmaras	4.93	66	PN	Pn	21 49 29.1	+3.2
GAZ	Gaziantep	5.06	71	PN	Pn	21 49 30.7	+3.0
KOT	Kottamia	5.73	175	P	Pn	21 49 37.5	+0.7
KOT				AMP		21 50 00.0	
	baz=170						
KOT				S	Sn	21 50 36.5	-5.7
	baz=170						
SUZ	Suez	5.95	166	P	Pn	21 49 41.0	+1.2
	baz=161						
HSAF	As Saff	6.02	177	P	Pn	21 49 41.2	+0.4
	baz=173						
GLL	Jalalah	6.07	176	P	Pn	21 49 42.1	+0.6
	baz=171						
SLUM	Salum	6.51	232	P	Pn	21 49 46.1	-1.4
	baz=233						
SLUM				S	Sn	21 50 49.6	-12
	baz=233						
RYAN	Fayoum	6.60	187	P	Pn	21 49 48.7	0.0
	baz=184						
SWA2		8.03	219	S	Sn	21 51 26.8	-12
	baz=219						
SWA2				AMP		21 51 00.0	
	baz=219						
HFRF	Wahat Farafira	8.83	197	P	Pn	21 50 18.2	-1.2
	baz=196						

NEIC ***12*** *21:51:09.1±1.5, 5°.51S±0°.06×152°.7E±0°.1, h30km±6km, mb4.4/20, Error ellipse: s-maj=16.6km s-min=8.3km az=95.0*

IDC ***12*** *21:51:11.5±4.6, 5°.55S×152°.44E, h55km±41km, mb3.8/12, mb1 4.0/13, mb1mx3.8/38, mbtmp4.1/13, ML2.1/1, MS3.4/9, Ms1 3.4/9, ms1mx3.2/31, Error ellipse: s-maj=25.7km s-min=21.3km az=86.0*

ISC 12 21:51:09.9±0.6, 5°.52S±0°.06×152°.58E±0°.10, h40km, n46, σ0s92/44, mb4.2/20, MS3.5/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.38	342	Pn	Pn	21 51 32.8	+0.1
RABL				Sn	Sn	21 51 49.4	-0.4
PMG	Port Moresby	6.62	234	P	Pn	21 52 45.7	+1.0
	2.7nm,0.3s,baz=59,slow=8.9,SNR=13						
PMG				S	Sn	21 53 57.9	-1.1
	8.1nm,0.3s,baz=148,slow=22,SNR=8.9						
PMG	Port Moresby	6.62	234	Pn	Pn	21 52 46.0	+1.3
PMG				Sn	Sn	21 53 57.6	-1.3
EIDS	Eidsvold	19.79	184	P	P	21 55 37.4	+0.5
EIDS				IAmb	IAmb	21 55 42.1	
	comp=Z,18nm,1.1s						
DZM	Mont Dzumac	21.23	142	P	P	21 55 54.0	+1.4
	comp=Z,7.5nm,0.9s,baz=319,slow=20,SNR=2.7						
DZM				LR	LR	22 02 53.4	
	comp=Z,135nm,20.0s,baz=358,slow=33						
DZM	Mont Dzumac	21.23	142	*e*P	P	21 56 01.7	+9.1
	comp=Z,56nm,1.2s						
DZM				*e*LR	LR	22 01 06.2	
	comp=Z,278nm,26.3s						
MTN	Manton Dam	22.38	250	P	P	21 56 05.3	+0.4
WB0	Warramunga Arr	22.67	230	P	P	21 56 08.4	+0.4
WB0				IAmb	IAmb	21 56 13.9	
	comp=Z,22nm,1.4s						
WR0	Warramunga Arr	22.67	229	P	P	21 56 07.7	-0.3
WR0				IAmb	IAmb	21 56 12.2	
	comp=Z,7.6nm,1.0s						
WRAB	Tennant Creek	22.80	229	P	P	21 56 07.7	-1.6
WRAB				IAmb	IAmb	21 56 24.8	
	comp=Z,9.7nm,0.8s						
WB2	Warramunga Arr	22.80	229	P	P	21 56 09.1	-0.3
WB2				IAmb	IAmb	21 56 26.2	
	comp=Z,13nm,1.1s						
WRA	Warramunga Arr	22.81	229	P	P	21 56 07.8	-1.8
	comp=Z,4.6nm,0.8s,baz=54,slow=9.7,SNR=14						
WRA	Warramunga Arr	22.81	229	P	P	21 56 09.0	-0.5
KNRA	Kununurra	25.47	245	P	P	21 56 36.1	+1.7
AS31	Alice Springs	25.48	223	P	P	21 56 35.0	+0.5
ASAR	Alice Springs	25.48	223	P	P	21 56 33.7	-0.9
	comp=Z,6.0nm,0.8s,baz=54,slow=9.1,SNR=43						
ASAR	Alice Springs	25.48	223	P	P	21 56 34.3	-0.2
MSVF	Nonsavu	27.70	118	P	P	21 56 52.4	-2.2
STKA	Stephens Creek	28.17	200	P	P	21 56 57.7	-0.9
	comp=Z,4.8nm,1.1s,baz=38,slow=12,SNR=3.5						
STKA				LR	LR	22 08 44.7	
	comp=Z,120nm,18.7s,baz=24,slow=38						
STKA	Stephens Creek	28.17	200	P	P	21 56 57.2	-1.4
MJAR	Matsushiro Arr	43.95	343	LR	LR	22 18 30.2	
	comp=Z,23nm,18.1s,baz=205,slow=37						
KSRS	Korea Array	48.54	334	LR	LR	22 19 25.7	
	comp=Z,22nm,18.4s,baz=170,slow=35						
CMAR	Chiang Mai Arr	57.98	296	P	P	22 00 57.9	-1.0
	comp=Z,0.7nm,1.0s,baz=110,slow=4.9,SNR=4.6						
CMAR	Chiang Mai Arr	57.98	296	P	P	22 00 59.1	+0.1
PETK	Petropavlovsk-	58.56	4	P	P	22 01 02.0	-0.3
	comp=Z,0.6nm,0.6s,baz=188,slow=7.3,SNR=2.4						
PETK				LR	LR	22 22 12.0	
	comp=Z,30nm,20.3s,baz=180,slow=32						
PETK	Petropavlovsk-	58.56	4	P	P	22 01 02.4	0.0
ULN	Ulaanbaatar	66.49	328	P	P	22 01 56.8	+1.2
SONM	Songino Array	66.81	328	P	P	22 01 57.7	+0.1
	comp=Z,1.1nm,0.8s,baz=145,slow=5.4,SNR=4.0						
SONM	Songino Array	66.81	328	P	P	22 01 57.6	-0.1
SONM				IAmb	IAmb	22 01 59.3	
	comp=Z,2.5nm,1.0s						
VNDA	Vanda	72.13	178	P	P	22 02 30.1	+0.3
	comp=Z,0.4nm,0.7s,baz=355,slow=2.2,SNR=2.3						
VNDA	Vanda	72.13	178	P	P	22 02 30.4	+0.6
MKAR	Makanchi Array	80.72	319	P	P	22 03 19.2	+0.1
	comp=Z,0.6nm,0.9s,baz=111,slow=5.8,SNR=4.7						
MKAR	Makanchi Array	80.72	319	P	P	22 03 18.6	-0.4
ZALV	Zalesovo Beam	81.62	326	P	P	22 03 23.2	-0.4
	comp=Z,1.3nm,0.6s,baz=111,slow=7.0,SNR=5.8						
ZALV				LR	LR	22 39 47.2	
	comp=Z,18nm,19.4s,baz=81,slow=36						
MLY	Manley	81.62	21	P	P	22 03 24.1	+0.6
MLY				IAmb	IAmb	22 03 37.3	
	comp=Z,4.2nm,0.9s						
NEA2	Nenana	82.00	22	P	P	22 03 25.7	+0.3
NEA2				IAmb	IAmb	22 03 38.3	
	comp=Z,4.3nm,1.1s						
WRH	Wood River Hil	82.30	22	P	P	22 03 27.9	+0.9
IL31		82.90	22	P	P	22 03 30.3	+0.3
IL31				IAmb	IAmb	22 03 41.8	
	comp=Z,4.2nm,1.1s						
ILAR	Eielson Array	82.90	22	P	P	22 03 29.4	-0.7
	comp=Z,1.9nm,0.8s,baz=252,slow=5.5,SNR=20						
ILAR				LR	LR	22 41 11.9	
	comp=Z,18nm,18.1s,baz=290,slow=36						
ILAR	Eielson Array	82.90	22	P	P	22 03 30.2	+0.1
DOT	Dot Lake	83.47	24	P	P	22 03 33.4	+0.3
DOT				IAmb	IAmb	22 03 47.6	
	comp=Z,3.8nm,1.0s						
EGAK	Eagle	85.10	23	P	P	22 03 41.9	+0.6
INK	Inuvik	89.20	21	P	P	22 04 02.6	+1.6
	comp=Z,2.6nm,1.0s,baz=256,slow=4.2,SNR=3.5						
ELK	Elko	95.21	50	LR	LR	22 40 34.0	
	comp=Z,22nm,19.7s,baz=277,slow=31						
PDAR	Pinedale Array	99.49	48	LR	LR	22 47 30.7	
	comp=Z,24nm,18.1s,baz=282,slow=34						
TORD	Torodi Ar. Bea	150.31	287	PKPbc	PKPbc	22 10 57.3	-0.7
	comp=Z,2.5nm,1.1s,baz=71,slow=2.4,SNR=4.7						

RSPR ***12*** *21:58:44.4, 18°.96N×68°.12W, h130km±2km, MD3.6/13*
OSPL ***12*** *21:58:45.6±1.1, 17°.65N×68°.36W, h96km±43km, ML3.1*
NEIC ***12*** *21:58:45.2±1.4, 18°.5N±0°.3×68°.22W±0°.08, h128km±11km, Error ellipse: s-maj=40.5km s-min=10.3km az=186.0*

ISC 12 21:58:44.8±1.7, 18°.5N±0°.2×68°.22W±0°.05, h135km±9km, n53, σ0s92/63, 8C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.16	287	‖*e*P	Pn	21 59 02.6	-0.5
PCDR	Punta Cana, DR	0.16	287	*e*S	Sn	21 59 17.4	+0.3
PCDR	Punta Cana, DR	0.16	287		Pn	21 59 02.6	-0.5
PCDR					Sn	21 59 17.4	+0.3
PCDR	Punta Cana, DR	0.16	287	IAML		21 59 19.4	
	comp=E,285nm,0.6s						
PCDR				IAML		21 59 19.4	
	comp=N,659nm,0.5s						
PCDR	Punta Cana, DR	0.16	287	*i* P	Pn	21 59 02.6	-0.5
PCDR				*e*S	Sn	21 59 16.5	-0.5
PCDR				IAML		21 59 21.0	
	comp=Z,344nm,0.6s						
IDE	Isla Desecheo	0.72	96	‖*e*P	Pn	21 59 06.2	+0.4
IDE				*e*S	Sn	21 59 22.8	+1.0
IDE	Isla Desecheo	0.72	96		Pn	21 59 06.2	+0.4
IDE					Sn	21 59 22.8	+1.0
AGPR	Aguadilla, PR	1.05	90	‖*e*P	Pn	21 59 08.1	-0.5
AGPR	Aguadilla, PR	1.05	90	*e*S	Sn	21 59 26.2	-0.6
AGPR	Aguadilla, PR	1.05	90		Pn	21 59 08.1	-0.5
AGPR					Sn	21 59 26.2	-0.6
AGPR	Aguadilla, PR	1.05	90	IAML		21 59 31.8	
	comp=N,392nm,0.3s						
AGPR	Aguadilla, PR	1.05	90	*i* P	Pn	21 59 09.2	+0.6
AGPR				*e*S	Sn	21 59 27.9	+1.1
AGPR				IAML		21 59 34.5	
	comp=Z,222nm,0.2s						
MPR	Mayaguez	1.06	104		Pn	21 59 08.7	0.0
MPR	Mayaguez	1.06	104	*i* P	Pn	21 59 08.5	-0.2
MLPR	Magueyes Islan	1.23	114	‖*e*P	Pn	21 59 09.2	-1.2
MLPR	Magueyes Islan	1.23	114	*e*S	Sn	21 59 29.5	-0.3
MLPR	Magueyes Islan	1.23	114		Pn	21 59 09.2	-1.2
MLPR					Sn	21 59 29.5	-0.3
MLPR	Magueyes Islan	1.23	114	IAML		21 59 35.4	
	comp=N,119nm,0.3s						
AOPR	Arecibo Observ	1.40	95	‖*e*P	Pn	21 59 12.1	-0.1
AOPR	Arecibo Observ	1.40	95	*e*S	Sn	21 59 32.5	-0.6
AOPR	Arecibo Observ	1.40	95		Pn	21 59 12.1	-0.1
AOPR					Sn	21 59 32.5	-0.6
OBIP	Obispado Ponce	1.59	105	‖*e*P	Pn	21 59 14.8	+0.5
OBIP	Obispado Ponce	1.59	105	*e*S	Sn	21 59 38.6	+1.8
OBIP	Obispado Ponce	1.59	105		Pn	21 59 14.8	+0.5
OBIP					Sn	21 59 38.6	+1.8
OBIP	Obispado Ponce	1.59	105	IAML		21 59 39.4	
	comp=E,109nm,0.5s						
EMPR	Esperanza - Ma	1.61	89	Pn	Pn	21 59 14.0	-0.4
EMPR					Sn	21 59 37.9	+0.8
EMPR				IAML		21 59 49.3	
	comp=E,317nm,0.5s						
EMPR				IAML		21 59 50.3	
	comp=N,208nm,0.3s						
CELP	Cerrillos	1.61	104	‖*e*P	Pn	21 59 14.6	+0.1
CELP	Cerrillos	1.61	104	*e*S	Sn	21 59 38.3	+1.2
CELP	Cerrillos	1.61	104		Pn	21 59 14.6	+0.1
CELP					Sn	21 59 38.3	+1.2
SJG	San Juan	2.00	100		Pn	21 59 18.6	-0.5
SJG				IAML		21 59 51.2	
	comp=N,102nm,0.2s						
SJG				IAML		22 00 01.1	
	comp=N,122nm,0.8s						
GCPR	Guaynabo City	2.04	94	‖*e*P	Pn	21 59 18.6	-0.9
GCPR	Guaynabo City	2.04	94	*e*S	Sn	21 59 46.0	-0.1
GCPR	Guaynabo City	2.04	94		Pn	21 59 18.6	-0.9
GCPR					Sn	21 59 46.0	-0.1
IGPR	InterUniversit	2.07	104	‖*e*P	Pn	21 59 20.4	+0.5
IGPR	InterUniversit	2.07	104	*e*S	Sn	21 59 47.4	+0.5
PDPR	Patillas Dam,	2.14	102		Pn	21 59 20.7	0.0
PDPR				IAML		21 59 51.9	
	comp=E,92nm,0.1s						
CBYP	Canovanas	2.26	95	‖*e*P	Pn	21 59 21.3	-0.9
CBYP	Canovanas	2.26	95	*e*S	Sn	21 59 49.8	-1.1
CBYP	Canovanas	2.26	95		Pn	21 59 21.3	-0.9
CBYP					Sn	21 59 49.8	-1.1
HUMP	Col San Antoni	2.28	98	‖*e*P	Pn	21 59 22.0	-0.5
HUMP	Col San Antoni	2.28	98	*e*S	Sn	21 59 51.0	-0.4
HUMP	Col San Antoni	2.28	98		Pn	21 59 22.0	-0.5
HUMP					Sn	21 59 51.0	-0.4
HUMP	Col San Antoni	2.28	98	IAML		21 59 55.9	
	comp=N,136nm,0.2s						
HUMP				IAML		21 59 58.1	
	comp=E,169nm,0.2s						
MTP	Monte Pirata	2.56	98	‖*e*P	Pn	21 59 25.9	-0.1
MTP	Monte Pirata	2.56	98	*e*S	Sn	21 59 58.0	+0.2
MTP	Monte Pirata	2.56	98		Pn	21 59 25.9	-0.1
MTP					Sn	21 59 58.0	+0.2
MTP	Monte Pirata	2.56	98	IAML		22 00 05.0	
	comp=N,50nm,0.2s						
CUPR	Culebra, Puert	2.80	93	‖*e*P	Pn	21 59 27.9	-1.0
CUPR	Culebra, Puert	2.80	93	*e*S	Sn	22 00 02.1	-0.9
CUPR	Culebra, Puert	2.80	93		Pn	21 59 27.9	-1.0
CUPR					Sn	22 00 02.1	-0.9
SDDR	Presa de Saban	2.95	280		Pn	21 59 30.9	0.0
SDDR				IAML		22 00 15.7	
	comp=N,53nm,0.7s						
SDDR				IAML		22 00 19.0	
	comp=N,70nm,0.6s						
SDDR	Presa de Saban	2.95	280	*i* P	Pn	21 59 31.0	0.0
SDDR				IAML		22 00 14.9	
	comp=Z,45nm,0.6s						
ABVI	Anegada Island	3.70	85		Sn	22 00 28.2	+4.2

IDC ***12*** *22:02:36.4±1.2, 22°.80S×66°.51W, h209km±16km, mb3.2/3, mb1 3.3/7, mb1mx3.1/23, mbtmp3.7/7, Error ellipse: s-maj=25.9km s-min=17.6km az=133.0*
GUC ***12*** *22:02:37.4±0.5, 22°.83S×66°.94W, h260km±7km, ML4.0*

ISC 12 22:02:37.1±1.1, 22°.80S±0°.06×66°.7W±0°.1, h225km±13km, n22, σ1s18/39, mb3.5/3, 15C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.07	275	P	Pn	22 03 19.3	+0.6
	31nm,0.3s,baz=107,slow=5.2,SNR=222						
LVC				S	S	22 03 50.9	-0.1
	5.4nm,0.3s,baz=255,slow=20,SNR=14						
LVC	Limon Verde	2.07	275	⇑*i*P	Pn	22 03 19.2	+0.6
LVC				*i* S	S	22 03 51.1	+0.2
PB09	IPOC Station P	2.58	292	⇑*i*P	Pn	22 03 24.9	+1.2
PB09				*i* S	S	22 04 00.7	+0.7
PB15	IPOC Station P	2.61	260	‖*e*P	Pn	22 03 24.3	+0.2
PB15				*i* S	S	22 04 00.5	-0.1
PB06	IPOC Station P	2.67	271	‖*e*P	Pn	22 03 25.0	+0.2
PB06				*i* S	S	22 04 01.4	-0.4
PB06				IAML		22 04 03.5	
	comp=N,204nm,0.2s						
PB03	IPOC Station P	2.94	284	⇑*i*P	Pn	22 03 27.9	+0.3
PB03				*i* S	S	22 04 06.1	-1.0
PB03				IAML		22 04 07.2	
	comp=N,204nm,0.1s						
PB01	IPOC Station P	3.14	303	⇑*e*P	Pn	22 03 30.3	+0.5
PB01				*i* S	S	22 04 10.9	-0.2
PB07	IPOC Station P	3.16	289	⇑*i*P	Pn	22 03 30.7	+0.5
PB07				*i* S	S	22 04 10.4	-1.1
PB04	IPOC Station P	3.24	277	⇑*i*P	Pn	22 03 31.2	0.0
PB04				*i* S	S	22 04 11.8	-1.5
PB05	IPOC Station P	3.25	268	⇑*e*P	Pn	22 03 31.2	0.0
PB05				*i* S	S	22 04 11.7	-1.8
PB02	IPOC Station P	3.33	296	⇑*i*P	Pn	22 03 32.2	+0.2
PB02				*i* S	S	22

KAN12	Harper NE Stat	0.47	2		Pg		22 37 30.6	-0.5
KAN13	South Haven SW	0.47	66		Pg		22 37 30.7	-0.3
KS20	Mayfield South	0.55	42	Pg	Pg		22 37 31.9	-0.6
BLOK	Blackwell	0.65	95		Pg		22 37 34.2	-0.1
U32A	Winter Ranch,	0.91	241		Pg		22 37 39.4	+0.2
U32A	Winter Ranch, baz=58,SNR=11	0.91	241	P			22 37 39.6	
OK029	Liberty Lake	1.12	156	Pg	Pg		22 37 43.1	-0.2
BCOK	Bluff Creek, N	1.21	164		Pg		22 37 44.3	-0.7
T35A	Sooner Cattle	1.21	85		Pg		22 37 44.3	-0.8
T35B	Sooner Cattle baz=268,SNR=162	1.21	85	P			22 37 44.3	
T35B	baz=268			S			22 38 00.0	
OK031	S. Brethren Rd	1.29	132		Pn		22 37 46.4	-0.2
OK031				Sg	Sb		22 38 03.7	+0.2
OK025	Westminster Rd	1.36	156		Pn		22 37 47.4	-0.1
OKCFA	Oklahoma City	1.48	162		Pn		22 37 48.3	-0.9
OKCFA	Oklahoma City baz=343	1.48	162	S			22 38 10.1	
OKCSW	OKLAHOMA CITY	1.49	161		Pn		22 37 49.4	0.0
FNO	Franklin	1.64	162		Pn		22 37 51.8	+0.4
R32A	Long Quarter, baz=160,SNR=58	1.69	341	P			22 37 52.2	
R32A	baz=160			S			22 38 14.1	
TUL1	Leonard baz=299,SNR=70	2.02	116	P			22 37 57.0	
TUL1	baz=299			Sb			22 38 25.7	
WMOK	Wichita Mounta	2.17	197		Pn		22 37 59.0	+0.3
WMOK					Pb		22 37 59.7	-2.0
WMOK	comp=Z,56nm,0.9s			IAmb_Lg			22 38 33.6	
WMOK	Wichita Mounta baz=16,SNR=49	2.17	197	P			22 37 59.9	
X34A	Smith Ranch, M	2.22	176	Pn	Pn		22 37 59.9	+0.5
X34A	comp=Z,48nm,0.9s			IAmb_Lg			22 38 38.9	
CBKS	Cedar Bluff	2.41	326	Pn	Pn		22 38 01.7	-0.3
CBKS	comp=Z,54nm,0.8s			IAmb_Lg			22 38 42.1	
CBKS	Cedar Bluff baz=144	2.41	326	S			22 38 32.6	
KSU1	Kansas State U	2.53	26	Pn	Pn		22 38 03.3	-0.4
KSU1	comp=Z,63nm,0.8s			IAmb_Lg			22 38 43.1	
LOOK	Love County	2.91	166	Pn	Pn		22 38 10.5	+1.7
U38A	Gravette comp=Z,41nm,0.8s	2.95	96	IAmb_Lg			22 39 01.5	
U38A	Gravette baz=280,SNR=26	2.95	96	P			22 38 09.8	
X37A	Clayton	3.10	135		Pn		22 38 12.9	+1.4
X37A	comp=Z,39nm,0.7s			IAmb_Lg			22 39 04.2	
X37A	Clayton baz=318,SNR=12	3.10	135	P			22 38 12.4	
HHAR	Hobbs comp=Z,36nm,0.7s	3.33	98	IAmb_Lg			22 39 11.6	
Z35A	Perchaven, San	3.54	170	Pn	Pn		22 38 18.9	+1.4
W39A	Magazine	3.80	114		Pn		22 38 22.9	+1.8
N33A	J Bar K, Exete	3.94	6	Pn	Pn		22 38 23.1	+0.1
N33A	comp=Z,31nm,0.8s			IAmb_Lg			22 39 26.9	
U40A	Yellville baz=279,SNR=20	4.18	95	P			22 38 26.3	
U40A	baz=279,SNR=20			P			22 38 26.3	
KSCO	Kaye Shedlock'	4.25	302	Pn	Pn		22 38 26.5	-0.8
P38A	Dawn	4.51	50		Pn		22 38 30.2	-0.6
P38A	comp=Z,32nm,1.1s			IAmb_Lg			22 39 52.8	
MGMO	Mountain Grove	4.62	84		Pn		22 38 32.6	+0.2
MGMO	comp=Z,33nm,0.8s			IAmb_Lg			22 39 47.6	
R40A	Maddies Statio	4.80	70		Pn		22 38 34.5	-0.4
X40A	Basin Creek Fa comp=Z,23nm,0.7s	4.82	117	IAmb_Lg			22 40 06.2	
FCAR	Ozark Folk Cen comp=Z,22nm,0.8s	4.85	99	IAmb_Lg			22 39 57.9	
WLAR	White Oak Lake comp=Z,29nm,0.9s	5.09	126	IAmb_Lg			22 40 13.9	
T25A	Trinidad comp=Z,20nm,0.8s	5.13	275	IAmb_Lg			22 40 14.2	
237A	Washetta, Mont comp=Z,26nm,1.1s	5.14	159	IAmb_Lg			22 40 14.8	
OGNE	Ogallala comp=Z,32nm,0.7s	5.17	324	IAmb_Lg			22 40 17.6	
P40A	Paris comp=Z,23nm,0.8s	5.43	58	IAmb_Lg			22 40 17.4	
N38A	Joes South For comp=Z,23nm,0.8s	5.45	42	IAmb_Lg			22 40 20.7	
CCM	Cathedral Cave comp=Z,20nm,0.9s	5.53	75	IAmb_Lg			22 40 21.5	
LCAR	Lake Charles comp=Z,22nm,0.9s	5.59	96	IAmb_Lg			22 40 22.2	
435B	Jarrell comp=Z,26nm,0.9s	6.04	176	IAmb_Lg			22 40 40.4	
PBMO	Poplar Bluff comp=Z,16nm,0.8s	6.09	88	IAmb_Lg			22 40 48.4	
N41A	Harden Midland comp=Z,20nm,0.8s	6.81	53	IAmb_Lg			22 40 55.0	
143A	Socs Landing, comp=Z,15nm,0.9s	6.82	125	IAmb_Lg			22 41 06.1	
S44A	Carbondale comp=Z,23nm,0.8s	7.04	80	IAmb_Lg			22 41 10.9	
PHWY	Pilot Hill comp=Z,15nm,0.9s	7.31	310	IAmb_Lg			22 41 14.6	
OXF	Oxford comp=Z,18nm,0.8s	7.38	106	IAmb_Lg			22 41 18.0	
L40A	Anamosa comp=Z,18nm,0.8s	7.42	43	IAmb_Lg			22 41 22.0	
Q44A	Meyer Farm, Va comp=Z,20nm,0.8s	7.42	71	IAmb_Lg			22 41 24.7	
T45A	Paducah comp=Z,13nm,0.8s	7.51	86	IAmb_Lg			22 41 26.9	
I37A	Lemond, Waseca comp=Z,15nm,1.0s	8.00	25	IAmb_Lg			22 41 37.9	
OLIL	Olney comp=Z,15nm,1.0s	8.09	73	IAmb_Lg			22 41 45.6	
O44A	Mansfield comp=Z,17nm,0.8s	8.20	63	IAmb_Lg			22 42 01.1	
L42A	Oliver, Polo comp=Z,13nm,0.8s	8.28	49	IAmb_Lg			22 41 51.8	
JFWS	Jewell Farm comp=Z,12nm,0.7s	8.53	42	IAmb_Lg			22 42 14.7	
RSSD	Black Hills comp=Z,9.5nm,0.8s	8.61	330	IAmb_Lg			22 42 05.8	
T47A	Sharon Grove comp=Z,14nm,1.1s	8.75	86	IAmb_Lg			22 42 06.3	
K22A	Casper comp=Z,13nm,1.0s	8.76	314	IAmb_Lg			22 42 23.0	
P46A	Rosedale comp=Z,15nm,0.8s	8.96	69	IAmb_Lg			22 42 07.6	
M44A	Midewin, Midew comp=Z,16nm,1.1s	8.99	56	IAmb_Lg			22 42 14.4	
X48A	Hartselle comp=Z,9.0nm,1.1s	9.24	102	IAmb_Lg			22 42 13.2	
SFIN	Lafayette comp=Z,12nm,0.8s	9.26	64	IAmb_Lg			22 42 16.2	
K43A	Burlington comp=Z,13nm,1.0s	9.49	49	IAmb_Lg			22 42 26.9	

NIED ***12*** *22:50:59.5, 40°.90N×143°.15E, h6km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.29; Mθθ-0.08; Mφφ-1.21; Mrθ0.49; Mrφ-0.34; Mθφ0.68; Fault plane solution: M0 1.55000×10^14^ NP1:φs26.00000°, δ61.00000°, λ100.00000°. NP2:φs185.00000°, δ30.00000°, λ72.00000°.*

JMA 12 22:50:59.5±0.2, 40°.90N×143°.15E, h6km, M3.5, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.11	0	P	Pg	22 51 20.5	-0.4
JEM				eS	Sb	22 51 35.8	-0.1
JKEN	Kujiedanarisaw	1.30	238	P	Pn	22 51 23.3	-0.8
JKEN				eS	Sb	22 51 40.2	-1.0
JANG	Nango	1.35	248	P	Pn	22 51 24.4	-0.5
JARK	Aomorirokkasho	1.35	275	P	Pn	22 51 24.1	-0.8
JTH	Tanohata	1.37	226	P	Pn	22 51 24.9	-0.3
JTH				eS	Sb	22 51 42.8	-0.6
JNBK	Urakawa-nobuka	1.41	348	⇑P	Pn	22 51 25.0	-0.7
JTM	Tenmabayashi	1.58	267	P	Pn	22 51 28.3	+0.2
JTM				eS	Sb	22 51 49.2	-0.2
JOT	Ohata	1.66	288	P	Pn	22 51 28.8	-0.3
JOT				eS	Sn	22 51 50.7	0.0
JCH	Churui	1.72	5	P	Pn	22 51 29.1	-0.9
JCH				eS	Sn	22 51 49.6	-2.7
JKB	Kayabe	1.87	302	P	Pn	22 51 32.1	0.0
JOM	Ohasama	2.01	226	P	Pb	22 51 35.4	-1.1
JEW	Eniwo	2.32	327	P	Pb	22 51 40.0	-1.7
JEW				eS	Sn	22 52 08.7	+1.7
JAK	Akkeshi	2.39	28	P	Pn	22 51 37.5	-1.7
JAK				S	Sn	22 52 04.8	-4.0
JAR	Ashorobuto	2.44	11	⇓P	Pn	22 51 38.5	-1.4
JAR				eS	Sn	22 52 05.8	-4.2
JMK	Ichinoseki	2.45	218	P	Pn	22 51 41.3	+1.4
JMK				eS	Sn	22 52 11.2	+1.0
JOMM	Oshimamatsumae	2.45	286	P	Pn	22 51 41.8	+1.8
JOMM				eS	Sn	22 52 12.1	+1.8

IDC ***12*** *22:56:31.4±0.8, 58°.65S×25°.22W, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.2/7, MS3.5/7, Ms1 3.5/7, ms1mx3.3/17, Error ellipse: s-maj=26.6km s-min=23.1km az=61.0*
NEIC ***12*** *22:56:34.7±1.5, 58°.7S±0°.1×25°.3W±0°.3, h22km±5km, mb4.2/10, Error ellipse: s-maj=23.1km s-min=17.7km az=45.0*

ISC 12 22:56:36.2±0.6, 58°.8S±0°.1×25°.3W±0°.1, h35km, n37, σ1§13/28, mb4.1/9, MS3.4/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.90	156	P	Pn	22 59 49.3	-1.1
VNA3	Neumayer Olymp	14.10	159	P	Pn	22 59 51.3	-1.7
VNA2	Neumayer--Watz baz=314,slow=14	14.30	156	P	Pn	22 59 53.8	-1.9
SNAA	Sanae	15.86	154	P	Pn	23 00 14.9	-1.6
SNAA	Sanae	15.86	154	Pn	Pn	23 00 15.0	-1.5
SNAA	comp=Z,28nm,1.5s			IAmb	IAmb	23 00 19.9	
PMSA	Palmer Station	19.03	235	P	Pn	23 00 55.5	-0.1
PMSA	comp=Z,7.7nm,0.8s			IAmb	IAmb	23 01 06.6	
MG01	Puerto William	23.16	261	P	P	23 01 37.2	-1.9
QSPA	South Pole Qui	31.48	180	P	P	23 02 55.2	+0.9
QSPA	comp=Z,8.8nm,1.3s			IAmb	IAmb	23 02 56.9	
PLCA	Paso Flores comp=Z,1.6nm,0.8s,baz=120,slow=5.3,SNR=3.2	33.52	282	P	P	23 03 12.4	+0.2
PLCA	comp=Z,54nm,18.1s,baz=176,slow=36			LR	LR	23 16 54.4	
PLCA	Paso Flores	33.52	282	P	P	23 03 11.8	-0.4
MAW	Mawson comp=Z,1.0nm,0.5s,baz=293,slow=9.2,SNR=4.0	37.39	141	P	P	23 03 45.7	+0.7
MAW	comp=Z,121nm,18.4s,baz=238,slow=34			LR	LR	23 17 28.0	
MAW	Mawson	37.39	141	P	P	23 03 45.6	+0.7
CPUP	Villa Florida comp=Z,42nm,22.0s,baz=211,slow=31	39.36	311	LR	LR	23 17 06.5	
AC04	Llanos de Chal	43.76	294	P	P	23 04 37.3	-0.7
AC04	comp=Z,14nm,1.1s			IAmb	IAmb	23 04 44.1	
VNDA	Vanda comp=Z,2.8nm,0.9s,baz=192,slow=6.1,SNR=13	43.91	182	P	P	23 04 41.0	+2.4
VNDA	comp=Z,28nm,20.1s,baz=222,slow=34			LR	LR	23 21 29.0	
VNDA	Vanda	43.91	182	P	P	23 04 40.6	+2.0
VNDA	comp=Z,3.9nm,0.9s			IAmb	IAmb	23 04 41.7	
BOSA	Boshof baz=203,slow=7.7	45.77	71	P	P	23 04 53.4	-0.8
PB07	IPOC Station P	48.74	300	P	P	23 05 18.2	+0.7
H10S2	ASCENSION HYDR baz=188,slow=74,SNR=23	50.35	14	T	T	00 00 00.0	
H10S3	ASCENSION HYDR baz=32,slow=74,SNR=39	50.36	14	T	T	00 00 01.1	
H10N1	ASCENSION HYDR baz=190,slow=71,SNR=30	51.47	14	T	T	00 01 21.9	
H10N3	ASCENSION HYDR baz=190,slow=71,SNR=46	51.47	14	T	T	00 01 25.8	
H10N2	ASCENSION HYDR baz=190,slow=71,SNR=46	51.49	14	T	T	00 01 25.2	
LPAZ	La Paz comp=Z,1.2nm,0.8s,baz=149,slow=5.9,SNR=3.1	52.76	305	P	P	23 05 48.2	-0.1
LPAZ	La Paz comp=Z,1.2nm,0.8s	52.76	305	P	P	23 05 47.6	-0.6
LPAZ	comp=Z,33nm,18.8s,baz=138,slow=33			IAmb	IAmb	23 06 01.8	
RCBR	Riachuelo comp=Z,1.3nm,0.8s,baz=132,slow=3.8,SNR=3.9	53.43	347	LR	LR	23 25 43.7	
LSZ	Lusaka	58.50	66	P	P	23 06 28.7	-0.2
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.5s,baz=200,slow=6.1,SNR=13	74.97	27	P	P	23 08 14.2	+0.6
KMBO	Kilima Mbogo comp=Z,126nm,21.6s,baz=180,slow=34	75.13	67	LR	LR	23 38 48.4	
ATD	Arta Tunnel comp=Z,40nm,19.2s,baz=40,slow=36	88.83	66	LR	LR	23 49 14.1	
STKA	Stephens Creek comp=Z,2.8nm,0.8s,baz=188,slow=4.6,SNR=3.5	89.05	169	P	P	23 09 27.3	-0.1
ASAR	Alice Springs comp=Z,0.9nm,0.9s,baz=182,slow=3.8,SNR=4.9	96.10	161	P	P	23 09 59.6	-0.5
YKA	Yellowknife Ar comp=Z,1.3nm,0.8s,baz=132,slow=3.8,SNR=3.9	138.83	315	PKP	PKPdf	23 15 56.7	-0.3
SONM	Songino Array comp=Z,2.4nm,0.9s,baz=214,slow=1.0,SNR=5.5	149.81	90	PKPbc	PKPbc	23 16 21.6	+0.1
SONM	Songino Array	149.81	90		PKPbc	23 16 21.5	0.0
ILAR	Eielson Array comp=Z,0.7nm,0.9s,baz=132,slow=1.3,SNR=8.6	152.62	307	PKPbc	PKiKP	23 16 28.1	+0.6
ILAR	Eielson Array	152.62	307		PKiKP	23 16 28.4	+0.9

IDC ***12*** *23:20:22.7±5.2, 36°.19N×71°.08E, h212km±41km, mb3.3/5, mb1 3.1/9, mb1mx2.9/53, mbtmp3.7/9, Error ellipse: s-maj=48.0km s-min=26.1km az=167.0*
NEIC ***12*** *23:20:26.0±1.5, 36°.61N±0°.07×70°.83E±0°.10, h219km±7km, mb4.2/7, Error ellipse: s-maj=11.5km s-min=9.0km az=114.0*
NNC ***12*** *23:20:26.6±12.0, 37°.05N×70°.58E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=100.5km s-min=83.5km az=172.0*

ISC 12 23:20:24.4±0.6, 36°.57N±0°.06×70°.90E±0°.06, h200km, n40, σ1§81/49, mb4.2/9, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.47	349	Pn	Pn	23 21 10.8	+2.7
GAR				Sn	Sn	23 21 43.0	+0.7
CHGR	Chuyangaron	2.50	327	Pn	Pn	23 21 10.7	+2.3
CHGR				Sn	Sn	23 21 43.3	+0.5
KBL	Kabul	2.53	217	Pn	Pn	23 21 11.5	+2.6
KBL				Sn	Sn	23 21 45.5	+2.0
DRK	Karamyk	2.99	13		Pn	23 21 16.2	+2.0
DRK				Sn	Sn	23 21 54.8	+1.5
BTK	Batken	3.48	359	Pn	Pn	23 21 22.8	+2.9
NIL	Nilore	3.49	146		Pn	23 21 23.2	+3.1
KK31	Karatay Array 3.2nm,0.5s,baz=181,slow=12	6.53	357	⇑P	Pn	23 21 59.4	+0.9
KK31	6.8nm,0.5s,baz=187,slow=25			⇓S	Sn	23 23 10.1	-3.1
KK31	Karatay Array	6.53	357		Pn	23 21 59.6	+1.1
KKAR	Karatay Array	6.53	357	Pn	Pn	23 21 59.5	+1.0
KKAR	Karatay Array	6.53	357	Pn	Pn	23 21 59.6	+1.1
AAK	Ala-Archa 3.1nm,0.3s,baz=173,slow=3.0,SNR=7.2	6.66	23	P	Pn	23 22 02.2	+1.8
AAK	0.8nm,0.3s,baz=154,slow=23,SNR=7.0			S	Sn	23 23 15.3	-1.1
AAK	Ala-Archa 3.3nm,0.3s	6.66	23	⇓P	Pn	23 22 01.3	+0.9
AAK	7.6nm,0.8s			⇑S	Sn	23 23 14.7	-1.7
AAK	Ala-Archa	6.66	23	Pn	Pn	23 22 01.9	+1.6
BOOM	Boomskoye usch	7.08	32	Pn	Pn	23 22 07.2	+1.4
TKM2	Tokmak 2 4.3nm,0.8s	7.30	28	⇓P	Pn	23 22 09.6	+0.9
TKM2	3.9nm,0.8s			⇓S	Sn	23 23 29.8	-1.7
SMLA	Simla	7.52	134	eP	Pn	23 22 12.1	+0.7
SMLA				eS	Sn	23 23 32.3	-4.2
SMLA	comp=E,45nm,0.6s			IAML		23 23 35.6	
SMLA	comp=N,30nm,0.0s			IAML		23 23 37.4	
MAKZ	Makanchi	13.14	35	Pn	Pn	23 23 23.4	-0.1
MK31	Makanchi Array	13.28	36	Pn	Pn	23 23 25.9	+0.6
MKAR	Makanchi Array	13.28	36	P	Pn	23 23 26.9	+1.6
	comp=N,0.1nm,0.3s,baz=206,slow=9.6,SNR=6.8						
MKAR	Makanchi Array	13.28	36	Pn	Pn	23 23 26.5	+1.2
WMQ	Urumqi	14.72	55	eP	P	23 23 46.1	+1.9
ABKAR	Akbulak array	14.98	331		Pn	23 23 47.0	+0.7
KURBB	Kurchatov Arra comp=N,0.1nm,0.3s,baz=207,slow=11,SNR=6.5	15.08	19	P	P	23 23 49.0	+1.1
BVAR	Borovoye Array comp=N,0.2nm,0.3s,baz=185,slow=14,SNR=2.9	16.46	359	P	Pn	23 24 07.7	+3.7
AKTO	Aktyubinsk comp=N,0.2nm,0.3s,baz=153,slow=11,SNR=3.3	16.68	330	P	Pn	23 24 07.3	+0.6
ZAA0	Zalesovo Array	19.89	25	P	P	23 24 40.2	-0.1
ZALV	Zalesovo Beam comp=N,0.9nm,0.3s,baz=205,slow=11,SNR=5.6	19.89	25	P	P	23 24 40.7	+0.4
ZALV	Zalesovo Beam	19.89	25	P	P	23 24 39.8	-0.5
LZH	Lanzhou	26.48	81	⇑P	P	23 25 46.2	+2.9
LZH				pP	pP	23 25 58.8	-26
LZH	comp=Z,20nm,1.1s			pmax	pmax		
HHC	Hu-ho-hao-te	31.81	70	eP	P	23 26 31.6	+1.3
HHC	comp=Z,14nm,1.1s			pmax	pmax		
HHC	comp=Z,140nm,5.5s			pmax	pmax		
FINES	FINESS Array B comp=Z,1.5nm,1.0s,baz=126,slow=9.7,SNR=4.6	37.38	326	P	P	23 27 17.9	+0.3
FINES	FINESS Array B	37.38	326	P	P	23 27 17.6	0.0
LIT	Litokhoron	37.77	290	P	P	23 27 19.1	-2.1
LIT	comp=Z,8.6nm,0.8s			IAmb	IAmb	23 27 21.7	
ARCES	ARCESS Array B comp=Z,2.0nm,0.8s,baz=107,slow=7.5,SNR=9.8	41.05	338	P	P	23 27 48.2	+0.4
ARCES	ARCESS Array B	41.05	338	P	P	23 27 48.5	+0.7
ARCES	comp=Z,7.5nm,1.2s			IAmb	IAmb	23 28 05.8	
NB201	NORSAR Array S	44.24	323	P	P	23 28 13.0	-0.6
GRA1	Grafenberg Arr	44.35	307	P	P	23 28 13.7	-1.0
GRA1	comp=Z,12nm,1.5s			IAmb	IAmb	23 28 15.1	
DSB	Dublin	54.50	314	P	P	23 29 29.1	-2.2
DSB	comp=Z,9.4nm,1.1s			IAmb	IAmb	23 29 39.8	
PETK	Petropavlovsk- comp=Z,1.0nm,0.5s,baz=270,slow=13,SNR=3.4	59.97	44	P	P	23 30 07.5	-2.0
TORD	Torodi Ar. Bea comp=Z,0.6nm,1.0s,baz=39,slow=5.4,SNR=4.3	65.64	269	P	P	23 30 45.4	-2.0

NNC ***12*** *23:30:35.7±6.2, 39°.12N×60°.03E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=117.9km s-min=33.9km az=133.0*
TEH ***12*** *23:30:40.5, 36°.70N×59°.44E, h12km, ML3.3*
THR ***12*** *23:30:41.9±0.4, 36°.85N×59°.58E, h18km±8km, ML3.1*

ISC 12 23:30:41.0±1.0, 36°.76N±0°.04×59°.47E±0°.04, h14km±7km, n31, σ2§28/34, 4C-4D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRD	Kardeh	0.04	64	ePg	Pg	23 30 43.6	-0.4
IPAY	Payeh	0.49	231	ePg	Pg	23 30 49.8	-1.0
IPAY	comp=Z,64μm,0.1s			e		23 30 56.7	
IAKL	Akhelmad	0.59	255	ePg	Pg	23 30 51.9	-0.8
IAKL				eSg	Sg	23 30 59.5	-1.1
IAKL	comp=Z,65μm,0.2s			e		23 31 06.4	
IMOG	Moghan	0.66	189	ePg	Pg	23 30 52.9	-1.0
IMOG	comp=Z,25μm,0.1s			e		23 31 05.2	
IEMG	Emamgholi	0.93	315	ePg	Pb	23 30 59.1	+0.1
IEMG	comp=Z,11μm,0.2s			e		23 31 24.0	
JRKH	Jarkhoshk	1.11	140	ePg	Pb	23 31 00.5	-1.5
ISFR	Sfrayin comp=Z,15μm,0.4s	1.21	285	e		23 31 27.9	
ISFR				ePg	Pn	23 31 03.4	-0.4
SBZV	Sabzevar	1.54	257	ePg	Pn	23 31 08.7	+0.4
GYA0B	ALIBECK ARRAY	1.59	318	⇑P	Pg	23 31 10.6	-1.0
GYA0B				⇓S	Sg	23 31 34.9	+2.6
BJRD	Bojnurd	1.89	300	ePn	Pb	23 31 15.8	+0.3
BJRD				eSg	Sg	23 31 42.9	+0.9
BJRD	comp=E,155nm,0.6s			IAML		23 31 46.9	
MRVT	Maraveh tapeh	2.84	289	ePn	Pn	23 31 29.1	+3.1
MRVT				eSg	Sg	23 32 12.2	-0.2
SHRT	Shahrakht	3.18	168	ePn	Pn	23 31 34.2	+3.6
IMND	Minoodasht	3.29	280	ePn	Pn	23 31 35.2	+3.1
AFRZ	Afriz	3.34	187	ePn	Pn	23 31 35.7	+2.7
TNSJ	Nastanj	3.64	221	ePn	Pn	23 31 38.5	+1.5
TABS	Tabas	3.65	212	ePn	Pn	23 31 41.2	+4.1
TKDS	Koohdasht(Taba	3.68	212	ePn	Pn	23 31 40.1	+2.5
TKDS	comp=Z,388nm,0.8s			e		23 31 59.4	
ITEG	Tejag	3.90	189	ePn	Pn	23 31 43.2	+2.6
ITEG	comp=Z,369nm,0.7s			e		23 33 02.9	
IKOO	Kooshah	4.34	185	ePn	Pn	23 31 48.5	+1.7
TPRV	Parvadeh(Tabas	4.37	212	ePn	Pn	23 31 49.1	+2.1
TPRV	comp=Z,391nm,0.7s			e		23 33 03.0	
BSRN	Basiran	4.79	183	ePn	Pn	23 31 56.8	+4.0
ISHM	Shahmirzad	5.08	261	ePn	Pn	23 31 59.9	+2.9
ISHM	comp=Z,193nm,0.4s			e		23 32 23.6	
NHDN	Nehbandan	5.37	175	ePn	Pn	23 32 03.1	+2.2
IFIR	Firoozkooh	5.54	260	ePn	Pn	23 32 05.9	+2.6
ANAR	Anarak	5.90	235	ePn	Pn	23 32 10.0	+1.8
ISFB	Sefidab	6.36	250	ePn	Pn	23 32 16.7	+2.3
KRSH	Karshahi	6.61	247	ePn	Pn	23 32 19.9	+2.1
IMEH	Mehriz	6.70	218	ePn	Pn	23 32 21.2	+2.0
KK31	Karatay Array comp=Z,0.4nm,0.5s	10.58	50	⇑Pg	Pn	23 33 18.8	+6.6
KK31	comp=Z,1.2nm,0.6s			⇓Lg	Lg	23 35 19.2	
AB31	Akbulak array comp=Z,0.7nm,0.6s,baz=188,slow=14	12.50	1	⇑Pg	Pn	23 33 38.1	-0.2
AB31	comp=Z,4.6nm,0.8s,baz=172,slow=27			⇓Lg	Lg	23 35 56.4	
AKTO	Aktyubinsk comp=Z,2.4nm,0.8s	13.71	356	⇑Pg	P	23 34 00.7	-2.9
AKTO	comp=Z,4.4nm,1.2s			⇓Lg	Lg	23 36 36.9	

IDC ***12*** *23:58:14.9±1.9, 16°.94S×177°.01W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/38, mbtmp3.8/7, ML5.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/29, Error ellipse: s-maj=88.3km s-min=21.3km az=154.0*
NEIC ***12*** *23:58:23.0±1.6, 16°.58S±0°.08×177°.27W±0°.06, h44km±9km, mb4.3/17, Error ellipse: s-maj=13.8km s-min=2.3km az=217.0*

ISC 12 23:58:21.2±0.6, 16°.61S±0°.10×177°.21W±0°.08, h35km, n42, σ1§14/31, mb4.3/15, MS3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu 4.2nm,0.3s,baz=95,slow=8.8,SNR=12	4.67	255	Pn	Pn	23 59 27.9	-1.4
MSVF	0.2nm,0.3s,baz=228,slow=23,SNR=1.8			Sn	Sn	00 00 25.1	+2.8
MSVF	comp=Z,1μm,18.9s,baz=26,slow=38			LR	LR	00 01 17.4	
MSVF	Nonsavu	4.67	255		Pn	23 59 29.3	0.0
NIUE	Niue	7.36	111	Pn	Pn	00 00 08.4	+2.2
FUNA	Funafuti	8.76	336	Pn	Pn	00 00 25.6	+0.1
DZM	Mont Dzumac comp=Z,352nm,19.1s,baz=83,slow=34	16.35	248	eLR	LR	00 07 28.2	
DZM	Mont Dzumac comp=Z,607nm,25.5s	16.35	248	eLR	LR	00 05 51.6	
DZM	Mont Dzumac	16.35	248	Pn	Pn	00 02 08.6	+0.3
RAR	Rarotonga comp=Z,167nm,21.1s,baz=219,slow=29	17.12	108	LR	LR	00 06 28.2	
URZ	Urewera comp=Z,12nm,1.0s	22.14	192	P	P	00 03 14.1	+0.2
URZ

PPT	Papeete	26.42	96	LR	LR	00 11 20.7	
	comp=Z,56nm,19.9s,baz=210,slow=30						
TBI	Tubuai	26.90	109	eLR	LR	00 10 28.8	
	comp=Z,304nm,28.8s						
LTZ	Lake Taylor	27.60	197	P	P	00 04 07.2	+2.0
LTZ				IAmb	IAmb	00 04 10.3	
	comp=Z,7.3nm,1.0s						
TAOE	Nuku Hiva Isla	36.91	83	eLR	LR	00 15 02.0	
	comp=Z,169nm,27.6s						
STKA	Stephens Creek	40.27	240	LR	LR	00 20 17.3	
	comp=Z,60nm,21.5s,baz=19,slow=33						
WR0	Warramunga Arr	45.82	258	P	P	00 06 40.8	+0.7
WB0	Warramunga Arr	45.97	258	P	P	00 06 41.7	+0.4
WB0				IAmb	IAmb	00 06 45.1	
	comp=Z,6.4nm,1.1s						
WB2	Warramunga Arr	46.00	258	P	P	00 06 42.5	+1.0
WB2				IAmb	IAmb	00 06 56.0	
	comp=Z,5.6nm,1.1s						
WRAB	Tennant Creek	46.00	258	P	P	00 06 40.9	-0.6
WRA	Warramunga Arr	46.01	258	P	P	00 06 42.1	+0.5
	comp=Z,0.9nm,0.9s,baz=96,slow=6.3,SNR=2.1						
WRA	Warramunga Arr	46.01	258	P	P	00 06 42.4	+0.8
AS31	Alice Springs	46.26	253	P	P	00 06 43.1	-0.4
AS31				IAmb	IAmb	00 06 53.1	
	comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	46.26	253	P	P	00 06 42.5	-1.0
	comp=Z,2.3nm,0.6s,baz=90,slow=8.2,SNR=22						
KNRA	Kununurra	51.77	263	P	P	00 07 25.1	-0.7
SOEI	Soe	57.23	269	P	P	00 08 05.1	-0.5
VNDA	Vanda	61.84	185	P	P	00 08 34.6	-1.7
VNDA				IAmb	IAmb	00 08 37.9	
	comp=Z,2.0nm,1.1s						
QSPA	South Pole Qui	73.44	180	P	P	00 09 47.8	-2.0
NVAR	Mina Array Bea	77.69	44	P	P	00 10 14.7	0.0
	comp=Z,0.5nm,0.8s,baz=225,slow=8.9,SNR=2.5						
SEY	Seymchan	82.78	347	P	P	00 10 42.2	+1.1
	comp=Z,0.9nm,0.8s,baz=190,slow=11,SNR=3.6						
WRH	Wood River Hil	83.86	12	P	P	00 10 47.3	+0.5
WRH				IAmb	IAmb	00 10 48.5	
	comp=Z,4.2nm,1.2s						
MDM	Murphy Dome	84.26	12	P	P	00 10 49.0	+0.1
MDM				IAmb	IAmb	00 10 49.9	
	comp=Z,4.0nm,1.1s						
TXAR	Lajitas Array	84.33	57	P	P	00 10 49.1	-1.1
	comp=Z,0.2nm,0.9s,baz=227,slow=8.0,SNR=2.1						
TXAR				LR	LR	00 41 03.8	
	comp=Z,30nm,19.4s,baz=0.0,slow=30						
ILAR	Eielson Array	84.37	13	P	P	00 10 49.5	+0.2
	comp=Z,1.7nm,1.0s,baz=222,slow=6.2,SNR=10						
CMIG	Matias Romero	87.73	72	LR	LR	00 41 50.8	
	comp=Z,34nm,18.3s,baz=180,slow=30						
JTS	Las Juntas de	95.02	81	LR	LR	00 46 41.9	
	comp=Z,29nm,21.6s,baz=192,slow=31						
LVC	Limon Verde	99.77	117	LR	LR	00 46 28.1	
	comp=Z,47nm,18.7s,baz=208,slow=29						
BRTR	Keskin Array B	144.65	317	PKPbc	PKPdf	00 17 54.1	-0.5
	comp=Z,1.3nm,0.9s,baz=64,slow=3.4,SNR=6.0						
GERES	GERESS Array B	146.63	347	PKPbc	PKPbc	00 17 59.3	+0.1
	comp=Z,0.3nm,0.6s,baz=355,slow=7.0,SNR=3.6						

VAO ***13*** *00:31:43.5±1.2, 24°.39S×67°.70W, h225km, mb4.0*
IDC ***13*** *00:31:50.9±1.9, 23°.80S×66°.71W, h198km±13km, mb3.1/3, mb1 3.5/7, mb1mx3.2/28, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.3/9, Error ellipse: s-maj=30.6km s-min=18.5km az=179.0*
SJA ***13*** *00:31:50.0±0.6, 23°.94S×66°.85W, h219km±3km, ML4.0, MW3.7*
NEIC ***13*** *00:31:51.7±2.4, 23°.90S±0°.02×67°.1W±0°.1, h223km±8km, mb4.2/9, Error ellipse: s-maj=13.5km s-min=1.8km az=83.0*

ISC 13 00:31:50.1±0.6, 23°.94S±0°.04×66°.87W±0°.04, h213km±6km, n112, σ1°10/133, mb3.8/6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.47	122	eP	Pn	00 32 25.9	+0.9
SLA				eS	S	00 32 52.4	+0.5
HJA	Humahuaca	1.53	62	eP	Pn	00 32 26.2	+0.5
HJA				eS	S	00 32 53.7	+0.6
YJA	Yavi	2.15	36	eP	Pn	00 32 33.0	+1.3
YJA				eS	S	00 33 04.5	+0.7
LVC	Limon Verde	2.29	305	P	Pn	00 32 34.4	+1.3
	76nm,0.3s,baz=124,slow=7.1,SNR=1080						
LVC				S	S	00 33 06.0	-0.1
	13nm,0.3s,baz=90,slow=20,SNR=9.4						
LVC	Limon Verde	2.29	305	eP	Pn	00 32 34.4	+1.3
LVC				eS	S	00 33 06.2	+0.1
FSA	Cafayete	2.31	160	eP	Pn	00 32 33.6	+0.6
FSA				eS	S	00 33 06.4	0.0
PB15	IPOC Station P	2.49	286		Pn	00 32 36.3	+1.3
PB15	IPOC Station P	2.49	286	eP	Pn	00 32 36.5	+1.5
PB15				eS	S	00 33 10.2	+0.6
GO02	Mina Guanaco	2.76	243		Pn	00 32 39.6	+1.5
PB06	IPOC Station P	2.77	296		Pn	00 32 39.1	+1.2
PB06	IPOC Station P	2.77	296	eP	Pn	00 32 39.2	+1.2
PB06				eS	S	00 33 15.2	+0.1
PB06				IAML		00 33 18.6	
	comp=Z,307nm,0.5s						
PB09	IPOC Station P	3.05	314		Pn	00 32 42.4	+1.1
PB09	IPOC Station P	3.05	314	eP	Pn	00 32 42.4	+1.1
PB09				eS	S	00 33 21.1	+0.2
PB09				IAML		00 33 21.8	
	comp=Z,151nm,0.5s						
PB05	IPOC Station P	3.24	289	eP	Pn	00 32 44.4	+1.0
PB05				eS	S	00 33 24.4	-0.4
PB05				IAML		00 33 28.9	
	comp=Z,121nm,0.6s						
PB03	IPOC Station P	3.25	305	eP	Pn	00 32 44.4	+0.8
PB03				eS	S	00 33 24.6	-0.5
PB03				IAML		00 33 27.9	
	comp=Z,356nm,0.2s						
PB14	IPOC Station P	3.29	257	Pn	Pn	00 32 45.0	+0.8
PB14				Sn	S	00 33 25.8	-0.4
PB14	IPOC Station P	3.29	257	eP	Pn	00 32 45.2	+1.0
PB14				eS	S	00 33 26.2	0.0
PB14				IAML		00 33 27.3	
	comp=Z,221nm,0.2s						
PB10	IPOC Station P	3.40	276	Pn	Pn	00 32 46.1	+1.0
PB10				Sn	S	00 33 27.2	-0.7
PB10	IPOC Station P	3.40	276	eP	Pn	00 32 46.2	+1.1
PB10				eP		00 32 46.4	
PB10				eS	S	00 33 27.2	-0.7
PB10				IAML		00 33 31.0	
	comp=Z,173nm,0.3s						
PB04	IPOC Station P	3.41	297		Pn	00 32 46.3	+0.8
PB04				Sn	S	00 33 27.9	-0.6
PB04	IPOC Station P	3.41	297	eP	Pn	00 32 46.2	+0.8
PB04				eP		00 32 46.4	
PB04				eS	S	00 33 28.1	-0.4
PB04				IAML		00 33 32.3	
	comp=Z,290nm,0.1s						
AC02	Maricunga	3.54	215	Pn	Pn	00 32 49.0	+1.7
PB07	IPOC Station P	3.54	308		Pn	00 32 47.4	+0.4
PB07				Sn	S	00 33 30.0	-1.4
PB07	IPOC Station P	3.54	308	eP	Pn	00 32 48.0	+0.9
PB07				eS	S	00 33 30.0	-1.4
PB07				IAML		00 33 40.1	
	comp=Z,164nm,0.5s						
PB01	IPOC Station P	3.76	319		Pn	00 32 49.8	+0.2
PB08	IPOC Station P	4.33	330		Pn	00 32 57.7	+0.8
TA01	Diego Aracena	4.54	317	Pn	Pn	00 32 58.8	-0.3
CYA	Choya	4.59	168	eP	Pn	00 33 01.6	+1.9
TA02	Huaiquique	4.74	320		Pn	00 33 01.5	-0.1
GO03	Copiap	4.74	219	Pn	Pn	00 33 01.4	-0.2
GO03	Copiap	4.74	219	eP	Pn	00 33 01.6	+0.1
GO03				eS	S	00 33 57.0	-0.8
PB11	IPOC Station P	4.89	328	Pn	Pn	00 33 03.0	-0.7
PSGCX	Pisagua	5.27	324	Pn	Pn	00 33 07.0	-1.4
MNMC	Minye Minye	5.41	332	Pn	Pn	00 33 10.1	-0.3
ACLC	CERRO LA CRUZ	5.47	181	eP	Pn	00 33 11.8	+0.9
AC04	Llanos de Chal	5.69	221	Pn	Pn	00 33 13.2	-0.4
AROD	Rodeo	6.62	200	eP	Pn	00 33 28.4	+2.5
AVFE	Valle Fertil	6.72	184	eP	Pn	00 33 27.2	+0.4
AVFE				eS	S	00 34 41.0	-2.7
AVFE				IAML		00 34 42.3	
	comp=Z,16nm,0.4s						
GO04	Tololo Observa	7.13	209	Pn	Pn	00 33 31.5	-0.8
GO04	Tololo Observa	7.13	209	eP	Pn	00 33 31.6	-0.7
ACHE	Chepes	7.20	179	eP	Pn	00 33 33.6	+0.5
LPAZ	La Paz	7.70	351	P	Pn	00 33 40.8	+0.6
	comp=Z,1.1nm,0.3s,baz=180,slow=8.7,SNR=46						
LPAZ				S	S	00 35 05.2	-2.6
	comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=6.6						
LPAZ	La Paz	7.70	351	eP	Pn	00 33 40.8	+0.6
MRA	San Martin	8.51	173	eP	Pn	00 33 49.6	-0.4
MRA				IAML		00 35 38.5	
	comp=Z,4.8nm,0.3s						
ASAL	Salagasta	8.79	191	eP	Pn	00 33 54.0	+0.3
ASAL				IAML		00 35 48.9	
	comp=Z,7.9nm,1.9s						
ARCO	CERRO ARCO	9.06	191	eP	Pn	00 33 58.8	+1.7
ARCO				IAML		00 35 49.3	
	comp=Z,12nm,3.3s						
AAGR	Agrelo	9.28	190	eP	Pn	00 34 00.8	+0.9
AAGR				IAML		00 36 10.3	
	comp=Z,18nm,3.1s						
SIV	San Ignacio	9.60	36	P	Pn	00 34 02.4	-1.7
	comp=Z,0.4nm,0.3s,baz=243,slow=13,SNR=2.0						
MT09	Talagante	10.45	199	Pn	Pn	00 34 17.3	+2.3
ITQB	Itaqui	10.79	124	Pn	P	00 34 23.5	-1.8
RFA	San Rafael	10.89	187	eP	Pn	00 34 20.8	+0.3
PTLB	Pontes e Lacer	11.15	42	eP	P	00 34 29.0	-0.5
TRCB	Terra Rica	13.13	88	P	P	00 34 52.9	+1.4
TRCB	Terra Rica	13.13	88	eP	P	00 34 51.2	-0.3
CPSB	Cacapava Do Su	13.58	121	eP	Pn	00 34 52.0	-2.4
PLTB	Pedras Altas	14.08	127	Pn	P	00 35 02.6	+0.6
PLTB	Pedras Altas	14.08	127	eP	Pn	00 34 57.0	-3.6
PCMB	Pacaembu	14.59	84	eP	P	00 35 08.9	+1.2
TRQA	Tornquist	14.69	165		P	00 35 10.0	+1.4
FRTB	Fartura	15.88	91	eP	Pn	00 35 23.7	+1.3
ITRB	Iturama	15.90	78	eP	Pn	00 35 24.2	+1.4
TIJ01	Guaruva-PR	16.31	99	eP	P	00 35 26.7	-0.1
ARAG	Araguaiana, MT	16.36	63	eP	Pn	00 35 29.3	+1.1
CLDB	Colider	16.73	41	eP	Pn	00 35 32.4	-0.3
BB19B	Bebedouro	17.19	84	eP	P	00 35 37.2	+0.8
SPB	Sao Paulo	17.80	93	eP	Pn	00 35 44.5	-0.7
RCLB	Rio Claro- Sao	17.85	89	eP	P	00 35 43.8	+0.2
PET01	Itanhaem-SP	17.90	95	eP	P	00 35 44.7	+0.7
VAO	Valinhos	18.29	91	eP	P	00 35 48.4	+0.1
IPMB	Ipameri, GO	18.40	75	eP	P	00 35 50.0	+0.4
PARB	Paraibuna	19.48	93	eP	P	00 36 02.9	+1.7
BDFB	Brasilia	19.55	69	P	P	00 36 02.3	+0.2
	comp=Z,1.2nm,0.3s,baz=241,slow=10,SNR=20						
BDFB	Brasilia	19.55	69	P	P	00 36 02.8	+0.7
BDFB				IAmb	IAmb	00 36 03.5	
	comp=Z,11nm,0.7s						
ATAH	Atahualpa	20.03	325	LR	LR	00 44 26.3	
	comp=Z,52nm,21.2s,baz=266,slow=38						
NPGB	Novo Progresso	20.11	35	eP	P	00 36 07.8	-0.1
BSCB	Bom Sucesso	20.63	86	eP	P	00 36 13.5	0.0
PEXB	Peixe	21.19	60	eP	P	00 36 19.5	+0.1
VAS01	Vassouras-RJ	21.61	90	eP	P	00 36 24.0	+0.4
DIAM	Diamantina, MG	22.35	80	eP	P	00 36 30.6	-0.1
DUB01	Friburgo-RJ	22.62	90	eP	P	00 36 33.4	+0.3
MC01	Montes Claros	22.66	76	eP	P	00 36 33.1	-0.4
JANB	Januaria	23.00	72	eP	P	00 36 36.4	-0.2
SMTB	Santa Maria do	23.76	54	eP	P	00 36 44.0	+0.6
SDBA	SAO DESIDERIO	23.78	65	eP	P	00 36 43.4	-0.2
PTGA	Pitinga	24.02	17	eP	P	00 36 44.1	-1.6
PRPB	Parauapebas	24.10	46	eP	P	00 36 46.5	0.0
SJMB	Sao Joao De Ma	24.47	83	eP	P	00 36 49.6	-0.2
BSFB	Barra de Sao F	24.74	83	eP	P	00 36 52.0	-0.3
RIB01	Linhares ES	25.02	85	eP	P	00 36 54.6	-0.2
NAN01	Guarapari, ES	25.69	81	eP	P	00 37 00.3	-0.5
GUA01	Guaratinga, BA	26.39	79	eP	P	00 37 07.5	+0.3
CMC01	Camacan, BA	27.10	77	eP	P	00 37 13.2	-0.2
GO09	Cerro Castillo	27.61	187	P	P	00 37 16.9	-0.7
GDU01	Guandu, BA	27.71	73	eP	P	00 37 18.3	-0.6
RUSC	La Rusia	30.26	348	P	P	00 37 41.3	-0.6
RUSC				IAmb	IAmb	00 37 57.5	
	comp=Z,3.2nm,1.1s						
ROSB	Rosrio	30.34	50	eP	P	00 37 42.2	+0.1
NBPS	Pedro II - PI	31.28	56	eP	P	00 37 51.7	+1.3
NBPB	Pedra_Branca-C	31.99	59	eP	P	00 37 57.3	+0.7
PAYG	Puerto Ayora	32.40	312	P	P	00 37 57.5	-2.6
NBMO	Morrinhos-CE	33.04	56	eP	P	00 38 05.5	-0.2
NBCL	Cascavel-CE	33.81	59	eP	P	00 38 12.0	-0.3
NBPA	Parau_RN	33.85	62	eP	P	00 38 12.6	-0.1
NBRF	Rio Formoso -	33.92	69	eP	P	00 38 12.6	-0.7
SJCC	San Jacinto, C	34.59	345	P	P	00 38 18.4	-0.6
SJCC				IAmb	IAmb	00 38 22.4	
	comp=Z,7.4nm,1.0s						
NBPV	Pedro Velho	34.97	65	eP	P	00 38 22.7	+0.4
WVT	Waverly	62.94	341	P	P	00 41 54.3	+0.4
WVT				IAmb	IAmb	00 41 55.3	
	comp=Z,2.6nm,0.7s						
TX31	Lajitas Ar. Si	63.69	324	P	P	00 42 01.5	+2.4
TXAR	Lajitas Array	63.69	324	P	P	00 42 01.6	+2.5
	comp=Z,0.1nm,0.4s,baz=145,slow=8.2,SNR=6.5						
TXAR	Lajitas Array	63.69	324	P	P	00 42 01.0	+1.9
TORD	Torodi Ar. Bea	76.44	69	P	P	00 43 17.1	+0.4
	comp=Z,0.8nm,0.6s,baz=260,slow=5.9,SNR=7.4						
PDAR	Pinedale Array	77.15	329	P	P	00 43 22.4	+2.0
	comp=Z,0.2nm,0.5s,baz=138,slow=9.8,SNR=3.0						
MKAR	Makanchi Array	146.40	40	PKPbc	PKPab	00 51 07.9	+0.7
	comp=Z,0.7nm,0.5s,baz=302,slow=3.5,SNR=7.7						

IDC ***13*** *01:04:35.0±2.7, 17°.01S×179°.28W, h516km±30km, mb3.2/11, mb1 3.5/12, mb1mx3.4/28, mbtmp4.1/12, Error ellipse: s-maj=29.5km s-min=14.3km az=142.0*
NEIC ***13*** *01:04:38.5±1.6, 17°.15S±0°.07×179°.3W±0°.1, h555km±8km, mb4.1/26, Error ellipse: s-maj=20.4km s-min=10.1km az=97.0*

ISC 13 01:04:37.8±0.6, 17°.11S±0°.09×179°.3W±0°.1, h550km, n50, σ1°15/53, mb3.9/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.61	256	P	P	01 05 51.0	+0.4
	8.3nm,0.3s,baz=99,slow=21,SNR=32						
MSVF				S	S	01 06 51.2	+1.3
	baz=107,slow=19,SNR=15						
MSVF	Nonsavu	2.61	256	P	P	01 05 51.4	+0.7
MARNC	Mare, Loyalty	12.73	248	P	P	01 07 23.4	-0.6
LIFNC	LIFOU	13.25	252	P	P	01 07 28.1	-1.2
DZM	Mont Dzumac	14.32	248	P	P	01 07 39.9	-0.5
	2.5nm,0.3s,baz=74,slow=21,SNR=16						
DZM	Mont Dzumac	14.32	248	P	P	01 07 40.3	-0.1
URZ	Urewera	21.31	188	P	P	01 08 42.6	-2.9
	1.9nm,0.3s,baz=288,slow=3.3,SNR=1.6						
URZ				S	S	01 12 08.2	+2.6
	5.5nm,0.9s,baz=112,slow=19,SNR=1.8						
URZ	Urewera	21.31	188	P	P	01 08 42.9	-2.6
URZ				IAmb	IAmb	01 09 08.8	
	comp=Z,30nm,1.5s						
FOZ	Fox Glacier	27.92	197	P	P	01 09 43.8	-0.2
ARMA	Armidale	29.63	238	P	P	01 09 60.0	+0.7
WHZ	Wether Hill Ro	30.61	198	P	P	01 10 06.3	-1.0
CTAO	Charters Tower	32.76	259	P	P	01 10 26.3	+0.3
TOO	Toolangi	37.03	230	P	P	01 11 02.2	+0.8
TOO				IAmb	IAmb	01 11 29.5	
	comp=Z,19nm,1.3s						
STKA	Stephens Creek	38.29	240	P	P	01 11 12.2	+0.6
	comp=Z,4.5nm,0.5s,baz=98,slow=10,SNR=7.5						
STKA	Stephens Creek	38.29	240	P	P	01 11 12.3	+0.6
STKA				IAmb	IAmb	01 11 13.0	
	comp=Z,3.7nm,1.2s						
HMH	Humu'ula Sheep	43.34	34	P	P	01 11 52.0	-0.2
WR0	Warramunga Arr	43.76	259	P	P	01 11 54.4	-0.9
WR0				IAmb	IAmb	01 12 11.0	
	comp=Z,5.5nm,1.1s						
WB0	Warramunga Arr	43.92	259	P	P	01 11 55.8	-0.7
WB0				IAmb	IAmb	01 12 04.8	
	comp=Z,9.6nm,1.2s						
WB2	Warramunga Arr	43.94	259	P	P	01 11 55.9	-0.8
WB2				IAmb	IAmb	01 11 59.5	
	comp=Z,6.1nm,0.9s						
WRA	Warramunga Arr	43.95	259	P	P	01 11 55.7	-1.1
	comp=Z,0.9nm,0.3s,baz=94,slow=8.1,SNR=16						
WRA	Warramunga Arr	43.95	259	P	P	01 11 55.3	-1.5
AS31	Alice Springs	44.20	253	P	P	01 11 58.7	0.0
AS31				IAmb	IAmb	01 11 59.1	
	comp=Z,4.4nm,0.6s						
ASAR	Alice Springs	44.20	253	P	P	01 11 58.4	-0.3
	comp=Z,10nm,0.4s,baz=87,slow=8.2,SNR=127						
ASAR				ScP	ScP	01 16 35.3	+4.1
	comp=Z,1.0nm,0.7s,baz=83,slow=5.0,SNR=6.7						
GUMO	Guam	46.72	309	P	P	01 12 17.5	-0.3
FORT	Forrest	49.59	244	P	P	01 12 38.6	-0.5
FORT				IAmb	IAmb	01 12 49.1	
	comp=Z,19nm,0.9s						
SBA	Scott Base	61.16	183	P	P	01 14 00.3	+1.6
SBA				IAmb	IAmb	01 14 01.0	
	comp=Z,4.6nm,1.1s						
VNDA	Vanda	61.17	185	P	P	01 13 58.9	+0.2
	comp=Z,0.5nm,0.4s,baz=352,slow=7.6,SNR=7.7						
VNDA	Vanda	61.17	185	P	P	01 13 59.3	+0.6
QSPA	South Pole Qui	72.94	180	P	P	01 15 11.3	-0.1
QSPA				IAmb	IAmb	01 15 11.9	
	comp=Z,6.6nm,0.8s						
KRMB	Red Mountain	77.59	39	P	P	01 15 38.5	+0.9
KRMB				IAmb	IAmb	01 15 48.8	
	comp=Z,6.0nm,1.5s						
PFO	Pinyon Flats O	78.27	49	P	P	01 15 41.7	+0.2
	comp=Z,1.5nm,0.7s,baz=265,slow=3.2,SNR=2.4						
YBH	Yreka Blue Hor	78.44	40	P	P	01 15 42.3	+0.1
	comp=Z,0.9nm,0.7s,baz=207,slow=2.3,SNR=5.6						
WAKR	Walker	78.72	44	P	P	01 15 44.9	+1.0
NVAR	Mina Array Bea	79.44	44	P	P	01 15 47.2	-0.5
	comp=Z,0.8nm,0.7s,baz=224,slow=8.6,SNR=9.1						
NVAR	Mina Array Bea	79.44	44	P	P	01 15 47.5	-0.2
KVN	Kaiserville	79.90	44	P	P	01 15 50.2	+0.1
K05A	Summer Lake	80.12	40	P	P	01 15 52.0	+0.9
I07A	Izee	81.71	39	P	P	01 15 59.7	+0.5
I07A				IAmb	IAmb	01 15 60.0	
	comp=Z,1.4nm,0.8s						
TRF	Thorofare Moun	83.41	13	P	P	01 16 06.2	-1.2
TRF				IAmb	IAmb	01 16 07.4	
	comp=Z,2.9nm,0.7s						
MAW	Mawson	84.32	200	P	P	01 16 11.8	+0.1
	comp=Z,3.2nm,0.6s,baz=134,slow=10,SNR=5.1						
MAW	Mawson	84.32	200	P	P	01 16 12.0	+0.2
WRH	Wood River Hil	84.78	13	P	P	01 16 13.0	-0.9
WRH				IAmb	IAmb	01 16 16.5	
	comp=Z,2.9nm,1.2s						
ILAR	Eielson Array	85.30	13	P	P	01 16 15.2	-1.2
	comp=Z,0.3nm,0.5s,baz=224,slow=5.9,SNR=4.2						
TXAR	Lajitas Array	86.28	58	P	P	01 16 23.5	+1.5
	comp=Z,0.1nm,0.6s,baz=230,slow=5.6,SNR=2.5						
PDAR	Pinedale Array	87.36	44	P	P	01 16 26.4	-0.6
	comp=Z,0.5nm,0.6s,baz=232,slow=3.4,SNR=6.5						
SNAA	Sanae	91.41	179	P	P	01 16 44.1	-1.0
VNA3	Neumayer Olymp	91.59	177	P	P	01 16 45.4	-0.5
VNA2	Neumayer--Watz	92.02	177	P	P	01 16 47.2	-0.6
	baz=198,slow=3.3						
VNA1	Neumayer--Stat	92.25	177	P	P	01 16 48.4	-0.4
CLL	Collm	144.50	347	*i* PKPbc	PKPab	01 23 11.9	-0.3

CRAAG ***13*** *01:35:39.2, 36°.50N×1°.67E, Ml2.7*
CNRM ***13*** *01:35:40.8, 36°.59N×1°.53E, h29km, ml3.3, Hypocentre not reviewed by the ISC*
MDD ***13*** *01:35:41.2±0.8, 36°.45N×1°.77E, h30km, mb4.3/4, Error ellipse: s-maj=10.8km s-min=5.2km az=103.0, PRXIMO*

ISC 13 01:35:38.0±1.2, 36°.45N±0°.05×1°.77E±0°.06, h20km, n28, σ2°07/44, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	Beni Rached	0.25	230	P	Pn	01 35 45.8	-0.8
ECHA	Ech Chlef	0.45	227	P	Pn	01 35 50.6	+1.4
ECHF	Ech Chlef	0.46	230	P	Pn	01 35 50.6	+1.2
EANR	'Ain N'Sour	0.74	227	P	Pn	01 35 55.0	+1.7
EANR	'Ain N'Sour	0.74	227	P	Pn	01 35 55.0	+1.7
ETRT	Tiaret	1.13	200	P	Pb	01 35 59.0	+0.2
ETRT	Tiaret	1.13	200	P	Pb	01 35 59.0	+0.2
CART	Cartagena	2.49	298	P		01 36 17.7	
CART				S		01 36 42.6	
EIBI	Ibiza	2.59	353	⇑P	Pn	01 36 20.1	+1.3
	4.2nm,0.1s,SNR=18						
EIBI				S	Sn	01 36 47.4	-2.3
	22nm,0.2s,SNR=28						
EBEN2	Beniarda presa	2.71	325	P	Pn	01 36 21.3	+0.9
	4.2nm,0.1s,SNR=7.9						
EBEN2				S	Sn	01 36 51.4	-1.2
	6.5nm,0.1s,SNR=7.9						
EMUR	La Murta	2.78	301	P	Pn	01 36 22.0	+0.6
	0.6nm,0.2s,SNR=4.0						
AFON	Font Roja	2.87	321	P	Pn	01 36 23.7	+1.0
	0.7nm,0.2s,SNR=4.0						
AFON				S	Sn	01 36 55.1	-1.7
	5.4nm,0.2s,SNR=7.9						
ENIJ	Nijar	3.24	280	S	Sn	01 37 03.2	-2.4
	1.9nm,0.4s,SNR=7.9						
ETOS	Mallorca	3.41	14	P	Pn	01 36 30.9	+0.9
	0.8nm,0.2s,SNR=6.7						
ETOS				S	Sn	01 37 07.5	-2.3
	3.7nm,0.2s,SNR=4.6						
ETOB	Tobarra	3.43	311	P	Pn	01 36 31.6	+1.3
	0.3nm,0.1s,SNR=6.1						
ETOB				S	Sn	01 37 09.8	-0.6
	1.8nm,0.3s						
EBER	Berja	3.77	278	P	Pn	01 36 35.9	+0.8
	0.8nm,0.2s,SNR=6.8						
EBER				S	Sn	01 37 17.5	-1.6
	0.5nm,0.1s,SNR=7.9						
TAF	Ta

TWC	**Suao**	**0.69 274**	⇑*i* P	**Pn**	**01 39 15.8**	**-0.5**
	baz=273					
TWC			*i* S	**Sn**	**01 39 27.7**	**-0.4**
	baz=273					
TWB1	**Santiao Chiao**	**0.71 309**	*i* P	**Pn**	**01 39 16.2**	**-0.4**
	baz=308					
TWB1			*i* S	**Sn**	**01 39 28.8**	**+0.2**
	baz=308					
EWUT	**Wuta**	**0.76 262**	P	**Pn**	**01 39 16.9**	**0.0**
	baz=260					
EWUT			S	**Sn**	**01 39 30.4**	**+1.0**
	baz=260					
NTC	**Toucheng**	**0.76 293**	*e*P	**Pn**	**01 39 16.7**	**-0.3**
	baz=291					
NTC			S	**Sn**	**01 39 29.2**	**-0.2**
	baz=291					
NDS	**Dongshan**	**0.81 276**	*i* P	**Pn**	**01 39 17.4**	**-0.1**
	baz=274					
NDS			S	**Sn**	**01 39 30.0**	**-0.4**
	baz=274					
TIPB	**Shuangxi**	**0.82 300**	*i* P	**Pn**	**01 39 17.3**	**-0.4**
	baz=299					
TIPB			*i* S	**Sn**	**01 39 29.9**	**-0.7**
	baz=299					
EHP	**Heping Village**	**0.82 253**	P	**Pn**	**01 39 17.8**	**+0.1**
	baz=251					
EHP			*e*S	**Sn**	**01 39 32.0**	**+1.4**
	baz=251					
TWE	**Neicheng**	**0.86 281**	*i* P	**Pn**	**01 39 17.9**	**-0.2**
	baz=279					
TWE			S	**Sn**	**01 39 30.7**	**-0.8**
	baz=279					
NWF	**Wu-fen Shan**	**0.90 305**	⇑*i* P	**Pn**	**01 39 18.3**	**-0.4**
	baz=303					
NWF			*i* S	**Sn**	**01 39 32.4**	**0.0**
	baz=303					
WFSB	**Wu-fen Shan**	**0.90 305**	P	**Pn**	**01 39 18.4**	**-0.1**
	baz=303					
WFSB			S	**Sn**	**01 39 32.4**	**-0.2**
	baz=303					
ENTT	**Nioudou**	**0.94 275**	*i* P	**Pn**	**01 39 19.3**	**+0.2**
	baz=274					
ENTT			*e*S	**Sn**	**01 39 33.0**	**0.0**
	baz=274					
TNOU	**National Taiwa**	**0.95 308**	P	**Pn**	**01 39 18.7**	**-0.5**
	baz=307					
TNOU			*e*S	**Sn**	**01 39 32.2**	**-1.0**
	baz=307					
ETL	**Fush Village**	**0.98 246**	P	**Pn**	**01 39 18.8**	**-0.6**
	baz=245					
ETL			S	**Sn**	**01 39 33.7**	**0.0**
	baz=245					
NDT	**Datong Townshi**	**0.99 273**	*i* P	**Pn**	**01 39 19.7**	**+0.2**
	baz=271					
NDT			*e*S	**Sn**	**01 39 33.6**	**-0.4**
	baz=271					
NACB	**Ninganchiao**	**0.99 248**	P	**Pn**	**01 39 18.7**	**-0.9**
	baz=246					
NACB			*e*S	**Sn**	**01 39 33.5**	**-0.6**
	baz=246					
TWA	**Mucha**	**1.01 295**	*i* P	**Pn**	**01 39 19.5**	**-0.4**
	baz=293					
TWA			S	**Sn**	**01 39 33.9**	**-0.7**
	baz=293					
NWLT	**Wulai**	**1.02 283**	*i* P	**Pn**	**01 39 19.8**	**-0.1**
	baz=281					
NWLT			S	**Sn**	**01 39 34.2**	**-0.5**
	baz=281					
TWD	**Chiawan**	**1.03 243**	*i* P	**Pn**	**01 39 19.5**	**-0.5**
	baz=241					
TWD			*i* S	**Sn**	**01 39 34.7**	**-0.1**
	baz=241					
IRIF	**Iriomote-Funau**	**1.05 102**	P	**Pn**	**01 39 20.7**	**+0.4**
IRIF			*e*S	**Sn**	**01 39 35.8**	**+0.5**
NHDH	**Xindian Distri**	**1.06 293**	P	**Pn**	**01 39 19.9**	**-0.5**
	baz=291					
NHDH			*e*S	**Sn**	**01 39 34.6**	**-0.7**
	baz=291					
HWA	**Hwalien**	**1.08 238**	*e*P	**Pn**	**01 39 19.4**	**-1.2**
	baz=236					
HWA			*e*S	**Sn**	**01 39 36.1**	**+0.3**
	baz=236					
ETLH	**Xiulin Townshi**	**1.08 251**	P	**Pn**	**01 39 20.3**	**-0.4**
	baz=250					
ETLH			S	**Sn**	**01 39 35.8**	**-0.2**
	baz=250					
TATO	**Taipei**	**1.09 293**	P	**Pn**	**01 39 20.1**	**-0.7**
	baz=291					
TATO			*e*S	**Sn**	**01 39 35.3**	**-0.9**
	baz=291					
YM01	**YM01**	**1.10 302**	P	**Pn**	**01 39 20.3**	**-0.6**
	baz=301					
YM01			S	**Sn**	**01 39 37.5**	**+1.1**
	baz=301					
YM08	**YM08**	**1.11 305**	P	**Pn**	**01 39 20.4**	**-0.6**
	baz=303					
NNSB	**Datong**	**1.12 264**	P	**Pn**	**01 39 20.9**	**-0.3**
	baz=262					
NNSB			*e*S	**Sn**	**01 39 36.9**	**0.0**
	baz=262					
NNSH	**Datong**	**1.12 264**	*i* P	**Pn**	**01 39 21.0**	**-0.2**
	baz=262					
YHNB	**Yeheng**	**1.12 276**	P	**Pn**	**01 39 21.2**	**0.0**
	baz=275					
YHNB			S	**Sn**	**01 39 37.4**	**+0.6**
	baz=275					
NNS	**Nan Shan**	**1.12 264**	*i* P	**Pn**	**01 39 21.1**	**-0.2**
	baz=263					
NNS			*i* S	**Sn**	**01 39 37.9**	**+0.9**
	baz=263					
TEYL	**Yanliau Villag**	**1.14 233**	P	**Pn**	**01 39 20.6**	**-0.8**
	baz=233					
TEYL			S	**Sn**	**01 39 37.0**	**-0.2**
	baz=233					
TWY	**Chenhua**	**1.16 308**	P	**Pn**	**01 39 21.0**	**-0.6**
	baz=307					
ETM	**Tongmen**	**1.17 240**	P	**Pn**	**01 39 21.1**	**-0.6**
	baz=239					
ETM			S	**Sn**	**01 39 37.7**	**-0.1**
	baz=239					
TWS1	**Kuangyinshan**	**1.20 297**	P	**Pn**	**01 39 20.8**	**-1.3**
	baz=296					
TWS1			S	**Sn**	**01 39 38.0**	**-0.5**
	baz=296					
HATJ	**Hateruma jima**	**1.21 114**	P	**Pn**	**01 39 22.2**	**0.0**
HATJ			*e*S	**Sn**	**01 39 39.3**	**+0.7**
NTST	**Danshui**	**1.21 300**	*e*P	**Pn**	**01 39 21.8**	**-0.3**
	baz=299					
FUSS	**Fushou**	**1.27 256**	P	**Pn**	**01 39 23.2**	**0.0**
	baz=255					
FUSS			S	**Sn**	**01 39 41.0**	**+0.6**
	baz=255					
WHF	**Hehuan Shan**	**1.28 252**	*i* P	**Pn**	**01 39 23.2**	**-0.3**
	baz=250					
WHF			S	**Sn**	**01 39 41.2**	**+0.2**
	baz=250					
TEGC	**Jichi Village**	**1.29 229**	P	**Pn**	**01 39 23.0**	**-0.1**
	baz=228					
TEGC			*e*S	**Sn**	**01 39 40.9**	**+0.6**
	baz=228					
ESL	**Shilin**	**1.30 235**	P	**Pn**	**01 39 22.2**	**-1.1**
	baz=234					
ESL			S	**Sn**	**01 39 39.6**	**-1.0**
	baz=234					
JKRS	**Kuro-shima**	**1.32 104**	P	**Pn**	**01 39 24.0**	**+0.4**
JKRS			S	**Sn**	**01 39 41.9**	**+0.8**
TWT	**Tachien**	**1.33 257**	*e*P	**Pn**	**01 39 25.4**	**+1.4**
	baz=256					
TWT			S	**Sn**	**01 39 42.4**	**+0.8**
	baz=256					
NCU	**National Centr**	**1.35 288**	*e*P	**Pn**	**01 39 23.8**	**-0.1**
	baz=287					
TDCB	**Techi**	**1.35 257**	P	**Pn**	**01 39 24.1**	**+0.1**
	baz=256					
TDCB			S	**Sn**	**01 39 41.8**	**-0.2**
	baz=256					
NCUH	**Zhongli**	**1.35 288**	*e*P	**Pn**	**01 39 23.6**	**-0.3**
	baz=287					
NCUH			*e*S	**Sn**	**01 39 43.1**	**+1.4**
	baz=287					
EGFH	**Guangfu**	**1.39 231**	P	**Pn**	**01 39 23.8**	**-0.7**
	baz=230					
EGFH			*e*S	**Sn**	**01 39 43.7**	**+1.0**
	baz=230					
CHGB	**Renai**	**1.39 249**	P	**Pn**	**01 39 24.8**	**+0.1**
	baz=248					
CHGB			S	**Sn**	**01 39 43.0**	**-0.1**
	baz=248					
JIJ	**Ishigaki jima**	**1.42 98**	P	**Pn**	**01 39 24.5**	**-0.3**
JIJ			S	**Sn**	**01 39 42.7**	**-0.6**
OWD	**Renai**	**1.43 245**	*e*P	**Pn**	**01 39 24.8**	**-0.3**
	baz=244					
OWD			*e*S	**Sn**	**01 39 43.7**	**-0.2**
	baz=244					
LIOB	**Emei**	**1.45 274**	P	**Pn**	**01 39 25.0**	**-0.2**
	baz=273					
LIOB			S	**Sn**	**01 39 43.9**	**-0.1**
	baz=273					
HSN1	**Hsinchu**	**1.46 279**	P	**Pn**	**01 39 25.0**	**-0.3**
	baz=278					
HSN1			*e*S	**Sn**	**01 39 45.4**	**+1.3**
	baz=278					
NSTT	**Nanjuang**	**1.46 273**	P	**Pn**	**01 39 24.8**	**-0.5**
	baz=272					
NSTT			S	**Sn**	**01 39 44.2**	**0.0**
	baz=272					
NHW	**Xinwu Township**	**1.48 288**	P	**Pn**	**01 39 25.2**	**-0.4**
	baz=287					
NHW			*e*S	**Sn**	**01 39 45.1**	**+0.4**
	baz=287					
SBCB	**Hsinchu**	**1.49 279**	P	**Pn**	**01 39 25.6**	**0.0**
	baz=278					
SBCB			*e*S	**Sn**	**01 39 45.7**	**+0.8**
	baz=278					
HSN	**Hsinchu**	**1.50 280**	*e*P	**Pn**	**01 39 25.5**	**-0.3**
	baz=280					
HSN			*e*S	**Sn**	**01 39 46.0**	**+0.8**
	baz=280					
HGSD	**Ruisui**	**1.51 226**	P	**Pn**	**01 39 25.5**	**-0.5**
	baz=225					
HGSD			*e*S	**Sn**	**01 39 44.6**	**-0.8**
	baz=225					
WHP	**Taichung City**	**1.53 260**	P	**Pn**	**01 39 27.0**	**+0.7**
	baz=259					
WHP			S	**Sn**	**01 39 46.7**	**+0.6**
	baz=259					
JISG	**Ishigakijimahi**	**1.56 89**	P	**Pn**	**01 39 26.4**	**-0.2**
JISG			S	**Sn**	**01 39 45.9**	**-0.6**
EHY	**Hungye**	**1.57 228**	P	**Pn**	**01 39 25.7**	**-1.1**
	baz=227					
EHY			S	**Sn**	**01 39 45.8**	**-1.0**
	baz=227					
DPDB	**Guoxing**	**1.61 251**	P	**Pn**	**01 39 27.5**	**+0.1**
	baz=250					
DPDB			*e*S	**Sn**	**01 39 48.4**	**+0.6**
	baz=250					
WCS	**Beigang Elemen**	**1.62 252**	*e*P	**Pn**	**01 39 27.8**	**+0.4**
	baz=251					
WCS			S	**Sn**	**01 39 49.1**	**+1.2**
	baz=251					
NMLH	**Miaoli**	**1.65 270**	P	**Pn**	**01 39 27.6**	**-0.1**
	baz=268					
NMLH			*e*S	**Sn**	**01 39 48.1**	**-0.5**
	baz=268					
YULB	**Yu-li**	**1.66 226**	P	**Pn**	**01 39 26.8**	**-1.2**
	baz=225					
YULB			S	**Sn**	**01 39 47.4**	**-1.6**
	baz=225					
EYUL	**Yuli**	**1.68 224**	*e*P	**Pn**	**01 39 27.8**	**-0.4**
	baz=223					
EYUL			*e*S	**Sn**	**01 39 48.3**	**-1.1**
	baz=223					
NSY	**Sanyi**	**1.68 266**	P	**Pn**	**01 39 28.2**	**0.0**
	baz=264					
NSY			*e*S	**Sn**	**01 39 49.0**	**-0.4**
	baz=264					
SSLB	**Suanglung**	**1.69 243**	P	**Pn**	**01 39 28.0**	**-0.3**
	baz=242					
SSLB			*e*S	**Sn**	**01 39 48.6**	**-0.9**
	baz=242					
SMLT	**Sun Moon Lake**	**1.69 247**	P	**Pn**	**01 39 28.7**	**+0.3**
	baz=246					
SMLT			S	**Sn**	**01 39 50.9**	**+1.1**
	baz=246					
TWF1	**Yuli**	**1.69 225**	P	**Pn**	**01 39 27.3**	**-1.1**
	baz=224					
TWF1			*e*S	**Sn**	**01 39 48.1**	**-1.5**
	baz=224					
TYC	**Yuchr**	**1.72 248**	P	**Pn**	**01 39 29.1**	**+0.4**
	baz=247					
TYC			S	**Sn**	**01 39 51.6**	**+1.4**
	baz=247					
WDJ	**Dajia District**	**1.80 264**	*e*P	**Pn**	**01 39 29.8**	**+0.1**
	baz=262					
FULB	**Fuli**	**1.81 222**	*e*P	**Pn**	**01 39 28.9**	**-1.0**
	baz=221					
FULB			*e*S	**Sn**	**01 39 51.4**	**-0.9**
	baz=221					
WWF	**Wufeng**	**1.81 254**	P	**Pn**	**01 39 30.3**	**+0.4**
	baz=253					
WWF			*e*S	**Sn**	**01 39 53.2**	**+0.9**
	baz=253					
WHYT	**Xinyi Township**	**1.81 242**	P	**Pn**	**01 39 30.5**	**+0.5**
	baz=241					
WHYT			S	**Sn**	**01 39 54.2**	**+1.8**
	baz=241					
CHKT	**Chengkung**	**1.84 218**	P	**Pn**	**01 39 30.4**	**+0.1**
	baz=217					
WNT	**Mingjian**	**1.88 249**	P	**Pn**	**01 39 31.7**	**+1.0**
	baz=248					
WNT			S	**Sn**	**01 39 55.5**	**+1.6**
	baz=248					
JTJ	**Tarama**	**1.92 87**	P	**Pn**	**01 39 31.3**	**+0.1**
JTJ			*e*S	**Sn**	**01 39 54.4**	**-0.4**
ECS	**Chishang**	**1.93 221**	*e*S	**Sn**	**01 39 55.0**	**-0.2**
	baz=220					
ALS	**Alishan**	**1.94 238**	*e*P	**Pn**	**01 39 32.9**	**+1.0**
	baz=237					
ALS			*e*S	**Sn**	**01 39 56.5**	**+0.6**
	baz=237					
EDH	**Donghe**	**1.98 217**	*e*P	**Pn**	**01 39 31.7**	**-0.3**
	baz=216					
EDH			*e*S	**Sn**	**01 39 54.4**	**-1.8**
	baz=216					
ELDTW	**Lidau**	**1.99 227**	*e*P	**Pn**	**01 39 31.4**	**-1.0**
	baz=226					
ELDTW			*e*S	**Sn**	**01 39 55.3**	**-1.4**
	baz=226					
CHN5	**Tsauling**	**2.00 242**	*e*P	**Pn**	**01 39 33.5**	**+1.0**
	baz=241					
WDLH	**Douliu**	**2.07 246**	*e*P	**Pn**	**01 39 35.0**	**+1.7**
	baz=245					
WDLH			*e*S	**Sn**	**01 39 58.7**	**+0.1**
	baz=245					
LONT	**Longtian**	**2.13 220**	*e*S	**Sn**	**01 39 59.7**	**-0.1**
	baz=219					
WRL	**Guolierlin Hig**	**2.13 253**	*e*P	**Pn**	**01 39 33.8**	**-0.3**
	baz=251					
WRL			*e*S	**Sn**	**01 39 58.7**	**-1.3**
	baz=251					
LDUT	**Ludao**	**2.14 209**	*e*S	**Sn**	**01 39 59.2**	**-1.0**
	baz=208					
STYH	**Taoyuan**	**2.17 231**	*e*P	**Pn**	**01 39 35.2**	**+0.6**
	baz=230					
STYH			*e*S	**Sn**	**01 40 01.5**	**+0.7**
	baz=230					
STYT	**Tauyuan**	**2.19 231**	*e*P	**Pn**	**01 39 35.4**	**+0.5**
	baz=230					
STYT			*e*S	**Sn**	**01 40 01.5**	**+0.2**
	baz=230					
CHN4	**Tsaushan**	**2.19 237**	P	**Pn**	**01 39 35.6**	**+0.6**
	baz=236					
TPUB	**Ta-pu**	**2.19 236**	*e*P	**Pn**	**01 39 35.9**	**+0.9**
	baz=234					
TPUB			*e*S	**Sn**	**01 40 02.7**	**+1.2**
	baz=234					
WTP	**Ta-pu**	**2.24 235**	*e*P	**Pn**	**01 39 36.6**	**+1.0**
	baz=233					
WTP			*e*S	**Sn**	**01 40 03.8**	**+1.2**
	baz=233					
TWK	**Hsinying**	**2.32 237**	*e*P	**Pn**	**01 39 37.3**	**+0.6**
	baz=235					
CHN1	**Nanshi**	**2.34 235**	*e*P	**Pn**	**01 39 38.2**	**+1.3**
	baz=233					
CHN1			*e*S	**Sn**	**01 40 05.3**	**+0.5**
	baz=233					
JIRB	**Irabujima**	**2.35 83**	P	**Pn**	**01 39 37.2**	**+0.1**
JIRB			*e*S	**Sn**	**01 40 03.9**	**-1.3**

*IDC **13** 01:46:17.9±1.0, 35°.62N×73°.55E, h0km, mb3.9/11, mb1 3.9/17, mb1mx3.7/55, mbtmp3.8/17, ML3.5/7, MS2.5/2, Ms1 2.5/2, ms1mx2.2/41, Error ellipse: s-maj=19.7km s-min=18.7km az=27.0*
*BJI **13** 01:46:24.6±0.0, 35°.79N×73°.57E, h80km, mB4.7/7, mb4.2/12*
*NEIC **13** 01:46:26.3±2.3, 35°.68N±0°.05×73°.6E±0°.1, h60km±10km, mb4.2/11, Error ellipse: s-maj=13.1km s-min=6.5km az=77.0*
*NNC **13** 01:46:28.1±2.5, 35°.86N×73°.37E, h101km±20km, mb3.4, mpv3.9, Error ellipse: s-maj=21.3km s-min=13.4km az=36.0*

ISC 13 01:46:24.1±0.5, **35°.65N**±0°.05×**73°.49E**±0°.06, **h50**km, **n66**, σ2°**00/74**, **mb3.9**/15, **9C-2D**, **Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**2.00**	**186**		**Pn**	**01 46 59.4**	**+3.9**
KBL	**Kabul**	**3.81**	**254**	Pn	**Pn**	**01 47 24.0**	**+3.6**
DRK	**Karamyk**	**4.05**	**341**	Pn	**Pn**	**01 47 27.7**	**+3.8**
GAR	**Garm**	**4.19**	**324**	Pn	**Pn**	**01 47 28.1**	**+2.5**
CHGR	**Chuyangaron**	**4.58**	**312**	Pn	**Pn**	**01 47 33.0**	**+2.1**
BTK	**Batken**	**4.88**	**335**	Pn	**Pn**	**01 47 38.2**	**+3.2**
SMLA	**Simla**	**5.46**	**145**	*e*P	**Pn**	**01 47 43.2**	**+0.3**
SMLA				*e*S	**Sn**	**01 48 45.5**	**+1.2**
SMLA				IAML		01 48 49.2	
	comp=N,60nm,0.1s						
SMLA				IAML		01 49 12.8	
	comp=N,87nm,0.4s						
SMLA				IAML		01 49 12.9	
	comp=E,221nm,0.7s						
AAK	**Ala-Archa**	**7.02**	**6**	Pn	**Pn**	**01 48 07.9**	**+3.5**
	comp=E,0.7nm,0.3s,baz=214,slow=7.3,SNR=1.8						
AAK				Sn	**Sn**	**01 49 26.8**	**+3.8**
	comp=E,0.9nm,0.3s,baz=35,slow=18,SNR=1.4						
AAK				Lg	Lg	01 49 58.4	
	comp=E,0.8nm,0.3s,baz=270,slow=16,SNR=1.7						
AAK				LR	LR	01 50 02.1	
	comp=E,14nm,21.1s,baz=198,slow=32						
AAK	**Ala-Archa**	**7.02**	**6**	⇑P	**Pn**	**01 48 05.6**	**+1.2**
	comp=E,1.8nm,0.4s						
AAK				⇑Sn	**Sn**	**01 49 23.3**	**+0.3**
	comp=E,15nm,1.1s						
AAK	**Ala-Archa**	**7.02**	**6**		**Pn**	**01 48 07.8**	**+3.3**
BOOM	**Boomskoye usch**	**7.09**	**15**	Pn	**Pn**	**01 48 06.7**	**+1.2**
TKM2	**Tokmak 2**	**7.44**	**12**	⇑P	**Pn**	**01 48 11.9**	**+1.6**
	comp=E,1.9nm,0.5s						
TKM2				⇑S	**Sn**	**01 49 32.6**	**-0.8**
	comp=E,7.0nm,0.9s						
KK31	**Karatay Array**	**7.79**	**344**	P	**Pn**	**01 48 15.8**	**+1.0**
	comp=E,5.4nm,0.5s,baz=149,slow=10,SNR=70						
KK31				S	**Sn**	**01 49 41.4**	**-0.3**
	comp=E,13nm,0.4s,baz=164,slow=15,SNR=15						
KK31	**Karatay Array**	**7.79**	**344**		**Pn**	**01 48 15.9**	**+1.1**
KKAR	**Karatay Array**	**7.79**	**344**	Pn	**Pn**	**01 48 15.8**	**+1.0**
PRZ	**Przheval'sk**	**7.82**	**28**	Pn	**Pn**	**01 48 17.0**	**+1.6**
KUDL	**Kundal**	**7.91**	**160**	*e*P	**Pn**	**01 48 15.3**	**-1.1**
KUDL				*e*S	**Sn**	**01 49 43.3**	**-1.2**
PDGK	**Podgornoye**	**8.96**	**29**	⇓P	**Pn**	**01 48 30.6**	**-0.4**
	comp=E,8.8nm,0.9s						
PYUN	**Piuthan**	**11.03**	**130**	*e*P	**Pn**	**01 48 56.4**	**-3.1**
	comp=E,31nm,0.3s						
DANN	**Dangsing**	**11.35**	**127**	*e*P	**Pn**	**01 49 01.2**	**-2.7**
	comp=E,13nm,0.3s						
KOLN	**Koldanda**	**11.65**	**130**	*e*P	**Pn**	**01 49 04.9**	**-2.9**
	comp=E,17nm,0.5s						
GKN	**Gorkha**	**12.16**	**126**	*e*P	**Pn**	**01 49 11.2**	**-3.6**
	comp=E,14nm,0.3s						
GEYT	**Alibeck**	**12.53**	**285**	Pn	**Pn**	**01 49 20.3**	**+0.6**
	comp=E,0.1nm,0.3s,baz=120,slow=8.5,SNR=1.4						
GEYT				Sn	**Sn**	**01 51 36.0**	**-1.8**
	comp=E,0.3nm,0.3s,baz=94,slow=19,SNR=1.5						
DMN	**Daman**	**12.73**	**126**	*e*P	**Pn**	**01 49 18.5**	**-4.1**
	comp=E,17nm,0.4s						
MAKZ	**Makanchi**	**12.84**	**27**	⇑P	**Pn**	**01 49 23.9**	**+0.1**
	comp=E,0.8nm,0.6s						
PKIN	**Phulchoki**	**12.94**	**125**	*e*P	**Pn**	**01 49 22.2**	**-3.4**
	comp=E,16nm,0.5s						
MK31	**Makanchi Array**	**12.95**	**28**	P	**Pn**	**01 49 27.2**	**+1.9**
	comp=E,2.8nm,0.9s,baz=199,slow=11,SNR=9.3						
MK31	**Makanchi Array**	**12.95**	**28**	Pn	**Pn**	**01 49 23.8**	**-1.5**
MKAR	**Makanchi Array**	**12.95**	**28**	Pn	**Pn**	**01 49 24.3**	**-1.0**
	comp=E,0.2nm,0.3s,baz=198,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**12.95**	**28**	Pn	**Pn**	**01 49 24.4**	**-0.9**
WMQ	**Urumqi**	**13.63**	**49**	*e*P	**Pn**	**01 49 35.3**	**+0.6**
KURBB	**Kurchatov Arra**	**15.41**	**12**	Pn	**Pn**	**01 49 54.6**	**-3.4**
	comp=E,0.0nm,0.3s,baz=201,slow=11,SNR=3.2						
AB31	**Akbulak array**	**16.84**	**328**	⇑P	**Pn**	**01 50 14.6**	**-1.6**
	comp=E,3.7nm,0.8s,baz=136,slow=13,SNR=27						
AB31				⇑S	**Sn**	**01 53 18.2**	**-4.0**
	comp=E,1.3nm,0.5s,baz=158,slow=19,SNR=5.5						
ABKAR	**Akbulak array**	**16.84**	**328**	Pn	**Pn**	**01 50 16.1**	**0.0**
BVAR	**Borovoye Array**	**17.51**	**354**	P	**Pn**	**01 50 22.5**	**-2.0**
	comp=E,0.3nm,0.3s,baz=84,slow=27,SNR=8.1						
BRVK	**Borovoye**	**17.55**	**354**	Pn	**Pn**	**01 50 24.2**	**-0.8**
AKTO	**Aktyubinsk**	**18.55**	**328**	P	**P**	**01 50 37.0**	**+0.4**
	comp=E,0.7nm,0.3s,baz=130,slow=5.9,SNR=10						
AKTO				S	Sn	01 53 53.5	-10
	comp=E,0.1nm,0.3s,baz=43,slow=19,SNR=2.1						
AKTO	**Aktyubinsk**	**18.55**	**328**	⇓P	**P**	**01 50 35.5**	**-1.0**
	comp=E,6.0nm,0.8s						
AKTO				⇑S	**Sn**	**01 53 58.4**	**-5.2**
	comp=E,1.9nm,0.6s						
ZAA0	**Zalesovo Array**	**19.94**	**20**	⇑P	**P**	**01 50 50.8**	**-0.9**
	comp=E,1.4nm,0.9s						
ZAA0	**Zalesovo Array**	**19.94**	**20**	P	**P**	**01 50 50.9**	**-0.7**
ZAA0				IAmb	IAmb	01 50 52.6	
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**19.94**	**20**	P	**P**	**01 50 50.4**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=216,slow=11,SNR=18						
ZALV	**Zalesovo Beam**	**19.94**	**20**	P	**P**	**01 50 51.3**	**-0.3**
GTA	**Gaotai**	**21.19**	**72**	*e*P	**P**	**01 51 04.1**	**-1.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**23.12**	**339**	P	**P**	**01 51 26.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=114,slow=10,SNR=3.6						
ARU	**Arti**	**23.12**	**339**	P	**P**	**01 51 26.7**	**+1.1**
ARU				IAmb	IAmb	01 51 28.4	
	comp=Z,4.7nm,1.1s						
SONM	**Songino Array**	**27.19**	**53**	P	**P**	**01 52 03.4**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=265,slow=9.4,SNR=4.1						
SONM	**Songino Array**	**27.19**	**53**	P	**P**	**01 52 03.6**	**+0.6**
HHC	**Hu-ho-hao-te**	**30.18**	**69**	*e*P	**P**	**01 52 30.1**	**+0.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
BRTR	**Keskin Array B**	**31.61**	**289**	LR	LR	02 10 27.1	
	comp=Z,22nm,18.4s,baz=113,slow=46						
AKASG	**Malin Array Be**	**35.05**	**309**	P	**P**	**01 53 12.1**	**+0.2**
	comp=Z,0.3nm,0.2s,baz=89,slow=6.2,SNR=2.0						
FIA1	**FINESS Array S**	**39.31**	**326**	P	**P**	**01 53 49.3**	**+1.4**
FIA1				IAmb	IAmb	01 54 03.2	
	comp=Z,8.2nm,1.2s						
FINES	**FINESS Array B**	**39.31**	**326**	P	**P**	**01 53 49.0**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=121,slow=9.0,SNR=26						
FINES	**FINESS Array B**	**39.31**	**326**	P	**P**	**01 53 49.5**	**+1.6**
ARCES	**ARCESS Array B**	**42.70**	**337**	P	**P**	**01 54 16.9**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=114,slow=8.3,SNR=10						
ARCES	**ARCESS Array B**	**42.70**	**337**	P	**P**	**01 54 17.2**	**+1.5**
ARCES				IAmb	IAmb	01 54 18.4	
	comp=Z,8.6nm,1.1s						
KLR	**Kul'dur**	**44.03**	**53**	P	**P**	**01 54 26.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=240,slow=6.7,SNR=4.6						
NB2	**NORSAR Subarra**	**46.27**	**323**	P	**P**	**01 54 45.2**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**46.27**	**323**	P	**P**	**01 54 45.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=105,slow=6.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**67.73**	**270**	P	**P**	**01 57 17.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=45,slow=5.5,SNR=9.4						
ILULI	**Ilulissat**	**67.86**	**342**	P	**P**	**01 57 17.3**	**+0.7**
INK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.41**	**111**	⇑*iP*	**Pn**	**01 53 36.0**	**-1.7**
	baz=8.0						
BTK				⇑*iS*	**Sb**	**01 53 44.4**	**+3.1**
	baz=8.0						
GAR	**Garm**	**1.21**	**180**	⇑*iP*	**Pg**	**01 53 48.1**	**-0.7**
	baz=72						
GAR				⇑*iS*	**Sn**	**01 54 04.8**	**-0.4**
	baz=72						
TRKS	**Terek-Say**	**1.46**	**25**	⇑*iP*	**Pn**	**01 53 51.8**	**-0.5**
	baz=33						
TRKS				⇑*iS*	**Sg**	**01 54 11.4**	**-1.2**
	baz=33						
CHGR	**Chuyangaron**	**1.79**	**211**	⇑*iP*	**Pn**	**01 53 56.7**	**-0.1**
	baz=5.0						
CHGR				⇑*iS*	**Sn**	**01 54 19.6**	**0.0**
	baz=5.0						
KK31	**Karatay Array**	**2.90**	**3**	⇑Pg	**Pb**	**01 54 18.4**	**+0.9**
	0.4nm,0.4s,baz=195,slow=15,SNR=4.2						
KK31				⇑Lg	Lg	01 54 54.6	
	0.6nm,0.3s,baz=195,slow=32,SNR=3.6						

NEIC 13 02:44:09.7±1.5, 37°.23N±0°.03×98°.05W±0°.04, h6km±4km, mb_Lg2.7/61, Error ellipse: s-maj=5.1km s-min=4.0km az=207.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN08	**Anthony NE Sta**	**0.07**	**93**		Pg	02 44 10.7	-0.6
KAN08				Sg	Sg	02 44 11.7	-0.8
KAN12	**Harper NE Stat**	**0.08**	**33**		Pg	02 44 10.8	-0.7
KAN12				Sg	Sg	02 44 11.9	-0.9
KAN10	**Anthony SW Sta**	**0.11**	**198**		Pg	02 44 12.2	+0.1
KAN10				Sg	Sg	02 44 14.4	+0.7
KAN05	**Bluff City Nor**	**0.19**	**130**		Pg	02 44 13.3	-0.2
KAN05				Sg	Sg	02 44 16.2	+0.2
KAN17	**Caldwell West**	**0.30**	**129**		Pg	02 44 15.2	-0.3
KAN17				Sg	Sg	02 44 19.4	0.0
KAN09	**Caldwell North**	**0.36**	**105**	Pg	Pg	02 44 16.1	-0.6
KAN09				Sg	Sg	02 44 21.0	-0.5
KS20	**Mayfield South**	**0.40**	**90**	Pg	Pg	02 44 16.7	-0.8
KS20				Sg	Sg	02 44 22.0	-0.7
GC02	**Grant County #**	**0.41**	**158**		Pg	02 44 17.5	-0.1
OK032	**Salt Plains WL**	**0.44**	**197**		Pg	02 44 18.3	0.0
OK032				Sg	Sg	02 44 25.0	+0.9
KAN13	**South Haven SW**	**0.51**	**115**	Pg	Pg	02 44 18.9	-0.6
KAN13				Sg	Sg	02 44 25.8	-0.4
CROK	**Carrier**	**0.73**	**176**		Pg	02 44 23.4	-0.3
BLOK	**Blackwell**	**0.82**	**125**	Pg	Pg	02 44 24.6	-0.9
BLOK				Sg	Sg	02 44 35.5	-0.6
U32A	**Winter Ranch,**	**1.14**	**222**	Pg	Pg	02 44 31.1	-0.5
R32A	**Long Quarter,**	**1.30**	**337**		Pn	02 44 33.2	-1.3
OK029	**Liberty Lake**	**1.51**	**161**		Pn	02 44 37.0	-0.4
QUOK	**Quay**	**1.51**	**134**		Pn	02 44 36.8	-0.6
OK031	**S. Brethren Rd**	**1.61**	**142**		Pn	02 44 38.4	-0.3
BCOK	**Bluff Creek, N**	**1.61**	**167**	Pn	Pn	02 44 39.0	+0.2
OK025	**Westminster Rd**	**1.74**	**160**	Pn	Pn	02 44 40.8	+0.2
FNO	**Franklin**	**2.04**	**165**	Pn	Pb	02 44 46.0	-1.2
CBKS	**Cedar Bluff**	**2.07**	**320**	Pn	Pn	02 44 45.1	0.0
KSU1	**Kansas State U**	**2.19**	**31**	Pn	Pn	02 44 47.1	+0.4
WMOK	**Wichita Mounta**	**2.56**	**194**	Pn	Pn	02 44 52.7	+0.9
U38A	**Gravette**	**3.05**	**104**	Pn	Pn	02 44 59.0	+0.5
X37A	**Clayton**	**3.42**	**140**		Pn	02 45 04.0	+0.3
X37A				IAmb_Lg		02 46 05.9	
	comp=Z,21nm,0.8s						
HHAR	**Hobbs**	**3.44**	**105**	Pn	Pn	02 45 04.0	+0.2
KSCO	**Kaye Shedlock'**	**4.02**	**298**	Pn	Pn	02 45 11.6	-0.5
BGNE	**Belgrade**	**4.17**	**359**	Pn	Pn	02 45 12.5	-1.5
U40A	**Yellville**	**4.26**	**100**		Pn	02 45 15.5	+0.3
U40A				IAmb_Lg		02 46 23.4	
	comp=Z,16nm,0.9s						
P38A	**Dawn**	**4.28**	**55**	Pn	Pn	02 45 16.8	+1.4
P38A				IAmb_Lg		02 46 37.0	
	comp=Z,13nm,0.9s						
MIAR	**Mount Ida**	**4.51**	**125**	Pn	Pn	02 45 19.2	+0.6
MIAR				IAmb_Lg		02 46 34.4	
	comp=Z,11nm,0.9s						
MGMO	**Mountain Grove**	**4.62**	**89**		Pn	02 45 21.3	+1.1
MGMO				IAmb_Lg		02 46 33.4	
	comp=Z,8.9nm,0.8s						
Z38A	**Mt. Pleasant**	**4.69**	**147**	IAmb_Lg		02 46 51.9	
	comp=Z,22nm,1.1s						
R40A	**Maddies Statio**	**4.70**	**75**	Pn	Pn	02 45 21.8	+0.6
OGNE	**Ogallala**	**4.83**	**321**	IAmb_Lg		02 46 49.8	
	comp=Z,14nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.96**	**104**	Pn	Pn	02 45 24.6	-0.2
WHAR	**Wooly Hollow**	**5.04**	**111**	Pn	Pn	02 45 26.3	+0.4
WHAR				IAmb_Lg		02 46 52.0	
	comp=Z,12nm,0.9s						
X40A	**Basin Creek Fa**	**5.04**	**121**	Pn	Pn	02 45 25.9	0.0
X40A				IAmb_Lg		02 46 58.6	
	comp=Z,8.0nm,0.9s						
T25A	**Trinidad**	**5.08**	**271**	Pn	Pn	02 45 26.4	-0.2
T25A				IAmb_Lg		02 46 56.3	
	comp=Z,11nm,0.8s						
N38A	**Joes South For**	**5.17**	**45**	IAmb_Lg		02 47 01.1	
	comp=Z,20nm,0.7s						
P40A	**Paris**	**5.25**	**62**	Pn	Pn	02 45 30.1	+1.4
P40A				IAmb_Lg		02 46 57.5	
	comp=Z,7.4nm,0.7s						
WLAR	**White Oak Lake**	**5.36**	**130**	IAmb_Lg		02 47 07.9	
	comp=Z,12nm,0.9s						
K31A	**O'Neill**	**5.41**	**354**	IAmb_Lg		02 47 08.6	
	comp=Z,16nm,0.7s						
CCM	**Cathedral Cave**	**5.46**	**79**	Pn	Pn	02 45 32.4	+0.6
T42A	**Van Buren**	**5.56**	**90**	Pn	Pn	02 45 33.6	+0.5
LCAR	**Lake Charles**	**5.67**	**100**	Pn	Pn	02 45 35.4	+0.9
LCAR				IAmb_Lg		02 47 16.1	
	comp=Z,9.2nm,1.0s						
SCIA	**State Center**	**5.98**	**37**	IAmb_Lg		02 47 30.1	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**6.12**	**92**	IAmb_Lg		02 47 23.0	
	comp=Z,15nm,0.7s						
ISCO	**Idaho Springs**	**6.46**	**296**	Pn	Pn	02 45 46.0	+0.3
ISCO				IAmb_Lg		02 47 36.6	
	comp=Z,5.8nm,0.8s						
ECSD	**EROS Data Cent**	**6.59**	**9**	Pn	Pn	02 45 47.7	+0.5
N41A	**Harden Midland**	**6.59**	**56**	IAmb_Lg		02 47 38.0	
	comp=Z,12nm,0.9s						
JCT	**Junction City**	**6.89**	**193**	IAmb_Lg		02 48 04.7	
	comp=Z,6.5nm,0.8s						
S44A	**Carbondale**	**7.01**	**84**	Pn	Pn	02 45 53.2	+0.2
S44A				IAmb_Lg		02 47 54.0	
	comp=Z,8.5nm,0.8s						
SIUC	**Southern Illin**	**7.04**	**83**	Pn	Pn	02 45 53.2	-0.2
HDIL	**Hopedale**	**7.59**	**61**	IAmb_Lg		02 48 18.1	
	comp=Z,12nm,0.7s						
I37A	**Lemond, Waseca**	**7.64**	**26**	IAmb_Lg		02 48 26.3	
	comp=Z,7.3nm,0.9s						
OLIL	**Olney**	**8.00**	**76**	IAmb_Lg		02 48 38.6	
	comp=Z,12nm,1.1s						
O44A	**Mansfield**	**8.04**	**66**	IAmb_Lg		02 48 27.4	
	comp=Z,6.3nm,0.8s						
JFWS	**Jewell Farm**	**8.24**	**44**	IAmb_Lg		02 48 32.4	
	comp=Z,7.0nm,0.7s						
USIN	**University of**	**8.28**	**82**	IAmb_Lg		02 48 34.7	
	comp=Z,9.5nm,1.1s						
K22A	**Casper**	**8.46**	**312**	IAmb_Lg		02 48 53.9	
	comp=Z,4.3nm,0.8s						
T47A	**Sharon Grove**	**8.75**	**88**	IAmb_Lg		02 48 52.6	
	comp=Z,5.7nm,1.0s						
I42A	**Draeger Farm,**	**9.62**	**43**	IAmb_Lg		02 49 23.2	
	comp=Z,4.8nm,0.8s						

IDC 13 02:48:23.0±4.8, 7°.07S×129°.44E, h128km±59km, mb3.4/1, mb1 3.7/4, mb1mx3.2/38, mbtmp4.0/4, Error ellipse: s-maj=90.8km s-min=20.2km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.42**	**17**	P	Pn	02 49 56.8	+1.6
	3.6nm,0.3s,baz=197,slow=22,SNR=10						
SIJI				S	Sn	02 51 06.5	-0.8
	4.3nm,0.3s,baz=254,slow=23,SNR=2.6						
BATI	**Baumata**	**6.51**	**241**	S	Sn	02 51 11.3	+1.8
	5.5nm,0.3s,baz=197,slow=9.3,SNR=1.6						
WRA	**Warramunga Arr**	**13.65**	**160**	P	Pn	02 51 29.6	-1.9
	0.6nm,0.3s,baz=338,slow=12,SNR=17						
WRA				S	Sn	02 53 54.6	-7.8
	0.6nm,0.3s,baz=330,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**17.05**	**166**	P	Pn	02 52 14.7	+0.8
	0.8nm,0.3s,baz=348,slow=11,SNR=42						
ASAR				S	Sn	02 55 17.9	-6.3
	0.2nm,0.3s,baz=337,slow=24,SNR=3.7						
MKAR	**Makanchi Array**	**67.98**	**327**	P	P	02 59 08.3	0.0
	0.5nm,0.5s,baz=119,slow=7.8,SNR=7.9						

*IDC **13** 02:52:40.0±0.6, 7°.66S×129°.96E, h0km, mb4.4/14, mb1 4.4/15, mb1mx4.3/36, mbtmp4.4/15, ML4.1/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/34, Error ellipse: s-maj=31.2km s-min=14.1km az=79.0*

*NEIC **13** 02:52:43.2±1.5, 7°.66S±0°.07×129°.98E±0°.08, h14km±3km, mb4.7/23, Error ellipse: s-maj=11.2km s-min=9.5km az=71.0*

*DJA **13** 02:52:45.2±0.4, 8°.3S±3°.3×13°.0E±°, h145km±8km, M4.8/8, mb4.8/7, mB5.2/3, MLv4.8/8, Mw(mB)4.6/3*

ISC 13 02:52:46.9±0.4, 7°.70S±0°.05×130°.14E±0°.07, h50km, n87, σ1§63/82, mb4.6/29, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.18**	**104**	Pn	**Pn**	**02 53 07.6**	**+0.5**
SAUI	**Saumlaki**	**1.18**	**104**	P	**Pn**	**02 53 08.0**	**+0.9**
SAUI				S	**Sn**	**02 53 27.7**	**+5.6**
BNDI	**Bandanaira**	**3.17**	**356**	P	**Pn**	**02 53 36.7**	**+2.4**
MSAI	**Masohi**	**4.49**	**344**	P	**Pn**	**02 53 52.3**	**-0.2**
FAKI	**Fak Fak**	**5.19**	**24**	Pn	**Pn**	**02 54 00.6**	**-1.5**
FAKI	**Fak Fak**	**5.19**	**24**	P	**Pn**	**02 54 00.5**	**-1.6**
	0.5nm131nm,0.7s						
MTN	**Manton Dam**	**5.21**	**169**	Pn	**Pn**	**02 54 00.7**	**-1.6**
NLAI	**Namlea**	**5.37**	**325**	P	**Pn**	**02 54 05.3**	**+0.8**
	0.5nm148nm,0.6s						
SOEI	**Soe**	**6.16**	**250**	P	**Pn**	**02 54 18.8**	**+3.3**
SIJI	**Sorong**	**6.88**	**9**	Pn	**Pn**	**02 54 23.7**	**-1.6**
	3.9nm,0.3s,baz=199,slow=22,SNR=7.3						
SIJI				Sn	**Sn**	**02 55 39.5**	**-2.7**
	1.4nm,0.3s,baz=272,slow=24,SNR=1.3						
SANI	**Sanana**	**6.97**	**323**	P	**Pn**	**02 54 27.9**	**+1.4**
	0.3nm83nm,0.9s						
KNRA	**Kununurra**	**8.04**	**190**	Pn	**Pn**	**02 54 39.1**	**-2.1**
EDFI	**Ende, Flores**	**8.43**	**262**	P	**Pn**	**02 54 49.6**	**+3.0**
	11nm,0.7s						
BKSI	**Bulukumba**	**10.23**	**283**	P	**Pn**	**02 55 10.1**	**-1.1**
	18nm,0.9s						
KAPI	**Kappang**	**10.66**	**284**	LR	LR	02 59 18.2	
	comp=Z,107nm,21.1s,baz=95,slow=38						
WBSI	**Waikabubak, Su**	**10.80**	**259**	P	**Pn**	**02 55 19.6**	**+0.5**
	36nm,0.7s						
MRSI	**Marisa**	**11.53**	**314**	P	**Pn**	**02 55 29.9**	**+1.0**
WB0	**Warramunga Arr**	**12.69**	**161**		Pn	02 55 39.1	-5.6
WRA	**Warramunga Arr**	**12.83**	**162**	Pn	Pn	02 55 40.8	-6.0
	3.8nm,0.3s,baz=341,slow=13,SNR=20						
WRA				Sn	Sn	02 57 56.1	-12
	4.2nm,0.3s,baz=351,slow=19,SNR=7.4						
WRA				LR	LR	03 01 33.3	
	comp=Z,304nm,21.8s,baz=355,slow=41						
WRA	**Warramunga Arr**	**12.83**	**162**	Pn	Pn	02 55 39.8	-7.0
WB2	**Warramunga Arr**	**12.84**	**162**	Pn	Pn	02 55 41.1	-5.7
WR0	**Warramunga Arr**	**12.91**	**161**	Pn	Pn	02 55 42.2	-5.6
AS31	**Alice Springs**	**16.28**	**168**	Pn	**Pn**	**02 56 27.6**	**-4.8**
ASAR	**Alice Springs**	**16.28**	**168**	Pn	**Pn**	**02 56 27.0**	**-5.4**
	2.6nm,0.3s,baz=342,slow=8.2,SNR=34						
ASAR				Sn	Sn	02 59 18.9	-13
	0.6nm,0.3s,baz=340,slow=17,SNR=8.5						
ASAR	**Alice Springs**	**16.28**	**168**	Pn	**Pn**	**02 56 28.4**	**-4.0**
PMG	**Port Moresby**	**16.91**	**97**	LR	LR	03 04 34.6	
	comp=Z,142nm,21.0s,baz=228,slow=42						
PSA00	**Pilbara Seismi**	**17.00**	**215**	P	**Pn**	**02 56 41.4**	**+0.1**
PSA00				IAmb	IAmb	02 56 59.5	
	comp=Z,37nm,1.2s						
CTA	**Charters Tower**	**19.88**	**130**	P	**P**	**02 57 14.2**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=294,slow=12,SNR=3.2						
CTA				LR	LR	03 05 45.0	
	comp=Z,378nm,21.1s,baz=259,slow=39						
FORT	**Forrest**	**23.05**	**185**	P	**P**	**02 57 47.5**	**-0.6**
MORW	**Morawa**	**25.07**	**210**	P	**P**	**02 58 07.5**	**+0.7**
MORW				IAmb	IAmb	02 58 17.9	
	comp=Z,35nm,1.4s						
STKA	**Stephens Creek**	**26.32**	**158**	P	**P**	**02 58 18.0**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=335,slow=12,SNR=6.4						
STKA				LR	LR	03 09 41.4	
	comp=Z,190nm,20.3s,baz=19,slow=39						
STKA	**Stephens Creek**	**26.32**	**158**	P	**P**	**02 58 19.2**	**+1.1**
NWAO	**Narrogin (SRO)**	**27.81**	**204**	P	**P**	**02 58 31.1**	**-0.4**
NWAO				IAmb	IAmb	02 58 58.7	
	comp=Z,24nm,1.4s						
CMAR	**Chiang Mai Arr**	**40.29**	**310**	P	**P**	**03 00 17.5**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=140,slow=7.1,SNR=5.8						
CMAR				LR	LR	03 17 47.1	
	comp=Z,38nm,20.3s,baz=185,slow=38						
CMAR	**Chiang Mai Arr**	**40.29**	**310**	P	**P**	**03 00 18.0**	**-1.5**
NJ2	**Nanjing**	**40.97**	**345**	*eP*	**P**	**03 00 28.0**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
JWT	**Wachi**	**43.04**	**6**	P	**P**	**03 00 41.7**	**0.0**
MJAR	**Matsushiro Arr**	**44.65**	**9**	P	**P**	**03 00 54.6**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=196,slow=9.7,SNR=1.3						
XAN	**Xi'an**	**46.13**	**335**	P	**P**	**03 01 05.1**	**-1.4**
XAN				pP	pP	03 01 11.2	-8.6
XAN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LZH	**Lanzhou**	**50.08**	**332**	*eP*	**P**	**03 01 39.4**	**+2.2**
LZH				pP	pP	03 01 42.3	-8.3
LZH				sP	pwP	03 01 43.5	-7.1
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,81nm,4.2s						
HHC	**Hu-ho-hao-te**	**51.25**	**342**	*eP*	**P**	**03 01 48.4**	**+2.6**
HHC				pmax	pmax		
	comp=Z,22nm,1.1s						
HHC				pmax	pmax		
	comp=Z,38nm,5.5s						
TUWZ	**Tuamarina**	**51.27**	**138**	P	**P**	**03 01 45.9**	**0.0**
USRK	**Ussuriysk Ar.**	**51.68**	**2**	P	**P**	**03 01 48.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=165,slow=7.9,SNR=5.4						
USRK	**Ussuriysk Ar.**	**51.68**	**2**	P	**P**	**03 01 48.3**	**-0.6**
BKZ	**Black Stump Fm**	**52.01**	**134**	P	**P**	**03 01 51.8**	**+0.2**
BKZ				IAmb	IAmb	03 01 52.7	
	comp=Z,19nm,1.3s						
ASAJ	**Asahikawa**	**52.79**	**11**	P	**P**	**03 01 56.0**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=242,slow=20,SNR=4.2						
JKA	**Kamikawa-asahi**	**52.79**	**11**	P	**P**	**03 01 56.8**	**-0.3**
JKA				IAmb	IAmb	03 02 11.8	
	comp=Z,19nm,1.4s						
GTA	**Gaotai**	**54.65**	**331**	*eP*	**P**	**03 02 10.8**	**-0.1**
GTA				pP	pP	03 02 15.2	-9.0
GTA				sP	sP	03 02 18.0	-12
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SONM	**Songino Array**	**59.15**	**342**	P	**P**	**03 02 43.0**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=132,slow=5.6,SNR=4.5						
SONM	**Songino Array**	**59.15**	**342**	P	**P**	**03 02 42.2**	**-0.4**
CASY	**Casey**	**60.04**	**189**	P	**P**	**03 02 49.2**	**+0.9**
WMQ	**Urumqi**	**64.05**	**327**	*eP*	**P**	**03 03 17.4**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.9s						
PEA0B	**Petropavlovsk-**	**64.94**	**18**	P	**P**	**03 03 22.0**	**+0.8**
PETK	**Petropavlovsk-**	**64.94**	**18**	P	**P**	**03 03 21.7**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=204,slow=3.3,SNR=7.6						
PETK	**Petropavlovsk-**	**64.94**	**18**	P	**P**	**03 03 21.6**	**+0.4**
MK31	**Makanchi Array**	**68.88**	**327**	P	**P**	**03 03 46.2**	**-0.2**
MK31				IAmb	IAmb	03 03 46.4	
	comp=Z,4.3nm,0.6s						
MKAR	**Makanchi Array**	**68.88**	**327**	P	**P**	**03 03 46.0**	**-0.5**
	comp=Z,8.0nm,0.5s,baz=115,slow=7.8,SNR=78						
MKAR	**Makanchi Array**	**68.88**	**327**	P	**P**	**03 03 46.1**	**-0.3**
MAKZ	**Makanchi**	**69.06**	**327**	P	**P**	**03 03 47.3**	**-0.3**
MAKZ				IAmb	IAmb	03 03 48.9	
	comp=Z,5.6nm,0.6s						
BOOM	**Boomskoye usch**	**70.17**	**320**	P	**P**	**03 03 55.9**	**+1.1**
BOOM				IAmb	IAmb	03 03 56.0	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**71.74**	**173**	P	**P**	**03 04 03.7**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=324,slow=6.7,SNR=14						
VNDA	**Vanda**	**71.74**	**173**	P	**P**	**03 04 04.1**	**+0.6**
VNDA				IAmb	IAmb	03 04 11.2	
	comp=Z,6.4nm,1.4s						
ZAA0	**Zalesovo Array**	**72.27**	**334**	P	**P**	**03 04 05.4**	**-1.5**
ZAA0				IAmb	IAmb	03 04 07.0	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**72.27**	**334**	P	**P**	**03 04 05.3**	**-1.6**
	comp=Z,3.0nm,0.6s,baz=122,slow=4.7,SNR=13						
ZALV	**Zalesovo Beam**	**72.27**	**334**	P	**P**	**03 04 05.9**	**-1.0**
SEY	**Seymchan**	**72.46**	**10**	P	**P**	**03 04 08.4**	**+0.6**
	comp=Z,7.2nm,0.7s,baz=189,slow=7.1,SNR=8.2						
SBA	**Scott Base**	**72.63**	**172**	P	**P**	**03 04 10.3**	**+1.6**
MAW	**Mawson**	**74.36**	**202**	P	**P**	**03 04 20.0**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=94,slow=8.1,SNR=4.0						
MAW	**Mawson**	**74.36**	**202**	P	**P**	**03 04 20.4**	**+1.4**
BRVK	**Borovoye**	**78.80**	**328**	P	**P**	**03 04 43.7**	**-0.6**
BRVK				IAmb	IAmb	03 04 45.4	
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**79.19**	**360**	P	**P**	**03 04 45.6**	**-0.5**
	comp=Z,2.9nm,0.4s,baz=133,slow=11,SNR=4.7						
TIXI	**Tiksi**	**79.19**	**360**	P	**P**	**03 04 46.1**	**0.0**
TIXI				IAmb	IAmb	03 04 46.2	
	comp=Z,3.6nm,0.7s						
VOI	**Vohitsoka**	**81.03**	**249**	P	**P**	**03 04 58.0**	**+0.7**
QSPA	**South Pole Qui**	**82.28**	**180**	P	**P**	**03 05 03.6**	**+0.6**
QSPA				IAmb	IAmb	03 05 12.9	
	comp=Z,9.0nm,1.5s						
SYO	**Syowa Base**	**83.07**	**201**	*ePcP*	**PcP**	**03 05 12.0**	**+0.6**
ABKAR	**Akbulak array**	**83.14**	**322**	P	**P**	**03 05 06.4**	**-1.2**
SNAA	**Sanae**	**95.02**	**193**	P	**P**	**03 06 04.3**	**+0.3**
VNA2	**Neumayer--Watz**	**96.58**	**193**	P	**P**	**03 06 11.4**	**+0.4**
PDAR	**Pinedale Array**	**117.28**	**46**	PKP	**PKPdf**	**03 11 27.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=28,slow=2.1,SNR=3.5						
PDAR	**Pinedale Array**	**117.28**	**46**		**PKiKP**	**03 11 28.9**	**+1.5**
TXAR	**Lajitas Array**	**125.16**	**60**	PKP	**PKiKP**	**03 11 43.7**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=193,slow=3.7,SNR=3.1						
TXAR	**Lajitas Array**	**125.16**	**60**	PKPdf	**PKPdf**	**03 11 43.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**129.08**	**281**	PKP	**PKPdf**	**03 11 50.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=82,slow=2.4,SNR=3.4						
CPUP	**Villa Florida**	**145.41**	**168**	PKPbc	**PKPdf**	**03 12 20.7**	**+0.5**
	comp=Z,7.3nm,0.8s,baz=210,slow=6.1,SNR=10.0						
CPUP	**Villa Florida**	**145.41**	**168**		**PKPab**	**03 12 21.0**	**+0.7**
LPAZ	**La Paz**	**150.08**	**143**	PKPbc	**PKiKP**	**03 12 35.1**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=270,slow=2.6,SNR=34						
LPAZ	**La Paz**	**150.08**	**143**		**PKiKP**	**03 12 35.0**	**+0.2**

*TUL **13** 03:05:35.8±1.7, 36°.55N±0°.01×97°.71W±0°.009, h3km±7km, ML2.7, mb_Lg2.4/22(NEIC), Error ellipse: s-maj=1.7km s-min=0.6km az=151.0*

NEIC 13 03:05:36.1±0.9, 36°.53N±0°.01×97°.71W±0°.01, h3km±7km, Error ellipse: s-maj=1.8km s-min=1.6km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.22**	**263**		Pg	03 05 40.5	+0.1
CROK				Sg	Sg	03 05 43.9	+0.7
GC02	**Grant County #**	**0.34**	**339**		Pg	03 05 42.6	0.0
GC02				Sg	Sg	03 05 47.5	+0.4
BLOK	**Blackwell**	**0.46**	**60**		Pg	03 05 44.9	0.0
BLOK				Sg	Sg	03 05 51.6	+0.8
OK032	**Salt Plains WL**	**0.48**	**304**	Pg	Pg	03 05 45.3	-0.1
OK032				Sg	Sg	03 05 52.0	+0.3
KAN17	**Caldwell West**	**0.51**	**355**	Pg	Pg	03 05 45.9	-0.1
KAN17				Sg	Sg	03 05 52.8	+0.2
KAN13	**South Haven SW**	**0.51**	**21**	Pg	Pg	03 05 45.9	0.0
KAN13				Sg	Sg	03 05 52.9	+0.3
KAN05	**Bluff City Nor**	**0.59**	**347**	Pg	Pg	03 05 47.2	-0.2
KAN05				Sg	Sg	03 05 55.4	+0.3
KAN09	**Caldwell North**	**0.61**	**7**	Pg	Pg	03 05 47.5	-0.2
KAN09				Sg	Sg	03 05 55.8	+0.2
KAN10	**Anthony SW Sta**	**0.67**	**332**	Pg	Pg	03 05 48.5	-0.3
KAN10				Sg	Sg	03 05 57.6	+0.1
KS20	**Mayfield South**	**0.71**	**10**	Pg	Pg	03 05 49.3	-0.3
KS20				Sg	Sg	03 05 58.9	0.0
KAN08	**Anthony NE Sta**	**0.72**	**343**	Pg	Pg	03 05 49.6	-0.4
OK029	**Liberty Lake**	**0.76**	**164**		Pg	03 05 50.5	-0.3
OK029				Sg	Sg	03 06 01.4	+0.8
KAN12	**Harper NE Stat**	**0.80**	**343**	Pg	Pg	03 05 51.1	-0.2
BCOK	**Bluff Creek, N**	**0.88**	**175**	Pg	Pg	03 05 52.4	-0.5
QUOK	**Quay**	**0.89**	**114**	Pg	Pg	03 05 52.7	-0.3
QUOK				Sg	Sg	03 06 04.5	0.0
OK031	**S. Brethren Rd**	**0.91**	**129**		Pg	03 05 53.3	-0.3
OK031				Sg	Sg	03 06 05.5	+0.1
OK025	**Westminster Rd**	**1.00**	**162**		Pg	03 05

MW5.0/66, Moment Tensor Solution. s32,c35; s66,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=3.40±.22; $M_{\theta\theta}$=0.20±.14; $M_{\phi\phi}$-3.60±.15; $M_{r\theta}$=0.57±.18; $M_{r\phi}$=0.06±.14; $M_{\theta\phi}$=-0.70±.14; Best double couple: M_o=3.61700×10^{16} NP1:ϕ_s9.00000°,δ40.00000°,λ104.00000°. NP2: ϕ_s170.00000°,δ51.00000°,λ78.00000°. Principal axes: T 3.5620, Plg79.0000°, Azm30.0000°; N 0.1130, Plg9.0000°, Azm177.0000°; P -3.6720, Plg6.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **13** 03:30:41.9±2.0, 17°.54S±0°.09×167°.9E±0°.1, h42km±6km, mb4.8/29 Error ellipse: s-maj=15.7km s-min=12.7km az=123.0*

ISC 13 03:30:39.3±0.4, 17°.56S±0°.06×167°.94E±0°.08, h27km, n133, σ1§35/119, mb4.7/36, MS4.0/20, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.27**	**192**	Pn	**Pn**	**03 31 28.0**	**-0.8**
MARNC	**Mare, Loyalty**	**3.90**	**179**	Pn	**Pn**	**03 31 34.8**	**-2.7**
YATNC	**Mamie plateau,**	**4.58**	**192**	P	**Pn**	**03 31 47.1**	**+0.2**
DZM	**Mont Dzumac**	**4.70**	**197**	Pn	**Pn**	**03 31 48.5**	**-0.1**
1.5nm,0.3s,baz=71,slow=9.3,SNR=53							
DZM				Sn	**Sn**	**03 32 39.6**	**-2.7**
29nm,0.3s,baz=122,slow=22,SNR=15							
DZM				LR	LR	03 33 33.1	
comp=Z,2μm,20.3s,baz=24,slow=37							
DZM	**Mont Dzumac**	**4.70**	**197**	*e*Pn	**Pn**	**03 31 47.9**	**-0.7**
43nm,0.3s							
DZM				*e*Sn	**Sn**	**03 32 39.5**	**-2.8**
91nm,0.2s							
DZM				*e*LR	LR	03 32 52.7	
comp=Z,2μm,23.1s							
DZM	**Mont Dzumac**	**4.70**	**197**	Pn	**Pn**	**03 31 48.6**	**0.0**
DZM	**Mont Dzumac**	**4.70**	**197**	P	**Pn**	**03 31 48.7**	**0.0**
NOUC	**Port Laguerre**	**4.77**	**199**	P	**Pn**	**03 31 49.6**	**+0.1**
ONTNC	**Ouen Toro**	**4.92**	**196**	Pn	**Pn**	**03 31 52.2**	**+0.6**
ONTNC	**Ouen Toro**	**4.92**	**196**	P	**Pn**	**03 31 53.2**	**+1.6**
OUENC	**Ouen Island, N**	**4.94**	**192**	Pn	**Pn**	**03 31 54.0**	**+2.1**
OUENC	**Ouen Island, N**	**4.94**	**192**	P	**Pn**	**03 31 52.7**	**+0.9**
PINNC	**Pines Island,**	**5.05**	**185**	Pn	**Pn**	**03 31 54.0**	**+0.7**
MSVF	**Nonsavu**	**9.64**	**93**	LR	LR	03 35 56.3	
comp=Z,2μm,18.0s,baz=304,slow=34							
MSVF	**Nonsavu**	**9.64**	**93**	Pn	Pn	03 33 02.2	+5.7
HNR	**Honiara**	**11.21**	**315**	LR	LR	03 37 26.2	
comp=Z,610nm,19.4s,baz=138,slow=37							
RAO	**Raoul Island**	**17.41**	**134**	LR	LR	03 39 54.5	
comp=Z,514nm,19.6s,baz=164,slow=32							
EIDS	**Eidsvold**	**17.50**	**241**		**P**	**03 34 43.7**	**+1.2**
CTA	**Charters Tower**	**20.68**	**260**	P	**P**	**03 35 18.1**	**+0.7**
17nm,1.1s,baz=73,slow=17,SNR=4.5							
CTAO	**Charters Tower**	**20.68**	**260**	P	Pn	03 35 19.7	-0.1
CTAO				IAmb	IAmb	03 35 24.1	
comp=Z,26nm,1.0s							
HIZ	**Hauiti**	**21.73**	**165**	P	**P**	**03 35 28.8**	**+0.3**
HIZ				IAmb	IAmb	03 35 34.5	
comp=Z,75nm,1.2s							
URZ	**Urewera**	**22.13**	**161**	P	**P**	**03 35 32.8**	**0.0**
comp=Z,22nm,1.0s,baz=350,slow=9.9,SNR=8.3							
URZ				LR	LR	03 42 59.6	
comp=Z,693nm,19.5s,baz=352,slow=34							
URZ	**Urewera**	**22.13**	**161**	P	**P**	**03 35 33.3**	**+0.4**
URZ				IAmb	IAmb	03 35 36.5	
comp=Z,58nm,1.2s							
BKZ	**Black Stump Fm**	**22.78**	**163**	P	**P**	**03 35 41.1**	**+1.3**
BKZ				IAmb	IAmb	03 35 44.6	
comp=Z,21nm,0.8s							
BFZ	**Birch Farm**	**24.13**	**164**	P	**P**	**03 35 53.8**	**+0.8**
BFZ				IAmb	IAmb	03 35 58.8	
comp=Z,25nm,0.9s							
THZ	**Tophouse**	**24.49**	**171**	P	**P**	**03 35 58.2**	**+1.9**
THZ				IAmb	IAmb	03 36 03.5	
comp=Z,29nm,1.2s							
MSWZ	**Moikau Station**	**24.59**	**167**	P	**P**	**03 35 58.2**	**+1.0**
PLWZ	**Palliser**	**24.74**	**167**	P	**P**	**03 35 59.3**	**+0.7**
LTZ	**Lake Taylor**	**25.41**	**173**	P	**P**	**03 36 07.1**	**+2.5**
LTZ				IAmb	IAmb	03 36 08.8	
comp=Z,24nm,1.0s							
RPZ	**Rata Peaks**	**26.20**	**175**	P	**P**	**03 36 13.5**	**+1.7**
STKA	**Stephens Creek**	**27.76**	**234**	P	**P**	**03 36 26.8**	**+0.8**
comp=Z,2.7nm,0.6s,baz=26,slow=8.9,SNR=7.7							
STKA				PcP	**PcP**	**03 39 42.4**	**+0.2**
comp=Z,3.4nm,0.7s,baz=352,slow=2.7,SNR=3.4							
STKA				LR	LR	03 47 14.2	
comp=Z,347nm,19.0s,baz=49,slow=36							
STKA	**Stephens Creek**	**27.76**	**234**	P	**P**	**03 36 27.9**	**+2.0**
WR0	**Warramunga Arr**	**31.68**	**260**	P	**P**	**03 37 00.3**	**-0.6**
WB0	**Warramunga Arr**	**31.83**	**261**	P	**P**	**03 37 01.1**	**-1.0**
WB0				IAmb	IAmb	03 37 17.4	
comp=Z,14nm,1.1s							
WB2	**Warramunga Arr**	**31.86**	**260**	P	**P**	**03 37 01.0**	**-1.4**
WB2				IAmb	IAmb	03 37 17.4	
comp=Z,21nm,1.2s							
WRA	**Warramunga Arr**	**31.87**	**260**	P	**P**	**03 37 01.8**	**-0.8**
comp=Z,0.9nm,0.7s,baz=79,slow=6.0,SNR=8.6							
WRA				PcP	**PcP**	**03 39 51.8**	**-1.3**
comp=Z,2.1nm,0.8s,baz=93,slow=2.7,SNR=6.3							
WRA	**Warramunga Arr**	**31.87**	**260**	P	**P**	**03 37 01.4**	**-1.2**
AS31	**Alice Springs**	**32.37**	**253**	P	**P**	**03 37 07.2**	**+0.2**
AS31				IAmb	IAmb	03 37 19.0	
comp=Z,4.9nm,0.6s							
ASAR	**Alice Springs**	**32.38**	**253**	P	**P**	**03 37 07.0**	**0.0**
comp=Z,5.4nm,0.6s,baz=79,slow=8.6,SNR=76							
ASAR				PcP	**PcP**	**03 39 53.6**	**-0.8**
comp=Z,2.5nm,0.8s,baz=96,slow=2.7,SNR=9.9							
ASAR				LR	LR	03 49 53.5	
comp=Z,572nm,19.6s,baz=69,slow=36							
ASAR	**Alice Springs**	**32.38**	**253**	P	**P**	**03 37 06.8**	**-0.1**
KNRA	**Kununurra**	**37.54**	**267**	P	**P**	**03 37 51.4**	**-0.2**
GUMO	**Guam**	**38.43**	**322**	LR	LR	03 51 22.9	
comp=Z,243nm,20.1s,baz=78,slow=32							
FORT	**Forrest**	**38.48**	**242**	P	**P**	**03 37 59.3**	**-0.1**
SIJI	**Sorong**	**39.68**	**291**	LR	LR	03 55 30.0	
comp=Z,182nm,18.1s,baz=304,slow=38							
TBI	**Tubuai**	**40.22**	**106**	*e*S	**S**	**03 44 23.8**	**+4.2**
comp=Z,108nm,31.2s							
TBI				*e*LQ	LQ	03 47 38.8	
comp=Z,336nm,29.0s							
TBI				*e*LR	LR	03 49 21.4	
comp=Z,278nm,31.8s							
PPT2	**Papeete2**	**40.44**	**97**	*e*S	**S**	**03 44 24.7**	**+1.6**
comp=Z,112nm,27.5s							
PPT2				*e*LR	LR	03 49 26.3	
comp=Z,335nm,23.5s							
PPT	**Papeete**	**40.44**	**97**	LR	LR	03 52 20.4	
comp=Z,66nm,20.5s,baz=231,slow=32							
BATI	**Baumata**	**43.52**	**274**	LR	LR	03 57 03.6	
comp=Z,241nm,18.5s,baz=123,slow=36							
BATI	**Baumata**	**43.52**	**274**	P	P	03 38 52.1	+11
comp=Z,30nm,1.0s							
PSA00	**Pilbara Seismi**	**45.35**	**257**	P	**P**	**03 38 56.5**	**+0.9**
PSA00				IAmb	IAmb	03 39 11.6	
comp=Z,14nm,1.5s							
EDFI	**Ende, Flores**	**45.78**	**275**	P	P	03 39 05.1	+5.9
comp=Z,6.8nm,1.3s							
BSSI	**Bau Bau, Buton**	**47.67**	**278**	P	P	03 39 24.0	+10
comp=Z,62nm,1.8s							
NWAO	**Narrogin (SRO)**	**47.90**	**241**	P	**P**	**03 39 15.1**	**-0.4**
TAOE	**Nuku Hiva Isla**	**51.14**	**87**	*e*S	**S**	**03 46 58.1**	**+0.8**
comp=Z,119nm,26.4s							
TAOE				*e*LR	LR	03 54 24.2	
comp=Z,1μm,28.7s							
LEM	**Lembang**	**59.70**	**272**	LR	LR	04 07 34.9	
comp=Z,116nm,20.0s,baz=75,slow=37							
VNDA	**Vanda**	**60.06**	**182**	P	**P**	**03 40 43.7**	**+0.2**
comp=Z,1.2nm,0.8s,baz=58,slow=8.4,SNR=5.0							
VNDA				LR	LR	04 04 53.4	
comp=Z,56nm,18.3s,baz=11,slow=34							
VNDA	**Vanda**	**60.06**	**182**	P	**P**	**03 40 44.2**	**+0.7**
SBA	**Scott Base**	**60.32**	**180**	P	**P**	**03 40 46.4**	**+1.1**
MJAR	**Matsushiro Arr**	**60.70**	**333**	P	**P**	**03 40 46.7**	**-1.8**
comp=Z,8.5nm,0.9s,baz=168,slow=7.5,SNR=18							
MJAR	**Matsushiro Arr**	**60.70**	**333**	P	**P**	**03 40 47.3**	**-1.1**
MAJO	**Matsushiro**	**60.70**	**333**	P	**P**	**03 40 47.3**	**-1.1**
MAJO				IAmb	IAmb	03 40 48.2	
comp=Z,16nm,0.9s							
MAT	**Matsushiro**	**60.70**	**333**	P	**P**	**03 40 46.7**	**-1.7**
CASY	**Casey**	**61.17**	**203**	P	**P**	**03 40 51.2**	**0.0**
CASY				IAmb	IAmb	03 41 08.9	
comp=Z,14nm,1.4s							
JSD	**Sado**	**61.94**	**334**	P	**P**	**03 40 56.8**	**+0.1**
NJ2	**Nanjing**	**68.15**	**316**	*e*P	**P**	**03 41 40.4**	**+3.2**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**69.69**	**333**	P	**P**	**03 41 47.2**	**+0.6**
comp=Z,4.5nm,1.0s,baz=170,slow=8.8,SNR=2.2							
USRK	**Ussuriysk Ar.**	**69.69**	**333**	P	**P**	**03 41 48.4**	**+1.8**
PETK	**Petropavlovsk-**	**70.93**	**353**	P	**P**	**03 41 53.5**	**-0.5**
comp=Z,1.7nm,0.7s,baz=158,slow=9.0,SNR=5.3							
PETK				LR	LR	04 09 34.2	
comp=Z,48nm,18.7s,baz=155,slow=33							
PETK	**Petropavlovsk-**	**70.93**	**353**	P	**P**	**03 41 53.0**	**-0.9**
CN2	**Changchun**	**72.39**	**329**	*e*P	**P**	**03 42 01.8**	**-1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.7s							
QSPA	**South Pole Qui**	**72.48**	**180**	P	**P**	**03 42 03.6**	**+0.2**
QSPA				IAmb	IAmb	03 42 04.8	
comp=Z,23nm,1.0s							
XAN	**Xi'an**	**76.07**	**313**	P	**P**	**03 42 25.8**	**+1.1**
XAN				pP	sP	03 42 34.0	-1.2
XAN				pmax	pmax		
comp=Z,6.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**76.69**	**294**	P	**P**	**03 42 29.2**	**+0.7**
comp=Z,0.9nm,0.3s,baz=124,slow=4.1,SNR=5.4							
HHC	**Hu-ho-hao-te**	**78.15**	**320**	*e*P	**P**	**03 42 39.9**	**+3.6**
HHC				pmax	pmax		
comp=Z,16nm,1.1s							
HHC				pmax	pmax		
comp=Z,120nm,5.6s							
MAW	**Mawson**	**79.51**	**202**	P	**P**	**03 42 44.3**	**+1.0**
comp=Z,1.3nm,0.6s,baz=107,slow=2.8,SNR=4.2							
MAW				LR	LR	04 13 29.0	
comp=Z,138nm,20.6s,baz=82,slow=32							
MAW	**Mawson**	**79.51**	**202**	P	**P**	**03 42 44.6**	**+1.3**
LZH	**Lanzhou**	**80.69**	**312**	*e*P	**P**	**03 42 51.5**	**+1.1**
LZH				sP	pP	03 42 58.4	+0.2
LZH				pmax	pmax		
comp=Z,19nm,1.4s							
LZH				pmax	pmax		
comp=Z,86nm,4.5s							
ULN	**Ulaanbaatar**	**84.79**	**324**	P	**P**	**03 43 11.8**	**+0.4**
GTA	**Gaotai**	**85.08**	**314**	⇑P	**P**	**03 43 14.8**	**+1.8**
GTA				pP	pwP	03 43 25.3	+0.8
GTA				sP	sP	03 43 29.3	+5.7
GTA				pmax	pmax		
comp=Z,5.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,120nm,7.6s							
GTA				LR	LR		
comp=Z,290nm,9.2s							
GTA				LR	LR		
comp=Z,170nm,8.8s							
GTA				LR	LR		
comp=Z,330nm,10.0s							
SONM	**Songino Array**	**85.14**	**324**	P	**P**	**03 43 13.1**	**-0.1**
comp=Z,15nm,0.9s,baz=141,slow=5.8,SNR=40							
SONM	**Songino Array**	**85.14**	**324**	P	**P**	**03 43 13.7**	**+0.6**
SYO	**Syowa Base**	**86.19**	**196**	‖*e*P	**P**	**03 43 18.0**	**+0.1**
SYO	**Syowa Base**	**86.19**	**196**	‖*e*PcP	**PcP**	**03 43 20.7**	**+0.3**
NVAR	**Mina Array Bea**	**88.63**	**49**	P	**P**	**03 43 29.2**	**-1.2**
comp=Z,0.8nm,0.9s,baz=228,slow=8.0,SNR=6.3							
NVAR				LR	LR	04 14 59.2	
comp=Z,97nm,21.7s,baz=270,slow=30							
NVAR	**Mina Array Bea**	**88.63**	**49**	P	**P**	**03 43 29.4**	**-1.0**
TLY	**Talaya**	**88.69**	**326**	P	**P**	**03 43 28.7**	**-1.4**
comp=Z,2.2nm,0.7s,baz=110,slow=6.9,SNR=5.6							
PMSA	**Palmer Station**	**88.90**	**160**	P	**P**	**03 43 31.1**	**+0.1**
PMSA				IAmb	IAmb	03 43 31.4	
comp=Z,8.9nm,1.1s							
ILAR	**Eielson Array**	**89.01**	**18**	P	**P**	**03 43 28.8**	**-2.6**
comp=Z,0.8nm,0.7s,baz=237,slow=5.0,SNR=9.5							
ILAR				LR	LR	04 18 26.0	
comp=Z,99nm,20.0s,baz=242,slow=32							
ILAR	**Eielson Array**	**89.01**	**18**	P	**P**	**03 43 31.2**	**-0.2**
SNAA	**Sanae**	**90.77**	**183**	P	**P**	**03 43 39.1**	**-0.6**
VNA3	**Neumayer Olymp**	**91.41**	**181**	P	**P**	**03 43 42.0**	**-0.6**
VNA2	**Neumayer--Watz**	**91.68**	**182**	P	**P**	**03 43 42.8**	**-1.1**
VNA1	**Neumayer--Stat**	**91.98**	**181**	P	**P**	**03 43 44.6**	**-0.6**
WMQ	**Urumqi**	**95.16**	**314**	*e*P	**P**	**03 44 02.6**	**+2.2**
PDAR	**Pinedale Array**	**96.39**	**47**	LR	LR	04 20 55.7	
comp=Z,39nm,20.6s,baz=256,slow=31							
TXAR	**Lajitas Array**	**97.06**	**62**	LR	LR	04 22 26.6	
comp=Z,68nm,18.2s,baz=0.0,slow=32							
MKAR	**Makanchi Array**	**99.68**	**316**	P	**Pdif**	**03 44 20.6**	**-0.1**
comp=Z,0.6nm,0.6s,baz=93,slow=5.5,SNR=6.0							
MKAR	**Makanchi Array**	**99.68**	**316**		**Pdif**	**03 44 19.9**	**-0.7**
YKA	**Yellowknife Ar**	**99.75**	**27**	LR	LR	04 27 13.6	
comp=Z,4.3nm,18.2s,baz=0.0,slow=34							
ZALV	**Zalesovo Beam**	**100.04**	**323**	Pdiff	**Pdif**	**03 44 20.1**	**-1.9**
comp=Z,0.5nm,0.3s,baz=90,slow=4.3,SNR=4.0							
NRIK	**Noril'sk**	**102.93**	**339**	Pdiff	**Pdif**	**03 44 33.7**	**-0.9**
comp=Z,1.1nm,0.4s,baz=45,slow=2.9,SNR=3.9							
BELG	**Belogornoye**	**122.14**	**321**	PKP	**PKPdf**	**03 49 30.2**	**-1.2**
comp=Z,15nm,0.9s,baz=45,slow=1.4,SNR=5.6							
ARCES	**ARCESS Array B**	**123.14**	**345**	PKP	**PKPdf**	**03 49 31.5**	**-1.4**
comp=Z,1.8nm,0.7s,baz=40,slow=2.9,SNR=5.0							
ARCES	**ARCESS Array B**	**123.14**	**345**		**PKPdf**	**03 49 31.3**	**-1.6**
KMBO	**Kilima Mbogo**	**128.02**	**254**	PKP	**PKPdf**	**03 49 44.1**	**-0.1**
comp=Z,2.8nm,1.0s,baz=57,slow=16,SNR=3.0							
AKASG	**Malin Array Be**	**133.42**	**325**	PKP	**PKPdf**	**03 49 51.9**	**-1.1**
comp=Z,1.3nm,0.7s,baz=70,slow=2.0,SNR=5.5							
AKASG	**Malin Array Be**	**133.42**	**325**		**PKPdf**	**03 49 51.6**	**-1.4**
NB2	**NORSAR Subarra**	**133.51**	**345**	PKPdf	**PKPdf**	**03 49 52.5**	**-0.4**
comp=Z,2.7nm,1.2s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**133.51**	**345**	PKP	**PKPdf**	**03 49 51.2**	**-1.7**
comp=Z,0.7nm,0.8s,baz=32,slow=2.0,SNR=5.4							
KOLS	**Kolonicke sedl**	**138.15**	**326**	*e*PKP	**PKPdf**	**03 50 02.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**138.60**	**327**	*e*PKP	**PKiKP**	**03 50 05.7**	**+0.9**
OSTC	**Ostas**	**140.07**	**332**	*e*PKP	**PKPdf**	**03 50 06.2**	**+0.8**
CLL	**Collm**	**140.88**	**335**	*e*PKPdf	**PKPdf**	**03 50 06.0**	**-0.7**
CONA	**Conrad Observa**	**142.08**	**329**	*e*P	**PKPdf**	**03 50 05.5**	**-3.6**
comp=Z,1.9nm,0.9s							
KHC	**Kasperske Hory**	**142.28**	**332**	*e*PKP	**PKPdf**	**03 50 08.0**	**-1.4**
KHC				*ex*	x	03 51 19.5	
GERES	**GERESS Array B**	**142.44**	**332**	PKhKP	PKPpre	03 50 04.8	
comp=Z,0.7nm,0.8s,baz=79,slow=2.9,SNR=4.9							
ARSA	**Arzberg**	**142.71**	**329**	*e*P	**PKPdf**	**03 50 06.8**	**-3.4**
comp=Z,4.2nm,0.9s							
MOA	**Molln**	**142.90**	**330**	*e*P	**PKPdf**	**03 50 07.2**	**-3.4**
comp=Z,4.2nm,0.8s							
SOKA	**Soboth**	**143.34**	**328**	*e*P	PKPbc	03 50 08.4	-0.1
comp=Z,4.8nm,0.7s							
OBKA	**Obir**	**143.70**	**328**	*e*P	PKPab	03 50 08.9	+0.1
comp=Z,4.9nm,0.9s							
KBA	**Koelnbreinsper**	**143.89**	**330**	*e*P	PKPbc	03 50 10.1	-0.2
comp=Z,8.2nm,0.8s							
MYKA	**Terra Mystica**	**144.06**	**329**	*e*P	**PKPab**	**03 50 09.9**	**-0.3**
comp=Z,4.8nm,0.6s							
WATA	**Walderalm**	**144.51**	**332**	*e*P	PKPbc	03 50 12.3	+0.2
comp=Z,7.2nm,0.9s							
ABTA	**Abfaltersbach**	**144.52**	**330**	*i* P	**PKPab**	**03 50 11.3**	**-0.5**
comp=Z,19nm,0.7s,SNR=13							
WTTA	**Wattenberg**	**144.54**	**332**	*e*P	**PKPab**	**03 50 12.0**	**-0.1**
comp=Z,13nm,1.5s							
MOTA	**Moosalm**	**144.72**	**332**	*i* P	**PKPab**	**03 50 12.5**	**-0.1**
comp=Z,24nm,0.9s,SNR=12							
RETA	**Reutte**	**144.76**	**333**	*e*P	**PKPab**	**03 50 12.8**	**+0.1**
comp=Z,15nm,1.2s							
SQTA	**Sankt Quirin**	**144.76**	**332**	*i* P	**PKPab**	**03 50 12.5**	**-0.3**
comp=Z,18nm,0.8s,SNR=8.6							
FETA	**Feichten**	**145.13**	**332**	*i* P	**PKPab**	**03 50 14.3**	**+0.1**
comp=Z,38nm,0.9s,SNR=28							
DAVA	**Damuels**	**145.29**	**333**	*i* P	**PKPbc**	**03 50 14.6**	**-0.1**
comp=Z,28nm,0.7s,SNR=20							
KEST	**Kesra**	**153.76**	**318**	PKPbc	**PKPbc**	**03 50 36.1**	**-0.3**
comp=Z,3.4nm,0.8s,baz=326,slow=5.5,SNR=4.7							
KEST				PKPab	**PKPab**	**03 50 49.7**	**+0.4**
comp=Z,6.9nm,1.0s,baz=329,slow=1.9,SNR=4.9							
ESDC	**Sonseca Array**	**156.87**	**344**	PKPab	**PKPab**	**03 51 01.8**	**-0.6**
comp=Z,0.5nm,0.5s,baz=38,slow=3.7,SNR=6.7							
TORD	**Torodi Ar. Bea**	**166.03**	**254**	PKP	**PKPdf**	**03 50 41.9**	**-0.9**
comp=Z,2.3nm,0.9s,baz=169,slow=0.7,SNR=9.1							
TORD				PKPab	**PKPab**	**03 51 42.6**	**-0.6**
comp=Z,0.7nm,0.8s,baz=114,slow=2.6,SNR=2.7							

*PGC **13** 03:44:34.1±1.1, 50°.44N×130°.22W, h10km, MLSn3.2/42, Mw3.8/42, 200km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **13** 03:44:36.8±1.5, 50°.66N×129°.76W, h0km, mb3.6/2, mb1 4.0/9, mb1mx3.6/53, mbtmp3.7/9, ML3.6/6, MS3.3/12, Ms1 3.3/12, ms1mx3.1/42, Error ellipse: s-maj=23.2km s-min=10.1km az=70.0*

ISC 13 03:44:35.1±1.9, 50°.58N±0°.05×130°.03W±0°.05, h4km±12km, n96, σ1§90/99, MS3.2/4, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.21**	**87**	P	**Pg**	**03 44 56.8**	**-1.4**
HOLB				S	**Sg**	**03 45 13.0**	**-0.9**
PACB	**Port Alice, BC**	**1.62**	**94**	Pn	Pn	03 45 02.2	-2.3
PACB				Sn	**Sn**	**03 45 22.5**	**-3.3**
PHC	**Port Hardy**	**1.66**	**85**	Pn	**Pn**	**03 45 03.4**	**-1.5**
PHC				Sn	**Sn**	**03 45 24.1**	**-2.4**
MAYB	**Maynard**	**1.83**	**95**	Pn	Pn	03 45 05.3	-2.1
HG4B	**Hotspring**	**1.86**	**337**	Pn	Pn	03 45 04.8	-3.0
HG4B				Sn	**Sn**	**03 45 27.8**	**-3.9**
EDB	**Eliza Dome**	**2.00**	**110**	Pn	Pn	03 45 06.6	-3.0
EDB				Sn	**Sn**	**03 45 30.1**	**-5.0**
BBB	**Bella Bella**	**2.00**	**36**	Pn	**Pn**	**03 45 09.0**	**-0.6**
15nm,0.3s,baz=221,slow=16,SNR=168							
BBB				Sn	**Sn**	**03 45 31.2**	**-3.9**
67nm,0.3s,baz=151,slow=23,SNR=8.4							
BBB				LR	LR	03 45 35.7	
comp=Z,132nm,19.1s,baz=60,slow=32							
BBB	**Bella Bella**	**2.00**	**36**	Pn	**Pn**	**03 45 09.0**	**-0.6**
BBB				Sn	**Sn**	**03 45 33.0**	**-2.0**
TLCB	**Telegraph Cove**	**2.04**	**90**	Pn	**Pn**	**03 45 08.8**	**-1.3**
TLCB				Sn	**Sn**	**03 45 33.5**	**-2.5**
WOSB	**Woss**	**2.25**	**100**	Pn	**Pn**	**03 45 11.5**	**-1.7**
BNB	**Barry Inlet**	**2.27**	**332**	Pn	Pn	03 45 10.3	-3.1
NCRB	**Newcastle Ridg**	**2.54**	**93**	Pn	**Pn**	**03 45 15.6**	**-1.6**
ETB	**Estevan Point**	**2.56**	**117**	Pn	Pn	03 45 14.7	-2.6
BUTB	**Butedale**	**2.67**	**21**	Pn	**Pn**	**03 45 18.5**	**-0.4**
BUTB				Sn	**Sn**	**03 45 48.8**	**-2.9**
GDR	**Gold River**	**2.69**	**106**	Pn	Pn	03 45 17.0	-2.1
HG1B	**Mitchell Dam**	**2.69**	**332**	Pn	**Pn**	**03 45 16.8**	**-2.3**
HG1B				Sn	**Sn**	**03 45 48.4**	**-3.7**
BNKB	**Banks Island**	**2.75**	**2**	Pn	**Pn**	**03 45 18.6**	**-1.4**
BNKB				Sn	**Sn**	**03 45 50.7**	**-3.0**
MOBC	**Moresby Island**	**2.83**	**336**	Pn	Pn	03 45 18.4	-2.7
MOBC				Sn	**Sn**	**03 45 53.1**	**-2.6**
BNAB	**Bonilla**	**2.94**	**353**	Pn	**Pn**	**03 45 20.7**	**-1.8**
BNAB				Sn	**Sn**	**03 45 54.6**	**-3.6**
TOFB	**Tofino**	**3.02**	**117**	Pn	**Pn**	**03 45 21.6**	**-2.0**
DIB	**Dawson Inlet,**	**3.03**	**331**	Pn	Pn	03 45 21.1	-2.7
DIB				Sn	**Sn**	**03 45 57.3**	**-3.2**
H02S1	**DAWSON INLET T**	**3.03**	**331**	Pn	Pn	03 45 21.2	-2.6
H02S1				Sn	**Sn**	**03 45 56.1**	**-4.4**
CBB	**Campbell River**	**3.04**	**99**	Pn	**Pn**	**03 45 22.7**	**-1.2**
HWKB	**Hawksbury Isla**	**3.07**	**10**	Pn	**Pn**	**03 45 22.9**	**-1.5**
HWKB				Sn	**Sn**	**03 45 59.2**	**-2.3**
BTB	**Buttle Lake**	**3.11**	**109**	Pn	**Pn**	**03 45 22.9**	**-2.2**
MWAB	**Mount Washingt**	**3.15**	**104**	Pn	**Pn**	**03 45 24.2**	**-1.4**
GRNB	**Grenville Isla**	**3.27**	**1**	Pn	**Pn**	**03 45 25.9**	**-1.2**
GRNB				Sn	**Sn**	**03 46 03.6**	**-2.8**
B012	**Ucluelet**	**3.35**	**118**	Pn	**Pn**	**03 45 26.0**	**-2.2**
OZB	**Mount Ozzard**	**3.36**	**117**	Pn	**Pn**	**03 45 26.2**	**-2.1**
OZB				Sn	Sn	03 46 01.4	-7.2
KITB	**Kitimat**	**3.60**	**13**	Pn	**Pn**	**03 45 31.2**	**-0.5**
KITB				Sn	**Sn**	**03 46 12.9**	**-1.7**
B928	**Bamfield**	**3.63**	**117**	Pn	**Pn**	**03 45 30.1**	**-1.8**
B927	**Port Alberni**	**3.64**	**110**	Pn	**Pn**	**03 45 30.4**	**-1.7**
TXB	**Texada**	**3.70**	**102**	Pn	**Pn**	**03 45 31.7**	**-1.4**
RUBB	**Prince Rupert**	**3.75**	**358**	Pn	**Pn**	**03 45 32.7**	**-1.0**
RUBB				Sn	**Sn**	**03 46 15.8**	**-2.4**
MGB	**Mount Grey**	**3.80**	**113**	Pn	**Pn**	**03 45 32.7**	**-1.8**

*NNC **13** 03:45:46.2±1.7, 53°.74N×86°.56E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=22.9km s-min=8.7km az=23.0, Suspected Mining explosion.*

IDC 13 03:45:44.8±2.4, 53°.64N×86°.71E, h0km, mb1 2.9/2, mb1mx2.8/49, mbtmp2.9/2, ML2.3/2, 4C-1D, Error ellipse: s-maj=21.6km s-min=12.8km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**286**	*i*		03 53 50.0	
	baz=104,slow=306,SNR=0.8						
ZAA0	**Zalesovo Array**	**1.17**	**286**	⇑P	Pg	03 46 06.3	-0.8
	1.5nm,0.9s						
ZAA0				⇑S	Sg	03 46 20.5	-1.7
	5.1nm,0.9s						
ZAA0				⇑Rg	Rg	03 46 26.1	
ZALV	**Zalesovo Beam**	**1.17**	**286**	Pg	Pg	03 46 06.3	-0.8
	0.8nm,0.3s,baz=105,slow=17,SNR=23						
ZALV				Lg	Lg	03 46 22.8	
	1.5nm,0.3s,baz=104,slow=29,SNR=15						
KURBB	**Kurchatov Arra**	**5.87**	**242**	Pn	Pn	03 47 14.4	+1.4
	0.0nm,0.3s,baz=59,slow=14,SNR=8.3						
KURBB				Lg	Lg	03 48 50.4	
	0.0nm,0.3s,baz=59,slow=31,SNR=1.8						
KURBB	**Kurchatov Arra**	**5.87**	**242**	⇓Pn	Pn	03 47 14.7	+1.7
	4.0nm,1.0s						
KURBB				⇑Lg	Lg	03 48 51.3	
	8.0nm,0.9s						
MK31	**Makanchi Array**	**7.41**	**204**	Pn	Pn	03 47 35.6	+1.4
	0.9nm,0.7s,baz=30,slow=13,SNR=6.1						
MK31				Lg	Lg	03 49 43.0	
	3.6nm,0.9s,baz=31,slow=23,SNR=6.5						
MKAR	**Makanchi Array**	**7.41**	**204**	Pn	Pn	03 47 35.2	+1.0
	0.1nm,0.3s,baz=28,slow=13,SNR=6.5						
MKAR				Lg	Lg	03 49 37.2	
	0.0nm,0.3s,baz=25,slow=31,SNR=8.9						

*NNC **13** 03:48:54.1±1.8, 53°.87N×86°.97E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=26.5km s-min=10.7km az=14.0, Suspected Mining explosion.*

IDC 13 03:48:55.4±2.5, 53°.58N×86°.88E, h0km, mb1 2.8/2, mb1mx2.8/45, mbtmp2.8/2, ML2.5/2, 4C-2D, Error ellipse: s-maj=23.0km s-min=12.9km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**287**	*i*		03 57 10.0	
	baz=104,slow=304,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.28**	**287**	⇑P	Pg	03 49 17.9	-1.9
	0.4nm,0.6s						
ZAA0				⇓S	Sg	03 49 35.2	-1.2
	3.0nm,1.1s						
ZAA0				⇑Rg	Rg	03 49 42.2	
ZALV	**Zalesovo Beam**	**1.28**	**287**	Pg	Pg	03 49 18.4	-1.5
	1.2nm,0.3s,baz=104,slow=16,SNR=6.3						
ZALV				Lg	Lg	03 49 36.1	
	1.4nm,0.3s,baz=107,slow=30,SNR=8.2						
ZALV				Rg	Rg	03 49 44.8	
	2.1nm,0.4s,baz=107,slow=29,SNR=3.8						
KURBB	**Kurchatov Arra**	**5.94**	**243**	Pn	Pn	03 50 26.3	+1.9
	0.1nm,0.3s,baz=58,slow=22,SNR=5.0						
KURBB				Lg	Lg	03 52 03.3	
	0.0nm,0.3s,baz=60,slow=35,SNR=4.4						
KURBB	**Kurchatov Arra**	**5.94**	**243**	⇓Pn	Pn	03 50 26.7	+2.3
	0.6nm,0.3s						
KURBB				⇑Lg	Lg	03 52 05.8	
	5.7nm,0.8s						
MK31	**Makanchi Array**	**7.41**	**205**	Pn	Pn	03 50 47.0	+2.3
	0.3nm,0.3s,baz=27,slow=14,SNR=6.4						
MK31				⇑Lg	Lg	03 52 57.1	
	2.7nm,1.1s,baz=223,slow=42,SNR=2.8						
MKAR	**Makanchi Array**	**7.41**	**205**	Pn	Pn	03 50 46.1	+1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=5.7						
MKAR				Sn	Sn	03 52 07.8	-1.6
	0.1nm,0.3s,baz=26,slow=26,SNR=3.3						
MKAR				Lg	Lg	03 52 49.6	
	0.0nm,0.3s,baz=26,slow=34,SNR=4.6						

IDC 13 03:51:07.0±7.5, 2°.40N×125°.21E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/37, mbtmp3.8/3, Error ellipse: s-maj=211.2km s-min=118.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**158**	P	P	03 56 23.0	-0.1
	3.1nm,0.8s,baz=337,slow=10,0,SNR=5.6						
ASAR	**Alice Springs**	**27.25**	**162**	P	P	03 56 53.3	+0.1
	0.3nm,0.5s,baz=338,slow=8,5,SNR=5.0						
STKA	**Stephens Creek**	**37.47**	**157**	P	P	03 58 22.4	-0.1
	1.5nm,0.5s,baz=348,slow=9.3,SNR=3.8						

*IDC **13** 03:52:53.6±8.1, 80°.26N×25°.02E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.2/44, mbtmp3.4/4, ML2.7/3, MS2.4/1, Ms1 2.5/1, ms1mx2.2/34, Error ellipse: s-maj=134.6km s-min=96.3km az=78.0*

*BER **13** 03:52:58.9±2.7, 79°.89N×21°.03E, h15km±10km, ML3.0, ML3.7(NAO), Confirmed Earthquake*

*IEPN **13** 03:52:59.0, 79°.77N×20°.63E, h10km*

*NAO **13** 03:52:59.2±2.6, 79°.82N×20°.47E, h19km±12km, ML3.7*

ISC 13 03:52:57.4±1.0, 79°.87N±0°.06×20°.95E±0°.04, h10km, n40, σ2°23/63, 3D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.91**	**210**	Pn	**Pn**	**03 53 29.2**	**-0.7**
	baz=30,slow=14						
SPA0				Pg	**Pb**	**03 53 32.9**	**+0.6**
	baz=26,slow=16						
SPA0				Lg	Lg	03 53 56.9	
	baz=20,slow=56						
SPA0	**Spitsbergen Ar**	**1.91**	**210**	Pn	**Pn**	**03 53 29.2**	**-0.7**
	baz=30,slow=14						
SPA0				Pg	**Pb**	**03 53 33.2**	**+0.9**
	baz=26,slow=16						
SPA0				Sg	**Sn**	**03 53 56.9**	**+2.8**
	baz=20,slow=56						
KBS	**Kingsbay**	**1.91**	**245**	Pn	**Pn**	**03 53 29.1**	**-0.9**
KBS				Pg	**Pb**	**03 53 32.7**	**+0.4**
KBS				Lg	Lg	03 53 56.4	
KBS	**Kingsbay**	**1.91**	**245**	*e*P	**Pn**	**03 53 29.1**	**-0.9**
KBS				*e*Pg	**Pb**	**03 53 32.8**	**+0.4**
KBS				*e*S	**Sn**	**03 53 51.5**	**-2.6**
KBS				*e*Sg	**Sb**	**03 53 55.8**	**-0.4**
KBS				IAML		03 54 00.6	
	comp=Z,327nm,0.3s						
KBS	**Kingsbay**	**1.91**	**245**	⇓*i*P	**Pn**	**03 53 29.0**	**-1.1**
KBS				*i*S	**Sn**	**03 53 51.5**	**-2.6**
BRBB	**Barentsburg B**	**2.20**	**219**	Pn	**Pn**	**03 53 33.4**	**-0.6**
BRBB				Sn	**Sn**	**03 53 59.3**	**-2.0**
BRBB				Lg	Lg	03 54 07.4	
BRBB	**Barentsburg B**	**2.20**	**219**	⇓*i*P	**Pn**	**03 53 33.3**	**-0.6**
BRBB				*e*S	**Sn**	**03 53 59.2**	**-2.0**
BRBA	**Barentsburg A**	**2.23**	**219**	Pn	**Pn**	**03 53 33.8**	**-0.5**
BRBA				Sn	**Sn**	**03 54 00.1**	**-1.8**
BRBA				Lg	Lg	03 54 07.6	
BRBA	**Barentsburg A**	**2.23**	**219**	⇓*i*P	**Pn**	**03 53 33.8**	**-0.5**
BRBA				*e*S	**Sn**	**03 53 58.7**	**-3.2**
BRBA				*e*Sg	**Sb**	**03 54 07.6**	**+2.3**
BRBA				IAML		03 54 13.3	
	comp=Z,282nm,0.5s						
HSPB	**Hornsund (broa**	**3.08**	**203**	*e*Pn	**Pn**	**03 53 45.4**	**-0.6**
HSPB				*e*Sn	**Sb**	**03 54 34.8**	**+5.2**
HSPB	**Hornsund (broa**	**3.08**	**203**	Pn	**Pn**	**03 53 46.2**	**+0.2**
HSPB				Pg	**Pb**	**03 53 52.9**	**+0.7**
HSPB				Lg	Lg	03 54 33.8	
HSPB	**Hornsund (broa**	**3.08**	**203**	*e*P	**Pn**	**03 53 45.2**	**-0.7**
HSPB				*e*Pg	**Pb**	**03 53 53.1**	**+0.9**
HSPB				*e*S	**Sn**	**03 54 20.9**	**-1.9**
HSPB				IAML		03 54 35.3	
	comp=Z,133nm,0.5s						
HSPB	**Hornsund (broa**	**3.08**	**203**	*e*P	**Pn**	**03 53 45.3**	**-0.7**
HSPB				S	**Sn**	**03 54 18.6**	**-4.2**
HOPEN	**Hopen**	**3.48**	**164**	Pn	**Pn**	**03 53 51.0**	**-0.5**
HOPEN				Sn	**Sn**	**03 54 30.3**	**-2.2**
HOPEN				Lg	Lg	03 54 46.5	
HOPEN	**Hopen**	**3.48**	**164**	*e*P	**Pn**	**03 53 50.9**	**-0.5**
HOPEN				*e*Pg	**Pb**	**03 54 00.2**	**+1.3**
HOPEN				*e*S	**Sn**	**03 54 30.3**	**-2.2**
HOPEN				*e*Sg	**Sb**	**03 54 44.3**	**+3.1**
HOPEN				IAML		03 54 53.7	
	comp=Z,130nm,0.4s						
HOPEN	**Hopen**	**3.48**	**164**	*e*P	**Pn**	**03 53 51.2**	**-0.3**
HOPEN				*e*S	**Sn**	**03 54 30.0**	**-2.6**
ZFI2	**Zemlya Franca-**	**4.57**	**65**	*e*P	**Pn**	**03 54 06.7**	**+0.2**
ZFI2				*e*S	**Sn**	**03 54 56.6**	**-2.8**
	comp=Z,29nm,0.3s						
BJO1	**Bjornoya**	**5.41**	**186**	Pn	**Pn**	**03 54 16.4**	**-1.6**
BJO1				Sn	**Sn**	**03 55 14.1**	**-6.2**
BJO1				Lg	Lg	03 55 48.0	
BJO1	**Bjornoya**	**5.41**	**186**	*e*P	**Pn**	**03 54 16.1**	**-1.9**
BJO1				*e*S	**Sn**	**03 55 14.0**	**-6.2**
BJO1				IAML		03 55 15.9	
	comp=Z,15nm,0.2s						
BJO1	**Bjornoya**	**5.41**	**186**	*e*P	**Pn**	**03 54 15.6**	**-2.4**
BJO1				*e*S	Sn	03 55 11.6	-8.6
NOR	**Nord**	**6.22**	**304**	Pn	**Pn**	**03 54 28.8**	**-0.3**
NOR	**Nord**	**6.22**	**304**	Pn	**Pn**	**03 54 28.8**	**-0.3**
DAG	**Danmarks Havn**	**8.44**	**269**	*e*P	**Pn**	**03 54 58.7**	**-0.8**
DAG				*e*S	Sn	03 56 24.4	-10
HAMF	**Hammerfest**	**9.30**	**174**	Pn	**Pn**	**03 55 10.9**	**-0.4**
HAMF				Sn	Sn	03 56 46.3	-9.4
HAMF	**Hammerfest**	**9.30**	**174**	*e*P	Pn	03 55 07.6	-3.7
KEV	**Kevo**	**10.28**	**168**	Pn	**Pn**	**03 55 24.0**	**-0.7**
KEV				Sn	**Sn**	**03 57 13.0**	**-6.7**
TRO	**Tromso**	**10.30**	**184**	*e*P	Pn	03 55 20.8	-4.2
JETT	**Jettan, Norway**	**10.37**	**181**	*e*P	Pn	03 55 21.4	-4.6
ARA0	**ARCESS Array S**	**10.45**	**171**	Pn	**Pn**	**03 55 26.2**	**-0.9**
	baz=357,slow=14						
ARA0				Sn	Sn	03 57 14.5	-10
	baz=4.2,slow=22						
ARA0	**ARCESS Array S**	**10.45**	**171**	Pn	**Pn**	**03 55 26.2**	**-0.9**
	baz=357,slow=14						
ARA0				Sn	Sn	03 57 14.5	-10
	baz=4.2,slow=22						
ARCES	**ARCESS Array B**	**10.45**	**171**	Pn	**Pn**	**03 55 26.3**	**-0.8**
	baz=4.7,slow=12,SNR=16						
ARCES				Sn	Sn	03 57 14.2	-10
	baz=3.4,slow=20,SNR=11						
KIF	**Kilpisjarvi**	**10.92**	**180**	Pn	**Pn**	**03 55 32.5**	**-0.9**
KIF				Sn	Sn	03 57 24.1	-11
KTK1	**Kautokeino**	**10.93**	**176**	*e*P	Pn	03 55 28.5	-5.1
APA0	**Apatity Array**	**12.72**	**159**	Pn	**Pn**	**03 55 56.4**	**-1.6**
	baz=357,slow=10						
APA0				Sn	Sn	03 58 09.7	-10
	baz=354,slow=22						
APA0	**Apatity Array**	**12.72**	**159**	Pn	**Pn**	**03 55 56.4**	**-1.6**
	baz=357,slow=10						
APA0				Sn	Sn	03 58 09.7	-10
	baz=354,slow=22						
FINES	**FINESS Array B**	**18.58**	**172**	P	**P**	**03 57 15.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=10,SNR=2.2						
NOA	**NORSAR Array B**	**19.14**	**195**	P	**Pn**	**03 57 24.4**	**+3.2**
	comp=Z,0.0nm,0.3s,baz=8.7,slow=12,SNR=1.6						
NOA				LR	LR	04 04 41.7	
	comp=Z,9.5nm,18.9s,baz=85,slow=36						
HFS	**Hagfors**	**19.95**	**191**	P	**P**	**03 57 28.9**	**-0.2**
	baz=11,slow=10						
HFS	**Hagfors**	**19.95**	**191**	P	**P**	**03 57 28.9**	**-0.2**
	baz=11,slow=10						
AKASG	**Malin Array Be**	**29.42**	**169**	P	**P**	**03 59 00.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=351,slow=9.2,SNR=1.5						

*FUNV **13** 03:58:09.9, 11°.60N×65°.10W, h5km, MW3.4*

*TRN **13** 03:58:18.1, 12°.04N×64°.34W, h118km, M4.3(FDF)*

ISC 13 03:58:09.8±1.2, 11°.73N±0°.06×65°.09W±0°.05, h35km, n30, σ1°45/41, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**1.61**	**164**	*e*P	**Pn**	**03 58 37.0**	**+1.3**
PCRV				*e*S	**Sn**	**03 58 56.6**	**+1.3**
TACV	**Tcata**	**2.48**	**230**	*e*P	**Pn**	**03 58 49.2**	**+1.5**
TACV				*e*S	**Sn**	**03 59 18.2**	**+1.3**
MERV	**Las Mercedes**	**2.74**	**206**	*e*P	**Pn**	**03 58 52.3**	**+1.0**
MERV				*e*S	**Sn**	**03 59 22.7**	**-0.5**
TURV	**Turiamo**	**2.99**	**245**	*e*P	**Pn**	**03 58 55.1**	**+0.4**
TURV				*e*S	**Sn**	**03 59 29.8**	**+0.4**
BENV	**Beln**	**3.03**	**235**	*e*S	**Sn**	**03 59 31.3**	**+0.8**
GRGR	**Grenville**	**3.38**	**83**	*e*P	**Pn**	**03 59 00.9**	**+0.7**
GCMP	**Grenada, Carri**	**3.66**	**78**	*e*P	**Pn**	**03 59 03.6**	**-0.3**
JACV	**Jacura**	**3.73**	**260**	*e*P	**Pn**	**03 59 07.0**	**+2.1**
JACV				*e*S	**Sn**	**03 59 48.0**	**+0.4**
TRN	**Trinidad (W)**	**3.77**	**106**	*e*P	**Pn**	**03 59 08.1**	**+2.6**
BAUV	**El Baul**	**4.02**	**227**	*e*P	**Pn**	**03 59 10.2**	**+1.3**
BAUV				*e*S	**Sn**	**03 59 54.6**	**-0.2**
SVB	**Belmont**	**4.05**	**67**	*e*P	**Pn**	**03 59 09.1**	**-0.2**
CACV	**CAICARA DEL OR**	**4.38**	**199**	*e*P	**Pn**	**03 59 13.0**	**-0.9**
CACV				*e*S	**Sn**	**03 59 59.5**	**-4.3**
SLBI	**Saint Lucia, B**	**4.61**	**60**	*e*P	**Pn**	**03 59 16.4**	**-0.6**
MONV	**Montecano**	**4.79**	**273**	*e*P	**Pn**	**03 59 21.5**	**+2.0**
MONV				*e*S	**Sn**	**04 00 13.7**	**0.0**
BIM	**Bigot**	**4.79**	**54**	*e*P	**Pn**	**03 59 18.8**	**-0.8**
TRMF	**Trois Ilets**	**4.82**	**54**	*e*P	**Pn**	**03 59 19.3**	**-0.6**
FDF	**Fort de France**	**4.86**	**52**	*e*P	**Pn**	**03 59 20.4**	**-0.1**
ZAM	**Aeronautique**	**4.86**	**54**	*e*P	**Pn**	**03 59 20.0**	**-0.4**
PML	**Morne Lenard**	**4.86**	**51**	*e*P	**Pn**	**03 59 20.4**	**-0.2**
PCM	**Pelee Case Pet**	**4.86**	**50**	*e*P	**Pn**	**03 59 20.1**	**-0.5**
GBMF	**Grand Be**	**4.88**	**51**	*e*P	**Pn**	**03 59 20.6**	**-0.3**
LPMF	**Morne Lapointe**	**4.91**	**54**	*e*P	**Pn**	**03 59 20.7**	**-0.4**
BAMF	**Morne Balai**	**4.91**	**51**	*e*P	**Pn**	**03 59 20.9**	**-0.3**
MPOM	**Morne Pois Mar**	**4.92**	**56**	*e*P	**Pn**	**03 59 20.8**	**-0.5**
CURV	**Curarigua**	**5.08**	**251**	*e*P	**Pn**	**03 59 24.8**	**+1.1**
CURV				*e*S	**Sn**	**04 00 19.5**	**-1.7**
DSLB	**Salisbury**	**5.13**	**44**	*e*P	**Pn**	**03 59 24.3**	**+0.2**
TDBA	**Terre de Bas,**	**5.29**	**39**	*e*P	**Pn**	**03 59 26.8**	**+0.4**
DABV	**Dabajuro**	**5.50**	**262**	*e*P	**Pn**	**03 59 30.5**	**+1.1**
DABV				*e*S	**Sn**	**04 00 29.0**	**-2.4**
MAGL	**Barre de l'ile**	**5.59**	**41**	*e*P	**Pn**	**03 59 30.8**	**+0.2**
SOCV	**Socops**	**6.63**	**239**	*e*P	**Pn**	**03 59 45.1**	**+0.2**
SOCV				*e*S	**Sn**	**04 00 54.9**	**-4.5**

*MOS **13** 04:15:29.6±1.0, 53°.28N×108°.02E, h12km, mb4.4/11, Error ellipse: s-maj=8.5km s-min=5.8km az=63.5*

MOS Felt (II) at Onguryeny.

*IDC **13** 04:15:29.1±0.8, 53°.33N×108°.04E, h0km, mb3.8/9, mb1 4.0/15, mb1mx3.8/42, mbtmp3.9/15, ML3.4/6, MS3.5/11, Ms1 3.5/11, ms1mx3.2/40, Error ellipse: s-maj=16.5km s-min=9.9km az=140.0*

*NEIC **13** 04:15:31.9±1.5, 53°.3N±0°.1×108°.0E±0°.2, h15km±5km, mb4.3/14, Error ellipse: s-maj=15.0km s-min=13.2km az=213.0*

*BYKL **13** 04:15:31.2±0.1, 53°.29N×107°.92E, h14km±2km, FELT I=II MSK at Onguren*

ISC 13 04:15:30.6±1.0, 53°.27N±0°.02×107°.96E±0°.02, h4km±7km, n135, σ2°29/203, mb4.3/21, MS3.5/9, 21C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.43**	**330**	⇑*i*Pg	**Pg**	**04 15 40.9**	**+2.0**
OGRR				Pmax		04 15 41.2	
	2μm,0.3s						
OGRR				*e*Sg	**Sg**	**04 15 46.3**	**+1.8**
OGRR				Smax		04 15 47.4	
	12μm,0.4s						
OGRR	**Ongureny**	**0.43**	**330**	⇑*i*PG	**Pg**	**04 15 41.0**	**+2.0**
OGRR				*e*		04 15 46.3	
OGRR				pmax	pmax		
	comp=Z,2μm,0.3s						
OGRR				smax	smax		
	comp=N,11μm,0.4s						
MXMB	**Maximikha**	**0.47**	**91**	⇑*i*Pg	**Pg**	**04 15 40.8**	**+1.1**
MXMB				*e*Sg	**Sg**	**04 15 47.8**	**+2.0**
KELR	**Kotokel**	**0.52**	**172**	⇑*i*Pg	**Pg**	**04 15 41.0**	**+0.5**
KELR				*e*Sg	**Sg**	**04 15 48.2**	**+0.9**
TRG	**Tyrgan**	**1.10**	**243**	⇑*i*Pg	**Pg**	**04 15 50.4**	**-1.3**
TRG				Pmax		04 15 57.9	
	comp=N,725nm,0.2s						
TRG				*e*Sg	**Sg**	**04 16 04.2**	**-1.7**
TRG				*e*		04 16 08.3	
TRG				max		04 16 10.2	
	comp=N,7μm,0.3s						
TRG	**Tyrgan**	**1.10**	**243**	⇑*i*PG	**Pg**	**04 15 50.4**	**-1.3**
TRG				*e*		04 16 05.5	
TRG				pmax	pmax		
	comp=Z,350nm,0.1s						
TRG				smax	smax		
	comp=N,7μm,0.3s						
SYVR	**Suvo**	**1.28**	**72**	*e*Pg	**Pn**	**04 15 54.1**	**-1.2**
SYVR				*e*Pb	**Pb**	**04 15 55.0**	**-0.2**
SYVR				max		04 15 55.3	
	comp=N,942nm,0.4s						
SYVR				*e*Sg	**Sb**	**04 16 11.6**	**-0.4**
SYVR				*e*Sb	**Sn**	**04 16 13.2**	**+0.4**
SYVR				max		04 16 13.9	
	comp=N,5μm,0.3s						
SYVR	**Suvo**	**1.28**	**72**	⇑*i*PG	**Pn**	**04 15 54.0**	**-1.2**
SYVR				*e*		04 16 11.6	
SYVR				pmax	pmax		
	comp=Z,1μm,0.5s						
SYVR				smax	smax		
	comp=E,5μm,0.3s						
UUDB	**Ulan-Yde**	**1.42**	**187**	⇓*i*Pg	**Pn**	**04 15 57.2**	**0.0**
UUDB				Pmax		04 15 58.0	
	comp=E,2μm,0.6s						
UUDB				*e*Sg	**Sb**	**04 16 16.4**	**+0.4**
UUDB				Smax		04 16 19.7	
	comp=E,4μm,0.5s						
FFNB	**Fofonovo**	**1.43**	**211**	⇑*i*Pg	**Pn**	**04 15 58.0**	**+0.7**
FFNB				*e*Sg	**Sb**	**04 16 16.9**	**+0.6**
FFNB				*e*Sb	**Sg**	**04 16 18.2**	**+1.8**
BGT	**Bolshoye Golou**	**1.98**	**233**	*e*Pn	**Pn**	**04 16 04.9**	**0.0**
BGT				*e*Pg	**Pb**	**04 16 06.7**	**-0.5**
BGT				Pmax		04 16 18.9	
	comp=E,313nm,0.6s						
BGT				*e*Sn	**Sn**	**04 16 29.3**	**-0.8**
BGT				*e*Sg	**Sb**	**04 16 32.7**	**+0.5**
BGT				Smax		04 16 47.9	
	comp=E,1μm,0.9s						
BGT	**Bolshoye Golou**	**1.98**	**233**	*e*PN	**Pn**	**04 16 04.7**	**-0.2**
BGT				*e*		04 16 06.3	
BGT				*e*		04 16 32.7	
BGT				pmax	pmax		
	comp=Z,150nm,0.5s						
BGT				smax	smax		
	comp=N,1μm,0.5s						
LSTR	**Listvyanka**	**2.37**	**235**	⇑*i*Pn	**Pn**	**04 16 10.5**	**+0.3**
LSTR				*e*Pg	**Pb**	**04 16 14.3**	**+0.5**
LSTR				Pmax		04 16 29.5	
	comp=N,173nm,0.7s						
LSTR				*e*Sn	**Sn**	**04 16 39.3**	**-0.4**
LSTR				*e*Sg	**Sb**	**04 16 44.3**	**+0.9**
LSTR				Smax		04 16 53.9	
	comp=N,747nm,0.9s						
LSTR	**Listvyanka**	**2.37**	**235**	⇑*i*PN	**Pn**	**04 16 10.5**	**+0.3**
LSTR				*e*		04 16 12.0	
LSTR				*e*S	**Sn**	**04 16 39.0**	**-0.7**
LSTR				*e*		04 16 42.7	
LSTR				pmax	pmax		
	comp=Z,64nm,0.2s						
LSTR				smax	smax		
	comp=N,744nm,0.9s						
IRK	**Irkutsk**	**2.47**	**247**	*e*Pn	**Pn**	**04 16 12.1**	**+0.5**
IRK				*e*Pg	**Pb**	**04 16 15.7**	**+0.2**
IRK				Pmax		04 16 18.0	
	comp=N,476nm,0.1s						
IRK				*e*		04 16 23.2	
IRK				*e*Sn	**Sn**	**04 16 40.1**	**-2.0**
IRK				*e*Sg	**Sb**	**04 16 46.1**	**-0.1**
IRK				*e*SgSg	**SnSn**	**04 16 54.6**	**+1.9**
IRK				max		04 16 56.6	
	comp=N,5μm,0.8s						
IRK	**Irkutsk**	**2.47**	**247**	*e*PN	**Pn**	**04 16 10.6**	**-1.0**
IRK				*e*		04 16 14.1	
IRK				*e*S	**Sn**	**04 16 41.5**	**-0.6**
IRK				*e*		04 16 45.9	
IRK				pmax	pmax		
	comp=Z,184nm,0.1s						
IRK				smax	smax		
	comp=N,5μm,1.1s						
IVK	**Ivanovka**	**2.62**	**237**	*e*Pn	**Pn**	**04 16 13.9**	**+0.3**
IVK				*e*Pg	**Pb**	**04 16 18.1**	**0.0**
IVK				*e*		04 16 21.3	
IVK				max		04 16 33.1	
	comp=N,177nm,0.7s						
IVK				*e*Sn	**Sn**	**04 16 45.0**	**-0.9**
IVK				*e*Sg	**Sb**	**04 16 51.5**	**+1.0**
IVK				Smax		04 17 06.6	
	comp=N,821nm,1.1s						
IVK	**Ivanovka**	**2.62**	**237**	*e*PN	**Pn**	**04 16 14.0**	**+0.3**
IVK				*e*		04 16 18.2	
IVK				*e*S	**Sn**	**04 16 46.0**	**+0.1**
IVK				*e*		04 16 51.8	
IVK				pmax	pmax		
	comp=Z,101nm,0.4s						
IVK				smax	smax		
	comp=N,646nm,0.4s						
NIZ	**Nizh Angarsk**	**2.67**	**20**	*e*Pn	**Pn**	**04 16 15.2**	**+0.8**
NIZ				*e*		04 16 17.9	
NIZ				*e*Pg	**Pb**	**04 16 19.9**	**+0.9**
NIZ				*e*PgPg	**Pg**	**04 16 23.5**	**+1.7**
NIZ				max		04 16 37.8	
	comp=N,170nm,0.4s						
NIZ				*e*Sn	**Sn**	**04 16 46.5**	**-0.7**
NIZ				*e*Sg	**Sb**	**04 16 53.2**	**+1.1**
NIZ				Smax		04 16 55.2	
	comp=N,1μm,0.3s						
NIZ	**Nizh Angarsk**	**2.67**	**20**	*e*PN	**Pn**	**04 16 15.1**	**+0.7**
NIZ				*e*		04 16 18.0	
NIZ				*e*S	**Sn**	**04 16 47.4**	**+0.2**
NIZ				*e*		04 16 52.1	
NIZ				pmax	pmax		
	comp=Z,134nm,0.3s						
NIZ				smax	smax		
	comp=N,1μm,0.3s						
TLY	**Talaya**	**3.08**	**241**	Pn	**Pn**	**04 16 20.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=73,slow=8.1,SNR=14						
TLY				Pg	**Pb**	**04 16 26.1**	**+0.1**
	comp=N,0.3nm,0.3s,baz=46,slow=10,SNR=32						
TLY				Sn	**Sn**	**04 16 56.5**	**-0.8**
	comp=N,0.3nm,0.3s,baz=68,slow=19,SNR=9.4						
TLY				Lg	Lg	04 17 04.2	
	comp=N,0.7nm,0.3s,baz=177,slow=18,SNR=13						
TLY	**Talaya**	**3.08**	**241**	*e*Pn	**Pn**	**04 16 20.1**	**+0.1**
TLY				*e*Pg	**Pb**	**04 16 25.9**	**-0.1**
TLY				Pmax		04 16 44.8	
	comp=N,157nm,0.9s						
TLY				*e*Sn	**Sn**	**04 16 56.1

CIT				Pmax			04 16 45.8
	comp=N,312nm,0.5s						
CIT				*e*Sn	**Sn**	**04 17 09.1**	**-1.7**
CIT				*e*Sg	**Sb**	**04 17 23.4**	**+3.8**
CIT				*e*		04 17 31.1	
CIT				max		04 17 31.6	
	comp=N,3μm,0.6s						
CIT	**Chita**	**3.63**	**108**	***e*PN**	**Pn**	**04 16 26.1**	**-1.5**
CIT				*e*		04 16 33.6	
CIT				*e*S	**Sn**	**04 17 08.0**	**-2.8**
CIT				*e*		04 17 23.0	
CIT				pmax	pmax		
	comp=Z,313nm,0.6s						
CIT				smax	smax		
	comp=E,3μm,0.6s						
ARS	**Arshan**	**3.64**	**250**	***e*Pn**	**Pn**	**04 16 28.9**	**+1.2**
ARS				*e*Pg	**Pb**	**04 16 36.4**	**+1.0**
ARS				Pmax		04 16 47.4	
	comp=E,306nm,0.6s						
ARS				*e*Sn	**Sn**	**04 17 09.7**	**-1.4**
ARS				*e*		04 17 20.5	
ARS				*e*Sg	**Sb**	**04 17 22.7**	**+2.8**
ARS				Smax		04 17 29.1	
	comp=E,4μm,0.6s						
UKT	**Uakit**	**3.99**	**54**	***e*Pn**	**Pn**	**04 16 32.3**	**-0.2**
UKT				*e*Pg	**Pb**	**04 16 41.7**	**+0.3**
UKT				*e*		04 16 50.6	
UKT				max		04 16 51.3	
	comp=E,150nm,1.2s						
UKT				*e*Sn	**Sn**	**04 17 18.2**	**-1.5**
UKT				*e*Sg	**Sb**	**04 17 34.4**	**+4.4**
UKT				*e*		04 17 43.4	
UKT				max		04 17 46.7	
	comp=E,653nm,0.7s						
UKT	**Uakit**	**3.99**	**54**	***e*PN**	**Pn**	**04 16 32.6**	**+0.1**
UKT				*e*		04 16 41.5	
UKT				*e*		04 17 34.3	
UKT				pmax	pmax		
	comp=Z,54nm,0.3s						
UKT				smax	smax		
	comp=E,395nm,0.5s						
ZAK	**Zakamensk**	**4.10**	**227**	***e*Pn**	**Pn**	**04 16 34.8**	**+0.7**
ZAK				*e*Pg	**Pb**	**04 16 45.3**	**+2.0**
ZAK				Pmax		04 16 55.9	
	comp=E,137nm,1.1s						
ZAK				*e*Sn	**Sn**	**04 17 19.9**	**-2.6**
ZAK				*e*Sg	**Sg**	**04 17 38.4**	**-3.8**
ZAK				Smax		04 18 07.7	
	comp=E,392nm,1.5s						
ZAK	**Zakamensk**	**4.10**	**227**	***e*PN**	**Pn**	**04 16 34.3**	**+0.2**
ZAK				*e*		04 16 42.4	
ZAK				*e*		04 17 33.2	
ZAK				pmax	pmax		
	comp=Z,40nm,0.6s						
ZAK				smax	smax		
	comp=N,351nm,1.2s						
SVKR	**Severomuysk**	**4.32**	**46**	***e*Pg**	**Pb**	**04 16 48.9**	**+1.8**
SVKR				Pmax		04 16 57.4	
	comp=N,170nm,0.5s						
SVKR				*e*Sn	**Sn**	**04 17 25.9**	**-2.0**
SVKR				*e*Sg	**Sb**	**04 17 45.6**	**+6.1**
SVKR				Smax		04 17 55.2	
	comp=N,2μm,0.5s						
KPC	**Khapcheranga**	**4.51**	**141**	***e*Pn**	**Pn**	**04 16 37.8**	**-2.0**
KPC				*e*Pg	**Pb**	**04 16 53.1**	**+2.7**
KPC				*e*		04 16 56.5	
KPC				max		04 17 05.8	
	comp=N,130nm,1.2s						
KPC				*e*Sn	**Sn**	**04 17 31.5**	**-1.2**
KPC				*e*Sg	**Sb**	**04 17 50.8**	**+5.6**
KPC				Smax		04 17 57.9	
	comp=N,2μm,1.0s						
KPC	**Khapcheranga**	**4.51**	**141**	***e*PN**	**Pn**	**04 16 38.5**	**-1.3**
KPC				*e*		04 16 53.7	
KPC				*e*		04 17 50.4	
KPC				pmax	pmax		
	comp=Z,146nm,1.2s						
KPC				smax	smax		
	comp=E,2μm,1.6s						
MOY	**Mondy**	**4.55**	**252**	***e*Pn**	**Pn**	**04 16 42.4**	**+2.1**
MOY				*e*		04 16 49.5	
MOY				*e*		04 16 57.1	
MOY				max		04 17 05.0	
	comp=E,186nm,1.3s						
MOY				*e*		04 17 34.2	
MOY				*e*Sg	**Sb**	**04 17 50.6**	**+4.3**
MOY				*e*		04 18 02.2	
MOY				max		04 18 05.1	
	comp=E,1μm,1.0s						
MOY	**Mondy**	**4.55**	**252**	***e*PN**	**Pn**	**04 16 42.7**	**+2.4**
MOY				*e*		04 16 54.3	
MOY				*e*S	**Sn**	**04 17 35.5**	**+1.8**
MOY				*e*		04 17 50.4	
ORL	**Orlik**	**4.99**	**265**	***e*PN**	**Pn**	**04 16 47.1**	**+0.8**
ORL				*e*		04 17 00.8	
ORL				*e*		04 18 02.7	
ORL				pmax	pmax		
	comp=Z,277nm,0.6s						
ORL				smax	smax		
	comp=N,551nm,1.9s						
ULN	**Ulaanbaatar**	**5.45**	**186**	PN	**Pn**	**04 16 52.8**	**+0.2**
ULN	**Ulaanbaatar**	**5.45**	**186**	Pn	**Pn**	**04 16 52.8**	**+0.2**
NLYR	**Nelyaty**	**5.51**	**51**	***e*Pn**	**Pn**	**04 16 53.0**	**-0.4**
NLYR				*e*Pg	**Pb**	**04 17 10.1**	**+2.8**
NLYR				Pmax		04 17 20.9	
	comp=N,54nm,0.8s						
NLYR				*e*Sn	**Sn**	**04 17 54.7**	**-2.4**
NLYR				*e*Sg	**Sg**	**04 18 22.0**	**-5.4**
NLYR				*e*		04 18 25.3	
NLYR				max		04 18 35.9	
	comp=N,963nm,1.1s						
NLYR	**Nelyaty**	**5.51**	**51**	***e*PN**	**Pn**	**04 16 52.8**	**-0.6**
NLYR				*e*		04 17 09.2	
NLYR				*e*		04 18 23.0	
NLYR				pmax	pmax		
	comp=Z,59nm,1.6s						
NLYR				smax	smax		
	comp=N,966nm,1.1s						
SONM	**Songino Array**	**5.54**	**191**	Pn	**Pn**	**04 16 54.3**	**+0.4**
	comp=N,1.9nm,0.3s,baz=5.6,slow=13,SNR=20						
SONM				Pg	**Pb**	**04 17 10.1**	**+2.3**
	comp=N,6.9nm,0.3s,baz=2.5,slow=16,SNR=20						
SONM				Sn	**Sn**	**04 17 58.7**	**+0.8**
	comp=N,3.1nm,0.3s,baz=49,slow=18,SNR=1.5						
SONM				Lg	Lg	04 18 24.6	
	comp=N,24nm,0.3s,baz=5.5,slow=32,SNR=12						
SONM	**Songino Array**	**5.54**	**191**	PN	**Pn**	**04 16 53.7**	**-0.1**
SONM	**Songino Array**	**5.54**	**191**		**Pn**	**04 16 53.6**	**-0.1**
BOD	**Bodaibo**	**5.70**	**35**	***e*Pn**	**Pn**	**04 16 55.5**	**-0.5**
BOD				*e*Pg	**Pb**	**04 17 13.0**	**+2.5**
BOD				Pmax		04 17 46.1	
	comp=N,45nm,1.0s						
BOD				*e*Sn	**Sn**	**04 17 59.9**	**-1.9**
BOD				*e*Sg	**Sb**	**04 18 26.8**	**+7.7**
BOD				Smax		04 18 40.8	
	comp=N,271nm,1.7s						
BOD	**Bodaibo**	**5.70**	**35**	***e*PN**	**Pn**	**04 16 54.7**	**-1.3**
BOD				*e*		04 17 12.2	
BOD				*e*		04 18 26.7	
BOD				pmax	pmax		
	comp=Z,43nm,1.1s						
BOD				smax	smax		
	comp=E,272nm,1.2s						
VTMR	**Vitim**	**6.69**	**21**	*e*Sg	**Sg**	**04 18 58.2**	**-6.9**
CRS	**Chara**	**6.94**	**54**	***e*Pn**	**Pn**	**04 17 14.0**	**+1.0**
CRS				*e*Pg	Pb	04 17 36.9	+5.2
CRS				*e*		04 17 39.4	
CRS				max		04 18 26.9	
	comp=E,74nm,0.9s						
CRS				*e*Sn	**Sn**	**04 18 28.4**	**-4.0**
CRS				*e*Sg	**Sg**	**04 19 06.3**	**-7.0**
CRS				Smax		04 19 20.6	
	comp=E,519nm,1.2s						
CRS	**Chara**	**6.94**	**54**	***e*PG**	Pg	04 17 39.0	-4.5
CRS				*e*		04 19 06.0	
CRS				pmax	pmax		
	comp=Z,34nm,0.9s						
CRS				smax	smax		
	comp=E,388nm,1.2s						
KNGR	**Kungurtug, Tuv**	**6.99**	**252**	***e*Pn**	**Pn**	**04 17 15.5**	**+1.8**
KNGR				*e*Pg	**Pb**	**04 17 37.0**	**+4.5**
KNGR				*e*		04 17 50.6	
KNGR				*e*Sn	**Sn**	**04 18 28.3**	**-5.3**
KNGR				*e*Sg	Sg	04 19 06.3	-8.5

TUP	**Tupik**	**7.19**	**76**	⇑*i*Pn	**Pn**	**04 17 15.8**	**-0.6**
TUP				*e*Pg	**Pb**	**04 17 40.6**	**+4.7**
TUP				Pmax		04 17 50.3	
	comp=E,28nm,1.0s						
TUP				*e*Sg	**Sg**	**04 19 13.8**	**-7.5**
TUP				Smax		04 19 23.9	
	comp=E,971nm,0.8s						
TUP	**Tupik**	**7.19**	**76**	***e*PN**	**Pn**	**04 17 15.5**	**-0.9**
TUP				*e*		04 17 39.8	
TUP				*e*S	**Sn**	**04 18 36.8**	**-1.7**
TUP				*e*		04 19 13.7	
TUP				pmax	pmax		
	comp=Z,22nm,0.8s						
TUP				smax	smax		
	comp=N,968nm,0.7s						
YKLR	**Yuktali**	**8.56**	**62**	*e*Pg	Pg	04 18 06.1	-8.2
YKLR				*e*Sg	Sg	04 19 55.6	-9.4
IENR	**Iengra**	**10.20**	**66**	*e*Sg	Sn	04 20 47.5	+55
ZEA	**Zeya**	**11.50**	**80**	*e*P	Pn	04 18 21.1	+5.8
ZEA				*e*S	**Sn**	**04 20 29.8**	**+5.7**
ZEA				smax	smax		
	comp=E,10.0nm,0.3s						
ZEA				MLR	MLR		
	comp=E,400nm,7.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,8.0s						
HHC	**Hu-ho-hao-te**	**12.67**	**167**	*e*P	**Pn**	**04 18 32.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,21nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.5s						
HHC				LR	LR		
	comp=N,660nm,8.9s						
HHC				LR	LR		
	comp=E,260nm,7.9s						
HHC				LR	LR		
	comp=Z,690nm,10.0s						
DGZ	**Jazzator, Alta**	**13.27**	**263**	⇑*e*P	**Pn**	**04 18 40.5**	**+0.7**
ZAA0	**Zalesovo Array**	**13.74**	**282**	Pn	**Pn**	**04 18 44.8**	**-1.2**
ZALV	**Zalesovo Beam**	**13.74**	**282**	Pn	**Pn**	**04 18 44.3**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=79,slow=11,SNR=14						
ZALV				Lg	Lg	04 22 36.4	
	comp=Z,0.3nm,0.3s,baz=87,slow=25,SNR=3.6						
ZALV				LR	LR	04 24 12.3	
	comp=Z,177nm,18.2s,baz=63,slow=38						
ZALV	**Zalesovo Beam**	**13.74**	**282**	*i* P	**Pn**	**04 18 46.4**	**+0.4**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZALV	**Zalesovo Beam**	**13.74**	**282**	Pn	**Pn**	**04 18 45.8**	**-0.2**
YAK	**Yakutsk**	**14.50**	**44**	Lg	Lg	04 22 58.8	
	comp=Z,0.4nm,0.3s,baz=150,slow=20,SNR=1.6						
GTA	**Gaotai**	**14.95**	**205**	⇑P	**P**	**04 19 09.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GTA				smax	smax		
	comp=N,9.0nm,1.6s						
GTA				smax	smax		
	comp=E,13nm,1.5s						
GTA				LR	LR		
	comp=N,290nm,9.6s						
GTA				LR	LR		
	comp=E,170nm,7.6s						
GTA				LR	LR		
	comp=Z,330nm,10.4s						
KLR	**Kul'dur**	**15.41**	**96**	Lg	Lg	04 23 34.0	
	comp=Z,0.2nm,0.3s,baz=227,slow=19,SNR=6.0						
KLR				LR	LR	04 25 27.5	
	comp=Z,147nm,18.4s,baz=271,slow=39						
KLR	**Kul'dur**	**15.41**	**96**	⇑*e*P	**Pn**	**04 19 11.2**	**+2.6**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	**Urumqi**	**16.36**	**243**	*e*P	**P**	**04 19 23.4**	**-0.6**
LZH	**Lanzhou**	**17.43**	**191**	*e*P	**Pn**	**04 19 31.3**	**-3.3**
LZH				pP	P	04 19 34.3	-1.6
LZH				sP	pP	04 19 37.4	+0.2
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
MK31	**Makanchi Array**	**17.66**	**259**	P	**Pn**	**04 19 37.7**	**+0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**17.66**	**259**		**Pn**	**04 19 37.7**	**+0.4**
MKAR	**Makanchi Array**	**17.66**	**259**	P	**Pn**	**04 19 36.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=65,slow=9.6,SNR=10						
MKAR				Lg	Lg	04 24 47.5	
	comp=Z,0.1nm,0.3s,baz=58,slow=31,SNR=2.7						
MKAR	**Makanchi Array**	**17.66**	**259**	*ce*P	**P**	**04 19 38.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**17.66**	**259**		**Pn**	**04 19 37.3**	**0.0**
USRK	**Ussuriysk Ar.**	**18.19**	**110**	Lg	Lg	04 25 08.1	
	baz=332,slow=28,SNR=5.6						
KURK	**Kurchatov**	**18.19**	**274**	P	**Pn**	**04 19 43.2**	**-0.6**
KURK	**Kurchatov**	**18.19**	**274**	P	**Pn**	**04 19 43.2**	**-0.6**
KURBB	**Kurchatov Arra**	**18.27**	**274**	P	**Pn**	**04 19 43.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=67,slow=12,SNR=14						
KURBB				Lg	Lg	04 25 00.6	
	comp=Z,0.0nm,0.3s,baz=67,slow=34,SNR=2.4						
NRIK	**Noril'sk**	**18.69**	**337**	P	**P**	**04 19 47.4**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=151,slow=9.5,SNR=11						
NRIK				S	Sn	04 23 02.1	-17
	comp=Z,0.4nm,0.3s,baz=163,slow=19,SNR=2.5						
NRIK				Lg	Lg	04 25 09.5	
	comp=Z,0.5nm,0.3s,baz=86,slow=19,SNR=1.3						
NRIK				LR	LR	04 28 25.1	
	comp=Z,96nm,21.5s,baz=128,slow=42						
NRIK	**Noril'sk**	**18.69**	**337**	*de*P	**P**	**04 19 48.6**	**-0.8**
NRIK	**Noril'sk**	**18.69**	**337**		**P**	**04 19 48.1**	**-1.3**
NRIK				IAmb	IAmb	04 20 03.2	
	comp=Z,9.4nm,0.8s						
MSHR	**Mys Shultsa**	**18.78**	**115**	⇓*e*P	**P**	**04 19 50.7**	**+0.1**
TIXI	**Tiksi**	**20.59**	**19**	P	**P**	**04 20 08.6**	**-1.6**
	comp=Z,3.5nm,0.5s,baz=203,slow=6.4,SNR=5.0						
TIXI				S	S	04 23 46.1	-14
	comp=Z,4.5nm,0.7s,baz=349,slow=6.1,SNR=3.7						
TIXI				Lg	Lg	04 26 10.5	
	comp=Z,4.0nm,0.7s,baz=148,slow=21,SNR=5.7						
TIXI	**Tiksi**	**20.59**	**19**	⇑*e*P	**P**	**04 20 08.5**	**-1.6**
TIXI	**Tiksi**	**20.59**	**19**	P	**P**	**04 20 08.6**	**-1.6**
TIXI				IAmb	IAmb	04 20 18.6	
	comp=Z,7.1nm,0.8s						
KSRS	**Korea Array**	**21.03**	**131**	LR	LR	04 29 10.6	
	comp=Z,147nm,20.0s,baz=318,slow=39						
BVAR	**Borovoye Array**	**22.37**	**285**	P	**P**	**04 20 28.8**	**-0.6**
	comp=Z,4.7nm,0.5s,baz=80,slow=10,SNR=22						
BRVK	**Borovoye**	**22.42**	**285**	*de*P	**P**	**04 20 29.7**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,19nm,0.9s						
BRVK	**Borovoye**	**22.42**	**285**	P	**P**	**04 20 32.2**	**+2.2**
YSS	**Yuzh-Sakhalins**	**23.02**	**92**	⇓*e*P	**P**	**04 20 34.7**	**-1.7**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	**Ala-Archa**	**24.59**	**258**	LR	LR	04 31 20.7	
	comp=Z,59nm,21.3s,baz=81,slow=39						
SEY	**Seymchan**	**24.88**	**50**	⇑*e*P	**P**	**04 20 53.1**	**-0.8**
KK31	**Karatay Array**	**26.67**	**263**	P	**P**	**04 21 12.6**	**+2.2**
KK31				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KK31	**Karatay Array**	**26.67**	**263**	P	**P**	**04 21 12.6**	**+2.2**
KKAR	**Karatay Array**	**26.67**	**263**	P	**P**	**04 21 12.2**	**+1.8**
KKAR	**Karatay Array**	**26.67**	**263**	P	**P**	**04 21 12.2**	**+1.8**
ARU	**Arti**	**28.12**	**297**	LR	LR	04 34 02.8	
	comp=Z,123nm,18.1s,baz=150,slow=40						
ARU	**Arti**	**28.12**	**297**	*c i*P	**P**	**04 21 27.9**	**+4.7**
ARU						04 22 16.7	
ARU				SS	**SnSn**	**04 27 36.9**	**+14**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARU				MLR	MLR		
	comp=Z,111nm,15.0s						
PETK	**Petropavlovsk-**	**29.32**	**70**	LR	LR	04 33 20.9	
	comp=Z,37nm,19.0s,baz=133,slow=37						
ABKAR	**Akbulak array**	**29.86**	**282**	P	**P**	**04 21 40.0**	**+1.3**
FIA1	**FINESS Array S**	**42.10**	**315**	P	**P**	**04 23 22.3**	**-0.9**
FIA1				IAmb	IAmb	04 23 48.5	
	comp=Z,16nm,1.4s						
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**04 23 21.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=57,slow=7.0,SNR=7.4						
FINES				LR	LR	04 42 37.8	
	comp=Z,113nm,19.8s,baz=46,slow=39						
FINES	**FINESS Array B**	**42.10**	**315**	P	**P**	**04 23 22.2**	**-1.0**
KIV	**Kislovodsk**	**42.74**	**285**	*e*P	**P**	**04 23 27.3**	**-1.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,26nm,16.0s						
AKASG	**Malin Array Be**	**46.24**	**300**	P	**P**	**04 23 55.2**	**-1.2**

	comp=Z,0.2nm,0.4s,baz=46,slow=8.8,SNR=2.3						
AKASG				LR	LR	04 45 19.7	
	comp=Z,58nm,20.4s,baz=55,slow=39						
BMAR	**Burnt Mountain**	**48.09**	**30**	P	**P**	**04 24 11.6**	**+0.8**
BPAW	**Bear Paw Mtn.**	**48.11**	**35**	P	**P**	**04 24 11.4**	**+0.5**
BPAW				IAmb	IAmb	04 24 34.1	
	comp=Z,5.1nm,1.4s						
NOA	**NORSAR Array B**	**48.38**	**320**	P	**P**	**04 24 11.8**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=51,slow=7.2,SNR=2.7						
NOA				LR	LR	04 48 50.9	
	comp=Z,41nm,18.1s,baz=30,slow=41						
COLA	**College**	**48.69**	**33**	⇑*e*P	**P**	**04 24 15.6**	**+0.3**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
IL31		**49.07**	**33**	P	**P**	**04 24 18.6**	**+0.4**
IL31				IAmb	IAmb	04 24 26.3	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**49.07**	**33**	P	**P**	**04 24 18.2**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=302,slow=6.3,SNR=21						
DOT	**Dot Lake**	**50.74**	**33**	P	**P**	**04 24 29.6**	**-1.5**
DOT				IAmb	IAmb	04 24 38.2	
	comp=Z,3.1nm,0.9s						
BCAR	**Beaver Creek A**	**51.89**	**33**	P	**P**	**04 24 39.8**	**+0.1**
GERES	**GERESS Array B**	**55.19**	**307**	LR	LR	04 49 41.5	
	comp=Z,56nm,20.4s,baz=54,slow=37						
ESK	**Eskdalemuir**	**57.85**	**321**	*i* P	**P**	**04 25 19.3**	**-3.6**
CTI	**Castel Tesino**	**58.14**	**305**	P	**P**	**04 25 25.1**	**-0.1**
CTI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTI	**Castel Tesino**	**58.14**	**305**	P	**P**	**04 25 25.1**	**-0.1**
CTI				IAmb	IAmb	04 25 35.8	
	comp=Z,2.9nm,0.7s						
COCO	**West Island**	**65.89**	**192**	*i* P	**P**	**04 26 19.4**	**+2.1**
FFC	**Flin Flon**	**69.55**	**18**	*i* P	**P**	**04 26 43.1**	**+3.1**
BMO	**Blue Mountains**	**74.85**	**32**	P	**P**	**04 27 12.2**	**+0.1**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BMO	**Blue Mountains**	**74.85**	**32**	P	**P**	**04 27 12.2**	**+0.1**
BMO				IAmb	IAmb	04 27 20.7	
	comp=Z,2.5nm,0.8s						
WRAB	**Tennant Creek**	**76.40**	**155**	⇑*e*P	**P**	**04 27 21.6**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**76.40**	**155**	P	**P**	**04 27 20.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=331,slow=3.5,SNR=12						
WRA	**Warramunga Arr**	**76.40**	**155**	*i* P	**P**	**04 27 20.1**	**-0.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**76.40**	**155**	P	**P**	**04 27 20.2**	**-0.8**
WB2	**Warramunga Arr**	**76.41**	**155**	P	**P**	**04 27 20.4**	**-0.5**
WR0	**Warramunga Arr**	**76.47**	**154**	P	**P**	**04 27 20.5**	**-0.8**
ASAR	**Alice Springs**	**79.86**	**156**	P	**P**	**04 27 39.2**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=346,slow=5.3,SNR=7.9						
ASAR	**Alice Springs**	**79.86**	**156**	P	**P**	**04 27 39.5**	**-0.6**
ASAR	**Alice Springs**	**79.86**	**156**	P	**P**	**04 27 39.5**	**-0.6**
NVAR	**Mina Array Bea**	**80.28**	**35**	P	**P**	**04 27 40.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=317,slow=3.7,SNR=2.1						
SNAA	**Sanae**	**145.69**	**212**	PKPdf	**PKPdf**	**04 35 07.9**	**-0.7**
VNA2	**Neumayer--Watz**	**147.10**	**213**	PKPdf	**PKPdf**	**04 35 09.3**	**-1.7**

IDC ***13*** *04:36:38.8±8.9, 21°.09N×144°.66E, h139km±83km, mb3.6/11, mb1 3.7/11, mb1mx3.5/37, mbtmp4.0/11, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=28.1km s-min=15.9km az=96.0*

NEIC ***13*** *04:36:38.4±1.1, 21°.0N±0°.1×144°.5E±0°.2, h123km±2km, mb4.0/21, Error ellipse: s-maj=22.7km s-min=17.4km az=90.0*

ISC 13 04:36:40.3±0.7, 21°.0N±0°.1×144°.6E±0°.2, h150km, n46, σ0=94/44, mb3.8/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**12.78**	**342**	LR	LR		04 43 34.3	
	comp=Z,179nm,20.8s,baz=100,slow=33							
JMM	**Marumori**	**17.11**	**350**	P	**Pn**		**04 40 31.1**	**+0.7**
JMM				IAmb	IAmb		04 40 48.5	
	comp=Z,14nm,1.0s							
KLR	**Kul'dur**	**29.95**	**343**	P	**P**		**04 42 34.0**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=168,slow=10.0,SNR=17							
KNRA	**Kununurra**	**39.62**	**204**	P	**P**		**04 43 57.1**	**-0.2**
WB0	**Warramunga Arr**	**41.73**	**194**	P	**P**		**04 44 15.0**	**+0.3**
WR0	**Warramunga Arr**	**41.88**	**194**	P	**P**		**04 44 16.0**	**+0.1**
WB2	**Warramunga Arr**	**41.91**	**194**	P	**P**		**04 44 16.4**	**+0.3**
WRA	**Warramunga Arr**	**41.91**	**194**	P	**P**		**04 44 16.4**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=13,slow=8.6,SNR=19							
WRA	**Warramunga Arr**	**41.91**	**194**	P	**P**		**04 44 16.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**42.90**	**275**		**P**		**04 44 23.2**	**-1.1**
ASAR	**Alice Springs**	**45.60**	**194**	P	**P**		**04 44 45.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=15,slow=9.5,SNR=2.0							
ZALV	**Zalesovo Beam**	**55.54**	**322**	P	**P**		**04 45 58.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=109,slow=11,SNR=1.5							
MK31	**Makanchi Array**	**56.10**	**313**	P	**P**		**04 46 04.9**	**+0.9**
MKAR	**Makanchi Array**	**56.10**	**313**	P	**P**		**04 46 04.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=87,slow=9.0,SNR=9.3							
MKAR	**Makanchi Array**	**56.10**	**313**	P	**P**		**04 46 04.0**	**+0.1**
KDAK	**Kodiak Island**	**58.05**	**34**	P	**P**		**04 46 15.6**	**-1.8**
	comp=Z,2.8nm,0.9s,baz=265,slow=11,SNR=1.5							
BPAW	**Bear Paw Mtn.**	**60.19**	**27**	P	**P**		**04 46 32.4**	**+0.3**
MLY	**Manley**	**60.52**	**26**	P	**P**		**04 46 34.4**	**+0.1**
MLY				IAmb	IAmb		04 46 35.2	
	comp=Z,1.1nm,1.0s							
BOOM	**Boomskoye usch**	**60.53**	**308**		**P**		**04 46 36.0**	**+1.0**
BOOM				IAmb	IAmb		04 46 43.2	
	comp=Z,2.1nm,1.1s							
I23K	**Minto, Yukon-K**	**61.11**	**26**	P	**P**		**04 46 39.1**	**+0.9**
I23K				IAmb	IAmb		04 46 40.0	
	comp=Z,1.4nm,0.8s							
MDM	**Murphy Dome**	**61.54**	**27**	P	**P**		**04 46 40.4**	**-0.8**
MDM				IAmb	IAmb		04 46 52.0	
	comp=Z,0.9nm,0.9s							
HIN	**Hinchinbrook I**	**61.57**	**32**	P	**P**		**04 46 43.0**	**+1.5**
TOLK	**Toolik Lake Re**	**61.87**	**22**	P	**P**		**04 46 44.3**	**+1.0**
TOLK				IAmb	IAmb		04 46 52.4	

*NEIC **13** 04:43:19.8±2.5, 60°.68S±0°.04×50°.4W±0°.2, h10km±1km, mb4.9/46, Error ellipse: s-maj=14.1km s-min=5.7km az=103.0*

ISC 13 04:43:19.4±0.3, 60°.67S±0°.05×50°.40W±0°.07, h10km, n190, σ1§15/176, mb4.9/23, MS3.8/13, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.50**	**231**	Pn	**Pn**	**04 45 07.8**	**-0.7**
	2.9nm,0.3s,baz=58,slow=9.4,SNR=26						
PMSA				Sn	**Sn**	**04 46 32.6**	**-0.8**
	1.0nm,0.3s,baz=65,slow=18,SNR=2.3						
PMSA				LR	LR	04 47 45.6	
	comp=Z,367nm,21.5s,baz=62,slow=35						
PMSA	**Palmer Station**	**7.50**	**231**		**Pn**	**04 45 07.6**	**-0.9**
PMSA	**Palmer Station**	**7.50**	**231**	*eP*	**Pn**	**04 45 07.5**	**-1.1**
HOPE	**Hope Point**	**9.84**	**56**	Pn	**Pn**	**04 45 40.6**	**-0.1**
EFI	**East Falkland**	**9.97**	**331**	Pn	**Pn**	**04 45 44.0**	**+1.5**
MG02	**Cerro Sombrero**	**12.97**	**299**	Pn	**Pn**	**04 46 23.3**	**-0.1**
GO09	**Cerro Castillo**	**15.39**	**298**	Pn	**Pn**	**04 48 58.4**	**+1.9**
GO09				IAmb	IAmb	04 47 53.0	
	comp=Z,104nm,1.4s						
VNA3	**Neumayer Olymp**	**19.22**	**140**	P	**Pn**	**04 47 45.0**	**+0.9**
VNA1	**Neumayer--Stat**	**19.56**	**138**	P	**Pn**	**04 47 47.8**	**-0.3**
VNA2	**Neumayer--Watz**	**19.89**	**139**	P	**P**	**04 47 50.4**	**0.0**
SNAA	**Sanae**	**21.44**	**140**	P	**P**	**04 48 09.0**	**+1.8**
SNAA	**Sanae**	**21.44**	**140**	P	**P**	**04 48 08.4**	**+1.1**
LL02	**Futaleuf**	**21.76**	**314**	P	**P**	**04 48 13.2**	**+2.4**
PLCA	**Paso Flores**	**23.50**	**319**	P	**P**	**04 48 28.6**	**-0.6**
	comp=Z,17nm,1.1s,baz=156,slow=8.4,SNR=16						
PLCA				LR	LR	04 56 42.1	
	comp=Z,138nm,19.4s,baz=156,slow=34						
PLCA	**Paso Flores**	**23.50**	**319**	P	**P**	**04 48 28.8**	**-0.4**
PLCA	**Paso Flores**	**23.50**	**319**	*eP*	**P**	**04 48 28.9**	**-0.4**
TRQA	**Tornquist**	**23.78**	**337**	P	**P**	**04 48 32.8**	**+0.9**
TRQA				IAmb	IAmb	04 48 40.2	
	comp=Z,41nm,1.2s						
TRQA	**Tornquist**	**23.78**	**337**	*eP*	**P**	**04 48 33.3**	**+1.4**
LC01	**Cunco**	**25.60**	**319**	P	**P**	**04 48 48.9**	**+0.4**
PLTB	**Pedras Altas**	**28.99**	**354**	P	**P**	**04 49 21.2**	**+2.2**
PLTB				IAmb	IAmb	04 49 39.5	
	comp=Z,30nm,1.6s						
PLTB	**Pedras Altas**	**28.99**	**354**	*eP*	**P**	**04 49 19.9**	**+0.9**
QSPA	**South Pole Qui**	**29.57**	**180**	P	**P**	**04 49 25.4**	**+1.4**
	comp=Z,33nm,0.8s,baz=170,slow=3.4,SNR=110						
QSPA				LR	LR	05 03 28.3	
	comp=Z,188nm,18.3s,baz=162,slow=41						
QSPA	**South Pole Qui**	**29.57**	**180**	P	**P**	**04 49 25.9**	**+1.9**
MT09	**Talagante**	**30.05**	**324**	P	**P**	**04 49 28.3**	**-0.2**
MT03	**Universidad Ad**	**30.18**	**325**	P	**P**	**04 49 33.5**	**+3.8**
CPSB	**Cacapava Do Su**	**30.33**	**355**	*eP*	**P**	**04 49 32.2**	**+1.3**
ITQB	**Itaqui**	**31.28**	**350**	*eP*	**P**	**04 49 40.1**	**+0.9**
TER01	**Tubaro-SC**	**32.15**	**2**	*eP*	**P**	**04 49 47.2**	**+0.3**
CO02	**Combarbal**	**32.47**	**326**	P	**P**	**04 49 51.7**	**+1.9**
CPUP	**Villa Florida**	**34.65**	**349**	P	**P**	**04 50 08.0**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=171,slow=13,SNR=1.8						
CPUP				LR	LR	05 03 33.3	
	comp=Z,40nm,20.1s,baz=187,slow=35						
CPUP	**Villa Florida**	**34.65**	**349**	P	**P**	**04 50 10.0**	**+1.3**
CPUP				IAmb	IAmb	04 50 11.5	
	comp=Z,20nm,1.5s						
CPUP	**Villa Florida**	**34.65**	**349**	*eP*	**P**	**04 50 09.2**	**+0.5**
AC04	**Llanos de Chal**	**35.33**	**327**	P	**P**	**04 50 15.4**	**+0.9**
AC04				IAmb	IAmb	04 50 19.0	
	comp=Z,21nm,0.9s						
TIJ01	**Guaruva-PR**	**35.34**	**2**	*eP*	**P**	**04 50 14.8**	**0.0**
AC02	**Maricunga**	**36.15**	**331**	P	**P**	**04 50 23.1**	**+0.9**
AC02				IAmb	IAmb	04 50 34.9	
	comp=Z,21nm,1.3s						
PET01	**Itanhaem-SP**	**36.42**	**5**	*eP*	**P**	**04 50 24.7**	**+0.8**
SPB	**Sao Paulo**	**37.11**	**5**	*eP*	**P**	**04 50 30.5**	**+0.7**
FRTB	**Fartura**	**37.30**	**1**	*eP*	**P**	**04 50 32.1**	**+0.6**
VAO	**Valinhos**	**37.72**	**5**	*eP*	**P**	**04 50 35.5**	**+0.4**
TRCB	**Terra Rica**	**37.88**	**357**	P	**P**	**04 50 37.3**	**+0.9**
TRCB				IAmb	IAmb	04 50 38.1	
	comp=Z,27nm,0.9s						
TRCB	**Terra Rica**	**37.88**	**357**	*eP*	**P**	**04 50 37.2**	**+0.9**
RCLB	**Rio Claro- Sao**	**38.27**	**4**	*eP*	**P**	**04 50 40.3**	**+0.6**
VAS01	**Vassouras-RJ**	**38.67**	**10**	*eP*	**P**	**04 50 43.7**	**+0.7**
DUB01	**Friburgo-RJ**	**38.97**	**12**	*eP*	**P**	**04 50 46.2**	**+0.7**
PCMB	**Pacaembu**	**39.03**	**359**	*eP*	**P**	**04 50 46.6**	**+0.6**
CAM01	**Campos-RJ**	**39.29**	**13**	*eP*	**P**	**04 50 48.7**	**+0.5**
BB19B	**Bebedouro**	**39.59**	**3**	*eP*	**P**	**04 50 50.9**	**+0.2**
BSCB	**Bom Sucesso**	**39.83**	**8**	*eP*	**P**	**04 50 53.4**	**+0.6**
SBA	**Scott Base**	**39.87**	**192**	P	**P**	**04 50 55.1**	**+2.7**
SBA				IAmb	IAmb	04 50 55.9	
	comp=Z,23nm,0.8s						
LVC	**Limon Verde**	**40.17**	**333**	LR	LR	05 07 56.0	
	comp=Z,83nm,19.2s,baz=202,slow=37						
LVC	**Limon Verde**	**40.17**	**333**	P	**P**	**04 50 56.9**	**+1.0**
LVC	**Limon Verde**	**40.17**	**333**	*eP*	**P**	**04 50 56.3**	**+0.4**
AQDB	**Aquidauana**	**40.33**	**352**	P	**P**	**04 50 57.0**	**+0.2**
AQDB	**Aquidauana**	**40.33**	**352**	*eP*	**P**	**04 50 56.9**	**+0.1**
VNDA	**Vanda**	**40.63**	**190**	P	**P**	**04 51 00.2**	**+1.5**
	comp=Z,3.1nm,0.8s,baz=137,slow=6.5,SNR=16						
VNDA				LR	LR	05 09 08.8	
	comp=Z,126nm,18.9s,baz=190,slow=38						
VNDA	**Vanda**	**40.63**	**190**	P	**P**	**04 51 00.8**	**+2.1**
ITRB	**Iturama**	**40.92**	**0**	*eP*	**P**	**04 51 02.5**	**+0.7**
PB01	**IPOC Station P**	**41.81**	**333**	P	**P**	**04 51 09.3**	**+0.2**
PB01				IAmb	IAmb	04 51 15.6	
	comp=Z,58nm,1.9s						
BSFB	**Barra de Sao F**	**42.34**	**13**	*eP*	**P**	**04 51 13.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**42.43**	**13**	*eP*	**P**	**04 51 14.7**	**+0.6**
DIAM	**Diamantina, MG**	**42.59**	**9**	*eP*	**P**	**04 51 15.7**	**+0.1**
PB08	**IPOC Station P**	**42.61**	**334**	P	**P**	**04 51 16.1**	**+0.1**
IPMB	**Ipameri, GO**	**42.66**	**3**	*eP*	**P**	**04 51 16.7**	**+0.7**
PP1B	**Ponte de Pedra**	**43.13**	**354**	*eP*	**P**	**04 51 20.4**	**+0.6**
MAW	**Mawson**	**43.16**	**149**	P	**P**	**04 51 21.2**	**+1.7**
	comp=Z,7.9nm,0.9s,baz=247,slow=8.5,SNR=12						
MAW				LR	LR	05 08 03.5	
	comp=Z,189nm,21.7s,baz=236,slow=34						
MAW	**Mawson**	**43.16**	**149**	P	**P**	**04 51 20.8**	**+1.4**
NAN01	**Guarapari, ES**	**43.40**	**14**	*eP*	**P**	**04 51 22.3**	**+0.3**
MNMC	**Minye Minye**	**43.68**	**333**	P	**P**	**04 51 25.4**	**+0.9**
MNMC				IAmb	IAmb	04 51 27.9	
	comp=Z,16nm,0.7s						
MC01	**Montes Claros**	**44.15**	**9**	*eP*	**P**	**04 51 28.3**	**+0.3**
GUA01	**Guaratinga, BA**	**44.69**	**15**	*eP*	**P**	**04 51 33.2**	**+0.9**
SALV	**Santo Antonio**	**44.87**	**353**	*eP*	**P**	**04 51 34.5**	**+0.8**
ARAG	**Araguaiana, MT**	**44.91**	**358**	*eP*	**P**	**04 51 34.5**	**+0.4**
BDFB	**Brasilia**	**45.00**	**3**	P	**P**	**04 51 34.7**	**-0.2**
	comp=Z,6.3nm,0.7s,baz=168,slow=5.4,SNR=12						
BDFB	**Brasilia**	**45.00**	**3**	P	**P**	**04 51 35.1**	**+0.3**
BDFB				IAmb	IAmb	04 51 36.1	
	comp=Z,9.5nm,0.8s						
PTLB	**Pontes e Lacer**	**45.60**	**348**	*eP*	**P**	**04 51 39.9**	**+0.4**
JANB	**Januaria**	**45.76**	**8**	*eP*	**P**	**04 51 40.5**	**-0.3**
CMC01	**Camacan, BA**	**45.93**	**15**	*eP*	**P**	**04 51 42.0**	**-0.1**
LPAZ	**La Paz**	**46.13**	**336**	P	**P**	**04 51 44.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=145,slow=5.8,SNR=14						
LPAZ				LR	LR	05 11 57.6	
	comp=Z,93nm,19.4s,baz=172,slow=37						
LPAZ	**La Paz**	**46.13**	**336**	P	**P**	**04 51 46.6**	**+2.2**
LPAZ				IAmb	IAmb	04 51 59.1	
	comp=Z,16nm,1.8s						
LPAZ	**La Paz**	**46.13**	**336**	*eP*	**P**	**04 51 44.8**	**+0.3**
GDU01	**Guandu, BA**	**47.54**	**14**	*eP*	**P**	**04 51 54.7**	**0.0**
VILB	**Vilhena**	**48.18**	**347**	*eP*	**P**	**04 51 59.7**	**0.0**
SDBA	**SAO DESIDERIO**	**48.35**	**7**	*eP*	**P**	**04 52 00.8**	**-0.3**
PEXB	**Peixe**	**48.50**	**3**	*eP*	**P**	**04 52 03.0**	**+0.8**
SNDB	**Serra Nova Dou**	**48.61**	**359**	*eP*	**P**	**04 52 03.5**	**+0.5**
CLDB	**Colider**	**49.86**	**353**	*eP*	**P**	**04 52 12.8**	**+0.2**
NBPN	**Ponto Novo - B**	**50.30**	**13**	*eP*	**P**	**04 52 16.5**	**+0.5**
SMTB	**Santa Maria do**	**51.74**	**4**	*eP*	**P**	**04 52 26.4**	**-0.3**
NBAN	**Anadia - AL**	**51.98**	**18**	*eP*	**P**	**04 52 28.8**	**+0.3**
ETMB	**Extrema**	**52.10**	**340**	*eP*	**P**	**04 52 28.8**	**-0.6**
NNA	**Nana**	**52.34**	**327**	LR	LR	05 12 58.2	
	comp=Z,40nm,20.6s,baz=96,slow=34						
NPGB	**Novo Progresso**	**53.63**	**354**	*eP*	**P**	**04 52 41.0**	**+0.2**
PRPB	**Parauapebas**	**54.37**	**1**	*eP*	**P**	**04 52 46.3**	**+0.1**
CZSB	**Cruzeiro do Su**	**55.41**	**333**	*eP*	**P**	**04 52 53.2**	**-0.5**
NBPB	**Pedra_Branca-C**	**55.60**	**13**	*eP*	**P**	**04 52 55.4**	**+0.3**
NBPA	**Parau_RN**	**55.71**	**16**	*eP*	**P**	**04 52 56.7**	**+0.9**
ITTB	**Itaituba**	**56.31**	**354**	*eP*	**P**	**04 52 59.8**	**-0.3**
MACA	**Manacapuru-AM**	**57.90**	**348**	*eP*	**P**	**04 53 11.1**	**-0.3**
H10S2	**ASCENSION HYDR**	**58.03**	**43**	T	T	05 56 35.8	
	baz=200,slow=74,SNR=16						
H10S3	**ASCENSION HYDR**	**58.03**	**43**	T	T	05 56 36.7	
	baz=20,slow=74,SNR=38						
MALB	**Monte Alegre**	**58.74**	**355**	*eP*	**P**	**04 53 17.3**	**+0.1**
H10N3	**ASCENSION HYDR**	**59.13**	**43**	T	T	05 57 57.5	
	baz=199,slow=75,SNR=58						
H10N1	**ASCENSION HYDR**	**59.13**	**43**	T	T	05 57 58.7	
	baz=199,slow=75,SNR=59						
H10N2	**ASCENSION HYDR**	**59.15**	**43**	T	T	05 57 59.8	
	baz=199,slow=75,SNR=67						
PTGA	**Pitinga**	**60.23**	**349**	P	**P**	**04 53 27.6**	**+0.1**
PTGA				IAmb	IAmb	04 53 28.1	
	comp=Z,9.9nm,0.9s						
PTGA	**Pitinga**	**60.23**	**349**	*eP*	**P**	**04 53 27.0**	**-0.5**
LBTB	**Lobatse**	**61.70**	**91**	P	**P**	**04 53 37.0**	**-0.6**
BOAV	**Boa Vista**	**63.38**	**349**	*eP*	**P**	**04 53 48.1**	**-0.5**
PTLC	**Puerto Leguiza**	**63.52**	**333**	*eP*	**P**	**04 53 47.2**	**-2.5**
OTAV	**Otavalo**	**64.47**	**329**	P	**P**	**04 53 56.4**	**0.0**
OTAV				IAmb	IAmb	04 54 01.5	
	comp=Z,9.2nm,0.8s						
OTAV	**Otavalo**	**64.47**	**329**	*eP*	**P**	**04 53 57.3**	**+0.8**
OTAV	**Otavalo**	**64.47**	**329**	*eP*	**P**	**04 53 56.1**	**-0.4**
MACC	**Macarena, Meta**	**65.23**	**334**	*eP*	**P**	**04 53 59.0**	**-1.8**
BBAC	**Balboa, Cauca**	**65.89**	**330**	*eP*	P	04 53 58.3	-7.0
PRAC	**Prado**	**66.97**	**333**	*eP*	**P**	**04 54 10.4**	**-1.7**
ORTC	**Ortega, Tolima**	**67.24**	**333**	*eP*	**P**	**04 54 13.4**	**-0.4**
YOTC	**Yotoco, Valle**	**67.57**	**332**	*eP*	**P**	**04 54 14.9**	**-1.0**
TOLC	**Tolima**	**67.91**	**333**	*eP*	**P**	**04 54 17.9**	**-0.5**
ROSC	**El Rosal**	**67.94**	**334**	P	**P**	**04 54 17.9**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=252,slow=20,SNR=2.2						
ROSC	**El Rosal**	**67.94**	**334**	P	**P**	**04 54 17.8**	**-0.8**
ROSC				IAmb	IAmb	04 54 25.9	
	comp=Z,13nm,1.2s						
PLMC	**San Jos del P**	**68.44**	**332**	*eP*	**P**	**04 54 20.6**	**-0.8**
GUY2C	**Guyana, Caldas**	**68.54**	**333**	*eP*	**P**	**04 54 21.4**	**-1.1**
RUSC	**La Rusia**	**68.71**	**336**	P	**P**	**04 54 21.9**	**-1.6**
RUSC				IAmb	IAmb	04 54 30.1	
	comp=Z,9.9nm,1.0s						
RUSC	**La Rusia**	**68.71**	**336**	*eP*	**P**	**04 54 21.2**	**-2.3**
CBOC	**Ciudad Bolivar**	**69.31**	**333**	*eP*	**P**	**04 54 24.6**	**-2.3**
HELC	**Santa Helena**	**69.52**	**333**	*eP*	P	04 54 23.6	-4.8
ZARC	**Zaragoza, Cauc**	**70.63**	**334**	*eP*	**P**	**04 54 32.7**	**-2.1**
LTZ	**Lake Taylor**	**71.19**	**212**	P	**P**	**04 54 38.9**	**+0.9**
LSZ	**Lusaka**	**71.22**	**88**	P	**P**	**04 54 38.5**	**-0.1**
LSZ				IAmb	IAmb	04 57 08.5	
	comp=Z,28nm,1.8s						
BSWZ	**Blackbirch Sta**	**71.75**	**213**	P	**P**	**04 54 42.7**	**+1.3**
THZ	**Tophouse**	**71.97**	**213**	P	**P**	**04 54 43.9**	**+1.1**
THZ				IAmb	IAmb	04 54 48.4	
	comp=Z,20nm,0.8s						
ARGC	**Ariguani, Magd**	**72.80**	**335**	*eP*	**P**	**04 54 47.4**	**-0.4**
QRZ	**Quartz Range**	**72.95**	**213**	P	**P**	**04 54 48.0**	**-0.5**
BKZ	**Black Stump Fm**	**73.39**	**216**	P	**P**	**04 54 52.3**	**+1.1**
TBI	**Tubuai**	**74.23**	**251**	*e*LR	LR	05 17 39.5	
	comp=Z,76nm,28.0s						
OUZ	**Omahuta**	**77.89**	**216**	P	**P**	**04 55 17.0**	**0.0**
PPT2	**Papeete2**	**79.25**	**253**	*e*LR	LR	05 19 59.7	
	comp=Z,129nm,29.2s						
PPT	**Papeete**	**79.27**	**253**	LR	LR	05 19 53.4	
	comp=Z,17nm,21.9s,baz=178,slow=28						
TOO	**Toolangi**	**81.25**	**193**	P	**P**	**04 55 35.2**	**-0.1**
TAOE	**Nuku Hiva Isla**	**82.23**	**266**	*e*LR	LR	05 21 23.5	
	comp=Z,93nm,29.2s						
TORD	**Torodi Ar. Bea**	**84.38**	**51**	P	**P**	**04 55 51.2**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=211,slow=5.0,SNR=7.7						
ASAR	**Alice Springs**	**95.90**	**184**	P	**P**	**04 56 44.9**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=168,slow=5.0,SNR=10						
ASAR				PP	**PP**	**05 00 39.7**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=198,slow=7.9,SNR=4.2						
ASAR	**Alice Springs**	**95.90**	**184**	P	**P**	**04 56 45.4**	**-0.8**
H08S1	**Diego Garcia H**	**98.62**	**123**	T	T	06 47 58.6	
	baz=204,slow=76						
H08S2	**Diego Garcia H**	**98.63**	**123**	T	T	06 47 59.1	
	baz=204						
H08S3	**Diego Garcia H**	**98.64**	**123**	T	T	06 47 59.2	
	baz=204,slow=76						
WRA	**Warramunga Arr**	**99.58**	**185**	P	**Pdif**	**04 57 01.4**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=176,slow=4.3,SNR=8.7						
WRA	**Warramunga Arr**	**99.58**	**185**	P	**Pdif**	**04 57 01.6**	**-1.2**
AKASG	**Malin Array Be**	**127.98**	**53**	PKP	**PKPdf**	**05 02 21.5**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=238,slow=3.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**132.53**	**139**	PKP	**PKPdf**	**05 02 32.5**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=227,slow=3.6,SNR=2.6						
ILAR	**Eielson Array**	**144.12**	**313**	PKP	**PKPab**	**05 02 50.9**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=136,slow=1.5,SNR=39						
SDPT	**Sand Point**	**144.19**	**294**	P	**PKPab**	**05 02 50.8**	**-0.9**
	baz=128						
MCK	**McKinley**	**144.29**	**311**	P	**PKPab**	**05 02 50.8**	**-1.1**
	baz=124,SNR=5.8						
SKT	**Skwentna**	**144.30**	**307**	P	**PKPab**	**05 02 51.4**	**-0.6**
	baz=124						
POKR	**Poker Plat Res**	**144.50**	**314**	P	**PKPab**	**05 02 51.5**	**-1.2**
	baz=123						
COLA	**College**	**144.52**	**313**	P	**PKPab**	**05 02 51.7**	**-1.0**
	baz=123						
TCOL	**CIGO, UAF Yank**	**144.53**	**313**	P	**PKPab**	**05 02 51.6**	**-1.1**
	baz=123						
O18K	**Koktuh Hills**	**144.58**	**303**	P	**PKPab**	**05 02 51.9**	**-1.2**
	baz=125						
TRF	**Thorofare Moun**	**144.64**	**310**	P	**PKPab**	**05 02 51.7**	**-1.7**
	baz=123						
NEA2	**Nenana**	**144.81**	**312**	P	**PKPab**	**05 02 52.4**	**-1.4**
	baz=122,SNR=12						
N19K	**Bonanza Creek**	**144.82**	**304**	P	**PKPab**	**05 02 52.8**	**-1.3**
	baz=124,SNR=12						
H24K	**Noodor Dome**	**145.04**	**315**	P	**PKPbc**	**05 02 53.3**	**-1.4**
	baz=122,SNR=8.6						
PPLA	**Purkeypile**	**145.06**	**308**	P	**PKPbc**	**05 02 53.7**	**-1.2**
	baz=123						
PPLA	**Purkeypile**	**145.06**	**308**		**PKPbc**	**05 02 53.8**	**-1.1**
I23K	**Minto, Yukon-K**	**145.21**	**313**	P	**PKPbc**	**05 02 53.7**	**-1.4**
	baz=122,SNR=11						
BPAW	**Bear Paw Mtn.**	**145.25**	**311**	P	**PKPbc**	**05 02 54.1**	**-1.3**
	baz=122,SNR=26						
N18K	**Kilae Creek**	**145.32**	**304**	P	**PKPbc**	**05 02 54.0**	**-1.7**
	baz=124,SNR=5.5						
M19K	**Big River Lodg**	**145.39**	**306**	P	**PKPdf**	**05 02 54.4**	**-1.4**
	baz=123						
H23K	**Yukon River**	**145.63**	**314**	P	**PKPdf**	**05 02 54.9**	**-1.3**
	baz=121						
CHUM	**Lake Minchumin**	**145.64**	**310**	P	**PKPdf**	**05 02 55.2**	**-0.9**
	baz=121						
MLY	**Manley**	**145.65**	**312**	P	**PKPdf**	**05 02 55.1**	**-1.2**
	baz=121,SNR=20						
L19K	**White Mountain**	**145.72**	**306**	P	**PKPdf**	**05 02 56.3**	**-0.1**
	baz=122						
I21K	**Tanana**	**146.18**	**312**	P	**PKPdf**	**05 02 56.8**	**-0.3**
	baz=120,SNR=11						
TTA	**Tatalina**	**146.57**	**307**	P	**PKPdf**	**05 02 58.2**	**+0.3**
	baz=121						
H21K	**Melozitna Rive**	**146.71**	**312**	P	**PKPdf**	**05 02 58.6**	**+0.6**
	baz=119,SNR=14						
TOLK	**Toolik Lake Re**	**147.00**	**318**	P	**PKPdf**	**05 02 59.3**	**+0.8**
	baz=117,SNR=5.2						
TOLK	**Toolik Lake Re**	**147.00**	**318**		**PKPbc**	**05 03 00.1**	**-0.4**
MK31	**Makanchi Array**	**149.52**	**95**		**PKPbc**	**05 03 05.7**	**-2.1**
MKAR	**Makanchi Array**	**149.52**	**95**	PKPbc	**PKPbc**	**05 03 05.7**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=239,slow=2.3,SNR=22						
MKAR	**Makanchi Array**	**149.52**	**95**		**PKPbc**	**05 03 05.9**	**-1.9**
SPIA	**Saint Paul Isl**	**149.70**	**291**	P	**PKPdf**	**05 03 03.1**	**+0.1**
	baz=122						
WMQ	**Urumqi**	**149.97**	**105**	*e*PKPbc	**PKPdf**	**05 03 05.8**	**+1.7**
XAN	**Xi'an**	**150.17**	**144**	PKPbc	**PKPbc**	**05 03 07.9**	**-1.9**
A21K	**Barrow**	**150.26**	**321**	P	**PKPdf**	**05 03 04.3**	**+0.8**
	baz=108						
NJ2	**Nanjing**	**150.51**	**161**	*e*PKPbc	**PKPdf**	**05 03 05.5**	**+0.3**
GTA	**Gaotai**	**151.81**	**125**	⇑PKPbc	**PKPbc**	**05 03 12.5**	**-1.1**
GTA				LR	LR		
	comp=N,100nm,15.9s						
GTA				LR	LR		
	comp=E,460nm,17.1s						
GTA				LR	LR		
	comp=Z,62nm,15.5s						
TNA	**Tin City**	**152.39**	**307**	P	**PKPdf**	**05 03 08.2**	**+1.2**
	baz=110						
MJAR	**Matsushiro Arr**	**155.24**	**197**	PKPab	**PKPab**	**05 03 36.1**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=175,slow=6.1,SNR=4.2						
HHC	**Hu-ho-hao-te**	**157.26**	**143**	*e*PKP	**PKPdf**	**05 03 11.1**	**-3.5**
USRK	**Ussuriysk Ar.**	**163.44**	**186**	PKPab	**PKPab**	**05 04 11.9**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=236,slow=4.3,SNR=4.7						

*IDC **13** 05:09:01.8±1.6, 23°.51S×66°.78W, h196km±23km, mb3.2/1, mb1 3.4/6, mb1mx3.1/35, mbtmp3.9/6, Error ellipse: s-maj=32.2km s-min=19.9km az=124.0*
*NEIC **13** 05:09:02.1±1.8, 23°.71S±0°.07×67°.2W±0°.2, h237km±24km, Error ellipse: s-maj=29.8km s-min=9.4km az=92.0*

ISC 13 05:09:01.4±0.9, 23°.65S±0°.05×67°.0W±0°.1, h221km±14km, n30, σ1§24/45, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.03**	**300**	P	**Pn**	**05 09 42.9**	**+0.6**
	12nm,0.3s,baz=127,slow=7.3,SNR=269						
LVC				S	**S**	**05 10 13.1**	**-0.8**
	15nm,0.3s,baz=72,slow=20,SNR=34						
LVC	**Limon Verde**	**2.03**	**300**		**Pn**	**05 09 42.8**	**+0.5**
LVC				Sn	**S**	**05 10 14.7**	**+0.8**
PB15	**IPOC Station P**	**2.30**	**281**		**Pn**	**05 09 45.3**	**+0.5**
PB15				Sn	**S**	**05 10 18.8**	**+0.2**
PB06	**IPOC Station P**	**2.54**	**291**		**Pn**	**05 09 48.1**	**+0.9**
PB06				Sn	**S**	**05 10 22.6**	**-0.3**
PB09	**IPOC Station P**	**2.77**	**311**		**Pn**	**05 09 51.0**	**+1.2**
PB09				Sn	**S**	**05 10 28.7**	**+1.3**
GO02	**Mina Guanaco**	**2.79**	**237**		**Pn**	**05 09 50.2**	**0.0**
GO02				Sn	**S**	**05 10 27.4**	**-0.8**
PB04	**IPOC Station P**	**3.18**	**294**		**Pn**	**05 09 54.9**	**+0.5**
PB04				Sn	**S**	**05 10 34.6**	**-1.2**
PB14	**IPOC Station P**	**3.25**	**252**	Pn	**Pn**	**05 09 55.3**	**-0.1**
PB14				Sn	**S**	**05 10 35.9**	**-1.6**
PB10	**IPOC Station P**	**3.25**	**272**	Pn	**Pn**	**05 09 55.7**	**+0.6**
PB10				Sn	**S**	**05 10 35.6**	**-1.5**
PB07	**IPOC Station P**	**3.27**	**305**		**Pn**	**05 09 55.7**	**+0.1**
PB07				Sn	**S**	**05 10 36.7**	**-1.1**
PB01	**IPOC Station P**	**3.46**	**318**		**Pn**	**05 09 58.2**	**+0.5**
PB01				Sn	**S**	**05 10 40.9**	**-0.8**
AC02	**Maricunga**	**3.71**	**211**	Pn	**Pn**	**05 10 00.5**	**-0.4**
AC02				Sn	**S**	**05 10 47.4**	**-0.1**
PB08	**IPOC Station P**	**4.02**	**330**		**Pn**	**05 10 06.5**	**+1.8**
PB08				Sn	**S**	**05 10 54.8**	**+0.6**
TA01	**Diego Aracena**	**4.25**	**316**	Pn	**Pn**	**05 10 08.4**	**+1.3**
TA01				Sn	**S**	**05 10 57.1**	**-1.6**
TA02	**Huaiquique**	**4.44**	**319**	Pn	**Pn**	**05 10 10.1**	**+0.7**
TA02				Sn	**S**	**05 11 00.8**	**-2.1**
PB11	**IPOC Station P**	**4.59**	**327**		**Pn**	**05 10 11.8**	**+0.3**
GO03	**Copiap**	**4.89**	**216**	Pn	**Pn**	**05 10 12.9**	**-2.1**
PSGCX	**Pisagua**	**4.96**	**324**		**Pn**	**05 10 15.6**	**-0.5**
MNMC	**Minye Minye**	**5.10**	**331**		**Pn**	**05 10 18.1**	**+0.2**
LPAZ	**La Paz**	**7.40**	**352**	P	**Pn**	**05 10 48.2**	**+0.7**
	1.1nm,0.3s,baz=163,slow=6.5,SNR=61						
LPAZ				S	**S**	**05 12 10.6**	**-1.6**
	0.0nm,0.3s,baz=256,slow=19,SNR=1.7						
LPAZ	**La Paz**	**7.40**	**352**		**Pn**	**05 10 49.0**	**+1.4**
CO02	**Combarbal**	**8.32**	**204**	Pn	**Pn**	**05 10 57.8**	**-1.0**
SIV	**San Ignacio**	**9.45**	**37**	P	**Pn**	**05 11

NEEM North Greenlan 17.91 343 *i* P **P 05 21 07.6 +0.1**
NBO00 NORSAR Array S 18.21 74 Pn 05 21 09.9 -0.5
NB2 NORSAR Subarra 18.41 74 P **Pn 05 21 13.5 +0.6**
comp=Z,0.6nm,0.8s,baz=282,slow=11
NOA NORSAR Array B 18.41 74 P **Pn 05 21 13.1 +0.2**
comp=Z,0.0nm,0.3s,baz=295,slow=10.0,SNR=4.2
NOA LR LR 05 27 57.8
comp=Z,200nm,18.3s,baz=290,slow=36
FRB Frobisher Bay 18.90 295 LR LR 05 27 38.1
comp=Z,301nm,19.8s,baz=54,slow=34
HFS Hagfors 19.87 75 P **Pn 05 21 30.2 -0.1**
comp=Z,2.0nm,0.8s,baz=279,slow=9.9,SNR=5.7
HFS LR LR 05 28 43.5
comp=Z,199nm,18.5s,baz=292,slow=35
BMRD Maredsous 20.92 107 *d*P **P 05 21 41.0 +0.7**
DOU Dourbes 20.99 108 *d*P **P 05 21 43.5 +2.6**
BGES Gesves 21.01 107 *d*P **P 05 21 42.2 +0.9**
MEM Membach 21.28 105 *d*P **P 05 21 45.2 +1.0**
BTNL Ternell 21.36 105 *d*P **P 05 21 45.7 +0.7**
comp=Z,17nm,1.3s
CLF Chambon-Foret 21.45 115 P **P 05 21 45.5 -0.5**
CLF IAmb IAmb 05 21 47.5
comp=Z,20nm,0.8s
BHOU Houvegnez 21.46 106 *d*P **P 05 21 46.9 +0.8**
ARCES ARCESS Array B 22.69 47 P **P 05 22 00.4 +1.3**
comp=Z,3.0nm,0.9s,baz=293,slow=20,SNR=5.6
ARCES LR LR 05 29 04.6
comp=Z,60nm,20.8s,baz=285,slow=32
ARCES ARCESS Array B 22.69 47 IAmb IAmb 05 22 06.9
comp=Z,10nm,1.1s
ECH Echery 23.51 108 P **P 05 22 07.5 -0.2**
ECH IAmb IAmb 05 22 10.1
comp=Z,13nm,1.2s
BFO Black Forest 23.96 107 P **P 05 22 12.4 +0.3**
CLL Collm 24.13 96 *i* P **P 05 22 13.9 +0.3**
comp=Z,12nm,1.3s
BRG Berggiesshubel 24.86 96 *e*P **P 05 22 21.2 +1.0**
BRG Amp 05 22 24.2
comp=Z,4.8nm,0.8s
BRG Amp 05 33 06.0
comp=E,0.1nm,14.4s
BRG Amp 05 33 25.0
comp=Z,0.3nm,15.5s
BRG Amp 05 33 28.0
comp=N,0.1nm,9.4s
FINES FINESS Array B 24.98 66 P **P 05 22 22.1 +0.9**
comp=N,3.9nm,0.8s,baz=310,slow=9.7,SNR=8.5
FINES LR LR 05 31 44.9
comp=N,99nm,19.0s,baz=272,slow=35
FINES FINESS Array B 24.98 66 P **P 05 22 21.6 +0.4**
FIA1 FINESS Array S 24.99 66 P **P 05 22 22.6 +1.4**
FIA1 IAmb IAmb 05 22 25.3
comp=Z,12nm,1.1s
EUNU Eureka 25.05 339 P **P 05 22 23.2 +1.5**
TUE Stuetta 25.80 108 P **P 05 22 30.7 +1.7**
TUE IAmb IAmb 05 22 31.9
comp=Z,9.2nm,0.9s
DAVOX Davos/Dischmat 25.81 107 P **P 05 22 30.7 +1.6**
comp=Z,1.5nm,0.5s,baz=332,slow=17,SNR=4.0
DAVOX LR LR 05 32 09.0
comp=Z,84nm,20.1s,baz=300,slow=35
KHC Kasperske Hory 25.86 99 *e*P **P 05 22 31.0 +1.6**
KHC Kasperske Hory 25.86 99 P **P 05 22 30.0 +0.7**
ESDC Sonseca Array 26.03 136 P **P 05 22 31.9 +0.9**
comp=Z,0.3nm,0.3s,baz=331,slow=9.0,SNR=5.7
ESDC Sonseca Array 26.03 136 IAmb IAmb 05 22 35.4
comp=Z,1.7nm,1.2s
GEC2 GERESS Array S 26.12 100 P **P 05 22 31.0 -0.7**
GERES GERESS Array B 26.12 100 P **P 05 22 33.3 +1.5**
comp=Z,0.4nm,0.5s,baz=328,slow=4.7,SNR=4.1
GERES LR LR 05 33 01.5
comp=Z,182nm,19.2s,baz=313,slow=37
GERES GERESS Array B 26.12 100 P **P 05 22 31.0 -0.7**
VRAC Vranov 27.18 96 LR LR 05 34 23.5
comp=Z,206nm,18.4s,baz=308,slow=38
ZOU Zoufplan 27.41 104 P **P 05 22 41.8 -1.7**
STAL STALIGIAL 27.51 105 P **P 05 22 44.5 +0.2**
LMQ La Malbaie 27.95 260 P **P 05 22 47.2 -0.9**
LMQ IAmb IAmb 05 22 49.5
comp=Z,11nm,1.1s
OJC Ojcow 28.11 92 P **P 05 22 50.2 +0.7**
I63A Otisfield 30.65 256 P **P 05 23 10.3 -1.8**
I63A IAmb IAmb 05 23 13.8
comp=Z,8.0nm,0.8s
VLDQ Val d'Or 30.96 268 P **P 05 23 15.8 +1.1**
AKASG Malin Array Be 32.32 83 P **P 05 23 27.1 +0.5**
comp=Z,4.3nm,0.8s,baz=314,slow=8.6,SNR=8.8
AKASG LR LR 05 36 38.3
comp=Z,115nm,18.2s,baz=310,slow=36
AKASG Malin Array Be 32.32 83 P **P 05 23 26.8 +0.1**
AKBB Malin Array Si 32.32 83 P **P 05 23 26.9 +0.2**
AKBB IAmb IAmb 05 23 27.5
comp=Z,4.3nm,0.8s
BUR08 Bucovina Ar. S 32.47 91 P **P 05 23 29.6 +1.4**
BURAR Bucovina Array 32.50 91 P **P 05 23 29.8 +1.4**
PLVO Plevna 32.99 263 P **P 05 23 32.2 -0.4**
PLVO IAmb IAmb 05 23 34.4
comp=Z,6.8nm,0.9s
J57A Williamstown 33.69 260 P **P 05 23 38.4 -0.3**
J57A IAmb IAmb 05 23 42.4
comp=Z,4.3nm,0.9s
PUK Puka 34.08 103 P **P 05 23 41.7 -0.5**
PUK IAmb IAmb 05 23 45.0
comp=Z,5.1nm,1.0s
L59A Walton 34.17 258 P **P 05 23 42.3 -0.7**
SADO Sadowa 34.18 265 P **P 05 23 41.9 -1.0**
E46A Sault Ste Mari 35.50 272 P **P 05 23 52.8 -1.5**
E46A IAmb IAmb 05 23 56.9
comp=Z,6.6nm,1.0s
KBN Korca 35.60 103 P **P 05 23 55.8 +0.5**
WVNY West Valley, N 35.70 262 P **P 05 23 55.8 -0.3**
WVNY IAmb IAmb 05 23 57.7
comp=Z,5.5nm,0.8s
FNA Florina 35.75 102 P **P 05 23 56.9 +0.2**
M57A Sunshine Farm, 35.82 259 P **P 05 23 57.4 +0.2**
M57A IAmb IAmb 05 23 58.5
comp=Z,5.7nm,1.1s
SSPA Standing Stone 36.73 259 P **P 05 24 03.9 -1.0**
SSPA IAmb IAmb 05 24 09.0
comp=Z,6.7nm,0.8s
M54A Oil Creek Stat 36.89 262 P **P 05 24 06.2 -0.1**
M54A IAmb IAmb 05 24 09.2
comp=Z,12nm,1.1s
O56A Blue Knob Stat 37.33 260 P **P 05 24 10.1 0.0**
O56A IAmb IAmb 05 24 12.1
comp=Z,9.9nm,1.1s
M53A Wl Miller and 37.43 263 P **P 05 24 10.1 -0.7**
M53A IAmb IAmb 05 24 27.3
comp=Z,10nm,1.1s
N54A Moraine State 37.47 262 P **P 05 24 10.7 -0.5**
AGG Agios Georgios 37.59 103 P **P 05 24 12.8 +0.5**
AGG IAmb IAmb 05 24 14.4
comp=Z,10nm,1.2s
ALN Alexandroupoli 37.88 98 P **P 05 24 15.5 +0.9**
ALN IAmb IAmb 05 24 16.6
comp=Z,9.8nm,1.2s
N53A Lisbon 37.99 262 P **P 05 24 15.3 -0.4**
FFC Flin Flon 38.02 295 P **P 05 24 15.2 -0.5**
YKA Yellowknife Ar 38.11 311 P **P 05 24 17.1 +0.7**
comp=Z,3.7nm,1.0s,baz=48,slow=9.1,SNR=5.3
ULM Lac du Bonnet 38.27 285 P **P 05 24 16.4 -1.4**
comp=Z,8.2nm,1.0s,baz=64,slow=7.5,SNR=6.6
ULM LR LR 05 39 07.2
comp=Z,327nm,18.1s,baz=48,slow=35
ULM Lac du Bonnet 38.27 285 P **P 05 24 17.6 -0.3**
ULM IAmb IAmb 05 24 19.1
comp=Z,9.0nm,1.0s
B35A Bob, Littlefor 38.59 282 P **P 05 24 20.0 -0.5**
B35A IAmb IAmb 05 24 23.1
comp=Z,7.2nm,1.0s
M50A Fremont 38.59 265 P **P 05 24 22.1 +1.5**
N51A Ashland 38.64 264 P **P 05 24 20.8 -0.3**
R58B Mineral 38.84 257 P **P 05 24 22.4 -0.3**
O52A Adamsville 39.01 263 P **P 05 24 23.7 -0.5**
O52A IAmb IAmb 05 24 26.5
comp=Z,15nm,1.1s
JSRW J. Sargeant Re 39.06 256 P **P 05 24 24.2 -0.3**
G40A Rib Lake 39.13 275 P **P 05 24 23.7 -1.4**
P53A Whipple 39.29 262 P **P 05 24 25.4 -1.2**
ACSO Alum Creek Sta 39.47 264 P **P 05 24 26.4 -1.6**
ACSO IAmb IAmb 05 24 31.2
comp=Z,12nm,1.1s
N49A Columbus Grove 39.51 266 P **P 05 24 27.6 -0.7**
P52A Corning 39.53 262 P **P 05 24 28.6 +0.1**
P52A IAmb IAmb 05 24 30.7
comp=Z,13nm,1.2s
AGMN Agassiz Nation 39.63 283 P **P 05 24 28.2 -1.1**
AGMN IAmb IAmb 05 24 31.0
comp=Z,6.8nm,0.8s
P51A Williamsport 40.09 263 P **P 05 24 32.7 -0.5**
P51A IAmb IAmb 05 24 35.0
comp=Z,8.1nm,0.9s
O49A Covington 40.15 265 P **P 05 24 32.9 -0.7**
O49A IAmb IAmb 05 24 35.7
comp=Z,10.0nm,0.9s
SPMN Marine on St. 40.41 277 P **P 05 24 34.8 -1.0**
JFWS Jewell Farm 40.91 273 P **P 05 24 39.8 -0.2**
P48A Milroy 41.24 265 P **P 05 24 42.0 -0.8**
I37A Lemond, Waseca 41.59 277 P **P 05 24 45.1 -0.4**
I37A IAmb IAmb 05 24 47.4
comp=Z,11nm,1.0s
F33A 5 Mile Ranch, 41.62 281 P **P 05 24 44.9 -0.8**
S51A Beattyville 41.80 262 P **P 05 24 46.9 -0.5**
S51A IAmb IAmb 05 24 48.9
comp=Z,6.5nm,0.8s
L40A Anamosa 42.02 273 P **P 05 24 47.8 -1.3**
L40A IAmb IAmb 05 24 51.0
comp=Z,8.1nm,0.8s
K38A Parkersburg 42.32 275 P **P 05 24 50.9 -0.6**
BRTR Keskin Array B 42.44 92 P **P 05 24 55.3 +2.6**
comp=Z,1.4nm,0.8s,baz=27,slow=14,SNR=5.1
BRTR LR LR 05 46 28.1
comp=Z,60nm,18.2s,baz=302,slow=42
WCI Wyandotte Cave 42.63 265 P **P 05 24 53.4 -0.6**
WCI IAmb IAmb 05 24 56.0
comp=Z,7.8nm,0.8s
PAULI Pauline 43.24 258 P **P 05 24 59.1 +0.1**
PAULI IAmb IAmb 05 25 01.3
comp=Z,6.7nm,1.0s
DGMT Dagmar 43.37 289 P **P 05 25 00.9 +0.9**
DGMT IAmb IAmb 05 25 03.9
comp=Z,11nm,1.0s
Q44A Meyer Farm, Va 43.41 268 P **P 05 24 58.2 -2.1**
U49A Red Boiling Sp 43.75 263 P **P 05 25 02.9 -0.2**
U49A IAmb IAmb 05 25 04.5
comp=Z,6.3nm,1.1s
KBZ Khabaz 43.81 80 P **P 05 25 06.2 +2.7**
comp=Z,2.5nm,0.9s,baz=322,slow=10,SNR=4.3
KBZ LR LR 05 43 47.7
comp=Z,93nm,19.6s,baz=332,slow=37
T47A Sharon Grove 44.01 265 P **P 05 25 05.1 -0.1**
T47A IAmb IAmb 05 25 07.3
comp=Z,11nm,1.1s
CPCT Cooper Cave 44.01 261 P **P 05 25 05.3 +0.1**
P40A Paris 44.38 271 P **P 05 25 07.5 -0.6**
WVT Waverly 45.04 265 P **P 05 25 12.7 -0.7**
WVT IAmb IAmb 05 25 14.9
comp=Z,10nm,1.4s
LAO LASA Array 45.61 289 P **P 05 25 18.1 +0.2**
X48A Hartselle 46.02 262 P **P 05 25 20.3 -0.9**
X48A IAmb IAmb 05 25 22.7
comp=Z,4.9nm,0.8s
PLAL Pickwick Lake 46.09 264 P **P 05 25 20.3 -1.4**
PLAL IAmb IAmb 05 25 23.1
comp=Z,6.1nm,1.1s
MGMO Mountain Grove 46.36 269 P **P 05 25 22.9 -0.9**
MGMO IAmb IAmb 05 25 24.9
comp=Z,4.5nm,0.9s
ILAR Eielson Array 46.38 329 P **P 05 25 23.4 -0.3**
comp=Z,0.2nm,0.5s,baz=30,slow=9.4,SNR=4.0
ILAR PcP **PcP 05 26 58.7 +0.4**
comp=Z,0.3nm,0.6s,baz=8.8,slow=2.9,SNR=5.4
BCAR Beaver Creek A 46.42 325 P **P 05 25 24.5 +0.4**
W45A Hickory Valley 46.48 265 P **P 05 25 24.2 -0.6**
LCAR Lake Charles 46.69 268 P **P 05 25 25.4 -1.0**
LRAL Lakeview Retre 47.16 261 P **P 05 25 29.4 -0.7**
WALA Waterton Lakes 47.23 297 P **P 05 25 30.1 -0.6**
U40A Yellville 47.28 269 P **P 05 25 30.4 -0.6**
FCAR Ozark Folk Cen 47.30 268 P **P 05 25 30.2 -1.0**
FCAR IAmb IAmb 05 25 32.0
comp=Z,2.5nm,0.7s
ABKAR Akbulak array 47.40 63 P **P 05 25 32.2 +0.4**
GCMT Greycliff 47.85 291 P **P 05 25 34.0 -1.5**
HHAR Hobbs 47.86 270 P **P 05 25 34.4 -1.2**
HHAR IAmb IAmb 05 25 37.4
comp=Z,4.1nm,1.0s
WHAR Wooly Hollow 47.86 268 P **P 05 25 35.0 -0.6**
HRY Holter Researc 48.11 293 P **P 05 25 37.9 +0.3**
YNE Yellowstone No 48.60 290 P **P 05 25 41.1 -0.4**
YNE IAmb IAmb 05 25 43.8
comp=Z,3.4nm,0.9s
W39A Magazine 48.66 269 P **P 05 25 40.7 -1.0**
W39A IAmb IAmb 05 25 44.0
comp=Z,5.1nm,0.8s
X40A Basin Creek Fa 48.77 268 P **P 05 25 41.4 -1.2**
BOZ Bozeman (W) 48.88 292 P **P 05 25 43.0 -0.5**
BOZ IAmb IAmb 05 25 46.1
comp=Z,5.8nm,1.1s
MSO Missoula 48.95 295 P **P 05 25 43.0 -1.0**
MSO IAmb IAmb 05 25 47.5
comp=Z,4.0nm,1.2s
LRM Limekiln Ridge 49.07 293 P **P 05 25 44.7 -0.4**
MIAR Mount Ida 49.08 269 P **P 05 25 45.2 +0.2**
YHH Holmes Hill 49.15 291 P **P 05 25 45.3 -0.5**
PHWY Pilot Hill 49.39 284 IAmb IAmb 05 25 50.0
comp=Z,3.4nm,0.8s
YPP Pitchstone Pla 49.53 290 IAmb IAmb 05 25 53.1
comp=Z,5.2nm,1.2s
X37A Clayton 49.91 270 IAmb IAmb 05 25 52.7
comp=Z,5.4nm,0.9s
MCMT McKenzie Canyo 50.02 292 P **P 05 25 52.0 -0.4**
C09A Chrisman Ranch 50.06 298 IAmb IAmb 05 25 55.8
comp=Z,3.2nm,0.7s
B08A Colville Reser 50.08 300 IAmb IAmb 05 25 54.9
comp=Z,5.0nm,1.0s
BW06 Boulder Array 50.14 288 P **P 05 25 52.2 -1.1**
BW06 IAmb IAmb 05 25 55.8
comp=Z,4.1nm,1.0s
PD31 Pinedale Array 50.14 288 P **P 05 25 51.5 -1.8**
PDAR Pinedale Array 50.14 288 P **P 05 25 52.1 -1.2**
comp=Z,2.6nm,0.8s,baz=57,slow=5.8,SNR=22
PDAR LR LR 05 46 23.0
comp=Z,99nm,18.4s,baz=63,slow=35
PDAR Pinedale Array 50.14 288 P **P 05 25 52.2 -1.0**
TPAW Teton Pass 50.21 290 IAmb IAmb 05 25 56.9
comp=Z,4.7nm,1.1s
REDW Red Top Meadow 50.26 290 P **P 05 25 54.2 0.0**
REDW IAmb IAmb 05 25 57.7
comp=Z,3.9nm,1.0s
BCYI Bear Canyon 50.67 292 P **P 05 25 56.3 -0.9**
F10A Beach Ranch, E 51.05 296 P **P 05 25 59.5 -0.4**
X34A Smith Ranch, M 51.09 272 P **P 05 25 59.9 -0.4**
WMOK Wichita Mounta 51.43 273 P **P 05 26 01.7 -1.1**
WMOK IAmb IAmb 05 26 05.8
comp=Z,4.5nm,0.9s
O20A White River Ci 51.60 285 IAmb IAmb 05 26 07.1
comp=Z,5.5nm,0.9s
RDMU Red Mountain 51.88 286 P **P 05 26 05.3 -1.0**
RDMU IAmb IAmb 05 26 08.6
comp=Z,9.1nm,1.1s
BMO Blue Mountains 51.96 295 P **P 05 26 05.7 -1.0**
HWUT Hardware Ranch 51.97 289 IAmb IAmb 05 26 10.0
comp=Z,5.0nm,1.2s
T25A Trinidad 52.19 280 P **P 05 26 08.3 -0.5**
T25A IAmb IAmb 05 26 11.4
comp=Z,7.3nm,1.1s
TORD Torodi Ar. Bea 52.52 143 P **P 05 26 10.2 -0.9**
comp=Z,2.7nm,0.8s,baz=339,slow=8.1,SNR=9.9
SPUT South Promonto 52.61 289 P **P 05 26 11.1 -0.6**
SPUT IAmb IAmb 05 26 13.8
comp=Z,6.2nm,1.1s
P17A Butcher Ranch, 53.29 286 P **P 05 26 16.4 -0.4**
PV02 Paradox Valley 53.38 284 P **P 05 26 15.2 -2.3**
SRU San Rafael Swe 53.48 286 P **P 05 26 18.2 0.0**
ABTX Abilene, Hawle 53.57 272 P **P 05 26 17.9 -0.9**
TMUT Trail Mountain 53.65 287 P **P 05 26 19.2 -0.4**
TMUT IAmb IAmb 05 26 21.6
comp=Z,4.4nm,1.0s
J08A Circle Bar Ran 53.66 295 IAmb IAmb 05 26 21.2
comp=Z,3.9nm,0.9s
MSTX Muleshoe 53.98 276 P **P 05 26 21.7 -0.1**
H04A Detroit Lake 54.19 299 P **P 05 26 23.3 +0.2**
H04A IAmb IAmb 05 26 25.3
comp=Z,3.6nm,0.8s
ELK Elko 54.33 291 P **P 05 26 25.0 +0.6**
ELK IAmb IAmb 05 26 27.7
comp=Z,4.6nm,0.9s
PINE Pine Mountain 54.38 297 P **P 05 26 25.3 +0.6**
PINE IAmb IAmb 05 26 27.8
comp=Z,5.6nm,1.2s
WVOR Wild Horse Val 54.48 295 IAmb IAmb 05 26 33.5
comp=Z,5.3nm,1.4s
MSU Marysvale 54.73 287 P **P 05 26 27.3 0.0**
MVU Marysvale 54.75 287 P **P 05 26 28.1 +0.6**
ANMO Albuquerque 54.94 280 P **P 05 26 28.9 0.0**
K05A Summer Lake 55.22 296 IAmb IAmb 05 26 49.8
comp=Z,8.1nm,1.4s
SPR3 Spring Creek 3 55.32 289 IAmb IAmb 05 26 36.2
comp=Z,5.7nm,1.2s
PSUT Pine Spring 55.48 288 P **P 05 26 33.3 +0.5**
PSUT IAmb IAmb 05 26 35.2
comp=Z,3.6nm,0.9s
MOD Modoc Plateau 55.63 295 P **P 05 26 33.7 0.0**
MOD IAmb IAmb 05 26 36.2
comp=Z,5.1nm,1.0s
CCUT Cedar City 56.05 287 P **P 05 26 36.7 -0.2**
KNB Kanab 56.24 286 P **P 05 26 37.8 -0.4**
KNB IAmb IAmb 05 26 41.3
comp=Z,9.7nm,1.4s
U15A North Rim 56.47 285 P **P 05 26 39.0 -1.0**
WUAZ Wupatki 56.79 284 P **P 05 26 41.1 -1.0**
WUAZ IAmb IAmb 05 26 44.4
comp=Z,3.9nm,0.9s
YBH Yreka Blue Hor 56.81 297 P **P 05 26 41.0 -1.1**
comp=Z,0.2nm,0.3s,baz=37,slow=3.5,SNR=3.9
PRN Pahroc Range 56.95 288 IAmb IAmb 05 26 44.8
comp=Z,5.0nm,1.2s
KVN Kaiserville 56.98 292 P **P 05 26 43.3 -0.2**
PAHR Pah Rah Range 57.02 293 IAmb IAmb 05 26 46.7
comp=Z,6.3nm,1.1s
RYN Ryan 57.52 292 P **P 05 26 47.2 +0.1**
RYN IAmb IAmb 05 26 49.3
comp=Z,3.8nm,0.9s
YERR Yerington 57.55 293 P **P 05 26 47.6 +0.2**
NVAR Mina Array Bea 57.58 292 P **P 05 26 47.3 -0.4**
comp=Z,1.4nm,0.8s,baz=62,slow=5.5,SNR=10
NVAR LR LR 05 50 23.2
comp=Z,82nm,21.1s,baz=88,slow=35
X16A Lo Mia Camp, P 57.72 283 P **P 05 26 49.0 +0.2**
X16A IAmb IAmb 05 26 51.6
comp=Z,4.2nm,1.1s
SHPR Sheep Range 57.73 288 P **P 05 26 49.1 +0.3**
LHV Little Huntoon 57.82 292 IAmb IAmb 05 26 54.3
comp=Z,6.4nm,1.3s
TPNV Topopah Spring 57.87 289 P **P 05 26 49.4 -0.3**
TXAR Lajitas Array 58.22 274 P **P 05 26 51.0 -1.2**
comp=Z,1.2nm,1.0s,baz=32,slow=4.9,SNR=8.1
TXAR LR LR 05 51 24.0
comp=Z,158nm,18.1s,baz=0.0,slow=36
MK31 Makanchi Array 58.31 50 P **P 05 26 52.4 -0.1**
MKAR Makanchi Array 58.31 50 P **P 05 26 53.5 +1.1**
comp=Z,0.9nm,0.6s,baz=339,slow=5.2,SNR=9.0
MKAR LR LR 05 53 50.6
comp=Z,51nm,18.0s,baz=296,slow=38
CMB Columbia Colle 58.84 293 P **P 05 26 55.8 -0.5**
TUC Tucson 59.15 282 P **P 05 26 58.5 -0.1**
TUC IAmb IAmb 05 27 02.2
comp=Z,3.3nm,1.0s
319A Douglas 59.21 280 P **P 05 26 59.0 -0.1**
ISA Isabella, Lake 59.94 290 P **P 05 27 04.0 +0.1**
GAR Garm 60.06 63 P **P 05 27 05.9 +1.1**
113A Mohawk Valley, 60.17 284 P **P 05 27 05.6 +0.1**
113A IAmb IAmb 05 27 07.5
comp=Z,3.8nm,1.2s
GLA Glamis 60.43 285 P **P 05 27 08.0 +0.7**
PFO Pinyon Flats O 60.72 287 P **P 05 27 10.2 +0.8**
PFO IAmb IAmb 05 27 12.3
comp=Z,4.3nm,0.9s
WMQ Urumqi 62.81 47 *e*P **P 05 27 26.3 +3.0**
PETK Petropavlovsk- 65.81 357 LR LR 05 57 15.8
comp=Z,31nm,18.0s,baz=335,slow=37
HHC Hu-ho-hao-te 72.82 31 *e*P **P 05 28 26.8 +0.4**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.1s
LZH Lanzhou 75.12 39 *e*P P 05 28 32.0 -8.0
LZH pP pP 05 28 37.3 -5.7
LZH sP sP 05 28 40.3 -3.8
LZH pmax pmax
comp=Z,15nm,1.3s
KSRS Korea Array 79.50 20 LR LR 06 04 00.1
comp=Z,12nm,18.9s,baz=295,slow=36
NJ2 Nanjing 82.95 28 *e*P **P 05 29 22.0 -0.7**
NJ2 pmax pmax
comp=Z,15nm,0.6s

IDC ***13*** *05:27:26.6±2.0, 51°.78N×172°.88E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/41, mbtmp3.8/11, ML2.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/44, Error ellipse: s-maj=55.2km s-min=18.4km az=14.0*
NEIC ***13*** *05:27:33.3±2.0, 52°.0N±0°.3×173°.5E±0°.1, h21km±12km, Error ellipse: s-maj=50.7km s-min=11.9km az=183.0*
AEIC ***13*** *05:27:33±2.4, 52°.0N±0°.3×173°.6E±0°.1, h20km±2km, ML3.2, mb4.1/23(NEIC), Error ellipse: s-maj=42.9km s-min=13.0km az=178.0*
ISC 13 05:27:32.7±1.1, 52°.1N±0°.2×173°.36E±0°.08, h24km, n46, σ1§37/41, mb4.0/18, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.79**	**35**	Pn	**Pb**	**05 27 49.1**	**+1.4**
AMKA	**Amchitka**	**3.76**	**99**	Pn	**Pn**	**05 28 28.0**	**-1.1**
PET	**Petropavlovsk**	**9.01**	**282**	Pn	**Pn**	**05 29 42.9**	**+1.7**
PEA0B	**Petropavlovsk-**	**9.59**	**282**	Pn	**Pn**	**05 29 50.4**	**+1.3**
PETK	**Petropavlovsk-**	**9.59**	**282**	Pn	Pn	05 29 42.2	-6.9
	0.5nm,0.3s,baz=94,slow=17,SNR=11						
PETK				Sn	Sn	05 31 21.2	-15
	0.1nm,0.3s,baz=99,slow=22,SNR=0.8						
PETK				LR	LR	05 33 12.0	
	comp=Z,37nm,21.1s,baz=112,slow=37						
SEY	**Seymchan**	**15.57**	**322**	Pn	**Pn**	**05 31 07.1**	**-3.2**
	baz=101,slow=10,SNR=1.0						
SVW2	**Sparrevohn**	**19.16**	**50**	P	**P**	**05 31 51.7**	**-2.4**
OHAK	**Old Harbor**	**19.83**	**62**	P	**P**	**05 32 01.7**	**+0.3**
OHAK				IAmb	IAmb	05 32 05.0	
	comp=Z,20nm,1.4s						
KDAK	**Kodiak Island**	**20.22**	**60**	P	**P**	**05 32 06.7**	**+1.1**
	comp=Z,2.3nm,0.4s,baz=265,slow=11,SNR=8.9						
KDAK	**Kodiak Island**	**20.22**	**60**	P	**P**	**05 32 06.5**	**+0.8**
KDAK				IAmb	IAmb	05 32 20.9	
	comp=Z,13nm,1.1s						
IMAR	**Indian Mountai**	**21.55**	**37**	P	**P**	**05 32 20.1**	**+0.1**
KTH	**Kantishna Hill**	**21.88**	**45**	P	**P**	**05 32 25.0**	**+1.4**
KTH				IAmb	IAmb	05 32 43.9	
	comp=Z,12nm,1.2s						
TRF	**Thorofare Moun**	**22.13**	**45**	P	**P**	**05 32 26.2**	**-0.1**
TRF				IAmb	IAmb	05 32 45.9	
	comp=Z,5.5nm,0.8s						
MLY	**Manley**	**22.38**	**41**	P	**P**	**05 32 28.5**	**-0.4**
SML	**Sawmill**	**22.71**	**50**	P	**P**	**05 32 33.8**	**+1.4**
SML				IAmb	IAmb	05 32 35.7	
	comp=Z,7.4nm,0.7s						
I23K	**Minto, Yukon-K**	**22.97**	**41**	P	**P**	**05 32 34.0**	**-1.0**
I23K				IAmb	IAmb	05 32 51.6	
	comp=Z,10nm,1.5s						
SCM	**Sheep Creek Mo**	**23.19**	**50**	P	**P**	**05 32 37.3**	**-0.1**
WRH	**Wood River Hil**	**23.32**	**43**	P	**P**	**05 32 40.4**	**+1.9**
WRH				IAmb	IAmb	05 32 59.2	
	comp=Z,5.5nm,0.8s						
MDM	**Murphy Dome**	**23.38**	**42**	P	**P**	**05 32 41.1**	**+1.8**
MDM				IAmb	IAmb	05 33 01.4	
	comp=Z,5.1nm,1.0s						
CCB	**Clear Creek Bu**	**23.48**	**43**	P	**P**	**05 32 42.4**	**+2.3**
IL31		**23.89**	**43**	P	**P**	**05 32 43.8**	**-0.3**
ILAR	**Eielson Array**	**23.89**	**43**	P	**P**	**05 32 45.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=246,slow=7.4,SNR=7.5						
ILAR	**Eielson Array**	**23.89**	**43**	P	**P**	**05 32 44.7**	**+0.6**
TOLK	**Toolik Lake Re**	**24.13**	**33**	P	**P**	**05 32 47.6**	**+1.2**
GLB	**Gilahina Butte**	**24.83**	**51**	P	**P**	**05 32 53.6**	**+0.9**
GLB				IAmb	IAmb	05 33 15.5	
	comp=Z,4.2nm,0.9s						
DOT	**Dot Lake**	**24.91**	**46**	P	**P**	**05 32 56.3**	**+2.9**
DOT				IAmb	IAmb	05 33 05.9	
	comp=Z,3.2nm,0.6s						
L27K	**Beaver Creek,**	**25.85**	**47**	P	**P**	**05 33 02.0**	**0.0**
BCAR	**Beaver Creek A**	**25.87**	**47**	P	**P**	**05 33 03.4**	**+1.2**
BCPM	**Bancas Point**	**26.90**	**54**	P	**P**	**05 33 11.4**	**-0.1**
TIXI	**Tiksi**	**27.65**	**331**	P	**P**	**05 33 17.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=118,slow=17,SNR=1.9						
HYT	**Haines Junctio**	**27.89**	**52**	P	**P**	**05 33 22.4**	**+1.9**
HYT				IAmb	IAmb	05 33 46.6	
	comp=Z,3.3nm,1.0s						

H11N2	WAKE ISLAND Hy	32.68	191	T	T	06 09 11.6	
	baz=8.5						
H11N3	WAKE ISLAND Hy	32.70	191	T	T	06 09 11.6	
	baz=8.5						
H11N1	WAKE ISLAND Hy	32.70	191	T	T	06 09 14.4	
	baz=8.5						
WALA	Waterton Lakes	44.50	64	P	P	05 35 44.3	+2.2
WALA				IAmb	IAmb	05 35 54.2	
	comp=Z,3.3nm,0.8s						
NVAR	Mina Array Bea	48.24	78	P	P	05 36 12.4	+0.8
	comp=Z,1.0nm,0.8s,baz=295,slow=7.1,SNR=7.7						
TPNV	Topopah Spring	50.44	78	P	P	05 36 28.9	+0.6
PD31	Pinedale Array	50.66	68	P	P	05 36 28.4	-1.6
PD31				IAmb	IAmb	05 36 47.5	
	comp=Z,2.6nm,1.4s						
PDAR	Pinedale Array	50.66	68	P	P	05 36 29.8	-0.2
	comp=Z,0.7nm,0.8s,baz=298,slow=3.2,SNR=6.1						
PDAR	Pinedale Array	50.66	68	P	P	05 36 30.6	+0.6
PRN	Pahroc Range	50.86	77	P	P	05 36 31.5	0.0
MKAR	Makanchi Array	55.68	304	P	P	05 37 03.3	-3.3
	comp=Z,0.2nm,0.8s,baz=74,slow=9.0,SNR=1.8						
TXAR	Lajitas Array	63.29	76	P	P	05 37 59.7	+0.2
	comp=Z,0.8nm,0.7s,baz=311,slow=5.4,SNR=12						
FINES	FINESS Array B	63.85	343	P	P	05 38 01.4	-1.2
	comp=Z,0.5nm,0.5s,baz=310,slow=8.9,SNR=2.9						
NB2	NORSAR Subarra	66.32	351	P	P	05 38 18.3	-0.4
	comp=Z,6.2nm,2.0s,baz=12,slow=6.9						
NOA	NORSAR Array B	66.32	351	P	P	05 38 17.9	-0.8
	comp=Z,0.3nm,0.7s,baz=21,slow=3.1,SNR=2.7						

*NEIC **13** 05:28:42.9±1.3, 24°.22S±0°.06×67°.5W±0°.3, h221km±23km, mb4.5/2, ML4.0(GUC), Error ellipse: s-maj=34.3km s-min=9.1km az=87.0*

*IDC **13** 05:28:44.0±2.0, 24°.00S×67°.02W, h175km±23km, mb3.3/1, mb1 3.3/6, mb1mx3.1/25, mbtmp3.7/6, Error ellipse: s-maj=31.7km s-min=21.7km az=134.0*

*GUC **13** 05:28:44.5±0.8, 23°.99S×67°.58W, h212km±5km, ML4.1*

ISC 13 05:28:42.8±0.8, 24°.17S±0°.04×67°.28W±0°.08, h198km±9km, n45, σ1§29/70, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.47	326	⇑eP	Pn	05 29 17.4	+1.0
AF01				eS	Sn	05 29 43.4	+0.9
AF01				i S	Sn	05 29 43.4	+0.9
LVC	Limon Verde	2.16	316	P	Pn	05 29 24.1	+0.8
	19nm,0.3s,baz=138,slow=6.5,SNR=113						
LVC				S	Sn	05 29 53.9	-0.7
	31nm,0.3s,baz=90,slow=20,SNR=54						
LVC	Limon Verde	2.16	316	⇑eP	Pn	05 29 24.0	+0.8
LVC				eS	Sn	05 29 54.2	-0.5
LVC	Limon Verde	2.16	316		Pn	05 29 24.1	+0.8
LVC				Sn	Sn	05 29 54.6	-0.1
PB15	IPOC Station P	2.22	295	eP	Pn	05 29 24.7	+0.9
PB15				i S	Sn	05 29 55.2	-0.4
PB15	IPOC Station P	2.22	295		Pn	05 29 24.7	+0.9
PB15				Sn	Sn	05 29 55.7	+0.1
GO02	Mina Guanaco	2.32	244	eP	Pn	05 29 25.1	+0.2
GO02				i S	Sn	05 29 57.0	-0.6
GO02				IAML		05 29 59.0	
	comp=N,622nm,0.3s						
GO02	Mina Guanaco	2.32	244		Pn	05 29 25.1	+0.2
GO02				Sn	Sn	05 29 57.4	-0.2
PB06	IPOC Station P	2.56	304	⇑eP	Pn	05 29 28.0	+0.5
PB06				i S	Sn	05 30 01.1	-1.1
PB06				IAML		05 30 03.9	
	comp=N,614nm,0.4s						
PB06	IPOC Station P	2.56	304		Pn	05 29 27.9	+0.5
PB06				Sn	Sn	05 30 02.1	-0.1
PB14	IPOC Station P	2.88	260	⇑eP	Pn	05 29 31.3	+0.1
PB14				eS	Sn	05 30 07.5	-1.5
PB14	IPOC Station P	2.88	260	Pn	Pn	05 29 31.2	-0.1
PB14				Sn	Sn	05 30 07.5	-1.5
PB09	IPOC Station P	2.98	322		Pn	05 29 33.8	+1.5
PB09				Sn	Sn	05 30 11.7	+0.8
PB05	IPOC Station P	2.98	296	eP	Pn	05 29 32.8	+0.5
PB05				i S	Sn	05 30 09.3	-1.7
PB05				IAML		05 30 11.7	
	comp=E,206nm,0.7s						
PB10	IPOC Station P	3.06	282	eP	Pn	05 29 33.9	+0.7
PB10				i S	Sn	05 30 11.3	-1.2
PB10	IPOC Station P	3.06	282	Pn	Pn	05 29 33.8	+0.7
PB10				Sn	Sn	05 30 11.4	-1.0
PB03	IPOC Station P	3.10	312	eP	Pn	05 29 34.3	+0.5
PB03				i S	Sn	05 30 12.3	-1.3
PB03				IAML		05 30 14.4	
	comp=E,308nm,0.2s						
AC02	Maricunga	3.13	212	Pn	Pn	05 29 34.3	-0.1
AC02				Sn	Sn	05 30 15.8	+1.0
PB04	IPOC Station P	3.21	304	eP	Pn	05 29 35.5	+0.4
PB04				i S	Sn	05 30 14.0	-1.9
PB04	IPOC Station P	3.21	304		Pn	05 29 35.7	+0.6
PB04				Sn	Sn	05 30 14.5	-1.3
PB07	IPOC Station P	3.42	315	eP	Pn	05 29 38.2	+0.6
PB07				i S	Sn	05 30 18.7	-1.7
PB07	IPOC Station P	3.42	315		Pn	05 29 38.1	+0.5
PB07				Sn	Sn	05 30 18.6	-1.7
PB01	IPOC Station P	3.72	326	⇑eP	Pn	05 29 41.3	+0.1
PB01				eS	Sn	05 30 25.2	-1.8
PB01				IAML		05 30 27.9	
	comp=N,149nm,0.3s						
PB01	IPOC Station P	3.72	326		Pn	05 29 41.4	+0.1
GO03	Copiap	4.32	217	Pn	Pn	05 29 47.2	-1.4
PB08	IPOC Station P	4.37	336		Pn	05 29 50.4	+0.8
TA01	Diego Aracena	4.48	323	Pn	Pn	05 29 50.8	+0.2
TA02	Huaiquique	4.70	325	Pn	Pn	05 29 53.1	-0.3
PB11	IPOC Station P	4.91	333		Pn	05 29 56.0	-0.3
PSGCX	Pisagua	5.26	329	Pn	Pn	05 29 59.4	-1.3
AC04	Llanos de Chal	5.26	219	Pn	Pn	05 29 58.8	-1.8
MNMC	Minye Minye	5.46	336	Pn	Pn	05 30 03.2	-0.2
AP01	Chacalluta	6.44	333	Pn	Pn	05 30 15.9	+0.1
GO04	Tololo Observa	6.75	207	Pn	Pn	05 30 18.9	-1.0
LPAZ	La Paz	7.88	354	P	Pn	05 30 36.4	+1.2
	comp=N,0.6nm,0.3s,baz=158,slow=8.2,SNR=22						
LPAZ				S	Sn	05 32 03.3	-1.3
	comp=N,0.1nm,0.3s,baz=174,slow=19,SNR=1.8						
LPAZ	La Paz	7.88	354	Pn	Pn	05 30 35.9	+0.7
SIV	San Ignacio	10.01	37	P	Pn	05 30 59.8	-2.6
	comp=N,0.3nm,0.3s,baz=234,slow=15,SNR=3.4						
TRQA	Tornquist	14.56	163	Pn	Pn	05 31 57.4	-2.3
PLCA	Paso Flores	16.74	189	P	Pn	05 32 32.0	+5.9
	comp=N,0.1nm,0.3s,baz=19,slow=14,SNR=4.5						
BDFB	Brasilia	19.99	68	P	P	05 32 59.8	-0.7
	comp=N,0.5nm,0.3s,baz=238,slow=9.5,SNR=8.6						
BDFB	Brasilia	19.99	68	P	P	05 33 00.5	0.0
BDFB				IAmb	IAmb	05 33 01.2	
	comp=Z,6.5nm,0.9s						
RCBR	Riachuelo	35.23	64	P	P	05 35 17.3	-1.4
RCBR				IAmb	IAmb	05 35 40.0	
	comp=Z,34nm,1.3s						
TORD	Torodi Ar. Bea	76.87	69	P	P	05 40 14.9	+1.4
	comp=Z,0.9nm,1.0s,baz=243,slow=6.3,SNR=2.1						
WRA	Warramunga Arr	131.35	208	PKP	PKiKP	05 47 35.3	+2.0
	comp=Z,0.7nm,0.8s,baz=153,slow=1.7,SNR=2.8						
MKAR	Makanchi Array	146.82	39	PKPbc	PKiKP	05 48 04.5	+0.5
	comp=Z,0.4nm,0.6s,baz=297,slow=1.4,SNR=4.2						

*IDC **13** 06:00:26.6±1.8, 5°.64S×153°.42E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/38, mbtmp3.9/6, Error ellipse: s-maj=62.1km s-min=27.2km az=100.0*

ISC 13 06:00:32.8±1.3, 5°.7S±0°.2×153°.5E±0°.2, h43km, n11, σ0§70/8, mb3.7/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.28	239	Sn	Sn	06 03 38.4	+0.5
	2.0nm,0.3s,baz=171,slow=19,SNR=1.7						
WRA	Warramunga Arr	23.40	231	P	P	06 05 37.0	-1.0
	0.8nm,0.7s,baz=57,slow=9.9,SNR=6.1						
ASAR	Alice Springs	25.99	224	P	P	06 06 01.4	-0.5
	2.0nm,0.8s,baz=55,slow=9.4,SNR=13						
H11S3	WAKE ISLAND Hy	27.31	28	T	T	06 34 30.4	
	baz=208						
H11S2	WAKE ISLAND Hy	27.31	28	T	T	06 34 35.0	
	baz=208						
H11S1	WAKE ISLAND Hy	27.33	28	T	T	06 34 32.4	
	baz=208						
VNDA	Vanda	71.96	178	P	P	06 11 51.9	+0.5
	0.4nm,0.7s,baz=327,slow=8.9,SNR=1.9						
MKAR	Makanchi Array	81.39	319	P	P	06 12 46.0	+0.7
	0.3nm,0.4s,baz=103,slow=6.5,SNR=6.0						
ZALV	Zalesovo Beam	82.22	326	P	P	06 12 49.2	-0.2
	1.1nm,0.6s,baz=110,slow=6.5,SNR=4.8						
KURBB	Kurchatov Arra	84.87	322	P	P	06 13 03.1	+0.1
	0.8nm,0.2s,baz=104,slow=4.1,SNR=6.2						
TORD	Torodi Ar. Bea	151.19	287	PKPbc	PKPbc	06 20 22.2	-0.4
	1.1nm,0.8s,baz=60,slow=2.6,SNR=4.0						

*NNC **13** 06:15:35.0±2.8, 54°.12N×86°.53E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=30.3km s-min=14.6km az=8.0, Suspected Mining explosion.*

IDC 13 06:15:36.1±2.7, 54°.07N×86°.50E, h0km, mb1 2.9/2, mb1mx2.9/38, mbtmp2.9/2, ML2.6/2, 4C-3D, Error ellipse: s-maj=21.4km s-min=12.9km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	264	i		06 22 00.0	
	baz=82,slow=307,SNR=2.2						
ZAA0	Zalesovo Array	1.00	264	⇑P	Pg	06 15 54.2	-1.1
	0.1nm,0.5s						
ZAA0				⇓S	Sg	06 16 08.8	+0.6
	3.2nm,0.8s						
ZALV	Zalesovo Beam	1.00	264	Pg	Pg	06 15 54.2	-1.0
	0.7nm,0.3s,baz=81,slow=17,SNR=6.3						
ZALV				Lg	Lg	06 16 09.2	
	1.0nm,0.3s,baz=83,slow=24,SNR=12						
ZALV				Rg	Rg	06 16 15.0	
	33nm,1.0s,baz=74,slow=26,SNR=35						
KURBB	Kurchatov Arra	5.98	238	Pn	Pn	06 17 06.7	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=7.7						
KURBB				Lg	Lg	06 18 47.1	
	0.0nm,0.3s,baz=57,slow=34,SNR=6.7						
KURBB	Kurchatov Arra	5.98	238	⇑Pn	Pn	06 17 07.5	+1.7
	1.6nm,0.5s						
KURBB				⇑Lg	Lg	06 18 46.5	
	11nm,1.1s						
MK31	Makanchi Array	7.76	202	⇑Pn	Pn	06 17 31.6	+1.3
	0.3nm,0.4s,baz=290,slow=36,SNR=8.9						
MK31				⇓Sn	Sn	06 18 58.6	-0.2
	3.2nm,1.2s						
MK31				⇓Lg	Lg	06 19 39.6	
	5.1nm,1.2s,baz=14,slow=31,SNR=4.4						
MKAR	Makanchi Array	7.76	202	Pn	Pn	06 17 31.5	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=7.3						
MKAR				Sn	Sn	06 18 58.2	-0.7
	0.1nm,0.3s,baz=24,slow=27,SNR=5.9						
MKAR				Lg	Lg	06 19 41.8	
	baz=22,slow=28,SNR=6.2						

*IDC **13** 06:28:34.4±1.4, 11°.60S×161°.67E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/32, mbtmp3.8/6, MS3.2/3, Ms1 3.2/3, ms1mx2.7/37, Error ellipse: s-maj=40.2km s-min=27.3km az=108.0*

ISC 13 06:28:40.1±1.2, 11°.5S±0°.1×161°.5E±0°.2, h35km, n9, σ1§19/7, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.60	324	Pn	Pn	06 29 21.1	+1.4
	baz=216,slow=16,SNR=1.3						
HNR				Sn	Sn	06 29 48.4	-1.6
	55nm,0.3s,baz=190,slow=11,SNR=4.0						
DZM	Mont Dzumac	11.48	156	LR	LR	06 34 23.5	
	comp=Z,58nm,21.2s,baz=222,slow=31						
PMG	Port Moresby	14.27	277	LR	LR	06 37 39.9	
	comp=Z,143nm,18.7s,baz=56,slow=38						
STKA	Stephens Creek	27.32	219	LR	LR	06 44 54.7	
	comp=Z,66nm,19.7s,baz=19,slow=36						
WRA	Warramunga Arr	27.42	249	P	P	06 34 23.0	+0.3
	2.1nm,1.2s,baz=74,slow=8.8,SNR=3.6						
ASAR	Alice Springs	28.88	242	P	P	06 34 35.5	-0.2
	0.6nm,0.8s,baz=68,slow=10,SNR=2.5						
PETK	Petropavlovsk-	64.48	357	P	P	06 39 13.5	+0.5
	0.8nm,0.7s,baz=176,slow=8.5,SNR=1.2						
VNDA	Vanda	65.97	180	P	P	06 39 22.1	-0.2
	0.5nm,0.7s,baz=352,slow=6.2,SNR=2.3						
ILAR	Eielson Array	85.34	20	P	P	06 41 12.4	-0.8
	0.3nm,0.6s,baz=215,slow=6.2,SNR=4.6						

IDC 13 06:30:15.8±2.7, 54°.16N×86°.28E, h0km, mb1 2.9/2, mb1mx2.8/45, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=21.1km s-min=13.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.89	257	i		06 35 00.0	
	baz=77,slow=315,SNR=1.2						
ZALV	Zalesovo Beam	0.89	257	Pg	Pg	06 30 31.9	-0.9
	2.0nm,0.3s,baz=72,slow=16,SNR=14						
ZALV				Lg	Lg	06 30 45.8	
	2.9nm,0.3s,baz=75,slow=33,SNR=13						
ZALV				Rg	Rg	06 30 52.3	
	6.6nm,0.6s,baz=73,slow=31,SNR=20						
KURBB	Kurchatov Arra	5.92	236	Pn	Pn	06 31 45.5	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=6.4						
MKAR	Makanchi Array	7.80	201	Pn	Pn	06 32 11.7	+1.1
	0.1nm,0.3s,baz=22,slow=13,SNR=4.3						
MKAR				Lg	Lg	06 34 23.0	
	0.1nm,0.3s,baz=20,slow=31,SNR=2.7						

*IDC **13** 06:32:21.3±2.0, 5°.22S×152°.46E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/29, mbtmp3.7/4, Error ellipse: s-maj=94.9km s-min=28.2km az=124.0*

ISC 13 06:32:26.4±2.0, 5°.4S±0°.4×152°.5E±0°.4, h35km, n6, σ0§69/6, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.68	233	Sn	Sn	06 35 16.8	-0.1
	2.0nm,0.3s,baz=116,slow=15,SNR=4.8						
WRA	Warramunga Arr	22.88	229	P	P	06 37 27.1	0.0
	1.3nm,0.8s,baz=52,slow=9.3,SNR=2.3						
ASAR	Alice Springs	25.56	223	P	P	06 37 52.8	+0.5
	0.6nm,0.8s,baz=52,slow=10,SNR=3.1						
MKAR	Makanchi Array	80.56	319	P	P	06 44 35.6	+0.3
	0.3nm,0.5s,baz=97,slow=6.7,SNR=3.6						
ILAR	Eielson Array	82.77	22	P	P	06 44 46.6	+0.1
	1.3nm,0.7s,baz=242,slow=5.8,SNR=15						
TORD	Torodi Ar. Bea	150.22	287	PKPbc	PKPbc	06 52 13.8	-1.0
	0.5nm,0.8s,baz=72,slow=1.8,SNR=2.5						

IDC 13 06:34:36.9±9.9, 20°.79S×67°.77W, h188km±83km, mb3.5/1, mb1 3.0/2, mb1mx2.8/16, mbtmp3.5/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/15, Error ellipse: s-maj=123.1km s-min=99.8km az=87.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.50	356	P	Pn	06 35 45.2	0.0
	0.2nm,0.3s,baz=182,slow=7.7,SNR=3.3						
LPAZ				S	Sn	06 36 39.3	+0.5
	0.1nm,0.3s,baz=195,slow=10,SNR=1.8						
ROSC	El Rosal	26.27	345	LR	LR	06 52 18.6	
	comp=Z,42nm,20.9s,baz=129,slow=40						
TORD	Torodi Ar. Bea	76.12	70	P	P	06 46 04.5	0.0
	0.2nm,0.4s,baz=247,slow=5.7,SNR=4.2						
TORD				LR	LR	07 16 32.6	
	comp=Z,70nm,21.3s,baz=105,slow=33						
MKAR	Makanchi Array	144.44	36	PKP	PKPbc	06 53 50.1	+0.4
	0.1nm,0.5s,baz=325,slow=4.0,SNR=2.2						

IDC 13 06:41:14.9±5.0, 5°.99S×147°.84E, h194km±47km, mb3.2/1, mb1 3.5/3, mb1mx3.1/28, mbtmp3.9/3, Error ellipse: s-maj=110.3km s-min=47.1km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.46	191	P	Pn	06 42 10.5	+0.6
	14nm,0.3s,baz=18,slow=6.4,SNR=12						
PMG				S	Sn	06 42 53.3	+0.2
	8.9nm,0.3s,baz=260,slow=20,SNR=8.7						
WRA	Warramunga Arr	19.10	222	P	P	06 45 22.7	-0.5
	0.6nm,0.3s,baz=49,slow=11,SNR=18						
ASAR	Alice Springs	22.11	216	P	P	06 45 55.6	+0.8
	1.4nm,0.6s,baz=48,slow=8.6,SNR=25						
TORD	Torodi Ar. Bea	145.90	285	PKPbc	PKPdf	07 00 31.0	-0.6
	0.4nm,0.5s,baz=67,slow=4.0,SNR=2.2						

*BJI **13** 06:52:29.0±0.0, 31°.19N×132°.28E, h30km, mB4.7/24, mb4.5/41, Ms4.3/23, Ms7 4.0/15*
*JMA **13** 06:52:34.5±0.1, 31°.41N×131°.88E, h43km±1km, M4.3*
JMA Felt II J1.
*NIED **13** 06:52:34.6, 31°.41N×131°.88E, h43km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.00; $M_{\theta\theta}$=1.02; $M_{\phi\phi}$=3.02; $M_{r\theta}$=1.09; $M_{\theta\phi}$=5.96; Fault plane solution: M_0=6.79000×10^{15} NP1: ϕ_s=171.00000°, δ=80.00000°, λ=-108.00000°. NP2: ϕ_s=54.00000°, δ=21.00000°, λ=-29.00000°.*
*NEIC **13** 06:52:37.7±1.9, 31°.50N±0°.07×131°.76E±0°.07, h46km±7km, mb4.7/100 Error ellipse: s-maj=10.4km s-min=8.5km az=145.0*
*IDC **13** 06:52:40.7±1.9, 31°.57N×131°.53E, h81km±14km, mb3.9/20, mb1 4.1/21, mb1mx4.0/51, mbtmp4.2/21, MS3.6/17, Ms1 3.7/17, ms1mx3.5/38, Error ellipse: s-maj=16.9km s-min=13.1km az=123.0*

ISC 13 06:52:36.2±0.9, 31°.44N±0°.04×131°.77E±0°.05, h43km±8km, n306, σ1§04/300, mb4.6/87, MS3.8/21, 9C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	Nichinankitago	0.41	303	⇑P	Pn	06 52 45.1	-0.8
JNKG				S	Sn	06 52 52.4	-0.3
JNAR	Kushima--Naru	0.44	282	⇑P	Pn	06 52 45.7	-0.5
JNAR				eS	Sn	06 52 53.6	+0.3
JTZ	Takazaki	0.75	308	⇑P	Pn	06 52 49.7	-0.6
JTZ				eS	Sn	06 53 01.7	+1.2
JTSR	Tashiro 2	0.78	250	⇑P	Pn	06 52 50.2	-0.6
JTSR				eS	Sn	06 53 01.6	+0.3
JTSN	Tsuno	0.84	344	P	Pn	06 52 50.8	-0.8
JTSN				eS	Sn	06 53 02.6	-0.1
JTN	Tanegashima 3	1.04	221	P	Pn	06 52 53.9	-0.4
JTN				S	Sn	06 53 08.1	+0.5
JSU	Suzuyama	1.13	274	⇑P	Pn	06 52 55.5	-0.1
JSU				eS	Sn	06 53 11.3	+1.4
JSU	Suzuyama	1.13	274	Pn	Pn	06 52 55.5	-0.1
JMTN	Minamitane	1.28	216	P	Pn	06 52 57.1	-0.5
JMTN				eS	Sn	06 53 14.3	+0.7
JIU3	Izumi3	1.38	324	⇑P	Pn	06 52 59.2	+0.3
JIU3				eS	Sn	06 53 17.0	+1.0
JTO	Tosashimizu	1.67	31	P	Pn	06 52 59.8	-3.1
JNU	Nakatsue	1.84	336	P	Pn	06 53 06.8	+1.4
	64nm,0.3s,baz=189,slow=8.3,SNR=273						
JNU				S	Sn	06 53 28.6	+1.2
	139nm,0.3s,baz=31,slow=20,SNR=12						
JNU	Nakatsue	1.84	336		Pn	06 53 05.7	+0.4
JMN	Monobe	2.89	37	Pn	Pn	06 53 18.0	-1.8
JTU	Tsushima	3.67	328	Pn	Pn	06 53 30.2	-0.2
JHS	Saijyo	3.73	17	Pn	Pn	06 53 30.6	-0.6
JWT	Wachi	4.89	37	Pn	Pn	06 53 46.5	-0.6
JOW	Kunigami	5.52	215	Pn	Pn	06 53 55.5	-0.2
INU	Inuyama	5.87	47		Pn	06 53 59.4	-1.2
JGF	Kuroka	6.24	47		Pn	06 54 05.1	-0.6
KSRS	Korea Array	6.79	333	P	Pn	06 54 16.6	+3.4
	0.3nm,0.3s,baz=150,slow=12,SNR=3.3						
KSRS				S	Sn	06 55 30.0	+0.8
	0.2nm,0.3s,baz=159,slow=27,SNR=2.6						
JHJ	Hachijo jima 2	6.99	74	LR	LR	06 56 51.1	
	comp=Z,325nm,19.4s,baz=114,slow=35						
MAJO	Matsushiro	7.38	45	Pn	Pn	06 54 21.0	-0.4
MAT	Matsushiro	7.38	45	P	Pn	06 54 20.8	-0.5
MAT				eS	Sn	06 55 43.2	-0.5
MJAR	Matsushiro Arr	7.38	45	P	Pn	06 54 21.0	-0.4
	0.7nm,0.3s,baz=237,slow=12,SNR=13						
MJAR				LR	LR	06 57 48.6	
	comp=Z,570nm,20.0s,baz=225,slow=41						
MJAR	Matsushiro Arr	7.38	45		Pn	06 54 20.6	-0.7
MJB9	Matsu-Tunnel	7.38	45		Pn	06 54 21.0	-0.4
JSD	Sado	8.47	37	Pn	Pn	06 54 36.5	+0.2
JYT	Yasato	8.48	53	Pn	Pn	06 54 37.5	+1.1
JMM	Marumori	9.81	47	Pn	Pn	06 54 55.5	+0.9
JCJ	Chichijima	10.07	113	LR	LR	06 58 06.3	
	comp=Z,347nm,20.8s,baz=326,slow=32						
NJ2	Nanjing	11.02	277	eP	Pn	06 55 11.8	+0.6
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
USRK	Ussuriysk Ar.	12.74	1	P	Pn	06 55 39.7	+5.0
	baz=168,slow=16,SNR=2.9						
USRK				LR	LR	07 00 41.0	
	comp=Z,303nm,18.1s,baz=160,slow=38						
USRK	Ussuriysk Ar.	12.74	1		Pn	06 55 35.3	+0.6
TIA	Tai'an	13.07	295	P	Pn	06 55 41.8	+2.5
TIA				pmax	pmax		
	comp=Z,26nm,1.0s						
CN2	Changchun	13.31	340	eP	P	06 56 00.5	+9.3
ASAJ	Asahikawa	15.26	31	LR	LR	07 02 26.6	
	comp=Z,238nm,18.6s,baz=254,slow=38						
BJT	Baijiatuau	15.28	308	Pn	Pn	06 56 07.6	-1.3
BJI	Beijing	15.29	308	P	P	06 56 14.6	+1.5
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI				LR	LR		
	comp=N,480nm,14.7s						
BJI				LR	LR		
	comp=E,320nm,14.7s						
YSS	Yuzh-Sakhalins	17.65	25		Pn	06 56 38.8	+0.1
KLR	Kul'dur	17.77	360	P	P	06 56 41.2	+0.6
	0.2nm,0.3s,baz=176,slow=8.6,SNR=20						
HHC	Hu-ho-hao-te	18.80	306	eP	P	06 56 54.1	+2.0
HHC				S	Sn	07 00 18.6	-3.7
HHC				sS	S	07 00 33.3	+10
HHC				pmax	pmax		
	comp=Z,21nm,1.0s						
HHC				pmax	pmax		
	comp=Z,200nm,5.6s						
HHC				LR	LR		
	comp=N,390nm,17.2s						
HHC				LR	LR		
	comp=E,410nm,16.2s						
HHC				LR	LR		
	comp=Z,540nm,17.0s						
ENH	Enshi	19.17	272		P	06 56 56.6	+0.4
XAN	Xi'an	19.39	284	⇑P	P	06 56

SONM	Songino Array	25.33	318	P	P	06 57 58.1	-0.9
KMI	Kunming	26.29	263	⇑P	P	06 58 09.3	+1.3
KMI				pP	pP	06 58 21.4	+2.0
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				LR	LR		
	comp=N,310nm,9.9s						
KMI				LR	LR		
	comp=E,250nm,9.9s						
KMI				LR	LR		
	comp=Z,220nm,15.0s						
SLVN	Son La	26.85	255	P	P	06 58 12.4	-0.5
GTA	Gaotai	27.13	296	⇑P	P	06 58 14.6	-0.7
GTA				pP	pP	06 58 25.8	-0.9
GTA				sP	sP	06 58 32.4	+0.5
GTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,93nm,7.2s						
GTA				LR	LR		
	comp=N,190nm,18.7s						
GTA				LR	LR		
	comp=E,870nm,21.9s						
GTA				LR	LR		
	comp=Z,290nm,16.7s						
PETK	Petropavlovsk-	28.65	33	P	P	06 58 29.2	+0.6
	5.8nm,0.8s,baz=215,slow=9.6,SNR=16						
PETK				LR	LR	07 10 13.0	
	comp=Z,146nm,20.1s,baz=205,slow=37						
TLY	Talaya	28.90	323	LR	LR	07 11 38.4	
	comp=Z,48nm,18.3s,baz=116,slow=40						
KHON	Khomkaen	30.32	247	P	P	06 58 43.8	+0.1
	6µm78nm,0.6s						
KHON	Khomkaen	30.32	247	P	P	06 58 43.0	-0.7
	2µm19nm,0.6s						
CHAI	Chaiyaphum	31.23	247	P	P	06 58 51.5	-0.2
	33nm,0.7s						
CHAI	Chaiyaphum	31.23	247	P	P	06 58 51.6	-0.2
	8.3nm,0.7s						
UTTA	Uttaradit	31.37	252	P	P	06 58 52.7	-0.2
	407nm45nm,0.8s						
UTTA	Uttaradit	31.37	252	P	P	06 58 52.7	-0.2
	102nm11nm,0.8s						
LAMP	Lampang	31.72	254	P	P	06 58 56.6	+0.5
	30nm,0.8s						
LAMP	Lampang	31.72	254	P	P	06 58 56.6	+0.5
	7.5nm,0.8s						
PHIT	Phitsanulok	31.77	251	P	P	06 58 56.5	0.0
	1µm77nm,0.9s						
PHIT	Phitsanulok	31.77	251	P	P	06 58 56.0	-0.5
	298nm19nm,0.9s						
CM34	Chiang Mai Arr	31.96	255	P	P	06 58 58.0	-0.2
CM35	Chiang Mai Arr	32.04	254	P	P	06 58 58.0	-0.9
CM33	Chiang Mai Arr	32.14	255	P	P	06 58 59.0	-0.8
CMMT	Chiang Mai	32.14	255	P	P	06 58 59.7	-0.1
	18nm,0.8s						
CMMT	Chiang Mai	32.14	255	P	P	06 58 59.8	-0.1
	18nm,0.8s						
CHTO	Chiang Mai	32.14	255	P	P	06 58 59.7	-0.1
	18nm,0.8s						
CHTO	Chiang Mai	32.14	255	P	P	06 58 59.5	-0.3
CM36	Chiang Mai Arr	32.16	254	P	P	06 58 59.0	-1.0
SRAK	Srakaew	32.30	244	P	P	06 58 57.9	-3.2
	176nm,0.8s						
CM32	Chiang Mai Arr	32.30	255	P	P	06 59 02.0	+0.8
CM04	Chiang Mai Arr	32.32	254	P	P	06 59 01.9	+0.6
	80nm8.0nm,0.9s						
CM04	Chiang Mai Arr	32.32	254	P	P	06 59 01.9	+0.6
	80nm8.0nm,0.9s						
CM31	Chiang Mai Arr	32.32	254	P	P	06 59 01.4	+0.1
CM31				IAmb	IAmb	06 59 01.8	
	comp=Z,7.4nm,0.9s						
CMAR	Chiang Mai Arr	32.32	254	P	P	06 59 01.2	-0.2
	comp=Z,5.1nm,0.7s,baz=51,slow=6.6,SNR=24						
CMAR				LR	LR	07 13 52.4	
	comp=Z,172nm,18.3s,baz=121,slow=40						
CMAR	Chiang Mai Arr	32.32	254	P	P	06 59 00.7	-0.7
CM01	Chiang Mai Arr	32.33	254	P	P	06 59 01.9	+0.5
	comp=Z,9.6nm,0.9s						
CM01	Chiang Mai Arr	32.33	254	P	P	06 59 01.9	+0.5
	comp=Z,9.6nm,0.9s						
CM02	Chiang Mai Arr	32.33	254	P	P	06 59 02.0	+0.6
	comp=Z,7.3nm,1.0s						
CM02	Chiang Mai Arr	32.33	254	P	P	06 59 02.0	+0.6
	comp=Z,7.3nm,1.0s						
CM15	Chiang Mai Arr	32.34	254	P	P	06 59 01.9	+0.4
	comp=Z,7.9nm,0.8s						
CM15	Chiang Mai Arr	32.34	254	P	P	06 59 01.9	+0.4
	comp=Z,7.9nm,0.8s						
CM05	Chiang Mai Arr	32.35	254	P	P	06 59 02.0	+0.4
	comp=Z,72nmcomp=Z,7.6nm,0.8s						
CM05	Chiang Mai Arr	32.35	254	P	P	06 59 02.1	+0.4
	comp=Z,72nmcomp=Z,7.6nm,0.8s						
CM13	Chiang Mai Arr	32.37	254	P	P	06 59 02.1	+0.3
	comp=Z,76nmcomp=Z,8.2nm,0.8s						
CM13	Chiang Mai Arr	32.37	254	P	P	06 59 02.0	+0.3
	comp=Z,76nmcomp=Z,8.2nm,0.8s						
UMPA	Umpang Tak	33.55	251	P	P	06 59 14.4	+2.2
	comp=Z,5µmcomp=Z,29nm,0.9s						
UMPA	Umpang Tak	33.55	251	P	P	06 59 14.4	+2.2
H11N2	WAKE ISLAND Hy	33.62	102	T	T	07 35 08.9	
	baz=297,slow=74,SNR=29						
H11N1	WAKE ISLAND Hy	33.62	102	T	T	07 35 11.3	
	baz=297,slow=74,SNR=18						
H11N3	WAKE ISLAND Hy	33.63	102	T	T	07 35 20.6	
	baz=297,slow=74,SNR=22						
H11S3	WAKE ISLAND Hy	34.02	104	T	T	07 35 48.7	
	baz=304,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	34.03	104	T	T	07 35 44.4	
	baz=304,slow=75,SNR=10						
H11S2	WAKE ISLAND Hy	34.04	104	T	T	07 35 47.5	
	baz=304,slow=75,SNR=2.9						
SEY	Seymchan	34.16	17	P	P	06 59 17.2	+0.3
	comp=Z,0.9nm,0.4s,baz=218,slow=14,SNR=5.3						
WMQ	Urumqi	36.62	302	*e*P	P	06 59 41.0	+2.6
WMQ				LR	LR		
	comp=Z,380nm,19.5s						
WMQ				LR	LR		
	comp=Z,280nm,19.5s						
MK31	Makanchi Array	40.66	307	P	P	07 00 11.0	-1.2
MKAR	Makanchi Array	40.66	307	P	P	07 00 10.6	-1.5
	comp=Z,2.2nm,0.7s,baz=91,slow=10.0,SNR=23						
MKAR				PcP	PcP	07 02 10.6	-2.7
	comp=Z,0.2nm,0.5s,baz=101,slow=2.9,SNR=1.5						
MAKZ	Makanchi	40.87	307	P	P	07 00 12.9	-1.0
KURK	Kurchatov	43.41	312	P	P	07 00 33.2	-1.2
KURBB	Kurchatov Arra	43.45	312	P	P	07 00 33.2	-1.6
	comp=Z,2.4nm,0.7s,baz=98,slow=8.7,SNR=18						
GSI	Gunungsitoli	44.07	234	P	P	07 00 40.3	+0.1
LEM	Lembang	44.51	215	P	P	07 00 45.5	+1.6
	comp=Z,46nm,0.6s,baz=68,slow=5.1,SNR=8.5						
KSH	Kashi	45.53	296	P	P	07 00 54.3	+2.6
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	48.70	315	P	P	07 01 15.2	-0.9
BRVK				IAmb	IAmb	07 01 15.6	
	comp=Z,4.5nm,0.7s						
NIL	Nilore	48.81	289	P	P	07 01 17.7	+0.4
NIL				IAmb	IAmb	07 01 17.8	
	comp=Z,4.3nm,0.8s						
KK31	Karatay Array	49.13	302	P	P	07 01 18.8	-0.7
KKAR	Karatay Array	49.13	302	P	P	07 01 18.9	-0.7
GAR	Garm	49.94	297	P	P	07 01 25.5	-0.5
CHGR	Chuyangaron	50.90	296	P	P	07 01 32.3	-0.9
WRA	Warramunga Arr	51.15	177	P	P	07 01 35.3	+0.3
	comp=Z,0.7nm,0.9s,baz=355,slow=7.4,SNR=2.3						
WR0	Warramunga Arr	51.17	177	P	P	07 01 35.9	+0.8
WR0				IAmb	IAmb	07 01 49.9	
	comp=Z,10.0nm,1.1s						
N18K	Kilae Creek	54.59	35	P	P	07 02 00.2	+0.2
	baz=272						
SVW2	Sparrevohn	54.72	35	P	P	07 02 02.2	+1.3
SVW2				IAmb	IAmb	07 02 10.4	
	comp=Z,7.3nm,1.3s						
ASAR	Alice Springs	54.83	178	P	P	07 02 02.9	+0.8
	comp=Z,0.9nm,1.0s,baz=7.6,slow=7.7,SNR=4.3						
O18K	Koktuh Hills	54.97	36	P	P	07 02 02.9	+0.2
	baz=273						
L19K	White Mountain	55.03	33	P	P	07 02 03.0	-0.2
	baz=272						
M19K	Big River Lodg	55.26	34	P	P	07 02 04.9	+0.1
	baz=272						
N19K	Bonanza Creek	55.27	35	P	P	07 02 04.8	-0.2
	baz=273						
IMAR	Indian Mountai	55.45	29	P	P	07 02 07.4	+1.4
ABKAR	Akbulak array	55.48	311	P	P	07 02 05.6	-1.0
H21K	Melozitna Rive	55.84	29	P	P	07 02 10.3	+1.4
	baz=271						
RSO	Redoubt South	56.15	35	P	P	07 02 11.9	+0.5
OHAK	Old Harbor	56.20	39	P	P	07 02 11.6	+0.1
	baz=277						
OHAK	Old Harbor	56.20	39	P	P	07 02 12.3	+0.8
OHAK				IAmb	IAmb	07 02 39.8	
	comp=Z,7.8nm,1.0s						
I21K	Tanana	56.20	30	P	P	07 02 12.8	+1.4
	baz=272,SNR=9.8						
PPLA	Purkeypile	56.23	32	P	P	07 02 12.7	+0.8
	baz=274						
PPLA	Purkeypile	56.23	32	P	P	07 02 12.9	+1.0
PPLA				IAmb	IAmb	07 02 14.2	
	comp=Z,7.8nm,0.8s						
O20K	Slope Mountain	56.24	36	P	P	07 02 12.9	+0.9
	baz=275						
SPU	Mount Spurr	56.43	34	P	P	07 02 13.9	+0.7
KDAK	Kodiak Island	56.51	38	P	P	07 02 14.4	+0.7
	baz=277						
KDAK	Kodiak Island	56.51	38	P	P	07 02 14.4	+0.7
SKT	Skwentna	56.61	33	P	P	07 02 14.6	+0.2
	baz=275						
SKT	Skwentna	56.61	33	P	P	07 02 15.6	+1.2
SKT				IAmb	IAmb	07 02 16.1	
	comp=Z,7.3nm,1.0s						
BPAW	Bear Paw Mtn.	56.69	31	P	P	07 02 16.4	+1.4
	baz=274,SNR=5.1						
BPAW	Bear Paw Mtn.	56.69	31	P	P	07 02 16.6	+1.6
BPAW				IAmb	IAmb	07 02 17.5	
	comp=Z,7.6nm,1.2s						
MLY	Manley	56.73	30	P	P	07 02 16.9	+1.6
	baz=274,SNR=13						
MLY	Manley	56.73	30	P	P	07 02 17.0	+1.7
MLY				IAmb	IAmb	07 02 18.1	
	comp=Z,12nm,1.1s						
KTH	Kantishna Hill	56.76	31	P	P	07 02 17.2	+1.7
KTH				IAmb	IAmb	07 02 18.1	
	comp=Z,12nm,1.1s						
CAPN	Captain Cook N	56.90	35	P	P	07 02 17.5	+1.1
	baz=276						
TOLK	Toolik Lake Re	57.01	25	P	P	07 02 18.3	+1.1
	baz=272						
TOLK	Toolik Lake Re	57.01	25	P	P	07 02 18.1	+0.9
TOLK				IAmb	IAmb	07 02 19.7	
	comp=Z,7.2nm,1.1s						
SUA	Susitna One	57.03	34	P	P	07 02 17.9	+0.3
	baz=276						
TRF	Thorofare Moun	57.05	32	P	P	07 02 18.0	+0.3
	baz=275						
TRF	Thorofare Moun	57.05	32	P	P	07 02 19.0	+1.3
TRF				IAmb	IAmb	07 02 20.2	
	comp=Z,7.3nm,1.1s						
BRLK	Bradley Lake	57.15	36	P	P	07 02 19.0	+0.7
H23K	Yukon River	57.18	29	P	P	07 02 20.6	+2.2
	baz=274,SNR=20						
BRSE	Bradley Lake S	57.23	36	P	P	07 02 19.8	+1.0
	baz=277						
I23K	Minto, Yukon-K	57.31	30	P	P	07 02 20.7	+1.5
	baz=275						
I23K	Minto, Yukon-K	57.31	30	P	P	07 02 20.0	+0.8
I23K				IAmb	IAmb	07 02 48.7	
	comp=Z,6.4nm,1.3s						
BWN	Browne	57.35	31	P	P	07 02 20.7	+1.1
HRA	Herat	57.38	293	P	P	07 02 20.9	+0.3
HRA				IAmb	IAmb	07 02 21.4	
	comp=Z,4.0nm,0.7s						
NEA2	Nenana	57.48	30	P	P	07 02 21.9	+1.3
	baz=275,SNR=19						
NEA2	Nenana	57.48	30	P	P	07 02 21.4	+0.8
RC01	Rabbit Creek A	57.55	34	P	P	07 02 22.2	+1.1
	baz=277						
MCK	McKinley	57.62	31	P	P	07 02 22.1	+0.5
	baz=276						
MCK	McKinley	57.62	31	P	P	07 02 22.1	+0.5
MCK				IAmb	IAmb	07 02 24.6	
	comp=Z,6.5nm,0.8s						
RND	Reindeer	57.70	32	P	P	07 02 23.1	+1.0
MDM	Murphy Dome	57.80	30	P	P	07 02 23.9	+1.1
SEW	Seward	57.82	35	P	P	07 02 23.4	+0.5
	baz=278						
SEW	Seward	57.82	35	P	P	07 02 23.7	+0.8
H24K	Noodor Dome	57.86	29	P	P	07 02 24.9	+1.7
	baz=276,SNR=9.3						
WAT1	Susitna Watana	57.90	32	P	P	07 02 23.9	+0.3
	baz=277						
WRH	Wood River Hil	57.91	30	P	P	07 02 24.8	+1.2
WRH				IAmb	IAmb	07 02 27.2	
	comp=Z,5.5nm,0.8s						
TCOL	CIGO, UAF Yank	57.97	30	P	P	07 02 25.3	+1.4
	baz=276						
TCOL	CIGO, UAF Yank	57.97	30	P	P	07 02 25.9	+1.9
TCOL				IAmb	IAmb	07 02 28.6	
	comp=Z,4.1nm,0.8s						
COLA	College	57.97	30	P	P	07 02 25.3	+1.4
	baz=276						
COLA	College	57.97	30	P	P	07 02 25.5	+1.6
COLA				IAmb	IAmb	07 02 42.8	
	comp=Z,4.7nm,0.9s						
CCB	Clear Creek Bu	58.02	30	P	P	07 02 25.3	+1.0
POKR	Poker Plat Res	58.12	29	P	P	07 02 26.8	+1.8
	baz=276,SNR=5.6						
POKR	Poker Plat Res	58.12	29	P	P	07 02 27.0	+2.0
WAT6	Susitna Watana	58.30	32	P	P	07 02 26.2	-0.3
	baz=278						
IL31		58.39	30	P	P	07 02 25.9	-0.9
IL31				IAmb	IAmb	07 02 29.8	
	comp=Z,3.2nm,0.7s						
ILAR	Eielson Array	58.39	30	P	P	07 02 26.9	0.0
	comp=Z,2.4nm,0.7s,baz=265,slow=5.8,SNR=26						
ILAR	Eielson Array	58.39	30	P	P	07 02 26.8	-0.2
HDA	Harding Lake	58.41	30	P	P	07 02 27.2	+0.1
	baz=277,SNR=8.8						
HDA	Harding Lake	58.41	30	P	P	07 02 27.6	+0.5
FYU	Fort Yukon	58.84	28	P	P	07 02 31.4	+1.4
PRP	Porcupine Dome	58.87	29	P	P	07 02 30.3	0.0
	baz=278						
PRP	Porcupine Dome	58.87	29	P	P	07 02 31.3	+0.9
PRP				IAmb	IAmb	07 02 32.6	
	comp=Z,5.9nm,0.9s						
BMAR	Burnt Mountain	58.98	27	P	P	07 02 33.6	+2.5
HARP	HAARP	59.51	32	P	P	07 02 35.3	+0.5
	baz=280						
EYAK	Cordova Ski Ar	59.57	35	P	P	07 02 35.7	+0.6
	baz=281						
SCRK	Sand Creek	59.76	31	P	P	07 02 37.0	+0.5
	baz=280,SNR=14						
SCRK	Sand Creek	59.76	31	P	P	07 02 37.2	+0.6
DOT	Dot Lake	59.78	31	P	P	07 02 37.3	+0.7
N25K	Chitina, Valde	59.92	33	P	P	07 02 38.2	+0.5
	baz=281						
N25K	Chitina, Valde	59.92	33	P	P	07 02 37.2	-0.4
N25K				IAmb	IAmb	07 02 40.9	
	comp=Z,6.1nm,0.8s						
BMRM	Bremner River	60.04	34	P	P	07 02 39.0	+0.6
	baz=281						
MENT	Mentasta	60.07	32	P	P	07 02 38.7	+0.1
L26K	Log Cabin Wild	60.22	32	P	P	07 02 40.7	+1.1
	baz=281,SNR=7.4						
GLB	Gilahina Butte	60.32	33	P	P	07 02 41.0	+0.6
GLB				IAmb	IAmb	07 02 42.7	
	comp=Z,9.5nm,1.2s						
K27K	Chicken	60.58	30	P	P	07 02 43.2	+1.2
	baz=282,SNR=13						
K27K	Chicken	60.58	30	P	P	07 02 43.9	+1.9
K27K				IAmb	IAmb	07 02 44.4	
	comp=Z,9.3nm,1.1s						
MCARA	McCarthy VSAT	60.70	33	P	P	07 02 43.6	+0.7
EGAK	Eagle	60.81	29	P	P	07 02 44.0	+0.5
	baz=282						
EGAK	Eagle	60.81	29	P	P	07 02 44.2	+0.7
L27K	Beaver Creek,	60.89	31	P	P	07 02 45.6	+1.4
	baz=282,SNR=9.5						
L27K	Beaver Creek,	60.89	31	P	P	07 02 45.3	+1.1
L27K				IAmb	IAmb	07 02 46.8	
	comp=Z,6.9nm,1.1s						
BCAR	Beaver Creek A	60.91	31	P	P	07 02 45.7	+1.4
TGL	Tana Glacier	60.93	34	P	P	07 02 44.6	0.0
DAWY	Dawson	61.72	30	P	P	07 02 50.5	+0.7
EPYK	Eagle Plains	62.23	27	P	P	07 02 54.3	+1.1
	baz=285						
EPYK	Eagle Plains	62.23	27	P	P	07 02 53.8	+0.6
DZM	Mont Dzumac	62.73	144	*e*LR	LR	07 21 42.7	
	comp=Z,76nm,24.8s						
INK	Inuvik	62.88	25	P	P	07 02 58.3	+0.9
	comp=Z,2.3nm,0.5s,baz=291,slow=9.9,SNR=13						
INK	Inuvik	62.88	25	P	P	07 02 57.9	+0.5
	baz=287						
INK	Inuvik	62.88	25	P	P	07 02 58.4	+0.9
INK				IAmb	IAmb	07 02 58.8	
	comp=Z,3.2nm,0.7s						
HYT	Haines Junctio	63.44	33	P	P	07 03 03.3	+1.9
HYT				IAmb	IAmb	07 03 04.2	
	comp=Z,7.5nm,1.1s						
STKA	Stephens Creek	63.65	171	LR	LR	07 30 24.8	
	comp=Z,34nm,19.9s,baz=199,slow=36						
C36M	Paulatuk	65.73	22	P	P	07 03 16.6	+0.6
	baz=295						
C36M	Paulatuk	65.73	22	P	P	07 03 17.2	+1.3
ARCES	ARCESS Array B	66.32	338	LR	LR	07 38 12.0	
	comp=Z,56nm,18.1s,baz=85,slow=41						
EUNU	Eureka	66.78	7	P	P	07 03 22.9	+0.2
EUNU				IAmb	IAmb	07 03 43.9	
	comp=Z,11nm,1.5s						
KBZ	Khabaz	68.31	309	P	P	07 03 32.3	-0.5
	comp=Z,3.1nm,0.8s,baz=150,slow=2.6,SNR=6.0						
KBZ				LR	LR	07 38 08.1	
	comp=Z,109nm,18.0s,baz=70,slow=40						
FIA1	FINESS Array S	69.88	330	P	P	07 03 41.2	-1.0
FIA1				IAmb	IAmb	07 03 43.6	
	comp=Z,14nm,1.4s						
FINES	FINESS Array B	69.88	330	P	P	07 03 40.7	-1.6
	comp=Z,1.9nm,0.4s,baz=66,slow=5.7,SNR=28						
FINES				LR	LR	07 36 46.7	
	comp=Z,69nm,20.3s,baz=84,slow=38						
YKA	Yellowknife Ar	72.50	26	P	P	07 03 58.6	+0.5
	comp=Z,3.5nm,0.9s,baz=310,slow=4.8,SNR=3.2						
AKASG	Malin Array Be	73.59	320	P	P	07 04 02.8	-2.0
	comp=Z,2.0nm,0.6s,baz=55,slow=6.0,SNR=8.4						
AKASG				LR	LR	07 39 08.9	
	comp=Z,72nm,18.2s,baz=55,slow=38						
AKASG	Malin Array Be	73.59	320	P	P	07 04 03.3	-1.4
NB2	NORSAR Subarra	76.00	334	P	P	07 04 16.8	-1.8
	comp=Z,2.3nm,0.8s,baz=50,slow=5.9						
NOA	NORSAR Array B	76.00	334	P	P	07 04 16.9	-1.8
	comp=Z,1.2nm,0.8s,baz=48,slow=5.6,SNR=7.0						
NOA				LR	LR	07 41 16.2	
	comp=Z,23nm,21.1s,baz=60,slow=38						
BRTR	Keskin Array B	76.28	308	P	P	07 04 20.4	-0.4
	comp=Z,1.0nm,0.7s,baz=147,slow=3.4,SNR=4.3						
BRTR				LR	LR	07 44 01.5	
	comp=Z,30nm,19.4s,baz=75,slow=40						
D03D	Eldon	76.68	42	P	P	07 04 23.6	+1.0
	baz=302						
E03A	Lebam	76.92	43	P	P	07 04 25.7	+1.7
E03A				IAmb	IAmb	07 04 27.4	
	comp=Z,11nm,1.0s						
E04D	Cinebar	77.50	43	P	P	07 04 28.2	+1.0
	baz=303						
G03D	McMinnville, O	77.81	44	P	P	07 04 30.7	+1.7
	baz=302						
B08A	Colville Reser	78.34	40	P	P	07 04 32.3	+0.4
B08A				IAmb	IAmb	07 04 33.7	
	comp=Z,7.8nm,1.2s						
I03D	Drain, OR	78.57	46	P	P	07 04 34.2	+1.0
	baz=303						
H04A	Detroit Lake	78.74	44	P	P	07 04 35.4	+1.2
K02D	Willamette Mer	78.92	47	P	P	07 04 36.1	+0.9
	baz=303						
G05D	Wamic, OR	78.95	44	P	P	07 04 36.3	+0.9
	baz=304						
I04A	Tendick Farm,	79.09	45	P	P	07 04 36.7	+0.6
	baz=303						
C09A	Chrisman Ranch	79.24	40	P	P	07 04 38.1	+1.2
L02E	Cave Junction	79.25	47	P	P	07 04 37.7	+0.7
	baz=303						
D08A	Wollman Farm,	79.31	41	P	P	07 04 37.6	+0.4
I05D	Terrebonne, OR	79.44	44	P	P	07 04 38.8	+0.8
	baz=304						
J04D	Umpqua Nationa	79.58	46	P	P	07 04 39.6	+0.6
	baz=304						
NEW	Newport	79.60	39	P	P	07 04 39.4	+0.5
	baz=306						
PINE	Pine Mountain	79.98	45	P	P	07 04 41.5	+0.2
PINE				IAmb	IAmb	07 04 43.7	
	comp=Z,7.5nm,0.8s						
L04D	Klamath Falls	80.02	46	P	P	07 04 42.2	+0.9
	baz=304,SNR=5.1						
J05D	Fort Rock, OR	80.08	45	P	P	07 04 43.2	+1.4
	baz=304,SNR=5.9						
M02C	Callahan	80.13	47	P	P	07 04 43.0	+1.1
	baz=303						
N02D	Trinity Center	80.45	48	P	P	07 04 44.8	+1.2
	baz=304						
M04C	Macdoel	80.55	47	P	P	07 04 45.1	+0.9
	baz=304,SNR=7.9						
I07A	Izee	80.67	44	P	P	07 04 45.7	+0.9
O02D	Mt. Diablo Mer	80.84	48	P	P	07 04 46.8	+1.1
	baz=304						
MOD	Modoc Plateau	81.43	46	P	P	07 04 49.4	+0.4
JTMT	Jette	81.44	39	P	P	07 04 48.7	-0.2
BMO	Blue Mountains	81.50	42	P	P	07 04 50.0	+0.8
J08A	Circle Bar Ran	81.70	44	P	P	07 04 51.2	+0.9
J08A				IAmb	IAmb	07 04 52.5	
	comp=Z,5.4nm,0.7s						
MSO	Missoula	82.19	39	P	P	07 04 53.1	+0.3
	baz=308						
BEKR	Beckworth	82.56	48	P	P	07 04 55.7	+0.8
MFID	Camas Ranch	83.22	43	P	P	07 04 59.6	+1.4
MFID				IAmb	IAmb	07 05 00.3	
	comp=Z,6.7nm,1.1s						
EGMT	Eagleton	83.62	36	P	P	07 05 00.2	+0.1
	baz=311						
LRM	Limekiln Ridge	83.62	39	P	P	07 05 00.9	+0.5
YERR	Yerington	83.77	48	P	P	07 05 01.8	+0.6
YERR				IAmb	IAmb	07 05 03.1	
	comp=Z,5.4nm,1.0s						
DLMT	Dillon	83.83	40	P	P	07 05 02.4	+1.0
DLMT				IAmb	IAmb	07 05 03.3	
	comp=Z,4.5nm,0.8s						
BOZ	Bozeman (W)	84.21	39	P	P	07 05 03.7	+0.5
	baz=310						
BOZ	Bozeman (W)	84.21	39	P	P	07 05 03.2	-0.1
KVN	Kaiserville	84.45	47	P	P	07 05 05.8	+1.1
KVN				IAmb	IAmb	07 05 06.6	
	comp=Z,5.3nm,0.8s						
MDPB	Devils Postpil	84.66	49	P	P	07 05 06.9	+1.0
NVAR	Mina Array Bea	84.69	48	P	P	07 05 06.9	+0.9
	comp=Z,2.1nm,0.7s,baz=303,slow=5.0,SNR=21						
NVAR	Mina Array Bea	84.69	48	P	P	07 05 06.6	+0.6
NV11	Mina Array Sit	84.78	48	P	P	07 05 07.4	+1.0
TIN	Tinemaha, Big	85.55	49	P	P	07 05 11.2	+1.1
	baz=306						
H17A	Grant Village	85.56	40	P	P	07 05 12.2	+2.0
	baz=311						
H17A	Grant Village	85.56	40

HEC	**Hector,Ludlow**	**88.11**	**50**	P	**P**	**07 05 23.7**	**+1.1**
	baz=308						
ULM	**Lac du Bonnet**	**88.38**	**28**	P	**P**	**07 05 23.5**	**0.0**
	comp=Z,4.4nm,0.9s,baz=316,slow=3.1,SNR=4.5						
ULM	**Lac du Bonnet**	**88.38**	**28**	P	**P**	**07 05 23.2**	**-0.2**
P17A	**Butcher Ranch,**	**88.67**	**43**	P	**P**	**07 05 25.7**	**+0.5**
P17A				IAmb	IAmb	07 05 27.6	
	comp=Z,4.2nm,0.8s						
SRU	**San Rafael Swe**	**89.03**	**44**	P	**P**	**07 05 27.6**	**+0.6**
SRU				IAmb	IAmb	07 05 30.6	
	comp=Z,2.6nm,0.8s						
RSSD	**Black Hills**	**89.19**	**37**	P	**P**	**07 05 29.3**	**+1.7**
	baz=315						
U15A	**North Rim**	**89.69**	**46**	P	**P**	**07 05 31.8**	**+1.5**
U15A				IAmb	IAmb	07 05 33.4	
	comp=Z,2.5nm,1.0s						
PMOR	**Pomariorio Ree**	**89.70**	**108**	*e*T	T	08 44 22.3	
	comp=Z,3.0nm,0.2s						
PPT	**Papeete**	**89.73**	**111**	LR	LR	07 38 03.3	
	comp=Z,28nm,19.6s,baz=188,slow=30						
PPT2	**Papeete2**	**89.74**	**111**	*e*LR	LR	07 34 13.5	
	comp=Z,38nm,21.5s						
PV03	**Paradox Valley**	**90.58**	**43**	P	**P**	**07 05 35.6**	**+1.3**
PV03				IAmb	IAmb	07 05 48.7	
	comp=Z,5.9nm,1.2s						
TBI	**Tubuai**	**92.95**	**115**	*e*LR	LR	07 35 41.7	
	comp=Z,54nm,23.2s						
TXAR	**Lajitas Array**	**99.81**	**47**	P	**Pdif**	**07 06 16.8**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=318,slow=3.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**114.76**	**305**	PKP	**PKiKP**	**07 11 12.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=67,slow=1.2,SNR=1.8						

IDC 13 07:04:22.8±2.7, 17°.20S×176°.81W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/32, mbtmp3.9/4, MS3.4/9, Ms1 3.4/9, ms1mx3.1/33, Error ellipse: s-maj=111.1km s-min=32.6km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.93**	**263**	Pn	Sn	07 06 33.5	-2.5
	4.0nm,0.3s,baz=153,slow=23,SNR=10						
MSVF				LR	LR	07 07 16.9	
	comp=Z,467nm,19.4s,baz=153,slow=35						
AFI	**Afiamalu**	**5.85**	**57**	LR	LR	07 07 38.7	
	comp=Z,173nm,20.6s,baz=233,slow=34						
DZM	**Mont Dzumac**	**16.50**	**250**	LR	LR	07 14 17.3	
	comp=Z,65nm,18.3s,baz=40,slow=36						
RAR	**Rarotonga**	**16.58**	**107**	LR	LR	07 13 31.2	
	comp=Z,99nm,20.5s,baz=232,slow=33						
URZ	**Urewera**	**21.64**	**193**	LR	LR	07 16 23.9	
	comp=Z,214nm,20.1s,baz=44,slow=33						
PPT	**Papeete**	**25.99**	**95**	LR	LR	07 17 19.5	
	comp=Z,41nm,21.0s,baz=190,slow=30						
ASAR	**Alice Springs**	**46.45**	**254**	P	P	07 12 51.6	-0.2
	2.9nm,0.8s,baz=86,slow=8.2,SNR=24						
PETK	**Petropavlovsk-**	**73.40**	**344**	P	P	07 15 57.0	+0.6
	1.3nm,0.8s,baz=119,slow=5.1,SNR=2.8						
NVAR	**Mina Array Bea**	**77.87**	**43**	P	P	07 16 23.3	+0.6
	0.1nm,0.5s,baz=208,slow=5.6,SNR=1.7						
NVAR				LR	LR	07 45 11.6	
	comp=Z,36nm,18.3s,baz=260,slow=31						
TXAR	**Lajitas Array**	**84.33**	**57**	LR	LR	07 47 16.8	
	comp=Z,24nm,21.3s,baz=0.0,slow=30						
ILAR	**Eielson Array**	**84.87**	**12**	P	P	07 16 58.1	-0.9
	0.8nm,1.0s,baz=218,slow=6.0,SNR=6.1						
YKA	**Yellowknife Ar**	**93.06**	**24**	LR	LR	07 51 34.4	
	comp=Z,21nm,21.4s,baz=0.0,slow=30						

NNC 13 07:06:47.5±1.4, 37°.75N×77°.95E, h16km±7km, mb3.6, mpv3.4, 3C-3D, Error ellipse: s-maj=15.6km s-min=9.4km az=92.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.32**	**4**	Pg	Pg	07 08 25.6	-3.7
	1.9nm,0.3s						
SATY				Lg	Lg	07 09 38.6	
	9.0nm,0.6s						
TNSS	**Tian-Shan**	**5.34**	**352**	Pg	Pg	07 08 26.0	-3.8
	3.6nm,0.6s						
TNSS				Lg	Lg	07 09 39.0	
	12nm,0.7s						
UZB	**Uzynbulak**	**5.46**	**8**	Pg	Pb	07 08 26.9	+4.4
	2.2nm,0.2s						
UZB				Lg	Lg	07 09 40.8	
	5.6nm,0.7s						
TKM2	**Tokmak 2**	**5.47**	**342**	⇑Pg	Pb	07 08 26.6	+3.7
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	07 09 40.7	
	3.8nm,0.6s						
KOTS	**Kotyrbulak**	**5.52**	**354**	Pg	Pg	07 08 28.9	-4.3
	1.7nm,0.4s						
KOTS				Lg	Lg	07 09 44.0	
	16nm,0.6s						
PDGK	**Podgornoye**	**5.70**	**11**	Pg	Pb	07 08 30.6	+4.0
	0.9nm,1.2s						
PDGK				Lg	Lg	07 09 47.1	
	3.2nm,0.7s						
PDGK	**Podgornoye**	**5.70**	**11**	⇓Pg	Pg	07 08 31.8	-4.8
	1.5nm,0.4s						
PDGK				⇑Lg	Lg	07 09 48.6	
	5.6nm,0.6s						
KTBS	**Karatobe**	**6.04**	**351**	Pg	Pb	07 08 37.0	+4.6
	1.5nm,0.3s						
KTBS				Lg	Lg	07 09 57.9	
	8.0nm,0.7s						
MK31	**Makanchi Array**	**9.60**	**18**	⇓Pn	Pn	07 09 04.9	-0.1
	0.1nm,0.2s,baz=196,slow=12,SNR=5.2						
MK31				⇓Sn	Sn	07 10 53.6	+1.2
	0.9nm,0.7s,baz=200,slow=24,SNR=5.7						

IDC 13 07:10:40.3±4.2, 14°.28S×73°.57W, h147km±39km, mb3.1/4, mb1 3.5/5, mb1mx3.3/19, mbtmp3.6/5, Error ellipse: s-maj=93.1km s-min=29.0km az=32.0

ISC 13 07:10:40.2±1.7, 14°.4S±0°.5×73°.6W±0°.3, h150km, n6, σ1§05/7, mb3.3/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.63**	**110**	P	**Pn**	**07 12 01.7**	**-0.8**
	4.8nm,0.3s,baz=304,slow=12,SNR=88						
LPAZ				S	**Sn**	**07 13 07.8**	**+1.1**
	baz=207,slow=25,SNR=1.3						
TXAR	**Lajitas Array**	**52.25**	**326**	P	**P**	**07 19 35.5**	**-0.7**
	0.4nm,0.5s,baz=155,slow=8.8,SNR=8.6						
PDAR	**Pinedale Array**	**65.74**	**332**	P	**P**	**07 21 10.3**	**+1.1**
	0.2nm,0.5s,baz=121,slow=8.5,SNR=2.3						
NVAR	**Mina Array Bea**	**67.14**	**323**	P	**P**	**07 21 18.8**	**+0.6**
	0.3nm,0.5s,baz=155,slow=6.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.42**	**73**	P	**P**	**07 22 29.9**	**-0.4**
	0.4nm,0.7s,baz=256,slow=5.8,SNR=2.1						
ASAR	**Alice Springs**	**133.59**	**216**	PKP	**PKPdf**	**07 29 40.1**	**+0.3**
	0.6nm,1.0s,baz=149,slow=2.2,SNR=2.3						

DJA 13 07:12:39.5±0.4, 7°.5S×3°.1×12°.8E±°, h398km±6km, M4.3/9, mb3.9/9, mB5.0/2, MLv4.5/7, Mw(mB)4.3/2
IDC 13 07:12:41.0±1.8, 6°.69S×127°.28E, h420km±20km, mb3.4/6, mb1 3.5/9, mb1mx3.3/27, mbtmp4.2/9, Error ellipse: s-maj=32.1km s-min=10.3km az=66.0

ISC 13 07:12:39.6±0.6, 6°.60S±0°.06×127°.51E±0°.08, h408km, n19, σ1§48/27, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.36**	**353**	P	**P**	**07 13 48.2**	**+1.8**
NLAI				S	**S**	**07 14 40.8**	**+0.1**
SAUI	**Saumlaki**	**4.00**	**110**	P	**P**	**07 13 53.3**	**+1.2**
SOEI	**Soe**	**4.49**	**225**	P	**P**	**07 13 57.0**	**+0.1**
SOEI				S	**S**	**07 14 57.8**	**-2.1**
BATI	**Baumata**	**5.23**	**226**	P	**P**	**07 14 04.8**	**+0.6**
	65nm,0.3s,baz=53,slow=3.9,SNR=20						
BATI				S	**S**	**07 15 11.6**	**-1.8**
	19nm,0.3s,baz=67,slow=22,SNR=12						
BATI	**Baumata**	**5.23**	**226**	P	**P**	**07 14 05.0**	**+0.8**
	0.6nm2μm153nm,0.6s						
BATI				S	**S**	**07 15 12.5**	**-0.9**
	0.6nm2μm153nm,0.6s						
FAKI	**Fak Fak**	**5.97**	**52**	P	**P**	**07 14 11.7**	**-0.3**
	0.4nm79nm,1.4s						
FAKI				S	**S**	**07 15 22.5**	**-5.2**
	0.4nm79nm,1.4s						
EDFI	**Ende, Flores**	**6.15**	**249**	P	**P**	**07 14 13.1**	**-1.0**
	0.0nm6.4nm,0.8s						
BKSI	**Bulukumba**	**7.46**	**279**	P	**P**	**07 14 28.5**	**-0.6**
	0.1nm19nm,1.5s						
PLAI	**Plampang**	**9.90**	**256**	P	**P**	**07 14 55.4**	**-0.6**
	22nm,1.1s						
TWSI	**Taliwang, Sumb**	**10.75**	**258**	P	**P**	**07 15 06.1**	**+0.7**
	19nm,1.7s						
WRA	**Warramunga Arr**	**14.83**	**154**	P	**P**	**07 15 51.3**	**+1.2**
	1.6nm,0.3s,baz=334,slow=11,SNR=62						
WRA				S	**S**	**07 18 26.6**	**-1.0**
	1.0nm,0.3s,baz=340,slow=25,SNR=14						
ASAR	**Alice Springs**	**18.05**	**161**	P	**P**	**07 16 25.6**	**+1.2**
	1.1nm,0.3s,baz=346,slow=12,SNR=35						
ASAR				S	**S**	**07 19 30.4**	**+0.2**
	0.5nm,0.3s,baz=342,slow=25,SNR=9.7						
ASAR				ScP	**ScP**	**07 23 33.7**	**+0.2**
	baz=352,slow=1.3,SNR=5.1						
STKA	**Stephens Creek**	**28.38**	**154**	P	**P**	**07 17 59.7**	**+1.0**
	2.5nm,0.4s,baz=334,slow=8.1,SNR=10						
CMAR	**Chiang Mai Arr**	**37.60**	**312**	P	**P**	**07 19 17.1**	**-0.6**
	1.8nm,0.4s,baz=214,slow=3.5,SNR=1.8						
SONM	**Songino Array**	**57.31**	**343**	P	**P**	**07 21 47.9**	**+1.0**
	0.4nm,0.5s,baz=156,slow=7.9,SNR=2.0						
PETK	**Petropavlovsk-**	**64.75**	**20**	P	**P**	**07 22 37.2**	**+1.4**
	1.0nm,0.5s,baz=165,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**66.56**	**328**	P	**P**	**07 22 47.5**	**0.0**
	1.1nm,0.4s,baz=121,slow=8.6,SNR=23						
ZALV	**Zalesovo Beam**	**70.15**	**335**	P	**P**	**07 23 08.8**	**-0.5**
	1.2nm,0.4s,baz=102,slow=6.2,SNR=4.6						
LPAZ	**La Paz**	**152.49**	**146**	PKPbc	**PKPbc**	**07 31 50.2**	**0.0**
	0.2nm,0.3s,baz=206,slow=6.9,SNR=1.9						

BEO 13 07:54:15.3±0.9, 37°.28N×20°.78E, h0km, ML3.1/7
THE 13 07:54:16.8, 37°.28N×20°.83E, h4km±1km, ML3.7/15, Error ellipse: s-maj=1.4km s-min=0.6km az=31.0
ATH 13 07:54:17.1, 37°.29N×20°.84E, h18km±2km, ML3.3/12, Error ellipse: s-maj=2.7km s-min=1.0km az=27.0

ISC 13 07:54:17.0±1.4, 37°.29N±0°.05×20°.85E±0°.04, h18km±3km, n85, σ0§93/111, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.41**	**358**	P	**Pg**	**07 54 25.4**	**-0.2**
LTHK				S	**Sb**	**07 54 31.8**	**0.0**
	12μm,0.2s						
LTHK	**Lithakia**	**0.41**	**358**	P	**Pg**	**07 54 25.4**	**-0.2**
LTHK				S	**Sb**	**07 54 32.0**	**+0.1**
LTHK				AML	AML	07 54 32.1	
	comp=N,27574μm,0.2s						
LTHK				AML	AML	07 54 32.4	
	comp=E,20525μm,0.2s						
ZAK2	**Zakynthos**	**0.49**	**4**	P	**Pg**	**07 54 26.1**	**-0.9**
ZAK2				S	**Sb**	**07 54 34.2**	**+0.2**
	comp=E,20μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.60**	**346**	P	**Pg**	**07 54 28.2**	**-0.8**
VLMS				S	**Sb**	**07 54 38.1**	**+1.1**
	comp=E,10μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.60**	**346**	P	**Pg**	**07 54 28.5**	**-0.5**
VLMS				S	**Sb**	**07 54 37.8**	**+0.8**
VLMS				AML	AML	07 54 41.3	
	comp=E,19073μm,0.3s						
VLMS				AML	AML	07 54 41.6	
	comp=N,19299μm,0.2s						
VTN	**Vitineika**	**0.68**	**23**	P	**Pg**	**07 54 30.1**	**-0.2**
VTN	**Vitineika**	**0.68**	**23**	P	**Pg**	**07 54 30.2**	**-0.2**
VTN				S	**Sn**	**07 54 40.2**	**-1.5**
AMT	**Artemida-Makis**	**0.72**	**70**	P	**Pb**	**07 54 31.4**	**+0.4**
AMT				S	**Sn**	**07 54 42.5**	**-0.4**
	comp=N,4μm,0.4s						
AMT	**Artemida-Makis**	**0.72**	**70**	P	**Pb**	**07 54 31.3**	**+0.3**
AMT				S	**Sb**	**07 54 40.8**	**+0.2**
AMT				AML	AML	07 54 46.2	
	comp=N,7908μm,0.3s						
AMT				AML	AML	07 54 48.9	
	comp=E,7897μm,0.5s						
PYL	**PYLOS**	**0.81**	**119**	P	**Pb**	**07 54 32.4**	**-0.2**
PYL	**PYLOS**	**0.81**	**119**	P	**Pb**	**07 54 32.4**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.85**	**346**	P	**Pb**	**07 54 32.6**	**-0.5**
PSDA				S	**Sb**	**07 54 44.6**	**+0.5**
	comp=E,462nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.85**	**346**	P	**Pb**	**07 54 32.6**	**-0.5**
ITM	**Ithomi**	**0.86**	**97**	P	**Pb**	**07 54 33.1**	**-0.4**
ITM	**Ithomi**	**0.86**	**97**	P	**Pb**	**07 54 33.4**	**-0.1**
ITM				AML	AML	07 54 49.7	
	comp=N,2038μm,0.5s						
ITM				AML	AML	07 54 50.3	
	comp=E,1940μm,0.4s						
RLS	**Riolos of Patr**	**0.91**	**32**	P	**Pb**	**07 54 33.6**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**32**	P	**Pb**	**07 54 33.9**	**-0.3**
RLS				AML	AML	07 54 51.4	
	comp=N,2237μm,0.5s						
RLS				AML	AML	07 54 52.1	
	comp=E,1462μm,0.3s						
VLS	**Valsamata**	**0.91**	**347**	P	**Pb**	**07 54 33.5**	**-0.7**
VLS				S	**Sg**	**07 54 47.6**	**+1.0**
	comp=E,5μm,0.2s						
VLS	**Valsamata**	**0.91**	**347**	P	**Pb**	**07 54 33.4**	**-0.8**
VLS				AML	AML	07 54 48.5	
	comp=E,9121μm,0.2s						
VLS				AML	AML	07 54 48.7	
	comp=N,11143μm,0.2s						
ARG2	**Argostoli**	**0.93**	**342**	P	**Pb**	**07 54 34.6**	**+0.1**
ARG2				S	**Sg**	**07 54 47.9**	**+0.6**
	comp=N,8μm,0.2s						
ARGA	**Argostoli. Kep**	**0.93**	**342**	P	**Pb**	**07 54 35.6**	**+1.0**
DRO	**Drossia**	**0.95**	**46**	P	**Pb**	**07 54 34.6**	**-0.3**
DRO				S	**Sn**	**07 54 49.2**	**+0.8**
	comp=N,2μm,0.5s						
DRO	**Drossia**	**0.95**	**46**	P	**Pg**	**07 54 34.7**	**-0.7**
DRO				AML	AML	07 54 58.3	
	comp=N,6673μm,0.4s						
DRO				AML	AML	07 55 00.3	
	comp=E,2681μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.96**	**340**	P	**Pb**	**07 54 35.5**	**+0.4**
KEF3	**Kipouria, Keph**	**0.99**	**336**	P	**Pb**	**07 54 35.5**	**-0.1**
KEF3				S	**Sn**	**07 54 51.0**	**+1.5**
	comp=E,10μm,0.2s						
KEF3	**Kipouria, Keph**	**0.99**	**336**	P	**Pb**	**07 54 35.6**	**-0.1**
DMLN	**Damoulianata-K**	**1.02**	**338**	P	**Pb**	**07 54 36.1**	**0.0**
DMLN				S	**Sn**	**07 54 51.3**	**+1.1**
	comp=E,4μm,0.4s						
DMLN	**Damoulianata-K**	**1.02**	**338**	P	**Pb**	**07 54 36.1**	**0.0**
KEF4	**Livadi, Kephal**	**1.02**	**341**	P	**Pb**	**07 54 35.9**	**-0.2**
KEF4				S	**Sn**	**07 54 52.2**	**+2.0**
	comp=E,16μm,0.2s						
KEF4	**Livadi, Kephal**	**1.02**	**341**	P	**Pb**	**07 54 36.0**	**-0.1**
KEF5	**Kardakata, Kep**	**1.03**	**343**	P	**Pb**	**07 54 35.9**	**-0.3**
KEF5				S	**Sn**	**07 54 51.7**	**+1.3**
	comp=E,8μm,0.2s						
KEF5	**Kardakata, Kep**	**1.03**	**343**	P	**Pb**	**07 54 36.0**	**-0.3**
FSK	**Fiskardo**	**1.19**	**349**	P	**Pn**	**07 54 38.4**	**-0.3**
FSK				S	**Sg**	**07 54 56.8**	**+1.3**
	comp=E,1μm,0.3s						
FSK	**Fiskardo**	**1.19**	**349**	P	**Pn**	**07 54 38.4**	**-0.3**
FSK				AML	AML	07 54 59.0	
	comp=E,3193μm,0.2s						
FSK				AML	AML	07 55 06.2	
	comp=N,1819μm,0.5s						
VLX	**Vlachokerasia**	**1.22**	**86**	P	**Pg**	**07 54 40.1**	**-0.5**
VLX	**Vlachokerasia**	**1.22**	**86**	P	**Pg**	**07 54 40.0**	**-0.6**
VLX				AML	AML	07 55 06.2	
	comp=N,1646μm,0.5s						
VLX				AML	AML	07 55 11.0	
	comp=E,1590μm,0.8s						
KLV	**Kalavryta, Ach**	**1.27**	**54**	P	**Pn**	**07 54 40.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.27**	**54**	P	**Pn**	**07 54 40.1**	**+0.2**
KLV				AML	AML	07 55 11.0	
	comp=E,598μm,0.6s						
KLV				AML	AML	07 55 13.2	
	comp=N,500μm,0.8s						
LAKA	**Lakka**	**1.30**	**43**	P	**Pn**	**07 54 40.5**	**+0.2**
LAKA				S	**Sg**	**07 54 59.7**	**+0.6**
	comp=N,2μm,0.6s						
LAKA	**Lakka**	**1.30**	**43**	P	**Pn**	**07 54 40.4**	**+0.2**
EVGI	**Lefkada island**	**1.33**	**353**	P	**Pn**	**07 54 40.9**	**+0.2**
EVGI	**Lefkada island**	**1.33**	**353**	P	**Pn**	**07 54 40.7**	**0.0**
DRAG	**Dragano-Lefkad**	**1.41**	**351**	P	**Pn**	**07 54 41.9**	**+0.3**
EFP	**Efpalio**	**1.41**	**36**	P	**Pb**	**07 54 42.5**	**-0.1**
EFP	**Efpalio**	**1.41**	**36**	P	**Pb**	**07 54 42.6**	**-0.1**
EFP				AML	AML	07 55 07.4	
	comp=E,715μm,0.5s						
EFP				AML	AML	07 55 07.8	
	comp=N,974μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.42**	**355**	P	**Pn**	**07 54 43.1**	**+1.2**
NYDR				S	**Sg**	**07 55 03.5**	**+0.5**
	comp=N,495nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.42**	**355**	P	**Pn**	**07 54 42.4**	**+0.5**
PVO	**Paravola**	**1.42**	**22**	P	**Pb**	**07 54 43.2**	**+0.2**
PVO	**Paravola**	**1.42**	**22**	P	**Pb**	**07 54 42.8**	**-0.2**
TRIZ	**Trizonia**	**1.44**	**42**	P	**Pb**	**07 54 42.9**	**-0.4**
TRIZ	**Trizonia**	**1.44**	**42**	P	**Pb**	**07 54 42.8**	**-0.4**
LKD2	**Lefkada island**	**1.50**	**354**	P	**Pn**	**07 54 43.9**	**+0.9**
TSLK	**Tsoukalades, L**	**1.54**	**354**	P	**Pn**	**07 54 44.9**	**+1.4**
THAL	**Thalero**	**1.62**	**62**	P	**Pg**	**07 54 46.8**	**-1.3**
THAL	**Thalero**	**1.62**	**62**	P	**Pg**	**07 54 46.9**	**-1.2**
VLI	**Veliai**	**1.77**	**108**	P	**Pb**	**07 54 48.9**	**+0.1**
VLI	**Veliai**	**1.77**	**108**	P	**Pb**	**07 54 48.9**	**+0.1**
VLI				AML	AML	07 55 30.4	
	comp=E,479μm,1.0s						
VLI				AML	AML	07 55 35.2	
	comp=N,530μm,0.9s						
LTK	**Loutraki**	**1.83**	**66**	P	**Pb**	**07 54 49.0**	**-0.9**
KTHR	**Kythira**	**2.01**	**120**	P	**Pn**	**07 54 52.0**	**+2.0**
KTHA	**Kythira Island**	**2.05**	**120**	P	**Pn**	**07 54 52.7**	**+2.1**
KTHA	**Kythira Island**	**2.05**	**120**	P	**Pn**	**07 54 52.7**	**+2.1**
VILL	**Villia**	**2.13**	**65**	P	**Pn**	**07 54 52.8**	**+1.1**
LKR	**Lokris**	**2.17**	**51**	P	**Pb**	**07 54 54.3**	**-1.4**
IGT	**Igoumenitsa**	**2.27**	**350**	*e*Pn	**Pn**	**07 54 54.6**	**+1.0**
IGT				*e*Sn	**Sn**	**07 55 23.0**	**+1.9**
VLY	**Voula,Athens**	**2.40**	**76**	P	**Pn**	**07 54 56.1**	**+0.7**
THL	**Klokotos Trika**	**2.44**	**22**	P	**Pn**	**07 54 58.0**	**+2.1**
XOR	**Xorichti**	**2.77**	**41**	P	**Pn**	**07 55 02.0**	**+1.6**
FNA	**Florina**	**3.51**	**7**	*e*Pn	**Pn**	**07 55 11.7**	**+1.1**
FNA				*e*Sn	**Sn**	**07 55 52.3**	**+0.6**
FNA	**Florina**	**3.51**	**7**	P	**Pn**	**07 55 12.0**	**+1.4**
PRVS	**Prvonek**	**5.29**	**10**	*e*Pn	**Pn**	**07 55 35.6**	**+0.5**
PRVS				*e*Sn	**Sn**	**07 56 36.2**	**+0.6**
BOSS	**Bosilegrad**	**5.34**	**13**	*e*Pn	**Pn**	**07 55 36.5**	**+0.7**
BOSS				*e*Sn	**Sn**	**07 56 36.4**	**-0.5**
BARS	**Barje**	**5.56**	**7**	*e*Pn	**Pn**	**07 55 37.4**	**-1.4**
SELS	**Selova**	**5.92**	**2**	*e*Pn	**Pn**	**07 55 43.3**	**-0.5**
STON	**Ston**	**6.07**	**338**	*e*Pn	**Pn**	**07 55 44.4**	**-1.4**
STON				Sn	Sn	07 56 46.9	-7.8
ZAPS	**Zavoj**	**6.13**	**12**	*e*Pn	**Pn**	**07 55 47.5**	**+0.9**
IVAS	**Ivanjica**	**6.30**	**355**	*e*Pn	**Pn**	**07 55 48.8**	**-0.2**
IVAS				*e*Sn	**Sn**	**07 56 58.7**	**-1.7**
GRUS	**Gruza**	**6.59**	**359**	*e*Pn	**Pn**	**07 55 52.4**	**-0.5**
BBLS	**Lazići**	**6.66**	**351**	*e*Pn	**Pn**	**07 55 53.2**	**-0.7**
BBLS				*e*Sn	**Sn**	**07 57 07.4**	**-1.9**
HVAR	**Hvar**	**6.77**	**332**	*e*Pn	**Pn**	**07 55 54.2**	**-1.2**
HVAR				Sn	Sn	07 57 02.0	-10
RICI	**Ricice**	**6.81**	**337**	*e*Pn	**Pn**	**07 55 54.7**	**-1.3**
RICI				Sn	Sn	07 57 04.2	-8.8
DIVS	**Divibare**	**6.83**	**355**	*e*Pn	**Pn**	**07 55 55.5**	**-0.8**
DIVS				*e*Sn	**Sn**	**07 57 11.5**	**-2.0**
ZIRJ	**Zirje**	**7.49**	**330**	*e*Pn	**Pn**	**07 56 03.6**	**-1.7**
ZIRJ				Sn	Sn	07 57 20.2	-9.4
KIJV	**Kijevo**	**7.51**	**335**	*e*Pn	**Pn**	**07 56 05.0**	**-0.5**
KIJV				Sn	Sn	07 57 21.1	-9.0
MORI	**Morici**	**7.64**	**331**	*e*Pn	**Pn**	**07 56 06.5**	**-0.8**
MORI				Sn	Sn	07 57 23.4	-10
DUGI	**Dugi Otok**	**8.01**	**328**	*e*Pn	**Pn**	**07 56 10.8**	**-1.5**
DUGI				Sn	Sn	07 57 32.1	-10

BJI 13 08:16:58.1±0.0, 29°.85N×142°.58E, h7km, mB5.0/26, mb4.5/32, Ms4.4/13, Ms7 4.1/12
IDC 13 08:16:59.3±0.6, 29°.65N×142°.22E, h0km, mb4.4/29, mb1 4.5/32, mb1mx4.4/52, mbtmp4.4/32, ML3.3/3, MS3.6/15, Ms1 3.7/15, ms1mx3.4/42, Error ellipse: s-maj=16.4km s-min=14.3km az=63.0
JMA 13 08:17:00.3±0.2, 29°.70N×142°.52E, h46km, M4.5
MOS 13 08:17:00.9±1.0, 29°.72N×142°.40E, h25km, mb4.9/26, Error ellipse: s-maj=12.1km s-min=5.2km az=113.6
NIED 13 08:17:00.4, 29°.70N×142°.52E, h46km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.28; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-1.43; $M_{r\theta}$3.58; $M_{\theta\phi}$-1.42; $M_{\phi r}$2.01; Fault plane solution: $M_0$4.55000×10^{15} NP1:ϕ_s59.00000°, δ81.00000°, λ108.00000°. NP2:ϕ_s176.00000°, δ20.00000°, λ28.00000°.
NEIC 13 08:17:01.5±1.9, 29°.74N±0°.06×142°.3E±0°.1, h10km±1km, mb4.7/51 Error ellipse: s-maj=15.0km s-min=9.6km az=80.0

ISC 13 08:17:02.9±0.4, 29°.69N±0°.04×142°.35E±0°.07, h24km, n201, σ1§19/213, mb4.7/69, MS3.8/18, 9C-3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.59**	**183**	*e*S	**Sn**	**08 18 11.7**	**-2.3**
JCJ	**Chichijima**	**2.59**	**183**	Pn	**Pn**	**08 17 45.2**	**+1.9**
	11nm,0.3s,baz=284,slow=22,SNR=1.6						
JCJ				Sn	**Sn**	**08 18 11.6**	**-2.5**
	65nm,0.3s,baz=300,slow=22,SNR=6.5						
JCJ	**Chichijima**	**2.59**	**183**	Pn	**Pn**	**08 17 43.6**	**+0.3**
JHH2	**Haha-jima-NKT2**	**3.05**	**183**	S	**Sn**	**08 18 23.1**	**-2.3**
JHJ2	**Mitsune**	**4.04**	**328**	P	**Pn**	**08 18 02.4**	**-0.8**
JHJ2				*e

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YSS  Yuzh-Sakhalins  17.24  1⇑eP        Pn   08 21 01.9  0.0
YSS                          eS         Sn   08 24 13.8 +0.9
YSS                          pmax       pmax
     comp=Z,20nm,1.2s
YSS                          MLR        MLR
     comp=Z,400nm,10.0s
YSS                          MLR        MLR
     comp=N,300nm,14.0s
NACB Ninganchiao    19.29 258  P         P    08 21 25.5 -0.6
NACB                         IAmb       IAmb 08 21 48.0
     comp=Z,46nm,1.3s
CN2  Changchun      19.48 321  eP        P    08 21 19.8 -8.2
CN2                          pmax       pmax
     comp=Z,10.0nm,0.6s
CN2                          LR         LR
     comp=N,400nm,16.0s
CN2                          LR         LR
     comp=E,600nm,16.0s
CN2                          LR         LR
     comp=Z,500nm,16.0s
YULB Yu-li          19.84 257  P         P    08 21 31.2 -0.8
YULB                         IAmb       IAmb 08 21 57.2
     comp=Z,20nm,0.8s
SSLB Suanglung      19.98 258  P         P    08 21 33.4 -0.2
SSLB                         IAmb       IAmb 08 21 39.3
     comp=Z,96nm,1.4s
NJ2  Nanjing        20.30 283  eP        Pn   08 21 39.3 +0.2
NJ2                          pmax       pmax
     comp=Z,8.0nm,0.5s
KLR  Kul'dur        21.12 340  P         P    08 21 46.0 +0.2
     comp=Z,9.0nm,0.9s,baz=131,slow=11,SNR=11
KLR                          LR         LR   08 30 10.8
     comp=Z,76nm,19.2s,baz=158,slow=38
KLR  Kul'dur        21.12 340ceP         P    08 21 45.2 -0.5
KLR                          pmax       pmax
     comp=Z,10.0nm,0.9s
GRNR Gornyy         21.52 350⇓iP         P    08 21 58.0 +8.0
GRNR                         pmax       pmax
     comp=N,20nm,0.9s
GRNR                         pmax       pmax
     comp=Z,20nm,0.9s
GRNR                         MLR        MLR
     comp=E,180nm,16.0s
GRNR                         MLR        MLR
     comp=N,310nm,14.0s
GRNR                         MLR        MLR
     comp=Z,150nm,14.0s
BJT  Baijiatuau     23.75 303  P         P    08 22 12.8 -0.5
BJT                          pmax       pmax
     comp=Z,6.0nm,0.8s
BJT  Baijiatuau     23.75 303  P         P    08 22 12.8 -0.5
PETK Petropavlovsk- 25.96  21  LR        LR   08 33 35.8
     comp=Z,61nm,20.0s,baz=249,slow=38
HIA  Hailar         26.03 325  P         P    08 22 34.5 +0.4
HIA                          pmax       pmax
     comp=Z,18nm,0.9s
HIA  Hailar         26.03 325  P         P    08 22 34.5 +0.4
HIA                          IAmb       IAmb 08 22 36.6
     comp=Z,18nm,0.9s
ZEA  Zeya           26.43 340  eP        P    08 22 38.5 +0.9
ZEA                          e          08 33 24.5
ZEA                          pmax       pmax
     comp=Z,20nm,1.0s
ZEA                          pmax       pmax
     comp=N,10.0nm,0.9s
HHC  Hu-ho-hao-te   27.35 302  eP        P    08 22 47.8 +1.6
HHC                          pmax       pmax
     comp=N,21nm,1.1s
HHC                          pmax       pmax
     comp=N,49nm,5.6s
HHC                          LR         LR
     comp=N,200nm,12.3s
HHC                          LR         LR
     comp=N,370nm,13.3s
HHC                          LR         LR
     comp=N,480nm,16.9s
XAN  Xi'an          28.64 287  P         P    08 22 58.0 +0.3
XAN                          pP         sP   08 23 05.6 +0.4
XAN                          pmax       pmax
     comp=N,6.0nm,1.1s
XAN                          LR         LR
     comp=N,460nm,11.8s
ULN  Ulaanbaatar    32.59 314  P         P    08 23 33.2 +0.7
ULN                          pmax       pmax
     comp=Z,8.0nm,0.8s
ULN  Ulaanbaatar    32.59 314  P         P    08 23 33.2 +0.7
ULN                          IAmb       IAmb 08 23 33.9
     comp=Z,8.4nm,0.8s
LZH  Lanzhou        32.80 291  eP        P    08 23 35.3 +0.8
LZH                          pP         pP   08 23 39.9 +0.1
LZH                          sP         sP   08 23 43.6 +1.5
LZH                          pmax       pmax
     comp=Z,23nm,1.3s
LZH                          pmax       pmax
     comp=Z,110nm,5.2s
LZH                          LR         LR
     comp=Z,340nm,13.2s
LZH                          LR         LR
     comp=Z,290nm,13.6s
LZH                          LR         LR
     comp=Z,220nm,16.5s
SONM Songino Array  32.99 313  P         P    08 23 35.5 -0.5
     comp=Z,4.9nm,0.8s,baz=119,slow=8.6,SNR=18
SONM                         LR         LR   08 37 42.0
     comp=Z,91nm,18.2s,baz=260,slow=38
SONM Songino Array  32.99 313  P         P    08 23 36.5 +0.5
SONM                         pmax       pmax
     comp=Z,5.0nm,0.9s
SONM Songino Array  32.99 313  P         P    08 23 36.5 +0.5
SEY  Seymchan       33.88   8  P         P    08 23 44.1 +0.7
     comp=Z,3.3nm,0.7s,baz=187,slow=9.0,SNR=11
SEY  Seymchan       33.88   8  iP        P    08 23 41.0 -2.4
BOD  Bodaibo        34.29 333  eP        P    08 23 47.0  0.0
BOD                          pmax       pmax
     comp=Z,9.0nm,1.4s
ZAK  Zakamensk      35.80 316  eP        P    08 24 00.6 +0.4
ZAK                          pmax       pmax
     comp=Z,6.0nm,1.3s
TLY  Talaya         36.06 319  LR        LR   08 39 36.8
     comp=Z,228nm,18.9s,baz=115,slow=38
TLY  Talaya         36.06 319  eP        P    08 24 03.3 +0.9
TLY                          pmax       pmax
     comp=Z,17nm,0.9s
TLY                          MLR        MLR
     comp=Z,739nm,16.0s
GTA  Gaotai         36.06 297  eP        P    08 24 03.8 +1.1
GTA                          pP         pP   08 24 08.3 +0.2
GTA                          sP         sP   08 24 11.1 +1.1
GTA                          pmax       pmax
     comp=Z,28nm,8.0s
GTA                          LR         LR
     comp=Z,140nm,16.3s
GTA                          LR         LR
     comp=Z,210nm,17.1s
GTA                          LR         LR
     comp=Z,180nm,15.5s
CHAI Chaiyaphum     39.45 259  P         P    08 24 30.2 -1.2
     comp=Z,28nm,0.8s
SRAK Srakaew        40.30 256  P         P    08 24 34.4 -4.1
     comp=Z,182nm,1.0s
CMMT Chiang Mai     40.81 265  P         P    08 24 41.5 -1.2
     comp=Z,8.5nm,0.8s
CHTO Chiang Mai     40.82 265  P         P    08 24 41.4 -1.4
CHTO                         pmax       pmax
     comp=Z,5.0nm,0.8s
CHTO Chiang Mai     40.82 265  P         P    08 24 41.6 -1.1
     comp=Z,8.5nm,0.8s
BILL Bilibino       40.90  13⇑eP         P    08 24 42.3 -0.5
BILL                         *SP        pP   08 24 46.0 -2.1
BILL                         S          S    08 30 54.0 +1.3
BILL                         pmax       pmax
     comp=Z,3.0nm,0.5s
BILL                         MLR        MLR
     comp=Z,145nm,19.0s
CMAR Chiang Mai Arr 40.96 264  P         P    08 24 42.7 -1.2
     comp=Z,1.0nm,0.4s,baz=73,slow=5.8,SNR=4.9
CMAR                         LR         LR   08 44 11.9
     comp=Z,113nm,18.0s,baz=164,slow=40
CMAR Chiang Mai Arr 40.96 264  P         P    08 24 42.4 -1.5
TIXI Tiksi          42.65 354  P         P    08 24 55.4 -1.6
     comp=Z,5.9nm,0.3s,baz=78,slow=20,SNR=5.7
TIXI Tiksi          42.65 354  iP        P    08 24 55.9 -1.1
TIXI Tiksi          42.65 354  P         P    08 24 55.2 -1.8
TIXI                         IAmb       IAmb 08 25 05.1
     comp=Z,5.9nm,0.5s
MTN  Manton Dam     43.65 196  P         P    08 25 04.6 -1.1
WMQ  Urumqi         45.22 304  eP        P    08 25 21.3 +3.1
DGZ  Jazzator, Alta 45.61 312  iP        P    08 25 21.8 +0.5
DGZ                          pmax       pmax
     comp=Z,45nm,0.9s
ZAA0 Zalesovo Array 47.65 318  P         P    08 25 36.3 -0.7
ZAA0                         IAmb       IAmb 08 25 51.6
     comp=Z,4.8nm,0.8s
ZAA0                         PcP        PcP  08 27 08.9 +2.6
ZALV Zalesovo Beam  47.65 318  P         P    08 25 36.3 -0.7
     comp=Z,3.7nm,0.7s,baz=98,slow=6.4,SNR=12
ZALV                         PcP        PcP  08 27 06.5 +0.3
     comp=Z,1.6nm,0.6s,baz=95,slow=3.3,SNR=2.8
ZALV                         LR         LR   08 46 37.8
     comp=Z,178nm,18.0s,baz=80,slow=37
ZALV Zalesovo Beam  47.65 318  P         P    08 25 36.7 -0.3
ZALV                                        08 27 06.5
ZALV Zalesovo Beam  47.65 318  P         P    08 25 36.7 -0.3
MK31 Makanchi Array 48.97 308  iP        P    08 25 46.6 -0.7
MK31 Makanchi Array 48.97 308  P         P    08 25 47.1 -0.2
MK31                         IAmb       IAmb 08 25 48.8
     comp=Z,4.7nm,0.8s
MKAR Makanchi Array 48.97 308  P         P    08 25 47.1 -0.2
     comp=Z,5.0nm,0.7s,baz=90,slow=9.3,SNR=45
MKAR                         LR         LR   08 46 57.4
     comp=Z,81nm,20.8s,baz=82,slow=37
MKAR Makanchi Array 48.97 308  P         P    08 25 47.2 -0.1
MAKZ Makanchi       49.18 308  P         P    08 25 48.8 -0.2
MAKZ                         pmax       pmax
     comp=Z,4.0nm,0.6s
MAKZ Makanchi       49.18 308  P         P    08 25 48.8 -0.2
MAKZ                         IAmb       IAmb 08 25 50.0
     comp=Z,4.0nm,0.6s
WB0  Warramunga Arr 49.77 190  P         P    08 25 52.7 -0.9
WB0                          IAmb       IAmb 08 26 07.1
     comp=Z,8.0nm,0.7s
WR0  Warramunga Arr 49.93 190  P         P    08 25 53.8 -1.0
WR0                          IAmb       IAmb 08 26 08.4
     comp=Z,6.3nm,0.8s
WB2  Warramunga Arr 49.95 190  P         P    08 25 54.2 -0.7
WB2                          IAmb       IAmb 08 26 08.9
     comp=Z,15nm,1.1s
WRA  Warramunga Arr 49.95 190  P         P    08 25 54.0 -0.9
     comp=Z,4.4nm,0.6s,baz=8.1,slow=7.8,SNR=35
WRA  Warramunga Arr 49.95 190  P         P    08 25 54.1 -0.9
NRIK Noril'sk       50.30 338  P         P    08 25 57.4 +0.3
     comp=Z,1.3nm,0.3s,baz=96,slow=7.8,SNR=5.7
NRIK Noril'sk       50.30 338ceP         P    08 25 57.1  0.0
NRIK                         pmax       pmax
     comp=Z,8.0nm,1.2s
NRIK Noril'sk       50.30 338  P         P    08 25 56.5 -0.5
NRIK                         IAmb       IAmb 08 25 58.6
     comp=Z,8.9nm,1.2s
KURK Kurchatov      51.30 313  P         P    08 26 05.2 +0.3
KURK Kurchatov      51.30 313  P         P    08 26 05.2 +0.3
KURBB Kurchatov Arra 51.36 313 P         P    08 26 05.2 -0.1
     comp=Z,25nm,1.1s,baz=89,slow=7.3,SNR=65
KDAK Kodiak Island  52.22  38  P         P    08 26 11.7 +0.1
     comp=Z,4.5nm,0.8s,baz=304,slow=3.2,SNR=7.4
KDAK Kodiak Island  52.22  38  P         P    08 26 11.7 +0.1
KDAK                         pmax       pmax
     comp=Z,16nm,1.4s
KDAK Kodiak Island  52.22  38  IAmb       IAmb 08 26 23.5
     comp=Z,16nm,1.4s
IMAR Indian Mountai 52.68  28  P         P    08 26 16.1 +1.2
AS31 Alice Springs  53.67 190  P         P    08 26 22.3 -0.4
ASAR Alice Springs  53.67 190  P         P    08 26 21.7 -1.0
     comp=Z,0.9nm,0.5s,baz=11,slow=9.8,SNR=12
NEA2 Nenana         54.43  30  P         P    08 26 28.9 +1.0
NEA2                         IAmb       IAmb 08 26 45.0
     comp=Z,5.5nm,1.0s
AAK  Ala-Archa      54.92 303  iP        P    08 26 33.1 +1.1
AAK                          pmax       pmax
     comp=Z,32nm,1.5s
ILAR Eielson Array  55.38  29  P         P    08 26 34.5 -0.2
     comp=Z,1.2nm,0.8s,baz=265,slow=5.5,SNR=11
EIDS Eidsvold       55.39 170  P         P    08 26 35.5 +0.4
EIDS                         IAmb       IAmb 08 26 50.5
     comp=Z,12nm,1.1s
BVAR Borovoye Array 56.25 316  P         P    08 26 41.2 +0.1
     comp=Z,3.5nm,0.6s,baz=184,slow=10.0,SNR=16
BRVK Borovoye       56.31 316ceP         P    08 26 41.6 +0.1
BRVK                         pmax       pmax
     comp=Z,8.0nm,0.9s
BRVK Borovoye       56.31 316  P         P    08 26 40.8 -0.7
BRVK                         IAmb       IAmb 08 26 43.3
     comp=Z,6.3nm,0.8s
BMAR Burnt Mountain 56.47  26  P         P    08 26 44.5 +2.0
SCRK Sand Creek     56.62  30  P         P    08 26 44.0 +0.3
KK31 Karatay Array  57.71 305  P         P    08 26 50.8 -0.8
KK31                         pmax       pmax
     comp=Z,14nm,0.7s
KK31 Karatay Array  57.71 305  P         P    08 26 50.8 -0.8
KKAR Karatay Array  57.71 305  P         P    08 26 51.9 +0.3
KKAR Karatay Array  57.71 305  P         P    08 26 51.9 +0.3
EPYK Eagle Plains   59.58  27  P         P    08 27 05.9 +1.6
EPYK                         IAmb       IAmb 08 27 22.0
     comp=Z,11nm,1.3s
CHGR Chuyangaron    59.76 300  P         P    08 27 06.2 +0.1
INK  Inuvik         60.62  25  P         P    08 27 12.2 +0.9
     comp=Z,1.5nm,0.6s,baz=266,slow=5.8,SNR=5.5
INK  Inuvik         60.62  25  P         P    08 27 12.2 +0.9
INK                          pmax       pmax
     comp=Z,5.0nm,1.2s
INK  Inuvik         60.62  25  P         P    08 27 12.2 +0.9
INK                          IAmb       IAmb 08 27 14.3
     comp=Z,4.6nm,1.2s
FORT Forrest        61.66 194  P         P    08 27 18.4 -0.3
PALK Pallekele      61.84 262  P         P    08 27 21.0 +0.5
PALK                         pmax       pmax
     comp=Z,21nm,1.2s
PALK Pallekele      61.84 262  P         P    08 27 21.0 +0.5
ARU  Arti           62.48 321  P         P    08 27 24.0 -0.1
     comp=Z,1.9nm,0.2s,baz=69,slow=2.7,SNR=7.2
ARU  Arti           62.48 321d iP        P    08 27 24.1 +0.1
ARU                                         08 29 38.0
ARU                          S          S    08 35 53.8 +4.1
ARU                          SS         SS   08 39 54.9 +1.7
ARU                          pmax       pmax
     comp=Z,13nm,1.0s
ARU  Arti           62.48 321  P         P    08 27 23.9 -0.1
ABKAR Akbulak array 63.41 313  P         P    08 27 30.6 +0.2
ABKAR                        IAmb       IAmb 08 27 32.1
     comp=Z,6.3nm,0.8s
AKTO Aktyubinsk     64.29 315  P         P    08 27 36.1 -0.1
     comp=Z,5.2nm,0.7s,baz=93,slow=5.7,SNR=12
KIRV Kirov          66.64 325ceP         P    08 27 52.1 +0.9
NWAO Narrogin (SRO) 66.67 203  P         P    08 27 51.6  0.0
NWAO                         pmax       pmax
     comp=Z,24nm,1.2s
NWAO Narrogin (SRO) 66.67 203  P         P    08 27 51.6  0.0
EUNU Eureka         67.32   8  P         P    08 27 56.3 +1.0
EUNU                         IAmb       IAmb 08 27 56.7
     comp=Z,4.7nm,0.8s
GEYT Alibeck        68.23 302  P         P    08 28 02.3 +0.6
     comp=Z,6.0nm,0.8s,baz=169,slow=1.5,SNR=6.2
GYA0B ALIBECK ARRAY 68.23 302  P         P    08 27 59.4 -2.3
GYA0B                        IAmb       IAmb 08 28 07.3
     comp=Z,6.3nm,0.7s
BELG Belogornoye    69.78 319  P         P    08 28 10.8 -0.1
     comp=Z,19nm,0.8s,baz=37,slow=5.0,SNR=4.5
KLMR Klimovskoe     70.42 330  eP        P    08 28 14.4 -0.3
KLMR                         pmax       pmax
     comp=Z,8.0nm,0.9s
KLMR Klimovskoe     70.42 330  eP        P    08 28 14.4 -0.3
KLMR                         AMP        08 28 15.8
     comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 71.14 341 P         P    08 28 19.9 +0.8
     comp=Z,3.3nm,0.8s,baz=45,slow=9.2,SNR=4.8
ARCES ARCESS Array B 71.14 341 P         P    08 28 19.9 +0.8
ARCES                        pmax       pmax
     comp=Z,21nm,1.5s
ARCES ARCESS Array B 71.14 341 IAmb      IAmb 08 28 37.0
     comp=Z,21nm,1.5s
JOF  Joensuu        72.83 333  P         P    08 28 29.1 -0.1
OUL  Oulu           73.60 337  P         P    08 28 32.3 -1.4
OUL                          pmax       pmax
     comp=Z,15nm,1.8s
YBH  Yreka Blue Hor 74.29  51  P         P    08 28 38.9 +0.5
YBH                          pmax       pmax
     comp=Z,2.0nm,1.1s
YBH  Yreka Blue Hor 74.29  51  P         P    08 28 38.9 +0.5
OBN  Obninsk        74.49 325⇑eP         P    08 28 40.1 +1.0
OBN                          e*SP       pP   08 28 45.5 +0.8
OBN                                         08 28 54.0
OBN                          S          S    08 38 14.0 +1.5
OBN                          eSS        SS   08 42 58.3 -0.1
OBN                          pmax       pmax
     comp=Z,8.0nm,0.8s
OBN                          MLR        MLR
     comp=Z,112nm,17.0s
PINE Pine Mountain  74.56  48  P         P    08 28 41.6 +1.5
FINES FINESS Array B 75.69 334 P         P    08 28 46.3 +0.4
     comp=Z,4.5nm,0.7s,baz=74,slow=8.1,SNR=13
KBZ  Khabaz         76.35 313  P         P    08 28 50.7 +0.6
     comp=Z,9.7nm,0.9s,baz=83,slow=5.5,SNR=12
KBZ  Khabaz         76.35 313ceP         P    08 28 50.5 +0.5
KBZ                          pmax       pmax
     comp=Z,8.0nm,0.9s
KIV  Kislovodsk     76.38 313  eP        P    08 28 50.5 +0.1
KIV                          pmax       pmax
     comp=Z,16nm,1.1s
KIV                          MLR        MLR
     comp=Z,44nm,18.0s
BEKR Beckworth      76.72  52  P         P    08 28 53.3 +0.8
PNTR Pine Nut       77.61  52  P         P    08 28 57.4 -0.1
PNTR                         IAmb       IAmb 08 29 02.2
     comp=Z,4.3nm,0.8s
SUMG Summit         78.00   0  P         P    08 29 00.5 +1.2
SUMG                         pmax       pmax
     comp=Z,4.0nm,0.7s
SUMG Summit         78.00   0  P         P    08 29 00.5 +1.2
SUMG                         IAmb       IAmb 08 29 01.7
     comp=Z,4.1nm,0.7s
NVAR Mina Array Bea 78.81  52  P         P    08 29 05.7 +1.5
     comp=Z,1.4nm,0.7s,baz=292,slow=6.4,SNR=9.3
NVAR Mina Array Bea 78.81  52  P         P    08 29 04.4 +0.2
LRM  Limekiln Ridge 78.89  43  P         P    08 29 05.1 +0.6
PABE Paberze        80.21 329  P         P    08 29 10.8 -0.3
AKASG Malin Array Be 80.61 324 P         P    08 29 13.3 -0.1
     comp=Z,4.1nm,0.8s,baz=49,slow=5.8,SNR=11
AKBB Malin Array Si 80.61 324ceP         P    08 29 12.7 -0.7
AKBB Malin Array Si 80.61 324  P         P    08 29 13.3 -0.1
PPT  Papeete        80.67 116  LR        LR   09 01 50.7
     comp=Z,34nm,18.1s,baz=314,slow=33
NC405 NORSAR Array S 81.04 338 P         P    08 29 14.8 -0.7
HFS  Hagfors        81.10 337  P         P    08 29 15.9  0.0
     comp=Z,4.0nm,0.8s,baz=64,slow=10,SNR=9.1
NC204 NORSAR Array S 81.23 339 P         P    08 29 16.6  0.0
NB2  NORSAR Subarra 81.26 338  P         P    08 29 16.6 -0.1
     comp=Z,4.5nm,0.8s,baz=42,slow=5.3
NOA  NORSAR Array B 81.26 338  P         P    08 29 16.9 +0.1
     comp=Z,4.0nm,0.8s,baz=41,slow=5.2,SNR=18
NOA                          LR         LR   09 10 21.4
     comp=Z,26nm,18.6s,baz=60,slow=39
HWUT Hardware Ranch 81.65  47  P         P    08 29 18.7 -0.7
PDAR Pinedale Array 82.28  45  P         P    08 29 23.9 +1.1
     comp=Z,0.6nm,0.8s,baz=204,slow=3.3,SNR=5.5
LCMT Little Creek M 82.99  51  P         P    08 29 25.6 -0.8
BR131 Keskin Array S 84.35 313 P         P    08 29 33.8 +0.5
BR131                        pmax       pmax
     comp=Z,10.0nm,0.8s
BR131 Keskin Array S 84.35 313 P         P    08 29 33.8 +0.5
BR131                        IAmb       IAmb 08 29 37.2
     comp=Z,9.7nm,0.8s
BRTR Keskin Array B 84.35 313  P         P    08 29 33.9 +0.6
     comp=Z,4.2nm,0.8s,baz=98,slow=4.3,SNR=12
BRTR                         LR         LR   09 11 35.1
     comp=Z,42nm,18.2s,baz=88,slow=39
BRTR Keskin Array B 84.35 313  P         P    08 29 33.6 +0.3
KWP  Kalwaria Pacla 84.57 325  P         P    08 29 33.8 -0.3
KWP  Kalwaria Pacla 84.57 325  P         P    08 29 33.8 -0.3
GERES GERESS Array B 89.37 329 P         P    08 29 56.6 -1.0
     comp=Z,0.5nm,0.6s,baz=4.6,slow=6.7,SNR=3.5
TX31 Lajitas Ar. Si 93.94  53  P         P    08 30 19.4 +0.4
TX32 Lajitas Array  93.94  53  P         P    08 30 19.6 +0.5
TX32                         IAmb       IAmb 08 30 26.3
     comp=Z,3.4nm,0.9s
TXAR Lajitas Array  93.94  53  P         P    08 30 21.0 +1.9
     comp=Z,2.0nm,0.8s,baz=311,slow=3.3,SNR=25
TXAR Lajitas Array  93.94  53  P         P    08 30 19.5 +0.4
TORD Torodi Ar. Bea 122.96 313 PKP       PKPdf 08 35 57.5 -0.4
     comp=Z,0.3nm,0.4s,baz=35,slow=1.4,SNR=1.7
LPAZ La Paz         149.04  71 PKPbc     PKiKP 08 36 51.3 -0.4
     comp=Z,2.1nm,0.8s,baz=292,slow=1.6,SNR=8.2
PLCA Paso Flores    151.11 121 PKPbc     PKiKP 08 36 55.1 +0.5
     comp=Z,2.2nm,0.9s,baz=183,slow=3.0,SNR=5.3
PLCA Paso Flores    151.11 121 PKIKP     PKiKP 08 36 55.1 +0.5
PLCA                                        08 37 01.2
PLCA Paso Flores    151.11 121 PKPab     PKPab 08 37 01.2 -0.6
PLCA Paso Flores    151.11 121 PKPdf     PKPdf 08 36 48.0 -0.2
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*IDC **13** 08:30:54.0±1.3, 18°.97S×173°.62W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/36, mbtmp3.9/6, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/38, Error ellipse: s-maj=52.6km s-min=23.8km az=133.0*

ISC 13 08:30:58.1±1.2, 18°.85±0°.2×173°.7W±0°.3, h28km, n8, σ1§88/7, mb3.8/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.19	21	Pn	Pn	08 32 14.2	+0.3
	2.9nm,0.3s,baz=129,slow=10,SNR=4.4						
AFI				Sn	Sn	08 33 10.6	-2.4
	3.6nm,0.3s,baz=120,slow=20,SNR=2.4						
DZM	Mont Dzumac	18.92	257	LR	LR	08 41 41.2	
	comp=Z,158nm,18.0s,baz=79,slow=34						
URZ	Urewera	20.99	201	P	P	08 35 36.9	-2.3
	3.1nm,0.5s,baz=75,slow=6.0,SNR=5.1						
PPT	Papeete	22.92	91	LR	LR	08 43 00.8	
	comp=Z,116nm,18.5s,baz=270,slow=32						
ASAR	Alice Springs	48.90	255	P	P	08 39 42.1	+0.3
	4.3nm,1.0s,baz=88,slow=8.3,SNR=13						
WRA	Warramunga Arr	48.90	260	P	P	08 39 42.0	+0.1
	0.9nm,0.5s,baz=97,slow=7.6,SNR=3.5						
TXAR	Lajitas Array	82.71	56	P	P	08 43 20.6	+0.9
	0.5nm,0.9s,baz=215,slow=6.2,SNR=4.7						
ILAR	Eielson Array	85.81	11	P	P	08 43 35.9	+1.5
	0.2nm,0.6s,baz=214,slow=5.4,SNR=4.6						
ILAR				LR	LR	09 17 18.0	
	comp=Z,13nm,18.1s,baz=11,slow=32						

*IDC **13** 08:39:25.1±1.1, 11°.81N×142°.94E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/41, mbtmp3.9/7, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/39, Error ellipse: s-maj=45.6km s-min=19.1km az=113.0*

*NEIC **13** 08:39:26.3±2.7, 11°.9N±0°.1×143°.3E±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=32.5km s-min=14.9km az=287.0*

ISC 13 08:39:29.6±0.8, 11°.71N±0°.09×143°.0E±0°.2, h35km, n22, σ1§54/17, mb4.1/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.62	44	Pn	Pn	08 40 10.0	+0.5
	37nm,0.3s,baz=194,slow=22,SNR=3.2						
GUMO				Sn	Sn	08 40 40.4	+0.3
	24nm,0.3s,baz=186,slow=23,SNR=1.3						
GUMO				LR	LR	08 41 16.0	
	comp=Z,338nm,19.0s,baz=194,slow=43						
GUMO	Guam	2.62	44	Pn	Pn	08 40 02.6	-6.8
MANU	Manus Island	14.34	162	Pn	Pn	08 42 47.6	-2.7
H11N1	WAKE ISLAND Hy	24.32	68	T	T	09 09 54.8	
	baz=255						
H11N2	WAKE ISLAND Hy	24.33	68	T	T	09 09 55.1	
	baz=255						
H11N3	WAKE ISLAND Hy	24.34	68	T	T	09 09 55.8	
	baz=255						
MAJO	Matsushiro	25.10	351	P	P	08 44 49.4	-1.7
MAJO				IAmb	IAmb	08 45 01.8	
	comp=Z,4.9nm,1.0s						
MJB9	Matsu-Tunnel	25.10	351	P	P	08 44 49.4	-1.8
MJB9				IAmb	IAmb	08 45 01.7	
	comp=Z,5.4nm,1.1s						
WB0	Warramunga Arr	32.41	195	P	P	08 45 57.0	+0.6
WB0				IAmb	IAmb	08 46 15.5	
	comp=Z,9.4nm,1.2s						
WR0	Warramunga Arr	32.55	195	P	P	08 45 58.6	+0.9
WR0				IAmb	IAmb	08 46 24.8	
	comp=Z,13nm,1.4s						
WB2	Warramunga Arr	32.58	195	P	P	08 45 58.8	+0.8
WRA	Warramunga Arr	32.59	195	P	P	08 45 58.6	+0.7
	comp=Z,1.5nm,0.8s,baz=20,slow=9.5,SNR=13						
WRA				LR	LR	09 00 10.8	
	comp=Z,69nm,18.4s,baz=175,slow=38						
WRA	Warramunga Arr	32.59	195	IAmb	IAmb	08 45 59.6	
	comp=Z,0.3nm,1.4s						
AS31	Alice Springs	36.26	194	P	P	08 46 32.5	+2.7
ASAR	Alice Springs	36.27	194	P	P	08 46 31.8	+1.9

comp=Z,0.2nm,0.5s,baz=23,slow=11,SNR=5.5
DZM Mont Dzumac 40.70 146 P **P 08 47 08.3 +1.1**
comp=Z,3.5nm,0.6s,baz=0.0,slow=14,SNR=1.4
DZM Mont Dzumac 40.70 146 IAmb IAmb 08 47 16.0
comp=Z,28nm,1.3s
STKA Stephens Creek 43.36 182 P **P 08 47 28.9 +0.2**
ILAR Eielson Array 71.04 25 P **P 08 50 43.1 -0.7**
comp=Z,0.5nm,0.7s,baz=243,slow=6.0,SNR=4.9
ARCES ARCESS Array B 88.29 342 P **P 08 52 17.6 +0.3**
comp=Z,1.0nm,0.6s,baz=56,slow=6.7,SNR=4.0
NVAR Mina Array Bea 89.52 51 P **P 08 52 25.9 +1.9**
comp=Z,0.5nm,0.7s,baz=271,slow=5.9,SNR=4.8
NVAR Mina Array Bea 89.52 51 P **P 08 52 23.1 -0.9**

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*IDC **13** 08:40:40.3±0.9, 11°.84N×142°.88E, h0km, mb4.1/8, mb1 4.3/8, mb1mx3.9/40, mbtmp4.1/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/40, Error ellipse: s-maj=47.9km s-min=19.4km az=97.0*
*NEIC **13** 08:40:42.6±0.9, 11°.66N±0°.09×143°.7E±0°.2, h10km±2km, mb4.4/12, Error ellipse: s-maj=26.3km s-min=11.4km az=107.0*

ISC 13 08:40:46.7±0.7, 11°.6N±0°.1×143°.2E±0°.1, h35km, n30, σ1§43/25, mb4.2/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.52**	**39**	Sn	**Sn**	**08 41 56.3**	**+1.6**
	17nm,0.3s,baz=183,slow=23,SNR=1.7						
GUMO	**Guam**	**2.52**	**39**		Pn	08 41 19.4	-5.8
H11N1	**WAKE ISLAND Hy**	**24.14**	**68**	T	T	09 11 08.8	
	baz=255,slow=74,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**24.15**	**68**	T	T	09 11 11.1	
	baz=255,slow=74,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**24.16**	**68**	T	T	09 11 14.2	
	baz=255,slow=74,SNR=4.1						
WB0	**Warramunga Arr**	**32.39**	**196**	P	**P**	**08 47 12.8**	**-0.5**
WR0	**Warramunga Arr**	**32.54**	**195**	P	**P**	**08 47 14.4**	**-0.2**
WR0				IAmb	IAmb	08 47 37.1	
	comp=Z,7.1nm,1.2s						
WB2	**Warramunga Arr**	**32.57**	**196**	P	**P**	**08 47 14.6**	**-0.3**
WRA	**Warramunga Arr**	**32.57**	**196**	P	**P**	**08 47 14.3**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=20,slow=9.5,SNR=17						
WRA	**Warramunga Arr**	**32.57**	**196**	P	**P**	**08 47 14.1**	**-0.8**
AS31	**Alice Springs**	**36.24**	**195**	P	**P**	**08 47 47.0**	**+0.3**
ASAR	**Alice Springs**	**36.25**	**195**	P	**P**	**08 47 46.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=22,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**36.25**	**195**	P	**P**	**08 47 45.9**	**-0.9**
DZM	**Mont Dzumac**	**40.51**	**146**	P	**P**	**08 48 24.4**	**+1.7**
	comp=Z,10nm,0.9s,baz=297,slow=9.9,SNR=6.6						
CMAR	**Chiang Mai Arr**	**43.22**	**285**	P	**P**	**08 48 47.6**	**+2.8**
STKA	**Stephens Creek**	**43.29**	**182**	P	**P**	**08 48 44.4**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=0.0,slow=7.1,SNR=4.6						
TLY	**Talaya**	**51.18**	**329**	LR	LR	09 11 19.7	
	comp=Z,42nm,20.5s,baz=141,slow=36						
SKT	**Skwentna**	**68.26**	**27**	P	**P**	**08 51 41.6**	**-2.2**
SKT				IAmb	IAmb	08 52 06.7	
	comp=Z,6.7nm,1.4s						
IMAR	**Indian Mountai**	**68.61**	**23**	P	**P**	**08 51 45.2**	**-0.7**
RC01	**Rabbit Creek A**	**68.85**	**29**	P	**P**	**08 51 46.1**	**-1.4**
KBL	**Kabul**	**70.52**	**303**	P	**P**	**08 51 58.7**	**+0.1**
KBL				IAmb	IAmb	08 51 59.2	
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**70.54**	**322**	P	**P**	**08 51 58.6**	**+0.6**
BRVK				IAmb	IAmb	08 52 01.3	
	comp=Z,2.3nm,0.9s						
TOLK	**Toolik Lake Re**	**71.01**	**21**	P	**P**	**08 51 59.4**	**-1.2**
TOLK				IAmb	IAmb	08 52 05.7	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**71.01**	**25**	P	**P**	**08 51 58.7**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=253,slow=5.6,SNR=8.5						
DOT	**Dot Lake**	**71.99**	**27**	P	**P**	**08 52 05.1**	**-1.6**
DOT				IAmb	IAmb	08 52 09.4	
	comp=Z,2.3nm,0.8s						
BMAR	**Burnt Mountain**	**72.52**	**23**	P	**P**	**08 52 08.4**	**-1.3**
BCAR	**Beaver Creek A**	**72.91**	**27**	P	**P**	**08 52 11.6**	**-0.5**
ARCES	**ARCESS Array B**	**88.44**	**342**	P	**P**	**08 53 33.5**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=72,slow=7.8,SNR=5.4						
NVAR	**Mina Array Bea**	**89.39**	**51**	P	**P**	**08 53 41.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=269,slow=5.2,SNR=5.0						
FINES	**FINESS Array B**	**92.24**	**335**	P	**P**	**08 53 50.0**	**-2.9**
	comp=Z,0.4nm,0.4s,baz=123,slow=5.1,SNR=2.5						

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*IDC **13** 08:54:14.0±1.8, 5°.52N×93°.19E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/37, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=73.8km s-min=20.2km az=61.0*
*NEIC **13** 08:54:17.5±1.1, 5°.6N±0°.1×93°.2E±0°.2, h20km±7km, mb4.3/9, Error ellipse: s-maj=28.1km s-min=15.2km az=50.0*

ISC 13 08:54:14.3±0.8, 5°.4N±0°.1×92°.94E±0°.09, h10km, n30, σ1§06/23, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.99**	**92**	Pn	**Pn**	**08 55 13.9**	**-1.7**
GSI	**Gunungsitoli**	**6.16**	**131**	Pn	**Pn**	**08 55 44.4**	**-1.0**
PALK	**Pallekele**	**12.31**	**279**	Sn	**Sn**	**08 59 24.7**	**-2.5**
	1.0nm,0.3s,baz=279,slow=23,SNR=2.1						
CMAR	**Chiang Mai Arr**	**14.24**	**24**	Pn	**Pn**	**08 57 35.7**	**-0.5**
	0.2nm,0.3s,baz=208,slow=17,SNR=1.3						
H08S3	**Diego Garcia H**	**24.17**	**238**	T	T	09 24 59.5	
	baz=58,slow=76,SNR=272						
H08S2	**Diego Garcia H**	**24.17**	**238**	T	T	09 24 57.4	
	baz=58,slow=76,SNR=244						
H08S1	**Diego Carcia H**	**24.18**	**238**	T	T	09 25 01.1	
	baz=58,slow=76,SNR=217						
MKAR	**Makanchi Array**	**42.25**	**349**	P	**P**	**09 02 08.3**	**+0.5**
	0.4nm,0.4s,baz=168,slow=9.2,SNR=6.0						
KK31	**Karatay Array**	**42.47**	**336**	P	**P**	**09 02 11.4**	**+1.8**
KK31				IAmb	IAmb	09 02 23.4	
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**42.47**	**336**	P	**P**	**09 02 09.7**	**0.0**
SONM	**Songino Array**	**43.83**	**13**	P	**P**	**09 02 19.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=193,slow=5.9,SNR=2.3						
SONM	**Songino Array**	**43.83**	**13**	P	**P**	**09 02 19.7**	**-1.0**
H01W3	**Cape Leeuwin H**	**44.77**	**155**	T	T	09 50 26.5	
	baz=329						
H01W2	**Cape Leeuwin H**	**44.78**	**155**	T	T	09 50 23.7	
	baz=329						
H01W1	**Cape Leeuwin H**	**44.79**	**155**	T	T	09 50 18.7	
	baz=329						
WB0	**Warramunga Arr**	**47.83**	**123**	P	**P**	**09 02 52.6**	**+0.1**
WB0				IAmb	IAmb	09 03 20.8	
	comp=Z,9.6nm,1.2s						
WRA	**Warramunga Arr**	**47.86**	**123**	P	**P**	**09 02 52.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=301,slow=9.2,SNR=21						
WRA	**Warramunga Arr**	**47.86**	**123**	IAmb	IAmb	09 02 53.7	
	comp=Z,0.3nm,1.2s						
WB2	**Warramunga Arr**	**47.87**	**123**	P	**P**	**09 02 52.6**	**-0.3**
WR0	**Warramunga Arr**	**48.04**	**123**	P	**P**	**09 02 54.4**	**+0.2**
ZAA0	**Zalesovo Array**	**48.85**	**354**	P	**P**	**09 02 59.6**	**-0.3**
ZAA0				IAmb	IAmb	09 03 01.7	
	comp=Z,6.1nm,1.3s						
ZALV	**Zalesovo Beam**	**48.85**	**354**	P	**P**	**09 03 00.9**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=165,slow=6.2,SNR=4.1						
AS31	**Alice Springs**	**49.30**	**128**	P	**P**	**09 03 04.3**	**+0.4**
AS31				IAmb	IAmb	09 03 27.0	
	comp=Z,1.5nm,1.1s						
ASAR	**Alice Springs**	**49.30**	**128**	P	**P**	**09 03 04.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=301,slow=8.1,SNR=13						
ASAR				PcP	**PcP**	**09 04 28.2**	**+1.5**
	comp=Z,0.5nm,1.1s,baz=313,slow=4.6,SNR=1.6						
ASAR	**Alice Springs**	**49.30**	**128**	P	**P**	**09 03 05.1**	**+1.2**
ABKAR	**Akbulak array**	**51.85**	**333**	P	**P**	**09 03 23.0**	**+0.3**
FINES	**FINESS Array B**	**74.34**	**333**	P	**P**	**09 05 52.7**	**+0.8**
ARCES	**ARCESS Array B**	**77.18**	**341**	P	**P**	**09 06 09.1**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=101,slow=4.9,SNR=6.0						
ARCES	**ARCESS Array B**	**77.18**	**341**	IAmb	IAmb	09 06 14.2	
	comp=Z,9.1nm,1.4s						
TXAR	**Lajitas Array**	**141.96**	**24**	PKP	**PKiKP**	**09 13 50.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=243,slow=1.0,SNR=4.0						

TRN 13 08:59:19.1, 15°.73N×60°.67W, h27km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.63**	**290**	*eP*	Pn	08 59 34.0	+1.7
MAGL				*eS*	Sn	08 59 43.7	+2.2
DLPL	**La Plaine**	**0.68**	**235**	*eP*	Pn	08 59 35.2	+2.2
DLPL				*eS*	Sn	08 59 45.4	+2.6
MDCT	**Cottage Hill,**	**0.77**	**262**	*eP*	Pn	08 59 35.5	+1.2
MDCT				*eS*	Sn	08 59 47.5	+2.5
DSLB	**Salisbury**	**0.78**	**248**	*eP*	Pn	08 59 35.8	+1.4
DSLB				*eS*	Sn	08 59 48.0	+2.8
TDBA	**Terre de Bas,**	**0.94**	**277**	*eP*	Pb	08 59 38.0	+1.2
TDBA				*eS*	Sn	08 59 52.2	+3.1
TBG	**Guadaloupe-3**	**0.95**	**278**	*eP*	Pb	08 59 38.3	+1.4
TBG				*eS*	Sn	08 59 51.7	+2.4
CBE	**Ff, Capester**	**0.96**	**291**	*eP*	Pb	08 59 38.8	+1.5
CBE				*eS*	Sn	08 59 52.2	+2.4
ILAM	**Ilet Lapin Mar**	**0.97**	**192**	*eP*	Pb	08 59 38.3	+1.1
ILAM				*eS*	Sn	08 59 53.5	+3.7
BAMF	**Morne Balai**	**1.02**	**207**	*eP*	Pb	08 59 39.5	+1.4
CXM	**Morne La Croix**	**1.03**	**208**	*eP*	Pb	08 59 39.6	+1.2
GBMF	**Grand Be**	**1.04**	**207**	*eP*	Pb	08 59 39.5	+0.9
PCM	**Pelee Case Pet**	**1.05**	**210**	*eP*	Pb	08 59 39.5	+0.9
PML	**Morne Lenard**	**1.07**	**208**	*eP*	Pb	08 59 39.9	+0.9
ABD	**La Joyeuse, An**	**1.08**	**313**	*eP*	Pb	08 59 39.3	+0.1
ABD				*eS*	Sb	08 59 54.2	+1.2
FDF	**Fort de France**	**1.09**	**205**	*eP*	Pb	08 59 40.4	+0.9
LPMF	**Morne Lapointe**	**1.18**	**194**	*eP*	Pb	08 59 40.8	-0.1
MVM	**Montagne Vaucl**	**1.19**	**191**	*eP*	Pb	08 59 41.3	+0.2
ZAM	**Aeronautique**	**1.20**	**197**	*eP*	Pb	08 59 41.1	-0.1
TRMF	**Trois Ilets**	**1.24**	**197**	*eP*	Pb	08 59 41.8	-0.1
BIM	**Bigot**	**1.27**	**198**	*eP*	Pb	08 59 42.5	+0.1
BIM				*eS*	Sb	09 00 00.0	+1.8
MPOM	**Morne Pois Mar**	**1.29**	**188**	*eP*	Pb	08 59 42.3	-0.4
MPOM				*eS*	Sb	08 59 59.8	+0.9
ANBD	**Bethesda, Anti**	**1.68**	**321**	*eP*	Pb	08 59 48.4	-1.0
ANBD				*eS*	Sb	09 00 10.1	0.0
SLBI	**Saint Lucia, B**	**1.72**	**190**	*eP*	Pb	08 59 49.6	-0.5
SLBI				*eS*	Sb	09 00 10.4	-0.9
BPA	**Boggy Peak**	**1.74**	**319**	*eP*	Pb	08 59 49.4	-1.0
BPA				*eS*	Sb	09 00 10.9	-0.9
ANDO	**Antigua, Disas**	**1.77**	**321**	*eP*	Pb	08 59 49.6	-1.3
ANDO				*eS*	Sb	09 00 12.5	-0.2
ANOC	**Antigua Open C**	**1.78**	**321**	*eP*	Pb	08 59 50.4	-0.6
ANOC				*eS*	Sb	09 00 12.5	-0.3

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*GUC **13** 09:07:21.1±0.5, 20°.29S×68°.74W, h111km±3km, ML3.7*
*IDC **13** 09:07:24.3±2.2, 20°.22S×68°.35W, h145km±22km, mb3.4/2, mb1 3.5/4, mb1mx3.2/17, mbtmp3.9/4, Error ellipse: s-maj=41.6km s-min=20.7km az=91.0*

ISC 13 09:07:20.0±0.9, 20°.35S±0°.04×68°.84W±0°.09, h120km±9km, n17, σ1§11/27, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.36**	**305**	⇑*iP*	**Pn**	**09 07 37.7**	**-0.1**
PB08				*i* S	**Sn**	**09 07 50.6**	**-0.4**
PB08				IAML		09 07 51.6	
	comp=E,2μm,0.7s						
PB01	**IPOC Station P**	**0.92**	**221**	⇑*iP*	**Pn**	**09 07 42.1**	**+0.8**
PB01				*i* S	**Sn**	**09 07 58.5**	**+1.0**
PB01				IAML		09 07 59.8	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**0.97**	**307**	⇑*iP*	**Pn**	**09 07 41.9**	**-0.1**
PB11				*eS*	**Sn**	**09 07 58.5**	**0.0**
PB11				IAML		09 07 59.6	
	comp=E,4μm,0.4s						
TA02	**Huaiquique**	**1.22**	**274**	*eP*	**Pn**	**09 07 44.8**	**+0.5**
TA02				*eS*	**Sn**	**09 08 03.3**	**+0.6**
TA02				IAML		09 08 05.5	
	comp=N,2μm,0.1s						
TA01	**Diego Aracena**	**1.28**	**260**	⇑*iP*	**Pn**	**09 07 45.2**	**+0.3**
PB02	**IPOC Station P**	**1.38**	**226**	⇑*iP*	**Pn**	**09 07 47.2**	**+1.0**
PB02				*i* S	**Sn**	**09 08 07.6**	**+1.5**
PB02				IAML		09 08 09.8	
	comp=E,2μm,0.4s						
MNMC	**Minye Minye**	**1.41**	**329**	⇑*iP*	**Pn**	**09 07 47.1**	**+0.4**
MNMC				*eS*	**Sn**	**09 08 07.2**	**+0.2**
MNMC				IAML		09 08 11.1	
	comp=E,3μm,0.2s						
PSGC	**Pisagua**	**1.42**	**302**	⇑*iP*	**Pn**	**09 07 46.6**	**-0.1**
PSGC				*eS*	**Sn**	**09 08 06.5**	**-0.5**
PSGC				IAML		09 08 11.3	
	comp=E,902nm,0.7s						
PB07	**IPOC Station P**	**1.68**	**215**	⇑*eP*	**Pn**	**09 07 50.6**	**+0.8**
PB07				*i* S	**Sn**	**09 08 14.0**	**+1.5**
PB07				IAML		09 08 22.1	
	comp=E,545nm,0.6s						
PB04	**IPOC Station P**	**2.32**	**212**	*eP*	**Pn**	**09 07 59.2**	**+1.5**
PB04				*eS*	**Sn**	**09 08 25.9**	**-0.6**
PB04				IAML		09 08 39.3	
	comp=N,284nm,0.4s						
PB06	**IPOC Station P**	**2.44**	**196**	*eP*	**Pn**	**09 08 00.8**	**+1.7**
PB06				*eS*	**Sn**	**09 08 27.2**	**-2.0**
PB06				IAML		09 08 39.2	
	comp=E,255nm,0.3s						
LPAZ	**La Paz**	**4.10**	**10**	P	**Pn**	**09 08 23.1**	**+1.6**
	comp=E,2.4nm,0.3s,baz=226,slow=4.2,SNR=70						
LPAZ				S	**Sn**	**09 09 11.2**	**+2.2**
	baz=117,slow=16,SNR=1.8						
CPUP	**Villa Florida**	**12.13**	**122**	P	**Pn**	**09 10 07.8**	**-1.0**
	comp=E,0.2nm,0.3s,baz=308,slow=12,SNR=3.8						
PLCA	**Paso Flores**	**20.37**	**184**	P	Pn	09 11 51.9	+1.6
	comp=E,2.3nm,0.8s,baz=22,slow=11,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P	**P**	**09 18 58.6**	**-1.0**
	comp=E,0.7nm,0.4s,baz=255,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**130.95**	**208**	PKP	**PKiKP**	**09 26 19.0**	**0.0**
	comp=E,0.2nm,0.6s,baz=132,slow=2.8,SNR=2.5						
WRA	**Warramunga Arr**	**133.97**	**211**	PKP	**PKiKP**	**09 26 25.3**	**+0.1**
	comp=E,0.4nm,0.8s,baz=140,slow=1.4,SNR=1.5						

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*IDC **13** 09:07:55.0±0.7, 14°.90N×119°.96E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/43, mbtmp4.1/11, MS3.4/9, Ms1 3.4/9, ms1mx3.1/51, Error ellipse: s-maj=30.6km s-min=16.3km az=72.0*
*MAN **13** 09:07:59.5, 14°.94N×119°.70E, h7km, mb5.3, ML4.3, MS4.5*
*NEIC **13** 09:08:02.3±1.4, 14°.9N±0°.1×120°.0E±0°.2, h49km±8km, mb4.4/12, Error ellipse: s-maj=24.9km s-min=15.3km az=91.0*

ISC 13 09:08:00.5±0.7, 14°.95N±0°.07×119°.52E±0°.09, h35km, n40, σ1§45/32, mb4.3/16, MS3.4/9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.61**	**121**	⇑*eP*	**Pn**	**09 08 28.0**	**+1.5**
PCPH	**Palayan**	**1.64**	**68**	*eS*	**Sn**	**09 08 46.2**	**-0.6**
PGP	**Puerto Galera**	**2.00**	**136**	⇓*eP*	**Pn**	**09 08 32.5**	**+0.7**
PGP				*i* S	Sn	09 09 05.8	+10
LQP	**Lukban**	**2.12**	**113**	*eP*	**Pn**	**09 08 32.9**	**-0.8**
LQP				*i* S	**Sn**	**09 09 02.5**	**+3.5**
SZP	**Santa**	**2.74**	**19**	Pn	**Pn**	**09 08 42.0**	**0.0**
YULB	**Yu-li**	**8.56**	**11**	Pn	**Pn**	**09 10 03.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**20.01**	**283**	P	Pn	09 12 35.5	+3.1
	2.7nm,0.8s,baz=98,slow=9.1,SNR=12						
CMAR				LR	LR	09 21 16.9	
	comp=Z,66nm,19.0s,baz=176,slow=39						
CMAR	**Chiang Mai Arr**	**20.01**	**283**		pP	09 12 46.8	+8.1
KSRS	**Korea Array**	**23.62**	**17**	LR	LR	09 22 24.0	
	comp=Z,59nm,18.2s,baz=198,slow=37						
JCJ	**Chichijima**	**24.32**	**57**	LR	LR	09 23 57.5	
	comp=Z,70nm,18.0s,baz=104,slow=40						
GUMO	**Guam**	**24.60**	**90**	LR	LR	09 22 21.2	
	comp=Z,85nm,18.6s,baz=212,slow=36						
BRDH	**Bariadhala**	**27.45**	**290**	LR	LR	09 25 13.2	
	comp=Z,86nm,18.4s,baz=222,slow=37						
SONM	**Songino Array**	**34.55**	**344**	P	**P**	**09 14 46.7**	**+0.9**
	0.8nm,0.6s,baz=156,slow=7.9,SNR=2.7						
KLR	**Kul'dur**	**35.63**	**14**	P	**P**	**09 14 54.6**	**-0.3**
	3.0nm,0.8s,baz=265,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**37.61**	**157**	P	**P**	**09 15 09.2**	**-2.9**
	5.0nm,0.7s,baz=338,slow=9.4,SNR=21						
WRA				PcP	**PcP**	**09 17 29.1**	**-0.4**
	0.3nm,0.5s,baz=343,slow=3.6,SNR=2.0						
WB2	**Warramunga Arr**	**37.62**	**157**	P	**P**	**09 15 09.7**	**-2.5**
AS31	**Alice Springs**	**40.87**	**160**	P	**P**	**09 15 37.3**	**-2.0**
ASAR	**Alice Springs**	**40.88**	**160**	P	**P**	**09 15 37.2**	**-2.1**
	1.7nm,0.3s,baz=337,slow=7.9,SNR=34						
MKAR	**Makanchi Array**	**44.35**	**324**	P	**P**	**09 16 09.4**	**+1.9**
	0.5nm,0.7s,baz=126,slow=9.7,SNR=3.3						
MKAR				PcP	**PP**	**09 17 51.8**	**+0.6**
	0.7nm,0.7s,baz=108,slow=4.7,SNR=4.4						
MKAR				LR	LR	09 36 11.0	
	comp=Z,64nm,18.1s,baz=76,slow=38						
HNR	**Honiara**	**46.82**	**119**	LR	LR	09 34 16.2	
	comp=Z,53nm,20.6s,baz=224,slow=34						
PETK	**Petropavlovsk-**	**48.50**	**30**	P	**P**	**09 16 38.6**	**-1.2**
	3.7nm,0.8s,baz=216,slow=7.1,SNR=6.8						
TIXI	**Tiksi**	**56.96**	**4**	P	**P**	**09 17 41.7**	**-0.3**
TIXI				IAmb	IAmb	09 17 42.4	
	comp=Z,5.3nm,1.0s						
GEYT	**Alibeck**	**58.48**	**305**	LR	LR	09 46 43.6	
	comp=Z,30nm,20.2s,baz=10.0,slow=40						
BPAW	**Bear Paw Mtn.**	**76.46**	**27**	P	**P**	**09 19 45.9**	**-0.7**
BPAW				IAmb	IAmb	09 19 47.6	
	comp=Z,7.0nm,1.2s						
MLY	**Manley**	**76.47**	**26**	P	**P**	**09 19 46.4**	**-0.2**
I23K	**Minto, Yukon-K**	**77.04**	**26**	P	**P**	**09 19 49.6**	**-0.1**
I23K				IAmb	IAmb	09 19 55.2	
	comp=Z,4.2nm,1.1s						
ARCES	**ARCESS Array B**	**77.52**	**339**	P	**P**	**09 19 53.0**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=69,slow=6.2,SNR=6.8						
ARCES	**ARCESS Array B**	**77.52**	**339**	IAmb	IAmb	09 19 57.6	
	comp=Z,14nm,1.4s						
MDM	**Murphy Dome**	**77.54**	**26**	P	**P**	**09 19 52.0**	**-0.6**
MDM				IAmb	IAmb	09 19 54.0	
	comp=Z,2.7nm,1.0s						
ILAR	**Eielson Array**	**78.13**	**26**	P	**P**	**09 19 54.5**	**-1.4**
	comp=Z,1.1nm,1.0s,baz=265,slow=4.7,SNR=7.0						
BMAR	**Burnt Mountain**	**78.57**	**23**	P	**P**	**09 19 56.1**	**-2.1**
FINES	**FINESS Array B**	**78.64**	**331**	P	**P**	**09 19 59.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=68,slow=8.1,SNR=4.8						
M24K	**Tolsona, Glenn**	**78.92**	**29**	P	**P**	**09 19 58.1**	**-2.2**
L27K	**Beaver Creek,**	**80.68**	**27**	P	**P**	**09 20 09.4**	**-0.4**
L27K				IAmb	IAmb	09 20 11.5	
	comp=Z,3.8nm,0.9s						
DAWY	**Dawson**	**81.46**	**26**	IAmb	IAmb	09 20 14.9	
	comp=Z,3.4nm,1.0s						
NB2	**NORSAR Subarra**	**85.63**	**332**	P	**P**	**09 20 35.3**	**0.0**
	comp=Z,1.4nm,0.7s,baz=71,slow=5.3						
NOA	**NORSAR Array B**	**85.63**	**332**	P	**P**	**09 20 35.4**	**0.0**
	comp=Z,1.5nm,0.9s,baz=70,slow=4.9,SNR=5.3						
JMIC	**Jan Mayen**	**87.30**	**345**	LR	LR	10 02 45.1	
	comp=Z,25nm,19.6s,baz=5.0,slow=38						
TXAR	**Lajitas Array**	**119.37**	**43**	PKP	**PKiKP**	**09 26 47.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=216,slow=1.0,SNR=6.9						
PLCA	**Paso Flores**	**152.85**	**163**	PKPbc	**PKiKP**	**09 27 55.2**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=192,slow=4.7,SNR=5.9						

IDC 13 09:18:25.8±1.2, 8°.68S×157°.58E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/38, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=41.2km s-min=24.6km az=1.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.45**	**108**	Pn	Pn	09 19 06.7	-0.4
	23nm,0.3s,baz=243,slow=8.8,SNR=4.2						
HNR				Sn	Sn	09 19 39.6	+1.8
	38nm,0.3s,baz=19,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**25.11**	**241**	P	P	09 23 52.4	-0.2
	0.7nm,0.6s,baz=68,slow=9.5,SNR=7.1						
ILAR	**Eielson Array**	**84.01**	**21**	P	P	09 30 57.0	-0.8
	0.3nm,0.5s,baz=244,slow=3.7,SNR=5.8						
MKAR	**Makanchi Array**	**86.36**	**318**	P	P	09 31 10.8	+0.8
	0.3nm,0.6s,baz=111,slow=6.5,SNR=2.6						
NVAR	**Mina Array Bea**	**90.76**	**51**	P	P	09 31 32.0	+0.6
	0.3nm,0.8s,baz=244,slow=5.3,SNR=3.6						

MEX 13 09:26:06.2±0.3, 14°.76N×93°.21W, h16km±999km, MD3.6, Near coast of Chiapas

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IDC 13 09:26:44.4±5.5, 18°.38S×177°.92W, h590km±43km, mb2.6/3, mb1 2.9/4, mb1mx2.7/37, mbtmp3.5/4, Error ellipse: s-maj=283.5km s-min=29.4km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.89**	**279**	P	P	09 28 08.5	0.0
	1.0nm,0.3s,baz=90,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**45.01**	**260**	P	P	09 34 08.6	-0.2
	0.4nm,0.4s,baz=96,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**45.11**	**255**	P	P	09 34 09.5	-0.1
	0.5nm,0.4s,baz=90,slow=8.4,SNR=14						
TXAR	**Lajitas Array**	**85.86**	**57**	P	P	09 38 23.0	-0.1
	0.2nm,0.7s,baz=221,slow=4.9,SNR=3.7						

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*MEX **13** 09:37:25.1±2.1, 15°.72N×98°.46W, h15km±22km, MD4.7*
*IDC **13** 09:37:26.7±1.1, 16°.30N×97°.98W, h0km, mb4.2/

CMIG Lg Lg 09 39 00.8
63nm,0.3s,baz=271,slow=9.2,SNR=4.1
CMIG Matias Romero 3.30 72 *eP* **Pn 09 38 19.3 -0.1**
CMIG Matias Romero 3.30 72 Pn 09 38 19.3 -0.1
CVM Colonia del Va 3.41 344 *eP* Pn 09 38 27.0 +6.1
PBVM Pinon 3.44 345 *eP* **Pn 09 38 24.4 +3.1**
PBVM Pinon 3.44 345 Pn 09 38 24.4 +3.1
ZIIG Zihuatanejo 3.50 296 *eP* Pn 09 38 19.4 -2.6
ZIIG Zihuatanejo 3.50 296 Pn 09 38 19.4 -2.6
PTVM Pico Tres Padr 3.59 346 *eP* Pn 09 38 30.1 +6.4
ZUVM ZUMPANGO 3.81 347 *eP* **Pb 09 38 34.4 -1.1**
UON La Union 3.95 299 *eP* Pn 09 38 24.6 -3.8
DEIG Demacu 4.26 349 *eP* Pn 09 38 40.1 +7.3
DEIG *eS* **Sb 09 39 33.0 -1.5**
MOIG Morelia 4.58 322 *eP* Pn 09 38 42.5 +5.4
MOIG Morelia 4.58 322 Pn **Pn 09 38 38.9 +1.8**
TGIG 4.89 81 *eP* **Pn 09 38 41.3 -0.1**
TGIG 4.89 81 Pn 09 38 41.3 -0.1
URUA Uruapan 4.98 312 *eP* **Pn 09 38 45.6 +3.0**
URUA Uruapan 4.98 312 Pn 09 38 45.6 +3.0
MMIG Aquila 5.41 295 *eP* Pn 09 38 46.7 -1.6
MMIG Aquila 5.41 295 Pn 09 38 46.7 -1.6
CCIG Comitan 5.80 87 *eP* **Pn 09 38 58.1 +4.2**
CCIG *eS* **Sn 09 40 05.6 +5.4**
CCIG Comitan 5.80 87 Pn **Pn 09 38 53.6 -0.4**
CCIG Comitan 5.80 87 Sn 09 40 05.6 +5.4
RPIG Rio Verde 6.01 344 *eP* Pb 09 39 17.4 +4.7
RPIG *eS* **Sb 09 40 27.3 +2.7**
EZ5V 6.17 304 *eP* Pb 09 39 14.9 -0.8
EZ5V *eS* **Sb 09 40 30.2 +0.8**
R15V 6.33 300 *eP* Pn 09 39 00.2 -0.9
R15V *eS* **Sb 09 40 31.1 -2.6**
R15V 6.33 300 Pn 09 39 00.2 -0.9
RTAL Retalhuleu 6.44 103 Pn **Pn 09 39 04.1 +1.5**
HUEH Huehuetenango 6.47 96 Pn **Pn 09 39 05.8 +2.6**
GTIG Gomez Farias 7.00 352 *eP* Pn 09 39 18.5 +8.2
AAIG Aguscalientes 7.07 326 *eP* **Pn 09 39 13.9 +2.5**
CJM Chamela 7.37 298 *eP* **Pn 09 39 17.9 +2.6**
ZAIG Zacatecas 7.83 329 Pn **Pn 09 39 24.2 +2.3**
PETF Flores 8.01 83 Pn **Pn 09 39 23.6 -0.5**
ESQI Esquipulas 8.65 99 Pn 09 39 33.7 +0.6
MTO3 Montecristo 8.67 100 Pn Pn 09 39 31.9 -1.5
LNIG Linares 8.84 352 *eP* Pn 09 39 41.6 +6.1
MYIG Mrida 9.34 58 *eP* Pn 09 39 50.5 +8.1
TGUH Tegucigalpa,Un 10.72 99 Pn 09 40 02.5 +1.1
CRIN San Cristobal 11.29 106 Pn 09 40 09.9 +0.7
833A Chaparral WMA, 12.22 355 P **Pn 09 40 20.1 -1.7**
baz=174
H06E1 SOCORRO T-PHAS 12.46 284 T T 09 52 47.6
SNR=23
735A Kenedy 12.70 1 Pn **Pn 09 40 28.3 -0.1**
HPIG 12.84 328 Pn 09 40 30.2 -0.2
DUNO Dulce Nombre, 13.72 114 Pn 09 40 44.7 +2.4
LPIG La Paz 13.90 307 LR LR 09 45 05.7
comp=Z,624nm,18.9s,baz=126,slow=33
JTS Las Juntas de 14.10 113 Pn **Pn 09 40 51.3 +3.7**
0.6nm,0.3s,baz=330,slow=9.8,SNR=5.8
JTS LR LR 09 44 45.7
comp=Z,94nm,20.4s,baz=2.0,slow=31
JTS Las Juntas de 14.10 113 Pn 09 40 50.4 +2.8
TXAR Lajitas Array 14.11 340 Pn **Pn 09 40 48.0 +0.2**
0.0nm,0.3s,baz=164,slow=14,SNR=19
TXAR Lajitas Array 14.11 340 Pn **Pn 09 40 48.0 +0.2**
TX31 Lajitas Ar. Si 14.12 340 Pn 09 40 48.0 +0.2
TX32 Lajitas Array 14.12 340 Pn **Pn 09 40 48.2 +0.4**
CAO2 Cobano, Puntar 14.23 115 Pn **Pn 09 40 53.6 +4.2**
JCT Junction City 14.40 354 P **Pn 09 40 50.4 -1.2**
baz=173
JCT Junction City 14.40 354 Pn **Pn 09 40 50.9 -0.7**
435B Jarrell 14.63 2 P **Pn 09 40 53.7 -1.0**
baz=182
435B Jarrell 14.63 2 Pn 09 40 53.7 -1.0
CVTR Volcan Turrial 15.28 112 Pn 09 41 07.0 +3.0
CVTR IAmb IAmb 09 41 19.9
comp=Z,53nm,1.0s
441A DeRidder 15.28 16 Pn 09 41 00.2 -3.2
441A IAmb IAmb 09 41 15.8
comp=Z,78nm,1.2s
RIMA Rio Macho 15.29 113 Pn 09 41 06.0 +2.1
RIMA IAmb IAmb 09 41 24.0
comp=Z,37nm,0.9s
PEZE Perez Zeledon, 15.63 114 P **Pn 09 41 12.4 +4.3**
PEZE IAmb IAmb 09 41 27.0
comp=Z,56nm,1.3s
WHTX Lake Whitney, 15.84 2 P **Pn 09 41 09.8 -0.9**
baz=182,SNR=6.4
WHTX Lake Whitney, 15.84 2 Pn 09 41 08.2 -2.5
WHTX IAmb IAmb 09 41 16.4
comp=Z,67nm,1.1s
NATX Nacogdoches 15.92 11 P **Pn 09 41 11.1 -0.7**
baz=192
NATX Nacogdoches 15.92 11 Pn 09 41 09.2 -2.5
NATX IAmb IAmb 09 41 16.3
comp=Z,82nm,1.2s
SRBA San Rafael, Bu 15.97 114 P **Pn 09 41 16.3 +3.6**
237A Washetta, Mont 15.98 7 P **Pn 09 41 13.6 +1.1**
237A IAmb IAmb 09 41 17.9
comp=Z,106nm,1.1s
DRK0 Durika 16.06 113 Pn 09 41 16.4 +2.6
DRK0 IAmb IAmb 09 41 25.4
comp=Z,42nm,0.7s
342A Flagon Creek P 16.12 18 Pn **Pn 09 41 13.4 -0.9**
342A IAmb IAmb 09 41 19.2
comp=Z,44nm,0.9s
ABTX Abilene, Hawle 16.51 356 P **Pn 09 41 19.0 -0.4**
baz=175,SNR=30
ABTX Abilene, Hawle 16.51 356 Pn 09 41 18.4 -1.0
344A Westbrook Farm 16.73 23 Pn 09 41 20.8 -1.3
344A IAmb IAmb 09 41 25.9
comp=Z,126nm,1.5s
MNTX Cornudas Mount 16.86 338 P **Pn 09 41 23.1 -0.7**
baz=155,SNR=21
MNTX Cornudas Mount 16.86 338 Pn 09 41 22.7 -1.2
GDL2 Guadalupe Moun 16.99 342 P **Pn 09 41 26.2 +0.7**
346A Big Creek Wild 17.17 26 Pn 09 41 26.4 -1.2
Z35A Perchaven, San 17.18 3 Pn 09 41 26.3 -1.5
Z38A Mt. Pleasant 17.33 9 P **Pn 09 41 29.6 0.0**
Z38A IAmb IAmb 09 41 32.3
comp=Z,74nm,0.9s
HSIG 17.44 320 Pn 09 41 30.7 -0.3
VBMS Vicksburg 17.49 22 P **Pn 09 41 28.7 -2.9**
baz=205
VBMS Vicksburg 17.49 22 Pn 09 41 29.7 -1.9
VBMS IAmb IAmb 09 41 34.2
comp=Z,64nm,1.0s
143A Socs Landing, 17.64 19 Pn 09 41 31.1 -2.4
Z41A Richland Creek 17.76 15 P **Pn 09 41 32.9 -2.1**
baz=197
LOOK Love County 17.84 3 Pn 09 41 34.7 -1.3
LOOK IAmb IAmb 09 42 03.9
comp=Z,54nm,1.1s
WLAR White Oak Lake 18.10 14 Pn 09 41 37.9 -1.3
BRAL Brewton 18.11 32 P **Pn 09 41 36.8 -2.5**
baz=217
BRAL Brewton 18.11 32 P **Pn 09 41 37.8 -1.6**
BRAL IAmb IAmb 09 41 41.3
comp=Z,56nm,1.1s
MSTX Muleshoe 18.27 348 P **Pn 09 41 40.0 -1.4**
baz=165,SNR=13
MSTX Muleshoe 18.27 348 Pn 09 41 39.8 -1.6
319A Douglas 18.28 328 P **Pn 09 41 41.0 -0.5**
146A Union 18.43 25 P **Pn 09 41 43.2 +0.1**
146A IAmb IAmb 09 41 45.3
comp=Z,82nm,0.9s
X34A Smith Ranch, M 18.43 1 Pn 09 41 42.1 -1.1
X34A IAmb IAmb 09 41 46.6
comp=Z,70nm,1.1s
121A Cookes Peak, D 18.54 334 P **P 09 41 44.8 +0.2**
baz=149,SNR=12
121A Cookes Peak, D 18.54 334 P P 09 41 44.1 -0.4
WMOK Wichita Mounta 18.57 358 P **P 09 41 43.6 -1.1**
baz=178
WMOK Wichita Mounta 18.57 358 P 09 41 43.2 -1.5
X37A Clayton 18.59 7 P **P 09 41 43.5 -1.3**
MIAR Mount Ida 18.83 12 P **P 09 41 46.1 -1.4**
baz=194,SNR=27
MIAR Mount Ida 18.83 12 P P 09 41 45.5 -2.0
X40A Basin Creek Fa 18.93 14 P **P 09 41 47.4 -1.2**
baz=196
X40A Basin Creek Fa 18.93 14 P 09 41 47.0 -1.6
AMTX Amarillo 18.97 351 P P 09 41 48.0 -1.2
baz=169
AMTX Amarillo 18.97 351 P 09 41 47.8 -1.4

FNO Franklin 19.09 2 P **P 09 41 49.4 -1.1**
OKCFA Oklahoma City 19.25 2 P **P 09 41 50.8 -1.3**
OKCFA IAmb IAmb 09 41 55.4
comp=Z,121nm,1.5s
Z47A Carrollton 19.32 26 P **P 09 41 52.3 -0.6**
Z47A IAmb IAmb 09 41 55.7
comp=Z,60nm,1.1s
Y45A Yeager Farm, C 19.33 22 P **P 09 41 52.3 -0.7**
Y45A IAmb IAmb 09 42 01.0
comp=Z,102nm,1.1s
OK025 Westminster Rd 19.42 2 P **P 09 41 52.3 -1.6**
OK025 IAmb IAmb 09 42 00.9
comp=Z,51nm,1.1s
W39A Magazine 19.42 11 P **P 09 41 53.7 -0.3**
baz=193,SNR=17
W39A Magazine 19.42 11 P **P 09 41 53.5 -0.5**
W39A IAmb IAmb 09 42 02.0
comp=Z,57nm,1.2s
BCOK Bluff Creek, N 19.49 1 P **P 09 41 53.6 -1.1**
352A Blakely 19.50 36 P **P 09 41 54.6 -0.3**
352A IAmb IAmb 09 41 58.8
comp=Z,34nm,0.8s
BNM Barren Site 19.52 339 P 09 41 55.5 +0.2
DWPF Disney Wildern 19.55 49 P **P 09 41 54.4 -1.1**
baz=236
Y22D IRIS PASSCAL I 19.56 338 P **P 09 41 55.6 -0.1**
baz=154
Y22D IRIS PASSCAL I 19.56 338 IAmb IAmb 09 42 21.4
comp=Z,28nm,0.8s
OK029 Liberty Lake 19.63 2 P **P 09 41 55.2 -1.1**
OK029 IAmb IAmb 09 42 10.3
comp=Z,36nm,1.0s
LENM Lemitar 19.66 338 P **P 09 41 56.8 0.0**
LRAL Lakeview Retre 19.66 29 P **P 09 41 56.9 +0.3**
baz=214,SNR=31
LRAL Lakeview Retre 19.66 29 P **P 09 41 56.2 -0.4**
LRAL IAmb IAmb 09 41 59.1
comp=Z,33nm,1.0s
W41B Gary Mavity, V 19.73 15 P **P 09 41 56.5 -0.8**
baz=197,SNR=7.7
TUC Tucson 19.79 327 P **P 09 41 59.1 +0.9**
baz=141
TUC Tucson 19.79 327 P **P 09 41 58.8 +0.6**
OK031 S. Brethren Rd 19.81 3 P **P 09 41 57.6 -0.6**
OK031 IAmb IAmb 09 42 00.9
comp=Z,58nm,1.0s
WHAR Wooly Hollow 19.83 14 P **P 09 41 57.9 -0.5**
TUL1 Leonard 19.85 6 P **P 09 41 57.9 -0.7**
baz=187
OXF Oxford 19.96 22 P **P 09 41 58.6 -1.2**
baz=205,SNR=9.6
OXF Oxford 19.96 22 P **P 09 41 59.1 -0.7**
OXF IAmb IAmb 09 42 06.4
comp=Z,71nm,1.1s
QUOK Quay 20.04 3 P **P 09 41 59.4 -1.3**
QUOK IAmb IAmb 09 42 03.0
comp=Z,56nm,1.2s
ANMO Albuquerque 20.19 340 P **P 09 42 02.8 +0.2**
comp=Z,25nm,1.0s,baz=149,slow=12,SNR=68
ANMO Albuquerque 20.19 340 P **P 09 42 03.2 +0.6**
baz=156
ANMO Albuquerque 20.19 340 P 09 42 02.0 -0.6
FCAR Ozark Folk Cen 20.44 14 P **P 09 42 04.3 -0.7**
HHAR Hobbs 20.45 10 P **P 09 42 04.3 -0.9**
HHAR IAmb IAmb 09 42 10.8
comp=Z,38nm,1.1s
152A Waverly Hall 20.52 34 P **P 09 42 05.4 -0.5**
152A IAmb IAmb 09 42 08.7
comp=Z,37nm,1.1s
U38A Gravette 20.54 9 P **P 09 42 04.8 -1.3**
U38A IAmb IAmb 09 42 11.4
comp=Z,55nm,0.9s
BLOK Blackwell 20.60 2 P **P 09 42 05.8 -1.0**
BLOK IAmb IAmb 09 42 10.2
comp=Z,67nm,1.0s
W45A Hickory Valley 20.62 21 P **P 09 42 06.2 -0.8**
Y49A Blount Mountai 20.62 29 P **P 09 42 06.3 -0.7**
Y49A IAmb IAmb 09 42 08.1
comp=Z,23nm,0.8s
OK032 Salt Plains WL 20.63 360 P **P 09 42 06.8 -0.3**
OK032 IAmb IAmb 09 42 12.0
comp=Z,65nm,1.1s
214A Organ Pipe Nat 20.65 322 P **P 09 42 07.7 +0.2**
baz=136,SNR=12
214A Organ Pipe Nat 20.65 322 P **P 09 42 08.1 +0.6**
U40A Yellville 20.73 12 P **P 09 42 07.6 -0.6**
baz=194,SNR=67
Z51A Franklin 20.78 32 P **P 09 42 08.2 -0.6**
T35A Sooner Cattle 20.79 4 P **P 09 42 07.6 -1.3**
T35A IAmb IAmb 09 42 15.4
comp=Z,38nm,1.0s
X48A Hartselle 20.83 27 P **P 09 42 07.9 -1.5**
X48A IAmb IAmb 09 42 12.9
comp=Z,28nm,0.9s
KAN13 South Haven SW 20.84 2 P **P 09 42 07.8 -1.6**
KAN13 IAmb IAmb 09 42 14.9
comp=Z,55nm,1.0s
LCAR Lake Charles 20.85 16 P **P 09 42 07.9 -1.6**
LCAR IAmb IAmb 09 42 14.6
comp=Z,42nm,0.9s
KAN17 Caldwell West 20.87 1 P **P 09 42 08.5 -1.2**
KAN17 IAmb IAmb 09 42 14.5
comp=Z,42nm,0.9s
PLAL Pickwick Lake 20.87 24 P **P 09 42 08.7 -1.1**
PLAL IAmb IAmb 09 42 15.2
comp=Z,58nm,1.1s
KAN05 Bluff City Nor 20.93 1 P **P 09 42 09.2 -1.2**
KAN05 IAmb IAmb 09 42 15.7
comp=Z,77nm,1.1s
GNAR Gosnell 21.08 19 P **P 09 42 12.3 +0.3**
SFX San Felipe 21.29 317 P **P 09 42 14.8 +0.5**
SFX IAmb IAmb 09 42 23.0
comp=Z,34nm,1.3s
154A Montrose 21.38 37 P **P 09 42 13.9 -1.3**
154A IAmb IAmb 09 42 19.3
comp=Z,72nm,1.1s
FPAL Fort Paine 21.55 29 P **P 09 42 16.5 -0.6**
FPAL IAmb IAmb 09 42 19.4
comp=Z,30nm,1.0s
W18A Petrified Fore 21.59 333 P **P 09 42 17.8 +0.1**
baz=148
MGMO Mountain Grove 21.62 13 P **P 09 42 16.4 -1.3**
MGMO IAmb IAmb 09 42 22.7
comp=Z,40nm,1.1s
T25A Trinidad 21.68 346 P **P 09 42 18.1 -0.5**
baz=163,SNR=50
T25A Trinidad 21.68 346 P 09 42 18.9 +0.2
GOGA Godfrey 21.76 35 P **P 09 42 18.1 -1.2**
baz=221,SNR=29
GOGA Godfrey 21.76 35 P **P 09 42 18.4 -0.9**
GOGA IAmb IAmb 09 42 20.4
comp=Z,58nm,1.1s
T42A Van Buren 21.78 15 IAmb IAmb 09 42 23.7
comp=Z,57nm,1.0s
113A Mohawk Valley, 21.80 322 IAmb IAmb 09 42 25.7
comp=Z,49nm,1.5s
X16A Lo Mia Camp, P 21.80 329 IAmb IAmb 09 42 27.0
comp=Z,37nm,1.0s
UTMT University of 21.80 21 P **P 09 42 18.1 -1.6**
PARMO Parma 21.81 18 P **P 09 42 19.2 -0.6**
X51A Calhoun 21.94 31 P **P 09 42 19.7 -1.5**
X51A IAmb IAmb 09 42 26.7
comp=Z,33nm,0.9s
HENM Henderson Moun 21.94 19 P **P 09 42 21.7 +0.4**
WVT Waverly 21.98 23 P **P 09 42 20.3 -1.4**
baz=207
WVT Waverly 21.98 23 P **P 09 42 20.2 -1.4**
V48A Smith Brothers 22.03 25 P **P 09 42 21.6 -0.6**
V48A IAmb IAmb 09 42 25.1
comp=Z,55nm,1.0s
Y14A Wickenburg 22.23 326 P **P 09 42 24.2 -0.2**
Y14A IAmb IAmb 09 42 34.2
comp=Z,35nm,1.4s
W50A Signal Mountai 22.24 29 P **P 09 42 23.6 -0.9**
R32A Long Quarter, 22.25 359 P **P 09 42 24.6 +0.1**
R32A IAmb IAmb 09 42 29.0
comp=Z,48nm,1.1s
GTBY Guantanamo Bay 22.25 77 P **P 09 42 23.3 -1.5**
GTBY Guantanamo Bay 22.25 77 *eP* **P 09 42 24.7 0.0**
T45A Paducah 22.49 20 P **P 09 42 26.4 -0.7**
SDCO Great Sand Dun 22.52 345 P **P 09 42 27.7 0.0**
baz=161,SNR=92
CLTN Cedars of Leba 22.54 26 IAmb IAmb 09 42 33.4
comp=Z,57nm,1.3s
GLA Glamis 22.63 321 P **P 09 42 28.2 -0.5**
baz=134
GLA Glamis 22.63 321 P **P 09 42 28.9 +0.2**
GLA IAmb IAmb 09 42 36.0
comp=Z,30nm,1.1s
WUAZ Wupatki 22.66 331 P **P 09 42 29.7 +0.5**
baz=145,SNR=20
WUAZ Wupatki 22.66 331 P **P 09 42 29.6 +0.4**
WUAZ IAmb IAmb 09 42 37.0
comp=Z,42nm,1.1s
CBKS Cedar Bluff 22.68 357 P **P 09 42 27.9 -1.2**
baz=176
CBKS Cedar Bluff 22.68 357 IAmb IAmb 09 42 50.3
comp=Z,32nm,1.0s
CCM Cathedral Cave 22.71 14 P **P 09 42 28.0 -1.5**
baz=197
CCM Cathedral Cave 22.71 14 P **P 09 42 27.7 -1.8**
CCM IAmb IAmb 09 42 31.3
comp=Z,42nm,1.1s
R40A Maddies Statio 22.71 12 P **P 09 42 28.4 -1.1**
CPCT Cooper Cave 22.81 30 P **P 09 42 28.7 -1.8**
CPCT IAmb IAmb 09 42 31.3
comp=Z,35nm,0.8s
S22A 4UR Ranch, Cre 22.88 342 P **P 09 42 31.3 -0.3**
baz=158,SNR=21
MVCO Mesa Verde 22.94 338 P **P 09 42 31.8 -0.3**
baz=153,SNR=24
MVCO Mesa Verde 22.94 338 IAmb IAmb 09 42 33.4
comp=Z,29nm,1.0s
KSU1 Kansas State U 22.96 3 P **P 09 42 31.3 -0.8**
baz=184
HODGE Hodges 23.04 35 P **P 09 42 30.7 -2.2**
PDMCI Parker Dam,Lak 23.13 325 P **P 09 42 33.4 -0.4**
baz=137,SNR=10
U49A Red Boiling Sp 23.13 26 P **P 09 42 32.3 -1.5**
U49A IAmb IAmb 09 42 35.4
comp=Z,53nm,1.1s
IKP In-Ko-Pah, Jac 23.15 319 P **P 09 42 34.2 0.0**
baz=131
SWSC Sam W. Stewart 23.15 320 P **P 09 42 34.0 -0.1**
baz=132
KSCO Kaye Shedlock' 23.16 351 P **P 09 42 34.0 -0.3**
baz=169,SNR=15
KSCO Kaye Shedlock' 23.16 351 P **P 09 42 33.5 -0.8**
BG3 Lake Jocassee 23.25 33 IAmb IAmb 09 42 36.4
comp=Z,48nm,1.2s
DBBC Dabeiba 23.31 110 *eP* **P 09 42 40.8 +4.9**
TKL Tuckaleechee C 23.34 31 P **P 09 42 35.0 -1.0**
comp=Z,15nm,0.9s,baz=198,slow=12,SNR=20
TKL Tuckaleechee C 23.34 31 IAmb IAmb 09 42 39.1
comp=Z,29nm,1.1s
TKX Tecate 23.42 318 P **P 09 42 35.0 -1.8**
BC3 Big Chuckawall 23.42 321 P **P 09 42 36.9 -0.1**
baz=134,SNR=12
NHSC New Hope 23.48 41 P **P 09 42 36.4 -1.0**
baz=228,SNR=7.2
NHSC New Hope 23.48 41 P **P 09 42 38.0 +0.6**
MONP2 Monument Peak 23.51 319 P **P 09 42 36.9 -1.0**
baz=130
BAR Barrett 23.53 318 P **P 09 42 37.5 -0.4**
V52A Sevierville 23.57 31 P **P 09 42 37.0 -1.3**
W13A Hualapai Mount 23.58 326 P **P 09 42 40.0 +1.4**
Q24A Divide 23.59 346 P **P 09 42 37.1 -1.7**
baz=163
IRM Iron Mountain 23.59 323 P **P 09 42 38.9 +0.3**
baz=135,SNR=15
UREC San Jos de Ur 23.63 108 *eP* **P 09 42 38.0 -1.1**
JSC Jenkinsville 23.64 37 P **P 09 42 37.7 -1.2**
JSC IAmb IAmb 09 42 40.1
comp=Z,34nm,1.0s
PAULI Pauline 23.72 35 P **P 09 42 38.7 -1.0**
NEE2 Needles Airpor 23.74 325 P **P 09 42 39.5 -0.3**
baz=137
P38A Dawn 23.79 9 P **P 09 42 40.0 -0.3**
P38A IAmb IAmb 09 42 41.1
comp=Z,41nm,1.0s
PV01 Paradox Valley 23.79 339 IAmb IAmb 09 42 46.8
comp=Z,32nm,1.1s
U15A North Rim 23.83 331 P **P 09 42 40.9 -0.1**
U15A IAmb IAmb 09 42 44.2
comp=Z,19nm,1.0s
V53A Saluda 23.83 32 IAmb IAmb 09 42 42.1
comp=Z,32nm,1.2s
PV13 Radium Mtn., P 23.90 339 IAmb IAmb 09 42 46.9
comp=Z,21nm,1.1s
PV02 Paradox Valley 23.91 339 IAmb IAmb 09 42 47.9
comp=Z,31nm,1.3s
PV05 Paradox Valley 23.92 338 P **P 09 42 41.6 -0.3**
109C Camp Elliot, M 23.94 318 P **P 09 42 41.2 -0.6**
baz=129
109C Camp Elliot, M 23.94 318 P **P 09 42 41.8 0.0**
PV15 Paradox Valley 23.95 340 P **P 09 42 42.2 +0.1**
PV15 IAmb IAmb 09 42 46.7
comp=Z,41nm,1.0s
P40A Paris 23.95 12 P **P 09 42 40.3 -1.6**
T50A Nancy 23.96 27 IAmb IAmb 09 42 43.8
comp=Z,40nm,1.1s
CBOC Ciudad Bolivar 23.98 113 *eP* **P 09 42 44.6 +2.0**
BELC Belle Mtn. Jos 23.99 321 P **P 09 42 42.4 -0.1**
baz=133,SNR=11
TPFO Pinon Flats 24.00 320 P **P 09 42 42.5 0.0**
baz=132
PFO Pinyon Flats O 24.01 320 P **P 09 42 46.6 +4.0**
comp=Z,3.3nm,0.9s,baz=134,slow=10,SNR=8.9
PFO Pinyon Flats O 24.01 320 P **P 09 42 42.6 0.0**
baz=132
PFO Pinyon Flats O 24.01 320 P **P 09 42 41.8 -0.8**
PV12 Saucer Basin, 24.03 339 P **P 09 42 42.8 -0.1**
PV12 IAmb IAmb 09 42 51.5
comp=Z,34nm,1.2s
PV11 David Mesa, Pa 24.04 339 P **P 09 42 42.9 -0.1**
PV11 IAmb IAmb 09 42 52.4
comp=Z,24nm,1.0s
PV17 East Wray Mesa 24.05 339 P **P 09 42 43.0 -0.1**
PV17 IAmb IAmb 09 42 51.2
comp=Z,24nm,1.3s
PV16 Nyswonger Mesa 24.07 339 P **P 09 42 42.7 -0.6**
PV19 Morning Glory 24.09 339 P **P 09 42 42.6 -0.9**
Q44A Meyer Farm, Va 24.10 18 P **P 09 42 42.6 -0.6**
TZTN Tazewell 24.16 30 P **P 09 42 43.0 -0.8**
baz=216,SNR=20
TZTN Tazewell 24.16 30 P **P 09 42 43.7 -0.2**
OLIL Olney 24.23 19 P **P 09 42 43.6 -0.8**
OLIL IAmb IAmb 09 42 45.4
comp=Z,42nm,0.9s
KMSC Kings Mountain 24.23 35 P **P 09 42 43.9 -0.6**
baz=223,SNR=17
SMCO Snowmass 24.25 343 IAmb IAmb 09 42 50.5
comp=Z,46nm,1.2s
GMRC Granite Mounta 24.34 323 P **P 09 42 45.2 -0.5**
baz=135
ZARC Zaragoza, Cauc 24.35 108 *eP* **P 09 42 46.3 +0.5**
BIRD Birdtown, Kers 24.37 37 P **P 09 42 45.2 -0.5**
WCI Wyandotte Cave 24.40 23 P **P 09 42 45.2 -0.9**
baz=209
WCI Wyandotte Cave 24.40 23 P **P 09 42 45.2 -0.9**
MURC Murrieta 24.46 319 P **P 09 42 46.3 -0.4**
baz=130
ISCO Idaho Springs 24.50 346 P **P 09 42 47.5 +0.3**
baz=162,SNR=35
ISCO Idaho Springs 24.50 346 P **P 09 42 47.7 +0.4**
KNB Kanab 24.55 331 IAmb IAmb 09 42 58.2
comp=Z,19nm,1.0s
N33A J Bar K, Exete 24.56 1 P **P 09 42 47.6 +0.1**
SMLC San Martn de 24.61 104 *eP* **P 09 42 48.8 +0.7**
P43A Skaggs, Pawnee 24.64 16 IAmb IAmb 09 42 50.4
comp=Z,29nm,1.0s
PKCU Pink Cliffs 24.67 332 IAmb IAmb 09 42 58.6
comp=Z,22nm,1.1s
BBRC Big Bear Solar 24.73 320 P **P 09 42 48.4 -0.9**
baz=132
LCMT Little Creek M 24.75 330 P **P 09 42 49.6 +0.2**
HEC Hector,Ludlow 24.76 322 P **P 09 42 49.2 -0.3**
baz=134
V55A Taylorsville 24.82 34 P **P 09 42 50.2 +0.4**
GUY2C Guyana, Caldas 24.85 113 *eP* **P 09 42 53.3 +2.5**
R49A Shelbyville 24.90 25 IAmb IAmb 09 42 52.0
comp=Z,36nm,1.1s
BBAC Balboa, Cauca 24.91 122 *eP* **P 09 42 53.5 +2.5**
TUQ Turquoise Moun 24.95 324 P **P 09 42 51.4 +0.1**
baz=136,SNR=20
X58A Rowland 24.97 39 IAmb IAmb 09 42 53.0
comp=Z,33nm,0.8s
OGNE Ogallala 24.99 353 P **P 09 42 51.8 +0.4**
baz=171,SNR=25
W57A Gilead 25.00 37 P **P 09 42 50.6 -0.8**
OTAV Otavalo 25.04 127 P **P 09 42 55.5 +3.0**

OTAV	Otavalo	25.04	127	eP	P	09 42 56.4	+3.9
POPC	Popayan, Colom	25.08	120	eP	P	09 42 46.3	-6.4
MTPU	Mount Pierson	25.11	333	IAmb	IAmb	09 43 12.7	
	comp=Z,34nm,1.1s						
CIS	Catalina Islan	25.12	317	P	P	09 42 52.6	0.0
	baz=128						
NORC	Norcasia	25.13	112	eP	P	09 42 55.2	+2.2
SZCU	Shurtz Canyon	25.15	331	P	P	09 42 53.5	+0.4
BFSC	Mount Baldy Ra	25.17	319	P	P	09 42 53.3	+0.1
	baz=131						
TOLC	Tolima	25.18	115	eP	P	09 42 56.0	+2.3
RRX	Edison Barstow	25.19	321	P	P	09 42 52.7	-0.5
	baz=133						
BGNE	Belgrade	25.22	0	P	P	09 42 53.2	-0.3
	baz=180						
R50A	Paris	25.24	26	P	P	09 42 53.0	-0.6
SHPR	Sheep Range	25.32	327	P	P	09 42 54.4	-0.2
N41A	Harden Midland	25.33	13	P	P	09 42 53.3	-1.2
GSC	Goldstone, Bar	25.37	322	P	P	09 42 54.6	-0.4
	baz=134,SNR=11						
GSC	Goldstone, Bar	25.37	322	P	P	09 42 55.4	+0.4
MWC	Mount Wilson	25.41	319	P	P	09 42 55.3	-0.2
Q16A	Castle Valley	25.44	336	P	P	09 42 55.3	-0.4
Q16A				IAmb	IAmb	09 43 05.3	
	comp=Z,24nm,1.0s						
SHOC	Shoshone, Teco	25.49	324	P	P	09 42 55.6	-0.3
	baz=136						
MSU	Marysvale	25.50	334	P	P	09 42 56.8	+0.5
O20A	White River Ci	25.51	342	P	P	09 42 56.4	+0.2
	baz=157,SNR=13						
O20A	White River Ci	25.51	342	IAmb	IAmb	09 43 03.0	
	comp=Z,53nm,1.4s						
HDIL	Hopedale	25.56	16	P	P	09 42 56.3	-0.2
	baz=200,SNR=14						
HDIL	Hopedale	25.56	16	P	P	09 42 55.1	-1.4
ORTC	Ortega, Tolima	25.58	116	eP	P	09 42 57.2	+0.2
N23A	Red Feather La	25.61	346	P	P	09 42 57.9	+0.6
	baz=162,SNR=13						
U56A	King	25.64	35	P	P	09 42 56.8	-0.4
TCRU	Three Creeks R	25.70	334	P	P	09 42 57.9	-0.2
P17A	Butcher Ranch,	25.75	337	P	P	09 42 58.0	-0.5
TMUT	Trail Mountain	25.78	336	P	P	09 42 57.7	-1.1
EDW2	Edwards Air Fo	25.80	320	P	P	09 43 00.2	+1.4
	baz=131,SNR=5.4						
P48A	Milroy	25.81	23	IAmb	IAmb	09 43 00.2	
	comp=Z,22nm,0.9s						
L34A	Svendsen Farm,	25.83	3	IAmb	IAmb	09 43 07.5	
	comp=Z,21nm,0.8s						
PHWY	Pilot Hill	25.90	347	IAmb	IAmb	09 43 03.0	
	comp=Z,21nm,1.1s						
PRN	Pahroc Range	25.95	328	IAmb	IAmb	09 43 14.3	
	comp=Z,22nm,1.2s						
LRMC	Laurel Mtn Rad	26.01	322	P	P	09 43 00.7	-0.1
	baz=132						
SFIN	Lafayette	26.04	20	P	P	09 43 00.7	-0.2
	baz=205,SNR=9.8						
SFIN	Lafayette	26.04	20	P	P	09 43 00.1	-0.8
SCIA	State Center	26.07	8	P	P	09 43 00.9	-0.3
	baz=191,SNR=8.5						
SCIA	State Center	26.07	8	P	P	09 43 00.7	-0.5
OSI	Osito Audit: C	26.08	319	P	P	09 43 01.0	-0.4
	baz=129						
P49A	Miami Univ. Ec	26.14	24	P	P	09 43 01.2	-0.6
	baz=210,SNR=34						
FURC	Furnace Creek,	26.22	324	P	P	09 43 03.2	+0.7
	baz=135						
BARC	Barichara	26.23	108	eP	P	09 43 05.4	+2.3
TPNV	Topopah Spring	26.24	326	P	P	09 43 03.4	+0.5
	baz=137,SNR=12						
TPNV	Topopah Spring	26.24	326	IAmb	IAmb	09 43 13.7	
	comp=Z,37nm,1.4s						
S54A	Dingess, Beckl	26.24	31	IAmb	IAmb	09 43 06.7	
	comp=Z,24nm,0.9s						
BLA	Blacksburg	26.25	33	P	P	09 43 02.2	-0.7
	baz=222,SNR=8.1						
BLA	Blacksburg	26.25	33	IAmb	IAmb	09 43 05.3	
	comp=Z,24nm,0.9s						
PSUT	Pine Spring	26.26	331	P	P	09 43 02.8	-0.4
CNNC	Cliffs of the	26.32	40	P	P	09 43 03.1	-0.3
	baz=229						
RDMU	Red Mountain	26.32	340	IAmb	IAmb	09 43 13.2	
	comp=Z,31nm,1.2s						
PAMC	Pamplona, Colo	26.39	106	eP	P	09 43 06.2	+1.4
K31A	O'Neill	26.44	359	IAmb	IAmb	09 43 10.4	
	comp=Z,32nm,1.1s						
ARVC	Arvin	26.48	320	P	P	09 43 04.7	-0.2
	baz=130						
L40A	Anamosa	26.56	12	IAmb	IAmb	09 43 06.6	
	comp=Z,22nm,0.9s						
CHIC	Chingaza	26.56	113	eP	P	09 43 11.8	+5.4
RUSC	La Rusia	26.60	110	P	P	09 43 05.3	-1.4
RUSC				IAmb	IAmb	09 43 18.1	
	comp=Z,28nm,1.3s						
RUSC	La Rusia	26.60	110	eP	P	09 43 07.4	+0.7
ISA	Isabella, Lake	26.61	321	P	P	09 43 06.4	+0.2
	baz=132						
RWWY	Rawlins	26.67	345	IAmb	IAmb	09 43 16.3	
	comp=Z,32nm,1.3s						
M44A	Midewin, Midew	26.68	17	IAmb	IAmb	09 43 07.7	
	comp=Z,45nm,1.1s						
P51A	Williamsport	26.78	27	P	P	09 43 07.3	-0.3
L42A	Oliver, Polo	26.84	14	IAmb	IAmb	09 43 08.8	
	comp=Z,36nm,0.9s						
GRAC	Grapevine Rang	26.88	324	P	P	09 43 09.0	+0.4
	baz=135						
R11A	Troy Canyon, C	26.95	329	P	P	09 43 09.3	0.0
	baz=140,SNR=5.4						
R11A	Troy Canyon, C	26.95	329	P	P	09 43 09.8	+0.5
PKM	Mcpherson Peak	26.95	318	P	P	09 43 08.8	-0.6
	baz=128						
N47A	Urbana	26.96	21	P	P	09 43 08.4	-0.8
VES	Vestal, Richgr	27.10	320	P	P	09 43 10.6	+0.1
	baz=131						
HQIL	Hanson Quary C	27.11	17	P	P	09 43 10.2	-0.3
DUG	Dugway, Tooele	27.18	335	P	P	09 43 11.2	-0.1
	baz=148,SNR=6.8						
DUG	Dugway, Tooele	27.18	335	P	P	09 43 11.3	-0.1
R55A	Marlinton	27.22	32		P	09 43 10.8	-0.8
R55A				IAmb	IAmb	09 43 17.2	
	comp=Z,32nm,0.9s						
P52A	Corning	27.31	28	P	P	09 43 11.1	-1.3
	baz=215						
P52A	Corning	27.31	28	IAmb	IAmb	09 43 17.7	
	comp=Z,22nm,0.9s						
SMMC	Simmler	27.33	319	P	P	09 43 12.2	-0.4
	baz=128						
TIN	Tinemaha, Big	27.41	323	P	P	09 43 13.7	+0.2
	baz=134						
K22A	Casper	27.42	347	P	P	09 43 13.3	-0.2
	baz=162						
K22A	Casper	27.42	347	P	P	09 43 13.0	-0.5
ACSO	Alum Creek Sta	27.44	26	P	P	09 43 12.9	-0.6
	baz=213,SNR=7.1						
ACSO	Alum Creek Sta	27.44	26	IAmb	IAmb	09 43 20.0	
	comp=Z,21nm,0.8s						
S57A	Dark Hollow, R	27.45	34	IAmb	IAmb	09 43 15.9	
	comp=Z,28nm,1.1s						
L44A	Lake County Fo	27.45	17	P	P	09 43 12.8	-0.7
	baz=202						
P53A	Whipple	27.53	29	IAmb	IAmb	09 43 37.8	
	comp=Z,14nm,0.9s						
N49A	Columbus Grove	27.55	23	IAmb	IAmb	09 43 17.7	
	comp=Z,16nm,0.9s						
JFWS	Jewell Farm	27.57	13	P	P	09 43 14.0	-0.7
	baz=196						
JFWS	Jewell Farm	27.57	13	IAmb	IAmb	09 43 17.8	
	comp=Z,28nm,1.1s						
ECSD	EROS Data Cent	27.58	2	P	P	09 43 14.1	-0.7
	baz=183						
TPH	Tonopah	27.59	326	IAmb	IAmb	09 43 24.4	
	comp=Z,31nm,1.1s						
T59A	Double "B" Far	27.68	37	IAmb	IAmb	09 43 18.2	
	comp=Z,28nm,1.1s						
O52A	Adamsville	27.84	28	IAmb	IAmb	09 43 22.6	
	comp=Z,15nm,0.9s						
I37A	Lemond, Waseca	28.12	7	IAmb	IAmb	09 43 23.3	
	comp=Z,18nm,1.1s						
MLAC	Mammoth, Mammo	28.16	324	P	P	09 43 19.7	-0.6
	baz=134						
O53A	New Philadelph	28.23	28	P	P	09 43 19.3	-1.2
	baz=216						
SUSD	Miller	28.27	359	P	P	09 43 20.0	-0.8
	baz=178						
Q56A	Snyder Ridge,	28.27	32	IAmb	IAmb	09 43 24.8	
	comp=Z,17nm,1.1s						
MDPB	Devils Postpil	28.30	323	P	P	09 43 22.0	+0.4
BW06	Boulder Array	28.31	342	P	P	09 43 21.5	-0.1
	baz=156,SNR=15						
BW06	Boulder Array	28.31	342	IAmb	IAmb	09 43 31.2	
	comp=Z,18nm,1.4s						
PD31	Pinedale Array	28.31	342	P	P	09 43 20.5	-1.1
PDAR	Pinedale Array	28.31	342	P	P	09 43 21.4	-0.2
	comp=Z,8.5nm,1.2s,baz=148,slow=7.0,SNR=26						
PDAR				LR	LR	09 55 56.0	
	comp=Z,310nm,18.9s,baz=166,slow=39						
L48A	N Adams	28.34	22	IAmb	IAmb	09 43 25.8	
	comp=Z,23nm,0.8s						
RSSD	Black Hills	28.38	351	P	P	09 43 22.3	+0.3
	baz=168						
RSSD	Black Hills	28.38	351	P	P	09 43 20.6	-1.5
MCWV	Mont Chateau	28.41	31	P	P	09 43 21.5	-0.7
	baz=220						
MCWV	Mont Chateau	28.41	31	P	P	09 43 21.2	-0.9
MCWV				IAmb	IAmb	09 43 30.9	
	comp=Z,14nm,0.9s						
NVAR	Mina Array Bea	28.43	325	P	P	09 43 23.2	+0.6
	comp=Z,4.4nm,0.9s,baz=153,slow=9.9,SNR=22						
NVAR				PcP	PcP	09 46 34.4	-0.4
	comp=Z,0.8nm,0.8s,baz=163,slow=3.3,SNR=2.8						
O54A	Avella	28.56	29	IAmb	IAmb	09 43 26.8	
	comp=Z,28nm,1.4s						
CBN	Corbin Frederi	28.64	36	P	P	09 43 23.7	-0.4
	baz=226						
ELK	Elko	28.68	332	P	P	09 43 25.3	+0.5
	comp=Z,1.7nm,1.0s,baz=151,slow=8.5,SNR=5.1						
ELK	Elko	28.68	332	P	P	09 43 23.5	-1.4
RYN	Ryan	28.69	325	P	P	09 43 24.0	-0.9
I42A	Draeger Farm,	28.80	14	P	P	09 43 23.5	-2.1
I42A				IAmb	IAmb	09 43 29.0	
	comp=Z,24nm,1.3s						
N53A	Lisbon	28.84	28	P	P	09 43 24.4	-1.6
N53A				IAmb	IAmb	09 43 28.4	
	comp=Z,18nm,1.1s						
AAM	Ann Arbor	28.94	23	P	P	09 43 25.2	-1.7
	baz=210						
SNOW	Snow King Moun	29.31	341	IAmb	IAmb	09 43 35.4	
	comp=Z,21nm,1.2s						
N54A	Moraine State	29.36	29	P	P	09 43 29.1	-1.4
	baz=218						
SPMN	Marine on St.	29.39	8	P	P	09 43 29.8	-1.0
	baz=190						
SPMN	Marine on St.	29.39	8	IAmb	IAmb	09 43 35.6	
	comp=Z,18nm,1.3s						
TPAW	Teton Pass	29.40	341	IAmb	IAmb	09 43 36.4	
	comp=Z,15nm,1.1s						
LOHW	Long Hollow	29.40	341	P	P	09 43 30.3	-0.9
LOHW				IAmb	IAmb	09 43 41.0	
	comp=Z,21nm,1.4s						
M53A	WI Miller and	29.43	27	P	P	09 43 29.8	-1.4
	baz=216						
O56A	Blue Knob Stat	29.51	31	P	P	09 43 30.5	-1.5
	baz=221						
O56A	Blue Knob Stat	29.51	31	P	P	09 43 30.8	-1.2
PNTR	Pine Nut	29.61	325	IAmb	IAmb	09 43 39.6	
	comp=Z,16nm,1.3s						
VCNR	Virginia City	29.78	325	P	P	09 43 34.5	-0.1
G40A	Rib Lake	29.85	11	IAmb	IAmb	09 43 38.1	
	comp=Z,25nm,1.4s						
M54A	Oil Creek Stat	29.94	29	P	P	09 43 34.8	-1.0
	baz=218						
M54A	Oil Creek Stat	29.94	29	IAmb	IAmb	09 43 36.8	
	comp=Z,14nm,1.1s						
SSPA	Standing Stone	30.12	32	P	P	09 43 35.5	-1.9
	baz=222						
SSPA	Standing Stone	30.12	32	P	P	09 43 35.9	-1.4
SSPA				IAmb	IAmb	09 43 41.5	
	comp=Z,14nm,1.2s						
ERPA	Erie	30.28	27	P	P	09 43 37.1	-1.6
	baz=216						
M55A	Ridgway	30.33	30	IAmb	IAmb	09 43 40.1	
	comp=Z,15nm,1.0s						
RLMT	Red Lodge	30.41	344	P	P	09 43 40.2	+0.1
	baz=158,SNR=6.6						
YNE	Yellowstone No	30.50	343	P	P	09 43 41.1	+0.1
YHH	Holmes Hill	30.54	342	P	P	09 43 41.4	0.0
P60A	Greenville	30.73	35	P	P	09 43 41.3	-1.4
	baz=226						
GLMI	Grayling	30.84	19	P	P	09 43 42.0	-1.7
	baz=206						
M57A	Sunshine Farm,	31.03	32	P	P	09 43 44.6	-0.8
WVNY	West Valley, N	31.13	29	IAmb	IAmb	09 43 47.3	
	comp=Z,20nm,1.1s						
LAO	LASA Array	31.23	349	P	P	09 43 46.6	-0.6
	baz=165						
LUPA	Lehigh Univers	31.42	34	IAmb	IAmb	09 43 52.3	
	comp=Z,11nm,0.9s						
N59A	State Game Lan	31.43	34	P	P	09 43 47.6	-1.3
	baz=225						
BOZ	Bozeman (W)	31.51	342	P	P	09 43 50.0	+0.3
	baz=154,SNR=7.6						
WVOR	Wild Horse Val	31.57	330	IAmb	IAmb	09 43 57.0	
	comp=Z,17nm,1.2s						
DLMT	Dillon	31.60	340	IAmb	IAmb	09 44 01.0	
	comp=Z,20nm,1.2s						
E43A	Lone Tree Farm	31.60	15	IAmb	IAmb	09 44 12.1	
	comp=Z,9.1nm,0.9s						
O03E	Paynes Creek	31.67	324	P	P	09 43 50.7	-0.5
	baz=132						
MDND	Maddock	31.69	358	P	P	09 43 51.1	0.0
	baz=177,SNR=15						
K56A	Middlesex	31.96	30	P	P	09 43 52.6	-0.9
	baz=220,SNR=7.1						
AGMN	Agassiz Nation	32.17	3	P	P	09 43 54.6	-0.8
	baz=184,SNR=8.6						
AGMN	Agassiz Nation	32.17	3	P	P	09 43 54.1	-1.2
AGMN				IAmb	IAmb	09 44 00.4	
	comp=Z,18nm,1.1s						
ODNJ	Ogdensburg	32.17	35	IAmb	IAmb	09 43 58.5	
	comp=Z,11nm,1.0s						
L58A	Harry Jones Me	32.20	32	P	P	09 43 55.3	-0.4
	baz=223						
J08A	Circle Bar Ran	32.21	332	IAmb	IAmb	09 44 02.0	
	comp=Z,21nm,1.2s						
BINY	Binghamton	32.24	32	P	P	09 43 55.1	-0.9
	baz=223						
BINY	Binghamton	32.24	32	P	P	09 43 55.6	-0.4
BINY				IAmb	IAmb	09 43 57.1	
	comp=Z,12nm,1.0s						
E46A	Sault Ste Mari	32.32	18	IAmb	IAmb	09 43 58.4	
	comp=Z,12nm,1.0s						
B35A	Bob, Littlefor	32.38	6	IAmb	IAmb	09 44 00.6	
	comp=Z,11nm,1.0s						
TRNY	Table Rock, Ra	32.42	35	P	P	09 43 57.5	-0.2
TRNY				IAmb	IAmb	09 43 58.7	
	comp=Z,25nm,1.3s						
PAL	Palisades	32.50	35	P	P	09 43 57.5	-0.8
	baz=227						
J56A	Wolcott	32.62	30	IAmb	IAmb	09 44 00.2	
	comp=Z,27nm,1.4s						
N02D	Trinity Center	32.63	324	P	P	09 43 58.4	-1.2
	baz=132						
M04C	Macdoel	32.72	326	P	P	09 43 59.9	-0.4
	baz=134,SNR=8.9						
KMRM	Mail Ridge	32.72	322	IAmb	IAmb	09 44 07.2	
	comp=Z,15nm,1.3s						
L59A	Walton	32.72	33	IAmb	IAmb	09 44 03.6	
	comp=Z,12nm,1.1s						
SADO	Sadowa	32.79	25	IAmb	IAmb	09 44 00.8	
	comp=Z,11nm,1.1s						
M02C	Callahan	33.00	325	P	P	09 44 01.9	-0.8
	baz=132						
PECO	Prince Edward	33.06	29	IAmb	IAmb	09 44 03.8	
	comp=Z,19nm,1.5s						
J57A	Williamstown	33.13	30	P	P	09 44 02.6	-1.2
J57A				IAmb	IAmb	09 44 07.8	
	comp=Z,19nm,1.1s						
KSCT	Kent School, K	33.23	35	IAmb	IAmb	09 44 08.9	
	comp=Z,12nm,1.0s						
DELO	Deloro Mine	33.23	27	IAmb	IAmb	09 44 09.6	
	comp=Z,14nm,1.2s						
EGMT	Eagleton	33.24	346	P	P	09 44 04.1	-0.7
	baz=159						
L04D	Klamath Falls	33.27	326	P	P	09 44 04.5	-0.7
	baz=134						
MSO	Missoula	33.33	340	P	P	09 44 05.0	-0.7
	baz=151,SNR=5.6						
MSO	Missoula	33.33	340	P	P	09 44 04.7	-1.0
J58A	Remsen	33.44	31	P	P	09 44 05.3	-1.3
	baz=223						
J05D	Fort Rock, OR	33.48	329	P	P	09 44 05.9	-1.1
	baz=137						
I57A	Carthage	33.69	30	P	P	09 44 07.7	-0.9
	baz=222						
F10A	Beach Ranch, E	33.78	336	IAmb	IAmb	09 44 15.1	
	comp=Z,21nm,1.1s						
I58A	Old Forge	33.84	31	P	P	09 44 09.9	-0.1
	baz=223,SNR=7.0						
J04D	Umpqua Nationa	33.89	328	P	P	09 44 10.1	-0.6
	baz=135						
G08A	Pilot Rock	33.95	333	IAmb	IAmb	09 44 16.3	
	comp=Z,9.5nm,1.2s						
K61A	Williamstown	33.99	34	P	P	09 44 10.7	-0.7
	baz=226,SNR=9.4						
ULM	Lac du Bonnet	34.12	3	P	P	09 44 10.6	-1.7
	comp=Z,5.9nm,1.0s,baz=191,slow=8.9,SNR=7.4						
ULM				LR	LR	09 58 24.5	
	comp=Z,141nm,19.9s,baz=186,slow=37						
ULM	Lac du Bonnet	34.12	3	IAmb	IAmb	09 44 12.4	
	comp=Z,15nm,1.2s						
L61B	Northampton	34.16	35	P	P	09 44 11.6	-1.1
	baz=228						
ALGO	Algonquin Park	34.20	25	P	P	09 44 12.2	-0.9
	baz=216						
H57A	Richville	34.21	30	P	P	09 44 12.1	-1.0
	baz=222						
JTMT	Jette	34.25	341	IAmb	IAmb	09 44 19.1	
	comp=Z,11nm,1.3s						
I05D	Terrebonne, OR	34.30	330	P	P	09 44 13.0	-1.1
	baz=198						
J60A	Lant Hill Farm	34.31	33	P	P	09 44 12.4	-1.7
	baz=226						
K02D	Willamette Mer	34.33	326	P	P	09 44 13.1	-1.2
	baz=132						
L63A	North Scituate	34.37	36	P	P	09 44 13.6	-1.0
	baz=230						
I04A	Tendick Farm,	34.44	328	P	P	09 44 13.7	-1.6
	baz=136						
I59A	Olmsteadville	34.47	32	P	P	09 44 14.4	-1.0
	baz=224						
K62A	Royalston	34.55	35	P	P	09 44 15.0	-1.1
	baz=228						
LONY	Lake Ozonia	34.71	30	P	P	09 44 16.6	-1.0
	baz=222						
LONY	Lake Ozonia	34.71	30	IAmb	IAmb	09 44 21.9	
	comp=Z,18nm,1.3s						
H58A	Gabriels	34.76	31	P	P	09 44 16.7	-1.3
	baz=223						
J01E	Myrtle Point	34.79	326	P	P	09 44 18.6	+0.5
	baz=133						
I60A	Shoreham	34.80	32	P	P	09 44 17.3	-0.9
	baz=225						
HRV	Adam Dziewonsk	34.81	35	P	P	09 44 18.1	-0.3
	baz=229						
J61A	Chester	34.84	34	P	P	09 44 18.1	-0.5
	baz=227						
I03D	Drain, OR	34.85	327	P	P	09 44 18.6	-0.1
	baz=134						
L64A	Middleborough	34.85	37	P	P	09 44 17.8	-1.0
	baz=231						
K63A	Dunstable	34.95	35	P	P	09 44 19.3	-0.3
	baz=229						
G05D	Wamic, OR	34.97	331	P	P	09 44 20.0	+0.3
	baz=138						
H04A	Detroit Lake	34.97	330	IAmb	IAmb	09 44 25.0	
	comp=Z,12nm,1.2s						
H04D	Lebanon	35.12	329	P	P	09 44 20.8	-0.3
	baz=136						
J62A	Henniker	35.15	34	P	P	09 44 20.9	-0.4
	baz=228						
H59A	Cadyville	35.17	31	P	P	09 44 20.3	-1.2
	baz=224						
I02D	Swisshome	35.39	327	P	P	09 44 23.6	+0.2
	baz=134						
I61A	Oroboro, Fairl	35.42	33	P	P	09 44 23.7	0.0
	baz=227						
F05D	White Salmon	35.52	332	P	P	09 44 24.5	0.0
	baz=139						
J63A	Strafford	35.59	35	P	P	09 44 24.5	-0.5
	baz=229						
H60A	Morristown	35.60	32	P	P	09 44 25.1	-0.1
	baz=225						
NEW	Newport	35.66	338	P	P	09 44 24.4	-1.3
	baz=147						
LBNH	Lisbon	35.78	33	P	P	09 44 25.2	-1.6
	baz=227						
I62A	Tamworth	35.84	34	P	P	09 44 26.3	-1.0
	baz=228,SNR=8.5						
I62A	Tamworth	35.84	34	P	P	09 44 27.5	+0.2
G03D	McMinnville, O	35.88	329	P	P	09 44 26.7	-0.8
	baz=136						
H61A	Lyndonville	35.98	33	P	P	09 44 26.5	-1.9
	baz=226						
G60A	Masonville	36.17	32	P	P	09 44 28.9	-1.1
	baz=225						
LTY	Liberty	36.23	334	IAmb	IAmb	09 44 36.6	
	comp=Z,22nm,1.2s						
I63A	Otisfield	36.37	34	P	P	09 44 30.2	-1.6
	baz=229						
I63A	Otisfield	36.37	34	IAmb	IAmb	09 44 35.7	
	comp=Z,20nm,1.1s						
H62A	Milan	36.41	33	P	P	09 44 31.5	-0.7
	baz=227						
E04D	Cinebar	36.53	331	P	P	09 44 32.6	-0.5
	baz=138						
B08A	Colville Reser	36.56	336	IAmb	IAmb	09 44 39.0	
	comp=Z,15nm,1.4s						
G61A	St-Isidore-de-	36.70	32	P	P	09 44 33.5	-1.1
	baz=226						
D05A	Enumclaw	36.75	333	P	P	09 44 34.0	-0.9
D05A				IAmb	IAmb	09 44 40.9	
	comp=Z,14nm,1.1s						
I64A	Boothbay	36.80	35	P	P	09 44 34.2	-1.2
	baz=230						
LSQQ	Lebel-sur-Quev	37.15	23	P	P	09 44 37.5	-0.8
	baz=215						
G62A	West of Eustis	37.17	33	P	P	09 44 37.6	-1.0
	baz=228						
G62A	West of Eustis	37.17	33	IAmb	IAmb	09 44 42.9	
	comp=Z,18nm,1.0s						
D58A	Chemin du LacG	37.34	29	P	P	09 44 39.0	-1.0
	baz=223						
MATQ	Matagami	37.48	22	P	P	09 44 38.7	-2.5
	baz=214,SNR=8.2						
H64A	Troy	37.49	35	P	P	09 44 40.5	-0.8
	baz=230						
D03D	Eldon	37.50	332	P	P	09 44 40.7	-0.7
	baz=138						
E60A	Ste Agathe de	37.50	31	P	P	09 44 39.9	-1.4
	baz=225						
G63A	Kingsbury	37.59	34	P	P	09 44 41.0	-1.2
	baz=229						
LATQ	La Tuque	37.60	29	P	P	09 44 41.2	-1.0
	baz=222						
B05A	Bryant	37.62	334	P	P	09 44 41.2	-1.1
	baz=140						
PKME	Peaks-Kenny Pk	37.86	34	P	P	09 44 42.6	-1.8
	baz=229						
F62A	Pittston Farm,	37.92	32	P	P	09 44 44.0	-0.9
	baz=228						
E61A	Lac Etchemin	38.02	31	P	P	09 44 43.9	-2.0
	baz=226						
H65A	Eastbrook	38.06	35	P	P	09 44 44.6	-1.5
	baz=231						
G64A	Maxfield	38.14	34	P	P	09 44 45.5	-1.3
	baz=230						
D60A	Saint Jean D'O	38.14	31	P	P	09 44 45.6	-1.2
	baz=226						
A04D	Lummi Island	38.23	334	P	P	09 44 47.1	-0.3
	baz=140						
F63A	Nahmakanta, Br	38.25	33	P	P	09 44 46.6	-1.1
	baz=229						
EMMW	East Machias	38.51	36	IAmb	IAmb	09 44 51.9	
	comp=Z,16nm,1.0s						
E62A	Clayton Lake	38.64	32	P	P	09 44 49.7	-1.3
	baz=228

	comp=Z,16nm,1.0s					
CHGQ	Chibougamau	38.84	25	P	P	09 44 51.6 -1.1
	baz=218,SNR=5.1					
E63A	Oxbow	39.08	33	P	P	09 44 53.7 -0.9
	baz=229					
E63A	Oxbow	39.08	33	P	P	09 44 54.5 -0.1
E63A				IAmb	IAmb	09 44 55.9
	comp=Z,17nm,1.1s					
GGN	Saint George	39.11	36	P	P	09 44 55.4 +0.5
GGN				IAmb	IAmb	09 44 59.8
	comp=Z,27nm,1.4s					
D62A	Allapoint, All	39.19	32	P	P	09 44 55.2 -0.3
	baz=228,SNR=6.8					
D62A	Allapoint, All	39.19	32	IAmb	IAmb	09 44 56.9
	comp=Z,18nm,1.1s					
E64A	Bridgewater	39.39	33	P	P	09 44 56.2 -1.0
	baz=230					
D63A	Stockholm	39.64	32	P	P	09 44 57.1 -2.3
	baz=229					
PTGA	Pitinga	41.25	110	P	P	09 45 12.5 -0.6
	comp=Z,0.9nm,0.3s,baz=330,slow=20,SNR=1.5					
LPAZ	La Paz	43.75	136	P	P	09 45 35.3 +1.3
	comp=Z,0.7nm,0.7s,baz=242,slow=10,SNR=2.3					
LPAZ				LR	LR	10 02 35.9
	comp=Z,166nm,18.0s,baz=310,slow=34					
LPAZ	La Paz	43.75	136		P	09 45 36.0 +2.0
CRAG	Craig	47.53	334	P	P	09 46 01.0 -1.7
	baz=132					
YKA	Yellowknife Ar	47.77	350	P	P	09 46 03.3 -1.2
	comp=Z,6.3nm,0.9s,baz=153,slow=7.8,SNR=6.3					
YKA				LR	LR	10 09 45.3
	comp=Z,166nm,19.2s,baz=0.0,slow=41					
WRAK	Wrangell Islan	47.86	335	P	P	09 46 03.6 -1.6
	baz=133					
PB15	IPOC Station P	48.10	144	IAmb	IAmb	09 46 10.2
	comp=Z,7.5nm,0.7s					
DLBC	Dease Lake	48.41	338	P	P	09 46 10.9 +1.2
DLBC				IAmb	IAmb	09 46 16.8
	comp=Z,12nm,1.2s					
SIT	Sitka	49.51	334	P	P	09 46 16.5 -1.4
	baz=130					
SKAG	Skagway	51.09	337	P	P	09 46 29.0 -0.9
	baz=132					
WHY	Whitehorse	51.73	338	P	P	09 46 34.0 -0.8
	baz=133					
H03N2	Juan Fernandez	52.57	160	T	T	10 43 31.5
	baz=337,slow=77					
H03N1	Juan Fernandez	52.58	160	T	T	10 43 32.7
	baz=337,slow=77					
H03N3	Juan Fernandez	52.59	160	T	T	10 43 31.6
	baz=337,slow=77					
HYT	Haines Junctio	52.81	337	IAmb	IAmb	09 46 45.5
	comp=Z,16nm,1.3s					
PINM	Pinnacle	53.42	335	P	P	09 46 45.7 -1.6
	baz=126					
MESA	MESA	54.16	335	P	P	09 46 51.2 -1.7
	baz=125					
CRQE	Cirque	54.95	335	P	P	09 46 57.4 -1.1
	baz=124					
GLB	Gilahina Butte	55.63	335	P	P	09 47 02.8 -0.5
GLB				IAmb	IAmb	09 47 05.2
	comp=Z,7.5nm,1.0s					
C36M	Paulatuk	55.64	349	P	P	09 47 01.6 -1.6
	baz=149					
BMRM	Bremner River	55.69	335	P	P	09 47 02.5 -1.3
	baz=122					
L27K	Beaver Creek,	55.80	338	P	P	09 47 03.6 -0.9
	baz=126,SNR=9.5					
L27K	Beaver Creek,	55.80	338	IAmb	IAmb	09 47 06.2
	comp=Z,8.6nm,1.1s					
EYAK	Cordova Ski Ar	55.95	334	P	P	09 47 04.0 -1.5
	baz=121					
N25K	Chitina, Valde	56.03	335	P	P	09 47 04.1 -2.1
	baz=123					
N25K	Chitina, Valde	56.03	335	IAmb	IAmb	09 47 13.7
	comp=Z,13nm,1.3s					
EPYK	Eagle Plains	56.28	342	P	P	09 47 05.7 -2.2
	baz=134					
L26K	Log Cabin Wild	56.34	337	P	P	09 47 06.3 -2.1
	baz=125					
MENT	Mentasta	56.43	337	P	P	09 47 08.1 -0.9
MENT				IAmb	IAmb	09 47 13.2
	comp=Z,9.6nm,1.2s					
K27K	Chicken	56.47	339	P	P	09 47 07.6 -1.7
	baz=127					
KLU	Klutina	56.51	335	P	P	09 47 08.0 -1.7
	baz=121					
KLU	Klutina	56.51	335	P	P	09 47 10.6 +0.9
KLU				IAmb	IAmb	09 47 16.0
	comp=Z,11nm,1.0s					
EGAK	Eagle	56.62	340	P	P	09 47 09.5 -0.8
	baz=128,SNR=7.5					
EGAK	Eagle	56.62	340	P	P	09 47 09.3 -0.9
EGAK				IAmb	IAmb	09 47 16.1
	comp=Z,7.6nm,1.0s					
HARP	HAARP	56.69	336	P	P	09 47 10.1 -0.7
	baz=123					
INK	Inuvik	56.82	345	P	P	09 47 10.6 -1.0
	baz=138,SNR=6.7					
INK	Inuvik	56.82	345	P	P	09 47 10.8 -0.8
INK				IAmb	IAmb	09 47 16.9
	comp=Z,14nm,1.1s					
M24K	Tolsona, Glenn	56.93	335	P	P	09 47 12.0 -0.6
	baz=121					
SCRK	Sand Creek	57.12	338	P	P	09 47 14.0 0.0
	baz=125,SNR=11					
SCRK	Sand Creek	57.12	338	IAmb	IAmb	09 47 22.6
	comp=Z,18nm,1.4s					
RIDG	Independent Ri	57.30	337	P	P	09 47 14.3 -1.0
	baz=124,SNR=12					
SML	Sawmill	57.66	334	P	P	09 47 16.4 -1.4
	baz=119					
WAT6	Susitna Watana	57.80	335	P	P	09 47 17.8 -1.1
	baz=120,SNR=5.8					
KDAK	Kodiak Island	57.84	329	P	P	09 47 19.3 +0.3
	baz=112					
GHO	Glory Hole Cre	57.89	334	P	P	09 47 18.7 -0.7
GHO				IAmb	IAmb	09 47 23.1
	comp=Z,12nm,1.0s					
RC01	Rabbit Creek A	57.91	333	P	P	09 47 19.5 0.0
	baz=117					
CPUP	Villa Florida	57.92	136	LR	LR	10 11 27.6
	comp=Z,78nm,18.3s,baz=258,slow=35					
OHAK	Old Harbor	57.98	328	P	P	09 47 19.7 -0.3
	baz=111					
PMOR	Pomariorio Ree	58.02	240	*e*T	T	10 49 24.8
	comp=Z,2.7nm,0.2s					
WAT1	Susitna Watana	58.25	335	P	P	09 47 21.2 -0.7
	baz=119					
HDA	Harding Lake	58.45	337	P	P	09 47 22.4 -0.8
	baz=122					
HDA	Harding Lake	58.45	337	IAmb	IAmb	09 47 30.8
	comp=Z,6.7nm,1.0s					
SUA	Susitna One	58.52	333	P	P	09 47 22.8 -1.1
	baz=116					
PRP	Porcupine Dome	58.54	339	P	P	09 47 23.8 -0.2
	baz=124,SNR=6.5					
PRP	Porcupine Dome	58.54	339	IAmb	IAmb	09 47 29.7
	comp=Z,14nm,1.2s					
ILAR	Eielson Array	58.62	338	P	P	09 47 23.9 -0.5
	comp=Z,5.4nm,1.0s,baz=140,slow=4.9,SNR=43					
ILAR				LR	LR	10 11 59.9
	comp=Z,186nm,18.6s,baz=140,slow=35					
RND	Reindeer	58.66	336	P	P	09 47 24.0 -0.7
CUT	Chulitna	58.75	335	P	P	09 47 24.9 -0.3
	baz=117					
MCK	McKinley	58.85	336	P	P	09 47 25.4 -0.6
	baz=119					
MCK	McKinley	58.85	336	IAmb	IAmb	09 47 34.9
	comp=Z,9.9nm,1.1s					
P19K	Oil Pt	58.88	331	P	P	09 47 24.8 -1.5
	baz=113					
WRH	Wood River Hil	58.90	337	IAmb	IAmb	09 47 30.7
	comp=Z,8.3nm,1.0s					
POKR	Poker Plat Res	59.00	338	P	P	09 47 24.7 -2.3
	baz=122					
COLA	College	59.02	338	P	P	09 47 26.5 -0.6
	baz=121					
COLA	College	59.02	338	P	P	09 47 25.4 -1.7
COLA				IAmb	IAmb	09 47 27.6
	comp=Z,8.9nm,1.1s					
TCOL	CIGO, UAF Yank	59.03	338	P	P	09 47 26.7 -0.4
	baz=121					
TCOL	CIGO, UAF Yank	59.03	338	P	P	09 47 26.5 -0.6
TCOL				IAmb	IAmb	09 47 32.3
	comp=Z,8.5nm,1.1s					
FYU	Fort Yukon	59.04	340	P	P	09 47 27.2 0.0
SKT	Skwentna	59.09	334	P	P	09 47 27.2 -0.5
	baz=116					
SKT	Skwentna	59.09	334	P	P	09 47 27.2 -0.5
MDM	Murphy Dome	59.20	338	IAmb	IAmb	09 47 33.4
	comp=Z,9.3nm,1.2s					
TRF	Thorofare Moun	59.24	336	P	P	09 47 28.0 -0.9
	baz=118,SNR=7.1					
NEA2	Nenana	59.33	337	P	P	09 47 27.9 -1.4
	baz=120					
NEA2	Nenana	59.33	337	IAmb	IAmb	09 47 38.9
	comp=Z,8.8nm,1.2s					
SFJD	Kangerlussuaq	59.45	20	LR	LR	10 14 39.1
	comp=Z,39nm,20.1s,baz=232,slow=38					
H24K	Noodor Dome	59.54	339	P	P	09 47 30.2 -0.6
	baz=122,SNR=13					
KTH	Kantishna Hill	59.54	336	IAmb	IAmb	09 47 35.9
	comp=Z,10nm,1.1s					
I23K	Minto, Yukon-K	59.71	338	P	P	09 47 31.1 -0.8
	baz=120,SNR=13					
M20K	Styx River	59.73	333	P	P	09 47 30.8 -1.4
	baz=114					
PPLA	Purkeypile	59.76	335	P	P	09 47 31.6 -0.9
	baz=116					
PPLA	Purkeypile	59.76	335	P	P	09 47 31.3 -1.2
BPAW	Bear Paw Mtn.	59.82	336	P	P	09 47 31.7 -1.1
	baz=118,SNR=8.6					
BPAW	Bear Paw Mtn.	59.82	336	IAmb	IAmb	09 47 37.7
	comp=Z,10.0nm,1.2s					
N19K	Bonanza Creek	59.90	332	P	P	09 47 32.5 -0.9
	baz=112,SNR=6.0					
H23K	Yukon River	60.12	338	P	P	09 47 33.8 -1.0
	baz=120					
MLY	Manley	60.17	337	P	P	09 47 34.6 -0.5
	baz=118,SNR=9.8					
MLY	Manley	60.17	337		P	09 47 35.0 -0.1
MLY				IAmb	IAmb	09 47 35.9
	comp=Z,10nm,1.1s					
CHUM	Lake Minchumin	60.25	336	P	P	09 47 34.3 -1.2
	baz=116					
M19K	Big River Lodg	60.28	333	P	P	09 47 34.9 -1.1
	baz=113					
N18K	Kilae Creek	60.49	331	P	P	09 47 36.2 -1.2
	baz=111					
SVW2	Sparrevohn	60.50	332		P	09 47 36.7 -0.7
SVW2				IAmb	IAmb	09 47 42.1
	comp=Z,9.1nm,1.1s					
L19K	White Mountain	60.59	333	P	P	09 47 37.1 -1.0
	baz=113					
I21K	Tanana	60.70	337	P	P	09 47 37.9 -0.8
	baz=117,SNR=7.3					
PPT2	Papeete2	60.71	239	*e*LR	LR	10 05 08.1
	comp=Z,95nm,27.8s					
H21K	Melozitna Rive	61.23	337	P	P	09 47 40.9 -1.4
	baz=116,SNR=8.2					
TOLK	Toolik Lake Re	61.57	341	P	P	09 47 44.0 -0.6
	baz=121					
TOLK	Toolik Lake Re	61.57	341	IAmb	IAmb	09 48 07.3
	comp=Z,7.4nm,1.1s					
PLCA	Paso Flores	62.08	157	LR	LR	10 09 57.8
	comp=Z,60nm,20.3s,baz=340,slow=31					
TBI	Tubuai	63.65	233	*e*LR	LR	10 06 54.9
	comp=Z,114nm,25.2s					
TBI	Tubuai	63.65	233	*e*T	T	10 56 29.9
	comp=Z,10nm,0.2s					
ICESG	Greenland Ices	64.06	20	*i* P	P	09 48 02.0 +0.4
ICESG				IAmb	IAmb	09 48 05.0
	comp=Z,15nm,1.0s					
NEEM	North Greenlan	65.67	10⇑	*i*P	P	09 48 11.6 -0.3
NEEM				IAmb	IAmb	09 48 14.3
	comp=Z,18nm,0.9s					
SUMG	Summit	65.87	17	*i* P	P	09 48 13.3 -0.1
SUMG				IAmb	IAmb	09 48 16.1
	comp=Z,11nm,0.9s					
SUMG	Summit	65.87	17	P	P	09 48 12.8 -0.6
DBG	Daneborg	71.35	16	*i* P	P	09 48 46.7 -0.3
DBG				IAmb	IAmb	09 48 48.1
	comp=Z,2.5nm,0.9s					
DAG	Danmarks Havn	72.04	14⇑	*i*P	P	09 48 50.1 -1.0
DAG				IAmb	IAmb	09 48 50.6
	comp=Z,5.5nm,0.9s					
PAB	San Pablo	82.81	51	P	P	09 49 51.6 -0.6
PAB				IAmb	IAmb	09 49 53.4
	comp=Z,10nm,1.2s					
ESDC	Sonseca Array	83.06	51	P	P	09 49 52.3 -1.2
	comp=Z,1.8nm,1.0s,baz=297,slow=3.1,SNR=6.8					
ESDC	Sonseca Array	83.06	51	P	P	09 49 52.7 -0.8
NOA	NORSAR Array B	85.10	27	P	P	09 50 02.4 -1.0
	comp=Z,0.9nm,0.9s,baz=301,slow=5.0,SNR=3.7					
NOA				LR	LR	10 28 04.9
	comp=Z,22nm,21.9s,baz=275,slow=36					
ARCES	ARCESS Array B	85.96	17	LR	LR	10 31 56.2
	comp=Z,35nm,18.5s,baz=45,slow=38					
GERES	GERESS Array B	91.70	38	LR	LR	10 34 07.4
	comp=Z,36nm,19.2s,baz=288,slow=37					
NRIK	Noril'sk	94.70	358	LR	LR	10 36 29.3
	comp=Z,48nm,21.6s,baz=22,slow=38					
WRA	Warramunga Arr	130.08	257	PKP	PKPdf	09 56 41.3 +2.9
	comp=Z,1.3nm,1.0s,baz=78,slow=1.8,SNR=4.6					

NNC 13 09:38:08.5±4.3, 37°.74N×71°.62E, h0km, mb3.9, mpv3.4, 3C-2D, Error ellipse: s-maj=42.8km s-min=29.2km az=142.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.37	23	⇓P	Pn	09 39 30.2	+0.2
	3.8nm,0.5s						
AAK				⇑S	Sn	09 40 35.0	+2.4
	6.9nm,0.9s						
KK31	Karatay Array	5.43	351	P	Pn	09 39 31.0	+0.3
	0.8nm,0.2s,baz=178,slow=12,SNR=64						
KK31				⇓S	Sn	09 40 34.1	+0.3
	1.0nm,0.3s,baz=177,slow=22,SNR=6.7						
TKM2	Tokmak 2	6.00	29	⇑P	Pn	09 39 38.3	-0.5
	3.0nm,0.6s						
TKM2				⇑S	Sn	09 40 48.1	-0.2
	1.4nm,0.7s						

*IDC **13** 09:59:22.9±0.5, 9°.31S×158°.39E, h0km, mb4.5/18, mb1 4.6/19, mb1mx4.5/32, mbtmp4.4/19, ML4.0/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=15.7km s-min=14.2km az=116.0*

*NEIC **13** 09:59:25.3±1.9, 9°.34S±0°.09×158°.55E±0°.08, h16km±4km, mb4.8/86, Error ellipse: s-maj=13.7km s-min=11.7km az=185.0*

ISC 13 09:59:27.3±0.4, 9°.37S±0°.07×158°.44E±0°.06, h30km, n235, σ1§04/224, mb4.8/82, MS3.6/6, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.49	93	Pn	Pn	09 59 50.9	-1.1
	132nm,0.3s,baz=182,slow=18,SNR=28						
HNR				Sn	Sb	10 00 14.9	+2.0
	637nm,0.3s,baz=65,slow=12,SNR=9.0						
HNR	Honiara	1.49	93		Pn	09 59 50.1	-1.9
PMG	Port Moresby	11.13	269	LR	LR	10 06 06.5	
	comp=Z,612nm,19.3s,baz=102,slow=36						
CTA	Charters Tower	15.88	226	Pn	Pn	10 03 07.7	-1.1
	0.4nm,0.3s,baz=46,slow=13,SNR=6.2						
CTAO	Charters Tower	15.88	226	Pn	Pn	10 03 08.4	-0.4
PATS	Pohnpei	16.10	360		Pn	10 03 11.2	-0.4
PATS				IAmb	IAmb	10 03 26.6	
	comp=Z,144nm,1.2s						
EIDS	Eidsvold	17.39	203	P	P	10 03 28.8	-0.1
GENI	Genyem	19.37	289	P	Pn	10 03 54.0	+1.9
	comp=Z,54nm,1.0s						
ARMA	Armidale	21.89	196	P	P	10 04 20.9	+2.9
ARMA				IAmb	IAmb	10 04 23.3	
	comp=Z,39nm,1.3s						
SRPI	Serui, Papua	23.30	287	P	P	10 04 34.5	+1.5
WR0	Warramunga Arr	25.37	243	P	P	10 04 52.0	-0.1
WB0	Warramunga Arr	25.43	243	P	P	10 04 52.6	0.0
WB0				IAmb	IAmb	10 04 58.9	
	comp=Z,15nm,1.0s						
WRAB	Tennant Creek	25.53	243	P	P	10 04 53.2	-0.3
WRAB				IAmb	IAmb	10 04 59.3	
	comp=Z,14nm,0.9s						
WB2	Warramunga Arr	25.53	243	P	P	10 04 53.7	+0.2
WB2				IAmb	IAmb	10 04 59.4	
	comp=Z,16nm,0.9s						
WRA	Warramunga Arr	25.54	243	P	P	10 04 53.2	-0.5
	comp=Z,3.3nm,0.5s,baz=71,slow=9.1,SNR=38						
WRA				PcP	PcP	10 08 25.9	+1.0
	comp=Z,5.0nm,0.7s,baz=73,slow=2.8,SNR=25						
WRA	Warramunga Arr	25.54	243	P	P	10 04 52.5	-1.2
WRA					PcP	10 08 25.8	+1.0
STKA	Stephens Creek	27.31	213	P	P	10 05 09.8	+0.3
	comp=Z,7.8nm,0.7s,baz=48,slow=15,SNR=10						
STKA				LR	LR	10 14 40.5	
	comp=Z,170nm,20.3s,baz=29,slow=34						
STKA	Stephens Creek	27.31	213	P	P	10 05 10.2	+0.7
AS31	Alice Springs	27.42	236	P	P	10 05 10.1	-0.5
ASAR	Alice Springs	27.42	236	P	P	10 05 09.8	-0.8
	comp=Z,1.1nm,0.8s,baz=59,slow=10,SNR=20						
ASAR				PcP	PcP	10 08 29.9	+0.7
	comp=Z,3.0nm,0.6s,baz=76,slow=2.6,SNR=22						
ASAR	Alice Springs	27.42	236	P	P	10 05 10.9	+0.3
AFI	Afiamalu	29.50	102	LR	LR	10 15 22.9	
	comp=Z,98nm,18.5s,baz=280,slow=32						
KNRA	Kununurra	29.62	255	P	P	10 05 26.2	-4.0
TUWZ	Tuamarina	34.75	159	P	P	10 06 13.9	-1.0
MSWZ	Moikau Station	35.21	158	P	P	10 06 18.3	-0.6
LTZ	Lake Taylor	35.42	162	P	P	10 06 20.1	-0.7
GTOI	Gorontalo	36.65	284	P	P	10 06 32.7	+1.1
	comp=Z,346nmcomp=Z,32nm,0.7s						
MLZ	Mavora Lakes	36.83	169	P	P	10 06 33.3	+0.6
BNSI	Bone	38.36	275	P	P	10 06 46.7	+0.6
	comp=Z,1μmcomp=Z,56nm,1.3s						
TOLI2	Tolitoli	38.92	284	P	P	10 06 49.8	-1.0
TOLI2				IAmb	IAmb	10 06 50.9	
	comp=Z,28nm,0.9s						
PSA00	Pilbara Seismi	39.01	247	P	P	10 06 51.8	+0.3
MPSI	Mapaga	39.57	282	P	P	10 06 55.6	-0.6
	comp=Z,666nmcomp=Z,18nm,0.9s						
BBKI	Banjar Baru	43.69	275	P	P	10 07 30.2	+0.2
	comp=Z,3μmcomp=Z,28nm,0.8s						
PCJI	Pacitan	46.70	268	P	P	10 07 53.5	-0.4
	comp=Z,96nm,1.3s						
STKI	Sintang	47.68	279	P	P	10 08 00.8	-0.8
	comp=Z,12μmcomp=Z,25nm,0.4s						
JMN	Monobe	48.80	333	P	P	10 08 10.1	+0.2
JWT	Wachi	49.46	335	P	P	10 08 14.5	-0.4
MJAR	Matsushiro Arr	49.47	339	P	P	10 08 13.0	-1.9
	comp=Z,1.7nm,0.6s,baz=166,slow=7.7,SNR=6.0						
MJAR	Matsushiro Arr	49.47	339	IAmb	IAmb	10 08 15.1	
	comp=Z,1.5nm,0.8s						
MAT	Matsushiro	49.47	339	P	P	10 08 13.3	-1.7
JHS	Saijyo	50.21	333	P	P	10 08 19.9	-0.7
LEM	Lembang	50.35	269	P	P	10 08 21.6	-0.6
	comp=Z,1μmcomp=Z,26nm,0.9s						
JSD	Sado	50.79	339	P	P	10 08 23.0	-1.9
PPT	Papeete	51.08	105	LR	LR	10 27 17.6	
	comp=Z,32nm,18.3s,baz=300,slow=33						
JTM	Tenmabayashi	52.42	343	P	P	10 08 35.9	-1.1
KSRS	Korea Array	54.65	330	P	P	10 08 53.5	+0.1
	comp=Z,2.9nm,0.7s,baz=146,slow=7.3,SNR=9.5						
NJ2	Nanjing	55.92	319	*e*P	P	10 09 04.0	+1.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
USRK	Ussuriysk Ar.	58.46	338	P	P	10 09 21.7	+1.3
	comp=Z,5.1nm,1.0s,baz=158,slow=11,SNR=4.7						
CN2	Changchun	60.81	333	*e*P	P	10 09 36.8	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHAI	Chaiyaphum	61.27	294	P	P	10 09 40.3	0.0
	comp=Z,22nm,0.7s						
ENH	Enshi	61.35	312	P	P	10 09 40.5	-0.1
SLVN	Son La	61.62	300	P	P	10 09 43.3	+0.6
PETK	Petropavlovsk-	62.23	359	P	P	10 09 45.0	-1.0
	comp=Z,10nm,0.9s,baz=156,slow=7.6,SNR=9.0						
PETK				LR	LR	10 33 19.1	
	comp=Z,44nm,21.3s,baz=115,slow=33						
PETK	Petropavlovsk-	62.23	359	P	P	10 09 45.5	-0.6
UTHA	Uthaitani	63.46	293	P	P	10 09 56.4	+1.4
XAN	Xi'an	63.78	315	P	P	10 09 56.9	+0.1
XAN				pP	pP	10 10 06.3	+1.1
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LAMP	Lampang	64.29	296	P	P	10 10 01.7	+1.3
CM04	Chiang Mai Arr	64.83	295	P	P	10 10 05.1	+1.2
	comp=Z,8.5nm,0.9s						
CM04	Chiang Mai Arr	64.83	295	P	P	10 10 05.2	+1.3
	comp=Z,8.5nm,0.9s						
CM09	Chiang Mai Arr	64.83	295	P	P	10 10 05.9	+2.0
	comp=Z,9.7nm,1.1s						
CM09	Chiang Mai Arr	64.83	295	P	P	10 10 05.0	+1.1
	comp=Z,9.7nm,1.1s						
CM01	Chiang Mai Arr	64.85	295	P	P	10 10 06.2	+2.2
	comp=Z,7.9nm,1.2s						
CM01	Chiang Mai Arr	64.85	295	P	P	10 10 06.2	+2.2
	comp=Z,7.9nm,1.2s						
CM05	Chiang Mai Arr	64.86	295	P	P	10 10 05.3	+1.2
	comp=Z,5.9nm,0.9s						
CM02	Chiang Mai Arr	64.87	295	P	P	10 10 06.1	+1.9
	comp=Z,8.7nm,1.2s						
CM02	Chiang Mai Arr	64.87	295	P	P	10 10 06.2	+1.9
	comp=Z,8.7nm,1.2s						
CMAR	Chiang Mai Arr	64.88	295	P	P	10 10 04.7	+0.4
	comp=Z,2.7nm,0.4s,baz=113,slow=4.5,SNR=21						
CMAR	Chiang Mai Arr	64.88	295	P	P	10 10 04.3	+0.1
CM13	Chiang Mai Arr	64.90	295	P	P	10 10 05.6	+1.2
	comp=Z,7.3nm,0.8s						
CM13	Chiang Mai Arr	64.90	295	P	P	10 10 05.7	+1.2
	comp=Z,7.3nm,0.8s						
CMMT	Chiang Mai	65.00	296	P	P	10 10 05.0	0.0
	comp=Z,0.1nmcomp=Z,14nm,1.2s						
CHTO	Chiang Mai	65.00	296	P	P	10 10 05.7	+0.7
	comp=Z,14nm,1.2s						
CHTO	Chiang Mai	65.00	296	P	P	10 10 05.4	+0.3
CD2	Chengdu	65.94	310	P	P	10 10 11.3	+0.3
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC	Hu-ho-hao-te	66.02	323	*e*P	P	10 10 13.8	+2.4
HHC				pmax	pmax		
	comp=Z,12nm,1.1s						
HHC				pmax	pmax		
	comp=Z,190nm,5.3s						
VNDA	Vanda	68.15	179	P	P	10 10 25.1	+0.9
	comp=Z,1.6nm,0.8s,baz=335,slow=4.9,SNR=7.6						
VNDA				LR	LR	10 34 44.3	
	comp=Z,48nm,20.6s,baz=4.5,slow=31						
LZH	Lanzhou	68.39	315	*e*P	P	10 10 28.3	+1.7
LZH				pP	pP	10 10 34.6	-0.5
LZH				sP	pwP	10 10 38.6	-0.2
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,92nm,5.3s						
LZH				LR	LR		
	comp=N,420nm,16.3s						
LZH				LR	LR		
	comp=E,310nm,16.3s						
LZH				LR	LR		
	comp=Z,150nm,19.0s						
GTA	Gaotai	72.80	316	⇓P	P	10 10 54.4	+1.1
GTA				pP	pP	10 11 01.3	-0.6
GTA				sP	pwP	10 11 06.3	+0.7
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ULN	Ulaanbaatar	72.83	327	P	P	10 10 53.2	-0.2
ULN				IAmb	IAmb	10 10 55.2	
	comp=Z,9.0nm,0.9s						
SONM	Songino Array	73.18	326	P	P	10 10 55.9	+0.6
	comp=Z,9.6nm,0.8s,baz=136,slow=5.8,SNR=26						
SONM	Songino Array	73.18	326	P	P	10 10 55.5	+0.1
SONM				IAmb	IAmb	10 10 57.0	
	comp

	baz=231							
RC01	Rabbit Creek A	81.08	23	P	P	10 11 39.5	+0.2	
	baz=232							
KNK	Knik Glacier	81.77	23	P	P	10 11 42.9	-0.1	
	baz=233							
CHUM	Lake Minchumin	81.94	20	P	P	10 11 44.1	+0.3	
	baz=229							
GLI	Glacier Island	81.98	24	P	P	10 11 43.7	-0.4	
	baz=234							
SML	Sawmill	82.05	23	P	P	10 11 44.3	-0.2	
	baz=233							
SML	Sawmill	82.05	23	P	P	10 11 44.5	-0.1	
KTH	Kantishna Hill	82.20	20	P	P	10 11 44.6	-0.7	
KTH				IAmb	IAmb	10 11 45.5		
	comp=Z,11nm,1.1s							
TRF	Thorofare Moun	82.36	21	P	P	10 11 45.2	-1.0	
	baz=231							
TRF	Thorofare Moun	82.36	21	P	P	10 11 45.3	-0.9	
TRF				IAmb	IAmb	10 11 46.4		
	comp=Z,8.5nm,1.2s							
BPAW	Bear Paw Mtn.	82.53	20	P	P	10 11 46.0	-0.9	
	baz=230							
WAT1	Susitna Watana	82.59	22	P	P	10 11 46.5	-0.8	
	baz=232							
WAT6	Susitna Watana	82.74	22	P	P	10 11 48.0	-0.3	
	baz=233							
RND	Reindeer	82.84	21	P	P	10 11 48.0	-0.6	
RND				IAmb	IAmb	10 11 49.2		
	comp=Z,7.7nm,0.8s							
WMQ	Urumqi	82.88	316	*e*P	P	10 11 50.3	+1.0	
I21K	Tanana	82.91	19	P	P	10 11 49.0	+0.2	
	baz=229,SNR=9.3							
H21K	Melozitna Rive	82.96	18	P	P	10 11 49.3	+0.2	
	baz=228							
MCK	McKinley	83.01	21	P	P	10 11 48.8	-0.7	
	baz=232,SNR=13							
BMRM	Bremner River	83.03	24	P	P	10 11 49.4	-0.2	
	baz=236							
M24K	Tolsona, Glenn	83.05	23	P	P	10 11 49.7	-0.1	
	baz=235							
M24K	Tolsona, Glenn	83.05	23	P	P	10 11 50.0	+0.2	
MLY	Manley	83.21	19	P	P	10 11 50.3	-0.1	
	baz=230,SNR=8.9							
MLY	Manley	83.21	19	P	P	10 11 50.3	-0.1	
MLY				IAmb	IAmb	10 11 51.5		
	comp=Z,7.9nm,1.0s							
N25K	Chitina, Valde	83.39	24	P	P	10 11 51.8	+0.3	
	baz=236							
NEA2	Nenana	83.49	20	P	P	10 11 51.1	-0.8	
	baz=232,SNR=12							
NEA2	Nenana	83.49	20	P	P	10 11 50.3	-1.5	
MAW	Mawson	83.53	203	P	P	10 11 51.7	-0.3	
	comp=Z,2.6nm,0.7s,baz=140,slow=17,SNR=6.8							
CRQE	Cirque	83.53	25	P	P	10 11 51.7	-0.7	
	baz=238							
I23K	Minto, Yukon-K	83.74	20	P	P	10 11 52.8	-0.3	
	baz=232							
I23K	Minto, Yukon-K	83.74	20	P	P	10 11 52.1	-1.0	
WRH	Wood River Hil	83.75	21	P	P	10 11 52.3	-0.9	
WRH				IAmb	IAmb	10 11 53.5		
	comp=Z,10nm,1.0s							
CCB	Clear Creek Bu	83.96	20	P	P	10 11 53.1	-1.1	
CCB				IAmb	IAmb	10 11 54.4		
	comp=Z,5.5nm,0.9s							
MDM	Murphy Dome	84.00	20	P	P	10 11 53.6	-0.9	
TCOL	CIGO, UAF Yank	84.08	20	P	P	10 11 54.4	-0.4	
	baz=233							
TCOL	CIGO, UAF Yank	84.08	20	P	P	10 11 54.0	-0.8	
COLA	College	84.08	20	P	P	10 11 54.6	-0.2	
	baz=233							
COLA	College	84.08	20	P	P	10 11 54.0	-0.8	
H23K	Yukon River	84.10	19	P	P	10 11 55.2	+0.2	
	baz=231,SNR=14							
HDA	Harding Lake	84.11	21	P	P	10 11 54.6	-0.5	
	baz=234,SNR=5.9							
HDA	Harding Lake	84.11	21	P	P	10 11 54.2	-0.9	
HDA				IAmb	IAmb	10 11 55.7		
	comp=Z,6.4nm,0.8s							
IL31		84.35	21	P	P	10 11 55.4	-0.8	
IL31				IAmb	IAmb	10 11 56.5		
	comp=Z,4.8nm,0.7s							
ILAR	Eielson Array	84.35	21	P	P	10 11 55.3	-0.9	
	comp=Z,2.6nm,0.5s,baz=249,slow=5.0,SNR=44							
ILAR	Eielson Array	84.35	21	P	P	10 11 55.0	-1.2	
POKR	Poker Plat Res	84.37	20	P	P	10 11 56.0	-0.4	
	baz=233							
CTG	Chitna Glacier	84.38	25	P	P	10 11 56.8	+0.2	
	baz=239							
PINM	Pinnacle	84.41	26	P	P	10 11 57.3	+0.6	
	baz=240							
MENT	Mentasta	84.47	23	P	P	10 11 57.3	+0.4	
MENT				IAmb	IAmb	10 11 58.3		
	comp=Z,5.6nm,0.6s							
RIDG	Independent Ri	84.48	22	P	P	10 11 56.8	-0.3	
	baz=236,SNR=6.0							
RIDG	Independent Ri	84.48	22	P	P	10 11 56.6	-0.5	
H24K	Noodor Dome	84.65	19	P	P	10 11 58.2	+0.4	
	baz=233							
L26K	Log Cabin Wild	84.66	23	P	P	10 11 58.0	+0.2	
	baz=237							
DOT	Dot Lake	84.72	22	P	P	10 11 58.6	+0.4	
SCRK	Sand Creek	84.93	22	P	P	10 11 59.5	+0.2	
	baz=237,SNR=9.6							
SCRK	Sand Creek	84.93	22	P	P	10 11 59.7	+0.3	
SCRK				IAmb	IAmb	10 12 00.7		
	comp=Z,6.4nm,1.0s							
PRP	Porcupine Dome	85.25	20	P	P	10 12 02.1	+1.1	
	baz=235							
L27K	Beaver Creek,	85.26	23	P	P	10 12 01.5	+0.6	
	baz=239							
L27K	Beaver Creek,	85.26	23	P	P	10 12 01.7	+0.7	
L27K				IAmb	IAmb	10 12 02.9		
	comp=Z,5.6nm,1.2s							
BCAR	Beaver Creek A	85.28	23	P	P	10 12 01.2	+0.2	
K27K	Chicken	85.67	22	P	P	10 12 03.9	+1.0	
	baz=238							
K27K	Chicken	85.67	22	P	P	10 12 03.5	+0.6	
TOLK	Toolik Lake Re	85.86	17	P	P	10 12 04.3	+0.5	
	baz=231							
TOLK	Toolik Lake Re	85.86	17	IAmb	IAmb	10 12 07.2		
	comp=Z,6.3nm,0.9s							
A21K	Barrow	85.87	13	P	P	10 12 05.1	+1.5	
	baz=224							
HYT	Haines Junctio	85.95	26	P	P	10 12 05.1	+0.6	
HYT				IAmb	IAmb	10 12 06.7		
	comp=Z,12nm,1.1s							
EGAK	Eagle	86.40	22	P	P	10 12 07.3	+0.8	
	baz=239							
EGAK	Eagle	86.40	22	P	P	10 12 07.4	+0.9	
EGAK				IAmb	IAmb	10 12 08.3		
	comp=Z,7.1nm,0.9s							
BMAR	Burnt Mountain	86.65	19	P	P	10 12 08.9	+1.2	
DAWY	Dawson	86.71	23	P	P	10 12 08.8	+0.7	
DAWY				IAmb	IAmb	10 12 10.3		
	comp=Z,5.2nm,1.1s							
MK31	Makanchi Array	87.43	318	P	P	10 12 11.4	-0.5	
MKAR	Makanchi Array	87.43	318	P	P	10 12 11.3	-0.6	
	comp=Z,2.1nm,0.5s,baz=94,slow=6.0,SNR=30							
MKAR	Makanchi Array	87.43	318	P	P	10 12 11.2	-0.8	
K02D	Willamette Mer	87.52	46	P	P	10 12 13.2	+0.7	
	baz=255							
O02D	Mt. Diablo Mer	87.52	49	P	P	10 12 13.0	+0.4	
	baz=256							
MAKZ	Makanchi	87.64	318	P	P	10 12 13.5	+0.5	
MAKZ				IAmb	IAmb	10 12 42.5		
	comp=Z,1.9nm,0.6s							
M02C	Callahan	87.77	48	P	P	10 12 14.9	+1.2	
	baz=256							
N02D	Trinity Center	87.78	48	P	P	10 12 14.6	+0.8	
	baz=256							
I03D	Drain, OR	88.00	45	P	P	10 12 14.9	+0.2	
	baz=255							
ZALV	Zalesovo Beam	88.05	325	P	P	10 12 13.8	-0.8	
	comp=Z,1.4nm,0.5s,baz=118,slow=5.0,SNR=5.4							
O03E	Paynes Creek	88.28	49	P	P	10 12 16.3	+0.1	
	baz=256							
L04D	Klamath Falls	88.37	47	P	P	10 12 17.3	+0.6	
	baz=256							
M04C	Macdoel	88.60	47	P	P	10 12 18.5	+0.7	
	baz=256							
I04A	Tendick Farm,	88.68	45	P	P	10 12 19.0	+1.0	
	baz=256							
EPYK	Eagle Plains	88.79	21	P	P	10 12 18.9	+0.9	
	baz=243							
J05D	Fort Rock, OR	89.39	46	P	P	10 12 22.2	+0.8	
	baz=256							
I05D	Terrebonne, OR	89.56	45	P	P	10 12 22.8	+0.7	
	baz=256							
PNTR	Pine Nut	89.66	50	IAmb	IAmb	10 12 25.6		
	comp=Z,5.4nm,0.9s							
PINE	Pine Mountain	89.72	46	P	P	10 12 22.5	-0.6	
PINE				IAmb	IAmb	10 12 26.6		
	comp=Z,3.3nm,0.8s							
MDPB	Devils Postpil	89.76	52	P	P	10 12 22.8	-0.7	
MDPB				IAmb	IAmb	10 12 26.0		
	comp=Z,3.9nm,1.0s							
ISA	Isabella, Lake	89.83	54	P	P	10 12 24.1	+0.5	
	baz=258							
MWC	Mount Wilson	89.88	55	P	P	10 12 22.5	-1.5	
YERR	Yerington	89.92	51	P	P	10 12 21.9	-2.2	
YERR				IAmb	IAmb	10 12 26.6		
	comp=Z,6.2nm,1.2s							
PAHR	Pah Rah Range	89.96	50	P	P	10 12 22.9	-1.3	
PAHR				IAmb	IAmb	10 12 26.7		
	comp=Z,5.4nm,1.1s							
EDW2	Edwards Air Fo	90.06	55	P	P	10 12 25.4	+0.7	
	baz=259							
BFSC	Mount Baldy Ra	90.21	55	P	P	10 12 25.1	-0.4	
	baz=259							
CWC	Cottonwood Cre	90.30	53	P	P	10 12 26.5	+0.6	
	baz=259							
LHV	Little Huntoon	90.33	51	IAmb	IAmb	10 12 28.8		
	comp=Z,7.7nm,1.0s							
RYN	Ryan	90.39	51	IAmb	IAmb	10 12 28.8		
	comp=Z,5.9nm,0.9s							
LRMC	Laurel Mtn Rad	90.43	54	P	P	10 12 27.2	+0.7	
	baz=259							
NVAR	Mina Array Bea	90.52	51	P	P	10 12 28.4	+1.4	
	comp=Z,5.8nm,0.9s,baz=242,slow=6.8,SNR=40							
NVAR	Mina Array Bea	90.52	51	P	P	10 12 25.9	-1.1	
NV11	Mina Array Sit	90.63	51	P	P	10 12 25.0	-2.4	
NV11				IAmb	IAmb	10 12 30.5		
	comp=Z,8.9nm,1.0s							
I07A	Izee	90.79	46	P	P	10 12 28.2	+0.2	
I07A				IAmb	IAmb	10 12 30.0		
	comp=Z,4.0nm,0.8s							
KVN	Kaiserville	90.80	51	P	P	10 12 26.0	-2.2	
KVN				IAmb	IAmb	10 12 30.6		
	comp=Z,7.2nm,0.9s							
GRAC	Grapevine Rang	90.97	53	P	P	10 12 30.3	+1.4	
	baz=259							
MONP2	Monument Peak	90.97	57	P	P	10 12 30.3	+1.1	
	baz=260							
WVOR	Wild Horse Val	91.07	47	P	P	10 12 27.3	-2.0	
TPFO	Pinon Flats	91.08	56	P	P	10 12 30.6	+1.1	
	baz=260							
GSC	Goldstone, Bar	91.10	55	P	P	10 12 29.6	+0.1	
	baz=259							
IKP	In-Ko-Pah, Jac	91.19	57	P	P	10 12 30.9	+0.9	
	baz=260							
FURC	Furnace Creek,	91.27	53	P	P	10 12 31.6	+1.4	
	baz=259							
TPH	Tonopah	91.29	52	P	P	10 12 27.8	-2.8	
J08A	Circle Bar Ran	91.37	46	IAmb	IAmb	10 12 32.8		
	comp=Z,4.5nm,0.7s							
HEC	Hector,Ludlow	91.39	55	P	P	10 12 31.8	+0.8	
	baz=260							
G08A	Pilot Rock	91.42	44	P	P	10 12 30.8	-0.1	
G08A				IAmb	IAmb	10 12 33.1		
	comp=Z,6.5nm,1.3s							
BELC	Belle Mtn. Jos	91.52	56	P	P	10 12 33.0	+1.4	
	baz=260							
SHOC	Shoshone, Teco	91.64	54	P	P	10 12 32.8	+0.8	
	baz=260							
TUQ	Turquoise Moun	91.83	55	P	P	10 12 33.5	+0.4	
	baz=260							
TPNV	Topopah Spring	91.84	53	P	P	10 12 34.0	+0.9	
	baz=260							
TPNV	Topopah Spring	91.84	53	IAmb	IAmb	10 12 35.6		
	comp=Z,5.1nm,1.1s							
BC3	Big Chuckawall	91.91	56	P	P	10 12 34.0	+0.6	
	baz=260							
GMRC	Granite Mounta	91.93	55	P	P	10 12 34.4	+0.9	
	baz=260							
IRM	Iron Mountain	92.25	56	P	P	10 12 35.8	+1.0	
	baz=260							
BMO	Blue Mountains	92.49	45	P	P	10 12 32.6	-3.2	
BMO				IAmb	IAmb	10 12 37.4		
	comp=Z,3.5nm,0.8s							
R11A	Troy Canyon, C	92.60	52	P	P	10 12 37.3	+0.7	
	baz=260							
R11A	Troy Canyon, C	92.60	52	IAmb	IAmb	10 12 39.1		
	comp=Z,2.4nm,0.9s							
SHPR	Sheep Range	92.63	54	P	P	10 12 35.4	-1.4	
PRN	Pahroc Range	92.86	53	IAmb	IAmb	10 12 40.5		
	comp=Z,3.4nm,0.8s							
ELK	Elko	93.27	49	P	P	10 12 39.8	+0.2	
ELK				IAmb	IAmb	10 12 42.1		
	comp=Z,4.8nm,1.1s							
SPR3	Spring Creek 3	93.68	51	P	P	10 12 39.6	-2.1	
SPR3				IAmb	IAmb	10 12 45.6		
	comp=Z,3.2nm,1.0s							
BVAR	Borovoye Array	96.23	323	P	P	10 12 51.3	-1.4	
	comp=Z,1.0nm,0.6s,baz=189,slow=18,SNR=4.1							
BOZ	Bozeman (W)	96.56	45	P	P	10 12 55.2	+0.7	
	baz=263							
BW06	Boulder Array	97.75	48	P	Pdif	10 13 00.5	+0.4	
	baz=264							
PD31	Pinedale Array	97.75	48	P	P	10 12 57.3	-2.7	
PDAR	Pinedale Array	97.75	48	P	Pdif	10 13 00.3	+0.3	
	comp=Z,1.0nm,0.7s,baz=223,slow=2.2,SNR=12							
VNA3	Neumayer Olymp	99.17	184	Pdiff	**Pdif**	10 13 05.0	-0.6	
VNA2	Neumayer--Watz	99.31	185	Pdiff	**Pdif**	10 13 05.5	-0.8	
VNA1	Neumayer--Stat	99.65	184	Pdiff	**Pdif**	10 13 06.7	-0.9	
BOSA	Boshof	121.11	228	PKP	**PKiKP**	10 18 18.6	+0.4	
	comp=Z,2.3nm,0.6s,baz=142,slow=4.4,SNR=2.1							
AKASG	Malin Array Be	121.44	325	PKP	**PKPdf**	10 18 17.0	-0.8	
	comp=Z,0.7nm,0.5s,baz=63,slow=2.0,SNR=2.2							
G64A	Maxfield	126.02	40	P	**PKiKP**	10 18 28.0	+0.8	
	baz=296							
LPAZ	La Paz	127.33	119	PKP	**PKiKP**	10 18 31.7	+0.3	
	comp=Z,1.2nm,0.7s,baz=333,slow=2.3,SNR=5.2							
ESDC	Sonseca Array	145.98	335	PKPbc	**PKPbc**	10 19 04.6	+0.1	
	comp=Z,0.8nm,0.8s,baz=1.7,slow=5.0,SNR=5.0							
TORD	Torodi Ar. Bea	156.89	282	PKPbc	PKPbc	10 19 30.3		
	comp=Z,0.7nm,0.9s,baz=94,slow=2.8,SNR=1.7							
TORD				PKPab	**PKPab**	10 19 50.5	-0.3	
	comp=Z,1.3nm,0.6s,baz=88,slow=4.0,SNR=7.3							

WEL 13 10:03:56.9±0.9, 36°S±11°×17°9W±1°4, h33km, M3.8/19, mB3.9/1, ML3.9/19, MLv3.8/19, Mw(mB)2.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=127.6, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.68	223	P	Pn	10 04 36.8	-1.0
MXZ				S	Sn	10 05 09.5	+0.4
WMGZ	Waiomatatini S	2.82	218	P	Pn	10 04 40.1	+0.5
WMGZ				S	Sn	10 05 15.4	+3.0
PKGZ	Pakihiroa	3.04	221	P	Pn	10 04 42.4	-0.4
PKGZ				S	Sn	10 05 18.6	+0.4
PUZ	Puketiti	3.09	217	P	Pn	10 04 42.9	-0.5
PUZ				S	Sn	10 05 19.9	+0.7
HAZ	Te Kaha	3.12	226	P	Pn	10 04 44.2	+0.5
HAZ				S	Sn	10 05 22.2	+2.3
TWGZ	Tauwhareparae	3.31	219	P	Pn	10 04 46.6	+0.2
TWGZ				S	Sn	10 05 26.3	+1.6
RUGZ	Raukumara Rang	3.32	224	P	Pn	10 04 46.8	+0.1
RUGZ				S	Sn	10 05 26.7	+1.6
CNGZ	Carnagh Statio	3.44	213	P	Pn	10 04 48.4	+0.1
TKGZ	Te Karaka	3.58	217	P	Pn	10 04 51.0	+0.9
TKGZ				S	Sn	10 05 32.5	+1.3
MWZ	Matawai	3.67	222	P	Pn	10 04 50.8	-0.5
MWZ				S	Sn	10 05 33.2	-0.2
RIGZ	Rimuhau	3.83	216	P	Pn	10 04 53.5	-0.1
RIGZ				S	Sn	10 05 36.2	-1.3
URZ	Urewera	3.85	226	P	Pn	10 04 53.5	-0.3
URZ				S	Sn	10 05 37.5	-0.4
MYRZ	Mayor Island	3.90	244	P	Pn	10 04 56.5	+2.0
OPRZ	Ohinepanea	3.94	235	P	Pn	10 04 54.7	-0.4
SNGZ	Shannon Statio	4.10	219	P	Pn	10 04 57.7	+0.5
SNGZ				S	Sn	10 05 45.3	+1.3
KUZ	Kuaotunu	4.12	253	P	Pn	10 04 57.5	0.0
KNZ	Kokohu	4.12	214	P	Pn	10 04 56.9	-0.7
MUGZ	Murupara	4.19	226	P	Pn	10 04 58.4	-0.2
MUGZ				S	Sn	10 05 46.7	+0.3
MTHZ	Maungataniwha	4.41	222	P	Pn	10 05 01.6	0.0
MTHZ				S	Sn	10 05 52.3	+0.5
NMHZ	Naumai	4.61	220	P	Pn	10 05 04.7	+0.3
NMHZ				S	Sn	10 05 57.4	+0.7
BKZ	Black Stump Fm	4.83	222	P	Pn	10 05 06.9	-0.4
BKZ				S	Sn	10 06 00.5	-1.5
TMVZ	Te Maari	5.24	227	P	Pn	10 05 13.5	+0.4
NTVZ	North Tongarir	5.25	227	P	Pn	10 05 13.6	+0.5
BHHZ	Black Hill Sta	5.29	222	P	Pn	10 05 14.1	+0.4
OTVZ	Oturere	5.29	227	P	Pn	10 05 13.5	-0.3
NNVZ	North Ngauruho	5.30	227	P	Pn	10 05 14.3	+0.3

*TUL **13** 10:09:48.9±1.8, 36°.230N±0°.009×97°.51W±0°.02, h16km±3km, ML2.8, mb_Lg2.6/42(NEIC), Error ellipse: s-maj=2.2km s-min=1.3km az=86.0*

NEIC 13 10:09:48.5±1.1, 36°.21N±0°.01×97°.56W±0°.02, h6km±6km, Error ellipse: s-maj=2.3km s-min=1.5km az=78.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.42	169		Pg	10 09 56.7	+0.1
OK029				Sg	Sg	10 10 02.7	+0.6
CROK	Carrier	0.45	310		Pg	10 09 57.3	+0.1
CROK				Sg	Sg	10 10 03.4	+0.3
BCOK	Bluff Creek, N	0.56	184		Pg	10 09 59.2	+0.1
BCOK				Sg	Sg	10 10 06.5	+0.2
BLOK	Blackwell	0.61	27		Pg	10 10 00.2	0.0
BLOK				Sg	Sg	10 10 08.6	+0.4
OK031	S. Brethren Rd	0.64	114		Pg	10 10 00.7	0.0
OK031				Sg	Sg	10 10 09.3	+0.4
OK025	Westminster Rd	0.65	164		Pg	10 10 01.0	0.0
GC02	Grant County #	0.68	339		Pg	10 10 01.3	-0.3
QUOK	Quay	0.69	93		Pg	10 10 01.6	-0.1
QUOK				Sg	Sg	10 10 10.8	+0.2
OK032	Salt Plains WL	0.79	318		Pg	10 10 03.3	-0.4
OKCFA	Oklahoma City	0.80	174		Pg	10 10 03.5	-0.3
KAN13	South Haven SW	0.80	5		Pg	10 10 03.8	-0.1
OKCSW	OKLAHOMA CITY	0.81	173		Pg	10 10 03.8	-0.2
KAN17	Caldwell West	0.85	349		Pg	10 10 04.5	-0.3
KAN09	Caldwell North	0.92	357		Pg	10 10 05.9	-0.3
KAN05	Bluff City Nor	0.93	344		Pg	10 10 06.0	-0.4
FNO	Franklin	0.96	172		Pg	10 10 06.3	-0.6
KAN10	Anthony SW Sta	1.01	335		Pg	10 10 07.2	-0.6
KS20	Mayfield South	1.02	0		Pg	10 10 07.6	-0.3
KAN08	Anthony NE Sta	1.07	342		Pg	10 10 08.4	-0.5
T35A	Sooner Cattle	1.10	50		Pg	10 10 08.9	-0.6
KAN12	Harper NE Stat	1.14	342		Pg	10 10 09.8	-0.6
U32A	Winter Ranch,	1.18	279	Pn	Pg	10 10 10.6	-0.4
U32A				Sn	Sg	10 10 26.2	-0.2
X34A	Smith Ranch, M	1.62	188		Pb	10 10 18.3	-0.5
WMOK	Wichita Mounta	1.78	215		Pn	10 10 19.9	+0.1
LOOK	Love County	2.24	172	Pn	Pn	10 10 24.9	-1.1
R32A	Long Quarter,	2.39	338	Pn	Pn	10 10 29.7	+1.5
X37A	Clayton	2.41	132	Pn	Pn	10 10 28.9	+0.5
U38A	Gravette	2.57	84	Pn	Pn	10 10 31.5	+0.9
CBKS	Cedar Bluff	3.12	327	Pn	Pn	10 10 38.2	-0.1
Z38A	Mt. Pleasant	3.63	144	Pn	Pn	10 10 45.5	+0.4
Z38A				IAmb_Lg		10 11 51.3	
	comp=Z,15nm,0.8s						
MIAR	Mount Ida	3.65	116	Pn	Pn	10 10 46.3	+0.8
U40A	Yellville	3.80	86	Pn	Pn	10 10 47.6	+0.1
ABTX	Abilene, Hawle	3.97	206	Pn	Pn	10 10 50.7	+0.7
ABTX				IAmb_Lg		10 11 59.3	
	comp=Z,9.9nm,0.9s						
X40A	Basin Creek Fa	4.23	113	Pn	Pn	10 10 53.8	+0.4
X40A				IAmb_Lg		10 12 03.9	
	comp=Z,14nm,0.7s						
MGMO	Mountain Grove	4.35	76	IAmb_Lg		10 12 08.0	
	comp=Z,12nm,0.8s						
WHAR	Wooly Hollow	4.38	101	IAmb_Lg		10 12 15.5	
	comp=Z,13nm,1.2s						
FCAR	Ozark Folk Cen	4.41	93	IAmb_Lg		10 12 06.6	
	comp=Z,9.0nm,0.7s						
WLAR	White Oak Lake	4.43	123	IAmb_Lg		10 12 11.4	
	comp=Z,12nm,0.8s						
P38A	Dawn	4.66	42	Pn	Pn	10 10 58.3	-1.1
P38A				IAmb_Lg		10 12 18.4	
	comp=Z,9.6nm,0.8s						
R40A	Maddies Statio	4.70	62	Pn	Pn	10 10 59.8	-0.1
KSCO	Kaye Shedlock'	4.90	306	IAmb_Lg		10 12 38.1	
	comp=Z,8.3nm,0.8s						
T42A	Van Buren	5.26	79	IAmb_Lg		10 12 43.2	
	comp=Z,9.1nm,1.0s						
435B	Jarrell	5.42	180	IAmb_Lg		10 12 50.4	
	comp=Z,9.0nm,0.7s						
P40A	Paris	5.47	51	IAmb_Lg		10 12 48.4	
	comp=Z,7.0nm,0.7s						
T25A	Trinidad	5.59	282	IAmb_Lg		10 12 50.3	
	comp=Z,11nm,0.8s						
N38A	Joes South For	5.69	35	IAmb_Lg		10 12 53.9	
	comp=Z,15nm,0.8s						
PBMO	Poplar Bluff	5.77	82	IAmb_Lg		10 12 56.3	
	comp=Z,8.6nm,1.0s						
L34A	Svendsen Farm,	5.82	9	IAmb_Lg		10 12 55.8	
	comp=Z,14nm,0.7s						
OGNE	Ogallala	5.88	325	IAmb_Lg		10 13 05.1	
	comp=Z,6.7nm,0.8s						
143A	Socs Landing,	6.17	123	IAmb_Lg		10 13 15.8	
	comp=Z,10.0nm,0.8s						
K31A	O'Neill	6.47	352	IAmb_Lg		10 13 19.1	
	comp=Z,12nm,0.7s						
P43A	Skaggs, Pawnee	7.21	59	IAmb_Lg		10 13 47.0	
	comp=Z,8.7nm,0.8s						
L40A	Anamosa	7.64	38	IAmb_Lg		10 14 03.1	
	comp=Z,4.6nm,0.7s						
HDIL	Hopedale	7.80	54	IAmb_Lg		10 14 02.8	
	comp=Z,9.1nm,0.9s						

IDC 13 10:16:25.4±10.0, 28°.42N×86°.57E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/28, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=489.8km s-min=32.1km az=68.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.65

baz=328,slow=75
H10N1 ASCENSION HYDR 46.54 142 T T 11 30 38.9
baz=328,slow=75
H10S3 ASCENSION HYDR 47.37 143 T T 11 31 46.2
baz=253,slow=74,SNR=57
H10S2 ASCENSION HYDR 47.39 143 T T 11 31 42.7
baz=327,slow=74,SNR=46
TXAR Lajitas Array 53.22 285 P **P** **10 41 57.1 -0.1**
0.2nm,0.5s,baz=95,slow=7.6,SNR=2.5
TXAR LR LR 11 03 20.6
comp=Z,30nm,19.0s,baz=0.0,slow=35
LPAZ La Paz 53.72 212 P **P** **10 42 01.6 +0.1**
1.6nm,1.1s,baz=51,slow=6.9,SNR=2.7
LPAZ LR LR 11 03 32.5
comp=Z,71nm,19.3s,baz=325,slow=34
PDAR Pinedale Array 54.36 303 P **P** **10 42 04.8 -0.8**
1.0nm,0.9s,baz=72,slow=9.5,SNR=7.5
PDAR LR LR 11 04 30.8
comp=Z,115nm,18.4s,baz=94,slow=35
AKASG Malin Array Be 54.66 47 P **P** **10 42 06.4 -0.9**
0.2nm,0.3s,baz=280,slow=6.0,SNR=10
AKASG LR LR 11 03 54.7
comp=Z,55nm,18.0s,baz=290,slow=34
YKA Yellowknife Ar 55.21 327 LR LR 11 04 32.8
comp=Z,65nm,20.8s,baz=0.0,slow=35
CPUP Villa Florida 59.16 197 LR LR 11 05 34.6
comp=Z,19nm,18.4s,baz=187,slow=33
NVAR Mina Array Bea 61.92 300 P **P** **10 42 58.5 -0.1**
0.1nm,0.5s,baz=97,slow=7.7,SNR=1.1
NVAR LR LR 11 09 09.5
comp=Z,147nm,18.8s,baz=90,slow=36
ILAR Eielson Array 68.49 334 P **P** **10 43 41.5 +1.0**
1.2nm,1.0s,baz=46,slow=6.4,SNR=11
ILAR LR LR 11 13 47.0
comp=Z,48nm,18.1s,baz=82,slow=36

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*BJI **13** 11:02:59.8±0.0, 26°.27N×96°.60E, h85km, mB4.7/5, mb4.7/10*
*NDI **13** 11:03:02.0±2.7, 26°.63N×96°.58E, h140km±25km, ML4.3, mb4.5(NEIC)*
*MOS **13** 11:03:03.1±0.9, 26°.36N×96°.53E, h120km, mb4.6/23, Error ellipse: s-maj=12.3km s-min=5.6km az=115.4*
*NEIC **13** 11:03:03.8±0.7, 26°.46N±0°.08×96°.51E±0°.10, h101km±9km, mb4.5/35, Error ellipse: s-maj=17.0km s-min=4.6km az=46.0*
*IDC **13** 11:03:05.9±3.2, 26°.44N×96°.70E, h129km±31km, mb3.7/19, mb1 3.8/20, mb1mx3.6/48, mbtmp4.1/20, Error ellipse: s-maj=22.2km s-min=10.6km az=55.0*
ISC 13 11:03:04.5±0.8, 26°.45N±0°.05×96°.48E±0°.06, h113km±7km, n162, σ1°33/174, mb4.3/51, 5C-3D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.05**	**328**	*e*P	**Pn**	**11 03 24.7**	**-1.7**
LKP				*e*S	**Sn**	**11 03 41.7**	**-1.3**
DIBR	**DIBRUGARH**	**1.73**	**306**	*e*P	**Pn**	**11 03 31.4**	**-2.8**
DIBR				*e*S	**Sn**	**11 03 55.7**	**-1.2**
MOKO	**MOKOCHONG**	**1.76**	**266**	*e*P	**Pn**	**11 03 35.8**	**+1.0**
MOKO				*e*S	**Sn**	**11 03 59.3**	**+1.5**
JORH	**JORHAT**	**2.01**	**279**	*e*S	**Sn**	**11 04 03.2**	**0.0**
KOHI	**KOHIMA**	**2.25**	**252**	*e*S	**Sn**	**11 04 11.1**	**+2.3**
ITAN	**ITANAGAR**	**2.56**	**286**	*e*P	**Pn**	**11 03 46.1**	**+1.3**
ITAN				*e*S	**Sn**	**11 04 14.6**	**-1.1**
IMP	**Imphal**	**2.79**	**235**	*e*P	**Pn**	**11 03 48.5**	**+0.6**
IMP				*e*S	**Sn**	**11 04 22.5**	**+1.2**
SHL	**Shillong**	**4.22**	**259**	P	**Pn**	**11 04 05.9**	**-1.1**
SHL	**Shillong**	**4.22**	**259**	*e*P	**Pn**	**11 04 05.7**	**-1.4**
SHL				*e*S	**Sn**	**11 04 52.6**	**-3.0**
SHL				IAML		11 04 57.8	
	comp=N,488nm,0.2s						
SHL				IAML		11 04 58.0	
	comp=E,291nm,0.3s						
SHL	**Shillong**	**4.22**	**259**		**Pn**	**11 04 05.9**	**-1.1**
LSA	**Lhasa**	**5.71**	**306**	P	**Pn**	**11 04 27.8**	**+0.4**
LSA				S	**Sn**	**11 05 30.4**	**-1.6**
LSA				smax	smax		
	comp=E,370nm,0.8s						
LSA	**Lhasa**	**5.71**	**306**	P	**Pn**	**11 04 27.4**	**0.0**
LSA	**Lhasa**	**5.71**	**306**	Pn	**Pn**	**11 04 27.4**	**0.0**
TAPN	**Taplejung**	**7.88**	**279**	*e*Pn	**Pn**	**11 04 54.8**	**-1.8**
TAPN				*e*Sn	**Sn**	**11 06 21.0**	**-3.3**
	comp=E,53nm,0.3s						
CM33	**Chiang Mai Arr**	**7.93**	**163**	P	**Pn**	**11 04 57.0**	**0.0**
CHTO	**Chiang Mai**	**7.93**	**163**	P	**Pn**	**11 04 56.3**	**-0.8**
CHTO	**Chiang Mai**	**7.93**	**163**	P	**Pn**	**11 04 57.3**	**+0.2**
	comp=E,0.1nmcomp=E,14nm,0.9s						
CHTO	**Chiang Mai**	**7.93**	**163**		**Pn**	**11 04 56.3**	**-0.8**
CMMT	**Chiang Mai**	**7.93**	**163**	P	**Pn**	**11 04 57.3**	**+0.2**
	comp=E,0.1nmcomp=E,14nm,0.8s						
CMMT	**Chiang Mai**	**7.93**	**163**	P	**Pn**	**11 04 57.4**	**+0.2**
CM34	**Chiang Mai Arr**	**7.95**	**161**	P	**Pn**	**11 04 57.0**	**-0.4**
CM32	**Chiang Mai Arr**	**8.06**	**164**	P	**Pn**	**11 04 59.0**	**+0.2**
CM35	**Chiang Mai Arr**	**8.12**	**162**	P	**Pn**	**11 04 59.0**	**-0.6**
ODAN	**Odare**	**8.14**	**275**	*e*Pn	**Pn**	**11 04 59.0**	**-1.1**
CM15	**Chiang Mai Arr**	**8.27**	**164**	P	**Pn**	**11 05 02.0**	**+0.4**
	comp=E,0.1nmcomp=E,21nm,0.9s						
CM15	**Chiang Mai Arr**	**8.27**	**164**	P	**Pn**	**11 05 02.1**	**+0.4**
CM31	**Chiang Mai Arr**	**8.27**	**163**	P	**Pn**	**11 05 02.2**	**+0.5**
CM31	**Chiang Mai Arr**	**8.27**	**163**	Pn	**Pn**	**11 05 00.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**8.27**	**163**	P	**Pn**	**11 05 01.3**	**-0.4**
	comp=E,0.6nm,0.3s,baz=337,slow=12,SNR=60						
CMAR	**Chiang Mai Arr**	**8.27**	**163**	*i* P	**Pn**	**11 05 01.2**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**8.27**	**163**		**Pn**	**11 05 00.9**	**-0.8**
CM02	**Chiang Mai Arr**	**8.29**	**164**	P	**Pn**	**11 05 02.2**	**+0.2**
	comp=Z,0.1nmcomp=Z,215nmcomp=Z,27nm,0.9s						
CM02	**Chiang Mai Arr**	**8.29**	**164**	P	**Pn**	**11 05 02.0**	**0.0**
CM09	**Chiang Mai Arr**	**8.29**	**163**	P	**Pn**	**11 05 02.3**	**+0.3**
	comp=Z,0.1nmcomp=Z,150nmcomp=Z,20nm,0.9s						
CM09	**Chiang Mai Arr**	**8.29**	**163**	P	**Pn**	**11 05 02.0**	**0.0**
CM13	**Chiang Mai Arr**	**8.30**	**164**	P	**Pn**	**11 05 02.1**	**+0.1**
CM13	**Chiang Mai Arr**	**8.30**	**164**	P	**Pn**	**11 05 02.2**	**+0.2**
CM01	**Chiang Mai Arr**	**8.31**	**163**	P	**Pn**	**11 05 02.6**	**+0.4**
	comp=Z,0.1nmcomp=Z,176nmcomp=Z,21nm,0.9s						
CM01	**Chiang Mai Arr**	**8.31**	**163**	P	**Pn**	**11 05 02.6**	**+0.4**
CM05	**Chiang Mai Arr**	**8.32**	**164**	P	**Pn**	**11 05 02.6**	**+0.2**
	comp=Z,0.0nmcomp=Z,124nmcomp=Z,15nm,0.9s						
CM05	**Chiang Mai Arr**	**8.32**	**164**	P	**Pn**	**11 05 02.6**	**+0.2**
CM04	**Chiang Mai Arr**	**8.34**	**163**	P	**Pn**	**11 05 02.7**	**+0.2**
	comp=Z,0.1nmcomp=Z,166nmcomp=Z,18nm,0.8s						
CM04	**Chiang Mai Arr**	**8.34**	**163**	P	**Pn**	**11 05 02.8**	**+0.2**
MHMT	**Maesarieng**	**8.34**	**170**	P	**Pn**	**11 05 04.9**	**+2.3**
	comp=Z,21nm,0.8s						
MHMT	**Maesarieng**	**8.34**	**170**	P	**Pn**	**11 05 04.9**	**+2.3**
LAMP	**Lampang**	**8.41**	**159**	P	**Pn**	**11 05 03.9**	**+0.4**
	comp=Z,0.2nmcomp=Z,509nmcomp=Z,51nm,0.8s						
LAMP	**Lampang**	**8.41**	**159**	P	**Pn**	**11 05 04.0**	**+0.4**
SLVN	**Son La**	**8.49**	**125**		**Pn**	**11 05 03.6**	**-1.1**
RAMN	**Ramite**	**8.85**	**275**	*e*Pn	**Pn**	**11 05 08.5**	**-1.2**
JIRN	**Jiri**	**9.25**	**280**	*e*Pn	**Pn**	**11 05 13.9**	**-1.3**
JIRN				*e*Sn	**Sn**	**11 06 53.6**	**-4.1**
	comp=Z,111nm,0.4s						
UTTA	**Uttaradit**	**9.45**	**156**	P	**Pn**	**11 05 17.6**	**0.0**
	comp=Z,13nm,0.9s						
UTTA	**Uttaradit**	**9.45**	**156**	P	**Pn**	**11 05 17.6**	**0.0**
GUN	**Gumba**	**9.55**	**281**	*e*Pn	**Pn**	**11 05 17.0**	**-2.2**
GUN				*e*Sn	**Sn**	**11 07 00.4**	**-4.5**
PKI	**Pulchoki**	**9.93**	**279**	*e*Pn	**Pn**	**11 05 22.1**	**-2.3**
PKI				*e*Sn	**Sn**	**11 07 09.5**	**-4.7**
	comp=Z,32nm,0.3s						
PKIN	**Phulchoki**	**9.94**	**279**	*e*Pn	**Pn**	**11 05 22.4**	**-2.1**
KKN	**Kakani**	**10.06**	**280**	*e*Pn	**Pn**	**11 05 24.4**	**-1.7**
GKN	**Gorkha**	**10.65**	**281**	*e*Pn	**Pn**	**11 05 31.2**	**-2.8**
DANN	**Dangsing**	**11.46**	**282**	*e*Pn	**Pn**	**11 05 41.4**	**-3.5**
KOLN	**Koldanda**	**11.55**	**279**	*e*Pn	**Pn**	**11 05 43.5**	**-2.6**
WMQ	**Urumqi**	**18.74**	**340**	*e*P	**Pn**	**11 07 20.3**	**+4.1**
NIL	**Nilore**	**21.32**	**295**	P	**P**	**11 07 42.2**	**-0.2**
NIL				pmax	pmax		
	comp=Z,16nm,0.7s						
NIL	**Nilore**	**21.32**	**295**	P	**P**	**11 07 42.2**	**-0.2**
NIL				IAmb	IAmb	11 07 46.2	
	comp=Z,16nm,0.7s						
PRZ	**Przheval'sk**	**21.79**	**322**	P	**P**	**11 07 47.7**	**+0.2**
PRZ				pmax	pmax		
	comp=Z,17nm,0.4s						
PRZ	**Przheval'sk**	**21.79**	**322**	P	**P**	**11 07 47.7**	**+0.2**
PRZ				IAmb	IAmb	11 07 51.9	
	comp=Z,17nm,0.4s						
SONM	**Songino Array**	**22.73**	**17**	P	**P**	**11 07 55.5**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=196,slow=10,SNR=6.9						
SONM	**Songino Array**	**22.73**	**17**	P	**P**	**11 07 56.5**	**-0.4**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**22.73**	**17**	P	**P**	**11 07 56.5**	**-0.4**
ULN	**Ulaanbaatar**	**22.94**	**18**	P	**P**	**11 07 57.7**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**22.94**	**18**	P	**P**	**11 07 57.6**	**-1.3**
BOOM	**Boomskoye usch**	**23.21**	**319**	P	**P**	**11 08 02.0**	**+0.4**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOOM	**Boomskoye usch**	**23.21**	**319**	P	**P**	**11 08 01.9**	**+0.4**
MK31	**Makanchi Array**	**23.21**	**335**	*d* P	**P**	**11 08 02.6**	**+1.2**
MK31	**Makanchi Array**	**23.21**	**335**	P	**P**	**11 08 01.8**	**+0.4**
MK31				IAmb	IAmb	11 08 03.8	
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**23.21**	**335**	P	**P**	**11 08 03.1**	**+1.7**
	comp=Z,9.7nm,0.6s,baz=140,slow=10,SNR=100						
MKAR	**Makanchi Array**	**23.21**	**335**	P	**P**	**11 08 01.9**	**+0.5**
MAKZ	**Makanchi**	**23.34**	**334**	P	**P**	**11 08 02.3**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAKZ	**Makanchi**	**23.34**	**334**	P	**P**	**11 08 02.3**	**-0.3**
AAK	**Ala-Archa**	**24.16**	**318**	P	**P**	**11 08 11.8**	**+1.6**
	comp=Z,3.5nm,0.5s,baz=156,slow=6.9,SNR=4.8						
AAK	**Ala-Archa**	**24.16**	**318**	*ce*P	**P**	**11 08 12.6**	**+2.4**
AAK				pmax	pmax		
	comp=Z,14nm,0.9s						
DGZ	**Jazzator, Alta**	**24.25**	**346**	*d* P	**P**	**11 08 12.0**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAK	**Zakamensk**	**24.47**	**11**	*e*P	**P**	**11 08 13.0**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KBL	**Kabul**	**24.92**	**296**	P	**P**	**11 08 17.9**	**+0.6**
KBL				pmax	pmax		
	comp=Z,13nm,0.7s						
KBL	**Kabul**	**24.92**	**296**	P	**P**	**11 08 17.9**	**+0.6**
KBL				IAmb	IAmb	11 08 21.5	
	comp=Z,13nm,0.7s						
GAR	**Garm**	**25.22**	**306**	P	**P**	**11 08 20.1**	**+0.2**
GAR				IAmb	IAmb	11 08 22.9	
	comp=Z,13nm,0.8s						
TLY	**Talaya**	**25.78**	**10**	*i* P	**P**	**11 08 24.7**	**0.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RGRI	**Rengat**	**27.23**	**167**	P	**P**	**11 08 42.7**	**+4.7**
KURBB	**Kurchatov Arra**	**27.78**	**335**	P	**P**	**11 08 43.1**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=144,slow=9.7,SNR=7.1						
KURK	**Kurchatov**	**27.82**	**335**	P	**P**	**11 08 43.1**	**+0.2**
ZAA0	**Zalesovo Array**	**28.80**	**346**	P	**P**	**11 08 52.2**	**+0.6**
ZALV	**Zalesovo Beam**	**28.80**	**346**	P	**P**	**11 08 52.4**	**+0.9**
	comp=Z,2.4nm,0.4s,baz=168,slow=9.5,SNR=11						
ZALV	**Zalesovo Beam**	**28.80**	**346**	P	**P**	**11 08 51.9**	**+0.3**
BVAR	**Borovoye Array**	**32.92**	**331**	P	**P**	**11 09 29.2**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=188,slow=19,SNR=8.7						
BRVK	**Borovoye**	**32.99**	**331**	*ce*P	**P**	**11 09 29.5**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRVK	**Borovoye**	**32.99**	**331**	P	**P**	**11 09 28.8**	**+0.4**
BRVK				IAmb	IAmb	11 09 30.5	
	comp=Z,4.9nm,0.6s						
GEYT	**Alibeck**	**34.20**	**299**	P	**P**	**11 09 41.3**	**+2.1**
	comp=Z,160nm,0.8s,baz=99,slow=9.2,SNR=4.9						
ZEA	**Zeya**	**35.52**	**32**	*e*P	P	11 09 45.3	-4.9
ABKAR	**Akbulak array**	**36.23**	**319**	P	**P**	**11 09 56.3**	**-0.1**
ABKAR	**Akbulak array**	**36.23**	**319**	P	**P**	**11 09 55.4**	**-1.0**
ABKAR				IAmb	IAmb	11 09 58.5	
	comp=Z,5.0nm,1.1s						
AKTO	**Aktyubinsk**	**37.86**	**320**	P	**P**	**11 10 11.2**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=77,slow=9.3,SNR=4.2						
ARU	**Arti**	**40.42**	**328**	*d* *i* P	**P**	**11 10 32.2**	**+0.8**
ARU						11 12 04.7	
ARU				S	**S**	**11 16 31.8**	**+0.6**
ARU				SS	**SS**	**11 19 36.6**	**+2.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASAJ	**Asahikawa**	**40.99**	**52**	P	**P**	**11 10 34.8**	**-1.4**
	comp=Z,5.2nm,0.9s,baz=250,slow=15,SNR=5.2						
NRIK	**Noril'sk**	**43.24**	**355**	P	**P**	**11 10 54.0**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=172,slow=5.2,SNR=3.6						
KIRV	**Kirov**	**45.80**	**328**	*i* P	**P**	**11 11 15.2**	**+0.7**
TIXI	**Tiksi**	**48.70**	**13**	*ce*P	**P**	**11 11 35.4**	**-1.5**
TIXI	**Tiksi**	**48.70**	**13**	P	**P**	**11 11 36.5**	**-0.4**
TIXI				IAmb	IAmb	11 11 36.5	
	comp=Z,5.2nm,0.4s						
GENI	**Genyem**	**51.12**	**118**	P	**P**	**11 11 52.7**	**-3.3**
LVZ	**Lovozero**	**55.23**	**336**	P	**P**	**11 12 25.8**	**+0.4**
LVZ				pmax	pmax		
	comp=Z,55nm,1.4s						
LVZ	**Lovozero**	**55.23**	**336**	P	**P**	**11 12 25.8**	**+0.4**
JOF	**Joensuu**	**55.52**	**330**	P	**P**	**11 12 28.3**	**+0.9**
AKASG	**Malin Array Be**	**55.78**	**315**	P	**P**	**11 12 29.1**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=79,slow=6.1,SNR=14						
AKASG	**Malin Array Be**	**55.78**	**315**	*ce*P	**P**	**11 12 29.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKBB	**Malin Array Si**	**55.78**	**315**	*ce*P	**P**	**11 12 28.2**	**-1.4**
AKBB	**Malin Array Si**	**55.78**	**315**	P	**P**	**11 12 29.6**	**0.0**
AKBB				IAmb	IAmb	11 12 29.9	
	comp=Z,4.8nm,0.7s						
KIEV	**Kiev**	**55.79**	**315**	P	**P**	**11 12 29.0**	**-0.6**
KMPD	**K-Podol'skiy**	**57.68**	**312**	P	**P**	**11 12 42.0**	**-1.0**
FINES	**FINESS Array B**	**57.79**	**328**	P	**P**	**11 12 44.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=86,slow=6.7,SNR=8.9						
FINES	**FINESS Array B**	**57.79**	**328**	*i* P	**P**	**11 12 44.4**	**+0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**57.79**	**328**	P	**P**	**11 12 44.0**	**+0.4**
SGF	**Sodankyl**	**58.18**	**335**	P	**P**	**11 12 46.8**	**+0.6**
SGF				pmax	pmax		
	comp=Z,13nm,0.8s						
MLR	**Muntele Rosu**	**58.33**	**309**	P	**P**	**11 12 47.9**	**+0.1**
MLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MLR	**Muntele Rosu**	**58.33**	**309**	P	**P**	**11 12 47.9**	**+0.1**
MLR				IAmb	IAmb	11 12 49.6	
	comp=Z,5.5nm,0.8s						
KEV	**Kevo**	**58.35**	**337**	P	**P**	**11 12 48.0**	**+0.7**
KEV				pmax	pmax		
	comp=Z,14nm,1.2s						
KEV	**Kevo**	**58.35**	**337**	P	**P**	**11 12 48.0**	**+0.7**
ARCES	**ARCESS Array B**	**58.84**	**337**	P	**P**	**11 12 51.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=86,slow=7.5,SNR=8.8						
ARCES	**ARCESS Array B**	**58.84**	**337**	P	**P**	**11 12 51.4**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,14nm,1.4s						
ARCES	**ARCESS Array B**	**58.84**	**337**	P	**P**	**11 12 51.4**	**+0.7**
WB0	**Warramunga Arr**	**58.85**	**137**	P	**P**	**11 12 51.6**	**+0.1**
WB0				IAmb	IAmb	11 13 04.0	
	comp=Z,5.7nm,1.0s						
WRA	**Warramunga Arr**	**58.96**	**138**	P	**P**	**11 12 51.5**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=322,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**58.96**	**138**	P	**P**	**11 12 51.6**	**-0.6**
WRAB	**Tennant Creek**	**58.96**	**138**	P	**P**	**11 12 52.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**58.96**	**138**	P	**P**	**11 12 52.0**	**-0.2**
WRAB				IAmb	IAmb	11 13 05.4	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**58.96**	**138**	P	**P**	**11 12 52.0**	**-0.3**
KWP	**Kalwaria Pacla**	**60.03**	**314**	P	**P**	**11 12 59.6**	**+0.3**
KWP	**Kalwaria Pacla**	**60.03**	**314**	P	**P**	**11 12 59.6**	**+0.3**
DRGR		**60.39**	**311**	P	**P**	**11 13 02.4**	**+0.5**
ASAR	**Alice Springs**	**61.58**	**141**	P	**P**	**11 13 09.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=324,slow=6.5,SNR=15						
NC405	**NORSAR Array S**	**64.72**	**328**	P	**P**	**11 13 31.0**	**+0.6**
NC405				IAmb	IAmb	11 13 57.6	
	comp=Z,12nm,1.2s						
NB2	**NORSAR Subarra**	**64.98**	**328**	P	**P**	**11 13 32.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=81,slow=6.5						
NOA	**NORSAR Array B**	**64.98**	**328**	P	**P**	**11 13 31.9**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=81,slow=6.4,SNR=9.6						
GERES	**GERESS Array B**	**65.98**	**314**	P	**P**	**11 13 39.3**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=59,slow=5.1,SNR=14						
WET	**Wettzell**	**66.44**	**315**	P	**P**	**11 13 42.4**	**+0.8**
WET				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WLF	**Walferdange**	**70.52**	**316**	P	**P**	**11 14 08.3**	**+1.3**
BNI	**Bardonecchia**	**71.66**	**312**	P	**P**	**11 14 15.1**	**+1.0**
STKA	**Stephens Creek**	**72.22**	**141**	P	**P**	**11 14 15.8**	**-1.5**
	comp=Z,3.2nm,1.1s,baz=319,slow=20,SNR=2.9						
TOLK	**Toolik Lake Re**	**73.81**	**20**	P	**P**	**11 14 26.2**	**0.0**
NEEM	**North Greenlan**	**74.53**	**353**	*i* P	**P**	**11 14 30.4**	**-0.2**
NEEM				IAmb	IAmb	11 14 31.4	
	comp=Z,10.0nm,0.6s						
MTLF	**Montolieu**	**75.26**	**311**	P	**P**	**11 14 35.3**	**+0.2**
BMAR	**Burnt Mountain**	**76.05**	**20**	P	**P**	**11 14 39.4**	**+0.3**
MDM	**Murphy Dome**	**76.24**	**23**	P	**P**	**11 14 40.7**	**+0.5**
MDM				IAmb	IAmb	11 14 42.6	
	comp=Z,3.9nm,0.6s						
TCOL	**CIGO, UAF Yank**	**76.42**	**23**	P	**P**	**11 14 41.2**	**0.0**
COLA	**College**	**76.43**	**23**	P	**P**	**11 14 41.1**	**-0.1**
COLA				pmax	pmax		
	comp=Z,12nm,0.3s						
COLA	**College**	**76.43**	**23**	P	**P**	**11 14 41.1**	**-0.1**
WRH	**Wood River Hil**	**76.56**	**24**	P	**P**	**11 14 42.3**	**+0.3**
WRH				IAmb	IAmb	11 15 06.5	
	comp=Z,6.5nm,1.5s						
SUMG	**Summit**	**76.61**	**347**	P	**P**	**11 14 44.1**	**+1.5**
SUMG				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SUMG	**Summit**	**76.61**	**347**	P	**P**	**11 14 44.1**	**+1.5**
SUMG				IAmb	IAmb	11 14 58.2	
	comp=Z,9.2nm,1.5s						
ILAR	**Eielson Array**	**76.83**	**23**	P	**P**	**11 14 42.0**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=284,slow=4.2,SNR=4.7						
INK	**Inuvik**	**78.64**	**17**	P	**P**	**11 14 53.9**	**+0.4**
INK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
INK	**Inuvik**	**78.64**	**17**	P	**P**	**11 14 53.9**	**+0.4**
INK				IAmb	IAmb	11 15 04.5	
	comp=Z,5.8nm,1.4s						
EGAK	**Eagle**	**78.78**	**22**	P	**P**	**11 14 54.3**	**-0.1**
EGAK				IAmb	IAmb	11 15 10.5	
	comp=Z,5.3nm,1.5s						
L27K	**Beaver Creek,**	**79.64**	**23**	P	**P**	**11 14 59.3**	**+0.2**
BCAR	**Beaver Creek A**	**79.66**	**23**	P	**P**	**11 14 59.2**	**0.0**
TORD	**Torodi Ar. Bea**	**88.43**	**284**	P	**P**	**11 15 44.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=43,slow=3.8,SNR=4.4						

JMA 13 11:04:55.4, 34°.97N×135°.37E, h7km±1km, M2.7, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIK	**Miki**	**0.31**	**238**	P	Pg	11 05 01.7	+0.3
JMIK				S	Sg	11 05 06.0	+0.5
JWT	**Wachi**	**0.31**	**5**	P	Pg	11 05 01.9	+0.3
JWT				S	Sg	11 05 06.0	+0.3
MAT	**Matsushiro**	**2.79**	**55**	P	Pn	11 05 41.6	+1.1

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*IDC **13** 11:12:57.9±0.6, 12°.12N×46°.37E, h0km, mb4.4/32, mb1 4.5/33, mb1mx4.3/61, mbtmp4.4/33, ML3.9/1, Error ellipse: s-maj=15.5km s-min=13.5km az=88.0*
*NEIC **13** 11:12:58.5±1.6, 11°.8N±0°.1×46°.36E±0°.08, h15km±5km, mb4.8/61, Error ellipse: s-maj=18.0km s-min=10.4km az=170.0*
*OMAN **13** 11:13:03.9±0.5, 12°.20N×46°.75E, h15km, mb5.9/1, Error ellipse: s-maj=32.4km s-min=6.4km az=340.0*
ISC 13 11:12:58.7±0.4, 12°.07N±0°.05×46°.39E±0°.04, h10km, n234, σ1°71/236, mb4.6/89, MS4.5/3, 13C-6D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.51**	**262**	Pn	**Pn**	**11 13 51.8**	**-1.6**
ATD	**Arta Tunnel**	**3.51**	**262**	P	**Pg**	**11 14 07.8**	**+1.9**
	SNR=31						
ATD				S	**Sg**	**11 14 48.7**	**-2.8**
ATD	**Arta Tunnel**	**3.51**	**262**	*e*P	**Pn**	**11 13 53.4**	**0.0**
ATD	**Arta Tunnel**	**3.51**	**262**	*e*P	**Pn**	**11 13 50.1**	**-3.2**
ATD				*e*S	**Sn**	**11 14 31.1**	**-3.9**
ATD	**Arta Tunnel**	**3.51**	**262**	*e*P	**Pn**	**11 13 50.1**	**-3.2**
ATD				*e*S	**Sn**	**11 14 31.1**	**-3.9**
ATD	**Arta Tunnel**	**3.51**	**262**	*e*P	**Pn**	**11 13 51.7**	**-1.6**
ATD				*e*S	**Sg**	**11 14 52.2**	**+0.7**
ATD	**Arta Tunnel**	**3.51**	**262**	*e*P	**Pn**	**11 13 54.1**	**+0.7**
HARA	**HARA**	**4.12**	**228**	*e*P	**Pb**	**11 14 14.1**	**+2.6**
HARA	**HARA**	**4.12**	**228**	*e*P	**Pb**	**11 14 11.9**	**+0.3**
HARA				*e*S	**Sg**	**11 15 10.1**	**-1.1**
HARA	**HARA**	**4.12**	**228**	*e*P	**Pb**	**11 14 11.9**	**+0.3**
HARA				*e*S	**Sg**	**11 15 10.1**	**-1.1**
HARA	**HARA**	**4.12**	**228**	*e*P	**Pg**	**11 14 15.2**	**-2.5**
HARA	

KARS **Kars** 28.59 355 P **P** **11 18 55.5 +0.3**
BR131 **Keskin Array S** 29.76 340 P **P** **11 19 06.4 +0.8**
BR131 IAmb IAmb 11 19 07.9
comp=Z,16nm,1.3s
BRTR **Keskin Array B** 29.76 340 P **P** **11 19 06.5 +0.8**
comp=Z,1.3nm,0.6s,baz=40,slow=34,SNR=1.7
BRTR **Keskin Array B** 29.76 340 P **P** **11 19 06.6 +0.9**
ANTO **Ankara** 30.18 339 P **P** **11 19 10.1 +0.8**
ANTO IAmb IAmb 11 19 17.0
comp=Z,10nm,0.9s
ONI **Oni** 30.51 356 P **P** **11 19 12.5 +0.3**
ONI IAmb IAmb 11 19 17.8
comp=Z,15nm,1.4s
ILGA **Ilgaz** 30.94 341 P **P** **11 19 17.2 +1.1**
KBZ **Khabaz** 31.69 355 P **P** **11 19 24.4 +2.1**
comp=Z,2.4nm,0.7s,baz=192,slow=9.2,SNR=5.5
KIV **Kislovodsk** 31.93 355 ⇑P **P** **11 19 26.7 +2.1**
KIV **Kislovodsk** 31.93 355 P **P** **11 19 25.1 +0.5**
NIL **Nilore** 32.60 44 P **P** **11 19 31.4 +0.9**
NIL IAmb IAmb 11 19 36.7
comp=Z,10nm,0.9s
LSZ **Lusaka** 32.60 214 P **P** **11 19 29.9 -1.0**
comp=Z,3.8nm,0.7s,baz=32,slow=6.2,SNR=5.6
CHGR **Chuyangaron** 33.34 33 P **P** **11 19 37.2 +0.1**
CHGR IAmb IAmb 11 19 39.2
comp=Z,16nm,0.8s
ALN **Alexandroupoli** 33.82 332 P **P** **11 19 41.8 +0.7**
ALN IAmb IAmb 11 19 43.3
comp=Z,15nm,1.1s
GAR **Garm** 34.22 34 P **P** **11 19 45.9 +1.2**
BTK **Batken** 35.24 33 P **P** **11 19 53.8 +0.2**
BTK IAmb IAmb 11 20 05.3
comp=Z,11nm,0.9s
DRK **Karamyk** 35.38 35 P **P** **11 19 56.3 +1.4**
TIRR **Tirgusor** 35.77 338 ⇑P **P** **11 19 58.9 +1.0**
TPGR **Topolog** 36.11 338 ⇑P **P** **11 20 01.6 +0.7**
VTS **Vitosha** 36.48 331 ⇑P **P** **11 20 05.1 +0.9**
VTS **Vitosha** 36.48 331 P **P** **11 20 04.5 +0.3**
MATP **Matopo** 36.78 209 P **P** **11 20 08.3 +1.4**
comp=Z,0.9nm,0.5s,baz=29,slow=12,SNR=2.1
KK31 **Karatay Array** 37.31 30 P **P** **11 20 12.7 +1.5**
KKAR **Karatay Array** 37.31 30 P **P** **11 20 12.0 +0.9**
KKAR **Karatay Array** 37.31 30 P **P** **11 20 12.3 +1.2**
MLR **Muntele Rosu** 37.59 336 P **P** **11 20 14.8 +1.2**
comp=Z,6.9nm,0.9s,baz=126,slow=6.2,SNR=7.2
MLR **Muntele Rosu** 37.59 336 ⇑P **P** **11 20 15.2 +1.6**
MLR **Muntele Rosu** 37.59 336 P **P** **11 20 14.7 +1.1**
MLR IAmb IAmb 11 20 30.8
comp=Z,13nm,1.0s
VRI **Vrincioaia** 37.60 337 ⇑P **P** **11 20 15.2 +1.7**
PLOR **Plostina** 37.62 337 ⇓P **P** **11 20 14.7 +1.0**
PUK **Puka** 37.74 327 P **P** **11 20 14.9 0.0**
PUK IAmb IAmb 11 20 16.2
comp=Z,15nm,1.2s
VOIR 37.90 335 ⇓P **P** **11 20 17.3 +1.2**
TESR **Tescani** 38.17 338 ⇑P **P** **11 20 18.3 0.0**
DOPR **Dopca** 38.20 336 ⇑P **P** **11 20 19.0 +0.4**
AML **Almayashu** 38.24 33 P **P** **11 20 21.2 +1.8**
LOT **Lotru** 38.44 334 ⇑P **P** **11 20 21.5 +0.7**
ABKAR **Akbulak array** 38.74 14 P **P** **11 20 23.8 +0.8**
ABKAR **Akbulak array** 38.74 14 P **P** **11 20 23.6 +0.6**
ABKAR IAmb IAmb 11 20 24.9
comp=Z,11nm,0.9s
GZR **Gura Zlata** 38.83 333 ⇓P **P** **11 20 24.6 +0.7**
AAK **Ala-Archa** 39.02 34 P **P** **11 20 26.6 +0.8**
DIVS **Divibare** 39.16 330 P **P** **11 20 26.1 -0.6**
AKTO **Aktyubinsk** 39.42 12 P **P** **11 20 29.6 +0.8**
comp=Z,5.9nm,1.0s,baz=212,slow=10,SNR=12
BURAR **Bucovina Array** 39.63 337 ⇑P **P** **11 20 31.7 +1.0**
BURAR **Bucovina Array** 39.63 337 P **P** **11 20 31.8 +1.1**
SGDS **Sogindy** 39.65 33 *eP* **P** **11 20 30.2 -0.6**
comp=Z,16nm,2.1s,baz=33
BUR08 **Bucovina Ar. S** 39.66 337 P **P** **11 20 31.8 +0.8**
BOOM **Boomskoye usch** 39.72 35 P **P** **11 20 32.6 +1.1**
BOOM IAmb IAmb 11 20 39.1
comp=Z,18nm,1.4s
DRGR 39.96 335 ⇑P **P** **11 20 34.0 +0.6**
SIRR **Siria** 40.00 333 ⇑P **P** **11 20 34.8 +1.1**
BELG **Belogornoye** 40.23 1 P **P** **11 20 35.2 -0.2**
comp=Z,45nm,1.1s,baz=318,slow=4.0,SNR=5.8
BTLS **Baital** 40.47 30 *eP* **P** **11 20 37.1 -0.4**
baz=30
MDOK **Medeo** 40.77 35 *eP* **P** **11 20 40.0 -0.3**
baz=35
KUU **Kurty** 40.86 33 *eP* **P** **11 20 40.2 -0.7**
baz=34
AKASG **Malin Array Be** 41.00 343 P **P** **11 20 41.5 -0.3**
comp=Z,1.9nm,0.6s,baz=155,slow=7.1,SNR=17
AKBB **Malin Array Si** 41.00 343 P **P** **11 20 42.5 +0.7**
AKBB IAmb IAmb 11 20 43.0
comp=Z,19nm,1.4s
CHKK **Chushkaly** 41.19 34 *eP* **P** **11 20 43.7 +0.1**
baz=34
MORH **Mrgy, Hungar** 41.35 331 ⇑P **P** **11 20 44.6 -0.2**
SATY **Saty** 41.48 36 *eP* **P** **11 20 45.5 -0.6**
baz=36
KOLS **Kolonicke sedl** 41.84 336 *eP* **P** **11 20 50.2 +1.4**
UZB **Uzynbulak** 41.88 36 *eP* **P** **11 20 48.9 -0.5**
baz=36
KPKS **Kokpek** 41.89 36 *eP* **P** **11 20 47.9 -1.5**
baz=36
PSZ **Piszkesteto** 42.04 333 ⇓P **P** **11 20 50.2 -0.4**
PSZ **Piszkesteto** 42.04 333 P **P** **11 20 50.5 0.0**
PSZ IAmb IAmb 11 20 51.7
comp=Z,15nm,1.0s
CRVS **Cervenica-Dubn** 42.14 336 *eP* **P** **11 20 51.7 +0.4**
SHLS **Shalkode** 42.15 37 *eP* **P** **11 20 52.2 +0.6**
baz=37
KWP **Kalwaria Pacla** 42.24 337 *eP* **P** **11 20 52.4 +0.4**
KWP **Kalwaria Pacla** 42.24 337 P **P** **11 20 51.5 -0.5**
CRES **Cresnjev** 42.67 328 *iP* **P** **11 20 55.9 +0.3**
GROS **Grobnik** 43.08 329 *iP* **P** **11 20 59.4 +0.5**
SOKA **Soboth** 43.46 329 *eP* **P** **11 21 02.8 +0.7**
comp=Z,14nm,1.1s
MOZS **Mozjanca** 43.51 328 *iP* **P** **11 21 03.0 +0.5**
BRZS **Berezniki** 43.54 25 *eP* **P** **11 21 01.9 -0.7**
baz=24
MODS **Modra-Piesok** 43.56 332 *eP* **P** **11 21 04.3 +1.5**
TORD **Torodi Ar. Bea** 43.59 276 P **P** **11 21 05.0 +1.5**
comp=Z,5.0nm,1.1s,baz=92,slow=7.3,SNR=12
TORD PcP **PcP** **11 22 55.4 +4.3**
comp=Z,4.0nm,1.1s,baz=89,slow=5.5,SNR=4.5
OBKA **Obir** 43.60 328 *eP* **P** **11 21 04.2 +1.0**
comp=Z,11nm,1.2s
ARSA **Arzberg** 43.60 330 *eP* **P** **11 21 03.3 +0.2**
comp=Z,6.5nm,0.9s
OBN **Obninsk** 43.63 352 P **P** **11 21 03.5 +0.3**
comp=Z,7.3nm,0.3s,baz=186,slow=7.5,SNR=5.5
JAVC **Velka Javorina** 43.73 333 *eP* **P** **11 21 04.6 +0.4**
CONA **Conrad Observa** 43.91 330 *eP* **P** **11 21 06.0 +0.4**
comp=Z,10nm,1.0s
MYKA **Terra Mystica** 44.15 328 *eP* **P** **11 21 08.4 +0.8**
comp=Z,6.3nm,1.0s
STAL **STALIGIAL** 44.40 327 P **P** **11 21 09.3 -0.4**
STAL IAmb IAmb 11 21 10.8
comp=Z,12nm,1.1s
ZOU **Zoufplan** 44.45 327 P **P** **11 21 09.7 -0.5**
ZOU IAmb IAmb 11 21 11.5
comp=Z,23nm,1.3s
KRUC **Moravsky** 44.46 332 *eP* **P** **11 21 09.6 -0.4**
KRUC *e* 11 21 14.9
MORC **Moravsky Berou** 44.46 333 ⇓P **P** **11 21 10.0 -0.1**
MORC **Moravsky Berou** 44.46 333 *eP* **P** **11 21 09.4 -0.7**
MORC *e* 11 21 14.9
VRAC **Vranov** 44.54 332 P **P** **11 21 11.0 +0.3**
comp=Z,6.5nm,0.7s,baz=138,slow=5.0,SNR=9.1
VRAC **Vranov** 44.54 332 *eP* **P** **11 21 10.0 -0.7**
VRAC *e* 11 21 15.7
KBA **Koelnbreinsper** 44.59 328 *eP* **P** **11 21 11.0 -0.3**
comp=Z,6.1nm,1.3s
MOA **Molln** 44.63 329 *eP* **P** **11 21 11.6 +0.2**
comp=Z,7.5nm,0.9s
MNK **Minsk** 44.78 345 *iP* **P** **11 21 16.2 +3.8**
comp=E,4.0nm,1.0s
MNK *iP* **P** **11 21 16.2 +3.8**
comp=N,5.0nm,0.3s
MNK *iP* **P** **11 21 16.2 +3.8**
comp=Z,20nm,0.6s,baz=155
MNK *i* PcP **PcP** **11 22 52.6 -1.8**
MNK *i* PP PP 11 23 09.0 +12
MNK *i* PPP PPP 11 23 44.1
MNK *i* PcS **PcS** **11 26 47.8 +0.1**
MNK *i* S S 11 27 59.6 +10
MNK *i* SS **SnSn** **11 31 25.0 -9.0**
MNK *i* SSS SSS 11 32 15.0
MNK *i* LQ LQ 11 36 45.9
MNK *i* LR LR 11 39 53.9
MNK *i* LRM MLR 11 42 23.6
comp=E,35nm,17.1s
MNK *i* LRM MLR 11 42 56.3
comp=Z,392nm,16.0s
MNK *i* LRM MLR 11 42 59.0
comp=N,747nm,19.5s
ABTA **Abfaltersbach** 44.82 327 *eP* **P** **11 21 14.2 +1.2**
comp=N,2.2nm,0.7s
BRVK **Borovoye** 45.13 20 P **P** **11 21 15.8 +0.5**
BRVK IAmb IAmb 11 21 17.0
comp=Z,9.7nm,1.1s
BVAR **Borovoye Array** 45.14 20 P **P** **11 21 16.2 +0.9**
comp=Z,2.8nm,0.9s,baz=220,slow=21,SNR=10
ARU **Arti** 45.25 9 P **P** **11 21 15.5 -0.6**
comp=Z,2.1nm,0.2s,baz=183,slow=11,SNR=5.0
DPC **Dobruska-Polom** 45.42 333 *eP* **P** **11 21 18.2 +0.5**
GEC2 **GERESS Array S** 45.58 330 P **P** **11 21 18.1 -1.0**
GEC2 IAmb IAmb 11 21 19.5
comp=Z,14nm,1.0s
GERES **GERESS Array B** 45.58 330 P **P** **11 21 18.8 -0.2**
comp=Z,4.6nm,0.7s,baz=132,slow=7.4,SNR=39
WTTA **Wattenberg** 45.61 327 *eP* **P** **11 21 20.4 +1.0**
comp=Z,8.6nm,1.4s
OSTC **Ostas** 45.62 333 *eP* **P** **11 21 19.3 +0.1**
WATA **Walderalm** 45.69 327 *eP* **P** **11 21 19.4 -0.6**
comp=Z,3.3nm,0.5s
SUW **Suwalki** 45.70 341 *eP* **P** **11 21 20.0 +0.3**
SUW **Suwalki** 45.70 341 P **P** **11 21 19.8 0.0**
CHVC **Chvalec** 45.71 333 *eP* **P** **11 21 19.9 0.0**
MAKZ **Makanchi** 45.78 34 P **P** **11 21 21.1 +0.5**
KSP **Ksiaz** 45.79 334 *eP* **P** **11 21 19.6 -1.0**
KHC **Kasperske Hory** 45.84 330 *eP* **P** **11 21 21.5 +0.5**
KHC **Kasperske Hory** 45.84 330 P **P** **11 21 20.1 -0.9**
KHC IAmb IAmb 11 21 22.0
comp=Z,7.8nm,1.1s
MK31 **Makanchi Array** 45.94 34 P **P** **11 21 22.1 +0.3**
MKAR **Makanchi Array** 45.94 34 P **P** **11 21 22.3 +0.4**
comp=Z,4.5nm,0.9s,baz=216,slow=6.0,SNR=16
MKAR **Makanchi Array** 45.94 34 P **P** **11 21 21.5 -0.3**
MOTA **Moosalm** 45.94 327 *eP* **P** **11 21 21.4 -0.6**
comp=Z,3.9nm,0.8s
FETA **Feichten** 45.95 326 *eP* **P** **11 21 22.9 +0.9**
comp=Z,3.8nm,0.9s
RETA **Reutte** 46.21 327 *eP* **P** **11 21 23.2 -0.8**
comp=Z,3.2nm,1.0s
DAVOX **Davos/Dischmat** 46.27 326 P **P** **11 21 23.9 -0.6**
comp=Z,1.5nm,0.5s,baz=192,slow=9.3,SNR=5.3
KIRV **Kirov** 46.48 2 P **P** **11 21 25.9 +0.1**
comp=Z,12nm,0.7s,baz=160,slow=5.8,SNR=5.1
KURBB **Kurchatov Arra** 46.55 28 P **P** **11 21 26.5 0.0**
comp=Z,3.9nm,0.8s,baz=228,slow=8.2,SNR=20
PABE **Paberze** 46.74 343 P **P** **11 21 27.8 -0.1**
BRG **Berggiesshubel** 46.86 332 *eP* **P** **11 21 27.7 -1.2**
BRG Amp 11 21 30.7
comp=Z,6.6nm,0.9s
SENIN **Lac Senin/Sane** 47.49 324 P **P** **11 21 32.8 -1.4**
SENIN IAmb IAmb 11 21 59.5
comp=Z,12nm,1.2s
WMQ **Urumqi** 47.53 40 *eP* **P** **11 21 30.9 -3.5**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.5s
CLL **Collm** 47.59 332 *iP* **P** **11 21 33.6 -1.0**
comp=Z,20nm,1.7s
CLL *iP* **sP** **11 21 38.7 +0.6**
CLL *eS* **S** **11 28 36.0 +6.1**
CLL *eSS* **SS** **11 32 00.0 +2.1**
KLMR **Klimovskoe** 48.96 356 *eP* **P** **11 21 43.4 -1.6**
KLMR AMP 11 21 45.1
comp=Z,16nm,0.9s
CM13 **Chiang Mai Arr** 50.92 76 P P 11 22 07.0 +6.4
comp=Z,0.0nmcomp=Z,61nmcomp=Z,5.9nm,1.1s
CM31 **Chiang Mai Arr** 50.96 76 P P 11 22 10.2 +9.3
comp=Z,1.3nmcomp=Z,104nm,0.4s
CMAR **Chiang Mai Arr** 50.96 76 P **P** **11 22 01.3 +0.4**
comp=Z,2.5nm,0.9s,baz=271,slow=8.7,SNR=11
CMAR **Chiang Mai Arr** 50.96 76 P **P** **11 22 00.5 -0.4**
CM05 **Chiang Mai Arr** 50.96 76 P P 11 22 07.0 +6.1
comp=Z,0.0nmcomp=Z,115nmcomp=Z,6.6nm,1.0s
CM02 **Chiang Mai Arr** 50.96 76 P P 11 22 06.0 +5.1
comp=Z,0.0nmcomp=Z,83nmcomp=Z,8.5nm,1.2s
CM01 **Chiang Mai Arr** 50.97 76 P P 11 22 08.0 +7.0
CM04 **Chiang Mai Arr** 50.99 76 P P 11 22 07.0 +5.8
comp=Z,0.0nmcomp=Z,113nmcomp=Z,7.5nm,1.1s
CM09 **Chiang Mai Arr** 51.00 76 P P 11 22 10.4 +9.2
comp=Z,0.0nmcomp=Z,5.4nm,1.1s
CM36 **Chiang Mai Arr** 51.10 76 P P 11 22 07.0 +5.0
FIA1 **FINESS Array S** 51.46 348 P **P** **11 22 04.2 +0.2**
FIA1 IAmb IAmb 11 22 10.0
comp=Z,14nm,1.0s
FINES **FINESS Array B** 51.46 348 P **P** **11 22 04.4 +0.4**
ZAA0 **Zalesovo Array** 51.64 28 P **P** **11 22 05.3 -0.2**
ZALV **Zalesovo Beam** 51.64 28 P **P** **11 22 04.8 -0.7**
comp=Z,2.6nm,0.6s,baz=239,slow=7.3,SNR=8.8
ZALV **Zalesovo Beam** 51.64 28 P **P** **11 22 05.0 -0.4**
ESDC **Sonseca Array** 52.13 311 P **P** **11 22 09.4 -0.1**
comp=Z,0.8nm,0.9s,baz=107,slow=4.4,SNR=3.8
ESDC **Sonseca Array** 52.13 311 P **P** **11 22 09.4 -0.1**
HFS **Hagfors** 53.71 340 P **P** **11 22 20.1 -0.5**
comp=Z,4.1nm,0.9s,baz=146,slow=9.0,SNR=6.5
GTA **Gaotai** 54.34 50 *eP* P 11 22 33.4 +7.5
GTA pP pwP 11 22 37.8 +6.9
GTA sP sP 11 22 40.8 +11
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,79nm,7.6s
GTA LR LR
comp=N,200nm,15.1s
GTA LR LR
comp=E,680nm,18.7s
GTA LR LR
comp=Z,180nm,15.1s
NONG **Nongkai** 54.96 76 P P 11 22 38.8 +8.4
comp=Z,0.2nmcomp=Z,14nm,1.4s
NB2 **NORSAR Subarra** 55.20 340 P **P** **11 22 30.3 -1.3**
comp=Z,8.2nm,1.4s,baz=137,slow=7.4
NOA **NORSAR Array B** 55.20 340 P **P** **11 22 30.6 -0.9**
comp=Z,1.8nm,1.0s,baz=135,slow=7.4,SNR=5.5
LZH **Lanzhou** 56.77 55 *eP* **P** **11 22 45.3 +1.9**
LZH pP pwP 11 22 48.8 +0.3
LZH sP sP 11 22 51.3 +4.3
LZH pmax pmax
comp=Z,20nm,1.3s
ARCES **ARCESS Array B** 58.94 352 P **P** **11 22 58.9 +1.0**
comp=Z,3.5nm,0.8s,baz=168,slow=11,SNR=4.4
XAN **Xi'an** 60.63 58 P **P** **11 23 10.8 +0.6**
XAN pP pwP 11 23 20.0 +4.7
XAN pmax pmax
comp=Z,9.0nm,1.2s
SONM **Songino Array** 61.12 42 P **P** **11 23 14.3 +0.9**
comp=Z,2.0nm,0.9s,baz=241,slow=8.0,SNR=11
SONM **Songino Array** 61.12 42 P **P** **11 23 12.6 -0.7**
NRIK **Noril'sk** 62.90 15 P **P** **11 23 24.0 -0.8**
NRIK IAmb IAmb 11 23 26.4
comp=Z,15nm,1.4s
HHC **Hu-ho-hao-te** 63.45 50 *eP* **P** **11 23 30.0 +0.9**
HHC pmax pmax
comp=Z,25nm,1.1s
HHC pmax pmax
comp=Z,61nm,5.2s
BJI **Beijing** 66.88 52 P **P** **11 23 52.6 +1.4**
BJI pmax pmax
comp=Z,10.0nm,0.8s
NJ2 **Nanjing** 68.90 60 *eP* **P** **11 24 04.1 0.0**
NJ2 pmax pmax
comp=Z,400nm,0.5s
TIXI **Tiksi** 76.25 19 P **P** **11 24 46.9 -0.3**
TIXI IAmb IAmb 11 24 56.0
comp=Z,8.1nm,1.1s
YAK **Yakutsk** 76.28 29 P **P** **11 24 46.4 -1.0**
SUMG **Summit** 77.02 342 P **P** **11 24 51.7 -0.2**
SUMG IAmb IAmb 11 25 02.9
comp=Z,9.7nm,1.1s
MAW **Mawson** 80.36 174 P **P** **11 25 12.0 +2.2**
comp=Z,2.9nm,0.8s,baz=347,slow=14,SNR=3.6
SYO **Syowa Base** 81.02 182‖ *eP* **P** **11 25 11.4 -1.8**
MAT **Matsushiro** 84.37 54 P **P** **11 25 31.4 -0.2**
MJAR **Matsushiro Arr** 84.37 54 P **P** **11 25 32.3 +0.7**
comp=Z,2.6nm,0.9s,baz=265,slow=5.7,SNR=3.5
SEY **Seymchan** 86.47 26 P **P** **11 25 41.4 -0.1**
comp=Z,2.8nm,0.9s,baz=291,slow=5.6,SNR=6.8
SNAA **Sanae** 89.71 194 P **P** **11 25 56.8 +0.1**
VNA2 **Neumayer--Watz** 90.36 195 P **P** **11 25 58.7 -1.0**
VNA3 **Neumayer Olymp** 91.14 196 P **P** **11 26 01.7 -1.6**
WRA **Warramunga Arr** 92.15 110 P **P** **11 26 10.4 +1.3**
comp=Z,3.6nm,0.7s,baz=294,slow=3.9,SNR=14
WRA **Warramunga Arr** 92.15 110 P **P** **11 26 06.0 -3.2**
WB2 **Warramunga Arr** 92.17 110 P **P** **11 26 05.6 -3.7**
WB0 **Warramunga Arr** 92.17 110 P **P** **11 26 06.2 -3.0**
ASAR **Alice Springs** 92.53 114 P **P** **11 26 12.2 +1.4**
comp=Z,2.4nm,0.8s,baz=279,slow=4.0,SNR=14
ASAR **Alice Springs** 92.53 114 P **P** **11 26 07.2 -3.7**
PDAR **Pinedale Array** 121.14 339 PKP **PKPdf** **11 31 51.9 -0.6**
comp=Z,0.1nm,0.4s,baz=45,slow=1.4,SNR=2.8
DZM **Mont Dzumac** 122.15 109 *eLR* LR 12 09 36.0
comp=Z,114nm,21.6s
NVAR **Mina Array Bea** 127.76 345 PKP **PKiKP** **11 32 06.8 +0.9**
comp=Z,3.8nm,0.9s,baz=270,slow=2.0,SNR=20
TXAR **Lajitas Array** 129.70 325 PKP **PKPdf** **11 32 09.6 +0.5**
comp=Z,0.4nm,0.9s,baz=79,slow=4.7,SNR=2.9
TBI **Tubuai** 161.22 129 *eLR* LR 12 27 40.8
comp=Z,253nm,32.8s
PPT2 **Papeete2** 163.63 111 *eLR* LR 12 28 58.5
comp=Z,192nm,22.0s

BJI ***13*** *11:13:57.0±0.0, 11°.59N×45°.78E, h15km, mB5.2/24, mb4.8/40, Ms4.8/17, Ms7 4.4/13*
IDC ***13*** *11:14:00.7±0.5, 12°.08N×46°.37E, h0km, mb4.5/36, mb1 4.6/38, mb1mx4.5/65, mbtmp4.5/38, ML3.8/2, MS4.4/5, Ms1 4.4/5, ms1mx3.9/27, Error ellipse: s-maj=14.6km s-min=11.1km az=98.0*
MOS ***13*** *11:14:02.9±1.4, 12°.12N×46°.45E, h27km, mb5.1/42, MS4.5/12, Error ellipse: s-maj=9.2km s-min=4.4km az=95.0*
GCMT ***13*** *11:14:03.2±0.2, 12°.18N±0°.01×46°.30E±0°.02, h17km±1km, MW5.3/109, Moment Tensor Solution. s109,c186; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.44±.06; $M_{\theta\theta}$0.98±.04; $M_{\phi\phi}$-0.54±.03; $M_{r\theta}$-0.03±.06; $M_{\theta\phi}$-0.13±.02; $M_{\phi r}$0.45±.13; Best double couple: $M_0$0.97000×10^{17} NP1:ϕ_s238.00000°, δ60.00000°, λ-150.00000°. NP2:ϕ_s132.00000°, δ65.00000°, λ-34.00000°. Principal axes: T 0.9960, Plg3.0000°, Azm186.0000°; N -0.0530, Plg49.0000°, Azm279.0000°; P -0.9430, Plg41.0000°, Azm93.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *11:14:04.2±2.1, 11°.94N±0°.09×46°.37E±0°.07, h14km±3km, mb5.0/56 Error ellipse: s-maj=13.3km s-min=9.8km az=161.0*
ISC 13 11:14:02.7±0.3,**11°.98N**±0°.04×**46°.41E**±0°.05,**h10**km,**n342,** σ1**988**/351,**mb4.8**/119,**MS4.5**/32,**4C-8D,Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.52**	**263**	Pn	**Pn**	**11 14 55.5**	**-2.0**
HARA	**HARA**	**4.08**	**229**	*eP*	**Pg**	**11 15 19.8**	**-1.1**
HARA	**HARA**	**4.08**	**229**	*eS*	**Pg**	**11 15 24.9**	**+4.0**
SOCY	**Socotra**	**7.42**	**88**	Pn	**Pn**	**11 15 52.5**	**+1.3**
AAE	**Adis Abeba**	**8.07**	**249**	*eS*	**Pn**	**11 15 56.3**	**-4.0**
AAE	**Adis Abeba**	**8.07**	**249**	*eS*	**Pn**	**11 15 56.3**	**-4.0**
AAE	**Adis Abeba**	**8.07**	**249**	*eS*	**Sn**	**11 17 33.0**	**+1.1**
LODK	**Lodwar**	**13.86**	**233**		**Pn**	**11 17 19.2**	**-0.2**
UOSS	**Minazif**	**15.88**	**34**	Pn	**Pn**	**11 17 46.4**	**0.0**
UOSS				IAmb	IAmb	11 17 55.5	
comp=Z,232nm,1.1s							
KMBO	**Kilima Mbogo**	**15.89**	**216**	Pn	**Pn**	**11 17 45.6**	**-1.2**
comp=Z,0.4nm,0.3s,baz=27,slow=14,SNR=10							
KMBO				LR	LR	11 23 47.1	
comp=Z,2μm,18.6s,baz=18,slow=37							
WSAR	**Wadi Sarin**	**16.14**	**44**	Pn	**Pn**	**11 17 49.9**	**+0.1**
comp=Z,0.3nm,0.3s,baz=240,slow=14,SNR=2.7							
WSAR				LR	LR	11 24 16.6	
comp=Z,1μm,21.1s,baz=244,slow=38							
KIBK	**Kibwezi**	**16.48**	**211**	Pn	**Pn**	**11 17 52.1**	**-2.1**
KIBK				IAmb	IAmb	11 17 53.6	
comp=Z,92nm,1.1s							
MSEY	**Mahe Island**	**18.85**	**151**	P	**Pn**	**11 18 24.7**	**+1.1**
MSEY				pmax	pmax		
comp=Z,138nm,1.2s							
MSEY	**Mahe Island**	**18.85**	**151**		**Pn**	**11 18 24.7**	**+1.1**
MSEY				IAmb	IAmb	11 18 37.2	
comp=Z,138nm,1.2s							
MBAR	**Mbarara**	**19.96**	**232**	P	**P**	**11 18 35.6**	**+0.2**
MBAR				pmax	pmax		
comp=Z,13nm,1.1s							
MBAR	**Mbarara**	**19.96**	**232**	P	**P**	**11 18 35.6**	**+0.2**
EIL	**Elat**	**20.57**	**331**	P	**P**	**11 18 41.3**	**-0.5**
comp=Z,24nm,1.2s,baz=133,slow=6.8,SNR=5.9							
EIL				LR	LR	11 24 44.2	
comp=Z,1μm,19.3s,baz=156,slow=31							
MMAI	**Mount Meron Ar**	**23.24**	**336**	P	**P**	**11 19 09.5**	**-0.8**
comp=Z,2.6nm,0.5s,baz=170,slow=11,SNR=3.9							
MARD	**Mardin**	**25.72**	**350**	P	**P**	**11 19 34.3**	**+0.8**
MARD				IAmb	IAmb	11 19 41.7	
comp=Z,85nm,1.4s							
CSS	**Mathiatis**	**25.78**	**335**	P	**P**	**11 19 35.0**	**+1.1**
CSS				IAmb	IAmb	11 19 36.2	
comp=Z,37nm,1.1s							
GAZ	**Gaziantep**	**26.41**	**343**	P	**P**	**11 19 41.0**	**+1.4**
HRA	**Herat**	**26.56**	**30**	P	**P**	**11 19 41.7**	**+0.5**
HRA				IAmb	IAmb	11 19 49.8	
comp=Z,78nm,1.4s							
GNI	**Garni**	**28.09**	**357**	*iP*	**P**	**11 19 51.4**	**-3.4**
GNI				pmax	pmax		
comp=Z,26nm,1.0s							
ELL	**Elmali**	**28.78**	**332**	P	**P**	**11 20 00.6**	**-0.3**
ELL				pmax	pmax		
comp=Z,107nm,1.3s							
ELL	**Elmali**	**28.78**	**332**	P	**P**	**11 20 00.6**	**-0.3**
BRTR	**Keskin Array B**	**29.86**	**340**	P	**P**	**11 20 09.1**	**-1.4**
comp=Z,2.1nm,0.7s,baz=161,slow=9.2,SNR=3.6							
BRTR				PcP	**PcP**	**11 23 14.9**	**+1.3**
comp=Z,2.6nm,0.8s,baz=159,slow=3.8,SNR=4.4							
BRTR	**Keskin Array B**	**29.86**	**340**	P	**P**	**11 20 10.9**	**+0.4**
BR231	**Keskin MP Arra**	**30.26**	**339**	P	**P**	**11 20 14.4**	**+0.4**
BR231				IAmb	IAmb	11 20 23.5	
comp=Z,19nm,0.6s							
OPO	**Ambohidratompo**	**30.37**	**179**	P	**P**	**11 20 15.8**	**+0.6**
comp=Z,13nm,1.0s,baz=320,slow=5.7,SNR=4.8							
OPO				LR	LR	11 31 04.5	
comp=Z,897nm,20.4s,baz=174,slow=34							
BTLR	**Botlikh**	**30.57**	**360**	*iP*	**P**	**11 20 13.7**	**-2.9**
MAK	**Makhachkala**	**30.88**	**2**	*eP*	**P**	**11 20 16.2**	**-3.0**
MAK				*eS*	**S**	**11 25 20.7**	**-2.5**
MAK				*eSS*	**SnSn**	**11 27 02.9**	**+0.3**
MAK				pmax	pmax		
comp=Z,161nm,1.4s							
MAK				MLR	MLR		
comp=Z,646nm,11.0s							
NCK	**Nalchik**	**31.49**	**356**	*iP*	**P**	**11 20 21.5**	**-3.2**
NCK				pmax	pmax		
comp=Z,10.0nm,0.8s							
ARXR	**Arkhyz**	**31.78**	**353**	*iP*	**P**	**11 20 23.7**	**-3.7**
KBZ	**Khabaz**	**31.78**	**355**	P	**P**	**11 20 27.1**	**0.0**
comp=Z,3.3nm,0.8s,baz=202,slow=16,SNR=2.8							
KBZ	**Khabaz**	**31.78**	**355**	*iP*	**P**	**11 20 26.3**	**-0.8**
KBZ				pmax	pmax		
comp=Z,14nm,1.2s							
SHA1	**Shidzhatmaz**	**31.81**	**355**	*iP*	**P**	**11 20 24.5**	**-3.2**
SOC	**Sochi**	**32.01**	**351**	*eP*	**P**	**11 20 24.6**	**-4.7**
SOC				*e*		11 21 29.4	
SOC				*e*PPP	PPP	11 21 42.1	
SOC				*eS*	**S**	**11 25 36.8**	**-4.1**
SOC				*e*SSS	SSS	11 27 32.9	
SOC				MLR	MLR		
comp=Z,358nm,14.0s							
KIV	**Kislovodsk**	**32.02**	**355**	*eP*	**P**	**11 20 26.4**	**-3.0**
KIV				*eS*	**S**	**11 25 38.9**	**-2.3**
KIV				*e*SS	**SnSn**	**11 27 31.3**	**+0.8**
KIV				pmax	pmax		
comp=Z,24nm,1.1s							
KIV	**Kislovodsk**	**32.02**	**355**	P	**P**	**11 20 30.0**	**+0.5**
KIV				IAmb	IAmb	11 20 38.6	
comp=Z,28nm,1.1s							
RPOR	**Krasnaya Polya**	**32.05**	**352**	*iP*	**P**	**11 20 28.7**	**-0.9**
RPOR				pmax	pmax		
comp=Z,13nm,0.9s							
LSZ	**Lusaka**	**32.54**	**214**	P	**P**	**11 20 34.2**	**-0.1**
comp=Z,8.0nm,0.8s,baz=37,slow=7.8,SNR=11							
LSZ	**Lusaka**	**32.54**	**214**	P	**P**	**11 20 34.2**	**-0.1**

LSZ pmax pmax
comp=Z,10.0nm,0.9s
LSZ Lusaka 32.54 214 P P 11 20 34.2 -0.1
LSZ IAmb IAmb 11 20 36.7
comp=Z,9.9nm,0.8s
GOF Gofitskoye 33.09 356⇑ eP P 11 20 37.7 -0.9
GOF pmax pmax
comp=Z,34nm,0.8s
ANN Anapa 33.60 348 eP P 11 20 41.7 -1.4
ANN eS S 11 26 05.1 -0.4
ANN pmax pmax
comp=Z,24nm,0.6s
ANN MLR MLR
comp=Z,1µm,12.0s
VOI Vohitsoka 33.68 179 P P 11 20 45.9 +1.7
VOI IAmb IAmb 11 20 49.3
comp=Z,33nm,1.4s
ALN Alexandroupoli 33.91 332 P P 11 20 46.4 +0.5
ALN pmax pmax
comp=Z,23nm,1.2s
ALN Alexandroupoli 33.91 332 P P 11 20 46.4 +0.5
ALN IAmb IAmb 11 20 52.3
comp=Z,23nm,1.2s
GAR Garm 34.28 34 P P 11 20 50.1 +0.8
GAR IAmb IAmb 11 21 03.3
comp=Z,44nm,1.2s
SRS Serrai 35.26 329 P P 11 20 56.8 -0.8
BTK Batken 35.30 33 P P 11 20 59.2 +1.1
BTK pmax pmax
comp=Z,30nm,1.2s
BTK Batken 35.30 33 P P 11 20 59.2 +1.1
BTK IAmb IAmb 11 21 08.1
comp=Z,30nm,1.2s
DRK Karamyk 35.43 35 P P 11 20 59.5 0.0
TIRR Tirgusor 35.86 338 P P 11 21 02.7 0.0
TIRR pmax pmax
comp=Z,73nm,1.1s
TIRR Tirgusor 35.86 338 P P 11 21 02.7 0.0
CFR Carcaliu 36.58 338 P P 11 21 07.6 -1.2
MATP Matopo 36.71 209 P P 11 21 09.8 -0.5
comp=Z,5.4nm,0.8s,baz=23,slow=8.1,SNR=6.6
KK31 Karatay Array 37.38 30 P P 11 21 17.6 +1.9
KK31 pmax pmax
comp=Z,12nm,1.1s
KK31 Karatay Array 37.38 30 P P 11 21 17.6 +1.9
KKAR Karatay Array 37.38 30 P P 11 21 16.9 +1.2
KKAR pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 37.38 30 P P 11 21 16.9 +1.2
KKAR Karatay Array 37.38 30 P P 11 21 17.3 +1.6
KKAR IAmb IAmb 11 21 27.4
comp=Z,12nm,1.1s
MLR Muntele Rosu 37.68 336 P P 11 21 17.8 -0.5
comp=Z,11nm,1.1s,baz=122,slow=10,SNR=2.3
MLR Muntele Rosu 37.68 336 P P 11 21 19.2 +0.9
MLR pmax pmax
comp=Z,23nm,0.9s
MLR Muntele Rosu 37.68 336 P P 11 21 19.2 +0.9
MLR IAmb IAmb 11 21 32.3
comp=Z,23nm,0.9s
VRI Vrincioaia 37.69 337 P P 11 21 19.9 +1.6
PUK Puka 37.83 327 P P 11 21 19.1 -0.5
PUK IAmb IAmb 11 21 25.1
comp=Z,30nm,1.2s
KSH Kashi 37.90 38 eP P 11 21 13.3 -7.0
KSH pP pP 11 21 22.8 -0.1
KSH pmax pmax
comp=Z,240nm,4.5s
KSH LR LR
comp=Z,680nm,12.8s
KSH LR LR
comp=Z,750nm,14.5s
KSH LR LR
comp=Z,470nm,14.9s
KIS Kishinev 37.92 340 eP P 11 21 22.0 +1.8
KIS eLR LR 11 36 21.0
comp=Z,700nm,14.5s
KIS Kishinev 37.92 340 eP P 11 21 22.0 +1.8
KIS MLR MLR
comp=Z,700nm,14.5s
ABKAR Akbulak array 38.82 14 P P 11 21 27.9 +0.2
AAK Ala-Archa 39.08 33 i P P 11 21 27.3 -2.9
AAK pmax pmax
comp=Z,89nm,1.6s
AAK Ala-Archa 39.08 33 P P 11 21 31.7 +1.4
VRH Novokhopyorsk 39.30 355 eP P 11 21 30.1 -1.5
VRH pmax pmax
comp=Z,50nm,1.5s
VORD Divnogorie 39.30 353 eP P 11 21 29.8 -1.9
VORD pmax pmax
comp=Z,20nm,1.1s
AKTO Aktyubinsk 39.51 12 P P 11 21 32.0 -1.5
comp=Z,3.3nm,0.7s,baz=211,slow=7.4,SNR=4.5
BZS Buzias 39.61 333 P P 11 21 32.9 -1.5
SGDS Sogindy 39.71 33 eP P 11 21 34.6 -0.8
comp=Z,18nm,2.1s,baz=32
SGDS Sogindy 39.71 33 eP P 11 21 34.5 -0.8
SGDS pmax pmax
comp=Z,18nm,2.1s
BURAR Bucovina Array 39.72 337 P P 11 21 34.4 -1.1
BUR08 Bucovina Ar. S 39.75 338 P P 11 21 35.4 -0.3
BOOM Boomskoye usch 39.77 35 P P 11 21 38.0 +1.9
BOOM pmax pmax
comp=Z,13nm,1.1s
BOOM Boomskoye usch 39.77 35 P P 11 21 38.0 +1.9
BELG Belogornoye 40.31 1 P P 11 21 38.8 -1.3
comp=Z,26nm,0.8s,baz=28,slow=0.8,SNR=4.4
BTLS Baital 40.53 30 eP P 11 21 40.5 -1.6
comp=Z,18nm,2.1s,baz=30
BTLS Baital 40.53 30 eP P 11 21 40.4 -1.6
BTLS pmax pmax
comp=Z,18nm,2.1s
MDOK Medeo 40.83 35 eP P 11 21 43.7 -1.2
baz=35
MDOK Medeo 40.83 35 eP P 11 21 43.6 -1.2
KUU Kurty 40.92 33 eP P 11 21 42.4 -3.0
baz=33
KUU Kurty 40.92 33 eP P 11 21 42.3 -3.0
LPSR Galich'ya Gora 40.96 353 eP P 11 21 43.5 -1.9
LPSR pmax pmax
comp=Z,30nm,1.0s
AKASG Malin Array Be 41.09 343 P P 11 21 44.8 -1.7
comp=Z,1.5nm,0.5s,baz=154,slow=6.9,SNR=7.3
AKBB Malin Array Si 41.09 343 i P P 11 21 43.4 -3.2
AKBB pmax pmax
comp=Z,21nm,1.2s
AKBB Malin Array Si 41.09 343 P P 11 21 45.4 -1.2
CHKK Chushkaly 41.25 34 eP P 11 21 46.8 -1.3
baz=34
CHKK Chushkaly 41.25 34 eP P 11 21 46.7 -1.3
SATY Saty 41.53 36 eP P 11 21 50.1 -0.4
baz=36
SATY Saty 41.53 36 eP P 11 21 50.1 -0.4
KOLS Kolonicke sedl 41.93 336 eP P 11 21 53.5 0.0
KOLS Kolonicke sedl 41.93 336 eP P 11 21 53.5 0.0
UZB Uzynbulak 41.94 36 eP P 11 21 50.3 -3.6
baz=36
UZB Uzynbulak 41.94 36 eP P 11 21 50.3 -3.6
KPKS Kokpek 41.95 36 eP P 11 21 49.6 -4.2
baz=36
KPKS Kokpek 41.95 36 eP P 11 21 49.6 -4.2
TSUM Tsumeb 42.04 223 P P 11 21 55.1 +0.2
comp=Z,5.0nm,0.8s,baz=21,slow=5.7,SNR=3.7
SHLS Shalkode 42.20 36 eP P 11 21 56.5 +0.5
baz=37
SHLS Shalkode 42.20 36 eP P 11 21 56.5 +0.5
KWP Kalwaria Pacla 42.33 337 eP P 11 21 55.7 -1.1
KWP Kalwaria Pacla 42.33 337 P P 11 21 56.3 -0.5
KWP Kalwaria Pacla 42.33 337 P P 11 21 56.3 -0.5
CRES Cresnjev 42.76 328 i P P 11 21 58.8 -1.5
VYHS Vyhne 43.03 333 eP P 11 22 01.0 -1.5
VYHS Vyhne 43.03 333 eP P 11 22 01.0 -1.5
GROS Grobnik 43.16 329 i P P 11 22 02.8 -0.9
LANS Liptovska Anna 43.25 334 eP P 11 22 03.7 -0.6
LANS Liptovska Anna 43.25 334 eP P 11 22 03.7 -0.6
SOKA Soboth 43.55 329 eP P 11 22 05.9 -0.9
comp=Z,16nm,1.2s
MOZS Mozjanca 43.59 328 i P P 11 22 06.2 -0.9
BRZS Berezniki 43.62 24 eP P 11 22 03.4 -3.8
baz=24
BRZS Berezniki 43.62 24 eP P 11 22 03.4 -3.8
TORD Torodi Ar. Bea 43.62 277 P P 11 22 06.8 -0.8
comp=Z,6.2nm,1.0s,baz=92,slow=6.1,SNR=8.3
TORD PcP PcP 11 23 54.4 -0.8
comp=Z,2.5nm,1.0s,baz=95,slow=2.6,SNR=3.4

MODS Modra-Piesok 43.64 332 eP P 11 22 08.0 +0.5
MODS Modra-Piesok 43.64 332 eP P 11 22 08.0 +0.5
OBKA Obir 43.68 328 eP P 11 22 07.4 -0.5
comp=Z,9.0nm,1.1s
ARSA Arzberg 43.69 330 eP P 11 22 07.2 -0.7
comp=Z,6.3nm,1.1s
OBN Obninsk 43.72 352 P P 11 22 06.7 -1.2
comp=Z,5.9nm,0.3s,baz=168,slow=8.5,SNR=3.9
OBN Obninsk 43.72 352 ⇓i P P 11 22 07.1 -0.8
OBN e*SP pwP 11 22 12.5 -0.2
OBN 11 23 52.0
OBN e 11 23 55.2
OBN eS S 11 28 36.7 -1.2
OBN SS ScS 11 32 04.0 -3.3
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,575nm,17.0s
JAVC Velka Javorina 43.82 333 eP P 11 22 07.8 -1.1
CONA Conrad Observa 43.99 331 eP P 11 22 09.2 -1.1
comp=Z,13nm,1.1s
MOS Moscow 44.19 353 eP P 11 22 09.2 -2.5
MOS e 11 23 47.3
MOS e 11 24 02.0
MOS pmax pmax
comp=Z,66nm,1.2s
MYKA Terra Mystica 44.23 328 eP P 11 22 11.1 -1.1
comp=Z,15nm,1.5s
OKC Ostrava-Krasne 44.34 334 eS S 11 28 53.1 +6.0
OKC AMS AMS 11 43 10.0
comp=Z,400nm,15.3s
STAL STALIGIAL 44.49 327 P P 11 22 13.9 -0.4
STAL IAmb IAmb 11 22 25.6
comp=Z,21nm,1.2s
ZOU Zoufplan 44.54 327 P P 11 22 14.5 -0.4
ZOU IAmb IAmb 11 22 26.4
comp=Z,23nm,1.3s
KRUC Moravsky 44.55 332 P P 11 22 13.4 -1.3
KRUC Moravsky 44.55 332 eP P 11 22 12.8 -1.9
MORC Moravsky Berou 44.55 334 eP P 11 22 12.9 -1.9
VRAC Vranov 44.63 332 P P 11 22 13.6 -1.7
comp=Z,4.7nm,0.8s,baz=144,slow=9.7,SNR=5.0
VRAC Vranov 44.63 332 P P 11 22 14.3 -1.1
VRAC Vranov 44.63 332 eP P 11 22 13.4 -2.0
KBA Koelnbreinsper 44.68 328 eP P 11 22 14.8 -1.2
comp=Z,6.6nm,0.9s
MOA Molln 44.72 329 eP P 11 22 14.5 -1.6
comp=Z,6.9nm,0.8s
MNK Minsk 44.87 345 i P P 11 22 17.9 +0.8
MNK i 11 24 03.1
MNK i PPP PPP 11 24 39.4
MNK i S S 11 28 58.1 +3.4
MNK i SSS SSS 11 33 03.7
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,24nm,0.8s
MNK MLR MLR
comp=E,39nm,16.0s
MNK MLR MLR
comp=N,784nm,18.0s
MNK MLR MLR
comp=Z,464nm,14.0s
MNK Minsk 44.87 345 i P P 11 22 18.0 +0.9
comp=E,2.0nm,0.7s
MNK i P P 11 22 18.0 +0.9
comp=N,24nm,0.8s
MNK i P P 11 22 18.0 +0.9
comp=Z,16nm,0.8s,baz=154
MNK i PP PP 11 24 03.2 +1.2
MNK i PPP PPP 11 24 39.5
MNK i ScP ScP 11 27 53.4 +2.0
MNK i PcS PcS 11 27 57.0 +5.0
MNK i S S 11 28 58.2 +3.5
MNK i SS SS 11 32 19.9 +4.0
MNK i SSS SSS 11 33 03.8
MNK i LQ LQ 11 37 54.6
MNK i LR LR 11 41 17.4
MNK i LRM MLR 11 42 15.8
comp=E,39nm,15.8s
MNK i LRM MLR 11 42 47.3
comp=N,784nm,18.1s
MNK i LRM MLR 11 42 50.2
comp=Z,464nm,14.5s
ABTA Abfaltersbach 44.90 327 eP P 11 22 15.9 -1.7
comp=Z,10nm,1.6s
SHL Shillong 44.91 66 P P 11 22 17.6 -0.5
SHL pmax pmax
comp=Z,16nm,1.1s
SHL Shillong 44.91 66 P P 11 22 17.6 -0.5
SHL IAmb IAmb 11 22 18.1
comp=Z,16nm,1.1s
KRLC Kraliky 45.11 333 P P 11 22 18.0 -1.2
KRLC Kraliky 45.11 333 AMS AMS 11 42 30.0
comp=Z,400nm,18.1s
TREC Trest 45.13 332 AMS AMS 11 43 50.0
comp=Z,400nm,15.0s
BRVK Borovoye 45.21 20 i P P 11 22 15.7 -4.1
BRVK pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 45.21 20 P P 11 22 19.8 0.0
ARU Arti 45.34 9 P P 11 22 20.5 -0.3
comp=Z,2.4nm,0.2s,baz=212,slow=7.5,SNR=5.5
ARU Arti 45.34 9c i P P 11 22 19.7 -1.1
ARU 11 24 03.2
ARU S S 11 29 04.6 +3.2
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,966nm,18.0s
ARU Arti 45.34 9 P P 11 22 22.2 +1.4
ARU IAmb IAmb 11 22 28.5
comp=Z,10nm,0.7s
CKRC Cesky Krumlov 45.36 330 eS S 11 29 03.2 +1.1
CKRC AMS AMS 11 40 50.0
comp=Z,400nm,23.8s
DPC Dobruska-Polom 45.51 333 eP P 11 22 21.4 -1.0
DPC eS S 11 29 11.2 +7.0
DPC MLR MLR
comp=Z,500nm,24.6s
DPC Dobruska-Polom 45.51 333 eP P 11 22 21.4 -1.0
DPC eS S 11 29 11.2 +7.0
DPC AMS AMS 11 40 40.0
comp=Z,500nm,24.6s
GEC2 GERESS Array S 45.67 330 P P 11 22 22.2 -1.5
GEC2 IAmb IAmb 11 22 33.7
comp=Z,15nm,1.0s
GERES GERESS Array B 45.67 330 P P 11 22 22.1 -1.7
comp=Z,6.3nm,0.9s,baz=131,slow=7.4,SNR=9.3
GERES GERESS Array B 45.67 330 P P 11 22 22.2 -1.5
GERES GERESS Array B 45.67 330 P P 11 22 22.2 -1.5
WTTA Wattenberg 45.70 327 eP P 11 22 22.9 -1.1
comp=Z,16nm,1.5s
OSTC Ostas 45.71 333 eP P 11 22 22.6 -1.3
OSTC AMS AMS 11 44 00.0
comp=Z,400nm,17.8s
UPC Upice 45.76 333 AMS AMS 11 44 00.0
comp=Z,400nm,19.6s
WATA Walderalm 45.77 327 eP P 11 22 23.4 -1.3
comp=Z,9.4nm,1.3s
SUW Suwalki 45.80 341 eP P 11 22 22.7 -1.8
SUW Suwalki 45.80 341 eP P 11 22 23.0 -1.5
SUW Suwalki 45.80 341 P P 11 22 23.3 -1.2
SUW pmax pmax
comp=Z,112nm,1.1s
SUW Suwalki 45.80 341 P P 11 22 23.3 -1.2
CHVC Chvalec 45.80 333 AMS AMS 11 44 00.0
comp=Z,400nm,19.2s
MAKZ Makanchi 45.84 34 P P 11 22 25.3 +0.2
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 45.84 34 P P 11 22 25.2 +0.2
MAKZ IAmb IAmb 11 22 38.5
comp=Z,11nm,1.1s
KSP Ksiaz 45.88 334 eP P 11 22 24.2 -1.1
KSP Ksiaz 45.88 334 P P 11 22 23.9 -1.3
KHC Kasperske Hory 45.92 330 eP P 11 22 23.3 -2.4
KHC eS S 11 29 13.6 +3.4
KHC MLR MLR
comp=Z,500nm,19.3s
KHC Kasperske Hory 45.92 330 eP P 11 22 23.3 -2.4
KHC eS S 11 29 13.6 +3.4
KHC AMS AMS 11 41 10.0

comp=Z,500nm,19.3s
MK31 Makanchi Array 46.00 34 i P P 11 22 23.4 -2.9
MK31 Makanchi Array 46.00 34 P P 11 22 27.2 +0.8
MKAR Makanchi Array 46.00 34 P P 11 22 27.2 +0.9
comp=Z,5.7nm,0.9s,baz=224,slow=6.8,SNR=6.8
MKAR Makanchi Array 46.00 34 P P 11 22 27.2 +0.9
MOTA Moosalm 46.03 327 eP P 11 22 25.1 -1.6
comp=Z,7.0nm,1.1s
FETA Feichten 46.03 326 eP P 11 22 25.0 -1.7
comp=Z,5.0nm,1.0s
PRU Pruhonice 46.06 332 eP P 11 22 25.5 -1.1
PRU eS S 11 29 17.1 +5.1
PRU MLR MLR
comp=Z,400nm,16.6s
PRU Pruhonice 46.06 332 eP P 11 22 25.5 -1.1
PRU eS S 11 29 17.1 +5.1
PRU AMS AMS 11 44 30.0
comp=Z,400nm,16.6s
PBCC Pribram 46.10 331 AMS AMS 11 44 00.0
comp=Z,2µm,43.1s
PRA Prague 46.16 332 AMS AMS 11 44 50.0
comp=Z,300nm,17.0s
WET Wettzell 46.27 330 P P 11 22 26.2 -2.2
RETA Reutte 46.30 327 eP P 11 22 26.2 -2.5
comp=Z,1.9nm,0.6s
DAVOX Davos/Dischmat 46.35 326 P P 11 22 28.1 -1.2
comp=Z,2.4nm,0.4s,baz=149,slow=12,SNR=3.4
PVCC Panska Ves 46.42 332 AMS AMS 11 43 10.0
comp=Z,300nm,17.4s
KIRV Kirov 46.56 2 P P 11 22 29.6 -0.8
comp=Z,9.3nm,0.5s,baz=190,slow=5.5,SNR=3.9
KIRV Kirov 46.56 2 i P P 11 22 29.1 -1.3
KURBB Kurchatov Arra 46.62 28 P P 11 22 30.6 -0.3
comp=Z,5.0nm,0.7s,baz=229,slow=8.1,SNR=8.9
DAVA Damuels 46.66 326 eP P 11 22 29.5 -2.1
comp=Z,5.7nm,0.5s
PABE Paberze 46.83 343 eP P 11 22 31.6 -1.0
PABE Paberze 46.83 343 P P 11 22 32.8 +0.2
BRG Berggiesshubel 46.95 332 P P 11 22 31.4 -2.2
BRG Berggiesshubel 46.95 332 eP P 11 22 31.2 -2.4
BRG Amp 11 22 32.5
comp=Z,9.1nm,1.0s
NKC Novy Kostel 47.21 331 AMS AMS 11 42 00.0
comp=Z,500nm,20.7s
WMQ Urumqi 47.58 40 eP P 11 22 41.9 +3.1
WMQ LR LR
comp=Z,530nm,17.3s
WMQ LR LR
comp=Z,470nm,16.7s
WMQ LR LR
comp=Z,480nm,23.1s
CLL Collm 47.68 332 i P P 11 22 37.2 -2.1
comp=Z,20nm,1.9s
CLL i 11 22 46.6
CLL eS S 11 29 36.0 +0.9
CLL eSS SS 11 33 06.0 +2.7
CLL Lm MLR 11 44 00.0
comp=N,300nm,20.3s
CLL Lm MLR 11 44 00.0
comp=E,400nm,19.1s
CLL Lm MLR 11 44 00.0
comp=Z,400nm,18.0s
CLL Collm 47.68 332 i P P 11 22 37.2 -2.1
CLL i 11 22 46.6
CLL eS S 11 29 36.0 +0.9
CLL pmax pmax
comp=Z,20nm,1.9s
CLL MLR MLR
comp=Z,400nm,18.0s
MOX Moxa 47.88 331 P P 11 22 39.3 -1.6
BFO Black Forest 48.12 326 P P 11 22 43.8 +1.0
BFO pmax pmax
comp=Z,18nm,1.4s
BFO Black Forest 48.12 326 P P 11 22 43.8 +1.0
BFO IAmb IAmb 11 22 45.4
comp=Z,18nm,1.4s
VSU Vasula 48.72 346 eP P 11 22 46.7 -0.5
VSU Vasula 48.72 346 i P P 11 22 44.1 -3.1
VSU pmax pmax
comp=Z,25nm,0.7s
KLMR Klimovskoe 49.05 356 eP P 11 22 45.9 -3.8
KLMR Klimovskoe 49.05 356 eP P 11 22 45.9 -3.8
PRGR Permogore 49.57 360 eP P 11 22 51.1 -2.6
PRGR pmax pmax
comp=Z,19nm,0.8s
MTSE Matsula 49.65 345 eP P 11 22 53.3 -1.0
MHMT Maesarieng 50.00 76 P P 11 23 07.4 +10
MHMT Maesarieng 50.00 76 P P 11 23 07.4 +10
LOR Lormes 50.06 323 P P 11 22 56.7 -1.0
BTNL Ternell 50.59 328 dP P 11 23 00.8 -0.9
MEF Metsahovi 50.83 346 eP P 11 23 02.7 -0.5
CM13 Chiang Mai Arr 50.92 76 P P 11 23 05.5 +0.8
comp=Z,77nmcomp=Z,9.8nm,1.0s
CM13 Chiang Mai Arr 50.92 76 P P 11 23 05.5 +0.8
UMPA Umpang Tak 50.94 79 P P 11 23 15.6 +11
CM15 Chiang Mai Arr 50.94 76 P P 11 23 06.0 +1.2
comp=Z,10nm,0.9s
CM15 Chiang Mai Arr 50.94 76 P P 11 23 06.0 +1.2
CM31 Chiang Mai Arr 50.96 76 P P 11 23 10.0 +5.1
CM31 Chiang Mai Arr 50.96 76 P P 11 23 04.8 -0.2
CM31 IAmb IAmb 11 23 10.8
comp=Z,25nm,1.2s
CMAR Chiang Mai Arr 50.96 76 P P 11 23 05.2 +0.3
comp=Z,6.5nm,0.9s,baz=274,slow=8.8,SNR=11
CMAR Chiang Mai Arr 50.96 76 P P 11 23 04.3 -0.6
CMAR Chiang Mai Arr 50.96 76 P P 11 23 04.3 -0.6
CM05 Chiang Mai Arr 50.96 76 P P 11 23 06.0 +1.1
comp=Z,11nm,1.0s
CM05 Chiang Mai Arr 50.96 76 P P 11 23 06.0 +1.1
CM02 Chiang Mai Arr 50.96 76 P P 11 23 05.6 +0.7
comp=Z,95nmcomp=Z,14nm,0.9s
CM02 Chiang Mai Arr 50.96 76 P P 11 23 05.7 +0.8
CM01 Chiang Mai Arr 50.97 76 P P 11 23 06.6 +1.6
comp=Z,14nm,0.9s
CM01 Chiang Mai Arr 50.97 76 P P 11 23 06.7 +1.7
CM04 Chiang Mai Arr 50.99 76 P P 11 23 06.3 +1.1
comp=Z,127nmcomp=Z,15nm,1.0s
CM04 Chiang Mai Arr 50.99 76 P P 11 23 06.3 +1.1
CM09 Chiang Mai Arr 51.00 76 P P 11 23 06.5 +1.2
comp=Z,11nm,1.1s
CM09 Chiang Mai Arr 51.00 76 P P 11 23 06.0 +0.7
DOU Dourbes 51.13 327 dPcP PcP 11 24 21.1 -0.2
DOU Dourbes 51.13 327 dP P 11 23 06.2 +0.5
BMRD Maredsous 51.16 327 dP P 11 23 07.0 +1.1
CM35 Chiang Mai Arr 51.16 76 P P 11 23 10.0 +3.6
SNF Seneffe 51.53 327 dP P 11 23 09.8 +1.2
FINES FINESS Array B 51.55 348 P P 11 23 06.5 -2.1
comp=Z,3.9nm,0.8s,baz=159,slow=8.9,SNR=4.0
FINES FINESS Array B 51.55 348 P P 11 23 08.4 -0.2
FINES FINESS Array B 51.55 348 P P 11 23 08.4 -0.2
LAMP Lampang 51.61 76 P P 11 23 16.1 +6.3
comp=Z,285nmcomp=Z,9.5nm,0.8s
LAMP Lampang 51.61 76 P P 11 23 16.1 +6.3
ZALV Zalesovo Beam 51.71 28 P P 11 23 07.8 -2.2
comp=Z,3.4nm,0.6s,baz=235,slow=7.8,SNR=3.9
AAL Aland 51.92 344 eP P 11 23 10.6 -0.8
JOF Joensuu 51.99 351 P P 11 23 12.8 +0.9
ESDC Sonseca Array 52.20 311 P P 11 23 14.5 +0.5
comp=Z,1.8nm,0.9s,baz=106,slow=6.8,SNR=6.9
ESDC Sonseca Array 52.20 311 P P 11 23 14.3 +0.3
UTTA Uttaradit 52.50 77 P P 11 23 23.0 +6.6
comp=Z,6.9nm,0.8s
UTTA Uttaradit 52.50 77 P P 11 23 23.1 +6.6
comp=Z,0.0nmcomp=Z,1.7nm,0.8s
MUD Monsted U'grnd 52.84 335 eP P 11 23 22.9 +4.6
MUD Monsted U'grnd 52.84 335 eP P 11 23 22.8 +4.6
HFS Hagfors 53.80 340 P P 11 23 22.7 -2.6
comp=Z,5.1nm,0.7s,baz=127,slow=9.4,SNR=5.7
GTA Gaotai 54.38 50 eP P 11 23 30.1 0.0
GTA pP sP 11 23 34.3 +0.4
GTA sP pwP 11 23 37.6 +4.7
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,150nm,8.4s
GTA LR LR
comp=Z,270nm,15.9s
KMI Kunming 54.63 68 ⇑P P 11 23 32.6 +0.3
KMI pP pwP 11 23 38.6 +1.4
KMI pmax pmax
comp=Z,18nm,0.8s
KMI LR LR
comp=Z,150nm,12.7s
KMI LR LR
comp=Z,240nm,14.8s

KMI LR LR
comp=Z,290nm,16.4s
OUL Oulu 54.90 350 P **P 11 23 34.4 +1.2**
NONG Nongkai 54.96 76 P P 11 23 41.9 +7.4
comp=Z,2μmcomp=Z,19nm,1.8s
NONG Nongkai 54.96 76 P P 11 23 41.9 +7.5
NB2 NORSAR Subarra 55.29 340 P **P 11 23 33.9 -2.3**
comp=Z,5.9nm,1.0s,baz=137,slow=7.4
NOA NORSAR Array B 55.29 340 P **P 11 23 33.5 -2.7**
comp=Z,1.4nm,1.0s,baz=131,slow=7.7,SNR=5.0
SLVN Son La 55.61 72 P **P 11 23 39.3 +0.1**
NC204 NORSAR Array S 55.62 340 P **P 11 23 40.0 +1.5**
APA Apatity 56.19 354 ⇓*i*P P 11 23 34.5 -8.0
APA pmax pmax
comp=Z,7.0nm,1.2s
LZH Lanzhou 56.80 55 *e*P **P 11 23 49.1 +1.5**
LZH pP pwP 11 23 54.6 +4.3
LZH sP sP 11 23 58.9 +7.5
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,100nm,6.7s
GYA Guiyang 58.22 66 ⇓P **P 11 23 57.5 -0.3**
GYA pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 60.66 58 P **P 11 24 13.8 -0.6**
XAN pP pwP 11 24 21.8 +4.7
XAN sP sP 11 24 25.3 +7.1
XAN pmax pmax
comp=Z,14nm,1.4s
XAN LR LR
comp=Z,280nm,19.3s
ENH Enshi 60.87 62 P **P 11 24 15.2 -0.7**
SONM Songino Array 61.17 42 P **P 11 24 17.0 -0.7**
comp=Z,4.3nm,1.0s,baz=233,slow=7.2,SNR=7.7
SONM Songino Array 61.17 42 P **P 11 24 18.5 +0.8**
SONM pmax pmax
comp=Z,13nm,1.2s
SONM Songino Array 61.17 42 P **P 11 24 18.5 +0.8**
SONM IAmb IAmb 11 24 24.1
comp=Z,13nm,1.2s
NRIK Noril'sk 62.98 15 P **P 11 24 29.4 +0.1**
comp=Z,3.3nm,0.7s,baz=221,slow=6.3,SNR=2.1
HHC Hu-ho-hao-te 63.49 50 *e*P **P 11 24 36.6 +3.2**
HHC pmax pmax
comp=Z,20nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.2s
NJ2 Nanjing 68.93 60 *e*P **P 11 25 10.0 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DBG Daneborg 72.29 345 *i*P **P 11 25 32.3 +4.3**
DBG IAmb IAmb 11 25 33.1
comp=Z,7.3nm,1.1s
DAG Danmarks Havn 72.80 347 *i*P **P 11 25 34.0 +3.0**
DAG IAmb IAmb 11 25 35.4
comp=Z,3.4nm,0.9s
DAG Danmarks Havn 72.80 347 *i*P **P 11 25 34.0 +3.0**
DAG pmax pmax
comp=Z,3.0nm,0.9s
CN2 Changchun 73.92 48 *e*P **P 11 25 37.4 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 75.02 37 *e*P **P 11 25 49.0 +4.6**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
KSAR Wonju Array Be 76.09 54 P **P 11 25 50.2 -0.7**
KSAR Wonju Array Be 76.09 54 P **P 11 25 50.2 -0.7**
KSRS Korea Array 76.12 54 P **P 11 25 49.6 -1.4**
comp=Z,2.9nm,1.1s,baz=282,slow=6.1,SNR=4.4
TIXI Tiksi 76.33 19 P **P 11 25 53.9 +2.3**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 76.33 19 P **P 11 25 53.9 +2.3**
TIXI IAmb IAmb 11 25 56.9
comp=Z,8.6nm,0.9s
YAK Yakutsk 76.35 29 *e*P **P 11 25 51.4 -0.4**
YAK *e**PP **PcP 11 26 02.5 -1.2**
YAK *e* 11 28 40.3
YAK *e*S **S 11 35 34.6 -2.1**
YAK *e**SS **SKSac 11 36 00.1 -3.0**
YAK *e* 11 36 28.0
YAK *e*SS **SS 11 40 30.0 -0.5**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,124nm,5.2s
YAK pmax pmax
comp=N,91nm,4.3s
YAK pmax pmax
comp=E,96nm,4.0s
YAK smax smax
comp=E,81nm,3.3s
YAK smax smax
comp=N,38nm,3.0s
YAK MLR MLR
comp=Z,189nm,21.0s
YAK MLR MLR
comp=N,298nm,18.0s
YAK MLR MLR
comp=E,166nm,24.0s
SUMG Summit 77.11 342 *i*P **P 11 25 57.0 +0.5**
SUMG IAmb IAmb 11 26 01.4
comp=Z,19nm,1.3s
SUMG Summit 77.11 342 P **P 11 25 58.4 +1.9**
SUMG pmax pmax
comp=Z,23nm,1.4s
SUMG Summit 77.11 342 P **P 11 25 58.4 +1.9**
SUMG IAmb IAmb 11 26 01.7
comp=Z,23nm,1.4s
KLR Kul'dur 78.00 42 P **P 11 25 59.6 -1.8**
comp=Z,4.7nm,0.9s,baz=313,slow=9.0,SNR=3.5
JNU Nakatsue 78.97 58 P **P 11 26 07.6 +0.4**
NEEM North Greenlan 80.01 347 *i*P **P 11 26 13.2 0.0**
NEEM IAmb IAmb 11 26 18.3
comp=Z,6.9nm,0.9s
DY2G Dye2 80.18 336 *i*P **P 11 26 14.7 +1.4**
DY2G IAmb IAmb 11 26 18.1
comp=Z,8.0nm,1.0s
MAW Mawson 80.27 174 P **P 11 26 14.3 +1.1**
comp=Z,3.6nm,0.8s,baz=10,slow=6.6,SNR=4.2
MAW Mawson 80.27 174 P **P 11 26 13.3 0.0**
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 80.27 174 P **P 11 26 13.3 0.0**
SYO Syowa Base 80.93 182⇑*e*P **P 11 26 18.4 +1.6**
JSD Sado 84.17 52 P **P 11 26 32.6 -1.9**
MJB9 Matsu-Tunnel 84.40 54 P **P 11 26 32.8 -2.9**
MAJO Matsushiro 84.40 54 P **P 11 26 32.8 -2.9**
MAJO pmax pmax
comp=Z,20nm,1.1s
MAJO Matsushiro 84.40 54 P **P 11 26 32.8 -2.9**
MAT Matsushiro 84.40 54 P **P 11 26 35.2 -0.6**
MJAR Matsushiro Arr 84.40 54 P **P 11 26 35.6 -0.2**
comp=Z,5.0nm,0.9s,baz=279,slow=4.1,SNR=7.1
MJAR Matsushiro Arr 84.40 54 P **P 11 26 35.4 -0.4**
MJAR pmax pmax
comp=Z,34nm,1.4s
MJAR Matsushiro Arr 84.40 54 P **P 11 26 35.4 -0.4**
SEY Seymchan 86.55 26 P **P 11 26 43.3 -2.5**
comp=Z,1.8nm,0.7s,baz=294,slow=20,SNR=3.0
SNAA Sanae 89.63 194 P **P 11 27 00.9 +0.5**
SNAA Sanae 89.63 194 pP pP 11 27 06.2 +3.0
SNAA Sanae 89.63 194 P **P 11 27 00.0 -0.4**
SNAA pmax pmax
comp=Z,12nm,1.4s
SNAA Sanae 89.63 194 P **P 11 26 60.0 -0.4**
SNAA IAmb IAmb 11 27 02.7
comp=Z,12nm,1.4s
VNA2 Neumayer--Watz 90.28 195 P **P 11 27 04.8 +1.5**
VNA2 Neumayer--Watz 90.28 195 pP pP 11 27 09.9 +3.8
VNA3 Neumayer Olymp 91.06 196 P **P 11 27 07.8 +0.8**
VNA3 Neumayer Olymp 91.06 196 pP pP 11 27 10.0 +0.2
WRA Warramunga Arr 92.10 110 P **P 11 27 12.7 -0.2**
comp=Z,4.9nm,0.8s,baz=298,slow=3.7,SNR=9.4
WRA Warramunga Arr 92.10 110 P **P 11 27 11.8 -1.1**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 92.10 110 P **P 11 27 11.8 -1.1**
ASAR Alice Springs 92.47 114 P **P 11 27 15.1 +0.4**
comp=Z,3.3nm,0.9s,baz=296,slow=4.8,SNR=9.9
ASAR Alice Springs 92.47 114 P **P 11 27 14.1 -0.5**
ASAR Alice Springs 92.47 114 P **P 11 27 14.1 -0.5**
PETK Petropavlovsk- 92.84 34 LR LR 12 14 16.0
comp=Z,120nm,18.4s,baz=301,slow=39
PDAR Pinedale Array 121.23 339 PKP **PKPdf 11 32 55.0 -1.7**
comp=Z,0.2nm,0.4s,baz=79,slow=5.6,SNR=3.2
SMCO Snowmass 123.38 335 PKPdf **PKiKP 11 33 02.3 +1.0**
J05D Fort Rock, OR 123.85 349 P **PKiKP 11 33 02.1 +0.2**
baz=15
SDCO Great Sand Dun 123.95 333 P **PKiKP 11 33 02.3 -0.1**
baz=34
SDCO Great Sand Dun 123.95 333 **PKPdf 11 33 02.1 0.0**
MVU Marysvale 125.94 339 **PKPdf 11 33 04.9 -0.9**
M02C Callahan 125.97 350 P **PKiKP 11 33 05.9 -0.1**
baz=13
BEKR Beckworth 126.97 347 **PKPdf 11 33 07.8 +0.1**
LCMT Little Creek M 127.64 339 **PKPdf 11 33 09.0 0.0**
NVAR Mina Array Bea 127.85 345 PKP **PKiKP 11 33 09.8 -0.2**
comp=Z,1.7nm,0.9s,baz=54,slow=1.6,SNR=4.8
NVAR Mina Array Bea 127.85 345 **PKPdf 11 33 09.4 0.0**
MNTX Cornudas Mount 128.84 329 P **PKPdf 11 33 11.5 +0.2**
baz=36
MNTX Cornudas Mount 128.84 329 **PKPdf 11 33 10.9 -0.4**
X16A Lo Mia Camp, P 129.28 336 PKPdf **PKiKP 11 33 13.0 0.0**
FURC Furnace Creek, 129.29 343 P **PKiKP 11 33 13.5 +0.9**
baz=21
TXAR Lajitas Array 129.79 325 PKP **PKPdf 11 33 12.2 -1.1**
comp=Z,0.7nm,1.0s,baz=66,slow=2.3,SNR=3.3
LRMC Laurel Mtn Rad 130.45 343 P **PKiKP 11 33 15.4 +0.2**
baz=21
HEC Hector,Ludlow 130.65 341 P **PKiKP 11 33 16.2 +0.6**
baz=22
IRM Iron Mountain 130.88 340 P **PKiKP 11 33 16.5 +0.5**
baz=24

IDC ***13*** *11:26:05.0±5.5, 26°.76N×143°.72E, h30km±38km, mb4.0/20, mb1 4.1/24, mb1mx3.9/61, mbtmp4.2/24, ML3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/43, Error ellipse: s-maj=19.1km s-min=16.0km az=102.0*
NEIC ***13*** *11:26:04.1±1.9, 26°.97N±0°.10×143°.75E±0°.08, h18km±5km, mb4.7/28, Error ellipse: s-maj=13.8km s-min=10.2km az=183.0*
JMA ***13*** *11:26:09.4, 26°.89N×142°.66E, h128km, M4.1*
ISC 13 11:26:06.3±0.6, 26°.97N±0°.06×143°.65E±0°.07, h35km, n96, σ1§24/99, mb4.5/38, 2C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.32**	**276**	P	**Pn**	**11 26 28.2**	**0.0**
CBIJ				S	**Sn**	**11 26 42.2**	**-2.3**
JCJ	**Chichijima**	**1.32**	**276**	Pn	**Pn**	**11 26 28.4**	**+0.2**
	90nm,0.3s,baz=285,slow=23,SNR=38						
JCJ				Sn	**Sn**	**11 26 44.8**	**+0.2**
	706nm,0.3s,baz=93,slow=24,SNR=16						
JCJ				LR	LR	11 27 08.2	
	comp=Z,322nm,20.8s,baz=130,slow=45						
JHH2	**Haha-jima-NKT2**	**1.36**	**256**	P	**Pn**	**11 26 28.3**	**-0.5**
JHH2				*e*S	**Sn**	**11 26 42.9**	**-2.8**
JHJ2	**Mitsune**	**6.97**	**332**	P	**Pn**	**11 27 46.3**	**+0.4**
JHJ2				*e*S	**Sn**	**11 29 01.8**	**-2.0**
JHJ	**Hachijo jima 2**	**6.99**	**332**	Pn	**Pn**	**11 27 47.2**	**+1.1**
	5.1nm,0.3s,baz=68,slow=23,SNR=2.0						
JHJ				Sn	**Sn**	**11 29 02.9**	**-1.5**
	37nm,0.3s,baz=246,slow=21,SNR=7.4						
BSO1	**Boso 1**	**8.00**	**344**	P	**Pn**	**11 27 58.9**	**-0.6**
BSO1				*e*S	**Sn**	**11 29 25.8**	**-2.7**
BSO3	**Boso 3**	**8.26**	**342**	P	**Pn**	**11 28 03.7**	**+0.3**
BSO3				*e*S	**Sn**	**11 29 33.6**	**-1.7**
JOD2	**Odawara 2**	**9.14**	**336**	P	**Pn**	**11 28 16.1**	**+0.3**
JHU	**Hanno**	**9.61**	**338**	P	**Pn**	**11 28 21.5**	**-0.6**
JYT	**Yasato**	**9.69**	**343**	Pn	**Pn**	**11 28 20.6**	**-2.5**
JHO	**Hitachi**	**9.96**	**346**	P	**Pn**	**11 28 25.1**	**-1.9**
JAG	**Ashikaga**	**10.08**	**340**	P	**Pn**	**11 28 27.9**	**-0.7**
INU	**Inuyama**	**10.10**	**327**	Pn	**Pn**	**11 28 29.5**	**+0.6**
MJAR	**Matsushiro Arr**	**10.61**	**335**	Pn	**Pn**	**11 28 35.2**	**-0.6**
	0.4nm,0.3s,baz=161,slow=11,SNR=27						
MJAR				Sn	**Sn**	**11 30 31.5**	**-1.8**
	0.3nm,0.3s,baz=359,slow=31,SNR=6.1						
MJAR	**Matsushiro Arr**	**10.61**	**335**	Pn	**Pn**	**11 28 35.7**	**-0.1**
MAJO	**Matsushiro**	**10.61**	**335**	Pn	**Pn**	**11 28 36.4**	**+0.6**
MAT	**Matsushiro**	**10.61**	**335**	P	**Pn**	**11 28 35.1**	**-0.7**
MAT				S	**Sn**	**11 30 30.4**	**-3.0**
MJB9	**Matsu-Tunnel**	**10.61**	**335**	Pn	**Pn**	**11 28 36.0**	**+0.1**
JWT	**Wachi**	**10.89**	**322**	Pn	**Pn**	**11 28 38.9**	**-0.7**
JMM	**Marumori**	**11.13**	**348**	Pn	**Pn**	**11 28 41.0**	**-1.9**
JSD	**Sado**	**11.93**	**339**	Pn	**Pn**	**11 28 51.4**	**-2.6**
JTM	**Tenmabayashi**	**13.95**	**352**	Pn	**Pn**	**11 29 21.7**	**+0.3**
ERM	**Erimo**	**15.02**	**359**	Pn	**Pn**	**11 29 32.5**	**-3.3**
KSRS	**Korea Array**	**16.90**	**312**	P	**P**	**11 30 02.9**	**+1.0**
	0.5nm,0.3s,baz=122,slow=9.4,SNR=11						
KSRS				LR	LR	11 36 39.1	
	comp=Z,32nm,18.2s,baz=135,slow=37						
KSAR	**Wonju Array Be**	**16.92**	**312**	Pn	**Pn**	**11 29 59.6**	**-0.8**
ASAJ	**Asahikawa**	**17.13**	**357**	S	Sn	11 33 00.6	-12
	0.1nm,0.3s,baz=39,slow=24,SNR=1.2						
USA0B	**Ussuriysk Arra**	**19.60**	**334**	P	**P**	**11 30 32.1**	**+0.6**
USA0B				IAmb	IAmb	11 30 40.8	
	comp=Z,38nm,1.4s						
USRK	**Ussuriysk Ar.**	**19.60**	**334**	P	**Pn**	**11 30 32.9**	**0.0**
	baz=150,slow=9.7,SNR=18						
USRK	**Ussuriysk Ar.**	**19.60**	**334**	P	**P**	**11 30 32.3**	**+0.9**
YHNB	**Yeheng**	**20.18**	**268**	P	**P**	**11 30 37.6**	**-0.4**
YHNB				IAmb	IAmb	11 30 44.6	
	comp=Z,39nm,1.3s						
YULB	**Yu-li**	**20.54**	**265**	P	**P**	**11 30 42.6**	**+0.8**
YULB				IAmb	IAmb	11 30 46.2	
	comp=Z,18nm,0.9s						
SSLB	**Suanglung**	**20.75**	**266**	P	**P**	**11 30 44.7**	**+0.5**
SSLB				IAmb	IAmb	11 30 49.3	
	comp=Z,20nm,0.7s						
NJ2	**Nanjing**	**22.15**	**289**	*e*P	**P**	**11 31 00.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**22.50**	**104**	T	T	11 53 13.1	
	baz=295,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**22.50**	**104**	T	T	11 53 18.0	
	baz=295,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**22.52**	**104**	T	T	11 53 18.6	
	baz=295,slow=75,SNR=7.6						
KLR	**Kul'dur**	**24.06**	**341**	P	**P**	**11 31 20.1**	**+1.9**
	comp=Z,2.9nm,0.6s,baz=135,slow=6.3,SNR=8.0						
WHN	**Wuhan**	**25.90**	**285**	⇓P	**P**	**11 31 36.6**	**+1.5**
HHC	**Hu-ho-hao-te**	**29.83**	**306**	*e*P	**P**	**11 32 10.5**	**+0.2**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
XAN	**Xi'an**	**30.64**	**292**	⇑P	**P**	**11 32 17.0**	**-0.4**
XAN				pP	pP	11 32 26.8	+1.7
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**34.93**	**295**	*e*P	**P**	**11 32 57.5**	**+2.4**
LZH				sP	pP	11 32 59.0	-3.8
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,78nm,5.0s						
CD2	**Chengdu**	**35.01**	**286**	P	**P**	**11 32 54.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,40nm,0.7s						
ULN	**Ulaanbaatar**	**35.32**	**316**	P	**P**	**11 32 58.0**	**-0.3**
ULN				IAmb	IAmb	11 33 00.9	
	comp=Z,10.0nm,1.4s						
SONM	**Songino Array**	**35.72**	**316**	P	**P**	**11 33 03.6**	**+2.0**
	comp=Z,1.2nm,0.4s,baz=120,slow=8.2,SNR=8.2						
SONM	**Songino Array**	**35.72**	**316**	P	**P**	**11 33 02.0**	**+0.4**
SEY	**Seymchan**	**36.42**	**7**	P	**P**	**11 33 08.8**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=167,slow=13,SNR=4.8						
GTA	**Gaotai**	**38.38**	**300**	⇑P	**P**	**11 33 24.0**	**-0.4**
GTA				pP	pP	11 33 28.9	-3.2
GTA				sP	sP	11 33 31.9	-3.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,6.8s						
GTA				LR	LR		
	comp=N,230nm,14.3s						
GTA				LR	LR		
	comp=E,250nm,17.5s						
GTA				LR	LR		
	comp=Z,330nm,16.3s						
TLY	**Talaya**	**38.87**	**320**	P	**P**	**11 33 28.3**	**+0.1**
TLY				IAmb	IAmb	11 33 31.3	
	comp=Z,7.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.93**	**268**	P	**P**	**11 33 53.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=59,slow=6.7,SNR=8.3						
WB0	**Warramunga Arr**	**47.32**	**192**	P	**P**	**11 34 36.1**	**-0.6**
WB0				IAmb	IAmb	11 34 52.7	
	comp=Z,17nm,1.5s						
WR0	**Warramunga Arr**	**47.48**	**192**	P	**P**	**11 34 37.3**	**-0.6**
WR0				IAmb	IAmb	11 34 42.4	
	comp=Z,7.6nm,1.1s						
WRAB	**Tennant Creek**	**47.49**	**192**	P	**P**	**11 34 38.2**	**+0.2**
WRAB				IAmb	IAmb	11 34 50.8	
	comp=Z,9.0nm,0.7s						
WB2	**Warramunga Arr**	**47.50**	**192**	P	**P**	**11 34 37.9**	**-0.2**
WB2				IAmb	IAmb	11 34 58.0	
	comp=Z,8.7nm,1.0s						
WRA	**Warramunga Arr**	**47.50**	**192**	P	**P**	**11 34 35.7**	**-2.4**
	comp=Z,2.0nm,0.6s,baz=11,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**47.50**	**192**	P	**P**	**11 34 36.9**	**-1.3**
WMQ	**Urumqi**	**47.71**	**306**	*e*P	**P**	**11 34 42.6**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,31nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.7s						
ZALV	**Zalesovo Beam**	**50.44**	**319**	P	**P**	**11 35 01.6**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=114,slow=7.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**50.44**	**319**	P	**P**	**11 35 00.0**	**-0.3**
ASAR	**Alice Springs**	**51.21**	**191**	P	**P**	**11 35 04.2**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=5.3,slow=5.3,SNR=6.3						
MK31	**Makanchi Array**	**51.56**	**310**	P	**P**	**11 35 09.8**	**+0.9**
MKAR	**Makanchi Array**	**51.56**	**310**	P	**P**	**11 35 09.7**	**+0.8**
	comp=Z,2.3nm,0.5s,baz=89,slow=8.6,SNR=21						
MKAR				PcP	**PcP**	**11 36 21.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=66,slow=4.9,SNR=2.4						
MKAR	**Makanchi Array**	**51.56**	**310**	P	**P**	**11 35 09.9**	**+1.0**
MAKZ	**Makanchi**	**51.78**	**310**	P	**P**	**11 35 11.1**	**+0.6**
NRIK	**Noril'sk**	**53.24**	**338**	P	**P**	**11 35 20.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=110,slow=8.3,SNR=1.9						
KDAK	**Kodiak Island**	**53.68**	**37**	P	**P**	**11 35 24.8**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=280,slow=6.9,SNR=6.7						
KDAK	**Kodiak Island**	**53.68**	**37**	P	**P**	**11 35 24.5**	**+0.1**
KDAK				IAmb	IAmb	11 35 42.9	
	comp=Z,15nm,1.4s						
KURBB	**Kurchatov Arra**	**54.06**	**314**	P	**P**	**11 35 28.1**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=92,slow=8.1,SNR=19						
MWH	**Moku'aweowe**	**55.88**	**84**	P	**P**	**11 35 40.2**	**-1.3**
ILAR	**Eielson Array**	**57.20**	**29**	P	**P**	**11 35 49.0**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=255,slow=5.6,SNR=7.6						
ILAR	**Eielson Array**	**57.20**	**29**	P	**P**	**11 35 48.4**	**-1.1**
BMAR	**Burnt Mountain**	**58.40**	**25**	P	**P**	**11 35 58.9**	**+0.8**
STKA	**Stephens Creek**	**58.55**	**182**	P	**P**	**11 35 58.4**	**-1.0**
CRQM	**Cirque**	**58.70**	**33**	P	**P**	**11 35 59.8**	**-0.6**
BVAR	**Borovoye Array**	**59.02**	**318**	P	**P**	**11 36 03.2**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=211,slow=17,SNR=6.7						
KK31	**Karatay Array**	**60.22**	**306**	P	**P**	**11 36 11.6**	**+0.6**
KKAR	**Karatay Array**	**60.22**	**306**	P	**P**	**11 36 12.5**	**+1.5**
KKAR	**Karatay Array**	**60.22**	**306**		**P**	**11 36 11.0**	**0.0**
KKAR				IAmb	IAmb	11 36 12.7	
	comp=Z,15nm,0.7s						
BTK	**Batken**	**60.57**	**303**	P	**P**	**11 36 12.3**	**-1.2**
BTK				IAmb	IAmb	11 36 14.8	
	comp=Z,3.7nm,0.6s						
GAR	**Garm**	**61.17**	**302**	P	**P**	**11 36 17.5**	**-0.2**
GAR				IAmb	IAmb	11 36 21.1	
	comp=Z,9.7nm,0.8s						
CHGR	**Chuyangaron**	**62.13**	**301**	P	**P**	**11 36 24.9**	**+0.8**
ARU	**Arti**	**65.32**	**322**	P	**P**	**11 36 45.5**	**+0.8**
	comp=Z,2.0nm,0.2s,baz=152,slow=8.7,SNR=4.9						
ABKAR	**Akbulak array**	**66.12**	**315**	P	**P**	**11 36 49.9**	**0.0**
ABKAR				IAmb	IAmb	11 36 51.2	
	comp=Z,3.1nm,0.8s						
ABKAR	**Akbulak array**	**66.12**	**315**	P	**P**	**11 36 50.0**	**0.0**
AKTO	**Aktyubinsk**	**67.03**	**316**	P	**P**	**11 36 56.5**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=72,slow=7.7,SNR=5.8						
KIRV	**Kirov**	**69.53**	**326**	P	**P**	**11 37 11.8**	**+0.6**
	comp=Z,11nm,0.6s,baz=140,slow=19,SNR=3.8						
TAU	**Tasmania Unive**	**69.61**	**177**	P	**P**	**11 37 12.4**	**+0.6**
ARCES	**ARCESS Array B**	**74.08**	**341**	pP	pP	11 37 48.5	+1.4
	comp=Z,4.9nm,0.8s,baz=64,slow=8.6,SNR=9.1						
FINES	**FINESS Array B**	**78.63**	**334**	P	**P**	**11 38 04.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=83,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**78.63**	**334**	P	**P**	**11 38 04.6**	**+0.3**
KBZ	**Khabaz**	**79.05**	**313**	P	**P**	**11 38 06.5**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=299,slow=1.3,SNR=8.1						
NVAR	**Mina Array Bea**	**79.56**	**52**	P	**P**	**11 38 10.5**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=300,slow=7.1,SNR=2.0						
AKASG	**Malin Array Be**	**83.49**	**324**	P	**P**	**11 38 30.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=54,slow=4.6,SNR=5.1						
AKASG	**Malin Array Be**	**83.49**	**324**	P	**P**	**11 38 29.7**	**-0.7**
HFS	**Hagfors**	**84.05**	**337**	pP	pP	11 38 42.1	+0.1
	comp=Z,1.1nm,0.5s,baz=102,slow=3.5,SNR=9.5						
CLL	**Collm**	**90.79**	**332**	*e*P	**P**	**11 39 08.0**	**+2.2**
LPAZ	**La Paz**	**148.68**	**77**	pPKPbc	pPKPbc	11 45 58.4	-2.3
	comp=Z,0.8nm,0.6s,baz=319,slow=5.3,SNR=4.8						

IDC ***13*** *11:30:50.1±0.6, 12°.14N×46°.37E, h0km, mb4.4/32, mb1 4.5/34, mb1mx4.4/58, mbtmp4.4/34, ML3.8/2, MS4.1/18, Ms1 4.1/18, ms1mx3.9/42, Error ellipse: s-maj=15.5km s-min=14.6km az=5.0*
GCMT ***13*** *11:30:50.4±0.3, 12°.17N±0°.02×46°.31E±0°.04, h17km±1km, MW4.9/91, Moment Tensor Solution. s24,c26; s91,c124; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}=2.92±.20; $M_{\theta\theta}$2.35±.13; $M_{\phi\phi}$0.56±.12; $M_{r\theta}$0.23±.29; $M_{\phi\theta}$-0.41±.07; $M_{\phi r}$0.01±.46; Best double couple: $M_0$2.69000×10^16 NP1:ϕ_s103.00000°, δ43.00000°, λ-88.00000°. NP2: ϕ_s281.00000°, δ47.00000°, λ-91.00000°. Principal axes: T 2.4490, Plg2.0000°, Azm12.0000°; N 0.4720, Plg1.0000°, Azm282.0000°; P -2.9310, Plg87.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *11:30:51.4±1.5, 11°.9N±0°.1×46°.32E±0°.07, h16km±5km, mb4.8/69 Error ellipse: s-maj=18.1km s-min=9.9km az=171.0*
ISC 13 11:30:51.2±0.4, 12°.10N±0°.06×46°.35E±0°.05, h10km, n204, σ1§09/204, mb4.7/98, MS4.1/17, 3C-7D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.48**	**261**	Pn	**Pn**	**11 31 43.4**	**-2.0**
ATD	**Arta Tunnel**	**3.48**	**261**	*e*P	Pn	11 31 39.5	-5.9
ATD				*e*S	**Sb**	**11 32 35.6**	**+0.4**
HARA	**HARA**	**4.12**	**227**	*e*P	**Pb**	**11 32 03.8**	**-0.1**
HARA				*e*S	Sg	11 33 23.3	+20
SOCY	**Socotra**	**7.47**	**89**	Pn	**Pn**	**11 32 39.6**	**-0.8**
AAE	**Adis Abeba**	**8.06**	**248**	*e*P	**Pn**	**11 32 53.4**	**+4.7**
AAE				*e*S	Sb	11 34 57.3	+10
FURI	**Furi**	**8.19**	**248**	*e*P	Pn	11 32 56.3	+5.8
FURI				*e*S	**Sg**	**11 35 13.5**	**-0.8**
LODK	**Lodwar**	**13.88**	**232**	Pn	**Pn**	**11 34 04.7**	**-3.6**
UOSS	**Minazif**	**15.81**	**35**	Pn	**Pn**	**11 34 34.6**	**+0.5**
KMBO	**Kilima Mbogo**	**15.95**	**215**	Pn	**Pn**	**11 34 35.5**	**-0.7**
	0.3nm,0.3s,baz=35,slow=13,SNR=5.6						
KMBO				LR	LR	11 40 25.7	
	comp=Z,825nm,21.1s,baz=54,slow=36						
WSAR	**Wadi Sarin**	**16.10**	**45**	Pn	**Pn**	**11 34 36.1**	**-1.6**
	0.3nm,0.3s,baz=266,slow=7.1,SNR=4.3						
WSAR				LR	LR	11 40 34.8	
	comp=Z,795nm,21.0s,baz=241,slow=36						
KIBK	**Kibwezi**	**16.55**	**210**	Pn	**Pn**	**11 34 40.6**	**-3.1**
QRN	**Al-Qurain**	**16.62**	**5**	*e*P	**Pn**	**11 34 44.8**	**+0.5**
RST	**Umm Al-Ruwaisa**	**17.32**

GNI Garni 27.97 357 P P 11 36 43.9 +1.7
comp=Z,10.0nm,0.7s,baz=177,slow=17,SNR=1.9
GNI LR LR 11 49 16.9
comp=Z,880nm,18.5s,baz=162,slow=40
BR131 Keskin Array S 29.72 340 P P 11 36 58.0 +0.3
BRTR Keskin Array B 29.72 340 P P 11 36 59.0 +1.3
comp=Z,2.0nm,0.8s,baz=153,slow=11,SNR=9.1
BRTR PcP PcP 11 40 02.2 +0.5
comp=Z,1.3nm,0.9s,baz=140,slow=4.8,SNR=4.3
BRTR LR LR 11 49 23.0
comp=Z,767nm,19.1s,baz=166,slow=38
BRTR Keskin Array B 29.72 340 P P 11 36 58.5 +0.7
ONI Oni 30.48 356 P P 11 37 04.5 +0.2
ONI IAmb IAmb 11 37 09.9
comp=Z,18nm,1.4s
ILGA Ilgaz 30.90 341 P P 11 37 07.7 -0.6
KBZ Khabaz 31.65 355 P P 11 37 16.0 +1.5
comp=Z,4.2nm,1.1s,baz=127,slow=4.8,SNR=4.4
KBZ LR LR 11 51 37.6
comp=Z,345nm,18.0s,baz=174,slow=40
KIV Kislovodsk 31.89 355 P P 11 37 17.6 +0.8
BALB Balikesir 31.93 332 P P 11 37 17.6 +0.5
NIL Nilore 32.60 44 P P 11 37 23.6 +0.5
NIL IAmb IAmb 11 37 26.8
comp=Z,18nm,1.2s
LSZ Lusaka 32.61 214 P P 11 37 25.3 +1.9
comp=Z,1.6nm,0.3s,baz=37,slow=8.7,SNR=4.1
CHGR Chuyangaron 33.33 34 P P 11 37 27.9 -1.6
ALN Alexandroupoli 33.77 332 P P 11 37 33.0 -0.2
ALN IAmb IAmb 11 37 37.4
comp=Z,15nm,1.2s
GAR Garm 34.21 34 P P 11 37 35.4 -1.8
BTK Batken 35.23 33 P P 11 37 46.8 +0.9
BTK IAmb IAmb 11 37 52.5
comp=Z,8.5nm,0.9s
DRK Karamyk 35.37 35 P P 11 37 47.0 -0.3
VTS Vitosha 36.43 331 P P 11 37 56.6 +0.4
VTS IAmb IAmb 11 37 59.9
comp=Z,13nm,1.1s
KK31 Karatay Array 37.30 30 P P 11 38 04.3 +0.7
KKAR Karatay Array 37.30 30 P P 11 38 04.2 +0.7
KKAR Karatay Array 37.30 30 P P 11 38 04.6 +1.1
MLR Muntele Rosu 37.54 336 P P 11 38 07.7 +2.0
comp=Z,13nm,1.2s,baz=149,slow=7.9,SNR=6.8
MLR Muntele Rosu 37.54 336 P P 11 38 06.2 +0.5
MLR IAmb IAmb 11 38 22.8
comp=Z,16nm,1.1s
PUK Puka 37.70 327 P P 11 38 06.6 -0.4
PUK IAmb IAmb 11 38 08.4
comp=Z,24nm,1.2s
PDG Podgorica 38.31 327 P P 11 38 12.0 0.0
ABKAR Akbulak array 38.71 14 P P 11 38 15.8 +0.5
ABKAR Akbulak array 38.71 14 P P 11 38 15.9 +0.5
ABKAR IAmb IAmb 11 38 17.0
comp=Z,12nm,1.1s
AAK Ala-Archa 39.01 34 P P 11 38 19.0 +0.8
DIVS Divibare 39.11 330 P P 11 38 18.9 0.0
AKTO Aktyubinsk 39.40 12 P P 11 38 21.7 +0.7
comp=Z,3.8nm,0.7s,baz=208,slow=9.5,SNR=10
AKTO PP PP 11 39 51.6 +0.2
comp=Z,0.7nm,0.4s,baz=215,slow=15,SNR=1.3
AKTO LR LR 11 57 57.8
comp=Z,464nm,18.2s,baz=203,slow=41
BURAR Bucovina Array 39.59 337 P P 11 38 23.3 +0.5
BUR08 Bucovina Ar. S 39.62 338 P P 11 38 21.8 -1.3
SGDS Sogindy 39.64 33 *eP* **P 11 38 22.5 -0.7**
baz=33
BOOM Boomskoye usch 39.71 35 P P 11 38 24.7 +0.7
BELG Belogornoye 40.20 1 P P 11 38 27.2 -0.4
comp=Z,30nm,1.1s,baz=30,slow=5.6,SNR=6.2
TARG Taragay, Kyrgy 40.30 37 P P 11 38 29.2 0.0
TARG IAmb IAmb 11 38 49.9
comp=Z,20nm,1.3s
BTLS Baital 40.46 31 *eP* **P 11 38 29.2 -0.8**
baz=30
MDOK Medeo 40.77 35 *eP* **P 11 38 32.2 -0.5**
baz=35
KEST Kesra 40.83 312 LR LR 11 54 17.2
comp=Z,152nm,21.5s,baz=18,slow=34
KUU Kurty 40.85 34 *eP* **P 11 38 32.6 -0.6**
baz=33
AKASG Malin Array Be 40.96 343 P **P 11 38 34.1 +0.2**
comp=Z,1.8nm,0.7s,baz=162,slow=7.5,SNR=3.2
AKASG PP PP 11 40 09.2 +0.8
comp=Z,0.3nm,0.3s,baz=156,slow=10,SNR=2.0
AKASG PcP PcP 11 40 34.2 0.0
comp=Z,0.2nm,0.2s,baz=167,slow=2.5,SNR=5.7
AKASG LR LR 11 57 54.5
comp=Z,178nm,18.1s,baz=100,slow=40
AKBB Malin Array Si 40.96 343 P **P 11 38 34.3 +0.3**
AKBB IAmb IAmb 11 38 35.8
comp=Z,23nm,1.4s
INTR Introdacqua 41.06 323 P **P 11 38 35.1 +0.1**
PRZ Przheval'sk 41.11 37 P **P 11 38 36.6 +1.0**
PRZ IAmb IAmb 11 38 54.6
comp=Z,19nm,1.1s
CHKK Chushkaly 41.18 34 *eP* **P 11 38 35.0 -0.9**
baz=34
MORH Mrgy, Hungar 41.31 331 *eP* **P 11 38 37.7 +0.8**
SATY Saty 41.47 36 *eP* **P 11 38 37.6 -0.8**
baz=36
KOVH Kovagotottos 41.48 330 *eP* **P 11 38 39.0 +0.7**
UZB Uzynbulak 41.88 36 *eP* **P 11 38 40.3 -1.5**
baz=36
KPKS Kokpek 41.88 36 *eP* **P 11 38 40.3 -1.5**
baz=36
PSZ Piszkesteto 42.00 333 *eP* **P 11 38 43.8 +1.1**
PSZ Piszkesteto 42.00 333 P **P 11 38 42.2 -0.5**
PSZ IAmb IAmb 11 38 44.6
comp=Z,26nm,1.3s
CRVS Cervenica-Dubn 42.10 336 *eP* **P 11 38 44.0 +0.6**
KWP Kalwaria Pacla 42.20 337 P **P 11 38 44.0 -0.2**
MPLH Magyarpolny 42.52 331 *eP* **P 11 38 48.6 +1.8**
VYHS Vyhne 42.90 333 *eP* **P 11 38 50.2 +0.3**
SOKA Soboth 43.41 329 *i P* **P 11 38 55.2 +1.0**
comp=Z,18nm,1.1s,SNR=13
BRZS Berezniki 43.53 25 *eP* **P 11 38 54.2 -0.8**
baz=24
TORD Torodi Ar. Bea 43.55 276 P **P 11 38 55.9 +0.3**
comp=Z,4.7nm,0.9s,baz=86,slow=7.9,SNR=18
TORD PcP PcP 11 40 43.3 -0.2
comp=Z,2.9nm,0.9s,baz=69,slow=2.7,SNR=6.6
TORD LR LR 11 56 54.0
comp=Z,153nm,18.6s,baz=285,slow=36
OBKA Obir 43.55 328 *eP* **P 11 38 56.5 +1.2**
comp=Z,17nm,1.7s
ARSA Arzberg 43.56 330 *eP* **P 11 38 55.7 +0.4**
comp=Z,0.1nm,0.2s
OBN Obninsk 43.59 352 P **P 11 38 55.6 +0.3**
comp=Z,6.9nm,0.3s,baz=170,slow=13,SNR=4.6
JAVC Velka Javorina 43.69 333 *eP* **P 11 38 57.2 +0.9**
OJC Ojcow 43.80 335 P **P 11 38 56.2 -1.0**
OJC IAmb IAmb 11 38 58.0
comp=Z,15nm,1.3s
CONA Conrad Observa 43.86 330 *i P* **P 11 38 57.7 -0.1**
comp=Z,16nm,1.3s,SNR=8.1
MYKA Terra Mystica 44.10 328 *eP* **P 11 39 01.1 +1.3**
comp=Z,0.1nm,0.2s
STAL STALIGIAL 44.36 327 P **P 11 39 01.4 -0.4**
STAL IAmb IAmb 11 39 09.7
comp=Z,22nm,1.3s
ZOU Zoufplan 44.41 327 P **P 11 39 02.4 +0.1**
ZOU IAmb IAmb 11 39 03.6
comp=Z,23nm,1.2s
KRUC Moravsky 44.41 332 *eP* **P 11 39 01.8 -0.3**
MORC Moravsky Beroun 44.42 333 *eP* **P 11 39 01.9 -0.3**
VRAC Vranov 44.50 332 P **P 11 39 02.2 -0.6**
comp=Z,6.8nm,0.9s,baz=132,slow=7.1,SNR=11
VRAC Vranov 44.50 332 *eP* **P 11 39 02.5 -0.3**
KBA Koelnbreinsper 44.55 328 *eP* **P 11 39 03.4 0.0**
comp=Z,7.5nm,1.2s
MOA Molln 44.59 329 *eP* **P 11 39 04.0 +0.4**
comp=Z,14nm,1.4s
ABTA Abfaltersbach 44.77 327 *eP* **P 11 39 05.6 +0.5**
comp=Z,4.3nm,1.0s
SHL Shillong 44.91 66 P **P 11 39 04.5 -2.1**
SHL IAmb IAmb 11 39 07.7
comp=Z,13nm,1.0s
BRVK Borovoye 45.11 20 P **P 11 39 07.4 -0.2**
BRVK IAmb IAmb 11 39 10.9
comp=Z,12nm,1.4s
BVAR Borovoye Array 45.12 20 P **P 11 39 06.9 -0.8**
comp=Z,1.5nm,0.7s,baz=217,slow=15,SNR=7.9
CKRC Cesky Krumlov 45.23 330 *eP* **P 11 39 09.5 +0.9**
ARU Arti 45.23 10 P **P 11 39 08.6 +0.1**
comp=Z,1.7nm,0.2s,baz=181,slow=12,SNR=6.2
ARU LR LR 12 01 36.7
comp=Z,484nm,19.3s,baz=164,slow=41
ARU Arti 45.23 10 P **P 11 39 08.4 0.0**
ARU IAmb IAmb 11 39 09.8
comp=Z,9.0nm,1.0s
DPC Dobruska-Polom 45.38 333 *eP* **P 11 39 10.1 +0.3**
GEC2 GERESS Array S 45.54 330 P **P 11 39 10.4 -0.8**
GERES GERESS Array B 45.54 330 P **P 11 39 11.0 -0.1**
comp=Z,9.3nm,1.1s,baz=131,slow=7.4,SNR=31
GERES GERESS Array B 45.54 330 P **P 11 39 10.8 -0.4**
WTTA Wattenberg 45.56 327 *eP* **P 11 39 11.8 +0.3**
comp=Z,17nm,1.6s
OSTC Ostas 45.57 333 *eP* **P 11 39 11.4 +0.1**
WATA Walderalm 45.64 327 *eP* **P 11 39 11.8 -0.3**
comp=Z,5.7nm,0.8s
SUW Suwalki 45.66 341 P **P 11 39 11.7 -0.2**
CHVC Chvalec 45.67 333 *eP* **P 11 39 12.2 +0.1**
SQTA Sankt Quirin 45.77 327 *eP* **P 11 39 13.3 +0.3**
comp=Z,2.5nm,0.4s
MAKZ Makanchi 45.77 34 P **P 11 39 13.4 +0.4**
MAKZ IAmb IAmb 11 39 14.1
comp=Z,13nm,1.4s
KHC Kasperske Hory 45.79 330 *eP* **P 11 39 12.7 -0.4**
KHC Kasperske Hory 45.79 330 P **P 11 39 12.4 -0.7**
KHC IAmb IAmb 11 39 14.2
comp=Z,8.4nm,1.1s
MOTA Moosalm 45.90 327 *eP* **P 11 39 13.5 -0.6**
comp=Z,2.9nm,0.6s
FETA Feichten 45.90 326 *eP* **P 11 39 14.8 +0.6**
comp=Z,8.1nm,1.2s
MK31 Makanchi Array 45.94 34 P **P 11 39 14.0 -0.3**
MK31 IAmb IAmb 11 39 24.1
comp=Z,7.1nm,1.0s
MKAR Makanchi Array 45.94 34 P **P 11 39 14.3 0.0**
comp=Z,5.2nm,1.1s,baz=223,slow=6.3,SNR=20
MKAR LR LR 12 00 37.1
comp=Z,199nm,20.7s,baz=252,slow=39
MKAR Makanchi Array 45.94 34 P **P 11 39 13.8 -0.5**
RETA Reutte 46.17 327 *eP* **P 11 39 15.3 -0.9**
comp=Z,0.8nm,0.3s
DAVOX Davos/Dischmat 46.22 326 P **P 11 39 15.9 -0.8**
comp=Z,2.8nm,0.7s,baz=193,slow=10,SNR=4.7
DAVA Damuels 46.52 326 *eP* **P 11 39 18.8 -0.2**
comp=Z,10nm,1.0s
KURBB Kurchatov Arra 46.54 28 P **P 11 39 19.2 +0.4**
comp=Z,1.7nm,0.7s,baz=227,slow=8.1,SNR=16
KURBB PP PP 11 41 09.9 +1.7
comp=Z,0.7nm,0.2s,baz=233,slow=9.7,SNR=5.5
BRG Berggiesshubel 46.81 332 *eP* **P 11 39 20.7 -0.4**
BRG Amp 11 39 22.8
comp=Z,12nm,1.3s
BRG Amp 11 43 17.0
comp=E,0.3nm,26.2s
BRG Amp 11 43 43.0
comp=N,0.5nm,20.0s
BRG Amp 11 43 56.0
comp=Z,0.3nm,15.6s
SEM Semipalatinsk 47.19 29 *eP* **P 11 39 21.4 -2.9**
baz=29
SENIN Lac Senin/Sane 47.45 324 P **P 11 39 25.8 -0.5**
SENIN IAmb IAmb 11 39 39.9
comp=Z,12nm,1.4s
WMQ Urumqi 47.53 40 *eP* **P 11 39 27.6 +0.8**
WMQ pmax pmax
comp=Z,25nm,0.9s
WMQ pmax pmax
comp=Z,150nm,5.3s
CLL Collm 47.54 332 ⇓ *i P* **P 11 39 25.8 -0.9**
comp=Z,15nm,1.4s
CLL *e*pP **pwP 11 39 33.0 +1.5**
CLL *i* 11 39 38.6
BFO Black Forest 47.98 326 P **P 11 39 30.0 -0.2**
BFO IAmb IAmb 11 39 32.4
comp=Z,13nm,1.2s
ECH Echery 48.56 326 P **P 11 39 34.0 -0.7**
ECH IAmb IAmb 11 39 35.3
comp=Z,15nm,1.5s
KLMR Klimovskoe 48.92 356 *eP* **P 11 39 35.3 -1.9**
KLMR AMP 11 39 38.5
comp=Z,32nm,1.3s
KOWA Kowa 49.00 279 P **P 11 39 36.4 -2.1**
KOWA IAmb IAmb 11 39 40.0
comp=Z,15nm,1.2s
WLF Walferdange 49.92 327 *dP* **P 11 39 44.4 -0.7**
BTNL Ternell 50.46 328 *dP* **P 11 39 49.6 +0.4**
KHLT Khaolaem Dam 50.79 81 P P 11 39 58.5 +6.4
comp=Z,17nm,1.0s
BGES Gesves 50.90 327 *dP* **P 11 39 52.0 -0.4**
CM13 Chiang Mai Arr 50.95 76 P **P 11 39 54.7 +1.4**
comp=Z,81nmcomp=Z,8.5nm,1.1s
CM15 Chiang Mai Arr 50.97 76 P **P 11 39 54.9 +1.4**
comp=Z,6.7nm,1.3s
UMPA Umpang Tak 50.97 79 P P 11 40 00.2 +6.7
comp=Z,22nm,1.0s
CM31 Chiang Mai Arr 50.98 76 P **P 11 39 53.2 -0.4**
CM31 IAmb IAmb 11 40 04.2
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 50.98 76 P **P 11 39 54.0 +0.5**
comp=Z,9.9nm,1.1s,baz=275,slow=8.2,SNR=25
CMAR LR LR 12 01 37.6
comp=Z,35nm,18.9s,baz=309,slow=36
CMAR Chiang Mai Arr 50.98 76 P **P 11 39 52.8 -0.8**
CM05 Chiang Mai Arr 50.99 76 P **P 11 39 54.5 +0.9**
comp=Z,60nmcomp=Z,7.4nm,1.0s
CM02 Chiang Mai Arr 50.99 76 P **P 11 39 54.9 +1.3**
comp=Z,88nmcomp=Z,9.4nm,1.1s
CM01 Chiang Mai Arr 51.00 76 P **P 11 39 55.7 +2.0**
comp=Z,8.5nm,1.1s
CM04 Chiang Mai Arr 51.02 76 P **P 11 39 54.8 +0.9**
comp=Z,85nmcomp=Z,7.7nm,0.9s
BMRD Maredsous 51.02 327 *dP* **P 11 39 53.0 -0.4**
CM09 Chiang Mai Arr 51.03 76 P **P 11 39 55.5 +1.6**
comp=Z,9.3nm,1.0s
SNF Seneffe 51.40 327 *dP* **P 11 39 55.4 -0.7**
FIA1 FINESS Array S 51.42 348 P **P 11 39 55.7 -0.4**
FIA1 IAmb IAmb 11 39 56.9
comp=Z,15nm,1.3s
FINES FINESS Array B 51.42 348 P **P 11 39 56.1 0.0**
comp=Z,5.7nm,1.1s,baz=152,slow=13,SNR=7.0
FINES FINESS Array B 51.42 348 P **P 11 39 55.9 -0.3**
ZAA0 Zalesovo Array 51.63 28 P **P 11 39 57.0 -0.8**
ZALV Zalesovo Beam 51.63 28 P **P 11 39 56.8 -1.1**
comp=Z,3.6nm,0.9s,baz=224,slow=7.8,SNR=7.6
ZALV LR LR 12 04 10.0
comp=Z,92nm,19.0s,baz=236,slow=39
ZALV Zalesovo Beam 51.63 28 P **P 11 39 56.5 -1.4**
ESDC Sonseca Array 52.08 311 P **P 11 40 01.0 -0.6**
comp=Z,2.1nm,1.1s,baz=93,slow=6.8,SNR=9.4
ESDC Sonseca Array 52.08 311 P **P 11 40 00.8 -0.8**
MNSI Mandailing Nat 53.96 98 P **P 11 40 16.4 +0.7**
comp=Z,17nm,0.9s
GTA Gaotai 54.35 50 ⇑P **P 11 40 19.3 +0.9**
GTA pP pwP 11 40 23.6 +0.2
GTA sP sP 11 40 26.6 +4.6
GTA pmax pmax
comp=Z,6.0nm,1.2s
KMI Kunming 54.64 68 ⇑P **P 11 40 21.3 +0.5**
KMI sP pwP 11 40 28.6 +2.7
KMI pmax pmax
comp=Z,10.0nm,0.5s
NONG Nongkai 54.99 76 P **P 11 40 26.5 +3.4**
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 55.16 340 P **P 11 40 22.6 -1.1**
comp=Z,9.7nm,1.2s,baz=135,slow=7.4
NOA NORSAR Array B 55.16 340 P **P 11 40 22.6 -1.1**
comp=Z,2.0nm,0.9s,baz=134,slow=7.2,SNR=3.6
NOA LR LR 12 05 44.5
comp=Z,160nm,19.4s,baz=135,slow=38
SLVN Son La 55.63 72 P **P 11 40 26.9 -0.9**
SLVN IAmb IAmb 11 40 41.8
comp=Z,11nm,1.2s
CD2 Chengdu 55.99 61 *eP* **P 11 40 29.8 -0.5**
CD2 pmax pmax
comp=Z,40nm,0.7s
LZH Lanzhou 56.77 55 *eP* **P 11 40 38.3 +2.4**
LZH pP pwP 11 40 43.5 +2.5
LZH sP sP 11 40 46.6 +7.1
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,87nm,4.4s
LZH LR LR
comp=N,390nm,15.2s
LZH LR LR
comp=E,510nm,15.7s
LZH LR LR
comp=Z,230nm,19.0s
GYA Guiyang 58.23 66 ⇓P **P 11 40 47.6 +1.3**
GYA pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 58.90 352 P **P 11 40 50.0 -0.1**
comp=Z,8.8nm,1.1s,baz=58,slow=17,SNR=5.0
LHSI Lahat 58.99 102 P **P 11 40 52.4 +0.8**
comp=Z,22nm,1.3s
MDSI Maura Dua 59.80 102 P **P 11 40 57.2 0.0**
comp=Z,11nm,1.0s
XAN Xi'an 60.65 58 ⇑P **P 11 41 02.8 0.0**
XAN pP pwP 11 41 11.6 +3.7
XAN sP sP 11 41 15.8 +9.4
XAN pmax pmax
comp=Z,17nm,1.3s
SONM Songino Array 61.12 42 P **P 11 41 06.5 +0.6**
comp=Z,7.9nm,1.2s,baz=250,slow=6.5,SNR=24
SONM Songino Array 61.12 42 P **P 11 41 06.1 +0.3**
SONM IAmb IAmb 11 41 08.0
comp=Z,8.5nm,1.2s
ULN Ulaanbaatar 61.55 42 P **P 11 41 08.7 -0.1**
ULN IAmb IAmb 11 41 10.5
comp=Z,6.4nm,1.2s
NRIK Noril'sk 62.87 15 P **P 11 41 17.6 +0.5**
comp=Z,2.7nm,0.6s,baz=217,slow=3.5,SNR=8.6
NRIK Noril'sk 62.87 15 P **P 11 41 17.8 +0.7**
NRIK IAmb IAmb 11 41 19.0
comp=Z,8.0nm,1.1s
HHC Hu-ho-hao-te 63.46 50 *eP* **P 11 41 23.8 +2.2**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,90nm,5.4s
NJ2 Nanjing 68.92 60 *eP* **P 11 41 57.8 +1.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KSAR Wonju Array Be 76.07 54 P **P 11 42 38.8 -0.5**
KSRS Korea Array 76.10 54 P **P 11 42 39.9 +0.5**
comp=Z,5.0nm,1.1s,baz=277,slow=5.9,SNR=6.3
TIXI Tiksi 76.23 19 P **P 11 42 39.4 -0.1**
comp=Z,1.9nm,0.5s,baz=298,slow=3.7,SNR=12
TIXI Tiksi 76.23 19 P **P 11 42 39.3 -0.2**
TIXI IAmb IAmb 11 42 40.8
comp=Z,10nm,1.1s
YAK Yakutsk 76.27 29 P **P 11 42 39.3 -0.5**
SUMG Summit 76.98 342 *i P* **P 11 42 44.7 +0.5**
SUMG IAmb IAmb 11 42 47.5
comp=Z,14nm,1.1s
SUMG Summit 76.98 342 P **P 11 42 43.7 -0.5**
SUMG IAmb IAmb 11 42 47.1
comp=Z,15nm,1.2s
KLR Kul'dur 77.95 42 P **P 11 42 49.0 -0.6**
comp=Z,7.2nm,1.0s,baz=290,slow=6.1,SNR=14
MAW Mawson 80.39 174 LR LR 12 11 54.8
comp=Z,154nm,18.9s,baz=42,slow=31
MJB9 Matsu-Tunnel 84.37 54 P **P 11 43 22.1 -2.0**
MAJO Matsushiro 84.38 54 P **P 11 43 22.4 -1.8**
MAT Matsushiro 84.38 54 P **P 11 43 22.8 -1.3**
MJAR Matsushiro Arr 84.38 54 P **P 11 43 24.7 +0.6**
comp=Z,6.4nm,0.9s,baz=289,slow=5.0,SNR=15
MJAR Matsushiro Arr 84.38 54 P **P 11 43 23.8 -0.4**
SNAA Sanae 89.74 194 P **P 11 43 51.1 +1.8**
VNA2 Neumayer--Watz 90.38 195 P **P 11 43 55.7 +3.4**
VNA3 Neumayer Olymp 91.16 196 P **P 11 43 56.6 +0.7**
WRA Warramunga Arr 92.20 110 P **P 11 44 02.7 +0.8**
comp=Z,4.6nm,0.9s,baz=300,slow=3.6,SNR=11
WRA Warramunga Arr 92.20 110 P **P 11 43 59.3 -2.5**
ASAR Alice Springs 92.57 114 P **P 11 44 04.3 +0.7**
comp=Z,2.6nm,0.8s,baz=278,slow=4.7,SNR=16
ASAR Alice Springs 92.57 114 P **P 11 44 01.6 -1.9**
PDAR Pinedale Array 121.10 339 PKP **PKPdf 11 49 44.3 -0.6**
comp=Z,1.0nm,1.0s,baz=29,slow=3.4,SNR=6.9
NVAR Mina Array Bea 127.72 345 PKP **PKiKP 11 49 59.2 +0.9**
comp=Z,3.3nm,0.9s,baz=42,slow=0.1,SNR=21
TXAR Lajitas Array 129.66 325 PKP **PKPdf 11 50 01.8 +0.3**
comp=Z,1.7nm,1.0s,baz=76,slow=1.5,SNR=11

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*IDC **13** 11:35:18.6±1.0, 11°.90N×142°.75E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.7/39, mbtmp3.9/6, Error ellipse: s-maj=72.4km s-min=24.2km az=105.0*
ISC 13 11:35:24.7±1.0, 11°.9N±0°.2×142°.7E±0°.5, h42km, n6, σ1§23/6, mb4.0/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.66**	**195**	P	**P**	**11 41 52.6**	**-0.5**
	1.2nm,0.6s,baz=19,slow=9.5,SNR=7.1						
ASAR	**Alice Springs**	**36.35**	**194**	P	**P**	**11 42 25.0**	**+0.1**
	0.3nm,0.7s,baz=18,slow=13,SNR=1.8						
ILAR	**Eielson Array**	**71.01**	**25**	P	**P**	**11 46 36.4**	**-1.5**
	0.5nm,0.6s,baz=255,slow=6.1,SNR=5.9						
ARCES	**ARCESS Array B**	**88.07**	**342**	P	**P**	**11 48 11.2**	**+0.7**
	2.0nm,0.8s,baz=64,slow=8.2,SNR=4.5						
NVAR	**Mina Array Bea**	**89.63**	**51**	P	**P**	**11 48 19.9**	**+1.2**
	0.7nm,0.7s,baz=272,slow=5.3,SNR=9.4						
FINES	**FINESS Array B**	**91.83**	**335**	P	**P**	**11 48 28.3**	**+0.2**
	0.4nm,0.4s,baz=48,slow=2.1,SNR=3.3						

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*IDC **13** 11:54:17.7±2.8, 27°.58N×86°.05E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.4/52, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=84.6km s-min=25.6km az=64.0*
ISC 13 11:54:20.4±2.7, 27°.6N±0°.3×86°.0E±0°.5, h19km, n6, σ0§53/6, mb3.6/4, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.95**	**125**	**Pn**	**Pn**	**11 57 50.7**	**-0.2**
	0.1nm,0.3s,baz=303,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**19.38**	**352**	**Pn**	**Pn**	**11 58 45.5**	**-0.7**
	0.3nm,0.3s,baz=175,slow=9.9,SNR=9.7						
KURBB	**Kurchatov Arra**	**23.68**	**348**	P	**P**	**11 59 31.2**	**+0.4**
	1.3nm,0.9s,baz=169,slow=9.4,SNR=8.5						
SONM	**Songino Array**	**25.68**	**33**	P	**P**	**11 59 49.6**	**+0.3**
	0.4nm,0.3s,baz=215,slow=10,SNR=4.0						
ZALV	**Zalesovo Beam**	**26.33**	**358**	P	**P**	**11 59 55.1**	**+0.2**
	0.6nm,0.3s,baz=182,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**66.48**	**130**	P	**P**	**12 05 09.1**	**+0.1**
	1.3nm,1.2s,baz=323,slow=6.5,SNR=1.9						

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*NNC **13** 12:02:09.1±4.0, 53°.65N×90°.51E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=28.6km s-min=18.6km az=72.0, Suspected Mining explosion.*
IDC 13 12:02:10.8±3.8, 53°.45N×90°.63E, h0km, mb1 2.7/3, mb1mx2.7/43, mbtmp2.7/3, ML2.2/3, 5C-2D, Error ellipse: s-maj=34.6km s-min=25.7km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.49**	**281**	*i*		12 23 20.0	
	baz=92,slow=305,SNR=3.1						
ZAA0	**Zalesovo Array**	**3.49**	**281**	⇑Pg	Pb	12 03 10.3	-3.2
	0.6nm,0.7s						
ZAA0				⇓Lg	Lg	12 03 58.2	
	2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**3.49**	**281**	Pn	Pn	12 03 08.0	+1.7
	0.4nm,0.3s,baz=96,slow=16,SNR=5.6						
ZALV				Lg	Lg	12 03 59.8	
	0.9nm,0.3s,baz=86,slow=22,SNR=7.4						
KURBB	**Kurchatov Arra**	**7.98**	**254**	Pn	Pn	12 04 07.7	-0.3
	0.0nm,0.3s,baz=67,slow=15,SNR=4.1						
KURBB				Sn	Sn	12 05 38.3	-0.6
	0.0nm,0.3s,baz=66,slow=26,SNR=1.0						
KURBB				Lg	Lg	12 06 25.1	
	0.1nm,0.3s,baz=71,slow=35,SNR=7.0						
KURBB	**Kurchatov Arra**	**7.98**	**254**	⇓Pn	Pn	12 04 06.9	-1.1
	0.8nm,0.6s						
KURBB				⇑Sn	Sn	12 05 36.9	-1.9
	5.3nm,0.7s						
KURBB				⇑Lg	Lg	12 06 22.7	
	23nm,1.3s						
MK31	**Makanchi Array**	**8.54**	**222**	⇑Sn	Sn	12 05 55.4	+2.6
	0.8nm,0.7s						
MK31				⇑Lg	Lg	12 06 43.2	
	4.6nm,1.0s,baz=38,slow=29,SNR=5.9						
MKAR	**Makanchi Array**	**8.54**	**222**	Pn	Pn	12 04 16.2	+0.5
	0.1nm,0.3s,baz=38,slow=15,SNR=4.0						
MKAR				Lg	Lg	12 06 40.2	
	0.1nm,0.3s,baz=45,slow=25,SNR=5.3						
SONM	**Songino Array**	**11.46**	**113**	Lg	Lg	12 08 04.9	
	baz=295,slow=28,SNR=6.1						

*IDC **13** 12:23:50.6±4.1, 15°.52N×98°.32W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/31, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=171.5km s-min=60.2km az=73.0*
*NEIC **13** 12:23:51.6±1.6, 15°.7N±0°.2×98°.6W±0°.1, h12km±10km, Error ellipse: s-maj=30.4km s-min=4.5km az=212.0*
*MEX **13** 12:23:52.6±0.9, 15°.64N×98°.55W, h18km±29km, MD4.4*
ISC 13 12:23:49.8±2.9, 15°.70N±0°.07×98°.51W±0°.04, h2km±20km, n107, σ1§46/117, mb4.4/35, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**1.19**	**330**	*eP*	**Pn**	**12 24 11.9**	**-1.5**
CRIG				*eS*	**Sb**	**12 24 26.0**	**-3.0**
PEIG	**Puerto Escondi**	**1.34**	**77**	*i P*	**Pn**	**12 24 14.6**	**-1.0**
PEIG				*i S*	**Sb**	**12 24 30.0**	**-3.4**
YOIG	**Yosondua**	**1.48**	**39**	*i P*	Pn	12 24 15.5	-2.1
YOIG				*i S*	**Sn**	**12 24 34.5**	**-3.1**
MGIG	**Malinaltepec**	**1.53**	**356**	*eP*	**Pn**	**12 24 16.7**	**-1.6**
MGIG				*eS*	**Sn**	**12 24 33.2**	**-5.6**
MGIG				*i S*	**Sb**	**12 24 36.8**	**-2.1**
DAIG	**Los Arroyos**	**1.71**	**320**	*eP*	**Pn**	**12 24 19.1**	**-1.5**
DAIG				*eS*	**Sn**	**12 24 39.1**	**-4.0**
TLIG	**Tlapa**	**1.85**	**358**	*eP*	**Pn**	**12 24 21.6**	**-1.1**
TLIG				*i S*	**Sn**	**12 24 46.3**	**-0.4**
TLIG	**Tlapa**	**1.85**	**358**	Pn	**Pn**	**12 24 22.5**	**-0.2**
CAIG	**El Cayaco**	**2.15**	**309**	*eP*	**Pn**	**12 24 27.8**	**+1.1**
CAIG				*i S*	**Sn**	**12 24 50.4**	**-3.6**
VHO	**Vista Hermosa**	**2.18**	**51**	*eP*	**Pn**	**12 24 26.1**	**-1.2**
VHO				*eS*	**Sn**	**12 24 53.0**	**-2.0**
HUIG	**Huatulco**	**2.31**	**88**	*i P*	**Pn**	**12 24 29.4**	**+0.5**
MEIG	**Mezcala**	**2.45**	**334**	*eS*	**Sn**	**12 24 59.9**	**-1.7**
TOIG	**Toxpalan**	**2.75**	**30**	*eP*	**Pn**	**12 24 34.1**	**-1.0**
TOIG				*eS*	**Sn**	**12 25 07.1**	**-1.9**
PLIG	**Platanillo**	**2.84**	**341**	*eP*	**Pn**	**12 24 39.6**	**+3.4**
PLIG				*eS*	**Sn**	**12 25 12.5**	**+1.4**
TPIG	**Tehuac#an**	**2.92**	**22**	*eP*	**Pn**	**12 24 40.1**	**+2.7**
TPIG				*i S*	**Sn**	**12 25 17.6**	**+4.5**
ARIG	**Puente Sto Nin**	**3.11**	**326**	*eP*	**Pb**	**12 24 47.0**	**+1.2**
PPM	**Popocatepetl**	**3.35**	**358**	*eP*	Pn	12 24 48.8	+5.2
PPM				*eS*	**Sn**	**12 25 23.3**	**-0.9**
CMIG	**Matias Romero**	**3.74**	**68**	*eP*	**Pn**	**12 24 47.8**	**-0.8**
CMIG				*eS*	**Sn**	**12 25 31.7**	**-1.6**
ACIG	**Acambay**	**4.45**	**343**	*eP*	**Pb**	**12 25 08.2**	**-0.6**
LVIG	**Laguna Verde**	**4.47**	**26**	*eP*	Pn	12 24 55.8	-2.7
LVIG				*eS*	**Sn**	**12 25 51.8**	**+0.7**
DEIG	**Demacu**	**4.60**	**354**	*eP*	**Pb**	**12 25 11.6**	**+0.1**
DEIG				*eS*	**Sn**	**12 25 56.6**	**+1.8**
MOIG	**Morelia**	**4.71**	**328**		**Pn**	**12 25 01.9**	**-0.1**
CCIG	**Comitan**	**6.16**	**84**		**Pn**	**12 25 23.6**	**+1.7**
ZAIG	**Zacatecas**	**8.01**	**332**	Pn	**Pn**	**12 25 47.9**	**+0.4**
PETF	**Flores**	**8.39**	**81**	Pn	**Pn**	**12 25 52.5**	**+0.1**
ESQI	**Esquipulas**	**8.93**	**96**	Pn	**Pn**	**12 26 01.0**	**+1.1**
MTO3	**Montecristo**	**8.93**	**97**	Pn	**Pn**	**12 26 00.4**	**+0.3**
CAO2	**Cobano, Puntar**	**14.37**	**113**	Pn	**Pn**	**12 27 13.8**	**-0.6**
TXAR	**Lajitas Array**	**14.38**	**342**	Pn	**P**	**12 27 22.3**	**+0.6**
	0.1nm,0.3s,baz=164,slow=13,SNR=5.2						
TXAR				Lg	Lg	12 31 32.8	
	0.0nm,0.3s,baz=165,slow=30,SNR=5.7						
JACO	**JACO, Garabito**	**14.78**	**112**		**Pn**	**12 27 19.1**	**-0.9**
RIMA	**Rio Macho**	**15.45**	**111**	Pn	**Pn**	**12 27 29.5**	**+0.4**
RIMA				IAmb	IAmb	12 27 42.0	
	comp=Z,29nm,1.4s						
SRBA	**San Rafael, Bu**	**16.12**	**112**		**Pn**	**12 27 38.7**	**+0.9**
DRK0	**Durika**	**16.21**	**111**		**Pn**	**12 27 38.5**	**-0.5**
DRK0				IAmb	IAmb	12 27 49.4	
	comp=Z,33nm,0.7s						
ABTX	**Abilene, Hawle**	**16.88**	**357**		**Pn**	**12 27 47.3**	**0.0**
ABTX				IAmb	IAmb	12 27 52.8	
	comp=Z,30nm,1.2s						
121A	**Cookes Peak, D**	**18.76**	**335**	P	**P**	**12 28 10.9**	**+0.6**
X37A	**Clayton**	**19.02**	**8**	P	**P**	**12 28 14.5**	**+1.6**
BNM	**Barren Site**	**19.77**	**340**		**P**	**12 28 21.6**	**+0.1**
W39A	**Magazine**	**19.87**	**11**		**P**	**12 28 23.6**	**+1.4**
LRAL	**Lakeview Retre**	**20.16**	**29**	P	**P**	**12 28 26.3**	**+0.8**
ANMO	**Albuquerque**	**20.45**	**341**	P	**P**	**12 28 29.9**	**+1.1**
HHAR	**Hobbs**	**20.90**	**10**	P	**P**	**12 28 33.1**	**-0.4**
U38A	**Gravette**	**20.98**	**9**	P	**P**	**12 28 35.7**	**+1.4**
U38A				IAmb	IAmb	12 28 40.0	
	comp=Z,8.9nm,0.8s						
W45A	**Hickory Valley**	**21.10**	**22**	P	**P**	**12 28 35.0**	**-0.6**
Y49A	**Blount Mountai**	**21.12**	**29**	P	**P**	**12 28 36.4**	**+0.5**
U40A	**Yellville**	**21.18**	**13**	P	**P**	**12 28 36.4**	**-0.1**
U40A				IAmb	IAmb	12 28 41.9	
	comp=Z,15nm,0.8s						
LCAR	**Lake Charles**	**21.32**	**17**	P	**P**	**12 28 38.6**	**+0.6**
LCAR				IAmb	IAmb	12 28 43.2	
	comp=Z,7.9nm,0.9s						
X48A	**Hartselle**	**21.33**	**27**	P	**P**	**12 28 37.6**	**-0.5**
X48A				IAmb	IAmb	12 28 41.3	
	comp=Z,6.5nm,0.8s						
PLAL	**Pickwick Lake**	**21.36**	**24**	P	**P**	**12 28 38.0**	**-0.4**
PLAL				IAmb	IAmb	12 28 43.3	
	comp=Z,9.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**21.97**	**330**	P	**P**	**12 28 45.4**	**+0.1**
T25A	**Trinidad**	**21.98**	**347**	P	**P**	**12 28 47.2**	**+1.8**
T25A				IAmb	IAmb	12 28 51.9	
	comp=Z,9.9nm,1.0s						
FPAL	**Fort Paine**	**22.06**	**29**	P	**P**	**12 28 46.0**	**0.0**
PBMO	**Poplar Bluff**	**22.19**	**17**	P	**P**	**12 28 47.7**	**+0.4**
GOGA	**Godfrey**	**22.27**	**35**	P	**P**	**12 28 47.6**	**-0.6**
GOGA				IAmb	IAmb	12 28 48.9	
	comp=Z,15nm,1.1s						
Y52A	**Lilburn**	**22.29**	**33**	P	**P**	**12 28 48.1**	**-0.4**
Y52A				IAmb	IAmb	12 28 48.8	
	comp=Z,14nm,0.8s						
WVT	**Waverly**	**22.46**	**23**	P	**P**	**12 28 49.2**	**-1.1**
SWET	**Sewanee**	**22.47**	**28**	P	**P**	**12 28 50.0**	**-0.4**
SWET				IAmb	IAmb	12 28 51.8	
	comp=Z,14nm,0.8s						
V48A	**Smith Brothers**	**22.53**	**25**	P	**P**	**12 28 50.6**	**-0.4**
V48A				IAmb	IAmb	12 28 55.6	
	comp=Z,21nm,1.4s						
W50A	**Signal Mountai**	**22.74**	**29**	P	**P**	**12 28 53.0**	**-0.3**
SDCO	**Great Sand Dun**	**22.81**	**346**	P	**P**	**12 28 55.3**	**+1.0**
WUAZ	**Wupatki**	**22.85**	**332**	P	**P**	**12 28 54.9**	**+0.4**
CLTN	**Cedars of Leba**	**23.03**	**26**	P	**P**	**12 28 56.5**	**+0.2**
CLTN				IAmb	IAmb	12 29 02.0	
	comp=Z,17nm,1.3s						
R40A	**Maddies Statio**	**23.16**	**13**	P	**P**	**12 28 58.8**	**+1.2**
CCM	**Cathedral Cave**	**23.17**	**15**	P	**P**	**12 28 57.6**	**-0.1**
CCM				IAmb	IAmb	12 29 04.4	
	comp=Z,6.0nm,0.8s						
MVCO	**Mesa Verde**	**23.18**	**339**	P	**P**	**12 28 59.8**	**+1.7**
CPCT	**Cooper Cave**	**23.31**	**30**	P	**P**	**12 28 59.1**	**-0.1**
CPCT				IAmb	IAmb	12 28 59.9	
	comp=Z,7.9nm,0.7s						
W52A	**Murphy**	**23.32**	**31**	P	**P**	**12 28 59.6**	**+0.3**
W52A				IAmb	IAmb	12 29 01.1	
	comp=Z,18nm,1.0s						
S44A	**Carbondale**	**23.39**	**19**	P	**P**	**12 29 00.2**	**+0.4**
SIUC	**Southern Illin**	**23.42**	**19**	P	**P**	**12 29 00.7**	**+0.5**
T47A	**Sharon Grove**	**23.50**	**23**	P	**P**	**12 29 00.8**	**-0.2**
T47A				IAmb	IAmb	12 29 03.8	
	comp=Z,16nm,0.9s						
HODGE	**Hodges**	**23.55**	**35**	P	**P**	**12 29 00.8**	**-0.8**
HODGE				IAmb	IAmb	12 29 02.2	
	comp=Z,12nm,0.9s						
U49A	**Red Boiling Sp**	**23.62**	**26**	P	**P**	**12 29 02.5**	**+0.3**
U49A				IAmb	IAmb	12 29 04.1	
	comp=Z,12nm,1.0s						
V51A	**Loudon**	**23.68**	**30**	P	**P**	**12 29 02.6**	**-0.2**
V51A				IAmb	IAmb	12 29 04.4	
	comp=Z,12nm,1.1s						
BG3	**Lake Jocassee**	**23.76**	**33**	P	**P**	**12 29 02.9**	**-0.7**
BG3				IAmb	IAmb	12 29 05.0	
	comp=Z,17nm,1.2s						
U15A	**North Rim**	**24.02**	**332**	P	**P**	**12 29 06.2**	**-0.2**
PV13	**Radium Mtn., P**	**24.15**	**340**	P	**P**	**12 29 07.4**	**-0.2**
PAULI	**Pauline**	**24.23**	**35**	P	**P**	**12 29 07.7**	**-0.3**
PAULI				IAmb	IAmb	12 29 10.2	
	comp=Z,13nm,1.1s						
T50A	**Nancy**	**24.46**	**27**	P	**P**	**12 29 09.7**	**-0.4**
T50A				IAmb	IAmb	12 29 18.6	
	comp=Z,12nm,1.2s						
SMCO	**Snowmass**	**24.54**	**344**	P	**P**	**12 29 11.1**	**-0.2**
KMSC	**Kings Mountain**	**24.73**	**35**	P	**P**	**12 29 12.5**	**-0.2**
KMSC				IAmb	IAmb	12 29 18.1	
	comp=Z,8.6nm,1.0s						
ISCO	**Idaho Springs**	**24.80**	**347**	P	**P**	**12 29 12.9**	**-0.6**
ISCO				IAmb	IAmb	12 29 22.2	
	comp=Z,9.7nm,1.3s						
BIRD	**Birdtown, Kers**	**24.88**	**37**	P	**P**	**12 29 15.2**	**+1.3**
BIRD				IAmb	IAmb	12 29 16.9	
	comp=Z,14nm,1.2s						
WCI	**Wyandotte Cave**	**24.89**	**23**	P	**P**	**12 29 14.4**	**+0.4**
MTPU	**Mount Pierson**	**25.32**	**334**	P	**P**	**12 29 18.7**	**+0.4**
V55A	**Taylorsville**	**25.32**	**34**	P	**P**	**12 29 18.4**	**+0.5**
V55A				IAmb	IAmb	12 29 20.4	
	comp=Z,8.5nm,0.8s						
U54A	**Nelsons Funny**	**25.50**	**32**	P	**P**	**12 29 20.4**	**+0.7**
W57A	**Gilead**	**25.51**	**37**	P	**P**	**12 29 20.1**	**+0.5**
S51A	**Beattyville**	**25.53**	**28**	P	**P**	**12 29 19.6**	**-0.1**
MVU	**Marysvale**	**25.72**	**335**	P	**P**	**12 29 22.1**	**+0.2**
MVU				IAmb	IAmb	12 29 34.9	
	comp=Z,13nm,1.2s						
R50A	**Paris**	**25.73**	**26**	P	**P**	**12 29 21.9**	**+0.3**
R50A				IAmb	IAmb	12 29 24.0	
	comp=Z,7.3nm,0.8s						
TPNV	**Topopah Spring**	**26.38**	**327**	P	**P**	**12 29 28.2**	**+0.5**
TPNV				IAmb	IAmb	12 29 40.1	
	comp=Z,7.1nm,1.4s						
V58A	**Windy Hill, Pi**	**26.47**	**37**	P	**P**	**12 29 29.4**	**+1.1**
P49A	**Miami Univ. Ec**	**26.64**	**24**	P	**P**	**12 29 30.2**	**+0.4**
Q51A	**Peebles**	**26.78**	**27**	P	**P**	**12 29 32.0**	**+0.9**
R53A	**Hurricane**	**26.85**	**30**	P	**P**	**12 29 32.5**	**+0.7**
Q52A	**Bidwell**	**27.21**	**28**	P	**P**	**12 29 36.0**	**+1.0**
T57A	**Hurt**	**27.24**	**35**	P	**P**	**12 29 36.4**	**+1.1**
T57A				IAmb	IAmb	12 29 39.3	
	comp=Z,7.5nm,0.9s						
O49A	**Covington**	**27.35**	**24**	P	**P**	**12 29 37.0**	**+0.8**
MDPB	**Devils Postpil**	**28.43**	**324**	P	**P**	**12 29 45.5**	**-0.7**
MDPB				IAmb	IAmb	12 30 07.2	
	comp=Z,4.9nm,0.9s						
NVAR	**Mina Array Bea**	**28.57**	**326**	P	**P**	**12 29 51.4**	**+4.0**
	comp=Z,0.7nm,0.9s,baz=153,slow=8.1,SNR=4.4						
PDAR	**Pinedale Array**	**28.59**	**343**	P	**P**	**12 29 49.1**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=144,slow=7.8,SNR=6.0						
H03N2	**Juan Fernandez**	**52.32**	**159**	T	T	13 29 43.8	
	baz=337,slow=77,SNR=67						
H03N1	**Juan Fernandez**	**52.33**	**159**	T	T	13 29 45.1	
	baz=337,slow=77,SNR=96						
H03N3	**Juan Fernandez**	**52.34**	**159**	T	T	13 29 44.0	
	baz=337,slow=77,SNR=80						
BCAR	**Beaver Creek A**	**56.03**	**338**	P	**P**	**12 33 30.2**	**+0.4**
K27K	**Chicken**	**56.72**	**339**	P	**P**	**12 33 35.9**	**+1.3**
K27K				IAmb	IAmb	12 33 40.0	
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**58.86**	**338**	P	**P**	**12 33 53.0**	**+3.4**
	comp=Z,0.7nm,0.9s,baz=148,slow=3.8,SNR=5.3						
WRH	**Wood River Hil**	**59.14**	**337**	P	**P**	**12 33 51.5**	**-0.1**
WRH				IAmb	IAmb	12 33 57.0	
	comp=Z,3.9nm,1.2s						
I23K	**Minto, Yukon-K**	**59.95**	**338**	P	**P**	**12 33 57.3**	**+0.1**
I23K				IAmb	IAmb	12 34 18.0	
	comp=Z,5.1nm,1.3s						

*JMA **13** 12:32:49.4, 34°.24N×136°.85E, h396km, M2.9*
*IDC **13** 12:32:52.3±3.2, 34°.22N×136°.72E, h362km±91km, mb2.7/1, mb1 2.9/3, mb1mx2.5/42, mbtmp3.4/3, Error ellipse: s-maj=205.7km s-min=40.3km az=65.0*
ISC 13 12:32:51.2±1.2, 34°.5N±0°.1×136°.98E±0°.1, h400km, n17, σ1§77/20, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.81**	**16**	P	**Pn**	**12 33 40.7**	**-1.0**
JYTA	**Yamagatataniai**	**1.13**	**350**	P	**Pn**	**12 33 41.5**	**-1.1**
JNY	**Yasuok**	**1.13**	**39**	P	**Pn**	**12 33 42.0**	**-0.8**
JWY	**Kouya**	**1.18**	**258**	P	**Pn**	**12 33 40.4**	**-2.7**
JKG	**Kaga**	**1.87**	**344**	P	**Pn**	**12 33 45.0**	**-1.2**
JOD2	**Odawara 2**	**1.90**	**65**	P	**Pn**	**12 33 47.2**	**+0.7**
JRY	**Ryogami san**	**2.19**	**45**	P	**Pn**	**12 33 49.0**	**+0.7**
MAT	**Matsushiro**	**2.29**	**26**	P	**Pn**	**12 33 49.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.29**	**26**	P	**Pn**	**12 33 49.4**	**+0.4**
	0.3nm,0.3s,baz=195,slow=8.6,SNR=13						
JHU	**Hanno**	**2.33**	**53**	P	**Pn**	**12 33 49.5**	**+0.3**
JAG	**Ashikaga**	**2.80**	**45**	P	**Pn**	**12 33 52.2**	**-0.5**
BSO3	**Boso 3**	**2.92**	**83**	P	**Pn**	**12 33 53.1**	**-0.3**
BSO3				*eS*	**S**	**12 34 41.3**	**-2.6**
JYT	**Yasato**	**3.15**	**56**	*eS*	**S**	**12 34 44.2**	**-3.5**
BSO1	**Boso 1**	**3.30**	**86**	P	**Pn**	**12 33 56.1**	**-0.1**
BSO1				*eS*	**S**	**12 34 47.4**	**-1.7**
JHO	**Hitachi**	**3.61**	**53**	P	**Pn**	**12 33 59.5**	**-0.1**
JHO				*eS*	**S**	**12 34 52.5**	**-2.6**
USRK	**Ussuriysk Ar.**	**10.44**	**340**	P	**Pn**	**12 35 16.6**	**+2.5**
	baz=146,slow=10.0,SNR=5.3						
WRA	**Warrumunga Arr**	**54.18**	**183**	P	**P**	**12 41 39.6**	**+2.4**
	0.8nm,1.0s,baz=0.1,slow=7.6,SNR=8.6						

*IDC **13** 12:54:35.8±1.4, 18°.92N×64°.03W, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.8/43, mbtmp3.9/10, ML3.9/3, Error ellipse: s-maj=32.3km s-min=17.9km az=51.0*
*TRN **13** 12:54:39.1, 18°.94N×64°.19W, h25km, M3.6(RSPR)*
*RSPR **13** 12:54:41.5, 19°.06N×64°.12W, h25km±14km, MD3.6/15*
*NEIC **13** 12:54:41.2±1.5, 18°.98N±0°.08×64°.13W±0°.06, h37km±21km, Error ellipse: s-maj=12.2km s-min=7.0km az=202.0*
ISC 13 12:54:39.9±1.5, 18°.99N±0°.06×64°.14W±0°.02, h26km±11km, n140, σ1§07/162, mb3.8/7, 22C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.31**	**216**	Pg	**Pn**	**12 54 49.1**	**+0.4**
VGBI	**Virgin Gorda,**	**0.55**	**207**	*eP*	**Pn**	**12 54 52.2**	**+0.2**
VGBI	**Virgin Gorda,**	**0.55**	**207**	*eS*	**Sn**	**12 55 00.7**	**+0.3**
VGBI	**Virgin Gorda,**	**0.55**	**207**		**Pn**	**12 54 52.2**	**+0.2**
VGBI					**Sn**	**12 55 00.7**	**+0.3**
TBVI	**Tortola**	**0.72**	**219**	*i P*	**Pn**	**12 54 54.4**	**0.0**
TBVI	**Tortola**	**0.72**	**219**	*i P*	**Pn**	**12 54 54.4**	**0.0**
TBVI				*eS*	**Sb**	**12 55 04.2**	**+0.7**
TBVI	**Tortola**	**0.72**	**219**		**Pn**	**12 54 54.4**	**0.0**
TBVI					**Sb**	**12 55 04.2**	**+0.7**
STVI	**Saint Thomas**	**1.00**	**231**	*eP*	**Pn**	**12 54 58.4**	**+0.2**
STVI	**Saint Thomas**	**1.00**	**231**	*eP*	**Pn**	**12 54 58.4**	**+0.2**
STVI				*eS*	**Sb**	**12 55 11.9**	**+0.7**
STVI	**Saint Thomas**	**1.00**	**231**		**Pn**	**12 54 58.2**	**+0.1**
STVI				IAML		12 55 12.2	
	comp=E,7μm,0.7s						
STVI				IAML		12 55 12.3	
	comp=N,6μm,0.7s						
STVI	**Saint Thomas**	**1.00**	**231**		**Sb**	**12 55 11.9**	**+0.7**
CUPR	**Culebra, Puert**	**1.28**	**238**	*i P*	**Pn**	**12 55 02.5**	**+0.5**
CUPR	**Culebra, Puert**	**1.28**	**238**	*eS*	**Sn**	**12 55 18.6**	**+0.4**
CUPR	**Culebra, Puert**	**1.28**	**238**		**Pn**	**12 55 02.1**	**+0.1**
CUPR	**Culebra, Puert**	**1.28**	**238**		**Sn**	**12 55 18.6**	**+0.4**
CDVI	**St. Croix**	**1.36**	**206**		**Pb**	**12 55 04.5**	**-0.2**
SMRT	**St. Maarten**	**1.37**	**132**	*eP*	**Pb**	**12 55 04.7**	**-0.3**
SMRT				*eS*	**Sb**	**12 55 22.2**	**+0.1**
SMRT	**St. Maarten**	**1.37**	**132**		**Pb**	**12 55 04.5**	**-0.5**
SABA	**Saba**	**1.60**	**148**	*eP*	**Pn**	**12 55 07.4**	**+0.9**
SABA				*eS*	**Sb**	**12 55 29.5**	**+0.8**
SABA	**Saba**	**1.60**	**148**		**Pn**	**12 55 07.2**	**+0.7**
SABA				IAML		12 55 39.2	
	comp=N,4μm,0.5s						
MTP	**Monte Pirata**	**1.60**	**237**	*i P*	**Pn**	**12 55 07.0**	**+0.5**
MTP	**Monte Pirata**	**1.60**	**237**	*i P*	**Pn**	**12 55 07.0**	**+0.5**
MTP				*eS*	**Sn**	**12 55 26.7**	**+0.3**
MTP	**Monte Pirata**	**1.60**	**237**		**Pn**	**12 55 06.8**	**+0.3**
MTP				IAML		12 55 31.2	
	comp=N,1μm,0.3s						
MTP	**Monte Pirata**	**1.60**	**237**		**Sn**	**12 55 26.7**	**+0.3**
CBYP	**Canovanas**	**1.78**	**247**	*eP*	**Pn**	**12 55 09.0**	**+0.1**
CBYP	**Canovanas**	**1.78**	**247**	*eP*	**Pn**	**12 55 09.0**	**+0.1**
CBYP				*eS*	**Sn**	**12 55 31.1**	**+0.4**
CBYP	**Canovanas**	**1.78**	**247**		**Pn**	**12 55 08.6**	**-0.3**
CBYP	**Canovanas**	**1.78**	**247**		**Sn**	**12 55 31.1**	**+0.4**
HUMP	**Col San Antoni**	**1.83**	**243**	*i P*	**Pn**	**12 55 09.9**	**+0.4**
HUMP	**Col San Antoni**	**1.83**	**243**	*i P*	**Pn**	**12 55 09.9**	**+0.4**
HUMP				*eS*	**Sn**	**12 55 31.8**	**-0.1**
HUMP	**Col San Antoni**	**1.83**	**243**		**Pn**	**12 55 09.8**	**+0.2**
HUMP				IAML		12 55 35.9	
	comp=E,1μm,0.2s						
HUMP				IAML		12 55 36.3	
	comp=N,1μm,0.2s						
HUMP	**Col San Antoni**	**1.83**	**243**		**Sn**	**12 55 31.8**	**-0.1**
SEUS	**St. Eustatius**	**1.85**	**143**	*eP*	**Pn**	**12 55 11.0**	**+1.1**
SEUS	**St. Eustatius**	**1.85**	**143**		**Pn**	**12 55 10.5**	**+0.6**
SEUS				IAML		12 55 39.5	
	comp=E,2μm,0.7s						
GCPR	**Guaynabo City**	**1.96**	**250**	*eP*	**Pn**	**12 55 11.3**	**-0.1**
GCPR	**Guaynabo City**	**1.96**	**250**	*eS*	**Sn**	**12 55 35.2**	**0.0**
GCPR	**Guaynabo City**	**1.96**	**250**		**Pn**	**12 55 11.1**	**-0.3**
GCPR	**Guaynabo City**	**1.96**	**250**		**Sn**	**12 55 35.2**	**0.0**
PDPR	**Patillas Dam,**	**2.03**	**242**	*eP*	**Pn**	**12 55 13.0**	**+0.7**
PDPR	**Patillas Dam,**	**2.03**	**242**	*eS*	**Sn**	**12 55 37.1**	**+0.3**
PDPR	**Patillas Dam,**	**2.03**	**242**		**Pn**	**12 55 12.7**	**+0.4**
PDPR				IAML		12 55 42.3	
	comp=E,1μm,0.5s						
PDPR	**Patillas Dam,**	**2.03**	**242**		**Sn**	**12 55 37.1**	**+0.3**
SJG	**San Juan**	**2.10**	**246**	Pn	**Pn**	**12 55 13.4**	**+0.1**
	comp=E,74nm,0.3s,baz=68,slow=11,SNR=67						
SJG				Sn	**Sn**	**12 55 40.9**	**+2.4**
	comp=E,122nm,0.3s,baz=196,slow=18,SNR=7.1						
SJG	**San Juan**	**2.10**	**246**		**Pn**	**12 55 13.3**	**+0.1**
SJG				IAML		12 55 47.6	
	comp=E,828nm,0.6s						
SKI	**Saint Kitts**	**2.12**	**141**	*eP*	**Pb**	**12 55 15.7**	**-1.8**
SKI				*eS*	**Sn**	**12 55 40.2**	**+1.1**
SKI	**Saint Kitts**	**2.12**	**141**		**Pn**	**12 55 14.4**	**+0.9**
IGPR	**InterUniversit**	**2.12**	**242**	*eP*	**Pn**	**12 55 14.3**	**+0.6**
IGPR	**InterUniversit**	**2.12**	**242**	*eS*	**Sn**	**12 55 39.5**	**+0.3**
IGPR	**InterUniversit**	**2.12**	**242**	Pn	**Pn**	**12 55 14.5**	**+0.8**
IGPR				IAML		12 55 47.7	
	comp=E,2μm,0.3s						
SKOC	**St. Kitts, UWI**	**2.15**	**141**	*eP*	**Pn**	**12 55 15.1**	**+1.0**
SKOC				*eS*	**Sn**	**12 55 40.9**	**+1.0**
EMPR	**Esperanza - Ma**	**2.32**	**258**	*eP*	**Pn**	**12 55 16.6**	**+0.2**
EMPR	**Esperanza - Ma**	**2.32**	**258**	*eS*	**Sn**	**12 55 44.6**	**+0.6**
EMPR	**Esperanza - Ma**	**2.32**	**258**		**Pn**	**12 55 16.4**	**0.0**
EMPR				IAML		12 56 00.3	
	comp=N,1μm,0.6s						
EMPR				IAML		12 56 04.0	
	comp=E,1μm,0.7s						
EMPR	**Esperanza - Ma**	**2.32**	**258**		**Sn**	**12 55 44.6**	**+0.6**
CELP	**Cerrillos**	**2.48**	**249**	*i P*	**Pn**	**12 55 19.2**	**+0.5**
CELP	**Cerrillos**	**2.48**	**249**	*i P*	**Pn**	**12 55 19.2**	**+0.5**
CELP				*eS*	**Sn**	**12 55 48.8**	**+0.7**
CELP	**Cerrillos**	**2.48**	**249**		**Pn**	**12 55 19.2**	**+0.5**
CELP					**Sn**	**12 55 48.8**	**+0.7**
ICMP	**Isla Caja de M**	**2.52**	**245**		**Pn**	**12 55 19.9**	**+0.9**
ICMP				IAML		12 56 09.1	
	comp=E,666nm,0.8s						
OBIP	**Obispado Ponce**	**2.52**	**249**	*eP*	**Pn**	**12 55 19.8**	**+0.7**
OBIP	**Obispado Ponce**	**2.52**	**249**	*eP*	**Pn**	**12 55 19.8**	**+0.7**
OBIP				*eS*	**Sn**	**12 55 49.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.52**	**249**		**Pn**	**12 55 19.3**	**+0.2**
OBIP				IAML		12 55 54.2	
	comp=E,543nm,0.6s						
OBIP	**Obispado Ponce**	**2.52**	**249**		**Sn**	**12 55 49.2**	**+0.2**
AOPR	**Arecibo Observ**	**2.56**	**256**	*eP*	**Pn**	**12 55 19.9**	**+0.2**
AOPR	**Arecibo Observ**	**2.56**	**256**	*eP*	**Pn**	**12 55 19.9**	**+0.2**
AOPR				*eS*	**Sn**	**12 55 50.0**	**0.0**
AOPR	**Arecibo Observ**	**2.56**	**256**		**Pn**	**12 55 19.3**	**-0.3**
AOPR				IAML		12 56 10.7	
	comp=N,1μm,0.6s						
AOPR	**Arecibo Observ**	**2.56**	**256**		**Sn**	**12 55 50.0**	**0.0**
ANWB	**Willy Bob**	**2.59**	**120**	*eP*	**Pn**	**12 55 21.5**	**+1.4**
ANWB	**Willy Bob**	**2.59**	**120**	Pn	**Pn**	**12 55 20.9**	**+0.8**
AGPR	**Aguadilla, PR**	**2.86**	**260**	*eP*	**Pn**	**12 55 24.1**	**+0.3**
AGPR	**Aguadilla, PR**	**2.86**	**260**	*eP*	**Pn**	**12 55 24.1**	**+0.3**
AGPR				*eS*	**Sn**	**12 55 57.4**	**-0.1**
**AG

baz=300
H10N1 ASCENSION HYDR 55.73 114 T T 14 04 24.4
baz=300
ASAR Alice Springs 162.56 251 PKPab **PKPab 13 15 28.2 -0.1**
comp=N,0.4nm,0.9s,baz=114,slow=4.3,SNR=2.1

*NEIC **13** 13:12:04.5±0.9, 15°.77N±0°.07×98°.6W±0°.1, h5km±8km, mb4.3/4, Md4.0/10(MEX), Error ellipse: s-maj=17.3km s-min=5.2km az=61.0*
*MEX **13** 13:12:07.6±0.7, 15°.67N×98°.49W, h23km±44km, MD4.0*
ISC 13 13:12:04.3±2.2, 15°.78N±0°.09×98°.45W±0°.06, h10km±14km, n15, σ1s18/21, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**1.15**	**325**	*i* P	**Pb**	**13 12 25.6**	**-0.7**
CRIG				*i* S	**Sn**	**13 12 41.8**	**-0.5**
CRIG	**Cruz Grande**	**1.15**	**325**		**Pb**	**13 12 25.6**	**-0.7**
CRIG					**Sn**	**13 12 41.8**	**-0.5**
PEIG	**Puerto Escondi**	**1.27**	**80**	*i* P	**Pb**	**13 12 27.9**	**-0.4**
PEIG				*i* S	**Sb**	**13 12 42.8**	**-2.0**
YOIG	**Yosondua**	**1.37**	**39**	*eP*	**Pb**	**13 12 30.1**	**-0.1**
YOIG				*i* S	**Sn**	**13 12 48.7**	**+0.5**
MGIG	**Malinaltepec**	**1.45**	**353**	*i* P	**Pg**	**13 12 32.4**	**+0.2**
MGIG				*i* S	**Sn**	**13 12 49.5**	**-0.6**
TLIG	**Tlapa**	**1.77**	**356**	*i* P	**Pb**	**13 12 36.2**	**-0.8**
TLIG				*i* S	**Sb**	**13 12 60.0**	**+0.6**
TLIG	**Tlapa**	**1.77**	**356**		**Pb**	**13 12 36.2**	**-0.8**
TLIG					**Sb**	**13 12 60.0**	**+0.6**
CCIG	**Comitan**	**6.09**	**84**	Pn	**Pn**	**13 13 32.3**	**-2.3**
HUEH	**Huehuetenango**	**6.71**	**93**	Pn	**Pn**	**13 13 42.4**	**-0.8**
PETF	**Flores**	**8.31**	**81**	Pn	**Pn**	**13 14 06.7**	**+1.7**
ESQI	**Esquipulas**	**8.88**	**97**	Pn	**Pn**	**13 14 14.7**	**+1.9**
AMTX	**Amarillo**	**19.24**	**352**	Pn	**Pn**	**13 16 31.1**	**+1.3**
AMTX				IAmb	IAmb	13 16 52.7	
comp=Z,5.7nm,0.8s							
BCIP	**Isla Barro Col**	**19.32**	**108**		**Pn**	**13 16 31.9**	**+1.0**
BCIP				IAmb	IAmb	13 17 00.1	
comp=Z,120nm,1.5s							
FNO	**Franklin**	**19.41**	**3**	P	**P**	**13 16 29.9**	**-0.9**
OXF	**Oxford**	**20.34**	**22**	P	Pn	13 16 43.5	+0.6
OXF				IAmb	IAmb	13 16 45.1	
comp=Z,12nm,0.8s							

DNK 13 13:21:18.0±0.5, 70°.56N×61°.55W, h15km±29km, ML3.8, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**3.85**	**106**	*i* P	Pn	13 22 17.1	+0.4
ILULI				*i* S	Sn	13 23 00.4	-1.2
ILULI				IAML		13 23 37.0	
comp=Z,150nm,1.3s							
SFJD	**Kangerlussuaq**	**5.34**	**127**	*i* P	Pb	13 22 44.2	-6.7
SFJD				IAML		13 23 59.5	
comp=Z,50nm,0.7s							
DY2G	**Dye2**	**6.94**	**119**	*i* P	Pn	13 22 58.3	-0.9
SUMG	**Summit**	**7.57**	**64**	*i* P	Pn	13 23 06.8	-1.1
ICESG	**Greenland Ices**	**7.70**	**91**	*eP*	Pn	13 23 08.9	-0.8

*TUL **13** 13:22:36.5±0.6, 36°.82N±0°.01×98°.26W±0°.02, h6km±2km, ML2.5, mb_Lg2.3/13(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=125.0*
NEIC 13 13:22:36.4±0.6, 36°.811N±0°.010×98°.26W±0°.02, h7km±2km, Error ellipse: s-maj=2.1km s-min=1.3km az=106.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.04**	**100**		Pg	13 22 38.2	+0.3
OK032				Sg	Sg	13 22 39.0	0.0
GC02	**Grant County #**	**0.32**	**83**		Pg	13 22 43.1	+0.3
GC02				Sg	Sg	13 22 47.2	+0.1
KAN10	**Anthony SW Sta**	**0.34**	**23**	Pg	Pg	13 22 42.8	-0.3
CROK	**Carrier**	**0.38**	**144**		Pg	13 22 44.1	+0.3
CROK				Sg	Sg	13 22 48.8	0.0
KAN05	**Bluff City Nor**	**0.43**	**46**		Pg	13 22 45.0	+0.2
KAN17	**Caldwell West**	**0.46**	**59**		Pg	13 22 45.5	+0.1
KAN08	**Anthony NE Sta**	**0.48**	**29**	Pg	Pg	13 22 45.6	-0.1
KAN12	**Harper NE Stat**	**0.53**	**23**	Pg	Pg	13 22 46.3	-0.4
KAN12				Sg	Sg	13 22 53.3	-0.3
KAN09	**Caldwell North**	**0.61**	**58**	Pg	Pg	13 22 48.3	+0.1
KAN13	**South Haven SW**	**0.66**	**72**	Pg	Pg	13 22 49.1	0.0
KAN13				Sg	Sg	13 22 57.5	-0.2
KS20	**Mayfield South**	**0.70**	**53**	Pg	Pg	13 22 49.7	-0.3
U32A	**Winter Ranch,**	**0.73**	**234**	Pg	Pg	13 22 50.3	-0.3
U32A				Sg	Sg	13 22 60.0	-0.2
BLOK	**Blackwell**	**0.84**	**93**	Pg	Pg	13 22 52.2	-0.4
OK029	**Liberty Lake**	**1.20**	**147**	Pg	Pg	13 22 58.7	-0.8
OK029				Sg	Sg	13 23 14.7	-0.4
QUOK	**Quay**	**1.41**	**117**	Pn	Pn	13 23 02.5	0.0
T35A	**Sooner Cattle**	**1.41**	**85**		Pn	13 23 02.3	-0.2
OK031	**S. Brethren Rd**	**1.43**	**126**	Pn	Pn	13 23 02.9	+0.1
OK025	**Westminster Rd**	**1.44**	**148**	Pn	Pn	13 23 02.8	-0.1
FNO	**Franklin**	**1.70**	**156**	Pn	Pn	13 23 07.0	+0.5
WMOK	**Wichita Mounta**	**2.11**	**192**		Pn	13 23 12.3	+0.1
X34A	**Smith Ranch, M**	**2.23**	**171**	IAmb_Lg		13 23 45.9	
comp=Z,13nm,1.1s							
U40A	**Yellville**	**4.38**	**94**	IAmb_Lg		13 24 58.5	
comp=Z,5.5nm,0.9s							
T25A	**Trinidad**	**4.94**	**276**	IAmb_Lg		13 25 19.1	
comp=Z,5.8nm,0.9s							
WHAR	**Wooly Hollow**	**5.07**	**106**	IAmb_Lg		13 25 17.6	
comp=Z,5.7nm,1.1s							
CCM	**Cathedral Cave**	**5.72**	**75**	IAmb_Lg		13 25 41.1	
comp=Z,3.6nm,0.8s							
SDCO	**Great Sand Dun**	**5.85**	**281**	IAmb_Lg		13 25 51.7	
comp=Z,2.6nm,1.3s							
PV05	**Paradox Valley**	**8.71**	**282**	IAmb_Lg		13 27 09.0	
comp=Z,3.3nm,0.7s							

*IDC **13** 13:24:33.4±1.1, 10°.10N×138°.78E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/37, mbtmp3.5/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=38.2km s-min=25.1km az=92.0*
ISC 13 13:24:38.8±1.0, 10°.1N±0°.2×138°.7E±0°.2, h35km, n13, σ0s81/6, mb3.5/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.96**	**59**	LR	LR	13 28 32.7	
comp=Z,54nm,18.9s,baz=294,slow=35							
H11S3	**WAKE ISLAND Hy 28.33**		**70**	T	T	13 59 15.6	
baz=256,slow=75,SNR=16							
H11S1	**WAKE ISLAND Hy 28.35**		**70**	T	T	13 59 17.1	
baz=256,slow=75,SNR=9.3							
H11S2	**WAKE ISLAND Hy 28.35**		**70**	T	T	13 59 19.6	
baz=256,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy 28.82**		**67**	T	T	13 59 55.7	
baz=254,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy 28.83**		**67**	T	T	13 59 54.0	
baz=254,slow=75,SNR=6.7							
H11N3	**WAKE ISLAND Hy 28.84**		**67**	T	T	13 59 56.7	
baz=254,slow=75,SNR=8.9							
WRA	**Warramunga Arr**	**30.14**	**188**	P	**P**	**13 30 45.7**	**+0.1**
0.5nm,0.8s,baz=16,slow=8.9,SNR=1.6							
ASAR	**Alice Springs**	**33.86**	**188**	P	**P**	**13 31 17.9**	**-0.5**
0.2nm,0.5s,baz=20,slow=12,SNR=6.6							
CMAR	**Chiang Mai Arr**	**39.37**	**287**	P	**P**	**13 32 05.8**	**+0.4**
0.2nm,0.3s,baz=84,slow=8.3,SNR=4.3							
MKAR	**Makanchi Array**	**59.98**	**319**	P	**P**	**13 34 41.5**	**-0.4**
0.4nm,0.6s,baz=102,slow=9.2,SNR=4.4							
ILAR	**Eielson Array**	**74.30**	**25**	P	**P**	**13 36 11.7**	**-0.7**
0.5nm,0.6s,baz=242,slow=5.4,SNR=5.7							
NVAR	**Mina Array Bea**	**93.79**	**50**	P	**P**	**13 37 53.9**	**+0.9**
0.3nm,0.6s,baz=258,slow=4.5,SNR=2.4							

DNK 13 13:42:14.0±0.4, 69°.15N×52°.42W, h23km±3km, ML1.6, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILULI	**Ilulissat**	**0.47**	**82**	*i* P	Pb	13 42 23.5	-0.1
ILULI				*i* S	Sb	13 42 30.9	+0.6
SFJD	**Kangerlussuaq**	**2.27**	**162**	*e*	Pn	13 42 50.7	+0.8
baz=10,slow=18							
SFJD				*i* P	Pb	13 42 52.0	-2.2
SFJD				*i* S	Sb	13 43 20.3	-1.4
SFJD				IAML		13 43 21.4	
comp=Z,5.0nm,0.3s							
SFJD	**Kangerlussuaq**	**2.27**	**162**	*eP*	Pn	13 42 50.2	+0.3
SFJD				*i*		13 42 52.0	
SFJD				*i* S	Sn	13 43 17.9	+0.8
SFJD				IAML		13 43 21.4	
comp=Z,5.0nm,0.3s							
SUMG	**Summit**	**5.73**	**47**	*eS*	Sn	13 44 44.2	+1.2

*IDC **13** 13:56:11.8±0.9, 12°.18N×46°.42E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/41, mbtmp3.9/12, ML3.5/2, MS3.5/18, Ms1 3.5/18, ms1mx3.4/38, Error ellipse: s-maj=28.3km s-min=21.3km az=170.0*
*NEIC **13** 13:56:14.1±1.9, 12°.24N±0°.09×46°.14E±0°.08, h15km±5km, mb4.3/12, Error ellipse: s-maj=17.3km s-min=4.7km az=138.0*
ISC 13 13:56:12.9±0.7, 12°.1N±0°.1×46°.28E±0°.08, h10km, n47, σ1s32/35, mb4.0/15, MS3.5/16, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.41**	**261**	LR	LR	13 58 26.7	
comp=Z,278nm,18.0s,baz=128,slow=38							
ATD	**Arta Tunnel**	**3.41**	**261**		**Pn**	**13 57 04.6**	**-1.6**
ATD	**Arta Tunnel**	**3.41**	**261**	*eP*	**Pn**	**13 57 06.8**	**+0.6**
ATD	**Arta Tunnel**	**3.41**	**261**	*eP*	**Pn**	**13 57 06.8**	**+0.6**
SOCY	**Socotra**	**7.54**	**89**	Pn	**Pn**	**13 58 04.4**	**+1.4**
UOSS	**Minazif**	**15.85**	**35**	Pn	**Pn**	**13 59 56.5**	**+0.3**
UOSS				IAmb	IAmb	14 00 05.6	
comp=Z,66nm,1.1s							
KMBO	**Kilima Mbogo**	**15.91**	**215**	Pn	**P**	**14 00 01.1**	**0.0**
comp=Z,0.1nm,0.3s,baz=46,slow=13,SNR=4.3							
WSAR	**Wadi Sarin**	**16.14**	**45**	Pn	**Pn**	**14 00 00.3**	**+0.3**
comp=Z,0.3nm,0.3s,baz=196,slow=12,SNR=2.2							
WSAR				LR	LR	14 06 07.7	
comp=Z,215nm,19.9s,baz=231,slow=37							
MMAI	**Mount Meron Ar**	**23.07**	**336**	LR	LR	14 09 52.9	
comp=Z,166nm,20.2s,baz=25,slow=36							
GEYT	**Alibeck**	**27.81**	**20**	LR	LR	14 15 24.9	
comp=Z,247nm,18.1s,baz=130,slow=42							
GNI	**Garni**	**27.96**	**357**	LR	LR	14 14 38.9	
comp=Z,234nm,18.2s,baz=186,slow=40							
BRTR	**Keskin Array B**	**29.70**	**340**	P	**P**	**14 02 23.2**	**+4.0**
comp=Z,0.4nm,0.4s,baz=139,slow=7.7,SNR=1.5							
BRTR				LR	LR	14 14 45.8	
comp=Z,180nm,19.7s,baz=148,slow=38							
KBZ	**Khabaz**	**31.64**	**355**	LR	LR	14 16 58.7	
comp=Z,111nm,18.2s,baz=158,slow=40							
CHGR	**Chuyangaron**	**33.37**	**34**	P	**P**	**14 02 51.3**	**-0.3**
KKAR	**Karatay Array**	**37.33**	**30**	P	**P**	**14 03 26.2**	**+0.7**
ABKAR	**Akbulak array**	**38.73**	**14**	P	**P**	**14 03 37.3**	**+0.1**
ABKAR	**Akbulak array**	**38.73**	**14**	P	**P**	**14 03 37.2**	**+0.1**
KEST	**Kesra**	**40.78**	**312**	LR	LR	14 21 14.7	
comp=Z,28nm,18.6s,baz=324,slow=37							
AKASG	**Malin Array Be**	**40.94**	**343**	P	**P**	**14 03 55.0**	**-0.5**
comp=Z,0.2nm,0.3s,baz=159,slow=6.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**43.48**	**276**	P	**P**	**14 04 18.1**	**+1.3**
comp=Z,2.0nm,0.9s,baz=98,slow=6.7,SNR=6.5							
TORD				PcP	**PcP**	**14 06 05.6**	**+0.6**
comp=Z,1.2nm,0.8s,baz=81,slow=4.5,SNR=2.7							
TORD				LR	LR	14 20 51.0	
comp=Z,54nm,20.8s,baz=315,slow=34							
GERES	**GERESS Array B**	**45.50**	**330**	P	**P**	**14 04 32.9**	**+0.2**
comp=Z,0.9nm,0.7s,baz=141,slow=8.6,SNR=7.2							
GERES				LR	LR	14 26 09.4	
comp=Z,26nm,19.2s,baz=138,slow=40							
GERES	**GERESS Array B**	**45.50**	**330**	P	**P**	**14 04 31.1**	**-1.5**
MAKZ	**Makanchi**	**45.81**	**34**	P	**P**	**14 04 34.4**	**-0.6**
MAKZ				IAmb	IAmb	14 04 40.8	
comp=Z,7.0nm,1.4s							
MK31	**Makanchi Array**	**45.97**	**34**	P	**P**	**14 04 35.3**	**-1.0**
MK31				IAmb	IAmb	14 04 41.8	
comp=Z,3.6nm,1.1s							
MKAR	**Makanchi Array**	**45.97**	**34**	P	**P**	**14 04 35.7**	**-0.6**
comp=Z,0.9nm,0.8s,baz=218,slow=9.1,SNR=7.6							
MKAR				LR	LR	14 25 58.6	
comp=Z,68nm,19.1s,baz=224,slow=39							
MKAR	**Makanchi Array**	**45.97**	**34**	P	**P**	**14 04 35.3**	**-1.0**
PABE	**Paberze**	**46.67**	**343**	P	**P**	**14 04 39.0**	**-2.5**
CMAR	**Chiang Mai Arr**	**51.05**	**76**	P	**P**	**14 05 15.0**	**-0.8**
comp=Z,2.1nm,1.0s,baz=271,slow=9.1,SNR=10							
CMAR				LR	LR	14 24 29.0	
comp=Z,16nm,20.8s,baz=290,slow=33							
CLF	**Chambon-Foret**	**51.20**	**323**	P	**P**	**14 05 14.0**	**-2.5**
ZAA0	**Zalesovo Array**	**51.66**	**28**	P	**P**	**14 05 17.9**	**-1.9**
ZAA0				IAmb	IAmb	14 05 21.7	
comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**51.66**	**28**	P	**P**	**14 05 18.2**	**-1.6**
comp=Z,0.7nm,0.5s,baz=254,slow=4.2,SNR=2.8							
ZALV				LR	LR	14 31 40.0	
comp=Z,31nm,18.1s,baz=140,slow=41							
ZALV	**Zalesovo Beam**	**51.66**	**28**	P	**P**	**14 05 17.8**	**-2.0**
ESDC	**Sonseca Array**	**52.03**	**311**	LR	LR	14 27 41.4	
comp=Z,19nm,19.1s,baz=240,slow=36							
NOA	**NORSAR Array B**	**55.13**	**340**	LR	LR	14 31 56.4	
comp=Z,29nm,18.4s,baz=130,slow=39							
SONM	**Songino Array**	**61.16**	**42**	P	**P**	**14 06 28.2**	**+0.3**
comp=Z,0.9nm,0.9s,baz=266,slow=9.0,SNR=5.1							
SONM	**Songino Array**	**61.16**	**42**	IAmb	IAmb	14 06 29.0	
comp=Z,1.8nm,1.2s							
ULN	**Ulaanbaatar**	**61.60**	**42**	P	**P**	**14 06 30.3**	**-0.6**
ULN				IAmb	IAmb	14 06 48.4	
comp=Z,3.3nm,1.4s							
NRIK	**Noril'sk**	**62.89**	**15**	LR	LR	14 37 23.4	
comp=Z,70nm,20.5s,baz=214,slow=39							
MJAR	**Matsushiro Arr**	**84.43**	**54**	P	**P**	**14 08 46.6**	**+0.4**
comp=Z,0.6nm,0.5s,baz=304,slow=7.2,SNR=3.0							
FRB	**Frobisher Bay**	**89.77**	**336**	LR	LR	14 53 28.7	
comp=Z,18nm,18.4s,baz=51,slow=38							
WRA	**Warramunga Arr**	**92.26**	**110**	P	**P**	**14 09 24.0**	**+0.1**
comp=Z,2.6nm,1.1s,baz=290,slow=3.9,SNR=4.6							
WRA	**Warramunga Arr**	**92.26**	**110**	P	**P**	**14 09 24.0**	**+0.1**
WRA	**Warramunga Arr**	**92.26**	**110**	IAmb	IAmb	14 09 25.1	
comp=Z,0.2nm,1.0s							
ASAR	**Alice Springs**	**92.64**	**113**	P	**P**	**14 09 24.0**	**-1.6**
comp=Z,0.8nm,0.8s,baz=282,slow=4.6,SNR=4.8							
PETK	**Petropavlovsk-**	**92.81**	**34**	LR	LR	14 56 31.6	
comp=Z,23nm,19.9s,baz=229,slow=39							
NVAR	**Mina Array Bea**	**127.70**	**345**	PKP	**PKiKP**	**14 15 20.3**	**+0.4**
comp=Z,0.9nm,0.8s,baz=131,slow=0.9,SNR=6.2							
TXAR	**Lajitas Array**	**129.62**	**325**	PKP	**PKPdf**	**14 15 23.4**	**+0.3**
comp=Z,0.3nm,0.7s,baz=28,slow=5.7,SNR=3.9							

*IDC **13** 14:00:25.8±6.2, 24°.70S×179°.72E, h535km±63km, mb3.3/6, mb1 3.5/7, mb1mx3.1/26, mbtmp4.2/7, Error ellipse: s-maj=66.7km s-min=33.4km az=147.0*
*NEIC **13** 14:00:25.3±1.5, 24°.8S±0°.1×179°.8E±0°.2, h531km±9km, mb4.5/23, Error ellipse: s-maj=20.0km s-min=18.1km az=105.0*
ISC 13 14:00:25.1±0.7, 24°.7S±0°.1×179°.7E±0°.1, h531km, n35, σ0s57/35, mb4.2/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**11.25**	**284**	P	**P**	**14 02 55.3**	**-0.6**
PINNC	**Pines Island,**	**11.46**	**278**	P	**P**	**14 02 58.8**	**+0.7**
DZM	**Mont Dzumac**	**12.49**	**279**	P	**P**	**14 03 08.9**	**0.0**
0.5nm,0.3s,baz=66,slow=19,SNR=2.9							
BKZ	**Black Stump Fm**	**14.66**	**190**	P	**P**	**14 03 32.1**	**+0.8**
NNZ	**Nelson**	**17.29**	**196**	P	**P**	**14 03 56.9**	**-0.4**
KHZ	**Kahutara**	**18.38**	**195**	P	**P**	**14 04 07.8**	**+0.7**
KHZ				IAmb	IAmb	14 04 30.9	
comp=Z,31nm,1.2s							
LTZ	**Lake Taylor**	**19.04**	**197**	P	**P**	**14 04 13.7**	**+0.4**
LTZ				IAmb	IAmb	14 04 21.7	
comp=Z,37nm,1.3s							
OXZ	**Oxford**	**19.61**	**197**	P	**P**	**14 04 18.9**	**+0.4**
OXZ				IAmb	IAmb	14 04 47.8	
comp=Z,36nm,1.4s							
EIDS	**Eidsvold**	**25.95**	**262**	P	**P**	**14 05 15.8**	**+0.4**
EIDS				IAmb	IAmb	14 05 29.7	
comp=Z,12nm,1.2s							
CTA	**Charters Tower**	**31.25**	**272**	P	**P**	**14 06 02.4**	**+0.8**
comp=Z,5.0nm,0.3s,baz=98,slow=9.8,SNR=21							
CTAO	**Charters Tower**	**31.25**	**272**	P	**P**	**14 06 02.1**	**+0.5**
CTAO				IAmb	IAmb	14 06 24.5	
comp=Z,25nm,1.3s							
STKA	**Stephens Creek**	**34.20**	**249**	P	**P**	**14 06 26.8**	**+0.3**
comp=Z,1.1nm,0.4s,baz=96,slow=11,SNR=4.2							
ASAR	**Alice Springs**	**41.67**	**262**	P	**P**	**14 07 27.4**	**-0.1**
comp=Z,0.9nm,0.4s,baz=95,slow=8.1,SNR=17							
ASAR	**Alice Springs**	**41.67**	**262**	P	**P**	**14 07 27.9**	**+0.4**
WR0	**Warramunga Arr**	**41.93**	**267**	P	**P**	**14 07 28.9**	**-0.7**
WB2	**Warramunga Arr**	**42.11**	**267**	P	**P**	**14 07 30.4**	**-0.6**
WB2				IAmb	IAmb	14 07 36.3	
comp=Z,9.9nm,1.4s							
WRAB	**Tennant Creek**	**42.11**	**267**	P	**P**	**14 07 30.3**	**-0.7**
WRAB				IAmb	IAmb	14 07 44.2	
comp=Z,11nm,1.2s							
WB0	**Warramunga Arr**	**42.12**	**267**	P	**P**	**14 07 30.2**	**-0.9**
WB0				IAmb	IAmb	14 07 31.1	
comp=Z,19nm,1.4s							
WRA	**Warramunga Arr**	**42.12**	**267**	P	**P**	**14 07 30.7**	**-0.4**
comp=Z,1.5nm,0.3s,baz=100,slow=6.8,SNR=15							
WRA	**Warramunga Arr**	**42.12**	**267**	P	**P**	**14 07 30.3**	**-0.8**
FORT	**Forrest**	**45.81**	**250**	P	**P**	**14 07 58.5**	**-0.9**
FORT				IAmb	IAmb	14 08 10.9	
comp=Z,13nm,0.9s							
MTN	**Manton Dam**	**47.29**	**275**	P	**P**	**14 08 10.2**	**-0.7**
MTN				IAmb	IAmb	14 08 10.8	
comp=Z,46nm,1.4s							
KNRA	**Kununurra**	**48.45**	**271**	P	**P**	**14 08 19.3**	**-0.2**
AIN	**Ainahou**	**50.04**	**31**	P	**P**	**14 08 30.6**	**-0.7**
WRMHI	**West Rim**	**50.14**	**31**	P	**P**	**14 08 32.5**	**+0.5**
OBL	**Observatory Le**	**50.16**	**31**	P	**P**	**14 08 31.9**	**-0.3**
VNDA	**Vanda**	**53.55**	**185**	P	**P**	**14 08 55.5**	**-0.1**
QSPA	**South Pole Qui**	**65.37**	**180**	P	**P**	**14 10 13.8**	**-1.0**
JWT	**Wachi**	**72.96**	**323**	P	**P**	**14 11 00.8**	**+0.1**
JWT				IAmb	IAmb	14 11 29.4	
comp=Z,44nm,1.4s							
PEA0B	**Petropavlovsk-**	**79.84**	**347**	P	**P**	**14 11 38.3**	**+0.3**
PEA0B				IAmb	IAmb	14 11 49.0	
comp=Z,15nm,1.4s							
PETK	**Petropavlovsk-**	**79.84**	**347**	P	**P**	**14 11 38.1**	**0.0**
comp=Z,1.0nm,0.7s,baz=148,slow=6.1,SNR=3.9							
WVOR	**Wild Horse Val**	**87.68**	**41**	P	**P**	**14 12 17.3**	**0.0**
WVOR				IAmb	IAmb	14 12 19.0	
comp=Z,3.4nm,0.6s							
TXAR	**Lajitas Array**	**91.06**	**58**	P	**P**	**14 12 33.5**	**+0.2**
comp=Z,0.5nm,0.8s,baz=205,slow=7.9,SNR=5.5							
ARCES	**ARCESS Array B**	**132.63**	**348**	PKP	**PKPdf**	**14 18 39.2**	**+0.5**
comp=Z,3.8nm,1.0s,baz=73,slow=3.0,SNR=2.9							
AKASG	**Malin Array Be**	**145.52**	**326**	PKPbc	**PKPdf**	**14 19 03.1**	**+0.6**
comp=Z,1.2nm,0.4s,baz=45,slow=4.0,SNR=6.5							

*IDC **13** 14:41:49.8±1.6, 18°.48N×145°.39E, h428km±18km, mb2.9/8, mb1 3.1/9, mb1mx2.9/35, mbtmp3.7/9, Error ellipse: s-maj=21.7km s-min=14.4km az=86.0*
*NEIC **13** 14:41:52.5±1.2, 18°.4N±0°.1×145°.3E±0°.2, h456km±9km, mb4.0/29, Error ellipse: s-maj=22.0km s-min=16.3km az=77.0*
ISC 13 14:41:51.3±0.6, 18°.36N±0°.08×145°.3E±0°.1, h450km, n47, σ0s88/46, mb3.8/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.76**	**185**	P	**P**	**14 43 13.4**	**-0.2**
19nm,0.3s,baz=69,slow=23,SNR=1.8							
GUMO				S	**S**	**14 44 18.4**	**-2.0**
25nm,0.3s,baz=195,slow=22,SNR=1.6							
MJAR	**Matsushiro Arr**	**19.15**	**342**	P	**P**	**14 45 43.1**	**-1.7**
0.1nm,0.3s,baz=164,slow=8.8,SNR=3.1							
MJAR	**Matsushiro Arr**	**19.15**	**342**	IAmb	IAmb	14 45 50.8	
comp=Z,2.1nm,1.3s							
JMM	**Marumori**	**19.82**	**350**	P	**P**	**14 45 50.9**	**0.0**
YHNB	**Yeheng**	**23.08**	**290**	P	**P**	**14 46 21.0**	**+0.2**
SSLB	**Suanglung**	**23.31**	**288**	P	**P**	**14 46 22.6**	**-0.2**
WB0	**Warramunga Arr**	**39.37**	**196**	P	**P**	**14 48 41.9**	**+1.2**
WB0				IAmb	IAmb	14 48 47.9	
comp=Z,12nm,1.2s							
WR0	**Warramunga Arr**	**39.51**	**196**	P	**P**	**14 48 43.0**	**+1.2**
WR0				IAmb	IAmb	14 48 44.4	
comp=Z,9.7nm,1.3s							
WRAB	**Tennant Creek**	**39.54**	**196**	P	**P**	**14 48 42.9**	**+0.8**
WRAB				IAmb	IAmb	14 49 09.1	
comp=Z,17nm,1.4s							
WB2	**Warramunga Arr**	**39.55**	**196**	P	**P**	**14 48 43.0**	**+0.9**
WB2				IAmb	IAmb	14 48 46.9	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**39.55**	**196**	P	**P**	**14 48 43.3**	**+1.1**
comp=Z,0.4nm,0.5s,baz=8.3,slow=8.2,SNR=13							
SONM	**Songino Array**	**43.15**	**322**	P	**P**	**14 49 10.9**	**+0.2**
comp=Z,0.6nm,0.7s,baz=142,slow=5.8,SNR=4.9							
SONM	**Songino Array**	**43.15**	**322**	IAmb	IAmb	14 49 13.1	
comp=Z,1.1nm,1.1s							
AS31	**Alice Springs**	**43.22**	**195**	P	**P**	**14 49 12.4**	**+0.9**
ASAR	**Alice Springs**	**43.22**	**195**	P	**P**	**14 49 12.5**	**+1.0**
comp=Z,0.3nm,0.7s,baz=10,slow=7.3,SNR=5.8							
ASAR	**Alice Springs**	**43.22**	**195**	P	**P**	**14 49 12.1**	**+0.7**
EIDS	**Eidsvold**	**43.84**	**172**	P	**P**	**14 49 16.8**	**+0.6**
CM31	**Chiang Mai Arr**	**43.86**

BSO3	**Boso 3**	**1.32 335**	P		**Pn**	**14 46 39.2**	**-0.3**
JMKN	**Mikurajimanish**	**1.36 283**	P		**Pn**	**14 46 40.1**	**0.0**
JMKN			*e*S		**Sn**	**14 46 56.7**	**-1.1**
JKUC	**kamogawauchiur**	**1.76 333**	P		**Pn**	**14 46 45.8**	**+0.1**
JKUC			*e*S		**Sn**	**14 47 06.7**	**-1.0**
KTJ3	**Kamata3**	**2.20 308**	P		**Pn**	**14 46 52.1**	**+0.4**
KTJ3			*e*S		**Sn**	**14 47 18.1**	**-0.4**
MJAR	**Matsushiro Arr**	**3.82 321**	Pn		**Pn**	**14 47 16.1**	**+2.1**
	0.3nm,0.3s,baz=150,slow=15,SNR=10						
MJAR			Sn		**Sn**	**14 47 59.4**	**+0.9**
	0.1nm,0.3s,baz=299,slow=9.6,SNR=1.0						
USRK	**Ussuriysk Ar.**	**12.77 329**	LR		LR	14 54 31.6	
	comp=Z,46nm,18.6s,baz=347,slow=38						
WRA	**Warramunga Arr**	**53.64 188**	P		**P**	**14 55 35.4**	**-1.2**
	0.4nm,0.6s,baz=3.6,slow=7.4,SNR=5.0						
ASAR	**Alice Springs**	**57.37 188**	P		**P**	**14 56 04.6**	**+1.2**
	0.2nm,0.7s,baz=6.7,slow=7.0,SNR=1.8						

GUC 13 14:52:38.2±0.9, 28°.76S×71°.51W, h18km±5km, ML3.1, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.67**	**35**	*e*P	Pb	14 52 51.5	+0.1
AC04				*i*S	Sb	14 53 00.4	0.0
AC04				IAML		14 53 03.2	
	comp=E,2μm,0.1s						
AC04	**Llanos de Chal**	**0.67**	**35⇑**	*e*P	Pb	14 52 51.6	+0.2
AC04				*i*S	Sg	14 52 59.8	-0.5
AC04				IAML		14 53 03.2	
	comp=E,2μm,0.1s						
LCO	**Las Campanas**	**0.75**	**110**	*i*S	Sb	14 52 52.3	-11
LCO				*i*S	Sg	14 53 02.2	-0.9
LCO	**Las Campanas**	**0.75**	**110⇑**	*e*P	Pb	14 52 52.0	-1.0
LCO				*e*S	Sb	14 53 01.8	-1.2
CO05	**La Serena**	**1.18**	**169**	*e*P	Pn	14 52 59.9	0.0
CO05				*i*S	Sb	14 53 14.7	-0.5
CO05				IAML		14 53 17.2	
	comp=E,476nm,0.3s						
CO05	**La Serena**	**1.18**	**169⇑**	*e*P	Pn	14 52 58.8	-1.2
CO05				*e*S	Sb	14 53 15.0	-0.2
CO05				IAML		14 53 17.2	
	comp=E,489nm,0.2s						
GO04	**Tololo Observa**	**1.54**	**157⇓**	*i*P	Pn	14 53 05.5	+0.4
GO04				*i*S	Sb	14 53 25.6	-0.1
GO04	**Tololo Observa**	**1.54**	**157**	*e*P	Pn	14 53 04.9	-0.2
GO04				*i*S	Sb	14 53 26.1	+0.4
GO04				IAML		14 53 27.4	
	comp=N,856nm,0.3s						
GO03	**Copiap**	**1.61**	**44**	*e*P	Pn	14 53 06.2	+0.2
GO03				*i*S	Sb	14 53 27.3	-0.4
GO03	**Copiap**	**1.61**	**44**	*e*P	Pn	14 53 06.0	+0.1
GO03				*i*S	Sb	14 53 27.3	-0.4
GO03				IAML		14 53 28.7	
	comp=E,202nm,0.3s						
CO06	**Fray Jorge**	**1.91**	**183**	*e*P	Pn	14 53 09.6	-0.4
CO06				IAML		14 53 44.1	
	comp=E,72nm,0.4s						
CO06	**Fray Jorge**	**1.91**	**183⇑**	*e*P	Pn	14 53 09.5	-0.5
CO06				⇓*e*S	Sb	14 53 35.3	-1.0
CO06				IAML		14 53 42.8	
	comp=N,69nm,0.3s						
CO02	**Combarbal**	**2.48**	**170**	*e*P	Pn	14 53 18.1	+0.3
CO02				*i*S	Sb	14 53 53.3	+0.7
CO02				IAML		14 53 58.4	
	comp=E,436nm,0.3s						
CO02	**Combarbal**	**2.48**	**170**	*e*P	Pn	14 53 18.3	+0.4
CO02				*i*S	Sb	14 53 51.2	-1.4
CO02				IAML		14 53 58.3	
	comp=E,429nm,0.2s						
AC02	**Maricunga**	**2.85**	**48**	*e*P	Pn	14 53 24.9	+1.6
AC02				*e*S	Sb	14 54 02.3	-1.3
AC02				IAML		14 54 08.4	
	comp=E,81nm,0.4s						
AC02	**Maricunga**	**2.85**	**48**	*e*P	Pn	14 53 24.9	+1.6
AC02				*i*S	Sb	14 54 01.1	-2.5
AC02				IAML		14 54 08.3	
	comp=E,79nm,0.2s						

IDC 13 14:54:27.9±4.5, 8°.19N×101°.93W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/25, mbtmp3.5/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/16, Error ellipse: s-maj=183.6km s-min=63.4km az=102.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.10**	**356**	P	P	14 59 15.6	+1.4
	0.7nm,0.8s,baz=174,slow=9.1,SNR=8.2						
TXAR				LR	LR	15 06 49.1	
	comp=Z,52nm,20.2s,baz=0.0,slow=35						
NNA	**Nana**	**32.00**	**128**	LR	LR	15 11 22.4	
	comp=Z,41nm,18.4s,baz=212,slow=32						
PDAR	**Pinedale Array**	**35.09**	**350**	P	P	15 01 23.8	+0.7
	0.6nm,0.8s,baz=141,slow=9.2,SNR=5.6						
ULM	**Lac du Bonnet**	**42.23**	**6**	P	P	15 02 21.7	-1.0
	1.6nm,0.5s,baz=204,slow=10.0,SNR=2.1						
H03N2	**Juan Fernandez**	**46.81**	**153**	T	T	15 54 24.4	
	baz=329,slow=77,SNR=6.3						
H03N1	**Juan Fernandez**	**46.83**	**153**	T	T	15 54 11.9	
	baz=329,slow=77,SNR=5.8						
H03N3	**Juan Fernandez**	**46.83**	**153**	T	T	15 54 27.9	
	baz=329,slow=77,SNR=4.3						
SIV	**San Ignacio**	**47.05**	**121**	LR	LR	15 22 11.2	
	comp=Z,72nm,18.4s,baz=292,slow=35						
PLCA	**Paso Flores**	**56.61**	**152**	LR	LR	15 21 41.9	
	comp=Z,113nm,21.9s,baz=196,slow=29						
ILAR	**Eielson Array**	**64.66**	**340**	P	P	15 05 05.5	-1.8
	0.7nm,1.1s,baz=151,slow=5.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**146.46**	**322**	PKPbc	PKPab	15 14 12.4	-0.4
	0.8nm,1.0s,baz=66,slow=2.3,SNR=4.2						

*IDC **13** 15:09:28.1±0.7, 29°.58N×142°.22E, h0km, mb3.9/16, mb1 4.1/18, mb1mx4.0/48, mbtmp3.9/18, ML3.5/2, MS3.1/3, Ms1 3.2/3, ms1mx2.6/37, Error ellipse: s-maj=20.4km s-min=16.3km az=88.0*
*NEIC **13** 15:09:30.3±2.3, 29°.83N±0°.05×142°.5E±0°.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=17.5km s-min=7.2km az=250.0*

ISC 13 15:09:29.6±0.5, 29°.70N±0°.06×142°.33E±0°.09, h10km, n73, σ1°29/76, mb4.2/29, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.59**	**183**	Pn	**Pb**	**15 10 14.6**	**-1.6**
JHJ2	**Mitsune**	**4.02**	**328**	Pn	**Pn**	**15 10 31.4**	**+0.2**
JHJ	**Hachijo jima 2**	**4.05**	**328**	Pn	**Pn**	**15 10 31.5**	**-0.1**
	8.0nm,0.3s,baz=86,slow=22,SNR=2.0						
JHJ				Sn	**Sn**	**15 11 16.4**	**-2.7**
	12nm,0.3s,baz=66,slow=23,SNR=1.2						
JYT	**Yasato**	**6.75**	**345**		**Pn**	**15 11 08.8**	**0.0**
INU	**Inuyama**	**7.20**	**323**	Pn	**Pn**	**15 11 16.4**	**+1.5**
JGF	**Kuroka**	**7.22**	**326**	Pn	**Pn**	**15 11 17.1**	**+1.8**
MJAR	**Matsushiro Arr**	**7.65**	**334**	Pn	**Pn**	**15 11 21.8**	**+0.7**
	0.7nm,0.3s,baz=152,slow=11,SNR=33						
MJAR				Sn	**Sn**	**15 12 45.2**	**-2.7**
	0.1nm,0.3s,baz=117,slow=39,SNR=1.0						
MJAR	**Matsushiro Arr**	**7.65**	**334**		**Pn**	**15 11 21.4**	**+0.3**
MAJO	**Matsushiro**	**7.65**	**334**		**Pn**	**15 11 22.0**	**+0.8**
MAT	**Matsushiro**	**7.65**	**334**	P	**Pn**	**15 11 22.5**	**+1.4**
MAT				S	**Sn**	**15 12 45.4**	**-2.5**
MJB9	**Matsu-Tunnel**	**7.66**	**334**	Pn	**Pn**	**15 11 21.9**	**+0.7**
JMM	**Marumori**	**8.25**	**352**		**Pn**	**15 11 27.7**	**-1.6**
JSD	**Sado**	**8.98**	**339**	Pn	**Pn**	**15 11 38.7**	**-0.6**
JTM	**Tenmabayashi**	**11.11**	**355**	Pn	**Pn**	**15 12 07.8**	**-0.7**
ERM	**Erimo**	**12.31**	**3**	Pn	**Pn**	**15 12 22.8**	**-2.1**
KSRS	**Korea Array**	**14.27**	**307**	Pn	**Pn**	**15 12 54.5**	**+2.7**
	0.1nm,0.3s,baz=106,slow=13,SNR=3.4						
KSRS				LR	LR	15 18 17.9	
	comp=Z,39nm,18.1s,baz=155,slow=37						
ASAJ	**Asahikawa**	**14.39**	**1**	Pn	**Pn**	**15 12 51.2**	**-2.2**
	0.3nm,0.3s,baz=204,slow=11,SNR=8.0						
JKA	**Kamikawa-asahi**	**14.39**	**1**		**Pn**	**15 12 51.2**	**-2.2**
GUMO	**Guam**	**16.20**	**171**		**P**	**15 13 21.0**	**+0.4**
SSLB	**Suanglung**	**19.96**	**258**	P	**Pn**	**15 14 05.0**	**+1.2**
SSLB				IAmb	IAmb	15 14 08.3	
	comp=Z,17nm,1.2s						
KLR	**Kul'dur**	**21.11**	**340**	P	**P**	**15 14 16.9**	**+2.6**
	comp=Z,2.1nm,0.7s,baz=123,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**32.98**	**313**	P	**P**	**15 16 05.7**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=114,slow=7.2,SNR=7.4						
SONM	**Songino Array**	**32.98**	**313**	P	**P**	**15 16 05.2**	**+0.5**
SEY	**Seymchan**	**33.88**	**8**	P	**P**	**15 16 13.6**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=173,slow=3.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**40.95**	**264**	P	**P**	**15 17 09.7**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=58,slow=5.4,SNR=3.2						
CMAR				LR	LR	15 35 41.3	
	comp=Z,28nm,18.8s,baz=345,slow=38						
MTN	**Manton Dam**	**43.65**	**196**	P	**P**	**15 17 34.4**	**-0.2**
MTN				IAmb	IAmb	15 17 41.5	
	comp=Z,33nm,1.4s						
ZALV	**Zalesovo Beam**	**47.64**	**318**	PcP	**PcP**	**15 19 35.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=108,slow=3.2,SNR=2.0						
MK31	**Makanchi Array**	**48.95**	**308**	P	**P**	**15 18 16.6**	**+0.5**
MKAR	**Makanchi Array**	**48.95**	**308**	P	**P**	**15 18 16.6**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=92,slow=9.4,SNR=15						
WB0	**Warramunga Arr**	**49.77**	**190**	P	**P**	**15 18 21.6**	**-0.9**
WB0				IAmb	IAmb	15 18 36.7	
	comp=Z,7.1nm,1.0s						
WR0	**Warramunga Arr**	**49.94**	**190**	P	**P**	**15 18 21.8**	**-1.9**
WR0				IAmb	IAmb	15 18 26.6	
	comp=Z,19nm,1.4s						
WRAB	**Tennant Creek**	**49.94**	**190**	P	**P**	**15 18 22.8**	**-0.9**
WRAB				IAmb	IAmb	15 18 37.2	
	comp=Z,6.5nm,0.9s						
WB2	**Warramunga Arr**	**49.95**	**190**	P	**P**	**15 18 23.0**	**-0.8**
WB2				IAmb	IAmb	15 18 23.6	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**49.95**	**190**	P	**P**	**15 18 23.2**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=9.0,slow=7.9,SNR=30						
KDAK	**Kodiak Island**	**52.23**	**38**	P	**P**	**15 18 41.1**	**+0.5**
	comp=Z,6.5nm,1.1s,baz=256,slow=0.6,SNR=7.9						
KDAK	**Kodiak Island**	**52.23**	**38**	P	**P**	**15 18 41.0**	**+0.5**
KDAK				IAmb	IAmb	15 18 58.2	
	comp=Z,8.3nm,1.3s						
IMAR	**Indian Mountai**	**52.68**	**28**	P	**P**	**15 18 45.0**	**+1.2**
PPLA	**Purkeypile**	**52.88**	**32**	P	**P**	**15 18 47.2**	**+1.7**
PPLA				IAmb	IAmb	15 19 04.9	
	comp=Z,10nm,1.4s						
SKT	**Skwentna**	**53.08**	**33**	P	**P**	**15 18 47.7**	**+0.8**
AS31	**Alice Springs**	**53.67**	**190**	P	**P**	**15 18 50.9**	**-0.7**
ASAR	**Alice Springs**	**53.67**	**190**	P	**P**	**15 18 50.8**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=359,slow=3.8,SNR=15						
TRF	**Thorofare Moun**	**53.79**	**31**	P	**P**	**15 18 52.9**	**+0.6**
TRF				IAmb	IAmb	15 19 00.4	
	comp=Z,2.6nm,1.0s						
BWN	**Browne**	**54.23**	**30**	P	**P**	**15 18 53.9**	**-1.3**
MDM	**Murphy Dome**	**54.83**	**29**	P	**P**	**15 19 00.4**	**+0.8**
MDM				IAmb	IAmb	15 19 27.1	
	comp=Z,3.2nm,1.3s						
ILAR	**Eielson Array**	**55.38**	**29**	P	**P**	**15 19 03.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=263,slow=6.4,SNR=7.3						
ILAR	**Eielson Array**	**55.38**	**29**	P	**P**	**15 19 03.4**	**-0.2**
BMAR	**Burnt Mountain**	**56.47**	**26**	P	**P**	**15 19 12.7**	**+1.3**
DOT	**Dot Lake**	**56.59**	**31**	P	**P**	**15 19 13.1**	**+0.8**
SCRK	**Sand Creek**	**56.62**	**30**	P	**P**	**15 19 13.4**	**+0.8**
SCRK				IAmb	IAmb	15 19 15.4	
	comp=Z,3.4nm,1.4s						
KHU	**Kahuku**	**56.86**	**85**	P	**P**	**15 19 14.4**	**-0.7**
AIN	**Ainahou**	**56.95**	**85**	P	**P**	**15 19 13.9**	**-1.8**
MLH	**Mauna Loa**	**56.96**	**85**	P	**P**	**15 19 13.7**	**-2.1**
KK31	**Karatay Array**	**57.69**	**305**	P	**P**	**15 19 20.9**	**+0.5**
KK31				IAmb	IAmb	15 19 22.3	
	comp=Z,2.2nm,0.7s						
KKAR	**Karatay Array**	**57.69**	**305**	P	**P**	**15 19 20.8**	**+0.4**
KKAR				IAmb	IAmb	15 19 22.3	
	comp=Z,2.2nm,0.7s						
KKAR	**Karatay Array**	**57.69**	**305**	P	**P**	**15 19 21.0**	**+0.6**
FORT	**Forrest**	**61.66**	**194**	P	**P**	**15 19 47.2**	**-0.5**
LHI	**Lord Howe Isla**	**62.92**	**164**	P	**P**	**15 19 57.1**	**+1.0**
ABKAR	**Akbulak array**	**63.39**	**313**	P	**P**	**15 19 57.3**	**-1.9**
TOO	**Toolangi**	**66.98**	**177**	P	**P**	**15 20 23.4**	**+0.9**
TOO				IAmb	IAmb	15 20 31.9	
	comp=Z,16nm,1.1s						
FIA1	**FINESS Array S**	**75.68**	**334**	P	**P**	**15 21 14.8**	**0.0**
FIA1				IAmb	IAmb	15 21 32.6	
	comp=Z,6.3nm,1.2s						
FINES	**FINESS Array B**	**75.68**	**334**	P	**P**	**15 21 15.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=4.8,SNR=2.1						
FINES	**FINESS Array B**	**75.68**	**334**	P	**P**	**15 21 15.1**	**+0.3**
NVAR	**Mina Array Bea**	**78.82**	**52**	P	**P**	**15 21 33.8**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=291,slow=5.4,SNR=14						
NVAR	**Mina Array Bea**	**78.82**	**52**	P	**P**	**15 21 32.0**	**-1.2**
AKASG	**Malin Array Be**	**80.60**	**324**	P	**P**	**15 21 42.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=47,slow=6.3,SNR=5.1						
AKASG				LR	LR	15 59 06.3	
	comp=Z,19nm,19.2s,baz=295,slow=37						
NB2	**NORSAR Subarra**	**81.25**	**338**	P	**P**	**15 21 45.8**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**81.25**	**338**	P	**P**	**15 21 44.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=41,slow=5.3,SNR=5.7						
PDAR	**Pinedale Array**	**82.28**	**45**	P	**P**	**15 21 52.9**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=40,slow=3.5,SNR=2.7						
BRTR	**Keskin Array B**	**84.33**	**313**	P	**P**	**15 22 03.1**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=121,slow=3.0,SNR=3.8						
TXAR	**Lajitas Array**	**93.95**	**53**	P	**P**	**15 22 50.3**	**+2.2**
	comp=Z,1.6nm,0.9s,baz=298,slow=2.8,SNR=14						
TXAR	**Lajitas Array**	**93.95**	**53**	P	**P**	**15 22 49.0**	**+0.8**
PLCA	**Paso Flores**	**151.13**	**121**	PKPbc	**PKiKP**	**15 29 24.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=212,slow=1.9,SNR=3.4						
PLCA	**Paso Flores**	**151.13**	**121**		**PKiKP**	**15 29 23.6**	**-0.1**

*IDC **13** 15:10:52.7±1.4, 24°.05S×67°.45W, h130km±13km, mb3.8/7, mb1 3.9/11, mb1mx3.8/26, mbtmp4.2/11, Error ellipse: s-maj=16.8km s-min=15.9km az=18.0*
*NEIC **13** 15:10:52.7±2.9, 24°.07S±0°.06×67°.52W±0°.10, h134km±7km, mb4.1/9, Error ellipse: s-maj=13.0km s-min=8.7km az=94.0*
*SJA **13** 15:10:52.2±0.6, 24°.03S×67°.70W, h168km±5km, ML4.2, MW4.1*
*GUC **13** 15:10:52.9±0.6, 24°.07S×67°.72W, h165km±4km, ML4.6*
*VAO **13** 15:10:54.9±0.4, 23°.91S×67°.64W, h165km, mb4.3*

ISC 13 15:10:53.1±0.6, 24°.06S±0°.03×67°.68W±0°.04, h150km±7km, n153, σ1°25/178, mb4.0/6, 10C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.20**	**337**	*e*P	**Pn**	**15 11 20.8**	**+0.8**
AF01				*i*S	**Sn**	**15 11 41.5**	**+1.1**
AF01				IAML		15 11 47.4	
	comp=E,5μm,0.3s						
LVC	**Limon Verde**	**1.83**	**322**	P	**Pn**	**15 11 27.5**	**+0.8**
	comp=E,114nm,0.3s,baz=134,slow=9.9,SNR=526						
LVC				S	**Sn**	**15 11 52.4**	**0.0**
	comp=E,518nm,0.3s,baz=292,slow=20,SNR=23						
LVC	**Limon Verde**	**1.83**	**322**	⇓*i*P	**Pn**	**15 11 27.5**	**+0.8**
LVC				*i*S	**Sn**	**15 11 52.9**	**+0.5**
LVC	**Limon Verde**	**1.83**	**322**	*e*P	**Pn**	**15 11 27.7**	**+1.0**
LVC	**Limon Verde**	**1.83**	**322**	*e*P	**Pn**	**15 11 27.4**	**+0.8**
LVC				*e*S	**Sn**	**15 11 53.2**	**+0.8**
LVC				IAML		15 11 56.7	
	comp=Z,885nm,0.3s						
PB15	**IPOC Station P**	**1.85**	**297⇑**	*i*P	**Pn**	**15 11 27.5**	**+0.8**
PB15				*i*S	**Sn**	**15 11 53.7**	**+1.3**
PB15	**IPOC Station P**	**1.85**	**297**		**Pn**	**15 11 27.6**	**+0.9**
PB15	**IPOC Station P**	**1.85**	**297**	*e*P	**Pn**	**15 11 27.4**	**+0.8**
PB15				*e*S	**Sn**	**15 11 54.0**	**+1.6**
GO02	**Mina Guanaco**	**2.06**	**237⇑**	*i*P	**Pn**	**15 11 30.0**	**+0.9**
GO02				*i*S	**Sn**	**15 11 57.8**	**+0.9**
GO02	**Mina Guanaco**	**2.06**	**237**		**Pn**	**15 11 29.9**	**+0.8**
SLA	**San Lorenzo**	**2.09**	**109**	*e*P	**Pn**	**15 11 30.8**	**+1.3**
PB06	**IPOC Station P**	**2.20**	**307⇑**	*i*P	**Pn**	**15 11 31.6**	**+0.8**
PB06				*i*S	**Sn**	**15 12 00.2**	**+0.6**
PB06				IAML		15 12 03.2	
	comp=N,4μm,0.2s						
PB06	**IPOC Station P**	**2.20**	**307**		**Pn**	**15 11 31.4**	**+0.6**
PB06	**IPOC Station P**	**2.20**	**307**	*e*P	**Pn**	**15 11 31.5**	**+0.8**
PB06				*e*S	**Sn**	**15 12 00.2**	**+0.6**
PB06				IAML		15 12 05.5	
	comp=Z,2μm,0.3s						
HJA	**Humahuaca**	**2.25**	**68**	*e*P	**Pn**	**15 11 32.9**	**+1.3**
HJA				*e*S	Sn	15 11 50.6	-10
PB14	**IPOC Station P**	**2.55**	**257⇑**	*i*P	**Pn**	**15 11 35.2**	**+0.1**
PB14				*i*S	**Sn**	**15 12 07.3**	**-0.1**
PB14	**IPOC Station P**	**2.55**	**257**		**Pn**	**15 11 35.0**	**-0.1**
PB14	**IPOC Station P**	**2.55**	**257**	*e*P	**Pn**	**15 11 35.4**	**+0.3**
PB14				*e*S	**Sn**	**15 12 06.8**	**-0.6**
FSA	**Cafayete**	**2.56**	**143**	*e*P	**Pn**	**15 11 36.4**	**+1.3**
PB05	**IPOC Station P**	**2.61**	**297⇑**	*i*P	**Pn**	**15 11 35.9**	**+0.2**
PB05				*i*S	**Sn**	**15 12 08.3**	**-0.1**
PB05				IAML		15 12 18.7	
	comp=N,1μm,0.3s						
PB05	**IPOC Station P**	**2.61**	**297**	*e*P	**Pn**	**15 11 36.2**	**+0.5**
PB05				*e*S	**Sn**	**15 12 07.7**	**-0.8**
PB05				IAML		15 12 17.7	
	comp=Z,541nm,0.3s						
PB09	**IPOC Station P**	**2.67**	**327**	*e*P	**Pn**	**15 11 38.0**	**+1.4**
PB09				*i*S	**Sn**	**15 12 11.2**	**+1.2**
PB09				IAML		15 12 15.3	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**2.67**	**327**		**Pn**	**15 11 37.8**	**+1.3**
PB09	**IPOC Station P**	**2.67**	**327**	*e*P	**Pn**	**15 11 38.0**	**+1.4**
PB09				*e*S	**Sn**	**15 12 11.6**	**+1.5**
PB09				IAML		15 12 16.8	
	comp=Z,1μm,0.3s						
PB10	**IPOC Station P**	**2.69**	**281⇑**	*i*P	**Pn**	**15 11 36.9**	**+0.3**
PB10				*i*S	**Sn**	**15 12 10.3**	**+0.2**
PB10				IAML		15 12 18.6	
	comp=N,823nm,0.3s						
PB10	**IPOC Station P**	**2.69**	**281**		**Pn**	**15 11 36.8**	**+0.3**
PB10	**IPOC Station P**	**2.69**	**281**	*e*P	**Pn**	**15 11 37.1**	**+0.5**
PB10				IAML		15 12 18.0	
	comp=Z,678nm,0.4s						
YJA	**Yavi**	**2.74**	**47**	*e*P	**Pn**	**15 11 39.2**	**+1.6**
YJA				*e*S	**Sn**	**15 12 13.2**	**+1.3**
PB03	**IPOC Station P**	**2.77**	**316⇑**	*i*P	**Pn**	**15 11 38.2**	**+0.5**
PB03				*i*S	**Sn**	**15 12 11.5**	**-0.6**
PB03				IAML		15 12 18.7	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**2.77**	**316**	*e*P	**Pn**	**15 11 38.2**	**+0.5**
PB03				*e*S	**Sn**	**15 12 11.6**	**-0.6**
PB03				IAML		15 12 14.9	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**2.85**	**307**	*e*P	**Pn**	**15 11 39.0**	**+0.3**
PB04				*i*S	**Sn**	**15 12 14.2**	**+0.3**
PB04				IAML		15 12 22.6	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**2.85**	**307**		**Pn**	**15 11 38.9**	**+0.1**
PB04	**IPOC Station P**	**2.85**	**307**	*e*P	**Pn**	**15 11 39.2**	**+0.5**
PB04				IAML		15 12 17.7	
	comp=Z,1μm,0.3s						
AC02	**Maricunga**	**3.06**	**205⇑**	*i*P	**Pn**	**15 11 42.9**	**+1.3**
PB07	**IPOC Station P**	**3.09**	**318⇑**	*i*P	**Pn**	**15 11 42.1**	**+0.4**
PB07				*i*S	**Sn**	**15 12 18.6**	**-0.8**
PB07				IAML		15 12 29.5	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**3.09**	**318**		**Pn**	**15 11 42.0**	**+0.3**
PB07	**IPOC Station P**	**3.09**	**318**	*e*P	**Pn**	**15 11 42.2**	**+0.5**
PB07				*e*S	**Sn**	**15 12 18.6**	**-0.8**
PB07				IAML		15 12 27.3	
	comp=Z,1μm,0.4s						
PB02	**IPOC Station P**	**3.41**	**323⇑**	*i*P	**Pn**	**15 11 45.8**	**0.0**
PB02				*i*S	**Sn**	**15 12 26.9**	**+0.3**
PB02	**IPOC Station P**	**3.41**	**323**	*e*P	**Pn**	**15 11 46.2**	**+0.4**
PB02				*e*S	**Sn**	**15 12 27.0**	**+0.3**
PB01	**IPOC Station P**	**3.44**	**331**	*e*P	**Pn**	**15 11 46.3**	**+0.2**
PB01				*i*S	**Sn**	**15 12 27.0**	**-0.3**
PB01	**IPOC Station P**	**3.44**	**331**		**Pn**	**15 11 46.2**	**+0.2**
PB01	**IPOC Station P**	**3.44**	**331**	*e*P	**Pn**	**15 11 46.4**	**+0.2**
PB01				*e*S	**Sn**	**15 12 27.8**	**+0.5**
PB01				IAML		15 12 33.6	
	comp=Z,605nm,0.2s						
PB08	**IPOC Station P**	**4.13**	**340**		**Pn**	**15 11 56.0**	**+0.5**
PB08	**IPOC Station P**	**4.13**	**340**	*e*P	**Pn**	**15 11 56.4**	**+0.9**
TA01	**Diego Aracena**	**4.18**	**326**	Pn	**Pn**	**15 11 54.9**	**-0.8**
GO03	**Copiap**	**4.20**	**213**	Pn	**Pn**	**15 11 54.9**	**-1.1**
GO03	**Copiap**	**4.20**	**213**	*e*P	**Pn**	**15 11 55.8**	**-0.2**
GO03				*e*S	**Sn**	**15 12 44.4**	**-0.6**
TA02	**Huaiquique**	**4.40**	**328**		**Pn**	**15 11 57.6**	**-1.0**
PB11	**IPOC Station P**	**4.66**	**336**		**Pn**	**15 12 01.1**	**-1.1**
PB11	**IPOC Station P**	**4.66**	**336**	*e*P	**Pn**	**15 12 01.2**	**-1.0**
CYA	**Choya**	**4.68**	**159**	*e*P	**Pn**	**15 12 03.3**	**+1.1**
VCA	**Vinchina**	**4.68**	**186**	*e*P	**Pn**	**15 12 03.4**	**+1.0**
VCA				*e*S	**Sn**	**15 12 56.5**	**+0.1**
PSGCX	**Pisagua**	**4.99**	**332**	Pn	**Pn**	**15 12 05.2**	**-1.3**
PSGCX	**Pisagua**	**4.99**	**332**	*e*

PEXB	Peixe	21.89	61	eP	P	15 15 32.6	-1.7
VAS01	Vassouras-RJ	22.35	90	eP	P	15 15 39.1	+0.3
ITTB	Itaituba	22.72	32	eP	P	15 15 40.8	-1.5
DIAM	Diamantina, MG	23.09	80	eP	P	15 15 46.0	0.0
DUB01	Friburgo-RJ	23.36	90	eP	P	15 15 48.6	+0.3
MC01	Montes Claros	23.40	76	eP	P	15 15 47.3	-1.4
JANB	Januaria	23.74	72	eP	P	15 15 50.3	-1.6
PTGA	Pitinga	24.37	19	P	P	15 15 57.5	+0.1
	comp=Z,9.5nm,0.8s,baz=187,slow=12,SNR=11						
PTGA	Pitinga	24.37	19	P	P	15 15 57.1	-0.3
PTGA				IAmb	IAmb	15 15 59.0	
	comp=Z,13nm,1.1s						
SMTB	Santa Maria do	24.44	55	eP	P	15 15 57.0	-1.1
SDBA	SAO DESIDERIO	24.50	66	eP	P	15 15 57.0	-1.7
BSFB	Barra de Sao F	25.49	83	eP	P	15 16 07.0	-0.6
MALB	Monte Alegre	25.61	32	eP	P	15 16 08.5	-0.2
RIB01	Linhares ES	25.77	85	eP	P	15 16 09.5	-0.6
NAN01	Guarapari, ES	26.44	82	eP	P	15 16 15.1	-1.0
GUA01	Guaratinga, BA	27.14	79	eP	P	15 16 22.0	-0.4
BOAV	Boa Vista	27.20	16	eP	P	15 16 22.0	-0.9
CMC01	Camacan, BA	27.84	77	eP	P	15 16 28.4	-0.4
MCPB	Macapa, AP	28.01	35	eP	P	15 16 29.3	-0.9
GDU01	Guandu, BA	28.46	74	eP	P	15 16 32.5	-1.6
NBPN	Ponto Novo - B	29.25	68	eP	P	15 16 40.5	-0.7
ROSB	Rosrio	30.99	51	eP	P	15 16 55.9	-0.7
NBPB	Pedra_Branca-C	32.69	60	eP	P	15 17 10.7	-0.8
NBAN	Anadia - AL	33.19	70	eP	P	15 17 14.1	-1.6
NBCL	Cascavel-CE	34.51	60	eP	P	15 17 26.8	-0.3
NBRF	Rio Formoso -	34.66	69	eP	P	15 17 28.9	+0.4
PMSA	Palmer Station	40.77	178	eP	P	15 18 19.9	+0.8
SNAA	Sanae	59.50	161	P	P	15 20 41.3	+1.2
TXAR	Lajitas Array	63.37	325	P	P	15 21 08.9	+2.3
	comp=Z,0.1nm,0.4s,baz=133,slow=3.8,SNR=2.5						
P38A	Dawn	67.80	339	P	P	15 21 34.6	-0.2
VNDA	Vanda	74.53	190	P	P	15 22 16.8	+2.0
	comp=Z,0.6nm,0.8s,baz=107,slow=3.7,SNR=3.8						
VNDA	Vanda	74.53	190	IAmb	IAmb	15 22 35.7	
	comp=Z,2.8nm,1.4s						
PDAR	Pinedale Array	76.89	330	P	P	15 22 31.9	+3.1
	comp=Z,0.2nm,0.5s,baz=134,slow=6.4,SNR=2.0						
TORD	Torodi Ar. Bea	77.17	69	P	P	15 22 31.9	+1.1
	comp=Z,6.3nm,0.6s,baz=255,slow=5.4,SNR=37						
TORD	Torodi Ar. Bea	77.17	69	IAmb	IAmb	15 22 35.2	
	comp=Z,1.2nm,1.2s						
MAW	Mawson	81.56	163	P	P	15 22 55.6	+2.0
	comp=Z,3.9nm,0.6s,baz=219,slow=4.9,SNR=6.9						
MAW	Mawson	81.56	163	IAmb	IAmb	15 22 57.2	
	comp=Z,1.1nm,0.8s						
ASAR	Alice Springs	128.14	205	PKP	PKiKP	15 29 43.9	+1.1
	comp=Z,1.1nm,0.6s,baz=156,slow=1.7,SNR=6.2						
WRA	Warramunga Arr	131.28	208	PKP	PKiKP	15 29 50.5	+1.3
	comp=Z,0.7nm,0.5s,baz=153,slow=1.9,SNR=2.5						
MKAR	Makanchi Array	146.97	39	PKPbc	PKPab	15 30 17.7	-2.1
	comp=Z,0.4nm,0.6s,baz=286,slow=2.1,SNR=5.0						

WEL ***13*** *16:09:00.40°±50S×175°±04E, h18km±1km, ML4.3, Mw4.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}=0.65; $M_{\theta\theta}$=0.51; $M_{\phi\phi}$=-1.16; $M_{r\theta}$=0.27; $M_{\theta\phi}$=-0.49; $M_{\phi r}$=-0.27; Fault plane solution: M_0=1.15000×10^{15} NP1: ϕ_s=51.00000°, δ=55.00000°, λ=148.00000°. NP2: ϕ_s=161.00000°, δ=64.00000°, λ=40.00000°. Principal axes: T -131.0400, Plg46.0000°, Azm20.0000°; N 32.6200, Plg44.0000°, Azm188.0000°; P 98.4200, Plg5.0000°, Azm284.0000°;*

WEL ***13*** *16:09:31.2, 41°±2°×17°±5°, h10km±4km, M4.3/21, ML4.7/21, MLv4.3/21 Error ellipse: s-maj=0.0km s-min=0.0km az=83.5*

NEIC ***13*** *16:09:33.1±1.8, 40°±54S±0°±04×175°±06E±0°±06, h18km±1km, Error ellipse: s-maj=7.2km s-min=4.9km az=128.0*

NOU ***13*** *16:09:34.3, 40°±61S×175°±16E, h32km, ML4.3, North Island, New Zealand*

IDC ***13*** *16:09:37.5±3.3, 40°±23S×175°±13E, h62km±30km, mb3.8/4, mb1 4.0/5, mb1mx3.6/27, mbtmp4.1/5, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/24, Error ellipse: s-maj=31.4km s-min=25.6km az=40.0*

ISC 13 16:09:31.8±1.0, 40°50S±0°02×175°07E±0°02, h15km±7km, n217, σ1§26/228, mb4.3/12, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	Otaki Gorge	0.33	166	P	Pb	16 09 38.9	-0.4
OGWZ				S	Sb	16 09 43.9	-0.5
OHWZ	Ohakea	0.35	33	P	Pb	16 09 39.4	-0.3
OHWZ				S	Sb	16 09 45.3	+0.3
KIW	Kapiti Island	0.38	198	P	Pg	16 09 39.5	-0.1
KIW				S	Sg	16 09 44.8	-0.1
MRZ	Mangatainoka R	0.42	113	P	Pb	16 09 40.6	-0.4
MRZ				S	Sb	16 09 46.8	-0.3
HOWZ	Holdsworth Sta	0.52	140	P	Pb	16 09 42.7	0.0
HOWZ				S	Sb	16 09 50.0	-0.1
POWZ	Post Office Ro	0.55	79	P	Pb	16 09 42.9	-0.2
POWZ				S	Sb	16 09 50.5	-0.2
CAW	Cannon Point	0.61	180	P	Pb	16 09 44.0	-0.2
CAW				S	Sb	16 09 52.3	-0.2
TIWZ	Tintock	0.68	114	P	Pb	16 09 45.9	+0.5
PRWZ	Pori Road	0.69	95	P	Pb	16 09 46.0	+0.5
PRWZ				S	Sn	16 09 56.3	-1.2
MTW	Mount Morrison	0.74	154	P	Pn	16 09 47.0	-0.7
MTW				S	Sn	16 09 57.3	-1.3
WAZ	Wanganui	0.75	355	P	Pb	16 09 46.6	+0.2
TSZ	Takapari Road	0.81	58	P	Pb	16 09 47.5	-0.1
WEL	Wellington	0.82	196	P	Pg	16 09 47.5	-0.2
SNZO	South Karori	0.86	199		Pb	16 09 47.8	-0.5
DVHZ	Dannevirke	0.86	77	P	Pn	16 09 48.9	-0.5
TMWZ	Te Maipa	0.87	134	P	Pn	16 09 49.7	+0.2
BFZ	Birch Farm	0.92	102		Pn	16 09 50.3	+0.2
BFZ	Birch Farm	0.92	102	P	Pn	16 09 50.4	+0.2
BHW	Baring Head	0.92	189		Pb	16 09 49.2	-0.3
BHW	Baring Head	0.92	189	P	Pb	16 09 49.3	-0.1
DUWZ	D'Urville Isla	0.92	250	P	Pb	16 09 48.8	-0.7
DUWZ				S	Sg	16 10 02.7	+0.8
PAWZ	Paruwai Farm	0.92	163	P	Pn	16 09 50.4	+0.2
MSWZ	Moikau Station	0.93	172		Pn	16 09 50.1	-0.2
MSWZ	Moikau Station	0.93	172	P	Pn	16 09 50.4	+0.2
TCW	Tory Channel	0.93	220	P	Pb	16 09 48.5	-1.2
CPWZ	Castlepoint	0.95	116	P	Pn	16 09 52.0	+1.4
TRWZ	Traveller	1.01	153	P	Pn	16 09 52.5	+1.0
PNHZ	Pukenui	1.05	56	P	Pb	16 09 51.5	-0.1
ANWZ	Angora Road	1.07	88	P	Pg	16 09 53.5	+0.9
PLWZ	Palliser	1.08	173		Pg	16 09 53.0	+0.4
PLWZ	Palliser	1.08	173	P	Pg	16 09 53.1	+0.4
WPHZ	Waipukurau	1.14	68	P	Pg	16 09 54.2	+0.5
MTVZ	Mangateitei	1.16	16	P	Pn	16 09 53.4	-0.1
LREZ	Lake Rotokare	1.16	334	P	Pg	16 09 54.4	+0.2
MOVZ	Moawhango	1.21	26	P	Pn	16 09 53.5	-0.7
PRHZ	Porangahau	1.22	80	P	Pg	16 09 55.8	+0.5
PKVZ	Pokaka	1.23	10	P	Pb	16 09 54.6	-0.1
WNVZ	Wahianoa	1.24	19	P	Pn	16 09 54.4	-0.3
TRVZ	Turoa	1.25	17	P	Pb	16 09 55.3	0.0
TUWZ	Tuamarina	1.26	222		Pn	16 09 54.4	-0.4
TUWZ	Tuamarina	1.26	222	P	Pn	16 09 54.1	-0.8
BHHZ	Black Hill Sta	1.27	38	P	Pn	16 09 54.5	-0.4
WHVZ	Whangaehu Hut	1.28	18	P	Pn	16 09 55.3	-0.1
DRZ	Dome Shelter	1.28	18	P	Pb	16 09 55.8	0.0
FWVZ	Far West T-bar	1.30	17	P	Pn	16 09 55.6	0.0
TUVZ	Tukino	1.31	20	P	Pn	16 09 55.7	+0.1
KRHZ	Kereru	1.31	50	P	Pb	16 09 56.1	-0.1
PREZ	Palmer Road	1.35	329	P	Pg	16 09 57.9	+0.1
SNVZ	South Ngauruho	1.38	19	P	Pb	16 09 57.2	-0.3
NGZ	Ngauruhoe	1.38	17	P	Pb	16 09 57.1	-0.3
VRZ	Vera Road	1.39	350	P	Pb	16 09 57.8	+0.3
CMWZ	Cape Campbell	1.41	207		Pg	16 09 58.5	-0.4
CMWZ	Cape Campbell	1.41	207	P	Pg	16 09 58.9	0.0
OTVZ	Oturere	1.41	19	P	Pb	16 09 57.5	-0.4
NMEZ	Namu Road	1.42	319	P	Pg	16 09 58.7	-0.4
NNVZ	North Ngauruho	1.43	17	P	Pb	16 09 58.0	-0.2
NEZ	North Egmont	1.44	328	P	Pg	16 09 59.0	-0.5
WTVZ	West Tongariro	1.44	16	P	Pb	16 09 58.2	-0.1
ETVZ	East Tongariro	1.45	20	P	Pb	16 09 58.1	-0.4
KHEZ	Kahui Hut	1.45	326	P	Pg	16 09 59.5	-0.2
PXZ	Pawanui	1.45	72	P	Pb	16 09 58.6	+0.1
TWVZ	Taurewa	1.45	11	P	Pb	16 09 58.2	-0.4
TMVZ	Te Maari	1.47	20	P	Pb	16 09 58.5	-0.4
DREZ	Durham Road	1.47	333	P	Pg	16 09 59.5	-0.5
NNZ	Nelson	1.47	240		Pn	16 09 58.1	+0.5
NNZ	Nelson	1.47	240	P	Pn	16 09 58.2	+0.5
KRVZ	Karewarewa	1.47	18	P	Pb	16 09 58.8	-0.1
NTVZ	North Tongarir	1.48	19	P	Pb	16 09 58.7	-0.3
KWHZ	Kaweka Forest	1.50	45	P	Pb	16 09 59.3	0.0
BSWZ	Blackbirch Sta	1.51	216		Pb	16 09 59.3	-0.2
BSWZ	Blackbirch Sta	1.51	216	P	Pb	16 09 59.2	-0.3
MHEZ	Mangahewa	1.53	338	P	Pg	16 10 00.9	-0.3
NBEZ	Newall Road No	1.54	323	P	Pg	16 10 00.7	-0.7
PKE	Pukeiti	1.55	327	P	Pg	16 10 00.9	-0.6
KAHZ	Kaharanaki	1.56	64	P	Pb	16 10 00.5	+0.2
KATZ	Kakaramea	1.60	18	P	Pb	16 10 01.1	+0.1
MCHZ	McNeill Hill	1.64	50	P	Pb	16 10 02.0	+0.4
RITZ	Rihia Road	1.64	22	P	Pb	16 10 01.6	-0.1
RATZ	Rangitukua	1.72	19	P	Pb	16 10 03.4	+0.4
BKZ	Black Stump Fm	1.73	40		Pb	16 10 02.6	-0.6
BKZ	Black Stump Fm	1.73	40	P	Pb	16 10 02.8	-0.4
CKHZ	Cape Kidnapper	1.76	62	P	Pb	16 10 03.3	-0.4
HATZ	Hinemaiaia	1.79	27	P	Pb	16 10 04.0	-0.3
WATZ	Wairara	1.86	16	P	Pb	16 10 05.4	-0.1
ARHZ	Aropaoanui	1.93	51	P	Pb	16 10 06.1	-0.6
NMHZ	Naumai	1.94	44	P	Pb	16 10 06.1	-0.7
WHTZ	Whakaora	1.96	21	P	Pb	16 10 07.1	-0.1
QRZ	Quartz Range	1.96	260		Pn	16 10 05.7	+1.3
QRZ	Quartz Range	1.96	260	P	Pn	16 10 05.8	+1.3
MRHZ	Matea Rd	1.96	33	P	Pb	16 10 06.3	-0.9
HIZ	Hauiti	1.99	355	Pn	Pb	16 10 06.2	-1.4
HIZ	Hauiti	1.99	355	P	Pb	16 10 06.2	-1.4
THZ	Tophouse	2.06	232		Pn	16 10 07.5	+1.6
THZ	Tophouse	2.06	232	P	Pn	16 10 07.5	+1.6
KUTZ	Kaahu Road	2.09	16	P	Pb	16 10 09.0	-0.4
MTHZ	Maungataniwha	2.14	40	P	Pb	16 10 08.5	-1.8
WPRZ	Whakapapatarin	2.15	24	P	Pb	16 10 09.1	-1.3
ALRZ	Allen Road	2.17	27	P	Pb	16 10 09.4	-1.4
WHHZ	Waihua	2.19	50	P	Pn	16 10 09.0	+1.4
TLZ	Tolley Road	2.20	10	P	Pb	16 10 09.8	-1.5
RAHZ	Arahi	2.22	45	P	Pn	16 10 09.1	+1.1
KHZ	Kahutara	2.23	210		Pn	16 10 09.1	+0.9
KHZ	Kahutara	2.23	210	P	Pn	16 10 09.2	+1.0
PRRZ	Plateau Road	2.25	28	P	Pn	16 10 10.1	+1.7
GRRZ	Galatos Road	2.29	21	P	Pb	16 10 11.2	-1.6
HRRZ	Handcock Road	2.31	24	P	Pb	16 10 11.8	-1.3
HSRZ	Hossack Road	2.37	23	P	Pb	16 10 12.5	-1.6
RTZ	Ruatahuna	2.39	39	P	Pn	16 10 11.7	+1.2
MUGZ	Murupara	2.41	34	P	Pn	16 10 11.7	+1.0
RRRZ	Republican Roa	2.43	28	P	Pn	16 10 12.7	+1.8
SNGZ	Shannon Statio	2.45	46	P	Pn	16 10 11.2	0.0
HLRZ	Highlands Stat	2.46	24	P	Pb	16 10 14.1	-1.5
UTU	Utuhina	2.48	21	P	Pb	16 10 14.1	-1.9
KNZ	Kokohu	2.49	55	P	Pn	16 10 11.8	+0.1
TARZ	Mount Tarawera	2.52	27	P	Pb	16 10 14.6	-2.2
NGRZ	Ngongotaha	2.55	20	P	Pg	16 10 20.0	-0.6
MHGZ	Mahia Peninsul	2.57	59	P	Pn	16 10 13.2	+0.4
OMRZ	Omania	2.59	23	P	Pb	16 10 15.5	-2.5
MKRZ	Makatiti	2.59	25	P	Pg	16 10 20.3	-1.2
KARZ	Kaharoa	2.64	21	P	Pb	16 10 19.3	+0.6
PRGZ	Paritu Road	2.68	55	P	Pn	16 10 14.5	0.0
EDRZ	Edgecumbe	2.72	29	P	Pn	16 10 16.6	+1.7
URZ	Urewera	2.74	36	P	Pn	16 10 15.6	+0.5
	16nm,0.3s,baz=284,slow=2.5,SNR=108						
URZ				S	Sn	16 10 49.5	+1.5
	25nm,0.3s,baz=68,slow=17,SNR=3.8						
URZ				LR	LR	16 11 11.6	
	comp=Z,73nm,20.6s,baz=186,slow=38						
URZ	Urewera	2.74	36	P	Pn	16 10 15.7	+0.5
RIGZ	Rimuhau	2.75	50	P	Pn	16 10 15.3	0.0
DSZ	Denniston Nort	2.76	242	P	Pn	16 10 17.2	+1.6
TOZ	Tahuroa Road	2.78	7	P	Pn	16 10 17.3	+1.5
MARZ	Manawahe	2.80	27	P	Pn	16 10 18.0	+2.0
MWZ	Matawai	2.88	42	P	Pn	16 10 17.3	+0.2
OPRZ	Ohinepanea	2.89	24	P	Pn	16 10 19.0	+1.7
GVZ	Greta Valley S	2.90	211	P	Pn	16 10 17.8	+0.4
TGRZ	Tauranga	2.92	19	P	Pb	16 10 22.9	-0.6
TKGZ	Te Karaka	2.98	47	P	Pn	16 10 18.4	0.0
WHRZ	Whale Island	3.03	30	P	Pb	16 10 23.8	-1.6
LTZ	Lake Taylor	3.10	222	Pn	Pn	16 10 20.8	+0.7
LTZ	Lake Taylor	3.10	222	P	Pn	16 10 20.8	+0.7
CNGZ	Carnagh Statio	3.15	51	P	Pn	16 10 20.8	-0.1
AMCZ	Amberley	3.23	213	P	Pn	16 10 21.9	0.0
TWGZ	Tauwhareparae	3.24	45	P	Pn	16 10 22.6	+0.5
RUGZ	Raukumara Rang	3.24	40	P	Pn	16 10 22.5	+0.3
AWAZ	Awhitu Peninsu	3.45	354	P	Pn	16 10 27.3	+2.4
HAZ	Te Kaha	3.46	38	P	Pn	16 10 24.6	-0.4
PUZ	Puketiti	3.46	47	P	Pn	16 10 24.4	-0.8
PKGZ	Pakihiroa	3.50	43	P	Pn	16 10 26.1	+0.4
INZ	Inchbonnie	3.51	230	P	Pn	16 10 26.5	+0.8
ETAZ	East Tamaki Re	3.54	358	P	Pn	16 10 29.3	+3.2
OKCZ	Okains Bay	3.55	204	P	Pn	16 10 25.9	-0.5
WTAZ	Waiatarua	3.58	354	P	Pb	16 10 30.9	-3.9
OXZ	Oxford	3.62	218		Pn	16 10 26.5	-0.8
OXZ	Oxford	3.62	218	P	Pn	16 10 26.6	-0.7
EPAZ	Eden Park BICE	3.63	356	P	Pn	16 10 31.0	+3.7
HBAZ	Herne Bay Bore	3.65	356	P	Pn	16 10 31.0	+3.3
MQZ	McQueen's Vall	3.67	208		Pn	16 10 26.6	-1.4
MQZ	McQueen's Vall	3.67	208	P	Pn	16 10 26.7	-1.3
WIAZ	Waiheke Island	3.70	1	P	Pn	16 10 31.1	+2.7
MBAZ	Motutapu North	3.73	358	P	Pn	16 10 32.1	+3.4
WMGZ	Waiomatatini S	3.73	45	P	Pn	16 10 28.4	-0.4
AKCZ	Akaroa Harbour	3.73	205	P	Pn	16 10 28.2	-0.6
RVAZ	Riverhead Bore	3.74	354	P	Pn	16 10 31.4	+2.4
KUZ	Kuaotunu	3.78	8	P	Pn	16 10 31.9	+2.4
MXZ	Matakaoa Point	3.87	42	Pn	Pn	16 10 30.8	+0.2
MXZ	Matakaoa Point	3.87	42	P	Pn	16 10 30.9	+0.2
RACZ	Rakaia	3.89	213	P	Pn	16 10 29.9	-1.1
ABAZ	Army Bay	3.90	357	P	Pn	16 10 34.7	+3.6
MHCZ	Mount Hutt	4.00	220	P	Pn	16 10 32.1	-0.4
WVZ	Waitaha Valley	4.14	230	P	Pn	16 10 35.6	+1.3
WACZ	Wakanui South	4.19	214	P	Pn	16 10 34.0	-1.1
GRZ	Great Barrier	4.25	4	P	Pn	16 10 39.1	+3.1
RPZ	Rata Peaks	4.39	222	Pn	Pn	16 10 37.8	0.0
RPZ	Rata Peaks	4.39	222	P	Pn	16 10 38.0	+0.2
ARCZ	Arundel	4.50	219	P	Pn	16 10 39.1	-0.2
GCSZ	Gaunt Creek Bo	4.52	230	P	Pn	16 10 41.0	+1.3
WCZ	Waipu Caves	4.59	353	P	Pn	16 10 43.6	+3.0
TMZ	Timaru	4.91	216	P	Pn	16 10 44.2	-0.8
FOZ	Fox Glacier	4.95	231	Pn	Pn	16 10 45.9	+0.4
FOZ	Fox Glacier	4.95	231	P	Pn	16 10 46.0	+0.4
LBZ	Lake Benmore	5.30	221	Pn	Pn	16 10 50.6	+0.2
LBZ	Lake Benmore	5.30	221	P	Pn	16 10 50.9	+0.5
OUZ	Omahuta	5.40	347	P	Pn	16 10 54.2	+2.5
ODZ	Otahua Downs	5.59	214	Pn	Pn	16 10 53.2	-1.1
ODZ	Otahua Downs	5.59	214	P	Pn	16 10 53.0	-1.3
JCZ	Jackson Bay	5.87	230	P	Pn	16 11 00.3	+2.0
WKZ	Wanaka	6.21	224	Pn	Pn	16 11 02.6	-0.3
WKZ	Wanaka	6.21	224	P	Pn	16 11 04.7	+1.8
HHSZ	Highcliff Hill	6.30	210	P	Pn	16 11 03.4	-0.6
EAZ	Earnscleugh	6.34	220	P	Pn	16 11 03.9	-0.8
MSZ	Milford Sound	6.72	229	P	Pn	16 11 13.6	+3.8
CTZ	Chatham Island	6.98	120	P	Pn	16 11 13.6	+0.2
MLZ	Mavora Lakes	7.05	224	Pn	Pn	16 11 13.8	-0.5
SYZ	Scrubby Hill	7.41	214	P	Pn	16 11 19.1	-0.3
WHZ	Wether Hill Ro	7.49	222	P	Pn	16 11 25.0	+4.5
STKA	Stephens Creek	28.22	277	P	P	16 15 25.9	+1.9
CTAO	Charters Tower	31.91	301	P	P	16 15 54.9	-1.8
AS31	Alice Springs	38.32	283	P	P	16 16 52.2	+0.2
AS31				IAmb	IAmb	16 16 53.0	
	comp=Z,1.5nm,1.1s						
ASAR	Alice Springs	38.32	283	P	P	16 16 52.2	+0.3
	comp=Z,1.0nm,0.4s,baz=127,slow=7.2,SNR=61						
ASAR				PcP	PcP	16 19 03.4	-2.3
	comp=Z,0.4nm,0.8s,baz=121,slow=3.9,SNR=1.8						
ASAR	Alice Springs	38.32	283	P	P	16 16 51.5	-0.5
WR0	Warramunga Arr	40.12	288	P	P	16 17 07.5	+0.5
WR0				IAmb	IAmb	16 17 23.4	
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	40.26	288	P	P	16 17 08.5	+0.3
WB2				IAmb	IAmb	16 17 32.6	
	comp=Z,7.3nm,1.1s						
WRAB	Tennant Creek	40.27	288	P	P	16 17 08.5	+0.2
WRAB				IAmb	IAmb	16 17 17.7	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	40.27	288	P	P	16 17 08.1	-0.2
	comp=Z,1.7nm,0.5s,baz=127,slow=8.1,SNR=20						
WRA	Warramunga Arr	40.27	288	P	P	16 17 08.5	+0.2
WB0	Warramunga Arr	40.34	289	P	P	16 17 09.1	+0.2
WB0				IAmb	IAmb	16 17 23.4	
	comp=Z,13nm,1.4s						
CASY	Casey	43.59	212	P	P	16 17 33.9	-1.0
CASY				IAmb	IAmb	16 17 34.3	
	comp=Z,4.6nm,0.8s						
QSPA	South Pole Qui	49.63	180	P	P	16 18 24.7	+2.4
	comp=Z,2.8nm,0.8s,baz=6.0,slow=1.0,SNR=11						
QSPA	South Pole Qui	49.63	180	IAmb	IAmb	16 18 25.9	
	comp=Z,11nm,1.3s						
SNAA	Sanae	68.13	181	P	P	16 20 31.8	+1.2
VNA3	Neumayer Olymp	68.51	178	P	P	16 20 33.4	+0.4
VNA2	Neumayer--Watz	68.87	179	P	P	16 20 32.1	-3.1
KSRS	Korea Array	88.80	324	P	P	16 22 24.5	-0.1
	comp=Z,0.8nm,0.8s,baz=156,slow=6.1,SNR=2.1						
XAN	Xi'an	95.99	310	P	P	16 23 02.1	+4.0
XAN				sP	sP	16 23 14.3	+9.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC	Hu-ho-hao-te	99.41	317	eP	Pdif	16 23 16.3	+2.9
HHC				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC				pmax	pmax		
	comp=Z,91nm,5.5s						
KURBB	Kurchatov Arra	123.64	311	PKP	PKPdf	16 28 26.8	-1.2
	comp=Z,0.4nm,0.8s,baz=116,slow=2.2						
KBZ	Khabaz	144.76	291	PKP	PKPab	16 29 06.1	-0.3
	comp=Z,2.2nm,0.9s,baz=117,slow=3.4,SNR=3.7						
ARCES	ARCESS Array B	146.81	341	PKPbc	PKPdf	16 29 10.9	+0.6
	comp=Z,1.8nm,0.6s,baz=52,slow=2.3,SNR=10.0						
BRTR	Keskin Array B	150.65	281	PKPbc	PKPbc	16 29 21.2	-1.8
	comp=Z,0.6nm,0.3s,baz=275,slow=27,SNR=5.2						
FINES	FINESS Array B	151.81	328	PKPbc	PKPbc	16 29 22.8	-2.0
	comp=Z,1.3nm,0.6s,baz=49,slow=4.2,SNR=2.5						
TORD	Torodi Ar. Bea	152.14	194	PKPbc	PKPbc	16 29 27.0	0.0
	comp=Z,1.2nm,0.4s,baz=158,slow=3.5,SNR=14						

IDC ***13*** *16:10:31.3±7.8, 48°64N×154°25E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.2/52, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=237.3km s-min=51.0km az=100.0*

KRSC ***13*** *16:10:41.4±2.5, 48°97N×156°15E, h71km±35km, ML4.1*

ISC 13 16:10:44.4±2.0, 49°0N±0°1×156°1E±0°1, h35km, n35, σ1§70/46, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.72	360	eP	Pn	16 11 09.5	-2.2
SKR				eS	Sn	16 11 29.7	-2.7
ALID	Alaid	1.94	349	eP	Pn	16 11 13.1	-1.8
ALID				S	Sn	16 11 36.9	-1.2
PAU	Pauzhetka	2.54	10	eP	Pn	16 11 22.3	-0.7
PAU				eS	Sn	16 11 52.0	-0.7
KDTR	Khodutka, Kamc	3.11	23	eP	Pn	16 11 29.9	-0.9
KDTR				eS	Sn	16 12 05.4	-1.2
MIPR	Malaya Ipel'ka	3.34	7	eP	Pn	16 11 34.3	+0.3
MIPR				eS	Sn	16 12 13.0	+0.6
MTVR	Mutnovka	3.75	20	eP	Pn	16 11 40.1	+0.2
MTVR				eS	Sn	16 12 23.3	+0.5
RUS	Russkaya	3.79	23	eP	Pn	16 11 39.6	-0.5
RUS				eS	Sn	16 12 22.8	-0.6
GRL	Gorelyy	3.79	18	eP	Pn	16 11 39.5	-0.9
GRL				eS	Sn	16 12 22.9	-0.9
APC	Apacha	4.02	9	eP	Pn	16

ISC 13 16:51:07.1±0.3, 12°.14N±0°.05×46°.27E±0°.04, h10km, n231, σ1§81/229, **mb4.7**/96, **14C-16D, Fault plane solution: NP1:** ϕs164.81825°, δ68.11507°, λ-5.23786°. **NP2:** ϕs256.77533°, δ85.14056°, λ-158.03201°. **Principal axes:** T Plg11.7516°, Azm28.8274°; N Plg67.5270°, Azm268.6355°; P Plg18.8729°, Azm122.9054°; **Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.40**	**260**		**Pn**	**16 51 59.2**	**-1.2**
ATD	**Arta Tunnel**	**3.40**	**260**	P	**Pg**	**16 52 17.1**	**+4.7**
SNR=27							
ATD	**Arta Tunnel**	**3.40**	**260**	*e*P	**Pb**	**16 52 05.9**	**-1.7**
ATD	**Arta Tunnel**	**3.40**	**260**	*e*P	**Pb**	**16 52 05.9**	**-1.7**
HARA	**HARA**	**4.08**	**226**	*e*P	**Pg**	**16 52 29.9**	**+4.5**
HARA	**HARA**	**4.08**	**226**	*e*P	**Pg**	**16 52 29.9**	**+4.5**
SOCY	**Socotra**	**7.55**	**89**	Pn	**Pn**	**16 52 58.4**	**+1.0**
SOCY	**Socotra**	**7.55**	**89**	P	**Pn**	**16 52 57.3**	**-0.2**
AAE	**Adis Abeba**	**8.00**	**248**	*e*P	Pn	16 53 10.1	+6.4
AAE				*e*S	**Sg**	**16 55 20.4**	**-3.6**
AAE	**Adis Abeba**	**8.00**	**248**	*e*P	Pn	16 53 10.1	+6.4
AAE				*e*S	**Sg**	**16 55 20.4**	**-3.6**
FURI	**Furi**	**8.13**	**247**	Pn	**Pn**	**16 53 05.8**	**+0.2**
FURI	**Furi**	**8.13**	**247**	*e*P	Pn	16 53 11.1	+5.5
FURI				*e*S	Sg	16 55 20.4	-7.8
FURI	**Furi**	**8.13**	**247**	*e*P	Pn	16 53 11.1	+5.5
FURI				*e*S	Sg	16 55 20.4	-7.8
ABTO	**Aybut**	**8.55**	**52**	P	**Pn**	**16 53 10.2**	**-0.9**
ABTO				S	**Sn**	**16 54 41.5**	**-6.3**
WHFO	**Wadi Hawf**	**9.25**	**51**	P	**Pn**	**16 53 21.6**	**+0.9**
WHFO				S	Sn	16 54 52.0	-13
RBK	**Rabkut**	**9.35**	**54**	P	**Pn**	**16 53 24.4**	**+2.4**
DOK	**Doka**	**9.95**	**49**	P	**Pn**	**16 53 34.4**	**+4.2**
DMTO	**DMTO**	**10.05**	**55**	P	**Pn**	**16 53 32.9**	**+1.2**
DQM	**DQM**	**13.31**	**53**	P	**Pn**	**16 54 16.5**	**+0.2**
LODK	**Lodwar**	**13.84**	**232**		**Pn**	**16 54 23.1**	**-0.5**
UOSS	**Minazif**	**15.83**	**35**		**P**	**16 54 53.7**	**-0.4**
KMBO	**Kilima Mbogo**	**15.93**	**215**	Pn	**Pn**	**16 54 50.4**	**-1.5**
0.2nm,0.3s,baz=37,slow=14,SNR=14							
WSAR	**Wadi Sarin**	**16.13**	**45**	Pn	**Pn**	**16 54 53.6**	**-0.5**
0.4nm,0.3s,baz=258,slow=14,SNR=5.5							
KIBK	**Kibwezi**	**16.54**	**210**		**Pn**	**16 54 57.5**	**-2.0**
RST	**Umm Al-Ruwaisa**	**17.29**	**2**	*e*P	**P**	**16 55 09.7**	**-0.5**
UMR	**Umm Al-Rimmam**	**17.38**	**4**	*e*P	**Pn**	**16 55 10.2**	**+0.3**
MBAR	**Mbarara**	**19.95**	**232**	P	**P**	**16 55 39.1**	**-0.6**
0.7nm,0.3s,baz=47,slow=18,SNR=1.4							
EIL	**Elat**	**20.37**	**331**	P	**P**	**16 55 44.0**	**-0.1**
7.1nm,1.1s,baz=169,slow=6.9,SNR=7.4							
GHAJ	**Ghor Haditha**	**21.48**	**334**	P	**P**	**16 55 55.6**	**-0.4**
GHAJ				IAmb	IAmb	16 56 14.6	
comp=Z,41nm,1.2s							
MMAI	**Mount Meron Ar**	**23.04**	**336**	P	**P**	**16 56 13.6**	**+0.8**
comp=Z,4.1nm,0.9s,baz=182,slow=8.1,SNR=3.8							
CSS	**Mathiatis**	**25.58**	**335**	P	**P**	**16 56 35.1**	**-1.4**
CSS				IAmb	IAmb	16 56 46.3	
comp=Z,29nm,1.2s							
GEVA	**Gevas**	**26.23**	**354**	P	**P**	**16 56 42.4**	**-0.1**
HRA	**Herat**	**26.50**	**31**	P	**P**	**16 56 44.8**	**-0.3**
GEYT	**Alibeck**	**27.79**	**20**	P	**P**	**16 56 56.9**	**+0.5**
comp=Z,158nm,0.6s,baz=224,slow=6.0,SNR=2.1							
GYA0B	**ALIBECK ARRAY**	**27.79**	**20**	P	**P**	**16 56 57.5**	**+1.1**
GYA0B				IAmb	IAmb	16 57 24.9	
comp=Z,32nm,1.4s							
BRTR	**Keskin Array B**	**29.66**	**340**	P	**P**	**16 57 15.5**	**+2.3**
comp=Z,2.5nm,1.0s,baz=148,slow=8.5,SNR=3.8							
BRTR	**Keskin Array B**	**29.66**	**340**	P	**P**	**16 57 10.9**	**-2.3**
ANTO	**Ankara**	**30.08**	**339**	P	**P**	**16 57 17.3**	**+0.4**
ANTO				IAmb	IAmb	16 57 31.4	
comp=Z,11nm,1.0s							
KBL	**Kabul**	**30.43**	**39**	P	**P**	**16 57 21.4**	**+1.2**
OPO	**Ambohidratompo**	**30.52**	**178**	P	**P**	**16 57 21.3**	**+0.3**
comp=Z,5.1nm,0.9s,baz=350,slow=6.1,SNR=2.5							
ILGA	**Ilgaz**	**30.84**	**341**	P	**P**	**16 57 24.9**	**+1.2**
KBZ	**Khabaz**	**31.61**	**355**	P	**P**	**16 57 32.1**	**+1.9**
comp=Z,1.8nm,0.9s,baz=179,slow=7.0,SNR=5.6							
HYB	**Hyderabad**	**31.63**	**77**	*i* P	**P**	**16 57 31.0**	**+0.3**
KIV	**Kislovodsk**	**31.86**	**355**	⇓P	**P**	**16 57 36.0**	**+3.5**
KIV	**Kislovodsk**	**31.86**	**355**	P	**P**	**16 57 32.6**	**+0.2**
ALN	**Alexandroupoli**	**33.71**	**332**	P	**P**	**16 57 49.9**	**+1.3**
ALN				IAmb	IAmb	16 57 54.2	
comp=Z,16nm,1.1s							
AGG	**Agios Georgios**	**34.18**	**326**	P	**P**	**16 57 52.2**	**-0.6**
AGG				IAmb	IAmb	16 57 59.5	
comp=Z,18nm,1.2s							
GAR	**Garm**	**34.23**	**34**	P	**P**	**16 57 52.7**	**-0.7**
PALK	**Pallekele**	**34.26**	**95**	P	**P**	**16 57 53.8**	**-0.1**
comp=Z,10nm,0.9s,baz=293,slow=13,SNR=2.7							
PALK	**Pallekele**	**34.26**	**95**	P	**P**	**16 57 53.8**	**-0.1**
BTK	**Batken**	**35.25**	**34**	P	**P**	**16 58 02.3**	**+0.2**
BTK				IAmb	IAmb	16 58 09.2	
comp=Z,12nm,1.2s							
VTS	**Vitosha**	**36.37**	**331**	⇓P	**P**	**16 58 11.9**	**+0.1**
VTS	**Vitosha**	**36.37**	**331**	P	**P**	**16 58 11.4**	**-0.3**
VTS				IAmb	IAmb	16 58 23.8	
comp=Z,12nm,1.1s							
CFR	**Carcaliu**	**36.39**	**338**	⇑P	**P**	**16 58 14.8**	**+3.1**
MATP	**Matopo**	**36.78**	**209**	P	**P**	**16 58 14.0**	**-1.4**
comp=Z,3.6nm,1.1s,baz=24,slow=12,SNR=3.3							
KK31	**Karatay Array**	**37.32**	**30**	P	**P**	**16 58 19.3**	**-0.3**
KKAR	**Karatay Array**	**37.32**	**30**	P	**P**	**16 58 18.9**	**-0.8**
KKAR	**Karatay Array**	**37.32**	**30**	P	**P**	**16 58 19.3**	**-0.4**
KKAR				IAmb	IAmb	16 58 28.1	
comp=Z,4.5nm,0.9s							
MLR	**Muntele Rosu**	**37.48**	**336**	⇑P	**P**	**16 58 24.4**	**+3.3**
MLR	**Muntele Rosu**	**37.48**	**336**	P	**P**	**16 58 20.6**	**-0.5**
MLR				IAmb	IAmb	16 58 39.6	
comp=Z,17nm,0.9s							
VRI	**Vrincioaia**	**37.50**	**337**	⇓P	P	16 58 32.7	+12
PLOR	**Plostina**	**37.51**	**337**	⇓P	**P**	**16 58 25.4**	**+4.1**
PUK	**Puka**	**37.63**	**327**	P	**P**	**16 58 22.1**	**-0.3**
VOIR		**37.80**	**335**	⇑P	**P**	**16 58 26.3**	**+2.6**
TESR	**Tescani**	**38.07**	**338**	⇓P	**P**	**16 58 27.9**	**+1.9**
DOPR	**Dopca**	**38.09**	**336**	⇓P	**P**	**16 58 28.2**	**+2.0**
HERR	**Herculane**	**38.48**	**332**	⇑P	**P**	**16 58 31.3**	**+1.9**
ABKAR	**Akbulak array**	**38.70**	**14**	P	**P**	**16 58 31.7**	**+0.5**
ABKAR	**Akbulak array**	**38.70**	**14**	P	**P**	**16 58 31.6**	**+0.4**
ABKAR				IAmb	IAmb	16 58 42.0	
comp=Z,14nm,1.1s							
GZR	**Gura Zlata**	**38.72**	**333**	⇑P	**P**	**16 58 33.8**	**+2.3**
MDVR	**Moldovita**	**38.73**	**332**	⇓P	**P**	**16 58 33.2**	**+1.6**
SORM	**Soroca**	**38.88**	**341**	⇓P	**P**	**16 58 32.9**	**+0.1**
AAK	**Ala-Archa**	**39.03**	**34**	P	**P**	**16 58 34.9**	**+0.6**
AAK				IAmb	IAmb	16 58 51.4	
comp=Z,18nm,1.2s							
DIVS	**Divibare**	**39.05**	**330**	P	**P**	**16 58 34.6**	**+0.3**
AKTO	**Aktyubinsk**	**39.39**	**12**	P	**P**	**16 58 38.0**	**+1.1**
comp=Z,6.2nm,1.2s,baz=205,slow=9.5,SNR=12							
BZS	**Buzias**	**39.41**	**333**	⇓P	**P**	**16 58 40.1**	**+2.9**
BURAR	**Bucovina Array**	**39.53**	**338**	⇑P	**P**	**16 58 41.0**	**+2.7**
BURAR	**Bucovina Array**	**39.53**	**338**	P	**P**	**16 58 36.8**	**-1.5**
BUR08	**Bucovina Ar. S**	**39.56**	**338**	P	**P**	**16 58 37.2**	**-1.3**
BOOM	**Boomskoye usch**	**39.73**	**35**	P	**P**	**16 58 37.5**	**-2.7**
DRGR		**39.85**	**335**	⇑P	**P**	**16 58 42.9**	**+2.0**
BELG	**Belogornoye**	**40.16**	**1**	P	**P**	**16 58 44.0**	**+0.7**
comp=Z,10.0nm,0.5s,baz=14,slow=5.9,SNR=9.4							
KDJ	**Kajisay**	**40.21**	**36**	P	**P**	**16 58 44.5**	**+0.4**
KDJ				IAmb	IAmb	16 58 52.7	
comp=Z,22nm,1.4s							
AKASG	**Malin Array Be**	**40.91**	**343**	P	**P**	**16 58 50.0**	**+0.5**
comp=Z,1.7nm,0.7s,baz=155,slow=7.0,SNR=22							
AKASG	**Malin Array Be**	**40.91**	**343**	P	**P**	**16 58 49.4**	**-0.1**
AKBB	**Malin Array Si**	**40.91**	**343**	P	**P**	**16 58 49.7**	**+0.2**
AKBB				IAmb	IAmb	16 59 00.0	
comp=Z,26nm,1.4s							
MORH	**Mrgy, Hungar**	**41.24**	**331**	⇑P	**P**	**16 58 54.2**	**+1.9**
MORH	**Mrgy, Hungar**	**41.24**	**331**	*e*P	**P**	**16 58 54.9**	**+2.6**
KOVH	**Kovagotottos**	**41.41**	**330**	*e*P	**P**	**16 58 56.4**	**+2.7**
KOLS	**Kolonicke sedl**	**41.74**	**336**	*e*P	**P**	**16 58 59.8**	**+3.4**
PSZ	**Piszkesteto**	**41.93**	**333**	*e*P	**P**	**16 59 01.7**	**+3.6**
PSZ	**Piszkesteto**	**41.93**	**333**	P	**P**	**16 58 57.4**	**-0.7**
PSZ				IAmb	IAmb	16 59 02.6	
comp=Z,15nm,1.0s							
CRVS	**Cervenica-Dubn**	**42.04**	**336**	*e*P	**P**	**16 59 01.8**	**+2.9**
MPLH	**Magyarpolny**	**42.45**	**331**	*e*P	**P**	**16 59 06.0**	**+3.8**
VYHS	**Vyhne**	**42.83**	**333**	*e*P	**P**	**16 59 08.2**	**+2.8**
GROS	**Grobnik**	**42.96**	**329**	*e*P	**P**	**16 59 08.2**	**+1.7**
GROS				*e*		17 00 28.3	
LANS	**Liptovska Anna**	**43.06**	**334**	*e*P	**P**	**16 59 11.0**	**+3.8**
SOKA	**Soboth**	**43.35**	**329**	*e*P	**P**	**16 59 11.9**	**+2.2**
comp=Z,20nm,1.0s,SNR=13							
MOZS	**Mozjanca**	**43.39**	**328**	*e*P	**P**	**16 59 10.9**	**+0.9**
MOZS				*e*		17 00 32.2	
ZST	**Bratislava**	**43.40**	**332**	*e*P	**P**	**16 59 13.3**	**+3.4**
MODS	**Modra-Piesok**	**43.45**	**332**	*e*P	P	16 59 15.6	+5.3
TORD	**Torodi Ar. Bea**	**43.46**	**276**	P	**P**	**16 59 11.7**	**+0.7**
comp=Z,5.1nm,0.9s,baz=87,slow=6.4,SNR=18							
TORD				PcP	**PcP**	**17 00 60.0**	**+0.8**
comp=Z,1.7nm,0.9s,baz=68,slow=2.8,SNR=3.7							
OBKA	**Obir**	**43.48**	**328**	*e*P	**P**	**16 59 12.9**	**+2.2**
comp=Z,9.5nm,1.1s							
ARSA	**Arzberg**	**43.49**	**330**	*e*P	**P**	**16 59 12.7**	**+1.9**
comp=Z,8.5nm,0.9s							
JAVC	**Velka Javorina**	**43.62**	**333**	*e*P	**P**	**16 59 14.0**	**+2.2**
OJC	**Ojcow**	**43.74**	**336**	*e*P	**P**	**16 59 13.8**	**+1.1**
CONA	**Conrad Observa**	**43.80**	**331**	*e*P	**P**	**16 59 15.2**	**+2.0**
comp=Z,13nm,1.0s,SNR=9.6							
MYKA	**Terra Mystica**	**44.03**	**328**	*e*P	**P**	**16 59 17.5**	**+2.4**
comp=Z,11nm,1.0s							
STAL	**STALIGIAL**	**44.29**	**327**	P	**P**	**16 59 16.6**	**-0.6**
STAL				IAmb	IAmb	16 59 21.0	
comp=Z,11nm,1.0s							
ZOU	**Zoufplan**	**44.34**	**327**	P	**P**	**16 59 17.8**	**0.0**
ZOU				IAmb	IAmb	16 59 22.3	
comp=Z,16nm,1.1s							
KRUC	**Moravsky**	**44.35**	**332**	*e*P	**P**	**16 59 18.7**	**+1.2**
MORC	**Moravsky Berou**	**44.36**	**334**	⇓P	**P**	**16 59 19.3**	**+1.6**
MORC	**Moravsky Berou**	**44.36**	**334**	*e*P	**P**	**16 59 19.8**	**+2.1**
VRAC	**Vranov**	**44.44**	**332**	⇑P	**P**	**16 59 19.8**	**+1.6**
VRAC	**Vranov**	**44.44**	**332**	*e*P	**P**	**16 59 19.7**	**+1.5**
KBA	**Koelnbreinsper**	**44.48**	**328**	*i* P	**P**	**16 59 21.4**	**+2.6**
comp=Z,5.0nm,0.9s							
MOA	**Molln**	**44.52**	**329**	*i* P	**P**	**16 59 20.9**	**+1.9**
comp=Z,11nm,1.0s,SNR=6.9							
ABTA	**Abfaltersbach**	**44.70**	**327**	*e*P	**P**	**16 59 22.3**	**+1.8**
comp=Z,4.3nm,1.0s							
KRLC	**Kraliky**	**44.91**	**333**	*e*P	**P**	**16 59 25.6**	**+3.5**
MSSA	**Maissana**	**44.94**	**323**	P	**P**	**16 59 21.6**	**-0.8**
BRVK	**Borovoye**	**45.11**	**20**	P	**P**	**16 59 22.2**	**-1.3**
BVAR	**Borovoye Array**	**45.12**	**20**	P	**P**	**16 59 23.9**	**+0.3**
comp=Z,1.6nm,0.7s,baz=228,slow=18,SNR=10							
CKRC	**Cesky Krumlov**	**45.16**	**330**	*e*P	**P**	**16 59 26.6**	**+2.6**
ARU	**Arti**	**45.21**	**10**	P	**P**	**16 59 22.1**	**-2.2**
ARU				IAmb	IAmb	16 59 33.0	
comp=Z,7.9nm,1.1s							
DPC	**Dobruska-Polom**	**45.31**	**333**	*e*P	**P**	**16 59 26.4**	**+1.1**
GEC2	**GERESS Array S**	**45.47**	**330**	P	**P**	**16 59 24.1**	**-2.5**
GEC2				IAmb	IAmb	16 59 30.4	
comp=Z,14nm,1.0s							
GERES	**GERESS Array B**	**45.47**	**330**	P	**P**	**16 59 26.2**	**-0.4**
comp=Z,5.7nm,0.8s,baz=124,slow=7.1,SNR=32							
GERES	**GERESS Array B**	**45.47**	**330**	P	**P**	**16 59 25.6**	**-1.1**
WTTA	**Wattenberg**	**45.49**	**327**	*i* P	**P**	**16 59 29.2**	**+2.3**
comp=Z,12nm,1.4s							
OSTC	**Ostas**	**45.51**	**333**	*e*P	**P**	**16 59 30.3**	**+3.5**
UPC	**Upice**	**45.56**	**333**	*e*P	**P**	**16 59 30.7**	**+3.5**
WATA	**Walderalm**	**45.57**	**327**	*e*P	**P**	**16 59 28.5**	**+1.0**
comp=Z,11nm,1.3s							
CHVC	**Chvalec**	**45.60**	**333**	*e*P	**P**	**16 59 30.4**	**+2.9**
SUW	**Suwalki**	**45.61**	**341**	*e*P	**P**	**16 59 29.1**	**+1.7**
SUW	**Suwalki**	**45.61**	**341**	P	**P**	**16 59 27.0**	**-0.4**
KSP	**Ksiaz**	**45.68**	**334**	*e*P	**P**	**16 59 29.6**	**+1.4**
SQTA	**Sankt Quirin**	**45.69**	**327**	*e*P	**P**	**16 59 29.7**	**+1.3**
comp=Z,5.5nm,1.1s							
KHC	**Kasperske Hory**	**45.72**	**330**	*e*P	**P**	**16 59 30.3**	**+1.8**
KHC	**Kasperske Hory**	**45.72**	**330**	P	**P**	**16 59 27.6**	**-1.0**
KHC				IAmb	IAmb	16 59 31.5	
comp=Z,9.1nm,1.2s							
MAKZ	**Makanchi**	**45.79**	**34**	P	**P**	**16 59 28.2**	**-0.9**
MAKZ				IAmb	IAmb	16 59 39.1	
comp=Z,18nm,1.4s							
MOTA	**Moosalm**	**45.83**	**327**	*e*P	**P**	**16 59 30.3**	**+0.7**
comp=Z,6.3nm,1.2s							
FETA	**Feichten**	**45.83**	**326**	*e*P	**P**	**16 59 30.2**	**+0.7**
comp=Z,5.7nm,1.2s							
MK31	**Makanchi Array**	**45.96**	**34**	P	**P**	**16 59 28.9**	**-1.5**
MK31				IAmb	IAmb	16 59 40.2	
comp=Z,13nm,1.4s							
MKAR	**Makanchi Array**	**45.96**	**34**	P	**P**	**16 59 30.4**	**0.0**
comp=Z,2.4nm,0.7s,baz=223,slow=7.6,SNR=19							
MKAR	**Makanchi Array**	**45.96**	**34**	P	**P**	**16 59 29.4**	**-1.0**
RETA	**Reutte**	**46.10**	**327**	*e*P	**P**	**16 59 30.6**	**-0.9**
comp=Z,6.9nm,1.4s							
DAVA	**Damuels**	**46.45**	**326**	*i* P	**P**	**16 59 34.2**	**-0.3**
comp=Z,11nm,0.9s							
KURBB	**Kurchatov Arra**	**46.55**	**28**	P	**P**	**16 59 34.6**	**-0.4**
comp=Z,1.8nm,0.8s,baz=227,slow=8.3,SNR=14							
PABE	**Paberze**	**46.64**	**343**	P	**P**	**16 59 34.1**	**-1.4**
KURK	**Kurchatov**	**46.65**	**28**	P	**P**	**16 59 34.6**	**-1.2**
BRG	**Berggiesshubel**	**46.75**	**332**	*e*P	**P**	**16 59 37.3**	**+0.8**
BRG				Amp		16 59 39.6	
comp=Z,7.8nm,1.0s							
SENIN	**Lac Senin/Sane**	**47.37**	**324**	P	**P**	**16 59 41.5**	**-0.3**
SENIN				IAmb	IAmb	16 59 51.9	
comp=Z,11nm,1.2s							
CLL	**Collm**	**47.48**	**332**	*i* P	**P**	**16 59 43.2**	**+1.0**
comp=Z,13nm,1.3s							
CLL				*e*		16 59 51.0	
CLL				*i*		16 59 56.1	
CLL				*e*S	**S**	**17 06 38.0**	**+1.2**
CLL				*e*SS	**SS**	**17 10 00.0**	**-4.6**
CLL	**Collm**	**47.48**	**332**	P	**P**	**16 59 42.6**	**+0.4**
CLL				IAmb	IAmb	16 59 45.7	
comp=Z,9.0nm,1.1s							
WMQ	**Urumqi**	**47.55**	**40**	*e*P	**P**	**16 59 45.9**	**+2.9**
WMQ				pmax	pmax		
comp=Z,17nm,0.7s							
WMQ				pmax	pmax		
comp=Z,200nm,5.3s							
BFO	**Black Forest**	**47.91**	**326**	P	**P**	**16 59 46.1**	**+0.5**
BFO				IAmb	IAmb	16 59 49.1	
comp=Z,13nm,1.1s							
ECH	**Echery**	**48.49**	**326**	P	**P**	**16 59 50.3**	**+0.2**
ECH				IAmb	IAmb	16 59 53.3	
comp=Z,16nm,1.4s							
KLMR	**Klimovskoe**	**48.89**	**356**	*e*P	**P**	**16 59 52.0**	**-0.9**
KLMR				AMP		17 00 03.4	
comp=Z,39nm,1.4s							
KLMR				*e*PcP	**PcP**	**17 01 13.5**	**-3.7**
KLMR				LQ	LQ	17 21 09.1	
KLMR				LQ	LQ	17 21 09.1	
KLMR				LR	LR	17 22 35.4	
WLF	**Walferdange**	**49.85**	**327**	P	**P**	**17 00 00.7**	**+0.2**
MHMT	**Maesarieng**	**50.10**	**76**	P	**P**	**17 00 05.3**	**+2.4**
comp=Z,17nm,0.9s							
BTNL	**Ternell**	**50.39**	**328**	*d*P	**P**	**17 00 06.1**	**+1.5**
KHLT	**Khaolaem Dam**	**50.86**	**81**	P	**P**	**17 00 12.0**	**+3.3**
comp=Z,16nm,1.2s							
DOU	**Dourbes**	**50.93**	**327**	*d*P	**P**	**17 00 07.8**	**-0.8**
BMRD	**Maredsous**	**50.95**	**327**	*d*P	**P**	**17 00 10.6**	**+1.8**
CM13	**Chiang Mai Arr**	**51.02**	**76**	P	**P**	**17 00 10.4**	**+0.5**
comp=Z,82nmcomp=Z,9.6nm,1.0s							
CM15	**Chiang Mai Arr**	**51.04**	**76**	P	**P**	**17 00 10.5**	**+0.5**
comp=Z,69nmcomp=Z,9.7nm,1.0s							
UMPA	**Umpang Tak**	**51.05**	**79**	P	**P**	**17 00 13.7**	**+3.6**
comp=Z,4μmcomp=Z,23nm,1.2s							
CM31	**Chiang Mai Arr**	**51.05**	**76**	P	**P**	**17 00 09.7**	**-0.4**
CM31				IAmb	IAmb	17 00 11.9	
comp=Z,15nm,1.1s							
CMAR	**Chiang Mai Arr**	**51.05**	**76**	P	**P**	**17 00 10.2**	**0.0**
comp=Z,7.3nm,0.9s,baz=273,slow=8.5,SNR=41							
CMAR				PcP	**PcP**	**17 01 26.3**	**+0.2**
comp=Z,5.0nm,1.1s,baz=267,slow=4.2,SNR=4.4							
CMAR	**Chiang Mai Arr**	**51.05**	**76**	P	**P**	**17 00 09.2**	**-0.9**
CM05	**Chiang Mai Arr**	**51.06**	**76**	P	**P**	**17 00 10.8**	**+0.7**
comp=Z,81nmcomp=Z,9.5nm,1.1s							
CM02	**Chiang Mai Arr**	**51.06**	**76**	P	**P**	**17 00 10.8**	**+0.7**
comp=Z,102nmcomp=Z,12nm,1.0s							
CM01	**Chiang Mai Arr**	**51.07**	**76**	P	**P**	**17 00 11.0**	**+0.8**
comp=Z,101nmcomp=Z,13nm,1.1s							
CM04	**Chiang Mai Arr**	**51.09**	**76**	P	**P**	**17 00 10.8**	**+0.4**
comp=Z,106nmcomp=Z,13nm,1.0s							
CM09	**Chiang Mai Arr**	**51.10**	**76**	P	**P**	**17 00 11.3**	**+0.8**
comp=Z,94nmcomp=Z,9.8nm,0.9s							
FINES	**FINESS Array B**	**51.38**	**348**	P	**P**	**17 00 12.6**	**+0.8**
comp=Z,2.8nm,0.8s,baz=144,slow=6.8,SNR=7.2							
FINES	**FINESS Array B**	**51.38**	**348**	P	**P**	**17 00 11.8**	**0.0**
FIA1	**FINESS Array S**	**51.38**	**348**	P	**P**	**17 00 11.7**	**-0.1**
FIA1				IAmb	IAmb	17 00 14.9	
comp=Z,16nm,1.2s							
ZAA0	**Zalesovo Array**	**51.64**	**28**	P	**P**	**17 00 12.3**	**-1.6**
ZALV	**Zalesovo Beam**	**51.64**	**28**	P	**P**	**17 00 12.8**	**-1.1**
comp=Z,1.8nm,0.6s,baz=230,slow=7.3,SNR=7.7							
ZALV	**Zalesovo Beam**	**51.64**	**28**	P	**P**	**17 00 11.7**	**-2.2**
ESBB	**Sonseca Array**	**52.00**	**311**	P	**P**	**17 00 13.9**	**-3.1**
ESDC	**Sonseca Array**	**52.00**	**311**	P	**P**	**17 00 17.6**	**+0.6**
comp=Z,2.6nm,1.1s,baz=105,slow=6.0,SNR=11							
ESDC	**Sonseca Array**	**52.00**	**311**	P	**P**	**17 00 16.6**	**-0.4**
PHIT	**Phitsanulok**	**52.49**	**78**	P	**P**	**17 00 21.7**	**+0.9**
comp=Z,48nm,1.1s							
UTTA	**Uttaradit**	**52.60**	**77**	P	**P**	**17 00 22.3**	**+0.6**
comp=Z,12nm,1.1s							
SRAK	**Srakaew**	**54.26**	**81**	P	P	17 00 39.6	+5.8
comp=Z,141nm,0.9s							
GTA	**Gaotai**	**54.39**	**50**	⇑P	**P**	**17 00 35.6**	**+0.9**
GTA				pP	pwP	17 00 39.8	+0.3
GTA				sP	sP	17 00 43.3	+4.9
GTA				pmax	pmax		
comp=Z,7.0nm,1.2s							
KMI	**Kunming**	**54.70**	**68**	⇓P	**P**	**17 00 38.4**	**+1.2**
KMI				sP	pwP	17 00 44.9	+2.8
KMI				pmax	pmax		
comp=Z,14nm,0.7s							
NONG	**Nongkai**	**55.06**	**76**	P	**P**	**17 00 40.1**	**+0.5**
comp=Z,19nm,1.5s							
NB2	**NORSAR Subarra**	**55.10**	**340**	P	**P**	**17 00 39.5**	**+0.2**
comp=Z,7.4nm,1.4s,baz=135,slow=7.4							
NOA	**NORSAR Array B**	**55.10**	**340**	P	**P**	**17 00 38.4**	**-0.9**
comp=Z,2.2nm,0.9s,baz=136,slow=7.1,SNR=7.9							
LZH	**Lanzhou**	**56.82**	**55**	*e*P	**P**	**17 00 52.3**	**+0.1**
LZH				pP	sP	17 00 56.4	+0.4
LZH				sP	pwP	17 00 59.3	+2.2
LZH				pmax	pmax		
comp=Z,21nm,1.3s							
GYA	**Guiyang**	**58.29**	**66**	*e*P	**P**	**17 01 02.9**	**+0.2**
GYA				pmax	pmax		
comp=Z,3.0nm,1.2s							
JMBI	**JAMBI**	**58.59**	**99**	P	**P**	**17 01 05.9**	**+1.1**
comp=Z,49nm,1.2s							
MDSI	**Maura Dua**	**59.88**	**102**	P	**P**	**17 01 13.7**	**-0.1**
comp=Z,14nm,1.2s							
XAN	**Xi'an**	**60.70**	**58**	⇑P	**P**	**17 01 19.5**	**+0.4**
XAN				pP	pwP	17 01 27.3	+3.3
XAN				pmax	pmax		
comp=Z,15nm,1.0s							
ENH	**Enshi**	**60.92**	**62**	P	**P**	**17 01 19.6**	**-1.0**
SONM	**Songino Array**	**61.15**	**42**	P	**P**	**17 01 22.5**	**+0.4**
comp=Z,6.8nm,1.2s,baz=249,slow=6.9,SNR=26							
SONM	**Songino Array**	**61.15**	**42**	P	**P**	**17 01 22.1**	**+0.1**
SONM				IAmb	IAmb	17 01 24.5	
comp=Z,9.7nm,1.3s							
ULN	**Ulaanbaatar**	**61.59**	**42**	P	**P**	**17 01 25.0**	**0.0**
ULN				IAmb	IAmb	17 01 26.9	
comp=Z,5.9nm,1.2s							
NRIK	**Noril'sk**	**62.87**	**15**	P	**P**	**17 01 33.6**	**+0.6**
comp=Z,2.1nm,0.5s,baz=197,slow=7.0,SNR=6.2							
NRIK	**Noril'sk**	**62.87**	**15**	P	**P**	**17 01 33.0**	**0.0**
NRIK				IAmb	IAmb	17 01 44.1	
comp=Z,11

ALN Alexandroupoli 33.74 332 P **P 16 59 11.0 +1.8**
ALN IAmb IAmb 16 59 16.4
comp=Z,18nm,1.4s
KKAR Karatay Array 37.40 30 P **P 16 59 41.5 +0.8**
MLR Muntele Rosu 37.52 336 P **P 16 59 41.6 -0.2**
MLR IAmb IAmb 16 59 59.7
comp=Z,15nm,1.1s
PUK Puka 37.66 327 P **P 16 59 44.0 +1.1**
PUK IAmb IAmb 16 59 49.1
comp=Z,23nm,1.3s
KSH Kashi 37.95 39 *e*P **P 16 59 46.8 +1.3**
KSH S S 17 05 06.5 -31
KSH pmax pmax
comp=Z,7.0nm,4.1s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=N,420nm,16.6s
KSH LR LR
comp=E,310nm,11.4s
KSH LR LR
comp=Z,690nm,18.2s
ABKAR Akbulak array 38.78 14 P **P 16 59 52.6 +0.4**
DIVS Divibare 39.08 330 P **P 16 59 53.7 -1.2**
AKTO Aktyubinsk 39.46 12 P **P 16 59 56.8 -1.1**
comp=Z,2.1nm,1.0s,baz=197,slow=15,SNR=1.6
BURAR Bucovina Array 39.57 338 P 16 59 59.7 +0.8
BUR08 Bucovina Ar. S 39.60 338 P **P 16 59 59.9 +0.7**
BUR08 IAmb IAmb 17 00 03.2
comp=Z,14nm,1.4s
BOOM Boomskoye usch 39.81 35 P **P 17 00 02.9 +1.7**
BOOM IAmb IAmb 17 00 04.9
comp=Z,17nm,1.4s
KDJ Kajisay 40.29 36 P **P 17 00 06.2 +1.0**
AKASG Malin Array Be 40.96 344 P **P 17 00 09.7 -0.6**
comp=Z,0.8nm,0.3s,baz=153,slow=6.4,SNR=7.6
AKASG LR LR 17 18 29.6
comp=Z,286nm,18.9s,baz=145,slow=38
AKBB Malin Array Si 40.96 344 P **P 17 00 11.9 +1.6**
AKBB IAmb IAmb 17 00 13.1
comp=Z,28nm,1.5s
INTR Introdacqua 41.01 323 P **P 17 00 11.5 +0.5**
INTR IAmb IAmb 17 00 22.2
comp=Z,12nm,1.3s
PSZ Piszkesteto 41.97 334 P **P 17 00 19.4 +0.6**
PSZ IAmb IAmb 17 00 26.9
comp=Z,8.8nm,0.9s
SOKA Soboth 43.38 329 *e*P **P 17 00 32.2 +2.0**
comp=Z,15nm,1.1s
TORD Torodi Ar. Bea 43.42 276 P **P 17 00 31.4 +0.4**
comp=Z,3.3nm,0.8s,baz=90,slow=7.7,SNR=7.0
TORD PcP **PcP 17 02 19.1 -0.2**
comp=Z,1.5nm,0.9s,baz=88,slow=3.9,SNR=3.9
OBKA Obir 43.51 328 *i* P **P 17 00 34.8 +3.5**
comp=Z,14nm,1.6s
ARSA Arzberg 43.52 330 *e*P **P 17 00 34.6 +3.3**
comp=Z,8.3nm,0.9s
JAVC Velka Javorina 43.66 333 *e*P **P 17 00 35.1 +2.7**
OJC Ojcow 43.78 336 *e*P **P 17 00 31.1 -2.3**
OJC Ojcow 43.78 336 P **P 17 00 33.0 -0.4**
OJC IAmb IAmb 17 00 36.1
comp=Z,12nm,1.3s
CONA Conrad Observa 43.83 331 *i* P **P 17 00 35.6 +1.8**
comp=Z,19nm,1.5s
MYKA Terra Mystica 44.06 328 *i* P **P 17 00 37.7 +2.0**
comp=Z,8.1nm,1.1s
OKC Ostrava-Krasne 44.18 334 AMS AMS 17 20 20.0
comp=Z,200nm,15.9s
TEOL Teolo 44.33 325 P **P 17 00 39.5 +1.8**
ZOU Zoufplan 44.37 327 P **P 17 00 39.8 +1.5**
KRUC Moravsky 44.38 332 *e*P **P 17 00 39.0 +0.8**
MORC Moravsky Berou 44.39 334 *e*P **P 17 00 39.2 +0.9**
VRAC Vranov 44.47 332 *e*P **P 17 00 39.9 +1.0**
KBA Koelnbreinsper 44.51 328 *i* P **P 17 00 41.8 +2.4**
comp=Z,6.6nm,1.2s
MOA Molln 44.55 329 *e*P **P 17 00 41.2 +1.7**
comp=Z,9.3nm,1.0s
ABTA Abfaltersbach 44.73 327 *e*P **P 17 00 42.7 +1.6**
comp=Z,1.8nm,0.9s
KRLC Kraliky 44.95 333 *e*P **P 17 00 47.4 +4.7**
KRLC AMS AMS 17 20 30.0
comp=Z,300nm,18.1s
TREC Trest 44.97 332 AMS AMS 17 21 50.0
comp=Z,200nm,13.6s
SHL Shillong 45.04 66 P **P 17 00 43.8 -0.2**
BRVK Borovoye 45.19 20 P **P 17 00 44.4 -0.1**
CKRC Cesky Krumlov 45.19 331 *e*P **P 17 00 46.6 +2.0**
CKRC AMS AMS 17 18 00.0
comp=Z,200nm,22.1s
BVAR Borovoye Array 45.20 20 P **P 17 00 44.7 0.0**
comp=Z,1.3nm,0.8s,baz=203,slow=11,SNR=2.3
ARU Arti 45.28 10 P **P 17 00 45.4 +0.2**
ARU IAmb IAmb 17 00 48.0
comp=Z,13nm,1.4s
DPC Dobruska-Polom 45.35 333 AMS AMS 17 20 40.0
comp=Z,200nm,19.5s
GEC2 GERESS Array S 45.50 330 P **P 17 00 46.7 -0.5**
GEC2 IAmb IAmb 17 00 52.5
comp=Z,13nm,1.1s
GERES GERESS Array B 45.50 330 P **P 17 00 47.4 +0.2**
comp=Z,3.7nm,0.8s,baz=133,slow=7.8,SNR=7.2
GERES GERESS Array B 45.50 330 P **P 17 00 46.6 -0.6**
WTTA Wattenberg 45.52 327 *i* P **P 17 00 49.8 +2.3**
comp=Z,14nm,1.9s
OSTC Ostas 45.55 333 AMS AMS 17 22 20.0
comp=Z,200nm,15.5s
UPC Upice 45.60 333 AMS AMS 17 21 00.0
comp=Z,200nm,14.6s
WATA Walderalm 45.60 327 *i* P **P 17 00 49.9 +1.9**
comp=Z,7.5nm,1.0s
CHVC Chvalec 45.64 333 AMS AMS 17 22 20.0
SUW Suwalki 45.66 341 *e*P **P 17 00 48.0 -0.2**
SUW Suwalki 45.66 341 P **P 17 00 48.1 0.0**
KSP Ksiaz 45.72 334 *e*P **P 17 00 50.0 +1.2**
SQTA Sankt Quirin 45.72 327 *e*P **P 17 00 50.9 +1.9**
comp=Z,2.4nm,0.6s
KHC Kasperske Hory 45.76 330 *e*P **P 17 00 50.4 +1.3**
KHC AMS AMS 17 21 20.0
comp=Z,200nm,14.5s
KHC Kasperske Hory 45.76 330 P **P 17 00 48.7 -0.5**
KHC IAmb IAmb 17 00 52.3
comp=Z,5.7nm,1.1s
MOTA Moosalm 45.86 327 *e*P **P 17 00 50.7 +0.6**
comp=Z,6.6nm,1.3s
FETA Feichten 45.86 326 *i* P **P 17 00 51.3 +1.2**
comp=Z,3.2nm,1.1s
MAKZ Makanchi 45.88 34 P **P 17 00 49.4 -0.7**
MAKZ IAmb IAmb 17 01 04.4
comp=Z,5.6nm,1.1s
PRU Pruhonice 45.89 332 AMS AMS 17 22 50.0
comp=Z,200nm,18.7s
PRA Prague 46.00 332 AMS AMS 17 22 20.0
comp=Z,200nm,16.4s
MK31 Makanchi Array 46.04 34 P **P 17 00 51.0 -0.4**
MK31 IAmb IAmb 17 01 07.0
comp=Z,6.7nm,1.1s
MKAR Makanchi Array 46.04 34 P **P 17 00 50.5 -0.9**
comp=Z,1.9nm,0.9s,baz=223,slow=5.6,SNR=1.8
MKAR Makanchi Array 46.04 34 P **P 17 00 51.0 -0.5**
RETA Reutte 46.13 327 *e*P **P 17 00 53.9 +1.7**
comp=Z,4.3nm,1.1s
PVCC Panska Ves 46.26 332 AMS AMS 17 24 30.0
comp=Z,200nm,14.9s
DAVA Damuels 46.48 326 *i* P **P 17 00 55.0 0.0**
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 46.63 28 P **P 17 00 55.8 -0.1**
comp=Z,1.3nm,0.9s,baz=229,slow=7.9,SNR=2.3
PABE Paberze 46.69 343 P **P 17 00 55.2 -1.1**
BRG Berggiesshubel 46.78 332 *e*P **P 17 00 57.8 +0.7**
BRG Amp 17 00 59.5
comp=Z,12nm,1.4s
BRG Amp 17 21 58.0
comp=N,0.2nm,20.5s
BRG Amp 17 22 11.0
comp=E,0.1nm,14.6s
BRG Amp 17 22 13.0
comp=Z,0.3nm,22.2s
NKC Novy Kostel 47.04 331 AMS AMS 17 24 10.0
comp=Z,200nm,21.1s
GKP Gorka Klasztor 47.15 337 *e*P **P 17 00 58.8 -1.1**
CLL Collm 47.51 332 *i* P **P 17 01 03.5 +0.7**
comp=Z,16nm,1.5s
CLL *e* 17 01 11.0
CLL *e*S S 17 07 46.0 -11
CLL *e*SS SS 17 11 38.0 +13
CLL Collm 47.51 332 P **P 17 01 03.9 +1.1**
CLL IAmb IAmb 17 01 05.0
comp=Z,10nm,1.2s
WMQ Urumqi 47.64 40 *e*P **P 17 01 05.9 +1.9**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,190nm,3.9s
BFO Black Forest 47.94 326 P **P 17 01 06.0 -0.3**
ECH Echery 48.51 326 P **P 17 01 09.5 -1.1**
ECH IAmb IAmb 17 01 12.3
comp=Z,15nm,1.5s
WLF Walferdange 49.88 327 P **P 17 01 20.7 -0.3**
BTNL Ternell 50.42 328 *d*P **P 17 01 26.6 +1.4**
DBIC Dimbokro 50.62 269 P **P 17 01 28.0 +0.8**
DOU Dourbes 50.96 327 *d*P **P 17 01 30.1 +0.9**
BMRD Maredsous 50.98 327 *d*P **P 17 01 30.3 +1.0**
CMAR Chiang Mai Arr 51.12 76 P **P 17 01 30.2 -0.7**
comp=Z,4.2nm,0.9s,baz=273,slow=7.5,SNR=4.1
CMAR PcP **PcP 17 02 46.9 +0.2**
comp=Z,0.9nm,0.8s,baz=275,slow=4.8,SNR=0.8
CMAR Chiang Mai Arr 51.12 76 P **P 17 01 30.8 -0.1**
FIA1 FINESS Array S 51.43 348 P **P 17 01 32.8 +0.3**
FIA1 IAmb IAmb 17 01 42.1
comp=Z,17nm,1.4s
FINES FINESS Array B 51.43 348 P **P 17 01 32.3 -0.2**
comp=Z,2.5nm,0.8s,baz=140,slow=8.9,SNR=2.4
FINES FINESS Array B 51.43 348 P 17 01 32.9 +0.3
ZAA0 Zalesovo Array 51.73 28 P **P 17 01 34.5 -0.3**
ZALV Zalesovo Beam 51.73 28 P **P 17 01 33.9 -0.9**
comp=Z,2.0nm,0.7s,baz=234,slow=7.6,SNR=3.5
ZALV Zalesovo Beam 51.73 28 P **P 17 01 34.3 -0.6**
ESDC Sonseca Array 52.01 311 P **P 17 01 37.5 +0.1**
comp=Z,1.0nm,0.8s,baz=74,slow=5.4,SNR=5.0
KMI Kunming 54.77 68 ⇑P **P 17 01 59.9 +1.8**
KMI pP sP 17 02 02.6 -0.6
KMI pmax pmax
comp=Z,9.0nm,0.5s
NB2 NORSAR Subarra 55.15 340 P **P 17 01 59.5 -0.5**
comp=Z,8.8nm,1.2s,baz=136,slow=7.4
NOA NORSAR Array B 55.15 340 P **P 17 01 59.1 -0.9**
comp=Z,1.0nm,0.8s,baz=135,slow=7.0,SNR=4.0
LZH Lanzhou 56.90 55 *e*P **P 17 02 13.1 0.0**
LZH pP pP 17 02 16.4 -0.3
LZH sP sP 17 02 18.3 +0.1
LZH pmax pmax
comp=Z,23nm,1.3s
XAN Xi'an 60.77 58 ⇑P **P 17 02 38.8 -1.2**
XAN pP pwP 17 02 47.8 +1.7
XAN sP sP 17 02 52.3 +7.2
XAN pmax pmax
comp=Z,12nm,1.7s
SONM Songino Array 61.23 42 P **P 17 02 42.9 0.0**
comp=Z,3.6nm,1.0s,baz=241,slow=4.6,SNR=7.2
SONM Songino Array 61.23 42 IAmb IAmb 17 02 48.1
comp=Z,5.3nm,1.1s
NRIK Noril'sk 62.94 15 P **P 17 02 53.1 -0.8**
comp=Z,2.1nm,0.6s,baz=227,slow=6.7,SNR=4.2
NRIK Noril'sk 62.94 15 IAmb IAmb 17 02 55.6
comp=Z,8.9nm,1.3s
HHC Hu-ho-hao-te 63.58 50 *e*P **P 17 03 00.6 +1.8**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,130nm,5.5s
NJ2 Nanjing 69.05 60 *e*P **P 17 03 34.8 +1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSAR Wonju Array Be 76.20 54 P **P 17 04 15.9 -0.3**
YAK Yakutsk 76.37 29 P **P 17 04 16.0 -0.7**
SUMG Summit 76.97 342 P **P 17 04 19.6 -0.9**
SUMG IAmb IAmb 17 04 27.9
comp=Z,11nm,1.2s
MAW Mawson 80.37 174 LR LR 17 35 23.1
comp=Z,276nm,21.1s,baz=38,slow=32
SYO Syowa Base 81.01 182‖*e*X **P 17 04 40.7 -1.2**
MAT Matsushiro 84.50 54 P **P 17 05 01.4 +0.4**
MJAR Matsushiro Arr 84.50 54 P **P 17 05 01.1 +0.1**
comp=Z,4.9nm,0.8s,baz=291,slow=4.3,SNR=4.7
MJAR Matsushiro Arr 84.50 54 P **P 17 05 00.5 -0.6**
SNAA Sanae 89.67 194 P **P 17 05 26.0 +0.7**
WRA Warramunga Arr 92.31 110 P **P 17 05 38.5 -0.2**
comp=Z,3.1nm,1.1s,baz=295,slow=3.6,SNR=4.9
WRA Warramunga Arr 92.31 110 IAmb IAmb 17 05 40.5
comp=Z,1.2nm,1.5s
ASAR Alice Springs 92.68 113 P **P 17 05 40.8 +0.4**
comp=Z,1.1nm,0.8s,baz=290,slow=4.7,SNR=5.1
PDAR Pinedale Array 121.09 339 PKP **PKPdf 17 11 20.4 -0.8**
comp=Z,0.7nm,0.7s,baz=67,slow=3.2,SNR=2.5
LCMT Little Creek M 127.50 339 PKPdf 17 11 32.9 -0.5
NVAR Mina Array Bea 127.72 345 PKP **PKiKP 17 11 35.0 +0.4**
comp=Z,1.5nm,0.8s,baz=25,slow=0.6,SNR=9.4
NVAR Mina Array Bea 127.72 345 PKPdf 17 11 34.1 +0.1
MNTX Cornudas Mount 128.67 329 PKiKP 17 11 36.4 +0.1
TXAR Lajitas Array 129.61 325 PKP **PKiKP 17 11 38.3 -0.1**
comp=Z,0.9nm,0.9s,baz=108,slow=2.9,SNR=1.8

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*TUL **13** 16:53:16.7±1.2, 35°.97N±0°.01×97°.59W±0°.03, h4km±7km, ML2.7, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=3.1km s-min=2.0km az=78.0*

NEIC 13 16:53:16.7±0.4, 35°.98N±0°.01×97°.59W±0°.02, h7km±6km, Error ellipse: s-maj=2.6km s-min=2.0km az=87.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**148**			Pg	16 53 21.1	+0.1
OK029				Sg	Sg	Sg	16 53 24.2	+0.4
BCOK	**Bluff Creek, N**	**0.32**	**182**			Pg	16 53 23.1	+0.1
BCOK				Sg	Sg	Sg	16 53 27.8	+0.5
OK025	**Westminster Rd**	**0.45**	**152**			Pg	16 53 25.5	+0.1
OK025				Sg	Sg	Sg	16 53 31.8	+0.5
OKCFA	**Oklahoma City**	**0.58**	**168**	Pg	Pg	Pg	16 53 27.8	0.0
OKCFA				Sg	Sg	Sg	16 53 35.6	+0.3
OKCSW	**OKLAHOMA CITY**	**0.59**	**167**	Pg	Pg	Pg	16 53 27.9	-0.1
OKCSW				Sg	Sg	Sg	16 53 36.1	+0.4
CROK	**Carrier**	**0.61**	**329**			Pg	16 53 28.8	+0.4
OK031	**S. Brethren Rd**	**0.61**	**92**			Pg	16 53 28.5	0.0
FNO	**Franklin**	**0.74**	**168**	Pg	Pg	Pg	16 53 30.7	-0.2
QUOK	**Quay**	**0.74**	**75**			Pg	16 53 30.9	0.0
BLOK	**Blackwell**	**0.84**	**21**			Pg	16 53 32.9	+0.1
GC02	**Grant County #**	**0.90**	**346**			Pg	16 53 33.8	0.0
OK032	**Salt Plains WL**	**0.96**	**329**	Pg	Pg	Pg	16 53 35.0	-0.1
KAN13	**South Haven SW**	**1.03**	**5**	Pg	Pg	Pg	16 53 36.4	-0.1
KAN17	**Caldwell West**	**1.07**	**353**			Pg	16 53 37.1	-0.1
KAN05	**Bluff City Nor**	**1.15**	**349**	Pg	Pg	Pg	16 53 38.5	-0.2
KAN09	**Caldwell North**	**1.15**	**359**	Pg	Pg	Pg	16 53 38.5	-0.3
U32A	**Winter Ranch,**	**1.21**	**290**			Pg	16 53 39.4	-0.4
KAN10	**Anthony SW Sta**	**1.21**	**341**	Pg	Pg	Pg	16 53 39.4	-0.5
KS20	**Mayfield South**	**1.25**	**1**			Pb	16 53 40.1	-0.4
T35A	**Sooner Cattle**	**1.28**	**43**			Pn	16 53 40.6	-0.4
KAN08	**Anthony NE Sta**	**1.28**	**346**			Pn	16 53 40.6	-0.4
KAN12	**Harper NE Stat**	**1.35**	**346**			Pn	16 53 42.0	0.0
X34A	**Smith Ranch, M**	**1.39**	**188**			Pn	16 53 42.8	+0.2
WMOK	**Wichita Mounta**	**1.57**	**218**	Pn	Pn	Pn	16 53 44.9	-0.1
X37A	**Clayton**	**2.29**	**127**	Pn	Pn	Pn	16 53 55.6	+0.8
X37A				IAmb_Lg			16 54 32.7	
comp=Z,19nm,0.8s
W39A	**Magazine**	**3.20**	**103**			Pn	16 54 07.9	+0.5
W39A				IAmb_Lg			16 55 06.4	
comp=Z,8.9nm,0.8s
AMTX	**Amarillo**	**3.51**	**253**	IAmb_Lg			16 55 10.5	
comp=Z,8.0nm,0.8s
MIAR	**Mount Ida**	**3.59**	**112**	IAmb_Lg			16 55 15.7	
comp=Z,9.7nm,0.9s
U40A	**Yellville**	**3.85**	**83**	Pn	Pn	Pn	16 54 16.2	-0.2
U40A				IAmb_Lg			16 55 27.2	
comp=Z,11nm,0.7s
X40A	**Basin Creek Fa**	**4.17**	**110**	IAmb_Lg			16 55 28.3	
comp=Z,7.9nm,0.9s
WHAR	**Wooly Hollow**	**4.38**	**98**	Pn	Pn	Pn	16 54 23.3	-0.2
WHAR				IAmb_Lg			16 55 46.9	
comp=Z,5.7nm,0.8s
FCAR	**Ozark Folk Cen**	**4.44**	**90**	IAmb_Lg			16 55 46.3	
comp=Z,8.6nm,1.1s
MGMO	**Mountain Grove**	**4.44**	**73**	IAmb_Lg			16 55 44.4	
comp=Z,8.6nm,0.7s
R40A	**Maddies Statio**	**4.84**	**60**	Pn	Pn	Pn	16 54 30.2	+0.3
CCM	**Cathedral Cave**	**5.49**	**66**	IAmb_Lg			16 56 20.5	
comp=Z,5.9nm,1.1s
T25A	**Trinidad**	**5.61**	**284**	IAmb_Lg			16 56 19.8	
comp=Z,7.4nm,1.1s
SDCO	**Great Sand Dun**	**6.58**	**288**	IAmb_Lg			16 56 48.3	
comp=Z,3.6nm,1.1s

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*IDC **13** 16:54:22.6±1.1, 12°.18N×46°.26E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/40, mbtmp3.9/11, Error ellipse: s-maj=35.1km s-min=31.2km az=110.0*
*NEIC **13** 16:54:25.5±0.9, 12°.2N±0°.1×46°.2E±0°.1, h15km±5km, mb4.5/7, Error ellipse: s-maj=23.2km s-min=11.9km az=149.0*

ISC 13 16:54:24.4±0.7, 12°.2N±0°.1×46°.2E±0°.1, h13km, n22, σ0$77/21, mb4.0/11, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.38**	**259**	Pn	Pn	Pn	16 55 16.9	-0.1
UOSS	**Minazif**	**15.81**	**35**	Pn	Pn	Pn	16 58 06.2	-0.6
UOSS				IAmb	IAmb	IAmb	16 58 20.2	
comp=Z,48nm,1.1s
KMBO	**Kilima Mbogo**	**15.95**	**215**	Pn	Pn	Pn	16 58 08.9	0.0
baz=57,slow=16,SNR=2.1
SANT	**Santorini**	**30.50**	**326**	P	P	P	17 00 37.0	-0.3
TORD	**Torodi Ar. Bea**	**43.42**	**276**	PcP	PcP	PcP	17 04 16.2	+0.5
comp=Z,1.0nm,0.8s,baz=79,slow=2.5,SNR=1.9
GEC2	**GERESS Array S**	**45.41**	**330**	P	P	P	17 02 43.7	+0.8
GEC2				IAmb	IAmb	IAmb	17 02 51.5	
comp=Z,3.2nm,1.0s
GERES	**GERESS Array B**	**45.41**	**330**	P	P	P	17 02 42.5	-0.4
comp=Z,0.8nm,0.7s,baz=129,slow=8.9,SNR=2.7
SUW	**Suwalki**	**45.55**	**341**	P	P	P	17 02 44.5	+0.8
SUW				IAmb	IAmb	IAmb	17 02 55.4	
comp=Z,27nm,1.1s
MKAR	**Makanchi Array**	**45.93**	**34**	P	P	P	17 02 48.2	+1.3
comp=Z,1.0nm,0.8s,baz=226,slow=7.3,SNR=2.9
KURBB	**Kurchatov Arra**	**46.52**	**28**	P	P	P	17 02 52.3	+0.8
comp=Z,0.3nm,0.4s,baz=230,slow=8.2,SNR=3.7
CMAR	**Chiang Mai Arr**	**51.08**	**76**	P	P	P	17 03 27.1	+0.1
comp=Z,1.0nm,0.8s,baz=271,slow=7.6,SNR=3.6
CMAR				PcP		**PcP**	**17 04 43.3**	**+0.4**
comp=Z,0.2nm,0.3s,baz=261,slow=3.6,SNR=2.0
ZALV	**Zalesovo Beam**	**51.62**	**28**	P	P	P	17 03 29.6	-0.9
comp=Z,1.2nm,0.6s,baz=224,slow=8.3,SNR=2.8
SONM	**Songino Array**	**61.13**	**42**	P	P	P	17 04 39.3	+0.7
comp=Z,1.8nm,1.2s,baz=250,slow=7.5,SNR=3.0
SONM	**Songino Array**	**61.13**	**42**	IAmb	IAmb	IAmb	17 04 42.2	
comp=Z,2.3nm,1.2s
MJAR	**Matsushiro Arr**	**84.42**	**54**	P	P	P	17 06 56.5	-0.5
comp=Z,2.3nm,0.9s,baz=276,slow=3.5,SNR=2.9
MJAR	**Matsushiro Arr**	**84.42**	**54**	IAmb	IAmb	IAmb	17 06 58.1	
comp=Z,5.1nm,1.2s
WRA	**Warramunga Arr**	**92.33**	**110**	P	P	P	17 07 35.2	0.0
comp=Z,1.4nm,0.9s,baz=292,slow=3.6,SNR=1.5
ASAR	**Alice Springs**	**92.71**	**113**	P	P	P	17 07 37.0	+0.2
comp=Z,1.0nm,0.8s,baz=282,slow=4.3,SNR=5.0
PETK	**Petropavlovsk-**	**92.77**	**34**	P	P	P	17 07 35.3	-1.3
comp=Z,0.4nm,0.9s,baz=264,slow=5.8,SNR=0.9
NVAR	**Mina Array Bea**	**127.61**	**345**	PKP	**PKiKP**	**PKiKP**	**17 13 31.4**	**+0.7**
comp=Z,1.0nm,0.8s,baz=111,slow=0.3,SNR=6.1
NVAR	**Mina Array Bea**	**127.61**	**345**			**PKPdf**	**17 13 28.7**	**-1.4**
TXAR	**Lajitas Array**	**129.53**	**325**	PKP	**PKPdf**	**PKPdf**	**17 13 34.4**	**+0.6**
comp=Z,0.1nm,0.3s,baz=67,slow=3.0,SNR=1.1

IDC 13 17:24:08.7±7.7, 22°.02N×142°.46E, h474km±175km, mb2.4/3, mb1 2.6/5, mb1mx2.4/44, mbtmp3.4/5, Error ellipse: s-maj=244.0km s-min=23.1km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.93**	**347**	P		P	17 27 17.5	-1.0
0.0nm,0.3s,baz=163,slow=11,SNR=1.5
KSRS	**Korea Array**	**19.86**	**324**	P		P	17 28 07.9	+0.7
0.1nm,0.3s,baz=144,slow=9.3,SNR=5.7
SONM	**Songino Array**	**38.66**	**321**	P		P	17 30 50.0	-0.5
0.1nm,0.3s,baz=109,slow=8.1,SNR=1.6
WRA	**Warramunga Arr**	**42.46**	**191**	P		P	17 31 20.9	-0.1
0.4nm,0.5s,baz=8.9,slow=7.7,SNR=8.4
ASAR	**Alice Springs**	**46.17**	**191**	P		P	17 31 49.7	-0.2
0.2nm,0.7s,baz=7.7,slow=5.9,SNR=1.5

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*BJI **13** 17:56:59.5±0.0, 24°.35N×124°.43E, h70km, mB4.8/15, mb4.4/27, Ms4.4/3*
*NEIC **13** 17:57:05.7±1.2, 24°.66N±0°.08×124°.06E±0°.08, h68km±7km, mb4.8/119, Error ellipse: s-maj=11.8km s-min=9.0km az=146.0*
*IDC **13** 17:57:06.9±3.3, 24°.76N×124°.14E, h87km±31km, mb4.0/22, mb1 4.2/24, mb1mx4.1/47, mbtmp4.3/24, MS3.4/8, Ms1 3.4/8, ms1mx3.2/33, Error ellipse: s-maj=15.6km s-min=11.4km az=70.0*
*JMA **13** 17:57:06.1±0.1, 24°.65N×124°.07E, h64km±1km, M4.4*
JMA Felt II J1.
*NIED **13** 17:57:06.2, 24°.65N×124°.07E, h64km, MW4.3, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; M_{rr}1.59; $M_{\theta\theta}$-1.70; $M_{\phi\phi}$0.11; $M_{r\theta}$-2.01; $M_{\theta\phi}$1.33; $M_{\phi r}$-0.58; Fault plane solution: $M_0$2.98000×10^15^ NP1: ϕ_S268.00000°, δ71.00000°, λ60.00000°. NP2: ϕ_S148.00000°, δ35.00000°, λ145.00000°.*

ISC 13 17:57:05.2±0.6, 24°.64N±0°.05×124°.08E±0°.03, h74km±5km, n194, σ1$10/210, mb4.7/84, 2C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.21**	**103**	P		Pn	17 57 16.3	0.0
JISG				S		Sn	17 57 23.7	-0.8
JIJ	**Ishigaki jima**	**0.28**	**168**	P		Pn	17 57 16.4	-0.3
JIJ				S		Sn	17 57 24.0	-1.0
JKRS	**Kuro-shima**	**0.40**	**189**	P		Pn	17 57 17.8	+0.3
JKRS				S		Sn	17 57 26.7	+0.1
IRIF	**Iriomote-Funau**	**0.44**	**227**	P		Pn	17 57 17.8	0.0
IRIF				S		Sn	17 57 26.7	-0.4
JTJ	**Tarama**	**0.57**	**89**	P		Pn	17 57 19.4	+0.4
JTJ				S		Sn	17 57 29.2	+0.1
HATJ	**Hateruma jima**	**0.63**	**204**	P		Pn	17 57 20.0	+0.4
HATJ				S		Sn	17 57 30.5	+0.2
YOJ	**Yonaguni jima**	**0.99**	**260**	P		Pn	17 57 24.2	+0.5
YOJ				S		Sn	17 57 37.1	-0.5
YOJ	**Yonaguni jima**	**0.99**	**260**			Pn	17 57 24.2	+0.5
JIRB	**Irabujima**	**1.01**	**79**	P		Pn	17 57 24.5	+0.5
JIRB				S		Sn	17 57 38.0	-0.1
JYNG	**Yonagunijimaku**	**1.05**	**260**	P		Pn	17 57 25.1	+0.6
JYNG				S		Sn	17 57 38.7	-0.2
JIKM	**Ikemajima**	**1.10**	**75**	P		Pn	17 57 25.8	+0.7
JIKM				S		Sn	17 57 40.6	+0.6
JMJ2	**Miyako jima3**	**1.14**	**84**	P		Pn	17 57 26.6	+1.0
JMJ2				S		Sn	17 57 42.1	+1.2
JOGS	**Gusukube**	**1.21**	**84**	P		Pn	17 57 27.6	+1.0
JOGS				S		Sn	17 57 43.8	+1.2
NACB	**Ninganchiao**	**2.31**	**259**			Pn	17 57 41.1	0.0
TAIO	**Taipei**	**2.38**	**279**			Pn	17 57 42.6	+0.6
YHNB	**Yeheng**	**2.46**	**271**			Pn	17 57 45.1	+1.8
YULB	**Yu-li**	**2.83**	**245**			Pn	17 57 47.1	-1.1
SSLB	**Suanglung**	**2.98**	**254**			Pn	17 57 50.4	+0.2
TWG	**Pinlang**	**3.30**	**237**			Pn	17 57 53.3	-1.2
TPUB	**Ta-pu**	**3.42**	**248**			Pn	17 57 57.5	+1.2
JOW	**Kunigami**	**4.37**	**59**	Pn		Pn	17 58 08.6	-0.5
KNMB	**Chin-men Tao**	**5.19**	**269**	Pn		Pn	17 58 20.4	+0.1
CVP	**Callao Caves**	**7.21**	**197**	‖*i* P		Pn	17 58 47.7	-0.3
CVP				*i* S		Sn	18 00 05.9	-2.6
SZP	**Santa**	**7.82**	**206**	Pn		Pn	17 58 57.1	+0.8
PCPH	**Palayan**	**9.45**	**198**	⇑*e*P		Pn	17 59 20.9	+2.3
JNU	**Nakatsue**	**10.34**	**34**	P		Pn	17 59 31.2	+0.5
0.7nm,0.3s,baz=9.5,slow=15,SNR=1.9
JNU				LR		LR	18 04 11.1	
comp=Z,95nm,18.6s,baz=206,slow=42
LQP	**Lukban**	**10.74**	**193**	⇑*e*P		Pn	17 59 36.1	-0.3
JMN	**Monobe**	**12.46**	**41**	Pn		Pn	17 59 55.7	-3.9
KSAR	**Wonju Array Be**	**13.17**	**13**	Pn		Pn	18 00 10.4	+1.3
KSRS	**Korea Array**	**13.19**	**14**	P		Pn	18 00 12.4	+3.0
0.1nm,0.3s,baz=195,slow=12,SNR=9.2
KSRS				LR		LR	18 05 16.4	
comp=Z,161nm,19.5s,baz=194,slow=38
KS19	**Wonju Array Si**	**13.23**	**13**			Pn	18 00 12.4	+2.5
INU	**Inuyama**	**15.46**	**43**	P		P	18 00 42.1	+0.1
XAN	**Xi'an**	**16.19**	**309**	P		P	18 00 52.4	+2.3
XAN				pP		pP	18 01 02.4	-1.9
XAN				sP		pwP	18 01 07.5	+0.6
XAN				pmax		pmax		
comp=Z,13nm,

0.2nm,0.3s,baz=222,slow=9.0,SNR=18
MJAR LR LR 18 07 22.1
comp=Z,67nm,18.4s,baz=220,slow=36
MJAR Matsushiro Arr 16.97 42 IAmb IAmb 18 01 00.3
comp=Z,2.3nm,0.7s
JSD Sado 18.00 39 P **P 18 01 09.7 -0.3**
JYT Yasato 18.04 46 P **P 18 01 09.5 -0.9**
CN2 Changchun 19.15 3 *eP* **Pn 18 01 23.8 -0.3**
CN2 pmax pmax
comp=Z,30nm,0.6s
JMM Marumori 19.41 43 P **P 18 01 22.7 -2.6**
JMM IAmb IAmb 18 01 36.4
comp=Z,50nm,1.4s
MDJ Mudanjiang 20.43 11 P **P 18 01 35.4 -1.1**
USRK Ussuriysk Ar. 20.56 16 P **P 18 01 35.9 -1.9**
comp=Z,2.1nm,0.5s,baz=202,slow=8.0,SNR=7.3
USRK LR LR 18 09 07.1
comp=Z,86nm,20.4s,baz=172,slow=35
JTM Tenmabayashi 21.47 37 P **P 18 01 44.8 -2.8**
CHAI Chaiyaphum 22.45 251 P **P 18 02 02.5 +4.2**
comp=Z,15nm,0.8s
JEW Eniwo 23.12 34 P **P 18 02 02.6 -2.4**
ERM Erimo 23.46 38 P **P 18 02 06.0 -2.2**
ERM IAmb IAmb 18 02 07.9
comp=Z,22nm,1.0s
CHTO Chiang Mai 24.04 261 P **P 18 02 10.8 -2.8**
CMAR Chiang Mai Arr 24.16 260 P **P 18 02 14.5 -0.2**
comp=Z,1.3nm,0.7s,baz=58,slow=8.3,SNR=8.7
CMAR LR LR 18 12 11.7
comp=Z,44nm,18.8s,baz=195,slow=37
ASAJ Asahikawa 24.62 33 P **P 18 02 18.6 +0.1**
comp=Z,7.1nm,0.4s,baz=253,slow=11,SNR=24
JKA Kamikawa-asahi 24.62 33 P **P 18 02 17.2 -1.4**
GTA Gaotai 25.20 312 *eP* **P 18 02 23.8 -0.3**
GTA pmax pmax
comp=Z,2.0nm,0.9s
KLR Kul'dur 25.28 12 P **P 18 02 23.9 -0.6**
comp=Z,1.5nm,0.5s,baz=162,slow=3.2,SNR=1.8
ULN Ulaanbaatar 26.82 334 P **P 18 02 38.9 +0.2**
SONM Songino Array 27.07 333 P **P 18 02 40.7 -0.1**
comp=Z,3.2nm,0.6s,baz=152,slow=9.6,SNR=42
SONM LR LR 18 14 07.7
comp=Z,86nm,18.6s,baz=150,slow=38
SONM Songino Array 27.07 333 P **P 18 02 40.8 -0.1**
PEA0B Petropavlovsk- 38.04 33 P **P 18 04 16.7 +0.4**
PEA0B IAmb IAmb 18 04 39.6
comp=Z,13nm,1.3s
PETK Petropavlovsk- 38.04 33 P **P 18 04 15.1 -1.2**
comp=Z,2.5nm,0.6s,baz=191,slow=4.5,SNR=10
PETK LR LR 18 20 56.6
comp=Z,26nm,18.1s,baz=255,slow=38
PETK Petropavlovsk- 38.04 33 P **P 18 04 15.6 -0.6**
PET Petropavlovsk 38.46 33 P **P 18 04 18.8 -1.0**
MK31 Makanchi Array 39.88 314 P **P 18 04 31.7 -0.1**
MKAR Makanchi Array 39.88 314 P **P 18 04 31.5 -0.3**
comp=Z,2.9nm,0.3s,baz=100,slow=8.1,SNR=106
MKAR PcP **PcP 18 06 35.8 -0.4**
comp=Z,1.0nm,0.7s,baz=108,slow=3.8,SNR=4.7
MAKZ Makanchi 40.09 314 P **P 18 04 33.6 +0.1**
KNRA Kununurra 40.33 173 P **P 18 04 36.2 +0.5**
ZAA0 Zalesovo Array 41.34 326 P **P 18 04 42.6 -1.0**
ZAA0 IAmb IAmb 18 04 43.9
comp=Z,9.8nm,0.5s
ZALV Zalesovo Beam 41.34 326 P **P 18 04 42.5 -1.1**
comp=Z,10nm,0.5s,baz=117,slow=8.6,SNR=57
TARG Taragay, Kyrgy 41.78 306 P **P 18 04 49.0 +1.1**
KDJ Kajisay 42.30 306 P **P 18 04 53.1 +1.2**
KDJ IAmb IAmb 18 04 53.8
comp=Z,5.7nm,0.7s
BOOM Boomskoye usch 43.27 307 P **P 18 05 00.6 +0.9**
KURK Kurchatov 43.47 319 P **P 18 05 00.7 -0.3**
KURBB Kurchatov Arra 43.49 319 P **P 18 05 00.7 -0.4**
comp=Z,2.1nm,0.5s,baz=109,slow=8.3,SNR=20
KURBB PP **PcP 18 06 47.8 -0.2**
comp=Z,0.6nm,0.6s,baz=108,slow=11,SNR=4.9
WB0 Warramunga Arr 45.26 166 P **P 18 05 16.6 +1.0**
WB0 IAmb IAmb 18 05 17.0
comp=Z,14nm,0.9s
WRAB Tennant Creek 45.41 166 P **P 18 05 17.9 +1.1**
WRAB IAmb IAmb 18 05 18.8
comp=Z,13nm,0.9s
WRA Warramunga Arr 45.42 166 P **P 18 05 17.8 +1.0**
comp=Z,5.7nm,0.5s,baz=347,slow=8.9,SNR=141
WRA PcP **PcP 18 06 55.1 +0.2**
comp=Z,0.8nm,0.6s,baz=353,slow=2.5,SNR=1.9
WRA Warramunga Arr 45.42 166 P **P 18 05 17.2 +0.4**
WB2 Warramunga Arr 45.42 166 P **P 18 05 17.9 +1.0**
WR0 Warramunga Arr 45.48 166 P **P 18 05 18.4 +1.1**
WR0 IAmb IAmb 18 05 19.6
comp=Z,20nm,1.1s
PSA00 Pilbara Seismi 46.12 185 P **P 18 05 22.6 +0.3**
PSA00 Pilbara Seismi 46.12 185 P **P 18 05 22.7 +0.5**
PSA00 IAmb IAmb 18 05 23.3
comp=Z,14nm,0.9s
BTK Batken 46.88 303 P **P 18 05 29.3 +1.0**
BTK IAmb IAmb 18 05 33.6
comp=Z,8.0nm,0.5s
TIXI Tiksi 47.12 2 P **P 18 05 28.8 -0.7**
GAR Garm 47.24 301 P **P 18 05 31.6 +0.5**
KK31 Karatay Array 47.31 307 P **P 18 05 31.9 +0.4**
KKAR Karatay Array 47.31 307 P **P 18 05 31.9 +0.4**
KKAR Karatay Array 47.31 307 P **P 18 05 31.9 +0.4**
KKAR IAmb IAmb 18 05 33.9
comp=Z,1.8nm,0.6s
CHGR Chuyangaron 48.14 301 P **P 18 05 38.9 +0.8**
ASAR Alice Springs 48.95 168 P **P 18 05 45.4 +1.2**
comp=Z,2.9nm,0.5s,baz=351,slow=7.5,SNR=96
ASAR PcP **PcP 18 07 08.2 +0.8**
comp=Z,1.9nm,0.6s,baz=355,slow=3.6,SNR=7.0
ASAR Alice Springs 48.95 168 P **P 18 05 45.3 +1.0**
BRVK Borovoye 49.09 320 P **P 18 05 45.1 +0.2**
ABKAR Abkulak array 55.02 314 P **P 18 06 29.3 +0.3**
ABKAR Abkulak array 55.02 314 P **P 18 06 29.4 +0.3**
ABKAR IAmb IAmb 18 06 30.2
comp=Z,5.2nm,0.7s
EIDS Eidsvold 56.16 150 P **P 18 06 38.5 +1.1**
EIDS IAmb IAmb 18 07 05.9
comp=Z,15nm,1.2s
ARU Arti 56.35 323 P **P 18 06 38.1 -0.4**
GEYT Alibeck 56.85 300 P **P 18 06 44.0 +1.6**
comp=Z,138nm,0.7s,baz=130,slow=2.3,SNR=8.7
STKA Stephens Creek 58.63 163 P **P 18 06 55.4 +0.6**
comp=Z,6.0nm,0.7s,baz=344,slow=5.6,SNR=11
STKA Stephens Creek 58.63 163 P **P 18 06 54.7 0.0**
SVW2 Sparrevohn 64.12 32 P **P 18 07 32.3 +0.8**
SVW2 IAmb IAmb 18 07 33.9
comp=Z,6.2nm,0.6s
IMAR Indian Mountai 64.60 27 P **P 18 07 35.6 +1.1**
PPLA Purkeypile 65.54 30 P **P 18 07 42.2 +1.4**
PPLA IAmb IAmb 18 07 43.1
comp=Z,8.3nm,0.6s
MLY Manley 65.93 28 P **P 18 07 44.3 +1.1**
MLY IAmb IAmb 18 07 45.7
comp=Z,10nm,0.6s
BPAW Bear Paw Mtn. 65.94 29 P **P 18 07 44.5 +1.3**
BPAW IAmb IAmb 18 07 45.5
comp=Z,8.4nm,0.6s
SKT Skwentna 65.96 31 P **P 18 07 43.8 +0.4**
SKT IAmb IAmb 18 07 44.6
comp=Z,5.5nm,0.6s
TOLK Toolik Lake Re 65.99 24 P **P 18 07 44.4 +0.9**
TOLK IAmb IAmb 18 07 45.9
comp=Z,7.3nm,0.7s
KTH Kantishna Hill 66.03 29 P **P 18 07 45.0 +1.1**
KLMR Klimovskoe 66.19 328 *eP* **P 18 07 44.0 -0.8**
KLMR AMP 18 07 47.3
comp=Z,12nm,1.1s
TRF Thorofare Moun 66.33 29 P **P 18 07 46.7 +0.8**
TRF IAmb IAmb 18 07 51.6
comp=Z,4.3nm,0.7s
SUA Susitna One 66.40 31 P **P 18 07 46.9 +0.5**
CNPM China Point 66.44 34 P **P 18 07 47.6 +1.0**
CNPM IAmb IAmb 18 07 49.1
comp=Z,9.8nm,0.8s
I23K Minto, Yukon-K 66.50 27 P **P 18 07 47.7 +0.9**
I23K IAmb IAmb 18 07 49.1
comp=Z,15nm,1.4s
BRLK Bradley Lake 66.58 33 P **P 18 07 48.4 +1.0**
BRLK IAmb IAmb 18 07 49.4
comp=Z,13nm,0.9s
BWN Browne 66.59 28 P **P 18 07 48.7 +1.4**
NEA2 Nenana 66.70 28 P **P 18 07 49.1 +1.0**
MCK McKinley 66.89 29 P **P 18 07 49.2 -0.1**
MCK IAmb IAmb 18 07 51.6
comp=Z,10nm,0.7s

RND Reindeer 66.97 29 P **P 18 07 50.5 +0.6**
MDM Murphy Dome 67.00 28 P **P 18 07 51.3 +1.3**
WRH Wood River Hil 67.14 28 P **P 18 07 51.6 +0.8**
WRH IAmb IAmb 18 07 55.8
comp=Z,5.6nm,0.6s
TCOL CIGO, UAF Yank 67.17 28 P **P 18 07 51.8 +0.8**
TCOL IAmb IAmb 18 07 54.0
comp=Z,13nm,0.8s
COLA College 67.17 28 P **P 18 07 51.8 +0.8**
COLA IAmb IAmb 18 07 54.0
comp=Z,13nm,0.8s
GHO Glory Hole Cre 67.21 31 P **P 18 07 52.0 +0.6**
GHO IAmb IAmb 18 07 53.6
comp=Z,6.9nm,0.7s
CCB Clear Creek Bu 67.23 28 P **P 18 07 51.8 +0.4**
CCB IAmb IAmb 18 07 53.0
comp=Z,4.0nm,0.6s
SEW Seward 67.24 33 P **P 18 07 51.8 +0.3**
SEW IAmb IAmb 18 07 52.3
comp=Z,10.0nm,0.7s
KBZ Khabaz 67.25 309 P **P 18 07 52.7 +0.8**
comp=Z,3.3nm,0.8s,baz=88,slow=2.4,SNR=6.0
KBZ LR LR 18 39 27.8
comp=Z,224nm,22.0s,baz=102,slow=38
POKR Poker Plat Res 67.31 27 P **P 18 07 53.1 +1.2**
SML Sawmill 67.48 31 P **P 18 07 53.6 +0.5**
SML IAmb IAmb 18 07 54.6
comp=Z,8.2nm,0.6s
KNK Knik Glacier 67.49 31 P **P 18 07 53.7 +0.5**
IL31 67.60 28 P **P 18 07 53.4 -0.3**
IL31 IAmb IAmb 18 07 56.2
comp=Z,5.1nm,0.6s
ILAR Eielson Array 67.60 28 P **P 18 07 53.1 -0.6**
comp=Z,3.8nm,0.5s,baz=246,slow=4.5,SNR=37
HDA Harding Lake 67.64 28 P **P 18 07 53.9 -0.1**
HDA IAmb IAmb 18 07 54.9
comp=Z,11nm,0.8s
FYU Fort Yukon 67.94 26 P **P 18 07 57.5 +1.7**
FYU IAmb IAmb 18 07 58.6
comp=Z,6.4nm,0.6s
SCM Sheep Creek Mo 67.94 31 P **P 18 07 57.1 +1.0**
PRP Porcupine Dome 68.03 27 P **P 18 07 57.2 +0.6**
PRP IAmb IAmb 18 07 59.1
comp=Z,5.3nm,0.5s
BMAR Burnt Mountain 68.03 25 P **P 18 07 57.9 +1.4**
M24K Tolsona, Glenn 68.42 30 P **P 18 08 00.8 +1.7**
PAX Paxson 68.56 29 P **P 18 08 01.0 +1.0**
PAX IAmb IAmb 18 08 01.8
comp=Z,5.9nm,0.7s
FID Port Fidalgo 68.56 32 **P 18 08 00.8 +0.9**
KLU Klutina 68.67 31 P **P 18 08 01.8 +1.1**
KLU IAmb IAmb 18 08 02.4
comp=Z,9.4nm,0.5s
RIDG Independent Ri 68.67 29 P **P 18 08 01.0 +0.4**
RIDG IAmb IAmb 18 08 02.6
comp=Z,9.9nm,0.8s
SCRK Sand Creek 68.99 28 P **P 18 08 03.1 +0.4**
SCRK IAmb IAmb 18 08 04.0
comp=Z,11nm,1.1s
DOT Dot Lake 69.03 29 P **P 18 08 03.3 +0.5**
DOT IAmb IAmb 18 08 04.5
comp=Z,11nm,0.7s
N25K Chitina, Valde 69.26 31 P **P 18 08 05.7 +1.4**
MENT Mentasta 69.35 29 P **P 18 08 06.3 +1.5**
MENT IAmb IAmb 18 08 07.1
comp=Z,11nm,0.7s
BMRM Bremner River 69.41 31 P **P 18 08 06.2 +1.0**
BMRM IAmb IAmb 18 08 07.0
comp=Z,8.4nm,0.7s
GLB Gilahina Butte 69.67 31 P **P 18 08 07.8 +1.0**
K27K Chicken 69.80 28 P **P 18 08 09.0 +1.6**
K27K IAmb IAmb 18 08 09.9
comp=Z,11nm,0.7s
EGAK Eagle 69.99 27 P **P 18 08 09.5 +0.9**
EGAK IAmb IAmb 18 08 12.2
comp=Z,9.7nm,0.6s
ARCES ARCESS Array B 70.10 338 P **P 18 08 08.9 -0.4**
comp=Z,2.0nm,0.8s,baz=53,slow=4.7,SNR=6.2
L27K Beaver Creek, 70.16 29 P **P 18 08 11.3 +1.6**
L27K IAmb IAmb 18 08 12.3
comp=Z,10nm,0.7s
CRQM Cirque 70.16 31 P **P 18 08 10.8 +0.9**
CRQM IAmb IAmb 18 08 11.8
comp=Z,14nm,0.8s
BCAR Beaver Creek A 70.17 29 P **P 18 08 11.4 +1.6**
TGL Tana Glacier 70.30 31 P **P 18 08 11.7 +1.0**
TGL IAmb IAmb 18 08 12.4
comp=Z,9.9nm,0.6s
WAX Waxell Ridge 70.37 32 P **P 18 08 12.2 +1.1**
WAX IAmb IAmb 18 08 15.2
comp=Z,10nm,0.7s
MARD Mardin 70.44 303 P **P 18 08 13.2 +1.2**
ISLE Juniper Island 70.58 31 P **P 18 08 12.5 +0.1**
ISLE IAmb IAmb 18 08 14.0
comp=Z,11nm,0.7s
BARN Barnard Glacie 70.77 31 P **P 18 08 14.8 +1.1**
BARN IAmb IAmb 18 08 15.8
comp=Z,12nm,0.7s
DAWY Dawson 70.92 28 P **P 18 08 15.6 +1.2**
DAWY IAmb IAmb 18 08 16.5
comp=Z,9.3nm,0.6s
CTGM Chitina Glacie 70.95 31 P **P 18 08 16.3 +1.6**
LOGN Logan Glacier 71.15 31 P **P 18 08 17.4 +1.4**
LOGN IAmb IAmb 18 08 23.1
comp=Z,9.5nm,0.7s
EPYK Eagle Plains 71.29 25 P **P 18 08 17.4 +0.9**
EPYK IAmb IAmb 18 08 18.1
comp=Z,8.2nm,0.8s
PCA Pinnacle 71.72 32 P **P 18 08 20.8 +1.6**
INK Inuvik 71.81 22 P **P 18 08 20.2 +0.7**
FINES FINESS Array B 72.38 330 P **P 18 08 22.7 -0.4**
comp=Z,3.2nm,0.7s,baz=71,slow=5.1,SNR=16
FINES FINESS Array B 72.38 330 P **P 18 08 22.9 -0.1**
HYT Haines Junctio 72.78 30 P **P 18 08 27.4 +1.8**
HYT IAmb IAmb 18 08 28.4
comp=Z,8.7nm,0.8s
WHY Whitehorse 74.04 30 P **P 18 08 33.6 +0.5**
WHY IAmb IAmb 18 08 35.8
comp=Z,8.4nm,0.7s
IDID Didziasalis 74.12 324 *eP* **P 18 08 33.8 +0.4**
AKASG Malin Array Be 74.28 319 P **P 18 08 33.7 -0.8**
comp=Z,2.0nm,0.4s,baz=61,slow=6.1,SNR=19
AKASG Malin Array Be 74.28 319 P **P 18 08 34.8 +0.3**
AKBB Malin Array Si 74.28 319 P **P 18 08 33.5 -0.9**
AKBB IAmb IAmb 18 08 37.0
comp=Z,3.8nm,0.5s
IIGN Ignalina 74.38 324 *eP* **P 18 08 35.3 +0.3**
MTSE Matsula 74.40 328 *eP* **P 18 08 33.0 -2.0**
BRTR Keskin Array B 75.02 307 P **P 18 08 39.4 +0.2**
comp=Z,2.4nm,0.8s,baz=79,slow=6.4,SNR=8.3
PABE Paberze 75.52 325 *eP* **P 18 08 42.2 +0.7**
PABE Paberze 75.52 325 P **P 18 08 41.8 +0.3**
SUW Suwalki 76.52 323 *eP* **P 18 08 47.6 +0.4**
SUW Suwalki 76.52 323 P **P 18 08 48.3 +1.1**
SUW IAmb IAmb 18 08 50.1
comp=Z,16nm,0.9s
CSS Mathiatis 76.90 303 P **P 18 08 50.3 +0.6**
CSS IAmb IAmb 18 08 53.2
comp=Z,5.8nm,0.7s
WRAK Wrangell Islan 76.94 34 P **P 18 08 50.8 +1.3**
WRAK IAmb IAmb 18 08 53.4
comp=Z,6.6nm,0.7s
DLBC Dease Lake 77.20 31 P **P 18 08 52.6 +1.5**
BUR08 Bucovina Ar. S 77.85 317 P **P 18 08 55.5 +0.5**
BURAR Bucovina Array 77.86 317 P **P 18 08 55.2 +0.2**
MLR Muntele Rosu 78.23 315 P **P 18 08 57.5 +0.4**
NC405 NORSAR Array S 78.80 333 P **P 18 08 58.4 -1.4**
NC405 IAmb IAmb 18 08 60.0
comp=Z,11nm,0.7s
ELL Elmali 78.83 305 P **P 18 09 02.1 +1.6**
NB201 NORSAR Array S 79.01 333 P **P 18 09 00.8 -0.2**
NB2 NORSAR Subarra 79.05 333 P **P 18 09 00.4 -0.8**
comp=Z,0.5nm,0.4s,baz=60,slow=5.3
NOA NORSAR Array B 79.05 333 P **P 18 09 00.4 -0.8**
comp=Z,1.2nm,0.7s,baz=55,slow=5.6,SNR=12
NC204 NORSAR Array S 79.11 333 P **P 18 09 00.9 -0.7**
NC204 IAmb IAmb 18 09 03.0
comp=Z,7.8nm,0.9s
VTS Vitosha 81.18 313 P **P 18 09 13.4 +0.2**
VTS IAmb IAmb 18 09 16.6
comp=Z,7.4nm,0.8s
YKA Yellowknife Ar 81.52 24 P **P 18 09 12.9 -1.4**
comp=Z,5.1nm,0.9s,baz=313,slow=4.9,SNR=5.8
CLL Collm 83.27 324 *eP* **P 18 09 25.0 +1.3**

GERES GERESS Array B 84.15 322 P **P 18 09 29.0 +0.6**
comp=Z,1.6nm,0.7s,baz=73,slow=4.6,SNR=12
GERES GERESS Array B 84.15 322 P **P 18 09 28.4 0.0**
ITM Ithomi 84.47 308 P **P 18 09 29.4 -0.8**
NVAR Mina Array Bea 94.28 44 P **P 18 10 15.0 -1.9**
comp=Z,0.1nm,0.3s,baz=316,slow=5.0,SNR=2.0

IDC 13 18:01:22.8±2.4, 30°.41S×177°.55W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/23, mbtmp3.7/2, Error ellipse: s-maj=55.9km s-min=32.3km az=111.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**344**	Pn	Pn	18 01 46.8	0.0
	166nm,0.3s,baz=62,slow=23,SNR=19						
RAO				Sn	Sg	18 01 57.8	-3.3
	534nm,0.3s,baz=113,slow=21,SNR=16						
ASAR	**Alice Springs**	**43.50**	**267**	P	P	18 09 28.2	0.0
	0.4nm,0.6s,baz=106,slow=7.4,SNR=5.3						
WRA	**Warramunga Arr**	**44.49**	**272**	P	P	18 09 35.9	-0.3
	0.3nm,0.3s,baz=110,slow=8.0,SNR=12						
H03S2	**Juan Fernandez**	**80.13**	**123**	T	T	19 43 01.4	
	baz=242						
H03S1	**Juan Fernandez**	**80.14**	**123**	T	T	19 42 57.4	
	baz=242						
H03S3	**Juan Fernandez**	**80.15**	**123**	T	T	19 43 02.1	
	baz=242						
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	PKPbc	18 21 00.5	-1.0
	1.1nm,0.5s,baz=46,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	PKPbc	18 21 18.4	0.0
	0.2nm,0.4s,baz=55,slow=2.5,SNR=5.1						

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*IDC **13** 18:11:48.5±2.7, 24°.89S×179°.80E, h497km±32km, mb3.2/4, mb1 3.4/6, mb1mx3.0/22, mbtmp4.0/6, Error ellipse: s-maj=40.1km s-min=25.5km az=145.0*
*NEIC **13** 18:11:49.2±1.0, 24°.9S±0°.2×179°.8E±0°.2, h500km±17km, mb4.4/13, Error ellipse: s-maj=30.1km s-min=25.3km az=123.0*

ISC 13 18:11:48.4±1.2, 25°.0S±0°.1×179°.9E±0°.2, h501km, n18, σ0 81/18, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.41**	**346**	P	P	**18 13 38.3**	**-0.7**
	1.1nm,0.3s,baz=198,slow=21,SNR=5.6						
URZ	**Urewera**	**13.44**	**189**	P	P	**18 14 41.3**	**-0.7**
	0.3nm,0.3s,baz=144,slow=14,SNR=1.0						
URZ				S	S	**18 17 04.2**	**-0.9**
	0.3nm,0.3s,baz=158,slow=21,SNR=1.2						
QRZ	**Quartz Range**	**16.94**	**199**	P	P	**18 15 19.8**	**+1.3**
THZ	**Tophouse**	**17.70**	**197**	P	P	**18 15 27.2**	**+1.3**
KHZ	**Kahutara**	**18.15**	**195**	P	P	**18 15 30.4**	**+0.5**
CTAO	**Charters Tower**	**31.37**	**272**	P	P	**18 17 28.3**	**+0.6**
CTAO				IAmb	IAmb	18 17 49.9	
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**34.21**	**250**	P	P	**18 17 52.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=78,slow=7.5,SNR=9.1						
AS31	**Alice Springs**	**41.74**	**262**	P	P	**18 18 53.2**	**-0.1**
ASAR	**Alice Springs**	**41.74**	**262**	P	P	**18 18 53.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=93,slow=7.0,SNR=57						
WR0	**Warramunga Arr**	**42.03**	**267**	P	P	**18 18 55.0**	**-0.7**
WR0				IAmb	IAmb	18 19 05.8	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**42.21**	**267**	P	P	**18 18 56.3**	**-0.8**
WB2				IAmb	IAmb	18 18 59.9	
	comp=Z,6.8nm,1.1s						
WRAB	**Tennant Creek**	**42.21**	**267**	P	P	**18 18 56.2**	**-0.9**
WRAB				IAmb	IAmb	18 19 01.7	
	comp=Z,6.3nm,0.7s						
WB0	**Warramunga Arr**	**42.22**	**268**	P	P	**18 18 56.4**	**-0.8**
WB0				IAmb	IAmb	18 18 57.1	
	comp=Z,4.3nm,0.5s						
WRA	**Warramunga Arr**	**42.22**	**267**	P	P	**18 18 56.4**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=99,slow=6.8,SNR=96						
WRA	**Warramunga Arr**	**42.22**	**267**	IAmb	IAmb	18 18 57.4	
	comp=Z,0.5nm,1.2s						
FORT	**Forrest**	**45.82**	**251**	P	P	**18 19 24.4**	**-0.6**
FORT				IAmb	IAmb	18 19 36.4	
	comp=Z,25nm,1.2s						
KNRA	**Kununurra**	**48.57**	**271**	P	P	**18 19 45.6**	**-0.2**
KNRA				IAmb	IAmb	18 19 47.8	
	comp=Z,65nm,1.4s						
TXAR	**Lajitas Array**	**91.11**	**58**	P	P	**18 24 00.1**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=235,slow=4.4,SNR=3.8						

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*SOME **13** 18:24:56.0, 38°.97N×72°.92E, h5km*
*IDC **13** 18:25:02.7±0.5, 39°.04N×72°.78E, h0km, mb4.5/31, mb1 4.6/40, mb1mx4.5/56, mbtmp4.5/40, ML3.5/7, MS3.9/27, Ms1 3.9/27, ms1mx3.8/41, Error ellipse: s-maj=11.7km s-min=9.1km az=2.0*
*MOS **13** 18:25:03.7±1.3, 39°.03N×72°.75E, h11km, mb5.0/65, MS4.2/16, Error ellipse: s-maj=4.6km s-min=3.4km az=120.9*
MOS Felt (IV) at Achyk-Suu; (III) at Daroot-Korgon, Zhar-Bashy, Karamyk, Kashka-Suu, Shibee.
*KRNET **13** 18:25:04.9±0.1, 39°.28N×72°.64E, h17km, mb5.0*
*BJI **13** 18:25:04.7±0.0, 39°.09N×72°.82E, h9km, mB5.0/30, mb4.7/44, ML4.6/6, Ms4.6/36, Ms7 4.3/35*
*NNC **13** 18:25:05.2±1.8, 39°.35N×72°.67E, h0km, mb5.2, mpv4.8, Error ellipse: s-maj=18.5km s-min=10.1km az=155.0*
*NEIC **13** 18:25:05.4±2.7, 38°.99N±0°.05×72°.61E±0°.04, h10km±1km, mb4.8/134, Error ellipse: s-maj=9.4km s-min=3.3km az=32.0*
*GCMT **13** 18:25:07.4±0.3, 39°.18N±0°.02×72°.61E±0°.02, h26km±1km, MW4.9/82, Moment Tensor Solution. s16,c18; s82,c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.13; $M_{\theta\theta}$-2.04±.09; $M_{\phi\phi}$2.42±.10; $M_{r\theta}$-0.97±.20; $M_{\theta\phi}$0.05±.07; $M_{\phi r}$0.19±.17; Best double couple: $M_0$2.46200×10^{16} NP1:φ≅43.00000°, δ70.00000°, λ-15.00000°. NP2: φ≅138.00000°, δ76.00000°, λ-159.00000°. Principal axes: T 2.4330, Plg4.0000°, Azm270.0000°; N 0.0620, Plg65.0000°, Azm171.0000°; P -2.4900, Plg25.0000°, Azm2.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **13** 18:25:27.1±0.0, 39°.65N×69°.62E, h16km, mb4.4*

ISC 13 18:25:05.0±0.4, 39°.18N±0°.03×72.74E±0°.02, h9km±2km, h10km: pP-P, n640, σ2 26/706, mb4.8/210, MS4.1/50, 73C-45D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.79**	**293**	⇑*iP*	**Pg**	**18 25 17.8**	**-2.4**
	baz=88						
DRK				⇑*iS*	**Sg**	**18 25 27.5**	**-3.0**
	baz=88						
DRK	**Karamyk**	**0.79**	**293**	Pn	**Pg**	**18 25 17.0**	**-3.2**
SFK	**Sufi-Kurgan**	**1.02**	**35**	⇑*iP*	**Pg**	**18 25 23.4**	**-1.3**
	baz=42						
SFK				⇑*iS*	**Sg**	**18 25 37.7**	**-0.3**
	baz=42						
OHH	**Osh**	**1.34**	**2**	⇑*iP*	**Pn**	**18 25 28.1**	**-1.9**
	baz=5.0						
OHH				⇑*iS*	**Sb**	**18 25 45.0**	**-2.7**
	baz=5.0						
BTK	**Batken**	**1.72**	**301**	⇓*iP*	**Pn**	**18 25 34.5**	**-0.7**
	baz=0.0						
BTK				⇓*iS*	**Sn**	**18 25 56.4**	**-0.9**
	baz=0.0						
BTK	**Batken**	**1.72**	**301**	PN	**Pn**	**18 25 34.1**	**-1.1**
BTK	**Batken**	**1.72**	**301**	Pn	**Pn**	**18 25 34.0**	**-1.1**
GAR	**Garm**	**1.89**	**265**	⇑*eP*	**Pn**	**18 25 38.4**	**+0.8**
	baz=62						
GAR				⇑*iS*	**Sb**	**18 26 02.9**	**-0.6**
	baz=62						
GAR	**Garm**	**1.89**	**265**	Pn	**Pn**	**18 25 36.0**	**-1.6**
KSH	**Kashi**	**2.53**	**81**	Pg	**Pn**	**18 25 43.8**	**-2.6**
KSH				Sg	**Sn**	**18 26 10.3**	**-7.1**
KSH				smax	smax		
	comp=N,3μm,0.8s						
KSH				smax	smax		
	comp=E,4μm,0.8s						
TRKS	**Terek-Say**	**2.65**	**333**	⇓*iP*	**Pn**	**18 25 47.6**	**-0.4**
	baz=33						
TRKS				⇓*iS*	**Sn**	**18 26 18.3**	**-1.9**
	baz=33						
CHGR	**Chuyangaron**	**2.84**	**261**	⇑*eP*	**Pn**	**18 25 51.9**	**+1.3**

baz=58
CHGR ⇑iS **Sn** **18 26 26.1 +1.2**
baz=58
CHGR Chuyangaron 2.84 261 Pn **Pn** **18 25 51.5 +0.9**
ARLS Aral 2.94 24⇑eP **Pn** **18 25 52.9 +0.9**
baz=26
ARLS ⇑iS **Sn** **18 26 28.5 +1.0**
baz=26
AML Almayashu 3.04 14⇓iP **Pn** **18 25 54.9 +1.3**
baz=15
AML ⇓iS **Sn** **18 26 30.9 +0.7**
baz=15
AML Almayashu 3.04 14 P **Pb** **18 25 57.2 -2.3**
SNR=702
MNAS Manas 3.31 357⇑eP **Pn** **18 25 58.0 +0.9**
baz=58
MNAS ⇑iS **Sn** **18 26 36.8 +0.2**
baz=58
EKS2 Erkin-Say 3.57 12⇓eP **Pn** **18 26 02.0 +1.4**
baz=14
EKS2 ⇓iS **Sn** **18 26 42.8 -0.1**
baz=14
EKS2 Erkin-Say 3.57 12 P **Pn** **18 26 04.5 +3.9**
SNR=168
MRKS Merke 3.58 6 eP **Pn** **18 26 04.2 +3.5**
390nm,0.6s
MRKS eS **Sb** **18 26 55.1 +3.0**
663nm,0.4s
MRKS Merke 3.58 6 Pg **Pn** **18 26 04.3 +3.5**
390nm,0.6s
MRKS Lg Lg 18 26 55.1
663nm,0.4s
MRKS Merke 3.58 6 ePN **Pn** **18 26 04.3 +3.5**
MRKS eS **Sb** **18 26 55.1 +3.0**
AAK Ala-Archa 3.70 21 Pn **Pb** **18 26 06.8 -3.8**
55nm,0.3s,baz=203,slow=9.8,SNR=384
AAK Sn **Sb** **18 26 51.8 -3.9**
34nm,0.3s,baz=322,slow=18,SNR=9.1
AAK Ala-Archa 3.70 21⇑iP **Pn** **18 26 03.8 +1.3**
baz=22
AAK ⇑iS **Sn** **18 26 46.7 +0.4**
baz=22
AAK Ala-Archa 3.70 21 P **Pb** **18 26 06.8 -3.8**
SNR=257
AAK Ala-Archa 3.70 21 Pn **Pn** **18 26 05.5 +3.0**
585nm,0.7s
AAK ⇓Lg Lg 18 26 59.1
1μm,0.8s
AAK Ala-Archa 3.70 21 cePN **Pn** **18 26 06.5 +4.0**
AAK pmax pmax
comp=Z,2μm,1.0s
AAK Ala-Archa 3.70 21 Pn **Pn** **18 26 06.7 +4.2**
KBK Karagaybulak 3.85 25 P **Pn** **18 26 09.0 +4.4**
SNR=83
FRU1 Bishkek 3.90 21⇑eP **Pn** **18 26 07.0 +1.9**
baz=22
FRU1 ⇑iS **Sn** **18 26 51.9 +0.9**
baz=22
FRU1 Bishkek 3.90 21 PN **Pn** **18 26 08.6 +3.5**
FRU1 Bishkek 3.90 21 **Pn** **18 26 08.6 +3.5**
ULHL Ulahol 4.06 40 P **Pn** **18 26 11.9 +4.4**
SNR=32
BOOM Boomskoye usch 4.10 35⇓eP **Pn** **18 26 09.9 +1.9**
baz=37
BOOM ⇓iS **Sn** **18 26 57.2 +1.0**
baz=37
BOOM Boomskoye usch 4.10 35 PN **Pn** **18 26 12.1 +4.1**
BOOM Boomskoye usch 4.10 35 **Pn** **18 26 12.1 +4.1**
CHMS Chumysh 4.11 21⇑eP **Pn** **18 26 09.3 +1.3**
baz=22
CHMS ⇑iS **Sn** **18 26 56.4 +0.3**
baz=22
CHMS Chumysh 4.11 21 P **Pn** **18 26 12.5 +4.5**
SNR=76
KK31 Karatay Array 4.26 338 ⇓Pn **Pn** **18 26 11.7 +1.6**
comp=Z,84nm,0.4s,baz=148,slow=11,SNR=2969
KK31 ⇑Lg Lg 18 27 08.4
comp=Z,331nm,0.7s,baz=210,slow=35,SNR=4.8
KK31 Karatay Array 4.26 338 PN **Pn** **18 26 12.8 +2.7**
KK31 Karatay Array 4.26 338 **Pn** **18 26 12.8 +2.7**
KKAR Karatay Array 4.26 338 PN **Pn** **18 26 12.8 +2.7**
KKAR Karatay Array 4.26 338 Pn **Pn** **18 26 12.5 +2.4**
KKAR Karatay Array 4.26 338 Pn **Pn** **18 26 12.8 +2.7**
USP Ospenovka 4.29 17⇑iP **Pn** **18 26 12.1 +1.6**
baz=19
USP ⇑iS **Sn** **18 27 00.4 -0.3**
baz=19
USP Ospenovka 4.29 17 P **Pn** **18 26 14.9 +4.4**
SNR=34
TKM2 Tokmak 2 4.32 29 P **Pn** **18 26 15.8 +4.8**
SNR=13
TKM2 Tokmak 2 4.32 29 ⇓Pn **Pn** **18 26 14.9 +3.9**
comp=Z,128nm,0.8s
TKM2 ⇑Pg **Pb** **18 26 23.7 +2.6**
comp=Z,352nm,0.9s
TKM2 ⇑Lg Lg 18 27 19.4
comp=Z,1μm,1.1s
TKM2 Tokmak 2 4.32 29 PN **Pn** **18 26 14.9 +3.9**
KDJ Kajisay 4.48 48⇑iP **Pn** **18 26 15.6 +2.3**
baz=49
KDJ ⇑iS **Sn** **18 27 07.0 +1.4**
baz=49
KDJ Kajisay 4.48 48 PN **Pn** **18 26 16.3 +3.0**
KDJ Kajisay 4.48 48 **Pn** **18 26 16.3 +3.0**
SGDS Sogindy 4.50 18 Pg **Pb** **18 26 22.9 -1.3**
comp=Z,228nm,0.8s
SGDS Lg Lg 18 27 26.7
comp=Z,793nm,1.3s
TARG Taragay, Kyrgy 4.63 55 **Pn** **18 26 18.1 +2.6**
DGS Degeres 4.66 28 eP **Pb** **18 26 26.6 -0.3**
comp=Z,222nm,1.0s
DGS eS **Sg** **18 27 33.7 -0.9**
comp=Z,401nm,0.8s
DGS Degeres 4.66 28 Pg **Pb** **18 26 26.6 -0.3**
comp=Z,222nm,1.0s
DGS Lg Lg 18 27 33.7
comp=Z,401nm,0.8s
IZV Izvestkoviy 4.84 36 eP **Pb** **18 26 29.5 -0.5**
comp=Z,201nm,0.7s
IZV eS **Sg** **18 27 38.5 -1.9**
comp=Z,990nm,0.8s
IZV Izvestkoviy 4.84 36 Pg **Pb** **18 26 29.5 -0.5**
comp=Z,201nm,0.7s
IZV Lg Lg 18 27 38.5
comp=Z,990nm,0.8s
TNSS Tian-Shan 5.00 38 Pg **Pb** **18 26 32.8 0.0**
comp=Z,98nm,0.7s
TNSS Lg Lg 18 27 43.5
comp=Z,1μm,0.9s
KRBS Karabastau 5.02 25 eP **Pb** **18 26 32.1 -1.0**
comp=Z,73nm,0.7s
KRBS eS **Sg** **18 27 42.7 -3.6**
comp=Z,370nm,1.0s
KRBS Karabastau 5.02 25 Pg **Pb** **18 26 32.1 -1.0**
comp=Z,73nm,0.7s
KRBS Lg Lg 18 27 42.7
comp=Z,370nm,1.0s
MDOK Medeo 5.14 38 eP **Pb** **18 26 34.0 -1.2**
comp=Z,67nm,0.7s
MDOK eS **Sg** **18 27 45.9 -4.1**
comp=Z,1μm,1.9s
MDOK Medeo 5.14 38 ⇓Pn **Pn** **18 26 25.1 +2.9**
comp=Z,126nm,1.0s
MDOK ⇓Pg **Pb** **18 26 39.0 +3.9**
comp=Z,136nm,0.6s
MDOK ⇑Lg Lg 18 27 46.5
comp=Z,3μm,1.6s
MDOK Medeo 5.14 38 Pg **Pb** **18 26 33.9 -1.2**
comp=Z,67nm,0.7s
MDOK Lg Lg 18 27 45.9
comp=Z,1μm,1.9s
MDOK Medeo 5.14 38 PN **Pn** **18 26 25.9 +3.6**
KNDC Almaty 5.14 37⇑Pn **Pn** **18 26 25.7 +3.5**
comp=Z,364nm,0.9s
KNDC ⇓Pg **Pb** **18 26 38.2 +3.1**
comp=Z,561nm,0.7s
KNDC ⇑Lg Lg 18 27 46.3
comp=Z,9μm,1.4s
KNDC Almaty 5.14 37 PN **Pn** **18 26 26.8 +4.6**
ANVS Anan'yevo 5.18 44⇑iP **Pn** **18 26 24.9 +2.0**
baz=46
ANVS ⇑iS **Sn** **18 27 23.1 +0.2**
baz=46
KOTS Kotyrbulak 5.22 38 eP **Pb** **18 26 36.5 -0.1**
comp=Z,85nm,0.6s
KOTS eS **Sg** **18 27 50.6 -2.1**
comp=Z,874nm,0.7s
KOTS Kotyrbulak 5.22 38 Pg **Pb** **18 26 36.5 -0.1**
comp=Z,85nm,0.6s
KOTS Lg Lg 18 27 50.6
comp=Z,874nm,0.7s
CEP Cherat 5.39 187 P Pn 18 26 30.8 +5.1
KTBS Karatobe 5.41 32 eP **Pb** **18 26 39.7 0.0**
comp=Z,114nm,0.9s
KTBS eS **Sg** **18 27 56.0 -2.8**
comp=Z,762nm,0.7s
KTBS Karatobe 5.41 32 Pg **Pb** **18 26 39.7 0.0**
comp=Z,114nm,0.9s
KTBS Lg Lg 18 27 56.0
comp=Z,762nm,0.7s
PRZ Przheval'sk 5.42 51⇑iP **Pn** **18 26 28.2 +2.1**
baz=52
PRZ ⇑iS **Sn** **18 27 29.5 +0.9**
baz=52
PRZ Przheval'sk 5.42 51 PN **Pn** **18 26 29.8 +3.7**
PRZ Przheval'sk 5.42 51 **Pn** **18 26 29.8 +3.7**
KUU Kurty 5.43 29 eP **Pb** **18 26 38.9 -1.1**
comp=Z,111nm,1.1s
KUU eS **Sg** **18 27 54.6 -4.7**
comp=Z,890nm,1.0s
KUU Kurty 5.43 29 Pg **Pb** **18 26 38.9 -1.1**
comp=Z,111nm,1.1s
KUU Lg Lg 18 27 54.6
comp=Z,890nm,1.0s
KBL Kabul 5.50 214 PN **Pn** **18 26 28.1 +0.9**
KBL Kabul 5.50 214 Pn **Pn** **18 26 28.1 +0.9**
CHCP Chirah Chowk 5.53 175 P **Pn** **18 26 31.2 +3.7**
NIL Nilore 5.54 176 PN **Pn** **18 26 29.9 +2.3**
NIL Nilore 5.54 176 Pn **Pn** **18 26 29.9 +2.3**
CHKK Chushkaly 5.66 33 eP **Pb** **18 26 43.5 -0.3**
comp=Z,59nm,0.8s
CHKK eS **Sg** **18 28 02.1 -4.4**
comp=Z,326nm,0.8s
CHKK Chushkaly 5.66 33 Pg **Pb** **18 26 43.5 -0.3**
comp=Z,59nm,0.8s
CHKK Lg Lg 18 28 02.1
comp=Z,326nm,0.8s
SATY Saty 5.77 46 eP **Pb** **18 26 46.2 +0.3**
comp=Z,97nm,0.7s
SATY eS **Sg** **18 28 07.0 -3.4**
comp=Z,703nm,1.2s
SATY Saty 5.77 46 Pg **Pb** **18 26 46.2 +0.3**
comp=Z,97nm,0.7s
SATY Lg Lg 18 28 07.0
comp=Z,703nm,1.2s
UZB Uzynbulak 6.18 48 eP **Pb** **18 26 52.6 -0.2**
comp=Z,44nm,0.6s
UZB eS **Sg** **18 28 17.4 -5.9**
comp=Z,282nm,1.1s
UZB Uzynbulak 6.18 48 Pg **Pb** **18 26 52.6 -0.2**
comp=Z,44nm,0.6s
UZB Lg Lg 18 28 17.4
comp=Z,282nm,1.1s
KPKS Kokpek 6.19 44 eP **Pb** **18 26 53.5 +0.4**
comp=Z,104nm,0.7s
KPKS eS **Sg** **18 28 18.7 -5.2**
comp=Z,556nm,1.3s
ARXS Arharly 6.31 36 eP **Pb** **18 26 55.8 +0.8**
comp=Z,82nm,1.0s
ARXS eS **Sg** **18 28 22.8 -4.7**
comp=Z,331nm,1.6s
ARXS Arharly 6.31 36 Pg **Pb** **18 26 55.8 +0.8**
comp=Z,82nm,1.0s
ARXS Lg Lg 18 28 22.8
comp=Z,331nm,1.6s
SHLS Shalkode 6.44 50 eP Pb 18 27 02.7 +5.3
comp=Z,70nm,1.0s
SHLS eS **Sg** **18 28 35.1 +3.3**
comp=Z,504nm,1.3s
SHLS Shalkode 6.44 50 Pg Pb 18 27 02.7 +5.3
comp=Z,70nm,1.0s
SHLS Lg Lg 18 28 35.1
comp=Z,504nm,1.3s
PDGK Podgornoye 6.56 49 Pg **Pb** **18 26 59.1 -0.3**
comp=Z,30nm,0.9s
PDGK Lg Lg 18 28 29.8
comp=Z,199nm,1.0s
PDGK Podgornoye 6.56 49⇑Pn **Pn** **18 26 44.7 +3.0**
comp=Z,161nm,0.9s
PDGK ⇓Lg Lg 18 28 32.5
comp=Z,598nm,1.1s
PDGK Podgornoye 6.56 49 PN **Pn** **18 26 45.6 +3.8**
KTMS Ketmen 7.14 51 eP **Pb** **18 27 10.8 +1.6**
comp=Z,46nm,0.8s
KTMS eS **Sg** **18 28 48.4 -5.8**
comp=Z,215nm,0.8s
KTMS Ketmen 7.14 51 Pg **Pb** **18 27 10.8 +1.6**
comp=Z,46nm,0.8s
KTMS Lg Lg 18 28 48.4
comp=Z,215nm,0.8s
DJR Jarkent 7.37 43 eP **Pb** **18 27 14.8 +1.8**
comp=Z,2.2nm,0.7s
DJR eS **Sg** **18 28 55.9 -5.5**
comp=Z,26nm,1.4s
DJR Jarkent 7.37 43 Pg **Pb** **18 27 12.9 -0.1**
comp=Z,2.2nm,0.7s
DJR Lg Lg 18 28 53.6
comp=Z,26nm,1.4s
KAPS Kapalarasan 7.83 37 eP **Pb** **18 27 21.9 +1.1**
comp=Z,1.8nm,0.7s
KAPS eS **Sg** **18 29 08.7 -7.6**
comp=Z,26nm,1.4s
KAPS Kapalarasan 7.83 37 Pg **Pb** **18 27 21.9 +1.1**
comp=Z,1.8nm,0.7s
KAPS Lg Lg 18 29 07.5
comp=Z,26nm,1.4s
SMLA Simla 8.81 154 eP **Pn** **18 27 12.7 +0.2**
SMLA eS Sn 18 28 38.8 -13
SMLA IAML 18 28 57.3
comp=N,292nm,0.2s
SMLA IAML 18 28 57.4
comp=E,309nm,0.2s
HRA Herat 9.68 244 Pn **Pn** **18 27 22.5 -2.1**
DDI Dehra Dun 9.86 152 eP **Pn** **18 27 27.1 +0.2**
DDI ex Sn 18 29 07.9 -10
MAKZ Makanchi 10.19 39⇑Pn **Pn** **18 27 33.1 +1.7**
comp=E,38nm,0.8s
MAKZ ⇑Lg Lg 18 30 26.9
comp=E,225nm,1.9s
MAKZ Makanchi 10.19 39 P **Pn** **18 27 34.7 +3.3**
MAKZ Makanchi 10.19 39 Pn **Pn** **18 27 34.7 +3.3**
MK31 Makanchi Array 10.33 39⇑Pn **Pn** **18 27 35.8 +2.5**
comp=E,48nm,1.1s,baz=235,slow=11,SNR=178
MK31 ⇑Lg Lg 18 30 31.8
comp=E,76nm,1.1s
MK31 Makanchi Array 10.33 39 ciP **Pn** **18 27 36.8 +3.5**
MK31 Makanchi Array 10.33 39 **Pn** **18 27 36.4 +3.1**
MKAR Makanchi Array 10.33 39 Pn **Pn** **18 27 35.9 +2.5**
comp=E,0.5nm,0.3s,baz=225,slow=14,SNR=57
MKAR Lg Lg 18 30 22.9
comp=E,0.2nm,0.3s,baz=226,slow=33,SNR=2.5
MKAR Makanchi Array 10.33 39 P **Pn** **18 27 35.5 +2.2**
MKAR Makanchi Array 10.33 39 Pn **Pn** **18 27 35.5 +2.2**
NDI New Delhi 11.11 159 ex **Pn** **18 27 48.0 +4.0**
NDI ex **Sn** **18 29 44.0 -4.3**
GEYT Alibeck 11.52 268 Pn **Pn** **18 27 46.8 -2.8**
comp=E,7.0nm,0.3s,baz=129,slow=8.7,SNR=34
GEYT Sn Sn 18 29 46.8 -12
comp=E,0.5nm,0.3s,baz=85,slow=22,SNR=1.8
GEYT Lg Lg 18 31 14.2
baz=93,slow=28,SNR=1.0
GYA0B ALIBECK ARRAY 11.52 268 ⇓Pn **Pn** **18 27 46.4 -3.2**
GYA0B ⇑Sn **Sn** **18 29 59.1 +0.7**
GYA0B ALIBECK ARRAY 11.52 268 Pn **Pn** **18 27 46.9 -2.7**
WMQ Urumqi 12.13 63 eP **Pn** **18 27 58.5 +0.5**
WMQ pP 18 28 07.4
WMQ PP **PnPn** **18 28 13.9 +8.2**
WMQ S Sn 18 30 23.6 +10
WMQ pmax pmax
comp=E,42nm,1.1s
WMQ pmax pmax
comp=E,280nm,5.1s
WMQ LR LR
comp=E,4μm,11.9s
WMQ LR LR
comp=E,2μm,9.7s
WMQ LR LR
comp=E,1μm,9.7s
KURBB Kurchatov Arra 12.15 18 Pn **Pn** **18 27 55.7 -2.5**
comp=E,0.3nm,0.3s,baz=207,slow=13,SNR=33
KURBB Sn **Sn** **18 30 05.4 -8.3**
comp=E,0.1nm,0.3s,baz=215,slow=29,SNR=2.6
KURBB Lg Lg 18 31 17.8
comp=E,0.2nm,0.3s,baz=203,slow=27,SNR=5.8
KURBB Kurchatov Arra 12.15 18⇑Pn **Pn** **18 27 56.0 -2.1**
comp=E,15nm,0.6s
KURBB ⇓Lg Lg 18 31 26.6
comp=E,267nm,1.1s
KURBB Kurchatov Arra 12.15 18 P **Pn** **18 27 59.4 +1.3**
KURK Kurchatov 12.26 18 P **Pn** **18 27 55.7 -3.9**
KURK Kurchatov 12.26 18 **Pn** **18 27 55.7 -3.9**
AB31 Akbulak array 13.60 322 ⇓Pn **Pn** **18 28 16.0 -2.0**
comp=E,21nm,0.5s,baz=130,slow=14,SNR=604
AB31 ⇓Sn **Sn** **18 30 46.4 -2.8**
comp=E,86nm,1.1s
AB31 Akbulak array 13.60 322 P **Pn** **18 28 16.0 -2.0**
ABKAR Akbulak array 13.60 322 **Pn** **18 28 16.0 -2.0**
ABKAR Akbulak array 13.60 322 **Pn** **18 28 16.2 -1.8**
BVAR Borovoye Array 13.94 354 Pn **Pn** **18 28 21.0 -1.6**
comp=E,1.4nm,0.3s,baz=195,slow=23,SNR=43
BVAR Sn **Sn** **18 30 52.2 -5.2**
comp=E,0.7nm,0.3s,baz=175,slow=36,SNR=3.9
BVAR Lg Lg 18 32 26.5
comp=E,0.5nm,0.3s,baz=185,slow=30,SNR=2.0
BVAR Borovoye Array 13.94 354 P **Pn** **18 28 21.0 -1.6**
PYUN Piuthan 13.95 139 eP Pn 18 28 18.4 -4.7
comp=E,208nm,0.5s
BRVK Borovoye 13.98 354 ⇓Pn **Pn** **18 28 21.6 -1.6**
comp=E,91nm,1.4s
BRVK ⇑Lg Lg 18 32 25.1
comp=E,106nm,1.2s
BRVK Borovoye 13.98 354 di P **Pn** **18 28 22.0 -1.2**
BRVK Borovoye 13.98 354 **Pn** **18 28 22.3 -0.9**
DANN Dangsing 14.15 136 eP Pn 18 28 20.6 -5.3
comp=E,134nm,0.6s
KOLN Koldanda 14.54 138 eP Pn 18 28 25.9 -5.2
comp=E,53nm,0.5s
DGZ Jazzator, Alta 14.83 40 di P **Pn** **18 28 35.8 +0.9**
GKN Gorkha 14.90 135 eP Pn 18 28 30.7 -5.3
comp=E,70nm,0.5s
AKTO Aktyubinsk 15.32 322 Pn **Pn** **18 28 40.1 -1.2**
comp=E,2.1nm,0.3s,baz=136,slow=13,SNR=36
AKTO Sn **Sn** **18 31 24.8 -6.3**
comp=E,0.6nm,0.3s,baz=143,slow=20,SNR=1.2
AKTO Lg Lg 18 33 07.7
comp=E,0.2nm,0.3s,baz=200,slow=16,SNR=1.6
AKTO LR LR 18 35 29.0
comp=E,165nm,21.2s,baz=141,slow=40
AKTO Aktyubinsk 15.32 322 ⇓Pn **Pn** **18 28 39.4 -2.0**
comp=E,84nm,0.6s
AKTO ⇑Sn **Sn** **18 31 30.2 -0.8**
comp=E,96nm,1.5s
KKN Kakani 15.43 134 eP **Pn** **18 28 36.7 -6.3**
comp=E,56nm,0.7s
PKIN Phulchoki 15.66 134 eP **Pn** **18 28 40.5 -5.6**
comp=E,78nm,0.8s
PKI Pulchoki 15.67 134 eP **Pn** **18 28 40.7 -5.6**
comp=E,53nm,0.6s
JIRN Jiri 16.05 132 eP **Pn** **18 28 45.7 -5.5**
comp=E,84nm,0.5s
BHPL Bhopal 16.38 165 eP **Pn** **18 28 54.1 -1.1**
BHPL IAmb IAmb 18 28 58.1
comp=Z,25nm,0.4s
BHPL ex **Sn** **18 31 47.6 -10**
BHPL IAML 18 32 04.2
comp=N,52nm,0.4s
BHPL IAML 18 32 32.3
comp=E,84nm,1.1s
RAMN Ramite 16.82 132 eP **Pn** **18 28 55.5 -5.5**
comp=E,35nm,0.5s
ZAA0 Zalesovo Array 16.91 25 ⇓Pn **Pn** **18 29 01.4 -0.2**
comp=E,15nm,1.3s
ZAA0 ⇑Sn **Sn** **18 32 10.5 +1.0**
comp=E,4.3nm,1.1s
ZAA0 ⇓Lg Lg 18 33 58.3
comp=E,17nm,1.3s
ZAA0 Zalesovo Array 16.91 25 P **Pn** **18 29 01.4 -0.2**
ZAA0 IAmb IAmb 18 29 06.9
comp=Z,74nm,1.2s
ZALV Zalesovo Beam 16.91 25 P **Pn** **18 29 02.2 +0.5**
comp=Z,1.4nm,0.3s,baz=221,slow=12,SNR=37
ZALV S **Sn** **18 32 09.8 +0.3**
comp=Z,0.1nm,0.3s,baz=225,slow=24,SNR=1.6
ZALV Lg Lg 18 33 57.4
comp=Z,0.1nm,0.3s,baz=234,slow=27,SNR=1.5
ZALV LR LR 18 35 46.2
comp=Z,419nm,18.6s,baz=215,slow=38
ZALV Zalesovo Beam 16.91 25 i P **Pn** **18 29 02.5 +0.8**
ZALV pmax pmax
comp=Z,17nm,0.6s
ZALV Zalesovo Beam 16.91 25 **Pn** **18 29 01.2 -0.5**
TAPN Taplejung 17.18 129 eP **Pn** **18 28 59.4 -6.1**
comp=Z,28nm,0.5s
ODAN Odare 17.35 131 eP **Pn** **18 29 01.9 -5.7**
comp=Z,102nm,0.8s
LSA Lhasa 17.86 116 P **Pn** **18 29 13.8 -0.4**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 17.86 116 P **Pn** **18 29 13.8 -0.4**
BOK Bokaro 18.97 140 eP **P** **18 29 24.9 -1.7**
BOK IAmb IAmb 18 29 31.0
comp=Z,56nm,1.4s
BOK ex Sn 18 32 42.5 -17
BOK IAML 18 33 21.0
comp=E,28nm,1.0s
BOK IAML 18 33 24.3
comp=N,19nm,1.5s
MAK Makhachkala 19.37 289 di P **P** **18 29 25.7 -5.2**
MAK eS **Sn** **18 33 03.2 -6.0**
MAK pmax pmax
comp=Z,271nm,1.7s
MAK MLR MLR
comp=Z,813nm,16.0s
ARU Arti 19.64 336 P **Pn** **18 29 34.9 -0.2**
comp=Z,0.0nm,0.3s,baz=162,slow=9.2,SNR=28
ARU S **S** **18 33 06.7 -8.5**
comp=Z,0.0nm,0.3s,baz=321,slow=23,SNR=1.8
ARU Lg Lg 18 35 35.8
comp=Z,0.0nm,0.3s,baz=159,slow=24,SNR=2.4
ARU LR LR 18 37 31.1
comp=Z,600nm,18.4s,baz=140,slow=38
ARU Arti 19.64 336 ci P **Pn** **18 29 35.6 +0.5**
ARU S **Sn** **18 33 19.9 +4.4**
ARU pmax pmax
comp=Z,41nm,0.9s
ARU MLR MLR
comp=Z,595nm,18.0s
ARU Arti 19.64 336 P **P** **18 29 34.2 +0.5**
ARU IAmb IAmb 18 29 40.1
comp=Z,35nm,0.9s
WSAR Wadi Sarin 19.91 221 P **P** **18 29 36.4 -0.6**
comp=Z,0.2nm,0.3s,baz=28,slow=6.9,SNR=2.8
WSAR LR LR 18 39 12.2
comp=Z,247nm,18.9s,baz=58,slow=43
LGD Lagodekhi 20.29 286 P Pn 18 29 42.8 -0.2
DDFL Dedoflistskaro 20.40 285 P Pn 18 29 46.3 +2.0
GROC Groznyy 20.63 290 eP Pn 18 29 45.8 -1.1
GROC eS Sn 18 33 41.7 +2.1
GROC pmax pmax
comp=Z,232nm,1.3s
GTA Gaotai 20.93 81⇑P **P** **18 29 49.3 +1.2**
GTA pP sP 18 29 53.4 -0.5
GTA sP pP 18 29 56.8 +4.7
GTA S Sn 18 33 45.9 -1.2
GTA sS pS 18 33 51.4 +0.1
GTA ScP **ScP** **18 37 29.8 -2.6**
GTA pmax pmax
comp=Z,63nm,1.0s
GTA pmax pmax
comp=Z,300nm,7.2s
GTA LR LR
comp=Z,550nm,13.5s
GTA LR LR
comp=Z,360nm,14.3s
GTA LR LR
comp=Z,480nm,15.1s
SHL Shillong 21.06 124 P **P** **18 29 46.9 -2.6**
SHL pmax pmax
comp=Z,31nm,0.8s
SHL Shillong 21.06 124 eP **P** **18 29 49.2 -0.4**
SHL IAmb IAmb 18 29 54.4
comp=Z,22nm,0.7s
SHL Shillong 21.06 124 P **P** **18 29 46.9 -2.6**
SHL IAmb IAmb 18 30 05.6
comp=Z,31nm,0.8s
ITAN ITANAGAR 21.22 118 eP **P** **18 29 52.7 +1.6**
ITAN IAmb IAmb 18 29 54.7
comp=Z,626nm,1.7s
GNI Garni 21.54 282 P **P** **18 29 58.3 +3.7**
comp=Z,121nm,1.1s,baz=357,slow=4.3,SNR=16

GNI	**Garni**	**21.54 282**	*ce*P	**P**	**18 29 54.1**	**-0.5**
GNI			pmax	pmax		
comp=Z,235nm,1.3s						
GNI	**Garni**	**21.54 282**	P	**P**	**18 29 56.1**	**+1.5**
GUDG	**Gudauri**	**21.59 288**	P	**P**	**18 29 53.6**	**-1.6**
KZRT	**Kazreti**	**21.69 285**	P	**P**	**18 29 58.4**	**+2.3**
BELG	**Belogornoye**	**21.80 316**	P	**P**	**18 29 57.1**	**+0.1**
comp=Z,114nm,0.9s,baz=101,slow=1.4,SNR=12						
BELG			S	**S**	**18 33 51.1**	**-6.8**
comp=Z,5.6nm,0.7s,baz=273,slow=22,SNR=1.3						
BELG			LR	LR	18 38 53.4	
comp=Z,210nm,20.5s,baz=155,slow=38						
BELG	**Belogornoye**	**21.80 316**	*i* P	**P**	**18 29 56.7**	**-0.3**
BELG			pmax	pmax		
comp=Z,22nm,0.9s						
JORH	**JORHAT**	**21.84 118**	*e*P	**P**	**18 29 59.3**	**+1.6**
ZEI	**Tsey**	**22.02 289**	*e*P	**P**	**18 30 01.9**	**+2.1**
ZEI			pmax	pmax		
comp=Z,20nm,0.7s						
HYB	**Hyderabad**	**22.27 165**	*i* P	**P**	**18 30 03.0**	**+0.6**
HYB			*e*S	**S**	**18 34 10.0**	**+2.4**
HYB	**Hyderabad**	**22.27 165**	*e*P	**P**	**18 30 02.4**	**0.0**
HYB			IAmb	IAmb	18 30 08.5	
comp=Z,31nm,0.6s						
MOKO	**MOKOCHONG**	**22.29 119**	*e*P	**P**	**18 30 02.5**	**-0.3**
MOKO			IAmb	IAmb	18 30 05.6	
comp=Z,172nm,0.3s						
ONI	**Oni**	**22.35 288**	P	**P**	**18 30 04.3**	**+1.1**
ONI			pmax	pmax		
comp=Z,67nm,0.9s						
ONI	**Oni**	**22.35 288**	P	**P**	**18 30 04.3**	**+1.1**
AKH	**Akhalkalaki**	**22.37 285**	⇑P	**P**	**18 30 04.7**	**+1.1**
KOHI	**KOHIMA**	**22.41 120**	*e*P	**P**	**18 30 04.5**	**+0.5**
KOHI			IAmb	IAmb	18 30 06.9	
comp=Z,95nm,0.9s						
LKP	**Lekhapani**	**22.58 115**	*e*P	**P**	**18 30 05.7**	**0.0**
LKP			IAmb	IAmb	18 30 10.9	
comp=Z,80nm,0.9s						
GOF	**Gofitskoye**	**22.72 295**	⇑*e*P	**P**	**18 30 09.9**	**+2.9**
GOF			pmax	pmax		
comp=Z,49nm,0.6s						
KARS	**Kars**	**22.75 283**	P	**P**	**18 30 08.8**	**+1.2**
KARS			pmax	pmax		
comp=Z,282nm,1.1s						
KARS	**Kars**	**22.75 283**	P	**P**	**18 30 08.8**	**+1.2**
KBZ	**Khabaz**	**22.76 291**	P	**P**	**18 30 07.3**	**-0.1**
comp=Z,9.5nm,0.9s,baz=129,slow=8.6,SNR=12						
KBZ	**Khabaz**	**22.76 291**	*c i* P	**P**	**18 30 07.4**	**0.0**
KBZ			pmax	pmax		
comp=Z,13nm,1.0s						
KVAR	**Kislovodsk Arr**	**22.91 292**	P	**P**	**18 30 08.2**	**-0.9**
comp=Z,2.3nm,0.4s,baz=78,slow=22,SNR=1.6						
KIV	**Kislovodsk**	**22.91 292**	*e*P	**P**	**18 30 09.4**	**+0.2**
KIV			*e*S	**S**	**18 34 20.2**	**+1.0**
KIV			pmax	pmax		
comp=Z,20nm,1.1s						
KIV			MLR	MLR		
comp=Z,163nm,14.0s						
KIV	**Kislovodsk**	**22.91 292**	P	**P**	**18 30 08.4**	**-0.8**
KIV			IAmb	IAmb	18 30 34.2	
comp=Z,30nm,0.8s						
BRDH	**Bariadhala**	**23.02 130**	LR	LR	18 38 58.7	
comp=Z,420nm,20.9s,baz=320,slow=36						
GEVA	**Gevas**	**23.12 277**	P	**P**	**18 30 12.5**	**+1.0**
GEVA			IAmb	IAmb	18 30 18.5	
comp=Z,64nm,1.4s						
MOY	**Mondy**	**23.27 48**	*e*P	**P**	**18 30 15.0**	**+2.2**
MOY			pmax	pmax		
comp=Z,52nm,1.9s						
VIS	**Vishakhapatnam**	**23.29 154**	IAmb	IAmb	18 30 17.5	
comp=Z,0.2nm,0.6s						
SIRT	**Sirnak**	**23.77 276**	P	**P**	**18 30 15.4**	**-2.5**
GURO	**Guroymak-BITLI**	**23.86 278**	P	**P**	**18 30 20.4**	**+1.7**
ZAK	**Zakamensk**	**24.23 52**	*e*P	**P**	**18 30 22.5**	**+0.4**
ZAK			pmax	pmax		
comp=Z,19nm,1.2s						
KIRV	**Kirov**	**24.52 330**	P	**P**	**18 30 25.1**	**+0.6**
comp=Z,34nm,0.9s,baz=281,slow=3.7,SNR=9.6						
KIRV			S	**S**	**18 34 41.6**	**-3.1**
comp=Z,3.3nm,0.5s,baz=162,slow=19,SNR=1.3						
KIRV			Lg	Lg	18 38 05.4	
comp=Z,5.9nm,0.6s,baz=153,slow=4.5,SNR=1.7						
KIRV			LR	LR	18 39 38.8	
comp=Z,300nm,20.8s,baz=133,slow=36						
KIRV	**Kirov**	**24.52 330**	*i* P	**P**	**18 30 24.2**	**-0.2**
VRH	**Novokhopyorsk**	**24.75 309**	*e*P	**P**	**18 30 29.3**	**+2.7**
VRH			pmax	pmax		
comp=Z,30nm,1.5s						
VRH			MLR	MLR		
comp=Z,620nm,12.0s						
LZH	**Lanzhou**	**24.77 87**	⇓P	**P**	**18 30 28.8**	**+1.6**
LZH			sP	sP	18 30 33.1	-0.1
LZH			S	**S**	**18 34 46.3**	**-3.3**
LZH			sS	sS	18 34 58.9	+2.2
LZH			SS	**SnSn**	**18 35 47.6**	**+12**
LZH			pmax	pmax		
comp=Z,32nm,1.0s						
LZH			pmax	pmax		
comp=Z,210nm,5.4s						
LZH			LR	LR		
comp=Z,890nm,12.6s						
LZH			LR	LR		
comp=Z,1μm,13.0s						
LZH			LR	LR		
comp=Z,870nm,14.5s						
KOPT	**Kop Dagi**	**24.79 282**	P	**P**	**18 30 28.1**	**+0.6**
KOPT			IAmb	IAmb	18 30 47.1	
comp=Z,30nm,1.3s						
TLY	**Talaya**	**24.83 50**	P	**P**	**18 30 27.1**	**-0.3**
comp=Z,9.0nm,0.8s,baz=254,slow=9.7,SNR=4.6						
TLY			LR	LR	18 39 20.2	
comp=Z,55nm,18.1s,baz=253,slow=34						
TLY	**Talaya**	**24.83 50**	*e*P	**P**	**18 30 29.6**	**+2.2**
TLY			*e*S	**S**	**18 34 45.6**	**-4.4**
TLY			pmax	pmax		
comp=Z,21nm,0.8s						
TLY			MLR	MLR		
comp=Z,753nm,11.0s						
TLY	**Talaya**	**24.83 50**	P	**P**	**18 30 26.1**	**-1.3**
SOC	**Sochi**	**25.07 291**	*e*P	**P**	**18 30 30.2**	**+0.6**
SOC			*e*S	**S**	**18 34 58.3**	**+4.4**
SOC			pmax	pmax		
comp=Z,18nm,0.8s						
SOC			MLR	MLR		
comp=Z,166nm,16.0s						
MARD	**Mardin**	**25.10 276**	P	**P**	**18 30 31.1**	**+0.9**
SONM	**Songino Array**	**25.73 59**	P	**P**	**18 30 36.3**	**+0.6**
comp=Z,8.6nm,0.7s,baz=266,slow=6.2,SNR=55						
SONM			PcP	**PcP**	**18 34 07.0**	**+1.4**
comp=Z,1.1nm,0.7s,baz=220,slow=2.6,SNR=3.4						
SONM			Lg	Lg	18 38 36.6	
comp=Z,0.4nm,0.8s,baz=236,slow=32,SNR=1.6						
SONM			LR	LR	18 40 54.4	
comp=Z,459nm,19.7s,baz=266,slow=37						
SONM	**Songino Array**	**25.73 59**	P	**P**	**18 30 36.3**	**+0.6**
SONM					18 34 07.0	
SONM			pmax	pmax		
comp=Z,23nm,1.0s						
SONM	**Songino Array**	**25.73 59**	P	**P**	**18 30 36.3**	**+0.6**
SONM			IAmb	IAmb	18 30 45.7	
comp=Z,23nm,1.0s						
VORD	**Divnogorie**	**26.16 308**	*e*P	**P**	**18 30 40.1**	**+0.7**
VORD			pmax	pmax		
comp=Z,20nm,1.6s						
ULN	**Ulaanbaatar**	**26.18 59**	P	**P**	**18 30 40.3**	**+0.5**
ULN			pmax	pmax		
comp=Z,19nm,1.1s						
ULN	**Ulaanbaatar**	**26.18 59**	P	**P**	**18 30 40.3**	**+0.5**
ULN			IAmb	IAmb	18 30 47.8	
comp=Z,19nm,1.1s						
VORR	**Voronezh**	**26.39 309**	*e*P	**P**	**18 30 41.0**	**-0.5**
VORR			pmax	pmax		
comp=Z,250nm,1.2s						
CD2	**Chengdu**	**26.61 98**	P	**P**	**18 30 45.0**	**+1.3**
CD2			S	**S**	**18 35 20.8**	**+2.2**
CD2			pmax	pmax		
comp=Z,20nm,1.0s						
CD2			pmax	pmax		
comp=Z,110nm,4.1s						
CD2			LR	LR		
comp=Z,1μm,18.0s						
CD2			LR	LR		
comp=Z,720nm,14.4s						
CD2			LR	LR		
comp=Z,420nm,13.2s						
MALT	**Malatya**	**26.68 279**	P	**P**	**18 30 48.2**	**+3.8**
ANN	**Anapa**	**26.69 294**	*e*P	**P**	**18 30 44.3**	**0.0**
ANN			pmax	pmax		
comp=Z,49nm,1.1s						
ANN			MLR	MLR		
comp=Z,298nm,15.0s						
LPSR	**Galich'ya Gora**	**26.81 311**	*e*P	**P**	**18 30 46.5**	**+1.3**
LPSR			pmax	pmax		
comp=Z,20nm,0.8s						
LPSR			MLR	MLR		
comp=Z,350nm,12.0s						
GAZ	**Gaziantep**	**27.89 277**	P	**P**	**18 30 54.5**	**-0.8**
GAZ			IAmb	IAmb	18 31 02.8	
comp=Z,18nm,1.0s						
PRGR	**Permogore**	**27.97 332**	*e*P	**P**	**18 30 56.0**	**+0.5**
PRGR			pmax	pmax		
comp=Z,10.0nm,0.8s						
SNOP	**Sinop**	**28.49 288**	P	**P**	**18 31 02.0**	**+1.6**
MOS	**Moscow**	**28.54 317**	*e*P	**P**	**18 31 03.0**	**+2.3**
MOS			*e*		18 31 49.4	
MOS			*e*S	**S**	**18 35 52.2**	**+3.8**
MOS			pmax	pmax		
comp=Z,29nm,0.8s						
BNN	**Bunyan**	**28.54 281**	P	**P**	**18 30 59.3**	**-1.8**
BNN			IAmb	IAmb	18 31 15.7	
comp=Z,18nm,1.1s						
KMI	**Kunming**	**28.86 110**	⇓P	**P**	**18 31 08.3**	**+4.2**
KMI			sP	sP	18 31 12.5	+2.1
KMI			pmax	pmax		
comp=Z,8.0nm,0.9s						
KMI			LR	LR		
comp=Z,310nm,14.8s						
KMI			LR	LR		
comp=Z,280nm,12.5s						
KMI			LR	LR		
comp=Z,400nm,17.0s						
OBN	**Obninsk**	**28.90 315**	P	**P**	**18 31 04.7**	**+0.8**
comp=Z,3.8nm,0.4s,baz=80,slow=6.1,SNR=2.7						
OBN			LR	LR	18 45 07.9	
comp=Z,45nm,19.0s,baz=168,slow=42						
OBN	**Obninsk**	**28.90 315**	⇓*e*P	**P**	**18 31 04.4**	**+0.5**
OBN			*i* *PP	**pP**	**18 31 07.5**	**-0.7**
OBN			*e*SP	**sP**	**18 31 10.6**	**+0.7**
OBN			pmax	pmax		
comp=Z,14nm,0.7s						
OBN			MLR	MLR		
comp=Z,174nm,18.0s						
OBN	**Obninsk**	**28.90 315**	P	**P**	**18 31 03.7**	**-0.1**
OBN			IAmb	IAmb	18 31 30.1	
comp=Z,44nm,1.4s						
XAN	**Xi'an**	**29.37 89**	P	**P**	**18 31 08.4**	**0.0**
XAN			pP	sP	18 31 17.6	+3.2
XAN			sP	pP	18 31 21.9	+9.3
XAN			pmax	pmax		
comp=Z,16nm,0.8s						
XAN			LR	LR		
comp=Z,660nm,18.2s						
XAN			LR	LR		
comp=Z,590nm,16.0s						
XAN			LR	LR		
comp=Z,570nm,17.1s						
BZK	**Bozkurt**	**29.39 288**	⇑P	**P**	**18 31 10.5**	**+2.1**
BZK	**Bozkurt**	**29.39 288**	P	**P**	**18 31 10.3**	**+1.9**
HHC	**Hu-ho-hao-te**	**29.62 74**	*e*P	P	18 31 15.5	+4.9
HHC			pmax	pmax		
comp=Z,14nm,1.1s						
HHC			pmax	pmax		
comp=Z,170nm,5.6s						
HHC			LR	LR		
comp=Z,670nm,13.8s						
HHC			LR	LR		
comp=Z,490nm,15.5s						
HHC			LR	LR		
comp=Z,310nm,12.8s						
ILGA	**Ilgaz**	**29.73 286**	P	**P**	**18 31 12.0**	**+0.2**
ILGA			IAmb	IAmb	18 31 15.6	
comp=Z,31nm,1.1s						
KLMR	**Klimovskoe**	**29.89 327**	*e*P	**P**	**18 31 13.8**	**+1.2**
KLMR			*e*		18 34 15.2	
KLMR			pmax	pmax		
comp=Z,23nm,1.3s						
KLMR	**Klimovskoe**	**29.89 327**	*e*P	**P**	**18 31 13.9**	**+1.3**
KLMR			AMP		18 31 19.8	
comp=Z,23nm,1.3s						
KLMR			*e*PcP	**PcP**	**18 34 15.2**	**0.0**
BR131	**Keskin Array S**	**30.03 284**	P	**P**	**18 31 15.6**	**+1.3**
BR131			pmax	pmax		
comp=Z,23nm,1.3s						
BR131	**Keskin Array S**	**30.03 284**	P	**P**	**18 31 15.6**	**+1.3**
BR131			IAmb	IAmb	18 31 17.6	
comp=Z,23nm,1.2s						
BRTR	**Keskin Array B**	**30.03 284**	P	**P**	**18 31 15.2**	**+0.8**
comp=Z,3.5nm,0.7s,baz=91,slow=6.5,SNR=24						
BRTR	**Keskin Array B**	**30.03 284**	P	**P**	**18 31 15.7**	**+1.4**
MHMT	**Maesarieng**	**30.26 127**	P	P	18 31 21.6	+5.3
comp=Z,24nm,0.8s						
CHTO	**Chiang Mai**	**30.43 124**	P	**P**	**18 31 16.5**	**-1.3**
CHTO			pmax	pmax		
comp=Z,4.0nm,1.1s						
CHTO	**Chiang Mai**	**30.43 124**	P	**P**	**18 31 16.5**	**-1.3**
CMMT	**Chiang Mai**	**30.43 124**	P	P	18 31 26.5	+8.6
ANTO	**Ankara**	**30.64 284**	P	**P**	**18 31 20.7**	**+1.1**
ANTO			pmax	pmax		
comp=Z,18nm,1.0s						
ANTO	**Ankara**	**30.64 284**	P	**P**	**18 31 20.7**	**+1.1**
ANTO			IAmb	IAmb	18 31 24.1	
comp=Z,18nm,1.0s						
BR231	**Keskin MP Arra**	**30.66 284**	P	**P**	**18 31 22.1**	**+2.3**
BR231			IAmb	IAmb	18 31 23.6	
comp=Z,10nm,0.8s						
CM15	**Chiang Mai Arr**	**30.68 125**	P	**P**	**18 31 23.1**	**+3.0**
comp=Z,5.5nm,0.9s						
CM31	**Chiang Mai Arr**	**30.69 125**	P	**P**	**18 31 21.6**	**+1.4**
CM31			IAmb	IAmb	18 31 41.4	
comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.69 125**	P	**P**	**18 31 17.8**	**-2.3**
comp=Z,2.2nm,0.8s,baz=310,slow=8.6,SNR=13						
CMAR			PcP	**PcP**	**18 34 18.2**	**+0.1**
comp=Z,1.1nm,0.8s,baz=325,slow=1.4,SNR=4.3						
CM02	**Chiang Mai Arr**	**30.71 125**	P	**P**	**18 31 23.0**	**+2.7**
comp=Z,6.6nm,1.0s						
CM05	**Chiang Mai Arr**	**30.73 125**	P	P	18 31 30.2	+10
GYA	**Guiyang**	**31.02 104**	*e*P	**P**	**18 31 25.6**	**+2.4**
GYA			pmax	pmax		
comp=Z,2.0nm,0.8s						
LAMP	**Lampang**	**31.09 124**	P	**P**	**18 31 25.0**	**+1.4**
comp=Z,28nm,0.9s						
GHAJ	**Ghor Haditha**	**31.19 267**	P	**P**	**18 31 25.3**	**+0.9**
GHAJ			IAmb	IAmb	18 31 28.3	
comp=Z,24nm,1.2s						
NRIK	**Noril'sk**	**31.25 10**	P	**P**	**18 31 25.2**	**+0.7**
comp=Z,7.6nm,0.9s,baz=200,slow=6.9,SNR=9.8						
NRIK			LR	LR	18 45 08.6	
comp=Z,181nm,18.6s,baz=209,slow=38						
NRIK	**Noril'sk**	**31.25 10**	*i* P	**P**	**18 31 25.5**	**+1.0**
NRIK			pmax	pmax		
comp=Z,16nm,1.1s						
NRIK	**Noril'sk**	**31.25 10**	P	**P**	**18 31 26.6**	**+2.0**
NRIK			IAmb	IAmb	18 31 33.2	
comp=Z,14nm,1.1s						
ENH	**Enshi**	**31.31 95**	P	**P**	**18 31 24.9**	**-0.7**
ENH			IAmb	IAmb	18 31 38.0	
comp=Z,18nm,1.0s						
MDUB	**Mudurnu**	**31.72 286**	P	**P**	**18 31 30.5**	**+1.3**
SLVN	**Son La**	**32.05 115**	P	**P**	**18 31 33.7**	**+1.5**
BOD	**Bodaibo**	**32.42 41**	*e*P	**P**	**18 31 34.8**	**-0.1**
BOD			pmax	pmax		
comp=Z,32nm,1.5s						
AKASG	**Malin Array Be**	**32.43 305**	P	**P**	**18 31 34.4**	**-0.8**
comp=Z,1.7nm,0.7s,baz=76,slow=8.8,SNR=4.5						
AKASG	**Malin Array Be**	**32.43 305**	P	**P**	**18 31 35.9**	**+0.8**
AKASG			pmax	pmax		
comp=Z,2.0nm,1.4s						
AKASG	**Malin Array Be**	**32.43 305**	P	**P**	**18 31 35.9**	**+0.8**
AKBB	**Malin Array Si**	**32.43 305**	*i* P	**P**	**18 31 34.9**	**-0.2**
AKBB	**Malin Array Si**	**32.43 305**	P	**P**	**18 31 33.9**	**-1.2**
PHIT	**Phitsanulok**	**32.57 124**	P	**P**	**18 31 39.7**	**+3.1**
comp=Z,46nm,0.9s						
SORM	**Soroca**	**32.94 300**	⇑P	**P**	**18 31 39.9**	**+0.3**
SORM	**Soroca**	**32.94 300**	P	**P**	**18 31 39.9**	**+0.3**
TPGR	**Topolog**	**33.09 294**	⇓P	**P**	**18 31 43.6**	**+2.6**
CFR	**Carcaliu**	**33.26 295**	⇓P	**P**	**18 31 44.5**	**+2.1**
CFR	**Carcaliu**	**33.26 295**	P	**P**	**18 31 44.7**	**+2.3**
CFR			pmax	pmax		
comp=Z,12nm,1.5s						
PUL	**Pulkovo**	**33.59 322**	*i* P	**P**	**18 31 46.6**	**+1.5**
MNK	**Minsk**	**33.65 312**	*i* P	**P**	**18 31 46.0**	**+0.3**
MNK			*i*		18 32 57.9	
MNK			*i*		18 34 22.7	
MNK			*i* S	**S**	**18 37 11.9**	**+3.6**
MNK			*i* SS	**SnSn**	**18 39 18.5**	**+7.0**
MNK			pmax	pmax		
comp=Z,45nm,1.1s						
MNK			pmax	pmax		
comp=E,4.0nm,1.0s						
MNK			pmax	pmax		
comp=N,13nm,0.7s						
MNK			MLR	MLR		
comp=N,369nm,15.0s						
MNK			MLR	MLR		
comp=E,31nm,15.0s						
MNK			MLR	MLR		
comp=Z,418nm,16.0s						
MNK	**Minsk**	**33.65 312**	*i* P	**P**	**18 31 46.1**	**+0.4**
comp=E,4.0nm,1.0s						
MNK			*i* P	**P**	**18 31 46.1**	**+0.4**
comp=N,13nm,0.7s						
MNK			*i* P	**P**	**18 31 46.1**	**+0.4**
comp=Z,45nm,1.1s,baz=278						
MNK			*i* PP	**PnPn**	**18 32 58.0**	**+0.7**
MNK			*i* PcP	**PcP**	**18 34 22.7**	**-2.8**
MNK			*i* S	**S**	**18 37 11.9**	**+3.6**
MNK			*i* SS	**SnSn**	**18 39 18.5**	**+7.0**
MNK			*i* LQ	LQ	18 42 55.0	
MNK			*i* LR	LR	18 45 28.8	
MNK			*i* LRM	MLR	18 46 14.5	
comp=N,369nm,15.0s						
MNK			*i* LRM	MLR	18 48 01.3	
comp=E,31nm,15.3s						
MNK			*i* LRM	MLR	18 48 06.4	
comp=Z,418nm,16.0s						
NONG	**Nongkai**	**33.74 120**	P	**P**	**18 31 48.2**	**+1.4**
comp=Z,21nm,0.8s						
VALR	**Valaam**	**33.87 325**	*i* P	**P**	**18 31 49.4**	**+1.9**
VALR			pmax	pmax		
comp=Z,12nm,0.8s						
MANT	**Manisa**	**34.16 283**	P	**P**	**18 31 50.8**	**+0.1**
TESR	**Tescani**	**34.17 298**	⇑P	**P**	**18 31 51.3**	**+0.9**
VRI	**Vrincioaia**	**34.17 297**	⇓P	**P**	**18 31 52.3**	**+1.9**
VRI	**Vrincioaia**	**34.17 297**	P	**P**	**18 31 53.7**	**+3.2**
VRI			pmax	pmax		
comp=Z,20nm,1.0s						
PLOR	**Plostina**	**34.23 296**	⇑P	**P**	**18 31 53.4**	**+2.4**
PLOR	**Plostina**	**34.23 296**	P	**P**	**18 31 53.3**	**+2.4**
JOF	**Joensuu**	**34.29 327**	P	**P**	**18 31 52.7**	**+1.5**
JOF			pmax	pmax		
comp=Z,20nm,1.3s						
ISR	**Istrita**	**34.38 295**	⇓P	**P**	**18 31 54.2**	**+1.9**
ISR	**Istrita**	**34.38 295**	P	**P**	**18 31 54.2**	**+1.9**
BALB	**Balikesir**	**34.39 285**	P	**P**	**18 31 52.7**	**+0.4**
BALB			IAmb	IAmb	18 31 57.1	
comp=Z,20nm,1.2s						
IDID	**Didziasalis**	**34.42 313**	*e*P	**P**	**18 31 54.0**	**+1.6**
NEHR	**Nehoiu**	**34.52 296**	⇓P	**P**	**18 31 55.5**	**+2.0**
CHAI	**Chaiyaphum**	**34.53 124**	P	**P**	**18 31 55.1**	**+1.4**
comp=Z,21nm,0.7s						
IIGN	**Ignalina**	**34.72 313**	*e*P	**P**	**18 31 56.7**	**+1.8**
MLR	**Muntele Rosu**	**34.76 296**	⇓P	**P**	**18 31 58.1**	**+2.4**
MLR	**Muntele Rosu**	**34.76 296**	P	**P**	**18 31 56.6**	**+0.9**
MLR			pmax	pmax		
comp=Z,48nm,1.1s						
MLR	**Muntele Rosu**	**34.76 296**	P	**P**	**18 31 56.6**	**+0.9**
ISAL	**Salakas**	**34.80 314**	*e*P	**P**	**18 31 57.4**	**+1.7**
WHN	**Wuhan**	**34.97 91**	⇓P	**P**	**18 31 58.4**	**+1.0**
WHN			pP	**sP**	**18 32 03.1**	**-0.4**
VSU	**Vasula**	**35.01 319**	*e*P	**P**	**18 31 58.7**	**+1.3**
VSU	**Vasula**	**35.01 319**	*i* P	**P**	**18 31 56.2**	**-1.2**
VSU			pmax	pmax		
comp=Z,43nm,0.9s						
BURAR	**Bucovina Array**	**35.07 300**	⇓P	**P**	**18 31 59.9**	**+1.6**
BURAR	**Bucovina Array**	**35.07 300**	P	**P**	**18 31 57.6**	**-0.7**
BURAR			AP	**pP**	**18 32 00.0**	**-2.6**
BURAR	**Bucovina Array**	**35.07 300**	P	**P**	**18 31 57.4**	**-0.9**
BUR08	**Bucovina Ar. S**	**35.08 300**	P	**P**	**18 31 58.7**	**+0.4**
DOPR	**Dopca**	**35.09 297**	⇑P	**P**	**18 31 60.0**	**+1.6**
VOIR		**35.39 296**	⇑P	**P**	**18 32 02.7**	**+1.6**
VOIR		**35.39 296**	P	**P**	**18 32 02.6**	**+1.6**
ALN	**Alexandroupoli**	**35.46 288**	P	**P**	**18 32 01.2**	**-0.4**
ALN			pmax	pmax		
comp=Z,18nm,1.4s						
ALN	**Alexandroupoli**	**35.46 288**	P	**P**	**18 32 01.2**	**-0.4**
ALN			IAmb	IAmb	18 32 04.7	
comp=Z,18nm,1.4s						
EZN	**Ezine**	**35.50 286**	P	P	18 32 06.9	+5.0
LVZ	**Lovozero**	**35.52 336**	P	**P**	**18 32 03.5**	**+1.7**
LVZ			pmax	pmax		
comp=Z,37nm,1.2s						
LVZ	**Lovozero**	**35.52 336**	P	**P**	**18 32 03.5**	**+1.7**
ARCR	**ARCALIA**	**35.70 299**	⇑P	**P**	**18 32 05.7**	**+2.1**
LVV	**L'vov**	**35.75 304**	*e*P	**P**	**18 32 06.6**	**+2.7**
PABE	**Paberze**	**36.01 313**	*e*P	**P**	**18 32 07.7**	**+1.6**
PABE	**Paberze**	**36.01 313**	P	**P**	**18 32 07.3**	**+1.2**
FIA1	**FINESS Array S**	**36.09 324**	P	**P**	**18 32 08.0**	**+1.3**
FIA1			IAmb	IAmb	18 32 14.6	
comp=Z,12nm,0.8s						
FINES	**FINESS Array B**	**36.09 324**	P	**P**	**18 32 06.4**	**-0.3**
comp=Z,8.9nm,0.7s,baz=112,slow=8.7,SNR=16						
FINES			LR	LR	18 46 52.7	
comp=Z,212nm,19.9s,baz=106,slow=36						
FINES	**FINESS Array B**	**36.09 324**	*i* P	**P**	**18 32 07.5**	**+0.8**
FINES			pmax	pmax		
comp=Z,9.0nm,0.7s						
FINES	**FINESS Array B**	**36.09 324**	P	**P**	**18 32 08.1**	**+1.5**
SUW	**Suwalki**	**36.34 311**	*e*P	**P**	**18 32 11.3**	**+2.4**
SUW	**Suwalki**	**36.34 311**	P	**P**	**18 32 09.7**	**+0.8**
SUW			pmax	pmax		
comp=Z,35nm,0.9s						
SUW	**Suwalki**	**36.34 311**	P	**P**	**18 32 09.7**	**+0.8**
MTSE	**Matsula**	**36.56 319**	*e*P	**P**	**18 32 13.3**	**+2.6**
MEF	**Metsahovi**	**36.57 321**	*e*P	**P**	**18 32 11.4**	**+0.6**
DRGR		**36.85 299**	⇑P	**P**	**18 32 14.9**	**+1.5**
DRGR		**36.85 299**	P	**P**	**18 32 14.9**	**+1.5**
KOLS	**Kolonicke sedl**	**36.94 302**	*e*P	**P**	**18 32 16.1**	**+2.0**
KOLS	**Kolonicke sedl**	**36.94 302**	*e*P	**P**	**18 32 16.1**	**+2.0**
UZH	**Uzhgorod**	**36.95 302**	*e*P	**P**	**18 32 13.0**	**-1.2**
UZH			*e*		18 32 19.0	
GZR	**Gura Zlata**	**36.98 296**	⇑P	**P**	**18 32 16.1**	**+1.5**
VTS	**Vitosha**	**37.15 292**	⇑P	**P**	**18 32 17.7**	**+1.5**
VTS	**Vitosha**	**37.15 292**	P	**P**	**18 32 16.1**	**-0.1**
VTS			pmax	pmax		
comp=Z,7.0nm,0.9s						
VTS	**Vitosha**	**37.15 292**	P	**P**	**18 32 16.1**	**-0.1**
PBUR	**Paburge**	**37.21 314**	*e*P	**P**	**18 32 18.4**	**+2.1**
SRS	**Serrai**	**37.22 289**	P	**P**	**18 32 19.1**	**+2.5**
HERR	**Herculane**	**37.32 295**	⇑P	**P**	**18 32 19.8**	**+2.4**
PAIG	**Paliouri**	**37.45 287**	P	P	18 32 24.6	+6.1
CRVS	**Cervenica-Dubn**	**37.48 302**	*e*P	**P**	**18 32 23.0**	**+4.3**
CRVS	**Cervenica-Dubn**	**37.48 302**	*e*P	**P**	**18 32 23.0**	**+4.3**
SIRR	**Siria**	**37.63 298**	⇑P	**P**	**18 32 22.4**	**+2.3**
BZS	**Buzias**	**37.76 297**	⇑P	**P**	**18 32 22.3**	**+1.2**
BZS	**Buzias**

OJC IAmb IAmb 18 32 31.7
comp=Z,24nm,1.1s
SKO Skopje 38.59 291 *i* P **P 18 32 30.7 +2.6**
PSZ Piszkesteto 38.61 301 P **P 18 32 29.0 +0.6**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 38.61 301 P **P 18 32 29.0 +0.6**
LANS Liptovska Anna 38.76 303 *e*P **P 18 32 33.8 +4.2**
LANS Liptovska Anna 38.76 303 *e*P **P 18 32 33.8 +4.2**
FNA Florina 38.93 289 P **P 18 32 31.2 +0.1**
FNA pmax pmax
comp=Z,9.0nm,0.8s
FNA Florina 38.93 289 P **P 18 32 31.1 +0.1**
FRGS Fruska Gora 39.09 296 ⇑P **P 18 32 34.2 +1.9**
DIVS Divibare 39.16 295 P **P 18 32 33.8 +0.7**
DIVS IAmb IAmb 18 32 37.1
comp=Z,18nm,1.0s
ARA0 ARCESS Array S 39.23 336 *e*P **P 18 32 35.3 +2.1**
ARCES ARCESS Array B 39.23 336 P **P 18 32 33.6 +0.4**
comp=Z,4.0nm,0.6s,baz=111,slow=8.9,SNR=16
ARCES LR LR 18 49 51.0
comp=Z,303nm,21.6s,baz=125,slow=38
ARCES ARCESS Array B 39.23 336 P **P 18 32 35.9 +2.7**
VYHS Vyhne 39.25 302 *e*P **P 18 32 35.8 +2.2**
VYHS Vyhne 39.25 302 *e*P **P 18 32 35.8 +2.2**
ZEA Zeya 39.27 50 *e*P **P 18 32 32.7 -1.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=Z,200nm,15.0s
OKC Ostrava-Krasne 39.55 304 AMS AMS 18 49 00.0
comp=Z,200nm,12.2s
PUK Puka 39.69 292 P **P 18 32 36.2 -1.2**
MORH Mrgy, Hungar 39.71 298 ⇑P **P 18 32 39.1 +1.7**
MORH Mrgy, Hungar 39.71 298 *e*P **P 18 32 39.1 +1.7**
KTK1 Kautokeino 39.75 335 *e*P **P 18 32 38.9 +1.3**
UPP Uppsala 39.86 320 *e*P **P 18 32 40.4 +1.9**
GKP Gorka Klasztor 39.87 309 *e*P **P 18 32 40.4 +1.7**
MORC Moravsky Berou 39.94 304 ⇑P **P 18 32 39.9 +0.5**
MORC Moravsky Berou 39.94 304 P **P 18 32 39.3 -0.1**
MORC pmax pmax
comp=Z,12nm,1.2s
MORC Moravsky Berou 39.94 304 P **P 18 32 39.3 -0.1**
MORC Moravsky Berou 39.94 304 *e*P **P 18 32 40.4 +1.0**
JAVC Velka Javorina 39.97 303 *e*P **P 18 32 42.2 +2.5**
PDG Podgorica 40.06 292 P **P 18 32 40.4 0.0**
KOVH Kovagotottos 40.10 298 *e*P **P 18 32 41.1 +0.3**
HAMF Hammerfest 40.27 337 *e*P **P 18 32 42.8 +1.1**
MODS Modra-Piesok 40.29 302 *e*P **P 18 32 45.8 +3.5**
MODS Modra-Piesok 40.29 302 *e*P **P 18 32 45.8 +3.5**
MPLH Magyarpolny 40.30 300 *e*P **P 18 32 46.0 +3.6**
KRLC Kraliky 40.40 305 *e*P **P 18 32 44.5 +1.3**
KRLC Kraliky 40.40 305 *e*P **P 18 32 44.5 +1.3**
VRAC Vranov 40.61 303 ⇑P **P 18 32 46.7 +1.7**
VRAC Vranov 40.61 303 P **P 18 32 46.7 +1.7**
VRAC Vranov 40.61 303 *e*P **P 18 32 46.3 +1.3**
KSP Ksiaz 40.63 306 *e*P **P 18 32 45.2 +0.1**
KSP Ksiaz 40.63 306 P **P 18 32 48.7 +3.7**
KSP pmax pmax
comp=Z,9.0nm,0.8s
DPC Dobruska-Polom 40.66 305 *e*P **P 18 32 47.1 +1.7**
DPC MLR MLR
comp=Z,400nm,9.4s
DPC Dobruska-Polom 40.66 305 *e*P **P 18 32 47.1 +1.7**
DPC AMS AMS 18 50 50.0
comp=Z,400nm,9.4s
OSTC Ostas 40.71 305 *e*P **P 18 32 49.1 +3.4**
OSTC AMS AMS 18 50 40.0
comp=Z,400nm,9.8s
KRUC Moravsky 40.77 303 *e*P **P 18 32 46.5 +0.2**
CHVC Chvalec 40.80 305 *e*P **P 18 32 48.0 +1.5**
CHVC AMS AMS 18 50 40.0
comp=Z,400nm,19.9s
UPC Upice 40.84 305 *e*P **P 18 32 49.1 +2.3**
UPC MLR MLR
comp=Z,400nm,16.6s
UPC Upice 40.84 305 *e*P **P 18 32 49.1 +2.3**
UPC AMS AMS 18 50 40.0
comp=Z,400nm,16.6s
JETT Jettan, Norway 40.89 335 *e*P **P 18 32 49.7 +2.7**
YAK Yakutsk 40.99 37 P **P 18 32 47.7 -0.2**
comp=Z,7.2nm,0.4s,baz=79,slow=1.7,SNR=7.6
YAK Yakutsk 40.99 37 *e*P **P 18 32 49.2 +1.3**
YAK *e*PPP PPP 18 34 48.0
YAK *e*S **S 18 38 58.0 -1.8**
YAK *e*SS **SS 18 41 57.5 -3.8**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,12nm,1.5s
YAK smax smax
comp=N,91nm,3.8s
YAK smax smax
comp=E,77nm,3.0s
YAK MLR MLR
comp=Z,351nm,17.0s
YAK MLR MLR
comp=E,310nm,19.0s
YAK Yakutsk 40.99 37 P **P 18 32 49.4 +1.5**
BSD Bornholm Skovb 41.17 312 *e*P **P 18 32 50.0 +0.6**
BSD IAmb IAmb 18 32 50.9
comp=Z,14nm,0.9s
BSD Bornholm Skovb 41.17 312 *e*P **P 18 32 50.0 +0.6**
BSD pmax pmax
comp=Z,14nm,0.9s
CONA Conrad Observa 41.30 301 *e*P **P 18 32 52.3 +1.6**
comp=Z,19nm,1.1s,SNR=13
TREC Trest 41.33 304 AMS AMS 18 50 10.0
comp=Z,300nm,10.6s
TRO Tromso 41.40 335 *e*P **P 18 32 53.5 +2.4**
ARSA Arzberg 41.64 300 *e*P **P 18 32 54.8 +1.4**
comp=Z,7.2nm,1.0s
PVCC Panska Ves 41.75 305 *e*P P 18 33 01.8 +7.5
PVCC MLR MLR
comp=Z,300nm,15.7s
PVCC Panska Ves 41.75 305 *e*pP **pP 18 33 01.8 +3.1**
PVCC AMS AMS 18 51 00.0
comp=Z,300nm,15.7s
PRU Pruhonice 41.84 305 *e*P **P 18 32 57.2 +2.2**
PRU MLR MLR
comp=Z,300nm,11.9s
PRU Pruhonice 41.84 305 *e*P **P 18 32 57.2 +2.2**
PRU AMS AMS 18 51 30.0
comp=Z,300nm,11.9s
PRA Prague 41.90 305 AMS AMS 18 51 30.0
comp=Z,300nm,10.2s
PERS Pernice 42.03 300 *i* P **P 18 32 58.0 +1.3**
SOKA Soboth 42.08 300 *e*P **P 18 32 59.5 +2.3**
comp=Z,14nm,1.1s,SNR=10
FAUS Fauske 42.10 331 *e*P **P 18 32 58.2 +1.4**
BRG Berggiesshubel 42.10 306 *e*P **P 18 32 58.1 +1.0**
BRG Amp 18 33 01.5
comp=Z,8.6nm,0.8s
BRG Berggiesshubel 42.10 306 P P 18 33 04.1 +7.0
BRG Amp 18 33 05.8
comp=Z,16nm,0.9s
BRG Amp 18 53 42.0
comp=N,0.2nm,11.3s
BRG Amp 18 53 52.0
comp=Z,0.3nm,15.4s
BRG Amp 18 54 03.0
comp=E,0.2nm,14.2s
BRG Berggiesshubel 42.10 306 *e*P **P 18 32 58.6 +1.5**
baz=81,slow=8.2
CKRC Cesky Krumlov 42.17 303 *e*P **P 18 33 02.2 +4.4**
CKRC AMS AMS 18 50 40.0
comp=E,200nm,18.2s
MOR8 Moi Rana 42.19 329 *e*P **P 18 32 57.8 +0.1**
STEI Steigen 42.23 332 *e*P **P 18 32 60.0 +2.0**
MOA Molln 42.37 302 *e*P **P 18 33 01.4 +2.0**
comp=E,12nm,1.4s
OBKA Obir 42.44 300 *e*P **P 18 33 02.6 +2.6**
comp=E,13nm,1.3s
FBE Freiberg 42.47 306 *e*P **P 18 33 01.7 +1.6**
comp=E,10.0nm,0.7s,baz=81,slow=8.2
KLR Kul'dur 42.48 56 P **P 18 33 00.0 -0.2**
comp=E,4.3nm,0.5s,baz=272,slow=7.0,SNR=11
KLR PcP **PcP 18 34 52.4 -0.6**
comp=E,3.9nm,0.8s,baz=342,slow=5.1,SNR=4.9
KLR Kul'dur 42.48 56 *ce*P **P 18 33 00.4 +0.1**
KLR pmax pmax
comp=Z,21nm,1.5s
MOZS Mozjanca 42.55 299 *i* P **P 18 33 01.9 +0.9**

GEC2 GERESS Array S 42.56 303 P **P 18 33 01.8 +0.7**
GEC2 GERESS Array S 42.56 303 *e*P **P 18 33 02.0 +1.0**
comp=Z,9.8nm,1.0s,baz=81,slow=8.2
GERES GERESS Array B 42.56 303 P **P 18 33 01.6 +0.6**
comp=Z,7.1nm,0.8s,baz=69,slow=7.3,SNR=28
GERES LR LR 18 52 19.3
comp=Z,138nm,22.0s,baz=104,slow=38
GERES GERESS Array B 42.56 303 P **P 18 33 01.8 +0.7**
KHC Kasperske Hory 42.59 304 *e*P **P 18 33 02.3 +1.1**
KHC *e* 18 33 08.5
KHC MLR MLR
comp=Z,200nm,15.1s
KHC Kasperske Hory 42.59 304 *e*P **P 18 33 02.3 +1.1**
KHC *ex* x 18 33 08.5
KHC AMS AMS 18 51 40.0
comp=Z,200nm,15.1s
KHC Kasperske Hory 42.59 304 P **P 18 33 01.4 +0.1**
KHC IAmb IAmb 18 33 06.0
comp=Z,12nm,0.8s
CLL Collm 42.63 307 *e*P **P 18 33 02.0 +0.6**
comp=Z,7.0nm,0.7s
CLL *i* (sP) **sP 18 33 07.8 +0.2**
comp=Z,11nm,0.8s
CLL *i* 18 33 11.5
CLL *e*PP **PP 18 34 39.0 -1.1**
CLL *e*PcP **PcP 18 34 54.0 +0.6**
CLL *e*PPP PPP 18 35 12.0
CLL *e*SS SS 18 42 30.0 -4.1
CLL Collm 42.63 307 *e*P **P 18 33 02.0 +0.6**
CLL *i* 18 33 07.8
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 42.63 307 P **P 18 33 01.2 -0.3**
CLL Collm 42.63 307 *e*P **P 18 33 02.9 +1.5**
comp=Z,20nm,1.3s,baz=81,slow=8.2
KSRS Korea Array 42.77 74 P **P 18 33 01.8 -0.9**
comp=Z,1.2nm,0.9s,baz=266,slow=8.0,SNR=2.7
KSRS LR LR 18 53 05.1
comp=Z,229nm,21.4s,baz=298,slow=39
KONS Konsvik 42.77 329 *e*P **P 18 33 04.3 +2.0**
TIXI Tiksi 42.78 23 *ce*P **P 18 33 03.3 +1.0**
TIXI Tiksi 42.78 23 P **P 18 33 02.6 +0.3**
TIXI IAmb IAmb 18 33 11.3
comp=Z,22nm,1.0s
NC405 NORSAR Array S 42.87 321 P **P 18 33 01.9 -1.3**
NC405 IAmb IAmb 18 33 12.7
comp=Z,20nm,0.8s
LOF Lofoten 42.90 332 *e*P **P 18 33 05.4 +2.0**
NORES NORESS Array B 42.94 321 P **P 18 33 06.0 +2.2**
MYKA Terra Mystica 43.02 300 *e*P **P 18 33 07.8 +3.0**
comp=Z,12nm,1.4s
NC303 NORSAR Array S 43.04 322 P **P 18 33 05.5 +0.9**
NC303 IAmb IAmb 18 33 12.3
comp=Z,14nm,0.8s
WET Wettzell 43.05 304 *e*P **P 18 33 06.1 +1.2**
comp=Z,7.1nm,0.8s,baz=81,slow=8.2
NB201 NORSAR Array S 43.07 321 P **P 18 33 06.7 +1.8**
NB2 NORSAR Subarra 43.11 321 P **P 18 33 04.1 -1.2**
comp=Z,9.4nm,0.9s,baz=92,slow=8.6
NB2 NORSAR Subarra 43.11 321 P **P 18 33 04.1 -1.2**
baz=92,slow=8.6
NOA NORSAR Array B 43.11 321 P **P 18 33 04.3 -1.0**
comp=Z,3.4nm,0.6s,baz=92,slow=8.0,SNR=18
NOA LR LR 18 51 09.2
comp=Z,188nm,18.2s,baz=85,slow=36
KBA Koelnbreinsper 43.13 301 *e*P **P 18 33 07.8 +2.0**
comp=Z,5.9nm,0.6s
NKC Novy Kostel 43.14 305 *e*P P 18 33 10.8 +5.2
NKC MLR MLR
comp=Z,400nm,14.5s
NKC Novy Kostel 43.14 305 *e*P P 18 33 10.8 +5.2
NKC AMS AMS 18 52 00.0
comp=Z,400nm,14.5s
BJO1 Bjornoya 43.14 342 *e*P **P 18 33 07.1 +1.9**
GUNZ Gunzen 43.19 306 *e*P **P 18 33 07.3 +1.2**
comp=Z,4.7nm,0.9s,baz=81,slow=8.2
NAO01 NORSAR Array S 43.27 321 P **P 18 33 08.2 +1.7**
NAO01 IAmb IAmb 18 33 14.1
comp=Z,20nm,0.9s
NBO00 NORSAR Array S 43.32 321 P **P 18 33 04.8 -2.2**
NBO00 IAmb IAmb 18 33 27.5
comp=Z,34nm,1.3s
NC204 NORSAR Array S 43.34 322 P **P 18 33 06.5 -0.6**
NC204 IAmb IAmb 18 33 14.5
comp=Z,23nm,1.1s
RJOB Jochberg 43.36 302 *e*P **P 18 33 08.2 +0.7**
comp=Z,12nm,0.8s,baz=81,slow=8.2
ROTZ Rotzenmuhle 43.37 305 *e*P **P 18 33 08.9 +1.5**
comp=Z,2.0nm,0.9s,baz=81,slow=8.2
SSLB Suanglung 43.38 96 P **P 18 33 07.6 -0.3**
MANZ Manzenberg 43.39 305 *e*P **P 18 33 09.2 +1.5**
comp=Z,3.4nm,0.9s,baz=81,slow=8.2
MANZ *es*P **sP 18 33 15.7 +1.9**
NEUB Neuenburg 43.41 307 *e*P **P 18 33 09.2 +1.5**
comp=Z,8.7nm,0.9s,baz=81,slow=8.2
ZOU Zoufplan 43.49 300 P **P 18 33 07.2 -1.5**
FLTG Flechtingen 43.58 309 *e*P **P 18 33 10.5 +1.4**
comp=Z,8.5nm,0.7s,baz=81,slow=8.2
MOX Moxa 43.60 306 *e*P **P 18 33 10.8 +1.5**
comp=Z,5.1nm,0.9s,baz=81,slow=8.2
USRK Ussuriysk Ar. 43.70 63 P **P 18 33 08.9 -1.2**
comp=Z,1.3nm,0.6s,baz=263,slow=5.9,SNR=2.5
USRK LR LR 18 53 10.1
comp=Z,205nm,18.7s,baz=278,slow=39
STAL STALIGIAL 43.73 300 P **P 18 33 11.8 +1.3**
ABTA Abfaltersbach 43.76 300 *e*P **P 18 33 11.8 +1.0**
comp=Z,4.3nm,0.7s
PAOL Paolisi 43.81 292 P **P 18 33 11.7 +0.4**
PAOL IAmb IAmb 18 33 15.9
comp=Z,20nm,1.2s
BSEG Bad Segeberg 43.93 311 *e*P **P 18 33 13.3 +1.4**
baz=81,slow=8.2
BSEG *es*P **sP 18 33 19.8 +1.8**
GSI Gunungsitoli 44.00 143 P **P 18 33 12.4 -0.4**
INTR Introdacqua 44.00 293 P **P 18 33 12.2 -0.5**
INTR IAmb IAmb 18 33 17.7
comp=Z,12nm,0.9s
GRA1 Grafenberg Arr 44.01 305 P **P 18 33 13.2 +0.6**
GRA1 IAmb IAmb 18 33 29.3
comp=Z,25nm,1.1s
GRF Grafenberg Arr 44.01 305 P **P 18 33 13.3 +0.6**
GRF pmax pmax
comp=Z,25nm,1.1s
GRF Grafenberg Arr 44.01 305 *e*P **P 18 33 14.6 +2.0**
comp=Z,16nm,0.9s,baz=81,slow=8.2
GRFO Grafenberg 44.01 305 P **P 18 33 13.7 +1.1**
GRFO pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 44.01 305 P **P 18 33 13.7 +1.1**
GRFO IAmb IAmb 18 33 29.2
comp=Z,22nm,1.0s
CLZ Clausthal 44.18 308 *e*P **P 18 33 15.8 +1.8**
baz=81,slow=8.2
WTTA Wattenberg 44.23 301 *e*P **P 18 33 15.2 +0.5**
comp=Z,8.3nm,0.7s
NRDL Niedersach Rie 44.24 309 *e*P **P 18 33 16.0 +1.7**
comp=Z,7.2nm,0.9s,baz=81,slow=8.2
NRDL *es*P **sP 18 33 22.2 +1.7**
WATA Walderalm 44.25 301 *i* P **P 18 33 16.9 +2.1**
comp=Z,13nm,1.2s
AQU L'Aquila 44.26 294 P **P 18 33 15.2 +0.4**
AQU pmax pmax
comp=Z,18nm,1.1s
AQU L'Aquila 44.26 294 P **P 18 33 15.2 +0.4**
AQU IAmb IAmb 18 33 32.7
comp=Z,18nm,1.1s
NRCA Norcia 44.33 295 P **P 18 33 16.2 +0.9**
NRCA IAmb IAmb 18 33 30.0
comp=Z,21nm,1.2s
GTTG Gottingen 44.48 308 *e*P **P 18 33 18.3 +2.0**
comp=Z,12nm,0.9s,baz=81,slow=8.2
GTTG *es*P **sP 18 33 24.3 +1.8**
SQTA Sankt Quirin 44.52 301 *e*P **P 18 33 18.2 +1.3**
comp=Z,7.5nm,0.9s
SKAR Skarslia 44.53 321 *e*P **P 18 33 17.7 +0.9**
MOTA Moosalm 44.57 301 *e*P **P 18 33 18.5 +1.2**
comp=Z,9.2nm,0.8s
YOJ Yonaguni jima 44.62 94 P **P 18 33 19.4 +1.6**
YOJ pmax pmax
comp=Z,136nm,1.4s
YOJ Yonaguni jima 44.62 94 P **P 18 33 19.4 +1.6**
MURB Monte Urbino 44.62 296 P **P 18 33 19.4 +1.7**
RETA Reutte 44.76 302 *e*P **P 18 33 20.5 +1.8**
comp=Z,6.0nm,1.0s
FETA Feichten 44.89 301 *e*P **P 18 33 21.1 +1.3**
comp=Z,3.1nm,0.8s

HSPB Hornsund (broa 44.91 344 *e*P **P 18 33 19.6 +0.2**
VAE Valguarnera 45.10 287 LR LR 18 54 47.3
comp=Z,45nm,18.5s,baz=330,slow=40
UBR Ueberruh 45.15 302 *e*P **P 18 33 23.5 +1.6**
comp=Z,10.0nm,0.8s,baz=81,slow=8.2
MILB Miltenberg 45.21 305 *e*P **P 18 33 24.3 +2.1**
comp=Z,8.7nm,0.9s,baz=81,slow=8.2
MILB *es*P **sP 18 33 30.1 +1.8**
SPA0 Spitsbergen Ar 45.21 346 *e*P **P 18 33 23.6 +1.7**
SPITS Spitsbergen Ar 45.21 346 P **P 18 33 23.9 +2.0**
DAVA Damuels 45.39 302 *e*P **P 18 33 24.1 +0.3**
comp=Z,15nm,0.6s,SNR=7.9
DAVOX Davos/Dischmat 45.51 301 LR LR 18 54 30.5
comp=Z,117nm,20.8s,baz=83,slow=39
TNS Taunus Mts 45.67 306 *e*P **P 18 33 28.0 +2.1**
baz=81,slow=8.2
VLC Villacollemand 45.86 297 P **P 18 33 28.6 +1.1**
TUE Stuetta 45.94 301 P **P 18 33 29.4 +1.1**
BFO Black Forest 46.16 303 P **P 18 33 31.1 +1.4**
BFO pmax pmax
comp=Z,11nm,1.2s
BFO Black Forest 46.16 303 P **P 18 33 31.1 +1.4**
BFO IAmb IAmb 18 33 38.9
comp=Z,11nm,1.2s
BFO Black Forest 46.16 303 *e*P **P 18 33 31.8 +2.1**
comp=Z,3.9nm,0.8s,baz=81,slow=8.2
KBS Kingsbay 46.32 347 *i* P **P 18 33 31.9 +1.4**
KBS pmax pmax
comp=Z,13nm,0.9s
KBS Kingsbay 46.32 347 *e*P **P 18 33 32.8 +2.2**
KBS Kingsbay 46.32 347 P **P 18 33 32.3 +1.8**
KBS IAmb IAmb 18 33 49.8
comp=Z,14nm,0.9s
MSSA Maissana 46.41 298 P **P 18 33 33.8 +1.9**
CDF Champ du Feu 46.82 304 *e*P **P 18 33 36.7 +1.7**
CDF pmax pmax
comp=Z,6.0nm,0.9s
BTNL Ternell 47.04 307 *d*P **P 18 33 38.5 +1.9**
BTNL *ds*P **sP 18 33 43.5 +0.7**
HINF Hinteralfeld 47.24 303 *e*P **P 18 33 39.9 +1.6**
HINF pmax pmax
comp=Z,11nm,1.2s
PGF Pioggiola 47.31 296 *e*P **P 18 33 40.6 +1.7**
PGF pmax pmax
comp=Z,19nm,1.0s
SENIN Lac Senin/Sane 47.34 301 P **P 18 33 39.8 +0.6**
SENIN IAmb IAmb 18 33 43.2
comp=Z,8.2nm,0.7s
HAU Haudompre 47.52 303 *e*P **P 18 33 42.2 +1.8**
HAU pmax pmax
comp=Z,11nm,1.0s
BMRD Maredsous 47.95 307 *d*P **P 18 33 40.8 -2.9**
BMRD *ds*P **pP 18 33 48.4 +0.3**
LPG La Plagne 47.95 300 *e*P **P 18 33 47.0 +2.9**
LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 47.96 300 *e*P **P 18 33 46.3 +2.2**
LPL pmax pmax
comp=Z,13nm,0.8s
SBF Sospel 47.98 298 *e*P **P 18 33 45.2 +1.1**
SBF pmax pmax
comp=Z,29nm,1.0s
CABF La Chapelle 48.07 302 *e*P **P 18 33 48.4 +3.6**
CABF pmax pmax
comp=Z,9.0nm,0.9s
BNI Bardonecchia 48.13 300 P **P 18 33 45.7 +0.4**
BNI pmax pmax
comp=Z,15nm,1.0s
BNI Bardonecchia 48.13 300 P **P 18 33 45.7 +0.4**
BNI IAmb IAmb 18 33 50.6
comp=Z,15nm,1.0s
MBDF Montbardon 48.17 299 *e*P **P 18 33 47.1 +1.5**
MBDF pmax pmax
comp=Z,13nm,0.8s
FRF La Foret Royal 48.62 298 *e*P **P 18 33 51.5 +2.6**
FRF pmax pmax
comp=Z,28nm,1.0s
ORIF Oris-en-Rattie 48.71 300 *e*P **P 18 33 48.9 -0.9**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
LODK Lodwar 49.17 233 P **P 18 33 53.2 -0.3**
LODK IAmb IAmb 18 33 56.9
comp=Z,8.7nm,1.1s
LOR Lormes 49.35 303 *e*P **P 18 33 56.4 +1.9**
LOR pmax pmax
comp=Z,9.0nm,1.1s
KEST Kesra 49.53 287 P **P 18 33 55.8 -0.3**
comp=Z,6.0nm,1.0s,baz=72,slow=3.9,SNR=4.8
KEST Kesra 49.53 287 P **P 18 33 57.9 +1.8**
KEST IAmb IAmb 18 34 01.0
comp=Z,12nm,1.1s
SMF Signal de Mont 49.54 302 *e*P **P 18 33 57.6 +1.6**
SMF pmax pmax
comp=Z,19nm,1.4s
VIVF Saint-Julien-l 49.55 300 *e*P **P 18 33 57.5 +1.4**
VIVF pmax pmax
comp=Z,24nm,1.4s
SSF Saint Saulge 49.64 303 *e*P **P 18 33 58.1 +1.4**
SSF pmax pmax
comp=Z,6.0nm,0.9s
AVF Avril sur Loir 49.82 303 *e*P **P 18 33 58.6 +0.6**
AVF pmax pmax
comp=Z,23nm,1.2s
BGF Bois d'Agland 50.22 303 *e*P **P 18 34 03.9 +2.8**
BGF pmax pmax
comp=Z,13nm,1.0s
TCF Toulx Ste Croi 50.73 302 *e*P **P 18 34 07.9 +2.9**
TCF pmax pmax
comp=Z,9.0nm,1.0s
MAT Matsushiro 50.74 71 P **P 18 34 03.7 -1.5**
MJAR Matsushiro Arr 50.74 71 P **P 18 34 04.4 -0.8**
comp=Z,6.0nm,0.9s,baz=295,slow=7.8,SNR=6.6
MJAR LR LR 18 56 57.1
comp=Z,144nm,18.1s,baz=290,slow=38
MJAR Matsushiro Arr 50.74 71 P **P 18 34 08.0 +2.8**
CAF Calviac 51.27 301 *e*P **P 18 34 11.3 +2.2**
CAF pmax pmax
comp=Z,13nm,1.4s
EKA Eskdalemuir Ar 51.35 315 P **P 18 34 10.4 +0.9**
ESK Eskdalemuir 51.38 315 *i* P **P 18 34 09.3 -0.4**
ESK Eskdalemuir 51.38 315 P P 18 34 15.0 +5.3
ESK IAmb IAmb 18 34 17.6
comp=Z,18nm,1.1s
LDF La Druitiere 51.49 306 *e*P **P 18 34 10.2 -0.5**
LDF pmax pmax
comp=Z,9.0nm,0.6s
GRR Gorron 52.02 306 *e*P **P 18 34 15.8 +1.2**
GRR pmax pmax
comp=Z,25nm,1.0s
LFF La Frestale 52.15 301 *e*P **P 18 34 19.7 +4.1**
LFF pmax pmax
comp=Z,16nm,1.1s
MFF Saint Martin d 52.16 303 *e*P P 18 34 21.2 +5.5
MFF pmax pmax
comp=Z,8.0nm,1.0s
DAG Danmarks Havn 52.56 343 *i* P **P 18 34 18.5 +0.3**
DAG IAmb IAmb 18 34 21.8
comp=Z,16nm,1.1s
DAG Danmarks Havn 52.56 343 *i* P **P 18 34 18.5 +0.3**
DAG pmax pmax
comp=Z,16nm,1.1s
SGMF Saint Gilles 53.13 306 *e*P **P 18 34 24.4 +1.5**
SGMF pmax pmax
comp=Z,38nm,1.4s
ROSF Rostrenen 53.56 306 *e*P **P 18 34 28.4 +2.5**
ROSF pmax pmax
comp=Z,24nm,1.0s
QUIF Quistinic 53.63 306 *e*P **P 18 34 29.9 +3.4**
QUIF pmax pmax
comp=Z,34nm,1.4s
MBAR Mbarara 55.18 235 P **P 18 34 37.9 -0.4**
MBAR pmax pmax
comp=Z,11nm,1.2s
MBAR Mbarara 55.18 235 P **P 18 34 37.9 -0.4**
MBAR IAmb IAmb 18 34 40.6
comp=Z,11nm,1.1s
BILL Bilibino 55.60 27 ⇓ *e*P P 18 34 47.8 +7.3
BILL S **S 18 42 23.0 -2.9**
BILL pmax pmax
comp=Z,21nm,1.8s
BILL MLR MLR
comp=Z,413nm,18.0s
CART Cartagena 56.28 294 P **P 18 34 46.5 +0.7**
PETK Petropavlovsk- 57.10 46 P **P 18 34 51.5 +0.1**
comp=Z,3.1nm,1.1s,baz=339,slow=7.7,SNR=2.1

PETK LR LR 18 59 58.5
comp=Z,136nm,19.0s,baz=296,slow=37
ESBB Sonseca Array 57.44 297 P **P** **18 34 55.5 +1.4**
ESBB IAmb IAmb 18 34 56.6
comp=Z,11nm,1.2s
ESDC Sonseca Array 57.45 297 P **P** **18 34 54.2 +0.1**
comp=Z,2.6nm,0.8s,baz=55,slow=7.4,SNR=12
ESDC LR LR 19 04 45.5
comp=Z,29nm,19.6s,baz=235,slow=41
ESDC Sonseca Array 57.45 297 P **P** **18 34 55.5 +1.4**
NEEM North Greenlan 58.71 348 *i* P **P** **18 35 04.5 +1.8**
NEEM IAmb IAmb 18 35 11.1
comp=Z,12nm,0.9s
SUMG Summit 58.98 341 *i* P **P** **18 35 06.4 +1.6**
SUMG IAmb IAmb 18 35 09.1
comp=Z,15nm,0.9s
SUMG Summit 58.98 341 *i* P **P** **18 35 06.4 +1.6**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 58.98 341 P **P** **18 35 05.3 +0.5**
ICESG Greenland Ices 61.25 338 *i* P **P** **18 35 23.2 +2.9**
ICESG IAmb IAmb 18 35 25.0
comp=Z,20nm,0.9s
DY2G Dye2 64.85 337 *i* P **P** **18 35 45.6 +1.5**
DY2G IAmb IAmb 18 35 50.7
comp=Z,18nm,1.0s
TORD Torodi Ar. Bea 67.16 269 P **P** **18 35 58.3 -1.2**
comp=Z,8.5nm,0.5s,baz=45,slow=5.8,SNR=42
TORD LR LR 19 09 34.9
comp=Z,106nm,18.3s,baz=290,slow=40
TOLK Toolik Lake Re 67.98 15 P **P** **18 36 04.2 +0.2**
TOLK IAmb IAmb 18 36 13.0
comp=Z,12nm,0.9s
IMAR Indian Mountai 69.20 19 P **P** **18 36 11.0 -0.5**
BMAR Burnt Mountain 70.01 14 P **P** **18 36 16.8 +0.2**
FYU Fort Yukon 70.63 15 P **P** **18 36 21.4 +1.1**
FYU IAmb IAmb 18 36 26.8
comp=Z,12nm,1.1s
MLY Manley 70.71 18 P **P** **18 36 21.1 +0.2**
KOWA Kowa 70.79 273 P **P** **18 36 21.3 -0.8**
I23K Minto, Yukon-K 70.94 17 P **P** **18 36 23.0 +0.8**
I23K IAmb IAmb 18 36 27.9
comp=Z,10.0nm,0.9s
INK Inuvik 71.04 10 P **P** **18 36 23.9 +1.2**
INK pmax pmax
comp=Z,41nm,1.5s
INK Inuvik 71.04 10 P **P** **18 36 23.9 +1.2**
C36M Paulatuk 71.08 6 P **P** **18 36 22.3 -0.6**
MDM Murphy Dome 71.36 17 P **P** **18 36 24.9 +0.1**
MDM IAmb IAmb 18 36 29.7
comp=Z,5.8nm,0.6s
POKR Poker Plat Res 71.41 17 P **P** **18 36 24.6 -0.5**
BPAW Bear Paw Mtn. 71.42 19 P **P** **18 36 25.2 +0.1**
BPAW IAmb IAmb 18 36 33.8
comp=Z,8.9nm,1.1s
NEA2 Nenana 71.47 18 P **P** **18 36 25.3 -0.2**
NEA2 IAmb IAmb 18 36 30.6
comp=Z,8.4nm,0.9s
TCOL CIGO, UAF Yank 71.52 17 P **P** **18 36 26.5 +0.8**
COLA College 71.52 17 *i* P **P** **18 36 26.1 +0.4**
COLA pmax pmax
comp=Z,11nm,0.9s
COLA College 71.52 17 P **P** **18 36 26.6 +1.0**
CCB Clear Creek Bu 71.72 17 P **P** **18 36 28.4 +1.5**
CCB IAmb IAmb 18 36 33.3
comp=Z,9.5nm,1.4s
BWN Browne 71.73 18 P **P** **18 36 27.4 +0.3**
WRH Wood River Hil 71.81 17 P **P** **18 36 28.2 +0.8**
IL31 71.83 17 P **P** **18 36 27.9 +0.4**
IL31 IAmb IAmb 18 36 37.5
comp=Z,9.9nm,1.1s
ILAR Eielson Array 71.83 17 P **P** **18 36 26.1 -1.4**
comp=Z,4.1nm,0.8s,baz=321,slow=5.4,SNR=24
ILAR LR LR 19 11 00.4
comp=Z,72nm,18.2s,baz=330,slow=38
ILAR Eielson Array 71.83 17 P **P** **18 36 27.4 -0.2**
ILAR Eielson Array 71.83 17 P **P** **18 36 27.4 -0.2**
KTH Kantishna Hill 71.89 19 P **P** **18 36 27.8 -0.3**
KTH IAmb IAmb 18 36 38.4
comp=Z,16nm,1.1s
PPLA Purkeypile 72.11 20 P **P** **18 36 29.6 +0.2**
PPLA IAmb IAmb 18 36 34.2
comp=Z,7.7nm,0.6s
HDA Harding Lake 72.12 17 P **P** **18 36 29.9 +0.5**
TRF Thorofare Moun 72.14 19 P **P** **18 36 30.2 +0.6**
EPYK Eagle Plains 72.36 12 P **P** **18 36 30.5 -0.3**
EPYK IAmb IAmb 18 36 42.0
comp=Z,14nm,1.4s
EGAK Eagle 73.02 14 P **P** **18 36 36.5 +1.9**
SKT Skwentna 73.03 20 P **P** **18 36 35.0 +0.2**
SKT IAmb IAmb 18 36 44.7
comp=Z,14nm,0.9s
SCRK Sand Creek 73.15 16 P **P** **18 36 36.1 +0.5**
SCRK IAmb IAmb 18 36 41.0
comp=Z,11nm,1.2s
RIDG Independent Ri 73.17 16 P **P** **18 36 36.8 +1.1**
RIDG IAmb IAmb 18 36 45.6
comp=Z,8.8nm,1.1s
DOT Dot Lake 73.42 16 P **P** **18 36 38.2 +1.1**
K27K Chicken 73.50 15 P **P** **18 36 38.4 +0.9**
PAX Paxson 73.70 17 P **P** **18 36 39.3 +0.5**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 73.70 17 P **P** **18 36 39.3 +0.5**
PAX IAmb IAmb 18 36 43.8
comp=Z,9.5nm,1.0s
GHO Glory Hole Cre 73.89 19 P **P** **18 36 41.9 +1.9**
GHO IAmb IAmb 18 36 49.4
comp=Z,17nm,1.0s
DAWY Dawson 74.00 14 P **P** **18 36 41.6 +1.1**
SML Sawmill 74.01 19 P **P** **18 36 40.9 +0.3**
SCM Sheep Creek Mo 74.24 19 P **P** **18 36 42.0 0.0**
SCM pmax pmax
comp=Z,13nm,0.7s
SCM Sheep Creek Mo 74.24 19 P **P** **18 36 42.0 0.0**
SCM IAmb IAmb 18 36 45.8
comp=Z,13nm,0.7s
M24K Tolsona, Glenn 74.28 18 P **P** **18 36 42.6 +0.4**
GENI Genyem 74.35 107 P **P** **18 36 43.7 +0.4**
L27K Beaver Creek, 74.42 16 P **P** **18 36 44.3 +1.4**
BCAR Beaver Creek A 74.42 16 P **P** **18 36 43.4 +0.4**
KLU Klutina 74.88 18 P **P** **18 36 47.2 +1.4**
KLU IAmb IAmb 18 36 56.9
comp=Z,7.1nm,0.8s
HYT Haines Junctio 77.32 15 P **P** **18 37 00.9 +1.2**
HYT IAmb IAmb 18 37 04.5
comp=Z,8.3nm,0.8s
YKA Yellowknife Ar 78.50 3 P **P** **18 37 06.3 +0.3**
comp=Z,6.0nm,0.8s,baz=353,slow=5.3,SNR=6.4
YKA LR LR 19 14 55.3
comp=Z,113nm,19.4s,baz=0.0,slow=38
WRA Warramunga Arr 82.28 123 P **P** **18 37 25.2 -1.7**
comp=Z,5.9nm,0.6s,baz=325,slow=5.1,SNR=23
WRA Warramunga Arr 82.28 123 P **P** **18 37 26.9 -0.1**
WRAB Tennant Creek 82.28 123 *ceP* **P** **18 37 25.6 -1.3**
WRAB pmax pmax
comp=Z,31nm,1.7s
WB2 Warramunga Arr 82.28 123 P **P** **18 37 25.6 -1.4**
ASAR Alice Springs 84.69 126 P **P** **18 37 37.2 -2.1**
comp=Z,2.3nm,0.8s,baz=317,slow=5.1,SNR=12
ASAR Alice Springs 84.69 126 P **P** **18 37 38.3 -1.0**
ASAR Alice Springs 84.69 126 P **P** **18 37 38.3 -1.0**
ULM Lac du Bonnet 90.39 353 P **P** **18 38 06.5 0.0**
comp=Z,2.2nm,0.6s,baz=110,slow=3.7,SNR=3.1
ULM LR LR 19 21 12.4
comp=Z,66nm,20.0s,baz=13,slow=37
CTA Charters Tower 90.43 116 P **P** **18 38 05.5 -1.6**
comp=Z,4.1nm,0.7s,baz=329,slow=12,SNR=2.4
B08A Colville Reser 92.18 8 P **P** **18 38 17.5 +2.6**
B08A IAmb IAmb 18 38 24.0
comp=Z,6.1nm,1.3s
PDAR Pinedale Array 98.41 2 LR LR 19 28 19.1
comp=Z,32nm,18.1s,baz=26,slow=38
TXAR Lajitas Array 111.76 357 PP **PP** **18 44 21.8 +0.4**
comp=Z,0.5nm,0.9s,baz=336,slow=11,SNR=4.5
VNDA Vanda 127.70 164 PKP **PKPdf** **18 44 06.7 -2.7**
comp=Z,0.2nm,0.4s,baz=128,slow=1.2,SNR=1.6
VNDA Vanda 127.70 164 PKPdf **PKiKP** **18 44 10.5 +0.6**

*IDC **13** 18:28:55.2±0.7, 1.°11N×126.°01E, h0km, mb4.1/16, mb1 4.1/16, mb1mx4.0/42, mbtmp4.1/16, Error ellipse: s-maj=37.9km s-min=14.7km az=74.0*
*DJA **13** 18:29:03.4±0.4, 1.°1N±6.°×12.°6E±.°, h67km±11km, M4.0/7, mb4.3/2, MLv3.9/7*
*NEIC **13** 18:29:03.1±0.5, 1.°2N±0.°1×126.°25E±0.°04, h58km±11km, mb4.4/12, Error ellipse: s-maj=16.8km s-min=5.9km az=185.0*
ISC 13 18:29:02.4±0.6, 1.°22N±0.°07×126.°30E±0.°06, h50km, n44, σ1°06/37, mb4.2/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**113**	**P**	**Pn**	**18 29 23.4**	**+1.1**
TNTI	**Ternate**	**1.16**	**113**	P	**Pn**	**18 29 23.4**	**+1.1**
SGSI	**Sangihe**	**2.56**	**343**	P	**Pn**	**18 29 42.3**	**+0.8**
GTOI	**Gorontalo**	**3.34**	**260**	P	**Pn**	**18 29 53.5**	**+1.3**
LUWI	**Luwuk**	**4.18**	**237**	Pn	**Pn**	**18 30 05.9**	**+2.2**
LUWI	**Luwuk**	**4.18**	**237**	P	**Pn**	**18 30 05.7**	**+1.9**
TOLI2	**Tolitoli**	**5.52**	**269**	Pn	**Pn**	**18 30 21.8**	**-0.3**
WB0	**Warramunga Arr**	**22.32**	**160**	P	**P**	**18 33 55.0**	**-1.1**
WRAB	**Tennant Creek**	**22.46**	**160**	P	**P**	**18 33 56.1**	**-1.4**
WRAB				IAmb	IAmb	18 34 02.4	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**22.46**	**160**	P	**P**	**18 33 56.2**	**-1.4**
	comp=Z,4.9nm,0.7s,baz=333,slow=11,SNR=28						
WRA	**Warramunga Arr**	**22.46**	**160**	P	**P**	**18 33 55.8**	**-1.8**
WB2	**Warramunga Arr**	**22.47**	**160**	P	**P**	**18 33 57.0**	**-0.6**
WB2				IAmb	IAmb	18 34 03.1	
	comp=Z,18nm,1.0s						
WR0	**Warramunga Arr**	**22.55**	**159**	P	**P**	**18 33 57.5**	**-1.0**
WR0				IAmb	IAmb	18 34 20.7	
	comp=Z,14nm,1.2s						
TPUB	**Ta-pu**	**22.62**	**346**	P	**P**	**18 33 59.4**	**+0.2**
TPUB				IAmb	IAmb	18 34 05.0	
	comp=Z,16nm,0.9s						
ASAR	**Alice Springs**	**25.82**	**164**	P	**P**	**18 34 27.9**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=345,slow=12,SNR=24						
STKA	**Stephens Creek**	**35.97**	**158**	P	**P**	**18 35 57.6**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=346,slow=12,SNR=4.5						
KSRS	**Korea Array**	**36.08**	**2**	P	**P**	**18 35 59.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=180,slow=9.3,SNR=2.1						
MJAR	**Matsushiro Arr**	**36.83**	**16**	P	**P**	**18 36 05.8**	**-0.1**
	comp=Z,3.3nm,1.1s,baz=180,slow=11,SNR=3.1						
MJAR	**Matsushiro Arr**	**36.83**	**16**	IAmb	IAmb	18 36 09.2	
	comp=Z,4.3nm,1.3s						
JMM	**Marumori**	**38.83**	**18**	P	**P**	**18 36 22.5**	**-0.1**
USRK	**Ussurisk Ar.**	**43.09**	**6**	P	**P**	**18 36 57.5**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=201,slow=7.0,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**43.17**	**64**	T	T	19 24 03.5	
	baz=253,slow=75,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**43.18**	**64**	T	T	19 23 57.3	
	baz=253,slow=75,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**43.18**	**64**	T	T	19 24 29.1	
	baz=253,slow=75,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**43.75**	**62**	T	T	19 25 14.5	
	baz=251						
H11N2	**WAKE ISLAND Hy**	**43.76**	**62**	T	T	19 25 12.1	
	baz=251						
H11N3	**WAKE ISLAND Hy**	**43.77**	**62**	T	T	19 25 17.5	
	baz=251						
KLR	**Kul'dur**	**48.05**	**5**	P	**P**	**18 37 38.0**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=274,slow=5.9,SNR=3.9						
SONM	**Songino Array**	**49.53**	**342**	P	**P**	**18 37 48.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=146,slow=10,SNR=3.3						
SONM				PcP	**PcP**	**18 39 10.4**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=151,slow=6.6,SNR=3.0						
PETK	**Petropavlovsk-**	**57.90**	**22**	P	**P**	**18 38 51.1**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=203,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**59.37**	**326**	P	**P**	**18 38 59.1**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=121,slow=7.7,SNR=16						
MAKZ	**Makanchi**	**59.55**	**326**	P	**P**	**18 39 00.1**	**-0.8**
MAKZ				IAmb	IAmb	18 39 03.5	
	comp=Z,6.8nm,1.4s						
ZALV	**Zalesovo Beam**	**62.62**	**334**	P	**P**	**18 39 20.7**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=136,slow=5.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**63.62**	**328**	P	**P**	**18 39 27.2**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=125,slow=6.0,SNR=8.8						
KURK	**Kurchatov**	**63.62**	**328**	P	**P**	**18 39 27.2**	**-1.0**
KKAR	**Karatay Array**	**64.78**	**318**	P	**P**	**18 39 35.2**	**-0.8**
ABKAR	**Abkulak array**	**73.82**	**321**	P	**P**	**18 40 31.1**	**-0.7**
ABKAR	**Abkulak array**	**73.82**	**321**	P	**P**	**18 40 30.9**	**-0.8**
ABKAR				IAmb	IAmb	18 40 34.8	
	comp=Z,1.6nm,0.8s						
AKTO	**Aktyubinsk**	**75.35**	**322**	P	**P**	**18 40 40.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=125,slow=9.5,SNR=4.2						
ARU	**Arti**	**76.82**	**328**	P	**P**	**18 40 48.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=138,slow=5.2,SNR=3.8						
ARU	**Arti**	**76.82**	**328**	IAmb	IAmb	18 40 49.3	
	comp=Z,7.7nm,0.9s						
BELG	**Belogornoye**	**82.12**	**323**	P	**P**	**18 41 17.1**	**-0.7**
	comp=Z,12nm,0.9s,baz=88,slow=6.3,SNR=4.1						
FINES	**FINESS Array B**	**93.82**	**332**	P	**P**	**18 42 14.5**	**+0.4**
	comp=Z,1.8nm,1.0s,baz=64,slow=6.3,SNR=1.6						
TORD	**Torodi Ar. Bea**	**123.25**	**287**	PKP	**PKiKP**	**18 47 54.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=45,slow=3.0,SNR=4.0						

*SOME **13** 18:52:37.0, 38.°93N×72.°82E, h20km*
*IDC **13** 18:52:40.9±1.3, 39.°05N×72.°41E, h0km, mb3.5/4, mb1 3.5/10, mb1mx3.3/49, mbtmp3.4/10, ML3.0/6, Error ellipse: s-maj=24.0km s-min=19.0km az=106.0*
*KRNET **13** 18:52:42.6±0.1, 39.°20N×72.°67E, h13km, mb3.8*
*NNC **13** 18:52:48.2±2.0, 39.°40N×72.°82E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=16.1km s-min=10.0km az=0.0*
ISC 13 18:52:44.3±0.8, 39.°19N±0.°05×72.°68E±0.°03, h10km, n65, σ2°69/94, mb3.5/4, 24C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.75**	**294**	⇑*iP*	**Pg**	**18 52 56.4**	**-2.3**
	baz=93						
DRK				⇑*iS*	**Sg**	**18 53 07.0**	**-1.5**
	baz=93						
SFK	**Sufi-Kurgan**	**1.04**	**37**	⇓*iP*	**Pg**	**18 53 02.8**	**-1.5**
	baz=38						
SFK				⇓*iS*	**Sg**	**18 53 17.4**	**-0.5**
	baz=38						
OHH	**Osh**	**1.34**	**3**	⇑*iP*	**Pn**	**18 53 07.8**	**-1.3**
	baz=4.0						
OHH				⇑*iS*	**Sb**	**18 53 26.3**	**-0.5**
	baz=4.0						
BTK	**Batken**	**1.68**	**302**	⇑*iP*	**Pn**	**18 53 13.4**	**-0.5**
	baz=2.0						
BTK				⇑*iS*	**Sn**	**18 53 36.9**	**+1.3**
	baz=2.0						
GAR	**Garm**	**1.85**	**265**	⇑*iP*	**Pn**	**18 53 17.0**	**+0.8**
	baz=65						
GAR				⇑*iS*	**Sn**	**18 53 42.0**	**+2.3**
	baz=65						
TRKS	**Terek-Say**	**2.62**	**334**	⇓*iP*	**Pn**	**18 53 27.0**	**+0.1**
	baz=34						
TRKS				⇓*iS*	**Sn**	**18 53 59.8**	**+1.0**
	baz=34						
CHGR	**Chuyangaron**	**2.80**	**260**	⇓*eP*	**Pn**	**18 53 30.7**	**+1.5**
	baz=60						
CHGR				⇓*iS*	**Sn**	**18 54 05.9**	**+2.8**
	baz=60						
ARLS	**Aral**	**2.95**	**25**	⇑*iP*	**Pn**	**18 53 32.6**	**+1.2**
	baz=25						
ARLS				⇑*iS*	**Sn**	**18 54 09.2**	**+2.3**
	baz=25						
AML	**Almayashu**	**3.04**	**14**	⇑*eP*	**Pn**	**18 53 34.4**	**+1.6**
	baz=15						
AML				⇑*iS*	**Sn**	**18 54 12.3**	**+2.8**
	baz=15						
AML	**Almayashu**	**3.04**	**14**	P	**Pn**	**18 53 36.9**	**+4.1**
	SNR=59						
MNAS	**Manas**	**3.30**	**358**	⇓*eP*	**Pn**	**18 53 37.2**	**+1.0**
	baz=58						
MNAS				⇓*iS*	**Sn**	**18 54 17.9**	**+2.4**
	baz=58						
EKS2	**Erkin-Say**	**3.57**	**13**	⇑*iP*	**Pn**	**18 53 41.7**	**+1.9**
	baz=13						
EKS2				⇑*iS*	**Sn**	**18 54 24.6**	**+2.5**
	baz=13						
EKS2	**Erkin-Say**	**3.57**	**13**	P	**Pn**	**18 53 43.9**	**+4.1**
	SNR=9.9						
MRKS	**Merke**	**3.58**	**6**	*eP*	**Pb**	**18 53 47.8**	**+0.1**
	64nm,0.4s						
MRKS				*eS*	**Sg**	**18 54 37.0**	**-2.2**
	42nm,0.4s						
MRKS	**Merke**	**3.58**	**6**	Pg	**Pn**	**18 53 44.2**	**+4.2**
MRKS				Lg	Lg	18 54 30.1	
AAK	**Ala-Archa**	**3.71**	**21**	Pn	**Pn**	**18 53 46.1**	**+4.3**
	6.5nm,0.3s,baz=202,slow=9.6,SNR=17						
AAK				Sn	**Sb**	**18 54 32.3**	**-2.8**
	1.6nm,0.3s,baz=340,slow=20,SNR=9.6						
AAK	**Ala-Archa**	**3.71**	**21**	⇑*iP*	**Pn**	**18 53 43.8**	**+2.0**
	baz=21						
AAK				⇑*iS*	**Sn**	**18 54 27.2**	**+1.5**
	baz=21						
AAK	**Ala-Archa**	**3.71**	**21**	P	**Pn**	**18 53 46.6**	**+4.8**
	SNR=10						
AAK	**Ala-Archa**	**3.71**	**21**	⇓Pn	**Pn**	**18 53 45.5**	**+3.7**
	13nm,0.4s						
AAK				⇑Lg	Lg	18 54 39.7	
	50nm,0.8s						
KBK	**Karagaybulak**	**3.87**	**26**	P	Pn	18 53 49.4	+5.4
	SNR=6.5						
CHMS	**Chumysh**	**4.12**	**22**	P	**Pn**	**18 53 51.9**	**+4.6**
	SNR=16						
KK31	**Karatay Array**	**4.24**	**338**	⇓Pn	**Pn**	**18 53 52.2**	**+3.2**
	6.2nm,0.5s,baz=149,slow=12,SNR=156						
KK31				Sn	**Sn**	**18 54 43.2**	**+4.6**
	13nm,0.6s,baz=156,slow=19,SNR=5.1						
USP	**Ospenovka**	**4.30**	**18**	P	**Pn**	**18 53 54.0**	**+4.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**4.33**	**30**	P	**Pn**	**18 53 54.9**	**+4.4**
	SNR=8.6						
TKM2	**Tokmak 2**	**4.33**	**30**	⇑Pn	**Pn**	**18 53 54.2**	**+3.8**
	4.1nm,0.6s						
TKM2				⇓Pg	**Pb**	**18 54 04.3**	**+3.7**
	3.7nm,0.5s						
TKM2				⇓Lg	Lg	18 55 00.4	
	15nm,0.6s						
SGDS	**Sogindy**	**4.51**	**18**	Pg	**Pb**	**18 54 05.5**	**+2.0**
	9.4nm,0.8s						
SGDS				Lg	Lg	18 55 05.7	
	17nm,1.2s						
DGS	**Degeres**	**4.67**	**29**	*eP*	**Pb**	**18 54 08.5**	**+2.1**
	1.5nm,0.3s						
DGS				*eS*	**Sg**	**18 55 15.4**	**+1.1**
	16nm,0.4s						
IZV	**Izvestkoviy**	**4.86**	**36**	*eP*	**Pb**	**18 54 11.3**	**+1.8**
	4.2nm,0.7s						
IZV				*eS*	**Sg**	**18 55 18.2**	**-2.0**
	33nm,0.6s						
IZV	**Izvestkoviy**	**4.86**	**36**	Pg	**Pb**	**18 54 12.4**	**+2.8**
	5.5nm,0.5s						
IZV				Lg	Lg	18 55 17.8	
	33nm,0.6s						
TNSS	**Tian-Shan**	**5.02**	**39**	Pg	**Pb**	**18 54 15.5**	**+3.1**
	4.7nm,0.3s						
TNSS				Lg	Lg	18 55 22.8	
	45nm,0.6s						
KRBS	**Karabastau**	**5.04**	**26**	*eP*	**Pb**	**18 54 13.4**	**+0.9**
	1.4nm,0.5s						
KRBS				*eS*	**Sg**	**18 55 22.9**	**-3.0**
	13nm,0.9s						
KRBS	**Karabastau**	**5.04**	**26**	Pg	**Pb**	**18 54 14.2**	**+1.7**
	4.6nm,0.5s						
KRBS				Lg	Lg	18 55 21.7	
	13nm,0.9s						
MDOK	**Medeo**	**5.16**	**38**	*eP*	**Pb**	**18 54 14.6**	**-0.1**
	1.4nm,0.6s						
MDOK				*eS*	**Sg**	**18 55 26.7**	**-3.3**
	15nm,0.7s						
MDOK	**Medeo**	**5.16**	**38**	Pn	**Pn**	**18 54 05.7**	**+4.0**
	2.2nm,0.6s						
MDOK				⇑Pg	**Pb**	**18 54 19.3**	**+4.6**
	13nm,1.1s						
MDOK				⇓Lg	Lg	18 55 27.0	
	26nm,0.9s						
MDOK	**Medeo**	**5.16**	**38**	Pg	**Pb**	**18 54 16.5**	**+1.8**
	6.0nm,0.5s						
MDOK				Lg	Lg	18 55 25.2	
	15nm,0.7s						
KNDC	**Almaty**	**5.16**	**37**	⇑Pg	**Pb**	**18 54 16.1**	**+1.4**
	14nm,0.5s						
KNDC				⇑Lg	Lg	18 55 25.5	
	84nm,0.7s						
KOTS	**Kotyrbulak**	**5.25**	**38**	*eP*	**Pb**	**18 54 17.2**	**+1.1**
	4.6nm,0.7s						
KOTS				*eS*	**Sg**	**18 55 29.6**	**-3.1**
	43nm,0.6s						
KOTS	**Kotyrbulak**	**5.25**	**38**	Pg	**Pb**	**18 54 17.6**	**+1.4**
	4.7nm,0.3s						
KOTS				Lg	Lg	18 55 27.1	
	49nm,0.6s						
KTBS	**Karatobe**	**5.43**	**32**	*eP*	**Pb**	**18 54 19.4**	**+0.2**
	2.0nm,0.6s						
KTBS				*eS*	**Sg**	**18 55 35.7**	**-2.9**
	16nm,0.7s						
KTBS	**Karatobe**	**5.43**	**32**	Pg	**Pb**	**18 54 21.3**	**+2.1**
	2.4nm,0.6s						
KTBS				Lg	Lg	18 55 33.1	
	16nm,0.7s						
KUU	**Kurty**	**5.44**	**29**	*eP*	**Pb**	**18 54 20.0**	**+0.5**
	1.0nm,0.3s						
KUU				*eS*	**Sg**	**18 55 35.0**	**-4.0**
	19nm,0.7s						
KUU	**Kurty**	**5.44**	**29**	Pg	**Pb**	**18 54 21.1**	**+1.6**
	2.7nm,0.1s						
KUU				Lg	Lg	18 55 33.4	
	19nm,0.7s						
CHKK	**Chushkaly**	**5.67**	**33**	*eP*	**Pb**	**18 54 25.1**	**+1.8**
	3.5nm,0.3s						
CHKK				*eS*	**Sg**	**18 55 43.0**	**-3.4**
	10.0nm,0.5s						
SATY	**Saty**	**5.80**	**46**	*eP*	**Pb**	**18 54 26.0**	**+0.5**
	2.3nm,0.5s						
SATY				*eS*	**Sg**	**18 55 46.8**	**-3.7**
	14nm,1.1s						
SATY	**Saty**	**5.80**	**46**	Pg	**Pb**	**18 54 29.0**	**+3.5**
	3.2nm,0.3s						
SATY				Lg	Lg	18 55 46.9	
	14nm,1.1s						
BTLS	**Baital**	**5.94**	**9**	*eP*	**Pb**	**18 54 31.7**	**+3.8**
	2.1nm,0.4s						
BTLS				*eS*	**Sg**	**18 55 54.2**	**-0.7**
	6.7nm,0.4s						
UZB	**Uzynbulak**	**6.21**	**48**	*eP*	**Pb**	**18 54 37.1**	**+4.6**
	1.5nm,0.6s						
UZB				*eS*	**Sg**	**18 56 03.4**	**-0.1**
	5.5nm,0.9s						
UZB	**Uzynbulak**	**6.21**	**48**	Pg	**Pb**	**18 54 35.3**	**+2.8**
	1.9nm,0.6s						
UZB				Lg	Lg	18 55 56.7	
	5.5nm,0.9s						
KPKS	**Kokpek**	**6.22**	**45**	*eP*	**Pb**	**18 54 34.8**	**+2.1**
	2.9nm,0.5s						
KPKS				*eS*	**Sg**	**18 56 00.6**	**-3.3**
	17nm,0.6s						
ARXS	**Arharly**	**6.33**	**36**	*eP*	**Pb**	**18 54 35.0**	**+0.5**
	5.1nm,1.0s						
ARXS				*eS*	**Sg**	**18 56 02.6**	**-4.8**
	7.9nm,0.5s						
SHLS	**Shalkode**	**6.47**	**50**	*eP*	Pb	18 54 44.0	+7.0
	2.8nm,0.5s						
SHLS				*eS*	**Sg**	**18 56 15.8**	**+3.8**
	11nm,0.9s						
SHLS	**Shalkode**	**6.47**	**50**	Pg	**Pg**	**18 54 45.3**	**-2.8**
	4.5nm,0.6s						
SHLS				Lg	Lg	18 56 14.1	
	11nm,0.9s						
PDGK	**Podgornoye**	**6.59**	**49**	Pg	**Pb**	**18 54 42.4**	**+3.4**
	1.2nm,0.7s						
PDGK				Lg	Lg	18 56 09.2	
	4.6nm,0.8s						
PDGK	**Podgornoye**	**6.59**	**49**	⇓Pn	**Pn**	**18 54 23.6**	**+2.3**
	2.4nm,0.9s						
PDGK				⇑Pg	Pb	18 54 45.3	+6.3
	4.4nm,0.7s						
PDGK				⇓Lg	Lg	18 56 09.9	
	12nm,0.8s						
MKAR	**Makanchi Array**	**10.35**	**40**	Pn	**Pn**	**18 55 16.4**	**+3.5**
	0.0nm,0.3s,baz=230,slow=16,SNR=4.0						
MKAR				Lg	Lg	18 58 11.6	
	0.0nm,0.3s,baz=225,slow=18,SNR=2.6						
KURBB	**Kurchatov Arra**	**12.16**	**18**	Pn	**Pn**	**18 55 36.3**	**-1.1**
	0.0nm,0.3s,baz=210,slow=14,SNR=2.0						
KURBB				Lg	Lg	18 59 02.7	
	0.0nm

TORD Torodi Ar. Bea 67.12 269 P P 19 03 36.2 -2.2
0.6nm,0.8s,baz=42,slow=5.7,SNR=2.6
WRA Warramunga Arr 82.31 123 P P 19 05 03.9 -2.4
0.6nm,1.0s,baz=327,slow=4.8,SNR=1.8
ASAR Alice Springs 84.73 126 P P 19 05 18.1 -0.6
0.2nm,0.8s,baz=322,slow=5.4,SNR=1.3

IDC 13 18:57:02.4±16.0, 36°46N×70°26E, h250km±159km, mb2.9/2, mb1 2.9/4, mb1mx2.6/49, mbtmp3.5/4, Error ellipse: s-maj=96.9km s-min=54.4km az=15.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.68**	**37**	P	P	19 00 07.1	-0.4
	0.1nm,0.3s,baz=235,slow=14,SNR=5.5						
AKTO	**Aktyubinsk**	**16.53**	**332**	P	P	19 00 39.0	+0.2
	0.1nm,0.3s,baz=138,slow=14,SNR=2.0						
ZALV	**Zalesovo Beam**	**20.21**	**25**	P	P	19 01 18.2	-0.1
	0.8nm,0.5s,baz=217,slow=12,SNR=5.1						
ASAR	**Alice Springs**	**84.72**	**124**	P	P	19 09 08.5	0.0
	0.5nm,0.9s,baz=319,slow=5.2,SNR=4.8						

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*TUL **13** 19:00:17.2±0.9, 36°58N±0°01×98°32W±0°02, h6km±6km, ML2.5, mb_Lg2.3/9(NEIC), Error ellipse: s-maj=2.2km s-min=0.9km az=55.0*
NEIC 13 19:00:17.2±0.9, 36°58N±0°01×98°32W±0°02, h7km±6km, Error ellipse: s-maj=2.5km s-min=1.4km az=129.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.24**	**22**	Pg	Pg	19 00 21.6	-0.5
CROK	**Carrier**	**0.28**	**105**	Pg	Pg	19 00 22.6	-0.2
CROK				Sg	Sg	19 00 27.5	+0.9
GC02	**Grant County #**	**0.46**	**54**		Pg	19 00 26.5	+0.3
KAN10	**Anthony SW Sta**	**0.57**	**18**	Pg	Pg	19 00 27.9	-0.4
KAN10				Sg	Sg	19 00 36.3	+0.5
U32A	**Winter Ranch,**	**0.58**	**250**	Pg	Pg	19 00 28.4	-0.1
KAN05	**Bluff City Nor**	**0.64**	**34**	Pg	Pg	19 00 29.5	-0.1
KAN05				Sg	Sg	19 00 38.4	+0.5
KAN17	**Caldwell West**	**0.64**	**44**	Pg	Pg	19 00 29.3	-0.3
KAN09	**Caldwell North**	**0.79**	**45**	Pg	Pg	19 00 32.3	-0.1
KAN13	**South Haven SW**	**0.80**	**57**	Pg	Pg	19 00 32.6	-0.1
BLOK	**Blackwell**	**0.91**	**78**	Pg	Pg	19 00 34.4	-0.2
OK029	**Liberty Lake**	**1.05**	**138**	Pg	Pg	19 00 37.1	-0.3
BCOK	**Bluff Creek, N**	**1.09**	**148**	Pg	Pg	19 00 37.8	-0.2
OK025	**Westminster Rd**	**1.28**	**141**	Pn	Pn	19 00 41.0	-0.5
OK031	**S. Brethren Rd**	**1.35**	**117**		Pn	19 00 42.6	+0.1
OKCFA	**Oklahoma City**	**1.36**	**148**		Pn	19 00 42.7	0.0
T35A	**Sooner Cattle**	**1.49**	**76**		Pn	19 00 44.8	+0.3
FNO	**Franklin**	**1.52**	**150**	Pn	Pb	19 00 45.5	-0.2
WMOK	**Wichita Mounta**	**1.88**	**192**	Pn	Pn	19 00 50.0	+0.2
CBKS	**Cedar Bluff**	**2.50**	**334**	Pn	Pn	19 00 58.5	+0.1
ISCO	**Idaho Springs**	**6.58**	**301**	IAmb_Lg		19 04 04.7	
	comp=Z,3.8nm,1.0s						
PHWY	**Pilot Hill**	**7.29**	**312**	IAmb_Lg		19 04 28.9	
	comp=Z,2.3nm,0.9s						
PV01	**Paradox Valley**	**8.31**	**284**	IAmb_Lg		19 05 00.6	
	comp=Z,1.4nm,0.7s						
PV11	**David Mesa, Pa**	**8.57**	**285**	IAmb_Lg		19 05 11.9	
	comp=Z,6.1nm,0.9s						
SRU	**San Rafael Swe**	**9.98**	**288**	IAmb_Lg		19 05 27.9	
	comp=Z,4.3nm,0.9s						

IDC 13 19:06:10.7±1.6, 2°15N×126°53E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/37, mbtmp3.5/4, Error ellipse: s-maj=102.0km s-min=21.4km az=60.0, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**161**	P	P	19 11 19.3	-0.7
	1.6nm,0.5s,baz=338,slow=10,SNR=27						
WRA				PcP	PcP	19 15 07.9	-0.3
	0.8nm,0.9s,baz=350,slow=2.9,SNR=2.3						
ASAR	**Alice Springs**	**26.65**	**165**	P	P	19 11 51.9	+0.5
	1.1nm,0.8s,baz=345,slow=11,SNR=14						
ASAR				PcP	PcP	19 15 15.1	-0.6
	0.3nm,0.8s,baz=345,slow=2.5,SNR=1.7						
CMAR	**Chiang Mai Arr**	**31.52**	**303**	P	P	19 12 35.5	+0.7
	0.6nm,0.9s,baz=113,slow=6.3,SNR=4.2						
MKAR	**Makanchi Array**	**58.73**	**326**	P	P	19 16 10.0	-0.5
	0.2nm,0.3s,baz=115,slow=8.1,SNR=5.1						

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*DJA **13** 19:08:39.2±4.9, 1°N±25°×9°7E±3°1, h18km±14km, M3.8/5, MLv3.8/5*
*IDC **13** 19:08:40.3±3.8, 1°54N×97°62E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/33, Error ellipse: s-maj=158.5km s-min=23.8km az=59.0*
ISC 13 19:08:43.7±2.1, 1°4N±0°2×97°1E±0°3, h35km, n15, σ0°92/8, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.47**	**96**	P	**Pn**	**19 08 53.8**	**-0.1**
TPTI		**1.90**	**2**	P	**Pn**	**19 09 12.9**	**-0.7**
MNSI	**Mandailing Nat**	**2.53**	**103**	P	**Pn**	**19 09 22.5**	**+0.2**
PALK	**Pallekele**	**17.38**	**290**	LR	LR	19 19 25.0	
	comp=Z,86nm,18.3s,baz=320,slow=36						
H08S2	**Diego Garcia H**	**26.13**	**250**	T	T	19 41 06.9	
	baz=71,slow=75,SNR=319						
H08S3	**Diego Garcia H**	**26.13**	**250**	T	T	19 41 10.8	
	baz=71,slow=75,SNR=319						
H08S1	**Diego Carcia H**	**26.15**	**250**	T	T	19 41 09.8	
	baz=71,slow=75,SNR=390						
H01W3	**Cape Leeuwin H**	**39.42**	**158**	T	T	19 57 43.1	
	baz=333,slow=76,SNR=8.3						
H01W2	**Cape Leeuwin H**	**39.43**	**158**	T	T	19 57 42.9	
	baz=333,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**39.43**	**158**	T	T	19 57 43.9	
	baz=333,slow=76,SNR=9.5						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**19 16 32.4**	**-1.2**
	0.5nm,0.7s,baz=304,slow=8.9,SNR=1.8						
ASAR	**Alice Springs**	**43.56**	**127**	P	**P**	**19 16 43.9**	**-0.7**
	0.6nm,0.9s,baz=298,slow=7.7,SNR=5.1						
SONM	**Songino Array**	**47.00**	**9**	P	**P**	**19 17 12.1**	**+0.5**
	0.4nm,0.6s,baz=191,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**47.08**	**346**	P	**P**	**19 17 13.2**	**+1.1**
	0.4nm,0.5s,baz=160,slow=8.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**53.40**	**351**	P	**P**	**19 18 00.3**	**+0.6**
	1.1nm,0.5s,baz=150,slow=6.3,SNR=4.6						

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*IDC **13** 19:10:45.9±4.1, 41°45N×113°31W, h0km, mb1 2.4/1, mb1mx2.4/30, mbtmp2.0/1, ML2.3/1, Error ellipse: s-maj=71.8km s-min=29.2km az=154.0*
*NEIC **13** 19:10:48.8±1.0, 41°10N±0°02×112°86W±0°05, h0km±2km, ML1.7/30, Error ellipse: s-maj=7.1km s-min=3.0km az=122.0*
ISC 13 19:10:46.2±1.0, 41°21N±0°04×112°93W±0°04, h0km, n22, σ1°34/21, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.29**	**195**	Pg	**Pb**	**19 10 53.0**	**-1.4**
BGU				IAML		19 11 00.2	
	comp=E,110nm,0.3s						
SPUT	**South Promonto**	**0.38**	**74**		**Pb**	**19 10 56.1**	**+0.2**
SPUT				IAML		19 11 03.3	
	comp=N,73nm,0.3s						
DUG	**Dugway, Tooele**	**1.02**	**175**		**Pb**	**19 11 06.7**	**0.0**
DUG				IAML		19 11 24.5	
	comp=N,21nm,0.3s						
DUG				IAML		19 11 29.1	
	comp=N,17nm,0.5s						
CTU	**Camp Tracy**	**1.03**	**120**		**Pb**	**19 11 06.8**	**-0.3**
CTU				IAML		19 11 23.3	
	comp=N,26nm,0.3s						
CTU				IAML		19 11 29.1	
	comp=E,16nm,0.5s						
HWUT	**Hardware Ranch**	**1.10**	**68**		**Pn**	**19 11 09.8**	**+0.7**
HWUT				IAML		19 11 33.0	
	comp=E,12nm,0.4s						
JLU	**Jordanelle**	**1.28**	**118**	Pg	**Pg**	**19 11 09.8**	**-0.8**
JLU				IAML		19 11 31.8	
	comp=E,11nm,0.4s						
NLU	**North Lily Min**	**1.41**	**152**		**Pb**	**19 11 13.2**	**-0.4**
ELK	**Elko**	**1.81**	**256**		**Pg**	**19 11 21.1**	**+0.2**
ELK				IAML		19 11 49.5	
	comp=E,6.5nm,0.3s						
TMUT	**Trail Mountain**	**2.32**	**145**	Pn	**Pn**	**19 11 26.8**	**+0.8**
TMUT				IAML		19 12 07.8	
	comp=N,5.2nm,0.5s						
TMUT				IAML		19 12 14.8	
	comp=E,5.5nm,3.2s						
SPR3	**Spring Creek 3**	**2.45**	**206**	Pn	**Pn**	**19 11 29.3**	**+1.5**
SPR3				IAML		19 11 52.1	
	comp=E,3.4nm,4.6s						
SPR3				IAML		19 12 12.3	
	comp=N,3.9nm,3.3s						
TPAW	**Teton Pass**	**2.71**	**32**	Pn	**Pb**	**19 11 34.7**	**-1.1**
PSUT	**Pine Spring**	**2.76**	**195**	Pn	**Pn**	**19 11 33.0**	**+1.0**
PSUT				IAML		19 12 40.0	
	comp=N,2.6nm,2.8s						
PSUT				IAML		19 13 04.9	
	comp=E,4.0nm,4.7s						
BW06	**Boulder Array**	**2.96**	**57**	Pn	**Pb**	**19 11 38.0**	**-2.0**
BW06				IAML		19 13 09.5	
	comp=E,3.5nm,1.2s						
PD31	**Pinedale Array**	**2.96**	**57**	Pn	**Pn**	**19 11 35.1**	**+0.5**
PDAR	**Pinedale Array**	**2.96**	**57**	Pn	**Pb**	**19 11 37.8**	**-2.1**
	comp=E,0.1nm,0.3s,baz=236,slow=13,SNR=1.9						
PDAR				Pg	**Pg**	**19 11 42.8**	**-0.1**
	comp=E,0.8nm,0.3s,baz=232,slow=14,SNR=13						
PDAR				Lg	Lg	19 12 22.9	
	comp=E,0.7nm,0.3s,baz=240,slow=22,SNR=4.7						
PDAR	**Pinedale Array**	**2.96**	**57**	Pn	**Pn**	**19 11 36.8**	**+2.2**
BCYI	**Bear Canyon**	**3.12**	**354**	Pn	**Pn**	**19 11 36.6**	**-0.2**
SZCU	**Shurtz Canyon**	**3.61**	**182**		**Pn**	**19 11 42.9**	**-0.7**
MCMT	**McKenzie Canyo**	**3.62**	**1**	Pn	**Pn**	**19 11 45.8**	**+2.1**
RWWY	**Rawlins**	**4.33**	**82**	Pn	**Pn**	**19 11 55.8**	**+2.3**
I56US	**NEWPORT INFRAS**	**7.66**	**338**	*i*		19 54 10.0	
	baz=159,slow=316,SNR=6.0						
I57US	**PINON FLAT INF**	**8.09**	**201**	*i*		20 00 30.0	
	baz=16,slow=308,SNR=1.1						

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*IDC **13** 19:22:45.7±1.8, 0°44N×126°44E, h45km±16km, mb4.3/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.5/22, ML4.5/2, MS3.7/17, Ms1 3.7/17, ms1mx3.5/39, Error ellipse: s-maj=15.5km s-min=8.8km az=70.0*
*NEIC **13** 19:22:45.4±1.9, 0°48N±0°07×126°41E±0°05, h42km±6km, mb4.9/83, Error ellipse: s-maj=10.5km s-min=7.6km az=162.0*
*DJA **13** 19:22:46.2±0.2, 0°N±3°×12°6E±°, h43km±3km, M4.7/25, mb4.9/25, mB5.2/9, MLv4.6/16, Mw(mB)4.6/9, MwMwp4.6/2, Mwp5.0/2*
*GCMT **13** 19:22:47.4±0.3, 0°55N±0°03×126°37E±0°02, h29km±1km, MW4.9/59, Moment Tensor Solution. s38,c47; s59,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.86±.20; $M_{\theta\theta}$0.05±.12; $M_{\phi\phi}$-2.90±.13; $M_{r\theta}$-0.12±.24; $M_{\phi\phi}$-0.64±.09; $M_{\phi r}$-1.22±.19; Best double couple: $M_0$3.19200×10^{16} NP1:ϕ_s14.00000°, δ34.00000°, λ94.00000°. NP2: ϕ_s189.00000°, δ56.00000°, λ87.00000°. Principal axes: T 3.1080, Plg79.0000°, Azm89.0000°; N 0.1750, Plg2.0000°, Azm191.0000°; P -3.2760, Plg11.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 19:22:45.4±0.3, 0°47N±0°04×126°44E±0°05, h47km, n161, σ1°43/161, mb4.8/61, MS3.9/18, 1D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.98**	**72**		**Pn**	**19 23 01.7**	**-1.1**
TNTI	**Ternate**	**0.98**	**72**	P	**Pn**	**19 23 01.7**	**-1.1**
SANI	**Sanana**	**2.54**	**190**	P	**Pn**	**19 23 22.9**	**-1.3**
SGSI	**Sangihe**	**3.33**	**344**	P	**Pn**	**19 23 38.1**	**+3.1**
GTOI	**Gorontalo**	**3.43**	**273**	P	**Pn**	**19 23 38.0**	**+1.6**
NLAI	**Namlea**	**3.74**	**170**	P	**Pn**	**19 23 41.3**	**+0.6**
LUWI	**Luwuk**	**3.96**	**248**		**Pn**	**19 23 44.3**	**+0.6**
LUWI	**Luwuk**	**3.96**	**248**	P	**Pn**	**19 23 45.7**	**+2.0**
MRSI	**Marisa**	**4.50**	**270**	P	**Pn**	**19 23 53.5**	**+2.4**
APSI	**Ampana**	**4.98**	**254**	P	**Pn**	**19 23 57.9**	**+0.2**
	1.4nm4μm308nm,0.8s						
SWI	**Sorong**	**5.00**	**105**	P	**Pn**	**19 24 00.2**	**+2.2**
SIJI	**Sorong**	**5.01**	**105**	P	**Pn**	**19 23 59.4**	**+1.3**
	9.5nm,0.3s,baz=285,slow=16,SNR=42						
SIJI				S	**Sn**	**19 24 54.2**	**-0.6**
	baz=200,slow=22,SNR=1.1						
SIJI				LR	LR	19 26 30.2	
	comp=Z,2μm,19.0s,baz=264,slow=45						
TOLI2	**Tolitoli**	**5.69**	**276**	Pn	**Pn**	**19 24 07.6**	**+0.1**
MPSI	**Mapaga**	**6.54**	**269**	P	**Pn**	**19 24 20.2**	**+1.0**
	0.2nm674nm60nm,1.5s						
KCP	**Kidapawan**	**6.64**	**348**	*eP*	**Pn**	**19 24 23.8**	**+3.3**
FAKI	**Fak Fak**	**6.71**	**120**	Pn	**Pn**	**19 24 21.5**	**0.0**
FAKI	**Fak Fak**	**6.71**	**120**	P	**Pn**	**19 24 21.9**	**+0.4**
	0.3nm3μm88nm,1.1s						
TTSI	**Tana Toraja**	**7.48**	**242**	P	**Pn**	**19 24 32.4**	**+0.4**
	0.4nm2μm105nm,0.8s						
BNSI	**Bone**	**7.96**	**233**	P	**Pn**	**19 24 39.4**	**+0.7**
	77nm,0.6s						
BKSI	**Bulukumba**	**8.54**	**228**	P	**Pn**	**19 24 49.0**	**+2.5**
	926m80nm,0.7s						
KAPI	**Kappang**	**8.62**	**231**	P	**Pn**	**19 24 49.0**	**+1.4**
	9.0nm,0.3s,baz=58,slow=12,SNR=12						
KAPI				S	**Sn**	**19 26 21.7**	**-1.8**
	5.9nm,0.3s,baz=142,slow=22,SNR=6.8						
KAPI				LR	LR	19 27 44.6	
	comp=Z,85nm,21.0s,baz=54,slow=35						
KAPI	**Kappang**	**8.62**	**231**	Pn	**Pn**	**19 24 47.2**	**-0.4**
EDFI	**Ende, Flores**	**10.30**	**207**	P	**Pn**	**19 25 12.4**	**+1.5**
	384nm26nm,0.9s						
BATI	**Baumata**	**10.96**	**195**	LR	LR	19 30 00.4	
	comp=Z,653nm,21.6s,baz=26,slow=40						
MTN	**Manton Dam**	**14.02**	**161**	Pn	**Pn**	**19 26 02.2**	**+0.7**
STKI	**Sintang**	**14.97**	**269**	P	**P**	**19 26 18.3**	**-0.5**
	16nm,1.2s						
KNRA	**Kununurra**	**16.20**	**172**	Pn	**Pn**	**19 26 29.4**	**-0.7**
KNRA				IAmb	IAmb	19 26 34.5	
	comp=Z,71nm,0.9s						
PWJI	**Pagerwojo**	**16.85**	**240**	P	**P**	**19 26 41.2**	**+1.5**
	comp=Z,86nm,0.7s						
KPJI	**Karang Pucung**	**19.10**	**246**	P	**P**	**19 27 04.8**	**+0.3**
	comp=Z,49nm,0.9s						
LEM	**Lembang**	**20.13**	**249**	P	**P**	**19 27 15.7**	**-0.2**
	comp=Z,26nm,0.6s,baz=57,slow=9.4,SNR=6.7						
LEM	**Lembang**	**20.13**	**249**	P	Pn	19 27 17.2	-0.9
	comp=Z,17nm,1.9s						
CISI	**Cisompet, Garu**	**20.21**	**246**	P	**P**	**19 27 17.0**	**+0.3**
CISI				IAmb	IAmb	19 27 20.2	
	comp=Z,27nm,0.6s						
CISI	**Cisompet, Garu**	**20.21**	**246**	P	**P**	**19 27 17.4**	**+0.7**
	comp=Z,47nm,1.3s						
WB0	**Warramunga Arr**	**21.57**	**159**	P	**P**	**19 27 30.9**	**-0.3**
WB0				IAmb	IAmb	19 27 32.7	
	comp=Z,58nm,0.7s						
WRAB	**Tennant Creek**	**21.71**	**160**	P	**P**	**19 27 32.4**	**-0.3**
WRAB				IAmb	IAmb	19 27 36.6	
	comp=Z,81nm,1.1s						
WRA	**Warramunga Arr**	**21.71**	**160**	P	**P**	**19 27 32.2**	**-0.5**
	comp=Z,50nm,0.7s,baz=338,slow=11,SNR=168						
WRA				S	**S**	**19 31 29.9**	**-0.8**
	comp=Z,8.3nm,1.1s,baz=335,slow=16,SNR=9.9						
WRA	**Warramunga Arr**	**21.71**	**160**	P	**P**	**19 27 30.9**	**-1.9**
WB2	**Warramunga Arr**	**21.71**	**160**	P	**P**	**19 27 32.4**	**-0.4**
WB2				IAmb	IAmb	19 27 36.6	
	comp=Z,84nm,1.1s						
WR0	**Warramunga Arr**	**21.80**	**159**	P	**P**	**19 27 33.3**	**-0.4**
WR0				IAmb	IAmb	19 27 34.8	
	comp=Z,44nm,0.9s						
MDSI	**Maura Dua**	**22.78**	**257**	P	**P**	**19 27 47.0**	**+2.8**
	comp=Z,6.8nm,0.6s						
PSA00	**Pilbara Seismi**	**22.83**	**196**	P	**P**	**19 27 43.5**	**-1.2**
PSA00				IAmb	IAmb	19 27 44.7	
	comp=Z,24nm,0.9s						
PSA00	**Pilbara Seismi**	**22.83**	**196**	P	**P**	**19 27 42.9**	**-1.8**
PSA00				IAmb	IAmb	19 27 46.2	
	comp=Z,14nm,1.1s						
YULB	**Yu-li**	**23.33**	**348**	P	**P**	**19 27 47.5**	**-2.2**
TPUB	**Ta-pu**	**23.39**	**346**	P	**P**	**19 27 47.8**	**-2.4**
TPUB				IAmb	IAmb	19 27 55.8	
	comp=Z,27nm,0.8s						
SSLB	**Suanglung**	**23.79**	**347**	P	**P**	**19 27 53.9**	**-0.1**
AS31	**Alice Springs**	**25.06**	**164**	P	**P**	**19 28 05.8**	**+0.2**
AS31				IAmb	IAmb	19 28 08.9	
	comp=Z,26nm,0.8s						
ASAR	**Alice Springs**	**25.06**	**164**	P	**P**	**19 28 07.2**	**+1.6**
	comp=Z,84nm,0.8s,baz=344,slow=11,SNR=441						
ASAR				ScP	**ScP**	**19 35 17.0**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=341,slow=2.7,SNR=2.0						
ASAR	**Alice Springs**	**25.06**	**164**	P	**P**	**19 28 05.7**	**+0.1**
GIRL	**Giralia**	**25.86**	**207**	P	**P**	**19 28 14.2**	**+1.3**
CTA	**Charters Tower**	**28.18**	**138**	P	**P**	**19 28 35.1**	**+1.4**
	comp=Z,6.4nm,1.0s,baz=22,slow=9.9,SNR=3.0						
MORW	**Morawa**	**31.01**	**198**	P	**P**	**19 28 58.1**	**-0.5**
MORW				IAmb	IAmb	19 29 01.1	
	comp=Z,23nm,1.4s						
JSU	**Suzuyama**	**31.11**	**7**	P	**P**	**19 28 59.0**	**-0.5**
JSU				IAmb	IAmb	19 29 00.0	
	comp=Z,25nm,1.2s						
FORT	**Forrest**	**31.11**	**177**	P	**P**	**19 28 59.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**32.38**	**305**	P	**P**	**19 29 10.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=128,slow=7.1,SNR=1.9						
CMAR				PcP	**PcP**	**19 31 59.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=179,slow=1.5,SNR=4.2						
CMAR				LR	LR	19 43 28.1	
	comp=Z,167nm,20.6s,baz=173,slow=38						
NWAO	**Narrogin (SRO)**	**34.33**	**194**	P	**P**	**19 29 27.7**	**0.0**
NWAO				IAmb	IAmb	19 29 52.2	
	comp=Z,17nm,1.1s						
HNR	**Honiara**	**34.78**	**107**	P	**P**	**19 29 32.6**	**+0.7**
STKA	**Stephens Creek**	**35.23**	**157**	P	**P**	**19 29 35.5**	**+0.1**
	comp=Z,13nm,0.5s,baz=323,slow=8.9,SNR=51						
STKA				LR	LR	19 46 25.4	
	comp=Z,102nm,18.4s,baz=358,slow=40						
STKA	**Stephens Creek**	**35.23**	**157**	P	**P**	**19 29 35.6**	**+0.2**
INU	**Inuyama**	**36.08**	**15**	P	**P**	**19 29 42.7**	**0.0**
INU				IAmb	IAmb	19 29 44.3	
	comp=Z,14nm,0.8s						
KSRS	**Korea Array**	**36.83**	**2**	P	**P**	**19 29 49.7**	**+0.6**
	comp=Z,4.2nm,0.7s,baz=179,slow=9.4,SNR=18						
KS19	**Wonju Array Si**	**36.88**	**2**	P	**P**	**19 29 50.1**	**+0.6**
KS19				IAmb	IAmb	19 30 07.8	
	comp=Z,17nm,1.1s						
XAN	**Xi'an**	**37.22**	**336**	P	**P**	**19 29 54.6**	**+2.1**
XAN				pP	pwP	19 30 07.3	-0.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**37.52**	**16**	P	**P**	**19 29 53.9**	**-1.0**
MAT	**Matsushiro**	**37.52**	**16**	P	**P**	**19 29 53.8**	**-1.2**
MJAR	**Matsushiro Arr**	**37.52**	**16**	P	**P**	**19 29 54.7**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=182,slow=9.4,SNR=10						
MJAR				LR	LR	19 44 15.6	
	comp=Z,101nm,21.7s,baz=210,slow=34						
MJB9	**Matsu-Tunnel**	**37.52**	**16**	P	**P**	**19 29 53.8**	**-1.2**
MJB9				IAmb	IAmb	19 29 55.3	
	comp=Z,7.6nm,0.7s						
JMM	**Marumori**	**39.50**	**18**	P	**P**	**19 30 11.3**	**-0.2**
BJT	**Baijiatuau**	**40.46**	**348**	P	**P**	**19 30 18.7**	**-0.8**
SHL	**Shillong**	**41.64**	**310**	P	**P**	**19 30 29.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**43.82**	**6**	P	**P**	**19 30 48.1**	**+1.2**
	comp=Z,9.9nm,0.7s,baz=190,slow=7.2,SNR=18						
USRK	**Ussuriysk Ar.**	**43.82**	**6**	P	**P**	**19 30 47.7**	**+0.9**
DZM	**Mont Dzumac**	**44.97**	**122**	*e*LR	LR	19 43 39.6	
	comp=Z,200nm,22.6s						
ULN	**Ulaanbaatar**	**50.12**	**343**	P	**P**	**19 31 37.2**	**+1.0**
SONM	**Songino Array**	**50.29**	**343**	P	**P**	**19 31 38.4**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=156,slow=8.4,SNR=15						
SONM				PcP	**PcP**	**19 32 55.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=161,slow=3.4,SNR=1.2						
SONM				LR	LR	19 54 09.5	
	comp=Z,101nm,20.6s,baz=156,slow=37						
SONM	**Songino Array**	**50.29**	**343**	P	**P**	**19 31 37.8**	**+0.4**
SONM				IAmb	IAmb	19 31 54.5	
	comp=Z,13nm,1.2s						
TLY	**Talaya**	**54.53**	**343**	P	**P**	**19 32 09.2**	**+0.6**
PEA0B	**Petropavlovsk-**	**58.55**	**22**	P	**P**	**19 32 37.4**	**+0.3**
PETK	**Petropavlovsk-**	**58.55**	**22**	P	**P**	**19 32 38.3**	**+1.2**
	comp=Z,9.0nm,0.6s,baz=189,slow=5.1,SNR=29						
PETK				LR	LR	19 56 30.4	
	comp=Z,28nm,21.9s,baz=203,slow=35						
PETK	**Petropavlovsk-**	**58.55**	**22**	P	**P**	**19 32 37.4**	**+0.3**
NIL	**Nilore**	**59.72**	**309**	P	**P**	**19 32 44.5**	**-1.2**
NIL				IAmb	IAmb	19 33 12.2	
	comp=Z,11nm,1.3s						
TUWZ	**Tuamarina**	**59.83**	**140**	P	**P**	**19 32 44.8**	**-1.4**
TARG	**Taragay, Kyrgy**	**60.00**	**320**	P	**P**	**19 32 46.3**	**-1.6**
MK31	**Makanchi Array**	**60.08**	**326**	P	**P**	**19 32 47.2**	**-0.7**
MK31				IAmb	IAmb	19 33 05.0	
	comp=Z,8.5nm,1.0s						
MKAR	**Makanchi Array**	**60.08**	**326**	P	**P**	**19 32 47.5**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=120,slow=7.0,SNR=72						
MKAR				LR	LR	20 00 17.1	
	comp=Z,150nm,19.8s,baz=118,slow=38						
MKAR	**Makanchi Array**	**60.08**	**326**	P	**P**	**19 32 47.1**	**-0.8**
MAKZ	**Makanchi**	**60.26**	**326**	P	**P**	**19 32 48.3**	**-0.8**
MAKZ				IAmb	IAmb	19 33 09.2	
	comp=Z,23nm,1.4s						
KDJ	**Kajisay**	**60.60**	**320**	P	**P**	**19 32 51.7**	**0.0**
YAK	**Yakutsk**	**61.46**	**2**	P	**P**	**19 32 56.3**	**-0.6**
BOOM	**Boomskoye usch**	**61.58**	**320**		**P**	**19 32 57.7**	**-0.6**
ZAA0	**Zalesovo Array**	**63.36**	**334**	P	**P**	**19 33 08.4**	**-1.3**
ZAA0				IAmb	IAmb	19 33 26.1	
	comp=Z,7.4nm,1.1s						
ZALV	**Zalesovo Beam**	**63.36**	**334**	P	**P**	**19 33 10.0**	**+0.3**
	comp=Z,1.4n

comp=Z,9.1nm,1.0s
MLY Manley 86.54 25 P P 19 35 23.9 +0.5
MLY IAmb IAmb 19 35 26.6
comp=Z,5.8nm,0.9s
I23K Minto, Yukon-K 87.13 25 P P 19 35 26.7 +0.5
I23K IAmb IAmb 19 35 28.1
comp=Z,9.7nm,1.1s
KNK Knik Glacier 87.24 29 P P 19 35 26.9 +0.1
KNK IAmb IAmb 19 35 29.3
comp=Z,9.0nm,0.8s
SML Sawmill 87.33 28 P P 19 35 27.9 +0.6
SML IAmb IAmb 19 35 31.5
comp=Z,9.2nm,0.9s
TOLK Toolik Lake Re 87.37 21 P P 19 35 28.5 +1.2
TOLK IAmb IAmb 19 35 30.6
comp=Z,6.5nm,1.0s
WRH Wood River Hil 87.62 26 P P 19 35 27.9 -0.6
WRH IAmb IAmb 19 35 29.9
comp=Z,5.2nm,1.0s
CCB Clear Creek Bu 87.76 25 P P 19 35 28.8 -0.3
CCB IAmb IAmb 19 35 30.2
comp=Z,7.2nm,1.2s
HDA Harding Lake 88.11 26 P P 19 35 30.4 -0.5
HDA IAmb IAmb 19 35 31.6
comp=Z,4.2nm,0.9s
IL31 88.16 25 P P 19 35 30.5 -0.5
ILAR Eielson Array 88.16 25 P P 19 35 30.8 -0.3
comp=Z,1.2nm,0.8s,baz=260,slow=4.9,SNR=9.9
ILAR Eielson Array 88.16 25 P P 19 35 30.6 -0.5
PAX Paxson 88.72 27 P P 19 35 33.5 -0.4
PAX IAmb IAmb 19 35 36.2
comp=Z,7.6nm,1.2s
RIDG Independent Ri 89.01 26 P P 19 35 35.3 +0.1
RIDG IAmb IAmb 19 35 37.0
comp=Z,6.7nm,0.8s
BMAR Burnt Mountain 89.18 23 P P 19 35 37.5 +1.6
DOT Dot Lake 89.36 27 P P 19 35 36.9 +0.1
DOT IAmb IAmb 19 35 38.2
comp=Z,3.7nm,1.0s
K27K Chicken 90.24 26 P P 19 35 41.5 +0.6
L27K Beaver Creek, 90.38 27 P P 19 35 42.2 +0.7
L27K IAmb IAmb 19 35 43.9
comp=Z,5.0nm,0.9s
BCAR Beaver Creek A 90.40 27 P P 19 35 42.5 +0.8
DAWY Dawson 91.42 26 P P 19 35 47.3 +0.9
DAWY IAmb IAmb 19 35 48.5
comp=Z,5.6nm,1.1s
BRTR Keskin Array B 91.86 310 P P 19 35 48.8 -0.3
comp=Z,1.1nm,0.7s,baz=116,slow=5.6,SNR=4.5
BRTR Keskin Array B 91.86 310 P P 19 35 48.2 -0.9
EPYK Eagle Plains 92.33 24 P P 19 35 50.3 -0.2
ARCES ARCESS Array B 93.39 340 P P 19 35 55.0 -0.3
comp=Z,1.3nm,0.7s,baz=77,slow=6.4,SNR=5.5
ARCES LR LR 20 23 31.9
comp=Z,46nm,18.8s,baz=160,slow=39
ARCES ARCESS Array B 93.39 340 P P 19 35 55.2 -0.1
TAOE Nuku Hiva Isla 93.44 99 *e*LR LR 20 06 05.2
comp=Z,122nm,22.7s
WHY Whitehorse 93.86 29 P P 19 35 59.1 +1.3
AKASG Malin Array Be 94.22 321 P P 19 35 58.5 -1.1
comp=Z,0.3nm,0.4s,baz=73,slow=3.1,SNR=1.9
FINES FINESS Array B 94.55 332 P P 19 36 01.5 +0.8
comp=Z,0.9nm,0.8s,baz=54,slow=7.1,SNR=1.5
FINES LR LR 20 21 28.1
comp=Z,48nm,20.6s,baz=82,slow=37
MNK Minsk 94.60 325 *i* P P 19 35 52.7 -8.5
comp=E,3.0nm,0.9s
MNK *i* P P 19 35 52.7 -8.5
comp=N,12nm,0.7s,baz=262
MNK *i* P P 19 35 52.7 -8.5
MNK *i* pP **PcP 19 36 07.4 +5.9**
MNK *i* PP PP 19 39 38.9 -11
MNK *i* PPP PPP 19 41 42.8
MNK *i* S **SKSac 19 46 23.4 -9.3**
MNK *i* PS **PS 19 48 29.6 -2.5**
MNK *i* SS SS 19 53 22.6 -11
MNK *i* SSS SSS 19 57 09.7
MNK *i* LQ LQ 20 12 44.6
MNK *i* LR LR 20 15 57.0
MNK *i* LRM MLR 20 18 46.9
comp=Z,96nm,23.4s
MNK *i* LRM MLR 20 19 26.8
comp=E,12nm,24.5s
MNK *i* LRM MLR 20 19 26.8
comp=N,31nm,17.6s
DLBC Dease Lake 96.67 31 LR LR 20 14 30.6
comp=N,48nm,21.2s,baz=268,slow=32
BUR08 Bucovina Ar. S 97.23 318 P P **19 36 13.1 -0.4**
BUR08 IAmb IAmb 19 36 34.4
comp=Z,5.5nm,1.3s
TORD Torodi Ar. Bea 123.59 286 PKP PKiKP 19 41 39.4 +0.2
comp=Z,1.4nm,0.7s,baz=56,slow=2.0,SNR=7.0
TXAR Lajitas Array 123.78 54 PKP PKiKP 19 41 40.2 +0.9
comp=Z,0.5nm,0.8s,baz=279,slow=3.3,SNR=5.7
TXAR Lajitas Array 123.78 54 PKPdf 19 41 38.9 -0.2

*IDC **13** 19:55:40.7±2.0, 17°.70S×178°.40W, h597km±19km, mb3.0/6, mb1 3.3/7, mb1mx3.0/34, mbtmp3.9/7, Error ellipse: s-maj=45.2km s-min=20.1km az=148.0*
*NEIC **13** 19:55:40.1±2.4, 17°.5S±0°.3×178°.3W±0°.2, h581km±12km, mb4.3/6, Error ellipse: s-maj=48.6km s-min=24.1km az=157.0*
ISC 13 19:55:40.4±1.2, 17°.7S±0°.3×178°.4W±0°.2, h600km, n21, σ0§43/20, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**269**	P	**P**	**19 57 02.2**	**0.0**
	4.1nm,0.3s,baz=85,slow=3.9,SNR=20						
WRA	**Warramunga Arr**	**44.70**	**259**	P	**P**	**20 03 01.7**	**-0.1**
	0.5nm,0.6s,baz=97,slow=7.1,SNR=7.6						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**20 03 03.4**	**+0.2**
	1.8nm,0.6s,baz=89,slow=8.6,SNR=37						
ASAR				PcP	**PcP**	**20 04 31.3**	**-0.3**
	0.4nm,0.6s,baz=101,slow=3.9,SNR=4.6						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**20 03 03.1**	**0.0**
MJAR	**Matsushiro Arr**	**67.79**	**323**	P	**P**	**20 05 40.0**	**+0.2**
	0.9nm,0.6s,baz=156,slow=6.4,SNR=2.6						
MJAR	**Matsushiro Arr**	**67.79**	**323**	IAmb	IAmb	20 05 53.8	
	comp=Z,9.9nm,1.8s						
PEA0B	**Petropavlovsk-**	**73.52**	**345**	P	**P**	**20 06 13.6**	**+0.6**
PEA0B				IAmb	IAmb	20 07 59.9	
	comp=Z,33nm,1.8s						
PETK	**Petropavlovsk-**	**73.52**	**345**	P	**P**	**20 06 13.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=126,slow=7.7,SNR=7.9						
MCCM	**Marconi Confer**	**76.14**	**42**	P	**P**	**20 06 26.8**	**-1.1**
OHAK	**Old Harbor**	**77.55**	**14**	P	**P**	**20 06 34.9**	**-0.3**
OHAK				IAmb	IAmb	20 08 45.9	
	comp=Z,36nm,1.6s						
BEKR	**Beckworth**	**78.73**	**42**	P	**P**	**20 06 42.2**	**0.0**
BEKR				IAmb	IAmb	20 07 16.4	
	comp=Z,11nm,2.0s						
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**	**20 07 19.0**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=220,slow=6.3,SNR=11						
REDW	**Red Top Meadow**	**86.63**	**42**		pP	20 09 24.0	-5.6
PDAR	**Pinedale Array**	**87.20**	**43**	P	**P**	**20 07 24.0**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=217,slow=4.6,SNR=6.1						
BNN	**Bunyan**	**143.56**	**312**		**PKPdf**	**20 14 08.1**	**-0.2**
BRTR	**Keskin Array B**	**144.68**	**315**	PKP	**PKPab**	**20 14 11.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=118,slow=1.0,SNR=4.6						
BRTR	**Keskin Array B**	**144.68**	**315**		**PKPdf**	**20 14 10.4**	**+0.2**
CLL	**Collm**	**145.30**	**347**	*i* PKPbc	**PKPbc**	**20 14 12.0**	**+0.1**
	comp=Z,5.0nm,1.0s						
MMAI	**Mount Meron Ar**	**146.08**	**303**	PKPbc	**PKPbc**	**20 14 15.0**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=45,slow=2.2,SNR=4.8						
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc	**PKPbc**	**20 14 18.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=24,slow=2.7,SNR=14						
GERES	**GERESS Array B**	**147.45**	**345**		**PKPbc**	**20 14 18.2**	**+0.2**

*IDC **13** 20:02:04.0±1.4, 38°.64N×70°.50E, h0km, mb3.7/5, mb1 3.8/11, mb1mx3.6/50, mbtmp3.7/11, ML3.3/6, Error ellipse: s-maj=24.6km s-min=15.5km az=151.0*
*NNC **13** 20:02:05.6±2.3, 38°.82N×70°.21E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=17.9km s-min=13.6km az=9.0*
*KRNET **13** 20:02:05.3±0.1, 38°.93N×70°.49E, h14km, mb4.0*
ISC 13 20:02:05.4±1.6, 38°.88N±0°.06×70°.41E±0°.05, h6km±8km, n36, σ2§54/43, mb3.7/5, 19C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.14**	**331**	⇑*i*P	**Pg**	**20 02 08.6**	**+0.2**
	baz=98						
GAR				⇑*i*S	**Sg**	**20 02 11.0**	**+0.5**
	baz=98						
CHGR	**Chuyangaron**	**1.00**	**258**	⇑*i*P	**Pn**	**20 02 25.7**	**-0.4**
	baz=56						
CHGR				⇑*i*S	**Sn**	**20 02 40.4**	**-0.1**
	baz=56						
BTK	**Batken**	**1.22**	**15**	⇑*i*P	**Pn**	**20 02 27.0**	**-2.2**
	baz=13						
BTK				⇑*i*S	**Sb**	**20 02 42.9**	**-2.2**
	baz=13						
DRK	**Karamyk**	**1.24**	**60**	⇑*i*P	**Pn**	**20 02 27.1**	**-2.5**
	baz=61						
DRK				⇑*i*S	**Sb**	**20 02 43.1**	**-2.7**
	baz=61						
TRKS	**Terek-Say**	**2.71**	**12**	⇑*i*P	**Pn**	**20 02 49.7**	**0.0**
	baz=11						
TRKS				⇑*i*S	**Sn**	**20 03 22.2**	**-0.7**
	baz=11						
MNAS	**Manas**	**3.94**	**23**	⇑*e*P	**Pn**	**20 03 07.6**	**+1.0**
	baz=23						
MNAS				⇑*i*S	**Sn**	**20 03 53.0**	**-0.3**
	baz=23						
AML	**Almayashu**	**4.11**	**37**	P	Pb	20 03 13.0	-5.4
	SNR=16						
KK31	**Karatay Array**	**4.22**	**1**	⇓Pn	**Pn**	**20 03 13.4**	**+3.0**
	6.2nm,0.5s,baz=168,slow=14,SNR=102						
KK31				⇓Pg	**Pg**	**20 03 23.7**	**-2.7**
	15nm,0.7s,baz=326,slow=52,SNR=7.6						
KK31				⇓Sn	**Sn**	**20 04 04.9**	**+4.9**
	30nm,0.6s						
KK31				⇑Lg	Lg	20 04 19.5	
	35nm,0.5s						
MRKS	**Merke**	**4.42**	**28**	Pg	**Pn**	**20 03 16.4**	**+3.3**
	10nm,0.5s						
MRKS				Lg	Lg	20 04 34.4	
	38nm,0.8s						
EKS2	**Erkin-Say**	**4.57**	**33**	P	**Pn**	**20 03 19.0**	**+3.8**
	SNR=28						
AAK	**Ala-Archa**	**4.88**	**38**	Pn	Pn	20 03 23.6	+4.2
	8.3nm,0.3s,baz=205,slow=5.0,SNR=19						
AAK				Sn	**Sn**	**20 04 17.6**	**+1.4**
	1.1nm,0.3s,baz=10,slow=1.8,SNR=1.5						
AAK	**Ala-Archa**	**4.88**	**38**	P	Pn	20 03 23.4	+4.0
	SNR=12						
AAK	**Ala-Archa**	**4.88**	**38**	⇓Pn	**Pn**	**20 03 22.9**	**+3.5**
	19nm,0.7s						
AAK				⇑Lg	Lg	20 04 42.2	
	42nm,0.8s						
KBK	**Karagaybulak**	**5.11**	**41**	P	Pn	20 03 28.0	+5.3
	SNR=18						
CHMS	**Chumysh**	**5.27**	**37**	P	**Pn**	**20 03 28.4**	**+3.6**
	SNR=26						
ULHL	**Ulahol**	**5.58**	**51**	P	**Pn**	**20 03 32.2**	**+3.1**
	SNR=8.6						
TKM2	**Tokmak 2**	**5.64**	**43**	P	**Pn**	**20 03 33.7**	**+3.8**
	SNR=7.1						
TKM2	**Tokmak 2**	**5.64**	**43**	⇑Pn	**Pn**	**20 03 32.8**	**+2.9**
	21nm,0.9s						
TKM2				⇑Sn	**Sn**	**20 04 40.9**	**+5.7**
	27nm,0.8s						
DGS	**Degeres**	**5.96**	**41**	Pg	Pn	20 03 39.2	+5.0
	4.6nm,0.8s						
DGS				Lg	Lg	20 05 13.6	
	11nm,0.9s						
KOTS	**Kotyrbulak**	**6.68**	**47**	Pg	Pn	20 03 48.6	+4.4
	8.3nm,0.7s						
KOTS				Lg	Lg	20 05 30.7	
	16nm,0.6s						
GEYT	**Alibeck**	**9.69**	**268**	Sn	**Sn**	**20 06 12.5**	**-2.1**
	0.6nm,0.3s,baz=64,slow=26,SNR=2.1						
MAKZ	**Makanchi**	**11.61**	**43**	⇓Pn	**Pn**	**20 04 55.0**	**+3.4**
	1.6nm,0.9s						
MK31	**Makanchi Array**	**11.77**	**44**	⇑Pn	**Pn**	**20 04 55.3**	**+1.5**
	2.5nm,0.8s,baz=228,slow=13,SNR=18						
MKAR	**Makanchi Array**	**11.77**	**44**	Pn	**Pn**	**20 04 55.7**	**+1.9**
	0.1nm,0.3s,baz=230,slow=13,SNR=23						
AB31	**Akbulak array**	**12.80**	**328**	⇓Pn	**Pn**	**20 05 06.2**	**-1.7**
	2.6nm,0.5s,baz=145,slow=12,SNR=60						
AB31				⇑Sn	**Sn**	**20 07 30.8**	**+0.2**
	4.4nm,0.5s						
KURBB	**Kurchatov Arra**	**13.08**	**23**	Pn	**Pn**	**20 05 10.3**	**-1.3**
	0.1nm,0.3s,baz=214,slow=12,SNR=5.2						
KURBB				Lg	Lg	20 08 55.7	
	0.0nm,0.3s,baz=243,slow=42,SNR=3.0						
BVAR	**Borovoye Array**	**14.15**	**360**	Pn	**Pn**	**20 05 26.4**	**+0.1**
	0.2nm,0.3s,baz=138,slow=6.9,SNR=4.5						
AKTO	**Aktyubinsk**	**14.51**	**327**	Pn	**Pn**	**20 05 31.5**	**+0.3**
	0.1nm,0.3s,baz=133,slow=16,SNR=2.5						
AKTO				Sn	**Sn**	**20 08 06.1**	**-6.2**
	0.1nm,0.3s,baz=287,slow=20,SNR=3.8						
AKTO	**Aktyubinsk**	**14.51**	**327**	⇓Pn	**Pn**	**20 05 31.8**	**+0.6**
	5.6nm,0.8s						
AKTO				⇑Sn	**Sn**	**20 08 12.9**	**+0.6**
	8.6nm,0.8s						
ZALV	**Zalesovo Beam**	**18.00**	**28**	P	**P**	**20 06 16.1**	**-0.5**
	0.5nm,0.3s,baz=231,slow=11,SNR=14						
FINES	**FINESS Array B**	**35.27**	**324**	P	**P**	**20 09 01.2**	**+0.7**
	1.3nm,0.9s,baz=110,slow=10,SNR=4.9						
NB2	**NORSAR Array B**	**42.22**	**322**	P	**P**	**20 09 59.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=79,slow=7.9						
NOA	**NORSAR Array B**	**42.22**	**322**	P	**P**	**20 09 59.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=94,slow=8.0,SNR=3.9						
ESDC	**Sonseca Array**	**55.96**	**296**	P	**P**	**20 11 45.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=58,slow=6.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.33**	**267**	P	**P**	**20 12 48.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=56,slow=6.3,SNR=2.2						
WRA	**Warramunga Arr**	**83.64**	**122**	P	**P**	**20 14 34.0**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=321,slow=4.6,SNR=4.7						

KRNET 13 20:02:45.1±0.1, 40°.74N×78°.88E, mb2.4, 10C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.78**	**348**	⇑*i*P	Pn	20 03 18.1	+0.7
	baz=49						
PRZ				⇑*i*S	Sg	20 03 43.0	+0.5
	baz=49						
KDJ	**Kajisay**	**1.89**	**318**	⇑*i*P	Pb	20 03 20.3	-0.4
	baz=18						
KDJ				⇑*i*S	Sb	20 03 44.7	-0.3
	baz=18						
ANVS	**Anan'yevo**	**2.24**	**336**	⇑*i*P	Pn	20 03 24.6	+0.9
	baz=36						
ANVS				⇑*i*S	Sb	20 03 53.9	-1.0
	baz=36						
ULHL	**Ulahol**	**2.49**	**308**	⇑*e*P	Pn	20 03 28.7	+1.5
	baz=8.0						
ULHL				⇑*i*S	Sn	20 04 00.1	+1.7
	baz=8.0						
BOOM	**Boomskoye usch**	**2.82**	**309**	⇑*i*P	Pn	20 03 32.8	+1.2
	baz=9.0						
BOOM				⇑*i*S	Sn	20 04 08.1	+1.7
	baz=9.0						

*NEIC **13** 20:08:14.0±1.0, 43°.69N±0°.05×105°.28W±0°.06, h0km±2km, ML3.3/46, Error ellipse: s-maj=9.8km s-min=6.9km az=331.0*
*IDC **13** 20:08:14.5±1.5, 44°.21N×105°.90W, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.5/40, mbtmp3.8/3, ML3.7/2, MS1.8/1, Ms1 1.8/1, ms1mx1.7/60, Error ellipse: s-maj=57.5km s-min=8.4km az=145.0*
ISC 13 20:08:12.7±0.9, 43°.66N±0°.05×105°.30W±0°.05, h0km, n55, σ1§30/55, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**63**		**Pg**	**20 08 32.9**	**+0.5**
K22A	**Casper**	**1.35**	**222**		**Pg**	**20 08 38.6**	**0.0**
K22A				IAML		20 09 02.0	
	comp=N,513nm,0.3s						
K22A				IAML		20 09 04.4	
	comp=E,521nm,0.3s						
PHWY	**Pilot Hill**	**2.36**	**183**		**Pb**	**20 08 55.6**	**-0.7**
RWWY	**Rawlins**	**2.42**	**216**		**Pb**	**20 08 56.7**	**-0.6**
RWWY				IAML		20 09 31.6	
	comp=E,139nm,0.3s						
RWWY				IAML		20 09 31.7	
	comp=E,214nm,0.7s						
LAO	**LASA Array**	**3.10**	**348**		**Pn**	**20 09 04.3**	**+1.4**
LAO				IAML		20 10 00.0	
	comp=E,139nm,0.9s						
RLMT	**Red Lodge**	**3.20**	**299**		**Pn**	**20 09 05.0**	**+0.6**
RLMT				IAML		20 09 57.8	
	comp=E,81nm,0.3s						
RLMT				IAML		20 09 59.3	
	comp=E,77nm,0.3s						
BW06	**Boulder Array**	**3.24**	**255**		**Pn**	**20 09 06.4**	**+1.4**
BW06				IAML		20 09 55.5	
	comp=E,62nm,0.7s						
PD31	**Pinedale Array**	**3.24**	**255**		**Pn**	**20 09 06.4**	**+1.3**
PDAR	**Pinedale Array**	**3.24**	**255**	Pn	**Pn**	**20 09 06.5**	**+1.5**
	comp=E,5.0nm,0.3s,baz=70,slow=16,SNR=84						
PDAR				Lg	Lg	20 09 50.1	
	comp=E,15nm,0.3s,baz=62,slow=32,SNR=9.4						
PDAR				LR	LR	20 10 06.9	
	comp=E,15nm,20.9s,baz=177,slow=37						
PDAR	**Pinedale Array**	**3.24**	**255**		**Pn**	**20 09 06.3**	**+1.3**
OGNE	**Ogallala**	**3.64**	**137**	Pn	**Pn**	**20 09 12.9**	**+2.5**
YMP	**Mirror Lake PI**	**3.66**	**289**		**Pn**	**20 09 12.2**	**+1.4**
GCMT	**Greycliff**	**3.77**	**306**		**Pn**	**20 09 13.4**	**+1.1**
LOHW	**Long Hollow**	**3.85**	**271**		**Pn**	**20 09 15.2**	**+1.8**
ISCO	**Idaho Springs**	**3.87**	**184**		**Pn**	**20 09 15.8**	**+2.1**
FLWY	**Flagg Ranch**	**3.93**	**278**		**Pn**	**20 09 15.7**	**+1.3**
FLWY				IAML		20 10 22.2	
	comp=E,31nm,2.1s						
FLWY				IAML		20 10 30.7	
	comp=E,33nm,1.8s						
SNOW	**Snow King Moun**	**3.97**	**269**		**Pn**	**20 09 16.3**	**+1.3**
SNOW				IAML		20 10 31.8	
	comp=E,55nm,1.1s						
SNOW				IAML		20 10 32.5	
	comp=E,39nm,1.1s						
YPP	**Pitchstone Pla**	**4.02**	**281**		**Pn**	**20 09 16.8**	**+1.0**
REDW	**Red Top Meadow**	**4.05**	**268**		**Pn**	**20 09 17.6**	**+1.4**
REDW				IAML		20 10 23.7	
	comp=E,42nm,1.3s						
REDW				IAML		20 10 34.2	
	comp=E,47nm,0.8s						
TPAW	**Teton Pass**	**4.11**	**270**		**Pn**	**20 09 18.0**	**+1.0**
TPAW				IAML		20 10 30.6	
	comp=E,22nm,1.1s						
TPAW				IAML		20 10 50.6	
	comp=E,31nm,1.0s						
YHH	**Holmes Hill**	**4.15**	**288**		**Pn**	**20 09 18.7**	**+1.1**
O20A	**White River Ci**	**4.15**	**213**		**Pn**	**20 09 17.8**	**+0.3**
O20A				IAML		20 10 37.7	
	comp=N,40nm,1.2s						
O20A				IAML		20 10 49.5	
	comp=E,41nm,1.2s						
E28A	**Huff**	**4.37**	**47**		**Pn**	**20 09 21.6**	**+1.2**
RDMU	**Red Mountain**	**4.43**	**227**		**Pn**	**20 09 21.8**	**+0.4**
RDMU				IAML		20 10 37.6	
	comp=N,27nm,1.3s						
RDMU				IAML		20 10 53.6	
	comp=E,32nm,1.0s						
QLMT	**Earthquake Lak**	**4.56**	**287**	Pn	**Pn**	**20 09 24.0**	**+0.9**
SMCO	**Snowmass**	**4.65**	**196**		**Pn**	**20 09 24.4**	**-0.2**
SMCO				IAML		20 10 48.9	
	comp=E,24nm,1.0s						
SMCO				IAML		20 10 51.3	
	comp=E,32nm,0.9s						
DGMT	**Dagmar**	**4.87**	**9**	Pn	**Pn**	**20 09 28.9**	**+1.6**
K31A	**O'Neill**	**4.90**	**100**		**Pn**	**20 09 28.5**	**+0.8**
HWUT	**Hardware Ranch**	**5.06**	**248**		**Pn**	**20 09 30.9**	**+1.0**
HWUT				IAML		20 10 53.1	
	comp=E,24nm,1.0s						
HWUT				IAML		20 10 56.6	
	comp=E,19nm,1.2s						
DLMT	**Dillon**	**5.49**	**291**		**Pn**	**20 09 37.0**	**+1.1**
HRY	**Holter Researc**	**5.53**	**306**		**Pn**	**20 09 37.1**	**+0.7**
LRM	**Limekiln Ridge**	**5.53**	**295**		**Pn**	**20 09 37.1**	**+0.6**
MCMT	**McKenzie Canyo**	**5.55**	**285**		**Pn**	**20 09 36.7**	**-0.1**
PV22	**Blue Mesa, Par**	**5.76**	**208**		**Pn**	**20 09 39.2**	**-0.4**
SPUT	**South Promonto**	**5.79**	**248**		**Pn**	**20 09 41.4**	**+1.5**
P17A	**Butcher Ranch,**	**5.84**	**226**	Pn	**Pn**	**20 09 41.8**	**+1.1**
BCYI	**Bear Canyon**	**5.88**	**279**	Pn	**Pn**	**20 09 41.9**	**+0.5**
PV04	**Paradox Valley**	**5.93**	**209**		**Pn**	**20 09 43.4**	**+1.5**
PV14	**Lion Creek, Pa**	**5.99**	**209**		**Pn**	**20 09 44.7**	**+1.9**
PV10	**Paradox Valley**	**5.99**	**209**	Pn	**Pn**	**20 09 45.1**	**+2.3**
PV20	**West Nyswonger**	**5.99**	**209**		**Pn**	**20 09 43.4**	**+0.6**
PV11	**David Mesa, Pa**	**6.00**	**208**		**Pn**	**20 09 43.9**	**+1.0**
PV16	**Nyswonger Mesa**	**6.00**	**208**		**Pn**	**20 09 44.5**	**+1.6**
SRU	**San Rafael Swe**	**6.01**	**223**		**Pn**	**20 09 44.0**	**+1.0**
PV19	**Morning Glory**	**6.03**	**209**	Pn	**Pn**	**20 09 43.9**	**+0.6**
PV03	**Paradox Valley**	**6.03**	**208**		**Pn**	**20 09 44.8**	**+1.5**
PV02	**Paradox Valley**	**6.04**	**207**		**Pn**	**20 09 44.9**	**+1.4**
PV17	**East Wray Mesa**	**6.05**	**208**		**Pn**	**20 09 44.7**	**+1.1**
PV18	**Skein Mesa, Pa**	**6.06**	**208**	Pn	**Pn**	**20 09 45.0**	**+1.3**
PV13	**Radium Mtn., P**	**6.11**	**207**		**Pn**	**20 09 45.1**	**+0.7**
TMUT	**Trail Mountain**	**6.22**	**227**		**Pn**	**20 09 47.7**	**+1.7**
ECSD	**EROS Data Cent**	**6.30**	**86**	Pn	**Pn**	**20 09 48.4**	**+1.5**
DUG	**Dugway, Tooele**	**6.59**	**241**	Pn	**Pn**	**20 09 53.1**	**+2.2**
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**20 10 25.5**	**-1.3**
	comp=E,2.4nm,0.3s,baz=229,slow=11,SNR=12						
ULM				Lg	Lg	20 12 58.9	
	comp=E,0.8nm,0.3s,baz=325,slow=16,SNR=2.2						
ARCES	**ARCESS Array B**	**61.50**	**18**	P	**P**	**20 18 28.8**	**-1.9**
	comp=E,0.7nm,0.6s,baz=332,slow=7.1,SNR=4.7						

IDC 13 20:15:46.3±4.4, 5°.38S×151°.68E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/34, mbtmp3.2/2, Error ellipse: s-maj=186.1km s-min=55.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**228**	Sn	Sn	20 18 21.9	-4.2
	1.4nm,0.3s,baz=276,slow=17,SNR=1.5						
WRA	**Warramunga Arr**	**22.23**	**228**	P	P	20 20 43.4	-1.4
	0.7nm,0.8s,baz=54,slow=9.8,SNR=2.2						
ASAR	**Alice Springs**	**24.97**	**222**	P	P	20 21 12.7	+0.8
	0.6nm,0.9s,baz=54,slow=9.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**149.41**	**287**	PKPbc	PKPbc	20 35 38.0	-0.5
	0.2nm,0.3s,baz=67,slow=2.1,SNR=2.1						

*MOS **13** 20:16:04.8±0.9, 55°.94S×28°.12W, h114km, mb5.4/11, Error ellipse: s-maj=18.5km s-min=10.3km az=112.8*
*BJI **13** 20:16:07.0±0.0, 56°.10S×28°.40W, h134km, mB5.4/6*
*NEIC **13** 20:16:08.4±1.7, 56°.00S±0°.10×28°.3W±0°.1, h139km±4km, mb5.3/106, Error ellipse: s-maj=14.3km s-min=11.6km az=206.0*
*IDC **13** 20:16:09.8±1.1, 55°.95S×28°.14W, h149km±9km, mb4.8/16, mb1 4.9/17, mb1mx4.9/20, mbtmp5.3/17, MS4.0/12, Ms1 4.0/12, ms1mx3.8/22, Error ellipse: s-maj=13.1km s-min=9.9km az=51.0*
*GCMT **13** 20:16:10.4±0.2, 55°.91S±0°.01×27°.91W±0°.02, h133km±1km, MW5.2/129, Moment Tensor Solution. s97,c123; s129,c199; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.64±.01; $M_{\theta\theta}$-0.49±.02; $M_{\phi\phi}$-0.14±.02; $M_{r\theta}$-0.49±.01; $M_{r\phi}$0.46±.02; $M_{\theta\phi}$0.11±.01; Best double couple: $M_0$0.89100×10^{17} NP1:ϕ_s142.00000°, δ31.00000°, λ118.00000°. N

SNAA Sanae 19.07 155 P **P** **20 20 19.2 -0.5**
PMSA Palmer Station 19.54 229 P **Pn** **20 20 26.8 -0.9**
comp=Z,11nm,0.3s,baz=73,slow=7.7,SNR=114
PMSA PcP **PcP** **20 24 39.0 +0.8**
comp=Z,1.2nm,0.3s,baz=64,slow=2.2,SNR=8.4
PMSA Palmer Station 19.54 229 P **Pn** **20 20 26.7 -0.9**
PMSA IAmb IAmb 20 20 30.7
comp=Z,165nm,0.7s
MG01 Puerto William 22.19 256 P **P** **20 20 53.1 +0.1**
USHA Ushuaia 22.66 256 P **P** **20 20 58.0 +0.5**
comp=Z,69nm,0.7s,baz=64,slow=4.6,SNR=16
MG02 Cerro Sombrero 23.86 260 P **P** **20 21 08.5 0.0**
GO09 Cerro Castillo 26.25 262 P **P** **20 21 29.4 -0.7**
GO09 IAmb IAmb 20 21 49.6
comp=Z,127nm,1.3s
TRQA Tornquist 28.77 294 P **P** **20 21 52.8 +0.1**
TRQA pmax pmax
comp=Z,20nm,0.6s
TRQA Tornquist 28.77 294 P **P** **20 21 52.8 +0.1**
TRQA Tornquist 28.77 294 *e*P **P** **20 21 53.2 +0.5**
PLTB Pedras Altas 30.01 313 P **P** **20 22 04.5 +0.8**
PLTB IAmb IAmb 20 22 05.4
comp=Z,58nm,0.6s
PLTB Pedras Altas 30.01 313 *e*P **P** **20 22 04.8 +1.0**
LL02 Futaleuf 30.52 276 P **P** **20 22 07.1 -1.0**
CPSB Cacapava Do Su 31.14 315 *e*P **P** **20 22 13.7 0.0**
TER01 Tubaro-SC 31.23 323 *e*P **P** **20 22 14.9 +0.5**
PLCA Paso Flores 31.43 281 P **P** **20 22 15.2 -1.0**
comp=Z,15nm,0.9s,baz=144,slow=9.1,SNR=14
PLCA PcP **PcP** **20 25 05.9 +0.2**
comp=Z,6.9nm,0.7s,baz=29,slow=2.3,SNR=12
PLCA ScP **ScP** **20 28 33.4 -1.2**
comp=Z,2.8nm,1.0s,baz=154,slow=2.7,SNR=3.1
PLCA Paso Flores 31.43 281 *e*P **P** **20 22 13.6 -2.6**
PLCA Paso Flores 31.43 281 P **P** **20 22 14.7 -1.4**
PLCA Paso Flores 31.43 281 *e*P **P** **20 22 15.3 -0.9**
SYO Syowa Base 32.02 141 *e*P **P** **20 22 18.6 -2.3**
SYO Syowa Base 32.02 141 *e*pP pP 20 22 45.2 -6.7
SYO Syowa Base 32.02 141 *e*sP sP 20 23 04.4 -4.3
ITQB Itaqui 33.10 311 P **P** **20 22 31.2 +0.4**
ITQB IAmb IAmb 20 22 32.0
comp=Z,62nm,0.9s
ITQB Itaqui 33.10 311 *e*P **P** **20 22 29.5 -1.3**
ITAB Concordia 33.48 319 P **P** **20 22 35.1 +1.1**
ITAB Concordia 33.48 319 *e*P **P** **20 22 35.6 +1.6**
QSPA South Pole Qui 34.30 180 P **P** **20 22 42.1 +1.1**
comp=Z,118nm,0.7s,baz=207,slow=3.3,SNR=417
QSPA PcP **PcP** **20 25 13.6 +0.2**
comp=Z,7.3nm,0.4s,baz=66,slow=3.1,SNR=6.0
QSPA ScP **ScP** **20 28 43.8 -0.5**
comp=Z,2.6nm,0.5s,baz=263,slow=2.4,SNR=6.1
QSPA South Pole Qui 34.30 180 P **P** **20 22 41.6 +0.6**
PET01 Itanhaem-SP 34.58 328 *e*P **P** **20 22 44.4 +0.8**
PARB Paraibuna 35.02 331 *e*P **P** **20 22 47.9 +0.5**
SPB Sao Paulo 35.29 328 P **P** **20 22 49.2 -0.4**
SPB IAmb IAmb 20 22 52.6
comp=Z,28nm,0.7s
SPB Sao Paulo 35.29 328 *e*P **P** **20 22 49.0 -0.7**
DUB01 Friburgo-RJ 35.43 337 *e*P **P** **20 22 50.6 -0.3**
VAO Valinhos 35.71 329 *e*P **P** **20 22 53.7 +0.3**
BO02 Sierra Bellavi 35.86 288 P **P** **20 22 53.6 -0.9**
BO02 **PcP** **20 25 18.8 +0.3**
FRTB Fartura 36.18 325 *e*P **P** **20 22 56.3 -1.0**
GO05 Huala 36.31 287 P **P** **20 22 57.2 -1.1**
GO05 **PcP** **20 25 19.6 -0.1**
CPUP Villa Florida 36.33 312 P **P** **20 22 58.8 +0.3**
comp=Z,29nm,0.6s,baz=152,slow=7.8,SNR=40
CPUP PcP **PcP** **20 25 20.6 +0.8**
comp=Z,11nm,0.9s,baz=162,slow=2.3,SNR=6.3
CPUP ScP **ScP** **20 28 52.8 +0.8**
comp=Z,10nm,0.8s,baz=158,slow=3.9,SNR=12
CPUP LR LR 20 38 37.4
comp=Z,86nm,18.4s,baz=172,slow=37
CPUP Villa Florida 36.33 312 P **P** **20 22 58.1 -0.4**
CPUP IAmb IAmb 20 22 59.5
comp=Z,38nm,0.8s
CPUP Villa Florida 36.33 312 *e*P **P** **20 22 59.2 +0.8**
ACHE Chepes 36.56 296 *i*P **P** **20 22 59.6 -1.0**
MT09 Talagante 36.74 289 P **P** **20 23 00.5 -1.6**
MT09 IAmb IAmb 20 23 01.9
comp=Z,30nm,0.6s
RTCV Cerro Valdivia 36.95 294 *i*P **P** **20 23 01.7 -2.1**
BSCB Bom Sucesso 37.03 334 *e*P **P** **20 23 04.9 +0.3**
AUSP Uspallata 37.11 292 *i*P **P** **20 23 05.0 -0.3**
APLL PUNTA DE LOS L 37.11 297 *i*P **P** **20 23 04.4 -0.8**
VA05 Santo Domingo 37.17 288 P **P** **20 23 04.9 -0.6**
VA05 IAmb IAmb 20 23 05.5
comp=Z,71nm,0.8s
MT02 Curacav 37.22 289 P **P** **20 23 05.3 -0.7**
MT02 IAmb IAmb 20 23 06.6
comp=Z,104nm,1.3s
ZON Zonda 37.28 294 P **P** **20 23 05.8 -0.7**
ZON 20 25 23.1
ZON pmax pmax
comp=Z,32nm,0.7s
ZON Zonda 37.28 294 P **P** **20 23 05.8 -0.7**
ZON IAmb IAmb 20 23 06.6
comp=Z,32nm,0.7s
ZON **PcP** **20 25 23.1 +0.3**
ZON Zonda 37.28 294 *i*P **P** **20 23 06.0 -0.6**
VA03 San Esteban 37.30 290 P **P** **20 23 07.3 +0.6**
VA03 IAmb IAmb 20 23 07.8
comp=Z,38nm,0.7s
VA03 **PcP** **20 25 23.3 +0.5**
RTLL Cerro Villicun 37.35 294 *i*P **P** **20 23 06.6 -0.5**
AVFE Valle Fertil 37.36 296 *e*P **P** **20 23 06.8 -0.5**
ROC1 El Roble 37.38 290 *i*P **P** **20 23 07.2 -0.3**
RTLS Leoncito 37.40 293 *i*P **P** **20 23 07.6 -0.2**
TRCB Terra Rica 37.71 321 P **P** **20 23 10.9 +0.6**
TRCB Terra Rica 37.71 321 *e*P **P** **20 23 10.9 +0.6**
RIB01 Linhares ES 37.72 341 *e*P **P** **20 23 10.9 +0.6**
BB19B Bebedouro 37.99 328 *e*P **P** **20 23 11.8 -0.8**
ACLC CERRO LA CRUZ 38.11 298 *i*P **P** **20 23 13.2 -0.6**
ACCO Cerro Coronel 38.24 294 *i*P **P** **20 23 15.6 +0.6**
BSFB Barra de Sao F 38.27 340 *e*P **P** **20 23 14.4 -0.5**
PCMB Pacaembu 38.35 324 *e*P **P** **20 23 15.2 -0.3**
SJMB Sao Joao De Ma 38.46 340 *e*P **P** **20 23 17.1 +0.7**
ACDV Cuesta del Vie 38.60 295 *i*P **P** **20 23 18.5 +0.7**
CO02 Combarbal 38.75 292 P **P** **20 23 18.9 0.0**
CO02 IAmb IAmb 20 23 20.2
comp=Z,40nm,0.8s
AROD Rodeo 38.79 294 *i*P **P** **20 23 20.1 +0.6**
AGUA GUANDACOL 38.84 296 *i*P **P** **20 23 20.2 +0.5**
NAN01 Guarapari, ES 39.10 342 *e*P **P** **20 23 21.4 -0.4**
VCA Vinchina 39.30 297 *i*P **P** **20 23 24.5 +0.9**
DIAM Diamantina, MG 39.37 336 *e*P **P** **20 23 24.9 +0.6**
GO04 Tololo Observa 39.47 293 P **P** **20 23 25.4 +0.3**
GO04 IAmb IAmb 20 23 26.4
comp=Z,35nm,0.7s
ITRB Iturama 39.83 326 *e*P **P** **20 23 28.3 +0.4**
GUA01 Guaratinga, BA 40.28 343 *e*P **P** **20 23 31.0 -0.6**
MAW Mawson 40.56 144 P **P** **20 23 33.7 +0.4**
comp=Z,22nm,0.6s,baz=233,slow=8.0,SNR=48
MAW PcP **PcP** **20 25 33.6 +1.2**
comp=Z,16nm,0.7s,baz=236,slow=3.6,SNR=7.0
MAW ScP **ScP** **20 29 09.7 +2.1**
comp=Z,6.6nm,0.7s,baz=213,slow=4.9,SNR=7.3
MAW LR LR 20 39 41.5
comp=Z,134nm,18.0s,baz=239,slow=35
MAW Mawson 40.56 144 P **P** **20 23 33.5 +0.2**
IPMB Ipameri, GO 40.82 330 *e*P **P** **20 23 36.6 +0.5**
AQDB Aquidauana 40.95 319 P **P** **20 23 37.0 0.0**
AQDB Aquidauana 40.95 319 *e*P **P** **20 23 36.6 -0.4**
MC01 Montes Claros 40.97 337 *e*P **P** **20 23 38.0 +0.7**
SUR Sutherland 41.16 76 P **P** **20 23 39.4 +0.6**
comp=Z,20nm,1.0s,baz=153,slow=6.9,SNR=4.6
SUR Sutherland 41.16 76 P **P** **20 23 39.8 +0.9**
AC04 Llanos de Chal 41.19 294 P **P** **20 23 38.9 -0.1**
GO03 Copiap 41.26 296 P **P** **20 23 39.4 -0.2**
GO03 IAmb IAmb 20 23 40.2
comp=Z,72nm,1.1s
AC02 Maricunga 41.33 298 P **P** **20 23 41.7 +1.0**
CMC01 Camacan, BA 41.43 343 *e*P **P** **20 23 41.7 +0.7**
NBIT Itapeh - BA 41.84 344 *e*P **P** **20 23 44.9 +0.6**
JANB Januaria 42.65 337 *e*P **P** **20 23 51.4 +0.5**
GO02 Mina Guanaco 42.95 298 P **P** **20 23 53.9 +0.3**
BDFB Brasilia 43.00 331 P **P** **20 23 55.3 +1.5**
comp=Z,14nm,0.6s,baz=157,slow=6.0,SNR=19
BDFB LR LR 20 40 53.9
comp=Z,202nm,18.5s,baz=135,slow=34
BDFB Brasilia 43.00 331 P **P** **20 23 55.2 +1.5**
GDU01 Guandu, BA 43.05 344 *e*P **P** **20 23 54.9 +0.8**
PP1B Ponte de Pedra 43.30 321 *e*P **P** **20 23 56.7 +0.6**

PB14 IPOC Station P 43.80 298 P **P** **20 24 00.0 -0.4**
PB14 IAmb IAmb 20 24 00.8
comp=Z,52nm,1.1s
ARAG Araguaiana, MT 44.04 326 *e*P **P** **20 24 03.3 +1.3**
PB15 IPOC Station P 44.53 300 P **P** **20 24 06.6 +0.5**
PB15 IAmb IAmb 20 24 11.3
comp=Z,40nm,0.8s
LVC Limon Verde 44.77 301 PcP **PcP** **20 25 48.5 +0.8**
comp=Z,16nm,0.6s,baz=145,slow=1.7,SNR=5.2
LVC Limon Verde 44.77 301 P **P** **20 24 09.3 +1.1**
LVC 20 25 48.5
LVC pmax pmax
comp=Z,250nm,1.5s
LVC Limon Verde 44.77 301 P **P** **20 24 09.3 +1.1**
LVC Limon Verde 44.77 301 *e*P **P** **20 24 09.2 +1.1**
PB10 IPOC Station P 44.80 299 P **P** **20 24 07.9 -0.2**
PB10 IAmb IAmb 20 24 08.8
comp=Z,37nm,0.5s
PB06 IPOC Station P 45.00 300 P **P** **20 24 10.4 +0.6**
PB06 IAmb IAmb 20 24 12.0
comp=Z,42nm,0.7s
SALV Santo Antonio 45.15 321 *e*P **P** **20 24 11.6 +0.7**
SDBA SAO DESIDERIO 45.34 337 *e*P **P** **20 24 12.8 +0.4**
PB04 IPOC Station P 45.60 300 P **P** **20 24 15.0 +0.5**
PB09 IPOC Station P 45.62 301 P **P** **20 24 16.1 +1.5**
NBPN Ponto Novo - B 45.97 343 *e*P **P** **20 24 17.5 +0.3**
PB07 IPOC Station P 45.99 301 P **P** **20 24 18.2 +0.6**
SBA Scott Base 46.14 184 P **P** **20 24 19.8 +1.9**
SBA pmax pmax
comp=Z,107nm,1.0s
SBA Scott Base 46.14 184 P **P** **20 24 19.8 +1.9**
SBA IAmb IAmb 20 24 20.9
comp=Z,107nm,1.0s
PB01 IPOC Station P 46.38 302 P **P** **20 24 21.3 +0.8**
PEXB Peixe 46.46 332 *e*P **P** **20 24 21.8 +0.7**
BOSA Boshof 46.49 77 ScP **ScP** **20 29 33.4 +0.9**
baz=176,slow=3.1
NBAN Anadia - AL 46.60 349 *e*P **P** **20 24 22.4 +0.3**
VNDA Vanda 46.65 183 P **P** **20 24 23.4 +1.6**
comp=Z,95nm,0.8s,baz=186,slow=6.4,SNR=448
VNDA Vanda 46.65 183 P **P** **20 24 22.6 +0.8**
PTLB Pontes e Lacer 46.84 317 *e*P **P** **20 24 24.1 +0.2**
PB08 IPOC Station P 46.99 303 P **P** **20 24 26.7 +1.1**
TA01 Diego Aracena 47.12 301 P **P** **20 24 26.9 +0.7**
TA01 IAmb IAmb 20 24 27.8
comp=Z,133nm,1.4s
TA02 Huaiquique 47.35 301 P **P** **20 24 28.4 +0.5**
SNDB Serra Nova Dou 47.41 329 *e*P **P** **20 24 30.1 +1.6**
NBRF Rio Formoso - 47.47 351 *e*P **P** **20 24 28.8 -0.1**
PB11 IPOC Station P 47.56 302 P **P** **20 24 30.4 +0.7**
PSGCX Pisagua 47.92 302 P **P** **20 24 33.0 +0.6**
MNMC Minye Minye 48.07 303 P **P** **20 24 34.9 +1.1**
NBLV Livramento - P 48.95 348 *e*P **P** **20 24 41.1 +0.8**
H10N1 ASCENSION HYDR 49.19 18 T T 21 18 33.8
baz=189,slow=76,SNR=5.4
H10N3 ASCENSION HYDR 49.19 18 T T 21 18 25.7
baz=189,slow=76,SNR=6.3
H10N2 ASCENSION HYDR 49.21 18 T T 21 18 11.6
baz=189,slow=76,SNR=19
SMTB Santa Maria do 49.39 334 *e*P **P** **20 24 45.1 +1.5**
LBTB Lobatse 49.52 74 P **P** **20 24 44.7 +0.1**
LBTB Lobatse 49.52 74 P **P** **20 24 44.7 +0.1**
VILB Vilhena 49.52 317 *e*P **P** **20 24 45.2 +0.6**
NBPV Pedro Velho 49.72 351 *e*P **P** **20 24 47.1 +1.1**
LPAZ La Paz 49.86 306 P **P** **20 24 48.8 +0.9**
comp=Z,48nm,0.6s,baz=132,slow=5.0,SNR=156
LPAZ PcP **PcP** **20 26 07.5 +1.3**
comp=Z,9.8nm,0.7s,baz=121,slow=4.1,SNR=3.6
LPAZ ScP **ScP** **20 29 47.3 -0.2**
comp=Z,1.3nm,0.5s,baz=176,slow=2.8,SNR=5.4
LPAZ LR LR 20 48 47.2
comp=Z,74nm,18.8s,baz=148,slow=39
LPAZ La Paz 49.86 306 P **P** **20 24 48.7 +0.9**
LPAZ IAmb IAmb 20 24 50.0
comp=Z,68nm,0.9s
LPAZ ScP **ScP** **20 29 47.2 -0.2**
LPAZ La Paz 49.86 306 *e*P **P** **20 24 48.0 +0.1**
CLDB Colider 49.87 323 *e*P **P** **20 24 47.2 0.0**
TSUM Tsumeb 50.13 62 P **P** **20 24 49.7 +0.4**
NBPB Pedra_Branca-C 51.08 345 *e*P **P** **20 24 57.4 +1.1**
NBCL Cascavel-CE 52.21 347 *e*P **P** **20 25 04.5 -0.1**
NBPS Pedro II - PI 52.49 343 *e*P **P** **20 25 07.7 +0.9**
PRPB Parauapebas 52.54 333 *e*P **P** **20 25 08.5 +1.4**
NPGB Novo Progresso 53.31 326 *e*P **P** **20 25 13.2 +0.4**
NBMO Morrinhos-CE 53.34 345 *e*P **P** **20 25 14.0 +1.0**
CASY Casey 54.19 161 P **P** **20 25 19.2 +0.7**
CASY IAmb IAmb 20 25 20.6
comp=Z,64nm,0.9s
SAML Samuel 54.33 316 P **P** **20 25 20.5 +0.3**
SAML Samuel 54.33 316 P **P** **20 25 20.5 +0.3**
ROSB Rosrio 54.43 340 *e*P **P** **20 25 21.5 +0.7**
ETMB Extrema 54.78 312 *e*P **P** **20 25 23.4 +0.1**
TMAB Tom-Au,PA,Br 55.78 336 *e*P **P** **20 25 32.2 +1.7**
ITTB Itaituba 55.95 326 *e*P **P** **20 25 31.7 -0.1**
NNA Nana 57.71 300 *c*eP **P** **20 25 45.1 +0.9**
NNA pmax pmax
comp=Z,136nm,1.2s
NNA Nana 57.71 300 P **P** **20 25 44.7 +0.5**
MALB Monte Alegre 57.89 329 *e*P **P** **20 25 46.3 +0.9**
MCPB Macapa, AP 58.70 332 *e*P **P** **20 25 52.4 +1.3**
MACA Manacapuru-AM 58.73 321 *e*P **P** **20 25 50.9 -0.4**
LSZ Lusaka 58.86 70 P **P** **20 25 52.2 -0.2**
LSZ pmax pmax
comp=Z,35nm,0.9s
LSZ Lusaka 58.86 70 P **P** **20 25 52.1 -0.2**
LSZ IAmb IAmb 20 25 53.4
comp=Z,35nm,0.8s
CZSB Cruzeiro do Su 59.47 306 *e*P **P** **20 25 56.2 -0.2**
PTGA Pitinga 60.75 323 ScP **ScP** **20 30 34.3 -0.2**
comp=Z,1.8nm,0.8s,baz=284,slow=23,SNR=4.4
PTGA Pitinga 60.75 323 P **P** **20 26 04.8 -0.2**
VOI Vohitsoka 63.77 91 P **P** **20 26 23.2 -2.0**
BOAV Boa Vista 63.86 323 *e*P **P** **20 26 25.2 -0.5**
LIC Lamto 64.84 26 *e*P **P** **20 26 33.1 +1.0**
comp=Z,76nm,0.7s
KIC Kosan Boka 65.04 26 *e*P **P** **20 26 35.0 +1.6**
comp=Z,39nm,0.9s
TIC Toumodi 65.25 25 *e*P **P** **20 26 36.7 +2.0**
DBIC Dimbokro 65.31 26 P **P** **20 26 35.4 +0.3**
DBIC Dimbokro 65.31 26 P **P** **20 26 35.4 +0.3**
ABPO Ambohimpanom 66.31 89 P **P** **20 26 44.5 +2.7**
ABPO pmax pmax
comp=Z,22nm,1.2s
ABPO Ambohimpanom 66.31 89 P **P** **20 26 44.5 +2.7**
OTAV Otavalo 69.13 305 P **P** **20 27 00.7 +0.9**
OTAV pmax pmax
comp=Z,121nm,1.5s
OTAV Otavalo 69.13 305 P **P** **20 27 00.7 +0.9**
OTAV IAmb IAmb 20 27 03.2
comp=Z,121nm,1.5s
OTAV Otavalo 69.13 305 *e*P **P** **20 27 00.8 +0.9**
OTAV Otavalo 69.13 305 *e*P **P** **20 27 01.1 +1.3**
GCUF Volcan Galeras 69.50 306 *e*P **P** **20 27 03.5 +1.4**
GARC Garzon, Huila 69.52 308 *e*P **P** **20 27 01.8 -0.1**
SOTA Rioblanco 69.97 307 *e*P **P** **20 27 06.1 +1.1**
PCON Cinco Dias 70.05 308 *e*P **P** **20 27 06.7 +1.1**
BBAC Balboa, Cauca 70.16 307 *e*P **P** **20 27 06.3 +0.5**
MARP Paez Belalcaza 70.31 308 *e*P **P** **20 27 03.0 -3.8**
POPC Popayan, Colom 70.36 307 *e*P P 20 26 59.2 -7.8
PRAC Prado 70.62 310 *e*P **P** **20 27 07.7 -0.6**
CHIC Chingaza 70.95 311 *e*P **P** **20 27 06.8 -4.0**
ORTC Ortega, Tolima 70.95 309 *e*P **P** **20 27 10.1 -0.2**
ROSC El Rosal 71.39 311 P **P** **20 27 14.3 +0.9**
comp=Z,17nm,0.7s,baz=24,slow=5.9,SNR=5.3
ROSC El Rosal 71.39 311 P **P** **20 27 12.0 -1.4**
YOTC Yotoco, Valle 71.50 308 *e*P **P** **20 27 11.8 -1.9**
ANIL Santa Ana 71.54 310 *e*P **P** **20 27 15.6 +1.5**
TOLC Tolima 71.59 310 *e*P **P** **20 27 14.0 -0.5**
RUSC La Rusia 71.81 312 P **P** **20 27 14.8 -1.2**
RUSC IAmb IAmb 20 27 16.5
comp=Z,56nm,1.2s
GUY2C Guyana, Caldas 72.18 310 *e*P **P** **20 27 13.5 -4.7**
NORC Norcasia 72.27 311 *e*P **P** **20 27 16.4 -1.8**
PLMC San Jos del P 72.29 309 *e*P **P** **20 27 18.4 0.0**
BARC Barichara 72.49 313 *e*P **P** **20 27 17.7 -2.0**
MBAR Mbarara 72.61 64 LR LR 20 57 50.5
comp=Z,74nm,18.3s,baz=206,slow=34
MBAR Mbarara 72.61 64 P **P** **20 27 23.3 +2.9**
MBAR pmax pmax
comp=Z,14nm,1.1s
MBAR Mbarara 72.61 64 P **P** **20 27 23.3 +2.9**
CBOC Ciudad Bolivar 73.03 310 *e*P P 20 27 17.3 -5.6
KOWA Kowa 73.06 24 LR LR 20 55 00.3

comp=Z,87nm,18.4s,baz=210,slow=32
KOWA Kowa 73.06 24 P **P** **20 27 23.4 +0.7**
HELC Santa Helena 73.12 310 *e*P P 20 27 18.3 -5.3
TORD Torodi Ar. Bea 73.25 30 P **P** **20 27 24.8 +0.9**
comp=Z,25nm,0.6s,baz=200,slow=6.4,SNR=107
TORD LR LR 20 54 38.8
comp=Z,101nm,18.8s,baz=180,slow=32
SDV Santo Domingo 73.54 316 P **P** **20 27 25.6 -0.3**
SDV IAmb IAmb 20 27 27.2
comp=Z,55nm,0.9s
SDV Santo Domingo 73.54 316 *e*P **P** **20 27 26.7 +0.8**
ZARC Zaragoza, Cauc 74.00 311 *e*P **P** **20 27 25.0 -3.4**
DBBC Dabeiba 74.15 310 *e*P **P** **20 27 29.3 0.0**
SVB Belmont 74.31 327 P **P** **20 27 30.7 +0.6**
SVB IAmb IAmb 20 27 45.7
comp=Z,87nm,1.1s
UREC San Jos de Ur 74.52 311 *e*P **P** **20 27 30.4 -1.0**
KIBK Kibwezi 74.93 71 P **P** **20 27 35.5 +1.7**
PTAC Punta Ardita, 74.96 308 *e*P **P** **20 27 34.6 +0.7**
KMBO Kilima Mbogo 75.53 70 P **P** **20 27 36.3 -1.2**
comp=Z,0.7nm,0.3s,baz=225,slow=22,SNR=2.5
SJCC San Jacinto, C 76.30 312 P **P** **20 27 41.4 -0.1**
SJCC IAmb IAmb 20 27 43.0
comp=Z,54nm,1.0s
SJCC San Jacinto, C 76.30 312 *e*P **P** **20 27 42.3 +0.8**
WHZ Wether Hill Ro 77.62 191 P **P** **20 27 48.9 +0.3**
WHZ IAmb IAmb 20 27 49.7
comp=Z,45nm,1.0s
MLZ Mavora Lakes 78.12 192 P **P** **20 27 50.1 -1.2**
MLZ IAmb IAmb 20 27 53.2
comp=Z,66nm,1.1s
LODK Lodwar 78.40 66 P **P** **20 27 52.0 -1.3**
CDITO Canoas 78.51 305 P **P** **20 27 53.4 -0.3**
CDITO IAmb IAmb 20 27 56.4
comp=Z,90nm,1.2s
LBZ Lake Benmore 78.84 193 P **P** **20 27 55.3 0.0**
LBZ IAmb IAmb 20 27 56.5
comp=Z,61nm,1.4s
MQZ McQueen's Vall 79.16 195 P **P** **20 27 56.4 -0.6**
MQZ IAmb IAmb 20 27 58.0
comp=Z,64nm,1.1s
SRBA San Rafael, Bu 79.32 304 P **P** **20 27 59.0 +0.7**
SRBA IAmb IAmb 20 28 00.4
comp=Z,51nm,1.2s
SMRT St. Maarten 79.38 326 P **P** **20 27 58.0 -0.3**
SMRT IAmb IAmb 20 27 59.3
comp=Z,44nm,0.7s
PEZE Perez Zeledon, 79.60 304 P **P** **20 27 59.7 -0.1**
PEZE IAmb IAmb 20 28 02.1
comp=Z,50nm,1.0s
OXZ Oxford 79.62 195 P **P** **20 27 59.0 -0.5**
RIMA Rio Macho 80.02 304 P **P** **20 28 03.2 +1.0**
LTZ Lake Taylor 80.12 195 P **P** **20 28 02.6 +0.3**
JACO JACO, Garabito 80.30 304 P **P** **20 28 04.3 +0.9**
JACO IAmb IAmb 20 28 05.5
comp=Z,29nm,0.7s
CAO2 Cobano, Puntar 80.53 303 P **P** **20 28 06.1 +1.4**
CAO2 IAmb IAmb 20 28 06.9
comp=Z,69nm,1.2s
JTS Las Juntas de 80.99 304 P **P** **20 28 08.1 +1.0**
JTS pmax pmax
comp=Z,94nm,1.3s
JTS Las Juntas de 80.99 304 P **P** **20 28 08.1 +1.0**
JTS IAmb IAmb 20 28 09.4
comp=Z,94nm,1.3s
JTS Las Juntas de 80.99 304 *e*P **P** **20 28 03.6 -3.5**
TUWZ Tuamarina 81.19 197 P **P** **20 28 07.3 -0.6**
TAU Tasmania Unive 81.44 177 P **P** **20 28 08.8 -0.4**
TAU pmax pmax
comp=Z,79nm,0.9s
TAU Tasmania Unive 81.44 177 P **P** **20 28 08.8 -0.4**
TAU IAmb IAmb 20 28 10.5
comp=Z,79nm,0.9s
ESPN Las Esperanzas 82.35 305 P **P** **20 28 14.2 0.0**
ESPN IAmb IAmb 20 28 15.2
comp=Z,51nm,0.9s
ACON Acoyapa 82.56 304 P **P** **20 28 15.3 0.0**
BKZ Black Stump Fm 82.95 199 P **P** **20 28 17.6 +0.3**
BKZ IAmb IAmb 20 28 18.8
comp=Z,57nm,1.3s
SDDR Presa de Saban 83.03 319 P **P** **20 28 17.6 -0.1**
URZ Urewera 83.71 200 LR LR 21 00 14.2
comp=Z,138nm,21.1s,baz=204,slow=32
URZ Urewera 83.71 200 P **P** **20 28 21.2 +0.2**
URZ IAmb IAmb 20 28 22.2
comp=Z,42nm,1.1s
MTO3 Montecristo 86.64 302 P **P** **20 28 36.2 +0.2**
NWAO Narrogin (SRO) 86.69 151 P **P** **20 28 35.7 -0.3**
comp=Z,13nm,0.7s,baz=173,slow=3.0,SNR=8.2
NWAO Narrogin (SRO) 86.69 151 P **P** **20 28 35.7 -0.3**
NWAO pmax pmax
comp=Z,41nm,1.4s
NWAO Narrogin (SRO) 86.69 151 P **P** **20 28 35.7 -0.3**
NWAO IAmb IAmb 20 28 36.8
comp=Z,41nm,1.4s
ESQI Esquipulas 86.78 302 P **P** **20 28 36.8 +0.2**
PETF Flores 89.06 303 P **P** **20 28 47.1 -0.1**
SOR Soroa 91.11 311 P **P** **20 28 57.7 +1.1**
SOR pmax pmax
comp=Z,19nm,1.0s
SOR Soroa 91.11 311 P **P** **20 28 57.7 +1.1**
SOR IAmb IAmb 20 28 58.9
comp=Z,19nm,1.0s
CMIG Matias Romero 91.64 299 P **P** **20 29 00.0 +0.8**
comp=Z,12nm,0.8s,baz=271,slow=23,SNR=15
PPT2 Papeete2 91.78 235 *e*S **S** **20 39 48.2 -0.2**
comp=Z,162nm,34.2s
PPT2 Papeete2 91.78 235 *e*LR LR 20 58 33.4
comp=Z,302nm,33.8s
PPT Papeete 91.80 235 LR LR 21 03 19.7
comp=Z,49nm,19.1s,baz=176,slow=31
STKA Stephens Creek 92.09 171 P **P** **20 29 01.6 +0.3**
comp=Z,8.8nm,0.8s,baz=148,slow=2.5,SNR=17
STKA PP **PP** **20 32 42.3 +0.2**
comp=Z,2.8nm,0.7s,baz=209,slow=17,SNR=3.3
STKA PKKPbc **PKKPbc** **20 46 16.4 +2.5**
comp=Z,1.0nm,0.5s,baz=325,slow=3.9,SNR=5.2
STKA LR LR 21 08 01.6
comp=Z,86nm,18.6s,baz=205,slow=34
STKA Stephens Creek 92.09 171 P **P** **20 29 01.4 +0.1**
TLIG Tlapa 93.89 296 P **P** **20 29 10.7 +1.0**
TLIG IAmb IAmb 20 29 12.0
comp=Z,15nm,0.8s
KEST Kesra 96.76 30 LR LR 21 09 50.1
comp=Z,159nm,19.3s,baz=282,slow=33
ESDC Sonseca Array 97.46 19 P Pdif 20 29 25.9 +0.5
comp=Z,0.5nm,0.7s,baz=190,slow=3.6,SNR=2.7
ESDC PKKPbc **PKKPbc** **20 46 02.4 +1.1**
comp=Z,0.4nm,0.7s,baz=8.9,slow=2.4,SNR=4.9
ESDC LR LR 21 07 48.3
comp=Z,54nm,21.1s,baz=295,slow=32
ASAR Alice Springs 99.25 163 P **Pdif** **20 29 33.6 -0.3**
comp=Z,7.5nm,0.7s,baz=180,slow=4.0,SNR=75
ASAR PP **PP** **20 33 37.0 -0.5**
comp=Z,5.7nm,0.9s,baz=185,slow=7.4,SNR=12
ASAR PKiKP **PKiKP** **20 34 02.4 -0.7**
comp=Z,0.5nm,0.5s,baz=183,slow=1.1,SNR=8.2
ASAR PKKPbc **PKKPdf** **20 45 56.8 -0.5**
comp=Z,1.2nm,0.4s,baz=17,slow=2.0,SNR=24
ASAR Alice Springs 99.25 163 **Pdif** **20 29 32.8 -1.2**
ASAR PP **PP** **20 33 37.2 -0.4**
AS31 Alice Springs 99.25 163 **Pdif** **20 29 33.2 -0.8**
DZM Mont Dzumac 101.30 194 *e*LR LR 21 03 05.5
comp=Z,156nm,27.1s
WRA Warramunga Arr 102.97 163 P **Pdif** **20 29 49.8 -0.8**
comp=Z,1.9nm,0.8s,baz=202,slow=7.0,SNR=12
WRA PP **PP** **20 34 04.7 -0.9**
comp=Z,3.6nm,0.9s,baz=189,slow=6.2,SNR=6.6
WRA PKKPbc **PKKPbc** **20 45 46.6 +2.3**
comp=Z,2.6nm,0.4s,baz=352,slow=2.9,SNR=77
TXAR Lajitas Array 106.25 298 Pdiff **Pdif** **20 30 04.5 -0.4**
comp=Z,0.4nm,0.8s,baz=143,slow=8.6,SNR=4.2
TXAR PKiKP **PKiKP** **20 34 15.8 +0.2**
comp=Z,0.9nm,0.9s,baz=164,slow=3.6,SNR=5.2
TXAR PKKPbc **PKKPbc** **20 45 37.5 +2.5**
comp=Z,0.6nm,0.8s,baz=244,slow=1.1,SNR=7.0
GERES **GERESS Array B 110.13 28** PKiKP **PKiKP** **20 34 22.1 -0.1**
comp=Z,0.4nm,0.5s,baz=151,slow=3.0,SNR=5.0
KHC Kasperske Hory 110.36 28 *e*PKKP **PKKPab** **20 45 34.4 +3.5**
121A Cookes Peak, D 110.90 297 P **PKiKP** **20 34 24.4 +0.2**
baz=144
ANMO Albuquerque 112.18 300 *c i*PKIKP **PKiKP** **20 34 26.6 0.0**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
DPC Dobruska-Polom 112.20 29 *e*PKKP 20 45 26.6

CLL	Collm	112.20	27	eSP	SP	20 44 38.0	+7.1
CLL				ePPS	PPS	20 45 52.0	
CLL				eSS	SS	20 50 36.0	-5.0
CLL				eSSS	SSS	20 55 00.0	
CLL				eSSSS		20 58 12.0	
TUC	Tucson	112.23	295	P	PKiKP	20 34 26.6	0.0
	baz=143						
OSTC	Ostas	112.36	29	ePKKP		20 45 26.2	
EKA	Eskdalemuir Ar	112.79	15	PKKPbc	PKKPbc	20 45 14.6	-0.1
	comp=Z,0.5nm,0.3s,baz=354,slow=2.5,SNR=12						
T25A	Trinidad	112.95	303	P	PKiKP	20 34 28.5	+0.5
	baz=144						
214A	Organ Pipe Nat	113.00	293	P	PKiKP	20 34 28.2	+0.1
	baz=143						
SDCO	Great Sand Dun	113.96	302	P	PKiKP	20 34 30.0	0.0
	baz=143						
S22A	4UR Ranch, Cre	114.59	301	P	PKiKP	20 34 31.3	+0.1
	baz=143						
MVCO	Mesa Verde	114.98	300	P	PKiKP	20 34 32.6	+0.6
	baz=142						
WUAZ	Wupatki	115.07	297	P	PKiKP	20 34 32.7	+0.6
	baz=142						
IKP	In-Ko-Pah, Jac	115.26	291	P	PKiKP	20 34 33.2	+0.8
	baz=142						
PDMCI	Parker Dam,Lak	115.53	294	P	PKiKP	20 34 33.2	+0.4
	baz=142						
MONP2	Monument Peak	115.61	291	P	PKiKP	20 34 33.4	+0.1
	baz=142						
ISCO	Idaho Springs	115.64	303	PKIKP	PKiKP	20 34 33.6	+0.3
ISCO	Idaho Springs	115.64	303	P	PKiKP	20 34 33.9	+0.7
	baz=143						
ISCO	Idaho Springs	115.64	303		PKiKP	20 34 33.6	+0.3
BC3	Big Chuckawall	115.70	292	P	PKiKP	20 34 34.0	+0.7
	baz=142						
SMCO	Snowmass	115.80	302		PKPdf	20 34 33.6	-0.1
PV15	Paradox Valley	115.86	301		PKiKP	20 34 33.9	+0.2
PV13	Radium Mtn., P	115.88	300		PKPdf	20 34 33.4	-0.3
IRM	Iron Mountain	115.93	293	P	PKiKP	20 34 34.2	+0.6
	baz=142						
PV05	Paradox Valley	115.95	300		PKiKP	20 34 34.0	+0.2
PV03	Paradox Valley	115.97	300		PKPdf	20 34 33.5	-0.3
PV12	Saucer Basin,	116.00	300		PKPdf	20 34 33.8	0.0
PV11	David Mesa, Pa	116.02	300		PKiKP	20 34 33.9	0.0
PV14	Lion Creek, Pa	116.15	300		PKPdf	20 34 33.4	-0.7
PV22	Blue Mesa, Par	116.16	300		PKiKP	20 34 35.7	+1.5
TPFO	Pinon Flats	116.18	292	P	PKPdf	20 34 34.2	0.0
	baz=141						
U15A	North Rim	116.24	297		PKPdf	20 34 34.4	0.0
BELC	Belle Mtn. Jos	116.25	292	P	PKiKP	20 34 34.8	+0.4
	baz=141						
AKASG	Malin Array Be	116.45	37	PKP	PKPdf	20 34 33.2	-0.8
	comp=Z,1.0nm,0.4s,baz=237,slow=1.6,SNR=10						
AKASG				PKKPbc	PKKPbc	20 45 02.7	+0.7
	comp=Z,0.2nm,0.3s,baz=37,slow=5.7,SNR=4.9						
AKBB	Malin Array Si	116.45	37c	iPKIKP	PKPdf	20 34 32.7	-1.3
N23A	Red Feather La	116.66	304	P	PKiKP	20 34 35.6	+0.5
	baz=142						
GMRC	Granite Mounta	116.69	293	P	PKiKP	20 34 35.6	+0.4
	baz=141						
HEC	Hector,Ludlow	117.07	293	P	PKiKP	20 34 36.9	+1.0
	baz=141						
O20A	White River Ci	117.15	302	P	PKiKP	20 34 36.2	+0.2
	baz=142						
O20A	White River Ci	117.15	302	PKPdf	PKiKP	20 34 36.2	+0.2
BFSC	Mount Baldy Ra	117.31	291	P	PKiKP	20 34 36.8	+0.4
	baz=141						
CCUT	Cedar City	117.66	297	PKPdf	PKiKP	20 34 38.1	+1.0
GSC	Goldstone, Bar	117.68	293	P	PKiKP	20 34 37.5	+0.4
	baz=141						
SHPR	Sheep Range	117.76	295	PKPdf	PKiKP	20 34 37.3	+0.1
MSU	Marysvale	117.81	298	PKIKP	PKiKP	20 34 38.1	+0.7
MSU	Marysvale	117.81	298	PKPdf	PKiKP	20 34 38.1	+0.7
MVU	Marysvale	117.82	298		PKiKP	20 34 38.0	+0.6
SHOC	Shoshone, Teco	117.87	293	P	PKiKP	20 34 37.9	+0.6
	baz=141						
RWWY	Rawlins	117.88	304		PKPdf	20 34 36.9	-0.5
TMUT	Trail Mountain	117.94	299		PKiKP	20 34 38.1	+0.4
EDW2	Edwards Air Fo	117.98	291	P	PKiKP	20 34 38.1	+0.5
	baz=141						
TCRU	Three Creeks R	118.02	298		PKiKP	20 34 38.8	+1.0
AGMN	Agassiz Nation	118.21	315	P	PKPdf	20 34 36.9	-0.6
	baz=144						
K22A	Casper	118.31	305	P	PKPdf	20 34 37.3	-0.8
	baz=142						
K22A	Casper	118.31	305		PKPdf	20 34 37.6	-0.5
RSSD	Black Hills	118.33	308	PKIKP	PKPdf	20 34 37.7	-0.5
RSSD	Black Hills	118.33	308	P	PKPdf	20 34 37.2	-1.0
	baz=142						
RSSD	Black Hills	118.33	308	PKPdf	PKPdf	20 34 37.7	-0.5
PRN	Pahroc Range	118.40	295	PKPdf	PKiKP	20 34 38.4	0.0
FURC	Furnace Creek,	118.61	293	P	PKiKP	20 34 39.2	+0.6
	baz=140						
PSUT	Pine Spring	118.66	297		PKiKP	20 34 39.5	+0.5
TPNV	Topopah Spring	118.66	294	PKIKP	PKiKP	20 34 39.5	+0.5
TPNV	Topopah Spring	118.66	294	P	PKiKP	20 34 39.6	+0.5
	baz=140						
TPNV	Topopah Spring	118.66	294	PKPdf	PKiKP	20 34 39.5	+0.5
ISA	Isabella, Lake	118.83	292	PKIKP	PKiKP	20 34 39.7	+0.4
ISA	Isabella, Lake	118.83	292	P	PKiKP	20 34 40.3	+1.1
	baz=140						
ISA	Isabella, Lake	118.83	292		PKiKP	20 34 39.7	+0.4
NLU	North Lily Min	118.87	299	PKPdf	PKiKP	20 34 39.5	+0.1
PABE	Paberze	118.92	31	eP	PKPdf	20 34 37.2	-1.4
PKM	Mcpherson Peak	118.94	290	P	PKiKP	20 34 39.8	+0.2
	baz=140						
JLU	Jordanelle	119.06	300		PKiKP	20 34 40.4	+0.6
KONO	Kongsberg	119.11	21	ePKPdf	PKPdf	20 34 38.4	-0.4
CWC	Cottonwood Cre	119.22	292	P	PKiKP	20 34 40.9	+0.8
	baz=140						
SPR3	Spring Creek 3	119.25	297	PKPdf	PKiKP	20 34 40.8	+0.5
R11A	Troy Canyon, C	119.39	296	P	PKiKP	20 34 41.5	+1.0
	baz=140						
DUG	Dugway, Tooele	119.42	299	PKIKP	PKPdf	20 34 40.1	-0.2
DUG	Dugway, Tooele	119.42	299	P	PKPdf	20 34 40.2	-0.1
	baz=140						
DUG	Dugway, Tooele	119.42	299	PKPdf	PKPdf	20 34 40.1	-0.2
OSL	Oslo	119.60	21	ePKPdf	PKiKP	20 34 41.0	+1.2
ULM	Lac du Bonnet	119.79	317	PKP	PKPdf	20 34 39.6	-0.8
	comp=Z,7.6nm,0.6s,baz=136,slow=1.5,SNR=12						
ULM				PKKPbc	PKKPab	20 44 51.4	+1.3
	comp=Z,2.8nm,0.6s,baz=314,slow=3.9,SNR=3.8						
ULM	Lac du Bonnet	119.79	317	PKPdf	PKPdf	20 34 39.5	-0.9
PAGB	Antelope Grade	119.81	290		PKiKP	20 34 42.0	+0.9
SKAR	Skarslia	119.81	20	ePKPdf	PKiKP	20 34 41.5	+1.2
BW06	Boulder Array	119.81	303	P	PKPdf	20 34 40.0	-1.0
	baz=140						
BW06	Boulder Array	119.81	303		PKPdf	20 34 40.2	-0.9
PD31	Pinedale Array	119.81	303		PKPdf	20 34 40.2	-0.9
PDAR	Pinedale Array	119.81	303	PKP	PKPdf	20 34 40.4	-0.7
	comp=Z,1.7nm,0.7s,baz=134,slow=4.3,SNR=16						
PDAR				PKKPbc	PKKPab	20 44 51.4	+0.4
	comp=Z,0.5nm,0.6s,baz=14,slow=0.6,SNR=5.7						
PDAR	Pinedale Array	119.81	303		PKPdf	20 34 40.2	-0.9
TOLI2	Tolitoli	119.86	144		PKPdf	20 34 40.5	-1.3
HWUT	Hardware Ranch	119.89	301		PKiKP	20 34 41.5	+0.2
TPH	Tonopah	120.02	294	PKIKP	PKiKP	20 34 42.1	+0.4
TPH	Tonopah	120.02	294		PKiKP	20 34 42.1	+0.4
BGU	Big Grassy Mou	120.08	299	PKPdf	PKPdf	20 34 41.4	-0.1
SPUT	South Promonto	120.09	300		PKPdf	20 34 41.6	0.0
SLIT	Slitere, Latvi	120.29	29	eP	PKPdf	20 34 40.3	-0.8
HFS	Hagfors	120.41	23	PKKPbc	PKKPbc	20 44 47.2	-0.7
	comp=Z,1.5nm,0.6s,baz=64,slow=5.4,SNR=10						
NC602	NORSAR Array S	120.50	21	ePKPdf	PKiKP	20 34 41.8	+0.2
NB2	NORSAR Subarra	120.71	21	PKPdf	PKPdf	20 34 41.7	-0.2
	comp=Z,0.7nm,0.6s,baz=202,slow=1.9						
NOA	NORSAR Array B	120.71	21	PKP	PKiKP	20 34 42.3	+0.2
	comp=Z,1.6nm,0.5s,baz=207,slow=2.0,SNR=17						
NOA				PKKPbc	PKKPbc	20 44 47.4	+0.5
	comp=Z,1.8nm,0.9s,baz=26,slow=3.3,SNR=5.6						
NB201	NORSAR Array S	120.74	21		PKiKP	20 34 42.2	+0.1
NV11	Mina Array Sit	120.77	294		PKiKP	20 34 43.4	+0.3
LHV	Little Huntoon	120.81	294		PKiKP	20 34 43.2	+0.3
NVAR	Mina Array Bea	120.84	294	PKP	PKiKP	20 34 44.5	+1.2
	comp=Z,2.6nm,0.7s,baz=122,slow=3.3,SNR=26						
LOHW	Long Hollow	120.95	303		PKPdf	20 34 43.0	-0.3
TPAW	Teton Pass	121.03	303	PKPdf	PKiKP	20 34 43.8	+0.2
ELK	Elko	121.03	298	PKIKP	PKiKP	20 34 44.2	+0.6
ELK	Elko	121.03	298	PKPdf	PKiKP	20 34 44.2	+0.6
UPP	Uppsala	121.06	25	eP	PKPdf	20 34 41.0	-1.5
KVN	Kaiserville	121.20	294	PKIKP	PKiKP	20 34 44.5	+0.6
KVN	Kaiserville	121.20	294	PKPdf	PKiKP	20 34 44.5	+0.6
DOMB	Dombas	121.21	19	ePKPdf	PKiKP	20 34 43.1	+0.1
FLWY	Flagg Ranch	121.36	303		PKiKP	20 34 44.1	0.0
RLMT	Red Lodge	121.48	305	P	PKPdf	20 34 44.0	-0.2
	baz=140						
RLMT	Red Lodge	121.48	305	PKPdf	PKPdf	20 34 44.1	-0.1
WAKR	Walker	121.48	293	PKPdf	PKiKP	20 34 45.9	+1.3
CMB	Columbia Colle	121.62	292	PKIKP	PKPdf	20 34 43.7	-0.8
CMB	Columbia Colle	121.62	292		PKPdf	20 34 43.7	-0.8
MTSE	Matsula	121.64	29	eP	PKPdf	20 34 43.2	-0.5
YERR	Yerington	121.74	294		PKiKP	20 34 46.0	+0.9
AAL	Aland	121.91	26	eP	PKPdf	20 34 43.2	-1.0
YHH	Holmes Hill	121.96	304	PKPdf	PKiKP	20 34 45.9	+0.5
GCMT	Greycliff	122.17	305		PKPpre	20 34 40.4	
VSU	Vasula	122.24	31	eP	PKPdf	20 34 43.9	-1.0
AFDM	Forest Hills D	122.61	292	PKPdf	PKiKP	20 34 47.1	+0.6
OBN	Obninsk	122.61	38	⇓iPKIKP	PKiKP	20 34 45.8	-0.1
OBN				e		20 53 37.7	
OBN				pmax	pmax		
	comp=Z,14nm,0.6s						
BCYI	Bear Canyon	122.81	302		PKiKP	20 34 48.0	+1.0
DY2G	Dye2	122.86	351	iP	PKiKP	20 34 46.6	+0.3
DY2G				IAmb	IAmb	20 34 50.3	
	comp=Z,9.0nm,0.7s						
BOZ	Bozeman (W)	122.93	304	PKIKP	PKiKP	20 34 47.2	+0.1
BOZ	Bozeman (W)	122.93	304	P	PKPdf	20 34 47.0	+0.1
	baz=138						
BOZ	Bozeman (W)	122.93	304		PKiKP	20 34 47.2	+0.1
MCMT	McKenzie Canyo	122.93	302	PKPdf	PKiKP	20 34 47.7	+0.5
BEKR	Beckworth	122.97	294		PKiKP	20 34 47.4	0.0
MEF	Mesahovi	123.08	28	eP	PKPdf	20 34 45.8	-0.6
RAF	Rauma	123.09	26	eP	PKPdf	20 34 44.4	-2.0
DLMT	Dillon	123.21	303	PKPdf	PKiKP	20 34 48.1	+0.5
NIL	Nilore	123.30	78	PKIKP	PKPdf	20 34 47.5	-0.3
NIL	Nilore	123.30	78	PKPdf	PKPdf	20 34 47.5	-0.3
MFID	Camas Ranch	123.32	299	PKPdf	PKPdf	20 34 47.0	-0.7
ORV	Oroville	123.33	293	PKIKP	PKPdf	20 34 47.2	-0.4
ORV	Oroville	123.33	293		PKPdf	20 34 47.2	-0.4
FRB	Frobisher Bay	123.36	340	PKP	PKPdf	20 34 46.5	-0.3
	comp=Z,14nm,0.8s,baz=150,slow=4.7,SNR=7.2						
UTHA	Uthaitani	123.47	114	P	PKiKP	20 34 49.1	+0.3
SRAK	Srakaew	123.47	117	PKP	PKiKP	20 34 49.6	+0.7
LRM	Limekiln Ridge	123.48	303		PKiKP	20 34 48.4	+0.1
HRY	Holter Researc	123.85	305		PKiKP	20 34 49.0	+0.1
EGMT	Eagleton	123.88	307	P	PKPdf	20 34 48.5	0.0
	baz=138						
EGMT	Eagleton	123.88	307		PKiKP	20 34 49.0	+0.2
WVOR	Wild Horse Val	123.99	297	PKIKP	PKiKP	20 34 50.0	+0.7
WVOR	Wild Horse Val	123.99	297		PKiKP	20 34 50.0	+0.7
NSS	Namsos	124.03	20	ePKPdf	PKiKP	20 34 48.6	+0.2
O03E	Paynes Creek	124.04	293	P	PKPdf	20 34 48.9	-0.1
	baz=138,SNR=17						
MOD	Modoc Plateau	124.44	295	PKPdf	PKiKP	20 34 50.7	+0.5
O02D	Mt. Diablo Mer	124.46	292	P	PKiKP	20 34 50.3	+0.1
	baz=137,SNR=9.0						
FINES	FINESS Array B	124.56	28	PKP	PKPdf	20 34 49.2	0.0
	comp=Z,18nm,0.5s,baz=161,slow=1.9,SNR=211						
FINES				PKKPbc	PKKPbc	20 44 31.6	-0.2
	comp=Z,0.5nm,0.5s,baz=48,slow=2.8,SNR=8.2						
FINES	FINESS Array B	124.56	28		PKPdf	20 34 49.0	-0.2
FIA1	FINESS Array S	124.56	28	PKPdf	PKPdf	20 34 49.1	-0.1
J08A	Circle Bar Ran	124.59	298	PKPdf	PKiKP	20 34 50.5	+0.1
WDC	Whiskeytown Da	124.63	293	PKIKP	PKPdf	20 34 49.9	-0.2
WDC	Whiskeytown Da	124.63	293	PKPdf	PKPdf	20 34 49.9	-0.2
MHMT	Maesarieng	124.86	111	PKP	PKiKP	20 34 52.0	+0.5
MHMT	Maesarieng	124.86	111	P	PKiKP	20 34 52.0	+0.5
MSO	Missoula	124.92	303	P	PKiKP	20 34 50.8	-0.1
	baz=137						
MSO	Missoula	124.92	303	PKPdf	PKiKP	20 34 51.0	+0.1
N02D	Trinity Center	125.00	293	P	PKiKP	20 34 51.3	+0.1
	baz=137,SNR=15						
ICESG	Greenland Ices	125.01	355	⇓iP	PKPdf	20 34 50.3	0.0
BMO	Blue Mountains	125.10	300	PKIKP	PKPdf	20 34 51.0	0.0
BMO	Blue Mountains	125.10	300	PKPdf	PKPdf	20 34 51.0	0.0
M04C	Macdoel	125.14	294	P	PKiKP	20 34 51.7	+0.1
	baz=137,SNR=5.6						
PHIT	Phitsanulok	125.33	114	PKP	PKiKP	20 34 53.3	+0.8
K05A	Summer Lake	125.34	296	PKPdf	PKiKP	20 34 52.3	+0.3
M02C	Callahan	125.38	293	P	PKiKP	20 34 52.2	+0.2
	baz=137,SNR=16						
KHMM	Horse Mountain	125.46	292		PKiKP	20 34 53.0	+0.7
YBH	Yreka Blue Hor	125.55	293	PKIKP	PKPdf	20 34 51.5	-0.5
YBH	Yreka Blue Hor	125.55	293	PKPdf	PKPdf	20 34 51.5	-0.5
CM13	Chiang Mai Arr	125.58	111	PKP	PKiKP	20 34 53.2	+0.2
CM13	Chiang Mai Arr	125.58	111	P	PKiKP	20 34 53.0	0.0
CM05	Chiang Mai Arr	125.58	111	PKP	PKiKP	20 34 53.2	+0.2
CM05	Chiang Mai Arr	125.58	111	P	PKiKP	20 34 53.2	+0.2
CM04	Chiang Mai Arr	125.60	111	PKP	PKiKP	20 34 53.3	+0.3
CM04	Chiang Mai Arr	125.60	111	P	PKiKP	20 34 53.0	0.0
CM01	Chiang Mai Arr	125.60	111	PKP	PKiKP	20 34 53.4	+0.4
CM01	Chiang Mai Arr	125.60	111	P	PKiKP	20 34 53.0	0.0
CM02	Chiang Mai Arr	125.61	111	PKP	PKiKP	20 34 53.3	+0.3
CM02	Chiang Mai Arr	125.61	111	P	PKiKP	20 34 53.0	0.0
CM15	Chiang Mai Arr	125.61	111	PKP	PKiKP	20 34 53.2	+0.2
CM15	Chiang Mai Arr	125.61	111	P	PKiKP	20 34 53.0	0.0
FFC	Flin Flon	125.62	317	PKIKP	PKPdf	20 34 51.3	-0.2
FFC	Flin Flon	125.62	317		PKPdf	20 34 51.3	-0.2
CM31	Chiang Mai Arr	125.63	111	P	PKiKP	20 34 53.3	+0.2
CM31	Chiang Mai Arr	125.63	111		PKPdf	20 34 52.1	-0.6
CMAR	Chiang Mai Arr	125.63	111	PKP	PKiKP	20 34 53.0	-0.1
	comp=Z,12nm,0.9s,baz=234,slow=3.7,SNR=62						
CMAR	Chiang Mai Arr	125.63	111	PKIKP	PKiKP	20 34 53.0	-0.1
CMAR	Chiang Mai Arr	125.63	111	PKPdf	PKPdf	20 34 51.9	-0.7
CM09	Chiang Mai Arr	125.64	111	PKP	PKiKP	20 34 53.5	+0.4
CM09	Chiang Mai Arr	125.64	111	P	PKiKP	20 34 53.0	-0.1
GAR	Garm	125.67	72		PKiKP	20 34 52.6	-0.1
L04D	Klamath Falls	125.70	294	P	PKPdf	20 34 52.4	+0.1
	baz=136,SNR=5.3						
JTMT	Jette	125.75	304	PKPdf	PKPdf	20 34 51.8	-0.4
CM36	Chiang Mai Arr	125.76	112	P	PKPdf	20 34 53.0	+0.1
F10A	Beach Ranch, E	125.87	301		PKPdf	20 34 52.0	-0.4
UTTA	Uttaradit	125.87	113	PKP	PKiKP	20 34 53.8	+0.3
CM35	Chiang Mai Arr	125.92	111	P	PKPdf	20 34 53.0	-0.2
J05D	Fort Rock, OR	125.92	296	P	PKiKP	20 34 53.2	+0.1
	baz=136						
CHTO	Chiang Mai	125.92	111	PKIKP	PKiKP	20 34 53.6	-0.1
CHTO	Chiang Mai	125.92	111	PKP	PKiKP	20 34 53.5	-0.1
CM33	Chiang Mai Arr	125.93	111	P	PKPdf	20 34 53.0	-0.2
MOR8	Moi Rana	125.97	20	ePKPdf	PKiKP	20 34 52.8	+0.5
ILULI	Ilulissat	125.97	350	PKIKP	PKPdf	20 34 50.5	-1.2
ILULI	Ilulissat	125.97	350		PKPdf	20 34 50.5	-1.2
KONS	Konsvik	126.01	19	ePKPdf	PKiKP	20 34 52.3	0.0
CM34	Chiang Mai Arr	126.06	111	P	PKiKP	20 34 54.0	+0.1
PINE	Pine Mountain	126.14	296	PKPdf	PKiKP	20 34 53.4	-0.1
SCO	Scoresbysund	126.21	3	iP	PKiKP	20 34 53.6	+1.1
SCO				IAmb	IAmb	20 34 55.2	
	comp=Z,8.1nm,1.1s						
SCO	Scoresbysund	126.21	3	PKIKP	PKiKP	20 34 53.0	+0.4
SCO	Scoresbysund	126.21	3		PKiKP	20 34 53.0	+0.4
G08A	Pilot Rock	126.22	299	PKPdf	PKiKP	20 34 53.8	+0.2
HUMO	Hull Mountain	126.31	294	PKPdf	PKiKP	20 34 53.9	+0.2
L02E	Cave Junction	126.32	293	P	PKiKP	20 34 53.9	+0.2
	baz=136						
J04D	Umpqua Nationa	126.33	295	P	PKiKP	20 34 54.0	0.0
	baz=136						
WALA	Waterton Lakes	126.52	305	PKPdf	PKPdf	20 34 53.1	-0.5
BTK	Batken	126.70	71	PKIKP	PKPdf	20 34 53.9	-0.3
BTK	Batken	126.70	71	PKPdf	PKPdf	20 34 53.9	-0.3
E09A	Wood Farm, Sta	126.70	301		PKPdf	20 34 53.2	-0.7
I05D	Terrebonne, OR	126.73	297	P	PKiKP	20 34 54.8	+0.2
	baz=136						
K02D	Willamette Mer	126.74	294	P	PKiKP	20 34 54.8	+0.2
	baz=136						
I04A	Tendick Farm,	126.88	295	P	PKPdf	20 34 54.4	+0.1
	baz=136						
SKNT	Sakolnakorn	126.96	117	PKP	PKiKP	20 34 55.8	+0.1
SKNT	Sakolnakorn	126.96	117	P	PKiKP	20 34 55.9	+0.1
E08A	Dider Farm, El	127.13	300	PKPdf	PKPdf	20 34 53.8	-0.8
FAUS	Fauske	127.20	20	ePKPdf	PKiKP	20 34 54.5	-0.1
J01E	Myrtle Point	127.21	294	P	PKiKP	20 34 55.4	0.0
	baz=136						
HAWA	Hanford	127.29	300	PKPdf	PKPdf	20 34 55.2	+0.3
I03D	Drain, OR	127.29	295	P	PKiKP	20 34 55.5	0.0
	baz=135						
G05D	Wamic, OR	127.36	297	P	PKiKP	20 34 55.7	0.0
	baz=135						
H04A	Detroit Lake	127.40	296	PKPdf	PKPdf	20 34 54.8	-0.5
NEW	Newport	127.45	303	PKP	PKPdf	20 34 55.0	-0.3
	comp=Z,3.6nm,0.8s,baz=176,slow=1.8,SNR=6.8						
NEW	Newport	127.45	303	P	PKiKP	20 34 55.8	0.0
	baz=135						
BUCK	Buck Mountain	127.46	295	PKPdf	PKPdf	20 34 55.1	-0.4
D08A	Wollman Farm,	127.46	301	PKPdf	PKiKP	20 34 55.7	-0.1
NONG	Nongkai	127.46	116	PKP	PKiKP	20 34 56.8	+0.1
NONG	Nongkai	127.46	116	P	PKPdf	20 34 56.0	-0.2
LOF	Lofoten	127.54	18	ePKPdf	PKiKP	20 34 55.3	0.0
SHL	Shillong	127.55	100	PKIKP	PKPdf	20 34 55.8	-0.6
SHL	Shillong	127.55	100	PKPdf	PKPdf	20 34 55.8	-0.6
H04D	Lebanon	127.56	296	P	PKiKP	20 34 56.1	0.0
	baz=135,SNR=6.2						
E07A	Sunnyside	127.57	300		PKiKP	20 34 56.7	+0.6
STEI	Steigen	127.67	19	ePKPdf	PKiKP	20 34 55.7	+0.2
ABKAR	Abkulak array	127.78	56	PKPdf	PKPdf	20 34 55.6	-0.2
ABKAR	Abkulak array	127.78	56		PKPdf	20 34 55.3	-0.5
I02D	Swisshome	127.83	295	P	PKiKP	20 34 56.8	+0.1
	baz=135						
F05D	White Salmon	127.88	298	P	PKiKP	20 34 56.8	0.0
	baz=135						
KLMR	Klimovskoe	128.06	35	ePKIKP	PKPdf	20 34 53.5	-2.4
KLMR				pmax	pmax		
	comp=Z,30nm,1.3s						
KLMR	Klimovskoe	128.06	35	ePKPdf	PKPdf	20 34 53.5	-2.4
KLMR				AMP		20 34 57.8	
	comp=Z,30nm,1.3s						
SUMG	Summit	128.44	356	iP	PKiKP	20 34 57.7	+0.2
SUMG				IAmb	IAmb	20 34 59.5	
	comp=Z,14nm,0.9s						
SUMG	Summit	128.44	356	iPKIKP	PKiKP	20 34 57.7	+0.2
SUMG				pmax	pmax		
	comp=Z,14nm,0.9s						
SUMG	Summit	128.44	356	PKPdf	PKPdf	20 34 56.5	-0.3
LTY	Liberty	128.46	300		PKPpre	20 34 44.7	
B08A	Colville Reser	128.57	301	PKPdf	PKPdf	20 34 57.4	0.0
LON	Longmire	128.66	298	PKIKP	PKPdf	20 34 57.4	-0.2
LON	Longmire	128.66	298		PKPdf	20 34 57.4	-0.2
KK31	Karatay Array	128.70	68	PKIKP	PKPdf	20 34 57.3	-0.5
KK31	Karatay Array	128.70	68	PKPdf	PKPdf	20 34 57.3	-0.5
KKAR	Karatay Array	128.70	68	PKIKP	PKPdf	20 34 57.6	-0.2
KKAR	Karatay Array	128.70	68	PKPdf	PKPdf	20 34 57.5	-0.3
KKAR	Karatay Array	128.70	68		PKPdf	20 34 57.6	-0.2
E04D	Cinebar	128.90	298	P	PKiKP	20 34 58.5	-0.3
	baz=134						
D05A	Enumclaw	129.05	299		PKPdf	20 34 57.6	-0.7
KSH	Kashi	129.08	75	PKP	PKiKP	20 34 59.3	-0.2
KSH				PP	PP	20 37 06.1	-3.2
KSH				AMB	AMB		
	comp=Z,170nm,3.8s						
E03A	Lebam	129.39	297	PKPdf	PKPdf	20 34 58.8	-0.1
D04E	Lakebay	129.43	298	P	PKiKP	20 34 59.9	+0.2
	baz=134						
B06A	Marblemount	129.72	300		PKPdf	20 34 59.2	-0.3
TRO	Tromso	129.83	20	ePKPdf	PKPdf	20 34 58.8	-0.3
D03D	Eldon	129.84	298	P	PKiKP	20 35 00.7	+0.2
	baz=133,SNR=13						
B05A	Bryant

MESA	MESA	146.04 305		PKPab	20 35 30.9	-0.4
CTGM	Chitina Glacie	146.06 307		PKPab	20 35 30.8	-0.4
CTG	Chitna Glacier	146.06 307	P	PKPab	20 35 31.1	-0.2
	baz=112					
BARN	Barnard Glacie	146.24 307		PKPdf	20 35 29.1	-0.5
JOW	Kunigami	146.31 140		PKPdf	20 35 31.0	+0.5
WAX	Waxell Ridge	146.56 305		PKPbc	20 35 31.8	+0.1
BGLC	Bering Glacier	146.63 304	P	PKPbc	20 35 32.2	+0.4
	baz=112					
TGL	Tana Glacier	146.66 306		PKPbc	20 35 31.4	-0.6
CRQE	Cirque	146.78 306	P	PKPbc	20 35 32.5	+0.1
	baz=112					
CRQM	Cirque	146.80 306		PKPdf	20 35 31.2	+0.7
NJ2	Nanjing	146.87 122⇑	*i*PKPbc	PKPbc	20 35 34.0	+0.6
MCARA	McCarthy VSAT	146.97 307	P	PKPbc	20 35 33.0	+0.2
	baz=111					
BCAR	Beaver Creek A	147.00 310	PKPdf	PKPdf	20 35 29.5	-1.0
L27K	Beaver Creek,	147.01 310	P	PKPbc	20 35 33.2	+0.3
	baz=109,SNR=58					
L27K	Beaver Creek,	147.01 310		PKPdf	20 35 29.7	-0.9
EGAK	Eagle	147.26 313	P	PKPbc	20 35 33.3	-0.2
	baz=107					
EGAK	Eagle	147.26 313	PKPdf	PKPdf	20 35 29.4	-1.4
GLB	Gilahina Butte	147.35 307		PKPbc	20 35 33.8	-0.1
K27K	Chicken	147.42 312		PKPdf	20 35 31.0	-0.2
BMRM	Bremner River	147.55 306	P	PKPbc	20 35 34.9	+0.5
	baz=110					
BMRM	Bremner River	147.55 306	PKPdf	PKPdf	20 35 30.6	-1.0
L26K	Log Cabin Wild	147.66 310	P	PKPbc	20 35 35.0	+0.4
	baz=108					
N25K	Chitina, Valde	147.76 307	P	PKPbc	20 35 35.7	+0.6
	baz=109					
N25K	Chitina, Valde	147.76 307		PKPdf	20 35 31.4	-0.6
MENT	Mentasta	147.79 309		PKPbc	20 35 34.8	-0.2
EYAK	Cordova Ski Ar	147.93 304	P	PKiKP	20 35 36.3	-0.8
	baz=110					
EYAK	Cordova Ski Ar	147.93 304		PKPbc	20 35 36.1	+0.8
TIY	Taiyuan	148.05 108	*e*PKPbc	PKPbc	20 35 36.8	+0.3
DOT	Dot Lake	148.15 310		PKPdf	20 35 30.8	-1.7
SCRK	Sand Creek	148.21 311	P	PKPbc	20 35 36.8	+0.6
	baz=106					
SCRK	Sand Creek	148.21 311	PKPdf	PKPdf	20 35 31.4	-1.2
HIN	Hinchinbrook I	148.23 304		PKPbc	20 35 35.4	-0.8
HARP	HAARP	148.26 308	P	PKPbc	20 35 36.7	+0.5
	baz=108					
KLU	Klutina	148.32 306	P	PKiKP	20 35 37.4	-0.6
	baz=109					
KLU	Klutina	148.32 306		PKPdf	20 35 30.9	-1.9
FID	Port Fidalgo	148.34 305		PKPdf	20 35 34.0	+1.2
RIDG	Independent Ri	148.51 310	P	PKiKP	20 35 37.8	-0.5
	baz=106					
PAX	Paxson	148.57 309	PKP2	PKPbc	20 35 37.1	0.0
PAX	Paxson	148.57 309	P	PKPbc	20 35 37.5	+0.4
	baz=107					
PAX	Paxson	148.57 309		PKPbc	20 35 37.1	0.0
M24K	Tolsona, Glenn	148.63 307	P	PKiKP	20 35 38.5	-0.1
	baz=108					
M24K	Tolsona, Glenn	148.63 307		PKPdf	20 35 32.1	-1.2
M24K				PKPbc	20 35 37.2	-0.1
GLI	Glacier Island	148.66 305	P	PKPbc	20 35 37.8	+0.5
	baz=109					
GLI	Glacier Island	148.66 305		PKPbc	20 35 37.1	-0.2
SCM	Sheep Creek Mo	149.06 306	PKP2	PKPbc	20 35 38.7	+0.3
SCM	Sheep Creek Mo	149.06 306		PKPdf	20 35 32.5	-1.5
SCM				PKPbc	20 35 38.7	+0.3
BMAR	Burnt Mountain	149.23 317	PKPdf	PKPdf	20 35 32.0	-2.1
BMAR			PKPbc	PKPbc	20 35 39.1	+0.5
PRP	Porcupine Dome	149.23 314	P	PKPbc	20 35 39.2	+0.5
	baz=103					
PRP	Porcupine Dome	149.23 314		PKPdf	20 35 32.7	-1.6
PRP			PKPbc	PKPbc	20 35 39.0	+0.2
PWL	Port Wells	149.23 304		PKPbc	20 35 38.0	-0.7
NRIK	Noril'sk	149.28 39	PKPbc	PKiKP	20 35 39.5	-0.1
	comp=Z,15nm,0.8s,baz=22,slow=0.4,SNR=22					
NRIK	Noril'sk	149.28 39	*c i*PKP2	PKiKP	20 35 39.2	-0.4
NRIK	Noril'sk	149.28 39		PKPbc	20 35 38.8	+0.2
FYU	Fort Yukon	149.32 316	PKPdf	PKPdf	20 35 33.2	-0.9
FYU				PKiKP	20 35 39.7	-0.1
TIA	Tai'an	149.36 115	PKPbc	PKPdf	20 35 35.1	-0.1
KNK	Knik Glacier	149.46 305	P	PKPbc	20 35 39.7	+0.5
	baz=107					
KNK	Knik Glacier	149.46 305		PKiKP	20 35 40.0	-0.3
WAT6	Susitna Watana	149.46 308	P	PKPbc	20 35 39.9	+0.5
	baz=106					
SML	Sawmill	149.51 306	P	PKPbc	20 35 39.8	+0.4
	baz=107					
SEW	Seward	149.52 302	P	PKiKP	20 35 39.9	-0.4
	baz=109					
SEW	Seward	149.52 302		PKPbc	20 35 38.3	-1.0
HDA	Harding Lake	149.57 311	P	PKPbc	20 35 39.5	+0.1
	baz=103					
HDA	Harding Lake	149.57 311	PKPdf	PKPdf	20 35 31.6	-3.1
HDA				PKPbc	20 35 39.2	-0.2
IL31		149.63 312		PKPdf	20 35 32.4	-2.3
IL31			PKPbc	PKPbc	20 35 39.8	+0.3
ILAR	Eielson Array	149.63 312	PKPbc	PKiKP	20 35 40.2	-0.3
	comp=Z,81nm,0.8s,baz=126,slow=1.6,SNR=262					
ILAR	Eielson Array	149.63 312	PKP2	PKPbc	20 35 39.9	+0.3
ILAR	Eielson Array	149.63 312	PKPdf	PKPdf	20 35 31.6	-3.1
ILAR			PKPbc	PKPbc	20 35 39.9	+0.3
O22K	Cooper Landing	149.77 303	P	PKiKP	20 35 40.5	-0.4
	baz=108					
GHO	Glory Hole Cre	149.77 306		PKPdf	20 35 32.9	-2.2
GHO				PKPbc	20 35 40.3	+0.2
HHC	Hu-ho-hao-te	149.81 103	*e*PKPbc	PKPbc	20 35 41.3	+0.4
WAT1	Susitna Watana	149.89 308	P	PKPbc	20 35 40.6	+0.3
	baz=105					
POKR	Poker Plat Res	149.93 313	P	PKPbc	20 35 40.1	-0.2
	baz=102,SNR=9.6					
POKR	Poker Plat Res	149.93 313		PKPbc	20 35 40.1	-0.2
RC01	Rabbit Creek A	149.95 304	P	PKiKP	20 35 41.2	0.0
	baz=107					
RC01	Rabbit Creek A	149.95 304		PKPbc	20 35 40.6	+0.2
CCB	Clear Creek Bu	149.99 312		PKPdf	20 35 32.3	-3.0
CCB			PKPbc	PKPbc	20 35 39.7	-0.7
BRSE	Bradley Lake S	150.02 301	P	PKiKP	20 35 41.2	-0.3
	baz=109					
COLA	College	150.05 312	PKIKP	PKPbc	20 35 40.3	-0.2
COLA	College	150.05 312	P	PKPbc	20 35 40.6	+0.1
	baz=102					
COLA	College	150.05 312		PKPbc	20 35 40.3	-0.2
TCOL	CIGO, UAF Yank	150.06 312	P	PKPbc	20 35 40.4	-0.2
	baz=102					
TCOL	CIGO, UAF Yank	150.06 312		PKPbc	20 35 40.3	-0.2
WRH	Wood River Hil	150.07 311		PKPdf	20 35 32.3	-3.2
WRH			PKPbc	PKPbc	20 35 40.5	-0.1
BRLK	Bradley Lake	150.10 301		PKPbc	20 35 40.6	-0.3
RND	Reindeer	150.16 309	PKIKP	PKPbc	20 35 41.3	+0.3
RND	Reindeer	150.16 309		PKPbc	20 35 41.3	+0.3
CNPM	China Poot	150.19 301		PKPbc	20 35 41.4	+0.3
H24K	Noodor Dome	150.25 314	P	PKPbc	20 35 41.4	+0.3
	baz=100					
MOY	Mondy	150.25 77	*e*PKIKP	PKPdf	20 35 37.0	+0.7
MOY			pmax	pmax		
	comp=Z,106nm,1.8s					
KDAK	Kodiak Island	150.27 297	PKIKP	PKiKP	20 35 41.7	-0.3
KDAK	Kodiak Island	150.27 297	P	PKPbc	20 35 41.5	+0.3
	baz=111					
KDAK	Kodiak Island	150.27 297		PKiKP	20 35 41.7	-0.3
MCK	McKinley	150.27 310	PKIKP	PKPdf	20 35 33.6	-2.2
MCK	McKinley	150.27 310	P	PKiKP	20 35 41.7	-0.2
	baz=103					
MCK	McKinley	150.27 310	PKPdf	PKPdf	20 35 33.6	-2.2
MCK			PKPbc	PKPbc	20 35 41.4	+0.3
OHAK	Old Harbor	150.42 296	P	PKiKP	20 35 42.3	0.0
	baz=111					
OHAK	Old Harbor	150.42 296		PKiKP	20 35 42.2	-0.1
HOM	Homer	150.43 301	P	PKiKP	20 35 42.4	+0.2
	baz=108					
HOM	Homer	150.43 301		PKiKP	20 35 42.2	0.0
NEA2	Nenana	150.51 311	P	PKPbc	20 35 41.6	-0.1
	baz=102					
SUA	Susitna One	150.53 305	P	PKiKP	20 35 42.7	+0.1
	baz=106					
SUA	Susitna One	150.53 305		PKiKP	20 35 42.6	+0.1
CUT	Chulitna	150.55 307	P	PKiKP	20 35 42.6	+0.2
	baz=104					
CUT	Chulitna	150.55 307		PKiKP	20 35 42.5	+0.2
BWN	Browne	150.59 310		PKPdf	20 35 33.8	-2.4
BWN			PKPbc	PKPbc	20 35 41.8	-0.1
I23K	Minto, Yukon-K	150.74 312	P	PKPbc	20 35 41.8	-0.3
	baz=100					
I23K	Minto, Yukon-K	150.74 312		PKPbc	20 35 41.6	-0.5
TRF	Thorofare Moun	150.80 309	P	PKiKP	20 35 43.1	-0.1
	baz=103					
TRF	Thorofare Moun	150.80 309	PKPdf	PKPdf	20 35 34.1	-2.7
TRF			PKPbc	PKPbc	20 35 42.9	+0.3
ZAK	Zakamensk	150.88 80	*e*PKIKP	PKPdf	20 35 36.6	-0.7
ZAK			pmax	pmax		
	comp=Z,46nm,1.2s					
H23K	Yukon River	150.92 314	P	PKiKP	20 35 43.1	-0.1
	baz=99					
SKT	Skwentna	151.02 305	P	PKPbc	20 35 43.2	+0.2
	baz=104					
SKT	Skwentna	151.02 305		PKPdf	20 35 33.6	-3.4
SKT			PKPbc	PKPbc	20 35 42.8	-0.2
O20K	Slope Mountain	151.03 301	P	PKPbc	20 35 43.3	+0.2
	baz=107					
SPCR	Spurr Chakacha	151.14 304	P	PKPbc	20 35 43.4	+0.1
	baz=105					
P19K	Oil Pt	151.20 300	P	PKPbc	20 35 43.4	-0.1
	baz=107					
RSO	Redoubt South	151.20 302		PKPbc	20 35 43.3	-0.4
BPAW	Bear Paw Mtn.	151.24 310	P	PKiKP	20 35 43.6	-0.2
	baz=101					
TOLK	Toolik Lake Re	151.24 319	P	PKiKP	20 35 43.8	0.0
	baz=94					
TOLK	Toolik Lake Re	151.24 319		PKPdf	20 35 34.7	-2.5
TOLK			PKPbc	PKiKP	20 35 43.9	+0.1
SONM	Songino Array	151.28 87	PKP	PKPdf	20 35 37.8	-0.3
	comp=Z,2.8nm,1.0s,baz=200,slow=3.5,SNR=14					
SONM			PKPbc	PKiKP	20 35 44.6	-0.1
	comp=Z,43nm,0.7s,baz=221,slow=3.7,SNR=131					
SONM	Songino Array	151.28 87	PKPdf	PKPdf	20 35 37.8	-0.3
SONM			PKPbc	PKPbc	20 35 44.2	0.0
MLY	Manley	151.29 312	P	PKPbc	20 35 43.1	-0.4
	baz=99					
MLY	Manley	151.29 312		PKPbc	20 35 42.5	-1.1
JSU	Suzuyama	151.34 140		PKPbc	20 35 42.6	-2.0
PPLA	Purkeypile	151.53 307	P	PKiKP	20 35 44.6	0.0
	baz=102					
ULN	Ulaanbaatar	151.67 88	PKIKP	PKPdf	20 35 37.9	-0.7
ULN	Ulaanbaatar	151.67 88	PKPdf	PKPdf	20 35 37.9	-0.7
TLY	Talaya	151.71 78	*c i*PKIKP	PKiKP	20 35 46.0	+0.8
TLY			pmax	pmax		
	comp=Z,36nm,1.7s					
TLY	Talaya	151.71 78		PKPbc	20 35 44.9	0.0
BJT	Baijiatuao	151.72 109	PKIKP	PKPbc	20 35 45.2	0.0
BJT	Baijiatuao	151.72 109		PKPbc	20 35 45.2	0.0
BJI	Beijing	151.74 109	PKPbc	PKiKP	20 35 45.5	-0.1
BJI	Beijing	151.74 109	P	PKPab	20 35 52.4	-2.4
BJI			pmax	pmax		
	comp=Z,78nm,0.8s					
CHUM	Lake Minchumin	151.77 309	P	PKPbc	20 35 44.6	+0.1
	baz=100					
N19K	Bonanza Creek	152.11 302	P	PKPbc	20 35 45.1	-0.5
	baz=104,SNR=37					
K20K	Telida	152.45 308	P	PKPbc	20 35 46.1	-0.1
	baz=100,SNR=27					
L19K	White Mountain	152.59 305	P	PKPbc	20 35 46.4	-0.2
	baz=102,SNR=8.6					
J20K	Nowinta River	152.62 310	P	PKiKP	20 35 46.8	+0.2
	baz=98,SNR=10					
IMAR	Indian Mountai	152.66 314	PKPdf	PKPdf	20 35 36.1	-3.2
IMAR				PKiKP	20 35 47.0	+0.3
SVW2	Sparrevohn	152.70 303		PKPbc	20 35 45.7	-1.1
N18K	Kilae Creek	152.75 302	P	PKPbc	20 35 46.9	0.0
	baz=104,SNR=12					
JNU	Nakatsue	152.94 139	PKPbc	PKPbc	20 35 48.0	-0.2
	comp=Z,21nm,0.8s,baz=118,slow=5.1,SNR=10					
JNU	Nakatsue	152.94 139		PKPbc	20 35 47.8	-0.5
SDPT	Sand Point	153.49 289	P	PKPbc	20 35 48.4	-0.2
	baz=111					
SDPT	Sand Point	153.49 289		PKPbc	20 35 48.4	-0.2
KSRS	Korea Array	155.50 129	PKP	PKPdf	20 35 44.4	+0.1
	comp=Z,1.8nm,0.7s,baz=192,slow=1.2,SNR=6.9					
KSRS			PKPab	PKPab	20 36 10.8	0.0
	comp=Z,2.6nm,0.7s,baz=208,slow=4.6,SNR=7.5					
RDOG	Red Dog Mine	156.20 319	P	PKPab	20 36 14.9	+1.9
	baz=82					
NIKH	Nikolski High	157.16 279	P	PKPab	20 36 17.2	-0.4
	baz=114					
MJAR	Matsushiro Arr	158.50 149	PKP	PKPdf	20 35 48.0	-0.1
	comp=Z,2.2nm,0.9s,baz=134,slow=3.6,SNR=4.9					
MJAR			PKPab	PKPab	20 36 23.2	-0.6
	comp=Z,6.2nm,1.0s,baz=177,slow=4.8,SNR=8.1					
MJAR	Matsushiro Arr	158.50 149	PKPdf	PKPdf	20 35 46.9	-1.2
MAT	Matsushiro	158.50 149	*e*PKP	PKPdf	20 35 47.0	-1.1
BOD	Bodaibo	159.44 69	*e*PKIKP	PKPdf	20 35 46.6	-1.8
BOD			pmax	pmax		
	comp=Z,15nm,1.1s					
TIXI	Tiksi	161.50 23	PKPab	PKPab	20 36 37.4	+1.5
	comp=Z,2.3nm,0.6s,baz=320,slow=6.3,SNR=3.6					
ZEA	Zeya	165.70 89	*e*PKIKP	PKPdf	20 35 54.4	-0.3
KLR	Kul'dur	166.10 111	PKP	PKPdf	20 35 54.9	-0.3
	comp=Z,2.5nm,0.8s,baz=282,slow=3.9,SNR=5.4					
KLR			PKPab	PKPab	20 36 56.0	-0.8
	comp=Z,3.2nm,0.8s,baz=220,slow=5.5,SNR=3.6					
SEY	Seymchan	172.99 358	PKP	PKPdf	20 35 57.1	-1.8
	comp=Z,4.5nm,0.8s,baz=214,slow=1.8,SNR=6.1					
PETK	Petropavlovsk-	175.54 233	PKP	PKPdf	20 35 58.9	-1.1
	comp=Z,6.2nm,1.0s,baz=139,slow=4.9,SNR=12					
PETK			PKPab	PKPab	20 37 38.5	-0.1
	comp=Z,4.8nm,0.8s,baz=138,slow=6.9,SNR=9.3					
PETK	Petropavlovsk-	175.54 233	PKP2	PKPab	20 37 38.0	-0.6
PETK					21 35 58.2	
PETK	Petropavlovsk-	175.54 233		PKPdf	20 35 58.2	-1.9
PETK				PKPab	20 37 38.0	-0.6

PRU 13 20:30:13.8±0.0, 49°.81N×18°.54E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.26	276	*e*PG	Pg	20 30 18.4	-0.3
OKC				*e*SG	Sg	20 30 22.1	+0.1
	comp=Z,6.8nm,0.4s						
MORC	Moravsky Berou	0.65	267	*e*PG	Pg	20 30 26.0	-0.2
MORC				*e*SG	Sg	20 30 34.5	-0.1
KRLC	Kraliky	1.17	284	*e*P	Pg	20 30 34.5	-1.6
KRLC	Kraliky	1.17	284	*e*PG	Pg	20 30 34.5	-1.6
KRLC				*e*SG	Sg	20 30 50.4	-0.9
	comp=Z,1.7nm,0.3s						
DPC	Dobruska-Polom	1.53	292	*e*PG	Pn	20 30 41.0	-1.4
DPC				*e*SG	Sg	20 31 02.5	-0.4

*JMA **13** 20:41:14.7±0.2, 29°.84N×131°.03E, h25km±2km, M3.2*
*IDC **13** 20:41:21.1±3.1, 30°.13N×131°.17E, h90km±33km, mb3.3/8, mb1 3.3/11, mb1mx3.2/64, mbtmp3.6/11, MS3.2/3, Ms1 3.3/3, ms1mx2.8/27, Error ellipse: s-maj=54.1km s-min=18.9km az=65.0*

ISC 13 20:41:16.5±1.5, 29°.93N±0°.07×130°.95E±0°.08, h40km±12km, n22, σ1°29/30, mb3.6/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	Minamitane	0.46	355	P	Pn	20 41 25.7	-1.1
JMTN				*e*S	Sn	20 41 34.0	-0.1
JYAK	Yakushimahirau	0.49	309	P	Pn	20 41 26.1	-1.0
JYAK				S	Sn	20 41 34.4	-0.1
JTN	Tanegashima 3	0.72	2	P	Pn	20 41 30.0	-0.2
JTN				*e*S	Sn	20 41 41.5	+1.4
JKC	Kuchinoerabu	0.84	309	P	Pn	20 41 32.5	+0.7
JKC				*e*S	Sn	20 41 44.6	+1.6
JNN	Nakanoshima	0.94	265	P	Pn	20 41 33.4	+0.2
JNN				*e*S	Sn	20 41 47.1	+1.7
JTSR	Tashiro 2	1.23	359	P	Pn	20 41 37.8	+0.6
JTSR				*e*S	Sn	20 41 54.7	+2.0
JNAR	Kushima--Naru	1.61	10	P	Pn	20 41 43.2	+0.7
JNAR				*e*S	Sn	20 42 04.0	+2.0
JSU	Suzuyama	1.62	345	P	Pn	20 41 42.8	+0.1
JTAJ	Takarajima	1.71	243	P	Pn	20 41 44.3	+0.5
JTAJ				*e*S	Sn	20 42 05.8	+1.4
JNKG	Nichinankitago	1.76	12	P	Pn	20 41 45.1	+0.6
JNU	Nakatsue	3.18	359	P	Pn	20 42 05.4	+1.3
	2.1nm,0.3s,baz=182,slow=23,SNR=10						
JNU				S	Sn	20 42 42.9	+2.2
	1.4nm,0.3s,baz=117,slow=18,SNR=4.9						
KSRS	Korea Array	7.91	342	P	Pn	20 43 11.3	+2.3
	0.1nm,0.3s,baz=155,slow=15,SNR=3.6						
KSRS				LR	LR	20 46 35.1	
	comp=Z,122nm,20.0s,baz=155,slow=40						
MJAR	Matsushiro Arr	8.96	41	P	Pn	20 43 23.3	-0.1
	baz=246,slow=14,SNR=1.1						
SONM	Songino Array	25.99	320	P	P	20 46 44.1	-1.5
	0.3nm,0.5s,baz=82,slow=5.1,SNR=2.5						
SONM				LR	LR	20 57 55.0	
	comp=Z,98nm,19.1s,baz=102,slow=38						
CMAR	Chiang Mai Arr	31.25	256	LR	LR	21 00 30.9	
	comp=Z,38nm,21.1s,baz=185,slow=36						
MKAR	Makanchi Array	41.00	308	P	P	20 48 55.8	+0.2
	0.9nm,0.6s,baz=95,slow=11,SNR=13						
WRA	Warramunga Arr	49.69	176	P	P	20 50 05.1	+0.5
	0.6nm,1.0s,baz=352,slow=8.0,SNR=1.5						
ASAR	Alice Springs	53.37	177	P	P	20 50 33.5	+1.5
	0.2nm,0.7s,baz=9.7,slow=13,SNR=1.5						
ARU	Arti	56.03	320	P	P	20 50 49.9	-1.0
	1.0nm,0.6s,baz=117,slow=4.5,SNR=4.8						
AKTO	Aktyubinsk	57.00	313	P	P	20 50 57.1	-0.9
	1.1nm,0.7s,baz=68,slow=5.4,SNR=1.8						
FINES	FINESS Array B	70.83	331	P	P	20 52 27.5	-1.2
	1.3nm,0.7s,baz=95,slow=7.7,SNR=4.7						
AKASG	Malin Array Be	74.28	320	P	P	20 52 48.2	-1.2
	0.2nm,0.3s,baz=68,slow=3.7,SNR=1.7						

*IDC **13** 20:43:50.1±1.0, 38°.46N×22°.43E, h0km, mb3.6/9, mb1 3.7/14, mb1mx3.5/56, mbtmp3.6/14, ML3.3/5, MS3.4/3, Ms1 3.4/3, ms1mx2.6/51, Error ellipse: s-maj=20.1km s-min=15.7km az=144.0*
*ATH **13** 20:43:50.8, 38°.41N×22°.47E, h13km±1km, ML3.6/30, Error ellipse: s-maj=1.2km s-min=0.6km az=330.0*
*BEO **13** 20:43:50.9±0.8, 38°.40N×22°.51E, h0km, ML3.3/9*
*ISK **13** 20:43:50.6, 38°.43N×22°.44E, h17km, ML3.4/12*
*IASPEI **13** 20:43:50.8±0.8, 38°.42N±0°.02×22°.46E±0°.02, h12km±6km, mb3.6/8, Error ellipse: s-maj=2.5km s-min=2.3km az=169.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **13** 20:43:51.2, 38°.42N×22°.47E, h7km, ML3.6/22, Error ellipse: s-maj=0.9km s-min=0.4km az=256.0*

ISC 13 20:43:51.1±0.8, 38°.42N±0°.02×22°.46E±0°.01, h11km±5km, n165, σ1°11/213, mb3.6/8, 9C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLFA	Delphi	0.07	24	P	Pg	20 43 53.1	-0.4
DLFA				S	Sg	20 43 55.3	+0.1
DLFA				AML	AML	20 43 55.7	
DLFA				AML	AML	20 43 56.6	
TRIZ	Trizonia	0.31	260	P	Pg	20 43 57.1	-0.3
TRIZ				S	Sg	20 44 02.3	+0.8
	61μm,0.3s						
TRIZ	Trizonia	0.31	260	P	Pg	20 43 56.9	-0.5
TRIZ				S	Sg	20 44 01.1	-0.4
ALIK	Aliki, Aigiali	0.32	240	P	Pg	20 43 57.8	+0.3
ALIK				S	Sb	20 44 03.2	-0.7
SERG	Sergoula	0.32	269	P	Pg	20 43 57.3	-0.2
SERG				S	Sg	20 44 02.5	+0.7
	87μm,0.2s						
SERG	Sergoula	0.32	269	P	Pg	20 43 57.0	-0.5
SERG				S	Sg	20 44 02.4	+0.6
SERG				AML	AML	20 44 02.9	
SERG				AML	AML	20 44 04.3	
THAL	Thalero	0.41	157	P	Pg	20 43 59.1	-0.2
THAL				S	Sg	20 44 05.2	+0.5
	11μm,0.5s						
THAL	Thalero	0.41	157	P	Pg	20 43 58.8	-0.5
THAL				AML	AML	20 44 11.2	
	comp=E,21562μm,0.7s						
THAL				AML	AML	20 44 20.9	
	comp=N,19461μm,0.6s						
LAKA	Lakka	0.42	245	P	Pg	20 43 59.0	-0.4
LAKA				S	Sb	20 44 05.9	-1.0
	comp=N,16μm,0.6s						
LAKA	Lakka	0.42	245	P	Pg	20 43 58.9	-0.5
LAKA				S	Sg	20 44 04.9	0.0
LAKA				AML	AML	20 44 09.4	
	comp=N,37505μm,0.4s						
LAKA				AML	AML	20 44 14.2	
	comp=E,35175μm,0.6s						
EFP	Efpalio	0.44	271	P	Pg	20 43 59.2	-0.5
EFP				S	Sb	20 44 06.6	-0.8
	comp=E,18μm,0.3s						
EFP	Efpalio	0.44	271	P	Pg	20 43 59.2	-0.5
EFP				S	Sg	20 44 06.1	+0.6
EFP				AML	AML	20 44 07.0	
	comp=N,36072μm,0.3s						
EFP				AML	AML	20 44 07.2	
	comp=E,32296μm,0.3s						
KLV	Kalavryta, Ach	0.45	213	P	Pg	20 43 59.1	-0.8
KLV				S	Sg	20 44 06.5	+0.7
	comp=E,3μm,0.3s						
KLV	Kalavryta, Ach	0.45	213	P	Pg	20 43 59.1	-0.8
KLV				S	Sg	20 44 05.8	0.0
KLV				AML	AML	20 44 06.9	
	comp=N,6312μm,0.3s						
KLV				AML	AML	20 44 07.9	
	comp=E,6996μm,0.3s						
LKR	Lokris	0.48	61	P	Pg	20 43 59.9	-0.7
LKR				S	Sg	20 44 07.5	+0.5
	comp=E,9μm,0.2s						
LKR	Lokris	0.48	61	P	Pg	20 43 59.7	-0.9
LKR				S	Sg	20 44 06.8	-0.2
LKR				AML	AML	20 44 09.6	
	comp=E,19866μm,0.2s						
LKR				AML	AML	20 44 09.6	
	comp=N,17218μm,0.2s						
UPR	University Cam	0.55	256	P	Pg	20 44 01.6	-0.2
LTK	Loutraki	0.56	135	P	Pg	20 44 01.6	-0.4
LTK				S	Sb	20 44 10.0	-1.0
	comp=N,4μm,0.7s						
LTK	Loutraki	0.56	135	P	Pg	20 44 01.6	-0.4
LTK				AML	AML	20 44 14.7	
	comp=N,6927μm,0.4s						
LTK				AML	AML	20 44 15.6	
	comp=E,8964μm,0.9s						
LOUT	Loutraki	0.59	137	P	Pg	20 44 02.1	-0.5
LOUT				S	Sb	20 44 11.6	-0.2
	comp=E,3μm,0.7s						
LOUT	Loutraki

PVO AML AML 20 44 22.6
comp=E,6847μm,0.5s
PVO AML AML 20 44 23.4
comp=N,7457μm,0.6s
RLS Riolos of Patr 0.86 246 P Pg 20 44 06.8 -0.9
RLS Riolos of Patr 0.86 246 P Pg 20 44 06.8 -0.9
RLS AML AML 20 44 22.8
comp=N,3326μm,0.3s
RLS AML AML 20 44 33.9
comp=E,3004μm,0.6s
VLX Vlachokerasia 1.05 184 P Pg 20 44 10.4 -0.9
VLX S Sn 20 44 26.8 +0.3
comp=E,4μm,0.8s
VLX Vlachokerasia 1.05 184 P Pg 20 44 10.2 -1.1
VLX AML AML 20 44 32.9
comp=N,8359μm,0.7s
VLX AML AML 20 44 33.8
comp=E,5980μm,1.0s
AMT Artemida-Makis 1.06 214 P Pg 20 44 10.8 -0.8
AMT Artemida-Makis 1.06 214 P Pg 20 44 10.6 -1.0
AMT AML AML 20 44 37.3
comp=N,4113μm,0.4s
AMT AML AML 20 44 38.3
comp=E,4362μm,0.9s
NEO Neokhori 1.07 34 P Pg 20 44 11.1 -0.6
NEO S Sb 20 44 26.4 +0.7
comp=E,2μm,0.6s
NEO Neokhori 1.07 34 P Pg 20 44 10.8 -1.0
NEO AML AML 20 44 32.0
comp=E,3585μm,0.4s
NEO AML AML 20 44 33.3
comp=N,4851μm,0.5s
ATH Athens Observa 1.08 114 P Pg 20 44 11.3 -0.7
ATH AML AML 20 44 30.6
comp=N,6497μm,0.6s
ATH AML AML 20 44 33.4
comp=E,6427μm,0.4s
XOR Xorichti 1.11 31 P Pg 20 44 11.4 -1.1
XOR S Sn 20 44 27.9 0.0
comp=E,3μm,0.7s
XOR Xorichti 1.11 31 P Pg 20 44 11.3 -1.1
XOR AML AML 20 44 36.7
comp=N,7293μm,0.8s
XOR AML AML 20 44 38.4
comp=E,3635μm,0.8s
ATHU Athens Univers 1.14 113 P Pg 20 44 11.5 -1.4
ATHU AML AML 20 44 32.0
comp=N,3089μm,0.7s
ATHU AML AML 20 44 33.5
comp=E,1922μm,0.6s
EREA Eretria 1.16 89 P Pg 20 44 12.1 -1.2
EREA S Sn 20 44 29.7 +0.6
comp=E,4μm,0.9s
EREA Eretria 1.16 89 P Pg 20 44 11.3 -2.0
EREA AML AML 20 44 33.0
comp=N,7264μm,1.4s
EREA AML AML 20 44 33.6
comp=E,7240μm,0.4s
KRND KRANIDI 1.17 152 P Pg 20 44 13.1 -0.5
KRND KRANIDI 1.17 152 P Pg 20 44 12.2 -1.4
KRND AML AML 20 44 31.7
comp=E,4515μm,0.6s
KRND AML AML 20 44 33.0
comp=N,4515μm,0.7s
VLY Voula,Athens 1.19 118 P Pb 20 44 13.7 -0.1
VLY S Sn 20 44 29.8 -0.2
comp=N,3μm,0.8s
VLY Voula,Athens 1.19 118 P Pg 20 44 13.1 -0.9
VLY AML AML 20 44 35.4
comp=N,7916μm,1.0s
VLY AML AML 20 44 36.3
comp=E,5743μm,0.7s
THL Klokotos Trika 1.20 343 P Pg 20 44 13.3 -0.8
THL S Sn 20 44 30.0 -0.1
comp=E,938nm,0.7s
THL Klokotos Trika 1.20 343 P Pg 20 44 13.2 -1.0
THL AML AML 20 44 41.7
comp=N,1543μm,0.5s
THL AML AML 20 44 43.0
comp=E,2379μm,0.9s
DION Dionisos Attik 1.21 106 P Pg 20 44 13.4 -0.9
DION S Sn 20 44 31.6 +1.2
comp=E,6μm,0.8s
DION Dionisos Attik 1.21 106 P Pg 20 44 12.8 -1.6
DION AML AML 20 44 34.5
comp=E,8301μm,0.8s
DION AML AML 20 44 38.7
comp=N,7250μm,0.8s
KYMI Kymi, Euboea I 1.30 80 P Pn 20 44 14.3 -1.0
KYMI S Sn 20 44 33.4 +0.7
comp=N,2μm,0.6s
KYMI Kymi, Euboea I 1.30 80 P Pn 20 44 13.9 -1.4
KYMI AML AML 20 44 38.8
comp=N,3352μm,0.8s
KYMI AML AML 20 44 40.9
comp=E,2672μm,0.5s
ITM Ithomi 1.31 199 P Pn 20 44 15.0 -0.3
ITM Ithomi 1.31 199 PN Pn 20 44 14.4 -0.9
NYDR Nydri-Lefkada 1.41 283 P Pn 20 44 16.9 +0.1
VLS Valsamata 1.49 261 P Pn 20 44 17.6 -0.3
VLS Valsamata 1.49 261 P Pn 20 44 17.6 -0.3
VLS AML AML 20 44 50.5
comp=N,2490μm,0.8s
VLS AML AML 20 44 51.2
comp=E,1544μm,0.5s
PSDA Pessada-Kefalo 1.51 259 P Pn 20 44 17.9 -0.2
PSDA Pessada-Kefalo 1.51 259 P Pn 20 44 17.7 -0.3
VLMS Volimes, Zakyn 1.52 250 P Pn 20 44 18.3 0.0
VLMS Volimes, Zakyn 1.52 250 P Pn 20 44 18.2 0.0
KEF5 Kardakata, Kep 1.57 266 P Pn 20 44 19.1 +0.1
KARY Karystos 1.60 103 P Pn 20 44 20.0 +0.6
PYL PYLOS 1.62 201 P Pb 20 44 20.6 -0.5
LIT Litokhoron 1.68 1 P Pn 20 44 20.8 +0.3
LIT Litokhoron 1.68 1 P Pn 20 44 20.8 +0.3
LIT AML AML 20 44 53.0
comp=E,1020μm,1.0s
LIT AML AML 20 45 01.9
comp=N,1072μm,0.9s
VLI Veliai 1.74 167 P Pn 20 44 21.4 +0.1
VLI Veliai 1.74 167 P Pn 20 44 21.3 0.0
VLI AML AML 20 44 50.7
comp=N,1445μm,0.9s
VLI AML AML 20 44 53.5
comp=E,1774μm,0.9s
KPRO Kipourio 1.76 331 P Pb 20 44 22.7 -0.7
PAIG Paliouri 1.78 32 P Pn 20 44 21.3 -0.5
PLG Polygyros 2.10 21 P Pn 20 44 25.9 -0.4
KTHA Kythira Island 2.21 167 PN Pn 20 44 27.8 0.0
HORT Hortiatis 2.23 13 PN Pn 20 44 27.8 -0.4
SOH Sokhos 2.50 16 P Pn 20 44 32.4 +0.6
FNA Florina 2.51 341 *e*Pn **Pn 20 44 32.2 +0.3**
FNA *e*Sn **Sn 20 45 04.5 +2.0**
FNA Florina 2.51 341 P Pn 20 44 33.4 +1.5
FNA Florina 2.51 341 PN Pn 20 44 31.8 -0.1
GRG Griva 2.54 359 P Pn 20 44 32.8 +0.5
GRG Griva 2.54 359 PN Pn 20 44 32.1 -0.2
KNT Kendrikon 2.76 7 P Pn 20 44 36.2 +0.8
KNT Kendrikon 2.76 7 PN Pn 20 44 35.4 0.0
SIGR SIGRI 2.77 72 PN Pn 20 44 35.7 +0.3
APE Apeiranthos 2.78 118 ⇓P **Pn 20 44 35.3 -0.3**
APE Apeiranthos 2.78 118 ⇑S **Sn 20 45 09.4 +0.1**
APE Apeiranthos 2.78 118 PN Pn 20 44 36.2 +0.5
CHOS Chios island 2.82 90 PN Pn 20 44 36.6 +0.3
SRS Serrai 2.83 18 *e*Pn **Pn 20 44 36.4 0.0**
SRS *e*Sn **Sn 20 45 11.8 +1.3**
SRS Serrai 2.83 18 *i* Pn **Pn 20 44 36.7 +0.3**
OHR Ohrid 2.98 335 *i* Pn **Pn 20 44 40.1 +1.7**
NVR Nevrokopi 3.12 20 P Pn 20 44 40.7 +0.4
BOZC Bozcaada 3.13 62 PN Pn 20 44 40.8 +0.3
IMMV Iera Moni Meta 3.19 157 PN Pn 20 44 42.2 +0.9
GADA Gvkgeada 3.20 55 PN Pn 20 44 41.3 -0.1
URLA Izmir 3.25 90 PN Pn 20 44 42.7 +0.6
STIP Stip 3.28 356 *i* Pn **Pn 20 44 44.3 +1.8**
EZN Ezine 3.32 64 PN Pn 20 44 43.4 +0.4
KNDR Palaiochora Ch 3.33 162 PN Pn 20 44 43.8 +0.7
RDO Rodhopi 3.61 40 PN Pn 20 44 47.2 +0.2
SKO Skopje 3.63 348 *i* Pn **Pn 20 44 47.8 +0.4**
IDI Anoyia 3.68 147 Pn Pn 20 44 49.6 +1.5
comp=E,2.2nm,0.3s,baz=315,slow=17,SNR=15
IDI Sn **Sn 20 45 32.3 +0.8**
comp=E,2.5nm,0.3s,baz=329,slow=20,SNR=4.0
IDI Anoyia 3.68 147 ⇑P **Pn 20 44 48.9 +0.8**
IDI Anoyia 3.68 147 ⇑S **Sn 20 45 32.0 +0.5**
IDI Anoyia 3.68 147 PN Pn 20 44 49.1 +1.0

ALN Alexandroupoli 3.71 47 PN Pn 20 44 48.6 +0.2
HRKL Herakleio 3.75 145 PN Pn 20 44 50.1 +1.1
GVDS Gavdos 3.80 159 PN Pn 20 44 50.4 +0.8
GVD Gavdhos 3.80 159 PN Pn 20 44 50.7 +1.0
PLD Plovdiv 4.06 24 PN Pn 20 44 53.7 +0.5
BOSS Bosilegrad 4.07 0 *e*Pn **Pn 20 44 54.8 +1.4**
BOSS *e*Sn **Sn 20 45 42.4 +1.3**
UKOP Uzunkopru-Edir 4.20 49 PN Pn 20 44 55.9 +0.8
VTS Vitosha 4.24 8 *e*Pn **Pn 20 44 55.0 -0.8**
VTS *e*Sn **Sn 20 45 46.4 +1.1**
VTS Vitosha 4.24 8 ⇑P **Pn 20 44 55.8 0.0**
VTS Vitosha 4.24 8 ⇓S **Sn 20 45 47.8 +2.5**
BARS Barje 4.42 354 *e*Pn **Pn 20 44 57.9 -0.3**
BARS *e*Sn **Sn 20 45 51.1 +1.5**
PDG Podgorica 4.70 330 ⇑P **Pn 20 45 03.5 +1.6**
ZAPS Zavoj 4.85 1 *e*Pn **Pn 20 45 05.3 +1.2**
SELS Selova 4.90 348 *e*Pn **Pn 20 45 04.5 -0.3**
SELS *e*Sn **Sn 20 46 01.2 -0.4**
MATE Matera 4.98 298 ⇑P **Pn 20 45 07.1 +1.4**
BOVS Bovan 5.24 354 *e*Pn **Pn 20 45 10.6 +1.2**
BOVS *e*Sn **Sn 20 46 09.1 -0.8**
BOVS Bovan 5.24 354 ⇓P **Pn 20 45 10.0 +0.5**
IVAS Ivanjica 5.44 342 *e*Pn **Pn 20 45 13.8 +1.6**
IVAS *e*Sn **Sn 20 46 14.7 -0.2**
GRUS Gruza 5.62 347 *e*Pn **Pn 20 45 15.8 +1.2**
STON Ston 5.74 322 *e*Pn **Pn 20 45 16.0 -0.2**
STON Sn **Sn 20 46 18.8 -3.2**
DIVS Divibare 5.97 343 *e*Pn **Pn 20 45 21.6 +2.1**
DIVS *e*Sn **Sn 20 46 26.9 -1.1**
TRUS Trudelj 6.00 346 *e*Pn **Pn 20 45 21.5 +1.6**
MDVR Moldovita 6.38 355 ⇑P **Pn 20 45 26.5 +1.3**
VAE Valguarnera 6.43 264 Pn Pn 20 45 26.6 +0.8
comp=E,0.7nm,0.3s,baz=168,slow=20,SNR=1.7
VAE Sn **Sn 20 46 42.0 +2.8**
comp=E,0.9nm,0.3s,baz=167,slow=21,SNR=4.2
HERR Herculane 6.46 360 ⇓P **Pn 20 45 26.2 +0.1**
RICI Ricice 6.48 323 *e*Pn **Pn 20 45 26.6 +0.2**
RICI Sn **Sn 20 46 37.5 -2.9**
HVAR Hvar 6.59 318 *e*Pn **Pn 20 45 27.8 -0.1**
HVAR Sn **Sn 20 46 38.5 -4.5**
GZR Gura Zlata 6.97 2 ⇓P **Pn 20 45 33.8 +0.5**
FRGS Fruska Gora 7.02 344 *e*Pn **Pn 20 45 34.8 +0.9**
FRGS Fruska Gora 7.02 344 ⇓P **Pn 20 45 35.2 +1.3**
BZS Buzias 7.22 355 ⇑P **Pn 20 45 37.2 +0.6**
VOIR 7.27 15 ⇓P **Pn 20 45 38.6 +1.2**
ZIRJ Zirje 7.34 318 *e*Pn **Pn 20 45 36.9 -1.3**
ZIRJ Sn **Sn 20 46 57.2 -4.3**
MORI Morici 7.46 319 *e*Pn **Pn 20 45 40.1 +0.4**
MORI Sn **Sn 20 47 00.1 -4.2**
MLR Muntele Rosu 7.53 19 Pn Pn 20 45 41.6 +0.7
comp=E,0.4nm,0.3s,baz=189,slow=6.8,SNR=6.8
MLR Muntele Rosu 7.53 19 ⇓P **Pn 20 45 41.6 +0.7**
DUGI Dugi Otok 7.88 317 *e*Pn **Pn 20 45 45.3 -0.4**
DUGI Sn **Sn 20 47 09.3 -5.5**
PLOR Plostina 8.05 21 ⇓P **Pn 20 45 48.5 +0.5**
VRI Vrincioaia 8.09 22 ⇑P **Pn 20 45 49.4 +0.9**
MORH Mrgy, Hungar 8.29 341 *e*P **Pn 20 45 50.8 -0.4**
KOVH Kovagotottos 8.32 339 *e*P **Pn 20 45 52.6 +1.0**
BRTR Keskin Array B 8.79 78 Pn **Pn 20 46 01.1 +2.8**
comp=E,0.1nm,0.3s,baz=262,slow=12,SNR=2.4
GERES GERESS Array B 12.19 332 LR LR 20 52 43.5
comp=E,64nm,18.1s,baz=168,slow=44
AKASG Malin Array Be 13.19 19 Pn **Pn 20 46 57.1 -1.1**
comp=E,0.3nm,0.3s,baz=209,slow=13,SNR=1.8
ESDC Sonseca Array 20.54 282 P **P 20 48 30.2 +0.6**
comp=E,1.3nm,1.0s,baz=75,slow=10,SNR=5.9
HFS Hagfors 22.44 348 P **P 20 48 49.6 -0.1**
comp=E,1.1nm,0.8s,baz=122,slow=12,SNR=2.0
NB2 NORSAR Subarra 23.71 346 P **P 20 49 00.7 -2.2**
comp=Z,4.6nm,1.4s,baz=160,slow=11
NOA NORSAR Array B 23.71 346 P **P 20 49 03.1 +0.2**
comp=Z,0.6nm,1.0s,baz=173,slow=12,SNR=2.6
EKA Eskdalemuir Ar 24.14 323 P **P 20 49 06.8 -0.1**
comp=Z,1.0nm,0.6s,baz=112,slow=10.0,SNR=4.8
TORD Torodi Ar. Bea 31.20 222 P **P 20 50 10.9 +0.4**
comp=Z,1.9nm,0.8s,baz=33,slow=8.0,SNR=8.0
ATD Arta Tunnel 32.38 140 LR LR 21 03 09.8
comp=Z,51nm,19.1s,baz=162,slow=36
MKAR Makanchi Array 43.87 59 P **P 20 51 58.2 +0.8**
comp=Z,0.4nm,0.4s,baz=280,slow=7.8,SNR=11
ZALV Zalesovo Beam 44.39 48 P **P 20 52 01.5 +0.1**
comp=Z,1.4nm,0.6s,baz=273,slow=10,SNR=7.4
SONM Songino Array 59.12 51 P **P 20 53 52.2 +0.5**
comp=Z,0.7nm,0.8s,baz=282,slow=7.4,SNR=5.1
ILAR Eielson Array 76.81 355 P **P 20 55 43.1 +0.6**
comp=Z,0.2nm,0.5s,baz=10,slow=5.5,SNR=1.7
BBB Bella Bella 86.19 342 LR LR 21 35 44.8
comp=Z,60nm,20.3s,baz=272,slow=36

JMA ***13*** *20:45:41.3±0.1, 24°.37N×121°.87E, h36km±2km, M2.9*
TAP ***13*** *20:45:41.5, 24°.44N×121°.90E, h23km, ML3.7, B*
ISC 13 20:45:41.3±0.9, 24°.44N±0°.01×121°.96E±0°.02, h14km±7km,
n109, σ0**67**/191**, 10C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EWUT	**Wuta baz=275**	**0.16**	**273**	⇓*iP*		**Pb**	**20 45 46.1**	**-0.1**
EWUT	baz=275			*i* S		**Sb**	**20 45 49.1**	**-0.2**
ENA	**Nanau baz=266**	**0.20**	**268**	*e*P		**Pb**	**20 45 46.8**	**0.0**
TWC	**Suao baz=347**	**0.20**	**331**	⇑*iP*		**Pb**	**20 45 46.9**	**+0.1**
TWC	baz=347			*i* S		**Sb**	**20 45 50.3**	**-0.1**
EHP	**Heping Village baz=230**	**0.23**	**237**	*e*P		**Pg**	**20 45 45.6**	**-0.8**
EHP	baz=230			*e*S		**Sg**	**20 45 50.4**	**+0.5**
NDS	**Dongshan baz=319**	**0.29**	**312**	⇓*iP*		**Pb**	**20 45 48.3**	**-0.1**
NDS	baz=319			*i* S		**Sb**	**20 45 52.6**	**-0.6**
ILA	**Ilan baz=331**	**0.38**	**330**	⇑*iP*		**Pb**	**20 45 49.9**	**+0.1**
ILA	baz=331			*i* S		**Sb**	**20 45 55.7**	**+0.1**
TWE	**Neicheng baz=325**	**0.39**	**317**	⇑*iP*		**Pg**	**20 45 49.6**	**+0.5**
TWE	baz=325			*i* S		**Sg**	**20 45 54.9**	**+0.5**
ENTT	**Nioudou baz=304**	**0.41**	**300**	⇑*iP*		**Pg**	**20 45 50.0**	**+0.5**
ENTT	baz=304			*i* S		**Sg**	**20 45 55.5**	**+0.4**
ETL	**Fush Village baz=227**	**0.41**	**228**	P		**Pg**	**20 45 49.6**	**+0.1**
ETL	baz=227			*e*S		**Sg**	**20 45 55.8**	**+0.7**
NACB	**Ninganchiao baz=232**	**0.42**	**232**	⇓*iP*		**Pg**	**20 45 49.6**	**-0.1**
NACB	baz=232			*i* S		**Sg**	**20 45 55.5**	**+0.1**
NTC	**Toucheng baz=351**	**0.43**	**345**	*e*P		**Pb**	**20 45 50.8**	**0.0**
NTC	baz=351			*e*S		**Sb**	**20 45 56.5**	**-0.6**
NDT	**Datong Townshi baz=296**	**0.44**	**292**	⇓*iP*		**Pg**	**20 45 50.4**	**+0.4**
NDT	baz=296			S		**Sg**	**20 45 56.3**	**+0.3**
TWD	**Chiawan baz=219**	**0.48**	**223**	⇑*iP*		**Pg**	**20 45 51.1**	**+0.2**
TWD	baz=219			S		**Sb**	**20 45 59.3**	**+0.7**
ETLH	**Xiulin Townshi baz=244**	**0.49**	**242**	⇓*iP*		**Pg**	**20 45 50.8**	**-0.2**
ETLH	baz=244			S		**Sg**	**20 45 57.7**	**+0.1**
NNSB	**Datong baz=276**	**0.52**	**269**	⇓*iP*		**Pg**	**20 45 51.5**	**-0.2**
NNSB	baz=276			S		**Sg**	**20 45 58.2**	**-0.5**
NNSH	**Datong baz=274**	**0.52**	**269**	P		**Pg**	**20 45 51.6**	**0.0**
NNSH	baz=274			S		**Sg**	**20 45 58.2**	**-0.4**
NNS	**Nan Shan baz=277**	**0.53**	**270**	⇑*iP*		**Pg**	**20 45 51.7**	**-0.1**
NNS	baz=277			S		**Sg**	**20 45 58.5**	**-0.5**
NWLT	**Wulai baz=313**	**0.53**	**310**	P		**Pg**	**20 45 52.1**	**+0.2**
NWLT	baz=313			S		**Sg**	**20 45 58.5**	**-0.5**
TIPB	**Shuangxi baz=358**	**0.55**	**348**	⇑*iP*		**Pb**	**20 45 52.6**	**-0.1**
TIPB	baz=358			*i* S		**Sg**	**20 45 59.8**	**+0.3**
HWA	**Hwalien baz=219**	**0.56**	**215**	*e*P		**Pb**	**20 45 53.2**	**+0.3**
TWB1	**Santiao Chiao baz=3.0**	**0.57**	**3**	*e*P		**Pb**	**20 45 53.1**	**0.0**
TWB1	baz=3.0			*e*S		**Sb**	**20 46 00.7**	**-0.4**
YHNB	**Yeheng baz=296**	**0.58**	**294**	⇑*iP*		**Pg**	**20 45 52.8**	**+0.1**
YHNB	baz=296			*i* S		**Sg**	**20 45 59.7**	**-0.7**
NSK	**Sanguang baz=296**	**0.59**	**294**	⇑*iP*		**Pg**	**20 45 53.0**	**0.0**
NSK	baz=296			*i* S		**Sg**	**20 46 00.2**	**-0.7**
ETM	**Tongmen baz=219**	**0.63**	**222**	*e*P		**Pg**	**20 45 53.6**	**-0.1**
TWA	**Mucha baz=323**	**0.64**	**328**	⇑*iP*		**Pg**	**20 45 54.1**	**+0.3**
TWA	baz=323			*e*S		**Sg**	**20 46 02.1**	**-0.2**
NWF	**Wu-fen Shan baz=343**	**0.65**	**346**	P		**Pb**	**20 45 54.7**	**+0.1**
NWF	baz=343			S		**Sb**	**20 46 03.8**	**+0.2**
WFSB	**Wu-fen Shan baz=343**	**0.65**	**346**	*e*P		**Pb**	**20 45 54.7**	**+0.2**
WFSB	baz=343			*e*S		**Sb**	**20 46 03.8**	**+0.3**
TEYL	**Yanliau Villag baz=207**	**0.65**	**210**	*e*P		**Pg**	**20 45 52.8**	**-1.3**
TEYL	baz=207			*e*S		**Sn**	**20 46 06.3**	**0.0**
NHDH	**Xindian Distri baz=320**	**0.65**	**323**	*e*P		**Pb**	**20 45 54.5**	**-0.1**
NHDH	baz=320			*e*S		**Sb**	**20 46 03.3**	**-0.2**
FUSS	**Fushou baz=258**	**0.68**	**254**	P		**Pg**	**20 45 54.5**	**-0.1**
FUSS	baz=258			*e*S		**Sg**	**20 46 03.4**	**-0.2**
TATO	**Taipei baz=318**	**0.69**	**322**	P		**Pg**	**20 45 54.8**	**+0.1**
TATO	baz=318			S		**Sg**	**20 46 03.8**	**0.0**
WHF	**Hehuan Shan baz=250**	**0.69**	**245**	⇓*iP*		**Pg**	**20 45 54.5**	**-0.4**
WHF	baz=250			*i* S		**Sb**	**20 46 05.3**	**+0.2**
TAP1	**Taipei baz=323**	**0.72**	**327**	*e*P		**Pn**	**20 45 56.3**	**-0.7**
TAP1	baz=323			*e*S		**Sb**	**20 46 05.5**	**+0.2**
TAP	**Taipei baz=323**	**0.73**	**326**	P		**Pb**	**20 45 56.3**	**+0.5**
TAP	baz=323			S		**Sb**	**20 46 05.9**	**+0.3**
BACT	**New Taipei Cit baz=317**	**0.73**	**320**	*e*P		**Pb**	**20 45 56.2**	**+0.4**
BACT	baz=317			*e*S		**Sn**	**20 46 06.7**	**-1.4**
TNOU	**National Taiwa baz=346**	**0.73**	**347**	*e*P		**Pb**	**20 45 56.0**	**+0.2**
TNOU	baz=346			*e*S		**Sg**	**20 46 05.3**	**+0.1**
TWT	**Tachien baz=255**	**0.73**	**256**	*e*P		**Pg**	**20 45 55.8**	**+0.2**
TWT	baz=255			*e*S		**Sg**	**20 46 05.7**	**+0.3**
TDCB	**Techi baz=256**	**0.75**	**256**	P		**Pg**	**20 45 55.9**	**0.0**
TDCB	baz=256			*e*S		**Sg**	**20 46 04.8**	**-1.1**
ESL	**Shilin baz=220**	**0.78**	**218**	P		**Pb**	**20 45 56.4**	**-0.3**
ESL	baz=220			*e*S		**Sg**	**20 46 08.0**	**+1.2**
YM01	**YM01 baz=337**	**0.79**	**334**	*e*P		**Pg**	**20 45 57.0**	**+0.4**
YM01	baz=337			*e*S		**Sg**	**20 46 07.5**	**+0.5**
CHGB	**Renai baz=247**	**0.81**	**242**	P		**Pb**	**20 45 56.6**	**-0.7**
CHGB	baz=247			*e*S		**Sb**	**20 46 08.3**	**+0.2**
YM08	**YM08 baz=339**	**0.82**	**336**	P		**Pb**	**20 45 57.1**	**-0.3**
NTY	**Taoyuan baz=320**	**0.82**	**313**	*e*P		**Pn**	**20 45 58.4**	**-0.1**
NTY	baz=320			*e*S		**Sn**	**20 46 09.6**	**-0.9**
TWS1	**Kuangyinshan baz=323**	**0.82**	**324**	*e*P		**Pg**	**20 45 57.9**	**+0.6**
TWS1	baz=323			*e*S		**Sn**	**20 46 09.4**	**-1.1**
NJD	**Zhudong baz=291**	**0.84**	**291**	*e*P		**Pn**	**20 45 59.1**	**+0.3**
NJD	baz=291			*e*S		**Sn**	**20 46 10.0**	**-1.0**
ANP	**Anpu baz=336**	**0.84**	**332**	*e*P		**Pb**	**20 45 57.6**	**-0.2**
ANP	baz=336			*e*S		**Sg**	**20 46 09.3**	**+0.4**
NTST	**Danshui baz=341**	**0.86**	**328**	*e*P		**Pn**	**20 45 58.6**	**-0.4**
NTST	baz=341			*e*S		**Sn**	**20 46 10.6**	**-0.8**
OWD	**Renai baz=235**	**0.86**	**236**	*e*P		**Pb**	**20 45 57.5**	**-0.6**
OWD	baz=235			*e*S		**Sg**	**20 46 09.8**	**+0.5**
NCU	**National Centr baz=313**	**0.88**	**307**	*e*P		**Pb**	**20 45 56.5**	**-1.9**
NCU	baz=313			*e*S		**Sg**	**20 46 10.1**	**+0.2**
NCUH	**Zhongli baz=313**	**0.88**	**307**	*e*P		**Pg**	**20 45 58.4**	**+0.1**
NCUH	baz=313			*e*S		**Sg**	**20 46 10.3**	**+0.4**
NSTT	**Nanjuang baz=284**	**0.89**	**283**	P		**Pg**	**20 45 58.8**	**+0.2**
NSTT	baz=284			S		**Sg**	**20 46 10.3**	**0.0**
TWY	**Chenhua baz=342**	**0.90**	**339**	*e*P		**Pn**	**20 45 59.3**	**-0.3**
TWY	baz=342			*e*S		**Sg**	**20 46 11.2**	**+0.7**
JYNG	**Yonaguni jima**	**0.90**	**89**	P		**Pb**	**20 45 58.8**	**0.0**
JYNG				S		**Sg**	**20 46 11.3**	**+0.7**
EGFH	**Guangfu baz=224**	**0.90**	**212**	*e*P		**Pb**	**20 45 58.0**	**-0.9**
EGFH	baz=224			*e*S		**Sn**	**20 46 12.6**	**+0.1**
HSN1	**Hsinchu baz=292**	**0.92**	**292**	*e*P		**Pn**	**20 45 59.8**	**-0.1**
HSN1	baz=292			*e*S		**Sn**	**20 46 12.7**	**-0.1**
WHP	**Taichung City baz=266**	**0.93**	**260**	*e*P		**Pb**	**20 45 59.4**	**0.0**
WHP	baz=266			*e*S		**Sg**	**20 46 12.2**	**+0.5**
SBCB	**Hsinchu baz=284**	**0.95**	**292**	*e*P		**Pg**	**20 45 59.8**	**+0.1**
SBCB	baz=284			*e*S		**Sn**	**20 46 14.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.96**	**88**	P		**Pb**	**20 46 00.0**	**+0.2**
YOJ				S		**Sb**	**20 46 12.3**	**-0.1**
YOJ	**Yonaguni jima baz=80**	**0.96**	**88**	*e*P		**Pb**	**20 45 59.8**	**0.0**
NJN	**Zhunan baz=281**	**1.02**	**284**	*e*P		**Pg**	**20 46 01.9**	**+0.9**
NJN	baz=281			*e*S		**Sn**	**20 46 16.7**	**+1.4**
DPDB	**Guoxing baz=253**	**1.02**	**247**	P		**Pb**	**20 46 01.0**	**+0.2**
DPDB	baz=253			*e*S		**Sg**	**20 46 14.8**	**+0.3**
WCS	**Beigang Elemen baz=253**	**1.02**	**249**	*e*P		**Pb**	**20 46 00.9**	**0.0**
WCS	baz=253			*e*S		**Sg**	**20 46 14.7**	**+0.1**
HGSD	**Ruisui baz=194**	**1.06**	**207**	*e*P		**Pb**	**20 46 01.2**	**-0.3**

NMLH	**Miaoli**	**1.07 276**	*eP*		**Pg**	**20 46 02.4**	**+0.5**
	baz=276						
NMLH			*eS*		**Sn**	**20 46 16.9**	**+0.4**
	baz=276						
NSY	**Sanyi**	**1.09 269**	*eP*		**Pg**	**20 46 03.0**	**+0.6**
	baz=273						
NSY			*eS*		**Sn**	**20 46 18.7**	**+1.6**
	baz=273						
EHY	**Hungye**	**1.09 212**	*eP*		**Pb**	**20 46 00.5**	**-1.5**
	baz=209						
SMLT	**Sun Moon Lake**	**1.11 240**	P		**Pb**	**20 46 02.3**	**-0.1**
	baz=229						
SSLB	**Suanglung**	**1.12 235**	*eP*		**Pb**	**20 46 01.5**	**-1.0**
	baz=234						
TYC	**Yuchr**	**1.14 242**	‖ *iP*		**Pn**	**20 46 02.1**	**-0.7**
	baz=250						
TYC			*eS*		**Sg**	**20 46 19.1**	**+1.1**
	baz=250						
YULB	**Yu-li**	**1.20 210**	*eP*		**Pn**	**20 46 02.6**	**-1.2**
	baz=207						
TCU	**Taichung**	**1.20 256**	*eP*		**Pg**	**20 46 04.9**	**+0.4**
	baz=256						
TCU			*eS*		**Sg**	**20 46 22.7**	**+2.5**
	baz=256						
WDJ	**Dajia District**	**1.20 266**	*eP*		**Pg**	**20 46 04.7**	**+0.2**
	baz=261						
WDJ			*eS*		**Sg**	**20 46 21.4**	**+1.2**
	baz=261						
WWF	**Wufeng**	**1.21 251**	*eP*		**Pg**	**20 46 05.0**	**+0.3**
	baz=245						
WWF			*eS*		**Sg**	**20 46 22.8**	**+2.3**
	baz=245						
EYUL	**Yuli**	**1.23 208**	*eP*		**Pb**	**20 46 04.8**	**+0.5**
	baz=219						
TWF1	**Yuli**	**1.24 209**	*eP*		**Pn**	**20 46 03.0**	**-1.3**
	baz=218						
WJS	**Zhushan**	**1.28 242**	*eP*		**Pb**	**20 46 05.2**	**+0.1**
	baz=243						
WJS			*eS*		**Sg**	**20 46 24.4**	**+1.8**
	baz=243						
WNT1	**Nantou City**	**1.28 246**	*eP*		**Pg**	**20 46 06.1**	**+0.2**
	baz=245						
WNT	**Mingjian**	**1.29 245**	*eP*		**Pb**	**20 46 05.8**	**+0.5**
	baz=244						
WNT			*eS*		**Sg**	**20 46 24.9**	**+2.0**
	baz=244						
FULB	**Fuli**	**1.37 206**	*eP*		**Pn**	**20 46 05.8**	**-0.3**
	baz=218						
ALS	**Alishan**	**1.40 229**	*eP*		**Pn**	**20 46 07.0**	**+0.3**
	baz=215						
CHN5	**Tsauling**	**1.44 235**	*eP*		**Pb**	**20 46 07.9**	**-0.1**
	baz=233						
CHN5			*eS*		**Sg**	**20 46 29.3**	**+1.6**
	baz=233						
WGK	**Gukeng**	**1.48 240**	*eP*		**Pb**	**20 46 08.6**	**+0.1**
	baz=239						
WGK			*eS*		**Sg**	**20 46 30.0**	**+1.0**
	baz=239						
WDLH	**Douliu**	**1.49 240**	*eP*		**Pb**	**20 46 09.0**	**+0.1**
	baz=225						
WDLH			*eS*		**Sg**	**20 46 29.6**	**+0.1**
	baz=225						
ECS	**Chishang**	**1.50 207**	*eP*		**Pb**	**20 46 09.0**	**+0.1**
	baz=204						
ELDTW	**Lidau**	**1.51 215**	*eP*		**Pn**	**20 46 07.4**	**-0.7**
	baz=200						
WRL	**Guolierlin Hig**	**1.54 250**	*eP*		**Pb**	**20 46 09.1**	**-0.5**
	baz=261						
WRL			*eS*		**Sb**	**20 46 29.4**	**+0.4**
	baz=261						
WTK	**Tuku**	**1.61 243**	*eP*		**Pn**	**20 46 10.1**	**+0.7**
	baz=242						
WTK			*eS*		**Sb**	**20 46 32.1**	**+0.9**
	baz=242						
IRIF	**Iriomote-Funau**	**1.62 93**	P		**Pn**	**20 46 09.2**	**-0.3**
IRIF			S		**Sn**	**20 46 29.9**	**-0.3**
CHN4	**Tsaushan**	**1.65 229**	P		**Pb**	**20 46 11.2**	**-0.3**
	baz=228						
CHN4			*eS*		**Sg**	**20 46 35.2**	**+0.7**
	baz=228						
TPUB	**Ta-pu**	**1.66 227**	*eP*		**Pb**	**20 46 11.2**	**-0.5**
	baz=226						
TPUB			*eS*		**Sg**	**20 46 34.0**	**-0.7**
	baz=226						
STYH	**Taoyuan**	**1.66 221**	*eP*		**Pn**	**20 46 10.4**	**+0.4**
	baz=219						
STYT	**Tauyuan**	**1.68 221**	*eP*		**Pn**	**20 46 10.9**	**+0.5**
	baz=219						
STYT			*eS*		**Sg**	**20 46 35.4**	**+0.1**
	baz=219						
CHY	**Chiayi**	**1.68 237**	*eP*		**Pb**	**20 46 11.7**	**-0.4**
	baz=235						
CHY			*eS*		**Sg**	**20 46 34.5**	**-1.1**
	baz=235						
WTP	**Ta-pu**	**1.71 226**	P		**Pb**	**20 46 11.9**	**-0.7**
	baz=225						
WTP			*eS*		**Sg**	**20 46 35.6**	**-0.7**
	baz=225						
WSF	**Szhu**	**1.77 244**	*eP*		**Pn**	**20 46 12.2**	**+0.6**
	baz=242						
WSF			*eS*		**Sb**	**20 46 36.4**	**+0.7**
	baz=242						
TWK	**Hsinying**	**1.78 229**	*eP*		**Pb**	**20 46 13.3**	**-0.5**
	baz=227						
TWK			*eS*		**Sg**	**20 46 37.6**	**-1.0**
	baz=227						
TWG	**Pinlang**	**1.80 207**	*eP*		**Pn**	**20 46 12.9**	**+0.9**
	baz=192						
CHN1	**Nanshi**	**1.81 227**	*eP*		**Pb**	**20 46 13.4**	**-0.8**
	baz=224						
CHN1			*eS*		**Sg**	**20 46 38.8**	**-0.7**
	baz=224						
SGST	**Jiashian**	**1.84 223**	*eP*		**Pn**	**20 46 12.1**	**-0.5**
	baz=220						
ICHU	**Yijhu**	**1.87 235**	*eP*		**Pb**	**20 46 14.4**	**-0.9**
	baz=234						
JKRS	**Kuro-shima**	**1.88 96**	P		**Pn**	**20 46 13.4**	**+0.3**
JKRS			S		**Sn**	**20 46 36.9**	**+0.2**
JIJ	**Ishigaki jima**	**2.00 92**	P		**Pn**	**20 46 14.8**	**+0.1**
JIJ			S		**Sn**	**20 46 39.8**	**+0.3**
SSD	**Sandimen**	**2.08 216**	*eP*		**Pb**	**20 46 17.5**	**-1.3**
	baz=224						
TSMG	**Majia**	**2.10 215**	*eP*		**Pb**	**20 46 18.0**	**-1.2**
	baz=200						
JISG	**Ishigakijimahi**	**2.15 86**	P		**Pn**	**20 46 16.0**	**-0.8**
JISG			*eS*		**Sn**	**20 46 43.4**	**+0.1**
MASBT	**Mashibuluo**	**2.19 214**	*eP*		**Pn**	**20 46 18.4**	**+1.2**
	baz=211						
PNG	**Penghu**	**2.36 249**	*eP*		**Pn**	**20 46 19.0**	**-0.7**
	baz=247						
JTJ	**Tarama**	**2.51 85**	S		**Sn**	**20 46 52.3**	**+0.2**
XPSS	**Dashiqiu**	**2.95 328**	*eP*		**Pn**	**20 46 26.7**	**-1.1**
	baz=328						

*IDC **13** 20:49:26.7±0.9, 4°.81S×27°.42E, h0km, mb3.9/8, mb1 4.0/13, mb1mx3.7/52, mbtmp4.0/13, ML2.1/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/33, Error ellipse: s-maj=26.5km s-min=16.2km az=101.0*
*NEIC **13** 20:49:28.8±1.3, 4°.88S±0°.06×27°.5E±0°.1, h16km±5km, mb4.3/8, Error ellipse: s-maj=21.2km s-min=8.6km az=90.0*
ISC 13 20:49:27.4±0.6, **4°.85S**±0°.04×**27°.61E**±0°.05, **h10**km, **n68**, σ3$**03**/80, **mb4.1**/11, **Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWI	**Lwiro**	**2.85**	**25**	*i* P	**Pb**	**20 50 19.0**	**+0.4**
LWI				*i* S	**Sb**	**20 50 54.4**	**+0.6**
LWI				IAML		20 51 08.6	
	comp=Z,1μm,0.7s						
BOBN	**Bobandana**	**3.42**	**24**	*i* P	**Pb**	**20 50 28.7**	**+0.3**
BOBN				*i* S	**Sb**	**20 51 12.0**	**+1.9**
BOBN				IAML		20 51 17.0	
	comp=Z,1μm,0.5s						
GOM	**Goma**	**3.54**	**27**	*i* P	**Pb**	**20 50 32.0**	**+1.7**
GOM				*i* S	**Sb**	**20 51 15.4**	**+2.0**
GOM				IAML		20 51 30.9	
	comp=Z,485nm,1.0s						
KTSH	**Kitshanga**	**3.87**	**22**	*i* P	**Pb**	**20 50 38.4**	**+2.5**
KTSH				*i* S	**Sb**	**20 51 24.6**	**+1.7**
KTSH				IAML		20 51 29.1	
	comp=Z,677nm,0.7s						
LBGA	**Luboga**	**3.87**	**23**	*i* P	**Pb**	**20 50 36.8**	**+0.9**
LBGA				*i* S	**Sb**	**20 51 23.9**	**+0.9**
LBGA				IAML		20 51 32.3	
	comp=Z,486nm,0.6s						
RGB	**Rumangabo**	**3.90**	**27**	*i* P	**Pb**	**20 50 37.7**	**+1.2**
RGB				*i* S	**Sb**	**20 51 25.4**	**+1.6**
RGB				IAML		20 51 49.6	
	comp=Z,287nm,1.0s						
MBAR	**Mbarara**	**5.25**	**37**	Pn	**Pn**	**20 50 47.0**	**+0.8**
	comp=Z,8.3nm,0.3s,baz=20,slow=6.8,SNR=27						
MBAR				Pg	**Pb**	**20 51 03.1**	**+3.6**
	comp=Z,32nm,0.3s,baz=22,slow=21,SNR=15						
MBAR				Lg	Lg	20 52 07.3	
	comp=Z,64nm,0.3s,baz=30,slow=22,SNR=4.8						
MBAR	**Mbarara**	**5.25**	**37**		**Pn**	**20 50 46.9**	**+0.8**
MBAR	**Mbarara**	**5.25**	**37**	*eP*	**Pn**	**20 50 47.0**	**+0.8**
MBAR				*eS*	**Pg**	**20 51 03.9**	**-4.2**
MBAR	**Mbarara**	**5.25**	**37**	*i* P	**Pn**	**20 50 47.5**	**+1.3**
MBAR				IAML		20 52 15.4	
	comp=Z,121nm,1.4s						
GETA	**Geita**	**5.95**	**71**	*i* P	**Pn**	**20 50 52.0**	**-3.9**
GETA				IAML		20 52 13.9	
	comp=Z,292nm,0.5s						
LOSI	**Makongolosi**	**6.54**	**123**	*i* P	**Pn**	**20 51 06.7**	**+2.8**
LOSI				*i* S	**Sn**	**20 52 15.2**	**-3.5**
LOSI				IAML		20 53 00.5	
	comp=Z,148nm,0.7s						
LBB	**Lubumbashi**	**6.73**	**181**	*i* P	**Pn**	**20 51 07.0**	**+0.5**
PDHT	**Panda Hill**	**6.93**	**127**	*i* P	**Pn**	**20 51 13.2**	**+3.9**
PDHT				*i* S	**Sn**	**20 52 34.5**	**+6.2**
PDHT				IAML		20 53 15.9	
	comp=Z,178nm,0.5s						
JILO	**Lwanjilo**	**7.05**	**123**	*i* P	**Pn**	**20 51 14.0**	**+3.0**
JILO				*i* S	**Sn**	**20 52 30.4**	**-1.0**
JILO				IAML		20 53 22.8	
	comp=Z,65nm,0.8s						
ILIND	**Ilindi**	**7.06**	**127**	*i* P	Pn	20 51 16.7	+5.6
ILIND				IAML		20 53 24.3	
	comp=Z,288nm,0.5s						
SINGT	**Singida**	**7.10**	**90**	*i* P	**Pn**	**20 51 13.6**	**+2.0**
SINGT				*i* S	**Sn**	**20 52 30.1**	**-2.4**
SINGT	**Singida**	**7.10**	**90**	*i* P	**Sn**	**20 52 31.9**	**-0.6**
SINGT				*i* S	**Sb**	**20 52 58.4**	**+2.5**
ITUM	**Tunduma**	**7.14**	**130**	*i* P	**Pn**	**20 51 16.8**	**+4.6**
ITUM				*i* S	**Sn**	**20 52 35.1**	**+1.5**
ITUM				IAML		20 53 20.3	
	comp=Z,83nm,0.6s						
CPMW	**Chitipa**	**7.39**	**131**	*i* P	**Pn**	**20 51 19.9**	**+4.2**
CPMW				IAML		20 53 32.7	
	comp=Z,73nm,1.1s						
ISOK	**Kyela**	**7.44**	**129**	*i* P	**Pn**	**20 51 20.4**	**+4.1**
ISOK				IAML		20 53 30.4	
	comp=Z,124nm,0.7s						
CHML	**Chimala**	**7.49**	**122**	*i* P	**Pn**	**20 51 20.1**	**+3.2**
CHML				IAML		20 53 41.3	
	comp=Z,197nm,1.0s						
MATAM	**Matamba**	**7.51**	**123**	*i* P	**Pn**	**20 51 20.3**	**+2.9**
MATAM				IAML		20 53 43.5	
	comp=Z,96nm,0.6s						
KAPK	**Kapoka**	**7.58**	**131**	*i* P	**Pn**	**20 51 21.8**	**+3.5**
KAPK				IAML		20 53 36.0	
	comp=Z,144nm,0.5s						
KIPE	**Kipengere**	**8.08**	**123**	*i* P	**Pn**	**20 51 28.6**	**+3.4**
KIPE				IAML		20 53 50.3	
	comp=Z,101nm,1.2s						
NTHA	**Nthalire**	**8.09**	**133**	*i* P	**Pn**	**20 51 29.2**	**+4.0**
BBAT	**Babati**	**8.15**	**86**	*i* P	**Sn**	**20 52 53.4**	**-4.9**
BBAT				*i* S	Sg	20 53 40.0	-9.2
KOND	**Kondoa**	**8.15**	**91**	*i* P	**Sn**	**20 52 52.8**	**-5.6**
KOND				*i* S	Sb	20 53 36.9	+11
BAKO	**Makambako**	**8.16**	**119**	*i* P	**Pn**	**20 51 29.2**	**+2.9**
BAKO				IAML		20 54 04.6	
	comp=Z,88nm,0.6s						
DODT	**Dodoma, Tanzan**	**8.21**	**100**	*i* P	**Pn**	**20 51 28.4**	**+1.6**
LM203	**Lake Malawi, 2**	**8.28**	**129**	*i* P	Pn	20 51 38.7	+11
LM203				IAML		20 54 11.0	
	comp=Z,132nm,0.7s						
CHEL	**Chelinda**	**8.37**	**133**	*i* P	**Pn**	**20 51 33.0**	**+3.8**
CHEL				IAML		20 54 00.3	
	comp=Z,87nm,1.0s						
THAZ	**Thazima**	**8.38**	**135**	*i* P	**Pn**	**20 51 32.6**	**+3.3**
THAZ				IAML		20 54 04.4	
	comp=Z,89nm,0.8s						
BOLE	**Bolero**	**8.59**	**135**	*i* P	**Pn**	**20 51 35.6**	**+3.5**
BOLE				IAML		20 54 19.0	
	comp=Z,96nm,1.2s						
LIVA	**Livingstonia**	**8.61**	**132**	*i* P	**Pn**	**20 51 36.3**	**+3.9**
LIVA				IAML		20 54 12.4	
	comp=Z,114nm,0.8s						
NGON	**Ngonga**	**8.71**	**134**	*i* P	**Pn**	**20 51 37.2**	**+3.6**
NGON				IAML		20 54 06.4	
	comp=Z,81nm,0.8s						
ENUK	**Enukweni**	**8.83**	**136**	*i* P	**Pn**	**20 51 39.0**	**+3.3**
ENUK				IAML		20 54 17.9	
	comp=Z,55nm,1.3s						
LM302	**Lake Malawi, 3**	**8.91**	**132**	*i* P	Pn	20 51 41.7	+5.4
LM302				IAML		20 54 35.0	
	comp=Z,449nm,1.2s						
LM118	**Lake Malawi, 1**	**9.24**	**134**	*i* P	**Pn**	**20 51 45.2**	**+4.4**
LM118				IAML		20 54 40.4	
	comp=Z,163nm,0.6s						
ZINI	**Mgazini**	**9.47**	**127**	*i* P	Pn	20 51 49.1	+5.0
BANG	**Mbangamawe**	**9.53**	**124**	*i* P	**Pn**	**20 51 48.7**	**+3.8**
BANG				IAML		20 54 46.5	
	comp=Z,96nm,0.7s						
MBAM	**Mbamba Bay**	**9.53**	**132**	*i* P	**Pn**	**20 51 48.0**	**+3.1**
KIMO	**Ikongo**	**10.17**	**125**	*i* P	**Pn**	**20 51 58.2**	**+4.5**
KIMO				IAML		20 55 00.0	
	comp=Z,34nm,1.2s						
KMBO	**Kilima Mbogo**	**10.31**	**69**	Pn	**Pn**	**20 51 57.5**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=224,slow=21,SNR=7.0						
KMBO				Sn	**Sn**	**20 53 47.3**	**-4.4**
	comp=Z,1.2nm,0.3s,baz=150,slow=20,SNR=6.5						
KMBO				Lg	Lg	20 54 48.1	
	comp=Z,2.1nm,0.3s,baz=317,slow=20,SNR=11						
LSZ	**Lusaka**	**10.37**	**177**	Pn	**Pn**	**20 51 57.8**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=3.8,slow=13,SNR=12						
LSZ				Sn	**Sn**	**20 53 49.1**	**-3.9**
	comp=Z,2.2nm,0.3s,baz=126,slow=8.7,SNR=6.1						
LSZ				Lg	Lg	20 54 54.6	
	comp=Z,2.2nm,0.3s,baz=291,slow=21,SNR=4.0						
LSZ				LR	LR	20 55 39.8	
	comp=Z,81nm,20.5s,baz=274,slow=36						
LSZ	**Lusaka**	**10.37**	**177**		**Pn**	**20 51 55.8**	**-0.7**
LSZ	**Lusaka**	**10.37**	**177**	*i* P	**Pn**	**20 51 59.0**	**+2.5**
KIBK	**Kibwezi**	**10.71**	**77**	Pn	**Pn**	**20 51 59.5**	**-1.5**
LODK	**Lodwar**	**11.29**	**43**		**Pn**	**20 52 07.6**	**-1.5**
CLK	**Chileka**	**12.96**	**147**	*i* P	**Pn**	**20 52 33.2**	**+1.2**
CLK				S	**Sn**	**20 54 51.1**	**-5.3**
CLK	**Chileka**	**12.96**	**147**	*i* P	**Pn**	**20 52 33.2**	**+1.2**
CLK				S	**Sn**	**20 54 51.1**	**-5.3**
MATP	**Matopo**	**15.50**	**177**	Pn	**Pn**	**20 53 06.0**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=2.2,slow=14,SNR=26						
MATP				Sn	**Sn**	**20 55 49.5**	**-8.9**
	comp=Z,0.3nm,0.3s,baz=36,slow=13,SNR=2.6						
MATP				Lg	Lg	20 57 33.6	
	comp=Z,0.3nm,0.3s,baz=86,slow=23,SNR=1.7						
TSUM	**Tsumeb**	**17.30**	**214**	P	**Pn**	**20 53 29.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=136,slow=16,SNR=3.2						
TSUM				S	Sn	20 56 29.1	-13
	comp=Z,0.6nm,0.3s,baz=301,slow=13,SNR=3.0						
TSUM				Lg	Lg	20 58 29.5	
	comp=Z,0.6nm,0.3s,baz=289,slow=20,SNR=2.3						
SUR	**Sutherland**	**28.11**	**192**	P	**P**	**20 55 22.1**	**+2.2**
	comp=Z,6.6nm,0.8s,baz=49,slow=11,SNR=2.0						
SUR	**Sutherland**	**28.11**	**192**	IAmb	IAmb	20 55 28.7	
	comp=Z,18nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.35**	**305**	P	**P**	**20 55 47.2**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=115,slow=8.1,SNR=11						
AGG	**Agios Georgios**	**43.93**	**354**	P	**P**	**20 57 34.4**	**-0.2**
AGG				IAmb	IAmb	20 57 43.5	
	comp=Z,6.1nm,1.2s						
BRTR	**Keskin Array B**	**44.70**	**7**	P	**P**	**20 57 42.0**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=177,slow=8.7,SNR=4.4						
FNA	**Florina**	**45.77**	**353**	P	**P**	**20 57 48.6**	**-0.7**
FNA				IAmb	IAmb	20 57 55.1	
	comp=Z,3.1nm,0.9s						
ESDC	**Sonseca Array**	**53.01**	**330**	P	**P**	**20 58 44.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=138,slow=8.5,SNR=4.9						
SENIN	**Lac Senin/Sane**	**54.09**	**343**	P	**P**	**20 58 52.3**	**-0.4**
SENIN				IAmb	IAmb	20 58 56.6	
	comp=Z,3.4nm,1.0s						
GERES	**GERESS Array B**	**54.84**	**349**	P	**P**	**20 58 58.3**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=150,slow=9.2,SNR=4.2						
FINES	**FINESS Array B**	**66.11**	**359**	P	**P**	**21 00 15.2**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=151,slow=4.4,SNR=4.4						
GSI	**Gunungsitoli**	**70.16**	**87**	P	**P**	**21 00 41.8**	**+0.8**
MKAR	**Makanchi Array**	**70.44**	**37**	P	**P**	**21 00 45.2**	**+3.1**
	comp=Z,0.2nm,0.4s,baz=249,slow=7.9,SNR=2.4						
MKAR				LR	LR	21 32 09.2	
	comp=Z,44nm,19.5s,baz=237,slow=36						
ARCES	**ARCESS Array B**	**74.24**	**359**	P	**P**	**21 01 04.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=147,slow=6.8,SNR=6.5						
ARCES	**ARCESS Array B**	**74.24**	**359**	IAmb	IAmb	21 01 14.3	
	comp=Z,3.5nm,1.0s						
ZALV	**Zalesovo Beam**	**75.45**	**31**	LR	LR	21 38 29.1	
	comp=Z,34nm,18.4s,baz=239,slow=39						

*IDC **13** 20:57:44.1±1.4, 41°.17N×112°.86W, h0km, mb1 2.2/1, mb1mx2.2/36, mbtmp1.8/1, ML2.8/1, Error ellipse: s-maj=43.2km s-min=5.1km az=157.0*
*NEIC **13** 20:57:44.7±1.1, 41°.16N±0°.05×112°.85W±0°.06, h0km±2km, ML1.9/30, Error ellipse: s-maj=10.2km s-min=3.5km az=318.0*
ISC 13 20:57:43.6±1.0, **41°.22N**±0°.04×**112°.85W**±0°.04, **h0**km, **n23**, σ1$**01**/23, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPUT	**South Promonto**	**0.31**	**73**		**Pb**	**20 57 52.3**	**+0.2**
BGU	**Big Grassy Mou**	**0.32**	**206**	Pg	**Pg**	**20 57 49.8**	**+0.1**
CTU	**Camp Tracy**	**0.98**	**122**		**Pb**	**20 58 03.3**	**-0.3**
CTU				IAML		20 58 21.4	
	comp=N,32nm,0.7s						
CTU				IAML		20 58 26.7	
	comp=E,34nm,0.5s						
DUG	**Dugway, Tooele**	**1.02**	**179**		**Pg**	**20 58 03.1**	**0.0**
DUG				IAML		20 58 24.4	
	comp=E,48nm,0.5s						
DUG				IAML		20 58 24.6	
	comp=E,34nm,0.5s						
HWUT	**Hardware Ranch**	**1.04**	**68**		**Pn**	**20 58 06.1**	**+0.5**
HWUT				IAML		20 58 27.8	
	comp=E,28nm,0.4s						
JLU	**Jordanelle**	**1.22**	**120**		**Pg**	**20 58 07.1**	**+0.1**
JLU				IAML		20 58 30.8	
	comp=E,17nm,0.5s						
NLU	**North Lily Min**	**1.39**	**155**		**Pn**	**20 58 10.2**	**-0.3**
NLU				IAML		20 58 36.6	
	comp=N,17nm,0.6s						
ELK	**Elko**	**1.87**	**256**	Pg	**Pb**	**20 58 18.2**	**-0.6**
	comp=N,1.8nm,0.3s,baz=81,slow=9.6,SNR=16						
ELK				Lg	Lg	20 58 43.3	
	comp=N,2.5nm,0.3s,baz=214,slow=18,SNR=11						
ELK	**Elko**	**1.87**	**256**		**Pb**	**20 58 17.9**	**-0.9**
ELK				IAML		20 58 49.0	
	comp=N,8.4nm,0.3s						
TMUT	**Trail Mountain**	**2.29**	**146**		**Pn**	**20 58 22.5**	**-0.4**
TMUT				IAML		20 59 04.2	
	comp=N,8.5nm,0.7s						
SPR3	**Spring Creek 3**	**2.49**	**208**	Pn	**Pn**	**20 58 23.9**	**-1.8**
SPR3				IAML		20 59 14.7	
	comp=N,5.9nm,0.5s						
SPR3				IAML		20 59 16.7	
	comp=E,5.9nm,0.5s						
PSUT	**Pine Spring**	**2.79**	**196**		**Pn**	**20 58 29.9**	**+0.2**
PSUT				IAML		20 59 15.3	
	comp=N,4.2nm,0.9s						
PSUT				IAML		20 59 25.4	
	comp=E,5.1nm,0.7s						
BW06	**Boulder Array**	**2.90**	**57**		**Pn**	**20 58 29.7**	**-1.5**
BW06				IAML		20 59 22.9	
	comp=E,4.4nm,0.6s						
BW06				IAML		20 59 23.5	
	comp=E,4.5nm,0.7s						
PD31	**Pinedale Array**	**2.90**	**57**		**Pn**	**20 58 32.7**	**+1.5**
PDAR	**Pinedale Array**	**2.90**	**57**	Pn	**Pn**	**20 58 33.0**	**+1.7**
	comp=E,0.2nm,0.3s,baz=230,slow=12,SNR=4.3						
PDAR				Pg	**Pg**	**20 58 38.3**	**-0.9**
	comp=E,0.9nm,0.3s,baz=232,slow=17,SNR=19						
PDAR				Lg	Lg	20 59 18.2	
	comp=E,1.5nm,0.3s,baz=223,slow=33,SNR=10.0						
PDAR	**Pinedale Array**	**2.90**	**57**		**Pn**	**20 58 30.6**	**-0.7**
LOHW	**Long Hollow**	**2.91**	**34**	Pn	**Pn**	**20 58 32.3**	**+0.9**
MFID	**Camas Ranch**	**3.12**	**316**	Pn	**Pb**	**20 58 39.3**	**-0.7**
BCYI	**Bear Canyon**	**3.12**	**353**		**Pb**	**20 58 40.1**	**0.0**
R11A	**Troy Canyon, C**	**3.56**	**217**		**Pn**	**20 58 42.3**	**+2.1**
R11A				IAML		21 00 14.4	
	comp=E,3.1nm,4.3s						
MCMT	**McKenzie Canyo**	**3.61**	**360**		**Pb**	**20 58 48.5**	**0.0**
NVAR	**Mina Array Bea**	**5.04**	**238**	Pg	**Pb**	**20 59 13.9**	**+1.1**
	comp=E,0.1nm,0.3s,baz=59,slow=16,SNR=2.0						
I57US	**PINON FLAT INF**	**8.12**	**202**	*i*		21 46 50.0	
	baz=15,slow=271,SNR=0.4						

*WEL **13** 20:57:45.3, 41°.S±2°.×17°.6E±°, h31km±3km, M4.1/26, ML4.5/26, MLv4.1/26, Error ellipse: s-maj=0.0km s-min=0.0km az=85.5*
*IDC **13** 20:57:45.1±5.8, 40°.45S×175°.77E, h49km±48km, mb4.2/2, mb1 4.5/2, mb1mx3.7/28, mbtmp4.5/2, ML2.9/1, Error ellipse: s-maj=59.2km s-min=27.1km az=162.0*
ISC 13 20:57:44.6±0.8, **40°.62S**±0°.03×**175°.77E**±0°.04, **h50**km±5km, **n149**, σ1$**35**/151, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**0.15**	**254**	P	**Pn**	**20 57 51.9**	**-0.8**
MRZ				S	**Sn**	**20 57 56.8**	**-1.6**
PRWZ	**Pori Road**	**0.16**	**67**	P	**Pn**	**20 57 53.0**	**+0.3**
PRWZ				S	**Sn**	**20 57 58.9**	**+0.5**
TIWZ	**Tintock**	**0.18**	**152**	P	Pn	20 57 53.8	+0.9
TIWZ				S	**Sn**	**20 58 00.5**	**+1.7**
POWZ	**Post Office Ro**	**0.23**	**359**	P	**Pn**	**20 57 51.7**	**-1.4**
HOWZ	**Holdsworth Sta**	**0.34**	**215**	P	**Pn**	**20 57 54.7**	**+0.6**
HOWZ				S	**Sn**	**20 58 01.9**	**+1.0**
BFZ	**Birch Farm**	**0.36**	**100**	P	Pn	20 57 56.0	+1.6
BFZ				S	**Sn**	**20 58 04.3**	**+3.0**
CPWZ	**Castlepoint**	**0.44**	**132**	P	Pn	20 57 57.5	+2.4
DVHZ	**Dannevirke**	**0.44**	**43**	P	**Pn**	**20 57 55.

TWVZ	Taurewa	1.57	350	P	Pn	20 58 10.7	+0.5
TUWZ	Tuamarina	1.60	239	P	Pn	20 58 10.5	-0.1
CMWZ	Cape Campbell	1.63	226	P	Pn	20 58 13.1	+2.2
RITZ	Rihia Road	1.64	2	P	Pn	20 58 12.2	+1.2
KATZ	Kakaramea	1.64	358	P	Pn	20 58 12.1	+0.9
ARHZ	Aropaoanui	1.65	35	P	Pn	20 58 11.3	+0.2
VRZ	Vera Road	1.68	332	P	Pn	20 58 12.3	+0.7
NMHZ	Naumai	1.71	28	P	Pn	20 58 13.0	+0.9
HATZ	Hinemaiaia	1.74	8	P	Pn	20 58 13.3	+0.9
RATZ	Rangitukua	1.75	360	P	Pn	20 58 13.7	+1.1
PREZ	Palmer Road	1.78	315	P	Pn	20 58 14.4	+1.4
BSWZ	Blackbirch Sta	1.80	232	P	Pn	20 58 13.4	+0.2
MRHZ	Matea Rd	1.85	16	P	Pn	20 58 13.7	-0.3
NEZ	North Egmont	1.86	316	P	Pn	20 58 15.4	+1.2
DREZ	Durham Road	1.87	319	P	Pn	20 58 15.6	+1.5
NMEZ	Namu Road	1.89	309	P	Pn	20 58 15.7	+1.3
KHEZ	Kahui Hut	1.89	314	P	Pn	20 58 16.2	+1.6
MHEZ	Mangahewa	1.90	324	P	Pn	20 58 16.3	+1.7
WHHZ	Waihua	1.91	37	P	Pn	20 58 14.9	+0.2
WATZ	Wairara	1.91	359	P	Pn	20 58 14.9	+0.2
NNZ	Nelson	1.91	251	P	Pn	20 58 14.8	+0.1
MTHZ	Maungataniwha	1.95	25	P	Pn	20 58 14.9	-0.3
WHTZ	Whakaora	1.96	4	P	Pn	20 58 20.0	+4.6
PKE	Pukeiti	1.98	315	P	Pn	20 58 17.8	+2.1
RAHZ	Arahi	1.98	31	P	Pn	20 58 15.6	-0.1
NBEZ	Newall Road No	1.99	312	P	Pn	20 58 17.5	+1.7
ALRZ	Allen Road	2.10	12	P	Pn	20 58 17.6	+0.2
WPRZ	Whakapapatarin	2.12	8	P	Pn	20 58 19.5	+1.9
KUTZ	Kaahu Road	2.13	1	P	Pn	20 58 18.5	+0.8
KNZ	Kokohu	2.16	43	P	Pn	20 58 18.2	0.0
PRRZ	Plateau Road	2.17	13	P	Pn	20 58 22.0	+3.7
SNGZ	Shannon Statio	2.20	34	P	Pn	20 58 18.5	-0.2
MHGZ	Mahia Peninsul	2.20	49	P	Pn	20 58 18.9	+0.2
RTZ	Ruatahuna	2.21	25	P	Pn	20 58 18.6	-0.3
HIZ	Hauiti	2.22	341	P	Pn	20 58 19.6	+0.7
HRRZ	Handcock Road	2.26	10	P	Pn	20 58 21.0	+1.4
MUGZ	Murupara	2.27	20	P	Pn	20 58 19.2	-0.5
GRRZ	Galatos Road	2.28	7	P	Pn	20 58 23.8	+4.0
TLZ	Tolley Road	2.29	355	P	Pn	20 58 20.4	+0.4
HSRZ	Hossack Road	2.33	9	P	Pn	20 58 22.4	+1.9
PRGZ	Paritu Road	2.35	45	P	Pn	20 58 20.9	+0.1
RRRZ	Republican Roa	2.35	14	P	Pn	20 58 23.8	+3.0
HLRZ	Highlands Stat	2.41	11	P	Pn	20 58 26.2	+4.6
TARZ	Mount Tarawera	2.45	14	P	Pn	20 58 22.3	+0.1
THZ	Tophouse	2.45	241	P	Pn	20 58 21.7	-0.5
RIGZ	Rimuhau	2.45	39	P	Pn	20 58 21.3	-0.9
KHZ	Kahutara	2.46	222	P	Pn	20 58 21.7	-0.5
UTU	Utuhina	2.46	8	P	Pn	20 58 25.6	+3.4
QRZ	Quartz Range	2.48	264	P	Pn	20 58 22.0	-0.4
URZ	Urewera	2.57	24	P	Pn	20 58 22.3	-1.5
	3.0nm,0.3s,baz=235,slow=5.4,SNR=15						
URZ				S	Sn	20 58 51.1	-2.7
	20nm,0.3s,baz=47,slow=20,SNR=4.6						
URZ	Urewera	2.57	24	P	Pn	20 58 22.4	-1.5
EDRZ	Edgecumbe	2.62	17	P	Pn	20 58 28.5	+4.0
MWZ	Matawai	2.65	31	P	Pn	20 58 23.6	-1.4
TKGZ	Te Karaka	2.70	37	P	Pn	20 58 24.3	-1.2
CNGZ	Carnagh Statio	2.84	42	P	Pn	20 58 27.2	-0.3
TOZ	Tahuroa Road	2.89	356	P	Pn	20 58 28.4	+0.2
WHRZ	Whale Island	2.91	19	P	Pn	20 58 35.4	+6.9
TWGZ	Tauwhareparae	2.98	36	P	Pn	20 58 29.3	-0.1
RUGZ	Raukumara Rang	3.03	30	P	Pn	20 58 28.9	-1.3
GVZ	Greta Valley S	3.12	220	P	Pn	20 58 30.6	-0.6
DSZ	Denniston Nort	3.20	248	P	Pn	20 58 31.6	-0.8
HAZ	Te Kaha	3.26	29	P	Pn	20 58 31.8	-1.3
PKGZ	Pakihiroa	3.26	34	P	Pn	20 58 32.3	-1.0
LTZ	Lake Taylor	3.40	229	P	Pn	20 58 34.2	-1.0
AMCZ	Amberley	3.46	221	P	Pn	20 58 35.4	-0.5
WMGZ	Waiomatatini S	3.47	37	P	Pn	20 58 34.7	-1.3
MXZ	Matakaoa Point	3.63	34	P	Pn	20 58 36.9	-1.4
AWAZ	Awhitu Peninsu	3.66	346	P	Pn	20 58 41.2	+2.5
OKCZ	Okains Bay	3.70	212	P	Pn	20 58 38.1	-1.1
WTAZ	Waiatarua	3.80	345	P	Pn	20 58 42.1	+1.5
WIAZ	Waiheke Island	3.85	352	P	Pn	20 58 43.6	+2.2
MQZ	McQueen's Vall	3.86	216	P	Pn	20 58 39.8	-1.6
INZ	Inchbonnie	3.87	236	P	Pn	20 58 40.0	-1.5
OXZ	Oxford	3.88	225	P	Pn	20 58 40.0	-1.7
AKCZ	Akaroa Harbour	3.88	212	P	Pn	20 58 40.4	-1.3
RACZ	Rakaia	4.12	220	P	Pn	20 58 44.0	-0.9
MHCZ	Mount Hutt	4.28	226	P	Pn	20 58 45.4	-1.8
WACZ	Wakanui South	4.42	220	P	Pn	20 58 47.7	-1.4
WVZ	Waitaha Valley	4.49	235	P	Pn	20 58 49.3	-0.8
RPZ	Rata Peaks	4.68	227	P	Pn	20 58 52.2	-0.5
ARCZ	Arundel	4.76	224	P	Pn	20 58 52.8	-1.0
WCZ	Waipu Caves	4.80	346	P	Pn	20 58 55.7	+1.3
TMZ	Timaru	5.16	222	P	Pn	20 58 58.0	-1.2
LBZ	Lake Benmore	5.59	226	P	Pn	20 59 04.1	-1.1
OUZ	Omahuta	5.66	342	P	Pn	20 59 08.2	+2.1
ODZ	Otahua Downs	5.81	219	P	Pn	20 59 07.1	-1.1
CTZ	Chatham Island	6.45	121	P	Pn	20 59 18.3	+1.4
SYZ	Scrubby Hill	7.63	217	P	Pn	20 59 34.0	+1.0
ASAR	Alice Springs	38.87	283	P	P	21 05 05.5	+0.3
	2.6nm,0.4s,baz=124,slow=6.8,SNR=82						
ASAR				PcP	PcP	21 07 15.0	-0.4
	0.5nm,0.6s,baz=119,slow=3.8,SNR=3.3						
WRA	Warramunga Arr	40.82	288	P	P	21 05 21.3	-0.1
	4.2nm,0.6s,baz=128,slow=7.9,SNR=59						
ARCES	ARCESS Array B	147.09	341	PKPbc	PKPbc	21 17 20.8	0.0
	2.2nm,0.6s,baz=48,slow=3.6,SNR=7.0						
BRTR	Keskin Array B	151.20	281	PKPbc	PKPbc	21 17 31.7	-0.6
	0.2nm,0.4s,baz=128,slow=3.2,SNR=4.6						
TORD	Torodi Ar. Bea	152.15	192	PKPbc	PKiKP	21 17 36.0	+0.7
	0.3nm,0.5s,baz=169,slow=2.8,SNR=5.3						
FINES	FINESS Array B	152.19	329	PKPbc	PKPbc	21 17 33.7	+0.1
	1.0nm,0.6s,baz=64,slow=4.4,SNR=8.0						

ISN ***13*** *21:03:43.4±0.6, 32°.64N×47°.84E, h14km±4km, ML2.9*
KISR ***13*** *21:03:48.2±0.5, 29°.08N×50°.05E, h0km±220km, ML3.0*
ISC 13 21:03:45.3±3.1, 32°.6N±0°.1×47.7E±0°.2, h10km, n5, σ1§56/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**1.62**	**290**	*e*Pg	**Pb**	**21 04 14.0**	**-1.3**
IBDR				*e*Sg	**Sb**	**21 04 36.0**	**+0.2**
IBDR				AML	AML	21 04 40.9	
	comp=E,136nm,0.4s						
IBDR				AML	AML	21 04 42.0	
	comp=N,180nm,0.3s						
NSR	**Nassriya**	**2.06**	**222**	*e*Pn	**Pn**	**21 04 20.0**	**0.0**
NSR				*e*Sn	**Sn**	**21 04 47.0**	**+1.3**
MIB	**Mutribah**	**2.77**	**187**	*e*P	**Pb**	**21 04 33.2**	**-1.7**
MIB				*e*S	**Sb**	**21 05 07.4**	**-1.5**
MIB				IAML		21 05 17.4	
	comp=Z,68nm,1.0s						
BHD	**Baghdad**	**2.92**	**285**	*e*Pn	**Pn**	**21 04 32.0**	**+0.3**
BHD				*e*Sn	**Sn**	**21 05 08.0**	**+1.2**
RST	**Umm Al-Ruwaisa**	**3.12**	**192**	*e*P	**Pn**	**21 04 36.8**	**+2.3**
RST				*e*S	**Sn**	**21 05 13.1**	**+1.3**
RST				IAML		21 05 26.8	
	comp=Z,63nm,0.8s						

VAO ***13*** *21:16:42.1±0.4, 32°.65S×69°.95W, h10km, mb4.5*
SJA ***13*** *21:16:45.5±0.6, 33°.09S×70°.33W, h112km±2km, ML4.4, MW4.6*
IDC ***13*** *21:16:46.6±2.1, 33°.06S×70°.03W, h94km±18km, mb4.4/22, mb1 4.5/27, mb1mx4.4/33, mbtmp4.7/27, Error ellipse: s-maj=16.5km s-min=10.8km az=78.0*
GUC ***13*** *21:16:46.7±0.6, 33°.05S×70°.31W, h112km±2km, ML5.1, MW5.0*
NEIC ***13*** *21:16:47.7±2.1, 33°.09S±0°.04×70°.23W±0°.07, h99km±3km, mb4.8/248, ML5.1(GUC), Error ellipse: s-maj=8.7km s-min=6.3km az=102.0*
ISC 13 21:16:47.1±0.5, 33°.04S±0°.03×70°.27W±0°.03, h99km±4km, **n560, σ1§28**/503, **mb4.8**/140, **8C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.36**	**320**	⇓*i*P	**Pn**	**21 17 02.3**	**+0.2**
VA03				*i* S	**Sn**	**21 17 14.6**	**+1.3**
VA03				IAML		21 17 16.5	
	comp=E,103μm,0.2s						
VA03	**San Esteban**	**0.36**	**320**		**Pn**	**21 17 02.4**	**+0.2**
VA03				Sn	**Sn**	**21 17 14.0**	**+0.7**
VA03	**San Esteban**	**0.36**	**320**	*e*P	**Pn**	**21 17 02.4**	**+0.2**
VA03				*e*S	**Sn**	**21 17 15.0**	**+1.7**
MT03	**Universidad Ad**	**0.49**	**204**	⇓*i*P	**Pn**	**21 17 03.0**	**+0.1**
MT03				*i* S	**Sn**	**21 17 15.6**	**+0.9**
MT03	**Universidad Ad**	**0.49**	**204**		**Pn**	**21 17 03.2**	**+0.3**
MT03				Sn	**Sn**	**21 17 15.1**	**+0.4**
MT03	**Universidad Ad**	**0.49**	**204**	*e*P	**Pn**	**21 17 03.1**	**+0.1**
MT03				*e*S	**Sn**	**21 17 15.6**	**+0.9**
MT05	**Renca**	**0.52**	**228**	⇓*i*P	**Pn**	**21 17 03.4**	**+0.3**
MT05				*i* S	**Sn**	**21 17 16.0**	**+1.0**
MT05				IAML		21 17 18.9	
	comp=E,79μm,0.3s						
MT05	**Renca**	**0.52**	**228**		**Pn**	**21 17 03.2**	**+0.1**
MT05				Sn	**Sn**	**21 17 15.6**	**+0.5**
ROCH	**El Roble**	**0.62**	**276**	⇑*i*P	**Pn**	**21 17 04.3**	**+0.2**
ROCH				*i* S	**Sn**	**21 17 17.6**	**+0.8**
ROCH				IAML		21 17 19.1	
	comp=N,81μm,0.4s						
ROC1	**El Roble**	**0.63**	**276**	*e*P	**Pn**	**21 17 04.2**	**+0.1**
ROC1				*e*S	**Sn**	**21 17 17.8**	**+0.9**
MT02	**Curacav**	**0.76**	**253**	⇑*i*P	**Pn**	**21 17 04.9**	**-0.1**
MT02				*i* S	**Sn**	**21 17 18.7**	**+0.3**
MT02	**Curacav**	**0.76**	**253**		**Pn**	**21 17 05.0**	**-0.1**
MT02				Sn	**Sn**	**21 17 18.4**	**-0.1**
LMEL	**Las Melosas**	**0.81**	**176**	⇓*i*P	**Pn**	**21 17 05.6**	**-0.1**
LMEL				*i* S	**Sn**	**21 17 20.8**	**+1.2**
MT09	**Talagante**	**0.94**	**219**	⇑*i*P	**Pn**	**21 17 06.9**	**-0.2**
MT09				*i* S	**Sn**	**21 17 22.2**	**+0.2**
MT09				IAML		21 17 22.9	
	comp=E,84μm,0.4s						
MT09	**Talagante**	**0.94**	**219**	Pn	**Pn**	**21 17 06.9**	**-0.2**
MT09				Sn	**Sn**	**21 17 21.9**	**-0.2**
AUSP	**Uspallata**	**1.11**	**43**	*e*P	**Pn**	**21 17 09.8**	**+0.8**
AUSP				*e*S	**Sn**	**21 17 26.8**	**+1.3**
VA01	**Torpederas**	**1.15**	**271**	*e*P	**Pn**	**21 17 09.2**	**0.0**
VA01				*i* S	**Sn**	**21 17 26.4**	**+0.5**
VA01	**Torpederas**	**1.15**	**271**		**Pn**	**21 17 09.0**	**-0.1**
VA05	**Santo Domingo**	**1.28**	**241**	*e*P	**Pn**	**21 17 10.5**	**-0.2**
VA05				*i* S	**Sn**	**21 17 28.6**	**+0.2**
VA05				IAML		21 17 31.1	
	comp=E,40μm,0.7s						
VA05	**Santo Domingo**	**1.28**	**241**		**Pn**	**21 17 10.4**	**-0.2**
VA05				Sn	**Sn**	**21 17 28.3**	**-0.2**
RTLS	**Leoncito**	**1.49**	**34**	*e*P	**Pn**	**21 17 14.9**	**+1.4**
RTLS				*e*S	**Sn**	**21 17 36.5**	**+3.0**
RTLS				IAML		21 17 37.8	
	comp=Z,2μm,0.4s						
BO02	**Sierra Bellavi**	**1.79**	**193**	⇑*i*P	**Pn**	**21 17 17.3**	**+0.2**
BO02				*i* S	**Sn**	**21 17 40.9**	**+1.0**
BO02				IAML		21 17 42.0	
	comp=N,25μm,0.4s						
BO02	**Sierra Bellavi**	**1.79**	**193**		**Pn**	**21 17 17.3**	**+0.2**
BO02	**Sierra Bellavi**	**1.79**	**193**	*e*P	**Pn**	**21 17 17.4**	**+0.2**
BO02				*e*S	**Sn**	**21 17 40.9**	**+1.0**
BO02				IAML		21 17 42.5	
	comp=Z,11μm,0.3s						
RTCV	**Cerro Valdivia**	**1.88**	**52**	*e*P	**Pn**	**21 17 18.8**	**+0.6**
CO02	**Combarbal**	**1.94**	**341**	⇑*i*P	**Pn**	**21 17 19.2**	**+0.2**
CO02				*i* S	**Sn**	**21 17 44.6**	**+1.4**
CO02				IAML		21 17 47.3	
	comp=E,13μm,0.2s						
CO02	**Combarbal**	**1.94**	**341**		**Pn**	**21 17 19.2**	**+0.2**
ZON	**Zonda**	**2.01**	**43**		**Pn**	**21 17 20.8**	**+0.9**
ZON	**Zonda**	**2.01**	**43**	*e*P	**Pn**	**21 17 20.6**	**+0.7**
ZON				*e*S	**Sn**	**21 17 46.8**	**+1.9**
ZON				IAML		21 17 48.7	
	comp=Z,774nm,0.3s						
BO03	**Pichilemu**	**2.02**	**224**	⇑*i*P	**Pn**	**21 17 18.7**	**-1.2**
LAMA	**Las Malvinas**	**2.08**	**155**	*e*P	**Pn**	**21 17 21.4**	**+0.6**
RFA	**San Rafael**	**2.29**	**139**	*e*P	**Pn**	**21 17 23.2**	**-0.3**
RFA				*e*S	**Sn**	**21 17 48.4**	**-2.9**
RFA				IAML		21 18 10.2	
	comp=Z,1μm,0.8s						
RTLL	**Cerro Villicun**	**2.29**	**42**	*e*P	**Pn**	**21 17 24.2**	**+0.7**
RTLL				*e*S	**Sn**	**21 17 52.9**	**+1.5**
RTLL				IAML		21 17 53.5	
	comp=Z,972nm,1.0s						
GO05	**Huala**	**2.40**	**215**	*e*P	**Pn**	**21 17 23.5**	**-1.3**
GO05				*i* S	**Sn**	**21 17 53.0**	**-0.8**
GO05				IAML		21 18 00.9	
	comp=E,5μm,0.4s						
GO05	**Huala**	**2.40**	**215**	Pn	**Pn**	**21 17 23.6**	**-1.3**
GO05	**Huala**	**2.40**	**215**	*e*P	**Pn**	**21 17 23.8**	**-1.1**
GO05				*e*S	**Sn**	**21 17 54.4**	**+0.6**
PUMA	**Malargue**	**2.54**	**165**	*e*P	**Pn**	**21 17 27.6**	**+0.8**
CO06	**Fray Jorge**	**2.63**	**334**	*e*P	**Pn**	**21 17 28.4**	**+0.4**
CO06				*i* S	**Sn**	**21 17 58.7**	**-0.6**
CO06				IAML		21 18 10.2	
	comp=E,2μm,0.3s						
ACCO	**Cerro Coronel**	**2.66**	**23**	*e*P	**Pn**	**21 17 29.8**	**+1.2**
ACCO				*e*S	**Sn**	**21 18 03.0**	**+2.6**
ACCO				IAML		21 18 03.9	
	comp=Z,836nm,0.4s						
ML02	**Panimavida**	**2.87**	**199**	Pn	**Pn**	**21 17 30.4**	**-0.8**
GO04	**Tololo Observa**	**2.90**	**351**	Pn	**Pn**	**21 17 31.9**	**+0.1**
GO04	**Tololo Observa**	**2.90**	**351**	*e*P	**Pn**	**21 17 32.0**	**+0.3**
AROD	**Rodeo**	**2.95**	**14**	*e*P	**Pn**	**21 17 34.4**	**+1.9**
ACDV	**Cuesta del Vie**	**3.03**	**19**	*e*P	**Pn**	**21 17 34.6**	**+1.2**
ACDV				*e*S	**Sn**	**21 18 06.4**	**-2.6**
ACDV				IAML		21 18 46.8	
	comp=Z,698nm,1.2s						
AVFE	**Valle Fertil**	**3.38**	**46**	*e*P	**Pn**	**21 17 37.8**	**-0.2**
AVFE				*e*S	**Sn**	**21 18 17.4**	**+0.1**
AVFE				IAML		21 18 17.7	
	comp=Z,682nm,1.1s						
ACHE	**Chepes**	**3.59**	**59**	*e*P	**Pn**	**21 17 40.6**	**-0.4**
AGUA	**GUANDACOL**	**3.86**	**24**	*e*P	**Pn**	**21 17 45.1**	**+0.6**
AGUA				IAML		21 18 43.0	
	comp=Z,626nm,1.2s						
MRA	**San Martin**	**3.89**	**82**	*e*P	**Pn**	**21 17 44.0**	**-0.9**
MRA				*e*S	**Sn**	**21 18 27.4**	**-2.3**
MRA				IAML		21 18 29.5	
	comp=Z,508nm,1.4s						
LCO	**Las Campanas**	**4.04**	**355**	Pn	**Pn**	**21 17 46.5**	**-0.6**
APLL	**PUNTA DE LOS L**	**4.14**	**51**	*e*P	**Pn**	**21 17 47.3**	**-1.0**
APLL				*e*S	**Sn**	**21 18 36.2**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.59**	**39**	*e*P	**Pn**	**21 17 53.8**	**-0.7**
ACLC				IAML		21 19 10.6	
	comp=Z,451nm,0.8s						
VCA	**Vinchina**	**4.65**	**23**	*e*P	**Pn**	**21 17 55.8**	**+0.6**
VCA				*e*S	**Sn**	**21 18 50.2**	**+2.1**
VCA				IAML		21 18 58.2	
	comp=Z,468nm,0.6s						
AC04	**Llanos de Chal**	**4.87**	**352**	Pn	**Pn**	**21 17 58.0**	**-0.1**
GO03	**Copiap**	**5.43**	**0**	Pn	**Pn**	**21 18 04.9**	**-0.9**
GO03	**Copiap**	**5.43**	**0**	*e*P	**Pn**	**21 18 06.0**	**+0.2**
LC01	**Cunco**	**5.99**	**192**	Pn	**Pn**	**21 18 12.5**	**-0.7**
AC02	**Maricunga**	**6.27**	**9**		**Pn**	**21 18 16.7**	**-0.8**
H03N1	**Juan Fernandez**	**7.25**	**265**	P	**Pn**	**21 18 31.4**	**+1.3**
	baz=276,slow=19,SNR=22						
H03N1				T	T	21 25 26.6	
	baz=85,slow=73,SNR=150						
H03N3	**Juan Fernandez**	**7.26**	**264**	P	**Pn**	**21 18 31.3**	**+1.0**
	baz=276,slow=19,SNR=19						
H03N3				T	T	21 25 33.5	
	baz=85,slow=73,SNR=163						
H03S1	**Juan Fernandez**	**7.26**	**261**	P	**Pn**	**21 18 29.8**	**-0.4**
	baz=53,slow=17,SNR=38						
H03S1				S	**Sn**	**21 19 43.2**	**-7.8**
	baz=216,slow=71,SNR=8.8						
H03S1				T	T	21 24 59.4	
	baz=85,slow=75,SNR=104						
H03S3	**Juan Fernandez**	**7.26**	**261**	P	**Pn**	**21 18 30.2**	**-0.1**
	baz=53,slow=17,SNR=34						
H03S3				S	**Sn**	**21 19 44.8**	**-6.2**
	baz=216,slow=71,SNR=12						
H03S3				T	T	21 25 00.7	
	baz=85,slow=75,SNR=320						
H03N2	**Juan Fernandez**	**7.26**	**265**	P	**Pn**	**21 18 31.1**	**+0.8**
	baz=276,slow=19,SNR=18						
H03N2				T	T	21 25 29.2	
	baz=85,slow=73,SNR=177						
H03S2	**Juan Fernandez**	**7.28**	**261**	P	**Pn**	**21 18 30.2**	**-0.3**
	baz=53,slow=17,SNR=41						
H03S2				S	**Sn**	**21 19 43.4**	**-8.0**
	baz=216,slow=71,SNR=11						
H03S2				T	T	21 24 57.8	
	baz=85,slow=75,SNR=100						
PLCA	**Paso Flores**	**7.68**	**182**	P	**Pn**	**21 18 35.5**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=360,slow=13,SNR=9.3						
PLCA	**Paso Flores**	**7.68**	**182**		**Pn**	**21 18 37.7**	**+1.4**
PLCA	**Paso Flores**	**7.68**	**182**	*e*P	**Pn**	**21 18 35.8**	**-0.4**
FSA	**Cafayete**	**7.85**	**30**	*e*P	**Pn**	**21 18 37.4**	**-1.4**
GO02	**Mina Guanaco**	**7.88**	**5**	Pn	**Pn**	**21 18 36.5**	**-2.8**
LL04	**Puerto Octay**	**8.04**	**192**		**Pn**	**21 18 40.1**	**-0.9**
PB14	**IPOC Station P**	**8.39**	**359**	Pn	**Pn**	**21 18 44.6**	**-1.6**
TRQA	**Tornquist**	**8.41**	**129**	Pn	**Pn**	**21 18 45.0**	**-1.1**
TRQA	**Tornquist**	**8.41**	**129**	*e*P	**Pn**	**21 18 44.7**	**-1.4**
LL05	**Los Muermos**	**8.73**	**196**	Pn	**Pn**	**21 18 53.4**	**+3.0**
PB15	**IPOC Station P**	**9.82**	**4**	Pn	**Pn**	**21 19 07.0**	**+1.3**
GO07	**Milladeo Hill,**	**10.40**	**194**	Pn	**Pn**	**21 19 15.0**	**+1.9**
LVC	**Limon Verde**	**10.46**	**7**	P	**Pn**	**21 19 12.4**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=273,slow=15,SNR=2.0						
LVC				S	**Sn**	**21 21 01.6**	**-8.3**
	comp=Z,0.4nm,0.3s,baz=180,slow=21,SNR=1.7						
LVC	**Limon Verde**	**10.46**	**7**		**Pn**	**21 19 14.4**	**-0.1**
LVC	**Limon Verde**	**10.46**	**7**	*e*P	Pn	21 19 07.3	-7.2
PB01	**IPOC Station P**	**11.97**	**4**	Pn	**Pn**	**21 19 34.8**	**+0.2**
ITQB	**Itaqui**	**12.14**	**78**		**Pn**	**21 19 32.7**	**-3.9**
PB08	**IPOC Station P**	**12.89**	**5**	Pn	**Pn**	**21 19 49.5**	**+2.5**
CPUP	**Villa Florida**	**13.09**	**63**	P	**Pn**	**21 19 45.8**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=237,slow=11,SNR=6.5						
CPUP				S	**Sn**	**21 22 04.6**	**-8.5**
	comp=Z,0.3nm,0.3s,baz=250,slow=16,SNR=1.8						
CPUP	**Villa Florida**	**13.09**	**63**	Pn	**Pn**	**21 19 46.5**	**-2.6**
CPUP	**Villa Florida**	**13.09**	**63**	*e*P	Pn	21 19 43.0	-6.1
PB11	**IPOC Station P**	**13.24**	**3**	Pn	**Pn**	**21 19 51.7**	**+0.4**
PSGCX	**Pisagua**	**13.39**	**1**	Pn	**Pn**	**21 19 53.2**	**-0.1**
PSGCX				P	**P**	**21 20 00.4**	**+1.2**
MNMC	**Minye Minye**	**13.87**	**3**		**Pn**	**21 20 00.1**	**+0.5**
MNMC				P	**P**	**21 20 06.5**	**+1.8**
PLTB	**Pedras Altas**	**14.14**	**89**	Pn	**Pn**	**21 20 00.0**	**-2.9**
PLTB	**Pedras Altas**	**14.14**	**89**	*e*P	**Pn**	**21 19 60.0**	**-2.9**
CPSB	**Cacapava Do Su**	**14.57**	**84**	*e*P	Pn	21 20 03.3	-5.0
ITAB	**Concordia**	**16.72**	**75**		**Pn**	**21 20 35.4**	**+0.1**
ITAB	**Concordia**	**16.72**	**75**	*e*P	**Pn**	**21 20 32.6**	**-2.7**
LPAZ	**La Paz**	**16.80**	**7**	P	**P**	**21 20 37.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=181,slow=8.8,SNR=22						
LPAZ				S	**S**	**21 23 46.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=238,slow=19,SNR=1.2						
LPAZ	**La Paz**	**16.80**	**7**	P	**P**	**21 20 37.9**	**+0.4**
AQDB	**Aquidauana**	**18.03**	**50**	P	**Pn**	**21 20 51.2**	**-0.1**
AQDB	**Aquidauana**	**18.03**	**50**	*e*P	**P**	**21 20 47.5**	**-2.9**
TER01	**Tubaro-SC**	**18.71**	**82**	*e*P	**P**	**21 20 56.7**	**-1.1**
SIV	**San Ignacio**	**18.91**	**28**	P	**P**	**21 20 59.2**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=219,slow=9.5,SNR=46						
PTLB	**Pontes e Lacer**	**20.22**	**33**	*e*P	**P**	**21 21 12.5**	**-1.7**
PCMB	**Pacaembu**	**20.34**	**61**	*e*P	**P**	**21 21 14.4**	**-1.1**
FRTB	**Fartura**	**20.62**	**67**	*e*P	**P**	**21 21 17.4**	**-1.2**
SALV	**Santo Antonio**	**21.58**	**41**	*e*P	**P**	**21 21 27.5**	**-1.3**
NNA	**Nana**	**21.81**	**342**	P	**P**	**21 21 32.2**	**+0.9**
	comp=Z,5.4nm,0.4s,baz=196,slow=10,SNR=2.1						
USHA	**Ushuaia**	**21.82**	**177**	P	**P**	**21 21 29.6**	**-1.4**
	comp=Z,11nm,0.4s,baz=41,slow=12,SNR=3.2						
PET01	**Itanhaem-SP**	**21.95**	**73**	*e*P	**P**	**21 21 33.0**	**+0.2**
VILB	**Vilhena**	**22.02**	**27**	*e*P	**P**	**21 21 32.1**	**-1.4**
SPB	**Sao Paulo**	**22.17**	**71**	*e*P	**P**	**21 21 35.0**	**0.0**
ITRB	**Iturama**	**22.19**	**58**	*e*P	**P**	**21 21 34.3**	**-1.1**
BB19B	**Bebedouro**	**22.70**	**64**	*e*P	**P**	**21 21 39.6**	**-1.0**
VAO	**Valinhos**	**22.83**	**70**	*e*P	**P**	**21 21 42.2**	**+0.3**
ETMB	**Extrema**	**23.42**	**10**	*e*P	**P**	**21 21 47.7**	**+0.3**
**AR

TKL	Tuckaleechee C	69.50	348	P	P	21 27 44.6 -0.1
	comp=Z,6.5nm,0.6s,baz=175,slow=6.9,SNR=9.9					
OXF	Oxford	69.56	343	P	P	21 27 44.9 -0.3
	baz=163					
WHTX	Lake Whitney,	69.59	336	P	P	21 27 45.9 +0.5
	baz=156					
TXAR	Lajitas Array	69.64	329	P	P	21 27 46.9 +1.0
	comp=Z,3.8nm,0.7s,baz=154,slow=8.9,SNR=34					
TX31	Lajitas Ar. Si	69.65	329	IAmb	IAmb	21 27 47.5
	comp=Z,14nm,0.7s					
TX32	Lajitas Array	69.65	329	P	P	21 27 47.0 +1.0
V52A	Sevierville	69.65	348	IAmb	IAmb	21 27 46.2
	comp=Z,24nm,1.2s					
PLAL	Pickwick Lake	69.70	344	P	P	21 27 46.4 +0.4
PLAL				IAmb	IAmb	21 27 46.8
	comp=Z,14nm,1.1s					
V51A	Loudon	69.75	348	IAmb	IAmb	21 27 46.9
	comp=Z,19nm,1.1s					
T59A	Double "B" Far	69.98	354	IAmb	IAmb	21 27 49.3
	comp=Z,25nm,1.1s					
U54A	Nelsons Funny	70.04	350	IAmb	IAmb	21 27 48.9
	comp=Z,20nm,0.9s					
T57A	Hurt	70.18	352	IAmb	IAmb	21 27 49.9
	comp=Z,12nm,0.9s					
TZTN	Tazewell	70.33	349	P	P	21 27 49.4 -0.4
	baz=168					
CLTN	Cedars of Leba	70.40	346	P	P	21 27 50.7 +0.4
X40A	Basin Creek Fa	70.44	340	P	P	21 27 49.1 -1.4
	baz=160					
BLA	Blacksburg	70.53	351	P	P	21 27 51.1 0.0
	baz=171					
MIAR	Mount Ida	70.70	340	P	P	21 27 52.2 +0.1
	baz=160					
WVT	Waverly	70.75	345	P	P	21 27 52.3 0.0
	baz=164					
WVT	Waverly	70.75	345	P	P	21 27 52.5 +0.1
S57A	Dark Hollow, R	70.91	353	IAmb	IAmb	21 27 54.6
	comp=Z,14nm,0.9s					
W41B	Gary Mavity, V	70.92	341	P	P	21 27 53.7 +0.3
	baz=161					
ABTX	Abilene, Hawle	70.94	334	P	P	21 27 54.2 +0.5
	baz=154					
R58B	Mineral	71.00	354	IAmb	IAmb	21 27 56.5
	comp=Z,29nm,1.4s					
WHAR	Wooly Hollow	71.04	341	IAmb	IAmb	21 27 55.5
	comp=Z,16nm,1.3s					
W39A	Magazine	71.37	340	P	P	21 27 56.9 +0.8
	baz=159					
W39A	Magazine	71.37	340	P	P	21 27 56.6 +0.4
S51A	Beattyville	71.41	349	IAmb	IAmb	21 27 57.0
	comp=Z,16nm,0.9s					
T47A	Sharon Grove	71.42	346	IAmb	IAmb	21 27 57.0
	comp=Z,15nm,0.8s					
R55A	Marlinton	71.55	352	IAmb	IAmb	21 27 58.9
	comp=Z,16nm,0.8s					
PPT	Papeete	71.85	261	P	P	21 28 01.2 +1.7
	comp=Z,44nm,0.9s,baz=93,slow=15,SNR=2.8					
X34A	Smith Ranch, M	72.09	336	IAmb	IAmb	21 28 02.1
	comp=Z,20nm,1.0s					
U40A	Yellville	72.20	341	P	P	21 28 01.2 +0.1
	baz=160					
U40A	Yellville	72.20	341	P	P	21 28 01.4 +0.3
U40A				IAmb	IAmb	21 28 02.2
	comp=Z,24nm,1.2s					
MNTX	Cornudas Mount	72.43	329	P	P	21 28 02.3 -0.2
	baz=150,SNR=17					
MNTX	Cornudas Mount	72.43	329	P	P	21 28 02.8 +0.2
HHAR	Hobbs	72.43	340	IAmb	IAmb	21 28 03.5
	comp=Z,22nm,1.2s					
WCI	Wyandotte Cave	72.46	347	P	P	21 28 01.9 -0.7
	baz=166					
Q52A	Bidwell	72.50	350	IAmb	IAmb	21 28 03.6
	comp=Z,18nm,1.1s					
P57A	Homestead Farm	72.52	354	IAmb	IAmb	21 28 04.9
	comp=Z,14nm,0.8s					
WMOK	Wichita Mounta	72.54	336	P	P	21 28 03.1 -0.1
	baz=155					
TUL1	Leonard	72.64	339	P	P	21 28 03.6 -0.1
	baz=158					
P60A	Greenville	72.66	356	P	P	21 28 04.2 +0.5
	baz=175					
Q51A	Peebles	72.72	349	IAmb	IAmb	21 28 04.9
	comp=Z,15nm,0.9s					
MCWV	Mont Chateau	72.88	352	P	P	21 28 04.9 -0.1
	baz=172					
P52A	Corning	73.14	350	P	P	21 28 06.2 -0.4
	baz=170					
P52A	Corning	73.14	350	IAmb	IAmb	21 28 07.1
	comp=Z,14nm,0.9s					
MSTX	Muleshoe	73.33	332	P	P	21 28 08.3 +0.3
	baz=152					
MSTX	Muleshoe	73.33	332	IAmb	IAmb	21 28 09.4
	comp=Z,22nm,1.0s					
O56A	Blue Knob Stat	73.35	353	P	P	21 28 08.3 +0.5
	baz=173					
CCM	Cathedral Cave	73.38	343	P	P	21 28 08.1 +0.1
	baz=162					
CCM	Cathedral Cave	73.38	343	P	P	21 28 08.4 +0.3
BLO	Bloomington	73.42	347	IAmb	IAmb	21 28 08.4
	comp=Z,15nm,0.8s					
P49A	Miami Univ. Ec	73.44	348	P	P	21 28 07.9 -0.5
	baz=167					
P49A	Miami Univ. Ec	73.44	348	IAmb	IAmb	21 28 08.7
	comp=Z,28nm,1.4s					
DBIC	Dimbokro	73.47	70	P	P	21 28 09.2 +0.1
O53A	New Philadelph	73.63	351	P	P	21 28 09.8 +0.4
	baz=170					
SSPA	Standing Stone	73.65	354	P	P	21 28 09.8 +0.3
	baz=173					
MAW	Mawson	73.67	163	P	P	21 28 09.8 +0.3
	comp=Z,9.3nm,0.8s,baz=202,slow=7.0,SNR=16					
MAW	Mawson	73.67	163	P	P	21 28 09.9 +0.5
AMTX	Amarillo	73.72	333	P	P	21 28 10.3 +0.1
	baz=153					
AMTX	Amarillo	73.72	333	IAmb	IAmb	21 28 11.9
	comp=Z,29nm,1.2s					
N59A	State Game Lan	73.77	356	P	P	21 28 10.9 +0.6
	baz=175					
N59A	State Game Lan	73.77	356	IAmb	IAmb	21 28 11.8
	comp=Z,12nm,0.8s					
T35A	Sooner Cattle	73.78	338	IAmb	IAmb	21 28 11.9
	comp=Z,14nm,0.9s					
ACSO	Alum Creek Sta	73.85	350	P	P	21 28 10.4 -0.3
	baz=169					
BLOK	Blackwell	73.86	338	P	P	21 28 11.4 +0.5
BLOK				IAmb	IAmb	21 28 12.4
	comp=Z,26nm,1.1s					
ODNJ	Ogdensburg	73.87	357	IAmb	IAmb	21 28 12.4
	comp=Z,16nm,1.1s					
CROK	Carrier	73.88	337	P	P	21 28 11.1 +0.1
319A	Douglas	73.91	326	IAmb	IAmb	21 28 14.2
	comp=Z,18nm,1.1s					
P46A	Rosedale	73.98	346	IAmb	IAmb	21 28 11.6
	comp=Z,18nm,1.0s					
O49A	Covington	74.02	349	IAmb	IAmb	21 28 12.2
	comp=Z,19nm,0.8s					
N54A	Moraine State	74.18	352	P	P	21 28 12.9 +0.2
	baz=172					
N54A	Moraine State	74.18	352	IAmb	IAmb	21 28 13.3
	comp=Z,9.1nm,0.7s					
121A	Cookes Peak, D	74.20	328	P	P	21 28 14.7 +1.5
	baz=148,SNR=14					
121A	Cookes Peak, D	74.20	328	IAmb	IAmb	21 28 15.9
	comp=Z,21nm,1.1s					
M64A	Tiverton	74.23	359	P	P	21 28 12.9 0.0
	baz=179					
L63A	North Scituate	74.55	359	P	P	21 28 15.1 +0.4
	baz=179					
L63A	North Scituate	74.55	359	IAmb	IAmb	21 28 16.5
	comp=Z,19nm,0.9s					
M55A	Ridgway	74.56	353	IAmb	IAmb	21 28 16.0
	comp=Z,14nm,0.9s					
L64A	Middleborough	74.61	360	P	P	21 28 15.8 +0.8
	baz=180					
M54A	Oil Creek Stat	74.69	353	P	P	21 28 15.4 -0.2
	baz=172					
SFIN	Lafayette	74.69	347	P	P	21 28 15.0 -0.6
	baz=165					
M53A	WI Miller and	74.73	352	P	P	21 28 15.5 -0.3
	baz=171					
L58A	Harry Jones Me	74.90	356	P	P	21 28 16.7 -0.1
	baz=175					
N47A	Urbana	74.92	348	P	P	21 28 16.1 -0.8
N47A				IAmb	IAmb	21 28 16.5
	comp=Z,17nm,0.7s					
L59A	Walton	74.99	356	IAmb	IAmb	21 28 19.1
	comp=Z,14nm,0.8s					
BINY	Binghamton	75.06	356	P	P	21 28 17.8 +0.1
	baz=175					
L56A	Greenwood	75.11	354	IAmb	IAmb	21 28 19.4
	comp=Z,23nm,1.2s					
L61B	Northampton	75.16	358	P	P	21 28 18.2 0.0
	baz=178,SNR=5.8					
HRV	Adam Dziewonsk	75.19	359	P	P	21 28 19.0 +0.6
	baz=179					
HDIL	Hopedale	75.31	345	P	P	21 28 19.0 -0.2
	baz=164					
K62A	Royalston	75.36	359	P	P	21 28 20.2 +0.8
	baz=178					
K63A	Dunstable	75.37	359	P	P	21 28 19.3 -0.1
	baz=179					
K61A	Williamstown	75.39	358	P	P	21 28 20.5 +0.9
	baz=177					
TUC	Tucson	75.40	325	P	P	21 28 20.7 +0.7
	baz=146					
P38A	Dawn	75.45	342	IAmb	IAmb	21 28 20.9
	comp=Z,23nm,1.1s					
TRY	Troy	75.47	357	IAmb	IAmb	21 28 22.1
	comp=Z,24nm,1.2s					
K56A	Middlesex	75.65	355	P	P	21 28 20.8 -0.3
	baz=174					
ANMO	Albuquerque	75.67	330	P	P	21 28 22.5 +0.9
	comp=Z,5.7nm,1.0s,baz=147,slow=8.1,SNR=14					
ANMO	Albuquerque	75.67	330	P	P	21 28 22.7 +1.1
	baz=145					
ANMO	Albuquerque	75.67	330	P	P	21 28 22.8 +1.2
J62A	Henniker	75.92	359	P	P	21 28 23.7 +1.1
	baz=179,SNR=5.8					
J63A	Strafford	75.96	359	P	P	21 28 23.6 +0.9
	baz=179					
J61A	Chester	76.05	358	P	P	21 28 23.5 +0.2
	baz=178					
214A	Organ Pipe Nat	76.10	324	P	P	21 28 25.6 +1.7
	baz=144					
214A	Organ Pipe Nat	76.10	324	IAmb	IAmb	21 28 26.8
	comp=Z,24nm,1.4s					
J58A	Remsen	76.17	356	P	P	21 28 24.2 +0.2
	baz=176					
J59A	Piesco	76.24	357	IAmb	IAmb	21 28 25.8
	comp=Z,20nm,1.3s					
J57A	Williamstown	76.27	356	IAmb	IAmb	21 28 25.8
	comp=Z,17nm,0.9s					
I58A	Old Forge	76.49	356	P	P	21 28 25.8 0.0
	baz=176,SNR=5.4					
I59A	Olmsteadville	76.54	357	P	P	21 28 26.2 +0.1
	baz=177					
CBKS	Cedar Bluff	76.55	337	P	P	21 28 26.5 +0.2
	baz=155					
I62A	Tamworth	76.56	359	P	P	21 28 26.4 +0.3
	baz=179					
I60A	Shoreham	76.57	358	P	P	21 28 26.1 -0.1
	baz=177					
I64A	Boothbay	76.60	0	P	P	21 28 27.5 +1.2
	baz=180					
I63A	Otisfield	76.73	360	P	P	21 28 28.4 +1.4
	baz=180,SNR=7.6					
T25A	Trinidad	76.74	333	P	P	21 28 28.9 +1.2
	baz=151,SNR=16					
I57A	Carthage	76.77	356	P	P	21 28 27.7 +0.4
	baz=175,SNR=5.7					
PECO	Prince Edward	76.85	355	IAmb	IAmb	21 28 28.5
	comp=Z,12nm,0.7s					
LBNH	Lisbon	76.93	359	P	P	21 28 29.3 +1.1
	baz=179,SNR=5.1					
LBNH	Lisbon	76.93	359	IAmb	IAmb	21 28 30.3
	comp=Z,13nm,0.8s					
H58A	Gabriels	77.17	357	P	P	21 28 29.8 +0.2
	baz=177,SNR=5.3					
H61A	Lyndonville	77.22	359	P	P	21 28 30.8 +0.9
	baz=179,SNR=9.4					
WVL	Waterville	77.24	0	P	P	21 28 30.7 +0.8
WVL				IAmb	IAmb	21 28 32.7
	comp=Z,25nm,1.4s					
W18A	Petrified Fore	77.24	328	P	P	21 28 31.1 +0.7
	baz=147					
H62A	Milan	77.25	359	P	P	21 28 30.7 +0.7
	baz=179					
H60A	Morristown	77.27	358	P	P	21 28 30.8 +0.7
	baz=178					
H57A	Richville	77.28	356	P	P	21 28 30.4 +0.3
	baz=176					
H64A	Troy	77.32	1	P	P	21 28 32.0 +1.6
	baz=181					
H63A	New Sharon	77.34	0	P	P	21 28 32.0 +1.5
	baz=180					
H59A	Cadyville	77.38	358	P	P	21 28 31.4 +0.6
	baz=177					
H65A	Eastbrook	77.39	1	P	P	21 28 31.7 +0.9
	baz=182,SNR=7.3					
LONY	Lake Ozonia	77.39	357	P	P	21 28 31.3 +0.4
	baz=176,SNR=5.7					
EMMW	East Machias	77.42	2	P	P	21 28 32.4 +1.4
X16A	Lo Mia Camp, P	77.44	326	IAmb	IAmb	21 28 34.4
	comp=Z,19nm,1.2s					
H66A	Whiting	77.51	2	P	P	21 28 32.3 +0.9
	baz=182,SNR=9.1					
FRNY	Flat Rock	77.57	358	IAmb	IAmb	21 28 33.3
	comp=Z,12nm,0.8s					
SDCO	Great Sand Dun	77.70	332	P	P	21 28 34.0 +1.0
	baz=150,SNR=5.1					
KSCO	Kaye Shedlock'	77.73	335	P	P	21 28 33.5 +0.5
	baz=153					
JFWS	Jewell Farm	77.78	345	P	P	21 28 33.1 +0.1
	baz=163					
G63A	Kingsbury	77.79	0	P	P	21 28 34.0 +0.9
	baz=180,SNR=5.8					
GGN	Saint George	77.86	2	IAmb	IAmb	21 28 35.4
	comp=Z,12nm,0.8s					
SADO	Sadowa	77.86	354	P	P	21 28 33.3 -0.1
	comp=Z,6.3nm,0.6s,baz=199,slow=5.7,SNR=6.9					
G62A	West of Eustis	77.89	360	P	P	21 28 34.3 +0.7
	baz=180,SNR=12					
G65A	Princeton	77.91	2	P	P	21 28 34.8 +1.1
	baz=182,SNR=5.8					
G65A	Princeton	77.91	2	IAmb	IAmb	21 28 35.8
	comp=Z,10nm,0.8s					
G64A	Maxfield	77.94	1	P	P	21 28 34.7 +0.9
	baz=181,SNR=7.8					
PKME	Peaks-Kenny Pk	77.94	1	P	P	21 28 34.8 +0.9
	baz=181,SNR=5.7					
PKME	Peaks-Kenny Pk	77.94	1	P	P	21 28 34.7 +0.9
PKME				IAmb	IAmb	21 28 35.7
	comp=Z,20nm,1.1s					
PLVO	Plevna	77.96	355	IAmb	IAmb	21 28 35.3
	comp=Z,18nm,1.1s					
G61A	St-Isidore-de-	77.97	359	P	P	21 28 35.1 +1.1
	baz=179,SNR=5.3					
GLA	Glamis	77.99	323	P	P	21 28 35.6 +1.1
	baz=143					
S22A	4UR Ranch, Cre	78.23	331	P	P	21 28 36.8 +0.8
	baz=149,SNR=6.6					
WUAZ	Wupatki	78.32	327	P	P	21 28 38.0 +1.6
	baz=146					
IKP	In-Ko-Pah, Jac	78.33	322	P	P	21 28 37.9 +1.4
	baz=142					
F63A	Nahmakanta, Br	78.39	1	P	P	21 28 37.4 +1.1
	baz=181,SNR=8.8					
F63A	Nahmakanta, Br	78.39	1	IAmb	IAmb	21 28 38.3
	comp=Z,16nm,0.8s					
SWSC	Sam W. Stewart	78.40	322	P	P	21 28 37.7 +1.0
	baz=142					
BGNE	Belgrade	78.41	339	P	P	21 28 37.5 +0.9
	baz=156					
MVCO	Mesa Verde	78.46	330	P	P	21 28 38.3 +1.1
	baz=148					
F64A	Sherman	78.56	1	P	P	21 28 38.1 +0.9
	baz=182,SNR=8.2					
F64A	Sherman	78.56	1	IAmb	IAmb	21 28 39.3
	comp=Z,21nm,1.1s					
F62A	Pittston Farm,	78.57	0	IAmb	IAmb	21 28 39.5
	comp=Z,20nm,0.8s					
Q24A	Divide	78.62	333	P	P	21 28 39.3 +1.1
	baz=151,SNR=10					
F61A	St Evariste	78.65	359	P	P	21 28 38.6 +0.8
	baz=179					
MONP2	Monument Peak	78.68	322	P	P	21 28 40.0 +1.4
	baz=142					
LMN	Caledonia Moun	78.68	4	IAmb	IAmb	21 28 39.5
	comp=Z,26nm,1.1s					
BC3	Big Chuckawall	78.79	323	P	P	21 28 39.8 +0.8
	baz=143,SNR=6.2					
KOWA	Kowa	78.90	65	P	P	21 28 39.3 -0.5
KOWA				IAmb	IAmb	21 28 40.6
	comp=Z,30nm,1.4s					
ALGO	Algonquin Park	78.94	354	P	P	21 28 39.3 0.0
	baz=173,SNR=6.7					
IRM	Iron Mountain	79.03	323	P	P	21 28 41.8 +1.6
	baz=143					
E60A	Ste Agathe de	79.05	359	P	P	21 28 39.8 -0.1
	baz=179,SNR=6.1					
E61A	Lac Etchemin	79.11	360	P	P	21 28 41.2 +0.9
	baz=180					
E63A	Oxbow	79.11	1	P	P	21 28 40.8 +0.6
	baz=182					
E64A	Bridgewater	79.12	2	P	P	21 28 41.1 +0.8
	baz=182					
TPFO	Pinon Flats	79.26	322	P	P	21 28 43.3 +1.7
	baz=142,SNR=6.3					
PFO	Pinyon Flats O	79.27	322	P	P	21 28 42.4 +0.8
	comp=Z,9.7nm,0.9s,baz=143,slow=4.8,SNR=10					
PFO	Pinyon Flats O	79.27	322	P	P	21 28 43.5 +1.9
	baz=142,SNR=6.9					
PFO	Pinyon Flats O	79.27	322	P	P	21 28 42.5 +0.8
PFO				IAmb	IAmb	21 28 44.6
	comp=Z,13nm,0.9s					
E62A	Clayton Lake	79.30	1	P	P	21 28 41.9 +0.6
	baz=181,SNR=7.0					
E62A	Clayton Lake	79.30	1	IAmb	IAmb	21 28 43.3
	comp=Z,17nm,1.0s					
BELC	Belle Mtn. Jos	79.33	323	P	P	21 28 43.1 +1.1
	baz=142					
PV13	Radium Mtn., P	79.40	330	IAmb	IAmb	21 28 44.6
	comp=Z,18nm,1.1s					
PV02	Paradox Valley	79.41	330	IAmb	IAmb	21 28 44.7
	comp=Z,15nm,1.1s					
PV05	Paradox Valley	79.45	330	IAmb	IAmb	21 28 44.7
	comp=Z,17nm,1.2s					
PV18	Skein Mesa, Pa	79.51	330	P	P	21 28 43.9 +0.9
SMCO	Snowmass	79.51	332	P	P	21 28 44.4 +1.3
SMCO				IAmb	IAmb	21 28 45.9
	comp=Z,17nm,1.0s					
ISCO	Idaho Springs	79.52	333	P	P	21 28 43.9 +0.8
	baz=150,SNR=7.5					
PV12	Saucer Basin,	79.53	330	IAmb	IAmb	21 28 45.3
	comp=Z,14nm,1.1s					
PV11	David Mesa, Pa	79.54	330	IAmb	IAmb	21 28 45.2
	comp=Z,27nm,1.5s					
D60A	Saint Jean D'O	79.59	360	P	P	21 28 43.0 +0.2
	baz=179,SNR=6.4					
PV04	Paradox Valley	79.63	330	IAmb	IAmb	21 28 45.8
	comp=Z,16nm,1.2s					
MURC	Murrieta	79.64	322	P	P	21 28 44.9 +1.4
	baz=142					
PV14	Lion Creek, Pa	79.67	330	IAmb	IAmb	21 28 45.9
	comp=Z,14nm,1.1s					
D63A	Stockholm	79.74	2	P	P	21 28 44.1 +0.5
	baz=182					
D62A	Allapoint, All	79.77	1	P	P	21 28 44.2 +0.4
	baz=181,SNR=9.4					
D62A	Allapoint, All	79.77	1	IAmb	IAmb	21 28 45.5
	comp=Z,15nm,0.9s					
GMRC	Granite Mounta	79.78	323	P	P	21 28 46.0 +1.6
	baz=143,SNR=9.0					
D58A	Chemin du LacG	79.81	358	P	P	21 28 44.5 +0.5
	baz=178,SNR=11					
D61A	St Aubert, Com	79.88	0	P	P	21 28 45.1 +0.7
	baz=180					
ECSD	EROS Data Cent	80.11	341	P	P	21 28 45.7 -0.1
	baz=158,SNR=21					
ECSD	EROS Data Cent	80.11	341	P	P	21 28 45.6 -0.1
HEC	Hector,Ludlow	80.16	323	P	P	21 28 48.2 +1.9
	baz=142					
KNB	Kanab	80.22	327	IAmb	IAmb	21 28 49.6
	comp=Z,17nm,1.0s					
BFSC	Mount Baldy Ra	80.38	322	P	P	21 28 48.8 +1.3
	baz=141,SNR=5.2					
TUQ	Turquoise Moun	80.43	324	P	P	21 28 49.5 +1.6
	baz=143					
E43A	Lone Tree Farm	80.48	348	IAmb	IAmb	21 28 48.9
	comp=Z,30nm,1.4s					
SPMN	Marine on St.	80.54	344	P	P	21 28 47.8 -0.2
	baz=161					
N23A	Red Feather La	80.60	333	P	P	21 28 50.0 +1.3
	baz=150,SNR=6.3					
COWI	Conover	80.60	347	IAmb	IAmb	21 28 49.4
	comp=Z,22nm,1.4s					
GSC	Goldstone, Bar	80.77	323	P	P	21 28 51.3 +1.7
	baz=142,SNR=5.5					
PHWY	Pilot Hill	80.77	334	IAmb	IAmb	21 28 51.7
	comp=Z,12nm,0.9s					
O20A	White River Ci	80.84	331	P	P	21 28 50.9 +0.9
	baz=148					
CCUT	Cedar City	80.90	327	IAmb	IAmb	21 28 53.6
	comp=Z,12nm,1.0s					
SHPR	Sheep Range	80.91	325	P	P	21 28 52.1 +1.7
SRU	San Rafael Swe	80.92	329	IAmb	IAmb	21 28 52.3
	comp=Z,13nm,0.9s					
Q16A	Castle Valley	81.04	329	IAmb	IAmb	21 28 53.5
	comp=Z,14nm,1.0s					
VLDQ	Val d'O'	81.04	355	IAmb	IAmb	21 28 51.9
	comp=Z,20nm,0.9s					
EDW2	Edwards Air Fo	81.05	322	P	P	21 28 52.2 +1.2
	baz=141,SNR=5.8					
MVU	Marysvale	81.16	328	P	P	21 28 53.2 +1.4
F36A	Milaca	81.31	344	IAmb	IAmb	21 28 52.6
	comp=Z,14nm,0.9s					
P17A	Butcher Ranch,	81.32	329	IAmb	IAmb	21 28 54.5
	comp=Z,15nm,1.2s					
LRMC	Laurel Mtn Rad	81.35	323	P	P	21 28 54.3 +1.5
	baz=141,SNR=6.7					
PRN	Pahroc Range	81.58	325	IAmb	IAmb	21 28 56.9
	comp=Z,21nm,1.0s					
RDMU	Red Mountain	81.75	331	IAmb	IAmb	21 28 56.6
	comp=Z,14nm,0.8s					
TPNV	Topopah Spring	81.79	324	P	P	21 28 56.6 +1.6
	baz=142					
ISA	Isabella, Lake	81.90	322	P	P	21 28 57.3 +1.8
	baz=141,SNR=7.0					
ISA	Isabella, Lake	81.90	322	P	P	21 28 57.1 +1.6
LSQQ	Lebel-sur-Quev	81.95	356	P	P	21 28 56.1 +0.7
	baz=174					
PKM	Mcpherson Peak	82.01	321	P	P	21 28 58.1 +1.9
	baz=140,SNR=7.1					
CWC	Cottonwood Cre	82.30	323	P	P	21 28 59.2 +1.4
	baz=141					
K22A	Casper	82.33	334	P	P	21 28 58.7 +0.9
	baz=150					
K22A	Casper	82.33	334	IAmb	IAmb	21 28 59.9
	comp=Z,25nm,1.1s					
VES	Vestal, Richgr	82.35	322	P	P	21 28 59.3 +1.5
	baz=140					
TORD	Torodi Ar. Bea	82.50	69	P	P	21 28 58.6 -0.4
	comp=Z,11nm,0.8s,baz=265,slow=5.0,SNR=48					
TORD				pP	pP	21 29 26.7 +0.5
	comp=Z,4.1nm,0.9s,baz=255,slow=5.6,SNR=4.3					
SPR3	Spring Creek 3	82.52	327	IAmb	IAmb	21 29 01.2
	comp=Z,22nm,1.2s					
R11A	Troy Canyon, C	82.58	326	P	P	21 29 00.9 +1.7
	baz=143,SNR=18					
R11A	Troy Canyon, C	82.58	326	IAmb	IAmb	21 29 02.0
	comp=Z,17nm,1.3s					
CHGQ	Chibougamau	82.67	357	P	P	21 28 59.2 +0.1
	baz=176					
MATQ	Matagami	82.70	355	P	P	21 28 59.2 0.0
	baz=174					
DRLN	Deer Lake	82.72	8	P	P	21 29 00.1 +0.7
RSSD	Black Hills	82.74	336	P	P	21 29 00.5 +0.6
	baz=152					
RSSD	Black Hills	82.74	336	P	P	21 29 00.4 +0.5
RSSD				IAmb	IAmb	21 29 01.5
	comp=Z,15nm,0.9s					
DUG	Dugway, Tooele	82.81	329	P	P	21 29 01.1 +0.8
	baz=145,SNR=8.1					
EYMN	Ely	82.84	346	P	P	21 29 00.0 0.0
	baz=162					
EYMN	Ely	82.84	346	IAmb	IAmb	21 29 00.8
	comp=Z,11nm,0.9s					
TIN	Tinemaha, Big	82.85	323	P	P	21 29 02.4 +1.8
	baz=141					
HWUT	Hardware Ranch	83.44	330	IAmb	IAmb	21 29 05.9
	comp=Z,11nm,0.8s					
SPUT	South Promonto	83.57	329	P	P	21 29 04.4 +0.3
SPUT				IAmb	IAmb	21 29 06.0
	comp=Z,22nm,1.3s					
PDAR	Pinedale Array	83.59	332	P	P	21 29 04.5 +0.1
	comp=Z,2.1nm,0.6s,baz=132,slow=6.2,SNR=23					
BW06	Boulder Array	83.59	332	P	P	21 29 04.3 -0.1
	baz=148,SNR=6.1					
B35A	Bob, Littlefor	83.71	345

comp=Z,8.1nm,0.8s,baz=157,slow=5.9,SNR=25
AGMN Agassiz Nation 84.15 343 P **P 21 29 06.7 0.0**
baz=159
RYN Ryan 84.22 324 IAmb IAmb 21 29 09.9
comp=Z,11nm,1.0s
ELK Elko 84.34 327 P **P 21 29 09.1 +0.9**
comp=Z,8.9nm,0.9s,baz=144,slow=2.6,SNR=38
ELK Elko 84.34 327 IAmb IAmb 21 29 10.1
comp=Z,10nm,0.9s
KVN Kaiserville 84.34 325 P **P 21 29 09.3 +1.1**
KVN IAmb IAmb 21 29 10.3
comp=Z,13nm,1.0s
WAKR Walker 84.58 323 IAmb IAmb 21 29 12.5
comp=Z,13nm,1.1s
REDW Red Top Meadow 84.61 332 IAmb IAmb 21 29 11.1
comp=Z,12nm,1.1s
MDND Maddock 84.71 341 P **P 21 29 09.9 +0.3**
baz=156,SNR=5.9
TPAW Teton Pass 84.75 332 P **P 21 29 10.9 +0.6**
TPAW IAmb IAmb 21 29 12.5
comp=Z,14nm,0.9s
YERR Yerington 84.85 324 IAmb IAmb 21 29 13.4
comp=Z,20nm,1.3s
RLMT Red Lodge 85.47 333 P **P 21 29 14.3 +0.5**
baz=148,SNR=8.9
RLMT Red Lodge 85.47 333 IAmb IAmb 21 29 16.2
comp=Z,12nm,1.1s
YMP Mirror Lake Pl 85.49 333 IAmb IAmb 21 29 30.8
comp=Z,13nm,1.1s
YNE Yellowstone No 85.66 333 P **P 21 29 15.0 +0.3**
LAO LASA Array 85.73 336 P **P 21 29 15.0 +0.2**
baz=150
ULM Lac du Bonnet 85.97 344 P **P 21 29 15.2 -0.6**
comp=Z,7.6nm,0.8s,baz=166,slow=3.8,SNR=7.4
ULM Lac du Bonnet 85.97 344 IAmb IAmb 21 29 16.5
comp=Z,8.7nm,0.8s
BEKR Beckworth 86.08 324 P **P 21 29 17.8 +0.9**
ORV Oroville 86.42 323 IAmb IAmb 21 29 21.0
comp=Z,18nm,1.2s
MFID Camas Ranch 86.74 329 IAmb IAmb 21 29 21.9
comp=Z,12nm,1.1s
BOZ Bozeman (W) 86.78 332 P **P 21 29 20.2 +0.2**
baz=146,SNR=8.0
O03E Paynes Creek 87.13 323 P **P 21 29 22.1 +0.3**
baz=139
WVOR Wild Horse Val 87.23 326 IAmb IAmb 21 29 24.5
comp=Z,12nm,1.1s
LRM Limekiln Ridge 87.29 332 P **P 21 29 23.6 +1.0**
O02D Mt. Diablo Mer 87.54 323 P **P 21 29 24.6 +0.8**
baz=138
MOD Modoc Plateau 87.61 325 IAmb IAmb 21 29 26.4
comp=Z,7.9nm,0.9s
WDC Whiskeytown Da 87.72 323 IAmb IAmb 21 29 25.6
comp=Z,9.3nm,0.9s
N02D Trinity Center 88.09 323 P **P 21 29 26.6 +0.3**
baz=138
EGMT Eagleton 88.11 335 P **P 21 29 26.3 0.0**
baz=148
EGMT Eagleton 88.11 335 IAmb IAmb 21 29 27.3
comp=Z,8.0nm,0.9s
M04C Macdoel 88.27 324 P **P 21 29 28.1 +0.8**
baz=139
M02C Callahan 88.48 323 P **P 21 29 28.6 +0.4**
baz=138
YBH Yreka Blue Hor 88.66 324 P **P 21 29 29.3 +0.3**
comp=Z,3.9nm,0.8s,baz=114,slow=5.3,SNR=12
YBH Yreka Blue Hor 88.66 324 P **P 21 29 29.6 +0.5**
YBH IAmb IAmb 21 29 30.4
comp=Z,11nm,1.4s
MSO Missoula 88.70 332 P **P 21 29 30.0 +0.8**
baz=145
L04D Klamath Falls 88.82 324 P **P 21 29 30.0 +0.1**
baz=139
K04D Chiloquin, OR 88.86 325 P **P 21 29 30.9 +0.9**
baz=139
J05D Fort Rock, OR 89.11 325 P **P 21 29 32.4 +1.2**
baz=139
PINE Pine Mountain 89.35 326 IAmb IAmb 21 29 35.0
comp=Z,9.6nm,0.8s
L02E Cave Junction 89.42 323 P **P 21 29 34.0 +1.4**
baz=138
K02D Willamette Mer 89.85 324 P **P 21 29 35.9 +1.3**
baz=138
WALA Waterton Lakes 90.51 333 IAmb IAmb 21 29 38.5
comp=Z,5.8nm,0.8s
HAWA Hanford 90.70 328 IAmb IAmb 21 29 40.4
comp=Z,6.9nm,0.8s
NEW Newport 91.14 331 P **P 21 29 40.3 -0.1**
comp=Z,1.5nm,0.5s,baz=124,slow=11,SNR=2.3
B08A Colville Reser 92.14 330 P **P 21 29 44.6 -0.4**
B08A IAmb IAmb 21 29 46.6
comp=Z,3.7nm,0.8s
GERES GERESS Array B 110.44 45 PKiKP **PKiKP 21 35 07.0 -0.4**
comp=Z,0.5nm,0.7s,baz=248,slow=1.4,SNR=5.1
ILAR Eielson Array 114.02 333 PKiKP PKPdf 21 35 13.3 -0.3
comp=Z,0.3nm,0.8s,baz=204,slow=1.7,SNR=4.9
TRF Thorofare Moun 114.80 331 P PKPdf 21 35 15.2 -0.2
baz=114
BPAW Bear Paw Mtn. 115.34 331 P **PKPdf 21 35 16.1 -0.1**
baz=114
TOLK Toolik Lake Re 116.60 336 PKPdf **PKiKP 21 35 19.2 +0.6**
BURAR Bucovina Array 117.00 49 PKPdf **PKiKP 21 35 20.4 +0.4**
FALS False Pass 118.00 319 P **PKiKP 21 35 23.8 +2.2**
baz=108
ASAR Alice Springs 119.07 205 PKP **PKPdf 21 35 23.4 -1.4**
comp=Z,0.6nm,0.5s,baz=126,slow=1.6,SNR=6.8
ASAR Alice Springs 119.07 205 PKPdf **PKPdf 21 35 23.9 -1.0**
BRTR Keskin Array B 120.08 60 PKP **PKPdf 21 35 25.9 -0.3**
comp=Z,0.9nm,0.5s,baz=195,slow=3.8,SNR=4.8
AKASG Malin Array Be 120.46 47 PKP **PKPdf 21 35 25.1 -1.3**
comp=Z,1.4nm,0.5s,baz=260,slow=2.6,SNR=14
AKASG Malin Array Be 120.46 47 PKPdf **PKPdf 21 35 24.6 -1.8**
AKBB Malin Array Si 120.46 47 **PKPdf 21 35 25.3 -1.1**
FINES FINESS Array B 121.37 34 PKP **PKPdf 21 35 27.4 -0.4**
comp=Z,1.5nm,0.7s,baz=315,slow=1.1,SNR=6.3
FINES FINESS Array B 121.37 34 PKPdf **PKPdf 21 35 27.6 -0.2**
WR0 Warramunga Arr 122.21 208 PKPdf **PKPdf 21 35 30.1 -0.8**
WB2 Warramunga Arr 122.30 208 PKPdf **PKPdf 21 35 30.3 -0.7**
WRA Warramunga Arr 122.30 208 PKP **PKPdf 21 35 30.1 -0.9**
comp=Z,2.1nm,0.4s,baz=165,slow=1.7,SNR=47
WB0 Warramunga Arr 122.44 208 PKPdf **PKPdf 21 35 30.6 -0.7**
ARCES ARCESS Array B 122.53 25 PKP **PKPdf 21 35 29.6 -0.3**
comp=Z,2.5nm,0.8s,baz=238,slow=4.3,SNR=17
ATKA Atka Island 123.51 314 PKPdf **PKPdf 21 35 32.3 +0.1**
PSA00 Pilbara Seismi 124.84 191 PKPdf **PKPdf 21 35 35.2 -0.7**
H11S2 WAKE ISLAND Hy 127.26 269 T T 23 55 16.0
baz=118,slow=75
H11S1 WAKE ISLAND Hy 127.27 269 T T 23 55 03.9
baz=118,slow=75,SNR=26
H11S3 WAKE ISLAND Hy 127.28 269 T T 23 55 09.7
baz=118,slow=75,SNR=19
H11N3 WAKE ISLAND Hy 127.65 270 T T 23 55 45.6
baz=117,slow=74,SNR=6.9
H11N1 WAKE ISLAND Hy 127.66 270 T T 23 55 46.9
baz=117
H11N2 WAKE ISLAND Hy 127.67 270 T T 23 55 48.6
baz=117,slow=74,SNR=10
KLMR Klimovskoe 127.77 36 *e*PKPdf **PKPdf 21 35 39.3 -0.8**
KLMR AMP 21 35 41.5
comp=Z,15nm,1.3s
GEYT Alibeck 138.13 68 PKP **PKPdf 21 35 58.9 -1.5**
comp=Z,12nm,0.5s,baz=270,slow=2.9,SNR=2.2
SEY Seymchan 139.92 331 PKP **PKPdf 21 36 02.0 -0.8**
comp=Z,6.1nm,0.7s,baz=86,slow=4.9,SNR=13
ABKAR Akbulak array 139.94 51 PKPpre PKPpre 21 35 54.6
ABKAR PKPdf **PKPdf 21 36 03.9 +0.7**
PETK Petropavlovsk- 140.53 315 PKP **PKPdf 21 36 05.5 +1.3**
comp=Z,3.3nm,0.8s,baz=104,slow=6.3,SNR=4.7
PETK Petropavlovsk- 140.53 315 **PKPdf 21 36 04.9 +0.7**
NRIK Noril'sk 141.57 12 PKhKP PKPpre 21 35 60.0
comp=Z,1.8nm,0.5s,baz=15,slow=9.1,SNR=2.3
NRIK Noril'sk 141.57 12 PKPpre 21 36 01.4
BRVK Borovoye 145.51 43 **PKPab 21 36 14.0 +0.4**
TOLI2 Tolitoli 146.58 200 PKPbc **PKPdf 21 36 16.6 +0.5**
KK31 Karatay Array 147.79 60 PKPbc **PKPbc 21 36 20.3 0.0**
KKAR Karatay Array 147.79 60 PKPdf **PKPdf 21 36 18.3 +1.1**
KKAR PKPbc **PKPbc 21 36 20.3 0.0**
YAK Yakutsk 148.30 342 PKPbc **PKPbc 21 36 21.1 +0.2**
comp=Z,7.7nm,0.5s,baz=108,slow=0.7,SNR=14
YAK Yakutsk 148.30 342 **PKPbc 21 36 20.8 -0.1**
NIL Nilore 149.62 79 **PKPbc 21 36 25.4 +0.5**
EKS2 Erkin-Say 150.23 61 P **PKPdf 21 36 22.5 +1.2**
SNR=8.8
USP Ospenovka 150.67 59 P **PKiKP 21 36 27.9 -0.2**
SNR=14
AAK Ala-Archa 150.75 61 P **PKiKP 21 36 28.8 +0.4**
SNR=9.0
FRU1 Bishkek 150.83 60 PKPbc **PKiKP 21 36 28.8 +0.4**
CHMS Chumysh 150.89 60 P **PKiKP 21 36 28.3 -0.2**
SNR=12
KBK Karagaybulak 151.08 60 P **PKiKP 21 36 29.6 +0.5**
SNR=6.2
TKM2 Tokmak 2 151.52 60 P **PKPdf 21 36 23.6 +0.2**
SNR=5.4
BOOM Boomskoye usch 151.83 61 PKPbc **PKiKP 21 36 30.7 0.0**
ULHL Ulahol 152.09 61 P **PKiKP 21 36 31.7 +0.5**
SNR=8.5
ASAJ Asahikawa 152.20 303 PKPbc **PKiKP 21 36 31.1 -0.1**
comp=Z,19nm,1.1s,baz=51,slow=6.5,SNR=4.2
ASAJ PKPab **PKPab 21 36 41.9 +0.9**
comp=Z,4.5nm,0.7s,baz=56,slow=3.6,SNR=4.3
ZAA0 Zalesovo Array 152.63 33 PKPdf **PKPdf 21 36 24.7 +0.3**
ZAA0 PKPbc **PKiKP 21 36 31.7 0.0**
ZALV Zalesovo Beam 152.63 33 PKP **PKPdf 21 36 24.1 -0.3**
comp=Z,1.4nm,0.6s,baz=289,slow=4.5,SNR=7.7
ZALV PKPbc **PKPbc 21 36 31.4 0.0**
comp=Z,33nm,0.6s,baz=312,slow=3.0,SNR=89
ZALV pPKPbc **pPKPbc 21 36 59.6 -0.2**
comp=Z,4.1nm,0.8s,baz=318,slow=4.7,SNR=2.0
ZALV Zalesovo Beam 152.63 33 PKPbc **PKiKP 21 36 31.8 +0.1**
KDJ Kajisay 152.79 61 **PKPdf 21 36 26.0 +0.7**
KDJ PKPbc **PKiKP 21 36 33.0 +0.3**
TARG Taragay, Kyrgy 153.32 62 PKPbc **PKiKP 21 36 34.3 +0.2**
TARG PKPab **PKPab 21 36 45.5 -0.8**
MK31 Makanchi Array 155.03 49 PKPdf **PKPdf 21 36 28.0 -0.1**
MK31 PKPbc PKPbc 21 36 36.9
MK31 PKPab **PKPab 21 36 53.0 +0.1**
MKAR Makanchi Array 155.03 49 PKP **PKPdf 21 36 28.0 -0.1**
comp=Z,0.7nm,0.8s,baz=274,slow=3.5,SNR=7.9
MKAR PKPbc PKPbc 21 36 36.5
comp=Z,3.0nm,0.8s,baz=270,slow=1.2,SNR=20
MKAR PKPab **PKPab 21 36 52.1 -0.9**
comp=Z,2.8nm,0.8s,baz=292,slow=3.4,SNR=11
MKAR pPKPab **pPKPab 21 37 21.1 +0.5**
comp=Z,2.7nm,1.0s,baz=288,slow=5.0,SNR=3.8
MKAR Makanchi Array 155.03 49 PKPdf **PKPdf 21 36 27.6 -0.4**
MKAR PKPbc PKPbc 21 36 37.0
MKAR PKPab **PKPab 21 36 53.0 +0.1**
MJAR Matsushiro Arr 156.39 287 PKPab **PKPab 21 36 59.2 +0.1**
comp=Z,3.7nm,0.9s,baz=105,slow=3.2,SNR=6.6
USRK Ussuriysk Ar. 159.41 309 PKPab **PKPab 21 37 12.3 +0.4**
comp=Z,18nm,1.4s,baz=94,slow=3.7,SNR=4.7
WMQ Urumqi 159.72 52 *e*P **PKPdf 21 36 33.8 -0.3**
WMQ pmax pmax
comp=Z,130nm,5.1s
CMAR Chiang Mai Arr 162.55 144 PKP **PKPdf 21 36 37.7 -0.1**
comp=Z,0.5nm,0.5s,baz=276,slow=2.2,SNR=5.0
CMAR PKPab **PKPab 21 37 25.7 -0.5**
comp=Z,0.9nm,0.5s,baz=223,slow=5.7,SNR=7.4
KSRS Korea Array 164.50 292 PKPab **PKPab 21 37 36.2 +1.8**
comp=Z,2.8nm,0.9s,baz=86,slow=5.3,SNR=5.8
SONM Songino Array 165.01 9 PKP **PKPdf 21 36 38.8 -0.6**
comp=Z,0.9nm,0.9s,baz=329,slow=1.7,SNR=4.8
SONM PKPab **PKPab 21 37 37.0 +0.6**
comp=Z,2.0nm,0.8s,baz=318,slow=4.8,SNR=12
SONM Songino Array 165.01 9 PKPab **PKPab 21 37 36.9 +0.6**
ULN Ulaanbaatar 165.06 7 PKPab **PKPab 21 37 37.4 +0.8**
GTA Gaotai 169.78 49 PKPbc **PKPdf 21 36 43.6 +0.6**
HHC Hu-ho-hao-te 172.07 350 *e*P **PKPdf 21 36 44.0 -0.2**
NJ2 Nanjing 172.23 265 *e*P **PKPdf 21 36 45.8 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 178.80 34 PKP **PKPdf 21 36 46.4 +0.3**

GUC ***13*** *21:28:10.1±0.8, 18°.26S×69°.77W, h135km±4km, ML3.6*
ISC 13 21:28:08.6±2.4, 18°.24S±0°.07×69°.8W±0°.1, h139km±17km, n10, σ0°61/16, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.55**	**256**	↑*i*P	**Pn**	**21 28 29.2**	**+0.3**
AP01				*i* S	**Sn**	**21 28 44.5**	**+0.2**
MNMC	**Minye Minye**	**0.91**	**169**	↓*i*P	**Pn**	**21 28 32.0**	**+0.2**
MNMC				*i* S	**Sn**	**21 28 49.0**	**-0.5**
MNMC				IAML		21 28 49.6	
comp=E,2μm,0.5s							
PSGC	**Pisagua**	**1.39**	**194**	↑*i*P	**Pn**	**21 28 36.6**	**+0.3**
PSGC				*i* S	**Sn**	**21 28 56.6**	**-0.9**
PB11	**IPOC Station P**	**1.52**	**176**	↓*i*P	**Pn**	**21 28 38.2**	**+0.5**
PB11				*i* S	**Sn**	**21 28 59.9**	**-0.1**
PB08	**IPOC Station P**	**1.98**	**163**	↓*i*P	**Pn**	**21 28 44.1**	**+0.9**
PB08				*i* S	**Sn**	**21 29 10.0**	**+0.1**
PB08				IAML		21 29 11.9	
comp=E,222nm,0.5s							
TA01	**Diego Aracena**	**2.35**	**189**	↑*i*P	**Pn**	**21 28 47.2**	**0.0**
TA01				IAML		21 29 17.3	
comp=N,121nm,0.2s							
LPAZ	**La Paz**	**2.50**	**39**	*e*P	**Pn**	**21 28 49.8**	**0.0**
PB01	**IPOC Station P**	**2.81**	**174**	↑*i*P	**Pn**	**21 28 53.5**	**+0.4**
PB01				*i* S	**Sn**	**21 29 26.2**	**-1.3**
PB01				IAML		21 29 28.6	
comp=E,152nm,0.3s							
PB02	**IPOC Station P**	**3.07**	**182**	*e*P	**Pn**	**21 28 57.1**	**+0.6**
PB02				IAML		21 29 37.8	
comp=E,168nm,0.3s							
PB03	**IPOC Station P**	**3.79**	**180**	*e*P	**Pn**	**21 29 06.3**	**+0.3**
PB03				IAML		21 29 52.5	
comp=E,53nm,0.2s							

ATH ***13*** *21:41:25.9, 34°.99N×26°.91E, h12km±5km, ML2.8/3, Error ellipse: s-maj=9.6km s-min=1.5km az=333.0*
ISK ***13*** *21:41:26.9, 35°.14N×26°.77E, h23km, ML2.7/12*
DDA ***13*** *21:41:27.1, 35°.16N×26°.89E, h12km±2km, ML2.2*
ISC 13 21:41:25.0±1.8, 35°.0N±0°.1×26°.94E±0°.05, h25km±16km, n26, σ1°42/35, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.56**	**18**	P	**Pn**	**21 41 37.7**	**+0.2**
KARP				S	**Sn**	**21 41 45.4**	**-0.6**
KARP				AML	AML	21 41 46.9	
comp=N,3802μm,0.4s							
KARP				AML	AML	21 41 48.1	
comp=E,3920μm,0.4s							
KARP	**Karpathos**	**0.56**	**18**	PG	**Pn**	**21 41 37.9**	**+0.4**
KARP				SG	**Sn**	**21 41 46.1**	**0.0**
ZKR	**Zakros**	**0.60**	**280**	P	**Pb**	**21 41 36.7**	**-0.3**
ZKR				S	**Sb**	**21 41 45.2**	**+0.1**
ZKR				AML	AML	21 41 46.1	
comp=E,2060μm,0.3s							
ZKR				AML	AML	21 41 46.8	
comp=N,982μm,0.4s							
ZKR	**Zakros**	**0.60**	**280**	PG	**Pb**	**21 41 36.9**	**-0.1**
ZKR				SG	**Sb**	**21 41 44.2**	**-0.9**
NPS	**Neapolis**	**1.12**	**283**	P	**Pb**	**21 41 46.4**	**+0.7**
NPS				AML	AML	21 42 07.8	
comp=N,438μm,0.5s							
NPS				AML	AML	21 42 11.0	
comp=E,784μm,0.6s							
LAST	**Lasithi**	**1.21**	**277**	P	**Pb**	**21 41 47.5**	**+0.2**
ARG	**Arkhangelos**	**1.54**	**38**	PN	**Pb**	**21 41 53.6**	**+0.8**
DAT	**Datca**	**1.79**	**17**	*i* P	**Pb**	**21 41 58.2**	**+1.1**
DAT				*i* S	**Sn**	**21 42 16.3**	**-0.1**
DAT	**Datca**	**1.79**	**17**	PN	**Pb**	**21 41 56.3**	**-0.8**
SANT	**Santorini**	**1.81**	**319**	PN	**Pn**	**21 41 54.8**	**+0.1**
TURN	**Turunc**	**2.05**	**31**	*i* P	**Pb**	**21 42 03.6**	**+2.1**
TURN				*i* S	**Sb**	**21 42 29.2**	**+2.7**
TURN				IAML		21 42 37.0	
comp=N,18nm,0.6s							
TURN	**Turunc**	**2.05**	**31**	PN	**Pb**	**21 42 00.4**	**-1.1**
BDRM	**Kayabasi**	**2.09**	**11**	*i* P	**Pb**	**21 42 01.3**	**-0.9**
BDRM				IAML		21 42 34.0	
comp=N,15nm,0.4s							
BDRM				IAML		21 42 35.0	
comp=E,18nm,0.9s							
DALY	**Dalyan (Mula)**	**2.27**	**37**	*i* P	**Pb**	**21 42 06.4**	**+1.1**
DALY				*i* S	**Sb**	**21 42 35.6**	**+2.6**
DALY				IAML		21 42 42.0	
comp=E,21nm,0.9s							
DALY				IAML		21 42 45.0	
comp=N,20nm,0.6s							
DALY	**Dalyan (Mula)**	**2.27**	**37**	PN	**Pb**	**21 42 03.9**	**-1.4**
APE	**Apeiranthos**	**2.35**	**331**	PN	**Pn**	**21 42 02.6**	**+0.5**
FETY	**Fethiye**	**2.38**	**46**	*i* P	**Pb**	**21 42 07.2**	**+0.1**
FETY	**Fethiye**	**2.38**	**46**	PN	**Pb**	**21 42 05.8**	**-1.3**
YER	**Yerkesik**	**2.38**	**27**	PN	**Pb**	**21 42 05.2**	**-2.0**
AKAS	**Kas**	**2.49**	**60**	*i* P	**Pb**	**21 42 09.0**	**-0.1**
AKAS				IAML		21 42 48.0	
comp=N,17nm,0.8s							
AKAS	**Kas**	**2.49**	**60**	PN	**Pb**	**21 42 08.9**	**-0.1**
MULA	**Mugla, Merkez-**	**2.50**	**26**	*i* P	**Pb**	**21 42 11.8**	**+2.6**
MULA				*i* S	**Sb**	**21 42 40.2**	**+0.5**
CAME	**Cameli-Denizli**	**2.71**	**44**	PN	**Pb**	**21 42 10.8**	**-2.2**
AYDN	**Tasoluk**	**2.75**	**16**	*i* P	**Pb**	**21 42 11.8**	**-1.6**
TAVA	**DENIZLI_Tavas**	**2.92**	**32**	*i* P	**Pb**	**21 42 15.2**	**-1.2**
TAVA				*i* S	**Sb**	**21 42 48.3**	**-3.4**
TAVA				IAML		21 43 01.0	
comp=N,9.8nm,0.6s							
GOLH	**Golhisar**	**3.07**	**43**	*i* P	**Pb**	**21 42 18.0**	**-1.0**
GOLH				IAML		21 43 10.0	
comp=N,14nm,0.6s							

IDC 13 22:36:54.6±1.2, 11°.53N×143°.59E, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.7/38, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=78.6km s-min=22.9km az=115.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.40**	**31**	Pn	Pn	22 37 34.2	-1.1
14nm,0.3s,baz=199,slow=21,SNR=1.4							
GUMO				Sn	Sb	22 38 08.1	-0.9
20nm,0.3s,baz=12,slow=23,SNR=2.3							
H11N1	**WAKE ISLAND Hy**	**23.85**	**67**	T	T	23 07 21.7	
baz=255,slow=75,SNR=5.2							
H11N2	**WAKE ISLAND Hy**	**23.86**	**67**	T	T	23 07 21.8	
baz=255,slow=75,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**23.87**	**67**	T	T	23 07 22.5	
baz=255,slow=75,SNR=5.3							
WRA	**Warramunga Arr**	**32.57**	**196**	P	P	22 43 27.5	-0.4
0.8nm,0.6s,baz=19,slow=9.6,SNR=9.1							
ILAR	**Eielson Array**	**70.96**	**25**	P	P	22 48 11.8	-1.9
0.5nm,0.7s,baz=248,slow=6.3,SNR=4.2							
NVAR	**Mina Array Bea**	**89.18**	**51**	P	P	22 49 54.7	+1.7
0.5nm,0.6s,baz=277,slow=5.1,SNR=6.4							
FINES	**FINESS Array B**	**92.49**	**335**	P	P	22 50 08.4	+0.9
1.1nm,0.9s,baz=76,slow=5.9,SNR=5.3							

NNC 13 22:42:42.0±2.0, 38°.03N×78°.58E, h0km, mb3.8, mpv3.4, 5C-6D, Error ellipse: s-maj=18.0km s-min=13.9km az=61.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.16**	**347**	Pg	Pb	22 44 15.5	+2.2
6.5nm,0.4s							
TNSS				Lg	Lg	22 45 28.0	
19nm,0.5s							
IZV	**Izvestkoviy**	**5.22**	**344**	Pg	Pb	22 44 15.9	+1.6
4.1nm,0.4s							
IZV				Lg	Lg	22 45 28.5	
13nm,0.5s							
MDOK	**Medeo**	**5.26**	**348**	⇓Pg	Pb	22 44 18.0	+3.0
4.2nm,0.5s							
MDOK				⇓Lg	Lg	22 45 30.8	
16nm,0.8s							
MDOK	**Medeo**	**5.26**	**348**	Pg	Pb	22 44 17.8	+2.8
3.4nm,0.6s							
MDOK				Lg	Lg	22 45 31.7	
12nm,0.8s							
KOTS	**Kotyrbulak**	**5.32**	**348**	Pg	Pb	22 44 18.2	+2.2
4.1nm,0.4s							
KOTS				Lg	Lg	22 45 32.7	
19nm,0.8s							
PDGK	**Podgornoye**	**5.34**	**7**	⇑Pn	Pn	22 44 03.3	+0.2
0.9nm,0.3s							
PDGK				⇑Pg	Pg	22 44 20.6	-3.8
2.6nm,0.5s							
PDGK				⇑Sn	Sn	22 45 06.6	+1.2
7.8nm,0.6s							
PDGK				⇑Lg	Lg	22 45 34.1	
11nm,0.7s							
TKM2	**Tokmak 2**	**5.39**	**336**	⇓Pn	Pn	22 44 06.2	+2.2
0.6nm,0.3s							
TKM2				⇓Pg	Pg	22 44 22.3	-3.1
1.5nm,0.5s							
TKM2				⇑Lg	Lg	22 45 35.5	
6.4nm,0.8s							
KST	**Kastek**	**5.39**	**339**	Pg	Pb	22 44 17.8	+0.6
3.5nm,0.5s							
KST				Lg	Lg	22 45 31.6	
7.7nm,0.7s							
DGS	**Degeres**	**5.63**	**339**	Pg	Pb	22 44 25.4	+4.2
DGS				Lg	Lg	22 45 45.2	
KTBS	**Karatobe**	**5.86**	**346**	Pg	Pb	22 44 27.0	+1.9
2.3nm,0.6s							
KTBS				Lg	Lg	22 45 47.6	
14nm,0.5s							
KRBS	**Karabastau**	**6.08**	**340**	Pg	Pb	22 44 31.5	+2.7
1.2nm,0.4s							
KRBS				Lg	Lg	22 45 55.2	
8.7nm,0.8s							
KUU	**Kurty**	**6.10**	**345**	Pg	Pb	22 44 29.5	+0.3
1.9nm,0.8s							
KUU				Lg	Lg	22 45 51.9	
5.4nm,0.7s							
MAKZ	**Makanchi**	**9.13**	**15**	⇓Pn	Pn	22 44 55.5	+0.5
0.7nm,0.4s							
MK31	**Makanchi Array**	**9.18**	**16**	⇓Pn	Pn	22 44 55.7	0.0
0.4nm,0.3s,baz=199,slow=13,SNR=12							
MK31				Sn	Sn	22 46 40.6	+0.9
0.8nm,0.5s,baz=200,slow=23,SNR=6.1							

KRSC 13 22:45:25.1±1.6, 48°.18N×155°.72E, h61km±28km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.69**	**358**	*e*P	Pn	22 46 08.6	+2.5
KDTR	**Khodutka, Kamc**	**3.94**	**22**	*e*P	Pn	22 46 26.0	+3.1
MIPR	**Malaya Ipel'ka**	**4.15**	**9**	*e*P	Pn	22 46 29.9	+3.0
MTVR	**Mutnovka**	**4.58**	**19**	*e*P	Pn	22 46 35.9	+3.9
RUS	**Russkaya**	**4.62**	**22**	*e*P	Pn	22 46 35.1	+2.9
GRL	**Gorelyy**	**4.63**	**18**	*e*P	Pn	22 46 36.7	+4.2
MKZ	**Mys Kozlova**	**7.41**	**28**	P	Pn	22 47 14.7	+4.3

TUL ***13*** *23:09:23.1, 36°.17N±0°.01×97°.02W±0°.02, h1km±7km, ML2.2, mb_Lg2.0/12(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=78.0*
NEIC 13 23:09:23.2±0.9, 36°.17N±0°.01×97°.04W±0°.02, h4km±7km, Error ellipse: s-maj=2.7km s-min=1.8km az=82.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.27**	**90**		Pg	23 09 28.5	+0.2
OK031	**S. Brethren Rd**	**0.27**	**144**		Pg	23 09 28.5	+0.1
OK029	**Liberty Lake**	**0.51**	**222**	Pg	Pg	23 09 33.1	+0.2
BLOK	**Blackwell**	**0.61**	**346**	Pg	Pg	23 09 34.9	0.0
OK025	**Westminster Rd**	**0.64**	**203**	Pg	Pg	23 09 35.5	+0.1
OK025				Sg	Sg	23 09 44.5	+0.8
BCOK	**Bluff Creek, N**	**0.69**	**222**	Pg	Pg	23 09 36.1	-0.3
BCOK				Sg	Sg	23 09 46.1	+0.6
OKCFA	**Oklahoma City**	**0.83**	**204**	Pg	Pg	23 09 38.5	-0.5
OKCSW	**OKLAHOMA CITY**	**0.83**	**203**	Pg	Pg	23 09 38.2	-0.9
CROK	**Carrier**	**0.83**	**294**	Pg	Pg	23 09 39.1	-0.1
CROK				Sg	Sg	23 09 50.5	+0.5
T35A	**Sooner Cattle**	**0.85**	**29**	Pg	Pg	23 09 39.4	-0.2
KAN13	**South Haven SW**	**0.91**	**337**	Pg	Pg	23 09 40.4	-0.3
KAN13				Sg	Sg	23 09 52.9	+0.3
GC02	**Grant County #**	**0.95**	**316**	Pg	Pg	23 09 41.1	-0.3
FNO	**Franklin**	**0.96**	**198**	Pg	Pg	23 09 40.8	-0.7
KAN17	**Caldwell West**	**1.05**	**326**	Pg	Pg	23 09 43.4	0.0
KAN17				Sg	Sg	23 09 56.9	0.0
KAN09	**Caldwell North**	**1.07**	**334**	Pg	Pg	23 09 43.3	-0.5
KAN09				Sg	Sg	23 09 57.5	-0.2
KS20	**Mayfield South**	**1.14**	**339**	Pg	Pg	23 09 44.8	-0.2
KS20				Sg	Sg	23 09 59.4	-0.3
KAN10	**Anthony SW Sta**	**1.28**	**318**	Pn	Pg	23 09 47.2	-0.4
KAN08	**Anthony NE Sta**	**1.29**	**325**

U38A	**Gravette**	**2.16**	**82**	Pn	Pn	23 10 00.4	+0.4
U40A	**Yellville**	**3.39**	**86**	Pn	Pn	23 10 17.2	+0.4
MGMO	**Mountain Grove**	**3.96**	**74**	IAmb_Lg		23 11 32.2	
	comp=Z,4.2nm,0.7s						
R40A	**Maddies Statio**	**4.35**	**60**	Pn	Pn	23 10 32.1	+2.0
P38A	**Dawn**	**4.42**	**38**	IAmb_Lg		23 11 53.5	
	comp=Z,4.1nm,0.8s						
CCM	**Cathedral Cave**	**5.00**	**66**	IAmb_Lg		23 12 00.6	
	comp=Z,3.1nm,0.8s						

*IDC **13** 23:14:56.1±1.5, 25°.45N×109°.64W, h0km, mb1 3.5/4, mb1mx3.4/47, mbtmp3.1/4, ML3.5/4, Error ellipse: s-maj=31.9km s-min=12.1km az=119.0*
*MEX **13** 23:14:59.0±0.5, 25°.60N×109°.93W, h16km±999km, MD4.3*
ISC 13 23:14:56.9±1.1, 25°.62N±0°.06×109°.75W±0°.06, h10km, n11, σ1§20/17, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.64**	**92**	*i* P	**Pn**	**23 15 11.6**	**-0.4**
TSIG				*i* S	**Sn**	**23 15 21.6**	**-0.7**
LPIG	**La Paz**	**1.59**	**199**	Pg	**Pn**	**23 15 24.2**	**-0.9**
	1.4nm,0.3s,baz=354,slow=19,SNR=1.2						
LPIG				Lg	Lg	23 15 42.4	
	17nm,0.3s,baz=177,slow=23,SNR=6.2						
CSIG	**Choix**	**1.73**	**46**	*e*P	**Pg**	**23 15 29.5**	**-0.5**
CSIG				*e*S	**Sg**	**23 15 51.1**	**-1.4**
SSIG	**Sanalona**	**2.50**	**108**	*i* P	**Pb**	**23 15 42.4**	**+0.5**
SSIG				*i* S	**Sg**	**23 16 15.8**	**-1.4**
SRIG	**Santa Rosalia**	**2.80**	**308**	*e*P	**Pn**	**23 15 41.2**	**-0.5**
HPIG		**3.90**	**69**	*i* P	**Pn**	**23 15 59.2**	**+2.2**
HPIG				*i* S	**Sg**	**23 17 00.2**	**-1.8**
PDIG	**Papasquiaro**	**3.98**	**97**	*i* P	**Pg**	**23 16 13.5**	**+0.2**
PDIG				*i* S	**Sg**	**23 17 05.0**	**+0.1**
TXAR	**Lajitas Array**	**6.55**	**54**	Pn	**Pn**	**23 16 33.8**	**+0.4**
	0.2nm,0.3s,baz=230,slow=14,SNR=11						
TXAR				Pg	**Pg**	**23 17 01.9**	**-0.4**
	0.3nm,0.3s,baz=240,slow=15,SNR=4.0						
TXAR				Lg	Lg	23 18 23.5	
	1.7nm,0.3s,baz=230,slow=30,SNR=12						
ANMO	**Albuquerque**	**9.72**	**16**	Pn	**Pn**	**23 17 18.5**	**+1.5**
	0.1nm,0.3s,baz=140,slow=12,SNR=1.7						
ANMO				Lg	Lg	23 20 03.5	
	0.1nm,0.3s,baz=144,slow=19,SNR=2.0						
NVAR	**Mina Array Bea**	**14.68**	**333**	Pn	**P**	**23 18 30.5**	**-0.6**
	0.1nm,0.3s,baz=155,slow=12,SNR=1.9						
PDAR	**Pinedale Array**	**17.10**	**0**	P	**P**	**23 18 59.7**	**+1.7**
	0.1nm,0.3s,baz=175,slow=13,SNR=5.9						

IDC 13 23:19:45.0±23.0, 27°.65N×140°.79E, h683km±297km, mb2.6/7, mb1 2.7/7, mb1mx2.4/45, mbtmp3.7/7, Error ellipse: s-maj=236.8km s-min=17.1km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.72**	**188**	P	P	23 27 23.8	0.0
	0.7nm,0.3s,baz=5.6,slow=7.5,SNR=9.7						
ZALV	**Zalesovo Beam**	**48.26**	**319**	P	P	23 27 26.6	-0.7
	0.3nm,0.3s,baz=102,slow=9.0,SNR=1.7						
MKAR	**Makanchi Array**	**49.17**	**309**	P	P	23 27 34.7	+0.6
	0.1nm,0.3s,baz=89,slow=9.4,SNR=2.2						
ASAR	**Alice Springs**	**51.45**	**188**	P	P	23 27 50.7	-0.1
	0.6nm,0.9s,baz=6.3,slow=9.3,SNR=2.2						
KURBB	**Kurchatov Arra**	**51.77**	**314**	P	P	23 27 52.5	-0.2
	0.6nm,0.4s,baz=91,slow=8.1,SNR=8.6						
BVAR	**Borovoye Array**	**56.80**	**317**	P	P	23 28 27.9	+0.4
	0.3nm,0.4s,baz=87,slow=7.1,SNR=6.3						
FINES	**FINESS Array B**	**76.90**	**333**	P	P	23 30 29.5	-0.1
	0.2nm,0.4s,baz=54,slow=7.1,SNR=1.7						

*BJI **13** 23:21:53.2±0.0, 30°.90N×142°.09E, h10km, mB5.1/52, mb4.9/75, Ms4.9/73, Ms7 4.6/67*
*IDC **13** 23:21:54.4±0.4, 30°.85N×142°.05E, h0km, mb4.8/43, mb1 4.9/49, mb1mx4.8/57, mbtmp4.8/49, ML4.2/5, MS4.4/20, Ms1 4.5/20, ms1mx4.2/40, Error ellipse: s-maj=12.1km s-min=10.8km az=84.0*
*JMA **13** 23:21:55.7±0.1, 30°.98N×142°.36E, h55km, M4.7*
*MOS **13** 23:21:55.9±0.9, 30°.85N×141°.90E, h16km, mb5.3/72, MS4.7/10, Error ellipse: s-maj=6.7km s-min=3.6km az=114.9*
*NIED **13** 23:21:55.7, 30°.98N×142°.36E, h55km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.33; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-2.30; $M_{r\theta}$-1.76; $M_{\theta\phi}$0.46; $M_{\phi r}$2.69; Fault plane solution: $M_0$3.98000×10^{16} NP1: ϕ_s332.00000°, δ72.00000°, λ79.00000°. NP2: ϕ_s184.00000°, δ21.00000°, λ121.00000°.*
*GCMT **13** 23:21:57.8±0.3, 30°.70N±0°.02×142°.15E±0°.02, h16km, MW5.0/111, Moment Tensor Solution. s29, c35; s111, c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.32±.17; $M_{\theta\theta}$-0.02±.09; $M_{\phi\phi}$-3.30±.12; $M_{r\theta}$1.13±.33; $M_{\theta\phi}$0.19±.06; $M_{\phi r}$0.69±.27; Best double couple: $M_0$3.55600×10^{16} NP1:ϕ_s161.00000°, δ42.00000°, λ64.00000°. NP2:ϕ_s14.00000°, δ53.00000°, λ111.00000°. Principal axes: T 3.7390, Plg72.0000°, Azm341.0000°; N -0.3660, Plg17.0000°, Azm180.0000°; P -3.3730, Plg6.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **13** 23:21:58.8±1.4, 30°.89N±0°.05×142°.01E±0°.07, h18km±3km, mb5.1/301 Error ellipse: s-maj=10.1km s-min=5.4km az=60.0*
*BGR **13** 23:22:03.7±0.0, 31°.43N×142°.13E, h44km±2km, mb4.8*
ISC 13 23:21:58.1±0.5, 30°.87N±0°.03×142°.02E±0°.04, h20km±3km, h19km:pP-P, n909, σ1§47/935, mb5.1/328, MS4.6/44, 92C-50D, Fault plane solution: NP1:ϕ_s20.84084°, δ28.75070°, λ115.70290°. **NP2:**ϕ_s172.07355°, δ64.31603°, λ76.61562°. **Principal axes:** T Plg67.8805°, Azm56.3072°; N Plg12.0410°, Azm177.9615°; P Plg18.2685°, Azm271.9992°; **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.49**	**310**	P	**Pn**	**23 22 37.3**	**-0.3**
JAOM				S	**Sn**	**23 23 07.8**	**+0.4**
JHCJ	**Hachijojimakas**	**2.90**	**320**	*e*S	**Sn**	**23 23 16.7**	**-0.6**
JHJ2	**Mitsune**	**2.92**	**321**	P	**Pn**	**23 22 42.4**	**-0.9**
JHJ2				*e*S	**Sn**	**23 23 17.5**	**-0.3**
JHJ2	**Mitsune**	**2.92**	**321**		**Pn**	**23 22 42.5**	**-0.9**
JHJ	**Hachijo jima 2**	**2.94**	**320**	Pn	**Pn**	**23 22 42.0**	**-1.7**
	25nm,0.3s,baz=169,slow=10,SNR=24						
JHJ				Sn	**Sn**	**23 23 15.4**	**-3.0**
	81nm,0.3s,baz=304,slow=23,SNR=9.0						
JHJ				LR	LR	23 23 49.7	
	comp=Z,4μm,22.0s,baz=138,slow=39						
JMKN	**Mikurajimanish**	**3.65**	**326**	*e*S	**Sn**	**23 23 35.0**	**-0.8**
JCJ	**Chichijima**	**3.76**	**178**	Pn	**Pn**	**23 22 53.2**	**-1.8**
	46nm,0.3s,baz=287,slow=18,SNR=2.8						
JCJ				Sn	**Sn**	**23 23 33.9**	**-4.8**
	74nm,0.3s,baz=287,slow=19,SNR=7.1						
JCJ	**Chichijima**	**3.76**	**178**	Pn	**Pn**	**23 22 55.8**	**+0.8**
BSO1	**Boso 1**	**3.87**	**347**	*e*S	**Sn**	**23 23 38.3**	**-2.4**
JSG	**Sagara**	**4.98**	**321**	Pn	**Pn**	**23 23 11.9**	**+0.2**
JOD2	**Odawara 2**	**5.03**	**331**	*e*S	**Sn**	**23 24 08.9**	**-1.0**
JYT	**Yasato**	**5.56**	**345**		**Pn**	**23 23 18.8**	**-0.9**
JIE	**Ise**	**5.69**	**309**	P	**Pn**	**23 23 22.3**	**+0.8**
JIE				*e*S	**Sn**	**23 24 28.2**	**+1.9**
JRY	**Ryogami san**	**5.76**	**334**	P	**Pn**	**23 23 20.9**	**-1.5**
JRY				*e*S	**Sn**	**23 24 26.5**	**-1.4**
JGF	**Kuroka**	**6.12**	**322**		**Pn**	**23 23 28.7**	**+1.2**
INU	**Inuyama**	**6.13**	**318**		**Pn**	**23 23 27.6**	**+0.2**
JTNC	**Tanabenakahech**	**6.17**	**300**	*e*S	**Sn**	**23 24 41.5**	**+3.5**
MJAR	**Matsushiro Arr**	**6.49**	**332**	Pn	**Pn**	**23 23 31.4**	**-1.1**
	3.3nm,0.3s,baz=152,slow=11,SNR=223						
MJAR				Sn	**Sn**	**23 24 48.4**	**+2.6**
	1.2nm,0.3s,baz=147,slow=25,SNR=5.8						
MJAR				LR	LR	23 26 16.9	
	comp=Z,3μm,18.2s,baz=150,slow=40						
MJAR	**Matsushiro Arr**	**6.49**	**332**	P	**Pn**	**23 23 33.0**	**+0.6**
MJAR	**Matsushiro Arr**	**6.49**	**332**		**Pn**	**23 23 33.0**	**+0.6**
MAJO	**Matsushiro**	**6.49**	**332**	*d i* P	**Pn**	**23 23 33.4**	**+0.9**
MAJO	**Matsushiro**	**6.49**	**332**		**Pn**	**23 23 33.2**	**+0.8**
MAT	**Matsushiro**	**6.49**	**332**	P	**Pn**	**23 23 33.0**	**+0.5**
MAT				S	**Sn**	**23 24 44.6**	**-1.3**
MJB9	**Matsu-Tunnel**	**6.49**	**332**	Pn	**Pn**	**23 23 33.6**	**+1.1**
JMM	**Marumori**	**7.05**	**352**	Pn	**Pn**	**23 23 39.7**	**-0.5**
JMM				Sn	**Sn**	**23 24 53.0**	**-6.7**
JWT	**Wachi**	**7.08**	**310**	Pn	**Pn**	**23 23 42.0**	**+1.4**
JMN	**Monobe**	**7.46**	**295**	Pn	**Pn**	**23 23 47.4**	**+1.6**
JSD	**Sado**	**7.79**	**338**	Pn	**Pn**	**23 23 49.7**	**-0.7**
JMK	**Ichinoseki**	**8.09**	**356**	P	**Pn**	**23 23 51.7**	**-2.7**
JMK				*e*S	**Sn**	**23 25 19.9**	**-5.4**
JHS	**Saijyo**	**8.54**	**301**	Pn	**Pn**	**23 24 02.6**	**+2.0**
JNU	**Nakatsue**	**9.72**	**286**	Pn	**Pn**	**23 24 20.7**	**+3.8**
	1.0nm,0.3s,baz=101,slow=8.1,SNR=9.5						
JNU				LR	LR	23 28 15.6	
	comp=Z,2μm,18.5s,baz=86,slow=39						
JNU	**Nakatsue**	**9.72**	**286**	Pn	**Pn**	**23 24 17.6**	**+0.7**
JSU	**Suzuyama**	**9.93**	**277**		**Pn**	**23 24 21.5**	**+1.8**
JTM	**Tenmabayashi**	**9.93**	**356**	Pn	**Pn**	**23 24 17.7**	**-1.9**
JMZ	**Minamidaito 2**	**10.76**	**245**	Pn	**Pn**	**23 24 31.0**	**0.0**
ERM	**Erimo**	**11.16**	**4**	*i* P	**Pn**	**23 24 34.3**	**-2.2**
JCH	**Churui**	**11.77**	**5**	P	**Pn**	**23 24 41.3**	**-3.5**
JCH				*e*S	Sn	23 26 41.6	-14
ASAJ	**Asahikawa**	**13.23**	**2**	Pn	**Pn**	**23 25 03.4**	**-1.4**
	1.8nm,0.3s,baz=225,slow=18,SNR=7.2						
ASAJ				Sn	Sn	23 27 20.6	-11
	1.2nm,0.3s,baz=253,slow=31,SNR=2.4						
JKA	**Kamikawa-asahi**	**13.23**	**2**	Pn	**Pn**	**23 25 03.0**	**-1.8**
KSRS	**Korea Array**	**13.38**	**303**	Pn	**Pn**	**23 25 08.8**	**+1.9**
	1.0nm,0.3s,baz=113,slow=13,SNR=47						
KSRS				LR	LR	23 30 32.4	
	comp=Z,1μm,18.8s,baz=108,slow=38						
KSAR	**Wonju Array Be**	**13.41**	**303**	P	**Pn**	**23 25 07.9**	**+0.7**
KSAR	**Wonju Array Be**	**13.41**	**303**		**Pn**	**23 25 07.9**	**+0.7**
KS19	**Wonju Array Si**	**13.45**	**303**		**Pn**	**23 25 08.6**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**13.49**	**12**	*i* P	**P**	**23 25 13.2**	**-4.2**
YUK				*i* S	**Sn**	**23 27 44.7**	**+7.2**
YUK				pmax	pmax		
	comp=Z,171nm,1.2s						
INCN	**Inchon**	**14.34**	**302**	P	**Pn**	**23 25 22.0**	**+2.1**
INCN	**Inchon**	**14.34**	**302**	Pn	**Pn**	**23 25 22.0**	**+2.1**
KUR	**Kuril'sk**	**15.05**	**16**	*e*P	**P**	**23 25 36.6**	**+1.8**
KUR				pmax	pmax		
	comp=N,22nm,0.8s						
KUR				pmax	pmax		
	comp=Z,41nm,0.8s						
KUR				pmax	pmax		
	comp=E,22nm,0.5s						
USRK	**Ussuriysk Ar.**	**15.48**	**332**	Pn	**Pn**	**23 25 33.0**	**-2.3**
	baz=147,slow=12,SNR=15						
USRK	**Ussuriysk Ar.**	**15.48**	**332**	P	**Pn**	**23 25 34.5**	**-0.8**
USRK	**Ussuriysk Ar.**	**15.48**	**332**	Pn	**Pn**	**23 25 34.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**15.49**	**332**	P	**Pn**	**23 25 34.3**	**-1.0**
USA0B				pmax	pmax		
	comp=Z,31nm,1.1s						
USA0B	**Ussuriysk Arra**	**15.49**	**332**	Pn	**Pn**	**23 25 34.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**16.07**	**2**	*e*P	**Pn**	**23 25 41.6**	**-1.2**
YSS				*e*S	**Sn**	**23 28 33.9**	**-6.5**
YSS				pmax	pmax		
	comp=Z,80nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.07**	**2**	Pn	**Pn**	**23 25 41.6**	**-1.2**
MDJ	**Mudanjiang**	**16.85**	**328**	P	**Pn**	**23 25 51.5**	**-1.3**
MDJ				S	**S**	**23 29 05.5**	**-4.1**
MDJ				pmax	pmax		
	comp=Z,26nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,2μm,4.1s						
MDJ				LR	LR		
	comp=Z,1μm,22.6s						
MDJ				LR	LR		
	comp=Z,2μm,14.1s						
MDJ				LR	LR		
	comp=Z,2μm,17.7s						
MDJ	**Mudanjiang**	**16.85**	**328**	Pn	**Pn**	**23 25 51.4**	**-1.3**
GUMO	**Guam**	**17.40**	**171**	P	**Pn**	**23 25 59.9**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,639nm,1.5s						
GUMO	**Guam**	**17.40**	**171**	Pn	**Pn**	**23 25 59.9**	**+0.2**
SSE	**Sheshan**	**17.87**	**276**	P	**Pn**	**23 26 05.6**	**+0.1**
SSE				S	**Sn**	**23 29 25.0**	**+0.9**
SSE				pmax	pmax		
	comp=Z,19nm,0.6s						
SSE				pmax	pmax		
	comp=Z,280nm,5.3s						
SSE				LR	LR		
	comp=Z,490nm,16.4s						
SSE				LR	LR		
	comp=Z,870nm,16.8s						
YOJ	**Yonaguni jima**	**18.00**	**254**	P	**Pn**	**23 26 06.6**	**-0.5**
YOJ				pmax	pmax		
	comp=Z,68nm,0.9s						
YOJ	**Yonaguni jima**	**18.00**	**254**	P	**Pn**	**23 26 06.5**	**-0.5**
CN2	**Changchun**	**18.40**	**319**	*e*P	**P**	**23 26 10.8**	**-1.1**
CN2				pmax	pmax		
	comp=Z,50nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,14.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
SNY	**Shenyang**	**18.41**	**312**	⇑P	**P**	**23 26 11.8**	**-0.1**
SNY				S	**Sn**	**23 29 37.5**	**+0.5**
SNY				pmax	pmax		
	comp=Z,42nm,0.8s						
SNY				pmax	pmax		
	comp=Z,240nm,1.8s						
SNY				LR	LR		
	comp=Z,1μm,14.4s						
SNY				LR	LR		
	comp=Z,1μm,15.4s						
SNY				LR	LR		
	comp=Z,2μm,17.3s						
DL2	**Dalian**	**18.52**	**301**	P	**Pn**	**23 26 14.4**	**+0.9**
DL2				S	**S**	**23 29 46.0**	**+2.3**
DL2				pmax	pmax		
	comp=Z,48nm,0.8s						
DL2				pmax	pmax		
	comp=Z,310nm,5.0s						
DL2				LR	LR		
	comp=Z,2μm,12.6s						
DL2				LR	LR		
	comp=Z,2μm,15.4s						
TATO	**Taipei**	**19.06**	**257**	P	**P**	**23 26 19.3**	**+0.1**
TATO				IAmb	IAmb	23 26 20.7	
	comp=Z,152nm,0.9s						
YHNB	**Yeheng**	**19.27**	**256**	P	**P**	**23 26 21.0**	**-0.7**
YHNB				IAmb	IAmb	23 26 22.4	
	comp=Z,98nm,0.8s						
NACB	**Ninganchiao**	**19.29**	**255**	P	**P**	**23 26 20.6**	**-1.2**
NACB				IAmb	IAmb	23 26 23.0	
	comp=Z,79nm,0.8s						
NJ2	**Nanjing**	**19.79**	**279**	⇓*i* P	**P**	**23 26 27.3**	**+0.1**
NJ2				sP	**pP**	**23 26 30.8**	**-0.6**
NJ2				S	**Sn**	**23 30 10.0**	**-0.7**
NJ2				sS	**sS**	**23 30 17.1**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,29nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,560nm,4.2s						
NJ2				LR	LR		
	comp=Z,1μm,10.4s						
NJ2				LR	LR		
	comp=Z,1μm,14.2s						
NJ2				LR	LR		
	comp=Z,990nm,11.4s						
YULB	**Yu-li**	**19.87**	**253**	P	**P**	**23 26 28.1**	**-0.1**
YULB				IAmb	IAmb	23 26 28.9	
	comp=Z,72nm,0.8s						
KLR	**Kul'dur**	**19.92**	**340**	P	**P**	**23 26 27.2**	**-1.2**
	comp=Z,2.2nm,0.3s,baz=149,slow=9.8,SNR=78						
SSLB	**Suanglung**	**19.98**	**254**	P	**P**	**23 26 29.7**	**+0.3**
GRNR	**Gornyy**	**20.31**	**350**	⇑*i* P	**P**	**23 26 33.1**	**+0.4**
GRNR				*e*S	**S**	**23 30 21.2**	**+1.7**
GRNR				pmax	pmax		
	comp=N,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.9s						
GRNR				smax	smax		
	comp=N,4.0nm,0.7s						
TWG	**Pinlang**	**20.31**	**252**	P	**P**	**23 26 33.1**	**+0.2**
TWG				IAmb	IAmb	23 26 52.8	
	comp=Z,73nm,0.8s						
TPUB	**Ta-pu**	**20.46**	**254**	P	**P**	**23 26 34.2**	**-0.3**
TPUB				IAmb	IAmb	23 26 52.7	
	comp=Z,85nm,0.9s						
KNMB	**Chin-men Tao**	**21.86**	**259**	P	**P**	**23 26 48.5**	**-1.0**
KNMB				IAmb	IAmb	23 27 08.1	
	comp=Z,33nm,0.7s						
NKL	**Nikolayevsk**	**22.29**	**358**	*e*P	**P**	**23 26 52.1**	**-1.8**
NKL				*e*S	**S**	**23 30 57.2**	**-0.8**
NKL				pmax	pmax		
	comp=E,76nm,0.9s						
NKL				pmax	pmax		
	comp=N,231nm,0.6s						
NKL				pmax	pmax		
	comp=Z,39nm,1.2s						
NKL				smax	smax		
	comp=E,61nm,1.0s						
NKL				smax	smax		
	comp=N,359nm,1.2s						
NKL				MLR	MLR		
	comp=N,3μm,12.0s						
NKL				MLR	MLR		
	comp=E,944nm,12.0s						
NKL				MLR	MLR		
	comp=Z,713nm,18.0s						
BJT	**Baijiatuau**	**22.89**	**301**	P	**P**	**23 26 58.5**	**-2.0**
BJT				pmax	pmax		
	comp=Z,64nm,1.4s						
BJT	**Baijiatuau**	**22.89**	**301**	IAmb	IAmb	23 26 59.8	
	comp=Z,43nm,0.9s						
BJI	**Beijing**	**22.89**	**301**	P	**P**	**23 26 58.4**	**-2.0**
BJI				pP	**pP**	**23 27 00.3**	**-4.4**
BJI				S	**S**	**23 31 07.3**	**-1.8**
BJI				pmax	pmax		
	comp=Z,63nm,0.9s						
BJI				pmax	pmax		
	comp=Z,240nm,2.6s						
BJI				LR	LR		
	comp=Z,980nm,14.5s						
BJI				LR	LR		
	comp=Z,1μm,15.8s						
BJI				LR	LR		
	comp=Z,2μm,19.5s						
WHN	**Wuhan**	**23.77**	**276**	P	**P**	**23 27 08.3**	**-1.0**
WHN				S	**S**	**23 31 29.3**	**+5.5**
WHN				LR	LR		
	comp=Z,2μm,13.9s						
WHN				LR	LR		
	comp=Z,4μm,17.7s						
WHN				LR	LR		
	comp=Z,4μm,15.3s						
HIA	**Hailar**	**24.91**	**324**	P	**P**	**23 27 19.1**	**-0.6**
HIA				pmax	pmax		
	comp=Z,38nm,0.7s						
HIA	**Hailar**	**24.91**	**324**	P	**P**	**23 27 19.1**	**-0.6**
HIA				IAmb	IAmb	23 27 22.4	
	comp=Z,38nm,0.7s						
PEA0B	**Petropavlovsk-**	**24.98**	**23**	*ce*P	**P**	**23 27 22.2**	**+1.9**
PETK	**Petropavlovsk-**	**24.98**	**23**	P	**P**	**23 27 20.4**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=208,slow=2.9,SNR=3.5						
PETK				LR	LR	23 37 19.2	
	comp=Z,891nm,21.1s,baz=219,slow=37						
PETK	**Petropavlovsk-**	**24.98**	**23**	P	**P**	**23 27 21.1**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**25.02**	**110**	T	T	23 53 19.5	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**25.02**	**110**	T	T	23 53 23.0	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**25.04**	**110**	T	T	23 53 24.5	
	baz=305						
ZEA	**Zeya**	**25.23**	**339**	*e*P	**P**	**23 27 22.6**	**+0.2**
ZEA				*e*		23 28 01.1	
ZEA				*e*PPP	PPP	23 28 14.1	
ZEA				*e*S	**S**	**23 31 41.8**	**-5.0**
ZEA				pmax	pmax		
	comp=N,100nm,2.7s						
ZEA				pmax	pmax		
	comp=Z,200nm,2.4s						
ZEA				pmax	pmax		
	comp=N,60nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,110nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,200nm,5.1s						
ZEA				smax	smax		
	comp=E,300nm,5.2s						
PET	**Petropavlovsk**	**25.24**	**24**	*e*P	**P**	**23 27 23.4**	**+0.9**
PET				*e*S	**S**	**23 31 43.6**	**-3.3**
PET				pmax	pmax		
	comp=Z,18nm,1.2s						
PET				pmax	pmax		
	comp=Z,200nm,9.5s						
PET				pmax	pmax		
	comp=Z,200nm,7.4s						
PET				MLR	MLR		
	comp=Z,1μm,18.0s						
PET	**Petropavlovsk**	**25.24**	**24**	P	**P**	**23 27 23.1**	**+0.6**
PET				IAmb	IAmb	23 27 33.0	
	comp=Z,17nm,0.4s						
TIY	**Taiyuan**	**25.31**	**294**	*e*P	**P**	**23 27 23.0**	**-0.5**
TIY				S	**S**	**23 31 49.6**	**+1.0**
TIY				pmax	pmax		
	comp=Z,47nm,0.9s						
TIY				LR	LR		
	comp=Z,820nm,12.9s						
TIY				LR	LR		
	comp=Z,420nm,11.9s						
TIY				LR	LR		
	comp=Z,1μm,17.5s						
H11S3	**WAKE ISLAND Hy**	**25.51**	**113**	T	T	23 53 54.4	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**25.52**	**113**	T	T	23 53 55.8	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**25.53**	**113**	T	T	23 53 50.3	
	baz=304						
HHC	**Hu-ho-hao-te**	**26.50**	**300**	*e*P	**P**	**23 27 35.0**	**+0.7**
HHC				sS	sS	23 32 12.8	-2.1
HHC				pmax	pmax		
	comp=Z,36nm,1.1s						
HHC				pmax	pmax		
	comp=Z,85nm,5.2s						
HHC				LR	LR		
	comp=Z,1μm,13.9s						
HHC				LR	LR		
	comp=Z,1μm,17.8s						
HHC				LR	LR		
	comp=Z,2μm,17.8s						
BTO	**Baotou**	**27.60**	**299**	*e*P	**P**	**23 27 43.6**	**-0.6**
BTO				S	**S**	**23 32 27.5**	**+2.7**
BTO				LR	LR		
	comp=Z,4μm,19.3s						
BTO				LR	LR		
	comp=Z,7μm,17.1s						
XAN	**Xi'an**	**28.04**	**285**	P	**P**	**23 27 46.3**	**-1.8**
XAN				pP	sP	23 27 54.4	-0.1
XAN				sP	pwP	23 27 58.8	-0.4
XAN				S	**S**	**23 32 27.0**	**-4.7**
XAN				pmax	pmax		
	comp=Z,25nm,1.0s						
XAN				pmax	pmax		
	comp=Z,280nm,6.3s						
XAN				LR	LR		
	comp=Z,1μm,15.3s						
XAN				LR	LR		
	comp=Z,990nm,16.0s						
MA2	**Magadan**	**29.31**	**9**	P	**P**	**23 27 57.0**	**-2.0**
	comp=Z,5.2nm,0.3s,baz=180,slow=17,SNR=2.3						
MA2	**Magadan**	**29.31**	**9**	*ce*P	**P**	**23 28 00.0**	**+1.0**
MA2				pmax	pmax		
	comp=Z,19nm,1.0s						
MA2	**Magadan**	**29.31**	**9**	P	**P**	**23 27 59.0**	**0.0**
MA2				IAmb	IAmb	23 28 04.0	
	comp=Z,19nm,0.9s						
CIT	**Chita**

comp=Z,63nm,1.0s
ULN Ulaanbaatar 31.58 313 P **P 23 28 20.2 +0.8**
SMY Shemya 31.97 38 P **P 23 28 23.7 +1.2**
SMY pmax pmax
comp=Z,42nm,0.7s
SMY Shemya 31.97 38 P **P 23 28 23.7 +1.2**
SONM Songino Array 31.98 312 P **P 23 28 23.6 +0.6**
comp=Z,24nm,0.8s,baz=116,slow=8.5,SNR=138
SONM LR LR 23 41 59.6
comp=Z,1μm,18.9s,baz=94,slow=38
SONM Songino Array 31.98 312 **P 23 28 23.4 +0.4**
LZH Lanzhou 32.12 290 ⇑P **P 23 28 23.5 -0.8**
LZH pP pP 23 28 27.8 -1.2
LZH sP sP 23 28 31.9 +1.1
LZH S **S 23 33 31.0 -4.9**
LZH sS pS 23 33 40.8 -0.3
LZH SS **SnSn 23 35 28.9 +2.5**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,160nm,5.3s
LZH LR LR
comp=Z,870nm,13.1s
LZH LR LR
comp=Z,990nm,13.2s
LZH LR LR
comp=Z,950nm,15.3s
YAK Yakutsk 32.19 349 P **P 23 28 22.6 -1.8**
comp=Z,9.9nm,0.5s,baz=175,slow=1.0,SNR=5.0
YAK Yakutsk 32.19 349 *eP* **P 23 28 23.8 -0.6**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,11nm,1.0s
YAK MLR MLR
comp=Z,909nm,15.0s
YAK Yakutsk 32.19 349 P **P 23 28 23.7 -0.7**
YAK IAmb IAmb 23 28 24.8
comp=Z,32nm,0.8s
KWAJ Kwajalein Atol 32.43 127 P **P 23 28 27.3 +0.4**
KWAJ pmax pmax
comp=Z,135nm,1.1s
KWAJ Kwajalein Atol 32.43 127 P **P 23 28 27.3 +0.4**
CD2 Chengdu 32.73 280 P **P 23 28 28.8 -0.8**
CD2 S **S 23 33 45.0 -0.2**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,290nm,4.7s
CD2 LR LR
comp=Z,1μm,13.4s
CD2 LR LR
comp=Z,2μm,17.0s
CD2 LR LR
comp=Z,2μm,17.5s
SEY Seymchan 32.76 9 P **P 23 28 28.9 -0.5**
comp=Z,7.7nm,0.8s,baz=193,slow=7.4,SNR=21
SEY Seymchan 32.76 9*d iP* **P 23 28 29.2 -0.2**
SRPI Serui, Papua 33.02 191 P **P 23 28 32.4 +0.3**
BOD Bodaibo 33.12 333 *eP* **P 23 28 32.3 -0.3**
BOD pmax pmax
comp=Z,37nm,0.9s
ZAK Zakamensk 34.76 315 *eP* **P 23 28 46.9 -0.1**
ZAK pmax pmax
comp=Z,69nm,1.4s
IRK Irkutsk 34.85 319 *eP* **P 23 28 48.6 +0.9**
IRK pmax pmax
comp=Z,111nm,2.1s
TLY Talaya 34.99 318 P **P 23 28 49.2 +0.2**
comp=Z,26nm,0.8s,baz=123,slow=6.1,SNR=30
TLY Talaya 34.99 318 *eP* **P 23 28 49.8 +0.8**
TLY *eS* **S 23 34 24.4 +4.6**
TLY pmax pmax
comp=Z,239nm,1.6s
TLY MLR MLR
comp=Z,3μm,15.0s
TLY Talaya 34.99 318 **P 23 28 49.8 +0.8**
KMI Kunming 35.02 270 ⇑P **P 23 28 51.6 +1.8**
KMI pmax pmax
comp=Z,12nm,0.5s
KMI LR LR
comp=Z,300nm,8.8s
KMI LR LR
comp=Z,310nm,8.1s
KMI LR LR
comp=Z,230nm,12.0s
GTOI Gorontalo 35.06 215 P **P 23 28 48.8 -1.0**
comp=Z,27nm,0.9s
GTA Gaotai 35.29 296 ⇓P **P 23 28 50.8 -1.0**
GTA pP pP 23 28 54.9 -1.0
GTA sP sP 23 28 58.3 +0.1
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,94nm,6.4s
GTA LR LR
comp=Z,800nm,16.3s
GTA LR LR
comp=Z,1μm,15.9s
GTA LR LR
comp=Z,1μm,17.1s
SLVN Son La 35.38 264 P **P 23 28 51.8 -0.8**
MRSI Marisa 35.73 216 P **P 23 28 55.3 -0.3**
comp=Z,1μmcomp=Z,94nm,1.3s
TOLI2 Tolitoli 35.79 218 **P 23 28 55.1 -1.1**
TOLI2 IAmb IAmb 23 28 55.8
comp=Z,24nm,0.9s
SANI Sanana 36.12 208 P **P 23 28 56.8 -2.1**
comp=Z,66nm,0.9s
KIWB Kanaga Island 36.49 43 P **P 23 29 00.2 -1.6**
MOY Mondy 36.54 317 *eP* **P 23 29 03.3 +0.9**
MOY pmax pmax
comp=Z,66nm,1.7s
LUWI Luwuk 36.64 214 P P 23 28 57.1 -6.2
SKNT Sakolnakorn 37.23 257 P **P 23 29 07.8 -0.6**
comp=Z,1μmcomp=Z,16nm,0.9s
SKNT Sakolnakorn 37.23 257 P **P 23 29 07.0 -1.4**
comp=Z,1μmcomp=Z,16nm,0.9s
NONG Nongkai 37.42 259 P **P 23 29 10.9 +0.9**
comp=Z,26nm,1.0s
NONG Nongkai 37.42 259 P **P 23 29 11.0 +0.9**
comp=Z,26nm,1.0s
CHAI Chaiyaphum 39.42 257 P **P 23 29 26.0 -0.9**
comp=Z,407nmcomp=Z,34nm,0.8s
CHAI Chaiyaphum 39.42 257 P **P 23 29 26.0 -0.9**
comp=Z,101nmcomp=Z,8.6nm,0.8s
UTTA Uttaradit 39.76 261 P **P 23 29 29.5 -0.2**
comp=Z,264nmcomp=Z,27nm,0.8s
UTTA Uttaradit 39.76 261 P **P 23 29 29.6 -0.2**
comp=Z,66nmcomp=Z,6.8nm,0.8s
BILL Bilibino 39.83 14⇓*iP* **P 23 29 30.4 +0.7**
BILL *SP **sP 23 29 36.0 +0.7**
BILL *e* 23 29 41.5
BILL SS SS 23 38 30.0 +1.0
BILL pmax pmax
comp=Z,11nm,0.9s
BILL MLR MLR
comp=Z,405nm,17.0s
BILL Bilibino 39.83 14 P **P 23 29 29.2 -0.5**
LAMP Lampang 40.20 262 P **P 23 29 34.0 +0.6**
comp=Z,13nm,0.7s
SRAK Srakaew 40.32 255 P **P 23 29 32.0 -2.4**
comp=Z,8μmcomp=Z,257nm,1.1s
CM34 Chiang Mai Arr 40.47 263 P **P 23 29 34.0 -1.6**
CM35 Chiang Mai Arr 40.54 263 P **P 23 29 35.0 -1.2**
CM33 Chiang Mai Arr 40.65 263 P **P 23 29 35.0 -2.2**
CM36 Chiang Mai Arr 40.66 263 P **P 23 29 39.0 +1.8**
CHTO Chiang Mai 40.66 263 P **P 23 29 35.9 -1.3**
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO Chiang Mai 40.66 263 P **P 23 29 36.1 -1.1**
comp=Z,11nm,0.8s
CHTO Chiang Mai 40.66 263 P **P 23 29 35.9 -1.3**
CM04 Chiang Mai Arr 40.81 263 P **P 23 29 43.0 +4.6**
comp=Z,82nmcomp=Z,5.2nm,0.8s
CM04 Chiang Mai Arr 40.81 263 P **P 23 29 43.0 +4.6**
comp=Z,82nmcomp=Z,5.2nm,0.8s
CM32 Chiang Mai Arr 40.81 263 P P 23 29 50.0 +12
MTKI Muara Teweh, K 40.81 224 P **P 23 29 37.9 -0.5**
CM31 Chiang Mai Arr 40.81 263 P **P 23 29 37.1 -1.4**
CMAR Chiang Mai Arr 40.81 263 P **P 23 29 37.4 -1.1**
comp=Z,2.9nm,0.8s,baz=53,slow=6.6,SNR=20
CMAR PcP **PcP 23 31 40.0 +0.6**
comp=Z,0.4nm,0.3s,baz=56,slow=1.2,SNR=4.3
CMAR LR LR 23 48 35.9
comp=Z,660nm,18.4s,baz=112,slow=39

CMAR Chiang Mai Arr 40.81 263 P **P 23 29 37.0 -1.5**
CM02 Chiang Mai Arr 40.82 263 P **P 23 29 39.1 +0.5**
comp=Z,79nmcomp=Z,7.5nm,0.8s
CM02 Chiang Mai Arr 40.82 263 P **P 23 29 39.0 +0.5**
comp=Z,79nmcomp=Z,7.5nm,0.8s
CM15 Chiang Mai Arr 40.83 263 P **P 23 29 38.4 -0.2**
comp=Z,141nmcomp=Z,7.2nm,0.7s
CM15 Chiang Mai Arr 40.83 263 P **P 23 29 38.5 -0.2**
comp=Z,141nmcomp=Z,7.2nm,0.7s
CM05 Chiang Mai Arr 40.84 263 P **P 23 29 42.9 +4.2**
comp=Z,58nmcomp=Z,3.8nm,0.7s
CM05 Chiang Mai Arr 40.84 263 P **P 23 29 42.0 +3.3**
comp=Z,58nmcomp=Z,3.8nm,0.7s
CM13 Chiang Mai Arr 40.86 263 P **P 23 29 42.1 +3.2**
comp=Z,5.8nm,0.7s
CM13 Chiang Mai Arr 40.86 263 P **P 23 29 42.0 +3.2**
TIXI Tiksi 41.46 354 P **P 23 29 42.0 -1.1**
comp=Z,2.9nm,0.6s,baz=170,slow=5.9,SNR=3.7
TIXI Tiksi 41.46 354 *i P* **P 23 29 42.1 -0.9**
TIXI Tiksi 41.46 354 P **P 23 29 43.2 +0.1**
KAPI Kappang 41.55 215 P **P 23 29 43.4 -1.1**
comp=Z,17nm,0.7s,baz=73,slow=6.3,SNR=4.4
KAPI Kappang 41.55 215 P **P 23 29 44.2 -0.2**
KAPI pmax pmax
comp=Z,34nm,1.0s
KAPI Kappang 41.55 215 P **P 23 29 44.2 -0.2**
KAPI IAmb IAmb 23 30 00.4
comp=Z,34nm,0.9s
NIKH Nikolski High 41.68 43 P **P 23 29 45.7 +0.5**
baz=258
SPIA Saint Paul Isl 42.00 37 P **P 23 29 48.9 +1.2**
baz=252
MMRI Maumere 43.62 209 P **P 23 30 00.9 -0.4**
MMRI IAmb IAmb 23 30 09.3
comp=Z,54nm,1.0s
LSA Lhasa 43.63 282 P **P 23 30 01.5 -0.4**
LSA pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 43.63 282 P **P 23 30 01.5 -0.4**
GAMB Gambell 43.83 28 P **P 23 30 03.3 +0.9**
baz=244
EDFI Ende, Flores 43.95 210 P **P 23 30 02.6 -1.5**
comp=Z,16nm,1.1s
SHL Shillong 44.20 276 P **P 23 30 04.1 -2.1**
SHL pmax pmax
comp=Z,8.0nm,0.5s
WMQ Urumqi 44.34 303 *eP* **P 23 30 08.3 +1.4**
WMQ pP sP 23 30 13.8 +1.0
WMQ pmax pmax
comp=Z,51nm,1.5s
WMQ pmax pmax
comp=Z,280nm,4.1s
WMQ LR LR
comp=Z,710nm,14.7s
WMQ LR LR
comp=Z,670nm,12.3s
WMQ LR LR
comp=Z,330nm,22.9s
DGZ Jazzator, Alta 44.62 311*c iP* **P 23 30 10.1 +0.9**
DGZ pmax pmax
comp=Z,38nm,0.7s
MTN Manton Dam 44.70 195 P **P 23 30 08.7 -1.2**
TNA Tin City 46.06 26 P **P 23 30 20.5 +0.4**
baz=246
TWSI Taliwang, Sumb 46.17 216 P **P 23 30 20.1 -1.5**
comp=Z,578nmcomp=Z,35nm,1.5s
ZSN Zaisan 46.25 308 *eP* **P 23 30 22.1 0.0**
comp=Z,32nm,1.0s,baz=308
ZSN Zaisan 46.25 308 *eP* **P 23 30 22.0 0.0**
ZSN pmax pmax
comp=Z,32nm,1.0s
ZAA0 Zalesovo Array 46.60 317 **P 23 30 25.0 +0.5**
ZAA0 IAmb IAmb 23 30 26.0
comp=Z,36nm,1.2s
ZALV Zalesovo Beam 46.60 317 P **P 23 30 23.6 -1.0**
comp=Z,21nm,1.0s,baz=99,slow=6.6,SNR=42
ZALV PcP **PcP 23 31 58.2 -0.1**
comp=Z,6.8nm,0.7s,baz=106,slow=3.2,SNR=6.3
ZALV LR LR 23 50 45.8
comp=Z,796nm,18.6s,baz=100,slow=37
ZALV Zalesovo Beam 46.60 317 *i P* **P 23 30 24.8 +0.3**
ZALV pmax pmax
comp=Z,21nm,1.0s
ZALV Zalesovo Beam 46.60 317 **P 23 30 24.0 -0.6**
ANM Nome 46.69 28 P **P 23 30 26.7 +1.6**
ANM pmax pmax
comp=Z,47nm,1.0s
ANM Nome 46.69 28 P **P 23 30 25.1 0.0**
baz=250
ANM Nome 46.69 28 P **P 23 30 26.7 +1.6**
SDPT Sand Point 46.93 41 P **P 23 30 26.4 -0.7**
baz=263
TAPN Taplejung 47.19 280 *eP* **P 23 30 28.7 -1.3**
ODAN Odare 47.62 280 *eP* **P 23 30 32.4 -0.8**
comp=Z,34nm,0.8s
MK31 Makanchi Array 48.03 307*c iP* **P 23 30 36.0 +0.1**
MK31 Makanchi Array 48.03 307 **P 23 30 35.9 +0.1**
MKAR Makanchi Array 48.03 307 P **P 23 30 36.1 +0.2**
comp=Z,38nm,0.7s,baz=91,slow=9.5,SNR=379
MKAR S **S 23 37 34.5 +1.6**
comp=Z,0.2nm,0.7s,baz=79,slow=22,SNR=1.6
MKAR LR LR 23 51 59.7
comp=Z,552nm,19.3s,baz=88,slow=38
MAKZ Makanchi 48.24 307 P **P 23 30 37.6 +0.1**
MAKZ pmax pmax
comp=Z,28nm,0.8s
MAKZ Makanchi 48.24 307 P **P 23 30 37.6 +0.1**
RAMN Ramite 48.26 280 *eP* **P 23 30 37.1 -1.1**
comp=Z,7.2nm,0.4s
PWJI Pagerwojo 48.31 222 P **P 23 30 35.1 -3.2**
comp=Z,48nm,1.3s
JIRN Jiri 48.38 281 *eP* **P 23 30 38.7 -0.6**
RDOG Red Dog Mine 48.84 24 P **P 23 30 40.7 -1.1**
baz=249
RDOG Red Dog Mine 48.84 24 P **P 23 30 43.0 +1.2**
RDOG IAmb IAmb 23 30 46.7
comp=Z,28nm,1.1s
PKI Pulchoki 49.07 281 *eP* **P 23 30 43.2 -1.3**
PKIN Phulchoki 49.08 281 *eP* **P 23 30 43.5 -1.0**
NRIK Noril'sk 49.10 338 P **P 23 30 43.3 -0.5**
comp=Z,17nm,0.9s,baz=117,slow=7.1,SNR=20
NRIK Noril'sk 49.10 338*c iP* **P 23 30 43.7 -0.1**
NRIK pmax pmax
comp=Z,36nm,1.2s
NRIK Noril'sk 49.10 338 P **P 23 30 44.1 +0.3**
NRIK IAmb IAmb 23 30 45.0
comp=Z,39nm,1.2s
SEM Semipalatinsk 49.26 312⇑*iP* **P 23 30 44.4 -1.1**
comp=Z,27nm,0.9s,baz=312
SEM Semipalatinsk 49.26 312*c iP* **P 23 30 44.4 -1.1**
SEM pmax pmax
comp=Z,27nm,0.9s
BKNI Bangkinang 49.30 240 P **P 23 30 45.3 -0.7**
KPJI Karang Pucung 49.47 225 P **P 23 30 45.9 -1.3**
comp=Z,39nm,0.9s
GKN Gorkha 49.59 282 *eP* **P 23 30 47.7 -0.6**
LEM Lembang 49.89 227 P **P 23 30 50.1 -0.5**
LEM pmax pmax
comp=Z,65nm,1.3s
LEM Lembang 49.89 227 P **P 23 30 49.7 -0.9**
comp=Z,41nm,1.3s
N18K Kilae Creek 50.02 35 P **P 23 30 51.0 0.0**
baz=263,SNR=8.7
MNSI Mandailing Nat 50.09 242 P **P 23 30 49.7 -2.3**
comp=Z,25nm,1.8s
DANN Dangsing 50.22 283 *eP* **P 23 30 52.5 -0.7**
SVW2 Sparrevohn 50.23 34 IAmb IAmb 23 30 55.8
comp=Z,13nm,1.0s
SHLS Shalkode 50.36 303 *eP* **P 23 30 50.5 -3.4**
comp=Z,56nm,2.3s,baz=303
SHLS Shalkode 50.36 303 *eP* **P 23 30 50.5 -3.4**
SHLS pmax pmax
comp=Z,56nm,2.3s
MDSI Maura Dua 50.41 233 P **P 23 30 52.5 -1.8**
comp=Z,553nmcomp=Z,36nm,1.6s
KOLN Koldanda 50.53 282 *eP* **P 23 30 54.6 -0.9**
UZB Uzynbulak 50.68 303 *eP* **P 23 30 56.0 -0.3**
UZB pmax pmax
comp=Z,17nm,1.4s
L19K White Mountain 50.71 33 P **P 23 30 56.3 +0.2**
baz=262,SNR=19
N19K Bonanza Creek 50.72 35 P **P 23 30 57.1 +0.8**
baz=264,SNR=10
WB0 Warramunga Arr 50.88 189 **P 23 30 57.1 -0.6**
WB0 IAmb IAmb 23 31 11.5
comp=Z,32nm,0.9s

KPKS Kokpek 50.88 303 *eP* **P 23 30 56.3 -1.5**
comp=Z,46nm,1.6s,baz=303
KPKS *eS* **S 23 38 11.9 -1.3**
baz=303
KPKS Kokpek 50.88 303 *eP* **P 23 30 56.3 -1.5**
KPKS *eS* **S 23 38 11.8 -1.3**
KPKS pmax pmax
comp=Z,46nm,1.6s
TDK Taldyqorghan 50.88 305 *eP* **P 23 30 57.5 -0.2**
comp=Z,55nm,1.2s,baz=305
TDK Taldyqorghan 50.88 305 *eP* **P 23 30 57.4 -0.2**
TDK pmax pmax
comp=Z,55nm,1.2s
M19K Big River Lodg 50.89 33 P **P 23 30 57.7 +0.3**
baz=263,SNR=7.6
PYUN Piuthan 50.94 283 *eP* **P 23 30 58.4 -0.2**
WR0 Warramunga Arr 51.05 189 **P 23 30 58.4 -0.6**
WR0 IAmb IAmb 23 31 14.7
comp=Z,27nm,0.9s
WRAB Tennant Creek 51.05 189*ceP* **P 23 30 57.9 -1.1**
WRAB pmax pmax
comp=Z,30nm,1.3s
WRAB Tennant Creek 51.05 189 P **P 23 30 58.2 -0.8**
WRAB IAmb IAmb 23 31 14.7
comp=Z,30nm,1.0s
WB2 Warramunga Arr 51.05 189 **P 23 30 58.6 -0.4**
WB2 IAmb IAmb 23 31 14.8
comp=Z,34nm,0.9s
WRA Warramunga Arr 51.06 189 P **P 23 30 57.7 -1.4**
comp=Z,9.4nm,0.6s,baz=6.5,slow=7.6,SNR=40
WRA S **S 23 38 10.8 -4.8**
comp=Z,0.6nm,0.8s,baz=5.6,slow=14,SNR=3.6
WRA LR LR 23 51 48.8
comp=Z,412nm,20.3s,baz=15,slow=35
WRA Warramunga Arr 51.06 189 *i P* **P 23 30 58.4 -0.7**
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 51.06 189 P **P 23 30 58.0 -1.1**
OHAK Old Harbor 51.07 39 P **P 23 30 58.4 -0.4**
baz=268
OHAK Old Harbor 51.07 39 P **P 23 30 59.7 +0.8**
OHAK IAmb IAmb 23 31 15.4
comp=Z,25nm,1.0s
SATY Saty 51.14 303 *eP* **P 23 30 59.3 -0.5**
comp=Z,52nm,2.8s,baz=303
SATY Saty 51.14 303 *eP* **P 23 30 59.2 -0.5**
SATY pmax pmax
comp=Z,52nm,2.8s
K20K Telida 51.23 31 P **P 23 31 00.7 +0.7**
baz=262,SNR=36
PRZ Przheval'sk 51.23 302 P **P 23 31 01.1 +0.6**
PRZ pmax pmax
comp=Z,30nm,0.7s
PRZ Przheval'sk 51.23 302 P **P 23 31 01.1 +0.6**
P19K Oil Pt 51.24 36 P **P 23 30 59.6 -0.6**
baz=266
GSI Gunungsitoli 51.30 244 P **P 23 31 00.3 -0.8**
comp=Z,87nm,1.2s
J20K Nowinta River 51.32 30 P **P 23 31 00.5 -0.1**
baz=261,SNR=30
ARXS Arharly 51.39 304 *eP* **P 23 31 00.5 -1.1**
KDAK Kodiak Island 51.47 39 P **P 23 31 01.3 -0.6**
comp=Z,43nm,0.8s,baz=258,slow=2.6,SNR=20
KDAK Kodiak Island 51.47 39 P **P 23 31 02.8 +1.0**
KDAK pmax pmax
comp=Z,46nm,1.0s
KDAK Kodiak Island 51.47 39 P **P 23 31 01.8 -0.1**
baz=268
KDAK Kodiak Island 51.47 39 P **P 23 31 02.8 +1.0**
RSO Redoubt South 51.54 35 P **P 23 31 03.2 +0.6**
O20K Slope Mountain 51.58 36 P **P 23 31 02.2 -0.5**
baz=266
TARG Taragay, Kyrgy 51.79 301 P **P 23 31 05.2 +0.2**
TARG IAmb IAmb 23 31 07.0
comp=Z,54nm,1.5s
SPCR Spurr Chakacha 51.86 34 P **P 23 31 05.1 +0.3**
baz=266
PPLA Purkeypile 52.02 32 P **P 23 31 04.8 -1.3**
baz=264,SNR=11
PPLA Purkeypile 52.02 32 P **P 23 31 06.7 +0.6**
PPLA IAmb IAmb 23 31 10.9
comp=Z,24nm,1.0s
CHKK Chushkaly 52.04 304 *eP* **P 23 31 05.3 -1.1**
baz=304
CHKK Chushkaly 52.04 304 *eP* **P 23 31 05.3 -1.1**
HOM Homer 52.05 36 P **P 23 31 05.3 -0.8**
baz=267
CHUM Lake Minchumin 52.08 31 P **P 23 31 06.5 +0.2**
baz=263,SNR=7.2
MDOK Medeo 52.11 303 *eP* **P 23 31 07.0 -0.1**
MDOK *eS* **S 23 38 24.6 -5.6**
baz=303
MDOK Medeo 52.11 303 *eP* **P 23 31 06.9 -0.1**
MDOK *eS* **S 23 38 24.6 -5.6**
KDJ Kajisay 52.18 302 P **P 23 31 07.7 +0.1**
KDJ pmax pmax
comp=Z,8.0nm,1.0s
KDJ Kajisay 52.18 302 P **P 23 31 07.7 +0.1**
AAA Alma-Ata 52.20 303 *eP* **P 23 31 07.0 -0.6**
baz=303
AAA Alma-Ata 52.20 303 *eP* **P 23 31 06.9 -0.6**
CNPM China Poot 52.25 36 P **P 23 31 08.3 +0.6**
CNPM IAmb IAmb 23 31 09.8
comp=Z,24nm,1.0s
SKT Skwentna 52.25 33 P **P 23 31 08.1 +0.4**
baz=266,SNR=8.1
SKT Skwentna 52.25 33 IAmb IAmb 23 31 09.9
comp=Z,14nm,0.9s
I21K Tanana 52.38 29 P **P 23 31 08.6 +0.1**
baz=263,SNR=24
BRLK Bradley Lake 52.43 36 P **P 23 31 09.4 +0.4**
BRLK IAmb IAmb 23 31 10.9
comp=Z,14nm,1.0s
KUU Kurty 52.50 304⇑*iP* **P 23 31 09.0 -0.9**
comp=Z,46nm,0.7s,baz=304
KUU *eS* **S 23 38 36.5 +1.2**
baz=304
KUU Kurty 52.50 304*c iP* **P 23 31 08.9 -0.9**
KUU *eS* **S 23 38 36.5 +1.2**
KUU pmax pmax
comp=Z,46nm,0.7s
BRSE Bradley Lake S 52.51 36 P **P 23 31 08.9 -0.7**
baz=268
SUA Susitna One 52.58 34 P **P 23 31 10.1 -0.1**
baz=267
SUA Susitna One 52.58 34 P **P 23 31 10.3 +0.1**
SUA IAmb IAmb 23 31 12.0
comp=Z,17nm,1.0s
KTH Kantishna Hill 52.66 31 IAmb IAmb 23 31 27.2
comp=Z,36nm,1.3s
BPAW Bear Paw Mtn. 52.68 31 P **P 23 31 10.2 -0.6**
baz=264,SNR=9.5
BPAW Bear Paw Mtn. 52.68 31 IAmb IAmb 23 31 26.5
comp=Z,27nm,1.3s
ULHL Ulahol 52.85 302 P **P 23 31 13.4 +0.7**
SNR=9.3
CUT Chulitna 52.87 33 P **P 23 31 11.8 -0.4**
baz=266
CUT Chulitna 52.87 33 P **P 23 31 13.0 +0.8**
CUT IAmb IAmb 23 31 17.1
comp=Z,56nm,1.4s
MLY Manley 52.88 29 P **P 23 31 11.3 -1.0**
baz=264,SNR=32
MLY Manley 52.88 29 IAmb IAmb 23 31 15.6
comp=Z,26nm,1.0s
TRF Thorofare Moun 52.93 31 P **P 23 31 12.2 -0.6**
baz=266,SNR=5.4
TRF Thorofare Moun 52.93 31 P **P 23 31 14.0 +1.1**
TRF IAmb IAmb 23 31 27.9
comp=Z,21nm,1.1s
O22K Cooper Landing 53.04 35 P **P 23 31 13.2 -0.2**
baz=268
O22K Cooper Landing 53.04 35 P **P 23 31 14.1 +0.7**
RC01 Rabbit Creek A 53.05 34 P **P 23 31 12.0 -1.5**
RC01 IAmb IAmb 23 31 16.0
comp=Z,20nm,1.0s
SEW Seward 53.16 36 P **P 23 31 13.8 -0.5**
baz=269
SEW Seward 53.16 36 P **P 23 31 15.3 +0.9**
TKM2 Tokmak 2 53.20 303 P **P 23 31 16.4 +1.2**
SNR=19
BWN Browne 53.35 31 P **P 23 31 17.2 +1.5**
H23K Yukon River 53.46 28 P **P 23 31 16.9 +0.3**
baz=264,SNR=19
GHO Glory Hole Cre 53.47 34 P **P 23 31 17.8 +1.1**

GHO IAmb IAmb 23 31 40.0
comp=Z,37nm,1.2s
I23K Minto, Yukon-K 53.48 29 P P 23 31 17.3 +0.8
baz=265,SNR=18
I23K Minto, Yukon-K 53.48 29 IAmb IAmb 23 31 19.9
comp=Z,18nm,1.1s
NEA2 Nenana 53.55 30 P P 23 31 17.2 0.0
baz=266,SNR=20
MCK McKinley 53.56 31 P P 23 31 17.1 -0.2
baz=267,SNR=11
RND Reindeer 53.57 32 IAmb IAmb 23 31 19.5
comp=Z,20nm,0.9s
KNK Knik Glacier 53.68 34 P P 23 31 17.1 -1.0
baz=269,SNR=9.4
KNK Knik Glacier 53.68 34 P P 23 31 18.5 +0.3
WAT1 Susitna Watana 53.68 32 P P 23 31 18.0 -0.3
baz=268
KBK Karagaybulak 53.71 303 P P 23 31 20.0 +1.1
SNR=9.4
PWL Port Wells 53.73 35 P P 23 31 17.4 -1.1
PWL IAmb IAmb 23 31 35.0
comp=Z,35nm,1.2s
SML Sawmill 53.75 34 P P 23 31 18.3 -0.4
baz=269,SNR=9.3
SML Sawmill 53.75 34 P P 23 31 18.9 +0.2
TOLK Toolik Lake Re 53.77 25 P P 23 31 17.4 -1.4
baz=262,SNR=9.0
TOLK Toolik Lake Re 53.77 25 IAmb IAmb 23 31 22.1
comp=Z,27nm,1.2s
CHMS Chumysh 53.79 303 P P 23 31 20.1 +0.8
SNR=9.7
SGDS Sogindy 53.80 304 *e*P **P 23 31 17.2 -2.2**
baz=304
SGDS Sogindy 53.80 304 *e*P **P 23 31 18.6 -0.8**
SGDS pmax pmax
comp=Z,9.0nm,0.9s
FRU1 Bishkek 53.91 303 P P 23 31 20.9 +0.6
FRU1 pmax pmax
comp=Z,23nm,0.9s
FRU1 Bishkek 53.91 303 P P 23 31 20.9 +0.6
FRU1 IAmb IAmb 23 31 22.0
comp=Z,23nm,0.8s
USP Ospenovka 53.92 303 P P 23 31 21.0 +0.7
SNR=26
BTLS Baital 53.94 306 *e*P **P 23 31 18.1 -2.2**
comp=Z,26nm,0.8s,baz=306
BTLS *e*S **S 23 38 55.4 +0.7**
baz=306
BTLS Baital 53.94 306 *e*P **P 23 31 20.0 -0.3**
BTLS pmax pmax
comp=Z,29nm,0.8s
AAK Ala-Archa 54.05 303 P P 23 31 21.6 +0.2
SNR=5.1
AAK Ala-Archa 54.05 303 *i* P **P 23 31 22.2 +0.9**
SNR=7.3
AAK Ala-Archa 54.05 303 P P 23 31 21.3 -0.1
AAK pmax pmax
comp=Z,20nm,1.4s
AAK Ala-Archa 54.05 303 P 23 31 21.3 -0.1
AAK IAmb IAmb 23 31 34.6
comp=Z,20nm,1.4s
WAT6 Susitna Watana 54.05 33 P P 23 31 20.4 -0.6
baz=268
TCOL CIGO, UAF Yank 54.09 30 P P 23 31 20.9 -0.2
baz=267
TCOL CIGO, UAF Yank 54.09 30 P P 23 31 22.3 +1.2
COLA College 54.09 30 P P 23 31 21.6 +0.5
COLA pmax pmax
comp=Z,42nm,0.3s
COLA College 54.09 30 P P 23 31 21.1 0.0
baz=267
COLA College 54.09 30 P P 23 31 21.6 +0.5
BRZS Berezniki 54.14 312⇑ *i*P **P 23 31 20.2 -1.5**
comp=Z,35nm,1.7s,baz=312
BRZS *e*S **S 23 38 59.9 +2.5**
baz=312
BRZS Berezniki 54.14 312*c i*P **P 23 31 20.2 -1.5**
BRZS *e*S **S 23 38 59.9 +2.5**
BRZS pmax pmax
comp=Z,35nm,1.7s
H24K Noodor Dome 54.15 29 P P 23 31 21.0 -0.6
baz=266,SNR=26
SCM Sheep Creek Mo 54.23 33 P P 23 31 22.2 0.0
SCM pmax pmax
comp=Z,47nm,0.9s
SCM Sheep Creek Mo 54.23 33 P P 23 31 22.2 0.0
POKR Poker Plat Res 54.29 29 P P 23 31 22.4 -0.1
baz=267,SNR=5.4
POKR Poker Plat Res 54.29 29 P P 23 31 23.3 +0.8
POKR IAmb IAmb 23 31 26.4
comp=Z,17nm,0.8s
GLI Glacier Island 54.34 35 P P 23 31 23.1 +0.1
baz=270
GLI Glacier Island 54.34 35 P P 23 31 22.9 0.0
GLI IAmb IAmb 23 31 25.1
comp=Z,24nm,0.9s
HDA Harding Lake 54.46 30 P P 23 31 23.2 -0.7
baz=268,SNR=12
HDA Harding Lake 54.46 30 IAmb IAmb 23 31 25.6
comp=Z,19nm,1.0s
IL31 54.50 30 IAmb IAmb 23 31 26.5
comp=Z,26nm,1.1s
ILAR Eielson Array 54.50 30 P P 23 31 23.6 -0.5
comp=Z,19nm,1.0s,baz=265,slow=5.7,SNR=69
ILAR LR LR 23 52 41.7
comp=Z,195nm,21.9s,baz=280,slow=34
ILAR Eielson Array 54.50 30 P P 23 31 23.8 -0.3
ILAR Eielson Array 54.50 30 P P 23 31 23.8 -0.3
EKS2 Erkin-Say 54.56 303 P P 23 31 25.6 +0.6
SNR=12
AML Almayashu 54.73 302 P P 23 31 28.1 +1.5
SNR=20
AML Almayashu 54.73 302 *i* P **P 23 31 27.9 +1.3**
SNR=20
M24K Tolsona, Glenn 54.77 33 P P 23 31 26.2 0.0
baz=270
M24K Tolsona, Glenn 54.77 33 P P 23 31 27.3 +1.1
AS31 Alice Springs 54.78 189 P P 23 31 27.2 +0.6
ASAR Alice Springs 54.78 189 P P 23 31 25.9 -0.6
comp=Z,7.8nm,1.0s,baz=349,slow=5.3,SNR=31
ASAR S **S 23 39 03.2 -3.2**
comp=Z,0.3nm,0.8s,baz=15,slow=18,SNR=2.5
ASAR LR LR 23 53 53.7
comp=Z,518nm,20.1s,baz=19,slow=35
ASAR Alice Springs 54.78 189 P P 23 31 26.0 -0.6
ASAR Alice Springs 54.78 189 P 23 31 25.5 -1.1
KLU Klutina 54.90 34 P P 23 31 27.0 -0.2
baz=271,SNR=5.4
KLU Klutina 54.90 34 IAmb IAmb 23 31 29.9
comp=Z,20nm,0.8s
EYAK Cordova Ski Ar 55.00 35 P P 23 31 28.2 +0.5
baz=272
EYAK Cordova Ski Ar 55.00 35 P P 23 31 29.0 +1.2
EYAK IAmb IAmb 23 31 43.2
comp=Z,31nm,1.2s
PAX Paxson 55.10 32 P P 23 31 29.4 +0.8
PAX pmax pmax
comp=Z,20nm,1.1s
PAX Paxson 55.10 32 P P 23 31 27.9 -0.7
baz=270
PAX Paxson 55.10 32 P P 23 31 29.4 +0.8
PAX IAmb IAmb 23 31 31.2
comp=Z,20nm,1.1s
PRP Porcupine Dome 55.10 29 P P 23 31 28.0 -0.6
baz=268,SNR=6.3
HARP HAARP 55.25 33 P P 23 31 28.7 -0.8
baz=271
FYU Fort Yukon 55.26 28 P 23 31 31.2 +1.7
FYU IAmb IAmb 23 31 34.9
comp=Z,34nm,1.1s
BRVK Borovoye 55.27 316*ce*P **P 23 31 29.7 -0.2**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 55.27 316 P P 23 31 29.6 -0.2
BRVK IAmb IAmb 23 31 31.3
comp=Z,16nm,0.8s
RIDG Independent Ri 55.38 31 P P 23 31 30.4 -0.1
baz=270,SNR=6.3
RIDG Independent Ri 55.38 31 P P 23 31 31.0 +0.5
RIDG IAmb IAmb 23 31 32.7
comp=Z,18nm,1.2s
N25K Chitina, Valde 55.53 34 P P 23 31 30.9 -0.8
baz=272
N25K Chitina, Valde 55.53 34 P P 23 31 32.5 +0.8
N25K IAmb IAmb 23 31 34.6
comp=Z,17nm,1.2s
BMAR Burnt Mountain 55.54 27 P P 23 31 32.8 +1.1

BMRM Bremner River 55.55 35 P P 23 31 30.9 -0.9
baz=272,SNR=6.3
BMRM Bremner River 55.55 35 P 23 31 32.1 +0.3
DOT Dot Lake 55.73 31 IAmb IAmb 23 31 35.2
comp=Z,12nm,1.0s
HMT Hamilton 55.75 35 P P 23 31 34.1 +0.9
SCRK Sand Creek 55.75 31 P P 23 31 32.2 -1.1
baz=271,SNR=18
SCRK Sand Creek 55.75 31 IAmb IAmb 23 31 35.7
comp=Z,15nm,1.0s
MENT Mentasta 55.90 32 P P 23 31 34.9 +0.6
MENT IAmb IAmb 23 31 37.5
comp=Z,14nm,0.9s
GLB Gilahina Butte 55.91 34 P 23 31 35.1 +0.7
GLB IAmb IAmb 23 31 38.0
comp=Z,33nm,1.4s
L26K Log Cabin Wild 56.06 32 P P 23 31 35.7 +0.2
baz=272
VRDI Verde Repeater 56.10 34 P 23 31 37.2 +1.3
VRDI IAmb IAmb 23 31 51.3
comp=Z,42nm,1.4s
CRQM Cirque 56.28 35 P P 23 31 37.9 +0.7
MCARA McCarthy VSAT 56.30 34 P P 23 31 38.0 +0.9
baz=274
MCARA McCarthy VSAT 56.30 34 P P 23 31 36.9 -0.2
CRQE Cirque 56.30 35 P P 23 31 37.3 0.0
baz=274,SNR=5.7
PSA00 Pilbara Seismi 56.32 205 P P 23 31 37.0 -0.7
PSA00 IAmb IAmb 23 31 37.7
comp=Z,15nm,0.9s
TGL Tana Glacier 56.43 35 P P 23 31 38.3 +0.1
TGL IAmb IAmb 23 31 40.9
comp=Z,26nm,1.1s
K27K Chicken 56.59 31 IAmb IAmb 23 31 42.4
comp=Z,22nm,1.1s
ISLE Juniper Island 56.68 35 P P 23 31 40.9 +0.9
ISLE IAmb IAmb 23 31 58.8
comp=Z,25nm,0.8s
L27K Beaver Creek, 56.75 32 P P 23 31 40.4 +0.1
baz=273,SNR=25
L27K Beaver Creek, 56.75 32 IAmb IAmb 23 31 43.6
comp=Z,24nm,1.0s
BCAR Beaver Creek A 56.77 32 P 23 31 41.2 +0.7
KKAR Karatay Array 56.81 304 P P 23 31 41.0 -0.1
KKAR Karatay Array 56.81 304 P 23 31 41.0 -0.1
KKAR Karatay Array 56.81 304 IAmb IAmb 23 31 42.7
comp=Z,51nm,0.8s
EGAK Eagle 56.96 30 P P 23 31 41.5 -0.2
baz=273
EGAK Eagle 56.96 30 P 23 31 42.7 +1.0
EGAK IAmb IAmb 23 31 55.8
comp=Z,21nm,1.3s
BARN Barnard Glacie 56.98 34 P P 23 31 42.1 0.0
CTG Chitna Glacier 57.14 34 P P 23 31 42.5 -0.8
baz=275
NIL Nilore 57.22 292 P P 23 31 44.0 -0.1
NIL pmax pmax
comp=Z,36nm,0.6s
NIL Nilore 57.22 292 P P 23 31 44.0 -0.1
RIM Rim 57.27 86 P P 23 31 43.7 -1.0
BTK Batken 57.32 300 P P 23 31 45.1 +0.3
BTK pmax pmax
comp=Z,11nm,0.8s
BTK Batken 57.32 300 P P 23 31 45.1 +0.3
BTK IAmb IAmb 23 31 49.2
comp=Z,11nm,0.8s
DZM Mont Dzumac 57.62 153 *e*LR LR 23 48 33.0
comp=Z,371nm,22.1s
PINM Pinnacle 57.77 35 P P 23 31 46.2 -1.4
baz=277
DAWY Dawson 57.77 31 IAmb IAmb 23 32 03.3
comp=Z,33nm,1.2s
BCPM Bancas Point 58.09 35 P P 23 31 50.4 +0.6
BCPM IAmb IAmb 23 31 56.1
comp=Z,25nm,1.0s
TAS Tashkent 58.12 302 P P 23 31 50.8 +0.5
TAS pmax pmax
comp=Z,49nm,0.3s
TAS Tashkent 58.12 302 P P 23 31 50.8 +0.5
EPYK Eagle Plains 58.68 28 P P 23 31 53.8 0.0
baz=276,SNR=16
HYB Hyderabad 58.76 273 *i* P **P 23 31 54.0 -1.1**
HYT Haines Junctio 59.02 34 P P 23 31 58.0 +1.6
HYT IAmb IAmb 23 32 12.1
comp=Z,22nm,1.2s
INK Inuvik 59.68 25 P P 23 32 00.6 0.0
comp=Z,7.3nm,0.9s,baz=273,slow=9.1,SNR=10
INK Inuvik 59.68 25 P P 23 32 00.2 -0.4
baz=278
INK Inuvik 59.68 25 IAmb IAmb 23 32 03.2
comp=Z,10nm,1.0s
KBL Kabul 60.27 295 P P 23 32 05.7 +0.2
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 60.27 295 P 23 32 05.7 +0.2
KBL IAmb IAmb 23 32 06.5
comp=Z,19nm,0.8s
WHY Whitehorse 60.32 34 P P 23 32 05.0 -0.3
baz=281
WHY Whitehorse 60.32 34 P P 23 32 06.8 +1.5
WHY IAmb IAmb 23 32 08.7
comp=Z,14nm,1.1s
SKAG Skagway 60.32 36 P P 23 32 06.1 +0.9
baz=281
JIS Juneau Island 61.05 37 P P 23 32 10.9 +0.8
JIS IAmb IAmb 23 32 14.8
comp=Z,19nm,1.1s
ARU Arti 61.38 321*c i*P **P 23 32 12.3 -0.2**
ARU 23 32 51.5
ARU 23 34 28.2
ARU S **S 23 40 34.9 +2.9**
ARU 23 42 02.3
ARU SS **SS 23 44 35.2 +3.0**
ARU pmax pmax
comp=Z,87nm,1.2s
ARU MLR MLR
comp=Z,553nm,19.0s
ARU Arti 61.38 321 P 23 32 11.7 -0.8
PALK Pallekele 61.73 261 LR LR 00 01 14.9
comp=Z,125nm,19.2s,baz=167,slow=38
ABKAR Akbulak array 62.40 313 P 23 32 19.1 -0.3
ABKAR Akbulak array 62.40 313 IAmb IAmb 23 32 20.7
comp=Z,37nm,0.8s
STKA Stephens Creek 62.41 180 P P 23 32 19.3 -0.2
comp=Z,5.0nm,0.6s,baz=332,slow=11,SNR=6.2
STKA LR LR 23 58 49.8
comp=Z,521nm,20.9s,baz=19,slow=36
STKA Stephens Creek 62.41 180 P P 23 32 19.8 +0.3
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 62.41 180 P P 23 32 19.8 +0.3
WRAK Wrangell Islan 62.56 39 P P 23 32 22.1 +1.7
WRAK IAmb IAmb 23 32 45.4
comp=Z,12nm,1.1s
FORT Forrest 62.73 194 P 23 32 21.8 +0.1
C36M Paulatuk 62.84 23 P P 23 32 21.0 -1.0
baz=285
DLBC Dease Lake 63.23 36 P P 23 32 24.6 -0.4
comp=Z,3.4nm,0.8s,baz=296,slow=9.2,SNR=6.4
DLBC Dease Lake 63.23 36 P P 23 32 26.1 +1.2
DLBC IAmb IAmb 23 32 28.5
comp=Z,10nm,1.1s
KIRV Kirov 65.52 325*ce*P **P 23 32 40.5 +0.8**
HRA Herat 65.59 297 P 23 32 41.0 0.0
HRA IAmb IAmb 23 32 42.4
comp=Z,19nm,0.9s
EUNU Eureka 66.20 8 IAmb IAmb 23 32 46.5
comp=Z,17nm,1.0s
SPITS Spitsbergen Ar 66.66 349 P P 23 32 47.3 +0.5
SPITS pmax pmax
comp=Z,11nm,1.0s
KBS Kingsbay 66.80 351 *i* P **P 23 32 48.1 +0.4**
KBS IAmb IAmb 23 32 49.4
comp=Z,34nm,0.9s
KBS Kingsbay 66.80 351*ce*P **P 23 32 49.4 +1.7**
KBS pmax pmax
comp=Z,12nm,1.0s
KBS Kingsbay 66.80 351 P P 23 32 48.5 +0.7
KBS IAmb IAmb 23 32 49.6
comp=Z,15nm,1.0s
GEYT Alibeck 67.37 302 P P 23 32 52.6 +0.5
comp=Z,6.4nm,0.8s,baz=57,slow=16,SNR=9.7
GYA0B ALIBECK ARRAY 67.37 302 P P 23 32 52.5 +0.4
GYA0B IAmb IAmb 23 33 10.3
comp=Z,15nm,1.0s
HSPB Hornsund (broa 67.57 349 *e*P **P 23 32 53.3 +0.7**

APA Apatity 68.52 337⇑ *i*P **P 23 32 56.2 -2.5**
APA *i* 23 33 09.5
APA pmax pmax
comp=Z,12nm,0.8s
BELG Belogornoye 68.71 319 P P 23 32 59.7 -0.4
comp=Z,76nm,1.0s,baz=117,slow=2.3
YKA Yellowknife Ar 68.91 29 P P 23 33 00.8 -0.4
comp=Z,10nm,1.0s,baz=292,slow=5.5,SNR=13
KLMR Klimovskoe 69.26 329 *e*P **P 23 33 02.2 -1.2**
KLMR *e* 23 35 35.2
KLMR pmax pmax
comp=Z,24nm,1.2s
KLMR Klimovskoe 69.26 329 *e*P **P 23 33 02.2 -1.2**
KLMR AMP 23 33 04.6
comp=Z,24nm,1.2s
KLMR *e*PP **PP 23 35 35.2 -0.9**
ARCES ARCESS Array B 69.94 340 P **P 23 33 07.8 +0.3**
comp=Z,11nm,0.9s,baz=51,slow=6.4,SNR=12
ARCES ARCESS Array B 69.94 340 P **P 23 33 08.3 +0.8**
ARCES IAmb IAmb 23 33 09.0
comp=Z,13nm,0.9s
SGF Sodankyl 70.84 338 P P 23 33 13.9 +0.9
SGF pmax pmax
comp=Z,27nm,2.3s
MSF Maaselka 70.86 336 P P 23 33 14.1 +0.9
MSF pmax pmax
comp=Z,11nm,1.4s
D03D Eldon 70.99 46 P P 23 33 13.7 -0.5
baz=295
B05A Bryant 71.28 45 P P 23 33 15.9 -0.1
baz=296
NEEM North Greenlan 71.64 3 *i* P **P 23 33 18.0 -0.1**
NEEM IAmb IAmb 23 33 21.3
comp=Z,23nm,1.3s
JOF Joensuu 71.65 333 P P 23 33 18.5 +0.5
JOF pmax pmax
comp=Z,19nm,1.4s
E04D Cinebar 71.73 46 P P 23 33 17.8 -1.0
baz=296
DAG Danmarks Havn 71.94 355⇑ *i*P **P 23 33 19.5 0.0**
DAG IAmb IAmb 23 33 20.7
comp=Z,21nm,1.2s
DAG Danmarks Havn 71.94 355⇑ *i*P **P 23 33 19.5 0.0**
DAG pmax pmax
comp=Z,21nm,1.2s
OUL Oulu 72.42 336 P P 23 33 23.2 +0.7
OUL pmax pmax
comp=Z,18nm,1.2s
I03D Drain, OR 72.48 49 P P 23 33 23.4 +0.1
baz=296
BUCK Buck Mountain 72.49 49 P P 23 33 24.1 +0.6
BUCK IAmb IAmb 23 33 27.1
comp=Z,26nm,1.1s
H04D Lebanon 72.51 48 P P 23 33 23.4 -0.1
baz=296
MOS Moscow 72.53 325 *e*P **P 23 33 22.4 -1.0**
MOS *e* 23 33 39.6
MOS pmax pmax
comp=Z,70nm,1.2s
MOS MLR MLR
comp=Z,700nm,19.0s
VRH Novokhopyorsk 72.53 320 *e*P **P 23 33 22.9 -0.6**
VRH pmax pmax
comp=Z,40nm,0.7s
K02D Willamette Mer 72.71 50 P P 23 33 25.1 +0.2
baz=296
MAK Makhachkala 72.72 310 *e*P P 23 33 19.0 -5.7
MAK *e*S **S 23 42 40.8 -8.3**
MAK *e*SSS SSS 23 50 41.4
MAK pmax pmax
comp=Z,183nm,1.5s
MAK MLR MLR
comp=Z,713nm,14.0s
H04A Detroit Lake 72.79 48 P P 23 33 26.1 +0.9
H04A IAmb IAmb 23 33 28.0
comp=Z,11nm,1.0s
B08A Colville Reser 72.89 44 P P 23 33 27.0 +1.2
L02E Cave Junction 72.99 51 P P 23 33 26.7 +0.3
baz=296
I04A Tendick Farm, 73.04 49 P P 23 33 25.7 -1.1
baz=297
G05D Wamic, OR 73.09 47 P P 23 33 27.0 +0.1
baz=297
HUMO Hull Mountain 73.22 50 P P 23 33 28.6 +0.9
OBN Obninsk 73.36 325 P P 23 33 28.5 +0.1
comp=Z,6.1nm,0.8s,baz=77,slow=5.1,SNR=15
OBN Obninsk 73.36 325*c i*P **P 23 33 28.4 +0.1**
OBN *e**SP **sP 23 33 34.6 0.0**
OBN 23 33 41.0
OBN *e*S **S 23 42 54.7 -1.3**
OBN *i* SS **SS 23 47 35.6 -1.8**
OBN *e*SSS SSS 23 50 54.7
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,735nm,19.0s
OBN Obninsk 73.36 325 P P 23 33 28.1 -0.2
LPSR Galich'ya Gora 73.39 322 *e*P **P 23 33 28.7 +0.2**
LPSR pmax pmax
comp=Z,40nm,0.9s
KHMM Horse Mountain 73.47 52 P P 23 33 30.6 +1.1
KHMM IAmb IAmb 23 33 46.2
comp=Z,15nm,1.1s
I05D Terrebonne, OR 73.49 48 P P 23 33 28.5 -0.9
baz=297
GROC Groznyy 73.73 311 *e*P **P 23 33 28.6 -2.1**
GROC *e* 23 33 42.3
GROC pmax pmax
comp=Z,30nm,0.9s
BANOM Banah 73.75 291 P P 23 33 32.3 +1.1
YBH Yreka Blue Hor 73.77 51 P P 23 33 32.6 +1.5
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 73.77 51 P P 23 33 32.6 +1.5
L04D Klamath Falls 73.82 50 P P 23 33 31.4 -0.1
baz=297
SHME Shamm 73.82 291 P P 23 33 32.7 +1.1
M02C Callahan 73.83 51 P P 23 33 31.5 0.0
baz=297
VORD Divnogorie 73.99 320 *e*P **P 23 33 31.8 -0.3**
VORD pmax pmax
comp=Z,30nm,1.2s
PINE Pine Mountain 73.99 48 IAmb IAmb 23 33 35.9
comp=Z,16nm,0.9s
MDH Madha 74.03 290 P P 23 33 32.8 0.0
J05D Fort Rock, OR 74.04 49 P P 23 33 32.9 +0.1
baz=298
MSFE Esma-Masafi 74.12 290 P P 23 33 34.2 +0.9
N02D Trinity Center 74.12 52 P P 23 33 32.7 -0.4
baz=297
NEW Newport 74.24 43 P P 23 33 33.3 -0.4
comp=Z,5.6nm,0.9s,baz=293,slow=5.2,SNR=9.1
NEW Newport 74.24 43 P P 23 33 34.5 +0.8
NEW pmax pmax
comp=Z,16nm,1.3s
NEW Newport 74.24 43 P P 23 33 33.5 -0.2
baz=299
NEW Newport 74.24 43 P P 23 33 34.5 +0.8
NEW IAmb IAmb 23 33 49.1
comp=Z,16nm,1.3s
UOSS Minazif 74.27 290 P P 23 33 33.8 -0.4
UOSS Minazif 74.27 290 P P 23 33 34.5 +0.3
UOSS IAmb IAmb 23 33 35.5
comp=Z,41nm,1.4s
SOHO SOHO 74.37 289 *i* P **P 23 33 35.2 +0.4**
SNR=12
HATD Hatta, Dubai 74.38 290 *i* P **P 23 33 35.7 +0.8**
SNR=7.3
WDC Whiskeytown Da 74.41 52 P P 23 33 35.1 +0.4
WDC pmax pmax
comp=Z,12nm,1.4s
WDC Whiskeytown Da 74.41 52 P P 23 33 35.1 +0.4
O02D Mt. Diablo Mer 74.43 52 P P 23 33 35.0 0.0
baz=297
DBG Daneborg 74.43 355 *i* P **P 23 33 34.5 +0.2**
DBG IAmb IAmb 23 33 35.1
comp=Z,6.8nm,1.1s
E09A Wood Farm, Sta 74.47 45 P P 23 33 35.0 +0.1
E09A IAmb IAmb 23 33 50.6
comp=Z,20nm,1.4s
ASHO Ashiyiah 74.51 290 P P 23 33 35.8 +0.2
FIA1 FINESS Array S 74.51 333 IAmb IAmb 23 33 36.2
comp=Z,28nm,1.1s
FINES FINESS Array B 74.51 333 P P 23 33 34.2 -0.7
comp=Z,13nm,1.0s,baz=57,slow=7.0,SNR=22

FINES FINESS Array B 74.51 333 *i* P **P 23 33 35.2 +0.3**
FINES pmax pmax
comp=Z,13nm,1.0s
FINES FINESS Array B 74.51 333 P **P 23 33 35.4 +0.5**
K05A Summer Lake 74.52 49 P **P 23 33 37.3 +1.7**
K05A IAmb IAmb 23 33 38.9
comp=Z,17nm,1.0s
G08A Pilot Rock 74.55 46 P **P 23 33 35.9 +0.3**
GOF Gofitskoye 74.63 313⇑ *eP* **P 23 33 36.7 +0.8**
GOF pmax pmax
comp=Z,52nm,0.9s
FAQ Al Faqa, Dubai 74.86 290 P **P 23 33 37.8 +0.2**
NCK Nalchik 75.02 312 *i* P **P 23 33 38.8 +0.5**
NCK pmax pmax
comp=Z,14nm,1.0s
ALNE Al Ain 75.04 289 *i* P **P 23 33 39.1 +0.4**
SNR=6.5
O03E Paynes Creek 75.04 52 P **P 23 33 38.1 -0.4**
baz=298
ASUD Al Ashush, Dub 75.12 290 P **P 23 33 39.9 +0.7**
ZEI Tsey 75.16 311 *eP* **P 23 33 38.8 -0.5**
ZEI pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 75.35 312 P **P 23 33 40.5 +0.4**
comp=Z,31nm,0.8s,baz=71,slow=4.1,SNR=57
KBZ Khabaz 75.35 312 *ceP* **P 23 33 40.9 +0.8**
KBZ pmax pmax
comp=Z,46nm,1.0s
KVAR Kislovodsk Arr 75.37 313 P **P 23 33 41.4 +1.0**
comp=Z,19nm,1.0s,baz=18,slow=9.6,SNR=10.0
KIV Kislovodsk 75.38 313 *i* P **P 23 33 41.4 +1.0**
SNR=11
KIV Kislovodsk 75.38 313 *eP* **P 23 33 41.4 +1.0**
KIV *eS* **S 23 43 21.0 +1.7**
KIV *e*SS **SS 23 48 11.6 +2.8**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 75.38 313 P **P 23 33 41.0 +0.6**
ONI Oni 75.54 311 P **P 23 33 42.7 +1.3**
ONI pmax pmax
comp=Z,30nm,1.2s
ONI Oni 75.54 311 P **P 23 33 42.6 +1.3**
ONI IAmb IAmb 23 33 45.0
comp=Z,30nm,1.2s
WALA Waterton Lakes 75.70 41 P **P 23 33 42.8 +0.6**
WALA IAmb IAmb 23 33 57.8
comp=Z,12nm,0.9s
J08A Circle Bar Ran 75.78 48 P **P 23 33 43.2 +0.4**
BMO Blue Mountains 75.78 46 IAmb IAmb 23 33 58.3
comp=Z,18nm,1.5s
GNI Garni 75.85 308 P **P 23 33 43.7 +0.4**
comp=Z,13nm,1.2s,baz=45,slow=19,SNR=2.4
GNI Garni 75.85 308 P **P 23 33 44.3 +1.0**
MEF Metsahovi 75.92 333 *eP* **P 23 33 43.3 +0.3**
VSU Vasula 76.04 331 *eP* **P 23 33 44.5 +0.8**
VSU Vasula 76.04 331 P **P 23 33 44.7 +1.0**
VSU pmax pmax
comp=Z,70nm,1.1s
WVOR Wild Horse Val 76.12 49 P **P 23 33 45.1 +0.4**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR Wild Horse Val 76.12 49 P **P 23 33 45.1 +0.4**
JTMT Jette 76.15 42 P **P 23 33 46.1 +1.3**
JTMT IAmb IAmb 23 34 00.5
comp=Z,18nm,1.0s
BEKR Beckworth 76.22 52 P **P 23 33 45.8 +0.4**
AFDM Forest Hills D 76.24 53 P **P 23 33 45.4 +0.1**
RAF Rauma 76.41 334 *eP* **P 23 33 45.9 +0.1**
KARS Kars 76.73 309 P **P 23 33 48.7 +0.4**
KARS pmax pmax
comp=Z,133nm,1.5s
KARS Kars 76.73 309 P **P 23 33 48.7 +0.4**
MSO Missoula 76.83 43 P **P 23 33 47.9 -0.7**
baz=301
MSO Missoula 76.83 43 P **P 23 33 48.5 -0.1**
SUMG Summit 76.83 0⇑ *i P* **P 23 33 49.3 +0.7**
SUMG IAmb IAmb 23 33 51.9
comp=Z,8.5nm,0.8s
SUMG Summit 76.83 0⇑ *i P* **P 23 33 49.2 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 76.83 0 P **P 23 33 48.9 +0.3**
SUMG IAmb IAmb 23 33 58.4
comp=Z,12nm,1.0s
PAHR Pah Rah Range 76.96 52 P **P 23 33 50.0 +0.4**
CMB Columbia Colle 77.08 53 P **P 23 33 51.8 +1.6**
MTSE Matsula 77.09 332 *eP* **P 23 33 48.1 -1.6**
YERR Yerington 77.41 52 P **P 23 33 52.2 +0.1**
MFID Camas Ranch 77.42 47 IAmb IAmb 23 34 07.8
comp=Z,18nm,1.2s
SOC Sochi 77.43 313 *eP* **P 23 33 49.8 -2.1**
SOC *e* 23 36 41.8
SOC *e*PPP PPP 23 38 29.8
SOC *e*S **S 23 43 40.5 -1.1**
SOC *e*SS **SS 23 48 40.1 +0.4**
SOC *e*SSS SSS 23 52 02.8
SOC pmax pmax
comp=Z,36nm,1.0s
SOC MLR MLR
comp=Z,202nm,17.0s
WAKR Walker 77.51 53 P **P 23 33 53.4 +0.6**
MNK Minsk 77.90 327 *i P* **P 23 33 55.4 +1.1**
MNK *i* 23 34 05.0
MNK *i* 23 36 51.0
MNK *i* PPP PPP 23 38 38.6
MNK *i* S **S 23 43 49.8 +3.5**
MNK *i* SS **SS 23 48 55.7 +10**
MNK pmax pmax
comp=Z,34nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.3s
MNK pmax pmax
comp=N,13nm,0.6s
MNK MLR MLR
comp=N,313nm,20.0s
MNK MLR MLR
comp=Z,595nm,22.0s
MNK Minsk 77.90 327 *i P* **P 23 33 55.5 +1.2**
comp=E,5.0nm,1.3s,baz=54
MNK *i P* **P 23 33 55.5 +1.2**
comp=N,13nm,0.6s
MNK *i P* **P 23 33 55.5 +1.2**
comp=Z,34nm,0.9s
MNK *i* PcP **PcP 23 34 05.0 +0.9**
MNK *i* PP **PP 23 36 51.0 +1.4**
MNK *i* PPP PPP 23 38 38.6
MNK *i* S **S 23 43 49.8 +3.6**
MNK *i* SS **SS 23 48 55.7 +10**
MNK *i* SSS SSS 23 52 21.0
MNK *i* LQ LQ 00 03 12.9
MNK *i* LR LR 00 09 08.9
MNK *i* LRM MLR 00 10 24.2
comp=E,27nm,17.2s
MNK *i* LRM MLR 00 10 24.2
comp=N,313nm,20.3s
MNK *i* LRM MLR 00 10 24.2
comp=Z,595nm,22.3s
IDID Didziasalis 77.94 328 *eP* **P 23 33 55.8 +1.3**
ISAL Salakas 78.06 329 *eP* **P 23 33 56.5 +1.3**
RYN Ryan 78.07 52 P **P 23 33 56.2 +0.4**
KVN Kaiserville 78.14 52 P **P 23 33 56.8 +0.5**
KVN pmax pmax
comp=Z,6.0nm,0.8s
KVN Kaiserville 78.14 52 P **P 23 33 56.8 +0.5**
IIGN Ignalina 78.15 328 *eP* **P 23 33 57.0 +1.3**
LHV Little Huntoon 78.27 52 P **P 23 33 58.3 +1.6**
SCO Scoresbysund 78.28 355⇑ *i P* **P 23 33 57.1 +0.9**
SCO IAmb IAmb 23 33 58.1
comp=Z,12nm,1.1s
NVAR Mina Array Bea 78.32 52 P **P 23 33 57.1 -0.2**
comp=Z,3.6nm,0.6s,baz=283,slow=6.2,SNR=30
NVAR LR LR 00 05 43.0
comp=Z,367nm,19.2s,baz=274,slow=34
NVAR Mina Array Bea 78.32 52 P **P 23 33 57.6 +0.4**
SLIT Slitere, Latvi 78.41 332 *eP* **P 23 33 57.1 +0.1**
BCYI Bear Canyon 78.46 45 P **P 23 33 58.6 +0.7**
GURO Guroymak-BITLI 78.47 308 P **P 23 33 59.4 +1.4**
GURO IAmb IAmb 23 34 01.5
comp=Z,20nm,1.3s
EGMT Eagleton 78.59 41 P **P 23 33 58.3 -0.1**
baz=304
FFC Flin Flon 78.63 32 P **P 23 33 58.8 +0.4**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC Flin Flon 78.63 32 P **P 23 33 58.8 +0.4**
KOPT Kop Dagi 78.75 310 P **P 23 34 00.9 +1.2**
KOPT IAmb IAmb 23 34 23.1
comp=Z,12nm,0.8s
UMR Umm Al-Rimmam 78.80 298 *eP* **P 23 33 58.9 -0.8**
BOZ Bozeman (W) 78.84 43 P **P 23 33 59.1 -0.8**
baz=303
MIB Mutribah 78.96 298 *eP* **P 23 33 59.6 -1.0**
PKM Mcpherson Peak 79.03 56 P **P 23 34 00.9 -0.3**
baz=300
QRN Al-Qurain 79.03 297 *eP* **P 23 34 00.3 -0.7**
PABE Paberze 79.06 329 *eP* **P 23 34 01.4 +0.7**
PABE Paberze 79.06 329 IAmb IAmb 23 34 15.4
comp=Z,25nm,0.8s
ELK Elko 79.17 49 P **P 23 34 02.7 +0.7**
ELK pmax pmax
comp=Z,10.0nm,1.4s
ELK Elko 79.17 49 P **P 23 34 02.7 +0.7**
TPH Tonopah 79.23 52 P **P 23 34 02.7 +0.5**
TPH pmax pmax
comp=Z,52nm,1.4s
TPH Tonopah 79.23 52 P **P 23 34 02.7 +0.5**
RST Umm Al-Ruwaisa 79.37 298 *eP* **P 23 34 02.3 -0.6**
AKASG Malin Array Be 79.50 323 P **P 23 34 03.2 0.0**
comp=Z,17nm,0.8s,baz=49,slow=5.9,SNR=80
AKASG Malin Array Be 79.50 323 IAmb IAmb 23 34 04.6
comp=Z,14nm,1.0s
AKBB Malin Array Si 79.50 323 *ceP* **P 23 34 02.1 -1.1**
AKBB Malin Array Si 79.50 323 P **P 23 34 03.0 -0.2**
PBUR Paburge 79.60 330 *eP* **P 23 34 04.4 +0.7**
YHH Holmes Hill 79.74 44 P **P 23 34 05.1 0.0**
NC405 NORSAR Array S 79.85 338 IAmb IAmb 23 34 04.5
comp=Z,34nm,1.1s
HFS Hagfors 79.91 336 P **P 23 34 05.1 -0.1**
comp=Z,4.7nm,0.8s,baz=58,slow=5.4,SNR=6.9
MARD Mardin 79.95 307 P **P 23 34 06.3 +0.2**
MARD IAmb IAmb 23 34 13.5
comp=Z,14nm,0.6s
NC204 NORSAR Array S 80.03 338 P **P 23 34 06.0 +0.1**
NC204 IAmb IAmb 23 34 07.0
comp=Z,30nm,0.9s
NB201 NORSAR Array S 80.03 338 IAmb IAmb 23 34 24.3
comp=Z,32nm,1.1s
NB2 NORSAR Subarra 80.06 338 P **P 23 34 05.7 -0.4**
comp=Z,69nm,2.5s,baz=41,slow=5.6
NB2 NORSAR Subarra 80.06 338 P **P 23 34 03.5 -2.6**
NB2 pmax pmax
comp=Z,62nm,2.4s
NB2 NORSAR Subarra 80.06 338 P **P 23 34 05.7 -0.4**
baz=41,slow=5.6
NOA NORSAR Array B 80.06 338 P **P 23 34 06.0 -0.2**
comp=Z,5.0nm,0.8s,baz=40,slow=5.3,SNR=31
NOA NORSAR Array B 80.06 338 P **P 23 34 06.0 -0.2**
YNE Yellowstone No 80.12 43 IAmb IAmb 23 34 08.2
comp=Z,13nm,0.9s
R11A Troy Canyon, C 80.19 51 P **P 23 34 08.0 +0.5**
baz=302
R11A Troy Canyon, C 80.19 51 P **P 23 34 08.6 +1.2**
FLWY Flagg Ranch 80.22 44 P **P 23 34 08.8 +1.2**
FLWY IAmb IAmb 23 34 11.5
comp=Z,15nm,1.1s
FURC Furnace Creek, 80.30 53 P **P 23 34 08.6 +0.8**
baz=301
EDW2 Edwards Air Fo 80.33 55 P **P 23 34 07.9 -0.2**
baz=301
SUW Suwalki 80.36 328 *eP* **P 23 34 07.8 0.0**
SUW Suwalki 80.36 328 *eP* **P 23 34 08.6 +0.8**
TPAW Teton Pass 80.40 45 P **P 23 34 09.4 +0.9**
TPNV Topopah Spring 80.47 53 P **P 23 34 09.3 +0.3**
baz=302
RLMT Red Lodge 80.49 43 P **P 23 34 08.9 0.0**
baz=304
BGU Big Grassy Mou 80.50 48 P **P 23 34 10.2 +1.1**
LOHW Long Hollow 80.54 45 P **P 23 34 10.9 +1.6**
DUG Dugway, Tooele 81.03 48 P **P 23 34 13.4 +1.5**
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG Dugway, Tooele 81.03 48 P **P 23 34 12.4 +0.5**
baz=303
HWUT Hardware Ranch 81.06 47 IAmb IAmb 23 34 27.8
comp=Z,23nm,1.1s
PSUT Pine Spring 81.25 50 P **P 23 34 13.7 +0.6**
PPT Papeete 81.45 116 LR LR 00 08 29.3
comp=Z,164nm,18.8s,baz=328,slow=34
SHPR Sheep Range 81.45 53 P **P 23 34 14.8 +0.6**
PPT2 Papeete2 81.46 116 *e*LR LR 23 59 27.4
comp=Z,277nm,21.8s
HEC Hector,Ludlow 81.52 55 P **P 23 34 14.7 +0.2**
baz=302
BW06 Boulder Array 81.65 45 P **P 23 34 15.1 -0.1**
baz=305
BW06 Boulder Array 81.65 45 P **P 23 34 15.7 +0.5**
PD31 Pinedale Array 81.65 45 P **P 23 34 16.1 +0.8**
PDAR Pinedale Array 81.65 45 P **P 23 34 15.2 0.0**
comp=Z,6.5nm,1.0s,baz=298,slow=3.2,SNR=28
PDAR LR LR 00 05 22.1
comp=Z,152nm,21.4s,baz=315,slow=32
PDAR Pinedale Array 81.65 45 P **P 23 34 14.9 -0.3**
JLU Jordanelle 81.68 48 P **P 23 34 16.1 +0.7**
JLU IAmb IAmb 23 34 18.4
comp=Z,14nm,1.0s
GMRC Granite Mounta 82.02 54 P **P 23 34 17.1 -0.1**
baz=302
PFO Pinyon Flats O 82.07 56 P **P 23 34 18.2 +0.8**
PFO pmax pmax
comp=Z,9.0nm,0.9s
PFO Pinyon Flats O 82.07 56 P **P 23 34 17.2 -0.3**
baz=302
PFO Pinyon Flats O 82.07 56 P **P 23 34 18.2 +0.8**
TPFO Pinon Flats 82.08 56 P **P 23 34 17.5 0.0**
baz=302
CCUT Cedar City 82.11 51 P **P 23 34 18.4 +0.7**
BELC Belle Mtn. Jos 82.19 55 P **P 23 34 17.6 -0.5**
baz=302
MVU Marysvale 82.35 50 P **P 23 34 19.2 +0.3**
BNN Bunyan 82.42 311 P **P 23 34 19.7 +0.5**
GAZ Gaziantep 82.44 309 IAmb IAmb 23 34 21.6
comp=Z,27nm,1.2s
MONP2 Monument Peak 82.47 56 P **P 23 34 18.9 -0.8**
baz=302
IAS Iasi 82.49 321 P **P 23 34 19.8 +0.6**
IAS pmax pmax
comp=Z,68nm,1.0s
ILGA Ilgaz 82.54 314 P **P 23 34 20.7 +0.8**
ILGA IAmb IAmb 23 34 34.4
comp=Z,33nm,1.3s
TMUT Trail Mountain 82.56 49 P **P 23 34 20.3 +0.1**
MTPU Mount Pierson 82.62 50 P **P 23 34 21.1 +0.6**
LVV L'vov 82.67 325 *eP* **P 23 34 20.4 +0.3**
IRM Iron Mountain 82.71 55 P **P 23 34 20.5 -0.2**
baz=302
KNB Kanab 82.76 51 P **P 23 34 21.9 +0.8**
KNB pmax pmax
comp=Z,22nm,1.2s
KNB Kanab 82.76 51 P **P 23 34 21.9 +0.8**
KNB IAmb IAmb 23 34 36.7
comp=Z,22nm,1.2s
BC3 Big Chuckawall 82.76 55 P **P 23 34 21.2 +0.2**
baz=302
DY2G Dye2 82.76 3 *i P* **P 23 34 21.4 +0.8**
P17A Butcher Ranch, 82.76 48 IAmb IAmb 23 34 36.5
comp=Z,22nm,1.2s
Q16A Castle Valley 82.80 49 P **P 23 34 22.0 +0.8**
Q16A IAmb IAmb 23 34 36.9
comp=Z,16nm,1.2s
IKP In-Ko-Pah, Jac 82.83 56 P **P 23 34 21.8 +0.5**
baz=302
BEL Belsk 82.89 328 *eP* **P 23 34 21.8 +0.6**
BEL Belsk 82.89 328 P **P 23 34 22.6 +1.4**
BEL pmax pmax
comp=Z,113nm,1.2s
W13A Hualapai Mount 83.08 53 P **P 23 34 22.7 -0.1**
SRU San Rafael Swe 83.10 48 P **P 23 34 23.2 +0.4**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 83.10 48 P **P 23 34 23.2 +0.4**
SRU IAmb IAmb 23 34 37.9
comp=Z,8.4nm,0.9s
BRTR Keskin Array B 83.34 313 P **P 23 34 24.2 +0.2**
comp=Z,9.4nm,1.0s,baz=104,slow=4.0,SNR=36
BRTR Keskin Array B 83.34 313 *ceP* **P 23 34 24.7 +0.7**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
CFR Carcaliu 83.41 319 P **P 23 34 23.8 -0.2**
CFR pmax pmax
comp=Z,10.0nm,1.4s
U15A North Rim 83.44 51 P **P 23 34 24.1 -0.6**
KWP Kalwaria Pacla 83.44 325 *eP* **P 23 34 24.9 +0.7**
BUR08 Bucovina Ar. S 83.47 323 IAmb IAmb 23 34 26.0
comp=Z,13nm,0.9s
BURAR Bucovina Array 83.47 323 P **P 23 34 24.3 -0.2**
BURAR IAmb IAmb 23 34 26.4
comp=Z,16nm,0.9s
GKP Gorka Klasztor 83.48 330 *eP* **P 23 34 23.9 -0.3**
GKP Gorka Klasztor 83.48 330 *eP* **P 23 34 24.8 +0.6**
GKP Gorka Klasztor 83.48 330 P **P 23 34 23.7 -0.5**
GKP pmax pmax
comp=Z,34nm,1.3s
GLA Glamis 83.52 55 P **P 23 34 25.6 +0.7**
baz=303
K22A Casper 83.54 44 P **P 23 34 24.8 -0.2**
baz=306
K22A Casper 83.54 44 P **P 23 34 24.6 -0.3**
K22A IAmb IAmb 23 34 27.4
comp=Z,19nm,1.3s
RWWY Rawlins 83.69 45 P **P 23 34 26.0 +0.1**
RWWY IAmb IAmb 23 34 28.5
comp=Z,13nm,0.9s
VRI Vrincioaia 83.77 321 P **P 23 34 27.0 +1.1**
VRI pmax pmax
comp=Z,29nm,1.3s
ANTO Ankara 83.80 313 P **P 23 34 27.2 +1.0**
ANTO pmax pmax
comp=Z,29nm,1.2s
ANTO Ankara 83.80 313 P **P 23 34 27.2 +1.0**
O20A White River Ci 83.97 47 P **P 23 34 27.2 0.0**
baz=306
O20A White River Ci 83.97 47 IAmb IAmb 23 34 42.4
comp=Z,20nm,1.1s
RSSD Black Hills 84.10 41 P **P 23 34 28.0 +0.1**
RSSD pmax pmax
comp=Z,8.0nm,1.5s
RSSD Black Hills 84.10 41 P **P 23 34 27.8 -0.1**
baz=308
KOLS Kolonicke sedl 84.12 325 *eP* **P 23 34 28.5 +0.9**
KOLS Kolonicke sedl 84.12 325 *eP* **P 23 34 28.5 +0.9**
TAOE Nuku Hiva Isla 84.20 104 *e*LR LR 00 00 44.0
comp=Z,287nm,21.2s
UZH Uzhgorod 84.31 325 *eP* **P 23 34 25.6 -2.9**
UZH *i* 23 34 28.1
UZH *i* 23 34 35.5
Y14A Wickenburg 84.32 54 P **P 23 34 29.9 +0.9**
BMR Baia Mare 84.33 323 P **P 23 34 30.0 +1.3**
BMR pmax pmax
comp=Z,29nm,0.9s
ULM Lac du Bonnet 84.37 33 P **P 23 34 28.3 -0.6**
comp=Z,2.4nm,0.7s,baz=311,slow=8.3,SNR=3.5
ULM LR LR 00 10 29.4
comp=Z,289nm,21.6s,baz=293,slow=34
MLR Muntele Rosu 84.43 321 P **P 23 34 28.3 -1.1**
comp=Z,5.0nm,0.9s,baz=25,slow=4.0,SNR=5.9
OJC Ojcow 84.45 327 *eP* **P 23 34 29.5 +0.2**
OJC Ojcow 84.45 327 P **P 23 34 30.2 +1.0**
OJC pmax pmax
comp=Z,32nm,1.4s
TRPA Tarpa 84.52 324 *eP* **P 23 34 30.1 +0.5**
CRVS Cervenica-Dubn 84.54 325 *eP* **P 23 34 30.4 +0.7**
CRVS pmax pmax
comp=Z,54nm,1.5s
CRVS Cervenica-Dubn 84.54 325 *eP* **P 23 34 30.4 +0.7**
PV22 Blue Mesa, Par 84.55 48 P **P 23 34 32.1 +1.9**
PV22 IAmb IAmb 23 34 46.5
comp=Z,16nm,1.2s
WUAZ Wupatki 84.56 52 P **P 23 34 30.2 -0.2**
baz=304
WUAZ Wupatki 84.56 52 P **P 23 34 31.2 +0.9**
WUAZ IAmb IAmb 23 34 33.1
comp=Z,12nm,1.1s
LNIZ Loecknitz 84.58 332 *eP* **P 23 34 30.3 +0.5**
comp=Z,23nm,0.9s,baz=40,slow=4.8
LNIZ *ep*P **pwP 23 34 43.5 +1.1**
PV16 Nyswonger Mesa 84.59 48 IAmb IAmb 23 34 45.8
comp=Z,19nm,1.0s
PV11 David Mesa, Pa 84.63 48 P **P 23 34 31.6 +0.9**
NUUK Nuuk 84.65 6 *i P* **P 23 34 30.6 +0.6**
NUUK IAmb IAmb 23 34 31.9
comp=Z,9.0nm,0.9s
PV12 Saucer Basin, 84.66 48 IAmb IAmb 23 34 46.8
comp=Z,16nm,1.0s
PV07 Paradox Valley 84.69 48 P **P 23 34 31.3 +0.3**
PV13 Radium Mtn., P 84.74 48 IAmb IAmb 23 34 46.3
comp=Z,16nm,1.0s
PV02 Paradox Valley 84.77 48 P **P 23 34 31.7 +0.3**
PV02 IAmb IAmb 23 34 58.1
comp=Z,14nm,0.9s
PV15 Paradox Valley 84.85 48 P **P 23 34 32.7 +0.8**
PV15 IAmb IAmb 23 34 47.0
comp=Z,13nm,1.2s
PV01 Paradox Valley 84.92 48 P **P 23 34 32.8 +0.6**
PV01 IAmb IAmb 23 34 47.3
comp=Z,18nm,1.1s
N23A Red Feather La 84.93 45 P **P 23 34 32.1 -0.1**
baz=307
TBI Tubuai 84.94 121 *e*LR LR 00 01 10.1
comp=Z,292nm,23.5s
X16A Lo Mia Camp, P 85.13 53 P **P 23 34 34.1 +0.9**
DRGR 85.31 323 P **P 23 34 34.3 +0.6**
DRGR pmax pmax
comp=Z,8.0nm,1.7s
SMCO Snowmass 85.32 47 IAmb IAmb 23 34 49.9
comp=Z,16nm,1.1s
LANS Liptovska Anna 85.34 326 *eP* **P 23 34 35.1 +1.3**
LANS pmax pmax
comp=Z,6.0nm,0.9s
LANS Liptovska Anna 85.34 326 *eP* **P 23 34 35.1 +1.3**
OKC Ostrava-Krasne 85.48 327 *eP* **P 23 34 35.1 +0.7**
OKC *e*S **S 23 45 07.6 +2.9**
OKC Ostrava-Krasne 85.48 327 *eP* **P 23 34 35.1 +0.7**
OKC *e*S **S 23 45 07.6 +2.9**
MVCO Mesa Verde 85.50 49 P **P 23 34 35.0 -0.1**
baz=306
MVCO Mesa Verde 85.50 49 P **P 23 34 35.8 +0.7**
MVCO IAmb IAmb 23 34 45.4
comp=Z,11nm,1.2s
214A Organ Pipe Nat 85.55 55 P **P 23 34 35.7 +0.5**
baz=304
214A Organ Pipe Nat 85.55 55 P **P 23 34 36.5 +1.3**
214A IAmb IAmb 23 34 37.9
comp=Z,8.9nm,1.1s
KSP Ksiaz 85.61 329 *eP* **P 23 34 35.1 0.0**
KSP Ksiaz 85.61 329 P **P 23 34 35.9 +0.8**
KSP pmax pmax
comp=Z,25nm,0.9s
AGMN Agassiz Nation 85.71 35 P **P 23 34 36.2 +0.6**
baz=313
BSEG Bad Segeberg 85.78 334 P **P 23 34 35.9 +0.1**
BSEG pmax pmax
comp=Z,22nm,1.2s
BSEG Bad Segeberg 85.78 334 *eP* **P 23 34 35.5 -0.3**
comp=Z,11nm,0.8s,baz=40,slow=4.8
BSEG *ep*P **pwP 23 34 48.9 +0.5**
ISCO Idaho Springs 85.79 46 P **P 23 34 37.2 +0.6**
ISCO pmax pmax
comp=Z,8.0nm,1.1s
ISCO Idaho Springs 85.79 46 P **P 23 34 36.0 -0.6**
baz=307
ISCO Idaho Springs 85.79 46 P **P 23 34 37.2 +0.6**
MORC Moravsky Berou 85.80 328 P **P 23 34 36.8 +0.7**
MORC pmax pmax
comp=Z,15nm,1.5s
MORC Moravsky Berou 85.80 328 IAmb IAmb 23 34 37.6
comp=Z,29nm,1.5s
MORC Moravsky Berou 85.80 328 *eP* **P 23 34 36.0 -0.1**
OSTC Ostas 85.85 329 *eP* **P 23 34 37.2 +0.9**
OSTC *e*S **S 23 45 10.3 +1.9**
CHVC Chvalec 85.90 329 *eP* **P 23 34 37.2 +0.7**
KRLC Kraliky 85.94 328 *eP* **P 23 34 37.8 +1.0**
KRLC *e*S **S 23 45 12.9 +3.6**
KRLC Kraliky 85.94 328 *eP* **P 23 34 37.8 +1.0**
KRLC *e*S **S 23 45 12.9 +3.6**
DPC Dobruska-Polom 85.95 329 *eP* **P 23 34 37.5 +0.7**
DPC *e*S **S 23 45 11.6 +2.2**
DPC Dobruska-Polom 85.95 329 *eP* **P 23 34 37.5 +0.7**
DPC *e*S **S 23 45 11.6 +2.2**
MMAI Mount Meron Ar 85.97 306 P **P 23 34 37.1 -0.2**
comp=Z,2.7nm,0.7s,baz=120,slow=5.7,SNR=9.4
PSZ Piszkesteto 85.97 325 *eP* **P 23 34 36.6 -0.4**
PSZ Piszkesteto 85.97 325 P **P 23 34 37.2 +0.2**
PSZ pmax pmax
comp=Z,15nm,1.1s

PSZ	**Piszkesteto**	**85.97 325**	P	**P**	**23 34 37.2**	**+0.2**
PSZ			IAmb	IAmb	23 34 38.6	
	comp=Z,14nm,1.1s					
UPC	**Upice**	**85.98 329**	*e*S	**S**	**23 45 10.9**	**+1.3**
VYHS	**Vyhne**	**86.09 326**	*e*P	**P**	**23 34 37.9**	**+0.4**
VYHS			pmax	pmax		
	comp=Z,16nm,1.0s					
VYHS	**Vyhne**	**86.09 326**	*e*P	**P**	**23 34 37.9**	**+0.4**
S22A	**4UR Ranch, Cre**	**86.26 48**	P	**P**	**23 34 39.0**	**+0.1**
	baz=307					
CSS	**Mathiatis**	**86.28 309**	IAmb	IAmb	23 34 45.4	
	comp=Z,12nm,0.8s					
JAVC	**Velka Javorina**	**86.39 327**	*e*P	**P**	**23 34 40.1**	**+1.1**
VRAC	**Vranov**	**86.57 328**	P	**P**	**23 34 40.2**	**+0.3**
	comp=Z,13nm,1.1s,baz=58,slow=4.6,SNR=18					
VRAC	**Vranov**	**86.57 328**	*e*P	**P**	**23 34 40.1**	**+0.3**
Q24A	**Divide**	**86.58 46**	P	**P**	**23 34 40.3**	**-0.2**
	baz=308					
BRG	**Berggiesshubel**	**86.62 330**	P	**P**	**23 34 40.1**	**+0.1**
BRG			pmax	pmax		
	comp=Z,8.0nm,2.3s					
BRG	**Berggiesshubel**	**86.62 330**	*e*P	**P**	**23 34 40.3**	**+0.2**
BRG			Amp		23 34 42.2	
	comp=Z,40nm,1.9s					
BRG	**Berggiesshubel**	**86.62 330**	Amp		23 34 55.1	
	comp=Z,11nm,1.3s					
BRG	**Berggiesshubel**	**86.62 330**	*e*P	**P**	**23 34 39.9**	**-0.1**
	baz=40,slow=4.8					
BRG	**Berggiesshubel**	**86.62 330**	P	P	23 34 52.4	+12
FLTG	**Flechtingen**	**86.65 332**	*e*P	**P**	**23 34 39.8**	**-0.4**
	comp=Z,11nm,1.1s,baz=40,slow=4.8					
FLTG			*e*pP	**pwP**	**23 34 52.7**	**0.0**
BZS	**Buzias**	**86.66 323**	P	**P**	**23 34 39.7**	**-0.6**
BZS			pmax	pmax		
	comp=Z,4.0nm,2.2s					
CLL	**Collm**	**86.69 331**	*i* P	**P**	**23 34 39.7**	**-0.7**
	comp=Z,25nm,1.3s					
CLL			*i* (sP)	**pwP**	**23 34 52.5**	**-0.4**
CLL			*e*PP	**PP**	**23 38 01.0**	**-0.9**
CLL			*e*S	**S**	**23 45 15.0**	**-1.5**
CLL			*e*PS	**PnS**	**23 46 12.0**	**-4.0**
CLL			*e*SS	**SS**	**23 50 54.0**	**-2.6**
CLL			*e*		23 56 06.0	
CLL	**Collm**	**86.69 331**	*i* P	**P**	**23 34 39.7**	**-0.7**
CLL			*e*S	**S**	**23 45 15.0**	**-1.5**
CLL			pmax	pmax		
	comp=Z,25nm,1.3s					
CLL	**Collm**	**86.69 331**	*e*P	**P**	**23 34 40.5**	**+0.1**
	comp=Z,7.9nm,0.9s,baz=40,slow=4.8					
SMOL	**Smolenice**	**86.75 327**	*e*P	**P**	**23 34 41.5**	**+0.8**
SMOL	**Smolenice**	**86.75 327**	*e*P	**P**	**23 34 41.5**	**+0.8**
TUC	**Tucson**	**86.77 54**	P	**P**	**23 34 40.9**	**-0.4**
TUC			pmax	pmax		
	comp=Z,7.0nm,1.3s					
TUC	**Tucson**	**86.77 54**	P	**P**	**23 34 41.7**	**+0.4**
	baz=305					
TUC	**Tucson**	**86.77 54**	P	**P**	**23 34 40.9**	**-0.4**
FBE	**Freiberg**	**86.83 330**	*e*P	**P**	**23 34 41.5**	**+0.5**
	comp=Z,4.5nm,0.9s,baz=40,slow=4.8					
KRUC	**Moravsky**	**86.84 328**	P	**P**	**23 34 41.8**	**+0.6**
KRUC			pmax	pmax		
	comp=Z,13nm,1.5s					
KRUC	**Moravsky**	**86.84 328**	*e*P	**P**	**23 34 41.1**	**-0.1**
MODS	**Modra-Piesok**	**86.92 327**	*e*P	**P**	**23 34 43.2**	**+1.6**
MODS			pmax	pmax		
	comp=Z,21nm,1.3s					
MODS	**Modra-Piesok**	**86.92 327**	*e*P	**P**	**23 34 43.2**	**+1.6**
NRDL	**Niedersach Rie**	**86.97 333**	*e*P	**P**	**23 34 42.1**	**+0.5**
	baz=40,slow=4.8					
NRDL			*e*pP	**pwP**	**23 34 54.3**	**+0.1**
PRU	**Pruhonice**	**87.00 329**	*e*P	P	23 34 48.9	+7.0
PRU			*e*S	**S**	**23 45 20.6**	**+1.0**
PRU	**Pruhonice**	**87.00 329**	*e*pP	**pP**	**23 34 48.9**	**+2.2**
PRU			*e*S	**S**	**23 45 20.6**	**+1.0**
TREC	**Trest**	**87.09 328**	*e*S	**S**	**23 45 24.0**	**+3.5**
SDCO	**Great Sand Dun**	**87.10 47**	P	**P**	**23 34 43.3**	**+0.3**
	baz=307					
SDCO	**Great Sand Dun**	**87.10 47**	P	**P**	**23 34 43.4**	**+0.3**
ZST	**Bratislava**	**87.12 327**	*e*P	**P**	**23 34 43.4**	**+0.8**
ZST	**Bratislava**	**87.12 327**	*e*P	**P**	**23 34 43.4**	**+0.8**
CLZ	**Clausthal**	**87.37 332**	*e*P	**P**	**23 34 44.2**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=40,slow=4.8					
MPLH	**Magyarpolny**	**87.64 326**	*e*P	**P**	**23 34 44.3**	**-0.7**
NKC	**Novy Kostel**	**87.73 330**	*e*P	**P**	**23 34 45.9**	**+0.4**
NKC	**Novy Kostel**	**87.73 330**	*e*P	**P**	**23 34 45.9**	**+0.4**
GTTG	**Gottingen**	**87.76 332**	*e*P	**P**	**23 34 46.0**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=40,slow=4.8					
MORH	**Mrgy, Hungar**	**87.77 325**	*e*P	**P**	**23 34 44.9**	**-0.7**
MOX	**Moxa**	**87.77 331**	*e*P	**P**	**23 34 45.7**	**+0.1**
	comp=Z,5.2nm,1.3s,baz=40,slow=4.8					
VTS	**Vitosha**	**87.78 320**	P	**P**	**23 34 46.5**	**+0.5**
VTS			pmax	pmax		
	comp=Z,5.0nm,0.9s					
CONA	**Conrad Observa**	**87.90 327**	*e*P	**P**	**23 34 47.2**	**+0.8**
	comp=Z,6.1nm,1.0s,SNR=5.6					
CKRC	**Cesky Krumlov**	**87.96 328**	*e*P	**P**	**23 34 47.6**	**+1.0**
CKRC			*e*S	**S**	**23 45 33.3**	**+4.4**
IBBN	**Ibbenburen**	**88.02 334**	*e*P	**P**	**23 34 46.7**	**-0.1**
	comp=Z,12nm,0.9s,baz=40,slow=4.8					
EYMN	**Ely**	**88.04 33**	P	**P**	**23 34 47.1**	**+0.1**
	baz=316					
KHC	**Kasperske Hory**	**88.06 329**	*e*P	**P**	**23 34 47.7**	**+0.6**
KHC			*e*S	**S**	**23 45 29.8**	**0.0**
KHC	**Kasperske Hory**	**88.06 329**	*e*P	**P**	**23 34 47.7**	**+0.6**
KHC			*e*S	**S**	**23 45 29.8**	**0.0**
MANZ	**Manzenberg**	**88.06 330**	*e*P	**P**	**23 34 47.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=40,slow=4.8					
T25A	**Trinidad**	**88.16 47**	P	**P**	**23 34 48.2**	**+0.2**
	baz=308					
T25A	**Trinidad**	**88.16 47**	P	P	**23 34 48.2**	**+0.2**
T25A			IAmb	IAmb	23 35 03.4	
	comp=Z,7.4nm,1.1s					
ANMO	**Albuquerque**	**88.17 50**	*ce*P	**P**	**23 34 49.6**	**+1.5**
ANMO			pmax	pmax		
	comp=Z,4.0nm,1.3s					
ANMO	**Albuquerque**	**88.17 50**	P	**P**	**23 34 48.5**	**+0.4**
	baz=307					
ANMO	**Albuquerque**	**88.17 50**	P	**P**	**23 34 48.7**	**+0.6**
EIL	**Elat**	**88.18 304**	P	**P**	**23 34 47.0**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=108,slow=13,SNR=2.3					
ROTZ	**Rotzenmuhle**	**88.18 330**	*e*P	**P**	**23 34 47.7**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=40,slow=4.8					
GEC2	**GERESS Array S**	**88.22 329**	*e*P	**P**	**23 34 47.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=40,slow=4.8					
GERES	**GERESS Array B**	**88.22 329**	P	**P**	**23 34 46.0**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=102,slow=5.6,SNR=8.7					
GERES			PP	**PP**	**23 38 15.5**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=61,slow=11,SNR=4.2					
GERES			LR	LR	00 17 23.4	
	comp=Z,249nm,20.7s,baz=36,slow=38					
GERES	**GERESS Array B**	**88.22 329**	P	**P**	**23 34 47.4**	**-0.5**
GERES	**GERESS Array B**	**88.22 329**	P	**P**	**23 34 47.4**	**-0.5**
WET	**Wettzell**	**88.36 329**	*e*P	**P**	**23 34 48.7**	**+0.2**
	baz=40,slow=4.8					
ECSD	**EROS Data Cent**	**88.44 38**	P	**P**	**23 34 50.0**	**+1.0**
	baz=313					
ECSD	**EROS Data Cent**	**88.44 38**	IAmb	IAmb	23 34 51.0	
	comp=Z,9.8nm,1.1s					
DIVS	**Divibare**	**88.54 322**	P	**P**	**23 34 48.4**	**-1.1**
DIVS			IAmb	IAmb	23 34 50.1	
	comp=Z,7.0nm,1.0s					
ARSA	**Arzberg**	**88.55 327**	*e*P	**P**	**23 34 48.0**	**-1.5**
	comp=Z,6.1nm,1.1s					
KASTN	**Kahler Asten**	**88.64 333**	*e*P	**P**	**23 34 50.0**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=40,slow=4.8					
MOA	**Molln**	**88.69 328**	*e*P	**P**	**23 34 51.0**	**+0.9**
	comp=Z,4.1nm,1.1s					
E38A	**The Farm, Brul**	**88.98 34**	P	**P**	**23 34 51.4**	**0.0**
E38A			IAmb	IAmb	23 35 06.0	
	comp=Z,11nm,0.9s					
EKA	**Eskdalemuir Ar**	**89.10 341**	P	**P**	**23 34 52.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=43,slow=6.4,SNR=4.5					
SOKA	**Soboth**	**89.19 327**	*e*P	**P**	**23 34 51.9**	**-0.6**
	comp=Z,16nm,1.5s,SNR=9.5					
DOBS	**Dobrina**	**89.37 326**	*i* P	**P**	**23 34 52.9**	**-0.4**
GOLS	**Golise**	**89.39 326**	*i* P	**P**	**23 34 52.8**	**-0.7**
RJOB	**Jochberg**	**89.44 328**	*e*P	**P**	**23 34 53.9**	**+0.2**
	comp=Z,12nm,0.8s,baz=40,slow=4.8					
OBKA	**Obir**	**89.55 327**	*e*P	**P**	**23 34 53.2**	**-1.0**
	comp=Z,5.1nm,0.9s					
KBA	**Koelnbreinsper**	**89.69 328**	P	**P**	**23 34 54.7**	**-0.3**
KBA			pmax	pmax		
	comp=Z,10.0nm,0.9s					
MYKA	**Terra Mystica**	**89.88 327**	*i* P	**P**	**23 34 54.4**	**-1.4**
	comp=Z,6.5nm,0.9s					
JAVS	**Javornik**	**90.23 327**	*i* P	**P**	**23 34 55.8**	**-1.6**
ZOU	**Zoufplan**	**90.25 328**	IAmb	IAmb	23 35 09.3	
	comp=Z,8.9nm,1.0s					
WATA	**Walderalm**	**90.29 329**	*i* P	**P**	**23 34 58.0**	**+0.3**
	comp=Z,4.3nm,0.9s					
ABTA	**Abfaltersbach**	**90.31 328**	*i* P	**P**	**23 34 56.1**	**-1.7**
	comp=Z,9.4nm,1.1s					
WTTA	**Wattenberg**	**90.32 329**	*i* P	**P**	**23 34 57.4**	**-0.5**
	comp=Z,9.7nm,1.6s					
WTTA	**Wattenberg**	**90.32 329**	P	**P**	**23 34 57.6**	**-0.3**
WTTA			pmax	pmax		
	comp=Z,7.0nm,1.7s					
MOTA	**Moosalm**	**90.50 329**	*e*P	**P**	**23 34 57.4**	**-1.3**
	comp=Z,8.7nm,1.1s					
RETA	**Reutte**	**90.54 329**	*e*P	**P**	**23 34 57.9**	**-0.9**
	comp=Z,11nm,1.1s,SNR=7.3					
SQTA	**Sankt Quirin**	**90.54 329**	*e*P	**P**	**23 34 58.4**	**-0.4**
	comp=Z,7.4nm,1.5s					
STAL	**STALIGIAL**	**90.59 328**	IAmb	IAmb	23 34 58.5	
	comp=Z,12nm,1.1s					
UBR	**Ueberruh**	**90.67 330**	*e*P	**P**	**23 34 59.4**	**0.0**
	comp=Z,6.4nm,1.0s,baz=40,slow=4.8					
MNTX	**Cornudas Mount**	**90.84 52**	P	**P**	**23 35 01.8**	**+1.3**
	baz=308					
MNTX	**Cornudas Mount**	**90.84 52**	P	**P**	**23 35 00.9**	**+0.5**
FETA	**Feichten**	**90.91 329**	*e*P	**P**	**23 34 59.9**	**-0.8**
	comp=Z,8.6nm,1.3s					
BFO	**Black Forest**	**90.92 331**	P	**P**	**23 35 00.5**	**0.0**
BFO			pmax	pmax		
	comp=Z,13nm,1.1s					
BFO	**Black Forest**	**90.92 331**	P	**P**	**23 35 00.5**	**0.0**
BFO			IAmb	IAmb	23 35 01.4	
	comp=Z,13nm,1.1s					
BFO	**Black Forest**	**90.92 331**	*e*P	**P**	**23 35 00.5**	**0.0**
	comp=Z,7.2nm,1.0s,baz=40,slow=4.8					
DAVA	**Damuels**	**91.08 330**	*e*P	**P**	**23 35 00.2**	**-1.2**
	comp=Z,14nm,0.9s,SNR=6.0					
AMTX	**Amarillo**	**91.29 47**	P	**P**	**23 35 03.7**	**+1.2**
	baz=310					
DAVOX	**Davos/Dischmat**	**91.47 329**	P	**P**	**23 35 02.4**	**-0.9**
	comp=Z,7.2nm,1.1s,baz=56,slow=2.3,SNR=7.8					
ECH	**Echery**	**91.50 332**	P	**P**	**23 35 03.3**	**+0.1**
ECH			pmax	pmax		
	comp=Z,8.0nm,1.4s					
ECH	**Echery**	**91.50 332**	IAmb	IAmb	23 35 03.9	
	comp=Z,9.1nm,1.1s					
MATQ	**Matagami**	**92.33 24**	P	**P**	**23 35 08.9**	**+2.0**
	baz=327					
SENIN	**Lac Senin/Sane**	**92.90 330**	P	**P**	**23 35 09.4**	**-0.6**
SENIN			IAmb	IAmb	23 35 10.7	
	comp=Z,15nm,1.4s					
P38A	**Dawn**	**92.94 40**	P	**P**	**23 35 10.9**	**+0.9**
P38A			IAmb	IAmb	23 35 12.2	
	comp=Z,5.5nm,0.8s					
NRCA	**Norcia**	**92.94 325**	IAmb	IAmb	23 35 22.9	
	comp=Z,6.1nm,1.1s					
TX31	**Lajitas Ar. Si**	**93.46 53**	P	**P**	**23 35 13.4**	**+0.8**
TX32	**Lajitas Array**	**93.46 53**	IAmb	IAmb	23 35 28.8	
	comp=Z,9.9nm,0.9s					
TXAR	**Lajitas Array**	**93.46 53**	P	**P**	**23 35 13.1**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=288,slow=1.9,SNR=50					
TXAR			LR	LR	00 13 54.7	
	comp=Z,325nm,19.6s,baz=0.0,slow=33					
TXAR	**Lajitas Array**	**93.46 53**	P	**P**	**23 35 13.3**	**+0.6**
P40A	**Paris**	**93.82 39**	P	**P**	**23 35 14.4**	**+0.4**
P40A			IAmb	IAmb	23 35 29.3	
	comp=Z,6.4nm,0.9s					
ABTX	**Abilene, Hawle**	**94.04 48**	P	**P**	**23 35 15.5**	**+0.3**
	baz=311					
BNI	**Bardonecchia**	**94.21 330**	P	**P**	**23 35 16.1**	**+0.2**
BNI			pmax	pmax		
	comp=Z,10.0nm,1.3s					
BNI	**Bardonecchia**	**94.21 330**	P	**P**	**23 35 16.1**	**+0.2**
BNI			IAmb	IAmb	23 35 33.1	
	comp=Z,9.6nm,1.3s					
CCM	**Cathedral Cave**	**95.31 39**	P	**P**	**23 35 21.5**	**+0.6**
CCM			pmax	pmax		
	comp=Z,5.0nm,1.0s					
CCM	**Cathedral Cave**	**95.31 39**	P	**P**	**23 35 20.7**	**-0.2**
	baz=316					
CCM	**Cathedral Cave**	**95.31 39**	P	**P**	**23 35 21.5**	**+0.6**
CCM			IAmb	IAmb	23 35 35.4	
	comp=Z,5.4nm,0.9s					
JCT	**Junction City**	**95.33 50**	P	**P**	**23 35 21.5**	**+0.3**
	baz=311					
U40A	**Yellville**	**95.63 42**	P	**P**	**23 35 22.4**	**0.0**
	baz=315					
MIAR	**Mount Ida**	**96.48 43**	P	**P**	**23 35 25.5**	**-0.8**
MIAR			pmax	pmax		
	comp=Z,4.0nm,0.9s					
MIAR	**Mount Ida**	**96.48 43**	P	**P**	**23 35 26.3**	**0.0**
	baz=315					
MIAR	**Mount Ida**	**96.48 43**	P	**P**	**23 35 25.5**	**-0.8**
MIAR			IAmb	IAmb	23 35 41.8	
	comp=Z,4.3nm,0.9s					
D60A	**Saint Jean D'O**	**97.06 22**	P	**P**	**23 35 28.3**	**-0.4**
	baz=332					
G63A	**Kingsbury**	**99.08 22**	P	**Pdif**	**23 35 36.2**	**-1.6**
	baz=333					
J60A	**Lant Hill Farm**	**99.40 25**	P	**Pdif**	**23 35 38.7**	**-0.5**
	baz=330					
ESDC	**Sonseca Array**	**103.03 334**	PP	PP	23 39 58.1	-11
	comp=Z,1.0nm,1.1s,baz=23,slow=6.4,SNR=4.8					
TORD	**Torodi Ar. Bea**	**121.96 313**	PKP	**PKPdf**	**23 40 51.0**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=20,slow=2.9,SNR=3.7					
TORD			PP	PP	23 42 12.4	-12
	comp=Z,1.5nm,0.8s,baz=33,slow=7.0,SNR=6.7					
SYO	**Syowa Base**	**122.88 205**	⇓*e*X	**Pdif**	**23 37 17.0**	**-5.8**
SDV	**Santo Domingo**	**129.57 44**	*e*P	**PKiKP**	**23 41 07.7**	**+0.3**
ETMB	**Extrema**	**146.42 57**	*e*P	**PKPbc**	**23 41 38.2**	**-0.2**
MCPB	**Macapa, AP**	**146.85 26**	*e*P	**PKPab**	**23 41 40.5**	**-0.4**
MALB	**Monte Alegre**	**147.28 31**	*e*P	**PKPbc**	**23 41 41.5**	**+0.7**
ITTB	**Itaituba**	**148.78 36**	*e*P	**PKPbc**	**23 41 44.4**	**-0.5**
LPAZ	**La Paz**	**148.91 69**	PKPbc	**PKPbc**	**23 41 44.1**	**-1.8**
	comp=Z,5.8nm,0.9s,baz=311,slow=5.1,SNR=15					
LPAZ	**La Paz**	**148.91 69**	*e*P	**PKPdf**	**23 41 43.2**	**+1.3**
PB11	**IPOC Station P**	**149.41 76**		**PKiKP**	**23 41 47.3**	**-0.3**
TMAB	**Tom-Au,PA,Br**	**150.08 21**	*e*P	**PKPbc**	**23 41 46.1**	**-2.0**
NPGB	**Novo Progresso**	**151.25 38**	*e*P	**PKPdf**	**23 41 47.6**	**+2.7**
LVC	**Limon Verde**	**151.25 81**	PKIKP	**PKiKP**	**23 41 52.4**	**+0.8**
LVC	**Limon Verde**	**151.25 81**		**PKiKP**	**23 41 52.4**	**+0.8**
PLCA	**Paso Flores**	**151.95 120**	PKPbc	**PKPbc**	**23 41 50.0**	**-1.8**
	comp=Z,4.6nm,0.9s,baz=266,slow=2.4,SNR=4.3					
BO02	**Sierra Bellavi**	**152.23 107**		**PKiKP**	**23 41 53.9**	**+1.0**
VA03	**San Esteban**	**152.32 103**	PKPdf	**PKPdf**	**23 41 46.7**	**+0.6**
VILB	**Vilhena**	**152.84 54**	*e*P	**PKPdf**	**23 41 50.3**	**+3.1**
PRPB	**Parauapebas**	**153.04 27**	*e*P	**PKPdf**	**23 41 50.8**	**+3.2**
NBPS	**Pedro II - PI**	**153.46 8**	*e*P	**PKPdf**	**23 41 51.7**	**+3.4**
NBPA	**Parau_RN**	**155.00 358**	*e*P	**PKPdf**	**23 41 54.0**	**+3.6**
RCBR	**Riachuelo**	**155.01 355**	*e*P	**PKPdf**	**23 41 53.2**	**+2.8**
SMTB	**Santa Maria do**	**156.34 24**	*e*P	**PKPdf**	**23 41 55.0**	**+2.9**
SNDB	**Serra Nova Dou**	**157.52 36**	*e*P	**PKPdf**	**23 41 56.2**	**+2.6**
NBRF	**Rio Formoso -**	**157.76 353**	*e*P	**PKPdf**	**23 41 57.3**	**+3.4**
SALV	**Santo Antonio**	**158.00 51**	*e*P	**PKPdf**	**23 41 58.1**	**+3.9**
ARAG	**Araguaiana, MT**	**160.30 43**	*e*P	**PKPdf**	**23 41 58.2**	**+1.4**
SDBA	**SAO DESIDERIO**	**160.55 21**	*e*P	**PKPdf**	**23 42 01.2**	**+4.0**
JANB	**Januaria**	**163.22 22**	*e*P	**PKPdf**	**23 42 04.1**	**+4.2**
IPMB	**Ipameri, GO**	**164.16 38**	*e*P	**PKPdf**	**23 42 04.4**	**+3.7**
TRCB	**Terra Rica**	**164.66 62**	*e*P	**PKPdf**	**23 42 03.7**	**+2.6**
MC01	**Montes Claros**	**164.89 22**	*e*P	**PKPdf**	**23 42 05.3**	**+3.9**
RCLB	**Rio Claro- Sao**	**168.02 48**	*e*P	**PKPdf**	**23 42 08.1**	**+4.4**

TRN ***13*** *23:29:48.8, 10°.85N×62°.12W, h94km, MD3.8*
FUNV ***13*** *23:29:50.5, 10°.78N×62°.12W, h30km, MW3.7*

ISC 13 23:29:47.2±1.3, 10°.80N±0°.03×62°.14W±0°.04, h104km±11km, n27, σ1s70/48, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.74**	**102**	⇓*i*P	**Pn**	**23 30 06.8**	**+1.6**
TRN				*e*S	**Sn**	**23 30 18.1**	**-0.7**
TRN	**Trinidad (W)**	**0.74**	**102**	*e*S	**Sn**	**23 30 15.3**	**-3.6**
CRUV	**Carupano**	**1.09**	**263**	⇑*e*P	**Pn**	**23 30 10.2**	**+1.4**
CRUV				*e*S	**Sn**	**23 30 22.9**	**-2.2**
TBH	**Brigand Hill**	**1.10**	**107**	*e*P	Pn	23 30 20.3	+11
GRGR	**Grenville**	**1.40**	**20**	*e*P	**Pn**	**23 30 13.6**	**+1.0**
GRGR				*e*S	**Sn**	**23 30 31.1**	**-0.6**
GRGR	**Grenville**	**1.40**	**20**	*e*P	**Pn**	**23 30 13.5**	**+1.0**
GRGR				*e*S	**Sn**	**23 30 31.3**	**-0.4**
TOSP	**Speyside**	**1.65**	**72**	*e*P	**Pn**	**23 30 16.5**	**+1.1**
TOSP				*e*S	**Sn**	**23 30 36.3**	**-0.6**
TOSP	**Speyside**	**1.65**	**72**	*e*P	**Pn**	**23 30 16.6**	**+1.1**
TOSP				*e*S	**Sn**	**23 30 36.3**	**-0.6**
GCMP	**Grenada, Carri**	**1.81**	**23**	*e*P	**Pn**	**23 30 18.7**	**+1.2**
GCMP				*e*S	**Sn**	**23 30 40.1**	**-0.5**
SVOC	**Richmond Hill,**	**2.50**	**21**	*e*P	**Pn**	**23 30 27.4**	**+1.0**
SVOC				*e*S	**Sn**	**23 30 56.6**	**+0.1**
PCRV	**Puerto La Cruz**	**2.54**	**256**	*e*P	**Pn**	**23 30 29.0**	**+2.1**
PCRV				*e*S	**Sn**	**23 30 57.2**	**-0.2**
SVB	**Belmont**	**2.60**	**19**	*e*P	**Pn**	**23 30 28.6**	**+0.9**
SVB				*e*S	**Sn**	**23 30 57.5**	**-1.5**
RIOV	**Rio Grande**	**2.74**	**173**	*e*P	**Pn**	**23 30 31.2**	**+1.7**
RIOV				*e*S	**Sn**	**23 31 01.2**	**-0.9**
MCLT	**Moule a Chique**	**3.12**	**22**	*e*P	**Pn**	**23 30 35.2**	**+0.6**
MCLT				*e*S	**Sn**	**23 31 09.5**	**-1.7**
PRGV	**PARIAGUAN**	**3.20**	**231**	*e*P	**Pn**	**23 30 37.3**	**+1.6**
PRGV				*e*S	**Sn**	**23 31 13.5**	**+0.4**
SLBI	**Saint Lucia, B**	**3.40**	**19**	*e*P	**Pn**	**23 30 39.7**	**+1.4**
SLBI				*e*S	**Sn**	**23 31 16.3**	**-1.5**
MPOM	**Morne Pois Mar**	**3.83**	**19**	*e*P	**Pn**	**23 30 45.8**	**+1.7**
MPOM				*e*S	**Sn**	**23 31 26.3**	**-1.9**
BIM	**Bigot**	**3.83**	**16**	*e*P	**Pn**	**23 30 45.6**	**+1.4**
BIM				*e*S	**Sn**	**23 31 25.9**	**-2.5**
BIRV	**Birongo**	**4.08**	**266**	*e*P	**Pn**	**23 30 49.6**	**+2.1**
BIRV				*e*S	**Sn**	**23 31 32.8**	**-1.4**
MERV	**Las Mercedes**	**4.38**	**250**	*e*P	**Pn**	**23 30 53.1**	**+1.6**
MERV				*e*S	**Sn**	**23 31 39.6**	**-1.9**
TACV	**Tcata**	**4.86**	**263**	*e*P	**Pn**	**23 30 59.5**	**+1.5**
TACV				*e*S	**Sn**	**23 31 52.4**	**-0.8**
LUEV	**Luepa**	**4.97**	**172**	*e*P	**Pn**	**23 31 01.0**	**+1.2**
LUEV				*e*S	**Sn**	**23 31 53.5**	**-2.7**
BENV	**Beln**	**5.44**	**262**	*e*S	**Sn**	**23 32 05.1**	**-2.2**
TURV	**Turiamo**	**5.62**	**267**	*e*P	**Pn**	**23 31 10.1**	**+1.8**
TURV				*e*S	**Sn**	**23 32 08.6**	**-3.0**
BAUV	**El Baul**	**6.10**	**253**	*e*P	**Pn**	**23 31 17.3**	**+2.3**
BAUV	**El Baul**	**6.10**	**253**	*e*S	**Sn**	**23 32 21.1**	**-2.4**
BAUV	**El Baul**	**6.10**	**253**	*e*P	**Pn**	**23 31 15.3**	**+0.4**
BAUV				*e*S	**Sn**	**23 32 20.5**	**-2.9**

ROM 13 23:32:28.1±0.1, 43°.527N±0°.004×12°.605E±0°.005, h12km±1km, ML0.9/7, 2C-1D, Error ellipse: s-maj=0.5km s-min=0.1km az=332.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIEI	**Pieia**	**0.05**	**280**	⇑P	Pg	23 32 30.7	+0.2
PIEI				S	Sg	23 32 32.7	+0.4
PIEI				AML	AML		
	comp=E,170μm,0.2s						
PIEI				AML	AML		
	comp=N,171μm,0.1s						
NARO	**Abbazia di Nar**	**0.09**	**348**	P	Pg	23 32 31.0	+0.1
NARO				S	Sg	23 32 33.2	+0.4
NARO				AML	AML		
	comp=N,131μm,0.1s						
NARO				AML	AML		
	comp=E,161μm,0.1s						
APEC	**Apecchio**	**0.14**	**283**	P	Pg	23 32 31.9	+0.4
APEC				S	Sg	23 32 34.9	+0.9
APEC				AML	AML		
	comp=E,91μm,0.2s						
APEC				AML	AML		
	comp=N,95μm,0.1s						
APEC				AML	AML		
	comp=N,95μm,0.1s						
MPAG	**Monte Paganucc**	**0.15**	**48**	P	Pg	23 32 32.0	+0.3
MPAG				S	Sg	23 32 35.2	+0.8
MPAG				AML	AML		
	comp=E,19μm,1.3s						
MPAG				AML	AML		
	comp=N,36μm,0.1s						
MPAG				AML	AML		
	comp=E,18μm,1.3s						
ATFO	**Monte Foce - G**	**0.16**	**189**	P	Pg	23 32 32.2	+0.3
ATFO				S	Sg	23 32 35.4	+0.8
ATFO				AML	AML		
	comp=E,29μm,0.3s						
ATFO				AML	AML		
	comp=N,26μm,1.6s						
ATPI	**Pietralunga -**	**0.17**	**243**	P	Pg	23 32 32.3	+0.3
ATPI				S	Sg	23 32 35.7	+1.0
PE3	**Peglio**	**0.19**	**335**	⇓P	Pg	23 32 32.7	+0.4
PE3				S	Sg	23 32 36.6	+1.4
PE3				AML	AML		
	comp=N,77μm,0.1s		

PHP			S	Sn	23 35 14.8	+1.2
	baz=132					
PHP			AMP			
	comp=N,0.2nm,0.5s,baz=132					
TIR	**Tirane**	**1.09 162**	P	**Pb**	23 34 59.9	-0.3
	baz=161					
TIR			S	**Sn**	23 35 16.2	+1.3
	baz=161					
RUDO	**Rudo**	**1.23 358**	*e*Pg	**Pn**	23 35 01.6	-0.6
RUDO			*e*Sg	**Sn**	23 35 19.0	+0.6
STON	**Ston**	**1.36 291**	*e*Pg	**Pb**	23 35 04.6	-0.1
STON			*e*Sg	**Sg**	23 35 25.4	+1.7
STON	**Ston**	**1.36 291**	Sg	**Sg**	23 35 24.0	+0.3
STON	**Ston**	**1.36 291**	*e*Pn	**Pn**	23 35 03.6	-0.3
BBLS	**Lazići**	**1.48 359**	*e*Pg	**Pn**	23 35 06.1	+0.5
BBLS			*e*Sg	**Sg**	23 35 27.5	+0.1
HAPS	**Han Pijesak,BI**	**1.73 349**	*e*Pn	**Pn**	23 35 09.7	+0.5
HAPS			*e*Sn	**Sb**	23 35 32.5	-0.1
DIVS	**Divibare**	**1.76 13**	*e*Pn	**Pn**	23 35 10.2	+0.7
DIVS			*e*Sn	**Sn**	23 35 32.8	+1.2
RICI	**Ricice**	**2.01 304**	Sn	**Sb**	23 35 40.7	0.0
RICI	**Ricice**	**2.01 304**	*e*Pn	**Pb**	23 35 14.9	-0.9
FNA	**Florina**	**2.17 137**	P	**Pb**	23 35 18.1	-0.5
	baz=136					
FNA			S	**Sg**	23 35 48.2	-1.4
	baz=136					
ZIRJ	**Zirje**	**3.05 296**	Sn	**Sn**	23 36 04.1	+1.0
ZIRJ	**Zirje**	**3.05 296**	*e*Pn	**Pn**	23 35 28.0	+0.9
DUGI	**Dugi Otok**	**3.57 298**	Sn	**Sn**	23 36 17.1	+0.9
DUGI	**Dugi Otok**	**3.57 298**	*e*Pn	**Pn**	23 35 35.3	+1.0

NEIC ***13*** *23:35:09.7±1.2,45°.68N×0°.04×26°.49E×0°.06,h155km±3km, Error ellipse: s-maj=6.4km s-min=5.3km az=149.0*
SIGU ***13*** *23:35:09.7,45°.68N×26°.46E,h152km,mb3.3*
IDC ***13*** *23:35:10.3±0.9,45°.88N×26°.25E,h146km±5km,mb3.0/2, mb1 2.8/6,mb1mx2.7/37,mbtmp3.4/6,MS2.9/1,Ms1 2.8/1, ms1mx2.1/29,Error ellipse: s-maj=34.3km s-min=12.8km az=114.0*
BUC ***13*** *23:35:10.4±0.3,45°.65N×26°.51E,h146km±2km,ml4.1/50, Error ellipse: s-maj=1.8km s-min=1.6km az=22.0*

ISC 13 23:35:10.0±0.6,**45°.68N**±0°.02×**26°.49E**±0°.02,**h154**km±4km, **n247**,σ1§04/310,**mb3.9**/6,**101C-121D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.20**	**130**	⇓P	**Pn**	23 35 31.0	**+0.1**
BISRR				⇓S	**Sn**	23 35 46.4	-0.4
BISRR	**Bisoca**	**0.20**	**130**	⇓P	**Pn**	23 35 31.0	+0.1
BISRR	**Bisoca**	**0.20**	**130**	⇓S	**Sn**	23 35 46.4	-0.4
BISRR	**Bisoca**	**0.20**	**130**		**Pn**	23 35 31.0	+0.1
BISRR					**Sn**	23 35 46.8	0.0
PLOR	**Plostina**	**0.21**	**33**	⇑P	**Pn**	23 35 30.5	-0.4
PLOR				⇑S	**Sn**	23 35 45.2	-1.6
PLOR	**Plostina**	**0.21**	**33**	⇑P	**Pn**	23 35 30.5	-0.4
PLOR	**Plostina**	**0.21**	**33**	⇑S	**Sn**	23 35 45.2	-1.6
VRI	**Vrincioaia**	**0.25**	**42**	⇑P	**Pn**	23 35 30.6	-0.3
VRI				⇑S	**Sn**	23 35 46.1	-0.9
VRI	**Vrincioaia**	**0.25**	**42**	⇑P	**Pn**	23 35 30.6	-0.3
VRI	**Vrincioaia**	**0.25**	**42**	⇑S	**Sn**	23 35 46.1	-0.9
VRI	**Vrincioaia**	**0.25**	**42**		**Pn**	23 35 30.6	-0.3
VRI					**Sn**	23 35 46.1	-0.9
NEHR	**Nehoiu**	**0.29**	**209**	⇓P	**Pn**	23 35 31.1	0.0
NEHR				⇓S	**Sn**	23 35 46.4	-0.7
NEHR	**Nehoiu**	**0.29**	**209**	⇓P	**Pn**	23 35 31.1	0.0
NEHR	**Nehoiu**	**0.29**	**209**	⇓S	**Sn**	23 35 46.4	-0.7
NEHR	**Nehoiu**	**0.29**	**209**		**Pn**	23 35 31.1	0.0
NEHR					**Sn**	23 35 46.4	-0.7
ODBI	**Odobesti**	**0.41**	**78**	⇑P	**Pn**	23 35 32.1	+0.7
ODBI				⇓S	**Sn**	23 35 47.8	+0.1
ODBI	**Odobesti**	**0.41**	**78**	⇑P	**Pn**	23 35 32.1	+0.7
ODBI	**Odobesti**	**0.41**	**78**	⇓S	**Sn**	23 35 47.8	+0.1
MLR	**Muntele Rosu**	**0.43**	**244**	P	**Pn**	23 35 31.4	-0.2
	55nm,0.3s,baz=150,slow=8.1,SNR=465						
MLR				S	**Sn**	23 35 48.2	0.0
	480nm,0.3s,baz=141,slow=19,SNR=78						
MLR	**Muntele Rosu**	**0.43**	**244**	⇓P	**Pn**	23 35 31.5	-0.2
MLR				⇓S	**Sn**	23 35 47.3	-0.9
MLR	**Muntele Rosu**	**0.43**	**244**	⇓P	**Pn**	23 35 31.5	-0.2
MLR	**Muntele Rosu**	**0.43**	**244**	⇓S	**Sn**	23 35 47.3	-0.9
MLR	**Muntele Rosu**	**0.43**	**244**		**Pn**	23 35 31.3	-0.4
MLR					**Sn**	23 35 47.9	-0.3
GRER		**0.45**	**131**	⇓P	**Pn**	23 35 32.4	+0.8
GRER		**0.45**	**131**	⇓P	**Pn**	23 35 32.4	+0.8
PETR	**Petresti**	**0.52**	**85**	⇑P	**Pn**	23 35 32.2	+0.3
PETR				⇓S	**Sn**	23 35 48.6	0.0
PETR	**Petresti**	**0.52**	**85**	⇑P	**Pn**	23 35 32.2	+0.3
PETR	**Petresti**	**0.52**	**85**	⇓S	**Sn**	23 35 48.6	0.0
ISR	**Istrita**	**0.56**	**176**	⇓P	**Pn**	23 35 32.2	-0.1
ISR				⇓S	**Sn**	23 35 47.6	-1.5
ISR	**Istrita**	**0.56**	**176**	⇓P	**Pn**	23 35 32.2	-0.1
ISR	**Istrita**	**0.56**	**176**	⇓S	**Sn**	23 35 47.6	-1.5
OZUR		**0.64**	**311**	⇑P	**Pn**	23 35 32.2	-0.5
OZUR				⇑S	**Sn**	23 35 48.7	-1.3
OZUR		**0.64**	**311**	⇑P	**Pn**	23 35 32.2	-0.5
OZUR		**0.64**	**311**	⇑S	**Sn**	23 35 48.7	-1.3
OZUR		**0.64**	**311**		**Pn**	23 35 32.2	-0.5
OZUR					**Sn**	23 35 48.7	-1.3
SECR		**0.71**	**205**	⇓P	**Pn**	23 35 33.2	+0.2
SECR				⇓S	**Sn**	23 35 51.0	+0.4
SECR		**0.71**	**205**	⇓P	**Pn**	23 35 33.2	+0.2
SECR		**0.71**	**205**	⇓S	**Sn**	23 35 51.0	+0.4
GHRR		**0.75**	**59**	⇑P	**Pn**	23 35 33.4	+0.2
GHRR				⇓S	**Sn**	23 35 50.7	-0.3
GHRR		**0.75**	**59**	⇑P	**Pn**	23 35 33.4	+0.2
GHRR		**0.75**	**59**	⇓S	**Sn**	23 35 50.7	-0.3
DOPR	**Dopca**	**0.82**	**291**	⇑P	**Pn**	23 35 33.6	-0.2
DOPR				⇓S	**Sn**	23 35 51.3	-0.7
DOPR	**Dopca**	**0.82**	**291**	⇑P	**Pn**	23 35 33.6	-0.2
DOPR	**Dopca**	**0.82**	**291**	⇓S	**Sn**	23 35 51.3	-0.7
TUDR		**0.83**	**95**	⇓P	**Pn**	23 35 33.4	-0.4
TUDR				⇓S	**Sn**	23 35 51.1	-0.9
TUDR		**0.83**	**95**	⇓P	**Pn**	23 35 33.4	-0.4
TUDR		**0.83**	**95**	⇓S	**Sn**	23 35 51.1	-0.9
TESR	**Tescani**	**0.84**	**8**	⇑P	**Pn**	23 35 33.5	-0.4
TESR				⇑S	**Sn**	23 35 50.6	-1.7
TESR	**Tescani**	**0.84**	**8**	⇑P	**Pn**	23 35 33.5	-0.4
TESR	**Tescani**	**0.84**	**8**	⇑S	**Sn**	23 35 50.6	-1.7
TESR	**Tescani**	**0.84**	**8**		**Pn**	23 35 33.5	-0.4
PGOR	**Pogoanele**	**0.85**	**155**	⇓P	**Pn**	23 35 34.1	+0.1
PGOR				⇓S	**Sn**	23 35 51.1	-1.2
PGOR	**Pogoanele**	**0.85**	**155**	⇓P	**Pn**	23 35 34.1	+0.1
PGOR	**Pogoanele**	**0.85**	**155**	⇓S	**Sn**	23 35 51.1	-1.2
SCHL	**Schela**	**0.96**	**100**	⇓P	**Pn**	23 35 34.4	-0.3
SCHL				⇓S	**Sn**	23 35 52.2	-1.6
SCHL	**Schela**	**0.96**	**100**	⇓P	**Pn**	23 35 34.4	-0.3
SCHL	**Schela**	**0.96**	**100**	⇓S	**Sn**	23 35 52.2	-1.6
VARL	**Varlezi**	**0.98**	**76**	⇓P	**Pn**	23 35 34.8	-0.1
VARL				⇓S	**Sn**	23 35 53.0	-1.0
VARL	**Varlezi**	**0.98**	**76**	⇓P	**Pn**	23 35 34.8	-0.1
VARL	**Varlezi**	**0.98**	**76**	⇓S	**Sn**	23 35 53.0	-1.0
BIR	**Birlad**	**0.99**	**53**	⇑P	**Pn**	23 35 35.0	0.0
BIR				⇑S	**Sn**	23 35 53.2	-1.0
BIR	**Birlad**	**0.99**	**53**	⇑P	**Pn**	23 35 35.0	0.0
BIR	**Birlad**	**0.99**	**53**	⇑S	**Sn**	23 35 53.2	-1.0
BIR	**Birlad**	**0.99**	**53**		**Pn**	23 35 35.0	0.0
BIR					**Sn**	23 35 53.2	-1.0
SULR		**1.01**	**189**	⇑P	**Pn**	23 35 35.3	0.0
SULR				⇑S	**Sn**	23 35 54.6	0.0
SULR		**1.01**	**189**	⇑P	**Pn**	23 35 35.3	0.0
SULR		**1.01**	**189**	⇑S	**Sn**	23 35 54.6	0.0
SULR		**1.01**	**189**		**Pn**	23 35 35.3	0.0
VOIR		**1.04**	**257**	⇑P	**Pn**	23 35 35.2	-0.4
VOIR				⇓S	**Sn**	23 35 53.6	-1.6
VOIR		**1.04**	**257**	⇑P	**Pn**	23 35 35.2	-0.4
VOIR		**1.04**	**257**	⇓S	**Sn**	23 35 53.6	-1.6
VOIR		**1.04**	**257**		**Pn**	23 35 35.2	-0.4
VOIR					**Sn**	23 35 53.6	-1.6
GISR	**Galati**	**1.12**	**102**	⇓P	**Pn**	23 35 36.2	-0.1
GISR				⇑S	**Sn**	23 35 55.3	-0.9
GISR	**Galati**	**1.12**	**102**	⇓P	**Pn**	23 35 36.2	-0.1
GISR	**Galati**	**1.12**	**102**	⇑S	**Sn**	23 35 55.3	-0.9
GIUM	**Giurgiulesti**	**1.22**	**99**	⇓P	**Pn**	23 35 37.4	+0.3
GIUM				⇑S	**Sn**	23 35 57.2	-0.7
GIUM	**Giurgiulesti**	**1.22**	**99**	⇓P	**Pn**	23 35 37.4	+0.3
GIUM	**Giurgiulesti**	**1.22**	**99**	⇑S	**Sn**	23 35 57.2	-0.7
AMRR	**Amara**	**1.23**	**150**	⇓P	**Pn**	23 35 37.1	0.0
AMRR				⇑S	**Sn**	23 35 57.0	-0.9
AMRR	**Amara**	**1.23**	**150**	⇓P	**Pn**	23 35 37.1	0.0
AMRR	**Amara**	**1.23**	**150**	⇑S	**Sn**	23 35 57.0	-0.9
AMRR	**Amara**	**1.23**	**150**		**Pn**	23 35 37.1	0.0
AMRR					**Sn**	23 35 57.0	-0.9
LEHL	**Lehliu**	**1.23**	**169**	⇓P	**Pn**	23 35 37.1	-0.1
LEHL				⇓S	**Sn**	23 35 57.3	-0.7
LEHL	**Lehliu**	**1.23**	**169**	⇓P	**Pn**	23 35 37.1	-0.1
LEHL	**Lehliu**	**1.23**	**169**	⇓S	**Sn**	23 35 57.3	-0.7
JOSR	**Joseni**	**1.23**	**327**	⇑P	**Pn**	23 35 37.0	-0.2
JOSR	**Joseni**	**1.23**	**327**	⇑P	**Pn**	23 35 37.0	-0.2
INCR	**INCERC-Sediu C**	**1.26**	**191**	⇓P	**Pn**	23 35 37.2	-0.3
INCR				⇓S	**Sn**	23 35 57.4	-1.1
INCR	**INCERC-Sediu C**	**1.26**	**191**	⇓P	**Pn**	23 35 37.2	-0.3
INCR	**INCERC-Sediu C**	**1.26**	**191**	⇓S	**Sn**	23 35 57.4	-1.1
CFR	**Carcaliu**	**1.26**	**113**	⇓P	**Pn**	23 35 36.9	-0.6
CFR				⇓S	**Sn**	23 35 57.4	-1.1
CFR	**Carcaliu**	**1.26**	**113**	⇓P	**Pn**	23 35 36.9	-0.6
CFR	**Carcaliu**	**1.26**	**113**	⇓S	**Sn**	23 35 57.4	-1.1
CFR	**Carcaliu**	**1.26**	**113**		**Pn**	23 35 36.9	-0.6
GIRR	**Girov**	**1.28**	**0**	⇑P	**Pn**	23 35 38.0	+0.4
GIRR	**Girov**	**1.28**	**0**	⇑P	**Pn**	23 35 38.0	+0.4
VASR	**Vaslui**	**1.32**	**43**	⇑P	**Pn**	23 35 38.0	0.0
VASR				⇓S	**Sn**	23 35 58.4	-1.3
VASR	**Vaslui**	**1.32**	**43**	⇑P	**Pn**	23 35 38.0	0.0
VASR	**Vaslui**	**1.32**	**43**	⇓S	**Sn**	23 35 58.4	-1.3
VASR	**Vaslui**	**1.32**	**43**		**Pn**	23 35 38.0	0.0
VASR					**Sn**	23 35 58.4	-1.3
STFAR	**Stefanesti-Arg**	**1.35**	**233**	⇑P	**Pn**	23 35 38.7	+0.3
STFAR				⇓S	**Sn**	23 36 00.2	+0.1
STFAR	**Stefanesti-Arg**	**1.35**	**233**	⇑P	**Pn**	23 35 38.7	+0.3
STFAR	**Stefanesti-Arg**	**1.35**	**233**	⇓S	**Sn**	23 36 00.2	+0.1
STFAR	**Stefanesti-Arg**	**1.35**	**233**		**Pn**	23 35 38.7	+0.3
BUC1	**Bucharest**	**1.37**	**194**	⇓P	**Pn**	23 35 38.3	-0.3
BUC1				⇓S	**Sn**	23 35 59.4	-1.0
BUC1	**Bucharest**	**1.37**	**194**	⇓P	**Pn**	23 35 38.3	-0.3
BUC1	**Bucharest**	**1.37**	**194**	⇓S	**Sn**	23 35 59.4	-1.0
BUC1	**Bucharest**	**1.37**	**194**		**Pn**	23 35 38.3	-0.3
HARR	**Harsova**	**1.42**	**134**	⇓P	**Pn**	23 35 38.8	-0.3
HARR	**Harsova**	**1.42**	**134**	⇓P	**Pn**	23 35 38.8	-0.3
SGRR	**Singureni**	**1.50**	**194**	⇓P	**Pn**	23 35 39.5	-0.3
SGRR				⇓S	**Sn**	23 36 01.0	-1.8
SGRR	**Singureni**	**1.50**	**194**	⇓P	**Pn**	23 35 39.5	-0.3
SGRR	**Singureni**	**1.50**	**194**	⇓S	**Sn**	23 36 01.0	-1.8
RASA	**Rasa**	**1.54**	**162**	⇓P	**Pn**	23 35 39.9	-0.4
RASA	**Rasa**	**1.54**	**162**	⇓P	**Pn**	23 35 39.9	-0.4
MDB	**Medias**	**1.54**	**288**	⇑P	**Pn**	23 35 40.8	+0.5
MDB	**Medias**	**1.54**	**288**	⇑P	**Pn**	23 35 40.8	+0.5
TLBR	**Topalu**	**1.58**	**135**	⇓P	**Pn**	23 35 40.5	-0.2
TLBR				⇓S	**Sn**	23 36 02.0	-2.2
TLBR	**Topalu**	**1.58**	**135**	⇓P	**Pn**	23 35 40.5	-0.2
TLBR	**Topalu**	**1.58**	**135**	⇓S	**Sn**	23 36 02.0	-2.2
TLBR	**Topalu**	**1.58**	**135**		**Pn**	23 35 40.5	-0.2
TPGR	**Topolog**	**1.59**	**120**	⇓P	**Pn**	23 35 40.2	-0.6
TPGR	**Topolog**	**1.59**	**120**	⇓P	**Pn**	23 35 40.2	-0.6
IAS	**Iasi**	**1.69**	**26**	⇑P	**Pn**	23 35 41.8	0.0
IAS				⇑S	**Sn**	23 36 04.5	-1.9
IAS	**Iasi**	**1.69**	**26**	⇑P	**Pn**	23 35 41.8	0.0
IAS	**Iasi**	**1.69**	**26**	⇑S	**Sn**	23 36 04.5	-1.9
TLCR		**1.71**	**106**	⇓P	**Pn**	23 35 41.7	-0.4
TLCR				⇓S	**Sn**	23 36 05.1	-1.6
TLCR		**1.71**	**106**	⇓P	**Pn**	23 35 41.7	-0.4
TLCR		**1.71**	**106**	⇓S	**Sn**	23 36 05.1	-1.6
CVDA	**Cernavoda**	**1.74**	**140**	⇓P	**Pn**	23 35 42.2	-0.2
CVDA				⇑S	**Sn**	23 36 05.2	-2.0
CVDA	**Cernavoda**	**1.74**	**140**	⇓P	**Pn**	23 35 42.2	-0.2
CVDA	**Cernavoda**	**1.74**	**140**	⇑S	**Sn**	23 36 05.2	-2.0
CVDA	**Cernavoda**	**1.74**	**140**		**Pn**	23 35 42.2	-0.2
COPA	**Copaceanca**	**1.79**	**211**	⇓P	**Pn**	23 35 42.6	-0.4
COPA				⇑S	**Sn**	23 36 06.5	-1.8
COPA	**Copaceanca**	**1.79**	**211**	⇓P	**Pn**	23 35 42.6	-0.4
COPA	**Copaceanca**	**1.79**	**211**	⇑S	**Sn**	23 36 06.5	-1.8
ICOR	**Ion Corvin**	**1.82**	**149**	⇓P	**Pn**	23 35 43.2	-0.1
ICOR				⇑S	**Sn**	23 36 07.3	-1.6
ICOR	**Ion Corvin**	**1.82**	**149**	⇓P	**Pn**	23 35 43.2	-0.1
ICOR	**Ion Corvin**	**1.82**	**149**	⇑S	**Sn**	23 36 07.3	-1.6
TIRR	**Tirgusor**	**1.83**	**131**	⇓P	**Pn**	23 35 43.1	-0.3
TIRR				⇑S	**Sn**	23 36 06.8	-2.3
TIRR	**Tirgusor**	**1.83**	**131**	⇓P	**Pn**	23 35 43.1	-0.3
TIRR	**Tirgusor**	**1.83**	**131**	⇑S	**Sn**	23 36 06.8	-2.3
TIRR	**Tirgusor**	**1.83**	**131**		**Pn**	23 35 42.7	-0.7
TIRR					Sn	23 36 06.8	-2.3
TIRR	**Tirgusor**	**1.83**	**131**		**Pn**	23 35 43.1	-0.3
JURR	**Jurilovca**	**1.92**	**118**	⇑P	**Pn**	23 35 44.4	0.0
JURR	**Jurilovca**	**1.92**	**118**	⇑P	**Pn**	23 35 44.4	0.0
LOT	**Lotru**	**1.93**	**264**	⇓P	**Pn**	23 35 45.1	+0.5
LOT				⇓S	**Sn**	23 36 10.8	-0.4
LOT	**Lotru**	**1.93**	**264**	⇓P	**Pn**	23 35 45.1	+0.5
LOT	**Lotru**	**1.93**	**264**	⇓S	**Sn**	23 36 10.8	-0.4
MFTR	**Murfatlar**	**2.03**	**137**	⇓P	**Pn**	23 35 45.5	-0.3
MFTR				⇑S	**Sn**	23 36 11.6	-1.6
MFTR	**Murfatlar**	**2.03**	**137**	⇓P	**Pn**	23 35 45.5	-0.3
MFTR	**Murfatlar**	**2.03**	**137**	⇑S	**Sn**	23 36 11.6	-1.6
KIS	**Kishinev**	**2.08**	**50**	⇑*i*P	**Pn**	23 35 46.3	0.0
	90nm,0.1s						
KIS				*e*S	**Sn**	23 36 12.0	-2.3
	440nm,0.3s						
KIS	**Kishinev**	**2.08**	**50**	⇑P	**Pn**	23 35 46.3	0.0
KIS				⇓S	**Sn**	23 36 12.5	-1.9
KIS	**Kishinev**	**2.08**	**50**	⇑P	**Pn**	23 35 46.3	0.0
BURAR	**Bucovina Array**	**2.13**	**336**	⇑P	**Pn**	23 35 48.0	+1.1
BURAR				⇑S	**Sn**	23 36 15.0	-0.4
BURAR	**Bucovina Array**	**2.13**	**336**	⇑P	**Pn**	23 35 48.0	+1.1
BURAR	**Bucovina Array**	**2.13**	**336**	⇑S	**Sn**	23 36 15.0	-0.4
BURAR	**Bucovina Array**	**2.13**	**336**		**Pn**	23 35 47.0	0.0
BUR08	**Bucovina Ar. S**	**2.16**	**336**	Pn	**Pn**	23 35 47.3	0.0
TSCT	**Constanta Port**	**2.16**	**134**	⇓P	**Pn**	23 35 47.1	-0.2
TSCT				⇓S	**Sn**	23 36 14.2	-1.7
TSCT	**Constanta Port**	**2.16**	**134**	⇓P	**Pn**	23 35 47.1	-0.2
TSCT	**Constanta Port**	**2.16**	**134**	⇓S	**Sn**	23 36 14.2	-1.7
ZIMR		**2.17**	**202**	⇓P	**Pn**	23 35 47.0	-0.4
ZIMR				⇑S	**Sn**	23 36 14.1	-2.1
ZIMR		**2.17**	**202**	⇓P	**Pn**	23 35 47.0	-0.4
ZIMR		**2.17**	**202**	⇑S	**Sn**	23 36 14.1	-2.1
ZIMR		**2.17**	**202**		**Sn**	23 36 14.1	-2.1
EFOR	**EFORIE**	**2.21**	**136**	⇑P	**Pn**	23 35 47.7	-0.1
EFOR				⇑S	**Sn**	23 36 15.7	-1.2
EFOR	**EFORIE**	**2.21**	**136**	⇑P	**Pn**	23 35 47.7	-0.1
EFOR	**EFORIE**	**2.21**	**136**	⇑S	**Sn**	23 36 15.7	-1.2
VLAD	**Vladila**	**2.24**	**222**	⇓P	**Pn**	23 35 47.6	-0.6
VLAD	**Vladila**	**2.24**	**222**	⇓P	**Pn**	23 35 47.6	-0.6
VLAD	**Vladila**	**2.24**	**222**		**Pn**	23 35 47.6	-0.6
VLAD					**Sn**	23 36 14.9	-2.6
CJR	**Cluj-Napoca**	**2.26**	**298**	⇓P	**Pn**	23 35 48.4	0.0
CJR	**Cluj-Napoca**	**2.26**	**298**	⇓P	**Pn**	23 35 48.4	0.0
MANR	**Mangalia**	**2.39**	**140**	⇓P	**Pn**	23 35 49.8	-0.1
MANR				⇑S	**Sn**	23 36 19.3	-1.4
MANR	**Mangalia**	**2.39**	**140**	⇓P	**Pn**	23 35 49.8	-0.1
MANR	**Mangalia**	**2.39**	**140**	⇑S	**Sn**	23 36 19.3	-1.4
SRE	**Strehaia**	**2.54**	**248**	⇑P	**Pn**	23 35 51.5	-0.2
SRE				⇑S	**Sn**	23 36 22.8	-1.2
SRE	**Strehaia**	**2.54**	**248**	⇑P	**Pn**	23 35 51.5	-0.2
SRE	**Strehaia**	**2.54**	**248**	⇑S	**Sn**	23 36 22.8	-1.2
GZR	**Gura Zlata**	**2.62**	**265**	⇓P	**Pn**	23 35 53.0	+0.1
GZR	**Gura Zlata**	**2.62**	**265**	⇓P	**Pn**	23 35 53.0	+0.1
KALB	**Balgarevo**	**2.66**	**148**	⇑P	**Pn**	23 35 53.3	+0.1
KALB	**Balgarevo**	**2.66**	**148**	⇑P	**Pn**	23 35 53.3	+0.1
SORM	**Soroca**	**2.77**	**27**	⇑P	**Pn**	23 35 54.2	-0.3
SORM	**Soroca**	**2.77**	**27**	⇑P	**Pn**	23 35 54.2	-0.3
SORM	**Soroca**	**2.77**	**27**		**Pn**	23 35 54.2	-0.3
SORM	**Soroca**	**2.77**	**27**	Pn	**Pn**	23 35 54.2	-0.3
DRGR		**2.85**	**294**	⇓P	**Pn**	23 35 55.2	-0.4
DRGR		**2.85**	**294**	⇓P	**Pn**	23 35 55.2	-0.4
BMR	**Baia Mare**	**2.87**	**315**	⇓P	**Pn**	23 35 56.2	+0.4
BMR	**Baia Mare**	**2.87**	**315**	⇓P	**Pn**	23 35 56.2	+0.4
KMPD	**K-Podol'skiy**	**2.89**	**360**	*e*Pn	**Pn**	23 35 55.4	-0.6
KMPD				*e*Sn	**Sn**	23 36 29.5	-2.2
NDNU	**Novodnistrovsk**	**2.98**	**11**	*e*Pn	**Pn**	23 35 57.0	-0.2
NDNU				Pm		23 36 11.7	
NDNU				*e*Sn	**Sn**	23 36 31.5	-2.3
NDNU				Sm		23 36 31.9	
HERR	**Herculane**	**2.98**	**256**	⇑P	**Pn**	23 35 57.1	-0.2
HERR	**Herculane**	**2.98**	**256**	⇑P	**Pn**	23 35 57.1	-0.2
BZS	**Buzias**	**3.42**	**271**	⇓P	**Pn**	23 36 02.7	-0.1
BZS	**Buzias**	**3.42**	**271**	⇓P	**Pn**	23 36 02.7	-0.1
MDVR	**Moldovita**	**3.49**	**257**	⇑P	**Pn**	23 36 03.9	+0.1
MDVR	**Moldovita**	**3.49**	**257**	⇑P	**Pn**	23 36 03.9	+0.1
HORU	**Horodok**	**3.54**	**359**	*e*Pn	**Pn**	23 36 04.4	+0.1
HORU				Pm		23 36 05.0	
HORU				*e*Sn	**Sn**	23 36 45.0	-1.5
HORU				Sm		23 36 46.9	
VTS	**Vitosha**	**3.85**	**219**	⇑P	**Pn**	23 36 08.7	+0.1
VTS	**Vitosha**	**3.85**	**219**	⇑P	**Pn**	23 36 08.7	+0.1
VTS	**Vitosha**	**3.85**	**219**	Pn	**Pn**	23 36 07.8	-0.8
KOLS	**Kolonicke sedl**	**4.34**	**320**	*e*P	**Pn**	23 36 15.3	+0.6
RDO	**Rodhopi**	**4.58**	**189**	P	**Pn**	23 36 17.1	-0.9
KWP	**Kalwaria Pacla**	**4.71**	**328**	Pn	**Pn**	23 36 19.2	-0.3
ALN	**Alexandroupoli**	**4.79**	**184**	P	**Pn**	23 36 19.5	-1.2
ALN	**Alexandroupoli**	**4.79**	**184**	Pn	**Pn**	23 36 19.7	-1.0
DIVS	**Divibare**	**4.88**	**253**	Pn	**Pn**	23 36 20.9	-1.0
STIP	**Stip**	**5.06**	**220**	*i* Pn	**Pn**	23 36 21.7	-2.5
SEV	**Sevastopol'**	**5.21**	**100**	P	**Pn**	23 36 25.7	-0.4
SEV				Pm		23 36 27.0	
SEV				S	**Sn**	23 37 25.8	+0.2
SEV				Sm		23 37 26.6	
THAS	**Thassos island**	**5.23**	**195**	P	**Pn**	23 36 27.2	+0.7
SMTH	**Samothraki Isl**	**5.25**	**188**	P	**Pn**	23 36 27.6	+0.8
AKASG	**Malin Array Be**	**5.35**	**19**	P	**Pn**	23 36 27.6	-0.3
	4.2nm,0.3s,baz=206,slow=12,SNR=11						
AKASG				S	**Sn**	23 37 25.4	-3.6
	2.8nm,0.3s,baz=202,slow=21,SNR=8.5						
AKASG	**Malin Array Be**	**5.35**	**19**	Pn	**Pn**	23 36 25.9	-2.0
AKBB	**Malin

GURO Guroymak-BITLI 26.87 353 P P 23 50 25.5 +1.0
GEYT Alibeck 28.08 20 P P 23 50 36.5 +1.3
comp=Z,1.8nm,0.5s,baz=243,slow=9.3,SNR=3.0
GYA0B ALIBECK ARRAY 28.08 20 P P 23 50 35.4 +0.2
GYA0B IAmb IAmb 23 51 01.1
comp=Z,21nm,1.4s
GNI Garni 28.24 358 LR LR 00 03 01.5
comp=Z,550nm,20.1s,baz=158,slow=39
BNN Bunyan 28.46 343 P P 23 50 38.7 +0.1
BNN IAmb IAmb 23 51 01.7
comp=Z,7.6nm,0.9s
KOPT Kop Dagi 28.53 351 P P 23 50 40.2 +0.7
ELL Elmali 28.84 332 P P 23 50 42.2 +0.1
AKH Akhalkalaki 29.56 356 ⇑P **P 23 50 51.5 +3.0**
BR131 Keskin Array S 29.94 340 P P 23 50 52.9 +1.0
BR131 IAmb IAmb 23 50 57.8
comp=Z,8.5nm,1.1s
BRTR Keskin Array B 29.94 340 P P 23 50 51.6 -0.3
comp=Z,1.5nm,0.8s,baz=153,slow=9.7,SNR=2.1
BRTR PcP **PcP 23 53 56.2 +1.8**
comp=Z,1.7nm,0.7s,baz=194,slow=4.6,SNR=4.0
BRTR LR LR 00 03 16.5
comp=Z,642nm,19.6s,baz=153,slow=37
BRTR Keskin Array B 29.94 340 P P 23 50 52.5 +0.6
IDI Anoyia 30.33 324 LR LR 00 02 32.4
comp=Z,80nm,20.7s,baz=125,slow=35
BR231 Keskin MP Arra 30.34 339 P P 23 50 56.6 +1.3
BR231 IAmb IAmb 23 50 59.2
comp=Z,8.5nm,1.0s
ANTO Ankara 30.36 339 P P 23 50 56.4 +1.0
ANTO IAmb IAmb 23 51 20.3
comp=Z,14nm,1.3s
KBL Kabul 30.68 39 P P 23 50 59.9 +1.3
ONI Oni 30.74 356 P P 23 51 01.1 +2.3
ONI IAmb IAmb 23 51 05.7
comp=Z,14nm,1.4s
MANT Manisa 30.88 332 P P 23 51 00.4 +0.1
ILGA Ilgaz 31.12 342 P P 23 51 03.5 +1.2
KBZ Khabaz 31.91 355 P P 23 51 10.1 +1.1
comp=Z,1.1nm,0.4s,baz=126,slow=6.3,SNR=4.3
KBZ LR LR 00 05 29.8
comp=Z,390nm,19.1s,baz=71,slow=39
BALB Balikesir 32.12 333 P P 23 51 11.7 +0.8
BALB IAmb IAmb 23 51 25.0
comp=Z,13nm,1.0s
KIV Kislovodsk 32.16 355 ⇑P **P 23 51 13.0 +1.7**
KIV Kislovodsk 32.16 355 P P 23 51 12.1 +0.8
KVAR Kislovodsk Arr 32.16 355 LR LR 00 05 11.5
comp=Z,339nm,19.5s,baz=280,slow=38
LSZ Lusaka 32.32 214 P P 23 51 15.1 +2.0
LSZ IAmb IAmb 23 51 23.4
comp=Z,13nm,1.3s
NIL Nilore 32.87 44 P P 23 51 17.0 -0.6
NIL IAmb IAmb 23 51 23.0
comp=Z,9.2nm,1.0s
CHGR Chuyangaron 33.62 33 P P 23 51 24.1 -0.1
ALN Alexandroupoli 33.96 332 P P 23 51 27.9 +0.9
ALN IAmb IAmb 23 51 36.2
comp=Z,12nm,1.2s
AGG Agios Georgios 34.42 326 P P 23 51 30.5 -0.5
AGG IAmb IAmb 23 51 35.9
comp=Z,15nm,1.4s
GAR Garm 34.50 34 P P 23 51 32.1 +0.2
LIT Litokhoron 35.11 328 P P 23 51 35.7 -1.3
LIT IAmb IAmb 23 51 50.3
comp=Z,5.4nm,0.8s
BTK Batken 35.52 33 P P 23 51 41.1 +0.6
BTK IAmb IAmb 23 51 46.1
comp=Z,20nm,1.4s
TAS Tashkent 35.66 30 P P 23 51 40.2 -1.5
FNA Florina 36.19 327 P P 23 51 47.0 +0.8
KBN Korca 36.39 327 P P 23 51 48.0 0.0
MATP Matopo 36.50 209 P P 23 51 47.9 -1.3
comp=Z,1.6nm,0.9s,baz=94,slow=19,SNR=1.5
VTS Vitosha 36.62 331 ⇓P **P 23 51 50.1 0.0**
VTS Vitosha 36.62 331 P P 23 51 48.9 -1.2
CFR Carcaliu 36.66 338 ⇓P **P 23 51 50.0 -0.2**
TIR Tirane 37.40 327 P P 23 51 55.6 -0.8
TIR IAmb IAmb 23 52 12.5
comp=Z,12nm,0.9s
KK31 Karatay Array 37.59 30 P P 23 51 59.4 +1.2
KKAR Karatay Array 37.59 30 P P 23 51 59.0 +0.8
MLR Muntele Rosu 37.75 337 P P 23 51 59.3 -0.2
comp=Z,1.8nm,0.8s,baz=136,slow=2.4,SNR=5.1
MLR Muntele Rosu 37.75 337 ⇑P **P 23 52 00.7 +1.1**
MLR Muntele Rosu 37.75 337 P P 23 51 59.9 +0.3
MLR IAmb IAmb 23 52 19.7
comp=Z,11nm,1.1s
VRI Vrincioaia 37.77 338 ⇓P **P 23 51 57.8 -1.8**
PLOR Plostina 37.78 338 ⇓P **P 23 52 01.4 +1.6**
PUK Puka 37.87 327 IAmb IAmb 23 52 05.5
comp=Z,19nm,1.3s
VOIR 38.06 336 ⇓P **P 23 52 01.8 -0.3**
PDG Podgorica 38.48 327 P P 23 52 05.1 -0.5
LOT Lotru 38.60 334 ⇑P **P 23 52 06.2 -0.6**
GZR Gura Zlata 38.98 334 ⇑P **P 23 52 09.5 -0.3**
MDVR Moldovita 38.98 332 ⇓P **P 23 52 08.7 -1.2**
ABKAR Abkulak array 39.01 14 IAmb IAmb 23 52 14.1
comp=Z,10nm,0.9s
SORM Soroca 39.16 341 ⇓P **P 23 52 10.5 -0.7**
AAK Ala-Archa 39.30 33 P P 23 52 13.8 +1.1
FRU1 Bishkek 39.49 33 P P 23 52 15.0 +0.8
FRU1 IAmb IAmb 23 52 21.9
comp=Z,13nm,1.1s
BZS Buzias 39.67 333 ⇑P **P 23 52 15.3 -0.2**
BURAR Bucovina Array 39.80 338 ⇓P **P 23 52 17.7 +1.0**
BURAR Bucovina Array 39.80 338 P P 23 52 17.4 +0.7
BUR08 Bucovina Ar. S 39.83 338 P P 23 52 18.3 +1.3
DRGR 40.11 335 ⇓P **P 23 52 18.9 -0.4**
SIRR Siria 40.15 333 ⇓P **P 23 52 19.1 -0.4**
TARG Taragay, Kyrgy 40.58 37 P P 23 52 25.0 +1.3
KEST Kesra 40.93 312 LR LR 00 11 04.5
comp=Z,140nm,18.3s,baz=234,slow=39
AKASG Malin Array Be 41.19 344 P P 23 52 29.3 +1.3
comp=Z,0.3nm,0.3s,baz=156,slow=7.3,SNR=12
AKASG PP **PP 23 54 03.3 +0.3**
comp=Z,0.2nm,0.2s,baz=161,slow=9.5,SNR=0.8
AKASG Malin Array Be 41.19 344 P P 23 52 28.4 +0.4
AKBB Malin Array Si 41.19 344 P P 23 52 27.6 -0.4
AKBB IAmb IAmb 23 52 32.9
comp=Z,14nm,1.3s
PRZ Przheval'sk 41.40 37 P P 23 52 30.8 +0.7
PRZ IAmb IAmb 23 52 38.6
comp=Z,21nm,1.3s
KOLS Kolonicke sedl 42.00 336 *eP* **P 23 52 36.8 +2.0**
PSZ Piszkesteto 42.19 334 P P 23 52 36.0 -0.4
PSZ IAmb IAmb 23 52 42.2
comp=Z,8.3nm,0.9s
CRVS Cervenica-Dubn 42.30 336 *eP* **P 23 52 38.4 +1.2**
KWP Kalwaria Pacla 42.40 337 P P 23 52 38.5 +0.5
TORD Torodi Ar. Bea 43.47 277 P P 23 52 48.5 +1.3
comp=Z,4.8nm,0.9s,baz=91,slow=7.8,SNR=18
TORD PcP **PcP 23 54 36.2 +0.8**
comp=Z,1.5nm,0.8s,baz=99,slow=3.2,SNR=3.9
SOP Sopron 43.54 331 *eP* **P 23 52 47.9 +0.7**
SOKA Soboth 43.59 329 *eP* **P 23 52 48.0 +0.2**
comp=Z,5.9nm,0.9s
OBKA Obir 43.72 328 *eP* **P 23 52 49.3 +0.4**
comp=Z,7.2nm,1.4s
ARSA Arzberg 43.74 330 *eP* **P 23 52 50.4 +1.5**
comp=Z,4.6nm,1.2s
OBN Obninsk 43.84 352 P P 23 52 48.9 -0.6
JAVC Velka Javorina 43.88 333 *eP* **P 23 52 50.1 +0.1**
OJC Ojcow 44.01 336 P P 23 52 50.0 -1.0
OJC IAmb IAmb 23 52 55.2
comp=Z,11nm,1.4s
CONA Conrad Observa 44.04 331 *eP* **P 23 52 51.4 0.0**
comp=Z,12nm,1.6s
STAL STALIGIAL 44.52 327 P P 23 52 54.7 -0.5
STAL IAmb IAmb 23 52 55.7
comp=Z,11nm,1.3s
TEOL Teolo 44.53 325 P P 23 52 55.0 -0.3
TEOL IAmb IAmb 23 52 55.9
comp=Z,9.9nm,1.0s
ZOU Zoufplan 44.58 327 P P 23 52 55.4 -0.4
ZOU IAmb IAmb 23 52 59.0
comp=Z,9.3nm,1.1s
MORC Moravsky Berou 44.62 334 *eP* **P 23 52 54.6 -1.3**
VRAC Vranov 44.69 333 P P 23 52 54.7 -1.8
comp=Z,1.9nm,0.6s,baz=118,slow=5.1,SNR=4.5
VRAC Vranov 44.69 333 *eP* **P 23 52 54.9 -1.6**
MOA Molln 44.77 330 *eP* **P 23 52 56.9 -0.3**
comp=Z,3.5nm,0.9s
PRMA PARMA 44.95 324 P P 23 52 58.8 +0.3

SHL Shillong 45.12 66 P P 23 53 00.6 +0.1
BRVK Borovoye 45.41 20 P P 23 53 02.2 +0.1
BRVK IAmb IAmb 23 53 05.9
comp=Z,9.8nm,1.2s
CKRC Cesky Krumlov 45.41 331 *eP* **P 23 53 02.3 +0.1**
ARU Arti 45.51 10 P P 23 53 02.4 -0.4
ARU IAmb IAmb 23 53 08.7
comp=Z,4.5nm,0.8s
DPC Dobruska-Polom 45.57 333 *eP* **P 23 53 05.0 +1.5**
GEC2 GERESS Array S 45.72 330 P P 23 53 03.5 -1.3
GEC2 IAmb IAmb 23 53 09.6
comp=Z,8.6nm,1.1s
GERES GERESS Array B 45.72 330 P P 23 53 03.8 -1.0
comp=Z,1.8nm,0.7s,baz=133,slow=7.8,SNR=18
WTTA Wattenberg 45.73 327 *eP* **P 23 53 03.9 -1.0**
comp=Z,9.5nm,1.7s
OSTC Ostas 45.77 334 *eP* **P 23 53 04.1 -0.9**
WATA Walderalm 45.81 327 *eP* **P 23 53 05.6 +0.1**
comp=Z,3.9nm,0.8s
CHVC Chvalec 45.86 333 *eP* **P 23 53 05.2 -0.6**
SQTA Sankt Quirin 45.93 327 *i P* **P 23 53 06.6 +0.1**
comp=Z,7.3nm,1.3s
KHC Kasperske Hory 45.97 330 *eP* **P 23 53 05.3 -1.4**
KHC Kasperske Hory 45.97 330 IAmb IAmb 23 53 10.7
comp=Z,11nm,1.5s
MAKZ Makanchi 46.06 34 P P 23 53 07.4 0.0
MAKZ IAmb IAmb 23 53 11.7
comp=Z,11nm,1.2s
MOTA Moosalm 46.07 327 *eP* **P 23 53 07.1 -0.4**
comp=Z,5.0nm,1.6s
FETA Feichten 46.07 327 *eP* **P 23 53 08.0 +0.3**
comp=Z,4.3nm,1.1s
MK31 Makanchi Array 46.22 34 ⇑Pg **P 23 53 08.1 -0.6**
comp=Z,9.8nm,1.0s,baz=174,slow=16,SNR=40
MK31 ⇓Lg Lg 23 53 39.8
comp=Z,0.4nm,0.2s,baz=171,slow=29,SNR=16
MK31 Makanchi Array 46.22 34 IAmb IAmb 23 53 14.8
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 46.22 34 P P 23 53 06.8 -1.9
comp=Z,2.4nm,0.8s,baz=214,slow=8.2,SNR=22
MKAR LR LR 00 13 38.8
comp=Z,152nm,21.6s,baz=244,slow=38
MKAR Makanchi Array 46.22 34 P P 23 53 08.5 -0.2
RETA Reutte 46.34 327 *eP* **P 23 53 08.2 -1.4**
comp=Z,3.7nm,1.2s
DAVOX Davos/Dischmat 46.38 326 P P 23 53 09.2 -0.9
comp=Z,2.9nm,1.0s,baz=180,slow=5.1,SNR=4.3
DAVA Damuels 46.69 326 *eP* **P 23 53 11.4 -1.1**
comp=Z,4.7nm,1.0s
PABE Paberze 46.92 343 P P 23 53 13.5 -0.5
BRG Berggiesshubel 47.00 332 *eP* **P 23 53 13.4 -1.3**
BRG Amp 23 53 16.6
comp=Z,5.0nm,1.2s
BRG Amp 00 16 33.0
comp=Z,0.5nm,15.6s
BRG Amp 00 16 45.0
comp=N,0.2nm,15.0s
BRG Amp 00 16 47.0
comp=E,0.3nm,17.7s
BNI Bardonecchia 47.26 322 P P 23 53 17.0 +0.1
BNI IAmb IAmb 23 53 27.2
comp=Z,12nm,1.5s
SENIN Lac Senin/Sane 47.60 324 P P 23 53 21.0 +1.3
SENIN IAmb IAmb 23 53 29.1
comp=Z,11nm,1.3s
CLL Collm 47.73 332 *i P* **P 23 53 19.0 -1.4**
comp=Z,14nm,1.7s
CLL Collm 47.73 332 P P 23 53 20.0 -0.3
CLL IAmb IAmb 23 53 25.0
comp=Z,4.2nm,1.0s
WMQ Urumqi 47.80 40 *eP* **P 23 53 24.3 +3.1**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.7s
STU Stuttgart 47.95 328 P P 23 53 22.7 +0.6
STU IAmb IAmb 23 53 26.0
comp=Z,7.5nm,1.0s
BFO Black Forest 48.15 327 P P 23 53 23.1 -0.6
BFO IAmb IAmb 23 53 23.8
comp=Z,13nm,1.5s
ECH Echery 48.72 326 P P 23 53 26.8 -1.3
ECH IAmb IAmb 23 53 31.0
comp=Z,11nm,1.5s
KOWA Kowa 48.93 279 P P 23 53 30.9 +0.7
comp=Z,6.1nm,1.0s,baz=48,slow=3.5,SNR=6.5
KOWA Kowa 48.93 279 P P 23 53 31.0 +0.8
KLMR Klimovskoe 49.19 356 *eP* **P 23 53 28.5 -2.9**
KLMR AMP 23 53 35.4
comp=Z,23nm,1.3s
CART Cartagena 49.33 310 P P 23 53 33.9 +1.0
WLF Walferdange 50.09 327 P P 23 53 38.2 -0.3
WLF IAmb IAmb 23 53 52.6
comp=Z,10nm,1.1s
DBIC Dimbokro 50.63 269 P P 23 53 43.9 +0.7
CM13 Chiang Mai Arr 51.12 76 P P 23 53 49.2 +2.4
comp=Z,8.7nm,1.0s
CM15 Chiang Mai Arr 51.14 76 P P 23 53 52.5 +5.6
comp=Z,375nmcomp=Z,5.2nm,0.6s
CM31 Chiang Mai Arr 51.16 76 P P 23 53 48.3 +1.2
CM31 IAmb IAmb 23 53 53.1
comp=Z,9.9nm,0.9s
CMAR Chiang Mai Arr 51.16 76 P P 23 53 46.1 -1.0
comp=Z,4.3nm,0.8s,baz=275,slow=8.4,SNR=20
CMAR PcP **PcP 23 55 02.2 -0.4**
comp=Z,0.7nm,0.3s,baz=258,slow=4.5,SNR=1.8
CMAR Chiang Mai Arr 51.16 76 P P 23 53 47.3 +0.3
CM05 Chiang Mai Arr 51.16 76 P P 23 53 49.2 +2.1
comp=Z,68nmcomp=Z,7.8nm,0.9s
CM02 Chiang Mai Arr 51.16 76 P P 23 53 49.6 +2.5
comp=Z,79nmcomp=Z,9.6nm,1.0s
CM01 Chiang Mai Arr 51.17 76 P P 23 53 51.9 +4.7
comp=Z,10nm,1.1s
CM04 Chiang Mai Arr 51.19 76 P P 23 53 49.8 +2.5
comp=Z,82nmcomp=Z,10nm,0.9s
FINES FINESS Array B 51.67 348 P P 23 53 48.7 -1.4
comp=Z,1.9nm,1.0s,baz=141,slow=12,SNR=2.1
FINES FINESS Array B 51.67 348 P P 23 53 49.6 -0.5
ZAA0 Zalesovo Array 51.92 28 P P 23 53 51.8 -0.4
ZALV Zalesovo Beam 51.92 28 P P 23 53 51.5 -0.6
comp=Z,2.9nm,0.6s,baz=234,slow=7.7,SNR=7.9
ZALV Zalesovo Beam 51.92 28 P P 23 53 51.7 -0.5
ESDC Sonseca Array 52.18 311 P P 23 53 53.9 -0.6
comp=Z,1.0nm,1.1s,baz=94,slow=12,SNR=5.7
ESDC Sonseca Array 52.18 311 P P 23 53 54.7 +0.2
HFS Hagfors 53.88 341 P P 23 54 04.7 -1.9
comp=Z,2.3nm,0.8s,baz=155,slow=11,SNR=3.7
GTA Gaotai 54.61 50 *eP* **P 23 54 13.1 +0.7**
GTA pP pwP 23 54 17.5 +0.1
GTA sP sP 23 54 20.4 +4.3
GTA pmax pmax
comp=Z,3.0nm,0.8s
KMI Kunming 54.84 68 ⇑P **P 23 54 16.5 +2.0**
KMI sP pwP 23 54 32.9 +13
KMI pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 55.38 340 P P 23 54 15.7 -1.8
comp=Z,3.8nm,1.1s,baz=136,slow=7.4
NOA NORSAR Array B 55.38 340 P P 23 54 16.1 -1.3
comp=Z,1.2nm,1.0s,baz=130,slow=7.5,SNR=3.7
BKNI Bangkinang 55.56 98 P P 23 54 19.1 -0.4
SLVN Son La 55.82 72 P P 23 54 22.3 +1.0
LZH Lanzhou 57.02 55 *eP* **P 23 54 31.3 +1.5**
LZH sP pwP 23 54 36.9 +2.1
LZH PP **PP 23 56 31.3 -5.2**
LZH pmax pmax
comp=Z,18nm,1.3s
EKA Eskdalemuir Ar 57.91 329 P P 23 54 33.9 -1.6
comp=Z,1.6nm,0.9s,baz=118,slow=7.9,SNR=4.0
XAN Xi'an 60.88 58 P P 23 54 56.9 +0.3
XAN pP pwP 23 55 03.8 +2.3
XAN pmax pmax
comp=Z,11nm,1.0s
ENH Enshi 61.09 62 P P 23 54 58.1 +0.1
SONM Songino Array 61.39 42 P P 23 54 59.3 -0.6
comp=Z,1.7nm,0.7s,baz=244,slow=6.3,SNR=11
SONM Songino Array 61.39 42 P P 23 55 00.4 +0.6
SONM IAmb IAmb 23 55 04.3
comp=Z,4.8nm,1.1s
ULN Ulaanbaatar 61.83 42 P P 23 55 03.2 +0.4
NRIK Noril'sk 63.16 15 P P 23 55 11.1 -0.1
comp=Z,2.6nm,0.9s,baz=222,slow=7.1,SNR=4.2
NRIK LR LR 00 25 53.4
comp=Z,259nm,19.1s,baz=226,slow=39
NRIK Noril'sk 63.16 15 P P 23 55 11.7 +0.5
NRIK IAmb IAmb 23 55 16.0
comp=Z,4.2nm,1.0s
HHC Hu-ho-hao-te 63.72 50 *eP* **P 23 55 17.9 +2.4**
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.4s
NJ2 Nanjing 69.15 60 *eP* **P 23 55 51.3 +1.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
CN2 Changchun 74.14 48 *eP* **P 23 56 21.9 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KSRS Korea Array 76.35 54 P P 23 56 33.6 +0.6
comp=Z,1.7nm,0.9s,baz=252,slow=7.7,SNR=2.6
KSRS LR LR 00 34 47.5
comp=Z,28nm,18.3s,baz=330,slow=39
USRK Ussuriysk Ar. 78.83 47 P P 23 56 47.5 +0.8
comp=Z,1.2nm,0.6s,baz=208,slow=2.8,SNR=2.4
MAW Mawson 80.14 174 LR LR 00 25 59.1
comp=Z,222nm,20.9s,baz=37,slow=31
MAT Matsushiro 84.62 54 P P 23 57 18.9 +1.4
MJAR Matsushiro Arr 84.63 54 P P 23 57 18.1 +0.5
comp=Z,1.2nm,0.3s,baz=283,slow=4.8,SNR=7.3
MJAR Matsushiro Arr 84.63 54 P P 23 57 17.2 -0.3
MJAR IAmb IAmb 23 57 23.0
comp=Z,5.7nm,0.9s
WRA Warramunga Arr 92.21 110 P P 23 57 55.5 +1.5
comp=Z,2.3nm,0.7s,baz=291,slow=3.6,SNR=3.4
ASAR Alice Springs 92.56 114 P P 23 57 57.0 +1.3
comp=Z,0.9nm,0.8s,baz=289,slow=4.6,SNR=5.1
PETK Petropavlovsk- 93.06 34 LR LR 00 44 27.2
comp=Z,24nm,18.4s,baz=301,slow=38
PDAR Pinedale Array 121.32 339 PKP **PKPdf 00 03 36.7 -0.7**
comp=Z,0.5nm,0.9s,baz=25,slow=6.9,SNR=5.1
NVAR Mina Array Bea 127.95 345 PKP **PKPdf 00 03 50.4 +0.1**
comp=Z,1.7nm,0.9s,baz=4.4,slow=1.2,SNR=7.4
TXAR Lajitas Array 129.82 325 PKP **PKPdf 00 03 53.9 -0.1**
comp=Z,0.7nm,0.9s,baz=95,slow=2.9,SNR=7.0

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*IDC **13** 23:51:25.4±1.2,2°.63N×125°.00E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/43, mbtmp3.8/4, Error ellipse: s-maj=151.7km s-min=21.4km az=67.0*
*NEIC **13** 23:51:34.4±1.0, 3°.26N±0°.09×126°.5E±0°.2, h74km±11km, mb4.1/10, Error ellipse: s-maj=33.0km s-min=11.9km az=82.0*
ISC 13 23:51:30.3±0.8,**3°.2N**±0°.1×**126°.1E**±0°.3,**h35**km,**n16,**
σ1§53/17,mb4.1/9,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.75**	**153**	Pn	**Pn**	**23 52 14.1**	**+2.1**
TNTI				Sn	**Sn**	**23 52 45.2**	**+1.2**
SAUI	**Saumlaki**	**12.29**	**155**	Pn	**Pn**	**23 54 22.5**	**-0.4**
TWG	**Pinlang**	**20.07**	**346**	P	**P**	**23 56 02.2**	**+1.4**
WB0	**Warramunga Arr**	**24.27**	**161**	P	**P**	**23 56 42.7**	**-1.7**
WB0				IAmb	IAmb	23 56 43.9	
WRA	**Warramunga Arr**	**24.41**	**161**	P	**P**	**23 56 43.8**	**-1.9**
	comp=Z,2.5nm,0.4s,baz=334,slow=11,SNR=22						
WRA	**Warramunga Arr**	**24.41**	**161**	P	**P**	**23 56 43.4**	**-2.3**
WB2	**Warramunga Arr**	**24.42**	**161**	P	**P**	**23 56 44.0**	**-1.7**
WB2				IAmb	IAmb	23 56 45.1	
	comp=Z,9.1nm,0.8s						
WR0	**Warramunga Arr**	**24.50**	**161**	P	**P**	**23 56 44.4**	**-2.1**
WR0				IAmb	IAmb	23 56 59.4	
	comp=Z,7.5nm,1.1s						
PSA00	**Pilbara Seismi**	**25.42**	**194**	P	**P**	**23 56 55.6**	**+0.7**
PSA00				IAmb	IAmb	23 57 04.5	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**27.80**	**165**	P	**P**	**23 57 15.2**	**-1.1**
ASAR	**Alice Springs**	**27.80**	**165**	P	**P**	**23 57 15.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=340,slow=6.6,SNR=8.3						
ASAR				PcP	**PcP**	**00 00 32.0**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=9.9,slow=2.2,SNR=1.9						
JNU	**Nakatsue**	**30.05**	**8**	P	**P**	**23 57 35.6**	**-0.7**
STKA	**Stephens Creek**	**37.90**	**158**		**P**	**23 58 43.0**	**-1.2**
STKA				IAmb	IAmb	23 59 08.5	
	comp=Z,3.4nm,1.2s						
SONM	**Songino Array**	**47.57**	**342**	P	**P**	**00 00 02.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=154,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**47.57**	**342**	IAmb	IAmb	00 00 04.4	
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**57.61**	**326**	P	**P**	**00 01 17.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=119,slow=8.0,SNR=6.4						

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*IDC **14** 00:12:49.9±2.3, 12°.08N×46°.51E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.2/25, Error ellipse: s-maj=50.8km s-min=29.7km az=143.0*
ISC 14 00:12:50.8±1.6,**12°.0N**±0°.2×**46°.6E**±0°.3,**h10**km,**n9,σ1§24/8,**
mb3.6/7,MS3.6/3,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**15.98**	**216**	Pn	**Pn**	**00 16 35.5**	**-0.6**
	0.1nm,0.3s,baz=27,slow=14,SNR=4.9						
GEYT	**Alibeck**	**27.82**	**20**	LR	LR	00 32 02.5	
	comp=Z,181nm,18.2s,baz=90,slow=42						
BRTR	**Keskin Array B**	**29.89**	**340**	P	**P**	**00 18 59.3**	**+0.5**
	0.6nm,0.5s,baz=166,slow=7.4,SNR=4.2						
BRTR				LR	LR	00 31 13.3	
	comp=Z,155nm,20.5s,baz=104,slow=37						
AKASG	**Malin Array Be**	**41.12**	**343**	P	**P**	**00 20 34.0**	**-0.9**
	0.2nm,0.2s,baz=161,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**43.75**	**277**	P	**P**	**00 20 58.1**	**+1.2**
	0.5nm,0.8s,baz=90,slow=8.1,SNR=3.8						
GERES	**GERESS Array B**	**45.73**	**330**	P	**P**	**00 21 10.5**	**-1.8**
	1.0nm,0.7s,baz=124,slow=7.2,SNR=7.4						
MKAR	**Makanchi Array**	**45.92**	**34**	P	**P**	**00 21 13.9**	**+0.1**
	0.9nm,0.8s,baz=223,slow=7.8,SNR=6.2						
ZALV	**Zalesovo Beam**	**51.64**	**28**	P	**P**	**00 21 57.9**	**+0.4**
	0.6nm,0.4s,baz=224,slow=6.0,SNR=2.3						
ZALV				LR	LR	00 48 05.9	
	comp=Z,59nm,18.3s,baz=245,slow=41						
NOA	**NORSAR Array B**	**55.33**	**340**	P	**P**	**00 22 25.8**	**+1.2**
	0.2nm,0.5s,baz=135,slow=6.7,SNR=1.8						

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*KRNET **14** 00:17:22.9±0.1, 39°.17N×72°.67E, h13km, mb3.2*
*NNC **14** 00:17:24.3±3.8, 38°.98N×72°.61E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=39.0km s-min=17.5km az=151.0*
*SOME **14** 00:17:29.3, 39°.52N×72°.62E, h10km*
ISC 14 00:17:21.7±2.0,**39°.17N**±0°.09×**72°.68E**±0°.04,**h14**km±11km,
n28,σ1§74/49,11C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.75**	**294**	⇑*iP*	**Pn**	**00 17 37.0**	**-1.1**
	baz=95						
DRK				⇑*iS*	**Sn**	**00 17 47.9**	**-1.5**
	baz=95						
SFK	**Sufi-Kurgan**	**1.05**	**37**	⇓*iP*	**Pg**	**00 17 43.5**	**+1.5**
	baz=37						
SFK				⇓*iS*	**Sn**	**00 17 58.2**	**+1.4**
	baz=37						
OHH	**Osh**	**1.35**	**3**	⇓*iP*	**Pg**	**00 17 48.6**	**+0.9**
	baz=4.0						
OHH				⇓*iS*	**Sg**	**00 18 07.6**	**+2.3**
	baz=4.0						
BTK	**Batken**	**1.69**	**302**	⇑*iP*	**Pg**	**00 17 54.5**	**+0.3**
	baz=2.0						
BTK				⇑*iS*	**Sg**	**00 18 17.6**	**+1.5**
	baz=2.0						
TRKS	**Terek-Say**	**2.63**	**334**	⇓*iP*	**Pb**	**00 18 07.9**	**-0.8**
	baz=34						
TRKS				⇓*iS*	**Sb**	**00 18 40.5**	**-0.5**
	baz=34						
ARLS	**Aral**	**2.96**	**24**	⇑*eP*	**Pb**	**00 18 13.4**	**-0.9**
	baz=25						
ARLS				⇑*iS*	**Sb**	**00 18 51.3**	**+0.9**
	baz=25						
AML	**Almayashu**	**3.05**	**14**	P	**Pb**	**00 18 17.1**	**+1.1**
	SNR=18						
MNAS	**Manas**	**3.31**	**358**	⇑*iP*	**Pb**	**00 18 18.5**	**-1.8**
	baz=58						
MNAS				⇑*iS*	**Sb**	**00 18 59.0**	**-1.5**
	baz=58						
MRKS	**Merke**	**3.59**	**6**	*eP*	**Pg**	**00 18 29.1**	**-1.4**
	35nm,0.5s						
MRKS				*eS*	**Sb**	**00 19 12.3**	**+3.8**
	11nm,0.4s						
AAK	**Ala-Archa**	**3.72**	**21**	P	**Pb**	**00 18 27.1**	**-0.2**
	SNR=6.2						
AAK	**Ala-Archa**	**3.72**	**21**	⇑P	**Pb**	**00 18 26.3**	**-1.0**

5.8nm,0.3s
AAK ⇓S **Sb** **00 19 13.9 +1.6**
15nm,0.7s
CHMS Chumysh 4.13 22 P **Pb** **00 18 32.0 -2.1**
SNR=6.1
KK31 Karatay Array 4.26 338 P **Pb** **00 18 32.8 -3.5**
1.5nm,0.3s,baz=156,slow=14,SNR=45
KK31 ⇑S **Sb** **00 19 25.7 -1.8**
6.7nm,0.6s,baz=157,slow=25,SNR=3.7
USP Ospenovka 4.31 18 P **Pb** **00 18 34.2 -3.0**
SNR=6.5
TKM2 Tokmak 2 4.34 30 P **Pb** **00 18 34.9 -3.0**
SNR=5.4
TKM2 Tokmak 2 4.34 30 ⇓P **Pb** **00 18 34.3 -3.5**
3.6nm,0.6s
TKM2 ⇑S **Sb** **00 19 29.6 -0.6**
3.2nm,0.6s
DGS Degeres 4.69 29 *eP* **Pg** **00 18 52.8 +1.4**
3.5nm,0.5s
DGS *eS* **Sg** **00 19 52.7 +0.6**
6.0nm,0.8s
IZV Izvestkoviy 4.87 36 *eP* **Pg** **00 18 55.9 +0.9**
4.9nm,0.5s
IZV *eS* **Sg** **00 19 57.9 0.0**
10.0nm,0.6s
KRBS Karabastau 5.05 25 *eP* **Pg** **00 18 59.1 +0.8**
3.3nm,0.7s
KRBS *eS* **Sg** **00 20 03.5 -0.2**
3.5nm,0.6s
MDOK Medeo 5.17 38 *eP* **Pg** **00 19 01.5 +0.8**
3.5nm,0.5s
MDOK *eS* **Sg** **00 20 07.7 0.0**
6.0nm,0.9s
KOTS Kotyrbulak 5.25 38 *eP* **Pg** **00 19 02.9 +0.6**
3.6nm,0.5s
KOTS *eS* **Sg** **00 20 10.6 +0.3**
12nm,0.7s
KTBS Karatobe 5.44 32 *eP* **Pg** **00 19 06.0 +0.2**
2.5nm,0.7s
KTBS *eS* **Sg** **00 20 15.6 -0.6**
12nm,0.6s
KUU Kurty 5.46 29 *eP* **Pg** **00 19 05.1 -1.0**
1.4nm,0.3s
KUU *eS* **Sg** **00 20 13.9 -2.9**
7.5nm,0.6s
CHKK Chushkaly 5.68 33 *eP* **Pg** **00 19 09.4 -1.1**
2.5nm,0.5s
CHKK *eS* **Sg** **00 20 21.8 -2.3**
4.1nm,0.4s
SATY Saty 5.81 46 *eP* **Pg** **00 19 12.5 -0.3**
1.6nm,0.5s
SATY *eS* **Sg** **00 20 26.8 -1.2**
7.4nm,1.2s
ARXS Arharly 6.34 36 *eP* **Pg** **00 19 22.4 -0.6**
3.1nm,0.6s
ARXS *eS* **Sg** **00 20 43.3 -1.8**
4.1nm,0.6s
AB31 Akbulak array 13.59 322 P **Pn** **00 20 35.2 +1.4**
2.0nm,0.8s,baz=227,slow=11,SNR=10
AKTO Aktyubinsk 15.30 322 ⇓P **P** **00 21 05.4 +3.6**
2.1nm,0.8s

*IDC **14** 00:34:18.0±1.0, 12°.21N×46°.50E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/35, mbtmp3.8/11, ML3.4/1, MS3.3/14, Ms1 3.3/14, ms1mx3.1/40, Error ellipse: s-maj=29.0km s-min=24.3km az=28.0*
*NEIC **14** 00:34:18.7±1.1, 11°.95N±0°.10×46°.36E±0°.08, h10km±1km, mb4.3/15, Error ellipse: s-maj=16.5km s-min=12.7km az=162.0*
ISC 14 00:34:18.7±0.6, 12°.04N±0°.09×46°.39E±0°.08, h10km, n47, σ0§95/34, mb4.2/17, MS3.4/12, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.50**	**262**	LR	LR	00 36 16.5	
	comp=Z,46nm,18.6s,baz=184,slow=33						
ATD	**Arta Tunnel**	**3.50**	**262**		**Pn**	**00 35 12.2**	**-1.2**
SOCY	**Socotra**	**7.43**	**88**	Pn	**Pn**	**00 36 07.3**	**-0.1**
FURI	**Furi**	**8.20**	**248**	Pn	**Pn**	**00 36 17.1**	**-1.1**
UOSS	**Minazif**	**15.85**	**35**		**Pn**	**00 38 02.7**	**+0.7**
UOSS				IAmb	IAmb	00 38 09.2	
	comp=Z,31nm,1.2s						
KMBO	**Kilima Mbogo**	**15.92**	**215**	Pn	**Pn**	**00 38 04.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=31,slow=14,SNR=4.3						
MSEY	**Mahe Island**	**18.90**	**151**	P	**P**	**00 38 38.6**	**-1.1**
MBAR	**Mbarara**	**19.98**	**232**	LR	LR	00 46 16.4	
	comp=Z,80nm,20.8s,baz=34,slow=36						
EIL	**Elat**	**20.52**	**330**	LR	LR	00 45 34.9	
	comp=Z,67nm,19.4s,baz=156,slow=33						
MMAI	**Mount Meron Ar**	**23.18**	**336**	LR	LR	00 47 22.3	
	comp=Z,71nm,20.4s,baz=45,slow=34						
MARD	**Mardin**	**25.67**	**350**	P	**P**	**00 39 48.7**	**-0.3**
MARD				IAmb	IAmb	00 39 59.8	
	comp=Z,4.4nm,0.9s						
CSS	**Mathiatis**	**25.72**	**335**	P	**P**	**00 39 49.7**	**+0.4**
CSS				IAmb	IAmb	00 40 08.9	
	comp=Z,11nm,1.2s						
HRA	**Herat**	**26.52**	**30**	P	**P**	**00 39 56.4**	**-0.4**
HRA				IAmb	IAmb	00 40 08.6	
	comp=Z,2.5nm,0.8s						
GURO	**Guroymak-BITLI**	**26.69**	**352**	P	**P**	**00 39 56.5**	**-1.7**
GEYT	**Alibeck**	**27.83**	**20**	LR	LR	00 53 31.7	
	comp=Z,103nm,18.6s,baz=80,slow=42						
AKAS	**Kas**	**28.45**	**331**	P	**P**	**00 40 12.9**	**-1.1**
AKAS				IAmb	IAmb	00 40 26.4	
	comp=Z,11nm,1.1s						
BRTR	**Keskin Array B**	**29.80**	**340**	P	**P**	**00 40 26.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=122,slow=10,SNR=2.0						
BRTR				LR	LR	00 52 53.8	
	comp=Z,91nm,18.3s,baz=160,slow=38						
PUK	**Puka**	**37.77**	**327**	P	**P**	**00 41 35.3**	**+0.1**
PUK				IAmb	IAmb	00 41 38.3	
	comp=Z,3.9nm,0.9s						
ABKAR	**Akbulak array**	**38.77**	**14**	P	**P**	**00 41 43.7**	**+0.4**
ABKAR	**Akbulak array**	**38.77**	**14**	P	**P**	**00 41 43.3**	**0.0**
ABKAR				IAmb	IAmb	00 41 45.9	
	comp=Z,2.2nm,1.1s						
AKTO	**Aktyubinsk**	**39.46**	**12**	LR	LR	01 01 36.2	
	comp=Z,56nm,18.9s,baz=191,slow=42						
BURAR	**Bucovina Array**	**39.66**	**337**	P	**P**	**00 41 50.8**	**-0.1**
BELG	**Belogornoye**	**40.26**	**1**	LR	LR	01 01 40.4	
	comp=Z,58nm,18.3s,baz=132,slow=41						
AKASG	**Malin Array Be**	**41.03**	**343**	P	**P**	**00 42 02.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=165,slow=7.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**43.59**	**276**	P	**P**	**00 42 24.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=106,slow=6.2,SNR=2.6						
ZOU	**Zoufplan**	**44.48**	**327**	P	**P**	**00 42 30.9**	**+0.5**
ZOU				IAmb	IAmb	00 42 36.6	
	comp=Z,4.9nm,1.1s						
VRAC	**Vranov**	**44.58**	**332**	LR	LR	01 05 23.6	
	comp=Z,24nm,19.0s,baz=252,slow=42						
ARU	**Arti**	**45.28**	**9**	LR	LR	01 04 54.3	
	comp=Z,67nm,19.5s,baz=202,slow=41						
GEC2	**GERESS Array S**	**45.61**	**330**	P	**P**	**00 42 39.3**	**0.0**
GEC2				IAmb	IAmb	00 42 44.2	
	comp=Z,1.9nm,0.8s						
GERES	**GERESS Array B**	**45.61**	**330**	P	**P**	**00 42 38.4**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=126,slow=6.9,SNR=7.7						
SUW	**Suwalki**	**45.74**	**341**	P	**P**	**00 42 39.1**	**-0.9**
MK31	**Makanchi Array**	**45.97**	**34**	P	**P**	**00 42 42.0**	**-0.1**
MKAR	**Makanchi Array**	**45.97**	**34**	P	**P**	**00 42 40.3**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=233,slow=7.9,SNR=1.6						
MKAR	**Makanchi Array**	**45.97**	**34**	P	**P**	**00 42 43.2**	**+1.1**
KIRV	**Kirov**	**46.51**	**2**	LR	LR	01 07 09.8	
	comp=Z,36nm,19.1s,baz=195,slow=43						
BFO	**Black Forest**	**48.06**	**326**	P	**P**	**00 42 58.4**	**0.0**
BFO				IAmb	IAmb	00 43 01.4	
	comp=Z,7.7nm,1.4s						
CART	**Cartagena**	**49.31**	**310**	P	**P**	**00 43 08.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**50.96**	**76**	P	**P**	**00 43 19.6**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=273,slow=8.0,SNR=5.2						
FINES	**FINESS Array B**	**51.49**	**348**	P	**P**	**00 43 24.4**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=170,slow=8.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**51.67**	**28**	P	**P**	**00 43 24.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=238,slow=8.3,SNR=1.5						
HFS	**Hagfors**	**53.74**	**340**	LR	LR	01 07 31.2	
	comp=Z,14nm,18.5s,baz=184,slow=37						
NOA	**NORSAR Array B**	**55.23**	**340**	LR	LR	01 11 29.1	
	comp=Z,13nm,18.4s,baz=100,slow=40						
NRIK	**Noril'sk**	**62.93**	**15**	LR	LR	01 19 00.8	
	comp=Z,57nm,18.7s,baz=199,slow=43						
WRA	**Warramunga Arr**	**92.14**	**110**	P	**P**	**00 47 30.5**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=287,slow=7.9,SNR=2.3						
ASAR	**Alice Springs**	**92.51**	**114**	P	**P**	**00 47 32.5**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=311,slow=5.6,SNR=3.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**127.79**	**345**	PKP	**PKiKP**	**00 53 27.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=180,slow=0.6,SNR=2.7						
TXAR	**Lajitas Array**	**129.73**	**325**	PKP	**PKiKP**	**00 53 30.3**	**+0.4**
	comp=Z,1.2nm,1.2s,baz=132,slow=1.9,SNR=5.0						

*BGR **14** 01:25:27.0±0.0, 16°.50N×103°.84W, h33km, mb5.5*
*MEX **14** 01:25:32.6±1.6, 18°.19N×103°.45W, h9km, MD4.7*
*NEIC **14** 01:25:32.8±2.0, 18°.29N±0°.05×103°.38W±0°.04, h20km±5km, mb4.7/284, Md4.7/132(MEX), Error ellipse: s-maj=8.1km s-min=5.3km az=175.0*
*GCMT **14** 01:25:35.0±0.5, 18°.29N±0°.03×103°.33W±0°.03, h23km±1km, MW4.9/70, Moment Tensor Solution. s41,c49; s70,c102; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.57±.19; Mθθ-2.21±.12; Mφφ-0.36±.12; Mrθ1.45±.15; Mrφ1.35±.08; Mθφ-0.99±.19; Best double couple: M0=3.25900×10^16 NP1:φ122.00000°, δ29.00000°, λ83.00000°. NP2: φ5.00000°, δ61.00000°, λ94.00000°. Principal axes: T 3.0890, Plg73.0000°, Azm42.0000°; N 0.3350, Plg4.0000°, Azm300.0000°; P -3.4300, Plg16.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **14** 01:25:37.3±3.2, 18°.45N×103°.12W, h58km±25km, mb4.2/19, mb1 4.4/23, mb1mx4.3/38, mbtmp4.4/23, ML4.1/3, MS4.1/28, Ms1 4.2/28, ms1mx4.1/38 Error ellipse: s-maj=30.1km s-min=12.9km az=42.0*
ISC 14 01:25:30.6±0.9, 18°.21N±0°.04×103°.47W±0°.03, h14km±5km, n713, σ1§83/716, mb4.8/129, MS4.2/28, 3C, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.14**	**56**	*eP*	**Pg**	**01 25 35.0**	**+0.7**
MMIG				*i* S	**Sg**	**01 25 37.6**	**+0.7**
MMIG	**Aquila**	**0.14**	**56**		**Pg**	**01 25 35.0**	**+0.7**
MMIG					**Sg**	**01 25 37.6**	**+0.7**
COIG	**Colima**	**0.99**	**348**	*i* P	**Pg**	**01 25 48.9**	**-0.9**
COIG				*i* S	**Sg**	**01 26 02.1**	**-0.7**
R15V		**1.07**	**333**	*eP*	**Pg**	**01 25 50.1**	**-1.3**
R15V				*i* S	**Sg**	**01 26 05.0**	**-0.5**
EZ5V		**1.27**	**354**	*eP*	**Pn**	**01 25 54.0**	**-0.2**
EZ5V				*i* S	**Sb**	**01 26 12.0**	**+1.1**
EZ5V		**1.27**	**354**		**Pn**	**01 25 54.0**	**-0.2**
UON	**La Union**	**1.59**	**98**	*eP*	**Pb**	**01 25 59.2**	**-0.7**
UON				*eS*	**Sb**	**01 26 20.2**	**+0.4**
URUA	**Uruapan**	**1.79**	**47**	*eP*	**Pn**	**01 26 01.3**	**0.0**
URUA				*eS*	**Sn**	**01 26 24.6**	**+0.6**
URUA	**Uruapan**	**1.79**	**47**		**Pn**	**01 26 01.3**	**0.0**
CJM	**Chamela**	**1.97**	**311**	*eP*	**Pb**	**01 26 05.7**	**-0.5**
CJM				*i* S	**Sg**	**01 26 33.0**	**-1.0**
ZIIG	**Zihuatanejo**	**2.00**	**107**	*eP*	**Pn**	**01 26 04.1**	**+0.1**
ZIIG				*i* S	**Sn**	**01 26 26.2**	**-2.7**
ZIIG	**Zihuatanejo**	**2.00**	**107**		**Pn**	**01 26 04.1**	**+0.1**
MOIG	**Morelia**	**2.61**	**56**	*eP*	**Pn**	**01 26 13.5**	**+0.8**
MOIG				*i* S	**Sn**	**01 26 48.0**	**+3.8**
MOIG	**Morelia**	**2.61**	**56**		**Pn**	**01 26 11.0**	**-1.6**
PUVA	**Puert Vallarta**	**2.92**	**326**	*eP*	**Pb**	**01 26 20.7**	**-1.8**
PUVA				*i* S	**Sb**	**01 26 59.6**	**+1.6**
PUVA	**Puert Vallarta**	**2.92**	**326**		**Pb**	**01 26 20.7**	**-1.8**
PUVA					**Sb**	**01 26 59.6**	**+1.6**
ARIG	**Puente Sto Nin**	**2.97**	**88**	*eP*	**Pn**	**01 26 17.1**	**-0.3**
ARIG				*i* S	**Sb**	**01 27 00.7**	**+1.1**
ARIG	**Puente Sto Nin**	**2.97**	**88**		**Pn**	**01 26 17.1**	**-0.3**
IGIG	**Irapuato, Guan**	**3.24**	**38**	*eP*	**Pn**	**01 26 22.7**	**+1.4**
IGIG				*i* S	**Sb**	**01 27 09.3**	**+1.7**
IGIG	**Irapuato, Guan**	**3.24**	**38**		**Pn**	**01 26 22.7**	**+1.4**
IGIG					LR	01 27 09.3	
CAIG	**El Cayaco**	**3.27**	**110**	*eP*	**Pn**	**01 26 21.8**	**+0.4**
CAIG				*i* S	**Sn**	**01 27 03.8**	**+3.7**
CAIG	**El Cayaco**	**3.27**	**110**		**Pn**	**01 26 21.8**	**+0.4**
ACP2	**Acapulco**	**3.67**	**111**	*eP*	**Pb**	**01 26 37.1**	**+1.8**
ACP2				*eS*	**Sn**	**01 27 07.4**	**-2.6**
ACP2	**Acapulco**	**3.67**	**111**		**Pb**	**01 26 37.1**	**+1.8**
MEIG	**Mezcala**	**3.67**	**94**	*eP*	**Pb**	**01 26 32.7**	**-2.7**
MEIG				*i* S	**Sb**	**01 27 17.8**	**-2.2**
MEIG	**Mezcala**	**3.67**	**94**		**Pb**	**01 26 32.7**	**-2.7**
MEIG					**Sb**	**01 27 17.8**	**-2.2**
PLIG	**Platanillo**	**3.77**	**87**	*eP*	**Pn**	**01 26 29.8**	**+1.3**
PLIG				*i* S	**Sb**	**01 27 19.0**	**-3.8**
PLIG	**Platanillo**	**3.77**	**87**		**Pn**	**01 26 29.8**	**+1.3**
JRQG	**Juriquilla Cam**	**3.78**	**48**	*eP*	**Pn**	**01 26 30.1**	**+1.3**
JRQG				*i* S	**Sb**	**01 27 26.7**	**+3.5**
JRQG	**Juriquilla Cam**	**3.78**	**48**		**Pn**	**01 26 30.1**	**+1.3**
ACIG	**Acambay**	**3.83**	**62**	*eP*	**Pn**	**01 26 31.5**	**+2.2**
ACIG				*i* S	**Sb**	**01 27 29.5**	**+5.1**
DAIG	**Los Arroyos**	**3.83**	**107**	*eP*	**Pn**	**01 26 29.3**	**+0.1**
DAIG				*i* S	**Sn**	**01 27 17.9**	**+3.8**
DAIG	**Los Arroyos**	**3.83**	**107**		**Pn**	**01 26 29.3**	**+0.1**
MAVM	**Malinalco, Edo**	**3.84**	**78**	*eP*	**Pn**	**01 26 34.0**	**+4.4**
MAVM				*eS*	**Sb**	**01 27 24.9**	**0.0**
MAVM	**Malinalco, Edo**	**3.84**	**78**		**Pn**	**01 26 34.0**	**+4.4**
AAIG	**Aguscalientes**	**3.88**	**15**	*eP*	**Pn**	**01 26 31.9**	**+1.8**
AAIG				*i* S	**Sb**	**01 27 23.4**	**-2.6**
UNM	**Universidad Na**	**4.22**	**74**	*eP*	Pn	01 26 39.8	+5.0
UNM				*i* S	**Sb**	**01 27 33.4**	**-2.3**
CVM	**Colonia del Va**	**4.23**	**73**	*eP*	**Pn**	**01 26 32.9**	**-1.8**
PBVM	**Pinon**	**4.33**	**73**	*eP*	**Pn**	**01 26 40.3**	**+4.2**
PBVM				*eS*	**Sb**	**01 27 36.5**	**-2.3**
PBVM	**Pinon**	**4.33**	**73**		**Pn**	**01 26 40.3**	**+4.2**
PBVM					**Sb**	**01 27 36.5**	**-2.3**
PTVM	**Pico Tres Padr**	**4.35**	**71**	*eP*	Pn	01 26 42.0	+5.4
PTVM				*i* S	**Sb**	**01 27 44.5**	**+4.9**
CRIG	**Cruz Grande**	**4.39**	**109**	*eP*	**Pn**	**01 26 37.3**	**+0.4**
CRIG				*eS*	**Sn**	**01 27 30.6**	**+2.7**
CRIG	**Cruz Grande**	**4.39**	**109**		**Pn**	**01 26 37.3**	**+0.4**
ZUVM	**ZUMPANGO**	**4.46**	**68**	*eP*	**Pn**	**01 26 42.5**	**+4.4**
ZUVM				*i* S	**Sb**	**01 27 48.8**	**+6.1**
AMVM	**AMECAMECA**	**4.54**	**78**	*eP*	Pn	01 26 34.3	-4.9
AMVM				*eS*	**Sb**	**01 27 49.7**	**+4.8**
ZAIG	**Zacatecas**	**4.62**	**10**	*eP*	**Pb**	**01 26 49.1**	**-2.5**
ZAIG				*i* S	**Sb**	**01 27 51.4**	**+4.2**
ZAIG	**Zacatecas**	**4.62**	**10**		**Pn**	**01 26 39.8**	**-0.6**
ZAIG				Sn	**Sn**	**01 27 31.5**	**-2.4**
PPM	**Popocatepetl**	**4.67**	**79**	*eP*	**Pn**	**01 26 42.0**	**+0.7**
PPM				*eS*	**Sn**	**01 27 42.0**	**+6.4**
DEIG	**Demacu**	**4.68**	**63**	*eP*	**Pn**	**01 26 43.5**	**+2.4**
DEIG				*eS*	**Sb**	**01 27 47.6**	**-1.4**
MGIG	**Malinaltepec**	**4.71**	**101**	*eP*	**Pn**	**01 26 42.8**	**+1.3**
MGIG				*eS*	**Sn**	**01 27 42.3**	**+6.3**
TLIG	**Tlapa**	**4.71**	**97**	*eP*	**Pn**	**01 26 42.1**	**+0.7**
TLIG				*i* S	**Sn**	**01 27 41.0**	**+4.9**
TLIG	**Tlapa**	**4.71**	**97**		**Pn**	**01 26 42.2**	**+0.7**
TLIG					**Sn**	**01 27 33.5**	**-2.6**
RPIG	**Rio Verde**	**4.91**	**41**	*eP*	**Pn**	**01 26 46.0**	**+1.8**
RPIG				*i* S	**Sn**	**01 27 46.0**	**+5.0**
TPIG	**Tehuac#an**	**5.81**	**87**	*eP*	**Pn**	**01 26 58.1**	**+1.5**
TPIG				*eS*	**Sn**	**01 28 07.2**	**+4.1**
TPIG	**Tehuac#an**	**5.81**	**87**		**Pn**	**01 26 58.1**	**+1.5**
TOIG	**Toxpalan**	**6.09**	**90**	*eP*	**Pn**	**01 27 01.3**	**+0.9**
TOIG				*eS*	**Sb**	**01 28 30.1**	**+0.6**
GTIG	**Gomez Farias**	**6.29**	**39**	*eP*	**Pn**	**01 27 04.9**	**+1.8**
GTIG				*i* S	Sb	01 28 44.8	+10
PEIG	**Puerto Escondi**	**6.43**	**109**	*eP*	**Pn**	**01 27 04.8**	**-0.2**
PEIG				*i* S	**Sb**	**01 28 32.6**	**-6.7**
OXBJ	**Oaxaca**	**6.53**	**99**	*eS*	**Sb**	**01 28 41.4**	**-0.9**
LVIG	**Laguna Verde**	**6.84**	**76**	*eP*	**Pn**	**01 27 12.9**	**+2.3**
LVIG				*eS*	Sb	01 28 43.1	-7.9
LVIG	**Laguna Verde**	**6.84**	**76**		**Pn**	**01 27 12.9**	**+2.3**
PDIG	**Papasquiaro**	**7.03**	**346**	*eP*	**Pn**	**01 27 13.9**	**+0.5**
PDIG				*i* S	**Sb**	**01 29 05.3**	**+8.7**
H06E1	**SOCORRO T-PHAS**	**7.10**	**276**	T	T	01 34 41.5	
	SNR=12						
HUIG	**Huatulco**	**7.45**	**108**	*eP*	**Pn**	**01 27 20.8**	**+1.8**
HUIG				*eS*	Sn	01 28 55.8	+12
HUIG	**Huatulco**	**7.45**	**108**		**Pn**	**01 27 20.8**	**+1.8**
LNIG	**Linares**	**7.63**	**29**	*eP*	**Pn**	**01 27 20.2**	**-1.2**
LNIG				*eS*	**Sb**	**01 29 08.1**	**-5.5**
LNIG	**Linares**	**7.63**	**29**		**Pn**	**01 27 20.2**	**-1.2**
MNIG	**Monterrey**	**7.94**	**21**	*eP*	Pn	01 27 32.6	+6.9
MNIG				*i* S	Sg	01 29 36.7	-8.7
CMIG	**Matias Romero**	**8.26**	**96**	P	**Pn**	**01 27 31.1**	**+1.0**
	2.4nm,0.3s,baz=270,slow=20,SNR=17						
CMIG				S	**Sn**	**01 29 00.2**	**-3.1**
	1.1nm,0.3s,baz=268,slow=12,SNR=3.6						
CMIG				Lg	Lg	01 29 39.7	
	3.2nm,0.3s,baz=351,slow=19,SNR=3.9						
CMIG	**Matias Romero**	**8.26**	**96**	*eP*	**Pn**	**01 27 30.7**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG				*eS*	Sn	01 29 12.4	+9.0
CMIG	**Matias Romero**	**8.26**	**96**		**Pn**	**01 27 30.7**	**+0.6**
LPIG	**La Paz**	**8.66**	**314**	LR	LR	01 30 17.2	
	comp=Z,1μm,19.2s,baz=118,slow=32						
HPIG		**8.92**	**347**		**Pn**	**01 27 39.9**	**+0.5**
TGIG		**9.98**	**97**	*eS*	Sn	01 29 56.4	+11
KVTX	**Kingsville**	**10.62**	**28**	Pn	**Pn**	**01 28 01.9**	**-0.5**
833A	**Chaparral WMA,**	**10.74**	**20**	P	**Pn**	**01 28 05.6**	**+1.5**
	baz=200						
CCIG	**Comitan**	**11.00**	**98**	*eP*	**Pn**	**01 28 11.9**	**+4.1**
CCIG	**Comitan**	**11.00**	**98**		**Pn**	**01 28 07.2**	**-0.6**
TX31	**Lajitas Ar. Si**	**11.08**	**359**		**Pn**	**01 28 08.6**	**-0.2**
TX32	**Lajitas Array**	**11.08**	**359**		**Pn**	**01 28 09.1**	**+0.3**
TXAR	**Lajitas Array**	**11.08**	**359**	P	**Pn**	**01 28 11.5**	**+2.7**
	1.1nm,0.3s,baz=174,slow=15,SNR=61						
TXAR				Lg	Lg	01 31 16.9	
	2.7nm,0.3s,baz=165,slow=28,SNR=12						
TXAR				LR	LR	01 33 04.3	
	comp=Z,2μm,20.0s,baz=0.0,slow=41						
JCT	**Junction City**	**12.67**	**15**	P	**Pn**	**01 28 31.6**	**+1.1**
	baz=195						
HSIG		**12.76**	**329**		**Pn**	**01 28 32.8**	**+1.2**
MNTX	**Cornudas Mount**	**13.54**	**353**	P	**Pn**	**01 28 45.3**	**+2.9**
	baz=170,SNR=9.7						
MNTX	**Cornudas Mount**	**13.54**	**353**	Pn	**Pn**	**01 28 42.4**	**0.0**
435B	**Jarrell**	**13.62**	**22**	P	**Pn**	**01 28 42.8**	**-0.5**
	baz=203,SNR=6.5						
435B	**Jarrell**	**13.62**	**22**	Pn	**Pn**	**01 28 42.1**	**-1.2**
MTO3	**Montecristo**	**14.06**	**104**		**Pn**	**01 28 49.0**	**-0.8**
319A	**Douglas**	**14.13**	**339**		**Pn**	**01 28 50.9**	**+0.4**
WHTX	**Lake Whitney,**	**14.76**	**20**	P	**Pn**	**01 28 57.5**	**-1.6**
	baz=202,SNR=6.7						
WHTX	**Lake Whitney,**	**14.76**	**20**		**Pn**	**01 28 59.2**	**+0.2**
ABTX	**Abilene, Hawle**	**14.77**	**13**	P	**Pn**	**01 28 59.6**	**+0.4**
	baz=193,SNR=14						
ABTX	**Abilene, Hawle**	**14.77**	**13**	Pn	**Pn**	**01 28 58.5**	**-0.7**
121A	**Cookes Peak, D**	**14.79**	**346**	P	**Pn**	**01 29 01.4**	**+1.9**
	baz=162,SNR=5.0						
121A	**Cookes Peak, D**	**14.79**	**346**	Pn	**Pn**	**01 28 59.7**	**+0.1**
237A	**Washetta, Mont**	**15.38**	**25**	Pn	**Pn**	**01 29 07.0**	**-0.3**
TUC	**Tucson**	**15.52**	**336**	P	**P**	**01 29 12.6**	**-1.0**
	baz=152						
TUC	**Tucson**	**15.52**	**336**	Pn	**Pn**	**01 29 09.7**	**+0.6**
441A	**DeRidder**	**15.59**	**35**	Pn	**Pn**	**01 29 09.5**	**-0.5**
441A				IAmb	IAmb	01 29 25.9	
	comp=Z,54nm,1.1s						
NATX	**Nacogdoches**	**15.67**	**29**	P	**Pn**	**01 29 09.6**	**-1.5**
	baz=212,SNR=14						
NATX	**Nacogdoches**	**15.67**	**29**		**Pn**	**01 29 10.0**	**-1.1**
MSTX	**Muleshoe**	**15.71**	**2**	P	**Pn**	**01 29 11.4**	**-0.3**
	baz=181,SNR=13						
MSTX	**Muleshoe**	**15.71**	**2**	Pn	**Pn**	**01 29 11.9**	**+0.1**
MSTX				IAmb	IAmb	01 29 26.5	
	comp=Z,78nm,1.4s						
Z35A	**Perchaven, San**	**16.06**	**19**	Pn	**Pn**	**01 29 15.6**	**-0.5**
Z35A				IAmb	IAmb	01 29 37.2	
	comp=Z,104nm,1.2s						
214A	**Organ Pipe Nat**	**16.08**	**330**	P	**Pn**	**01 29 18.3**	**+1.8**
	baz=145,SNR=9.7						
214A	**Organ Pipe Nat**	**16.08**	**330**	Pn	**Pn**	**01 29 17.1**	**+0.7**
TGUH	**Tegucigalpa,Un**	**16.10**	**102**	Pn	**Pn**	**01 29 17.0**	**+0.2**
TGUH				IAmb	IAmb	01 29 31.9	
	comp=Z,36nm,1.1s						
Y22D	**IRIS PASSCAL I**	**16.10**	**350**	P	**Pn**	**01 29 18.5**	**+1.7**
	baz=167						
Y22D	**IRIS PASSCAL I**	**16.10**	**350**	Pn	**Pn**	**01 29 16.7**	**-0.1**
Y22D				IAmb	IAmb	01 29 46.0	
	comp=Z,50nm,1.1s						
342A	**Flagon Creek P**	**16.55**	**35**	Pn	**Pn**	**01 29 21.1**	**-1.2**
AMTX	**Amarillo**	**16.69**	**5**	P	**Pn**	**01 29 23.4**	**-0.8**
	baz=185						
AMTX	**Amarillo**	**16.69**	**5**	Pn	**Pn**	**01 29 24.2**	**0.0**
LOOK	**Love County**	**16.70**	**18**	Pn	**Pn**	**01 29 23.6**	**-0.7**
LOOK				IAmb	IAmb	01 29 43.9	
	comp=Z,90nm,1.5s						
CRIN	**San Cristobal**	**16.74**	**107**	Pn	**Pn**	**01 29 24.4**	**-0.6**
CRIN				IAmb	IAmb	01 29 28.9	
	comp=Z,51nm,0.8s						
Z38A	**Mt. Pleasant**	**16.82**	**25**	Pn	**Pn**	**01 29 25.4**	**-0.4**
Z38A				IAmb	IAmb	01 29 28.1	
	comp=Z,30nm,0.9s						
**ANM

comp=Z,35nm,1.2s
QUOK Quay 18.87 17 P P 01 29 51.1 +0.6
QUOK IAmb IAmb 01 30 13.5
comp=Z,43nm,1.1s
T25A Trinidad 18.88 358 P P 01 29 52.0 +1.1
baz=176,SNR=16
T25A Trinidad 18.88 358 P P 01 29 51.4 +0.5
TUL1 Leonard 18.90 20 P P 01 29 48.8 -2.0
baz=202,SNR=15
W39A Magazine 18.99 25 P P 01 29 50.3 -1.4
baz=209,SNR=24
W39A Magazine 18.99 25 P P 01 29 51.1 -0.7
W39A IAmb IAmb 01 30 09.4
comp=Z,116nm,1.4s
IRM Iron Mountain 19.00 329 P Pn 01 29 53.9 +1.1
baz=142,SNR=8.0
109C Camp Elliot, M 19.08 323 P Pn 01 29 54.1 +0.5
baz=135
OK032 Salt Plains WL 19.10 13 P P 01 29 51.6 -1.4
OK032 IAmb IAmb 01 30 02.4
comp=Z,60nm,1.2s
DUNO Dulce Nombre, 19.20 112 P P 01 29 54.1 -0.2
W13A Hualapai Mount 19.20 333 P Pn 01 29 56.6 +1.3
GC02 Grant County # 19.22 14 P P 01 29 54.7 +0.4
TPFO Pinon Flats 19.25 325 P Pn 01 29 58.3 +2.5
baz=138
NEE2 Needles Airpor 19.25 331 P Pn 01 29 56.2 +0.5
baz=145
PFO Pinyon Flats O 19.25 325 P Pn 01 29 57.8 +2.0
baz=132,slow=7.1,SNR=4.7
PFO LR LR 01 37 06.5
comp=Z,548nm,18.2s,baz=148,slow=36
PFO Pinyon Flats O 19.25 325 P Pn 01 29 58.3 +2.5
baz=138
PFO Pinyon Flats O 19.25 325 P Pn 01 29 56.6 +0.7
BLOK Blackwell 19.29 15 P P 01 29 54.3 -0.8
BLOK IAmb IAmb 01 30 19.6
comp=Z,51nm,1.3s
BELC Belle Mtn. Jos 19.31 327 P Pn 01 29 57.8 +1.3
baz=140
146A Union 19.36 39 P P 01 29 55.2 -0.7
146A IAmb IAmb 01 30 15.9
comp=Z,23nm,0.8s
KAN17 Caldwell West 19.43 14 P P 01 29 56.1 -0.5
KAN17 IAmb IAmb 01 30 06.3
comp=Z,26nm,1.0s
KAN10 Anthony SW Sta 19.43 13 P P 01 29 55.8 -0.8
KAN10 IAmb IAmb 01 29 58.1
comp=Z,77nm,1.3s
ESPN Las Esperanzas 19.43 105 P Pn 01 29 58.0 0.0
MVCO Mesa Verde 19.44 348 P P 01 29 57.4 +0.3
baz=164,SNR=9.5
MVCO Mesa Verde 19.44 348 P P 01 29 57.8 +0.8
MVCO IAmb IAmb 01 30 08.4
comp=Z,35nm,1.3s
KAN13 South Haven SW 19.46 15 P P 01 29 55.6 -1.4
KAN13 IAmb IAmb 01 30 23.1
comp=Z,60nm,1.1s
KAN05 Bluff City Nor 19.46 14 P P 01 29 56.0 -1.0
KAN05 IAmb IAmb 01 29 57.2
comp=Z,24nm,0.7s
SDCO Great Sand Dun 19.55 355 P P 01 29 58.3 +0.1
baz=173,SNR=30
SDCO Great Sand Dun 19.55 355 P P 01 29 59.0 +0.8
SDCO IAmb IAmb 01 30 09.7
comp=Z,33nm,1.2s
KAN08 Anthony NE Sta 19.56 13 P P 01 29 57.7 -0.3
KAN08 IAmb IAmb 01 30 01.5
comp=Z,24nm,0.4s
JTS Las Juntas de 19.59 111 P Pn 01 30 00.8 +0.9
comp=Z,0.2nm,0.3s,baz=5.3,slow=14,SNR=4.4
JTS LR LR 01 36 37.4
comp=Z,203nm,18.2s,baz=3.5,slow=34
JTS Las Juntas de 19.59 111 P P 01 29 57.8 -0.7
KAN12 Harper NE Stat 19.62 13 P P 01 29 58.3 -0.4
T35A Sooner Cattle 19.62 17 P P 01 29 57.2 -1.5
T35A IAmb IAmb 01 30 07.4
comp=Z,33nm,0.9s
W41B Gary Mavity, V 19.62 28 P P 01 29 57.2 -1.5
baz=213,SNR=19
MURC Murrieta 19.65 324 P Pn 01 30 00.9 +0.4
baz=137
S22A 4UR Ranch, Cre 19.69 352 P P 01 30 00.1 +0.3
baz=169,SNR=12
BRAL Brewton 19.70 46 P P 01 29 57.6 -1.9
baz=233
BRAL Brewton 19.70 46 P P 01 29 57.6 -1.9
BRAL IAmb IAmb 01 29 59.5
comp=Z,64nm,1.3s
WHAR Wooly Hollow 19.70 28 P P 01 29 58.5 -1.1
WHAR IAmb IAmb 01 30 01.1
comp=Z,37nm,0.9s
U15A North Rim 19.75 339 P Pn 01 30 02.4 +0.5
GMRC Granite Mounta 19.76 329 P Pn 01 30 02.5 +0.6
baz=142,SNR=6.2
HHAR Hobbs 19.88 23 P P 01 29 59.5 -2.1
HHAR IAmb IAmb 01 30 12.9
comp=Z,32nm,1.1s
Y45A Yeager Farm, C 19.96 36 P P 01 30 01.6 -0.9
Y45A IAmb IAmb 01 30 29.5
comp=Z,67nm,1.1s
SCI2 San Clemente I 20.00 320 P Pn 01 30 04.9 +0.3
baz=132
HEC Hector,Ludlow 20.13 328 P Pn 01 30 06.7 +0.4
baz=141,SNR=8.5
FCAR Ozark Folk Cen 20.28 27 P P 01 30 03.9 -2.0
FCAR IAmb IAmb 01 30 05.3
comp=Z,19nm,0.7s
PV01 Paradox Valley 20.35 348 P P 01 30 08.5 +1.6
U40A Yellville 20.37 25 P P 01 30 04.9 -1.9
baz=210,SNR=28
U40A Yellville 20.37 25 P P 01 30 05.2 -1.6
U40A IAmb IAmb 01 30 13.6
comp=Z,38nm,0.9s
BFSC Mount Baldy Ra 20.38 324 P Pn 01 30 09.1 -0.2
baz=137,SNR=5.9
PV05 Paradox Valley 20.40 347 P P 01 30 08.4 +0.9
PV05 IAmb IAmb 01 30 12.7
comp=Z,28nm,1.1s
TUQ Turquoise Moun 20.41 330 P Pn 01 30 09.5 -0.1
baz=143,SNR=19
PV13 Radium Mtn., P 20.42 348 P P 01 30 07.7 0.0
PV02 Paradox Valley 20.45 348 P P 01 30 07.9 -0.1
KNB Kanab 20.47 338 P P 01 30 08.6 +0.5
RRX Edison Barstow 20.51 327 P Pn 01 30 10.8 +0.2
baz=139
OXF Oxford 20.52 35 P P 01 30 04.4 -4.0
baz=221
OXF Oxford 20.52 35 P P 01 30 06.5 -1.9
OXF IAmb IAmb 01 30 11.4
comp=Z,48nm,0.9s
PV03 Paradox Valley 20.52 348 P P 01 30 09.1 +0.4
PV18 Skein Mesa, Pa 20.52 348 P P 01 30 09.4 +0.6
PV15 Paradox Valley 20.53 349 P P 01 30 09.8 +0.9
R32A Long Quarter, 20.57 11 P P 01 30 07.1 -1.9
R32A IAmb IAmb 01 30 13.3
comp=Z,37nm,0.9s
MWC Mount Wilson 20.59 324 P Pn 01 30 11.6 -0.2
MWC IAmb IAmb 01 30 16.3
comp=Z,58nm,1.4s
LCMT Little Creek M 20.61 337 P P 01 30 11.3 +1.6
PASC Pasadena Art C 20.63 323 P P 01 30 09.9 +0.2
PASC IAmb IAmb 01 30 13.0
comp=Z,24nm,1.2s
PV04 Paradox Valley 20.67 348 P P 01 30 11.2 +0.9
PKCU Pink Cliffs 20.68 340 P Pn 01 30 12.7 -0.2
PKCU IAmb IAmb 01 30 40.2
comp=Z,36nm,1.3s
250A Grady 20.71 45 P P 01 30 09.2 -1.5
250A IAmb IAmb 01 30 10.7
comp=Z,79nm,1.2s
Q24A Divide 20.73 356 P P 01 30 10.7 -0.5
baz=174
GSC Goldstone, Bar 20.74 328 P Pn 01 30 13.0 -0.4
baz=140,SNR=17
GSC Goldstone, Bar 20.74 328 P Pn 01 30 12.8 -0.6
GSC IAmb IAmb 01 30 15.1
comp=Z,24nm,1.1s
KSCO Kaye Shedlock' 20.74 2 P P 01 30 10.5 -0.5
baz=181
KSCO Kaye Shedlock' 20.74 2 P P 01 30 10.7 -0.3
KSCO IAmb IAmb 01 30 16.0
comp=Z,49nm,1.1s
CVTR Volcan Turrial 20.76 110 P P 01 30 12.8 +1.1
CVTR IAmb IAmb 01 30 34.0
comp=Z,32nm,0.7s
DECC Green Verdugo 20.77 323 P Pn 01 30 13.4 -0.3
baz=135
RIMA Rio Macho 20.78 111 P Pn 01 30 12.9 -1.2
SNCC San Nicolas Is 20.78 319 P Pn 01 30 13.6 -0.1
baz=131
PV22 Blue Mesa, Par 20.78 348 P P 01 30 12.1 +0.6
CBKS Cedar Bluff 20.79 8 P P 01 30 10.1 -1.4
baz=189
CBKS Cedar Bluff 20.79 8 P P 01 30 09.8 -1.7
CBKS IAmb IAmb 01 30 19.4
comp=Z,54nm,1.1s
LCAR Lake Charles 20.86 29 P P 01 30 10.7 -1.5
LCAR IAmb IAmb 01 30 29.1
comp=Z,22nm,1.0s
LRAL Lakeview Retre 20.90 42 P P 01 30 10.7 -2.0
baz=229,SNR=23
LRAL Lakeview Retre 20.90 42 P P 01 30 10.9 -1.7
LRAL IAmb IAmb 01 30 11.8
comp=Z,38nm,1.1s
SHPR Sheep Range 20.94 333 P P 01 30 13.7 +0.4
SHOC Shoshone, Teco 20.95 330 P P 01 30 14.9 +1.7
baz=143
EDW2 Edwards Air Fo 21.04 325 P P 01 30 16.1 +1.8
baz=137
SZCU Shurtz Canyon 21.08 338 P P 01 30 15.7 +0.9
PEZE Perez Zeledon, 21.11 112 P P 01 30 14.7 -0.5
PEZE IAmb IAmb 01 30 25.0
comp=Z,17nm,1.0s
SMCO Snowmass 21.12 352 P P 01 30 16.0 +0.6
SMCO IAmb IAmb 01 30 45.6
comp=Z,20nm,1.2s
W45A Hickory Valley 21.12 34 P P 01 30 13.6 -1.4
W45A IAmb IAmb 01 30 18.0
comp=Z,44nm,0.8s
FSCY Frank Sound, G 21.13 83 P P 01 30 14.2 -1.1
CCUT Cedar City 21.14 338 P P 01 30 15.6 +0.2
MTPU Mount Pierson 21.18 341 P P 01 30 16.7 +0.6
MTPU IAmb IAmb 01 30 23.4
comp=Z,16nm,0.9s
OSI Osito Audit: C 21.25 323 P P 01 30 18.8 +2.3
baz=135
MGMO Mountain Grove 21.29 25 P P 01 30 15.1 -1.8
MGMO IAmb IAmb 01 30 16.7
comp=Z,54nm,1.0s
GNAR Gosnell 21.32 31 P P 01 30 17.1 -0.1
GNAR IAmb IAmb 01 30 20.7
comp=Z,60nm,1.1s
LRMC Laurel Mtn Rad 21.33 327 P P 01 30 19.7 +2.3
baz=139
SCZ2 Santa Cruz Isl 21.35 321 P P 01 30 19.0 +1.5
baz=132
352A Blakely 21.35 48 P P 01 30 15.5 -2.0
352A IAmb IAmb 01 30 21.6
comp=Z,54nm,0.9s
SRBA San Rafael, Bu 21.46 112 P P 01 30 18.6 -0.3
PEBM Pemiscott Bayo 21.52 31 P P 01 30 18.9 -0.3
PEBM IAmb IAmb 01 30 21.1
comp=Z,60nm,1.0s
ISCO Idaho Springs 21.60 356 P P 01 30 21.9 +1.4
baz=173,SNR=9.2
ISCO Idaho Springs 21.60 356 P P 01 30 20.4 0.0
PLAL Pickwick Lake 21.60 36 P P 01 30 17.8 -2.4
PLAL IAmb IAmb 01 30 22.1
comp=Z,57nm,1.1s
MSU Marysvale 21.61 341 P P 01 30 21.6 +1.1
MVU Marysvale 21.61 341 P P 01 30 19.8 -0.8
MVU IAmb IAmb 01 30 26.6
comp=Z,31nm,1.0s
HALT Halls 21.62 33 P P 01 30 20.4 +0.1
KSU1 Kansas State U 21.66 15 P P 01 30 18.9 -1.9
baz=197
KSU1 Kansas State U 21.66 15 P P 01 30 20.6 -0.2
KSU1 IAmb IAmb 01 30 42.8
comp=Z,24nm,0.6s
PRN Pahroc Range 21.66 334 P P 01 30 23.3 +2.3
T42A Van Buren 21.68 28 P P 01 30 19.6 -1.5
T42A IAmb IAmb 01 30 28.8
comp=Z,46nm,1.3s
ARVC Arvin 21.69 324 P P 01 30 23.2 +2.1
baz=136
FURC Furnace Creek, 21.69 330 P P 01 30 23.2 +2.1
baz=142
SRU San Rafael Swe 21.71 345 P P 01 30 22.0 +0.4
PBMO Poplar Bluff 21.78 29 P P 01 30 19.7 -2.3
PBMO IAmb IAmb 01 30 28.9
comp=Z,36nm,1.5s
TPNV Topopah Spring 21.80 331 P P 01 30 24.1 +1.6
baz=144,SNR=17
TPNV Topopah Spring 21.80 331 P P 01 30 22.4 -0.1
TPNV IAmb IAmb 01 30 25.9
comp=Z,18nm,1.1s
PRVC Isla de Provid 21.80 100 P P 01 30 22.6 +0.1
Y49A Blount Mountai 21.81 41 P P 01 30 20.3 -2.1
Y49A IAmb IAmb 01 30 23.4
comp=Z,35nm,1.0s
X48A Hartselle 21.82 39 P P 01 30 20.1 -2.5
X48A IAmb IAmb 01 30 23.2
comp=Z,31nm,0.9s
ISA Isabella, Lake 21.89 326 P P 01 30 25.3 +1.9
baz=138,SNR=11
ISA Isabella, Lake 21.89 326 P P 01 30 25.2 +1.9
ISA IAmb IAmb 01 30 28.5
comp=Z,26nm,1.1s
GLAT Glass 21.93 32 P P 01 30 22.3 -1.3
PARMO Parma 22.01 31 P P 01 30 25.4 +0.9
TMUT Trail Mountain 22.06 344 P P 01 30 26.3 +0.8
PKM Mcpherson Peak 22.08 322 P P 01 30 27.0 +1.5
baz=134
P17A Butcher Ranch, 22.11 345 P P 01 30 26.0 +0.2
HICK Hickman 22.17 32 P P 01 30 23.8 -2.5
152A Waverly Hall 22.18 46 P P 01 30 25.2 -1.2
152A IAmb IAmb 01 30 46.2
comp=Z,27nm,1.2s
HENM Henderson Moun 22.18 31 P P 01 30 25.5 -0.9
PSUT Pine Spring 22.19 338 P P 01 30 27.2 +0.5
O20A White River Ci 22.24 350 P P 01 30 27.4 +0.2
baz=167
O20A White River Ci 22.24 350 P P 01 30 25.8 -1.4
Z51A Franklin 22.26 44 P P 01 30 26.8 -0.5
CWC Cottonwood Cre 22.27 328 P P 01 30 29.0 +1.4
baz=140
R40A Maddies Statio 22.28 24 P P 01 30 25.3 -2.0
R40A IAmb IAmb 01 30 33.7
comp=Z,23nm,0.9s
VES Vestal, Richgr 22.35 325 P P 01 30 31.0 +2.8
baz=137
GRAC Grapevine Rang 22.36 330 P P 01 30 30.4 +2.1
baz=142
CCM Cathedral Cave 22.48 26 P P 01 30 27.1 -2.5
baz=211
SMMC Simmler 22.48 323 P P 01 30 31.9 +2.2
baz=134
WVT Waverly 22.58 35 P P 01 30 27.6 -3.1
baz=221
R11A Troy Canyon, C 22.69 335 P P 01 30 32.7 +0.7
baz=148,SNR=16
R11A Troy Canyon, C 22.69 335 P P 01 30 33.2 +1.2
N23A Red Feather La 22.71 355 P P 01 30 32.1 -0.2
baz=173,SNR=6.6
SPR3 Spring Creek 3 22.77 338 P P 01 30 32.2 -0.8
TIN Tinemaha, Big 22.83 328 P P 01 30 35.6 +2.2
baz=140
V48A Smith Brothers 22.86 37 P P 01 30 32.2 -1.4
V48A IAmb IAmb 01 30 32.9
comp=Z,21nm,1.1s
VOG Valley Oaks Go 22.87 325 P P 01 30 35.1 +1.4
baz=137
S44A Carbondale 23.07 30 P P 01 30 34.8 -1.0
S44A IAmb IAmb 01 30 41.3
comp=Z,22nm,1.0s
PHWY Pilot Hill 23.08 356 P P 01 30 34.9 -1.3
PHWY IAmb IAmb 01 31 02.3
comp=Z,25nm,1.5s
SIUC Southern Illin 23.10 30 P P 01 30 34.1 -2.0
SIUC IAmb IAmb 01 30 42.5
comp=Z,23nm,1.1s
TPH Tonopah 23.16 332 P P 01 30 38.5 +1.6
TPH IAmb IAmb 01 30 39.8
comp=Z,44nm,1.1s
154A Montrose 23.27 48 P P 01 30 35.5 -2.3
DUG Dugway, Tooele 23.35 342 P P 01 30 39.8 +1.1
baz=156
DUG Dugway, Tooele 23.35 342 P P 01 30 39.3 +0.5
JLU Jordanelle 23.35 345 P P 01 30 39.0 0.0
CLTN Cedars of Leba 23.39 37 P P 01 30 36.4 -2.6
SLM Saint Louis 23.40 27 P P 01 30 37.1 -2.0
GOGA Godfrey 23.46 46 P P 01 30 36.8 -3.0
baz=234,SNR=12
BGNE Belgrade 23.57 10 P P 01 30 39.5 -1.3
baz=192
MLAC Mammoth, Mammo 23.58 328 P P 01 30 42.9 +1.7
baz=140
PMPB Monarch Peak 23.58 323 P P 01 30 43.1 +2.1
PMPB IAmb IAmb 01 30 44.4
comp=Z,64nm,1.4s
MDPB Devils Postpil 23.70 328 P P 01 30 44.7 +2.3
MDPB IAmb IAmb 01 30 45.4
comp=Z,23nm,1.1s
NV11 Mina Array Sit 23.88 331 P P 01 30 45.8 +1.8
NV11 IAmb IAmb 01 30 47.0
comp=Z,28nm,1.2s
LHV Little Huntoon 23.90 330 P P 01 30 45.2 +1.2
NVAR Mina Array Bea 23.95 330 P P 01 30 46.5 +1.8
comp=Z,12nm,1.0s,baz=150,slow=10.0,SNR=48
NVAR LR LR 01 40 17.4
comp=Z,398nm,18.3s,baz=144,slow=37
NVAR Mina Array Bea 23.95 330 P P 01 30 45.1 +0.4
U49A Red Boiling Sp 24.00 37 P P 01 30 42.5 -2.5
U49A IAmb IAmb 01 30 44.5
comp=Z,22nm,1.0s
USIN University of 24.06 32 P P 01 30 43.3 -2.1
Q44A Meyer Farm, Va 24.16 28 P P 01 30 44.1 -2.2
N38A Joes South For 24.17 19 P P 01 30 44.4 -2.1
N38A IAmb IAmb 01 30 53.0
comp=Z,26nm,0.8s
W52A Murphy 24.17 42 P P 01 30 44.5 -2.2
RYN Ryan 24.21 330 P P 01 30 48.5 +1.5
HWUT Hardware Ranch 24.33 345 P P 01 30 49.0 +0.8
HWUT IAmb IAmb 01 31 16.4
comp=Z,18nm,1.5s
KVN Kaiserville 24.35 332 P P 01 30 50.4 +2.0
KVN IAmb IAmb 01 30 52.4
comp=Z,13nm,0.9s
V51A Loudon 24.36 40 P P 01 30 45.7 -2.6
OLIL Olney 24.45 30 P P 01 30 47.5 -1.5
K22A Casper 24.50 355 P P 01 30 49.1 -0.6
baz=172
K22A Casper 24.50 355 P P 01 30 50.2 +0.4
K22A IAmb IAmb 01 31 11.3
comp=Z,14nm,1.2s
WAKR Walker 24.55 329 P P 01 30 52.0 +1.7
TKL Tuckaleechee C 24.63 41 P P 01 30 48.0 -2.7
comp=Z,30nm,0.8s,baz=204,slow=11,SNR=38
TKL LR LR 01 42 48.1
comp=Z,368nm,20.1s,baz=234,slow=42
ELK Elko 24.64 338 P P 01 30 51.6 +0.6
comp=Z,2.4nm,1.0s,baz=160,slow=7.3,SNR=8.2
ELK LR LR 01 40 48.4
comp=Z,454nm,18.5s,baz=158,slow=37
ELK Elko 24.64 338 P P 01 30 51.7 +0.6
CMB Columbia Colle 24.68 327 P P 01 30 52.4 +1.2
BG3 Lake Jocassee 24.75 43 P P 01 30 49.7 -2.2
YERR Yerington 24.83 330 P P 01 30 52.9 +0.1
YERR IAmb IAmb 01 30 57.1
comp=Z,12nm,1.0s
WCI Wyandotte Cave 24.96 33 P P 01 30 51.2 -2.5
baz=221
WCI Wyandotte Cave 24.96 33 P P 01 30 51.7 -2.0
BW06 Boulder Array 25.02 349 P P 01 30 54.1 -0.3
baz=165,SNR=6.5
BW06 Boulder Array 25.02 349 P P 01 30 54.2 -0.3
PD31 Pinedale Array 25.02 349 P P 01 30 55.7 +1.2
PDAR Pinedale Array 25.02 349 P P 01 30 54.9 +0.4
comp=Z,3.8nm,0.9s,baz=160,slow=9.5,SNR=24
PDAR PcP PcP 01 34 29.5 +0.2
comp=Z,0.7nm,0.8s,baz=161,slow=3.5,SNR=4.1
PDAR LR LR 01 41 10.3
comp=Z,560nm,20.1s,baz=184,slow=38
PDAR Pinedale Array 25.02 349 P P 01 30 55.5 +1.0
PNTR Pine Nut 25.09 329 P P 01 30 55.8 +0.6
PNTR IAmb IAmb 01 30 58.9
comp=Z,20nm,1.0s
V53A Saluda 25.24 42 P P 01 30 53.9 -2.5
V53A IAmb IAmb 01 30 56.1
comp=Z,26nm,0.9s
VCNR Virginia City 25.27 330 P P 01 30 59.1 +2.3
VCNR IAmb IAmb 01 30 59.9
comp=Z,14nm,1.1s
TZTN Tazewell 25.34 40 P P 01 30 54.2 -3.0
baz=229,SNR=16
TZTN Tazewell 25.34 40 P P 01 30 54.6 -2.5
HDIL Hopedale 25.40 26 P P 01 30 55.2 -2.5
baz=212
PAHR Pah Rah Range 25.47 331 P P 01 31 00.5 +2.0
PAHR IAmb IAmb 01 31 01.6
comp=Z,15nm,1.5s
BLO Bloomington 25.56 32 P P 01 30 56.6 -2.4
P46A Rosedale 25.57 30 P P 01 30 57.3 -1.8
P46A IAmb IAmb 01 30 58.6
comp=Z,14nm,0.9s
R49A Shelbyville 25.61 35 P P 01 30 56.9 -2.6
R49A IAmb IAmb 01 30 59.1
comp=Z,30nm,1.4s
NHSC New Hope 25.63 50 P P 01 30 58.6 -1.2
baz=240
AFDM Forest Hills D 25.67 327 P P 01 30 58.8 -1.3
RSSD Black Hills 25.84 359 P P 01 31 01.8 0.0
baz=178
RSSD Black Hills 25.84 359 P P 01 31 01.9 0.0
REDW Red Top Meadow 25.84 348 P P 01 31 02.9 +0.9
KMSC Kings Mountain 25.90 45 P P 01 30 59.7 -2.6
baz=235
KMSC Kings Mountain 25.90 45 P P 01 30 60.0 -2.3
KMSC IAmb IAmb 01 31 00.5
comp=Z,18nm,1.1s
L40A Anamosa 25.97 21 P P 01 31 00.9 -2.0
L40A IAmb IAmb 01 31 26.6
comp=Z,14nm,1.1s
TPAW Teton Pass 25.99 348 P P 01 31 04.3 +1.0
TPAW IAmb IAmb 01 31 23.1
comp=Z,12nm,1.1s
LOHW Long Hollow 26.03 348 P P 01 31 03.6 -0.1
BEKR Beckworth 26.06 329 P P 01 31 03.9 0.0
BEKR IAmb IAmb 01 31 06.9
comp=Z,17nm,1.1s
R50A Paris 26.06 36 P P 01 31 01.1 -2.6
R50A IAmb IAmb 01 31 02.3
comp=Z,10nm,0.8s
ECSD EROS Data Cent 26.10 11 P P 01 31 03.8 -0.2
baz=194
ECSD EROS Data Cent 26.10 11 P P 01 31 03.9 -0.1
ECSD IAmb IAmb 01 31 31.6
comp=Z,13nm,1.2s
V55A Taylorsville 26.39 44 P P 01 31 04.5 -2.2
V55A IAmb IAmb 01 31 27.6
comp=Z,14nm,1.1s
ORV Oroville 26.39 327 P P 01 31 08.4 +1.7
ORV IAmb IAmb 01 31 09.9
comp=Z,15nm,1.3s
U54A Nelsons Funny 26.40 42 P P 01 31 04.3 -2.5
U54A IAmb IAmb 01 31 05.4
comp=Z,25nm,0.8s
SUSD Miller 26.43 7 P P 01 31 05.2 -1.8
baz=189
P49A Miami Univ. Ec 26.75 34 P P 01 31 07.0 -2.9
baz=222,SNR=13
GTBY Guantanamo Bay 26.85 82 P P 01 31 11.1 +0.2
GTBY Guantanamo Bay 26.85 82 eP P 01 31 12.5 +1.5
JFWS Jewell Farm 27.06 22 P P 01 31 12.1 -0.6
baz=208
O03E Paynes Creek 27.10 328 P P 01 31 15.1 +2.0
baz=138
Q51A Peebles 27.13 36 P P 01 31 10.8 -2.5
Q51A IAmb IAmb 01 31 12.0
comp=Z,29nm,1.0s
RLMT Red Lodge 27.27 351 P P 01 31 15.2 +0.4
baz=167
WVOR Wild Horse Val 27.38 335 P P 01 31 16.1 +0.4
O49A Covington 27.43 33 P P 01 31 13.6 -2.5
O49A IAmb IAmb 01 31 14.2
comp=Z,26nm,1.1s
R53A Hurricane 27.47 39 P P 01 31 14.0 -2.4
O02D Mt. Diablo Mer 27.52 327 P P 01 31 17.8 +0.9
baz=136
P51A Williamsport 27.61 36 P P 01 31 15.0 -2.6
P51A IAmb IAmb 01 31 16.5
comp=Z,25nm,1.1s
MOD Modoc Plateau 27.65 332 P P 01 31 18.6 +0.5
MCMT McKenzie Canyo 27.68 346 P P 01 31 20.1 +1.7
BLA Blacksburg 27.71 42 P P 01 31 15.6 -3.0

baz=233,SNR=6.4
BLA Blacksburg 27.71 42 P P 01 31 15.8 -2.8
BLA IAmb IAmb 01 31 17.4
comp=Z,25nm,1.0s
N49A Columbus Grove 28.05 32 P P 01 31 19.0 -2.5
N49A IAmb IAmb 01 31 19.9
comp=Z,30nm,1.1s
J08A Circle Bar Ran 28.10 336 P P 01 31 22.0 -0.1
J08A IAmb IAmb 01 31 24.2
comp=Z,9.4nm,1.2s
DLMT Dillon 28.13 346 P P 01 31 23.7 +1.3
BOZ Bozeman (W) 28.14 348 P P 01 31 22.1 -0.4
baz=162
BOZ Bozeman (W) 28.14 348 P P 01 31 22.0 -0.5
ACSO Alum Creek Sta 28.18 35 P P 01 31 20.3 -2.4
baz=224
P52A Corning 28.23 36 P P 01 31 19.6 -3.6
baz=227,SNR=6.5
M02C Callahan 28.45 328 P P 01 31 26.0 +0.8
baz=138
KHMM Horse Mountain 28.52 327 P P 01 31 26.6 +0.6
KHMM IAmb IAmb 01 31 28.7
comp=Z,24nm,1.1s
LRM Limekiln Ridge 28.53 347 P P 01 31 27.3 +1.2
YBH Yreka Blue Hor 28.64 329 P P 01 31 26.6 -0.2
comp=Z,1.7nm,0.9s,baz=102,slow=3.6,SNR=4.7
YBH LR LR 01 42 26.5
comp=Z,115nm,19.6s,baz=167,slow=35
DBBC Dabeiba 28.79 109 *eP* **P 01 31 32.1 +3.6**
L04D Klamath Falls 28.81 330 P P 01 31 28.6 +0.1
baz=140
BMO Blue Mountains 28.98 339 P P 01 31 29.2 -0.7
J05D Fort Rock, OR 29.17 333 P P 01 31 32.6 +1.0
baz=143
O53A New Philadelph 29.17 36 P P 01 31 28.4 -3.1
baz=227
AAM Ann Arbor 29.35 31 P P 01 31 31.1 -2.0
CBOC Ciudad Bolivar 29.47 111 *eP* **P 01 31 37.8 +3.1**
MCWV Mont Chateau 29.58 39 P P 01 31 32.1 -3.1
baz=230
MSO Missoula 29.82 345 P P 01 31 37.0 -0.4
baz=159
K02D Willamette Mer 29.83 329 P P 01 31 40.3 +2.9
baz=138
G08A Pilot Rock 29.93 338 P P 01 31 37.5 -0.9
G08A IAmb IAmb 01 31 39.9
comp=Z,12nm,1.3s
F10A Beach Ranch, E 29.95 341 P P 01 31 37.6 -0.8
F10A IAmb IAmb 01 31 39.8
comp=Z,13nm,1.4s
SMLC San Martn de 30.04 104 *eP* **P 01 31 41.1 +1.6**
I05D Terrebonne, OR 30.06 334 P P 01 31 40.3 +0.8
baz=144
EGMT Eagleton 30.18 352 P P 01 31 40.0 -0.5
baz=167
EGMT Eagleton 30.18 352 P P 01 31 40.1 -0.3
EGMT IAmb IAmb 01 31 42.0
comp=Z,8.0nm,1.1s
K50A Casco 30.21 31 P P 01 31 38.1 -2.6
CBN Corbin Frederi 30.26 43 P P 01 31 38.6 -2.5
baz=236
M53A Wi Miller and 30.28 35 P P 01 31 37.8 -3.5
baz=227,SNR=5.3
J01E Myrtle Point 30.31 330 P P 01 31 42.2 +0.6
baz=138
N54A Moraine State 30.34 37 P P 01 31 38.9 -3.0
baz=228
I03D Drain, OR 30.44 331 P P 01 31 43.6 +0.9
baz=140
P57A Homestead Farm 30.59 41 P P 01 31 41.9 -2.2
P57A IAmb IAmb 01 31 42.7
comp=Z,8.8nm,0.9s
AGMN Agassiz Nation 30.65 10 P P 01 31 42.7 -1.8
baz=194
AGMN Agassiz Nation 30.65 10 P P 01 31 42.7 -1.8
AGMN IAmb IAmb 01 32 10.7
comp=Z,16nm,1.3s
TOLC Tolima 30.67 113 *eP* **P 01 31 48.7 +3.2**
O56A Blue Knob Stat 30.72 39 P P 01 31 42.2 -3.1
baz=231
G05D Wamic, OR 30.79 335 P P 01 31 47.0 +1.1
baz=144
H04D Lebanon 30.81 333 P P 01 31 46.4 +0.5
baz=141
GLMI Grayling 30.87 27 P P 01 31 44.3 -2.2
baz=216
M54A Oil Creek Stat 30.88 36 P P 01 31 42.8 -3.9
baz=228,SNR=8.7
I02D Swisshome 30.98 331 P P 01 31 48.9 +1.4
baz=139
ERPA Erie 31.11 35 P P 01 31 45.6 -3.1
baz=227
EYMN Ely 31.23 16 P P 01 31 47.6 -2.1
baz=202
SSPA Standing Stone 31.36 39 P P 01 31 48.1 -2.7
baz=232
SSPA Standing Stone 31.36 39 P P 01 31 48.2 -2.7
SSPA IAmb IAmb 01 31 49.0
comp=Z,9.4nm,1.1s
M55A Ridgway 31.37 37 P P 01 31 48.5 -2.5
M55A IAmb IAmb 01 31 51.7
comp=Z,10nm,1.2s
F05D White Salmon 31.38 336 P P 01 31 52.1 +1.1
baz=145
NEW Newport 31.98 343 PcP PcP 01 34 46.1 -0.1
comp=Z,2.7nm,0.9s,baz=166,slow=4.9,SNR=4.6
NEW LR LR 01 46 22.7
comp=Z,352nm,21.1s,baz=163,slow=39
NEW Newport 31.98 343 P P 01 31 57.5 +1.2
baz=154
RUSC La Rusia 32.07 109 P P 01 31 56.4 -1.6
RUSC IAmb IAmb 01 32 00.8
comp=Z,22nm,1.4s
ULM Lac du Bonnet 32.54 9 LR LR 01 45 56.7
comp=Z,963nm,19.4s,baz=192,slow=38
B08A Colville Reser 32.73 340 P P 01 32 03.3 +0.5
B08A IAmb IAmb 01 32 04.6
comp=Z,17nm,1.4s
N59A State Game Lan 32.82 41 P P 01 32 01.2 -2.5
baz=234
K56A Middlesex 32.98 37 P P 01 32 01.7 -3.4
baz=230,SNR=12
D03D Eldon 33.37 336 P P 01 32 09.7 +1.2
baz=144
SADO Sadowa 33.39 32 P P 01 32 05.5 -3.1
comp=Z,5.2nm,0.4s,baz=248,slow=10,SNR=12
SADO LR LR 01 46 03.6
comp=Z,83nm,19.8s,baz=224,slow=37
L58A Harry Jones Me 33.43 39 P P 01 32 05.9 -3.1
baz=233,SNR=9.2
BINY Binghamton 33.44 38 P P 01 32 06.2 -3.0
baz=232,SNR=8.5
J58A Remsen 34.56 37 P P 01 32 15.6 -3.3
baz=232
I57A Carthage 34.70 36 P P 01 32 16.8 -3.2
baz=231
ALGO Algonquin Park 34.77 32 P P 01 32 17.6 -3.0
baz=225,SNR=8.3
I58A Old Forge 34.94 37 P P 01 32 18.6 -3.6
baz=232,SNR=5.7
H57A Richville 35.18 36 P P 01 32 20.8 -3.3
baz=231,SNR=9.7
K61A Williamstown 35.35 40 P P 01 32 22.8 -2.9
baz=236
UCCT U. Connecticut 35.52 42 P P 01 32 25.0 -2.2
J60A Lant Hill Farm 35.59 39 P P 01 32 25.0 -2.7
baz=235
L61B Northampton 35.59 41 P P 01 32 24.0 -3.7
baz=236
I59A Olmsteadville 35.64 38 P P 01 32 24.5 -3.7
baz=233,SNR=7.7
LONY Lake Ozonia 35.73 36 P P 01 32 25.7 -3.3
baz=232
H58A Gabriels 35.84 37 P P 01 32 26.6 -3.3
baz=232
L63A North Scituate 35.95 42 P P 01 32 27.5 -3.3
baz=238
K62A Royalston 35.98 41 P P 01 32 28.0 -3.1
baz=237
I60A Shoreham 36.01 38 P P 01 32 28.7 -2.6
baz=234
M64A Tiverton 36.05 43 P P 01 32 28.5 -3.1
baz=239
J61A Chester 36.16 39 P P 01 32 29.4 -3.2
baz=236,SNR=5.3
H59A Cadyville 36.25 37 P P 01 32 29.6 -3.8
baz=233

HRV Adam Dziewonsk 36.32 41 P P 01 32 31.0 -2.9
baz=238
K63A Dunstable 36.44 41 P P 01 32 32.2 -2.7
baz=238
FFC Flin Flon 36.47 1 P P 01 32 34.5 -0.6
FFC IAmb IAmb 01 32 35.4
comp=Z,11nm,1.0s
L64A Middleborough 36.48 43 P P 01 32 32.9 -2.4
baz=239
J62A Henniker 36.55 40 P P 01 32 34.4 -1.5
baz=237
I61A Oroboro, Fairl 36.70 39 P P 01 32 34.5 -2.7
baz=235
H60A Morristown 36.77 38 P P 01 32 35.0 -2.8
baz=234
J63A Strafford 37.03 41 P P 01 32 37.9 -2.1
baz=238
LBNH Lisbon 37.04 39 P P 01 32 37.6 -2.5
baz=235
I62A Tamworth 37.19 40 P P 01 32 39.1 -2.3
baz=236,SNR=8.4
H61A Lyndonville 37.21 38 P P 01 32 39.3 -2.3
baz=235,SNR=7.1
LSQQ Lebel-sur-Quev 37.48 29 P P 01 32 41.2 -2.6
baz=224
H62A Milan 37.69 39 P P 01 32 43.3 -2.3
baz=236,SNR=5.3
MATQ Matagami 37.70 28 P P 01 32 43.2 -2.4
baz=222
I63A Otisfield 37.75 40 P P 01 32 43.5 -2.5
baz=237
G61A St-Isidore-de- 37.87 37 P P 01 32 44.3 -2.8
baz=235
D58A Chemin du LacG 38.20 34 P P 01 32 47.2 -2.7
baz=231
I64A Boothbay 38.26 41 P P 01 32 48.7 -1.7
baz=238
G62A West of Eustis 38.41 38 P P 01 32 49.2 -2.5
baz=236,SNR=8.3
LATQ La Tuque 38.44 34 P P 01 32 48.7 -3.2
baz=231
LATQ La Tuque 38.44 34 P P 01 32 49.4 -2.5
E60A Ste Agathe de 38.55 36 P P 01 32 50.2 -2.6
baz=234
H64A Troy 38.89 40 P P 01 32 53.5 -2.2
baz=238,SNR=6.4
G63A Kingsbury 38.90 39 P P 01 32 53.3 -2.5
baz=237,SNR=6.4
BBB Bella Bella 39.04 336 LR LR 01 49 11.1
comp=Z,237nm,18.7s,baz=152,slow=36
F62A Pittston Farm, 39.12 38 P P 01 32 55.0 -2.7
baz=236
E61A Lac Etchemin 39.12 37 P P 01 32 55.5 -2.2
baz=235
D60A Saint Jean D'O 39.16 36 P P 01 32 54.5 -3.4
baz=234
PKME Peaks-Kenny Pk 39.17 39 P P 01 32 55.1 -2.9
baz=238,SNR=5.9
CHGQ Chibougamau 39.29 30 P P 01 32 56.0 -3.0
baz=226
G64A Maxfield 39.49 39 P P 01 32 58.1 -2.6
baz=238,SNR=5.5
H65A Eastbrook 39.51 40 P P 01 32 58.4 -2.4
baz=239,SNR=9.0
F63A Nahmakanta, Br 39.52 38 P P 01 32 57.9 -3.1
baz=237
D61A St Aubert, Com 39.74 36 P P 01 32 59.6 -3.1
baz=234
E62A Clayton Lake 39.78 37 P P 01 33 00.4 -2.7
baz=236,SNR=6.1
E62A Clayton Lake 39.78 37 P P 01 33 01.2 -1.9
E62A IAmb IAmb 01 33 01.9
comp=Z,10nm,0.9s
EMMW East Machias 40.01 41 P P 01 33 02.9 -2.1
EMMW IAmb IAmb 01 33 03.6
comp=Z,15nm,0.9s
F64A Sherman 40.05 39 P P 01 33 02.7 -2.7
baz=238
F64A Sherman 40.05 39 P P 01 33 03.5 -1.9
F64A IAmb IAmb 01 33 04.2
comp=Z,11nm,1.1s
H66A Whiting 40.13 41 P P 01 33 03.5 -2.6
baz=240,SNR=5.5
G65A Princeton 40.19 40 P P 01 33 03.4 -3.1
baz=240
D62A Allapoint, All 40.31 37 P P 01 33 04.3 -3.1
baz=236
D62A Allapoint, All 40.31 37 P P 01 33 05.5 -2.0
D62A IAmb IAmb 01 33 06.2
comp=Z,16nm,0.9s
E63A Oxbow 40.31 38 P P 01 33 05.0 -2.5
baz=237,SNR=6.3
E64A Bridgewater 40.65 38 P P 01 33 07.8 -2.5
baz=238
D63A Stockholm 40.82 37 P P 01 33 09.4 -2.3
baz=237,SNR=5.4
LMN Caledonia Moun 42.20 41 P P 01 33 21.1 -2.0
LMN IAmb IAmb 01 33 21.5
comp=Z,21nm,1.0s
CRAG Craig 43.47 336 P P 01 33 33.9 +0.7
baz=136
DLBC Dease Lake 44.66 340 P P 01 33 44.4 +1.6
YKA Yellowknife Ar 44.92 353 P P 01 33 42.8 -1.9
comp=Z,1.7nm,0.9s,baz=166,slow=7.7,SNR=4.7
YKA LR LR 01 54 02.6
comp=Z,1μm,19.0s,baz=0.0,slow=38
TAOE Nuku Hiva Isla 45.10 236 *eS* **S 01 40 28.6 +2.6**
comp=Z,100nm,25.2s
TAOE *e*LR LR 01 46 27.0
comp=Z,299nm,25.4s
TAOE Nuku Hiva Isla 45.10 236 *eT* T 02 21 54.0
comp=Z,117nm,0.2s
WHY Whitehorse 47.95 340 P P 01 34 09.2 +0.6
baz=136
LPAZ La Paz 48.84 132 P P 01 34 16.3 -0.4
comp=Z,2.3nm,0.9s,baz=330,slow=8.8,SNR=6.7
HYT Haines Junctio 48.95 339 P P 01 34 17.8 +1.4
PCA Pinnacle 49.44 337 P P 01 34 21.9 +1.7
CTG Chitna Glacier 50.42 337 P P 01 34 29.7 +2.1
baz=130
BARN Barnard Glacie 50.60 337 P P 01 34 30.2 +1.1
BARN IAmb IAmb 01 34 40.3
comp=Z,16nm,1.2s
TGL Tana Glacier 50.84 336 P P 01 34 32.9 +2.1
TGL IAmb IAmb 01 34 34.1
comp=Z,17nm,0.9s
CRQE Cirque 50.94 336 P P 01 34 33.4 +1.8
baz=128,SNR=5.5
CRQM Cirque 50.96 336 P P 01 34 32.5 +0.7
MCARA McCarthy VSAT 51.31 337 P P 01 34 35.9 +1.7
baz=129
VRDI Verde Repeater 51.38 337 P P 01 34 36.2 +1.3
VRDI IAmb IAmb 01 34 37.7
comp=Z,15nm,1.2s
GLB Gilahina Butte 51.65 337 P P 01 34 39.0 +2.2
BMRM Bremner River 51.66 336 P P 01 34 37.5 +0.7
baz=127
BMRM Bremner River 51.66 336 P P 01 34 37.0 +0.1
EYAK Cordova Ski Ar 51.86 335 P P 01 34 39.6 +1.3
baz=125
DAWY Dawson 51.87 341 P P 01 34 38.7 +0.3
DAWY IAmb IAmb 01 34 40.2
comp=Z,9.5nm,0.9s
BCAR Beaver Creek A 51.97 339 P P 01 34 40.1 +1.0
L27K Beaver Creek, 51.98 339 P P 01 34 40.2 +1.0
baz=131,SNR=12
L27K Beaver Creek, 51.98 339 P P 01 34 40.3 +1.0
L27K IAmb IAmb 01 34 41.7
comp=Z,15nm,1.1s
N25K Chitina, Valde 52.05 337 P P 01 34 41.5 +1.7
baz=127,SNR=6.5
N25K Chitina, Valde 52.05 337 P P 01 34 40.5 +0.7
N25K IAmb IAmb 01 34 42.9
comp=Z,16nm,1.0s
FID Port Fidalgo 52.27 335 P P 01 34 42.6 +1.3
L26K Log Cabin Wild 52.48 338 P P 01 34 43.9 +1.0
baz=129,SNR=9.7
KLU Klutina 52.49 336 P P 01 34 44.2 +1.2
baz=126,SNR=5.9
KLU Klutina 52.49 336 P P 01 34 43.8 +0.8
KLU IAmb IAmb 01 34 45.9
comp=Z,24nm,1.3s
MENT Mentasta 52.55 338 P P 01 34 44.3 +0.8
K27K Chicken 52.71 340 P P 01 34 45.7 +1.2
baz=131
K27K Chicken 52.71 340 P P 01 34 45.7 +1.2
HARP HAARP 52.74 337 P P 01 34 46.1 +1.3

baz=127
EPYK Eagle Plains 52.80 344 P P 01 34 45.6 +0.4
baz=139,SNR=10
EPYK Eagle Plains 52.80 344 P P 01 34 45.5 +0.3
EPYK IAmb IAmb 01 34 47.0
comp=Z,17nm,0.9s
EGAK Eagle 52.92 341 P P 01 34 46.2 +0.2
baz=133,SNR=20
EGAK Eagle 52.92 341 P P 01 34 47.0 +0.9
EGAK IAmb IAmb 01 34 47.8
comp=Z,18nm,0.9s
M24K Tolsona, Glenn 52.95 336 P P 01 34 47.5 +1.1
baz=126
M24K Tolsona, Glenn 52.95 336 P P 01 34 47.9 +1.5
DOT Dot Lake 53.13 339 P P 01 34 48.4 +0.7
DOT IAmb IAmb 01 34 50.1
comp=Z,21nm,1.2s
SEW Seward 53.15 333 P P 01 34 48.4 +0.5
baz=121
PAX Paxson 53.20 338 P P 01 34 49.3 +1.0
baz=127
PAX Paxson 53.20 338 P P 01 34 49.3 +1.0
SCRK Sand Creek 53.31 339 P P 01 34 50.1 +1.0
baz=129,SNR=16
SCRK Sand Creek 53.31 339 P P 01 34 49.8 +0.7
SCRK IAmb IAmb 01 34 51.6
comp=Z,18nm,1.2s
KNK Knik Glacier 53.44 335 P P 01 34 50.5 +0.5
baz=123
RIDG Independent Ri 53.46 339 P P 01 34 51.1 +0.9
baz=128,SNR=41
RIDG Independent Ri 53.46 339 P P 01 34 51.5 +1.4
BRSE Bradley Lake S 53.53 332 P P 01 34 51.5 +0.8
baz=119
OHAK Old Harbor 53.54 329 P P 01 34 51.6 +0.8
baz=115
INK Inuvik 53.55 347 P P 01 34 50.4 -0.2
comp=Z,17nm,1.0s,baz=136,slow=9.4,SNR=16
INK Inuvik 53.55 347 P P 01 34 49.8 -0.7
baz=143,SNR=15
INK Inuvik 53.55 347 P P 01 34 51.0 +0.5
BRLK Bradley Lake 53.60 332 P P 01 34 52.3 +1.1
SML Sawmill 53.61 335 P P 01 34 51.7 +0.4
baz=123,SNR=7.8
WAT6 Susitna Watana 53.82 336 P P 01 34 52.8 -0.1
baz=124,SNR=12
GHO Glory Hole Cre 53.83 335 P P 01 34 53.3 +0.4
WAT1 Susitna Watana 54.27 336 P P 01 34 56.5 +0.4
baz=124
O20K Slope Mountain 54.52 332 P P 01 34 58.9 +0.9
baz=118
P19K Oil Pt 54.60 332 P P 01 34 59.3 +0.8
baz=117
HDA Harding Lake 54.60 338 P P 01 34 58.2 -0.2
baz=126,SNR=9.5
HDA Harding Lake 54.60 338 P P 01 34 59.3 +0.9
CUT Chulitna 54.70 335 P P 01 34 59.9 +0.8
baz=121,SNR=9.1
CUT Chulitna 54.70 335 P P 01 34 59.6 +0.4
RND Reindeer 54.70 337 P P 01 35 00.8 +1.5
VAH Vaihoa 54.75 235 *eT* T 02 33 59.8
comp=Z,7.0nm,0.3s
RSO Redoubt South 54.76 333 P P 01 35 00.6 +0.7
IL31 54.80 339 P P 01 35 00.5 +0.8
ILAR Eielson Array 54.80 339 P P 01 35 00.1 +0.3
comp=Z,17nm,1.0s,baz=148,slow=6.0,SNR=74
ILAR LR LR 01 59 18.9
comp=Z,192nm,18.1s,baz=126,slow=37
ILAR Eielson Array 54.80 339 P P 01 35 00.4 +0.6
PRP Porcupine Dome 54.80 340 P P 01 35 00.7 +0.7
baz=128,SNR=32
PRP Porcupine Dome 54.80 340 P P 01 35 01.1 +1.1
PMOR Pomariorio Ree 54.82 236 *eT* T 02 34 07.0
comp=Z,4.4nm,0.2s
SPCR Spurr Chakacha 54.88 334 P P 01 35 01.0 +0.5
baz=119
MCK McKinley 54.92 337 P P 01 35 01.1 +0.3
baz=124,SNR=7.0
MCK McKinley 54.92 337 P P 01 35 01.7 +1.0
SKT Skwentna 54.99 335 P P 01 35 01.8 +0.5
baz=120,SNR=17
SKT Skwentna 54.99 335 P P 01 35 02.0 +0.7
WRH Wood River Hil 55.04 338 P P 01 35 01.5 -0.1
WRH IAmb IAmb 01 35 02.9
comp=Z,12nm,1.0s
POKR Poker Plat Res 55.19 339 P P 01 35 03.0 +0.4
baz=126,SNR=6.6
POKR Poker Plat Res 55.19 339 P P 01 35 03.4 +0.7
TRF Thorofare Moun 55.27 337 P P 01 35 03.8 +0.4
baz=122,SNR=20
TRF Thorofare Moun 55.27 337 P P 01 35 04.2 +0.8
BWN Browne 55.36 337 P P 01 35 03.9 0.0
MDM Murphy Dome 55.37 339 P P 01 35 04.5 +0.5
MDM IAmb IAmb 01 35 06.8
comp=Z,9.4nm,1.0s
FYU Fort Yukon 55.37 341 P P 01 35 04.8 +0.9
NEA2 Nenana 55.45 338 P P 01 35 04.6 +0.1
baz=124,SNR=21
NEA2 Nenana 55.45 338 P P 01 35 05.1 +0.6
KTH Kantishna Hill 55.56 336 P P 01 35 06.1 +0.7
O18K Koktuh Hills 55.58 331 P P 01 35 06.0 +0.4
baz=115,SNR=5.5
N19K Bonanza Creek 55.68 333 P P 01 35 06.6 +0.3
baz=116,SNR=10
PPLA Purkeypile 55.72 335 P P 01 35 07.2 +0.6
baz=120,SNR=12
PPLA Purkeypile 55.72 335 P P 01 35 07.4 +0.8
BMAR Burnt Mountain 55.74 342 P P 01 35 07.2 +0.5
H24K Noodor Dome 55.77 340 P P 01 35 07.7 +0.8
baz=126,SNR=38
I23K Minto, Yukon-K 55.87 338 P P 01 35 07.9 +0.4
baz=124,SNR=25
I23K Minto, Yukon-K 55.87 338 P P 01 35 08.6 +1.1
BPAW Bear Paw Mtn. 55.88 337 P P 01 35 07.7 +0.1
baz=122,SNR=14
BPAW Bear Paw Mtn. 55.88 337 P P 01 35 06.8 -0.8
BPAW IAmb IAmb 01 35 09.1
comp=Z,15nm,1.1s
M19K Big River Lodg 56.14 334 P P 01 35 10.0 +0.5
baz=117
N18K Kilae Creek 56.24 332 P P 01 35 10.8 +0.5
baz=114,SNR=14
CHUM Lake Minchumin 56.27 336 P P 01 35 10.1 -0.2
baz=120
SVW2 Sparrevohn 56.29 333 P P 01 35 11.2 +0.6
MLY Manley 56.29 338 P P 01 35 11.1 +0.5
baz=122,SNR=27
MLY Manley 56.29 338 P P 01 35 10.5 -0.1
H23K Yukon River 56.32 339 P P 01 35 10.9 +0.1
baz=124,SNR=5.2
H03N2 Juan Fernandez 56.45 155 T T 02 36 07.7
baz=333,slow=77,SNR=859
H03N1 Juan Fernandez 56.46 155 T T 02 36 09.2
baz=333,slow=77,SNR=937
L19K White Mountain 56.46 334 P P 01 35 11.6 -0.2
baz=116,SNR=18
H03N3 Juan Fernandez 56.47 155 T T 02 36 08.2
baz=333,slow=77,SNR=1478
K20K Telida 56.69 335 P P 01 35 13.4 0.0
baz=118,SNR=26
I21K Tanana 56.82 338 P P 01 35 14.7 +0.4
baz=121,SNR=25
J20K Nowinta River 57.11 336 P P 01 35 15.8 -0.6
baz=118,SNR=31
H21K Melozitna Rive 57.36 338 P P 01 35 17.9 -0.2
baz=121
PPT Papeete 57.62 234 LR LR 01 54 15.8
comp=Z,142nm,18.1s,baz=30,slow=30
PPT2 Papeete2 57.63 234 *eS* **S 01 43 20.4 +1.4**
comp=Z,100nm,31.8s
PPT2 *e*LR LR 01 52 14.7
comp=Z,323nm,25.2s,baz=46
IMAR Indian Mountai 57.86 338 P P 01 35 21.7 +0.1
TOLK Toolik Lake Re 57.97 342 P P 01 35 22.9 +0.5
baz=126,SNR=12
TOLK Toolik Lake Re 57.97 342 P P 01 35 22.8 +0.4
TBI Tubuai 61.01 229 *eS* **S 01 44 04.9 +2.5**
comp=Z,107nm,30.0s
TBI *e*LR LR 01 53 47.9
comp=Z,368nm,27.8s
TBI Tubuai 61.01 229 *eT* T 02 41 49.8
comp=Z,6.0nm,0.3s
RDOG Red Dog Mine 62.00 338 P P 01 35 51.3 +1.2
baz=112,SNR=8.6
RDOG Red Dog Mine 62.00 338 P P 01 35 51.0 +0.9
CPUP Villa Florida 63.00 133 P P 01 35 57.5 +0.3

comp=Z,3.9nm,0.9s,baz=329,slow=6.7,SNR=4.3
CPUP LR LR 02 00 35.7
comp=Z,158nm,18.9s,baz=202,slow=33
ICESG Greenland Ices 63.87 21 *i* P **P 01 36 00.8 -2.1**
ICESG IAmb IAmb 01 36 04.5
comp=Z,12nm,1.1s
GAMB Gambell 64.23 333 P **P 01 36 06.1 +1.2**
baz=101
NEEM North Greenlan 64.54 11⇑ *i* P **P 01 36 06.2 -0.9**
NEEM IAmb IAmb 01 36 08.1
comp=Z,26nm,0.9s
PLCA Paso Flores 66.14 153 LR LR 02 00 22.0
comp=Z,320nm,18.8s,baz=246,slow=32
DBG Daneborg 70.78 17 *e* P P 01 36 41.8 -4.4
DAG Danmarks Havn 71.22 14⇑ *i* P **P 01 36 47.5 -1.3**
DAG IAmb IAmb 01 36 47.9
comp=Z,9.7nm,1.1s
NOR Nord 71.64 9 *i* P **P 01 36 51.0 -0.3**
NOR IAmb IAmb 01 36 52.0
comp=Z,14nm,1.1s
PETK Petropavlovsk- 80.81 323 P **P 01 37 44.7 +0.8**
comp=Z,5.8nm,1.0s,baz=81,slow=8.9,SNR=10.0
PGAV Gavieira, Arco 81.80 49 *i* LQ LQ 02 12 35.9
PCAB Cabril 82.05 49 *e* P **P 01 37 51.7 +0.9**
PCAS Casmilo, Conde 82.19 51 *e* P **P 01 37 52.7 +1.2**
comp=Z,35nm,1.5s
POLO Lamas de Olo 82.32 49 *e* P **P 01 37 52.7 +0.5**
comp=Z,10nm,2.0s
PVRL Vila Real 82.40 49 *e* P **P 01 37 52.9 +0.3**
comp=Z,36nm,1.5s
PVIS Viseu 82.44 50 *e* P **P 01 37 53.1 +0.3**
comp=Z,30nm,1.5s
PMTG Montargil 82.69 51 *e* P **P 01 37 54.3 +0.2**
comp=Z,22nm,1.2s
PNCL Nicolau / Gran 82.75 52 *e* P **P 01 37 55.5 +1.1**
MTE Manteigas 82.79 50 *e* P **P 01 37 55.0 +0.3**
comp=Z,39nm,1.1s
MTE Manteigas 82.79 50 *i* LQ LQ 02 11 44.8
MTE Manteigas 82.79 50 P **P 01 37 54.9 +0.2**
MVO Moncorvo 82.93 49 *e* P **P 01 37 56.1 +0.7**
comp=Z,29nm,1.2s
MVO Moncorvo 82.93 49 *i* LQ LQ 02 12 44.7
EVO Evora 83.01 52 *e* P **P 01 37 56.2 +0.4**
comp=Z,30nm,1.3s
PCBR Castelo Branco 83.01 50 *e* P **P 01 37 57.0 +1.3**
comp=Z,40nm,1.3s
MESJ Messejana 83.06 53 *e* P **P 01 37 56.8 +0.8**
PMRV Marv??o 83.20 51 *e* P **P 01 37 57.2 +0.4**
comp=Z,31nm,2.1s
PMRV Marv??o 83.20 51 *i* LQ LQ 02 12 03.1
PESTR Estremoz 83.22 51 *e* P **P 01 37 57.5 +0.6**
comp=Z,15nm,1.1s
PCVE Castro Verde 83.26 53 *e* P **P 01 37 58.4 +1.3**
PBEJ Beja 83.27 52 *e* P **P 01 37 57.6 +0.5**
comp=Z,34nm,1.1s
PVAQ Vaqueiros 83.57 53 *e* P **P 01 37 59.6 +0.9**
comp=Z,24nm,1.1s
PVAQ Vaqueiros 83.57 53 *i* LQ LQ 02 14 09.5
TIXI Tiksi 83.65 345 P **P 01 37 58.2 -0.1**
H11S1 WAKE ISLAND Hy 84.22 287 T T 03 11 53.8
baz=71,slow=74
H11S2 WAKE ISLAND Hy 84.22 287 T T 03 12 13.6
baz=71,slow=74
H11S3 WAKE ISLAND Hy 84.24 287 T T 03 11 54.9
baz=71,slow=74
ARCES ARCESS Array B 85.39 16 P **P 01 38 06.2 -1.0**
comp=Z,5.1nm,0.9s,baz=302,slow=5.9,SNR=7.3
ARCES LR LR 02 17 56.8
comp=Z,141nm,18.5s,baz=335,slow=37
PAB San Pablo 85.39 50 P **P 01 38 08.5 +0.5**
NB2 NORSAR Subarra 85.52 26 P **P 01 38 07.5 -0.6**
comp=Z,2.1nm,0.9s,baz=297,slow=4.8
NOA NORSAR Array B 85.52 26 P **P 01 38 07.8 -0.3**
comp=Z,5.0nm,1.0s,baz=301,slow=4.9,SNR=13
NOA LR LR 02 16 32.5
comp=Z,83nm,19.7s,baz=315,slow=36
ESDC Sonseca Array 85.62 50 P **P 01 38 09.1 0.0**
comp=Z,8.5nm,1.0s,baz=304,slow=5.2,SNR=30
ESDC LR LR 02 17 30.0
comp=Z,125nm,18.6s,baz=290,slow=36
ESDC Sonseca Array 85.62 50 P **P 01 38 09.6 +0.5**
ESBB Sonseca Array 85.63 50 P **P 01 38 09.6 +0.5**
FINES FINESS Array B 91.06 22 P **P 01 38 33.1 -1.3**
comp=Z,4.2nm,1.1s,baz=325,slow=9.7,SNR=7.3
FINES LR LR 02 18 51.4
comp=Z,162nm,21.3s,baz=322,slow=35
GRF Grafenberg Arr 91.25 36 *e* P **P 01 38 35.8 +0.2**
comp=Z,34nm,1.6s,baz=293,slow=4.6
CLL Collm 91.39 34 *i* P **P 01 38 35.4 -0.8**
comp=Z,15nm,1.7s
CLL *e*PPS PPS 01 51 18.0
CLL *e* 01 56 36.0
CLL Lm MLR 02 21 00.0
comp=N,100nm,19.3s
CLL Lm MLR 02 21 00.0
comp=E,100nm,21.8s
CLL Lm MLR 02 21 00.0
comp=Z,200nm,18.8s
BRG Berggiesshubel 92.12 34 *e* P **P 01 38 39.6 0.0**
BRG Amp 01 38 41.5
comp=Z,19nm,1.9s
BRG Amp 02 21 55.0
comp=E,0.1nm,15.3s
BRG Amp 02 22 02.0
comp=N,0.1nm,13.8s
BRG Amp 02 22 07.0
comp=Z,0.2nm,10.2s
FETA Feichten 92.30 39 *i* P **P 01 38 39.5 -1.2**
comp=Z,4.3nm,1.2s
NRIK Noril'sk 92.34 356 P **P 01 38 40.4 +0.1**
comp=Z,1.4nm,0.4s,baz=355,slow=7.4,SNR=4.5
NRIK LR LR 02 22 40.9
comp=Z,160nm,19.3s,baz=28,slow=37
MOTA Moosalm 92.36 38 *e* P **P 01 38 40.1 -0.9**
comp=Z,4.0nm,1.1s
GERES GERESS Array B 93.07 36 P **P 01 38 44.1 -0.1**
comp=Z,0.7nm,0.7s,baz=316,slow=3.7,SNR=8.0
GERES LR LR 02 22 32.2
comp=Z,113nm,18.1s,baz=296,slow=37
GERES GERESS Array B 93.07 36 P **P 01 38 44.0 -0.2**
URZ Urewera 93.10 231 LR LR 02 14 59.6
comp=Z,100nm,18.8s,baz=64,slow=32
ABTA Abfaltersbach 93.49 38 *e* P **P 01 38 45.2 -1.0**
comp=Z,4.7nm,1.1s
MOA Molln 93.92 37 *e* P **P 01 38 47.6 -0.4**
comp=Z,6.3nm,1.5s
VRAC Vranov 94.41 35 *e* P **P 01 38 50.4 +0.2**
KRUC Moravsky 94.44 35 *e* P **P 01 38 50.3 -0.1**
MORC Moravsky Berou 94.65 34 P **P 01 38 51.1 -0.3**
MORC IAmb IAmb 01 38 52.5
comp=Z,6.3nm,1.3s
MORC Moravsky Berou 94.65 34 *e* P **P 01 38 51.5 +0.1**
CONA Conrad Observa 94.78 36 *e* P **P 01 38 51.1 -0.9**
comp=Z,8.4nm,1.5s
ARSA Arzberg 94.97 37 *e* P **P 01 38 53.2 +0.3**
comp=Z,3.5nm,0.9s
SOKA Soboth 95.00 37 *e* P **P 01 38 52.0 -1.1**
comp=Z,4.9nm,1.2s
JAVC Velka Javorina 95.25 35 *e* P **P 01 38 55.2 +1.0**
MODS Modra-Piesok 95.31 35 *e* P **P 01 38 56.0 +1.6**
DZM Mont Dzumac 96.74 249 *e*LR LR 02 10 22.6
comp=Z,250nm,26.3s
PSZ Piszkesteto 97.00 34 P Pdif 01 39 02.8 +0.5
AKASG Malin Array Be 99.80 28 P **Pdif 01 39 13.2 -1.3**
comp=Z,0.2nm,0.3s,baz=307,slow=3.6,SNR=6.5
AKASG LR LR 02 26 47.9
comp=Z,62nm,18.2s,baz=30,slow=37
TORD Torodi Ar. Bea 99.91 73 LR LR 02 23 03.3
comp=Z,62nm,19.7s,baz=250,slow=35

*NEIC **14** 01:33:58.6±1.0, 35.°76N±0.°01×97.°60W±0.°03, h5km±2km, Error ellipse: s-maj=3.6km s-min=3.0km az=95.0*
*TUL **14** 01:33:58.7±1.5, 35.°74N±0.°02×97.°58W±0.°04, h6km±7km, ML3.4, mb_Lg3.1/97(NEIC), Error ellipse: s-maj=5.3km s-min=2.5km az=66.0*
*ANF **14** 01:34:00.1±0.6, 35.°86N×97.°68W, h29km±4km, ML3.9/9, Error ellipse: s-maj=3.5km s-min=2.2km az=142.0*
ISC 14 01:33:58.9±0.9, 35.°77N±0.°02×97.°58W±0.°03, h9km±6km, n99, σ1.9±05/87, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.11**	**77**		**Pg**	**01 34 01.6**	**+0.1**
OK029				Sg	**Sg**	**01 34 03.6**	**+0.3**
BCOK	**Bluff Creek, N**	**0.12**	**191**		**Pg**	**01 34 01.0**	**-0.6**
BCOK				Sg	**Sg**	**01 34 02.6**	**-0.9**
OK009	**Oakdale Elemen**	**0.23**	**146**		**Pg**	**01 34 03.1**	**-0.4**
OK009				Sg	**Sg**	**01 34 06.5**	**-0.2**
OK025	**Westminster Rd**	**0.28**	**134**		**Pg**	**01 34 04.0**	**-0.4**
OK025				Sg	**Sg**	**01 34 08.1**	**-0.1**
OK001	**Jones High Sch**	**0.32**	**132**	Pg	**Pg**	**01 34 04.8**	**-0.4**
OK001				Sg	**Sg**	**01 34 09.4**	**0.0**
OK005	**Luther M Schoo**	**0.34**	**110**	Pg	**Pg**	**01 34 05.4**	**-0.2**
OK005					**Sg**	**01 34 10.2**	**+0.1**
OKCFA	**Oklahoma City**	**0.37**	**163**		**Pg**	**01 34 05.5**	**-0.7**
OKCFA				Sg	**Sg**	**01 34 10.6**	**-0.5**
OKCFA	**Oklahoma City**	**0.37**	**163**	P		01 34 05.6	
OKCFA	baz=343,SNR=68			S		01 34 10.8	
OKCSW	**OKLAHOMA CITY**	**0.39**	**162**		**Pg**	**01 34 05.9**	**-0.6**
OKCSW				Sg	**Sg**	**01 34 11.2**	**-0.4**
FNO	**Franklin**	**0.54**	**164**		**Pg**	**01 34 08.6**	**-0.7**
FNO				Sg	**Sg**	**01 34 15.7**	**-0.6**
OK031	**S. Brethren Rd**	**0.63**	**73**	Pg	**Pg**	**01 34 10.9**	**-0.2**
OK031				Sg	**Sg**	**01 34 19.6**	**+0.3**
CROK	**Carrier**	**0.80**	**336**		**Pg**	**01 34 14.4**	**+0.2**
QUOK	**Quay**	**0.81**	**61**		**Pg**	**01 34 14.2**	**-0.4**
BLOK	**Blackwell**	**1.03**	**17**		**Pg**	**01 34 18.6**	**0.0**
GC02	**Grant County #**	**1.10**	**348**		**Pg**	**01 34 19.7**	**-0.3**
OK032	**Salt Plains WL**	**1.15**	**334**		**Pg**	**01 34 20.3**	**-0.6**
X34A	**Smith Ranch, M**	**1.19**	**190**		**Pg**	**01 34 20.7**	**-1.0**
KAN13	**South Haven SW**	**1.24**	**4**		**Pg**	**01 34 22.4**	**-0.3**
KAN17	**Caldwell West**	**1.28**	**353**	Pn	**Pn**	**01 34 23.0**	**0.0**
U32A	**Winter Ranch,**	**1.30**	**298**	Pn	**Pn**	**01 34 22.9**	**-0.4**
U32A	**Winter Ranch,**	**1.30**	**298**	P		01 34 23.1	
U32A	baz=118			S		01 34 41.1	
KAN05	**Bluff City Nor**	**1.35**	**350**		**Pn**	**01 34 24.1**	**+0.1**
KAN09	**Caldwell North**	**1.36**	**359**		**Pn**	**01 34 24.4**	**+0.3**
KAN10	**Anthony SW Sta**	**1.41**	**343**	Pn	**Pn**	**01 34 24.9**	**+0.1**
WMOK	**Wichita Mounta**	**1.43**	**224**	P	**Pn**	**01 34 24.3**	**-0.8**
WMOK	baz=44			S	**Sb**	**01 34 43.2**	**-0.8**
WMOK	**Wichita Mounta**	**1.43**	**224**		**Pn**	**01 34 24.2**	**-0.8**
WMOK	**Wichita Mounta**	**1.43**	**224**	P		01 34 24.3	
WMOK	baz=44			S		01 34 43.1	
T35A	**Sooner Cattle**	**1.43**	**37**	Pn	**Pn**	**01 34 25.2**	**+0.1**
T35B	**Sooner Cattle**	**1.43**	**37**	P		01 34 25.3	
T35B	baz=216			S		01 34 44.8	
KS20	**Mayfield South**	**1.45**	**1**	Pn	**Pn**	**01 34 26.0**	**+0.6**
KS20				IAmb_Lg		01 34 47.2	
TUL1	**Leonard**	**1.46**	**84**	P	**Pn**	**01 34 24.8**	**-0.6**
TUL1	baz=264			S	**Sn**	**01 34 44.9**	**+0.1**
TUL1	**Leonard**	**1.46**	**84**	P		01 34 24.8	
KAN08	**Anthony NE Sta**	**1.48**	**348**	Pn	**Pn**	**01 34 26.5**	**+0.7**
KAN12	**Harper NE Stat**	**1.56**	**348**	Pn	**Pb**	**01 34 27.6**	**-0.3**
LOOK	**Love County**	**1.81**	**169**	Pn	**Pn**	**01 34 30.7**	**+0.5**
LOOK				IAmb_Lg		01 34 56.3	
X37A	**Clayton**	**2.16**	**122**	Pn	**Pn**	**01 34 35.3**	**+0.2**
X37A				IAmb_Lg		01 35 04.9	
X37A	**Clayton**	**2.16**	**122**	P		01 34 35.4	
X37A	baz=303,SNR=48			S		01 35 03.5	
Z35A	**Perchaven, San**	**2.45**	**174**	Pn	**Pn**	**01 34 39.3**	**+0.2**
Z35A	**Perchaven, San**	**2.45**	**174**	P		01 34 39.9	
U38A	**Gravette**	**2.67**	**75**		**Pn**	**01 34 42.7**	**+0.5**
U38A	**Gravette**	**2.67**	**75**	P		01 34 43.0	
R32A	**Long Quarter,**	**2.79**	**341**	Pn	**Pn**	**01 34 45.8**	**+1.9**
HHAR	**Hobbs**	**3.00**	**79**		**Pn**	**01 34 46.5**	**-0.1**
HHAR	**Hobbs**	**3.00**	**79**	P		01 34 47.1	
W39A	**Magazine**	**3.15**	**99**	P	**Pn**	**01 34 49.0**	**+0.3**
W39A	**Magazine**	**3.15**	**99**		**Pn**	**01 34 48.8**	**0.0**
W39A				IAmb_Lg		01 35 42.7	
W39A	**Magazine**	**3.15**	**99**	P		01 34 48.9	
Z38A	**Mt. Pleasant**	**3.30**	**139**	Pn	**Pn**	**01 34 50.5**	**-0.3**
KSU1	**Kansas State U**	**3.41**	**13**	IAmb_Lg		01 35 51.4	
AMTX	**Amarillo**	**3.47**	**256**	Pn	**Pn**	**01 34 55.1**	**+2.0**
CBKS	**Cedar Bluff**	**3.49**	**331**	IAmb_Lg		01 35 54.1	
CBKS	**Cedar Bluff**	**3.49**	**331**	S		01 35 35.8	
MIAR	**Mount Ida**	**3.50**	**109**	P	**Pn**	**01 34 54.4**	**+0.9**
MIAR				S	**Sn**	**01 35 36.5**	**+1.4**
MIAR	**Mount Ida**	**3.50**	**109**	Pn	**Pn**	**01 34 54.1**	**+0.5**
MIAR				IAmb_Lg		01 35 53.9	
MIAR	**Mount Ida**	**3.50**	**109**	P		01 34 53.8	
MIAR				S		01 35 36.6	
WHTX	**Lake Whitney,**	**3.77**	**178**	S	**Sn**	**01 35 42.5**	**+0.7**
WHTX	**Lake Whitney,**	**3.77**	**178**	Pn	**Pn**	**01 34 56.1**	**-1.2**
U40A	**Yellville**	**3.88**	**80**	Pb	**Pb**	**01 35 08.2**	**+0.8**
U40A				Sb	**Sg**	**01 35 59.5**	**-3.9**
U40A	**Yellville**	**3.88**	**80**	Pn	**Pn**	**01 34 58.8**	**+0.2**
U40A	**Yellville**	**3.88**	**80**	P		01 34 58.6	
U40A	baz=262,SNR=16			P		01 34 58.6	
237A	**Washetta, Mont**	**4.04**	**158**	Pn	**Pn**	**01 35 00.5**	**-0.4**
237A				IAmb_Lg		01 36 05.1	
X40A	**Basin Creek Fa**	**4.10**	**107**	Sb	**Sg**	**01 36 07.8**	**-2.7**
WLAR	**White Oak Lake**	**4.23**	**118**	IAmb_Lg		01 36 20.5	
WHAR	**Wooly Hollow**	**4.34**	**95**	Pn	**Pn**	**01 35 04.9**	**-0.2**
WHAR				IAmb_Lg		01 36 18.0	
W41B	**Gary Mavity, V**	**4.39**	**96**	P	**Pn**	**01 35 05.9**	**+0.1**
W41B				S	**Sn**	**01 35 57.1**	**0.0**
W41B	**Gary Mavity, V**	**4.39**	**96**	P		01 35 06.0	
FCAR	**Ozark Folk Cen**	**4.44**	**87**		**Pn**	**01 35 05.8**	**-0.5**
FCAR				IAmb_Lg		01 36 20.4	
MGMO	**Mountain Grove**	**4.50**	**71**	Pn	**Pn**	**01 35 07.5**	**+0.2**
MSTX	**Muleshoe**	**4.63**	**249**	Pn	**Pn**	**01 35 09.7**	**+0.6**
NATX	**Nacogdoches**	**4.68**	**148**	IAmb_Lg		01 36 31.7	
R40A	**Maddies Statio**	**4.94**	**58**	Pn	**Pn**	**01 35 13.5**	**+0.2**
R40A				IAmb_Lg		01 36 33.4	
N33A	**J Bar K, Exete**	**4.96**	**1**	Pn	**Pn**	**01 35 15.4**	**+1.8**
N33A				IAmb_Lg		01 36 48.6	
435B	**Jarrell**	**4.98**	**180**	Sb	**Sb**	**01 36 31.1**	**+5.0**
435B	**Jarrell**	**4.98**	**180**	IAmb_Lg		01 36 44.9	
P38A	**Dawn**	**5.01**	**39**	Pn	**Pn**	**01 35 14.6**	**+0.4**
P38A				IAmb_Lg		01 36 44.4	
CCAR	**Cane Creek**	**5.12**	**110**	Pn	**Pn**	**01 35 15.8**	**-0.1**
CCAR				IAmb_Lg		01 36 50.8	
KSCO	**Kaye Shedlock'**	**5.16**	**310**	Pn	**Pn**	**01 35 18.4**	**+2.0**
KSCO				IAmb_Lg		01 36 56.6	
LCAR	**Lake Charles**	**5.22**	**85**	Pn	**Pn**	**01 35 15.5**	**-1.7**
LCAR				IAmb_Lg		01 36 45.9	
CCM	**Cathedral Cave**	**5.56**	**64**	Pn	**Pn**	**01 35 22.2**	**+0.4**
CCM				IAmb_Lg		01 37 00.5	
T25A	**Trinidad**	**5.67**	**286**	IAmb_Lg		01 37 02.3	
P40A	**Paris**	**5.77**	**48**	Pn	**Pn**	**01 35 24.4**	**-0.3**
P40A				IAmb_Lg		01 37 01.5	
PBMO	**Poplar Bluff**	**5.87**	**78**	IAmb_Lg		01 37 02.8	
143A	**Socs Landing,**	**5.96**	**119**	IAmb_Lg		01 37 06.4	
OGNE	**Ogallala**	**6.24**	**327**	IAmb_Lg		01 37 30.2	
SLM	**Saint Louis**	**6.52**	**62**	IAmb_Lg		01 37 27.9	
SDCO	**Great Sand Dun**	**6.65**	**290**	Pn	**Pn**	**01 35 38.4**	**+1.2**
HALT	**Halls**	**6.70**	**86**	Pn	**Pn**	**01 35 37.0**	**-0.4**
OXF	**Oxford**	**6.81**	**98**	Pn	**Pn**	**01 35 38.5**	**-0.6**
OXF				IAmb_Lg		01 37 41.4	
W45A	**Hickory Valley**	**6.88**	**93**	IAmb_Lg		01 37 53.5	
S44A	**Carbondale**	**6.96**	**72**	Pn	**Pn**	**01 35 40.5**	**-0.5**
S44A				IAmb_Lg		01 37 49.6	
SIUC	**Southern Illin**	**6.99**	**71**	IAmb_Lg		01 37 39.5	
N41A	**Harden Midland**	**7.23**	**45**	Pn	**Pn**	**01 35 44.7**	**0.0**
Q44A	**Meyer Farm, Va**	**7.50**	**63**	IAmb_Lg		01 38 08.6	
146A	**Union**	**7.72**	**111**	IAmb_Lg		01 38 16.9	
ECSD	**EROS Data Cent**	**7.99**	**5**	S	**Sn**	**01 37 22.9**	**-2.6**
ECSD	**EROS Data Cent**	**7.99**	**5**	Pn	**Pn**	**01 35 54.6**	**-0.5**
ECSD				IAmb_Lg		01 38 15.6	
L40A	**Anamosa**	**8.00**	**36**	IAmb_Lg		01 38 13.9	
HDIL	**Hopedale**	**8.09**	**51**	Pn	**Pn**	**01 35 55.8**	**-0.7**
OLIL	**Olney**	**8.12**	**66**	IAmb_Lg		01 38 26.9	
PHWY	**Pilot Hill**	**8.28**	**314**	Pn	**Pn**	**01 35 59.1**	**-0.3**
PHWY				IAmb_Lg		01 38 37.5	
O44A	**Mansfield**	**8.42**	**56**	IAmb_Lg		01 38 23.9	
T47A	**Sharon Grove**	**8.54**	**79**	IAmb_Lg		01 38 34.2	
L42A	**Oliver, Polo**	**8.76**	**42**	Pn	**Pn**	**01 36 05.2**	**-0.6**
L42A				IAmb_Lg		01 38 46.7	
I37A	**Lemond, Waseca**	**8.84**	**20**	IAmb_Lg		01 38 38.9	
P46A	**Rosedale**	**9.07**	**62**	IAmb_Lg		01 38 53.8	
JFWS	**Jewell Farm**	**9.11**	**36**	Pn	**Pn**	**01 36 10.0**	**-0.6**
JFWS				IAmb_Lg		01 38 52.0	
WCI	**Wyandotte Cave**	**9.36**	**71**	IAmb_Lg		01 39 12.4	
PV11	**David Mesa, Pa**	**9.37**	**289**	IAmb_Lg		01 39 10.7	
BLO	**Bloomington**	**9.42**	**66**	IAmb_Lg		01 39 01.3	
SFIN	**Lafayette**	**9.46**	**58**	IAmb_Lg		01 38 53.3	
RWWY	**Rawlins**	**9.56**	**311**	IAmb_Lg		01 39 27.7	
I40A	**Norwalk**	**9.71**	**31**	IAmb_Lg		01 39 11.3	
K22A	**Casper**	**9.76**	**317**	IAmb_Lg		01 39 29.5	

*ISK **14** 01:44:41.3, 37.°85N×26.°68E, h7km, ML2.5/19*
*ATH **14** 01:44:41.3, 37.°86N×26.°72E, h15km±2km, ML2.4/3, Error ellipse: s-maj=4.1km s-min=1.6km az=76.0*
*DDA **14** 01:44:41.0, 37.°86N×26.°70E, h7km±2km, ML2.2*
ISC 14 01:44:41.5±0.9, 37.°85N±0.°02×26.°69E±0.°02, h9km±7km, n42, σ0.9±62/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.19**	**141**	P	**Pg**	**01 44 45.2**	**-0.1**
SMG				S	**Sg**	**01 44 48.7**	**+0.7**
SMG	comp=E,2922μm,0.4s			AML	AML	01 44 49.8	
SMG	comp=N,1866μm,0.2s			AML	AML	01 44 49.9	
DGB	**zmir**	**0.25**	**38**	*i* P	**Pg**	**01 44 46.0**	**-0.5**
DGB				*i* S	**Sg**	**01 44 49.8**	**-0.1**
DGB	comp=E,608nm,0.3s			IAML		01 44 50.0	
ZEYE	**Izmir, Urla-Ze**	**0.41**	**339**	*i* P	**Pg**	**01 44 49.0**	**-0.5**
ZEYE				*i* S	**Sg**	**01 44 55.6**	**+0.7**
ZEYE	comp=N,283nm,0.2s			IAML		01 44 57.0	
GCAM	**G?zelcaml?**	**0.46**	**109**	*i* P	**Pg**	**01 44 50.1**	**-0.3**
GCAM				*i* S	**Sg**	**01 44 57.0**	**+0.6**
GCAM	comp=E,170nm,0.2s			IAML		01 44 58.0	
GCAM	comp=N,200nm,0.2s			IAML		01 44 58.0	
GCAM	**G?zelcaml?**	**0.46**	**109**	PG	**Pg**	**01 44 50.4**	**0.0**
GCAM				SG	**Sb**	**01 44 57.7**	**-0.9**
URLA	**Izmir**	**0.51**	**352**	*i* P	**Pg**	**01 44 51.0**	**-0.4**
URLA				*i* S	**Sg**	**01 44 58.2**	**+0.1**
URLA	**Izmir**	**0.51**	**352**	PG	**Pg**	**01 44 51.7**	**+0.3**
URLA				SG	**Sb**	**01 44 59.4**	**-0.8**
DDIM	**Aydin, Didim**	**0.59**	**132**	*i* P	**Pg**	**01 44 52.4**	**-0.5**
DDIM				*i* S	**Sb**	**01 45 01.6**	**-0.9**
DDIM	comp=E,157nm,0.5s			IAML		01 45 03.0	
DDIM	comp=N,113nm,0.5s			IAML		01 45 03.0	
CHOS	**Chios island**	**0.73**	**317**	P	**Pg**	**01 44 55.9**	**+0.3**
CHOS				S	**Sg**	**01 45 05.8**	**+0.7**
CHOS	comp=E,655μm,0.2s			AML	AML	01 45 06.5	
CHOS	comp=N,574μm,0.3s			AML	AML	01 45 07.2	
CHOS	**Chios island**	**0.73**	**317**	PG	**Pg**	**01 44 55.9**	**+0.3**
CHOS				SG	**Sb**	**01 45 06.5**	**-0.1**
KRBN	**Karaburun**	**0.75**	**352**	PG	**Pb**	**01 44 56.1**	**-0.6**
KRBN				SG	**Sb**	**01 45 07.1**	**+0.1**
FOCM	**Foa**	**0.86**	**2**	PG	**Pb**	**01 44 58.4**	**-0.2**
FOCM				SG	**Sb**	**01 45 10.8**	**+0.6**
BODT	**Bodrum**	**0.93**	**148**	PG	**Pb**	**01 44 59.8**	**0.0**
BODT				SG	**Sb**	**01 45 13.0**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**84**	PG	**Pb**	**01 45 00.1**	**-0.2**
AYDB				SG	**Sn**	**01 45 14.0**	**-1.0**
AYDN	**Tasoluk**	**0.96**	**101**	*i* P	**Pg**	**01 44 58.8**	**-1.2**
BDRM	**Kayabasi**	**0.99**	**142**	*i* P	**Pg**	**01 45 00.1**	**-0.4**
BDRM				*i* S	**Sg**	**01 45 13.2**	**-0.2**
BDRM	comp=N,57nm,0.3s			IAML		01 45 17.0	
BDRM	comp=E,48nm,0.3s			IAML		01 45 18.0	
MLSB	**Milas**	**1.03**	**122**	PG	**Pb**	**01 45 01.5**	**0.0**
KOSK	**Kos Island**	**1.12**	**168**	PN	**Pb**	**01 45 03.2**	**+0.1**
KOSK				SN	**Sn**	**01 45 19.2**	**+0.3**
ZEDA	**zmir-Bergama**	**1.15**	**15**	*i* P	**Pg**	**01 45 02.4**	**-1.3**
ZEDA				*i* S	**Sn**	**01 45 19.3**	**-0.4**
APE	**Apeiranthos**	**1.21**	**230**	P	**Pg**	**01 45 03.7**	**-0.9**
APE	**Apeiranthos**	**1.21**	**230**	PN	**Pg**	**01 45 04.0**	**-0.7**
APE				SN	**Sn**	**01 45 21.7**	**+0.6**
DKL	**Dikili**	**1.23**	**8**	PN	**Pn**	**01 45 05.3**	**+0.5**
DKL				SN	**Sn**	**01 45 22.8**	**+1.3**
GOMA	**Golmarmara-Man**	**1.29**	**48**	PN	**Pg**	**01 45 06.5**	**+0.3**
GOMA				SN	**Sn**	**01 45 24.2**	**+1.1**
DAT	**Datca**	**1.33**	**147**	PN	**Pg**	**01 45 06.9**	**-0.1**
MULA	**Mugla, Merkez-**	**1.43**	**114**	*i* P	**Pn**	**01 45 07.2**	**-0.5**
PRK	**Paraskevi**	**1.43**	**347**	P	**Pn**	**01 45 07.5**	**-0.1**
PRK				AML	AML	01 45 32.7	
PRK	comp=E,374μm,0.5s			AML	AML	01 45 33.7	
PRK	comp=N,271μm,0.4s						
AYVA	**Ayvalik**	**1.45**	**0**	*i* P	**Pg**	**01 45 08.8**	**-0.5**
AYVA				*i* S	**Sg**	**01 45 29.2**	**+1.0**
AYVA	comp=E,26nm,0.5s			IAML		01 45 32.0	
AYVA				IAML		01 45 36.0	

comp=N,32nm,0.6s
YER Yerkesik 1.46 119 PN **Pb 01 45 08.9 +0.1**
SIGR SIGRI 1.50 335 P **Pn 01 45 07.6 -1.0**
SIGR SIGRI 1.50 335 PN **Pb 01 45 09.5 -0.1**
MANT Manisa 1.60 66 *i* P **Pg 01 45 12.5 +0.3**
MANT *i* S **Sn 01 45 31.2 0.0**
MANT IAML 01 45 34.0
comp=E,22nm,0.3s
TURN Turunc 1.64 130 *i* P **Pn 01 45 10.1 -0.4**
TURN Turunc 1.64 130 PN **Pb 01 45 11.4 -0.5**
BUHA Balikesir, Bur 1.67 10 *i* P **Pn 01 45 11.3 +0.3**
BUHA *i* S **Sg 01 45 35.5 +0.2**
BUHA IAML 01 45 40.0
comp=N,21nm,0.4s
BUHA IAML 01 45 41.0
comp=E,29nm,0.3s
KULA Kula-Manisa 1.69 66 PN **Pb 01 45 12.5 -0.3**
KOCA Canakkale, Ayv 1.70 346 *i* P **Pb 01 45 12.7 -0.3**
KOCA IAML 01 45 39.0
comp=E,36nm,0.5s
KOCA IAML 01 45 39.0
comp=N,29nm,0.4s
STEP BALIKESIR_Sava 1.72 28 *i* P **Pg 01 45 14.9 +0.4**
STEP *i* S **Sn 01 45 34.0 +0.2**
BAYC CANAKKALE_Bayr 1.89 357 *i* P **Pn 01 45 13.1 -0.9**
DEMI Demirci 1.99 53 *i* P **Pg 01 45 19.1 -0.5**
ARG Arkhangelos 2.00 144 PN **Pn 01 45 15.7 +0.3**
FETY Fethiye 2.27 122 PN **Pn 01 45 20.5 +1.4**
CAME Cameli-Denizli 2.27 113 PN **Pn 01 45 20.5 +1.2**

IDC 14 01:47:22.4±2.3, 12°.04N×46°.33E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/26, mbtmp3.6/5, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=51.9km s-min=40.0km az=149.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**15.89**	**215**	Pn	Pn	01 51 08.6	+0.8
	baz=28,slow=13,SNR=3.8						
GEYT	**Alibeck**	**27.85**	**20**	LR	LR	02 06 35.7	
	comp=Z,110nm,18.4s,baz=170,slow=41						
AKASG	**Malin Array Be**	**41.01**	**343**	P	P	01 55 08.3	+1.1
	0.2nm,0.4s,baz=165,slow=7.4,SNR=1.2						
GERES	**GERESS Array B**	**45.58**	**330**	P	P	01 55 43.3	-1.0
	1.0nm,0.9s,baz=134,slow=8.4,SNR=8.5						
MKAR	**Makanchi Array**	**46.00**	**34**	P	P	01 55 48.2	+0.7
	0.7nm,0.9s,baz=233,slow=6.7,SNR=5.7						
SONM	**Songino Array**	**61.18**	**42**	P	P	01 57 38.0	-1.0
	0.8nm,0.7s,baz=258,slow=7.2,SNR=2.1						

*JMA **14** 01:55:56.9±0.3, 26°.20N×123°.44E, h249km, M3.8*
*IDC **14** 01:56:09.4±12.0, 26°.54N×124°.24E, h481km±220km, mb2.8/3, mb1 2.9/4, mb1mx2.6/31, mbtmp3.7/4, Error ellipse: s-maj=193.9km s-min=24.2km az=58.0*
ISC 14 01:55:54.5±0.9, 26°.2N±0°.1×123°.58E±0°.09, h277km±12km, n19, σ1§90/30, mb3.2/3, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**1.69**	**157**	P	**Pn**	**01 56 37.7**	**+0.9**
JISG				S	**S**	**01 57 09.1**	**-1.2**
YOJ	**Yonaguni jima**	**1.75**	**197**	P	**Pn**	**01 56 37.8**	**+0.5**
YOJ				S	**S**	**01 57 09.2**	**-2.1**
IRIF	**Iriomote-Funau**	**1.81**	**176**	P	**Pn**	**01 56 38.0**	**+0.2**
IRIF				S	**S**	**01 57 09.4**	**-2.6**
JTJ	**Tarama**	**1.81**	**146**	P	**Pn**	**01 56 39.5**	**+1.8**
JTJ				S	**S**	**01 57 11.3**	**-0.7**
JIJ	**Ishigaki jima**	**1.84**	**164**	P	**Pn**	**01 56 38.6**	**+0.5**
JIJ				S	**S**	**01 57 10.1**	**-2.5**
JIKM	**Ikemajima**	**1.93**	**129**	P	**Pn**	**01 56 40.7**	**+2.0**
JIKM				S	**S**	**01 57 14.0**	**+0.2**
JKRS	**Kuro-shima**	**1.94**	**168**	P	**Pn**	**01 56 39.6**	**+0.8**
JKRS				S	**S**	**01 57 12.2**	**-1.7**
JIRB	**Irabujima**	**1.94**	**132**	P	**Pn**	**01 56 40.6**	**+1.8**
JIRB				S	**S**	**01 57 13.4**	**-0.6**
JMJ2	**Miyako jima3**	**2.11**	**131**	S	**S**	**01 57 15.6**	**-0.9**
JOGS	**Gusukube**	**2.15**	**130**	P	**Pn**	**01 56 42.0**	**+1.4**
JOGS				S	**S**	**01 57 17.5**	**+0.4**
JKE	**Kume jima 2**	**2.88**	**86**	P	**Pn**	**01 56 49.3**	**+1.8**
JAGN	**Aguni-jima**	**3.31**	**82**	*e*S	**S**	**01 57 36.8**	**-0.9**
JOW	**Kunigami**	**4.26**	**80**	P	**Pn**	**01 57 03.5**	**+1.0**
JOW				S	**S**	**01 57 53.8**	**-3.0**
JYRO	**Yoronjima**	**4.45**	**78**	P	**Pn**	**01 57 05.6**	**+1.0**
JYRO				*e*S	**S**	**01 57 57.1**	**-3.6**
JTK	**Tokunoshima**	**5.06**	**70**	S	**S**	**01 58 09.4**	**-4.5**
KSRS	**Korea Array**	**11.86**	**17**	P	**P**	**01 58 40.4**	**+2.4**
	0.3nm,0.3s,baz=198,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**38.52**	**313**	P	**P**	**02 02 50.4**	**-0.2**
	0.4nm,0.4s,baz=98,slow=9.2,SNR=9.5						
ZALV	**Zalesovo Beam**	**39.84**	**325**	P	**P**	**02 03 00.2**	**-1.2**
	0.6nm,0.3s,baz=107,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**46.99**	**166**	P	**P**	**02 03 58.0**	**-0.5**
	0.5nm,0.8s,baz=352,slow=9.5,SNR=1.4						

*IDC **14** 02:06:30.7±3.7, 4°.67S×153°.31E, h46km±33km, mb3.9/9, mb1 4.0/11, mb1mx3.8/32, mbtmp4.1/11, ML3.2/2, Error ellipse: s-maj=27.1km s-min=18.7km az=82.0*
*NEIC **14** 02:06:32.2±1.8, 4°.64S±0°.09×153°.40E±0°.09, h58km±10km, mb4.6/17, Error ellipse: s-maj=13.9km s-min=11.8km az=212.0*
ISC 14 02:06:30.9±0.6, 4°.68S±0°.06×153°.42E±0°.08, h50km, n41, σ1§01/41, mb4.4/16, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.34**	**291**	Pn	**Pn**	**02 06 54.2**	**+1.0**
RABL				Sn	**Sn**	**02 07 11.0**	**+1.0**
PMG	**Port Moresby**	**7.78**	**233**	P	**Pn**	**02 08 22.0**	**+0.4**
	7.8nm,0.3s,baz=52,slow=12,SNR=6.1						
PMG				S	**Sn**	**02 09 46.6**	**-1.9**
	7.0nm,0.3s,baz=0.0,slow=20,SNR=16						
PMG	**Port Moresby**	**7.78**	**233**		**Pn**	**02 08 23.6**	**+2.0**
PMG					**Sn**	**02 09 48.2**	**-0.3**
PATS	**Pohnpei**	**12.44**	**23**	Pn	**Pn**	**02 09 25.1**	**-0.2**
CTA	**Charters Tower**	**16.83**	**204**	P	**Pn**	**02 10 22.7**	**-0.5**
	0.2nm,0.3s,baz=35,slow=12,SNR=2.4						
GUMO	**Guam**	**20.04**	**335**	P	**P**	**02 10 58.8**	**-1.1**
	34nm,0.3s,baz=10,slow=23,SNR=2.6						
GUMO	**Guam**	**20.04**	**335**	P	**P**	**02 11 00.1**	**+0.2**
EIDS	**Eidsvold**	**20.69**	**186**	P	**P**	**02 11 08.5**	**+1.5**
DZM	**Mont Dzumac**	**21.41**	**145**	P	**P**	**02 11 15.8**	**+1.1**
	9.0nm,0.6s,baz=255,slow=5.9,SNR=22						
DZM	**Mont Dzumac**	**21.41**	**145**	P	**P**	**02 11 15.7**	**+0.9**
DZM				IAmb	IAmb	02 11 30.6	
	comp=Z,32nm,1.2s						
MTN	**Manton Dam**	**23.45**	**248**	P	**P**	**02 11 36.9**	**+0.7**
MTN				IAmb	IAmb	02 11 39.8	
	comp=Z,37nm,1.1s						
WB0	**Warramunga Arr**	**23.84**	**229**	P	**P**	**02 11 39.0**	**-0.8**
WB0				IAmb	IAmb	02 11 53.0	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**23.84**	**229**	P	**P**	**02 11 39.0**	**-0.7**
WB2	**Warramunga Arr**	**23.98**	**229**	P	**P**	**02 11 40.1**	**-0.8**
WB2				IAmb	IAmb	02 11 49.1	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**23.98**	**229**	P	**P**	**02 11 40.2**	**-0.8**
	comp=Z,2.2nm,0.4s,baz=52,slow=9.9,SNR=31						
WRA	**Warramunga Arr**	**23.98**	**229**	P	**P**	**02 11 40.5**	**-0.6**
ARMA	**Armidale**	**25.66**	**184**	P	**P**	**02 11 57.1**	**+0.9**
ARMA				IAmb	IAmb	02 12 05.5	
	comp=Z,18nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**26.48**	**29**	T	T	02 39 44.4	
	baz=209,slow=74,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**26.49**	**29**	T	T	02 39 47.1	
	baz=209,slow=74,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**26.50**	**29**	T	T	02 39 47.4	
	baz=209,slow=74,SNR=7.3						
KNRA	**Kununurra**	**26.57**	**244**	P	**P**	**02 12 01.4**	**-3.1**
AS31	**Alice Springs**	**26.65**	**223**	P	**P**	**02 12 06.9**	**+1.6**
ASAR	**Alice Springs**	**26.65**	**223**	P	**P**	**02 12 04.2**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=58,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**26.65**	**223**	P	**P**	**02 12 05.1**	**-0.2**
STKA	**Stephens Creek**	**29.24**	**201**	P	**P**	**02 12 27.2**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=20,slow=15,SNR=1.4						
BKZ	**Black Stump Fm**	**40.20**	**152**	P	**P**	**02 14 02.5**	**-0.1**
BKZ				IAmb	IAmb	02 14 19.1	
	comp=Z,26nm,1.3s						
TUWZ	**Tuamarina**	**40.95**	**156**	P	**P**	**02 14 08.8**	**+0.2**
BFZ	**Birch Farm**	**41.30**	**153**	P	**P**	**02 14 10.8**	**-0.8**
BFZ				IAmb	IAmb	02 14 29.2	
	comp=Z,27nm,1.2s						
LTZ	**Lake Taylor**	**41.47**	**159**	P	**P**	**02 14 13.8**	**+0.8**
MQZ	**McQueen's Vall**	**42.42**	**159**	P	**P**	**02 14 20.2**	**-0.4**
VNDA	**Vanda**	**72.93**	**178**	P	**P**	**02 17 55.3**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=328,slow=7.3,SNR=21						
VNDA	**Vanda**	**72.93**	**178**	P	**P**	**02 17 55.0**	**+0.5**
VNDA				IAmb	IAmb	02 17 55.9	
	comp=Z,11nm,1.4s						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**02 18 39.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=95,slow=7.5,SNR=14						
MKAR	**Makanchi Array**	**80.64**	**319**	P	**P**	**02 18 38.6**	**+0.1**
ZALV	**Zalesovo Beam**	**81.39**	**326**	P	**P**	**02 18 42.1**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=120,slow=6.6,SNR=2.6						
ILAR	**Eielson Array**	**81.82**	**22**	P	**P**	**02 18 43.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.2,SNR=4.6						
QSPA	**South Pole Qui**	**85.28**	**180**	P	**P**	**02 19 02.1**	**-0.2**
QSPA				IAmb	IAmb	02 19 03.3	
	comp=Z,8.5nm,0.8s						
MAW	**Mawson**	**85.92**	**203**	P	**P**	**02 19 04.9**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=104,slow=3.8,SNR=2.6						
GERES	**GERESS Array B**	**124.27**	**329**	PKP	**PKPdf**	**02 25 24.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=343,slow=3.1,SNR=2.9						
MDT	**Midelt**	**145.29**	**326**	PKPbc	**PKPbc**	**02 26 04.3**	**+0.6**
	comp=Z,2.3nm,1.0s,baz=0.0,slow=1.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.85**	**289**	PKPbc	**PKPbc**	**02 26 18.7**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=83,slow=2.0,SNR=27						

*IDC **14** 02:10:03.6±0.7, 9°.60S×154°.34E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.3/29, mbtmp4.3/14, ML4.1/1, MS4.0/20, Ms1 4.0/20, ms1mx3.9/29, Error ellipse: s-maj=23.7km s-min=17.1km az=90.0*
*GCMT **14** 02:10:07.4±0.3, 9°.70S±0°.02×154°.40E±0°.01, h24km±1km, MW4.9/99, Moment Tensor Solution. s23,c25; s99,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.74±.17; $M_{\theta\theta}$1.15±.15; $M_{\phi\phi}$-0.41±.13; $M_{r\theta}$-0.51±.17; $M_{\phi\phi}$2.97±.11; $M_{\phi r}$-0.09±.17; Best double couple: $M_0$3.11100×10^{16} NP1:ϕ_s187.00000°, δ81.00000°, λ-180.00000°. NP2: ϕ_s97.00000°, δ90.00000°, λ-9.00000°. Principal axes: T 3.4900, Plg6.0000°, Azm143.0000°; N -0.7620, Plg81.0000°, Azm274.0000°; P -2.7310, Plg7.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 02:10:08.4±1.5, 9°.52S±0°.08×154°.33E±0°.06, h25km±5km, mb4.8/28 Error ellipse: s-maj=13.4km s-min=5.3km az=149.0*
ISC 14 02:10:09.4±0.4, 9°.58S±0°.07×154°.33E±0°.09, h35km, n85, σ1§56/74, mb4.8/29, MS4.0/21, 2C, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.07**	**271**	Pn	**Pn**	**02 11 52.6**	**+2.1**
	2.5nm,0.3s,baz=63,slow=14,SNR=1.8						
PMG	**Port Moresby**	**7.07**	**271**	Pn	**Pn**	**02 11 50.5**	**0.0**
MANU	**Manus Island**	**10.20**	**317**		**Pn**	**02 12 32.7**	**-0.7**
CTA	**Charters Tower**	**13.03**	**216**	Pn	**P**	**02 13 20.2**	**-1.9**
	0.4nm,0.3s,baz=43,slow=12,SNR=4.3						
CTA				LR	LR	02 17 37.0	
	comp=Z,860nm,21.0s,baz=31,slow=35						
EIDS	**Eidsvold**	**16.00**	**191**	Pn	**Pn**	**02 13 52.3**	**+0.4**
DZM	**Mont Dzumac**	**17.02**	**138**	Pn	**Pn**	**02 14 04.2**	**-0.7**
	0.6nm,0.3s,baz=333,slow=7.7,SNR=7.5						
DZM				LR	LR	02 19 43.2	
	comp=Z,2μm,20.6s,baz=266,slow=34						
DZM	**Mont Dzumac**	**17.02**	**138**	*e*P	**P**	**02 14 06.4**	**0.0**
	206nm,1.4s						
DZM				*e*LR	LR	02 18 02.7	
	comp=Z,3μm,24.5s						
DZM	**Mont Dzumac**	**17.02**	**138**		**Pn**	**02 14 05.4**	**+0.5**
DZM				IAmb	IAmb	02 14 11.1	
	comp=Z,118nm,1.3s						
ONTNC	**Ouen Toro**	**17.19**	**139**	P	**P**	**02 14 07.8**	**-0.4**
ONTNC				IAmb	IAmb	02 14 11.8	
	comp=Z,66nm,1.0s						
OUENC	**Ouen Island, N**	**17.52**	**138**	P	**Pn**	**02 14 11.1**	**0.0**
OUENC				IAmb	IAmb	02 14 23.1	
	comp=Z,134nm,1.5s						
WR0	**Warramunga Arr**	**21.71**	**239**	P	**P**	**02 14 57.8**	**+0.1**
WB0	**Warramunga Arr**	**21.76**	**240**	P	**P**	**02 14 57.4**	**-0.7**
WB0				IAmb	IAmb	02 15 10.9	
	comp=Z,43nm,1.4s						
WB2	**Warramunga Arr**	**21.87**	**240**	P	**P**	**02 14 59.0**	**-0.3**
WRA	**Warramunga Arr**	**21.88**	**240**	P	**P**	**02 14 58.2**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=64,slow=10,SNR=8.5						
WRA				LR	LR	02 23 10.8	
	comp=Z,591nm,19.7s,baz=60,slow=36						
WRA	**Warramunga Arr**	**21.88**	**240**	P	**P**	**02 14 58.5**	**-1.0**
AS31	**Alice Springs**	**24.02**	**232**	P	**P**	**02 15 21.4**	**+0.2**
ASAR	**Alice Springs**	**24.02**	**232**	P	**P**	**02 15 20.2**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=66,slow=8.7,SNR=20						
ASAR				LR	LR	02 24 27.4	
	comp=Z,487nm,19.7s,baz=55,slow=36						
ASAR	**Alice Springs**	**24.02**	**232**	P	**P**	**02 15 19.4**	**-1.8**
MSVF	**Nonsavu**	**24.41**	**112**	LR	LR	02 23 41.2	
	comp=Z,250nm,18.3s,baz=222,slow=34						
SIJI	**Sorong**	**24.52**	**289**	LR	LR	02 27 22.3	
	comp=Z,447nm,18.3s,baz=86,slow=42						
GUMO	**Guam**	**24.86**	**338**	LR	LR	02 23 16.4	
	comp=Z,227nm,21.0s,baz=142,slow=32						
STKA	**Stephens Creek**	**25.13**	**206**	P	**P**	**02 15 31.3**	**+0.1**
	comp=Z,25nm,0.8s,baz=26,slow=14,SNR=11						
STKA				LR	LR	02 25 37.7	
	comp=Z,490nm,18.8s,baz=24,slow=37						
STKA	**Stephens Creek**	**25.13**	**206**	P	**P**	**02 15 33.3**	**+2.0**
KAPI	**Kappang**	**34.58**	**275**	LR	LR	02 32 24.5	
	comp=Z,165nm,21.4s,baz=90,slow=39						
URZ	**Urewera**	**35.14**	**148**	P	**P**	**02 16 59.0**	**-0.7**
	comp=Z,11nm,0.9s,baz=348,slow=7.0,SNR=2.9						
URZ	**Urewera**	**35.14**	**148**	P	**P**	**02 17 00.4**	**+0.7**
BKZ	**Black Stump Fm**	**35.51**	**150**	P	**P**	**02 17 03.4**	**+0.4**
BKZ				IAmb	IAmb	02 17 11.8	
	comp=Z,21nm,1.2s						
LTZ	**Lake Taylor**	**36.62**	**158**	P	**P**	**02 17 13.3**	**+0.9**
PLWZ	**Palliser**	**36.82**	**153**	P	**P**	**02 17 13.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**41.32**	**230**	LR	LR	02 34 47.6	
	comp=Z,332nm,19.9s,baz=55,slow=36						
JNU	**Nakatsue**	**47.98**	**333**	P	**P**	**02 18 45.5**	**+0.5**
	comp=Z,10nm,0.8s,baz=159,slow=7.4,SNR=5.3						
JNU	**Nakatsue**	**47.98**	**333**	P	**P**	**02 18 43.3**	**-1.7**
MJAR	**Matsushiro Arr**	**48.32**	**343**	LR	LR	02 37 05.0	
	comp=Z,67nm,21.6s,baz=195,slow=34						
KSRS	**Korea Array**	**52.93**	**334**	P	**P**	**02 19 21.9**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=148,slow=7.9,SNR=9.8						
KSRS				LR	LR	02 40 43.1	
	comp=Z,62nm,19.7s,baz=159,slow=35						
NJ2	**Nanjing**	**53.51**	**322**	*e*P	**P**	**02 19 27.9**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
PPT2	**Papeete2**	**54.94**	**105**	*e*LQ	LQ	02 33 12.6	
	comp=Z,459nm,32.2s						
PPT2				*e*LR	LR	02 35 31.4	
	comp=Z,82nm,25.5s						
TBI	**Tubuai**	**55.30**	**112**	*e*LQ	LQ	02 33 27.6	
	comp=Z,239nm,28.2s						
TBI				*e*LR	LR	02 35 45.8	
	comp=Z,208nm,31.0s						
WHN	**Wuhan**	**55.36**	**318**	⇑P	**P**	**02 19 36.8**	**-3.3**
KMI	**Kunming**	**60.95**	**306**	⇑P	**P**	**02 20 19.6**	**0.0**
KMI				pP	pP	02 20 28.5	-0.7
KMI				pmax	pmax		
	comp=Z,11nm,0.6s						
XAN	**Xi'an**	**61.13**	**318**	P	**P**	**02 20 23.0**	**+2.5**
XAN				pP	pP	02 20 30.6	+0.4
CMAR	**Chiang Mai Arr**	**61.33**	**297**	P	**P**	**02 20 21.7**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=124,slow=5.5,SNR=9.1						
CMAR	**Chiang Mai Arr**	**61.33**	**297**	P	**P**	**02 20 21.9**	**-0.1**
CHTO	**Chiang Mai**	**61.47**	**297**	P	**P**	**02 20 22.4**	**-0.5**
CHTO				IAmb	IAmb	02 20 36.5	
	comp=Z,7.1nm,0.9s						
PEA0B	**Petropavlovsk-**	**62.51**	**2**	P	**P**	**02 20 29.8**	**+0.5**
PETK	**Petropavlovsk-**	**62.51**	**2**	P	**P**	**02 20 29.6**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=164,slow=6.6,SNR=8.9						
PETK				LR	LR	02 42 24.9	
	comp=Z,81nm,21.6s,baz=179,slow=31						
PETK	**Petropavlovsk-**	**62.51**	**2**	P	**P**	**02 20 29.5**	**+0.2**
CD2	**Chengdu**	**63.01**	**312**	P	**P**	**02 20 34.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**63.80**	**325**	*e*P	**P**	**02 20 40.6**	**+2.3**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.5s						
TAOE	**Nuku Hiva Isla**	**64.59**	**95**	*e*LR	LR	02 40 04.7	
	comp=Z,80nm,28.6s						
VNDA	**Vanda**	**68.03**	**178**	LR	LR	02 46 49.2	
	comp=Z,81nm,18.0s,baz=344,slow=32						
SHL	**Shillong**	**70.06**	**302**	P	**P**	**02 21 17.5**	**-0.9**
GTA	**Gaotai**	**70.19**	**318**	*e*P	**P**	**02 21 19.4**	**+0.5**
GTA				pP	pP	02 21 26.8	-1.8
GTA				sP	sP	02 21 31.0	-1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**70.83**	**328**	P	**P**	**02 21 22.9**	**+0.2**
ULN				IAmb	IAmb	02 21 40.7	
	comp=Z,10nm,1.2s						
SONM	**Songino Array**	**71.16**	**328**	P	**P**	**02 21 25.2**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=136,slow=6.3,SNR=13						
SONM				LR	LR	02 51 54.9	
	comp=Z,95nm,19.8s,baz=80,slow=35						
SONM	**Songino Array**	**71.16**	**328**	P	**P**	**02 21 24.9**	**+0.2**
SONM				IAmb	IAmb	02 21 37.7	
	comp=Z,5.9nm,1.0s						
WMQ	**Urumqi**	**80.27**	**318**	*e*P	**P**	**02 22 18.4**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,35nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.7s						
SVW2	**Sparrevohn**	**80.63**	**22**	P	**P**	**02 22 18.3**	**0.0**
SVW2				IAmb	IAmb	02 22 31.7	
	comp=Z,20nm,1.5s						
CNPM	**China Poot**	**81.37**	**25**	P	**P**	**02 22 22.3**	**0.0**
CNPM				IAmb	IAmb	02 22 32.3	
	comp=Z,18nm,1.0s						
MAW	**Mawson**	**81.77**	**203**	LR	LR	02 55 05.7	
	comp=Z,121nm,19.9s,baz=143,slow=33						
KTH	**Kantishna Hill**	**83.86**	**22**	P	**P**	**02 22 33.7**	**-1.5**
KTH				IAmb	IAmb	02 22 43.9	
	comp=Z,8.8nm,1.1s						
IMAR	**Indian Mountai**	**84.37**	**19**	P	**P**	**02 22 38.0**	**+0.4**
MK31	**Makanchi Array**	**84.90**	**319**	P	**P**	**02 22 40.1**	**-0.8**
MKAR	**Makanchi Array**	**84.90**	**319**	P	**P**	**02 22 40.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=102,slow=6.7,SNR=13						
MKAR				LR	LR	02 59 17.1	
	comp=Z,55nm,19.9s,baz=52,slow=35						
MKAR	**Makanchi Array**	**84.90**	**319**	P	**P**	**02 22 39.9**	**-0.9**
MAKZ	**Makanchi**	**85.11**	**319**	P	**P**	**02 22 41.4**	**-0.5**
MAKZ				IAmb	IAmb	02 22 41.9	
	comp=Z,5.4nm,1.1s						
ZALV	**Zalesovo Beam**	**85.94**	**326**	P	**P**	**02 22 44.4**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=128,slow=5.0,SNR=4.0						
ZALV				LR	LR	03 00 18.8	
	comp=Z,86nm,21.4s,baz=83,slow=35						
ILAR	**Eielson Array**	**86.01**	**22**	P	**P**	**02 22 44.9**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=241,slow=4.8,SNR=2.6						
ILAR				LR	LR	03 00 12.7	
	comp=Z,56nm,18.3s,baz=256,slow=35						
ILAR	**Eielson Array**	**86.01**	**22**	P	**P**	**02 22 45.8**	**-0.1**
BCAR	**Beaver Creek A**	**87.11**	**24**	P	**P**	**02 22 51.2**	**-0.2**
K27K	**Chicken**	**87.44**	**23**	P	**P**	**02 22 52.4**	**-0.5**
K27K				IAmb	IAmb	02 23 07.5	
	comp=Z,12nm,1.2s						
EGAK	**Eagle**	**88.14**	**23**	P	**P**	**02 22 57.1**	**+0.9**
BMAR	**Burnt Mountain**	**88.19**	**20**	P	**P**	**02 22 57.0**	**+0.5**
DAWY	**Dawson**	**88.51**	**24**	P	**P**	**02 23 00.1**	**+2.0**
KKAR	**Karatay Array**	**91.99**	**313**	P	**P**	**02 23 13.8**	**-1.0**
BEKR	**Beckworth**	**92.50**	**50**	P	**P**	**02 23 15.7**	**-1.6**
BEKR				IAmb	IAmb	02 23 31.1	
	comp=Z,10.0nm,1.5s						
NVAR	**Mina Array Bea**	**93.83**	**52**	P	**P**	**02 23 24.0**	**+0.4**
	comp=Z,0.1nm,0.2s,baz=273,slow=3.3,SNR=4.2						
NVAR				LR	LR	02 58 33.1	
	comp=Z,44nm,20.9s,baz=271,slow=31						
NOA	**NORSAR Array B**	**121.89**	**340**	PKP	**PKiKP**	**02 29 00.5**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=43,slow=1.8,SNR=2.0						
CKRC	**Cesky Krumlov**	**128.58**	**327**	*e*PKP	**PKiKP**	**02 29 20.6**	**+7.1**
KHC	**Kasperske Hory**	**128.78**	**328**	*e*PKP	**PKiKP**	**02 29 20.4**	**+6.4**
GERES	**GERESS Array B**	**128.88**	**327**	PKP	**PKPdf**	**02 29 12.2**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=340,slow=1.5,SNR=1.8						
SIV	**San Ignacio**	**136.71**	**126**	PKP	**PKPdf**	**02 29 27.9**	**-1.3**
	comp=Z,1.5nm,1.2s,baz=243,slow=3.1,SNR=2.9						
ESDC	**Sonseca Array**	**144.32**	**331**	PKP	**PKPab**	**02 29 39.8**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=58,slow=2.8,SNR=2.2						
BDFB	**Brasilia**	**146.57**	**138**	PKPbc	**PKPdf**	**02 29 46.6**	**-0.3**
	comp=Z,8.7nm,1.1s,baz=225,slow=2.9,SNR=5.0						
BDFB	**Brasilia**	**146.57**	**138**	PKPdf	**PKPdf**	**02 29 45.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**152.94**	**280**	PKPbc

KLV				S	Sg	02 22 20.5	-0.3
KLV				AML	AML	02 22 27.5	
	comp=E,676μm,0.9s						
KLV				AML	AML	02 22 32.5	
	comp=N,478μm,0.7s						
RLS	**Riolos of Patr**	**1.72**	**351**	P	**Pg**	**02 21 59.6**	**+0.7**
RLS				S	**Sg**	**02 22 23.0**	**+1.9**
RLS	**Riolos of Patr**	**1.72**	**351**	P	**Pg**	**02 21 59.4**	**+0.5**
VLMS	**Volimes, Zakyn**	**1.77**	**329**	P	**Pg**	**02 21 59.6**	**-0.2**
THAL	**Thalero**	**1.81**	**22**	P	**Pb**	**02 21 59.9**	**+0.8**
THAL	**Thalero**	**1.81**	**22**	P	**Pb**	**02 21 59.5**	**+0.4**
LOUT	**Loutraki**	**1.88**	**30**	P	**Pb**	**02 22 00.8**	**+0.6**
LAKA	**Lakka**	**1.88**	**4**	P	**Pg**	**02 22 02.1**	**+0.1**
LAKA	**Lakka**	**1.88**	**4**	P	**Pg**	**02 22 01.9**	**-0.1**
KNDR	**Palaiochora Ch**	**1.90**	**126**	P	**Pb**	**02 21 59.8**	**-0.7**
LTK	**Loutraki**	**1.90**	**29**	P	**Pg**	**02 22 01.9**	**-0.5**
LTK	**Loutraki**	**1.90**	**29**	P	**Pb**	**02 22 01.1**	**+0.4**
ALIK	**Aliki, Aigiali**	**1.91**	**7**	P	**Pg**	**02 22 02.4**	**-0.2**
ALIK				S	**Sg**	**02 22 26.9**	**-0.6**
IMMV	**Iera Moni Meta**	**1.98**	**116**	P	**Pb**	**02 22 01.2**	**-0.8**
IMMV				S	**Sn**	**02 22 25.6**	**+1.4**
	comp=N,328nm,0.6s						
IMMV	**Iera Moni Meta**	**1.98**	**116**	P	**Pb**	**02 22 01.1**	**-0.9**
PSDA	**Pessada-Kefalo**	**2.00**	**331**	P	**Pg**	**02 22 03.7**	**-0.6**
TRIZ	**Trizonia**	**2.01**	**6**	P	**Pg**	**02 22 03.9**	**-0.7**
TRIZ	**Trizonia**	**2.01**	**6**	P	**Pg**	**02 22 03.7**	**-0.9**
SERG	**Sergoula**	**2.06**	**6**	P	**Pg**	**02 22 04.6**	**-0.8**
SERG				S	**Sg**	**02 22 31.6**	**-0.6**
	comp=N,290nm,0.8s						
EFP	**Efpalio**	**2.07**	**2**	P	**Pg**	**02 22 05.0**	**-0.5**
EFP				S	**Sg**	**02 22 31.3**	**-1.0**
	comp=N,225nm,0.6s						
EFP	**Efpalio**	**2.07**	**2**	P	**Pg**	**02 22 05.2**	**-0.3**
MHLO	**Agia Marina, M**	**2.12**	**80**	P	**Pn**	**02 22 02.9**	**+1.6**
VAM	**Vamos**	**2.17**	**115**	P	**Pb**	**02 22 04.2**	**-0.9**
VAM	**Vamos**	**2.17**	**115**	P	**Pn**	**02 22 03.5**	**+1.6**
KEF3	**Kipouria, Keph**	**2.17**	**328**	P	**Pg**	**02 22 06.5**	**-1.1**
VLY	**Voula,Athens**	**2.18**	**46**	P	**Pn**	**02 22 03.8**	**+1.7**
VLY	**Voula,Athens**	**2.18**	**46**	P	**Pn**	**02 22 03.6**	**+1.5**
VIL2	**Platees**	**2.19**	**32**	P	**Pb**	**02 22 05.0**	**-0.5**
KEF5	**Kardakata, Kep**	**2.19**	**331**	P	**Pb**	**02 22 06.3**	**+0.8**
DMLN	**Damoulianata-K**	**2.19**	**329**	P	**Pb**	**02 22 05.8**	**+0.2**
ANX	**Ano Chora**	**2.23**	**2**	P	**Pb**	**02 22 07.4**	**+1.1**
ANX	**Ano Chora**	**2.23**	**2**	P	**Pg**	**02 22 07.8**	**-0.9**
ATHU	**Athens Univers**	**2.25**	**44**	P	**Pn**	**02 22 05.0**	**+1.9**
ATHU	**Athens Univers**	**2.25**	**44**	P	**Pn**	**02 22 04.7**	**+1.6**
FSK	**Fiskardo**	**2.32**	**335**	P	**Pb**	**02 22 08.5**	**+0.8**
PTL	**Penteli**	**2.36**	**44**	P	**Pn**	**02 22 06.2**	**+1.6**
GVD	**Gavdhos**	**2.40**	**128**	P	**Pb**	**02 22 07.5**	**-1.6**
DION	**Dionisos Attik**	**2.42**	**44**	P	**Pn**	**02 22 07.2**	**+1.8**
LKR	**Lokris**	**2.48**	**22**	P	**Pn**	**02 22 08.4**	**+2.2**
NYDR	**Nydri-Lefkada**	**2.51**	**340**	P	**Pb**	**02 22 11.3**	**+0.4**
EVR	**Evrytania**	**2.55**	**0**	P	**Pb**	**02 22 11.8**	**0.0**
EVR	**Evrytania**	**2.55**	**0**	P	**Pb**	**02 22 12.3**	**+0.5**
LKD2	**Lefkada island**	**2.59**	**340**	P	**Pb**	**02 22 12.0**	**-0.4**
AGG	**Agios Georgios**	**2.69**	**9**	P	**Pb**	**02 22 12.9**	**-1.2**
IDI	**Anoyia**	**2.73**	**112**	Pn	**Pn**	**02 22 11.9**	**+2.2**
	comp=N,1.2nm,0.3s,baz=303,slow=17,SNR=18						
IDI	**Anoyia**	**2.73**	**112**	P	**Pn**	**02 22 11.8**	**+2.1**
NEO	**Neokhori**	**3.15**	**21**	P	**Pb**	**02 22 19.6**	**-2.3**
XOR	**Xorichti**	**3.20**	**20**	P	**Pb**	**02 22 20.0**	**-2.7**
JAN	**Janina**	**3.38**	**347**	P	**Pb**	**02 22 22.3**	**-3.5**
VAE	**Valguarnera**	**6.03**	**283**	Pn	**Pn**	**02 22 58.9**	**+3.9**
	comp=N,0.1nm,0.3s,baz=88,slow=18,SNR=2.5						
VAE				Sn	**Sn**	**02 24 07.0**	**+3.0**
	comp=N,0.7nm,0.3s,baz=90,slow=20,SNR=1.4						
DRME	**Dracevica, Mon**	**6.16**	**342**	*e*Pn	**Pn**	**02 22 58.0**	**+1.2**
PDG	**Podgorica**	**6.38**	**343**	*e*Pn	**Pn**	**02 23 00.8**	**+1.1**
HCY	**Herceg Novi**	**6.60**	**338**	*e*Pn	**Pn**	**02 23 02.3**	**-0.5**
TREB	**Trebinje**	**6.89**	**338**	*e*Pn	**Pn**	**02 23 05.7**	**-1.1**
BRY	**Bratogost**	**7.00**	**340**	*e*Pn	**Pn**	**02 23 07.0**	**-1.5**
STON	**Ston**	**7.23**	**335**	*e*Pn	**Pn**	**02 23 11.4**	**-0.1**
STON	**Ston**	**7.23**	**335**	Sn	**Sn**	**02 24 29.1**	**-4.5**
STON	**Ston**	**7.23**	**335**	*e*Pn	**Pn**	**02 23 11.2**	**-0.3**
BBLS	**Lazići**	**7.72**	**347**	*e*Pn	**Pn**	**02 23 19.2**	**+1.0**
DIVS	**Divibare**	**7.85**	**350**	*e*Pn	**Pn**	**02 23 19.9**	**-0.2**
HVAR	**Hvar**	**7.96**	**330**	*e*Pn	**Pn**	**02 23 22.2**	**+0.7**
RICI	**Ricice**	**7.98**	**335**	*e*Pn	**Pn**	**02 23 21.7**	**0.0**
RICI				Sn	**Sn**	**02 24 46.4**	**-5.5**
ZIRJ	**Zirje**	**8.68**	**329**	*e*Pn	**Pn**	**02 23 31.5**	**+0.1**
ZIRJ				Sn	**Sn**	**02 25 03.0**	**-6.2**
MORI	**Morici**	**8.83**	**330**	*e*Pn	**Pn**	**02 23 34.4**	**+1.0**
MORI				Sn	**Sn**	**02 25 07.0**	**-5.8**
BLY	**Banja Luka**	**9.09**	**339**	*e*Pn	**Pn**	**02 23 37.6**	**+0.7**
DUGI	**Dugi Otok**	**9.20**	**328**	*e*Pn	**Pn**	**02 23 38.2**	**-0.3**
DUGI				Sn	**Sn**	**02 25 16.1**	**-5.9**
UDBI	**Udbina**	**9.36**	**332**	Sn	**Sn**	**02 25 21.2**	**-4.8**
BOJS	**Bojanci**	**10.39**	**334**	*e*Pn	**Pn**	**02 23 55.6**	**+0.9**
CRES	**Cresnjev**	**10.60**	**335**	*e*Pn	**Pn**	**02 23 57.0**	**-0.6**
CEY	**Cerknica**	**10.89**	**332**	*e*Pn	**Pn**	**02 23 58.9**	**-2.8**
HFS	**Hagfors**	**24.36**	**350**	P	**P**	**02 26 43.7**	**0.0**
	comp=N,1.0nm,0.6s,baz=178,slow=11,SNR=7.8						
HFS				LR	LR	02 38 05.4	
	comp=N,48nm,18.4s,baz=346,slow=41						
FINES	**FINESS Array B**	**25.25**	**5**	P	**P**	**02 26 51.7**	**+0.1**
	comp=N,0.8nm,0.6s,baz=167,slow=9.2,SNR=8.1						
EKA	**Eskdalemuir Ar**	**25.50**	**326**	P	**P**	**02 26 55.5**	**+1.5**
	comp=N,0.6nm,0.6s,baz=128,slow=8.5,SNR=4.4						
NB2	**NORSAR Subarra**	**25.60**	**348**	P	**P**	**02 26 55.4**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=160,slow=10						
NOA	**NORSAR Array B**	**25.60**	**348**	P	**P**	**02 26 55.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=160,slow=9.6,SNR=3.7						
ARCES	**ARCESS Array B**	**33.30**	**2**	P	**P**	**02 28 03.2**	**0.0**
	comp=Z,1.6nm,0.7s,baz=169,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**45.41**	**57**	P	**P**	**02 29 43.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=274,slow=7.1,SNR=3.1						
ZALV	**Zalesovo Beam**	**46.16**	**47**	P	**P**	**02 29 52.4**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=259,slow=8.5,SNR=2.0						
ULM	**Lac du Bonnet**	**77.77**	**324**	LR	LR	03 08 26.7	
	comp=Z,56nm,20.6s,baz=272,slow=36						

ROM 14 02:22:07.7±0.1, 43°.371N±0°.005×12°.566E±0°.007, h2km±1km, ML0.6/4, 1C, Error ellipse: s-maj=0.6km s-min=0.2km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.01**	**138**	P	Pg	02 22 08.0	-0.2
ATFO				S	Sg	02 22 08.4	-0.2
ATVO	**AVT- Monte Val**	**0.12**	**275**	P	Pg	02 22 10.2	+0.2
ATVO				S	Sg	02 22 12.5	+0.9
ATVO				AML	AML		
	comp=N,50μm,0.5s						
ATVO				AML	AML		
	comp=E,51μm,0.6s						
PIEI	**Pieia**	**0.17**	**352**	P	Pg	02 22 11.3	+0.3
PIEI				S	Sg	02 22 14.8	+1.6
PIEI				AML	AML		
	comp=E,35μm,1.1s						
PIEI				AML	AML		
	comp=N,22μm,1.5s						
PIEI				AML	AML		
	comp=N,22μm,1.5s						
ATCC	**AVT- Casa Cast**	**0.19**	**164**	P	Pg	02 22 12.0	+0.6
ATCC				S	Sg	02 22 15.7	+1.7
APEC	**Apecchio**	**0.21**	**330**	P	Pg	02 22 12.2	+0.3
APEC				S	Sg	02 22 16.4	+1.7
APEC				AML	AML		
	comp=E,22μm,0.7s						
APEC				AML	AML		
	comp=N,20μm,1.2s						
APEC				AML	AML		
	comp=N,20μm,1.2s						
BADI	**Badiali**	**0.27**	**301**	⇑P	Pg	02 22 13.4	+0.4
BADI				S	Sg	02 22 18.3	+1.8
BADI				AML	AML		
	comp=N,89μm,0.2s						
BADI				AML	AML		
	comp=E,124μm,0.2s						
BADI				AML	AML		
	comp=N,89μm,0.2s						
BADI				AML	AML		
	comp=E,124μm,0.2s						
ARVD	**Arcevia**	**0.30**	**65**	P	Pg	02 22 14.5	+1.0
ARVD				S	Sg	02 22 19.2	+1.7

*IDC **14** 02:24:17.0±1.6, 8°.79S×114°.20E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/32, mbtmp3.8/7, MS3.7/5, Ms1 3.7/5, ms1mx3.2/36, Error ellipse: s-maj=102.0km s-min=18.5km az=50.0*

*DJA **14** 02:24:20.8±0.5, 9°.5±7°×11°.4E±°, h10km, M4.1/11, mb4.2/2, MLv4.1/11*
*NEIC **14** 02:24:22.4±1.5, 9°.01S±0°.06×114°.03E±0°.08, h44km±12km, mb4.1/8, Error ellipse: s-maj=12.7km s-min=8.0km az=113.0*

ISC 14 02:24:18.5±0.6, 9°.18S±0°.06×113°.97E±0°.06, h10km, n39, σ1§49/31, mb4.0/10, MS3.8/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.73**	**14**		**Pg**	**02 24 33.6**	**+1.0**
JAGI					**Sg**	**02 24 42.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**0.73**	**14**	P	**Pg**	**02 24 33.6**	**+1.0**
DNP	**Denpasar**	**1.32**	**68**	P	**Pn**	**02 24 43.4**	**+0.3**
SRBI	**Singaraja**	**1.64**	**48**	P	**Pn**	**02 24 48.9**	**+1.5**
PWJI	**Pagerwojo**	**2.43**	**298**	P	**Pn**	**02 24 59.6**	**+1.2**
TWSI	**Taliwang, Sumb**	**2.91**	**82**	P	**Pn**	**02 25 06.5**	**+1.6**
PCJI	**Pacitan**	**2.93**	**289**	P	**Pn**	**02 25 08.2**	**+3.0**
UGM	**Wanagama**	**3.64**	**290**	Pn	**Pn**	**02 25 17.0**	**+2.0**
UGM				Sn	**Sn**	**02 25 59.6**	**+1.6**
UGM	**Wanagama**	**3.64**	**290**	P	**Pn**	**02 25 17.9**	**+2.9**
PLAI	**Plampang**	**3.77**	**85**	P	**Pn**	**02 25 19.1**	**+2.3**
WBSI	**Waikabubak, Su**	**5.37**	**95**	P	**Pn**	**02 25 39.7**	**+0.9**
	0.2nm49nm,1.0s						
EDFI	**Ende, Flores**	**7.64**	**87**	P	**Pn**	**02 26 10.3**	**+0.3**
BATI	**Baumata**	**9.61**	**97**	LR	LR	02 30 47.8	
	comp=Z,647nm,18.8s,baz=104,slow=41						
PMBI	**Palembang**	**11.06**	**304**	Pn	**Pn**	**02 26 57.7**	**+0.9**
GIRL	**Giralia**	**13.39**	**179**	Pn	**Pn**	**02 27 28.8**	**0.0**
KNRA	**Kununurra**	**15.81**	**116**		**Pn**	**02 28 03.5**	**+2.0**
MTN	**Manton Dam**	**17.23**	**104**		**Pn**	**02 28 19.8**	**+0.3**
MTN				IAmb	IAmb	02 28 28.6	
	comp=Z,31nm,1.1s						
WB0	**Warramunga Arr**	**22.37**	**120**	P	**P**	**02 29 17.2**	**+0.1**
WB0				IAmb	IAmb	02 29 32.5	
	comp=Z,6.8nm,1.0s						
WRA	**Warramunga Arr**	**22.40**	**121**	P	**P**	**02 29 17.6**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=295,slow=12,SNR=5.4						
WB2	**Warramunga Arr**	**22.41**	**121**	P	**P**	**02 29 17.6**	**+0.1**
WB2				IAmb	IAmb	02 29 34.2	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**22.58**	**121**	P	**P**	**02 29 18.9**	**-0.4**
ASAR	**Alice Springs**	**23.89**	**129**	P	**P**	**02 29 33.3**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=302,slow=8.8,SNR=17						
CMAR	**Chiang Mai Arr**	**31.21**	**332**	P	**P**	**02 30 38.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=148,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**31.21**	**332**	P	**P**	**02 30 37.4**	**-1.0**
STKA	**Stephens Creek**	**34.15**	**135**	P	**P**	**02 31 05.2**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=317,slow=9.0,SNR=5.5						
STKA	**Stephens Creek**	**34.15**	**135**	P	**P**	**02 31 02.5**	**-1.5**
PALK	**Pallekele**	**36.96**	**295**	P	**P**	**02 31 26.8**	**-1.6**
H08S2	**Diego Garcia H**	**41.05**	**269**	T	T	03 15 48.1	
	baz=95,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**41.06**	**269**	T	T	03 15 48.9	
	baz=95,slow=76,SNR=9.8						
H08S1	**Diego Carcia H**	**41.06**	**269**	T	T	03 15 50.1	
	baz=95,slow=76,SNR=11						
SONM	**Songino Array**	**57.16**	**354**	P	P	02 34 02.1	-3.5
	comp=Z,0.3nm,0.5s,baz=191,slow=5.9,SNR=2.2						
MK31	**Makanchi Array**	**62.48**	**336**	P	**P**	**02 34 39.8**	**-2.3**
MK31				IAmb	IAmb	02 34 57.6	
	comp=Z,1.7nm,1.4s						
MKAR	**Makanchi Array**	**62.48**	**336**	P	**P**	**02 34 40.1**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=163,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**62.48**	**336**	P	P	02 34 39.5	-2.7
GEYT	**Alibeck**	**70.05**	**316**	LR	LR	03 08 45.0	
	comp=Z,58nm,21.7s,baz=225,slow=38						
GNI	**Garni**	**80.41**	**313**	LR	LR	03 17 06.7	
	comp=Z,33nm,19.1s,baz=82,slow=40						
KBZ	**Khabaz**	**82.94**	**316**	LR	LR	03 18 33.6	
	comp=Z,41nm,18.7s,baz=53,slow=39						
KVAR	**Kislovodsk Arr**	**83.15**	**316**	LR	LR	03 17 14.6	
	comp=Z,37nm,22.0s,baz=268,slow=38						
BRTR	**Keskin Array B**	**88.45**	**310**	P	**P**	**02 37 10.3**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=114,slow=3.5,SNR=2.4						

RSNC 14 02:30:36.8±0.7, 6°.82N×73°.12W, h144km±5km, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**195**	*e*S	Sn	02 31 12.0	0.0
BARC				*i*		02 31 12.5	
	comp=Z,11nm,0.1s						
BARC	**Barichara**	**0.23**	**195**	*e*P	Pn	02 30 56.2	-0.7
BARC				*e*S	Sn	02 31 11.1	-0.9
BARC				*i*		02 31 12.4	
	comp=Z,11nm,0.1s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	*e*P	Pn	02 30 59.1	+0.1
PAMC				*e*S	Sn	02 31 15.9	0.0
PAMC				*i*		02 31 18.3	
	comp=Z,10nm,0.4s						
PAMC	**Pamplona, Colo**	**0.66**	**39**	*e*P	Pn	02 30 59.2	+0.2
PAMC				*e*S	Sn	02 31 16.0	0.0
PAMC				*i*		02 31 18.3	
	comp=Z,10nm,0.4s						
RUSC	**La Rusia**	**0.92**	**178**	*e*P	Pn	02 31 00.2	-0.8
RUSC				*e*S	Sn	02 31 18.7	-0.7
RUSC				*i*		02 31 20.1	
	comp=Z,5.1nm,0.3s						
RUSC	**La Rusia**	**0.92**	**178**	*e*P	Pn	02 31 00.4	-0.6
RUSC				*e*S	Sn	02 31 18.4	-0.9
RUSC				*i*		02 31 20.1	
	comp=Z,5.1nm,0.3s						
OCAC	**Ocana**	**1.42**	**352**	*e*P	Pn	02 31 04.9	-0.5
OCAC				*e*S	Sn	02 31 26.2	-1.0
OCAC				*i*		02 31 30.4	
	comp=Z,18nm,0.3s						
OCAC	**Ocana**	**1.42**	**352**	*e*P	Pn	02 31 06.7	+1.3
OCAC				*e*S	Sn	02 31 27.9	+0.7
OCAC				*i*		02 31 30.4	
	comp=Z,18nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*S	Sn	02 31 34.8	-0.4
ZARC				*i*		02 31 39.7	
	comp=Z,9.3nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	Pn	02 31 10.0	+0.1
ZARC				*e*S	Sn	02 31 34.8	-0.4
ZARC				*i*		02 31 39.7	
	comp=Z,9.3nm,0.4s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	Pn	02 31 13.0	-0.4
NORC				*e*S	Sn	02 31 40.5	-0.9
NORC				*i*		02 31 42.2	
	comp=Z,6.2nm,0.2s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	Pn	02 31 12.5	-0.9
NORC				*e*S	Sn	02 31 40.1	-1.3
NORC				*i*		02 31 42.2	
	comp=Z,6.2nm,0.2s						
SMLC	**San Martn de**	**2.18**	**334**	*e*P	Pn	02 31 13.0	-0.8
SMLC				*e*S	Sn	02 31 41.6	-0.6
SMLC				*i*		02 31 44.8	
	comp=Z,7.6nm,0.2s						
HELC	**Santa Helena**	**2.47**	**256**	*e*P	Pn	02 31 16.9	-0.8
HELC	**Santa Helena**	**2.47**	**256**	*e*P	Pn	02 31 18.1	+0.4
HELC				*e*S	Sn	02 31 49.3	+0.2
HELC				*i*		02 31 54.4	
	comp=Z,3.4nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P	Pn	02 31 20.9	-0.2
GUY2C				*e*S	Sn	02 31 55.5	+0.3
GUY2C				*i*		02 32 02.5	
	comp=Z,2.6nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P	Pn	02 31 21.1	-0.1
GUY2C				*e*S	Sn	02 31 55.3	+0.1
GUY2C				*i*		02 32 02.4	
	comp=Z,2.6nm,0.5s						
PRAC	**Prado**	**3.55**	**210**	*e*P	Pn	02 31 30.6	-0.6
PRAC				*e*S	Sn	02 32 13.2	-0.1
PRAC				*i*		02 32 18.8	
	comp=Z,4.7nm,0.3s						
PRAC	**Prado**	**3.55**	**210**	*e*P	Pn	02 31 30.6	-0.5
PRAC				*e*S	Sn	02 32 13.4	+0.1
PRAC				*i*		02 32 18.7	
	comp=Z,4.7nm,0.3s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	Pn	02 31 30.9	-1.9
SJCC				*e*S	Sn	02 32 13.8	-2.3
SJCC				*i*		02 32 16.1	
	comp=Z,1.4nm,0.4s						

*UPA **14** 02:34:51.6±0.9, 9°.27N×78°.54W, h62km±4km, MW4.1*
ISC 14 02:34:51.2±1.3, 9°.31N±0°.06×78°.53W±0°.03, h65km±10km, n48, σ0§76/75, 17C-5D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNTA3	**Canitas, Panam**	**0.37**	**257**	⇑*i*P	Pn	02 35 02.3	+0.1
CNTA3				*e*S	Sn	02 35 10.4	+0.1
CHPO	**Chepo, Panama**	**0.59**	**257**	⇑*e*P	Pn	02 35 04.2	-0.3
CHPO				*e*S	Sn	02 35 14.0	-0.2
CHPO				*i* S	Sn	02 35 14.7	+0.5
MIRA3	**Miramar, Colon**	**0.83**	**289**	⇓*i*P	Pn	02 35 07.4	+0.1
MIRA3				*e*S	Sn	02 35 19.2	0.0
UPD2	**Meteti**	**0.91**	**146**	⇑*i*P	Pn	02 35 08.8	+0.6
UPD2				*e*S	Sn	02 35 20.6	-0.3
UPA	**Univ. de Panam**	**1.04**	**252**	⇑*e*P	Pn	02 35 09.8	-0.2
UPA				*i* S	Sn	02 35 23.2	-0.7
UPA				*e*S	Sn	02 35 23.5	-0.5
UPA	**Univ. de Panam**	**1.04**	**252**	*e*P	Pn	02 35 09.9	0.0
FLAM	**Flamenco Islan**	**1.07**	**249**	⇑*e*P	Pn	02 35 10.3	0.0
FLAM				*e*S	Sn	02 35 24.1	-0.4
MAD3	**Madden Dam**	**1.08**	**265**	⇑*i*P	Pn	02 35 11.3	+0.9
MAD3				*e*S	Sn	02 35 24.9	+0.2
CORZ	**Corozal**	**1.08**	**253**	*e*P	Pn	02 35 10.4	-0.1
MFS3	**Miraflores**	**1.09**	**254**	*e*P	Pn	02 35 10.6	0.0
MFS3				*e*S	Sn	02 35 24.2	-0.9
PML3	**Paraiso**	**1.11**	**255**	⇑*e*P	Pn	02 35 10.5	-0.3
TABO3	**Taboga, Panama**	**1.13**	**243**	⇑*e*P	Pn	02 35 10.7	-0.4
TABO3				*i* S	Sn	02 35 25.3	-0.6
ARRA3	**Arraijan, Pana**	**1.16**	**253**	*i* P	Pn	02 35 11.5	0.0
ARRA3				*e*S	Sn	02 35 26.4	-0.3
GAMB1	**Gamboa**	**1.18**	**261**	*e*P	Pn	02 35 11.3	-0.5
GAMB1				*e*S	Sn	02 35 26.8	-0.3
GAMB1				*i* S	Sn	02 35 27.5	+0.4
CHOR3	**La Chorrera**	**1.29**	**252**	⇑*e*P	Pn	02 35 13.2	+0.1
CHOR3				*e*S	Sn	02 35 29.4	-0.1
CHOR3				*i* S	Sn	02 35 29.4	-0.1
BCIP	**Isla Barro Col**	**1.30**	**264**	⇑*i*P	Pn	02 35 13.6	+0.2
BCIP				*e*S	Sn	02 35 30.0	+0.1
BCIP	**Isla Barro Col**	**1.30**	**264**	⇑*e*P	Pn	02 35 13.5	+0.2
BCIP				*e*S	Sn	02 35 29.9	+0.1
ZANG	**Zanguenga, Cho**	**1.37**	**255**	*e*P	Pn	02 35 13.9	-0.3
ZANG				*e*S	Sn	02 35 32.0	+0.5
VTON	**El Valle, Cocl**	**1.71**	**246**	⇑*i*P	Pn	02 35 18.7	-0.2
VTON				*e*S	Sn	02 35 39.4	-0.4
PNME	**Penonome**	**1.95**	**246**	⇑*e*P	Pn	02 35 22.5	+0.4
LCBC	**Los crdobas,**	**2.18**	**102**	*e*P	Pn	02 35 26.5	+1.4
PTAC	**Punta Ardita,**	**2.26**	**162**	*e*P	Pn	02 35 25.4	-0.8
PCRI3	**Pocri, Los San**	**2.27**	**224**	*e*P	Pn	02 35 27.1	+0.8
AZU	**Azuero**	**2.29**	**229**	⇓*i*P	Pn	02 35 26.5	-0.2
AZU				*e*S	Sn	02 35 52.6	-1.2
AZU	**Azuero**	**2.29**	**229**	*e*P	Pn	02 35 26.4	-0.2
AZU				*e*S	Sn	02 35 52.5	-1.2
CRIS3	**El Cristo, Coc**	**2.31**	**243**	*e*P	Pn	02 35 28.7	+1.8
CRIS3				*i* S	Sn	02 35 53.2	-1.2
CALO3	**Calobre, Verag**	**2.49**	**247**	⇑*e*P	Pn	02 35 29.7	+0.4
CALO3				*e*S	Sn	02 35 58.2	-0.4
MESA3	**La Mesa, Verag**	**2.87**	**247**	*e*P	Pn	02 35 34.5	0.0
MESA3				*i* S	Sn	02 36 07.8	-0.1
MOTC	**Monteria, Cord**	**2.88**	**100**	*e*P	Pn	02 35 34.7	0.0
MONA	**Monteria**	**2.88**	**100**	⇑*i*P	Pn	02 35 34.7	-0.1
MONA				*i* S	Sn	02 36 06.6	-1.7
CACAO	**El Cacao, Vera**	**3.02**	**230**	⇓*e*P	Pn	02 35 38.0	+1.4
GMAL	**Guarumal, Vera**	**3.08**	**240**	⇓*e*P	Pn	02 35 37.3	-0.2
DBBC	**Dabeiba**	**3.23**	**135**	*e*P	Pn	02 35 41.4	+1.9
UREC	**San Jos de Ur**	**3.34**	**117**	*e*P	Pn	02 35 40.9	-0.1
SJCC	**San Jacinto, C**	**3.35**	**80**	⇑*i*P	Pn	02 35 41.5	+0.3
SJCC				*e*S	Sn	02 36 19.9	0.0
SJCC	**San Jacinto, C**	**3.35**	**80**	*e*P	Pn	02 35 41.6	+0.3
CNI2	**El Empalme, Bo**	**3.89**	**272**	*e*P	Pn	02 35 49.9	+1.3
BCO2	**Palmira**	**3.99**	**262**	⇓*e*P	Pn	02 35 51.1	+1.0
ZARC	**Zaragoza, Cauc**	**4.05**	**116**	*e*P	Pn	02 35 50.4	-0.3
BRU2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.27**	**1**	P		**Pn**	**02 53 50.7**	**-1.5**
	125nm,0.3s,baz=220,slow=7.9,SNR=2.9						
DAV				S		**Sn**	**02 54 05.5**	**-3.3**
	176nm,0.3s,baz=271,slow=22,SNR=5.4						
KCP	**Kidapawan**	**1.30**	**339**	⇑*i*P		**Pn**	**02 53 51.7**	**-0.9**
KCP				*i* S		**Sn**	**02 54 10.1**	**+0.7**
SGSI	**Sangihe**	**2.09**	**181**	P		**Pn**	**02 54 05.3**	**+2.2**
SGSI				S		**Sn**	**02 54 30.8**	**+2.6**
BUKP	**Musuan**	**2.13**	**347**	⇓*i*P		**Pn**	**02 54 03.3**	**-0.3**
BUKP				*i* S		**Sn**	**02 54 29.2**	**0.0**
CGP	**Cagayan de Oro**	**2.78**	**342**	⇓*e*P		**Pn**	**02 54 12.6**	**+0.2**
CGP				*e*S		**Sn**	**02 54 46.6**	**+1.7**
PAGZ	**Pagadian**	**2.97**	**314**	⇓*e*P		**Pn**	**02 54 13.4**	**-1.5**
GTOI	**Gorontalo**	**5.71**	**206**	P		**Pn**	**02 54 53.5**	**+1.1**
	0.3nm1μm52nm,0.5s						
GTOI				S		**Sn**	**02 55 53.1**	**-3.6**
	0.3nm1μm52nm,0.5s						
MRSI	**Marisa**	**6.39**	**214**	P		**Pn**	**02 55 03.2**	**+1.5**
	0.8nm1μm39nm,0.6s						
APSI	**Ampana**	**7.71**	**210**	P		**Pn**	**02 55 19.6**	**-0.2**
	901nm27nm,0.5s						
SANI	**Sanana**	**7.80**	**177**	P		**Pn**	**02 55 18.1**	**-2.8**
	42nm,1.1s						
MPSI	**Mapaga**	**7.82**	**226**	P		**Pn**	**02 55 21.7**	**+0.4**
WRA	**Warramunga Arr**	**26.99**	**162**	P		**P**	**02 59 05.6**	**+0.3**
	0.4nm,0.3s,baz=338,slow=9.9,SNR=12						
JHJ	**Hachijo jima 2**	**30.25**	**24**	LR		LR	03 14 14.0
	comp=Z,108nm,18.3s,baz=38,slow=42						
ASAR	**Alice Springs**	**30.39**	**165**	P		**P**	**02 59 36.1**	**+0.6**
	0.3nm,0.5s,baz=339,slow=7.3,SNR=6.1						
KSRS	**Korea Array**	**31.59**	**4**	P		**P**	**02 59 45.6**	**-0.2**
	1.7nm,0.9s,baz=171,slow=8.9,SNR=5.1						
USRK	**Ussuriysk Ar.**	**38.67**	**7**	P		**P**	**03 00 46.4**	**-0.2**
	1.3nm,0.6s,baz=197,slow=7.5,SNR=2.8						
SONM	**Songino Array**	**44.99**	**342**	P		**P**	**03 01 39.8**	**+1.6**
	0.4nm,0.4s,baz=134,slow=8.2,SNR=2.5						
PETK	**Petropavlovsk-**	**53.99**	**23**	LR		LR	03 27 32.8
	comp=Z,20nm,19.0s,baz=261,slow=38						
MKAR	**Makanchi Array**	**55.21**	**325**	P		**P**	**03 02 55.0**	**-0.5**
	0.2nm,0.4s,baz=120,slow=9.4,SNR=4.3						
KURBB	**Kurchatov Arra**	**59.38**	**327**	P		**P**	**03 03 26.9**	**+2.1**
	0.2nm,0.2s,baz=116,slow=8.5,SNR=1.6						
ILAR	**Eielson Array**	**83.76**	**26**	P		**P**	**03 05 49.2**	**-1.8**
	0.2nm,0.3s,baz=256,slow=5.7,SNR=6.6						
TXAR	**Lajitas Array**	**121.24**	**51**	PKP		**PKPdf**	**03 12 14.3**	**-1.2**
	0.1nm,0.7s,baz=262,slow=4.5,SNR=1.7						

*IDC **14** 03:00:50.5±4.7, 37.°18N×78.°29E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.5/55, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=74.0km s-min=48.8km az=136.0*
*NNC **14** 03:01:02.4±3.4, 37.°91N×78.°14E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=28.5km s-min=21.8km az=57.0*
*SOME **14** 03:01:02.2, 37.°93N×78.°07E, h10km*

ISC 14 03:00:57.5±1.6, 37.°75N±0.°09×77.°99E±0.°08, h10km, n31, σ1°68/46, mb3.7/3, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**5.45**	**8**	*e*P		**Pg**	**03 02 41.0**	**-0.9**
	4.7nm,0.6s						
UZB				*e*S		**Sg**	**03 03 52.2**	**-0.1**
	15nm,0.9s						
MDOK	**Medeo**	**5.45**	**353**	*e*P		**Pg**	**03 02 41.0**	**-1.0**
	7.9nm,0.7s						
MDOK				*e*S		**Sg**	**03 03 52.0**	**-0.6**
	23nm,0.5s						
MDOK	**Medeo**	**5.45**	**353**	⇑Pg		**Pg**	**03 02 38.6**	**-3.4**
	6.9nm,0.5s						
MDOK				Lg		Lg	03 03 52.9
	21nm,0.6s						
MDOK	**Medeo**	**5.45**	**353**	Pg		**Pg**	**03 02 41.0**	**-1.0**
	7.9nm,0.7s						
MDOK				Lg		Lg	03 03 51.6
	23nm,0.5s						
TKM2	**Tokmak 2**	**5.48**	**341**	⇓Pg		**Pb**	**03 02 36.7**	**+3.3**
	2.3nm,0.5s						
TKM2				⇓Lg		Lg	03 03 54.5
	8.2nm,0.6s						
KST	**Kastek**	**5.51**	**344**	*e*P		**Pg**	**03 02 43.0**	**+0.1**
	6.2nm,0.6s						
KST				*e*S		**Sg**	**03 03 55.7**	**+1.4**
	9.1nm,0.7s						
SHLS	**Shalkode**	**5.51**	**11**	*e*P		**Pg**	**03 02 43.5**	**+0.4**
	14nm,0.6s						
SHLS				*e*S		**Sg**	**03 03 56.4**	**+1.9**
	29nm,0.7s						
KOTS	**Kotyrbulak**	**5.52**	**353**	*e*P		**Pg**	**03 02 43.3**	**+0.1**
	13nm,0.6s						
KOTS				*e*S		**Sg**	**03 03 56.2**	**+1.6**
	32nm,0.4s						
AAK	**Ala-Archa**	**5.57**	**332**	Pg		**Pg**	**03 02 43.7**	**-0.4**
	0.9nm,0.3s,baz=166,slow=18,SNR=6.9						
AAK				Lg		Lg	03 03 54.1
	1.0nm,0.3s,baz=137,slow=19,SNR=3.7						
AAK	**Ala-Archa**	**5.57**	**332**	⇑Pg		**Pg**	**03 02 42.6**	**-1.5**
	5.0nm,0.6s						
AAK				⇑Lg		Lg	03 03 52.5
	23nm,0.9s						
PDGK	**Podgornoye**	**5.69**	**11**	⇑Pg		**Pg**	**03 02 45.3**	**-1.1**
	4.0nm,0.5s						
PDGK				⇓Lg		Lg	03 03 56.7
	15nm,0.6s						
KPKS	**Kokpek**	**5.73**	**5**	*e*P		**Pg**	**03 02 46.5**	**-0.8**
	14nm,0.5s						
KPKS				*e*S		**Sg**	**03 04 01.8**	**+0.3**
	22nm,0.4s						
DGS	**Degeres**	**5.74**	**344**	*e*P		**Pg**	**03 02 46.4**	**-1.0**
	6.6nm,0.9s						
DGS				*e*S		**Sg**	**03 04 01.5**	**-0.2**
	8.2nm,0.6s						
DGS	**Degeres**	**5.74**	**344**	Pg		**Pg**	**03 02 46.4**	**-1.0**
	6.6nm,0.9s						
DGS				Lg		Lg	03 04 01.5
	8.2nm,0.6s						
KTMS	**Ketmen**	**5.96**	**17**	*e*P		**Pg**	**03 02 50.2**	**-1.5**
	5.6nm,0.4s						
KTMS				*e*S		**Sg**	**03 04 08.3**	**-0.6**
	9.6nm,0.4s						
KTBS	**Karatobe**	**6.04**	**351**	*e*P		**Pg**	**03 02 50.9**	**-2.1**
	4.6nm,0.7s						
KTBS				*e*S		**Sg**	**03 04 09.4**	**-1.8**
	13nm,0.5s						
CHKK	**Chushkaly**	**6.14**	**353**	*e*P		**Pg**	**03 02 52.9**	**-2.2**
	4.3nm,0.7s						
CHKK				*e*S		**Sg**	**03 04 12.8**	**-1.9**
	14nm,0.5s						
CHKK	**Chushkaly**	**6.14**	**353**	Pg		**Pg**	**03 02 52.9**	**-2.2**
	4.3nm,0.7s						
CHKK				Lg		Lg	03 04 12.8
	14nm,0.5s						
KRBS	**Karabastau**	**6.19**	**344**	*e*P		**Pg**	**03 02 56.3**	**+0.2**
	2.6nm,0.5s						
KRBS				*e*S		**Sg**	**03 04 18.8**	**+2.5**
	9.9nm,0.7s						
KUU	**Kurty**	**6.26**	**349**	*e*P		**Pg**	**03 02 55.0**	**-2.4**
	4.6nm,0.6s						
KUU				*e*S		**Sg**	**03 04 16.4**	**-2.1**
	11nm,0.7s						
KUU	**Kurty**	**6.26**	**349**	Pg		**Pg**	**03 02 54.9**	**-2.4**
	4.6nm,0.6s						
KUU				Lg		Lg	03 04 15.7
	11nm,0.7s						
ARXS	**Arharly**	**6.46**	**359**	*e*P		**Pg**	**03 02 58.4**	**-2.8**
	10nm,0.5s						
ARXS				*e*S		**Sg**	**03 04 22.3**	**-2.4**
	14nm,0.7s						
ARXS	**Arharly**	**6.46**	**359**	Pg		**Pg**	**03 02 58.4**	**-2.8**
	10nm,0.5s						
ARXS				Lg		Lg	03 04 22.3
	14nm,0.7s						
MK31	**Makanchi Array**	**9.58**	**18**	Pn		**Pn**	**03 03 17.0**	**+1.6**
	0.4nm,0.3s,baz=203,slow=13,SNR=17						
MK31				⇑Sn		**Sn**	**03 05 02.7**	**-0.4**
	1.6nm,0.6s,baz=203,slow=24,SNR=4.5						
MKAR	**Makanchi Array**	**9.58**	**18**	Pn		**Pn**	**03 03 17.3**	**+1.9**
	0.7nm,0.3s,baz=202,slow=12,SNR=31						
MKAR				Sn		**Sn**	**03 05 03.6**	**+0.5**
	0.4nm,0.3s,baz=194,slow=25,SNR=5.1						
BVAR	**Borovoye Array**	**16.16**	**343**	Pn		**Pn**	**03 04 42.8**	**-1.9**
	0.4nm,0.3s,baz=155,slow=18,SNR=2.7						
ZALV	**Zalesovo Beam**	**16.87**	**14**	Pn		**P**	**03 04 55.5**	**-0.1**
	baz=209,slow=12,SNR=1.4						
FINES	**FINESS Array B**	**39.68**	**324**	P		**P**	**03 08 29.2**	**-0.2**
	1.3nm,0.7s,baz=113,slow=8.8,SNR=7.2						
ARCES	**ARCESS Array B**	**42.23**	**335**	P		**P**	**03 08 50.1**	**-0.3**
	5.2nm,1.1s,baz=116,slow=8.1,SNR=2.7						
NB2	**NORSAR Subarra**	**46.79**	**322**	P		**P**	**03 09 25.6**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=89,slow=7.9						
NOA	**NORSAR Array B**	**46.79**	**322**	P		**P**	**03 09 25.4**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=90,slow=7.6,SNR=3.1						

*ISK **14** 03:03:49.2, 38.°15N×25.°77E, h5km, ML2.1/8*
*DDA **14** 03:03:52.0, 38.°08N×26.°08E, h7km±3km, ML2.0*

ATH 14 03:03:49.0, 38.°12N×25.°88E, h27km±6km, ML2.1/6, Error ellipse: s-maj=6.1km s-min=1.6km az=55.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.29**	**27**	P	Pb	03 03 56.1	-0.1
CHOS				S	Sb	03 04 00.4	-0.8
CHOS				AML	AML	03 04 02.8	
	comp=N,497μm,0.3s						
CHOS				AML	AML	03 04 03.5	
	comp=E,882μm,0.2s						
CHOS	**Chios island**	**0.29**	**27**	PG	Pb	03 03 56.2	0.0
CHOS				SG	Sb	03 04 00.9	-0.2
PSRA	**Psara**	**0.49**	**329**	P	Pb	03 03 59.3	+0.2
PSRA				AML	AML	03 04 07.7	
	comp=N,1092μm,0.2s						
PSRA				AML	AML	03 04 10.8	
	comp=E,1088μm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.50**	**77**	*i* P	Pb	03 03 59.6	+0.3
ZEYE				*i* S	Sb	03 04 04.7	-1.7
ZEYE				IAML		03 04 08.0	
	comp=N,143nm,0.2s						
URLA	**Izmir**	**0.61**	**67**	*i* P	Pn	03 04 02.0	+0.1
URLA				*i* S	Sn	03 04 10.7	-0.2
URLA				IAML		03 04 13.0	
	comp=N,112nm,0.7s						
URLA				IAML		03 04 14.0	
	comp=E,111nm,0.4s						
URLA	**Izmir**	**0.61**	**67**	PG	Pn	03 04 02.7	+0.7
URLA				SG	Sn	03 04 12.6	+1.7
KRBN	**Karaburun**	**0.70**	**48**	PG	Pn	03 04 04.2	+0.9
KRBN				SG	Sn	03 04 15.1	+1.8
DGB	**zmir**	**0.79**	**95**	*i* P	Pb	03 04 04.2	+0.1
DGB				*i* S	Sb	03 04 13.8	-0.8
TNSA	**Tinos**	**0.82**	**225**	P	Pn	03 04 05.1	+0.3
TNSA				AML	AML	03 04 16.6	
	comp=N,445μm,0.3s						
TNSA				AML	AML	03 04 17.5	
	comp=E,340μm,0.3s						
SMG	**Samos**	**0.86**	**119**	P	Pn	03 04 05.7	+0.3
SMG				S	Sb	03 04 16.0	-0.5
SMG				AML	AML	03 04 19.2	
	comp=N,207μm,0.2s						
SMG				AML	AML	03 04 19.3	
	comp=E,173μm,0.3s						
SIGR	**SIGRI**	**1.09**	**359**	P	Pn	03 04 08.7	+0.2
SIGR				S	Sb	03 04 23.7	+0.8
SIGR				AML	AML	03 04 27.8	
	comp=E,111μm,0.5s						
SIGR				AML	AML	03 04 29.5	
	comp=N,100μm,0.3s						
SIGR	**SIGRI**	**1.09**	**359**	PG	Pb	03 04 09.6	+0.4
SIGR				SG	Sb	03 04 24.9	+1.9
APE	**Apeiranthos**	**1.09**	**195**	P	Pb	03 04 09.0	-0.3
APE	**Apeiranthos**	**1.09**	**195**	PN	Pb	03 04 10.6	+1.3
APE				SN	Sb	03 04 26.2	+3.1
KARY	**Karystos**	**1.15**	**266**	P	Pb	03 04 10.2	0.0
GCAM	**G?zelcaml?**	**1.15**	**111**	*i* P	Pb	03 04 10.1	-0.1
PRK	**Paraskevi**	**1.16**	**15**	P	Pn	03 04 09.5	0.0
DKL	**Dikili**	**1.24**	**40**	PN	Pb	03 04 14.1	+2.3
DKL				SN	Sb	03 04 32.1	+4.8
ZEDA	**zmir-Bergama**	**1.26**	**48**	*i* P	Pb	03 04 12.2	+0.1
ZEDA				IAML		03 04 34.0	
	comp=E,26nm,0.3s						
AYVA	**Ayvalik**	**1.34**	**28**	*i* P	Pb	03 04 14.1	+0.6
AYVA				IAML		03 04 35.0	
	comp=E,16nm,0.4s						
AYVA				IAML		03 04 36.0	
	comp=N,19nm,0.3s						
AYVA	**Ayvalik**	**1.34**	**28**	*i* P	Pb	03 04 13.8	+0.3
AYVA				IAML		03 04 38.0	
	comp=E,20nm,0.7s						
AYVA				IAML		03 04 42.0	
	comp=N,34nm,0.4s						
DION	**Dionisos Attik**	**1.54**	**269**	P	Pn	03 04 15.7	+0.9
BODT	**Bodrum**	**1.55**	**133**	PN	Pb	03 04 19.9	+2.8
EREA	**Eretria**	**1.56**	**281**	P	Pb	03 04 16.3	-1.1
AYDB	**Zeytinkoy-Aydi**	**1.59**	**96**	PN	Pb	03 04 19.9	+2.0
VLY	**Voula,Athens**	**1.67**	**261**	P	Pn	03 04 17.3	+0.8
VLY				AML	AML	03 04 42.4	
	comp=N,59μm,0.4s						
VLY				AML	AML	03 04 43.2	
	comp=E,74μm,0.4s						
BOZC	**Bozcaada**	**1.72**	**4**	PN	Pb	03 04 20.3	+0.3
EZN	**Ezine**	**1.73**	**11**	PN	Pb	03 04 20.6	+0.4

DDA 14 03:03:54.2, 39.°67N×27.°85E, h7km±4km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.19**	**292**	*i* P	Pg	03 03 58.9	+0.8
BALY				*i* S	Sg	03 04 01.4	+0.8
STEP	**BALIKESIR_Sava**	**0.31**	**199**	*i* P	Pb	03 04 01.4	-0.7
STEP				*i* S	Sg	03 04 05.1	+0.8
DURS	**Dursunbey**	**0.49**	**98**	*i* P	Pg	03 04 03.8	+0.2
DURS				*i* S	Sg	03 04 10.5	+0.4
DURS				IAML		03 04 11.0	
	comp=E,36nm,0.2s						
DURS				IAML		03 04 11.0	
	comp=N,30nm,0.2s						
BUHA	**Balikesir, Bur**	**0.62**	**255**	*i* P	Pg	03 04 06.6	+0.5
DEMI	**Demirci**	**0.92**	**133**	*i* P	Pg	03 04 12.1	+0.2
DEMI				*i* S	Sg	03 04 23.6	-0.1
ZEDA	**zmir-Bergama**	**0.92**	**221**	*i* P	Pb	03 04 12.8	+0.3
ZEDA				IAML		03 04 37.0	
	comp=N,21nm,0.4s						

*IDC **14** 03:09:34.0±0.9, 33.°18N×139.°55E, h0km, mb3.8/14, mb1 4.1/14, mb1mx3.9/46, mbtmp3.8/14, MS2.8/3, Ms1 2.8/3, ms1mx2.5/46, Error ellipse: s-maj=28.2km s-min=10.1km az=30.0*
*JMA **14** 03:09:37.2±0.1, 33.°34N×139.°61E, h33km±2km, M3.2*
*NEIC **14** 03:09:37.4±0.9, 33.°21N±0.°09×139.°40E±0.°05, h17km±6km, mb4.3/11, Error ellipse: s-maj=13.2km s-min=5.5km az=187.0*

ISC 14 03:09:36.4±1.1, 33.°31N±0.°04×139.°40E±0.°05, h11km±8km, n61, σ0°95/62, mb4.1/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.37**	**121**	Pn		**Pg**	**03 09 44.6**	**+0.7**
	618nm,0.3s,baz=358,slow=7.0,SNR=127						
JHJ2	**Mitsune**	**0.40**	**120**	P		**Pg**	**03 09 44.5**	**+0.1**
JHJ2	**Mitsune**	**0.40**	**120**			**Pg**	**03 09 44.3**	**-0.1**
JHJ2				Sg		**Sg**	**03 09 49.9**	**+0.2**
JHCJ	**Hachijojimakas**	**0.41**	**126**	P		**Pg**	**03 09 44.8**	**+0.3**
JHCJ				*e*S		**Sg**	**03 09 50.3**	**+0.3**
JMKN	**Mikurajimanish**	**0.60**	**15**	P		**Pg**	**03 09 48.0**	**-0.1**
JMKN				*e*S		**Sg**	**03 09 56.3**	**+0.3**
JTHY	**Toshimahigashi**	**1.21**	**355**	P		**Pn**	**03 09 58.3**	**-1.0**
TK02	**Tokai 2**	**1.51**	**295**	P		**Pb**	**03 10 03.9**	**-0.5**
TK02				*e*S		**Sb**	**03 10 23.1**	**-0.4**
KTJ3	**Kamata3**	**1.64**	**350**	P		**Pn**	**03 10 05.4**	**+0.2**
TK04	**Tokai 4**	**1.66**	**310**	P		**Pn**	**03 10 05.9**	**+0.5**
TK04				*e*S		**Sb**	**03 10 27.8**	**-0.1**
TTO5	**TONANKAI O.B.S**	**1.69**	**304**	P		**Pn**	**03 10 06.2**	**+0.5**
TTO5				S		**Sb**	**03 10 28.4**	**-0.2**
JSG	**Sagara**	**1.69**	**324**	Pn		**Pn**	**03 10 07.1**	**+1.1**
JSG				Sn		**Sb**	**03 10 29.3**	**+0.4**
TTO4	**TONANKAI O.B.S**	**1.70**	**294**	S		**Sb**	**03 10 28.1**	**-0.8**
INU	**Inuyama**	**2.83**	**316**			**Pn**	**03 10 22.4**	**+0.8**
JGF	**Kuroka**	**2.84**	**324**			**Pn**	**03 10 22.7**	**+0.9**
JYT	**Yasato**	**2.98**	**12**			**Pn**	**03 10 25.9**	**+2.3**
MJAR	**Matsushiro Arr**	**3.37**	**343**	Pn		**Pb**	**03 10 33.5**	**-2.7**
	0.2nm,0.3s,baz=168,slow=10,SNR=4.2						
MJAR				LR	LR		03 11 56.4
	comp=Z,83nm,18.2s,baz=155,slow=41						
MJAR	**Matsushiro Arr**	**3.37**	**343**			**Pn**	**03 10 30.6**	**+1.6**
MAJO	**Matsushiro**	**3.37**	**343**			**Pn**	**03 10 30.7**	**+1.7**
MAT	**Matsushiro**	**3.37**	**343**	P		**Pn**	**03 10 30.6**	**+1.6**
MAT				*e*S		**Sn**	**03 11 09.8**	**+0.8**
MJB9	**Matsu-Tunnel**	**3.37**	**343**			**Pn**	**03 10 30.8**	**+1.7**
JWT	**Wachi**	**3.85**	**302**			**Pn**	**03 10 36.8**	**+1.2**
JWT						**Sn**	**03 11 22.4**	**+1.5**
JMM	**Marumori**	**4.68**	**14**			**Pn**	**03 10 48.0**	**+1.0**
JHS	**Saijyo**	**5.48**	**290**	Pn		**Pn**	**03 10 58.7**	**+0.7**
KSRS	**Korea Array**	**10.24**	**297**	LR		LR	03 15 22.8
	comp=Z,59nm,19.4s,baz=171,slow=33						
MA2	**Magadan**	**27.33**	**13**	LR		LR	03 27 31.1
	comp=Z,29nm,20.3s,baz=256,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.97**	**112**	T		T	03 44 31.9
	baz=305,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**27.98**	**112**	T		T	03 44 32.1
	baz=305,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy**	**27.99**	**112**	T		T	03 44 32.0
	baz=305,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hy**	**28.53**	**114**	T		T	03 45 15.0
	baz=307,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.53**	**114**	T		T	03 45 15.8
	baz=307,slow=75,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.54**	**114**	T		T	03 45 16.8
	baz=307,slow=75,SNR=29						
SONM	**Songino Array**	**28.71**	**310**	P		**P**	**03 15 35.1**	**+1.3**
	1.0nm,0.8s,baz=116,slow=6.6,SNR=3.4						
MK31	**Makanchi Array**	**44.80**	**305**	P		**P**	**03 17 49.7**	**-0.5**
MKAR	**Makanchi Array**	**44.80**	**305**	P		**P**	**03 17 51.1**	**+0.9**
	0.4nm,0.8s,baz=115,slow=6.5,SNR=2.9						
KDAK	**Kodiak Island**	**50.98**	**40**	P		**P**	**03 18 37.8**	**-0.1**
	5.2nm,0.8s,baz=296,slow=4.3,SNR=4.3						
KDAK	**Kodiak Island**	**50.98**	**40**	P		**P**	**03 18 38.2**	**+0.3**
KDAK				IAmb	IAmb	03 18 44.9	
	comp=Z,7.4nm,1.1s						
MLY	**Manley**	**51.88**	**30**	P		**P**	**03 18 45.2**	**+0.6**
MLY				IAmb	IAmb	03 18 50.2	
	comp=Z,2.3nm,0.9s						
MDM	**Murphy Dome**	**52.94**	**31**	P		**P**	**03 18 53.4**	**+0.9**
MDM				IAmb	IAmb	03 18 57.8	
	comp=Z,4.7nm,0.8s						
WB0	**Warramunga Arr**	**53.00**	**186**	P		**P**	**03 18 52.5**	**-0.8**
WB0				IAmb	IAmb	03 18 54.9	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**53.18**	**186**	P		**P**	**03 18 52.6**	**-2.0**
WRA	**Warramunga Arr**	**53.18**	**186**	P		**P**	**03 18 53.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=1.5,slow=8.0,SNR=1.4						
WRA	**Warramunga Arr**	**53.18**	**186**	P		**P**	**03 18 53.3**	**-1.3**
IL31		**53.52**	**31**	P		**P**	**03 18 56.9**	**+0.3**
IL31				IAmb	IAmb	03 19 00.4	
	comp=Z,2.9nm,0.9s						
ILAR	**Eielson Array**	**53.52**	**31**	P		**P**	**03 18 56.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=251,slow=4.4,SNR=7.1						
ILAR	**Eielson Array**	**53.52**	**31**	P		**P**	**03 18 57.1**	**+0.5**
L27K	**Beaver Creek,**	**55.88**	**33**	P		**P**	**03 19 14.6**	**+0.8**
L27K				IAmb	IAmb	03 19 18.6	
	comp=Z,2.0nm,0.8s						
EPYK	**Eagle Plains**	**57.57**	**28**	P		**P**	**03 19 26.1**	**+0.3**
INK	**Inuvik**	**58.44**	**26**	P		**P**	**03 19 31.1**	**-0.7**
	comp=Z,2.5nm,1.0s,baz=281,slow=8.2,SNR=2.6						
INK	**Inuvik**	**58.44**	**26**	P		**P**	**03 19 31.8**	**0.0**
INK				IAmb	IAmb	03 19 33.4	
	comp=Z,3.0nm,1.0s						
YKA	**Yellowknife Ar**	**67.85**	**29**	P		**P**	**03 20 34.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=301,slow=5.5,SNR=3.3						
FINES	**FINESS Array B**	**71.33**	**332**	P		**P**	**03 20 55.5**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=95,slow=8.6,SNR=2.2						
NB2	**NORSAR Subarra**	**76.96**	**337**	P		**P**	**03 21 29.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**76.96**	**337**	P		**P**	**03 21 28.9**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=42,slow=5.6,SNR=5.6						
NVAR	**Mina Array Bea**	**78.56**	**52**	P		**P**	**03 21 37.0**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=320,slow=2.7,SNR=2.4						
NVAR	**Mina Array Bea**	**78.56**	**52**	P		**P**	**03 21 37.7**	**-0.6**
BRTR	**Keskin Array B**	**80.06**	**311**	P		**P**	**03 21 45.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=354,slow=2.9,SNR=1.5						
PDAR	**Pinedale Array**	**81.46**	**44**	P		**P**	**03 21 54.0**	**0.0**
	comp=Z,0.1nm,0.4s,baz=132,slow=1.3,SNR=1.7						
PDAR	**Pinedale Array**	**81.46**	**44**	P		**P**	**03 21 53.9**	**0.0**
GERES	**GERESS Array B**	**84.97**	**327**	P		**P**	**03 22 12.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=38,slow=5.0,SNR=2.0						
TXAR	**Lajitas Array**	**93.71**	**51**	P		**P**	**03 22 54.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=284,slow=1.9,SNR=9.1						
TXAR	**Lajitas Array**	**93.71**	**51**	P		**P**	**03 22 53.4**	**-0.2**

*IDC **14** 03:12:03.2±10.0, 0.°48S×100.°47E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.6/3, Error ellipse: s-maj=359.8km s-min=33.7km az=64.0*
*DJA **14** 03:12:48.9±0.3, 4.°S±5.°×10.°3E±.°, h88km±5km, M4.1/13, mb4.5/5, mB5.5/2, MLv4.0/13, Mw(mB)5.0/2*

ISC 14 03:12:48.8±1.3, 4.°4S±0.°1×102.°9E±0.°1, h100km, n17, σ0°91/20, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.08**	**39**	P		**Pn**	**03 13 02.1**

ARCES	**ARCESS Array B**	**83.68 340**	P	**P**		**03 38 47.8**	**-0.6**
ARCES			IAmb	IAmb		03 38 57.8	
comp=Z,11nm,1.2s							
FINES	**FINES Array B**	**85.42 332**	P	**P**		**03 38 57.4**	**0.0**
comp=Z,1.4nm,0.5s,baz=72,slow=6.2,SNR=11							
FINES	**FINES Array B**	**85.42 332**	P	**P**		**03 38 57.7**	**+0.3**

*IDC **14** 03:53:19.9±0.6, 34°.04S×58°.13E, h0km, mb4.4/15, mb1 4.4/16, mb1mx4.2/48, mbtmp4.3/16, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=23.8km s-min=16.4km az=51.0*

*NEIC **14** 03:53:22.5±0.9, 34°.1S±0°.1×58°.0E±0°.2, h15km±4km, mb4.7/15, Error ellipse: s-maj=21.4km s-min=15.8km az=65.0*

ISC 14 03:53:23.2±0.5, 34°.0S±0°.1×58°.1E±0°.1, h22km, n43, σ0972/40, mb4.4/20, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOI	**Vohitsoka**	**15.64**	**318**	Pn	**Pn**	**03 57 02.3**	**-0.2**
VOI				IAmb	IAmb	03 57 18.0	
comp=Z,47nm,1.8s							
ABPO	**Ambohimpanom**	**17.81**	**324**	Pn	**Pn**	**03 57 27.7**	**-2.1**
OPO	**Ambohidratompo**	**18.21**	**325**	P	**P**	**03 57 36.6**	**+1.6**
comp=Z,0.6nm,0.3s,baz=131,slow=16,SNR=3.4							
OPO				S	Sn	04 00 45.6	-12
comp=Z,0.4nm,0.3s,baz=153,slow=18,SNR=1.5							
BOSA	**Boshof**	**28.47**	**272**	P	**P**	**03 59 17.6**	**+0.7**
comp=Z,2.0nm,0.7s,baz=49,slow=14,SNR=0.7							
BOSA	**Boshof**	**28.47**	**272**	P	**P**	**03 59 15.9**	**-0.9**
H08S1	**Diego Carcia H**	**29.44**	**30**	T	T	04 30 12.8	
baz=207							
H08S2	**Diego Garcia H**	**29.45**	**30**	T	T	04 30 16.1	
baz=207							
H08S3	**Diego Garcia H**	**29.46**	**30**	T	T	04 30 13.0	
baz=207							
SNAA	**Sanae**	**48.98**	**201**	P	**P**	**04 02 07.3**	**-0.4**
SNAA	**Sanae**	**48.98**	**201**	P	**P**	**04 02 07.8**	**+0.2**
SNAA				IAmb	IAmb	04 02 08.6	
comp=Z,7.7nm,0.9s							
VNA3	**Neumayer Olymp**	**51.02**	**203**	P	**P**	**04 02 22.9**	**-0.2**
QSPA	**South Pole Qui**	**56.14**	**180**	P	**P**	**04 03 00.6**	**-0.2**
comp=Z,6.0nm,0.8s,baz=266,slow=4.6,SNR=24							
QSPA	**South Pole Qui**	**56.14**	**180**	P	**P**	**04 03 00.8**	**-0.1**
QSPA				IAmb	IAmb	04 03 01.8	
comp=Z,34nm,1.8s							
VNDA	**Vanda**	**59.95**	**166**	P	**P**	**04 03 27.6**	**+0.4**
comp=Z,2.4nm,0.8s,baz=259,slow=8.1,SNR=15							
VNDA	**Vanda**	**59.95**	**166**	P	**P**	**04 03 27.6**	**+0.4**
VNDA				IAmb	IAmb	04 03 28.1	
comp=Z,2.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**65.12**	**43**	P	**P**	**04 04 02.6**	**+0.2**
comp=Z,1.0nm,0.4s,baz=225,slow=7.3,SNR=4.2							
CMAR	**Chiang Mai Arr**	**65.12**	**43**	P	**P**	**04 04 02.9**	**+0.5**
ASAR	**Alice Springs**	**65.88**	**103**	P	**P**	**04 04 07.6**	**+0.1**
comp=Z,5.6nm,0.6s,baz=235,slow=6.0,SNR=63							
AS31	**Alice Springs**	**65.88**	**103**	P	**P**	**04 04 07.7**	**+0.2**
AS31				IAmb	IAmb	04 04 08.1	
comp=Z,2.7nm,0.5s							
WRA	**Warramunga Arr**	**68.02**	**100**	P	**P**	**04 04 21.1**	**-0.1**
comp=Z,7.6nm,0.6s,baz=239,slow=5.5,SNR=92							
WRA	**Warramunga Arr**	**68.02**	**100**	P	**P**	**04 04 20.9**	**-0.3**
WB2	**Warramunga Arr**	**68.03**	**100**	P	**P**	**04 04 20.8**	**-0.4**
STKA	**Stephens Creek**	**68.13**	**114**	P	**P**	**04 04 21.8**	**+0.1**
comp=Z,2.7nm,0.8s,baz=231,slow=5.2,SNR=4.1							
WB0	**Warramunga Arr**	**68.15**	**100**	P	**P**	**04 04 21.4**	**-0.6**
WR0	**Warramunga Arr**	**68.17**	**100**	P	**P**	**04 04 21.6**	**-0.5**
KBL	**Kabul**	**68.99**	**10**	P	**P**	**04 04 27.4**	**+0.4**
KBL				IAmb	IAmb	04 04 32.7	
comp=Z,7.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**71.21**	**301**	P	**P**	**04 04 41.6**	**+0.8**
comp=Z,1.5nm,0.9s,baz=118,slow=3.9,SNR=4.3							
BRTR	**Keskin Array B**	**76.80**	**341**	P	**P**	**04 05 13.2**	**+0.1**
comp=Z,0.7nm,0.5s,baz=186,slow=12,SNR=1.7							
BRTR	**Keskin Array B**	**76.80**	**341**	P	**P**	**04 05 13.4**	**+0.3**
CTA	**Charters Tower**	**77.59**	**106**	P	**P**	**04 05 17.9**	**-0.1**
comp=Z,1.9nm,0.7s,baz=239,slow=9.1,SNR=1.6							
ABKAR	**Akbulak array**	**82.94**	**1**	P	**P**	**04 05 46.5**	**+0.6**
ABKAR	**Akbulak array**	**82.94**	**1**	P	**P**	**04 05 46.3**	**+0.5**
ABKAR				IAmb	IAmb	04 05 50.3	
comp=Z,3.1nm,0.8s							
MK31	**Makanchi Array**	**83.37**	**16**	P	**P**	**04 05 47.2**	**-1.0**
MK31				IAmb	IAmb	04 05 53.0	
comp=Z,7.7nm,1.8s							
MKAR	**Makanchi Array**	**83.37**	**16**	P	**P**	**04 05 48.2**	**0.0**
comp=Z,1.0nm,0.6s,baz=214,slow=5.7,SNR=7.8							
MKAR	**Makanchi Array**	**83.37**	**16**	P	**P**	**04 05 46.7**	**-1.5**
BELG	**Belogornoye**	**86.55**	**354**	P	**P**	**04 06 03.9**	**0.0**
comp=Z,14nm,0.8s,baz=148,slow=2.7,SNR=8.8							
AKASG	**Malin Array Be**	**88.14**	**342**	P	**P**	**04 06 12.0**	**+0.3**
comp=Z,0.7nm,0.5s,baz=173,slow=4.5,SNR=6.7							
AKASG	**Malin Array Be**	**88.14**	**342**	P	**P**	**04 06 10.2**	**-1.4**
ZALV	**Zalesovo Beam**	**90.64**	**15**	P	**P**	**04 06 24.2**	**+0.9**
comp=Z,0.5nm,0.3s,baz=285,slow=5.5,SNR=2.1							
ESDC	**Sonseca Array**	**93.08**	**317**	P	**P**	**04 06 35.0**	**-0.1**
comp=Z,0.4nm,0.8s,baz=104,slow=4.1,SNR=2.1							
INK	**Inuvik**	**145.05**	**7**	PKPbc	**PKPbc**	**04 12 57.0**	**-0.2**
comp=Z,5.3nm,0.9s,baz=344,slow=7.0,SNR=10							
ILAR	**Eielson Array**	**145.70**	**19**	PKPbc	**PKPdf**	**04 12 58.2**	**-0.8**
comp=Z,1.8nm,0.8s,baz=308,slow=3.5,SNR=19							
YKA	**Yellowknife Ar**	**151.15**	**353**	PKPbc	**PKPbc**	**04 13 13.4**	**-0.4**
comp=Z,1.9nm,0.8s,baz=359,slow=2.7,SNR=7.7							

*IDC **14** 03:54:13.2±0.8, 12°.09N×46°.33E, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.2/45, mbtmp4.2/23, ML3.5/1, MS3.5/20, Ms1 3.5/20, ms1mx3.4/36, Error ellipse: s-maj=21.3km s-min=15.6km az=18.0*

*NEIC **14** 03:54:15.6±1.6, 12°.03N±0°.08×46°.2E±0°.1, h14km±4km, mb4.4/27, Error ellipse: s-maj=17.3km s-min=6.2km az=126.0*

ISC 14 03:54:14.4±0.6, 12°.1N±0°.1×46°.28E±0°.07, h10km, n98, σ0995/92, mb4.3/41, MS3.5/18, 5C-5D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.40**	**262**	LR	LR	03 56 09.9	
comp=Z,63nm,20.2s,baz=137,slow=34							
ATD	**Arta Tunnel**	**3.40**	**262**	Pn	**Pn**	**03 55 06.6**	**-0.9**
ATD				Sn	**Sn**	**03 55 47.6**	**-0.4**
KMBO	**Kilima Mbogo**	**15.86**	**215**	Pn	**Pn**	**03 57 58.4**	**+0.2**
0.2nm,0.3s,baz=43,slow=16,SNR=3.2							
UOSS	**Minazif**	**15.90**	**35**	P	**Pn**	**03 57 59.2**	**+0.8**
WSAR	**Wadi Sarin**	**16.19**	**45**	Pn	**Pn**	**03 57 57.6**	**-4.5**
0.2nm,0.3s,baz=261,slow=11,SNR=1.7							
WSAR				LR	LR	04 03 59.5	
comp=Z,209nm,21.3s,baz=239,slow=36							
KIBK	**Kibwezi**	**16.47**	**210**	Pn	**Pn**	**03 58 05.1**	**-0.7**
MBAR	**Mbarara**	**19.90**	**232**	LR	LR	04 05 48.6	
comp=Z,148nm,20.3s,baz=34,slow=35							
EIL	**Elat**	**20.45**	**331**	P	Pn	03 58 53.9	-0.4
2.9nm,0.8s,baz=90,slow=9.2,SNR=2.1							
EIL				LR	LR	04 05 12.9	
comp=Z,82nm,21.8s,baz=140,slow=32							
MMAI	**Mount Meron Ar**	**23.13**	**336**	P	**P**	**03 59 22.8**	**+1.9**
0.4nm,0.3s,baz=215,slow=7.0,SNR=1.9							
MMAI				LR	LR	04 07 55.1	
comp=Z,206nm,21.8s,baz=50,slow=36							
HRA	**Herat**	**26.57**	**31**	P	**P**	**03 59 52.5**	**-0.4**
GEYT	**Alibeck**	**27.86**	**20**	LR	LR	04 12 57.4	
comp=Z,220nm,20.4s,baz=60,slow=40							
AKAS	**Kas**	**28.39**	**331**	P	**P**	**04 00 09.0**	**-0.2**
AKAS				IAmb	IAmb	04 00 09.3	
comp=Z,3.8nm,0.7s							
BRTR	**Keskin Array B**	**29.75**	**340**	P	**P**	**04 00 22.7**	**+1.5**
comp=Z,1.0nm,0.8s,baz=159,slow=11,SNR=3.0							
BRTR				PcP	**PcP**	**04 03 25.2**	**+0.1**
comp=Z,1.9nm,0.8s,baz=193,slow=5.1,SNR=5.3							
BRTR				LR	LR	04 12 47.7	
comp=Z,229nm,19.2s,baz=158,slow=38							
KBZ	**Khabaz**	**31.70**	**355**	P	**P**	**04 00 39.2**	**+1.0**
comp=Z,1.7nm,0.8s,baz=187,slow=10,SNR=3.6							
KBZ				LR	LR	04 13 06.6	
comp=Z,40nm,21.7s,baz=161,slow=36							
ALN	**Alexandroupoli**	**33.79**	**332**	P	**P**	**04 00 56.6**	**+0.1**
GAR	**Garm**	**34.30**	**34**	P	**P**	**04 01 00.0**	**-1.1**
VTS	**Vitosha**	**36.45**	**331**	P	**P**	**04 01 19.6**	**0.0**
VTS				IAmb	IAmb	04 01 21.7	
comp=Z,6.2nm,1.1s							
CFR	**Carcaliu**	**36.47**	**338**	⇓P	**P**	**04 01 20.4**	**+0.8**
KK31	**Karatay Array**	**37.39**	**30**	P	**P**	**04 01 27.3**	**-0.2**
KKAR	**Karatay Array**	**37.39**	**30**	P	**P**	**04 01 28.1**	**+0.6**
KKAR	**Karatay Array**	**37.39**	**30**	P	**P**	**04 01 27.5**	**0.0**
KKAR				IAmb	IAmb	04 01 32.6	
comp=Z,3.5nm,0.9s							
MLR	**Muntele Rosu**	**37.56**	**336**	⇓P	**P**	**04 01 30.3**	**+1.3**
MLR	**Muntele Rosu**	**37.56**	**336**	P	**P**	**04 01 27.8**	**-1.2**
MLR				IAmb	IAmb	04 01 35.0	
comp=Z,5.5nm,0.8s							
PLOR	**Plostina**	**37.60**	**337**	⇓P	**P**	**04 01 31.2**	**+2.0**
PUK	**Puka**	**37.71**	**327**	P	**P**	**04 01 31.1**	**+0.9**
PUK				IAmb	IAmb	04 01 35.6	
comp=Z,6.1nm,1.0s							
VOIR		**37.88**	**335**	⇑P	**P**	**04 01 32.4**	**+0.8**
LOT	**Lotru**	**38.42**	**334**	⇓P	**P**	**04 01 36.7**	**+0.4**
ABKAR	**Akbulak array**	**38.79**	**14**	P	**P**	**04 01 39.6**	**+0.5**
ABKAR	**Akbulak array**	**38.79**	**14**	P	**P**	**04 01 39.7**	**+0.6**
ABKAR				IAmb	IAmb	04 01 40.5	
comp=Z,5.8nm,0.9s							
GZR	**Gura Zlata**	**38.80**	**333**	⇓P	**P**	**04 01 40.4**	**+0.9**
MDVR	**Moldovita**	**38.81**	**332**	⇑P	**P**	**04 01 40.3**	**+0.8**
AAK	**Ala-Archa**	**39.10**	**34**	LR	LR	04 20 09.8	
comp=Z,50nm,18.7s,baz=258,slow=40							
AAK	**Ala-Archa**	**39.10**	**34**	P	**P**	**04 01 41.6**	**-0.5**
AAK				IAmb	IAmb	04 01 45.8	
comp=Z,5.1nm,0.9s							
DIVS	**Divibare**	**39.13**	**330**	P	**P**	**04 01 42.3**	**+0.1**
AKTO	**Aktyubinsk**	**39.47**	**12**	LR	LR	04 21 21.6	
comp=Z,126nm,18.7s,baz=194,slow=41							
BZS	**Buzias**	**39.49**	**333**	⇑P	**P**	**04 01 45.2**	**+0.1**
BURAR	**Bucovina Array**	**39.61**	**338**	⇑P	**P**	**04 01 47.9**	**+1.7**
BURAR	**Bucovina Array**	**39.61**	**338**	P	**P**	**04 01 46.9**	**+0.7**
BUR08	**Bucovina Ar. S**	**39.64**	**338**	P	**P**	**04 01 47.7**	**+1.2**
BELG	**Belogornoye**	**40.25**	**1**	P	**P**	**04 01 51.0**	**-0.3**
comp=Z,11nm,1.0s,baz=204,slow=10.0,SNR=5.3							
KEST	**Kesra**	**40.82**	**312**	P	**P**	**04 01 55.2**	**-1.2**
comp=Z,2.7nm,0.7s,baz=63,slow=9.0,SNR=2.6							
KEST				LR	LR	04 19 57.0	
comp=Z,66nm,18.3s,baz=281,slow=38							
AKASG	**Malin Array Be**	**40.99**	**343**	P	**P**	**04 01 56.7**	**-0.7**
comp=Z,0.2nm,0.3s,baz=156,slow=7.5,SNR=4.1							
AKASG	**Malin Array Be**	**40.99**	**343**	P	**P**	**04 01 57.0**	**-0.4**
AKBB	**Malin Array Si**	**40.99**	**343**	P	**P**	**04 01 57.9**	**+0.4**
AKBB				IAmb	IAmb	04 02 07.3	
comp=Z,19nm,1.8s							
MORH	**Mrgy, Hungar**	**41.32**	**331**	⇑P	**P**	**04 02 01.3**	**+1.1**
PSZ	**Piszkesteto**	**42.02**	**333**	P	**P**	**04 02 06.7**	**+0.7**
PSZ				IAmb	IAmb	04 02 08.1	
comp=Z,8.6nm,1.0s							
SOKA	**Soboth**	**43.42**	**329**	*e*P	**P**	**04 02 18.9**	**+1.4**
comp=Z,6.5nm,1.0s							
TORD	**Torodi Ar. Bea**	**43.48**	**276**	P	**P**	**04 02 19.1**	**+0.8**
comp=Z,3.1nm,0.8s,baz=91,slow=8.1,SNR=15							
TORD				PcP	**PcP**	**04 04 07.1**	**+0.6**
comp=Z,1.7nm,0.8s,baz=77,slow=3.6,SNR=6.2							
OBKA	**Obir**	**43.56**	**328**	*e*P	**P**	**04 02 20.2**	**+1.6**
comp=Z,4.8nm,1.4s							
CONA	**Conrad Observa**	**43.87**	**331**	*e*P	**P**	**04 02 22.2**	**+1.1**
comp=Z,5.4nm,1.0s							
ZOU	**Zoufplan**	**44.41**	**327**	P	**P**	**04 02 25.2**	**-0.4**
ZOU				IAmb	IAmb	04 02 27.2	
comp=Z,7.9nm,1.1s							
MORC	**Moravsky Berou**	**44.44**	**334**	P	**P**	**04 02 25.6**	**0.0**
MORC				IAmb	IAmb	04 02 26.1	
comp=Z,9.4nm,1.5s							
MOA	**Molln**	**44.60**	**329**	*e*P	**P**	**04 02 27.7**	**+0.9**
comp=Z,3.8nm,0.8s							
CKRC	**Cesky Krumlov**	**45.24**	**330**	*e*P	**P**	**04 02 32.3**	**+0.4**
ARU	**Arti**	**45.30**	**10**	LR	LR	04 25 00.6	
comp=Z,129nm,18.9s,baz=162,slow=41							
DPC	**Dobruska-Polom**	**45.39**	**333**	*e*P	**P**	**04 02 33.3**	**+0.2**
GEC2	**GERESS Array S**	**45.55**	**330**	P	**P**	**04 02 34.4**	**-0.1**
GEC2				IAmb	IAmb	04 02 35.3	
comp=Z,5.4nm,0.9s							
GERES	**GERESS Array B**	**45.55**	**330**	P	**P**	**04 02 34.6**	**+0.2**
comp=Z,4.5nm,0.9s,baz=131,slow=7.4,SNR=26							
GERES				LR	LR	04 22 47.2	
comp=Z,30nm,18.4s,baz=222,slow=38							
GERES	**GERESS Array B**	**45.55**	**330**	P	**P**	**04 02 33.8**	**-0.7**
OSTC	**Ostas**	**45.59**	**333**	*e*P	**P**	**04 02 34.9**	**+0.2**
KHC	**Kasperske Hory**	**45.80**	**330**	*e*P	**P**	**04 02 36.4**	**0.0**
MAKZ	**Makanchi**	**45.86**	**34**	P	**P**	**04 02 36.5**	**-0.4**
MAKZ				IAmb	IAmb	04 02 52.9	
comp=Z,5.0nm,1.2s							
MK31	**Makanchi Array**	**46.02**	**34**	P	**P**	**04 02 38.0**	**-0.2**
MK31				IAmb	IAmb	04 02 57.0	
comp=Z,2.7nm,0.8s							
MKAR	**Makanchi Array**	**46.02**	**34**	P	**P**	**04 02 37.9**	**-0.3**
comp=Z,1.4nm,0.8s,baz=226,slow=8.2,SNR=11							
MKAR				LR	LR	04 24 12.2	
comp=Z,79nm,18.4s,baz=246,slow=39							
KIRV	**Kirov**	**46.51**	**2**	LR	LR	04 25 12.9	
comp=Z,59nm,21.6s,baz=202,slow=40							
DAVA	**Damuels**	**46.53**	**326**	*e*P	**P**	**04 02 42.3**	**+0.1**
comp=Z,4.4nm,0.8s							
CLL	**Collm**	**47.56**	**332**	*i* P	**P**	**04 02 49.3**	**-0.8**
comp=Z,5.0nm,1.1s							
CLL				*e*pP	**sP**	**04 02 54.0**	**+0.3**
CM13	**Chiang Mai Arr**	**51.04**	**76**	P	**P**	**04 03 18.5**	**+1.3**
CM15	**Chiang Mai Arr**	**51.05**	**76**	P	**P**	**04 03 18.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**51.07**	**76**	P	**P**	**04 03 17.6**	**+0.1**
comp=Z,5.0nm,0.8s,baz=272,slow=9.0,SNR=20							
CM05	**Chiang Mai Arr**	**51.07**	**76**	P	**P**	**04 03 17.9**	**+0.4**
CM02	**Chiang Mai Arr**	**51.07**	**76**	P	**P**	**04 03 17.9**	**+0.4**
CM01	**Chiang Mai Arr**	**51.09**	**76**	P	**P**	**04 03 18.5**	**+0.9**
CM04	**Chiang Mai Arr**	**51.10**	**76**	P	**P**	**04 03 18.2**	**+0.5**
CM09	**Chiang Mai Arr**	**51.12**	**76**	P	**P**	**04 03 19.7**	**+1.9**
FINES	**FINESS Array B**	**51.46**	**348**	P	**P**	**04 03 19.2**	**-0.5**
comp=Z,2.7nm,1.0s,baz=150,slow=13,SNR=5.2							
FINES				LR	LR	04 28 55.5	
comp=Z,33nm,20.3s,baz=178,slow=40							
ZALV	**Zalesovo Beam**	**51.72**	**28**	P	**P**	**04 03 19.9**	**-1.8**
comp=Z,2.2nm,0.7s,baz=240,slow=6.8,SNR=6.8							
ZALV				LR	LR	04 29 41.5	
comp=Z,29nm,20.5s,baz=254,slow=41							
ZALV	**Zalesovo Beam**	**51.72**	**28**	P	**P**	**04 03 20.6**	**-1.1**
ESDC	**Sonseca Array**	**52.06**	**311**	P	**P**	**04 03 25.2**	**+0.5**
comp=Z,0.7nm,0.8s,baz=137,slow=26,SNR=4.1							
ESDC				LR	LR	04 25 02.9	
comp=Z,21nm,19.6s,baz=285,slow=36							
NB2	**NORSAR Subarra**	**55.19**	**340**	P	**P**	**04 03 46.2**	**-1.0**
comp=Z,1.0nm,0.8s,baz=133,slow=7.4							
NOA	**NORSAR Array B**	**55.19**	**340**	P	**P**	**04 03 46.2**	**-1.0**
comp=Z,1.1nm,0.8s,baz=134,slow=7.1,SNR=5.5							
NOA				LR	LR	04 29 49.1	
comp=Z,38nm,19.3s,baz=125,slow=39							
ARCES	**ARCESS Array B**	**58.95**	**352**	LR	LR	04 31 40.6	
comp=Z,36nm,18.3s,baz=310,slow=38							
XAN	**Xi'an**	**60.74**	**58**	P	**P**	**04 04 26.8**	**+0.2**
SONM	**Songino Array**	**61.21**	**42**	P	**P**	**04 04 29.9**	**+0.3**
comp=Z,3.5nm,1.0s,baz=252,slow=6.5,SNR=13							
SONM	**Songino Array**	**61.21**	**42**	P	**P**	**04 04 30.1**	**+0.4**
KSRS	**Korea Array**	**76.19**	**54**	P	**P**	**04 06 02.5**	**-0.6**
comp=Z,2.1nm,0.9s,baz=274,slow=7.2,SNR=6.3							
SUMG	**Summit**	**77.01**	**342**	*i* P	**P**	**04 06 08.0**	**+0.4**
SUMG				IAmb	IAmb	04 06 10.3	
comp=Z,7.4nm,1.0s							
USRK	**Ussuriysk Ar.**	**78.66**	**47**	P	**P**	**04 06 17.0**	**+0.2**
comp=Z,4.7nm,1.0s,baz=235,slow=6.7,SNR=4.4							
JNU	**Nakatsue**	**79.05**	**58**	P	**P**	**04 06 20.5**	**+1.3**
comp=Z,7.9nm,0.8s,baz=226,slow=3.0,SNR=3.6							
MAW	**Mawson**	**80.35**	**174**	LR	LR	04 37 06.9	
comp=Z,102nm,20.6s,baz=354,slow=32							
MJAR	**Matsushiro Arr**	**84.47**	**54**	P	**P**	**04 06 48.4**	**+0.6**
comp=Z,3.6nm,0.7s,baz=276,slow=4.0,SNR=5.7							
MJAR	**Matsushiro Arr**	**84.47**	**54**	P	**P**	**04 06 48.4**	**+0.6**
WRA	**Warramunga Arr**	**92.25**	**110**	P	**P**	**04 07 25.6**	**+0.3**
comp=Z,3.1nm,0.9s,baz=294,slow=3.7,SNR=8.0							
ASAR	**Alice Springs**	**92.62**	**114**	P	**P**	**04 07 27.4**	**+0.5**
comp=Z,1.8nm,0.8s,baz=286,slow=4.2,SNR=8.4							
PDAR	**Pinedale Array**	**121.13**	**339**	PKP	**PKPdf**	**04 13 08.0**	**-0.1**
comp=Z,0.5nm,0.7s,baz=64,slow=3.4,SNR=5.6							
PDAR	**Pinedale Array**	**121.13**	**339**	PKPdf	**PKPdf**	**04 13 07.7**	**-0.4**
NVAR	**Mina Array Bea**	**127.75**	**345**	PKP	**PKPdf**	**04 13 20.6**	**-0.3**
comp=Z,3.3nm,0.9s,baz=313,slow=0.7,SNR=16							
TXAR	**Lajitas Array**	**129.66**	**325**	PKP	**PKiKP**	**04 13 25.6**	**+0.1**
comp=Z,1.2nm,0.9s,baz=73,slow=2.1,SNR=11							

*PRE **14** 03:58:38.0±1.3, 26°.46S×27°.63E, h2km, ML2.9*

*IDC **14** 03:58:39.5±1.3, 26°.32S×27°.25E, h0km, mb3.5/3, mb1 3.8/9, mb1mx3.6/39, mbtmp3.7/9, ML3.6/4, Error ellipse: s-maj=27.8km s-min=14.7km az=121.0*

ISC 14 03:58:38.5±0.8, 26°.34S±0°.03×27°.61E±0°.04, h11km±5km, n25, σ2922/38, mb3.6/3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.01**	**189**	*e*P	**Pg**	**03 58 40.9**	**+0.2**
KLOF				*e*S	**Sg**	**03 58 42.0**	**-0.2**
KLOF				AML	AML	03 58 42.6	
comp=Z,16μm,0.2s							
WDLM	**Western Deep L**	**0.19**	**243**	*e*P	**Pg**	**03 58 42.1**	**-0.7**
WDLM				*e*S	**Sg**	**03 58 44.4**	**-1.3**
WDLM				AML	AML	03 58 46.0	
comp=Z,4μm,0.4s							
PRYS	**Parys**	**0.63**	**201**	*e*P	**Pg**	**03 58 49.1**	**-1.8**
PRYS				*e*S	**Sg**	**03 58 56.4**	**-2.8**
PRYS				AML	AML	03 59 02.0	
comp=Z,472nm,0.6s							
KSR	**Koster**	**0.80**	**307**	*e*P	**Pn**	**03 58 54.8**	**-1.2**
KSR				*e*S	**Sn**	**03 59 06.7**	**-1.3**
KSR				AML	AML	03 59 13.0	
comp=Z,794nm,0.2s							
SLR	**Silverton**	**0.85**	**45**	*e*P	**Pn**	**03 58 56.4**	**-0.2**
SLR				*e*S	**Sn**	**03 59 08.9**	**-0.2**
SLR				AML	AML	03 59 15.4	
comp=Z,208nm,0.3s							
CRLN	**Carolina, Mapu**	**2.19**	**82**	*e*P	**Pb**	**03 59 16.3**	**-2.0**
CRLN				*e*S	**Sb**	**03 59 43.9**	**-1.7**
CRLN				AML	AML	03 59 48.1	
comp=Z,38nm,0.3s							
SWZ	**Schweizer**	**2.21**	**247**	*e*P	**Pn**	**03 59 15.3**	**0.0**
SWZ				*e*S	**Sn**	**03 59 42.9**	**+0.2**
SWZ				AML	AML	03 59 46.9	
comp=Z,155nm,0.2s							
BOSA	**Boshof**	**3.09**	**222**	Pn	**Pn**	**03 59 27.6**	**+0.3**
comp=Z,3.4nm,0.3s,baz=45,slow=13,SNR=4.9							
BOSA				Pg	**Pb**	**03 59 35.6**	**+2.0**
comp=Z,6.3nm,0.3s,baz=44,slow=17,SNR=8.4							
BOSA				Sn	**Sn**	**04 00 02.8**	**-1.6**
comp=Z,3.9nm,0.3s,baz=3.4,slow=17,SNR=4.1							
BOSA				Lg	Lg	04 00 10.7	
comp=Z,8.3nm,0.3s,baz=342,slow=17,SNR=6.5							
POGA	**Pongola**	**3.79**	**106**	*e*P	**Pn**	**03 59 37.6**	**+0.6**
POGA				*e*S	**Sn**	**04 00 20.5**	**-1.2**
POGA				AML	AML	04 00 40.1	
comp=Z,77nm,0.4s							
POGA	**Pongola**	**3.79**	**106**	*e*P	Pg	03 59 58.9	+7.7
POGA				*e*S	**Sb**	**04 00 32.4**	**+0.8**
POGA	**Pongola**	**3.79**	**106**	*e*P	Pg	03 59 58.9	+7.7
POGA				*e*S	**Sb**	**04 00 32.4**	**+0.8**
MATP	**Matopo**	**5.94**	**8**	Pn	**Pn**	**04 00 09.2**	**+2.7**
comp=Z,2.1nm,0.3s,baz=189,slow=13,SNR=42							
MATP				Sn	**Sn**	**04 01 15.0**	**+0.3**
comp=Z,1.4nm,0.3s,baz=98,slow=19,SNR=7.3							
MATP				Lg	Lg	04 01 43.6	
comp=Z,5.3nm,0.3s,baz=102,slow=23,SNR=17							
MATP	**Matopo**	**5.94**	**8**	*e*P	Pg	04 00 37.3	+5.0
MATP				*e*S	**Sg**	**04 01 46.2**	**-3.0**
MATP	**Matopo**	**5.94**	**8**	*e*P	Pg	04 00 37.3	+5.0
MATP				*e*S	**Sg**	**04 01 46.2**	**-3.0**
UPI	**Upington**	**6.01**	**249**	*e*P	**Pn**	**04 00 08.0**	**+0.5**
UPI				*e*S	**Sn**	**04 01 14.3**	**-2.0**
UPI				AML	AML	04 01 46.0	
comp=Z,9.2nm,0.4s							
BLWY	**Bulawayo**	**6.23**	**9**	*i* P	Pg	04 00 41.2	+3.2
BLWY	**Bulawayo**	**6.23**	**9**	*i* P	Pg	04 00 41.2	+3.2
**GRA

IDC 14 04:46:50.3±3.5, 23.°40S×66.°71W, h242km±26km, mb3.1/4, mb1 3.6/7, mb1mx3.5/16, mbtmp3.9/7, Error ellipse: s-maj=42.9km s-min=16.0km az=30.0
ISC 14 04:46:41.1±0.6, 24.°13S±0.°04×67.°14W±0.°03, h187km±6km, n136, σ1°35/173, mb3.9/7, 12C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.51**	**321**	⇑*iP*	**Pn**	**04 47 16.3**	**+2.2**
SLA	**San Lorenzo**	**1.60**	**112**	⇓*iP*	**Pn**	**04 47 15.6**	**+0.8**
SLA				*eS*	**Sn**	**04 47 39.9**	**-1.1**
SLA				IAML		04 47 42.9	
	comp=N,587nm,0.8s						
SLA	**San Lorenzo**	**1.60**	**112**	*eP*	**Pn**	**04 47 15.6**	**+0.8**
SLA				*eS*	**Sn**	**04 47 41.4**	**+0.5**
SLA				IAML		04 47 42.0	
	comp=Z,304nm,0.9s						
HJA	**Humahuaca**	**1.83**	**60**	*eP*	**Pn**	**04 47 18.4**	**+1.1**
HJA				*eS*	**Sn**	**04 47 47.3**	**+1.9**
LVC	**Limon Verde**	**2.22**	**313**	⇑*iP*	**Pn**	**04 47 23.1**	**+1.7**
LVC				*eS*	**Sn**	**04 47 53.2**	**+0.4**
LVC	**Limon Verde**	**2.22**	**313**	Pn	**Pn**	**04 47 23.1**	**+1.7**
LVC				Sn	**Sn**	**04 47 53.8**	**+1.0**
LVC	**Limon Verde**	**2.22**	**313**	*eP*	**Pn**	**04 47 23.4**	**+1.9**
LVC	**Limon Verde**	**2.22**	**313**	*eP*	**Pn**	**04 47 23.1**	**+1.7**
LVC				*eS*	**Sn**	**04 47 54.5**	**+1.7**
LVC				IAML		04 47 55.9	
	comp=Z,218nm,0.7s						
FSA	**Cafayete**	**2.24**	**152**	*eP*	**Pn**	**04 47 21.9**	**+0.5**
FSA				*eS*	**Sn**	**04 47 52.0**	**-0.9**
PB15	**IPOC Station P**	**2.33**	**293**	⇑*iP*	**Pn**	**04 47 24.3**	**+1.8**
PB15				*eS*	**Sn**	**04 47 55.4**	**+0.8**
PB15	**IPOC Station P**	**2.33**	**293**		**Pn**	**04 47 24.3**	**+1.8**
PB15				Sn	**Sn**	**04 47 55.1**	**+0.6**
PB15	**IPOC Station P**	**2.33**	**293**	*eP*	**Pn**	**04 47 24.2**	**+1.8**
PB15				*eS*	**Sn**	**04 47 55.6**	**+1.0**
YJA	**Yavi**	**2.45**	**38**	*eP*	**Pn**	**04 47 25.8**	**+1.7**
YJA				*eS*	**Sn**	**04 47 58.6**	**+1.0**
GO02	**Mina Guanaco**	**2.46**	**245**	*eP*	**Pn**	**04 47 25.5**	**+1.4**
GO02				*eS*	**Sn**	**04 47 58.6**	**+1.2**
GO02				IAML		04 47 59.5	
	comp=N,2μm,0.7s						
GO02	**Mina Guanaco**	**2.46**	**245**		**Pn**	**04 47 25.4**	**+1.4**
GO02				Sn	**Sn**	**04 47 58.5**	**+1.2**
PB06	**IPOC Station P**	**2.65**	**302**	⇑*iP*	**Pn**	**04 47 27.7**	**+1.7**
PB06				*eS*	**Sn**	**04 48 01.1**	**+0.1**
PB06				IAML		04 48 04.0	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**2.65**	**302**		**Pn**	**04 47 27.5**	**+1.4**
PB06	**IPOC Station P**	**2.65**	**302**	*eP*	**Pn**	**04 47 27.4**	**+1.4**
PB06				*eS*	**Sn**	**04 48 01.8**	**+0.7**
PB14	**IPOC Station P**	**3.02**	**260**	*eP*	**Pn**	**04 47 31.7**	**+1.2**
PB14				*eS*	**Sn**	**04 48 08.7**	**-0.5**
PB14				IAML		04 48 11.1	
	comp=E,234nm,0.3s						
PB14	**IPOC Station P**	**3.02**	**260**	Pn	**Pn**	**04 47 31.6**	**+1.0**
PB14	**IPOC Station P**	**3.02**	**260**	*eP*	**Pn**	**04 47 31.8**	**+1.2**
PB14				*eS*	**Sn**	**04 48 09.6**	**+0.4**
PB14				IAML		04 48 11.8	
	comp=Z,434nm,0.3s						
PB05	**IPOC Station P**	**3.09**	**294**	⇑*iP*	**Pn**	**04 47 32.5**	**+1.3**
PB05				*eS*	**Sn**	**04 48 09.4**	**-1.0**
PB05				IAML		04 48 16.5	
	comp=E,578nm,0.4s						
PB05	**IPOC Station P**	**3.09**	**294**	*eP*	**Pn**	**04 47 32.4**	**+1.2**
PB05				*eS*	**Sn**	**04 48 09.6**	**-0.8**
PB05				IAML		04 48 20.1	
	comp=Z,351nm,1.0s						
PB03	**IPOC Station P**	**3.17**	**310**	⇑*iP*	**Pn**	**04 47 33.5**	**+1.1**
PB03				*eS*	**Sn**	**04 48 12.0**	**-0.4**
PB03	**IPOC Station P**	**3.17**	**310**	*eP*	**Pn**	**04 47 33.4**	**+1.0**
PB03				*eS*	**Sn**	**04 48 12.8**	**+0.4**
PB03				IAML		04 48 17.4	
	comp=Z,554nm,0.3s						
PB10	**IPOC Station P**	**3.19**	**280**	⇑*iP*	**Pn**	**04 47 33.7**	**+1.4**
PB10				*i S*	**Sn**	**04 48 11.6**	**-0.8**
PB10				IAML		04 48 16.6	
	comp=N,489nm,0.3s						
PB10	**IPOC Station P**	**3.19**	**280**	Pn	**Pn**	**04 47 33.7**	**+1.4**
PB10	**IPOC Station P**	**3.19**	**280**	*eP*	**Pn**	**04 47 33.4**	**+1.1**
PB10				*eS*	**Sn**	**04 48 12.6**	**+0.3**
PB10				IAML		04 48 18.5	
	comp=Z,419nm,0.4s						
AC02	**Maricunga**	**3.24**	**213**	⇓*eP*	**Pn**	**04 47 34.8**	**+1.3**
AC02				*eS*	**Sn**	**04 48 15.0**	**+0.6**
AC02	**Maricunga**	**3.24**	**213**		**Pn**	**04 47 34.6**	**+1.2**
PB04	**IPOC Station P**	**3.30**	**302**	⇑*iP*	**Pn**	**04 47 34.9**	**+1.0**
PB04				*eS*	**Sn**	**04 48 14.2**	**-0.9**
PB04	**IPOC Station P**	**3.30**	**302**		**Pn**	**04 47 34.9**	**+1.0**
PB04	**IPOC Station P**	**3.30**	**302**	*eP*	**Pn**	**04 47 35.1**	**+1.3**
PB04				*eS*	**Sn**	**04 48 14.4**	**-0.6**
PB07	**IPOC Station P**	**3.48**	**313**	⇑*iP*	**Pn**	**04 47 37.1**	**+0.9**
PB07				*eS*	**Sn**	**04 48 18.0**	**-1.2**
PB07	**IPOC Station P**	**3.48**	**313**		**Pn**	**04 47 37.0**	**+0.9**
PB07	**IPOC Station P**	**3.48**	**313**	*eP*	**Pn**	**04 47 37.5**	**+1.3**
PB07				*eS*	**Sn**	**04 48 18.4**	**-0.8**
PB01	**IPOC Station P**	**3.76**	**324**	⇑*iP*	**Pn**	**04 47 40.1**	**+0.5**
PB01				*i* S	**Sn**	**04 48 24.0**	**-1.3**
PB01	**IPOC Station P**	**3.76**	**324**	Pn	**Pn**	**04 47 40.0**	**+0.5**
PB02	**IPOC Station P**	**3.78**	**317**	⇑*iP*	**Pn**	**04 47 40.3**	**+0.5**
PB02				*eS*	**Sn**	**04 48 23.9**	**-1.9**
PB08	**IPOC Station P**	**4.39**	**334**	⇑*iP*	**Pn**	**04 47 48.8**	**+1.1**
PB08				*eS*	**Sn**	**04 48 39.6**	**-0.4**
PB08	**IPOC Station P**	**4.39**	**334**		**Pn**	**04 47 48.8**	**+1.1**
PB08				Sn	**Sn**	**04 48 39.8**	**-0.2**
GO03	**Copiap**	**4.43**	**218**	Pn	**Pn**	**04 47 47.5**	**-0.5**
GO03	**Copiap**	**4.43**	**218**	*eP*	**Pn**	**04 47 48.0**	**0.0**
GO03				*eS*	**Sn**	**04 48 38.9**	**-1.7**
CYA	**Choya**	**4.46**	**165**	*eP*	**Pn**	**04 47 48.6**	**+0.4**
TA01	**Diego Aracena**	**4.53**	**321**	Pn	**Pn**	**04 47 49.2**	**+0.1**
VCA	**Vinchina**	**4.69**	**192**	*eP*	**Pn**	**04 47 53.2**	**+2.0**
VCA				*eS*	**Sn**	**04 48 49.0**	**+2.5**
VCA				IAML		04 49 03.9	
	comp=Z,24nm,2.2s						
TA02	**Huaiquique**	**4.74**	**324**	Pn	**Pn**	**04 47 51.9**	**+0.1**
PB11	**IPOC Station P**	**4.94**	**331**	Pn	**Pn**	**04 47 53.8**	**-0.7**
ACLC	**CERRO LA CRUZ**	**5.28**	**178**	*eP*	**Pn**	**04 47 59.0**	**+0.1**
ACLC				IAML		04 49 04.3	
	comp=Z,19nm,1.5s						
PSGCX	**Pisagua**	**5.29**	**328**	Pn	**Pn**	**04 47 57.4**	**-1.7**
AC04	**Llanos de Chal**	**5.38**	**220**	Pn	**Pn**	**04 47 58.2**	**-1.8**
MNMC	**Minye Minye**	**5.47**	**335**		**Pn**	**04 48 00.7**	**-0.9**
MNMC				Sn	**Sn**	**04 49 02.1**	**-2.9**
LCO	**Las Campanas**	**5.81**	**212**	Pn	**Pn**	**04 48 04.6**	**-1.3**
ACDV	**Cuesta del Vie**	**6.27**	**196**	*eP*	**Pn**	**04 48 13.0**	**+1.2**
ACDV				IAML		04 49 37.1	
	comp=Z,17nm,3.9s						
ACCO	**Cerro Coronel**	**6.66**	**194**	*eP*	Pn	04 48 11.4	-5.6
ACCO				IAML		04 49 40.5	
	comp=Z,16nm,2.0s						
GO04	**Tololo Observa**	**6.84**	**208**		**Pn**	**04 48 18.8**	**-0.6**
GO04	**Tololo Observa**	**6.84**	**208**	*eP*	**Pn**	**04 48 19.2**	**-0.1**
GO04				*eS*	**Sn**	**04 49 34.2**	**-3.0**
ACHE	**Chepes**	**7.02**	**177**	*eP*	**Pn**	**04 48 20.4**	**-1.1**
ACHE				*eS*	**Sn**	**04 49 35.4**	**-5.7**
CO02	**Combarbal**	**7.83**	**205**	Pn	**Pn**	**04 48 31.7**	**-0.6**
LPAZ	**La Paz**	**7.86**	**353**	P	**Pn**	**04 48 33.7**	**+0.6**
	comp=Z,7.3nm,0.3s,baz=160,slow=9.3,SNR=176						
LPAZ				S	**Sn**	**04 49 57.0**	**-4.9**
	baz=18,slow=20,SNR=1.3						
LPAZ	**La Paz**	**7.86**	**353**		**Pn**	**04 48 33.9**	**+0.8**
LPAZ	**La Paz**	**7.86**	**353**	*eP*	**Pn**	**04 48 33.9**	**+0.8**
LPAZ	**La Paz**	**7.86**	**353**	*eP*	**Pn**	**04 48 33.8**	**+0.6**
LPAZ				*eS*	**Sn**	**04 50 02.4**	**+0.5**
VA03	**San Esteban**	**9.11**	**198**	Pn	**Pn**	**04 48 49.5**	**+0.6**
CPUP	**Villa Florida**	**9.15**	**106**	P	Pn	04 48 56.6	+7.3
	comp=Z,0.3nm,0.3s,baz=276,slow=11,SNR=4.8						
CPUP	**Villa Florida**	**9.15**	**106**		**Pn**	**04 48 47.7**	**-1.6**
MT03	**Universidad Ad**	**9.79**	**197**	Pn	**Pn**	**04 48 57.9**	**+0.1**
MT09	**Talagante**	**10.18**	**198**	Pn	**Pn**	**04 49 03.2**	**+0.2**
RFA	**San Rafael**	**10.67**	**186**	*eP*	**Pn**	**04 49 08.2**	**-0.9**
AQDB	**Aquidauana**	**11.20**	**73**		**Pn**	**04 49 15.9**	**-0.1**
AQDB	**Aquidauana**	**11.20**	**73**	*eP*	**Pn**	**04 49 17.1**	**+1.1**
VILB	**Vilhena**	**12.91**	**32**	*eP*	**Pn**	**04 49 39.5**	**+1.5**
PP1B	**Ponte de Pedra**	**13.17**	**63**	*eP*	**P**	**04 49 43.8**	**-0.7**
TRCB	**Terra Rica**	**13.38**	**87**	P	**P**	**04 49 47.3**	**+0.4**
TRCB	**Terra Rica**	**13.38**	**87**	*eP*	**P**	**04 49 46.6**	**-0.3**
SALV	**Santo Antonio**	**13.51**	**55**	*eP*	**P**	**04 49 47.7**	**-0.7**
PLTB	**Pedras Altas**	**14.17**	**125**	Pn	**Pn**	**04 49 51.7**	**-1.9**
PLTB	**Pedras Altas**	**14.17**	**125**	*eP*	**Pn**	**04 49 54.1**	**+0.6**
ETMB	**Extrema**	**14.26**	**4**	*eP*	**Pn**	**04 49 53.8**	**-1.0**
TRQA	**Tornquist**	**14.56**	**164**		**Pn**	**04 49 56.8**	**-1.6**
TRQA	**Tornquist**	**14.56**	**164**	*eP*	**Pn**	**04 49 57.7**	**-0.7**
PCMB	**Pacaembu**	**14.85**	**83**	*eP*	**P**	**04 50 03.4**	**+0.2**
FRTB	**Fartura**	**16.11**	**91**	*eP*	**P**	**04 50 17.2**	**0.0**
ITRB	**Iturama**	**16.18**	**77**	*eP*	**Pn**	**04 50 18.4**	**+0.1**
TIJ01	**Guaruva-PR**	**16.52**	**98**	*eP*	**Pn**	**04 50 23.1**	**+0.6**
ARAG	**Araguaiana, MT**	**16.66**	**63**	*eP*	**P**	**04 50 23.7**	**+0.5**
TER01	**Tubaro-SC**	**16.73**	**109**	*eP*	**P**	**04 50 23.5**	**-0.3**
PLCA	**Paso Flores**	**16.80**	**189**	P	**P**	**04 50 25.1**	**+0.5**
PLCA	**Paso Flores**	**16.80**	**189**	*eP*	**P**	**04 50 23.1**	**-1.6**
CLDB	**Colider**	**17.04**	**41**	*eP*	**P**	**04 50 26.9**	**-0.4**
CZSB	**Cruzeiro do Su**	**17.16**	**341**	*eP*	**P**	**04 50 26.5**	**-2.1**
BB19B	**Bebedouro**	**17.45**	**84**	*eP*	**P**	**04 50 32.4**	**+0.5**
SPB	**Sao Paulo**	**18.04**	**92**	*eP*	**P**	**04 50 37.6**	**-0.6**
RCLB	**Rio Claro- Sao**	**18.10**	**89**	*eP*	**P**	**04 50 38.9**	**0.0**
PET01	**Itanhaem-SP**	**18.12**	**95**	*eP*	**P**	**04 50 38.7**	**-0.4**
VAO	**Valinhos**	**18.53**	**91**	*eP*	**P**	**04 50 42.7**	**-0.9**
IPMB	**Ipameri, GO**	**18.69**	**74**	*eP*	**P**	**04 50 44.9**	**-0.4**
SNDB	**Serra Nova Dou**	**19.29**	**54**	*eP*	**P**	**04 50 50.9**	**-0.9**
PARB	**Paraibuna**	**19.72**	**92**	*eP*	**P**	**04 50 55.9**	**-0.5**
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**04 50 57.3**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=243,slow=11,SNR=36						
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**04 50 57.5**	**-0.5**
NPGB	**Novo Progresso**	**20.40**	**36**	*eP*	**P**	**04 51 03.5**	**-0.3**
BSCB	**Bom Sucesso**	**20.89**	**86**	*eP*	**P**	**04 51 07.6**	**-1.3**
PEXB	**Peixe**	**21.50**	**60**	*eP*	**P**	**04 51 13.8**	**-1.6**
VAS01	**Vassouras-RJ**	**21.85**	**90**	*eP*	**P**	**04 51 18.3**	**-0.7**
ITTB	**Itaituba**	**22.51**	**31**	*eP*	**P**	**04 51 23.5**	**-1.8**
DIAM	**Diamantina, MG**	**22.62**	**80**	*eP*	**P**	**04 51 25.4**	**-1.0**
DUB01	**Friburgo-RJ**	**22.86**	**90**	*eP*	**P**	**04 51 27.7**	**-0.8**
MC01	**Montes Claros**	**22.94**	**76**	*eP*	**P**	**04 51 27.3**	**-1.8**
JANB	**Januaria**	**23.30**	**71**	*eP*	**P**	**04 51 30.5**	**-1.8**
CAM01	**Campos-RJ**	**23.56**	**90**	*eP*	**P**	**04 51 33.9**	**-0.8**
SMTB	**Santa Maria do**	**24.07**	**54**	*eP*	**P**	**04 51 38.4**	**-1.0**
SDBA	**SAO DESIDERIO**	**24.08**	**65**	*eP*	**P**	**04 51 38.3**	**-1.2**
PRPB	**Paraupebas**	**24.41**	**46**	*eP*	**P**	**04 51 41.0**	**-1.4**
ALF01	**Guarapari-ES**	**24.66**	**87**	*eP*	**P**	**04 51 43.8**	**-0.9**
SJMB	**Sao Joao De Ma**	**24.74**	**82**	*eP*	**P**	**04 51 44.9**	**-0.6**
NAN01	**Guarapari, ES**	**25.96**	**81**	*eP*	**P**	**04 51 54.8**	**-1.7**
OTAV	**Otavalo**	**26.59**	**334**	*eP*	**P**	**04 51 58.7**	**-3.9**
GUA01	**Guaratinga, BA**	**26.67**	**79**	*eP*	**P**	**04 52 01.6**	**-1.2**
BOAV	**Boa Vista**	**27.14**	**15**	*eP*	**P**	**04 52 04.7**	**-2.2**
GDU01	**Guandu, BA**	**28.00**	**73**	*eP*	**P**	**04 52 13.2**	**-1.5**
VNA3	**Neumayer Olymp**	**57.07**	**161**	P	**P**	**04 56 08.6**	**+1.3**
VNA2	**Neumayer--Watz**	**57.64**	**160**	P	**P**	**04 56 11.6**	**+0.4**
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**04 56 23.1**	**+0.6**
SNAA	**Sanae**	**59.27**	**161**	P	**P**	**04 56 23.7**	**+1.1**
SNAA				IAmb	IAmb	04 56 24.4	
	comp=Z,3.2nm,0.8s						
WVT	**Waverly**	**63.04**	**341**	P	**P**	**04 56 49.2**	**+1.0**
WVT				IAmb	IAmb	04 56 49.3	
	comp=Z,2.6nm,0.7s						
TXAR	**Lajitas Array**	**63.71**	**325**	P	**P**	**04 56 54.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=154,slow=8.0,SNR=6.0						
TXAR	**Lajitas Array**	**63.71**	**325**	P	**P**	**04 56 55.1**	**+2.2**
QSPA	**South Pole Qui**	**66.08**	**180**	P	**P**	**04 57 09.1**	**+1.4**
QSPA				IAmb	IAmb	04 57 27.0	
	comp=Z,6.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**04 58 11.7**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=257,slow=5.6,SNR=14						
PDAR	**Pinedale Array**	**77.19**	**329**	P	**P**	**04 58 16.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=129,slow=7.2,SNR=2.9						
NVAR	**Mina Array Bea**	**78.56**	**321**	P	**P**	**04 58 24.2**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=134,slow=5.1,SNR=1.7						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	**PKiKP**	**05 05 33.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=166,slow=1.5,SNR=1.1						
MKAR	**Makanchi Array**	**146.71**	**40**	PKPbc	**PKPdf**	**05 06 00.0**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=299,slow=3.2,SNR=11						
MKAR	**Makanchi Array**	**146.71**	**40**	PKPdf	**PKPdf**	**05 05 59.9**	**+1.1**
XAN	**Xi'an**	**169.54**	**18**	PKP	**PKPdf**	**05 06 28.3**	**+2.0**

FUNV 14 04:53:01.8, 9.°15N×61.°35W, h12km, MW4.0
TRN 14 04:53:06.6, 9.°34N×61.°18W, h99km, MD3.9
ISC 14 04:53:01.1±1.9, 9.°11N±0.°06×61.°37W±0.°08, h104km±19km, n28, σ1°97/41, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOV	**Rio Grande**	**1.12**	**203**	*eP*	**Pn**	**04 53 23.6**	**+0.4**
RIOV				*eS*	**Sn**	**04 53 38.4**	**-1.5**
TRN	**Trinidad (W)**	**1.53**	**359**	*eP*	**Pn**	**04 53 30.4**	**+2.5**
TRN				*eS*	**Sn**	**04 53 48.4**	**+0.1**
TRN	**Trinidad (W)**	**1.53**	**359**	*eP*	**Pn**	**04 53 28.6**	**+0.6**
TRN				*eS*	**Sn**	**04 53 46.8**	**-1.4**
TOSP	**Speyside**	**2.33**	**21**	*eP*	**Pn**	**04 53 39.6**	**+1.6**
TOSP				*eS*	**Sn**	**04 54 04.6**	**-1.8**
CRUV	**Carupano**	**2.41**	**310**	*eP*	**Pn**	**04 53 39.1**	**-0.1**
CRUV				*eS*	**Sn**	**04 54 06.3**	**-2.0**
GRGR	**Grenville**	**3.02**	**355**	*eP*	**Pn**	**04 53 50.7**	**+3.5**
GRGR				*eS*	**Sn**	**04 54 22.0**	**-0.7**
GRGR	**Grenville**	**3.02**	**355**	*eP*	**Pn**	**04 53 48.3**	**+1.1**
GRGR				*eS*	**Sn**	**04 54 21.8**	**-0.9**
PRGV	**PARIAGUAN**	**3.25**	**264**	*eP*	**Pn**	**04 53 51.4**	**+1.0**
PRGV				*eS*	**Sn**	**04 54 29.5**	**+1.1**
GCMP	**Grenada, Carri**	**3.35**	**359**	*eP*	**Pn**	**04 53 54.6**	**+2.8**
GCMP				*eS*	**Sn**	**04 54 28.3**	**-2.6**
PCRV	**Puerto La Cruz**	**3.39**	**288**	*eP*	**Pn**	**04 53 53.1**	**+0.9**
PCRV				*eS*	**Sn**	**04 54 31.4**	**-0.3**
SVB	**Belmont**	**4.14**	**2**	*eP*	**Pn**	**04 54 04.2**	**+1.9**
SVB				*eS*	**Sn**	**04 54 47.9**	**-1.8**
MCLT	**Moule a Chique**	**4.59**	**5**	*eS*	**Sn**	**04 54 57.6**	**-3.0**
MERV	**Las Mercedes**	**4.87**	**272**	*eP*	**Pn**	**04 54 13.7**	**+1.6**
MERV				*eS*	**Sn**	**04 55 07.0**	**-0.3**
SLBI	**Saint Lucia, B**	**4.90**	**5**	*eP*	**Pn**	**04 54 15.0**	**+2.5**
SLBI	**Saint Lucia, B**	**4.90**	**5**	*eS*	**Sn**	**04 55 05.7**	**-2.4**
BIRV	**Birongo**	**5.01**	**286**	*eP*	**Pn**	**04 54 16.2**	**+2.0**
BIRV				*eS*	**Sn**	**04 55 08.8**	**-2.1**
MPOM	**Morne Pois Mar**	**5.33**	**5**	*eP*	**Pn**	**04 54 20.5**	**+2.2**
MPOM	**Morne Pois Mar**	**5.33**	**5**	*eS*	**Sn**	**04 55 14.2**	**-4.2**
CACV	**CAICARA DEL OR**	**5.34**	**254**	*eP*	Pn	04 54 13.5	-5.0
CACV				*eS*	Sn	04 55 06.8	-12
BIM	**Bigot**	**5.38**	**3**	*eP*	**Pn**	**04 54 21.8**	**+2.7**
TACV	**Tcata**	**5.67**	**281**	*eP*	**Pn**	**04 54 24.3**	**+1.2**
BENV	**Beln**	**6.20**	**278**	*eP*	**Pn**	**04 54 31.6**	**+1.4**
TURV	**Turiamo**	**6.51**	**282**	*eP*	**Pn**	**04 54 35.9**	**+1.4**
TURV				*eS*	**Sn**	**04 55 44.8**	**-2.5**
BAUV	**El Baul**	**6.59**	**269**	*eP*	**Pn**	**04 54 36.3**	**+0.8**
BAUV				*eS*	**Sn**	**04 55 46.7**	**-2.6**
PAYV	**Puerto Ayacuch**	**7.23**	**240**	*eP*	**Pn**	**04 54 45.1**	**+0.9**
CURV	**Curarigua**	**8.52**	**277**	*eP*	**Pn**	**04 55 03.2**	**+1.4**
MONV	**Montecano**	**8.91**	**289**	*eP*	**Pn**	**04 55 07.0**	**-0.1**
SOCV	**Socops**	**9.41**	**266**	*eP*	Pn	04 55 13.6	-0.3

TUL 14 05:20:24.4±1.2, 35.°67N±0.°02×97.°09W±0.°03, h5km±5km, ML2.9, mb_Lg2.8/61(NEIC), Error ellipse: s-maj=4.3km s-min=2.5km az=119.0
NEIC 14 05:20:24.4±1.0, 35.°69N±0.°02×97.°08W±0.°03, h5km±1km, Error ellipse: s-maj=4.5km s-min=3.1km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.09**	**249**	Pg	Pg	05 20 26.1	-0.3
OK005				Sg	Sg	05 20 27.8	0.0
OK001	**Jones High Sch**	**0.21**	**233**	Pg	Pg	05 20 28.3	-0.3
OK001				Sg	Sg	05 20 31.5	+0.2
OK025	**Westminster Rd**	**0.23**	**243**		Pg	05 20 28.6	-0.3
OK025					Sg	05 20 32.2	+0.2
OK029	**Liberty Lake**	**0.32**	**290**	Pg	Pg	05 20 30.5	-0.1
OK029				Sg	Sg	05 20 35.3	+0.5
OK031	**S. Brethren Rd**	**0.33**	**37**	Pg	Pg	05 20 30.8	0.0
OKCSW	**OKLAHOMA CITY**	**0.40**	**226**	Pg	Pg	05 20 31.7	-0.5
OKCSW				Sg	Sg	05 20 37.6	+0.1
OKCFA	**Oklahoma City**	**0.41**	**228**	Pg	Pg	05 20 31.8	-0.5
OKCFA				Sg	Sg	05 20 37.6	+0.1
OKCFA	**Oklahoma City**	**0.41**	**228**	P		05 20 31.8	
	baz=47,SNR=18						
OKCFA				S		05 20 37.7	
	baz=47						
BCOK	**Bluff Creek, N**	**0.43**	**266**		Pg	05 20 32.4	-0.3
BCOK					Sg	05 20 38.6	+0.3
FNO	**Franklin**	**0.50**	**211**		Pg	05 20 33.5	-0.6
FNO					Sg	05 20 40.7	+0.1
QUOK	**Quay**	**0.57**	**32**	Pg	Pg	05 20 35.2	-0.2
TUL1	**Leonard**	**1.07**	**78**	P		05 20 43.5	
	baz=259						
BLOK	**Blackwell**	**1.08**	**354**	Pg	Pg	05 20 44.1	-1.0
CROK	**Carrier**	**1.09**	**318**	Pg	Pg	05 20 44.6	-0.8
X34A	**Smith Ranch, M**	**1.25**	**210**		Pg	05 20 47.0	-1.3
T35A	**Sooner Cattle**	**1.31**	**20**		Pn	05 20 48.1	-1.3
T35B	**Sooner Cattle**	**1.31**	**20**	P		05 20 48.0	
	baz=201,SNR=57						
T35B				S		05 21 06.1	
	baz=201						
GC02	**Grant County #**	**1.32**	**332**		Pn	05 20 48.6	-1.0
KAN13	**South Haven SW**	**1.36**	**347**		Pn	05 20 49.1	-0.9
OK032	**Salt Plains WL**	**1.44**	**321**	Pn	Pn	05 20 50.6	-0.6
KAN17	**Caldwell West**	**1.46**	**338**	Pn	Pn	05 20 51.4	-0.1
KAN09	**Caldwell North**	**1.51**	**344**		Pn	05 20 51.9	-0.2
KAN05	**Bluff City Nor**	**1.55**	**336**	Pn	Pn	05 20 52.7	0.0
KAN10	**Anthony SW Sta**	**1.65**	**331**	Pn	Pn	05 20 54.1	0.0
KS21	**Milan North St**	**1.66**	**344**	IAmb_Lg		05 21 17.5	
	comp=Z,57nm,0.8s						
WMOK	**Wichita Mounta**	**1.68**	**236**		Pn	05 20 54.0	-0.5
WMOK	**Wichita Mounta**	**1.68**	**236**	P		05 20 53.7	
	baz=55						
WMOK				S		05 21 16.6	
	baz=55						
LOOK	**Love County**	**1.69**	**183**		Pn	05 20 54.4	-0.2
KAN08	**Anthony NE Sta**	**1.69**	**335**	Pn	Pn	05 20 54.9	+0.2
KAN08				IAmb_Lg		05 21 20.7	
	comp=Z,47nm,0.7s						
U32A	**Winter Ranch,**	**1.70**	**295**		Pn	05 20 54.7	-0.1
U32A	**Winter Ranch,**	**1.70**	**295**	P		05 20 54.7	
	baz=113						
U32A				S		05 21 17.9	
	baz=113						
KAN12	**Harper NE Stat**	**1.77**	**336**	Pn	Pn	05 20 56.1	+0.4
X37A	**Clayton**	**1.78**	**127**		Pn	05 20 55.8	0.0
X37A				IAmb_Lg		05 21 23.9	
	comp=Z,29nm,0.9s						
X37A	**Clayton**	**1.78**	**127**	P		05 20 55.9	
	baz=309,SNR=60						
X37A				S		05 21 21.0	
	baz=309						
U38A	**Gravette**	**2.31**	**70**	Pn	Pn	05 21 03.5	+0.3
U38A	**Gravette**	**2.31**	**70**	P		05 21 03.5	
	baz=252,SNR=48						
Z35A	**Perchaven, San**	**2.36**	**183**	Pn	Pn	05 21 03.8	0.0
Z35A	**Perchaven, San**	**2.36**	**183**	P		05 21 04.0	
	baz=3.5,SNR=7.0						
HHAR	**Hobbs**	**2.62**	**76**	Pn	Pn	05 21 07.3	-0.1
W39A	**Magazine**	**2.74**	**99**	Pn	Pn	05 21 09.3	+0.2
W39A				IAmb_Lg		05 21 58.3	
	comp=Z,18n

KSJJU S Sg 05 34 50.5 +0.3
KSJJU Jeju 0.47 296 P Pg 05 34 44.0 +0.1
SNR=23
KSJJU S Sg 05 34 50.5 +0.3
KSJJU Jeju 0.47 296 P Pg 05 34 44.0 +0.1
SNR=23
KSJJU S Sg 05 34 50.5 +0.3
HALB Hallimjungang- 0.67 285 P Pb 05 34 47.3 -0.1
SNR=22
HALB Hallimjungang- 0.67 285 P Pb 05 34 47.3 -0.1
SNR=22
HALB Hallimjungang- 0.67 285 P Pb 05 34 47.3 -0.1
SNR=22
GOS1 Gosan-ri 0.70 276 P Pb 05 34 48.1 0.0
SNR=13
GOS1 Gosan-ri 0.70 276 P Pb 05 34 48.1 0.0
SNR=13
KSWAN Wando 1.20 346 P Pn 05 34 55.6 -0.6
KSWAN Wando 1.20 346 P Pn 05 34 55.6 -0.6
KSWAN Wando 1.20 346 P Pn 05 34 55.6 -0.6
KOHB KOHEUNG 1.40 8 P Pn 05 34 58.4 -0.6
KOHB KOHEUNG 1.40 8 P Pn 05 34 58.4 -0.6
BOSB Boseong-gun 1.54 5 P Pn 05 35 00.8 -0.1
JTSM Tsushimamitsu 2.24 60 S Sb 05 35 41.8 +0.1
JII Iki 2.32 75 S Sb 05 35 44.1 +0.3
JTU Tsushima 2.35 56 S Sb 05 35 45.4 +0.6

*IDC **14** 05:37:28.2±1.9, 6°.06S×103°.00E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/49, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=56.3km s-min=18.6km az=46.0*
*DJA **14** 05:37:31.1±1.6, 6°.5S±5°.×10°.3E±°, h14km±14km, M4.3/10, MLv4.3/10*
ISC 14 05:37:34.3±1.0, **5°.93S**±0°.08×**103°.21E**±0°.07, **h33**km, **n25**, σ1♀**60**/22, **mb4.1**/9, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.24**	**43**	P	**Pn**	**05 37 56.2**	**+0.8**
KASI	**Kota Agung**	**1.34**	**73**	P	**Pn**	**05 37 55.4**	**-1.3**
KASI				S	**Sn**	**05 38 12.8**	**-0.6**
MNAI	**Manna**	**1.58**	**351**	P	**Pb**	**05 38 03.0**	**0.0**
MDSI	**Maura Dua**	**1.73**	**34**	P	**Pn**	**05 38 03.4**	**+1.3**
MDSI				S	**Sb**	**05 38 28.2**	**+1.4**
BLSI	**Bandar Lampung**	**2.10**	**75**	P	**Pn**	**05 38 08.0**	**+0.8**
LHSI	**Lahat**	**2.11**	**9**	P	**Pb**	**05 38 10.5**	**-1.5**
KSI	**Kapahiang**	**2.35**	**345**	P	**Pb**	**05 38 14.6**	**-1.4**
MASI	**Maura Aman, Be**	**2.94**	**341**	P	**Pn**	**05 38 21.4**	**+2.7**
LEM	**Lembang**	**4.47**	**102**	Pn	**Pn**	**05 38 41.8**	**+1.9**
	6.1nm,0.3s,baz=198,slow=20,SNR=3.7						
LEM				Sn	**Sn**	**05 39 35.4**	**+4.5**
	6.5nm,0.3s,baz=183,slow=22,SNR=3.7						
CMAR	**Chiang Mai Arr**	**24.60**	**350**	P	**P**	**05 42 51.2**	**-0.4**
	1.8nm,0.6s,baz=184,slow=8.8,SNR=9.6						
H01W3	**Cape Leeuwin H**	**30.53**	**162**	T	T	06 15 26.1	
	baz=342						
H01W2	**Cape Leeuwin H**	**30.54**	**162**	T	T	06 15 25.6	
	baz=342						
H01W1	**Cape Leeuwin H**	**30.54**	**162**	T	T	06 15 27.3	
	baz=342						
H08S2	**Diego Garcia H**	**30.55**	**265**	T	T	06 15 31.3	
	baz=89,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**30.55**	**265**	T	T	06 15 30.2	
	baz=89,slow=75,SNR=6.7						
H08S1	**Diego Carcia H**	**30.56**	**265**	T	T	06 15 31.6	
	baz=89,slow=75,SNR=5.4						
WRA	**Warramunga Arr**	**33.30**	**118**	P	**P**	**05 44 08.2**	**-1.0**
	0.5nm,0.6s,baz=287,slow=9.9,SNR=5.2						
ASAR	**Alice Springs**	**34.39**	**124**	P	**P**	**05 44 18.0**	**-0.7**
	0.4nm,0.5s,baz=306,slow=7.9,SNR=2.9						
KSRS	**Korea Array**	**48.93**	**26**	P	**P**	**05 46 17.1**	**-0.2**
	1.0nm,0.6s,baz=228,slow=7.8,SNR=5.7						
SONM	**Songino Array**	**53.61**	**3**	P	**P**	**05 46 52.9**	**+0.5**
	2.6nm,0.8s,baz=180,slow=9.2,SNR=8.2						
MKAR	**Makanchi Array**	**55.68**	**343**	P	**P**	**05 47 07.3**	**0.0**
	2.0nm,0.6s,baz=143,slow=7.7,SNR=9.3						
USRK	**Ussuriysk Ar.**	**56.24**	**25**	P	**P**	**05 47 10.5**	**-0.9**
	1.5nm,0.7s,baz=192,slow=4.0,SNR=2.9						
KURBB	**Kurchatov Arra**	**60.23**	**342**	P	**P**	**05 47 37.3**	**-1.8**
	0.3nm,0.3s,baz=165,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**61.63**	**348**	P	**P**	**05 47 47.7**	**-0.8**
	1.0nm,0.3s,baz=163,slow=6.0,SNR=7.0						
TXAR	**Lajitas Array**	**145.57**	**44**	PKPbc	**PKPab**	**05 57 10.5**	**+0.1**
	1.1nm,0.5s,baz=286,slow=1.1,SNR=33						

*IDC **14** 05:45:58.6±0.8, 6°.83N×73°.05W, h155km±14km, mb3.2/5, mb1 3.6/8, mb1mx3.3/30, mbtmp3.8/8, Error ellipse: s-maj=35.2km s-min=8.1km az=133.0*
*RSNC **14** 05:45:59.8±0.7, 6°.80N×73°.13W, h151km±3km, ML3.7, Mw4.0*
ISC 14 05:45:58.9±0.8, **6°.81N**±0°.03×**73°.09W**±0°.04, **h157**km±6km, **n49**, σ1♀**39**/84, **mb3.5**/5, **6C-8D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**203**	⇓*iP*	**Pn**	**05 46 20.3**	**-0.1**
BARC				*eS*	**Sn**	**05 46 35.8**	**-1.1**
BARC				*i*		05 46 36.7	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**36**	⇑*iP*	**Pn**	**05 46 23.1**	**+0.7**
PAMC				*eS*	**Sn**	**05 46 40.4**	**-0.1**
PAMC				*i*		05 46 42.6	
	comp=Z,537nm,0.5s						
RUSC	**La Rusia**	**0.91**	**179**	⇓*iP*	**Pn**	**05 46 24.1**	**-0.1**
RUSC				*eS*	**Sn**	**05 46 42.9**	**-0.7**
RUSC				*i*		05 46 44.0	
	comp=Z,528nm,0.3s						
OCAC	**Ocana**	**1.44**	**351**	⇑*eP*	**Pn**	**05 46 28.4**	**-0.1**
OCAC				*eS*	**Sn**	**05 46 51.0**	**-0.4**
OCAC				*i*		05 46 57.4	
	comp=Z,1μm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*eP*	**Pn**	**05 46 32.5**	**-0.5**
ZARC				*eS*	**Sn**	**05 46 58.1**	**-1.2**
ZARC				*i*		05 47 03.9	
	comp=Z,719nm,0.3s						
NORC	**Norcasia**	**2.16**	**235**	*eP*	**Pn**	**05 46 36.0**	**-0.3**
NORC				*eS*	**Sn**	**05 47 04.4**	**-0.7**
NORC				*i*		05 47 08.7	
	comp=Z,397nm,0.4s						
SMLC	**San Martn de**	**2.20**	**334**	⇓*eP*	**Pn**	**05 46 36.3**	**-0.5**
SMLC				*eS*	**Sn**	**05 47 05.8**	**-0.4**
SMLC				*i*		05 47 10.0	
	comp=Z,302nm,0.2s						
CHIC	**Chingaza**	**2.26**	**196**	⇓*eP*	**Pn**	**05 46 38.0**	**+0.1**
CHIC				*eS*	**Sn**	**05 47 07.7**	**-0.2**
CHIC				*i*		05 47 16.0	
	comp=Z,242nm,0.5s						
ROSC	**El Rosal**	**2.31**	**212**	P	**Pn**	**05 46 40.3**	**+1.9**
	comp=Z,48nm,0.3s,baz=211,slow=1.4,SNR=213						
ROSC				S	**Sn**	**05 47 09.2**	**+0.3**
	comp=Z,39nm,0.3s,baz=188,slow=16,SNR=6.4						
ROSC	**El Rosal**	**2.31**	**212**	⇓*eP*	**Pn**	**05 46 39.8**	**+1.4**
ROSC				*eS*	**Sn**	**05 47 08.3**	**-0.6**
ROSC				*i*		05 47 14.5	
	comp=Z,679nm,0.5s						
HELC	**Santa Helena**	**2.50**	**256**	*eP*	**Pn**	**05 46 40.1**	**-0.6**
HELC				*eS*	**Sn**	**05 47 12.4**	**-0.5**
HELC				*i*		05 47 18.5	
	comp=Z,264nm,0.5s						
VILC	**Villavicencio,**	**2.75**	**193**	*eP*	**Pn**	**05 46 44.0**	**+0.5**
VILC				*eS*	**Sn**	**05 47 16.9**	**-1.1**
LL2C	**La Loma 2 Cana**	**2.75**	**353**	*eP*	**Pn**	**05 46 43.7**	**+0.3**
LL2C				*eS*	**Sn**	**05 47 18.3**	**+0.4**
LL2C				*i*		05 47 22.0	
	comp=Z,514nm,0.4s						
LL1C	**La Loma 1 Cana**	**2.75**	**350**	*eP*	**Pn**	**05 46 45.2**	**+1.8**
LL1C				*eS*	**Sn**	**05 47 19.5**	**+1.5**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*eP*	**Pn**	**05 46 44.1**	**+0.1**
GUY2C				*eS*	**Sn**	**05 47 18.3**	**-0.4**
GUY2C				*i*		05 47 27.5	
	comp=Z,264nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.76**	**160**	⇓*iP*	**Pn**	**05 46 43.2**	**-0.4**
PTGC				*eS*	**Sn**	**05 47 16.4**	**-1.8**
PTGC				*i*		05 47 18.8	
	comp=Z,76nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.05**	**252**	⇑*eP*	**Pn**	**05 46 47.4**	**+0.1**
CBOC				*eS*	**Sn**	**05 47 24.9**	**0.0**
CBOC				*i*		05 47 38.5	
	comp=Z,80nm,0.4s						
DBBC	**Dabeiba**	**3.10**	**274**	⇑*eP*	**Pn**	**05 46 47.6**	**-0.3**
DBBC				*eS*	**Sn**	**05 47 24.4**	**-1.4**
TOLC	**Tolima**	**3.13**	**225**	*eP*	**Pn**	**05 46 48.5**	**0.0**
TOLC				*eS*	**Sn**	**05 47 27.7**	**+0.8**
TOLC				*i*		05 47 34.2	
	comp=Z,270nm,0.6s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**05 46 49.6**	**+0.5**
	comp=Z,36nm,0.3s,baz=232,slow=11,SNR=27						
SDV				S	**Sn**	**05 47 26.4**	**-1.7**
	comp=Z,18nm,0.3s,baz=243,slow=22,SNR=11						
SDV	**Santo Domingo**	**3.19**	**50**	*eP*	**Pn**	**05 46 49.6**	**+0.5**
SDV				*eS*	**Sn**	**05 47 26.9**	**-1.2**
SDV				*i*		05 47 30.3	
	comp=Z,56nm,0.4s						
MOTC	**Monteria, Cord**	**3.21**	**308**	*eP*	**Pn**	**05 46 47.4**	**-1.8**
MOTC				*eS*	**Sn**	**05 47 25.6**	**-2.7**
MOTC				*i*		05 47 28.5	
	comp=Z,180nm,0.4s						
ARGC	**Ariguani, Magd**	**3.24**	**339**	*eP*	**Pn**	**05 46 50.4**	**+0.8**
ARGC				*eS*	**Sn**	**05 47 30.4**	**+1.5**
ARGC				*i*		05 47 35.6	
	comp=Z,94nm,0.3s						
ANIL	**Santa Ana**	**3.25**	**225**	*eP*	**Pn**	**05 46 50.6**	**+0.5**
ANIL				*eS*	**Sn**	**05 47 29.8**	**+0.1**
PRAC	**Prado**	**3.56**	**210**	*eP*	**Pn**	**05 46 53.5**	**-0.2**
PRAC				*eS*	**Sn**	**05 47 35.9**	**-0.3**
PRAC				*i*		05 47 42.0	
	comp=Z,308nm,0.5s						
ELOV	**Elorza**	**3.59**	**87**	*eP*	**Pn**	**05 46 54.3**	**+0.3**
ELOV				*eS*	**Sn**	**05 47 35.7**	**-1.1**
ORTC	**Ortega, Tolima**	**3.59**	**217**	*eP*	**Pn**	**05 46 54.0**	**-0.1**
ORTC				*eS*	**Sn**	**05 47 36.6**	**-0.4**
ORTC				*i*		05 47 44.9	
	comp=Z,126nm,0.4s						
PLMC	**San Jos del P**	**3.69**	**239**	⇑*eP*	**Pn**	**05 46 55.6**	**+0.2**
PLMC				*eS*	**Sn**	**05 47 38.4**	**-1.0**
PLMC				*i*		05 47 44.6	
	comp=Z,87nm,0.4s						
SJCC	**San Jacinto, C**	**3.70**	**326**	⇓*eP*	**Pn**	**05 46 53.8**	**-1.6**
SJCC				*eS*	**Sn**	**05 47 35.5**	**-4.0**
SJCC				*i*		05 47 39.8	
	comp=Z,92nm,0.6s						
GUVC	**San Jose del G**	**4.26**	**174**	*eP*	**Pn**	**05 47 01.9**	**-0.9**
GUVC				*eS*	**Sn**	**05 47 50.4**	**-2.2**
GUVC				*i*		05 47 55.6	
	comp=Z,86nm,0.3s						
YOTC	**Yotoco, Valle**	**4.29**	**229**	⇑*eP*	**Pn**	**05 47 02.3**	**-0.8**
YOTC				*eS*	**Sn**	**05 47 55.0**	**+1.8**
SMRC	**Santa Marta, M**	**4.47**	**346**	*eP*	**Pn**	**05 47 05.5**	**0.0**
SMRC				*eS*	**Sn**	**05 47 53.1**	**-4.3**
SMRC				*i*		05 47 59.5	
	comp=Z,55nm,0.3s						
MACC	**Macarena, Meta**	**4.69**	**189**	⇓*eP*	**Pn**	**05 47 06.8**	**-1.7**
MACC				*eS*	**Sn**	**05 47 57.8**	**-4.9**
MACC				*i*		05 48 04.8	
	comp=Z,42nm,0.5s						
PTAC	**Punta Ardita,**	**4.69**	**274**	*eP*	**Pn**	**05 47 07.7**	**-0.7**
MARP	**Paez Belalcaza**	**4.86**	**216**	*eP*	**Pn**	**05 47 10.9**	**0.0**
MALC	**Bahia Malaga**	**5.05**	**237**	*eP*	**Pn**	**05 47 14.1**	**+0.9**
UPD2	**Meteti**	**5.17**	**290**	*eP*	**Pn**	**05 47 13.1**	**-1.6**
GARC	**Garzon, Huila**	**5.18**	**208**	*eP*	**Pn**	**05 47 14.1**	**-0.9**
GARC				*eS*	**Sn**	**05 48 10.6**	**-3.9**
GARC				*i*		05 48 18.0	
	comp=Z,39nm,0.4s						
PCON	**Cinco Dias**	**5.54**	**217**	*eP*	**Pn**	**05 47 21.2**	**+1.1**
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*	Pn	05 47 11.8	-8.0
SOTA	**Rioblanco**	**5.82**	**217**	*eP*	**Pn**	**05 47 24.6**	**+0.9**
BBAC	**Balboa, Cauca**	**6.31**	**221**	*eP*	**Pn**	**05 47 30.6**	**+0.6**
BBAC				*eS*	**Sn**	**05 48 40.1**	**-1.3**
BBAC				*i*		05 48 46.0	
	comp=Z,9.7nm,0.3s						
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	**Pn**	**05 48 06.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=217,slow=7.3,SNR=5.9						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**05 52 49.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=129,slow=8.7,SNR=10						
TXAR				PcP	**PcP**	**05 55 10.8**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=151,slow=3.9,SNR=3.4						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**05 54 15.4**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=148,slow=8.1,SNR=3.2						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**05 54 22.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=122,slow=7.6,SNR=4.7						
NVAR	**Mina Array Bea**	**51.51**	**315**	P	**P**	**05 54 49.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=160,slow=9.0,SNR=2.7						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**05 56 10.2**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=132,slow=6.9,SNR=7.0						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPdf**	**06 05 27.9**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=128,slow=3.1,SNR=1.6						

*IDC **14** 05:46:11.7±0.8, 34°.45N×73°.50E, h0km, mb4.0/16, mb1 4.1/20, mb1mx4.0/45, mbtmp4.0/20, ML3.7/4, MS3.1/6, Ms1 3.1/6, ms1mx2.7/48, Error ellipse: s-maj=20.6km s-min=15.1km az=47.0*
*MOS **14** 05:46:13.6±1.5, 34°.49N×73°.62E, h17km, mb4.4/7, Error ellipse: s-maj=12.5km s-min=5.5km az=91.1*
*NEIC **14** 05:46:15.6±2.8, 34°.37N±0°.05×73°.74E±0°.08, h25km±6km, mb4.5/9, Error ellipse: s-maj=9.7km s-min=7.6km az=103.0*
*BJI **14** 05:46:17.8±0.0, 34°.70N×73°.40E, h70km, mB4.5/6, mb4.2/13*
ISC 14 05:46:15.6±0.5, **34°.43N**±0°.06×**73°.49E**±0°.06, **h22**km, **n82**, σ2♀**06**/92, **mb4.2**/24, **MS3.0**/4, **7C-1D**, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.80**	**195**	P	**Pn**	**05 46 32.2**	**+0.6**
NIL	**Nilore**	**0.80**	**195**	Pn	**Pn**	**05 46 32.1**	**+0.6**
KBL	**Kabul**	**3.68**	**273**	P	**Pn**	**05 47 15.5**	**+4.2**
KBL	**Kabul**	**3.68**	**273**	Pn	**Pn**	**05 47 15.4**	**+4.2**
SMLA	**Simla**	**4.52**	**136**	*eP*	**Pn**	**05 47 25.6**	**+3.0**
SMLA				*eS*	**Sn**	**05 48 17.3**	**+2.8**
DRK	**Karamyk**	**5.22**	**345**	Pn	**Pn**	**05 47 36.6**	**+4.0**
GAR	**Garm**	**5.23**	**332**		**Pn**	**05 47 34.8**	**+2.3**
CHGR	**Chuyangaron**	**5.47**	**322**		**Pn**	**05 47 34.9**	**-1.1**
CHGR					**Sn**	**05 48 41.2**	**+2.9**
BTK	**Batken**	**6.01**	**340**	P	**Pn**	**05 47 46.0**	**+2.8**
BTK	**Batken**	**6.01**	**340**	Pn	**Pn**	**05 47 46.0**	**+2.8**
TARG	**Taragay, Kyrgy**	**8.04**	**24**	Pn	**Pn**	**05 48 13.2**	**+1.8**
AAK	**Ala-Archa**	**8.23**	**5**	Pn	**Pn**	**05 48 15.3**	**+1.5**
	0.6nm,0.3s,baz=198,slow=12,SNR=5.0						
AAK				Sn	**Sn**	**05 49 48.1**	**+1.9**
	0.5nm,0.3s,baz=198,slow=12,SNR=1.9						
AAK				LR	LR	05 51 42.1	
	comp=Z,97nm,19.3s,baz=210,slow=40						
AAK	**Ala-Archa**	**8.23**	**5**	*ceP*	**Pn**	**05 48 15.6**	**+1.8**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BOOM	**Boomskoye usch**	**8.27**	**13**	P	**Pn**	**05 48 16.2**	**+1.8**
BOOM	**Boomskoye usch**	**8.27**	**13**	Pn	**Pn**	**05 48 16.2**	**+1.8**
PRZ	**Przheval'sk**	**8.91**	**24**	P	**Pn**	**05 48 25.1**	**+1.9**
PRZ	**Przheval'sk**	**8.91**	**24**	Pn	**Pn**	**05 48 25.1**	**+1.9**
KK31	**Karatay Array**	**8.97**	**346**	P	**Pn**	**05 48 24.9**	**+1.1**
KK31						05 50 04.2	
KK31	**Karatay Array**	**8.97**	**346**	Pn	**Pn**	**05 48 24.9**	**+1.1**
KK31					**Sn**	**05 50 04.2**	**+0.1**
KKAR	**Karatay Array**	**8.97**	**346**	P	**Pn**	**05 48 24.9**	**+1.1**
KKAR						05 50 04.2	
KKAR	**Karatay Array**	**8.97**	**346**		**Pn**	**05 48 24.9**	**+1.1**
KKAR					**Sn**	**05 50 04.2**	**+0.1**
KKAR	**Karatay Array**	**8.97**	**346**	Pn	**Pn**	**05 48 24.6**	**+0.8**
KKAR					**Sn**	**05 50 03.9**	**-0.2**
PYUN	**Piuthan**	**10.28**	**125**	*eP*	**Pn**	**05 48 44.8**	**+2.8**
	comp=Z,28nm,0.3s						
DANN	**Dangsing**	**10.66**	**122**	*eP*	**Pn**	**05 48 47.6**	**+0.3**
	comp=Z,15nm,0.3s						
KOLN	**Koldanda**	**10.91**	**125**	*eP*	**Pn**	**05 48 51.2**	**+0.6**
	comp=Z,8.3nm,0.3s						
GKN	**Gorkha**	**11.49**	**121**	*eP*	**Pn**	**05 48 58.6**	**+0.2**
	comp=Z,12nm,0.3s						
PKIN	**Phulchoki**	**12.28**	**121**	*eP*	**Pn**	**05 49 08.9**	**-0.5**
	comp=Z,9.1nm,0.3s						
PKI	**Pulchoki**	**12.29**	**121**	*eP*	**Pn**	**05 49 09.4**	**-0.2**
	comp=Z,6.0nm,0.3s						
GUN	**Gumba**	**12.43**	**118**	*eP*	**Pn**	**05 49 10.1**	**-1.5**
	comp=Z,11nm,0.3s						
JIRN	**Jiri**	**12.80**	**118**	*eP*	**Pn**	**05 49 15.3**	**-1.3**
	comp=Z,18nm,0.3s						
MK31	**Makanchi Array**	**14.03**	**26**	*i* P	**Pn**	**05 49 31.5**	**-1.5**
MK31	**Makanchi Array**	**14.03**	**26**	Pn	**Pn**	**05 49 32.7**	**-0.3**
MKAR	**Makanchi Array**	**14.03**	**26**	Pn	**Pn**	**05 49 31.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=6.9						
MKAR				LR	LR	05 55 36.0	
	comp=Z,61nm,20.9s,baz=212,slow=40						
MKAR	**Makanchi Array**	**14.03**	**26**	*ceP*	**Pn**	**05 49 33.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**16.60**	**11**	Pn	**Pn**	**05 50 05.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=202,slow=12,SNR=8.7						
KURK	**Kurchatov**	**16.70**	**11**	P	**Pn**	**05 50 05.5**	**-2.6**
KURK	**Kurchatov**	**16.70**	**11**		**Pn**	**05 50 05.5**	**-2.6**
ABKAR	**Akbulak array**	**17.88**	**330**	P	**Pn**	**05 50 22.1**	**-0.7**
ABKAR	**Akbulak array**	**17.88**	**330**	P	**Pn**	**05 50 22.2**	**-0.6**
DGZ	**Jazzator, Alta**	**18.39**	**30**	*c iP*	**P**	**05 50 28.0**	**-1.1**
BVAR	**Borovoye Array**	**18.72**	**354**	P	**P**	**05 50 30.2**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=209,slow=15,SNR=5.6						
BRVK	**Borovoye**	**18.76**	**354**	*ceP*	**P**	**05 50 32.5**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**19.59**	**329**	P	**P**	**05 50 42.6**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=136,slow=9.7,SNR=35						
AKTO				S	**S**	**05 54 12.5**	**-9.5**
	comp=Z,0.1nm,0.3s,baz=35,slow=22,SNR=1.4						
ZAA0	**Zalesovo Array**	**21.09**	**19**	P	**P**	**05 50 57.2**	**-1.1**
ZALV	**Zalesovo Beam**	**21.09**	**19**	P	**P**	**05 50 55.6**	**-2.6**
	comp=Z,3.9nm,0.5s,baz=215,slow=10.0,SNR=11						
ZALV				LR	LR	05 58 26.4	
	comp=Z,29nm,20.1s,baz=236,slow=35						
ZALV	**Zalesovo Beam**	**21.09**	**19**	*eP*	**P**	**05 50 56.1**	**-2.1**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**21.09**	**19**	P	**P**	**05 50 56.9**	**-1.3**
GTA	**Gaotai**	**21.59**	**69**	⇓P	**P**	**05 51 03.8**	**-0.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI	**Garni**	**23.52**	**292**	P	**P**	**05 51 21.8**	**-2.4**
	comp=Z,11nm,0.7s,baz=345,slow=21,SNR=2.2						
GNI	**Garni**	**23.52**	**292**	*ceP*	**P**	**05 51 22.2**	**-2.0**
GNI				pmax	pmax		
	comp=Z,16nm,1.0s						
ARU	**Arti**	**24.26**	**340**	P	**P**	**05 51 31.7**	**+0.8**
	comp=Z,2.6nm,0.2s,baz=163,slow=4.6,SNR=11						
ARU	**Arti**	**24.26**	**340**	*c iP*	**P**	**05 51 31.4**	**+0.5**
ARU						05 51 59.1	
ARU				S	**S**	**05 55 47.0**	**-1.2**
ARU				SS	**SnSn**	**05 56 35.0**	**+3.7**
ARU				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	**Arti**	**24.26**	**340**	P	**P**	**05 51 31.7**	**+0.8**
ARU				IAmb	IAmb	05 51 32.1	
	comp=Z,8.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.68**	**119**	P	**P**	**05 52 02.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=299,slow=9.9,SNR=6.9						
TLY	**Talaya**	**27.70**	**42**	LR	LR	06 03 59.0	
	comp=Z,34nm,19.1s,baz=192,slow=39						
SONM	**Songino Array**	**27.93**	**51**	P	**P**	**05 52 04.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=251,slow=9.2,SNR=4.3						
SONM				LR	LR	06 04 30.8	
	comp=Z,94nm,18.9s,baz=46,slow=39						
KIRV	**Kirov**	**28.99**	**334**	*ceP*	**P**	**05 52 12.4**	**-0.9**
OBN	**Obninsk**	**32.83**	**320**	*eP*	**P**	**05 52 46.7**	**-0.5**
OBN				*e*		05 53 54.8	
OBN				*e*		05 55 29.1	
OBN				pmax	pmax		
	comp=Z,13nm,0.4s						
AKASG	**Malin Array Be**	**35.83**	**311**	P	**P**	**05 53 13.3**	**0.0**
	comp=Z,1.1nm,0.5s,baz=82,slow=6.9,SNR=3.0						
AKASG				LR	LR	06 08 54.4	
	comp=Z,23nm,19.6s,baz=65,slow=38						
MNK	**Minsk**	**37.40**	**317**	*i* P	P	05 53 32.3	+5.7
MNK				*i*		05 54 58.4	
MNK				*i* S	**S**	**05 59 16.6**	**+3.2**
MNK				*i* SSS	SSS	06 02 14.8	
MNK				pmax	pmax		
	comp=N,12nm,0.8s						
MNK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK	**Minsk**	**37.40**	**317**	*i* P	P	05 53 32.4	+5.7
	comp=E,2.0nm,0.8s						
MNK				*i* P	P	05 53 32.4	+5.7
	comp=N,12nm,0.8s						
MNK				*i* P	P	05 53 32.4	+5.7
	comp=Z,3.0nm,0.6s,baz=284						
MNK				*i* pP	sP	05 53 49.4	+13
MNK				*i* sP	pP	05 53 57.8	+24
MNK				*i* PP	**PnPn**	**05 54 58.5**	**+5.7**
MNK				*i* S	**S**	**05 59 16.7**	**+3.2**
MNK				*i* sS	ScP	05 59 44.5	+14
MNK				*i* SS	**SS**	**06 01 57.3**	**-0.1**
MNK				*i* SSS	SSS	06 02 14.8	
MNK				*i* LR	LR	06 09 00.1	
GSI	**Gunungsitoli**	**39.90**	**141**	P	**P**	**05 53 45.0**	**-3.0**
FINES	**FINESS Array B**	**40.33**	**327**	P	**P**	**05 53 50.8**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=96,slow=13,SNR=2.3						
ARCES	**ARCESS Array B**	**43.83**	**338**	P	**P**	**05 54 19.6**	**+0.1**

SNR=7.7
PRZ Przheval'sk 4.99 3 P **Pn 06 08 39.1 +2.3**
PRZ Przheval'sk 4.99 3 **Pn 06 08 39.1 +2.3**
BOOM Boomskoye usch 5.25 343 P **Pn 06 08 43.7 +3.3**
BOOM Boomskoye usch 5.25 343 **Pn 06 08 43.7 +3.3**
CHCP Chirah Chowk 5.47 227 P **Pn 06 08 47.6 +4.3**
NIL Nilore 5.49 227 P **Pn 06 08 42.8 -0.7**
NIL Nilore 5.49 227 **Pn 06 08 42.8 -0.7**
SATY Saty 5.57 3 *e*P **Pb 06 09 02.7 +3.4**
151nm,0.8s
SATY *e*S **Sg 06 10 17.4 -3.8**
402nm,0.9s
SATY Saty 5.57 3 Pg **Pg 06 09 05.7 -3.3**
151nm,0.8s
SATY Lg Lg 06 10 21.1
402nm,0.9s
TNSS Tian-Shan 5.61 352 Pg **Pb 06 09 04.0 +3.9**
109nm,0.7s
TNSS Lg Lg 06 10 18.7
341nm,0.9s
IZV Izvestkoviy 5.65 349 *e*P **Pb 06 09 04.5 +3.8**
79nm,0.9s
IZV *e*S **Sg 06 10 20.5 -3.3**
240nm,1.3s
IZV Izvestkoviy 5.65 349 Pg Pb 06 09 05.5 +4.8
79nm,0.9s
IZV Lg Lg 06 10 20.5
240nm,1.3s
UZB Uzynbulak 5.70 7 *e*P **Pb 06 09 03.8 +2.3**
72nm,0.5s
UZB *e*S **Sg 06 10 19.0 -6.3**
155nm,1.0s
UZB Uzynbulak 5.70 7 *e*P **Pn 06 08 48.1 +1.7**
MDOK Medeo 5.72 352 *e*P **Pb 06 09 05.5 +3.7**
48nm,0.6s
MDOK *e*S **Sg 06 10 22.2 -3.7**
153nm,0.7s
MDOK Medeo 5.72 352 ⇑Pn **Pn 06 08 49.1 +2.4**
15nm,0.8s
MDOK ⇓Pg **Pb 06 09 05.1 +3.3**
113nm,0.7s
MDOK ⇓Lg Lg 06 10 19.7
591nm,1.0s
MDOK Medeo 5.72 352 P **Pn 06 08 49.1 +2.4**
AML Almayashu 5.73 325 P **Pn 06 08 49.8 +2.7**
SNR=11
TKM2 Tokmak 2 5.74 342 P **Pn 06 08 50.4 +3.2**
SNR=22
TKM2 Tokmak 2 5.74 342 ⇑Pn **Pn 06 08 49.9 +2.8**
13nm,0.7s
TKM2 ⇑Pg **Pb 06 09 05.7 +3.4**
87nm,1.0s
TKM2 ⇑Lg Lg 06 10 27.1
258nm,0.9s
TKM2 Tokmak 2 5.74 342 P **Pn 06 08 49.9 +2.8**
SHLS Shalkode 5.76 10 *e*P **Pb 06 09 06.7 +4.2**
112nm,0.5s
SHLS *e*S **Sg 06 10 24.1 -3.2**
300nm,0.6s
SHLS Shalkode 5.76 10 *e*P **Pn 06 08 50.4 +3.1**
KST Kastek 5.77 344 *e*P Pb 06 09 08.8 +6.0
93nm,1.2s
KST *e*S **Sg 06 10 27.7 0.0**
299nm,1.4s
KST Kastek 5.77 344 Pg Pg 06 09 09.0 -4.1
93nm,1.2s
KST Lg Lg 06 10 27.5
299nm,1.4s
KNDC Almaty 5.78 352 ⇓Pg **Pb 06 09 06.9 +4.1**
242nm,0.7s
KNDC ⇓Lg Lg 06 10 23.6
1μm,0.8s
AAK Ala-Archa 5.82 333 Pn **Pn 06 08 51.6 +3.4**
4.3nm,0.3s,baz=149,slow=8.0,SNR=15
AAK Pg **Pb 06 09 04.2 +0.6**
5.2nm,0.3s,baz=173,slow=10,SNR=12
AAK Lg Lg 06 10 24.7
7.8nm,0.3s,baz=29,slow=10,SNR=5.4
AAK Ala-Archa 5.82 333 P **Pn 06 08 51.3 +3.1**
SNR=9.5
AAK Ala-Archa 5.82 333 ⇓Pn **Pn 06 08 51.1 +2.9**
20nm,0.8s
AAK ⇓Pg **Pb 06 09 07.8 +4.1**
134nm,1.2s
AAK ⇑Lg Lg 06 10 28.5
572nm,1.1s
AAK Ala-Archa 5.82 333 *c*e P **Pn 06 08 51.3 +3.1**
AAK pmax pmax
comp=Z,204nm,0.7s
AAK Ala-Archa 5.82 333 Pn **Pn 06 08 49.4 +1.2**
PDGK Podgornoye 5.93 10 ⇑Pn **Pn 06 08 51.0 +1.4**
comp=Z,43nm,1.0s
PDGK ⇓Pg **Pb 06 09 07.4 +1.9**
comp=Z,118nm,1.1s
PDGK ⇑Lg Lg 06 10 35.5
comp=Z,368nm,0.8s
PDGK Podgornoye 5.93 10 P **Pn 06 08 51.2 +1.6**
KPKS Kokpek 5.99 4 *e*P **Pb 06 09 10.2 +3.8**
comp=Z,131nm,0.8s
KPKS *e*S **Sg 06 10 30.0 -4.5**
comp=Z,258nm,1.1s
KPKS Kokpek 5.99 4 *e*P **Pn 06 08 52.2 +1.8**
DGS Degeres 6.00 344 *e*P Pb 06 09 11.8 +5.1
comp=Z,84nm,0.8s
DGS *e*S **Sg 06 10 33.0 -2.2**
comp=Z,193nm,1.0s
DGS Degeres 6.00 344 Pg Pb 06 09 11.3 +4.6
comp=Z,84nm,0.8s
DGS Lg Lg 06 10 30.6
comp=Z,193nm,1.0s
CHMS Chumysh 6.06 336 P **Pn 06 08 54.5 +3.2**
SNR=7.0
EKS2 Erkin-Say 6.12 329 P **Pn 06 08 56.1 +3.9**
SNR=13
CEP Cherat 6.21 236 P **Pn 06 08 56.3 +2.8**
BTK Batken 6.22 297 P **Pn 06 08 56.5 +2.9**
BTK Batken 6.22 297 **Pn 06 08 56.5 +2.9**
GAR Garm 6.28 286 **Pn 06 08 56.1 +1.6**
KTBS Karatobe 6.30 351 *e*P **Pb 06 09 15.9 +4.2**
comp=Z,31nm,0.6s
KTBS *e*S **Sg 06 10 39.7 -5.0**
comp=Z,233nm,0.9s
KRBS Karabastau 6.46 344 *e*P **Pb 06 09 18.4 +4.0**
comp=Z,26nm,0.5s
KRBS *e*S **Sg 06 10 44.5 -5.2**
comp=Z,133nm,1.0s
ARXS Arharly 6.72 359 *e*P **Pn 06 09 02.3 +1.9**
THW Thamme Wali 6.99 230 P **Pn 06 09 06.8 +2.7**
CHGR Chuyangaron 7.12 282 **Pn 06 09 06.0 0.0**
KBL Kabul 7.88 251 P **Pn 06 09 17.8 +1.3**
KBL Kabul 7.88 251 Pn **Pn 06 09 17.8 +1.3**
KK31 Karatay Array 8.04 317 ⇑Pn **Pn 06 09 18.5 0.0**
comp=Z,1.3nm,0.4s,baz=127,slow=13,SNR=14
KK31 ⇓Pg **Pb 06 09 45.3 +4.0**
comp=Z,8.0nm,0.6s,baz=126,slow=14,SNR=6.3
KK31 ⇑Sn **Sn 06 10 47.4 -1.7**
comp=Z,18nm,0.5s
KK31 ⇑Lg Lg 06 11 34.2
comp=Z,67nm,0.8s
KK31 Karatay Array 8.04 317 P **Pn 06 09 19.2 +0.6**
KK31 Karatay Array 8.04 317 Pn **Pn 06 09 19.2 +0.6**
KKAR Karatay Array 8.04 317 P **Pn 06 09 19.5 +0.9**
KKAR Karatay Array 8.04 317 **Pn 06 09 19.5 +0.9**
KKAR Karatay Array 8.04 317 Pn **Pn 06 09 19.1 +0.5**
WMQ Urumqi 9.66 46 *e*P **Pn 06 09 41.8 +1.0**
WMQ S **Sn 06 11 29.5 +0.5**
WMQ smax smax
comp=Z,150nm,0.9s
WMQ smax smax
comp=Z,130nm,0.9s
MAKZ Makanchi 9.75 16 P **Pn 06 09 42.2 +0.3**
MAKZ Makanchi 9.75 16 **Pn 06 09 42.2 +0.3**
MK31 Makanchi Array 9.81 17 ⇑Pn **Pn 06 09 43.3 +0.6**
comp=Z,10nm,0.6s,baz=202,slow=12,SNR=247
MK31 ⇑Sn **Sn 06 11 29.3 -3.1**
comp=Z,46nm,0.8s,baz=159,slow=41,SNR=5.8
MK31 Makanchi Array 9.81 17 *d i*P **Pn 06 09 43.1 +0.4**
MK31 Makanchi Array 9.81 17 Pn **Pn 06 09 43.3 +0.6**
MKAR Makanchi Array 9.81 17 Pn **Pn 06 09 43.7 +1.0**
comp=Z,3.0nm,0.3s,baz=199,slow=13,SNR=216
MKAR Sn **Sn 06 11 29.4 -3.0**
comp=Z,1.8nm,0.3s,baz=203,slow=22,SNR=6.1
MKAR LR LR 06 13 28.4
comp=Z,49nm,20.4s,baz=190,slow=37
MKAR Makanchi Array 9.81 17 *i* P **Pn 06 09 43.4 +0.7**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 9.81 17 Pn **Pn 06 09 42.9 +0.2**
PYUN Piuthan 10.24 155 *e*P **Pn 06 09 49.0 +0.2**
DANN Dangsing 10.29 151 *e*P **Pn 06 09 50.1 +0.4**
KOLN Koldanda 10.75 153 *e*P **Pn 06 09 55.2 -0.7**
GKN Gorkha 10.96 148 *e*P **Pn 06 09 59.0 +0.4**
comp=Z,61nm,0.3s
KKN Kakani 11.42 146 *e*P **Pn 06 10 04.5 -0.5**
GUN Gumba 11.59 143 *e*P **Pn 06 10 07.5 0.0**
comp=Z,25nm,0.5s
PKIN Phulchoki 11.65 146 *e*P **Pn 06 10 07.0 -1.3**
comp=Z,26nm,0.5s
PKI Pulchoki 11.67 146 *e*P **Pn 06 10 07.2 -1.3**
comp=Z,33nm,0.5s
JIRN Jiri 11.95 143 *e*P **Pn 06 10 12.4 -0.1**
comp=Z,49nm,0.4s
RAMN Ramite 12.74 143 *e*P **Pn 06 10 21.5 -1.7**
comp=Z,25nm,0.4s
BRZS Berezniki 13.07 344 *e*P **Pn 06 10 26.5 -0.8**
KURBB Kurchatov Arra 13.13 1 Pn **Pn 06 10 27.6 -0.5**
comp=Z,0.0nm,0.3s,baz=188,slow=12,SNR=13
KURBB Lg Lg 06 14 18.9
comp=Z,0.1nm,0.3s,baz=190,slow=32,SNR=2.7
KURK Kurchatov 13.23 2 P **Pn 06 10 27.6 -1.8**
KURK Kurchatov 13.23 2 **Pn 06 10 27.6 -1.8**
DGZ Jazzator, Alta 13.95 26 *i* P **Pn 06 10 38.6 -0.8**
GEYT Alibeck 15.80 278 Pn **Pn 06 11 04.4 +0.2**
comp=Z,0.5nm,0.3s,baz=252,slow=32,SNR=3.9
GEYT Sn Sn 06 13 45.7 -13
comp=Z,0.6nm,0.3s,baz=78,slow=16,SNR=1.6
GEYT LR LR 06 19 04.0
comp=Z,397nm,19.3s,baz=45,slow=44
GYA0B ALIBECK ARRAY 15.80 278 P **P 06 11 07.9 -0.1**
GYA0B IAmb IAmb 06 11 09.5
comp=Z,19nm,0.7s
BVAR Borovoye Array 16.43 343 Pn **Pn 06 11 11.4 -0.7**
baz=155,slow=39,SNR=1.7
BVAR Lg Lg 06 16 02.0
comp=Z,0.3nm,0.3s,baz=83,slow=13,SNR=3.4
BRVK Borovoye 16.48 343 *d i*P **Pn 06 11 12.8 0.0**
BRVK Borovoye 16.48 343 P **P 06 11 16.1 +0.7**
BRVK IAmb IAmb 06 11 24.7
comp=Z,85nm,1.2s
SHL Shillong 16.71 131 P **Pn 06 11 11.5 -4.5**
SHL pmax pmax
comp=Z,7.0nm,1.0s
ZAA0 Zalesovo Array 17.11 14 **Pn 06 11 18.5 -2.1**
ZALV Zalesovo Beam 17.11 14 P **Pn 06 11 17.0 -3.6**
comp=Z,0.4nm,0.3s,baz=200,slow=12,SNR=10
ZALV S **Sn 06 14 33.4 +3.1**
comp=Z,0.7nm,0.3s,baz=205,slow=33,SNR=3.1
ZALV Lg Lg 06 16 22.3
comp=Z,0.2nm,0.3s,baz=183,slow=22,SNR=1.6
ZALV Zalesovo Beam 17.11 14 *i* P **Pn 06 11 18.3 -2.3**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 17.11 14 P **Pn 06 11 18.4 -2.2**
GTA Gaotai 17.14 77 *e*P **P 06 11 22.6 -0.3**
GTA pP sP 06 11 30.1 -0.4
GTA sP pP 06 11 34.1 +6.0
GTA pmax pmax
comp=Z,110nm,7.6s
GTA LR LR
comp=Z,620nm,13.5s
GTA LR LR
comp=Z,580nm,14.7s
GTA LR LR
comp=Z,610nm,11.9s
AB31 Akbulak array 17.61 318 ⇓P **P 06 11 29.2 +1.4**
comp=Z,2.5nm,0.7s,baz=124,slow=11,SNR=8.0
AB31 Akbulak array 17.61 318 P **P 06 11 29.2 +1.4**
ABKAR Akbulak array 17.61 318 P **P 06 11 28.3 +0.5**
ABKAR Akbulak array 17.61 318 P **Pn 06 11 27.6 +0.8**
BRDH Bariadhala 18.84 138 LR LR 06 20 39.0
comp=Z,346nm,18.1s,baz=156,slow=42
AKTO Aktyubinsk 19.30 318 P **P 06 11 47.5 +0.9**
comp=Z,0.3nm,0.3s,baz=123,slow=10.0,SNR=7.8
AKTO S **S 06 15 27.2 +2.9**
comp=Z,0.1nm,0.3s,baz=285,slow=19,SNR=1.9
AKTO Lg Lg 06 17 41.7
comp=Z,0.1nm,0.3s,baz=202,slow=18,SNR=1.6
AKTO Aktyubinsk 19.30 318 ⇑P **Pn 06 11 47.9 +0.3**
comp=Z,6.3nm,0.7s
HYB Hyderabad 20.00 179 *i* P **P 06 11 51.0 -3.4**
HYB *e*S **Sn 06 15 39.0 -1.8**
LZH Lanzhou 20.68 86 *e*P Pn 06 12 02.8 -1.3
LZH pP sP 06 12 13.5 +4.0
LZH sP pP 06 12 18.3 +11
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,210nm,6.0s
LZH LR LR
comp=Z,470nm,12.5s
LZH LR LR
comp=Z,400nm,11.9s
MOY Mondy 21.50 41 *e*P **P 06 12 12.7 +2.3**
WSAR Wadi Sarin 21.92 235 P **P 06 12 16.3 +1.3**
comp=Z,10nm,1.1s,baz=53,slow=5.1,SNR=3.2
WSAR LR LR 06 23 06.4
comp=Z,155nm,20.7s,baz=87,slow=43
ZAK Zakamensk 22.14 46 *e*P **P 06 12 17.5 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
CD2 Chengdu 22.20 100 *e*P **P 06 12 15.0 -3.1**
CD2 LR LR
comp=Z,430nm,12.4s
CD2 LR LR
comp=Z,400nm,15.3s
UOSS Minazif 22.43 242 P **P 06 12 19.7 -0.8**
UOSS IAmb IAmb 06 12 28.2
comp=Z,36nm,1.4s
TLY Talaya 22.93 44 P **P 06 12 26.8 +1.2**
comp=Z,1.6nm,0.4s,baz=185,slow=10,SNR=2.0
TLY LR LR 06 22 48.2
comp=Z,458nm,20.4s,baz=232,slow=40
TLY Talaya 22.93 44 *i* P **P 06 12 24.8 -0.8**
TLY pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 23.01 332 P **P 06 12 28.9 +2.6**
comp=Z,2.2nm,0.2s,baz=159,slow=7.4,SNR=6.5
ARU Lg Lg 06 19 33.5
comp=Z,0.7nm,0.3s,baz=90,slow=20,SNR=1.5
ARU LR LR 06 22 31.2
comp=Z,107nm,21.7s,baz=127,slow=40
ARU Arti 23.01 332 *c i*P **P 06 12 29.9 +3.6**
ARU 06 12 55.6
ARU SS Sn 06 17 22.4 +30
ARU pmax pmax
comp=Z,14nm,1.4s
ARU MLR MLR
comp=Z,228nm,11.0s
ARU Arti 23.01 332 P **P 06 12 26.3 0.0**
ARU IAmb IAmb 06 12 38.6
comp=Z,8.1nm,0.7s
SONM Songino Array 23.13 54 P **P 06 12 27.9 +0.1**
comp=Z,7.3nm,1.1s,baz=255,slow=9.9,SNR=16
SONM Lg Lg 06 19 51.2
comp=Z,3.7nm,1.2s,baz=246,slow=25,SNR=2.1
SONM LR LR 06 21 10.1
comp=Z,101nm,21.7s,baz=246,slow=36
SONM Songino Array 23.13 54 P **P 06 12 26.6 -1.3**
ULN Ulaanbaatar 23.57 55 P **P 06 12 29.3 -2.9**
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 23.57 55 P **P 06 12 29.3 -2.9**
ULN IAmb IAmb 06 12 40.3
comp=Z,13nm,0.8s
MAK Makhachkala 23.89 293 *e*P **P 06 12 33.3 -1.8**
MAK *e* 06 13 02.0
MAK *e*S **S 06 16 48.4 -2.1**
MAK pmax pmax
comp=Z,132nm,1.1s
MAK MLR MLR
comp=Z,233nm,12.0s
GROC Groznyy 25.15 293 *e*P **P 06 12 44.9 -1.7**
GROC pmax pmax
comp=Z,66nm,1.0s
XAN Xi'an 25.21 89 P **P 06 12 53.3 +5.9**
XAN pmax pmax
comp=Z,10.0nm,1.5s
XAN pmax pmax
comp=Z,380nm,5.5s
XAN LR LR
comp=Z,420nm,16.0s
XAN LR LR
comp=Z,380nm,15.0s
BELG Belogornoye 25.95 315 LR LR 06 23 06.4
comp=Z,67nm,19.9s,baz=133,slow=36
GNI Garni 26.02 286 P **P 06 12 56.6 +1.8**
comp=Z,4.4nm,0.4s,baz=58,slow=14,SNR=3.5
GNI Garni 26.02 286 *i* P **P 06 12 54.1 -0.7**
GNI pmax pmax
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 26.09 72 *e*P **P 06 12 53.9 -1.5**
HHC S **S 06 17 26.5 +0.5**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.2s
HHC LR LR
comp=Z,400nm,12.7s
HHC LR LR
comp=Z,410nm,11.8s
HHC LR LR
comp=Z,310nm,12.0s
CMAR Chiang Mai Arr 26.34 130 P **P 06 12 58.6 +0.9**
comp=Z,1.3nm,0.3s,baz=319,slow=12,SNR=7.0
CMAR LR LR 06 25 15.4
comp=Z,109nm,19.6s,baz=217,slow=41
GYA Guiyang 26.54 106 ⇓P **P 06 13 00.9 +1.4**
GYA pP sP 06 13 08.5 +0.9
GYA S **S 06 17 28.6 -4.7**
GYA pmax pmax
comp=Z,2.0nm,0.9s
GYA LR LR
comp=Z,61nm,5.4s
GYA LR LR
comp=Z,48nm,7.1s
GYA LR LR
comp=Z,39nm,5.3s
ONI Oni 26.86 292 P **P 06 13 01.8 -0.5**
ONI pmax pmax
comp=Z,20nm,1.5s
ONI Oni 26.86 292 P **P 06 13 01.8 -0.5**
ONI IAmb IAmb 06 13 07.4
comp=Z,20nm,1.5s
KBZ Khabaz 27.27 294 P **P 06 13 08.4 +2.6**
comp=Z,0.9nm,0.6s,baz=90,slow=7.1,SNR=1.5
KBZ Khabaz 27.27 294 *i* P **P 06 13 04.9 -0.9**
KBZ pmax pmax
comp=Z,5.0nm,1.4s
KIV Kislovodsk 27.43 295 *e*P **P 06 13 07.4 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,47nm,15.0s
SHA1 Shidzhatmaz 27.45 294 *i* P **P 06 13 06.8 -0.9**
WHN Wuhan 30.72 92 ⇑P P 06 13 47.4 +11
ANN Anapa 31.20 296 *e*P P 06 13 33.3 -7.4
ANN *e**PP pP 06 13 45.4 -1.0
ANN *e*PPP PPP 06 14 49.3
ANN pmax pmax
comp=Z,25nm,0.9s
OBN Obninsk 33.04 316 *e*P **P 06 13 56.7 +0.1**
OBN pmax pmax
comp=Z,14nm,0.5s
KLMR Klimovskoe 33.59 327 *e*P P 06 14 06.6 +5.2
KLMR *e* 06 16 40.8
KLMR pmax pmax
comp=Z,12nm,1.1s
KLMR MLR MLR
comp=Z,299nm,12.0s
KLMR Klimovskoe 33.59 327 *e*P P 06 14 06.7 +5.3
KLMR AMP 06 14 09.0
comp=Z,12nm,1.1s
KLMR *e*PcP **PcP 06 16 40.9 -0.5**
KLMR LQ LQ 06 23 44.5
KLMR LQ LQ 06 23 44.5
KLMR LR LR 06 27 05.9
KLMR AMP 06 28 53.9
comp=Z,299nm,11.9s
NJ2 Nanjing 33.75 87 *e*P **P 06 14 00.5 -2.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
BR131 Keskin Array S 34.52 288 P **P 06 14 09.8 -0.2**
BR131 pmax pmax
comp=Z,15nm,1.2s
BR131 Keskin Array S 34.52 288 P **P 06 14 09.8 -0.2**
BRTR Keskin Array B 34.52 288 P **P 06 14 10.7 +0.6**
comp=Z,3.7nm,0.8s,baz=92,slow=6.4,SNR=13
BRTR Keskin Array B 34.52 288 P **P 06 14 09.1 -0.9**
AKASG Malin Array Be 36.81 307 P **P 06 14 29.1 -0.2**
comp=Z,0.4nm,0.4s,baz=75,slow=8.0,SNR=2.9
AKASG LR LR 06 31 53.3
comp=Z,172nm,18.2s,baz=105,slow=40
AKASG Malin Array Be 36.81 307 P **P 06 14 29.1 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 36.81 307 IAmb IAmb 06 14 38.5
comp=Z,0.6nm,0.8s
AKBB Malin Array Si 36.81 307 *i* P **P 06 14 27.1 -2.2**
MNK Minsk 37.87 313 *i* P P 06 14 33.5 -4.8
MNK *i* 06 16 01.4
MNK *i* S S 06 20 20.1 -8.6
MNK *i* SS **SnSn 06 23 05.8 -4.0**
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK pmax pmax
comp=N,25nm,0.7s
MNK MLR MLR
comp=N,84nm,10.0s
MNK MLR MLR
comp=Z,260nm,13.0s
MNK MLR MLR
comp=E,24nm,12.0s
MNK Minsk 37.87 313 *i* P P 06 14 33.5 -4.7
comp=E,4.0nm,0.8s
MNK *i* P P 06 14 33.5 -4.7
comp=N,25nm,0.7s
MNK *i* P P 06 14 33.5 -4.7
comp=Z,8.0nm,0.6s,baz=275
MNK *i* PP **PP 06 16 01.4 -3.2**
MNK *i* PPP PPP 06 16 22.4
MNK *i* S S 06 20 20.2 -8.5
MNK *i* SS **SnSn 06 23 05.8 -4.0**
MNK *i* SSS SSS 06 23 24.8
MNK *i* LR LR 06 29 55.7
MNK *i* LRM MLR 06 31 21.3
comp=N,84nm,10.2s
MNK *i* LRM MLR 06 31 29.0
comp=Z,260nm,12.8s
MNK *i* LRM MLR 06 31 32.8
comp=E,24nm,11.5s
JOF Joensuu 37.98 327 P **P 06 14 40.4 +1.4**
KSRS Korea Array 39.19 74 P **P 06 14 49.9 +0.5**
comp=E,0.4nm,0.3s,baz=228,slow=7.0,SNR=1.4
KSRS LR LR 06 34 08.1
comp=E,126nm,19.4s,baz=274,slow=41
YAK Yakutsk 39.88 35 LR LR 06 32 24.5
comp=E,111nm,19.9s,baz=268,slow=38
FINES FINESS Array B 39.93 324 P **P 06 14 56.3 +0.9**
comp=E,2.1nm,0.5s,baz=116,slow=8.4,SNR=16
FINES FINESS Array B 39.93 324 *i* P **P 06 14 56.4 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
KLR Kul'dur 39.96 55 P **P 06 14 57.1 +1.3**
comp=Z,1.0nm,0.6s,baz=278,slow=7.1,SNR=3.6
KLR Kul'dur 39.96 55 *i* P **P 06 14 56.4 +0.6**
KLR pmax pmax
comp=Z,56nm,3.8s
PABE Paberze 40.20 314 *e*P **P 06 14 58.3 +0.6**
MEF Metsahovi 40.50 322 *e*P **P 06 15 00.6 +0.5**
MTSE Matsula 40.58 319 *e*P **P 06 14 59.4 -1.4**
USRK Ussuriysk Ar. 40.71 63 LR LR 06 32 32.3
comp=Z,78nm,18.0s,baz=259,slow=37
PAIG Paliouri 41.96 291 P **P 06 15 13.3 +0.9**
ARCES ARCESS Array B 42.49 336 P **P 06 15 17.8 +1.4**
comp=Z,2.0nm,0.8s,baz=97,slow=12,SNR=1.8
TIXI Tiksi 42.77 21 LR LR 06 33 38.7
comp=Z,100nm,19.1s,baz=276,slow=37
AGG Agios Georgios 43.21 290 P **P 06 15 22.3 -0.3**
FNA Florina 43.44 293 P **P 06 15 23.9 -0.6**
DPC Dobruska-Polom 45.04 307 P **P 06 15 38.9 +1.7**
HFS Hagfors 45.82 321 P **P 06 15 43.4 +0.2**
comp=Z,3.5nm,0.9s,baz=113,slow=11,SNR=6.1
NC405 NORSAR Array S 46.78 322 P **P 06 15 49.9 -0.8**
GERES GERESS Array B 46.98 305 P **P 06 15 53.8 +1.3**
comp=Z,0.3nm,0.3s,baz=67,slow=10,SNR=6.5
GERES LR LR 06 38 20.0

comp=Z,107nm,18.6s,baz=92,slow=40
CLL Collm 46.98 309 *e*P **P 06 15 53.0 +0.7**
CLL *e*SS SS 06 26 15.0 +5.7
CLL Collm 46.98 309 *e*P **P 06 15 53.0 +0.7**
NB2 NORSAR Subarra 47.03 322 P **P 06 15 52.8 +0.1**
comp=Z,1.4nm,0.7s,baz=87,slow=7.9
NOA NORSAR Array B 47.03 322 P **P 06 15 53.1 +0.4**
comp=Z,0.4nm,0.6s,baz=89,slow=7.8,SNR=9.3
MA2 Magadan 50.05 39 LR LR 06 39 22.9
comp=Z,47nm,21.0s,baz=264,slow=38
SEY Seymchan 50.41 35 *i* P **P 06 16 16.3 -2.2**
BILL Bilibino 55.18 27 *e*P **P 06 16 53.8 0.0**
BILL *e* 06 17 52.6
BILL pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 55.37 344 P **P 06 16 56.6 +1.7**
DAG pmax pmax
comp=Z,7.0nm,1.2s
SUMG Summit 61.91 342 *i* P P 06 17 47.0 +6.0
SUMG IAmb IAmb 06 17 50.3
comp=Z,4.3nm,0.9s
SUMG Summit 61.91 342 *i* P P 06 17 47.0 +6.0
SUMG pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 61.93 300 P **P 06 17 41.0 -0.3**
comp=Z,0.7nm,0.7s,baz=41,slow=4.7,SNR=5.6
ESDC Sonseca Array 61.93 300 P **P 06 17 40.1 -1.2**
TOLK Toolik Lake Re 68.43 17 P **P 06 18 19.9 -3.1**
MLY Manley 70.95 20 P **P 06 18 37.3 -1.3**
MLY IAmb IAmb 06 18 46.2
comp=Z,8.9nm,1.3s
I23K Minto, Yukon-K 71.22 19 P **P 06 18 37.9 -2.2**
I23K IAmb IAmb 06 18 48.0
comp=Z,6.8nm,1.1s
TORD Torodi Ar. Bea 71.36 272 P **P 06 18 41.2 -0.6**
comp=Z,1.0nm,0.6s,baz=52,slow=4.5,SNR=8.6
TORD LR LR 06 53 54.0
comp=Z,46nm,20.3s,baz=180,slow=39
BPAW Bear Paw Mtn. 71.61 20 P **P 06 18 40.6 -1.9**
MDM Murphy Dome 71.67 19 P **P 06 18 40.5 -2.3**
MDM IAmb IAmb 06 18 49.8
comp=Z,2.8nm,0.8s
NEA2 Nenana 71.74 19 P **P 06 18 41.2 -2.1**
NEA2 IAmb IAmb 06 18 50.6
comp=Z,6.0nm,0.9s
INK Inuvik 71.90 12 P **P 06 18 44.1 0.0**
comp=Z,1.7nm,1.0s,baz=340,slow=6.7,SNR=2.2
INK Inuvik 71.90 12 P **P 06 18 44.1 0.0**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 71.90 12 IAmb IAmb 06 18 51.4
comp=Z,4.0nm,1.1s
KTH Kantishna Hill 72.05 21 P **P 06 18 43.7 -1.6**
ILAR Eielson Array 72.16 19 P **P 06 18 45.9 +0.1**
comp=Z,0.7nm,0.7s,baz=324,slow=4.7,SNR=11
ILAR Eielson Array 72.16 19 P **P 06 18 44.4 -1.4**
SCRK Sand Creek 73.54 18 P **P 06 18 52.7 -1.5**
SCRK IAmb IAmb 06 19 01.4
comp=Z,5.2nm,1.1s
BCAR Beaver Creek A 74.84 18 P **P 06 19 00.1 -1.6**
WRA Warramunga Arr 77.88 127 P **P 06 19 19.6 +0.1**
comp=Z,1.5nm,0.9s,baz=329,slow=5.6,SNR=4.2
NWAO Narrogin (SRO) 79.00 147 P **P 06 19 25.4 +0.1**
comp=Z,8.6nm,0.9s,baz=348,slow=9.3,SNR=2.3
ASAR Alice Springs 80.35 130 P **P 06 19 33.2 +0.3**
comp=Z,0.4nm,0.6s,baz=314,slow=6.0,SNR=4.8
BOSA Boshof 82.30 225 P **P 06 19 43.5 +0.3**
comp=Z,2.2nm,0.7s,baz=18,slow=3.2
ULM Lac du Bonnet 92.47 356 LR LR 07 06 49.4
comp=Z,125nm,18.1s,baz=7.5,slow=39
PDAR Pinedale Array 99.82 6 LR LR 07 10 23.9
comp=Z,42nm,19.2s,baz=42,slow=38
CPUP Villa Florida 140.86 273 PKP **PKPdf 06 26 49.8 -1.8**
comp=Z,1.9nm,0.8s,baz=292,slow=1.7,SNR=2.8

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*IDC **14** 06:27:46.8± 1.0, 54°.73N× 161°.08W, h0km, mb4.0/17, mb1 4.2/20, mb1mx4.0/42, mbtmp4.0/20, ML3.7/3, MS3.2/11, Ms1 3.2/11, ms1mx2.9/43, Error ellipse: s-maj=29.7km s-min=15.6km az=1.0*
*AEIC **14** 06:27:48.5± 1.5, 54°.45N± 0°.05× 160°.78W± 0°.08, h5km± 3km, ML3.8/45, ML3.8/8(NEIC), Error ellipse: s-maj=8.3km s-min=5.6km az=135.0*
*NEIC **14** 06:27:51.2± 2.0, 54°.52N± 0°.04× 160°.80W± 0°.03, h30km± 6km, Error ellipse: s-maj=6.9km s-min=1.3km az=197.0*
ISC 14 06:27:48.0±1.5,**54°.51N**±0°.06×**160°.73W**±0°.03,**h12**km±9km, **n118**, σ1§**54**/116, **mb4.2**/17, **MS3.1**/7, **Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.73**	**64**		**Pb**	**06 28 03.9**	**+1.2**
CNBA					**Sb**	**06 28 15.4**	**+2.9**
CHNA	**Chernabura Isl**	**0.73**	**64**	P	**Pb**	**06 28 03.9**	**+1.2**
CHNA	baz=241						
				S	**Sb**	**06 28 15.4**	**+2.7**
SDPT	baz=241						
SDPT	**Sand Point**	**0.85**	**10**	P	**Pb**	**06 28 06.0**	**+1.3**
SDPT	baz=191						
				S	**Sb**	**06 28 18.2**	**+2.1**
SDPT	**Sand Point**	**0.85**	**10**		**Pb**	**06 28 06.0**	**+1.3**
SDPT					**Sb**	**06 28 18.2**	**+2.1**
SDPT	**Sand Point**	**0.85**	**10**	IAML		06 28 21.6	
	comp=N,3μm,0.6s						
HAG	**Hague Volcano**	**1.06**	**320**		**Pb**	**06 28 09.1**	**+0.8**
PS4A	**Pavlof South-4**	**1.06**	**322**		**Pb**	**06 28 09.1**	**+0.7**
PVV	**Pavlof Volcano**	**1.06**	**325**		**Pb**	**06 28 09.1**	**+0.8**
DT1	**Dutton Round H**	**1.08**	**304**		**Pg**	**06 28 08.4**	**-0.4**
PN7A	**Pavlof North-7**	**1.18**	**322**		**Pn**	**06 28 11.5**	**+1.1**
FALS	**False Pass**	**1.60**	**284**	P	**Pn**	**06 28 16.5**	**+0.4**
FALS	baz=104						
				S	**Sg**	**06 28 39.1**	**-0.4**
FALS	**False Pass**	**1.60**	**284**		**Pn**	**06 28 16.5**	**+0.4**
FALS	baz=104				**Sg**	**06 28 39.1**	**-0.4**
BRPK	**Brown Peak**	**1.76**	**276**		**Pn**	**06 28 18.8**	**+0.5**
VNSG	**Veniaminof 6**	**1.87**	**29**		**Pn**	**06 28 21.9**	**+2.0**
VNFG	**Fog Glacier, M**	**1.90**	**20**	P	**Pb**	**06 28 23.5**	**+0.8**
	baz=201						
VNFG	**Fog Glacier, M**	**1.90**	**20**		**Pb**	**06 28 23.5**	**+0.8**
SSLS	**Shishaldin Sou**	**1.91**	**277**		**Pn**	**06 28 21.7**	**+1.2**
SSLN	**Shishaldin Nor**	**1.92**	**280**		**Pn**	**06 28 22.2**	**+1.6**
VNHG	**Veniaminof 1**	**1.93**	**27**		**Pn**	**06 28 22.9**	**+2.2**
SSBA	**Shishaldin**	**1.99**	**279**		**Pn**	**06 28 22.5**	**+0.9**
WESP	**Westdahl Peak**	**2.33**	**271**		**Pn**	**06 28 27.0**	**+0.8**
WECS	**Westdahl Cape**	**2.36**	**272**		**Pn**	**06 28 27.5**	**+0.9**
AKSA	**Akutan Strait**	**2.94**	**265**		**Pn**	**06 28 35.2**	**+0.7**
AKSA					**Sn**	**06 29 10.0**	**+0.4**
AKUT	**Akutan**	**2.98**	**265**		**Pn**	**06 28 35.8**	**+0.7**
AKUT					**Sn**	**06 29 10.5**	**-0.2**
AKUT	**Akutan**	**2.98**	**265**	IAML		06 29 23.9	
	comp=E,283nm,1.0s						
AKUT				IAML		06 29 29.9	
	comp=N,271nm,0.9s						
AKBBA	**Akutan Broad B**	**3.08**	**264**		**Pn**	**06 28 37.0**	**+0.6**
AKLV	**Akutan Long Va**	**3.08**	**266**		**Pn**	**06 28 37.0**	**+0.4**
AKLV					**Sn**	**06 29 13.3**	**0.0**
AKGG	**Akutan Green G**	**3.10**	**266**		**Pn**	**06 28 37.4**	**+0.7**
AKMO	**Akutan Morgan**	**3.12**	**264**		**Pn**	**06 28 37.6**	**+0.5**
AKMO					**Sn**	**06 29 14.3**	**0.0**
AKRB	**Akutan Reef Bi**	**3.15**	**265**		**Pn**	**06 28 38.4**	**+1.0**
MTBL	**Makushin Table**	**3.54**	**264**		**Pn**	**06 28 43.2**	**+0.4**
MNAT	**Makushin Natee**	**3.56**	**262**		**Pn**	**06 28 42.9**	**-0.1**
MGOD	**Makushin Gods**	**3.69**	**261**		**Pn**	**06 28 45.0**	**+0.2**
MAPS	**Pakushin South**	**3.72**	**262**		**Pn**	**06 28 45.3**	**0.0**
OKTU	**Okmok Mt. Tuli**	**4.47**	**258**		**Pn**	**06 28 56.2**	**+0.6**
CAHL	**Cahill**	**4.66**	**38**		**Pn**	**06 29 00.3**	**+2.1**
ANCK	**Angle Creek**	**4.70**	**36**		**Pn**	**06 29 01.1**	**+2.3**
KABR	**Katmai Barrier**	**4.84**	**39**		**Pn**	**06 29 02.6**	**+2.0**
KVTA	**Katmai Vly 10**	**4.91**	**36**		**Pn**	**06 29 03.8**	**+2.2**
OHAK	**Old Harbor**	**4.99**	**54**	P	**Pn**	**06 29 03.1**	**+0.4**
	baz=240						
OHAK	**Old Harbor**	**4.99**	**54**		**Pn**	**06 29 03.0**	**+0.4**
OHAK	**Old Harbor**	**4.99**	**54**	IAML		06 30 29.2	
	comp=E,67nm,1.5s						
KDAK	**Kodiak Island**	**5.61**	**51**	Pn	**Pn**	**06 29 11.5**	**+0.3**
	comp=E,2.2nm,0.3s,baz=240,slow=7.2,SNR=54						
KDAK				Pg	**Pg**	**06 29 32.3**	**-3.0**
	comp=E,5.9nm,0.3s,baz=257,slow=19,SNR=6.1						
KDAK				Sn	**Sn**	**06 30 11.7**	**-3.7**
	comp=E,3.4nm,0.3s,baz=182,slow=23,SNR=8.2						
KDAK				LR	LR	06 30 36.5	
	comp=E,32nm,21.2s,baz=239,slow=30						
KDAK				Lg	Lg	06 30 38.8	
	comp=E,1.8nm,0.3s,baz=173,slow=21,SNR=2.6						
KDAK	**Kodiak Island**	**5.61**	**51**	P	**Pn**	**06 29 11.7**	**+0.6**
	baz=237						
KDAK	**Kodiak Island**	**5.61**	**51**		**Pn**	**06 29 11.7**	**+0.6**
N18K	**Kilae Creek**	**6.71**	**21**	P	**Pn**	**06 29 29.4**	**+3.2**
	baz=205						
N18K	**Kilae Creek**	**6.71**	**21**		**Pn**	**06 29 29.4**	**+3.2**
IVE	**Iliamna Volcan**	**6.92**	**34**		**Pn**	**06 29 32.2**	**+2.9**
N19K	**Bonanza Creek**	**7.15**	**25**	P	**Pn**	**06 29 35.4**	**+3.1**
	baz=211						
N19K	**Bonanza Creek**	**7.15**	**25**		**Pn**	**06 29 35.4**	**+3.1**
SVW2	**Sparrevohn**	**7.15**	**20**	Pn	**Pn**	**06 29 34.4**	**+2.0**
CNPM	**China Poot**	**7.21**	**42**	Pn	**Pn**	**06 29 35.4**	**+2.2**
RSO	**Redoubt South**	**7.35**	**33**		**Pn**	**06 29 37.7**	**+2.5**
SEW	**Seward**	**8.28**	**43**	Pn	**Pn**	**06 29 49.3**	**+1.6**
RC01	**Rabbit Creek A**	**8.82**	**37**	Pn	**Pn**	**06 29 57.2**	**+2.0**
SKT	**Skwentna**	**8.91**	**29**		**Pn**	**06 29 58.6**	**+2.2**
PWL	**Port Wells**	**9.18**	**41**		**Pn**	**06 30 00.5**	**+0.3**
HIN	**Hinchinbrook I**	**9.66**	**47**	Pn	**Pn**	**06 30 06.7**	**0.0**
FID	**Port Fidalgo**	**9.86**	**45**	Pn	**Pn**	**06 30 09.6**	**+0.1**
ADK	**Adak**	**9.93**	**261**	Pn	**Pn**	**06 30 10.8**	**+0.3**
SCM	**Sheep Creek Mo**	**10.18**	**38**		**Pn**	**06 30 14.6**	**+0.8**
KIWB	**Kanaga Island**	**10.21**	**262**		**Pn**	**06 30 14.7**	**+0.5**
KTH	**Kantishna Hill**	**10.36**	**25**	Pn	**Pn**	**06 30 19.1**	**+2.7**
TRF	**Thorofare Moun**	**10.44**	**27**	Pn	**Pn**	**06 30 19.3**	**+1.8**
KLU	**Klutina**	**10.50**	**42**		**Pn**	**06 30 19.2**	**+0.9**
BMRM	**Bremner River**	**10.75**	**47**	Pn	**Pn**	**06 30 22.5**	**+0.8**
M24K	**Tolsona, Glenn**	**10.77**	**39**	Pn	**Pn**	**06 30 22.5**	**+0.5**
BPAW	**Bear Paw Mtn.**	**10.81**	**23**	Pn	**Pn**	**06 30 23.9**	**+1.5**
N25K	**Chitina, Valde**	**11.09**	**44**	Pn	**Pn**	**06 30 27.4**	**+1.1**
WAX	**Waxell Ridge**	**11.29**	**51**	Pn	**Pn**	**06 30 30.2**	**+1.2**
GLB	**Gilahina Butte**	**11.32**	**45**	Pn	**Pn**	**06 30 30.6**	**+1.1**
ISLE	**Juniper Island**	**11.58**	**51**	Pn	**Pn**	**06 30 35.2**	**+2.1**
MLY	**Manley**	**11.67**	**21**	Pn	**Pn**	**06 30 36.0**	**+1.9**
IMAR	**Indian Mountai**	**12.01**	**14**		**Pn**	**06 30 41.2**	**+2.4**
I23K	**Minto, Yukon-K**	**12.07**	**23**		Pn	06 30 47.1	+7.5
RIDG	**Independent Ri**	**12.29**	**35**		**Pn**	**06 30 45.5**	**+2.8**
IL31		**12.40**	**29**		**Pn**	**06 30 43.1**	**-1.0**
ILAR	**Eielson Array**	**12.40**	**29**	Pn	**Pn**	**06 30 42.8**	**-1.5**
	comp=E,0.1nm,0.3s,baz=218,slow=13,SNR=7.5						
ILAR				Sn	Sn	06 32 55.0	-7.2
	comp=E,0.0nm,0.3s,baz=222,slow=11,SNR=2.0						
ILAR				LR	LR	06 36 12.4	
	comp=E,86nm,19.0s,baz=268,slow=41						
AMKA	**Amchitka**	**12.44**	**264**	Pn	**Pn**	**06 30 43.8**	**-0.9**
DOT	**Dot Lake**	**12.50**	**36**		**Pn**	**06 30 45.7**	**+0.2**
BCPM	**Bancas Point**	**12.63**	**56**	Pn	**Pn**	**06 30 47.7**	**+0.5**
SCRK	**Sand Creek**	**12.73**	**35**		**Pn**	**06 30 49.4**	**+0.5**
PRP	**Porcupine Dome**	**13.35**	**28**		**P**	**06 31 05.0**	**-1.8**
EGAK	**Eagle**	**14.20**	**36**		**P**	**06 31 15.7**	**-0.4**
DAWY	**Dawson**	**14.43**	**40**	Pn	**Pn**	**06 31 13.8**	**+2.0**
TOLK	**Toolik Lake Re**	**15.10**	**16**	Pn	**Pn**	**06 31 22.2**	**+1.3**
EPYK	**Eagle Plains**	**16.63**	**35**		**Pn**	**06 31 42.8**	**+2.1**
DLBC	**Dease Lake**	**17.32**	**64**		**P**	**06 31 52.3**	**+1.5**
	comp=E,0.1nm,0.3s,baz=259,slow=16,SNR=1.8						
INK	**Inuvik**	**18.74**	**32**		**P**	**06 32 06.0**	**-0.3**
	comp=E,0.4nm,0.3s,baz=223,slow=14,SNR=11						
INK				LR	LR	06 40 12.4	
	comp=E,84nm,19.0s,baz=224,slow=40						
BBB	**Bella Bella**	**19.51**	**83**	LR	LR	06 38 58.0	
	comp=E,50nm,19.1s,baz=306,slow=34						
PETK	**Petropavlovsk-**	**24.34**	**284**	P	**P**	**06 33 04.2**	**-1.2**
	comp=E,4.1nm,0.6s,baz=78,slow=13,SNR=10						
YKA	**Yellowknife Ar**	**24.88**	**53**	P	**P**	**06 33 11.7**	**+1.5**
	comp=E,0.5nm,0.4s,baz=280,slow=11,SNR=8.5						
NEW	**Newport**	**27.56**	**85**	LR	LR	06 42 28.7	
	comp=E,30nm,21.9s,baz=278,slow=32						
YBH	**Yreka Blue Hor**	**28.04**	**101**	LR	LR	06 42 28.0	
	comp=E,49nm,20.1s,baz=280,slow=31						
NVAR	**Mina Array Bea**	**32.76**	**102**	P	**P**	**06 34 23.0**	**+2.1**
	comp=E,0.6nm,0.7s,baz=296,slow=9.3,SNR=4.1						
NVAR				LR	LR	06 44 51.3	
	comp=E,41nm,20.8s,baz=270,slow=31						
H11N2	**WAKE ISLAND Hy**	**42.56**	**228**	T	T	07 21 10.2	
	baz=27,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**42.57**	**228**	T	T	07 21 10.7	
	baz=27,slow=76,SNR=58						
H11N1	**WAKE ISLAND Hy**	**42.58**	**228**	T	T	07 21 11.2	
	baz=27,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**43.73**	**228**	T	T	07 22 39.5	
	baz=27,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**43.74**	**228**	T	T	07 22 40.0	
	baz=27,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**43.75**	**228**	T	T	07 22 41.7	
	baz=27,slow=76,SNR=17						
MJAR	**Matsushiro Arr**	**44.86**	**272**	LR	LR	06 59 46.0	
	comp=E,11nm,18.3s,baz=200,slow=43						
TXAR	**Lajitas Array**	**47.71**	**98**	P	**P**	**06 36 25.8**	**+1.2**
	comp=E,0.2nm,0.6s,baz=314,slow=4.5,SNR=4.3						
TXAR				PcP	**PcP**	**06 37 56.7**	**+3.0**
	comp=E,0.1nm,0.5s,baz=304,slow=2.0,SNR=1.2						
KSRS	**Korea Array**	**50.18**	**281**	P	**P**	**06 36 42.9**	**-0.4**
	comp=E,1.2nm,0.7s,baz=44,slow=6.9,SNR=5.2						
SONM	**Songino Array**	**54.51**	**304**	P	**P**	**06 37 15.1**	**-0.4**
	comp=E,1.4nm,0.7s,baz=30,slow=6.7,SNR=4.8						
ARCES	**ARCESS Array B**	**56.18**	**357**	P	**P**	**06 37 25.4**	**-1.6**
	comp=E,0.9nm,0.4s,baz=8.7,slow=6.6,SNR=1.6						
ARCES				LR	LR	07 05 00.7	
	comp=E,15nm,18.0s,baz=60,slow=40						
ZALV	**Zalesovo Beam**	**59.16**	**321**	P	**P**	**06 37 47.1**	**-1.1**
	comp=E,0.6nm,0.3s,baz=74,slow=5.2,SNR=2.2						
ZALV				LR	LR	07 05 54.2	
	comp=E,54nm,18.9s,baz=57,slow=39						
FINES	**FINESS Array B**	**64.26**	**356**	P	**P**	**06 38 21.2**	**-1.2**
	comp=E,1.4nm,0.4s,baz=14,slow=11,SNR=6.9						
NB2	**NORSAR Subarra**	**64.62**	**4**	P	**P**	**06 38 24.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=355,slow=6.5						
NOA	**NORSAR Array B**	**64.62**	**4**	P	**P**	**06 38 24.4**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=356,slow=6.5,SNR=12						
MKAR	**Makanchi Array**	**65.89**	**318**	P	**P**	**06 38 30.6**	**-2.7**
	comp=Z,1.1nm,0.7s,baz=44,slow=6.6,SNR=12						
AKASG	**Malin Array Be**	**74.83**	**353**	P	**P**	**06 39 26.4**	**-1.4**
	comp=Z,5.3nm,0.5s,baz=10,slow=6.0,SNR=19						
GERES	**GERESS Array B**	**76.91**	**4**	P	**P**	**06 39 39.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=328,slow=4.7,SNR=4.6						
KBZ	**Khabaz**	**80.08**	**343**	P	**P**	**06 39 56.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=9.7,slow=4.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**81.00**	**289**	P	**P**	**06 40 01.7**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=7.1,slow=5.4,SNR=6.6						
ESDC	**Sonseca Array**	**84.08**	**18**	P	**P**	**06 40 18.5**	**0.0**
	comp=Z,1.5nm,0.9s,baz=350,slow=4.6,SNR=6.1						
BRTR	**Keskin Array B**	**85.33**	**349**	P	**P**	**06 40 24.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=160,slow=36,SNR=2.8						
STKA	**Stephens Creek**	**99.31**	**227**	LR	LR	07 26 17.3	
	comp=Z,63nm,18.1s,baz=212,slow=35						

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*DJA **14** 06:45:39.9± 0.1, 8°.5S± 2°.×12°.1E±°, h190km± 2km, M4.8/44, mb4.9/44, mB5.3/17, MLv5.1/18, Mw(mB)4.7/17, MwMwp7.8/1, Mwp7.4/1*
*NEIC **14** 06:45:39.8± 1.9, 8°.30S± 0°.07× 121°.12E± 0°.08, h198km± 6km, mb4.7/25, Error ellipse: s-maj=13.1km s-min=8.1km az=224.0*
*IDC **14** 06:45:40.2± 0.9, 8°.14S× 121°.22E, h200km± 8km, mb4.0/13, mb1 4.1/17, mb1mx4.0/32, mbtmp4.6/17, Error ellipse: s-maj=16.9km s-min=8.1km az=56.0*
ISC 14 06:45:39.3±0.3,**8°.37S**±0°.04×**121°.16E**±0°.04,**h200**km,**n146**, σ1§**91**/159, **mb4.5**/51, **2C-1D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.65**	**126**	P	**Pn**	**06 46 07.2**	**0.0**
EDFI				S	**Sn**	**06 46 26.9**	**-1.9**
MMRI	**Maumere**	**1.10**	**104**	Pn	**Pn**	**06 46 10.3**	**+0.5**
MMRI	**Maumere**	**1.10**	**104**	P	**Pn**	**06 46 10.1**	**+0.3**
WBSI	**Waikabubak, Su**	**2.16**	**234**	P	**Pn**	**06 46 19.0**	**-0.5**
WBSI				S	**Sn**	**06 46 47.4**	**-3.5**
BSSI	**Bau Bau, Buton**	**2.31**	**343**	P	**Pn**	**06 46 21.7**	**+0.6**
BSSI				S	**Sn**	**06 46 53.7**	**-0.1**
BATI	**Baumata**	**3.07**	**127**	P	**Pn**	**06 46 31.1**	**+1.2**
	620nm,0.3s,baz=94,slow=1.5,SNR=275						
BATI				S	**Sn**	**06 47 10.1**	**+0.7**
	192nm,0.3s,baz=104,slow=10,SNR=1.4						
BATI	**Baumata**	**3.07**	**127**	P	**Pn**	**06 46 30.9**	**+1.0**
BKSI	**Bulukumba**	**3.19**	**341**	P	**Pn**	**06 46 32.3**	**+1.0**
SOEI	**Soe**	**3.36**	**114**	Pn	**Pn**	**06 46 34.3**	**+0.9**
SOEI	**Soe**	**3.36**	**114**	P	**Pn**	**06 46 34.4**	**+0.9**
SOEI				S	**Sn**	**06 47 15.7**	**-0.1**
PLAI	**Plampang**	**3.38**	**262**	P	**Pn**	**06 46 34.3**	**+0.8**
PLAI				S	**Sn**	**06 47 13.9**	**-1.9**
KAPI	**Kappang**	**3.61**	**337**	P	**Pn**	**06 46 36.5**	**+0.1**
	40nm,0.3s,baz=151,slow=7.3,SNR=82						
KAPI				S	**Sn**	**06 47 17.7**	**-3.4**
	4.4nm,0.3s,baz=174,slow=20,SNR=0.9						
KAPI	**Kappang**	**3.61**	**337**	Pn	**Pn**	**06 46 37.7**	**+1.4**
BNSI	**Bone**	**4.08**	**345**	P	**Pn**	**06 46 44.4**	**+2.3**
TWSI	**Taliwang, Sumb**	**4.25**	**265**	P	**Pn**	**06 46 44.4**	**+0.2**
TWSI				S	**Sn**	**06 47 33.6**	**-1.6**
TTSI	**Tana Toraja**	**5.45**	**346**	P	**Pn**	**06 47 01.4**	**+1.8**
	0.7nm2μm201nm,1.1s						
SRBI	**Singaraja**	**5.89**	**272**	P	**Pn**	**06 47 05.5**	**+0.3**
	1.9nm3μm238nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.94**	**269**	Pn	**Pn**	**06 47 17.8**	**-1.0**
KBKI	**Kotabaru**	**7.07**	**315**	P	**Pn**	**06 47 22.2**	**+1.7**
	0.6nm83nm,0.7s						
NLAI	**Namlea**	**7.80**	**50**	P	**Pn**	**06 47 33.2**	**+3.2**
	0.6nm2μm215nm,1.1s						
SANI	**Sanana**	**7.90**	**38**	P	**Pn**	**06 47 34.2**	**+2.8**
	0.4nm2μm124nm,1.0s						
BBKI	**Banjar Baru**	**7.95**	**307**	P	**Pn**	**06 47 34.6**	**+2.6**
	0.4nm6μm102nm,1.1s						
MPSI	**Mapaga**	**8.74**	**352**	P	**Pn**	**06 47 43.8**	**+1.6**
	43nm,1.0s						
MRSI	**Marisa**	**8.82**	**5**	P	**Pn**	**06 47 45.3**	**+2.0**
	45nm,1.3s						
PWJI	**Pagerwojo**	**9.27**	**271**	P	**Pn**	**06 47 49.4**	**+0.3**
	113nm,0.6s						
TOLI2	**Tolitoli**	**9.42**	**358**	Pn	**Pn**	**06 47 50.7**	**-0.5**
MTKI	**Muara Teweh, K**	**9.66**	**319**	P	**Pn**	**06 47 55.9**	**+1.6**
	3μm61nm,1.1s						
PCJI	**Pacitan**	**9.88**	**270**	P	**Pn**	**06 47 55.7**	**-1.4**
	164nm,0.8s						
KNRA	**Kununurra**	**10.39**	**135**	Pn	**Pn**	**06 48 03.1**	**-0.6**
SMRI	**Semarang**	**10.70**	**276**		**Pn**	**06 48 08.7**	**+1.0**
SMRI	**Semarang**	**10.70**	**276**	P	**Pn**	**06 48 08.3**	**+0.6**
	398nm,0.8s						
MTN	**Manton Dam**	**10.76**	**115**	Pn	**Pn**	**06 48 08.7**	**+0.2**
TNTI	**Ternate**	**10.98**	**35**	Pn	**Pn**	**06 48 10.3**	**-1.0**
TNTI	**Ternate**	**10.98**	**35**	P	**Pn**	**06 48 13.3**	**+2.0**
	3μm261nm,1.1s						
KPJI	**Karang Pucung**	**12.16**	**274**	P	**Pn**	**06 48 26.4**	**+0.1**
	67nm,0.6s						
FAKI	**Fak Fak**	**12.29**	**65**	Pn	**Pn**	**06 48 27.3**	**-0.6**
FAKI	**Fak Fak**	**12.29**	**65**	P	**Pn**	**06 48 26.8**	**-1.1**
	136nm,0.8s						
SWI	**Sorong**	**12.52**	**54**	P	**Pn**	**06 48 31.1**	**+0.2**
	5μm635nm,0.8s						
SIJI	**Sorong**	**12.52**	**54**	P	**Pn**	**06 48 30.0**	**-0.9**
	12nm,0.3s,baz=224,slow=9.1,SNR=30						
SIJI				S	**Sn**	**06 50 44.0**	**-6.7**
	1.4nm,0.3s,baz=104,slow=22,SNR=1.7						
SGSI	**Sangihe**	**12.74**	**20**	P	**P**	**06 48 36.9**	**-0.3**
	431nm,0.7s						
STKI	**Sintang**	**12.78**	**310**	P	**P**	**06 48 36.4**	**-1.3**
	12μm78nm,1.1s						
PSA00	**Pilbara Seismi**	**13.19**	**185**		**Pn**	**06 48 39.3**	**+0.1**
CISI	**Cisompet, Garu**	**13.24**	**273**	Pn	**Pn**	**06 48 38.6**	**-1.4**
CISI	**Cisompet, Garu**	**13.24**	**273**	P	**Pn**	**06 48 39.2**	**-0.8**
	2μm84nm,0.6s						
LEM	**Lembang**	**13.51**	**276**	P	**Pn**	**06 48 44.4**	**+0.9**
	4.8nm,0.3s,baz=78,slow=11,SNR=7.7						
LEM				S	**S**	**06 51 11.6**	**-2.7**
	6.0nm,0.3s,baz=332,slow=21,SNR=1.9						
CNJI	**Cibinong**	**13.94**	**273**	P	**Pn**	**06 48 48.9**	**+0.3**
	153nm,0.6s						
CBJI	**Citeko**	**14.32**	**277**	P	**Pn**	**06 48 53.1**	**-0.2**
	448nm,0.8s						
DBJI	**Dramaga**	**14.40**	**276**	P	**Pn**	**06 48 54.6**	**+0.2**
TPI	**Tanjungpandan**	**14.55**	**292**	P	**P**	**06 48 58.1**	**+0.8**
	670nm60nm,0.7s						
XMIS	**Christmas Isla**	**15.44**	**261**	P	**P**	**06 49 07.0**	**-0.2**
BLSI	**Bandar Lampung**	**16.08**	**280**	P	**Pn**	**06 49 15.0**	**+0.3**
	80nm,0.4s						
PPBI	**Pangkal Pinang**	**16.17**	**292**	P	**Pn**	**06 49 16.8**	**+0.9**
	18μm96nm,1.1s						
BAKI	**Biak**	**16.50**	**65**	P	**Pn**	**06 49 20.5**	**+0.7**
	3μ

	comp=Z,12nm,0.9s					
KMI	**Kunming**	**37.82**	**332**	⇑P	**P**	**06 52 41.4 +4.5**
KMI				pP	pP	06 53 23.8 +5.1
KMI				pmax	pmax	
	comp=Z,10.0nm,0.8s					
HNR	**Honiara**	**38.32**	**95**	P	**P**	**06 52 41.2 +0.1**
NJ2	**Nanjing**	**40.25**	**357**	*e*P	**P**	**06 53 00.8 +4.1**
NJ2				pmax	pmax	
	comp=Z,20nm,0.5s					
CD2	**Chengdu**	**42.47**	**338**	P	**P**	**06 53 12.8 -2.1**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.8s					
XAN	**Xi'an**	**43.74**	**345**	P	P	06 53 30.8 +5.8
XAN				pmax	pmax	
	comp=Z,5.0nm,0.7s					
SHL	**Shillong**	**44.15**	**321**	P	**P**	**06 53 27.2 -1.4**
SHL				IAmb	IAmb	06 53 29.5
	comp=Z,21nm,1.0s					
SANVU	**Saraoutou**	**45.52**	**103**	P	**P**	**06 53 40.1 +0.7**
LSA	**Lhasa**	**47.60**	**324**	P	**P**	**06 53 56.5 +0.6**
LSA				IAmb	IAmb	06 53 57.0
	comp=Z,12nm,0.7s					
ODAN	**Odare**	**47.95**	**318**	*e*P	**P**	**06 53 57.6 -0.6**
	comp=Z,40nm,0.9s					
TAPN	**Taplejung**	**48.06**	**319**	*e*P	**P**	**06 53 59.2 0.0**
BJI	**Beijing**	**48.38**	**355**	P	**P**	**06 54 03.3 +2.3**
BJI				pmax	pmax	
	comp=Z,13μm,3.7s					
RAMN	**Ramite**	**48.53**	**317**	*e*P	**P**	**06 54 02.8 +0.1**
JIRN	**Jiri**	**49.27**	**318**	*e*P	**P**	**06 54 07.9 -0.6**
	comp=Z,35nm,0.8s					
GUN	**Gumba**	**49.64**	**318**	*e*P	**P**	**06 54 10.9 -0.4**
	comp=Z,67nm,0.8s					
PKI	**Pulchoki**	**49.74**	**317**	*e*P	**P**	**06 54 11.1 -0.9**
	comp=Z,19nm,0.6s					
PKIN	**Phulchoki**	**49.75**	**317**	*e*P	**P**	**06 54 11.1 -0.9**
	comp=Z,16nm,0.5s					
HHC	**Hu-ho-hao-te**	**49.76**	**350**	*e*P	**P**	**06 54 15.3 +3.7**
HHC				pmax	pmax	
	comp=Z,21nm,0.9s					
HHC				pmax	pmax	
	comp=Z,220nm,5.4s					
KKN	**Kakani**	**49.97**	**317**	*e*P	**P**	**06 54 13.4 -0.1**
GKN	**Gorkha**	**50.54**	**317**	*e*P	**P**	**06 54 15.9 -1.9**
	comp=Z,23nm,0.6s					
KOLN	**Koldanda**	**51.09**	**316**	*e*P	**P**	**06 54 21.1 -0.9**
	comp=Z,36nm,0.7s					
DANN	**Dangsing**	**51.35**	**317**	*e*P	**P**	**06 54 23.2 -0.8**
	comp=Z,75nm,0.7s					
MSVF	**Nonsavu**	**56.02**	**106**	P	**P**	**06 54 57.4 -0.4**
SONM	**Songino Array**	**57.46**	**348**	P	**P**	**06 55 06.6 -0.8**
	comp=Z,0.5nm,0.4s,baz=162,slow=10,SNR=2.8					
SONM				PcP	**PcP**	**06 55 59.7 +1.0**
	comp=Z,1.5nm,0.7s,baz=171,slow=8.6,SNR=3.8					
WMQ	**Urumqi**	**60.15**	**333**	*e*P	**P**	**06 55 27.6 +1.7**
WMQ				pmax	pmax	
	comp=Z,22nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,110nm,5.5s					
NIL	**Nilore**	**61.73**	**315**	P	**P**	**06 55 35.3 -1.5**
NIL				IAmb	IAmb	06 55 36.3
	comp=Z,12nm,0.7s					
KSH	**Kashi**	**63.40**	**322**	P	**P**	**06 55 47.4 -0.4**
KSH				pmax	pmax	
	comp=Z,12nm,0.5s					
KSH				pmax	pmax	
	comp=Z,72nm,2.8s					
MK31	**Makanchi Array**	**64.89**	**332**	P	**P**	**06 55 56.5 -0.7**
MKAR	**Makanchi Array**	**64.89**	**332**	P	**P**	**06 55 56.6 -0.6**
	comp=Z,7.9nm,0.8s,baz=140,slow=7.7,SNR=63					
MKAR	**Makanchi Array**	**64.89**	**332**	P	**P**	**06 55 56.9 -0.4**
MAKZ	**Makanchi**	**65.05**	**331**	P	**P**	**06 55 56.2 -2.0**
KBL	**Kabul**	**65.17**	**314**	P	**P**	**06 55 57.8 -1.7**
KBL				IAmb	IAmb	06 55 59.3
	comp=Z,9.6nm,0.8s					
GAR	**Garm**	**66.66**	**319**	P	**P**	**06 56 07.8 -0.9**
GAR				IAmb	IAmb	06 56 09.9
	comp=Z,19nm,1.2s					
PETK	**Petropavlovsk-**	**68.66**	**23**	P	**P**	**06 56 21.0 +0.2**
	comp=Z,1.4nm,0.6s,baz=210,slow=11,SNR=3.4					
ZALV	**Zalesovo Beam**	**69.23**	**338**	P	**P**	**06 56 22.4 -2.0**
	comp=Z,2.8nm,0.5s,baz=125,slow=4.7,SNR=12					
MAW	**Mawson**	**70.56**	**200**	P	**P**	**06 56 33.4 +1.2**
	comp=Z,0.9nm,0.5s,baz=297,slow=2.3,SNR=2.3					
VNDA	**Vanda**	**72.28**	**171**	P	**P**	**06 56 44.8 +2.4**
	comp=Z,0.9nm,0.5s,baz=313,slow=7.8,SNR=13					
VNDA	**Vanda**	**72.28**	**171**	IAmb	IAmb	06 56 48.2
	comp=Z,7.1nm,1.4s					
GEYT	**Alibeck**	**74.56**	**313**	P	**P**	**06 56 56.8 +0.4**
	comp=Z,2.4nm,0.6s,baz=176,slow=5.8,SNR=1.9					
SYO	**Syowa Base**	**79.22**	**201**	⇑*e*P	**P**	**06 57 20.9 -0.9**
SYO	**Syowa Base**	**79.22**	**201**	⇓*e*X	P	06 57 27.1 +5.3
KMBO	**Kilima Mbogo**	**83.81**	**270**	P	**P**	**06 57 48.4 +1.0**
	comp=Z,3.6nm,0.7s,baz=47,slow=8.1,SNR=6.8					
BOSA	**Boshof**	**91.18**	**241**	P	**P**	**06 58 23.9 +1.6**
	comp=Z,2.4nm,0.8s,baz=104,slow=4.2,SNR=2.0					
VNA2	**Neumayer--Watz**	**93.80**	**195**	P	**P**	**06 58 34.0 +0.7**
ILAR	**Eielson Array**	**98.34**	**26**	P	**P**	**06 58 52.3 -1.6**
	comp=Z,0.3nm,0.8s,baz=215,slow=2.9,SNR=2.4					
NVAR	**Mina Array Bea**	**118.97**	**51**	PKP	**PKiKP**	**07 04 05.8 +0.9**
	comp=Z,0.5nm,0.6s,baz=270,slow=1.6,SNR=4.4					
NVAR				PP	**PP**	**07 05 23.9 -3.0**
	comp=Z,0.2nm,0.5s,baz=265,slow=11,SNR=4.2					
TORD	**Torodi Ar. Bea**	**120.45**	**280**	PKP	**PKiKP**	**07 04 08.1 0.0**
	comp=Z,0.4nm,0.6s,baz=95,slow=2.6,SNR=2.1					
PDAR	**Pinedale Array**	**124.00**	**43**	PKP	**PKPdf**	**07 04 14.2 -0.1**
	comp=Z,0.8nm,1.1s,baz=81,slow=2.0,SNR=4.6					
TXAR	**Lajitas Array**	**133.10**	**57**	PKP	**PKiKP**	**07 04 33.1 0.0**
	comp=Z,0.2nm,0.6s,baz=289,slow=1.1,SNR=4.5					
TXAR				SKPbc	**SKPbc**	**07 07 39.9 -1.2**
	comp=Z,1.3nm,1.0s,baz=278,slow=3.7,SNR=8.1					
LPAZ	**La Paz**	**153.84**	**159**	PKPbc	**PKiKP**	**07 05 18.7 +2.1**
	comp=Z,1.0nm,0.8s,baz=222,slow=6.8,SNR=3.0					
LPAZ				PKPab	**PKPab**	**07 05 33.0 +2.9**
	comp=Z,5.3nm,0.7s,baz=176,slow=1.0,SNR=19					

INET ***14*** *06:48:06.8, 12°.52N×89°.32W, h15km, ML3.8*
UCR ***14*** *06:48:18.3±1.0, 12°.90N×89°.06W, h44km±17km, ML3.6*
SNET ***14*** *06:48:18.1±1.0, 12°.90N×89°.07W, h44km±18km, ML3.6*
ISC 14 06:48:15.0±2.1, 12°.8N±0°.1×89°.06W±0°.04, h11km±10km, n43, σ0°52/72, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.69**	**339**		*e*P	**Pn**	**06 48 31.1**	**+0.3**
LALI					*e*S	**Sn**	**06 48 40.6**	**-1.0**
LALI					IAML		06 48 40.9	
	comp=Z,1μm,0.2s							
LALI	**Alcalda de L**	**0.69**	**339**		*e*P	**Pn**	**06 48 31.1**	**+0.3**
LALI					*e*S	**Sn**	**06 48 40.6**	**-1.0**
LALI					IAML		06 48 40.9	
	comp=Z,1μm,0.2s							
TECO	**Alcaldia de Te**	**0.75**	**22**		*e*P	**Pn**	**06 48 31.4**	**-0.2**
TECO					*e*S	**Sn**	**06 48 42.1**	**-0.9**
SJTE	**Alcalda de S**	**0.78**	**4**		*i* P	**Pn**	**06 48 31.9**	**-0.1**
SJTE					*e*S	**Sb**	**06 48 42.5**	**+1.3**
SJTE					IAML		06 48 44.1	
	comp=Z,976nm,0.2s							
SJTE	**Alcalda de S**	**0.78**	**4**		*i* P	**Pn**	**06 48 31.9**	**-0.1**
SJTE					*e*S	**Sb**	**06 48 42.5**	**+1.3**
SJTE					IAML		06 48 44.1	
	comp=Z,976nm,0.2s							
COEG	**Centro de Oper**	**0.80**	**13**		*e*P	**Pn**	**06 48 32.0**	**-0.3**
COEG					*e*S	**Sn**	**06 48 43.9**	**-0.4**
COEG					IAML		06 48 47.6	
	comp=Z,1μm,0.3s							
COEG	**Centro de Oper**	**0.80**	**13**		*e*P	**Pn**	**06 48 32.0**	**-0.3**
COEG					*e*S	**Sn**	**06 48 43.9**	**-0.4**
COEG					IAML		06 48 47.6	
	comp=Z,1μm,0.3s							
COEB	**Comit de Eme**	**0.84**	**38**		*e*P	**Pn**	**06 48 33.2**	**+0.4**
COEB					*e*S	**Sn**	**06 48 45.1**	**-0.2**
COEB					IAML		06 48 47.5	
	comp=Z,4μm,0.3s							
COEB	**Comit de Eme**	**0.84**	**38**		*e*P	**Pn**	**06 48 33.2**	**+0.4**
COEB					*e*S	**Sn**	**06 48 45.1**	**-0.2**
COEB					IAML		06 48 47.5	
	comp=Z,4μm,0.3s							
TECA	**Tecapa**	**0.85**	**40**	⇑	*i* P	**Pn**	**06 48 33.6**	**+0.4**
TECA	**Tecapa**	**0.85**	**40**	⇑	*i* P	**Pn**	**06 48 33.6**	**+0.4**
SNET	**Serv Nac Est T**	**0.86**	**349**		*e*P	**Pn**	**06 48 33.2**	**+0.1**
SNET					*e*S	**Sb**	**06 48 44.7**	**+1.1**
SNET					IAML		06 48 47.1	
	comp=Z,2μm,0.3s							
SNET	**Serv Nac Est T**	**0.86**	**349**		*e*P	**Pn**	**06 48 33.2**	**+0.1**
SNET					*e*S	**Sb**	**06 48 44.7**	**+1.1**
SNET					IAML		06 48 47.1	
	comp=Z,2μm,0.3s							
PAVA	**Las Pavas**	**0.88**	**8**		*e*P	**Pn**	**06 48 33.6**	**+0.1**
PAVA					*e*S	**Sn**	**06 48 46.0**	**-0.4**
PAVA					IAML		06 48 49.6	
	comp=Z,1μm,0.2s							
PAVA	**Las Pavas**	**0.88**	**8**		*e*P	**Pn**	**06 48 33.6**	**+0.1**
PAVA					*e*S	**Sn**	**06 48 46.0**	**-0.4**
PAVA					IAML		06 48 49.6	
	comp=Z,1μm,0.2s							
UEES	**Universidad Ev**	**0.89**	**349**		*e*P	**Pn**	**06 48 33.8**	**+0.2**
UEES					*e*S	**Sn**	**06 48 45.8**	**-0.8**
UEES	**Universidad Ev**	**0.89**	**349**		*e*P	**Pn**	**06 48 33.8**	**+0.2**
UEES					*e*S	**Sn**	**06 48 45.8**	**-0.8**
JAYA	**Jayaque - finc**	**0.90**	**335**		*e*P	**Pn**	**06 48 33.8**	**0.0**
JAYA					*e*S	**Sb**	**06 48 45.2**	**+0.5**
JAYA					IAML		06 48 47.8	
	comp=Z,6μm,0.2s							
JAYA	**Jayaque - finc**	**0.90**	**335**		*e*P	**Pn**	**06 48 33.8**	**0.0**
JAYA					*e*S	**Sb**	**06 48 45.2**	**+0.5**
JAYA					IAML		06 48 47.8	
	comp=Z,6μm,0.2s							
LBRS	**Las Brisas**	**0.90**	**1**		*e*P	**Pn**	**06 48 33.9**	**+0.2**
LBRS	**Las Brisas**	**0.90**	**1**		*e*P	**Pn**	**06 48 33.9**	**+0.2**
LFU	**La Fuente**	**0.91**	**357**		*e*P	**Pn**	**06 48 34.0**	**+0.1**
LFU	**La Fuente**	**0.91**	**357**		*e*P	**Pn**	**06 48 34.0**	**+0.1**
BOQS	**Boqueron**	**0.92**	**347**		*e*P	**Pn**	**06 48 34.3**	**+0.2**
BOQS					*e*S	**Sb**	**06 48 46.4**	**+0.9**
BOQS	**Boqueron**	**0.92**	**347**		*e*P	**Pn**	**06 48 34.3**	**+0.2**
BOQS					*e*S	**Sb**	**06 48 46.4**	**+0.9**
PQSS	**Presa 15 de Se**	**0.92**	**32**		*i* P	**Pn**	**06 48 34.4**	**+0.5**
PQSS					*e*S	**Sn**	**06 48 46.8**	**-0.5**
PQSS					IAML		06 48 47.5	
	comp=Z,2μm,0.1s							
LCY	**Lacayo**	**0.95**	**52**		*e*P	**Pn**	**06 48 34.9**	**+0.5**
LCY	**Lacayo**	**0.95**	**52**		*e*P	**Pn**	**06 48 34.9**	**+0.5**
CEDA	**San Andres**	**1.01**	**342**		*e*P	**Pn**	**06 48 35.5**	**+0.2**
CEDA					*e*S	**Sn**	**06 48 49.0**	**-0.5**
CEDA					IAML		06 48 58.4	
	comp=Z,2μm,0.4s							
CEDA	**San Andres**	**1.01**	**342**		*e*P	**Pn**	**06 48 35.5**	**+0.2**
CEDA					*e*S	**Sn**	**06 48 49.0**	**-0.5**
CEDA					IAML		06 48 58.4	
	comp=Z,2μm,0.4s							
SBLS	**San Blas**	**1.14**	**331**		*e*P	**Pn**	**06 48 37.5**	**+0.4**
SBLS	**San Blas**	**1.14**	**331**		*e*P	**Pn**	**06 48 37.5**	**+0.4**
SNJE	**San Jose**	**1.15**	**333**		*e*P	**Pn**	**06 48 37.8**	**+0.5**
SNJE	**San Jose**	**1.15**	**333**		*e*P	**Pn**	**06 48 37.8**	**+0.5**
TACO	**Tacachico**	**1.16**	**346**		*e*P	**Pg**	**06 48 37.3**	**-0.1**
TACO					*e*S	**Sb**	**06 48 52.3**	**0.0**
TACO	**Tacachico**	**1.16**	**346**		*e*P	**Pg**	**06 48 37.3**	**-0.1**
TACO					*e*S	**Sb**	**06 48 52.3**	**0.0**
RTR	**El Retiro**	**1.20**	**332**		*e*P	**Pg**	**06 48 38.4**	**+0.3**
RTR	**El Retiro**	**1.20**	**332**		*e*P	**Pg**	**06 48 38.4**	**+0.3**
LCND	**La Caada**	**1.24**	**68**		*e*P	**Pg**	**06 48 38.5**	**-0.2**
LCND					*e*S	**Sg**	**06 48 54.6**	**-0.3**
LCND					IAML		06 48 56.5	
	comp=Z,1μm,0.2s							
LCND	**La Caada**	**1.24**	**68**		*e*P	**Pg**	**06 48 38.5**	**-0.2**
LCND					*e*S	**Sg**	**06 48 54.6**	**-0.3**
LCND					IAML		06 48 56.5	
	comp=Z,1μm,0.2s							
SLOZ	**Alcaldia de Sa**	**1.37**	**329**		*e*P	**Pb**	**06 48 40.6**	**-0.2**
SLOZ					*e*S	**Sg**	**06 48 58.9**	**-0.4**
MTO3	**Montecristo**	**1.58**	**350**	⇑	*i* P	**Pn**	**06 48 43.3**	**+0.1**
MTO3					*e*S	**Sn**	**06 49 02.9**	**-0.8**
MTO3	**Montecristo**	**1.58**	**350**	⇑	*i* P	**Pn**	**06 48 43.3**	**+0.1**
MTO3					*e*S	**Sn**	**06 49 02.9**	**-0.8**

JMA ***14*** *07:02:11.5±0.2, 24°.36N×122°.80E, h98km±2km, M2.5*
TAP ***14*** *07:02:11.3, 24°.47N×122°.82E, h102km, ML3.4, C*
ISC 14 07:02:12.2±1.5, 24°.42N±0°.04×122°.81E±0°.03, h91km±9km, n79, σ1°04/147, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.13**	**77**		P	**Pn**	**07 02 25.4**	**+0.3**
JYNG					S	**Sn**	**07 02 35.3**	**+0.6**
YOJ	**Yonaguni jima**	**0.19**	**78**		P	**Pn**	**07 02 25.8**	**+0.5**
YOJ					S	**Sn**	**07 02 36.1**	**+1.1**
YOJ	**Yonaguni jima**	**0.19**	**78**		P	**Pn**	**07 02 25.8**	**+0.5**
	baz=89							
YOJ					S	**Sn**	**07 02 36.1**	**+1.1**
	baz=89							
IRIF	**Iriomote-Funau**	**0.85**	**96**		P	**Pn**	**07 02 30.5**	**+0.2**
IRIF					S	**Sn**	**07 02 44.6**	**+0.8**
TWC	**Suao**	**0.89**	**282**		*i* P	**Pn**	**07 02 30.6**	**-0.1**
	baz=284							
TWC					*i* S	**Sn**	**07 02 43.9**	**-0.8**
	baz=284							
EWUT	**Wuta**	**0.94**	**272**		*i* P	**Pn**	**07 02 30.8**	**-0.4**
	baz=264							
EWUT					*i* S	**Sn**	**07 02 46.2**	**+0.7**
	baz=264							
TWB1	**Santiao Chiao**	**0.95**	**308**		*e*P	**Pn**	**07 02 30.8**	**-0.5**
	baz=301							
NTC	**Toucheng**	**0.99**	**296**		P	**Pn**	**07 02 31.8**	**0.0**
	baz=294							
NTC					*i* S	**Sn**	**07 02 45.7**	**-0.9**
	baz=294							
NDS	**Dongshan**	**1.02**	**282**		*i* P	**Pn**	**07 02 31.3**	**-0.9**
	baz=285							
NDS					S	**Sn**	**07 02 46.5**	**-0.6**
	baz=285							
TIPB	**Shuangxi**	**1.05**	**302**		P	**Pn**	**07 02 31.9**	**-0.7**
	baz=295							
TIPB					*i* S	**Sn**	**07 02 46.9**	**-1.0**
	baz=295							
TWE	**Neicheng**	**1.08**	**286**		*i* P	**Pn**	**07 02 33.1**	**+0.2**
	baz=284							
TWE					S	**Sn**	**07 02 48.1**	**-0.3**
	baz=284							
ETL	**Fush Village**	**1.11**	**257**		P	**Pn**	**07 02 33.2**	**-0.1**
	baz=255							
ETL					S	**Sn**	**07 02 48.9**	**-0.3**
	baz=255							
JKRS	**Kuro-shima**	**1.11**	**99**		P	**Pn**	**07 02 33.3**	**+0.1**
JKRS					S	**Sn**	**07 02 49.9**	**+0.8**
NACB	**Ninganchiao**	**1.13**	**258**		P	**Pn**	**07 02 33.1**	**-0.4**
	baz=256							
NACB					S	**Sn**	**07 02 48.8**	**-0.8**
	baz=256							
NWF	**Wu-fen Shan**	**1.14**	**305**		*i* P	**Pn**	**07 02 33.8**	**+0.1**
	baz=296							
NWF					S	**Sn**	**07 02 50.4**	**+0.6**
	baz=296							
WFSB	**Wu-fen Shan**	**1.14**	**305**		P	**Pn**	**07 02 33.8**	**+0.2**
	baz=297							
WFSB					S	**Sn**	**07 02 49.4**	**-0.2**
	baz=297							
ENTT	**Nioudou**	**1.15**	**281**		*i* P	**Pn**	**07 02 34.2**	**+0.5**
	baz=283							
ENTT					*e*S	**Sn**	**07 02 50.1**	**+0.1**
	baz=283							
TWD	**Chiawan**	**1.16**	**253**		*i* P	**Pn**	**07 02 33.5**	**-0.3**
	baz=251							
TWD					S	**Sn**	**07 02 49.2**	**-0.9**
	baz=251							
NDT	**Datong Townshi**	**1.19**	**279**		*i* P	**Pn**	**07 02 34.4**	**+0.2**
	baz=281							
NDT					S	**Sn**	**07 02 50.6**	**-0.3**
	baz=281							
JIJ	**Ishigaki jima**	**1.22**	**92**		P	**Pn**	**07 02 34.6**	**+0.1**
JIJ					S	**Sn**	**07 02 50.7**	**-0.7**
ETLH	**Xiulin Townshi**	**1.23**	**260**		P	**Pn**	**07 02 34.6**	**-0.1**
	baz=255							
ETLH					S	**Sn**	**07 02 51.3**	**-0.4**
	baz=255							
TEYL	**Yanliau Villag**	**1.23**	**244**		P	**Pn**	**07 02 34.4**	**-0.3**
	baz=240							
TEYL					S	**Sn**	**07 02 51.7**	**0.0**
	baz=240							
NWLT	**Wulai**	**1.24**	**287**		*i* P	**Pn**	**07 02 33.5**	**-1.3**
	baz=290							
NWLT					S	**Sn**	**07 02 51.0**	**-0.9**
	baz=290							
TWA	**Mucha**	**1.24**	**297**		P	**Pn**	**07 02 33.7**	**-1.2**
	baz=288							
TWA					S	**Sn**	**07 02 50.8**	**-1.2**
	baz=288							
ETM	**Tongmen**	**1.28**	**250**		P	**Pn**	**07 02 35.0**	**-0.4**
	baz=247							
ETM					S	**Sn**	**07 02 52.6**	**-0.2**
	baz=247							
NHDH	**Xindian Distri**	**1.28**	**295**		S	**Sn**	**07 02 52.1**	**-0.6**
	baz=288							
NNSB	**Datong**	**1.30**	**271**		P	**Pn**	**07 02 35.6**	**0.0**
	baz=269							
NNSB					S	**Sn**	**07 02 52.9**	**-0.4**
	baz=269							
NNSH	**Datong**	**1.30**	**271**		*i* P	**Pn**	**07 02 35.5**	**-0.1**
	baz=269							
NNSH					*i* S	**Sn**	**07 02 53.1**	**-0.2**
	baz=269							
NNS	**Nan Shan**	**1.31**	**271**		P	**Pn**	**07 02 35.1**	**-0.7**
	baz=269							
NNS					*i* S	**Sn**	**07 02 53.2**	**-0.3**
	baz=269							
YHNB	**Yeheng**	**1.33**	**281**		P	**Pn**	**07 02 35.4**	**-0.6**
	baz=279							
YHNB					S	**Sn**	**07 02 53.4**	**-0.5**
	baz=279							
YM01	**YM01**	**1.34**	**303**		P	**Pn**	**07 02 35.9**	**-0.1**
	baz=293							
YM01					S	**Sn**	**07 02 53.7**	**-0.3**
	baz=293							
YM08	**YM08**	**1.34**	**305**		*e*S	**Sn**	**07 02 53.3**	**-0.8**
	baz=297							
TEGC	**Jichi Village**	**1.36**	**239**		*e*P	**Pn**	**07 02 36.3**	**+0.1**
	baz=234							
JISG	**Ishigakijimahi**	**1.38**	**83**		P	**Pn**	**07 02 36.1**	**-0.4**
JISG					S	**Sn**	**07 02 54.1**	**-0.7**
ESL	**Shilin**	**1.39**	**245**		*i* P	**Pn**	**07 02 36.1**	**-0.6**
	baz=248							
ESL					S	**Sn**	**07 02 55.0**	**-0.2**
	baz=248							
TWS1	**Kuangyinshan**	**1.43**	**298**		P	**Pn**	**07 02 36.8**	**-0.3**
	baz=291							
TWS1					*e*S	**Sn**	**07 02 55.6**	**-0.4**
	baz=291							
WHF	**Hehuan Shan**	**1.43**	**259**		*i* P	**Pn**	**07 02 37.3**	**-0.3**
	baz=264							
WHF					*i* S	**Sn**	**07 02 55.9**	**-0.9**
	baz=264							
FUSS	**Fushou**	**1.44**	**263**		*i* P	**Pn**	**07 02 37.8**	**+0.3**
	baz=267							
FUSS					*i* S	**Sn**	**07 02 56.1**	**-0.5**
	baz=267							
NTST	**Danshui**	**1.44**	**301**		*e*S	**Sn**	**07 02 56.3**	**+0.1**
	baz=293							
EGFH	**Guangfu**	**1.47**	**240**		P	**Pn**	**07 02 36.5**	**-1.1**
	baz=235							
EGFH					S	**Sn**	**07 02 55.5**	**-1.3**
	baz=235							
TWT	**Tachien**	**1.50**	**264**		*i* S	**Sn**	**07 02 58.1**	**+0.3**
	baz=266							
TDCB	**Techi**	**1.51**	**264**		P	**Pn**	**07 02 38.7**	**+0.4**
	baz=265							
TDCB					S	**Sn**	**07 02 57.3**	**-0.8**
	baz=265							
CHGB	**Renai**	**1.53**	**257**		P	**Pn**	**07 02 38.8**	**+0.1**
	baz=250							
CHGB					S	**Sn**	**07 02 58.4**	**-0.3**
	baz=250							
OWD	**Renai**	**1.56**	**253**		*i* P	**Pn**	**07 02 38.8**	**-0.1**
	baz=252							
OWD					*i* S	**Sn**	**07 02 58.4**	**-0.8**
	baz=252							
HGSD	**Ruisui**	**1.57**	**234**		P	**Pn**	**07 02 38.6**	**-0.3**
	baz=231							
HGSD					S	**Sn**	**07 02 58.6**	**-0.5**
	baz=231							
EHY	**Hungye**	**1.64**	**236**		*i* P	**Pn**	**07 02 39.2**	**-0.6**
	baz=243							
EHY					S	**Sn**	**07 02 59.3**	**-1.4**
	baz=243							
WHP	**Taichung City**	**1.70**	**266**		*i* P	**Pn**	**07 02 41.8**	**+1.1**
	baz=266							
WHP					*i* S	**Sn**	**07 03 03.4**	**+1.0**
	baz=266							
YULB	**Yu-li**	**1.72**	**234**		P	**Pn**	**07 02 40.3**	**-0.5**
	baz=241							
YULB					S	**Sn**	**07 03 01.5**	**-1.1**
	baz=241							
EYUL	**Yuli**	**1.73**	**232**		P	**Pn**	**07 02 41.0**	**0.0**
	baz=229							
EYUL					S	**Sn**	**07 03 03.6**	**+0.7**
	baz=229							
TWF1	**Yuli**	**1.75**	**233**		*i* P	**Pn**	**07 02 40.6**	**-0.6**
	baz=230							
TWF1					S	**Sn**	**07 03 02.7**	**-0.4**
	baz=230							
WCS	**Beigang Elemen**	**1.77**	**259**		S	**Sn**	**07 03 05.4**	**+1.7**
	baz=256							
SSLB	**Suanglung**	**1.81**	**250**		P	**Pn**	**07 02 41.8**	**-0.2**
	baz=252							
SSLB					S	**Sn**	**07 03 04.2**	**-0.4**
	baz=252							
SMLT	**Sun Moon Lake**	**1.82**	**253**		*i* P	**Pn**	**07 02 42.7**	**+0.5**
	baz=250							
SMLT					S	**Sn**	**07 03 06.6**	**+1.5**
	baz=250							
FULB	**Fuli**	**1.84**	**229**		*e*P	**Pn**	**07 02 41.6**	**-0.9**
	baz=223							
FULB					S	**Sn**	**07 03 04.1**	**-1.4**
	baz=223							
TYC	**Yuchr**	**1.85**	**254**		*i* P	**Pn**	**07 02 43.2**	**+0.7**
	baz=250							
TYC					*i* S	**Sn**	**07 03 06.9**	**+1.3**
	baz=250							
CHKT	**Chengkung**	**1.87**	**225**		P	**Pn**	**07 02 40.5**	**-2.2**
	baz=222							
CHKT					S	**Sn**	**07 03 04.3**	**-1.6**
	baz=222							
WHYT	**Xinyi Township**	**1.93**	**248**		*e*P	**Pn**	**07 02 45.1**	**+1.6**
	baz=249							
WHYT					S	**Sn**	**07 03 10.4**	**+3.0**
	baz=249					

CHN1	**Nanshi**	**2.42**	**240**	*i* P		**Pn**	**07 02 51.6**	**+1.5**
	baz=239							
CHN1				*i* S		**Sn**	**07 03 20.8**	**+1.7**
	baz=239							
SLGT	**Liugui**	**2.44**	**235**	*i* P		**Pn**	**07 02 51.4**	**+1.1**
	baz=227							
SLGT				*i* S		**Sn**	**07 03 21.9**	**+2.5**
	baz=227							
TSMG	**Majia**	**2.62**	**230**	*e*P		**Pn**	**07 02 54.1**	**+1.4**
	baz=227							
TSMG				*e*S		**Sn**	**07 03 25.9**	**+2.1**
	baz=227							
LAY	**Lan-yu**	**2.64**	**206**	P		**Pn**	**07 02 52.0**	**-0.9**
	baz=200							
LAY				S		**Sn**	**07 03 21.8**	**-2.4**
	baz=200							
MASBT	**Mashibuluo**	**2.69**	**228**	*e*P		**Pn**	**07 02 53.9**	**+0.3**
	baz=225							
MASBT				S		**Sn**	**07 03 26.7**	**+1.3**
	baz=225							
EAST	**Anshuo**	**2.71**	**222**	P		**Pn**	**07 02 53.8**	**-0.2**
	baz=226							
EAST				S		**Sn**	**07 03 24.5**	**-1.6**
	baz=226							
VWUC	**VWUC**	**3.11**	**281**	P		**Pn**	**07 02 58.8**	**-0.4**
	baz=273							
VWUC				S		**Sn**	**07 03 33.2**	**-2.2**
	baz=273							

IDC 14 07:18:37.1±5.8, 18°.81S×178°.03W, h593km±47km, mb2.5/3, mb1 2.8/4, mb1mx2.6/39, mbtmp3.4/4, Error ellipse: s-maj=263.5km s-min=30.3km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.88**	**285**	P	P	07 20 01.3	0.0
	0.9nm,0.3s,baz=90,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**44.83**	**260**	P	P	07 25 59.9	-0.1
	0.2nm,0.3s,baz=98,slow=8.0,SNR=9.2						
WRA				PcP	PcP	07 27 28.6	-0.2
	1.0nm,1.1s,baz=90,slow=4.2,SNR=2.1						
ASAR	**Alice Springs**	**44.91**	**255**	P	P	07 26 00.3	-0.2
	0.5nm,0.5s,baz=87,slow=8.4,SNR=5.6						
TXAR	**Lajitas Array**	**86.17**	**57**	P	P	07 30 16.9	-0.1
	0.2nm,0.7s,baz=234,slow=5.5,SNR=3.6						

IDC 14 07:41:06.5±3.0, 54°.23N×87°.17E, h0km, mb1 2.8/2, mb1mx2.7/48, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.2km s-min=17.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**259**	*i*		07 49 55.8	
	baz=78,slow=300,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.42**	**259**	Pg	Pn	07 41 31.9	-1.6
	0.6nm,0.3s,baz=75,slow=15,SNR=10						
ZALV				Lg	Lg	07 41 51.7	
	0.9nm,0.3s,baz=74,slow=29,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn	Pn	07 42 43.2	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=5.3						
KURBB				Lg	Lg	07 44 29.8	
	0.0nm,0.3s,baz=59,slow=31,SNR=1.9						
MKAR	**Makanchi Array**	**8.07**	**205**	Pn	Pn	07 43 06.1	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=7.4						
MKAR				Sn	Sn	07 44 35.5	-1.4
	0.1nm,0.3s,baz=17,slow=21,SNR=3.8						
MKAR				Lg	Lg	07 45 23.5	
	0.1nm,0.3s,baz=33,slow=29,SNR=5.4						

IDC 14 07:48:29.6±6.8, 30°.84S×179°.18W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/29, mbtmp4.0/2, Error ellipse: s-maj=275.4km s-min=57.9km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.07**	**268**	P	P	07 56 22.9	-0.5
	0.4nm,0.3s,baz=108,slow=6.7,SNR=5.2						
WRA	**Warramunga Arr**	**43.10**	**273**	P	P	07 56 31.8	0.0
	1.3nm,0.3s,baz=113,slow=7.9,SNR=37						
FINES	**FINESS Array B**	**145.20**	**339**	PKPbc	PKPbc	08 08 07.4	-0.6
	0.4nm,0.4s,baz=46,slow=6.0,SNR=6.2						

IDC 14 07:52:23.3±2.2, 6°.01S×152°.97E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/37, mbtmp3.7/4, ML1.7/1, Error ellipse: s-maj=128.9km s-min=28.9km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.68**	**239**	Pn	Pn	07 54 03.0	+0.3
	1.0nm,0.3s,baz=279,slow=14,SNR=2.2						
PMG				Sn	Sn	07 55 13.5	-6.1
	1.6nm,0.3s,baz=50,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**22.80**	**231**	P	P	07 57 26.7	-1.1
	0.9nm,0.7s,baz=56,slow=10.0,SNR=4.8						
ASAR	**Alice Springs**	**25.39**	**224**	P	P	07 57 52.9	+0.3
	0.6nm,0.4s,baz=61,slow=8.8,SNR=9.9						
ILAR	**Eielson Array**	**83.21**	**22**	P	P	08 04 50.9	-0.3
	0.3nm,0.6s,baz=254,slow=5.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**150.83**	**286**	PKPbc	PKiKP	08 12 19.3	-0.2
	0.3nm,0.6s,baz=76,slow=4.1,SNR=2.2						

IDC 14 08:06:43.6±3.1, 54°.22N×87°.13E, h0km, mb1 2.9/2, mb1mx2.9/44, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.6km s-min=16.4km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**260**	*i*		08 15 33.1	
	baz=79,slow=314,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.39**	**260**	Pg	Pg	08 07 08.4	-1.8
	0.8nm,0.3s,baz=78,slow=14,SNR=13						
ZALV				Lg	Lg	08 07 27.4	
	1.0nm,0.3s,baz=77,slow=28,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.37**	**239**	Pn	Pn	08 08 20.1	+1.4
	0.0nm,0.3s,baz=55,slow=14,SNR=5.5						
MKAR	**Makanchi Array**	**8.04**	**204**	Pn	Pn	08 08 42.6	+0.9
	0.1nm,0.3s,baz=26,slow=12,SNR=5.1						
MKAR				Sn	Sn	08 10 13.1	-0.3
	0.2nm,0.3s,baz=24,slow=28,SNR=9.6						
MKAR				Lg	Lg	08 10 57.8	
	baz=25,slow=31,SNR=2.4						

*IDC **14** 08:22:13.1±2.7, 35°.03N×97°.49W, h0km, mb1 3.6/4, mb1mx3.4/42, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=44.2km s-min=11.8km az=110.0*

*TUL **14** 08:22:15±1.6, 34°.98N±0°.02×97°.68W±0°.02, h5km±5km, ML3.5, mb_Lg3.5/129(NEIC), Mwr3.2/27(NEIC), Error ellipse: s-maj=2.8km s-min=2.1km az=121.0*

*ANF **14** 08:22:15.6±0.8, 35°.02N×97°.70W, h10km±6km, ML4.2/17, Error ellipse: s-maj=3.4km s-min=2.4km az=139.0*

*NEIC **14** 08:22:15, 34°.98N×97°.68W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}=0.48; $M_{\theta\theta}$=8.36; $M_{\phi\phi}$=-7.88; $M_{r\theta}$=1.15; $M_{\theta\phi}$=-2.71; $M_{\phi r}$=3.56; Fault plane solution: M_0=9.35000×10^{13} NP1:ϕ_s=236.14000°, δ=77.60000°, λ=-161.63000°. NP2:ϕ_s=142.06000°, δ=72.07000°, λ=-13.04000°. Principal axes: T 8.8321, Plg=4.0000°, Azm=8.0000°; N 0.9542, Plg=68.0000°, Azm=269.0000°; P -9.7864, Plg=22.0000°, Azm=100.0000°;*

*NEIC **14** 08:22:15.5±1.4, 34°.98N±0°.02×97°.64W±0°.04, h5km±8km Error ellipse: s-maj=4.6km s-min=2.2km az=112.0*

ISC 14 08:22:15.0±1.0, 35°.01N±0°.03×97°.67W±0°.03, h9km±8km, n210, σ1§13/232, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.33**	**42**	Pg	**Pb**	**08 22 22.5**	**-0.5**
FNO				Sg	**Sb**	**08 22 27.7**	**-0.7**
OKCSW	**OKLAHOMA CITY**	**0.43**	**26**	Pg	**Pb**	**08 22 24.6**	**-0.2**
OKCSW				Sg	**Sb**	**08 22 30.7**	**-0.7**
X34A	**Smith Ranch, M**	**0.43**	**198**	Pg	**Pg**	**08 22 24.7**	**+1.2**
X34A				Sg	**Sg**	**08 22 30.4**	**+1.3**
OKCFA	**Oklahoma City**	**0.44**	**24**	Pg	**Pg**	**08 22 24.4**	**+0.8**
OKCFA				Sg	**Sb**	**08 22 30.8**	**-0.8**
OKCFA	**Oklahoma City**	**0.44**	**24**	P		08 22 24.6	
	baz=203,SNR=52						
OKCFA				S		08 22 31.3	
	baz=203						
OK009	**Oakdale Elemen**	**0.60**	**19**		**Pg**	**08 22 26.1**	**-0.5**
OK009				Sg	**Sb**	**08 22 36.2**	**-0.1**
OK001	**Jones High Sch**	**0.63**	**29**	Pg	**Pb**	**08 22 28.1**	**0.0**
OK001				Sg	**Sb**	**08 22 36.5**	**-0.6**
OK025	**Westminster Rd**	**0.63**	**25**	Pg	**Pb**	**08 22 28.0**	**-0.1**
OK025				Sg	**Sb**	**08 22 36.7**	**-0.3**
BCOK	**Bluff Creek, N**	**0.64**	**4**	Pg	**Pg**	**08 22 28.2**	**+0.8**
BCOK				Sg	**Sb**	**08 22 37.2**	**-0.3**
OK005	**Luther M Schoo**	**0.75**	**31**	Pg	**Pg**	**08 22 30.0**	**+0.6**
OK005				Sg	**Sb**	**08 22 40.5**	**0.0**
OK029	**Liberty Lake**	**0.80**	**13**	Pg	**Pg**	**08 22 31.0**	**+0.6**
OK029				Sg	**Sb**	**08 22 41.9**	**-0.2**
OK011	**Prague**	**0.93**	**59**	Pg	**Pg**	**08 22 32.2**	**-0.6**
OK011				Sg	**Sb**	**08 22 46.1**	**+0.4**
WMOK	**Wichita Mounta**	**0.96**	**254**	P	**Pg**	**08 22 32.5**	**-0.8**
	baz=75,SNR=43						
WMOK				S	**Sg**	**08 22 46.3**	**+0.6**
	baz=75						
WMOK	**Wichita Mounta**	**0.96**	**254**		**Pg**	**08 22 32.5**	**-0.8**
WMOK				Sg	**Sg**	**08 22 45.7**	**-0.1**
WMOK	**Wichita Mounta**	**0.96**	**254**	P		08 22 32.7	
	baz=75,SNR=268						
LOOK	**Love County**	**1.10**	**158**	Pg	**Pg**	**08 22 35.8**	**-0.2**
LOOK				Sg	**Sg**	**08 22 49.6**	**-0.6**
OK031	**S. Brethren Rd**	**1.16**	**36**	Pg	**Pg**	**08 22 37.0**	**-0.1**
OK031				Sg	**Sb**	**08 22 53.2**	**+0.9**
QUOK	**Quay**	**1.40**	**34**	Pn	**Pn**	**08 22 41.0**	**+0.4**
CROK	**Carrier**	**1.51**	**350**	Pn	**Pn**	**08 22 43.4**	**+1.2**
Z35A	**Perchaven, San**	**1.71**	**168**	Pn	**Pn**	**08 22 45.2**	**+0.2**
Z35A				IAmb_Lg		08 23 11.5	
	comp=Z,132nm,0.7s						
Z35A	**Perchaven, San**	**1.71**	**168**	P		08 22 45.1	
	baz=348,SNR=163						
Z35A				S		08 23 08.0	
	baz=348						
U32A	**Winter Ranch,**	**1.74**	**322**	Pn	**Pn**	**08 22 47.3**	**+1.9**
U32A	**Winter Ranch,**	**1.74**	**322**	P		08 22 47.3	
	baz=142,SNR=37						
TUL1	**Leonard**	**1.77**	**59**	P	**Pb**	**08 22 47.4**	**-0.3**
	baz=239,SNR=81						
TUL1				S	**Sg**	**08 23 11.2**	**-0.7**
	baz=239						
TUL1	**Leonard**	**1.77**	**59**	P		08 22 47.4	
	baz=239,SNR=221						
TUL1				S		08 23 11.6	
	baz=239						
BLOK	**Blackwell**	**1.78**	**12**		**Pb**	**08 22 47.8**	**0.0**
BLOK				IAmb_Lg		08 23 17.2	
	comp=Z,173nm,0.9s						
OK032	**Salt Plains WL**	**1.84**	**346**	Pn	**Pn**	**08 22 48.4**	**+1.6**
OK032				IAmb_Lg		08 23 15.7	
	comp=Z,188nm,0.8s						
GC02	**Grant County #**	**1.84**	**355**		**Pn**	**08 22 48.5**	**+1.8**
X37A	**Clayton**	**1.94**	**102**	Pn	**Pn**	**08 22 49.5**	**+1.5**
X37A				IAmb_Lg		08 23 20.5	
	comp=Z,344nm,0.9s						
X37A	**Clayton**	**1.94**	**102**	P		08 22 49.5	
	baz=282,SNR=533						
KAN13	**South Haven SW**	**2.00**	**4**	Pn	**Pn**	**08 22 50.7**	**+1.8**
KAN13				IAmb_Lg		08 23 22.6	
	comp=Z,248nm,0.7s						
KAN17	**Caldwell West**	**2.03**	**358**		**Pn**	**08 22 51.1**	**+1.8**
KAN05	**Bluff City Nor**	**2.10**	**356**	Pn	**Pn**	**08 22 52.0**	**+1.7**
T35A	**Sooner Cattle**	**2.12**	**26**	Pn	**Pn**	**08 22 52.3**	**+1.7**
T35B	**Sooner Cattle**	**2.12**	**26**	P		08 22 52.3	
	baz=206,SNR=140						
KAN09	**Caldwell North**	**2.12**	**1**	Pn	**Pn**	**08 22 52.5**	**+1.9**
KAN09				IAmb_Lg		08 23 25.9	
	comp=Z,249nm,0.9s						
KAN10	**Anthony SW Sta**	**2.13**	**351**		**Pn**	**08 22 52.5**	**+1.7**
KAN10				IAmb_Lg		08 23 27.4	
	comp=Z,212nm,1.0s						
KS20	**Mayfield South**	**2.21**	**2**	Pn	**Pn**	**08 22 54.0**	**+2.1**
KS20				IAmb_Lg		08 23 32.2	
	comp=Z,329nm,0.9s						
KAN08	**Anthony NE Sta**	**2.22**	**354**	Pn	**Pn**	**08 22 54.0**	**+2.0**
KAN08				IAmb_Lg		08 23 32.4	
	comp=Z,119nm,0.9s						
KAN12	**Harper NE Stat**	**2.29**	**353**	Pn	**Pn**	**08 22 54.8**	**+1.7**
Z38A	**Mt. Pleasant**	**2.83**	**127**	Pn	**Pn**	**08 23 01.6**	**+1.3**
Z38A				IAmb_Lg		08 23 51.9	
	comp=Z,270nm,0.8s						
Z38A	**Mt. Pleasant**	**2.83**	**127**	P		08 23 02.0	
	baz=308,SNR=21						
ABTX	**Abilene, Hawle**	**2.90**	**215**	P	**Pn**	**08 23 01.8**	**+0.5**
	baz=34						
ABTX				S	**Sn**	**08 23 37.7**	**+1.5**
	baz=34						
ABTX	**Abilene, Hawle**	**2.90**	**215**	Pn	**Pn**	**08 23 03.3**	**+2.0**
ABTX				IAmb_Lg		08 23 49.6	
	comp=Z,184nm,1.2s						
ABTX	**Abilene, Hawle**	**2.90**	**215**	P		08 23 02.2	
	baz=34,SNR=19						
WHTX	**Lake Whitney,**	**3.02**	**177**	P	**Pn**	**08 23 04.0**	**+1.0**
	baz=356						
WHTX				S	**Sn**	**08 23 40.6**	**+1.3**
	baz=356						
WHTX	**Lake Whitney,**	**3.02**	**177**	Pn	**Pn**	**08 23 04.5**	**+1.5**
WHTX	**Lake Whitney,**	**3.02**	**177**	P		08 23 04.3	
	baz=356,SNR=26						
U38A	**Gravette**	**3.02**	**61**		**Pn**	**08 23 04.3**	**+1.3**
U38A	**Gravette**	**3.02**	**61**	P		08 23 04.6	
	baz=242,SNR=38						
W39A	**Magazine**	**3.19**	**86**	P	**Pn**	**08 23 06.5**	**+1.3**
	baz=267,SNR=20						
W39A				S	**Sn**	**08 23 45.1**	**+1.6**
	baz=267						
W39A	**Magazine**	**3.19**	**86**		**Pn**	**08 23 06.2**	**+0.9**
W39A				IAmb_Lg		08 24 04.8	
	comp=Z,99nm,0.8s						
W39A	**Magazine**	**3.19**	**86**	P		08 23 06.6	
	baz=267,SNR=21						
HHAR	**Hobbs**	**3.29**	**66**		**Pn**	**08 23 07.7**	**+1.1**
HHAR				IAmb_Lg		08 24 05.2	
	comp=Z,100nm,0.7s						
HHAR	**Hobbs**	**3.29**	**66**	P		08 23 08.1	
	baz=248						
AMTX	**Amarillo**	**3.30**	**269**	P	**Pn**	**08 23 08.3**	**+1.4**
	baz=87						
AMTX	**Amarillo**	**3.30**	**269**	Pn	**Pn**	**08 23 08.3**	**+1.4**
237A	**Washetta, Mont**	**3.38**	**152**	Pn	**Pn**	**08 23 08.8**	**+0.9**
237A				IAmb_Lg		08 24 06.4	
	comp=Z,118nm,0.7s						
237A	**Washetta, Mont**	**3.38**	**152**	P		08 23 09.6	
	baz=333,SNR=8.5						
MIAR	**Mount Ida**	**3.40**	**97**	P	**Pn**	**08 23 10.0**	**+1.8**
	baz=278,SNR=42						
MIAR				S	**Sn**	**08 23 50.8**	**+2.2**
	baz=278						
MIAR	**Mount Ida**	**3.40**	**97**	Pn	**Pn**	**08 23 09.9**	**+1.8**
MIAR				IAmb_Lg		08 24 08.4	
	comp=Z,84nm,0.8s						
MIAR	**Mount Ida**	**3.40**	**97**	P		08 23 10.1	
	baz=278,SNR=200						
R32A	**Long Quarter,**	**3.50**	**346**	Pn	**Pn**	**08 23 11.2**	**+1.5**
R32A				IAmb_Lg		08 24 10.7	
	comp=Z,98nm,1.0s						
R32A	**Long Quarter,**	**3.50**	**346**	P		08 23 11.4	
	baz=166						
WLAR	**White Oak Lake**	**4.00**	**108**	Pn	**Pn**	**08 23 17.3**	**+0.9**
WLAR				IAmb_Lg		08 24 24.9	
	comp=Z,78nm,0.7s						
X40A	**Basin Creek Fa**	**4.01**	**96**	P	**Pn**	**08 23 17.7**	**+1.0**
	baz=278,SNR=9.6						
X40A				S	**Sn**	**08 24 05.8**	**+2.1**
	baz=278						
X40A	**Basin Creek Fa**	**4.01**	**96**		**Pn**	**08 23 17.9**	**+1.3**
X40A				IAmb_Lg		08 24 29.6	
	comp=Z,102nm,0.8s						
X40A	**Basin Creek Fa**	**4.01**	**96**	P		08 23 18.1	
	baz=278,SNR=18						
X40A				P		08 23 18.1	
	baz=278,SNR=18						
NATX	**Nacogdoches**	**4.11**	**141**	S	**Sn**	**08 24 07.3**	**+1.3**
	baz=323						
NATX	**Nacogdoches**	**4.11**	**141**	Pn	**Pn**	**08 23 19.2**	**+1.3**
NATX				IAmb_Lg		08 24 35.2	
	comp=Z,89nm,0.8s						
CBKS	**Cedar Bluff**	**4.14**	**337**	P	**Pn**	**08 23 20.3**	**+2.0**
	baz=156						
CBKS				S	**Sn**	**08 24 07.7**	**+0.8**
	baz=156						
CBKS	**Cedar Bluff**	**4.14**	**337**		**Pn**	**08 23 20.1**	**+1.7**
CBKS				IAmb_Lg		08 24 29.8	
	comp=Z,87nm,0.7s						
CBKS	**Cedar Bluff**	**4.14**	**337**	P		08 23 19.9	
	baz=156,SNR=30						
U40A	**Yellville**	**4.14**	**70**	P	**Pn**	**08 23 19.4**	**+1.0**
	baz=252,SNR=31						
U40A				S	**Sn**	**08 24 07.8**	**+0.8**
	baz=252						
U40A	**Yellville**	**4.14**	**70**	Pn	**Pn**	**08 23 19.0**	**+0.6**
U40A	**Yellville**	**4.14**	**70**	P		08 23 19.4	
	baz=252,SNR=66						
U40A				P		08 23 19.4	
	baz=252,SNR=66						
KSU1	**Kansas State U**	**4.17**	**11**	P	**Pn**	**08 23 19.5**	**+0.8**
	baz=192						
KSU1	**Kansas State U**	**4.17**	**11**		**Pn**	**08 23 19.9**	**+1.2**
KSU1				IAmb_Lg		08 24 36.8	
	comp=Z,106nm,0.8s						
KSU1	**Kansas State U**	**4.17**	**11**	P		08 23 19.6	
	baz=192,SNR=8.9						
435B	**Jarrell**	**4.22**	**179**	P	**Pn**	**08 23 20.1**	**+0.6**
	baz=359						
435B				S	**Sn**	**08 24 10.2**	**+1.3**
	baz=359						
435B	**Jarrell**	**4.22**	**179**	Pn	**Pn**	**08 23 19.9**	**+0.4**
435B				IAmb_Lg		08 24 32.1	
	comp=Z,88nm,0.7s						
435B	**Jarrell**	**4.22**	**179**	P		08 23 19.9	
	baz=359,SNR=11						
435B				S		08 24 10.4	
	baz=359						
MSTX	**Muleshoe**	**4.34**	**258**	P	**Pn**	**08 23 22.7**	**+1.5**
	baz=75,SNR=9.8						
MSTX	**Muleshoe**	**4.34**	**258**	Pn	**Pn**	**08 23 22.2**	**+1.0**
MSTX				IAmb_Lg		08 24 38.4	
	comp=Z,55nm,0.7s						
MSTX	**Muleshoe**	**4.34**	**258**	P		08 23 22.4	
	baz=75,SNR=14						
Z41A	**Richland Creek**	**4.40**	**112**	P	**Pn**	**08 23 22.2**	**+0.3**
	baz=294						
Z41A				S	**Sn**	**08 24 13.7**	**+0.4**
	baz=294						
Z41A	**Richland Creek**	**4.40**	**112**	P		08 23 22.5	
	baz=294						
Z41A				P		08 23 22.5	
	baz=294						
WHAR	**Wooly Hollow**	**4.42**	**85**	Pn	**Pn**	**08 23 23.3**	**+1.1**
WHAR				IAmb_Lg		08 24 42.9	
	comp=Z,100nm,0.9s						
W41B	**Gary Mavity, V**	**4.45**	**86**	P	**Pn**	**08 23 23.9**	**+1.4**
	baz=269,SNR=15						
W41B				S	**Sn**	**08 24 15.3**	**+0.9**
	baz=269						
W41B	**Gary Mavity, V**	**4.45**	**86**	P		08 23 24.1	
	baz=269,SNR=97						
FCAR	**Ozark Folk Cen**	**4.61**	**77**		**Pn**	**08 23 25.1**	**+0.2**
FCAR				IAmb_Lg		08 24 51.8	
	comp=Z,78nm,0.9s						
JCT	**Junction City**	**4.87**	**202**	P	**Pn**	**08 23 28.2**	**-0.2**
	baz=21,SNR=7.3						
JCT				S	**Sn**	**08 24 25.2**	**+0.3**
	baz=21						
JCT	**Junction City**	**4.87**	**202**	Pn	**Pn**	**08 23 27.9**	**-0.6**
JCT	**Junction City**	**4.87**	**202**	P		08 23 28.6	
	baz=21,SNR=24						
JCT				S		08 24 25.3	
	baz=21						
MGMO	**Mountain Grove**	**4.87**	**62**	Pn	**Pn**	**08 23 28.9**	**+0.6**
MGMO				IAmb_Lg		08 24 54.1	
	comp=Z,111nm,0.8s						
CCAR	**Cane Creek**	**4.99**	**101**		**Pn**	**08 23 31.8**	**+1.8**
CCAR				IAmb_Lg		08 25 05.2	
	comp=Z,96nm,1.0s						
CCAR	**Cane Creek**	**4.99**	**101**	P		08 23 31.4	
	baz=284,SNR=16						
LCAR	**Lake Charles**	**5.41**	**77**		**Pn**	**08 23 35.9**	**0.0**
LCAR				IAmb_Lg		08 25 10.2	
	comp=Z,47nm,0.7s						
R40A	**Maddies Statio**	**5.43**	**51**		**Pn**	**08 23 37.2**	**+1.1**
R40A				IAmb_Lg		08 25 17.6	
	comp=Z,59nm,0.9s						
R40A	**Maddies Statio**	**5.43**	**51**	P		08 23 37.2	
	baz=234,SNR=18						
KSCO	**Kaye Shedlock'**	**5.63**	**317**	P	**Pn**	**08 23 39.3**	**+0.4**
	baz=134						
KSCO	**Kaye Shedlock'**	**5.63**	**317**		**Pn**	**08 23 39.5**	**+0.6**
KSCO				IAmb_Lg		08 25 18.8	
	comp=Z,88nm,0.8s						
P38A	**Dawn**	**5.66**	**34**		**Pn**	**08 23 40.2**	**+1.0**
P38A				IAmb_Lg		08 25 29.1	
	comp=Z,90nm,0.7s						
441A	**DeRidder**	**5.68**	**137**	Pn	**Pn**	**08 23 39.1**	**-0.5**
441A				IAmb_Lg		08 25 14.2	
	comp=Z,61nm,1.3s						
T42A	**Van Buren**	**5.70**	**67**		**Pn**	**08 23 40.9**	**+1.2**
T42A				IAmb_Lg		08 25 15.9	
	comp=Z,119nm,0.7s						
T42A	**Van Buren**	**5.70**	**67**	P		08 23 40.3	
	baz=251,SNR=22						
143A	**Socs Landing,**	**5.70**	**112**		**Pn**	**08 23 40.5**	**+0.7**
143A				IAmb_Lg		08 25 31.2	
	comp=Z,54nm,1.0s						
N33A	**J Bar K, Exete**	**5.72**	**2**		**Pn**	**08 23 41.1**	**+1.0**
N33A				IAmb_Lg		08 25 33.2	
	comp=Z,74nm,0.8s						
HBAR	**Harrisburg**	**5.76**	**83**		**Pn**	**08 23 41.0**	**+0.4**
T25A	**Trinidad**	**5.86**	**293**	P	**Pn**	**08 23 42.7**	**+0.6**
	baz=110						
T25A	**Trinidad**	**5.86**	**293**		**Pn**	**08 23 43.3**	**+1.2**
T25A				IAmb_Lg		08 25 36.2	
	comp=Z,74nm,1.1s						
CCM	**Cathedral Cave**	**6.00**	**58**	P	**Pn**	**08 23 44.0**	**+0.2**
	baz=241						
CCM	**Cathedral Cave**	**6.00**	**58**		**Pn**	**08 23 44.6**	**+0.7**
CCM				IAmb_Lg		08 25 37.8	
	comp=Z,93nm,0.8s						
N35A	**Tabor**	**6.05**	**15**		**Pn**	**08 23 46.2**	**+1.6**
LPAR	**Lepanto**	**6.05**	**82**	Pn	**Pn**	**08 23 44.0**	**-0.6**
LPAR				IAmb_Lg		08 25 36.6	
	comp=Z,80nm,0.8s						
PBMO	**Poplar Bluff**	**6.13**	**71**	Pn	**Pn**	**08 23 46.1**	**+0.3**
735A	**Kenedy**	**6.14**	**181**		**Pn**	**08 23 47.0**	**+1.1**
735A				IAmb_Lg		08 25 39.0	
	comp=Z,38nm,0.8s						
P40A	**Paris**	**6.35**	**43**		**Pn**	**08 23 50.1**	**+1.3**
BGNE	**Belgrade**	**6.39**	**357**	P	**Pn**	**08 23 49.0**	**-0.4**
	baz=177						
BGNE	**Belgrade**	**6.39**	**357**	Pn	**Pn**	**08 23 49.4**	**+0.1**
BGNE				IAmb_Lg		08 25 55.3	
	comp=Z,68nm,0.7s						
BGNE	**Belgrade**	**6.39**	**357**	P		08 23 49.6	
	baz=177,SNR=7.1						
VBMS	**Vicksburg**	**6.58**	**113**	Pn	**Pn

HICK	**Hickman**	**7.03**	**75**	Pn	**Pn**	**08 23 58.3**	**+0.3**
Q24A	**Divide**	**7.17**	**306**	P	**Pn**	**08 24 00.1**	**-0.1**
	baz=122						
ANMO	**Albuquerque**	**7.21**	**272**	Pn	**Pn**	**08 24 00.1**	**-0.7**
MNTX	**Cornudas Mount**	**7.25**	**245**		**Pn**	**08 24 01.2**	**+0.1**
MNTX				IAmb_Lg		08 26 15.7	
	comp=Z,29nm,0.8s						
UTMT	**University of**	**7.29**	**77**	Pn	**Pn**	**08 24 02.1**	**+0.6**
S44A	**Carbondale**	**7.29**	**66**	Pn	**Pn**	**08 24 03.2**	**+1.5**
SIUC	**Southern Illin**	**7.33**	**66**	Pn	**Pn**	**08 24 03.1**	**+1.0**
146A	**Union**	**7.55**	**106**	Pn	**Pn**	**08 24 05.0**	**-0.2**
T45A	**Paducah**	**7.58**	**72**	Pn	**Pn**	**08 24 07.8**	**+2.2**
TX31	**Lajitas Ar. Si**	**7.61**	**224**		**Pn**	**08 24 06.9**	**+0.8**
TX32	**Lajitas Array**	**7.61**	**224**		**Pn**	**08 24 06.7**	**+0.5**
TXAR	**Lajitas Array**	**7.61**	**224**	Pn	**Pn**	**08 24 06.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=50,slow=12,SNR=25						
TXAR				Sn	**Sn**	**08 25 31.0**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=53,slow=18,SNR=3.8						
TXAR				Lg	Lg	08 26 12.8	
	comp=Z,2.4nm,0.3s,baz=47,slow=25,SNR=6.8						
TXAR	**Lajitas Array**	**7.61**	**224**		**Pn**	**08 24 06.6**	**+0.4**
K31A	**O'Neill**	**7.64**	**354**	Pn	**Pn**	**08 24 07.4**	**+0.9**
K31A				IAmb_Lg		08 26 28.1	
	comp=Z,82nm,1.0s						
Y22D	**IRIS PASSCAL I**	**7.69**	**266**	IAmb_Lg		08 26 27.9	
	comp=Z,50nm,0.8s						
SCIA	**State Center**	**7.72**	**26**	P	**Pn**	**08 24 05.3**	**-2.2**
	baz=208						
SCIA	**State Center**	**7.72**	**26**	Pn	**Pn**	**08 24 07.2**	**-0.3**
N41A	**Harden Midland**	**7.83**	**41**	Pn	**Pn**	**08 24 09.1**	**+0.1**
PLAL	**Pickwick Lake**	**7.87**	**87**		**Pn**	**08 24 10.2**	**+0.6**
PLAL				IAmb_Lg		08 26 35.3	
	comp=Z,24nm,0.7s						
ISCO	**Idaho Springs**	**7.92**	**309**	P	**Pn**	**08 24 11.2**	**+0.6**
	baz=125						
ISCO	**Idaho Springs**	**7.92**	**309**	Pn	**Pn**	**08 24 12.1**	**+1.5**
ISCO				IAmb_Lg		08 26 41.2	
	comp=Z,24nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.94**	**58**	Pn	**Pn**	**08 24 12.0**	**+1.5**
Q44A				IAmb_Lg		08 26 45.3	
	comp=Z,72nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.96**	**52**	Pn	**Pn**	**08 24 13.6**	**+2.8**
WVT	**Waverly**	**8.09**	**79**	P	**Pn**	**08 24 12.6**	**0.0**
	baz=265						
WVT	**Waverly**	**8.09**	**79**	Pn	**Pn**	**08 24 13.5**	**+0.9**
Z47A	**Carrollton**	**8.16**	**100**	Pn	**Pn**	**08 24 14.1**	**+0.5**
SMCO	**Snowmass**	**8.52**	**302**	Pn	**Pn**	**08 24 19.7**	**+0.9**
K38A	**Parkersburg**	**8.52**	**25**	Pn	**Pn**	**08 24 19.7**	**+1.2**
K38A				IAmb_Lg		08 26 58.4	
	comp=Z,56nm,0.8s						
HDIL	**Hopedale**	**8.63**	**48**	P	**Pn**	**08 24 20.2**	**+0.1**
	baz=233						
HDIL	**Hopedale**	**8.63**	**48**		**Pn**	**08 24 21.3**	**+1.3**
L40A	**Anamosa**	**8.66**	**34**	Pn	**Pn**	**08 24 19.9**	**-0.5**
L40A				IAmb_Lg		08 26 55.0	
	comp=Z,60nm,0.8s						
ECSD	**EROS Data Cent**	**8.75**	**5**	P	**Pn**	**08 24 20.8**	**-0.8**
	baz=186,SNR=14						
ECSD	**EROS Data Cent**	**8.75**	**5**	Pn	**Pn**	**08 24 22.1**	**+0.5**
X48A	**Hartselle**	**8.76**	**91**	Pn	**Pn**	**08 24 21.6**	**-0.3**
PHWY	**Pilot Hill**	**8.77**	**318**	Pn	**Pn**	**08 24 22.7**	**+0.5**
PHWY				IAmb_Lg		08 27 01.1	
	comp=Z,50nm,1.0s						
121A	**Cookes Peak, D**	**8.78**	**256**	IAmb_Lg		08 27 11.4	
	comp=Z,20nm,1.0s						
N23A	**Red Feather La**	**8.78**	**314**	P	**Pn**	**08 24 22.0**	**-0.4**
	baz=130						
T47A	**Sharon Grove**	**8.78**	**74**	Pn	**Pn**	**08 24 21.1**	**-1.0**
T47A				IAmb_Lg		08 27 05.1	
	comp=Z,38nm,0.7s						
LRAL	**Lakeview Retre**	**9.07**	**100**	P	**Pn**	**08 24 25.4**	**-0.7**
	baz=285						
LRAL	**Lakeview Retre**	**9.07**	**100**	Pn	**Pn**	**08 24 25.7**	**-0.4**
CLTN	**Cedars of Leba**	**9.30**	**80**	Pn	**Pn**	**08 24 28.6**	**-0.6**
CLTN				IAmb_Lg		08 27 13.7	
	comp=Z,18nm,0.8s						
Y49A	**Blount Mountai**	**9.37**	**94**	Pn	**Pn**	**08 24 30.1**	**-0.1**
L42A	**Oliver, Polo**	**9.38**	**40**		**Pn**	**08 24 31.1**	**+0.9**
P46A	**Rosedale**	**9.51**	**58**	Pn	**Pn**	**08 24 33.2**	**+1.1**
I37A	**Lemond, Waseca**	**9.57**	**19**	IAmb_Lg		08 27 37.6	
	comp=Z,28nm,0.8s						
PV11	**David Mesa, Pa**	**9.58**	**293**	Pn	**Pn**	**08 24 32.3**	**-1.0**
PV17	**East Wray Mesa**	**9.64**	**293**	Pn	**Pn**	**08 24 34.8**	**+0.7**
WCI	**Wyandotte Cave**	**9.69**	**67**	P	**Pn**	**08 24 34.6**	**+0.1**
	baz=254						
WCI	**Wyandotte Cave**	**9.69**	**67**	Pn	**Pn**	**08 24 33.8**	**-0.7**
WCI				IAmb_Lg		08 27 22.7	
	comp=Z,36nm,0.7s						
PV14	**Lion Creek, Pa**	**9.71**	**293**	Pn	**Pn**	**08 24 36.0**	**+0.9**
JFWS	**Jewell Farm**	**9.77**	**34**	P	**Pn**	**08 24 34.8**	**-0.9**
	baz=218						
JFWS	**Jewell Farm**	**9.77**	**34**	Pn	**Pn**	**08 24 35.3**	**-0.3**
JFWS				IAmb_Lg		08 27 37.8	
	comp=Z,46nm,0.8s						
U49A	**Red Boiling Sp**	**9.78**	**78**	Pn	**Pn**	**08 24 36.4**	**+0.7**
BLO	**Bloomington**	**9.82**	**62**		**Pn**	**08 24 37.1**	**+0.8**
FPAL	**Fort Paine**	**9.93**	**89**	IAmb_Lg		08 27 34.8	
	comp=Z,17nm,1.0s						
SFIN	**Lafayette**	**9.94**	**54**	P	**Pn**	**08 24 38.0**	**+0.1**
	baz=240						
SFIN	**Lafayette**	**9.94**	**54**	Pn	**Pn**	**08 24 38.6**	**+0.6**
SFIN				IAmb_Lg		08 27 40.3	
	comp=Z,56nm,0.8s						
RWWY	**Rawlins**	**10.02**	**314**	Pn	**Pn**	**08 24 38.7**	**-0.6**
W50A	**Signal Mountai**	**10.13**	**85**	Pn	**Pn**	**08 24 40.9**	**+0.3**
K22A	**Casper**	**10.28**	**320**	Pn	**Pn**	**08 24 44.7**	**+1.9**
RSSD	**Black Hills**	**10.33**	**334**	P	**Pn**	**08 24 44.2**	**+0.7**
	baz=150						
RSSD	**Black Hills**	**10.33**	**334**		**Pn**	**08 24 44.6**	**+1.1**
I40A	**Norwalk**	**10.40**	**29**		**Pn**	**08 24 46.0**	**+1.7**
X51A	**Calhoun**	**10.55**	**89**	Pn	**Pn**	**08 24 46.6**	**+0.3**
R49A	**Shelbyville**	**10.56**	**68**	Pn	**Pn**	**08 24 47.4**	**+1.0**
T50A	**Nancy**	**10.58**	**75**		**Pn**	**08 24 46.4**	**-0.4**
CPCT	**Cooper Cave**	**10.76**	**84**	Pn	**Pn**	**08 24 48.6**	**-0.7**
SPMN	**Marine on St.**	**10.85**	**19**	P	**Pn**	**08 24 49.2**	**-1.3**
	baz=202						
SPMN	**Marine on St.**	**10.85**	**19**		**Pn**	**08 24 50.1**	**-0.4**
V51A	**Loudon**	**10.90**	**82**		**Pn**	**08 24 52.9**	**+1.8**
152A	**Waverly Hall**	**11.02**	**99**	Pn	**Pn**	**08 24 53.5**	**+0.7**
N47A	**Urbana**	**11.12**	**55**	Pn	**Pn**	**08 24 53.0**	**-1.1**
I42A	**Draeger Farm,**	**11.14**	**35**	Pn	**Pn**	**08 24 53.7**	**-0.8**
W52A	**Murphy**	**11.26**	**86**	Pn	**Pn**	**08 24 57.8**	**+1.6**
F36A	**Milaca**	**11.28**	**15**		**Pn**	**08 24 55.0**	**-1.4**
TKL	**Tuckaleechee C**	**11.37**	**83**	Pn	**Pn**	**08 24 57.9**	**+0.4**
V52A	**Sevierville**	**11.51**	**82**	Pn	**Pn**	**08 24 58.8**	**-0.7**
TZTN	**Tazewell**	**11.57**	**78**	Pn	**Pn**	**08 25 02.2**	**+1.9**
G40A	**Rib Lake**	**11.72**	**27**		**Pn**	**08 25 02.4**	**+0.1**
GOGA	**Godfrey**	**11.87**	**94**	Pn	**Pn**	**08 25 04.2**	**-0.1**
PD31	**Pinedale Array**	**12.06**	**313**	Pn	**Pn**	**08 25 08.3**	**+1.1**
PDAR	**Pinedale Array**	**12.06**	**313**	Pn	**Pn**	**08 25 08.8**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=129,slow=14,SNR=6.5						
PDAR				Lg	Lg	08 28 36.8	
	comp=Z,0.5nm,0.3s,baz=120,slow=28,SNR=8.1						
PDAR	**Pinedale Array**	**12.06**	**313**	Pn	**Pn**	**08 25 08.6**	**+1.3**
H43A	**Windswept, Lux**	**12.12**	**36**	Pn	**Pn**	**08 25 06.6**	**-1.2**
COWI	**Conover**	**12.82**	**28**	Pn	**Pn**	**08 25 16.6**	**-0.8**
U54A	**Nelsons Funny**	**12.96**	**79**	Pn	**Pn**	**08 25 19.3**	**-0.1**
LOHW	**Long Hollow**	**13.18**	**315**	Pn	**Pn**	**08 25 24.3**	**+1.8**
P52A	**Corning**	**13.19**	**65**	P	**Pn**	**08 25 21.7**	**-0.8**
	baz=254						
P52A	**Corning**	**13.19**	**65**	Pn	**Pn**	**08 25 20.7**	**-1.8**
TPAW	**Teton Pass**	**13.31**	**313**	Pn	**Pn**	**08 25 24.6**	**+0.2**
AGMN	**Agassiz Nation**	**13.34**	**5**	P	**Pn**	**08 25 21.4**	**-3.1**
	baz=186						
AGMN	**Agassiz Nation**	**13.34**	**5**		**Pn**	**08 25 22.0**	**-2.4**
N51A	**Ashland**	**13.42**	**59**	Pn	**Pn**	**08 25 26.4**	**+0.8**
S54A	**Dingess, Beckl**	**13.47**	**73**	Pn	**Pn**	**08 25 27.1**	**+0.9**
G45A	**Suttons Bay**	**13.58**	**39**	Pn	**Pn**	**08 25 29.1**	**+1.4**
EYMN	**Ely**	**13.72**	**18**	Pn	**Pn**	**08 25 27.1**	**-2.4**
D41A	**Chassel**	**13.84**	**27**	Pn	**Pn**	**08 25 28.6**	**-2.6**
E43A	**Lone Tree Farm**	**13.93**	**32**	Pn	**Pn**	**08 25 30.0**	**-2.4**
O53A	**New Philadelph**	**14.04**	**63**	Pn	**Pn**	**08 25 35.6**	**+1.5**
N53A	**Lisbon**	**14.48**	**62**	Pn	**Pn**	**08 25 40.0**	**-0.1**
E46A	**Sault Ste Mari**	**15.18**	**38**	Pn	**Pn**	**08 25 47.5**	**-2.0**
ULM	**Lac du Bonnet**	**15.28**	**4**	Pn	Pn	08 25 44.0	-6.7
	comp=Z,0.2nm,0.3s,baz=177,slow=14,SNR=1.6						
ULM				Sn	Sn	08 28 25.2	-15
	comp=Z,0.3nm,0.3s,baz=269,slow=21,SNR=1.5						
ULM				Lg	Lg	08 30 13.0	
	comp=Z,0.4nm,0.3s,baz=163,slow=14,SNR=1.8						
NVAR	**Mina Array Bea**	**16.89**	**288**	P	**P**	**08 26 14.7**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=90,slow=11,SNR=2.3						

*JMA **14** 08:23:46.7±0.1, 43°.26N×144°.23E, h133km±1km, M3.2*
*SKHL **14** 08:23:47.6±0.5, 43°.20N×144°.20E, h122km±2km, mb4.3/4, msha5.2/3*
*IDC **14** 08:23:48.8±5.1, 43°.51N×144°.14E, h143km±15km, mb3.3/4, mb1 3.4/4, mb1mx3.1/42, mbtmp3.7/4, Error ellipse: s-maj=99.4km s-min=28.8km az=172.0*

ISC 14 08:23:46.2±0.9, 43°.21N±0°.06×144°.24E±0°.04, h132km±6km, n32, σ0°77/41, mb3.5/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAR	**Ashorobuto**	**0.35**	**284**	P	**Pn**	**08 24 05.5**	**+0.7**
JAR				*e*S	**Sn**	**08 24 19.4**	**+0.5**
JAK	**Akkeshi**	**0.40**	**123**	P	**Pn**	**08 24 05.5**	**+0.5**
JAK				*e*S	**Sn**	**08 24 19.7**	**+0.5**
JOB	**Onbets**	**0.43**	**224**	P	**Pn**	**08 24 06.1**	**+0.9**
JOB				*e*S	**Sn**	**08 24 20.5**	**+1.0**
AKK	**Akkeshi**	**0.48**	**114**	*e*P	**Pn**	**08 24 05.9**	**+0.4**
AKK				*e*S	**Sn**	**08 24 19.9**	**-0.1**
JKHN	**Kushirohamanak**	**0.69**	**101**	P	**Pn**	**08 24 07.2**	**+0.5**
JKHN				*e*S	**Sn**	**08 24 22.6**	**+0.4**
JTKR	**Abashiri--Toko**	**0.80**	**343**	P	**Pn**	**08 24 07.9**	**+0.4**
JTKR				*e*S	**Sn**	**08 24 23.4**	**-0.4**
JCH	**Churui**	**0.88**	**227**	P	**Pn**	**08 24 08.8**	**+0.5**
JCH				*e*S	**Sn**	**08 24 25.0**	**+0.1**
JRA	**Rausu**	**0.97**	**41**	P	**Pn**	**08 24 09.3**	**+0.3**
JMP	**Maruseppu**	**1.02**	**322**	P	**Pn**	**08 24 09.7**	**+0.2**
JMP				*e*S	**Sn**	**08 24 26.4**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.10**	**81**	*i* P	**Pn**	**08 24 10.4**	**+0.2**
NMR				*i* S	**Sn**	**08 24 27.0**	**-1.5**
NEM2	**Nemuro 2**	**1.11**	**82**	P	**Pn**	**08 24 10.3**	**0.0**
NEM2				*e*S	**Sn**	**08 24 27.6**	**-1.1**
JFR	**Furan**	**1.20**	**268**	P	**Pn**	**08 24 11.7**	**+0.4**
JKK2	**Kamakawa 2**	**1.27**	**302**	P	**Pn**	**08 24 11.4**	**-0.6**
GRPR	**Tuman**	**1.36**	**54**	*e*P	**Pn**	**08 24 14.0**	**+1.1**
GRPR				AMB	AMB	08 24 16.0	
	80nm,0.4s						
GRPR				*e*S	**Sn**	**08 24 33.5**	**+0.2**
GRPR				A	A	08 24 37.0	
	420nm,0.3s						
GRPR				A	A	08 24 37.0	
	140nm,0.3s						
JNBK	**Urakawa-nobuka**	**1.44**	**230**	P	**Pn**	**08 24 14.1**	**+0.3**
JNBK				*e*S	**Sn**	**08 24 34.6**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.44**	**55**	*e*P	**Pn**	**08 24 14.7**	**+1.0**
YUK				AMB	AMB	08 24 15.0	
	100nm,0.4s						
YUK				*e*S	**Sn**	**08 24 34.4**	**-0.3**
YUK				A	A	08 24 39.0	
	420nm,0.3s						
YUK				A	A	08 24 39.0	
	410nm,0.3s						
ASAJ	**Asahikawa**	**1.50**	**308**	P	**Pn**	**08 24 15.1**	**+0.7**
	45nm,0.3s,baz=150,slow=7.8,SNR=172						
ASAJ				S	**Sn**	**08 24 35.9**	**0.0**
	2.4nm,0.3s,baz=235,slow=33,SNR=1.9						
JHR	**Hokuryu**	**1.91**	**287**	P	**Pn**	**08 24 20.2**	**+1.1**
JEW	**Eniwo**	**2.08**	**261**	P	**Pn**	**08 24 22.5**	**+1.2**
JSE	**Soyaes**	**2.11**	**326**	P	**Pn**	**08 24 21.6**	**-0.1**
KUR	**Kuril'sk**	**3.30**	**51**	*e*P	**Pn**	**08 24 38.4**	**+1.7**
KUR				AMB	AMB	08 24 39.3	
	50nm,0.7s						
KUR				*e*S	**Sn**	**08 25 16.4**	**+0.6**
KUR				A	A	08 25 22.7	
	40nm,0.5s						
KUR				A	A	08 25 22.7	
	50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.89**	**345**	*e*P	**Pn**	**08 24 46.3**	**+1.9**
YSS				AMB	AMB	08 24 47.2	
	20nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.17**	**134**	T	T	09 01 09.8	
	baz=328,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**30.18**	**134**	T	T	09 01 11.3	
	baz=328,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.19**	**134**	T	T	09 01 15.9	
	baz=328,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**31.09**	**135**	T	T	09 02 20.4	
	baz=329,slow=76,SNR=35						
H11S3	**WAKE ISLAND Hy**	**31.09**	**135**	T	T	09 02 20.4	
	baz=329,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**31.10**	**135**	T	T	09 02 20.5	
	baz=329,slow=76,SNR=16						
MKAR	**Makanchi Array**	**42.95**	**297**	P	**P**	**08 31 31.7**	**-0.1**
	baz=329,slow=8.5,SNR=4.7						
ILAR	**Eielson Array**	**43.17**	**36**	P	**P**	**08 31 33.2**	**-0.1**
	0.6nm,0.8s,baz=268,slow=5.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**44.15**	**304**	P	**P**	**08 31 41.1**	**-0.2**
	0.7nm,0.6s,baz=81,slow=8.9,SNR=6.7						
FINES	**FINESS Array B**	**64.37**	**332**	P	**P**	**08 34 06.5**	**-1.0**
	0.7nm,0.4s,baz=60,slow=8.2,SNR=9.0						

*TUL **14** 08:28:10.4±1.6, 34°.99N±0°.01×97°.69W±0°.02, h3km±7km, ML2.5, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=2.0km s-min=1.4km az=71.0*

NEIC 14 08:28:10.9±1.6, 35°.01N±0°.01×97°.71W±0°.03, h5km±2km, Error ellipse: s-maj=3.8km s-min=3.0km az=117.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.35**	**45**		Pg	08 28 17.6	-0.1
FNO				Sg	Sg	08 28 21.8	-0.6
X34A	**Smith Ranch, M**	**0.42**	**195**	Pg	Pg	08 28 19.2	+0.2
X34A				Sg	Sg	08 28 25.2	+0.8
OKCSW	**OKLAHOMA CITY**	**0.45**	**29**	Pg	Pg	08 28 20.0	+0.4
OKCSW				Sg	Sg	08 28 26.0	+0.5
OKCFA	**Oklahoma City**	**0.46**	**27**	Pg	Pg	08 28 19.9	+0.2
OKCFA				Sg	Sg	08 28 26.6	+0.9
OK025	**Westminster Rd**	**0.65**	**28**	Pg	Pg	08 28 22.7	-0.6
OK025				Sg	Sg	08 28 32.1	+0.4
BCOK	**Bluff Creek, N**	**0.65**	**7**	Pg	Pg	08 28 22.9	-0.6
BCOK				Sg	Sg	08 28 32.5	+0.6
OK029	**Liberty Lake**	**0.81**	**14**	Pg	Pg	08 28 24.9	-1.6
OK029				Sg	Sg	08 28 35.8	-1.3
WMOK	**Wichita Mounta**	**0.92**	**253**	Pg	Pg	08 28 28.0	-0.6
WMOK				Sg	Sg	08 28 40.4	-0.2
LOOK	**Love County**	**1.10**	**157**	Pg	Pg	08 28 31.0	-1.0
LOOK				Sg	Sg	08 28 46.1	-0.2
OK031	**S. Brethren Rd**	**1.18**	**37**	Pg	Pg	08 28 32.0	-1.4
OK031				Sg	Sg	08 28 48.0	-0.8
QUOK	**Quay**	**1.42**	**35**	Pn	Pn	08 28 36.4	-0.9
CROK	**Carrier**	**1.51**	**351**		Pn	08 28 38.5	-0.1
Z35A	**Perchaven, San**	**1.71**	**167**	Pn	Pn	08 28 40.2	-1.1
U32A	**Winter Ranch,**	**1.73**	**323**	Pn	Pn	08 28 41.1	-0.5
U32A				IAmb_Lg		08 29 04.6	
	comp=Z,11nm,0.7s						
BLOK	**Blackwell**	**1.79**	**13**		Pn	08 28 42.8	+0.2
OK032	**Salt Plains WL**	**1.84**	**347**	Pn	Pn	08 28 43.2	+0.1
OK032				IAmb_Lg		08 29 12.6	
	comp=Z,14nm,0.7s						
GC02	**Grant County #**	**1.84**	**356**		Pn	08 28 42.9	-0.4
X37A	**Clayton**	**1.97**	**102**	Pn	Pn	08 28 45.2	+0.3
X37A				IAmb_Lg		08 29 17.0	
	comp=Z,19nm,0.8s						
KAN13	**South Haven SW**	**2.01**	**5**	Pn	Pn	08 28 46.0	+0.5
KAN13				IAmb_Lg		08 29 17.7	
	comp=Z,11nm,0.7s						
KAN17	**Caldwell West**	**2.03**	**359**	Pn	Pn	08 28 46.1	+0.3
KAN17				IAmb_Lg		08 29 18.4	
	comp=Z,13nm,0.7s						
KAN09	**Caldwell North**	**2.13**	**2**	Pn	Pn	08 28 46.1	-1.0
T35A	**Sooner Cattle**	**2.14**	**27**	Pn	Pn	08 28 46.5	-0.7
T35A				IAmb_Lg		08 29 22.6	
	comp=Z,10nm,0.8s						
KS20	**Mayfield South**	**2.22**	**3**	Pn	Pn	08 28 47.4	-1.0
Z38A	**Mt. Pleasant**	**2.85**	**127**	Pn	Pn	08 28 55.8	-1.2
ABTX	**Abilene, Hawle**	**2.87**	**215**	Pn	Pn	08 28 57.5	+0.2
ABTX				IAmb_Lg		08 29 46.1	
	comp=Z,7.1nm,0.9s						
U38A	**Gravette**	**3.06**	**61**	Pn	Pn	08 28 58.8	-1.0
W39A	**Magazine**	**3.22**	**86**	Pn	Pn	08 29 01.2	-0.9
HHAR	**Hobbs**	**3.32**	**66**	Pn	Pn	08 29 02.6	-0.8
MIAR	**Mount Ida**	**3.43**	**97**	Pn	Pn	08 29 05.8	+0.8
R32A	**Long Quarter,**	**3.50**	**347**	Pn	Pn	08 29 05.9	-0.1
X40A	**Basin Creek Fa**	**4.04**	**96**	IAmb_Lg		08 30 24.8	
	comp=Z,8.0nm,0.8s						
U40A	**Yellville**	**4.17**	**70**	Pn	Pn	08 29 15.8	+0.6
MSTX	**Muleshoe**	**4.31**	**258**	Pn	Pn	08 29 17.3	+0.1
FCAR	**Ozark Folk Cen**	**4.64**	**77**	Pn	Pn	08 29 22.5	+0.9
MGMO	**Mountain Grove**	**4.90**	**62**	IAmb_Lg		08 30 49.2	
	comp=Z,6.1nm,0.8s						
R40A	**Maddies Statio**	**5.46**	**52**	Pn	Pn	08 29 33.7	+0.7
S44A	**Carbondale**	**7.33**	**66**	Pn	Pn	08 29 58.3	-0.2

*IDC **14** 08:32:53.6±0.8, 21°.76S×68°.18W, h109km±11km, mb3.5/8, mb1 3.7/11, mb1mx3.6/21, mbtmp3.9/11, Error ellipse: s-maj=22.1km s-min=16.8km az=152.0*
*NEIC **14** 08:32:53.5±1.5, 21°.73S±0°.05×68°.44W±0°.08, h126km±9km, mb4.3/4, ML3.8(GUC), Error ellipse: s-maj=11.9km s-min=5.6km az=113.0*
*VAO **14** 08:32:54.9±0.4, 21°.69S×68°.23W, h114km±4km, mb4.3*
*GUC **14** 08:32:54.7±0.8, 21°.76S×68°.47W, h120km±6km, ML3.8*

ISC 14 08:32:53.5±0.6, 21°.71S±0°.03×68°.37W±0°.05, h116km±7km, n78, σ1°36/93, mb4.0/7, 10C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.82**	**263**		**Pn**	**08 33 14.1**	**+0.4**
LVC	**Limon Verde**	**1.03**	**209**	P	**Pn**	**08 33 16.5**	**+0.5**
	197nm,0.3s,baz=18,slow=7.8,SNR=1038						
LVC				S	**Sn**	**08 33 32.9**	**0.0**
	122nm,0.3s,baz=219,slow=15,SNR=7.2						
LVC	**Limon Verde**	**1.03**	**209⇑**	*e*P	**Pn**	**08 33 16.4**	**+0.5**
LVC				*i* S	**Sn**	**08 33 33.0**	**0.0**
LVC	**Limon Verde**	**1.03**	**209**	*e*P	**Pn**	**08 33 16.6**	**+0.7**
PB01	**IPOC Station P**	**1.23**	**302⇑**	*e*P	**Pn**	**08 33 17.9**	**+0.1**
PB01				*e*S	**Sn**	**08 33 36.1**	**-0.1**
PB01				IAML		08 33 36.9	
	comp=N,2μm,0.3s						
AF01	**San Pedro de A**	**1.25**	**172⇓**	*e*P	**Pn**	**08 33 20.2**	**+2.0**
AF01				*i* S	Sn	08 33 49.7	+13
AF01				IAML		08 33 53.7	
	comp=N,1μm,0.5s						
PB07	**IPOC Station P**	**1.41**	**269⇑**	*e*P	**Pn**	**08 33 19.6**	**-0.2**
PB07				*i* S	**Sn**	**08 33 39.1**	**-0.8**
PB02	**IPOC Station P**	**1.47**	**285⇑**	*e*P	**Pn**	**08 33 20.3**	**-0.2**
PB02				*i* S	**Sn**	**08 33 40.2**	**-0.8**
PB06	**IPOC Station P**	**1.50**	**228⇑**	*i*Pg	**Pn**	**08 33 20.9**	**+0.1**
PB06				*i* S	**Sn**	**08 33 40.9**	**-0.7**
PB08	**IPOC Station P**	**1.72**	**335**	*e*P	**Pn**	**08 33 25.5**	**+1.8**
PB08				*i* S	**Sn**	**08 33 48.6**	**+1.9**
PB08				IAML		08 33 49.3	
	comp=E,683nm,0.4s						
PB04	**IPOC Station P**	**1.77**	**249**	*e*P	**Pn**	**08 33 23.6**	**-0.5**
PB15	**IPOC Station P**	**1.81**	**214⇑**	*e*P	**Pn**	**08 33 24.6**	**-0.1**
PB15				*i* S	**Sn**	**08 33 47.4**	**-1.1**
TA01	**Diego Aracena**	**2.04**	**303**	*e*P	**Pn**	**08 33 26.9**	**-0.3**
TA01				*i* S	**Sn**	**08 33 51.7**	**-1.3**
TA01				IAML		08 33 53.7	
	comp=N,1μm,0.4s						
TA01	**Diego Aracena**	**2.04**	**303**	Pn	**Pn**	**08 33 27.0**	**-0.3**
PB05	**IPOC Station P**	**2.05**	**236⇑**	*e*P	**Pn**	**08 33 26.9**	**-0.7**
PB05				*e*S	**Sn**	**08 33 51.5**	**-2.0**
PB05				IAML		08 33 58.3	
	comp=E,490nm,0.3s						
TA02	**Huaiquique**	**2.18**	**311⇑**	*e*P	**Pn**	**08 33 29.2**	**+0.1**
TA02				*i* S	**Sn**	**08 33 55.3**	**-1.0**
TA02				IAML		08 34 01.5	
	comp=N,1μm,0.3s						
TA02	**Huaiquique**	**2.18**	**311**		**Pn**	**08 33 28.5**	**-0.6**
PB11	**IPOC Station P**	**2.28**	**328**	*e*P	**Pn**	**08 33 31.1**	**+0.5**
PB11				*i* S	**Sn**	**08 33 58.6**	**-0.2**
PSGC	**Pisagua**	**2.66**	**322⇑**	*e*P	**Pn**	**08 33 34.7**	**-0.8**
PSGC				*i* S	**Sn**	**08 34 05.5**	**-2.

IDC 14 08:38:43.0±2.1, 37.°30N×78.°19E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/58, mbtmp3.7/10, ML3.5/6, MS3.9/2, Ms1 3.9/2, ms1mx2.7/62, Error ellipse: s-maj=38.9km s-min=23.8km az=120.0
NNC 14 08:38:46.3±1.8, 37.°52N×78.°18E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=16.4km s-min=11.8km az=77.0
ISC 14 08:38:48.8±0.9, 37.°66N±0.°06×78.°01E±0.°07, h17km, n47, σ2°90/53, mb3.7/5, 1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.40**	**3**	*eP*	**Pg**	**08 40 28.8**	**-3.4**
	17nm,0.7s						
SATY				*eS*	**Sg**	**08 41 45.2**	**+3.1**
	45nm,0.6s						
SATY	**Saty**	**5.40**	**3**	Pg	**Pg**	**08 40 28.8**	**-3.4**
	17nm,0.7s						
SATY				Lg	Lg	08 41 45.2	
	45nm,0.6s						
TNSS	**Tian-Shan**	**5.43**	**352**	Pg	**Pb**	**08 40 27.8**	**+4.4**
	21nm,0.7s						
TNSS				Lg	Lg	08 41 43.4	
	62nm,0.9s						
IZV	**Izvestkoviy**	**5.48**	**349**	*eP*	**Pb**	**08 40 28.2**	**+4.2**
	8.0nm,0.5s						
IZV				*eS*	**Sg**	**08 41 43.9**	**-0.6**
	17nm,0.4s						
IZV	**Izvestkoviy**	**5.48**	**349**	Pg	**Pb**	**08 40 28.2**	**+4.2**
	8.0nm,0.5s						
IZV				Lg	Lg	08 41 43.9	
	17nm,0.4s						
UZB	**Uzynbulak**	**5.54**	**8**	*eP*	**Pg**	**08 40 31.0**	**-3.8**
	15nm,0.4s						
UZB				*eS*	**Sg**	**08 41 48.9**	**+2.4**
	20nm,0.5s						
UZB	**Uzynbulak**	**5.54**	**8**	Pg	**Pg**	**08 40 31.0**	**-3.8**
	15nm,0.4s						
UZB				Lg	Lg	08 41 48.9	
	20nm,0.5s						
MDOK	**Medeo**	**5.55**	**353**	*eP*	**Pb**	**08 40 29.4**	**+4.1**
	11nm,0.4s						
MDOK				*eS*	**Sg**	**08 41 46.0**	**-0.8**
	25nm,0.9s						
MDOK	**Medeo**	**5.55**	**353**	Pg	**Pb**	**08 40 29.4**	**+4.1**
	11nm,0.4s						
MDOK				Lg	Lg	08 41 46.0	
	25nm,0.9s						
CHCP	**Chirah Chowk**	**5.55**	**225**	P	**Pn**	**08 40 13.4**	**+2.7**
KST	**Kastek**	**5.60**	**344**	*eP*	**Pg**	**08 40 33.0**	**-3.0**
	11nm,0.3s						
KST				*eS*	**Sg**	**08 41 52.4**	**+3.8**
	22nm,1.0s						
KST	**Kastek**	**5.60**	**344**	Pg	**Pg**	**08 40 32.9**	**-3.1**
	11nm,0.3s						
KST				Lg	Lg	08 41 52.3	
	22nm,1.0s						
SHLS	**Shalkode**	**5.60**	**11**	*eP*	Pg	08 40 31.0	-5.0
	32nm,0.5s						
SHLS				*eS*	**Sg**	**08 41 49.0**	**+0.4**
	50nm,0.4s						
SHLS	**Shalkode**	**5.60**	**11**	Pg	Pg	08 40 31.0	-5.0
	32nm,0.5s						
SHLS				Lg	Lg	08 41 49.0	
	50nm,0.4s						
KOTS	**Kotyrbulak**	**5.61**	**353**	*eP*	**Pg**	**08 40 31.8**	**-4.4**
	19nm,0.5s						
KOTS				*eS*	**Sg**	**08 41 50.1**	**+1.3**
	64nm,0.6s						
KOTS	**Kotyrbulak**	**5.61**	**353**	Pg	**Pg**	**08 40 31.8**	**-4.4**
	19nm,0.5s						
KOTS				Lg	Lg	08 41 50.1	
	64nm,0.6s						
AAK	**Ala-Archa**	**5.65**	**333**	Pn	**Pn**	**08 40 16.6**	**+4.4**
	1.8nm,0.3s,baz=180,slow=8.0,SNR=3.2						
AAK				Pg	**Pg**	**08 40 32.9**	**-4.1**
	3.8nm,0.3s,baz=152,slow=12,SNR=6.3						
AAK				Lg	Lg	08 41 47.9	
	4.2nm,0.3s,baz=29,slow=15,SNR=4.1						
PDGK	**Podgornoye**	**5.78**	**11**	Pg	**Pg**	**08 40 34.9**	**-4.4**
	5.0nm,0.4s						
PDGK				Lg	Lg	08 41 55.8	
	9.9nm,0.6s						
KPKS	**Kokpek**	**5.82**	**5**	*eP*	**Pb**	**08 40 33.4**	**+3.5**
	23nm,0.4s						
KPKS				*eS*	**Sg**	**08 41 53.1**	**-2.6**
	40nm,0.6s						
DGS	**Degeres**	**5.83**	**344**	*eP*	**Pg**	**08 40 35.9**	**-4.6**
	11nm,0.6s						
DGS				*eS*	**Sg**	**08 41 57.1**	**+1.1**
	17nm,0.6s						
DGS	**Degeres**	**5.83**	**344**	Pg	**Pg**	**08 40 35.9**	**-4.6**
	11nm,0.6s						
DGS				Lg	Lg	08 41 57.1	
	17nm,0.6s						
KTMS	**Ketmen**	**6.05**	**16**	*eP*	**Pb**	**08 40 37.9**	**+4.1**
	27nm,0.4s						
KTMS				*eS*	**Sg**	**08 42 00.7**	**-2.2**
	22nm,1.0s						
KTMS	**Ketmen**	**6.05**	**16**	Pg	**Pb**	**08 40 37.9**	**+4.1**
	27nm,0.4s						
KTMS				Lg	Lg	08 42 00.7	
	22nm,1.0s						
KTBS	**Karatobe**	**6.13**	**351**	*eP*	Pg	08 40 40.8	-5.3
	5.8nm,0.4s						
KTBS				*eS*	**Sg**	**08 42 05.5**	**+0.1**
	23nm,0.6s						
KTBS	**Karatobe**	**6.13**	**351**	Pg	Pg	08 40 40.8	-5.3
	5.8nm,0.4s						
KTBS				Lg	Lg	08 42 05.6	
	23nm,0.6s						
CHKK	**Chushkaly**	**6.24**	**353**	*eP*	Pb	08 40 42.4	+5.5
	5.2nm,0.3s						
CHKK				*eS*	**Sg**	**08 42 08.5**	**-0.4**
	18nm,0.5s						
CHKK	**Chushkaly**	**6.24**	**353**	Pg	Pb	08 40 42.4	+5.5
	5.2nm,0.3s						
CHKK				Lg	Lg	08 42 08.5	
	18nm,0.5s						
CEP	**Cherat**	**6.27**	**234**	P	**Pn**	**08 40 20.0**	**-0.6**
KRBS	**Karabastau**	**6.29**	**344**	*eP*	Pb	08 40 43.0	+5.2
	4.4nm,0.5s						
KRBS				*eS*	**Sg**	**08 42 09.6**	**-0.8**
	22nm,0.6s						
KRBS	**Karabastau**	**6.29**	**344**	Pg	Pb	08 40 43.0	+5.2
	4.4nm,0.5s						
KRBS				Lg	Lg	08 42 09.6	
	22nm,0.6s						
THW	**Thamme Wali**	**7.06**	**228**	P	**Pn**	**08 40 32.6**	**+1.2**
WMQ	**Urumqi**	**9.58**	**47**	*eP*	**Pn**	**08 41 09.6**	**+3.6**
MK31	**Makanchi Array**	**9.66**	**18**	Pn	**Pn**	**08 41 07.8**	**+0.8**
	0.7nm,0.3s,baz=202,slow=12,SNR=88						
MK31				⇓Sn	**Sn**	**08 42 55.1**	**0.0**
	2.7nm,0.6s,baz=199,slow=23,SNR=4.1						
MKAR	**Makanchi Array**	**9.66**	**18**	Pn	**Pn**	**08 41 08.1**	**+1.0**
	1.5nm,0.3s,baz=203,slow=13,SNR=91						
MKAR				Sn	**Sn**	**08 42 54.4**	**-0.7**
	0.4nm,0.3s,baz=200,slow=24,SNR=4.2						
KURBB	**Kurchatov Arra**	**12.97**	**1**	Pn	**Pn**	**08 41 52.9**	**+0.8**
	0.0nm,0.3s,baz=180,slow=12,SNR=2.0						
KURBB				Lg	Lg	08 45 45.5	
	0.1nm,0.3s,baz=191,slow=29,SNR=2.6						
GEYT	**Alibeck**	**15.73**	**277**	Pn	**Pn**	**08 42 28.9**	**-0.7**
	0.5nm,0.3s,baz=104,slow=9.1,SNR=2.0						
BVAR	**Borovoye Array**	**16.26**	**343**	Pn	**P**	**08 42 38.1**	**-1.1**
	0.2nm,0.3s,baz=204,slow=17,SNR=3.8						
ZALV	**Zalesovo Beam**	**16.95**	**14**	P	**P**	**08 42 47.3**	**+0.4**
	0.3nm,0.3s,baz=201,slow=12,SNR=4.1						
AKTO	**Aktyubinsk**	**19.15**	**318**	P	**Pn**	**08 43 11.8**	**-0.2**
	0.1nm,0.3s,baz=112,slow=11,SNR=2.0						
MLR	**Muntele Rosu**	**39.14**	**298**	P	**P**	**08 46 14.3**	**-1.2**
	1.9nm,0.4s,baz=164,slow=18,SNR=2.4						
FINES	**FINESS Array B**	**39.76**	**324**	P	**P**	**08 46 20.9**	**+0.6**
	0.8nm,0.4s,baz=110,slow=9.9,SNR=7.6						
NB2	**NORSAR Subarra**	**46.87**	**322**	P	**P**	**08 47 17.3**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**46.87**	**322**	P	**P**	**08 47 17.9**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=94,slow=7.1,SNR=1.6						
DAVOX	**Davos/Dischmat**	**49.83**	**303**	LR	LR	09 11 48.2	
	comp=Z,45nm,18.5s,baz=263,slow=40						
JCJ	**Chichijima**	**54.28**	**81**	LR	LR	09 13 47.9	
	comp=Z,256nm,18.8s,baz=86,slow=39						
TORD	**Torodi Ar. Bea**	**71.31**	**272**	P	**P**	**08 50 05.6**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=47,slow=5.4,SNR=9.1						
ILAR	**Eielson Array**	**72.02**	**19**	P	**P**	**08 50 10.0**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=315,slow=4.5,SNR=1.7						

IDC 14 08:53:48.3±1.9, 0.°84N×127.°17E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/52, mbtmp3.6/4, Error ellipse: s-maj=174.0km s-min=21.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.82**	**162**	P	P	08 58 42.0	-0.4
	0.8nm,0.4s,baz=340,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.23**	**165**	P	P	08 59 16.3	+0.3
	0.5nm,0.3s,baz=344,slow=11,SNR=20						
MKAR	**Makanchi Array**	**60.17**	**326**	P	P	09 03 58.2	+0.2
	0.2nm,0.3s,baz=123,slow=8.7,SNR=4.5						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	P	09 04 25.9	-0.3
	0.3nm,0.4s,baz=128,slow=6.1,SNR=4.1						

IDC 14 08:54:18.2±2.5, 53.°77N×86.°94E, h0km, mb1 3.0/2, mb1mx2.9/60, mbtmp3.0/2, ML2.8/2, 3C-2D, Error ellipse: s-maj=23.9km s-min=14.7km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**279**	*i*		09 02 20.0	
	baz=99,slow=312,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.27**	**279**	Pg	Pg	08 54 41.5	-1.1
	2.0nm,0.3s,baz=98,slow=15,SNR=19						
ZALV				Lg	Lg	08 54 59.1	
	1.4nm,0.3s,baz=95,slow=30,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.05**	**242**	Pn	Pn	08 55 50.0	+1.1
	0.1nm,0.3s,baz=59,slow=14,SNR=9.0						
KURBB				Lg	Lg	08 57 29.4	
	0.0nm,0.3s,baz=60,slow=32,SNR=2.5						
KURBB	**Kurchatov Arra**	**6.05**	**242**	⇓Pn	Pn	08 55 50.5	+1.6
	0.7nm,0.3s						
KURBB				⇑Sn	Sn	08 56 58.5	-0.4
	1.7nm,0.6s						
KURBB				⇓Lg	Lg	08 57 27.9	
	2.0nm,0.7s						
MK31	**Makanchi Array**	**7.59**	**205**	Pn	Pn	08 56 11.4	+1.4
	0.1nm,0.2s,baz=27,slow=14,SNR=13						
MK31				⇑Sn	Sn	08 57 37.0	+0.4
	0.1nm,0.3s						
MK31				⇑Lg	Lg	08 58 17.6	
	0.2nm,0.5s,baz=119,slow=18,SNR=3.5						
MKAR	**Makanchi Array**	**7.59**	**205**	Pn	Pn	08 56 11.2	+1.2
	0.2nm,0.3s,baz=25,slow=14,SNR=11						
MKAR				Lg	Lg	08 58 17.2	
	0.0nm,0.3s,baz=28,slow=32,SNR=2.5						

IDC 14 08:56:42.1±1.6, 35.°45N×23.°92E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/46, mbtmp3.7/4, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/48, Error ellipse: s-maj=33.5km s-min=12.9km az=11.0
ISK 14 08:56:47.6, 34.°83N×24.°52E, h25km, ML3.2/6
ATH 14 08:56:47.5, 34.°84N×24.°49E, h38km±3km, ML3.0/8, Error ellipse: s-maj=3.5km s-min=1.3km az=166.0
THE 14 08:56:49.0, 34.°81N×24.°49E, h21km±1km, ML3.0/6, Error ellipse: s-maj=1.9km s-min=0.7km az=174.0
ISC 14 08:56:47.0±1.2, 34.°76N±0.°06×24.°48E±0.°02, h29km±9km, n44, σ1°14/64, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVDS	**Gavdos**	**0.33**	**286**	P	**Pn**	**08 56 56.2**	**+0.3**
GVDS				S	**Sn**	**08 57 02.7**	**+1.1**
	4μm,0.2s						
GVDS	**Gavdos**	**0.33**	**286**	PG	**Pn**	**08 56 55.9**	**0.0**
GVDS				SG	**Sn**	**08 57 02.8**	**+1.1**
GVD	**Gavdhos**	**0.33**	**285**	P	**Pn**	**08 56 56.0**	**+0.1**
GVD				S	**Sn**	**08 57 02.4**	**+0.8**
	6μm,0.4s						
GVD	**Gavdhos**	**0.33**	**285**	P	**Pn**	**08 56 55.8**	**-0.1**
GVD				S	**Sn**	**08 57 02.4**	**+0.8**
GVD				AML	AML	08 57 05.7	
	comp=E,11579μm,0.5s						
GVD				AML	AML	08 57 08.0	
	comp=N,11980μm,0.4s						
GVD	**Gavdhos**	**0.33**	**285**	PG	**Pn**	**08 56 55.9**	**+0.1**
GVD				SG	**Sn**	**08 57 02.5**	**+0.8**
SIVA	**Sivas**	**0.38**	**46**	P	**Pn**	**08 56 55.9**	**-0.7**
SIVA				S	**Sn**	**08 57 02.5**	**-0.4**
SIVA	**Sivas**	**0.38**	**46**	P	**Pb**	**08 56 55.7**	**+0.1**
SIVA				S	**Sb**	**08 57 01.7**	**+0.3**
SIVA				AML	AML	08 57 03.6	
	comp=E,40813μm,0.4s						
SIVA				AML	AML	08 57 04.7	
	comp=N,19913μm,0.4s						
TMBK	**Timbaki Herakl**	**0.40**	**37**	P	**Pb**	**08 56 55.7**	**-0.1**
TMBK				S	**Sn**	**08 57 02.7**	**-0.6**
PRNS	**Prines Rethymn**	**0.61**	**2**	P	**Pb**	**08 56 58.4**	**-0.8**
PRNS				S	**Sb**	**08 57 07.6**	**+0.1**
IDI	**Anoyia**	**0.63**	**33**	Pg	**Pb**	**08 56 59.3**	**-0.4**
	comp=N,44nm,0.3s,baz=215,slow=15,SNR=23						
IDI				Lg	Lg	08 57 07.7	
	comp=N,84nm,0.3s,baz=297,slow=23,SNR=12						
IDI	**Anoyia**	**0.63**	**33**	P	**Pb**	**08 56 59.7**	**+0.1**
IDI				S	**Sn**	**08 57 08.9**	**-0.3**
	comp=N,918nm,0.4s						
IDI	**Anoyia**	**0.63**	**33**	P	**Pb**	**08 56 58.7**	**-0.9**
IDI				S	**Sb**	**08 57 06.8**	**-1.4**
IDI				AML	AML	08 57 09.3	
	comp=E,1922μm,1.0s						
IDI				AML	AML	08 57 10.6	
	comp=N,1805μm,0.5s						
IDI	**Anoyia**	**0.63**	**33**	PG	**Pb**	**08 56 59.3**	**-0.4**
IDI				SG	**Sb**	**08 57 07.5**	**-0.7**
VAM	**Vamos**	**0.69**	**341**	P	**Pb**	**08 57 00.3**	**-0.2**
VAM				S	**Sn**	**08 57 11.3**	**+0.8**
	comp=N,2μm,0.4s						
VAM	**Vamos**	**0.69**	**341**	P	**Pb**	**08 56 59.8**	**-0.8**
VAM				S	**Sb**	**08 57 09.4**	**-0.3**
VAM				AML	AML	08 57 13.7	
	comp=E,4369μm,0.6s						
VAM				AML	AML	08 57 14.0	
	comp=N,2566μm,0.2s						
KSTL	**Kastelli Herak**	**0.73**	**42**	P	**Pn**	**08 57 03.8**	**+2.4**
KSTL				S	**Sn**	**08 57 15.8**	**+4.2**
IACM	**Heraklion**	**0.74**	**42**	P	**Pb**	**08 57 01.1**	**-0.2**
HRKL	**Herakleio**	**0.76**	**43**	P	**Pn**	**08 57 01.9**	**+0.2**
HRKL	**Herakleio**	**0.76**	**43**	PG	**Pb**	**08 57 01.3**	**-0.4**
KNDR	**Palaiochora Ch**	**0.81**	**307**	P	**Pn**	**08 57 03.7**	**+1.3**
KNDR				S	**Sn**	**08 57 16.6**	**+3.2**
KNDR	**Palaiochora Ch**	**0.81**	**307**	PG	**Pn**	**08 57 03.7**	**+1.3**
IMMV	**Iera Moni Meta**	**0.81**	**330**	P	**Pn**	**08 57 03.0**	**+0.5**
IMMV				S	**Sn**	**08 57 14.0**	**+0.4**
	comp=N,1μm,0.5s						
IMMV	**Iera Moni Meta**	**0.81**	**330**	P	**Pb**	**08 57 02.0**	**-0.6**
IMMV				S	**Sb**	**08 57 13.4**	**+0.1**
IMMV				AML	AML	08 57 21.6	
	comp=N,1873μm,0.6s						
IMMV				AML	AML	08 57 21.7	
	comp=E,3032μm,0.5s						
IMMV	**Iera Moni Meta**	**0.81**	**330**	PG	**Pn**	**08 57 03.6**	**+1.1**
LAST	**Lasithi**	**0.92**	**64**	P	**Pn**	**08 57 05.0**	**+0.9**
LAST				S	**Sn**	**08 57 17.4**	**+1.1**
	comp=E,712nm,0.5s						
LAST	**Lasithi**	**0.92**	**64**	P	**Pb**	**08 57 04.3**	**-0.1**
LAST				S	**Sn**	**08 57 16.7**	**+0.3**
LAST				AML	AML	08 57 21.7	
	comp=N,1642μm,0.6s						
LAST				AML	AML	08 57 22.2	
	comp=E,1253μm,0.5s						
NPS	**Neapolis**	**1.06**	**61**	P	**Pn**	**08 57 07.4**	**+1.4**
NPS	**Neapolis**	**1.06**	**61**	P	**Pn**	**08 57 07.2**	**+1.2**
NPS				AML	AML	08 57 28.7	
	comp=E,1928μm,0.9s						
NPS				AML	AML	08 57 29.2	
	comp=N,1555μm,1.1s						
ANKY	**Antikythira Is**	**1.47**	**319**	P	**Pb**	**08 57 13.6**	**-0.1**
ANKY				S	**Sn**	**08 57 30.7**	**+1.0**
ANKY	**Antikythira Is**	**1.47**	**319**	P	**Pn**	**08 57 12.6**	**+1.1**
ANKY				AML	AML	08 57 43.2	
	comp=N,469μm,1.1s						
ANKY				AML	AML	08 57 51.6	
	comp=E,552μm,0.6s						
ZKR	**Zakros**	**1.48**	**75**	PN	**Pn**	**08 57 12.7**	**+1.1**
SANT	**Santorini**	**1.80**	**26**	PN	**Pn**	**08 57 16.5**	**+0.3**
KTHA	**Kythira Island**	**1.89**	**323**	P	**Pn**	**08 57 18.5**	**+1.1**
KTHA	**Kythira Island**	**1.89**	**323**	P	**Pn**	**08 57 18.7**	**+1.3**
KTHA	**Kythira Island**	**1.89**	**323**	PN	**Pb**	**08 57 19.4**	**-1.5**
KTHR	**Kythira**	**1.92**	**322**	P	**Pn**	**08 57 19.6**	**+1.8**
VLI	**Veliai**	**2.32**	**328**	P	**Pn**	**08 57 24.7**	**+1.4**
KARP	**Karpathos**	**2.34**	**69**	PN	**Pn**	**08 57 25.1**	**+1.6**
APE	**Apeiranthos**	**2.46**	**20**	PN	**Pn**	**08 57 26.0**	**+0.7**
KBZ	**Khabaz**	**16.82**	**52**	Pn	**Pn**	**09 00 40.8**	**+0.5**
	comp=E,0.1nm,0.3s,baz=308,slow=12,SNR=4.0						
HFS	**Hagfors**	**26.35**	**348**	LR	LR	09 12 53.6	
	comp=E,26nm,20.0s,baz=259,slow=38						
TORD	**Torodi Ar. Bea**	**29.80**	**229**	P	**P**	**09 02 51.3**	**-0.2**
	comp=E,0.2nm,0.5s,baz=28,slow=8.2,SNR=1.8						
MKAR	**Makanchi Array**	**44.47**	**56**	P	**P**	**09 04 54.5**	**-1.1**
	comp=E,0.7nm,0.7s,baz=288,slow=6.0,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.69**	**46**	P	**P**	**09 05 02.9**	**-2.2**
	comp=E,0.8nm,0.4s,baz=267,slow=12,SNR=1.9						

JMA 14 09:15:30.7±0.3, 31.°16N×142.°25E, h8km, M4.1
IDC 14 09:15:40.1±2.3, 31.°07N×140.°17E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/54, mbtmp3.7/7, ML2.9/2, Error ellipse: s-maj=51.0km s-min=35.1km az=11.0
ISC 14 09:15:32.5±2.2, 31.°0N±0.°1×142.°2E±0.°1, h24km, n17, σ0°90/21, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.93**	**317**	P	**Pn**	**09 16 17.4**	**-0.1**
JHJ2				*eS*	**Sn**	**09 16 52.1**	**+0.2**
JHJ	**Hachijo jima 2**	**2.95**	**317**	Pn	**Pn**	**09 16 16.4**	**-1.4**
	12nm,0.3s,baz=27,slow=20,SNR=1.4						
JHJ				Sn	**Sn**	**09 16 50.3**	**-2.2**
	17nm,0.3s,baz=81,slow=23,SNR=2.1						
BSO1	**Boso 1**	**3.80**	**345**	P	**Pn**	**09 16 29.1**	**+0.1**
JOD2	**Odawara 2**	**5.00**	**329**	P	**Pn**	**09 16 47.3**	**+1.3**
JHU	**Hanno**	**5.43**	**334**	P	**Pn**	**09 16 52.6**	**+0.7**
JRY	**Ryogami san**	**5.72**	**332**	P	**Pn**	**09 16 56.4**	**+0.4**
JRY				*eS*	**Sn**	**09 18 01.3**	**+0.4**
JHO	**Hitachi**	**5.77**	**347**	P	**Pn**	**09 16 56.1**	**-0.5**
JHO				*eS*	**Sn**	**09 18 01.4**	**-0.7**
JAG	**Ashikaga**	**5.89**	**338**	P	**Pn**	**09 16 58.5**	**+0.3**
MJAR	**Matsushiro Arr**	**6.46**	**330**	Pn	**Pn**	**09 17 06.8**	**+0.8**
	0.3nm,0.3s,baz=160,slow=11,SNR=12						
MJAR				Sn	**Sn**	**09 18 19.7**	**+0.7**
	0.1nm,0.3s,baz=218,slow=28,SNR=2.2						
MAT	**Matsushiro**	**6.46**	**330**	P	**Pn**	**09 17 07.6**	**+1.5**
MAT				*eS*	**Sn**	**09 18 19.4**	**+0.3**
JFK	**Kawauchi**	**6.46**	**351**	P	**Pn**	**09 17 05.5**	**-0.6**
JMK	**Ichinoseki**	**7.99**	**355**	P	**Pn**	**09 17 27.2**	**+0.1**
SONM	**Songino Array**	**32.02**	**312**	P	**P**	**09 21 56.9**	**-0.2**
	0.4nm,0.4s,baz=110,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**48.08**	**307**	P	**P**	**09 24 10.4**	**+0.3**
	0.8nm,0.6s,baz=92,slow=9.3,SNR=10						
KURBB	**Kurchatov Arra**	**50.38**	**312**	P	**P**	**09 24 27.7**	**+0.1**
	0.7nm,0.6s,baz=88,slow=7.1,SNR=10.0						
YKA	**Yellowknife Ar**	**68.74**	**29**	P	P	09 26 48.8	+15
	0.2nm,0.4s,baz=298,slow=6.9,SNR=2.5						
TXAR	**Lajitas Array**	**93.28**	**53**	P	P	09 29 04.7	+19
	0.3nm,0.7s,baz=309,slow=4.5,SNR=4.0						

IDC 14 09:16:51.8±2.1, 7.°44S×128.°61E, h156km±22km, mb3.6/4, mb1 3.9/8, mb1mx3.4/49, mbtmp4.3/8, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=33.1km s-min=18.3km az=94.0
DJA 14 09:16:51.8±0.3, 8.°S±4.°×12.°9E±.°, h189km±8km, M4.5/7, mB5.0/4, mb4.3/7, MLv4.6/6, Mw(mB)4.3/4
NEIC 14 09:16:52.4±1.7, 7.°47S±0.°09×128.°62E±0.°07, h164km±10km, mb4.1/7, Error ellipse: s-maj=13.8km s-min=9.5km az=168.0
ISC 14 09:16:50.8±0.6, 7.°51S±0.°06×128.°55E±0.°05, h151km, n36, σ2°18/45, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.77**	**100**	Pn	**Pn**	**09 17 35.6**	**+0.3**
SAUI				Sn	**Sn**	**09 18 10.7**	**+1.1**
SAUI	**Saumlaki**	**2.77**	**100**	P	**Pn**	**09 17 38.4**	**+3.1**
SAUI				S	**Sn**	**09 18 14.8**	**+5.2**
SOEI	**Soe**	**4.78**	**242**	Pn	**Pn**	**09 18 04.1**	**+2.6**
SOEI				Sn	**Sn**	**09 18 58.8**	**+2.2**
SOEI	**Soe**	**4.78**	**242**	P	**Pn**	**09 18 04.0**	**+2.5**
SOEI				S	**Sn**	**09 18 58.7**	**+2.2**
BATI	**Baumata**	**5.52**	**241**	P	**Pn**	**09 18 13.6**	**+2.4**
	32nm,0.3s,baz=292,slow=2.8,SNR=36						
BATI				S	**Sn**	**09 19 12.5**	**-1.4**
	51nm,0.3s,baz=359,slow=8.5,SNR=20						
BATI	**Baumata**	**5.52**	**241**	P	**Pn**	**09 18 13.2**	**+2.1**
	1.0nm2μm48nm,0.4s						
BATI				S	**Sn**	**09 19 15.4**	**+1.5**
	1.0nm2μm48nm,0.4s						
FAKI	**Fak Fak**	**5.87**	**39**	Pn	**Pn**	**09 18 16.6**	**+0.8**
FAKI	**Fak Fak**	**5.87**	**39**	P	**Pn**	**09 18 16.6**	**+0.8**
	0.3nm25nm,0.9s						
MTN	**Manton Dam**	**5.88**	**155**	Pn	**Pn**	**09 18 18.3**	**+2.4**
MMRI	**Maumere**	**6.35**	**259**	Pn	**Pn**	**09 18 24.6**	**+2.4**
EDFI	**Ende, Flores**	**6.90**	**259**	P	**Pn**	**09 18 31.5**	**+1.9**
	0.1nm10nm,0.6s						
EDFI				S	**Sn**	**09 19 50.2**	**+3.1**
	0.1nm10nm,0.6s						
SIJI	**Sorong**	**7.14**	**22**	P	**Pn**	**09 18 32.6**	**-0.1**
	4.2nm,0.3s,baz=208,slow=23,SNR=9.6						
SIJI				S	**Sn**	**09 19 49.7**	**-3.0**
	3.1nm,0.3s,baz=260,slow=23,SNR=2.1						
KNRA	**Kununurra**	**8.12**	**179**	Pn	**Pn**	**09 18 47.0**	**+1.2**
WBSI	**Waikabubak, Su**	**9.30**	**256**	P	**Pn**	**09 19 01.4**	**-0.2**
	60nm,1.2s						
PLAI	**Plampang**	**10.74**	**262**	P	**Pn**	**09 19 20.0**	**-0.7**
	41nm,1.4s						
TWSI	**Taliwang, Sumb**	**11.61**	**263**	P	**Pn**	**09 19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.42**	**291**		**Pg**	**09 36 24.9**	**+0.3**
TNTI	**Ternate**	**0.42**	**291**	P	**Pg**	**09 36 25.1**	**+0.5**
TNTI				S	**Sg**	**09 36 31.0**	**+0.9**
SANI	**Sanana**	**3.19**	**214**	P	**Pn**	**09 37 05.7**	**-0.8**
SANI				S	**Sn**	**09 37 43.3**	**-1.3**
SGSI	**Sangihe**	**3.77**	**324**	P	**Pn**	**09 37 16.0**	**+1.4**
SWI	**Sorong**	**3.80**	**113**	P	**Pn**	**09 37 15.1**	**+0.2**
SWI				S	**Sn**	**09 38 01.3**	**+1.6**
SIJI	**Sorong**	**3.81**	**113**	Pn	**Pn**	**09 37 15.8**	**+0.7**
	7.0nm,0.3s,baz=158,slow=22,SNR=19						
SIJI				Sn	**Sn**	**09 38 00.1**	**+0.2**
	4.6nm,0.3s,baz=224,slow=23,SNR=1.8						
NLAI	**Namlea**	**3.89**	**190**	P	**Pn**	**09 37 17.4**	**+1.2**
NLAI				S	**Sn**	**09 38 01.9**	**0.0**
MSAI	**Masohi**	**4.11**	**163**	P	**Pn**	**09 37 22.7**	**+3.5**
GTOI	**Gorontalo**	**4.75**	**270**	P	**Pn**	**09 37 31.0**	**+3.0**
GTOI				S	**Sn**	**09 38 28.1**	**+5.0**
LUWI	**Luwuk**	**5.25**	**252**	Pn	**Pn**	**09 37 35.5**	**+0.5**
LUWI	**Luwuk**	**5.25**	**252**	P	**Pn**	**09 37 36.1**	**+1.2**
	1.7nm6μm293nm,1.0s						
FAKI	**Fak Fak**	**5.70**	**128**	Pn	**Pn**	**09 37 43.7**	**+2.6**
FAKI	**Fak Fak**	**5.70**	**128**	P	**Pn**	**09 37 44.2**	**+3.1**
	0.3nm56nm,0.6s						
MRSI	**Marisa**	**5.82**	**269**	P	**Pn**	**09 37 45.0**	**+2.3**
	0.5nm1μm131nm,0.6s						
APSI	**Ampana**	**6.30**	**256**	P	**Pn**	**09 37 49.3**	**0.0**
	0.6nm2μm97nm,0.5s						
TOLI2	**Tolitoli**	**6.99**	**274**		**Pn**	**09 37 59.8**	**+0.9**
BUKP	**Musuan**	**7.70**	**340**	*e*P	**Pn**	**09 38 09.8**	**+1.2**
MPSI	**Mapaga**	**7.87**	**268**	P	**Pn**	**09 38 11.5**	**+0.7**
	0.1nm35nm,0.8s						
TTSI	**Tana Toraja**	**8.73**	**245**	P	**Pn**	**09 38 23.5**	**+0.8**
	2μm115nm,0.6s						
BNSI	**Bone**	**9.13**	**237**	P	**Pn**	**09 38 29.1**	**+0.9**
	79nm,0.8s						
BKSI	**Bulukumba**	**9.64**	**232**	P	**Pn**	**09 38 37.4**	**+2.1**
	86nm,0.6s						
KAPI	**Kappang**	**9.76**	**235**	Pn	**Pn**	**09 38 34.0**	**-2.9**
	0.2nm,0.3s,baz=54,slow=8.7,SNR=1.9						
KAPI				Sn	**Sn**	**09 40 20.1**	**-6.5**
	2.4nm,0.3s,baz=209,slow=12,SNR=1.4						
KAPI	**Kappang**	**9.76**	**235**		**Pn**	**09 38 35.4**	**-1.5**
EDFI	**Ende, Flores**	**11.10**	**213**	P	**Pn**	**09 38 55.8**	**+0.5**
	498nm75nm,0.8s						
KNRA	**Kununurra**	**16.22**	**177**	P	**Pn**	**09 40 04.0**	**-0.5**
	baz=16,SNR=5.5						
KNRA	**Kununurra**	**16.22**	**177**		**Pn**	**09 40 06.6**	**+2.2**
PWJI	**Pagerwojo**	**18.08**	**241**	P	**Pn**	**09 40 27.8**	**+0.1**
	45nm,0.9s						
KPJI	**Karang Pucung**	**20.38**	**247**	P	**P**	**09 40 53.5**	**+0.1**
	77nm,1.1s						
WB0	**Warramunga Arr**	**21.28**	**163**	P	**P**	**09 41 03.2**	**+0.1**
LEM	**Lembang**	**21.42**	**249**	P	**P**	**09 41 02.4**	**-2.5**
	14nm,0.5s,baz=74,slow=19,SNR=1.6						
LEM				LR	LR	09 50 22.9	
	comp=Z,134nm,20.6s,baz=170,slow=40						
WRAB	**Tennant Creek**	**21.42**	**163**	P	**P**	**09 41 04.9**	**+0.3**
WRA	**Warramunga Arr**	**21.43**	**163**	P	**P**	**09 41 04.8**	**+0.1**
	24nm,0.9s,baz=341,slow=11,SNR=86						
WRA				PcP	**PcP**	**09 45 08.7**	**+0.4**
	0.5nm,0.6s,baz=329,slow=2.4,SNR=1.8						
WRA				LR	LR	09 50 39.9	
	comp=Z,154nm,19.9s,baz=5.0,slow=40						
WRA	**Warramunga Arr**	**21.43**	**163**	P	**P**	**09 41 03.5**	**-1.2**
WB2	**Warramunga Arr**	**21.43**	**163**	P	**P**	**09 41 04.1**	**-0.7**
CISI	**Cisompet, Garu**	**21.48**	**247**	P	**P**	**09 41 04.5**	**-1.0**
CISI				IAmb	IAmb	09 41 12.9	
	comp=Z,41nm,0.8s						
WR0	**Warramunga Arr**	**21.51**	**162**	P	**P**	**09 41 05.0**	**-0.5**
WR0				IAmb	IAmb	09 41 13.9	
	comp=Z,40nm,0.7s						
PMG	**Port Moresby**	**21.73**	**118**	LR	LR	09 51 13.8	
	comp=Z,192nm,18.6s,baz=335,slow=41						
PSA00	**Pilbara Seismi**	**23.37**	**199**	P	**P**	**09 41 28.3**	**+3.1**
PSA00				IAmb	IAmb	09 41 32.4	
	comp=Z,36nm,1.1s						
PSA00	**Pilbara Seismi**	**23.37**	**199**	P	**P**	**09 41 27.2**	**+2.0**
PSA00				IAmb	IAmb	09 41 32.4	
	comp=Z,22nm,1.1s						
TPUB	**Ta-pu**	**23.58**	**343**	P	**P**	**09 41 27.5**	**+0.2**
TPUB				IAmb	IAmb	09 41 36.3	
	comp=Z,44nm,0.9s						
SSLB	**Suanglung**	**23.96**	**344**	P	**P**	**09 41 30.5**	**-0.4**
SSLB				IAmb	IAmb	09 41 39.4	
	comp=Z,48nm,1.3s						
KASI	**Kota Agung**	**24.02**	**255**	P	**P**	**09 41 30.6**	**-1.0**
	comp=Z,129nm,1.1s						
QIS	**Mount Isa**	**24.03**	**152**	P	**P**	**09 41 33.3**	**+1.6**
	baz=24,SNR=11						
MDSI	**Maura Dua**	**24.10**	**258**	P	**P**	**09 41 32.2**	**-0.2**
	comp=Z,11nm,1.2s						
YHNB	**Yeheng**	**24.69**	**346**	P	**P**	**09 41 36.1**	**-1.6**
YHNB				IAmb	IAmb	09 41 47.5	
	comp=Z,28nm,0.8s						
AS31	**Alice Springs**	**24.87**	**167**	P	**P**	**09 41 40.2**	**+0.9**
AS31				IAmb	IAmb	09 41 49.1	
	comp=Z,24nm,0.9s						
ASAR	**Alice Springs**	**24.87**	**167**	P	**P**	**09 41 39.9**	**+0.5**
	comp=Z,14nm,1.0s,baz=345,slow=10.0,SNR=35						
ASAR				PcP	**PcP**	**09 45 14.0**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=358,slow=2.2,SNR=3.5						
ASAR	**Alice Springs**	**24.87**	**167**	P	**P**	**09 41 40.4**	**+1.1**
ASPA	**Alice Springs**	**24.87**	**167**	P	**P**	**09 41 41.0**	**+1.7**
	baz=25						
WRKA	**Warakurna**	**25.51**	**179**	P	**P**	**09 41 45.2**	**0.0**
	baz=26,SNR=27						
CTA	**Charters Tower**	**27.42**	**140**	P	**P**	**09 42 03.2**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=314,slow=14,SNR=1.3						
MEEK	**Meekatharra**	**28.50**	**197**	P	**P**	**09 42 14.2**	**+2.2**
	baz=28,SNR=4.3						
NONG	**Nongkai**	**29.76**	**307**	P	**P**	**09 42 23.6**	**+0.4**
	comp=Z,5μmcomp=Z,13nm,0.9s						
FORT	**Forrest**	**31.23**	**180**	P	**P**	**09 42 35.6**	**-0.5**
JNU	**Nakatsue**	**32.46**	**5**	P	**P**	**09 42 47.3**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=210,slow=8.1,SNR=1.5						
CM31	**Chiang Mai Arr**	**33.38**	**304**	P	**P**	**09 42 53.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**33.38**	**304**	P	**P**	**09 42 52.5**	**-2.8**
	comp=Z,1.7nm,0.9s,baz=136,slow=5.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**33.38**	**304**	P	**P**	**09 42 53.1**	**-2.1**
ENH	**Enshi**	**34.23**	**331**	P	**P**	**09 43 01.3**	**-1.1**
ENH				IAmb	IAmb	09 43 08.9	
	comp=Z,13nm,1.0s						
NWAO	**Narrogin (SRO)**	**34.81**	**196**	P	**P**	**09 43 07.3**	**-0.2**
NWAO				IAmb	IAmb	09 43 35.5	
	comp=Z,31nm,1.3s						
STKA	**Stephens Creek**	**34.88**	**159**	P	**P**	**09 43 08.2**	**+0.2**
	comp=Z,7.8nm,1.1s,baz=324,slow=15,SNR=3.1						
STKA				LR	LR	09 59 12.7	
	comp=Z,106nm,18.7s,baz=329,slow=39						
STKA	**Stephens Creek**	**34.88**	**159**	P	**P**	**09 43 08.2**	**+0.2**
KSRS	**Korea Array**	**36.65**	**0**	P	**P**	**09 43 22.8**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=177,slow=9.0,SNR=4.3						
KSRS				LR	LR	10 01 41.7	
	comp=Z,24nm,18.5s,baz=190,slow=42						
MJAR	**Matsushiro Arr**	**37.03**	**14**	LR	LR	09 57 46.0	
	comp=Z,57nm,19.8s,baz=190,slow=35						
MAJO	**Matsushiro**	**37.03**	**14**	P	**P**	**09 43 25.4**	**-1.0**
MJB9	**Matsu-Tunnel**	**37.03**	**14**	P	**P**	**09 43 25.5**	**-0.9**
XAN	**Xi'an**	**37.64**	**334**	P	**P**	**09 43 31.3**	**-0.4**
XAN				pP	sP	09 43 36.8	+0.5
XAN	**Xi'an**	**37.64**	**334**	P	P	09 43 36.8	+5.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,21nm,1.0s						
SHL	**Shillong**	**42.57**	**309**	P	**P**	**09 44 12.5**	**-0.4**
SHL				IAmb	IAmb	09 44 12.9	
	comp=Z,13nm,0.9s						
LSA	**Lhasa**	**45.28**	**313**	P	**P**	**09 44 36.0**	**+1.0**
LSA				IAmb	IAmb	09 44 44.4	
	comp=Z,10nm,0.8s						
GTA	**Gaotai**	**46.28**	**330**	*e*P	**P**	**09 44 44.9**	**+2.6**
GTA				pP	sP	09 44 49.0	+2.0
GTA				sP	pP	09 44 52.3	+6.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KLR	**Kul'dur**	**48.55**	**3**	P	**P**	**09 44 59.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=201,slow=14,SNR=2.2						
ULN	**Ulaanbaatar**	**50.37**	**342**	P	**P**	**09 45 14.5**	**+0.7**
ULN				IAmb	IAmb	09 45 32.2	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**50.55**	**341**	LR	LR	10 06 56.7	
	comp=Z,56nm,18.1s,baz=165,slow=36						
PETK	**Petropavlovsk-**	**57.93**	**21**	P	**P**	**09 46 08.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=197,slow=4.5,SNR=2.2						
MK31	**Makanchi Array**	**60.68**	**326**	P	**P**	**09 46 27.6**	**-0.2**
MKAR	**Makanchi Array**	**60.68**	**326**	P	**P**	**09 46 26.9**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=116,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**60.68**	**326**	P	**P**	**09 46 27.4**	**-0.4**
MAKZ	**Makanchi**	**60.87**	**326**	P	**P**	**09 46 28.5**	**-0.6**
MAKZ				IAmb	IAmb	09 46 46.3	
	comp=Z,12nm,1.3s						
KDJ	**Kajisay**	**61.35**	**319**	P	**P**	**09 46 32.5**	**-0.2**
ZAA0	**Zalesovo Array**	**63.81**	**333**	P	**P**	**09 46 47.8**	**-0.8**
ZAA0				IAmb	IAmb	09 47 05.4	
	comp=Z,6.8nm,1.4s						
ZALV	**Zalesovo Beam**	**63.81**	**333**	P	**P**	**09 46 46.5**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=252,slow=12,SNR=6.2						
KBL	**Kabul**	**64.23**	**308**	P	**P**	**09 46 51.2**	**-0.9**
KBL				IAmb	IAmb	09 46 57.1	
	comp=Z,6.0nm,0.9s						
GAR	**Garm**	**64.78**	**313**	P	**P**	**09 46 54.7**	**-0.8**
BTK	**Batken**	**64.81**	**315**	P	**P**	**09 46 55.6**	**0.0**
BTK				IAmb	IAmb	09 47 08.9	
	comp=Z,6.7nm,0.8s						
CHGR	**Chuyangaron**	**65.51**	**313**	P	**P**	**09 46 59.7**	**-0.5**
KK31	**Karatay Array**	**66.20**	**318**	P	**P**	**09 47 05.0**	**+0.5**
KKAR	**Karatay Array**	**66.20**	**318**	P	**P**	**09 47 02.9**	**-1.5**
ABKAR	**Akbulak array**	**75.20**	**321**	P	**P**	**09 47 58.0**	**-1.1**
MAW	**Mawson**	**81.22**	**201**	P	**P**	**09 48 31.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=270,slow=2.0,SNR=1.5						
MAW				LR	LR	10 25 55.1	
	comp=Z,34nm,18.3s,baz=152,slow=37						
ILAR	**Eielson Array**	**87.45**	**25**	P	**P**	**09 49 02.4**	**-1.4**
	comp=Z,0.4nm,1.1s,baz=263,slow=5.3,SNR=3.8						
ARCES	**ARCESS Array B**	**93.70**	**340**	P	**P**	**09 49 32.9**	**0.0**
	comp=Z,1.9nm,0.8s,baz=69,slow=4.9,SNR=1.7						
ARCES				LR	LR	10 35 23.3	
	comp=Z,16nm,18.5s,baz=250,slow=38						
ARCES	**ARCESS Array B**	**93.70**	**340**	IAmb	IAmb	09 49 37.5	
	comp=Z,17nm,1.5s						
FINES	**FINESS Array B**	**95.04**	**332**	LR	LR	10 34 27.2	
	comp=Z,35nm,18.9s,baz=44,slow=37						
TORD	**Torodi Ar. Bea**	**124.82**	**286**	PKP	**PKPdf**	**09 55 16.1**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=85,slow=1.8,SNR=2.9						

IDC 14 10:03:07.6±3.4, 21°.22S×178°.10W, h599km±41km, mb2.9/4, mb1 3.1/6, mb1mx2.9/22, mbtmp4.0/6, Error ellipse: s-maj=97.2km s-min=29.3km az=46.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**313**	P	P	10 04 40.8	+0.1
	3.2nm,0.3s,baz=157,slow=9.1,SNR=14						
URZ	**Urewera**	**17.48**	**193**	P	P	10 06 37.6	-0.7
	0.4nm,0.3s,baz=0.0,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**37.40**	**245**	P	P	10 09 31.3	+0.1
	2.3nm,0.8s,baz=86,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**44.27**	**257**	P	P	10 10 26.0	+0.3
	1.5nm,0.5s,baz=93,slow=8.2,SNR=37						
WRA	**Warramunga Arr**	**44.41**	**263**	P	P	10 10 26.2	-0.6
	0.5nm,0.3s,baz=95,slow=7.9,SNR=49						
VNDA	**Vanda**	**57.19**	**185**	P	P	10 11 58.2	0.0
	0.3nm,0.4s,baz=6.3,slow=3.3,SNR=2.5						

IDC 14 10:34:24.9±2.0, 6°.16S×152°.56E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/26, mbtmp3.7/4, ML2.0/1, Error ellipse: s-maj=117.6km s-min=26.6km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.25**	**239**	Pn	Pn	10 35 58.1	-0.3
	1.9nm,0.3s,baz=199,slow=22,SNR=2.4						
PMG				Sn	Sn	10 37 00.8	-10
	1.0nm,0.3s,baz=207,slow=8.4,SNR=1.4						
WRA	**Warramunga Arr**	**22.39**	**231**	P	P	10 39 24.1	-0.9
	1.1nm,0.7s,baz=56,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**25.00**	**224**	P	P	10 39 50.7	0.0
	1.4nm,0.8s,baz=58,slow=8.5,SNR=13						
ILAR	**Eielson Array**	**83.50**	**22**	P	P	10 46 53.3	-0.9
	0.6nm,0.6s,baz=243,slow=5.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**150.47**	**286**	PKPbc	PKiKP	10 54 21.5	+1.2
	0.4nm,0.6s,baz=91,slow=2.8,SNR=2.6						

TAP 14 10:40:54.7, 23°.89N×121°.37E, h75km±1km, ML1.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.10**	**139**	*e*P	Pn	10 41 05.8	+0.3
	baz=136						
OWD	**Renai**	**0.19**	**291**	*i* P	Pn	10 41 06.1	+0.1
	baz=291						
OWD				*i* S	Sn	10 41 14.5	+0.3
	baz=291						
TEYL	**Yanliau Villag**	**0.21**	**95**	P	Pn	10 41 06.1	+0.2
	baz=85						
TEYL				S	Sn	10 41 14.5	+0.4
	baz=85						
EGFH	**Guangfu**	**0.23**	**165**	P	Pn	10 41 06.3	+0.3
	baz=165						
CHGB	**Renai**	**0.24**	**315**	P	Pn	10 41 06.8	+0.4
	baz=314						
CHGB				S	Sn	10 41 15.3	+0.3
	baz=314						
WHF	**Hehuan Shan**	**0.27**	**340**	P	Pn	10 41 06.9	+0.1
	baz=341						
WHF				S	Sn	10 41 15.6	0.0
	baz=341						
ETLH	**Xiulin Townshi**	**0.34**	**19**	P	Pn	10 41 06.5	-0.3
	baz=18						
ETLH				*e*S	Sn	10 41 14.3	-1.3
	baz=18						
NACB	**Ninganchiao**	**0.35**	**36**	*e*P	Pn	10 41 05.9	-0.9
	baz=36						
NACB				S	Sn	10 41 15.6	0.0
	baz=36						
FUSS	**Fushou**	**0.38**	**343**	*i* P	Pn	10 41 07.3	+0.1
	baz=342						
FUSS				*i* S	Sn	10 41 16.7	+0.3
	baz=342						
SSLB	**Suanglung**	**0.39**	**255**	P	Pn	10 41 07.0	0.0
	baz=255						
SSLB				*i* S	Sn	10 41 16.6	+0.4
	baz=255						
TWT	**Tachien**	**0.40**	**335**	P	Pn	10 41 06.6	-0.7
	baz=332						
TWT				*e*S	Sn	10 41 15.6	-1.1
	baz=332						
TDCB	**Techi**	**0.41**	**333**	*i* P	Pn	10 41 07.6	+0.2
	baz=332						
TDCB				S	Sn	10 41 16.8	+0.1
	baz=332						
SMLT	**Sun Moon Lake**	**0.43**	**270**	P	Pn	10 41 07.7	+0.3
	baz=269						
SMLT				S	Sn	10 41 16.5	-0.3
	baz=269						
WCS	**Beigang Elemen**	**0.45**	**292**	P	Pn	10 41 08.2	+0.7
	baz=292						
WCS				S	Sn	10 41 17.1	+0.2
	baz=292						
TYC	**Yuchr**	**0.47**	**272**	P	Pn	10 41 07.6	0.0
	baz=272						
TYC				S	Sn	10 41 17.2	+0.1
	baz=272						
YULB	**Yu-li**	**0.50**	**187**	P	Pn	10 41 08.3	+0.3
	baz=187						
YULB				S	Sn	10 41 18.4	+0.7
	baz=187						
NNSB	**Datong**	**0.54**	**2**	P	Pn	10 41 08.9	+0.4
	baz=1.0						
NNSB				S	Sn	10 41 18.5	-0.1
	baz=1.0						
NNSH	**Datong**	**0.54**	**2**	*i* P	Pn	10 41 08.7	+0.2
	baz=1.0						
NNSH				S	Sn	10 41 18.9	+0.3
	baz=1.0						
WHP	**Taichung City**	**0.55**	**316**	*i* P	Pn	10 41 08.9	+0.4
	baz=315						
WHP				*i* S	Sn	10 41 19.1	+0.4
	baz=315						
NNS	**Nan Shan**	**0.55**	**1**	*e*P	Pn	10 41 09.8	+1.2
	baz=1.0						
NNS				*i* S	Sn	10 41 19.8	+1.0
	baz=1.0						
ALS	**Alishan**	**0.64**	**234**	P	Pn	10 41 10.1	+0.5
	baz=233						
ALS				*e*S	Sn	10 41 21.9	+1.3
	baz=233						
ENTT	**Nioudou**	**0.77**	**14**	*e*P	Pn	10 41 11.2	+0.4
	baz=14						
NWLT	**Wulai**	**0.90**	**8**	P	Pn	10 41 11.9	-0.3
	baz=8.0						

TAP 14 10:41:05.2, 25°.02N×121°.65E, h119km±1km, ML2.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWA	**Mucha**	**0.07**	**238**	P	Pn	10 41 21.7	+0.3
	baz=232						
TWA				S	Sn	10 41 33.0	-0.6
	baz=232						
NWF	**Wu-fen Shan**	**0.13**	**66**	P	Pn	10 41 21.4	-0.1
	baz=65						
WFSB	**Wu-fen Shan**	**0.13**	**66**	*e*P	Pn	10 41 21.4	0.0
	baz=65						
YM01	**YM01**	**0.15**	**332**	P	Pn	10 41 21.6	0.0
	baz=331						
YM01				S	Sn	10 41 34.1	+0.2
	baz=331						
TATO	**Taipei**	**0.15**	**254**	P	Pn	10 41 21.8	+0.3
	baz=252						
TATO				S	Sn	10 41 33.5	-0.2
	baz=252						
TIPB	**Shuangxi**	**0.17**	**105**	P	Pn	10 41 22.1	+0.6
	baz=105						
TIPB				*e*S	Sn	10 41 34.8	+0.9
	baz=105						
NWLT	**Wulai**	**0.27**	**209**	*i* P	Pn	10 41 21.7	-0.2
	baz=208						
NWLT				*i* S	Sn	10 41 34.1	-0.3
	baz=208						
TWE	**Neicheng**	**0.29**	**176**	P	Pn	10 41 22.3	+0.4
	baz=173						
TWE				S	Sn	10 41 34.6	+0.1
	baz=173						
TWB1	**Santiao Chiao**	**0.31**	**91**	P	Pn	10 41 21.8	-0.1
	baz=91						
TWB1				S	Sn	10 41 34.2	-0.3
	baz=91						
ENTT	**Nioudou**	**0.38**	**191**	P	Pn	10 41 22.3	-0.1
	baz=190						
ENTT				S	Sn	10 41 35.2	-0.1
	baz=190						
ENTT	**Nioudou**	**0.38**	**191**	*e*S	Pn	10 41 22.2	-0.1
	baz=14						
NDS	**Dongshan**	**0.39**	**171**	P	Pn	10 41 22.6	+0.2
	baz=170						
NDS				S	Sn	10 41 35.4	+0.2
	baz=170						
YHNB	**Yeheng**	**0.42**	**216**	*e*P	Pn	10 41 22.7	+0.1
	baz=215						
YHNB				S	Sn	10 41 35.3	-0.5
	baz=215						
NDT	**Datong Townshi**	**0.43**	**197**	P	Pn	10 41 22.5	-0.1
	baz=196						
NDT				*e*S	Sn	10 41 34.0	-1.7
	baz=196						
NNSB	**Datong**	**0.63**	**202**	P	Pn	10 41 23.8	-0.2
	baz=202						
NNSB				S	Sn	10 41 37.7	-0.5
	baz=202						
NNSH	**Datong**	**0.63**	**202**	*i* P	Pn	10 41 24.1	+0.1
	baz=202						
NNSH				S	Sn	10 41 37.6	-0.6
	baz=202						
NSTT	**Nanjuang**	**0.70**	**237**	P	Pn	10 41 24.8	+0.5
	baz=236						
NSTT				S	Sn	10 41 38.9	+0.1
	baz=236						
ETLH	**Xiulin Townshi**	**0.82**	**191**	P	Pn	10 41 25.7	+0.2
	baz=190						
ETLH				S	Sn	10 41 40.9	+0.1
	baz=190						
NACB	**Ninganchiao**	**0.84**	**183**	P	Pn	10 41 25.4	-0.2
	baz=183						
NACB				S	Sn	10 41 40.7	-0.2
	baz=183						
FUSS	**Fushou**	**0.85**	**206**	P	Pn	10 41 26.1	+0.1
	baz=205						
FUSS				*e*S	Sn	10 41 43.1	+1.5
	baz=205						
TDCB	**Techi**	**0.88**	**210**	P	Pn	10 41 25.8	-0.3
	baz=210						
TDCB				S	Sn	10 41 41.6	-0.3
	baz=210						
WHF	**Hehuan Shan**	**0.93**	**202**	P	Pn	10 41 27.5	+0.6
	baz=201						
WHF				*e*S	Sn	10 41 43.5	+0.2
	baz=201						
WHP	**Taichung City**	**0.97**	**221**	P	Pn	10 41 26.8	-0.1
	baz=220						
WHP				S	Sn	10 41 43.0	-0.3
	baz=220						
CHGB	**Renai**	**1.04**	**204**	P	Pn	10 41 27.3	-0.5
	baz=204						
CHGB				S	Sn	10 41 45.4	+0.5
	baz=204						
OWD	**Renai**	**1.14**	**202**	*i* P	Pn	10 41 28.9	+0.2
	baz=202						
OWD				S	Sn	10 41 46.5	+0.1
	baz=202						

JMA 14 10:53:17.2±0.1, 38°.23N×144°.42E, h24km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.31**	**292**	P	Pn	10 53 55.2	+1.4
OFUJ				*e*S	Sn	10 54 23.5	+2.0
JIKH	**Ishinomakikobu**	**2.33**	**273**	P	Pn	10 53 55.0	+1.0
JIKH				S	Sn	10 54 22.9	+1.1
JKMT	**Kesennumamotoy**	**2.38**	**285**	P	Pn	10 53 56.0	+1.3
JKMT				S	Sn	10 54 24.9	+1.7
JIO	**Ouri**	**2.42**	**276**	P	Pn	10 53 56.6	+1.3
JIO				S	Sn	10 54 25.7	+1.5
MIYJ	**Miyakonagasawa**	**2.43**	**304**	P	Pn	10 53 56.5	+1.1
MIYJ				*e*S	Sn	10 54 26.1	+1.6
JMK	**Ichinoseki**	**2.61**	**287**	P	Pn	10 53 59.6	+1.8
JMK				S	Sn	10 54 30.6	+1.8
JOM	**Ohasama**	**2.74**	**298**	P	Pn	10 54 01.3	+1.7
JOM				*e*S	Sn	10 54 34.2	+2.2
JANG	**Nango**	**3.11**	**314**	P	Pn	10 54 06.9	+2.2
JYK	**Kaneyama**	**3.26**	**283**	P	Pn	10 54 09.3	+2.5
JYK				*e*S	Sn	10 54 47.8	+3.1
JFT	**Otama**	**3.31**	**259**	P	Pn	10 54 09.6	+2.1
JFT				S	Sn

BCOK			Sg	**Sg**	**10 58 59.8**	**+0.2**
OK009	**Oakdale Elemen**	**0.26 177**		**Pg**	**10 58 57.0**	**-0.1**
OK025	**Westminster Rd**	**0.27 163**		**Pg**	**10 58 57.3**	**0.0**
OK025			Sg	**Sg**	**10 59 01.2**	**+0.4**
OK005	**Luther M Schoo**	**0.27 133**	Pg	**Pg**	**10 58 57.5**	**+0.1**
OK005			Sg	**Sg**	**10 59 01.6**	**+0.7**
OK001	**Jones High Sch**	**0.30 157**		**Pg**	**10 58 57.9**	**0.0**
OKCFA	**Oklahoma City**	**0.42 182**		**Pg**	**10 58 60.0**	**-0.3**
OKCFA			Sg	**Sg**	**10 59 06.3**	**+0.6**
OKCFA	**Oklahoma City**	**0.42 182**	P		10 58 59.9	
	baz=356,SNR=33					
OKCFA			S		10 59 06.0	
	baz=356					
OKCSW	**OKLAHOMA CITY**	**0.43 180**		**Pg**	**10 59 00.2**	**-0.2**
OK031	**S. Brethren Rd**	**0.50 77**		**Pg**	**10 59 02.0**	**+0.4**
FNO	**Franklin**	**0.58 177**		**Pg**	**10 59 02.9**	**-0.3**
QUOK	**Quay**	**0.68 61**		**Pg**	**10 59 05.3**	**+0.3**
CROK	**Carrier**	**0.80 327**	Pg	**Pg**	**10 59 07.5**	**+0.2**
BLOK	**Blackwell**	**0.94 11**		**Pg**	**10 59 10.1**	**+0.1**
GC02	**Grant County #**	**1.06 341**		**Pg**	**10 59 12.2**	**-0.3**
OK032	**Salt Plains WL**	**1.15 327**		**Pg**	**10 59 13.7**	**-0.3**
KAN13	**South Haven SW**	**1.17 358**		**Pg**	**10 59 14.4**	**-0.1**
KAN17	**Caldwell West**	**1.23 348**		**Pn**	**10 59 15.3**	**-0.7**
X34A	**Smith Ranch, M**	**1.28 195**	Pg	**Pn**	**10 59 15.8**	**-0.8**
KAN09	**Caldwell North**	**1.30 354**		**Pn**	**10 59 16.6**	**-0.4**
T35A	**Sooner Cattle**	**1.31 35**	Pn	**Pn**	**10 59 16.6**	**-0.5**
T35B	**Sooner Cattle**	**1.31 35**	P		10 59 16.5	
	baz=216,SNR=81					
T35B			S		10 59 34.2	
	baz=216					
KAN05	**Bluff City Nor**	**1.31 345**		**Pn**	**10 59 16.7**	**-0.4**
TUL1	**Leonard**	**1.34 87**	P	**Pn**	**10 59 16.2**	**-1.3**
	baz=267					
TUL1			S	**Sb**	**10 59 34.6**	**-0.6**
	baz=267					
TUL1	**Leonard**	**1.34 87**	P		10 59 16.1	
	baz=267,SNR=104					
TUL1			S		10 59 34.5	
	baz=267					
U32A	**Winter Ranch,**	**1.38 293**		**Pn**	**10 59 17.2**	**-0.8**
U32A	**Winter Ranch,**	**1.38 293**	P		10 59 17.3	
	baz=114,SNR=12					
KAN10	**Anthony SW Sta**	**1.39 338**		**Pn**	**10 59 17.8**	**-0.4**
KS20	**Mayfield South**	**1.39 356**		**Pn**	**10 59 18.2**	**0.0**
KAN08	**Anthony NE Sta**	**1.45 343**		**Pn**	**10 59 19.0**	**0.0**
KS21	**Milan North St**	**1.46 353**	IAmb_Lg		10 59 39.5	
	comp=Z,62nm,1.0s					
KAN12	**Harper NE Stat**	**1.52 343**		**Pn**	**10 59 19.8**	**-0.2**
WMOK	**Wichita Mounta**	**1.56 225**	P	**Pn**	**10 59 20.0**	**-0.5**
	baz=44					
WMOK			S	**Sn**	**10 59 40.1**	**-0.9**
	baz=44					
WMOK	**Wichita Mounta**	**1.56 225**		**Pn**	**10 59 20.0**	**-0.5**
WMOK	**Wichita Mounta**	**1.56 225**	P		10 59 20.0	
	baz=44,SNR=138					
WMOK			S		10 59 40.2	
	baz=44					
LOOK	**Love County**	**1.85 173**		**Pn**	**10 59 24.8**	**+0.2**
X37A	**Clayton**	**2.10 126**		**Pn**	**10 59 28.4**	**+0.4**
X37A			IAmb_Lg		11 00 04.0	
	comp=Z,104nm,0.9s					
X37A	**Clayton**	**2.10 126**	P		10 59 28.5	
	baz=306,SNR=26					
X37A			S		10 59 55.7	
	baz=306					
Z35A	**Perchaven, San**	**2.51 176**		**Pn**	**10 59 34.1**	**+0.5**
U38A	**Gravette**	**2.54 75**		**Pn**	**10 59 35.2**	**+1.2**
U38A	**Gravette**	**2.54 75**	P		10 59 36.0	
	baz=257					
R32A	**Long Quarter,**	**2.77 339**	Pn	**Pn**	**10 59 38.2**	**+1.0**
HHAR	**Hobbs**	**2.87 80**		**Pn**	**10 59 38.6**	**+0.1**
W39A	**Magazine**	**3.05 101**	P	**Pn**	**10 59 41.5**	**+0.5**
	baz=283					
W39A	**Magazine**	**3.05 101**		**Pn**	**10 59 41.2**	**+0.2**
W39A			IAmb_Lg		11 00 34.5	
	comp=Z,25nm,0.8s					
W39A	**Magazine**	**3.05 101**	P		10 59 41.2	
	baz=283					
Z38A	**Mt. Pleasant**	**3.27 141**	Pn	**Pn**	**10 59 44.5**	**+0.4**
Z38A			IAmb_Lg		11 00 44.0	
	comp=Z,32nm,0.9s					
KSU1	**Kansas State U**	**3.32 11**	Sb	**Sg**	**11 00 36.5**	**-2.2**
	baz=192					
KSU1	**Kansas State U**	**3.32 11**	IAmb_Lg		11 00 44.6	
	comp=Z,40nm,0.8s					
MIAR	**Mount Ida**	**3.42 111**	P	**Pn**	**10 59 46.9**	**+0.8**
	baz=293					
MIAR			S	**Sn**	**11 00 27.8**	**+0.8**
	baz=293					
MIAR	**Mount Ida**	**3.42 111**	Pn	**Pn**	**10 59 45.7**	**-0.3**
MIAR			IAmb_Lg		11 00 47.6	
	comp=Z,35nm,1.0s					
MIAR	**Mount Ida**	**3.42 111**	P		10 59 46.7	
	baz=293,SNR=19					
MIAR			S		11 00 28.5	
	baz=293					
CBKS	**Cedar Bluff**	**3.49 329**	Pb	**Pb**	**10 59 56.1**	**+1.8**
	baz=148					
CBKS	**Cedar Bluff**	**3.49 329**	Pn	**Pn**	**10 59 46.6**	**-0.5**
CBKS			IAmb_Lg		11 00 52.0	
	comp=Z,42nm,0.7s					
AMTX	**Amarillo**	**3.60 256**	Pn	**Pn**	**10 59 49.0**	**+0.3**
AMTX			IAmb_Lg		11 00 49.8	
	comp=Z,22nm,0.7s					
ABTX	**Abilene, Hawle**	**3.69 210**	IAmb_Lg		11 00 52.2	
	comp=Z,31nm,0.8s					
U40A	**Yellville**	**3.75 81**	Pn	**Pn**	**10 59 49.8**	**-0.8**
U40A			IAmb_Lg		11 00 55.3	
	comp=Z,25nm,0.7s					
U40A	**Yellville**	**3.75 81**	P		10 59 50.8	
	baz=263					
U40A			P		10 59 50.8	
	baz=263					
X40A	**Basin Creek Fa**	**4.00 108**	P	**Pn**	**10 59 54.8**	**+0.6**
	baz=291					
X40A	**Basin Creek Fa**	**4.00 108**	IAmb_Lg		11 01 05.1	
	comp=Z,32nm,0.8s					
X40A	**Basin Creek Fa**	**4.00 108**	P		10 59 54.5	
	baz=291,SNR=6.3					
X40A			P		10 59 54.5	
	baz=291,SNR=6.3					
237A	**Washetta, Mont**	**4.06 160**	Pn	**Pn**	**10 59 54.3**	**-0.6**
WLAR	**White Oak Lake**	**4.16 120**	Pn	**Pn**	**10 59 55.1**	**-1.1**
WLAR			IAmb_Lg		11 01 09.8	
	comp=Z,52nm,1.2s					
WHAR	**Wooly Hollow**	**4.23 96**	Pn	**Pn**	**10 59 56.4**	**-0.9**
WHAR			IAmb_Lg		11 01 11.5	
	comp=Z,29nm,0.9s					
W41B	**Gary Mavity, V**	**4.29 97**	Pb	**Pb**	**11 00 07.5**	**-0.4**
	baz=280					
W41B	**Gary Mavity, V**	**4.29 97**	P		10 59 58.1	
	baz=280,SNR=9.7					
MGMO	**Mountain Grove**	**4.37 71**	IAmb_Lg		11 01 09.5	
	comp=Z,31nm,0.9s					
R40A	**Maddies Statio**	**4.80 58**	Pn	**Pn**	**11 00 05.2**	**+0.1**
R40A			IAmb_Lg		11 01 31.0	
	comp=Z,22nm,0.7s					
P38A	**Dawn**	**4.88 38**	IAmb_Lg		11 01 37.2	
	comp=Z,25nm,0.8s					
N33A	**J Bar K, Exete**	**4.89 360**	IAmb_Lg		11 01 36.8	
	comp=Z,22nm,0.9s					
435B	**Jarrell**	**5.04 181**	IAmb_Lg		11 01 35.6	
	comp=Z,26nm,0.8s					
KSCO	**Kaye Shedlock'**	**5.20 309**	IAmb_Lg		11 01 43.1	
	comp=Z,17nm,0.7s					
BGNE	**Belgrade**	**5.59 354**	IAmb_Lg		11 02 02.3	
	comp=Z,26nm,0.7s					
P40A	**Paris**	**5.64 48**	IAmb_Lg		11 01 56.6	
	comp=Z,26nm,0.8s					
JCT	**Junction City**	**5.70 201**	IAmb_Lg		11 02 02.3	
	comp=Z,34nm,0.8s					
PBMO	**Poplar Bluff**	**5.74 79**	IAmb_Lg		11 01 57.3	
	comp=Z,20nm,0.9s					
T25A	**Trinidad**	**5.77 285**	IAmb_Lg		11 02 05.3	
	comp=Z,28nm,1.0s					
143A	**Socs Landing,**	**5.89 120**	IAmb_Lg		11 01 55.9	
	comp=Z,14nm,0.8s					
GNAR	**Gosnell**	**6.02 87**	IAmb_Lg		11 02 09.6	
	comp=Z,34nm,0.8s					
SDCO	**Great Sand Dun**	**6.74 289**	P	**Pn**	**11 00 32.9**	**+0.8**
	baz=104					
SDCO	**Great Sand Dun**	**6.74 289**	Pn	**Pn**	**11 00 32.8**	**+0.8**
S44A	**Carbondale**	**6.82 72**	IAmb_Lg		11 02 34.1	
	comp=Z,22nm,0.7s					
K31A	**O'Neill**	**6.85 352**	IAmb_Lg		11 02 44.7	
	comp=Z,23nm,0.8s					
SIUC	**Southern Illin**	**6.86 72**	IAmb_Lg		11 02 34.0	
	comp=Z,21nm,0.8s					
735A	**Kenedy**	**6.97 183**	IAmb_Lg		11 02 51.8	
	comp=Z,24nm,0.8s					
T45A	**Paducah**	**7.19 78**	IAmb_Lg		11 02 36.6	
	comp=Z,25nm,0.8s					
ISCO	**Idaho Springs**	**7.58 304**	Pn	**Pn**	**11 00 43.6**	**+0.1**
MNTX	**Cornudas Mount**	**7.80 240**	Pn	**Pn**	**11 00 46.8**	**+0.5**
L40A	**Anamosa**	**7.88 36**	Pn	**Pn**	**11 00 46.3**	**-1.0**
L40A			IAmb_Lg		11 03 11.7	
	comp=Z,14nm,0.8s					
ECSD	**EROS Data Cent**	**7.91 4**	Pn	**Pn**	**11 00 48.1**	**+0.3**
OLIL	**Olney**	**7.98 66**	IAmb_Lg		11 03 21.4	
	comp=Z,23nm,0.9s					
PHWY	**Pilot Hill**	**8.32 313**	IAmb_Lg		11 03 20.1	
	comp=Z,8.5nm,0.8s					
T47A	**Sharon Grove**	**8.41 79**	IAmb_Lg		11 03 27.0	
	comp=Z,14nm,1.0s					
I37A	**Lemond, Waseca**	**8.73 20**	IAmb_Lg		11 03 39.9	
	comp=Z,12nm,0.8s					
CNNC	**Cliffs of the**	**15.93 86**	P		11 02 36.5	
	baz=278,SNR=13					

ASRS 14 10:59:23.7±0.5,**47°N**±3°,**9°6E**±°,**h4**km,**MLh4.4/7,**
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed,
Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERNS	**Erzin**	**3.26**	**351**	P	Pb	11 00 21.5	-0.6
ERNS				Pg	Pg	11 00 27.8	+1.7
ERNS				Sg	Sg	11 01 15.1	+6.8
KNGR	**Kungurtug, Tuv**	**3.71**	**16**	Pn	Pn	11 00 20.9	-1.0
KNGR				Pg	Pg	11 00 37.6	+2.8
KNGR				Sg	Sg	11 01 32.6	+10
KZLR	**Kyzyl**	**4.76**	**349**	Pg	Pg	11 00 56.2	+1.4
KZLR				Sg	Sg	11 02 00.6	+4.1
TEL	**Teeli**	**5.47**	**319**	Pn	Pn	11 00 45.2	-0.8
TEL				Pg	Pg	11 01 06.4	-2.1
TEL				Sg	Sg	11 02 25.3	+5.9
ARDR	**Aradan**	**5.77**	**345**	Pn	Pn	11 00 49.6	-0.5
ARDR				Pg	Pg	11 01 14.2	+0.1
ARDR				Sg	Sg	11 02 32.8	+3.9
ZAK	**Zakamensk**	**5.90**	**53**	Pn	Pn	11 00 51.5	-0.4
ZAK				Pg	Pg	11 01 12.6	-4.1
ZAK				Sg	Sg	11 02 33.3	+0.2
DGZ	**Jazzator, Alta**	**6.25**	**298**	Pg	Pg	11 01 26.6	+3.2
DGZ				Sg	Sg	11 02 50.8	+6.5
ULGR	**Ulagan, Altay**	**6.36**	**307**	Pg	Pg	11 01 24.6	-0.8
ULGR				Sg	Sg	11 02 52.6	+4.8
AKAR	**Aktash**	**6.40**	**304**	Pn	Pn	11 00 57.3	-1.5
AKAR				Pg	Pg	11 01 27.3	+1.1
AKAR				Sg	Sg	11 02 50.4	+1.3
DJOS	**Djoyskaya Sosn**	**6.45**	**335**	Sg	Sg	11 02 54.4	+3.7
DJO	**Djoy, Khakassi**	**6.50**	**334**	Pg	Pg	11 01 29.9	+1.9
DJO				Sg	Sg	11 02 53.7	+1.6
CERR	**Cheremushki**	**6.50**	**335**	Pg	Pg	11 01 29.5	+1.4
CERR				Sg	Sg	11 02 54.4	+2.2
TLY	**Talaya**	**6.85**	**45**	Pg	Pg	11 01 30.2	-4.6
TLY				Sg	Sg	11 03 02.8	-0.6
ARTR	**Artybash**	**7.37**	**313**	Pg	Pg	11 01 44.8	0.0
ARTR				Sg	Sg	11 03 30.3	+10

*NEIC **14** 11:05:52.6*±*1.5, 16°.8S*±*0°.2×177°.1W*±*0°.1, h402*km*±*8km, mb4.1/15, Error ellipse: s-maj=27.5km s-min=13.5km az=154.0*
*IDC **14** 11:05:56.5*±*1.8, 16°.58S×177°.48W, h428*km*±*17km, mb3.2/8, mb1 3.4/10, mb1mx3.3/27, mbtmp4.0/10, Error ellipse: s-maj=34.0km s-min=17.4km az=144.0*
ISC 14 11:05:52.8±0.6,**16°.7S**±0°.1×**177°.10W**±0°.09,**h400**km,**n36,**
σ1§37/40,mb3.9/18,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.75**	**257**	P	**Pn**	**11 07 13.0**	**+0.7**
	7.5nm,0.3s,baz=197,slow=23,SNR=36						
MSVF				S	**S**	**11 08 19.6**	**+2.7**
	baz=155,slow=23,SNR=2.3						
MSVF	**Nonsavu**	**4.75**	**257**		**Pn**	**11 07 13.2**	**+0.8**
AFI	**Afiamalu**	**5.84**	**62**	P	**Pn**	**11 07 23.3**	**-0.6**
	8.0nm,0.3s,baz=121,slow=3.3,SNR=11						
AFI				S	**S**	**11 08 36.3**	**-1.7**
	0.6nm,0.3s,baz=73,slow=20,SNR=1.3						
AFI	**Afiamalu**	**5.84**	**62**		**Pn**	**11 07 23.6**	**-0.4**
MARNC	**Mare, Loyalty**	**14.83**	**249**	P	**P**	**11 09 02.8**	**-0.8**
DZM	**Mont Dzumac**	**16.41**	**248**	P	**P**	**11 09 19.5**	**-1.2**
	0.4nm,0.3s,baz=72,slow=21,SNR=6.3						
DZM	**Mont Dzumac**	**16.41**	**248**	P	**P**	**11 09 17.9**	**-2.7**
URZ	**Urewera**	**22.06**	**192**	P	**P**	**11 10 13.8**	**-2.1**
	5.4nm,0.9s,baz=209,slow=22,SNR=1.0						
STKA	**Stephens Creek**	**40.30**	**240**	P	**P**	**11 12 52.6**	**-0.8**
	4.2nm,1.0s,baz=50,slow=7.9,SNR=2.6						
STKA	**Stephens Creek**	**40.30**	**240**	P	**P**	**11 12 52.8**	**-0.6**
WR0	**Warramunga Arr**	**45.90**	**258**	P	**P**	**11 13 35.9**	**-1.9**
WR0				IAmb	IAmb	11 13 37.1	
	comp=Z,9.5nm,1.4s						
WB0	**Warramunga Arr**	**46.05**	**258**	P	**P**	**11 13 37.9**	**-1.0**
WB0				IAmb	IAmb	11 13 54.9	
	comp=Z,19nm,1.4s						
WB2	**Warramunga Arr**	**46.08**	**258**	P	**P**	**11 13 37.5**	**-1.6**
WB2				IAmb	IAmb	11 13 46.3	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**46.08**	**258**	P	**P**	**11 13 37.4**	**-1.8**
WRAB				IAmb	IAmb	11 13 59.4	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**46.09**	**258**	P	**P**	**11 13 37.7**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=94,slow=7.9,SNR=24						
WRA				PcP	**PcP**	**11 15 07.8**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=92,slow=3.4,SNR=5.1						
WRA	**Warramunga Arr**	**46.09**	**258**	P	**P**	**11 13 37.3**	**-1.9**
AS31	**Alice Springs**	**46.33**	**253**	P	**P**	**11 13 39.6**	**-1.5**
ASAR	**Alice Springs**	**46.33**	**253**	P	**P**	**11 13 39.7**	**-1.4**
	comp=Z,3.2nm,0.5s,baz=88,slow=7.9,SNR=88						
ASAR				PcP	**PcP**	**11 15 08.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=98,slow=3.8,SNR=2.6						
ASAR	**Alice Springs**	**46.33**	**253**	P	**P**	**11 13 39.4**	**-1.7**
MTN	**Manton Dam**	**50.10**	**267**	P	**P**	**11 14 09.7**	**+0.1**
MTN				IAmb	IAmb	11 14 12.3	
	comp=Z,29nm,1.2s						
VNDA	**Vanda**	**61.73**	**185**	P	**P**	**11 15 32.2**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=349,slow=5.2,SNR=2.0						
QSPA	**South Pole Qui**	**73.33**	**180**	P	**P**	**11 16 42.8**	**+0.9**
QSPA				IAmb	IAmb	11 16 46.4	
	comp=Z,2.9nm,1.1s						
KSRS	**Korea Array**	**74.66**	**317**	P	**P**	**11 16 50.5**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=122,slow=6.0,SNR=3.1						
NVAR	**Mina Array Bea**	**77.70**	**43**	P	**P**	**11 17 08.7**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=230,slow=9.8,SNR=6.1						
NVAR	**Mina Array Bea**	**77.70**	**43**	P	**P**	**11 17 06.7**	**-0.4**
MENT	**Mentasta**	**83.58**	**15**	P	**P**	**11 17 36.4**	**-0.6**
DOT	**Dot Lake**	**84.10**	**14**	P	**P**	**11 17 40.0**	**+0.4**
DOT				IAmb	IAmb	11 17 40.7	
	comp=Z,2.5nm,0.8s						
HDA	**Harding Lake**	**84.12**	**13**	P	**P**	**11 17 39.4**	**-0.3**
HDA				IAmb	IAmb	11 17 40.8	
	comp=Z,2.4nm,0.7s						
CCB	**Clear Creek Bu**	**84.16**	**12**	P	**P**	**11 17 39.8**	**0.0**
CCB				IAmb	IAmb	11 17 40.3	
	comp=Z,10.0nm,1.4s						
TXAR	**Lajitas Array**	**84.30**	**57**	P	**P**	**11 17 44.2**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=206,slow=4.4,SNR=7.2						
ILAR	**Eielson Array**	**84.45**	**13**	P	**P**	**11 17 41.0**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=228,slow=5.5,SNR=24						
ILAR	**Eielson Array**	**84.45**	**13**	P	**P**	**11 17 41.3**	**0.0**
MKAR	**Makanchi Array**	**109.20**	**314**	PKiKP	**PKiKP**	**11 23 35.2**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=90,slow=4.3,SNR=2.5						
ARCES	**ARCESS Array B**	**125.36**	**350**	PKP	**PKiKP**	**11 24 06.6**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=20,slow=3.9,SNR=6.6						
ARCES	**ARCESS Array B**	**125.36**	**350**		**PKPdf**	**11 24 05.4**	**-0.9**
BRTR	**Keskin Array B**	**144.80**	**317**	PKP	**PKPab**	**11 24 43.6**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=96,slow=3.4,SNR=4.5						

*IDC **14** 11:32:32.2*±*1.9, 2°.97N×125°.44E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/34, mbtmp3.7/3, Error ellipse: s-maj=188.0km s-min=32.7km az=68.0*
*MAN **14** 11:32:32.9, 6°.67N×125°.56E, h6km, mb4.6, ML3.5, MS3.4*
ISC 14 11:32:22.7±1.7,**5.7N**±0°.2×**126°.2E**±0°.5,**h100**km,**n5,**
σ1§44/6,mb3.5/3,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.71**	**320**	*e*P	**Pn**	**11 32 52.4**	**+0.8**
KCP				*i* S	**Sn**	**11 33 13.2**	**-0.4**
BUKP	**Musuan**	**2.44**	**332**	*e*P	**Pn**	**11 33 02.4**	**+1.3**
BUKP				*i* S	**Sn**	**11 33 28.7**	**-1.8**
WRA	**Warramunga Arr**	**26.71**	**163**	P	**P**	**11 37 52.2**	**-0.6**
	0.5nm,0.7s,baz=338,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**30.14**	**166**	P	**P**	**11 38 23.1**	**-0.2**
	0.6nm,0.6s,baz=341,slow=7.2,SNR=11						
FINES	**FINESS Array B**	**89.86**	**332**	P		11 45 41.7	+32
	0.4nm,0.3s,baz=74,slow=4.9,SNR=5.3						

*IDC **14** 11:33:07.5*±*0.8, 11°.86N×142°.86E, h0km, mb4.0/9, mb1 4.3/10, mb1mx3.9/38, mbtmp4.0/10, ML4.4/1, Error ellipse: s-maj=29.7km s-min=17.0km az=105.0*
*NEIC **14** 11:33:10.2*±*0.7, 11°.80N*±*0°.09×143°.0E*±*0°.1, h10km*±*1km, mb4.5/20, Error ellipse: s-maj=23.4km s-min=14.2km az=281.0*
ISC 14 11:33:12.4±0.6,**11°.77N**±0°.08×**143°.0E**±0°.1,**h31**km,**n35,**
σ0§88/33,mb4.4/18,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.57**	**45**	Pn	**Pn**	**11 33 51.6**	**-0.3**
	70nm,0.3s,baz=188,slow=9.4,SNR=7.9						
GUMO				Sn	**Sn**	**11 34 22.6**	**+0.4**
	66nm,0.3s,baz=11,slow=21,SNR=3.6						
GUMO	**Guam**	**2.57**	**45**		**Pn**	**11 33 51.4**	**-0.6**
MANU	**Manus Island**	**14.40**	**162**	Pn	**Pn**	**11 36 34.0**	**-0.2**
PATS	**Pohnpei**	**15.89**	**107**	Pn	**Pn**	**11 36 52.0**	**-1.9**
SSLB	**Suanglung**	**24.11**	**303**	P	**P**	**11 38 25.9**	**+0.3**
SSLB				IAmb	IAmb	11 38 43.5	
	comp=Z,13nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**24.30**	**68**	T	T	12 03 36.5	
	baz=254,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**24.31**	**68**	T	T	12 03 37.9	
	baz=254,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**24.32**	**68**	T	T	12 03 43.8	
	baz=254,slow=75,SNR=5.0						
JMM	**Marumori**	**26.06**	**356**	P	**P**	**11 38 42.9**	**-0.2**
HNR	**Honiara**	**26.98**	**141**	P	**P**	**11 38 51.4**	**-0.2**
WB0	**Warramunga Arr**	**32.46**	**195**	P	**P**	**11 39 40.2**	**0.0**
WB0				IAmb	IAmb	11 39 42.9	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**32.61**	**195**	P	**P**	**11 39 41.7**	**+0.2**
WR0				IAmb	IAmb	11 40 08.6	
	comp=Z,8.5nm,1.3s						
WRAB	**Tennant Creek**	**32.63**	**195**	P	**P**	**11 39 42.1**	**+0.4**
WRAB				IAmb	IAmb	11 40 04.9	
	comp=Z,8.6nm,1.2s						
WB2	**Warramunga Arr**	**32.64**	**195**	P	**P**	**11 39 42.0**	**+0.2**
WB2				IAmb	IAmb	11 39 45.4	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**32.65**	**195**	P	**P**	**11 39 42.0**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=19,slow=9.5,SNR=18						
AS31	**Alice Springs**	**36.32**	**194**	P	**P**	**11 40 14.2**	**+0.6**
ASAR	**Alice Springs**	**36.32**	**194**	P	**P**	**11 40 13.4**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=21,slow=12,SNR=9.5						
DZM	**Mont Dzumac**	**40.75**	**146**	P	**P**	**11 40 51.2**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=308,slow=7.7,SNR=15						
DZM	**Mont Dzumac**	**40.75**	**146**	P	**Pn**	**11 40 51.8**	**+0.9**
DZM				IAmb	IAmb	11 41 08.7	
	comp=Z,32nm,1.5s						
MKAR	**Makanchi Array**	**61.54**	**317**	P	**P**	**11 43 24.7**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=107,slow=5.8,SNR=2.4						
CNPM	**China Point**	**67.72**	**30**	P	**P**	**11 44 07.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**69.09**	**25**	P	**P**	**11 44 15.9**	**+0.7**
BPAW				IAmb	IAmb	11 44 17.1	
	comp=Z,4.3nm,1.2s						
MLY	**Manley**	**69.46**	**25**	P	**P**	**11 44 18.3**	**+0.7**
MLY				IAmb	IAmb	11 44 40.8	
	comp=Z,6.4nm,1.5s						
I23K	**Minto, Yukon-K**	**70.06**	**25**	P	**P**	**11 44 22.4**	**+1.2**
I23K				IAmb	IAmb	11 44 41.8	
	comp=Z,5.1nm,1.5s						
WRH	**Wood River Hil**	**70.41**	**25**	P	**P**	**11 44 22.7**	**-0.6**
MDM	**Murphy Dome**	**70.47**	**25**	P	**P**	**11 44 24.5**	**+0.7**
IL31		**70.98**	**25**	P	**P**	**11 44 26.2**	**-0.5**
ILAR	**Eielson Array**	**70.98**	**25**	P	**P**	**11 44 25.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=251,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**70.98**	**25**	P	**P**	**11 44 26.0**	**-0.8**
BMAR	**Burnt Mountain**	**72.48**	**23**	P	**P**	**11 44 37.6**	**+1.7**
YKA	**Yellowknife Ar**	**85.30**	**27**	P	**P**	**11 45 45.8**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=287,slow=4.3,SNR=4.4						
B08A	**Colville Reser**	**86.34**	**41**	P	**P**	**11 45 52.6**	**+1.0**
B08A				IAmb	IAmb	11 45 54.5	
	comp=Z,2.3nm,0.8s						
ARCES	**ARCESS Array B**	**88.23**	**342**	P	**P**	**11 46 01.0**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=70,slow=7.0,SNR=7.8						
NVAR	**Mina Array Bea**	**89.48**	**51**	P	**P**	**11 46 08.8**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=268,slow=5.3,SNR=12						
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**11 46 17.3**	**

ANBD	**Bethesda, Anti**	**2.50 328**	*e*P	**Pn**	**11 44 53.0**	**+0.3**
ANBD			*e*S	**Sn**	**11 45 21.9**	**-0.3**
BPA	**Boggy Peak**	**2.54 326**	*e*P	**Pn**	**11 44 53.5**	**0.0**
BPA			*e*S	**Sn**	**11 45 23.1**	**-0.3**
ANDO	**Antigua, Disas**	**2.58 328**	*e*P	**Pn**	**11 44 55.0**	**+1.0**
ANDO			*e*S	**Sn**	**11 45 25.1**	**+0.8**
ANOC	**Antigua Open C**	**2.59 328**	*e*P	**Pn**	**11 44 55.3**	**+1.2**
ANOC			*e*S	**Sn**	**11 45 24.2**	**-0.3**
GCMP	**Grenada, Carri**	**2.63 203**	*e*P	**Pn**	**11 44 55.5**	**+0.9**
GCMP			*e*S	**Sn**	**11 45 25.5**	**+0.1**
GRGR	**Grenville**	**3.04 204**	*e*P	**Pn**	**11 45 01.4**	**+1.2**
GRGR			*e*S	**Sn**	**11 45 35.2**	**-0.3**
ANWB	**Willy Bob**	**3.04 334**	*e*P	**Pn**	**11 45 00.0**	**-0.2**
ANWB			*e*S	**Sn**	**11 45 34.8**	**-0.8**
NVDO	**Nevis, Disaste**	**3.07 316**	*e*P	**Pn**	**11 45 00.9**	**+0.4**
TOSP	**Speyside**	**3.61 182**	*e*P	**Pn**	**11 45 07.7**	**-0.2**
TRN	**Trinidad (W)**	**4.37 193**	*e*P	**Pn**	**11 45 19.4**	**+1.1**
TRN	**Trinidad (W)**	**4.37 193**	*e*S	**Sn**	**11 46 07.3**	**-0.6**
TXAR	**Lajitas Array**	**42.34 297**	P	**P**	**11 51 59.7**	**-1.9**
	0.1nm,0.4s,baz=116,slow=8.1,SNR=1.7					
PDAR	**Pinedale Array**	**50.32 314**	P	**P**	**11 53 04.0**	**-0.3**
	0.4nm,0.6s,baz=112,slow=9.2,SNR=5.7					
H10N3	**ASCENSION HYDR**	**50.79 113**	T	T	12 48 31.9	
	baz=296,slow=75,SNR=11					
H10N2	**ASCENSION HYDR**	**50.80 113**	T	T	12 48 33.0	
	baz=296,slow=75,SNR=15					
H10N1	**ASCENSION HYDR**	**50.81 113**	T	T	12 48 24.4	
	baz=296,slow=75,SNR=13					
NVAR	**Mina Array Bea**	**55.83 306**	P	**P**	**11 53 46.0**	**+1.2**
	0.2nm,0.6s,baz=118,slow=6.5,SNR=2.5					

DJA 14 12:06:55.0±0.5, 9°S±6°×12°4E±°, h65km±9km, M4.0/7, mb4.1/4, MLv4.0/7, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.61 179**		P	Pn	12 07 10.2	+1.5
SOEI				S	Sn	12 07 20.7	+2.0
BATI	**Baumata**	**1.21 209**		P	Pn	12 07 16.8	+0.7
BATI				S	Sn	12 07 32.7	+0.9
MMRI	**Maumere**	**2.06 284**		P	Pn	12 07 27.7	+0.3
MMRI				S	Sn	12 07 52.9	+0.8
EDFI	**Ende, Flores**	**2.57 278**		P	Pn	12 07 34.6	+0.2
EDFI				S	Sn	12 08 03.8	-0.8
WBSI	**Waikabubak, Su**	**4.83 264**		P	Pn	12 08 04.1	-1.2
PLAI	**Plampang**	**6.41 272**		P	Pn	12 08 28.4	+1.5
	0.2nm24nm,1.2s						
TWSI	**Taliwang, Sumb**	**7.30 273**		P	Pn	12 08 38.6	-0.4
	0.1nm9.5nm,1.2s						

*IDC **14** 12:24:19.8±0.8, 55°.25S×27°.06W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.0/20, mbtmp4.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=33.2km s-min=24.6km az=83.0*

*NEIC **14** 12:24:25.5±1.6, 55°.5S±0°.1×27°.3W±0°.2, h35km±2km, mb4.2/8, Error ellipse: s-maj=32.3km s-min=4.9km az=39.0*

ISC 14 12:24:23.4±0.8, 55°.3S±0°.1×27°.2W±0°.1, h25km, n23, σ0.8 75/21, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.46 277**		Pn	**Pn**	**12 25 42.4**	**-0.6**
VNA1	**Neumayer-Stat**	**17.48 159**		P	**P**	**12 28 26.4**	**+0.4**
VNA3	**Neumayer Olymp**	**17.68 161**		P	**P**	**12 28 28.5**	**+0.2**
VNA2	**Neumayer--Watz**	**17.87 159**		P	**P**	**12 28 31.4**	**+1.0**
	baz=319,slow=14						
SNAA	**Sanae**	**19.42 157**		P	**Pn**	**12 28 48.7**	**+0.1**
SNAA	**Sanae**	**19.42 157**		P	**P**	**12 28 45.7**	**-1.7**
SNAA				IAmb	IAmb	12 29 10.9	
	comp=Z,12nm,1.5s						
PMSA	**Palmer Station**	**20.37 228**		P	Pn	12 28 59.1	-0.8
	comp=Z,4.8nm,0.8s,baz=67,slow=7.9,SNR=3.3						
PMSA				LR	LR	12 34 46.0	
	comp=Z,135nm,19.8s,baz=246,slow=31						
PMSA	**Palmer Station**	**20.37 228**		P	**P**	**12 28 57.4**	**-0.3**
QSPA	**South Pole Qui**	**34.93 180**		P	**P**	**12 31 12.7**	**-0.1**
QSPA				IAmb	IAmb	12 31 14.3	
	comp=Z,10nm,1.5s						
MT09	**Talagante**	**37.07 287**		P	**P**	**12 31 31.6**	**+0.2**
MT02	**Curacav**	**37.54 288**		P	**P**	**12 31 36.0**	**+0.7**
MAW	**Mawson**	**40.75 144**		P	**P**	**12 32 02.4**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=216,slow=9.3,SNR=3.7						
MAW	**Mawson**	**40.75 144**		P	**P**	**12 32 01.3**	**-0.3**
VNDA	**Vanda**	**47.30 183**		P	**P**	**12 32 54.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=190,slow=7.7,SNR=10						
VNDA	**Vanda**	**47.30 183**		IAmb	IAmb	12 33 00.1	
	comp=Z,1.6nm,0.7s						
LPAZ	**La Paz**	**49.94 305**		P	**P**	**12 33 16.6**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=145,slow=3.2,SNR=6.0						
LPAZ	**La Paz**	**49.94 305**		P	**P**	**12 33 16.7**	**+0.9**
LPAZ				IAmb	IAmb	12 33 18.2	
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.43**	**30**	P	**P**	**12 35 47.0**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=204,slow=6.0,SNR=8.2						
YKA	**Yellowknife Ar**	**135.62 318**		PKP	**PKPdf**	**12 43 39.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=115,slow=2.9,SNR=3.1						
INK	**Inuvik**	**145.23 321**		PKPbc	**PKPbc**	**12 43 55.6**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=92,slow=2.9,SNR=10						
INK	**Inuvik**	**145.23 321**			**PKPbc**	**12 43 55.8**	**-1.0**
ILAR	**Eielson Array**	**149.61 313**		PKPbc	**PKPbc**	**12 44 09.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=127,slow=3.2,SNR=20						
SONM	**Songino Array**	**150.69**	**85**	PKPbc	**PKPbc**	**12 44 12.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=218,slow=2.1,SNR=3.5						

*IDC **14** 12:29:06.9±0.8, 37°.54N×77°.78E, h0km, mb4.1/23, mb1 4.2/29, mb1mx4.1/58, mbtmp4.1/29, ML3.6/6, MS3.2/6, Ms1 3.2/6, ms1mx2.8/44, Error ellipse: s-maj=18.3km s-min=12.2km az=15.0*

*BJI **14** 12:29:10.2±0.0, 37°.59N×77°.83E, h10km, mB4.7/16, mb4.3/23, ML4.6/7*

*NNC **14** 12:29:10.3±2.3, 37°.64N×77°.99E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=18.5km s-min=15.7km az=114.0*

*SOME **14** 12:29:11.8, 37°.82N×78°.25E, h10km*

*MOS **14** 12:29:11.8±1.2, 37°.69N×77°.78E, h35km, mb4.5/24, Error ellipse: s-maj=7.7km s-min=4.4km az=97.2*

*NEIC **14** 12:29:14.4±2.2, 37°.75N±0°.07×77°.82E±0°.07, h43km±6km, mb4.5/30, Error ellipse: s-maj=11.1km s-min=8.2km az=158.0*

ISC 14 12:29:10.8±0.3, 37°.70N±0°.02×77°.93E±0°.03, h17km, n208, σ1.9 91/205, mb4.3/51, MS3.2/5, 9C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.37 320**		Pg	**Pn**	**12 29 50.6**	**+1.6**
KSH				Sg	**Sb**	**12 30 22.3**	**+0.1**
KSH				smax	smax		
	comp=N,770nm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.9s						
TARG	**Taragay, Kyrgy**	**4.02 359**			**Pn**	**12 30 14.2**	**+2.2**
KDJ	**Kajisay**	**4.46 353**		P	**Pn**	**12 30 18.7**	**+0.9**
KDJ	**Kajisay**	**4.46 353**			**Pn**	**12 30 18.7**	**+0.9**
PRZ	**Przheval'sk**	**4.79**	**4**	P	**Pn**	**12 30 22.7**	**+0.4**
PRZ	**Przheval'sk**	**4.79**	**4**	Pn	**Pn**	**12 30 22.7**	**+0.4**
BOOM	**Boomskoye usch**	**5.02 343**		P	**Pn**	**12 30 28.1**	**+2.7**
BOOM	**Boomskoye usch**	**5.02 343**			**Pn**	**12 30 28.1**	**+2.7**
TNSS	**Tian-Shan**	**5.38 352**		Pg	**Pg**	**12 30 53.4**	**-0.4**
	73nm,0.9s						
TNSS				Lg	Lg	12 32 06.6	
	263nm,0.8s						
IZV	**Izvestkoviy**	**5.42 350**		*e*P	**Pg**	**12 30 52.0**	**-2.6**
	37nm,0.8s						
IZV				*e*S	**Sg**	**12 32 04.3**	**-0.5**
	109nm,0.6s						
IZV	**Izvestkoviy**	**5.42 350**		Pg	**Pg**	**12 30 52.0**	**-2.6**
	37nm,0.8s						
IZV				Lg	Lg	12 32 04.3	
	109nm,0.6s						
MDOK	**Medeo**	**5.50 353**		*e*P	**Pg**	**12 30 53.4**	**-2.6**
	36nm,0.8s						
MDOK				*e*S	**Sg**	**12 32 06.8**	**-0.3**
	116nm,1.3s						
MDOK	**Medeo**	**5.50 353**		Pg	**Pb**	**12 30 50.4**	**+4.1**
	92nm,0.8s						
MDOK				Lg	Lg	12 32 06.9	
	244nm,0.9s						
MDOK	**Medeo**	**5.50 353**		Pg	**Pg**	**12 30 53.4**	**-2.6**
	36nm,0.8s						
MDOK				Lg	Lg	12 32 06.8	
	116nm,1.3s						
UZB	**Uzynbulak**	**5.50**	**8**	*e*P	Pb	12 30 51.5	+5.1
	33nm,0.9s						
UZB				*e*S	**Sg**	**12 32 03.6**	**-3.7**
	138nm,0.7s						
UZB	**Uzynbulak**	**5.50**	**8**	Pg	Pb	12 30 51.5	+5.1
	33nm,0.9s						
UZB				Lg	Lg	12 32 03.6	
	138nm,0.7s						
UZB	**Uzynbulak**	**5.50**	**8**	*e*P	**Pn**	**12 30 34.7**	**+2.6**
NIL	**Nilore**	**5.55 225**		P	**Pn**	**12 30 33.9**	**+1.2**
NIL	**Nilore**	**5.55 225**		Pn	**Pn**	**12 30 33.9**	**+1.2**
KNDC	**Almaty**	**5.56 353**		⇓Pg	**Pg**	**12 30 58.0**	**+0.8**
	149nm,0.8s						
KNDC				⇑Lg	Lg	12 32 09.8	
	379nm,0.8s						
KOTS	**Kotyrbulak**	**5.56 354**		*e*P	Pb	12 30 54.1	+6.6
	55nm,0.9s						
KOTS				*e*S	**Sg**	**12 32 07.7**	**-1.5**
	207nm,0.8s						
KOTS	**Kotyrbulak**	**5.56 354**		Pg	Pb	12 30 54.1	+6.6
	55nm,0.9s						
KOTS				Lg	Lg	12 32 07.7	
	207nm,0.8s						
SHLS	**Shalkode**	**5.57**	**12**	*e*P	Pb	12 30 54.5	+6.9
	47nm,0.6s						
SHLS				*e*S	**Sg**	**12 32 08.5**	**-1.1**
	168nm,0.6s						
SHLS	**Shalkode**	**5.57**	**12**	Pg	Pb	12 30 54.5	+6.9
	47nm,0.6s						
SHLS				Lg	Lg	12 32 08.5	
	168nm,0.6s						
SHLS	**Shalkode**	**5.57**	**12**	*e*P	**Pn**	**12 30 37.2**	**+4.2**
AAK	**Ala-Archa**	**5.59 333**		Pn	**Pn**	**12 30 35.2**	**+2.0**
	1.8nm,0.3s,baz=142,slow=7.0,SNR=8.1						
AAK				Pg	Pb	12 30 53.2	+5.2
	1.7nm,0.3s,baz=326,slow=16,SNR=5.3						
AAK				Lg	Lg	12 32 08.3	
	3.0nm,0.3s,baz=278,slow=18,SNR=5.4						
AAK	**Ala-Archa**	**5.59 333**		⇑Pg	**Pg**	**12 30 58.2**	**+0.5**
	54nm,0.9s						
AAK				⇑Lg	Lg	12 32 08.5	
	142nm,0.8s						
AAK	**Ala-Archa**	**5.59 333**		⇓*e*P	**Pn**	**12 30 37.3**	**+4.1**
AAK				pmax	pmax		
	comp=Z,21nm,0.6s						
AAK	**Ala-Archa**	**5.59 333**		Pn	**Pn**	**12 30 33.4**	**+0.2**
PDGK	**Podgornoye**	**5.75**	**11**	Pg	**Pb**	**12 30 55.2**	**+4.6**
	comp=Z,18nm,0.6s						
PDGK				Lg	Lg	12 32 09.7	
	comp=Z,74nm,1.2s						
PDGK	**Podgornoye**	**5.75**	**11**	Pn	**Pn**	**12 30 37.0**	**+1.7**
PDGK				Lg	Lg	12 32 09.1	
PDGK	**Podgornoye**	**5.75**	**11**	P	**Pn**	**12 30 37.3**	**+1.9**
DGS	**Degeres**	**5.77 344**		*e*P	**Pg**	**12 30 59.3**	**-2.0**
	comp=Z,26nm,0.5s						
DGS				*e*S	**Sg**	**12 32 16.7**	**+0.7**
	comp=Z,70nm,1.1s						
DGS	**Degeres**	**5.77 344**		Pg	**Pg**	**12 30 59.3**	**-2.0**
	comp=Z,26nm,0.5s						
DGS				Lg	Lg	12 32 16.7	
	comp=Z,70nm,1.1s						
KPKS	**Kokpek**	**5.79**	**5**	*e*P	Pb	12 30 57.6	+6.3
	comp=Z,115nm,0.9s						
KPKS				*e*S	**Sg**	**12 32 13.7**	**-2.7**
	comp=Z,140nm,0.6s						
KPKS	**Kokpek**	**5.79**	**5**	*e*P	**Pn**	**12 30 38.9**	**+3.0**
BTK	**Batken**	**6.03 295**		P	**Pn**	**12 30 38.3**	**-0.9**
BTK	**Batken**	**6.03 295**			**Pn**	**12 30 38.3**	**-0.9**
KTMS	**Ketmen**	**6.03**	**17**	*e*P	Pb	12 31 02.5	+7.1
	comp=Z,102nm,0.6s						
KTMS				*e*S	**Sg**	**12 32 22.2**	**-1.9**
	comp=Z,124nm,0.9s						
KTMS	**Ketmen**	**6.03**	**17**	Pg	Pb	12 31 02.5	+7.1
	comp=Z,102nm,0.6s						
KTMS				Lg	Lg	12 32 22.2	
	comp=Z,124nm,0.9s						
KTBS	**Karatobe**	**6.08 351**		*e*P	Pb	12 31 02.9	+6.7
	comp=Z,14nm,0.9s						
KTBS				*e*S	**Sg**	**12 32 23.0**	**-2.8**
	comp=Z,76nm,1.0s						
KTBS	**Karatobe**	**6.08 351**		Pg	Pb	12 31 02.9	+6.7
	comp=Z,14nm,0.9s						
KTBS				Lg	Lg	12 32 23.0	
	comp=Z,76nm,1.0s						
GAR	**Garm**	**6.12 285**		Pn	**Pn**	**12 30 39.4**	**-1.1**
CHKK	**Chushkaly**	**6.19 354**		*e*P	Pg	12 31 05.7	-3.5
	comp=Z,24nm,0.8s						
CHKK				*e*S	**Sg**	**12 32 27.6**	**-1.7**
	comp=Z,76nm,0.7s						
CHKK	**Chushkaly**	**6.19 354**		Pg	Pg	12 31 05.7	-3.5
	comp=Z,24nm,0.8s						
CHKK				Lg	Lg	12 32 27.6	
	comp=Z,76nm,0.7s						
KRBS	**Karabastau**	**6.23 345**		*e*P	**Pg**	**12 31 08.1**	**-1.9**
	comp=Z,15nm,0.7s						
KRBS				*e*S	**Sg**	**12 32 31.8**	**+1.2**
	comp=Z,67nm,0.8s						
KRBS	**Karabastau**	**6.23 345**		Pg	**Pg**	**12 31 08.1**	**-1.9**
	comp=Z,15nm,0.7s						
KRBS				Lg	Lg	12 32 31.8	
	comp=Z,67nm,0.8s						
SGDS	**Sogindy**	**6.27 337**		Pg	Pg	12 31 07.2	-3.6
	comp=Z,6.9nm,0.7s						
SGDS				Lg	Lg	12 32 29.9	
	comp=Z,31nm,0.9s						
KUU	**Kurty**	**6.30 349**		*e*P	Pg	12 31 07.5	-3.9
	comp=Z,38nm,0.6s						
KUU				*e*S	**Sg**	**12 32 30.8**	**-2.2**
	comp=Z,110nm,1.0s						
KUU	**Kurty**	**6.30 349**		Pg	Pg	12 31 07.5	-3.9
	comp=Z,38nm,0.6s						
KUU				Lg	Lg	12 32 30.8	
	comp=Z,110nm,1.0s						
ARXS	**Arharly**	**6.51 359**		*e*P	Pb	12 31 10.5	+7.0
	comp=Z,16nm,0.9s						
ARXS				*e*S	**Sg**	**12 32 35.8**	**-3.7**
	comp=Z,30nm,0.8s						
ARXS	**Arharly**	**6.51 359**		Pg	Pb	12 31 10.5	+7.0
	comp=Z,16nm,0.9s						
ARXS				Lg	Lg	12 32 35.8	
	comp=Z,30nm,0.8s						
ARXS	**Arharly**	**6.51 359**		*e*P	**Pn**	**12 30 48.8**	**+3.0**
SMLA	**Simla**	**6.59 186**		*e*P	**Pn**	**12 30 50.4**	**+3.5**
SMLA				*i* x	x	12 30 50.9	
SMLA				*e*S	**Sn**	**12 31 55.4**	**-6.1**
SMLA				IAML		12 32 05.8	
	comp=E,117nm,0.7s						
SMLA				IAML		12 32 06.9	
	comp=N,79nm,0.2s						
DJR	**Jarkent**	**6.77**	**11**	*e*P	**Pb**	**12 31 12.1**	**+4.0**
	comp=N,1.4nm,0.5s						
DJR				*e*S	Sb	12 32 38.3	+10
	comp=N,4.9nm,0.7s						
DJR	**Jarkent**	**6.77**	**11**	Pg	**Pb**	**12 31 12.1**	**+4.0**
	comp=N,1.4nm,0.5s						
DJR				Lg	Lg	12 32 38.3	
	comp=N,4.9nm,0.7s						
CHGR	**Chuyangaron**	**6.98 281**		Pn	**Pn**	**12 30 51.2**	**-1.1**
TDK	**Taldyqorghan**	**7.30**	**3**	*e*P	**Pg**	**12 31 28.6**	**-1.9**
	comp=N,77nm,0.3s						
TDK				*e*S	**Sg**	**12 33 07.3**	**+2.4**
	comp=N,151nm,1.0s						
TDK	**Taldyqorghan**	**7.30**	**3**	Pg	**Pg**	**12 31 28.6**	**-1.9**
	comp=N,77nm,0.3s						
DDI	**Dehra Dun**	**7.36 179**		*e*P	Pn	12 31 02.6	+5.1
DDI				*e*S	**Sn**	**12 32 14.3**	**-6.3**
DDI				IAML		12 32 24.0	
	comp=N,274nm,0.7s						
DDI				IAML		12 32 27.3	
	comp=E,284nm,0.5s						
KAPS	**Kapalarasan**	**7.65**	**8**	*e*P	Pb	12 31 32.7	+10
	comp=E,1.4nm,1.0s						
KAPS				*e*S	Sb	12 33 14.2	+20
	comp=E,3.4nm,0.8s						
KAPS	**Kapalarasan**	**7.65**	**8**	Pg	Pb	12 31 32.7	+10
	comp=E,1.4nm,1.0s						
KK31	**Karatay Array**	**7.82 316**		⇓Pn	**Pn**	**12 31 03.5**	**-0.2**
	comp=E,1.4nm,0.6s,baz=121,slow=13,SNR=13						
KK31				⇑Sn	**Sn**	**12 32 35.7**	**+3.9**
	comp=E,7.3nm,0.7s						
KK31	**Karatay Array**	**7.82 316**		P	**Pn**	**12 31 04.2**	**+0.5**
KK31	**Karatay Array**	**7.82 316**			**Pn**	**12 31 04.2**	**+0.5**
KKAR	**Karatay Array**	**7.82 316**		P	**Pn**	**12 31 03.6**	**-0.1**
KKAR	**Karatay Array**	**7.82 316**		Pn	**Pn**	**12 31 03.5**	**-0.1**
KBL	**Kabul**	**7.85 249**		P	**Pn**	**12 31 03.8**	**-0.6**
KBL	**Kabul**	**7.85 249**		Pn	**Pn**	**12 31 03.8**	**-0.6**
NDI	**New Delhi**	**9.01 184**		*e*P	Pn	12 31 26.0	+5.9
NDI				*e*S	**Sn**	**12 33 06.0**	**+4.7**
MAKZ	**Makanchi**	**9.58**	**17**	⇓Pn	**Pn**	**12 31 29.1**	**+1.2**
	comp=E,6.0nm,0.6s						
MAKZ	**Makanchi**	**9.58**	**17**	P	**Pn**	**12 31 30.0**	**+2.1**
MAKZ	**Makanchi**	**9.58**	**17**		**Pn**	**12 31 30.0**	**+2.1**
WMQ	**Urumqi**	**9.60**	**47**	*e*P	**Pn**	**12 31 31.0**	**+2.8**
WMQ				S	**Sn**	**12 33 20.9**	**+5.2**
WMQ				smax	smax		
	comp=E,91nm,1.1s						
WMQ				smax	smax		
	comp=E,88nm,0.9s						
MK31	**Makanchi Array**	**9.64**	**18**	Pn	**Pn**	**12 31 30.5**	**+1.8**
	comp=E,2.0nm,0.4s,baz=200,slow=12,SNR=80						
MK31				⇑Sn	**Sn**	**12 33 15.1**	**-1.5**
	comp=E,7.0nm,0.6s,baz=191,slow=26,SNR=4.2						
MK31	**Makanchi Array**	**9.64**	**18**	*c e*P	**Pn**	**12 31 30.7**	**+2.0**
MK31	**Makanchi Array**	**9.64**	**18**	Pn	**Pn**	**12 31 30.5**	**+1.8**
MKAR	**Makanchi Array**	**9.64**	**18**	Pn	**Pn**	**12 31 30.5**	**+1.8**
	comp=E,2.4nm,0.3s,baz=198,slow=12,SNR=78						
MKAR				Sn	**Sn**	**12 33 15.5**	**-1.1**
	comp=E,1.3nm,0.3s,baz=192,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**9.64**	**18**	*i* P	**Pn**	**12 31 30.7**	**+2.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**9.64**	**18**	Pn	**Pn**	**12 31 30.8**	**+2.1**
PYUN	**Piuthan**	**10.47 155**		*e*P	**Pn**	**12 31 39.1**	**-1.2**
	comp=Z,46nm,0.3s						
DANN	**Dangsing**	**10.53 151**		*e*P	**Pn**	**12 31 40.2**	**-1.0**
	comp=Z,27nm,0.5s						
KOLN	**Koldanda**	**10.99 153**		*e*P	**Pn**	**12 31 45.3**	**-2.1**
	comp=Z,16nm,0.5s						
GKN	**Gorkha**	**11.19 148**		*e*P	**Pn**	**12 31 48.4**	**-1.7**
	comp=Z,44nm,0.6s						
KKN	**Kakani**	**11.65 146**		*e*P	**Pn**	**12 31 54.2**	**-2.3**
	comp=Z,19nm,0.5s						
PKIN	**Phulchoki**	**11.89 146**		*e*P	Pn	12 31 57.0	-2.8
	comp=Z,19nm,0.5s						
PKI	**Pulchoki**	**11.90 146**		*e*P	**Pn**	**12 31 57.5**	**-2.5**
	comp=Z,21nm,0.5s						
JIRN	**Jiri**	**12.19 143**		*e*P	**Pn**	**12 32 01.7**	**-2.2**
	comp=Z,31nm,0.4s						
BRZS	**Berezniki**	**12.84 345**		*e*P	**Pn**	**12 32 12.1**	**-0.4**
KURBB	**Kurchatov Arra**	**12.93**	**2**	Pn	**Pn**	**12 32 14.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=189,slow=12,SNR=23						
KURBB				Sn	**Sn**	**12 34 30.4**	**-6.5**
	comp=Z,0.0nm,0.3s,baz=240,slow=45,SNR=2.5						
KURBB				Lg	Lg	12 35 57.9	
	comp=Z,0.0nm,0.3s,baz=58,slow=29,SNR=4.6						
RAMN	**Ramite**	**12.98 143**		*e*P	Pn	12 32 10.2	-4.4
	comp=Z,9.8nm,0.4s						
KURK	**Kurchatov**	**13.02**	**2**	P	**Pn**	**12 32 14.5**	**-0.3**
KURK	**Kurchatov**	**13.02**	**2**		**Pn**	**12 32 14.5**	**-0.3**
HRA	**Herat**	**13.12 260**		Pn	**Pn**	**12 32 16.4**	**-0.1**
LSA	**Lhasa**	**13.58 122**		P	Pn	12 32 27.9	+4.8
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DGZ	**Jazzator, Alta**	**13.81**	**27**	⇓*i* P	**Pn**	**12 32 27.0**	**+1.2**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BHPL	**Bhopal**	**14.42 182**		*e*S	Sn	12 35 00.0	-14
GEYT	**Alibeck**	**15.66 277**		Pn	**Pn**	**12 32 48.1**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=8,9,slow=10,SNR=2.0						
BVAR	**Borovoye Array**	**16.20 343**		Pn	**P**	**12 33 02.0**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=199,slow=16,SNR=40						
BVAR				Lg	Lg	12 37 42.5	
	comp=Z,0.4nm,0.3s,baz=147,slow=25,SNR=3.8						
BRVK	**Borovoye**	**16.25 343**		*c i* P	**P**	**12 33 03.4**	**+2.3**
BRVK				pmax	pmax		
	comp=Z,52nm,1.0s						
BRVK	**Borovoye**	**16.25 343**		Pn	**Pn**	**12 32 58.2**	**+0.1**
BRVK				IAmb	IAmb	12 33 11.8	
	comp=Z,43nm,0.8s						
ZAA0	**Zalesovo Array**	**16.93**	**14**	Pn	**Pn**	**12 33 06.2**	**-0.4**
ZALV	**Zalesovo Beam**	**16.93**	**14**	P	**Pn**	**12 33 06.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=198,slow=9.3,SNR=22						
ZALV				LR	LR	12 39 16.3	
	comp=Z,26nm,18.3s,baz=194,slow=36						
ZALV	**Zalesovo Beam**	**16.93**	**14**	*i* P	**Pn**	**12 33 08.5**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ZALV	**Zalesovo Beam**	**16.93**	**14**	Pn	**Pn**	**12 33 06.3**	**-0.4**
GTA	**Gaotai**	**17.20**	**78**	*e*P	**Pn**	**12 33 09.8**	**-0.5**
GTA				pP	P	12 33 14.3	+2.5
GTA				sP	pP	12 33 17.5	+0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AB31	**Akbulak array**	**17.38 317**		⇑P	**Pn**	**12 33 09.7**	**-2.6**
	comp=Z,2.0nm,0.7s,baz=128,slow=10,SNR=16						
AB31	**Akbulak array**	**17.38 317**		P	**Pn**	**12 33 09.7**	**-2.6**
ABKAR	**Akbulak array**	**17.38 317**			**Pn**	**12 33 09.7**	**-2.6**
AKTO	**Aktyubinsk**	**19.08 318**		P	**P**	**12 33 32.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=113,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**19.08 318**		⇑P	**P**	**12 33 31.5**	**-0.7**
	comp=Z,2.7nm,0.6s						
WSAR	**Wadi Sarin**	**21

AKASG Malin Array Be 36.60 307 P **P 12 36 13.4 -2.4**
comp=Z,0.2nm,0.3s,baz=74,slow=7.4,SNR=1.4
AKASG Malin Array Be 36.60 307 *i* P **P 12 36 18.2 +2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 36.60 307 P **P 12 36 15.7 -0.1**
JOF Joensuu 37.74 327 P **P 12 36 26.4 +1.1**
JOF pmax pmax
comp=Z,11nm,1.0s
VSU Vasula 38.80 319 *e*P **P 12 36 33.1 -1.1**
VSU Vasula 38.80 319|| *e*P **P 12 36 33.2 -1.1**
VSU pmax pmax
comp=Z,35nm,1.6s
MLR Muntele Rosu 39.06 298 P **P 12 36 34.5 -2.3**
comp=Z,2.9nm,0.8s,baz=147,slow=8.1,SNR=1.9
MLR Muntele Rosu 39.06 298 P **P 12 36 36.0 -0.8**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 39.06 298 P **P 12 36 36.0 -0.8**
MLR IAmb IAmb 12 36 55.3
comp=Z,6.1nm,1.0s
KSRS Korea Array 39.23 75 P **P 12 36 37.3 -0.9**
comp=Z,1.1nm,0.6s,baz=284,slow=9.1,SNR=7.2
KSRS LR LR 12 55 11.6
comp=Z,33nm,18.1s,baz=200,slow=40
FIA1 FINESS Array S 39.69 324 P **P 12 36 42.6 +0.9**
FIA1 IAmb IAmb 12 36 49.4
comp=Z,7.7nm,0.7s
FINES FINESS Array B 39.69 324 P **P 12 36 42.0 +0.3**
comp=Z,6.0nm,0.6s,baz=101,slow=10,SNR=26
FINES FINESS Array B 39.69 324 *i* P **P 12 36 42.9 +1.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 39.69 324 P **P 12 36 42.9 +1.2**
KLR Kul'dur 39.93 56 P **P 12 36 45.0 +1.1**
comp=Z,3.4nm,0.7s,baz=297,slow=9.4,SNR=7.2
KLR Kul'dur 39.93 56|| *e*P **P 12 36 45.6 +1.8**
KLR pmax pmax
comp=Z,39nm,2.8s
MEF Metsahovi 40.27 322 *e*P **P 12 36 48.1 +1.7**
MTSE Matsula 40.35 319 *e*P **P 12 36 47.1 0.0**
ARCES ARCESS Array B 42.25 336 P **P 12 37 03.0 +0.3**
comp=Z,2.3nm,0.7s,baz=106,slow=8.2,SNR=6.9
ARCES ARCESS Array B 42.25 336 P **P 12 37 03.0 +0.3**
ARCES pmax pmax
comp=Z,16nm,1.4s
ARCES ARCESS Array B 42.25 336 P **P 12 37 03.0 +0.3**
ARCES IAmb IAmb 12 37 20.7
comp=Z,16nm,1.4s
UPP Uppsala 43.61 321 *e*P **P 12 37 14.9 +1.1**
DPC Dobruska-Polom 44.83 307 P **P 12 37 23.9 +0.1**
DPC pmax pmax
comp=Z,2.0nm,1.4s
NC405 NORSAR Array S 46.55 322 P **P 12 37 37.3 +0.1**
NC602 NORSAR Array S 46.65 322 P **P 12 37 38.7 +0.8**
NORES NORESS Array B 46.65 322 P **P 12 37 39.1 +1.2**
NORES pmax pmax
comp=Z,1.0nm,0.4s
NC303 NORSAR Array S 46.72 322 P **P 12 37 39.3 +0.8**
NC303 IAmb IAmb 12 37 46.3
comp=Z,12nm,0.9s
NB201 NORSAR Array S 46.76 322 P **P 12 37 38.9 +0.1**
GEC2 GERESS Array S 46.77 305 P **P 12 37 37.1 -2.0**
GEC2 IAmb IAmb 12 37 46.2
comp=Z,2.6nm,0.9s
GERES GERESS Array B 46.77 305 P **P 12 37 38.6 -0.5**
comp=Z,0.9nm,0.6s,baz=64,slow=6.7,SNR=4.0
GERES GERESS Array B 46.77 305 P **P 12 37 38.4 -0.8**
KHC Kasperske Hory 46.79 306 P **P 12 37 40.0 +0.7**
KHC pmax pmax
comp=Z,2.0nm,1.2s
NB2 NORSAR Subarra 46.80 322 P **P 12 37 39.5 +0.4**
comp=Z,5.9nm,0.6s,baz=89,slow=7.9
NOA NORSAR Array B 46.80 322 P **P 12 37 39.0 -0.1**
comp=Z,5.6nm,0.8s,baz=90,slow=7.7,SNR=25
NAO01 NORSAR Array S 46.96 322 P **P 12 37 40.5 +0.1**
NC204 NORSAR Array S 47.01 323 P **P 12 37 40.6 -0.2**
NBO00 NORSAR Array S 47.01 322 P **P 12 37 39.6 -1.1**
MJAR Matsushiro Arr 47.34 72 P **P 12 37 43.0 -0.7**
comp=Z,0.5nm,0.5s,baz=270,slow=7.3,SNR=2.9
MJAR Matsushiro Arr 47.34 72 P **P 12 37 43.0 -0.7**
MOX Moxa 47.74 308 P **P 12 37 47.4 +0.8**
MOX pmax pmax
comp=Z,5.0nm,2.4s
BSEG Bad Segeberg 47.95 313 P **P 12 37 49.7 +1.6**
BSEG pmax pmax
comp=Z,11nm,0.9s
DAVOX Davos/Dischmat 49.75 303 P **P 12 38 01.1 -1.2**
comp=Z,1.2nm,0.3s,baz=90,slow=5.1,SNR=4.2
DAVOX LR LR 13 02 10.9
comp=Z,30nm,18.2s,baz=82,slow=40
SEY Seymchan 50.30 35 P **P 12 38 06.0 0.0**
comp=Z,2.8nm,0.8s,baz=318,slow=14,SNR=4.6
SEY Seymchan 50.30 35 P **P 12 38 06.0 0.0**
SAOF Saorge 52.14 301 P **P 12 38 20.8 +0.7**
SAOF pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 55.05 27 *e*P **P 12 38 43.8 +2.7**
BILL *e*PPP PPP 12 41 59.1
BILL pmax pmax
comp=Z,7.0nm,1.6s
EKA Eskdalemuir Ar 55.25 317 P **P 12 38 41.8 -0.9**
comp=Z,2.9nm,0.7s,baz=82,slow=8.5,SNR=9.0
BORG Borgarnes 60.31 331 LR LR 13 05 27.5
comp=Z,27nm,20.1s,baz=39,slow=36
SUMG Summit 61.67 342 P **P 12 39 29.0 +1.3**
SUMG pmax pmax
comp=Z,6.0nm,1.1s
SUMG Summit 61.67 342 P **P 12 39 29.0 +1.3**
SUMG IAmb IAmb 12 39 30.6
comp=Z,6.4nm,1.1s
ESDC Sonseca Array 61.73 300 P **P 12 39 25.7 -2.6**
comp=Z,0.5nm,0.6s,baz=52,slow=7.2,SNR=3.9
RES Resolute Bay 67.79 358 LR LR 13 11 59.3
comp=Z,16nm,19.1s,baz=60,slow=38
TOLK Toolik Lake Re 68.26 17 P **P 12 40 10.1 -0.1**
TOLK IAmb IAmb 12 40 21.3
comp=Z,3.8nm,1.1s
IMAR Indian Mountai 69.25 20 P **P 12 40 15.0 -1.3**
TORD Torodi Ar. Bea 71.25 272 P **P 12 40 27.0 -2.3**
comp=Z,1.1nm,0.8s,baz=48,slow=6.7,SNR=5.0
INK Inuvik 71.71 12 P **P 12 40 30.8 -0.5**
comp=Z,1.1nm,0.6s,baz=39,slow=3.6,SNR=5.0
INK Inuvik 71.71 12 P **P 12 40 31.7 +0.4**
INK pmax pmax
comp=Z,6.0nm,1.5s
INK Inuvik 71.71 12 P **P 12 40 31.7 +0.4**
INK IAmb IAmb 12 40 36.8
comp=Z,5.7nm,1.4s
KTH Kantishna Hill 71.89 21 P **P 12 40 32.9 +0.4**
KTH IAmb IAmb 12 40 34.3
comp=Z,5.6nm,0.9s
IL31 72.00 19 P **P 12 40 32.9 -0.2**
IL31 IAmb IAmb 12 40 34.5
comp=Z,3.1nm,1.1s
ILAR Eielson Array 72.00 19 P **P 12 40 32.5 -0.6**
comp=Z,1.1nm,0.9s,baz=315,slow=5.5,SNR=13
ILAR Eielson Array 72.00 19 P **P 12 40 33.0 -0.1**
ILAR Eielson Array 72.00 19 P **P 12 40 33.0 -0.1**
SKT Skwentna 72.94 22 P **P 12 40 39.1 +0.3**
SKT IAmb IAmb 12 40 40.0
comp=Z,8.0nm,1.1s
SCRK Sand Creek 73.37 18 P **P 12 40 40.9 -0.6**
SCRK IAmb IAmb 12 41 05.9
comp=Z,4.2nm,1.4s
SML Sawmill 74.01 21 P **P 12 40 44.5 -0.7**
SML IAmb IAmb 12 40 47.0
comp=Z,7.8nm,0.8s
BCAR Beaver Creek A 74.67 18 P **P 12 40 48.7 -0.2**
KDAK Kodiak Island 75.88 25 P **P 12 40 55.8 -0.1**
comp=Z,6.6nm,0.6s,baz=325,slow=4.4,SNR=14
KDAK Kodiak Island 75.88 25 P **P 12 40 55.8 -0.1**
KDAK pmax pmax
comp=Z,19nm,1.3s
YKA Yellowknife Ar 79.64 6 P **P 12 41 16.4 -0.4**
comp=Z,1.4nm,0.6s,baz=348,slow=5.1,SNR=19
ASAR Alice Springs 80.57 130 P **P 12 41 21.6 -0.8**
comp=Z,0.4nm,0.8s,baz=316,slow=5.2,SNR=1.6

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*IDC **14** 12:30:18.3±0.9, 55°.33S×27°.04W, h0km, mb4.0/6, mb1 4.1/6, mb1mx4.0/19, mbtmp4.0/6, Error ellipse: s-maj=33.8km s-min=23.1km az=83.0*
*NEIC **14** 12:30:24.6±0.7, 55°.5S±0°.1×27°.5W±0°.2, h35km±2km, mb4.1/5, Error ellipse: s-maj=25.1km s-min=19.6km az=354.0*
ISC 14 12:30:22.2±0.9, **55°.3S**±0°.1×**27°.2W**±0°.1, **h25**km, **n18**, σ0**.60**/18, **mb4.0**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.46**	**277**	Pn	**Pn**	**12 31 41.3**	**-0.5**
VNA1	**Neumayer--Stat**	**17.51**	**159**	P	**P**	**12 34 25.8**	**+0.7**
VNA3	**Neumayer Olymp**	**17.71**	**161**	P	**Pn**	**12 34 27.3**	**+0.6**
VNA2	**Neumayer--Watz**	**17.90**	**159**	P	**Pn**	**12 34 29.3**	**+0.2**
baz=323,slow=9.3							
SNAA	**Sanae**	**19.44**	**157**	P	**P**	**12 34 47.2**	**+0.7**
SNAA	**Sanae**	**19.44**	**157**	P	**P**	**12 34 46.3**	**-0.2**
PMSA	**Palmer Station**	**20.39**	**227**	P	**P**	**12 34 57.4**	**+0.6**
4.5nm,1.0s,baz=17,slow=14,SNR=2.4							
PMSA	**Palmer Station**	**20.39**	**227**	P	**P**	**12 34 57.2**	**+0.5**
PMSA				IAmb	IAmb	12 35 03.5	
comp=Z,17nm,1.5s							
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**12 37 11.5**	**-0.3**
comp=Z,2.2nm,0.6s,baz=195,slow=5.2,SNR=4.4							
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**12 37 11.6**	**-0.3**
MAW	**Mawson**	**40.77**	**144**	P	**P**	**12 38 00.3**	**-0.2**
comp=Z,1.7nm,0.6s,baz=236,slow=7.6,SNR=4.6							
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**12 38 51.8**	**-1.3**
comp=Z,0.9nm,0.7s,baz=169,slow=6.1,SNR=6.5							
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**12 38 53.0**	**-0.1**
VNDA				IAmb	IAmb	12 39 02.8	
comp=Z,2.5nm,1.1s							
LPAZ	**La Paz**	**49.93**	**305**	P	**P**	**12 39 15.1**	**+0.6**
comp=Z,1.0nm,0.6s,baz=147,slow=7.5,SNR=5.8							
LPAZ	**La Paz**	**49.93**	**305**	P	**P**	**12 39 15.0**	**+0.6**
LPAZ				IAmb	IAmb	12 39 15.9	
comp=Z,1.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.40**	**30**	P	**P**	**12 41 45.9**	**0.0**
comp=Z,1.3nm,0.7s,baz=202,slow=5.7,SNR=5.6							
ILAR	**Eielson Array**	**149.60**	**313**	PKPbc	**PKPbc**	**12 50 08.2**	**+0.4**
comp=Z,1.4nm,0.7s,baz=130,slow=1.9,SNR=13							
SONM	**Songino Array**	**150.69**	**85**	PKPbc	**PKPbc**	**12 50 10.6**	**-0.6**
comp=Z,1.0nm,0.9s,baz=247,slow=3.0,SNR=4.2							

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*IDC **14** 12:34:03.0±0.5, 7°.32S×154°.64E, h0km, mb4.6/22, mb1 4.6/26, mb1mx4.5/39, mbtmp4.5/26, ML3.8/3, MS3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=17.3km s-min=13.2km az=97.0*
*BJI **14** 12:34:07.7±0.0, 7°.08S×154°.72E, h23km, mB5.1/23, mb4.9/43, Ms4.9/3, Ms7 4.5/3*
*NEIC **14** 12:34:09.4±2.0, 7°.39S±0°.08×154°.75E±0°.08, h35km±1km, mb5.1/117, Error ellipse: s-maj=14.2km s-min=12.4km az=222.0*
ISC 14 12:34:07.6±0.3, **7°.44S**±0°.06×**154°.65E**±0°.06, **h27**km, **n274**, σ0**.95**/276, **mb5.1**/90, **MS3.5**/3, **1C**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.06**	**322**		**Pn**	**12 35 08.5**	**+0.5**
HNR	**Honiara**	**5.61**	**111**	Pn	**Pn**	**12 35 28.6**	**-0.7**
4.5nm,0.3s,baz=204,slow=7.2,SNR=2.4							
HNR				Sn	**Sn**	**12 36 36.0**	**+3.1**
5.2nm,0.3s,baz=347,slow=18,SNR=1.3							
HNR				LR	LR	12 37 20.2	
comp=Z,372nm,21.5s,baz=312,slow=35							
HNR	**Honiara**	**5.61**	**111**		**Pn**	**12 35 28.0**	**-1.3**
PMG	**Port Moresby**	**7.66**	**255**	Pn	**Pn**	**12 35 55.2**	**-2.3**
0.4nm,0.3s,baz=197,slow=14,SNR=2.2							
PMG				Sn	**Sn**	**12 37 19.9**	**-3.6**
1.7nm,0.3s,baz=198,slow=19,SNR=1.8							
PMG	**Port Moresby**	**7.66**	**255**	Pn	**Pn**	**12 35 58.5**	**+1.0**
PATS	**Pohnpei**	**14.64**	**15**	Pn	**Pn**	**12 37 30.8**	**-2.3**
CTA	**Charters Tower**	**14.98**	**212**	Pn	**Pn**	**12 37 37.4**	**-0.3**
0.2nm,0.3s,baz=359,slow=6.3,SNR=2.6							
CTAO	**Charters Tower**	**14.98**	**212**	Pn	**Pn**	**12 37 38.0**	**+0.4**
DZM	**Mont Dzumac**	**18.47**	**143**	P	**Pn**	**12 38 22.0**	**+0.1**
0.3nm,0.3s,baz=350,slow=18,SNR=1.6							
DZM				LR	LR	12 43 37.8	
comp=Z,108nm,19.3s,baz=336,slow=31							
GUMO	**Guam**	**23.03**	**335**	LR	LR	12 48 54.9	
comp=Z,25nm,18.5s,baz=194,slow=39							
WR0	**Warramunga Arr**	**23.13**	**235**	P	**P**	**12 39 11.6**	**-0.3**
WB0	**Warramunga Arr**	**23.15**	**236**	P	**P**	**12 39 12.1**	**0.0**
WRAB	**Tennant Creek**	**23.27**	**236**	P	**P**	**12 39 13.1**	**-0.2**
WB2	**Warramunga Arr**	**23.27**	**236**	P	**P**	**12 39 13.0**	**-0.4**
WRA	**Warramunga Arr**	**23.28**	**236**	P	**P**	**12 39 12.0**	**-1.4**
7.0nm,0.8s,baz=61,slow=9.7,SNR=19							
WRA				PcP	**PcP**	**12 43 01.3**	**+0.7**
1.1nm,0.7s,baz=63,slow=2.3,SNR=3.6							
WRA	**Warramunga Arr**	**23.28**	**236**	P	**P**	**12 39 13.6**	**+0.2**
WRA					**PcP**	**12 43 01.7**	**+1.0**
MTN	**Manton Dam**	**23.75**	**255**	P	**P**	**12 39 19.5**	**+1.5**
ASAR	**Alice Springs**	**25.62**	**229**	P	**P**	**12 39 34.5**	**-0.6**
1.4nm,0.7s,baz=59,slow=9.6,SNR=24							
ASAR	**Alice Springs**	**25.62**	**229**	P	**P**	**12 39 35.8**	**+0.7**
KNRA	**Kununurra**	**26.62**	**250**	P	**P**	**12 39 46.5**	**+2.3**
KNRA				IAmb	IAmb	12 40 30.1	
comp=Z,98nm,1.6s							
STKA	**Stephens Creek**	**27.19**	**205**	P	**P**	**12 39 49.2**	**+0.1**
comp=Z,4.8nm,0.8s,baz=15,slow=14,SNR=5.4							
STKA				LR	LR	12 50 31.9	
comp=Z,136nm,18.7s,baz=28,slow=36							
STKA	**Stephens Creek**	**27.19**	**205**	P	**P**	**12 39 50.2**	**+1.1**
BATI	**Baumata**	**30.73**	**263**	LR	LR	12 53 37.8	
comp=Z,167nm,21.9s,baz=92,slow=38							
PSA00	**Pilbara Seismi**	**36.39**	**244**	P	**P**	**12 41 10.8**	**+0.8**
PSA00				IAmb	IAmb	12 41 39.8	
comp=Z,62nm,1.6s							
YULB	**Yu-li**	**44.73**	**314**	P	**P**	**12 42 20.3**	**+1.3**
YULB				IAmb	IAmb	12 43 30.5	
comp=Z,72nm,1.9s							
NACB	**Ninganchiao**	**45.02**	**315**	P	**P**	**12 42 22.6**	**+1.4**
NACB				IAmb	IAmb	12 44 03.5	
comp=Z,25nm,1.0s							
TPUB	**Ta-pu**	**45.16**	**313**	P	**P**	**12 42 23.2**	**+0.9**
SSLB	**Suanglung**	**45.23**	**314**	P	**P**	**12 42 24.3**	**+1.4**
SSLB				IAmb	IAmb	12 42 48.9	
comp=Z,51nm,1.7s							
YHNB	**Yeheng**	**45.49**	**316**	P	**P**	**12 42 24.9**	**-0.1**
JWT	**Wachi**	**46.20**	**338**	P	**P**	**12 42 29.6**	**-0.7**
JWT				IAmb	IAmb	12 43 21.9	
comp=Z,30nm,1.5s							
JNU	**Nakatsue**	**46.23**	**332**	P	**P**	**12 42 28.4**	**-2.3**
comp=Z,11nm,0.7s,baz=122,slow=4.9,SNR=9.0							
JNU	**Nakatsue**	**46.23**	**332**	P	**P**	**12 42 30.9**	**+0.3**
MJAR	**Matsushiro Arr**	**46.38**	**342**	P	**P**	**12 42 28.4**	**-3.4**
comp=Z,0.6nm,0.3s,baz=147,slow=11,SNR=6.5							
MJAR	**Matsushiro Arr**	**46.38**	**342**	P	**P**	**12 42 30.8**	**-1.0**
MAJO	**Matsushiro**	**46.39**	**342**	P	**P**	**12 42 31.2**	**-0.6**
MAJO				IAmb	IAmb	12 43 21.8	
comp=Z,47nm,2.0s							
MAT	**Matsushiro**	**46.39**	**342**	P	**P**	**12 42 30.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**46.39**	**342**	P	**P**	**12 42 30.8**	**-1.0**
MJB9				IAmb	IAmb	12 43 21.8	
comp=Z,45nm,1.9s							
CISI	**Cisompet, Garu**	**46.41**	**267**	P	**P**	**12 42 32.2**	**-0.2**
CISI				IAmb	IAmb	12 43 57.4	
comp=Z,31nm,1.1s							
JHS	**Saijyo**	**46.85**	**336**	P	**P**	**12 42 36.0**	**+0.5**
JHS				IAmb	IAmb	12 42 49.8	
comp=Z,45nm,1.6s							
JTM	**Tenmabayashi**	**49.59**	**346**	P	**P**	**12 42 56.3**	**-0.1**
KSRS	**Korea Array**	**51.17**	**333**	P	**P**	**12 43 06.6**	**-1.8**
comp=Z,5.2nm,0.8s,baz=147,slow=7.7,SNR=32							
KSAR	**Wonju Array Be**	**51.17**	**333**	P	**P**	**12 43 07.7**	**-0.8**
KS19	**Wonju Array Si**	**51.23**	**333**	P	**P**	**12 43 08.2**	**-0.8**
KS19				IAmb	IAmb	12 43 52.4	
comp=Z,65nm,1.9s							
INCN	**Inchon**	**51.79**	**332**	P	**P**	**12 43 13.6**	**+0.4**
INCN				IAmb	IAmb	12 43 14.8	
comp=Z,21nm,0.8s							
NJ2	**Nanjing**	**52.03**	**321**	*e*P	**P**	**12 43 16.4**	**+1.3**
NJ2				pmax	pmax		
comp=Z,13nm,0.5s							
ASAJ	**Asahikawa**	**52.46**	**349**	P	**P**	**12 43 16.1**	**-1.8**
comp=Z,7.0nm,0.7s,baz=162,slow=9.6,SNR=4.0							
USRK	**Ussuriysk Ar.**	**55.33**	**340**	P	**P**	**12 43 36.6**	**-2.3**
comp=Z,4.5nm,0.7s,baz=170,slow=8.0,SNR=8.4							
USRK	**Ussuriysk Ar.**	**55.33**	**340**	P	**P**	**12 43 39.3**	**+0.3**
TIA	**Tai'an**	**55.91**	**324**	P	**P**	**12 43 44.0**	**+0.7**
TIA				pmax	pmax		
comp=Z,11nm,1.2s							
ENH	**Enshi**	**57.28**	**313**	P	**P**	**12 43 53.4**	**+0.1**
ENH				IAmb	IAmb	12 43 56.0	
comp=Z,14nm,1.1s							
XAN	**Xi'an**	**59.78**	**317**	P	**P**	**12 44 11.3**	**+0.6**
XAN				pP	pwP	12 44 21.8	-1.7
XAN				sP	sP	12 44 27.6	+7.8
XAN				pmax	pmax		
comp=Z,10.0nm,0.6s							
XAN	**Xi'an**	**59.78**	**317**	P	**P**	**12 44 11.7**	**+1.1**
KLR	**Kul'dur**	**59.88**	**343**	P	**P**	**12 44 10.1**	**-0.9**
comp=Z,6.2nm,1.0s,baz=155,slow=4.6,SNR=9.2							
KMI	**Kunming**	**59.98**	**305**	↑P	**P**	**12 44 15.1**	**+2.7**
KMI				pP	pwP	12 44 25.3	-0.1
KMI				pmax	pmax		
comp=Z,9.0nm,0.5s							
PEA0B	**Petropavlovsk-**	**60.37**	**2**	P	**P**	**12 44 14.2**	**0.0**
PEA0B				IAmb	IAmb	12 44 39.7	
comp=Z,27nm,1.5s							
PETK	**Petropavlovsk-**	**60.37**	**2**	P	**P**	**12 44 12.6**	**-1.6**
comp=Z,6.0nm,0.7s,baz=178,slow=10,SNR=19							
PETK	**Petropavlovsk-**	**60.37**	**2**	P	**P**	**12 44 13.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**60.66**	**296**	P	**P**	**12 44 18.1**	**+1.1**
comp=Z,2.1nm,0.7s,baz=123,slow=5.1,SNR=12							
CMAR	**Chiang Mai Arr**	**60.66**	**296**	P	**P**	**12 44 18.4**	**+1.5**
CHTO	**Chiang Mai**	**60.78**	**296**	P	**P**	**12 44 19.2**	**+1.5**
CD2	**Chengdu**	**61.84**	**311**	P	**P**	**12 44 26.0**	**+1.3**
CD2				pmax	pmax		
comp=Z,20nm,0.6s							
HHC	**Hu-ho-hao-te**	**62.24**	**324**	*e*P	**P**	**12 44 29.3**	**+2.0**
HHC				pmax	pmax		
comp=Z,26nm,0.9s							
HHC				pmax	pmax		
comp=Z,200nm,5.4s							
KIWB	**Kanaga Island**	**63.82**	**19**	P	**P**	**12 44 37.2**	**-0.2**
ADK	**Adak**	**63.99**	**19**	P	**P**	**12 44 38.0**	**-0.5**
HIA	**Hailar**	**64.17**	**335**	P	**P**	**12 44 39.6**	**-0.3**
HIA				IAmb	IAmb	12 44 41.3	
comp=Z,11nm,0.7s							
LZH	**Lanzhou**	**64.39**	**316**	*e*P	**P**	**12 44 45.3**	**+3.6**
LZH				pP	sP	12 44 52.4	+1.5
LZH				pmax	pmax		
comp=Z,26nm,1.0s							
ATKA	**Atka Island**	**65.10**	**21**	P	**P**	**12 44 45.6**	**-0.1**
MA2	**Magadan**	**66.86**	**358**	P	**P**	**12 44 56.1**	**-0.8**
comp=Z,8.5nm,0.7s,baz=164,slow=7.5,SNR=4.3							
MA2	**Magadan**	**66.86**	**358**	P	**P**	**12 44 56.7**	**-0.3**
NIKH	**Nikolski High**	**67.68**	**23**	P	**P**	**12 45 01.6**	**-0.7**
GTA	**Gaotai**	**68.82**	**317**	*e*P	**P**	**12 45 11.5**	**+1.6**
GTA				pP	pP	12 45 16.0	-0.6
GTA				sP	sP	12 45 18.9	-0.3
GTA				pmax	pmax		
comp=Z,6.0nm,1.1s							
ULN	**Ulaanbaatar**	**69.19**	**328**	P	**P**	**12 45 13.6**	**+1.6**
SONM	**Songino Array**	**69.52**	**328**	P	**P**	**12 45 13.3**	**-0.7**
comp=Z,4.1nm,0.5s,baz=144,slow=5.5,SNR=29							
SONM	**Songino Array**	**69.52**	**328**	P	**P**	**12 45 15.7**	**+1.6**
AKUT	**Akutan**	**69.77**	**24**	P	**P**	**12 45 14.6**	**-0.6**
VNDA	**Vanda**	**70.15**	**178**	P	**P**	**12 45 16.8**	**-0.5**
comp=Z,0.6nm,0.9s,baz=324,slow=4.5,SNR=5.0							
VNDA	**Vanda**	**70.15**	**178**	P	**P**	**12 45 17.4**	**+0.1**
FALS	**False Pass**	**71.24**	**24**	P	**P**	**12 45 23.2**	**-1.0**
baz=224							
FALS	**False Pass**	**71.24**	**24**	P	**P**	**12 45 23.1**	**-1.0**
FALS				IAmb	IAmb	12 45 31.8	
comp=Z,22nm,1.0s							
YAK	**Yakutsk**	**71.91**	**348**	P	**P**	**12 45 27.7**	**-0.4**
comp=Z,7.6nm,0.5s,baz=109,slow=1.8,SNR=6.3							
YAK	**Yakutsk**	**71.91**	**348**	P	**P**	**12 45 28.7**	**+0.6**
SDPT	**Sand Point**	**72.79**	**25**	P	**P**	**12 45 33.0**	**-0.5**
baz=227							
SDPT	**Sand Point**	**72.79**	**25**	P	**P**	**12 45 33.4**	**-0.1**
SDPT				IAmb	IAmb	12 47 47.9	
comp=Z,28nm,0.9s							
KDAK	**Kodiak Island**	**77.71**	**26**	P	**P**	**12 46 00.3**	**-1.4**
comp=Z,3.9nm,0.6s,baz=287,slow=4.2,SNR=8.6							
N18K	**Kilae Creek**	**78.15**	**22**	P	**P**	**12 46 04.5**	**+0.2**
baz=230,SNR=17							
SVW2	**Sparrevohn**	**78.53**	**22**	P	**P**	**12 46 07.1**	**+0.8**
SVW2				IAmb	IAmb	12 46 09.2	
comp=Z,17nm,1.0s							
P19K	**Oil Pt**	**78.56**	**24**	P	**P**	**12 46 05.6**	**-0.8**
baz=233,SNR=6.0							
N19K	**Bonanza Creek**	**78.77**	**23**	P	**P**	**12 46 07.3**	**-0.4**
baz=232,SNR=7.2							
WMQ	**Urumqi**	**78.91**	**317**	*e*P	**P**	**12 46 10.3**	**+1.4**
WMQ				pmax	pmax		
comp=Z,20nm,0.7s							
WMQ				pmax	pmax		
comp=Z,140nm,3.9s							
O20K	**Slope Mountain**	**79.06**	**24**	P	**P**	**12 46 08.3**	**-1.0**
baz=234,SNR=7.3							
HOM	**Homer**	**79.21**	**25**	P	**P**	**12 46 09.7**	**-0.3**
baz=235,SNR=8.8							
HOM	**Homer**	**79.21**	**25**	P	**P**	**12 46 10.2**	**+0.2**
RSO	**Redoubt South**	**79.23**	**24**	P	**P**	**12 46 09.3**	**-1.1**
CNPM	**China Poot**	**79.30**	**25**	P	**P**	**12 46 10.5**	**-0.1**
M19K	**Big River Lodg**	**79.49**	**22**	P	**P**	**12 46 12.2**	**+0.7**
baz=232							
L19K	**White Mountain**	**79.49**	**22**	P	**P**	**12 46 11.9**	**+0.4**
baz=231,SNR=39							
BRLK	**Bradley Lake**	**79.58**	**25**	P	**P**	**12 46 11.8**	**-0.3**
BRLK				IAmb	IAmb	12 46 13.0	
comp=Z,18nm,0.8s							
BRSE	**Bradley Lake S**	**79.63**	**25**	P	**P**	**12 46 12.1**	**-0.2**
baz=235							
M20K	**Styx River**	**79.94**	**22**	P	**P**	**12 46 14.0**	**-0.1**
baz=233							
CAPN	**Captain Cook N**	**80.05**	**24**	P	**P**	**12 46 14.8**	**+0.3**
baz=235							
SEW	**Seward**	**80.37**	**25**	P	**P**	**12 46 16.0**	**-0.3**
baz=236							
SEW	**Seward**	**80.37**	**25**	P	**P**	**12 46 15.8**	**-0.5**
SEW				IAmb	IAmb	12 46 23.8	
comp=Z,21nm,0.9s							
O22K	**Cooper Landing**	**80.47**	**24**	P	**P**	**12 46 16.4**	**-0.4**
baz=236							
O22K	**Cooper Landing**	**80.47**	**24**	P	**P**	**12 46 16.3**	**-0.5**
SKT	**Skwentna**	**80.61**	**23**	P	**P**	**12 46 15.7**	**-1.9**
baz=234,SNR=6.6							
SKT	**Skwentna**	**80.61**	**23**	P	**P**	**12 46 16.4**	**-1.2**
SUA	**Susitna One**	**80.62**	**23**	P	**P**	**12 46 16.5**	**-1.2**
baz=235,SNR=6.9							
SUA	**Susitna One**	**80.62**	**23**	P	**P**	**12 46 16.9**	**-0.8**
RC01	**Rabbit Creek A**	**80.81**	**24**	P	**P**	**12 46 18.2**	**-0.4**
baz=236							
PPLA	**Purkeypile**	**80.91**	**22**	P	**P**	**12 46 18.6**	**-0.7**
baz=234							
PPLA	**Purkeypile**	**80.91**	**22**	P	**P**	**12 46 19.0**	**-0.4**
PPLA				IAmb	IAmb	12 46 20.2	
comp=Z,51nm,1.9s							
J20K	**Nowinta River**	**80.99**	**20**

SCM				IAmb	IAmb	12 46 26.9	
	comp=Z,27nm,0.9s						
WAT1	**Susitna Watana**	**82.24**	**23**	P	**P**	**12 46 25.4**	**-0.8**
	baz=237						
IMAR	**Indian Mountai**	**82.25**	**19**	P	**P**	**12 46 26.0**	**-0.2**
I21K	**Tanana**	**82.34**	**20**	P	**P**	**12 46 26.7**	**+0.1**
	baz=234,SNR=19						
H21K	**Melozitna Rive**	**82.36**	**19**	P	**P**	**12 46 26.8**	**0.0**
	baz=233,SNR=12						
WAT6	**Susitna Watana**	**82.42**	**23**	P	**P**	**12 46 26.5**	**-0.8**
	baz=238,SNR=10						
RND	**Reindeer**	**82.44**	**22**	P	**P**	**12 46 26.6**	**-0.7**
RND				IAmb	IAmb	12 46 27.2	
	comp=Z,19nm,0.8s						
QSPA	**South Pole Qui**	**82.54**	**180**	P	**P**	**12 46 27.7**	**-0.2**
QSPA				IAmb	IAmb	12 46 29.1	
	comp=Z,24nm,1.9s						
KLU	**Klutina**	**82.58**	**25**	P	**P**	**12 46 28.1**	**-0.1**
	baz=240,SNR=14						
KLU	**Klutina**	**82.58**	**25**	P	**P**	**12 46 28.0**	**-0.1**
MCK	**McKinley**	**82.59**	**22**	P	**P**	**12 46 27.0**	**-1.1**
	baz=236,SNR=24						
MCK	**McKinley**	**82.59**	**22**	P	**P**	**12 46 27.1**	**-0.9**
MLY	**Manley**	**82.68**	**20**	P	**P**	**12 46 28.0**	**-0.5**
	baz=235,SNR=25						
MLY	**Manley**	**82.68**	**20**	P	**P**	**12 46 28.1**	**-0.5**
MLY				IAmb	IAmb	12 46 28.9	
	comp=Z,22nm,1.3s						
M24K	**Tolsona, Glenn**	**82.79**	**24**	P	**P**	**12 46 28.4**	**-0.8**
	baz=239,SNR=7.4						
M24K	**Tolsona, Glenn**	**82.79**	**24**	P	**P**	**12 46 28.9**	**-0.2**
BMRM	**Bremner River**	**82.87**	**25**	P	**P**	**12 46 29.3**	**-0.2**
	baz=241						
BMRM	**Bremner River**	**82.87**	**25**	P	**P**	**12 46 29.1**	**-0.5**
NEA2	**Nenana**	**83.02**	**21**	P	**P**	**12 46 28.8**	**-1.4**
	baz=236,SNR=14						
NEA2	**Nenana**	**83.02**	**21**	P	**P**	**12 46 29.0**	**-1.2**
NEA2				IAmb	IAmb	12 46 29.9	
	comp=Z,16nm,1.0s						
N25K	**Chitina, Valde**	**83.19**	**25**	P	**P**	**12 46 31.2**	**-0.1**
	baz=241,SNR=7.0						
N25K	**Chitina, Valde**	**83.19**	**25**	P	**P**	**12 46 31.8**	**+0.5**
N25K				IAmb	IAmb	12 46 32.5	
	comp=Z,21nm,1.2s						
I23K	**Minto, Yukon-K**	**83.23**	**21**	P	**P**	**12 46 30.4**	**-0.8**
	baz=236,SNR=8.3						
I23K	**Minto, Yukon-K**	**83.23**	**21**	P	**P**	**12 46 30.7**	**-0.5**
WRH	**Wood River Hil**	**83.31**	**22**	P	**P**	**12 46 30.8**	**-0.9**
WRH				IAmb	IAmb	12 46 31.5	
	comp=Z,19nm,1.1s						
HARP	**HAARP**	**83.35**	**24**	P	**P**	**12 46 31.8**	**-0.2**
	baz=240						
CRQM	**Cirque**	**83.40**	**26**	P	**P**	**12 46 32.5**	**0.0**
CRQE	**Cirque**	**83.41**	**26**	P	**P**	**12 46 32.3**	**-0.2**
	baz=242,SNR=5.8						
GLB	**Gilahina Butte**	**83.44**	**25**	P	**P**	**12 46 32.5**	**+0.1**
GLB				IAmb	IAmb	12 46 33.4	
	comp=Z,23nm,0.9s						
VRDI	**Verde Repeater**	**83.48**	**25**	P	**P**	**12 46 32.8**	**-0.1**
VRDI				IAmb	IAmb	12 46 33.7	
	comp=Z,22nm,1.0s						
MK31	**Makanchi Array**	**83.50**	**319**	P	**P**	**12 46 33.7**	**+0.5**
MKAR	**Makanchi Array**	**83.50**	**319**	P	**P**	**12 46 34.0**	**+0.8**
	comp=Z,7.5nm,0.7s,baz=106,slow=5.5,SNR=64						
CCB	**Clear Creek Bu**	**83.51**	**21**	P	**P**	**12 46 31.2**	**-1.5**
CCB				IAmb	IAmb	12 46 32.3	
	comp=Z,22nm,1.2s						
PAX	**Paxson**	**83.51**	**23**	P	**P**	**12 46 32.4**	**-0.5**
	baz=240						
MDM	**Murphy Dome**	**83.52**	**21**	P	**P**	**12 46 31.8**	**-1.0**
MDM				IAmb	IAmb	12 46 33.2	
	comp=Z,12nm,1.0s						
H23K	**Yukon River**	**83.55**	**20**	P	**P**	**12 46 32.3**	**-0.7**
	baz=236,SNR=18						
TCOL	**CIGO, UAF Yank**	**83.61**	**21**	P	**P**	**12 46 31.9**	**-1.3**
	baz=237,SNR=7.9						
TCOL	**CIGO, UAF Yank**	**83.61**	**21**	P	**P**	**12 46 32.3**	**-0.9**
COLA	**College**	**83.61**	**21**	P	**P**	**12 46 32.3**	**-0.9**
	baz=237						
COLA	**College**	**83.61**	**21**	P	**P**	**12 46 32.3**	**-0.9**
MESA	**MESA**	**83.65**	**27**	P	**P**	**12 46 34.1**	**+0.3**
	baz=243						
HDA	**Harding Lake**	**83.69**	**22**	P	**P**	**12 46 32.4**	**-1.3**
	baz=238,SNR=9.0						
HDA	**Harding Lake**	**83.69**	**22**	P	**P**	**12 46 32.5**	**-1.2**
MAKZ	**Makanchi**	**83.71**	**319**	P	**P**	**12 46 34.9**	**+0.7**
MAKZ				IAmb	IAmb	12 46 36.0	
	comp=Z,12nm,0.8s						
MCARA	**McCarthy VSAT**	**83.74**	**25**	P	**P**	**12 46 33.0**	**-1.0**
	baz=242						
POKR	**Poker Plat Res**	**83.89**	**21**	P	**P**	**12 46 32.4**	**-2.4**
	baz=238						
IL31		**83.91**	**22**	P	**P**	**12 46 33.3**	**-1.4**
IL31				IAmb	IAmb	12 46 34.2	
	comp=Z,10nm,0.6s						
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**12 46 33.2**	**-1.6**
	comp=Z,11nm,0.8s,baz=247,slow=5.0,SNR=77						
H24K	**Noodor Dome**	**84.13**	**20**	P	**P**	**12 46 35.9**	**-0.1**
	baz=237,SNR=7.5						
RIDG	**Independent Ri**	**84.14**	**23**	P	**P**	**12 46 35.7**	**-0.4**
	baz=240,SNR=12						
RIDG	**Independent Ri**	**84.14**	**23**	P	**P**	**12 46 35.6**	**-0.4**
RIDG				IAmb	IAmb	12 46 37.4	
	comp=Z,24nm,1.2s						
BARN	**Barnard Glacie**	**84.18**	**26**	P	**P**	**12 46 36.5**	**0.0**
CTG	**Chitna Glacier**	**84.28**	**26**	P	**P**	**12 46 36.7**	**-0.2**
	baz=244,SNR=8.2						
CTGM	**Chitina Glacie**	**84.28**	**26**	P	**P**	**12 46 37.0**	**+0.1**
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	**P**	**12 46 37.0**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=100,slow=4.5,SNR=10						
ZALV	**Zalesovo Beam**	**84.35**	**326**	P	**P**	**12 46 36.6**	**-0.6**
LOGN	**Logan Glacier**	**84.36**	**26**	P	**P**	**12 46 37.6**	**+0.2**
LOGN				IAmb	IAmb	12 46 38.8	
	comp=Z,27nm,1.3s						
L26K	**Log Cabin Wild**	**84.38**	**24**	P	**P**	**12 46 37.3**	**0.0**
	baz=242,SNR=14						
DOT	**Dot Lake**	**84.40**	**23**	P	**P**	**12 46 37.1**	**-0.3**
SCRK	**Sand Creek**	**84.59**	**23**	P	**P**	**12 46 38.1**	**-0.3**
	baz=241,SNR=14						
SCRK	**Sand Creek**	**84.59**	**23**	P	**P**	**12 46 38.1**	**-0.3**
SCRK				IAmb	IAmb	12 46 39.1	
	comp=Z,13nm,1.0s						
PRP	**Porcupine Dome**	**84.79**	**21**	P	**P**	**12 46 37.3**	**-2.1**
L27K	**Beaver Creek,**	**85.01**	**24**	P	**P**	**12 46 40.9**	**+0.4**
	baz=243,SNR=13						
L27K	**Beaver Creek,**	**85.01**	**24**	P	**P**	**12 46 40.6**	**+0.2**
L27K				IAmb	IAmb	12 46 41.9	
	comp=Z,10nm,0.9s						
BCAR	**Beaver Creek A**	**85.03**	**24**	P	**P**	**12 46 40.5**	**0.0**
TOLK	**Toolik Lake Re**	**85.14**	**18**	P	**P**	**12 46 41.2**	**+0.2**
	baz=236						
TOLK	**Toolik Lake Re**	**85.14**	**18**	P	**P**	**12 46 41.1**	**+0.2**
TOLK				IAmb	IAmb	12 46 42.2	
	comp=Z,13nm,0.8s						
TARG	**Taragay, Kyrgy**	**85.20**	**313**	P	**P**	**12 46 42.0**	**-0.3**
TARG				IAmb	IAmb	12 47 41.5	
	comp=Z,5.9nm,0.5s						
K27K	**Chicken**	**85.36**	**23**	P	**P**	**12 46 42.6**	**+0.5**
	baz=243,SNR=13						
K27K	**Chicken**	**85.36**	**23**	P	**P**	**12 46 43.0**	**+0.9**
K27K				IAmb	IAmb	12 46 44.0	
	comp=Z,11nm,0.8s						
FYU	**Fort Yukon**	**85.42**	**20**	P	**P**	**12 46 42.7**	**+0.4**
FYU				IAmb	IAmb	12 46 43.1	
	comp=Z,7.6nm,0.7s						
KDJ	**Kajisay**	**85.75**	**313**	P	**P**	**12 46 45.9**	**+1.1**
KDJ				IAmb	IAmb	12 46 47.1	
	comp=Z,8.0nm,1.0s						
HYT	**Haines Junctio**	**85.92**	**27**	P	**P**	**12 46 45.9**	**+0.8**
KSH	**Kashi**	**86.03**	**311**	P	**P**	**12 46 48.0**	**+1.8**
KSH				pmax	pmax		
	comp=Z,6.0nm,2.5s						
KSH				pmax	pmax		
	comp=Z,78nm,4.0s						
EGAK	**Eagle**	**86.05**	**23**	P	**P**	**12 46 45.7**	**+0.2**
	baz=244,SNR=25						
EGAK	**Eagle**	**86.05**	**23**	P	**P**	**12 46 46.0**	**+0.5**
EGAK				IAmb	IAmb	12 46 46.8	
	comp=Z,19nm,1.1s						
BMAR	**Burnt Mountain**	**86.08**	**20**	P	**P**	**12 46 46.6**	**+0.9**
DAWY	**Dawson**	**86.44**	**24**	P	**P**	**12 46 47.9**	**+0.4**
DAWY				IAmb	IAmb	12 46 49.2	
	comp=Z,10.0nm,1.0s						
WHY	**Whitehorse**	**87.06**	**28**	P	**P**	**12 46 50.5**	**-0.2**
	baz=250						
EPYK	**Eagle Plains**	**88.40**	**22**	P	**P**	**12 46 57.2**	**+0.2**
	baz=248,SNR=22						
EPYK	**Eagle Plains**	**88.40**	**22**	P	**P**	**12 46 57.7**	**+0.8**
I02D	**Swisshome**	**89.06**	**45**	P	**P**	**12 47 01.3**	**+0.8**
	baz=259						
O02D	**Mt. Diablo Mer**	**89.10**	**49**	P	**P**	**12 47 01.4**	**+0.5**
	baz=260						
M02C	**Callahan**	**89.27**	**48**	P	**P**	**12 47 02.7**	**+1.0**
	baz=260						
N02D	**Trinity Center**	**89.31**	**49**	P	**P**	**12 47 02.5**	**+0.7**
	baz=260						
O03E	**Paynes Creek**	**89.86**	**49**	P	**P**	**12 47 04.3**	**-0.2**
	baz=260						
H04D	**Lebanon**	**89.92**	**45**	P	**P**	**12 47 04.3**	**-0.2**
	baz=260						
AFDM	**Forest Hills D**	**90.27**	**51**	P	**P**	**12 47 06.3**	**-0.1**
J05D	**Fort Rock, OR**	**90.78**	**47**	P	**P**	**12 47 08.8**	**+0.1**
	baz=261						
BEKR	**Beckworth**	**90.89**	**50**	P	**P**	**12 47 09.3**	**-0.1**
PNTR	**Pine Nut**	**91.35**	**51**	P	**P**	**12 47 11.8**	**+0.2**
PNTR				IAmb	IAmb	12 47 12.8	
	comp=Z,5.4nm,0.8s						
CIS	**Catalina Islan**	**91.50**	**57**	P	**P**	**12 47 12.3**	**+0.1**
	baz=262						
PAHR	**Pah Rah Range**	**91.61**	**50**	P	**P**	**12 47 12.6**	**-0.1**
ISA	**Isabella, Lake**	**91.76**	**54**	P	**P**	**12 47 13.6**	**+0.3**
	baz=262						
EDW2	**Edwards Air Fo**	**92.04**	**55**	P	**P**	**12 47 15.1**	**+0.4**
	baz=263						
LHV	**Little Huntoon**	**92.08**	**52**	P	**P**	**12 47 14.4**	**-0.3**
LHV				IAmb	IAmb	12 47 16.9	
	comp=Z,10nm,1.1s						
RYN	**Ryan**	**92.12**	**51**	P	**P**	**12 47 15.5**	**+0.4**
RYN				IAmb	IAmb	12 47 16.2	
	comp=Z,5.1nm,0.9s						
CWC	**Cottonwood Cre**	**92.18**	**54**	P	**P**	**12 47 16.0**	**+0.6**
	baz=263						
BFSC	**Mount Baldy Ra**	**92.23**	**56**	P	**P**	**12 47 16.1**	**+0.4**
	baz=263						
NVAR	**Mina Array Bea**	**92.26**	**52**	P	**P**	**12 47 16.4**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=253,slow=6.6,SNR=33						
NVAR	**Mina Array Bea**	**92.26**	**52**	P	**P**	**12 47 16.2**	**+0.3**
LRMC	**Laurel Mtn Rad**	**92.37**	**55**	P	**P**	**12 47 16.7**	**+0.4**
	baz=263						
NV11	**Mina Array Sit**	**92.38**	**52**	P	**P**	**12 47 16.6**	**+0.3**
NV11				IAmb	IAmb	12 47 18.0	
	comp=Z,11nm,1.2s						
KVN	**Kaiserville**	**92.50**	**51**	P	**P**	**12 47 16.9**	**0.0**
KVN				IAmb	IAmb	12 47 17.9	
	comp=Z,5.6nm,0.9s						
TPH	**Tonopah**	**93.06**	**52**	P	**P**	**12 47 18.8**	**-0.7**
MONP2	**Monument Peak**	**93.09**	**57**	P	**P**	**12 47 20.4**	**+0.7**
	baz=263						
PFO	**Pinyon Flats O**	**93.14**	**57**	P	**P**	**12 47 19.9**	**0.0**
	baz=263						
FURC	**Furnace Creek,**	**93.15**	**54**	P	**P**	**12 47 19.7**	**+0.1**
	baz=263						
HEC	**Hector,Ludlow**	**93.39**	**55**	P	**P**	**12 47 21.1**	**+0.2**
	baz=264						
SHOC	**Shoshone, Teco**	**93.56**	**54**	P	**P**	**12 47 22.5**	**+0.9**
	baz=264						
BELC	**Belle Mtn. Jos**	**93.57**	**56**	P	**P**	**12 47 22.4**	**+0.5**
	baz=264						
TPNV	**Topopah Spring**	**93.70**	**53**	P	**P**	**12 47 22.5**	**+0.1**
	baz=264						
TPNV	**Topopah Spring**	**93.70**	**53**	P	**P**	**12 47 22.5**	**+0.1**
TPNV				IAmb	IAmb	12 47 23.6	
	comp=Z,5.1nm,0.8s						
GMRC	**Granite Mounta**	**93.94**	**56**	P	**P**	**12 47 24.1**	**+0.5**
	baz=264						
BC3	**Big Chuckawall**	**93.98**	**57**	P	**P**	**12 47 24.4**	**+0.7**
	baz=264						
IRM	**Iron Mountain**	**94.29**	**56**	P	**P**	**12 47 25.9**	**+0.9**
	baz=264						
NEW	**Newport**	**94.31**	**42**	P	**P**	**12 47 26.0**	**+1.2**
	baz=264						
R11A	**Troy Canyon, C**	**94.38**	**52**	P	**P**	**12 47 26.2**	**+0.7**
	baz=264						
R11A	**Troy Canyon, C**	**94.38**	**52**	P	**P**	**12 47 25.2**	**-0.3**
SHPR	**Sheep Range**	**94.52**	**54**	P	**P**	**12 47 26.5**	**+0.2**
PRN	**Pahroc Range**	**94.70**	**53**	P	**P**	**12 47 26.9**	**-0.1**
PRN				IAmb	IAmb	12 47 29.0	
	comp=Z,7.5nm,1.2s						
ELK	**Elko**	**94.88**	**50**	P	**P**	**12 47 27.6**	**-0.3**
SPR3	**Spring Creek 3**	**95.42**	**51**	P	**P**	**12 47 29.4**	**-1.0**
CCUT	**Cedar City**	**96.05**	**53**	P	**P**	**12 47 33.3**	**0.0**
LCMT	**Little Creek M**	**96.10**	**54**	P	**P**	**12 47 33.4**	**0.0**
KNB	**Kanab**	**96.44**	**54**	P	**P**	**12 47 35.7**	**+0.8**
KNB				IAmb	IAmb	12 47 37.1	
	comp=Z,4.9nm,1.1s						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**12 47 35.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=266,slow=7.3,SNR=11						
MTPU	**Mount Pierson**	**97.02**	**53**	P	Pdif	12 47 38.9	+1.0
BW06	**Boulder Array**	**99.25**	**48**	P	**Pdif**	**12 47 47.0**	**-0.6**
	baz=269						
PDAR	**Pinedale Array**	**99.25**	**48**	P	**Pdif**	**12 47 46.2**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=242,slow=3.2,SNR=9.6						
NOA	**NORSAR Array B**	**120.00**	**340**	PKP	**PKPdf**	**12 52 54.9**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=66,slow=5.3,SNR=2.3						
VYHS	**Vyhne**	**124.68**	**326**	*e*PKP	**PKPdf**	**12 53 04.1**	**-0.8**
FNA	**Florina**	**126.86**	**316**		**PKPdf**	**12 53 08.9**	**-0.5**
GERES	**GERESS Array B**	**127.25**	**328**	PKP	**PKiKP**	**12 53 10.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=98,slow=2.7,SNR=4.1						
GERES	**GERESS Array B**	**127.25**	**328**		**PKiKP**	**12 53 10.4**	**0.0**
PTGA	**Pitinga**	**144.54**	**102**		**PKPab**	**12 53 40.4**	**-0.9**
PESTR	**Estremoz**	**144.85**	**336**	*e*PKPab	PKPbc	12 53 42.2	+0.5
PMTG	**Montargil**	**144.93**	**336**	*e*PKPab	**PKPdf**	**12 53 42.8**	**+0.1**
PNCL	**Nicolau / Gran**	**145.87**	**336**	*e*PKPab	**PKPab**	**12 53 46.4**	**+1.0**
MESJ	**Messejana**	**145.98**	**335**	*e*PKPdf	**PKPdf**	**12 53 44.2**	**-0.4**
MESJ	**Messejana**	**145.98**	**335**	*e*PKPab	**PKPdf**	**12 53 44.2**	**-0.4**
PCVE	**Castro Verde**	**146.08**	**335**	*e*PKPab	**PKPab**	**12 53 47.2**	**+1.0**
PVAQ	**Vaqueiros**	**146.14**	**334**	*e*PKPab	**PKPab**	**12 53 46.8**	**+0.4**
BDFB	**Brasilia**	**147.91**	**136**	PKPbc	**PKPbc**	**12 53 50.6**	**-1.0**
	comp=Z,5.3nm,0.8s,baz=311,slow=0.9,SNR=5.2						
BDFB	**Brasilia**	**147.91**	**136**	PKPdf	**PKPdf**	**12 53 46.4**	**-2.2**
BDFB					**PKPbc**	**12 53 50.3**	**-1.2**
BDFB				PKPab	**PKiKP**	**12 53 52.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**152.80**	**284**	PKPbc	**PKPbc**	**12 53 03.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=59,slow=2.5,SNR=15						

MEX ***14*** *12:44:52.5±0.5, 33°.23N×117°.18W, h5km, MD3.2*
ANF 14 12:44:49.0±0.1, 33°.33N×116°.28W, h18km±1km, ML1.9/10,
Error ellipse: s-maj=1.5km s-min=1.2km az=64.0,
Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flats O**	**0.32**	**333**	P	Pg	12 44 56.2	+0.1
	baz=153,SNR=21						
PFO				S	Sg	12 45 00.8	+0.1
	baz=153						
MONP2	**Monument Peak**	**0.45**	**195**	P	Pb	12 44 58.6	0.0
	baz=15,SNR=6.5						
MONP2				S	Sb	12 45 04.8	-0.2
	baz=15						
SWSC	**Sam W. Stewart**	**0.56**	**133**	P	Pb	12 45 00.4	+0.1
	baz=313,SNR=10						
SWSC				S	Sb	12 45 08.1	+0.2
	baz=313						
IKP	**In-Ko-Pah, Jac**	**0.69**	**168**	P	Pg	12 45 02.8	+0.2
	baz=348,SNR=5.9						
IKP				S	Sg	12 45 12.0	+0.1
	baz=348						
BELC	**Belle Mtn. Jos**	**0.71**	**19**	P	Pg	12 45 03.4	+0.2
	baz=200,SNR=11						
BELC				S	Sg	12 45 12.8	+0.1
	baz=200						
BC3	**Big Chuckawall**	**0.77**	**64**	P	Pg	12 45 04.1	0.0
	baz=245,SNR=9.3						
BC3				S	Sg	12 45 14.3	0.0
	baz=245						
MURC	**Murrieta**	**0.81**	**290**	P	Pg	12 45 04.9	+0.1
	baz=110						
MURC				S	Sg	12 45 15.7	+0.1
	baz=110						
109C	**Camp Elliot, M**	**0.81**	**238**	P	Pb	12 45 04.7	0.0
	baz=57,SNR=6.8						
109C				S	Sb	12 45 15.3	-0.1
	baz=57						
TJIG	**Tijuana**	**0.95**	**200**	*i* P	Pb	12 45 07.0	0.0
TJIG				*i* S	Sb	12 45 19.3	+0.1
CBX	**Cerro Bola**	**1.06**	**198**	*i* P	Pn	12 45 09.3	+0.2
CBX				*i* S	Sb	12 45 22.9	+0.4
BBRC	**Big Bear Solar**	**1.07**	**331**	P	Pn	12 45 09.5	0.0
	baz=150						
BBRC				S	Sg	12 45 24.2	+0.1
	baz=150						
IRM	**Iron Mountain**	**1.26**	**49**	S	Sn	12 45 29.0	+0.6
	baz=229						
BFSC	**Mount Baldy Ra**	**1.46**	**309**	Pb	Pb	12 45 15.8	0.0
	baz=128						
BFSC				Sb	Sb	12 45 35.1	+0.9
	baz=128						
GMRC	**Granite Mounta**	**1.54**	**19**	Pb	Pb	12 45 17.6	+0.3
	baz=200						
GMRC				Sb	Sg	12 45 38.3	-0.7
	baz=200						
SPIG	**San Pedro Mart**	**2.38**	**163**	*i* P	Pg	12 45 33.8	-1.0
SPIG				*i* S	Sg	12 46 03.5	-2.1

IDC ***14*** *13:12:00.9±0.8, 50°.04N×78°.80E, h0km, mb1 2.9/3, mb1mx2.8/51, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=12.5km s-min=6.0km az=59.0*
NNC ***14*** *13:12:00.2±0.5, 50°.03N×78°.78E, h0km, mpv2.6, Error ellipse: s-maj=18.8km s-min=2.4km az=70.0, Suspected Mining explosion.*
ISC 14 13:11:55.3±0.8, 50°.16N±0°.04×79°.38E±0°.03, h0km, n20,
σ1§13/37, 14C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	**Kurchatov Arra**	**0.68**	**312**	⇑P	**Pn**	**13 12 11.5**	**-0.6**
KUR14				⇑S	**Sb**	**13 12 19.8**	**-0.2**
KUR07	**Kurchatov Arra**	**0.70**	**308**	⇑P	**Pn**	**13 12 11.4**	**-1.0**
KUR07				⇑S	**Sb**	**13 12 19.7**	**-0.7**
KUR15	**Kurchatov Arra**	**0.70**	**312**	⇑P	**Pn**	**13 12 11.8**	**-0.6**
KUR15				⇓S	**Sb**	**13 12 20.7**	**+0.2**
KUR06	**Kurchatov Arra**	**0.71**	**309**	⇓P	**Pn**	**13 12 11.6**	**-0.9**
KUR06				⇓S	**Sb**	**13 12 20.5**	**-0.2**
KURBB	**Kurchatov Arra**	**0.71**	**311**	Pg	**Pn**	**13 12 12.1**	**-0.6**
	2.4nm,0.3s,baz=165,slow=19,SNR=45						
KURBB				Lg	Lg	13 12 21.2	
	2.1nm,0.3s,baz=163,slow=41,SNR=9.7						
KURBB	**Kurchatov Arra**	**0.71**	**311**	⇑P	**Pn**	**13 12 12.0**	**-0.6**
	26nm,0.3s						
KURBB				⇑S	**Sb**	**13 12 20.7**	**-0.3**
	45nm,0.5s						
KUR05	**Kurchatov Arra**	**0.72**	**312**	⇑P	**Pn**	**13 12 12.3**	**-0.4**
KUR05				⇑S	**Sb**	**13 12 21.4**	**+0.1**
KUR16	**Kurchatov Arra**	**0.73**	**310**	⇑P	**Pn**	**13 12 12.1**	**-0.8**
KUR16				⇑S	**Sb**	**13 12 21.1**	**-0.4**
KUR17	**Kurchatov Arra**	**0.75**	**309**	⇓P	**Pn**	**13 12 12.5**	**-0.6**
KUR17				⇑S	**Sb**	**13 12 21.8**	**-0.2**
UKR	**Ust'-Kan**	**3.53**	**75**	P	**Pg**	**13 13 05.0**	**+2.2**
UKR				S	**Sg**	**13 13 48.8**	**+0.3**
MAKZ	**Makanchi**	**3.77**	**152**	P	**Pb**	**13 13 02.6**	**-0.1**
MAKZ				S	**Sn**	**13 13 40.2**	**+0.4**
MK31	**Makanchi Array**	**3.88**	**149**	⇓Pn	**Pb**	**13 13 04.1**	**-0.5**
	0.1nm,0.1s,baz=322,slow=10,SNR=49						
MK31				⇑Pg	**Pg**	**13 13 13.2**	**+3.5**
	0.1nm,0.1s,baz=321,slow=14,SNR=7.2						
MK31				⇑Lg	Lg	13 14 06.4	
	8.7nm,0.7s,baz=333,slow=27,SNR=16						
MKAR	**Makanchi Array**	**3.88**	**149**	Pn	**Pb**	**13 13 04.2**	**-0.4**
	0.3nm,0.3s,baz=321,slow=10,SNR=64						
MKAR				Pg	**Pg**	**13 13 10.0**	**+0.3**
	0.9nm,0.3s,baz=321,slow=14,SNR=20						
MKAR				Sn	**Sb**	**13 13 50.1**	**-2.1**
	0.4nm,0.3s,baz=321,slow=15,SNR=4.1						
MKAR				Lg	Lg	13 14 03.5	
	1.6nm,0.3s,baz=336,slow=27,SNR=11						
MKAR	**Makanchi Array**	**3.88**	**149**	P	**Pb**	**13 13 04.0**	**-0.7**
MKAR				S	**Sn**	**13 13 41.3**	**-1.3**
I46RU	**ZALESOVO INFRA**	**5.07**	**39**	*i*		13 40 30.0	
	baz=230,slow=321,SNR=3.1						
ZALV	**Zalesovo Beam**	**5.07**	**39**	Pn	**Pb**	**13 13 24.3**	**-0.4**
	0.7nm,0.3s,baz=232,slow=13,SNR=7.3						
ZALV				Lg	Lg	13 14 54.0	
	0.2nm,0.3s,baz=231,slow=26,SNR=4.1						
DGZ	**Jazzator, Alta**	**5.22**	**92**	P	**Pb**	**13 13 27.8**	**+0.3**
DGZ				S	**Sb**	**13 14 31.6**	**+0.8**
ARTR	**Artybash**	**5.25**	**69**	P	**Pb**	**13 13 27.0**	**-1.0**
ARTR				S	**Sb**	**13 14 29.7**	**-1.9**
ULGR	**Ulagan, Altay**	**5.51**	**82**	P	**Pb**	**13 13 31.5**	**-0.8**
ULGR				S	**Sb**	**13 14 37.8**	**-1.1**
BVAR	**Borovoye Array**	**6.29**	**301**	Pn	**Pn**	**13 13 30.9**	**+1.6**
	0.2nm,0.3s,baz=124,slow=17,SNR=1.8						
BVAR				Sn	**Sn**	**13 14 40.1**	**-1.8**
	0.4nm,0.3s,baz=111,slow=23,SNR=3.5						
BVAR				Lg	Lg	13 15 06.7	
	0.2nm,0.3s,baz=134,slow=37,SNR=2.3						

IDC ***14*** *13:14:11.3±0.5, 15°.77N×92°.30W, h148km±3km, mb4.1/21, mb1 4.2/24, mb1mx4.1/40, mbtmp4.5/24, Error ellipse: s-maj=17.4km s-min=7.8km az=56.0*
SNET ***14*** *13:14:11.4±1.1, 15°.64N×92°.55W, h137km±7km, ML4.6*
NEIC ***14*** *13:14:11.3±2.4, 15°.64N±0°.04×92°.60W±0°.06, h145km±4km, mb4.8/314

TACO eS Sn 13 15 48.9 +2.1
TACO Tacachico 3.57 115⇓ eP Pn 13 15 05.9 +1.4
TACO eS Sn 13 15 48.9 +2.1
CEDA San Andres 3.61 118 eP Pn 13 15 06.5 +1.4
CEDA eS Sn 13 15 48.5 +0.7
CEDA IAML 13 16 15.5
comp=Z,749nm,0.5s
CEDA San Andres 3.61 118 eP Pn 13 15 06.5 +1.4
CEDA eS Sn 13 15 48.5 +0.7
CEDA IAML 13 16 15.5
comp=Z,749nm,0.5s
JAYA Jayaque - finc 3.64 120 eP Pn 13 15 06.8 +1.2
JAYA eS Sn 13 15 50.7 +2.0
JAYA IAML 13 15 58.4
comp=Z,1µm,0.2s
JAYA Jayaque - finc 3.64 120 eP Pn 13 15 06.8 +1.2
JAYA eS Sn 13 15 50.7 +2.0
JAYA IAML 13 15 58.4
comp=Z,1µm,0.2s
BOQS Boqueron 3.74 118 eP Pn 13 15 08.6 +1.6
BOQS Boqueron 3.74 118 eP Pn 13 15 08.6 +1.6
SNET Serv Nac Est T 3.81 118 Pn 13 15 08.8 +1.1
LBRS Las Brisas 3.94 116 eP Pn 13 15 11.8 +2.4
LBRS Las Brisas 3.94 116 eP Pn 13 15 11.8 +2.4
LFRS El Faro 3.98 118 eP Pn 13 15 11.5 +1.6
LFRS El Faro 3.98 118 eP Pn 13 15 11.5 +1.6
PAVA Las Pavas 4.05 116 eP Pn 13 15 12.5 +1.7
PAVA Las Pavas 4.05 116 eP Pn 13 15 12.5 +1.7
VHO Vista Hermosa 4.18 292 i P Pn 13 15 14.1 +1.3
PEIG Puerto Escondi 4.33 277 eP Pn 13 15 13.8 -0.6
PEIG i S Sn 13 15 58.1 -6.5
YOIG Yosondua 4.86 286 i P Pn 13 15 22.5 +0.8
TOIG Toxpalan 4.92 302 eP Pn 13 15 22.8 +0.5
TPIG Tehuac#an 5.32 303 eP Pn 13 15 26.6 -1.2
TPIG Tehuac#an 5.32 303 Pn 13 15 26.6 -1.2
HLIG Huajuapan de L 5.42 296 i P Pn 13 15 30.9 +1.9
TGUH Tegucigalpa,Un 5.43 105⇓ eP Pn 13 15 30.6 +1.5
TGUH Tegucigalpa,Un 5.43 105⇓ eP Pn 13 15 30.6 +1.5
TGUH Tegucigalpa,Un 5.43 105 Pn Pn 13 15 30.2 +1.1
LVIG Laguna Verde 5.49 320 eP Pn 13 15 28.6 -1.2
LVIG i S Sn 13 16 24.1 -8.0
LVIG Laguna Verde 5.49 320 Pn 13 15 28.6 -1.2
LVIG Sn 13 16 24.1 -8.0
TLIG Tlapa 6.00 291 eP Pn 13 15 38.6 +1.9
TLIG i S Sn 13 16 38.9 -5.6
TLIG Tlapa 6.00 291 Pn Pn 13 15 38.5 +1.8
TLIG Tlapa 6.00 291 Sn 13 16 38.9 -5.6
CRIN San Cristobal 6.14 117 Pn 13 15 40.3 +1.7
CRIG Cruz Grande 6.32 282 i P Pn 13 15 41.6 +0.7
CRIG eS Sn 13 16 43.3 -8.6
CRIG Cruz Grande 6.32 282 Pn 13 15 41.6 +0.7
CRIG Sn 13 16 43.3 -8.6
CNGN Cerro Negro 6.54 117 Pn 13 15 44.7 +0.8
PPM Popocatepetl 6.68 303 eP Pn 13 15 49.3 +3.1
DAIG Los Arroyos 6.86 283 eP Pn 13 15 49.2 +1.1
DAIG i S Sn 13 16 57.6 -7.5
DAIG Los Arroyos 6.86 283 Pn 13 15 49.2 +1.1
DAIG Sn 13 16 57.6 -7.5
MEIG Mezcala 7.06 291 eP Pn 13 15 53.3 +2.4
MEIG eS Sn 13 17 00.9 -9.2
MEIG Mezcala 7.06 291 Pn 13 15 53.3 +2.4
MEIG Sn 13 17 00.9 -9.2
PLIG Platanillo 7.12 295 eP Pn 13 15 54.2 +2.5
PLIG Platanillo 7.12 295 Pn 13 15 54.2 +2.5
MAVM Malinalco, Edo 7.35 299 i P Pn 13 15 57.9 +3.0
MAVM eS Sn 13 17 10.0 -7.2
MAVM Malinalco, Edo 7.35 299 Pn 13 15 57.9 +3.0
MAVM Sn 13 17 10.0 -7.2
CAIG El Cayaco 7.44 283 i P Pn 13 15 57.1 +1.2
CAIG eS Sn 13 17 06.8 -12
CAIG El Cayaco 7.44 283 Pn 13 15 57.1 +1.2
ARIG Puente Sto Nin 7.83 292 eP Pn 13 16 03.9 +2.7
ARIG eS Sn 13 17 23.7 -4.9
ARIG Puente Sto Nin 7.83 292 Pn 13 16 03.9 +2.7
ARIG Sn 13 17 23.7 -4.9
ACON Acoyapa 8.10 115 Pn 13 16 05.9 +1.1
HZTE Horizontes, Gu 8.39 124 Pn 13 16 09.9 +1.2
ZIIG Zihuatanejo 8.68 285 eP Pn 13 16 14.4 +2.0
ZIIG eS Sn 13 17 50.1 +1.3
ZIIG Zihuatanejo 8.68 285 Pn 13 16 14.4 +2.0
ZIIG Sn 13 17 50.1 +1.3
SAJU San Juanillo, 8.70 128⇑ eP Pn 13 16 14.4 +1.7
SAJU eS Sn 13 17 44.2 -5.2
ESPN Las Esperanzas 8.79 111 Pn 13 16 15.3 +1.4
GRZA Playa Garza 8.85 128⇑ eP Pn 13 16 16.3 +1.6
DUNO Dulce Nombre, 8.86 127 Pn 13 16 16.2 +1.4
MOIG Morelia 9.10 298 Pn 13 16 21.7 +3.4
JTS Las Juntas de 9.15 124 P Pn 13 16 19.4 +0.6
comp=Z,15nm,0.3s,baz=346,slow=7.9,SNR=23
JTS S Sn 13 17 52.7 -7.8
comp=Z,1.7nm,0.3s,baz=346,slow=22,SNR=1.6
JTS Las Juntas de 9.15 124⇑ eP Pn 13 16 19.8 +1.0
JTS Las Juntas de 9.15 124 eP Pn 13 16 20.1 +1.2
ARE1 Arenal 1 9.25 122 eP Pn 13 16 21.0 +0.9
COVE Coope Vega, Sa 9.37 120 eP Pn 13 16 22.4 +0.7
COVE Coope Vega, Sa 9.37 120 Pn 13 16 22.1 +0.4
CAO2 Cobano, Puntar 9.39 127 Pn 13 16 23.0 +0.9
LAFE Finca La Fe, P 9.47 126⇑ eP Pn 13 16 24.0 +1.0
JACO JACO, Garabito 9.76 126⇑ eP Pn 13 16 28.0 +1.2
JACO JACO, Garabito 9.76 126 Pn Pn 13 16 27.6 +0.7
OCM Ochomogo 10.18 122⇑ eP Pn 13 16 33.1 +0.4
LCR2 La Lucha 2 10.23 123⇑ eP Pn 13 16 34.0 +0.7
CVTR Volcan Turrial 10.28 121 Pn 13 16 34.1 0.0
RIMA Rio Macho 10.33 123⇑ eP Pn 13 16 35.4 +0.8
RIMA Rio Macho 10.33 123 Pn 13 16 35.2 +0.6
CDM Cerro de Muert 10.53 123⇑ i P Pn 13 16 38.6 +1.0
MMIG Aquila 10.57 287 eP Pn 13 16 41.2 +3.6
MMIG Aquila 10.57 287 Pn 13 16 41.2 +3.6
PEZE Perez Zeledon, 10.70 124 Pn 13 16 39.6 +0.1
SRBA San Rafael, Bu 11.04 123 Pn 13 16 44.3 +0.3
DRK0 Durika 11.12 123 eP Pn 13 16 45.6 +0.6
DRK0 Durika 11.12 123 Pn 13 16 45.1 +0.1
PRVC Isla de Provid 11.17 100 Pn Pn 13 16 46.0 +0.5
FSCY Frank Sound, G 11.60 69 Pn Pn 13 16 51.5 +0.4
SOR Soroa 11.65 50 Pn Pn 13 16 51.0 -0.7
ZAIG Zacatecas 11.79 309 Pn Pn 13 16 56.5 +2.6
CBCY The Bluff, Cay 13.01 69 Pn 13 17 08.7 -0.7
CACAO El Cacao, Vera 14.15 124 eP Pn 13 17 19.3 -4.6
833A Chaparral WMA, 14.17 335 P P 13 17 27.1 -0.1
baz=152
MTDJ Mount Denham 14.74 77 Pn 13 17 31.9 +0.4
061Z Ochoppi 15.06 45 Pn 13 17 35.5 +0.2
441A DeRidder 15.16 358 P P 13 17 38.7 +0.5
342A Flagon Creek P 15.78 1 P P 13 17 46.2 +1.2
435B Jarrell 15.84 344 P P 13 17 47.3 +1.7
baz=162
344A Westbrook Farm 15.95 6 P P 13 17 47.5 +0.6
344A IAmb IAmb 13 17 54.2
comp=Z,53nm,0.9s
346A Big Creek Wild 16.06 10 P P 13 17 48.9 +0.9
060A Indiantown 16.20 43 P P 13 17 49.8 +0.1
JCT Junction City 16.25 338 P P 13 17 51.3 +1.0
baz=154
JCT Junction City 16.25 338 P P 13 17 51.9 +1.5
NATX Nacogdoches 16.26 354 P P 13 17 50.6 +0.3
baz=173
NATX Nacogdoches 16.26 354 P P 13 17 51.4 +1.0
NATX IAmb IAmb 13 17 56.0
comp=Z,80nm,1.4s
DWPF Disney Wildern 16.29 38 P P 13 17 51.0 +0.4
baz=222
DWPF Disney Wildern 16.29 38 P Pn 13 17 48.9 -1.5
451A Vernon 16.31 22 P P 13 17 51.1 +0.3
BRAL Brewton 16.40 17 P P 13 17 53.4 +1.6
baz=199,SNR=8.1
BRAL Brewton 16.40 17 P P 13 17 52.9 +1.1
553A Crawfordville 16.44 26 P P 13 17 53.7 +1.3
237A Washetta, Mont 16.65 351 P Pn 13 17 56.0 +1.3
237A IAmb IAmb 13 18 04.0
comp=Z,41nm,0.7s
656A Willston 16.65 32 P Pn 13 17 55.5 +0.7
VBMS Vicksburg 16.73 6 P Pn 13 17 56.8 +1.1
baz=187,SNR=5.2
VBMS Vicksburg 16.73 6 P Pn 13 17 56.1 +0.4
WHTX Lake Whitney, 16.96 346 P Pn 13 17 58.9 +0.4
baz=164
WHTX Lake Whitney, 16.96 346 P Pn 13 18 00.1 +1.6
TXAR Lajitas Array 17.07 325 P Pn 13 18 02.8 +2.8
comp=Z,0.1nm,0.3s,baz=149,slow=10,SNR=42
TXAR PcP PcP 13 22 37.6 +1.2
comp=Z,0.0nm,0.3s,baz=176,slow=3.8,SNR=7.8
TXAR ScP ScP 13 25 59.8 +2.0
comp=Z,0.0nm,0.3s,baz=142,slow=3.0,SNR=4.3
TXAR Lajitas Array 17.07 325 P Pn 13 18 02.0 +2.1
TXAR PcP 13 22 37.1 +0.7
TX31 Lajitas Ar. Si 17.07 325 P Pn 13 18 01.8 +1.8
TX31 IAmb IAmb 13 18 04.2
comp=Z,35nm,1.1s
TX32 Lajitas Array 17.07 325 P Pn 13 18 02.0 +2.0
143A Socs Landing, 17.14 4 P Pn 13 18 00.6 -0.1
GTBY Guantanamo Bay 17.30 73 Pn 13 18 01.8 -0.9
GTBY Guantanamo Bay 17.30 73 eP Pn 13 18 01.8 -0.9
146A Union 17.35 10 P Pn 13 18 04.1 +0.9
352A Blakely 17.39 23 P Pn 13 18 04.1 +0.4
250A Grady 17.39 19 P Pn 13 18 03.8 +0.2
Z41A Richland Creek 17.65 360 P Pn 13 18 06.8 0.0
baz=179
SJCC San Jacinto, C 17.96 106 P P 13 18 08.1 -1.1
SJCC IAmb IAmb 13 18 12.3
comp=Z,71nm,1.0s
SJCC San Jacinto, C 17.96 106 eP P 13 18 07.8 -1.4
456A Hilliard 18.00 31 P Pn 13 18 10.6 -0.4
Z47A Carrollton 18.08 13 P Pn 13 18 11.5 -0.4
WLAR White Oak Lake 18.09 359 P Pn 13 18 11.5 -0.4
ABTX Abilene, Hawle 18.16 341 P P 13 18 11.9 +0.7
baz=158
ABTX Abilene, Hawle 18.16 341 P Pn 13 18 12.6 -0.2
LRAL Lakeview Retre 18.18 15 P Pn 13 18 12.2 -0.7
baz=197,SNR=18
LRAL Lakeview Retre 18.18 15 P Pn 13 18 12.0 -1.0
LRAL IAmb IAmb 13 18 14.4
comp=Z,35nm,0.8s
Z35A Perchaven, San 18.20 348 P Pn 13 18 13.4 +0.1
Z35A IAmb IAmb 13 18 19.1
comp=Z,43nm,0.9s
DBBC Dabeiba 18.22 116 eP P 13 18 10.6 -1.5
CCAR Cane Creek 18.33 2 P Pn 13 18 14.6 -0.2
UREC San Jos de Ur 18.48 113 eP P 13 18 12.0 -2.8
Y45A Yeager Farm, C 18.48 8 P Pn 13 18 15.3 -1.2
152A Waverly Hall 18.53 22 P Pn 13 18 15.9 -1.3
LPIG La Paz 18.64 300 P Pn 13 18 20.3 +1.8
comp=Z,9.9nm,0.3s,baz=57,slow=13,SNR=4.0
255A Hazlehurst 18.79 28 P P 13 18 18.5 +0.5
LOOK Love County 18.83 348 P Pn 13 18 19.7 -1.0
LOOK IAmb IAmb 13 18 37.0
comp=Z,23nm,0.7s
X40A Basin Creek Fa 18.88 360 P P 13 18 19.4 +0.4
baz=179
X40A Basin Creek Fa 18.88 360 P P 13 18 19.6 +0.6
MALC Bahia Malaga 18.94 126 eP P 13 18 18.1 -1.8
MIAR Mount Ida 18.95 358 P P 13 18 20.5 +0.6
baz=177,SNR=38
MIAR Mount Ida 18.95 358 P P 13 18 20.0 +0.2
MIAR IAmb IAmb 13 18 26.0
comp=Z,62nm,1.1s
CBOC Ciudad Bolivar 18.97 119 eP Pn 13 18 21.8 -0.8
Z51A Franklin 18.97 20 P Pn 13 18 21.4 -1.0
154A Montrose 19.10 25 P P 13 18 22.1 +0.7
Y49A Blount Mountai 19.11 16 P P 13 18 21.8 +0.3
Y49A IAmb IAmb 13 18 24.2
comp=Z,46nm,0.8s
OXF Oxford 19.13 8 P P 13 18 22.6 +0.8
baz=189,SNR=9.8
OXF Oxford 19.13 8 P P 13 18 21.8 +0.1
X37A Clayton 19.14 353 P P 13 18 22.4 +0.6
X37A IAmb IAmb 13 18 27.5
comp=Z,43nm,1.1s
ZARC Zaragoza, Cauc 19.19 113 eP P 13 18 20.4 -2.2
HELC Santa Helena 19.21 117⇑ eP P 13 18 21.8 -1.4
PLMC San Jos del P 19.26 122 eP P 13 18 19.9 -3.5
SMLC San Martn de 19.37 108 eP P 13 18 23.2 -1.3
X48A Hartselle 19.52 14 P P 13 18 26.0 +0.1
X34A Smith Ranch, M 19.55 347 P P 13 18 27.1 +0.8
X34A IAmb IAmb 13 18 33.2
comp=Z,37nm,0.8s
W41B Gary Mavity, V 19.57 1 P P 13 18 26.8 +0.4
baz=181
W39A Magazine 19.61 357 P P 13 18 27.6 +0.7
baz=176
W39A Magazine 19.61 357 P P 13 18 27.3 +0.4
W39A IAmb IAmb 13 18 45.4
comp=Z,16nm,0.6s
GOGA Godfrey 19.66 23 P P 13 18 28.3 +0.8
baz=207,SNR=14
GOGA Godfrey 19.66 23 P P 13 18 27.4 -0.1
GOGA IAmb IAmb 13 18 33.1
comp=Z,50nm,0.9s
WHAR Wooly Hollow 19.68 1 P P 13 18 27.3 -0.4
WHAR IAmb IAmb 13 18 42.1
comp=Z,36nm,1.2s
YOTC Yotoco, Valle 19.74 124 eP P 13 18 29.3 +0.6
W45A Hickory Valley 19.80 8 P P 13 18 28.5 -0.4
PLAL Pickwick Lake 19.81 11 P P 13 18 29.0 0.0
PLAL IAmb IAmb 13 18 34.8
comp=Z,40nm,0.8s
MNTX Cornudas Mount 19.84 326 P P 13 18 31.3 +1.8
baz=141,SNR=34
MNTX Cornudas Mount 19.84 326 P P 13 18 31.2 +1.8
Y52A Lilburn 19.85 22 P P 13 18 29.1 -0.4
GUY2C Guyana, Caldas 19.85 119 eP P 13 18 28.3 -1.9
WMOK Wichita Mounta 19.90 345 P P 13 18 30.0 -0.1
baz=162,SNR=12
WMOK Wichita Mounta 19.90 345 P P 13 18 29.8 -0.3
FPAL Fort Paine 19.97 17 P P 13 18 31.5 +0.6
NORC Norcasia 20.09 118 eP P 13 18 31.6 -0.8
FNO Franklin 20.10 349 P P 13 18 32.4 +0.2
ANIL Santa Ana 20.22 121 eP Pn 13 18 36.3 -1.2
X51A Calhoun 20.22 19 P P 13 18 33.8 +0.3
TOLC Tolima 20.23 121 eP Pn 13 18 36.3 -1.4
FCAR Ozark Folk Cen 20.29 1 P P 13 18 33.6 -0.5
POPC Popayan, Colom 20.38 128 eP P 13 18 28.3 -7.3
OK025 Westminster Rd 20.40 349 P P 13 18 35.3 -0.1
MSTX Muleshoe 20.50 335 P P 13 18 37.0 +0.4
baz=151,SNR=8.0
MSTX Muleshoe 20.50 335 P P 13 18 36.7 +0.1
MSTX IAmb IAmb 13 18 52.7
comp=Z,24nm,1.1s
MSTX PcP 13 22 43.4 +1.1
LCAR Lake Charles 20.50 4 P P 13 18 35.4 -1.1
LCAR IAmb IAmb 13 18 56.1
comp=Z,17nm,0.8s
SWET Sewanee 20.52 16 P P 13 18 36.1 -0.6
SWET IAmb IAmb 13 18 43.1
comp=Z,23nm,0.8s
BCOK Bluff Creek, N 20.53 348 P P 13 18 36.4 -0.3
OK029 Liberty Lake 20.63 349 P P 13 18 37.2 -0.7
OK029 IAmb IAmb 13 18 40.6
comp=Z,31nm,1.0s
W50A Signal Mountai 20.68 17 P P 13 18 38.9 +0.5
W50A IAmb IAmb 13 18 45.1
comp=Z,44nm,0.8s
OK031 S. Brethren Rd 20.68 350 P P 13 18 37.4 -1.0
OK031 IAmb IAmb 13 18 40.6
comp=Z,32nm,0.8s
SOTA Rioblanco 20.69 128 eP Pn 13 18 41.4 -1.9
OTAV Otavalo 20.69 136 P P 13 18 41.2 +2.0
OTAV IAmb IAmb 13 18 45.5
comp=Z,58nm,1.2s
OTAV Otavalo 20.69 136 eP P 13 18 39.1 -0.1
OTAV Otavalo 20.69 136 eP Pn 13 18 42.4 -0.9
HHAR Hobbs 20.70 357 P P 13 18 37.4 -1.2
SDDR Presa de Saban 20.71 77 P P 13 18 39.5 +0.5
SDDR IAmb IAmb 13 18 43.8
comp=Z,53nm,0.9s
SDDR Presa de Saban 20.71 77 eP P 13 18 38.1 -0.8
PCON Cinco Dias 20.73 128 eP P 13 18 34.4 -5.3
MARP Paez Belalcaza 20.74 126 eP P 13 18 41.4 +1.8
U40A Yellville 20.75 360 P P 13 18 39.0 -0.1
baz=179,SNR=9.0
U40A Yellville 20.75 360 P P 13 18 38.3 -0.8
V48A Smith Brothers 20.80 14 P P 13 18 38.2 -1.4
CSU Charleston Sou 20.80 31 P P 13 18 38.9 -0.8
NHSC New Hope 20.85 31 P P 13 18 39.7 -0.5
baz=216
NHSC New Hope 20.85 31 P P 13 18 38.2 -2.0
HODGE Hodges 20.86 25 P P 13 18 39.8 -0.5
HODGE IAmb IAmb 13 18 42.9
comp=Z,31nm,0.8s
QUOK Quay 20.87 351 P P 13 18 39.4 -1.1
QUOK IAmb IAmb 13 18 42.4
comp=Z,41nm,0.7s
AMTX Amarillo 20.90 339 P P 13 18 41.4 +0.5
baz=155
AMTX Amarillo 20.90 339 P P 13 18 40.6 -0.2
AMTX IAmb IAmb 13 18 44.2
comp=Z,40nm,0.8s
ROSC El Rosal 20.94 119 P P 13 18 42.5 +0.7
comp=Z,16nm,0.5s,baz=264,slow=19,SNR=6.3
ROSC El Rosal 20.94 119 P P 13 18 41.6 -0.2
ROSC IAmb IAmb 13 18 48.5
comp=Z,27nm,0.8s
ROSC El Rosal 20.94 119 eP Pn 13 18 44.2 -1.9
WVT Waverly 20.97 11 P P 13 18 41.2 -0.3
baz=193
WVT Waverly 20.97 11 P P 13 18 39.9 -1.6
W52A Murphy 21.01 20 P P 13 18 42.8 +0.9
PRAC Prado 21.08 122 eP P 13 18 42.3 -0.6
CPCT Cooper Cave 21.14 19 P P 13 18 41.9 -1.5
CPCT IAmb IAmb 13 18 50.4
comp=Z,25nm,1.0s
PAMC Pamplona, Colo 21.19 110 eP P 13 18 43.3 -1.3
CLTN Cedars of Leba 21.25 14 P P 13 18 43.9 -0.6
PBMO Poplar Bluff 21.26 5 P P 13 18 43.6 -1.0
PBMO IAmb IAmb 13 18 53.1
comp=Z,16nm,0.7s
BG3 Lake Jocassee 21.27 23 P P 13 18 44.8 +0.1
BG3 IAmb IAmb 13 18 48.1
comp=Z,38nm,0.9s
GRTK Grand Turk 21.27 71 P P 13 18 45.1 +0.3
SC01 Santiago de lo 21.29 76 P P 13 18 44.6 -0.5
T42A Van Buren 21.46 3 P P 13 18 45.1 -1.6
RUSC La Rusia 21.48 114 P P 13 18 44.9 -2.9
RUSC IAmb IAmb 13 18 58.5
comp=Z,33nm,1.1s
RUSC La Rusia 21.48 114 eP P 13 18 45.1 -2.6
GARC Garzon, Huila 21.51 126 eP P 13 18 47.5 -0.3
U32A Winter Ranch, 21.52 346 P P 13 18 46.0 -1.4
V51A Loudon 21.52 19 P P 13 18 47.1 -0.3
V51A IAmb IAmb 13 18 54.9
comp=Z,34nm,0.8s
BLOK Blackwell 21.53 350 P P 13 18 45.1 -2.4
BLOK IAmb IAmb 13 18 48.8
comp=Z,34nm,1.0s
BANI BANI 21.54 79 P P 13 18 47.8 -0.1
MGMO Mountain Grove 21.54 1 P P 13 18 46.0 -1.6
CHIC Chingaza 21.55 118 eP P 13 18 48.4 +0.1
PAULI Pauline 21.55 25 P P 13 18 48.1 +0.4
PAULI IAmb IAmb 13 18 55.5
comp=Z,48nm,0.8s
T35A Sooner Cattle 21.57 352 P P 13 18 45.5 -2.5
T35A IAmb IAmb 13 18 48.4
comp=Z,29nm,0.9s
TKL Tuckaleechee C 21.57 20 P P 13 18 46.7 -1.3
comp=Z,18nm,0.8s,baz=187,slow=12,SNR=14
TKL Tuckaleechee C 21.57 20 P P 13 18 47.8 -0.2
TKL IAmb IAmb 13 19 00.2
comp=Z,35nm,0.9s
SRIG Santa Rosalia 21.63 306 P P 13 18 48.0 -0.6
OK032 Salt Plains WL 21.75 348 P P 13 18 49.9 0.0
OK032 IAmb IAmb 13 18 51.1
comp=Z,43nm,0.7s
U49A Red Boiling Sp 21.79 15 P P 13 18 49.2 -1.0
U49A IAmb IAmb 13 18 57.9
comp=Z,26nm,0.8s
121A Cookes Peak, D 21.79 324 P P 13 18 52.9 +2.4
baz=137,SNR=19
121A Cookes Peak, D 21.79 324 P P 13 18 50.9 +0.4
V52A Sevierville 21.80 20 P P 13 18 49.0 -1.3
V52A IAmb IAmb 13 19 03.3
comp=Z,24nm,0.9s
KAN17 Caldwell West 21.90 349 P P 13 18 49.8 -1.6
KAN17 IAmb IAmb 13 18 52.3
comp=Z,41nm,0.9s
V53A Saluda 21.92 22 P P 13 18 49.8 -1.8
V53A IAmb IAmb 13 18 55.5
comp=Z,44nm,1.0s
T47A Sharon Grove 21.94 12 P P 13 18 49.5 -2.3
T47A IAmb IAmb 13 19 16.3
comp=Z,27nm,0.8s
SDD Santo Domingo 21.96 79 P P 13 18 50.6 -1.6
KAN09 Caldwell North 21.96 349 P P 13 18 50.0 -2.1
KAN09 IAmb IAmb 13 18 52.8
comp=Z,44nm,1.0s
BIRD Birdtown, Kers 21.98 28 P P 13 18 50.5 -1.8
BIRD IAmb IAmb 13 18 55.2
comp=Z,37nm,0.9s
KAN05 Bluff City Nor 21.98 349 P P 13 18 50.4 -1.8
KAN05 IAmb IAmb 13 18 53.7
comp=Z,46nm,0.8s
KMSC Kings Mountain 22.03 25 P P 13 18 53.1 +0.4
baz=210,SNR=9.2
KMSC Kings Mountain 22.03 25 P P 13 18 50.1 -2.6
KMSC IAmb IAmb 13 18 55.8
comp=Z,33nm,0.9s
KAN10 Anthony SW Sta 22.04 348 P P 13 18 50.6 -2.2
KS20 Mayfield South 22.05 350 P P 13 18 50.6 -2.2
KS20 IAmb IAmb 13 18 53.6
comp=Z,55nm,1.2s
KAN08 Anthony NE Sta 22.12 349 P P 13 18 52.5 -1.1
KAN08 IAmb IAmb 13 18 54.4
comp=Z,41nm,0.8s
KAN12 Harper NE Stat 22.19 349 P P 13 18 52.7 -1.6
S44A Carbondale 22.29 7 P P 13 18 53.0 -2.2
S44A IAmb IAmb 13 19 00.2
comp=Z,48nm,0.8s
SIUC Southern Illin 22.31 7 P P 13 18 52.7 -2.8
SIUC IAmb IAmb 13 18 60.0
comp=Z,49nm,0.8s
X58A Rowland 22.43 30 P P 13 18 53.6 -3.1
TZTN Tazewell 22.46 20 P P 13 18 56.2 -0.7
baz=203
TZTN Tazewell 22.46 20 P P 13 18 55.1 -1.8
TZTN IAmb IAmb 13 19 00.7
comp=Z,47nm,1.2s
CCM Cathedral Cave 22.48 3 P P 13 18 55.6 -1.4
baz=183
CCM Cathedral Cave 22.48 3 P P 13 18 54.1 -2.9
DR12 Loma Pena Alta 22.49 78 P P 13 18 54.7 -2.8
Y22D IRIS PASSCAL I 22.50 328 P P 13 18 57.2 -0.3
baz=141
SDV Santo Domingo 22.52 104 P P 13 18 57.6 -0.3
comp=Z,9.8nm,0.4s,baz=277,slow=6.7,SNR=4.0
SDV PcP PcP 13 22 47.5 +0.8
comp=Z,10nm,0.4s,baz=352,slow=7.1,SNR=3.6
SDV Santo Domingo 22.52 104 eP P 13 18 55.6 -2.4
W57A Gilead 22.62 28 P P 13 18 58.1 -0.3
W57A IAmb IAmb 13 18 59.9
comp=Z,53nm,1.0s
R40A Maddies Statio 22.68 1 P P 13 18 57.3 -1.6
R40A IAmb IAmb 13 19 16.9
comp=Z,18nm,0.8s
V55A Taylorsville 22.69 25 P P 13 18 58.0 -1.1
V55A IAmb IAmb 13 19 00.8
comp=Z,48nm,0.9s
MACC Macarena, Meta 22.84 124 eP P 13 18 59.6 -1.1
ANMO Albuquerque 22.96 330 P P 13 19 03.2 +1.4
comp=Z,7.0nm,0.8s,baz=150,slow=11,SNR=21
ANMO PcP PcP 13 22 47.8 +0.6
comp=Z,1.6nm,1.0s,baz=233,slow=1.4,SNR=3.2
ANMO Albuquerque 22.96 330 P P 13 19 03.3 +1.4
baz=144
ANMO Albuquerque 22.96 330 P P 13 19 02.6 +0.7
WCI Wyandotte Cave 23.31 13 P P 13 19 03.5 -1.2
baz=195
WCI Wyandotte Cave 23.31 13 P P 13 19 03.1 -1.7
WCI IAmb IAmb 13 19 07.9
comp=Z,30nm,0.7s
PTLC Puerto Leguiza 23.34 129 eP P 13 19 07.5 +2.2
R32A Long Quarter, 23.42 348 P P 13 19 05.9 +0.1
S51A Beattyville 23.45 18 P P 13 19 05.0 -1.0
S51A IAmb IAmb 13 19 18.7
comp=Z,20nm,0.8s
TUC Tucson 23.46 319 P P 13 19 06.8 +0.5
baz=131
TUC Tucson 23.46 319 P P 13 19 07.7 +1.4
V58A Windy Hill, Pi 23.55 29 P P 13 19 06.3 -0.6
V58A IAmb IAmb 13 19 09.5
comp=Z,28nm,0.8s
R49A Shelbyville 23.62 15 P P 13 19 06.8 -0.9
CNNC Cliffs of the 23.69 31 P P 13 19 08.5 +0.2
baz=218
CNNC Cliffs of the 23.69 31 P P 13 19 08.0 -0.3
KSU1 Kansas State U 23.74 352 P P 13 19 08.7 0.0
baz=170
KSU1 Kansas State U 23.74 352 P P 13 19 08.1 -0.6
T25A Trinidad 23.91 336 P P 13 19 12.7 +2.1
baz=151,SNR=21
T25A Trinidad 23.91 336 P P 13 19 10.9 +0.3
T25A IAmb IAmb 13 19 15.0
comp=Z,26nm,0.8s

P40A	Paris	23.92	1	P	P	13 19 07.7	-2.7
P40A				IAmb	IAmb	13 19 10.1	
	comp=Z,17nm,0.9s						
CBKS	Cedar Bluff	24.01	346	P	P	13 19 11.2	-0.1
	baz=163						
CBKS	Cedar Bluff	24.01	346	P	P	13 19 09.8	-1.5
CBKS				IAmb	IAmb	13 19 13.5	
	comp=Z,36nm,1.0s						
P38A	Dawn	24.02	358	P	P	13 19 09.0	-2.2
P38A				IAmb	IAmb	13 19 13.0	
	comp=Z,14nm,0.7s						
P43A	Skaggs, Pawnee	24.18	6	P	P	13 19 12.1	-0.6
BLA	Blacksburg	24.18	24	P	P	13 19 13.1	+0.3
	baz=210,SNR=5.7						
BLA	Blacksburg	24.18	24	P	P	13 19 10.6	-2.2
BLA				IAmb	IAmb	13 19 16.7	
	comp=Z,23nm,0.8s						
S54A	Dingess, Beckl	24.36	22	P	P	13 19 13.2	-1.2
S54A				IAmb	IAmb	13 19 22.1	
	comp=Z,19nm,1.0s						
S54A				pP	pP	13 19 44.2	-0.3
P46A	Rosedale	24.47	10	P	P	13 19 13.8	-1.5
P46A				IAmb	IAmb	13 19 19.5	
	comp=Z,15nm,0.8s						
X18A	Snowflake	24.48	324		PcP	13 22 50.2	-0.3
214A	Organ Pipe Nat	24.57	315	P	P	13 19 19.1	+2.7
	baz=127						
R53A	Hurricane	24.61	21	P	P	13 19 14.3	-2.3
R53A				IAmb	IAmb	13 19 18.7	
	comp=Z,16nm,0.9s						
P48A	Milroy	24.68	14	P	P	13 19 15.4	-1.8
P48A				IAmb	IAmb	13 19 20.0	
	comp=Z,22nm,1.0s						
V61A	Roper	24.79	33	P	P	13 19 16.2	-2.0
W18A	Petrified Fore	24.79	325	P	P	13 19 19.7	+1.1
	baz=137						
W18A	Petrified Fore	24.79	325	P	P	13 19 19.6	+1.1
Q51A	Peebles	24.80	18	P	P	13 19 16.2	-2.2
Q51A				IAmb	IAmb	13 19 21.2	
	comp=Z,15nm,0.7s						
SDCO	Great Sand Dun	24.87	335	P	P	13 19 21.1	+1.7
	baz=149,SNR=11						
SDCO	Great Sand Dun	24.87	335	P	P	13 19 20.3	+1.0
SDCO					PcP	13 22 52.3	+0.9
KSCO	Kaye Shedlock'	24.97	341	P	P	13 19 21.1	+1.0
	baz=156						
KSCO	Kaye Shedlock'	24.97	341	P	P	13 19 20.7	+0.6
KSCO				IAmb	IAmb	13 19 25.2	
	comp=Z,18nm,0.7s						
Q52A	Bidwell	25.07	19	P	P	13 19 19.4	-1.5
Q52A				IAmb	IAmb	13 19 24.4	
	comp=Z,52nm,1.4s						
HDIL	Hopedale	25.11	6	P	P	13 19 19.1	-2.0
HDIL				IAmb	IAmb	13 19 20.9	
	comp=Z,18nm,0.9s						
N38A	Joes South For	25.18	359	P	P	13 19 19.5	-2.3
N38A				pP	pP	13 19 53.2	+0.3
R55A	Marlinton	25.23	24	P	P	13 19 20.4	-1.9
R55A				IAmb	IAmb	13 19 30.4	
	comp=Z,20nm,0.9s						
R55A				pP	pP	13 19 53.8	+0.1
SFIN	Lafayette	25.23	10	P	P	13 19 22.9	+0.6
	baz=192						
SFIN	Lafayette	25.23	10	P	P	13 19 20.4	-1.9
T59A	Double "B" Far	25.23	29	P	P	13 19 20.1	-2.2
T59A				IAmb	IAmb	13 19 23.8	
	comp=Z,36nm,1.2s						
S22A	4UR Ranch, Cre	25.43	333	P	P	13 19 26.4	+2.0
	baz=146,SNR=11						
SJG	San Juan	25.52	80	P	P	13 19 22.6	-2.4
	comp=Z,11nm,0.5s,baz=277,slow=8.1,SNR=5.6						
SJG	San Juan	25.52	80	P	P	13 19 21.7	-3.3
SJG				IAmb	IAmb	13 19 24.3	
	comp=Z,38nm,0.9s						
Q54A	Coxs Mills	25.58	22	P	P	13 19 22.4	-3.0
Q54A				IAmb	IAmb	13 19 27.0	
	comp=Z,25nm,1.1s						
O49A	Covington	25.63	15	P	P	13 19 23.1	-2.7
PDPR	Patillas Dam,	25.64	81	P	P	13 19 22.9	-3.2
PDPR				IAmb	IAmb	13 19 26.5	
	comp=Z,23nm,0.8s						
113A	Mohawk Valley,	25.70	316	P	P	13 19 25.7	-0.9
113A				pP	pP	13 19 57.3	-0.2
P52A	Corning	25.73	19	P	P	13 19 24.1	-2.6
MVCO	Mesa Verde	25.76	330	P	P	13 19 29.4	+2.1
	baz=143,SNR=16						
MVCO	Mesa Verde	25.76	330	P	P	13 19 27.6	+0.3
MVCO				IAmb	IAmb	13 19 30.9	
	comp=Z,25nm,0.9s						
T60A	Surry	25.76	30	P	P	13 19 26.5	-0.6
CBYP	Canovanas	25.80	80	P	P	13 19 25.8	-1.9
CBYP				IAmb	IAmb	13 19 26.7	
	comp=Z,32nm,0.9s						
HUMP	Col San Antoni	25.80	80	P	P	13 19 25.6	-2.0
HUMP				IAmb	IAmb	13 19 29.7	
	comp=Z,24nm,0.9s						
P53A	Whipple	25.84	20	P	P	13 19 25.7	-2.0
P53A				IAmb	IAmb	13 19 43.9	
	comp=Z,17nm,0.9s						
N47A	Urbana	25.98	12	pP	pP	13 19 59.2	-1.1
WUAZ	Wupatki	26.00	323	P	P	13 19 29.8	+0.3
	baz=135						
MTP	Monte Pirata	26.08	81	P	P	13 19 27.6	-2.5
Q56A	Snyder Ridge,	26.25	24	P	P	13 19 30.0	-1.5
CUPR	Culebra, Puert	26.35	80	P	P	13 19 30.5	-2.0
CUPR				IAmb	IAmb	13 19 34.6	
	comp=Z,15nm,0.8s						
L40A	Anamosa	26.47	2	P	P	13 19 30.8	-2.6
L42A	Oliver, Polo	26.51	5	P	P	13 19 32.1	-1.6
OGNE	Ogallala	26.60	344	P	P	13 19 35.3	+0.6
	baz=159						
PV02	Paradox Valley	26.67	331	P	P	13 19 36.3	+0.8
PV13	Radium Mtn., P	26.67	331	P	P	13 19 35.7	+0.2
PV13				IAmb	IAmb	13 19 39.2	
	comp=Z,32nm,1.4s						
SMCO	Snowmass	26.69	335	P	P	13 19 35.8	-0.1
ISCO	Idaho Springs	26.70	337	P	P	13 19 36.7	+0.9
	baz=151						
ISCO	Idaho Springs	26.70	337	P	P	13 19 34.9	-0.9
ISCO				PcP	PcP	13 22 56.4	+0.7
PV05	Paradox Valley	26.73	330	P	P	13 19 36.9	+0.8
PV05				IAmb	IAmb	13 19 39.5	
	comp=Z,27nm,1.3s						
PV03	Paradox Valley	26.76	331	P	P	13 19 37.5	+1.3
PV03				IAmb	IAmb	13 19 39.9	
	comp=Z,34nm,1.5s						
PV18	Skein Mesa, Pa	26.78	331	P	P	13 19 37.4	+0.9
PV18				IAmb	IAmb	13 19 39.9	
	comp=Z,27nm,1.3s						
PV12	Saucer Basin,	26.79	331	P	P	13 19 38.1	+1.5
PV12				IAmb	IAmb	13 19 40.2	
	comp=Z,14nm,1.0s						
PV11	David Mesa, Pa	26.80	331	P	P	13 19 38.0	+1.4
PV11				IAmb	IAmb	13 19 41.0	
	comp=Z,20nm,1.1s						
PV07	Paradox Valley	26.81	331	P	P	13 19 36.5	-0.2
PV07				pP	pP	13 20 08.2	+0.4
PV17	East Wray Mesa	26.83	331	P	P	13 19 37.8	+0.9
PV17				IAmb	IAmb	13 19 40.4	
	comp=Z,29nm,1.3s						
PV16	Nyswonger Mesa	26.83	331	P	P	13 19 37.9	+0.9
PV16				IAmb	IAmb	13 19 40.5	
	comp=Z,35nm,1.5s						
PDMCI	Parker Dam,Lak	26.89	318	P	P	13 19 39.4	+2.2
	baz=129						
PV14	Lion Creek, Pa	26.93	331	P	P	13 19 39.0	+1.1
PV14				IAmb	IAmb	13 19 41.2	
	comp=Z,19nm,1.3s						
PV10	Paradox Valley	26.94	331	P	P	13 19 37.3	-0.7
PV10				IAmb	IAmb	13 19 40.8	
	comp=Z,33nm,1.4s						
SWSC	Sam W. Stewart	27.20	314	P	P	13 19 41.9	+1.9
	baz=124						
W13A	Hualapai Mount	27.23	320	PcP	PcP	13 22 57.6	+0.7
IKP	In-Ko-Pah, Jac	27.25	313	P	P	13 19 42.2	+1.6
	baz=123						
L48A	N Adams	27.27	14	P	P	13 19 40.5	0.0
L48A				IAmb	IAmb	13 19 42.9	
	comp=Z,17nm,0.8s						
BC3	Big Chuckawall	27.36	315	P	P	13 19 44.2	+2.6
	baz=126,SNR=7.6						
JFWS	Jewell Farm	27.37	4	P	P	13 19 42.2	+0.8
	baz=185						
IRM	Iron Mountain	27.45	317	P	P	13 19 44.4	+2.0
	baz=127						
O56A	Blue Knob Stat	27.55	24	P	P	13 19 44.2	+1.1
	baz=210						
MONP2	Monument Peak	27.60	313	P	P	13 19 44.5	+0.6
	baz=123						
N54A	Moraine State	27.63	21	P	P	13 19 43.9	+0.1
	baz=207						
N23A	Red Feather La	27.78	338	P	P	13 19 46.1	+0.7
	baz=151						
M53A	WI Miller and	27.83	20	P	P	13 19 45.1	-0.4
	baz=205						
KNB	Kanab	27.89	324	P	P	13 19 46.7	+0.4
PKCU	Pink Cliffs	27.91	325	P	P	13 19 47.0	+0.3
BELC	Belle Mtn. Jos	27.93	315	P	P	13 19 49.3	+2.6
	baz=125						
TPFO	Pinon Flats	28.02	314	P	P	13 19 47.0	-0.5
	baz=124						
PFO	Pinyon Flats O	28.03	314	pP	pP	13 20 18.9	+0.2
	comp=Z,5.3nm,1.0s,baz=128,slow=4.9,SNR=4.6						
PFO	Pinyon Flats O	28.03	314	P	P	13 19 46.5	-1.0
	baz=124						
LCMT	Little Creek M	28.13	323	P	P	13 19 49.5	+1.1
SSPA	Standing Stone	28.13	24	P	P	13 19 48.2	0.0
	baz=211						
GMRC	Granite Mounta	28.17	317	P	P	13 19 51.4	+2.6
	baz=127						
M54A	Oil Creek Stat	28.23	21	P	P	13 19 50.0	+0.9
	baz=207						
SRU	San Rafael Swe	28.23	330	P	P	13 19 49.8	+0.4
MTPU	Mount Pierson	28.27	326	P	P	13 19 50.0	+0.1
ECSD	EROS Data Cent	28.31	354	P	P	13 19 49.2	-0.6
	baz=172						
ECSD	EROS Data Cent	28.31	354	P	P	13 19 48.7	-1.1
SZCU	Shurtz Canyon	28.45	324	P	P	13 19 52.2	+0.9
SZCU					PcP	13 23 01.0	+1.1
I42A	Draeger Farm,	28.45	6	pP	pP	13 20 22.2	-0.5
MSU	Marysvale	28.62	327	PcP	PcP	13 23 01.9	+1.6
MVU	Marysvale	28.63	327	P	P	13 19 54.3	+1.4
MVU					PcP	13 23 01.5	+1.1
HEC	Hector,Ludlow	28.64	316	P	P	13 19 55.0	+2.1
	baz=126						
TMUT	Trail Mountain	28.71	329		PcP	13 23 00.6	0.0
SHPR	Sheep Range	28.93	320	P	P	13 19 56.7	+1.2
SHPR					PcP	13 23 01.5	+0.5
RWWY	Rawlins	28.93	337	PcP	PcP	13 23 01.0	0.0
K22A	Casper	29.53	339	P	P	13 20 00.8	0.0
	baz=152						
SPMN	Marine on St.	29.60	360	P	P	13 20 01.0	-0.1
	baz=180						
SPMN	Marine on St.	29.60	360	P	P	13 19 59.9	-1.3
SPMN				IAmb	IAmb	13 20 03.1	
	comp=Z,12nm,0.7s						
NLU	North Lily Min	29.65	329	PcP	PcP	13 23 03.5	+0.7
DECC	Green Verdugo	29.68	314	P	P	13 20 03.7	+1.7
	baz=122						
EDW2	Edwards Air Fo	29.79	315	P	P	13 20 04.6	+1.5
	baz=124						
TPNV	Topopah Spring	29.88	320	P	P	13 20 04.8	+0.8
	baz=129						
RSSD	Black Hills	30.09	344	P	P	13 20 06.2	+0.4
	baz=158						
RSSD	Black Hills	30.09	344		PcP	13 23 03.6	-0.3
K56A	Middlesex	30.11	23	P	P	13 20 05.1	-0.7
	baz=210						
SPR3	Spring Creek 3	30.13	325	P	P	13 20 07.5	+1.1
SPR3				PcP	PcP	13 23 04.8	+0.5
L58A	Harry Jones Me	30.14	25	P	P	13 20 05.9	-0.1
	baz=214						
PAL	Palisades	30.16	29	P	P	13 20 05.6	-0.5
	baz=218						
PAL	Palisades	30.16	29	P	P	13 20 05.2	-0.9
PAL				IAmb	IAmb	13 20 08.4	
	comp=Z,13nm,0.9s						
DUG	Dugway, Tooele	30.20	328	P	P	13 20 07.1	+0.4
	baz=138						
DUG	Dugway, Tooele	30.20	328	P	P	13 20 06.6	-0.1
DUG					PcP	13 23 03.6	-0.5
BINY	Binghamton	30.22	25	P	P	13 20 06.8	+0.1
	baz=213						
R11A	Troy Canyon, C	30.40	323	P	P	13 20 09.0	+0.5
	baz=132						
CZSB	Cruzeiro do Su	30.42	138	*e*P	P	13 20 11.9	+3.1
BBSR	BB Station	30.45	52	P	P	13 20 06.9	-1.8
ISA	Isabella, Lake	30.55	316	P	P	13 20 10.9	+1.2
	baz=124						
GRAC	Grapevine Rang	30.61	319	P	P	13 20 13.4	+3.1
	baz=128						
HWUT	Hardware Ranch	30.69	332	pP	pP	13 20 43.0	+0.5
HWUT					PcP	13 23 06.1	+0.6
CWC	Cottonwood Cre	30.74	317	P	P	13 20 14.4	+2.9
	baz=126						
BW06	Boulder Array	30.77	335	P	P	13 20 12.4	+0.6
	baz=147						
BW06	Boulder Array	30.77	335		PcP	13 23 05.4	-0.3
PD31	Pinedale Array	30.77	335		PcP	13 23 05.3	-0.4
PDAR	Pinedale Array	30.77	335	P	P	13 20 11.4	-0.3
	comp=Z,0.8nm,0.9s,baz=160,slow=4.7,SNR=6.6						
PDAR				PcP	PcP	13 23 06.1	+0.4
	comp=Z,2.4nm,0.7s,baz=136,slow=4.7,SNR=12						
PDAR				PKiKP	PKiKP	13 30 36.0	-0.3
	comp=Z,0.5nm,0.6s,baz=128,slow=4.9,SNR=4.0						
PDAR	Pinedale Array	30.77	335	P	P	13 20 11.2	-0.6
PDAR					PcP	13 23 05.6	-0.2
KSCT	Kent School, K	30.92	29	P	P	13 20 12.1	-0.7
KSCT				IAmb	IAmb	13 20 14.9	
	comp=Z,25nm,1.2s						
PKM	Mcpherson Peak	31.05	313	P	P	13 20 13.7	-0.6
	baz=121						
TPH	Tonopah	31.20	321	pP	pP	13 20 48.0	+1.0
SADO	Sadowa	31.32	19	P	P	13 20 14.0	-2.3
	comp=Z,1.8nm,0.3s,baz=277,slow=10.0,SNR=2.0						
M63A	Gales Ferry	31.36	31	P	P	13 20 16.5	-0.2
J58A	Remsen	31.47	25	P	P	13 20 17.9	+0.2
	baz=213						
UCCT	U. Connecticut	31.57	30	P	P	13 20 17.9	-0.7
REDW	Red Top Meadow	31.79	334	P	P	13 20 21.4	+0.6
REDW				IAmb	IAmb	13 20 23.5	
	comp=Z,20nm,1.1s						
SNOW	Snow King Moun	31.83	335	P	P	13 20 21.7	+0.6
SNOW				IAmb	IAmb	13 20 24.0	
	comp=Z,18nm,0.9s						
ELK	Elko	31.86	326	PcP	PcP	13 23 09.1	+0.3
I58A	Old Forge	31.87	25	P	P	13 20 21.8	+0.6
	baz=214,SNR=5.8						
M64A	Tiverton	31.88	31	P	P	13 20 20.4	-0.9
	baz=222						
LOHW	Long Hollow	31.89	335	P	P	13 20 21.0	-0.7
LOHW				IAmb	IAmb	13 20 24.2	
	comp=Z,15nm,1.4s						
L63A	North Scituate	31.92	31	P	P	13 20 20.5	-1.1
	baz=221						
TPAW	Teton Pass	31.94	334	P	P	13 20 21.2	-0.9
TPAW				IAmb	IAmb	13 20 25.0	
	comp=Z,12nm,1.2s						
TPAW					PcP	13 23 09.5	+0.6
NV11	Mina Array Sit	31.99	320	P	P	13 20 23.4	+0.9
NV11				IAmb	IAmb	13 20 27.1	
	comp=Z,14nm,0.9s						
NVAR	Mina Array Bea	32.08	320	P	P	13 20 26.6	+3.3
	comp=Z,14nm,0.7s,baz=133,slow=8.9,SNR=126						
NVAR				pP	pP	13 20 57.9	+3.1
	comp=Z,29nm,0.9s,baz=135,slow=8.2,SNR=16						
NVAR				PcP	PcP	13 23 11.0	+1.7
	comp=Z,2.2nm,0.7s,baz=134,slow=3.7,SNR=5.8						
NVAR				ScP	ScP	13 26 39.7	+0.3
	comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=4.1						
NVAR	Mina Array Bea	32.08	320	P	P	13 20 26.4	+3.1
NVAR					PcP	13 23 10.6	+1.3
MDPB	Devils Postpil	32.09	318	pP	pP	13 20 56.1	+1.2
LHV	Little Huntoon	32.09	320	P	P	13 20 25.0	+1.9
LHV				IAmb	IAmb	13 20 28.3	
	comp=Z,14nm,0.7s						
K62A	Royalston	32.24	29	P	P	13 20 24.1	-0.3
	baz=219						
RYN	Ryan	32.34	320	P	P	13 20 27.1	+1.6
KVN	Kaiserville	32.34	321	P	P	13 20 27.1	+1.5
KVN				IAmb	IAmb	13 20 29.9	
	comp=Z,12nm,1.0s						
H57A	Richville	32.35	23	P	P	13 20 26.7	+1.4
	baz=212						
L64A	Middleborough	32.36	31	P	P	13 20 26.1	+0.8
	baz=222,SNR=8.0						
L64A	Middleborough	32.36	31	P	P	13 20 25.8	+0.4
NCB	Newcomb	32.41	25	P	P	13 20 26.0	+0.1
NCB				IAmb	IAmb	13 20 28.6	
	comp=Z,15nm,1.4s						
HRV	Adam Dziewonsk	32.43	30	P	P	13 20 25.2	-0.8
	baz=220						
K63A	Dunstable	32.59	30	P	P	13 20 27.8	+0.4
	baz=220						
J61A	Chester	32.62	28	P	P	13 20 28.6	+0.9
	baz=218						
ALGO	Algonquin Park	32.72	19	P	P	13 20 28.6	+0.1
	baz=206						
MDND	Maddock	32.73	351	P	P	13 20 28.1	-0.5
	baz=167,SNR=7.1						
MDND	Maddock	32.73	351	P	P	13 20 27.4	-1.2
MDND				pP	pP	13 21 00.4	+0.3
H58A	Gabriels	32.79	25	P	P	13 20 29.0	-0.2
	baz=214						
LONY	Lake Ozonia	32.80	24	P	P	13 20 29.1	-0.1
	baz=213						
YNE	Yellowstone No	32.83	337	P	P	13 20 30.0	+0.2
YHH	Holmes Hill	32.97	336	PcP	PcP	13 23 13.2	+1.4
YERR	Yerington	33.00	320	P	P	13 20 32.7	+1.3
LAO	LASA Array	33.06	343		PcP	13 23 12.5	+0.8
CMB	Columbia Colle	33.16	318	P	P	13 20 33.8	+1.2
H59A	Cadyville	33.18	25	P	P	13 20 32.4	-0.2
	baz=215						
QLMT	Earthquake Lak	33.23	335		PcP	13 23 14.1	+1.7
J63A	Strafford	33.25	29	P	P	13 20 33.1	0.0
	baz=220						
PNTR	Pine Nut	33.28	320	P	P	13 20 36.8	+2.9
PNTR				IAmb	IAmb	13 20 38.4	
	comp=Z,12nm,0.8s						
GCMT	Greycliff	33.37	338	P	P	13 20 34.8	+0.4
GCMT					PcP	13 23 13.7	+1.0
PAHR	Pah Rah Range	33.53	321	P	P	13 20 36.2	+0.4
I62A	Tamworth	33.59	28	P	P	13 20 34.1	-2.0
	baz=219						
BCYI	Bear Canyon	33.65	333	P	P	13 20 38.2	+1.3
MCMT	McKenzie Canyo	33.82	334	P	P	13 20 39.6	+1.2
BOZ	Bozeman (W)	33.95	336	P	P	13 20 40.5	+1.1
BOZ					PcP	13 23 15.3	+1.0
I63A	Otisfield	34.07	29	P	P	13 20 40.4	+0.2
	baz=220						
MFID	Camas Ranch	34.10	329	P	P	13 20 41.9	+1.3
MFID				PcP	PcP	13 23 15.6	+0.9
DLMT	Dillon	34.15	335	PcP	PcP	13 23 16.1	+1.2
H62A	Milan	34.21	28	P	P	13 20 41.1	-0.4
	baz=219						
BEKR	Beckworth	34.22	321	P	P	13 20 44.3	+2.4
BEKR				IAmb	IAmb	13 20 46.1	
	comp=Z,9.2nm,0.9s						
BOAV	Boa Vista	34.27	109	*e*P	P	13 20 41.4	-1.0
I64A	Boothbay	34.42	30	P	P	13 20 43.2	-0.1
	baz=222						
LRM	Limekiln Ridge	34.46	335	P	P	13 20 44.9	+1.0
G61A	St-Isidore-de-	34.60	27	P	P	13 20 45.2	+0.3
	baz=218						
ULM	Lac du Bonnet	34.73	356	P	P	13 20 44.3	-1.6
	comp=Z,2.9nm,0.7s,baz=184,slow=11,SNR=3.0						
ULM				pP	pP	13 21 16.7	-0.9
	comp=Z,7.9nm,1.0s,baz=178,slow=10,SNR=4.0						
ULM				PcP	PcP	13 23 16.1	-0.1
	comp=Z,1.4nm,0.5s,baz=240,slow=2.6,SNR=3.3						
ULM				ScP	ScP	13 26 48.0	-0.1
	comp=Z,0.7nm,0.3s,baz=132,slow=7.7,SNR=3.0						
ULM	Lac du Bonnet	34.73	356	IAmb	IAmb	13 20 50.7	
	comp=Z,7.0nm,1.1s						
WVOR	Wild Horse Val	34.87	325	P	P	13 20 48.7	+1.4
WVOR				IAmb	IAmb	13 20 50.9	
	comp=Z,14nm,1.1s						
WVOR				pP	pP	13 21 20.4	+1.3
WVOR					PcP	13 23 18.7	+1.6
G62A	West of Eustis	34.99	28	P	P	13 20 47.5	-0.7
	baz=219						
G62A	West of Eustis	34.99	28	P	P	13 20 48.6	+0.4
G62A				IAmb	IAmb	13 20 52.4	
	comp=Z,13nm,1.2s						
H64A	Troy	35.16	30	P	P	13 20 48.8	-0.8
	baz=222						
EGMT	Eagleton	35.34	340	P	P	13 20 52.5	+1.3
	baz=150						
O03E	Paynes Creek	35.37	320	P	P	13 20 53.1	+1.5
	baz=126						
J08A	Circle Bar Ran	35.41	327	P	P	13 20 53.8	+1.9
MOD	Modoc Plateau	35.45	323	P	P	13 20 53.7	+1.4
MOD				PcP	PcP	13 23 19.6	+0.8
E60A	Ste Agathe de	35.50	26	P	P	13 20 52.0	-0.5
	baz=217						
PKME	Peaks-Kenny Pk	35.59	29	P	P	13 20 53.2	0.0
	baz=221						
H65A	Eastbrook	35.67	30	P	P	13 20 54.3	+0.4
	baz=223						
LSQQ	Lebel-sur-Quev	35.82	18	P	P	13 20 55.8	+0.6
	baz=206						
G64A	Maxfield	35.83	29	P	P	13 20 54.9	-0.5
	baz=222,SNR=5.4						
BMO	Blue Mountains	35.88	330	P	P	13 20 56.3	+0.5
BMO					PcP	13 23 20.3	+0.4
MSO	Missoula	35.88	335	P	P	13 20 57.2	+1.3
	baz=143						
MSO	Missoula	35.88	335	P	P	13 20 56.0	+0.1
MSO				PcP	PcP	13 23 20.8	+0.9
O02D	Mt. Diablo Mer	35.92	319	P	P	13 20 57.3	+1.0
	baz=124						
WDC	Whiskeytown Da	35.99	320	P	P	13 20 57.0	+0.2
F63A	Nahmakanta, Br	36.01	28	P	P	13 20 56.3	-0.5
	baz=221						
EMMW	East Machias	36.06	31	P	P	13 20 56.4	-0.9
EMMW				IAmb	IAmb	13 20 59.2	
	comp=Z,21nm,1.2s						
D60A	Saint Jean D'O	36.15	26	P	P	13 20 58.1	+0.1
	baz=217						
H66A	Whiting	36.19	31	P	P	13 20 58.5	+0.1
	baz=224						
MATQ	Matagami	36.27	17	P	P	13 20 59.3	+0.3
	baz=205						
M04C	Macdoel	36.28	322	P	P	13 21 01.3	+2.0
	baz=127,SNR=6.0						
N02D	Trinity Center	36.32	320	P	P	13 21 00.4	+0.7
	baz=125						
ETMB	Extrema	36.35	132	*e*P	P	13 21 00.4	+0.3
G65A	Princeton	36.37	30	P	P	13 21 00.6	+0.7
	baz=223						
G65A	Princeton	36.37	30	P	P	13 21 00.2	+0.3
G65A				IAmb	IAmb	13 21 02.4	
	comp=Z,14nm,1.2s						
F64A	Sherman	36.48	29	P	P	13 21 00.8	-0.1
	baz=222						
E62A	Clayton Lake	36.52	27	P	P	13 21 00.8	-0.4
	baz=219						
M02C	Callahan	36.66	321	P	P	13 21 03.2	+0.7
	baz=126						
F10A	Beach Ranch, E	36.66	331	P	P	13 21 03.0	+0.5
F10A				IAmb	IAmb	13 21 06.2	
	comp=Z,12nm,0.8s						
MACA	Manacapuru-AM	36.70	118	*e*P	P	13 21 02.2	-1.0
JTMT	Jette	36.76	335	P	P	13 21 02.7	-0.6
JTMT				PcP	PcP	13 23 23.4	+0.8
L04D	Klamath Falls	36.82	322	P	P

D08A	Wollman Farm,	38.25 331	P	P	13 21 17.1	+1.3
H04A	Detroit Lake	38.29 325	P	P	13 21 17.3	+1.1
I03D	Drain, OR	38.32 323	P	P	13 21 17.6	+1.2
	baz=127					
J01E	Myrtle Point	38.34 322	P	P	13 21 17.3	+0.8
	baz=126					
NEW	Newport	38.34 334	P	P	13 21 17.1	+0.5
NEW			PcP	PcP	13 23 27.6	+0.3
H04D	Lebanon	38.49 325	P	P	13 21 19.0	+1.2
	baz=129					
C09A	Chrisman Ranch	38.50 332	P	P	13 21 18.8	+0.9
F05D	White Salmon	38.69 327	P	P	13 21 21.2	+1.8
	baz=132					
G03D	McMinnville, O	39.22 325	P	P	13 21 25.8	+2.0
	baz=129					
B08A	Colville Reser	39.39 332	PcP	PcP	13 23 31.0	+0.4
GBN	Guysborough	39.66 35	P	P	13 21 25.8	-1.7
GBN			IAmb	IAmb	13 21 28.4	
	comp=Z,13nm,1.0s					
E04D	Cinebar	39.71 327	P	P	13 21 29.0	+1.1
	baz=131					
FFC	Flin Flon	39.78 352	P	P	13 21 27.6	-0.8
C06D	Leavenworth	39.81 330	P	P	13 21 30.5	+1.7
	baz=134					
LPAZ	La Paz	39.83 141	P	P	13 21 30.7	+0.8
	comp=Z,6.5nm,0.7s,baz=327,slow=6.7,SNR=24					
LPAZ			PcP	PcP	13 23 35.0	+1.7
	comp=Z,7.0nm,1.2s,baz=350,slow=7.0,SNR=5.3					
LPAZ	La Paz	39.83 141	P	P	13 21 30.8	+0.8
LPAZ			IAmb	IAmb	13 21 33.2	
	comp=Z,6.8nm,0.6s					
LPAZ	La Paz	39.83 141	eP	P	13 21 31.2	+1.3
D04E	Lakebay	40.23 328	P	P	13 21 34.0	+1.9
	baz=131					
D03D	Eldon	40.63 328	P	P	13 21 37.0	+1.5
	baz=131					
A05A	Maple Falls	41.13 331	P	P	13 21 39.5	0.0
A04D	Lummi Island	41.23 330	P	P	13 21 42.0	+1.7
	baz=133					
MNMC	Minye Minye	41.26 146	P	P	13 21 42.2	+1.0
MNMC			IAmb	IAmb	13 21 44.6	
	comp=Z,22nm,0.9s					
ITTB	Itaituba	41.58 115	eP	P	13 21 40.3	-3.4
PB11	IPOC Station P	41.74 146	P	P	13 21 45.7	+0.7
PB11			IAmb	IAmb	13 21 49.6	
	comp=Z,24nm,1.0s					
VILB	Vilhena	42.82 130	eP	P	13 21 53.3	-0.4
MCPB	Macapa, AP	43.11 108	eP	P	13 21 54.1	-2.0
SIV	San Ignacio	44.21 134	P	P	13 22 05.0	+0.2
	comp=Z,31nm,0.8s,baz=313,slow=7.8,SNR=110					
SIV			PcP	PcP	13 23 48.3	+1.2
	comp=Z,13nm,0.8s,baz=332,slow=1.3,SNR=12					
SIV			ScP	ScP	13 27 27.0	+1.6
	comp=Z,0.5nm,0.4s,baz=328,slow=2.7,SNR=3.8					
LVC	Limon Verde	44.48 148	P	P	13 22 08.6	+1.4
	comp=Z,2.4nm,0.5s,baz=300,slow=3.5,SNR=4.5					
LVC	Limon Verde	44.48 148	IAmb	IAmb	13 22 10.8	
	comp=Z,6.7nm,0.8s					
LVC	Limon Verde	44.48 148	eP	P	13 22 09.7	+2.5
CLDB	Colider	44.97 123	eP	P	13 22 08.3	-2.5
PTLB	Pontes e Lacer	45.22 131	eP	P	13 22 12.2	-0.6
TMAB	Tom-Au,PA,Br	47.54 108	eP	P	13 22 28.7	-2.3
PRPB	Parauapebas	47.62 114	eP	P	13 22 30.6	-1.0
AC02	Maricunga	47.92 151	P	P	13 22 36.5	+2.3
SALV	Santo Antonio	48.05 129	eP	P	13 22 33.9	-0.9
SNDB	Serra Nova Dou	49.24 121	eP	P	13 22 42.2	-1.8
YKA	Yellowknife Ar	49.40 347	P	P	13 22 44.3	-0.1
	comp=Z,7.5nm,0.7s,baz=145,slow=7.9,SNR=69					
YKA			pP	pP	13 23 18.6	+0.6
	comp=Z,4.0nm,0.9s,baz=144,slow=8.2,SNR=3.4					
YKA			PcP	PcP	13 24 03.9	-0.7
	comp=Z,1.8nm,0.9s,baz=152,slow=3.1,SNR=5.3					
PP1B	Ponte de Pedra	49.72 130	eP	P	13 22 47.5	0.0
SMTB	Santa Maria do	50.82 115	eP	P	13 22 54.1	-1.8
ARAG	Araguaiana, MT	50.91 126	eP	P	13 22 55.4	-1.1
CO02	Combarbal	50.92 156	P	P	13 22 57.8	+1.4
CO02			IAmb	IAmb	13 22 59.3	
	comp=Z,12nm,0.8s					
AQDB	Aquidauana	50.99 133	P	P	13 22 55.9	-1.1
AQDB	Aquidauana	50.99 133	eP	P	13 22 56.4	-0.6
DLBC	Dease Lake	51.00 336	P	P	13 22 56.3	-0.3
DLBC			IAmb	IAmb	13 23 00.6	
	comp=Z,26nm,1.4s					
ROSB	Rosrio	51.40 107	eP	P	13 22 59.7	-0.6
PEXB	Peixe	51.80 119	eP	P	13 23 01.7	-1.5
MT09	Talagante	53.21 157	P	P	13 23 14.4	+1.0
MT09			IAmb	IAmb	13 23 16.2	
	comp=Z,9.3nm,0.7s					
BDFB	Brasília	53.90 123	P	P	13 23 17.1	-1.6
BDFB			IAmb	IAmb	13 23 18.7	
	comp=Z,20nm,0.9s					
CPUP	Villa Florida	53.97 140	P	P	13 23 18.7	-0.2
	comp=Z,17nm,1.1s,baz=327,slow=7.6,SNR=14					
CPUP			PcP	PcP	13 24 22.8	+0.5
	comp=Z,2.5nm,0.8s,baz=318,slow=4.6,SNR=3.3					
CPUP	Villa Florida	53.97 140	P	P	13 23 17.8	-1.0
CPUP	Villa Florida	53.97 140	eP	P	13 23 18.9	0.0
ITRB	Iturama	54.38 129	eP	P	13 23 21.4	-0.6
TRCB	Terra Rica	54.65 133	P	P	13 23 22.9	-1.0
TRCB	Terra Rica	54.65 133	eP	P	13 23 23.4	-0.6
SDBA	SAO DESIDERIO	54.83 118	eP	P	13 23 23.6	-1.8
PCMB	Pacaembu	54.88 131	eP	P	13 23 25.6	0.0
IPMB	Ipameri, GO	55.03 126	eP	P	13 23 25.9	-0.9
NBMO	Morrinhos-CE	55.34 105	eP	P	13 23 26.2	-2.8
PINM	Pinnacle	56.21 334	P	P	13 23 36.5	+1.9
	baz=121					
BB19B	Bebedouro	56.57 129	eP	P	13 23 35.5	-2.1
NBPB	Pedra_Branca-C	56.59 108	eP	P	13 23 36.0	-1.9
JANB	Januaria	56.63 120	eP	P	13 23 36.5	-1.7
ITQB	Itaqui	56.82 142	P	P	13 23 39.1	-0.1
ITQB	Itaqui	56.82 142	eP	P	13 23 39.7	+0.5
CTGM	Chitina Glacie	57.12 334	P	P	13 23 39.9	-1.2
CTGM			IAmb	IAmb	13 23 44.6	
	comp=Z,26nm,1.4s					
CTG	Chitna Glacier	57.12 334	P	P	13 23 40.5	-0.6
	baz=120					
FRTB	Fartura	57.19 132	eP	P	13 23 42.0	+0.1
CRQE	Cirque	57.76 333	P	P	13 23 46.8	+1.2
	baz=118					
MC01	Montes Claros	57.78 122	eP	P	13 23 45.5	-0.7
MCARA	McCarthy VSAT	58.04 334	P	P	13 23 48.3	+1.0
	baz=119					
RCLB	Rio Claro- Sao	58.12 129	eP	P	13 23 48.4	-0.1
NBPN	Ponto Novo - B	58.20 114	eP	P	13 23 46.9	-2.3
BCAR	Beaver Creek A	58.38 336	P	P	13 23 50.3	+0.5
L27K	Beaver Creek,	58.40 336	P	P	13 23 51.2	+1.3
	baz=121,SNR=8.7					
L27K	Beaver Creek,	58.40 336	P	P	13 23 50.4	+0.5
L27K			IAmb	IAmb	13 23 52.5	
	comp=Z,10nm,1.1s					
GLB	Gilahina Butte	58.40 334	P	P	13 23 51.5	+1.6
GLB			IAmb	IAmb	13 23 53.2	
	comp=Z,15nm,1.0s					
EPYK	Eagle Plains	58.48 341	P	P	13 23 51.7	+1.3
	baz=128					
EPYK	Eagle Plains	58.48 341	P	P	13 23 50.6	+0.2
EPYK			IAmb	IAmb	13 23 53.0	
	comp=Z,10nm,1.2s					
EPYK			PcP	PcP	13 24 39.9	+0.6
BMRM	Bremner River	58.52 333	P	P	13 23 52.0	+1.3
	baz=117					
INK	Inuvik	58.80 343	P	P	13 23 52.8	+0.4
	baz=132					
INK	Inuvik	58.80 343	P	P	13 23 52.5	+0.1
INK			IAmb	IAmb	13 23 53.5	
	comp=Z,6.7nm,0.8s					
N25K	Chitina, Valde	58.81 334	P	P	13 23 53.7	+0.9
	baz=117,SNR=6.4					
N25K	Chitina, Valde	58.81 334	P	P	13 23 54.1	+1.3
N25K			IAmb	IAmb	13 23 56.2	
	comp=Z,12nm,0.8s					
TIJ01	Guaruva-PR	58.81 133	eP	P	13 23 54.0	+0.7
DIAM	Diamantina, MG	58.82 123	eP	P	13 23 52.7	-0.9
EYAK	Cordova Ski Ar	58.84 333	P	P	13 23 53.6	+0.8
	baz=116					
VAO	Valinhos	58.88 130	eP	P	13 23 54.2	+0.4
SPB	Sao Paulo	58.89 130	eP	P	13 23 54.7	+1.0
NBPA	Parau_RN	58.94 107	eP	P	13 23 52.2	-2.2
L26K	Log Cabin Wild	58.98 336	P	P	13 23 55.2	+1.3
	baz=119,SNR=5.3					
EGAK	Eagle	59.06 338	P	P	13 23 54.7	+0.4
	baz=123,SNR=6.1					
EGAK	Eagle	59.06 338	P	P	13 23 54.1	-0.2
EGAK			IAmb	IAmb	13 23 55.9	
	comp=Z,7.9nm,1.2s					
HIN	Hinchinbrook I	59.11 332	P	P	13 23 54.5	-0.3
CPSB	Cacapava Do Su	59.27 141	eP	P	13 23 56.5	+0.3
KLU	Klutina	59.33 333	P	P	13 23 57.9	+1.6
	baz=116,SNR=5.0					
KLU	Klutina	59.33 333	P	P	13 23 57.8	+1.5
BSCB	Bom Sucesso	59.40 126	eP	P	13 23 57.5	+0.1
HARP	HAARP	59.41 335	P	P	13 23 57.8	+1.0
	baz=117					
PET01	Itanhaem-SP	59.42 131	eP	P	13 23 58.0	+0.6
DOT	Dot Lake	59.56 336	P	P	13 23 58.7	+0.8
DOT			IAmb	IAmb	13 24 00.5	
	comp=Z,11nm,1.0s					
GLI	Glacier Island	59.58 333	P	P	13 24 00.2	+2.2
	baz=114					
PLCA	Paso Flores	59.62 161	P	P	13 24 00.2	+1.6
	comp=Z,4.1nm,0.8s,baz=288,slow=3.9,SNR=6.8					
PLCA			pP	pP	13 24 34.7	+1.6
	comp=Z,7.0nm,1.1s,baz=319,slow=7.7,SNR=4.1					
PLCA	Paso Flores	59.62 161	eP	P	13 24 00.8	+2.3
SCRK	Sand Creek	59.70 336	P	P	13 24 00.1	+1.2
	baz=119,SNR=5.2					
SCRK	Sand Creek	59.70 336	P	P	13 23 59.8	+0.9
SCRK			IAmb	IAmb	13 24 01.7	
	comp=Z,11nm,1.4s					
M24K	Tolsona, Glenn	59.70 334	P	P	13 24 00.7	+1.8
	baz=116					
M24K	Tolsona, Glenn	59.70 334	P	P	13 23 59.4	+0.5
PAX	Paxson	59.80 335	P	P	13 24 00.7	+1.1
	baz=117,SNR=6.7					
PAX	Paxson	59.80 335	P	P	13 23 60.0	+0.4
PAX			IAmb	IAmb	13 24 01.9	
	comp=Z,12nm,1.0s					
RIDG	Independent Ri	59.92 336	P	P	13 24 01.7	+1.4
	baz=118,SNR=6.4					
RIDG	Independent Ri	59.92 336	P	P	13 24 01.3	+1.0
RIDG			IAmb	IAmb	13 24 03.0	
	comp=Z,13nm,1.1s					
GDU01	Guandu, BA	60.02 116	eP	P	13 24 00.7	-1.0
PARB	Paraibuna	60.08 129	eP	P	13 24 02.4	+0.3
SCM	Sheep Creek Mo	60.08 333	P	P	13 24 01.8	+0.3
SCM			IAmb	IAmb	13 24 04.0	
	comp=Z,16nm,1.0s					
PLTB	Pedras Altas	60.13 142	P	P	13 24 01.7	-0.4
PLTB			IAmb	IAmb	13 24 06.4	
	comp=Z,12nm,1.1s					
PLTB	Pedras Altas	60.13 142	eP	P	13 24 01.9	-0.3
SEW	Seward	60.34 331	P	P	13 24 04.4	+1.2
	baz=112					
SEW	Seward	60.34 331	P	P	13 24 03.9	+0.7
SEW			IAmb	IAmb	13 24 05.5	
	comp=Z,12nm,0.9s					
KNK	Knik Glacier	60.40 333	P	P	13 24 04.8	+1.3
	baz=113					
KNK	Knik Glacier	60.40 333	P	P	13 24 04.4	+0.9
KNK			IAmb	IAmb	13 24 06.2	
	comp=Z,12nm,0.9s					
SML	Sawmill	60.50 333	P	P	13 24 05.5	+1.2
	baz=114,SNR=5.5					
SML	Sawmill	60.50 333	P	P	13 24 04.8	+0.5
SML			IAmb	IAmb	13 24 07.5	
	comp=Z,18nm,1.1s					
WAT6	Susitna Watana	60.57 334	P	P	13 24 06.0	+1.1
	baz=115,SNR=14					
TRQA	Tornquist	60.59 152	eP	P	13 24 08.3	+3.2
NBIT	Itapeh - BA	60.69 117	eP	P	13 24 04.0	-2.2
GHO	Glory Hole Cre	60.74 333	P	P	13 24 06.7	+0.7
BRSE	Bradley Lake S	60.81 331	P	P	13 24 06.9	+0.5
	baz=110					
CMC01	Camacan, BA	60.82 118	eP	P	13 24 06.3	-0.7
RC01	Rabbit Creek A	60.84 332	P	P	13 24 08.1	+1.5
	baz=112					
RC01	Rabbit Creek A	60.84 332	P	P	13 24 07.7	+1.2
BRLK	Bradley Lake	60.89 331	P	P	13 24 07.6	+0.6
CNPM	China Poot	60.98 330	P	P	13 24 08.5	+1.0
WAT1	Susitna Watana	61.01 334	P	P	13 24 08.5	+0.8
	baz=114					
PRP	Porcupine Dome	61.02 338	P	P	13 24 08.8	+0.9
	baz=118,SNR=15					
PRP	Porcupine Dome	61.02 338	P	P	13 24 08.3	+0.5
PRP			IAmb	IAmb	13 24 10.1	
	comp=Z,12nm,1.0s					
HDA	Harding Lake	61.05 336	P	P	13 24 08.6	+0.7
	baz=116,SNR=5.6					
HDA	Harding Lake	61.05 336	P	P	13 24 08.1	+0.2
HDA			IAmb	IAmb	13 24 09.8	
	comp=Z,14nm,1.2s					
SJMB	Sao Joao De Ma	61.05 122	eP	P	13 24 07.2	-1.4
VAS01	Vassouras-RJ	61.14 127	eP	P	13 24 09.0	-0.2
GUA01	Guaratinga, BA	61.15 119	eP	P	13 24 08.5	-0.8
IL31		61.19 337	P	P	13 24 09.1	+0.3
IL31			IAmb	IAmb	13 24 10.9	
	comp=Z,18nm,1.1s					
ILAR	Eielson Array	61.19 337	P	P	13 24 08.8	0.0
	comp=Z,7.0nm,1.0s,baz=124,slow=5.1,SNR=54					
ILAR			pP	pP	13 24 44.3	+0.6
	comp=Z,4.8nm,1.0s,baz=129,slow=4.7,SNR=4.7					
ILAR			sP	sP	13 24 59.5	-0.2
	comp=Z,3.3nm,1.0s,baz=127,slow=4.2,SNR=4.1					
HOM	Homer	61.22 330	P	P	13 24 10.1	+1.0
	baz=109					
OHAK	Old Harbor	61.28 327	P	P	13 24 11.2	+1.7
	baz=107					
OHAK	Old Harbor	61.28 327	P	P	13 24 10.8	+1.3
RND	Reindeer	61.38 335	P	P	13 24 11.0	+0.8
BSFB	Barra de Sao F	61.39 122	eP	P	13 24 10.5	-0.4
SUA	Susitna One	61.43 332	P	P	13 24 12.0	+1.3
	baz=111,SNR=5.1					
SUA	Susitna One	61.43 332	P	P	13 24 11.6	+0.9
SUA			IAmb	IAmb	13 24 14.2	
	comp=Z,12nm,0.8s					
CCB	Clear Creek Bu	61.48 336	P	P	13 24 11.0	+0.2
NAN01	Guarapari, ES	61.49 121	eP	P	13 24 10.7	-0.9
WRH	Wood River Hil	61.52 336	P	P	13 24 10.9	-0.1
MCK	McKinley	61.54 335	P	P	13 24 12.3	+1.1
	baz=114,SNR=5.8					
MCK	McKinley	61.54 335	P	P	13 24 11.8	+0.6
MCK			IAmb	IAmb	13 24 13.5	
	comp=Z,14nm,1.0s					
POKR	Poker Plat Res	61.55 337	P	P	13 24 11.9	+0.6
	baz=116					
CUT	Chulitna	61.57 333	P	P	13 24 12.7	+1.2
	baz=112,SNR=5.5					
CUT	Chulitna	61.57 333	P	P	13 24 11.8	+0.4
COLA	College	61.60 337	P	P	13 24 12.1	+0.6
	baz=116					
COLA	College	61.60 337	P	P	13 24 11.9	+0.3
COLA			IAmb	IAmb	13 24 13.3	
	comp=Z,8.5nm,0.8s					
TCOL	CIGO, UAF Yank	61.60 337	P	P	13 24 12.0	+0.4
	baz=116					
TCOL	CIGO, UAF Yank	61.60 337	P	P	13 24 11.9	+0.4
TCOL			IAmb	IAmb	13 24 13.3	
	comp=Z,8.1nm,0.8s					
BMAR	Burnt Mountain	61.64 340	P	P	13 24 12.6	+0.7
MDM	Murphy Dome	61.78 337	P	P	13 24 13.0	+0.1
O20K	Slope Mountain	61.82 331	P	P	13 24 14.6	+1.4
	baz=109,SNR=8.8					
SPU	Mount Spurr	61.92 332	P	P	13 24 14.0	+0.1
NEA2	Nenana	61.95 336	P	P	13 24 14.1	+0.1
NEA2			IAmb	IAmb	13 24 15.7	
	comp=Z,11nm,1.4s					
SKT	Skwentna	61.97 333	P	P	13 24 15.4	+1.2
	baz=111,SNR=11					
SKT	Skwentna	61.97 333	P	P	13 24 14.4	+0.3
SKT			IAmb	IAmb	13 24 16.5	
	comp=Z,16nm,1.0s					
P19K	Oil Pt	61.98 330	P	P	13 24 15.1	+0.9
	baz=108					
TRF	Thorofare Moun	61.98 335	P	P	13 24 15.4	+1.0
	baz=113,SNR=12					
SPCR	Spurr Chakacha	62.00 332	P	P	13 24 15.2	+0.7
	baz=110					
RIB01	Linhares ES	62.00 122	eP	P	13 24 14.0	-1.0
RSO	Redoubt South	62.01 331	P	P	13 24 15.3	+0.7
H24K	Noodor Dome	62.04 338	P	P	13 24 15.6	+1.0
	baz=116,SNR=14					
CAM01	Campos-RJ	62.28 125	eP	P	13 24 16.3	-0.5
KTH	Kantishna Hill	62.29 335	P	P	13 24 16.7	+0.4
KTH			IAmb	IAmb	13 24 18.2	
	comp=Z,16nm,1.0s					
I23K	Minto, Yukon-K	62.30 336	P	P	13 24 17.4	+1.2
	baz=114,SNR=26					
I23K	Minto, Yukon-K	62.30 336	P	P	13 24 16.8	+0.6
ALF01	Guarapari-ES	62.40 124	eP	P	13 24 17.0	-0.6
BPAW	Bear Paw Mtn.	62.52 335	P	P	13 24 18.5	+0.7
	baz=112,SNR=8.8					
BPAW	Bear Paw Mtn.	62.52 335	P	P	13 24 18.1	+0.3
BPAW			IAmb	IAmb	13 24 19.7	
	comp=Z,13nm,1.0s					
PPLA	Purkeypile	62.58 334	P	P	13 24 19.0	+0.6
	baz=110					
PPLA	Purkeypile	62.58 334	P	P	13 24 18.5	+0.2
M20K	Styx River	62.65 332	P	P	13 24 19.1	+0.4
	baz=109					
H23K	Yukon River	62.65 337	P	P	13 24 19.5	+0.9
	baz=114,SNR=5.0					
MLY	Manley	62.78 336	P	P	13 24 20.5	+0.9
	baz=113,SNR=24					
MLY	Manley	62.78 336	P	P	13 24 20.0	+0.5
MLY			IAmb	IAmb	13 24 21.6	
	comp=Z,14nm,0.9s					
MLY			pP	pP	13 24 54.9	+0.3
N19K	Bonanza Creek	62.93 331	P	P	13 24 21.6	+0.9
	baz=107,SNR=12					
M19K	Big River Lodg	63.22 332	P	P	13 24 23.3	+0.9
	baz=108					
I21K	Tanana	63.33 336	P	P	13 24 23.8	+0.8
	baz=112,SNR=11					
L19K	White Mountain	63.51 332	P	P	13 24 25.0	+0.7
	baz=108,SNR=7.0					
SVW2	Sparrevohn	63.52 331	P	P	13 24 24.6	+0.2
N18K	Kilae Creek	63.55 331	P	P	13 24 25.5	+0.9
	baz=106,SNR=9.2					
H21K	Melozitna Rive	63.82 336	P	P	13 24 26.9	+0.6
	baz=111					
J20K	Nowinta River	63.84 335	P	P	13 24 27.0	+0.5
	baz=109,SNR=8.7					
TOLK	Toolik Lake Re	63.87 340	P	P	13 24 27.9	+1.3
	baz=116,SNR=6.2					
TOLK	Toolik Lake Re	63.87 340	P	P	13 24 27.0	+0.3
SDPT	Sand Point	64.76 324	P	P	13 24 33.7	+1.1
	baz=99					
FALS	False Pass	66.36 323	P	P	13 24 43.6	+0.8
	baz=96,SNR=9.4					
FALS	False Pass	66.36 323	P	P	13 24 43.2	+0.4
ANM	Nome	68.67 334	P	P	13 24 56.7	-0.4
	baz=99					
NIKH	Nikolski High	69.44 321	P	P	13 25 02.1	0.0
	baz=91					
NIKH	Nikolski High	69.44 321	P	P	13 25 02.6	+0.4
TNA	Tin City	69.88 335	P	P	13 25 05.5	+1.0
	baz=97					
ADK	Adak	74.27 320	P	P	13 25 31.2	+0.2
AMKA	Amchitka	76.81 320	P	P	13 25 46.3	+0.9
ESK	Eskdalemuir	77.09 36	P	P	13 25 45.1	-1.9
ESK			IAmb	IAmb	13 25 46.5	
	comp=Z,8.2nm,0.8s					
KBS	Kingsbay	77.64 11	P	P	13 25 48.8	-0.8
KBS			IAmb	IAmb	13 26 12.6	
	comp=Z,10nm,0.9s					
ESDC	Sonseca Array	79.29 52	P	P	13 25 57.3	-2.2
	comp=Z,1.0nm,0.7s,baz=294,slow=5.8,SNR=9.2					
ESDC			pP	pP	13 26 35.2	-0.8
	comp=Z,2.2nm,0.9s,baz=286,slow=6.5,SNR=7.3					
BILL	Bilibino	79.81 338	P	P	13 26 02.4	+0.8
BILL			IAmb	IAmb	13 26 04.0	
	comp=Z,26nm,1.0s					
NB2	NORSAR Subarra	83.12 28	P	P	13 26 18.5	-0.8
	comp=Z,1.1nm,0.7s,baz=290,slow=5.1					
NOA	NORSAR Array B	83.12 28	P	P	13 26 18.0	-1.2
	comp=Z,1.2nm,0.7s,baz=291,slow=5.1,SNR=12					
NOA			pP	pP	13 26 56.8	+0.6
	comp=Z,1.2nm,0.9s,baz=290,slow=5.2,SNR=3.1					
SEY	Seymchan	87.10 335	P	P	13 26 39.6	+0.7
	comp=Z,8.0nm,0.8s,baz=125,slow=4.3,SNR=9.9					
GERES	GERESS Array B	88.85 39	P	P	13 26 46.6	-1.1
	comp=Z,0.3nm,0.2s,baz=302,slow=7.7,SNR=3.9					
FINES	FINESS Array B	89.40 25	P	P	13 26 50.0	+0.1
	comp=Z,0.2nm,0.3s,baz=285,slow=7.0,SNR=2.0					
FINES			pP	pP	13 27 26.1	-1.0
	comp=Z,4.0nm,1.0s,baz=347,slow=4.1,SNR=5.4					
VYHS	Vyhne	92.09 38	eP	P	13 27 02.1	-0.6
KSRS	Korea Array	114.92 325	PKP	PKiKP	13 32 33.0	-0.7
	comp=Z,1.8nm,0.7s,baz=354,slow=1.3,SNR=8.7					
HHC	Hu-ho-hao-te	119.57 339	eP	PKPdf	13 32 41.1	-1.7
WMQ	Urumqi	120.94 360	eP	PKiKP	13 32 45.8	+0.3
WMQ			pmax	pmax		
	comp=Z,190nm,5.1s					
BOSA	Boshof	121.59 114	PKP	PKiKP	13 32 47.5	+0.4
	comp=Z,9.2nm,0.8s,baz=336,slow=3.1,SNR=11					
NJ2	Nanjing	123.86 328	eP	PKiKP	13 32 51.8	+0.4
NJ2			pmax	pmax		
	comp=Z,17nm,0.7s					
GTA	Gaotai	124.12 348	⇓P	PKiKP	13 32 52.6	+0.7
GTA			pP	PKPdf	13 32 56.8	+5.2
GTA			pmax	pmax		
	comp=Z,6.0nm,1.0s					
MAW	Mawson	125.59 169	PKP	PKiKP	13 32 54.6	+0.9
	comp=Z,3.3nm,0.8s,baz=234,slow=5.4,SNR=4.1					
LZH	Lanzhou	126.34 343	ePKP	PKiKP	13 32 57.6	+1.1
LZH			sPKP		13 33 54.9	
XAN	Xi'an	126.59 338	PKP	PKPdf	13 32 56.8	+0.4
XAN			pPKP	pPKPdf	13 33 38.0	+2.3
GYA	Guiyang	134.22 336	eP	PKPdf	13 33 11.6	+0.4
GYA			pmax	pmax		
	comp=Z,1.0nm,1.0s					
WRA	Warramunga Ar	135.11 257	PKP	PKPdf	13 33 13.8	+1.0
	comp=Z,2.0nm,0.8s,baz=78,slow=1.4,SNR=4.5					
NONG	Nongkai	143.16 334	PKP	PKPbc	13 33 25.4	+0.6
NONG	Nongkai	143.16 334	P	PKPbc	13 33 25.4	+0.6
CHTO	Chiang Mai	144.01 341	P	PKPdf	13 33 30.4	+1.4
LAMP	Lampang	144.06 340	P	PKPdf	13 33 30.6	+1.5
CM09	Chiang Mai Arr	144.34 341	P	PKPdf	13 33 29.5	-0.1
CMAR	Chiang Mai Arr	144.34 341	PKP	PKPbc	13 33 28.6	+0.4
	comp=Z,6.4nm,0.8s,baz=339,slow=3.7,SNR=43					
CMAR			pPKP	pPKPdf	13 34 08.3	-0.6
	comp=Z,0.3nm,0.3s,baz=347,slow=3.7,SNR=1.3					
CMAR			SKP		13 36 50.0	
	comp=Z,0.5nm,0.5s,baz=0.7,slow=7.2,SNR=2.8					
CMAR			SKPbc	SKiKP	13 36 57.6	+1.7
	comp=Z,2.2nm,1.1s,baz=346,slow=1.9,SNR=6.3					
CMAR	Chiang Mai Arr	144.34 341	PKPdf	PKPab	13 33 28.1	+0.2
CM15	Chiang Mai Arr	144.35 341	P	PKPdf	13 33 29.3	-0.3
CM02	Chiang Mai Arr	144.36 341	P	PKPbc	13 33 29.2	+0.9
CM01	Chiang Mai Arr	144.37 341	P	PKPdf	13 33 29.5	-0.1
CM04	Chiang Mai Arr	144.38 341	P	PKPdf	13 33 29.6	-0.1
CM13	Chiang Mai Arr	144.39 341	P	PKPbc	13 33 29.1	+0.7
CM05	Chiang Mai Arr	144.39 341	P

ASAR Alice Springs 41.20 262 P **P 13 21 47.4 0.0**
comp=Z,0.4nm,0.5s,baz=93,slow=7.7,SNR=22
WR0 Warramunga Arr 41.48 268 P **P 13 21 48.8 -0.8**
WB2 Warramunga Arr 41.66 268 P **P 13 21 50.2 -0.8**
WB2 IAmb IAmb 13 22 00.4
comp=Z,16nm,1.4s
WB0 Warramunga Arr 41.67 268 P **P 13 21 50.3 -0.7**
WB0 IAmb IAmb 13 21 57.2
comp=Z,13nm,1.4s
WRA Warramunga Arr 41.67 268 P **P 13 21 50.4 -0.6**
comp=Z,1.1nm,0.3s,baz=103,slow=8.3,SNR=40
WRA Warramunga Arr 41.67 268 P **P 13 21 50.0 -1.0**
KNRA Kununurra 48.01 271 P **P 13 22 39.3 -0.6**
KNRA IAmb IAmb 13 22 50.8
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 72.37 326 P **P 13 25 21.4 +0.2**
MJAR IAmb IAmb 13 25 22.2
comp=Z,11nm,0.8s
ERM Erimo 74.51 333 P **P 13 25 33.8 +0.5**
ERM IAmb IAmb 13 26 02.6
comp=Z,30nm,1.0s
NIKH Nikolski High 78.27 7 P **P 13 25 53.6 -0.1**
NIKH IAmb IAmb 13 26 00.1
comp=Z,32nm,1.0s
CLL Collm 151.63 342 *e*PKPbc **PKiKP 13 33 45.0 +1.3**

NIED ***14*** *13:16:33.7, 37.°31N×141.°82E, h43km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=2.10; Mθθ2.53; Mφφ-0.43; Mrθ-0.84; Mθφ-1.93; Mφr3.56; Fault plane solution: Mo4.74000×10¹⁵ NP1: φs152.00000°, δ75.00000°, λ-59.00000°. NP2: φs265.00000°, δ35.00000°, λ-152.00000°.*
JMA ***14*** *13:16:33.6±0.1, 37.°31N×141.°82E, h43km±3km, M4.7*
JMA Felt II J1.
MOS ***14*** *13:16:34.1±0.9, 37.°54N×141.°83E, h35km, mb4.9/42, Error ellipse: s-maj=7.2km s-min=4.7km az=83.5*
NEIC ***14*** *13:16:35.7, 37.°37N×141.°75E, h39km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=3.12; Mθθ1.99; Mφφ1.13; Mrθ-0.38; Mθφ-2.13; Mφr2.41; Fault plane solution: Mo4.24000×10¹⁵ NP1:φs151.95000°, δ63.28000°, λ-65.79000°. NP2:φs286.94000°, δ35.45000°, λ-129.17000°. Principal axes: T 4.2168, Plg15.0000°, Azm224.0000°; N 0.0411, Plg21.0000°, Azm321.0000°; P -4.2579, Plg63.0000°, Azm102.0000°;*
NEIC ***14*** *13:16:35.6±1.1, 37.°35N±0.°07×141.°78E±0.°09, h38km±6km, mb4.7/164, Mwr4.4/31 Error ellipse: s-maj=11.7km s-min=8.6km az=123.0*
IDC ***14*** *13:16:35.6±1.6, 37.°31N×141.°83E, h47km±15km, mb4.2/24, mb1 4.3/30, mb1mx4.3/53, mbtmp4.4/30, ML3.9/5, MS3.6/11, Ms1 3.7/11, ms1mx3.4/37, Error ellipse: s-maj=15.6km s-min=11.6km az=139.0*
BJI ***14*** *13:16:35.3±0.0, 37.°16N×141.°48E, h43km, mB5.0/20, mb4.6/40, Ms4.5/5, Ms7 4.1/5*
ISC 14 13:16:32.8±0.8, 37.°35N±0.°04×141.°91E±0.°04, h25km±4km, n367, σ1°39/373, mb4.7/129, MS3.9/12, 9C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.82**	**271**	P	**Pb**	**13 16 48.0**	**-0.4**
JFK				S	**Sb**	**13 16 57.7**	**-1.4**
JMST	**Minamisoumatoc**	**0.89**	**295**	P	**Pn**	**13 16 49.2**	**-0.5**
JMST				S	**Sb**	**13 16 59.9**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.92**	**255**	P	**Pn**	**13 16 49.2**	**-1.0**
ONAJ				*e*S	**Sb**	**13 16 59.8**	**-2.1**
JMM	**Marumori**	**1.02**	**301**	P	**Pn**	**13 16 51.2**	**-0.4**
JMM				S	**Sb**	**13 17 03.8**	**-1.0**
JMM	**Marumori**	**1.02**	**301**	Pn	**Pn**	**13 16 51.1**	**-0.4**
JFFD	**Fukushimafurud**	**1.10**	**257**	P	**Pn**	**13 16 51.8**	**-0.9**
JFFD				S	**Sn**	**13 17 04.5**	**-2.6**
JIO	**Ouri**	**1.19**	**338**	P	**Pn**	**13 16 54.2**	**+0.4**
JFT	**Otama**	**1.26**	**278**	P	**Pn**	**13 16 55.2**	**+0.4**
JFT				S	**Sn**	**13 17 10.0**	**-1.0**
JHO	**Hitachi**	**1.30**	**236**	P	**Pn**	**13 16 54.1**	**-1.3**
JHO				S	**Sn**	**13 17 08.9**	**-3.0**
JOU	**Okura**	**1.41**	**316**	P	**Pn**	**13 16 57.4**	**+0.5**
JOU				*e*S	**Sn**	**13 17 15.6**	**+0.8**
JMK	**Ichinoseki**	**1.69**	**342**	P	**Pn**	**13 17 01.8**	**+1.1**
JYS	**Shirataka**	**1.70**	**301**	P	**Pn**	**13 17 01.5**	**+0.7**
JYS				S	**Sn**	**13 17 23.2**	**+1.4**
JFY	**Yanaizu**	**1.75**	**273**	P	**Pn**	**13 17 01.9**	**+0.3**
JFY				S	**Sn**	**13 17 23.5**	**+0.3**
JYT	**Yasato**	**1.77**	**231**	Pn	**Pn**	**13 17 01.7**	**-0.1**
JSD	**Sado**	**2.97**	**284**	Pn	**Pn**	**13 17 18.7**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**3.04**	**256**	*e*P	**Pn**	**13 17 20.8**	**+1.5**
MJA0				pmax	pmax		
comp=Z,5.0nm,0.3s
MJAR	**Matsushiro Arr**	**3.07**	**256**	P	**Pn**	**13 17 20.1**	**+0.4**
comp=Z,5.1nm,0.3s,baz=73,slow=11,SNR=78
MJAR				S	**Sn**	**13 17 55.8**	**+0.1**
comp=Z,7.6nm,0.3s,baz=90,slow=17,SNR=3.8
MJAR				LR	LR	13 18 49.4	
comp=Z,2μm,18.8s,baz=70,slow=45
MAJO	**Matsushiro**	**3.07**	**256**	*c iP*	**Pn**	**13 17 21.5**	**+1.8**
MAJO	**Matsushiro**	**3.07**	**256**	Pn	**Pn**	**13 17 20.4**	**+0.6**
MAT	**Matsushiro**	**3.07**	**256**	P	**Pn**	**13 17 20.8**	**+1.1**
MAT				S	**Sn**	**13 17 56.6**	**+0.9**
MJB9	**Matsu-Tunnel**	**3.07**	**256**	Pn	**Pn**	**13 17 20.7**	**+0.9**
JTM	**Tenmabayashi**	**3.49**	**349**	Pn	**Pn**	**13 17 27.2**	**+1.7**
JSG	**Sagara**	**4.03**	**230**	Pn	**Pn**	**13 17 32.1**	**-0.8**
JGF	**Kuroka**	**4.06**	**246**	Pn	**Pn**	**13 17 33.2**	**-0.2**
INU	**Inuyama**	**4.42**	**245**		**Pn**	**13 17 39.4**	**+1.1**
JHJ2	**Mitsune**	**4.56**	**203**	Pn	**Pn**	**13 17 39.5**	**-0.7**
JHJ	**Hachijo jima 2**	**4.56**	**203**	P	**Pn**	**13 17 39.8**	**-0.4**
comp=Z,62nm,0.3s,baz=0.0,slow=20,SNR=33
JHJ				S	**Sn**	**13 18 29.0**	**-3.5**
comp=Z,174nm,0.3s,baz=79,slow=22,SNR=7.4
JHJ				LR	LR	13 19 47.6	
comp=Z,1μm,18.4s,baz=77,slow=43
ERM	**Erimo**	**4.76**	**11**	*de*P	**Pn**	**13 17 44.4**	**+1.5**
ERM	**Erimo**	**4.76**	**11**	Pn	**Pn**	**13 17 43.8**	**+1.0**
JEW	**Eniwo**	**5.50**	**356**	Pn	**Pn**	**13 17 54.6**	**+1.6**
JWT	**Wachi**	**5.64**	**251**	Pn	**Pn**	**13 17 55.5**	**+0.4**
NMR	**Nemuro--Hokkai**	**6.68**	**25**	⇓*iP*	**Pn**	**13 18 08.5**	**-0.8**
NMR				*i* S	**Sn**	**13 19 18.6**	**-6.0**
ASAJ	**Asahikawa**	**6.78**	**4**	P	**Pn**	**13 18 11.1**	**+0.4**
comp=Z,3.6nm,0.3s,baz=216,slow=11,SNR=26
ASAJ				S	**Sn**	**13 19 25.3**	**-1.7**
comp=Z,4.8nm,0.3s,baz=102,slow=15,SNR=1.8
ASAJ	**Asahikawa**	**6.78**	**4**	P	**Pn**	**13 18 11.6**	**+0.9**
ASAJ						13 19 25.3	
JKA	**Kamikawa-asahi**	**6.78**	**4**		**Pn**	**13 18 11.6**	**+0.9**
JKA	**Kamikawa-asahi**	**6.78**	**4**		**Sn**	**13 19 25.3**	**-1.7**
RUSJ	**Misakicho**	**7.21**	**20**	*e*P	**Pn**	**13 18 18.0**	**+1.5**
RUSJ				*e*S	**Sn**	**13 19 34.2**	**-3.3**
GRPR	**Tuman**	**7.26**	**23**	*e*P	**Pn**	**13 18 16.7**	**-0.5**
GRPR				*e*S	**Sn**	**13 19 33.6**	**-5.1**
GRPR				pmax	pmax		
comp=Z,64nm,0.2s
YUK	**Yuzh-Kuril'sk**	**7.32**	**23**	*e*P	**Pn**	**13 18 18.0**	**-0.1**
YUK				*e*S	**Sn**	**13 19 35.3**	**-5.0**
YUK				pmax	pmax		
comp=N,72nm,0.2s
YUK				pmax	pmax		
comp=Z,122nm,0.2s
JMN	**Monobe**	**7.47**	**243**		**Pn**	**13 18 20.4**	**+0.1**
JHS	**Saijyo**	**7.49**	**254**		**Pn**	**13 18 21.1**	**+0.7**
KUR	**Kuril'sk**	**9.06**	**28**	*e*P	**Pn**	**13 18 42.7**	**+0.8**
KUR				*e*S	**Sn**	**13 20 18.8**	**-4.3**
KUR				pmax	pmax		
comp=N,26nm,0.7s
KUR				pmax	pmax		
comp=Z,71nm,0.7s
KUR				pmax	pmax		
comp=E,31nm,0.8s
KUR				smax	smax		
comp=N,102nm,0.5s
KUR				smax	smax		
comp=E,202nm,0.5s
KUR				MLR	MLR		
comp=Z,500nm,17.0s
VLA	**Vladivostok**	**9.58**	**310**	⇓*eP*	**Pn**	**13 18 52.2**	**+3.1**
VLA				pmax	pmax		
comp=Z,282nm,3.4s
YSS	**Yuzh-Sakhalins**	**9.62**	**3**	*e*P	Pn	13 19 01.4	+12
YSS	**Yuzh-Sakhalins**	**9.62**	**3**	Pn	**Pn**	**13 18 49.6**	**+0.1**
JNU	**Nakatsue**	**9.96**	**248**	P	**Pn**	**13 18 55.9**	**+1.6**
comp=Z,1.2nm,0.3s,baz=62,slow=6.5,SNR=15
JNU	**Nakatsue**	**9.96**	**248**	Pn	**Pn**	**13 18 55.0**	**+0.7**
USA0B	**Ussuriysk Arra**	**10.16**	**315**	P	**Pn**	**13 18 57.9**	**+0.9**
USA0B	**Ussuriysk Arra**	**10.16**	**315**	Pn	**Pn**	**13 18 57.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.16**	**315**	P	**Pn**	**13 18 59.7**	**+2.7**
baz=132,slow=13,SNR=15
USRK				LR	LR	13 22 42.3	
comp=Z,318nm,19.5s,baz=116,slow=36
JSU	**Suzuyama**	**11.10**	**242**	Pn	**Pn**	**13 19 09.7**	**-0.3**
KSRS	**Korea Array**	**11.13**	**275**	P	**Pn**	**13 19 14.5**	**+4.3**
comp=Z,0.6nm,0.3s,baz=91,slow=14,SNR=29
KSRS				LR	LR	13 23 20.9	
comp=Z,378nm,18.4s,baz=83,slow=36
KSRS	**Korea Array**	**11.13**	**275**	*e*P	**Pn**	**13 19 14.7**	**+4.5**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.3s
MDJ	**Mudanjiang**	**11.79**	**312**	P	Pn	13 19 33.5	+14
MDJ				pmax	pmax		
comp=Z,22nm,0.9s
MDJ				pmax	pmax		
comp=Z,2μm,5.1s
KLR	**Kul'dur**	**13.97**	**331**	P	**Pn**	**13 19 48.6**	**-0.5**
comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=2.0
GRNR	**Gornyy**	**13.98**	**345**	⇓*iP*	Pn	13 19 45.6	-3.5
GRNR				*e*S	**Sn**	**13 22 16.1**	**-7.3**
GRNR				pmax	pmax		
comp=Z,2.0nm,0.7s
GRNR				smax	smax		
comp=N,2.0nm,0.7s
SKR	**Severo-Kuril's**	**16.75**	**33**	⇓*eP*	**Pn**	**13 20 25.5**	**-0.1**
PEA0B	**Petropavlovsk-**	**19.22**	**30**	⇓*eP*	**Pn**	**13 20 56.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**19.22**	**30**	P	**Pn**	**13 20 56.3**	**+0.5**
PETK	**Petropavlovsk-**	**19.22**	**30**	P	**P**	**13 20 55.4**	**+0.6**
comp=N,0.1nm,0.3s,baz=211,slow=13,SNR=12
PETK				LR	LR	13 28 16.9	
comp=N,124nm,21.5s,baz=214,slow=36
PETK	**Petropavlovsk-**	**19.22**	**30**	P	**P**	**13 20 55.6**	**+0.8**
PETK	**Petropavlovsk-**	**19.22**	**30**	P	**P**	**13 20 55.6**	**+0.8**
ZEA	**Zeya**	**19.27**	**333**	*e*P	**P**	**13 20 55.4**	**0.0**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.6s
PET	**Petropavlovsk**	**19.54**	**31**	⇓*eP*	**Pn**	**13 21 01.0**	**+1.3**
PET				pmax	pmax		
comp=Z,52nm,2.5s
NJ2	**Nanjing**	**19.66**	**261**	*e*P	**P**	**13 21 00.3**	**+0.5**
NJ2				pmax	pmax		
comp=Z,11nm,0.7s
TIA	**Tai'an**	**19.87**	**274**	*e*P	**P**	**13 20 59.6**	**-2.5**
TIA				pmax	pmax		
comp=Z,12nm,1.0s
BJI	**Beijing**	**20.24**	**286**	P	**P**	**13 21 06.4**	**+0.3**
BJI				pP	**pP**	**13 21 12.8**	**0.0**
BJI				S	**S**	**13 24 47.5**	**-4.5**
BJI				pmax	pmax		
comp=Z,12nm,1.0s
MA2	**Magadan**	**22.96**	**12**	P	**P**	**13 21 36.2**	**+1.1**
comp=Z,9.3nm,0.7s,baz=205,slow=9.2,SNR=4.4
MA2	**Magadan**	**22.96**	**12**	P	**P**	**13 21 34.3**	**-0.8**
MA2				IAmb	IAmb	13 21 56.1	
comp=Z,24nm,1.1s
HHC	**Hu-ho-hao-te**	**23.75**	**288**	*e*P	**P**	**13 21 43.8**	**+0.6**
HHC				pmax	pmax		
comp=Z,23nm,0.9s
HHC				pmax	pmax		
comp=Z,360nm,5.6s
WHN	**Wuhan**	**23.80**	**262**	⇓P	**P**	**13 21 43.5**	**-0.1**
YAK	**Yakutsk**	**25.85**	**347**	P	**P**	**13 22 01.3**	**-0.7**
comp=Z,5.0nm,0.4s,baz=154,slow=1.5,SNR=6.1
YAK	**Yakutsk**	**25.85**	**347**	*e*P	**P**	**13 22 01.9**	**-0.1**
YAK				pmax	pmax		
comp=Z,21nm,0.8s
SEY	**Seymchan**	**26.41**	**11**	P	**P**	**13 22 08.6**	**+1.6**
comp=Z,7.6nm,0.5s,baz=180,slow=8.0,SNR=23
XAN	**Xi'an**	**26.92**	**273**	P	**P**	**13 22 11.4**	**-0.6**
XAN				pmax	pmax		
comp=Z,10.0nm,0.5s
BOD	**Bodaibo**	**27.48**	**327**	*e*P	**P**	**13 22 17.9**	**+1.2**
BOD				pmax	pmax		
comp=Z,24nm,0.8s
ULN	**Ulaanbaatar**	**27.50**	**304**	P	**P**	**13 22 17.0**	**-0.3**
ULN				pmax	pmax		
comp=Z,6.0nm,0.9s
ULN	**Ulaanbaatar**	**27.50**	**304**	P	**P**	**13 22 17.0**	**-0.3**
ENH	**Enshi**	**27.75**	**265**	P	**P**	**13 22 18.8**	**-0.7**
ENH				IAmb	IAmb	13 22 19.4	
comp=Z,18nm,0.8s
SONM	**Songino Array**	**27.94**	**303**	P	**P**	**13 22 21.4**	**+0.3**
comp=Z,3.4nm,0.5s,baz=101,slow=9.3,SNR=9.5
SONM				LR	LR	13 33 52.2	
comp=Z,52nm,21.4s,baz=94,slow=37
SONM	**Songino Array**	**27.94**	**303**	*e*P	**P**	**13 22 21.7**	**+0.6**
SONM				pmax	pmax		
comp=Z,3.0nm,0.5s
SONM	**Songino Array**	**27.94**	**303**	P	**P**	**13 22 20.8**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	13 52 53.8	
baz=316,slow=75,SNR=298
H11N1	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	13 53 01.7	
baz=316,slow=75,SNR=430
H11N3	**WAKE ISLAND Hy**	**27.99**	**122**	T	T	13 52 59.5	
baz=316,slow=75,SNR=542
H11S1	**WAKE ISLAND Hy**	**28.70**	**124**	T	T	13 52 49.1	
baz=318,slow=74
H11S3	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	13 52 46.1	
baz=318,slow=74
H11S2	**WAKE ISLAND Hy**	**28.72**	**124**	T	T	13 52 50.8	
baz=318
LZH	**Lanzhou**	**30.40**	**279**	*e*P	P	13 22 50.3	+7.1
LZH				pP	sP	13 23 02.8	+9.4
LZH				sP	pP	13 23 07.8	+17
LZH				sS	sS	13 28 08.4	+14
LZH				pmax	pmax		
comp=Z,19nm,1.1s
LZH				pmax	pmax		
comp=Z,190nm,4.9s
LZH				LR	LR		
comp=N,310nm,12.9s
LZH				LR	LR		
comp=E,390nm,13.6s
LZH				LR	LR		
comp=Z,340nm,13.0s
TLY	**Talaya**	**30.42**	**310**	P	**P**	**13 22 44.5**	**+1.5**
comp=Z,5.1nm,0.5s,baz=198,slow=5.2,SNR=3.7
TLY	**Talaya**	**30.42**	**310**	*e*P	**P**	**13 22 45.3**	**+2.3**
TLY				pmax	pmax		
comp=Z,16nm,0.8s
TLY				MLR	MLR		
comp=Z,212nm,8.0s
TLY	**Talaya**	**30.42**	**310**	IAmb	IAmb	13 22 47.1	
comp=Z,6.6nm,0.7s
GYA	**Guiyang**	**31.66**	**260**	*e*P	**P**	**13 22 53.8**	**-0.5**
CD2	**Chengdu**	**32.07**	**270**	*e*P	**P**	**13 22 57.1**	**-0.6**
QIZ	**Qiongzhong**	**33.42**	**246**	P	**P**	**13 23 09.8**	**+0.2**
QIZ				S	**S**	**13 28 29.9**	**+0.4**
QIZ				LR	LR		
comp=Z,280nm,5.9s
QIZ				LR	LR		
comp=Z,210nm,8.4s
BILL	**Bilibino**	**33.61**	**16**	*e*P	**P**	**13 23 12.0**	**+1.2**
BILL				*e*PPP	PPP	13 24 36.6	
BILL				pmax	pmax		
comp=Z,17nm,1.6s
ATKA	**Atka Island**	**33.95**	**50**	P	**P**	**13 23 15.0**	**+1.2**
NIKH	**Nikolski High**	**37.27**	**49**	P	**P**	**13 23 43.4**	**+1.1**
SKNT	**Sakolnakorn**	**39.03**	**249**	P	P	13 24 03.0	+5.4
comp=Z,3μmcomp=Z,17nm,1.5s
DGZ	**Jazzator, Alta**	**40.53**	**306**	*c iP*	**P**	**13 24 11.2**	**+1.3**
DGZ				pmax	pmax		
comp=Z,11nm,0.6s
WMQ	**Urumqi**	**41.05**	**297**	*e*P	**P**	**13 24 16.0**	**+1.8**
WMQ				pmax	pmax		
comp=Z,32nm,1.1s
WMQ				pmax	pmax		
comp=Z,85nm,4.9s
CHAI	**Chaiyaphum**	**41.19**	**250**	P	P	13 24 27.0	+12
CMAR	**Chiang Mai Arr**	**41.96**	**255**	P	**P**	**13 24 21.6**	**-0.1**
comp=Z,1.2nm,0.5s,baz=45,slow=6.6,SNR=7.4
CMAR	**Chiang Mai Arr**	**41.96**	**255**	*e*P	**P**	**13 24 24.2**	**+2.4**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.5s
ZAA0	**Zalesovo Array**	**41.99**	**312**	P	**P**	**13 24 20.6**	**-1.1**
ZAA0				IAmb	IAmb	13 24 33.5	
comp=Z,15nm,0.8s
ZALV	**Zalesovo Beam**	**41.99**	**312**	P	**P**	**13 24 21.4**	**-0.3**
comp=Z,2.1nm,0.4s,baz=106,slow=5.8,SNR=11
ZALV	**Zalesovo Beam**	**41.99**	**312**	*e*P	**P**	**13 24 21.9**	**+0.2**
ZALV				pmax	pmax		
comp=Z,4.0nm,0.7s
SDPT	**Sand Point**	**42.30**	**46**	P	**P**	**13 24 24.3**	**+0.2**
MK31	**Makanchi Array**	**44.28**	**302**	*de*P	**P**	**13 24 40.2**	**-0.2**
MK31	**Makanchi Array**	**44.28**	**302**	P	**P**	**13 24 39.4**	**-1.0**
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**13 24 40.2**	**-0.1**
comp=Z,6.3nm,0.6s,baz=86,slow=9.8,SNR=45
MKAR				LR	LR	13 43 33.0	
comp=Z,56nm,18.6s,baz=92,slow=36
MKAR	**Makanchi Array**	**44.28**	**302**	*e*P	**P**	**13 24 40.4**	**0.0**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.6s
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**13 24 39.9**	**-0.4**
MAKZ	**Makanchi**	**44.49**	**302**	P	**P**	**13 24 41.5**	**-0.5**
MAKZ				pmax	pmax		
comp=Z,21nm,0.8s
MAKZ	**Makanchi**	**44.49**	**302**	P	**P**	**13 24 41.5**	**-0.5**
SVW2	**Sparrevohn**	**45.03**	**38**	P	**P**	**13 24 48.3**	**+2.2**
SVW2				IAmb	IAmb	13 24 49.6	
comp=Z,12nm,0.9s
OHAK	**Old Harbor**	**46.26**	**43**	P	**P**	**13 24 56.6**	**+0.8**
OHAK				IAmb	IAmb	13 24 58.5	
comp=Z,11nm,0.9s
RSO	**Redoubt South**	**46.41**	**38**	P	**P**	**13 24 58.8**	**+1.6**
SPU	**Mount Spurr**	**46.74**	**37**	P	**P**	**13 25 00.7**	**+1.1**
CNPM	**China Poot**	**47.20**	**40**	P	**P**	**13 25 03.0**	**-0.2**
CNPM				IAmb	IAmb	13 25 15.8	
comp=Z,18nm,1.3s
MLY	**Manley**	**47.37**	**32**	P	**P**	**13 25 06.5**	**+2.0**
MLY				IAmb	IAmb	13 25 07.7	
comp=Z,6.0nm,0.8s
RC01	**Rabbit Creek A**	**47.87**	**38**	P	**P**	**13 25 08.9**	**+0.6**
BWN	**Browne**	**47.91**	**33**	P	**P**	**13 25 09.6**	**+1.0**
I23K	**Minto, Yukon-K**	**47.96**	**32**	P	**P**	**13 25 10.7**	**+1.8**
I23K				IAmb	IAmb	13 25 11.5	
comp=Z,6.3nm,0.9s
SEW	**Seward**	**48.07**	**39**	P	**P**	**13 25 10.7**	**+0.9**
SEW				IAmb	IAmb	13 25 11.2	
comp=Z,7.6nm,0.7s
NEA2	**Nenana**	**48.08**	**33**	P	**P**	**13 25 11.5**	**+1.6**
NEA2				IAmb	IAmb	13 25 13.0	
comp=Z,8.2nm,1.0s
MCK	**McKinley**	**48.15**	**34**	P	**P**	**13 25 11.8**	**+1.3**
MCK				pmax	pmax		
comp=Z,8.0nm,0.8s
MCK	**McKinley**	**48.15**	**34**	P	**P**	**13 25 11.8**	**+1.3**
MCK				IAmb	IAmb	13 25 12.9	
comp=Z,7.9nm,0.8s
RND	**Reindeer**	**48.20**	**34**	P	**P**	**13 25 12.4**	**+1.5**
RND				pmax	pmax		
comp=Z,7.0nm,0.7s
RND	**Reindeer**	**48.20**	**34**	P	**P**	**13 25 12.4**	**+1.5**
RND				IAmb	IAmb	13 25 12.9	
comp=Z,7.3nm,0.7s
GHO	**Glory Hole Cre**	**48.23**	**37**	P	**P**	**13 25 12.2**	**+1.1**
MDM	**Murphy Dome**	**48.44**	**32**	P	**P**	**13 25 14.2**	**+1.5**
KNK	**Knik Glacier**	**48.47**	**37**	P	**P**	**13 25 14.1**	**+1.1**
KNK				IAmb	IAmb	13 25 15.3	
comp=Z,9.0nm,0.7s
SML	**Sawmill**	**48.51**	**37**	P	**P**	**13 25 14.5**	**+1.2**
SML				pmax	pmax		
comp=Z,9.0nm,0.7s
SML	**Sawmill**	**48.51**	**37**	P	**P**	**13 25 14.6**	**+1.2**
SML				IAmb	IAmb	13 25 15.7	
comp=Z,9.4nm,0.7s
WRH	**Wood River Hil**	**48.51**	**33**	P	**P**	**13 25 14.0**	**+0.8**
WRH				IAmb	IAmb	13 25 15.5	
comp=Z,4.9nm,0.7s
PWL	**Port Wells**	**48.57**	**38**	P	**P**	**13 25 14.7**	**+0.9**
COLA	**College**	**48.60**	**32**	⇑*eP*	**P**	**13 25 16.0**	**+2.1**
COLA				pmax	pmax		
comp=Z,6.0nm,0.9s
CCB	**Clear Creek Bu**	**48.63**	**33**	P	**P**	**13 25 15.2**	**+1.1**
POKR	**Poker Plat Res**	**48.77**	**32**	P	**P**	**13 25 16.2**	**+0.9**
SCM	**Sheep Creek Mo**	**48.98**	**36**	P	**P**	**13 25 18.5**	**+1.5**
SCM				pmax	pmax		
comp=Z,12nm,0.7s
SCM	**Sheep Creek Mo**	**48.98**	**36**	P	**P**	**13 25 18.5**	**+1.5**
HDA	**Harding Lake**	**49.00**	**33**	P	**P**	**13 25 17.3**	**+0.3**
HDA				IAmb	IAmb	13 25 18.9	
comp=Z,7.7nm,0.7s
IL31		**49.02**	**33**	P	**P**	**13 25 18.2**	**+1.2**
IL31				IAmb	IAmb	13 25 19.1	
comp=Z,9.6nm,0.8s
ILAR	**Eielson Array**	**49.02**	**33**	P	**P**	**13 25 17.9**	**+0.7**
comp=Z,8.3nm,0.7s,baz=264,slow=6.1,SNR=54
ILAR				PcP	**PcP**	**13 26 39.2**	**-1.5**
comp=Z,0.5nm,0.6s,baz=262,slow=4.0,SNR=1.1
ILAR	**Eielson Array**	**49.02**	**33**	*e*P	**P**	**13 25 18.1**	**+1.0**
ILAR				pmax	pmax		
comp=Z,8.0nm,0.7s
ILAR	**Eielson Array**	**49.02**	**33**	P	**P**	**13 25 18.2**	**+1.1**
FID	**Port Fidalgo**	**49.48**	**36**	P	**P**	**13 25 21.8**	**+1.1**
M24K	**Tolsona, Glenn**	**49.50**	**36**	P	**P**	**13 25 23.0**	**+2.1**
PRP	**Porcupine Dome**	**49.56**	**31**	P	**P**	**13 25 23.0**	**+1.5**
PRP				IAmb	IAmb	13 25 24.2	
comp=Z,6.0nm,0.8s
FYU	**Fort Yukon**	**49.64**	**30**	P	**P**	**13 25 23.9**	**+2.1**
FYU				IAmb	IAmb	13 25 25.0	
comp=Z,6.7nm,0.8s
KLU	**Klutina**	**49.68**	**37**	P	**P**	**13 25 23.9**	**+1.6**
KLU				IAmb	IAmb	13 25 24.6	
comp=Z,7.8nm,0.6s
BMAR	**Burnt Mountain**	**49.87**	**29**	P	**P**	**13 25 25.4**	**+1.8**
RIDG	**Independent Ri**	**49.97**	**34**	P	**P**	**13 25 24.9**	**+0.4**
N25K	**Chitina, Valde**	**50.30**	**37**	P	**P**	**13 25 28.6**	**+1.6**
DOT	**Dot Lake**	**50.32**	**34**	P	**P**	**13 25 28.0**	**+0.9**
DOT				IAmb	IAmb	13 25 29.1	
comp=Z,5.3nm,0.7s
SCRK	**Sand Creek**	**50.33**	**33**	P	**P**	**13 25 28.4**	**+1.2**
SCRK				IAmb	IAmb	13 25 29.4	
comp=Z,8.6nm,0.8s
BMRM	**Bremner River**	**50.37**	**37**	P	**P**	**13 25 29.5**	**+2.0**
BMRM				IAmb	IAmb	13 25 31.7	
comp=Z,7.9nm,0.8s
HMT	**Hamilton**	**50.62**	**38**	P	**P**	**13 25 30.9**	**+1.5**
KSH	**Kashi**	**50.64**	**294**	P	P	13 25 21.3	-8.7
KSH				sP	sP	13 25 51.3	+11
KSH				pmax	pmax		
comp=Z,7.0nm,3.6s
KSH				pmax	pmax		
comp=Z,230nm,3.7s
KSH				LR	LR		
comp=N,110nm,6.1s
KSH				LR	LR		
comp=E,220nm,8.7s
KSH				LR	LR		
comp=Z,130nm,9.4s
GLB	**Gilahina Butte**	**50.69**	**37**	P	**P**	**13 25 31.7**	**+1.8**
GLB				IAmb	IAmb	13 25 31.9	
comp=Z,8.3nm,1.2s
BRVK	**Borovoye**	**50.71**	**312**	⇑*eP*	**P**	**13 25 30.4**	**+0.3**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.0s
VRDI	**Verde Repeater**	**50.89**	**37**	P	**P**	**13 25 33.1**	**+1.5**
VRDI				IAmb	IAmb	13 25 49.0	
comp=Z,14nm,1.4s
CRQM	**Cirque**	**51.11**	**38**	P	**P**	**13 25 34.7**	**+1.5**
TGL	**Tana Glacier**	**51.26**	**38**	P	**P**	**13 25 35.7**	**+1.4**
WAX	**Waxell Ridge**	**51.30**	**38**	P	**P**	**13 25 36.0**	**+1.5**
L27K	**Beaver Creek,**	**51.39**	**34**	P	**P**	**13 25 36.8**	**+1.6**
L27K				IAmb	IAmb	13 25 38.5	
comp=Z,10

comp=Z,8.3nm,0.8s
ARU Arti 56.38 319*c iP* **P 13 26 11.5 -0.2**
ARU *PP **sP** 13 26 22.4 +0.3
ARU 13 28 14.8
ARU S **S** 13 33 59.5 -1.1
ARU SS **SS** 13 37 48.9 +1.8
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU MLR MLR
comp=Z,124nm,17.0s
ARU Arti 56.38 319 P **P 13 26 10.3 -1.4**
C36M Paulatuk 56.98 25 P **P 13 26 16.5 +0.8**
C36M IAmb IAmb 13 26 18.0
comp=Z,9.6nm,0.7s
WRA Warramunga Arr 57.43 188 P **P 13 26 18.4 -1.0**
comp=Z,3.8nm,0.6s,baz=344,slow=8.2,SNR=5.0
ABKAR Akbulak array 58.04 310 P **P 13 26 22.9 -0.5**
DLBC Dease Lake 58.13 38 P **P 13 26 25.7 +1.6**
DLBC IAmb IAmb 13 26 28.0
comp=Z,9.1nm,1.1s
KIRV Kirov 60.23 323⇑*eP* **P 13 26 39.0 +0.5**
ASAR Alice Springs 61.16 188 P **P 13 26 44.7 -0.5**
comp=Z,2.0nm,0.9s,baz=296,slow=11,SNR=2.3
PALK Pallekele 62.82 258 P **P 13 26 56.0 -0.7**
PALK pmax pmax
comp=Z,41nm,1.4s
PALK Pallekele 62.82 258 P **P 13 26 56.0 -0.7**
YKA Yellowknife Ar 63.34 30 P **P 13 26 59.8 +0.5**
comp=Z,1.1nm,0.6s,baz=326,slow=3.0,SNR=22
YKA Yellowknife Ar 63.34 30*eP* **P 13 27 00.2 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
DZM Mont Dzumac 63.46 154*e*LR LR 13 46 05.9
comp=Z,243nm,25.1s
KLMR Klimovskoe 63.70 328*eP* **P 13 27 00.2 -1.6**
KLMR pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 63.70 328*eP* **P 13 27 00.2 -1.6**
KLMR AMP 13 27 06.5
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 63.84 339 P **P 13 27 02.9 +0.3**
comp=Z,2.9nm,0.8s,baz=60,slow=7.2,SNR=4.5
ARCES ARCESS Array B 63.84 339*eP* **P 13 27 03.1 +0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 63.84 339 P **P 13 27 02.9 +0.3**
ARCES IAmb IAmb 13 27 03.9
comp=Z,10nm,1.2s
OBN Obninsk 68.08 323*eP* **P 13 27 30.0 0.0**
OBN *e* 13 27 58.3
OBN *e*PPP PPP 13 31 38.2
OBN pmax pmax
comp=Z,10.0nm,0.4s
H04A Detroit Lake 68.60 50 P **P 13 27 34.5 +0.9**
H04A IAmb IAmb 13 27 36.3
comp=Z,12nm,1.0s
FINES FINESS Array B 68.72 332 P **P 13 27 33.7 -0.2**
comp=Z,3.0nm,0.8s,baz=34,slow=9.3,SNR=7.4
STKA Stephens Creek 68.87 180*eP* **P 13 27 37.2 +2.1**
STKA pmax pmax
comp=Z,12nm,0.7s
PINE Pine Mountain 69.83 50 P **P 13 27 43.1 +1.7**
YBH Yreka Blue Hor 69.84 53 P **P 13 27 43.6 +2.2**
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 69.84 53 P **P 13 27 43.5 +2.2**
KCPM Cahto Peak 70.38 55 P **P 13 27 46.8 +2.0**
K05A Summer Lake 70.44 51 P **P 13 27 47.5 +2.3**
K05A IAmb IAmb 13 27 48.4
comp=Z,14nm,1.1s
I07A Izee 70.55 49 P **P 13 27 47.6 +1.9**
WALA Waterton Lakes 70.94 42 P **P 13 27 49.4 +1.3**
WALA IAmb IAmb 13 27 49.9
comp=Z,4.2nm,0.8s
KBZ Khabaz 71.00 311 P **P 13 27 48.4 +0.2**
comp=Z,2.6nm,0.8s,baz=80,slow=4.5,SNR=6.4
KBZ Khabaz 71.00 311*eP* **P 13 27 49.4 +1.2**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 71.00 311*eP* **P 13 27 49.6 +1.2**
KIV pmax pmax
comp=Z,8.0nm,0.9s
BMO Blue Mountains 71.43 47 P **P 13 27 52.2 +1.2**
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 71.43 47 P **P 13 27 52.2 +1.2**
BMO IAmb IAmb 13 27 53.5
comp=Z,6.6nm,1.0s
JTMT Jette 71.50 44 P **P 13 27 52.3 +0.9**
JTMT IAmb IAmb 13 27 54.0
comp=Z,6.1nm,0.8s
J08A Circle Bar Ran 71.57 49 P **P 13 27 53.5 +1.6**
J08A IAmb IAmb 13 27 54.9
comp=Z,13nm,1.2s
ORV Oroville 71.80 54 P **P 13 27 54.3 +1.1**
ORV pmax pmax
comp=Z,11nm,1.4s
ORV Oroville 71.80 54 P **P 13 27 54.3 +1.1**
ORV IAmb IAmb 13 27 55.0
comp=Z,11nm,1.4s
WVOR Wild Horse Val 71.99 50 P **P 13 27 55.4 +0.9**
WVOR pmax pmax
comp=Z,7.0nm,1.4s
WVOR Wild Horse Val 71.99 50 P **P 13 27 55.4 +0.9**
MSO Missoula 72.22 44 P **P 13 27 56.3 +0.5**
BEKR Beckworth 72.35 53 P **P 13 27 57.3 +0.5**
BEKR IAmb IAmb 13 27 59.0
comp=Z,6.1nm,0.8s
SOC Sochi 72.98 312*eP* **P 13 27 58.6 -1.6**
SOC *e* 13 30 43.1
SOC *e*PPP PPP 13 32 26.1
SOC *e*S **S** **13 37 22.1 -3.3**
SOC *e*SS **SS** **13 42 07.3 +1.9**
SOC *e*SSS SSS 13 45 18.7
SOC pmax pmax
comp=Z,16nm,0.9s
SOC MLR MLR
comp=Z,177nm,21.0s
PAHR Pah Rah Range 73.06 53 P **P 13 28 02.0 +1.0**
MFID Camas Ranch 73.12 48 P **P 13 28 02.5 +1.4**
FFC Flin Flon 73.23 33 P **P 13 28 02.1 +0.7**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 73.23 33 P **P 13 28 02.1 +0.7**
FFC IAmb IAmb 13 28 03.3
comp=Z,11nm,0.8s
PNTR Pine Nut 73.28 53 P **P 13 28 03.2 +0.9**
CMB Columbia Colle 73.37 55 P **P 13 28 04.0 +1.4**
CMB pmax pmax
comp=Z,18nm,1.5s
CMB Columbia Colle 73.37 55 P **P 13 28 04.0 +1.4**
CMB IAmb IAmb 13 28 05.1
comp=Z,18nm,1.4s
HRY Holter Researc 73.45 44 P **P 13 28 04.1 +1.1**
YERR Yerington 73.56 53 P **P 13 28 05.2 +1.2**
YERR IAmb IAmb 13 28 06.7
comp=Z,6.7nm,1.0s
LRM Limekiln Ridge 73.65 45 P **P 13 28 05.3 +0.9**
NC405 NORSAR Array S 73.84 337 P **P 13 28 04.0 -0.9**
NC405 IAmb IAmb 13 28 28.6
comp=Z,14nm,1.1s
DLMT Dillon 73.84 45 P **P 13 28 06.4 +1.0**
DLMT IAmb IAmb 13 28 07.9
comp=Z,8.9nm,0.9s
NC204 NORSAR Array S 74.00 338 P **P 13 28 06.3 +0.3**
NB2 NORSAR Subarra 74.05 337 P **P 13 28 06.1 -0.1**
comp=Z,9.7nm,1.2s,baz=39,slow=6.2
NOA NORSAR Array B 74.05 337 P **P 13 28 05.6 -0.6**
comp=Z,2.3nm,0.8s,baz=39,slow=5.8,SNR=12
NOA LR LR 14 04 14.3
comp=Z,59nm,20.5s,baz=20,slow=39
NOA NORSAR Array B 74.05 337*eP* **P 13 28 06.3 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.8s
RYN Ryan 74.23 53 P **P 13 28 09.1 +1.3**
BOZ Bozeman (W) 74.24 44 P **P 13 28 08.9 +1.2**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 74.24 44 P **P 13 28 08.9 +1.2**
BOZ IAmb IAmb 13 28 10.2
comp=Z,7.7nm,0.9s
KVN Kaiserville 74.25 53 P **P 13 28 09.2 +1.2**
KVN pmax pmax
comp=Z,10.0nm,1.1s
KVN Kaiserville 74.25 53 P **P 13 28 09.2 +1.2**
KVN IAmb IAmb 13 28 10.7
comp=Z,9.8nm,1.1s
AKASG Malin Array Be 74.29 322 P **P 13 28 07.2 -0.5**
comp=Z,1.2nm,0.3s,baz=45,slow=6.0,SNR=11
AKASG Malin Array Be 74.29 322*eP* **P 13 28 07.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 74.29 322 P **P 13 28 07.1 -0.6**
AKBB Malin Array Si 74.29 322*ceP* **P 13 28 08.1 +0.4**
AKBB Malin Array Si 74.29 322 P **P 13 28 07.2 -0.5**
AKBB IAmb IAmb 13 28 20.4
comp=Z,6.7nm,0.7s
MDPB Devils Postpil 74.44 54 P **P 13 28 10.5 +1.3**
LHV Little Huntoon 74.46 54 P **P 13 28 11.0 +2.1**
LHV IAmb IAmb 13 28 12.3
comp=Z,11nm,1.1s
NVAR Mina Array Bea 74.48 53 P **P 13 28 10.9 +1.6**
comp=Z,4.1nm,0.8s,baz=290,slow=5.7,SNR=30
NV11 Mina Array Sit 74.58 53 P **P 13 28 11.3 +1.5**
ELK Elko 75.05 50 P **P 13 28 14.0 +1.4**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 75.05 50 P **P 13 28 14.0 +1.4**
YHH Holmes Hill 75.17 45 P **P 13 28 14.2 +0.8**
GCMT Greycliff 75.20 43 P **P 13 28 14.5 +1.2**
TPH Tonopah 75.38 53 P **P 13 28 15.9 +1.3**
TPH pmax pmax
comp=Z,28nm,0.9s
TPH Tonopah 75.38 53 P **P 13 28 15.9 +1.3**
YNE Yellowstone No 75.50 44 P **P 13 28 16.6 +1.4**
RLMT Red Lodge 75.84 44 P **P 13 28 18.4 +1.3**
TPAW Teton Pass 75.92 46 P **P 13 28 19.1 +1.5**
TPAW IAmb IAmb 13 28 20.3
comp=Z,4.9nm,0.8s
ISA Isabella, Lake 75.98 56 P **P 13 28 18.1 +0.2**
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA Isabella, Lake 75.98 56 P **P 13 28 18.1 +0.2**
REDW Red Top Meadow 76.05 46 P **P 13 28 20.0 +1.6**
REDW IAmb IAmb 13 28 21.2
comp=Z,8.4nm,1.2s
R11A Troy Canyon, C 76.26 52 P **P 13 28 20.8 +1.3**
LAO LASA Array 76.48 41 P **P 13 28 21.8 +1.3**
LAO IAmb IAmb 13 28 23.1
comp=Z,12nm,1.1s
SPR3 Spring Creek 3 76.65 51 P **P 13 28 22.8 +0.9**
TPNV Topopah Spring 76.67 54 P **P 13 28 23.1 +1.2**
TPNV pmax pmax
comp=Z,12nm,1.3s
TPNV Topopah Spring 76.67 54 P **P 13 28 23.1 +1.2**
TPNV IAmb IAmb 13 28 24.3
comp=Z,12nm,1.2s
HWUT Hardware Ranch 76.73 48 P **P 13 28 23.2 +1.1**
HWUT IAmb IAmb 13 28 25.1
comp=Z,9.7nm,1.3s
DUG Dugway, Tooele 76.85 49 P **P 13 28 23.6 +0.8**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 76.85 49 P **P 13 28 23.6 +0.8**
DUG IAmb IAmb 13 28 25.1
comp=Z,5.1nm,0.8s
PRN Pahroc Range 77.16 53 P **P 13 28 26.2 +1.6**
PRN IAmb IAmb 13 28 27.4
comp=Z,5.6nm,1.0s
BW06 Boulder Array 77.16 46 P **P 13 28 25.3 +0.7**
PD31 Pinedale Array 77.17 46 P **P 13 28 25.0 +0.4**
PDAR Pinedale Array 77.17 46 P **P 13 28 25.6 +1.0**
comp=Z,2.1nm,0.7s,baz=278,slow=2.5,SNR=23
PDAR Pinedale Array 77.17 46 P **P 13 28 25.3 +0.6**
KWP Kalwaria Pacla 78.10 325 P **P 13 28 29.7 +0.3**
KWP Kalwaria Pacla 78.10 325 P **P 13 28 29.7 +0.3**
MVU Marysvale 78.26 50 P **P 13 28 32.5 +1.7**
MSU Marysvale 78.28 50 P **P 13 28 32.0 +1.1**
MSU Marysvale 78.28 50 P **P 13 28 32.0 +1.1**
BUR08 Bucovina Ar. S 78.30 322 P **P 13 28 30.9 +0.2**
BURAR Bucovina Array 78.31 322 P **P 13 28 30.8 +0.1**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
BURAR Bucovina Array 78.31 322 P **P 13 28 30.8 +0.1**
LCMT Little Creek M 78.54 52 P **P 13 28 33.7 +1.4**
LCMT IAmb IAmb 13 28 35.2
comp=Z,7.5nm,1.0s
P17A Butcher Ranch, 78.55 49 P **P 13 28 33.2 +0.9**
P17A IAmb IAmb 13 28 34.5
comp=Z,5.2nm,0.8s
RDMU Red Mountain 78.55 47 P **P 13 28 33.6 +1.2**
RDMU IAmb IAmb 13 28 35.0
comp=Z,13nm,1.1s
MTPU Mount Pierson 78.57 51 P **P 13 28 34.0 +1.3**
KNB Kanab 78.81 52 P **P 13 28 35.2 +1.4**
KNB pmax pmax
comp=Z,9.0nm,1.1s
KNB Kanab 78.81 52 P **P 13 28 35.2 +1.4**
KNB IAmb IAmb 13 28 37.0
comp=Z,9.0nm,1.1s
SRU San Rafael Swe 78.91 49 P **P 13 28 35.3 +1.0**
SRU pmax pmax
comp=Z,10.0nm,1.1s
SRU San Rafael Swe 78.91 49 P **P 13 28 35.3 +1.0**
SRU IAmb IAmb 13 28 36.7
comp=Z,9.5nm,1.1s
BRTR Keskin Array B 78.94 312 P **P 13 28 34.1 -0.3**
comp=Z,1.0nm,0.8s,baz=53,slow=6.1,SNR=3.5
BRTR Keskin Array B 78.94 312*ceP* **P 13 28 36.2 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MDND Maddock 79.02 37 P **P 13 28 35.5 +0.9**
ULM Lac du Bonnet 79.02 34 P **P 13 28 34.1 -0.4**
comp=Z,3.0nm,0.7s,baz=330,slow=7.5,SNR=3.1
ULM Lac du Bonnet 79.02 34*eP* **P 13 28 33.8 -0.7**
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 79.02 34 P **P 13 28 34.6 +0.2**
W13A Hualapai Mount 79.31 54 P **P 13 28 37.4 +0.7**
RSSD Black Hills 79.33 42 P **P 13 28 35.7 -0.9**
RSSD Black Hills 79.33 42 P **P 13 28 35.7 -0.9**
U15A North Rim 79.50 52 P **P 13 28 39.2 +1.4**
PV10 Paradox Valley 80.27 49 P **P 13 28 43.5 +1.7**
PV14 Lion Creek, Pa 80.28 49 P **P 13 28 42.8 +0.9**
PV14 IAmb IAmb 13 28 44.4
comp=Z,17nm,1.2s
PV20 West Nyswonger 80.33 49 P **P 13 28 43.2 +1.1**
PV20 IAmb IAmb 13 28 44.7
comp=Z,14nm,1.2s
PV04 Paradox Valley 80.34 49 P **P 13 28 43.2 +1.1**
PV04 IAmb IAmb 13 28 44.3
comp=Z,14nm,1.3s
PV19 Morning Glory 80.35 49 P **P 13 28 43.1 +1.0**
PV19 IAmb IAmb 13 28 44.8
comp=Z,9.1nm,0.9s
PV17 East Wray Mesa 80.38 49 P **P 13 28 43.7 +1.3**
PV17 IAmb IAmb 13 28 45.0
comp=Z,19nm,1.2s
PV16 Nyswonger Mesa 80.39 49 P **P 13 28 43.5 +1.1**
PV16 IAmb IAmb 13 28 45.1
comp=Z,15nm,1.4s
DPC Dobruska-Polom 80.40 328*eP* **P 13 28 43.1 +1.1**
DPC Dobruska-Polom 80.40 328*eP* **P 13 28 43.1 +1.1**
PV11 David Mesa, Pa 80.42 49 P **P 13 28 43.8 +1.2**
PV05 Paradox Valley 80.43 49 P **P 13 28 44.0 +1.4**
PV05 IAmb IAmb 13 28 45.3
comp=Z,14nm,1.1s
PV18 Skein Mesa, Pa 80.43 49 P **P 13 28 43.9 +1.2**
PV18 IAmb IAmb 13 28 45.2
comp=Z,18nm,1.4s
PV12 Saucer Basin, 80.45 49 P **P 13 28 44.0 +1.2**
PV12 IAmb IAmb 13 28 47.7
comp=Z,6.1nm,0.9s
PV03 Paradox Valley 80.46 49 P **P 13 28 44.1 +1.3**
PV03 IAmb IAmb 13 28 45.4
comp=Z,14nm,1.3s
PV13 Radium Mtn., P 80.54 49 P **P 13 28 44.2 +0.9**
PV13 IAmb IAmb 13 28 45.9
comp=Z,14nm,1.1s
Y14A Wickenburg 80.61 54 P **P 13 28 44.4 +1.0**
WUAZ Wupatki 80.66 52 P **P 13 28 44.9 +1.1**
WUAZ IAmb IAmb 13 28 46.6
comp=Z,7.5nm,1.0s
PV01 Paradox Valley 80.71 49 P **P 13 28 45.0 +0.8**
CLL Collm 81.02 330⇓*iP* **P 13 28 45.3 +0.1**
comp=Z,8.0nm,0.9s
CLL Collm 81.02 330⇓*iP* **P 13 28 45.3 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.9s
X16A Lo Mia Camp, P 81.31 53 P **P 13 28 48.9 +1.5**
MVCO Mesa Verde 81.35 50 P **P 13 28 48.9 +1.3**
CKRC Cesky Krumlov 82.42 328*eP* **P 13 28 53.3 +0.6**
KHC Kasperske Hory 82.48 329*eP* **P 13 28 53.8 +0.7**
KHC Kasperske Hory 82.48 329*eP* **P 13 28 53.8 +0.7**
KHC Kasperske Hory 82.48 329 P **P 13 28 53.5 +0.4**
KHC IAmb IAmb 13 28 54.4
comp=Z,6.6nm,1.0s
GERES GERESS Array B 82.65 328 P **P 13 28 53.9 -0.2**
comp=Z,1.3nm,0.4s,baz=28,slow=6.0,SNR=9.8
GERES GERESS Array B 82.65 328*eP* **P 13 28 54.2 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
SDCO Great Sand Dun 82.79 48 P **P 13 28 55.7 +0.5**
ECSD EROS Data Cent 83.42 38 P **P 13 28 58.2 +0.2**
ECSD IAmb IAmb 13 28 59.0
comp=Z,5.8nm,0.8s
T25A Trinidad 83.84 47 P **P 13 29 01.4 +0.9**
T25A IAmb IAmb 13 29 02.9
comp=Z,5.5nm,0.8s
PMOR Pomariorio Ree 83.95 114*e*T T 15 01 07.0
comp=Z,5.3nm,0.2s
ANMO Albuquerque 84.08 50*ceP* **P 13 29 04.0 +2.2**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 84.08 50 P **P 13 29 03.2 +1.4**
ANMO IAmb IAmb 13 29 04.6
comp=Z,5.7nm,1.1s
PPT Papeete 84.42 117 LR LR 14 02 22.2
comp=Z,41nm,20.1s,baz=238,slow=32
PPT2 Papeete2 84.44 117*e*LR LR 13 55 35.7
comp=Z,66nm,24.8s
I37A Lemond, Waseca 84.78 37 P **P 13 29 05.5 +0.6**
PDG Podgorica 84.96 321 P **P 13 29 05.6 -0.2**
PDG IAmb IAmb 13 29 06.7
comp=Z,8.0nm,0.8s
BFO Black Forest 85.22 331 P **P 13 29 06.5 -0.5**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 85.22 331 P **P 13 29 06.5 -0.5**
BFO IAmb IAmb 13 29 08.1
comp=Z,6.8nm,0.8s
ECH Echery 85.76 332 P **P 13 29 09.5 -0.2**
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 85.76 332 P **P 13 29 09.5 -0.2**
ECH IAmb IAmb 13 29 10.9
comp=Z,5.6nm,1.0s
AMTX Amarillo 86.99 48 P **P 13 29 15.7 -0.4**
VLDQ Val d'Or 87.97 25 P **P 13 29 19.6 -0.9**
TBI Tubuai 88.35 121*e*LR LR 13 57 24.4
comp=Z,63nm,23.2s
TBI Tubuai 88.35 121*e*T T 15 06 38.6
comp=Z,16nm,0.3s
P40A Paris 88.84 39 P **P 13 29 25.3 +0.6**
TX31 Lajitas Ar. Si 89.62 53 P **P 13 29 29.4 +0.7**
TX32 Lajitas Array 89.62 53 P **P 13 29 29.3 +0.6**
TX32 IAmb IAmb 13 29 30.7
comp=Z,3.6nm,1.0s
TXAR Lajitas Array 89.62 53 P **P 13 29 29.9 +1.2**
comp=Z,1.9nm,0.7s,baz=296,slow=3.3,SNR=28
TXAR LR LR 14 04 04.3
comp=Z,26nm,21.1s,baz=0.0,slow=32
U40A Yellville 90.84 41 P **P 13 29 34.3 +0.1**
FCAR Ozark Folk Cen 91.58 41 P **P 13 29 37.6 +0.1**
MIAR Mount Ida 91.82 43 P **P 13 29 39.4 +0.7**
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR Mount Ida 91.82 43 P **P 13 29 39.4 +0.7**
WHAR Wooly Hollow 91.95 42 P **P 13 29 39.5 +0.3**
ESDC Sonseca Array 97.18 334 P **P 13 30 02.7 -0.6**
comp=Z,0.3nm,0.5s,baz=96,slow=1.1,SNR=2.3
ESDC LR LR 14 18 21.7
comp=Z,48nm,19.2s,baz=330,slow=38
TORD Torodi Ar. Bea 117.39 315 PKP **PKPdf 13 35 15.9 -0.9**
comp=Z,0.3nm,0.4s,baz=28,slow=1.3,SNR=1.8
LPAZ La Paz 146.19 60 PKPbc **PKPdf 13 36 10.7 -0.4**
comp=Z,4.9nm,0.7s,baz=320,slow=3.6,SNR=16
LPAZ La Paz 146.19 60 PKP2 **PKPdf 13 36 11.7 +0.6**
LPAZ La Paz 146.19 60 **PKPdf 13 36 11.7 +0.6**
H03N2 Juan Fernandez 146.66 96 T T 16 21 08.5
baz=289
H03N3 Juan Fernandez 146.68 96 T T 16 21 15.4
baz=289
H03N1 Juan Fernandez 146.68 96 T T 16 21 06.5
baz=289

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*IDC **14** 13:20:46.6±0.4, 11°.11S×111°.38E, h0km, mb4.6/21, mb1 4.7/24, mb1mx4.6/33, mbtmp4.6/24, ML4.7/3, MS3.6/14, Ms1 3.6/14, ms1mx3.5/30, Error ellipse: s-maj=15.2km s-min=10.8km az=58.0*

*DJA **14** 13:20:47.2±0.2, 11°.S±2°×11°.1E±°, h10km, M5.1/39, mB5.5/9, mb4.9/39, MLv5.3/18, Mw(mB)5.0/9*

*BJI **14** 13:20:48.6±0.0, 11°.20S×111°.06E, h10km, mB5.1/24, mb4.8/41, Ms4.7/8, Ms7 4.4/7*

*GCMT **14** 13:20:49.8±0.4, 11°.21S±0°.03×111°.49E±0°.05, h18km±1km, MW4.8/79, Moment Tensor Solution. s18,c19; s79,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~2.47±.19; Mθθ 1.72±.11; Mφφ 0.74±.12; Mrθ 0.53±.26; Mrφ 0.28±.08; Mθφ~0.40±.44; Best double couple: M=2.21500×10^16^ NP1:φs68.00000°, δ40.00000°, λ-104.00000°. NP2: φs265.00000°, δ51.00000°, λ-79.00000°. Principal axes: T 1.8390, Plg6.0000°, Azm347.0000°; N 0.7490, Plg9.0000°, Azm78.0000°; P -2.5920, Plg79.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **14** 13:20:50.8±1.5, 11°.11S±0°.07×111°.30E±0°.04, h27km±4km, mb4.8/56 Error ellipse: s-maj=10.5km s-min=5.0km az=156.0*

ISC 14 13:20:51.4±0.3,**11°.15S**±0°.05×**111°.37E**±0°.05,**h35**km,**n275**, σ1§**40**/278,**mb4.8**/62,**MS3.7**/15,**12C-17D**,**Fault plane solution: NP1:**φs258.73550°, δ44.72560°, λ-77.71814°. **NP2:**φs61.69964°, δ46.55907°, λ-101.89781°. **Principal axes:** T Plg0.9270°, Azm160.0833°; N Plg8.6092°, Azm69.9429°; P Plg81.3403°, Azm256.1816°; **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.94**	**356**	P	**Pn**	**13 21 33.5**	**-2.2**
PWJI	**Pagerwojo**	**3.13**	**8**	P	**Pn**	**13 21 37.0**	**-1.3**
UGM	**Wanagama**	**3.32**	**345**	Pn	**Pn**	**13 21 38.7**	**-2.2**
UGM	**Wanagama**	**3.32**	**345**	P	**Pn**	**13 21 38.9**	**-2.0**
YOGI	**Yogyakarta**	**3.48**	**342**	P	**Pn**	**13 21 41.0**	**-2.0**
JAGI	**Jajag, Banyuwa**	**3.82**	**46**		**Pn**	**13 21 48.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**3.82**	**46**	P	**Pn**	**13 21 48.7**	**+0.9**
SMRI	**Semarang**	**4.17**	**347**		**Pn**	**13 21 52.2**	**-0.5**
SMRI	**Semarang**	**4.17**	**347**	P	**Pn**	**13 21 52.5**	**-0.2**
TBJI	**Tambak Boyo**	**4.33**	**6**	P	**Pn**	**13 21 54.8**	**+0.1**
ABJI	**Asem Bagus**	**4.37**	**41**	P	**Pn**	**13 21 58.1**	**+2.8**
KPJI	**Karang Pucung**	**4.49**	**327**	P	**Pn**	**13 21 56.1**	**-0.9**
DNP	**Denpasar**	**4.51**	**57**	P	**Pn**	**13 21 58.9**	**+1.7**
KMMI	**Kalianget**	**4.81**	**32**	P	**Pn**	**13 22 01.9**	**+0.5**
SRBI	**Singaraja**	**4.86**	**52**	P	**Pn**	**13 22 03.8**	**+1.7**
	4.9nm15μm758nm,0.9s						
CISI	**Cisompet, Garu**	**5.00**	**315**		**Pn**	**13 22 01.6**	**-2.5**
CISI	**Cisompet, Garu**	**5.00**	**315**	P	**Pn**	**13 22 02.0**	**-2.1**
XMIS	**Christmas Isla**	**5.66**	**276**	Pn	**Pn**	**13 22 08.6**	**-4.5**
CNJI	**Cibinong**	**5.66**	**312**	P	**Pn**	**13 22 10.6**	**-2.5**
	1.9nm3μm217nm,1.0s						
LEM	**Lembang**	**5.67**	**319**	Pn	**Pn**	**13 22 13.6**	**+0.2**
	11nm,0.3s,baz=69,slow=8.5,SNR=6.5						
LEM				Sn	**Sn**	**13 23 15.8**	**-1.6**
	9.6nm,0.3s,baz=177,slow=21,SNR=5.7						
LEM				LR	LR	13 24 40.5	
	comp=Z,1μm,21.3s,baz=92,slow=41						
LEM	**Lembang**	**5.67**	**319**	P	**Pn**	**13 22 15.0**	**+1.6**
	0.6nm76nm,0.8s						
TWSI	**Taliwang, Sumb**	**5.93**	**67**	P	**Pn**	**13 22 17.9**	**+1.1**
	1.1nm3μm127nm,0.9s						
PLAI	**Plampang**	**6.72**	**71**	P	**Pn**	**13 22 28.8**	**+1.2**
	1.5nm2μm211nm,0.9s						
WBSI	**Waikabubak, Su**	**8.03**	**80**	P	**Pn**	**13 22 45.3**	**-0.4**
	86nm,0.7s						
BBKI	**Banjar Baru**	**8.38**	**25**	P	**Pn**	**13 22 50.2**	**-0.2**
	2μm64nm,0.7s						
KASI	**Kota Agung**	**8.80**	**309**	P	**Pn**	**13 22 54.2**	**-2.0**
	94nm,0.9s						
MDSI	**Maura Dua**	**9.72**	**312**	P	**Pn**	**13 23 07.0**	**-1.9**

17nm,0.8s
KAPI Kappang 10.29 54 Pn **Pn** 13 23 16.6 -0.1
3.4nm,0.3s,baz=231,slow=11,SNR=12
KAPI Sn **Sn** 13 25 03.7 -7.2
1.5nm,0.3s,baz=233,slow=20,SNR=1.7
KAPI LR LR 13 27 40.7
comp=Z,133nm,18.0s,baz=172,slow=40
KAPI Kappang 10.29 54 **Pn** 13 23 16.9 +0.2
BSSI Bau Bau, Buton 10.29 62 P **Pn** 13 23 18.3 +1.6
74nm,1.0s
BKSI Bulukumba 10.42 57 P **Pn** 13 23 19.9 +1.5
761nm54nm,0.7s
EDFI Ende, Flores 10.44 78 P **Pn** 13 23 18.9 +0.1
707nm51nm,1.0s
MNAI Manna 10.72 308 Pn **Pn** 13 23 21.0 -1.6
MNAI Manna 10.72 308 P **Pn** 13 23 20.8 -1.8
287nm,1.9s
BNSI Bone 10.95 53 P **Pn** 13 23 27.4 +1.8
68nm,0.6s
MMRI Maumere 10.99 78 **Pn** 13 23 25.7 -0.6
MMRI Maumere 10.99 78 P **Pn** 13 23 26.6 +0.3
242nm,1.4s
STKI Sintang 11.14 1 P **Pn** 13 23 29.0 +0.7
14nm,0.5s
KSI Kapahiang 11.45 310 P **Pn** 13 23 29.9 -2.7
140nm,0.7s
TTSI Tana Toraja 11.62 47 P Pn 13 23 40.2 +5.4
46nm,1.1s
GIRL Giralia 11.76 167 Pn **Pn** 13 23 32.9 -3.8
BATI Baumata 12.12 87 Pn **Pn** 13 23 40.1 -1.6
18nm,0.3s,baz=258,slow=5.6,SNR=12
BATI Sn **Sn** 13 25 49.4 -6.3
6.4nm,0.3s,baz=296,slow=23,SNR=2.1
BATI Baumata 12.12 87 P **Pn** 13 23 40.6 -1.1
54nm,1.3s
SOEI Soe 12.76 85 Pn **Pn** 13 23 50.6 +0.1
SOEI Soe 12.76 85 P **Pn** 13 23 50.8 +0.2
101nm,1.2s
PSA00 Pilbara Seismi 13.17 143 Pn **Pn** 13 23 52.0 -4.0
APSI Ampana 14.41 46 P **Pn** 13 24 12.7 -0.3
48nm,1.0s
PDSI Padang 14.86 312 P **Pn** 13 24 17.0 -2.1
18nm,0.7s
BKNI Bangkinang 15.34 317 P **Pn** 13 24 22.8 -2.6
4µm45nm,1.0s
TOLI2 Tolitoli 15.36 38 P **P** 13 24 30.4 +0.4
TOLI2 IAmb IAmb 13 24 36.5
comp=Z,40nm,0.8s
MRSI Marisa 15.61 43 P **Pn** 13 24 30.3 +1.3
comp=Z,51nm,1.2s
GTOI Gorontalo 16.46 45 P **Pn** 13 24 40.7 +0.9
comp=Z,26nm,0.8s
MNSI Mandailing Nat 16.68 315 P **Pn** 13 24 36.0 -6.6
KNRA Kununurra 17.50 107 **P** 13 24 53.5 -0.2
MORW Morawa 18.36 167 **P** 13 25 00.8 -2.2
MTN Manton Dam 19.41 97 P **Pn** 13 25 16.2 +0.2
BNDI Bandanaira 19.50 72 P **P** 13 25 15.9 +0.2
comp=Z,539nm,1.1s
SAUI Saumlaki 19.90 83 Pn **Pn** 13 25 21.9 -0.1
SWI Sorong 22.24 64 P **P** 13 25 45.9 +0.5
comp=Z,60nm,1.2s
SIJI Sorong 22.24 64 P **P** 13 25 44.7 -0.7
comp=Z,38nm,1.0s,baz=272,slow=4.9,SNR=7.1
FAKI Fak Fak 22.26 70 P **P** 13 25 44.2 -1.4
FAKI IAmb IAmb 13 26 03.2
comp=Z,56nm,1.0s
FAKI Fak Fak 22.26 70 P **P** 13 25 49.9 +4.3
comp=Z,47nm,0.8s
NWAO Narrogin (SRO) 22.34 167 P **P** 13 25 45.2 -1.0
comp=Z,12nm,0.8s,baz=334,slow=13,SNR=4.5
NWAO Narrogin (SRO) 22.34 167 P **P** 13 25 44.5 -1.7
NWAO IAmb IAmb 13 26 04.5
comp=Z,25nm,0.9s
WB0 Warramunga Arr 23.76 114 P **P** 13 26 00.6 -0.3
WB0 IAmb IAmb 13 26 04.8
comp=Z,17nm,0.9s
WRA Warramunga Arr 23.77 114 P **P** 13 26 00.0 -0.9
comp=Z,8.7nm,0.6s,baz=286,slow=12,SNR=49
WRA PcP **PcP** 13 29 45.1 +0.9
comp=Z,1.0nm,0.6s,baz=288,slow=3.2,SNR=2.7
WRA S **S** 13 30 20.4 +6.1
comp=Z,1.2nm,0.5s,baz=279,slow=22,SNR=2.4
WRA Warramunga Arr 23.77 114 P **P** 13 26 00.7 -0.3
WRAB Tennant Creek 23.78 114 P **P** 13 26 00.8 -0.2
WB2 Warramunga Arr 23.78 114 P **P** 13 26 00.8 -0.3
WR0 Warramunga Arr 23.95 114 P **P** 13 26 02.7 +0.1
WR0 IAmb IAmb 13 26 29.6
comp=Z,34nm,1.1s
ASAR Alice Springs 24.80 123 P **P** 13 26 11.0 +0.6
comp=Z,17nm,0.9s,baz=290,slow=8.0,SNR=129
ASAR PcP **PcP** 13 29 47.1 +0.7
comp=Z,1.7nm,0.5s,baz=330,slow=2.4,SNR=4.2
ASAR Alice Springs 24.80 123 P **P** 13 26 10.7 +0.3
FORT Forrest 24.93 144 P **P** 13 26 11.8 +0.5
CM04 Chiang Mai Arr 31.80 337 P **P** 13 27 15.6 +2.7
comp=Z,129nmcomp=Z,14nm,0.9s
CM05 Chiang Mai Arr 31.82 337 P **P** 13 27 16.6 +3.6
comp=Z,7.3nm,0.8s
CMAR Chiang Mai Arr 31.87 337 P **P** 13 27 14.8 +1.3
comp=Z,4.1nm,0.8s,baz=172,slow=7.8,SNR=19
CMAR PcP **PcP** 13 30 06.4 +2.6
comp=Z,1.9nm,0.7s,baz=194,slow=3.4,SNR=5.1
CMAR Chiang Mai Arr 31.87 337 P **P** 13 27 12.9 -0.5
CM15 Chiang Mai Arr 31.87 337 P **P** 13 27 17.3 +3.8
comp=Z,8.9nm,0.8s
CHTO Chiang Mai 32.20 338 P **P** 13 27 15.5 -0.8
STKA Stephens Creek 34.68 131 P **P** 13 27 38.9 +1.0
comp=Z,12nm,0.7s,baz=300,slow=7.0,SNR=7.6
STKA LR LR 13 42 51.0
comp=Z,134nm,18.5s,baz=285,slow=38
STKA Stephens Creek 34.68 131 P **P** 13 27 39.1 +1.2
CTAO Charters Tower 34.69 109 P **P** 13 27 39.1 +1.0
CTAO IAmb IAmb 13 27 41.3
comp=Z,10nm,1.1s
KMI Kunming 37.02 347 ⇑P **P** 13 28 01.1 +2.9
KMI sP sP 13 28 11.8 +1.4
KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=Z,270nm,15.8s
KMI LR LR
comp=Z,150nm,14.8s
KMI LR LR
comp=Z,300nm,13.5s
GYA Guiyang 37.66 353 ⇑P **P** 13 28 06.5 +3.0
H08S2 Diego Garcia H 38.49 272 T T 14 09 40.4
baz=96,slow=74,SNR=6.3
H08S3 Diego Garcia H 38.51 272 T T 14 09 47.7
baz=96,slow=74,SNR=6.6
H08S1 Diego Carcia H 38.51 272 T T 14 09 47.6
baz=96,slow=74,SNR=6.5
EIDS Eidsvold 40.11 116 P **P** 13 28 24.1 +0.1
ENH Enshi 41.22 358 P **P** 13 28 32.5 -0.5
ENH IAmb IAmb 13 28 42.2
comp=Z,12nm,0.8s
CD2 Chengdu 42.45 350 P **P** 13 28 43.9 +0.8
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,350nm,14.9s
TAU Tasmania Unive 44.44 142 P **P** 13 28 59.4 +0.4
XAN Xi'an 45.00 357 P **P** 13 29 03.6 +0.1
XAN pP pP 13 29 12.0 -0.3
XAN sP sP 13 29 15.8 -0.1
XAN pmax pmax
comp=Z,13nm,1.2s
LSA Lhasa 45.05 335 P **P** 13 29 04.3 -0.2
LSA IAmb IAmb 13 29 15.3
comp=Z,14nm,0.7s
JIRN Jiri 45.65 328 *e*P **P** 13 29 09.7 +0.5
comp=Z,49nm,0.7s
PKI Pulchoki 45.99 327 *e*P **P** 13 29 11.6 -0.2
comp=Z,14nm,0.8s
PKIN Phulchoki 46.00 327 *e*P **P** 13 29 11.7 -0.1
comp=Z,12nm,0.6s
KKN Kakani 46.23 327 *e*P **P** 13 29 13.3 -0.3
KOLN Koldanda 47.12 326 *e*P **P** 13 29 20.7 +0.1
comp=Z,20nm,0.5s
POO Poona 47.33 308 *e*x P 13 29 17.0 -5.1
DANN Dangsing 47.49 326 *e*P **P** 13 29 23.4 -0.1
comp=Z,40nm,0.7s
LZH Lanzhou 47.51 352 *e*P **P** 13 29 24.5 +1.1
LZH pP pP 13 29 33.0 +0.7
LZH sP pwP 13 29 39.5 +0.6
LZH pmax pmax
comp=Z,19nm,1.1s

JTU Tsushima 48.54 20 P **P** 13 29 32.4 +1.2
KSAR Wonju Array Be 50.76 17 P **P** 13 29 48.3 +0.3
KSRS Korea Array 50.78 17 P **P** 13 29 48.3 +0.1
comp=Z,4.9nm,0.9s,baz=200,slow=7.7,SNR=19
KSRS LR LR 13 53 09.3
comp=Z,47nm,18.1s,baz=220,slow=38
BJT Baijiatuau 51.10 5 P **P** 13 29 50.4 -0.1
BJT IAmb IAmb 13 29 59.8
comp=Z,9.7nm,0.6s
BJI Beijing 51.12 5 P **P** 13 29 50.9 +0.2
BJI pP **pP** 13 29 59.3 -0.4
BJI pmax pmax
comp=Z,13nm,0.7s
GTA Gaotai 51.44 349 *e*P **P** 13 29 54.9 +1.6
GTA pP pP 13 29 59.3 -2.9
GTA sP sP 13 30 02.8 -3.0
GTA pmax pmax
comp=Z,4.0nm,0.7s
JWT Wachi 51.48 25 P **P** 13 29 53.5 0.0
JWT IAmb IAmb 13 30 03.2
comp=Z,19nm,1.2s
HHC Hu-ho-hao-te 51.73 0 *e*P **P** 13 29 59.4 +4.0
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,240nm,4.9s
MAJO Matsushiro 53.75 27 P **P** 13 30 08.6 -1.7
MAJO IAmb IAmb 13 30 18.4
comp=Z,7.7nm,0.8s
MAT Matsushiro 53.75 27 P **P** 13 30 09.1 -1.2
MJAR Matsushiro Arr 53.75 27 P **P** 13 30 09.4 -0.9
comp=Z,11nm,1.0s,baz=192,slow=7.5,SNR=15
MJAR LR LR 13 53 48.8
comp=Z,44nm,19.3s,baz=155,slow=37
MJAR Matsushiro Arr 53.75 27 IAmb IAmb 13 30 37.3
comp=Z,11nm,0.7s
MJB9 Matsu-Tunnel 53.75 27 P **P** 13 30 08.7 -1.6
MJB9 IAmb IAmb 13 30 18.4
comp=Z,8.8nm,0.8s
NIL Nilore 57.45 322 P **P** 13 30 35.6 -1.3
USRK Ussuriysk Ar. 58.18 17 P **P** 13 30 40.1 -1.7
comp=Z,7.7nm,1.0s,baz=237,slow=5.0,SNR=5.8
USRK Ussuriysk Ar. 58.18 17 P **P** 13 30 41.2 -0.6
JTM Tenmabayashi 58.51 26 P **P** 13 30 44.6 +0.4
WMQ Urumqi 58.80 340 *e*P **P** 13 30 49.3 +3.0
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.5s
ULN Ulaanbaatar 58.87 357 P **P** 13 30 47.0 +0.1
ULN IAmb IAmb 13 30 56.5
comp=Z,7.4nm,1.0s
SONM Songino Array 58.88 356 P **P** 13 30 47.4 +0.5
comp=Z,6.5nm,1.0s,baz=175,slow=9.0,SNR=12
SONM PcP **PcP** 13 31 37.4 +1.5
comp=Z,3.5nm,0.8s,baz=180,slow=3.6,SNR=4.0
SONM LR LR 14 00 08.7
comp=Z,45nm,18.8s,baz=210,slow=40
SONM Songino Array 58.88 356 P **P** 13 30 47.1 +0.2
SONM IAmb IAmb 13 30 50.4
comp=Z,6.8nm,1.0s
MLZ Mavora Lakes 58.96 137 P **P** 13 30 48.7 +1.2
WKZ Wanaka 59.42 136 P **P** 13 30 52.7 +2.1
KSH Kashi 60.19 329 P P 13 30 50.3 -5.8
KSH pP pP 13 31 04.8 -0.4
KSH pmax pmax
comp=Z,6.0nm,3.8s
KSH pmax pmax
comp=Z,120nm,4.1s
KSH LR LR
comp=N,370nm,9.1s
KSH LR LR
comp=E,300nm,8.2s
KSH LR LR
comp=Z,220nm,11.5s
RPZ Rata Peaks 60.56 134 P **P** 13 30 59.5 +1.0
KBL Kabul 60.62 320 P **P** 13 30 58.0 -1.2
KBL IAmb IAmb 13 31 14.7
comp=Z,9.9nm,0.8s
OXZ Oxford 61.17 133 P **P** 13 31 02.9 +0.3
SOCY Socotra 61.52 290 P **P** 13 31 04.3 -1.2
KDJ Kajisay 61.61 332 P **P** 13 31 06.0 +0.3
KDJ IAmb IAmb 13 31 07.6
comp=Z,17nm,1.0s
ABPO Ambohimpanom 62.15 254 P **P** 13 31 09.5 -0.3
ABPO IAmb IAmb 13 31 11.5
comp=Z,10nm,0.9s
OPO Ambohidratompo 62.21 255 P **P** 13 31 10.3 +0.1
comp=Z,3.2nm,0.6s,baz=110,slow=9.7,SNR=4.0
VOI Vohitsoka 62.45 251 P **P** 13 31 13.1 +1.3
VOI IAmb IAmb 13 31 17.8
comp=Z,8.7nm,1.1s
BOOM Boomskoye usch 62.47 331 P **P** 13 31 11.7 +0.2
BOOM IAmb IAmb 13 31 12.9
comp=Z,19nm,1.5s
GAR Garm 62.85 325 P **P** 13 31 13.2 -0.8
GAR IAmb IAmb 13 31 14.6
comp=Z,12nm,0.7s
PLWZ Palliser 63.19 131 P **P** 13 31 16.5 +0.3
MK31 Makanchi Array 63.27 338 P **P** 13 31 16.9 +0.3
MK31 IAmb IAmb 13 31 26.3
comp=Z,17nm,1.4s
MKAR Makanchi Array 63.27 338 P **P** 13 31 17.0 +0.4
comp=Z,8.7nm,0.8s,baz=144,slow=7.6,SNR=72
MKAR LR LR 14 01 52.6
comp=Z,50nm,18.4s,baz=151,slow=39
MKAR Makanchi Array 63.27 338 P **P** 13 31 16.8 +0.3
BTK Batken 63.31 326 P **P** 13 31 17.1 +0.1
BTK IAmb IAmb 13 31 33.1
comp=Z,7.1nm,0.8s
MAKZ Makanchi 63.40 338 P **P** 13 31 17.6 +0.2
MAKZ IAmb IAmb 13 31 20.7
comp=Z,9.3nm,1.2s
BKZ Black Stump Fm 63.78 128 P **P** 13 31 20.7 +0.5
URZ Urewera 64.16 127 LR LR 13 58 21.6
comp=Z,146nm,19.0s,baz=284,slow=35
MAW Mawson 64.75 199 P **P** 13 31 26.4 +0.5
comp=Z,5.5nm,0.7s,baz=65,slow=5.4,SNR=10
MAW LR LR 13 53 50.5
comp=Z,115nm,21.1s,baz=60,slow=31
MAW Mawson 64.75 199 P **P** 13 31 25.9 0.0
KK31 Karatay Array 65.62 328 P **P** 13 31 31.0 -1.0
KK31 IAmb IAmb 13 31 33.4
comp=Z,3.4nm,0.7s
KKAR Karatay Array 65.62 328 P **P** 13 31 31.3 -0.7
KKAR Karatay Array 65.62 328 P **P** 13 31 31.5 -0.5
KKAR IAmb IAmb 13 31 33.4
comp=Z,3.4nm,0.7s
ZAA0 Zalesovo Array 68.66 344 P **P** 13 31 50.6 -0.3
ZAA0 pP **pP** 13 31 59.5 -0.7
ZALV Zalesovo Beam 68.66 344 P **P** 13 31 51.1 +0.2
comp=Z,17nm,0.7s,baz=158,slow=4.3,SNR=51
ZALV LR LR 14 03 44.5
comp=Z,52nm,20.8s,baz=160,slow=38
ZALV Zalesovo Beam 68.66 344 P **P** 13 31 50.7 -0.3
ZALV pP **pP** 13 31 59.2 -1.0
GEYT Alibeck 69.71 318 P **P** 13 31 58.1 +0.2
comp=Z,115nm,0.9s,baz=180,slow=8.9,SNR=6.7
GEYT LR LR 14 08 03.7
comp=Z,30nm,18.7s,baz=20,slow=41
VNDA Vanda 71.14 170 P **P** 13 32 06.5 +0.5
comp=Z,2.4nm,0.8s,baz=292,slow=5.9,SNR=12
VNDA Vanda 71.14 170 P **P** 13 32 06.6 +0.6
BRVK Borovoye 72.94 335 P **P** 13 32 16.9 -0.2
SYO Syowa Base 73.16 201⇑*e*X **P** 13 32 17.9 -0.2
YAK Yakutsk 74.34 9 P **P** 13 32 24.6 -0.4
comp=Z,3.3nm,0.4s,baz=206,slow=2.2,SNR=5.7
YAK Yakutsk 74.34 9 P **P** 13 32 25.1 +0.1
ABKAR Akbulak array 75.18 328 P **P** 13 32 30.1 -0.1
ABKAR pP **pP** 13 32 39.0 -0.5
PEA0B Petropavlovsk- 75.21 27 P **P** 13 32 30.8 +0.5
PEA0B IAmb IAmb 13 32 40.5
comp=Z,17nm,1.4s
PETK Petropavlovsk- 75.21 27 P **P** 13 32 30.2 0.0
comp=Z,3.3nm,0.9s,baz=217,slow=7.1,SNR=5.8
PETK LR LR 14 09 25.7
comp=Z,12nm,18.2s,baz=259,slow=39
PETK Petropavlovsk- 75.21 27 P **P** 13 32 30.1 -0.2
SEY Seymchan 80.33 18 P **P** 13 32 59.0 +0.4
comp=Z,2.1nm,0.6s,baz=231,slow=10.0,SNR=4.1
KBZ Khabaz 82.60 317 P **P** 13 33 12.0 +1.0
comp=Z,6.8nm,1.1s,baz=84,slow=6.9,SNR=7.9
KVAR Kislovodsk Arr 82.83 317 LR LR 14 14 15.8
comp=Z,46nm,21.0s,baz=276,slow=39
SNAA Sanae 86.85 197 P **P** 13 33 33.1 +0.9

SNAA Sanae 86.85 197 P **P** 13 33 32.9 +0.8
SNAA IAmb IAmb 13 33 34.2
comp=Z,17nm,1.4s
BRTR Keskin Array B 87.79 311 P **P** 13 33 38.4 +1.0
comp=Z,3.4nm,0.8s,baz=140,slow=6.5,SNR=12
BRTR LR LR 14 18 24.7
comp=Z,24nm,18.2s,baz=98,slow=39
BRTR Keskin Array B 87.79 311 P **P** 13 33 37.1 -0.2
VNA1 Neumayer--Stat 88.89 197 P **P** 13 33 43.2 +1.5
VNA3 Neumayer Olymp 88.97 196 P **P** 13 33 42.9 +0.8
KLMR Klimovskoe 91.02 332 *e*P **P** 13 33 51.6 -0.2
KLMR AMP 13 33 55.6
comp=Z,15nm,1.3s
AKASG Malin Array Be 93.61 321 P **P** 13 34 02.6 -1.4
comp=Z,0.4nm,0.4s,baz=76,slow=5.4,SNR=2.6
CLL Collm 103.84 320 *e*Pdif **Pdif** 13 34 51.0 +1.0
CLL *e*PP **PKiKP** 13 39 08.0 +0.3
TORD Torodi Ar. Bea 111.42 280 PKiKP **PKiKP** 13 39 23.5 +0.6
comp=Z,1.1nm,0.7s,baz=42,slow=1.2,SNR=5.1
YKA Yellowknife Ar 119.13 22 PKP **PKiKP** 13 39 37.0 +0.7
comp=Z,1.3nm,0.8s,baz=311,slow=1.5,SNR=10.0
NVAR Mina Array Bea 128.15 50 PKP **PKiKP** 13 39 56.0 +0.7
comp=Z,0.5nm,0.7s,baz=342,slow=7.1,SNR=1.9
NVAR Mina Array Bea 128.15 50 **PKPdf** 13 39 54.1 -0.6
BFSC Mount Baldy Ra 129.84 55 P **PKPdf** 13 39 57.9 0.0
baz=285
TPNV Topopah Spring 130.16 51 P **PKPdf** 13 39 58.4 0.0
baz=289
PFO Pinyon Flats O 130.97 55 P **PKPdf** 13 39 59.3 -0.7
baz=286
TPFO Pinon Flats 130.97 55 P **PKPdf** 13 39 59.2 -0.8
baz=286
SWSC Sam W. Stewart 131.68 56 P **PKPdf** 13 40 00.7 -0.5
baz=286
PDAR Pinedale Array 132.53 41 PKP **PKiKP** 13 40 05.1 +1.1
comp=Z,0.3nm,0.7s,baz=298,slow=1.9,SNR=2.5
TXAR Lajitas Array 142.68 56 PKhKP PKPpre 13 40 19.3
comp=Z,2.3nm,1.0s,baz=242,slow=4.1,SNR=16
WMOK Wichita Mounta 143.88 45 P **PKPdf** 13 40 23.5 -0.1
baz=304
D61A St Aubert, Com 144.04 2 P **PKPdf** 13 40 23.5 +0.1
baz=358
D62A Allapoint, All 144.18 0 P **PKPdf** 13 40 23.2 -0.5
baz=360
D63A Stockholm 144.23 359 P **PKPdf** 13 40 23.2 -0.5
baz=1.1
D60A Saint Jean D'O 144.30 3 P **PKPdf** 13 40 23.2 -0.6
baz=356
ABTX Abilene, Hawle 144.37 48 P **PKPdf** 13 40 24.3 -0.2
baz=300
ALGO Algonquin Park 144.39 11 P PKPbc 13 40 23.2 +0.7
baz=344
E62A Clayton Lake 144.64 1 P **PKPdf** 13 40 24.5 0.0
baz=359
E61A Lac Etchemin 144.80 2 P **PKPdf** 13 40 25.1 +0.3
baz=357,SNR=9.0
E64A Bridgewater 144.84 359 P **PKPdf** 13 40 24.9 0.0
baz=1.6,SNR=7.9
E63A Oxbow 144.84 360 P **PKPdf** 13 40 25.0 +0.1
baz=0.5,SNR=8.9
F61A St Evariste 145.23 3 P **PKPdf** 13 40 26.9 +1.3
baz=356,SNR=12
JCT Junction City 145.27 52 P **PKPdf** 13 40 27.7 +1.5
baz=297
F62A Pittston Farm, 145.35 2 P **PKPab** 13 40 26.8 +1.0
baz=358,SNR=12
F64A Sherman 145.40 360 P **PKPab** 13 40 26.9 +1.0
baz=0.7,SNR=9.9
HDIL Hopedale 145.49 28 P **PKPab** 13 40 27.4 +1.0
baz=323
F63A Nahmakanta, Br 145.56 1 P **PKPab** 13 40 27.3 +0.8
baz=359,SNR=7.6
G61A St-Isidore-de- 145.89 4 P **PKPab** 13 40 28.7 +0.9
baz=355,SNR=7.0
PKME Peaks-Kenny Pk 146.00 1 P **PKPab** 13 40 29.1 +1.0
baz=359
G62A West of Eustis 146.01 2 P **PKPab** 13 40 29.2 +1.0
baz=357,SNR=6.2
G64A Maxfield 146.01 0 P **PKPab** 13 40 29.0 +0.8
baz=0.0,SNR=6.3
G65A Princeton 146.06 359 P **PKPab** 13 40 28.8 +0.5
baz=2.1
G63A Kingsbury 146.14 1 P **PKPab** 13 40 29.2 +0.5
baz=358
LONY Lake Ozonia 146.26 8 P **PKPab** 13 40 29.8 +0.6
baz=350,SNR=6.2
WHTX Lake Whitney, 146.29 48 P **PKPab** 13 40 30.9 +1.2
baz=302
H57A Richville 146.30 9 P **PKPab** 13 40 29.6 +0.3
baz=348
H59A Cadyville 146.34 7 P **PKPab** 13 40 30.0 +0.5
baz=351,SNR=6.8
CCM Cathedral Cave 146.41 33 P **PKPab** 13 40 30.4 +0.4
baz=317
BDFB Brasilia 146.46 218 PKPbc **PKPab** 13 40 30.6 -0.3
comp=Z,2.5nm,0.5s,baz=160,slow=4.1,SNR=2.2
H66A Whiting 146.46 358 P **PKPab** 13 40 30.2 +0.3
baz=2.6
H58A Gabriels 146.51 7 P **PKPab** 13 40 30.5 +0.4
baz=350,SNR=6.5
H60A Morristown 146.52 5 P **PKPab** 13 40 30.7 +0.4
baz=353
833A Chaparral WMA, 146.52 55 P **PKPab** 13 40 31.1 +0.3
baz=295
H65A Eastbrook 146.57 360 P **PKPab** 13 40 30.6 +0.3
baz=0.9
H63A New Sharon 146.58 2 P **PKPab** 13 40 30.4 0.0
baz=358
H61A Lyndonville 146.61 4 P **PKPab** 13 40 30.9 +0.4
baz=354
SFIN Lafayette 146.62 26 P **PKPab** 13 40 31.2 +0.5
baz=326
H62A Milan 146.62 3 P **PKPab** 13 40 30.8 +0.2
baz=356
H64A Troy 146.62 1 P **PKPab** 13 40 30.5 -0.1
baz=359
U40A Yellville 146.70 37 P **PKPab** 13 40 31.2 0.0
baz=313
I57A Carthage 146.77 9 P **PKPab** 13 40 31.0 -0.2
baz=348,SNR=5.5
435B Jarrell 146.81 50 P **PKPab** 13 40 32.2 +0.4
baz=300
W39A Magazine 146.90 40 P **PKPab** 13 40 32.0 0.0
baz=310
LBNH Lisbon 146.90 4 P **PKPab** 13 40 31.8 +0.1
baz=354
I58A Old Forge 147.11 8 P **PKPab** 13 40 32.1 -0.5
baz=349
I59A Olmsteadville 147.16 7 P **PKPab** 13 40 32.5 -0.2
baz=351
I63A Otisfield 147.17 3 P **PKPab** 13 40 32.6 -0.1
baz=357
I60A Shoreham 147.17 6 P **PKPab** 13 40 32.4 -0.3
baz=352,SNR=6.3
I61A Oroboro, Fairl 147.19 5 P **PKPab** 13 40 32.7 -0.1
baz=354
I62A Tamworth 147.31 4 P **PKPab** 13 40 33.0 -0.3
baz=355
I64A Boothbay 147.34 1 P **PKPab** 13 40 32.8 -0.5
baz=358
J58A Remsen 147.39 9 P **PKPbc** 13 40 32.5 +0.7
baz=348,SNR=8.0
MIAR Mount Ida 147.45 40 P **PKPab** 13 40 33.7 -0.5
baz=310
ERPA Erie 147.59 16 P **PKPbc** 13 40 33.1 +0.7
baz=339
K56A Middlesex 147.67 12 P **PKiKP** 13 40 33.8 -0.8
baz=344
J61A Chester 147.74 5 P **PKiKP** 13 40 33.9 -0.8
baz=353
J60A Lant Hill Farm 147.75 7 P **PKiKP** 13 40 34.2 -0.5
baz=351
W41B Gary Mavity, V 147.86 38 P **PKiKP** 13 40 34.6 -0.6
baz=313
J63A Strafford 147.92 3 P **PKiKP** 13 40 34.6 -0.5
baz=356
J62A Henniker 147.92 4 P **PKiKP** 13 40 34.5 -0.6
baz=354
X40A Basin Creek Fa 147.96 40 P **PKiKP** 13 40 35.3 -0.1
baz=311
M53A WI Miller and 148.02 17 P **PKiKP** 13 40 34.8 -0.6
baz=338
M54A Oil Creek Stat 148.24 16 P **PKiKP** 13 40 35.3 -0.6
baz=339,SNR=5.4
P49A Miami Univ. Ec 148.32 24 P **PKiKP** 13 40 35.3 -0.7
baz=329
ACSO Alum Creek Sta 148.37 21 P **PKiKP** 13 40 36.2 +0.1
baz=333

BINY	**Binghamton**	**148.40**	**10**	P		**PKiKP**	**13 40 35.9**	**-0.2**
	baz=346,SNR=5.2							
K62A	**Royalston**	**148.44**	**5**	P		**PKPbc**	**13 40 35.1**	**+0.5**
	baz=354							
K63A	**Dunstable**	**148.48**	**4**	P		**PKiKP**	**13 40 36.0**	**-0.2**
	baz=355							
L58A	**Harry Jones Me**	**148.58**	**10**	P		**PKiKP**	**13 40 36.3**	**-0.2**
	baz=347,SNR=7.7							
L61B	**Northampton**	**148.62**	**6**	P		**PKiKP**	**13 40 36.0**	**-0.5**
	baz=353							
HRV	**Adam Dziewonsk**	**148.66**	**4**	P		**PKPbc**	**13 40 35.6**	**+0.5**
	baz=355							
N54A	**Moraine State**	**148.66**	**17**	P		**PKiKP**	**13 40 36.4**	**-0.3**
	baz=338							
WCI	**Wyandotte Cave**	**148.74**	**27**	P		**PKiKP**	**13 40 37.0**	**+0.1**
	baz=325							
Z41A	**Richland Creek**	**148.76**	**41**	P		**PKiKP**	**13 40 37.5**	**+0.4**
	baz=310							
O53A	**New Philadelph**	**148.95**	**19**	P		**PKiKP**	**13 40 37.1**	**-0.2**
	baz=336							
P52A	**Corning**	**149.20**	**21**	P		**PKPbc**	**13 40 37.2**	**+0.6**
	baz=334							
L63A	**North Scituate**	**149.29**	**4**	P		**PKiKP**	**13 40 37.9**	**0.0**
	baz=354							
SSPA	**Standing Stone**	**149.51**	**14**	P		**PKiKP**	**13 40 38.8**	**+0.3**
	baz=342							
WVT	**Waverly**	**149.66**	**32**	P		**PKiKP**	**13 40 39.6**	**+0.7**
	baz=321							
N59A	**State Game Lan**	**149.69**	**11**	P		**PKiKP**	**13 40 39.3**	**+0.4**
	baz=346							
O56A	**Blue Knob Stat**	**149.69**	**15**	P		**PKiKP**	**13 40 39.2**	**+0.3**
	baz=341							
PAL	**Palisades**	**149.90**	**8**	P		**PKiKP**	**13 40 39.2**	**0.0**
	baz=350							
OXF	**Oxford**	**150.00**	**36**	P		**PKiKP**	**13 40 40.0**	**+0.4**
	baz=316							
P60A	**Greenville**	**150.78**	**11**	P		**PKiKP**	**13 40 41.5**	**+0.5**
	baz=346							
TZTN	**Tazewell**	**151.35**	**26**	P		**PKiKP**	**13 40 42.8**	**+0.4**
	baz=329							
BLA	**Blacksburg**	**151.96**	**20**	P		**PKiKP**	**13 40 44.9**	**+1.2**
	baz=335							
LRAL	**Lakeview Retre**	**152.45**	**35**	P		**PKiKP**	**13 40 46.2**	**+1.5**
	baz=318							
LPAZ	**La Paz**	**152.74**	**181**	PKPbc		**PKiKP**	**13 40 47.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=224,slow=3.6,SNR=5.0							
LPAZ				PKPab		**PKPab**	**13 40 57.8**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=164,slow=4.9,SNR=6.5							
LPAZ	**La Paz**	**152.74**	**181**			**PKPbc**	**13 40 45.6**	**-0.7**
KMSC	**Kings Mountain**	**153.47**	**24**	P		**PKiKP**	**13 40 48.0**	**+1.2**
	baz=332							

NEIC ***14*** *13:47:11.9±1.5, 19°.9S±0°.1×177°.8W±0°.1, h569km±8km, mb4.6/20 Error ellipse: s-maj=17.2km s-min=15.9km az=137.0*
IDC ***14*** *13:47:13.2±1.4, 19°.93S×177°.82W, h588km±13km, mb3.0/8, mb1 3.4/11, mb1mx3.2/36, mbtmp4.0/11, Error ellipse: s-maj=26.0km s-min=14.5km az=148.0*

ISC 14 13:47:13.6±0.6, 19°.8S±0°.1×177°.78W±0°.09, h600km, n44, σ1§41/47, mb4.3/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.44**	**297**	P		**P**	**13 48 41.4**	**-1.0**
	4.6nm,0.3s,baz=140,slow=17,SNR=22						
MSVF				S		**S**	**13 49 54.6**	**-0.1**
	baz=136,slow=23,SNR=1.3						
MSVF	**Nonsavu**	**4.44**	**297**	P		**P**	**13 48 42.2**	**-0.2**
AFI	**Afiamalu**	**8.19**	**45**	P		**P**	**13 49 13.7**	**-1.3**
	2.5nm,0.3s,baz=204,slow=20,SNR=4.5						
AFI				S		**S**	**13 50 50.6**	**-3.7**
	1.3nm,0.3s,baz=224,slow=22,SNR=1.3						
AFI	**Afiamalu**	**8.19**	**45**	P		**P**	**13 49 12.6**	**-2.4**
RAO	**Raoul Island**	**9.43**	**181**	P		P	13 49 18.4	-8.3
FUNA	**Funafuti**	**11.56**	**345**	P		**P**	13 49 39.9	-8.2
DZM	**Mont Dzumac**	**14.91**	**258**	P		**P**	**13 50 21.9**	**+0.8**
KNTN	**Kanton**	**17.91**	**20**	P		**P**	**13 50 48.4**	**-0.2**
URZ	**Urewera**	**18.94**	**192**	P		**P**	**13 50 55.4**	**-2.2**
	1.9nm,0.3s,baz=351,slow=18,SNR=12						
URZ	**Urewera**	**18.94**	**192**	P		**P**	**13 50 54.8**	**-2.8**
URZ				IAmb		IAmb	13 51 06.0	
	comp=Z,48nm,1.2s						
BKZ	**Black Stump Fm**	**19.95**	**193**	P		**P**	**13 51 04.1**	**-2.7**
BKZ				IAmb		IAmb	13 51 23.5	
	comp=Z,19nm,1.3s						
BFZ	**Birch Farm**	**21.45**	**192**	P		**P**	**13 51 20.0**	**-0.2**
BSWZ	**Blackbirch Sta**	**22.99**	**196**	P		**P**	**13 51 32.9**	**-1.0**
LTZ	**Lake Taylor**	**24.42**	**198**	P		**P**	**13 51 44.5**	**-2.1**
OXZ	**Oxford**	**24.99**	**198**	P		**P**	**13 51 50.0**	**-1.6**
OXZ				IAmb		IAmb	13 51 57.2	
	comp=Z,31nm,1.2s						
WKZ	**Wanaka**	**27.28**	**201**	P		**P**	**13 52 10.3**	**-1.3**
WHZ	**Wether Hill Ro**	**28.58**	**201**	P		**P**	**13 52 23.5**	**+0.6**
WHZ				IAmb		IAmb	13 52 24.1	
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**33.77**	**263**	P		**P**	**13 53 07.8**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=71,slow=12						
CTAO	**Charters Tower**	**33.77**	**263**	P		**P**	**13 53 07.6**	**+0.2**
PMG	**Port Moresby**	**35.39**	**282**	P		**P**	**13 53 21.8**	**+0.8**
PMG				IAmb		IAmb	13 53 29.9	
	comp=Z,31nm,1.1s						
WR0	**Warramunga Arr**	**44.72**	**261**	P		**P**	**13 54 34.6**	**-0.5**
WB0	**Warramunga Arr**	**44.88**	**262**	P		**P**	**13 54 35.9**	**-0.5**
AS31	**Alice Springs**	**44.88**	**256**	P		**P**	**13 54 35.6**	**-0.8**
ASAR	**Alice Springs**	**44.88**	**256**	P		**P**	**13 54 36.4**	**0.0**
	comp=Z,1.5nm,0.4s,baz=88,slow=8.5,SNR=78						
ASAR				PcP		**PcP**	**13 56 05.0**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=109,slow=3.8,SNR=6.6						
ASAR				S		**S**	**14 00 30.2**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=98,slow=14,SNR=6.8						
ASAR	**Alice Springs**	**44.88**	**256**	P		**P**	**13 54 36.0**	**-0.4**
WB2	**Warramunga Arr**	**44.89**	**261**	P		**P**	**13 54 35.6**	**-0.9**
WB2				IAmb		IAmb	13 54 50.5	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**44.91**	**261**	P		**P**	**13 54 36.0**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=98,slow=7.0,SNR=29						
WRA				PcP		**PcP**	**13 56 05.5**	**+0.6**
	comp=Z,0.7nm,1.0s,baz=90,slow=3.5,SNR=3.5						
WRA				S		**S**	**14 00 30.5**	**-1.7**
	comp=Z,1.2nm,1.2s,baz=95,slow=9.1,SNR=2.9						
WRA	**Warramunga Arr**	**44.91**	**261**	IAmb		IAmb	13 54 36.3	
	comp=Z,0.4nm,1.3s						
MTN	**Manton Dam**	**49.36**	**270**	P		**P**	**13 55 09.5**	**-0.5**
MTN				IAmb		IAmb	13 55 10.1	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**69.75**	**323**	P		**P**	**13 57 24.9**	**+0.2**
	comp=Z,21nm,0.7s,baz=225,slow=3.6,SNR=4.3						
QSPA	**South Pole Qui**	**70.29**	**180**	P		**P**	**13 57 28.8**	**+1.2**
ADK	**Adak**	**71.36**	**1**	P		**P**	**13 57 34.4**	**+0.6**
ADK				IAmb		IAmb	13 57 51.7	
	comp=Z,16nm,1.1s						
NVAR	**Mina Array Bea**	**80.36**	**43**	P		**P**	**13 58 26.2**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=186,slow=6.4,SNR=2.3						
GHO	**Glory Hole Cre**	**84.48**	**13**	P		**P**	**13 58 44.8**	**+0.9**
GHO				IAmb		IAmb	13 58 49.9	
	comp=Z,8.5nm,0.6s						
TXAR	**Lajitas Array**	**86.50**	**57**	P		**P**	**13 58 57.3**	**+3.0**
	comp=Z,0.6nm,0.8s,baz=210,slow=7.8,SNR=6.4						
RDMU	**Red Mountain**	**87.23**	**45**	P		**P**	**13 58 59.0**	**+1.3**
RDMU				IAmb		IAmb	13 59 01.0	
	comp=Z,3.3nm,0.6s						
ILAR	**Eielson Array**	**87.57**	**13**	P		**P**	**13 58 59.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=220,slow=5.2,SNR=5.3						
PDAR	**Pinedale Array**	**88.30**	**43**	P		**P**	**13 59 04.3**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=150,slow=3.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**90.06**	**289**	P		**P**	**13 59 11.6**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=141,slow=5.8,SNR=1.6						
ARCES	**ARCESS Array B**	**128.25**	**350**	PKP		**PKiKP**	**14 05 13.0**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=8.5,slow=2.5,SNR=5.0						
AKASG	**Malin Array Be**	**142.48**	**332**	PKP		**PKiKP**	**14 05 40.6**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=32,slow=4.0,SNR=5.7						
BRTR	**Keskin Array B**	**146.50**	**313**	PKPbc		**PKPbc**	**14 05 49.5**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=150,slow=2.1,SNR=2.3						
CLL	**Collm**	**147.41**	**347**	*i* PKPbc		**PKiKP**	**14 05 51.9**	**-0.5**
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**149.56**	**345**	PKPbc		**PKPbc**	**14 05 55.3**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=94,slow=1.7,SNR=8.1						

IDC 14 13:52:35.9±2.3, 2°.59N×127°.75E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=148.3km s-min=28.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.31**	**164**	P		P	13 57 45.7	0.0
	0.6nm,0.6s,baz=344,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**26.78**	**167**	P		P	13 58 17.7	0.0
	0.5nm,0.8s,baz=343,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**59.06**	**325**	P		P	14 02 37.9	0.0
	0.1nm,0.5s,baz=134,slow=8.2,SNR=2.0						

IDC 14 13:57:09.1±8.4, 5°.75S×145°.47E, h73km±67km, mb3.0/2, mb1 3.2/4, mb1mx3.0/38, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=89.0km s-min=52.1km az=44.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.00**	**155**	P		Pn	13 58 07.7	-0.4
	2.6nm,0.3s,baz=323,slow=5.1,SNR=9.1						
PMG				S		Sn	13 58 54.4	+0.6
	6.5nm,0.3s,baz=223,slow=16,SNR=13						
WRA	**Warramunga Arr**	**17.79**	**216**	P		P	14 01 11.2	-0.5
	0.1nm,0.3s,baz=38,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**21.01**	**211**	P		P	14 01 46.3	-0.6
	0.2nm,0.6s,baz=40,slow=8.5,SNR=5.6						
STKA	**Stephens Creek**	**26.25**	**187**	P		P	14 02 38.4	+0.8
	0.8nm,0.5s,baz=357,slow=5.5,SNR=3.6						

DJA ***14*** *14:25:11.5±2.7, 14°.N±21°.×10°.0E±°, h10km, M4.9/3, mb5.0/1, mB5.9/1, MLv4.9/3, Mw(mB)5.5/1*
IDC ***14*** *14:25:11.8±1.2, 15°.03N×98°.42E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/33, mbtmp3.8/6, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/49, Error ellipse: s-maj=38.6km s-min=15.8km az=77.0*
NEIC ***14*** *14:25:14.4±1.0, 15°.12N±0°.09×98°.5E±0°.2, h14km±5km, mb4.4/8, Error ellipse: s-maj=23.4km s-min=12.3km az=75.0*

ISC 14 14:25:12.6±0.7, 15°.11N±0°.03×98°.49E±0°.05, h10km, n46, σ1§87/51, mb4.0/9, MS3.4/3, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDT	**SRDT**	**0.97**	**141**	P		**Pg**	**14 25 29.4**	**-1.9**
SRDT				S		**Sg**	**14 25 43.1**	**-0.9**
UTHA	**Uthaitani**	**1.02**	**64**	P		**Pn**	**14 25 33.2**	**+0.2**
UTHA				S		**Sn**	**14 25 47.8**	**+0.3**
UMPA	**Umpang Tak**	**1.15**	**18**	P		**Pb**	**14 25 32.0**	**-2.6**
UMPA	**Umpang Tak**	**1.15**	**18**	P		**Pb**	**14 25 32.4**	**-2.1**
UMPA				S		**Sb**	**14 25 47.1**	**-2.4**
PHET	**Kaeng Krachan**	**2.45**	**153**	P		**Pn**	**14 25 52.5**	**-0.2**
PHET				S		**Sg**	**14 26 32.2**	**+0.8**
PHIT	**Phitsanulok**	**2.78**	**42**	P		**Pn**	**14 25 59.0**	**+1.8**
PHIT	**Phitsanulok**	**2.78**	**42**	P		**Pn**	**14 25 59.5**	**+2.4**
PHIT				S		**Sg**	**14 26 40.6**	**-1.2**
MHMT	**Maesarieng**	**3.10**	**350**	P		**Pn**	**14 26 03.1**	**+1.5**
MHMT	**Maesarieng**	**3.10**	**350**	P		**Pn**	**14 26 02.9**	**+1.3**
MHMT				S		**Sn**	**14 26 41.0**	**+2.3**
UTTA	**Uttaradit**	**3.29**	**37**	P		**Pn**	**14 26 06.4**	**+2.2**
UTTA	**Uttaradit**	**3.29**	**37**	P		**Pn**	**14 26 06.5**	**+2.4**
UTTA				S		**Sb**	**14 26 48.0**	**-3.1**
CM05	**Chiang Mai Arr**	**3.30**	**8**	P		**Pn**	**14 26 06.6**	**+2.2**
CM04	**Chiang Mai Arr**	**3.31**	**8**	P		**Pn**	**14 26 06.7**	**+2.2**
CM13	**Chiang Mai Arr**	**3.32**	**7**	P		**Pn**	**14 26 06.1**	**+1.5**
CM01	**Chiang Mai Arr**	**3.32**	**8**	P		**Pn**	**14 26 07.1**	**+2.4**
CM02	**Chiang Mai Arr**	**3.33**	**7**	P		**Pn**	**14 26 07.4**	**+2.5**
CM09	**Chiang Mai Arr**	**3.35**	**8**	P		**Pn**	**14 26 07.5**	**+2.4**
CM15	**Chiang Mai Arr**	**3.35**	**7**	P		**Pn**	**14 26 06.7**	**+1.6**
CM31	**Chiang Mai Arr**	**3.36**	**7**	Pn		**Pn**	**14 26 06.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**3.36**	**7**	Pn		**Pn**	**14 26 06.5**	**+1.3**
	3.9nm,0.3s,baz=196,slow=14,SNR=63						
CMAR				Pg		**Pg**	**14 26 16.4**	**-0.6**
	32nm,0.3s,baz=194,slow=19,SNR=37						
CMAR				LR		LR	14 26 56.5	
	comp=Z,296nm,19.5s,baz=62,slow=30						
CMAR				Lg		Lg	14 26 59.7	
	94nm,0.3s,baz=188,slow=30,SNR=5.1						
CMAR	**Chiang Mai Arr**	**3.36**	**7**			**Pn**	**14 26 06.2**	**+1.0**
CHAI	**Chaiyaphum**	**3.46**	**76**	P		**Pn**	**14 26 09.2**	**+2.6**
CHAI				S		**Sb**	**14 26 58.9**	**+2.7**
LAMP	**Lampang**	**3.57**	**18**	P		**Pb**	**14 26 11.7**	**-4.1**
CMMT	**Chiang Mai**	**3.71**	**7**	P		**Pn**	**14 26 11.1**	**+1.1**
CHTO	**Chiang Mai**	**3.71**	**7**	P		**Pb**	**14 26 16.8**	**-1.5**
CHTO	**Chiang Mai**	**3.71**	**7**			**Pn**	**14 26 10.6**	**+0.6**
NONG	**Nongkai**	**5.34**	**56**	P		**Pb**	**14 26 44.6**	**-1.5**
SKNT	**Sakolnakorn**	**5.60**	**70**	P		**Pn**	**14 26 39.3**	**+3.3**
BKNI	**Bangkinang**	**14.90**	**170**	Pn		**Pn**	**14 28 44.2**	**+0.6**
SZP	**Santa**	**21.22**	**80**	P		**P**	**14 30 00.6**	**+1.9**
YULB	**Yu-li**	**23.03**	**66**	P		**P**	**14 30 16.2**	**-1.9**
YULB				IAmb		IAmb	14 30 24.4	
	comp=Z,37nm,1.5s						
TARG	**Taragay, Kyrgy**	**31.99**	**330**	P		**P**	**14 31 38.4**	**-1.1**
TARG				IAmb		IAmb	14 31 50.9	
	comp=Z,3.4nm,0.9s						
KSRS	**Korea Array**	**34.28**	**44**	LR		LR	14 46 05.3	
	comp=Z,60nm,18.1s,baz=222,slow=36						
AAK	**Ala-Archa**	**34.31**	**328**	LR		LR	14 49 00.3	
	comp=Z,331nm,20.7s,baz=120,slow=42						
MKAR	**Makanchi Array**	**34.36**	**340**	P		**P**	**14 32 00.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=157,slow=7.8,SNR=4.9						
ZAA0	**Zalesovo Array**	**40.21**	**348**	P		**P**	**14 32 51.1**	**+2.0**
ZAA0				IAmb		IAmb	14 32 54.0	
	comp=Z,4.2nm,1.1s						
ZALV	**Zalesovo Beam**	**40.21**	**348**	P		**P**	**14 32 51.3**	**+2.1**
	comp=Z,0.5nm,0.5s,baz=154,slow=7.7,SNR=6.0						
ABKAR	**Akbulak array**	**46.32**	**326**	P		**P**	**14 33 39.5**	**+0.9**
WB0	**Warramunga Arr**	**49.48**	**133**	P		**P**	**14 34 04.0**	**+0.5**
WB0				IAmb		IAmb	14 34 07.0	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**49.56**	**134**	P		**P**	**14 34 04.6**	**+0.5**
	comp=Z,3.0nm,1.0s,baz=314,slow=8.8,SNR=9.7						
WRA	**Warramunga Arr**	**49.56**	**134**	IAmb		IAmb	14 34 06.3	
	comp=Z,0.6nm,1.4s						
NWAO	**Narrogin (SRO)**	**51.02**	**160**	P		**P**	**14 34 13.7**	**-1.2**
AS31	**Alice Springs**	**51.80**	**137**	P		**P**	**14 34 21.4**	**+0.3**
ASAR	**Alice Springs**	**51.80**	**137**	P		**P**	**14 34 21.6**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=316,slow=7.0,SNR=8.8						
BRTR	**Keskin Array B**	**61.22**	**307**	P		**P**	**14 35 28.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=97,slow=6.0,SNR=2.0						
TORD	**Torodi Ar. Bea**	**93.03**	**284**	LR		LR	15 22 05.4	
	comp=Z,9.0nm,20.0s,baz=170,slow=37						

FUNV ***14*** *14:34:02.4, 10°.05N×70°.04W, h5km, MW4.1*

ISC 14 14:34:01.8±0.8, 10°.01N±0°.03×69°.96W±0°.03, h14km±5km, n39, σ1§22/58, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.00**	**53**	*e*P		**Pg**	**14 34 04.3**	**+0.1**
CURV				*e*S		**Sg**	**14 34 05.9**	**0.0**
SIQV	**Siquisique**	**0.65**	**14⇑**	*e*P		**Pg**	**14 34 14.2**	**-0.3**
SIQV				*e*S		**Sg**	**14 34 23.7**	**+0.5**
DABV	**Dabajuro**	**1.12**	**324**	*e*P		**Pb**	**14 34 22.8**	**-0.2**
DABV				*e*S		**Sb**	**14 34 35.9**	**-1.6**
SDV	**Santo Domingo**	**1.30**	**211**	*e*P		**Pn**	**14 34 25.5**	**-0.2**
SDV	**Santo Domingo**	**1.30**	**211**	*e*P		**Pn**	**14 34 25.5**	**-0.2**
SDV				*e*S		**Sb**	**14 34 42.7**	**0.0**
JACV	**Jacura**	**1.55**	**46**	*e*P		**Pb**	**14 34 30.8**	**+0.5**
JACV				*e*S		**Sb**	**14 34 50.4**	**+0.6**
SOCV	**Socops**	**1.93**	**207**	*e*P		**Pn**	**14 34 35.6**	**+1.3**
SOCV	**Socops**	**1.93**	**207**	*e*P		**Pn**	**14 34 35.8**	**+1.5**
SOCV				*e*S		**Sn**	**14 35 00.1**	**+1.8**
MONV	**Montecano**	**1.93**	**360**	*e*P		**Pn**	**14 34 33.8**	**-0.5**
MONV				*e*S		**Sn**	**14 34 58.2**	**-0.3**
TURV	**Turiamo**	**2.14**	**78**	*e*P		**Pn**	**14 34 38.0**	**+0.9**
TURV				*e*S		**Sb**	**14 35 05.8**	**-0.9**
BAUV	**El Baul**	**2.17**	**119**	*e*P		**Pb**	**14 34 39.7**	**-1.3**
BAUV				*e*S		**Sb**	**14 35 06.8**	**-0.9**
BENV	**Beln**	**2.33**	**91**	*e*P		**Pb**	**14 34 42.3**	**-1.3**
BENV				*e*S		**Sb**	**14 35 11.1**	**-1.3**
MCQV	**Machiques**	**2.53**	**271**	*e*P		**Pn**	**14 34 43.3**	**+0.8**
MCQV				*e*S		**Sn**	**14 35 12.0**	**-1.3**
TACV	**Tcata**	**2.90**	**87**	*e*P		**Pn**	**14 34 49.7**	**+2.1**
TACV				*e*S		**Sn**	**14 35 23.4**	**+1.1**
ELOV	**Elorza**	**3.03**	**171**	*e*P		**Pn**	**14 34 51.3**	**+2.0**
ELOV	**Elorza**	**3.03**	**171**	*e*P		**Pn**	**14 34 51.5**	**+2.2**
ELOV				*e*S		**Sn**	**14 35 26.5**	**+1.1**
CAPV	**Capacho**	**3.15**	**228**	*e*P		**Pn**	**14 34 52.0**	**+0.8**
CAPV				*e*S		**Sn**	**14 35 28.4**	**-0.5**
LL2C	**La Loma 2 Cana**	**3.45**	**263**	*e*P		**Pn**	**14 34 56.6**	**+1.4**
LL1C	**La Loma 1 Cana**	**3.57**	**263**	*e*P		**Pn**	**14 34 57.7**	**+0.9**
BIRV	**Birongo**	**3.67**	**82**	*e*P		**Pn**	**14 34 59.6**	**+1.4**
BIRV				*e*S		**Sn**	**14 35 41.9**	**+0.7**
MERV	**Las Mercedes**	**3.69**	**101**	*e*P		**Pn**	**14 35 00.1**	**+1.6**
MERV				*e*S		**Sn**	**14 35 42.3**	**+0.4**
OCAC	**Ocana**	**3.75**	**242**	*e*P		**Pn**	**14 34 59.8**	**+0.4**
PAMC	**Pamplona, Colo**	**3.79**	**226**	*e*P		**Pn**	**14 35 01.1**	**+0.8**
CACV	**CAICARA DEL OR**	**4.17**	**125**	*e*P		**Pb**	**14 35 12.9**	**-2.1**
CACV				*e*S		**Sb**	**14 36 05.5**	**+0.3**
SMLC	**San Martn de**	**4.23**	**254**	*e*P		**Pn**	**14 35 05.9**	**+0.1**
BARC	**Barichara**	**4.66**	**223**	*e*P		**Pn**	**14 35 13.1**	**+1.1**
PAYV	**Puerto Ayacuch**	**5.10**	**153**	*e*P		**Pn**	**14 35 18.9**	**+1.0**
PAYV				*e*S		**Sn**	**14 36 15.2**	**-1.5**
RUSC	**La Rusia**	**5.13**	**217**	*e*P		**Pn**	**14 35 19.8**	**+1.1**
SJCC	**San Jacinto, C**	**5.14**	**269**	*e*P		**Pn**	**14 35 19.1**	**+0.6**
PCRV	**Puerto La Cruz**	**5.25**	**88**	*e*S		**Sn**	**14 36 20.1**	**-0.3**
PRGV	**PARIAGUAN**	**5.39**	**103**	*e*P		**Pn**	**14 35 23.0**	**+1.1**
PRGV				*e*S		**Sn**	**14 36 22.3**	**-1.6**
ZARC	**Zaragoza, Cauc**	**5.45**	**243**	*e*P		**Pn**	**14 35 22.6**	**-0.1**
UREC	**San Jos de Ur**	**5.94**	**248**	*e*P		**Pn**	**14 35 31.4**	**+2.0**
CHIC	**Chingaza**	**6.52**	**215**	*e*P		**Pn**	**14 35 38.4**	**+0.6**
NORC	**Norcasia**	**6.57**	**228**	*e*P		**Pn**	**14 35 37.8**	**-0.4**
HELC	**Santa Helena**	**6.69**	**236**	*e*P		**Pn**	**14 35 41.3**	**+1.2**
DBBC	**Dabeiba**	**6.86**	**245**	*e*P		**Pn**	**14 35 45.5**	**+3.4**
ANIL	**Santa Ana**	**7.69**	**225**	*e*P		**Pn**	**14 35 55.0**	**+1.2**
PLMC	**San Jos del P**	**8.06**	**231**	*e*P		**Pn**	**14 35 60.0**	**+1.3**

SOME ***14*** *14:35:48.2, 37°.47N×71°.40E, h10km*
NNC ***14*** *14:35:49.6±4.0, 36°.16N×70°.83E, h0km, mb5.1, mpv4.9, Error ellipse: s-maj=39.5km s-min=31.9km az=157.0*
MOS ***14*** *14:35:50.3±1.1, 35°.92N×71°.12E, h91km, mb4.8/64, Error ellipse: s-maj=4.3km s-min=3.1km az=110.5*
NEIC ***14*** *14:35:51.6±1.7, 35°.87N±0°.06×71°.00E±0°.08, h89km±6km, mb4.7/125, Error ellipse: s-maj=9.0km s-min=8.2km az=81.0*
BJI ***14*** *14:35:53.4±0.0, 36°.04N×71°.44E, h90km, mB4.7/20, mb4.7/39, Ms4.5/4, Ms7 4.2/3*
IDC ***14*** *14:35:53.2±1.6, 35°.92N×71°.00E, h108km±13km, mb4.3/26, mb1 4.4/32, mb1mx4.3/45, mbtmp4.7/32, MS3.2/21, Ms1 3.3/21, ms1mx3.1/47, Error ellipse: s-maj=11.0km s-min=8.6km az=19.0*

ISC 14 14:35:51.8±0.4, 35°.84N±0°.04×71°.08E±0°.03, h95km±4km, h96km:pP-P, n545, σ1§66/569, mb4.7/155, 37C-20D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.11**	**233**	PN		**Pn**	**14 36 25.6**	**-0.2**
KBL	**Kabul**	**2.11**	**233**	Pn		**Pn**	**14 36 25.6**	**-0.2**
CEP	**Cherat**	**2.12**	**161**	P		**Pn**	**14 36 26.8**	**+0.9**
CHCP	**Chirah Chowk**	**2.82**	**140**	P		**Pn**	**14 36 36.0**	**+0.9**
NIL	**Nilore**	**2.82**	**140**	PN		**Pn**	**14 36 35.8**	**+0.7**
NIL	**Nilore**	**2.82**	**140**	Pn		**Pn**	**14 36 35.8**	**+0.7**
THW	**Thamme Wali**	**3.08**	**170**	P		**Pn**	**14 36 39.1**	**+0.5**
CHGR	**Chuyangaron**	**3.21**	**332**	Pn		**Pn**	**14 36 39.0**	**-1.3**
GAR	**Garm**	**3.22**	**349**			**Pn**	**14 36 40.2**	**-0.2**
DRK	**Karamyk**	**3.68**	**9**			**Pn**	**14 36 48.2**	**+1.3**
SARP	**Sargodha**	**4.12**	**161**	P		**Pn**	**14 36 51.5**	**-1.1**
BTK	**Batken**	**4.22**	**357**	PN		**

comp=Z,15nm,0.3s,baz=118,slow=15,SNR=9.7
GEYT LR LR 14 43 29.2
comp=Z,48nm,20.8s,baz=75,slow=43
GYA0B ALIBECK ARRAY 10.59 285 Pn **Pn 14 38 17.1 -3.4**
OTUK Ortayu 12.43 4 ⇑P **Pn 14 38 42.5 -2.8**
comp=Z,36nm,1.0s
OTUK Ortayu 12.43 4 P **Pn 14 38 42.5 -2.8**
PYUN Piuthan 12.71 124 *eP* **Pn 14 38 45.1 -4.1**
comp=Z,297nm,0.5s
PYUN *eS* Sn 14 40 58.4 -11
DANN Dangsing 13.08 121 *eP* **Pn 14 38 50.3 -3.9**
comp=Z,264nm,0.3s
DANN *eS* Sn 14 41 07.5 -11
KOLN Koldanda 13.33 124 *eP* **Pn 14 38 53.4 -4.0**
comp=Z,238nm,0.5s
KOLN *eS* Sn 14 41 14.5 -10
MAKZ Makanchi 13.67 33 P **Pn 14 38 59.2 -2.2**
MAKZ Makanchi 13.67 33 **Pn 14 38 59.2 -2.2**
BHPL Bhopal 13.71 155 *eP* **Pn 14 38 58.8 -3.3**
MK31 Makanchi Array 13.80 34 ⇓P **Pn 14 39 01.9 -1.2**
comp=Z,3.3nm,0.3s,baz=214,slow=14,SNR=210
MK31 Makanchi Array 13.80 34 *deP* **Pn 14 39 02.8 -0.4**
MK31 Makanchi Array 13.80 34 Pn **Pn 14 39 01.5 -1.6**
MKAR Makanchi Array 13.80 34 P **Pn 14 39 02.4 -0.8**
comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=23
MKAR LR LR 14 44 51.9
comp=Z,109nm,21.5s,baz=220,slow=39
MKAR Makanchi Array 13.80 34 *i* P **Pn 14 39 02.7 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 13.80 34 Pn **Pn 14 39 01.9 -1.3**
GKN Gorkha 13.90 120 *eP* **Pn 14 39 00.6 -4.2**
comp=Z,158nm,0.3s
BRZS Berezniki 14.19 4 *eP* **Pn 14 39 04.3 -3.9**
baz=4.2
BRZS Berezniki 14.19 4 *eP* **Pn 14 39 04.3 -3.9**
DMN Daman 14.47 121 *eP* **Pn 14 39 08.2 -4.0**
comp=Z,296nm,0.4s
KKN Kakani 14.48 120 *eP* **Pn 14 39 07.9 -4.5**
comp=Z,208nm,0.6s
PKIN Phulchoki 14.69 120 *eP* **Pn 14 39 10.9 -4.2**
comp=Z,289nm,0.4s
PKIN *eS* Sn 14 41 46.4 -11
PKI Pulchoki 14.71 120 *eP* **Pn 14 39 11.0 -4.3**
comp=Z,251nm,0.4s
PKI *eS* Sn 14 41 46.7 -11
WMQ Urumqi 15.03 53 *eP* **Pn 14 39 19.8 +0.7**
JIRN Jiri 15.21 118 *eP* **Pn 14 39 18.0 -3.7**
comp=Z,176nm,0.4s
ZSN Zaisan 15.49 37 *eP* **Pn 14 39 23.2 -1.6**
baz=38
ZSN Zaisan 15.49 37 *eP* **Pn 14 39 23.2 -1.6**
AB31 Akbulak array 15.70 332 P **Pn 14 39 25.0 -2.3**
comp=Z,28nm,0.5s,baz=143,slow=11,SNR=727
ABKAR Akbulak array 15.70 332 **Pn 14 39 24.5 -2.9**
KURBB Kurchatov Arra 15.73 18 P **Pn 14 39 25.9 -1.8**
comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=4.4
KURBB Kurchatov Arra 15.73 18 ⇑P **P 14 39 28.7 -1.1**
comp=Z,19nm,0.8s
KURBB Kurchatov Arra 15.73 18 P **P 14 39 28.7 -1.1**
KURK Kurchatov 15.84 18 P **Pn 14 39 25.9 -3.2**
KURK Kurchatov 15.84 18 P **Pn 14 39 25.9 -3.2**
RAMN Ramite 15.92 119 *eP* **Pn 14 39 26.7 -3.9**
comp=Z,164nm,0.3s
WSAR Wadi Sarin 16.56 224 P **Pn 14 39 37.5 -0.8**
comp=Z,0.5nm,0.3s,baz=78,slow=9.3,SNR=10
UOSS Minazif 16.79 234 P **P 14 39 41.7 0.0**
BVAR Borovoye Array 17.19 359 P **Pn 14 39 44.2 -1.6**
comp=Z,3.4nm,0.3s,baz=194,slow=18,SNR=27
BRVK Borovoye 17.23 358 ⇑*eP* **Pn 14 39 44.9 -1.3**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 17.23 358 **Pn 14 39 44.8 -1.3**
AKTO Aktyubinsk 17.39 331 P **P 14 39 47.0 -1.1**
comp=Z,5.7nm,0.3s,baz=142,slow=13,SNR=138
AKTO S Sn 14 42 49.2 -12
comp=Z,1.9nm,0.3s,baz=136,slow=21,SNR=3.5
AKTO LR LR 14 47 36.2
comp=Z,41nm,18.0s,baz=159,slow=41
AKTO Aktyubinsk 17.39 331 ⇑P **Pn 14 39 47.7 -0.5**
comp=Z,102nm,0.8s
BOK Bokaro 17.55 129 *eP* **P 14 39 47.1 -3.0**
BOK *i x* **P 14 39 50.8 +0.7**
LSA Lhasa 17.94 104 P **P 14 39 53.5 -1.3**
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 17.94 104 P **P 14 39 53.5 -1.3**
LKRN Lenkeran, Azer 17.97 286 P **Pn 14 39 56.5 +1.1**
DGZ Jazzator, Alta 18.28 36 *ceP* **P 14 39 58.0 0.0**
DGZ pmax pmax
comp=Z,9.0nm,0.6s
SEKA Sheki 19.42 293 P **Pn 14 40 11.6 -1.0**
MNGR Mingechevir, A 19.44 292 P **Pn 14 40 11.7 -1.1**
HYB Hyderabad 19.51 158 *i* P **Pn 14 40 13.0 -0.8**
HYB *ep*P **sP 14 40 42.0 -0.6**
HYB *eS* **Sn 14 44 00.0 +7.1**
HYB Hyderabad 19.51 158 *eP* **P 14 40 12.3 +0.7**
HYB IAmb IAmb 14 40 14.6
comp=Z,72nm,1.4s
MAK Makhachkala 19.52 299 *eP* **P 14 40 11.2 -0.3**
MAK *eS* **S 14 43 48.1 +1.3**
MAK pmax pmax
comp=Z,292nm,1.7s
MAK MLR MLR
comp=Z,102nm,16.0s
ZKTA Zakatala 19.91 294 P **Pn 14 40 16.6 -1.6**
GANJ Ganja 20.01 291 P **P 14 40 17.0 +0.2**
LGD Lagodekhi 20.22 295 P **P 14 40 19.6 +0.5**
DDFL Dedoflistskaro 20.25 294 P Pn 14 40 22.7 +0.4
ZAA0 Zalesovo Array 20.49 24 P **P 14 40 21.6 -0.3**
ZAA0 IAmb IAmb 14 40 49.0
comp=Z,34nm,1.1s
ZALV Zalesovo Beam 20.49 24 P **P 14 40 21.7 -0.2**
comp=Z,16nm,0.3s,baz=209,slow=10,SNR=40
ZALV S **S 14 43 59.5 -6.3**
comp=Z,1.9nm,0.6s,baz=212,slow=14,SNR=1.2
ZALV Zalesovo Beam 20.49 24 *i* P **P 14 40 21.8 -0.1**
ZALV pmax pmax
comp=Z,17nm,0.3s
ZALV Zalesovo Beam 20.49 24 P **P 14 40 21.4 -0.4**
NAX Nakhchivan 20.55 287 P **P 14 40 23.7 +1.0**
SHL Shillong 20.57 114 P **P 14 40 22.8 -0.3**
SHL pmax pmax
comp=Z,72nm,0.6s
SHL Shillong 20.57 114 *eP* **P 14 40 22.9 -0.3**
SHL IAmb IAmb 14 40 26.6
comp=Z,135nm,1.4s
SHL Shillong 20.57 114 P **P 14 40 22.8 -0.3**
UMR Umm Al-Rimmam 20.61 259 *eP* **P 14 40 22.0 -1.4**
QRN Al-Qurain 20.79 257 *eP* **P 14 40 23.6 -1.8**
GROC Groznyy 20.80 298 *eP* **P 14 40 25.6 +0.3**
GROC *e* 14 40 48.3
GROC *e**SP **sP 14 41 02.3 +5.5**
GROC pmax pmax
comp=Z,90nm,0.9s
MIB Mutribah 20.82 260 *eP* **P 14 40 24.7 -0.9**
ITAN ITANAGAR 21.13 108 *eP* **P 14 40 31.4 +2.5**
GNI Garni 21.17 290 P **P 14 40 29.6 +0.1**
comp=Z,287nm,0.8s,baz=47,slow=1.3,SNR=84
GNI Garni 21.17 290 *c i*P **P 14 40 31.6 +2.1**
GNI pmax pmax
comp=Z,389nm,1.0s
GNI Garni 21.17 290 P **P 14 40 29.3 -0.1**
RST Umm Al-Ruwaisa 21.21 260 *eP* **P 14 40 28.6 -1.2**
SEAG Tbilisi Sea 21.27 294 P **P 14 40 32.8 +2.4**
KZRT Kazreti 21.53 293 P **P 14 40 34.1 +0.9**
GUDG Gudauri 21.61 296 P **P 14 40 33.2 -1.1**
ZEI Tsey 22.09 297 *eP* **P 14 40 39.1 -0.2**
ZEI pmax pmax
comp=Z,44nm,1.3s
MOKO MOKOCHONG 22.15 109 *eP* **P 14 40 40.5 +0.4**
KOHI KOHIMA 22.16 111 *eP* **P 14 40 40.6 +0.6**
BRDH Bariadhala 22.16 121 LR LR 14 50 40.0
comp=Z,135nm,19.5s,baz=330,slow=40
AKH Akhalkalaki 22.21 293 P **P 14 40 42.3 +1.7**
ARU Arti 22.28 341 P **P 14 40 39.9 -1.0**
comp=Z,4.5nm,0.3s,baz=156,slow=10,SNR=22
ARU S **S 14 44 37.9 -1.6**
comp=Z,1.0nm,0.6s,baz=165,slow=20,SNR=1.5
ARU LR LR 14 50 08.4
comp=Z,107nm,20.8s,baz=144,slow=39
ARU Arti 22.28 341 *c i*P **P 14 40 41.1 +0.2**
ARU *PP **pP 14 41 01.6 +0.9**
ARU 14 41 11.3

ARU S **S 14 44 39.6 +0.1**
ARU SS **SnSn 14 45 24.5 +8.2**
ARU pmax pmax
comp=Z,72nm,1.7s
ARU Arti 22.28 341 P **P 14 40 39.9 -1.0**
ARU IAmb IAmb 14 40 44.1
comp=Z,29nm,0.9s
ONI Oni 22.38 296 P **P 14 40 43.2 +1.0**
ONI pmax pmax
comp=Z,36nm,1.0s
ONI Oni 22.38 296 P **P 14 40 43.2 +1.0**
ONI IAmb IAmb 14 40 47.6
comp=Z,36nm,1.0s
NCK Nalchik 22.43 298 ⇓*eP* **P 14 40 43.3 +0.7**
NCK pmax pmax
comp=Z,61nm,0.7s
KARS Kars 22.46 291 P **P 14 40 46.6 +3.4**
LKP Lekhapani 22.69 105 *eP* **P 14 40 46.2 +0.7**
KBZ Khabaz 22.97 299 P **P 14 40 46.9 -1.2**
comp=Z,16nm,0.9s,baz=143,slow=6.8,SNR=27
KBZ LR LR 14 52 20.6
comp=Z,35nm,18.0s,baz=102,slow=43
KBZ Khabaz 22.97 299 *ceP* **P 14 40 47.4 -0.6**
GTA Gaotai 22.99 72 ⇓P **P 14 40 50.0 +1.5**
GTA pP pP 14 41 07.4 -1.0
GTA sP sP 14 41 16.4 -4.2
GTA pmax pmax
comp=Z,23nm,1.1s
NEY Neytrino 23.01 297 *i* P **P 14 40 50.4 +1.7**
NEY pmax pmax
comp=Z,7.0nm,0.8s
GOF Gofitskoye 23.14 302 ⇑*eP* **P 14 40 50.3 +0.5**
KVAR Kislovodsk Arr 23.16 299 P **P 14 40 48.5 -1.5**
comp=Z,4.7nm,0.6s,baz=116,slow=22,SNR=2.2
KIV Kislovodsk 23.16 299 *eP* **P 14 40 50.1 +0.1**
KIV *eS* **S 14 44 53.7 -0.4**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,55nm,14.0s
KIV Kislovodsk 23.16 299 P **P 14 40 49.0 -1.1**
KIV IAmb IAmb 14 41 04.7
comp=Z,20nm,0.7s
BELG Belogornoye 23.45 322 P **P 14 40 50.7 -1.8**
comp=Z,140nm,0.8s,baz=132,slow=2.4,SNR=26
BELG LR LR 14 51 26.3
comp=Z,57nm,21.3s,baz=83,slow=40
BATM Batumi 23.57 293 P **P 14 40 55.7 +2.0**
KOPT Kop Dagi 24.42 289 P **P 14 41 03.1 +1.5**
KOPT IAmb IAmb 14 41 06.8
comp=Z,42nm,1.1s
SOC Sochi 25.23 297 *eP* **P 14 41 06.3 -2.4**
SOC *e* 14 41 54.0
SOC *eS* **S 14 45 23.9 -3.2**
VRH Novokhopyorsk 26.02 315 *eP* **P 14 41 16.0 +0.3**
VRH pmax pmax
comp=Z,10.0nm,0.8s
MALT Malatya 26.10 285 P **P 14 41 19.8 +3.1**
LZH Lanzhou 26.45 80 *eP* **P 14 41 22.6 +2.6**
LZH pmax pmax
comp=Z,18nm,1.1s
MOY Mondy 26.53 44 *eP* **P 14 41 24.7 +4.2**
KIRV Kirov 26.86 335 P **P 14 41 22.1 -1.1**
comp=Z,15nm,0.4s,baz=116,slow=5.9,SNR=13
KIRV Kirov 26.86 335 *d i*P **P 14 41 24.3 +1.1**
ANN Anapa 27.01 300 *eP* P 14 41 13.5 -11
ANN *e**PP pP 14 41 37.5 -10
ANN *e*SS SS 14 47 13.7 -38
ANN pmax pmax
comp=Z,55nm,1.1s
VORD Divnogorie 27.34 314 *eP* **P 14 41 26.2 -1.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 27.38 48 *eP* **P 14 41 32.0 +3.9**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
CD2 Chengdu 27.65 91 P **P 14 41 32.3 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.9s
TLY Talaya 28.05 45 LR LR 14 53 26.9
comp=Z,40nm,20.8s,baz=242,slow=38
TLY Talaya 28.05 45 *eP* P 14 41 46.1 +12
TLY pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 28.18 317 *eP* **P 14 41 34.1 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
SONM Songino Array 28.66 54 P **P 14 41 41.0 +1.4**
comp=Z,2.2nm,0.8s,baz=232,slow=7.1,SNR=6.1
SONM LR LR 14 54 38.0
comp=Z,103nm,20.7s,baz=238,slow=39
SONM Songino Array 28.66 54 P **P 14 41 41.0 +1.4**
SONM pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 28.66 54 IAmb IAmb 14 41 42.4
comp=Z,4.7nm,1.3s
ULN Ulaanbaatar 29.10 54 P **P 14 41 44.7 +1.2**
ULN pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 29.10 54 P **P 14 41 44.7 +1.2**
KMI Kunming 29.18 103 ⇓P **P 14 41 46.4 +1.9**
KMI sP sP 14 42 15.9 -2.6
KMI pmax pmax
comp=Z,11nm,0.8s
MMAI Mount Meron Ar 29.46 275 LR LR 14 54 42.9
comp=Z,33nm,21.5s,baz=15,slow=38
BR131 Keskin Array S 29.70 289 P **P 14 41 48.8 -0.1**
BR131 pmax pmax
comp=Z,10.0nm,0.8s
BR131 Keskin Array S 29.70 289 P **P 14 41 48.8 -0.1**
BR131 IAmb IAmb 14 41 50.1
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 29.70 289 P **P 14 41 48.2 -0.7**
comp=Z,5.4nm,0.8s,baz=102,slow=8.0,SNR=19
BRTR Keskin Array B 29.70 289 *i* P **P 14 41 49.5 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 29.70 289 P **P 14 41 48.8 -0.1**
CHTO Chiang Mai 29.86 117 P **P 14 41 50.3 +0.1**
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO Chiang Mai 29.86 117 P **P 14 41 53.9 +3.7**
comp=Z,7.0nm,1.3s
CHTO Chiang Mai 29.86 117 P **P 14 41 50.3 +0.1**
CHTO IAmb IAmb 14 41 59.9
comp=Z,9.8nm,1.2s
CM15 Chiang Mai Arr 30.07 118 P **P 14 41 56.0 +3.8**
comp=Z,85nmcomp=Z,4.8nm,1.0s
CM13 Chiang Mai Arr 30.08 118 P **P 14 41 54.5 +2.3**
comp=Z,62nmcomp=Z,6.4nm,1.2s
CM31 Chiang Mai Arr 30.08 118 P **P 14 41 52.7 +0.4**
CMAR Chiang Mai Arr 30.08 118 P **P 14 41 53.0 +0.8**
comp=Z,2.6nm,0.6s,baz=299,slow=8.2,SNR=20
CMAR PP **PnPn 14 42 55.8 +2.3**
comp=Z,4.1nm,0.8s,baz=304,slow=9.2,SNR=4.5
CMAR ScP **ScP 14 48 24.2 -1.1**
comp=Z,1.5nm,0.9s,baz=293,slow=5.0,SNR=6.2
CMAR LR LR 14 55 35.3
comp=Z,69nm,18.5s,baz=258,slow=39
CMAR Chiang Mai Arr 30.08 118 P **P 14 41 52.9 +0.7**
CM02 Chiang Mai Arr 30.10 118 P **P 14 41 55.1 +2.7**
comp=Z,88nmcomp=Z,7.1nm,1.0s
CM01 Chiang Mai Arr 30.12 118 P **P 14 41 55.4 +2.8**
comp=Z,132nmcomp=Z,7.0nm,1.0s
CM05 Chiang Mai Arr 30.12 118 P **P 14 41 54.9 +2.3**
comp=Z,71nmcomp=Z,5.9nm,1.1s
MOS Moscow 30.22 322 *eP* **P 14 41 52.3 -0.7**
MOS *e* 14 42 12.0
MOS *e* 14 46 46.7
MOS pmax pmax
comp=Z,44nm,0.8s
PRGR Permogore 30.40 336 *eP* **P 14 41 52.9 -1.7**
PRGR *e* 14 44 48.7
PRGR pmax pmax
comp=Z,23nm,0.9s
OBN Obninsk 30.48 320 LR LR 14 57 27.7
comp=Z,13nm,18.3s,baz=164,slow=43
OBN Obninsk 30.48 320 *eP* **P 14 41 54.9 -0.5**
OBN *e**PP **pP 14 42 18.1 -0.3**
OBN *e* 14 42 55.6
OBN pmax pmax
comp=Z,53nm,1.7s
XAN Xi'an 30.95 82 P **P 14 42 01.0 +1.2**
XAN pP pP 14 42 22.8 +0.5
XAN sP sP 14 42 34.4 +0.7

XAN pmax pmax
comp=Z,14nm,1.4s
HHC Hu-ho-hao-te 31.94 69 *eP* **P 14 42 10.3 +1.8**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.3s
PHIT Phitsanulok 31.97 118 P **P 14 42 12.6 +3.7**
comp=Z,36nm,1.2s
SLVN Son La 32.07 108 P **P 14 42 10.8 +1.0**
SLVN IAmb IAmb 14 42 12.8
comp=Z,10nm,1.3s
KLMR Klimovskoe 32.09 331 *eP* P 14 42 04.3 -5.1
KLMR *e**PP pP 14 42 28.6 -3.4
KLMR *e* 14 43 13.1
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR Klimovskoe 32.09 331 *eP* P 14 42 04.4 -5.0
KLMR AMP 14 42 10.4
comp=Z,32nm,1.1s
KLMR *ep*P pP 14 42 28.6 -3.4
KLMR *e*PP **PnPn 14 43 13.1 -5.5**
ELL Elmali 33.02 284 P **P 14 42 18.4 +0.4**
ELL pmax pmax
comp=Z,63nm,0.7s
ELL Elmali 33.02 284 P **P 14 42 18.4 +0.4**
TPGR Topolog 33.41 299 ⇑P **P 14 42 22.7 +1.5**
NONG Nongkai 33.41 113 P **P 14 42 22.8 +1.4**
comp=Z,24nm,1.0s
NONG Nongkai 33.41 113 P **P 14 42 22.8 +1.4**
comp=Z,25nm,1.0s
AKASG Malin Array Be 33.41 310 P **P 14 42 20.9 -0.2**
comp=Z,6.2nm,0.4s,baz=82,slow=6.9,SNR=50
AKASG PP **PnPn 14 43 35.6 +0.4**
comp=Z,6.6nm,0.8s,baz=85,slow=11,SNR=7.5
AKASG LR LR 14 57 53.1
comp=Z,38nm,21.7s,baz=80,slow=40
AKASG Malin Array Be 33.41 310 *i* P **P 14 42 21.0 -0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 33.41 310 P **P 14 42 20.7 -0.4**
AKBB Malin Array Si 33.41 310 *ceP* **P 14 42 21.6 +0.5**
AKBB Malin Array Si 33.41 310 P **P 14 42 20.7 -0.5**
AKBB IAmb IAmb 14 42 22.4
comp=Z,10nm,0.7s
TIRR Tirgusor 33.41 298 ⇑P **P 14 42 22.2 +1.0**
TIRR Tirgusor 33.41 298 ⇑P **P 14 42 22.2 +1.0**
KIEV Kiev 33.42 310 P **P 14 42 21.0 -0.2**
CFR Carcaliu 33.62 300 ⇑P **P 14 42 24.0 +1.1**
CFR Carcaliu 33.62 300 ⇑P **P 14 42 24.0 +1.1**
CHAI Chaiyaphum 33.95 118 P **P 14 42 28.0 +1.9**
comp=Z,366nmcomp=Z,31nm,0.9s
VRI Vrincioaia 34.62 301 ⇑P **P 14 42 33.5 +1.9**
VRI Vrincioaia 34.62 301 ⇑P **P 14 42 33.5 +1.9**
PLOR Plostina 34.67 301 ⇑P **P 14 42 33.3 +1.2**
PLOR Plostina 34.67 301 ⇑P **P 14 42 33.3 +1.2**
ISR Istrita 34.74 299 P **P 14 42 35.6 +2.8**
ISR pmax pmax
comp=Z,31nm,1.1s
KMPD K-Podol'skiy 34.93 305 P **P 14 42 35.0 +0.8**
HORU Horodok 35.01 307 P **P 14 42 35.2 +0.3**
MNK Minsk 35.02 316 *i* P P 14 42 42.6 +7.7
MNK *i* *PP sP 14 43 07.2 -2.5
MNK *i* 14 44 03.2
MNK *i* S **S 14 48 07.9 +8.1**
MNK pmax pmax
comp=N,29nm,0.7s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK MLR MLR
comp=Z,58nm,14.0s
MNK MLR MLR
comp=N,69nm,18.0s
MNK Minsk 35.02 316 *i* P P 14 42 42.6 +7.7
comp=E,4.0nm,11.5s
MNK *i* P P 14 42 42.6 +7.7
comp=N,29nm,0.7s
MNK *i* P P 14 42 42.6 +7.7
comp=Z,12nm,0.9s,baz=284
MNK *i* pP sP 14 43 07.2 -2.5
MNK *i* sP pP 14 43 20.1 +22
MNK *i* PP **PP 14 44 03.3 +7.3**
MNK *i* S **S 14 48 08.0 +8.1**
MNK *i* sS **ScP 14 48 50.2 +8.5**
MNK *i* SS **SS 14 50 34.9 -0.6**
MNK *i* LR LR 14 57 10.4
MNK *i* LRM MLR 15 00 31.6
comp=Z,58nm,14.1s
MNK *i* LRM MLR 15 00 58.4
comp=N,69nm,17.9s
MNK *i* LRM MLR 15 00 59.7
MLR Muntele Rosu 35.16 300 ⇓P **P 14 42 38.0 +1.5**
MLR Muntele Rosu 35.16 300 ⇓P **P 14 42 38.0 +1.5**
MLR Muntele Rosu 35.16 300 P **P 14 42 37.3 +0.8**
ALN Alexandroupoli 35.37 292 P **P 14 42 38.5 +0.4**
ALN pmax pmax
comp=Z,22nm,1.5s
ALN Alexandroupoli 35.37 292 P **P 14 42 38.5 +0.4**
ALN IAmb IAmb 14 42 39.9
comp=Z,22nm,1.5s
KARP Karpathos 35.45 283 P **P 14 42 39.6 +0.8**
BURAR Bucovina Array 35.70 304 ⇑P **P 14 42 42.4 +1.4**
BURAR Bucovina Array 35.70 304 ⇑P **P 14 42 42.4 +1.4**
BURAR Bucovina Array 35.70 304 P **P 14 42 41.3 +0.3**
BUR08 Bucovina Ar. S 35.72 304 P **P 14 42 41.4 +0.2**
BUR08 IAmb IAmb 14 42 42.8
comp=Z,4.1nm,0.7s
VOIR 35.80 300 ⇑P **P 14 42 42.9 +1.1**
VOIR 35.80 300 ⇑P **P 14 42 42.9 +1.1**
KSV Kosov 35.84 305 P **P 14 42 41.6 -0.4**
JOF Joensuu 36.48 330 P **P 14 42 48.0 +0.7**
JOF pmax pmax
comp=Z,42nm,0.9s
LVV L'vov 36.61 307 *eP* **P 14 42 48.8 +0.2**
MORS Morshin 36.66 306 P **P 14 42 50.6 +1.6**
VSU Vasula 36.74 322 *eP* **P 14 42 50.3 +0.7**
VSU Vasula 36.74 322 *d i*P **P 14 42 50.0 +0.4**
VSU pmax pmax
comp=Z,85nm,0.8s
SRS Serrai 37.18 293 P **P 14 42 54.3 +0.7**
SRS pmax pmax
comp=Z,10.0nm,1.6s
TRSU Trosnyk 37.24 304 P **P 14 42 54.9 +1.0**
VTS Vitosha 37.27 295 ⇓P **P 14 42 54.5 0.0**
VTS Vitosha 37.27 295 ⇓P **P 14 42 54.5 0.0**
IDI Anoyia 37.31 283 P **P 14 42 54.7 -0.1**
DRGR 37.40 302 ⇑P **P 14 42 56.5 +1.1**
DRGR 37.40 302 ⇑P **P 14 42 56.5 +1.1**
PABE Paberze 37.44 317 *eP* **P 14 42 56.1 +0.6**
PABE Paberze 37.44 317 P **P 14 42 55.8 +0.3**
KWP Kalwaria Pacla 37.46 307 P **P 14 42 56.2 +0.4**
KWP Kalwaria Pacla 37.46 307 P **P 14 42 56.2 +0.4**
UZH Uzhgorod 37.69 305 *eP* **P 14 42 56.4 -1.3**
KOLS Kolonicke sedl 37.71 306 *eP* **P 14 42 59.3 +1.3**
KOLS Kolonicke sedl 37.71 306 *eP* **P 14 42 59.3 +1.3**
FIA1 FINESS Array S 38.07 327 P **P 14 43 00.7 0.0**
FINES FINESS Array B 38.07 327 P **P 14 43 00.9 +0.1**
comp=Z,15nm,0.6s,baz=118,slow=9.2,SNR=47
FINES LR LR 14 59 06.9
comp=Z,53nm,21.2s,baz=116,slow=37
FINES FINESS Array B 38.07 327 *i* P **P 14 43 01.5 +0.8**
FINES pmax pmax
comp=Z,15nm,0.6s
LVZ Lovozero 38.10 339 *ceP* **P 14 43 01.2 +0.2**
LVZ pmax pmax
comp=Z,34nm,1.2s
LVZ Lovozero 38.10 339 P **P 14 43 00.7 -0.3**
LIT Litokhoron 38.17 291 P **P 14 43 00.9 -1.0**
LIT Litokhoron 38.17 291 P **P 14 43 00.9 -1.0**
MDVR Moldovita 38.18 299 ⇓P **P 14 43 02.3 +0.3**
BZS Buzias 38.20 300 ⇑P **P 14 43 03.0 +0.9**
BZS Buzias 38.20 300 ⇑P **P 14 43 03.0 +0.9**
CRVS Cervenica-Dubn 38.25 306 *eP* **P 14 43 04.6 +2.1**
CRVS Cervenica-Dubn 38.25 306 *eP* **P 14 43 04.6 +2.1**
MTSE Matsula 38.28 322 *eP* **P 14 43 01.9 -0.6**
MEF Metsahovi 38.43 324 *eP* **P 14 43 04.1 +0.3**
AGG Agios Georgios 38.48 290 P **P 14 43 04.3 -0.3**
AGG pmax pmax
comp=Z,22nm,1.4s
AGG Agios Georgios 38.48 290 P **P 14 43 04.2 -0.3**
AGG IAmb IAmb 14 43 06.2
comp=Z,22nm,1.4s
FNA Florina 38.89 293 P **P 14 43 07.5 -0.5**

FNA pmax pmax
comp=Z,7.0nm,0.8s
FNA Florina 38.89 293 P P 14 43 07.5 -0.5
FNA IAmb IAmb 14 43 08.9
comp=Z,6.8nm,0.8s
PSZ Piszkesteto 39.30 304 P P 14 43 10.9 -0.4
PSZ pmax pmax
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 39.30 304 P P 14 43 10.9 -0.4
PSZ IAmb IAmb 14 43 22.7
comp=Z,4.5nm,0.8s
DIVS Divibare 39.47 298 P P 14 43 12.7 -0.2
DIVS IAmb IAmb 14 43 14.5
comp=Z,6.9nm,0.9s
NJ2 Nanjing 39.51 81 eP P 14 43 14.1 +1.0
NJ2 pmax pmax
comp=Z,16nm,0.7s
PUK Puka 39.80 295 P P 14 43 14.8 -0.8
PUK IAmb IAmb 14 43 16.1
comp=Z,14nm,1.1s
RAF Rauma 39.91 325 eP P 14 43 15.5 -0.6
PDG Podgorica 40.21 296 ⇑P P 14 43 18.8 0.0
PDG Podgorica 40.21 296 P P 14 43 18.1 -0.8
PDG IAmb IAmb 14 43 19.5
comp=Z,6.2nm,0.8s
MORH Mrgy, Hungar 40.23 302 eP P 14 43 21.3 +2.4
AAL Aland 40.54 323 eP P 14 43 21.2 -0.1
MORC Moravsky Berou 40.81 307 ⇑P P 14 43 24.9 +1.1
MORC Moravsky Berou 40.81 307 ⇑P P 14 43 24.9 +1.1
MODS Modra-Piesok 41.03 305 eP P 14 43 27.7 +2.1
MODS Modra-Piesok 41.03 305 eP P 14 43 27.7 +2.1
KEV Kevo 41.44 339 P P 14 43 29.0 +0.5
KEV pmax pmax
comp=Z,14nm,0.9s
KEV Kevo 41.44 339 P P 14 43 29.0 +0.5
KEV IAmb IAmb 14 43 30.0
comp=Z,14nm,0.9s
DPC Dobruska-Polom 41.59 308 eP P 14 43 31.2 +1.1
DPC Dobruska-Polom 41.59 308 eP P 14 43 31.2 +1.1
UPP Uppsala 41.63 322 eP P 14 43 30.2 0.0
PSI Prapat 41.76 136 P P 14 43 34.1 +2.2
comp=Z,12µm,0.4s,baz=46,slow=0.0,SNR=5.5
ARA0 ARCESS Array S 41.78 338 eP P 14 43 32.0 +0.6
ARCES ARCESS Array B 41.78 338 P P 14 43 31.0 -0.4
comp=Z,16nm,0.8s,baz=116,slow=8.4,SNR=43
ARCES LR LR 15 01 53.0
comp=Z,83nm,21.3s,baz=95,slow=37
ARCES ARCESS Array B 41.78 338 P P 14 43 31.6 +0.2
ARCES pmax pmax
comp=Z,19nm,0.9s
ARCES ARCESS Array B 41.78 338 P P 14 43 31.6 +0.2
ARCES IAmb IAmb 14 43 33.0
comp=Z,19nm,0.8s
RPSI Rantau Prapat 41.85 136 P P 14 43 34.1 +1.6
CONA Conrad Observa 42.00 304 *i P* **P 14 43 33.5 -0.1**
comp=Z,9.8nm,0.9s,SNR=5.3
BLEU Blekinge 42.10 317 *i P* **P 14 43 33.9 -0.2**
KTK1 Kautokeino 42.25 337 *eP* **P 14 43 35.4 +0.2**
GSI Gunungsitoli 42.25 138 P P 14 43 37.1 +1.3
GSI Gunungsitoli 42.25 138 P P 14 43 37.6 +1.8
comp=Z,66nm,0.9s
GOLS Golise 42.34 302 *eP* **P 14 43 36.6 +0.3**
GROS Grobnik 42.38 302 *i P* **P 14 43 36.8 +0.2**
BSD Bornholm Skovb 42.52 315 *i P* **P 14 43 38.9 +1.4**
BSD Bornholm Skovb 42.52 315 *i P* **P 14 43 38.9 +1.4**
SOKA Soboth 42.68 303 *i P* **P 14 43 39.6 +0.5**
comp=Z,8.2nm,0.8s,SNR=8.8
HAMF Hammerfest 42.87 339 *eP* **P 14 43 41.4 +1.2**
SGRT San Giovanni R 42.90 295 P P 14 43 40.5 -0.4
SGRT IAmb IAmb 14 43 41.8
comp=Z,17nm,0.7s
GBRS Gornja Briga 42.97 301 *eP* **P 14 43 42.1 +0.7**
OBKA Obir 43.03 302 *eP* **P 14 43 42.6 +0.7**
comp=Z,2.7nm,0.8s
MOA Molln 43.08 304 *eP* **P 14 43 42.5 +0.3**
comp=Z,7.7nm,0.9s
BRG Berggiesshubel 43.09 309 *eP* **P 14 43 42.9 +0.7**
BRG Amp 14 43 44.0
comp=Z,6.8nm,0.8s
LJU Ljubljana 43.10 302 *eP* **P 14 43 42.8 +0.4**
DEL Delary 43.19 317 *i P* **P 14 43 43.3 +0.4**
GEC2 GERESS Array S 43.37 306 P P 14 43 44.9 +0.4
GERES GERESS Array B 43.37 306 P P 14 43 44.8 +0.1
comp=Z,0.9nm,0.7s,baz=79,slow=6.9,SNR=8.7
GERES GERESS Array B 43.37 306 P P 14 43 45.0 +0.4
GERES GERESS Array B 43.37 306 P P 14 43 45.0 +0.4
LUNU Lund 43.38 316 *i P* **P 14 43 44.8 +0.3**
KHC Kasperske Hory 43.43 306 *eP* **P 14 43 45.8 +0.8**
KHC *e* 14 45 33.0
KHC Kasperske Hory 43.43 306 *eP* **P 14 43 45.8 +0.8**
KHC *e*PP **PcP 14 45 33.0 +1.4**
VOJS Vojsko 43.55 302 *eP* **P 14 43 46.1 0.0**
CLL Collm 43.66 309 *eP* **P 14 43 47.0 +0.2**
CLL *e*PP **PP 14 45 28.0 -1.9**
CLL *e*SS SS 14 53 18.0 -10
CLL Collm 43.66 309 P P 14 43 47.4 +0.6
CLL pmax pmax
comp=Z,3.0nm,0.6s
CLL Collm 43.66 309 P P 14 43 47.4 +0.6
MNSI Mandailing Nat 43.77 136 P P 14 43 49.0 +0.9
ROBS Robic 43.77 302 *eP* **P 14 43 47.9 +0.1**
TRO Tromso 43.90 337 *eP* **P 14 43 48.8 +0.3**
ZOU Zoufplan 44.10 303 P P 14 43 49.9 -0.7
ZOU IAmb IAmb 14 43 51.8
comp=Z,9.7nm,1.4s
INTR Introdacqua 44.20 296 P P 14 43 50.9 -0.5
INTR IAmb IAmb 14 43 52.2
comp=Z,8.7nm,0.8s
N2ST Straumen 44.30 333 *eP* **P 14 43 51.8 +0.1**
N2IH Innhavet 44.35 334 *eP* **P 14 43 52.2 +0.1**
FAUS Fauske 44.42 333 *eP* **P 14 43 51.9 -0.7**
MOR8 Moi Rana 44.43 331 *eP* **P 14 43 52.2 -0.5**
YAK Yakutsk 44.47 35⇑ *eP* **P 14 43 55.4 +2.3**
YAK pmax pmax
comp=Z,38nm,4.0s
N2TV Tyrnvik 44.53 333 *eP* **P 14 43 53.8 +0.3**
STEI Steigen 44.59 334 *eP* **P 14 43 54.7 +0.7**
NRCA Norcia 44.61 297 P P 14 43 54.1 -0.5
NC405 NORSAR Array S 44.72 324 P P 14 43 53.5 -1.6
NC602 NORSAR Array S 44.76 323 *eP* **P 14 43 55.3 -0.1**
NC602 NORSAR Array S 44.76 323 P P 14 43 54.7 -0.8
NC602 IAmb IAmb 14 43 56.6
comp=Z,20nm,1.4s
NC303 NORSAR Array S 44.90 324 P P 14 43 55.9 -0.6
NBB30 Finnes 44.90 332 *eP* **P 14 43 56.6 +0.2**
TJN Taejon 44.91 72⇓ *eP* **P 14 43 59.7 +2.7**
NB201 NORSAR Array S 44.91 323 P P 14 43 56.0 -0.6
NB201 IAmb IAmb 14 43 57.4
comp=Z,20nm,0.8s
WTTA Wattenberg 44.92 304 *eP* **P 14 43 56.2 -0.9**
comp=Z,15nm,1.4s
WATA Walderalm 44.95 304 *eP* **P 14 43 56.0 -1.3**
comp=Z,4.7nm,0.6s
NB2 NORSAR Subarra 44.95 323 P P 14 43 56.3 -0.7
comp=Z,7.4nm,0.5s,baz=95,slow=7.9
NB2 NORSAR Subarra 44.95 323 P P 14 43 56.3 -0.7
baz=95,slow=7.9
NOA NORSAR Array B 44.95 323 P P 14 43 55.9 -1.1
comp=Z,8.3nm,0.6s,baz=98,slow=7.7,SNR=81
NOA LR LR 15 04 58.8
comp=Z,30nm,19.6s,baz=95,slow=39
MURB Monte Urbino 44.95 298 P P 14 43 56.4 -0.9
KS19 Wonju Array Si 44.98 70 P P 14 43 58.0 +0.5
KS19 IAmb IAmb 14 44 00.1
comp=Z,8.2nm,1.1s
BKNI Bangkinang 44.99 135 P P 14 43 57.1 -0.7
RAFF Raffo Rosso 45.01 289 P P 14 43 57.1 -0.6
RAFF IAmb IAmb 14 43 59.9
comp=Z,22nm,0.9s
KSAR Wonju Array Be 45.01 70 P P 14 43 58.0 +0.3
KSAR Wonju Array Be 45.01 70 P P 14 43 58.0 +0.3
KONS Konsvik 45.02 331 *eP* **P 14 43 57.6 +0.2**
STOK Stokkvaagen 45.02 331 *eP* **P 14 43 57.4 0.0**
KSRS Korea Array 45.04 70 P P 14 43 58.5 +0.6
comp=Z,2.3nm,0.5s,baz=272,slow=7.4,SNR=26
KSRS ScP **ScP 14 49 17.9 -3.2**
comp=Z,0.8nm,0.7s,baz=284,slow=4.9,SNR=5.2
KSRS LR LR 15 04 05.1
comp=Z,32nm,18.6s,baz=237,slow=38
NAO01 NORSAR Array S 45.09 323 P P 14 43 57.5 -0.6
NSS Namsos 45.09 328 *eP* **P 14 43 57.9 -0.1**
NBO00 NORSAR Array S 45.16 323 P P 14 43 56.8 -1.8
NC204 NORSAR Array S 45.19 324 P P 14 43 57.8 -1.1
SQTA Sankt Quirin 45.21 304 *eP* **P 14 43 58.4 -0.9**
comp=Z,5.4nm,0.5s
MOTA Moosalm 45.26 304 *eP* **P 14 43 58.7 -1.2**
comp=Z,6.8nm,0.7s
LOF Lofoten 45.27 334 *eP* **P 14 43 59.3 0.0**
N2SV S_rvÿgen 45.40 333 *eP* **P 14 44 00.2 -0.1**
N2VA Vr_y 45.46 333 *eP* **P 14 44 00.3 -0.5**
RETA Reutte 45.47 304 *eP* **P 14 44 00.2 -1.1**
comp=Z,2.2nm,0.5s
KLR Kul'dur 45.48 53 P P 14 44 01.4 0.0
comp=Z,1.4nm,0.5s,baz=280,slow=6.3,SNR=7.4
FETA Feichten 45.56 304 *eP* **P 14 44 01.3 -0.9**
comp=Z,3.4nm,0.6s
KONO Kongsberg 45.64 321 P P 14 44 01.9 -0.5
KONO pmax pmax
comp=Z,9.0nm,1.0s
KONO Kongsberg 45.64 321 *eP* **P 14 44 02.3 -0.1**
KONO Kongsberg 45.64 321 P P 14 44 01.9 -0.5
KONO IAmb IAmb 14 44 04.7
comp=Z,9.1nm,0.9s
CLTB Caltabellotta 45.78 290 P P 14 44 02.6 -1.3
CLTB IAmb IAmb 14 44 04.0
comp=Z,14nm,0.8s
BJO1 Bjornoya 45.92 343 *eP* **P 14 44 04.0 -0.4**
DOMB Dombas 46.07 325 *eP* **P 14 44 06.0 +0.2**
DAVA Damuels 46.10 304 P P 14 44 06.0 -0.3
comp=Z,16nm,0.5s,SNR=7.0
SKAR Skarslia 46.34 323 *eP* **P 14 44 08.2 +0.2**
TIXI Tiksi 46.36 22 P P 14 44 07.9 0.0
comp=Z,4.3nm,0.3s,baz=271,slow=4.9,SNR=16
TIXI Tiksi 46.36 22 P P 14 44 08.1 +0.2
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 46.36 22 P P 14 44 08.1 +0.2
TIXI IAmb IAmb 14 44 37.1
comp=Z,6.2nm,0.8s
TUE Stuetta 46.59 303 P P 14 44 09.7 -0.6
TUE IAmb IAmb 14 44 11.0
comp=Z,5.5nm,0.6s
MSSA Maissana 46.88 300 P P 14 44 11.7 -0.8
MSSA IAmb IAmb 14 44 13.0
comp=Z,10nm,0.7s
BFO Black Forest 46.97 306 P P 14 44 13.0 0.0
BFO pmax pmax
comp=Z,10.0nm,1.4s
BFO Black Forest 46.97 306 P P 14 44 13.0 0.0
BFO IAmb IAmb 14 44 13.8
comp=Z,9.6nm,1.4s
JTU Tsushima 47.06 74 P P 14 44 14.9 +1.0
ECH Echery 47.76 306 P P 14 44 19.7 +0.5
ECH pmax pmax
comp=Z,6.0nm,1.3s
ECH Echery 47.76 306 P P 14 44 19.6 +0.5
HSPB Hornsund (broa 47.79 345 *eP* **P 14 44 20.4 +1.5**
SENIN Lac Senin/Sane 48.00 303 P P 14 44 20.9 -0.4
SENIN IAmb IAmb 14 44 22.8
comp=Z,9.1nm,0.7s
HINF Hinteralfeld 48.03 305 *eP* **P 14 44 20.5 -0.8**
HINF pmax pmax
comp=Z,4.0nm,0.9s
BTNL Ternell 48.05 309 *dP* **P 14 44 21.1 -0.2**
SPA0 Spitsbergen Ar 48.15 347 *eP* **P 14 44 22.8 +1.1**
SPITS Spitsbergen Ar 48.15 347 P P 14 44 22.7 +1.0
SPITS pmax pmax
comp=Z,25nm,1.3s
HAU Haudompre 48.33 306 *eP* **P 14 44 23.5 -0.1**
HAU pmax pmax
comp=Z,7.0nm,1.1s
SBF Sospel 48.44 300 *eP* **P 14 44 24.5 0.0**
SBF pmax pmax
comp=Z,28nm,1.2s
LPG La Plagne 48.55 302 *eP* **P 14 44 25.4 -0.2**
LPG pmax pmax
comp=Z,7.0nm,0.5s
LPL La Plagne 48.56 302 *eP* **P 14 44 25.4 -0.2**
LPL pmax pmax
comp=Z,4.0nm,0.3s
BNI Bardonecchia 48.70 302 P P 14 44 25.8 -0.8
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 48.70 302 P P 14 44 25.8 -0.8
BNI IAmb IAmb 14 44 27.4
comp=Z,7.1nm,1.0s
MBDF Montbardon 48.71 301 *eP* **P 14 44 25.7 -0.9**
MBDF pmax pmax
comp=Z,7.0nm,0.5s
CABF La Chapelle 48.77 304 *eP* **P 14 44 27.7 +0.7**
CABF pmax pmax
comp=Z,5.0nm,0.4s
BMRD Maredsous 48.96 309 *dP* **P 14 44 26.1 -2.2**
FRF La Foret Royal 49.07 300 *eP* **P 14 44 28.4 -0.8**
FRF pmax pmax
comp=Z,12nm,0.8s
KBS Kingsbay 49.27 347 P P 14 44 30.9 +0.7
KBS pmax pmax
comp=Z,11nm,1.0s
KBS Kingsbay 49.27 347 *eP* **P 14 44 30.8 +0.5**
KBS Kingsbay 49.27 347 P P 14 44 30.9 +0.7
KBS IAmb IAmb 14 44 32.3
comp=Z,11nm,0.9s
KEST Kesra 49.31 289 P P 14 44 31.2 -0.1
comp=Z,7.4nm,0.5s,baz=37,slow=0.4,SNR=17
KEST Kesra 49.31 289 P P 14 44 31.4 +0.1
JHS Saijyo 49.79 72 P P 14 44 35.2 +0.3
VIVF Saint-Julien-l 50.13 302 *eP* **P 14 44 37.1 -0.2**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 50.57 305 *eP* **P 14 44 39.9 -0.7**
AVF pmax pmax
comp=Z,13nm,0.9s
JWT Wachi 51.45 71 P P 14 44 49.1 +1.8
TCF Toulx Ste Croi 51.46 304 *eP* **P 14 44 47.0 -0.2**
TCF pmax pmax
comp=Z,23nm,1.2s
CAF Calviac 51.91 303 *eP* **P 14 44 50.5 -0.1**
CAF pmax pmax
comp=Z,7.0nm,0.8s
RJF Les Rejaudoux 52.18 303 *eP* **P 14 44 52.6 0.0**
RJF pmax pmax
comp=Z,6.0nm,0.8s
FLN La Foliniere 52.62 308 *eP* **P 14 44 54.7 -1.1**
FLN pmax pmax
comp=Z,72nm,1.8s
EKA Eskdalemuir Ar 52.81 316 P P 14 44 57.4 +0.3
MJB9 Matsu-Tunnel 53.13 68 P P 14 45 00.4 +0.6
MJB9 IAmb IAmb 14 45 01.2
comp=Z,7.1nm,0.9s
MAJO Matsushiro 53.14 68⇓ *iP* **P 14 45 00.3 +0.5**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MAJO Matsushiro 53.14 68 P P 14 45 00.3 +0.5
MAJO IAmb IAmb 14 45 01.2
comp=Z,6.5nm,0.8s
MAT Matsushiro 53.14 68 P P 14 45 00.2 +0.4
MJAR Matsushiro Arr 53.14 68 P P 14 45 00.5 +0.7
comp=Z,2.6nm,0.7s,baz=287,slow=8.1,SNR=7.3
MJAR ScP **ScP 14 49 52.4 -3.3**
comp=Z,1.9nm,0.8s,baz=274,slow=5.6,SNR=5.0
MJAR Matsushiro Arr 53.14 68 P P 14 45 00.4 +0.6
MJAR IAmb IAmb 14 45 01.4
comp=Z,4.4nm,1.1s
ASAJ Asahikawa 53.85 58 LR LR 15 10 01.2
comp=Z,38nm,19.0s,baz=24,slow=38
QUIF Quistinic 54.57 307 *eP* **P 14 45 09.6 -0.4**
QUIF pmax pmax
comp=Z,36nm,1.6s
LEM Lembang 54.59 134 LR LR 15 13 47.9
comp=Z,140nm,18.3s,baz=233,slow=42
JMM Marumori 54.60 66 P P 14 45 11.2 +0.8
DAG Danmarks Havn 55.38 344 *i P* **P 14 45 15.0 -0.4**
DAG Danmarks Havn 55.38 344 *i P* **P 14 45 15.0 -0.4**
CART Cartagena 56.45 295 P P 14 45 23.4 -0.2
ESBB Sonseca Array 57.82 298 P P 14 45 32.2 -1.2
ESBB IAmb IAmb 14 45 34.1
comp=Z,12nm,0.9s
ESDC Sonseca Array 57.83 298 P P 14 45 33.2 -0.2
comp=Z,9.8nm,0.7s,baz=59,slow=7.2,SNR=52
ESDC PP **PP 14 47 39.4 -2.9**
comp=Z,0.1nm,0.3s,baz=60,slow=7.0,SNR=1.6
ESDC Sonseca Array 57.83 298 P P 14 45 32.5 -0.9
ESDC IAmb IAmb 14 45 34.0
comp=Z,6.6nm,0.9s
PAB San Pablo 58.15 298 P P 14 45 35.3 -0.4
PAB pmax pmax
comp=Z,18nm,1.3s
PAB San Pablo 58.15 298 P P 14 45 35.3 -0.4
PAB IAmb IAmb 14 45 36.6
comp=Z,18nm,1.3s
BILL Bilibino 59.17 26 *eP* **P 14 45 43.5 +1.3**
BILL *e**PP **pP 14 46 09.4 +2.1**
BILL *e**SP **PcP 14 46 24.8 -4.9**
BILL *e* 14 47 53.9
BILL pmax pmax
comp=Z,6.0nm,1.1s
MVO Moncorvo 59.43 301 *eP* **P 14 45 44.7 +0.2**
PCAB Cabril 59.91 302 *eP* **P 14 45 47.7 -0.1**
PGAV Gavieira, Arco 59.98 302 *eP* **P 14 45 48.8 +0.5**
comp=Z,40nm,2.0s
MTE Manteigas 60.09 300 *eP* **P 14 45 49.8 +0.8**
MTE Manteigas 60.09 300 P P 14 45 49.0 0.0
PVIS Viseu 60.21 301 *eP* **P 14 45 50.3 +0.5**
comp=Z,33nm,1.0s
PCBR Castelo Branco 60.26 300 *eP* **P 14 45 52.0 +1.9**
PMRV Marv??o 60.36 299 *eP* **P 14 45 51.5 +0.6**
comp=Z,19nm,1.6s
PETK Petropavlovsk- 60.40 44 LR LR 15 12 30.7
comp=Z,23nm,18.7s,baz=247,slow=36
PESTR Estremoz 60.73 299 *eP* **P 14 45 53.5 +0.1**
PESTR Estremoz 60.73 299 P P 14 45 51.5 -1.9
PESTR IAmb IAmb 14 45 54.7
comp=Z,9.6nm,1.1s
PET Petropavlovsk 60.97 44⇓ *eP* **P 14 45 53.9 -0.8**
PET pmax pmax
comp=Z,34nm,1.4s
EVO Evora 61.17 298 *eP* **P 14 45 56.6 +0.3**
PSBE So Bento 61.32 300 *eP* **P 14 45 58.2 +0.8**
PVAQ Vaqueiros 61.43 297 *eP* **P 14 45 58.2 +0.1**
PVAQ Vaqueiros 61.43 297 P P 14 45 56.7 -1.4
PVAQ IAmb IAmb 14 45 58.8
comp=Z,10nm,0.7s
PCVE Castro Verde 61.56 298 *eP* **P 14 45 59.3 +0.3**
MESJ Messejana 61.61 298 *eP* **P 14 45 59.6 +0.3**
SUMG Summit 61.71 341 *i P* **P 14 45 59.9 0.0**
SUMG Summit 61.71 341 P P 14 46 00.3 +0.4
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 61.71 341 P P 14 46 00.2 +0.4
SUMG IAmb IAmb 14 46 27.7
comp=Z,6.8nm,0.8s
PNCL Nicolau / Gran 61.72 298 *eP* **P 14 46 00.6 +0.6**
VOI Vohitsoka 61.86 206 P P 14 46 01.1 -0.1
VOI IAmb IAmb 14 46 15.2
comp=Z,7.6nm,1.0s
PTEO Sao Teotonio 62.09 298 *eP* **P 14 46 03.2 +0.7**
PFVI Vila Bisbo 62.34 297 P P 14 46 03.6 -0.7
TORD Torodi Ar. Bea 65.77 269 P P 14 46 25.6 -1.4
comp=Z,17nm,0.5s,baz=45,slow=5.8,SNR=85
TORD Torodi Ar. Bea 65.77 269 IAmb IAmb 14 46 25.6
comp=Z,1.2nm,1.2s
GIRL Giralia 71.06 138 P P 14 47 01.1 +1.4
TOLK Toolik Lake Re 71.55 15 P P 14 47 02.8 +0.7
TOLK IAmb IAmb 14 47 31.4
comp=Z,6.0nm,0.7s
PSA00 Pilbara Seismi 73.41 133 P P 14 47 13.8 +0.1
PSA00 IAmb IAmb 14 47 24.9
comp=Z,17nm,1.2s
PSA00 Pilbara Seismi 73.41 133 P P 14 47 13.8 +0.1
PSA00 IAmb IAmb 14 47 27.6
comp=Z,2.8nm,1.1s
BMAR Burnt Mountain 73.57 14 P P 14 47 14.7 +0.6
FYU Fort Yukon 74.19 14 P P 14 47 19.1 +1.5
FYU IAmb IAmb 14 47 19.9
comp=Z,8.8nm,1.2s
LBTB Lobatse 74.23 222 P P 14 47 19.7 +1.2
LBTB Lobatse 74.23 222 P P 14 47 19.7 +1.2
MLY Manley 74.29 17 P P 14 47 18.2 -0.1
I23K Minto, Yukon-K 74.52 17 P P 14 47 20.0 +0.5
C36M Paulatuk 74.53 6 P P 14 47 19.4 -0.1
C36M IAmb IAmb 14 47 20.5
comp=Z,12nm,0.8s
INK Inuvik 74.55 9 P P 14 47 20.1 +0.5
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 74.55 9 P P 14 47 20.1 +0.5
INK IAmb IAmb 14 47 21.3
comp=Z,11nm,1.1s
TSUM Tsumeb 74.56 232 P P 14 47 20.3 -0.3
TSUM IAmb IAmb 14 47 22.2
comp=Z,10nm,1.1s
DBIC Dimbokro 74.73 267 P P 14 47 20.8 -0.8
DBIC Dimbokro 74.73 267 P P 14 47 20.8 -0.8
KIC Kosan Boka 74.81 267 *e*PKIKP **P 14 47 22.0 -0.1**
comp=Z,12nm,0.7s
KNRA Kununurra 74.82 122 P P 14 47 22.9 +0.9
TIC Toumodi 74.88 267 *e*PKIKP **P 14 47 21.7 -0.8**
MDM Murphy Dome 74.94 16 P P 14 47 21.9 -0.1
POKR Poker Plat Res 74.98 16 P P 14 47 22.7 +0.5
POKR IAmb IAmb 14 47 24.0
comp=Z,6.0nm,0.9s
BPAW Bear Paw Mtn. 75.00 18 P P 14 47 22.2 -0.3
PRP Porcupine Dome 75.05 15 P P 14 47 23.4 +0.6
NEA2 Nenana 75.05 17 P P 14 47 22.3 -0.4
TCOL CIGO, UAF Yank 75.09 16 P P 14 47 23.0 +0.1
TCOL IAmb IAmb 14 47 24.6
comp=Z,7.1nm,0.8s
COLA College 75.09 16 *d iP* **P 14 47 23.5 +0.7**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 75.09 16 P P 14 47 23.0 +0.2
COLA IAmb IAmb 14 47 24.6
comp=Z,7.4nm,0.7s
LIC Lamto 75.12 267 *e*PKIKP **P 14 47 21.7 -2.2**
comp=Z,23nm,0.9s
CCB Clear Creek Bu 75.30 16 P P 14 47 24.1 0.0
WRH Wood River Hil 75.38 16 P P 14 47 23.9 -0.7
IL31 75.40 16 P P 14 47 24.3 -0.3
ILAR Eielson Array 75.40 16 P P 14 47 24.1 -0.5
comp=Z,1.7nm,0.9s,baz=320,slow=4.6,SNR=18
ILAR Eielson Array 75.40 16 P P 14 47 23.8 -0.9
KTH Kantishna Hill 75.47 18 P P 14 47 25.0 -0.2
KTH IAmb IAmb 14 47 53.8
comp=Z,4.7nm,0.8s
PPLA Purkeypile 75.69 19 P P 14 47 26.4 -0.2
SKT Skwentna 76.62 19 P P 14 47 30.8 -0.9
SKT IAmb IAmb 14 47 57.5
comp=Z,8.8nm,1.3s
SCRK Sand Creek 76.72 15 P P 14 47 32.2 -0.1
RIDG Independent Ri 76.74 16 P P 14 47 32.0 -0.4
DOT Dot Lake 76.99 15 P P 14 47 33.5 -0.3
MORW Morawa 77.20 141 P P 14 47 35.1 -0.2
BOSA Boshof 77.28 220 P P 14 47 36.5 +0.6
comp=Z,4.5nm,0.4s,baz=46,slow=4.9,SNR=6.8
BOSA Boshof 77.28 220 P P 14 47 36.5 +0.6
BOSA pmax pmax
comp=Z,13nm,1.1s
BOSA Boshof 77.28 220 IAmb IAmb 14 47 38.5
comp=Z,13nm,1.1s
RSO Redoubt South 77.53 21 P P 14 47 36.9 -0.2
DAWY Dawson 77.55 13 P P 14 47 37.0 +0.1
SML Sawmill 77.59 18 P P 14 47 36.7 -0.5
SML pmax pmax
comp=Z,6.0nm,0.9s
SML Sawmill 77.59 18 P P 14 47 36.7 -0.5
SML IAmb IAmb 14 47 40.4
comp=Z,6.4nm,0.9s
SCM Sheep Creek Mo 77.82 18 P P 14 47 37.7 -0.8
SCM pmax pmax
comp=Z,19nm,1.2s
SCM Sheep Creek Mo 77.82 18 P P 14 47 37.7 -0.8
SCM IAmb IAmb 14 47 53.1
comp=Z,19nm,1.2s
M24K Tolsona, Glenn 77.86 17 P P 14 47 37.9 -0.7
M24K IAmb IAmb 14 47 50.4
comp=Z,14nm,1.1s
L27K Beaver Creek, 77.98 15 P P 14 47 39.6 +0.3
BCAR Beaver Creek A 77.99 15 P P 14 47 39.3 0.0
GLI Glacier Island 78.70 18 P P 14 47 42.4 -0.8
GLI IAmb IAmb 14 47 44.0
comp=Z,20nm,1.0s
HYT Haines Junctio 80.88 14 P P 14 47 56.0 +0.8
WRA Warramunga Arr 81.59 122 P P 14 47 59.5 +0.2
comp=Z,6.7nm,0.6s,baz=325,slow=4.8,SNR=174
WRA Warramunga Arr 81.59 122 P P 14 47 59.5 +0.2
WRAB Tennant Creek 81.59 122 *ceP* **P 14 47 59.8 +0.5**
WRAB pmax pmax
comp=Z,14nm,1.3s
WB2 Warramunga Arr 81.59 122 P P 14 47 59.5 +0.1
WB2 IAmb IAmb 14 48 00.8
comp=Z,25nm,1.2s
YKA Yellowknife Ar 81.90 3 P P 14 48 00.5 +0.2

comp=Z,5.7nm,0.7s,baz=352,slow=5.1,SNR=48
YKA Yellowknife Ar 81.90 3 *i* P **P 14 48 00.7 +0.4**
YKA pmax pmax
comp=Z,6.0nm,0.7s
AS31 Alice Springs 83.82 125 P **P 14 48 10.8 -0.1**
ASAR Alice Springs 83.82 125 P **P 14 48 10.9 +0.1**
comp=Z,5.0nm,0.7s,baz=309,slow=5.2,SNR=59
CPUP Villa Florida 135.25 267 PKP **PKPdf 14 54 60.0 -0.5**
comp=Z,1.7nm,0.7s,baz=90,slow=2.0,SNR=3.2
CPUP Villa Florida 135.25 267 PKIKP **PKPdf 14 55 00.0 -0.5**
LPAZ La Paz 138.88 287 PKP **PKPdf 14 55 08.9 +0.8**
comp=Z,0.6nm,0.3s,baz=321,slow=6.5,SNR=15
LPAZ La Paz 138.88 287 PKIKP **PKPdf 14 55 09.0 +0.8**
PLCA Paso Flores 149.66 249 PKPbc **PKPbc 14 55 28.5 -1.7**
comp=Z,3.3nm,1.0s,baz=86,slow=7.2,SNR=3.7

*TUL **14** 14:42:59.7±0.5, 36°.298N±0°.010×97°.55W±0°.02, h8km±4km, ML2.5, mb_Lg2.2/19(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=75.0*

NEIC 14 14:42:59.3±0.5, 36°.30N±0°.01×97°.54W±0°.01, h8km±7km, Error ellipse: s-maj=1.9km s-min=1.1km az=214.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.41**	**300**		Pg	14 43 07.5	+0.2
CROK				Sg	Sg	14 43 13.2	+0.4
OK029	**Liberty Lake**	**0.51**	**172**		Pg	14 43 09.4	+0.3
OK029				IAmb_Lg		14 43 16.3	
comp=Z,33nm,0.8s							
BLOK	**Blackwell**	**0.53**	**30**		Pg	14 43 09.9	+0.2
BLOK				Sg	Sg	14 43 16.5	-0.1
GC02	**Grant County #**	**0.61**	**335**		Pg	14 43 11.0	-0.1
BCOK	**Bluff Creek, N**	**0.64**	**185**	Pg	Pg	14 43 11.8	0.0
BCOK				Sg	Sg	14 43 20.3	+0.2
OK031	**S. Brethren Rd**	**0.67**	**121**	Pg	Pg	14 43 12.4	+0.2
QUOK	**Quay**	**0.69**	**100**	Pg	Pg	14 43 12.9	+0.4
QUOK				Sg	Sg	14 43 21.8	+0.2
KAN13	**South Haven SW**	**0.71**	**4**	Pg	Pg	14 43 13.2	+0.1
KAN13				Sg	Sg	14 43 22.2	-0.2
OK025	**Westminster Rd**	**0.74**	**167**		Pg	14 43 13.7	+0.1
OK032	**Salt Plains WL**	**0.74**	**313**		Pg	14 43 13.3	-0.2
OK032				Sg	Sg	14 43 23.2	+0.1
KAN17	**Caldwell West**	**0.76**	**347**		Pg	14 43 14.1	0.0
KAN17				Sg	Sg	14 43 24.3	+0.3
KAN09	**Caldwell North**	**0.84**	**356**		Pg	14 43 15.3	-0.1
KAN09				Sg	Sg	14 43 26.6	+0.2
KAN05	**Bluff City Nor**	**0.85**	**342**		Pg	14 43 15.6	-0.1
OKCFA	**Oklahoma City**	**0.89**	**175**	Pg	Pg	14 43 16.4	0.0
OKCSW	**OKLAHOMA CITY**	**0.90**	**174**	Pg	Pg	14 43 16.4	-0.2
KS20	**Mayfield South**	**0.93**	**359**	Pg	Pg	14 43 17.1	-0.1
KS20				Sg	Sg	14 43 29.3	0.0
KAN10	**Anthony SW Sta**	**0.93**	**332**		Pg	14 43 17.0	-0.3
KAN08	**Anthony NE Sta**	**0.99**	**340**	Pg	Pg	14 43 18.1	-0.2
T35A	**Sooner Cattle**	**1.03**	**53**		Pg	14 43 19.0	-0.2
T35A				Sg	Sg	14 43 32.5	-0.2
FNO	**Franklin**	**1.05**	**174**	Pg	Pg	14 43 19.1	-0.4
KAN12	**Harper NE Stat**	**1.06**	**340**	Pg	Pg	14 43 19.6	-0.2
U32A	**Winter Ranch,**	**1.18**	**274**	Pn	Pg	14 43 21.9	-0.1
X34A	**Smith Ranch, M**	**1.71**	**188**		Pn	14 43 29.6	+0.2
WMOK	**Wichita Mounta**	**1.86**	**213**	Pn	Pn	14 43 31.7	+0.3
WMOK				IAmb_Lg		14 44 03.4	
comp=Z,12nm,0.8s							
X37A	**Clayton**	**2.46**	**133**	IAmb_Lg		14 44 22.1	
comp=Z,9.6nm,0.9s							
CBKS	**Cedar Bluff**	**3.06**	**326**	IAmb_Lg		14 44 38.2	
comp=Z,6.5nm,0.8s							
W39A	**Magazine**	**3.25**	**109**	IAmb_Lg		14 44 51.1	
comp=Z,8.4nm,0.8s							
U40A	**Yellville**	**3.79**	**88**	IAmb_Lg		14 44 57.9	
comp=Z,5.2nm,1.0s							
X40A	**Basin Creek Fa**	**4.25**	**114**	IAmb_Lg		14 45 24.8	
comp=Z,5.0nm,0.9s							
WHAR	**Wooly Hollow**	**4.39**	**102**	IAmb_Lg		14 45 22.7	
comp=Z,6.8nm,0.9s							
FCAR	**Ozark Folk Cen**	**4.41**	**94**	IAmb_Lg		14 45 25.7	
comp=Z,4.2nm,1.0s							
R40A	**Maddies Statio**	**4.65**	**63**	IAmb_Lg		14 45 35.2	
comp=Z,4.0nm,1.0s							
PBMO	**Poplar Bluff**	**5.75**	**83**	IAmb_Lg		14 46 08.0	
comp=Z,5.9nm,0.8s							

*NEIC **14** 14:59:43.3±1.1, 6°.38S±0°.10×146°.2E±0°.1, h101km±9km, mb4.2/17, Error ellipse: s-maj=19.4km s-min=7.6km az=46.0*
*IDC **14** 14:59:43.1±3.0, 6°.41S×146°.45E, h108km±30km, mb3.4/5, mb1 3.7/8, mb1mx3.4/43, mbtmp3.9/8, Error ellipse: s-maj=30.9km s-min=25.0km az=80.0*

ISC 14 14:59:42.8±0.8, 6°.38S±0°.08×146°.2E±0°.1, h100km, n29, σ1§00/30, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.15**	**163**	P	**Pn**	**15 00 31.3**	**+0.7**
33nm,0.3s,baz=20,slow=5.7,SNR=92							
PMG				S	**Sn**	**15 01 06.2**	**-1.2**
37nm,0.3s,baz=294,slow=23,SNR=26							
PMG	**Port Moresby**	**3.15**	**163**		**Pn**	**15 00 31.0**	**+0.4**
CTA	**Charters Tower**	**13.62**	**180**	P	**P**	**15 02 56.5**	**-0.8**
1.9nm,0.3s,baz=356,slow=14,SNR=22							
CTAO	**Charters Tower**	**13.62**	**180**	P	**P**	**15 02 57.0**	**-0.3**
SIJI	**Sorong**	**15.88**	**290**	P	**P**	**15 03 22.8**	**+0.3**
1.7nm,0.3s,baz=144,slow=17,SNR=1.7							
MTN	**Manton Dam**	**16.19**	**246**		**Pn**	**15 03 25.1**	**+0.6**
MTN				IAmb	IAmb	15 03 45.3	
comp=Z,26nm,1.2s							
WB0	**Warramunga Arr**	**17.57**	**220**	P	**P**	**15 03 40.8**	**-0.3**
WB0				IAmb	IAmb	15 03 53.9	
comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**	**17.62**	**219**	P	**P**	**15 03 41.3**	**-0.4**
WR0				IAmb	IAmb	15 03 49.9	
comp=Z,15nm,1.5s							
WB2	**Warramunga Arr**	**17.73**	**219**	P	**P**	**15 03 42.5**	**-0.4**
WB2				IAmb	IAmb	15 03 42.6	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**17.74**	**219**	P	**P**	**15 03 42.2**	**-0.8**
comp=Z,0.4nm,0.3s,baz=38,slow=11,SNR=29							
KNRA	**Kununurra**	**19.44**	**240**	P	**P**	**15 04 00.5**	**-1.1**
KNRA				IAmb	IAmb	15 04 15.0	
comp=Z,34nm,1.4s							
EIDS	**Eidsvold**	**19.45**	**167**	P	**P**	**15 04 00.6**	**-0.9**
EIDS				IAmb	IAmb	15 04 01.3	
comp=Z,4.4nm,0.9s							
AS31	**Alice Springs**	**20.86**	**213**	P	**P**	**15 04 16.9**	**-0.1**
ASAR	**Alice Springs**	**20.86**	**213**	P	**P**	**15 04 17.1**	**+0.2**
comp=Z,1.5nm,0.5s,baz=55,slow=9.0,SNR=22							
STKA	**Stephens Creek**	**25.73**	**189**	P	**P**	**15 05 04.8**	**+0.8**
comp=Z,4.2nm,0.8s,baz=34,slow=12,SNR=7.6							
LHI	**Lord Howe Isla**	**27.75**	**156**	P	**P**	**15 05 24.4**	**+2.3**
PSA00	**Pilbara Seismi**	**29.63**	**237**	P	**P**	**15 05 38.5**	**-0.4**
PSA00				IAmb	IAmb	15 05 51.8	
comp=Z,11nm,1.1s							
MORW	**Morawa**	**36.33**	**228**	P	**P**	**15 06 37.0**	**-0.2**
MORW				IAmb	IAmb	15 06 54.5	
comp=Z,13nm,1.3s							
XMIS	**Christmas Isla**	**40.30**	**261**	P	**P**	**15 07 08.5**	**-2.2**
BKNI	**Bangkinang**	**45.57**	**277**	P	**P**	**15 07 54.0**	**+0.7**
JKA	**Kamikawa-asahi**	**50.37**	**357**	P	**P**	**15 08 29.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**52.74**	**299**	P	**P**	**15 08 49.9**	**+2.1**
comp=Z,0.5nm,0.5s,baz=115,slow=5.6,SNR=3.8							
VNDA	**Vanda**	**71.58**	**176**	P	**P**	**15 10 52.6**	**-0.2**
VNDA				IAmb	IAmb	15 10 59.9	
comp=Z,3.9nm,1.4s							
SBA	**Scott Base**	**72.24**	**176**	P	**P**	**15 10 57.6**	**+0.9**
MK31	**Makanchi Array**	**77.29**	**321**	P	**P**	**15 11 26.4**	**0.0**
MKAR	**Makanchi Array**	**77.29**	**321**	P	**P**	**15 11 26.8**	**+0.4**
comp=Z,0.1nm,0.5s,baz=109,slow=6.6,SNR=2.3							
MKAR	**Makanchi Array**	**77.29**	**321**	P	**P**	**15 11 26.6**	**+0.2**
ILAR	**Eielson Array**	**86.14**	**23**	P	**P**	**15 12 10.7**	**-1.8**
comp=Z,0.4nm,0.6s,baz=257,slow=4.8,SNR=8.7							
TORD	**Torodi Ar. Bea**	**144.42**	**284**	PKP	**PKPab**	**15 19 07.3**	**+0.5**
comp=Z,0.6nm,0.7s,baz=69,slow=2.3,SNR=2.7							

*NEIC **14** 15:07:35.7±2.1, 3°.3S±0°.1×126°.86E±0°.09, h127km±15km, mb4.0/9, Error ellipse: s-maj=15.1km s-min=13.4km az=167.0*
*IDC **14** 15:07:37.4±7.7, 3°.50S×127°.00E, h112km±84km, mb3.5/3, mb1 3.8/5, mb1mx3.3/43, mbtmp4.0/5, ML4.1/2, Error ellipse: s-maj=70.7km s-min=19.2km az=87.0*

ISC 14 15:07:35.1±0.7, 3°.43S±0°.08×126°.85E±0°.08, h100km, n22, σ1§38/21, mb3.9/3, Buru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**4.21**	**7**	Pn	**Pn**	**15 08 35.3**	**-1.9**
SIJI	**Sorong**	**5.09**	**60**	P	**Pn**	**15 08 48.8**	**-0.4**
9.1nm,0.3s,baz=232,slow=16,SNR=31							
SIJI				S	**Sn**	**15 09 48.4**	**+1.6**
5.2nm,0.3s,baz=162,slow=20,SNR=8.8							
FAKI	**Fak Fak**	**5.41**	**85**	Pn	**Pn**	**15 08 53.9**	**+0.4**
SOEI	**Soe**	**6.79**	**202**	Pn	**Pn**	**15 09 14.6**	**+2.3**
MMRI	**Maumere**	**6.91**	**221**	Pn	**Pn**	**15 09 14.9**	**+1.0**
TOLI2	**Tolitoli**	**7.56**	**307**	Pn	**Pn**	**15 09 22.7**	**-0.1**
MTN	**Manton Dam**	**10.27**	**156**	Pn	**Pn**	**15 09 58.5**	**-1.1**
KNRA	**Kununurra**	**12.31**	**171**	Pn	Pn	15 10 23.2	-3.9
SMRI	**Semarang**	**16.73**	**257**		**Pn**	**15 11 21.3**	**-2.3**
WB0	**Warramunga Arr**	**17.83**	**156**		**P**	**15 11 36.3**	**+0.1**
WB0				IAmb	IAmb	15 12 01.2	
comp=Z,11nm,1.3s							
WRAB	**Tennant Creek**	**17.96**	**157**		**P**	**15 11 37.9**	**+0.2**
WRAB				IAmb	IAmb	15 11 52.1	
comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**17.96**	**157**	P	**P**	**15 11 37.9**	**+0.1**
comp=Z,0.7nm,0.3s,baz=338,slow=11,SNR=47							
WRA	**Warramunga Arr**	**17.96**	**157**	P	**P**	**15 11 36.5**	**-1.3**
WB2	**Warramunga Arr**	**17.97**	**157**	P	**P**	**15 11 37.5**	**-0.3**
WB2				IAmb	IAmb	15 11 38.5	
comp=Z,6.6nm,0.8s							
WR0	**Warramunga Arr**	**18.06**	**156**	P	**P**	**15 11 38.1**	**-0.7**
WR0				IAmb	IAmb	15 11 39.8	
comp=Z,17nm,1.3s							
CISI	**Cisompet, Garu**	**19.38**	**257**	P	P	15 11 49.7	-3.7
AS31	**Alice Springs**	**21.24**	**162**	P	**P**	**15 12 13.6**	**+0.3**
ASAR	**Alice Springs**	**21.24**	**162**	P	**P**	**15 12 13.4**	**+0.1**
comp=Z,2.4nm,0.4s,baz=345,slow=12,SNR=22							
MCQ	**Macquarie Isla**	**57.21**	**158**	P	**P**	**15 17 11.0**	**-0.7**
MSWZ	**Moikau Station**	**57.48**	**138**	P	**P**	**15 17 11.4**	**-2.5**
MKAR	**Makanchi Array**	**63.55**	**327**	P	**P**	**15 17 56.8**	**+1.7**
comp=Z,0.8nm,0.6s,baz=128,slow=7.5,SNR=11							
KURBB	**Kurchatov Arra**	**67.85**	**329**	P	**P**	**15 18 24.4**	**+1.8**
comp=Z,0.6nm,0.6s,baz=129,slow=5.6,SNR=8.2							

IDC 14 15:13:45.3±5.1, 12°.20S×168°.02E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=248.4km s-min=35.2km az=140.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.22**	**252**	P	P	15 20 24.1	-0.2
0.4nm,0.9s,baz=84,slow=8.6,SNR=4.9							
ASAR	**Alice Springs**	**34.31**	**246**	P	P	15 20 33.8	0.0
0.2nm,0.4s,baz=74,slow=9.8,SNR=1.6							
ILAR	**Eielson Array**	**83.91**	**18**	P	P	15 26 16.8	0.0
0.5nm,0.6s,baz=230,slow=5.3,SNR=5.4							

*NEIC **14** 15:23:16.8±1.1, 14°.6S±0°.1×167°.5E±0°.1, h184km±8km, mb4.4/19, Error ellipse: s-maj=16.5km s-min=14.5km az=93.0*
*IDC **14** 15:23:21.5±5.8, 14°.67S×167°.27E, h222km±49km, mb3.2/7, mb1 3.3/8, mb1mx3.2/26, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.8/10, Error ellipse: s-maj=44.2km s-min=25.7km az=113.0*

ISC 14 15:23:15.1±0.6, 14°.57S±0°.08×167°.51E±0°.08, h170km, n35, σ1§21/35, mb4.1/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONTNC	**Ouen Toro**	**7.76**	**187**	Pn	**Pn**	**15 25 06.2**	**+1.0**
OUENC	**Ouen Island, N**	**7.83**	**185**	Pn	**Pn**	**15 25 07.4**	**+1.2**
HNR	**Honiara**	**8.99**	**304**	P	**Pn**	**15 25 25.8**	**+4.2**
2.8nm,0.3s,baz=144,slow=8.7,SNR=2.0							
HNR				S	**Sn**	**15 27 00.6**	**-1.2**
1.6nm,0.3s,baz=334,slow=16,SNR=2.8							
HNR	**Honiara**	**8.99**	**304**		**Pn**	**15 25 22.2**	**+0.7**
EIDS	**Eidsvold**	**18.79**	**233**	P	**Pn**	**15 27 22.9**	**-1.2**
EIDS				IAmb	IAmb	15 27 44.8	
comp=Z,12nm,1.4s							
RAO	**Raoul Island**	**19.87**	**140**	LR	LR	15 34 50.5	
comp=Z,76nm,18.1s,baz=94,slow=34							
AFI	**Afiamalu**	**20.09**	**91**	P	**P**	**15 27 36.0**	**+0.2**
CTA	**Charters Tower**	**21.01**	**252**	P	**P**	**15 27 46.7**	**+1.1**
comp=Z,1.0nm,0.5s,baz=85,slow=11,SNR=1.6							
CTAO	**Charters Tower**	**21.01**	**252**	P	**P**	**15 27 46.9**	**+1.3**
CTAO				IAmb	IAmb	15 28 02.0	
comp=Z,13nm,1.4s							
BKZ	**Black Stump Fm**	**25.75**	**164**	P	**P**	**15 28 29.0**	**-1.0**
BKZ				IAmb	IAmb	15 28 53.4	
comp=Z,31nm,1.4s							
LTZ	**Lake Taylor**	**28.41**	**173**	P	**P**	**15 28 53.7**	**0.0**
STKA	**Stephens Creek**	**29.27**	**230**	P	**P**	**15 29 01.7**	**+0.3**
comp=Z,0.9nm,0.4s,baz=42,slow=10.0,SNR=4.2							
WR0	**Warramunga Arr**	**31.90**	**256**	P	**P**	**15 29 23.1**	**-1.7**
WR0				IAmb	IAmb	15 29 31.0	
comp=Z,14nm,1.5s							
WB0	**Warramunga Arr**	**32.02**	**256**	P	**P**	**15 29 24.5**	**-1.3**
WB0				IAmb	IAmb	15 29 49.6	
comp=Z,8.0nm,1.2s							
WRAB	**Tennant Creek**	**32.08**	**256**	P	**P**	**15 29 24.0**	**-2.3**
WRAB				IAmb	IAmb	15 29 45.8	
comp=Z,14nm,1.5s							
WRA	**Warramunga Arr**	**32.09**	**256**	P	**P**	**15 29 25.2**	**-1.1**
comp=Z,0.3nm,0.5s,baz=86,slow=8.9,SNR=6.6							
ASAR	**Alice Springs**	**32.94**	**249**	P	**P**	**15 29 32.3**	**-1.5**
comp=Z,0.5nm,0.5s,baz=77,slow=9.0,SNR=7.1							
MTN	**Manton Dam**	**35.36**	**268**	P	**P**	**15 29 53.9**	**-0.7**
MTN				IAmb	IAmb	15 30 12.6	
comp=Z,33nm,1.4s							
SAUI	**Saumlaki**	**36.07**	**276**	P	**P**	**15 30 00.3**	**-0.5**
NWAO	**Narrogin (SRO)**	**49.03**	**239**	P	**P**	**15 31 45.3**	**+0.3**
AIN	**Ainahou**	**49.66**	**48**	P	**P**	**15 31 49.7**	**-0.4**
VNDA	**Vanda**	**63.02**	**181**	P	**P**	**15 33 23.6**	**+0.1**
comp=Z,0.4nm,0.6s,baz=356,slow=8.1,SNR=1.8							
VNDA	**Vanda**	**63.02**	**181**	P	**P**	**15 33 23.6**	**+0.1**
SBA	**Scott Base**	**63.29**	**180**	P	**P**	**15 33 25.6**	**+0.3**
SBA				IAmb	IAmb	15 33 32.4	
comp=Z,3.7nm,1.3s							
KSAR	**Wonju Array Be**	**63.75**	**326**	P	**P**	**15 33 26.9**	**-1.9**
CASY	**Casey**	**63.76**	**202**	P	**P**	**15 33 28.0**	**-0.4**
CASY				IAmb	IAmb	15 33 28.7	
comp=Z,16nm,1.5s							
USRK	**Ussuriysk Ar.**	**66.85**	**333**	P	**P**	**15 33 48.4**	**-0.3**
USA0B	**Ussuriysk Arra**	**66.85**	**333**	P	**P**	**15 33 48.0**	**-0.6**
USA0B				IAmb	IAmb	15 34 12.6	
comp=Z,2.7nm,0.8s							
KIWB	**Kanaga Island**	**67.48**	**10**	P	**P**	**15 33 52.3**	**-0.1**
QSPA	**South Pole Qui**	**75.45**	**180**	P	**P**	**15 34 40.0**	**-0.2**
QSPA				IAmb	IAmb	15 34 43.2	
comp=Z,9.4nm,1.5s							
ILAR	**Eielson Array**	**86.31**	**18**	P	**P**	**15 35 38.1**	**+0.7**
comp=Z,0.3nm,0.6s,baz=240,slow=5.8,SNR=3.1							
MKAR	**Makanchi Array**	**97.25**	**316**	P	**P**	**15 36 28.9**	**+0.2**
comp=Z,0.3nm,0.7s,baz=94,slow=5.7,SNR=4.3							
MKAR	**Makanchi Array**	**97.25**	**316**	P	**P**	**15 36 28.6**	**-0.1**
ARCES	**ARCESS Array B**	**120.16**	**345**	PKP	**PKiKP**	**15 41 45.8**	**+0.5**
comp=Z,1.2nm,0.6s,baz=70,slow=1.4,SNR=5.6							
TORD	**Torodi Ar. Bea**	**166.15**	**266**	PKPab	**PKPab**	**15 44 02.4**	**-0.1**
comp=Z,0.3nm,0.7s,baz=92,slow=4.7,SNR=1.6							

NEIC 14 15:33:25.8±0.3, 37°.04N±0°.01×97°.91W±0°.01, h5km±1km, mb_Lg2.6/46, Error ellipse: s-maj=2.6km s-min=1.9km az=82.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.08**	**25**	Pg	Pg	15 33 27.4	-0.1
KAN05				Sg	Sg	15 33 28.8	0.0
KAN17	**Caldwell West**	**0.12**	**86**	Pg	Pg	15 33 28.4	+0.2
KAN17				Sg	Sg	15 33 30.3	+0.4
KAN10	**Anthony SW Sta**	**0.17**	**301**	Pg	Pg	15 33 29.2	+0.1
KAN10				Sg	Sg	15 33 31.5	+0.1
GC02	**Grant County #**	**0.19**	**167**	Pg	Pg	15 33 30.0	+0.5
GC02				Sg	Sg	15 33 32.0	0.0
KAN08	**Anthony NE Sta**	**0.20**	**347**		Pg	15 33 29.6	-0.1
KAN08				Sg	Sg	15 33 32.1	-0.1
KAN09	**Caldwell North**	**0.26**	**67**	Pg	Pg	15 33 30.9	+0.1
KAN09				Sg	Sg	15 33 33.9	-0.2
KAN12	**Harper NE Stat**	**0.27**	**346**		Pg	15 33 30.9	-0.1
KAN12				Sg	Sg	15 33 34.4	-0.1
OK032	**Salt Plains WL**	**0.33**	**226**	Pg	Pg	15 33 32.5	+0.3
KS20	**Mayfield South**	**0.35**	**56**		Pg	15 33 32.5	0.0
KS20				Sg	Sg	15 33 36.6	-0.5
KAN13	**South Haven SW**	**0.35**	**94**	Pg	Pg	15 33 32.6	0.0
KAN13				Sg	Sg	15 33 37.5	+0.3
CROK	**Carrier**	**0.53**	**186**	Pg	Pg	15 33 36.1	+0.1
BLOK	**Blackwell**	**0.62**	**116**	Pg	Pg	15 33 37.7	0.0
U32A	**Winter Ranch,**	**1.09**	**233**		Pg	15 33 46.3	-0.4
U32A				Sg	Sg	15 34 00.1	-0.7
T35A	**Sooner Cattle**	**1.13**	**96**		Pg	15 33 47.0	-0.4
OK029	**Liberty Lake**	**1.29**	**163**		Pn	15 33 50.0	-0.5
QUOK	**Quay**	**1.30**	**131**		Pn	15 33 50.1	-0.5
OK031	**S. Brethren Rd**	**1.39**	**141**		Pn	15 33 51.3	-0.5
BCOK	**Bluff Creek, N**	**1.40**	**170**		Pn	15 33 51.7	-0.3
R32A	**Long Quarter,**	**1.52**	**336**		Pn	15 33 53.4	-0.3
OK025	**Westminster Rd**	**1.52**	**162**		Pn	15 33 53.9	+0.2
OKCFA	**Oklahoma City**	**1.66**	**167**		Pn	15 33 55.7	+0.2
OKCSW	**OKLAHOMA CITY**	**1.67**	**167**	Pn	Pn	15 33 55.9	+0.1
FNO	**Franklin**	**1.82**	**167**		Pn	15 33 57.5	-0.3
KSU1	**Kansas State U**	**2.30**	**26**	Pn	Pn	15 34 03.8	-0.6
KSU1				IAmb_Lg		15 34 45.2	
WMOK	**Wichita Mounta**	**2.40**	**197**	Pn	Pn	15 34 05.5	-0.2
X34A	**Smith Ranch, M**	**2.43**	**178**	Pn	Pn	15 34 06.1	0.0
U38A	**Gravette**	**2.90**	**101**	Pn	Pn	15 34 12.4	-0.1
LOOK	**Love County**	**3.10**	**169**	IAmb_Lg		15 35 06.7	
comp=Z,15nm,1.0s							
X37A	**Clayton**	**3.20**	**139**	Pn	Pn	15 34 16.2	-0.5
X37A				IAmb_Lg		15 35 15.1	
comp=Z,27nm,0.9s							
N33A	**J Bar K, Exete**	**3.71**	**5**	Pn	Pn	15 34 23.4	-0.4
W39A	**Magazine**	**3.81**	**118**	IAmb_Lg		15 35 34.0	
comp=Z,24nm,0.8s							
U40A	**Yellville**	**4.12**	**98**		Pn	15 34 28.9	-0.6
U40A				IAmb_Lg		15 35 39.0	
comp=Z,23nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.21**	**299**	Pn	Pn	15 34 30.6	-0.1
KSCO				IAmb_Lg		15 35 47.5	
comp=Z,16nm,0.8s							
P38A	**Dawn**	**4.31**	**52**	IAmb_Lg		15 35 46.3	
comp=Z,9.9nm,0.7s							
MIAR	**Mount Ida**	**4.31**	**124**	IAmb_Lg		15 35 47.7	
comp=Z,15nm,1.0s							
BGNE	**Belgrade**	**4.37**	**358**	IAmb_Lg		15 35 49.2	
comp=Z,19nm,0.8s							
Z38A	**Mt. Pleasant**	**4.47**	**147**	IAmb_Lg		15 35 49.0	
comp=Z,19nm,0.8s							
MGMO	**Mountain Grove**	**4.51**	**87**	IAmb_Lg		15 35 54.5	
comp=Z,8.9nm,1.1s							
ABTX	**Abilene, Hawle**	**4.63**	**198**	IAmb_Lg		15 35 50.0	
comp=Z,8.8nm,0.9s							
R40A	**Maddies Statio**	**4.65**	**73**	IAmb_Lg		15 35 53.0	
comp=Z,9.7nm,0.8s							
X40A	**Basin Creek Fa**	**4.85**	**120**	IAmb_Lg		15 36 00.4	
comp=Z,12nm,0.8s							
WHAR	**Wooly Hollow**	**4.87**	**109**	IAmb_Lg		15 36 02.5	
comp=Z,15nm,0.8s							
OGNE	**Ogallala**	**5.05**	**322**	IAmb_Lg		15 36 19.2	
comp=Z,15nm,0.7s							
T25A	**Trinidad**	**5.20**	**273**	IAmb_Lg		15 36 18.7	
comp=Z,8.9nm,0.9s							
P40A	**Paris**	**5.24**	**60**	IAmb_Lg		15 36 20.3	
comp=Z,11nm,0.8s							
CCM	**Cathedral Cave**	**5.40**	**77**	IAmb_Lg		15 36 24.0	
comp=Z,6.7nm,1.0s							
PBMO	**Poplar Bluff**	**6.00**	**90**	IAmb_Lg		15 36 36.7	
comp=Z,8.4nm,0.8s							
JCT	**Junction City**	**6.73**	**194**	IAmb_Lg		15 37 04.1	
comp=Z,6.5nm,0.8s							
S44A	**Carbondale**	**6.93**	**82**	IAmb_Lg		15 37 09.2	
comp=Z,7.2nm,0.7s							
PHWY	**Pilot Hill**	**7.24**	**308**	IAmb_Lg		15 37 16.8	
comp=Z,5.7nm,0.8s							
F33A	**5 Mile Ranch,**	**8.88**	**7**	IAmb_Lg		15 38 12.2	
comp=Z,5.5nm,1.0s							

*IDC **14** 15:42:45.9±0.6, 39°.21N×144°.79E, h0km, mb4.4/27, mb1 4.5/33, mb1mx4.4/48, mbtmp4.3/33, ML3.7/6, MS3.4/19, Ms1 3.4/19, ms1mx3.3/41, Error ellipse: s-maj=15.4km s-min=12.3km az=145.0*
*NEIC **14** 15:42:47.6±1.2, 39°.17N±0°.06×144°.7E±0°.1, h10km±1km, mb4.7/162, Error ellipse: s-maj=15.1km s-min=10.2km az=111.0*
*MOS **14** 15:42:48.8±1.0, 39°.40N×144°.73E, h24km, mb4.8/52, Error ellipse: s-maj=7.2km s-min=4.5km az=96.2*
*BJI **14** 15:42:49.3±0.0, 39°.43N×144°.75E, h28km, mB5.0/22, mb4.5/40, Ms4.5/8, Ms7 4

YUK smax smax
comp=E,826nm,0.4s
RUSJ Misakicho 4.83 4 *eP* **Pn 15 43 59.4 -1.5**
RUSJ *eS* **Sn 15 44 50.7 -5.1**
JOSM Okushiri--Mats 4.89 307 P **Pn 15 44 01.6 -0.3**
JHR Hokuryu 5.00 334 P **Pn 15 44 04.0 +0.6**
JHR S **Sn 15 44 59.6 -0.5**
JKA Kamikawa-asahi 5.09 342 **Pn 15 44 03.8 -0.8**
JKA Kamikawa-asahi 5.09 342 **Sn 15 44 58.9 -3.4**
ASAJ Asahikawa 5.09 342 Pn **Pn 15 44 03.4 -1.2**
comp=E,7.5nm,0.3s,baz=204,slow=11,SNR=98
ASAJ Sn **Sn 15 44 58.9 -3.4**
comp=E,10nm,0.3s,baz=349,slow=30,SNR=8.3
JSD Sado 5.24 258 Pn **Pn 15 44 04.9 -1.7**
BSO1 Boso 1 5.53 214 P **Pn 15 44 06.8 -3.3**
BSO1 *eS* **Sn 15 45 09.6 -2.7**
JRY Ryogami san 5.68 237 P **Pn 15 44 10.7 -2.0**
JRY *eS* **Sn 15 45 09.9 -7.0**
MJAR Matsushiro Arr 5.86 244 Pn **Pn 15 44 14.3 -0.8**
comp=E,1.2nm,0.3s,baz=67,slow=12,SNR=18
MJAR Sn **Sn 15 45 15.7 -5.6**
baz=71,slow=24,SNR=2.1
MJAR LR LR 15 46 33.9
comp=E,373nm,21.9s,baz=65,slow=39
MJAR Matsushiro Arr 5.86 244 Pn **Pn 15 44 13.5 -1.6**
MAJO Matsushiro 5.86 244 *ceP* **Pn 15 44 14.8 -0.4**
MAJO pmax pmax
comp=Z,21nm,0.6s
MAJO Matsushiro 5.86 244 **Pn 15 44 14.3 -0.9**
MAT Matsushiro 5.86 244 P **Pn 15 44 14.7 -0.5**
MAT *eS* **Sn 15 45 18.3 -3.0**
MJB9 Matsu-Tunnel 5.86 244 **Pn 15 44 14.3 -0.9**
JOD2 Odawara 2 6.05 230 *eS* **Sn 15 45 18.6 -7.3**
KUR Kuril'sk 6.38 20 *d iP* **Pn 15 44 20.5 -1.7**
KUR *i S* **Sn 15 45 28.4 -5.5**
KUR pmax pmax
comp=Z,132nm,0.5s
KUR pmax pmax
comp=N,51nm,0.3s
KUR pmax pmax
comp=E,55nm,0.3s
KUR smax smax
comp=N,205nm,0.3s
KUR smax smax
comp=E,336nm,0.3s
JGF Kuroka 6.94 240 **Pn 15 44 29.6 -0.4**
INU Inuyama 7.31 240 Pn **Pn 15 44 33.1 -2.0**
JHJ2 Mitsune 7.34 214 Pn **Pn 15 44 32.1 -3.4**
JHJ Hachijo jima 2 7.35 215 Pn **Pn 15 44 33.0 -2.6**
comp=E,16nm,0.3s,baz=90,slow=20,SNR=1.8
JHJ Sn Sn 15 45 47.1 -11
comp=E,24nm,0.3s,baz=71,slow=23,SNR=2.5
YSS Yuzh-Sakhalins 7.80 350 *eP* **Pn 15 44 40.4 -1.4**
YSS *eS* **Sn 15 46 05.3 -3.7**
YSS pmax pmax
comp=Z,50nm,1.5s
YSS Yuzh-Sakhalins 7.80 350 Pn **Pn 15 44 41.4 -0.4**
JWT Wachi 8.46 245 Pn **Pn 15 44 50.0 -0.8**
UGL Uglegorsk 9.98 350 *eP* Pn 15 45 18.0 +6.4
UGL pmax pmax
comp=Z,140nm,1.1s
JHS Saijyo 10.23 249 Pn **Pn 15 45 14.9 -0.2**
USRK Ussuriysk Ar. 10.73 301 Pn **Pn 15 45 23.4 +1.5**
baz=98,slow=14,SNR=34
USRK LR LR 15 49 17.0
comp=Z,202nm,18.7s,baz=112,slow=36
USRK Ussuriysk Ar. 10.73 301 Pn **Pn 15 45 22.8 +0.9**
USA0B Ussuriysk Arra 10.73 301 P **Pn 15 45 22.6 +0.7**
USA0B Ussuriysk Arra 10.73 301 Pn **Pn 15 45 22.6 +0.7**
MDJ Mudanjiang 12.48 300 P **Pn 15 45 45.3 -0.5**
MDJ pmax pmax
comp=Z,31nm,1.1s
KSRS Korea Array 13.34 267 Pn **Pn 15 45 58.8 +1.2**
comp=Z,0.1nm,0.3s,baz=91,slow=13,SNR=12
KSRS LR LR 15 50 34.7
comp=Z,202nm,18.4s,baz=77,slow=35
KLR Kul'dur 13.61 321 Pn **Pn 15 46 02.8 +1.5**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=5.5
KLR LR LR 15 51 04.9
comp=Z,193nm,20.8s,baz=138,slow=36
KLR Kul'dur 13.61 321 ⇑ *eP* **Pn 15 46 02.5 +1.3**
TJN Taejon 14.05 264 ⇑ *eP* **Pn 15 46 09.5 +2.2**
PEA0B Petropavlovsk- 16.43 28 *deP* **P 15 46 40.3 -0.8**
PEA0B Petropavlovsk- 16.43 28 **P 15 46 42.1 +1.0**
PETK Petropavlovsk- 16.43 28 Pn **Pn 15 46 35.0 -3.5**
comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=4.2
PETK LR LR 15 53 42.4
comp=Z,20nm,19.8s,baz=218,slow=40
PETK Petropavlovsk- 16.43 28 P **P 15 46 41.7 +0.6**
PETK Petropavlovsk- 16.43 28 P **P 15 46 41.7 +0.6**
PET Petropavlovsk 16.73 30 *ceP* **P 15 46 45.2 +0.8**
PET pmax pmax
comp=Z,37nm,1.4s
PET Petropavlovsk 16.73 30 P **P 15 46 44.9 +0.5**
ZEA Zeya 18.74 326 *eP* **P 15 47 06.2 -0.4**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 20.42 307 ⇑ *eP* **P 15 47 24.4 -0.5**
HIA pmax pmax
comp=Z,32nm,2.2s
MA2 Magadan 20.67 9 P **P 15 47 26.9 -0.6**
comp=Z,20nm,0.8s,baz=194,slow=12,SNR=5.8
MA2 LR LR 15 56 18.4
comp=Z,32nm,18.8s,baz=116,slow=39
MA2 Magadan 20.67 9 ⇓ *eP* Pn 15 47 29.0 -0.9
MA2 pmax pmax
comp=Z,60nm,1.5s
MA2 Magadan 20.67 9 P **P 15 47 28.4 +1.0**
MA2 IAmb IAmb 15 47 29.8
comp=Z,37nm,1.0s
NJ2 Nanjing 22.20 259 *eP* **P 15 47 44.3 +0.1**
NJ2 pmax pmax
comp=Z,13nm,0.7s
SEY Seymchan 24.12 9 P **P 15 48 04.0 +0.8**
comp=Z,16nm,0.9s,baz=197,slow=6.3,SNR=14
YAK Yakutsk 24.57 343 P **P 15 48 07.1 -0.1**
comp=Z,19nm,0.7s,baz=165,slow=1.6,SNR=20
YAK LR LR 15 59 20.7
comp=Z,85nm,19.4s,baz=75,slow=40
YAK Yakutsk 24.57 343 *ceP* **P 15 48 07.2 -0.1**
YAK pmax pmax
comp=Z,35nm,0.8s
YAK Yakutsk 24.57 343 P **P 15 48 06.6 -0.7**
NACB Ninganchiao 24.70 239 P **P 15 48 05.9 -3.0**
NACB IAmb IAmb 15 48 19.4
comp=Z,15nm,0.8s
HHC Hu-ho-hao-te 25.37 284 *eP* **P 15 48 14.6 -0.3**
HHC pmax pmax
comp=Z,27nm,1.0s
HHC pmax pmax
comp=Z,320nm,5.0s
WHN Wuhan 26.32 260 ⇑ P **P 15 48 25.8 +2.3**
H11N2 WAKE ISLAND Hy 27.27 129 T T 16 17 20.0
baz=321,slow=75,SNR=4.0
H11N1 WAKE ISLAND Hy 27.28 129 T T 16 17 09.4
baz=321,slow=75,SNR=3.4
H11N3 WAKE ISLAND Hy 27.29 129 T T 16 17 12.1
baz=321,slow=75,SNR=2.9
H11S1 WAKE ISLAND Hy 28.10 131 T T 16 18 12.1
baz=320
H11S3 WAKE ISLAND Hy 28.11 131 T T 16 18 09.3
baz=320
H11S2 WAKE ISLAND Hy 28.12 131 T T 16 18 06.4
baz=320
SONM Songino Array 28.84 300 P **P 15 48 47.4 +1.4**
comp=Z,1.3nm,0.7s,baz=82,slow=10,SNR=2.3
SONM LR LR 16 01 54.7
comp=Z,164nm,18.1s,baz=90,slow=40
SONM Songino Array 28.84 300 P **P 15 48 47.4 +1.4**
SONM pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 28.84 300 IAmb IAmb 15 48 52.6
comp=Z,4.8nm,1.2s
XAN Xi'an 29.10 271 P **P 15 48 49.8 +1.4**
XAN sP pwP 15 49 00.8 -2.8
XAN pmax pmax
comp=Z,5.0nm,1.7s
ZAK Zakamensk 31.05 305 *eP* **P 15 49 06.4 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
BILL Bilibino 31.14 15 *eP* **P 15 49 06.4 +0.4**

BILL *e*PPP PPP 15 50 17.7
BILL *e* 15 52 00.2
BILL pmax pmax
comp=Z,12nm,1.2s
TIXI Tiksi 33.43 351 P **P 15 49 25.3 -0.6**
comp=Z,5.2nm,0.9s,baz=155,slow=4.7,SNR=3.9
TIXI Tiksi 33.43 351 ⇓ *eP* **P 15 49 28.9 +2.9**
TIXI Tiksi 33.43 351 P **P 15 49 26.2 +0.2**
GYA Guiyang 34.21 260 ⇓ P **P 15 49 34.1 +0.7**
GYA pmax pmax
comp=Z,2.0nm,0.8s
CD2 Chengdu 34.34 269 *eP* **P 15 49 33.3 -1.1**
GTA Gaotai 34.48 285 *eP* **P 15 49 37.1 +1.4**
GTA pP sP 15 49 46.6 +1.1
GTA sP pwP 15 49 50.4 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,91nm,6.4s
GTA LR LR
comp=Z,150nm,7.2s
GTA LR LR
comp=Z,170nm,12.3s
GTA LR LR
comp=Z,240nm,18.7s
KMI Kunming 37.92 261 ⇑ P **P 15 50 07.0 +1.7**
KMI pP pwP 15 50 20.8 +0.5
KMI pmax pmax
comp=Z,9.0nm,0.7s
RDOG Red Dog Mine 40.30 27 P **P 15 50 24.7 +0.2**
baz=252
DGZ Jazzator, Alta 41.27 304 ⇑ *iP* **P 15 50 34.6 +1.7**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
N18K Kilae Creek 41.95 39 P **P 15 50 38.1 -0.1**
baz=267
SVW2 Sparrevohn 42.13 39 P **P 15 50 40.9 +1.3**
WMQ Urumqi 42.22 295 *eP* **P 15 50 42.3 +1.7**
O18K Koktuh Hills 42.26 41 P **P 15 50 40.7 0.0**
baz=269
ZAA0 Zalesovo Array 42.40 311 P **P 15 50 41.7 -0.2**
ZALV Zalesovo Beam 42.40 311 P **P 15 50 42.4 +0.5**
comp=Z,1.1nm,0.5s,baz=103,slow=8.3,SNR=6.9
ZALV PcP **PcP 15 52 34.8 +0.3**
comp=Z,2.1nm,0.8s,baz=99,slow=4.5,SNR=4.0
ZALV LR LR 16 08 32.1
comp=Z,43nm,20.9s,baz=89,slow=36
ZALV Zalesovo Beam 42.40 311 *i* P **P 15 50 41.9 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.40 311 P **P 15 50 41.5 -0.3**
L19K White Mountain 42.54 37 P **P 15 50 43.0 +0.2**
baz=266,SNR=5.4
N19K Bonanza Creek 42.65 39 P **P 15 50 43.3 -0.6**
baz=268
M19K Big River Lodg 42.74 38 P **P 15 50 44.6 0.0**
baz=267
K20K Telida 42.98 35 P **P 15 50 46.0 -0.4**
baz=266
M20K Styx River 43.33 38 P **P 15 50 48.7 -0.7**
baz=268
KDAK Kodiak Island 43.66 44 P **P 15 50 51.9 -0.1**
comp=Z,5.5nm,0.7s,baz=263,slow=7.4,SNR=6.8
KDAK Kodiak Island 43.66 44 P **P 15 50 51.8 -0.1**
baz=273
H21K Melozitna Rive 43.72 32 P **P 15 50 52.9 +0.5**
baz=265
SPCR Spurr Chakacha 43.76 39 P **P 15 50 52.8 -0.1**
baz=270
CHUM Lake Minchumin 43.79 35 P **P 15 50 53.1 +0.2**
baz=267
PPLA Purkeypile 43.81 36 P **P 15 50 52.8 -0.5**
baz=268
PPLA Purkeypile 43.81 36 P **P 15 50 54.7 +1.4**
I21K Tanana 44.02 33 P **P 15 50 55.8 +1.1**
baz=266
SKT Skwentna 44.09 37 P **P 15 50 55.2 -0.2**
baz=270
SKT Skwentna 44.09 37 P **P 15 50 57.3 +1.8**
BPAW Bear Paw Mtn. 44.39 34 P **P 15 50 58.1 +0.4**
baz=268
BPAW Bear Paw Mtn. 44.39 34 P **P 15 50 59.4 +1.6**
KTH Kantishna Hill 44.40 35 P **P 15 50 59.3 +1.4**
KTH IAmb IAmb 15 51 00.3
comp=Z,9.8nm,1.0s
BRSE Bradley Lake S 44.52 41 P **P 15 50 58.8 0.0**
baz=273
MLY Manley 44.53 33 P **P 15 50 58.6 -0.4**
baz=267,SNR=12
MLY Manley 44.53 33 P **P 15 50 59.8 +0.9**
MLY IAmb IAmb 15 51 01.4
comp=Z,8.2nm,1.0s
CMAR Chiang Mai Arr 44.61 256 P **P 15 51 01.4 +1.2**
comp=Z,0.4nm,0.4s,baz=49,slow=7.3,SNR=5.0
CMAR LR LR 16 11 26.6
comp=Z,48nm,19.1s,baz=30,slow=39
CMAR Chiang Mai Arr 44.61 256 *ceP* **P 15 51 01.3 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 44.61 256 P **P 15 51 00.3 +0.2**
TRF Thorofare Moun 44.68 35 P **P 15 51 00.8 +0.5**
baz=269
TRF Thorofare Moun 44.68 35 P **P 15 51 00.7 +0.5**
H23K Yukon River 45.07 32 P **P 15 51 03.3 +0.1**
baz=268,SNR=15
I23K Minto, Yukon-K 45.12 33 P **P 15 51 04.2 +0.6**
baz=268,SNR=7.2
I23K Minto, Yukon-K 45.12 33 P **P 15 51 04.9 +1.3**
I23K IAmb IAmb 15 51 06.2
comp=Z,12nm,1.4s
MK31 Makanchi Array 45.20 301 *c iP* **P 15 51 05.1 +0.6**
MK31 Makanchi Array 45.20 301 P **P 15 51 03.7 -0.8**
MKAR Makanchi Array 45.20 301 P **P 15 51 04.6 +0.2**
comp=Z,2.9nm,0.8s,baz=82,slow=9.3,SNR=28
MKAR LR LR 16 10 48.3
comp=Z,65nm,18.3s,baz=81,slow=37
MKAR Makanchi Array 45.20 301 *i* P **P 15 51 04.5 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 45.20 301 P **P 15 51 03.9 -0.6**
NEA2 Nenana 45.23 34 P **P 15 51 05.2 +0.7**
baz=269
NEA2 Nenana 45.23 34 P **P 15 51 05.7 +1.2**
NEA2 IAmb IAmb 15 51 07.5
comp=Z,7.6nm,1.0s
TOLK Toolik Lake Re 45.26 28 P **P 15 51 05.3 +0.7**
baz=265,SNR=5.1
TOLK Toolik Lake Re 45.26 28 P **P 15 51 05.9 +1.3**
TOLK IAmb IAmb 15 51 20.0
comp=Z,9.9nm,1.4s
MCK McKinley 45.29 35 P **P 15 51 05.6 +0.7**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 45.29 35 P **P 15 51 04.7 -0.3**
baz=270
MCK McKinley 45.29 35 P **P 15 51 05.6 +0.7**
MCK IAmb IAmb 15 51 06.5
comp=Z,7.0nm,1.0s
RND Reindeer 45.33 35 P **P 15 51 05.3 0.0**
RND pmax pmax
comp=Z,10.0nm,1.1s
RND Reindeer 45.33 35 P **P 15 51 05.3 0.0**
RND IAmb IAmb 15 51 06.7
comp=Z,9.9nm,1.1s
GHO Glory Hole Cre 45.33 38 P **P 15 51 05.8 +0.4**
GHO IAmb IAmb 15 51 25.9
comp=Z,10nm,1.2s
MAKZ Makanchi 45.40 301 P **P 15 51 05.8 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 45.40 301 P **P 15 51 05.8 -0.3**
MAKZ IAmb IAmb 15 51 18.1
comp=Z,6.1nm,0.9s
WAT1 Susitna Watana 45.47 36 P **P 15 51 06.0 -0.4**
baz=271
KNK Knik Glacier 45.57 38 P **P 15 51 06.9 -0.3**
baz=273
MDM Murphy Dome 45.60 33 P **P 15 51 08.0 +0.6**
MDM IAmb IAmb 15 51 09.7
comp=Z,15nm,1.0s
SML Sawmill 45.61 38 P **P 15 51 07.2 -0.3**
baz=273
WRH Wood River Hil 45.66 34 P **P 15 51 08.4 +0.6**
TCOL CIGO, UAF Yank 45.76 33 P **P 15 51 09.0 +0.5**
baz=270
H24K Noodor Dome 45.76 32 P **P 15 51 09.8 +1.1**
baz=269,SNR=7.4
COLA College 45.76 33 ⇓ *eP* **P 15 51 09.5 +0.9**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 45.76 33 P **P 15 51 09.7 +1.2**
baz=270
CCB Clear Creek Bu 45.78 34 P **P 15 51 09.1 +0.3**
CCB IAmb IAmb 15 51 27.1
comp=Z,10nm,1.5s
WAT6 Susitna Watana 45.85 37 P **P 15 51 09.7 +0.1**
baz=272
POKR Poker Plat Res 45.94 33 P **P 15 51 10.3 +0.3**
baz=270,SNR=8.1
POKR Poker Plat Res 45.94 33 P **P 15 51 11.3 +1.3**
SCM Sheep Creek Mo 46.09 38 P **P 15 51 12.2 +0.9**
SCM pmax pmax
comp=Z,11nm,1.1s
SCM Sheep Creek Mo 46.09 38 P **P 15 51 12.2 +0.9**
SCM IAmb IAmb 15 51 13.2
comp=Z,11nm,1.1s
HDA Harding Lake 46.15 34 P **P 15 51 11.4 -0.4**
baz=271
HDA Harding Lake 46.15 34 P **P 15 51 12.0 +0.2**
HDA IAmb IAmb 15 51 12.9
comp=Z,7.2nm,0.8s
IL31 46.17 34 P **P 15 51 12.0 +0.2**
IL31 IAmb IAmb 15 51 13.2
comp=Z,7.6nm,0.8s
ILAR Eielson Array 46.17 34 P **P 15 51 12.5 +0.6**
comp=Z,5.6nm,0.7s,baz=263,slow=6.5,SNR=59
ILAR LR LR 16 10 52.2
comp=Z,22nm,20.3s,baz=321,slow=36
ILAR Eielson Array 46.17 34 P **P 15 51 11.7 -0.2**
M24K Tolsona, Glenn 46.61 37 P **P 15 51 15.3 -0.1**
baz=274
M24K Tolsona, Glenn 46.61 37 P **P 15 51 16.7 +1.3**
M24K IAmb IAmb 15 51 19.2
comp=Z,12nm,1.1s
KURK Kurchatov 46.66 307 P **P 15 51 17.1 +1.2**
KURK Kurchatov 46.66 307 P **P 15 51 17.1 +1.2**
PRP Porcupine Dome 46.73 32 P **P 15 51 16.7 +0.2**
baz=272,SNR=8.7
PRP Porcupine Dome 46.73 32 P **P 15 51 17.4 +0.9**
PRP IAmb IAmb 15 51 18.6
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 46.73 307 P **P 15 51 17.1 +0.6**
comp=Z,4.8nm,0.6s,baz=81,slow=8.2,SNR=28
KLU Klutina 46.78 38 P **P 15 51 17.3 +0.5**
baz=275
KLU Klutina 46.78 38 P **P 15 51 17.5 +0.8**
KLU IAmb IAmb 15 51 18.8
comp=Z,10nm,1.1s
FYU Fort Yukon 46.83 31 P **P 15 51 18.9 +1.9**
BMAR Burnt Mountain 47.08 30 P **P 15 51 20.4 +1.4**
RIDG Independent Ri 47.11 35 P **P 15 51 19.0 -0.3**
baz=274
N25K Chitina, Valde 47.40 38 P **P 15 51 21.3 -0.3**
baz=276
DOT Dot Lake 47.46 35 P **P 15 51 22.3 +0.3**
BMRM Bremner River 47.47 39 P **P 15 51 21.6 -0.5**
baz=276
SCRK Sand Creek 47.47 35 P **P 15 51 21.7 -0.5**
baz=274,SNR=11
SCRK Sand Creek 47.47 35 P **P 15 51 22.6 +0.4**
SCRK IAmb IAmb 15 51 23.6
comp=Z,7.0nm,0.9s
MENT Mentasta 47.68 36 P **P 15 51 25.3 +1.6**
MENT IAmb IAmb 15 51 45.1
comp=Z,7.7nm,0.8s
GLB Gilahina Butte 47.79 38 P **P 15 51 25.4 +0.8**
GLB IAmb IAmb 15 51 38.7
comp=Z,7.8nm,1.4s
L26K Log Cabin Wild 47.84 36 P **P 15 51 26.0 +1.1**
baz=276
VRDI Verde Repeater 47.99 38 P **P 15 51 27.3 +1.0**
VRDI IAmb IAmb 15 51 28.1
comp=Z,4.4nm,0.8s
MCARA McCarthy VSAT 48.17 38 P **P 15 51 27.8 +0.3**
baz=277
CRQM Cirque 48.20 39 P **P 15 51 29.2 +1.2**
CRQE Cirque 48.23 39 P **P 15 51 27.2 -0.9**
baz=278
K27K Chicken 48.30 34 P **P 15 51 27.7 -0.8**
baz=276
L27K Beaver Creek, 48.52 36 P **P 15 51 30.0 -0.2**
baz=277,SNR=8.8
L27K Beaver Creek, 48.52 36 P **P 15 51 31.6 +1.3**
L27K IAmb IAmb 15 51 51.3
comp=Z,8.4nm,0.9s
BCAR Beaver Creek A 48.54 36 P **P 15 51 31.4 +1.0**
M27K Edge Creek, AK 48.59 37 P **P 15 51 30.2 -0.6**
baz=278
EGAK Eagle 48.62 33 P **P 15 51 30.8 -0.1**
baz=276
EGAK Eagle 48.62 33 P **P 15 51 31.4 +0.5**
EGAK IAmb IAmb 15 51 49.4
comp=Z,6.3nm,0.9s
CTG Chitna Glacier 49.04 38 P **P 15 51 34.6 +0.2**
baz=279
KDJ Kajisay 50.09 296 P **P 15 51 42.7 +0.1**
KDJ pmax pmax
comp=Z,2.0nm,0.8s
KDJ Kajisay 50.09 296 P **P 15 51 42.7 +0.1**
EPYK Eagle Plains 50.25 31 P **P 15 51 42.9 -0.5**
baz=278,SNR=9.6
EPYK Eagle Plains 50.25 31 P **P 15 51 44.7 +1.3**
HNR Honiara 50.48 160 LR LR 16 14 44.8
comp=Z,27nm,18.1s,baz=94,slow=38
BOOM Boomskoye usch 50.82 297 P **P 15 51 48.6 +0.4**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 50.82 297 P **P 15 51 48.6 +0.4**
HYT Haines Junctio 50.91 38 P **P 15 51 50.6 +2.1**
BRVK Borovoye 51.09 312 *ceP* **P 15 51 50.8 +1.0**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
KRAB Krabi 51.14 245 P P 15 52 02.2 +12
INK Inuvik 51.17 28 P **P 15 51 51.1 +1.0**
comp=Z,4.6nm,0.7s,baz=264,slow=6.3,SNR=8.5
INK Inuvik 51.17 28 P **P 15 51 50.1 -0.1**
baz=280
INK Inuvik 51.17 28 P **P 15 51 51.1 +1.0**
AAK Ala-Archa 51.76 298 ⇑ *eP* **P 15 51 57.1 +1.9**
AAK pmax pmax
comp=Z,42nm,3.5s
WHY Whitehorse 52.20 38 P **P 15 51 58.1 0.0**
baz=284
JIS Juneau Island 53.09 41 P **P 15 52 06.0 +1.5**
JIS IAmb IAmb 15 52 07.6
comp=Z,12nm,1.0s
C36M Paulatuk 54.27 26 P **P 15 52 13.2 +0.1**
baz=287
C36M Paulatuk 54.27 26 P **P 15 52 14.1 +1.1**
KK31 Karatay Array 54.29 300 P **P 15 52 13.5 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 54.29 300 P **P 15 52 13.5 -0.2**
KKAR Karatay Array 54.29 300 P **P 15 52 13.3 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 54.29 300 P **P 15 52 13.3 -0.4**
KKAR Karatay Array 54.29 300 P **P 15 52 13.6 -0.1**
KKAR IAmb IAmb 15 52 29.6
comp=Z,3.9nm,0.9s
CRAG Craig 54.62 44 P **P 15 52 16.9 +1.1**
baz=290
DLBC Dease Lake 55.22 40 P **P 15 52 21.8 +1.6**
comp=Z,3.3nm,0.9s,baz=301,slow=8.7,SNR=6.7
DLBC Dease Lake 55.22 40 P **P 15 52 21.8 +1.6**
ARU Arti 56.43 318 *d iP* **P 15 52 29.4 +0.6**
ARU pmax pmax
comp=Z,19nm,1.3s
ARU Arti 56.43 318 P **P 15 52 28.5 -0.3**
CHGR Chuyangaron 57.09 295 P **P 15 52 33.8 -0.1**
ABKAR Akbulak array 58.51 310 P **P 15 52 43.8 +0.2**
ABKAR IAmb IAmb 15 52 45.2
comp=Z,6.6nm,0.8s
KBL Kabul 59.07 291 P **P 15 52 47.7 -0.3**
KBL pmax pmax
comp=Z,11nm,1.1s
KBL Kabul 59.07 291 P **P 15 52 47.7 -0.3**
KBL IAmb IAmb 15 52 48.8
comp=Z,10nm,1.1s
WB0 Warramunga Arr 59.54 191 P **P 15 52 49.5 -1.4**
WB0 IAmb IAmb 15 52 58.2
comp=Z,10.0nm,1.3s

WR0 Warramunga Arr 59.70 191 P **P** **15 52 50.5 -1.6**
WB2 Warramunga Arr 59.72 191 P **P** **15 52 51.0 -1.2**
WB2 IAmb IAmb 15 52 57.9
comp=Z,5.2nm,1.0s
WRA Warramunga Arr 59.72 191 P **P** **15 52 50.7 -1.4**
comp=Z,1.0nm,0.7s,baz=8.4,slow=7.0,SNR=13
WRA Warramunga Arr 59.72 191 P **P** **15 52 50.8 -1.4**
WRA Warramunga Arr 59.72 191 P **P** **15 52 50.8 -1.4**
RES Resolute Bay 59.75 15 P **P** **15 52 53.1 +1.3**
RES pmax pmax
comp=Z,21nm,0.9s
RES Resolute Bay 59.75 15 P **P** **15 52 53.1 +1.3**
KIRV Kirov 60.05 323 *d i* P **P** **15 52 54.7 +0.7**
PRGR Permogore 60.31 327 *e* P **P** **15 52 54.2 -1.6**
PRGR pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 60.52 32 P **P** **15 52 57.2 0.0**
comp=Z,2.2nm,0.7s,baz=301,slow=6.4,SNR=20
TULEG Thule 62.51 8 P **P** **15 53 10.9 +0.5**
ARCES ARCESS Array B 62.81 340 LR LR 16 25 06.9
comp=Z,42nm,18.1s,baz=55,slow=40
NEEM North Greenlan 63.13 4 *i* P **P** **15 53 15.7 +0.7**
NEEM IAmb IAmb 15 53 16.3
comp=Z,12nm,0.9s
KLMR Klimovskoe 63.26 328 *e* P **P** **15 53 15.6 0.0**
KLMR *e* 15 53 52.5
KLMR pmax pmax
comp=Z,12nm,1.1s
KLMR Klimovskoe 63.26 328 *e* P **P** **15 53 15.6 0.0**
KLMR AMP 15 53 17.9
comp=Z,12nm,1.1s
KLMR *e* PcP **PcP** **15 53 52.6 -0.1**
A04D Lummi Island 63.27 48 P **P** **15 53 16.0 +0.1**
baz=300
ASAR Alice Springs 63.44 191 P **P** **15 53 17.1 -0.2**
comp=Z,1.0nm,1.0s,baz=11,slow=6.2,SNR=6.5
ASAR Alice Springs 63.44 191 P **P** **15 53 17.2 -0.1**
ASAR Alice Springs 63.44 191 P **P** **15 53 17.2 -0.1**
A05A Maple Falls 63.48 47 P **P** **15 53 18.3 +0.9**
D03D Eldon 63.64 49 P **P** **15 53 18.3 -0.1**
baz=300
DAG Danmarks Havn 63.74 356 *i* P **P** **15 53 19.1 +0.5**
DAG IAmb IAmb 15 53 20.0
comp=Z,10nm,0.9s
DAG *i* 15 53 29.2
DAG Danmarks Havn 63.74 356 *i* P **P** **15 53 19.1 +0.5**
DAG *i* 15 53 29.1
DAG pmax pmax
comp=Z,11nm,0.9s
E03A Lebam 63.85 50 P **P** **15 53 21.9 +2.1**
HRA Herat 64.02 294 P **P** **15 53 21.9 +0.5**
HRA IAmb IAmb 15 53 23.3
comp=Z,6.9nm,0.8s
B06A Marblemount 64.07 48 P **P** **15 53 22.1 +0.9**
B06A IAmb IAmb 15 53 23.9
comp=Z,9.3nm,1.2s
E04D Cinebar 64.44 50 P **P** **15 53 24.4 +0.7**
baz=301
D05A Enumclaw 64.46 49 P **P** **15 53 24.7 +0.9**
EIDS Eidsvold 64.59 174 P **P** **15 53 24.1 -0.7**
PSA00 Pilbara Seismi 64.87 206 P **P** **15 53 25.5 -1.2**
PSA00 IAmb IAmb 15 53 26.4
comp=Z,5.8nm,1.2s
GEYT Alibeck 65.04 299 P **P** **15 53 27.8 -0.1**
comp=Z,19nm,0.7s,baz=15,slow=6.0,SNR=5.7
GEYT LR LR 16 22 57.1
comp=Z,33nm,20.4s,baz=210,slow=37
LTY Liberty 65.19 48 P **P** **15 53 29.1 +0.4**
LTY IAmb IAmb 15 53 41.9
comp=Z,4.4nm,0.9s
JOF Joensuu 65.21 332 P **P** **15 53 29.0 +0.6**
JOF pmax pmax
comp=Z,11nm,1.0s
J01E Myrtle Point 65.36 54 P **P** **15 53 29.8 +0.1**
baz=302
B08A Colville Reser 65.38 47 P **P** **15 53 30.8 +0.9**
B08A IAmb IAmb 15 53 32.1
comp=Z,11nm,1.4s
OUL Oulu 65.64 336 P **P** **15 53 32.2 +1.1**
H04A Detroit Lake 65.64 51 P **P** **15 53 32.7 +1.1**
K02D Willamette Mer 65.77 54 P **P** **15 53 32.9 +0.4**
baz=302
G05D Wamic, OR 65.87 51 P **P** **15 53 33.6 +0.6**
baz=302
I04A Tendick Farm, 65.97 52 P **P** **15 53 34.5 +0.8**
baz=302
L02E Cave Junction 66.09 54 P **P** **15 53 34.7 +0.2**
baz=302
C09A Chrisman Ranch 66.28 47 P **P** **15 53 36.4 +0.8**
C09A IAmb IAmb 15 53 37.7
comp=Z,8.0nm,1.0s
D08A Wollman Farm, 66.31 48 P **P** **15 53 36.1 +0.4**
D08A IAmb IAmb 15 53 49.0
comp=Z,4.8nm,1.0s
HAWA Hanford 66.31 49 P **P** **15 53 36.8 +1.0**
HAWA IAmb IAmb 15 53 49.1
comp=Z,5.9nm,1.2s
I05D Terrebonne, OR 66.34 51 P **P** **15 53 36.2 +0.1**
baz=302
J04D Umpqua Nationa 66.45 53 P **P** **15 53 37.6 +0.6**
baz=302
NEW Newport 66.67 46 P **P** **15 53 38.6 +0.5**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 66.67 46 P **P** **15 53 39.1 +0.9**
baz=303
NEW Newport 66.67 46 P **P** **15 53 38.6 +0.5**
NEW IAmb IAmb 15 53 40.3
comp=Z,8.0nm,1.0s
PINE Pine Mountain 66.87 52 P **P** **15 53 41.4 +1.7**
L04D Klamath Falls 66.88 54 P **P** **15 53 40.5 +0.8**
baz=303
J05D Fort Rock, OR 66.97 52 P **P** **15 53 41.8 +1.6**
baz=303
M02C Callahan 66.98 55 P **P** **15 53 42.3 +2.0**
baz=303
E09A Wood Farm, Sta 67.05 48 P **P** **15 53 41.4 +0.9**
E09A IAmb IAmb 15 53 43.0
comp=Z,7.8nm,1.2s
G08A Pilot Rock 67.25 50 P **P** **15 53 42.2 +0.2**
N02D Trinity Center 67.30 55 P **P** **15 53 44.0 +1.7**
baz=303
M04C Macdoel 67.41 54 P **P** **15 53 44.1 +1.0**
baz=303
KCPM Cahto Peak 67.43 57 P **P** **15 53 42.5 -0.7**
K05A Summer Lake 67.48 53 P **P** **15 53 43.7 +0.2**
WDC Whiskeytown Da 67.62 55 P **P** **15 53 44.2 0.0**
WDC pmax pmax
comp=Z,7.0nm,1.1s
WDC Whiskeytown Da 67.62 55 P **P** **15 53 44.2 0.0**
WDC IAmb IAmb 15 53 46.9
comp=Z,6.6nm,1.1s
O02D Mt. Diablo Mer 67.68 56 P **P** **15 53 46.4 +1.7**
baz=303
OBN Obninsk 67.86 324⇑ *e* P **P** **15 53 45.3 -0.1**
OBN *e* 15 53 53.9
OBN *e* 15 54 12.2
OBN *e* 15 56 13.9
OBN *e* PPP PPP 15 57 54.4
OBN pmax pmax
comp=Z,11nm,0.6s
WALA Waterton Lakes 67.99 44 P **P** **15 53 47.3 +0.7**
WALA IAmb IAmb 15 53 48.8
comp=Z,7.7nm,0.9s
FIA1 FINESS Array S 68.03 333 P **P** **15 53 46.9 +0.5**
FINES FINESS Array B 68.03 333 P **P** **15 53 47.3 +0.8**
comp=Z,7.9nm,0.7s,baz=44,slow=8.5,SNR=30
FINES LR LR 16 26 37.8
comp=Z,50nm,18.7s,baz=52,slow=39
FINES FINESS Array B 68.03 333 P **P** **15 53 46.8 +0.3**
O03E Paynes Creek 68.24 55 P **P** **15 53 48.5 +0.2**
baz=304
SUMG Summit 68.42 1 *i* P **P** **15 53 50.2 +1.0**
SUMG IAmb IAmb 15 53 51.0
comp=Z,8.6nm,0.9s
SUMG *i* 15 54 00.9
SUMG Summit 68.42 1 *i* P **P** **15 53 50.2 +1.0**
SUMG *i* 15 54 00.8
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 68.42 1 P **P** **15 53 49.0 -0.2**
BMO Blue Mountains 68.46 49 P **P** **15 53 50.5 +0.9**
BMO pmax pmax
comp=Z,4.0nm,1.2s
BMO Blue Mountains 68.46 49 P **P** **15 53 50.5 +0.9**

JTMT Jette 68.54 45 P **P** **15 53 50.9 +0.8**
JTMT IAmb IAmb 15 54 03.2
comp=Z,7.2nm,1.0s
ORV Oroville 68.85 56 P **P** **15 53 52.4 +0.5**
ORV pmax pmax
comp=Z,4.0nm,1.3s
ORV Oroville 68.85 56 P **P** **15 53 52.4 +0.5**
WVOR Wild Horse Val 69.03 52 P **P** **15 53 53.2 0.0**
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR Wild Horse Val 69.03 52 P **P** **15 53 53.2 0.0**
WVOR IAmb IAmb 15 53 55.2
comp=Z,5.3nm,1.1s
MSO Missoula 69.26 46 P **P** **15 53 55.2 +0.7**
baz=306
MSO Missoula 69.26 46 P **P** **15 53 54.2 -0.4**
BEKR Beckworth 69.40 55 P **P** **15 53 56.5 +0.9**
BEKR IAmb IAmb 15 53 57.7
comp=Z,7.8nm,1.2s
RAF Rauma 69.82 334 *e* P **P** **15 53 57.8 +0.3**
VSU Vasula 69.83 330 *e* P **P** **15 53 58.7 +1.1**
VSU Vasula 69.83 330⇓ *e* P **P** **15 53 58.0 +0.4**
FFC Flin Flon 70.37 34 P **P** **15 54 01.9 +0.8**
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 70.37 34 P **P** **15 54 01.9 +0.8**
HRY Holter Researc 70.50 45 P **P** **15 54 02.9 +0.7**
YERR Yerington 70.61 55 P **P** **15 54 03.9 +0.8**
YERR IAmb IAmb 15 54 05.5
comp=Z,8.6nm,1.1s
LRM Limekiln Ridge 70.69 46 P **P** **15 54 03.9 +0.4**
MTSE Matsula 70.75 332 *e* P **P** **15 54 01.1 -2.2**
EGMT Eagleton 70.83 43 P **P** **15 54 04.9 +0.7**
baz=308
EGMT Eagleton 70.83 43 P **P** **15 54 04.7 +0.6**
EGMT IAmb IAmb 15 54 16.8
comp=Z,8.0nm,0.9s
BCYI Bear Canyon 71.05 48 P **P** **15 54 06.1 +0.4**
MCMT McKenzie Canyo 71.06 47 P **P** **15 54 05.9 +0.1**
NCK Nalchik 71.15 311⇓ *e* P **P** **15 54 07.9 +1.9**
NCK pmax pmax
comp=Z,4.0nm,0.2s
BOZ Bozeman (W) 71.29 46 P **P** **15 54 07.2 +0.2**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 71.29 46 P **P** **15 54 08.2 +1.2**
baz=307
BOZ Bozeman (W) 71.29 46 P **P** **15 54 07.2 +0.2**
BOZ IAmb IAmb 15 54 08.7
comp=Z,3.8nm,0.8s
KVN Kaiserville 71.30 55 P **P** **15 54 08.2 +0.9**
KVN pmax pmax
comp=Z,6.0nm,1.1s
KVN Kaiserville 71.30 55 P **P** **15 54 08.2 +0.9**
KVN IAmb IAmb 15 54 09.8
comp=Z,6.1nm,1.1s
ZEI Tsey 71.39 310 *e* P **P** **15 54 04.2 -3.5**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 71.40 312 *e* P **P** **15 54 09.5 +1.9**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 71.40 312 P **P** **15 54 08.9 +1.2**
KBZ Khabaz 71.42 312 P **P** **15 54 09.1 +1.5**
comp=Z,10nm,0.8s,baz=65,slow=3.7,SNR=24
KBZ Khabaz 71.42 312 *ce* P **P** **15 54 09.3 +1.7**
LHV Little Huntoon 71.51 56 P **P** **15 54 09.7 +1.5**
LHV IAmb IAmb 15 54 11.4
comp=Z,9.6nm,1.1s
NVAR Mina Array Bea 71.53 55 P **P** **15 54 10.5 +1.8**
comp=Z,1.8nm,0.9s,baz=285,slow=6.6,SNR=10.0
NVAR Mina Array Bea 71.53 55 P **P** **15 54 09.2 +0.6**
ONI Oni 71.77 310 P **P** **15 54 11.1 +1.3**
ONI pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 71.77 310 P **P** **15 54 11.1 +1.3**
ONI IAmb IAmb 15 54 13.7
comp=Z,9.1nm,1.0s
ICESG Greenland Ices 71.89 2 *i* P **P** **15 54 11.7 +1.2**
ICESG IAmb IAmb 15 54 12.5
comp=Z,15nm,1.0s
ICESG *i* 15 54 22.4
UPP Uppsala 72.06 335 *e* P **P** **15 54 12.2 +1.0**
MNK Minsk 72.09 327 *i* P **P** **15 54 12.8 +1.4**
MNK *i* 15 54 31.2
MNK *i* 15 56 52.3
MNK *i* PPP PPP 15 58 36.3
MNK *i* S **S** **16 03 30.0 -1.1**
MNK *i* SS **SS** **16 08 09.4 +1.9**
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=N,21nm,0.8s
MNK Minsk 72.09 327 *i* P **P** **15 54 12.8 +1.4**
comp=E,2.0nm,1.3s
MNK *i* P **P** **15 54 12.8 +1.4**
comp=N,21nm,0.8s
MNK *i* P **P** **15 54 12.8 +1.4**
comp=Z,13nm,0.9s,baz=226
MNK *i* PcP **PcP** **15 54 31.3 +1.5**
MNK *i* PP **PP** **15 56 52.4 +1.2**
MNK *i* PPP PPP 15 58 36.4
MNK *i* S **S** **16 03 30.0 -1.1**
MNK *i* SS **SS** **16 08 09.4 +1.9**
MNK *i* SSS SSS 16 11 10.5
MNK *i* LQ LQ 16 20 56.4
MNK *i* LR LR 16 25 05.0
MNK *i* LRM MLR 16 28 28.5
comp=E,10.0nm,17.8s
MNK *i* LRM MLR 16 28 49.8
comp=Z,68nm,20.4s
MNK *i* LRM MLR 16 28 51.4
comp=N,20nm,15.9s
YHH Holmes Hill 72.22 46 P **P** **15 54 13.5 +0.7**
GCMT Greycliff 72.25 45 P **P** **15 54 13.6 +0.8**
GNI Garni 72.45 308⇓ *e* P **P** **15 54 18.0 +3.9**
GNI pmax pmax
comp=Z,16nm,1.4s
CWC Cottonwood Cre 72.84 57 P **P** **15 54 16.8 +0.3**
baz=306
NC300 NORSAR Array S 72.87 338 P **P** **15 54 16.1 +0.2**
NC300 IAmb IAmb 15 54 17.6
comp=Z,8.0nm,0.8s
NC405 NORSAR Array S 72.90 338 P **P** **15 54 15.4 -0.8**
NC303 NORSAR Array S 72.91 338 P **P** **15 54 16.7 +0.5**
NC303 IAmb IAmb 15 54 17.9
comp=Z,8.5nm,1.1s
TPAW Teton Pass 72.96 48 P **P** **15 54 17.8 +0.6**
GRAC Grapevine Rang 72.98 56 P **P** **15 54 17.2 +0.1**
baz=307
PABE Paberze 72.99 329 *e* P **P** **15 54 17.9 +1.2**
PABE Paberze 72.99 329 P **P** **15 54 16.6 -0.1**
NC204 NORSAR Array S 73.04 339 P **P** **15 54 17.4 +0.3**
NB201 NORSAR Array S 73.07 338 P **P** **15 54 17.5 +0.3**
NB2 NORSAR Subarra 73.10 338 P **P** **15 54 17.3 -0.1**
comp=Z,2.0nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 73.10 338 P **P** **15 54 17.8 +0.4**
comp=Z,3.6nm,0.8s,baz=36,slow=6.0,SNR=18
NOA LR LR 16 32 15.2
comp=Z,25nm,18.7s,baz=30,slow=41
NBO00 NORSAR Array S 73.23 339 P **P** **15 54 17.4 -0.8**
R11A Troy Canyon, C 73.30 54 P **P** **15 54 18.4 -0.8**
baz=307
R11A Troy Canyon, C 73.30 54 P **P** **15 54 19.6 +0.3**
LAO LASA Array 73.54 43 P **P** **15 54 20.7 +0.4**
baz=310
LAO LASA Array 73.54 43 P **P** **15 54 21.0 +0.7**
LAO IAmb IAmb 15 54 22.7
comp=Z,12nm,1.2s
TPNV Topopah Spring 73.72 56 P **P** **15 54 21.8 +0.2**
baz=307
HWUT Hardware Ranch 73.76 49 P **P** **15 54 22.7 +0.8**
ANN Anapa 73.84 315 *e* P P 15 54 15.1 -6.9
ANN *e* *PP pP 15 54 25.4 -4.1
ANN *e* 15 54 32.6
ANN pmax pmax
comp=Z,58nm,1.1s
DUG Dugway, Tooele 73.89 51 P **P** **15 54 23.4 +0.8**
DUG pmax pmax
comp=Z,6.0nm,1.3s
DUG Dugway, Tooele 73.89 51 P **P** **15 54 22.1 -0.4**
baz=308

DUG Dugway, Tooele 73.89 51 P **P** **15 54 23.4 +0.8**
AKASG Malin Array Be 74.10 323 P **P** **15 54 23.6 +0.2**
comp=Z,4.8nm,0.6s,baz=44,slow=6.0,SNR=18
AKASG Malin Array Be 74.10 323 P **P** **15 54 23.6 +0.2**
AKBB Malin Array Si 74.10 323 *ce* P **P** **15 54 24.1 +0.7**
AKBB Malin Array Si 74.10 323 P **P** **15 54 23.4 0.0**
AKBB IAmb IAmb 15 54 24.8
comp=Z,9.8nm,0.8s
BW06 Boulder Array 74.20 47 P **P** **15 54 23.9 -0.6**
baz=309
BW06 Boulder Array 74.20 47 P **P** **15 54 24.6 +0.1**
PD31 Pinedale Array 74.20 47 P **P** **15 54 24.7 +0.2**
PDAR Pinedale Array 74.20 47 P **P** **15 54 24.9 +0.4**
comp=Z,1.2nm,0.9s,baz=276,slow=2.6,SNR=9.5
PDAR Pinedale Array 74.20 47 P **P** **15 54 24.7 +0.2**
DY2G Dye2 74.23 5 *i* P **P** **15 54 25.1 +0.9**
DY2G IAmb IAmb 15 54 26.0
comp=Z,10nm,1.0s
DY2G *i* 15 54 35.5
PSUT Pine Spring 74.27 53 P **P** **15 54 25.4 +0.5**
BFSC Mount Baldy Ra 74.43 58 P **P** **15 54 27.0 +1.1**
baz=307
HEC Hector,Ludlow 74.95 57 P **P** **15 54 28.7 -0.1**
baz=308
CCUT Cedar City 75.18 54 P **P** **15 54 30.7 +0.5**
MSU Marysvale 75.32 52 P **P** **15 54 31.7 +0.7**
MSU Marysvale 75.32 52 P **P** **15 54 31.7 +0.7**
P17A Butcher Ranch, 75.59 51 P **P** **15 54 33.5 +1.0**
P17A IAmb IAmb 15 54 34.9
comp=Z,5.0nm,0.8s
LCMT Little Creek M 75.59 54 P **P** **15 54 33.3 +0.8**
RDMU Red Mountain 75.59 49 P **P** **15 54 33.4 +0.9**
RDMU IAmb IAmb 15 54 34.9
comp=Z,11nm,1.1s
PFO Pinyon Flats O 75.60 58 P **P** **15 54 32.6 0.0**
PFO pmax pmax
comp=Z,10.0nm,1.4s
PFO Pinyon Flats O 75.60 58 P **P** **15 54 31.4 -1.1**
baz=308
PFO Pinyon Flats O 75.60 58 P **P** **15 54 32.6 0.0**
PFO IAmb IAmb 15 54 47.5
comp=Z,10.0nm,1.4s
TPFO Pinon Flats 75.61 58 P **P** **15 54 31.4 -1.3**
baz=308
BELC Belle Mtn. Jos 75.67 58 P **P** **15 54 31.9 -1.1**
baz=308
SRU San Rafael Swe 75.95 51 P **P** **15 54 35.1 +0.6**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 75.95 51 P **P** **15 54 35.1 +0.6**
SRU IAmb IAmb 15 54 36.6
comp=Z,5.8nm,0.8s
MONP2 Monument Peak 76.07 59 P **P** **15 54 35.0 -0.3**
baz=308
MDND Maddock 76.12 39 P **P** **15 54 35.9 +0.7**
ULM Lac du Bonnet 76.16 35 P **P** **15 54 35.9 +0.6**
comp=Z,2.4nm,0.6s,baz=303,slow=7.4,SNR=3.3
ULM Lac du Bonnet 76.16 35 P **P** **15 54 35.3 0.0**
ULM IAmb IAmb 15 54 36.6
comp=Z,3.9nm,0.8s
SORM Soroca 76.29 322⇑ P **P** **15 54 36.9 +0.8**
RSSD Black Hills 76.39 44 P **P** **15 54 37.3 +0.3**
RSSD pmax pmax
comp=Z,5.0nm,1.1s
RSSD Black Hills 76.39 44 P **P** **15 54 37.3 +0.3**
O20A White River Ci 76.65 49 P **P** **15 54 37.6 -0.9**
baz=310
LVV L'vov 77.08 325 *e* P **P** **15 54 41.8 +1.3**
PV10 Paradox Valley 77.31 51 P **P** **15 54 42.7 +0.4**
PV14 Lion Creek, Pa 77.32 51 P **P** **15 54 43.0 +0.6**
PV14 IAmb IAmb 15 54 44.6
comp=Z,8.7nm,0.9s
PV22 Blue Mesa, Par 77.36 50 P **P** **15 54 42.1 -0.4**
PV22 IAmb IAmb 15 54 45.8
comp=Z,8.0nm,1.2s
PV20 West Nyswonger 77.37 51 P **P** **15 54 43.1 +0.5**
PV04 Paradox Valley 77.38 51 P **P** **15 54 43.2 +0.6**
PV04 IAmb IAmb 15 54 45.0
comp=Z,6.6nm,1.0s
PV19 Morning Glory 77.38 51 P **P** **15 54 43.1 +0.4**
PV19 IAmb IAmb 15 54 45.0
comp=Z,8.5nm,0.8s
PV17 East Wray Mesa 77.42 51 P **P** **15 54 43.9 +1.0**
PV16 Nyswonger Mesa 77.42 51 P **P** **15 54 43.6 +0.7**
PV16 IAmb IAmb 15 54 45.2
comp=Z,7.1nm,1.0s
PV11 David Mesa, Pa 77.46 51 P **P** **15 54 44.0 +0.9**
PV11 IAmb IAmb 15 54 56.0
comp=Z,5.9nm,0.9s
PV05 Paradox Valley 77.46 51 P **P** **15 54 44.1 +0.9**
PV05 IAmb IAmb 15 54 45.6
comp=Z,8.7nm,0.9s
PV18 Skein Mesa, Pa 77.47 51 P **P** **15 54 43.9 +0.7**
PV18 IAmb IAmb 15 54 45.4
comp=Z,5.3nm,0.8s
N23A Red Feather La 77.47 47 P **P** **15 54 42.9 -0.3**
baz=312
PV12 Saucer Basin, 77.49 51 P **P** **15 54 43.7 +0.4**
PV12 IAmb IAmb 15 54 50.2
comp=Z,6.4nm,1.1s
PV13 Radium Mtn., P 77.58 51 P **P** **15 54 44.6 +0.8**
PV13 IAmb IAmb 15 54 46.1
comp=Z,8.6nm,1.0s
WUAZ Wupatki 77.70 54 P **P** **15 54 43.6 -0.9**
baz=310
PV01 Paradox Valley 77.75 51 P **P** **15 54 45.0 +0.2**
BUR08 Bucovina Ar. S 78.13 323 P **P** **15 54 47.2 +0.7**
BUR08 IAmb IAmb 15 54 58.9
comp=Z,5.2nm,0.9s
BURAR Bucovina Array 78.14 323⇓ P **P** **15 54 47.8 +1.2**
BURAR Bucovina Array 78.14 323 P **P** **15 54 47.2 +0.6**
BURAR pmax pmax
comp=Z,4.0nm,0.8s
BURAR Bucovina Array 78.14 323 P **P** **15 54 47.2 +0.6**
BURAR IAmb IAmb 15 54 48.9
comp=Z,4.6nm,0.8s
TESR Tescani 78.26 322⇓ P **P** **15 54 48.6 +1.5**
MVCO Mesa Verde 78.39 51 P **P** **15 54 47.8 -0.6**
baz=311
ISCO Idaho Springs 78.39 48 P **P** **15 54 48.2 -0.2**
baz=312
KOLS Kolonicke sedl 78.51 325 *e* P **P** **15 54 50.3 +1.8**
KOLS Kolonicke sedl 78.51 325 *e* P **P** **15 54 50.3 +1.8**
TPGR Topolog 78.56 319⇑ P **P** **15 54 50.1 +1.3**
VRI Vrincioaia 78.68 321⇑ P **P** **15 54 51.0 +1.5**
214A Organ Pipe Nat 79.04 58 P **P** **15 54 51.9 +0.2**
baz=310
S22A 4UR Ranch, Cre 79.04 50 P **P** **15 54 50.7 -1.2**
baz=312
F33A 5 Mile Ranch, 79.14 39 P **P** **15 54 52.0 0.0**
F33A IAmb IAmb 15 54 53.5
comp=Z,9.1nm,0.9s
BRTR Keskin Array B 79.30 313 P **P** **15 54 54.0 +0.8**
comp=Z,1.3nm,0.7s,baz=48,slow=2.1,SNR=5.5
BRTR Keskin Array B 79.30 313 *i* P **P** **15 54 55.5 +2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 79.30 313 P **P** **15 54 53.1 0.0**
ICOR Ion Corvin 79.39 319⇑ P **P** **15 54 54.3 +0.9**
LANS Liptovska Anna 79.56 327 *e* P **P** **15 54 57.1 +2.8**
LANS Liptovska Anna 79.56 327 *e* P **P** **15 54 57.1 +2.8**
EYMN Ely 79.81 35 P **P** **15 54 54.4 -1.2**
baz=319
EYMN Ely 79.81 35 P **P** **15 54 55.4 -0.2**
EYMN IAmb IAmb 15 54 56.3
comp=Z,10nm,1.0s
VOIR 79.81 322⇑ P **P** **15 54 57.4 +1.7**
SDCO Great Sand Dun 79.83 49 P **P** **15 54 56.5 +0.2**
baz=312
CHVC Chvalec 79.83 330 *e* P **P** **15 54 56.9 +1.2**
MORC Moravsky Berou 79.87 328⇑ P **P** **15 54 57.4 +1.4**
DPC Dobruska-Polom 79.91 329 *e* P **P** **15 54 57.7 +1.5**
DPC Dobruska-Polom 79.91 329 *e* P **P** **15 54 57.7 +1.5**
VYHS Vyhne 80.33 327 *e* P **P** **15 54 59.7 +1.3**
VYHS Vyhne 80.33 327 *e* P **P** **15 54 59.7 +1.3**
CLL Collm 80.42 332 *i* P **P** **15 54 58.9 +0.1**
comp=Z,8.0nm,1.0s
CLL *i* 15 55 10.1
CLL Collm 80.42 332 *i* P **P** **15 54 58.9 +0.1**
CLL *i* *PP **sP** **15 55 10.1 +1.0**
CLL pmax pmax
comp=Z,8.0nm,1.0s
ECSD EROS Data Cent 80.51 40 P **P** **15 54 59.6 +0.2**
baz=316
ECSD EROS Data Cent 80.51 40 P **P** **15 54 59.3 -0.2**

ECSD IAmb IAmb 15 55 00.8
comp=Z,6.0nm,0.9s
T25A Trinidad 80.87 49 P P 15 55 01.2 -0.6
baz=313
MODS Modra-Piesok 81.08 328 *eP* **P 15 55 05.5 +3.1**
MODS Modra-Piesok 81.08 328 *eP* **P 15 55 05.5 +3.1**
ANMO Albuquerque 81.12 52↓*eP* **P 15 55 04.3 +1.2**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 81.12 52 P **P 15 55 03.3 +0.1**
baz=312
I37A Lemond, Waseca 81.88 38 P **P 15 55 07.1 +0.3**
CKRC Cesky Krumlov 81.93 329 *eP* **P 15 55 08.3 +1.4**
CKRC *ex* x 15 55 18.2
KHC Kasperske Hory 81.96 330 *eP* **P 15 55 08.3 +1.2**
KHC *e* 15 55 18.7
KHC Kasperske Hory 81.96 330 *eP* **P 15 55 08.3 +1.2**
KHC *ex* x 15 55 18.7
KHC Kasperske Hory 81.96 330 P **P 15 55 07.3 +0.1**
KHC IAmb IAmb 15 55 09.3
comp=Z,4.8nm,0.9s
CONA Conrad Observa 82.01 328 *eP* **P 15 55 09.2 +1.7**
comp=Z,5.7nm,1.3s
GERES GERESS Array B 82.14 330 P **P 15 55 09.1 +0.9**
comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=9.5
MOA Molln 82.72 329 *eP* **P 15 55 13.7 +2.6**
comp=Z,2.5nm,1.2s
VTS Vitosha 82.77 321 P **P 15 55 12.5 +0.9**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 82.77 321 P **P 15 55 12.5 +0.9**
VTS IAmb IAmb 15 55 14.0
comp=Z,6.0nm,1.0s
DIVS Divibare 83.20 323 P **P 15 55 13.8 +0.1**
DIVS IAmb IAmb 15 55 16.8
comp=Z,11nm,1.5s
GROS Grobnik 83.33 327 *eP* **P 15 55 14.5 +0.1**
PPT Papeete 83.34 119 LR LR 16 27 08.2
comp=Z,43nm,21.8s,baz=298,slow=32
PERS Pernice 83.35 328 *eP* **P 15 55 15.3 +0.9**
SOKA Soboth 83.35 328 *eP* **P 15 55 15.3 +0.8**
comp=Z,9.1nm,1.1s
OBKA Obir 83.69 328 *eP* **P 15 55 16.5 +0.3**
comp=Z,3.2nm,0.9s
KBA Koelnbreinsper 83.72 329 *eP* **P 15 55 18.0 +1.6**
comp=Z,2.3nm,0.7s
GCIS Gornji Cirnik 83.75 327 *eP* **P 15 55 17.1 +0.8**
MYKA Terra Mystica 83.96 329 *eP* **P 15 55 17.8 +0.3**
comp=Z,2.9nm,1.0s
MNTX Cornudas Mount 83.97 54 P **P 15 55 18.5 +0.7**
baz=313
MSTX Muleshoe 84.02 51 P **P 15 55 17.8 -0.4**
baz=314
AMTX Amarillo 84.03 49 P **P 15 55 18.5 +0.3**
baz=314
WATA Walderalm 84.20 330 *eP* **P 15 55 20.4 +1.5**
comp=Z,2.4nm,0.5s
WTTA Wattenberg 84.24 330 *eP* **P 15 55 19.6 +0.5**
comp=Z,3.3nm,0.8s
ABTA Abfaltersbach 84.32 329 *eP* **P 15 55 19.5 +0.1**
comp=Z,3.6nm,1.2s
MOTA Moosalm 84.38 330 *eP* **P 15 55 20.4 +0.7**
comp=Z,7.8nm,1.0s
RETA Reutte 84.39 331 *eP* **P 15 55 21.2 +1.5**
comp=Z,9.6nm,1.0s
SQTA Sankt Quirin 84.44 330 *eP* **P 15 55 21.6 +1.6**
comp=Z,7.9nm,1.4s
BFO Black Forest 84.58 332 P **P 15 55 20.4 -0.2**
BFO pmax pmax
comp=Z,11nm,1.3s
BFO Black Forest 84.58 332 P **P 15 55 20.4 -0.2**
LSQQ Lebel-sur-Quev 84.60 26 P **P 15 55 20.4 -0.3**
baz=329
CHGQ Chibougamau 84.73 24 P **P 15 55 20.2 -1.1**
baz=331
KAN09 Caldwell North 84.75 45 P **P 15 55 21.0 -0.6**
FETA Feichten 84.79 330 *eP* **P 15 55 22.1 +0.3**
comp=Z,6.5nm,1.0s
PDG Podgorica 84.83 323↓P **P 15 55 22.5 +0.6**
PDG Podgorica 84.83 323 P **P 15 55 21.8 -0.1**
PDG IAmb IAmb 15 55 23.2
comp=Z,6.4nm,0.9s
DAVA Damuels 84.89 331 *eP* **P 15 55 23.6 +1.2**
comp=Z,7.6nm,0.8s
TUE Stuetta 85.77 331 P **P 15 55 27.4 +0.5**
TUE IAmb IAmb 15 55 31.2
comp=Z,7.5nm,1.0s
WMOK Wichita Mounta 85.82 48 P **P 15 55 27.4 +0.3**
WMOK pmax pmax
comp=Z,3.0nm,0.9s
WMOK Wichita Mounta 85.82 48 P **P 15 55 27.4 +0.3**
TX31 Lajitas Ar. Si 86.66 54 P **P 15 55 31.6 +0.2**
TX32 Lajitas Array 86.66 54 P **P 15 55 31.4 0.0**
TX32 IAmb IAmb 15 55 33.1
comp=Z,5.3nm,1.2s
TXAR Lajitas Array 86.66 54 P **P 15 55 32.1 +0.7**
comp=Z,2.0nm,0.9s,baz=302,slow=3.9,SNR=8.8
CCM Cathedral Cave 87.44 41 P **P 15 55 35.0 +0.1**
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 87.44 41 P **P 15 55 34.6 -0.3**
baz=320
CCM Cathedral Cave 87.44 41 P **P 15 55 35.0 +0.1**
SFIN Lafayette 87.66 37 P **P 15 55 35.7 -0.2**
baz=322
U40A Yellville 87.90 43 P **P 15 55 36.8 -0.4**
baz=319
U40A Yellville 87.90 43 P **P 15 55 37.0 -0.2**
U40A IAmb IAmb 15 55 38.3
comp=Z,4.6nm,0.8s
W39A Magazine 88.27 44 P **P 15 55 38.7 -0.2**
baz=319
D61A St Aubert, Com 88.42 23 P **P 15 55 39.1 -0.2**
baz=334
MIAR Mount Ida 88.87 45 P **P 15 55 41.6 -0.1**
baz=319
D63A Stockholm 89.19 22 P **P 15 55 42.7 -0.3**
baz=335
P49A Miami Univ. Ec 89.44 36 P **P 15 55 42.9 -1.4**
baz=324
H59A Cadyville 89.55 26 P **P 15 55 43.3 -1.5**
baz=331
H58A Gabriels 89.58 27 P **P 15 55 44.5 -0.4**
baz=331
E63A Oxbow 89.65 22 P **P 15 55 43.8 -1.4**
baz=335
F62A Pittston Farm, 89.66 23 P **P 15 55 44.1 -1.2**
baz=334
G61A St-Isidore-de- 89.72 25 P **P 15 55 44.9 -0.6**
baz=333
E64A Bridgewater 89.83 22 P **P 15 55 44.9 -1.1**
baz=335
J58A Remsen 90.11 28 P **P 15 55 46.7 -0.7**
baz=330
H61A Lyndonville 90.25 25 P **P 15 55 48.1 0.0**
baz=332
N54A Moraine State 90.32 32 P **P 15 55 47.4 -1.1**
baz=327
PKME Peaks-Kenny Pk 90.44 23 P **P 15 55 47.7 -1.2**
baz=334
H62A Milan 90.47 25 P **P 15 55 49.0 -0.1**
baz=333
LBNH Lisbon 90.51 25 P **P 15 55 49.3 0.0**
baz=332
P52A Corning 90.51 34 P **P 15 55 48.2 -1.1**
baz=326
G64A Maxfield 90.61 23 P **P 15 55 48.9 -0.7**
baz=335
H64A Troy 91.02 24 P **P 15 55 50.4 -1.2**
baz=334
L58A Harry Jones Me 91.03 29 P **P 15 55 51.3 -0.4**
baz=330
J61A Chester 91.09 26 P **P 15 55 50.1 -1.9**
baz=332
I63A Otisfield 91.12 25 P **P 15 55 51.0 -1.1**
baz=333
TRY Troy 91.24 27 P **P 15 55 51.8 -0.8**
H65A Eastbrook 91.27 23 P **P 15 55 51.1 -1.6**
baz=335
TZTN Tazewell 92.40 37 P **P 15 55 56.3 -1.9**
baz=325
ESDC Sonseca Array 96.37 336 LR LR 16 46 03.1
comp=Z,25nm,18.2s,baz=230,slow=39
SNAA Sanae 143.66 197 PKPdf PKPab 16 02 18.2 +0.3
VNA3 Neumayer Olymp 145.41 194 PKPbc **PKPbc 16 02 23.2 -0.9**
VNA1 Neumayer--Stat 145.60 196 PKPbc **PKPab 16 02 24.9 0.0**

MAN 14 15:43:20.7, 9°.78N×126°.18E, h59km, mb3.5, ML2.1, MS1.5, Mindanao

IDC 14 16:04:22.3±3.0, 6°.51S×147°.14E, h224km±53km, mb2.6/2, mb1 2.7/4, mb1mx2.7/23, mbtmp3.2/4, Error ellipse: s-maj=125.4km s-min=34.1km az=111.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**180**	P	Pn	16 05 10.6	-1.3
	0.7nm,0.3s,baz=265,slow=7.1,SNR=1.5						
PMG				S	S	16 05 52.0	+1.3
	0.8nm,0.3s,baz=344,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**18.25**	**222**	P	P	16 08 19.2	-0.1
	0.1nm,0.3s,baz=47,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.28**	**215**	P	P	16 08 51.7	-0.1
	0.3nm,0.5s,baz=46,slow=8.5,SNR=9.4						
MKAR	**Makanchi Array**	**77.98**	**321**	P	P	16 15 56.3	+0.4
	0.1nm,0.4s,baz=123,slow=4.6,SNR=2.2						

*IDC **14** 16:31:20.1±1.6, 36°.24N×142°.14E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/38, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=41.0km s-min=21.5km az=81.0*
*JMA **14** 16:31:24.0±0.2, 36°.34N×142°.10E, h59km, M3.1*
ISC 14 16:31:22.2±1.0, 36°.28N±0°.04×142°.18E±0°.09, h19km, n31, σ1°.08/27, mb3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.22**	**242**	P	**Pb**	**16 31 44.8**	**+0.2**
CHOJ				*eS*	**Sn**	**16 32 00.0**	**-0.1**
JHYU	**Hitachinakayam**	**1.29**	**273**	P	**Pb**	**16 31 45.5**	**-0.3**
JHO	**Hitachi**	**1.34**	**285**	P	**Pn**	**16 31 45.8**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.38**	**307**	P	**Pn**	**16 31 46.2**	**-0.3**
JFK	**Kawauchi**	**1.51**	**316**	*eS*	**Sn**	**16 32 05.9**	**-1.5**
BSO1	**Boso 1**	**1.90**	**211**	*eS*	**Sb**	**16 32 17.9**	**-1.1**
JFT	**Otama**	**1.92**	**310**	P	**Pb**	**16 31 54.8**	**-1.9**
JMM	**Marumori**	**1.93**	**325**	P	**Pn**	**16 31 53.5**	**-0.5**
BSO3	**Boso 3**	**2.01**	**223**	P	**Pb**	**16 31 56.0**	**-1.9**
JAG	**Ashikaga**	**2.20**	**275**	P	**Pn**	**16 31 58.1**	**+0.3**
JIO	**Ouri**	**2.27**	**343**	*eS*	**Sn**	**16 32 25.0**	**-1.1**
JRY	**Ryogami san**	**2.67**	**265**	P	**Pn**	**16 32 04.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.21**	**276**	Pn	**Pn**	**16 32 11.8**	**+0.1**
	1.0nm,0.3s,baz=113,slow=9.4,SNR=26						
MAT	**Matsushiro**	**3.21**	**276**	P	**Pn**	**16 32 13.3**	**+1.6**
MAT				*eS*	**Sn**	**16 32 49.4**	**-0.1**
JHJ	**Hachijo jima 2**	**3.72**	**213**	Pn	**Pn**	**16 32 18.1**	**-0.6**
	55nm,0.3s,baz=79,slow=23,SNR=8.9						
JHJ				Sn	**Sn**	**16 33 00.1**	**-1.9**
	15nm,0.3s,baz=65,slow=22,SNR=1.6						
ASAJ	**Asahikawa**	**7.83**	**2**	Pn	**Pn**	**16 33 16.4**	**+1.3**
	0.5nm,0.3s,baz=200,slow=17,SNR=7.0						
ASAJ				Sn	**Sn**	**16 34 42.1**	**-1.1**
	0.1nm,0.3s,baz=229,slow=19,SNR=1.2						
USRK	**Ussuriysk Ar.**	**11.09**	**319**	Pn	Pn	16 34 04.5	+4.8
	baz=134,slow=12,SNR=1.3						
KSRS	**Korea Array**	**11.48**	**280**	Pn	Pn	16 34 09.8	+4.7
	0.1nm,0.3s,baz=92,slow=13,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**27.23**	**121**	T	T	17 05 43.8	
	baz=312,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**27.24**	**121**	T	T	17 05 43.7	
	baz=312,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**27.25**	**121**	T	T	17 05 49.2	
	baz=312,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	17 06 34.3	
	baz=315,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	17 06 33.0	
	baz=315,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	17 06 33.7	
	baz=315,slow=76,SNR=5.3						
SONM	**Songino Array**	**28.72**	**305**	P	**P**	**16 37 18.8**	**+0.4**
	0.4nm,0.5s,baz=112,slow=9.7,SNR=1.9						
ZALV	**Zalesovo Beam**	**42.88**	**313**	P	**P**	**16 39 18.9**	**-0.2**
	0.4nm,0.3s,baz=93,slow=7.2,SNR=1.8						
MKAR	**Makanchi Array**	**45.04**	**303**	P	**P**	**16 39 37.6**	**+0.9**
	0.9nm,0.6s,baz=85,slow=9.8,SNR=13						
WRA	**Warramunga Arr**	**56.41**	**189**	P	**P**	**16 41 02.8**	**+0.3**
	0.4nm,0.8s,baz=0.5,slow=7.5,SNR=1.3						
ASAR	**Alice Springs**	**60.13**	**189**	P	**P**	**16 41 29.1**	**+0.6**
	0.3nm,0.8s,baz=2.2,slow=6.9,SNR=2.7						
NB2	**NORSAR Subarra**	**75.12**	**338**	P	**P**	**16 43 04.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.12**	**338**	P	**P**	**16 43 04.3**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=39,slow=5.9,SNR=1.9						

*NEIC **14** 16:41:38.1±0.5, 36°.28N±0°.01×97°.51W±0°.02, h7km±7km, Error ellipse: s-maj=2.2km s-min=1.5km az=64.0*
*TUL **14** 16:41:38.3±0.5, 36°.281N±0°.005×97°.51W±0°.02, h7km±7km, ML2.9, mb_Lg2.9/64(NEIC), Error ellipse: s-maj=2.1km s-min=0.6km az=75.0*
*ANF **14** 16:41:39.5±0.9, 36°.31N×97°.51W, h13km±8km, ML3.5/10, Error ellipse: s-maj=8.3km s-min=2.2km az=167.0*
ISC 14 16:41:38.2±1.1, 36°.28N±0°.02×97°.52W±0°.02, h0km±11km, n68, σ0°.95/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**301**		**Pg**	**16 41 46.9**	**+0.4**
CROK				Sg	**Sg**	**16 41 53.2**	**+1.1**
OK029	**Liberty Lake**	**0.49**	**174**		**Pg**	**16 41 47.5**	**0.0**
OK029				Sg	**Sg**	**16 41 53.8**	**0.0**
BLOK	**Blackwell**	**0.54**	**27**		**Pg**	**16 41 48.7**	**+0.2**
BCOK	**Bluff Creek, N**	**0.63**	**187**		**Pg**	**16 41 50.2**	**+0.1**
BCOK				Sg	**Sg**	**16 41 58.4**	**+0.1**
BCOK				IAmb_Lg		16 41 59.4	
	comp=Z,166nm,0.7s						
GC02	**Grant County #**	**0.63**	**335**		**Pg**	**16 41 50.4**	**+0.1**
GC02				Sg	**Sg**	**16 41 58.9**	**+0.4**
OK031	**S. Brethren Rd**	**0.64**	**120**		**Pg**	**16 41 50.4**	**-0.1**
OK031				Sg	**Sg**	**16 41 58.7**	**0.0**
QUOK	**Quay**	**0.67**	**99**		**Pg**	**16 41 50.9**	**0.0**
QUOK				Sg	**Sg**	**16 41 59.5**	**-0.1**
OK025	**Westminster Rd**	**0.71**	**168**		**Pg**	**16 41 51.8**	**0.0**
OK025				Sg	**Sg**	**16 42 01.5**	**+0.4**
KAN13	**South Haven SW**	**0.73**	**3**		**Pg**	**16 41 52.2**	**0.0**
OK032	**Salt Plains WL**	**0.76**	**313**		**Pg**	**16 41 52.7**	**-0.1**
OK032				Sg	**Sg**	**16 42 02.6**	**0.0**
KAN17	**Caldwell West**	**0.79**	**346**		**Pg**	**16 41 53.2**	**0.0**
KAN09	**Caldwell North**	**0.86**	**355**		**Pg**	**16 41 54.5**	**-0.1**
KAN09				Sg	**Sg**	**16 42 05.8**	**+0.1**
OKCFA	**Oklahoma City**	**0.87**	**176**		**Pg**	**16 41 54.5**	**-0.2**
KAN05	**Bluff City Nor**	**0.87**	**341**	Pg	**Pg**	**16 41 54.8**	**-0.1**
KAN05				Sg	**Sg**	**16 42 06.5**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		**Pg**	**16 41 54.7**	**-0.2**
KS20	**Mayfield South**	**0.95**	**358**		**Pg**	**16 41 56.0**	**-0.4**
KAN10	**Anthony SW Sta**	**0.96**	**331**		**Pg**	**16 41 56.3**	**-0.3**
KAN08	**Anthony NE Sta**	**1.01**	**339**		**Pb**	**16 41 57.2**	**-1.3**
FNO	**Franklin**	**1.03**	**174**		**Pb**	**16 41 57.4**	**-1.4**
FNO				IAmb_Lg		16 42 11.6	
	comp=Z,116nm,0.9s						
T35A	**Sooner Cattle**	**1.03**	**52**		**Pb**	**16 41 57.5**	**-1.4**
KAN12	**Harper NE Stat**	**1.08**	**339**		**Pb**	**16 41 58.8**	**-1.0**
U32A	**Winter Ranch,**	**1.20**	**275**		**Pn**	**16 42 00.2**	**-2.0**
WMOK	**Wichita Mounta**	**1.85**	**214**	P	**Pn**	**16 42 11.2**	**0.0**
	baz=34,SNR=23						
WMOK				S	**Sb**	**16 42 36.1**	**-0.5**
	baz=34						
WMOK	**Wichita Mounta**	**1.85**	**214**		**Pn**	**16 42 10.5**	**-0.7**
LOOK	**Love County**	**2.30**	**173**	Pn	**Pn**	**16 42 16.2**	**-1.1**
X37A	**Clayton**	**2.44**	**133**	Pn	**Pn**	**16 42 18.1**	**-1.0**
X37A				IAmb_Lg		16 42 59.5	
	comp=Z,34nm,0.7s						
HHAR	**Hobbs**	**2.89**	**89**	Pn	**Pn**	**16 42 24.5**	**-1.0**
KSU1	**Kansas State U**	**2.91**	**14**	Pb	**Pb**	**16 42 30.9**	**+0.1**
	baz=194						
KSU1	**Kansas State U**	**2.91**	**14**	Pn	**Pn**	**16 42 24.7**	**-1.0**
CBKS	**Cedar Bluff**	**3.08**	**326**	Pb	**Pb**	**16 42 33.7**	**-0.2**
	baz=144						
W39A	**Magazine**	**3.23**	**109**	P	**Pn**	**16 42 29.7**	**-0.4**
	baz=291						
W39A				S	**Sn**	**16 43 09.0**	**-0.2**
	baz=291						
W39A	**Magazine**	**3.23**	**109**	IAmb_Lg		16 43 25.0	
	comp=Z,35nm,0.9s						
MIAR	**Mount Ida**	**3.66**	**117**	P	**Pn**	**16 42 36.0**	**0.0**
	baz=300,SNR=5.2						
MIAR				S	**Sn**	**16 43 19.9**	**+0.1**
	baz=300						
MIAR	**Mount Ida**	**3.66**	**117**	Pn	**Pn**	**16 42 35.0**	**-1.0**
AMTX	**Amarillo**	**3.67**	**249**	P	**Pn**	**16 42 36.4**	**+0.2**
	baz=66						
AMTX				Sb	**Sb**	**16 43 32.1**	**+3.3**
	baz=66						
Z38A	**Mt. Pleasant**	**3.67**	**145**	IAmb_Lg		16 43 41.3	
	comp=Z,44nm,0.9s						
U40A	**Yellville**	**3.77**	**87**	P	**Pn**	**16 42 37.7**	**+0.2**
	baz=270						
U40A				Sb	**Sb**	**16 43 35.3**	**+3.5**
	baz=270						
U40A	**Yellville**	**3.77**	**87**	IAmb_Lg		16 43 40.8	
	comp=Z,28nm,0.8s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	IAmb_Lg		16 43 48.6	
	comp=Z,28nm,1.1s						
X40A	**Basin Creek Fa**	**4.23**	**114**	P	**Pn**	**16 42 43.9**	**+0.2**
	baz=296						
X40A				S	**Sn**	**16 43 33.7**	**-0.1**
	baz=296						
X40A	**Basin Creek Fa**	**4.23**	**114**	IAmb_Lg		16 44 00.6	
	comp=Z,23nm,1.0s						
WHTX	**Lake Whitney,**	**4.28**	**179**	S	**Sn**	**16 43 35.3**	**+0.1**
	baz=359						
WHAR	**Wooly Hollow**	**4.37**	**102**	Pn	**Pn**	**16 42 44.5**	**-1.2**
WHAR				IAmb_Lg		16 44 02.3	
	comp=Z,21nm,0.8s						
W41B	**Gary Mavity, V**	**4.43**	**103**	Pb	**Pb**	**16 42 57.6**	**+0.8**
	baz=286						
W41B				S	**Sn**	**16 43 37.9**	**-1.0**
	baz=286						
WLAR	**White Oak Lake**	**4.45**	**124**	IAmb_Lg		16 44 03.3	
	comp=Z,27nm,0.8s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		16 44 07.7	
	comp=Z,17nm,0.8s						
N35A	**Tabor**	**4.80**	**17**	IAmb_Lg		16 44 20.8	
	comp=Z,33nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.88**	**305**	IAmb_Lg		16 44 24.1	
	comp=Z,22nm,0.9s						
T42A	**Van Buren**	**5.22**	**80**	Pn	**Pn**	**16 42 55.6**	**-1.8**
CCAR	**Cane Creek**	**5.27**	**115**	IAmb_Lg		16 44 28.0	
	comp=Z,25nm,0.9s						
CCM	**Cathedral Cave**	**5.32**	**69**	IAmb_Lg		16 44 26.1	
	comp=Z,21nm,1.0s						
P40A	**Paris**	**5.41**	**52**	IAmb_Lg		16 44 34.9	
	comp=Z,20nm,0.8s						
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg		16 44 41.8	
	comp=Z,25nm,0.9s						
143A	**Socs Landing,**	**6.18**	**123**	IAmb_Lg		16 44 60.0	
	comp=Z,21nm,0.7s						
SCIA	**State Center**	**6.54**	**29**	IAmb_Lg		16 45 16.8	
	comp=Z,23nm,0.7s						
S44A	**Carbondale**	**6.76**	**76**	IAmb_Lg		16 45 11.2	
	comp=Z,15nm,0.9s						
SIUC	**Southern Illin**	**6.80**	**75**	IAmb_Lg		16 45 20.7	
	comp=Z,14nm,0.8s						
W45A	**Hickory Valley**	**6.87**	**97**	IAmb_Lg		16 45 29.8	
	comp=Z,18nm,0.8s						
L40A	**Anamosa**	**7.57**	**38**	IAmb_Lg		16 45 56.4	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**7.80**	**97**	IAmb_Lg		16 45 40.0	
	comp=Z,11nm,0.8s						
OLIL	**Olney**	**7.88**	**69**	IAmb_Lg		16 45 51.6	
	comp=Z,13nm,0.8s						
PHWY	**Pilot Hill**	**7.97**	**311**	IAmb_Lg		16 46 01.4	
	comp=Z,11nm,1.0s						
O44A	**Mansfield**	**8.11**	**59**	IAmb_Lg		16 45 56.4	
	comp=Z,14nm,0.8s						
Z47A	**Carrollton**	**8.36**	**109**	IAmb_Lg		16 46 11.2	
	comp=Z,13nm,0.8s						
JFWS	**Jewell Farm**	**8.68**	**38**	IAmb_Lg		16 46 12.3	
	comp=Z,11nm,0.7s						
SFIN	**Lafayette**	**9.15**	**60**	IAmb_Lg		16 46 35.2	
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**9.16**	**74**	IAmb_Lg		16 46 29.1	
	comp=Z,11nm,0.9s						
RWWY	**Rawlins**	**9.27**	**309**	IAmb_Lg		16 46 43.2	

*IDC **14** 16:54:06.2±1.1, 34°.74N×24°.16E, h0km, mb3.9/8, mb1 3.8/13, mb1mx3.6/44, mbtmp3.8/13, ML3.5/5, Error ellipse: s-maj=22.9km s-min=14.3km az=158.0*
*NEIC **14** 16:54:07.2±2.2, 34°.61N±0°.06×24°.08E±0°.03, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.1km s-min=3.2km az=172.0*
*ATH **14** 16:54:10.2, 34°.73N×24°.13E, h21km±2km, ML3.1/12, Error ellipse: s-maj=4.0km s-min=1.7km az=209.0*
*DDA **14** 16:54:10.0, 34°.70N×24°.10E, h15km±999km, MW3.5*
*ISK **14** 16:54:10.8, 34°.87N×24°.20E, h14km, ML3.3/12*
*THE **14** 16:54:10.7, 34°.75N×24°.17E, h17km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=0.6km az=197.0*
ISC 14 16:54:09.5±0.7, 34°.73N±0°.05×24°.11E±0°.03, h26km±4km, n110, σ1°.36/132, mb4.1/16, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.12**	**349**	P	**Pb**	**16 54 14.3**	**-0.1**
GVD				S	**Sb**	**16 54 17.4**	**-0.3**
	77μm,0.3s						
GVD	**Gavdhos**	**0.12**	**349**	P	**Pb**	**16 54 14.3**	**-0.1**
GVD				S	**Sb**	**16 54 17.3**	**-0.3**
GVD				AML	AML	16 54 18.2	
GVD				AML	AML	16 54 20.0	
GVD	**Gavdhos**	**0.12**	**349**	PG	**Pb**	**16 54 14.3**	**-0.1**
GVD				SG	**Sb**	**16 54 16.8**	**-0.8**
GVDS	**Gavdos**	**0.12**	**350**	P	**Pb**	**16 54 14.4**	**0.0**
GVDS				S	**Sb**	**16 54 17.9**	**+0.2**
	61μm,0.1s						
GVDS	**Gavdos**	**0.12**	**350**	PG	**Pb**	**16 54 14.3**	**-0.1**
GVDS				SG	**Sb**	**16 54 17.3**	**-0.4**
KNDR	**Palaiochora Ch**	**0.62**	**325**	P	**Pn**	**16 54 23.0**	**+0.4**
KNDR				S	**Sn**	**16 54 33.5**	**+1.9**
	1μm,0.4s						
KNDR	**Palaiochora Ch**	**0.62**	**325**	PG	**Pn**	**16 54 22.8**	**+0.2**
KNDR				SG	**Sn**	**16 54 31.8**	**+0.2**
TMBK	**Timbaki Herakl**	**0.64**	**57**	P	**Pb**	**16 54 22.5**	**+0.5**
TMBK				S	**Sb**	**16 54 30.6**	**+0.1**
SIVA	**Sivas**	**0.64**	**63**	P	**Pb**	**16 54 22.2**	**+0.1**
SIVA				S	**Sb**	**16 54 31.2**	**+0.6**
	6μm,0.7s						
SIVA	**Sivas**	**0.64**	**63**	P	**Pb**	**16 54 22.1**	**0.0**
SIVA				AML	AML	16 54 39.2	
	comp=N,7404μm,0.6s						
SIVA				AML	AML	16 54 40.9	
	comp=E,14509μm,0.8s						
VAM	**Vamos**	**0.68**	**6**	P	**Pb**	**16 54 22.9**	**+0.1**
VAM				S	**Sb**	**16 54 33.2**	**+1.4**
	comp=E,2μm,0.5s						
VAM	**Vamos**	**0.68**	**6**	P	**Pb**	**16 54 22.7**	**-0.1**
VAM				S	**Sb**	**16 54 31.7**	**-0.2**
VAM				AML	AML	16 54 37.6	
	comp=N,4296μm,0.5s						
VAM				AML	AML	16 54 37.7	
	comp=E,5098μm,0.4s						
PRNS	**Prines Rethymn**	**0.71**	**26**	P	**Pb**	**16 54 22.4**	**-0.9**
PRNS				S	**Sb**	**16 54 32.5**	**-0.1**
IMMV	**Iera Moni Meta**	**0.74**	**352**	P	**Pb**	**16 54 24.0**	**+0.2**
IMMV				S	**Sn**	**16 54 35.2**	**+0.4**
	comp=E,4μm,0.4s						
IMMV	**Iera Moni Meta**	**0.74**	**352**	P	**Pb**	**16 54 23.7**	**0.0**
IMMV				S	**Sn**	**16 54 35.2**	**+0.4**
IMMV				AML	AML	16 54 38.3	
	comp=E,8316μm,0.4s						
IMMV				AML	AML	16 54 45.9	
	comp=N,7226μm,0.3s						
IMMV	**Iera Moni Meta**	**0.74**	**352**	PG	**Pb**	**16 54 23.7**	**0.0**
IMMV				SG	**Sb**	**16 54 32.5**	**-1.0**
IDI	**Anoyia**	**0.85**	**48**	Pn	**Pb**	**16 54 24.9**	**-0.7**
	comp=N,21nm,0.3s,baz=224,slow=17,SNR=106						
IDI				Sn	**Sn**	**16 54 40.0**	**+2.5**
	comp=N,48nm,0.3s,baz=348,slow=23,SNR=8.9						
IDI	**Anoyia**	**0.85**	**48**	P	**Pb**	**16 54 25.3**	**-0.3**
IDI				S	**Sb**	**16 54 37.1**	**+0.5**
	comp=N,808nm,0.6s						
IDI	**Anoyia**	**0.85**	**48**	P	**Pb**	**16 54 24.9**	**-0.7**
IDI

LAST	**Lasithi**	**1.20**	**68**	P	**Pb**	**16 54 31.7**	**+0.1**
LAST	**Lasithi**	**1.20**	**68**	P	**Pb**	**16 54 31.7**	**+0.1**
LAST				S	**Sb**	**16 54 47.8**	**+1.0**
LAST				AML	AML	16 54 58.9	
	comp=N,1061μm,0.6s						
LAST				AML	AML	16 55 10.2	
	comp=E,607μm,1.0s						
ANKY	**Antikythira Is**	**1.32**	**330**	P	**Pb**	**16 54 34.6**	**+1.1**
ANKY				AML	AML	16 55 03.8	
	comp=N,768μm,0.5s						
ANKY				AML	AML	16 55 08.4	
	comp=E,1012μm,0.8s						
NPS	**Neapolis**	**1.34**	**66**	P	**Pb**	**16 54 34.9**	**+0.9**
NPS				AML	AML	16 55 02.8	
	comp=E,1011μm,0.7s						
NPS				AML	AML	16 55 05.7	
	comp=N,828μm,0.7s						
KTHA	**Kythira Island**	**1.75**	**331**	P	**Pb**	**16 54 42.0**	**+1.0**
KTHA				AML	AML	16 55 13.6	
	comp=N,467μm,0.5s						
KTHA				AML	AML	16 55 17.9	
	comp=E,925μm,0.5s						
KTHA	**Kythira Island**	**1.75**	**331**	PN	**Pb**	**16 54 42.1**	**+1.2**
ZKR	**Zakros**	**1.77**	**77**	P	**Pb**	**16 54 42.3**	**+1.1**
ZKR				AML	AML	16 55 23.6	
	comp=E,673μm,0.9s						
ZKR				AML	AML	16 55 25.1	
	comp=N,197μm,0.8s						
ZKR	**Zakros**	**1.77**	**77**	PN	**Pb**	**16 54 40.6**	**-0.6**
MHLO	**Agia Marina, M**	**1.97**	**7**	P	**Pb**	**16 54 43.7**	**-1.0**
MHLO				AML	AML	16 55 25.6	
	comp=N,1554μm,0.5s						
MHLO				AML	AML	16 55 26.9	
	comp=E,1568μm,0.6s						
SANT	**Santorini**	**1.97**	**33**	*i* P	**Pb**	**16 54 43.6**	**-1.1**
SANT	**Santorini**	**1.97**	**33**	PN	**Pn**	**16 54 42.4**	**+1.1**
SANT	**Santorini**	**1.97**	**33**	Pn	**Pb**	**16 54 43.9**	**-0.9**
THR3	**Thira Island,**	**1.98**	**32**	P	**Pb**	**16 54 45.1**	**+0.3**
VLI	**Veliai**	**2.21**	**335**	P	**Pb**	**16 54 47.9**	**-0.8**
VLI				AML	AML	16 55 38.2	
	comp=E,294μm,0.9s						
VLI				AML	AML	16 55 45.6	
	comp=N,278μm,0.7s						
APE	**Apeiranthos**	**2.60**	**26**	*i* P	**Pb**	**16 54 54.2**	**-1.3**
APE	**Apeiranthos**	**2.60**	**26**	PN	**Pn**	**16 54 51.6**	**+1.6**
KARP	**Karpathos**	**2.63**	**71**	P	**Pb**	**16 54 54.8**	**-1.0**
KARP	**Karpathos**	**2.63**	**71**	PN	**Pn**	**16 54 52.5**	**+2.2**
KARP	**Karpathos**	**2.63**	**71**	Pn	**Pb**	**16 54 53.8**	**-2.0**
DAT	**Datca**	**3.45**	**54**	PN	**Pn**	**16 55 03.9**	**+2.2**
ARG	**Arkhangelos**	**3.60**	**64**	PN	**Pn**	**16 55 06.2**	**+2.7**
TURN	**Turunc**	**3.93**	**57**	*i* P	**Pn**	**16 55 10.0**	**+1.8**
TURN	**Turunc**	**3.93**	**57**	PN	**Pn**	**16 55 10.7**	**+2.6**
YER	**Yerkesik**	**4.15**	**53**	PN	**Pn**	**16 55 14.1**	**+2.9**
DALY	**Dalyan (Mula)**	**4.24**	**59**	PN	**Pn**	**16 55 15.0**	**+2.6**
FETY	**Fethiye**	**4.47**	**63**	PN	**Pn**	**16 55 17.6**	**+2.0**
AGG	**Agios Georgios**	**4.52**	**342**	*i* P	**Pn**	**16 55 18.2**	**+1.9**
AGG	**Agios Georgios**	**4.52**	**342**	PN	**Pn**	**16 55 19.1**	**+2.8**
AGG	**Agios Georgios**	**4.52**	**342**		**Pn**	**16 55 18.5**	**+2.2**
AKAS	**Kas**	**4.73**	**70**	*i* P	**Pn**	**16 55 20.9**	**+1.8**
AKAS	**Kas**	**4.73**	**70**	PN	**Pn**	**16 55 21.9**	**+2.7**
AKAS	**Kas**	**4.73**	**70**	Pn	**Pn**	**16 55 21.0**	**+1.8**
TAVA	**DENIZLI_Tavas**	**4.75**	**53**	*i* P	**Pn**	**16 55 21.4**	**+1.9**
CAME	**Cameli-Denizli**	**4.76**	**61**	PN	**Pn**	**16 55 22.5**	**+2.8**
GOLH	**Golhisar**	**5.08**	**59**	*i* P	**Pn**	**16 55 26.4**	**+2.4**
ELL	**Elmali**	**5.13**	**65**		**Pn**	**16 55 25.7**	**+1.0**
LIT	**Litokhoron**	**5.52**	**347**	Pn	**Pn**	**16 55 32.4**	**+2.4**
FNA	**Florina**	**6.42**	**341**	Pn	**Pn**	**16 55 43.6**	**+1.1**
SCTE	**Santa Cesarea**	**6.97**	**322**	Pn	**Pn**	**16 55 50.8**	**+0.8**
CSS	**Mathiatis**	**7.58**	**86**	Pn	**Pn**	**16 55 58.2**	**-0.1**
PUK	**Puka**	**8.02**	**337**		**Pn**	**16 56 04.8**	**+0.5**
RAFF	**Raffo Rosso**	**8.29**	**290**	Pn	**Pn**	**16 56 08.7**	**+0.7**
PDG	**Podgorica**	**8.58**	**335**	Pn	**Pn**	**16 56 12.5**	**+0.6**
BRTR	**Keskin Array B**	**9.09**	**54**	Pn	**Pn**	**16 56 21.9**	**+2.9**
	comp=N,0.1nm,0.3s,baz=235,slow=12,SNR=3.7						
MMAI	**Mount Meron Ar**	**9.54**	**97**	Pn	**Pn**	**16 56 24.8**	**-0.4**
	comp=N,0.8nm,0.3s,baz=289,slow=9,0,SNR=1.9						
MMAI				Sn	**Sn**	**16 58 09.9**	**-1.8**
	comp=N,0.6nm,0.3s,baz=286,slow=26,SNR=1.2						
SGRT	**San Giovanni R**	**9.62**	**319**	Pn	**Pn**	**16 56 27.4**	**+1.1**
GHAJ	**Ghor Haditha**	**10.20**	**106**		**Pn**	**16 56 33.8**	**-0.4**
RICI	**Ricice**	**10.29**	**330**	*e*Pn	**Pn**	**16 56 34.4**	**-1.1**
EIL	**Elat**	**10.47**	**116**	Pn	**Pn**	**16 56 36.9**	**-1.1**
	comp=N,0.3nm,0.3s,baz=326,slow=1.3,SNR=7.1						
EIL				Sn	Sn	16 58 27.1	-7.4
	comp=N,0.1nm,0.3s,baz=98,slow=23,SNR=2.7						
ZIRJ	**Zirje**	**11.07**	**326**	*e*Pn	**Pn**	**16 56 45.3**	**-0.7**
ZIRJ				Sn	Sn	16 58 42.4	-6.5
MORI	**Morici**	**11.21**	**327**	*e*Pn	**Pn**	**16 56 47.5**	**-0.4**
MORI				Sn	**Sn**	**16 58 46.0**	**-6.2**
DUGI	**Dugi Otok**	**11.60**	**326**	*e*Pn	**Pn**	**16 56 52.2**	**-1.1**
DUGI				Sn	Sn	16 58 55.0	-7.0
KEST	**Kesra**	**12.12**	**279**	Pn	**Pn**	**16 57 00.2**	**-0.4**
VLC	**Villacollemand**	**14.17**	**316**	P	**P**	**16 57 35.9**	**+0.2**
ZOU	**Zoufplan**	**14.51**	**328**	P	**P**	**16 57 42.0**	**+2.3**
KWP	**Kalwaria Pacla**	**14.93**	**356**	Pn	**Pn**	**16 57 40.5**	**+1.7**
GERES	**GERESS Array B**	**16.08**	**334**	Pn	**P**	**16 57 56.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=141,slow=11,SNR=2.6						
KHC	**Kasperske Hory**	**16.36**	**335**	*e*P	**P**	**16 58 02.0**	**+2.0**
AKASG	**Malin Array Be**	**16.39**	**12**	Pn	**Pn**	**16 57 59.4**	**+1.8**
	comp=N,0.9nm,0.3s,baz=203,slow=10,SNR=5.7						
AKASG	**Malin Array Be**	**16.39**	**12**	IAmb	IAmb	16 58 04.8	
	comp=Z,0.6nm,0.6s						
AKBB	**Malin Array Si**	**16.39**	**12**	Pn	**Pn**	**16 57 59.1**	**+1.4**
KBZ	**Khabaz**	**17.08**	**53**	Pn	**P**	**16 58 08.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=252,slow=6.4,SNR=2.4						
ESDC	**Sonseca Array**	**22.86**	**291**	P	**P**	**16 59 12.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=85,slow=9.6,SNR=9.3						
HFS	**Hagfors**	**26.31**	**348**	P	**P**	**16 59 43.1**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=155,slow=8.2,SNR=6.9						
FINES	**FINESS Array B**	**26.77**	**2**	P	**P**	**16 59 45.6**	**-1.3**
NAO01	**NORSAR Array S**	**27.49**	**346**	P	**P**	**16 59 52.1**	**-1.3**
NAO01				IAmb	IAmb	16 59 54.8	
	comp=Z,14nm,1.3s						
NC405	**NORSAR Array S**	**27.58**	**347**	P	**P**	**16 59 52.9**	**-1.4**
NC405				IAmb	IAmb	17 00 12.9	
	comp=Z,9.8nm,1.1s						
NB201	**NORSAR Array S**	**27.60**	**347**	P	**P**	**16 59 53.6**	**-0.9**
NB201				IAmb	IAmb	17 00 03.1	
	comp=Z,20nm,1.4s						
NB2	**NORSAR Subarra**	**27.61**	**346**	P	**P**	**16 59 54.2**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=153,slow=9.3						
NOA	**NORSAR Array B**	**27.61**	**346**	P	**P**	**16 59 54.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=152,slow=11,SNR=5.0						
NBO00	**NORSAR Array S**	**27.69**	**346**	P	**P**	**16 59 54.0**	**-1.2**
NC303	**NORSAR Array S**	**27.75**	**347**	P	**P**	**16 59 54.9**	**-0.8**
NC303				IAmb	IAmb	16 59 56.5	
	comp=Z,12nm,1.4s						
AKTO	**Aktyubinsk**	**29.17**	**47**	P	**P**	**17 00 08.3**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=272,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**29.56**	**229**	P	**P**	**17 00 13.3**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=35,slow=8.8,SNR=18						
ABKAR	**Akbulak array**	**30.01**	**50**	P	**P**	**17 00 16.6**	**+0.6**
HRA	**Herat**	**31.28**	**80**	P	**P**	**17 00 26.3**	**-1.3**
HRA				IAmb	IAmb	17 00 26.4	
	comp=Z,2.4nm,0.8s						
ARCES	**ARCESS Array B**	**34.87**	**1**	P	**P**	**17 00 57.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=192,slow=7.4,SNR=3.7						
ARCES	**ARCESS Array B**	**34.87**	**1**	P	**P**	**17 00 57.7**	**-0.6**
ARCES				IAmb	IAmb	17 01 21.0	
	comp=Z,15nm,1.5s						
KEV	**Kevo**	**35.12**	**2**	P	**P**	**17 01 00.3**	**0.0**
KKAR	**Karatay Array**	**36.66**	**63**	P	**P**	**17 01 13.4**	**-0.6**
KKAR	**Karatay Array**	**36.66**	**63**	P	**P**	**17 01 13.1**	**-0.8**
KKAR				IAmb	IAmb	17 01 16.2	
	comp=Z,1.3nm,0.7s						
ROSA	**Rosais**	**41.69**	**291**	P	**P**	**17 01 54.9**	**-1.1**
MK31	**Makanchi Array**	**44.73**	**56**	P	**P**	**17 02 20.8**	**+0.3**
MKAR	**Makanchi Array**	**44.73**	**56**	P	**P**	**17 02 20.8**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=270,slow=7.5,SNR=14						
ZAA0	**Zalesovo Array**	**45.92**	**46**	P	**P**	**17 02 29.9**	**+0.1**
ZAA0				IAmb	IAmb	17 02 30.5	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**45.92**	**46**	P	**P**	**17 02 30.0**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=264,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**45.92**	**46**	P	**P**	**17 02 29.9**	**+0.1**
TOLK	**Toolik Lake Re**	**76.84**	**358**	P	**P**	**17 05 58.2**	**-0.5**
TOLK				IAmb	IAmb	17 06 11.5	
	comp=Z,2.5nm,1.2s						
BMAR	**Burnt Mountain**	**77.80**	**356**	P	**P**	**17 06 05.0**	**+0.9**

IDC 14 17:08:52.2±2.5, 6°.98S×129°.93E, h117km±30km, mb3.1/1, mb1 3.2/5, mb1mx3.0/26, mbtmp3.5/5, Error ellipse:
s-maj=37.8km s-min=24.7km az=93.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.22**	**12**	P	Pn	17 10 21.3	-0.3
	0.5nm,0.3s,baz=298,slow=23,SNR=2.3						
SIJI				S	Sn	17 11 26.9	-4.5
	0.9nm,0.3s,baz=127,slow=20,SNR=1.8						
BATI	**Baumata**	**6.98**	**242**	P	Pn	17 10 32.9	+1.0
	2.0nm,0.3s,baz=274,slow=20,SNR=1.7						
BATI				S	Sn	17 11 46.5	-3.4
	1.0nm,0.3s,baz=116,slow=22,SNR=1.9						
WRA	**Warramunga Arr**	**13.58**	**162**	P	Pn	17 11 58.1	-2.0
	0.1nm,0.3s,baz=340,slow=14,SNR=13						
WRA				S	Sn	17 14 17.4	-12
	0.2nm,0.3s,baz=338,slow=21,SNR=7.5						
ASAR	**Alice Springs**	**17.02**	**167**	P	Pn	17 12 44.1	+0.9
	0.1nm,0.3s,baz=346,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	17 19 39.9	0.0
	0.2nm,0.4s,baz=124,slow=7.2,SNR=4.1						

JMA 14 17:14:53.9±0.2, 24°.91N×123°.23E, h128km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.49**	**204**	P	Pn	17 15 13.0	+0.3
JYNG	**Yonagunijimaku**	**0.53**	**210**	P	Pn	17 15 13.2	+0.3
JYNG				*e*S	Sn	17 15 26.9	-0.3
IRIF	**Iriomote-Funau**	**0.73**	**141**	P	Pn	17 15 14.4	+0.1
IRIF				S	Sn	17 15 30.0	+0.3
JKRS	**Kuro-shima**	**0.97**	**133**	P	Pn	17 15 17.0	+0.6
JKRS				S	Sn	17 15 34.1	+0.7
JIJ	**Ishigaki jima**	**0.99**	**123**	P	Pn	17 15 16.7	+0.2
JIJ				S	Sn	17 15 33.2	-0.5
JISG	**Ishigakijimahi**	**1.03**	**108**	P	Pn	17 15 16.2	-0.7
JISG				S	Sn	17 15 34.5	+0.1
JTJ	**Tarama**	**1.36**	**101**	P	Pn	17 15 21.0	+0.7
JTJ				S	Sn	17 15 40.8	+0.4
JIRB	**Irabujima**	**1.77**	**92**	P	Pn	17 15 25.2	+0.3
JIRB				*e*S	Sn	17 15 48.3	-0.3
JIKM	**Ikemajima**	**1.83**	**89**	*e*S	Sn	17 15 50.7	+0.7
JMJ2	**Miyako jima3**	**1.91**	**95**	*e*S	Sn	17 15 51.3	-0.5

TAP 14 17:15:29.5, 24°.61N×121°.74E, h63km, ML2.2, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.03**	**314**	*e*P	Pn	17 15 38.7	-0.1
	baz=314						
TWC	**Suao**	**0.10**	**92**	P	Pn	17 15 39.2	+0.3
	baz=92						
TWC				S	Sn	17 15 46.4	+0.6
	baz=92						
TWE	**Neicheng**	**0.13**	**329**	*i* P	Pn	17 15 39.4	+0.4
	baz=333						
TWE				S	Sn	17 15 46.7	+0.8
	baz=333						
ILA	**Ilan**	**0.15**	**3**	*e*P	Pn	17 15 39.0	-0.2
	baz=5.0						
ENTT	**Nioudou**	**0.16**	**280**	*i* P	Pn	17 15 39.4	+0.2
	baz=279						
ENTT				*i* S	Sn	17 15 46.5	+0.4
	baz=279						
EWUT	**Wuta**	**0.17**	**168**	*e*S	Sn	17 15 46.6	+0.4
	baz=168						
NDT	**Datong Townshi**	**0.21**	**267**	*e*P	Pn	17 15 39.6	+0.2
	baz=267						
NDT				S	Sn	17 15 47.4	+0.8
	baz=267						
NTC	**Toucheng**	**0.26**	**19**	*e*P	Pn	17 15 39.7	0.0
	baz=18						
NWLT	**Wulai**	**0.27**	**307**	P	Pn	17 15 40.0	+0.3
	baz=307						
NWLT				S	Sn	17 15 48.0	+0.7
	baz=307						
EHP	**Heping Village**	**0.30**	**180**	*e*P	Pn	17 15 40.8	+0.8
	baz=178						
EHP				*e*S	Sn	17 15 48.1	+0.5
	baz=178						
YHNB	**Yeheng**	**0.34**	**280**	P	Pn	17 15 40.6	+0.3
	baz=279						
YHNB				S	Sn	17 15 48.5	+0.3
	baz=279						
TIPB	**Shuangxi**	**0.37**	**12**	P	Pn	17 15 40.1	-0.4
	baz=12						
TIPB				S	Sn	17 15 49.1	+0.6
	baz=12						
NNSB	**Datong**	**0.37**	**241**	P	Pn	17 15 41.0	+0.4
	baz=240						
NNSB				S	Sn	17 15 49.0	+0.2
	baz=240						
NNSH	**Datong**	**0.37**	**241**	*e*P	Pn	17 15 41.3	+0.6
	baz=240						
NNSH				S	Sn	17 15 49.2	+0.4
	baz=240						
NNS	**Nan Shan**	**0.38**	**243**	*i* P	Pn	17 15 41.0	+0.3
	baz=241						
NNS				*i* S	Sn	17 15 48.9	+0.1
	baz=241						
TWA	**Mucha**	**0.39**	**339**	P	Pn	17 15 41.5	+0.8
	baz=339						
TWA				S	Sn	17 15 49.4	+0.5
	baz=339						
NHDH	**Xindian Distri**	**0.40**	**331**	*e*P	Pn	17 15 41.0	+0.3
	baz=330						
NHDH				*e*S	Sn	17 15 49.7	+0.7
	baz=330						
TATO	**Taipei**	**0.43**	**328**	*e*P	Pn	17 15 41.4	+0.4
	baz=328						
TATO				*e*S	Sn	17 15 50.2	+0.8
	baz=328						
TWB1	**Santiao Chiao**	**0.46**	**30**	*e*S	Sn	17 15 51.0	+1.2
	baz=30						
NACB	**Ninganchiao**	**0.46**	**197**	*e*P	Pn	17 15 41.9	+0.6
	baz=196						
NACB				*e*S	Sn	17 15 50.8	+0.9
	baz=196						
NWF	**Wu-fen Shan**	**0.46**	**5**	*e*P	Pn	17 15 41.7	+0.3
	baz=4.0						
WFSB	**Wu-fen Shan**	**0.46**	**5**	*e*P	Pn	17 15 41.6	+0.3
	baz=4.0						
ETL	**Fush Village**	**0.46**	**193**	*e*P	Pn	17 15 42.5	+1.0
	baz=193						
ETL				*e*S	Sn	17 15 50.9	+0.9
	baz=193						
ETLH	**Xiulin Townshi**	**0.47**	**210**	P	Pn	17 15 41.2	-0.4
	baz=210						
ETLH				*e*S	Sn	17 15 50.1	-0.1
	baz=210						
BACT	**New Taipei Cit**	**0.47**	**325**	*e*P	Pn	17 15 41.8	+0.4
	baz=324						
BACT				S	Sn	17 15 50.4	+0.3
	baz=324						
TNOU	**National Taiwa**	**0.54**	**3**	*e*P	Pn	17 15 43.1	+0.9
	baz=2.0						
TWD	**Chiawan**	**0.55**	**194**	P	Pn	17 15 42.5	+0.3
	baz=193						
TWD				S	Sn	17 15 52.5	+1.1
	baz=193						
TWS1	**Kuangyinshan**	**0.57**	**329**	*e*P	Pn	17 15 42.5	+0.1
	baz=329						
TWS1				*e*S	Sn	17 15 52.8	+0.9
	baz=329						
FUSS	**Fushou**	**0.58**	**231**	*e*P	Pn	17 15 43.1	+0.2
	baz=231						
FUSS				S	Sn	17 15 53.2	+0.6
	baz=231						
ANP	**Anpu**	**0.61**	**341**	*e*S	Sn	17 15 53.2	+0.4
	baz=341						
NJD	**Zhudong**	**0.61**	**282**	*e*S	Sn	17 15 53.9	+1.2
	baz=281						
TWT	**Tachien**	**0.63**	**235**	*e*P	Pn	17 15 44.1	+0.9
	baz=235						
TWT				S	Sn	17 15 54.7	+1.4
	baz=235						
WHF	**Hehuan Shan**	**0.64**	**223**	*e*P	Pn	17 15 44.0	+0.4
	baz=222						
WHF				S	Sn	17 15 53.5	-0.5
	baz=222						
TDCB	**Techi**	**0.64**	**236**	P	Pn	17 15 43.9	+0.5
	baz=235						
NSTT	**Nanjuang**	**0.67**	**272**	*e*P	Pn	17 15 44.0	+0.4
	baz=271						
NSTT				*e*S	Sn	17 15 55.1	+1.1
	baz=271						
TEYL	**Yanliau Villag**	**0.75**	**190**	*e*P	Pn	17 15 44.7	+0.1
	baz=190						
CHGB	**Renai**	**0.75**	**223**	*e*P	Pn	17 15 45.1	+0.3
	baz=223						
CHGB				*e*S	Sn	17 15 56.2	+0.2
	baz=223						
WHP	**Taichung City**	**0.80**	**245**	P	Pn	17 15 45.5	+0.3
	baz=245						
WHP				S	Sn	17 15 57.7	+0.9
	baz=245						
OWD	**Renai**	**0.83**	**218**	*e*P	Pn	17 15 46.3	+0.6
	baz=218						
ESL	**Shilin**	**0.84**	**199**	*e*P	Pn	17 15 46.0	+0.3
	baz=198						
ESL				*e*S	Sn	17 15 58.6	+1.0
	baz=198						
NSY	**Sanyi**	**0.91**	**258**	*e*S	Sn	17 15 60.0	+0.8
	baz=257						
WCS	**Beigang Elemen**	**0.94**	**234**	*e*P	Pn	17 15 47.7	+0.8
	baz=233						
WCS				*e*S	Sn	17 16 00.5	+0.9
	baz=233						
DPDB	**Guoxing**	**0.94**	**232**	*e*P	Pn	17 15 47.7	+0.7
	baz=232						
EGFH	**Guangfu**	**0.98**	**197**	*e*S	Sn	17 16 01.1	+0.4
	baz=196						
SMLT	**Sun Moon Lake**	**1.06**	**227**	*e*P	Pn	17 15 48.9	+0.4
	baz=226						
SMLT				*e*S	Sn	17 16 03.5	+0.9
	baz=226						
SSLB	**Suanglung**	**1.09**	**221**	*e*P	Pn	17 15 49.4	+0.5
	baz=221						
SSLB				*e*S	Sn	17 16 03.8	+0.5
	baz=221						
HGSD	**Ruisui**	**1.15**	**195**	*e*P	Pn	17 15 50.1	+0.5
	baz=194						
EHY	**Hungye**	**1.17**	**199**	*e*P	Pn	17 15 50.0	+0.1
	baz=198						
WNT	**Mingjian**	**1.21**	**233**	*e*P	Pn	17 15 51.2	+0.8
	baz=232						
WNT				*e*S	Sn	17 16 07.5	+1.4
	baz=232						
WJS	**Zhushan**	**1.21**	**230**	*e*S	Sn	17 16 07.2	+1.1
	baz=229						
ALS	**Alishan**	**1.39**	**218**	*e*P	Pn	17 15 53.8	+0.7
	baz=217						

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*IDC **14** 17:41:44.6±1.5, 43°.67N×105°.61W, h0km, mb1 3.8/2, mb1mx3.3/34, mbtmp3.7/2, ML3.5/2, Error ellipse: s-maj=32.1km s-min=9.9km az=150.0*
*NEIC **14** 17:41:45.4±1.5, 43°.57N±0°.05×105°.32W±0°.07, h0km±2km, ML3.3/54, Error ellipse: s-maj=9.8km s-min=7.4km az=317.0*
ISC 14 17:41:44.5±1.1, 43°.56N±0°.05×105°.35W±0°.05, h0km, n62, σ1°.22/60, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.10**	**59**		**Pg**	**17 42 05.6**	**-0.1**
K22A	**Casper**	**1.25**	**224**		**Pg**	**17 42 07.4**	**-1.2**
K22A				IAML		17 42 31.0	
	comp=E,457nm,0.3s						
K22A				IAML		17 42 31.4	
	comp=N,454nm,0.3s						
PHWY	**Pilot Hill**	**2.26**	**182**		**Pn**	**17 42 23.9**	**+0.4**
RWWY	**Rawlins**	**2.32**	**217**		**Pn**	**17 42 25.8**	**+1.6**
RWWY				IAML		17 42 59.6	
	comp=N,191nm,1.0s						
RWWY				IAML		17 43 01.1	
	comp=N,187nm,1.0s						
BW06	**Boulder Array**	**3.18**	**257**		**Pn**	**17 42 36.5**	**+0.5**
PD31	**Pinedale Array**	**3.18**	**257**		**Pn**	**17 42 36.0**	**0.0**
PDAR	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**17 42 36.9**	**+0.8**
	comp=N,5.2nm,0.3s,baz=78,slow=14,SNR=50						
PDAR				Lg	Lg	17 43 19.4	
	comp=N,17nm,0.3s,baz=75,slow=30,SNR=2.0						
PDAR	**Pinedale Array**	**3.18**	**257**		**Pn**	**17 42 36.5**	**+0.4**
LAO	**LASA Array**	**3.19**	**349**		**Pn**	**17 42 36.2**	**+0.3**
LAO				IAML		17 43 35.5	
	comp=N,122nm,0.9s						
LAO				IAML		17 43 35.6	
	comp=N,105nm,1.5s						
RLMT	**Red Lodge**	**3.21**	**300**		**Pn**	**17 42 37.3**	**+0.8**
RLMT				IAML		17 43 28.7	
	comp=N,53nm,0.4s						
RLMT				IAML		17 43 38.7	
	comp=N,66nm,1.1s						
OGNE	**Ogallala**	**3.59**	**136**		**Pn**	**17 42 42.4**	**+0.9**
YNE	**Yellowstone No**	**3.64**	**295**		**Pn**	**17 42 43.5**	**+1.1**
YNE				IAML		17 43 31.0	
	comp=E,67nm,0.7s						
YNE				IAML		17 43 44.2	
	comp=N,83nm,0.6s						
YMP	**Mirror Lake Pl**	**3.65**	**290**		**Pn**	**17 42 44.4**	**+1.8**
ISCO	**Idaho Springs**	**3.77**	**183**	Pn	**Pn**	**17 42 44.8**	**+0.6**
GCMT	**Greycliff**	**3.80**	**307**		**Pn**	**17 42 45.2**	**+0.8**
LOHW	**Long Hollow**	**3.82**	**273**		**Pn**	**17 42 47.9**	**+3.2**
LOHW				IAML		17 43 47.1	
	comp=N,32nm,0.9s						
FLWY	**Flagg Ranch**	**3.91**	**279**		**Pn**	**17 42 47.6**	**+1.6**
FLWY				IAML		17 43 59.8	
	comp=N,58nm,1.9s						
SNOW	**Snow King Moun**	**3.93**	**270**		**Pn**	**17 42 49.5**	**+3.1**
SNOW				IAML		17 44 17.1	
	comp=N,53nm,1.8s						
YPP	**Pitchstone Pla**	**4.00**	**282**		**Pn**	**17 42 47.8**	**+0.4**
YPP				IAML		17 43 59.6	
	comp=N,30nm,2.1s						
YNR	**Norris Junctio**	**4.01**	**289**		**Pn**	**17 42 46.5**	**-0.9**
REDW	**Red Top Meadow**	**4.01**	**269**	Pn	**Pn**	**17 42 50.9**	**+3.5**
REDW				IAML		17 44 01.8	
	comp=N,68nm,0.8s						
REDW				IAML		17 44 01.8	
	comp=N,70nm

PV11	David Mesa, Pa	5.90 208		Pn	17 43 14.9	+1.6
PV16	Nyswonger Mesa	5.90 208		Pn	17 43 14.2	+0.8
SRU	San Rafael Swe	5.91 223		Pn	17 43 14.3	+0.8
PV02	Paradox Valley	5.93 207		Pn	17 43 15.7	+1.9
PV17	East Wray Mesa	5.94 209		Pn	17 43 14.9	+0.9
PV01	Paradox Valley	5.95 205		Pn	17 43 16.0	+2.0
PV18	Skein Mesa, Pa	5.96 208	Pn	Pn	17 43 15.5	+1.4
PV13	Radium Mtn., P	6.00 207		Pn	17 43 15.8	+1.0
TMUT	Trail Mountain	6.13 228		Pn	17 43 18.1	+1.5
ECSD	EROS Data Cent	6.34 85		Pn	17 43 20.1	+0.9
ULM	Lac du Bonnet	9.31 41	Pn	Pn	17 43 58.5	-1.4
	comp=E,0.9nm,0.3s,baz=228,slow=11,SNR=6.5					
ULM			Lg	Lg	17 46 33.1	
	comp=E,0.5nm,0.3s,baz=244,slow=9.4,SNR=1.9					
ULM	Lac du Bonnet	9.31 41		Pn	17 43 58.8	-1.2
I56US	NEWPORT INFRAS	9.46 304	*i*		18 33 20.0	
	baz=117,slow=314,SNR=1.3					
TXAR	Lajitas Array	14.27 174	Pg	P	17 46 08.3	+53
	comp=E,0.0nm,0.3s,baz=1.6,slow=15,SNR=1.7					
TXAR			Lg	Lg	17 49 10.5	
	comp=E,0.0nm,0.3s,baz=351,slow=27,SNR=2.1					

*IDC **14** 17:47:41.9±1.4, 34°.77N×139°.38E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=57.1km s-min=26.3km az=84.0*
*JMA **14** 17:47:45.9, 35°.01N×139°.44E, h32km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs=163.00000°, δ42.00000°, λ30.00000°. NP2:φs50.00000°, δ70.00000°, λ128.00000°. Principal axes: T Plg50.0000°, Azm2.0000°; N Plg35.0000°, Azm215.0000°; P Plg17.0000°, Azm113.0000°;*
JMA Felt I J1.

ISC 14 17:47:44.7±2.0, 35°.01N±0°.03×139°.47E±0°.04, h15km±15km, n23, σ1°21/27, mb3.5/3, 3C-7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	Yokosk	0.27	37	⇑P	Pb	17 47 53.2	+2.0
JIM2	Oshima 3	0.29	187	⇑P	Pn	17 47 53.3	-1.2
JIM2				S	Sb	17 47 58.5	+2.1
AJI	Ajiro2	0.31	276	⇓P	Pb	17 47 53.2	+1.2
AJI				S	Sb	17 47 58.3	+1.4
KTJ3	Kamata3	0.34	257	⇓P	Pb	17 47 53.5	+1.1
KTJ3				S	Sb	17 47 58.8	+1.2
JOD2	Odawara 2	0.40	309	⇓P	Pb	17 47 54.3	+0.7
JOD2				S	Sb	17 48 00.2	+0.7
JIZS	Izushimoda	0.57	239	⇓P	Pb	17 47 57.2	+0.8
JIZS				S	Sb	17 48 05.2	+1.0
JFNN	Fujinakano	0.67	286	⇓P	Pb	17 47 58.5	+0.4
BSO3	Boso 3	0.88	103	⇓P	Pn	17 48 02.1	-0.1
JYN	Shimob	0.90	303	⇓P	Pb	17 48 02.0	-0.1
SHZ3	Shizuoka 3	1.04	273	P	Pn	17 48 04.7	0.0
SHZ3				S	Sb	17 48 18.8	+1.0
JRY	Ryogami san	1.11	335	⇑P	Pb	17 48 05.1	-0.5
JRY				S	Sb	17 48 19.3	-0.5
JMKN	Mikurajimanish	1.12	175	P	Pn	17 48 06.0	+0.2
JMKN				S	Sg	17 48 20.2	-0.8
MJAR	Matsushiro Arr	1.84	326	Pn	Pb	17 48 16.9	-1.2
	4.7nm,0.3s,baz=164,slow=13,SNR=139						
MJAR				Sn	Sn	17 48 39.4	+0.6
	8.9nm,0.3s,baz=169,slow=26,SNR=6.5						
MJAR				LR	LR	17 49 04.2	
	comp=Z,75nm,20.6s,baz=180,slow=42						
MAT	Matsushiro	1.84	326	P	Pn	17 48 16.7	+0.9
MAT				S	Sn	17 48 39.7	+0.9
H11N2	WAKE ISLAND Hy	28.59	115	T	T	18 23 23.6	
	baz=308,slow=75,SNR=148						
H11N1	WAKE ISLAND Hy	28.60	115	T	T	18 23 24.1	
	baz=308,slow=75,SNR=95						
H11N3	WAKE ISLAND Hy	28.61	115	T	T	18 23 33.2	
	baz=308,slow=75,SNR=98						
H11S3	WAKE ISLAND Hy	29.21	117	T	T	18 24 15.4	
	baz=310,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	29.21	117	T	T	18 24 23.5	
	baz=310,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	29.23	117	T	T	18 24 17.8	
	baz=310,slow=76,SNR=18						
WRA	Warramunga Arr	54.87	186	P	P	17 57 12.5	-2.0
	0.3nm,0.5s,baz=1.4,slow=7.6,SNR=6.0						
ASAR	Alice Springs	58.59	186	P	P	17 57 38.7	-2.2
	0.4nm,0.9s,baz=13,slow=8.7,SNR=1.3						
NVAR	Mina Array Bea	77.47	52	P	P	17 59 40.5	+0.7
	0.4nm,0.7s,baz=285,slow=5.1,SNR=2.8						

*IDC **14** 17:55:06.9±0.8, 33°.16N×139°.61E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/38, mbtmp3.6/12, ML3.0/3, Error ellipse: s-maj=21.7km s-min=7.6km az=25.0*
*JMA **14** 17:55:09.6±0.1, 33°.33N×139°.63E, h35km±2km, M3.2*

ISC 14 17:55:12.0±0.7, 33°.26N±0°.05×139°.60E±0°.05, h35km, n31, σ1°83/31, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.21	133	Pn	Pn	17 55 17.2	-1.7
	629nm,0.3s,baz=270,slow=12,SNR=88						
JHJ				Sn	Sn	17 55 22.4	-1.2
	732nm,0.3s,baz=62,slow=22,SNR=14						
JHJ2	Mitsune	0.23	130	P	Pn	17 55 16.8	-2.3
JHCJ	Hachijojimakas	0.25	139	P	Pn	17 55 17.1	-2.2
JHCJ				S	Sn	17 55 22.7	-1.6
JMKN	Mikurajimanish	0.63	359	P	Pn	17 55 20.8	-3.6
JMKN				S	Sn	17 55 29.1	-4.1
JTHY	Toshimahigashi	1.29	348	P	Pn	17 55 31.2	-2.2
JIM2	Oshima 3	1.46	354	P	Pn	17 55 34.0	-1.8
JIZS	Izushimoda	1.57	338	P	Pn	17 55 35.3	-2.1
TK03	Tokai 3	1.64	304	S	Sn	17 55 56.8	-1.1
TK02	Tokai 2	1.69	294	P	Pn	17 55 36.7	-2.0
TK02				S	Sn	17 55 57.8	-1.2
BSO3	Boso 3	1.71	26	P	Pn	17 55 38.0	-1.0
KTJ3	Kamata3	1.73	345	P	Pn	17 55 38.0	-1.5
TK04	Tokai 4	1.82	308	S	Sn	17 56 01.1	-1.5
MJAR	Matsushiro Arr	3.47	341	Pn	Pn	17 56 03.9	+0.4
	0.2nm,0.3s,baz=163,slow=13,SNR=11						
MAT	Matsushiro	3.47	341	P	Pn	17 56 04.8	+1.3
MAT				*e*S	Sn	17 56 45.4	+2.1
JNU	Nakatsue	7.32	271	Pn	Pn	17 56 56.5	+0.2
	0.4nm,0.3s,baz=151,slow=6.0,SNR=1.6						
JNU				Sn	Sn	17 58 16.0	-2.1
	0.3nm,0.3s,baz=101,slow=19,SNR=1.4						
ASAJ	Asahikawa	11.09	11	Pn	Pn	17 57 47.5	-0.4
	0.2nm,0.3s,baz=240,slow=20,SNR=1.1						
H11N2	WAKE ISLAND Hy	27.80	112	T	T	18 30 05.9	
	baz=306,slow=75						
H11N1	WAKE ISLAND Hy	27.80	112	T	T	18 30 06.3	
	baz=306,slow=75						
H11N3	WAKE ISLAND Hy	27.82	112	T	T	18 30 07.2	
	baz=306,slow=75						
H11S3	WAKE ISLAND Hy	28.35	115	T	T	18 30 46.8	
	baz=307,slow=75,SNR=56						
H11S1	WAKE ISLAND Hy	28.35	114	T	T	18 30 46.8	
	baz=307,slow=75,SNR=70						
H11S2	WAKE ISLAND Hy	28.37	115	T	T	18 30 47.9	
	baz=307,slow=75,SNR=71						
SONM	Songino Array	28.87	310	P	P	18 01 06.6	-0.7
	0.5nm,0.7s,baz=98,slow=10,SNR=2.0						
MKAR	Makanchi Array	44.97	305	P	P	18 03 23.8	+0.2
	0.4nm,0.8s,baz=99,slow=7.4,SNR=3.0						
WRA	Warramunga Arr	53.14	186	P	P	18 04 25.2	-1.2
	0.4nm,0.5s,baz=4.1,slow=11,SNR=1.6						
ILAR	Eielson Array	53.48	31	P	P	18 04 29.5	+1.1
	0.9nm,1.0s,baz=272,slow=6.4,SNR=8.6						
ASAR	Alice Springs	56.87	186	P	P	18 04 53.0	-0.2
	0.3nm,0.9s,baz=3.0,slow=6.3,SNR=2.3						
YKA	Yellowknife Ar	67.81	29	P	P	18 06 07.0	+1.0
	0.3nm,0.8s,baz=313,slow=5.8,SNR=3.3						
FINES	FINESS Array B	71.46	332	P	P	18 06 28.2	-0.2
	1.2nm,0.7s,baz=29,slow=4.4,SNR=4.2						
NOA	NORSAR Array B	77.08	337	P	P	18 07 01.7	+0.4
	0.6nm,0.8s,baz=40,slow=5.7,SNR=3.6						
NVAR	Mina Array Bea	78.46	52	P	P	18 07 12.3	+2.6
	0.2nm,0.4s,baz=289,slow=5.6,SNR=2.5						

*IDC **14** 17:56:50.4±1.5, 33°.15N×139°.85E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/37, mbtmp3.3/3, Error ellipse: s-maj=12.9km s-min=4.4km az=38.0*
*JMA **14** 17:56:51.2, 33°.33N×139°.50E, h21km±2km, M3.1*

ISC 14 17:56:51.7±1.1, 33°.36N±0°.07×139°.4E±0°.1, h22km, n17, σ1°75/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.37	130	Pn	Pb	17 56 58.6	-1.0
	193nm,0.3s,baz=38,slow=12,SNR=2.9						
JHJ				Sn	Sb	17 57 03.6	-1.3
	240nm,0.3s,baz=55,slow=23,SNR=3.3						
JHJ2	Mitsune	0.40	128	P	Pb	17 56 58.4	-1.6
JHCJ	Hachijojimakas	0.41	133	P	Pb	17 56 58.7	-1.6
JHCJ				*e*S	Sb	17 57 03.9	-2.2
JMKN	Mikurajimanish	0.55	13	P	Pb	17 57 02.1	-0.5
JMKN				*e*S	Sb	17 57 09.9	-0.2
JIM2	Oshima 3	1.36	360	P	Pn	17 57 15.5	+0.2
JIZS	Izushimoda	1.43	341	P	Pn	17 57 16.7	+0.4
KTJ3	Kamata3	1.60	349	P	Pn	17 57 19.5	+0.9
MJAR	Matsushiro Arr	3.33	343	Pn	Pb	17 57 47.6	-2.5
	baz=155,slow=14,SNR=1.4						
MAT	Matsushiro	3.33	343	P	Pb	17 57 47.4	-2.7
MAT				*e*S	Sb	17 58 28.6	-1.6
H11N2	WAKE ISLAND Hy	27.96	112	T	T	18 31 46.7	
	baz=305,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	27.97	112	T	T	18 31 47.1	
	baz=305,slow=75,SNR=12						
H11N3	WAKE ISLAND Hy	27.98	112	T	T	18 31 48.0	
	baz=305,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	28.52	114	T	T	18 32 28.6	
	baz=307,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	28.52	114	T	T	18 32 29.1	
	baz=307,slow=75,SNR=32						
H11S2	WAKE ISLAND Hy	28.53	114	T	T	18 32 29.9	
	baz=307,slow=75,SNR=13						
WRA	Warramunga Arr	53.23	186	P	P	18 06 10.4	+2.0
	0.3nm,0.8s,baz=2.2,slow=7.6,SNR=1.4						
ILAR	Eielson Array	53.47	31	P	P	18 06 11.4	+1.6
	0.3nm,0.6s,baz=270,slow=7.3,SNR=3.2						

*IDC **14** 18:03:25.1±1.6, 13°.04N×143°.83E, h130km±17km, mb3.3/5, mb1 3.6/5, mb1mx3.2/40, mbtmp3.7/5, Error ellipse: s-maj=41.2km s-min=19.8km az=100.0*

ISC 14 18:03:25.7±1.0, 13°.0N±0°.2×143°.9E±0°.2, h138km, n6, σ1°09/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.07	58	P	Pn	18 03 50.1	+0.2
	60nm,0.3s,baz=34,slow=2.1,SNR=13						
GUMO				S	Sn	18 04 07.9	-0.6
	219nm,0.3s,baz=174,slow=24,SNR=16						
KSRS	Korea Array	28.23	332	P	P	18 09 06.5	+0.9
	0.4nm,0.5s,baz=138,slow=10.0,SNR=4.8						
WRA	Warramunga Arr	34.09	196	P	P	18 09 57.4	+0.1
	1.0nm,1.1s,baz=12,slow=7.8,SNR=6.8						
ASAR	Alice Springs	37.76	195	P	P	18 10 28.5	0.0
	0.1nm,0.5s,baz=14,slow=9.2,SNR=6.6						
NVAR	Mina Array Bea	87.98	51	P	P	18 16 01.6	+0.9
	0.8nm,0.5s,baz=262,slow=5.7,SNR=10						
FINES	FINESS Array B	91.29	335	P	P	18 16 13.7	-1.7
	0.9nm,0.9s,baz=23,slow=10,SNR=4.3						

NNC 14 18:10:41.9±2.6, 37°.51N×78°.26E, h0km, mb3.9, mpv3.5, 4C-1D, Error ellipse: s-maj=23.7km s-min=17.0km az=88.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	Saty	5.55	1	Pg	Pb	18 12 23.2	+3.5
	5.9nm,0.7s						
SATY				Lg	Lg	18 13 37.8	
	6.8nm,0.9s						
UZB	Uzynbulak	5.67	6	Pg	Pb	18 12 26.0	+4.4
	2.7nm,0.6s						
UZB				Lg	Lg	18 13 42.8	
	2.5nm,0.9s						
MDOK	Medeo	5.72	351	⇑Pg	Pb	18 12 24.4	+1.7
	5.1nm,0.6s						
MDOK				Lg	Lg	18 13 41.4	
	11nm,0.8s						
MDOK	Medeo	5.72	351	Pg	Pb	18 12 24.8	+2.1
	3.1nm,0.5s						
MDOK				Lg	Lg	18 13 40.6	
	8.5nm,0.6s						
KOTS	Kotyrbulak	5.79	352	Pg	Pb	18 12 26.7	+3.0
	1.8nm,0.5s						
KOTS				Lg	Lg	18 13 44.0	
	9.1nm,0.6s						
KST	Kastek	5.80	343	Pg	Pg	18 12 30.3	-2.7
	3.0nm,0.6s						
KST				Lg	Lg	18 13 50.0	
	4.4nm,1.0s						
AAK	Ala-Archa	5.88	332	⇓Pg	Pb	18 12 27.9	+2.6
	2.0nm,0.5s						
AAK				⇑Lg	Lg	18 13 49.9	
	5.0nm,0.6s						
PDGK	Podgornoye	5.89	9	Pg	Pb	18 12 28.3	+2.8
	1.3nm,0.8s						
PDGK				Lg	Lg	18 13 46.9	
	2.5nm,0.6s						
PDGK	Podgornoye	5.89	9	⇑Pg	Pb	18 12 28.5	+3.0
	2.7nm,0.6s						
PDGK				⇑Lg	Lg	18 13 52.4	
	4.5nm,0.6s						
KURS	Kuram	5.98	359	Pg	Pg	18 12 32.9	-3.5
	2.9nm,0.7s						
KURS				Lg	Lg	18 13 54.4	
	4.2nm,0.7s						
KTBS	Karatobe	6.31	350	Pg	Pg	18 12 38.9	-3.9
	1.3nm,0.5s						
KTBS				Lg	Lg	18 14 04.6	
	5.0nm,0.6s						
KRBS	Karabastau	6.49	343	Pg	Pb	18 12 39.7	+4.1
	1.4nm,0.6s						
KRBS				Lg	Lg	18 14 06.1	
	1.1nm,0.4s						

*TUL **14** 18:19:01.2±1.7, 36°.028N±0°.008×97°.11W±0°.02, h1km±7km, ML2.3, mb_Lg2.4/13(NEIC), Error ellipse: s-maj=1.8km s-min=1.1km az=90.0*

NEIC 14 18:19:01.4±1.4, 36°.03N±0°.01×97°.12W±0°.02, h6km±6km, Error ellipse: s-maj=2.2km s-min=1.4km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.24	110	Pg	Pg	18 19 06.2	+0.1
OK031				Sg	Sg	18 19 09.6	+0.4
QUOK	Quay	0.36	67	Pg	Pg	18 19 08.5	+0.2
QUOK				Sg	Sg	18 19 13.4	+0.4
OK029	Liberty Lake	0.36	229		Pg	18 19 08.6	+0.2
OK029				Sg	Sg	18 19 13.8	+0.6
OK025	Westminster Rd	0.49	202	Pg	Pg	18 19 11.0	+0.3
OK025				Sg	Sg	18 19 17.8	+0.7
BCOK	Bluff Creek, N	0.55	227	Pg	Pg	18 19 12.0	+0.1
BCOK				Sg	Sg	18 19 19.7	+0.6
BLOK	Blackwell	0.73	354	Pg	Pg	18 19 15.3	-0.1
BLOK				Sg	Sg	18 19 25.4	+0.5
FNO	Franklin	0.81	197	Pg	Pg	18 19 15.1	-1.8
CROK	Carrier	0.84	304	Pg	Pg	18 19 17.6	0.0
T35A	Sooner Cattle	1.00	29	Pg	Pg	18 19 20.2	-0.5
T35A				Sg	Sg	18 19 33.5	-0.2
GC02	Grant County #	1.01	324		Pg	18 19 20.4	-0.4
KAN13	South Haven SW	1.02	343		Pg	18 19 20.7	-0.2
KAN17	Caldwell West	1.14	333	Pg	Pg	18 19 22.8	-0.4
OK032	Salt Plains WL	1.17	311	Pg	Pg	18 19 23.2	-0.6
KAN09	Caldwell North	1.17	340	Pg	Pg	18 19 23.3	-0.5
KS20	Mayfield South	1.25	344	Pg	Pg	18 19 24.7	-0.5
KAN10	Anthony SW Sta	1.34	324	Pn	Pn	18 19 26.5	-0.2
KAN08	Anthony NE Sta	1.38	330	Pn	Pn	18 19 26.9	-0.2
X34A	Smith Ranch, M	1.55	203	Pn	Pb	18 19 29.9	-0.5
U32A	Winter Ranch,	1.56	283	Pn	Pb	18 19 30.4	-0.4
U32A				IAmb_Lg		18 19 53.7	
	comp=Z,23nm,1.0s						
WMOK	Wichita Mounta	1.88	227	Pn	Pn	18 19 34.4	+0.3
X37A	Clayton	2.03	135	Pn	Pn	18 19 34.9	-1.1
X37A				IAmb_Lg		18 20 09.2	
	comp=Z,14nm,0.8s						
LOOK	Love County	2.04	182	Pn	Pb	18 19 37.6	-1.2
LOOK				IAmb_Lg		18 20 09.8	
	comp=Z,16nm,0.8s						
U38A	Gravette	2.24	79	Pn	Pn	18 19 39.2	+0.1
HHAR	Hobbs	2.58	84	Pn	Pn	18 19 45.3	+1.6
X40A	Basin Creek Fa	3.83	113	Pn	Pn	18 20 00.1	-0.8
X40A				IAmb_Lg		18 21 08.2	
	comp=Z,9.7nm,0.9s						
AMTX	Amarillo	3.90	254	Pn	Pn	18 20 02.1	+0.2
R40A	Maddies Statio	4.48	58	Pn	Pn	18 20 08.0	-1.8
P38A	Dawn	4.57	37	Pn	Pn	18 20 09.9	-1.1
P38A				IAmb_Lg		18 21 28.2	
	comp=Z,5.3nm,0.7s						
T42A	Van Buren	4.95	77	Pn	Pn	18 20 14.5	-1.8
CCM	Cathedral Cave	5.11	65	Pn	Pn	18 20 16.9	-1.5
PBMO	Poplar Bluff	5.44	80	IAmb_Lg		18 21 57.6	
	comp=Z,5.1nm,0.7s						
N38A	Joes South For	5.64	31	IAmb_Lg		18 22 15.4	
	comp=Z,8.8nm,0.7s						

*IDC **14** 18:28:00.1±1.5, 44°.14N×105°.67W, h0km, mb3.6/1, mb1 3.7/5, mb1mx3.4/37, mbtmp3.5/5, ML3.4/4, MS2.9/1, Ms1 2.9/1, ms1mx2.1/41, Error ellipse: s-maj=54.1km s-min=8.4km az=146.0*
*NEIC **14** 18:28:00.6±1.1, 43°.76N±0°.05×105°.25W±0°.06, h0km±2km, ML3.2/54, Error ellipse: s-maj=9.8km s-min=6.8km az=144.0*

ISC 14 18:27:59.4±1.2, 43°.79N±0°.05×105°.15W±0°.07, h0km, n55, σ0°63/54, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.87	67		Pn	18 28 18.6	-0.4
K22A	Casper	1.52	222		Pn	18 28 26.4	-1.7
K22A				IAML		18 28 50.1	
	comp=E,406nm,0.3s						
K22A				IAML		18 28 51.4	
	comp=N,405nm,0.3s						
PHWY	Pilot Hill	2.50	185		Pn	18 28 41.3	-0.3
RWWY	Rawlins	2.59	217		Pn	18 28 43.6	+0.7
RWWY				IAML		18 29 21.4	
	comp=N,131nm,0.4s						
RWWY				IAML		18 29 21.8	
	comp=N,141nm,0.7s						
LAO	LASA Array	2.99	346		Pn	18 28 49.0	+0.8
RLMT	Red Lodge	3.24	296		Pn	18 28 51.6	-0.1
RLMT				IAML		18 29 42.9	
	comp=N,83nm,0.3s						
RLMT				IAML		18 29 47.4	
	comp=N,78nm,0.3s						
BW06	Boulder Array	3.38	254		Pn	18 28 53.1	-0.5
BW06				IAML		18 29 45.5	
	comp=N,57nm,0.4s						
BW06				IAML		18 29 46.1	
	comp=N,52nm,0.3s						
PD31	Pinedale Array	3.38	254		Pn	18 28 53.0	-0.6
PDAR	Pinedale Array	3.38	254	Pn	Pn	18 28 53.2	-0.4
	comp=N,4.7nm,0.3s,baz=68,slow=16,SNR=84						
PDAR				Lg	Lg	18 29 38.7	
	comp=N,22nm,0.3s,baz=65,slow=32,SNR=11						
PDAR	Pinedale Array	3.38	254		Pn	18 28 52.8	-0.9
YNE	Yellowstone No	3.69	291		Pn	18 28 57.4	-0.5
YNE				IAML		18 29 55.6	
	comp=N,56nm,0.8s						
YMP	Mirror Lake Pl	3.72	286		Pn	18 28 58.4	0.0
GCMT	Greycliff	3.79	303		Pn	18 28 59.4	+0.2
H17A	Grant Village	3.96	281		Pn	18 29 01.9	+0.3
H17A				IAML		18 31 05.7	
	comp=E,35nm,0.1s						
H17A				IAML		18 31 06.8	
	comp=N,39nm,0.1s						
LOHW	Long Hollow	3.96	269		Pn	18 29 01.1	-0.6
ISCO	Idaho Springs	4.00	185		Pn	18 29 03.1	+0.8
FLWY	Flagg Ranch	4.02	276		Pn	18 29 02.7	+0.2
FLWY				IAML		18 30 08.9	
	comp=N,41nm,2.5s						
FLWY				IAML		18 30 14.3	
	comp=N,30nm,2.1s						
SNOW	Snow King Moun	4.09	267		Pn	18 29 03.4	+0.1
SNOW				IAML		18 30 08.7	
	comp=N,34nm,0.5s						
SNOW				IAML		18 30 16.4	
	comp=N,34nm,0.9s						
YPP	Pitchstone Pla	4.11	279		Pn	18 29 03.7	0.0
REDW	Red Top Meadow	4.17	266		Pn	18 29 04.1	-0.4
REDW				IAML		18 30 18.2	
	comp=N,38nm,1.4s						
REDW				IAML		18 30 22.5	
	comp=N,33nm,2.0s						
E28A	Huff	4.20	47		Pn	18 29 06.7	+2.0
YHH	Holmes Hill	4.21	286		Pn	18 29 06.1	+0.9
TPAW	Teton Pass	4.22	268		Pn	18 29 05.7	+0.5
TPAW				IAML		18 30 32.7	
	comp=N,31nm,0.6s						
O20A	White River Ci	4.32	213		Pn	18 29 07.1	+0.6
O20A				IAML		18 30 18.2	
	comp=E,40nm,0.4s						
O20A				IAML		18 30 30.7	
	comp=N,36nm,2.0s						
YHB	Horse Butte	4.45	285		Pn	18 29 09.5	+1.1
AHID	Auburn Hatcher	4.47	259		Pn	18 29 09.4	+0.9
AHID				IAML		18 31 45.8	
	comp=E,36nm,0.5s						
RDMU	Red Mountain	4.60	227		Pn	18 29 10.7	+0.3
RDMU				IAML		18 30 29.7	
	comp=E,18nm,0.8s						
RDMU				IAML		18 30 32.4	
	comp=N,16nm,1.1s						
QLMT	Earthquake Lak	4.63	285		Pn	18 29 11.6	+0.8
SMCO	Snowmass	4.81	197		Pn	18 29 13.9	+0.4
SMCO				IAML		18 30 33.3	
	comp=N,18nm,0.4s						
SMCO				IAML		18 30 36.6	
	comp=N,24nm,0.3s						
BOZ	Bozeman (W)	4.96	294		Pn	18 29 14.7	-0.6
BOZ				IAML		18 30 33.9	
	comp=N,12nm,1.1s						
BOZ				IAML		18 30 34.4	
	comp=N,10nm,0.3s						
KSCO	Kaye Shedlock'	5.14	158	Pn	Pn	18 29 18.1	+0.4
HWUT	Hardware Ranch	5.21	247		Pn	18 29 18.5	-0.3
HWUT				IAML		18 30 46.0	
	comp=N,20nm,1.0s						
EGMT	Eagleton	5.31	324		Pn	18 29 20.2	+0.1
HRY	Holter Researc	5.55	304		Pn	18 29 23.5	+0.2
DLMT	Dillon	5.55	289		Pn	18 29 23.3	0.0
MCMT	McKenzie Canyo	5.62	283		Pn	18 29 24.7	+0.2
PV22	Blue Mesa, Par	5.93	209		Pn	18 29 27.9	-0.7
PV07	Paradox Valley	5.97	207		Pn	18 29 28.8	-0.4
P17A	Butcher Ranch,	6.01	226		Pn	18 29 29.9	+0.1
PV11	David Mesa, Pa	6.17	208		Pn	18 29 32.2	+0.3
PV16	Nyswonger Mesa	6.17	209		Pn	18 29 32.3	+0.3
SRU	San Rafael Swe

SIJI Sn **Sn** **18 30 01.4 -2.7**
43nm,0.3s,baz=197,slow=22,SNR=7.0
MTN Manton Dam 9.17 183 Pn **18 30 59.3 -0.5**
SOEI Soe 9.45 230 Pn **18 31 06.7 +3.0**
BATI Baumata 10.19 230 Pn **Pn** **18 31 15.6 +1.7**
1.4nm,0.3s,baz=117,slow=2.6,SNR=9.3
BATI Sn **Sn** **18 33 09.4 +1.9**
0.5nm,0.3s,baz=181,slow=21,SNR=2.0
TOLI2 Tolitoli 11.74 293 Pn **Pn** **18 31 35.8 +0.7**
KNRA Kununurra 12.28 193 Pn **Pn** **18 31 39.2 -3.3**
WB0 Warramunga Arr 16.28 170 Pn **Pn** **18 32 31.5 -4.7**
WRAB Tennant Creek 16.44 171 Pn **Pn** **18 32 37.3 -0.9**
WRA Warramunga Arr 16.45 171 Pn **Pn** **18 32 34.3 -4.0**
0.2nm,0.3s,baz=358,slow=13,SNR=17
WRA Sn Sn 18 35 27.6 -13
0.4nm,0.3s,baz=355,slow=24,SNR=5.9
WRA Warramunga Arr 16.45 171 Pn **18 32 33.4 -4.9**
WR0 Warramunga Arr 16.50 170 Pn **Pn** **18 32 35.8 -3.1**
WR0 IAmb IAmb 18 32 45.1
comp=Z,30nm,1.6s
PMG Port Moresby 16.54 111 Pn **Pn** **18 32 38.8 -0.7**
PMG IAmb IAmb 18 33 02.5
comp=Z,23nm,1.0s
AS31 Alice Springs 20.05 174 P **P** **18 33 20.8 +0.2**
ASAR Alice Springs 20.05 174 P **Pn** **18 33 22.3 -0.1**
comp=Z,2.8nm,0.6s,baz=350,slow=8.5,SNR=59
ASAR S **S** **18 36 57.0 -8.0**
comp=Z,0.8nm,0.9s,baz=356,slow=22,SNR=2.4
PSA00 Pilbara Seismi 21.15 212 P **P** **18 33 31.0 -1.5**
PSA00 Pilbara Seismi 21.15 212 P **P** **18 33 30.8 -1.7**
PSA00 IAmb IAmb 18 33 50.0
comp=Z,12nm,1.4s
CTA Charters Tower 21.76 140 P **P** **18 33 40.8 +1.8**
comp=Z,3.7nm,0.6s,baz=326,slow=12,SNR=7.2
CTAO Charters Tower 21.76 140 P **P** **18 33 40.8 +1.8**
CTAO IAmb IAmb 18 33 47.7
comp=Z,6.6nm,0.8s
FORT Forrest 27.21 187 P **P** **18 34 35.0 +4.0**
NACB Ninganchiao 29.28 341 P **P** **18 34 47.7 -1.8**
YHNB Yeheng 29.81 341 P **P** **18 34 51.9 -2.4**
JOW Kunigami 30.44 354 P **P** **18 34 57.9 -1.9**
CMAR Chiang Mai Arr 38.90 305 P **P** **18 36 11.3 -1.7**
comp=Z,1.8nm,1.0s,baz=133,slow=6.6,SNR=7.7
MJAR Matsushiro Arr 40.44 8 LR LR 18 51 18.9
comp=Z,68nm,21.6s,baz=130,slow=34
SONM Songino Array 55.79 340 P **P** **18 38 26.1 +1.9**
comp=Z,0.7nm,0.5s,baz=165,slow=6.0,SNR=5.9
SONM Songino Array 55.79 340 IAmb IAmb 18 38 27.9
comp=Z,2.2nm,1.0s
MK31 Makanchi Array 66.30 325 P **P** **18 39 35.8 +0.4**
MK31 IAmb IAmb 18 39 38.2
comp=Z,1.9nm,1.0s
MKAR Makanchi Array 66.30 325 P **P** **18 39 36.9 +1.5**
comp=Z,1.2nm,0.8s,baz=120,slow=8.1,SNR=12
MKAR Makanchi Array 66.30 325 P **P** **18 39 34.9 -0.5**
MAKZ Makanchi 66.49 325 P **P** **18 39 37.3 +0.6**
MAKZ IAmb IAmb 18 39 39.3
comp=Z,3.1nm,1.1s
KDJ Kajisay 67.01 319 P **P** **18 39 40.8 +0.5**
KDJ IAmb IAmb 18 39 50.8
comp=Z,1.9nm,0.9s
BOOM Boomskoye usch 67.99 319 P **P** **18 39 46.1 -0.4**
BOOM IAmb IAmb 18 40 13.0
comp=Z,1.7nm,1.0s
ZAA0 Zalesovo Array 69.28 333 P **P** **18 39 53.5 -0.6**
ZALV Zalesovo Beam 69.28 333 P **P** **18 39 54.8 +0.7**
comp=Z,0.5nm,0.4s,baz=109,slow=8.0,SNR=5.0
ZALV Zalesovo Beam 69.28 333 P **P** **18 39 53.8 -0.3**
KKAR Karatay Array 71.87 318 P **P** **18 40 08.7 -1.4**
VNDA Vanda 75.60 173 P **P** **18 40 33.4 +2.0**
comp=Z,0.5nm,0.8s,baz=325,slow=6.2,SNR=2.5
ILAR Eielson Array 89.66 25 P **P** **18 41 47.2 +2.6**
comp=Z,0.2nm,0.6s,baz=286,slow=3.7,SNR=1.5

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*IDC **14** 18:48:14.7±1.8, 1°.77S×139°.51E, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.7/29, mbtmp3.9/7, ML3.9/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/35, Error ellipse: s-maj=70.1km s-min=21.0km az=74.0*
*NEIC **14** 18:48:21.9±1.7, 1°.91S±0°.09×139°.18E±0°.10, h40km±10km, mb4.0/10, Error ellipse: s-maj=19.1km s-min=4.8km az=133.0*
ISC 14 18:48:21.2±1.1, 2°.0S±0°.1×139°.2E±0°.1, h35km, n29, σ1ŝ43/19, mb3.8/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**7.02**	**262**	Pn	**Pn**	**18 50 02.2**	**+0.6**
SIJI	**Sorong**	**8.03**	**278**	LR	LR	18 53 03.9	
comp=Z,151nm,20.5s,baz=285,slow=35							
MTN	**Manton Dam**	**13.41**	**216**	Pn	**Pn**	**18 51 30.2**	**+1.0**
KNRA	**Kununurra**	**17.05**	**217**		**P**	**18 52 18.2**	**-0.2**
BATI	**Baumata**	**17.47**	**242**	LR	LR	19 00 24.3	
comp=Z,264nm,18.4s,baz=264,slow=41							
WB0	**Warramunga Arr**	**18.27**	**195**		**Pn**	**18 52 32.5**	**+0.4**
WB0				IAmb	IAmb	18 52 36.6	
comp=Z,11nm,1.0s							
WR0	**Warramunga Arr**	**18.41**	**194**		**Pn**	**18 52 33.5**	**-0.4**
WR0				IAmb	IAmb	18 52 58.6	
comp=Z,18nm,1.4s							
WRAB	**Tennant Creek**	**18.44**	**195**		**Pn**	**18 52 33.3**	**-0.8**
WRAB				IAmb	IAmb	18 52 36.7	
comp=Z,24nm,1.6s							
WB2	**Warramunga Arr**	**18.45**	**195**	P	**Pn**	**18 52 34.7**	**+0.5**
WB2				IAmb	IAmb	18 52 43.9	
comp=Z,9.2nm,0.9s							
WRA	**Warramunga Arr**	**18.45**	**195**	P	**Pn**	**18 52 35.0**	**+0.8**
comp=Z,0.9nm,0.3s,baz=20,slow=12,SNR=48							
WRA				S	**Sn**	**18 55 55.6**	**-3.9**
comp=Z,0.1nm,0.3s,baz=6.8,slow=20,SNR=2.4							
CTA	**Charters Tower**	**19.24**	**160**	P	**P**	**18 52 40.9**	**-1.7**
comp=Z,0.1nm,0.3s,baz=0.0,slow=12,SNR=2.4							
CTAO	**Charters Tower**	**19.24**	**160**	P	**Pn**	**18 52 45.3**	**+1.6**
CTAO				IAmb	IAmb	18 53 24.4	
comp=Z,18nm,1.6s							
KAPI	**Kappang**	**19.66**	**261**	LR	LR	19 03 17.8	
comp=Z,49nm,19.7s,baz=290,slow=45							
AS31	**Alice Springs**	**22.13**	**193**	P	**P**	**18 53 13.9**	**0.0**
ASAR	**Alice Springs**	**22.13**	**193**	P	**P**	**18 53 15.4**	**+1.5**
comp=Z,5.6nm,0.9s,baz=22,slow=8.3,SNR=42							
ASAR	**Alice Springs**	**22.13**	**193**	P	**P**	**18 53 14.9**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**33.85**	**52**	T	T	19 30 37.7	
baz=236,slow=75,SNR=21							
H11S2	**WAKE ISLAND Hy**	**33.86**	**52**	T	T	19 30 38.2	
baz=236,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**33.87**	**52**	T	T	19 30 38.7	
baz=236,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**34.70**	**50**	T	T	19 31 44.8	
baz=233,slow=74							
H11N2	**WAKE ISLAND Hy**	**34.71**	**50**	T	T	19 31 51.6	
baz=233,slow=74							
H11N3	**WAKE ISLAND Hy**	**34.72**	**50**	T	T	19 31 51.6	
baz=233							
MJAR	**Matsushiro Arr**	**38.37**	**359**	LR	LR	19 08 43.2	
comp=Z,34nm,18.3s,baz=160,slow=32							
CMAR	**Chiang Mai Arr**	**44.54**	**299**	P	**P**	**18 56 29.7**	**-0.3**
comp=Z,0.5nm,0.7s,baz=105,slow=6.9,SNR=3.5							
CASY	**Casey**	**67.26**	**192**	P	**P**	**18 59 12.4**	**+0.6**
MKAR	**Makanchi Array**	**69.55**	**322**	P	**P**	**18 59 25.4**	**-1.2**
comp=Z,0.6nm,0.7s,baz=106,slow=6.4,SNR=5.6							
ZALV	**Zalesovo Beam**	**71.59**	**330**	P	**P**	**18 59 37.3**	**-1.5**
comp=Z,0.5nm,0.3s,baz=132,slow=4.1,SNR=1.3							
VNDA	**Vanda**	**76.43**	**175**	P	**P**	**19 00 08.0**	**+1.3**
comp=Z,0.9nm,0.8s,baz=329,slow=5.5,SNR=3.7							
VNDA	**Vanda**	**76.43**	**175**	IAmb	IAmb	19 00 10.3	
comp=Z,5.3nm,1.6s							

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*IDC **14** 18:48:34.3±0.6, 33°.25N×139°.64E, h0km, mb3.7/13, mb1 4.0/15, mb1mx3.8/39, mbtmp3.7/15, ML3.6/1, MS3.4/4, Ms1 3.4/4, ms1mx2.8/46, Error ellipse: s-maj=22.0km s-min=6.8km az=48.0*
*JMA **14** 18:48:37.1±0.1, 33°.33N×139°.53E, h32km±3km, M3.3*
ISC 14 18:48:37.4±0.6, 33°.27N±0°.05×139°.57E±0°.05, h22km, n33, σ1ŝ48/32, mb3.7/13, MS3.4/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.23**	**129**	Pn	**Pn**	**18 48 44.9**	**+1.7**
1μm,0.3s,baz=234,slow=7.7,SNR=135							
JHJ				Sn	**Sn**	**18 48 50.6**	**+3.6**
2μm,0.3s,baz=48,slow=23,SNR=17							
JHJ2	**Mitsune**	**0.26**	**127**	P	**Pn**	**18 48 44.8**	**-1.1**
JHCJ	**Hachijojimakas**	**0.27**	**135**	P	**Pn**	**18 48 44.9**	**-1.2**
JHCJ				S	**Sn**	**18 48 50.4**	**-1.1**
JMKN	**Mikurajimanish**	**0.62**	**1**	P	**Pb**	**18 48 48.2**	**-1.5**
JMKN				S	**Sb**	**18 48 56.2**	**-1.9**
JIZS	**Izushimoda**	**1.56**	**338**	P	**Pn**	**18 49 02.7**	**-1.1**
TK02	**Tokai 2**	**1.66**	**295**	P	**Pn**	**18 49 03.7**	**-1.3**
TK02				eS	**Sn**	**18 49 24.2**	**-1.3**
KTJ3	**Kamata3**	**1.71**	**346**	P	**Pb**	**18 49 05.9**	**-2.3**
BSO3	**Boso 3**	**1.72**	**27**	P	**Pb**	**18 49 05.5**	**-2.6**
MJAR	**Matsushiro Arr**	**3.45**	**341**	Pn	**Pn**	**18 49 30.8**	**+0.9**
0.2nm,0.3s,baz=152,slow=13,SNR=5.5							
MAT	**Matsushiro**	**3.46**	**341**	P	**Pn**	**18 49 31.6**	**+1.7**
MAT				eS	**Sn**	**18 50 11.6**	**+1.4**
JNU	**Nakatsue**	**7.29**	**271**	Pn	**Pn**	**18 50 23.5**	**+0.9**
1.0nm,0.3s,baz=58,slow=1.0,SNR=5.6							
JNU				Sn	**Sn**	**18 51 42.9**	**-1.9**
baz=321,slow=22,SNR=1.2							
KSRS	**Korea Array**	**10.39**	**297**	LR	LR	18 54 58.3	
comp=Z,137nm,18.9s,baz=124,slow=37							
H11N2	**WAKE ISLAND Hy**	**27.82**	**112**	T	T	19 23 34.8	
baz=305,slow=75,SNR=76							
H11N1	**WAKE ISLAND Hy**	**27.83**	**112**	T	T	19 23 35.2	
baz=305,slow=75,SNR=72							
H11N3	**WAKE ISLAND Hy**	**27.84**	**112**	T	T	19 23 36.2	
baz=305,slow=75,SNR=62							
H11S3	**WAKE ISLAND Hy**	**28.38**	**114**	T	T	19 24 16.1	
baz=307,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**28.38**	**114**	T	T	19 24 16.0	
baz=307,slow=75,SNR=46							
H11S2	**WAKE ISLAND Hy**	**28.39**	**114**	T	T	19 24 16.7	
baz=307,slow=75,SNR=42							
SONM	**Songino Array**	**28.85**	**310**	P	**P**	**18 54 35.0**	**+0.7**
0.8nm,0.7s,baz=116,slow=9.8,SNR=2.9							
ZALV	**Zalesovo Beam**	**43.43**	**315**	P	**P**	**18 56 40.1**	**+1.7**
0.3nm,0.3s,baz=88,slow=9.5,SNR=1.5							
ZALV				PcP	**PcP**	**18 58 25.9**	**-0.5**
0.9nm,0.5s,baz=88,slow=3.5,SNR=2.4							
MKAR	**Makanchi Array**	**44.94**	**305**	P	**P**	**18 56 51.2**	**+0.5**
0.6nm,0.7s,baz=85,slow=9.8,SNR=6.6							
LEM	**Lembang**	**50.10**	**223**	LR	LR	19 21 07.7	
comp=Z,68nm,18.2s,baz=308,slow=39							
WRA	**Warramunga Arr**	**53.15**	**186**	P	**P**	**18 57 53.0**	**-0.6**
0.6nm,0.6s,baz=2.3,slow=7.6,SNR=5.2							
ILAR	**Eielson Array**	**53.49**	**31**	P	**P**	**18 57 54.7**	**-1.0**
0.6nm,0.7s,baz=263,slow=6.7,SNR=7.2							
ASAR	**Alice Springs**	**56.87**	**186**	P	**P**	**18 58 21.3**	**+0.7**
0.2nm,0.5s,baz=5.2,slow=6.8,SNR=5.7							
YKA	**Yellowknife Ar**	**67.82**	**29**	P	**P**	**18 59 34.3**	**+0.9**
0.7nm,0.8s,baz=295,slow=5.7,SNR=4.0							
FINES	**FINESS Array B**	**71.44**	**332**	P	**P**	**18 59 55.9**	**+0.2**
1.8nm,0.8s,baz=66,slow=4.6,SNR=5.8							
FINES				LR	LR	19 35 07.4	
comp=Z,21nm,18.4s,baz=352,slow=39							
NB2	**NORSAR Subarra**	**77.06**	**337**	P	**P**	**19 00 29.1**	**+0.5**
comp=Z,3.7nm,1.0s,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**77.06**	**337**	P	**P**	**19 00 28.8**	**+0.2**
comp=Z,1.3nm,0.8s,baz=42,slow=5.9,SNR=5.3							
NOA				LR	LR	19 38 18.8	
comp=Z,14nm,19.4s,baz=90,slow=39							
NVAR	**Mina Array Bea**	**78.48**	**52**	P	**P**	**19 00 37.0**	**-0.1**
comp=Z,0.2nm,0.4s,baz=272,slow=3.5,SNR=1.7							
PDAR	**Pinedale Array**	**81.40**	**44**	P	**P**	**19 00 54.1**	**+1.2**
comp=Z,0.2nm,0.6s,baz=282,slow=5.4,SNR=2.9							
GERES	**GERESS Array B**	**85.09**	**328**	P	**P**	**19 01 11.5**	**-0.1**
comp=Z,0.4nm,0.6s,baz=23,slow=3.2,SNR=4.4							
TXAR	**Lajitas Array**	**93.63**	**51**	P	**P**	**19 01 54.2**	**+1.8**
comp=Z,0.3nm,0.6s,baz=293,slow=4.6,SNR=2.7							

IDC 14 18:52:38.3±4.2, 4°.74S×151°.20E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/25, mbtmp3.2/2, Error ellipse: s-maj=166.0km s-min=55.1km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.31**	**226**	P	P	18 57 38.2	+0.5
0.6nm,0.9s,baz=51,slow=10,SNR=1.7							
ASAR	**Alice Springs**	**25.14**	**220**	P	P	18 58 05.0	-0.4
0.4nm,0.3s,baz=56,slow=9.1,SNR=4.8							
TORD	**Torodi Ar. Bea**	**148.77**	**288**	PKPbc	PKPbc	19 12 28.4	-0.5
0.1nm,0.3s,baz=61,slow=2.2,SNR=1.1							

IDC 14 18:58:49.5±4.4, 2°.06S×139°.58E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=169.7km s-min=29.5km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.50**	**196**	P	P	19 03 07.1	-0.3
0.2nm,0.3s,baz=17,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.17**	**194**	P	P	19 03 47.8	+0.4
3.0nm,0.9s,baz=25,slow=10,SNR=15							
H11S3	**WAKE ISLAND Hy**	**33.60**	**51**	T	T	19 41 10.6	
baz=236,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**33.61**	**51**	T	T	19 41 11.2	
baz=236,slow=75,SNR=8.0							
H11S1	**WAKE ISLAND Hy**	**33.62**	**51**	T	T	19 41 11.8	
baz=236,slow=75,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**34.46**	**50**	T	T	19 42 20.5	
baz=234							
H11N2	**WAKE ISLAND Hy**	**34.47**	**50**	T	T	19 42 14.5	
baz=234							
H11N3	**WAKE ISLAND Hy**	**34.47**	**50**	T	T	19 42 22.7	
baz=234							
MKAR	**Makanchi Array**	**69.81**	**322**	P	P	19 10 01.7	-0.2
0.3nm,0.6s,baz=109,slow=6.6,SNR=4.3							

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*IDC **14** 19:00:45.7±4.6, 33°.18N×140°.68E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.2/34, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=199.6km s-min=34.4km az=73.0*
*JMA **14** 19:00:48.1±0.1, 33°.33N×139°.51E, h33km, M2.9*
ISC 14 19:00:49.2±1.1, 33°.33N±0°.06×139°.6E±0°.1, h35km, n16, σ1ŝ38/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.26**	**145**	P	**Pn**	**19 00 56.0**	**-0.7**
JHCJ	**Hachijojimakas**	**0.29**	**152**	P	**Pn**	**19 00 56.1**	**-1.0**
JHCJ				S	**Sn**	**19 01 01.6**	**-0.8**
JMKN	**Mikurajimanish**	**0.56**	**356**	P	**Pn**	**19 00 59.3**	**-1.5**
JMKN				S	**Sn**	**19 01 07.3**	**-1.6**
JIZS	**Izushimoda**	**1.52**	**336**	P	**Pn**	**19 01 13.8**	**-0.2**
KTJ3	**Kamata3**	**1.67**	**344**	P	**Pn**	**19 01 17.7**	**+1.7**
TK02	**Tokai 2**	**1.68**	**292**	P	**Pn**	**19 01 14.9**	**-1.1**
TK04	**Tokai 4**	**1.81**	**306**	P	**Pn**	**19 01 17.0**	**-0.7**
MJAR	**Matsushiro Arr**	**3.41**	**340**	Pn	Pn	19 01 46.7	+6.8
0.1nm,0.3s,baz=148,slow=12,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**27.80**	**112**	T	T	19 35 40.6	
baz=305,slow=75,SNR=26							
H11N1	**WAKE ISLAND Hy**	**27.80**	**112**	T	T	19 35 44.6	
baz=305,slow=75,SNR=18							
H11N3	**WAKE ISLAND Hy**	**27.82**	**112**	T	T	19 35 42.7	
baz=305,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	**28.36**	**115**	T	T	19 36 26.5	
baz=307,slow=75,SNR=5.0							
H11S1	**WAKE ISLAND Hy**	**28.36**	**115**	T	T	19 36 27.0	
baz=307,slow=75,SNR=4.9							
H11S2	**WAKE ISLAND Hy**	**28.37**	**115**	T	T	19 36 27.8	
baz=307,slow=75,SNR=5.5							
WRA	**Warramunga Arr**	**53.21**	**186**	P	**P**	**19 10 05.4**	**+1.2**
0.7nm,1.0s,baz=6.2,slow=8.5,SNR=1.6							
ASAR	**Alice Springs**	**56.94**	**186**	P	**P**	**19 10 32.5**	**+1.4**
0.5nm,0.9s,baz=1.3,slow=6.0,SNR=4.1							

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*IDC **14** 19:17:45.4±0.9, 30°.72N×142°.72E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.6/54, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=29.6km s-min=19.5km az=81.0*
*JMA **14** 19:17:45.6±0.6, 30°.89N×143°.00E, h34km, M4.4*
ISC 14 19:17:49.7±0.9, 30°.94N±0°.10×142°.9E±0°.1, h30km, n22, σ1ŝ15/25, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.37**	**311**	P	**Pn**	**19 18 39.5**	**-0.9**
JHJ	**Hachijo jima 2**	**3.40**	**310**	Pn	**Pn**	**19 18 40.6**	**-0.1**
6.9nm,0.3s,baz=264,slow=19,SNR=1.1							
BSO1	**Boso 1**	**4.03**	**337**	P	**Pn**	**19 18 48.7**	**-0.2**
BSO1				eS	**Sn**	**19 19 35.5**	**+0.7**
BSO3	**Boso 3**	**4.33**	**333**	P	**Pn**	**19 18 52.8**	**-0.5**
JOD2	**Odawara 2**	**5.35**	**325**	P	**Pn**	**19 19 07.4**	**-0.1**
JOD2				eS	**Sn**	**19 20 09.1**	**+1.0**
JYT	**Yasato**	**5.72**	**338**	P	**Pn**	**19 19 11.9**	**-0.7**
JHU	**Hanno**	**5.74**	**329**	P	**Pn**	**19 19 12.7**	**-0.2**
JHO	**Hitachi**	**5.97**	**342**	P	**Pn**	**19 19 14.8**	**-1.2**
JAG	**Ashikaga**	**6.16**	**333**	P	**Pn**	**19 19 18.1**	**-0.6**
MJAR	**Matsushiro Arr**	**6.80**	**326**	Pn	**Pn**	**19 19 28.2**	**+0.8**
0.2nm,0.3s,baz=309,slow=16,SNR=12							
MJAR				Sn	**Sn**	**19 20 42.4**	**-1.5**
0.2nm,0.3s,baz=14,slow=23,SNR=4.6							
MAT	**Matsushiro**	**6.80**	**326**	P	**Pn**	**19 19 28.3**	**+0.8**
MAT				eS	**Sn**	**19 20 42.5**	**-1.4**
JMK	**Ichinoseki**	**8.10**	**351**	P	**Pn**	**19 19 44.0**	**-1.3**
ASAJ	**Asahikawa**	**13.15**	**359**	Pn	**Pn**	**19 20 52.0**	**-2.4**
0.7nm,0.3s,baz=212,slow=3.3,SNR=8.6							
ZALV	**Zalesovo Beam**	**47.04**	**317**	PcP	**PcP**	**19 27 50.5**	**+0.5**
1.3nm,0.7s,baz=103,slow=2.4,SNR=5.4							
MKAR	**Makanchi Array**	**48.56**	**307**	P	**P**	**19 26 31.4**	**+1.1**
0.6nm,0.6s,baz=98,slow=8.6,SNR=8.1							
KURBB	**Kurchatov Arra**	**50.84**	**312**	P	**P**	**19 26 46.3**	**-1.2**
0.2nm,0.5s,baz=87,slow=7.1,SNR=1.9							
WRA	**Warramunga Arr**	**51.25**	**190**	P	**P**	**19 26 49.2**	**-1.6**
2.9nm,0.7s,baz=11,slow=7.9,SNR=16							
ILAR	**Eielson Array**	**54.08**	**30**	P	P	19 27 14.6	+3.3
0.4nm,0.5s,baz=269,slow=6.0,SNR=3.1							
ASAR	**Alice Springs**	**54.97**	**190**	P	**P**	**19 27 16.9**	**-1.4**
0.8nm,0.7s,baz=5.1,slow=6.7,SNR=15							
YKA	**Yellowknife Ar**	**68.49**	**29**	P	**P**	**19 28 50.2**	**+1.4**
0.4nm,0.6s,baz=289,slow=6.1,SNR=2.6							
NVAR	**Mina Array Bea**	**77.70**	**53**	P	**P**	**19 29 45.2**	**+1.2**
0.2nm,0.3s,baz=274,slow=5.3,SNR=2.3							
BRTR	**Keskin Array B**	**83.83**	**313**	P	**P**	**19 30 17.4**	**+0.8**
1.0nm,0.8s,baz=90,slow=5.8,SNR=5.3							

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*SOME **14** 19:27:19.1, 37°.17N×78°.00E, h10km*
*IDC **14** 19:27:25.1±1.4, 37°.39N×78°.20E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/43, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=34.5km s-min=25.2km az=56.0*
ISC 14 19:27:28.2±1.1, 37°.42N±0°.07×78°.2E±0°.1, h17km, n15, σ2ŝ38/22, mb3.6/5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**5.63**	**1**	eP	**Pb**	**19 29 08.8**	**+2.7**
10nm,0.6s							
SATY				eS	**Sg**	**19 30 27.8**	**-1.1**
21nm,0.6s							
UZB	**Uzynbulak**	**5.75**	**6**	eP	**Pb**	**19 29 10.1**	**+1.9**
4.1nm,0.3s							
UZB				eS	**Sg**	**19 30 30.0**	**-2.8**
12nm,0.6s							
MDOK	**Medeo**	**5.80**	**351**	eP	**Pb**	**19 29 11.5**	**+2.4**
11nm,0.5s							
MDOK				eS	**Sg**	**19 30 32.4**	**-2.1**
23nm,0.6s							
SHLS	**Shalkode**	**5.80**	**9**	eP	Pb	19 29 14.6	+5.5
17nm,0.8s							
SHLS				eS	**Sg**	**19 30 37.7**	**+3.2**
29nm,0.7s							
KOTS	**Kotyrbulak**	**5.87**	**352**	eP	**Pb**	**19 29 13.1**	**+3.0**
5.7nm,0.2s							
KOTS				eS	**Sg**	**19 30 35.3**	**-1.2**
38nm,0.5s							
KST	**Kastek**	**5.87**	**344**	eP	**Pb**	**19 29 13.5**	**+3.3**
4.9nm,0.4s							
KST				eS	**Sg**	**19 30 36.0**	**-0.8**
8.3nm,0.5s							
AAK	**Ala-Archa**	**5.94**	**332**	Pg	**Pb**	**19 29 14.2**	**+2.7**
2.2nm,0.3s,baz=144,slow=8.7,SNR=4.0							
AAK				Lg	Lg	19 30 29.4	
0.7nm,0.3s,baz=201,slow=21,SNR=1.4							
KPKS	**Kokpek**	**6.05**	**3**	eP	**Pb**	**19 29 17.4**	**+4.2**
17nm,0.3s							
KPKS				eS	**Sg**	**19 30 42.7**	**+0.5**
25nm,0.5s							
MKAR	**Makanchi Array**	**9.84**	**17**	Pn	**Pn**	**19 29 48.9**	**0.0**
0.7nm,0.3s,baz=200,slow=12,SNR=37							
MKAR				Sn	**Sn**	**19 31 34.6**	**-4.2**
0.8nm,0.3s,baz=187,slow=28,SNR=6.2							
GEYT	**Alibeck**	**15.93**	**278**	Pn	**P**	**19 31 15.3**	**+0.1**
0.6nm,0.3s,baz=82,slow=12,SNR=4.7							
CMAR	**Chiang Mai Arr**	**26.20**	**130**	P	**P**	**19 33 01.9**	**-0.2**
0.2nm,0.6s,baz=311,slow=9.6,SNR=1.9							
BRTR	**Keskin Array B**	**34.67**	**288**	P	**P**	**19 34 16.5**	**-0.5**
0.3nm,0.6s,baz=100,slow=12,SNR=1.9							
FINES	**FINESS Array B**	**40.05**	**324**	P	**P**	**19 35 02.5**	**+0.3**
1.1nm,0.8s,baz=96,slow=13,SNR=2.1							
NOA	**NORSAR Array B**	**47.16**	**322**	P	**P**	**19 35 58.9**	**-0.6**
0.4nm,0.6s,baz=90,slow=7.6,SNR=1.7							
TORD	**Torodi Ar. Bea**	**71.49**	**273**	P	**P**	**19 38 47.4**	**-1.0**
0.5nm,0.4s,baz=50,slow=5.7,SNR=11							

IDC 14 20:26:14.8±1.9, 6°.46S×130°.11E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.3/36, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=79.9km s-min=29.1km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.67**	**12**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.27**	**187**	S	S	20 43 29.0	+3.8
HAZ	**Te Kaha**	**5.53**	**191**	P	Pn	20 42 29.6	+4.3
HAZ				S	S	20 43 33.6	+2.7
RUGZ	**Raukumara Rang**	**5.75**	**191**	P	Pn	20 42 31.5	+3.3
RUGZ				S	S	20 43 33.7	-2.5
PUZ	**Puketiti**	**5.78**	**186**	P	Pn	20 42 32.7	+4.3
PUZ				S	S	20 43 37.2	+0.5
TWGZ	**Tauwhareparae**	**5.91**	**188**	S	S	20 43 43.0	+3.3
MWZ	**Matawai**	**6.13**	**191**	P	Pn	20 42 36.9	+4.1
MWZ				S	S	20 43 47.1	+2.4
RIGZ	**Rimuhau**	**6.46**	**189**	P	Pn	20 42 40.5	+3.5
RIGZ				S	S	20 43 51.6	-0.6
KWHZ	**Kaweka Forest**	**7.41**	**196**	P	Pn	20 42 50.8	+1.9
KWHZ				S	S	20 44 15.6	+1.7
BHHZ	**Black Hill Sta**	**7.56**	**198**	P	Pn	20 42 52.5	+1.7
BHHZ				S	S	20 44 17.7	+0.3
KRHZ	**Kereru**	**7.63**	**196**	P	Pn	20 42 52.6	+1.0
KRHZ				S	S	20 44 17.0	-2.0
PNHZ	**Pukenui**	**7.93**	**196**	P	Pn	20 42 56.0	+0.6
PNHZ				S	S	20 44 22.5	-3.4
BFZ	**Birch Farm**	**8.65**	**194**	P	Pn	20 43 04.8	+0.3
BFZ				S	S	20 44 37.9	-4.7
MRZ	**Mangatainoka R**	**8.79**	**198**	P	Pn	20 43 05.6	-0.7
MRZ				S	S	20 44 39.1	-6.6
TIWZ	**Tintock**	**8.82**	**196**	P	Pn	20 43 06.3	-0.4
TIWZ				S	S	20 44 40.8	-5.7
OGWZ	**Otaki Gorge**	**9.04**	**199**	P	Pn	20 43 08.8	-0.7
OGWZ				S	S	20 44 49.0	-2.7

*IDC **14** 20:45:37.9±4.1, 30°.65N×141°.62E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/38, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=159.6km s-min=20.3km az=71.0*
*JMA **14** 20:45:41.8±0.2, 31°.04N×141°.97E, h52km, M3.7*

ISC 14 20:45:40.7±1.5, 30°.9N±0°.1×141°.9E±0°.2, h24km, n14, σ1§50/18, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.86**	**322**	P	**Pn**	**20 46 24.8**	**0.0**
JHJ	**Hachijo jima 2**	**2.88**	**321**	Pn	**Pn**	**20 46 24.1**	**-1.0**
	6.1nm,0.3s,baz=55,slow=22,SNR=1.4						
JHJ				Sn	**Sn**	**20 46 56.2**	**-2.8**
	13nm,0.3s,baz=71,slow=23,SNR=1.6						
BSO1	**Boso 1**	**3.85**	**348**	P	**Pn**	**20 46 38.2**	**+0.3**
BSO3	**Boso 3**	**4.09**	**343**	P	**Pn**	**20 46 41.5**	**0.0**
JOD2	**Odawara 2**	**4.98**	**332**	*e*S	**Sn**	**20 47 49.4**	**-1.4**
JHU	**Hanno**	**5.43**	**337**	P	**Pn**	**20 47 00.4**	**+0.3**
JHU				*e*S	**Sn**	**20 48 00.2**	**-1.7**
JRY	**Ryogami san**	**5.71**	**335**	P	**Pn**	**20 47 04.7**	**+0.6**
JRY				*e*S	**Sn**	**20 48 07.8**	**-1.1**
JAG	**Ashikaga**	**5.90**	**340**	*e*S	**Sn**	**20 48 11.9**	**-1.6**
MJAR	**Matsushiro Arr**	**6.44**	**332**	Pn	**Pn**	**20 47 14.1**	**+0.1**
	0.2nm,0.3s,baz=159,slow=12,SNR=10						
MJAR				Sn	**Sn**	**20 48 27.2**	**+0.4**
	0.1nm,0.3s,baz=212,slow=44,SNR=1.3						
KSRS	**Korea Array**	**13.32**	**303**	Pn	**Pn**	**20 48 51.2**	**+3.0**
	0.3nm,0.3s,baz=113,slow=12,SNR=3.2						
SONM	**Songino Array**	**31.92**	**312**	P	**P**	**20 52 06.1**	**+1.6**
	0.7nm,0.6s,baz=115,slow=8.4,SNR=2.4						
MKAR	**Makanchi Array**	**47.96**	**307**	P	**P**	**20 54 17.9**	**+0.5**
	0.8nm,0.6s,baz=91,slow=9.3,SNR=13						
WRA	**Warramunga Arr**	**51.05**	**189**	P	**P**	**20 54 39.6**	**-1.6**
	0.3nm,0.3s,baz=6.4,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**54.78**	**189**	P	**P**	**20 55 07.6**	**-1.0**
	0.2nm,0.4s,baz=2.0,slow=5.4,SNR=5.3						

MAN 14 20:48:29.2, 9°.65N×125°.37E, h50km, mb3.6, ML2.3, MS1.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.36**	**209**	*e*P	Pn	20 48 53.4	+1.5
CGP				*e*S	Sn	20 49 09.7	+0.8

*NEIC **14** 20:52:24.1±2.8, 17°.8S±0°.1×178°.9W±0°.1, h512km±9km, mb4.4/15, Error ellipse: s-maj=25.6km s-min=7.6km az=145.0*
*IDC **14** 20:52:25.3±1.3, 17°.64S×178°.99W, h539km±10km, mb3.1/8, mb1 3.4/9, mb1mx3.1/41, mbtmp4.1/9, Error ellipse: s-maj=32.8km s-min=17.3km az=145.0*

ISC 14 20:52:24.5±0.6, 17°.7S±0°.1×178°.74W±0°.10, h550km, n31, σ1§99/33, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**269**	P	**P**	**20 53 39.1**	**-0.9**
	18nm,0.3s,baz=62,slow=2.8,SNR=109						
MSVF				S	**S**	**20 54 38.1**	**-3.3**
	baz=277,slow=23,SNR=0.8						
AFI	**Afiamalu**	**7.68**	**62**	P	**P**	**20 54 16.7**	**-2.5**
	4.4nm,0.3s,baz=153,slow=23,SNR=1.7						
AFI				S	**S**	**20 55 48.2**	**-5.1**
	2.1nm,0.3s,baz=239,slow=17,SNR=1.6						
AFI	**Afiamalu**	**7.68**	**62**	P	**P**	**20 54 17.2**	**-2.0**
MARNC	**Mare, Loyalty**	**13.03**	**251**	P	**P**	**20 55 11.1**	**-2.5**
LIFNC	**LIFOU**	**13.59**	**255**	P	**P**	**20 55 16.3**	**-3.2**
PINNC	**Pines Island,**	**13.86**	**247**	P	**P**	**20 55 21.8**	**-0.4**
URZ	**Urewera**	**20.81**	**189**	P	**P**	**20 56 28.3**	**+0.6**
	13nm,0.9s,baz=256,slow=19,SNR=1.5						
KHZ	**Kahutara**	**25.51**	**193**	P	**P**	**20 57 09.9**	**+0.4**
LTZ	**Lake Taylor**	**26.15**	**195**	P	**P**	**20 57 15.5**	**+0.2**
LBZ	**Lake Benmore**	**28.20**	**197**	P	**P**	**20 57 32.4**	**-0.7**
EIDS	**Eidsvold**	**29.05**	**250**	P	**P**	**20 57 40.0**	**-0.8**
EIDS				IAmb	IAmb	20 57 50.4	
	comp=Z,18nm,1.6s						
MLZ	**Mavora Lakes**	**29.70**	**199**	P	**P**	**20 57 47.0**	**+0.9**
ARMA	**Armidale**	**29.78**	**239**	P	**P**	**20 57 48.2**	**+1.0**
ARMA				IAmb	IAmb	20 57 59.7	
	comp=Z,29nm,1.6s						
CTA	**Charters Tower**	**33.17**	**260**	P	**P**	**20 58 15.5**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=97,slow=8.1,SNR=1.6						
TOO	**Toolangi**	**37.06**	**230**	P	**P**	**20 58 50.0**	**+1.6**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**20 59 00.7**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=90,slow=9.6,SNR=17						
STKA	**Stephens Creek**	**38.46**	**241**	IAmb	IAmb	20 59 03.9	
	comp=Z,6.9nm,1.7s						
WR0	**Warramunga Arr**	**44.17**	**259**	P	**P**	**20 59 44.0**	**-1.2**
WR0				IAmb	IAmb	20 59 50.4	
	comp=Z,24nm,1.6s						
WB0	**Warramunga Arr**	**44.33**	**260**	P	**P**	**20 59 44.8**	**-1.5**
WB0				IAmb	IAmb	20 59 46.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**44.35**	**259**	P	**P**	**20 59 45.1**	**-1.4**
WB2				IAmb	IAmb	21 00 05.8	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**20 59 45.3**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=94,slow=7.9,SNR=25						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**20 59 44.8**	**-1.8**
AS31	**Alice Springs**	**44.55**	**254**	P	**P**	**20 59 47.4**	**-0.6**
AS31				IAmb	IAmb	20 59 48.2	
	comp=Z,3.2nm,0.5s						
ASAR	**Alice Springs**	**44.55**	**254**	P	**P**	**20 59 47.7**	**-0.3**
	comp=Z,6.7nm,0.4s,baz=89,slow=8.1,SNR=144						
MJB9	**Matsu-Tunnel**	**67.55**	**323**	P	**P**	**21 02 30.8**	**+4.3**
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**21 03 35.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=233,slow=8.9,SNR=2.5						
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**21 04 06.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=212,slow=6.5,SNR=2.8						
TXAR	**Lajitas Array**	**86.15**	**58**	P	**P**	**21 04 11.6**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=219,slow=5.8,SNR=4.6						
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	**PKPab**	**21 11 00.1**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=106,slow=4.4,SNR=3.6						
CLL	**Collm**	**145.19**	**347**	*i* PKPbc	**PKPab**	**21 11 02.1**	**+0.6**
	comp=Z,3.0nm,0.6s						
CLL				*i* PKPab	**PKiKP**	**21 11 03.1**	**-0.6**
	comp=Z,4.0nm,1.0s						
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc	**PKiKP**	**21 11 08.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=0.5,SNR=5.7						

NNC 14 21:01:59.1±8.8, 37°.75N×71°.74E, h0km, mb3.9, mpv3.5, 1C-4D, Error ellipse: s-maj=73.7km s-min=53.8km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.32**	**22**	⇓P	Pn	21 03 21.1	+1.2
	3.6nm,0.6s						
AAK				⇓S	Sn	21 04 22.2	+0.2
	6.2nm,0.6s						
KK31	**Karatay Array**	**5.43**	**350**	P	Pn	21 03 23.6	+2.3
	1.5nm,0.2s,baz=166,slow=11,SNR=26						
KK31				⇓S	Sn	21 04 26.1	+1.6
	5.4nm,0.3s,baz=166,slow=21,SNR=18						
AB31	**Akbulak array**	**14.32**	**327**	⇓P	Pn	21 05 18.6	-4.4
	0.8nm,0.4s,baz=132,slow=11,SNR=43						
AKTO	**Aktyubinsk**	**16.03**	**327**	⇑P	Pn	21 05 41.0	-4.8
	1.5nm,0.5s						

*IDC **14** 21:06:15.0±18.0, 30°.90S×179°.89W, h358km±217km, mb2.9/2, mb1 3.3/3, mb1mx3.0/24, mbtmp3.9/3, Error ellipse: s-maj=264.8km s-min=43.8km az=1.0*

ISC 14 21:06:18.1±1.9, 31°.0S±0°.1×179°.5E±0°.3, h350km, n20, σ2§24/31, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.83**	**54**	P	Pn	21 07 17.9	+1.9
GLKZ				S	S	21 08 03.6	+1.0
OUZ	**Omahuta**	**6.50**	**228**	P	Pn	21 08 02.8	+8.3
MXZ	**Matakaoa Point**	**6.64**	**188**	P	**Pn**	**21 07 59.4**	**+3.3**
MXZ				S	**S**	**21 09 14.3**	**-1.5**
WIAZ	**Waiheke Island**	**6.83**	**211**	P	**Pn**	**21 08 00.9**	**+2.5**
WMGZ	**Waiomatatini S**	**6.88**	**187**	P	**Pn**	**21 08 00.8**	**+1.8**
WMGZ				S	**S**	**21 09 20.8**	**-0.1**
HAZ	**Te Kaha**	**6.91**	**191**	P	**Pn**	**21 08 01.1**	**+1.9**
HAZ				S	**S**	**21 09 20.8**	**-0.7**
PKGZ	**Pakihiroa**	**6.99**	**189**	P	**Pn**	**21 08 02.0**	**+1.7**
PKGZ				S	**S**	**21 09 21.8**	**-1.6**
RUGZ	**Raukumara Rang**	**7.13**	**192**	P	**Pn**	**21 08 03.5**	**+1.5**
RUGZ				S	**S**	**21 09 23.9**	**-2.5**
PUZ	**Puketiti**	**7.15**	**188**	P	**Pn**	**21 08 04.0**	**+1.9**
PUZ				S	**S**	**21 09 23.7**	**-3.1**
TWGZ	**Tauwhareparae**	**7.29**	**189**	P	**Pn**	**21 08 07.0**	**+3.2**
TWGZ				S	**S**	**21 09 28.5**	**-1.3**
MWZ	**Matawai**	**7.51**	**192**	P	**Pn**	**21 08 06.9**	**+0.5**
MWZ				S	**S**	**21 09 31.1**	**-3.6**
URZ	**Urewera**	**7.52**	**194**	P	**Pn**	**21 08 05.9**	**-0.5**
	9.2nm,0.3s,baz=328,slow=15,SNR=65						
URZ				S	**S**	**21 09 32.1**	**-2.6**
	2.0nm,0.3s,baz=78,slow=23,SNR=11						
URZ	**Urewera**	**7.52**	**194**	P	**Pn**	**21 08 06.4**	**-0.1**
URZ				S	**S**	**21 09 33.4**	**-1.3**
OMRZ	**Omania**	**7.56**	**199**	P	**Pn**	**21 08 08.3**	**+1.3**
TKGZ	**Te Karaka**	**7.56**	**190**	P	**Pn**	**21 08 09.1**	**+2.1**
TKGZ				S	**S**	**21 09 33.0**	**-2.6**
RIGZ	**Rimuhau**	**7.84**	**190**	P	**P**	**21 08 12.2**	**+2.0**
RIGZ				S	**S**	**21 09 38.6**	**-3.0**
SNGZ	**Shannon Statio**	**7.98**	**192**	P	**P**	**21 08 13.7**	**+1.7**
SNGZ				S	**S**	**21 09 42.7**	**-2.0**
ASAR	**Alice Springs**	**40.91**	**269**	P	**P**	**21 13 28.4**	**+0.6**
	0.4nm,0.4s,baz=104,slow=7.4,SNR=8.1						
WRA	**Warramunga Arr**	**41.95**	**274**	P	**P**	**21 13 36.3**	**+0.1**
	0.7nm,0.6s,baz=110,slow=8.0,SNR=8.9						
FINES	**FINESS Array B**	**144.90**	**338**	PKPbc	**PKPdf**	**21 25 08.7**	**-4.4**
	0.8nm,0.6s,baz=64,slow=6.3,SNR=5.7						

*ISK **14** 21:22:10.9, 35°.29N×31°.39E, h6km, ML2.3/10*
*NIC **14** 21:22:12.8±0.0, 35°.45N×31°.45E, h16km±1km, Ml2.6/6*
*DDA **14** 21:22:20.4, 35°.81N×31°.33E, h7km±1km, ML1.7*

ISC 14 21:22:12.7±1.7, 35°.39N±0°.04×31°.46E±0°.06, h11km±11km, n24, σ1§12/37, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.81**	**117**	P	**Pg**	**21 22 28.2**	**-0.2**
AKMS				S	**Sb**	**21 22 41.3**	**+1.4**
AKMS				AML	AML	21 22 42.6	
	0.7nm,0.3s						
AKMS				AML	AML	21 22 42.6	
	0.7nm,0.3s						
AKMS				AML	AML	21 22 44.2	
	1.1nm,0.5s						
AKMS				AML	AML	21 22 44.2	
	1.1nm,0.5s						
ALFC	**Alefka**	**0.96**	**104**	P	**Pb**	**21 22 31.7**	**+0.2**
ALFC				S	**Sn**	**21 22 46.1**	**+0.1**
ALFC				AML	AML	21 22 46.5	
	0.7nm,0.3s						
ALFC				AML	AML	21 22 46.5	
	0.7nm,0.3s						
ALFC				AML	AML	21 22 46.5	
	0.7nm,0.4s						
ALFC				AML	AML	21 22 46.5	
	0.7nm,0.4s						
GAZI	**Gazipasa**	**1.09**	**39**	*i* P	**Pg**	**21 22 34.0**	**+0.2**
GAZI				*i* S	**Sn**	**21 22 49.1**	**-0.1**
GAZI	**Gazipasa**	**1.09**	**39**	PN	**Pn**	**21 22 34.5**	**+0.4**
GAZI				SN	**Sn**	**21 22 51.2**	**+1.9**
NATA	**Nata**	**1.10**	**123**	P	**Pb**	**21 22 33.9**	**+0.1**
NATA				S	**Sn**	**21 22 50.6**	**+1.3**
NATA				AML	AML	21 22 53.6	
	1.5nm,0.3s						
NATA				AML	AML	21 22 53.6	
	1.5nm,0.3s						
NATA				AML	AML	21 23 00.9	
	1.1nm,0.6s						
NATA				AML	AML	21 23 00.9	
	1.1nm,0.6s						
LEF	**Lefka**	**1.21**	**103**	PN	**Pb**	**21 22 33.9**	**-1.7**
LEF				SN	**Sb**	**21 22 51.4**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.30**	**316**	*i* P	**Pb**	**21 22 37.7**	**+0.5**
SZAC	**Souni**	**1.33**	**118**	P	**Pn**	**21 22 37.0**	**-0.4**
SZAC				S	**Sb**	**21 22 53.9**	**-0.9**
SZAC				AML	AML	21 23 01.5	
	0.3nm,0.7s						
SZAC				AML	AML	21 23 01.5	
	0.3nm,0.7s						
KEPZ	**Antalya-Kepez**	**1.51**	**5**	*i* P	**Pb**	**21 22 40.8**	**-0.1**
KEPZ				*i* S	**Sn**	**21 22 55.4**	**-4.3**
ASGA	**Asgata**	**1.59**	**112**	P	**Pn**	**21 22 40.3**	**-0.6**
ASGA				S	**Sn**	**21 23 00.6**	**-0.8**
ASGA				AML	AML	21 23 10.0	
	0.2nm,0.3s						
ASGA				AML	AML	21 23 10.0	
	0.2nm,0.3s						
ASGA				AML	AML	21 23 13.7	
	0.1nm,0.5s						
ASGA				AML	AML	21 23 13.7	
	0.1nm,0.5s						
CSS	**Mathiatis**	**1.59**	**105**	PN	**Pn**	**21 22 40.5**	**-0.5**
CSS	**Mathiatis**	**1.59**	**105**	P	**Pn**	**21 22 41.8**	**+0.9**
CSS				S	**Sn**	**21 23 01.8**	**+0.3**
CSS				AML	AML	21 23 15.0	
CSS				AML	AML	21 23 15.0	
LFK	**Lefkose**	**1.70**	**93**	PN	**Pn**	**21 22 42.6**	**+0.1**
ERMK	**Ermenek**	**1.72**	**43**	*i* P	**Pn**	**21 22 42.4**	**-0.4**
BERE	**Bereket-Mersin**	**1.73**	**56**	PN	**Pn**	**21 22 43.4**	**+0.5**
MVOU	**Mavrovouni**	**1.82**	**101**	P	**Pn**	**21 22 43.8**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.87**	**65**	PN	**Pn**	**21 22 45.1**	**+0.4**
GÜLN	**MERSIN_Gulnar**	**1.87**	**64**	*i* P	**Pn**	**21 22 45.9**	**+1.1**
GÜLN				*i* S	**Sn**	**21 23 09.3**	**+0.9**
TEVE	**Tevekalti-Mers**	**1.92**	**57**	PN	**Pn**	**21 22 46.5**	**+1.0**
IKL	**Isikli**	**2.00**	**64**	PN	**Pn**	**21 22 47.5**	**+1.0**
SEYD	**Seydisehir-KON**	**2.04**	**9**	PN	**Pn**	**21 22 48.2**	**+1.1**
KEBE	**Keben-Mersin**	**2.12**	**59**	PN	**Pn**	**21 22 49.4**	**+1.2**
KKBE	**Karaman, Kazim**	**2.18**	**33**	*i* P	**Pb**	**21 22 51.8**	**-0.6**
KKBE				*i* S	**Sg**	**21 23 23.0**	**0.0**
KKBE				IAML		21 23 32.0	
	comp=N,5.2nm,0.5s						
KERG	**Konya-Eregli**	**2.95**	**46**	*i* P	**Pb**	**21 23 05.9**	**+0.4**
KERG				*i* S	**Sb**	**21 23 40.4**	**-1.2**
KERG				IAML		21 23 49.0	
	comp=E,4.1nm,1.0s						

DJA 14 21:28:21.6±0.5, 8°S±5°×107°E±°, h10km, M4.1/6, mb4.5/2, MLv4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.24**	**66**	P	Pn	21 28 44.4	-0.6
CISI				S	Sb	21 29 01.0	-0.1
TNG	**Tangerang**	**1.89**	**359**	P	Pn	21 28 54.6	+0.7
UGM	**Wanagama**	**3.81**	**88**	P	Pn	21 29 20.4	0.0
MNAI	**Manna**	**5.22**	**315**	P	Pn	21 29 38.9	-1.0
	1.7nm170nm,1.3s						
TPI	**Tanjungpandan**	**5.37**	**10**	P	Pn	21 29 42.2	+0.4

*NEIC **14** 21:41:17.4±1.6, 5°.41S±0°.08×151°.8E±0°.1, h65km±6km, mb4.2/13, Error ellipse: s-maj=19.6km s-min=9.4km az=109.0*
*IDC **14** 21:41:18.7±5.0, 5°.28S×151°.51E, h75km±41km, mb3.7/9, mb1 4.0/10, mb1mx3.7/30, mbtmp4.1/10, ML2.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/29, Error ellipse: s-maj=33.4km s-min=22.6km az=92.0*

ISC 14 21:41:16.5±0.6, 5°.39S±0°.07×151°.73E±0°.10, h57km, n39, σ1§34/44, mb4.2/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.26**	**20**	Pn	**Pn**	**21 41 39.2**	**+1.2**
RABL				Sn	**Sn**	**21 41 57.6**	**+3.6**
MANU	**Manus Island**	**5.48**	**307**	Pn	**Pn**	**21 42 37.8**	**+2.2**
PMG	**Port Moresby**	**6.04**	**228**	P	**Pn**	**21 42 45.3**	**+2.0**
	3.8nm,0.3s,baz=32,slow=11,SNR=4.7						
PMG				S	**Sn**	**21 43 52.1**	**+0.9**
	8.6nm,0.3s,baz=228,slow=22,SNR=7.1						
PMG				LR	LR	21 45 13.3	
	comp=Z,85nm,21.9s,baz=336,slow=39						
PMG	**Port Moresby**	**6.04**	**228**		**Pn**	**21 42 45.1**	**+1.8**
EIDS	**Eidsvold**	**19.88**	**182**	P	**P**	**21 45 45.1**	**+1.9**
EIDS				IAmb	IAmb	21 45 48.0	
	comp=Z,10nm,1.3s						
MTN	**Manton Dam**	**21.63**	**249**	P	**P**	**21 46 02.4**	**+0.2**
WB0	**Warramunga Arr**	**22.11**	**228**	P	**P**	**21 46 06.1**	**-1.3**
WB0				IAmb	IAmb	21 46 19.5	
	comp=Z,12nm,1.0s						
WB2	**Warramunga Arr**	**22.25**	**228**	P	**P**	**21 46 07.8**	**-1.1**
WB2				IAmb	IAmb	21 46 10.7	
	comp=Z,20nm,1.3s						
WRA	**Warramunga Arr**	**22.26**	**228**	P	**P**	**21 46 07.6**	**-1.3**
	comp=Z,7.7nm,0.6s,baz=53,slow=9.8,SNR=44						
WRA				PcP	**PcP**	**21 50 03.4**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=44,slow=2.3,SNR=2.7						
WRA	**Warramunga Arr**	**22.26**	**228**	P	**P**	**21 46 07.8**	**-1.2**
KNRA	**Kununurra**	**24.76**	**244**	P	**P**	**21 46 32.7**	**-0.3**
AS31	**Alice Springs**	**25.00**	**222**	P	**P**	**21 46 35.3**	**0.0**
AS31				IAmb	IAmb	21 46 37.2	
	comp=Z,3.9nm,0.5s						
ASAR	**Alice Springs**	**25.00**	**222**	P	**P**	**21 46 34.9**	**-0.4**
	comp=Z,6.9nm,0.5s,baz=57,slow=8.7,SNR=77						
ASAR				PcP	**PcP**	**21 50 11.2**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=3.4,SNR=2.5						
ASAR	**Alice Springs**	**25.00**	**222**	P	**P**	**21 46 35.5**	**+0.2**
PSA00	**Pilbara Seismi**	**34.82**	**239**	P	**P**	**21 48 03.2**	**+1.0**
MJAR	**Matsushiro Arr**	**43.59**	**344**	LR	LR	22 07 31.9	
	comp=Z,32nm,18.9s,baz=225,slow=36						
USA0B	**Ussuriysk Arra**	**52.46**	**342**	P	**P**	**21 50 22.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**52.46**	**342**	P	**P**	**21 50 23.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**57.17**	**296**	P	**P**	**21 50 57.8**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=103,slow=5.3,SNR=4.2						
SONM	**Songino Array**	**66.25**	**328**	P	**P**	**21 51 58.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=134,slow=5.6,SNR=4.1						
SONM	**Songino Array**	**66.25**	**328**	P	**P**	**21 51 58.3**	**-0.5**
SONM				IAmb	IAmb	21 51 59.9	
	comp=Z,4.6nm,1.4s						
TLY	**Talaya**	**70.05**	**330**	LR	LR	22 24 18.4	
	comp=Z,18nm,19.5s,baz=116,slow=37						
VNDA	**Vanda**	**72.29**	**178**	P	**P**	**21 52 36.1**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=318,slow=6.9,SNR=4.4						
VNDA	**Vanda**	**72.29**	**178**	P	**P**	**21 52 35.5**	**0.0**
VNDA				IAmb	IAmb	21 52 51.6	
	comp=Z,2.2nm,1.1s						
MK31	**Makanchi Array**	**80.07**	**319**	P	**P**	**21 53 18.9**	**-1.4**
MKAR	**Makanchi Array**	**80.07**	**319**	P	**P**	**21 53 18.6**	**-1.6**
	comp=Z,0.7nm,0.9s,baz=106,slow=5.6,SNR=4.7						
MKAR	**Makanchi Array**	**80.07**	**319**	P	**P**	**21 53 18.6**	**-1.6**
MKAR				pP	**pP**	**21 53 35.8**	**-0.8**
ZALV	**Zalesovo Beam**	**81.05**	**327**	P	**P**	**21 53 22.8**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=119,slow=5.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**81.05**	**327**	P	**P**	**21 53 23.6**	**-1.7**
ILAR	**Eielson Array**	**83.10**	**22**	P	**P**	**21 53 35.3**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=255,slow=4.7,SNR=5.0						
BOOM	**Boomskoye usch**	**83.22**	**314**	P	**P**	**21 53 36.3**	**-0.9**
QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**21 53 43.6**	**0.0**
QSPA				pP	**pP**	**21 53 58.3**	**-1.4**
QSPA				IAmb	IAmb	21 53 59.3	
	comp=Z,1.9nm,0.9s						
NVAR	**Mina Array Bea**	**93.28**	**52**	P	**P**	**21 54 26.8**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=264,slow=6.6,SNR=4.1						
PDAR	**Pinedale Array**	**100.03**	**48**	P	**Pdif**	**21 54 57.0**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=258,slow=3.6,SNR=2.0						
GERES	**GERESS Array B**	**123.99**	**328**	PKP	**PKPdf**	**22 00 07.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=90,slow=1.3,SNR=5.1						
GERES	**GERESS Array B**	**123.99**	**328**		**PKPdf**	**22 00 07.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**149.47**	**287**	PKPbc	**PKPbc**	**22 00 59.1**	**-1.3**
	comp=Z,3.5nm,0.8s,baz=70,slow=3.0,SNR=15						
TORD	**Torodi Ar. Bea**	**149.47**	**287**	PKPdf	**PKPdf**	**22 00 54.9**

KAYA	Kayacik-Havza(	1.55	144	PN	Pg	21 55 00.7	-0.5
CTAK	Corum_Osmancik	1.57	173	*i* P	Pn	21 54 59.1	-0.5
CTAK				*i* S	Sb	21 55 20.5	-0.2
CTAK				IAML		21 55 25.0	
	comp=E,79nm,0.8s						
KVT	Kavak	1.59	135	PN	Pg	21 55 01.4	-0.5
YARM	Yarimca-Ladik(	1.61	143	PN	Pg	21 55 01.6	-0.6
KIZO	Buyukkizoglu-L	1.67	141	PN	Pb	21 55 02.4	0.0
HKOY	Hamitkoy-Ladik	1.71	140	PN	Pb	21 55 02.9	0.0
KBUK	KARABUK-Merkez	1.73	237	*i* P	Pg	21 55 04.8	+0.2
KBUK				*i* S	Sb	21 55 26.2	+0.9
KUPE	Kupecik-Ladik(	1.75	139	PN	Pb	21 55 03.5	-0.1
CANT	Cankiri	1.75	204	PN	Pb	21 55 03.6	0.0
BTIN	Bartın	1.81	252	*i* P	Pb	21 55 05.3	+0.7
BTIN				*i* S	Sn	21 55 26.1	+0.4
BTIN				IAML		21 55 27.0	
	comp=E,54nm,0.7s						
AMSY	Amasya-Merkez	1.85	148	*i* P	Pg	21 55 05.9	-0.8
AMSY				*i* S	Sb	21 55 27.9	-0.7
AMSY				IAML		21 55 46.0	
	comp=E,110nm,1.2s						
COAL	Corum-Alaca	1.98	170	*i* P	Pb	21 55 06.9	-0.7
CORM	Corum	2.03	178	PN	Pb	21 55 07.4	-1.1
DEVR	Zonguldak/Devr	2.20	242	*i* P	Pn	21 55 08.8	+0.7
DEVR				*i* S	Sb	21 55 39.3	+0.6
CKRK	Yozgat, Cekere	2.25	161	*i* P	Pb	21 55 11.3	-1.0
CKRK				*i* S	Sn	21 55 36.9	0.0
DELI	KIRIKKALE	2.26	192	*i* P	Pn	21 55 09.9	+0.9
DELI				*i* S	Sn	21 55 38.1	+1.0
YAL	Yalta	2.29	353	⇓*e*P	Pn	21 55 09.7	+0.3
YAL				Pm		21 55 10.1	
	comp=Z,22nm,0.1s						
YAL				*e*S	Sn	21 55 37.0	-0.7
YAL				*e*S	Sb	21 55 37.2	-4.1
YAL				Sm		21 55 38.5	
	comp=N,82nm,0.2s						
YAL				Sm		21 55 38.7	
	comp=E,90nm,0.1s						
BCAM	Yenicaga	2.33	234	*i* P	Pn	21 55 11.7	+1.8
TOKA	Tokat	2.38	142	*i* P	Pn	21 55 12.0	+1.3
TOKA				*i* S	Sb	21 55 42.2	-1.7
TOKA				IAML		21 55 51.0	
	comp=E,53nm,0.4s						
TOKA				IAML		21 55 54.0	
	comp=N,50nm,0.6s						
TOKT	Tokat	2.42	141	PN	Pb	21 55 13.2	-1.8
SEV	Sevastopol'	2.42	345	⇓*e*P	Pn	21 55 12.0	+0.9
SEV				Pm		21 55 12.8	
	comp=Z,2.0nm,0.1s						
SEV				*e*S	Sn	21 55 41.3	+0.5
SEV				Sm		21 55 42.8	
	comp=N,11nm,0.2s						
ALU	Alushta	2.47	358	*e*P	Pn	21 55 12.3	+0.5
ALU				Pm		21 55 12.5	
	comp=Z,10.0nm,0.1s						
ALU				*i* S	Sn	21 55 41.4	-0.7
ALU				Sm		21 55 43.0	
	comp=N,43nm,0.2s						
ALU				Sm		21 55 44.3	
	comp=E,51nm,0.2s						
BRTR	Keskin Array B	2.58	196	PN	Pn	21 55 14.9	+1.5
CDAG	Cicekdag	2.59	183	*i* P	Pn	21 55 15.6	+2.1
YOZ	Yozgat	2.63	167	PN	Pn	21 55 16.2	+2.0
SUDU	Sudak	2.70	7	⇓*e*P	Pn	21 55 17.0	+2.1
SUDU				Pm		21 55 18.6	
	comp=Z,3.0nm,0.1s						
SUDU				*e*S	Sn	21 55 48.1	+0.4
SUDU				Sm		21 55 50.9	
	comp=E,26nm,0.2s						
SUDU				Sm		21 55 52.3	
	comp=N,7.0nm,0.3s						
SIM	Simferopol'	2.76	354	*e*P	Pn	21 55 17.3	+1.6
SIM				Pm		21 55 21.1	
	comp=Z,3.0nm,0.1s						
SIM				*e*S	Sn	21 55 50.8	+1.7
SIM				Sm		21 55 50.9	
	comp=N,12nm,0.2s						
SIM				Sm		21 55 51.6	
	comp=E,7.0nm,0.2s						
RSDY	Resadiye-TOKAT	2.77	130	PN	Pn	21 55 18.2	+2.2
YUVA	Yuva-Kibriscik	2.82	231	PN	Pn	21 55 18.7	+2.0
FEO	Feodosiya	2.87	12	*ex*	x	21 55 20.0	
FEO				Pm		21 55 20.1	
	comp=Z,5.0nm,0.1s						
FEO				*e*S	Sn	21 55 54.1	+2.1
FEO				Sm		21 55 56.9	
	comp=E,12nm,0.2s						
FEO				Sm		21 55 56.9	
	comp=N,16nm,0.2s						
SIRC	Yozgat	2.91	171	*i* P	Pn	21 55 20.4	+2.4
SVSK	Karacayir	2.95	140	PN	Pn	21 55 20.7	+2.4
CUSAR	Sarkisla-SIVAS	3.07	155	*i* P	Pn	21 55 22.0	+1.8
YAYX	Yaylak	3.32	190	PN	Pn	21 55 26.1	+2.6
SERE	Sereflikochisa	3.34	193	PN	Pn	21 55 26.3	+2.4
MFTR	Murfatlar	4.89	296	⇓P	Pn	21 55 45.0	0.0
MFTR	Murfatlar	4.89	296	⇑S	Sn	21 56 39.8	-1.9
TIRR	Tirgusor	5.00	299	⇑P	Pn	21 55 46.5	-0.1
TIRR	Tirgusor	5.00	299	⇓S	Sn	21 56 41.3	-3.3
TPGR	Topolog	5.18	303	⇓P	Pn	21 55 49.6	+0.6
TPGR	Topolog	5.18	303	⇑S	Sn	21 56 46.4	-2.5
TLBR	Topalu	5.28	298	⇑P	Pn	21 55 44.4	-5.9
CFR	Carcaliu	5.51	305	⇓P	Pn	21 55 47.9	-5.7
CFR	Carcaliu	5.51	305	⇓S	Sn	21 56 48.0	-9.0
SORM	Soroca	7.36	326	⇑P	Pn	21 56 18.9	0.0

*IDC **14** 22:12:02.9±3.5, 36°.29N×70°.89E, h181km±30km, mb3.5/11, mb1 3.6/15, mb1mx3.3/57, mbtmp4.1/15, Error ellipse: s-maj=25.1km s-min=18.4km az=2.0*
*MOS **14** 22:12:06.6±0.9, 36°.57N×70°.84E, h213km, mb4.4/10, Error ellipse: s-maj=11.3km s-min=5.2km az=86.2*
*NEIC **14** 22:12:08.6±1.0, 36°.66N±0°.07×70°.84E±0°.09, h221km±3km, mb4.1/14, Error ellipse: s-maj=10.7km s-min=9.8km az=125.0*
*NNC **14** 22:12:11.6±2.4, 36°.95N×70°.85E, h216km±28km, mb3.2, mpv4.3, Error ellipse: s-maj=22.6km s-min=14.7km az=3.0*

ISC 14 22:12:06.9±0.5, 36°.63N±0°.05×70°.97E±0°.06, h200km, n135, σ1§63/142, mb4.2/20, 9C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.42	348		Pn	22 12 52.8	+2.9
CHGR	Chuyangaron	2.48	325	Pn	Pn	22 12 52.8	+2.1
KBL	Kabul	2.61	218	PN	Pn	22 12 54.3	+2.1
KBL	Kabul	2.61	218	Pn	Pn	22 12 54.3	+2.1
CEP	Cherat	2.90	164	P	Pn	22 12 58.6	+3.0
BTK	Batken	3.42	358	PN	Pn	22 13 05.0	+3.4
BTK	Batken	3.42	358	Pn	Pn	22 13 05.0	+3.4
CHCP	Chirah Chowk	3.51	147	P	Pn	22 13 06.0	+3.3
NIL	Nilore	3.51	147	PN	Pn	22 13 06.1	+3.4
NIL	Nilore	3.51	147	Pn	Pn	22 13 06.1	+3.4
THW	Thamme Wali	3.88	170	P	Pn	22 13 09.4	+2.2
TAS	Tashkent	4.87	345	PN	Pn	22 13 21.3	+1.8
TAS	Tashkent	4.87	345	Pn	Pn	22 13 21.3	+1.8
KSH	Kashi	4.89	52	Pn	Pn	22 13 17.8	-2.1
KSH				Sn	Sn	22 14 05.3	-12
KSH				smax	smax		
	comp=N,100nm,0.4s						
KSH				smax	smax		
	comp=E,73nm,0.3s						
AML	Almayashu	5.88	20	P	Pn	22 13 34.8	+1.8
	SNR=138						
EKS2	Erkin-Say	6.40	19	P	Pn	22 13 41.4	+2.0
	SNR=30						
KK31	Karatay Array	6.48	357	⇓P	Pn	22 13 41.2	+1.0
	comp=E,5.6nm,0.4s,baz=187,slow=13,SNR=116						
KK31				⇓S	Sn	22 14 51.8	-2.4
	comp=E,15nm,0.5s,baz=185,slow=18,SNR=8.8						
KK31	Karatay Array	6.48	357	PN	Pn	22 13 41.4	+1.2
KK31	Karatay Array	6.48	357	Pn	Pn	22 13 41.4	+1.2
KKAR	Karatay Array	6.48	357	PN	Pn	22 13 41.4	+1.2
KKAR	Karatay Array	6.48	357	Pn	Pn	22 13 41.3	+1.2
KKAR	Karatay Array	6.48	357		Pn	22 13 41.4	+1.2
AAK	Ala-Archa	6.59	23	P	Pn	22 13 43.9	+2.1
	comp=E,7.4nm,0.3s,baz=205,slow=5.5,SNR=35						
AAK				S	Sn	22 14 58.4	+1.4
	comp=E,1.8nm,0.3s,baz=136,slow=23,SNR=14						
AAK	Ala-Archa	6.59	23	P	Pn	22 13 43.9	+2.1
	SNR=18						
AAK	Ala-Archa	6.59	23	⇑P	Pn	22 13 43.6	+1.8
	comp=E,25nm,0.5s						
AAK				⇓S	Sn	22 14 57.7	+0.6
	comp=E,26nm,0.6s						
AAK	Ala-Archa	6.59	23	*d i* PN	Pn	22 13 44.0	+2.2
AAK				pmax	pmax		
	comp=E,121nm,0.8s						
AAK	Ala-Archa	6.59	23	Pn	Pn	22 13 43.7	+2.0
FRU1	Bishkek	6.79	23	PN	Pn	22 13 46.2	+1.9
FRU1	Bishkek	6.79	23		Pn	22 13 46.2	+1.9
ULHL	Ulahol	6.93	34	P	Pn	22 13 48.1	+1.7
	SNR=24						
CHMS	Chumysh	6.99	23	P	Pn	22 13 48.4	+1.5
	SNR=18						
BOOM	Boomskoye usch	7.00	32	PN	Pn	22 13 48.5	+1.4
BOOM	Boomskoye usch	7.00	32	Pn	Pn	22 13 48.5	+1.4
USP	Ospenovka	7.16	21	P	Pn	22 13 49.8	+0.7
	SNR=11						
TKM2	Tokmak 2	7.22	28	P	Pn	22 13 51.9	+1.9
	SNR=35						
TKM2	Tokmak 2	7.22	28	⇓P	Pn	22 13 51.6	+1.5
	comp=Z,9.7nm,0.4s						
TKM2				S	Sn	22 15 12.0	-0.1
	comp=Z,28nm,0.9s						
TKM2	Tokmak 2	7.22	28	PN	Pn	22 13 51.6	+1.5
KDJ	Kajisay	7.30	39	PN	Pn	22 13 52.3	+1.2
KDJ	Kajisay	7.30	39	Pn	Pn	22 13 52.2	+1.2
TARG	Taragay, Kyrgy	7.35	44		Pn	22 13 54.2	+2.2
SMLA	Simla	7.53	135	*e*P	Pn	22 13 54.8	+0.9
SMLA				*e*S	Sn	22 15 15.7	-3.3
SMLA				IAML		22 15 20.7	
	comp=E,85nm,0.1s						
SMLA				IAML		22 15 21.0	
	comp=N,82nm,0.4s						
PRZ	Przheval'sk	8.19	42	PN	Pn	22 14 05.2	+2.6
PRZ	Przheval'sk	8.19	42		Pn	22 14 05.2	+2.6
DDI	Dehra Dun	8.63	135	*e*P	Pn	22 14 09.0	+0.5
DDI				*e*S	Sn	22 15 41.9	-3.5
DDI				IAML		22 15 43.6	
	comp=E,72nm,0.6s						
DDI				IAML		22 15 44.7	
	comp=N,76nm,0.1s						
KUDL	Kundal	9.66	150	*e*P	Pn	22 14 20.2	-1.5
KUDL				*e*S	Sn	22 16 02.7	-7.0
OTUK	Ortayu	11.65	5	⇑P	Pn	22 14 47.6	+0.4
	comp=N,6.0nm,0.8s						
OTUK	Ortayu	11.65	5	P	Pn	22 14 47.6	+0.4
MAKZ	Makanchi	13.06	35	P	Pn	22 15 06.2	+1.2
MAKZ	Makanchi	13.06	35		Pn	22 15 06.2	+1.2
MK31	Makanchi Array	13.20	36	P	Pn	22 15 08.0	+1.3
	comp=N,1.7nm,0.8s,baz=221,slow=14,SNR=18						
MK31	Makanchi Array	13.20	36	⇑*e*P	Pn	22 15 08.6	+1.9
MK31	Makanchi Array	13.20	36	Pn	Pn	22 15 08.2	+1.5
MKAR	Makanchi Array	13.20	36	P	Pn	22 15 08.0	+1.3
	comp=N,0.4nm,0.3s,baz=214,slow=12,SNR=13						
MKAR	Makanchi Array	13.20	36	P	Pn	22 15 08.8	+2.1
MKAR	Makanchi Array	13.20	36		Pn	22 15 08.8	+2.1
PYUN	Piuthan	13.24	127	*e*P	Pn	22 15 07.4	-0.2
	comp=N,25nm,0.3s						
KOLN	Koldanda	13.86	126	*e*P	Pn	22 15 14.7	-0.6
	comp=N,5.3nm,0.2s						
GKN	Gorkha	14.39	123	*e*P	Pn	22 15 20.9	-0.9
	comp=N,23nm,0.3s						
BHPL	Bhopal	14.46	156	*e*P	Pn	22 15 25.7	+3.1
BHPL				*e*S	S	22 17 57.0	-6.5
AB31	Akbulak array	14.96	331	⇑P	Pn	22 15 28.4	0.0
	comp=N,2.2nm,0.5s						
AB31	Akbulak array	14.96	331	P	Pn	22 15 28.4	0.0
ABKAR	Akbulak array	14.96	331	P	Pn	22 15 27.6	-0.7
ABKAR	Akbulak array	14.96	331		Pn	22 15 27.5	-0.9
KKN	Kakani	14.97	122	*e*P	Pn	22 15 29.2	+0.3
	comp=N,19nm,0.5s						
KURBB	Kurchatov Arra	15.01	19	P	Pn	22 15 28.6	-0.4
	comp=N,0.1nm,0.3s,baz=210,slow=11,SNR=7.9						
KURK	Kurchatov	15.12	19	P	Pn	22 15 28.6	-1.7
PKIN	Phulchoki	15.18	122	*e*P	Pn	22 15 32.3	+0.7
	comp=N,12nm,0.4s						
PKI	Pulchoki	15.19	122	*e*P	Pn	22 15 32.4	+0.6
	comp=N,12nm,0.4s						
JIRN	Jiri	15.67	120	*e*P	P	22 15 38.5	+0.9
	comp=N,21nm,0.4s						
BVAR	Borovoye Array	16.40	359	S	S	22 18 43.7	-2.6
	baz=191,slow=23,SNR=3.2						
RAMN	Ramite	16.40	122	*e*P	P	22 15 47.1	+1.6
	comp=N,8.7nm,0.2s						
BRVK	Borovoye	16.43	359	⇓*e*P	P	22 15 46.9	+1.6
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BRVK	Borovoye	16.43	359	P	P	22 15 45.2	-0.1
AKTO	Aktyubinsk	16.66	330	P	P	22 15 48.8	+1.0
	comp=Z,1.6nm,0.3s,baz=140,slow=11,SNR=27						
AKTO				S	S	22 18 46.3	-5.2
	comp=Z,0.1nm,0.3s,baz=1.7,slow=21,SNR=1.5						
AKTO	Aktyubinsk	16.66	330	⇓P	P	22 15 48.6	+0.8
	comp=Z,9.5nm,0.7s						
DGZ	Jazzator, Alta	17.69	37	⇓*e*P	P	22 16 01.9	+2.6
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAA0	Zalesovo Array	19.81	25	P	P	22 16 22.3	+0.4
ZAA0				IAmb	IAmb	22 16 23.3	
	comp=Z,3.4nm,0.7s						
ZALV	Zalesovo Beam	19.81	25	P	P	22 16 22.6	+0.7
	comp=Z,2.0nm,0.3s,baz=217,slow=11,SNR=12						
ZALV	Zalesovo Beam	19.81	25	P	P	22 16 22.0	+0.2
ARU	Arti	21.50	341	P	P	22 16 38.8	-1.0
	comp=Z,0.5nm,0.4s,baz=175,slow=12,SNR=4.2						
ARU	Arti	21.50	341	*c i* P	P	22 16 40.1	+0.3
ARU				S	S	22 20 25.1	+0.3
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARU	Arti	21.50	341	P	P	22 16 38.9	-0.8
KBZ	Khabaz	22.52	297	*ce*P	P	22 16 50.2	+0.5
BELG	Belogornoye	22.77	321	P	P	22 16 52.5	+0.6
	comp=Z,7.4nm,0.6s,baz=340,slow=5.0,SNR=8.6						
KIRV	Kirov	26.11	334	⇓*e*P	P	22 17 21.8	-0.2
TLY	Talaya	27.57	47	P	P	22 17 32.7	-2.4
TLY				IAmb	IAmb	22 17 39.1	
	comp=Z,6.2nm,0.7s						
BRTR	Keskin Array B	29.37	288	P	P	22 17 50.2	-1.1
	comp=Z,0.5nm,0.5s,baz=96,slow=9.3,SNR=2.7						
OBN	Obninsk	29.82	319	⇓*e*P	P	22 17 54.1	-0.8
OBN				*e**PP	pP	22 18 37.1	+1.3
OBN				*e*		22 19 05.1	
OBN				*e*		22 20 52.8	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KLMR	Klimovskoe	31.36	331	*e*P	P	22 18 06.0	-2.3
KLMR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KLMR	Klimovskoe	31.36	331	*e*P	P	22 18 06.1	-2.3
KLMR				AMP		22 18 08.4	
	comp=Z,4.0nm,0.7s						
ELL	Elmali	32.75	283	P	P	22 18 20.5	-0.5
ELL				pmax	pmax		
	comp=Z,15nm,0.6s						
ELL	Elmali	32.75	283	P	P	22 18 20.5	-0.5
AKASG	Malin Array Be	32.85	309	*ce*P	P	22 18 24.7	+3.3
LVZ	Lovozero	37.33	338	P	P	22 18 59.2	-0.4
LVZ				pmax	pmax		
	comp=Z,49nm,1.4s						
LVZ	Lovozero	37.33	338	P	P	22 18 59.2	-0.4
FIA1	FINESS Array S	37.36	326	P	P	22 18 59.8	0.0
FIA1				IAmb	IAmb	22 19 02.5	
	comp=Z,11nm,1.4s						
FINES	FINESS Array B	37.36	326	P	P	22 18 59.9	0.0
	comp=Z,2.3nm,0.6s,baz=116,slow=8.8,SNR=23						
SURA	Surathani	37.72	129	P	P	22 18 59.0	-4.4
KEV	Kevo	40.67	338	P	P	22 19 26.9	-0.2
KEV				pmax	pmax		
	comp=Z,12nm,1.1s						
KEV	Kevo	40.67	338	P	P	22 19 26.9	-0.2
KEV				IAmb	IAmb	22 19 50.2	
	comp=Z,12nm,1.1s						
ARA0	ARCESS Array S	41.02	338	*e*P	P	22 19 30.4	+0.4
ARCES	ARCESS Array B	41.02	338	P	P	22 19 30.4	+0.4
	comp=Z,2.9nm,0.4s,baz=114,slow=7.8,SNR=38						
ARCES	ARCESS Array B	41.02	338	P	P	22 19 30.0	0.0
ARCES				IAmb	IAmb	22 19 30.9	
	comp=Z,3.6nm,0.7s						
KTK1	Kautokeino	41.49	336	*e*P	P	22 19 34.0	+0.1
HAMF	Hammerfest	42.10	339	*e*P	P	22 19 39.3	+0.6
TRO	Tromso	43.14	336	*e*P	P	22 19 47.0	-0.1
FAUS	Fauske	43.68	332	*e*P	P	22 19 51.4	0.0
MOR8	Moi Rana	43.69	331	*e*P	P	22 19 51.0	-0.6
STEI	Steigen	43.85	333	*e*P	P	22 19 52.6	-0.1
NC602	NORSAR Array S	44.08	323	*e*P	P	22 19 54.3	-0.4
NORES	NORESS Array B	44.08	323	P	P	22 19 54.5	-0.2
NC303	NORSAR Array S	44.21	323	P	P	22 19 55.8	0.0
NC303				IAmb	IAmb	22 20 12.0	
	comp=Z,12nm,1.5s						
NB2	NORSAR Subarra	44.26	323	P	P	22 19 55.2	-1.0
	comp=Z,1.1nm,0.6s,baz=95,slow=7.9						
NB2	NORSAR Subarra	44.26	323	P	P	22 19 55.2	-1.0
	baz=95,slow=7.9						
NOA	NORSAR Array B	44.26	323	P	P	22 19 55.6	-0.7
	comp=Z,2.5nm,0.9s,baz=96,slow=7.8,SNR=11						
KONS	Konsvik	44.29	331	*e*P	P	22 19 56.1	-0.1
NSS	Namsos	44.38	328	*e*P	P	22 19 56.5	-0.4
LOF	Lofoten	44.52	333	*e*P	P	22 19 57.4	-0.6
BJO1	Bjornoya	45.14	343	*e*P	P	22 20 01.6	-1.2
TIXI	Tiksi	45.66	22	⇑*i*P	P	22 20 07.7	+0.7
BLS5	Blasjo	46.57	321	*e*P	P	22 20 14.0	-0.3
BER	Bergen	47.12	322	*e*P	P	22 20 18.6	+0.1
SPA0	Spitsbergen Ar	47.36	347	*e*P	P	22 20 20.3	+0.1
BILL	Bilibino	58.50	26	*e*P	P	22 21 41.4	-0.2
BILL				*e*		22 22 28.1	
BILL				*e**PP	PcP	22 22 31.7	+1.9
BILL				*e*		22 23 53.4	
BILL				pmax	pmax		
	comp=Z,11nm,1.3s						
PEA0B	Petropavlovsk-	59.89	44	⇑*e*P	P	22 21 48.1	-3.3
SUMG	Summit	60.93	341	P	P	22 21 58.7	+0.1
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SUMG	Summit	60.93	341	P	P	22 21 58.7	+0.1
SUMG				IAmb	IAmb	22 22 11.7	
	comp=Z,4.5nm,1.1s						
TORD	Torodi Ar. Bea	65.70	269	P	P	22 22 27.0	-3.3
	comp=Z,1.5nm,0.4s,baz=50,slow=6.1,SNR=32						
C36M	Paulatuk	73.75	6	P	P	22 23 17.9	-0.5
INK	Inuvik	73.78	9	P	P	22 23 18.8	+0.2
	comp=Z,1.2nm,0.5s,baz=344,slow=7.2,SNR=6.1						
INK	Inuvik	73.78	9	P	P	22 23 18.6	-0.1
INK				IAmb	IAmb	22 23 20.3	
	comp=Z,4.4nm,1.4s						
YKA	Yellowknife Ar	81.12	3	P	P	22 23 59.4	0.0
	comp=Z,0.6nm,0.5s,baz=355,slow=5.2,SNR=12						
WRA	Warramunga Arr	82.08	122	P	P	22 24 02.8	-2.3
	comp=Z,0.4nm,0.4s,baz=323,slow=4.9,SNR=5.5						
FFC	Flin Flon	88.81	356	*i* P	P	22 24 40.0	+2.2
NVL	N'lazarevskaya	115.07	198	*e*P	Pdif	22 26 53.1	+18
NVL				pmax	pmax		
	comp=Z,11nm,0.6s						

*NEIC **14** 22:14:27.9±2.6, 1°.3S±0°.1×139°.2E±0°.1, h10km±2km, mb4.3/14, Error ellipse: s-maj=23.4km s-min=18.5km az=352.0*
*IDC **14** 22:14:31.6±1.9, 1°.92S×138°.75E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/35, mbtmp4.1/6, ML4.1/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/27, Error ellipse: s-maj=77.8km s-min=26.2km az=77.0*

ISC 14 22:14:33.3±1.2, 1°.6S±0°.1×139°.1E±0°.1, h35km, n34, σ1§82/24, mb4.2/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	7.00	259	Pn	Pn	22 16 14.1	+0.6
FAKI				Sn	Sn	22 17 33.5	+1.6
MTN	Manton Dam	13.69	215	Pn	Pn	22 17 42.9	-2.1
GUMO	Guam	16.14	20	LR	LR	22 24 04.2	
	comp=Z,103nm,18.6s,baz=188,slow=35						
KNRA	Kununurra	17.32	216	Pn	Pn	22 18 31.3	-1.1
WB0	Warramunga Arr	18.63	194	P	P	22 18 46.8	-1.3
WB0				IAmb	IAmb	22 18 50.5	
	comp=Z,22nm,1.4s						
WR0	Warramunga Arr	18.78	194	P	P	22 18 49.0	-0.7
WR0				IAmb	IAmb	22 18 57.0	
	comp=Z,9.3nm,0.8s						
WB2	Warramunga Arr	18.81	194	P	P	22 18 49.5	-0.6
WB2				IAmb	IAmb	22 18 58.5	
	comp=Z,11nm,0.5s						
WRA	Warramunga Arr	18.81	194	P	P	22 18 47.8	-2.3
	comp=Z,0.9nm,0.3s,baz=16,slow=12,SNR=47						
WRA	Warramunga Arr	18.81	194	P	P	22 18 49.7	-0.3
CTA	Charters Tower	19.64	160	P	Pn	22 19 00.6	-0.1
	comp=Z,0.2nm,0.3s,baz=331,slow=11,SNR=5.3						
CTAO	Charters Tower	19.64	160	P	P	22 18 59.5	+0.4
KAPI	Kappang	19.64	260	LR	LR	22 28 56.0	
	comp=Z,47nm,19.6s,baz=118,slow=45						
AS31	Alice Springs	22.50	193	P	P	22 19 29.5	-0.5
ASAR	Alice Springs	22.50	193	P	P	22 19 29.4	-0.6
	comp=Z,9.6nm,1.0s,baz=24,slow=10,SNR=35						
ASAR	Alice Springs	22.50	193	P	P	22 19 28.8	-1.2
EIDS	Eidsvold	26.28	155	P	P	22 20 05.4	-0.2
EIDS				IAmb	IAmb	22 20 16.4	
	comp=Z,9.4nm,0.9s						
PSA00	Pilbara Seismi	27.33	222	P	P	22 20 14.4	-0.7
PSA00				IAmb	IAmb	22 20 25.8	
	comp=Z,8.2nm,1.4s						
STKA	Stephens Creek	30.19	176	P	P	22 20 42.8	+2.4
	comp=Z,1.9nm,0.6s,baz=2.8,slow=11,SNR=3.5						
STKA	Stephens Creek	30.19	176	P	P	22 20 41.2	+0.8
STKA				IAmb	IAmb	22 21 08.3	
	comp=Z,4.7nm,1.5s						
H11S3	WAKE ISLAND Hy	33.67	52	T	T	22 56 53.8	
	baz=236,slow=75,SNR=42						
H11S2	WAKE ISLAND Hy	33.68	52	T	T	22 56 54.3	
	baz=236,slow=75,SNR=24						
H11S1	WAKE ISLAND Hy	33.69	52	T	T	22 56 52.2	
	baz=236,slow=75,SNR=34						
H11

GUC 14 22:44:46.9±0.7,20°.02S×69°.15W,h100km±3km,ML3.9
IDC 14 22:44:47.3±1.6,20°.04S×68°.94W,h116km±15km,mb3.5/5,
mb1 3.7/9,mb1mx3.5/32,mbtmp4.0/9,Error ellipse:
s-maj=30.9km s-min=13.5km az=104.0
VAO 14 22:44:49.0±0.4,19.97S×69.09W,h137km,mb4.3
ISC 14 22:44:45.8±0.7,20.02S±0°.04×69.19W±0°.07,h104km±7km,
n56,σ1$07/60,mb3.7/3,8C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	0.13	164	⇓*iP*	Pn	22 45 01.2	+0.4
PB08				*i* S	Sn	22 45 12.1	+0.1
PB08				IAML		22 45 12.9	
	comp=E,7μm,0.1s						
PB11	**IPOC Station P**	0.51	300	⇑*iP*	Pn	22 45 02.5	+0.2
PB11				*i* S	Sn	22 45 14.8	+0.3
PB11				IAML		22 45 15.4	
	comp=N,17μm,0.2s						
TA02	**Huaiquique**	0.92	254	⇑*iP*	Pn	22 45 06.0	+0.4
TA02				*i* S	Sn	22 45 21.1	+0.5
MNMC	**Minye Minye**	0.96	337	⇑*iP*	Pn	22 45 07.4	+1.0
MNMC				*i* S	Sn	22 45 23.2	+1.3
MNMC				IAML		22 45 24.5	
	comp=E,34μm,0.2s						
PSGC	**Pisagua**	0.97	295	⇑*iP*	Pn	22 45 06.6	+0.2
PSGC				*i* S	Sn	22 45 22.2	+0.4
PSGC				IAML		22 45 23.7	
	comp=E,3μm,0.4s						
PB01	**IPOC Station P**	1.06	195	⇑*iP*	Pn	22 45 07.9	+0.7
PB01				*i* S	Sn	22 45 24.1	+0.7
PB01				IAML		22 45 25.2	
	comp=E,5μm,0.4s						
TA01	**Diego Aracena**	1.08	239	⇑*iP*	Pn	22 45 07.5	+0.2
TA01				*i* S	Sn	22 45 23.7	+0.1
PB02	**IPOC Station P**	1.45	207	⇑*iP*	Pn	22 45 12.5	+0.7
PB02				*i* S	Sn	22 45 31.6	0.0
PB02				IAML		22 45 37.4	
	comp=N,2μm,0.5s						
PB09	**IPOC Station P**	1.77	182	⇑*iP*	Pn	22 45 16.9	+1.1
PB09				*i* S	Sn	22 45 40.0	+1.4
PB09				IAML		22 45 43.7	
	comp=E,708nm,0.5s						
PB07	**IPOC Station P**	1.82	201	⇓*iP*	Pn	22 45 16.7	+0.3
PB07				*i* S	Sn	22 45 40.3	+0.6
PB07				IAML		22 45 42.4	
	comp=N,635nm,0.3s						
AP01	**Chacalluta**	1.97	326	*eP*	Pn	22 45 18.7	+0.6
AP01				*i* S	Sn	22 45 43.5	+0.8
AP01				IAML		22 45 44.6	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	2.47	201	*eP*	Pn	22 45 25.6	+0.8
PB04				IAML		22 46 19.6	
	comp=E,453nm,0.3s						
LVC	**Limon Verde**	2.59	174	P	Pn	22 45 28.0	+1.4
	comp=E,8.4nm,0.3s,baz=2.6,slow=8.2,SNR=68						
LVC				S	Sn	22 45 59.6	+1.7
	comp=E,25nm,0.3s,baz=353,slow=9.3,SNR=5.4						
LVC	**Limon Verde**	2.59	174	*eP*	Pn	22 45 27.7	+1.1
LVC				*eS*	Sn	22 45 59.4	+1.5
PB06	**IPOC Station P**	2.70	187	*eP*	Pn	22 45 28.2	+0.4
PB06				IAML		22 45 59.6	
	comp=N,233nm,0.5s						
PB05	**IPOC Station P**	2.98	198	*eP*	Pn	22 45 30.9	-0.5
PB05				IAML		22 46 26.6	
	comp=E,251nm,0.5s						
PB15	**IPOC Station P**	3.19	185	*eP*	Pn	22 45 34.9	+0.6
LPAZ	**La Paz**	3.84	15	P	Pn	22 45 46.5	+3.0
	comp=E,3.1nm,0.3s,baz=186,slow=7.7,SNR=74						
LPAZ	**La Paz**	3.84	15	*eP*	Pn	22 45 46.6	+3.0
SIV	**San Ignacio**	8.70	64	P	Pn	22 46 46.8	-2.1
	comp=E,2.6nm,0.3s,baz=262,slow=10,SNR=72						
VILB	**Vilhena**	11.12	52	*eP*	Pn	22 47 23.7	+2.0
CPUP	**Villa Florida**	12.59	122	P	Pn	22 47 39.8	-1.4
	comp=E,0.2nm,0.3s,baz=313,slow=9.1,SNR=4.3						
PP1B	**Ponte de Pedra**	13.76	82	*eP*	Pn	22 47 56.6	0.0
H03N1	**Juan Fernandez**	15.93	211	T	T	23 05 14.5	
	baz=32,slow=72,SNR=4.6						
H03N2	**Juan Fernandez**	15.94	211	T	T	23 05 05.2	
	baz=32,slow=72,SNR=4.2						
H03N3	**Juan Fernandez**	15.95	211	T	T	23 04 56.1	
	baz=32,slow=72,SNR=3.4						
FRTB	**Fartura**	18.54	104	*eP*	P	22 48 54.5	+0.1
MACA	**Manacapuru-AM**	18.70	27	*eP*	P	22 48 56.0	-0.2
SNDB	**Serra Nova Dou**	18.96	68	*eP*	P	22 48 58.3	-0.7
BB19B	**Bebedouro**	19.38	97	*eP*	P	22 49 02.6	-1.0
IPMB	**Ipameri, GO**	19.94	88	*eP*	P	22 49 08.9	-0.8
ITTB	**Itaituba**	20.34	42	*eP*	P	22 49 12.7	-1.3
BDFB	**Brasilia**	20.62	81	P	P	22 49 16.6	-0.5
	comp=E,2.1nm,0.4s,baz=266,slow=11,SNR=4.5						
PLCA	**Paso Flores**	20.68	183	P	P	22 49 18.6	+1.0
	comp=E,3.2nm,0.8s,baz=337,slow=9.8,SNR=5.4						
PET01	**Itanhaem-SP**	20.73	106	*eP*	P	22 49 18.6	+0.5
PTGA	**Pitinga**	21.19	26	P	P	22 49 21.0	-2.0
	comp=E,1.5nm,0.4s,baz=272,slow=23,SNR=5.6						
SMTB	**Santa Maria do**	23.64	65	*eP*	P	22 49 46.9	-0.9
BOAV	**Boa Vista**	23.84	22	*eP*	P	22 49 49.4	-0.2
DIAM	**Diamantina, MG**	24.16	90	*eP*	P	22 49 52.4	-0.2
MC01	**Montes Claros**	24.18	86	*eP*	P	22 49 51.7	-1.0
JANB	**Januaria**	24.22	82	*eP*	P	22 49 52.2	-0.9
SDBA	**SAO DESIDERIO**	24.50	76	*eP*	P	22 49 54.7	-0.9
MCPB	**Macapa, AP**	25.75	43	*eP*	P	22 50 06.5	-0.4
ALF01	**Guarapari-ES**	26.69	96	*eP*	P	22 50 15.6	+0.3
BSFB	**Barra de Sao F**	26.75	92	*eP*	P	22 50 15.8	-0.1
GDU01	**Guandu, BA**	29.00	82	*eP*	P	22 50 35.3	-0.7
NBAN	**Anadia - AL**	33.38	77	*eP*	P	22 51 13.6	-0.9
TORD	**Torodi Ar. Bea**	77.11	71	P	P	22 56 27.3	-1.0
	comp=E,0.7nm,0.3s,baz=254,slow=5.3,SNR=13						
YKA	**Yellowknife Ar**	89.71	341	P	P	22 57 32.4	+0.6
	comp=E,0.2nm,0.6s,baz=133,slow=4.9,SNR=5.3						
H11S2	**WAKE ISLAND Hyl**	27.42	278	T	T	01 23 17.8	
	baz=101,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hyl**	27.43	278	T	T	01 23 17.2	
	baz=101,slow=74,SNR=18						
H11S3	**WAKE ISLAND Hyl**	27.44	278	T	T	01 23 18.6	
	baz=101,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hyl**	27.46	280	T	T	01 23 24.9	
	baz=101,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hyl**	27.47	280	T	T	01 23 25.9	
	baz=101,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl**	27.48	280	T	T	01 23 29.4	
	baz=101,slow=74,SNR=8.6						
MKAR	**Makanchi Array**	144.58	34	PKP	PKPab	23 04 09.8	+0.9
	comp=E,0.1nm,0.5s,baz=338,slow=3.4,SNR=2.2						

JMA 14 23:05:44.1±0.1,24°.15N×122°.86E,h53km±3km,M2.3
TAP 14 23:05:44.5,24°.08N×122°.86E,h37km,ML3.0,D
ISC 14 23:05:44.0±1.0,24°.00N±0°.04×122°.89E±0°.02,h30km±10km,
n77,σ1$20/131,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	0.45	6	P	Pb	23 05 53.6	-0.1
JYNG				S	Sb	23 06 00.4	+0.1
YOJ	**Yonaguni jima**	0.47	13	P	Pb	23 05 53.9	-0.1
YOJ				S	Sb	23 06 00.8	-0.1
YOJ	**Yonaguni jima**	0.47	13	P	Pb	23 05 54.0	-0.1
	baz=19						
YOJ				S	Sb	23 06 01.0	+0.1
	baz=19						
IRIF	**Iriomote-Funau**	0.83	66	P	Pb	23 05 59.7	-0.3
IRIF				S	Sb	23 06 11.1	+0.2
HATJ	**Hateruma jima**	0.84	86	P	Pb	23 06 00.5	+0.5
HATJ				*eS*	Sb	23 06 12.2	+1.3
JKRS	**Kuro-shima**	1.05	77	P	Pn	23 06 03.0	+0.4
JKRS				*eS*	Sb	23 06 16.4	-0.5
TWC	**Suao**	1.13	303	P	Pn	23 06 03.7	0.0
	baz=298						
ETL	**Fush Village**	1.17	278	*eP*	Pn	23 06 04.4	0.0
	baz=271						
TWD	**Chiawan**	1.19	274	P	Pn	23 06 04.5	-0.1
	baz=267						
TWD				*eS*	Sb	23 06 18.3	-2.7
	baz=267						
JIJ	**Ishigaki jima**	1.20	72	P	Pn	23 06 04.3	-0.4
JIJ				S	Sn	23 06 19.2	-0.7
NACB	**Ninganchiao**	1.20	279	P	Pn	23 06 04.2	-0.5
	baz=258						
NACB				*eS*	Sn	23 06 19.4	-0.5
	baz=258						
NDS	**Dongshan**	1.25	301	P	Pn	23 06 05.6	+0.3
	baz=295						
NDS				*eS*	Sn	23 06 20.3	-0.9
	baz=295						
ETLH	**Xiulin Townshi**	1.31	279	P	Pn	23 06 05.4	-0.8
	baz=273						
ETLH				*eS*	Sn	23 06 21.5	-1.2
	baz=273						
TWE	**Neicheng**	1.33	303	*eP*	Pn	23 06 07.1	+0.6
	baz=309						
TWE				*eS*	Sn	23 06 23.5	+0.3
	baz=309						
ESL	**Shilin**	1.35	263	P	Pn	23 06 06.0	-0.8
	baz=256						
ENTT	**Nioudou**	1.37	298	P	Pn	23 06 07.4	+0.3
	baz=292						
ENTT				*eS*	Sn	23 06 23.8	-0.4
	baz=292						
TIPB	**Shuangxi**	1.37	315	*eP*	Pn	23 06 06.4	-0.7
	baz=311						
TIPB				*eS*	Sn	23 06 22.4	-1.9
	baz=311						
EGFH	**Guangfu**	1.38	257	P	Pn	23 06 07.0	-0.2
	baz=250						
EGFH				*eS*	Sn	23 06 24.1	-0.4
	baz=250						
NDT	**Datong Townshi**	1.40	296	P	Pn	23 06 08.0	+0.6
	baz=278						
NDT				*eS*	Sn	23 06 24.8	-0.1
	baz=278						
JISG	**Ishigakijimahi**	1.42	65	P	Pn	23 06 07.2	-0.5
JISG				S	Sn	23 06 24.7	-0.7
HGSD	**Ruisui**	1.44	250	*eP*	Pn	23 06 06.4	-1.5
	baz=243						
HGSD				*eS*	Sn	23 06 24.1	-1.7
	baz=243						
NNSB	**Datong**	1.44	288	P	Pn	23 06 08.1	-0.1
	baz=281						
NNSB				*eS*	Sn	23 06 25.7	-0.5
	baz=281						
NNSH	**Datong**	1.44	288	P	Pn	23 06 08.2	0.0
	baz=281						
NNSH				*eS*	Sn	23 06 25.1	-1.1
	baz=281						
NNS	**Nan Shan**	1.46	288	*eP*	Pn	23 06 08.8	+0.5
	baz=282						
NNS				*eS*	Sn	23 06 25.8	-0.7
	baz=282						
NWF	**Wu-fen Shan**	1.47	317	*eP*	Pn	23 06 09.4	+0.9
	baz=314						
NWLT	**Wulai**	1.49	302	P	Pn	23 06 09.3	+0.6
	baz=310						
NWLT				*eS*	Sn	23 06 26.9	-0.2
	baz=310						
WHF	**Hehuan Shan**	1.50	276	P	Pn	23 06 09.0	-0.2
	baz=269						
EHY	**Hungye**	1.52	252	P	Pn	23 06 08.9	-0.2
	baz=245						
EHY				*eS*	Sn	23 06 26.6	-1.4
	baz=245						
FUSS	**Fushou**	1.53	280	P	Pn	23 06 09.6	+0.2
	baz=273						
FUSS				*eS*	Sn	23 06 28.1	-0.4
	baz=273						
YHNB	**Yeheng**	1.54	296	P	Pn	23 06 09.8	+0.4
	baz=277						
OWD	**Renai**	1.57	269	P	Pn	23 06 09.9	-0.1
	baz=262						
OWD				S	Sn	23 06 28.6	-0.8
	baz=262						
CHGB	**Renai**	1.57	273	P	Pn	23 06 10.0	0.0
	baz=266						
CHGB				*eS*	Sn	23 06 27.5	-2.0
	baz=266						
EYUL	**Yuli**	1.58	246	P	Pn	23 06 09.7	-0.3
	baz=230						
EYUL				*eS*	Sn	23 06 29.5	0.0
	baz=230						
YULB	**Yu-li**	1.58	248	P	Pn	23 06 10.1	+0.1
	baz=232						
YULB				*eS*	Sn	23 06 29.0	-0.5
	baz=232						
TWT	**Tachien**	1.59	280	*eP*	Pn	23 06 11.0	+0.8
	baz=261						
TWT				*eS*	Sn	23 06 29.8	-0.1
	baz=261						
TWF1	**Yuli**	1.60	247	P	Pn	23 06 10.4	+0.2
	baz=231						
TWF1				S	Sn	23 06 29.6	-0.2
	baz=231						
TDCB	**Techi**	1.61	279	P	Pn	23 06 11.1	+0.6
	baz=263						
CHKT	**Chengkung**	1.66	238	*eP*	Pn	23 06 10.9	-0.1
	baz=223						
CHKT				*eS*	Sn	23 06 29.6	-1.8
	baz=223						
FULB	**Fuli**	1.67	242	*eP*	Pn	23 06 09.6	-1.6
	baz=227						
FULB				*eS*	Sn	23 06 29.6	-2.0
	baz=227						
JTJ	**Tarama**	1.77	68	P	Pn	23 06 12.8	+0.3
JTJ				*eS*	Sn	23 06 33.8	-0.2
EDH	**Donghe**	1.78	235	P	Pn	23 06 12.2	-0.5
	baz=223						
EDH				*eS*	Sn	23 06 32.4	-1.9
	baz=223						
SSLB	**Suanglung**	1.79	264	P	Pn	23 06 13.0	+0.2
	baz=257						
SSLB				*eS*	Sn	23 06 34.1	-0.4
	baz=257						
DPDB	**Guoxing**	1.80	272	P	Pn	23 06 14.1	+1.1
	baz=265						
DPDB				*eS*	Sn	23 06 34.0	-0.9
	baz=265						
WHP	**Taichung City**	1.80	279	P	Pn	23 06 14.8	+1.7
	baz=262						
WHP				*eS*	Sn	23 06 34.9	-0.1
	baz=262						
WCS	**Beigang Elemen**	1.81	272	P	Pn	23 06 13.4	+0.2
	baz=266						
WCS				*eS*	Sn	23 06 34.9	-0.2
	baz=266						
SMLT	**Sun Moon Lake**	1.83	267	*eP*	Pn	23 06 13.6	+0.2
	baz=260						
NSTT	**Nanjuang**	1.84	290	*eP*	Pn	23 06 14.5	+1.0
	baz=284						
NSTT				*eS*	Sn	23 06 36.6	+0.9
	baz=284						
LDUT	**Ludao**	1.86	225	*eP*	Pn	23 06 12.6	-1.1
	baz=221						
LDUT				*eS*	Sn	23 06 34.8	-1.4
	baz=221						
TYC	**Yuchr**	1.86	268	*eP*	Pn	23 06 14.5	+0.6
	baz=261						
TYC				*eS*	Sn	23 06 36.3	-0.1
	baz=261						
ELDTW	**Lidau**	1.90	245	P	Pn	23 06 14.1	-0.4
	baz=239						
ELDTW				*eS*	Sn	23 06 37.0	-0.4
	baz=239						
LONT	**Longtian**	1.95	237	*eP*	Pn	23 06 15.3	+0.2
	baz=224						
LONT				*eS*	Sn	23 06 38.5	0.0
	baz=224						
TWQ1	**Liyutan**	1.97	281	*eP*	Pn	23 06 15.9	+0.6
	baz=274						
ALS	**Alishan**	1.97	256	P	Pn	23 06 16.6	+1.0
	baz=250						
ALS				*eS*	Sn	23 06 39.8	+0.3
	baz=250						
WJS	**Zhushan**	1.99	265	*eP*	Pn	23 06 17.8	+2.2
	baz=259						
WJS				*eS*	Sb	23 06 43.5	-0.4
	baz=259						
WWF	**Wufeng**	2.01	272	*eP*	Pn	23 06 18.2	+2.4
	baz=265						
WWF				*eS*	Sn	23 06 43.4	+3.5
	baz=265						
WNT	**Mingjian**	2.02	267	*eP*	Pn	23 06 17.9	+1.9
	baz=260						
TWGBT	**Beinan**	2.04	235	*eP*	Pn	23 06 16.0	-0.3
	baz=223						
TWGBT				*eS*	Sn	23 06 39.8	-0.9
	baz=223						
TWG	**Pinlang**	2.04	235	*eP*	Pn	23 06 16.2	-0.1
	baz=223						
TWG				*eS*	Sn	23 06 40.0	-0.8
	baz=223						
CHN5	**Tsauling**	2.07	259	*eP*	Pn	23 06 18.7	+2.0
	baz=244						
STYH	**Taoyuan**	2.11	247	*eP*	Pn	23 06 17.5	+0.2
	baz=233						
STYT	**Tauyuan**	2.13	247	*eP*	Pn	23 06 18.6	+1.0
	baz=232						
WDLH	**Douliu**	2.18	262	*eP*	Pn	23 06 20.2	+2.1
	baz=256						
WDLH				*eS*	Sn	23 06 47.7	+3.6
	baz=256						
CHN4	**Tsaushan**	2.21	253	*eP*	Pn	23 06 20.7	+2.2
	baz=247						
CHN4				*eS*	Sn	23 06 48.0	+3.1
	baz=247						
WTP	**Ta-pu**	2.22	251	*eP*	Pn	23 06 20.2	+1.4
	baz=237						
WTP				*eS*	Sn	23 06 47.6	+2.4
	baz=237						
ECL	**Taimali**	2.26	232	*eP*	Pn	23 06 19.3	0.0
	baz=237						
SLGT	**Liugui**	2.29	245	P	Pn	23 06 21.9	+2.2
	baz=233						
SLGT				*eS*	Sn	23 06 49.4	+2.4
	baz=233						
WRL	**Guolierlin Hig**	2.30	268	*eP*	Pn	23 06 21.5	+1.6
	baz=261						
CHN1	**Nanshi**	2.32	250	P	Pn	23 06 22.2	+2.1
	baz=236						
CHN1				*eS*	Sn	23 06 50.5	+2.9
	baz=236						
TWK	**Hsinying**	2.32	252	*eP*	Pn	23 06 22.2	+2.0
	baz=246						
TWK				*eS*	Sn	23 06 49.9	+2.1
	baz=246						
SNST	**Tainan City**	2.33	251	*eP*	Pn	23 06 22.2	+2.0
	baz=245						
SSD	**Sandimen**	2.42	240	*eP*	Pn	23 06 24.1	+2.6
	baz=228						
TSMG	**Majia**	2.43	239	*eP*	Pn	23 06 22.6	+1.0
	baz=227						
WDGT	**Dungji**	3.06	257	*eP*	Pn	23 06 30.6	+0.3
	baz=250						
PNG	**Penghu**	3.09	263	*eP*	Pn	23 06 31.2	+0.5
	baz=256						
VCHM	**Qimei**	3.27	257	*eP*	Pn	23 06 33.8	+0.6
	baz=250						
VWUC	**VWUC**	3.29	288	*eP*	Pn	23 06 32.6	-0.8
	baz=281						
PTMZ	**Houxiangcun**	3.59	288	*eP*	Pn	23 06 37.8	+0.2
	baz=280						

IDC 14 23:17:36.3±2.2,6°.82S×128°.24E,h0km,mb3.4/1,
mb1 4.0/4,mb1mx3.6/27,mbtmp3.8/4,ML4.0/3,Error
ellipse: s-maj=58.7km s-min=32.4km az=71.0,Banda
Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	5.64	233	Pn	Pn	23 19 01.7	+0.2
	3.6nm,0.3s,baz=333,slow=20,SNR=2.1						
BATI				Sn	Sn	23 19 57.6	-10
	6.6nm,0.3s,baz=305,slow=19,SNR=8.3						
WRA	**Warramunga Arr**	14.32	156	Pn	Pn	23 20 59.9	-0.6
	0.8nm,0.3s,baz=330,slow=13,SNR=18						
WRA				Sn	Sn	23 23 27.5	-13
	0.8nm,0.3s,baz=340,slow=22,SNR=8.4						
ASAR	**Alice Springs**	17.61	163	P	Pn	23 21 43.8	+0.5
	0.5nm,0.3s,baz=345,slow=14,SNR=20						
MKAR	**Makanchi Array**	67.13	328	P	P	23 28 31.9	-0.1
	0.2nm,0.5s,baz=136,slow=6.1,SNR=2.6						

CAR 14 23:26:55.5±3.1,6°.71N±0°.06×73°.29W±0°.05,h161km±4km,
Error ellipse: s-maj=0.0km s-min=0.0km az=128.0
IDC 14 23:26:57.4±0.6,6°.78N×72°.94W,h165km±5km,mb3.9/19,
mb1 4.1/27,mb1mx4.0/39,mbtmp4.4/27,MS3.3/3,
Ms1 3.3/3,ms1mx2.8/23,Error ellipse: s-maj=9.8km
s-min=8.4km az=98.0
NEIC 14 23:26:57.4±2.5,6°.81N±0°.06×73°.01W±0°.08,h150km±5km,
mb4.6/235,Mwr4.2(CAR),Mwr4.7(RSNC),Error ellipse:
s-maj=11.1km s-min=8.7km az=112.0
RSNC 14 23:26:57.5±1.0,6°.79N×73°.09W,h154km±3km,ML4.6,
Mw4.7,Fault plane solution: NP1:φs55.00000°,
δ58.00000°,λ-162.00000°.
VAO 14 23:26:58.6±0.3,6°.49N×72°.83W,h139km,mb4.5
ISC 14 23:26:56.6±0.5,6°.80N±0°.03×73°.05W±0°.03,h156km±4km,
n492,σ1$34/496,mb4.6/135,42C-68D,Fault plane
solution: NP1:φs305.23099°,δ43.40399°,λ-28.16006°.
NP2:φs56.48245°,δ71.07771°,λ-129.82253°. Principal
axes: T Plg16.5246°, Azm174.6693°; N Plg37.2867°,
Azm71.6134°; P Plg47.9907°, Azm283.9011°; **Northern**
Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	0.25	213	⇓*eP*	Pn	23 27 18.4	+0.4
BARC				*eS*	Sn	23 27 34.5	+0.1
BARC				*i*		23 27 35.7	
	comp=Z,8μm,0.3s						
PAMC	**Pamplona, Colo**	0.64	33	⇓*iP*	Pn	23 27 21.3	+1.3
PAMC				*eS*	Sn	23 27 38.4	+0.6
PAMC				*i*		23 27 40.8	
	comp=Z,16μm,0.6s						
RUSC	**La Rusia**	0.90	182	Pn	Pn	23 27 22.3	+0.5
RUSC	**La Rusia**	0.90	182	⇑*iP*	Pn	23 27 22.3	+0.5
RUSC				*eS*	Sn	23 27 41.0	-0.1
RUSC				*i*		23 27 43.8	
	comp=Z,5μm,0.4s						
PTBC	**PUERTO BERRIO,**	1.42	260	*eS*	Sn	23 27 46.6	-1.7
OCAC	**Ocana**	1.45	349	⇑*eP*	Pn	23 27 26.7	+0.4
OCAC				*eS*	Sn	23 27 48.6	-0.6
OCAC				*i*		23 27 53.5	
	comp=Z,15μm,0.4s						
ZARC	**Zaragoza, Cauc**	1.92	291	⇓*eP*	Pn	23 27 30.5	-0.8
ZARC				*eS*	Sn	23 27 57.0	-0.9
ZARC				*i*		23 28 04.8	
	comp=Z,4μm,0.4s						
NORC	**Norcasia**	2.19	236	*eP*	Pn	23 27 34.4	0.0
NORC				*eS*	Sn	23 28 02.1	-1.4
NORC				*i*		23 28 04.5	
	comp=Z,3μm,0.3s						
SMLC	**San Martn de**	2.23	333	⇑*iP*	Pn	23 27 34.4	-0.4
SMLC				*eS*	Sn	23 28 03.6	-0.8
SMLC				*i*		23 28 08.4	
	comp=Z,4μm,0.3s						
CHIC	**Chingaza**	2.26	198	⇑*iP*	Pn	23 27 36.1	+0.5
CHIC				*eS*	Sn	23 28 05.5	-0.2
CHIC				*i*		23 28 09.2	
	comp=Z,2μm,0.6s						
ROSC	**El Rosal**	2.32	213	P	Pn	23 27 37.9	+1.5
	comp=Z,869nm,0.3s,baz=61,slow=2.1,SNR=362						
ROSC	**El Rosal**	2.32	213	⇑*iP*	Pn	23 27 37.8	+1.5
ROSC				*eS*	Sn	23 28 07.8	+0.9
ROSC				*i*		23 28 14.5	
	comp=Z,5μm,0.6s						
REAC	**Reactor, Bogot**	2.38	206	*eP*	Pn	23 27 35.0	-2.1
REAC				*eS*	Sn	23 28 06.5	-1.7
HELC	**Santa Helena**	2.54	256	*eP*	Pn	23 27 38.2	-0.7
HELC				*eS*	Sn	23 28 10.3	-1.2
HELC				*i*		23 28 17.9	
	comp=Z,2μm,0.3s						
SOCV	**Socops**	2.62	56	*eP*	Pn	23 27 40.0	+0.4
SOCV				*eS*	Sn	23 28 12.6	-0.2
UREC	**San Jos de Ur**	2.64	291	*eP*	Pn	23 27 38.3	-1.5
UREC				*eS*	Sn	23 28 09.5	-3.7
UREC				*i*		23 28 20.4	
	comp=Z,4μm,0.2s						
PTGC	**Puerto Gaitan,**	2.74	161	⇑*eP*	Pn	23 27 41.3	+0.2
PTGC				*eS*	Sn	23 28 14.7	-0.8
PTGC				*i*		23 28 19.6	
	comp=Z,2μm,0.3s						
VILC	**

CBOC Ciudad Bolivar 3.09 253 eP Pn 23 27 46.0 +0.4
CBOC eS Sn 23 28 22.7 -0.7
CBOC i 23 28 28.7
comp=Z,850nm,0.5s
DBBC Dabeiba 3.15 274⇓ eP Pn 23 27 45.9 -0.3
DBBC eS Sn 23 28 23.6 -1.0
TOLC Tolima 3.16 226 eP Pn 23 27 46.8 +0.3
TOLC eS Sn 23 28 25.3 +0.1
TOLC i 23 28 30.7
comp=Z,2µm,0.4s
SDV Santo Domingo 3.16 49 P Pn 23 27 47.9 +1.4
comp=Z,182nm,0.3s,baz=228,slow=10,SNR=85
SDV S Sn 23 28 25.4 +0.2
comp=Z,310nm,0.3s,baz=87,slow=22,SNR=12
SDV Santo Domingo 3.16 49 Pn 23 27 47.7 +1.2
SDV Santo Domingo 3.16 49⇓ eP Pn 23 27 47.6 +1.1
SDV eS Sn 23 28 25.0 -0.2
SDV i 23 28 27.5
comp=Z,1µm,0.5s
SDV Santo Domingo 3.16 49 eP Pn 23 27 47.9 +1.4
MOTC Monteria, Cord 3.25 307 eP Pn 23 27 45.6 -1.9
MOTC eS Sn 23 28 24.4 -2.4
MOTC i 23 28 27.7
comp=Z,1µm,0.3s
ARGC Ariguani, Magd 3.26 339⇑ eP Pn 23 27 48.6 +1.1
ARGC eS Sn 23 28 27.4 +0.2
ARGC i 23 28 31.0
comp=Z,1µm,0.3s
ANIL Santa Ana 3.28 226 eP Pn 23 27 48.6 +0.5
ANIL eS Sn 23 28 27.4 -0.6
ELOV Elorza 3.54 87 eP Pn 23 27 52.2 +1.0
ELOV eS Sn 23 28 34.0 +0.5
ORTC Ortega, Tolima 3.61 217⇑ i P Pn 23 27 52.1 0.0
ORTC eS Sn 23 28 35.1 -0.1
ORTC i 23 28 42.3
comp=Z,2µm,0.2s
PLMC San Jos del P 3.73 240 eP Pn 23 27 53.8 +0.1
PLMC eS Sn 23 28 37.8 -0.1
PLMC i 23 28 42.5
comp=Z,762nm,0.7s
SJCC San Jacinto, C 3.73 326 eP Pn 23 27 52.3 -1.3
SJCC eS Sn 23 28 36.1 -1.8
SJCC i 23 28 38.4
comp=Z,1µm,0.5s
LCBC Los crdobas, 3.87 302 eP Pn 23 27 54.7 -0.7
LCBC eS Sn 23 28 40.9 -0.2
LCBC i 23 28 49.8
comp=Z,810nm,0.5s
GUVC San Jose del G 4.25 174 eP Pn 23 27 60.0 -0.4
GUVC eS Sn 23 28 49.5 -0.5
GUVC i 23 28 53.9
comp=Z,2µm,0.3s
YOTC Yotoco, Valle 4.31 230 eP Pn 23 28 00.7 -0.6
YOTC eS Sn 23 28 50.5 -1.2
SOLC Bahia Solano 4.37 263 eP Pn 23 28 02.3 +0.4
SOLC eS Sn 23 28 51.8 -0.9
SMRC Santa Marta, M 4.49 345 eP Pn 23 28 03.1 -0.4
SMRC eS Sn 23 28 52.1 -3.5
SMRC i 23 28 54.8
comp=Z,670nm,0.4s
PIZC Pizarro, Choco 4.66 247 eP Pn 23 28 07.0 +1.3
PIZC eS Sn 23 29 00.1 +0.4
PIZC i 23 29 09.5
comp=Z,406nm,0.7s
MACC Macarena, Meta 4.69 190⇑ eP Pn 23 28 05.1 -1.1
MACC eS Sn 23 28 57.0 -3.5
MACC i 23 29 02.6
comp=Z,397nm,0.5s
BETC Betania 4.74 210⇓ eP Pn 23 28 06.2 -0.7
BETC eS Sn 23 28 59.3 -2.3
BETC i 23 29 01.1
comp=Z,298nm,0.6s
DABV Dabajuro 4.74 30⇑ eP Pn 23 28 07.3 +0.6
DABV eS Sn 23 29 02.9 +1.4
PTAC Punta Ardita, 4.74 274 eP Pn 23 28 05.4 -1.3
PTAC eS Sn 23 28 57.7 -3.7
PTAC i 23 29 09.6
comp=Z,184nm,0.3s
MARP Paez Belalcaza 4.88 217 eP Pn 23 28 08.1 -0.8
MARP eS Sn 23 29 05.5 +0.1
URIC Uribia, Colomb 4.98 12 Pn Pn 23 28 09.3 -0.6
URIC Uribia, Colomb 4.98 12⇑ eP Pn 23 28 08.9 -1.0
URIC eS Sn 23 29 05.5 -1.6
URIC i 23 29 28.9
comp=Z,158nm,0.5s
MALC Bahia Malaga 5.09 237 eP Pn 23 28 12.6 +1.3
MALC eS Sn 23 29 11.0 +1.3
MALC i 23 29 21.0
comp=Z,149nm,0.8s
GARC Garzon, Huila 5.19 208 eP Pn 23 28 12.2 -0.7
GARC eS Sn 23 29 11.4 -1.2
GARC i 23 29 17.3
comp=Z,420nm,0.3s
UPD2 Meteti 5.22 290 eP Pn 23 28 11.0 -2.0
PCON Cinco Dias 5.56 217 eP Pn 23 28 18.4 +0.2
PCON eS Sn 23 29 17.5 -4.3
PCON i 23 29 30.4
comp=Z,145nm,0.6s
POPC Popayan, Colom 5.57 221 eP Pn 23 28 09.8 -8.1
POPC eS Sn 23 29 11.6 -10
SOTA Rioblanco 5.84 218⇑ eP Pn 23 28 22.6 +0.9
SOTA eS Sn 23 29 32.0 +3.7
SOTA i 23 29 39.4
comp=Z,220nm,0.7s
BBAC Balboa, Cauca 6.33 222 eP Pn 23 28 27.3 -0.7
BBAC eS Sn 23 29 38.9 -0.7
BBAC i 23 29 42.3
comp=Z,224nm,0.9s
CRUC La Cruz 6.50 217 eP Pn 23 28 32.3 +1.9
CRUC eS Sn 23 29 43.1 -0.7
CRUC i 23 29 49.9
comp=Z,94nm,0.5s
HATO Hato, Curacao 6.70 37 Pn Pn 23 28 31.0 -1.7
UPA Univ. de Panam 6.78 289 eP Pn 23 28 31.9 -2.0
UPA eS Sn 23 29 48.6 -1.4
PTLC Puerto Leguiza 6.81 195 eP Pn 23 28 36.9 +2.6
PTLC eS Sn 23 30 13.8 +23
GCUF Volcan Galeras 7.00 218 eP Pn 23 28 37.8 +0.6
GCUF eS Sn 23 29 55.9 -0.2
GCUF i 23 29 59.0
comp=Z,45nm,0.5s
BCIP Isla Barro Col 7.12 290 Pn Pn 23 28 36.2 -2.2
AZU Azuero 7.24 278 eP Pn 23 28 38.7 -1.2
AZU eS Sn 23 29 54.9 -6.1
TULM Tulcn-Chalpat 7.67 218 eP Pn 23 28 44.6 -1.6
TULM eS Sn 23 30 08.8 -3.5
OTAV Otavalo 8.46 220 Pn Pn 23 28 56.6 -0.1
OTAV Otavalo 8.46 220 eP Pn 23 28 56.2 -0.5
OTAV eS Sn 23 30 30.6 -0.5
OTAV Otavalo 8.46 220 eP Pn 23 28 56.4 -0.3
PAC1 Pacto, Paraso 8.66 222 eP Pn 23 28 59.6 +0.6
PAC1 eS Sn 23 30 34.3 -1.2
PCRV Puerto La Cruz 8.97 67 P Pn 23 29 04.7 +1.7
comp=Z,5.4nm,0.3s,baz=290,slow=2.1,SNR=20
PCRV S Sn 23 30 39.3 -3.5
comp=Z,0.9nm,0.3s,baz=224,slow=21,SNR=1.3
PCRV LR LR 23 33 45.9
comp=Z,449nm,19.3s,slow=46
PLCV Puerto La Cruz 9.01 68 Pn 23 29 04.7 +1.2
PLCV Sn 23 30 39.3 -4.4
DRK0 Durika 10.39 284 Pn 23 29 22.0 0.0
PRVC Isla de Provid 10.47 309 eP Pn 23 29 19.0 -3.8
PRVC eS Sn 23 31 10.8 -8.1
PRVC i 23 31 17.5
comp=Z,53nm,0.6s
SRBA San Rafael, Bu 10.49 284 Pn 23 29 23.7 +0.4
PEZE Perez Zeledon, 10.83 284 Pn Pn 23 29 28.0 +0.3
RIMA Rio Macho 11.10 286 Pn 23 29 32.2 +0.9
TBTG Tabatinga, AM 11.36 164 eP Pn 23 29 33.5 -1.0
TBTG eS Sn 23 31 36.7 -3.5
CMJ Castle Mountai 11.72 344 i P Pn 23 29 42.2 +3.0
STH Stony Hill 11.79 342 i P Pn 23 29 42.0 +1.9
MCJ Malvern 11.95 338 i P Pn 23 29 44.5 +2.3
MCJ i S Sn 23 31 34.6 -20
MTDJ Mount Denham 12.17 339 Pn Pn 23 29 47.4 +2.3
BBJ Bamboo Saint A 12.22 341 i P Pn 23 29 48.1 +2.4
BBJ i S Sn 23 31 52.2 -9.0
SDDR Presa de Saban 12.23 8 P 23 29 49.5 -2.3
JTS Las Juntas de 12.27 287 P Pn 23 29 49.0 +2.6
comp=Z,1.0nm,0.3s,baz=110,slow=1.9,SNR=5.7
JTS Las Juntas de 12.27 287 Pn Pn 23 29 48.8 +2.4
ESPN Las Esperanzas 12.32 297 Pn Pn 23 29 46.2 -0.8

DR12 Loma Pena Alta 12.44 16 Pn Pn 23 29 46.1 -2.4
DUNO Dulce Nombre, 12.73 286 P P 23 29 59.0 +1.6
ACON Acoyapa 13.02 294 Pn 23 29 55.6 -0.4
SJG San Juan 13.10 30 P Pn 23 29 56.4 -0.5
comp=Z,8.9nm,0.3s,baz=210,slow=13,SNR=21
SJG S Sn 23 32 08.8 -13
baz=14,slow=20,SNR=2.3
GTBY Guantanamo Bay 13.20 351 Pn Pn 23 30 00.1 +1.9
BOAV Boa Vista 13.23 109 eP Pn 23 29 57.1 -1.6
EMPR Esperanza - Ma 13.23 28 Pn Pn 23 29 58.6 0.0
GCPR Guaynabo City 13.30 30 Pn Pn 23 29 59.7 +0.2
CUPR Culebra, Puert 13.71 33 Pn Pn 23 30 04.7 0.0
CBCY The Bluff, Cay 14.42 334 P 23 30 17.0 +1.0
CZSB Cruzeiro do Su 14.44 179 eP Pn 23 30 13.7 -0.3
GRTK Grand Turk 14.74 7 P P 23 30 19.9 +0.3
ATAH Atahualpa 14.84 201 P P 23 30 21.5 +0.3
comp=Z,1.0nm,0.3s,baz=37,slow=11,SNR=4.0
ATAH S S 23 33 11.2 +0.6
comp=Z,0.2nm,0.3s,baz=185,slow=18,SNR=3.9
PTGA Pitinga 15.05 119 P Pn 23 30 21.2 -0.3
comp=Z,0.4nm,0.3s,baz=283,slow=23,SNR=2.1
PTGA S Sn 23 33 04.8 -4.1
comp=Z,1.1nm,0.3s,baz=23,slow=6.9,SNR=7.6
PTGA Pitinga 15.05 119 P P 23 30 25.2 +2.1
TGUH Tegucigalpa,Un 15.73 298 Pn 23 30 30.1 0.0
TGUH Tegucigalpa,Un 15.73 298 eS Pn 23 30 26.8 -3.3
MTO3 Montecristo 17.71 297 P Pn 23 30 53.7 -0.4
MTO3 IAmb IAmb 23 30 57.4
comp=Z,32nm,0.9s
ETMB Extrema 17.86 158 eP P 23 30 54.0 -0.1
SAML Samuel 18.48 148 P P 23 31 00.2 -0.7
NNA Nana 19.04 191 P P 23 31 07.6 +0.5
comp=Z,1.7nm,0.3s,baz=10,slow=9.2,SNR=4.3
PETF Flores 19.27 303 P P 23 31 10.5 +1.1
PETF IAmb IAmb 23 31 15.4
comp=Z,56nm,1.2s
MDP Montagnes des 20.37 94 P P 23 31 21.3 +0.1
comp=Z,7.9nm,0.9s,baz=321,slow=12,SNR=1.7
MDP pP pP 23 31 47.9 -0.7
comp=Z,10nm,0.5s,baz=270,slow=13,SNR=6.4
ITTB Itaituba 20.54 122 eP P 23 31 23.7 +0.6
MALB Monte Alegre 20.62 114 eP P 23 31 24.1 +0.1
CCIG Comitan 20.92 298 P P 23 31 26.9 -0.5
CCIG IAmb IAmb 23 31 31.2
comp=Z,22nm,0.7s
MCPB Macapa, AP 22.12 108 eP P 23 31 40.3 +0.5
NPGB Novo Progresso 22.37 128 eP P 23 31 42.7 +0.5
VILB Vilhena 23.41 147 eP P 23 31 51.9 +0.1
LPAZ La Paz 23.45 168 P P 23 31 51.1 -1.7
comp=Z,6.2nm,0.8s,baz=355,slow=8.1,SNR=17
LPAZ La Paz 23.45 168 P P 23 31 51.9 -1.0
LPAZ La Paz 23.45 168 eP P 23 31 51.4 -1.4
CMIG Matias Romero 23.66 298 P P 23 31 50.1 -3.9
comp=Z,1.1nm,0.3s,baz=90,slow=24,SNR=4.6
CLDB Colider 24.56 136 eP P 23 32 01.8 -0.5
SIV San Ignacio 25.56 152 P P 23 32 10.2 -1.2
comp=Z,2.4nm,0.8s,baz=343,slow=9.5,SNR=11
SIV pP pP 23 32 45.3 +0.7
comp=Z,5.3nm,0.7s,baz=332,slow=9.3,SNR=6.9
PB11 IPOC Station P 26.61 173 P P 23 32 21.2 +0.4
PB11 IAmb IAmb 23 32 22.6
comp=Z,11nm,0.8s
352A Blakely 26.95 337 P P 23 32 25.4 +1.8
152A Waverly Hall 27.94 339 P P 23 32 34.5 +2.1
152A IAmb IAmb 23 32 35.2
comp=Z,12nm,0.7s
GOGA Godfrey 28.19 341 P P 23 32 36.4 +1.8
baz=158
GOGA Godfrey 28.19 341 P P 23 32 36.7 +2.1
HODGE Hodges 28.59 344 P P 23 32 40.2 +2.0
HODGE IAmb IAmb 23 32 40.7
comp=Z,7.4nm,0.7s
346A Big Creek Wild 28.88 330 P P 23 32 42.9 +2.1
LRAL Lakeview Retre 29.14 335 P P 23 32 44.9 +1.8
baz=151,SNR=5.0
LRAL Lakeview Retre 29.14 335 P P 23 32 44.8 +1.7
LRAL IAmb IAmb 23 32 45.8
comp=Z,7.3nm,0.7s
Y49A Blount Mountai 29.63 337 P P 23 32 49.0 +1.6
Y49A IAmb IAmb 23 32 49.6
comp=Z,14nm,0.6s
V55A Taylorsville 29.87 347 P P 23 32 51.3 +1.8
FPAL Fort Paine 29.94 339 P P 23 32 52.0 +1.8
FPAL IAmb IAmb 23 32 52.2
comp=Z,8.0nm,0.7s
V53A Saluda 30.10 344 P P 23 32 53.7 +2.2
T59A Double "B" Far 30.31 353 P P 23 32 54.5 +1.2
CPCT Cooper Cave 30.40 341 P P 23 32 56.2 +2.0
CPCT IAmb IAmb 23 32 57.0
comp=Z,8.6nm,0.9s
X48A Hartselle 30.40 337 P P 23 32 55.8 +1.7
X48A IAmb IAmb 23 32 56.7
comp=Z,14nm,0.7s
W50A Signal Mountai 30.43 340 P P 23 32 56.5 +2.0
W50A IAmb IAmb 23 32 57.3
comp=Z,11nm,0.9s
U54A Nelsons Funny 30.65 346 P P 23 32 58.4 +2.0
U54A IAmb IAmb 23 32 59.3
comp=Z,17nm,0.8s
V51A Loudon 30.67 342 P P 23 32 58.4 +1.9
V51A IAmb IAmb 23 32 59.3
comp=Z,13nm,1.0s
ARAG Araguaiana, MT 30.70 137 eP P 23 32 56.5 -0.5
BLA Blacksburg 31.01 349 P P 23 33 00.8 +1.3
baz=166
TZTN Tazewell 31.12 344 P P 23 33 02.0 +1.5
baz=160
TZTN Tazewell 31.12 344 P P 23 33 02.8 +2.2
TZTN IAmb IAmb 23 33 26.9
comp=Z,17nm,1.3s
V48A Smith Brothers 31.45 338 P P 23 33 05.5 +2.1
NATX Nacogdoches 32.00 324 P P 23 33 09.8 +1.5
AQDB Aquidauana 32.03 148 eP P 23 33 08.0 -0.6
WVT Waverly 32.18 337 P P 23 33 10.9 +1.1
baz=152
WVT Waverly 32.18 337 P P 23 33 11.0 +1.3
ZAIG Zacatecas 32.55 302 P P 23 33 15.5 +2.0
ZAIG IAmb IAmb 23 33 16.4
comp=Z,7.7nm,1.0s
WLAR White Oak Lake 32.57 328 P P 23 33 14.6 +1.4
833A Chaparral WMA, 32.85 314 P P 23 33 15.6 -0.2
baz=126
HBAR Harrisburg 32.87 333 P P 23 33 16.4 +0.7
R50A Paris 32.96 344 IAmb IAmb 23 33 19.5
comp=Z,11nm,0.8s
X40A Basin Creek Fa 33.05 329 P P 23 33 17.9 +0.5
baz=142,SNR=6.7
X40A Basin Creek Fa 33.05 329 IAmb IAmb 23 33 18.8
comp=Z,12nm,0.8s
435B Jarrell 33.14 319 P P 23 33 18.9 +0.7
baz=131
MCWV Mont Chateau 33.28 350 P P 23 33 21.4 +2.1
baz=168
W41B Gary Mavity, V 33.31 331 P P 23 33 20.3 +0.8
baz=144
BDFB Brasilia 33.35 132 P P 23 33 20.2 -0.1
comp=Z,1.6nm,0.4s,baz=315,slow=1.4,SNR=3.3
BDFB LR LR 23 48 53.6
comp=Z,75nm,21.9s,baz=345,slow=40
Q51A Peebles 33.40 345 P P 23 33 22.6 +2.2
Q51A IAmb IAmb 23 33 23.1
comp=Z,12nm,0.8s
WHAR Wooly Hollow 33.42 331 IAmb IAmb 23 33 22.0
comp=Z,16nm,0.8s
MIAR Mount Ida 33.48 328 P P 23 33 21.1 0.0
baz=141
WCI Wyandotte Cave 33.51 341 P P 23 33 22.5 +1.2
baz=156
WCI Wyandotte Cave 33.51 341 P P 23 33 21.9 +0.6
WCI IAmb IAmb 23 33 23.5
comp=Z,16nm,0.8s
LCAR Lake Charles 33.52 333 IAmb IAmb 23 33 23.2
comp=Z,12nm,0.7s
O56A Blue Knob Stat 33.69 352 P P 23 33 24.8 +2.0
baz=170
P52A Corning 33.70 347 P P 23 33 24.5 +1.6
baz=164,SNR=5.1
P52A Corning 33.70 347 IAmb IAmb 23 33 25.4
comp=Z,14nm,0.7s
FCAR Ozark Folk Cen 33.82 332 P P 23 33 24.7 +0.6
FCAR IAmb IAmb 23 33 25.3
comp=Z,19nm,0.9s
FCAR PcP PcP 23 35 59.3 -0.3
WHTX Lake Whitney, 33.86 321 P P 23 33 25.0 +0.6
baz=133

N59A State Game Lan 34.06 356 P P 23 33 27.6 +1.5
baz=175
W39A Magazine 34.09 329 P P 23 33 27.1 +0.8
baz=141,SNR=13
P49A Miami Univ. Ec 34.24 344 P P 23 33 29.1 +1.5
baz=159
T42A Van Buren 34.29 334 IAmb IAmb 23 33 29.6
comp=Z,16nm,0.7s
M66A Nantucket 34.41 4 P P 23 33 31.2 +2.2
baz=185
JCT Junction City 34.42 317 P P 23 33 29.6 +0.3
baz=128
ACSO Alum Creek Sta 34.46 346 P P 23 33 31.3 +1.9
baz=162
U40A Yellville 34.55 331 P P 23 33 31.1 +0.8
baz=144,SNR=40
N54A Moraine State 34.58 351 P P 23 33 32.4 +1.9
baz=168
MGMO Mountain Grove 34.92 333 IAmb IAmb 23 33 35.0
comp=Z,12nm,0.8s
HHAR Hobbs 35.02 330 IAmb IAmb 23 33 35.2
comp=Z,12nm,0.8s
M54A Oil Creek Stat 35.06 351 P P 23 33 36.5 +1.9
baz=168
CCM Cathedral Cave 35.22 335 P P 23 33 36.7 +0.7
baz=148
CCM Cathedral Cave 35.22 335 P P 23 33 37.0 +0.9
U38A Gravette 35.37 330 IAmb IAmb 23 33 38.0
comp=Z,12nm,1.0s
NBPB Pedra_Branca-C 35.58 109 eP P 23 33 39.6 +0.2
ABTX Abilene, Hawle 35.66 320 P P 23 33 40.3 +0.4
baz=130,SNR=7.8
ABTX Abilene, Hawle 35.66 320 IAmb IAmb 23 33 41.4
comp=Z,17nm,0.8s
TUL1 Leonard 35.69 327 P P 23 33 40.2 +0.1
baz=139
SFIN Lafayette 35.72 341 P P 23 33 41.3 +1.0
baz=156,SNR=10
X34A Smith Ranch, M 35.88 324 P P 23 33 42.4 +0.6
X34A IAmb IAmb 23 33 43.2
comp=Z,10nm,0.8s
J60A Lant Hill Farm 36.30 360 P P 23 33 46.8 +1.7
baz=179
J58A Remsen 36.47 357 P P 23 33 48.6 +2.0
baz=176
OK029 Liberty Lake 36.52 326 P P 23 33 46.8 -0.3
TXAR Lajitas Array 36.53 312 P P 23 33 48.0 +0.5
comp=Z,6.8nm,0.6s,baz=127,slow=9.2,SNR=118
TXAR PcP PcP 23 36 09.3 +1.5
comp=Z,2.2nm,0.7s,baz=133,slow=6.2,SNR=12
TXAR LR LR 23 52 18.8
comp=Z,17nm,18.3s,baz=0.0,slow=42
TXAR Lajitas Array 36.53 312 P P 23 33 47.6 +0.2
TXAR PcP 23 36 09.2 +1.5
TX31 Lajitas Ar. Si 36.53 312 P P 23 33 47.9 +0.5
TX31 PcP 23 36 08.9 +1.1
TX32 Lajitas Array 36.53 312 P P 23 33 47.9 +0.5
TX32 IAmb IAmb 23 33 48.9
comp=Z,9.4nm,0.8s
TX32 PcP 23 36 08.9 +1.1
WMOK Wichita Mounta 36.54 323 P P 23 33 46.9 -0.4
baz=134,SNR=12
WMOK Wichita Mounta 36.54 323 IAmb IAmb 23 33 47.8
comp=Z,9.8nm,0.7s
J57A Williamstown 36.55 356 IAmb IAmb 23 33 50.0
comp=Z,8.7nm,0.8s
HDIL Hopedale 36.62 339 P P 23 33 48.0 +0.1
baz=152
I58A Old Forge 36.78 358 P P 23 33 50.9 +1.6
baz=177
T35A Sooner Cattle 36.83 328 P P 23 33 49.1 -0.6
T35A IAmb IAmb 23 33 50.5
comp=Z,14nm,0.8s
I59A Olmsteadville 36.85 359 P P 23 33 51.1 +1.2
baz=179
NBPN Ponto Novo - B 37.10 118 eP P 23 33 53.1 +0.7
LBNH Lisbon 37.30 1 P P 23 33 54.9 +1.3
baz=182
N41A Harden Midland 37.33 337 P P 23 33 53.7 -0.2
KAN13 South Haven SW 37.42 327 IAmb IAmb 23 33 55.1
comp=Z,11nm,0.7s
H58A Gabriels 37.48 359 P P 23 33 56.5 +1.3
baz=178
H57A Richville 37.57 357 P P 23 33 57.8 +1.9
baz=176
H61A Lyndonville 37.60 1 P P 23 33 58.2 +2.1
baz=182
H60A Morristown 37.61 0 P P 23 33 57.8 +1.5
baz=180
L44A Lake County Fo 37.61 342 P P 23 33 58.3 +2.1
baz=155
LONY Lake Ozonia 37.70 358 P P 23 33 58.5 +1.5
baz=178
H59A Cadyville 37.70 359 P P 23 33 58.6 +1.7
baz=179
G62A West of Eustis 38.33 3 P P 23 34 04.2 +2.0
baz=184
G61A St-Isidore-de- 38.36 2 P P 23 34 04.4 +2.0
baz=182
AMTX Amarillo 38.41 321 P P 23 34 04.4 +1.2
baz=130
AMTX Amarillo 38.41 321 P P 23 34 03.6 +0.4
MSTX Muleshoe 38.54 319 P P 23 34 04.4 +0.1
baz=128,SNR=7.4
G65A Princeton 38.55 6 P P 23 34 05.5 +1.5
baz=189
L40A Anamosa 38.64 338 IAmb IAmb 23 34 05.3
comp=Z,9.6nm,0.8s
JFWS Jewell Farm 39.04 340 P P 23 34 08.3 +0.2
baz=152,SNR=8.0
MNTX Cornudas Mount 39.04 314 P P 23 34 08.9 +0.6
baz=123,SNR=32
MNTX Cornudas Mount 39.04 314 P P 23 34 09.0 +0.6
MNTX IAmb IAmb 23 34 10.7
comp=Z,19nm,0.8s
MNTX PcP 23 36 15.2 -0.2
F64A Sherman 39.13 5 P P 23 34 10.4 +1.5
baz=187
ALGO Algonquin Park 39.24 354 P P 23 34 11.1 +1.2
baz=172
SCIA State Center 39.28 336 P P 23 34 10.4 +0.2
E63A Oxbow 39.67 5 P P 23 34 15.2 +1.9
baz=187
E62A Clayton Lake 39.79 4 P P 23 34 16.4 +2.1
baz=185
I40A Norwalk 40.03 340 IAmb IAmb 23 34 17.6
comp=Z,8.9nm,0.7s
D58A Chemin du LacG 40.15 0 P P 23 34 19.4 +2.1
baz=180
D62A Allapoint, All 40.28 4 P P 23 34 20.4 +2.1
baz=186
D63A Stockholm 40.31 5 P P 23 34 20.0 +1.4
baz=188
D61A St Aubert, Com 40.33 3 P P 23 34 21.2 +2.5
baz=184
BSFB Barra de Sao F 40.70 129 eP P 23 34 22.2 0.0
ESAR Angra dos Reis 40.76 137 eP P 23 34 22.2 -0.4
VAS01 Vassouras-RJ 40.94 136 eP P 23 34 24.1 -0.1
121A Cookes Peak, D 41.21 313 P P 23 34 28.1 +1.6
baz=121,SNR=6.1
121A Cookes Peak, D 41.21 313 IAmb IAmb 23 34 29.1
comp=Z,13nm,1.0s
BNM Barren Site 41.25 316 P P 23 34 27.5 +0.7
RIB01 Linhares ES 41.33 130 eP P 23 34 27.2 -0.1
T25A Trinidad 41.55 321 P P 23 34 30.8 +1.6
baz=129,SNR=6.1
ANMO Albuquerque 41.58 317 P P 23 34 30.8 +1.4
baz=125
ANMO Albuquerque 41.58 317 P P 23 34 30.3 +0.9
319A Douglas 41.75 311 IAmb IAmb 23 34 33.2
comp=Z,16nm,0.8s
ECSD EROS Data Cent 42.20 334 P P 23 34 33.6 -0.5
baz=144,SNR=8.3
ECSD EROS Data Cent 42.20 334 P P 23 34 33.2 -0.9
ECSD IAmb IAmb 23 34 34.5
comp=Z,11nm,1.0s
SDCO Great Sand Dun 42.61 321 P P 23 34 39.2 +1.4
baz=128,SNR=19
SDCO Great Sand Dun 42.61 321 P P 23 34 38.8 +0.9
SDCO IAmb IAmb 23 34 40.1
comp=Z,9.2nm,0.7s
Q24A Divide 43.16 323 P P 23 34 43.7 +1.4
baz=130
TUC Tucson 43.31 311 P P 23 34 44.9 +1.5
baz=118
TUC Tucson 43.31 311 P P 23 34 43.4 0.0
TUC IAmb IAmb 23 34 45.3

comp=Z,9.6nm,0.8s
S22A 4UR Ranch, Cre 43.45 320 P P 23 34 46.1 +1.5
baz=127,SNR=13
X18A Snowflake 43.78 314 P P 23 34 49.0 +1.8
X18A IAmb IAmb 23 34 49.6
comp=Z,10.0nm,0.8s
SUSD Miller 43.79 333 P P 23 34 46.6 -0.3
baz=141,SNR=5.0
EYMN Ely 43.91 342 P P 23 34 48.0 +0.2
baz=153,SNR=11
EYMN Ely 43.91 342 P P 23 34 47.7 -0.1
W18A Petrified Fore 43.93 315 P P 23 34 49.6 +1.2
baz=121
ISCO Idaho Springs 43.97 323 P P 23 34 50.0 +1.3
baz=130,SNR=11
ISCO Idaho Springs 43.97 323 IAmb IAmb 23 34 51.0
comp=Z,11nm,0.9s
MVCO Mesa Verde 44.22 318 P P 23 34 51.7 +1.0
baz=124,SNR=7.7
MVCO Mesa Verde 44.22 318 P P 23 34 51.2 +0.6
MVCO IAmb IAmb 23 34 52.6
comp=Z,26nm,1.4s
214A Organ Pipe Nat 44.70 309 P P 23 34 55.5 +1.1
baz=116,SNR=5.3
214A Organ Pipe Nat 44.70 309 IAmb IAmb 23 34 56.5
comp=Z,11nm,0.8s
PV01 Paradox Valley 44.79 319 IAmb IAmb 23 34 57.7
comp=Z,13nm,0.8s
PV15 Paradox Valley 44.85 320 P P 23 34 56.9 +1.2
N23A Red Feather La 44.86 324 P P 23 34 57.0 +1.2
baz=130,SNR=7.0
PV02 Paradox Valley 44.94 319 IAmb IAmb 23 34 58.7
comp=Z,14nm,0.7s
PV13 Radium Mtn., P 44.97 319 IAmb IAmb 23 34 58.8
comp=Z,20nm,0.7s
B35A Bob, Littlefor 44.98 341 IAmb IAmb 23 34 57.1
comp=Z,11nm,0.7s
PV07 Paradox Valley 45.01 320 IAmb IAmb 23 35 00.0
comp=Z,23nm,1.3s
PV03 Paradox Valley 45.04 319 IAmb IAmb 23 34 59.2
comp=Z,8.6nm,0.7s
PV12 Saucer Basin, 45.04 319 IAmb IAmb 23 34 59.5
comp=Z,16nm,0.8s
PV18 Skein Mesa, Pa 45.07 319 IAmb IAmb 23 35 01.3
comp=Z,13nm,0.8s
PV11 David Mesa, Pa 45.08 319 IAmb IAmb 23 35 01.6
comp=Z,8.7nm,0.7s
PV05 Paradox Valley 45.10 319 IAmb IAmb 23 34 59.2
comp=Z,17nm,0.7s
PV16 Nyswonger Mesa 45.11 319 P P 23 34 57.9 +0.2
PV16 IAmb IAmb 23 35 01.3
comp=Z,12nm,1.0s
PV17 East Wray Mesa 45.12 319 IAmb IAmb 23 35 01.3
comp=Z,10nm,0.7s
PV22 Blue Mesa, Par 45.16 320 P P 23 34 59.9 +1.8
PV22 IAmb IAmb 23 35 01.1
comp=Z,10nm,0.7s
WUAZ Wupatki 45.29 315 P P 23 35 00.5 +1.4
baz=120,SNR=20
AGMN Agassiz Nation 45.67 339 P P 23 35 01.8 +0.1
baz=148,SNR=5.3
AGMN Agassiz Nation 45.67 339 IAmb IAmb 23 35 02.6
comp=Z,11nm,0.6s
Y14A Wickenburg 45.72 312 IAmb IAmb 23 35 04.3
comp=Z,17nm,0.8s
O20A White River Ci 45.76 322 P P 23 35 03.9 +1.1
baz=127,SNR=5.3
113A Mohawk Valley, 45.77 310 P P 23 35 03.5 +0.8
RSSD Black Hills 45.99 329 P P 23 35 05.4 +0.8
baz=135
RWWY Rawlins 46.10 324 IAmb IAmb 23 35 07.6
comp=Z,12nm,0.8s
K22A Casper 46.33 326 P P 23 35 08.2 +1.1
baz=131
U15A North Rim 46.38 315 IAmb IAmb 23 35 10.3
comp=Z,19nm,1.0s
SRU San Rafael Swe 46.60 319 P P 23 35 10.7 +1.3
SRU IAmb IAmb 23 35 11.3
comp=Z,14nm,0.9s
SRU PcP **PcP 23 36 42.0 +1.2**
GLA Glamis 46.70 310 P P 23 35 10.9 +0.8
baz=115
GLA Glamis 46.70 310 IAmb IAmb 23 35 12.0
comp=Z,14nm,0.8s
MDND Maddock 46.74 336 P P 23 35 10.4 +0.3
baz=142
PKCU Pink Cliffs 46.91 316 IAmb IAmb 23 35 14.3
comp=Z,11nm,1.0s
Q16A Castle Valley 46.92 319 P P 23 35 12.3 +0.4
P17A Butcher Ranch, 46.94 320 IAmb IAmb 23 35 13.9
comp=Z,16nm,0.9s
KNB Kanab 47.05 316 IAmb IAmb 23 35 15.3
comp=Z,22nm,0.9s
ULM Lac du Bonnet 47.33 340 P P 23 35 14.2 -0.3
comp=Z,13nm,0.5s,baz=149,slow=8.8,SNR=19
ULM Lac du Bonnet 47.33 340 IAmb IAmb 23 35 15.2
comp=Z,14nm,0.6s
LCMT Little Creek M 47.34 315 IAmb IAmb 23 35 17.9
comp=Z,17nm,0.9s
PLCA Paso Flores 47.35 177 P P 23 35 14.0 -0.9
comp=Z,1.2nm,0.6s,baz=351,slow=12,SNR=3.4
PLCA Paso Flores 47.35 177 P P 23 35 13.6 -1.4
MVU Marysvale 47.39 318 P P 23 35 15.5 0.0
SWSC Sam W. Stewart 47.40 309 P P 23 35 16.2 +0.7
baz=114
IRM Iron Mountain 47.41 311 P P 23 35 16.4 +0.9
baz=115,SNR=5.0
BC3 Big Chuckawall 47.43 310 P P 23 35 16.8 +1.1
baz=115
SZCU Shurtz Canyon 47.52 316 IAmb IAmb 23 35 18.1
comp=Z,9.4nm,0.9s
CCUT Cedar City 47.68 316 P P 23 35 19.1 +1.2
CCUT PcP **PcP 23 36 46.4 +1.5**
MPU Maple Canyon 47.82 320 IAmb IAmb 23 35 20.6
comp=Z,14nm,0.9s
MONP2 Monument Peak 47.86 309 P P 23 35 20.5 +1.2
baz=113
BELC Belle Mtn. Jos 47.98 310 P P 23 35 21.0 +0.9
baz=114
GMRC Granite Mounta 48.06 311 P P 23 35 21.4 +0.7
baz=115
PD31 Pinedale Array 48.14 324 P P 23 35 21.6 +0.3
PD31 PcP **PcP 23 36 46.2 -0.2**
PDAR Pinedale Array 48.14 324 P P 23 35 21.5 +0.3
comp=Z,4.6nm,0.7s,baz=128,slow=9.6,SNR=22
PDAR PcP **PcP 23 36 45.9 -0.4**
comp=Z,1.0nm,0.6s,baz=140,slow=6.3,SNR=3.7
BW06 Boulder Array 48.14 324 P P 23 35 21.3 +0.1
baz=128,SNR=9.6
BW06 Boulder Array 48.14 324 IAmb IAmb 23 35 22.5
comp=Z,11nm,1.2s
TPFO Pinon Flats 48.17 310 P P 23 35 22.0 +0.4
baz=114
PFO Pinyon Flats O 48.18 310 P P 23 35 22.5 +0.9
baz=114
PSUT Pine Spring 48.51 317 IAmb IAmb 23 35 26.3
comp=Z,8.2nm,0.7s
TUQ Turquoise Moun 48.53 312 P P 23 35 24.9 +0.6
baz=116
HEC Hector,Ludlow 48.58 311 P P 23 35 25.7 +1.1
baz=115
HWUT Hardware Ranch 48.66 322 IAmb IAmb 23 35 26.8
comp=Z,7.6nm,0.6s
DUG Dugway, Tooele 48.67 319 P P 23 35 26.3 +1.0
baz=122,SNR=8.9
DUG Dugway, Tooele 48.67 319 P P 23 35 26.2 +1.0
DUG IAmb IAmb 23 35 27.3
comp=Z,7.9nm,0.8s
LAO LASA Array 48.89 330 P P 23 35 27.3 +0.6
baz=134
AHID Auburn Hatcher 49.05 323 IAmb IAmb 23 35 29.3
comp=Z,9.9nm,0.8s
SPR3 Spring Creek 3 49.06 317 IAmb IAmb 23 35 30.2
comp=Z,9.8nm,1.0s
GSC Goldstone, Bar 49.13 312 P P 23 35 29.6 +0.9
baz=115
GSC Goldstone, Bar 49.13 312 P P 23 35 30.0 -1.2
GSC IAmb IAmb 23 35 30.7
comp=Z,12nm,0.8s
LOHW Long Hollow 49.26 324 IAmb IAmb 23 35 31.3
comp=Z,9.2nm,0.7s
TPAW Teton Pass 49.39 324 IAmb IAmb 23 35 32.7
comp=Z,9.2nm,0.7s
TPNV Topopah Spring 49.43 314 P P 23 35 32.5 +1.4
baz=117,SNR=8.6
TPNV Topopah Spring 49.43 314 P P 23 35 32.1 +1.0
TPNV IAmb IAmb 23 35 33.5
comp=Z,14nm,1.1s
RLMT Red Lodge 49.44 327 P P 23 35 32.0 +0.9
baz=130
R11A Troy Canyon, C 49.61 316 P P 23 35 33.5 +1.1
baz=118,SNR=7.8
FURC Furnace Creek, 49.67 313 P P 23 35 34.3 +1.6
baz=116
H17A Grant Village 49.72 325 P P 23 35 34.4 +1.1
baz=128
EDW2 Edwards Air Fo 49.85 311 P P 23 35 34.7 +0.5
baz=114
YMR Madison River 50.10 325 P P 23 35 37.5 +1.4
YMR IAmb IAmb 23 35 38.2
comp=Z,10nm,0.6s
YHH Holmes Hill 50.11 325 P P 23 35 37.5 +1.2
SNCC San Nicolas Is 50.41 308 P P 23 35 39.4 +1.0
baz=111
ISA Isabella, Lake 50.52 311 P P 23 35 40.5 +1.2
baz=114
CWC Cottonwood Cre 50.54 312 P P 23 35 41.0 +1.5
baz=115
SCZ2 Santa Cruz Isl 50.77 309 P P 23 35 42.6 +1.6
baz=111
TIN Tinemaha, Big 50.91 313 P P 23 35 43.8 +1.7
baz=115
BOZ Bozeman (W) 51.04 326 P P 23 35 43.8 +0.8
baz=127,SNR=12
BOZ Bozeman (W) 51.04 326 IAmb IAmb 23 35 44.7
comp=Z,7.0nm,0.8s
PKM Mcpherson Peak 51.23 310 P P 23 35 45.5 +0.8
baz=112
SMMC Simmler 51.53 310 P P 23 35 47.7 +1.0
baz=112
NVAR Mina Array Bea 51.55 315 P P 23 35 48.0 +0.9
comp=Z,4.4nm,0.7s,baz=125,slow=7.1,SNR=30
NVAR PcP **PcP 23 36 59.8 +0.8**
comp=Z,1.4nm,0.6s,baz=145,slow=4.9,SNR=5.5
EGMT Eagleton 51.56 329 P P 23 35 47.5 +0.6
baz=131
LRM Limekiln Ridge 51.63 326 P P 23 35 47.7 +0.2
KVN Kaiserville 51.68 315 P P 23 35 48.7 +0.7
KVN PcP **PcP 23 36 59.9 +0.5**
MDPB Devils Postpil 51.77 313 IAmb IAmb 23 35 50.8
comp=Z,11nm,1.0s
HRY Holter Researc 51.83 327 P P 23 35 49.6 +0.7
MFID Camas Ranch 52.29 321 IAmb IAmb 23 35 55.0
comp=Z,12nm,0.8s
YERR Yerington 52.45 315 IAmb IAmb 23 35 55.5
comp=Z,13nm,0.9s
PNTR Pine Nut 52.75 315 IAmb IAmb 23 35 57.9
comp=Z,10nm,0.8s
VCNR Virginia City 52.87 315 IAmb IAmb 23 35 58.8
comp=Z,11nm,1.0s
MSO Missoula 53.06 326 P P 23 35 58.3 +0.4
baz=126
WVOR Wild Horse Val 53.59 319 P P 23 36 01.7 -0.1
WVOR IAmb IAmb 23 36 04.8
comp=Z,14nm,1.1s
BEKR Beckworth 53.61 315 IAmb IAmb 23 36 03.7
comp=Z,8.6nm,1.1s
JTMT Jette 53.78 327 IAmb IAmb 23 36 05.0
comp=Z,12nm,0.8s
J08A Circle Bar Ran 53.93 320 IAmb IAmb 23 36 06.0
comp=Z,9.9nm,1.2s
ORV Oroville 54.28 315 P P 23 36 07.4 +0.6
F10A Beach Ranch, E 54.48 323 IAmb IAmb 23 36 09.0
comp=Z,8.4nm,0.6s
O03E Paynes Creek 54.79 315 P P 23 36 10.6 0.0
baz=114
I07A Izee 54.93 320 IAmb IAmb 23 36 13.1
comp=Z,8.0nm,0.8s
G08A Pilot Rock 55.18 322 P P 23 36 13.6 +0.3
E09A Wood Farm, Sta 55.31 323 IAmb IAmb 23 36 15.2
comp=Z,11nm,0.9s
M04C Macdoel 55.43 317 P P 23 36 15.8 +0.6
baz=115
O02D Mt. Diablo Mer 55.44 315 P P 23 36 14.7 -0.4
baz=113
NEW Newport 55.65 326 P P 23 36 16.3 -0.2
comp=Z,3.7nm,0.7s,baz=111,slow=6.3,SNR=5.7
NEW Newport 55.65 326 P P 23 36 16.5 0.0
baz=123
J05D Fort Rock, OR 55.68 319 P P 23 36 17.8 +0.8
baz=116,SNR=11
L04D Klamath Falls 55.93 317 P P 23 36 19.4 +0.7
baz=115
D08A Wollman Farm, 56.04 324 IAmb IAmb 23 36 20.7
comp=Z,4.7nm,0.8s
I05D Terrebonne, OR 56.22 320 P P 23 36 21.9 +1.3
baz=117
J04D Umpqua Nationa 56.23 318 P P 23 36 22.0 +1.1
baz=116
G05D Wamic, OR 56.62 321 P P 23 36 24.6 +1.3
baz=118
I04A Tendick Farm, 56.67 319 P P 23 36 24.3 +0.5
baz=116
L02E Cave Junction 56.78 317 P P 23 36 25.2 +0.6
baz=114
B08A Colville Reser 56.95 325 P P 23 36 25.3 -0.4
B08A IAmb IAmb 23 36 26.8
comp=Z,9.2nm,0.8s
K02D Willamette Mer 57.04 317 P P 23 36 27.4 +0.9
baz=114
LTY Liberty 57.18 323 IAmb IAmb 23 36 28.9
comp=Z,9.1nm,0.7s
H04D Lebanon 57.20 320 P P 23 36 27.9 +0.5
baz=116
I03D Drain, OR 57.24 318 P P 23 36 28.4 +0.6
baz=115
J01E Myrtle Point 57.41 318 P P 23 36 30.1 +1.1
baz=114
I02D Swisshome 57.74 319 P P 23 36 32.5 +1.3
baz=114
B05A Bryant 58.51 324 P P 23 36 36.4 -0.1
baz=118
D03D Eldon 58.76 323 P P 23 36 38.3 +0.1
baz=117
NLWA Neilton Lookou 59.16 322 IAmb IAmb 23 36 42.8
comp=Z,9.8nm,0.9s
YKA Yellowknife Ar 63.31 340 P P 23 37 08.6 0.0
comp=Z,10nm,0.7s,baz=131,slow=7.1,SNR=136
ICESG Greenland Ices 65.96 12 *i* **P P 23 37 26.5 +0.3**
ICESG IAmb IAmb 23 37 27.5
comp=Z,8.6nm,0.9s
DLBC Dease Lake 67.38 331 P P 23 37 34.6 -0.4
DLBC IAmb IAmb 23 37 36.6
comp=Z,5.0nm,0.7s
TIC Toumodi 67.50 86 *e*PKP1 pP 23 38 18.5 +3.8
TIC Toumodi 67.50 86 *e*P **P 23 37 36.3 -0.3**
LIC Lamto 67.53 86 *e*PKP1 pP 23 38 17.8 +2.9
comp=Z,65nm,1.6s
LIC Lamto 67.53 86 *e*P **P 23 37 35.6 -1.1**
comp=Z,69nm,1.6s
KIC Kosan Boka 67.80 86 *e*PKP1 pP 23 38 18.9 +2.3
comp=Z,15nm,0.9s
KIC Kosan Boka 67.80 86 *e*P **P 23 37 38.5 +0.1**
comp=Z,15nm,0.6s
SUMG Summit 68.99 11 *i* **P P 23 37 45.5 +0.3**
SUMG IAmb IAmb 23 37 46.3
comp=Z,12nm,0.7s
SUMG Summit 68.99 11 P P 23 37 45.2 0.0
SUMG IAmb IAmb 23 37 46.4
comp=Z,13nm,0.8s
NEEM North Greenlan 71.56 5⇓ *i* **P P 23 38 01.0 +0.3**
NEEM IAmb IAmb 23 38 01.7
comp=Z,17nm,0.9s
INK Inuvik 73.07 340 P P 23 38 08.5 -0.8
comp=Z,4.3nm,0.6s,baz=81,slow=5.6,SNR=24
INK Inuvik 73.07 340 P P 23 38 09.7 +0.4
baz=115,SNR=7.2
EPYK Eagle Plains 73.43 338 P P 23 38 11.8 +0.2
baz=112
CTG Chitna Glacier 73.63 332 P P 23 38 14.3 +1.4
baz=105
TORD Torodi Ar. Bea 73.67 78 P P 23 38 12.0 -1.9
comp=Z,0.5nm,0.6s,baz=283,slow=6.2,SNR=10
TORD pP **pP 23 38 54.2 +1.8**
comp=Z,0.7nm,0.6s,baz=285,slow=5.8,SNR=3.6
TORD Torodi Ar. Bea 73.67 78 P P 23 38 12.5 -1.4
L27K Beaver Creek, 74.43 334 P P 23 38 18.7 +1.3
baz=106,SNR=11
L27K Beaver Creek, 74.43 334 P P 23 38 17.6 +0.2
MCARA McCarthy VSAT 74.53 332 P P 23 38 19.4 +1.4
baz=104
EGAK Eagle 74.64 336 P P 23 38 19.9 +1.4
baz=107
K27K Chicken 74.80 335 P P 23 38 21.0 +1.5
baz=106
L26K Log Cabin Wild 75.09 334 P P 23 38 22.5 +1.3
baz=105
BMRM Bremner River 75.17 331 P P 23 38 22.7 +1.0
baz=103
MENT Mentasta 75.23 333 IAmb IAmb 23 38 29.5
comp=Z,11nm,1.2s
N25K Chitina, Valde 75.31 332 P P 23 38 23.6 +1.1
baz=103
DOT Dot Lake 75.55 334 IAmb IAmb 23 38 25.8
comp=Z,11nm,0.7s
SCRK Sand Creek 75.60 335 P P 23 38 25.2 +1.0
baz=104,SNR=8.4
SCRK Sand Creek 75.60 335 P P 23 38 24.9 +0.7
DAG Danmarks Havn 75.66 11 *i* **P P 23 38 23.8 -0.4**
DAG IAmb IAmb 23 38 24.1
comp=Z,2.8nm,0.8s
RIDG Independent Ri 75.92 334 P P 23 38 26.9 +1.0
baz=103,SNR=7.0
RIDG Independent Ri 75.92 334 IAmb IAmb 23 38 27.9
comp=Z,8.0nm,0.9s
PRP Porcupine Dome 76.61 336 P P 23 38 30.7 +0.8
baz=103
SCM Sheep Creek Mo 76.63 332 IAmb IAmb 23 38 31.8
comp=Z,21nm,1.0s
WAT6 Susitna Watana 76.96 333 P P 23 38 32.7 +0.7
baz=100
HDA Harding Lake 76.96 335 P P 23 38 32.0 +0.3
baz=102,SNR=5.6
HDA Harding Lake 76.96 335 IAmb IAmb 23 38 32.9
comp=Z,6.2nm,0.7s
ILAR Eielson Array 77.01 335 P P 23 38 32.1 +0.1
comp=Z,2.2nm,0.8s,baz=111,slow=4.5,SNR=24
KNK Knik Glacier 77.09 331 P P 23 38 32.9 +0.4
baz=100
SML Sawmill 77.09 332 P P 23 38 33.2 +0.6
baz=100
SML Sawmill 77.09 332 IAmb IAmb 23 38 34.2
comp=Z,11nm,1.0s
POKR Poker Plat Res 77.31 335 P P 23 38 34.3 +0.6
baz=101
GHO Glory Hole Cre 77.37 332 IAmb IAmb 23 38 36.1
comp=Z,15nm,0.8s
WAT1 Susitna Watana 77.37 333 P P 23 38 34.8 +0.7
baz=100
MDM Murphy Dome 77.61 335 P P 23 38 35.9 +0.5
MDM IAmb IAmb 23 38 36.9
comp=Z,13nm,1.3s
H24K Noodor Dome 77.63 336 P P 23 38 36.1 +0.6
baz=101,SNR=7.4
NEA2 Nenana 77.90 335 P P 23 38 37.4 +0.5
baz=100
NEA2 Nenana 77.90 335 IAmb IAmb 23 38 38.2
comp=Z,8.9nm,1.0s
CUT Chulitna 78.09 332 P P 23 38 38.5 +0.6
baz=98
I23K Minto, Yukon-K 78.12 335 P P 23 38 38.8 +0.7
baz=100
SUA Susitna One 78.18 331 P P 23 38 39.3 +0.6
baz=98
TRF Thorofare Moun 78.25 333 P P 23 38 39.7 +0.6
baz=98
CAPN Captain Cook N 78.29 331 P P 23 38 40.2 +1.1
baz=97
H23K Yukon River 78.31 336 P P 23 38 39.7 +0.5
baz=100,SNR=8.5
SKT Skwentna 78.62 332 P P 23 38 41.3 +0.3
baz=97,SNR=5.8
SKT Skwentna 78.62 332 IAmb IAmb 23 38 42.3
comp=Z,5.9nm,0.7s
BPAW Bear Paw Mtn. 78.65 334 P P 23 38 41.4 +0.3
baz=98
MLY Manley 78.67 335 P P 23 38 41.5 +0.3
baz=98,SNR=7.1
MLY Manley 78.67 335 P P 23 38 41.2 -0.1
KDAK Kodiak Island 78.70 328 P P 23 38 41.1 -0.4
comp=Z,1.9nm,0.5s,baz=127,slow=8.4,SNR=4.1
KDAK Kodiak Island 78.70 328 P P 23 38 41.3 -0.1
KDAK IAmb IAmb 23 38 51.0
comp=Z,16nm,1.2s
O20K Slope Mountain 78.94 330 P P 23 38 43.3 +0.5
baz=96
PPLA Purkeypile 79.03 333 P P 23 38 43.6 +0.3
baz=96,SNR=7.8
PPLA Purkeypile 79.03 333 IAmb IAmb 23 38 44.1
comp=Z,12nm,0.6s
I21K Tanana 79.22 335 P P 23 38 44.2 +0.1
baz=97
H21K Melozitna Rive 79.61 336 P P 23 38 46.4 +0.1
baz=96
N19K Bonanza Creek 79.92 331 P P 23 38 47.5 -0.7
baz=94
K20K Telida 79.93 333 P P 23 38 48.2 +0.1
baz=95
M19K Big River Lodg 79.96 332 P P 23 38 48.4 +0.2
baz=94
J20K Nowinta River 80.03 334 P P 23 38 48.7 +0.1
baz=95,SNR=10
L19K White Mountain 80.19 332 P P 23 38 49.4 -0.1
baz=94
O18K Koktuh Hills 80.22 330 P P 23 38 49.6 -0.1
baz=93
SVW2 Sparrevohn 80.47 331 P P 23 38 50.3 -0.7
SVW2 IAmb IAmb 23 38 51.3
comp=Z,6.2nm,0.7s
N18K Kilae Creek 80.60 330 P P 23 38 51.4 -0.3
baz=93,SNR=7.9
NB2 NORSAR Subarra 81.31 29 P P 23 38 55.5 +0.1
comp=Z,3.5nm,1.2s,baz=269,slow=5.6
NOA NORSAR Array B 81.31 29 P P 23 38 55.5 +0.1
comp=Z,0.6nm,0.7s,baz=267,slow=5.4,SNR=3.4
GERES GERESS Array B 82.79 42 P P 23 39 03.2 -0.3
comp=Z,0.6nm,0.7s,baz=282,slow=1.2,SNR=6.2
ANM Nome 84.91 334 P P 23 39 14.3 +0.5
baz=85
ARCES ARCESS Array B 86.66 20 P P 23 39 21.0 -1.4
comp=Z,2.4nm,1.0s,baz=256,slow=4.5,SNR=5.3
SPIA Saint Paul Isl 88.23 327 P P 23 39 31.2 +1.2
baz=80
FINES FINESS Array B 88.42 28 P P 23 39 31.2 +0.3
comp=Z,0.8nm,0.8s,baz=116,slow=3.2,SNR=1.6
ZALV Zalesovo Beam 116.67 14 PKP PKiKP 23 45 22.3 0.0
comp=Z,1.5nm,0.5s,baz=267,slow=2.1,SNR=7.1
MAKZ Makanchi 122.20 20 PKPdf PKPdf 23 45 32.8 -0.4
MK31 Makanchi Array 122.31 20 PKPdf PKPdf 23 45 32.9 -0.5
MKAR Makanchi Array 122.31 20 PKPdf PKPdf 23 45 33.3 -0.1
SONM Songino Array 125.60 0 PKP PKiKP 23 45 40.0 -0.2
comp=Z,0.6nm,0.4s,baz=356,slow=4.5,SNR=3.9
SONM Songino Array 125.60 0 PKPdf 23 45 39.3 -0.5
FORT Forrest 149.01 217 PKPbc PKPbc 23 46 24.6 -0.5
AS31 Alice Springs 149.16 234 PKPbc PKPbc 23 46 26.7 -0.9
ASAR Alice Springs 149.16 234 PKP PKPdf 23 46 23.1 -0.1
comp=Z,6.8nm,0.7s,baz=100,slow=1.4,SNR=11
ASAR PKPbc **PKPbc 23 46 26.6 -1.0**
comp=Z,7.0nm,0.6s,baz=119,slow=3.6,SNR=33
ASAR Alice Springs 149.16 234 PKPdf PKPdf 23 46 23.3 +0.1
ASAR PKPbc **PKPbc 23 46 26.5 -1.0**
ASAR PKPab **PKPab 23 46 32.2 -0.2**
WR0 Warramunga Arr 150.21 241 PKPbc PKPbc 23 46 29.2 -0.9
WB2 Warramunga Arr 150.38 241 PKPbc PKPbc 23 46 29.6 -0.9
WRA Warramunga Arr 150.39 241 PKP PKPdf 23 46 25.4 +0.2
comp=Z,7.5nm,0.6s,baz=109,slow=2.7,SNR=8.8
WRA PKPbc **PKPbc 23 46 29.9 -0.8**
comp=Z,7.5nm,0.6s,baz=110,slow=2.7,SNR=24
WRA pPKPbc **pPKPbc 23 47 12.1 -0.2**
comp=Z,3.0nm,0.8s,baz=111,slow=2.6,SNR=2.9
WRA Warramunga Arr 150.39 241 PKPdf PKPdf 23 46 25.1 -0.1
WRA PKPbc **PKPbc 23 46 29.8 -0.8**
WB0 Warramunga Arr 150.41 242 PKPbc PKPbc 23 46 30.0 -0.6
CMAR Chiang Mai Arr 153.69 17 PKP PKPdf 23 46 29.8 -0.4
comp=Z,0.9nm,0.4s,baz=317,slow=1.7,SNR=5.3
CMAR PKPbc **PKiKP 23 46 38.0 -0.1**
comp=Z,2.5nm,0.6s,baz=321,slow=3.4,SNR=8.1
MORW Morawa 156.25 200 PKPab PKPab 23 47 01.4 -0.5

IDC 14 23:53:18.1±4.3, 1°.66S×140°.23E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/15 Error ellipse: s-maj=160.0km s-min=31.2km az=86.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.06**	**197**	P	P	23 57 41.4	-0.8
	0.2nm,0.3s,baz=20,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**22.72**	**195**	P	P	23 58 22.2	+0.4
	1.0nm,0.8s,baz=27,slow=11,SNR=6.3						

JCJ	Chichijima	28.65	4	LR	LR	00 08 15.3	
	comp=Z,525nm,21.9s,baz=154,slow=31						
PETK	Petropavlovsk-	56.50	13	LR	LR	00 30 37.7	
	comp=Z,13nm,18.0s,baz=178,slow=40						
MKAR	Makanchi Array	69.90	322	P	P	00 04 31.3	+0.2
	0.4nm,0.7s,baz=108,slow=8.0,SNR=3.7						

WEL 14 23:58:21.5±1.0, 45°S±4°×16°8E±°, h111km±7km, M3.6/12, ML3.8/11, MLv3.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=105.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.44	125	P	Pn	23 58 39.2	+1.1
MLZ				S	Sn	23 58 53.1	+2.5
MSZ	Milford Sound	0.50	28	P	Pn	23 58 39.4	+1.0
MSZ				S	Sn	23 58 53.2	+2.0
WHZ	Wether Hill Ro	0.81	163	P	Pn	23 58 41.5	+0.6
WHZ				S	Sn	23 58 56.9	+1.2
WKZ	Wanaka	1.05	74	P	Pn	23 58 44.8	+1.6
WKZ				S	Sn	23 59 02.3	+2.5
EAZ	Earnscleugh	1.21	96	P	Pn	23 58 46.4	+1.4
EAZ				S	Sn	23 59 04.1	+1.2
JCZ	Jackson Bay	1.34	39	P	Pn	23 58 47.1	+0.5
JCZ				S	Sn	23 59 06.2	+0.5
TUZ	Tuapeka	1.66	121	P	Pn	23 58 51.4	+1.3
TUZ				S	Sn	23 59 12.1	+0.1
APZ	The Paps	1.74	171	P	Pn	23 58 51.0	-0.2
APZ				S	Sn	23 59 13.3	-0.6
SYZ	Scrubby Hill	1.78	143	P	Pn	23 58 52.5	+0.8
SYZ				S	Sn	23 59 15.3	+0.5
LBZ	Lake Benmore	1.98	69	P	Pn	23 58 54.1	-0.1
LBZ				S	Sn	23 59 19.0	-0.3
ODZ	Otahua Downs	2.16	89	P	Pn	23 58 56.8	+0.4
ODZ				S	Sn	23 59 22.9	-0.4
HHSZ	Highcliff Hill	2.24	111	P	Pn	23 58 58.6	+1.0
HHSZ				S	Sn	23 59 24.6	-0.6
FOZ	Fox Glacier	2.24	46	P	Pn	23 58 56.7	-0.8
FOZ				S	Sn	23 59 24.4	-0.8
TMZ	Timaru	2.54	74	P	Pn	23 59 00.9	-0.5
GCSZ	Gaunt Creek Bo	2.66	48	P	Pn	23 59 01.7	-1.3
ARCZ	Arundel	2.81	67	P	Pn	23 59 04.1	-0.9
RPZ	Rata Peaks	2.84	62	P	Pn	23 59 04.5	-0.9
WVZ	Waitaha Valley	3.04	49	P	Pn	23 59 07.0	-1.0
WVZ				S	Sn	23 59 41.4	-2.5
WACZ	Wakanui South	3.25	70	P	Pn	23 59 11.4	+0.6
MHCZ	Mount Hutt	3.26	62	P	Pn	23 59 09.5	-1.4
OXZ	Oxford	3.66	62	P	Pn	23 59 16.1	-0.1
OXZ				S	Sn	23 59 54.7	-3.9
INZ	Inchbonnie	3.66	51	P	Pn	23 59 15.4	-0.9
INZ				S	Sn	23 59 56.3	-2.4
MQZ	McQueen's Vall	3.88	71	P	Pn	23 59 18.1	-1.1
MQZ				S	Sn	23 59 60.0	-4.0
AKCZ	Akaroa Harbour	4.00	74	P	Pn	23 59 20.9	+0.1
AKCZ				S	Sn	00 00 03.4	-3.3
LTZ	Lake Taylor	4.10	57	P	Pn	23 59 20.2	-1.9
LTZ				S	Sn	00 00 07.0	-2.3
AMCZ	Amberley	4.12	64	P	Pn	23 59 22.6	+0.2
OKCZ	Okains Bay	4.15	72	P	Pn	23 59 23.3	+0.5
GVZ	Greta Valley S	4.47	63	P	Pn	23 59 26.5	-0.5
DSZ	Dennistoun Nort	4.55	44	P	Pn	23 59 26.9	-1.4
KHZ	Kahutara	5.08	60	P	Pn	23 59 34.6	-0.7
THZ	Tophouse	5.11	51	P	Pn	23 59 33.7	-2.1
NNZ	Nelson	5.75	49	P	Pn	23 59 43.9	-0.4
DUWZ	D'Urville Isla	6.33	49	P	Pn	23 59 52.1	-0.2
MSWZ	Moikau Station	6.70	59	P	Pn	23 59 56.1	-1.2
CAW	Cannon Point	6.77	56	P	Pn	23 59 56.5	-1.8
OGWZ	Otaki Gorge	7.02	55	P	Pn	23 59 59.8	-1.8
HOWZ	Holdsworth Sta	7.17	57	P	Pn	00 00 01.8	-1.8
MRZ	Mangatainoka R	7.36	56	P	Pn	00 00 03.5	-2.7
MOVZ	Moawhango	8.31	49	P	Pn	00 00 21.7	+2.6
RTZ	Ruatahuna	9.54	50	P	Pn	00 00 40.2	+4.3

IDC 15 00:55:35.5±9.1, 13°98N×91°78W, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.5/36, mbtmp3.3/6, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=263.9km s-min=85.7km az=30.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	4.30	316	Pn	Pn	00 56 41.0	-1.3
	0.9nm,0.3s,baz=92,slow=24,SNR=17						
CMIG				Sn	Sn	00 57 29.4	-3.9
	3.1nm,0.3s,baz=100,slow=22,SNR=4.1						
TXAR	Lajitas Array	18.83	326	Pn	Pn	00 59 58.3	+0.8
	0.0nm,0.3s,baz=154,slow=15,SNR=5.5						
TKL	Tuckaleechee C	22.75	17	LR	LR	01 11 34.9	
	comp=Z,71nm,19.2s,baz=168,slow=42						
ANMO	Albuquerque	24.73	330	P	P	01 00 59.2	+0.3
	0.3nm,0.3s,baz=156,slow=12,SNR=2.5						
PDAR	Pinedale Array	32.53	335	P	P	01 02 09.4	+0.9
	0.2nm,0.7s,baz=165,slow=8.3,SNR=1.9						
NVAR	Mina Array Bea	33.82	321	P	P	01 02 20.7	+0.9
	0.2nm,0.5s,baz=125,slow=8.9,SNR=2.6						
NVAR				LR	LR	01 18 33.3	
	comp=Z,51nm,20.3s,baz=111,slow=41						
ILAR	Eielson Array	62.94	337	P	P	01 06 02.4	-1.2
	0.2nm,0.2s,baz=120,slow=5.3,SNR=2.7						

IDC 15 00:56:29.0±3.5, 14°47N×91°55W, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.7/36, mbtmp3.6/6, ML3.6/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=154.7km s-min=31.9km az=41.0
UCR 15 00:56:32.2±1.2, 13°96N×91°79W, h59km±28km, ML3.5
SNET 15 00:56:32.2±1.2, 13°96N×91°79W, h59km±28km, ML3.6
ISC 15 00:56:34.2±1.2, 14°1N±0°1×91°74W±0°08, h61km, n14, σ0°97/21, mb3.7/4, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.47	5	eP	Pn	00 56 44.1	-1.9
RTAL				eS	Sn	00 56 55.1	+0.6
JAYA	Jayaque - finc	2.26	100	eP	Pn	00 57 08.2	-1.1
JAYA				eS	Sn	00 57 36.0	-0.2
JAYA				IAML		00 57 41.5	
	comp=Z,682nm,0.2s						
JAYA	Jayaque - finc	2.26	100	eP	Pn	00 57 08.2	-1.1
JAYA				eS	Sn	00 57 36.0	-0.2
JAYA				IAML		00 57 41.5	
	comp=Z,682nm,0.2s						
TACO	Tacachico	2.32	92	eP	Pn	00 57 09.4	-0.6
TACO				eS	Sn	00 57 37.9	+0.5
TACO	Tacachico	2.32	92	eP	Pn	00 57 09.4	-0.6
TACO				eS	Sn	00 57 37.9	+0.5
MTO3	Montecristo	2.33	81	eP	Pn	00 57 09.8	-0.5
MTO3				eS	Sn	00 57 39.6	+1.5
MTO3	Montecristo	2.33	81	eP	Pn	00 57 09.8	-0.5
MTO3				eS	Sn	00 57 39.6	+1.5
CMIG	Matias Romero	4.28	315	Sn	Sn	00 58 27.3	+1.8
	comp=Z,2.5nm,0.3s,baz=77,slow=19,SNR=1.5						
JTS	Las Juntas de	7.62	119	Pn	Pn	00 58 22.5	-0.1
	comp=Z,0.7nm,0.3s,baz=31,slow=18,SNR=1.8						
JTS				Lg	Lg	01 00 17.4	
	comp=Z,0.4nm,0.3s,baz=124,slow=18,SNR=4.0						
JTS				LR	LR	01 01 25.2	
	comp=Z,163nm,18.4s,baz=18,slow=39						
TXAR	Lajitas Array	18.79	326	P	Pn	01 00 49.3	-0.6
	comp=Z,0.1nm,0.3s,baz=145,slow=9.2,SNR=8.8						
ANMO	Albuquerque	24.68	330	P	P	01 01 49.9	+0.3
	comp=Z,1.1nm,0.6s,baz=148,slow=12,SNR=6.3						
NVAR	Mina Array Bea	33.79	321	P	P	01 03 10.5	-0.1
	comp=Z,0.9nm,0.7s,baz=134,slow=8.6,SNR=7.0						
YKA	Yellowknife Ar	51.03	347	P	P	01 05 29.7	-0.1
	comp=Z,0.4nm,0.6s,baz=139,slow=8.7,SNR=6.0						
ILAR	Eielson Array	62.89	337	P	P	01 06 54.4	+0.7
	comp=Z,0.5nm,0.6s,baz=123,slow=3.7,SNR=5.6						

IDC 15 00:57:05.9±0.6, 34°24S×14°55W, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/34, mbtmp4.3/15, MS4.3/16, Ms1 4.3/16, ms1mx4.2/17, Error ellipse: s-maj=18.5km s-min=15.2km az=11.0
NEIC 15 00:57:07.8±2.7, 34°11S±0°10×14°48W±0°09, h10km±1km, mb4.9/21, Error ellipse: s-maj=18.1km s-min=11.2km az=26.0
GCMT 15 00:57:10.8±0.2, 34°21S±0°01×14°38W±0°01, h17km, MW5.1/129, Moment Tensor Solution. s59,c81; s129,c210; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.09±.14; Mθθ=-2.20±.14; Mφφ=3.29±.14; Mrθ=0.71±.33; Mrφ=5.53±.11; Mθφ=1.55±.34; Best double couple: M0=6.43700×10^16 NP1:φ=76.00000°, δ=74.00000°, λ=-7.00000°; NP2:φ=168.00000°, δ=84.00000°, λ=-163.00000°. Principal axes: T 6.8340, Plg7.0000°, Azm301.0000°; N -0.7940, Plg72.0000°, Azm189.0000°; P -6.0400, Plg16.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 00:57:07.6±0.4, 34°16S±0°07×14°53W±0°07, h10km, n135, σ1°15/108, mb4.5/35, MS4.4/19, 2D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	TRISTAN DA CUN	3.42	149	Pn	Pn	00 57 58.9	-2.1
	SNR=1013						
H09N1				Sn	Sn	00 58 33.6	-8.0
H09N1				T	T	01 01 24.4	
	SNR=105						
H09W1	TRISTAN DA CUN	3.44	149	Pn	Pn	00 57 58.9	-2.4
	SNR=2859						
H09W1				Sn	Sn	00 58 34.0	-8.0
H09W1				T	T	01 01 39.5	
	SNR=75						
H10S2	ASCENSION HYDR	25.08	360	T	T	01 28 34.7	
	baz=180,slow=74,SNR=208						
H10S3	ASCENSION HYDR	25.09	360	T	T	01 28 39.2	
	baz=40,slow=74,SNR=458						
H10N1	ASCENSION HYDR	26.18	0	T	T	01 30 01.8	
	baz=189,slow=78,SNR=110						
H10N3	ASCENSION HYDR	26.19	0	T	T	01 30 00.2	
	baz=189,slow=78,SNR=253						
H10N2	ASCENSION HYDR	26.20	0	T	T	01 30 06.3	
	baz=189,slow=78,SNR=70						
ALF01	Guarapari-ES	26.79	293	eP	P	01 02 48.2	+0.3
CAM01	Campos-RJ	26.83	290	eP	P	01 02 47.6	-0.6
DUB01	Friburgo-RJ	27.25	289	eP	P	01 02 51.4	-0.7
RIB01	Linhares ES	27.32	296	eP	P	01 02 52.1	-0.6
BSFB	Barra de Sao F	27.95	296	eP	P	01 02 58.0	-0.4
VAS01	Vassouras-RJ	27.99	287	eP	P	01 02 58.4	-0.3
NAN01	Guarapari, ES	28.05	299	eP	P	01 02 59.3	+0.1
SJMB	Sao Joao De Ma	28.28	296	eP	P	01 03 00.1	-1.2
ESAR	Angra dos Reis	28.41	285	eP	P	01 03 02.2	-0.2
GUA01	Guaratinga, BA	28.64	301	eP	P	01 03 03.8	-0.8
PARB	Paraibuna	29.20	283	eP	P	01 03 09.2	-0.4
CMC01	Camacan, BA	29.28	304	eP	P	01 03 09.6	-0.6
NBIT	Itapeh - BA	29.52	304	eP	P	01 03 12.2	-0.1
BSCB	Bom Sucesso	29.72	288	eP	P	01 03 13.7	-0.5
PET01	Itanhaem-SP	30.11	280	eP	P	01 03 17.3	-0.2
DIAM	Diamantina, MG	30.40	294	eP	P	01 03 19.5	-0.8
VAO	Valinhos	30.45	283	eP	P	01 03 20.7	0.0
GDU01	Guandu, BA	30.48	306	eP	P	01 03 20.5	-0.3
SPB	Sao Paulo	30.55	281	P	P	01 03 20.4	-1.0
SPB				IAmb	IAmb	01 03 43.1	
	comp=Z,18nm,1.2s						
MC01	Montes Claros	31.57	296	eP	P	01 03 29.8	-0.8
NBRF	Rio Formoso -	31.65	318	eP	P	01 03 30.9	-0.2
TSUM	Tsumeb	32.17	71	P	P	01 03 33.9	-2.0
BB19B	Bebedouro	32.66	285	eP	P	01 03 39.5	-0.6
PLTB	Pedras Altas	32.74	263	eP	P	01 03 40.2	-0.4
JANB	Januaria	32.90	298	eP	P	01 03 41.2	-1.0
NBPV	Pedro Velho	33.62	321	eP	P	01 03 48.2	-0.2
BOSA	Boshof	34.26	92	P	P	01 03 52.8	-1.3
	comp=Z,8.0nm,0.9s,baz=243,slow=6.9,SNR=10						
BOSA				LR	LR	01 15 00.4	
	comp=Z,828nm,20.8s,baz=250,slow=31						
BOSA	Boshof	34.26	92	P	P	01 03 53.3	-0.8
BOSA				IAmb	IAmb	01 03 54.4	
	comp=Z,34nm,1.4s						
RCBR	Riachuelo	34.45	320	P	P	01 03 55.5	-0.1
RCBR	Riachuelo	34.45	320	eP	P	01 03 55.4	-0.2
PCMB	Pacaembu	34.60	282	eP	P	01 03 56.5	-0.5
ITRB	Iturama	34.84	285	eP	P	01 03 58.3	-0.7
SDBA	SAO DESIDERIO	35.09	301	eP	P	01 04 00.6	-0.6
SDBA				eS	S	01 09 33.9	-0.1
NBPA	Parau_RN	35.16	318	eP	P	01 04 01.6	-0.2
BDFB	Brasilia	35.30	293	P	P	01 04 02.1	-1.1
	comp=Z,19nm,1.2s,baz=135,slow=8.9,SNR=9.1						
BDFB				LR	LR	01 16 27.8	
	comp=Z,824nm,18.1s,baz=131,slow=33						
BDFB	Brasilia	35.30	293	P	P	01 04 02.0	-1.2
BDFB				IAmb	IAmb	01 04 03.6	
	comp=Z,35nm,1.3s						
ITQB	Itaqui	35.82	265	eP	P	01 04 07.2	-0.2
VNA1	Neumayer--Stat	36.71	177	P	P	01 04 15.9	+1.5
NBPB	Pedra_Branca-C	36.74	315	eP	P	01 04 15.1	-0.2
VNA3	Neumayer Olymp	37.24	177	P	P	01 04 20.8	+1.8
CPUP	Villa Florida	37.57	270	LR	LR	01 17 48.8	
	comp=Z,330nm,18.0s,baz=121,slow=33						
PEXB	Peixe	37.75	297	eP	P	01 04 23.5	-0.5
SNAA	Sanae	38.09	174	P	P	01 04 28.0	+1.8
SNAA	Sanae	38.09	174	P	P	01 04 28.8	+2.6
ARAG	Araguaiana, MT	38.20	289	eP	P	01 04 27.4	-0.3
NBPS	Pedro II - PI	38.76	314	eP	P	01 04 32.3	-0.2
AQDB	Aquidauana	38.77	280	eP	P	01 04 32.1	-0.4
NBMO	Morrinhos-CE	38.81	317	eP	P	01 04 32.5	-0.3
SMTB	Santa Maria do	39.43	302	eP	P	01 04 37.5	-0.6
PP1B	Ponte de Pedra	39.58	284	eP	P	01 04 38.8	-0.5
SNDB	Serra Nova Dou	40.07	295	eP	P	01 04 43.0	-0.4
MATP	Matopo	40.32	82	P	P	01 04 44.5	-1.1
	comp=Z,7.1nm,0.8s,baz=245,slow=9.4,SNR=16						
LIC	Lamto	41.16	14	eP	P	01 04 51.0	-1.2
	comp=Z,43nm,1.1s						
SALV	Santo Antonio	41.16	286	eP	P	01 04 51.9	-0.4
KIC	Kosan Boka	41.35	15	eP	P	01 04 54.1	+0.3
	comp=Z,30nm,0.9s						
ROSB	Rosrio	41.56	312	eP	P	01 04 55.2	-0.5
TIC	Toumodi	41.57	14	eP	P	01 04 56.2	+0.6
PMSA	Palmer Station	42.64	209	eP	P	01 05 04.6	+0.8
LSZ	Lusaka	42.75	75	P	P	01 05 05.2	-0.3
	comp=Z,2.8nm,0.8s,baz=224,slow=8.3,SNR=6.4						
PRPB	Parauapebas	42.88	302	eP	P	01 05 05.9	-0.5
PTLB	Pontes e Lacer	44.17	284	eP	P	01 05 16.4	-0.4
CLDB	Colider	44.19	292	eP	P	01 05 16.6	-0.5
PLCA	Paso Flores	44.32	244	P	P	01 05 15.9	-2.0
	comp=Z,2.6nm,0.7s,baz=111,slow=4.5,SNR=5.4						
PLCA				LR	LR	01 21 04.1	
	comp=Z,317nm,21.1s,baz=102,slow=32						
PLCA	Paso Flores	44.32	244	P	P	01 05 18.7	+0.8
PLCA				IAmb	IAmb	01 05 43.4	
	comp=Z,18nm,1.4s						
PLCA	Paso Flores	44.32	244	eP	P	01 05 17.3	-0.6
TMAB	Tom-Au,PA,Br	44.49	308	eP	P	01 05 19.5	+0.1
LL02	Futaleuf	44.87	241	P	P	01 05 21.4	-0.8
LL02				IAmb	IAmb	01 05 29.8	
	comp=Z,10nm,0.9s						
SYO	Syowa Base	45.86	156	⇓eP	P	01 05 26.3	-3.3
SYO	Syowa Base	45.86	156	⇓epP	P	01 05 30.4	+0.8
NPGB	Novo Progresso	46.30	296	eP	P	01 05 33.4	-0.3
VILB	Vilhena	46.42	286	eP	P	01 05 34.3	-0.4
ITTB	Itaituba	48.36	298	eP	P	01 05 49.6	-0.3
MCPB	Macapa, AP	48.61	306	eP	P	01 05 51.8	0.0
LVC	Limon Verde	48.70	269	LR	LR	01 25 20.1	
	comp=Z,279nm,21.0s,baz=132,slow=35						
LVC	Limon Verde	48.70	269	eP	P	01 05 52.0	-0.8
MALB	Monte Alegre	49.05	302	eP	P	01 05 55.4	+0.3
KOWA	Kowa	49.41	13	P	P	01 05 57.9	+0.2
KOWA				IAmb	IAmb	01 06 03.1	
	comp=Z,15nm,1.2s						
TORD	Torodi Ar. Bea	49.51	21	P	P	01 05 58.7	+0.2
	comp=Z,11nm,1.0s,baz=196,slow=8.1,SNR=19						
TORD				LR	LR	01 22 26.4	
	comp=Z,563nm,21.7s,baz=190,slow=31						
TORD	Torodi Ar. Bea	49.51	21	P	P	01 05 58.7	+0.2
PB08	IPOC Station P	50.03	272	P	P	01 06 02.4	-0.6
LPAZ	La Paz	51.07	276	P	P	01 06 09.0	-2.2
	comp=Z,2.8nm,0.9s,baz=83,slow=5.6,SNR=6.4						
LPAZ				LR	LR	01 27 05.9	
	comp=Z,349nm,18.9s,baz=116,slow=35						
LPAZ	La Paz	51.07	276	P	P	01 06 09.2	-1.9
LPAZ	La Paz	51.07	276	eP	P	01 06 09.9	-1.2
MACA	Manacapuru-AM	52.83	295	eP	P	01 06 23.4	-0.1
ETMB	Extrema	53.03	285	eP	P	01 06 24.8	-0.3
MAW	Mawson	54.16	153	P	P	01 06 32.4	-0.2
	comp=Z,6.3nm,1.0s,baz=274,slow=6.5,SNR=7.0						
MAW				LR	LR	01 24 35.7	
	comp=Z,371nm,21.3s,baz=250,slow=30						
MAW	Mawson	54.16	153	P	P	01 06 33.2	+0.6
QSPA	South Pole Qui	56.09	180	P	P	01 06 48.3	+1.5
QSPA				IAmb	IAmb	01 06 58.7	
	comp=Z,9.6nm,1.0s						
BOAV	Boa Vista	56.47	300	eP	P	01 06 48.9	-1.1
CZSB	Cruzeiro do Su	59.46	282	eP	P	01 07 09.7	-1.4
NNA	Nana	60.50	275	LR	LR	01 33 25.9	
	comp=Z,146nm,19.4s,baz=140,slow=36						
ATAH	Atahualpa	64.44	279	P	P	01 07 46.2	+1.2
	comp=Z,6.9nm,1.0s,baz=152,slow=9.1,SNR=7.0						
ATAH				LR	LR	01 34 49.9	
	comp=Z,364nm,20.9s,baz=157,slow=35						
SBA	Scott Base	68.25	180	P	P	01 08 09.8	+1.8
SBA				IAmb	IAmb	01 08 17.1	
	comp=Z,8.0nm,0.9s						
ROSC	El Rosal	68.35	292	LR	LR	01 36 47.9	
	comp=Z,793nm,19.4s,baz=160,slow=35						
VNDA	Vanda	68.56	179	P	P	01 08 11.3	+1.3
	comp=Z,0.7nm,1.0s,baz=234,slow=2.9,SNR=2.5						
VNDA				LR	LR	01 35 01.8	
	comp=Z,100nm,18.1s,baz=168,slow=33						
OTAV	Otavalo	68.76	286	eP	P	01 08 12.4	-0.3
KEST	Kesra	73.02	20	P	P	01 08 39.4	+1.7
	comp=Z,4.9nm,0.9s,baz=198,slow=6.4,SNR=2.4						
ESDC	Sonseca Array	74.11	8	P	P	01 08 44.3	+0.4
	comp=Z,1.2nm,1.1s,baz=263,slow=25,SNR=4.3						
DAVA	Damuels	83.99	16	eP	P	01 09 45.7	+7.7
	comp=Z,4.5nm,0.9s						
DIVS	Divibare	83.99	24	P	P	01 09 38.8	+0.8
DIVS				IAmb	IAmb	01 09 55.1	
	comp=Z,6.2nm,1.2s						
ABTA	Abfaltersbach	84.14	18	eP	P	01 09 47.8	+9.1
	comp=Z,3.4nm,1.1s						
SQTA	Sankt Quirin	84.25	17	eP	P	01 09 48.0	+8.8
	comp=Z,3.4nm,1.0s						
MOTA	Moosalm	84.34	17	eP	P	01 09 48.0	+8.3
	comp=Z,3.2nm,1.3s						
RETA	Reutte	84.39	17	eP	P	01 09 47.9	+8.0
	comp=Z,3.0nm,1.1s						
WTTA	Wattenberg	84.39	18	eP	P	01 09 48.1	+8.0
	comp=Z,3.4nm,1.1s						
WATA	Walderalm	84.45	18	eP	P	01 09 48.9	+8.6
	comp=Z,3.0nm,1.2s						
OBKA	Obir	84.47	20	eP	P	01 09 49.0	+8.7
	comp=Z,5.6nm,1.5s						
ARSA	Arzberg	85.42	20	eP	P	01 09 53.5	+8.5
	comp=Z,2.7nm,0.8s						
MOA	Molln	85.62	19	eP	P	01 09 54.7	+8.8
	comp=Z,2.7nm,1.0s						
BRTR	Keskin Array B	85.94	35	P	P	01 09 48.7	+0.7
	comp=Z,0.3nm,0.7s,baz=225,slow=14,SNR=2.3						
BRTR				LR	LR	01 46 21.5	
	comp=Z,26nm,21.6s,baz=206,slow=34						
BRTR	Keskin Array B	85.94	35	P	P	01 09 47.6	-0.3
CONA	Conrad Observa	86.13	20	eP	P	01 09 55.5	+6.9
	comp=Z,4.1nm,1.1s						
KHC	Kasperske Hory	86.62	18	eP	P	01 09 52.0	+1.1
KHC				ex	x	01 13 20.0	
MODS	Modra-Piesok	86.94	21	eP	P	01 09 57.0	+4.5
PSZ	Piszkesteto	87.33	22	P	P	01 09 54.0	-0.5
PSZ				IAmb	IAmb	01 10 07.3	
	comp=Z,7.1nm,1.0s						
VYHS	Vyhne	87.51	21	eP	P	01 09 59.6	+4.4
AKASG	Malin Array Be	92.89	26	P	P	01 10 20.8	+0.6
	comp=Z,0.2nm,0.4s,baz=225,slow=4.4,SNR=1.6						
KBZ	Khabaz	93.52	38	P	P	01 10 22.6	-0.8
	comp=Z,0.5nm,0.5s,baz=204,slow=2.3,SNR=1.8						
KBZ				LR	LR	01 53 57.2	
	comp=Z,62nm,18.0s,baz=207,slow=36						
H01W2	Cape Leeuwin H	96.17	140	T	T	02 58 39.3	
	baz=220,slow=75,SNR=44						
H01W3	Cape Leeuwin H	96.19	140	T	T	02 58 39.0	
	baz=220,slow=75,SNR=51						
H01W1	Cape Leeuwin H	96.19	140	T	T	02 58 44.1	
	baz=220,slow=75,SNR=56						
NOA	NORSAR Array B	97.16	12	LR	LR	01 54 11.4	
	comp=Z,78nm,18.4s,baz=205,slow=35						
GEYT	Alibeck	98.43	50	LR	LR	01 52 58.2	
	comp=Z,154nm,21.9s,baz=45,slow=34						
TBI	Tubuai	108.54	223	eLR	LR	01 48 08.0	
	comp=Z,215nm,26.0s						
TAOE	Nuku Hiva Isla	113.06	241	eLR	LR	01 50 24.3	
	comp=Z,168nm,34.7s						
PPT2	Papeete2	113.07	227	eLR	LR	01 50 18.1	
	comp=Z,317nm,29.8s						
YKA	Yellowknife Ar	124.22	326	PKP	PKiKP	01 16 06.7	+0.7
	comp=Z,0.6nm,0.8s,baz=116,slow=2.0,SNR=4.7						
KSRS	Korea Array	149.50	73	PKPbc	PKiKP	01 16 58.3	+0.1
	comp=Z,1.1nm,0.7s,baz=286,slow=1.3,SNR=2.5						

IDC 15 01:00:04.7±1.6, 7°52S×154°72E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/41, mbtmp3.7/5, Error ellipse: s-maj=92.5km s-min=25.9km az=133.0
ISC 15 01:00:09.0±1.5, 7°6S±0°4×154°7E±0°4, h27km, n6, σ1°02/6, mb3.8/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.25	236	P	P	01 05 14.2	-0.4
	2.5nm,0.8s,baz=60,slow=9.9,SNR=12						
ASAR	Alice Springs	25.58	229	P	P	01 05 36.1	0.0
	0.9nm,0.6s,baz=63,slow=9.1,SNR=9.1						
MKAR	Makanch

8.8nm,0.5s
PDGK ⇑Pg **Pg** **01 03 05.8 +0.5**
15nm,0.6s
PDGK ⇑Lg Lg 01 04 32.6
69nm,0.7s
KPKS Kokpek 5.69 7 *eP* **Pg** **01 03 02.8 -3.0**
14nm,0.6s
KPKS *eS* **Sg** **01 04 19.8 +0.3**
103nm,0.5s
MRKS Merke 6.01 326 *eP* **Pg** **01 03 09.4 -2.8**
2.0nm,0.4s
MRKS *eS* **Sg** **01 04 31.1 +1.1**
23nm,0.5s
CHKK Chushkaly 6.06 355 *eP* **Pg** **01 03 09.8 -3.2**
4.3nm,0.5s
CHKK *eS* **Sg** **01 04 32.0 +0.6**
35nm,0.5s
KUU Kurty 6.16 350 *eP* **Pg** **01 03 11.0 -4.0**
2.2nm,0.5s
KUU *eS* **Sg** **01 04 33.9 -0.9**
17nm,0.9s
KK31 Karatay Array 7.64 316 ⇓Pn **Pn** **01 03 09.3 +1.0**
0.3nm,0.3s,baz=140,slow=13,SNR=4.7
KK31 ⇑Sn **Sn** **01 04 39.1 +4.2**
1.2nm,0.3s
KK31 ⇑Lg Lg 01 05 26.0
1.8nm,0.4s,baz=147,slow=26
MAKZ Makanchi 9.51 18 ⇑Pn **Pn** **01 03 34.3 +0.3**
2.4nm,0.5s
MAKZ ⇓Sn Sn 01 05 34.9 +14
3.9nm,0.9s
MK31 Makanchi Array 9.57 19 ⇑Pn **Pn** **01 03 36.1 +1.2**
1.1nm,0.3s,baz=200,slow=12,SNR=76
MK31 ⇑Sn Sn 01 05 36.9 +14
3.6nm,0.5s,baz=191,slow=25
MKAR Makanchi Array 9.57 19 Pn **Pn** **01 03 36.4 +1.5**
2.2nm,0.3s,baz=200,slow=12,SNR=95
MKAR Sn **Sn** **01 05 22.0 -0.5**
0.4nm,0.3s,baz=195,slow=22,SNR=2.9
MKAR LR LR 01 07 02.3
comp=Z,24nm,18.0s,baz=192,slow=36
WMQ Urumqi 9.62 48 *eP* **Pn** **01 03 40.3 +4.7**
WMQ smax smax
comp=N,43nm,0.7s
WMQ smax smax
comp=E,42nm,0.7s
KURBB Kurchatov Arra 12.81 2 Pn **Pn** **01 04 20.1 +1.0**
0.0nm,0.3s,baz=189,slow=12,SNR=15
KURBB Lg Lg 01 08 06.8
0.0nm,0.3s,baz=194,slow=27,SNR=6.5
ZALV Zalesovo Beam 16.85 15 Pn **Pn** **01 05 11.9 -0.9**
0.2nm,0.3s,baz=197,slow=12,SNR=13
GTA Gaotai 17.31 78 *eP* **P** **01 05 21.1 +0.8**
GTA pP sP 01 05 25.3 +0.3
GTA sP pP 01 05 28.4 +4.9
GTA pmax pmax
comp=Z,7.0nm,0.7s
AKTO Aktyubinsk 18.89 318 P **Pn** **01 05 38.8 +0.6**
0.2nm,0.3s,baz=118,slow=14,SNR=4.6
ARU Arti 22.60 332 P **P** **01 06 17.9 +0.3**
0.3nm,0.3s,baz=127,slow=10,SNR=1.4
TLY Talaya 22.87 44 LR LR 01 16 39.9
comp=Z,124nm,18.8s,baz=220,slow=40
SONM Songino Array 23.15 55 P **P** **01 06 23.3 -0.3**
2.7nm,0.9s,baz=253,slow=10,SNR=10
KVAR Kislovodsk Arr 27.06 294 LR LR 01 21 36.7
comp=Z,27nm,18.0s,baz=267,slow=45
FINES FINESS Array B 39.52 324 P **P** **01 08 48.7 +1.2**
1.6nm,0.6s,baz=111,slow=9.9,SNR=12
ARCES ARCESS Array B 42.09 335 P **P** **01 09 09.6 +0.9**
2.5nm,1.1s,baz=102,slow=7.5,SNR=3.9
NB2 NORSAR Subarra 46.62 322 P **P** **01 09 45.6 +0.5**
comp=Z,1.1nm,0.5s,baz=89,slow=7.9
NOA NORSAR Array B 46.62 322 P **P** **01 09 45.8 +0.7**
comp=Z,0.7nm,0.5s,baz=90,slow=7.8,SNR=5.6
PETK Petropavlovsk- 55.21 46 LR LR 01 35 44.6
comp=Z,37nm,18.2s,baz=223,slow=37
TORD Torodi Ar. Bea 71.10 272 P **P** **01 12 33.9 -2.0**
comp=Z,1.2nm,1.0s,baz=45,slow=6.6,SNR=4.2
YKA Yellowknife Ar 79.54 6 P **P** **01 13 21.9 -1.7**
comp=Z,0.2nm,0.4s,baz=345,slow=4.7,SNR=5.9
ULM Lac du Bonnet 92.13 356 LR LR 02 00 27.4
comp=Z,84nm,18.6s,baz=120,slow=38
PDAR Pinedale Array 99.52 5 LR LR 02 04 31.3
comp=Z,68nm,20.5s,baz=116,slow=38

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*GCG **15** 01:09:14.4±0.3, 15°.31N×92°.65W, h106km±97km, MD3.8*
*MEX **15** 01:09:27.8±0.5, 13°.98N×92°.26W, h15km, MD3.8*
ISC 15 01:09:09.6±4.4, 13°.2N±0°.2×92°.59W±0°.09, h10km, n6, σ1§48/10, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.69**	**11**	*eP*	**Pg**	**01 09 42.0**	**0.0**
THIG				*eS*	**Sn**	**01 09 57.8**	**-3.1**
FUG	**Fuego 3**	**2.08**	**55**	*eP*	**Pb**	**01 09 47.4**	**-0.2**
PCG	**Pacaya**	**2.24**	**59**	*eP*	**Pb**	**01 09 50.7**	**+0.3**
PCG				*eS*	**Sb**	**01 10 19.0**	**+0.7**
NBG	**Las Nubes**	**2.56**	**58**	*eP*	**Pb**	**01 09 55.6**	**-0.2**
NBG				*eS*	**Sn**	**01 10 22.9**	**+0.1**
TGIG		**3.56**	**352**	*eP*	**Pb**	**01 10 13.5**	**+0.8**
TGIG				*eS*	**Sn**	**01 10 49.1**	**+2.0**
CMIG	**Matias Romero**	**4.42**	**330**	*eP*	**Pb**	**01 10 26.8**	**-0.7**

IDC 15 01:43:52.7±4.0, 1°.73S×139°.94E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/27, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=146.8km s-min=30.1km az=86.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.91**	**196**	P	P	01 48 15.4	+0.2
0.3nm,0.3s,baz=18,slow=12,SNR=12							
ASAR	**Alice Springs**	**22.58**	**195**	P	P	01 48 54.5	-0.4
1.6nm,0.8s,baz=27,slow=11,SNR=10							
H11S3	**WAKE ISLAND Hy**	**33.11**	**51**	T	T	02 26 23.4	
baz=236,slow=74							
H11S2	**WAKE ISLAND Hy**	**33.12**	**51**	T	T	02 26 21.5	
baz=236,slow=74							
H11S1	**WAKE ISLAND Hy**	**33.13**	**51**	T	T	02 26 24.7	
baz=236							
H11N1	**WAKE ISLAND Hy**	**33.97**	**50**	T	T	02 27 28.1	
baz=233							
H11N2	**WAKE ISLAND Hy**	**33.98**	**50**	T	T	02 27 34.9	
baz=233							
H11N3	**WAKE ISLAND Hy**	**33.98**	**50**	T	T	02 27 32.1	
baz=233							
MKAR	**Makanchi Array**	**69.77**	**322**	P	P	01 55 05.1	+0.2
0.4nm,0.6s,baz=124,slow=7.2,SNR=4.2							

IDC 15 01:52:24.2±4.9, 1°.77S×139°.62E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=193.8km s-min=30.6km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.78**	**196**	P	Pn	01 56 45.8	+0.2
0.2nm,0.3s,baz=18,slow=12,SNR=8.5							
ASAR	**Alice Springs**	**22.46**	**194**	P	P	01 57 25.0	-0.2
1.1nm,0.8s,baz=25,slow=9.6,SNR=7.0							
MKAR	**Makanchi Array**	**69.61**	**322**	P	P	02 03 35.4	-0.1
0.3nm,0.6s,baz=122,slow=6.7,SNR=3.6							

ASRS 15 02:06:35.4±0.3, 50°N±3°×9°8E±°, h5km, MLh3.9/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.80**	**333**	Pg	Pn	02 06 57.1	+3.7
KNGR				Sg	Sn	02 07 06.8	+1.0
ERNS	**Erzin**	**1.92**	**282**	Pg	Pg	02 07 17.0	+4.8
ERNS				Sg	Sg	02 07 38.9	+1.8
KZLR	**Kyzyl**	**2.93**	**310**	Pg	Pg	02 07 34.7	+3.2
KZLR				Sg	Sg	02 08 13.3	+3.8
ZAK	**Zakamensk**	**3.38**	**80**	Pg	Pg	02 07 42.2	+2.1
ZAK				Sg	Sg	02 08 26.6	+2.6
TLY	**Talaya**	**3.96**	**61**	Pg	Pg	02 07 50.3	-0.9
TLY				Sg	Sg	02 08 42.2	-0.2
ARDR	**Aradan**	**3.97**	**314**	Pg	Pg	02 07 52.4	+0.9
ARDR				Sg	Sg	02 08 44.1	+1.2
DJOS	**Djoyskaya Sosn**	**5.10**	**307**	Sg	Sg	02 09 20.5	+1.5
CERR	**Cheremushki**	**5.12**	**308**	Pg	Pg	02 08 14.0	+0.6
CERR				Sg	Sg	02 09 20.2	+0.5
TEL	**Teeli**	**5.16**	**286**	Pn	Pb	02 08 02.3	-3.9
TEL				Pg	Pg	02 08 13.1	-1.1
TEL				Sg	Sg	02 09 22.6	+1.5
DJO	**Djoy, Khakassi**	**5.18**	**307**	Pg	Pg	02 08 17.5	+2.8
DJO				Sg	Sg	02 09 22.8	+1.1
ULN	**Ulaanbaatar**	**6.26**	**106**	Pg	Pg	02 08 36.4	+1.1
ULN				Sg	Sg	02 09 59.5	+3.3
CUR	**Chagan-Uzun**	**6.28**	**276**	Pg	Pg	02 08 35.5	-0.1
CUR				Sg	Sg	02 10 02.7	+5.8
ULGR	**Ulagan, Altay**	**6.53**	**280**	Pg	Pg	02 08 40.7	+0.2
ULGR				Sg	Sg	02 10 10.1	+5.1

MEX 15 02:51:27.5±0.7, 15°.07N×92°.52W, h66km±14km, MD3.5, Mexico-Guatemala border region

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*TUL **15** 02:53:06.6±1.6, 36°.689N±0°.010×97°.75W±0°.01, h5km±7km, ML2.6, mb_Lg2.2/14(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=124.0*
NEIC 15 02:53:06.8±0.9, 36°.674N±0°.005×97°.75W±0°.01, h7km±7km, Error ellipse: s-maj=1.8km s-min=0.7km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**333**		Pg	02 53 10.7	-0.2
GC02				Sg	Sg	02 53 13.6	+0.1
CROK	**Carrier**	**0.25**	**228**		Pg	02 53 11.9	+0.1
CROK				Sg	Sg	02 53 15.8	+0.5
OK032	**Salt Plains WL**	**0.39**	**289**		Pg	02 53 14.3	-0.2
OK032				Sg	Sg	02 53 19.8	+0.1
KAN13	**South Haven SW**	**0.40**	**32**	Pg	Pg	02 53 14.6	0.0
KAN13				Sg	Sg	02 53 20.0	+0.1
BLOK	**Blackwell**	**0.44**	**78**		Pg	02 53 15.3	0.0
KAN05	**Bluff City Nor**	**0.45**	**347**	Pg	Pg	02 53 15.2	-0.3
KAN05				Sg	Sg	02 53 21.9	+0.6
KAN09	**Caldwell North**	**0.47**	**13**	Pg	Pg	02 53 15.7	-0.3
KAN09				Sg	Sg	02 53 22.3	+0.1
KAN10	**Anthony SW Sta**	**0.53**	**328**	Pg	Pg	02 53 16.7	-0.4
KAN10				Sg	Sg	02 53 24.0	0.0
KS20	**Mayfield South**	**0.58**	**16**	Pg	Pg	02 53 17.6	-0.3
KS20				Sg	Sg	02 53 25.4	0.0
KAN08	**Anthony NE Sta**	**0.58**	**342**	Pg	Pg	02 53 17.7	-0.3
KAN08				Sg	Sg	02 53 25.7	+0.1
KAN12	**Harper NE Stat**	**0.65**	**342**	Pg	Pg	02 53 18.6	-0.8
OK029	**Liberty Lake**	**0.91**	**165**	Pg	Pg	02 53 24.0	-0.2
OK029				Sg	Sg	02 53 36.5	+0.5
QUOK	**Quay**	**0.98**	**121**	Pg	Pg	02 53 25.2	-0.4
QUOK				Sg	Sg	02 53 38.2	0.0
BCOK	**Bluff Creek, N**	**1.02**	**174**	Pg	Pg	02 53 26.0	-0.4
T35A	**Sooner Cattle**	**1.02**	**76**		Pg	02 53 25.9	-0.5
T35A				Sg	Sg	02 53 39.1	-0.5
OK031	**S. Brethren Rd**	**1.03**	**134**		Pg	02 53 26.2	-0.3
U32A	**Winter Ranch,**	**1.05**	**254**	Pg	Pg	02 53 26.0	-1.0
U32A				Sg	Sg	02 53 40.8	+0.2
OK025	**Westminster Rd**	**1.14**	**163**		Pg	02 53 28.0	-0.7
OKCFA	**Oklahoma City**	**1.28**	**169**		Pn	02 53 30.6	-0.6
OKCSW	**OKLAHOMA CITY**	**1.29**	**169**		Pn	02 53 30.9	-0.4
FNO	**Franklin**	**1.44**	**169**	Pn	Pn	02 53 33.3	-0.1
FNO				IAmb_Lg		02 53 51.8	
comp=Z,16nm,1.0s							
R32A	**Long Quarter,**	**1.91**	**337**	IAmb_Lg		02 54 07.1	
comp=Z,13nm,0.8s							
WMOK	**Wichita Mounta**	**2.11**	**204**	Pn	Pn	02 53 43.3	+0.8
CBKS	**Cedar Bluff**	**2.66**	**324**	IAmb_Lg		02 54 35.7	
comp=Z,7.3nm,0.9s							
X37A	**Clayton**	**2.84**	**136**	Pn	Pn	02 53 53.8	+1.2
W39A	**Magazine**	**3.54**	**113**	IAmb_Lg		02 55 02.6	
comp=Z,8.8nm,0.8s							
AMTX	**Amarillo**	**3.66**	**242**	IAmb_Lg		02 55 05.0	
comp=Z,6.2nm,0.9s							
U40A	**Yellville**	**3.96**	**93**	Pn	Pn	02 54 09.7	+1.7
U40A				IAmb_Lg		02 55 12.2	
comp=Z,6.9nm,0.8s							
MIAR	**Mount Ida**	**4.01**	**121**	IAmb_Lg		02 55 16.4	
comp=Z,7.6nm,1.1s							
MGMO	**Mountain Grove**	**4.42**	**82**	Pn	Pn	02 54 15.3	+1.0
P38A	**Dawn**	**4.44**	**47**	IAmb_Lg		02 55 33.0	
comp=Z,4.7nm,0.9s							
R40A	**Maddies Statio**	**4.65**	**68**	Pn	Pn	02 54 18.6	+1.1

IDC 15 02:55:37.8±2.1, 60°.79S×44°.82W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.6/18, mbtmp4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/20, Error ellipse: s-maj=88.0km s-min=46.9km az=40.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.65**	**237**	LR	LR	03 01 53.0	
comp=Z,58nm,20.3s,baz=70,slow=39							
SIV	**San Ignacio**	**46.25**	**338**	P	P	03 04 04.4	-0.3
1.1nm,0.5s,baz=190,slow=7.7,SNR=9.4							
H10N3	**ASCENSION HYDR**	**57.48**	**36**	T	T	04 07 59.8	
baz=199,slow=75,SNR=4.7							
H10N1	**ASCENSION HYDR**	**57.48**	**36**	T	T	04 08 03.7	
baz=199,slow=75,SNR=5.6							
H10N2	**ASCENSION HYDR**	**57.49**	**36**	T	T	04 07 58.8	
baz=199,slow=75,SNR=4.7							
PPT	**Papeete**	**81.82**	**249**	LR	LR	03 34 40.5	
comp=Z,48nm,21.6s,baz=310,slow=29							
TORD	**Torodi Ar. Bea**	**82.42**	**45**	P	P	03 08 01.8	+0.2
1.4nm,0.9s,baz=202,slow=5.4,SNR=4.6							
ILAR	**Eielson Array**	**146.23**	**311**	PKPbc	PKPdf	03 15 17.8	+0.4
0.9nm,0.7s,baz=140,slow=1.9,SNR=11							
MKAR	**Makanchi Array**	**146.77**	**91**	PKPbc	PKPdf	03 15 19.7	+0.8
0.9nm,0.5s,baz=236,slow=2.7,SNR=12							

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*MAN **15** 02:57:31.6, 7°.53N×127°.20E, h8km, mb4.7, ML3.6, MS3.5*
*IDC **15** 02:57:33.8±1.3, 6°.54N×124°.23E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/47, mbtmp3.6/3, MS3.6/3, Ms1 3.6/3, ms1mx2.9/54, Error ellipse: s-maj=33.2km s-min=25.6km az=66.0*
ISC 15 02:57:31.6±1.5, 7°.6N±0°.1×127°.24E±0°.10, h10km, n9, σ1§62/10, mb3.5/3, MS3.6/3, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.74**	**251**	Pg	**Pn**	**02 58 00.8**	**-1.2**
119nm,0.3s,baz=36,slow=3.5,SNR=9.8							
DAV				Lg	Lg	02 58 28.7	
89nm,0.3s,baz=275,slow=23,SNR=12							
BUKP	**Musuan**	**2.17**	**277**	⇓*eP*	**Pn**	**02 58 08.7**	**+0.8**
BUKP				*eS*	**Sb**	**02 58 38.0**	**-0.2**
KCP	**Kidapawan**	**2.22**	**254**	⇓*iP*	**Pn**	**02 58 09.0**	**+0.3**
KCP				*i S*	**Sn**	**02 58 35.7**	**-0.5**
CGP	**Cagayan de Oro**	**2.65**	**288**	⇓*eP*	**Pn**	**02 58 15.6**	**+1.1**
CGP				*eS*	**Sn**	**02 58 48.4**	**+1.7**
JCJ	**Chichijima**	**24.00**	**34**	LR	LR	03 14 41.8	
comp=Z,176nm,18.1s,baz=128,slow=39							
WRA	**Warramunga Arr**	**28.28**	**166**	P	**P**	**03 03 26.4**	**+1.0**
0.2nm,0.4s,baz=345,slow=9.7,SNR=1.1							
ASAR	**Alice Springs**	**31.78**	**168**	P	**P**	**03 03 58.2**	**+1.8**
0.3nm,0.4s,baz=340,slow=7.1,SNR=6.2							
ASAR				LR	LR	03 17 17.8	
comp=Z,56nm,18.6s,baz=46,slow=38							
MKAR	**Makanchi Array**	**54.70**	**324**	P	**P**	**03 06 58.4**	**-2.8**
1.2nm,0.7s,baz=126,slow=8.1,SNR=14							
BELG	**Belogornoye**	**77.66**	**322**	LR	LR	03 44 18.5	
comp=Z,51nm,20.3s,baz=46,slow=37							

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*AEIC **15** 02:59:54±2.2, 51°.59N±0°.04×173°.81W±0°.08, h26km±3km, Error ellipse: s-maj=8.1km s-min=4.8km az=124.0*
*MOS **15** 02:59:54.2±0.9, 51°.89N×173°.75W, h42km, mb4.6/28, Error ellipse: s-maj=10.3km s-min=6.9km az=90.3*
*NEIC **15** 02:59:55.6±1.9, 51°.67N±0°.05×173°.82W±0°.08, h42km±5km, mb4.5/124, ML4.1/44(AEIC), Error ellipse: s-maj=7.7km s-min=6.8km az=123.0*
*IDC **15** 02:59:56.2±2.9, 51°.81N×173°.77W, h48km±27km, mb3.9/30, mb1 4.1/33, mb1mx4.0/57, mbtmp4.2/33, ML3.8/3, MS3.4/20, Ms1 3.4/20, ms1mx3.3/55, Error ellipse: s-maj=17.2km s-min=9.4km az=169.0*
ISC 15 02:59:55.7±0.6, 51°.80N±0°.06×173°.83W±0°.03, h44km±4km, h44km:pP-P, n437, σ1§26/435, mb4.5/101, MS3.4/22, 9C-12D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.46**	**331**		**Pn**	**03 00 06.7**	**+0.6**
ATKA	**Atka Island**	**0.46**	**331**		**Sn**	**03 00 16.2**	**+2.7**
KOFP	**Korovin Flat P**	**0.50**	**341**		**Pn**	**03 00 07.8**	**+1.1**
KOKL	**Mount Kliuchef**	**0.57**	**337**		**Pn**	**03 00 08.8**	**+1.2**
KOKV	**Korovin Volcan**	**0.60**	**340**		**Sn**	**03 00 20.7**	**+4.1**
KOWE	**Korovin West**	**0.62**	**336**		**Pn**	**03 00 09.7**	**+1.4**
GSMY	**Great Sitkin M**	**1.40**	**281**		**Pn**	**03 00 18.7**	**-0.1**
GSTR	**Great Sitkin T**	**1.41**	**283**		**Pn**	**03 00 18.9**	**0.0**
GSTD	**Great Sitkin T**	**1.45**	**281**		**Pn**	**03 00 19.4**	**-0.2**
GSSP	**Great Sitkin S**	**1.48**	**282**		**Pn**	**03 00 20.5**	**+0.6**
ADK	**Adak**	**1.77**	**274**	P	**Pn**	**03 00 23.4**	**-0.4**
ADK						03 00 45.4	
ADK	**Adak**	**1.77**	**274**	Pn	**Pn**	**03 00 23.4**	**-0.4**
KIWB	**Kanaga Island**	**2.06**	**273**		**Pn**	**03 00 27.8**	**-0.1**
KIKV	**Kanaga Island**	**2.07**	**273**		**Pn**	**03 00 28.6**	**+0.6**
KICM	**Kanaga Island**	**2.09**	**275**		**Pn**	**03 00 29.1**	**+0.9**
KIMD	**Kanaga Island**	**2.11**	**270**		**Pn**	**03 00 28.2**	**-0.4**
TAFP	**Tanaga Falls P**	**2.58**	**274**		**Pn**	**03 00 35.7**	**+0.8**
TAFP					**Sn**	**03 01 06.0**	**+1.1**
TASE	**Tanaga Southea**	**2.61**	**272**		**Pn**	**03 00 36.1**	**+0.7**
GAEA	**Gareloi East**	**3.05**	**272**		**Pn**	**03 00 41.9**	**+0.5**
GALAA	**Gareloi Lava P**	**3.07**	**271**		**Pn**	**03 00 42.0**	**+0.4**
NIKH	**Nikolski High**	**3.27**	**67**	P	**Pn**	**03 00 43.5**	**-0.9**
baz=248,SNR=6.7							
NIKH	**Nikolski High**	**3.27**	**67**	Pn	**Pn**	**03 00 44.0**	**-0.4**
OKSP	**Okmok Steeple**	**3.68**	**65**		**Pn**	**03 00 50.9**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**3.87**	**64**		**Pn**	**03 00 54.1**	**+1.4**
OKFG	**Magazine Ridge**	**3.95**	**64**		**Pn**	**03 00 54.9**	**+1.1**
OKFG					**Sn**	**03 01 44.3**	**+5.5**
CERAA	**Semis' Rag'd T**	**4.02**	**274**		**Pn**	**03 00 56.0**	**+1.2**
CESW	**Semis' Southwe**	**4.10**	**274**		**Pn**	**03 00 57.0**	**+1.3**
AMKA	**Amchitka**	**4.30**	**267**	Pn	**Pn**	**03 00 58.9**	**+0.4**
MAPS	**Pakushin South**	**4.64**	**62**		**Pn**	**03 01 04.0**	**+0.8**
MGOD	**Makushin Gods**	**4.67**	**62**		**Pn**	**03 01 04.2**	**+0.5**
MGOD					**Sn**	**03 02 00.2**	**+3.6**
LSPA	**Little Sitkin**	**4.71**	**275**		**Pn**	**03 01 04.5**	**+0.4**
LSNW	**Little Sitkin**	**4.74**	**275**		**Pn**	**03 01 05.0**	**+0.4**
LSSA	**Little Sitkin**	**4.75**	**275**		**Pn**	**03 01 05.1**	**+0.4**
MSW	**Makushin Switc**	**4.77**	**61**		**Pn**	**03 01 06.1**	**+1.1**
MNAT	**Makushin Natee**	**4.81**	**62**		**Pn**	**03 01 07.8**	**+2.2**
AKBBA	**Akutan Broad B**	**5.30**	**61**		**Pn**	**03 01 14.3**	**+2.0**
AKUT	**Akutan**	**5.40**	**61**	Pn	**Pn**	**03 01 14.1**	**+0.4**
SPIA	**Saint Paul Isl**	**5.78**	**20**	P	**Pn**	**03 01 18.8**	**0.0**
baz=202							
SPIA	**Saint Paul Isl**	**5.78**	**20**	Pn	**Pn**	**03 01 21.7**	**+3.0**
ISLZ	**Isanotski Laza**	**6.74**	**60**		**Pn**	**03 01 34.2**	**+2.2**
FALS	**False Pass**	**6.95**	**60**	Pn	**Pn**	**03 01 38.8**	**+4.0**
SDPT	**Sand Point**	**8.70**	**61**	P	**Pn**	**03 01 59.1**	**+0.3**
baz=250							
SDPT	**Sand Point**	**8.70**	**61**	Pn	**Pn**	**03 02 00.5**	**+1.7**
CNBA	**Chernabura Isl**	**9.05**	**65**	Pn	**Pn**	**03 02 02.8**	**-0.8**
GAMB	**Gambell**	**12.06**	**5**		**Pn**	**03 02 48.0**	**+3.3**
KDAK	**Kodiak Island**	**13.61**	**56**	P	**Pn**	**03 03 04.0**	**-1.9**
0.5nm,0.3s,baz=247,slow=11,SNR=2.7							
KDAK				S	**Sn**	**03 05 31.7**	**-3.8**
0.1nm,0.3s,baz=122,slow=17,SNR=1.6							
KDAK	**Kodiak Island**	**13.61**	**56**	P	**Pn**	**03 03 04.0**	**-1.9**
KDAK	**Kodiak Island**	**13.61**	**56**		**Pn**	**03 03 03.6**	**-2.3**
SVW2	**Sparrevohn**	**13.68**	**40**	Pn	**P**	**03 03 10.7**	**-3.9**
N19K	**Bonanza Creek**	**13.97**	**42**	P	**Pn**	**03 03 10.9**	**0.0**
baz=238							
RSO	**Redoubt South**	**14.54**	**45**	Pn	**P**	**03 03 21.2**	**-3.2**
L19K	**White Mountain**	**14.60**	**37**	P	**Pn**	**03 03 20.6**	**+1.4**
baz=233							
M19K	**Big River Lodg**	**14.61**	**39**	P	**Pn**	**03 03 20.8**	**+1.4**
baz=234,SNR=10.0							
HOM	**Homer**	**14.71**	**49**	P	**Pn**	**03 03 21.6**	**+1.0**
baz=247							
CNPM	**China Poot**	**14.85**	**50**	Pn	**Pn**	**03 03 24.2**	**+1.6**
BRSE	**Bradley Lake S**	**15.17**	**49**	P	**Pn**	**03 03 27.2**	**+0.5**
baz=248							
K20K	**Telida**	**15.61**	**35**	P	**Pn**	**03 03 32.8**	**+0.5**
baz=231							
SKT	**Skwentna**	**15.79**	**41**	P	**Pn**	**03 03 35.6**	**+0.8**
baz=239							
SKT	**Skwentna**	**15.79**	**41**	P	**P**	**03 03 39.9**	**+1.9**
PPLA	**Purkeypile**	**16.02**	**38**	P	**Pn**	**03 03 38.2**	**+0.4**
baz=236							
PPLA	**Purkeypile**	**16.02**	**38**	P	**P**	**03 03 41.8**	**+1.1**
J20K	**Nowinta River**	**16.11**	**32**	P	**Pn**	**03 03 39.7**	**+0.9**
baz=228,SNR=7.6							
CHUM	**Lake Minchumin**	**16.55**	**35**	P	**Pn**	**03 03 43.8**	**-0.5**
baz=233							
PWL	**Port Wells**	**16.69**	**47**	P	**P**	**03 03 49.2**	**+1.2**
KTH	**Kantishna Hill**	**16.86**	**37**	P	**P**	**03 03 50.6**	**+0.6**
TRF	**Thorofare Moun**	**17.05**	**38**	P	**P**	**03 03 51.3**	**-0.8**
baz=237							
TRF	**Thorofare Moun**	**17.05**	**38**	P	**P**	**03 03 52.2**	**+0.1**
SML	**Sawmill**	**17.06**	**44**	P	**Pn**	**03 03 50.9**	**+0.1**
baz=245							
RDOG	**Red Dog Mine**	**17.15**	**14**	P	**Pn**	**03 03 51.5**	**-0.3**
baz=203							
BPAW	**Bear Paw Mtn.**	**17.15**	**35**	P	**P**	**03 03 52.7**	**-0.4**
baz=234,SNR=5.7							
BPAW	**Bear Paw Mtn.**	**17.15**	**35**		**P**	**03 03 53.0**	**0.0**
PETK	**Petropavlovsk-**	**17.36**	**286**	P	**Pn**	**03 03 55.1**	**+0.6**
0.5nm,0.3s,baz=89,slow=15,SNR=9.2							
PETK				LR	LR	03 10 35.2	
comp=Z,75nm,20.4s,baz=91,slow=37							
PETK	**Petropavlovsk-**	**17.36**	**286**	P	**P**	**03 03 56.8**	**+1.5**
PETK	**Petropavlovsk-**	**17.36**	**286**	P	**P**	**03 03 56.8**	**+1.5**
HIN	**Hinchinbrook I**	**17.39**	**50**	Pn	**Pn**	**03 03 53.4**	**-1.4**
HIN				IAmb	IAmb	03 04 18.7	
comp=Z,16nm,0.8s							
WAT1	**Susitna Watana**	**17.42**	**41**	P	**Pn**	**03 03 54.9**	**-0.4**
baz=242							
IMAR	**Indian Mountai**	**17.47**	**28**		**P**	**03 03 57.3**	**+0.8**
FID	**Port Fidalgo**	**17.51**	**49**	Pn	**Pn**	**03 03 53.9**	**-2.4**
SCM	**Sheep Creek Mo**	**17.51**	**45**	P	**Pn**	**03 03

PAX pmax pmax
comp=Z,8.0nm,1.3s
PAX Paxson 18.75 42 P **P 03 04 10.2 -0.6**
baz=246
PAX Paxson 18.75 42 P **Pn 03 04 11.5 -0.1**
HDA Harding Lake 18.81 38 P **P 03 04 10.6 -0.7**
baz=240,SNR=12
HDA Harding Lake 18.81 38 P **P 03 04 10.7 -0.5**
HDA IAmb IAmb 03 04 12.8
comp=Z,13nm,0.6s
BILL Bilibino 18.93 337⇓*eP* **Pn 03 04 14.6 +1.1**
BILL pmax pmax
comp=Z,15nm,1.2s
BILL MLR MLR
comp=Z,158nm,21.0s
POKR Poker Plat Res 18.99 35 P **Pn 03 04 13.9 -0.4**
baz=238,SNR=7.5
POKR Poker Plat Res 18.99 35 P **P 03 04 13.1 -0.2**
IL31 19.01 37 P **Pn 03 04 14.3 -0.2**
ILAR Eielson Array 19.01 37 P **P 03 04 11.7 -1.8**
comp=Z,0.9nm,0.3s,baz=235,slow=10,SNR=45
ILAR S **S 03 07 46.8 +0.1**
baz=242,slow=15,SNR=2.0
ILAR Eielson Array 19.01 37 P **P 03 04 12.3 -1.1**
CRQE Cirque 19.11 50 P **P 03 04 14.6 -0.1**
baz=255
H24K Noodor Dome 19.23 33 P **P 03 04 16.1 +0.2**
baz=235,SNR=15
RIDG Independent Ri 19.33 41 P **P 03 04 16.8 -0.2**
baz=245,SNR=9.0
RIDG Independent Ri 19.33 41 P **Pn 03 04 17.7 -0.6**
RIDG IAmb IAmb 03 04 18.2
comp=Z,11nm,0.5s
DOT Dot Lake 19.61 41 P **P 03 04 19.7 -0.3**
SCRK Sand Creek 19.77 40 P **P 03 04 20.7 -1.2**
baz=246,SNR=26
SCRK Sand Creek 19.77 40 P **P 03 04 21.3 -0.6**
SCRK IAmb IAmb 03 04 26.5
comp=Z,14nm,0.6s
PRP Porcupine Dome 19.89 36 P **P 03 04 22.7 -0.4**
baz=240
PRP Porcupine Dome 19.89 36 P **P 03 04 23.6 +0.4**
PRP IAmb IAmb 03 04 41.2
comp=Z,11nm,0.8s
CTG Chitna Glacier 19.99 50 P **P 03 04 24.2 -0.1**
baz=257
CTGM Chitina Glacie 19.99 50 P **Pn 03 04 27.1 +0.8**
CTGM IAmb IAmb 03 04 28.3
comp=Z,8.0nm,0.7s
L27K Beaver Creek, 20.34 44 P **P 03 04 27.8 -0.1**
baz=251
L27K Beaver Creek, 20.34 44 P **P 03 04 28.4 +0.5**
PCA Pinnacle 20.35 53 P Pn 03 04 30.2 -0.3
PCA IAmb IAmb 03 04 50.7
comp=Z,16nm,0.8s
PINM Pinnacle 20.35 53 P **P 03 04 27.8 -0.4**
baz=260
BCAR Beaver Creek A 20.36 44 P Pn 03 04 31.3 +0.7
TOLK Toolik Lake Re 20.49 25 P **P 03 04 29.6 +0.1**
baz=226,SNR=9.3
TOLK Toolik Lake Re 20.49 25 P Pn 03 04 31.0 -1.0
TOLK IAmb IAmb 03 04 39.7
comp=Z,10nm,0.8s
FYU Fort Yukon 20.53 33 P Pn 03 04 31.0 -1.5
FYU IAmb IAmb 03 04 36.6
comp=Z,11nm,0.7s
K27K Chicken 20.57 41 P **P 03 04 30.7 +0.3**
baz=248
SEY Seymchan 21.07 315 P **P 03 04 36.9 +1.0**
comp=Z,2.5nm,0.5s,baz=143,slow=15,SNR=2.8
MA2 Magadan 21.20 305 LR LR 03 12 15.2
comp=Z,129nm,21.0s,baz=115,slow=35
BMAR Burnt Mountain 21.21 31 P **P 03 04 38.5 +1.1**
EGAK Eagle 21.22 40 P **P 03 04 37.0 -0.3**
baz=247,SNR=31
EGAK Eagle 21.22 40 P **P 03 04 37.5 +0.1**
EGAK IAmb IAmb 03 04 46.3
comp=Z,31nm,0.7s
DAWY Dawson 21.69 42 P **P 03 04 43.4 +0.9**
DAWY IAmb IAmb 03 04 46.0
comp=Z,6.0nm,0.7s
HYT Haines Junctio 21.81 51 P **P 03 04 44.4 +0.5**
EPYK Eagle Plains 23.52 38 P **P 03 05 01.0 -0.4**
baz=250
INK Inuvik 25.35 34 P **P 03 05 17.7 -0.3**
comp=Z,4.1nm,0.7s,baz=222,slow=6.6,SNR=9.6
INK PcP **PcP 03 08 48.7 -0.7**
comp=Z,2.2nm,0.9s,baz=216,slow=3.6,SNR=3.1
INK LR LR 03 16 22.0
comp=Z,81nm,18.2s,baz=224,slow=39
INK Inuvik 25.35 34 P **P 03 05 18.1 0.0**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 25.35 34 P **P 03 05 17.6 -0.4**
baz=249,SNR=7.2
INK Inuvik 25.35 34 P **P 03 05 18.1 0.0**
DLBC Dease Lake 25.53 58 P **P 03 05 20.2 +0.3**
comp=Z,4.5nm,0.7s,baz=275,slow=7.3,SNR=8.0
DLBC LR LR 03 15 26.7
comp=Z,69nm,19.4s,baz=262,slow=36
DLBC Dease Lake 25.53 58 P **P 03 05 19.8 -0.1**
BBB Bella Bella 27.80 71 LR LR 03 14 23.9
comp=Z,74nm,19.0s,baz=312,slow=31
YSS Yuzh-Sakhalins 28.35 278⇓*eP* **P 03 05 46.6 +1.3**
YSS pmax pmax
comp=Z,105nm,1.3s
ASAJ Asahikawa 29.80 273 P **P 03 05 58.9 +0.7**
comp=Z,13nm,0.7s,baz=196,slow=8.4,SNR=4.6
YAK Yakutsk 31.47 311 LR LR 03 19 15.7
comp=Z,141nm,18.6s,baz=89,slow=37
TIXI Tiksi 31.82 330 P **P 03 06 16.4 +0.8**
comp=Z,7.5nm,0.3s,baz=50,slow=3.9,SNR=11
TIXI Tiksi 31.82 330⇓*eP* **P 03 06 16.1 +0.5**
TIXI Tiksi 31.82 330 P **P 03 06 16.1 +0.5**
YKA Yellowknife Ar 32.67 48 P **P 03 06 23.2 0.0**
comp=Z,0.6nm,0.7s,baz=284,slow=11,SNR=5.2
YKA PcP **PcP 03 09 08.3 +0.4**
comp=Z,1.1nm,0.6s,baz=284,slow=2.5,SNR=11
YKA LR LR 03 21 25.4
comp=Z,150nm,19.0s,baz=0.0,slow=40
KLR Kul'dur 34.02 288 P **P 03 06 35.0 -0.2**
comp=Z,2.0nm,0.7s,baz=70,slow=6.7,SNR=6.6
KLR Kul'dur 34.02 288⇑*eP* **P 03 06 34.7 -0.5**
KLR pmax pmax
comp=Z,48nm,3.4s
B08A Colville Reser 34.46 74 P **P 03 06 40.0 +1.0**
B08A IAmb IAmb 03 06 40.5
comp=Z,5.1nm,0.7s
C09A Chrisman Ranch 35.34 74 P **P 03 06 47.0 +0.4**
C09A IAmb IAmb 03 06 47.8
comp=Z,4.0nm,0.7s
H11N2 WAKE ISLAND Hy 35.39 212 T T 03 44 45.5
baz=20,slow=76,SNR=186
H11N3 WAKE ISLAND Hy 35.40 212 T T 03 44 23.5
baz=20,slow=76,SNR=299
H11N1 WAKE ISLAND Hy 35.41 212 T T 03 44 49.6
baz=20,slow=76,SNR=250
YBH Yreka Blue Hor 35.75 86 LR LR 03 18 04.6
comp=Z,65nm,21.8s,baz=316,slow=30
NEW Newport 35.81 73 P **P 03 06 50.4 -0.2**
comp=Z,3.8nm,0.5s,baz=300,slow=8.4,SNR=12
NEW LR LR 03 19 08.7
comp=Z,56nm,19.2s,baz=298,slow=32
NEW Newport 35.81 73 P **P 03 06 51.2 +0.6**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 35.81 73 P **P 03 06 49.7 -1.0**
baz=297,SNR=6.8
NEW Newport 35.81 73 P **P 03 06 51.2 +0.6**
NEW IAmb IAmb 03 07 09.3
comp=Z,5.3nm,0.9s
USRK Ussuriysk Ar. 36.30 280 P **P 03 06 55.1 +0.3**
comp=Z,2.6nm,0.5s,baz=59,slow=8.7,SNR=8.0
USRK Ussuriysk Ar. 36.30 280 P **P 03 06 55.3 +0.6**
USRK Ussuriysk Ar. 36.30 280 P **P 03 06 55.3 +0.6**
I07A Izee 36.45 80 P **P 03 06 57.3 +1.1**
I07A IAmb IAmb 03 07 14.8
comp=Z,5.9nm,1.2s
H11S1 WAKE ISLAND Hy 36.59 212 T T 03 45 55.0
baz=18,slow=76
H11S2 WAKE ISLAND Hy 36.61 212 T T 03 45 56.2
baz=18,slow=76
H11S3 WAKE ISLAND Hy 36.61 212 T T 03 46 00.6
baz=18,slow=76
MAJO Matsushiro 36.91 265⇓*eP* **P 03 07 01.3 +1.2**
MAJO pmax pmax
comp=Z,36nm,3.5s
MJAR Matsushiro Arr 36.91 265 P **P 03 06 57.5 -2.6**
MJAR pmax pmax
comp=Z,23nm,1.2s
MJAR Matsushiro Arr 36.91 265 P **P 03 06 57.5 -2.6**
JTMT Jette 37.74 72 P **P 03 07 07.8 +0.7**
JTMT IAmb IAmb 03 07 15.2
comp=Z,5.8nm,0.9s
MSO Missoula 38.40 73 P **P 03 07 12.2 -0.5**
baz=300
MSO Missoula 38.40 73 P **P 03 07 13.2 +0.6**
MSO IAmb IAmb 03 07 31.0
comp=Z,3.5nm,0.8s
PAHR Pah Rah Range 38.99 86 P **P 03 07 18.7 +1.0**
PAHR IAmb IAmb 03 07 37.1
comp=Z,5.0nm,0.9s
PNTR Pine Nut 39.22 87 P **P 03 07 22.7 +2.9**
PNTR IAmb IAmb 03 07 39.6
comp=Z,14nm,0.7s
HRY Holter Researc 39.70 72 P **P 03 07 24.4 +0.9**
BCYI Bear Canyon 40.03 76 P **P 03 07 28.3 +1.9**
MCMT McKenzie Canyo 40.09 75 P **P 03 07 27.3 +0.4**
EGMT Eagleton 40.25 69 P **P 03 07 27.7 -0.4**
baz=300
BOZ Bozeman (W) 40.41 73 P **P 03 07 29.7 +0.3**
BOZ pmax pmax
comp=Z,5.0nm,0.7s
BOZ Bozeman (W) 40.41 73 P **P 03 07 28.1 -1.4**
baz=302,SNR=12
BOZ Bozeman (W) 40.41 73 P **P 03 07 29.7 +0.3**
BOZ IAmb IAmb 03 07 30.3
comp=Z,4.5nm,0.7s
NVAR Mina Array Bea 40.43 87 P **P 03 07 29.7 -0.1**
comp=Z,0.6nm,0.4s,baz=309,slow=5.7,SNR=3.3
NVAR LR LR 03 20 32.9
comp=Z,43nm,21.6s,baz=286,slow=31
NVAR Mina Array Bea 40.43 87 P **P 03 07 30.9 +1.1**
ELK Elko 40.93 82 P **P 03 07 37.3 +3.4**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 40.93 82 P **P 03 07 37.3 +3.4**
YHB Horse Butte 41.12 74 P **P 03 07 38.4 +3.0**
YHB IAmb IAmb 03 07 51.5
comp=Z,5.9nm,1.1s
YHH Holmes Hill 41.30 74 P **P 03 07 37.4 +0.4**
YHH IAmb IAmb 03 07 38.0
comp=Z,5.4nm,0.6s
FFC Flin Flon 41.35 57 P **P 03 07 37.2 +0.3**
FFC pmax pmax
comp=Z,5.0nm,0.7s
FFC Flin Flon 41.35 57 P **P 03 07 37.2 +0.3**
FFC IAmb IAmb 03 07 37.5
comp=Z,5.4nm,0.7s
H17A Grant Village 41.69 74 P **P 03 07 40.7 +0.5**
baz=303
YNE Yellowstone No 41.69 73 P **P 03 07 40.9 +0.7**
RLMT Red Lodge 42.06 73 P **P 03 07 42.8 -0.3**
baz=303,SNR=7.0
RLMT Red Lodge 42.06 73 P **P 03 07 44.0 +0.9**
RLMT IAmb IAmb 03 08 02.5
comp=Z,9.2nm,1.1s
KSRS Korea Array 42.72 274 P **P 03 07 50.0 +1.8**
comp=Z,5.6nm,0.7s,baz=56,slow=7.7,SNR=20
KSRS PcP **PcP 03 09 38.9 -0.3**
comp=Z,1.1nm,0.6s,baz=57,slow=4.5,SNR=2.6
KSRS LR LR 03 22 59.5
comp=Z,62nm,20.9s,baz=95,slow=32
DUG Dugway, Tooele 42.75 81 P **P 03 07 52.3 +3.6**
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 42.75 81 P **P 03 07 48.9 +0.3**
baz=307
DUG Dugway, Tooele 42.75 81 P **P 03 07 52.3 +3.6**
DUG IAmb IAmb 03 08 06.0
comp=Z,4.0nm,0.8s
PSUT Pine Spring 43.12 83 P P 03 07 56.8 +5.1
PSUT IAmb IAmb 03 08 17.1
comp=Z,4.3nm,0.9s
BW06 Boulder Array 43.22 76 P **P 03 07 51.7 -0.8**
baz=305,SNR=8.9
BW06 Boulder Array 43.22 76 P **P 03 07 52.9 +0.3**
BW06 IAmb IAmb 03 07 53.4
comp=Z,4.3nm,0.7s
PD31 Pinedale Array 43.22 76 P **P 03 07 53.0 +0.4**
PD31 IAmb IAmb 03 07 53.4
comp=Z,3.6nm,0.8s
PDAR Pinedale Array 43.22 76 P **P 03 07 52.6 +0.1**
comp=Z,3.8nm,0.6s,baz=304,slow=4.1,SNR=40
PDAR Pinedale Array 43.22 76 P **P 03 07 52.8 +0.3**
JNU Nakatsue 43.70 267 P **P 03 07 58.1 +1.9**
comp=Z,9.9nm,1.0s,baz=33,slow=17,SNR=3.9
TJN Taejon 43.74 273⇓*eP* **P 03 07 58.0 +1.5**
PFO Pinyon Flats O 44.66 91 LR LR 03 23 54.8
comp=Z,44nm,18.3s,baz=265,slow=32
SRU San Rafael Swe 44.81 81 P **P 03 08 06.4 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 44.81 81 P **P 03 08 06.4 +1.1**
SRU IAmb IAmb 03 08 23.3
comp=Z,6.6nm,0.8s
O20A White River Ci 45.57 78 P **P 03 08 10.3 -1.0**
baz=308,SNR=6.5
O20A White River Ci 45.57 78 P **P 03 08 11.6 +0.2**
O20A IAmb IAmb 03 08 31.3
comp=Z,8.2nm,0.9s
MDND Maddock 46.13 64 P **P 03 08 15.5 +0.1**
baz=304
PV04 Paradox Valley 46.24 80 P **P 03 08 17.6 +0.9**
PV04 IAmb IAmb 03 08 33.3
comp=Z,7.9nm,1.0s
PV17 East Wray Mesa 46.28 80 P **P 03 08 17.5 +0.5**
PV17 IAmb IAmb 03 08 34.0
comp=Z,6.8nm,0.6s
PV11 David Mesa, Pa 46.32 80 P **P 03 08 18.0 +0.7**
PV13 Radium Mtn., P 46.44 80 P **P 03 08 18.8 +0.6**
ULM Lac du Bonnet 46.83 59 P **P 03 08 20.4 -0.4**
comp=Z,3.2nm,0.7s,baz=293,slow=8.3,SNR=3.9
ULM Lac du Bonnet 46.83 59 IAmb IAmb 03 08 46.0
comp=Z,14nm,1.5s
SMCO Snowmass 46.93 78 P **P 03 08 22.1 -0.1**
AGMN Agassiz Nation 47.94 62 P **P 03 08 28.7 -0.8**
baz=305
TLY Talaya 48.42 304 P **P 03 08 34.4 +1.3**
comp=Z,1.1nm,0.4s,baz=32,slow=9.9,SNR=3.3
TLY Talaya 48.42 304⇑*eP* **P 03 08 33.3 +0.1**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 48.42 304 P **P 03 08 34.0 +0.8**
TLY IAmb IAmb 03 08 35.8
comp=Z,7.8nm,1.4s
SDCO Great Sand Dun 48.73 79 P **P 03 08 34.6 -1.5**
baz=310
SONM Songino Array 49.19 299 P **P 03 08 39.5 +0.3**
comp=Z,1.3nm,0.6s,baz=53,slow=7.6,SNR=9.9
SONM PcP **PcP 03 10 01.6 -0.2**
comp=Z,0.7nm,0.7s,baz=71,slow=2.9,SNR=4.6
SONM LR LR 03 31 43.1
comp=Z,92nm,18.8s,baz=58,slow=39
SONM Songino Array 49.19 299 *eP* **P 03 08 40.4 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 49.19 299 P **P 03 08 39.9 +0.6**
T25A Trinidad 49.79 78 P **P 03 08 43.9 -0.1**
baz=310
ANMO Albuquerque 49.97 82 LR LR 03 29 47.5
comp=Z,32nm,19.2s,baz=304,slow=36
ANMO Albuquerque 49.97 82*ceP* **P 03 08 49.5 +4.1**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
ECSD EROS Data Cent 50.24 67 P **P 03 08 46.3 -0.9**
baz=308
ECSD EROS Data Cent 50.24 67 **P 03 08 47.7 +0.5**
ECSD IAmb IAmb 03 09 09.9
comp=Z,7.2nm,1.4s
BNM Barren Site 50.39 83 P **P 03 08 50.7 +2.0**
EYMN Ely 50.51 60 P **P 03 08 49.8 +0.6**
EYMN IAmb IAmb 03 09 04.1
comp=Z,12nm,1.2s
HHC Hu-ho-hao-te 50.52 289 *eP* **P 03 08 50.9 +1.5**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,270nm,6.2s
NJ2 Nanjing 51.88 275 *eP* **P 03 08 59.6 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MNTX Cornudas Mount 52.82 84 P **P 03 09 05.8 -0.8**
baz=313
G40A Rib Lake 52.87 62 P **P 03 09 06.3 -0.4**
G40A IAmb IAmb 03 09 14.2
comp=Z,10.0nm,1.1s
MSTX Muleshoe 52.88 80 P **P 03 09 06.0 -1.1**
baz=312
COWI Conover 52.92 60 P **P 03 09 06.4 -0.7**
COWI IAmb IAmb 03 09 22.1
comp=Z,9.2nm,1.1s
E43A Lone Tree Farm 53.89 59 P **P 03 09 14.1 -0.1**
WMOK Wichita Mounta 54.79 77 P **P 03 09 20.4 -0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 54.79 77 P **P 03 09 20.5 -0.5**
baz=313
WMOK Wichita Mounta 54.79 77 P **P 03 09 20.4 -0.6**
WMOK IAmb IAmb 03 09 38.1
comp=Z,4.7nm,0.9s
LPIG La Paz 55.16 95 LR LR 03 27 24.6
comp=Z,38nm,21.9s,baz=192,slow=30
TX31 Lajitas Ar. Si 55.53 85 P **P 03 09 25.9 -0.6**
TX32 Lajitas Array 55.53 85 P **P 03 09 25.7 -0.7**
TX32 IAmb IAmb 03 09 43.6
comp=Z,6.2nm,0.9s
TXAR Lajitas Array 55.53 85 P **P 03 09 25.9 -0.5**
comp=Z,1.5nm,0.9s,baz=292,slow=4.5,SNR=11
TXAR Lajitas Array 55.53 85 P **P 03 09 26.0 -0.5**
P40A Paris 55.56 68 P **P 03 09 28.3 +1.9**
ABTX Abilene, Hawle 55.71 79 P **P 03 09 27.1 -0.6**
baz=314
ZALV Zalesovo Beam 55.94 316 PcP **PcP 03 10 27.6 +0.7**
comp=Z,2.2nm,0.5s,baz=37,slow=3.4,SNR=8.8
R40A Maddies Statio 56.26 69 P **P 03 09 29.6 -1.8**
R40A IAmb IAmb 03 09 46.2
comp=Z,5.1nm,0.6s
XAN Xi'an 56.59 284 P **P 03 09 34.9 +1.0**
XAN pP pP 03 09 47.0 +0.7
XAN sP sP 03 09 52.8 +1.4
XAN pmax pmax
comp=Z,6.0nm,1.3s
X37A Clayton 56.95 75 P **P 03 09 36.0 -0.3**
X37A IAmb IAmb 03 09 53.4
comp=Z,6.6nm,0.8s
U40A Yellville 57.23 71 P **P 03 09 37.2 -1.3**
baz=313
U40A Yellville 57.23 71 P **P 03 09 37.1 -1.3**
U40A IAmb IAmb 03 09 44.0
comp=Z,9.0nm,1.4s
W39A Magazine 57.48 73 P **P 03 09 38.9 -1.2**
baz=313
DGZ Jazzator, Alta 57.66 311⇑*eP* **P 03 09 41.1 -0.3**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
KEV Kevo 57.80 352 P **P 03 09 42.6 +0.8**
KEV pmax pmax
comp=Z,26nm,1.4s
KEV Kevo 57.80 352 P **P 03 09 42.6 +0.8**
CHGQ Chibougamau 57.86 49 P **P 03 09 41.0 -1.6**
baz=314
FCAR Ozark Folk Cen 57.98 71 P **P 03 09 42.2 -1.4**
FCAR IAmb IAmb 03 09 59.0
comp=Z,8.2nm,1.0s
MIAR Mount Ida 58.05 73 P **P 03 09 44.2 +0.1**
MIAR pmax pmax
comp=Z,10.0nm,0.9s
MIAR Mount Ida 58.05 73 P **P 03 09 43.2 -0.9**
baz=314,SNR=5.9
MIAR Mount Ida 58.05 73 P **P 03 09 44.2 +0.1**
ARCES ARCESS Array B 58.15 352 P **P 03 09 44.3 0.0**
comp=Z,1.5nm,0.6s,baz=27,slow=6.1,SNR=7.8
ARCES PcP **PcP 03 10 35.5 0.0**
comp=Z,1.6nm,0.6s,baz=359,slow=4.4,SNR=6.9
ARCES LR LR 03 34 39.5
comp=Z,37nm,21.6s,baz=20,slow=36
ARCES ARCESS Array B 58.15 352 P **P 03 09 44.5 +0.2**
ARCES IAmb IAmb 03 10 05.1
comp=Z,11nm,1.4s
LZH Lanzhou 58.21 289 *eP* **P 03 09 45.3 -0.1**
LZH pP sP 03 10 02.9 0.0
LZH sP pP 03 10 12.0 +14
LZH pmax pmax
comp=Z,17nm,1.1s
WHAR Wooly Hollow 58.30 72 P **P 03 09 45.8 0.0**
WHAR IAmb IAmb 03 10 05.2
comp=Z,8.3nm,1.2s
W41B Gary Mavity, V 58.40 72 P **P 03 09 45.3 -1.3**
baz=314
ALGO Algonquin Park 58.80 54 P **P 03 09 47.8 -1.4**
baz=314
SADO Sadowa 59.07 56 P **P 03 09 51.1 +0.1**
PLVO Plevna 59.94 54 P **P 03 09 57.1 0.0**
DELO Deloro Mine 60.02 55 P **P 03 09 58.0 +0.3**
OXF Oxford 60.53 71 P **P 03 10 00.6 -0.7**
baz=315
PECO Prince Edward 60.76 55 P **P 03 10 03.0 +0.4**
M54A Oil Creek Stat 61.08 59 P **P 03 10 01.8 -3.1**
baz=315
H57A Richville 61.19 54 P **P 03 10 04.9 -0.7**
baz=315
N54A Moraine State 61.29 59 P **P 03 10 04.1 -2.3**
baz=315
J56A Wolcott 61.29 56 P **P 03 10 06.7 +0.4**
I57A Carthage 61.43 55 P **P 03 10 06.4 -0.8**
baz=316
K56A Middlesex 61.46 56 P **P 03 10 06.4 -1.1**
baz=315
LONY Lake Ozonia 61.48 53 P **P 03 10 06.6 -1.0**
baz=316
LONY Lake Ozonia 61.48 53 P **P 03 10 06.8 -0.7**
LONY IAmb IAmb 03 10 07.3
comp=Z,5.7nm,0.8s
D60A Saint Jean D'O 61.60 49 P **P 03 10 05.9 -2.4**
baz=316
J57A Williamstown 61.64 55 P **P 03 10 09.0 +0.4**
J57A IAmb IAmb 03 10 19.1
comp=Z,7.1nm,0.8s
WMQ Urumqi 61.66 306 *eP* **P 03 10 11.0 +2.1**
D61A St Aubert, Com 61.74 49 P **P 03 10 06.8 -2.4**
baz=317
L56A Greenwood 61.74 57 P **P 03 10 09.8 +0.4**
E60A Ste Agathe de 61.75 50 P **P 03 10 07.3 -2.0**
baz=316
H58A Gabriels 61.83 53 P **P 03 10 08.9 -1.0**
baz=316
K57A Scipio Center 61.86 56 P **P 03 10 10.9 +0.8**
CD2 Chengdu 61.89 285 P **P 03 10 10.6 0.0**
CD2 pmax pmax
comp=Z,20nm,1.0s
H59A Cadyville 61.91 53 P **P 03 10 09.7 -0.7**
baz=316
I58A Old Forge 61.95 54 P **P 03 10 09.9 -0.9**
baz=316
J58A Remsen 62.03 55 P **P 03 10 10.4 -1.0**
baz=316
J58A Remsen 62.03 55 P **P 03 10 11.5 +0.1**
MK31 Makanchi Array 62.15 311⇓*eP* **P 03 10 11.4 -0.6**
MKAR Makanchi Array 62.15 311 P **P 03 10 11.3 -0.7**
comp=Z,0.4nm,0.3s,baz=47,slow=7.0,SNR=17
MKAR PcP **PcP 03 10 52.3 +0.5**
comp=Z,0.8nm,0.5s,baz=52,slow=4.3,SNR=4.1
MKAR Makanchi Array 62.15 311 *eP* **P 03 10 11.8 -0.2**
MKAR Makanchi Array 62.15 311 P **P 03 10 12.2 +0.2**
F61A St Evariste 62.26 50 P **P 03 10 12.0 -0.8**
baz=317
D62A Allapoint, All 62.36 48 P **P 03 10 12.3 -1.1**
baz=317
D62A Allapoint, All 62.36 48 P **P 03 10 13.2 -0.2**
D62A IAmb IAmb 03 10 13.2
comp=Z,4.9nm,0.8s
I59A Olmsteadville 62.43 54 P **P 03 10 13.0 -1.0**
baz=316
TZTN Tazewell 62.47 65 P **P 03 10 13.4 -0.9**
baz=316
E62A Clayton Lake 62.48 49 P **P 03 10 14.7 +0.5**
BINY Binghamton 62.51 56 P **P 03 10 13.4 -1.2**
baz=316
BINY Binghamton 62.51 56 P **P 03 10 15.4 +0.9**
BRVK Borovoye 62.53 322⇓*eP* **P 03 10 15.0 +0.6**
BRVK pmax pmax
comp=Z,8.0nm,2.5s
O56A Blue Knob Stat 62.54 59 P **P 03 10 13.6 -1.2**
baz=316
O56A Blue Knob Stat 62.54 59 P **P 03 10 14.3 -0.5**
O56A IAmb IAmb 03 10 30.8
comp=Z,9.2nm,1.1s

PRGR Permogore 62.63 340 *e*P P 03 10 09.7 -5.2
PRGR *e* 03 10 52.7
PRGR pmax pmax
comp=Z,2.0nm,0.6s
SSPA Standing Stone 62.64 58 P **P 03 10 14.5 -0.9**
baz=316
SSPA Standing Stone 62.64 58 P **P 03 10 15.4 0.0**
SSPA IAmb IAmb 03 10 16.8
comp=Z,6.0nm,0.7s
L58A Harry Jones Me 62.69 56 P **P 03 10 15.2 -0.5**
baz=316,SNR=6.1
FPAL Fort Paine 62.72 68 P **P 03 10 15.0 -1.0**
F62A Pittston Farm, 62.80 50 P **P 03 10 15.6 -0.8**
baz=317
L59A Walton 63.00 56 P **P 03 10 18.1 +0.3**
G62A West of Eustis 63.03 51 P **P 03 10 17.0 -0.9**
baz=317
G62A West of Eustis 63.03 51 P **P 03 10 17.8 -0.1**
G62A IAmb IAmb 03 10 43.8
comp=Z,9.0nm,1.0s
J60A Lant Hill Farm 63.06 54 P **P 03 10 17.4 -0.7**
baz=317
LBNH Lisbon 63.07 52 P **P 03 10 17.2 -1.0**
baz=317
E63A Oxbow 63.13 48 P **P 03 10 17.6 -1.0**
baz=318
I61A Oroboro, Fairl 63.16 52 P **P 03 10 17.4 -1.4**
baz=317
H62A Milan 63.20 51 P **P 03 10 18.1 -1.0**
baz=317
H62A Milan 63.20 51 P **P 03 10 18.7 -0.4**
GYA Guiyang 63.33 279 ⇓P **P 03 10 21.3 +1.0**
GYA pmax pmax
comp=Z,4.0nm,1.0s
F63A Nahmakanta, Br 63.35 49 P **P 03 10 19.0 -1.0**
baz=318
E64A Bridgewater 63.41 48 P **P 03 10 19.4 -1.0**
baz=318
J61A Chester 63.41 53 P **P 03 10 19.2 -1.3**
baz=317
G63A Kingsbury 63.54 50 P **P 03 10 19.5 -1.8**
baz=318
N59A State Game Lan 63.55 57 P **P 03 10 20.2 -1.3**
baz=316
F64A Sherman 63.58 49 P **P 03 10 20.5 -1.1**
baz=318
F64A Sherman 63.58 49 P **P 03 10 21.1 -0.4**
F64A IAmb IAmb 03 10 21.4
comp=Z,4.8nm,0.8s
PKME Peaks-Kenny Pk 63.59 50 P **P 03 10 20.6 -0.9**
baz=318
ARU Arti 63.82 331*c i*P **P 03 10 23.0 +0.1**
ARU *PP **pP 03 10 36.7 +1.1**
ARU S **S 03 18 55.4 +1.0**
ARU SS **SS 03 23 01.0 -0.9**
ARU pmax pmax
comp=Z,5.0nm,0.8s
I63A Otisfield 63.87 51 P **P 03 10 22.7 -0.7**
baz=318
LUPA Lehigh Univers 63.99 57 P **P 03 10 24.7 +0.4**
K62A Royalston 64.07 53 P **P 03 10 24.9 0.0**
H64A Troy 64.08 50 P **P 03 10 24.1 -0.7**
baz=318
K63A Dunstable 64.41 53 P **P 03 10 26.2 -0.8**
baz=318
KIRV Kirov 64.48 337*ce*P **P 03 10 27.1 -0.1**
H65A Eastbrook 64.50 50 P **P 03 10 26.7 -0.8**
baz=318
R58B Mineral 64.58 61 P **P 03 10 29.3 +1.1**
KMSC Kings Mountain 64.72 65 P **P 03 10 28.4 -0.8**
baz=317
GOGA Godfrey 64.77 68 P **P 03 10 28.8 -0.7**
baz=317
JSRW J. Sargeant Re 64.78 61 P **P 03 10 30.5 +1.0**
LMN Caledonia Moun 65.22 47 P **P 03 10 31.7 -0.5**
LMN IAmb IAmb 03 10 55.5
comp=Z,7.9nm,0.9s
FINES FINESS Array B 65.99 350 P **P 03 10 36.5 -0.4**
comp=Z,0.9nm,0.4s,baz=26,slow=7.3,SNR=8.5
FINES PcP **PcP 03 11 07.8 +0.5**
comp=Z,0.6nm,0.6s,baz=15,slow=5.8,SNR=3.8
FINES FINESS Array B 65.99 350 *e*P **P 03 10 36.3 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
KMI Kunming 66.71 281 ⇑P **P 03 10 43.3 +0.9**
KMI pmax pmax
comp=Z,16nm,1.0s
NC303 NORSAR Array S 67.25 357 P **P 03 10 45.2 +0.2**
NC303 IAmb IAmb 03 10 54.4
comp=Z,10nm,1.5s
NOA NORSAR Array B 67.44 357 P **P 03 10 46.0 -0.2**
comp=Z,0.1nm,0.3s,baz=17,slow=6.5,SNR=1.5
NOA LR LR 03 40 58.8
comp=Z,16nm,19.8s,baz=315,slow=36
BOOM Boomskoye usch 68.36 312 P **P 03 10 53.8 +1.3**
BOOM pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 68.36 312 P **P 03 10 53.8 +1.3**
BOOM IAmb IAmb 03 10 55.4
comp=Z,2.4nm,0.7s
VSU Vasula 68.82 349⇓*e*P **P 03 10 54.7 -0.2**
VSU pmax pmax
comp=Z,26nm,1.3s
AAK Ala-Archa 68.91 313⇑*e*P **P 03 10 55.4 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 69.41 326 P **P 03 10 59.0 +0.4**
ABKAR IAmb IAmb 03 11 00.4
comp=Z,2.6nm,0.8s
KKAR Karatay Array 70.32 315 P **P 03 11 04.8 +0.4**
KKAR Karatay Array 70.32 315 P **P 03 11 04.8 +0.4**
PPT2 Papeete2 72.27 156 *e*LR LR 03 33 23.9
comp=Z,73nm,24.5s
PPT2 Papeete2 72.27 156 *e*T T 04 30 10.4
comp=Z,2.2nm,0.3s
LPSR Galich'ya Gora 72.38 340 *e*P **P 03 11 15.8 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MNK Minsk 72.53 347 *i* P **P 03 11 14.2 -3.3**
MNK *i* *PP **pP 03 11 28.4 -1.9**
MNK *i* 03 11 31.7
MNK *i* 03 13 55.1
MNK *i* PPP PPP 03 15 39.2
MNK *i* S **S 03 20 33.5 -4.7**
MNK *i* SS **SS 03 25 13.6 -2.6**
MNK *i* SSS SSS 03 28 33.9
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,23nm,14.0s
MNK MLR MLR
comp=E,8.0nm,21.0s
MNK Minsk 72.53 347 *i* P **P 03 11 14.2 -3.3**
comp=E,2.0nm,0.9s
MNK *i* P **P 03 11 14.2 -3.3**
comp=N,12nm,0.7s
MNK *i* P **P 03 11 14.2 -3.3**
comp=Z,5.0nm,0.9s,baz=193
MNK *i* pP **pP 03 11 28.5 -1.9**
MNK *i* PcP **sP 03 11 31.8 -3.5**
MNK *i* PP **PP 03 13 55.1 -3.2**
MNK *i* PPP PPP 03 15 39.3
MNK *i* S **S 03 20 33.5 -4.7**
MNK *i* sS **sS 03 20 58.5 -1.1**
MNK *i* SS **SS 03 25 13.7 -2.5**
MNK *i* SSS SSS 03 28 33.9
MNK *i* LQ LQ 03 38 10.8
MNK *i* LR LR 03 43 41.1
MNK *i* LRM MLR 03 46 16.0
MNK *i* LRM MLR 03 46 33.4
comp=E,8.0nm,21.0s
MNK *i* LRM MLR 03 46 36.3
comp=N,69nm,28.2s
VRH Novokhopyorsk 73.05 338 *e*P **P 03 11 19.7 -0.9**
VRH pmax pmax
comp=Z,7.0nm,0.6s
KLNR Kaliningrad 73.32 352⇓*e*P **P 03 11 23.3 +1.2**
VSR Storozhevoye 73.63 339 *e*P **P 03 11 23.9 -0.1**
VSR pmax pmax
comp=Z,9.0nm,0.5s
VORD Divnogorie 73.83 339 *e*P **P 03 11 25.2 0.0**
VORD pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 74.03 280 P **P 03 11 25.9 -0.9**
comp=Z,0.7nm,0.4s,baz=24,slow=6.7,SNR=5.9
CMAR Chiang Mai Arr 74.03 280 *e*P **P 03 11 27.8 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 74.03 280 P **P 03 11 27.3 +0.4**
AKASG Malin Array Be 76.02 345 P **P 03 11 36.9 -0.9**
comp=Z,0.9nm,0.3s,baz=17,slow=5.9,SNR=4.6
AKASG LR LR 03 48 58.6
comp=Z,38nm,21.0s,baz=350,slow=39
AKASG Malin Array Be 76.02 345 *e*P **P 03 11 37.0 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
CLL Collm 77.10 356 *e*P **P 03 11 46.0 +2.0**
TBI Tubuai 77.82 157 *e*T T 04 37 06.2
comp=Z,4.5nm,0.3s
DPC Dobruska-Polom 77.86 353 *e*P **P 03 11 48.8 +0.5**
DPC Dobruska-Polom 77.86 353 *e*P **P 03 11 48.8 +0.5**
KRLC Kraliky 78.10 353 *e*P **P 03 11 50.0 +0.4**
KRLC Kraliky 78.10 353 *e*P **P 03 11 50.0 +0.4**
NKC Novy Kostel 78.20 356 *e*P **P 03 11 50.9 +0.7**
NKC Novy Kostel 78.20 356 *e*P **P 03 11 50.9 +0.7**
PRU Pruhonice 78.34 354 *e*P **P 03 11 51.2 +0.3**
PRU Pruhonice 78.34 354 *e*P **P 03 11 51.2 +0.3**
KOLS Kolonicke sedl 78.70 349 *e*P **P 03 11 52.3 -0.7**
KOLS Kolonicke sedl 78.70 349 *e*P **P 03 11 52.3 -0.7**
WLF Walferdange 78.91 0 *d*P **P 03 11 52.3 -1.8**
KHC Kasperske Hory 79.25 355 *e*P **P 03 11 55.0 -1.0**
KHC Kasperske Hory 79.25 355 *e*P **P 03 11 55.0 -1.0**
GERES GERESS Array B 79.53 355 P **P 03 11 57.8 +0.3**
comp=Z,0.9nm,0.7s,baz=20,slow=4.3,SNR=7.9
KIV Kislovodsk 79.53 334 *e*P **P 03 11 58.0 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
BUR08 Bucovina Ar. S 79.60 347 P **P 03 11 58.2 +0.3**
BURAR Bucovina Array 79.62 347 P **P 03 11 58.7 +0.6**
BURAR pmax pmax
comp=Z,1.0nm,0.7s
BURAR Bucovina Array 79.62 347 P **P 03 11 58.7 +0.6**
KBZ Khabaz 79.68 334 P **P 03 11 58.3 0.0**
comp=Z,2.2nm,0.8s,baz=8.5,slow=4.3,SNR=5.5
KBZ Khabaz 79.68 334 *e*P **P 03 11 59.1 +0.8**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
NCK Nalchik 79.70 333⇓*e*P **P 03 11 58.6 +0.1**
NCK pmax pmax
comp=Z,6.0nm,0.3s
GEYT Alibeck 79.80 321 P **P 03 11 59.4 +0.3**
comp=Z,1.3nm,0.4s,baz=46,slow=8.3,SNR=2.7
MTN Manton Dam 79.98 234 P **P 03 12 00.2 0.0**
DAVOX Davos/Dischmat 81.75 357 LR LR 03 46 48.7
comp=Z,24nm,21.1s,baz=67,slow=34
TIRR Tirgusor 82.21 344 P **P 03 12 12.6 +0.8**
TIRR pmax pmax
comp=Z,19nm,1.0s
TIRR Tirgusor 82.21 344 P **P 03 12 12.6 +0.8**
GNI Garni 82.45 331 LR LR 03 55 55.7
comp=Z,13nm,18.8s,baz=1.0,slow=41
WB0 Warramunga Arr 84.36 228 P **P 03 12 22.1 -0.9**
WB0 IAmb IAmb 03 12 29.7
comp=Z,4.8nm,1.1s
WR0 Warramunga Arr 84.46 228 P **P 03 12 22.5 -1.0**
WB2 Warramunga Arr 84.53 228 P **P 03 12 23.3 -0.6**
WRA Warramunga Arr 84.53 228 P **P 03 12 22.3 -1.6**
comp=Z,1.0nm,0.5s,baz=31,slow=5.6,SNR=12
WRA Warramunga Arr 84.53 228 *e*P **P 03 12 23.4 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA Warramunga Arr 84.53 228 P **P 03 12 22.6 -1.3**
BRTR Keskin Array B 85.75 339 P **P 03 12 31.1 +1.0**
comp=Z,0.9nm,0.7s,baz=66,slow=3.0,SNR=5.3
ASAR Alice Springs 87.96 227 P **P 03 12 40.8 +0.1**
comp=Z,2.0nm,0.7s,baz=26,slow=4.4,SNR=19
ESDC Sonseca Array 88.47 8 P **P 03 12 42.8 -0.3**
comp=Z,0.6nm,0.8s,baz=342,slow=5.0,SNR=3.8
STKA Stephens Creek 92.04 217 P **P 03 12 59.9 +0.3**
comp=Z,2.6nm,0.7s,baz=325,slow=0.3,SNR=3.3
TORD Torodi Ar. Bea 115.21 5 PKP **PKiKP 03 18 31.2 -1.2**
comp=Z,0.3nm,0.6s,baz=349,slow=3.0,SNR=1.4
H03N2 Juan Fernandez 118.31 109 T T 05 28 29.2
baz=317,slow=77,SNR=20
H03N1 Juan Fernandez 118.33 109 T T 05 28 28.6
baz=317,slow=77,SNR=20
H03N3 Juan Fernandez 118.33 109 T T 05 28 27.8
baz=317,slow=77,SNR=19
VNDA Vanda 129.94 187 PKIKP **PKiKP 03 19 00.0 +0.6**
VNDA Vanda 129.94 187 PKPdf **PKiKP 03 19 00.0 +0.6**
MAW Mawson 148.72 218 PKPbc **PKPbc 03 19 37.1 +0.5**
comp=Z,3.0nm,0.7s,baz=105,slow=4.1,SNR=12
MAW Mawson 148.72 218 PKP2 **PKPbc 03 19 36.7 +0.1**
MAW Mawson 148.72 218 **PKPbc 03 19 36.6 +0.1**
LBTB Lobatse 149.42 324 PKP2 **PKiKP 03 19 40.6 -0.4**
LBTB Lobatse 149.42 324 **PKiKP 03 19 40.6 -0.4**
BOSA Boshof 152.79 321 PKPbc **PKiKP 03 19 47.9 0.0**
comp=Z,1.2nm,0.4s,baz=62,slow=2.2,SNR=9.6
BOSA Boshof 152.79 321 PKIKP **PKPbc 03 19 47.6 -0.6**
BOSA Boshof 152.79 321 **PKPbc 03 19 47.6 -0.1**

*IDC **15** 03:09:46.2±0.7, 21°.42N×144°.21E, h0km, mb3.9/17, mb1 4.1/17, mb1mx3.9/54, mbtmp3.9/17, Error ellipse: s-maj=24.5km s-min=17.2km az=80.0*
*NEIC **15** 03:09:58.4±1.4, 21°.36N±0°.09×144°.2E±0°.2, h97km±9km, mb4.1/7, Error ellipse: s-maj=27.9km s-min=11.5km az=72.0*

ISC 15 03:09:58.3±0.7, 21°.4N±0°.1×144°.1E±0°.2, h100km, n39, σ0°77/33, mb3.9/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Rivera Array**	**21.27**	**322**	P	**P**	**03 14 36.2**	**-0.3**
	1.4nm,0.7s,baz=152,slow=8.4,SNR=3.2						
H11N1	**WAKE ISLAND Hy 21.44**	**90**		T	T	03 36 33.4	
	baz=278,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy 21.44**	**90**		T	T	03 36 35.6	
	baz=278,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy 21.45**	**90**		T	T	03 36 34.4	
	baz=278,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hy 21.46**	**94**		T	T	03 36 37.5	
	baz=281,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy 21.47**	**94**		T	T	03 36 37.5	
	baz=281,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy 21.48**	**94**		T	T	03 36 35.8	
	baz=281,slow=75,SNR=36						
KLR	**Kul'dur**	**29.48**	**343**	P	**P**	**03 15 52.4**	**-0.4**
	1.8nm,0.4s,baz=123,slow=8.2,SNR=8.1						
SONM	**Songino Array**	**40.11**	**320**	P	**P**	**03 17 25.2**	**+0.8**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=1.9						
SONM	**Songino Array**	**40.11**	**320**	P	**P**	**03 17 22.3**	**-2.0**
SONM				IAmb	IAmb	03 17 36.4	
	comp=Z,0.6nm,1.0s						
WB0	**Warramunga Arr**	**41.96**	**194**	P	**P**	**03 17 39.8**	**+0.2**
WB0				IAmb	IAmb	03 17 43.6	
	comp=Z,7.8nm,1.4s						
WR0	**Warramunga Arr**	**42.12**	**193**	P	**P**	**03 17 40.8**	**0.0**
WR0				IAmb	IAmb	03 17 48.0	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**42.14**	**194**	P	**P**	**03 17 40.6**	**-0.4**
WRA	**Warramunga Arr**	**42.14**	**194**	P	**P**	**03 17 41.5**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=14,slow=8.7,SNR=20						
WRA	**Warramunga Arr**	**42.14**	**194**	P	**P**	**03 17 39.8**	**-1.2**
ASAR	**Alice Springs**	**45.84**	**193**	P	**P**	**03 18 10.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=16,slow=8.9,SNR=15						
ASAR	**Alice Springs**	**45.84**	**193**	P	**P**	**03 18 09.1**	**-1.5**
ZALV	**Zalesovo Beam**	**54.98**	**322**	P	**P**	**03 19 18.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**54.98**	**322**	P	**P**	**03 19 19.7**	**+0.7**
MK31	**Makanchi Array**	**55.52**	**313**	P	**P**	**03 19 23.0**	**-0.1**
MK31				IAmb	IAmb	03 19 24.8	
	comp=Z,1.5nm,1.0s						
MKAR	**Makanchi Array**	**55.52**	**313**	P	**P**	**03 19 24.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=11,SNR=4.3						
KURK	**Kurchatov**	**58.27**	**317**	P	**P**	**03 19 43.5**	**+1.1**
KURBB	**Kurchatov Arra**	**58.32**	**317**	P	**P**	**03 19 43.5**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=94,slow=7.6,SNR=24						
ILAR	**Eielson Array**	**61.96**	**27**	P	**P**	**03 20 06.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=254,slow=5.4,SNR=4.6						
ILAR	**Eielson Array**	**61.96**	**27**	P	**P**	**03 20 06.3**	**-1.0**
SCRK	**Sand Creek**	**63.10**	**28**	P	**P**	**03 20 15.5**	**+0.4**
SCRK				IAmb	IAmb	03 20 23.8	
	comp=Z,2.4nm,0.9s						
BVAR	**Borovoye Array**	**63.45**	**320**	P	**P**	**03 20 17.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=175,slow=18,SNR=5.6						
INK	**Inuvik**	**67.54**	**24**	P	**P**	**03 20 43.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=157,slow=1.7,SNR=2.0						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**03 21 36.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=295,slow=4.3,SNR=1.9						
ARCES	**ARCESS Array B**	**79.49**	**342**	P	**P**	**03 21 53.5**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=64,slow=10,SNR=2.6						
NVAR	**Mina-Array Bea**	**82.70**	**52**	P	**P**	**03 22 12.6**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=300,slow=4.1,SNR=5.2						
NVAR	**Mina Array Bea**	**82.70**	**52**	P	**P**	**03 22 11.1**	**-0.4**
KBZ	**Khabaz**	**83.19**	**314**	P	**P**	**03 22 14.8**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=120,slow=4.4,SNR=5.5						
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**03 22 16.1**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=90,slow=5.7,SNR=7.2						
FINES	**FINESS Array B**	**83.83**	**335**	P	**P**	**03 22 15.7**	**-0.8**
PDAR	**Pinedale Array**	**87.05**	**45**	P	**P**	**03 22 33.1**	**0.0**
	comp=Z,0.1nm,0.5s,baz=334,slow=9.5,SNR=2.2						
PLCA	**Paso Flores**	**144.92**	**131**	PKP	**PKPdf**	**03 29 24.4**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=186,slow=10,SNR=3.7						
PTGA	**Pitinga**	**148.85**	**52**	PKPbc	**PKiKP**	**03 29 36.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=314,slow=4.8,SNR=4.3						
LPAZ	**La Paz**	**149.15**	**86**	PKPbc	**PKiKP**	**03 29 37.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=228,slow=12,SNR=1.8						

IDC 15 03:10:44.5±4.2, 6°.40S×150°.17E, h0km, mb3.0/2, mb1 3.5/3, mb1mx3.3/44, mbtmp3.3/3, ML1.3/1, Error ellipse: s-maj=166.8km s-min=48.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.22**	**225**	Pn	Pn	03 11 51.0	+0.9
	1.2nm,0.3s,baz=66,slow=20,SNR=2.0						
PMG				Sn	Sn	03 12 36.2	-3.9
	5.1nm,0.3s,baz=330,slow=23,SNR=3.0						
WRA	**Warramunga Arr**	**20.43**	**227**	P	P	03 15 23.2	-0.5
	1.2nm,0.7s,baz=52,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**23.22**	**221**	P	P	03 15 52.8	-0.6
	0.1nm,0.3s,baz=61,slow=8.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**148.24**	**285**	PKPbc	PKPbc	03 30 33.5	-0.2
	0.1nm,0.3s,baz=90,slow=2.2,SNR=1.4						

IDC 15 03:17:42.7±1.7, 3°.08N×127°.57E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/43, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=96.0km s-min=24.1km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.39**	**137**	Pn	Pn	03 19 03.8	-0.7
	1.6nm,0.3s,baz=180,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**23.83**	**164**	P	P	03 22 57.6	0.0
	1.6nm,0.5s,baz=343,slow=10,SNR=28						
ASAR	**Alice Springs**	**27.29**	**167**	P	P	03 23 29.4	+0.2
	0.2nm,0.3s,baz=353,slow=8.1,SNR=7.0						
STKA	**Stephens Creek**	**37.23**	**160**	P	P	03 24 55.8	-0.4
	1.4nm,0.4s,baz=329,slow=11,SNR=4.7						
H11S3	**WAKE ISLAND Hy 41.23**	**65**		T	T	04 08 36.1	
	baz=253,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy 41.25**	**65**		T	T	04 08 36.2	
	baz=253,slow=75,SNR=5.4						
H11S1	**WAKE ISLAND Hy 41.25**	**65**		T	T	04 08 30.6	
	baz=253,slow=75,SNR=4.0						
MKAR	**Makanchi Array**	**58.56**	**325**	P	P	03 27 41.5	+0.2
	0.2nm,0.4s,baz=105,slow=8.7,SNR=4.5						

*NEIC **15** 03:21:40.0±1.1, 21°.35N±0°.08×144°.1E±0°.2, h61km±7km, mb4.4/19, Error ellipse: s-maj=21.9km s-min=11.8km az=79.0*
*IDC **15** 03:21:40.8±2.7, 21°.34N×144°.09E, h72km±24km, mb3.8/18, mb1 4.1/21, mb1mx3.9/44, mbtmp4.2/21, MS3.3/15, Ms1 3.3/15, ms1mx3.1/41, Error ellipse: s-maj=20.5km s-min=13.1km az=91.0*

ISC 15 03:21:38.7±0.5, 21°.33N±0°.08×144°.1E±0°.1, h50km, n65, σ19°18/55, mb4.3/30, MS3.3/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.01**	**343**	P	**Pn**	**03 23 06.6**	**+1.5**
	99nm,0.3s,baz=257,slow=19,SNR=3.2						
JCJ	**Chichijima**	**6.01**	**343**		**Pn**	**03 23 05.8**	**+0.7**
GUMO	**Guam**	**7.73**	**175**	P	**Pn**	**03 23 30.6**	**+1.8**
	2.9nm,0.3s,baz=53,slow=20,SNR=2.6						
GUMO				LR	LR	03 25 57.9	
	comp=Z,198nm,19.9s,baz=60,slow=33						
GUMO	**Guam**	**7.73**	**175**		**Pn**	**03 23 29.9**	**+1.2**
MJAR	**Matsushiro Arr**	**16.01**	**342**	P	**Pn**	**03 25 22.2**	**+1.6**
	0.1nm,0.3s,baz=165,slow=19,SNR=1.6						
MJAR				LR	LR	03 30 07.9	
	comp=Z,64nm,19.0s,baz=190,slow=32						
KSRS	**Korea Array**	**21.34**	**322**	P	**P**	**03 26 24.6**	**+2.9**
	1.7nm,0.4s,baz=144,slow=8.7,SNR=11						
KSRS				LR	LR	03 34 28.1	
	comp=Z,54nm,18.4s,baz=155,slow=36						
H11N1	**WAKE ISLAND Hy 21.36**	**90**		T	T	03 48 20.6	
	baz=278,slow=75,SNR=72						
H11N2	**WAKE ISLAND Hy 21.37**	**90**		T	T	03 48 20.8	
	baz=278,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy 21.38**	**90**		T	T	03 48 21.8	
	baz=278,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy 21.38**	**94**		T	T	03 48 25.8	
	baz=276,slow=75						
H11S1	**WAKE ISLAND Hy 21.39**	**94**		T	T	03 48 19.6	
	baz=276,slow=75						
H11S2	**WAKE ISLAND Hy 21.40**	**94**		T	T	03 48 18.4	
	baz=276,slow=75						
SSLB	**Suanglung**	**21.55**	**281**	P	**P**	**03 26 25.4**	**+1.4**
SSLB				IAmb	IAmb	03 26 27.8	
	comp=Z,14nm,0.9s						
ASAJ	**Asahikawa**	**22.76**	**357**	LR	LR	03 35 35.5	
	comp=Z,60nm,21.5s,baz=124,slow=37						
USRK	**Ussuriysk Ar.**	**24.93**	**339**	LR	LR	03 36 23.7	
	comp=Z,72nm,19.0s,baz=144,slow=35						
KLR	**Kul'dur**	**29.54**	**343**	P	**P**	**03 27 38.5**	**0.0**
	comp=Z,2.7nm,0.4s,baz=178,slow=6.0,SNR=11						
KLR				LR	LR	03 38 56.8	
	comp=Z,36nm,21.5s,baz=116,slow=35						
PETK	**Petropavlovsk-**	**33.39**	**15**	P	**P**	**03 28 13.0**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=258,slow=11,SNR=1.5						
PETK				LR	LR	03 39 41.8	
	comp=Z,59nm,20.7s,baz=184,slow=32						
SONM	**Songino Array**	**40.19**	**320**	P	**P**	**03 29 09.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=135,slow=6.0,SNR=4.4						
SONM	**Songino Array**	**40.19**	**320**	P	**P**	**03 29 08.8**	**-1.5**
YAK	**Yakutsk**	**41.88**	**350**	LR	LR	03 47 48.3	
	comp=Z,32nm,21.0s,baz=284,slow=37						
SEY	**Seymchan**	**41.95**	**6**	P	**P**	**03 29 24.8**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=75,slow=5.7,SNR=4.0						
WB2	**Warramunga Arr**	**42.12**	**194**	P	**P**	**03 29 25.6**	**-0.6**
WRA	**Warramunga Arr**	**42.13**	**194**	P	**P**	**03 29 26.0**	**-0.3**
	comp=Z,9.7nm,0.6s,baz=14,slow=8.8,SNR=66						
WRA	**Warramunga Arr**	**42.13**	**194**	P	**P**	**03 29 25.1**	**-1.2**
ASAR	**Alice Springs**	**45.83**	**193**	P	**P**	**03 29 55.6**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=17,slow=9.2,SNR=52						
ASAR				LR	LR	03 48 00.6	
	comp=Z,76nm,19.5s,baz=357,slow=34						
ASAR	**Alice Springs**	**45.83**	**193**	P	**P**	**03 29 55.0**	**-0.9**
ZALV	**Zalesovo Beam**	**55.05**	**322**	P	**P**	**03 31 04.0**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=104,slow=6.9,SNR=4.8						
ZALV				LR	LR	03 54 57.8	
	comp=Z,24nm,20.0s,baz=22,slow=36						
MK31	**Makanchi Array**	**55.60**	**313**	P	**P**	**03 31 08.6**	**-0.8**
MKAR	**Makanchi Array**	**55.60**	**313**	P	**P**	**03 31 09.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=91,slow=9.5,SNR=13						
MKAR				PcP	**PcP**	**03 32 08.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=64,slow=3.4,SNR=4.5						
MKAR	**Makanchi Array**	**55.60**	**313**	P	**P**	**03 31 09.2**	**-0.2**
MKAR					**PcP**	**03 32 07.4**	**-1.2**
MAKZ	**Makanchi**	**55.82**	**313**	P	**P**	**03 31 10.4**	**-0.5**
MAKZ				IAmb	IAmb	03 31 11.8	
	comp=Z,3.0nm,0.9s						
KDAK	**Kodiak Island**	**57.99**	**34**	P	**P**	**03 31 26.1**	**0.0**
	comp=Z,2.7nm,0.9s,baz=297,slow=9.0,SNR=1.8						
KDAK	**Kodiak Island**	**57.99**	**34**	P	**P**	**03 31 25.7**	**-0.4**
ILAR	**Eielson Array**	**61.96**	**27**	P	**P**	**03 31 51.9**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=260,slow=5.8,SNR=14						
ILAR				LR	LR	03 54 37.0	
	comp=Z,19nm,21.5s,baz=306,slow=32						
SCRK	**Sand Creek**	**63.09**	**28**	P	**P**	**03 32 00.3**	**-0.6**
SCRK				IAmb	IAmb	03 32 01.2	
	comp=Z,3.1nm,0.9s						
BRVK	**Borovoye**	**63.59**	**320**	P	**P**	**03 32 03.6**	**-0.6**
BRVK				IAmb	IAmb	03 32 04.7	

comp=Z,8.2nm,1.2s
KKAR Karatay Array 63.98 309 P **P** 03 32 06.4 **-0.7**
INK Inuvik 67.54 23 P **P** 03 32 29.3 **-0.1**
comp=Z,2.3nm,0.8s,baz=329,slow=5.4,SNR=5.6
INK Inuvik 67.54 23 P **P** 03 32 28.4 **-1.0**
INK IAmb IAmb 03 32 29.8
comp=Z,3.3nm,0.9s
H02S1 DAWSON INLET T 69.30 40 T T 04 48 27.9
ABKAR Akbulak array 70.43 316 P **P** 03 32 46.7 **-1.0**
ABKAR Akbulak array 70.43 316 P **P** 03 32 46.8 **-1.0**
ABKAR IAmb IAmb 03 32 47.8
comp=Z,4.8nm,0.8s
GEYT Alibeck 74.19 305 P **P** 03 33 11.1 **+0.6**
comp=Z,40nm,0.7s,baz=34,slow=19,SNR=2.0
GEYT Alibeck 74.19 305 P **P** 03 33 09.3 **-1.1**
YKA Yellowknife Ar 76.36 28 P **P** 03 33 22.0 **-0.4**
comp=Z,0.7nm,0.6s,baz=289,slow=4.7,SNR=6.0
ARCES ARCESS Array B 79.55 342 P **P** 03 33 40.1 **+0.1**
comp=Z,0.8nm,0.7s,baz=58,slow=5.4,SNR=1.2
BMO Blue Mountains 81.05 45 P **P** 03 33 48.3 **-0.4**
MFID Camas Ranch 82.57 46 P **P** 03 33 56.5 **-0.2**
MFID IAmb IAmb 03 33 57.8
comp=Z,10nm,1.4s
NVAR Mina Array Bea 82.67 52 P **P** 03 33 57.8 **+0.4**
comp=Z,1.6nm,0.7s,baz=263,slow=6.1,SNR=6.7
NVAR LR LR 04 05 20.5
comp=Z,26nm,20.1s,baz=269,slow=32
NVAR Mina Array Bea 82.67 52 P **P** 03 33 56.8 **-0.7**
KBZ Khabaz 83.26 314 P **P** 03 33 60.0 **-0.1**
comp=Z,5.6nm,0.8s,baz=93,slow=3.3,SNR=15
FINES FINESS Array B 83.89 335 P **P** 03 34 01.4 **-1.5**
comp=Z,1.7nm,0.6s,baz=73,slow=4.9,SNR=18
YHH Holmes Hill 85.30 44 P **P** 03 34 09.4 **-1.4**
YHH IAmb IAmb 03 34 25.2
comp=Z,3.9nm,1.3s
PSUT Pine Spring 85.85 50 P **P** 03 34 13.1 **-0.5**
PSUT IAmb IAmb 03 34 14.3
comp=Z,3.1nm,1.0s
DUG Dugway, Tooele 85.91 48 P **P** 03 34 13.6 **-0.1**
DUG IAmb IAmb 03 34 14.7
comp=Z,5.0nm,1.0s
RLMT Red Lodge 86.16 43 P **P** 03 34 14.5 **-0.5**
RLMT IAmb IAmb 03 34 16.4
comp=Z,2.8nm,0.8s
HWUT Hardware Ranch 86.18 47 P **P** 03 34 15.0 **-0.1**
PDAR Pinedale Array 87.02 45 P **P** 03 34 19.0 **-0.2**
comp=Z,0.3nm,0.7s,baz=292,slow=3.1,SNR=4.5
PDAR LR LR 04 07 02.6
comp=Z,32nm,22.0s,baz=332,slow=31
NOA NORSAR Array B 89.61 339 LR LR 04 17 36.4
comp=Z,16nm,19.4s,baz=275,slow=38
BRTR Keskin Array B 91.24 314 P **P** 03 34 36.8 **-2.3**
comp=Z,1.0nm,0.9s,baz=90,slow=6.2,SNR=4.2
TXAR Lajitas Array 97.54 55 LR LR 04 12 45.3
comp=Z,20nm,21.9s,baz=0.0,slow=31
TORD Torodi Ar. Bea 129.66 310 PKP **PKPdf** 03 40 42.5 **-0.6**
comp=Z,0.2nm,0.5s,baz=4.9,slow=1.2,SNR=4.5
PLCA Paso Flores 144.84 131 PKP **PKPab** 03 41 09.2 **-0.3**
comp=Z,12nm,0.9s,baz=224,slow=5.4,SNR=10
LPAZ La Paz 149.07 86 PKPbc **PKPdf** 03 41 22.6 **+3.8**
comp=Z,1.6nm,0.5s,baz=329,slow=2.3,SNR=8.0
LPAZ La Paz 149.07 86 **PKPdf** 03 41 21.6 **+2.8**

*ISK **15** 03:30:49.7, 35°.16N×27°.31E, h6km, ML2.9/17*
*ATH **15** 03:30:52.4, 35°.36N×27°.47E, h11km±4km, ML2.6/5, Error ellipse: s-maj=6.0km s-min=1.4km az=319.0*
*THE **15** 03:30:54.0, 35°.41N×27°.42E, h0km±1km, ML2.6/4, Error ellipse: s-maj=3.2km s-min=1.3km az=151.0*
ISC 15 03:30:51.4±1.5, 35°.32N±0°.05×27°.44E±0°.03, h0km±12km, n32, σ1°15/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.33**	**315**	P	**Pg**	03 30 58.3	**+0.6**
KARP				S	**Sb**	03 31 04.1	**-1.9**
2μm,0.3s							
KARP	**Karpathos**	**0.33**	**315**	P	**Pg**	03 30 58.3	**+0.6**
KARP				S	**Sg**	03 31 03.0	**+1.0**
KARP				AML	AML	03 31 04.7	
comp=E,3647μm,0.4s							
KARP				AML	AML	03 31 04.8	
comp=N,3739μm,0.2s							
KARP	**Karpathos**	**0.33**	**315**	PG	**Pg**	03 30 58.4	**+0.7**
KARP				SG	**Sb**	03 31 04.1	**-1.9**
ZKR	**Zakros**	**1.02**	**259**	PG	**Pg**	03 31 07.1	**-3.9**
ARG	**Arkhangelos**	**1.06**	**31**	P	**Pb**	03 31 12.9	**+0.3**
ARG				S	**Sn**	03 31 28.8	**-0.1**
comp=N,338nm,0.6s							
ARG	**Arkhangelos**	**1.06**	**31**	P	**Pg**	03 31 11.5	**-0.2**
ARG				S	**Sg**	03 31 24.2	**-1.2**
ARG				AML	AML	03 31 32.8	
comp=E,771μm,0.4s							
ARG				AML	AML	03 31 36.1	
comp=N,611μm,0.6s							
ARG	**Arkhangelos**	**1.06**	**31**	PN	**Pb**	03 31 12.9	**+0.3**
STIA	**Sitia Lasithi**	**1.11**	**265**	P	**Pb**	03 31 14.0	**+0.5**
STIA				S	**Sn**	03 31 31.7	**+1.4**
NIS1	**Nisyros Isl.**	**1.30**	**351**	P	**Pg**	03 31 15.8	**-0.6**
NIS1	**Nisyros Isl.**	**1.30**	**351**	PN	**Pn**	03 31 17.4	**+0.5**
DAT	**Datca**	**1.42**	**4**	P	**Pn**	03 31 18.3	**-0.2**
DAT	**Datca**	**1.42**	**4**	PN	**Pb**	03 31 18.5	**-0.3**
NPS	**Neapolis**	**1.50**	**269**	P	**Pg**	03 31 21.1	**+1.0**
NPS				S	**Sg**	03 31 41.9	**+2.3**
comp=N,430nm,0.7s							
NPS	**Neapolis**	**1.50**	**269**	P	**Pn**	03 31 19.8	**+0.3**
NPS				AML	AML	03 31 47.6	
comp=E,520μm,0.7s							
NPS				AML	AML	03 31 54.6	
comp=N,506μm,0.7s							
MRSB	**Marmaris-Mugla**	**1.53**	**23**	PN	**Pg**	03 31 20.9	**+0.2**
TURN	**Turunc**	**1.59**	**24**	PN	**Pb**	03 31 21.6	**-0.1**
LAST	**Lasithi**	**1.62**	**265**	P	**Pb**	03 31 22.2	**0.0**
LAST				S	**Sg**	03 31 44.6	**+1.3**
comp=N,65nm,0.6s							
LAST	**Lasithi**	**1.62**	**265**	P	**Pb**	03 31 22.1	**0.0**
LAST				AML	AML	03 31 52.6	
comp=N,249μm,0.4s							
LAST				AML	AML	03 31 58.0	
comp=E,241μm,0.7s							
BODT	**Bodrum**	**1.75**	**356**	PN	**Pn**	03 31 23.2	**+0.2**
DALY	**Dalyan (Mula)**	**1.79**	**33**	PN	**Pb**	03 31 24.7	**-0.4**
FETY	**Fethiye**	**1.87**	**45**	PN	**Pb**	03 31 25.9	**-0.6**
KSL	**Kastellorizon**	**1.93**	**64**	P	**Pn**	03 31 26.0	**+0.5**
KSL	**Kastellorizon**	**1.93**	**64**	P	**Pn**	03 31 26.0	**+0.5**
YER	**Yerkesik**	**1.94**	**20**	PN	**Pb**	03 31 26.8	**-0.8**
AKAS	**Kas**	**1.98**	**62**	PN	**Pn**	03 31 26.9	**+0.6**
MLSB	**Milas**	**2.00**	**8**	PN	**Pb**	03 31 27.4	**-1.2**
IDI	**Anoyia**	**2.09**	**270**	P	**Pb**	03 31 29.6	**-0.7**
IDI				AML	AML	03 32 07.9	
comp=E,107μm,0.5s							
IDI				AML	AML	03 32 13.2	
comp=N,127μm,0.6s							
CAME	**Cameli-Denizli**	**2.21**	**42**	PN	**Pn**	03 31 30.6	**+1.1**
APE	**Apeiranthos**	**2.34**	**319**	PN	**Pn**	03 31 30.7	**-0.4**
ELL	**Elmali**	**2.46**	**54**	PN	**Pn**	03 31 34.1	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**2.65**	**8**	PN	**Pn**	03 31 36.5	**+1.0**
KORT	**Korkueli**	**2.89**	**54**	PN	**Pn**	03 31 40.3	**+1.5**

IDC 15 03:34:52.2±9.3, 21°.82N×144°.05E, h0km, mb3.4/4, mb1 3.6/4, mbtmx3.4/63, mbtmp3.4/4, Error ellipse: s-maj=363.2km s-min=27.5km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy 21.46**		**91**	T	T	04 01 42.7	
baz=278,slow=75,SNR=8.1							
H11N2	**WAKE ISLAND Hy 21.46**		**91**	T	T	04 01 42.9	
baz=278,slow=75,SNR=6.5							
H11N3	**WAKE ISLAND Hy 21.48**		**91**	T	T	04 01 44.0	
baz=278,slow=75,SNR=6.8							
H11S3	**WAKE ISLAND Hy 21.51**		**95**	T	T	04 01 43.5	
baz=281,slow=75,SNR=7.4							
H11S1	**WAKE ISLAND Hy 21.52**		**95**	T	T	04 01 47.9	
baz=281,slow=75,SNR=8.3							
H11S2	**WAKE ISLAND Hy 21.52**		**95**	T	T	04 01 45.3	
baz=281,slow=75,SNR=8.0							
WRA	**Warramunga Arr**	**42.58**	**194**	P	P	03 42 50.5	+0.4
0.6nm,0.5s,baz=14,slow=8.7,SNR=7.8							
ASAR	**Alice Springs**	**46.28**	**193**	P	P	03 43 19.1	-0.6
0.4nm,0.5s,baz=19,slow=9.7,SNR=6.8							
MKAR	**Makanchi Array**	**55.20**	**313**	P	P	03 44 27.1	+0.2
0.1nm,0.4s,baz=99,slow=12,SNR=2.2							
KURBB	**Kurchatov Arra**	**57.98**	**317**	P	P	03 44 46.2	-0.3
0.2nm,0.3s,baz=99,slow=8.0,SNR=1.5							

*SLM **15** 03:57:01.8±0.9, 37°.12N±0°.01×89°.34W±0°.02, h10km±6km, Md2.5/10, mb_Lg2.3/37(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=54.0*
NEIC 15 03:57:01.8±1.1, 37°.11N±0°.02×89°.36W±0°.01, h9km±7km, Error ellipse: s-maj=2.1km s-min=1.2km az=172.0, Cape Girardeau region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGM3	**Cape Girardeau**	**0.30**	**307**		Pg	03 57 08.0	+0.1
DWDM	**Dogwood**	**0.34**	**199**		Pg	03 57 08.6	+0.1
DWDM					Sg	03 57 13.6	+0.6
MATM	**Matthews**	**0.39**	**210**		Pg	03 57 09.5	0.0
MATM					Sg	03 57 15.2	+0.5
EPRM	**East Prairie**	**0.40**	**180**		Pg	03 57 09.6	0.0
EPRM					Sg	03 57 15.3	+0.5
HENM	**Henderson Moun**	**0.41**	**193**	Pg	Pg	03 57 09.9	+0.1
HENM				Sg	Sg	03 57 15.8	+0.6
GUAMO	**Guam**	**0.45**	**240**		Pg	03 57 10.4	-0.1
KEWM	**Kewanee**	**0.46**	**205**		Pg	03 57 10.7	-0.1
KEWM					Sg	03 57 17.3	+0.6
SJMO	**Saint John's B**	**0.49**	**191**		Pg	03 57 11.3	-0.1
SJMO					Sg	03 57 18.3	+0.4
COKM	**Charter Oak**	**0.50**	**216**		Pg	03 57 11.4	-0.2
COKM					Sg	03 57 18.5	+0.4
NMMO	**New Madrid**	**0.55**	**197**		Pg	03 57 12.6	+0.2
NMMO					Sg	03 57 20.1	+0.4
PARMO	**Parma**	**0.55**	**215**	Pg	Pg	03 57 12.2	-0.3
CATM	**Catron**	**0.55**	**205**		Pg	03 57 12.3	-0.2
CATM					Sg	03 57 20.1	+0.3
NMEM	**New Madrid Sch**	**0.57**	**199**		Sg	03 57 20.7	+0.4
HICK	**Hickman**	**0.58**	**170**	Pg	Pg	03 57 12.7	-0.4
S44A	**Carbondale**	**0.58**	**8**		Pg	03 57 12.8	-0.4
WALK	**Watson Lake**	**0.59**	**195**		Pg	03 57 13.4	+0.1
WALK					Sg	03 57 21.3	+0.2
SIUC	**Southern Illin**	**0.61**	**10**		Pg	03 57 12.9	-0.7
MARMO	**Marston**	**0.63**	**203**		Pg	03 57 13.8	-0.3
MARMO					Sg	03 57 22.8	+0.4
BRNM	**Bernie**	**0.65**	**233**		Pg	03 57 13.7	-0.6
MLDM	**Malden**	**0.67**	**223**		Pg	03 57 14.2	-0.5
FLPT	**Flippin**	**0.70**	**178**		Pg	03 57 15.0	-0.5
PGVM	**Portageville**	**0.72**	**205**		Pg	03 57 15.2	-0.5
PGVM					Sg	03 57 25.1	+0.1
TOPM	**Tallapoosa**	**0.73**	**216**		Pg	03 57 15.4	-0.5
TOPM					Pn	03 57 19.5	+1.3
TOPM					Sg	03 57 25.4	+0.1
PPLM	**Point Pleasant**	**0.73**	**194**		Pg	03 57 15.5	-0.5
PPLM					Sg	03 57 25.7	+0.2
BETM	**Bethany**	**0.75**	**229**		Pg	03 57 15.7	-0.6
WYBT	**Wynnburg**	**0.77**	**188**		Pg	03 57 16.4	-0.3
WYBT					Sg	03 57 27.1	+0.3
GLAT	**Glass**	**0.84**	**176**	Pg	Pg	03 57 17.2	-0.9
PBMO	**Poplar Bluff**	**0.92**	**249**		Pg	03 57 18.7	-0.8
LNXT	**Lenox**	**1.02**	**186**	Pg	Pg	03 57 20.6	-0.8
T42A	**Van Buren**	**1.39**	**267**		Pn	03 57 26.4	-1.0
WVT	**Waverly**	**1.57**	**128**		Pn	03 57 28.9	-0.9
CCM	**Cathedral Cave**	**1.77**	**303**	Pn	Pn	03 57 32.7	+0.1
CCM					Sn	03 57 54.9	-0.3
LCAR	**Lake Charles**	**1.78**	**235**		Pn	03 57 32.8	0.0
Q44A	**Meyer Farm, Va**	**1.81**	**8**	Pn	Pn	03 57 33.7	+0.6
T47A	**Sharon Grove**	**1.81**	**93**		Pn	03 57 32.5	-0.6
OLIL	**Olney**	**1.90**	**31**	Pn	Pn	03 57 34.5	+0.1
MGMO	**Mountain Grove**	**2.33**	**272**	Pn	Pn	03 57 39.8	-0.5
MGMO				IAmb_Lg		03 58 21.6	
comp=Z,11nm,0.8s							
PLAL	**Pickwick Lake**	**2.37**	**154**	Pn	Pn	03 57 40.2	-0.5
PLAL				IAmb_Lg		03 58 18.8	
comp=Z,11nm,0.8s							
P43A	**Skaggs, Pawnee**	**2.53**	**357**	IAmb_Lg		03 58 22.6	
comp=Z,15nm,1.1s							
FCAR	**Ozark Folk Cen**	**2.54**	**242**	Pn	Pn	03 57 43.2	0.0
OXF	**Oxford**	**2.60**	**181**	IAmb_Lg		03 58 27.4	
comp=Z,17nm,0.8s							
CLTN	**Cedars of Leba**	**2.64**	**112**	IAmb_Lg		03 58 23.4	
comp=Z,10nm,0.9s							
U40A	**Yellville**	**2.91**	**256**	Pn	Pn	03 57 47.9	-0.3
U49A	**Red Boiling Sp**	**2.93**	**101**	IAmb_Lg		03 58 37.9	
comp=Z,8.5nm,0.7s							
WHAR	**Wooly Hollow**	**2.99**	**233**	Pn	Pn	03 57 49.7	+0.4
WHAR				IAmb_Lg		03 58 39.9	
comp=Z,11nm,0.9s							
BLO	**Bloomington**	**3.04**	**47**	IAmb_Lg		03 58 39.9	
comp=Z,10nm,0.7s							
O44A	**Mansfield**	**3.11**	**13**	IAmb_Lg		03 58 42.0	
comp=Z,12nm,0.8s							
X48A	**Hartselle**	**3.25**	**144**	IAmb_Lg		03 58 44.4	
comp=Z,7.5nm,0.7s							
SWET	**Sewanee**	**3.36**	**123**	Pn	Pn	03 57 54.9	+0.4
T50A	**Nancy**	**3.62**	**90**	IAmb_Lg		03 59 05.2	
comp=Z,7.6nm,0.8s							
N41A	**Harden Midland**	**3.77**	**342**	IAmb_Lg		03 59 04.3	
comp=Z,11nm,0.9s							
HHAR	**Hobbs**	**3.78**	**259**	Pn	Pn	03 58 00.6	+0.4
W50A	**Signal Mountai**	**3.79**	**119**	IAmb_Lg		03 59 04.5	
comp=Z,9.5nm,0.7s							
FPAL	**Fort Paine**	**3.98**	**129**	Pn	Pn	03 58 03.0	0.0
FPAL				IAmb_Lg		03 59 09.4	
comp=Z,7.0nm,0.8s							
V51A	**Loudon**	**4.24**	**106**	IAmb_Lg		03 59 26.6	
comp=Z,7.1nm,0.7s							
MIAR	**Mount Ida**	**4.28**	**234**	IAmb_Lg		03 59 28.5	
comp=Z,5.9nm,0.8s							
TKL	**Tuckaleechee C**	**4.73**	**106**	IAmb_Lg		03 59 33.6	
comp=Z,8.5nm,0.9s							
W52A	**Murphy**	**4.84**	**113**	IAmb_Lg		03 59 48.8	
comp=Z,4.9nm,0.9s							
Z51A	**Franklin**	**5.11**	**137**	IAmb_Lg		03 59 46.1	
comp=Z,7.6nm,0.8s							

*IDC **15** 03:59:48.2±4.0, 19°.80N×144°.55E, h490km±48km, mb3.2/12, mb1 3.4/12, mb1mx3.1/39, mbtmp4.0/12, Error ellipse: s-maj=26.9km s-min=16.0km az=87.0*
*NEIC **15** 03:59:49.2±1.1, 19°.8N±0°.1×144°.4E±0°.2, h496km±13km, mb4.0/15, Error ellipse: s-maj=31.5km s-min=18.4km az=93.0*
ISC 15 03:59:48.8±0.8, 19°.75N±0°.09×144°.5E±0°.2, h500km, n31, σ0°67/33, mb3.8/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.13**	**177**	P	**P**	04 01 26.6	**0.0**
JYT	**Yasato**	**16.85**	**348**	P	**P**	04 03 17.5	**-0.6**
MAJO	**Matsushiro**	**17.62**	**343**	P	**P**	04 03 25.4	**-0.2**
MAJO				IAmb	IAmb	04 03 36.6	
comp=Z,6.1nm,1.1s							
MJB9	**Matsu-Tunnel**	**17.62**	**343**	P	**P**	04 03 25.2	**-0.4**
MJB9				IAmb	IAmb	04 03 25.6	
comp=Z,5.0nm,0.6s							
JSD	**Sado**	**19.01**	**345**	P	**P**	04 03 38.3	**0.0**
KSRS	**Korea Array**	**22.80**	**324**	P	**P**	04 04 10.8	**-1.8**
comp=Z,1.3nm,0.6s,baz=148,slow=9.4,SNR=5.2							
KLR	**Kul'dur**	**31.14**	**344**	P	**P**	04 05 25.6	**-0.2**
comp=Z,1.3nm,0.4s,baz=158,slow=7.4,SNR=3.5							
WB0	**Warramunga Arr**	**40.50**	**195**	P	**P**	04 06 43.2	**-0.6**
WB0				IAmb	IAmb	04 06 43.3	
comp=Z,6.0nm,1.1s							
WR0	**Warramunga Arr**	**40.65**	**194**	P	**P**	04 06 44.8	**-0.2**
WR0				IAmb	IAmb	04 06 59.4	
comp=Z,4.8nm,1.1s							
WB2	**Warramunga Arr**	**40.68**	**195**	P	**P**	04 06 45.8	**+0.5**
WRA	**Warramunga Arr**	**40.68**	**195**	P	**P**	04 06 45.6	**+0.3**
comp=Z,0.6nm,0.3s,baz=18,slow=8.9,SNR=14							
SONM	**Songino Array**	**41.61**	**321**	P	**P**	04 06 53.4	**+0.8**
comp=Z,2.0nm,0.6s,baz=139,slow=8.3,SNR=12							
SONM	**Songino Array**	**41.61**	**321**	P	**P**	04 06 52.8	**+0.2**
CMAR	**Chiang Mai Arr**	**42.96**	**276**	P	**P**	04 07 04.7	**+1.3**
comp=Z,1.2nm,0.3s,baz=66,slow=7.5,SNR=1.7							
BKNI	**Bangkinang**	**46.71**	**251**	P	**P**	04 07 31.6	**-0.8**
ZALV	**Zalesovo Beam**	**56.49**	**322**	P	**P**	04 08 42.6	**0.0**
comp=Z,0.8nm,0.4s,baz=101,slow=7.7,SNR=4.2							
MK31	**Makanchi Array**	**56.91**	**314**	P	**P**	04 08 46.4	**+0.7**
MKAR	**Makanchi Array**	**56.91**	**314**	P	**P**	04 08 46.5	**+0.8**
comp=Z,1.7nm,0.5s,baz=90,slow=7.9,SNR=20							
MKAR				PcP	**PcP**	04 09 34.6	**+0.3**
comp=Z,0.4nm,0.5s,baz=81,slow=4.9,SNR=2.9							
MKAR	**Makanchi Array**	**56.91**	**314**	P	**P**	04 08 46.3	**+0.6**
MKAR					**PcP**	04 09 34.4	**+0.2**
MAKZ	**Makanchi**	**57.13**	**313**	P	**P**	04 08 47.8	**+0.6**
MAKZ				IAmb	IAmb	04 08 48.9	
comp=Z,3.0nm,0.6s							
ILAR	**Eielson Array**	**63.22**	**27**	P	**P**	04 09 27.4	**0.0**
comp=Z,0.8nm,0.5s,baz=250,slow=6.0,SNR=6.6							
KK31	**Karatay Array**	**65.22**	**309**	P	**P**	04 09 40.9	**+0.4**
KK31				IAmb	IAmb	04 09 42.4	
comp=Z,3.5nm,0.9s							
KKAR	**Karatay Array**	**65.22**	**309**	P	**P**	04 09 41.0	**+0.5**
KKAR				IAmb	IAmb	04 09 42.4	
comp=Z,3.5nm,0.9s							
ABKAR	**Akbulak array**	**71.79**	**317**	P	**P**	04 10 20.5	**+0.3**
ABKAR				IAmb	IAmb	04 10 21.0	
comp=Z,2.6nm,0.8s							
YKA	**Yellowknife Ar**	**77.60**	**28**	P	**P**	04 10 53.2	**+0.6**
comp=Z,0.3nm,0.5s,baz=290,slow=5.0,SNR=3.9							
ARCES	**ARCESS Array B**	**81.15**	**342**	P	**P**	04 11 11.4	**+0.2**
comp=Z,2.8nm,0.8s,baz=78,slow=8.4,SNR=9.0							
ARCES	**ARCESS Array B**	**81.15**	**342**	P	**P**	04 11 11.6	**+0.3**
ARCES				IAmb	IAmb	04 11 13.8	
comp=Z,5.3nm,1.1s							
FINES	**FINESS Array B**	**85.46**	**335**	P	**P**	04 11 32.0	**-0.9**
comp=Z,1.1nm,0.4s,baz=67,slow=5.3,SNR=16							
FINES	**FINESS Array B**	**85.46**	**335**	P	**P**	04 11 31.8	**-1.1**
BRTR	**Keskin Array B**	**92.56**	**314**	P	**P**	04 12 06.0	**-0.8**
comp=Z,0.6nm,0.8s,baz=72,slow=4.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**130.91**	**309**	PKP	**PKPdf**	04 18 03.4	**-0.6**
comp=Z,0.5nm,0.9s,baz=3.1,slow=1.5,SNR=1.7							

RSNC 15 04:29:31.0±1.0, 6°.82N×73°.13W, h148km±4km, ML3.1, Mw3.6, 6C-2D, Fault plane solution: NP1:φ0=141.00000°, δ78.00000°, λ18.00000°, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**193**	⇑iP	Pn	04 29 51.2	-0.2
BARC				eS	Sn	04 30 05.8	-1.1
BARC				i		04 30 07.8	
comp=Z,254nm,0.2s							
PAMC	**Pamplona, Colo**	**0.67**	**40**	⇓iP	Pn	04 29 53.9	+0.2
PAMC				eS	Sn	04 30 10.9	0.0
PAMC				i		04 30 13.3	
comp=Z,236nm,0.5s							
RUSC	**La Rusia**	**0.92**	**177**	⇑iP	Pn	04 29 55.1	-0.4
RUSC				eS	Sn	04 30 13.8	-0.4
RUSC				i		04 30 16.8	
comp=Z,139nm,0.4s							
OCAC	**Ocana**	**1.42**	**352**	⇑eP	Pn	04 29 59.2	-0.6
OCAC				eS	Sn	04 30 21.0	-0.8
OCAC				i		04 30 25.6	
comp=Z,286nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	eP	Pn	04 30 03.8	-0.4
ZARC				eS	Sn	04 30 29.1	-0.5
ZARC				i		04 30 32.0	
comp=Z,131nm,0.2s							
NORC	**Norcasia**	**2.13**	**234**	⇑eP	Pn	04 30 07.1	-0.5
NORC				eS	Sn	04 30 35.0	-0.7
NORC				i		04 30 40.6	
comp=Z,113nm,0.2s							
SMLC	**San Martn de**	**2.18**	**335**	eP	Pn	04 30 07.4	-0.7
SMLC				eS	Sn	04 30 36.4	-0.4
SMLC				i		04 30 38.4	
comp=Z,122nm,0.1s							
CHIC	**Chingaza**	**2.25**	**195**	eP	Pn	04 30 09.3	-0.2
CHIC				eS	Sn	04 30 38.7	-0.3
CHIC				i		04 30 44.3	
comp=Z,42nm,0.3s							
ROSC	**El Rosal**	**2.29**	**211**	⇑iP	Pn	04 30 10.7	+0.8
ROSC				eS	Sn	04 30 40.4	+0.6
ROSC				i		04 30 47.1	
comp=Z,142nm,0.4s							
HELC	**Santa Helena**	**2.46**	**255**	eP	Pn	04 30 12.2	+0.3
HELC				eS	Sn	04 30 42.6	-0.8
HELC				i		04 30 50.5	
comp=Z,76nm,0.4s							
UREC	**San Jos de Ur**	**2.56**	**291**	eP	Pn	04 30 11.7	-1.0
UREC				eS	Sn	04 30 43.1	-1.8
UREC				i		04 30 52.9	
comp=Z,97nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.73**	**235**	eP	Pn	04 30 15.5	+0.2
GUY2C				eS	Sn	04 30 49.5	0.0
GUY2C				i		04 30 56.7	
comp=Z,80nm,0.3s							
LL2C	**La Loma 2 Cana**	**2.74**	**354**	eP	Pn	04 30 14.6	-0.4
LL2C				eS	Sn	04 30 48.3	-0.7
LL2C				i		04 30 57.4	
comp=Z,107nm,0.2s							
LL1C	**La Loma 1 Cana**	**2.74**	**351**	eP	Pn	04 30 14.6	-0.4
LL1C				eS	Sn	04 30 48.9	-0.1
VILC	**Villavicencio,**	**2.75**	**192**	eP	Pn	04 30 14.6	-0.7
VILC				eS	Sn	04 30 49.8	+0.4
VILC				i		04 31 04.7	
comp=Z,67nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**	⇑eP	Pn	04 30 14.1	-1.5
PTGC				eS	Sn	04 30 47.5	-2.6
PTGC				i		04 30 52.4	
comp=Z,56nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.02**	**252**	eP	Pn	04 30 19.1	+0.5
CBOC				eS	Sn	04 30 54.7	-0.7
CBOC				i		04 31 06.1	
comp=Z,25nm,0.5s							
DBBC	**Dabeiba**	**3.06**	**274**	eP	Pn	04 30 18.6	-0.6
DBBC				eS	Sn	04 30 55.1	-1.3
TOLC	**Tolima**	**3.11**	**225**	eP	Pn	04 30 20.3	+0.3
TOLC				eS	Sn	04 30 57.5	-0.4
TOLC				i		04 31 03.7	
comp=Z,55nm,0.3s							
MOTC	**Monteria, Cord**	**3.18**	**308**	eP	Pn	04 30 18.4	-2.2
MO

mb4.0/2, mB4.8/1, MLv3.9/7, Mw(mB)4.0/1

ISC 15 04:30:35.8±1.2, 3°.1N±0°.1×124°.4E±0°.2, h350km, n7, σ1§52/7, mb3.1/3, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.25	64	P	Pn	04 31 21.3	-1.4
GTOI	Gorontalo	2.85	209	P	Pn	04 31 33.0	-0.9
LBMI	Labuha	4.87	140	P	Pn	04 31 53.7	-0.4
SANI	Sanana	5.39	163	P	Pn	04 31 58.0	-1.9
	0.3nm1μm25nm,0.7s						
WRA	Warramunga Arr	24.93	157	P	P	04 35 29.5	+0.9
	1.1nm,0.3s,baz=338,slow=9.9,SNR=5.3						
ASAR	Alice Springs	28.21	161	P	P	04 35 59.1	+1.4
	0.4nm,0.8s,baz=354,slow=7.6,SNR=2.4						
MKAR	Makanchi Array	56.74	327	P	P	04 39 44.7	+0.4
	0.3nm,0.4s,baz=124,slow=7.8,SNR=6.8						

*DNK **15** 04:36:20.0±3.2, 79°.20N×2°.06E, h15km±34km, ML2.5*
*BER **15** 04:36:22.3±2.3, 79°.21N×2°.14E, h23km±23km, ML1.9, ML2.5(DNK), Confirmed Earthquake*

ISC 15 04:36:16.8±1.0, 79°.10N±0°.07×2°.03E±0°.04, h10km, n14, σ2§25/25, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.91	90	*i* P	Pb	04 36 51.9	+0.3
KBS	Kingsbay	1.91	90	⇑*i*P	Pb	04 36 51.6	+0.1
KBS				*e*S	Sn	04 37 12.1	-1.1
KBS				IAML		04 37 13.9	
	comp=Z,42nm,0.3s						
SPA0	Spitsbergen Ar	2.98	101	*e*P	Pb	04 37 07.7	-2.2
SPA0				*e*S	Sn	04 37 39.6	-0.2
SPA0				IAML		04 37 46.6	
	comp=Z,13nm,0.4s						
HSPB	Hornsund (broa	3.50	120	*e*P	Pn	04 37 14.3	+3.2
HSPB				*e*S	Sn	04 37 52.6	0.0
HSPB				IAML		04 37 59.0	
	comp=Z,3.0nm,0.5s						
NOR	Nord	4.00	317	*i* P	Pn	04 37 20.4	+2.4
NOR				*i* S	Sn	04 38 02.7	-2.2
NOR				IAML		04 38 06.2	
	comp=Z,1.2nm,0.3s						
NOR	Nord	4.00	317	*i* P	Pn	04 37 20.4	+2.4
NOR				*i* S	Sn	04 38 02.7	-2.2
NOR				IAML		04 38 06.2	
	comp=Z,1.2nm,0.3s						
DAG	Danmarks Havn	4.91	252	*e*	Pn	04 37 32.0	+1.6
	baz=48,slow=14						
DAG				*i* P	Pn	04 37 33.3	+2.9
DAG				*i* S	Sn	04 38 24.9	-2.2
DAG				IAML		04 38 28.2	
	comp=Z,4.4nm,0.4s						
DAG	Danmarks Havn	4.91	252	*e*	Pn	04 37 32.0	+1.6
	baz=48,slow=14						
DAG				*i* P	Pn	04 37 33.3	+2.9
DAG				*i* S	Sn	04 38 24.9	-2.2
DAG				IAML		04 38 28.2	
	comp=Z,4.4nm,0.4s						
HOPEN	Hopen	5.49	107	*e*S	Sn	04 38 39.1	-2.2
DBG	Daneborg	6.97	238	*i* P	Pn	04 38 01.2	+2.4
DBG				*i* S	Sn	04 39 15.8	-2.2
DBG				IAML		04 39 22.4	
	comp=Z,2.4nm,0.3s						
DBG	Daneborg	6.97	238	*i* P	Pn	04 38 01.2	+2.4
DBG				*i* S	Sn	04 39 15.8	-2.2
DBG				IAML		04 39 22.4	
	comp=Z,2.4nm,0.3s						
NEEM	North Greenlan	10.60	288	*i* P	Pn	04 38 49.4	+0.8
NEEM				*i* S	Sn	04 40 37.5	-10
NEEM				IAML		04 40 41.1	
	comp=Z,1.5nm,0.3s						
SUMG	Summit	11.56	257	*i* P	Pn	04 39 04.7	+2.8
SUMG	Summit	11.56	257	*i* P	Pn	04 39 04.7	+2.8

*MAN **15** 04:37:23.6, 10°.02N×126°.12E, h19km, mb5.0, ML4.0, MS4.0*
*NEIC **15** 04:37:28.7±1.9, 10°.02N±0°.08×126°.1E±0°.1, h101km±8km, mb4.3/14, Error ellipse: s-maj=18.4km s-min=8.6km az=120.0*
*IDC **15** 04:37:29.0±2.3, 9°.97N×126°.07E, h103km±21km, mb3.8/21, mb1 4.0/22, mb1mx3.8/50, mbtmp4.2/22, MS3.3/6, Ms1 3.3/6, ms1mx3.1/23, Error ellipse: s-maj=27.6km s-min=11.9km az=69.0*

ISC 15 04:37:28.5±0.5, 9°.99N±0°.05×125°.93E±0°.07, h100km, n62, σ1§26/62, mb4.2/27, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	Cagayan de Oro	1.95	219	⇓*e*P	Pn	04 37 58.1	-2.4
CGP				*i* S	Sn	04 38 21.9	-2.9
LLP	Lapu-Lapu	1.96	280	⇓*i*P	Pn	04 37 59.0	-1.6
LLP				*i* S	Pn	04 37 59.0	-1.6
SNPH	Sibulan	2.73	257	*i* P	Pn	04 38 10.3	-0.5
SNPH				*i* S	Sn	04 38 46.5	+3.3
DCPH	Dipolog City	2.90	241	⇓*e*P	Pn	04 38 12.9	-0.1
DCPH				*e*S	Sn	04 38 48.6	+1.4
DAV	Davao City (W)	2.92	187	P	Pn	04 38 15.6	+2.3
	121nm,0.3s,baz=38,slow=12,SNR=2.7						
DAV				S	Sn	04 38 48.9	+1.2
	87nm,0.3s,baz=54,slow=19,SNR=6.8						
DAV				LR	LR	04 39 07.0	
	comp=Z,14nm,20.2s,baz=22,slow=34						
DAV	Davao City (W)	2.92	187		Pn	04 38 14.2	+0.9
DAV					Sn	04 38 49.5	+1.9
KCP	Kidapawan	3.07	196	⇓*e*P	Pn	04 38 12.9	-2.4
KCP				*i* S	Sn	04 38 52.5	+1.0
RCP	Roxas	3.50	297	⇑*e*P	Pn	04 38 20.4	-0.6
LQP	Lukban	5.94	314	*e*P	Pn	04 38 51.3	-2.9
TATO	Taipei	15.49	345		Pn	04 41 02.6	+1.1
KSRS	Korea Array	27.41	3	LR	LR	04 55 52.2	
	comp=Z,25nm,18.5s,baz=170,slow=40						
CMAR	Chiang Mai Arr	27.45	291	P	P	04 43 07.3	+1.9
	0.7nm,0.3s,baz=96,slow=8.3,SNR=1.5						
CMAR				LR	LR	04 52 46.7	
	comp=Z,39nm,20.9s,baz=178,slow=33						
CMAR	Chiang Mai Arr	27.45	291	P	P	04 43 05.7	+0.3
MJAR	Matsushiro Arr	28.69	21	LR	LR	04 55 33.7	
	comp=Z,52nm,18.2s,baz=185,slow=38						
WB0	Warramunga Arr	30.72	164	P	P	04 43 32.6	-1.6
WB0				IAmb	IAmb	04 43 34.2	
	comp=Z,8.1nm,1.1s						
WRA	Warramunga Arr	30.87	164	P	P	04 43 34.1	-1.5
	comp=Z,1.7nm,0.8s,baz=345,slow=9.2,SNR=6.8						
WRA				PcP	PcP	04 46 29.5	-0.8
	comp=Z,0.8nm,0.8s,baz=340,slow=3.5,SNR=2.7						
WRA	Warramunga Arr	30.87	164	P	P	04 43 34.1	-1.5
WB2	Warramunga Arr	30.87	164	P	P	04 43 34.5	-1.1
WB2				IAmb	IAmb	04 43 44.0	
	comp=Z,14nm,1.4s						
WR0	Warramunga Arr	30.94	164	P	P	04 43 34.1	-2.1
WR0				IAmb	IAmb	04 43 36.5	
	comp=Z,8.6nm,1.1s						
PSA00	Pilbara Seismi	31.93	191	P	P	04 43 44.8	-0.1
PSA00				IAmb	IAmb	04 43 56.3	
	comp=Z,12nm,1.5s						
ASAR	Alice Springs	34.34	167	P	P	04 44 05.4	-0.5
	comp=Z,1.5nm,0.6s,baz=356,slow=7.5,SNR=14						
ASAR				PcP	PcP	04 46 39.6	-0.3
	comp=Z,0.6nm,0.8s,baz=339,slow=2.4,SNR=2.8						
ASAR	Alice Springs	34.34	167	P	P	04 44 05.2	-0.7
ASAR					PcP	04 46 39.8	-0.1
H11N1	WAKE ISLAND Hy	40.66	71	T	T	05 28 17.2	
	baz=264,slow=74,SNR=95						
H11N2	WAKE ISLAND Hy	40.67	71	T	T	05 28 17.6	
	baz=264,slow=74,SNR=53						
H11N3	WAKE ISLAND Hy	40.68	71	T	T	05 28 18.6	
	baz=264,slow=74,SNR=97						
SONM	Songino Array	41.17	340	P	P	04 45 03.4	+0.2
	comp=Z,1.2nm,0.6s,baz=160,slow=8.4,SNR=3.9						
SONM	Songino Array	41.17	340	P	P	04 45 01.1	-2.1
STKA	Stephens Creek	44.24	161	P	P	04 45 27.2	-0.9
	comp=Z,1.6nm,0.3s,baz=346,slow=9.3,SNR=6.5						
PETK	Petropavlovsk-	50.03	24	P	P	04 46 12.0	-0.8
	comp=Z,1.3nm,0.5s,baz=31,slow=3.5,SNR=4.0						
PETK	Petropavlovsk-	50.03	24	P	P	04 46 11.2	-1.6
MK31	Makanchi Array	52.05	323	P	P	04 46 28.1	0.0
MK31				IAmb	IAmb	04 46 29.7	
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	52.05	323	P	P	04 46 29.0	+1.0
	comp=Z,2.5nm,0.7s,baz=123,slow=8.8,SNR=19						
MKAR	Makanchi Array	52.05	323	P	P	04 46 27.8	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	54.71	332	P	P	04 46 47.3	-0.1
	comp=Z,1.6nm,0.6s,baz=146,slow=4.0,SNR=5.6						
ZALV	Zalesovo Beam	54.71	332	P	P	04 46 46.2	-1.1
KURK	Kurchatov	56.11	326	P	P	04 46 57.8	+0.4
KURBB	Kurchatov Arra	56.12	326	P	P	04 46 57.8	+0.3
	comp=Z,2.3nm,0.8s,baz=128,slow=6.6,SNR=17						
TIXI	Tiksi	61.64	1	P	P	04 47 35.7	+0.4
	comp=Z,2.4nm,0.5s,baz=256,slow=2.1,SNR=6.9						
TIXI	Tiksi	61.64	1	P	P	04 47 34.7	-0.6
BVAR	Borovoye Array	61.71	326	P	P	04 47 36.7	+0.6
	comp=Z,0.5nm,0.4s,baz=107,slow=41,SNR=2.1						
GEYT	Alibeck	66.44	307	LR	LR	05 21 34.6	
	comp=Z,46nm,18.2s,baz=220,slow=40						
ARU	Arti	69.28	327	P	P	04 48 24.9	+0.1
	comp=Z,2.1nm,0.2s,baz=94,slow=5.8,SNR=4.4						
ARU	Arti	69.28	327	P	P	04 48 23.7	-1.1
ARU				IAmb	IAmb	04 48 26.4	
	comp=Z,5.6nm,1.0s						
ILAR	Eielson Array	79.84	26	P	P	04 49 25.8	0.0
	comp=Z,1.0nm,0.7s,baz=238,slow=5.5,SNR=8.8						
ARCES	ARCESS Array B	84.34	340	P	P	04 49 50.3	+1.1
	comp=Z,1.3nm,0.6s,baz=78,slow=6.3,SNR=6.3						
ARCES	ARCESS Array B	84.34	340	P	P	04 49 49.9	+0.7
BRTR	Keskin Array B	85.45	309	P	P	04 49 56.1	+0.6
	comp=Z,1.3nm,0.8s,baz=93,slow=4.4,SNR=6.6						
FINES	FINESS Array B	85.98	332	P	P	04 49 58.2	+0.7
	comp=Z,1.3nm,0.4s,baz=73,slow=5.4,SNR=15						
FINES	FINESS Array B	85.98	332	P	P	04 49 57.6	+0.1
AKASG	Malin Array Be	86.57	321	P	P	04 50 01.3	+0.7
	comp=Z,0.7nm,0.6s,baz=67,slow=4.7,SNR=4.0						
AKASG	Malin Array Be	86.57	321	P	P	04 49 59.3	-1.3
PPT	Papeete	87.80	108	LR	LR	05 26 23.5	
	comp=Z,19nm,19.4s,baz=0.0,slow=34						
VNDA	Vanda	89.69	173	P	P	04 50 16.0	+1.2
	comp=Z,1.0nm,0.9s,baz=310,slow=6.7,SNR=5.8						
VNDA	Vanda	89.69	173	P	P	04 50 14.0	-0.8
VNDA				IAmb	IAmb	04 50 17.0	
	comp=Z,1.9nm,1.1s						
BURAR	Bucovina Array	89.83	318	P	P	04 50 16.2	-0.1
BURAR				IAmb	IAmb	04 50 20.3	
	comp=Z,1.1nm,0.7s						
HFS	Hagfors	92.14	332	P	P	04 50 26.9	+0.3
	comp=Z,1.2nm,0.8s,baz=79,slow=7.5,SNR=5.5						
NOA	NORSAR Array B	92.86	334	LR	LR	05 35 13.2	
	comp=Z,12nm,20.1s,baz=55,slow=37						
YKA	Yellowknife Ar	94.15	24	P	P	04 50 36.9	+1.1
	comp=Z,1.5nm,0.8s,baz=301,slow=4.5,SNR=12						
CLL	Collm	96.13	324	*i* pP	pP	04 51 12.6	+1.1
GERES	GERESS Array B	96.71	322	P	P	04 50 48.9	+0.9
	comp=Z,0.2nm,0.3s,baz=64,slow=4.8,SNR=3.9						
TXAR	Lajitas Array	118.27	49	PKP	PKiKP	04 56 05.9	+0.9
	comp=Z,0.4nm,0.9s,baz=259,slow=0.9,SNR=2.9						
TORD	Torodi Ar. Bea	120.06	291	PKP	PKiKP	04 56 09.5	+0.8
	comp=Z,0.9nm,0.8s,baz=77,slow=1.7,SNR=3.9						

*MAN **15** 05:19:41.5, 10°.15N×126°.50E, h15km, mb4.7, ML3.6, MS3.6*
*IDC **15** 05:19:42.3±0.7, 10°.06N×126°.25E, h38km±5km, mb3.9/14, mb1 4.0/14, mb1mx3.9/41, mbtmp4.1/14, MS3.2/3, Ms1 3.2/3, ms1mx2.8/38, Error ellipse: s-maj=34.1km s-min=15.0km az=72.0*

ISC 15 05:19:38.5±0.6, 10°.19N±0°.06×126°.63E±0°.06, h10km, n26, σ1§48/32, mb4.1/14, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.74	268	⇓*e*P	Pn	05 20 09.6	+0.8
MSLP				*e*S	Sg	05 20 37.8	+3.3
CGP	Cagayan de Oro	2.57	228	⇑*e*P	Pn	05 20 20.6	+0.4
CGP				*e*S	Sn	05 20 51.7	+0.2
LLP	Lapu-Lapu	2.62	273	⇓*i*P	Pn	05 20 22.5	+1.6
LLP				*i* S	Sg	05 21 01.4	-1.4
BUKP	Musuan	2.76	214	⇓*e*P	Pn	05 20 25.6	+2.6
BUKP				*e*S	Sb	05 21 00.0	-2.0
RCP	Roxas	4.05	290	⇓*e*P	Pn	05 20 42.2	+1.6
GUMO	Guam	18.17	77	LR	LR	05 31 28.0	
	comp=Z,69nm,18.6s,baz=106,slow=38						
BATI	Baumata	20.47	188	P	P	05 24 18.0	+1.3
	47nm,0.6s,baz=277,slow=2.6,SNR=7.4						
KSRS	Korea Array	27.18	2	P	P	05 25 23.6	+1.4
	2.7nm,0.9s,baz=175,slow=11,SNR=8.9						
KSRS				LR	LR	05 36 02.9	
	comp=Z,56nm,20.0s,baz=162,slow=36						
WRA	Warramunga Arr	30.89	166	P	P	05 25 54.0	-1.4
	0.9nm,0.9s,baz=349,slow=9.2,SNR=2.9						
ASAR	Alice Springs	34.39	168	P	P	05 26 25.3	-0.8
	0.6nm,0.6s,baz=355,slow=7.0,SNR=7.8						
ASAR				PcP	PcP	05 29 01.8	-0.1
	0.5nm,0.7s,baz=344,slow=2.6,SNR=5.2						
H11N1	WAKE ISLAND Hy	39.95	71	T	T	06 10 37.0	
	baz=264,slow=74,SNR=8.2						
H11N2	WAKE ISLAND Hy	39.96	71	T	T	06 10 38.8	
	baz=264,slow=74,SNR=7.0						
H11N3	WAKE ISLAND Hy	39.97	71	T	T	06 10 38.5	
	baz=264,slow=74,SNR=9.6						
SONM	Songino Array	41.22	339	P	P	05 27 24.3	+0.6
	0.9nm,0.4s,baz=156,slow=8.5,SNR=3.9						
SONM				LR	LR	05 45 28.2	
	comp=Z,35nm,18.2s,baz=64,slow=38						
STKA	Stephens Creek	44.21	162	P	P	05 27 48.7	+0.7
	1.9nm,0.4s,baz=345,slow=9.5,SNR=4.3						
PETK	Petropavlovsk-	49.57	24	P	P	05 28 32.3	+2.6
	1.5nm,0.6s,baz=194,slow=5.5,SNR=4.3						
MKAR	Makanchi Array	52.30	323	P	P	05 28 49.3	-1.1
	1.9nm,0.6s,baz=120,slow=8.0,SNR=26						
MKAR				pP	pwP	05 29 01.1	-1.6
	1.3nm,0.6s,baz=126,slow=7.7,SNR=8.4						
MKAR				PcP	PcP	05 30 00.9	-0.7
	1.4nm,0.6s,baz=89,slow=4.9,SNR=6.2						
ZALV	Zalesovo Beam	54.87	331	P	P	05 29 07.5	-1.5
	3.5nm,0.7s,baz=114,slow=7.1,SNR=10						
ZALV				pP	pwP	05 29 19.3	-1.9
	2.0nm,0.7s,baz=130,slow=5.3,SNR=3.4						
ILAR	Eielson Array	79.36	26	P	P	05 31 44.9	+0.4
	0.4nm,0.3s,baz=242,slow=5.8,SNR=2.2						
ILAR				pP	pwP	05 31 56.5	+0.4
	0.6nm,0.5s,baz=226,slow=5.2,SNR=2.6						
ARCES	ARCESS Array B	84.39	340	P	P	05 32 10.2	-0.7
	4.3nm,0.7s,baz=76,slow=6.4,SNR=10						
ARCES				pP	pwP	05 32 22.6	-0.3
	4.3nm,0.7s,baz=75,slow=5.3,SNR=6.1						
FINES	FINESS Array B	86.13	332	P	P	05 32 18.4	-1.2
	2.4nm,0.5s,baz=71,slow=4.9,SNR=25						
FINES				pP	pwP	05 32 30.9	-0.9
	2.2nm,0.8s,baz=145,slow=7.0,SNR=4.2						
AKASG	Malin Array Be	86.85	321	P	P	05 32 21.3	-2.1
	0.2nm,0.3s,baz=71,slow=3.6,SNR=5.4						
NB2	NORSAR Subarra	92.99	334	P	P	05 32 49.8	-2.3
	comp=Z,7.1nm,1.7s,baz=69,slow=4.4						
NB2	NORSAR Subarra	92.99	334	P	P	05 32 49.8	-2.3
	baz=69,slow=4.4						
NOA	NORSAR Array B	92.99	334	P	P	05 32 50.3	-1.8
	comp=Z,0.6nm,0.8s,baz=66,slow=4.4,SNR=3.3						
NOA				pP	pwP	05 33 02.5	-1.7
	comp=Z,0.7nm,0.7s,baz=64,slow=4.6,SNR=3.2						
YKA	Yellowknife Ar	93.69	24	P	P	05 32 55.3	+0.1
	comp=Z,0.5nm,0.7s,baz=296,slow=4.4,SNR=4.1						
YKA				pP	pwP	05 33 07.4	+0.4
	comp=Z,0.6nm,0.7s,baz=303,slow=4.3,SNR=5.2						

*IDC **15** 05:24:54.6±2.5, 6°.42S×155°.38E, h34km±5km, mb3.7/5, mb1 3.9/5, mb1mx3.6/36, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=71.8km s-min=25.5km az=109.0*

ISC 15 05:24:52.7±1.9, 6°.5S±0°.2×155°.8E±0°.3, h35km, n13, σ1§10/12, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.05	251	Pn	Pn	05 27 02.2	+1.2
	7.0nm,0.3s,baz=62,slow=4.8,SNR=6.8						
PMG				LR	LR	05 29 52.7	
	comp=Z,100nm,18.7s,baz=150,slow=34						
WRA	Warramunga Arr	24.77	235	P	P	05 30 10.5	-1.0
	1.4nm,0.5s,baz=60,slow=9.6,SNR=17						
WRA				pP	pP	05 30 20.7	-0.8
	0.6nm,0.5s,baz=61,slow=9.5,SNR=2.8						
WRA				PcP	PcP	05 33 50.0	+2.3
	1.1nm,1.0s,baz=57,slow=2.9,SNR=6.5						
H11S3	WAKE ISLAND Hy	27.05	23	T	T	05 59 03.6	
	baz=204,slow=75,SNR=35						
H11S2	WAKE ISLAND Hy	27.05	23	T	T	05 59 03.8	
	baz=204,slow=75,SNR=30						
H11S1	WAKE ISLAND Hy	27.06	23	T	T	05 58 52.9	
	baz=204,slow=75,SNR=19						
ASAR	Alice Springs	27.11	229	P	P	05 30 31.9	-0.8
	0.4nm,0.5s,baz=54,slow=9.1,SNR=2.5						
ASAR				pP	pP	05 30 41.7	-1.1
	0.5nm,0.4s,baz=58,slow=9.1,SNR=3.8						
H11N1	WAKE ISLAND Hy	28.23	22	T	T	06 00 27.4	
	baz=205,slow=78						
H11N3	WAKE ISLAND Hy	28.24	23	T	T	06 00 25.6	
	baz=205,slow=78						
H11N2	WAKE ISLAND Hy	28.25	22	T	T	06 00 37.2	
	baz=205,slow=78						
CMAR	Chiang Mai Arr	61.31	295	P	P	05 35 04.8	-0.4
	1.3nm,0.3s,baz=121,slow=6.5,SNR=6.3						
CMAR				sP	sP	05 35 19.6	-0.7
	2.6nm,0.7s,baz=121,slow=4.8,SNR=3.3						
MKAR	Makanchi Array	83.57	318	P	P	05 37 17.5	+0.1
	0.7nm,0.7s,baz=97,slow=6.2,SNR=7.9						
MKAR				sP	sP	05 37 32.5	-0.2
	0.8nm,0.7s,baz=95,slow=6.8,SNR=5.9						
ZALV	Zalesovo Beam	84.22	326	P	P	05 37 20.4	-0.1
	0.7nm,0.3s,baz=145,slow=5.3,SNR=1.7						
TORD	Torodi Ar. Bea	153.67	287	PKPbc	PKPbc	05 44 49.3	+0.2
	0.2nm,0.3s,baz=80,slow=2.2,SNR=2.5						

*VIE **15** 05:32:43.9±1.5, 49°.90N×18°.60E, h0km, mb2.1/3, ml2.7/3, Error ellipse: s-maj=10.2km s-min=7.3km az=67.0 26 km ENE of Ostrava Suspected Mining induced.*
*IPEC **15** 05:32:44.7±0.2, 49°.87N×18°.56E, h0km, ML2.2/3, Error ellipse: s-maj=1.8km s-min=0.9km az=31.0*
*KRSZO **15** 05:32:45.6±1.1, 49°.81N×18°.54E, h6km±6km, ML1.5/3, Error ellipse: s-maj=6.5km s-min=3.4km az=45.0*
*PRU **15** 05:32:46.6±0.0, 49°.84N×18°.45E, h0km, Mining Induced Event Csm, E=7.7e+05*

ISC 15 05:32:45.1±0.8, 49°.81N±0°.03×18°.53E±0°.03, h0km, n39, σ0§73/63, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.25	276	*e*PG	Pg	05 32 50.7	+0.9
OKC				*e*SG	Sg	05 32 53.8	+0.7
	comp=Z,129nm,0.5s						
OKC	Ostrava-Krasne	0.25	276	Pb	Pg	05 32 50.6	+0.7
	comp=Z,0.3nm,SNR=14						
OKC				Sg	Sg	05 32 55.0	+2.0
MORC	Moravsky Berou	0.64	267	*e*Pg	Pg	05 32 57.7	+0.4
	baz=82						
MORC				*e*Sg	Sg	05 33 05.4	-0.2
	comp=Z,30nm,0.2s,baz=82						
MORC	Moravsky Berou	0.64	267	*e*PG	Pg	05 32 57.8	+0.4
MORC				*e*SG	Sg	05 33 05.4	-0.2
MORC	Moravsky Berou	0.64	267	x	x	05 32 58.0	
MORC				Sg	Sg	05 33 06.2	+0.5
LOSC	Losov	0.78	256	*e*Pg	Pg	05 33 00.2	+0.3
	baz=72						
ANAC	Anensky vrch	0.79	290	*e*Pg	Pg	05 33 00.0	-0.2
	baz=105						
MUVC	Mutkov	0.81	270	*e*Pg	Pg	05 33 00.4	-0.2
	baz=85						
LANS	Liptovska Anna	0.90	137	Pg	Pg	05 33 02.4	+0.1
	comp=Z,0.3nm,SNR=20						
LANS				Lg	Lg	05 33 16.0	
LANS	Liptovska Anna	0.90	137	*e*PG	Pg	05 33 02.6	+0.3
LANS				*e*SG	Sb	05 33 15.6	-0.6
LANS				*e*LG	Lg	05 33 19.0	
LIPC	Lipinka	0.96	272	*e*Pg	Pg	05 33 03.3	-0.1
	baz=88						
JAVC	Velka Javorina	1.11	211	*e*Pg	Pb	05 33 07.2	+0.1
	baz=30						
JAVC	Velka Javorina	1.11	211	*e*PG	Pb	05 33 07.2	+0.1
JAVC	Velka Javorina	1.11	211	Pb	Pn	05 33 07.8	-0.1
JAVC				Lg	Lg	05 33 24.7	
KRLC	Kraliky	1.16	284	*e*PG	Pg	05 33 06.0	-1.3
KRLC				*e*SG	Sg	05 33 22.4	+0.1
	comp=Z,40nm,0.3s						
VYHS	Vyhne	1.33	171	Pn	Pg	05 33 10.7	0.0
	SNR=3.1						
VYHS				Sn	Sn	05 33 29.5	+0.1
VYHS	Vyhne	1.33	171	*e*PG	Pg	05 33 10.6	0.0
VYHS				*e*SG	Sn	05 33 29.4	0.0
VRAC	Vranov	1.36	249	*e*Pg	Pg	05 33 10.7	-0.3
	baz=66						
VRAC				*e*Sg	Sg	05 33 28.5	-0.2
	comp=Z,42nm,0.3s,baz=66						
VRAC	Vranov	1.36	249	*e*PG	Pg	05 33 10.8	-0.3
VRAC				*e*SG	Sg	05 33 28.5	-0.2
VRAC	Vranov	1.36	249	Pn	Pg	05 33 10.8	-0.3
VRAC				Sg	Sn	05 33 29.6	-0.4
SMOL	Smolenice	1.49	209	*e*PN	Pn	05 33 13.2	+0.1
SMOL				*e*SN	Sg	05 33 32.7	-0.1
SMOL				*e*LG	Lg	05 33 34.4	
DPC	Dobruska-Polom	1.52	292	*e*PG	Pn	05 33 12.6	-1.0
DPC				*e*SG	Sg	05 33 33.4	-0.5
	comp=Z,19nm,0.2s						
KRUC	Moravsky	1.58	242	*e*Pg	Pn	05 33 14.0	-0.4
	baz=59						
KRUC				*e*Sg	Sg	05 33 35.8	-0.1
	comp=Z,28nm,0.2s,baz=59						
KRUC	Moravsky	1.58	242	*e*PG	Pn	05 33 14.0	-0.4
KRUC				*e*SG	Sg	05 33 35.8	-0.1
KRUC	Morav

AKTO	**Aktyubinsk**	**16.73**	**329**	⇑P	**P**	**05 41 12.6 +0.6**
	0.6nm,0.6s					
AKTO				⇑S	S	05 44 12.1 -6.0
	1.5nm,0.8s					
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**05 41 43.1 +1.1**
	0.2nm,0.3s,baz=220,slow=11,SNR=5.4					
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**05 44 26.4 +1.0**
	0.6nm,0.7s,baz=100,slow=7.6,SNR=1.1					
WRA	**Warramunga Arr**	**81.81**	**122**	P	**P**	**05 49 27.0 -2.3**
	0.8nm,0.9s,baz=309,slow=6.3,SNR=4.8					

*JMA **15** 05:43:34.0±0.2,24°.52N×122°.86E,h106km±2km,M1.9*
*TAP **15** 05:43:34.4,24°.61N×122°.87E,h102km,ML2.9,D*
ISC 15 05:43:35.2±1.4,24°.53N±0°.06×122°.88E±0°.03,h96km±8km, n56,σ0°98/100,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.10**	**142**	P	**Pn**	**05 43 48.8**	**+0.2**
JYNG				S	**Sn**	**05 43 59.7**	**+1.2**
YOJ	**Yonaguni jima**	**0.14**	**119**	P	**Pn**	**05 43 49.0**	**+0.3**
YOJ				S	**Sn**	**05 43 59.8**	**+1.1**
YOJ	**Yonaguni jima**	**0.14**	**119**	P	**Pn**	**05 43 49.1**	**+0.5**
	baz=150						
YOJ				S	**Sn**	**05 43 59.8**	**+1.1**
	baz=150						
IRIF	**Iriomote-Funau**	**0.80**	**104**	S	**Sn**	**05 44 06.8**	**+0.2**
TWC	**Suao**	**0.94**	**275**	P	**Pn**	**05 43 53.8**	**-0.8**
	baz=269						
TWC				*e*S	**Sn**	**05 44 08.4**	**-0.7**
	baz=269						
HATJ	**Hateruma jima**	**0.97**	**119**	P	**Pn**	**05 43 54.7**	**-0.2**
HATJ				S	**Sn**	**05 44 10.0**	**+0.2**
NDS	**Dongshan**	**1.06**	**276**	*i* P	**Pn**	**05 43 56.1**	**+0.1**
	baz=270						
NDS				*i* S	**Sn**	**05 44 11.0**	**-0.6**
	baz=270						
JKRS	**Kuro-shima**	**1.07**	**106**	P	**Pn**	**05 43 56.6**	**+0.5**
JKRS				S	**Sn**	**05 44 12.5**	**+0.7**
JIJ	**Ishigaki jima**	**1.17**	**98**	P	**Pn**	**05 43 56.8**	**-0.3**
JIJ				S	**Sn**	**05 44 12.9**	**-0.8**
ENTT	**Nioudou**	**1.20**	**275**	*i* P	**Pn**	**05 43 58.0**	**+0.5**
	baz=266						
ENTT				*e*S	**Sn**	**05 44 14.6**	**+0.1**
	baz=266						
ETL	**Fush Village**	**1.20**	**252**	*e*S	**Sn**	**05 44 14.2**	**-0.4**
	baz=241						
NACB	**Ninganchiao**	**1.22**	**253**	P	**Pn**	**05 43 57.2**	**-0.6**
	baz=243						
NACB				S	**Sn**	**05 44 14.1**	**-0.8**
	baz=243						
NDT	**Datong Townshi**	**1.24**	**274**	*i* P	**Pn**	**05 43 58.1**	**0.0**
	baz=266						
NDT				*i* S	**Sn**	**05 44 15.2**	**-0.2**
	baz=266						
NWLT	**Wulai**	**1.27**	**281**	*i* P	**Pn**	**05 43 58.2**	**-0.2**
	baz=283						
NWLT				S	**Sn**	**05 44 15.3**	**-0.8**
	baz=283						
JISG	**Ishigakijimahi**	**1.31**	**87**	P	**Pn**	**05 43 58.4**	**-0.4**
JISG				S	**Sn**	**05 44 15.8**	**-0.9**
ETLH	**Xiulin Townshi**	**1.31**	**256**	P	**Pn**	**05 43 58.6**	**-0.4**
	baz=247						
ETLH				S	**Sn**	**05 44 16.3**	**-0.7**
	baz=247						
TEYL	**Yanliau Villag**	**1.34**	**241**	S	**Sn**	**05 44 16.8**	**-0.6**
	baz=239						
NNSB	**Datong**	**1.36**	**266**	P	**Pn**	**05 43 59.4**	**-0.3**
	baz=255						
NNSB				S	**Sn**	**05 44 16.9**	**-1.2**
	baz=255						
NNSH	**Datong**	**1.36**	**266**	*i* P	**Pn**	**05 43 59.3**	**-0.4**
	baz=255						
NNSH				*i* S	**Sn**	**05 44 17.6**	**-0.6**
	baz=255						
YHNB	**Yeheng**	**1.37**	**276**	P	**Pn**	**05 43 58.9**	**-0.8**
	baz=265						
YHNB				S	**Sn**	**05 44 17.8**	**-0.5**
	baz=265						
ETM	**Tongmen**	**1.38**	**246**	P	**Pn**	**05 43 59.1**	**-0.7**
	baz=240						
ETM				S	**Sn**	**05 44 17.6**	**-0.8**
	baz=240						
NSK	**Sanguang**	**1.39**	**276**	*i* P	**Pn**	**05 43 60.0**	**+0.1**
	baz=265						
NSK				*i* S	**Sn**	**05 44 18.0**	**-0.6**
	baz=265						
ESL	**Shilin**	**1.50**	**242**	*e*P	**Pn**	**05 44 00.6**	**-0.6**
	baz=243						
ESL				S	**Sn**	**05 44 19.8**	**-1.2**
	baz=243						
FUSS	**Fushou**	**1.52**	**260**	*i* P	**Pn**	**05 44 01.7**	**+0.1**
	baz=256						
FUSS				S	**Sn**	**05 44 20.8**	**-0.9**
	baz=256						
WHF	**Hehuan Shan**	**1.52**	**256**	*i* P	**Pn**	**05 44 01.5**	**-0.4**
	baz=258						
WHF				*i* S	**Sn**	**05 44 20.9**	**-1.1**
	baz=258						
EGFH	**Guangfu**	**1.58**	**237**	S	**Sn**	**05 44 20.9**	**-1.7**
	baz=231						
TDCB	**Techi**	**1.59**	**260**	P	**Pn**	**05 44 02.8**	**+0.3**
	baz=253						
TDCB				S	**Sn**	**05 44 22.1**	**-1.1**
	baz=253						
CHGB	**Renai**	**1.62**	**254**	P	**Pn**	**05 44 02.9**	**0.0**
	baz=244						
CHGB				S	**Sn**	**05 44 23.0**	**-1.1**
	baz=244						
OWD	**Renai**	**1.66**	**250**	*i* P	**Pn**	**05 44 02.9**	**-0.5**
	baz=243						
OWD				*i* S	**Sn**	**05 44 23.7**	**-0.9**
	baz=243						
JTJ	**Tarama**	**1.67**	**86**	P	**Pn**	**05 44 03.1**	**-0.2**
JTJ				*e*S	**Sn**	**05 44 23.5**	**-1.1**
HGSD	**Ruisui**	**1.68**	**232**	P	**Pn**	**05 44 03.7**	**+0.2**
	baz=228						
HGSD				S	**Sn**	**05 44 24.5**	**-0.5**
	baz=228						
NSTT	**Nanjuang**	**1.71**	**274**	S	**Sn**	**05 44 24.9**	**-0.7**
	baz=269						
EHY	**Hungye**	**1.75**	**235**	*i* P	**Pn**	**05 44 03.8**	**-0.6**
	baz=232						
EHY				S	**Sn**	**05 44 25.2**	**-1.4**
	baz=232						
WHP	**Taichung City**	**1.78**	**262**	*i* P	**Pn**	**05 44 05.7**	**+0.9**
	baz=256						
WHP				*i* S	**Sn**	**05 44 27.7**	**+0.3**
	baz=256						
YULB	**Yu-li**	**1.84**	**232**	P	**Pn**	**05 44 04.6**	**-0.9**
	baz=238						
YULB				S	**Sn**	**05 44 27.0**	**-1.5**
	baz=238						
EYUL	**Yuli**	**1.85**	**231**	*e*P	**Pn**	**05 44 06.3**	**+0.6**
	baz=226						
EYUL				S	**Sn**	**05 44 29.2**	**+0.4**
	baz=226						
WCS	**Beigang Elemen**	**1.85**	**256**	*i* P	**Pn**	**05 44 06.4**	**+0.7**
	baz=250						
WCS				*i* S	**Sn**	**05 44 29.7**	**+0.7**
	baz=250						
TWF1	**Yuli**	**1.86**	**231**	*i* P	**Pn**	**05 44 05.5**	**-0.3**
	baz=238						
TWF1				*i* S	**Sn**	**05 44 28.5**	**-0.6**
	baz=238						
SSLB	**Suanglung**	**1.91**	**248**	P	**Pn**	**05 44 06.4**	**0.0**
	baz=245						
SSLB				S	**Sn**	**05 44 29.4**	**-0.8**
	baz=245						
SMLT	**Sun Moon Lake**	**1.92**	**251**	*i* P	**Pn**	**05 44 07.5**	**+0.8**
	baz=244						
SMLT				S	**Sn**	**05 44 31.5**	**+0.9**
	baz=244						
TYC	**Yuchr**	**1.95**	**252**	*i* P	**Pn**	**05 44 07.6**	**+0.7**
	baz=244						
TYC				*i* S	**Sn**	**05 44 32.0**	**+1.0**
	baz=244						
FULB	**Fuli**	**1.96**	**228**	*e*P	**Pn**	**05 44 05.1**	**-2.0**
	baz=221						
FULB				S	**Sn**	**05 44 31.0**	**-0.5**
	baz=221						
CHKT	**Chengkung**	**1.99**	**224**	S	**Sn**	**05 44 30.6**	**-1.4**
	baz=221						
JIRB	**Irabujima**	**2.11**	**81**	*e*S	**Sn**	**05 44 34.4**	**-0.5**
EDH	**Donghe**	**2.12**	**223**	P	**Pn**	**05 44 07.8**	**-1.3**
	baz=220						
EDH				S	**Sn**	**05 44 33.8**	**-1.3**
	baz=220						
ALS	**Alishan**	**2.15**	**242**	*i* P	**Pn**	**05 44 10.8**	**+1.0**
	baz=234						
ALS				S	**Sn**	**05 44 38.2**	**+1.9**
	baz=234						
ELDTW	**Lidau**	**2.16**	**232**	P	**Pn**	**05 44 09.5**	**-0.4**
	baz=226						
ELDTW				S	**Sn**	**05 44 34.6**	**-1.7**
	baz=226						
JIKM	**Ikemajima**	**2.19**	**79**	*e*S	**Sn**	**05 44 37.0**	**+0.2**
CHN5	**Tsauling**	**2.21**	**246**	*i* P	**Pn**	**05 44 10.4**	**-0.1**
	baz=237						
CHN5				*i* S	**Sn**	**05 44 39.5**	**+2.0**
	baz=237						
LDUT	**Ludao**	**2.25**	**215**	*e*S	**Sn**	**05 44 37.0**	**-1.2**
	baz=212						
CHN4	**Tsaushan**	**2.40**	**241**	P	**Pn**	**05 44 14.4**	**+1.6**
	baz=232						
CHN4				*i* S	**Sn**	**05 44 43.9**	**+2.2**
	baz=232						
WTP	**Ta-pu**	**2.43**	**239**	P	**Pn**	**05 44 14.6**	**+1.2**
	baz=230						
WTP				S	**Sn**	**05 44 44.0**	**+1.4**
	baz=230						
TWK	**Hsinying**	**2.52**	**241**	*e*S	**Sn**	**05 44 46.9**	**+2.1**
	baz=238						
CHN1	**Nanshi**	**2.53**	**239**	*e*S	**Sn**	**05 44 47.5**	**+2.6**
	baz=246						
SLGT	**Liugui**	**2.55**	**234**	P	**Pn**	**05 44 16.2**	**+1.3**
	baz=225						
SLGT				S	**Sn**	**05 44 46.6**	**+1.3**
	baz=225						
MASBT	**Mashibuluo**	**2.81**	**228**	P	**Pn**	**05 44 19.7**	**+1.4**
	baz=225						

*ATH **15** 05:55:36.7,38°.14N×20°.63E,h15km±3km,ML2.5/3,Error ellipse: s-maj=3.3km s-min=0.9km az=262.0*
*THE **15** 05:55:37.0,38°.13N×20°.62E,h12km±1km,ML2.3/4,Error ellipse: s-maj=1.5km s-min=0.6km az=244.0*
ISC 15 05:55:36.8±1.1,38°.14N±0°.03×20°.63E±0°.04,h13km±6km, n21,σ0°48/34,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.04**	**238**	P	**Pg**	**05 55 39.0**	**-0.2**
PSDA				S	**Sg**	**05 55 40.6**	**-0.2**
VLS	**Valsamata**	**0.05**	**325**	P	**Pg**	**05 55 39.2**	**-0.2**
VLS				S	**Sg**	**05 55 40.9**	**-0.2**
	5μm,0.1s						
VLS	**Valsamata**	**0.05**	**325**	P	**Pg**	**05 55 39.1**	**-0.2**
VLS				S	**Sg**	**05 55 40.9**	**-0.2**
VLS				AML	AML	05 55 41.2	
	comp=N,4195μm,0.1s						
VLS				AML	AML	05 55 41.3	
	comp=E,6216μm,0.1s						
KEF5	**Kardakata, Kep**	**0.19**	**319**	P	**Pg**	**05 55 41.2**	**+0.1**
KEF5	**Kardakata, Kep**	**0.19**	**319**	P	**Pg**	**05 55 41.2**	**+0.1**
KEF5				S	**Sg**	**05 55 44.9**	**+0.8**
KEF4	**Livadi, Kephal**	**0.20**	**308**	P	**Pg**	**05 55 41.6**	**+0.4**
KEF4	**Livadi, Kephal**	**0.20**	**308**	P	**Pg**	**05 55 41.2**	**0.0**
KEF4				S	**Sb**	**05 55 45.3**	**-0.7**
DMLN	**Damoulianata-K**	**0.23**	**297**	P	**Pg**	**05 55 41.7**	**0.0**
DMLN				S	**Sb**	**05 55 46.0**	**-0.7**
	comp=E,772nm,0.2s						
DMLN	**Damoulianata-K**	**0.23**	**297**	P	**Pg**	**05 55 41.7**	**0.0**
KEF3	**Kipouria, Keph**	**0.23**	**287**	P	**Pg**	**05 55 41.5**	**-0.2**
KEF3	**Kipouria, Keph**	**0.23**	**287**	P	**Pg**	**05 55 41.3**	**-0.4**
KEF3				S	**Sg**	**05 55 45.7**	**+0.6**
VLMS	**Volimes, Zakyn**	**0.26**	**174**	P	**Pg**	**05 55 42.1**	**-0.2**
VLMS				S	**Sg**	**05 55 46.6**	**+0.7**
	comp=E,1μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.26**	**174**	P	**Pg**	**05 55 42.1**	**-0.2**
VLMS				S	**Sg**	**05 55 46.8**	**+0.8**
VLMS				AML	AML	05 55 46.8	
	comp=N,2879μm,0.2s						
VLMS				AML	AML	05 55 47.5	
	comp=E,3175μm,0.3s						
FSK	**Fiskardo**	**0.33**	**351**	P	**Pg**	**05 55 43.2**	**-0.3**
FSK				S	**Sg**	**05 55 48.8**	**+0.8**
	comp=E,890nm,0.2s						
FSK	**Fiskardo**	**0.33**	**351**	P	**Pg**	**05 55 43.4**	**-0.1**
FSK				S	**Sg**	**05 55 48.4**	**+0.5**
FSK				AML	AML	05 55 50.0	
	comp=E,2802μm,0.1s						
FSK				AML	AML	05 55 50.2	
	comp=N,705μm,0.3s						
LTHK	**Lithakia**	**0.46**	**159**	P	**Pg**	**05 55 45.3**	**-0.4**
LTHK	**Lithakia**	**0.46**	**159**	P	**Pg**	**05 55 45.4**	**-0.4**
LTHK				S	**Sg**	**05 55 52.6**	**+0.8**
EVGI	**Lefkada island**	**0.49**	**3**	P	**Pg**	**05 55 46.2**	**-0.2**
VTN	**Vitineika**	**0.49**	**116**	P	**Pg**	**05 55 46.4**	**-0.1**
VTN				S	**Sb**	**05 55 54.9**	**+0.6**
VTN	**Vitineika**	**0.49**	**116**	P	**Pg**	**05 55 46.3**	**-0.1**
RLS	**Riolos of Patr**	**0.67**	**96**	P	**Pg**	**05 55 48.9**	**-0.8**

*IDC **15** 05:59:52.7±0.8,52°.81S×141°.29E,h0km,mb4.2/4, mb1 4.3/4,mb1mx4.1/19,mbtmp4.2/4,MS3.6/5,Ms1 3.6/5, ms1mx3.3/20,Error ellipse: s-maj=91.1km s-min=19.0km az=81.0*
ISC 15 05:59:53.9±0.9,52°.8S±0°.2×141°.1E±0°.6,h10km,n21, σ0°58/12,mb4.2/4,MS3.7/6,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.93**	**1**	LR	LR	06 11 37.3	
	comp=Z,148nm,18.6s,baz=193,slow=34						
VNDA	**Vanda**	**25.96**	**170**	P	**P**	**06 05 26.8**	**+0.8**
	3.2nm,1.0s,baz=324,slow=9.8,SNR=9.7						
VNDA				LR	LR	06 14 53.4	
	comp=Z,76nm,18.6s,baz=325,slow=35						
H01W1	**Cape Leeuwin H**	**26.18**	**302**	T	T	06 32 17.4	
	baz=142,slow=75,SNR=48						
H01W2	**Cape Leeuwin H**	**26.18**	**302**	T	T	06 32 17.7	
	baz=142,slow=75,SNR=50						
H01W3	**Cape Leeuwin H**	**26.19**	**302**	T	T	06 32 18.7	
	baz=142,slow=75,SNR=46						
ASAR	**Alice Springs**	**29.61**	**347**	P	**P**	**06 05 59.8**	**+0.7**
	1.9nm,0.7s,baz=171,slow=9.7,SNR=11						
ASAR				PcP	**PcP**	**06 09 04.1**	**+0.4**
	1.1nm,0.8s,baz=165,slow=2.4,SNR=2.5						
WRA	**Warramunga Arr**	**33.22**	**348**	P	**P**	**06 06 31.4**	**+0.4**
	3.6nm,0.8s,baz=171,slow=6.9,SNR=10						
WRA				PcP	**PcP**	**06 09 13.9**	**+0.5**
	1.4nm,0.8s,baz=176,slow=2.3,SNR=2.7						
QSPA	**South Pole Qui**	**37.30**	**180**	P	**P**	**06 07 05.7**	**-0.1**
	5.3nm,1.0s,baz=344,slow=4.7,SNR=12						
MAW	**Mawson**	**38.59**	**217**	LR	LR	06 21 02.4	
	comp=Z,213nm,20.8s,baz=64,slow=33						
USHA	**Ushuaia**	**69.97**	**162**	LR	LR	06 37 02.4	
	comp=Z,788nm,21.1s,baz=320,slow=32						
H08S2	**Diego Garcia H**	**71.05**	**283**	T	T	07 28 12.7	
	baz=138,slow=76,SNR=9.1						
H08S1	**Diego Carcia H**	**71.06**	**283**	T	T	07 28 11.4	
	baz=138						
H08S3	**Diego Garcia H**	**71.07**	**283**	T	T	07 28 11.3	
	baz=138,slow=76,SNR=16						
RPN	**Rapa Nui**	**79.69**	**121**	LR	LR	06 39 08.5	
	comp=Z,31nm,21.8s,baz=97,slow=30						
BOSA	**Boshof**	**81.59**	**233**	LR	LR	06 41 36.8	
	comp=Z,47nm,20.3s,baz=184,slow=31						
NVAR	**Mina Array Bea**	**125.44**	**71**	PKP	**PKiKP**	**06 18 54.8**	**-0.4**
	0.1nm,0.3s,baz=50,slow=47,SNR=2.4						
ILAR	**Eielson Array**	**129.63**	**32**	PKP	**PKPdf**	**06 19 00.9**	**-0.7**
	0.4nm,0.3s,baz=245,slow=5.9,SNR=4.2						
FINES	**FINESS Array B**	**145.10**	**310**	PKPbc	**PKPbc**	**06 19 29.4**	**-0.2**
	5.4nm,0.8s,baz=90,slow=3.8,SNR=7.3						
ARCES	**ARCESS Array B**	**146.73**	**325**	PKPbc	**PKPab**	**06 19 35.0**	**-0.7**
	3.5nm,0.8s,baz=100,slow=6.3,SNR=2.4						
GERES	**GERESS Array B**	**147.14**	**285**	PKPbc	**PKPbc**	**06 19 36.2**	**-0.1**
	1.1nm,0.6s,baz=106,slow=2.9,SNR=4.2						
SPITS	**Spitsbergen Ar**	**148.09**	**341**	PKPbc	**PKPbc**	**06 19 37.6**	**-0.5**
	11nm,1.1s,baz=64,slow=6.6,SNR=1.5						

ASRS 15 06:13:18.0±0.3,52°N±2°×9°6E±°,h5km,MLh3.5/16, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.77**	**262**	Pg	Pn	06 13 39.0	+3.5
KZLR				Sg	Sn	06 13 50.1	+2.7
ARDR	**Aradan**	**1.57**	**300**	Pg	Pg	06 13 53.3	+5.2
ARDR				Sg	Sg	06 14 15.7	+7.2
ERNS	**Erzin**	**1.60**	**192**	Pg	Pg	06 13 49.0	+0.5
ERNS				Sg	Sg	06 14 10.3	+1.1
KNGR	**Kungurtug, Tuv**	**1.69**	**136**	Pg	Pg	06 13 51.1	+0.8
KNGR				Sg	Sg	06 14 12.0	0.0
DJOS	**Djoyskaya Sosn**	**2.80**	**292**	Pg	Pg	06 14 10.6	-0.9
DJOS				Sg	Sg	06 14 51.6	+3.8
CERR	**Cheremushki**	**2.81**	**293**	Pg	Pg	06 14 11.6	-0.1
CERR				Sg	Sg	06 14 52.8	+4.7
DJO	**Djoy, Khakassi**	**2.90**	**291**	Pg	Pg	06 14 12.8	-0.7
DJO				Sg	Sg	06 14 55.2	+4.3
TBTR	**Tabat**	**3.23**	**292**	Pg	Pn	06 14 12.4	+3.1
TBTR				Sg	Sg	06 15 00.7	-1.0
TEL	**Teeli**	**3.52**	**259**	Pg	Pb	06 14 21.3	+0.5
TEL				Sg	Sg	06 15 11.8	+0.9
LUZB	**Luzhba, Kemero**	**4.51**	**297**	Pg	Pg	06 14 43.7	-0.6
LUZB				Sg	Sg	06 15 43.5	+0.9
SHTK	**Zheleznogorsk-**	**4.68**	**346**	Pg	Pb	06 14 43.8	+3.4
SHTK				Sg	Sb	06 15 42.4	+5.4
CUR	**Chagan-Uzun**	**4.94**	**252**	Pg	Pg	06 14 54.0	+1.5
CUR				Sg	Sg	06 15 56.8	+0.4
ULGR	**Ulagan, Altay**	**4.99**	**259**	Sg	Sg	06 16 01.1	+2.9
ARTR	**Artybash**	**5.21**	**273**	Sg	Sg	06 16 09.3	+4.3
AKAR	**Aktash**	**5.29**	**257**	Pg	Pg	06 15 00.8	+1.4
AKAR				Sg	Sg	06 16 11.1	+3.2
DGZ	**Jazzator, Alta**	**5.64**	**251**	Pg	Pg	06 15 08.6	+2.5
DGZ				Sg	Sg	06 16 22.2	+3.1
BRCR	**Berchikul'**	**5.80**	**314**	Pg	Pg	06 15 10.2	+1.2
BRCR				Sg	Sg	06 16 25.4	+1.4
ELT	**Eltsovka**	**5.93**	**288**	Pg	Pg	06 15 12.0	+0.5
ELT				Sg	Sg	06 16 28.3	0.0

MAN 15 06:13:20.0,6°.96N×125°.88E,h30km,mb4.5,ML3.4,MS3.2, Mindanao

*IDC **15** 06:27:22.1±3.6,20°.58S×64°.47W,h34km±31km,mb3.6/4, mb1 3.9/8,mb1mx3.6/43,mbtmp3.8/8,ML3.7/4,MS3.1/3, Ms1 3.1/3,ms1mx2.7/29,Error ellipse: s-maj=28.2km s-min=20.8km az=29.0*
*SCB **15** 06:27:22.5±1.2,20°.87S×64°.84W,h45km±16km,ML4.2/1, MW3.3,Error ellipse: s-maj=6.9km s-min=4.4km az=1.0*
ISC 15 06:27:20.0±0.9,20°.86S±0°.06×64°.77W±0°.07,h35km,n23, σ2°03/25,mb3.7/4,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.90**	**244**	P	**Pn**	**06 27 35.2**	**-1.4**
MOCB				S	**Sn**	**06 27 45.5**	**-3.1**
MOCB				IAML		06 27 47.3	
	8μm,0.3s						
YJA	**Yavi**	**1.48**	**208**	P	**Pn**	**06 27 44.0**	**-0.6**
SLA	**San Lorenzo**	**3.90**	**190**	P	**Pn**	**06 28 16.8**	**-0.8**
PB08	**IPOC Station P**	**4.17**	**279**	P	**Pn**	**06 28 19.8**	**-1.8**
LVC	**Limon Verde**	**4.22**	**245**	Pn	Pn	06 28 30.2	+8.0
	1.6nm,0.3s,baz=34,slow=6.9,SNR=14						
LVC	**Limon Verde**	**4.22**	**245**	P	**Pn**	**06 28 20.5**	**-1.7**
PB11	**IPOC Station P**	**4.71**	**283**	P	**Pn**	**06 28 27.1**	**-1.7**
PB03	**IPOC Station P**	**4.79**	**255**	P	**Pn**	**06 28 28.3**	**-1.5**
PB06	**IPOC Station P**	**4.82**	**247**	P	**Pn**	**06 28 28.6**	**-1.7**
PB07	**IPOC Station P**	**4.85**	**259**	P	**Pn**	**06 28 28.9**	**-1.8**
MNMC	**Minye Minye**	**4.85**	**290**	P	**Pn**	**06 28 28.8**	**-2.1**
BBOE	**La Paz, Chanca**	**5.05**	**322**	P	**Pn**	**06 28 32.5**	**-1.3**
PSGC	**Pisagua**	**5.18**	**283**	P	**Pn**	**06 28 33.5**	**-1.7**
LPAZ	**La Paz**	**5.56**	**324**	Pn	**Pn**	**06 28 41.8**	**+1.0**
	1.6nm,0.3s,baz=147,slow=5.9,SNR=45						
LPAZ				Sn	**Sn**	**06 29 44.1**	**+0.4**
	10nm,0.3s,baz=306,slow=18,SNR=9.4						
LPAZ				LR	LR	06 31 26.3	
	comp=Z,55nm,20.6s,baz=133,slow=44						
LPAZ	**La Paz**	**5.56**	**324**	P	**Pn**	**06 28 38.9**	**-1.9**
BBOB	**La Paz, Bander**	**5.68**	**325**	P	**Pn**	**06 28 40.7**	**-1.7**
SIV	**San Ignacio**	**5.98**	**37**	Pn	**Pn**	**06 28 43.7**	**-2.5**
	3.6nm,0.3s,baz=243,slow=8.0,SNR=69						
SIV				Sn	**Sn**	**06 29 48.7**	**-4.8**
	2.1nm,0.3s,baz=237,slow=8.1,SNR=3.6						
SIV	**San Ignacio**	**5.98**	**37**	P	**Pn**	**06 28 44.7**	**-1.5**
CPUP	**Villa Fiorida**	**8.73**	**130**	Pn	**Pn**	**06 29 25.1**	**+1.4**
	0.2nm,0.3s,baz=319,slow=13,SNR=1.3						
CPUP				Lg	Lg	06 32 00.8	
	0.5nm,0.3s,baz=31,slow=16,SNR=3.3						
TXAR	**Lajitas Array**	**62.42**	**322**	P	**P**	**06 37 41.8**	**+2.0**
	0.3nm,0.9s,baz=147,slow=12,SNR=2.8						
TXAR				LR	LR	07 05 04.0	
	comp=Z,33nm,19.2s,baz=0.0,slow=36						
TORD	**Torodi Ar. Bea**	**73.52**	**69**	P	**P**	**06 38 48.9**	**-0.8**
	1.1nm,0.6s,baz=249,slow=4.7,SNR=3.9						
TORD				LR	LR	07 11 24.5	
	comp=Z,19nm,19.7s,baz=220,slow=36						
PDAR	**Pinedale Array**	**75.57**	**328**	P	**P**	**06 39 03.2**	**+1.9**
	0.3nm,0.6s,baz=118,slow=7.2,SNR=2.6						
ULM	**Lac du Bonnet**	**75.96**	**340**	P	**P**	**06 39 04.8**	**+1.7**
	3.3nm,0.6s,baz=148,slow=7.5,SNR=4.8						

*IDC **15** 06:49:42.6±0.8,33°.12N×139°.68E,h0km,mb4.0/14, mb1 4.2/16,mb1mx4.0/55,mbtmp4.0/16,ML3.3/2,MS3.3/1, Ms1 3.3/1,ms1mx2.6/49,Error ellipse: s-maj=22.5km s-min=5.9km az=11.0*
*NEIC **15** 06:49:45.6±1.9,33°.34N±0°.07×139°.55E±0°.07,h8km±5km, mb4.4/15,Error ellipse: s-maj=12.1km s-min=5.6km az=219.0*
*JMA **15** 06:49:45.3±0.2,33°.30N×139°.57E,h32km,M3.6*
*NIED **15** 06:49:45.3,33°.30N×139°.57E,h32km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.14; $M_{\theta\theta}$0.37; $M_{\phi\phi}$1.78; $M_{r\theta}$-0.03; $M_{\theta\phi}$-0.46; $M_{\phi r}$3.04; Fault plane solution: $M_0$3.65000×10^{15} NP1: ϕ±176.00000°,δ73.00000°,λ-84.00000°. NP2: ϕ±335.00000°,δ18.00000°,λ-110.00000°.*
ISC 15 06:49:45.1±1.3,33°.30N±0°.04×139°.51E±0°.05,h10km±8km, n72,σ1°05/66,mb4.2/23,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.29**	**128**	Pn	**Pb**	**06 49 51.4**	**-1.1**
	1μm,0.3s,baz=72,slow=21,SNR=28						
JHJ				LR	LR	06 49 52.4	
	comp=Z,163nm,21.4s,baz=268,slow=

0.8nm,0.3s,baz=221,slow=19,SNR=2.5
H11N2 WAKE ISLAND Hy 27.89 112 T T 07 24 40.3
baz=304,slow=75
H11N1 WAKE ISLAND Hy 27.89 112 T T 07 24 40.8
baz=304,slow=75,SNR=180
H11N3 WAKE ISLAND Hy 27.91 112 T T 07 24 41.7
baz=304,slow=75
ULN Ulaanbaatar 28.37 311 P **P** **06 55 41.3 +1.7**
H11S3 WAKE ISLAND Hy 28.44 114 T T 07 25 22.7
baz=307,slow=75,SNR=202
H11S1 WAKE ISLAND Hy 28.44 114 T T 07 25 22.9
baz=307,slow=75,SNR=142
H11S2 WAKE ISLAND Hy 28.46 114 T T 07 25 24.0
baz=307,slow=75,SNR=150
ZALV Zalesovo Beam 43.37 315 P **P** **06 57 48.5 +1.1**
0.6nm,0.3s,baz=99,slow=8.9,SNR=2.7
ZALV PcP **PcP** **06 59 35.4 -0.5**
0.7nm,0.3s,baz=132,slow=4.3,SNR=4.4
MKAR Makanchi Array 44.88 305 P **P** **06 57 60.0 +0.3**
1.4nm,1.0s,baz=82,slow=8.7,SNR=6.8
MKAR PcP **PcP** **06 59 40.7 -0.6**
0.7nm,1.0s,baz=100,slow=4.4,SNR=2.2
MAKZ Makanchi 45.09 305 P **P** **06 58 00.2 -1.2**
MAKZ IAmb IAmb 06 58 18.5
comp=Z,1.9nm,0.6s
KDAK Kodiak Island 50.94 40 P **P** **06 58 46.7 +0.3**
comp=Z,2.6nm,0.7s,baz=284,slow=5.6,SNR=11
KDAK Kodiak Island 50.94 40 IAmb IAmb 06 58 55.8
comp=Z,16nm,1.5s
MLY Manley 51.84 30 IAmb IAmb 06 58 55.6
comp=Z,5.4nm,1.2s
NEA2 Nenana 52.55 31 P **P** **06 58 58.0 -0.3**
NEA2 IAmb IAmb 06 59 00.5
comp=Z,7.3nm,0.9s
RND Reindeer 52.65 33 IAmb IAmb 06 59 00.4
comp=Z,8.1nm,1.1s
MDM Murphy Dome 52.91 31 IAmb IAmb 06 59 03.2
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 53.17 186 P **P** **06 59 02.3 -1.2**
comp=Z,0.5nm,0.6s,baz=4.8,slow=7.9,SNR=6.6
ILAR Eielson Array 53.48 31 P **P** **06 59 05.3 +0.1**
comp=Z,2.1nm,0.9s,baz=266,slow=6.1,SNR=17
KKAR Karatay Array 53.71 302 P **P** **06 59 06.8 -0.4**
BMAR Burnt Mountain 54.35 27 P **P** **06 59 11.4 -0.2**
SCRK Sand Creek 54.79 32 P **P** **06 59 15.5 +0.6**
SCRK IAmb IAmb 06 59 16.3
comp=Z,3.7nm,0.9s
L27K Beaver Creek, 55.84 33 P **P** **06 59 23.4 +1.0**
L27K IAmb IAmb 06 59 27.3
comp=Z,6.2nm,1.2s
BCAR Beaver Creek A 55.86 33 P **P** **06 59 23.3 +0.7**
ASAR Alice Springs 56.90 186 P **P** **06 59 31.6 +1.3**
comp=Z,0.2nm,0.5s,baz=0.8,slow=6.6,SNR=4.5
EPYK Eagle Plains 57.54 28 P **P** **06 59 35.9 +1.4**
INK Inuvik 58.41 26 P **P** **06 59 41.0 +0.6**
comp=Z,2.1nm,0.8s,baz=258,slow=7.2,SNR=5.9
INK Inuvik 58.41 26 IAmb IAmb 06 59 41.5
comp=Z,1.9nm,0.8s
DLBC Dease Lake 62.54 36 P **P** **07 00 10.5 +1.6**
comp=Z,1.4nm,0.5s,baz=282,slow=11,SNR=4.8
DLBC Dease Lake 62.54 36 IAmb IAmb 07 00 13.5
comp=Z,8.3nm,1.4s
YKA Yellowknife Ar 67.82 29 P **P** **07 00 42.7 -0.3**
comp=Z,1.5nm,1.0s,baz=293,slow=5.7,SNR=6.6
FINES FINESS Array B 71.38 332 P **P** **07 01 04.7 -0.3**
comp=Z,4.8nm,1.0s,baz=52,slow=9.9,SNR=6.0
NEW Newport 73.91 43 P **P** **07 01 21.2 +0.9**
comp=Z,2.2nm,0.8s,baz=274,slow=5.4,SNR=4.6
NEW Newport 73.91 43 P **P** **07 01 20.4 0.0**
NEW IAmb IAmb 07 01 21.5
comp=Z,3.5nm,1.0s
AKASG Malin Array Be 76.28 322 P **P** **07 01 33.1 -0.8**
comp=Z,0.6nm,0.6s,baz=45,slow=6.5,SNR=4.5
NB2 NORSAR Subarra 77.01 337 P **P** **07 01 37.8 -0.1**
comp=Z,0.7nm,0.7s,baz=43,slow=5.6
NOA NORSAR Array B 77.01 337 P **P** **07 01 37.6 -0.3**
comp=Z,2.0nm,0.9s,baz=42,slow=5.6,SNR=5.5
NVAR Mina Array Bea 78.50 52 P **P** **07 01 46.6 -0.3**
comp=Z,0.6nm,0.7s,baz=296,slow=4.3,SNR=4.8
CLL Collm 83.53 329 *eP* **P** **07 02 13.0 -0.1**
GERES GERESS Array B 85.03 327 P **P** **07 02 22.4 +1.4**
comp=Z,0.3nm,0.4s,baz=48,slow=2.0,SNR=3.7
TXAR Lajitas Array 93.65 51 P **P** **07 03 02.5 +0.3**
comp=Z,0.5nm,0.7s,baz=319,slow=2.5,SNR=5.9
H03N2 Juan Fernandez 148.02 101 T T 09 54 52.3
baz=285,slow=75,SNR=6.7
H03N3 Juan Fernandez 148.03 101 T T 09 54 53.4
baz=285,slow=75,SNR=7.6
H03N1 Juan Fernandez 148.04 101 T T 09 54 53.5
baz=285,slow=75,SNR=7.2

IDC 15 06:50:13.6±4.9,33°.36N×139°.42E,h0km,mb3.9/9,
mb1 4.1/9,mb1mx3.8/56,mbtmp3.9/9,MS3.6/2,Ms1 3.6/2,
ms1mx2.8/48,Error ellipse: s-maj=134.4km
s-min=32.0km az=176.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**16.85**	**342**	LR	LR	07 00 09.0	
	comp=Z,201nm,19.0s,baz=41,slow=35						
H11N2	**WAKE ISLAND Hy 27.98**	**112**		T	T	07 25 11.2	
H11N1	**WAKE ISLAND Hy 27.98**	**112**		T	T	07 25 11.3	
H11N3	**WAKE ISLAND Hy 28.00**	**112**		T	T	07 25 12.1	
H11S3	**WAKE ISLAND Hy 28.53**	**114**		T	T	07 25 52.3	
H11S1	**WAKE ISLAND Hy 28.53**	**114**		T	T	07 25 52.2	
H11S2	**WAKE ISLAND Hy 28.55**	**114**		T	T	07 25 52.3	
MKAR	**Makanchi Array**	**44.78**	**305**	P	P	06 58 29.5	+0.5
	0.6nm,0.7s,baz=93,slow=9.0,SNR=4.0						
KDAK	**Kodiak Island**	**50.94**	**40**	P	P	06 59 16.2	-0.2
	2.1nm,0.4s,baz=286,slow=7.8,SNR=11						
ILAR	**Eielson Array**	**53.47**	**31**	P	P	06 59 35.0	-0.2
	0.9nm,0.7s,baz=271,slow=5.6,SNR=5.9						
INK	**Inuvik**	**58.39**	**26**	P	P	07 00 10.6	+0.2
	1.3nm,1.0s,baz=260,slow=11,SNR=3.1						
DLBC	**Dease Lake**	**62.53**	**36**	P	P	07 00 39.9	+0.9
	3.8nm,1.1s,baz=340,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**67.80**	**29**	P	P	07 01 12.6	-0.4
	0.6nm,0.8s,baz=301,slow=6.0,SNR=4.1						
FINES	**FINESS Array B**	**71.30**	**332**	P	P	07 01 35.0	+0.4
	1.4nm,0.8s,baz=67,slow=4.7,SNR=2.2						
FINES				LR	LR	07 37 24.2	
	comp=Z,31nm,18.2s,baz=22,slow=40						
NOA	**NORSAR Array B**	**76.92**	**337**	P	P	07 02 06.5	-1.1
	0.7nm,0.8s,baz=47,slow=5.2,SNR=4.0						
TXAR	**Lajitas Array**	**93.67**	**51**	P	P	07 03 32.3	-0.2
	0.5nm,0.7s,baz=300,slow=5.5,SNR=4.0						

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*GCG **15** 06:55:30.5±0.7, 11°.89N×90°.72W,h1km±392km,MD4.3*
*IDC **15** 06:55:35.1±4.5, 15°.19N×91°.84W,h0km,mb3.8/5,*
mb1 4.1/7,mb1mx3.7/41,mbtmp3.8/7,ML3.7/2,Error
ellipse: s-maj=112.0km s-min=25.5km az=19.0
*NEIC **15** 06:55:41.6±2.0, 14°.59N±0°.07×92°.67W±0°.06, h46km±11km,*
mb4.3/5,Md4.2/16(MEX), Error ellipse: s-maj=10.3km
s-min=8.0km az=196.0
*MEX **15** 06:55:41.2±0.7, 14°.55N×92°.55W, h68km±12km, MD4.2*
*SNET **15** 06:55:42.9±0.9, 14°.57N×92°.45W, h60km±10km, ML3.9*
*UCR **15** 06:55:43.0±1.0, 14°.57N×92°.45W, h60km±11km, ML3.6,*
mb4.3(NEIC)
ISC 15 06:55:40.1±1.2,14°.50N±0°.06×92°.76W±0°.05,h46km±13km,
n73,σ1§82/94,mb4.1/7,2C,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**50**	*eP*	**Pn**	**06 55 52.1**	**-0.6**
THIG				*eS*	**Sn**	**06 55 59.9**	**-1.9**
THIG		**0.62**	**50**		**Pn**	**06 55 52.1**	**-0.6**
THIG					**Sn**	**06 55 59.9**	**-1.9**
RTAL	**Retalhuleu**	**1.03**	**89⇑**	*eP*	**Pn**	**06 55 57.6**	**-0.6**
RTAL				*eS*	**Sn**	**06 56 09.0**	**-2.5**
RTAL	**Retalhuleu**	**1.03**	**89**		**Pn**	**06 55 57.6**	**-0.6**
HUEH	**Huehuetenango**	**1.46**	**56⇑**	*eP*	**Pn**	**06 56 04.1**	**-0.1**
HUEH				*eS*	**Sn**	**06 56 21.1**	**-1.2**
HUEH	**Huehuetenango**	**1.46**	**56**		**Pn**	**06 56 04.4**	**+0.2**
FUG	**Fuego 3**	**1.85**	**91**	*eP*	**Pn**	**06 56 09.7**	**0.0**
FUG				*eS*	Sn	06 56 47.0	+15
CCIG	**Comitan**	**1.87**	**19**	*i P*	**Pn**	**06 56 10.9**	**+1.1**
CCIG				*eS*	**Sn**	**06 56 30.4**	**-1.9**
CCIG	**Comitan**	**1.87**	**19**		**Pn**	**06 56 10.9**	**+1.1**
CCIG					**Sn**	**06 56 30.4**	**-1.9**
PCG	**Pacaya**	**2.08**	**93**	*eP*	**Pn**	**06 56 12.6**	**-0.2**
PCG				*eS*	**Sn**	**06 56 46.2**	**+8.4**
TGIG		**2.29**	**351**	*eP*	**Pn**	**06 56 16.0**	**+0.5**
TGIG				*i S*	**Sn**	**06 56 41.5**	**-1.1**
TGIG		**2.29**	**351**		**Pn**	**06 56 16.0**	**+0.5**
TGIG					**Sn**	**06 56 41.5**	**-1.1**
NBG	**Las Nubes**	**2.33**	**88**	*eP*	**Pn**	**06 56 16.4**	**+0.1**
NBG				*eS*	**Sn**	**06 56 51.4**	**+7.5**
SLOZ	**Alcaldia de Sa**	**2.92**	**99**	*eP*	**Pn**	**06 56 23.3**	**-0.8**
SLOZ				*eS*	**Sn**	**06 56 55.9**	**-2.2**
SLOZ				IAML		06 57 03.5	
	comp=Z,167nm,0.4s						
SNJE	**San Jose**	**3.12**	**101**	*eP*	**Pn**	**06 56 27.1**	**+0.1**
SNJE	**San Jose**	**3.12**	**101**	*eP*	**Pn**	**06 56 27.1**	**+0.1**
CMIG	**Matias Romero**	**3.29**	**322**	Pn	**Pn**	**06 56 30.6**	**+1.4**
	comp=Z,9.2nm,0.3s,baz=90,slow=24,SNR=81						
CMIG				Pg		06 56 39.0	
	comp=Z,26nm,0.3s,baz=125,slow=14,SNR=34						
CMIG				Sn	**Sn**	**06 57 09.5**	**+2.4**
	comp=Z,28nm,0.3s,baz=108,slow=14,SNR=8.2						
CMIG				Lg	Lg	06 57 24.5	
	comp=Z,42nm,0.3s,baz=285,slow=22,SNR=7.4						
CMIG	**Matias Romero**	**3.29**	**322**	*eP*	**Pn**	**06 56 30.5**	**+1.4**
CMIG				*eS*	**Sn**	**06 57 06.0**	**-1.1**
CMIG	**Matias Romero**	**3.29**	**322**		**Pn**	**06 56 30.5**	**+1.4**
CMIG					**Sn**	**06 57 06.0**	**-1.1**
MTO3	**Montecristo**	**3.29**	**91**	*eP*	**Pn**	**06 56 28.5**	**-0.8**
MTO3	**Montecristo**	**3.29**	**91**	*eP*	**Pn**	**06 56 28.5**	**-0.8**
MTO3	**Montecristo**	**3.29**	**91**		**Pn**	**06 56 28.8**	**-0.6**
ESQI	**Esquipulas**	**3.31**	**89**	*eP*	**Pn**	**06 56 28.8**	**-0.7**
ESQI	**Esquipulas**	**3.31**	**89**		**Pn**	**06 56 30.7**	**+1.2**
JAYA	**Jayaque - finc**	**3.32**	**104**	*eP*	**Pn**	**06 56 29.3**	**-0.4**
JAYA				*eS*	**Sn**	**06 57 04.7**	**-3.3**
JAYA				IAML		06 57 09.5	
	comp=Z,783nm,0.3s						
JAYA	**Jayaque - finc**	**3.32**	**104**	*eP*	**Pn**	**06 56 29.3**	**-0.4**
JAYA				*eS*	**Sn**	**06 57 04.7**	**-3.3**
JAYA				IAML		06 57 09.5	
	comp=Z,783nm,0.3s						
CEDA	**San Andres**	**3.33**	**102**	*eP*	**Pn**	**06 56 29.4**	**-0.4**
CEDA				*eS*	**Sn**	**06 57 05.1**	**-3.1**
CEDA				IAML		06 57 24.7	
	comp=Z,468nm,0.2s						
CEDA	**San Andres**	**3.33**	**102**	*eP*	**Pn**	**06 56 29.4**	**-0.4**
CEDA				*eS*	**Sn**	**06 57 05.1**	**-3.1**
CEDA				IAML		06 57 24.7	
	comp=Z,468nm,0.2s						
TACO	**Tacachico**	**3.34**	**99**	*eP*	**Pn**	**06 56 29.1**	**-0.8**
TACO	**Tacachico**	**3.34**	**99**	*eP*	**Pn**	**06 56 29.1**	**-0.8**
PMON	**Piamonte**	**3.43**	**103**	*eP*	**Pn**	**06 56 31.0**	**-0.2**
PMON	**Piamonte**	**3.43**	**103**	*eP*	**Pn**	**06 56 31.0**	**-0.2**
HUIG	**Huatulco**	**3.47**	**292**	*eP*	**Pn**	**06 56 33.3**	**+1.7**
HUIG				*eS*	**Sn**	**06 57 07.5**	**-4.1**
HUIG	**Huatulco**	**3.47**	**292**		**Pn**	**06 56 33.3**	**+1.7**
LALI	**Alcalda de L**	**3.48**	**106**	*eP*	**Pn**	**06 56 31.9**	**+0.1**
LALI				IAML		06 57 21.3	
	comp=Z,186nm,0.5s						
LALI	**Alcalda de L**	**3.48**	**106**	*eP*	**Pn**	**06 56 31.9**	**+0.1**
LALI				IAML		06 57 21.3	
	comp=Z,186nm,0.5s						
UEES	**Universidad Ev**	**3.50**	**102**	*eP*	**Pn**	**06 56 32.5**	**+0.4**
UEES	**Universidad Ev**	**3.50**	**102**	*eP*	**Pn**	**06 56 32.5**	**+0.4**
SNET	**Serv Nac Est T**	**3.52**	**103**		**Pn**	**06 56 33.1**	**+0.7**
PETF	**Flores**	**3.68**	**49**	*eP*	**Pn**	**06 56 33.5**	**-1.0**
PETF	**Flores**	**3.68**	**49**	Pn	**Pn**	**06 56 33.8**	**-0.7**
SJTE	**Alcalda de S**	**3.74**	**103**	*eP*	**Pn**	**06 56 35.6**	**+0.1**
SJTE				*eS*	**Sn**	**06 57 16.1**	**-2.3**
SJTE				IAML		06 57 24.2	
	comp=Z,136nm,0.2s						
SJTE	**Alcalda de S**	**3.74**	**103**	*eP*	**Pn**	**06 56 35.6**	**+0.1**
SJTE				*eS*	**Sn**	**06 57 16.1**	**-2.3**
SJTE				IAML		06 57 24.2	
	comp=Z,136nm,0.2s						
PAVA	**Las Pavas**	**3.79**	**101**	*eP*	**Pn**	**06 56 35.7**	**-0.4**
PAVA				IAML		06 57 34.3	
	comp=Z,220nm,0.5s						
PAVA	**Las Pavas**	**3.79**	**101**	*eP*	**Pn**	**06 56 35.7**	**-0.4**
PAVA				IAML		06 57 34.3	
	comp=Z,220nm,0.5s						
COEG	**Centro de Oper**	**3.86**	**103**	*eP*	**Pn**	**06 56 36.9**	**-0.2**
COEG				IAML		06 57 32.5	
	comp=Z,260nm,0.5s						
COEG	**Centro de Oper**	**3.86**	**103**	*eP*	**Pn**	**06 56 36.9**	**-0.2**
COEG				IAML		06 57 32.5	
	comp=Z,260nm,0.5s						
TECO	**Alcaldia de Te**	**3.98**	**103**	*eP*	**Pn**	**06 56 38.3**	**-0.3**
COEB	**Comit de Eme**	**4.22**	**103**	*eP*	**Pn**	**06 56 41.8**	**-0.3**
COEB	**Comit de Eme**	**4.22**	**103**	*eP*	**Pn**	**06 56 41.8**	**-0.3**
LCND	**La Caada**	**4.87**	**103**	*eP*	**Pn**	**06 56 51.0**	**+0.1**
LCND				IAML		06 57 49.3	
	comp=Z,164nm,0.3s						
LCND	**La Caada**	**4.87**	**103**	*eP*	**Pn**	**06 56 51.0**	**+0.1**
LCND				IAML		06 57 49.3	
	comp=Z,164nm,0.3s						
TGUH	**Tegucigalpa,Un**	**5.33**	**94**	Pn	**Pn**	**06 56 57.9**	**+0.5**
CRIN	**San Cristobal**	**5.83**	**107**	Pn	**Pn**	**06 57 05.3**	**+1.2**
CNGN	**Cerro Negro**	**6.22**	**108**	Pn	**Pn**	**06 57 10.6**	**+1.1**
TLIG	**Tlapa**	**6.36**	**299**		**Pn**	**06 57 14.5**	**+3.0**
ACON	**Acoyapa**	**7.80**	**108**	Pn	**Pn**	**06 57 32.4**	**+1.3**
DUNO	**Dulce Nombre,**	**8.35**	**121**	Pn	**Pn**	**06 57 39.4**	**+0.8**
JTS	**Las Juntas de**	**8.70**	**118**		**Pn**	**06 57 44.5**	**+1.1**
CAO2	**Cobano, Puntar**	**8.88**	**122**		**Pn**	**06 57 47.1**	**+1.3**
JACO	**JACO, Garabito**	**9.26**	**120**	Pn	**Pn**	**06 57 50.3**	**-0.9**
RIMA	**Rio Macho**	**9.88**	**117**		**Pn**	**06 58 01.0**	**+1.1**
DRK0	**Durika**	**10.66**	**118**		**Pn**	**06 58 11.9**	**+1.4**
TXAR	**Lajitas Array**	**17.88**	**327**	Pn	**P**	**06 59 47.6**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=9.8						
MIAR	**Mount Ida**	**19.97**	**358**	P	**P**	**07 00 09.5**	**+1.0**
MIAR				IAmb	IAmb	07 00 13.0	
	comp=Z,10nm,0.9s						
MNTX	**Cornudas Mount**	**20.65**	**328**	P	**P**	**07 00 16.3**	**+0.3**
OK025	**Westminster Rd**	**21.39**	**350**	P	**P**	**07 00 23.5**	**-0.4**
OK025				IAmb	IAmb	07 00 40.2	
	comp=Z,8.5nm,0.5s						
NVAR	**Mina Array Bea**	**32.82**	**321**	P	**P**	**07 02 11.4**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=136,slow=8.4,SNR=4.9						
F10A	**Beach Ranch, E**	**37.52**	**332**	P	**P**	**07 02 49.5**	**-0.2**
F10A				IAmb	IAmb	07 02 50.0	
	comp=Z,3.2nm,0.7s						
YKA	**Yellowknife Ar**	**50.37**	**347**	P	**P**	**07 04 29.6**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=151,slow=7.6,SNR=9.8						
DLBC	**Dease Lake**	**51.90**	**336**	P	**P**	**07 04 44.5**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=131,slow=7.7,SNR=4.2						
INK	**Inuvik**	**59.75**	**344**	P	**P**	**07 05 38.4**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=108,slow=6.8,SNR=8.4						
ILAR	**Eielson Array**	**62.09**	**337**	P	**P**	**07 05 54.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=132,slow=4.2,SNR=5.1						

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*IDC **15** 07:01:48.3±0.8, 33°.18N×139°.71E,h0km,mb3.8/9,*
mb1 4.0/10,mb1mx3.8/43,mbtmp3.7/10,ML2.3/1,Error
ellipse: s-maj=28.3km s-min=6.6km az=44.0
*JMA **15** 07:01:49.9±0.1, 33°.28N×139°.49E,h27km,M3.3*
ISC 15 07:01:50.0±1.3,33°.31N±0°.04×139°.43E±0°.05,h7km±9km,
n36,σ1§10/36,mb3.8/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.35**	**123**	Pn	**Pg**	**07 01 57.3**	**+0.5**
	1μm,0.3s,baz=267,slow=2.7,SNR=46						
JHJ				Sn	**Sb**	**07 02 03.3**	**-1.1**
	707nm,0.3s,baz=67,slow=23,SNR=12						
JHJ2	**Mitsune**	**0.38**	**122**	P	**Pg**	**07 01 57.3**	**0.0**
JHJ2				*eS*	**Sg**	**07 02 02.1**	**-0.2**
JHCJ	**Hachijojimakas**	**0.39**	**128**	P	**Pg**	**07 01 57.1**	**-0.4**
JHCJ				S	**Sg**	**07 02 02.3**	**-0.3**
JMKN	**Mikurajimanish**	**0.59**	**13**	P	**Pg**	**07 02 01.5**	**+0.1**
JMKN				S	**Sg**	**07 02 10.4**	**+1.3**
JTHY	**Toshimahigashi**	**1.21**	**354**	P	**Pn**	**07 02 12.3**	**-1.1**
JIM2	**Oshima 3**	**1.40**	**360**	P	**Pn**	**07 02 15.1**	**-0.9**
JIZS	**Izushimoda**	**1.47**	**342**	P	**Pn**	**07 02 16.1**	**-0.9**
TK02	**Tokai 2**	**1.53**	**295**	P	**Pn**	**07 02 17.3**	**-0.3**
TK01	**Tokai 1**	**1.60**	**287**	S	**Sb**	**07 02 39.3**	**-0.8**
KTJ3	**Kamata3**	**1.64**	**350**	P	**Pn**	**07 02 18.7**	**-0.6**
TK04	**Tokai 4**	**1.68**	**310**	P	**Pn**	**07 02 19.6**	**-0.1**
TK04				*eS*	**Sn**	**07 02 41.2**	**-0.3**
TTO5	**TONANKAI O.B.S**	**1.71**	**304**	P	**Pn**	**07 02 19.8**	**-0.3**
TTO5				S	**Sn**	**07 02 41.6**	**-0.5**
TTO4	**TONANKAI O.B.S**	**1.73**	**294**	P	**Pn**	**07 02 19.4**	**-0.8**
TTO4				*eS*	**Sn**	**07 02 41.6**	**-0.8**
BSO3	**Boso 3**	**1.73**	**31**	P	**Pn**	**07 02 19.4**	**-0.9**
TTO3	**TONANKAI O.B.S**	**1.79**	**288**	P	**Pn**	**07 02 21.0**	**-0.1**
TTO3				*eS*	**Sb**	**07 02 43.6**	**-1.9**
MJAR	**Matsushiro Arr**	**3.37**	**343**	Pn	**Pn**	**07 02 44.7**	**+1.5**
	0.2nm,0.3s,baz=160,slow=14,SNR=8.5						
MAT	**Matsushiro**	**3.38**	**343**	P	**Pn**	**07 02 46.1**	**+2.9**
MAT				*eS*	**Sb**	**07 03 28.4**	**-3.0**
H11N2	**WAKE ISLAND Hy 27.95**	**112**		T	T	07 36 45.5	
	baz=305,slow=75,SNR=150						
H11N1	**WAKE ISLAND Hy 27.95**	**112**		T	T	07 36 46.0	
	baz=305,slow=75,SNR=255						
H11N3	**WAKE ISLAND Hy 27.97**	**112**		T	T	07 36 47.5	
	baz=305,slow=75,SNR=226						
H11S3	**WAKE ISLAND Hy 28.50**	**114**		T	T	07 37 27.7	
	baz=307,slow=75,SNR=289						
H11S1	**WAKE ISLAND Hy 28.50**	**114**		T	T	07 37 27.9	
	baz=307,slow=75,SNR=304						
H11S2	**WAKE ISLAND Hy 28.52**	**114**		T	T	07 37 29.0	
	baz=307,slow=75,SNR=269						
MKAR	**Makanchi Array**	**44.82**	**305**	P	**P**	**07 10 05.8**	**+1.2**
	0.9nm,1.0s,baz=82,slow=9.1,SNR=4.4						
WRA	**Warramunga Arr**	**53.18**	**186**	P	**P**	**07 11 08.6**	**-0.2**
	0.4nm,0.6s,baz=5.2,slow=7.8,SNR=6.4						
ILAR	**Eielson Array**	**53.51**	**31**	P	**P**	**07 11 10.1**	**-0.7**
	0.6nm,0.7s,baz=256,slow=5.1,SNR=8.1						
ASAR	**Alice Springs**	**56.91**	**186**	P	**P**	**07 11 37.4**	**+1.6**
	0.5nm,0.9s,baz=16,slow=14,SNR=4.6						
YKA	**Yellowknife Ar**	**67.84**	**29**	P	**P**	**07 12 48.6**	**+0.1**
	0.7nm,1.0s,baz=295,slow=5.8,SNR=3.4						
FINES	**FINESS Array B**	**71.34**	**332**	P	**P**	**07 13 10.2**	**0.0**
	1.6nm,0.9s,baz=64,slow=3.2,SNR=4.1						
AKASG	**Malin Array Be**	**76.23**	**322**	P	**P**	**07 13 39.1**	**+0.1**
	0.3nm,0.3s,baz=46,slow=5.3,SNR=4.7						
NOA	**NORSAR Array B**	**76.97**	**337**	P	**P**	**07 13 43.1**	**0.0**
	1.2nm,0.9s,baz=42,slow=5.5,SNR=3.6						
NVAR	**Mina Array Bea**	**78.54**	**52**	P	**P**	**07 13 53.1**	**+0.6**
	0.2nm,0.5s,baz=280,slow=6.3,SNR=2.2						
TXAR	**Lajitas Array**	**93.69**	**51**	P	**P**	**07 15 07.9**	**0.0**
	0.7nm,1.0s,baz=270,slow=2.7,SNR=4.5						
H03N2	**Juan Fernandez**	**148.08**	**101**	T	T	10 06 57.2	
	baz=284,slow=75,SNR=9.8						
H03N3	**Juan Fernandez**	**148.09**	**101**	T	T	10 06 58.4	
	baz=284,slow=75, SNR=10						
H03N1	**Juan Fernandez**	**148.10**	**101**	T	T	10 06 58.4	
	baz=284,slow=75,SNR=8.8						

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*IDC **15** 07:04:00.9±1.1,33°.16N×139°.78E,h0km,mb3.7/6,*
mb1 3.9/6,mb1mx3.6/44,mbtmp3.7/6,Error ellipse:
s-maj=28.5km s-min=8.6km az=68.0
*JMA **15** 07:04:01.8±0.1,33°.28N×139°.59E,h34km±4km,M3.1*
ISC 15 07:04:03.8±1.3,33°.29N±0°.08×139°.6E±0°.2,h22km,n16,
σ1§05/13,mb3.6/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.24**	**136**	Pn	**Pb**	**07 04 09.1**	**-0.7**
	653nm,0.3s,baz=8.7,slow=5.6,SNR=8.0						
JHJ				Sn	**Sb**	**07 04 14.3**	**+0.4**
	603nm,0.3s,baz=94,slow=23,SNR=6.4						
JHJ2	**Mitsune**	**0.27**	**133**	P	**Pb**	**07 04 08.9**	**-1.2**
JHJ2				*eS*	**Sb**	**07 04 14.0**	**-0.4**
JHCJ	**Hachijojimakas**	**0.28**	**141**	P	**Pb**	**07 04 09.0**	**-1.3**
JHCJ				*eS*	**Sb**	**07 04 14.1**	**-0.7**
JMKN	**Mikurajimanish**	**0.60**	**1**	*eS*	**Sb**	**07 04 22.1**	**-1.5**
H11N2	**WAKE ISLAND Hy 27.83**	**112**		T	T	07 38 58.0	
	baz=305,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy 27.83**	**112**		T	T	07 38 58.5	
	baz=305,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy 27.84**	**112**		T	T	07 38 59.4	
	baz=305,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy 28.38**	**115**		T	T	07 39 39.6	
	baz=307,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy 28.38**	**115**		T	T	07 39 39.5	
	baz=307,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy 28.40**	**115**		T	T	07 39 40.6	
	baz=307,slow=75,SNR=41						
KDAK	**Kodiak Island**	**50.90**	**40**	P	**P**	**07 13 03.9**	**+1.0**
	1.3nm,0.9s,baz=294,slow=10.0,SNR=2.7						
WRA	**Warramunga Arr**	**53.17**	**186**	P	**P**	**07 13 20.3**	**+0.1**
	0.7nm,1.1s,baz=1.1,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**53.46**	**31**	P	**P**	**07 13 21.3**	**-0.5**
	0.4nm,0.8s,baz=284,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	**56.90**	**186**	P	**P**	**07 13 46.4**	**-0.7**
	0.2nm,0.4s,baz=3.2,slow=6.7,SNR=3.9						
DLBC	**Dease Lake**	**62.51**	**36**	P	**P**	**07 14 26.2**	**+0.8**
	2.0nm,0.5s,baz=257,slow=6.6,SNR=8.5						
TXAR	**Lajitas Array**	**93.61**	**51**	P	**P**	**07 17 20.1**	**+1.4**
	0.2nm,0.7s,baz=270,slow=2.7,SNR=3.5				

NOA NORSAR Array B 77.03 337 P P 07 16 46.7 +0.6
comp=Z,0.4nm,0.5s,baz=45,slow=5.6,SNR=3.8
TXAR Lajitas Array 93.61 51 P P 07 18 10.9 +0.9
comp=Z,0.3nm,0.7s,baz=319,slow=3.9,SNR=5.1

*IDC **15** 07:06:05.3±1.7, 33°.14N×139°.79E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.4/45, mbtmp3.6/3, Error ellipse: s-maj=46.7km s-min=13.3km az=64.0*
*JMA **15** 07:06:06.6±0.2, 33°.26N×139°.57E, h31km, M3.0*
ISC 15 07:06:07.6±0.9, 33°.28N±0°.06×139°.53E±0°.09, h22km, n16, σ0°95/14, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.27**	**127**	Pn	**Pb**	**07 06 13.5**	**-0.4**
	174nm,0.3s,baz=233,slow=7.2,SNR=1.5						
JHJ				Sn	**Sb**	**07 06 18.3**	**0.0**
	574nm,0.3s,baz=45,slow=23,SNR=2.8						
JHJ2	**Mitsune**	**0.30**	**125**	P	**Pb**	**07 06 13.5**	**-0.8**
JHJ2				S	**Sb**	**07 06 18.1**	**-0.8**
JHCJ	**Hachijojimakas**	**0.31**	**133**	P	**Pb**	**07 06 13.2**	**-1.3**
JHCJ				S	**Sb**	**07 06 18.2**	**-1.0**
JMKN	**Mikurajimanish**	**0.61**	**5**	P	**Pb**	**07 06 18.6**	**-1.0**
JMKN				S	**Sb**	**07 06 26.8**	**-1.0**
TK04	**Tokai 4**	**1.76**	**309**	*eS*	**Sn**	**07 06 58.7**	**+0.4**
TTO5	**TONANKAI O.B.S**	**1.79**	**303**	S	**Sn**	**07 06 58.5**	**-0.5**
TTO4	**TONANKAI O.B.S**	**1.81**	**294**	*eS*	**Sn**	**07 06 58.4**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**27.87**	**112**	T	T	07 41 02.4	
	baz=304						
H11N1	**WAKE ISLAND Hy**	**27.87**	**112**	T	T	07 41 02.9	
	baz=304,slow=74,SNR=24						
H11N3	**WAKE ISLAND Hy**	**27.88**	**112**	T	T	07 41 03.8	
	baz=304,slow=74,SNR=3.0						
H11S3	**WAKE ISLAND Hy**	**28.42**	**114**	T	T	07 41 43.6	
	baz=307,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.42**	**114**	T	T	07 41 43.9	
	baz=307,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**28.44**	**114**	T	T	07 41 45.1	
	baz=307,slow=75,SNR=16						
WRA	**Warramunga Arr**	**53.16**	**186**	P	**P**	**07 15 24.0**	**+0.1**
	0.4nm,0.9s,baz=277,slow=8.2,SNR=1.5						
ILAR	**Eielson Array**	**53.49**	**31**	P	**P**	**07 15 26.8**	**+0.9**
	0.7nm,0.8s,baz=277,slow=8.2,SNR=7.1						
TXAR	**Lajitas Array**	**93.65**	**51**	P	**P**	**07 19 24.0**	**+1.3**
	0.3nm,0.8s,baz=277,slow=3.3,SNR=3.8						

*IDC **15** 07:07:52.6±0.7, 33°.14N×139°.73E, h0km, mb4.0/12, mb1 4.2/15, mb1mx4.0/52, mbtmp4.0/15, ML3.4/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/56, Error ellipse: s-maj=23.0km s-min=5.3km az=24.0*
*NIED **15** 07:07:53.9, 33°.22N×139°.54E, h35km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.04; $M_{\theta\theta}$=0.15; $M_{\phi\phi}$=1.89; $M_{r\theta}$=0.07; $M_{\theta\phi}$=-0.49; $M_{\phi r}$=3.51; Fault plane solution: M_0=4.05000×10^{15} NP1: ϕ_s=179.00000°, δ75.00000°, λ-83.00000°. NP2: ϕ_s=334.00000°, δ16.00000°, λ-114.00000°.*
*JMA **15** 07:07:53.9±0.1, 33°.22N×139°.54E, h35km±3km, M3.6*
*NEIC **15** 07:07:55.4±2.2, 33°.20N±0°.08×139°.44E±0°.04, h10km±1km, mb4.6/18, Error ellipse: s-maj=13.9km s-min=4.0km az=197.0*
ISC 15 07:07:56.6±0.5, 33°.32N±0°.04×139°.54E±0°.04, h22km, n78, σ1°55/57, mb4.3/23, MS3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.29**	**135**	Pn	**Pb**	**07 08 01.1**	**-2.2**
	1μm,0.3s,baz=331,slow=23,SNR=16						
JHJ				Sn	**Sb**	**07 08 06.8**	**-1.0**
	2μm,0.3s,baz=266,slow=22,SNR=14						
JHJ2	**Mitsune**	**0.32**	**132**	P	**Pb**	**07 08 01.0**	**-2.6**
JHJ2	**Mitsune**	**0.32**	**132**		**Pb**	**07 08 01.6**	**-2.1**
JHCJ	**Hachijojimakas**	**0.33**	**139**	P	**Pb**	**07 08 00.8**	**-3.1**
JHCJ				S	**Sb**	**07 08 06.1**	**-2.8**
JMKN	**Mikurajimanish**	**0.57**	**4**	P	**Pb**	**07 08 06.4**	**-1.6**
JMKN				S	**Sb**	**07 08 15.8**	**+0.1**
JKO	**Kozu shima**	**0.92**	**339**	P	**Pb**	**07 08 12.1**	**-1.8**
JKO				*eS*	**Sn**	**07 08 26.1**	**-0.8**
JTHY	**Toshimahigashi**	**1.21**	**350**	P	**Pn**	**07 08 16.8**	**-1.5**
JIM2	**Oshima 3**	**1.39**	**356**	P	**Pn**	**07 08 19.5**	**-1.3**
JIZS	**Izushimoda**	**1.49**	**339**	P	**Pn**	**07 08 20.8**	**-1.3**
TK02	**Tokai 2**	**1.61**	**293**	S	**Sb**	**07 08 43.6**	**-1.7**
TK01	**Tokai 1**	**1.69**	**286**	*eS*	**Sb**	**07 08 44.2**	**-3.2**
JSG	**Sagara**	**1.75**	**321**	Pn	**Pb**	**07 08 28.2**	**+0.1**
JGF	**Kuroka**	**2.90**	**322**		Pb	07 08 42.0	-5.6
INU	**Inuyama**	**2.90**	**315**		**Pn**	**07 08 40.5**	**-1.0**
JYT	**Yasato**	**2.95**	**10**		**Pb**	**07 08 45.2**	**-3.2**
MJAR	**Matsushiro Arr**	**3.39**	**342**	Pn	**Pn**	**07 08 48.8**	**+0.6**
	0.5nm,0.3s,baz=153,slow=12,SNR=10						
MJAR				LR	LR	07 10 15.7	
	comp=Z,518nm,18.6s,baz=160,slow=40						
MAJO	**Matsushiro**	**3.39**	**342**		Pb	07 08 50.9	-5.1
MAT	**Matsushiro**	**3.39**	**342**	P	**Pn**	**07 08 49.3**	**+1.0**
MAT				*eS*	**Sb**	**07 09 34.0**	**-2.8**
MJB9	**Matsu-Tunnel**	**3.40**	**342**		Pb	07 08 50.6	-5.5
JWT	**Wachi**	**3.94**	**301**		**Pn**	**07 08 54.6**	**-1.1**
JMM	**Marumori**	**4.65**	**12**		**Pn**	**07 09 05.2**	**-0.2**
JMN	**Monobe**	**4.74**	**276**	Pn	**Pn**	**07 09 06.0**	**-0.9**
JSD	**Sado**	**4.82**	**348**	Pn	**Pn**	**07 09 08.6**	**+0.8**
JHS	**Saijyo**	**5.58**	**289**	Pn	**Pn**	**07 09 18.9**	**+0.6**
JHS					**Sn**	**07 10 21.6**	**-0.1**
JNU	**Nakatsue**	**7.26**	**271**	Pn	Pn	07 09 43.0	+1.6
	1.6nm,0.3s,baz=195,slow=4.6,SNR=6.2						
JNU	**Nakatsue**	**7.26**	**271**	Pn	**Pn**	**07 09 42.3**	**+0.8**
JTM	**Tenmabayashi**	**7.55**	**9**	Pn	**Pn**	**07 09 44.9**	**-0.4**
KSRS	**Korea Array**	**10.34**	**297**	Pn	Pn	07 10 26.8	+3.3
	0.2nm,0.3s,baz=34,slow=21,SNR=2.2						
ASAJ	**Asahikawa**	**11.04**	**12**	LR	LR	07 15 12.6	
	comp=Z,83nm,18.6s,baz=202,slow=39						
KLR	**Kul'dur**	**16.92**	**342**	P	**Pn**	**07 11 50.5**	**-1.3**
	0.1nm,0.3s,baz=130,slow=13,SNR=4.0						
KLR				LR	LR	07 17 38.9	
	comp=Z,120nm,18.4s,baz=141,slow=34						
MA2	**Magadan**	**27.30**	**12**	LR	LR	07 26 45.0	
	comp=Z,125nm,18.1s,baz=189,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.87**	**112**	T	T	07 42 52.3	
	baz=305,slow=75,SNR=62						
H11N1	**WAKE ISLAND Hy**	**27.88**	**112**	T	T	07 42 52.1	
	baz=305,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**27.89**	**112**	T	T	07 42 53.0	
	baz=305,slow=75,SNR=58						
H11S3	**WAKE ISLAND Hy**	**28.43**	**115**	T	T	07 43 32.7	
	baz=307,slow=75,SNR=61						
H11S1	**WAKE ISLAND Hy**	**28.43**	**115**	T	T	07 43 32.8	
	baz=307,slow=75,SNR=78						
H11S2	**WAKE ISLAND Hy**	**28.45**	**115**	T	T	07 43 34.0	
	baz=307,slow=75,SNR=73						
SONM	**Songino Array**	**28.79**	**310**	P	**P**	**07 13 54.5**	**+1.5**
	1.5nm,0.5s,baz=117,slow=8.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**39.15**	**258**	LR	LR	07 32 16.5	
	comp=Z,78nm,18.4s,baz=60,slow=37						
KAPI	**Kappang**	**42.49**	**210**	LR	LR	07 33 08.3	
	comp=Z,63nm,18.9s,baz=21,slow=36						
ZALV	**Zalesovo Beam**	**43.37**	**315**	LR	LR	07 35 15.5	
	comp=Z,72nm,18.1s,baz=84,slow=38						
MK31	**Makanchi Array**	**44.88**	**305**	P	**P**	**07 16 09.0**	**-0.4**
MKAR	**Makanchi Array**	**44.88**	**305**	P	**P**	**07 16 09.7**	**+0.2**
	0.6nm,0.7s,baz=89,slow=10,SNR=7.5						
MLY	**Manley**	**51.81**	**30**	P	**P**	**07 17 03.9**	**+1.3**
MLY				IAmb	IAmb	07 17 05.8	
	comp=Z,8.6nm,1.1s						
TOLK	**Toolik Lake Re**	**52.47**	**26**	P	**P**	**07 17 08.3**	**+0.9**
NEA2	**Nenana**	**52.52**	**31**	P	**P**	**07 17 09.2**	**+1.5**
PWL	**Port Wells**	**52.94**	**36**	IAmb	IAmb	07 17 20.5	
	comp=Z,8.7nm,1.0s						
WRA	**Warramunga Arr**	**53.20**	**186**	P	**P**	**07 17 11.8**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=1.8,slow=7.5,SNR=6.0						
HDA	**Harding Lake**	**53.44**	**31**	IAmb	IAmb	07 17 16.7	
	comp=Z,9.0nm,1.2s						
ILAR	**Eielson Array**	**53.45**	**31**	P	**P**	**07 17 14.9**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=271,slow=6.5,SNR=23						
FYU	**Fort Yukon**	**54.09**	**29**	IAmb	IAmb	07 17 23.3	
	comp=Z,7.5nm,0.9s						
BMAR	**Burnt Mountain**	**54.32**	**27**	P	**P**	**07 17 23.5**	**+2.5**
SCRK	**Sand Creek**	**54.75**	**32**	IAmb	IAmb	07 17 26.9	
	comp=Z,5.9nm,1.0s						
MENT	**Mentasta**	**54.97**	**33**	IAmb	IAmb	07 17 35.9	
	comp=Z,10nm,1.2s						
K27K	**Chicken**	**55.59**	**32**	IAmb	IAmb	07 17 33.6	
	comp=Z,5.0nm,0.9s						
BCAR	**Beaver Creek A**	**55.83**	**33**	P	**P**	**07 17 33.4**	**+1.4**
ASAR	**Alice Springs**	**56.93**	**186**	P	**P**	**07 17 40.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=21,slow=11,SNR=5.2						
HYT	**Haines Junctio**	**58.20**	**35**	P	**P**	**07 17 51.1**	**+2.2**
HYT				IAmb	IAmb	07 17 53.0	
	comp=Z,4.8nm,0.9s						
INK	**Inuvik**	**58.38**	**26**	P	**P**	**07 17 51.2**	**+1.3**
	comp=Z,4.2nm,0.9s,baz=272,slow=5.2,SNR=8.6						
INK	**Inuvik**	**58.38**	**26**	P	**P**	**07 17 49.5**	**-0.4**
INK				IAmb	IAmb	07 17 52.6	
	comp=Z,4.8nm,0.9s						
C36M	**Paulatuk**	**61.44**	**24**	P	**P**	**07 18 12.6**	**+1.8**
YKA	**Yellowknife Ar**	**67.79**	**29**	P	**P**	**07 18 52.2**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=296,slow=5.8,SNR=8.8						
FINES	**FINESS Array B**	**71.38**	**332**	P	**P**	**07 19 14.7**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=53,slow=9.8,SNR=6.1						
YBH	**Yreka Blue Hor**	**73.85**	**51**	LR	LR	07 43 43.9	
	comp=Z,25nm,21.3s,baz=300,slow=29						
HFS	**Hagfors**	**76.82**	**335**	P	**P**	**07 19 47.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=74,slow=6.3,SNR=5.4						
NB2	**NORSAR Subarra**	**77.00**	**337**	P	**P**	**07 19 47.5**	**+0.1**
	comp=Z,7.3nm,1.4s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.00**	**337**	P	**P**	**07 19 47.8**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=42,slow=5.7,SNR=5.7						
LRM	**Limekiln Ridge**	**77.89**	**43**	P	**P**	**07 19 54.8**	**+1.8**
NVAR	**Mina Array Bea**	**78.47**	**52**	P	**P**	**07 19 58.0**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=297,slow=6.1,SNR=4.2						
BRTR	**Keskin Array B**	**80.14**	**311**	P	**P**	**07 20 06.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=142,slow=6.3,SNR=3.7						
PSZ	**Piszkesteto**	**82.76**	**324**	P	**P**	**07 20 20.8**	**+1.9**
PV14	**Lion Creek, Pa**	**84.41**	**47**	IAmb	IAmb	07 20 33.6	
	comp=Z,4.0nm,0.8s						
PV13	**Radium Mtn., P**	**84.66**	**47**	P	**P**	**07 20 29.9**	**+0.8**
GERES	**GERESS Array B**	**85.03**	**327**	P	**P**	**07 20 31.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=33,slow=7.5,SNR=4.3						
TXAR	**Lajitas Array**	**93.62**	**51**	P	**P**	**07 21 12.8**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=304,slow=3.6,SNR=8.4						
H03N2	**Juan Fernandez**	**148.00**	**101**	T	T	10 13 01.8	
	baz=285,slow=75,SNR=5.5						
H03N3	**Juan Fernandez**	**148.01**	**101**	T	T	10 13 03.9	
	baz=285,slow=75,SNR=5.8						
H03N1	**Juan Fernandez**	**148.02**	**101**	T	T	10 13 05.6	
	baz=285,slow=75,SNR=5.4						

RSNC 15 07:08:29.5±1.0, 9°.12N×77°.08W, h72km±8km, ML3.1, Mw3.5,7D, Fault plane solution: NP1:ϕ_s0.00000°, δ18.00000°, λ38.00000°, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBC	**Los crdobas,**	**0.75**	**110**	⇓*iP*	Pn	07 08 45.1	0.0
LCBC				*eS*	Sn	07 08 56.8	+0.1
LCBC				*i*		07 09 00.7	
	comp=Z,1μm,0.6s						
UPD2	**Meteti**	**1.08**	**239**	⇓*iP*	Pn	07 08 48.3	-0.8
UPD2				*i*		07 09 10.3	
	comp=Z,719nm,0.8s						
MOTC	**Monteria, Cord**	**1.44**	**103**	⇓*iP*	Pn	07 08 53.3	-0.5
MOTC				*eS*	Sn	07 09 11.8	-0.2
MOTC				*i*		07 09 16.0	
	comp=Z,77nm,0.5s						
SJCC	**San Jacinto, C**	**2.03**	**67**	⇓*iP*	Pn	07 09 01.1	-0.7
SJCC				*eS*	Sn	07 09 24.9	-1.4
SJCC				*i*		07 09 26.6	
	comp=Z,131nm,0.3s						
UREC	**San Jos de Ur**	**2.05**	**131**	*eP*	Pn	07 09 01.9	0.0
UREC				*eS*	Sn	07 09 25.7	-0.8
UREC				*i*		07 09 29.0	
	comp=Z,79nm,0.1s						
PTAC	**Punta Ardita,**	**2.08**	**200**	*eP*	Pn	07 09 03.5	+1.1
PTAC				*eS*	Sn	07 09 29.6	+2.2
PTAC				*i*		07 09 33.0	
	comp=Z,110nm,0.6s						
DBBC	**Dabeiba**	**2.26**	**157**	*eP*	Pn	07 09 04.6	-0.1
DBBC				*eS*	Sn	07 09 30.4	-1.3
DBBC				*i*		07 09 47.8	
	comp=Z,218nm,0.6s						
UPA	**Univ. de Panam**	**2.42**	**267**	*eP*	Pn	07 09 06.2	-0.7
UPA				*eS*	Sn	07 09 34.5	-1.1
UPA				*i*		07 09 40.1	
	comp=Z,34nm,0.3s						
BCIP	**Isla Barro Col**	**2.72**	**271**	*eP*	Pn	07 09 10.9	0.0
BCIP				*eS*	Sn	07 09 41.4	-1.4
BCIP				*i*		07 09 46.2	
	comp=Z,64nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.73**	**126**	⇓*eP*	Pn	07 09 11.0	-0.1
ZARC				*eS*	Sn	07 09 41.4	-1.7
ZARC				*i*		07 09 44.4	
	comp=Z,81nm,0.3s						
SOLC	**Bahia Solano**	**2.89**	**186**	*eP*	Pn	07 09 15.0	+1.7
SOLC				*eS*	Sn	07 09 46.4	-0.5
SOLC				*i*		07 09 59.9	
	comp=Z,21nm,0.5s						
ARGC	**Ariguani, Magd**	**2.90**	**75**	⇓*eP*	Pn	07 09 13.5	+0.1
ARGC				*eS*	Sn	07 09 46.0	-1.1
ARGC				*i*		07 09 47.2	
	comp=Z,95nm,0.3s						
SMLC	**San Martn de**	**2.99**	**96**	*eP*	Pn	07 09 13.6	-1.1
SMLC				*eS*	Sn	07 09 45.5	-4.0
SMLC				*i*		07 09 50.2	
	comp=Z,96nm,0.1s						
HELC	**Santa Helena**	**3.29**	**152**	*eP*	Pn	07 09 18.9	-0.1
HELC				*eS*	Sn	07 09 56.5	-0.7
HELC				*i*		07 10 01.5	
	comp=Z,25nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.40**	**162**	*eP*	Pn	07 09 22.4	+2.0
CBOC				*eS*	Sn	07 10 01.2	+1.5
CBOC				*i*		07 10 06.0	
	comp=Z,40nm,0.4s						
AZU	**Azuero**	**3.42**	**248**	*eP*	Pn	07 09 21.1	+0.7
AZU				*eS*	Sn	07 09 59.0	-0.9
AZU				*i*		07 10 04.6	
	comp=Z,42nm,0.7s						
SMRC	**Santa Marta, M**	**3.47**	**54**	*eP*	Pn	07 09 20.6	-0.6
SMRC				*eS*	Sn	07 09 57.1	-4.1
LL1C	**La Loma 1 Cana**	**3.51**	**83**	*eP*	Pn	07 09 20.9	-0.8
LL1C				*eS*	Sn	07 10 01.5	-0.6
LL2C	**La Loma 2 Cana**	**3.62**	**83**	*eP*	Pn	07 09 23.3	+0.1
LL2C				*eS*	Sn	07 10 03.9	-1.0
OCAC	**Ocana**	**3.82**	**103**	⇓*iP*	Pn	07 09 25.4	-0.7
OCAC				*eS*	Sn	07 10 09.1	-0.9
NORC	**Norcasia**	**4.16**	**148**	*eP*	Pn	07 09 31.5	+0.9
NORC				*eS*	Sn	07 10 16.7	-1.3
NORC				*i*		07 10 30.4	
	comp=Z,15nm,0.5s						
PLMC	**San Jos del P**	**4.26**	**169**	*eP*	Pn	07 09 32.5	+0.5
PLMC				*eS*	Sn	07 10 19.6	-0.9
PLMC				*i*		07 10 40.3	
	comp=Z,8.3nm,0.4s						
BARC	**Barichara**	**4.61**	**123**	*eP*	Pn	07 09 37.1	+0.2
BARC				*eS*	Sn	07 10 28.6	-0.7
BARC				*i*		07 10 32.3	
	comp=Z,28nm,0.4s						
PAMC	**Pamplona, Colo**	**4.69**	**112**	*eP*	Pn	07 09 37.7	-0.5
PAMC				*eS*	Sn	07 10 30.6	-0.9
PAMC				*i*		07 10 49.6	
	comp=Z,24nm,0.4s						
RUSC	**La Rusia**	**5.10**	**129**	*eP*	Pn	07 09 43.5	-0.4
RUSC				*eS*	Sn	07 10 41.1	-0.5
RUSC				*i*		07 10 47.0	
	comp=Z,16nm,0.3s						
ORTC	**Ortega, Tolima**	**5.49**	**160**	*eP*	Pn	07 09 52.0	+3.3
ORTC				*eS*	Sn	07 10 57.8	+7.3

*IDC **15** 07:09:14.3±0.7, 33°.09N×139°.74E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.1/55, mbtmp4.1/21, ML3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/52, Error ellipse: s-maj=18.4km s-min=5.7km az=166.0*
*JMA **15** 07:09:16.3±0.1, 33°.24N×139°.52E, h29km±4km, M3.8*
JMA Felt I J1.
*NEIC **15** 07:09:17.6±1.6, 33°.07N±0°.10×139°.50E±0°.06, h18km±3km, mb4.6/22, Error ellipse: s-maj=15.1km s-min=4.9km az=159.0*
ISC 15 07:09:16.5±1.3, 33°.27N±0°.04×139°.47E±0°.05, h9km±8km, n75, σ1°45/73, mb4.4/29, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.31**	**120**	Pn	**Pg**	**07 09 23.3**	**+0.7**
	2μm,0.3s,baz=251,slow=3.3,SNR=8.2						
JHJ				Sn	**Sg**	**07 09 27.7**	**+1.0**
	3μm,0.3s,baz=111,slow=24,SNR=13						
JHJ2	**Mitsune**	**0.34**	**119**	P	**Pb**	**07 09 23.3**	**-1.4**
JHJ2				*eS*	**Sb**	**07 09 28.4**	**-1.8**
JHJ2	**Mitsune**	**0.34**	**119**		**Pb**	**07 09 23.5**	**-1.2**
JHCJ	**Hachijojimakas**	**0.34**	**126**	P	**Pb**	**07 09 23.3**	**-1.5**
JHCJ				S	**Sb**	**07 09 28.5**	**-1.9**
JMKN	**Mikurajimanish**	**0.62**	**10**	P	**Pb**	**07 09 28.7**	**-0.9**
JMKN				*eS*	**Sb**	**07 09 37.8**	**-0.8**
JKO	**Kozu shima**	**0.95**	**343**	P	**Pg**	**07 09 34.2**	**-0.6**
JKO				*eS*	**Sb**	**07 09 48.5**	**+0.6**
JTHY	**Toshimahigashi**	**1.25**	**353**	P	**Pg**	**07 09 39.1**	**-1.5**
JIM2	**Oshima 3**	**1.44**	**359**	P	**Pn**	**07 09 42.0**	**-0.8**
JIZS	**Izushimoda**	**1.52**	**341**	P	**Pn**	**07 09 43.5**	**-0.4**
TK02	**Tokai 2**	**1.58**	**296**	*eS*	**Sn**	**07 10 02.6**	**-2.3**
TK01	**Tokai 1**	**1.64**	**288**	*eS*	**Sn**	**07 10 05.5**	**-0.9**
TK04	**Tokai 4**	**1.73**	**310**	*eS*	**Sn**	**07 10 09.0**	**+0.2**
TTO5	**TONANKAI O.B.S**	**1.75**	**304**	P	**Pn**	**07 09 47.8**	**+0.8**
TTO5				*eS*	**Sn**	**07 10 09.4**	**0.0**
JSG	**Sagara**	**1.76**	**323**	Pn	**Pb**	**07 09 49.8**	**+0.9**
TTO4	**TONANKAI O.B.S**	**1.77**	**295**	*eS*	**Sn**	**07 10 08.9**	**-0.7**
INU	**Inuyama**	**2.90**	**316**	Pn	**Pn**	**07 10 04.1**	**+1.2**
MJAR	**Matsushiro Arr**	**3.42**	**343**	Pn	**Pb**	**07 10 13.8**	**-3.5**
	0.8nm,0.3s,baz=162,slow=12,SNR=2.9						
MAT	**Matsushiro**	**3.42**	**343**	P	**Pn**	**07 10 12.4**	**+2.3**
MAT				*eS*	**Sb**	**07 10 55.6**	**-3.4**
MJB9	**Matsu-Tunnel**	**3.42**	**343**	Pn	**Pn**	**07 10 13.6**	**+3.5**
JWT	**Wachi**	**3.92**	**302**	Pn	**Pn**	**07 10 17.6**	**+0.7**
JMM	**Marumori**	**4.71**	**13**	Pn	**Pn**	**07 10 28.6**	**+0.9**
JSD	**Sado**	**4.85**	**349**		**Pn**	**07 10 32.8**	**+3.0**
JNU	**Nakatsue**	**7.20**	**271**	Pn	**Pn**	**07 11 03.9**	**+1.9**
	2.4nm,0.3s,baz=89,slow=7.1,SNR=4.1						
KSRS	**Korea Array**	**10.31**	**297**	Pn	**Pn**	**07 11 48.1**	**+3.5**
	0.1nm,0.3s,baz=117,slow=14,SNR=2.6						
KSRS				LR	LR	07 15 39.2	
	comp=Z,282nm,19.5s,baz=108,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.91**	**112**	T	T	07 43 54.8	
	baz=305,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**27.92**	**112**	T	T	07 43 45.0	
	baz=305,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.93**	**112**	T	T	07 43 46.0	
	baz=305,slow=75,SNR=11						
ULN	**Ulaanbaatar**	**28.37**	**311**	P	**P**	**07 15 12.2**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**28.46**	**114**	T	T	07 44 54.0	
	baz=307,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.48**	**114**	T	T	07 44 55.9	
	baz=307,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.48**	**114**	T	T	07 44 56.4	
	baz=307,slow=75,SNR=17						
SONM	**Songino Array**	**28.78**	**310**	P	**P**	**07 15 16.2**	**+1.4**
	2.4nm,0.8s,baz=110,slow=8.3,SNR=3.9						
SONM	**Songino Array**	**28.78**	**310**	IAmb	IAmb	07 15 20.4	
	comp=Z,6.9nm,1.4s						
ZALV	**Zalesovo Beam**	**43.37**	**315**	P	**P**	**07 17 19.3**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=97,slow=6.4,SNR=5.4						
MK31	**Makanchi Array**	**44.87**	**305**	P	**P**	**07 17 31.1**	**-0.1**
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**07 17 31.8**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=90,slow=10,SNR=12						
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**07 17 31.9**	**+0.8**
MAKZ	**Makanchi**	**45.08**	**305**	P	**P**	**07 17 33.5**	**+0.6**
IMAR	**Indian Mountai**	**50.70**	**29**	P	**P**	**07 18 13.4**	**-2.7**
KDAK	**Kodiak Island**	**50.98**	**40**	P	**P**	**07 18 19.0**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=281,slow=5.6,SNR=6.5						
MLY	**Manley**	**51.88**	**30**		**P**	**07 18 26.2**	**+1.1**
MLY				IAmb	IAmb	07 18 28.0	
	comp=Z,7.2nm,1.0s						
NEA2	**Nenana**	**52.59**	**31**	P	**P**	**07 18 30.9**	**+0.6**
NEA2				IAmb	IAmb	07 18 32.8	
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**52.69**	**32**	P	**P**	**07 18 31.6**	**+0.5**
RND				IAmb	IAmb	07 18 32.7	
	comp=Z,7.3nm,1.0s						
MDM	**Murphy Dome**	**52.95**	**31**	P	**P**	**07 18 34.1**	**+1.1**
MDM				IAmb	IAmb	07 18 35.5	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**53.14**	**186**	P	**P**	**07 18 32.1**	**-2.7**
	comp=Z,0.9nm,0.7s,baz=6.2,slow=7.7,SNR=5.9						
HDA	**Harding Lake**

baz=307,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 28.55 114 T T 07 46 21.9
baz=307,slow=75,SNR=20
ILAR Eielson Array 53.50 31 P **P 07 20 04.3 +0.2**
1.0nm,1.1s,baz=278,slow=7.3,SNR=4.5
YKA Yellowknife Ar 67.83 29 P **P 07 21 41.8 +0.1**
0.1nm,0.3s,baz=294,slow=5.5,SNR=7.5
TXAR Lajitas Array 93.69 51 P P 07 24 01.6 +0.4
0.4nm,0.7s,baz=296,slow=3.5,SNR=3.8

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*IDC **15** 07:17:26.2±0.7, 33°.11N×139°.70E, h0km, mb4.2/21, mb1 4.3/23, mb1mx4.2/54, mbtmp4.2/23, ML3.4/2, Error ellipse: s-maj=21.7km s-min=4.8km az=10.0*
*NIED **15** 07:17:28.1, 33°.27N×139°.47E, h17km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.74; Mθθ=0.07; Mφφ=1.81; Mrθ=0.23; Mθφ=0.14; Mφr=3.12; Fault plane solution: M0=3.60000×10^15 NP1: φs=176.00000°, δ=75.00000°, λ=-90.00000°. NP2: φs=356.00000°, δ=15.00000°, λ=-90.00000°.*
*JMA **15** 07:17:28.1±0.2, 33°.27N×139°.47E, h17km, M3.6*
*NEIC **15** 07:17:29.1±1.6, 33°.30N±0°.06×139°.52E±0°.05, h10km±1km, mb4.6/30, Error ellipse: s-maj=11.0km s-min=4.9km az=213.0*

ISC 15 07:17:28.1±1.4, **33°.28N**±0°.05×**139°.52E**±0°.04, **h9**km±8km, **n100**, σ1$14/96, **mb4.4**/33, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.27**	**126**	Pn	**Pb**	**07 17 35.1**	**-0.1**
	2μm,0.3s,baz=15,slow=6.4,SNR=30						
JHJ				Sn	**Sb**	**07 17 40.4**	**+0.5**
	2μm,0.3s,baz=67,slow=21,SNR=16						
JHJ2	**Mitsune**	**0.30**	**124**	P	**Pb**	**07 17 35.1**	**-0.6**
JHJ2	**Mitsune**	**0.30**	**124**		**Pb**	**07 17 35.0**	**-0.6**
JHCJ	**Hachijojimakas**	**0.31**	**131**	P	**Pb**	**07 17 35.2**	**-0.6**
JHCJ				eS	**Sb**	**07 17 39.8**	**-1.2**
JMKN	**Mikurajimanish**	**0.62**	**5**	P	**Pg**	**07 17 40.1**	**0.0**
JMKN				eS	**Sg**	**07 17 49.0**	**+0.8**
JKO	**Kozu shima**	**0.96**	**341**	P	**Pg**	**07 17 46.3**	**-0.3**
JKO				eS	**Sg**	**07 17 59.4**	**+0.2**
JTHY	**Toshimahigashi**	**1.26**	**351**	P	**Pn**	**07 17 50.7**	**-1.2**
JIM2	**Oshima 3**	**1.44**	**357**	P	**Pn**	**07 17 53.3**	**-1.2**
JIZS	**Izushimoda**	**1.53**	**340**	eS	**Sn**	**07 18 15.2**	**-0.6**
TK03	**Tokai 3**	**1.57**	**305**	P	**Pn**	**07 17 55.5**	**-0.6**
TK03				eS	**Sn**	**07 18 15.8**	**-0.7**
TK02	**Tokai 2**	**1.62**	**295**	P	**Pn**	**07 17 55.8**	**-0.9**
TK02				eS	**Sb**	**07 18 17.8**	**-0.7**
TK01	**Tokai 1**	**1.69**	**287**	eS	**Sn**	**07 18 18.1**	**-1.0**
KTJ3	**Kamata3**	**1.69**	**347**	P	**Pn**	**07 17 57.2**	**-0.7**
BSO3	**Boso 3**	**1.73**	**28**	P	**Pn**	**07 17 57.4**	**-0.8**
TK04	**Tokai 4**	**1.76**	**309**	P	**Pn**	**07 17 57.9**	**-0.8**
TK04				eS	**Sn**	**07 18 20.7**	**-0.5**
JSG	**Sagara**	**1.78**	**322**	Pn	**Pg**	**07 18 01.8**	**-0.5**
TTO5	**TONANKAI O.B.S**	**1.79**	**303**	P	**Pn**	**07 17 57.9**	**-1.2**
TTO5				eS	**Sn**	**07 18 19.7**	**-2.2**
TTO4	**TONANKAI O.B.S**	**1.81**	**294**	P	**Pn**	**07 17 58.0**	**-1.3**
TTO4				eS	**Sn**	**07 18 20.6**	**-1.6**
BSO1	**Boso 1**	**1.83**	**41**	P	**Pn**	**07 17 57.9**	**-1.4**
INU	**Inuyama**	**2.93**	**316**		**Pn**	**07 18 14.3**	**-0.6**
JGF	**Kuroka**	**2.93**	**323**	Pn	**Pn**	**07 18 14.8**	**-0.2**
JYT	**Yasato**	**3.00**	**10**		**Pn**	**07 18 16.2**	**+0.4**
MJAR	**Matsushiro Arr**	**3.43**	**342**	Pn	**Pn**	**07 18 22.4**	**+0.6**
	0.5nm,0.3s,baz=161,slow=13,SNR=14						
MJAR	**Matsushiro Arr**	**3.43**	**342**		**Pn**	**07 18 21.9**	**0.0**
MAJO	**Matsushiro**	**3.43**	**342**		**Pn**	**07 18 24.7**	**+2.8**
MAT	**Matsushiro**	**3.43**	**342**	P	**Pn**	**07 18 24.3**	**+2.4**
MAT				eS	**Sb**	**07 19 08.0**	**-3.0**
MJB9	**Matsu-Tunnel**	**3.44**	**342**		**Pn**	**07 18 25.0**	**+3.0**
JWT	**Wachi**	**3.95**	**302**		**Pn**	**07 18 28.6**	**-0.4**
JMM	**Marumori**	**4.70**	**12**	Pn	**Pn**	**07 18 39.6**	**+0.4**
JMN	**Monobe**	**4.74**	**277**	Pn	**Pn**	**07 18 40.2**	**+0.4**
JSD	**Sado**	**4.86**	**348**		**Pn**	**07 18 41.3**	**-0.1**
JHS	**Saijyo**	**5.58**	**290**	Pn	**Pn**	**07 18 51.8**	**+0.4**
JNU	**Nakatsue**	**7.25**	**271**	Pn	**Pn**	**07 19 17.1**	**+2.9**
	1.2nm,0.3s,baz=126,slow=6.6,SNR=4.3						
KSRS	**Korea Array**	**10.35**	**297**	Pn	Pn	07 20 03.3	+6.6
	baz=110,slow=14,SNR=5.4						
XAN	**Xi'an**	**25.44**	**280**	P	**P**	**07 22 57.7**	**+1.3**
H11N2	**WAKE ISLAND Hy 27.87 112**			T	T	07 52 23.5	
	baz=305,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy 27.87 112**			T	T	07 52 25.4	
	baz=305,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy 27.89 112**			T	T	07 52 26.3	
	baz=305,slow=75,SNR=48						
ULN	**Ulaanbaatar**	**28.40**	**311**	P	**P**	**07 23 23.0**	**-0.1**
ULN				IAmb	IAmb	07 23 26.0	
	comp=Z,7.1nm,0.9s						
H11S3	**WAKE ISLAND Hy 28.42 114**			T	T	07 53 06.1	
	baz=307,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy 28.42 114**			T	T	07 53 06.2	
	baz=307,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy 28.44 114**			T	T	07 53 07.4	
	baz=307,slow=75,SNR=24						
SONM	**Songino Array**	**28.81**	**310**	P	**P**	**07 23 28.5**	**+1.9**
	comp=Z,4.7nm,0.8s,baz=114,slow=7.6,SNR=6.6						
SONM	**Songino Array**	**28.81**	**310**	P	**P**	**07 23 27.6**	**+0.9**
TIXI	**Tiksi**	**38.85**	**355**	P	**P**	**07 24 54.1**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=124,slow=10,SNR=4.5						
TIXI	**Tiksi**	**38.85**	**355**	IAmb	IAmb	07 24 55.2	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**43.40**	**315**	P	**P**	**07 25 31.6**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=101,slow=7.7,SNR=5.0						
ZALV				PcP	**PcP**	**07 27 19.1**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=116,slow=3.4,SNR=5.7						
MK31	**Makanchi Array**	**44.90**	**305**	P	**P**	**07 25 42.3**	**-0.8**
MKAR	**Makanchi Array**	**44.90**	**305**	P	**P**	**07 25 43.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=92,slow=9.3,SNR=18						
IMAR	**Indian Mountai**	**50.67**	**29**	P	**P**	**07 26 27.6**	**0.0**
KDAK	**Kodiak Island**	**50.95**	**40**	P	**P**	**07 26 30.0**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=280,slow=5.7,SNR=14						
KDAK	**Kodiak Island**	**50.95**	**40**	IAmb	IAmb	07 26 40.6	
	comp=Z,7.6nm,1.1s						
BPAW	**Bear Paw Mtn.**	**51.72**	**32**	P	**P**	**07 26 35.8**	**+0.3**
BPAW				IAmb	IAmb	07 26 39.1	
	comp=Z,5.9nm,1.0s						
MLY	**Manley**	**51.86**	**30**	P	**P**	**07 26 37.8**	**+1.3**
MLY				IAmb	IAmb	07 26 39.8	
	comp=Z,8.2nm,1.0s						
TRF	**Thorofare Moun**	**52.02**	**32**	P	**P**	**07 26 38.6**	**+0.8**
TRF				IAmb	IAmb	07 26 41.4	
	comp=Z,3.8nm,0.7s						
NEA2	**Nenana**	**52.56**	**31**	P	**P**	**07 26 42.3**	**+0.6**
RND	**Reindeer**	**52.66**	**32**	IAmb	IAmb	07 26 45.0	
	comp=Z,7.6nm,0.9s						
MDM	**Murphy Dome**	**52.92**	**31**	P	**P**	**07 26 45.3**	**+0.9**
WRH	**Wood River Hil**	**52.99**	**31**	P	**P**	**07 26 45.4**	**+0.6**
WRA	**Warramunga Arr**	**53.15**	**186**	P	**P**	**07 26 44.0**	**-2.5**
	comp=Z,1.4nm,1.0s,baz=1.2,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**53.15**	**186**	IAmb	IAmb	07 26 49.0	
	comp=Z,0.2nm,1.1s						
HDA	**Harding Lake**	**53.48**	**31**	P	**P**	**07 26 47.9**	**-0.6**
IL31		**53.50**	**31**	P	**P**	**07 26 47.9**	**-0.7**
IL31				IAmb	IAmb	07 26 50.8	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**53.50**	**31**	P	**P**	**07 26 48.6**	**0.0**
	comp=Z,3.9nm,0.8s,baz=269,slow=5.6,SNR=32						
ILAR	**Eielson Array**	**53.50**	**31**	P	**P**	**07 26 48.1**	**-0.5**
KKAR	**Karatay Array**	**53.73**	**302**	P	**P**	**07 26 50.8**	**+0.2**
BMAR	**Burnt Mountain**	**54.37**	**27**	P	**P**	**07 26 55.8**	**+0.8**
SCRK	**Sand Creek**	**54.80**	**32**	P	**P**	**07 26 58.7**	**+0.4**
SCRK				IAmb	IAmb	07 27 00.5	
	comp=Z,6.1nm,0.9s						
MENT	**Mentasta**	**55.01**	**33**	P	**P**	**07 27 00.2**	**+0.5**
MENT				IAmb	IAmb	07 27 02.8	
	comp=Z,6.7nm,0.9s						
K27K	**Chicken**	**55.63**	**32**	IAmb	IAmb	07 27 07.6	
	comp=Z,9.1nm,1.1s						
L27K	**Beaver Creek,**	**55.86**	**33**	P	**P**	**07 27 06.4**	**+0.7**
L27K				IAmb	IAmb	07 27 08.9	
	comp=Z,5.1nm,0.8s						
BCAR	**Beaver Creek A**	**55.88**	**33**	P	**P**	**07 27 06.8**	**+0.9**
EPYK	**Eagle Plains**	**57.55**	**28**	P	**P**	**07 27 18.8**	**+1.0**
ARU	**Arti**	**58.18**	**320**	P	**P**	**07 27 22.3**	**0.0**
	comp=Z,0.8nm,0.4s,baz=56,slow=2.6,SNR=5.5						
ARU	**Arti**	**58.18**	**320**	IAmb	IAmb	07 27 23.6	
	comp=Z,6.2nm,1.1s						
INK	**Inuvik**	**58.43**	**26**	P	**P**	**07 27 24.8**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=297,slow=6.1,SNR=11						
INK	**Inuvik**	**58.43**	**26**	P	**P**	**07 27 23.2**	**-0.6**
INK				IAmb	IAmb	07 27 25.6	
	comp=Z,5.2nm,1.1s						
ABKAR	**Akbulak array**	**59.21**	**311**	P	**P**	**07 27 29.6**	**+0.1**
AKTO	**Aktyubinsk**	**60.07**	**313**	P	**P**	**07 27 38.0**	**+2.6**
	comp=Z,1.6nm,0.6s,baz=88,slow=11,SNR=4.8						
ARCES	**ARCESS Array B**	**66.96**	**340**	P	**P**	**07 28 21.9**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=60,slow=7.2,SNR=4.9						
ARCES	**ARCESS Array B**	**66.96**	**340**	IAmb	IAmb	07 28 41.9	
	comp=Z,6.8nm,1.2s						
YKA	**Yellowknife Ar**	**67.83**	**29**	P	**P**	**07 28 26.4**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=291,slow=6.0,SNR=9.6						
FIA1	**FINESS Array S**	**71.41**	**332**	IAmb	IAmb	07 28 50.2	
	comp=Z,5.8nm,0.8s						
FINES	**FINESS Array B**	**71.41**	**332**	P	**P**	**07 28 48.5**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=85,slow=6.3,SNR=13						
FINES	**FINESS Array B**	**71.41**	**332**	P	**P**	**07 28 48.3**	**-0.1**
KBZ	**Khabaz**	**72.17**	**311**	P	**P**	**07 28 54.2**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=249,slow=1.0,SNR=5.8						
AKASG	**Malin Array Be**	**76.31**	**322**	P	**P**	**07 29 17.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=47,slow=6.1,SNR=4.7						
HFS	**Hagfors**	**76.88**	**335**	P	**P**	**07 29 20.7**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=72,slow=4.8,SNR=7.8						
NC204	**NORSAR Array S**	**77.01**	**337**	P	**P**	**07 29 21.3**	**+0.1**
NB2	**NORSAR Subarra**	**77.04**	**337**	P	**P**	**07 29 20.7**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.04**	**337**	P	**P**	**07 29 21.0**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=42,slow=5.7,SNR=17						
PMPB	**Monarch Peak**	**78.03**	**55**	P	**P**	**07 29 26.1**	**-1.3**
NVAR	**Mina Array Bea**	**78.50**	**52**	P	**P**	**07 29 31.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=294,slow=4.6,SNR=5.7						
BRTR	**Keskin Array B**	**80.16**	**311**	P	**P**	**07 29 39.3**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=102,slow=5.2,SNR=6.2						
TCRU	**Three Creeks R**	**82.17**	**49**	P	**P**	**07 29 46.2**	**-3.7**
TCRU				IAmb	IAmb	07 29 56.8	
	comp=Z,3.2nm,0.9s						
CLL	**Collm**	**83.56**	**329**	*i* P	**P**	**07 29 57.2**	**+0.7**
GERES	**GERESS Array B**	**85.06**	**327**	P	**P**	**07 30 04.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=54,slow=6.8,SNR=6.3						
U32A	**Winter Ranch,**	**91.75**	**44**	P	**P**	**07 30 35.7**	**-0.8**
TXAR	**Lajitas Array**	**93.66**	**51**	P	**P**	**07 30 46.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=302,slow=3.0,SNR=11						
LPAZ	**La Paz**	**149.87**	**63**	PKPbc	**PKiKP**	**07 37 21.1**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=342,slow=6.4,SNR=4.7						

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*IDC **15** 07:18:35.7±0.8, 33°.08N×139°.77E, h0km, mb4.0/13, mb1 4.2/14, mb1mx3.9/54, mbtmp4.0/14, ML3.7/1, Error ellipse: s-maj=23.9km s-min=6.5km az=150.0*
*NIED **15** 07:18:37.6, 33°.26N×139°.63E, h31km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=2.40; Mθθ=0.07; Mφφ=2.46; Mrθ=1.86; Mθφ=0.38; Mφr=4.16; Fault plane solution: M0=5.18000×10^15 NP1: φs=158.00000°, δ=76.00000°, λ=-97.00000°. NP2: φs=5.00000°, δ=15.00000°, λ=-64.00000°.*
*JMA **15** 07:18:37.6±0.1, 33°.26N×139°.63E, h31km±3km, M3.7*
JMA Felt I J1.

ISC 15 07:18:38.1±1.2, **33°.26N**±0°.05×**139°.52E**±0°.06, **h11**km±8km, **n33**, σ1$58/32, **mb3.9**/13, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.26**	**123**	Pn	**Pb**	**07 18 44.0**	**-0.7**
	1μm,0.3s,baz=53,slow=22,SNR=5.9						
JHJ				Sn	**Sg**	**07 18 49.1**	**+2.2**
	4μm,0.3s,baz=335,slow=23,SNR=11						
JHJ2	**Mitsune**	**0.29**	**121**	P	**Pb**	**07 18 44.0**	**-1.2**
JHCJ	**Hachijojimakas**	**0.29**	**129**	P	**Pg**	**07 18 44.0**	**-0.1**
JHCJ				eS	**Sb**	**07 18 48.9**	**-1.3**
JMKN	**Mikurajimanish**	**0.63**	**5**	P	**Pg**	**07 18 49.6**	**-0.8**
JMKN				eS	**Sg**	**07 18 58.6**	**-0.2**
JKO	**Kozu shima**	**0.98**	**341**	P	**Pb**	**07 18 56.3**	**-0.7**
JKO				eS	**Sb**	**07 19 09.1**	**-0.9**
JIM2	**Oshima 3**	**1.46**	**357**	P	**Pn**	**07 19 02.7**	**-1.6**
JIZS	**Izushimoda**	**1.55**	**340**	P	**Pn**	**07 19 03.7**	**-1.9**
TK03	**Tokai 3**	**1.58**	**305**	eS	**Sn**	**07 19 25.6**	**-0.7**
TK02	**Tokai 2**	**1.63**	**295**	eS	**Sn**	**07 19 26.2**	**-1.0**
TK01	**Tokai 1**	**1.69**	**288**	eS	**Sn**	**07 19 27.8**	**-0.9**
TK04	**Tokai 4**	**1.77**	**310**	eS	**Sn**	**07 19 30.2**	**-0.8**
MAT	**Matsushiro**	**3.45**	**342**	P	**Pn**	**07 19 33.6**	**+1.9**
MAT				eS	**Sn**	**07 20 16.7**	**+4.1**
JNU	**Nakatsue**	**7.25**	**271**	Pn	**Pn**	**07 20 24.8**	**+0.9**
	1.2nm,0.3s,baz=288,slow=4.1,SNR=13.9						
H11N2	**WAKE ISLAND Hy 27.86 112**			T	T	07 53 34.2	
	baz=305,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy 27.86 112**			T	T	07 53 34.8	
	baz=305,slow=75,SNR=7.3						
H11N3	**WAKE ISLAND Hy 27.88 112**			T	T	07 53 36.0	
	baz=305,slow=75,SNR=9.3						
H11S3	**WAKE ISLAND Hy 28.41 114**			T	T	07 54 15.8	
	baz=307,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy 28.41 114**			T	T	07 54 16.0	
	baz=307,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 28.43 114**			T	T	07 54 17.1	
	baz=307,slow=75,SNR=13						
MKAR	**Makanchi Array**	**44.91**	**305**	P	**P**	**07 26 52.9**	**+0.2**
	0.7nm,0.7s,baz=86,slow=10,SNR=4.3						
KDAK	**Kodiak Island**	**50.96**	**40**	P	**P**	**07 27 38.6**	**-0.7**
	2.3nm,0.8s,baz=222,slow=4.5,SNR=6.1						
WRA	**Warramunga Arr**	**53.13**	**186**	P	**P**	**07 27 52.3**	**-3.5**
	0.3nm,0.5s,baz=2.4,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**53.51**	**31**	P	**P**	**07 27 58.0**	**-0.1**
	0.8nm,0.6s,baz=267,slow=6.4,SNR=5.8						
ASAR	**Alice Springs**	**56.86**	**186**	P	**P**	**07 28 22.1**	**-0.7**
	0.4nm,0.8s,baz=16,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**67.85**	**29**	P	**P**	**07 29 35.7**	**-0.2**
	0.2nm,0.3s,baz=306,slow=6.0,SNR=3.0						
FINES	**FINESS Array B**	**71.43**	**332**	P	**P**	**07 30 00.2**	**+2.2**
	3.7nm,0.8s,baz=97,slow=8.3,SNR=7.9						
HFS	**Hagfors**	**76.88**	**335**	P	**P**	**07 30 29.5**	**-0.3**
	2.1nm,0.8s,baz=60,slow=8.8,SNR=3.7						
NB2	**NORSAR Subarra**	**77.05**	**337**	P	**P**	**07 30 30.4**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**77.05**	**337**	P	**P**	**07 30 30.3**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=42,slow=5.8,SNR=6.3						
NVAR	**Mina Array Bea**	**78.51**	**52**	P	**P**	**07 30 39.6**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=298,slow=5.2,SNR=5.6						
BRTR	**Keskin Array B**	**80.18**	**311**	P	**P**	**07 30 50.3**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=112,slow=5.5,SNR=3.7						
GERES	**GERESS Array B**	**85.08**	**327**	P	**P**	**07 31 16.6**	**+2.7**
	comp=Z,0.4nm,0.2s,baz=46,slow=5.6,SNR=4.1						
TXAR	**Lajitas Array**	**93.67**	**51**	P	**P**	**07 31 55.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=297,slow=3.4,SNR=15						

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*VIE **15** 07:19:34.4±1.1, 50°.34N×18°.83E, h0km, mb2.3/6, ml2.7/6, ms3.0/1, Error ellipse: s-maj=7.8km s-min=7.1km az=34.0 15 km NW of Katowice Suspected Mining induced.*
*IPEC **15** 07:19:35.4±0.3, 50°.28N×18°.85E, h1km, ML2.4/3, Error ellipse: s-maj=2.1km s-min=1.1km az=17.0*
*PRU **15** 07:19:37.0±0.0, 50°.21N×18°.74E, h0km*
*IDC **15** 07:19:37.2±1.9, 50°.09N×18°.85E, h0km, mb1 3.3/5, mb1mx3.1/46, mbtmp3.2/5, ML2.5/5, Error ellipse: s-maj=30.3km s-min=9.3km az=130.0*

ISC 15 07:19:35.0±0.7, **50°.26N**±0°.04×**18°.89E**±0°.02, **h0**km, **n42**, σ1$00/68, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.64**	**229**	*e*PG	**Pg**	**07 19 48.1**	**+0.8**
OKC				*e*SG	**Sg**	**07 19 54.5**	**-1.0**
	comp=Z,93nm,0.7s						
ANAC	**Anensky vrch**	**0.99**	**260**	*e*Pg	**Pg**	**07 19 54.2**	**+0.2**
	baz=77						
MORC	**Moravsky Berou**	**0.99**	**241**	*e*Pg	**Pg**	**07 19 54.3**	**+0.2**
	baz=58						
MORC				*e*Sg	**Sg**	**07 20 06.4**	**-0.6**
	64nm,0.2s,baz=58						
MORC	**Moravsky Berou**	**0.99**	**241**	*e*PG	**Pg**	**07 19 54.4**	**+0.3**
MORC				*e*SG	**Sg**	**07 20 06.4**	**-0.6**
MUVC	**Mutkov**	**1.14**	**247**	*e*Pg	**Pg**	**07 19 56.9**	**+0.1**
	baz=64						
LOSC	**Losov**	**1.17**	**237**	*e*Pg	**Pg**	**07 19 57.6**	**+0.2**
	baz=55						
LANS	**Liptovska Anna**	**1.17**	**161**	*e*PG	**Pn**	**07 19 58.4**	**-0.3**
LANS				*e*SG	**Sb**	**07 20 14.2**	**+0.3**
LANS				*e*LG	Lg	07 20 18.9	
LIPC	**Lipinka**	**1.26**	**251**	*e*Pg	**Pg**	**07 19 59.2**	**+0.1**
	baz=68						
KRLC	**Kraliky**	**1.37**	**263**	*e*PG	**Pg**	**07 20 00.3**	**-0.9**
KRLC				*e*SG	**Sg**	**07 20 17.6**	**-1.4**
	comp=Z,59nm,0.6s						
JAVC	**Velka Javorina**	**1.61**	**210**	*e*Pg	**Pn**	**07 20 04.8**	**0.0**
	baz=28						
JAVC	**Velka Javorina**	**1.61**	**210**	*e*PG	**Pn**	**07 20 04.8**	**0.0**
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	**Pn**	**07 20 05.1**	**-0.2**
DPC				*e*SG	**Sn**	**07 20 26.4**	**-0.8**
	comp=Z,69nm,0.6s						
OSTC	**Ostas**	**1.74**	**281**	*e*PG	**Pb**	**07 20 07.7**	**-0.1**
OSTC				*e*SG	**Sn**	**07 20 29.4**	**+0.1**
	comp=Z,32nm,0.6s						
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*PN	**Pg**	**07 20 08.0**	**-0.4**
STHS				*e*SN	**Sg**	**07 20 31.7**	**+0.7**
KSP	**Ksiaz**	**1.76**	**290**	*e*Pg	**Pg**	**07 20 08.8**	**+0.2**
KSP				*e*Sg	**Sg**	**07 20 31.9**	**+0.5**
VRAC	**Vranov**	**1.77**	**238**	Pn	**Pn**	**07 20 06.9**	**0.0**
	3.4nm,0.3s,baz=63,slow=16,SNR=15						
VRAC				Lg	Lg	07 20 30.6	
	9.6nm,0.3s,baz=71,slow=17,SNR=3.1						
VRAC	**Vranov**	**1.77**	**238**	*e*Pn	**Pn**	**07 20 06.9**	**0.0**
	baz=55						
VRAC				*e*Sg	**Sn**	**07 20 30.5**	**+0.5**
	39nm,0.3s,baz=55						
VRAC	**Vranov**	**1.77**	**238**	*e*PN	**Pn**	**07 20 06.9**	**0.0**
VRAC				*e*SG	**Sn**	**07 20 30.6**	**+0.5**
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	**Pn**	**07 20 06.5**	**-0.4**
VYHS				*e*SN	**Sn**	**07 20 30.0**	**-0.1**
CHVC	**Chvalec**	**1.84**	**281**	*e*PG	**Pg**	**07 20 10.2**	**-0.1**
CHVC				*e*SG	**Sn**	**07 20 32.3**	**+0.3**
	comp=Z,39nm,0.6s						
UPC	**Upice**	**1.86**	**279**	*e*SG	**Sb**	**07 20 33.5**	**-0.1**
KRUC	**Moravsky**	**2.02**	**234**	*e*Pn	**Pn**	**07 20 10.5**	**+0.3**
	baz=52						
KRUC				*e*Sg	**Sb**	**07 20 38.1**	**-0.1**
	22nm,0.3s,baz=52						
KRUC	**Moravsky**	**2.02**	**234**	*e*PN	**Pn**	**07 20 10.6**	**+0.3**
KRUC				*e*SG	**Sb**	**07 20 38.2**	**0.0**
KECS	**Kecovo**	**2.06**	**149**	*e*SN	**Sn**	**07 20 36.0**	**-1.3**
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN	**Pg**	**07 20 15.9**	**-0.4**
CRVS				*e*SG	**Sg**	**07 20 46.1**	**+1.8**
MODS	**Modra-Piesok**	**2.16**	**210**	*e*PG	**Pg**	**07 20 16.7**	**+0.2**
MODS				*e*SN	**Sn**	**07 20 40.0**	**+0.2**
PSZ	**Piszkesteto**	**2.44**	**164**	*e*P	**Pb**	**07 20 18.7**	**-1.0**
KOLS	**Kolonicke sedl**	**2.57**	**120**	*e*PG	**Pg**	**07 20 26.6**	**+2.3**
KOLS				*e*SN	**Sn**	**07 20 50.2**	**+0.3**
PRU	**Pruhonice**	**2.81**	**266**	*e*SG	**Sb**	**07 21 01.8**	**+0.8**
	comp=Z,24nm,0.6s						
CONA	**Conrad Observa**	**3.07**	**222**	*e*Pn	**Pn**	**07 20 24.1**	**-0.7**
	0.2nm,0.1s						
CONA				*e*Sn	**Sn**	**07 21 02.0**	**-0.3**
	2.3nm,0.3s						
BRG	**Berggiesshubel**	**3.21**	**283**	Pg	**Pg**	**07 20 39.5**	**+2.9**
BRG				Sg	**Sg**	**07 21 16.8**	**-1.4**
BRG				Amp		07 21 28.1	
	comp=Z,16nm,0.6s						
KHC	**Kasperske Hory**	**3.63**	**254**	*e*PN	**Pn**	**07 20 33.0**	**+0.5**
KHC				*e*PG	**Pb**	**07 20 41.3**	**+1.3**
KHC				*e*SG	**Sb**	**07 21 27.4**	**+2.8**
	comp=Z,21nm,0.5s						
GERES	**GERESS Array B**	**3.66**	**249**	Pn	**Pn**	**07 20 34.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=67,slow=15,SNR=3.8						
GERES				Pg	**Pb**	**07 20 42.0**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=64,slow=18,SNR=13						
GERES				Lg	Lg	07 21 29.1	
	comp=Z,3.3nm,0.3s,baz=65,slow=31,SNR=13						
ARSA	**Arzberg**	**3.75**	**218**	*e

comp=Z,2.7nm,0.7s,baz=126,slow=6.6,SNR=9.8
KLR PcP **PcP** **07 32 19.3 -0.3**
comp=Z,1.8nm,0.5s,baz=116,slow=0.4,SNR=5.8
HHC Hu-ho-hao-te 39.87 321 *e*P **P** **07 30 23.0 +1.5**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,220nm,6.7s
KMI Kunming 40.77 294 ⇓P **P** **07 30 29.8 +0.5**
KMI pmax pmax
comp=Z,9.0nm,0.8s
CD2 Chengdu 41.23 303 P **P** **07 30 31.9 -0.9**
CD2 pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 41.55 336 P **P** **07 30 34.6 -0.5**
HIA IAmb IAmb 07 31 02.7
comp=Z,6.9nm,0.6s
LZH Lanzhou 42.90 310 *e*P **P** **07 30 47.8 +1.3**
LZH pP pwP 07 31 03.9 +0.7
LZH sP sP 07 31 09.5 +5.2
LZH S **S** **07 37 08.8 +0.8**
LZH sS sS 07 37 38.8 +10
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,79nm,4.9s
LZH LR LR
comp=N,540nm,15.7s
LZH LR LR
comp=E,420nm,16.3s
LZH LR LR
comp=Z,320nm,16.4s
CMAR Chiang Mai Arr 43.69 283 P **P** **07 30 52.3 -0.7**
comp=Z,2.4nm,0.6s,baz=82,slow=6.8,SNR=7.6
CMAR PcP **PP** **07 32 39.1 +3.8**
comp=Z,1.4nm,0.6s,baz=64,slow=1.3,SNR=4.8
CMAR Chiang Mai Arr 43.69 283 P **P** **07 30 50.8 -2.2**
SONM Songino Array 46.94 326 LR LR 07 50 50.6
comp=Z,136nm,20.6s,baz=90,slow=36
GTA Gaotai 47.11 313 *e*P **P** **07 31 20.8 +0.9**
GTA pP pwP 07 31 35.8 -0.8
GTA sP sP 07 31 42.5 +4.8
GTA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 51.64 298 P **P** **07 31 54.8 -0.2**
LSA IAmb IAmb 07 31 55.9
comp=Z,8.9nm,1.1s
WMQ Urumqi 57.11 314 *e*P **P** **07 32 36.4 +2.4**
MK31 Makanchi Array 61.51 316 P **P** **07 33 04.3 -0.1**
MK31 IAmb IAmb 07 33 05.4
comp=Z,3.4nm,0.7s
MKAR Makanchi Array 61.51 316 P **P** **07 33 04.4 +0.1**
comp=Z,4.9nm,0.7s,baz=93,slow=8.9,SNR=28
MKAR Makanchi Array 61.51 316 P **P** **07 33 03.9 -0.4**
MAKZ Makanchi 61.73 316 P **P** **07 33 05.6 -0.1**
ZALV Zalesovo Beam 61.81 325 P **P** **07 33 05.3 -0.8**
comp=Z,1.1nm,0.5s,baz=126,slow=8.0,SNR=4.1
KDJ Kajisay 64.40 311 P **P** **07 33 23.0 -0.8**
KSH Kashi 65.08 308 P P 07 33 33.9 +5.6
KSH S **S** **07 42 09.6 +2.2**
KSH pmax pmax
comp=Z,5.0nm,2.6s
KSH pmax pmax
comp=Z,130nm,4.1s
NIL Nilore 67.10 301 P **P** **07 33 40.9 -0.2**
ARSB Arslanbob 67.47 310 pP 07 33 58.8 +2.2
PWL Port Wells 68.10 29 P **P** **07 33 46.6 -0.4**
PWL IAmb IAmb 07 33 47.4
comp=Z,9.3nm,1.0s
I23K Minto, Yukon-K 68.75 25 P **P** **07 33 50.6 -0.3**
WRH Wood River Hil 69.09 25 P **P** **07 33 51.6 -1.4**
KK31 Karatay Array 69.37 311 P **P** **07 33 54.6 -0.6**
KK31 IAmb IAmb 07 33 55.6
comp=Z,10nm,1.1s
KKAR Karatay Array 69.37 311 P **P** **07 33 54.9 -0.3**
KKAR Karatay Array 69.37 311 P **P** **07 33 53.6 -1.6**
KKAR IAmb IAmb 07 33 55.6
comp=Z,10nm,1.1s
KLU Klutina 69.38 29 P **P** **07 33 54.4 -0.6**
GAR Garm 69.46 307 P **P** **07 33 55.0 -1.0**
GAR IAmb IAmb 07 33 56.9
comp=Z,8.9nm,0.8s
ILAR Eielson Array 69.67 25 P **P** **07 33 54.8 -1.8**
comp=Z,1.9nm,0.8s,baz=261,slow=4.6,SNR=6.0
TOLK Toolik Lake Re 69.68 21 P **P** **07 33 55.4 -1.3**
BRVK Borovoye 70.13 322 P **P** **07 33 59.7 +0.1**
BRVK IAmb IAmb 07 34 00.2
comp=Z,24nm,1.5s
CHGR Chuyangaron 70.36 307 P **P** **07 34 01.0 -0.5**
CHGR IAmb IAmb 07 34 02.4
comp=Z,15nm,1.0s
KBL Kabul 70.57 302 P **P** **07 34 02.1 -0.8**
KBL IAmb IAmb 07 34 04.5
comp=Z,9.8nm,1.1s
DOT Dot Lake 70.64 27 P **P** **07 34 02.2 -0.4**
BMAR Burnt Mountain 71.18 23 P **P** **07 34 05.7 -0.2**
PPT Papeete 72.14 113 LR LR 08 01 19.1
comp=Z,56nm,18.3s,baz=323,slow=32
INK Inuvik 75.44 22 P **P** **07 34 29.8 -1.1**
comp=Z,4.8nm,1.1s,baz=163,slow=1.4,SNR=6.8
INK Inuvik 75.44 22 P **P** **07 34 29.7 -1.1**
ABKAR Abkulak array 76.60 318 P **P** **07 34 36.3 -1.5**
ABKAR Abkulak array 76.60 318 P **P** **07 34 37.0 -0.8**
ABKAR IAmb IAmb 07 34 37.7
comp=Z,9.6nm,0.7s
ARU Arti 76.97 325 P **P** **07 34 39.3 -0.4**
comp=Z,2.0nm,0.5s,baz=41,slow=1.4,SNR=14
ARU Arti 76.97 325 P **P** **07 34 38.4 -1.4**
ARU IAmb IAmb 07 34 39.8
comp=Z,9.5nm,0.7s
AKTO Aktyubinsk 77.75 319 P **P** **07 34 42.9 -1.3**
comp=Z,4.2nm,0.7s,baz=82,slow=16,SNR=10
GEYT Alibeck 79.08 307 P **P** **07 34 51.5 -0.3**
comp=Z,4.9nm,0.7s,baz=110,slow=1.7,SNR=6.6
YKA Yellowknife Ar 83.97 27 P **P** **07 35 16.0 -1.2**
comp=Z,3.8nm,1.0s,baz=288,slow=4.9,SNR=13
PINE Pine Mountain 84.88 46 P **P** **07 35 22.2 -0.3**
PINE IAmb IAmb 07 35 37.6
comp=Z,17nm,1.4s
B08A Colville Reser 84.94 42 P **P** **07 35 22.7 +0.2**
B08A IAmb IAmb 07 35 32.3
comp=Z,7.2nm,1.2s
C09A Chrisman Ranch 85.77 42 P **P** **07 35 25.8 -0.7**
C09A IAmb IAmb 07 35 36.5
comp=Z,6.6nm,1.0s
NEW Newport 86.40 41 P **P** **07 35 28.7 -1.0**
NEW IAmb IAmb 07 35 31.4
comp=Z,6.7nm,0.8s
BMO Blue Mountains 87.16 45 P **P** **07 35 32.6 -0.9**
BMO IAmb IAmb 07 35 35.4
comp=Z,4.4nm,0.8s
ARCES ARCESS Array B 87.61 342 P **P** **07 35 34.8 -0.3**
comp=Z,2.5nm,0.9s,baz=81,slow=7.5,SNR=5.3
ARCES ARCESS Array B 87.61 342 IAmb IAmb 07 35 35.5
comp=Z,16nm,1.4s
NVAR Mina Array Bea 88.08 51 P **P** **07 35 38.2 -0.1**
comp=Z,1.9nm,0.7s,baz=266,slow=5.7,SNR=19
MFID Camas Ranch 88.57 46 P **P** **07 35 40.4 0.0**
MFID IAmb IAmb 07 35 48.7
comp=Z,7.8nm,1.1s
TPH Tonopah 89.00 51 P **P** **07 35 41.9 -0.7**
ELK Elko 89.74 48 P **P** **07 35 44.5 -1.5**
ELK IAmb IAmb 07 35 48.8
comp=Z,3.0nm,1.1s
TPNV Topopah Spring 90.05 52 P **P** **07 35 46.8 -0.7**
TPNV IAmb IAmb 07 35 57.5
comp=Z,3.2nm,0.8s
YMR Madison River 91.53 44 P **P** **07 35 54.3 +0.1**
YMR IAmb IAmb 07 35 57.5
comp=Z,4.6nm,0.9s
FINES FINESS Array B 91.56 335 P **P** **07 35 51.2 -2.5**
comp=Z,1.8nm,0.4s,baz=70,slow=5.4,SNR=20
FINES FINESS Array B 91.56 335 P **P** **07 35 50.7 -3.0**
H17A Grant Village 91.88 44 P **P** **07 35 55.0 -0.9**
H17A IAmb IAmb 07 36 16.6
comp=Z,3.6nm,1.1s
YMP Mirror Lake Pl 92.05 43 P **P** **07 35 57.6 +0.8**
RLMT Red Lodge 92.50 43 P **P** **07 35 59.1 +0.4**
TORD Torodi Ar. Bea 134.63 303 PKP **PKPdf** **07 42 06.1 -0.4**
comp=Z,1.0nm,0.7s,baz=37,slow=2.0,SNR=4.8
LPAZ La Paz 148.70 100 PKPbc **PKPdf** **07 42 33.5 +1.3**
comp=Z,2.4nm,0.9s,baz=17,slow=2.1,SNR=6.0

*IDC **15** 07:23:40.4±0.8, 33°.13N×139°.73E, h0km, mb4.0/9,*
mb1 4.1/11, mb1mx3.8/53, mbtmp4.0/11, ML3.8/1, MS3.9/1, Ms1 4.1/1, ms1mx2.8/48, Error ellipse: s-maj=24.7km s-min=5.9km az=22.0
*JMA **15** 07:23:42.4±0.1, 33°.24N×139°.50E, h25km±4km, M3.6*
JMA Felt I J1.
*NEIC **15** 07:23:44.6±2.1, 33°.20N±0°.09×139°.46E±0°.04, h20km±6km, mb4.4/8, Error ellipse: s-maj=13.4km s-min=4.8km az=184.0*
ISC 15 07:23:43.0±1.1, 33°.27N±0°.04×139°.47E±0°.05, h11km±7km, n48, σ1§03/56, mb4.2/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.30**	**119**	Pn		**Pg**	**07 23 49.1**	**0.0**
	2μm,0.3s,baz=159,slow=22,SNR=17							
JHJ				Sn		**Sg**	**07 23 54.2**	**+1.0**
	4μm,0.3s,baz=73,slow=23,SNR=24							
JHJ2	**Mitsune**	**0.33**	**117**	P		**Pg**	**07 23 49.1**	**-0.5**
JHJ2				*e*S		**Sg**	**07 23 54.2**	**+0.1**
JHJ2	**Mitsune**	**0.33**	**117**			**Pg**	**07 23 49.1**	**-0.5**
JHCJ	**Hachijojimakas**	**0.34**	**125**	P		**Pg**	**07 23 49.1**	**-0.7**
JHCJ				*e*S		**Sg**	**07 23 53.8**	**-0.5**
JMKN	**Mikurajimanish**	**0.63**	**9**	P		**Pg**	**07 23 54.7**	**-0.6**
JMKN				*e*S		**Sg**	**07 24 03.5**	**-0.2**
JKO	**Kozu shima**	**0.96**	**343**	P		**Pg**	**07 24 01.0**	**-0.5**
JTHY	**Toshimahigashi**	**1.26**	**353**	*e*S		**Sb**	**07 24 21.7**	**-1.4**
JIM2	**Oshima 3**	**1.45**	**359**	P		**Pn**	**07 24 07.7**	**-1.4**
JIM2				*e*S		**Sn**	**07 24 26.9**	**-1.3**
JIZS	**Izushimoda**	**1.53**	**342**	P		**Pn**	**07 24 08.8**	**-1.4**
JIZS				*e*S		**Sn**	**07 24 28.7**	**-1.4**
TK03	**Tokai 3**	**1.54**	**306**	P		**Pn**	**07 24 09.2**	**-1.0**
TK03				*e*S		**Sn**	**07 24 30.3**	**+0.1**
TK02	**Tokai 2**	**1.58**	**296**	P		**Pn**	**07 24 10.3**	**-0.4**
KTJ3	**Kamata3**	**1.70**	**349**	P		**Pn**	**07 24 12.1**	**-0.4**
TTO5	**TONANKAI O.B.S**	**1.76**	**305**	P		**Pn**	**07 24 12.1**	**-1.1**
TTO5				*e*S		**Sn**	**07 24 34.6**	**-0.9**
JSG	**Sagara**	**1.76**	**323**	Pn		**Pb**	**07 24 16.2**	**+0.9**
INU	**Inuyama**	**2.90**	**316**			**Pn**	**07 24 28.5**	**-0.6**
JGF	**Kuroka**	**2.91**	**324**			**Pn**	**07 24 31.0**	**+1.7**
JYT	**Yasato**	**3.02**	**11**			**Pn**	**07 24 31.3**	**+0.7**
MJAR	**Matsushiro Arr**	**3.43**	**343**	Pn		**Pn**	**07 24 36.7**	**+0.3**
	0.3nm,0.3s,baz=156,slow=11,SNR=2.7							
MAJO	**Matsushiro**	**3.43**	**343**			**Pn**	**07 24 37.9**	**+1.6**
MAT	**Matsushiro**	**3.43**	**343**	P		**Pn**	**07 24 38.3**	**+1.9**
MAT				*e*S		**Sn**	**07 25 19.2**	**+2.2**
MJB9	**Matsu-Tunnel**	**3.43**	**343**			**Pn**	**07 24 37.7**	**+1.2**
JWT	**Wachi**	**3.92**	**302**			**Pn**	**07 24 42.3**	**-0.8**
JMN	**Mozobe**	**4.69**	**277**	Pn		**Pn**	**07 24 53.5**	**-0.3**
JMM	**Marumori**	**4.72**	**13**			**Pn**	**07 24 53.9**	**-0.1**
JSD	**Sado**	**4.86**	**349**			**Pn**	**07 24 57.3**	**+1.3**
JHS	**Saijyo**	**5.54**	**290**	Pn		**Pn**	**07 25 06.8**	**+1.4**
JNU	**Nakatsue**	**7.20**	**271**	Pn		**Pn**	**07 25 29.2**	**+1.0**
	1.3nm,0.3s,baz=37,slow=0.5,SNR=4.0							
SONM	**Songino Array**	**28.78**	**310**	P		**P**	**07 29 42.7**	**+1.8**
	1.7nm,0.7s,baz=111,slow=8.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**39.08**	**258**	LR		LR	07 47 44.3	
	comp=Z,155nm,18.9s,baz=120,slow=37							
MK31	**Makanchi Array**	**44.87**	**305**	P		**P**	**07 31 57.3**	**0.0**
MKAR	**Makanchi Array**	**44.87**	**305**	P		**P**	**07 31 57.6**	**+0.3**
	0.7nm,0.7s,baz=90,slow=10,SNR=8.6							
KDAK	**Kodiak Island**	**50.99**	**40**	P		**P**	**07 32 44.4**	**0.0**
	3.9nm,1.0s,baz=269,slow=4.3,SNR=5.2							
MDM	**Murphy Dome**	**52.96**	**31**	P		**P**	**07 32 59.6**	**+0.5**
MDM				IAmb		IAmb	07 33 21.1	
	comp=Z,6.4nm,1.0s							
WRA	**Warramunga Arr**	**53.13**	**186**	P		**P**	**07 32 59.5**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=3.5,slow=7.5,SNR=3.4							
IL31		**53.53**	**31**	P		**P**	**07 33 02.9**	**-0.3**
IL31				IAmb		IAmb	07 33 20.8	
	comp=Z,2.7nm,0.9s							
ILAR	**Eielson Array**	**53.53**	**31**	P		**P**	**07 33 02.8**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=267,slow=5.8,SNR=13							
MENT	**Mentasta**	**55.05**	**33**	P		**P**	**07 33 15.6**	**+1.2**
MENT				IAmb		IAmb	07 33 36.0	
	comp=Z,6.2nm,1.1s							
BCAR	**Beaver Creek A**	**55.91**	**33**	P		**P**	**07 33 22.7**	**+2.1**
EPYK	**Eagle Plains**	**57.59**	**28**	P		**P**	**07 33 33.3**	**+0.8**
INK	**Inuvik**	**58.46**	**26**	P		**P**	**07 33 39.3**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=313,slow=5.1,SNR=4.3							
INK	**Inuvik**	**58.46**	**26**	P		**P**	**07 33 39.7**	**+1.2**
INK				IAmb		IAmb	07 33 59.8	
	comp=Z,3.0nm,1.0s							
C36M	**Paulatuk**	**61.51**	**24**	P		**P**	**07 33 58.7**	**-0.7**
FINES	**FINESS Array B**	**71.40**	**332**	P		**P**	**07 35 02.0**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=71,slow=13,SNR=4.0							
FINES	**FINESS Array B**	**71.40**	**332**	P		**P**	**07 35 02.9**	**+0.2**
NB2	**NORSAR Subarra**	**77.03**	**337**	P		**P**	**07 35 34.8**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**77.03**	**337**	P		**P**	**07 35 35.0**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=41,slow=5.6,SNR=7.1							
CLL	**Collm**	**83.54**	**329**	*e*P		**P**	**07 36 11.0**	**+0.1**
TXAR	**Lajitas Array**	**93.70**	**51**	P		**P**	**07 37 00.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=287,slow=2.0,SNR=6.6							

*IDC **15** 07:24:00.6±4.1, 33°.63N×139°.55E, h0km, mb4.0/8, mb1 4.3/8, mb1mx3.9/52, mbtmp4.0/8, Error ellipse: s-maj=119.1km s-min=31.8km az=172.0*
ISC 15 07:24:02.6±1.0, 33°.3N±0°.2×139°.6E±0°.2, h22km, n15, σ0§92/9, mb4.1/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.25**	**144**	Sn		**Sb**	**07 24 12.5**	**-0.3**
	1μm,0.3s,baz=266,slow=20,SNR=5.8							
H11N2	**WAKE ISLAND Hy**	**27.82**	**112**	T		T	07 58 55.9	
	baz=305,slow=75,SNR=38							
H11N1	**WAKE ISLAND Hy**	**27.82**	**112**	T		T	07 58 55.8	
	baz=305,slow=75,SNR=48							
H11N3	**WAKE ISLAND Hy**	**27.83**	**112**	T		T	07 58 57.4	
	baz=305,slow=75,SNR=36							
H11S3	**WAKE ISLAND Hy**	**28.37**	**115**	T		T	07 59 37.4	
	baz=307,slow=75,SNR=211							
H11S1	**WAKE ISLAND Hy**	**28.37**	**115**	T		T	07 59 37.1	
	baz=307,slow=75,SNR=92							
H11S2	**WAKE ISLAND Hy**	**28.39**	**115**	T		T	07 59 38.2	
	baz=307,slow=75,SNR=97							
MKAR	**Makanchi Array**	**44.94**	**305**	P		**P**	**07 32 15.1**	**-0.7**
	0.7nm,0.8s,baz=90,slow=8.5,SNR=5.4							
ILAR	**Eielson Array**	**53.43**	**31**	P		**P**	**07 33 20.6**	**+0.1**
	1.7nm,1.0s,baz=280,slow=7.3,SNR=6.5							
INK	**Inuvik**	**58.36**	**26**	P		**P**	**07 33 55.9**	**+0.2**
	3.0nm,1.1s,baz=285,slow=5.1,SNR=3.7							
YKA	**Yellowknife Ar**	**67.76**	**29**	P		**P**	**07 34 57.7**	**-0.5**
	1.1nm,0.8s,baz=294,slow=5.7,SNR=5.3							
NOA	**NORSAR Array B**	**77.03**	**337**	P		**P**	**07 35 52.1**	**-1.4**
	2.2nm,1.0s,baz=42,slow=5.7,SNR=3.9							
BRTR	**Keskin Array B**	**80.19**	**311**	P		**P**	**07 36 12.4**	**+0.9**
	1.2nm,0.9s,baz=69,slow=4.2,SNR=5.7							
GERES	**GERESS Array B**	**85.06**	**328**	P		**P**	**07 36 37.8**	**+1.1**
	0.3nm,0.2s,baz=58,slow=3.7,SNR=5.1							
TXAR	**Lajitas Array**	**93.57**	**51**	P		**P**	**07 37 17.8**	**+0.5**
	0.9nm,0.9s,baz=276,slow=3.8,SNR=5.5							

JMA 15 07:27:37.9±0.1, 36°.51N×140°.62E, h54km±1km, M1.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.11**	**338**	P		Pn	07 27 46.3	0.0
JHO					S	Sn	07 27 52.0	-0.2
JHYU	**Hitachinakayam**	**0.17**	**189**	P		Pn	07 27 46.6	+0.1
JHYU					S	Sn	07 27 52.8	+0.2
JYT	**Yasato**	**0.45**	**231**	P		Pn	07 27 48.7	-0.1
JYT					S	Sn	07 27 56.6	0.0
JYT	**Yasato**	**0.45**	**231**	P		Pn	07 27 56.9	+8.1
ONAJ	**Iwakimizuishiy**	**0.61**	**14**	P		Pn	07 27 50.3	-0.5
ONAJ					S	Sn	07 27 58.9	-1.2
JFK	**Kawauchi**	**0.88**	**13**	S		Sn	07 28 04.7	-1.4
JAG	**Ashikaga**	**0.94**	**265**	P		Pn	07 27 55.2	+0.2
JAG					S	Sn	07 28 07.3	-0.3
JFT	**Otama**	**1.03**	**347**	P		Pn	07 27 56.4	+0.2
JFT					S	Sn	07 28 09.5	-0.2

IDC 15 07:29:46.7±4.0, 4°.45S×153°.09E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/40, mbtmp3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.8/18, Error ellipse: s-maj=191.5km s-min=51.7km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**228**	P		P	07 35 02.6	+0.2
	1.9nm,1.1s,baz=54,slow=9.4,SNR=6.6							
ASAR	**Alice Springs**	**26.60**	**222**	P		P	07 35 26.6	-0.5
	0.2nm,0.4s,baz=48,slow=9.2,SNR=1.6							
MSVF	**Nonsavu**	**27.77**	**120**	LR		LR	07 46 43.5	
	comp=Z,137nm,18.6s,baz=183,slow=37							
TORD	**Torodi Ar. Bea**	**150.47**	**289**	PKPbc		PKPbc	07 49 41.3	-0.2
	0.6nm,0.7s,baz=48,slow=2.3,SNR=3.9							

*IDC **15** 07:31:14.9±1.1, 33°.12N×139°.81E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/51, mbtmp3.6/4, Error ellipse: s-maj=40.7km s-min=6.8km az=84.0*
*JMA **15** 07:31:16.5±0.2, 33°.29N×139°.62E, h33km, M2.9*
ISC 15 07:31:16.4±1.8, 33°.29N±0°.07×139°.5E±0°.1, h8km±14km, n20, σ1§04/16, mb3.4/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.33**	**120**	Pn		**Pg**	**07 31 23.3**	**+0.4**
	244nm,0.3s,baz=238,slow=13,SNR=4.7							
JHJ				Sn		**Sg**	**07 31 27.1**	**-0.1**
	460nm,0.3s,baz=130,slow=22,SNR=19							
JHJ2	**Mitsune**	**0.36**	**119**	P		**Pg**	**07 31 23.3**	**-0.1**
JHCJ	**Hachijojimakas**	**0.36**	**126**	P		**Pg**	**07 31 23.6**	**+0.1**
JMKN	**Mikurajimanish**	**0.62**	**11**	S		**Sg**	**07 31 36.5**	**+0.1**
JIZS	**Izushimoda**	**1.50**	**342**	P		**Pn**	**07 31 42.7**	**-1.0**
TK03	**Tokai 3**	**1.51**	**306**	S		**Sn**	**07 32 03.6**	**0.0**
TK02	**Tokai 2**	**1.56**	**296**	*e*S		**Sn**	**07 32 04.4**	**-0.1**
TK04	**Tokai 4**	**1.71**	**310**	*e*S		**Sn**	**07 32 08.2**	**-0.1**
TTO5	**TONANKAI O.B.S**	**1.73**	**304**	P		**Pn**	**07 31 46.1**	**-0.6**
TTO5				S		**Sn**	**07 32 08.2**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**27.93**	**112**	T		T	08 06 13.0	
	baz=305,slow=75,SNR=7.9							
H11N1	**WAKE ISLAND Hy**	**27.93**	**112**	T		T	08 06 13.2	
	baz=305,slow=75,SNR=13							
H11N3	**WAKE ISLAND Hy**	**27.95**	**112**	T		T	08 06 14.1	
	baz=305,slow=75,SNR=10.0							
H11S3	**WAKE ISLAND Hy**	**28.48**	**114**	T		T	08 06 54.4	
	baz=307,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hy**	**28.48**	**114**	T		T	08 06 54.6	
	baz=307,slow=75,SNR=32							
H11S2	**WAKE ISLAND Hy**	**28.50**	**114**	T		T	08 06 55.6	
	baz=307,slow=75,SNR=28							
MKAR	**Makanchi Array**	**44.84**	**305**	P		**P**	**07 39 33.0**	**+1.9**
	0.3nm,0.8s,baz=89,slow=14,SNR=1.8							
KDAK	**Kodiak Island**	**50.98**	**40**	P		**P**	**07 40 18.5**	**+0.2**
	2.5nm,0.9s,baz=280,slow=5.5,SNR=5.5							
WRA	**Warramunga Arr**	**53.15**	**186**	P		**P**	**07 40 32.5**	**-2.4**
	0.3nm,0.7s,baz=2.3,slow=7.8,SNR=6.1							
ILAR	**Eielson Array**	**53.52**	**31**	P		**P**	**07 40 37.1**	**-0.1**
	0.3nm,0.3s,baz=267,slow=5.9,SNR=2.6							
ASAR	**Alice Springs**	**56.88**	**186**	P		**P**	**07 41 03.0**	**+1.2**
	0.2nm,0.5s,baz=18,slow=12,SNR=4.0							

*IDC **15** 07:32:35.4±1.3, 33°.08N×139°.79E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/52, mbtmp3.6/3, Error ellipse: s-maj=73.9km s-min=10.0km az=117.0*
*JMA **15** 07:32:37.0±0.2, 33°.31N×139°.56E, h31km, M3.0*
ISC 15 07:32:37.4±0.8, 33°.35N±0°.05×139°.50E±0°.07, h22km, n17, σ1§76/15, mb3.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.33**	**135**	Pn		**Pb**	**07 32 44.3**	**-0.4**
	883nm,0.3s,baz=35,slow=5.7,SNR=7.5							
JHJ				Sn		**Sb**	**07 32 48.2**	**-1.4**
	883nm,0.3s,baz=34,slow=5.0,SNR=11							
JHJ2	**Mitsune**	**0.36**	**132**	P		**Pb**	**07 32 44.1**	**-0.9**
JHCJ	**Hachijojimakas**	**0.38**	**138**	P		**Pb**	**07 32 44.2**	**-1.1**
JHCJ				S		**Sb**	**07 32 49.1**	**-1.6**
JMKN	**Mikurajimanish**	**0.54**	**8**	P		**Pb**	**07 32 48.1**	**-0.2**
JMKN				*e*S		**Sn**	**07 32 56.8**	**-1.4**
JIZS	**Izushimoda**	**1.46**	**339**	P		**Pb**	**07 33 03.1**	**-0.7**
TK02	**Tokai 2**	**1.57**	**293**	P		**Pn**	**07 33 04.2**	**+0.5**
TK01	**Tokai 1**	**1.65**	**285**	*e*S		**Sb**	**07 33 26.7**	**-0.4**
MAT	**Matsushiro**	**3.35**	**342**	P		**Pb**	**07 33 32.8**	**-3.4**
MAT				*e*S		**Sb**	**07 34 15.5**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.91**	**112**	T		T	08 07 34.7	
	baz=306							
H11N1	**WAKE ISLAND Hy**	**27.92**	**112**	T		T	08 07 32.7	
	baz=306							
H11N3	**WAKE ISLAND Hy**	**27.93**	**112**	T		T	08 07 36.0	
	baz=306							
H11S3	**WAKE ISLAND Hy**	**28.47**	**115**	T		T	08 08 17.5	
	baz=307							
H11S1	**WAKE ISLAND Hy**	**28.47**	**115**	T		T	08 08 14.9	
	baz=307							
H11S2	**WAKE ISLAND Hy**	**28.48**	**115**	T		T	08 08 16.3	
	baz=307							
WRA	**Warramunga Arr**	**53.23**	**186**	P		**P**	**07 41 52.8**	**-1.4**
	0.4nm,0.7s,baz=8.0,slow=8.2,SNR=2.0							
ILAR	**Eielson Array**	**53.44**	**31**	P		**P**	**07 41 57.9**	**+2.5**
	0.3nm,0.3s,baz=263,slow=8.1,SNR=4.4							
NOA	**NORSAR Array B**	**76.96**	**337**	P		**P**	**07 44 30.5**	**+2.5**
	0.9nm,0.9s,baz=42,slow=5.5,SNR=3.0							

*IDC **15** 07:33:10.3±2.4, 33°.13N×139°.69E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/54, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/38, Error ellipse: s-maj=68.7km s-min=9.6km az=18.0*
ISC 15 07:33:09.0±1.8, 32°.6N±0°.2×139°.7E±0°.3, h10km, n13, σ0§35/7, mb3.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.49**	**10**	Pn		**Pb**	**07 33 19.9**	**+0.2**
	656nm,0.3s,baz=254,slow=21,SNR=4.1							
JHJ				Sn		**Sg**	**07 33 24.9**	**-0.2**
	569nm,0.3s,baz=125,slow=24,SNR=8.6							
KLR	**Kul'dur**	**17.61**	**343**	LR		LR	07 43 53.4	
	comp=Z,112nm,18.2s,baz=126,slow=38							
H11N2	**WAKE ISLAND Hy**	**27.51**	**111**	T		T	08 08 08.8	
	baz=305,slow=74,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**27.51**	**111**	T		T	08 08 08.4	
	baz=305,slow=74,SNR=5.4							
H11N3	**WAKE ISLAND Hy**	**27.52**	**111**	T		T	08 08 10.9	
	baz=305							
H11S3	**WAKE ISLAND Hy**	**28.04**	**114**	T		T	08 08 50.5	
	baz=307,slow=75,SNR=6.7							
H11S1	**WAKE ISLAND Hy**	**28.04**	**114**	T		T	08 08 50.6	
	baz=307,slow=75,SNR=11							
H11S2	**WAKE ISLAND Hy**	**28.05**	**114

CKHR	Kef el Ahmar	0.82 73	P		Pg	07 39 04.6 +0.1
ADJB	Djebel Djouab	0.97 293	P		Pg	07 39 07.5 +0.2
ADJB	Djebel Djouab	0.97 293	P		Pg	07 39 07.5 +0.2
ABMS	Boumerdes	1.30 319	P		Pn	07 39 12.8 +0.1
ABMS	Boumerdes	1.30 319	P		Pn	07 39 12.8 +0.1
DFRA	Djebel Bou Aff	1.32 54	P		Pn	07 39 13.7 +0.4
DFRA	Djebel Bou Aff	1.32 54	P		Pn	07 39 13.7 +0.4
CTEI	Djebel Teioual	1.54 79	P		Pn	07 39 16.8 +0.6
CTEI	Djebel Teioual	1.54 79	P		Pn	07 39 16.8 +0.6
ABA	Alger-Bouzarea	1.59 310	P		Pn	07 39 16.4 -0.4
ABA	Alger-Bouzarea	1.59 310	P		Pn	07 39 16.4 -0.4
CASM	Ain Smara	1.65 72	P		Pn	07 39 18.0 +0.3
CASM	Ain Smara	1.65 72	P		Pn	07 39 18.0 +0.3
CKFL	Kef-Lekhel	1.87 70	P		Pn	07 39 21.2 +0.4
CKFL	Kef-Lekhel	1.87 70	P		Pn	07 39 21.2 +0.4
ABSA	Djebel Ababsia	2.43 77	P		Pn	07 39 28.8 +0.3
CABS	Djebel Ababsia	2.43 77	P		Pn	07 39 28.8 +0.3
CMAH	Djebel Manchou	2.48 69	P		Pn	07 39 28.8 -0.3
CMAH	Djebel Manchou	2.48 69	P		Pn	07 39 28.8 -0.3
EBNR	Beni Rached	2.49 283	P		Pn	07 39 28.2 -1.1
ECHA	Ech Chlef	2.60 279	P		Pn	07 39 31.1 +0.4
ECHF	Ech Chlef	2.62 279	P		Pn	07 39 31.1 +0.1
ETRT	Tiaret	2.67 263	P		Pn	07 39 29.9 -1.9
ETRT	Tiaret	2.67 263	P		Pn	07 39 29.9 -1.9
EANR	'Ain N'Sour	2.80 275	P		Pn	07 39 33.4 -0.1
EANR	'Ain N'Sour	2.80 275	P		Pn	07 39 33.4 -0.1
OJGS	Djebel Guires	3.10 266	P		Pn	07 39 41.0 +3.3
OJGS	Djebel Guires	3.10 266	P		Pn	07 39 41.0 +3.3
OKGL	Djebel Kef Gue	3.17 276	P		Pn	07 39 42.0 +3.4
OKGL	Djebel Kef Gue	3.17 276	P		Pn	07 39 42.0 +3.4
OJBR	Djebel Berber	3.42 268	P		Pn	07 39 44.0 +1.9
OJBR	Djebel Berber	3.42 268	P		Pn	07 39 44.0 +1.9
ODJA	Bouhanifia	3.85 265	P		Pn	07 39 45.0 -2.9
ODJA	Bouhanifia	3.85 265	P		Pn	07 39 45.0 -2.9
KEST	Kesra	3.91 89	Pn		Pn	07 39 49.8 +1.1
	11nm,0.3s,baz=180,slow=13,SNR=81					
KEST			Sn		Sn	07 40 36.6 +1.8
	3.4nm,0.3s,baz=71,slow=12,SNR=1.4					
KEST	Kesra	3.91 89			Pn	07 39 50.0 +1.2
EIBI	Ibiza	4.12 323	⇑P		Pn	07 39 52.9 +1.2
	22nm,0.1s,SNR=18					
EIBI			S		Sn	07 40 39.8 -0.1
	20nm,0.2s,SNR=7.9					
EIBI	Ibiza	4.12 323			Pn	07 39 53.1 +1.5
EIBI					Sn	07 40 39.8 -0.1
USTO	Oran	4.14 271	P		Pb	07 40 03.0 +1.5
USTO	Oran	4.14 271	P		Pb	07 40 03.0 +1.5
ETOS	Mallorca	4.21 342	⇓P		Pn	07 39 53.8 +0.9
	14nm,0.3s,SNR=18					
ETOS			S		Sn	07 40 41.6 -0.6
	3.5nm,0.2s,SNR=7.9					
ETOS	Mallorca	4.21 342			Pn	07 39 54.0 +1.1
ETOS					Sn	07 40 41.6 -0.6
OTSS	Djebel Tessala	4.38 265	P		Pb	07 40 05.0 -0.7
OTSS	Djebel Tessala	4.38 265	P		Pb	07 40 05.0 -0.7
EBEN2	Beniarda presa	4.76 309	P		Pn	07 40 01.6 +1.2
	17nm,0.2s,SNR=7.9					
EBEN2			S		Sn	07 40 55.4 -0.1
	7.1nm,0.2s,SNR=7.9					
EBEN2	Beniarda presa	4.76 309			Pn	07 40 02.6 +2.2
EBEN2					Sn	07 40 55.4 -0.1
CART	Cartagena	4.81 294			Pn	07 40 00.5 -0.5
CART	Cartagena	4.81 294	P			07 40 01.3
CART			S			07 40 58.2
AFON	Font Roja	4.98 307	P		Pn	07 40 05.5 +2.1
	9.7nm,0.3s,SNR=4.0					
AFON			S		Sn	07 41 00.5 -0.6
	25nm,0.4s,SNR=7.9					
AFON	Font Roja	4.98 307			Pn	07 40 05.5 +2.1
EMUR	La Murta	5.08 296	⇑P		Pn	07 40 05.4 +0.6
	43nm,0.4s,SNR=18					
EMUR			S		Sn	07 41 02.7 -0.8
	9.9nm,0.3s,SNR=4.6					
EMUR	La Murta	5.08 296			Pn	07 40 05.4 +0.6
EMUR					Sn	07 41 05.0 +1.5
VSL	Villasalto	5.34 45	Pn		Pn	07 40 08.6 +0.2
TLOR	Lorca, Murcia	5.34 292	P		Pn	07 40 10.6 +2.1
	SNR=7.9					
TLOR			S		Sn	07 41 09.0 -1.0
	120nm,0.3s,SNR=7.9					
ENIJ	Nijar	5.57 284	P		Pn	07 40 10.8 -0.7
	30nm,0.4s,SNR=7.9					
ENIJ			S		Sn	07 41 13.2 -2.5
	6.0nm,0.3s,SNR=7.9					
ENIJ	Nijar	5.57 284			Pn	07 40 10.9 -0.7
ENIJ					Sn	07 41 13.2 -2.5
ETOB	Tobarra	5.64 302	⇓P		Pn	07 40 14.8 +2.3
	13nm,0.2s,SNR=18					
ETOB			S		Sn	07 41 17.2 -0.2
	23nm,0.4s,SNR=4.6					
ETOB	Tobarra	5.64 302			Pn	07 40 14.8 +2.3
ETOB					Sn	07 41 19.7 +2.3
TAF	Taforalt	5.77 262	P			07 40 13.7
TAF			S			07 41 26.8
ECHE	Chera	5.79 313	P		Pn	07 40 15.9 +1.3
	11nm,0.5s,SNR=7.9					
ECHE			S		Sn	07 41 20.5 -0.7
	0.5nm,0.1s,SNR=4.0					
ECHE	Chera	5.79 313			Pn	07 40 15.9 +1.3
ECHE					Sn	07 41 20.5 -0.7
JBK	JBK	6.00 258	P			07 40 17.0
JBK			S			07 41 34.3
FIGM	Figuig	6.04 235	P			07 40 17.7
FIGM			S			07 41 31.4
EMOS	Mosqueruela	6.05 321	P		Pn	07 40 19.8 +1.5
	5.2nm,0.3s,SNR=28					
EMOS			S		Sn	07 41 26.1 -1.6
	0.9nm,0.2s,SNR=7.9					
EMOS	Mosqueruela	6.05 321			Pn	07 40 19.8 +1.5
EMOS					Sn	07 41 26.1 -1.6
TDRA	Tendrara	6.08 245	P			07 40 19.6
TDRA			S			07 41 39.2
EBER	Berja	6.10 283	P		Pn	07 40 18.6 -0.4
	16nm,0.2s,SNR=18					
EBER			S		Sn	07 41 26.2 -2.8
	22nm,0.5s,SNR=7.9					
EBER	Berja	6.10 283			Pn	07 40 18.6 -0.4
EBER					Sn	07 41 30.6 +1.7
ERTA	Horta de San J	6.14 329	P		Pn	07 40 21.8 +2.5
	3.2nm,0.3s,SNR=7.9					
ERTA			S		Sn	07 41 27.6 -2.0
	2.0nm,0.2s,SNR=7.9					
ERTA	Horta de San J	6.14 329			Pn	07 40 21.8 +2.5
ERTA					Sn	07 41 27.6 -2.0
SESP	Santiago Espad	6.14 294	P		Pn	07 40 21.2 +1.7
	57nm,0.4s,SNR=7.9					
SESP			S		Sn	07 41 28.9 -0.9
	11nm,0.2s,SNR=7.9					
EALB	Alboran	6.16 274	S		Sn	07 41 27.1 -2.8
	17nm,0.5s,SNR=7.9					
GOG	Mont Gurugu	6.17 267	P			07 40 20.3
GOG			S			07 41 35.0
EPOB	Poblet	6.19 335	P		Pn	07 40 21.6 +1.5
	2.9nm,0.2s,SNR=5.7					
EPOB			S		Sn	07 41 28.8 -2.2
	1.2nm,0.2s,SNR=7.9					
EPOB	Poblet	6.19 335			Pn	07 40 21.9 +1.8
EPOB					Sn	07 41 30.2 -0.8
CFON	Fontmartina	6.20 345	P		Pn	07 40 21.4 +1.2
	5.9nm,0.2s,SNR=7.9					
CFON			S		Sn	07 41 30.8 -0.4
	7.3nm,0.3s,SNR=7.9					
CFON	Fontmartina	6.20 345			Pn	07 40 21.4 +1.2
CFON					Sn	07 41 32.0 +0.8
EQES	Quesada	6.43 291	⇑P		Pn	07 40 25.1 +1.7
	27nm,0.2s,SNR=18					
EQES			S		Sn	07 41 36.3 -0.8
	1.7nm,0.2s,SNR=13					
EQES	Quesada	6.43 291			Pn	07 40 25.4 +1.9
EQES					Sn	07 41 38.5 +1.5
EQUE	Quentar	6.59 285	⇓P		Pn	07 40 26.2 +0.7
	28nm,0.4s,SNR=18					
EQUE			S		Sn	07 41 39.1 -1.7
	1.3nm,0.2s,SNR=7.9					
ELGU	Los Guajares,	6.68 282	P		Pn	07 40 26.2 -0.7
	27nm,0.4s,SNR=7.9					
ELGU			S		Sn	07 41 39.1 -4.0
	4.6nm,0.2s,SNR=7.9					
ELGU	Los Guajares,	6.68 282			Pn	07 40 26.2 -0.7
ELGU					Sn	07 41 43.5 +0.4
EJON	La Jonquera	6.79 350	P		Pn	07 40 30.4 +2.1
	3.6nm,0.3s,SNR=4.0					
EJON	La Jonquera	6.79 350			Pn	07 40 27.5 -0.8
SJAF	Saint Jean de	6.82 350	P		Pn	07 40 31.3 +2.6
	4.2nm,0.3s,SNR=7.9					
PALE	Palemas	6.94 268	P			07 40 33.4
PALE			S			07 41 52.9
CLLI	Llivia	6.98 344	P		Pn	07 40 33.7 +2.7
	2.5nm,0.2s,SNR=7.9					
CLLI	Llivia	6.98 344			Pn	07 40 33.7 +2.7
EGOR	Sierra Gorda,	7.10 283	P		Pn	07 40 34.7 +2.0
	6.2nm,0.4s,SNR=7.9					
EGOR			S		Sn	07 41 54.2 +0.8
	43nm,1.2s,SNR=7.9					
EGOR	Sierra Gorda,	7.10 283			Pn	07 40 35.4 +2.7
CSOR	Sort	7.10 339	P		Pn	07 40 34.9 +2.2
	1.5nm,0.2s,SNR=7.9					
CSOR			S		Sn	07 41 55.7 +2.2
	1.1nm,0.2s,SNR=7.9					
CSOR	Sort	7.10 339			Pn	07 40 35.6 +3.0
CSOR					Sn	07 41 55.7 +2.2
CLTB	Caltabellotta	7.20 73			Pn	07 40 33.9 -0.1
ETOR	Torete	7.23 316	P		Pn	07 40 37.5 +3.2
	8.9nm,0.5s,SNR=6.5					
ETOR			S		Sn	07 41 58.4 +1.9
	0.7nm,0.1s,SNR=7.9					
EMIJ	Mijas	7.57 279	P		Pn	07 40 37.5 -1.5
	3.2nm,0.2s,SNR=7.9					
EMIJ	Mijas	7.57 279			Pn	07 40 37.5 -1.5
PGF	Pioggiola	7.59 26	P		Pn	07 40 39.4 0.0
PGF			S		Sn	07 42 02.2 -3.4
PGF	Pioggiola	7.59 26	*e*Pn		Pn	07 40 39.4 0.0
PGF			*e*Sn		Sn	07 42 02.2 -3.4
EADA	Adamuz	7.68 291	P		Pn	07 40 40.9 +0.4
	3.1nm,0.3s,SNR=7.9					
EADA			S		Sn	07 42 04.8 -2.7
	0.6nm,0.2s,SNR=7.9					
EADA	Adamuz	7.68 291			Pn	07 40 40.9 +0.4
EADA					Sn	07 42 08.8 +1.3
LMR	La Mourre	7.70 11	P		Pn	07 40 41.3 +0.6
LMR			S		Sn	07 42 06.0 -1.9
	1.7nm,0.2s					
LMR	La Mourre	7.70 11	*e*Pn		Pn	07 40 41.3 +0.6
LMR			*e*Sn		Sn	07 42 06.0 -1.9
	3.4nm,0.2s					
MTLF	Montolieu	7.76 347	P		Pn	07 40 44.1 +2.5
MTLF			S		Sn	07 42 08.4 -1.2
	1.6nm,0.4s					
MTLF	Montolieu	7.76 347	*e*Pn		Pn	07 40 44.1 +2.5
MTLF			*e*Sn		Sn	07 42 08.4 -1.2
	3.2nm,0.4s					
ESBB	Sonseca Array	7.78 303	Pn		Pn	07 40 42.6 +0.7
ESDC	Sonseca Array	7.78 303	Pn		Pn	07 40 42.8 +0.9
	0.9nm,0.3s,baz=118,slow=13,SNR=18					
ESDC			Sn		Sn	07 42 11.0 +0.9
	0.5nm,0.3s,baz=119,slow=24,SNR=3.7					
ESDC	Sonseca Array	7.78 303	P		Pn	07 40 43.4 +1.5
	1.4nm,0.3s,baz=119,slow=13,SNR=7.3					
ESDC			S		Sn	07 42 11.1 +1.1
	baz=118,slow=24,SNR=7.9					
ESDC	Sonseca Array	7.78 303	Pn		Pn	07 40 41.9 0.0
EPF	Esparros	7.94 337	P		Pn	07 40 46.7 +2.6
EPF			S		Sn	07 42 12.8 -1.2
	0.9nm,0.3s					
EPF	Esparros	7.94 337	*e*Pn		Pn	07 40 46.7 +2.6
EPF			*e*Sn		Sn	07 42 12.8 -1.2
	1.7nm,0.3s					
FRF	La Foret Royal	7.94 11	P		Pn	07 40 44.4 +0.4
FRF			S		Sn	07 42 10.5 -3.4
	1.9nm,0.3s					
FRF	La Foret Royal	7.94 11	*e*Pn		Pn	07 40 44.4 +0.4
FRF			*e*Sn		Sn	07 42 10.5 -3.4
	3.7nm,0.3s					
PAB	San Pablo	7.99 301	P		Pn	07 40 46.1 +1.3
	2.0nm,0.3s,SNR=7.9					
PAB			S		Sn	07 42 15.5 +0.3
	9.5nm,0.7s,SNR=7.9					
PAB	San Pablo	7.99 301			Pn	07 40 45.9 +1.1
RAFF	Raffo Rosso	8.04 77			Pn	07 40 47.2 +1.8
VAE	Valguarnera	8.12 75	LR		LR	07 43 43.7
	comp=Z,67nm,20.9s,baz=298,slow=37					
MDT	Midelt	8.13 251	Pn		Pn	07 40 45.9 -0.8
	0.4nm,0.3s,baz=102,slow=12,SNR=19					
MDT			Lg		Lg	07 43 04.3
	0.9nm,0.3s,baz=131,slow=12,SNR=2.2					
MDT	Midelt	8.13 251	P			07 40 46.5
ETSF	Etsaut	8.13 332	P		Pn	07 40 49.2 +2.4
ETSF			S		Sn	07 42 17.5 -1.3
	0.9nm,0.4s					
ETSF	Etsaut	8.13 332	*e*Pn		Pn	07 40 49.2 +2.4
ETSF			*e*Sn		Sn	07 42 17.5 -1.3
	1.7nm,0.4s					
MD31	MD31	8.22 252	P			07 40 48.4
ECAB	El Cabril	8.30 289	P		Pn	07 40 49.3 +0.3
	0.5nm,0.2s,SNR=4.0					
ECAB			S		Sn	07 42 22.5 -0.4
	0.1nm,0.1s,SNR=7.9					
ECAB	El Cabril	8.30 289			Pn	07 40 49.3 +0.3
ECAB					Sn	07 42 22.4 -0.4
LASF	Ste Croix	8.31 357	P		Pn	07 40 50.5 +1.4
LASF			S		Sn	07 42 20.5 -2.4
	1.8nm,0.3s					
LASF	Ste Croix	8.31 357	*e*Pn		Pn	07 40 50.5 +1.4
LASF			*e*Sn		Sn	07 42 20.5 -2.4
	3.5nm,0.3s					
CZD	Col de Zad	8.38 254	P			07 40 51.6
ARF	Arif	8.49 242	P			07 40 54.3
SJPF	Ste Jean	8.57 330	P		Pn	07 40 55.5 +2.7
SJPF			S		Sn	07 42 27.7 -1.8
	2.2nm,0.6s					
SJPF	Ste Jean	8.57 330	*e*Pn		Pn	07 40 55.5 +2.7
SJPF			*e*Sn		Sn	07 42 27.7 -1.8
	4.4nm,0.6s					
VIVF	Saint-Julien-l	9.07 1	P		Pn	07 40 59.2 -0.4
VIVF			S		Sn	07 42 39.4 -2.3
	0.8nm,0.3s					
VIVF	Saint-Julien-l	9.07 1	*e*Pn		Pn	07 40 59.2 -0.4
VIVF			*e*Sn		Sn	07 42 39.4 -2.3
	1.6nm,0.3s					
MBDF	Montbardon	9.10 10	P		Pn	07 41 01.8 +1.7
MBDF			S		Sn	07 42 37.3 -5.3
	1.8nm,0.5s					
MBDF	Montbardon	9.10 10	*e*Pn		Pn	07 41 01.8 +1.7
MBDF			*e*Sn		Sn	07 42 37.3 -5.3
	3.5nm,0.5s					
ORIF	Oris-en-Rattie	9.19 6	P		Pn	07 41 02.0 +0.8
ORIF	Oris-en-Rattie	9.19 6	*e*Pn		Pn	07 41 02.0 +0.8
CAF	Calviac	9.33 349	P		Pn	07 41 04.5 +1.4
CAF			S		Sn	07 42 45.9 -2.2
	0.8nm,0.4s					
CAF	Calviac	9.33 349	*e*Pn		Pn	07 41 04.5 +1.4
CAF			*e*Sn		Sn	07 42 45.9 -2.2
	1.6nm,0.4s					
TZRR	Tazzarine	9.82 242	P			07 41 08.8
PVAQ	Vaqueiros	9.99 283	Pn		Pn	07 41 12.2 0.0
PVAQ	Vaqueiros	9.99 283	P			07 41 12.0
EARI	Arriondas	10.63 318	P		Pn	07 41 23.5 +2.6
	4.9nm,0.6s,SNR=4.0					
EARI	Arriondas	10.63 318			Pn	07 41 24.4 +3.4
ECAL	Calabor	10.73 308	P		Pn	07 41 24.4 +2.1
	5.5nm,0.4s,SNR=7.6					
ECAL	Calabor	10.73 308			Pn	07 41 24.4 +2.1
QUIF	Quistinic	13.41 337	*e*Pn		Pn	07 42 00.1 +1.2
SGMF	Saint Gilles	13.53 339	*e*Pn		Pn	07 42 01.5 +1.0
GERES	GERESS Array B	14.70 24	P		P	07 42 23.1 +0.3
IDI	Anoyia	16.57 86	LR		LR	07 50 19.0
	comp=Z,25nm,20.7s,baz=264,slow=42					
IDI	Anoyia	16.57 86	P		Pn	07 42 41.6 +0.5
IDI			IAmb		IAmb	07 42 44.9
	comp=Z,22nm,1.3s					
TORD	Torodi Ar. Bea	22.68 187	P		P	07 43 48.2 -2.0
	comp=Z,1.7nm,0.9s,baz=6.0,slow=11,SNR=5.2					
AKASG	Malin Array Be	23.21 42	P		P	07 43 55.1 -0.4
	comp=Z,0.7nm,0.4s,baz=239,slow=9.5,SNR=4.5					
AKASG	Malin Array Be	23.21 42	IAmb		IAmb	07 44 16.3
	comp=Z,1.5nm,1.3s					
AKBB	Malin Array Si	23.21 42	P		P	07 43 54.7 -0.8
AKBB			IAmb		IAmb	07 43 57.1
	comp=Z,2.9nm,0.8s					
NOA	NORSAR Array B	25.64 8	LR		LR	07 54 09.9
	comp=Z,18nm,20.8s,baz=30,slow=36					
MKAR	Makanchi Array	57.22 53	P		P	07 48 34.7 -1.2
	comp=Z,0.2nm,0.6s,baz=288,slow=5.9,SNR=2.6					

*JMA **15** 07:40:19.9±0.2, 33.°27N×139.°53E, h29km, M3.1*
*IDC **15** 07:40:20.1±1.6, 32.°98N×140.°48E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/61, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=57.3km s-min=30.4km az=99.0*

ISC 15 07:40:20.6±0.9, 33.°27N±0.°06×139.°51E±0.°05, h22km, n22, σ1$04/18, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.30	122	P	Pb	07 40 26.9	-0.6
JHCJ	Hachijojimakas	0.32	130	P	Pb	07 40 26.8	-0.8
JHCJ				S	Sb	07 40 31.8	-0.6
JMKN	Mikurajimanish	0.62	6	S	Sb	07 40 39.8	-1.4
JTHY	Toshimahigashi	1.26	352	*e*S	Sn	07 40 58.6	-0.6
JIZS	Izushimoda	1.53	340	P	Pn	07 40 46.1	-0.6
JIZS				*e*S	Sn	07 41 05.7	-0.2
TK03	Tokai 3	1.56	305	S	Sb	07 41 07.0	-1.1
TK02	Tokai 2	1.61	295	*e*S	Sb	07 41 08.1	-1.2
TK01	Tokai 1	1.68	288	*e*S	Sn	07 41 08.2	-0.8
TK04	Tokai 4	1.75	310	*e*S	Sn	07 41 11.3	+0.1
TTO5	TONANKAI O.B.S	1.78	304	S	Sn	07 41 11.5	-0.4
TTO4	TONANKAI O.B.S	1.80	295	S	Sn	07 41 11.1	-1.0
BSO1	Boso 1	1.84	41	P	Pn	07 40 49.3	-1.1
MJAR	Matsushiro Arr	3.43	342	Pn	Pb	07 41 21.3	+0.6
	0.2nm,0.3s,baz=156,slow=12,SNR=6.8						
H11N2	WAKE ISLAND Hy	27.88	112	T	T	08 15 17.0	
	baz=305,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	27.88	112	T	T	08 15 17.9	
	baz=305,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	27.89	112	T	T	08 15 17.7	
	baz=305,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	28.43	114	T	T	08 15 57.6	
	baz=307,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	28.43	114	T	T	08 15 57.1	
	baz=307,slow=75,SNR=30						
H11S2	WAKE ISLAND Hy	28.45	114	T	T	08 15 58.6	
	baz=307,slow=75,SNR=34						
KDAK	Kodiak Island	50.96	40	P	P	07 49 21.8	+1.6
	2.1nm,0.9s,baz=292,slow=11,SNR=1.1						
WRA	Warramunga Arr	53.15	186	P	P	07 49 38.0	+1.2
	0.1nm,0.3s,baz=21,slow=7.3,SNR=1.1						
ILAR	Eielson Array	53.51	31	P	P	07 49 40.5	+1.4
	0.7nm,0.8s,baz=268,slow=6.0,SNR=7.5						

INET 15 07:59:40.9, 11.°43N×87.°46W, h15km, MW3.6, Near coast of Nicaragua

*BJI **15** 08:01:00.2±0.0, 33.°05N×140.°11E, h10km, mB5.0/38, mb4.6/58, Ms4.7/54, Ms7 4.4/50*
*IDC **15** 08:01:03.7±0.7, 33.°09N×139.°70E, h0km, mb4.5/22, mb1 4.6/26, mb1mx4.6/39, mbtmp4.5/26, ML4.0/4, MS3.9/29, Ms1 3.9/29, ms1mx3.8/61, Error ellipse: s-maj=17.9km s-min=4.9km az=178.0*
*JMA **15** 08:01:06.2±0.1, 33.°30N×139.°57E, h23km±4km, M4.6*
JMA Felt I J1.
*NIED **15** 08:01:06.3, 33.°30N×139.°57E, h23km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.18; $M_{\theta\theta}$0.09; $M_{\phi\phi}$1.09; $M_{r\theta}$-0.45; $M_{\theta\phi}$-0.24; $M_{\phi r}$1.92; Fault plane solution: $M_0$2.28000×10^{16} NP1: ϕ_s167.00000°, δ75.00000°, λ-90.00000°. NP2: ϕ_s348.00000°, δ15.00000°, λ-89.00000°.*
*NEIC **15** 08:01:07.5±1.5, 33.°35N±0.°06×139.°42E±0.°06, h10km±1km, mb4.8/139 Error ellipse: s-maj=11.0km s-min=6.3km az=212.0*
*MOS **15** 08:01:07.2±1.4, 33.°39N×139.°47E, h18km, mb4.9/33, MS4.2/7, Error ellipse: s-maj=9.8km s-min=5.2km az=105.5*
*GCMT **15** 08:01:08.5±0.3, 33.°06N±0.°03×139.°52E±0.°02, h12km, MW4.8/84, Moment Tensor Solution. s12,c12; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.52±.06; $M_{\theta\theta}$-0.21±.06; $M_{\phi\phi}$1.73±.05; $M_{r\theta}$-1.00±.25; $M_{\theta\phi}$-0.58±.05; $M_{\phi r}$0.91±.20; Best double couple: $M_0$2.19800×10^{16} NP1:ϕ_s7.00000°, δ32.00000°, λ-52.00000°. NP2: ϕ_s144.00000°, δ65.00000°, λ-111.00000°. Principal axes: T 2.2560, Plg18.0000°, Azm250.0000°; N -0.1200, Plg19.0000°, Azm153.0000°; P -2.1410, Plg64.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 08:01:06.4±0.9, 33.°27N±0.°03×139.°50E±0.°04, h7km±5km, n377, σ1$49/351, mb4.8/120, MS4.2/47, 7C-7D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.28	122	Pn	Pg	08 01 12.7	+0.8
	3μm,0.3s,baz=347,slow=12,SNR=109						
JHJ				Sn	Sb	08 01 17.6	-1.1
	6μm,0.3s,baz=240,slow=11,SNR=26						
JHJ2	Mitsune	0.31	121	P	Pg	08 01 12.6	+0.1
JHJ2	Mitsune	0.31	121	Pg	Pg	08 01 13.5	+1.0
JHCJ	Hachijojimakas	0.32	128	P	Pg	08 01 12.5	-0.1
JHCJ				*e*S	Sg	08 01 17.5	+0.6
JMKN	Mikurajimanish	0.62	7	P	Pg	08 01 17.9	-0.5
JMKN				S	Sg	08 01 26.0	-0.6
JKO	Kozu shima	0.96	342	P	Pg	08 01 23.7	-1.2
JSKK	Shikinejimakit	1.09	347	P	Pb	08 01 26.0	-1.6
JTHY	Toshimahigashi	1.26	352	P	Pn	08 01 28.5	-2.0
JIM2	Oshima 3	1.44	358	P	Pn	08 01 31.1	-1.9
JIZS	Izushimoda	1.53	340	P	Pn	08 01 32.5	-1.7
TK03	Tokai 3	1.56	305	P	Pn	08 01 33.4	-1.0
TK03				*e*S	Sn	08 01 53.4	-1.5
TK02	Tokai 2	1.60	295	P	Pn	08 01 33.5	-1.5
TK02				*e*S	Sn	08 01 54.3	-1.5
JSG	Sagara	1.77	322		Pn	08 01 36.3	-1.3
INU	Inuyama	2.92	316		Pn	08 01 52.0	-1.2
JGF	Kuroka	2.92	323	Pn	Pn	08 01 51.8	-1.6
JYT	Yasato	3.00	11	Pn	Pn	08 01 53.6	-0.9
MJAR	Matsushiro Arr	3.43	342	Pn	Pn	08 02 00.3	0.0
	1.4nm,0.3s,baz=164,slow=13,SNR=30						
MJAR				LR	LR	08 03 07.1	
	comp=Z,301nm,20.8s,baz=160,slow=34						
MJAR	Matsushiro Arr	3.43	342	Pn	Pn	08 01 59.6	-0.8
MAJO	Matsushiro	3.43	342	*i* P	Pn	08 02 01.1

CN2 pmax pmax
comp=Z,300nm,5.5s
CN2 LR LR
comp=N,1μm,15.0s
CN2 LR LR
comp=E,800nm,15.0s
CN2 LR LR
comp=Z,500nm,16.0s
DL2 Dalian 15.50 296 P **P** **08 04 52.8 +2.9**
DL2 pmax pmax
comp=Z,54nm,0.7s
SSE Sheshan 15.66 267 P **Pn** **08 04 45.3 -2.2**
SSE S **Sn** **08 07 40.5 -0.8**
SSE pmax pmax
comp=Z,19nm,0.6s
SSE pmax pmax
comp=Z,200nm,4.5s
SSE LR LR
comp=N,350nm,16.0s
SSE LR LR
comp=E,530nm,13.4s
KLR Kul'dur 16.96 342 P **Pn** **08 05 02.1 -2.0**
0.2nm,0.3s,baz=143,slow=11,SNR=16
KLR LR LR 08 11 15.1
comp=Z,270nm,20.6s,baz=130,slow=36
KLR Kul'dur 16.96 342 *ce*P **Pn** **08 05 02.4 -1.7**
KLR pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 17.43 272 *e*P **P** **08 05 13.9 +2.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,730nm,11.4s
NJ2 LR LR
comp=Z,1μm,11.4s
NJ2 LR LR
comp=Z,1μm,15.2s
GRNR Gornyy 17.63 354 ⇑*i*P **P** **08 05 14.6 +1.1**
GRNR *e*S **S** **08 08 34.2 -2.5**
GRNR pmax pmax
comp=N,9.0nm,0.6s
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR smax smax
comp=N,5.0nm,0.8s
GRNR MLR MLR
comp=N,390nm,14.0s
GRNR MLR MLR
comp=E,360nm,14.0s
GRNR MLR MLR
comp=Z,540nm,14.0s
TIA Tai'an 18.62 285 P **Pn** **08 05 27.1 +2.4**
TIA S **S** **08 09 02.8 +5.9**
TIA pmax pmax
comp=Z,10.0nm,0.9s
TIA pmax pmax
comp=Z,150nm,3.5s
TIA LR LR
comp=Z,1μm,12.6s
TIA LR LR
comp=Z,2μm,12.9s
TIA LR LR
comp=Z,3μm,13.7s
SSLB Suanglung 18.81 245 P **P** **08 05 26.6 -0.1**
BJI Beijing 19.86 297 P **P** **08 05 39.0 +1.0**
BJI S **Sn** **08 09 28.6 +5.5**
BJI sS **pS** **08 09 32.5 +0.2**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,920nm,14.9s
BJI LR LR
comp=Z,770nm,15.5s
BJI LR LR
comp=Z,1μm,22.6s
SKR Severo-Kuril's 21.25 30 *i*P **P** **08 05 53.6 +0.6**
WHN Wuhan 21.51 270 ⇓P **P** **08 05 57.8 +1.9**
WHN S Sn 08 10 00.3 -2.5
WHN pmax pmax
comp=Z,68nm,1.1s
WHN LR LR
comp=Z,2μm,6.9s
WHN LR LR
comp=Z,2μm,11.2s
WHN LR LR
comp=Z,3μm,14.8s
ZEA Zeya 22.24 341 *e*P **P** **08 06 01.6 -2.0**
ZEA *e* 08 06 10.1
ZEA *e* 08 10 59.9
ZEA pmax pmax
comp=E,20nm,0.5s
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=N,400nm,13.0s
HHC Hu-ho-hao-te 23.47 297 *e*P **P** **08 06 16.3 -0.4**
HHC S **S** **08 10 25.6 -5.1**
HHC pmax pmax
comp=N,37nm,0.9s
HHC pmax pmax
comp=N,260nm,7.8s
HHC LR LR
comp=N,550nm,13.9s
HHC LR LR
comp=N,1μm,12.9s
HHC LR LR
comp=N,1μm,12.8s
PETK Petropavlovsk- 23.73 28 P **P** **08 06 20.1 +1.1**
comp=N,3.7nm,0.8s,baz=213,slow=11,SNR=7.0
PETK LR LR 08 16 33.5
comp=N,203nm,18.7s,baz=218,slow=39
PETK Petropavlovsk- 23.73 28 **P** **08 06 18.8 -0.2**
PET Petropavlovsk 24.05 29 *e*P **P** **08 06 27.2 +5.2**
PET *e*S **S** **08 10 39.7 +0.3**
PET MLR MLR
comp=Z,200nm,17.0s
XAN Xi'an 25.42 280 P **P** **08 06 34.5 -0.3**
XAN pP sP 08 06 45.1 +8.0
XAN pmax pmax
comp=Z,19nm,1.1s
XAN LR LR
comp=Z,560nm,17.1s
XAN LR LR
comp=Z,440nm,15.0s
XAN Xi'an 25.42 280 P **P** **08 06 36.5 +1.7**
XAN Xi'an 25.42 280 P **P** **08 06 36.5 +1.7**
ENH Enshi 25.65 271 P **P** **08 06 36.3 -0.5**
ENH IAmb IAmb 08 06 42.0
comp=Z,21nm,0.9s
MA2 Magadan 27.36 12 P **P** **08 06 52.1 +0.2**
comp=Z,28nm,0.9s,baz=134,slow=4.7,SNR=5.0
MA2 Magadan 27.36 12 *ce*P **P** **08 06 52.6 +0.7**
MA2 pmax pmax
comp=Z,32nm,0.9s
H11N2 WAKE ISLAND Hy 27.88 112 T T 08 36 03.3
baz=305,slow=75,SNR=416
H11N1 WAKE ISLAND Hy 27.89 112 T T 08 36 04.6
baz=305,slow=75,SNR=398
H11N3 WAKE ISLAND Hy 27.90 112 T T 08 36 04.6
baz=305,slow=75,SNR=422
ULN Ulaanbaatar 28.39 311 P **P** **08 07 01.8 +0.3**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 28.39 311 **P** **08 07 01.8 +0.3**
ULN IAmb IAmb 08 07 04.0
comp=Z,11nm,0.8s
H11S3 WAKE ISLAND Hy 28.43 114 T T 08 36 43.8
baz=307,slow=75,SNR=378
H11S1 WAKE ISLAND Hy 28.44 114 T T 08 36 43.9
baz=307,slow=75,SNR=408
H11S2 WAKE ISLAND Hy 28.45 114 T T 08 36 45.1
baz=307,slow=75,SNR=321
SONM Songino Array 28.80 310 P **P** **08 07 05.7 +0.6**
comp=Z,7.1nm,0.8s,baz=116,slow=8.6,SNR=18
SONM LR LR 08 19 11.6
comp=Z,406nm,19.2s,baz=92,slow=38
SONM Songino Array 28.80 310 P **P** **08 07 05.0 -0.1**
GYA Guiyang 29.19 265 ⇓P **P** **08 07 10.9 +2.1**
GYA S **S** **08 11 59.6 -2.0**
GYA pmax pmax
comp=Z,1.0nm,0.8s
GYA pmax pmax
comp=Z,46nm,8.4s
GYA LR LR
comp=Z,93nm,15.5s
GYA LR LR
comp=Z,50nm,13.3s
GYA LR LR
comp=Z,87nm,20.5s
LZH Lanzhou 29.36 286 *e*P P 08 07 16.3 +6.1
LZH pP sP 08 07 20.0 +7.4
LZH sP pP 08 07 23.3 +11
LZH PP **PP** **08 08 12.6 -3.7**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.3s
LZH LR LR
comp=N,850nm,16.3s
LZH LR LR
comp=E,1μm,15.7s
LZH LR LR
comp=Z,760nm,15.7s
YAK Yakutsk 29.46 351 P **P** **08 07 11.0 +0.5**
comp=Z,16nm,0.6s,baz=164,slow=1.3,SNR=5.5
YAK Yakutsk 29.46 351 *ce*P **P** **08 07 12.0 +1.4**
YAK pmax pmax
comp=Z,23nm,0.7s
YAK Yakutsk 29.46 351 P **P** **08 07 11.1 +0.5**
BOD Bodaibo 30.01 333 *e*P **P** **08 07 15.0 -0.5**
BOD pmax pmax
comp=Z,10.0nm,1.4s
QIZ Qiongzhong 30.04 249 P **P** **08 07 16.3 +0.1**
QIZ S **S** **08 12 15.3 +0.5**
QIZ pmax pmax
comp=Z,250nm,4.9s
QIZ LR LR
comp=Z,220nm,4.9s
QIZ LR LR
comp=Z,290nm,9.4s
QIZ LR LR
comp=Z,440nm,15.7s
CD2 Chengdu 30.28 275 P **P** **08 07 16.9 -1.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,710nm,12.6s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,2μm,14.3s
TLY Talaya 31.78 316 *e*P **P** **08 07 33.9 +2.6**
TLY pmax pmax
comp=Z,15nm,0.6s
TLY MLR MLR
comp=Z,656nm,15.0s
GTA Gaotai 32.36 292 *e*P **P** **08 07 36.3 -0.3**
GTA pmax pmax
comp=Z,5.0nm,0.7s
GTA pmax pmax
comp=Z,90nm,8.8s
GTA LR LR
comp=Z,490nm,18.3s
GTA LR LR
comp=Z,510nm,15.5s
GTA LR LR
comp=Z,520nm,15.1s
KMI Kunming 32.97 265 ⇓P **P** **08 07 44.8 +2.6**
KMI S **S** **08 13 05.3 +4.3**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI LR LR
comp=Z,500nm,17.3s
KMI LR LR
comp=Z,910nm,13.2s
KMI LR LR
comp=Z,1μm,14.5s
SIJI Sorong 34.83 195 LR LR 08 19 54.8
comp=Z,190nm,20.7s,baz=136,slow=33
NONG Nongkai 35.89 254 P P 08 08 13.4 +6.1
BILL Bilibino 38.07 16 ⇓*e*P **P** **08 08 25.8 +0.5**
BILL *e* 08 09 56.4
BILL pmax pmax
comp=Z,22nm,2.5s
BILL MLR MLR
comp=Z,159nm,18.0s
TIXI Tiksi 38.86 355 *ce*P **P** **08 08 32.0 +0.2**
TIXI Tiksi 38.86 355 P **P** **08 08 30.8 -1.1**
TIXI IAmb IAmb 08 08 33.2
comp=Z,8.6nm,0.6s
CMAR Chiang Mai Arr 39.10 258 P **P** **08 08 34.8 +0.3**
comp=Z,1.6nm,0.5s,baz=47,slow=7.9,SNR=4.4
CMAR LR LR 08 24 58.7
comp=Z,217nm,19.5s,baz=90,slow=37
CMAR Chiang Mai Arr 39.10 258 *i*P **P** **08 08 36.2 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
WMQ Urumqi 41.26 300 *e*P **P** **08 08 53.5 +1.2**
WMQ LR LR
comp=Z,640nm,16.3s
WMQ LR LR
comp=Z,270nm,17.9s
DGZ Jazzator, Alta 41.44 309 ⇓*i*P **P** **08 08 54.5 +0.7**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 43.39 315 P **P** **08 09 09.1 -0.3**
ZALV Zalesovo Beam 43.39 315 P **P** **08 09 09.1 -0.3**
comp=Z,4.8nm,0.7s,baz=106,slow=7.6,SNR=15
ZALV PcP **PcP** **08 10 56.6 -1.1**
comp=Z,3.7nm,0.7s,baz=93,slow=2.8,SNR=7.3
ZALV LR LR 08 27 59.4
comp=Z,164nm,18.3s,baz=70,slow=37
ZALV Zalesovo Beam 43.39 315 P **P** **08 09 08.5 -0.8**
MK31 Makanchi Array 44.89 305 *i*P **P** **08 09 21.4 -0.2**
MK31 Makanchi Array 44.89 305 P **P** **08 09 20.9 -0.6**
MKAR Makanchi Array 44.89 305 P **P** **08 09 21.0 -0.5**
comp=Z,5.0nm,0.7s,baz=90,slow=9.4,SNR=48
MKAR LR LR 08 28 53.2
comp=Z,289nm,19.6s,baz=88,slow=37
MKAR Makanchi Array 44.89 305 *i*P **P** **08 09 21.5 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 44.89 305 P **P** **08 09 21.4 -0.1**
MAKZ Makanchi 45.10 305 P **P** **08 09 22.9 -0.4**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 45.10 305 P **P** **08 09 22.9 -0.4**
SDPT Sand Point 46.59 43 P **P** **08 09 35.1 +0.4**
baz=267
RDOG Red Dog Mine 47.56 25 P **P** **08 09 43.4 +1.2**
baz=253
RDOG Red Dog Mine 47.56 25 P **P** **08 09 43.3 +1.0**
RDOG IAmb IAmb 08 09 46.0
comp=Z,7.0nm,0.7s
N18K Kilae Creek 49.30 36 P **P** **08 09 55.8 0.0**
baz=267
SVW2 Sparrevohn 49.48 35 **P** **08 09 58.3 +1.2**
O18K Koktuh Hills 49.60 37 P **P** **08 09 58.3 +0.2**
baz=268
L19K White Mountain 49.89 34 P **P** **08 10 00.4 +0.1**
baz=266
BOOM Boomskoye usch 49.95 300 P **P** **08 10 01.7 +0.4**
BOOM pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 49.95 300 P **P** **08 10 01.7 +0.4**
N19K Bonanza Creek 50.00 36 P **P** **08 10 01.1 -0.1**
baz=268
O19K Port Alsworth 50.06 37 P **P** **08 10 01.6 +0.2**
baz=268
M19K Big River Lodg 50.09 34 P **P** **08 10 01.8 0.0**
baz=267
K20K Telida 50.33 32 P **P** **08 10 03.6 0.0**
baz=266,SNR=17
J20K Nowinta River 50.35 31 P **P** **08 10 03.0 -0.7**
baz=265,SNR=20
A21K Barrow 50.53 22 P **P** **08 10 04.8 0.0**
baz=257
P19K Oil Pt 50.60 37 P **P** **08 10 05.5 -0.2**
baz=270
OHAK Old Harbor 50.60 40 P **P** **08 10 05.5 -0.1**
baz=272
IMAR Indian Mountai 50.69 29 P **P** **08 10 06.3 +0.1**
KDAK Kodiak Island 50.97 40 P **P** **08 10 08.0 -0.3**
comp=Z,16nm,0.9s,baz=273,slow=4.8,SNR=28
KDAK LR LR 08 30 33.1
comp=Z,168nm,21.7s,baz=268,slow=35
KDAK Kodiak Island 50.97 40 P **P** **08 10 07.8 -0.6**
KDAK IAmb IAmb 08 10 13.3
comp=Z,24nm,1.4s
AAK Ala-Archa 50.97 301 LR LR 08 31 57.3
comp=Z,244nm,18.2s,baz=79,slow=36
H21K Melozitna Rive 51.05 30 P **P** **08 10 09.0 +0.1**
baz=265,SNR=22
SPCR Spurr Chakacha 51.11 35 P **P** **08 10 09.5 -0.1**
baz=269
CHUM Lake Minchumin 51.14 32 P **P** **08 10 09.5 -0.1**
baz=267
PPLA Purkeypile 51.16 33 P **P** **08 10 09.6 -0.4**
baz=268
PPLA Purkeypile 51.16 33 P **P** **08 10 10.1 +0.1**
PPLA IAmb IAmb 08 10 12.6
comp=Z,9.0nm,0.8s
SPU Mount Spurr 51.19 35 P **P** **08 10 11.4 +1.3**
I21K Tanana 51.35 30 P **P** **08 10 10.6 -0.6**
baz=266,SNR=13
SKT Skwentna 51.44 34 P **P** **08 10 11.6 -0.4**
baz=269
SKT Skwentna 51.44 34 P **P** **08 10 12.0 0.0**
SKT IAmb IAmb 08 10 14.0
comp=Z,6.4nm,0.8s
CAPN Captain Cook N 51.63 36 P **P** **08 10 13.1 -0.2**
baz=271
BPAW Bear Paw Mtn. 51.73 32 P **P** **08 10 14.1 0.0**
baz=268
BPAW Bear Paw Mtn. 51.73 32 P **P** **08 10 14.9 +0.8**
KTH Kantishna Hill 51.75 32 IAmb IAmb 08 10 21.0
comp=Z,11nm,1.0s
SUA Susitna One 51.82 35 P **P** **08 10 14.2 -0.7**
baz=270
BRSE Bradley Lake S 51.86 37 P **P** **08 10 14.7 -0.4**
baz=272
MLY Manley 51.87 30 P **P** **08 10 14.8 -0.4**
baz=268,SNR=22
MLY Manley 51.87 30 IAmb IAmb 08 10 17.7
comp=Z,12nm,0.8s
TRF Thorofare Moun 52.03 32 P **P** **08 10 16.3 -0.2**
baz=269
BRVK Borovoye 52.06 314 *ce*P **P** **08 10 16.5 -0.2**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 52.06 314 P **P** **08 10 16.8 +0.1**
RC01 Rabbit Creek A 52.31 35 P **P** **08 10 18.4 0.0**
baz=272
H23K Yukon River 52.40 29 P **P** **08 10 19.2 +0.1**
baz=268,SNR=16
BWN Browne 52.40 32 P **P** **08 10 20.9 +1.9**
I23K Minto, Yukon-K 52.46 30 P **P** **08 10 19.0 -0.5**
baz=269
I23K Minto, Yukon-K 52.46 30 P **P** **08 10 19.7 +0.3**
I23K IAmb IAmb 08 10 25.6
comp=Z,14nm,1.2s
SEW Seward 52.49 37 P **P** **08 10 19.2 -0.6**
baz=273
SEW Seward 52.49 37 P **P** **08 10 19.6 -0.2**
SEW IAmb IAmb 08 10 21.3
comp=Z,9.1nm,0.8s
TOLK Toolik Lake Re 52.53 26 P **P** **08 10 19.7 -0.3**
baz=266,SNR=12
TOLK Toolik Lake Re 52.53 26 P **P** **08 10 20.7 +0.7**
TOLK IAmb IAmb 08 10 22.8
comp=Z,9.9nm,0.8s
NEA2 Nenana 52.58 31 P **P** **08 10 20.3 -0.1**
baz=270,SNR=20
NEA2 Nenana 52.58 31 P **P** **08 10 20.7 +0.4**
MCK McKinley 52.64 32 P **P** **08 10 21.3 +0.5**
MCK pmax pmax
comp=Z,13nm,0.8s
MCK McKinley 52.64 32 P **P** **08 10 20.5 -0.4**
baz=270,SNR=7.6
MCK McKinley 52.64 32 P **P** **08 10 21.3 +0.5**
MCK IAmb IAmb 08 10 25.1
comp=Z,12nm,0.8s
RND Reindeer 52.68 32 P **P** **08 10 21.1 -0.1**
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 52.68 32 P **P** **08 10 21.1 -0.1**
RND IAmb IAmb 08 10 22.9
comp=Z,16nm,0.8s
GHO Glory Hole Cre 52.68 35 P **P** **08 10 20.9 -0.4**
GHO IAmb IAmb 08 10 24.3
comp=Z,12nm,0.8s
WAT1 Susitna Watana 52.83 33 P **P** **08 10 21.7 -0.5**
baz=271
KNK Knik Glacier 52.92 35 P **P** **08 10 22.5 -0.4**
baz=273,SNR=6.3
KNK Knik Glacier 52.92 35 P **P** **08 10 22.7 -0.3**
SML Sawmill 52.96 34 P **P** **08 10 22.5 -0.8**
baz=272,SNR=13
WRH Wood River Hil 53.00 31 P **P** **08 10 22.4 -1.1**
WRH IAmb IAmb 08 10 26.7
comp=Z,5.7nm,0.7s
PWL Port Wells 53.01 36 **P** **08 10 23.3 -0.3**
H24K Noodor Dome 53.09 29 P **P** **08 10 23.8 -0.4**
baz=270,SNR=10
TCOL CIGO, UAF Yank 53.09 31 P **P** **08 10 23.9 -0.3**
baz=270,SNR=7.0
COLA College 53.10 31 P **P** **08 10 25.2 +1.1**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 53.10 31 P **P** **08 10 23.6 -0.5**
baz=270
COLA College 53.10 31 P **P** **08 10 25.2 +1.1**
COLA IAmb IAmb 08 10 27.2
comp=Z,16nm,0.8s
CCB Clear Creek Bu 53.12 31 IAmb IAmb 08 10 27.5
comp=Z,6.4nm,0.8s
WRA Warramunga Arr 53.14 186 P **P** **08 10 21.2 -3.8**
comp=Z,0.5nm,0.5s,baz=5.2,slow=7.6,SNR=15
WRA Warramunga Arr 53.14 186 *i*P **P** **08 10 22.5 -2.5**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WAT6 Susitna Watana 53.21 34 P **P** **08 10 24.2 -1.0**
baz=272,SNR=7.7
POKR Poker Plat Res 53.27 30 P **P** **08 10 24.7 -0.8**
baz=271,SNR=8.8
POKR Poker Plat Res 53.27 30 P **P** **08 10 26.7 +1.2**
SCM Sheep Creek Mo 53.44 34 P **P** **08 10 26.5 -0.3**
SCM pmax pmax
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 53.44 34 P **P** **08 10 26.5 -0.3**
HDA Harding Lake 53.50 31 P **P** **08 10 26.4 -0.8**
baz=272,SNR=16
HDA Harding Lake 53.50 31 P **P** **08 10 26.2 -1.0**
IL31 53.51 31 P **P** **08 10 26.3 -0.9**
IL31 IAmb IAmb 08 10 28.7
comp=Z,9.2nm,0.8s
ILAR Eielson Array 53.51 31 P **P** **08 10 26.2 -1.0**
comp=Z,8.6nm,0.7s,baz=270,slow=5.7,SNR=67
ILAR LR LR 08 36 18.1
comp=Z,25nm,18.3s,baz=273,slow=40
GLI Glacier Island 53.61 36 P **P** **08 10 27.4 -0.6**
baz=274
KK31 Karatay Array 53.72 302 P **P** **08 10 26.9 -2.2**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 53.72 302 P **P** **08 10 26.9 -2.2**
KK31 IAmb IAmb 08 10 36.1
comp=Z,8.4nm,1.1s
KKAR Karatay Array 53.72 302 P **P** **08 10 28.3 -0.8**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 53.72 302 P **P** **08 10 28.3 -0.8**
KKAR IAmb IAmb 08 10 36.1
comp=Z,8.4nm,1.1s
FID Port Fidalgo 53.92 36 IAmb IAmb 08 10 32.2
comp=Z,12nm,0.8s
HIN Hinchinbrook I 53.94 36 P **P** **08 10 30.3 -0.1**
M24K Tolsona, Glenn 53.96 34 P **P** **08 10 29.6 -1.0**
baz=274
PRP Porcupine Dome 54.07 30 P **P** **08 10 30.8 -0.6**
baz=272,SNR=6.2
PRP Porcupine Dome 54.07 30 IAmb IAmb 08 10 34.0
comp=Z,6.3nm,0.7s
KLU Klutina 54.13 35 P **P** **08 10 31.4 -0.5**
baz=275
KLU Klutina 54.13 35 P **P** **08 10 31.8 -0.1**
KLU IAmb IAmb 08 10 43.1
comp=Z,6.6nm,0.8s
FYU Fort Yukon 54.15 29 IAmb IAmb 08 10 34.8
comp=Z,8.7nm,0.8s
PAX Paxson 54.23 33 P **P** **08 10 31.7 -0.9**
baz=274
EYAK Cordova Ski Ar 54.30 36 P **P** **08 10 32.5 -0.5**
baz=276
HARP HAARP 54.41 34 P **P** **08 10 33.4 -0.5**

baz=275
RIDG Independent Ri 54.45 32 P **P 08 10 34.7 +0.5**
baz=274,SNR=5.9
RIDG Independent Ri 54.45 32 P **P 08 10 34.1 -0.1**
RIDG IAmb IAmb 08 10 36.8
comp=Z,6.7nm,0.8s
N25K Chitina, Valde 54.75 35 P **P 08 10 35.8 -0.6**
baz=276
N25K Chitina, Valde 54.75 35 IAmb IAmb 08 11 04.7
comp=Z,13nm,1.4s
DOT Dot Lake 54.81 32 P **P 08 10 36.7 -0.1**
DOT IAmb IAmb 08 10 38.0
comp=Z,7.6nm,0.8s
BMRM Bremner River 54.81 35 P **P 08 10 36.9 +0.1**
baz=276,SNR=7.7
BMRM Bremner River 54.81 35 **P 08 10 37.4 +0.5**
SCRK Sand Creek 54.82 32 P **P 08 10 36.5 -0.4**
baz=275,SNR=24
SCRK Sand Creek 54.82 32 IAmb IAmb 08 10 38.8
comp=Z,10.0nm,0.8s
MENT Mentasta 55.03 33 IAmb IAmb 08 10 41.1
comp=Z,12nm,0.8s
GLB Gilahina Butte 55.14 35 P **P 08 10 40.2 +0.9**
GLB IAmb IAmb 08 10 46.6
comp=Z,12nm,1.3s
L26K Log Cabin Wild 55.19 33 P **P 08 10 39.5 0.0**
baz=276,SNR=18
MCARA McCarthy VSAT 55.52 35 P **P 08 10 41.7 -0.2**
baz=277
CRQE Cirque 55.57 36 P **P 08 10 41.9 -0.5**
baz=278
K27K Chicken 55.65 31 P **P 08 10 42.5 -0.3**
baz=276
K27K Chicken 55.65 31 P **P 08 10 42.8 0.0**
K27K IAmb IAmb 08 10 45.0
comp=Z,7.5nm,0.8s
L27K Beaver Creek, 55.87 33 P **P 08 10 44.1 -0.3**
baz=277,SNR=17
L27K Beaver Creek, 55.87 33 P **P 08 10 44.9 +0.5**
L27K IAmb IAmb 08 10 46.8
comp=Z,8.5nm,0.8s
BCAR Beaver Creek A 55.89 33 P **P 08 10 44.8 +0.2**
CHGR Chuyangaron 55.92 297 P **P 08 10 44.3 -0.9**
EGAK Eagle 55.96 31 P **P 08 10 45.0 0.0**
baz=276,SNR=8.4
EGAK Eagle 55.96 31 IAmb IAmb 08 10 46.5
comp=Z,4.7nm,0.8s
MESA MESA 56.22 36 P **P 08 10 46.8 -0.4**
baz=279
CTG Chitna Glacier 56.39 35 P **P 08 10 47.8 -0.5**
baz=279,SNR=6.2
CTGM Chitina Glacie 56.40 35 P **P 08 10 48.4 +0.1**
CTGM IAmb IAmb 08 10 50.8
comp=Z,11nm,0.9s
DAWY Dawson 56.82 31 P **P 08 10 51.4 +0.2**
ASAR Alice Springs 56.87 186 P **P 08 10 51.4 -0.5**
comp=Z,0.4nm,0.4s,baz=5.9,slow=6.4,SNR=4.0
ASAR LR LR 08 32 51.6
comp=Z,105nm,21.6s,baz=339,slow=34
EPYK Eagle Plains 57.57 28 P **P 08 10 56.5 0.0**
baz=279,SNR=34
EPYK Eagle Plains 57.57 28 P **P 08 10 56.4 0.0**
ARU Arti 58.17 320*d i*P **P 08 11 03.2 +2.4**
ARU 08 13 07.8
ARU S **S 08 19 10.0 +7.6**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 58.17 320 P **P 08 11 00.3 -0.5**
ARU IAmb IAmb 08 11 05.4
comp=Z,7.3nm,0.7s
INK Inuvik 58.45 26 P **P 08 11 02.1 -0.3**
comp=Z,8.5nm,0.8s,baz=281,slow=6.0,SNR=28
INK Inuvik 58.45 26 P **P 08 11 02.4 -0.1**
baz=281,SNR=12
INK Inuvik 58.45 26 P **P 08 11 01.1 -1.4**
INK IAmb IAmb 08 11 04.0
comp=Z,9.4nm,0.8s
ABKAR Akbulak array 59.20 311 P **P 08 11 06.2 -1.9**
ABKAR Akbulak array 59.20 311 IAmb IAmb 08 11 09.7
comp=Z,4.2nm,0.7s
EIDS Eidsvold 59.35 168 P **P 08 11 07.8 -1.4**
SKAG Skagway 59.64 36 P **P 08 11 10.5 -0.4**
baz=285
PALK Pallekele 60.05 258 LR LR 08 39 17.2
comp=Z,104nm,18.1s,baz=157,slow=38
AKTO Aktyubinsk 60.06 313 LR LR 08 38 32.2
comp=Z,217nm,18.5s,baz=73,slow=37
C36M Paulatuk 61.50 24 P **P 08 11 22.6 -0.8**
baz=289,SNR=16
C36M Paulatuk 61.50 24 P **P 08 11 23.1 -0.3**
KIRV Kirov 62.32 324 LR LR 08 39 14.0
comp=Z,137nm,19.5s,baz=70,slow=37
DLBC Dease Lake 62.56 36 P **P 08 11 32.3 +1.4**
DLBC IAmb IAmb 08 11 33.7
comp=Z,6.6nm,0.9s
PRGR Permogore 63.08 328 *e*P **P 08 11 32.9 -1.2**
GEYT Alibeck 64.31 300 LR LR 08 41 56.0
comp=Z,167nm,18.1s,baz=45,slow=38
ARMA Armidale 64.38 168 P **P 08 11 42.5 -0.6**
ARMA IAmb IAmb 08 11 47.9
comp=Z,11nm,1.1s
KLMR Klimovskoe 66.11 328 *e*P **P 08 11 52.1 -1.8**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 66.11 328 *e*P **P 08 11 52.2 -1.7**
KLMR AMP 08 12 10.1
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 66.96 340 P **P 08 11 58.8 -0.5**
comp=Z,5.0nm,0.7s,baz=64,slow=8.2,SNR=13
ARCES LR LR 08 47 03.5
comp=Z,159nm,18.0s,baz=15,slow=41
ARCES ARCESS Array B 66.96 340 P **P 08 11 59.1 -0.2**
ARCES pmax pmax
comp=Z,13nm,1.2s
ARCES ARCESS Array B 66.96 340 P **P 08 11 59.1 -0.2**
ARCES IAmb IAmb 08 12 17.6
comp=Z,13nm,1.2s
MSF Maaselka 67.81 335 P **P 08 12 04.6 -0.1**
MSF pmax pmax
comp=Z,13nm,1.3s
SGF Sodankyl 67.81 337 P **P 08 12 04.6 -0.1**
SGF pmax pmax
comp=Z,14nm,0.8s
YKA Yellowknife Ar 67.85 29 P **P 08 12 04.1 -0.9**
comp=Z,2.5nm,0.8s,baz=296,slow=5.8,SNR=14
JOF Joensuu 68.54 332 P **P 08 12 09.3 0.0**
JOF pmax pmax
comp=Z,10.0nm,1.1s
NEEM North Greenlan 69.35 2 *i* P **P 08 12 14.4 -0.1**
NEEM IAmb IAmb 08 12 16.2
comp=Z,5.3nm,0.9s
DAG Danmarks Havn 69.37 355 *i* P **P 08 12 13.5 -0.8**
DAG IAmb IAmb 08 12 15.2
comp=Z,2.3nm,0.8s
DAG Danmarks Havn 69.37 355 *i* P **P 08 12 13.5 -0.8**
DAG pmax pmax
comp=Z,2.0nm,0.8s
MAK Makhachkala 69.55 308 *e*P P 08 12 10.9 -5.0
MAK *e*PPP PPP 08 16 30.7
MAK *e*S S 08 21 13.8 -10
MAK *e*SS **SS 08 25 45.3 -5.8**
MAK *e*SSS SSS 08 28 57.6
MAK MLR MLR
comp=Z,342nm,15.0s
OBN Obninsk 70.17 323 LR LR 08 45 26.8
comp=Z,30nm,18.5s,baz=10,slow=38
OBN Obninsk 70.17 323‖ *e*P **P 08 12 22.5 +3.0**
OBN *e* 08 12 41.5
OBN *e* 08 14 55.8
OBN *e*S **S 08 21 23.5 -7.5**
OBN pmax pmax
comp=Z,9.0nm,1.2s
FINES FINESS Array B 71.41 332 P **P 08 12 25.8 -1.1**
comp=Z,5.8nm,0.8s,baz=66,slow=6.5,SNR=16
KBZ Khabaz 72.16 311 P **P 08 12 32.1 +0.3**
comp=Z,1.8nm,0.7s,baz=57,slow=7.2,SNR=4.5
KBZ LR LR 08 46 50.9
comp=Z,176nm,18.9s,baz=59,slow=38
KIV Kislovodsk 72.19 311 *e*P **P 08 12 33.6 +1.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,142nm,18.0s
LTY Liberty 72.40 45 IAmb IAmb 08 12 39.7
comp=Z,11nm,1.4s
B08A Colville Reser 72.62 43 P **P 08 12 35.8 +1.2**
B08A IAmb IAmb 08 12 41.0
comp=Z,11nm,1.2s
GNI Garni 72.70 307 LR LR 08 47 20.3
comp=Z,73nm,18.3s,baz=76,slow=38
I05D Terrebonne, OR 73.47 48 P **P 08 12 39.2 -0.4**
baz=300
C09A Chrisman Ranch 73.52 43 IAmb IAmb 08 12 46.3
comp=Z,6.4nm,0.9s
D08A Wollman Farm, 73.53 44 P **P 08 12 41.5 +1.6**
D08A IAmb IAmb 08 12 42.0
comp=Z,4.9nm,0.8s
J04D Umpqua Nationa 73.54 49 P **P 08 12 39.3 -0.9**
baz=300
NEW Newport 73.94 43 P **P 08 12 42.2 -0.1**
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 73.94 43 P **P 08 12 41.9 -0.4**
baz=302
NEW Newport 73.94 43 P **P 08 12 42.2 -0.1**
PINE Pine Mountain 73.99 48 P **P 08 12 44.0 +1.1**
E09A Wood Farm, Sta 74.27 44 IAmb IAmb 08 12 51.6
comp=Z,11nm,1.2s
SUMG Summit 74.43 359 *i* P **P 08 12 47.1 +1.9**
SUMG IAmb IAmb 08 12 48.8
comp=Z,5.6nm,0.8s
SUMG Summit 74.43 359 *i* P **P 08 12 47.1 +1.9**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 74.43 359 P **P 08 12 47.2 +1.9**
SUMG IAmb IAmb 08 12 48.5
comp=Z,5.6nm,0.8s
M04C Macdoel 74.45 50 P **P 08 12 45.3 -0.3**
baz=301
K05A Summer Lake 74.57 49 P **P 08 12 48.0 +1.7**
K05A IAmb IAmb 08 12 57.4
comp=Z,16nm,1.2s
O02D Mt. Diablo Mer 74.65 52 P **P 08 12 46.3 -0.3**
baz=301
MNK Minsk 74.72 326 *i* P **P 08 12 46.1 -0.6**
MNK *i* 08 13 00.0
MNK *i* 08 15 33.1
MNK *i* PPP PPP 08 17 18.4
MNK *i* S **S 08 22 21.8 -1.3**
MNK *i* 08 22 57.6
MNK *i* SS **SS 08 27 11.4 +1.8**
MNK pmax pmax
comp=N,61nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK MLR MLR
comp=Z,470nm,22.0s
MNK MLR MLR
comp=N,146nm,20.0s
MNK MLR MLR
comp=E,10.0nm,17.0s
MNK Minsk 74.72 326 *i* P **P 08 12 46.2 -0.5**
comp=E,4.0nm,0.9s
MNK *i* P **P 08 12 46.2 -0.5**
comp=N,61nm,0.8s
MNK *i* P **P 08 12 46.2 -0.5**
comp=Z,15nm,0.8s,baz=54
MNK *i* PcP **PcP 08 13 00.1 -0.8**
MNK *i* PP **PP 08 15 33.2 0.0**
MNK *i* PPP PPP 08 17 18.5
MNK *i* S **S 08 22 21.8 -1.3**
MNK *i* ScS **ScS 08 22 57.7 -1.0**
MNK *i* SS **SS 08 27 11.4 +1.9**
MNK *i* SSS SSS 08 30 33.5
MNK *i* LQ LQ 08 40 39.8
MNK *i* LR LR 08 44 18.4
MNK *i* LRM MLR 08 46 07.0
comp=Z,470nm,21.7s
MNK *i* LRM MLR 08 46 38.8
comp=N,146nm,19.6s
MNK *i* LRM MLR 08 46 51.1
comp=E,10.0nm,16.6s
J08A Circle Bar Ran 75.75 47 IAmb IAmb 08 13 04.4
comp=Z,6.3nm,1.1s
JTMT Jette 75.82 42 P **P 08 12 54.4 +1.1**
JTMT IAmb IAmb 08 13 03.5
comp=Z,5.2nm,0.9s
AKASG Malin Array Be 76.30 322 P **P 08 12 53.9 -2.0**
comp=Z,2.0nm,0.6s,baz=50,slow=6.1,SNR=13
AKASG LR LR 08 48 31.5
comp=Z,132nm,20.4s,baz=65,slow=37
AKBB Malin Array Si 76.30 322*ce*P **P 08 12 58.6 +2.8**
AKBB Malin Array Si 76.30 322 P **P 08 12 54.4 -1.4**
BEKR Beckworth 76.40 51 P **P 08 12 57.3 +0.5**
HFS Hagfors 76.86 335 LR LR 08 49 33.2
comp=Z,99nm,18.2s,baz=40,slow=38
NB2 NORSAR Subarra 77.03 337 P **P 08 12 58.6 -1.3**
comp=Z,6.3nm,0.8s,baz=42,slow=5.9
NOA NORSAR Array B 77.03 337 P **P 08 12 58.9 -0.9**
comp=Z,5.1nm,0.7s,baz=43,slow=5.7,SNR=41
NORES NORESS Array B 77.15 337 P **P 08 12 59.5 -1.0**
NORES pmax pmax
comp=Z,2.0nm,0.6s
MFID Camas Ranch 77.33 46 P **P 08 13 02.2 +0.3**
FFC Flin Flon 77.72 31 P **P 08 13 05.2 +1.4**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 77.72 31 P **P 08 13 05.2 +1.4**
FFC IAmb IAmb 08 13 09.2
comp=Z,7.6nm,1.0s
DLMT Dillon 78.13 43 P **P 08 13 07.0 +0.5**
KVN Kaiserville 78.31 51 P **P 08 13 08.2 +0.6**
KVN pmax pmax
comp=Z,3.0nm,0.7s
KVN Kaiserville 78.31 51 P **P 08 13 08.2 +0.6**
LHV Little Huntoon 78.49 52 IAmb IAmb 08 13 32.2
comp=Z,13nm,1.5s
NVAR Mina Array Bea 78.52 52 P **P 08 13 09.1 +0.3**
comp=Z,2.1nm,0.7s,baz=287,slow=5.3,SNR=17
NVAR LR LR 08 40 50.1
comp=Z,66nm,21.7s,baz=272,slow=30
NVAR Mina Array Bea 78.52 52 P **P 08 13 07.7 -1.1**
BOZ Bozeman (W) 78.55 43 P **P 08 13 08.4 -0.3**
baz=306
VES Vestal, Richgr 79.42 54 P **P 08 13 12.8 -0.7**
baz=303
CWC Cottonwood Cre 79.77 53 P **P 08 13 15.2 -0.4**
baz=304
ISA Isabella, Lake 79.93 54 P **P 08 13 16.2 -0.2**
baz=304
BRTR Keskin Array B 80.15 311 P **P 08 13 17.5 -0.1**
comp=Z,7.5nm,1.2s,baz=97,slow=5.8,SNR=7.9
BRTR Keskin Array B 80.15 311 P **P 08 13 19.1 +1.5**
BRTR Keskin Array B 80.15 311 P **P 08 13 19.1 +1.5**
R11A Troy Canyon, C 80.34 50 P **P 08 13 18.0 -0.6**
baz=305
EDW2 Edwards Air Fo 80.69 54 P **P 08 13 20.4 -0.1**
baz=304
TPNV Topopah Spring 80.70 52 P **P 08 13 19.8 -0.8**
baz=305
TPNV Topopah Spring 80.70 52 IAmb IAmb 08 13 23.7
comp=Z,6.5nm,0.8s
DGMT Dagmar 80.77 37 P **P 08 13 20.4 -0.2**
baz=310
DUG Dugway, Tooele 81.02 48 P **P 08 13 21.4 -0.8**
baz=306
BW06 Boulder Array 81.44 44 P **P 08 13 23.6 -0.9**
baz=308
PDAR Pinedale Array 81.44 44 P **P 08 13 24.0 -0.5**
comp=Z,0.9nm,0.6s,baz=259,slow=1.9,SNR=11
TCRU Three Creeks R 82.19 49 IAmb IAmb 08 13 33.3
comp=Z,5.0nm,0.8s
CCUT Cedar City 82.23 50 P **P 08 13 28.9 +0.1**
GMRC Granite Mounta 82.33 53 P **P 08 13 28.6 -0.7**
baz=305
TPFO Pinon Flats 82.47 55 P **P 08 13 29.4 -0.6**
baz=305
BELC Belle Mtn. Jos 82.55 54 P **P 08 13 29.4 -1.0**
baz=305
LCMT Little Creek M 82.63 50 IAmb IAmb 08 13 32.7
comp=Z,4.0nm,0.8s
P17A Butcher Ranch, 82.73 47 IAmb IAmb 08 13 34.7
comp=Z,7.7nm,0.7s
RDMU Red Mountain 82.78 46 P **P 08 13 32.0 +0.4**
RDMU IAmb IAmb 08 13 34.9
comp=Z,7.6nm,0.6s
DPC Dobruska-Polom 82.79 327 *e*P **P 08 13 31.8 +0.6**
DPC Dobruska-Polom 82.79 327 *e*P **P 08 13 31.8 +0.6**
KNB Kanab 82.89 50 IAmb IAmb 08 13 35.9
comp=Z,4.7nm,0.7s
VYHS Vyhne 82.91 325 *e*P **P 08 13 35.1 +3.3**
VYHS Vyhne 82.91 325 *e*P **P 08 13 35.1 +3.3**
VRAC Vranov 83.40 326 *e*P **P 08 13 37.2 +2.8**
ULM Lac du Bonnet 83.51 32 LR LR 08 49 24.8
comp=Z,42nm,21.8s,baz=318,slow=35
CLL Collm 83.55 329 *e*P **P 08 13 36.0 +0.9**
CLL Collm 83.55 329 *e*P **P 08 13 37.0 +1.9**
KRUC Moravsky 83.67 326 *e*P **P 08 13 38.1 +2.4**
MODS Modra-Piesok 83.74 325 *e*P **P 08 13 40.0 +3.9**
MODS Modra-Piesok 83.74 325 *e*P **P 08 13 40.0 +3.9**
O20A White River Ci 83.84 46 P **P 08 13 36.3 -0.8**
baz=309
PMOR Pomariorio Ree 84.17 112 *e*T T 09 45 35.8
comp=Z,11nm,0.2s
PPT Papeete 84.41 115 LR LR 08 51 40.2
comp=Z,72nm,18.1s,baz=328,slow=36
PPT2 Papeete2 84.42 115 *e*LR LR 08 39 48.0
comp=Z,252nm,29.2s
PV14 Lion Creek, Pa 84.47 47 P **P 08 13 40.1 -0.2**
PV22 Blue Mesa, Par 84.51 47 IAmb IAmb 08 13 44.7
comp=Z,5.2nm,0.8s
PV04 Paradox Valley 84.53 47 P **P 08 13 40.0 -0.5**
PV04 IAmb IAmb 08 13 43.9
comp=Z,7.0nm,0.8s
PV16 Nyswonger Mesa 84.57 47 IAmb IAmb 08 13 45.1
comp=Z,8.7nm,0.8s
PV05 Paradox Valley 84.60 48 P **P 08 13 40.9 -0.2**
Y14A Wickenburg 84.60 53 P **P 08 13 40.4 -0.5**
Y14A IAmb IAmb 08 13 43.8
comp=Z,3.8nm,0.8s
PV18 Skein Mesa, Pa 84.61 47 IAmb IAmb 08 13 44.1
comp=Z,7.1nm,0.8s
PV12 Saucer Basin, 84.64 47 IAmb IAmb 08 13 47.5
comp=Z,7.4nm,0.8s
PV03 Paradox Valley 84.65 47 IAmb IAmb 08 13 52.5
comp=Z,9.2nm,1.0s
WUAZ Wupatki 84.73 51 P **P 08 13 40.7 -0.9**
baz=307
WUAZ Wupatki 84.73 51 IAmb IAmb 08 13 44.9
comp=Z,5.3nm,0.8s
PV02 Paradox Valley 84.74 47 IAmb IAmb 08 13 51.4
comp=Z,5.1nm,0.8s
CKRC Cesky Krumlov 84.80 327 *e*P **P 08 13 40.7 -0.8**
PV15 Paradox Valley 84.82 47 IAmb IAmb 08 13 51.5
comp=Z,3.8nm,0.7s
PV01 Paradox Valley 84.89 47 P **P 08 13 42.1 -0.4**
PV01 IAmb IAmb 08 13 45.5
comp=Z,5.9nm,0.7s
KHC Kasperske Hory 84.90 328 *e*P **P 08 13 41.6 -0.4**
KHC Kasperske Hory 84.90 328 *e*P **P 08 13 41.6 -0.4**
KHC Kasperske Hory 84.90 328 P **P 08 13 41.0 -1.0**
KHC IAmb IAmb 08 13 45.1
comp=Z,5.1nm,1.0s
GERES GERESS Array B 85.05 327 P **P 08 13 42.0 -0.9**
comp=Z,2.0nm,0.7s,baz=47,slow=5.9,SNR=9.1
GERES LR LR 08 54 52.5
comp=Z,74nm,19.2s,baz=35,slow=38
X16A Lo Mia Camp, P 85.35 52 P **P 08 13 45.1 +0.3**
TAOE Nuku Hiva Isla 86.83 103 *e*LR LR 08 41 07.4
comp=Z,248nm,24.7s,baz=306
OGNE Ogallala 86.91 42 P **P 08 13 51.2 -1.0**
baz=312
ECSD EROS Data Cent 87.85 37 P **P 08 13 55.9 -0.7**
baz=316
TBI Tubuai 88.00 120 *e*LR LR 08 41 18.5
comp=Z,117nm,25.8s
LSQQ Lebel-sur-Quev 91.83 23 P **P 08 14 14.3 -0.8**
baz=330
VAE Valguarnera 93.00 319 LR LR 08 59 11.4
comp=Z,11μm,19.5s,baz=135,slow=37
TX31 Lajitas Ar. Si 93.67 51 P **P 08 14 23.9 -0.2**
TX32 Lajitas Array 93.67 51 IAmb IAmb 08 14 27.2
comp=Z,2.4nm,0.8s
TXAR Lajitas Array 93.67 51 P **P 08 14 24.0 -0.1**
comp=Z,2.5nm,0.7s,baz=297,slow=3.2,SNR=26
TXAR LR LR 08 50 02.2
comp=Z,39nm,21.7s,baz=0.0,slow=31
TXAR Lajitas Array 93.67 51 P **P 08 14 24.0 -0.1**
H03N2 Juan Fernandez 148.02 101 T T 11 06 13.2
baz=285,slow=75,SNR=11
H03N3 Juan Fernandez 148.03 101 T T 11 06 14.4
baz=285,slow=75,SNR=31
H03N1 Juan Fernandez 148.04 101 T T 11 06 14.4
baz=285,slow=75,SNR=16

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*IDC **15** 08:06:24.4±0.6, 33°.10N×139°.71E, h0km, mb4.0/13, mb1 4.2/16, mb1mx4.0/42, mbtmp4.0/16, ML3.5/3, Error ellipse: s-maj=18.3km s-min=5.4km az=179.0*
*JMA **15** 08:06:26.5, 33°.25N×139°.53E, h28km±2km, M3.7*
JMA Felt I J1.
*NEIC **15** 08:06:28.1±2.0, 33°.39N±0°.05×139°.49E±0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=10.6km s-min=6.0km az=215.0*

ISC 15 08:06:28.2±0.6, 33°.25N±0°.05×139°.56E±0°.06, h22km, n56, σ1°.24/55, mb4.0/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.23**	**125**	LR		LR	LR	08 06 27.0	
	comp=Z,500nm,21.2s,baz=300,slow=30								
JHJ				Pn			**Pb**	**08 06 33.4**	**-0.7**
	2μm,0.3s,baz=228,slow=22,SNR=30								
JHJ				Sn			**Sb**	**08 06 38.1**	**0.0**
	5μm,0.3s,baz=326,slow=21,SNR=34								
JHJ2	**Mitsune**	**0.26**	**123**	P			**Pb**	**08 06 33.2**	**-1.2**
JHJ2				S			**Sb**	**08 06 37.9**	**-0.7**
JHJ2	**Mitsune**	**0.26**	**123**				**Pb**	**08 06 33.2**	**-1.2**
JHCJ	**Hachijojimakas**	**0.27**	**132**	P			**Pb**	**08 06 33.4**	**-1.1**
JHCJ				S			**Sb**	**08 06 38.2**	**-0.7**
JMKN	**Mikurajimanish**	**0.64**	**2**	P			**Pb**	**08 06 39.0**	**-1.7**
JMKN				S			**Sb**	**08 06 47.4**	**-1.9**
JTHY	**Toshimahigashi**	**1.29**	**350**	P			**Pn**	**08 06 48.9**	**-2.0**
JIM2	**Oshima 3**	**1.47**	**356**	P			**Pn**	**08 06 51.7**	**-1.7**
JIZS	**Izushimoda**	**1.57**	**339**	P			**Pn**	**08 06 53.2**	**-1.5**
TK02	**Tokai 2**	**1.66**	**295**	P			**Pn**	**08 06 54.5**	**-1.2**
TK02				*e*S			**Sn**	**08 07 14.9**	**-1.3**
KTJ3	**Kamata3**	**1.73**	**347**	P			**Pn**	**08 06 55.9**	**-1.0**
BSO3	**Boso 3**	**1.73**	**27**	P			**Pn**	**08 06 56.4**	**-0.4**
JSG	**Sagara**	**1.82**	**322**				**Pn**	**08 06 57.5**	**-0.7**
INU	**Inuyama**	**2.97**	**316**				**Pn**	**08 07 12.9**	**-1.1**
JGF	**Kuroka**	**2.97**	**323**	Pn			**Pn**	**08 07 13.3**	**-0.7**
JYT	**Yasato**	**3.01**	**10**	Pn			**Pn**	**08 07 13.9**	**-0.7**
MJAR	**Matsushiro Arr**	**3.46**	**342**	Pn			**Pn**	**08 07 21.5**	**+0.7**
	0.8nm,0.3s,baz=150,slow=13,SNR=15								
MJAR	**Matsushiro Arr**	**3.46**	**342**				**Pn**	**08 07 22.1**	**+1.2**
MAJO	**Matsushiro**	**3.47**	**342**	Pn			**Pn**	**08 07 22.4**	**+1.5**
MAT	**Matsushiro**	**3.47**	**342**	P			**Pn**	**08 07 21.9**	**+1.0**
MAT				*e*S			**Sn**	**08 08 03.6**	**+2.4**
MJB9	**Matsu-Tunnel**	**3.47**	**342**				**Pn**	**08 07 22.6**	**+1.7**
JWT	**Wachi**	**4.00**	**302**	Pn			**Pn**	**08 07 27.2**	**-0.9**
JMM	**Marumori**	**4.71**	**12**	Pn			**Pn**	**08 07 38.2**	**+0.3**
JSD	**Sado**	**4.89**	**348**	Pn			**Pn**	**08 07 41.2**	**+0.9**
JHS	**Saijyo**	**5.62**	**290**	Pn			**Pn**	**08 07 50.7**	**+0.3**
JNU	**Nakatsue**	**7.28**	**271**	Pn			**Pn**	**08 08 13.6**	**+0.3**
	2.3nm,0.3s,baz=98,slow=3.5,SNR=8.1								
KSRS	**Korea Array**	**10.39**	**297**	Pn			**Pn**	**08 08 57.7**	**+2.0**
	0.2nm,0.3s,baz=104,slow=15,SNR=2.4								
ASAJ	**Asahikawa**	**11.10**	**11**	Pn			**Pn**	**08 09 03.8**	**-1.8**
	0.9nm,0.3s,baz=219,slow=8.9,SNR=5.9								
JKA	**Kamikawa-asahi**	**11.10**	**11**				**Pn**	**08 09 03.8**	**-1.7**
KLR	**Kul'dur**	**16.99**	**342**	P			**Pn**	**08 10 22.7**	**-1.7**
	0.0nm,0.3s,baz=145,slow=14,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**27.83**	**112**	T			T	08 40 56.8	
	baz=305,slow=75,SNR=58								
H11N1	**WAKE ISLAND Hy**	**27.83**	**112**	T			T	08 40 55.1	
	baz=305,slow=75,SNR=39								
H11N3	**WAKE ISLAND Hy**	**27.84**	**112**	T			T	08 40 56.0	
	baz=305,slow=75,SNR=50								
H11S3	**WAKE ISLAND Hy**	**28.38**	**114**	T			T	08 42 05.3	
	baz=307,slow=75,SNR=28								
H11S1	**WAKE ISLAND Hy**	**28.38**	**114**	T			T	08 42 05.4	
	baz=307,slow=75,SNR=20								
H11S2	**WAKE ISLAND Hy**	**28.40**	**114**	T			T	08 42 06.5	
	baz=307,slow=75,SNR=27								
SONM	**Songino Array**	**28.85**	**310**	P			**P**	**08 12 26.4**	**+1.3**
	3.1nm,0.8s,baz=115,slow=8.5,SNR=8.9								
SONM	**Songino Array**	**28.85**	**310**	IAmb			IAmb	08 12 27.4	
	comp=Z,3.3nm,1.0s								
ZAA0	**Zalesovo Array**	**43.44**	**315**	P			**P**	**08 14 30.1**	**+0.9**
ZAA0				IAmb			IAmb	08 14 32.7	
	comp=Z,5.7nm,1.2s								
ZALV	**Zalesovo Beam**	**43.44**	**315**	P			**P**	**08 14 29.6**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=90,slow=10,SNR=5.4								

MK31	**Makanchi Array**	**44.94 305**	P	**P**	**08 14 41.4**	**0.0**
MK31			IAmb	IAmb	08 14 42.8	
comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**44.94 305**	P	**P**	**08 14 42.1**	**+0.7**
comp=Z,1.2nm,0.7s,baz=96,slow=8.7,SNR=10						
WB0	**Warramunga Arr**	**52.95 186**	P	**P**	**08 15 41.0**	**-2.0**
WB0			IAmb	IAmb	08 16 04.1	
comp=Z,9.3nm,1.2s						
WR0	**Warramunga Arr**	**53.13 186**	P	**P**	**08 15 42.2**	**-2.1**
WR0			IAmb	IAmb	08 16 03.8	
comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**53.13 186**	P	**P**	**08 15 42.3**	**-2.0**
comp=Z,0.7nm,0.7s,baz=1.9,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**56.86 186**	P	**P**	**08 16 09.6**	**-1.6**
comp=Z,0.5nm,0.7s,baz=0.1,slow=6.7,SNR=5.7						
ARCES	**ARCESS Array B**	**67.00 340**	P	**P**	**08 17 19.9**	**+1.0**
comp=Z,2.4nm,0.7s,baz=50,slow=7.4,SNR=5.0						
ARCES	**ARCESS Array B**	**67.00 340**	P	**P**	**08 17 19.7**	**+0.8**
YKA	**Yellowknife Ar**	**67.84 29**	P	**P**	**08 17 25.3**	**+1.0**
comp=Z,0.3nm,0.3s,baz=290,slow=5.9,SNR=6.6						
FINES	**FINESS Array B**	**71.45 332**	P	**P**	**08 17 47.0**	**+0.5**
comp=Z,3.6nm,0.9s,baz=76,slow=8.0,SNR=7.8						
FINES	**FINESS Array B**	**71.45 332**	P	**P**	**08 17 47.0**	**+0.5**
AKASG	**Malin Array Be**	**76.35 322**	P	**P**	**08 18 16.4**	**+1.0**
comp=Z,0.7nm,0.4s,baz=48,slow=5.7,SNR=5.1						
NB2	**NORSAR Subarra**	**77.07 337**	P	**P**	**08 18 19.4**	**0.0**
comp=Z,1.2nm,0.6s,baz=42,slow=5.6						
NOA	**NORSAR Array B**	**77.07 337**	P	**P**	**08 18 19.5**	**0.0**
comp=Z,2.2nm,0.8s,baz=42,slow=5.6,SNR=10						
NVAR	**Mina Array Bea**	**78.50 52**	P	**P**	**08 18 29.1**	**+1.1**
comp=Z,0.7nm,0.6s,baz=322,slow=5.2,SNR=8.1						
PDAR	**Pinedale Array**	**81.41 44**	P	**P**	**08 18 43.5**	**-0.2**
comp=Z,0.5nm,0.7s,baz=262,slow=1.3,SNR=5.8						
TXAR	**Lajitas Array**	**93.64 51**	P	**P**	**08 19 44.1**	**+0.8**
comp=Z,1.4nm,0.8s,baz=295,slow=2.9,SNR=13						

WEL 15 08:07:16.6±1.1, 36°S±14°×17°9W±1°2, h33km, M3.8/13, ML4.0/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=141.7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.73**	**239**	P	Pn	08 07 58.6	+0.5
WMGZ				S	Sn	08 08 32.7	+2.7
PUZ	**Puketiti**	**2.97**	**236**	P	Pn	08 08 01.2	-0.2
PUZ				S	Sn	08 08 37.0	+1.1
PKGZ	**Pakihiroa**	**3.00**	**240**	P	Pn	08 08 00.2	-1.7
PKGZ				S	Sn	08 08 36.0	-0.8
HAZ	**Te Kaha**	**3.15**	**244**	P	Pn	08 08 03.2	-0.7
TWGZ	**Tauwhareparae**	**3.21**	**236**	P	Pn	08 08 05.2	+0.5
TWGZ				S	Sn	08 08 42.8	+0.8
RUGZ	**Raukumara Rang**	**3.32**	**241**	P	Pn	08 08 06.2	-0.1
TKGZ	**Te Karaka**	**3.44**	**233**	P	Pn	08 08 08.9	+1.0
TKGZ				S	Sn	08 08 50.1	+2.6
MWZ	**Matawai**	**3.60**	**237**	P	Pn	08 08 10.1	+0.1
MWZ				S	Sn	08 08 51.3	-0.1
RIGZ	**Rimuhau**	**3.65**	**231**	P	Pn	08 08 11.9	+1.1
RIGZ				S	Sn	08 08 54.6	+1.8
URZ	**Urewera**	**3.85**	**240**	P	Pn	08 08 12.0	-1.4
URZ				S	Sn	08 08 56.1	-1.4
KNZ	**Kokohu**	**3.91**	**227**	P	Pn	08 08 14.9	+0.7
KNZ				S	Sn	08 09 01.6	+2.7
SNGZ	**Shannon Statio**	**3.96**	**233**	P	Pn	08 08 16.9	+1.8
SNGZ				S	Sn	08 09 02.7	+2.3
BKZ	**Black Stump Fm**	**4.73**	**233**	P	Pn	08 08 25.9	+0.3
BKZ				S	Sn	08 09 19.3	0.0
BFZ	**Birch Farm**	**5.84**	**222**	P	Pn	08 08 39.7	-1.1
BFZ				S	Sn	08 09 45.9	-0.7
MRZ	**Mangatainoka R**	**6.20**	**225**	P	Pn	08 08 45.4	-0.3
MRZ				S	Sn	08 09 53.1	-2.2

*IDC **15** 08:08:43.3±0.7, 40°.18N×142°.32E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.3/42, mbtmp4.2/20, ML3.8/2, Error ellipse: s-maj=18.4km s-min=16.2km az=90.0*
*MOS **15** 08:08:45.1±1.0, 40°.23N×142°.46E, h23km, mb4.8/27, MS4.2/5, Error ellipse: s-maj=8.6km s-min=5.1km az=90.9*
*BJI **15** 08:08:46.0±0.0, 40°.25N×142°.45E, h27km, mB4.9/19, mb4.6/31, Ms4.5/8, Ms7 4.2/8*
*JMA **15** 08:08:46.0±0.1, 40°.22N×142°.46E, h30km±1km, M4.2*
JMA Felt I J1.
*NIED **15** 08:08:46.0, 40°.23N×142°.46E, h30km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.19; $M_{\theta\theta}$1.97; $M_{\phi\phi}$-0.78; $M_{r\theta}$1.56; $M_{\theta\phi}$-0.28; $M_{\phi r}$1.08; Fault plane solution: $M_0$2.58000×10^{15} NP1: ϕ_s245.00000°, δ74.00000°, λ-120.00000°. NP2: ϕ_s128.00000°, δ34.00000°, λ-31.00000°.*
*NEIC **15** 08:08:47.3±1.7, 40°.24N±0°.03×142°.45E±0°.09, h23km±5km, mb4.5/45 Error ellipse: s-maj=9.8km s-min=4.0km az=91.0*

ISC 15 08:08:46.8±1.1, 40°25N±0°.03×142°.49E±0°.04, h24km±7km, n164, σ1°78/180, mb4.5/60, 11C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.57**	**237**	P	**Pb**	**08 08 57.0**	**-1.1**
JTH				S	**Sb**	**08 09 04.8**	**-1.0**
JKEN	**Kujiedanarisaw**	**0.60**	**266**	P	**Pb**	**08 08 57.3**	**-1.3**
JKEN				*e*S	**Sb**	**08 09 05.5**	**-1.1**
JANG	**Nango**	**0.75**	**280**	P	**Pb**	**08 08 59.7**	**-1.5**
JANG				*e*S	**Sb**	**08 09 09.6**	**-1.5**
MIYJ	**Miyakonagasawa**	**0.84**	**218**	P	**Pb**	**08 09 01.1**	**-1.7**
MIYJ				*e*S	**Sb**	**08 09 11.5**	**-2.2**
JKZ	**Kuzumaki**	**0.93**	**254**	P	**Pb**	**08 09 02.5**	**-1.7**
JKZ				S	**Sb**	**08 09 14.5**	**-1.6**
JARK	**Aomorirokkasho**	**1.14**	**312**	P	**Pn**	**08 09 05.7**	**-1.5**
JARK				S	**Sn**	**08 09 19.8**	**-2.3**
JOM	**Ohasama**	**1.20**	**230**	P	**Pn**	**08 09 06.8**	**-1.2**
JOM				*e*S	**Sn**	**08 09 21.8**	**-1.7**
JTM	**Tenmabayashi**	**1.21**	**297**	P	**Pn**	**08 09 07.1**	**-1.0**
JTM				S	**Sn**	**08 09 21.9**	**-1.8**
JTM	**Tenmabayashi**	**1.21**	**297**		**Pb**	**08 09 11.7**	**+2.8**
OFUJ	**Ofunato**	**1.33**	**209**	P	**Pn**	**08 09 08.6**	**-1.1**
OFUJ				*e*S	**Sn**	**08 09 25.2**	**-1.4**
JAH	**Hinai**	**1.42**	**268**	P	**Pn**	**08 09 10.5**	**-0.5**
JAH				S	**Sn**	**08 09 28.3**	**-0.6**
JOT	**Ohata**	**1.57**	**317**	P	**Pn**	**08 09 12.2**	**-0.9**
JOT				*e*S	**Sn**	**08 09 31.8**	**-0.9**
JMK	**Ichinoseki**	**1.62**	**218**	P	**Pn**	**08 09 13.8**	**0.0**
JMK				S	**Sn**	**08 09 34.2**	**+0.3**
ERM	**Erimo**	**1.84**	**16**	*ce*P	**Pn**	**08 09 17.4**	**+0.7**
ERM				pmax	pmax		
comp=Z,153nm,0.7s							
ERM	**Erimo**	**1.84**	**16**	Pn	**Pn**	**08 09 17.2**	**+0.5**
JEW	**Eniwo**	**2.71**	**344**		**Pn**	**08 09 29.2**	**+0.5**
JMM	**Marumori**	**2.72**	**210**	Pn	**Pn**	**08 09 30.2**	**+1.4**
JKA	**Kamikawa-asahi**	**3.87**	**1**	Pn	**Pn**	**08 09 45.6**	**+1.0**
ASAJ	**Asahikawa**	**3.87**	**1**	Pn	**Pn**	**08 09 45.9**	**+1.3**
comp=Z,11nm,0.3s,baz=200,slow=10,SNR=29							
NMR	**Nemuro--Hokkai**	**3.95**	**37**	*e*P	**Pn**	**08 09 45.0**	**-0.8**
NMR				*i* S	**Sn**	**08 10 28.0**	**-3.3**
JSD	**Sado**	**3.96**	**237**	Pn	**Pn**	**08 09 45.6**	**-0.3**
GLVR	**Golovnino**	**4.16**	**32**	*e*P	**Pn**	**08 09 48.6**	**0.0**
GLVR				*e*S	**Sn**	**08 10 34.5**	**-1.9**
GLVR				pmax	pmax		
comp=Z,235nm,0.3s							
GLVR				smax	smax		
comp=E,1μm,0.5s							
GLVR				smax	smax		
comp=N,521nm,0.4s							
RUSJ	**Misakicho**	**4.37**	**27**	*e*P	**Pn**	**08 09 51.9**	**+0.4**
RUSJ				*e*S	**Sn**	**08 10 40.4**	**-1.2**
JYT	**Yasato**	**4.40**	**205**		**Pn**	**08 09 52.0**	**+0.1**
GRPR	**Tuman**	**4.47**	**32**	*e*P	**Pn**	**08 09 52.6**	**-0.3**
GRPR				*e*S	**Sn**	**08 10 40.9**	**-3.2**
GRPR				pmax	pmax		
comp=E,361nm,0.3s							
GRPR				pmax	pmax		
comp=Z,312nm,0.3s							
GRPR				pmax	pmax		
comp=N,179nm,0.4s							
GRPR				smax	smax		
comp=N,747nm,0.4s							
GRPR				smax	smax		
comp=E,557nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.54**	**32**	*e*P	**Pn**	**08 09 54.0**	**+0.1**
YUK				*e*S	**Sn**	**08 10 44.1**	**-1.7**
YUK				pmax	pmax		
comp=N,225nm,0.2s							
YUK				pmax	pmax		
comp=E,120nm,0.2s							
YUK				pmax	pmax		
comp=Z,453nm,0.2s							
YUK				smax	smax		
comp=E,365nm,0.6s							
YUK				smax	smax		
comp=N,684nm,0.4s							
MJB9	**Matsu-Tunnel**	**5.00 224**			**Pn**	**08 10 01.5**	**+1.3**
MAJO	**Matsushiro**	**5.00 224**		*i* P	**Pn**	**08 10 00.8**	**+0.6**
MAJO	**Matsushiro**	**5.00 224**			**Pn**	**08 10 01.2**	**+1.0**
MAT	**Matsushiro**	**5.00 224**		P	**Pn**	**08 10 03.2**	**+3.0**
MAT				*e*S	**Sn**	**08 10 59.1**	**+1.9**
MJAR	**Matsushiro Arr**	**5.00 224**		Pn	**Pn**	**08 10 03.3**	**+3.1**
comp=N,0.7nm,0.3s,baz=27,slow=13,SNR=11							
MJAR	**Matsushiro Arr**	**5.00 224**		P	**Pn**	**08 10 00.3**	**+0.1**
MJAR	**Matsushiro Arr**	**5.00 224**			**Pn**	**08 10 00.3**	**+0.1**
KUR	**Kuril'sk**	**6.36**	**37**	*e*P	**Pn**	**08 10 19.1**	**+0.2**
KUR				*e*S	**Sn**	**08 11 28.1**	**-2.7**
KUR				pmax	pmax		
comp=N,91nm,0.7s							
KUR				pmax	pmax		
comp=Z,196nm,0.7s							
KUR				pmax	pmax		
comp=E,63nm,0.4s							
KUR				smax	smax		
comp=E,214nm,0.7s							
KUR				smax	smax		
comp=N,139nm,0.8s							
INU	**Inuyama**	**6.53**	**223**	Pn	**Pn**	**08 10 21.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**6.71**	**2**	*e*P	**Pn**	**08 10 24.6**	**+1.0**
YSS				pmax	pmax		
comp=Z,40nm,1.2s							
YSS				MLR	MLR		
comp=Z,900nm,14.0s							
JWT	**Wachi**	**7.49**	**231**	Pn	**Pn**	**08 10 36.1**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.73**	**300**	Pn	**Pn**	**08 10 53.5**	**+2.0**
baz=111,slow=14,SNR=15							
USRK	**Ussuriysk Ar.**	**8.73**	**300**	P	**Pn**	**08 10 54.9**	**+3.5**
USRK	**Ussuriysk Ar.**	**8.73**	**300**		**Pn**	**08 10 54.9**	**+3.5**
USA0B	**Ussuriysk Arra**	**8.73**	**300**	P	**Pn**	**08 10 53.4**	**+1.9**
USA0B	**Ussuriysk Arra**	**8.73**	**300**		**Pn**	**08 10 53.4**	**+1.9**
JHS	**Saijyo**	**9.09**	**238**	Pn	**Pn**	**08 10 56.3**	**-0.1**
KLR	**Kul'dur**	**11.78**	**323**	Pn	**Pn**	**08 11 34.2**	**+1.2**
comp=Z,0.1nm,0.3s,baz=139,slow=15,SNR=4.0							
KLR	**Kul'dur**	**11.78**	**323**	*ce*P	**Pn**	**08 11 33.9**	**+0.8**
KLR				pmax	pmax		
comp=Z,2.0nm,0.7s							
ZEA	**Zeya**	**16.98**	**328**	*e*P	**Pn**	**08 12 41.6**	**-0.9**
ZEA				pmax	pmax		
comp=Z,20nm,0.8s							
ZEA				MLR	MLR		
comp=E,300nm,14.0s							
ZEA				MLR	MLR		
comp=N,400nm,15.0s							
ZEA				MLR	MLR		
comp=Z,400nm,13.0s							
HIA	**Hailar**	**18.44**	**307**	*i* P	**P**	**08 13 00.5**	**+0.1**
HIA				pmax	pmax		
comp=Z,5.0nm,0.9s							
NJ2	**Nanjing**	**20.72**	**254**	*e*P	**P**	**08 13 26.4**	**+1.1**
NJ2				pmax	pmax		
comp=Z,16nm,0.5s							
YAK	**Yakutsk**	**23.16**	**345**	*ce*P	**P**	**08 13 51.9**	**+0.9**
YAK				pmax	pmax		
comp=Z,27nm,0.8s							
HHC	**Hu-ho-hao-te**	**23.45**	**282**	*e*P	**P**	**08 13 55.4**	**+1.1**
HHC				pmax	pmax		
comp=Z,14nm,1.0s							
HHC				pmax	pmax		
comp=Z,170nm,5.8s							
SEY	**Seymchan**	**23.48**	**11**	P	**P**	**08 13 53.3**	**-0.9**
comp=Z,14nm,1.0s,baz=223,slow=5.0,SNR=9.2							
BOD	**Bodaibo**	**25.36**	**323**	*e*P	**P**	**08 14 10.6**	**-1.0**
BOD				pmax	pmax		
comp=Z,31nm,0.9s							
SONM	**Songino Array**	**26.84**	**298**	P	**P**	**08 14 25.4**	**+0.1**
comp=Z,0.8nm,0.5s,baz=109,slow=11,SNR=2.7							
SONM	**Songino Array**	**26.84**	**298**	P	**P**	**08 14 25.4**	**+0.1**
SONM				pmax	pmax		
comp=Z,3.0nm,0.8s							
SONM	**Songino Array**	**26.84**	**298**	IAmb	IAmb	08 14 33.9	
comp=Z,2.9nm,0.8s							
TLY	**Talaya**	**28.98**	**306**	*e*P	**P**	**08 14 45.3**	**+1.0**
TLY				pmax	pmax		
comp=Z,5.0nm,0.7s							
TLY				MLR	MLR		
comp=Z,609nm,16.0s							
ZAK	**Zakamensk**	**29.06**	**304**	*e*P	**P**	**08 14 43.7**	**-1.4**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.2s							
H11N2	**WAKE ISLAND Hy**	**29.25**	**127**	T	T	08 45 35.6	
baz=319,slow=75,SNR=368							
H11N1	**WAKE ISLAND Hy**	**29.25**	**127**	T	T	08 45 32.2	
baz=319,slow=75,SNR=240							
H11N3	**WAKE ISLAND Hy**	**29.26**	**127**	T	T	08 45 37.0	
baz=319,slow=75,SNR=330							
H11S1	**WAKE ISLAND Hy**	**30.06**	**129**	T	T	08 46 38.9	
baz=321,slow=76,SNR=121							
H11S3	**WAKE ISLAND Hy**	**30.07**	**129**	T	T	08 46 39.5	
baz=321,slow=76,SNR=75							
H11S2	**WAKE ISLAND Hy**	**30.08**	**129**	T	T	08 46 43.4	
baz=321,slow=76,SNR=94							
LZH	**Lanzhou**	**30.50**	**275**	*e*P	**P**	**08 14 55.8**	**-2.2**
LZH				pP	pP	08 15 06.0	+0.8
LZH				sP	sP	08 15 12.8	+4.8
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
BILL	**Bilibino**	**30.71**	**17**	⇑*e*P	**P**	**08 15 01.4**	**+2.1**
BILL				*e*		08 16 04.5	
BILL				*e*S	**S**	**08 19 59.4**	**-1.0**
BILL				pmax	pmax		
comp=Z,8.0nm,1.2s							
BILL				MLR	MLR		
comp=Z,1μm,18.0s							
GTA	**Gaotai**	**32.55**	**283**	*e*P	**P**	**08 15 17.4**	**+1.4**
GTA				pP	pP	08 15 24.5	+1.4
GTA				sP	sP	08 15 28.1	+2.1
GTA				pmax	pmax		
comp=Z,2.0nm,0.8s							
KMI	**Kunming**	**36.37**	**258**	⇑P	**P**	**08 15 50.9**	**+1.6**
KMI				pmax	pmax		
comp=Z,6.0nm,1.2s							
DGZ	**Jazzator, Alta**	**39.28**	**303**	*i* P	**P**	**08 16 14.7**	**+1.2**
DGZ				pmax	pmax		
comp=Z,15nm,0.8s							
WMQ	**Urumqi**	**40.23**	**294**	*e*P	**P**	**08 16 21.1**	**-0.3**
WMQ				LR	LR		
comp=Z,630nm,14.5s							
WMQ				LR	LR		
comp=Z,400nm,9.9s							
ZAA0	**Zalesovo Array**	**40.44**	**310**	P	**P**	**08 16 22.4**	**-0.5**
ZAA0				IAmb	IAmb	08 16 31.4	
comp=Z,9.7nm,0.7s							
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**08 16 21.0**	**-1.9**
comp=Z,3.3nm,0.6s,baz=104,slow=3.8,SNR=12							
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**08 16 22.0**	**-0.9**
ZALV	**Zalesovo Beam**	**40.44**	**310**	P	**P**	**08 16 22.0**	**-0.9**
MK31	**Makanchi Array**	**43.20**	**299**	*d i* P	**P**	**08 16 46.1**	**+0.5**
MK31	**Makanchi Array**	**43.20**	**299**	P	**P**	**08 16 45.8**	**+0.1**
MK31				IAmb	IAmb	08 16 54.3	
comp=Z,10nm,0.8s							
MKAR	**Makanchi Array**	**43.20**	**299**	P	**P**	**08 16 45.6**	**0.0**
comp=Z,4.0nm,0.9s,baz=83,slow=9.9,SNR=16							
MKAR	**Makanchi Array**	**43.20**	**299**	*i* P	**P**	**08 16 46.0**	**+0.4**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.9s							
MAKZ	**Makanchi**	**43.41**	**300**	P	**P**	**08 16 47.3**	**0.0**
MAKZ				pmax	pmax		
comp=Z,12nm,0.9s							
MAKZ	**Makanchi**	**43.41**	**300**	P	**P**	**08 16 47.3**	**0.0**
MAKZ				IAmb	IAmb	08 16 56.1	
comp=Z,12nm,0.9s							
KDAK	**Kodiak Island**	**44.18**	**44**	P	**P**	**08 16 54.7**	**+1.4**
KDAK				pmax	pmax		
comp=Z,14nm,1.3s							
KDAK	**Kodiak Island**	**44.18**	**44**	P	**P**	**08 16 54.7**	**+1.4**
KDAK				IAmb	IAmb	08 16 55.4	
comp=Z,14nm,1.3s							
COLA	**College**	**45.93**	**34**	*i* P	**P**	**08 17 08.7**	**+1.6**
COLA				pmax	pmax		
comp=Z,6.0nm,0.9s							
ILAR	**Eielson Array**	**46.35**	**34**	P	**P**	**08 17 11.9**	**+1.5**
comp=Z,1.6nm,0.7s,baz=266,slow=5.6,SNR=3.4							
BRVK	**Borovoye**	**49.13**	**311**	*ce*P	**P**	**08 17 32.7**	**+0.5**
BRVK				pmax	pmax		
comp=Z,10.0nm,2.5s							
BRVK	**Borovoye**	**49.13**	**311**	P	**P**	**08 17 32.4**	**+0.3**
BRVK				IAmb	IAmb	08 17 41.1	
comp=Z,7.9nm,1.0s							
INK	**Inuvik**	**51.15**	**28**	P	**P**	**08 17 49.0**	**+1.8**
comp=Z,3.2nm,0.6s,baz=235,slow=0.4,SNR=4.5							
INK	**Inuvik**	**51.15**	**28**	P	**P**	**08 17 49.0**	**+1.8**
INK				pmax	pmax		
comp=Z,13nm,1.5s							
INK	**Inuvik**	**51.15**	**28**	IAmb	IAmb	08 17 52.0	
comp=Z,13nm,1.5s							
KKAR	**Karatay Array**	**52.29**	**298**	P	**P**	**08 17 55.2**	**-1.0**
KKAR	**Karatay Array**	**52.29**	**298**	P	**P**	**08 17 55.2**	**-1.0**
ARU	**Arti**	**54.54**	**317**	*ce*P	**P**	**08 18 12.6**	**+0.2**
ARU				pmax	pmax		
comp=Z,14nm,1.7s							
ARU	**Arti**	**54.54**	**317**	P	**P**	**08 18 12.5**	**0.0**
ABKAR	**Akbulak array**	**56.55**	**309**	P	**P**	**08 18 26.6**	**-0.3**
ABKAR	**Akbulak array**	**56.55**	**309**	P	**P**	**08 18 27.0**	**0.0**
ABKAR				IAmb	IAmb	08 18 35.8	
comp=Z,5.5nm,0.7s							
KBL	**Kabul**	**57.09**	**290**	P	**P**	**08 18 31.6**	**+0.3**
KBL				pmax	pmax		
comp=Z,9.0nm,1.0s							
KBL	**Kabul**	**57.09**	**290**	P	**P**	**08 18 31.6**	**+0.3**
KIRV	**Kirov**	**58.22**	**322**	*ce*P	**P**	**08 18 39.2**	**+0.7**
PRGR	**Permogore**	**58.55**	**326**	*e*P	**P**	**08 18 40.3**	**-0.5**
PRGR				*e*		08 19 31.9	
PRGR				pmax	pmax		
comp=Z,7.0nm,0.5s							
WB0	**Warramunga Arr**	**60.18**	**189**	P	**P**	**08 18 51.9**	**-0.7**
WRA	**Warramunga Arr**	**60.36**	**189**	P	**P**	**08 18 53.3**	**-0.5**
comp=Z,2.8nm,0.7s,baz=6.1,slow=6.8,SNR=20							
WRA	**Warramunga Arr**	**60.36**	**189**	P	**P**	**08 18 52.5**	**-1.2**
YKA	**Yellowknife Ar**	**60.62**	**31**	P	**P**	**08 18 56.1**	**+1.0**
comp=Z,0.5nm,0.6s,baz=301,slow=6.0,SNR=4.9							
ARCES	**ARCESS Array B**	**61.30**	**339**	P	**P**	**08 19 00.3**	**+0.7**
comp=Z,2.3nm,0.8s,baz=37,slow=7.9,SNR=4.1							
KLMR	**Klimovskoe**	**61.51**	**327**	*e*P	**P**	**08 19 00.2**	**-0.9**
KLMR				*e*		08 21 15.7	
KLMR				pmax	pmax		
comp=Z,14nm,1.6s							
KLMR	**Klimovskoe**	**61.51**	**327**	*e*P	**P**	**08 19 00.3**	**-0.9**
KLMR				AMP		08 19 02.4	
comp=Z,14nm,1.6s							
KLMR				*e*PP	**PP**	**08 21 15.8**	**-0.4**
KLMR				LR	LR	08 46 11.2	
ASAR	**Alice Springs**	**64.08**	**189**	P	**P**	**08 19 18.5**	**-0.2**
comp=Z,1.8nm,0.7s,baz=5.0,slow=6.5,SNR=15							
OBN	**Obninsk**	**66.04**	**323**	*de*P	**P**	**08 19 31.2**	**+0.2**
OBN				*e*		08 20 01.0	
OBN				*e*		08 21 56.3	
OBN				*e*S	S	08 28 43.7	+26
OBN				pmax	pmax		
comp=Z,4.0nm,0.6s							
OBN				MLR	MLR		
comp=Z,157nm,15.0s							
FINES	**FINESS Array B**	**66.37**	**332**	P	**P**	**08 19 33.3**	**+0.2**
comp=Z,7.4nm,0.8s,baz=60,slow=7.7,SNR=20							
FINES	**FINESS Array B**	**66.37**	**332**	*i* P	**P**	**08 19 33.5**	**+0.4**
FINES				pmax	pmax		
comp=Z,7.0nm,0.8s							
FINES	**FINESS Array B**	**66.37**	**332**	P	**P**	**08 19 32.8**	**-0.3**
PINE	**Pine Mountain**	**67.64**	**51**	P	**P**	**08 19 44.4**	**+2.7**
KIV	**Kislovodsk**	**69.45**	**311**	*e*P	**P**	**08 19 54.6**	**+1.7**
KIV				pmax	pmax		
comp=Z,14nm,1.0s							
KBZ	**Khabaz**	**69.46**	**310**	P	**P**	**08 19 53.9**	**+1.1**
comp=Z,2.4nm,0.6s,baz=13,slow=5.3,SNR=7.7							
KBZ	**Khabaz**	**69.46**	**310**	*ce*P	**P**	**08 19 53.2**	**+0.4**
KBZ				pmax	pmax		
comp=Z,3.0nm,0.9s							
MNK	**Minsk**	**70.31**	**326**	*i* P	**P**	**08 19 53.2**	**-4.7**
MNK				*i*		08 20 14.6	
MNK				*i* PPP	PPP	08 24 11.2	
MNK				*i* S	**S**	**08 29 02.4**	**-5.9**
MNK				*i*		08 29 53.1	
MNK				*i* SS	**SS**	**08 33 42.2**	**+4.2**
MNK				pmax	pmax		
comp=Z,9.0nm,0.7s							
MNK				pmax	pmax		
comp=E,3.0nm,0.8s							
MNK				pmax	pmax		
comp=N,29nm,0.8s							
MNK				MLR	MLR		
comp=E,11nm,20.0s							
MNK				MLR	MLR		
comp=Z,157nm,19.0s							
MNK				MLR	MLR		
comp=N,152nm,25.0s							
MNK	**Minsk**	**70.31**	**326**	*i* P	**P**	**08 19 53.3**	**-4.6**
comp=E,3.0nm,0.8s							
MNK				*i* P	**P**	**08 19 53.3**	**-4.6**
comp=N,29nm,0.8s							
MNK				*i* P	**P**	**08 19 53.3**	**-4.6**
comp=Z,9.0nm,0.7s,baz=48							
MNK				*i* PcP	**PcP**	**08 20 14.7**	**-4.8**
MNK				*i* PP	**PP**	**08 22 28.7**	**-4.3**
MNK				*i* PPP	PPP	08 24 11.2	
MNK				*i* S	**S**	**08 29 02.5**	**-5.8**
MNK				*i* ScS	**SKSac**	**08 29 53.1**	**-4.5**
MNK				*i* SS	**SS**	**08 33 42.3**	**+4.3**
MNK				*i* SSS	SSS	08 36 53.4	
MNK				*i* LQ	LQ	08 45 27.8	
MNK				*i* LR	LR	08 50 11.9	
MNK				*i* LRM	MLR	08 53 13.5	
comp=E,11nm,19.5s							
MNK				*i* LRM	MLR	08 53 21.3	
comp=N,152nm,24.6s							
MNK				*i* LRM	MLR	08 53 21.3	
comp=Z,157nm,18.8s							
HRY	**Holter Researc**	**71.06**	**44**	P	**P**	**08 20 04.0**	**+1.2**
LRM	**Limekiln Ridge**	**71.28**	**45**	P	**P**	**08 20 06.2**	**+2.0

comp=Z,5.1nm,0.9s
PV13 Radium Mtn., P 78.31 50 P **P 08 20 45.2 +0.1**
PV13 IAmb IAmb 08 20 48.1
comp=Z,4.3nm,0.9s
WUAZ Wupatki 78.54 53 IAmb IAmb 08 20 49.3
comp=Z,3.3nm,0.8s
VYHS Vyhne 78.56 326 *e*P **P 08 20 46.6 +0.6**
VYHS Vyhne 78.56 326 *e*P **P 08 20 46.6 +0.6**
MODS Modra-Piesok 79.32 326 *e*P **P 08 20 53.4 +3.2**
MODS Modra-Piesok 79.32 326 *e*P **P 08 20 53.4 +3.2**
ZST Bratislava 79.53 326 *e*P **P 08 20 53.1 +1.8**
ZST Bratislava 79.53 326 *e*P **P 08 20 53.1 +1.8**
KHC Kasperske Hory 80.24 329 *e*P **P 08 20 56.0 +0.8**
KHC Kasperske Hory 80.24 329 *e*P **P 08 20 56.0 +0.8**
GERES GERESS Array B 80.42 329 P **P 08 20 57.3 +1.1**
comp=Z,0.5nm,0.2s,baz=54,slow=6.8,SNR=3.8
VTS Vitosha 80.90 319 P **P 08 21 00.9 +1.9**
VTS pmax pmax
comp=Z,4.0nm,0.8s
VTS Vitosha 80.90 319 P **P 08 21 00.9 +1.9**
VTS IAmb IAmb 08 21 17.2
comp=Z,4.1nm,0.8s
T25A Trinidad 81.55 48 IAmb IAmb 08 21 05.4
comp=Z,4.2nm,0.9s
ANMO Albuquerque 81.89 51 *c e*P **P 08 21 04.1 -0.3**
ANMO pmax pmax
comp=Z,7.0nm,2.5s
BFO Black Forest 82.91 331 P **P 08 21 09.1 -0.2**
BFO pmax pmax
comp=Z,9.0nm,0.7s
BFO Black Forest 82.91 331 P **P 08 21 09.1 -0.2**
MSTX Muleshoe 84.74 49 P **P 08 21 20.0 +1.0**
MNTX Cornudas Mount 84.79 52 P **P 08 21 21.0 +1.8**
MNTX IAmb IAmb 08 21 23.1
comp=Z,2.6nm,1.0s
TXAR Lajitas Array 87.51 53 P **P 08 21 34.1 +1.3**
comp=Z,1.0nm,0.8s,baz=302,slow=3.6,SNR=9.5
U40A Yellville 88.37 42 P **P 08 21 37.4 +0.8**

IDC ***15*** *08:21:35.2± 1.0, 33°.02N× 139°.91E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/65, mbtmp3.7/8, ML2.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/60, Error ellipse: s-maj=28.5km s-min=9.5km az=46.0*
JMA ***15*** *08:21:36.8± 0.1, 33°.34N× 139°.52E, h28km± 4km, M3.1*
ISC 15 08:21:37.2± 0.7, 33°.32N± 0°.05× 139°.51E± 0°.08, h10km, n24, σ1**92**/21**, mb3.8/7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.31**	**132**	LR	LR	08 21 29.5	
	comp=Z,337nm,18.5s,baz=283,slow=46						
JHJ				Pn	**Pb**	**08 21 44.5**	**-0.4**
	380nm,0.3s,baz=154,slow=23,SNR=46						
JHJ				Sn	**Sb**	**08 21 50.2**	**+0.3**
	748nm,0.3s,baz=56,slow=23,SNR=11						
JHJ2	**Mitsune**	**0.33**	**129**	P	**Pb**	**08 21 44.4**	**-0.9**
JHCJ	**Hachijojimakas**	**0.35**	**136**	P	**Pg**	**08 21 44.5**	**+0.3**
JHCJ				S	**Sb**	**08 21 50.0**	**-1.1**
JMKN	**Mikurajimanish**	**0.57**	**7**	P	**Pg**	**08 21 47.5**	**-0.9**
JMKN				S	**Sg**	**08 21 55.5**	**-0.4**
JIM2	**Oshima 3**	**1.39**	**357**	P	**Pn**	**08 22 00.8**	**-2.0**
JIZS	**Izushimoda**	**1.49**	**339**	P	**Pn**	**08 22 02.0**	**-2.0**
TK02	**Tokai 2**	**1.59**	**293**	P	**Pn**	**08 22 03.3**	**-1.9**
MJAR	**Matsushiro Arr**	**3.38**	**342**	Pn	**Pb**	**08 22 35.6**	**-1.7**
	0.3nm,0.3s,baz=155,slow=12,SNR=6.9						
MAT	**Matsushiro**	**3.38**	**342**	P	**Pn**	**08 22 33.1**	**+2.9**
MAT				*e*S	**Sn**	**08 23 12.3**	**+1.9**
H11N2	**WAKE ISLAND Hy 27.89**		**112**	T	T	08 56 32.0	
	baz=305,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy 27.90**		**112**	T	T	08 56 33.6	
	baz=305,slow=75,SNR=33						
H11N3	**WAKE ISLAND Hy 27.91**		**112**	T	T	08 56 34.5	
	baz=305,slow=75,SNR=33						
H11S3	**WAKE ISLAND Hy 28.45**		**115**	T	T	08 57 14.7	
	baz=307,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy 28.45**		**114**	T	T	08 57 14.8	
	baz=307,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy 28.46**		**114**	T	T	08 57 15.9	
	baz=307,slow=75,SNR=46						
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**08 29 54.8**	**+3.1**
	0.4nm,0.7s,baz=86,slow=9.5,SNR=4.0						
KDAK	**Kodiak Island**	**50.92**	**40**	P	**P**	**08 30 37.9**	**-0.5**
	1.1nm,0.5s,baz=90,slow=11,SNR=5.0						
AAK	**Ala-Archa**	**50.95**	**301**	LR	LR	08 53 15.1	
	comp=Z,77nm,20.1s,baz=98,slow=37						
WRA	**Warramunga Arr**	**53.20**	**186**	P	**P**	**08 30 52.6**	**-3.1**
	0.4nm,0.7s,baz=2.5,slow=7.6,SNR=7.0						
ILAR	**Eielson Array**	**53.46**	**31**	P	**P**	**08 30 56.4**	**-0.9**
	0.8nm,0.8s,baz=271,slow=6.6,SNR=8.0						
FINES	**FINESS Array B**	**71.36**	**332**	P	**P**	**08 32 59.3**	**+2.3**
	0.4nm,0.6s,baz=63,slow=8.8,SNR=4.4						
NB2	**NORSAR Subarra**	**76.99**	**337**	P	**P**	**08 33 32.1**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**76.99**	**337**	P	**P**	**08 33 32.4**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=40,slow=5.6,SNR=3.8						
TXAR	**Lajitas Array**	**93.63**	**51**	P	**P**	**08 34 54.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=296,slow=3.0,SNR=4.5						

MOS ***15*** *08:30:35.4± 1.0, 43°.29N× 28°.51E, h11km, mb4.2/7, Error ellipse: s-maj=4.7km s-min=3.7km az=74.6*
ISK ***15*** *08:30:36.2, 43°.35N× 28°.34E, h16km, ML4.1/31*
SOF ***15*** *08:30:37.3, 43°.34N× 28°.37E, h28km, MD4.2*
NEIC ***15*** *08:30:37.9± 1.6, 43°.36N± 0°.02× 28°.55E± 0°.04, h10km± 1km, Error ellipse: s-maj=5.2km s-min=3.0km az=293.0*
DDA ***15*** *08:30:38.4, 43°.18N× 28°.35E, h38km± 2km, MW4.1*
IDC ***15*** *08:30:38.6± 1.9, 43°.32N× 28°.38E, h23km± 14km, mb3.6/7, mb1 3.6/12, mb1mx3.4/53, mbtmp3.6/12, ML2.9/4, MS3.2/4, Ms1 3.2/4, ms1mx2.6/58, Error ellipse: s-maj=19.4km s-min=10.0km az=51.0*
ISC 15 08:30:37.9± 0.6, 43°.30N± 0°.02× 28°.34E± 0°.02, h26km± 4km, n352, σ1**73**/427**, mb3.9**/13**, 44C-35D, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALB	**Balgarevo**	**0.12**	**28**	⇑P	**Pb**	**08 30 42.7**	**-0.2**
KALB				⇓S	**Sb**	**08 30 46.4**	**+0.3**
KALB	**Balgarevo**	**0.12**	**28**		**Pb**	**08 30 42.7**	**-0.2**
KALB					**Sb**	**08 30 46.4**	**+0.3**
PSN	**Preselentsi**	**0.40**	**344**	P	**Pb**	**08 30 45.5**	**-1.0**
PSN	**Preselentsi**	**0.40**	**344**	*i* P	**Pb**	**08 30 45.5**	**-1.0**
AVR	**AVREN**	**0.52**	**250**	P	**Pn**	**08 30 48.9**	**-0.8**
AVR				S	**Sn**	**08 30 57.2**	**-0.5**
TSMN	**Mangalia Port-**	**0.54**	**20**	⇓P	**Pb**	**08 30 48.2**	**-0.6**
TSMN	**Mangalia Port-**	**0.54**	**20**	⇑S	**Sb**	**08 30 55.3**	**-0.9**
TSMN	**Mangalia Port-**	**0.54**	**20**		**Pb**	**08 30 48.2**	**-0.6**
TSMN					**Sb**	**08 30 55.3**	**-0.9**
PRD	**Provadia**	**0.69**	**262**	P	**Pn**	**08 30 51.8**	**-0.2**
PRD				S	**Sn**	**08 31 01.8**	**-0.1**
PRD	**Provadia**	**0.69**	**262**	*i* P	**Pn**	**08 30 51.5**	**-0.5**
ROIA	**ROIAK**	**0.73**	**254**	*i* P	**Pn**	**08 30 52.8**	**+0.2**
NEF	**NEVSHA**	**0.78**	**268**	P	**Pn**	**08 30 52.9**	**-0.3**
NEF				S	**Sn**	**08 31 04.6**	**+0.6**
EFOR	**EFORIE**	**0.81**	**15**	⇑P	**Pb**	**08 30 53.1**	**-0.3**
EFOR	**EFORIE**	**0.81**	**15**	⇑S	**Sb**	**08 31 03.2**	**-0.7**
EFOR	**EFORIE**	**0.81**	**15**		**Pb**	**08 30 53.1**	**-0.3**
EFOR					**Sb**	**08 31 03.2**	**-0.7**
MFTR	**Murfatlar**	**0.88**	**4**	⇑P	**Pb**	**08 30 54.1**	**-0.5**
MFTR	**Murfatlar**	**0.88**	**4**	⇑S	**Sb**	**08 31 05.1**	**-0.9**
MFTR	**Murfatlar**	**0.88**	**4**		**Pb**	**08 30 54.1**	**-0.5**
MFTR					**Sb**	**08 31 05.1**	**-0.9**
TSCT	**Constanta Port**	**0.90**	**15**	⇓P	**Pn**	**08 30 54.6**	**-0.2**
TSCT	**Constanta Port**	**0.90**	**15**	⇑S	**Sb**	**08 31 05.4**	**-0.9**
TSCT	**Constanta Port**	**0.90**	**15**		**Pn**	**08 30 54.6**	**-0.2**
TSCT					**Sb**	**08 31 05.4**	**-0.9**
ICOR	**Ion Corvin**	**0.91**	**335**	⇑P	**Pn**	**08 30 55.0**	**0.0**
ICOR	**Ion Corvin**	**0.91**	**335**	⇓S	**Sn**	**08 31 07.5**	**+0.2**
ICOR	**Ion Corvin**	**0.91**	**335**		**Pn**	**08 30 55.0**	**0.0**
ICOR					**Sn**	**08 31 07.5**	**+0.2**
CVDA	**Cernavoda**	**1.06**	**348**	⇑P	**Pn**	**08 30 56.9**	**-0.2**
CVDA	**Cernavoda**	**1.06**	**348**		**Pn**	**08 30 56.9**	**-0.2**
TIRR	**Tirgusor**	**1.16**	**3**	⇑P	**Pn**	**08 30 58.3**	**-0.2**
TIRR	**Tirgusor**	**1.16**	**3**	P	**Pn**	**08 30 58.3**	**-0.2**
TIRR						08 31 13.4	
TIRR	**Tirgusor**	**1.16**	**3**	Pn	**Pn**	**08 30 58.6**	**+0.1**
TIRR					**Sn**	**08 31 12.5**	**-1.0**
TIRR	**Tirgusor**	**1.16**	**3**		**Pn**	**08 30 58.3**	**-0.2**
TIRR					**Sn**	**08 31 13.4**	**-0.1**
TLBR	**Topalu**	**1.27**	**351**	⇓P	**Pb**	**08 31 00.4**	**-0.6**
TLBR	**Topalu**	**1.27**	**351**	⇑S	**Sb**	**08 31 16.6**	**-0.3**
TLBR	**Topalu**	**1.27**	**351**		**Pb**	**08 31 00.4**	**-0.6**
TLBR					**Sb**	**08 31 16.6**	**-0.3**
HARR	**Harsova**	**1.42**	**348**	⇑P	**Pn**	**08 31 02.4**	**+0.3**
HARR	**Harsova**	**1.42**	**348**	P	**Pn**	**08 31 02.4**	**+0.3**
HARR	**Harsova**	**1.42**	**348**		**Pn**	**08 31 02.4**	**+0.3**
AMRR	**Amara**	**1.50**	**332**	⇓P	**Pb**	**08 31 04.5**	**-0.5**
AMRR	**Amara**	**1.50**	**332**	⇓S	**Sb**	**08 31 24.9**	**+1.2**
AMRR	**Amara**	**1.50**	**332**		**Pb**	**08 31 04.5**	**-0.5**
AMRR					**Sb**	**08 31 24.9**	**+1.2**
JURR	**Jurilovca**	**1.52**	**15**	⇑P	**Pn**	**08 31 03.4**	**-0.1**
JURR	**Jurilovca**	**1.52**	**15**		**Pn**	**08 31 03.4**	**-0.1**
JMB	**Yambol**	**1.53**	**238**	P	**Pb**	**08 31 05.2**	**-0.4**
JMB				S	**Sb**	**08 31 28.2**	**+3.6**
JMB	**Yambol**	**1.53**	**238**	PN	**Pn**	**08 31 03.9**	**+0.3**
JMB	**Yambol**	**1.53**	**238**	*i* P	**Pb**	**08 31 05.2**	**-0.4**
TPGR	**Topolog**	**1.56**	**2**	⇓P	**Pn**	**08 31 04.6**	**+0.5**
TPGR	**Topolog**	**1.56**	**2**	⇑S	**Sb**	**08 31 24.7**	**-0.8**
TPGR	**Topolog**	**1.56**	**2**		**Pn**	**08 31 04.6**	**+0.5**
TPGR					**Sb**	**08 31 24.7**	**-0.8**
ARMN	**Kirklareli, Me**	**1.58**	**205**	*i* P	**Pb**	**08 31 05.7**	**-0.8**
ARMN				*i* S	**Sb**	**08 31 25.2**	**-0.7**
LEHL	**Lehliu**	**1.61**	**318**	⇑P	**Pb**	**08 31 06.1**	**-0.8**
LEHL	**Lehliu**	**1.61**	**318**	⇑S	**Sb**	**08 31 27.9**	**+1.1**
LEHL	**Lehliu**	**1.61**	**318**		**Pb**	**08 31 06.1**	**-0.8**
LEHL					**Sb**	**08 31 27.9**	**+1.1**
SZH	**Strazhica**	**1.75**	**270**	P	**Pn**	**08 31 07.7**	**+1.0**
SZH				S	**Sb**	**08 31 33.1**	**+2.1**
SZH	**Strazhica**	**1.75**	**270**	*i* P	**Pn**	**08 31 07.2**	**+0.5**
VIZE	**Kirklareli, Vi**	**1.75**	**192**	*i* P	**Pb**	**08 31 08.2**	**-1.2**
VIZE				*i* S	**Sb**	**08 31 29.7**	**-1.3**
KIRK	**Kırklareli**	**1.77**	**212**	*i* P	**Pb**	**08 31 08.3**	**-1.3**
KIRK				*i* S	**Sb**	**08 31 30.1**	**-1.3**
PHSR	**Pinarhisar**	**1.77**	**200**	PN	**Pn**	**08 31 07.9**	**+1.0**
PHSR				SN	**Sb**	**08 31 31.0**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.82**	**181**	PN	**Pb**	**08 31 08.9**	**-1.6**
EDRB	**Edirne**	**1.86**	**220**	P	**Pb**	**08 31 09.8**	**-1.5**
EDRB	**Edirne**	**1.86**	**220**	PN	**Pn**	**08 31 09.3**	**+1.1**
EDRB				SN	**Sb**	**08 31 32.5**	**-1.7**
PGOR	**Pogoanele**	**1.88**	**329**	⇓P	**Pb**	**08 31 10.9**	**-0.7**
PGOR	**Pogoanele**	**1.88**	**329**		**Pb**	**08 31 10.9**	**-0.7**
CFR	**Carcaliu**	**1.89**	**356**	⇓P	**Pn**	**08 31 08.4**	**-0.1**
CFR	**Carcaliu**	**1.89**	**356**	⇑S	**Sn**	**08 31 32.2**	**+0.7**
CFR	**Carcaliu**	**1.89**	**356**	P	**Pn**	**08 31 08.4**	**-0.1**
CFR						08 31 32.2	
CFR	**Carcaliu**	**1.89**	**356**		**Pn**	**08 31 08.4**	**-0.1**
CFR					**Sn**	**08 31 32.2**	**+0.7**
TLCR		**1.92**	**10**	⇑P	**Pn**	**08 31 08.5**	**-0.4**
TLCR		**1.92**	**10**	P	**Pn**	**08 31 08.5**	**-0.4**
TLCR				S	**Sn**	**08 31 33.2**	**+0.9**
TLCR		**1.92**	**10**		**Pn**	**08 31 08.5**	**-0.4**
TLCR					**Sn**	**08 31 33.2**	**+0.9**
INCR	**INCERC-Sediu C**	**1.95**	**307**	⇑P	**Pb**	**08 31 12.0**	**-0.6**
INCR	**INCERC-Sediu C**	**1.95**	**307**	⇑S	**Sb**	**08 31 38.4**	**+2.0**
INCR	**INCERC-Sediu C**	**1.95**	**307**		**Pb**	**08 31 12.0**	**-0.6**
INCR					**Sb**	**08 31 38.4**	**+2.0**
SGRR	**Singureni**	**1.95**	**299**	⇓P	**Pb**	**08 31 12.1**	**-0.6**
SGRR	**Singureni**	**1.95**	**299**		**Pb**	**08 31 12.1**	**-0.6**
BUC1	**Bucharest**	**1.97**	**303**	⇑P	**Pb**	**08 31 12.5**	**-0.6**
BUC1	**Bucharest**	**1.97**	**303**	⇑S	**Sb**	**08 31 39.0**	**+1.7**
BUC1	**Bucharest**	**1.97**	**303**	P	**Pb**	**08 31 12.5**	**-0.6**
BUC1				S	**Sb**	**08 31 39.0**	**+1.7**
BUC1	**Bucharest**	**1.97**	**303**		**Pb**	**08 31 12.5**	**-0.6**
BUC1					**Sb**	**08 31 39.0**	**+1.7**
SULR		**2.04**	**313**	⇑P	**Pb**	**08 31 13.4**	**-0.9**
SULR		**2.04**	**313**		**Pb**	**08 31 13.4**	**-0.9**
CTKS	**Kestanelik-??a**	**2.06**	**176**	PN	**Pn**	**08 31 12.1**	**+1.2**
SLVT	**Silivri**	**2.07**	**183**	PN	**Pn**	**08 31 12.3**	**+1.4**
KLYT	**Kilyos**	**2.11**	**165**	PN	**Pn**	**08 31 12.1**	**+0.6**
BGKT	**Bogazkoy**	**2.14**	**171**	PN	**Pn**	**08 31 12.9**	**+1.0**
ELBA	**Catalca**	**2.15**	**178**	*i* P	**Pn**	**08 31 13.2**	**+1.1**
ELBA				*i* S	**Sn**	**08 31 39.2**	**+1.3**
ZIMR		**2.19**	**281**	⇑P	**Pb**	**08 31 16.2**	**-0.6**
ZIMR		**2.19**	**281**	P	**Pb**	**08 31 16.2**	**-0.6**
ZIMR		**2.19**	**281**		**Pb**	**08 31 16.2**	**-0.6**
PVL	**Pavlikeni**	**2.19**	**269**	P	**Pb**	**08 31 15.7**	**-1.2**
PVL	**Pavlikeni**	**2.19**	**269**	*i* P	**Pb**	**08 31 15.7**	**-1.2**
ISR	**Istrita**	**2.23**	**325**	⇓P	**Pb**	**08 31 15.8**	**-1.8**
ISR	**Istrita**	**2.23**	**325**	P	**Pb**	**08 31 15.8**	**-1.8**
ISR				S	**Sb**	**08 31 44.5**	**-0.3**
ISR	**Istrita**	**2.23**	**325**		**Pb**	**08 31 15.8**	**-1.8**
ISR					**Sb**	**08 31 44.5**	**-0.3**
ISK	**Istanbul-Kandi**	**2.29**	**166**	P	**Pn**	**08 31 14.8**	**+0.8**
ISK	**Istanbul-Kandi**	**2.29**	**166**	PN	**Pn**	**08 31 14.9**	**+0.9**
KAVV	**Kandilli-Istan**	**2.29**	**166**	PN	**Pn**	**08 31 15.6**	**+1.5**
GRER		**2.30**	**335**	⇑P	**Pb**	**08 31 16.3**	**-2.5**
GRER		**2.30**	**335**		**Pb**	**08 31 16.3**	**-2.5**
PLAR	**PLOIESTI**	**2.32**	**315**	⇑P	**Pb**	**08 31 17.3**	**-1.7**
PLAR	**PLOIESTI**	**2.32**	**315**		**Pb**	**08 31 17.3**	**-1.7**
SILT	**Sile**	**2.35**	**155**	PN	**Pn**	**08 31 16.1**	**+1.3**
SECR		**2.39**	**318**	⇑P	**Pb**	**08 31 18.2**	**-1.9**
SECR		**2.39**	**318**		**Pb**	**08 31 18.2**	**-1.9**
COPA	**Copaceanca**	**2.41**	**291**	⇓P	**Pb**	**08 31 18.9**	**-1.6**
COPA	**Copaceanca**	**2.41**	**291**		**Pb**	**08 31 18.9**	**-1.6**
DIM	**Dimitrovgrad**	**2.41**	**240**	P	**Pn**	**08 31 16.7**	**+1.0**
DIM	**Dimitrovgrad**	**2.41**	**240**	*i* P	**Pn**	**08 31 16.5**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.51**	**211**	PN	**Pn**	**08 31 18.5**	**+1.5**
BUY	**Buyukada**	**2.51**	**166**	*i* P	**Pn**	**08 31 18.3**	**+1.3**
BUY				*i* S	**Sn**	**08 31 47.7**	**+1.0**
BISRR	**Bisoca**	**2.54**	**333**	⇑P	**Pb**	**08 31 20.1**	**-2.7**
BISRR	**Bisoca**	**2.54**	**333**		**Pb**	**08 31 20.1**	**-2.7**
PETR	**Petresti**	**2.55**	**342**	⇓P	**Pn**	**08 31 19.5**	**+1.9**
PETR	**Petresti**	**2.55**	**342**		**Pn**	**08 31 19.6**	**+1.9**
NEHR	**Nehoiu**	**2.58**	**326**	⇓P	**Pb**	**08 31 21.0**	**-2.6**
NEHR	**Nehoiu**	**2.58**	**326**	⇑S	**Sb**	**08 31 52.5**	**-2.4**
NEHR	**Nehoiu**	**2.58**	**326**		**Pb**	**08 31 21.0**	**-2.6**
NEHR					**Sb**	**08 31 52.5**	**-2.4**
KAND	**Kocaeli-Kandir**	**2.60**	**147**	*i* P	**Pn**	**08 31 19.2**	**+1.0**
KAND				*i* S	**Sn**	**08 31 49.3**	**+0.4**
MAR4	**Marsite Statio**	**2.62**	**197**	PN	**Pn**	**08 31 19.8**	**+1.1**
VARL	**Varlezi**	**2.63**	**353**	⇓P	**Pn**	**08 31 18.8**	**+0.2**
VARL	**Varlezi**	**2.63**	**353**		**Pn**	**08 31 18.8**	**+0.2**
ODBI	**Odobesti**	**2.63**	**340**	⇑P	**Pn**	**08 31 20.9**	**+2.2**
ODBI	**Odobesti**	**2.63**	**340**		**Pn**	**08 31 20.9**	**+2.2**
HRT	**Hereke**	**2.66**	**158**	P	**Pn**	**08 31 20.6**	**+1.4**
HRT	**Hereke**	**2.66**	**158**	PN	**Pn**	**08 31 20.7**	**+1.5**
KDZ	**Kurdzhali**	**2.71**	**234**	*i* P	**Pn**	**08 31 21.7**	**+1.8**
HUMR	**Humele**	**2.72**	**298**	⇓P	**Pb**	**08 31 23.2**	**-2.6**
HUMR	**Humele**	**2.72**	**298**		**Pb**	**08 31 23.2**	**-2.6**
SART	**Tekirdag**	**2.74**	**199**	*i* P	**Pn**	**08 31 21.0**	**+0.7**
SART				*i* S	**Sb**	**08 32 05.3**	**+5.8**
RKY	**Sarkoy-Tekirda**	**2.75**	**199**	PN	**Pn**	**08 31 21.3**	**+1.0**
MRMT	**Marmara Adasi**	**2.75**	**192**	PN	**Pn**	**08 31 20.9**	**+0.5**
ARMT	**Armutlu**	**2.76**	**172**	PN	**Pn**	**08 31 21.8**	**+1.4**
TRML	**Termal-Yalova**	**2.76**	**167**	PN	**Pn**	**08 31 22.3**	**+1.9**
KESN	**Edirne-Kesan**	**2.76**	**207**	*i* P	**Pn**	**08 31 21.2**	**+0.4**
KAYN	**Sakarya, Kayna**	**2.77**	**147**	*i* P	**Pn**	**08 31 21.0**	**+0.5**
KAYN				*i* S	**Sn**	**08 31 52.7**	**-0.3**
MLR	**Muntele Rosu**	**2.79**	**323**	Pn	**Pn**	**08 31 23.4**	**+2.5**
	3.8nm,0.3s,baz=69,slow=3.2,SNR=22						
MLR				Pg	**Pb**	**08 31 29.9**	**+2.8**
	10nm,0.3s,baz=191,slow=3.4,SNR=35						
MLR				Lg	Lg	08 32 07.7	
	35nm,0.3s,baz=327,slow=17,SNR=11						
MLR	**Muntele Rosu**	**2.79**	**323**	⇑P	**Pn**	**08 31 23.6**	**+2.7**
MLR	**Muntele Rosu**	**2.79**	**323**	P	**Pn**	**08 31 23.6**	**+2.7**
MLR	**Muntele Rosu**	**2.79**	**323**	Pn	**Pn**	**08 31 23.6**	**+2.7**
VRI	**Vrincioaia**	**2.82**	**336**	⇑P	**Pn**	**08 31 23.6**	**+2.4**
VRI	**Vrincioaia**	**2.82**	**336**	P	**Pn**	**08 31 23.6**	**+2.4**
VRI	**Vrincioaia**	**2.82**	**336**	PN	**Pn**	**08 31 21.3**	**0.0**
VRI	**Vrincioaia**	**2.82**	**336**		**Pn**	**08 31 23.6**	**+2.4**
PLOR	**Plostina**	**2.83**	**335**	⇓P	**Pn**	**08 31 23.6**	**+2.2**
PLOR	**Plostina**	**2.83**	**335**	P	**Pn**	**08 31 23.6**	**+2.2**
PLOR	**Plostina**	**2.83**	**335**		**Pn**	**08 31 23.6**	**+2.2**
YLV	**Yalova**	**2.83**	**164**	P	**Pn**	**08 31 23.3**	**+1.7**
YLV	**Yalova**	**2.83**	**164**	PN	**Pn**	**08 31 23.4**	**+1.8**
GHRR		**2.84**	**347**	⇓P	**Pn**	**08 31 23.1**	**+1.5**
GHRR		**2.84**	**347**		**Pn**	**08 31 23.1**	**+1.5**
STFAR	**Stefanesti-Arg**	**2.89**	**304**	⇑P	**Pb**	**08 31 25.5**	**-3.3**
STFAR	**Stefanesti-Arg**	**2.89**	**304**		**Pb**	**08 31 25.5**	**-3.3**
PLD	**Plovdiv**	**2.93**	**247**	P	**Pn**	**08 31 23.3**	**+0.5**
PLD	**Plovdiv**	**2.93**	**247**	PN	**Pn**	**08 31 23.7**	**+0.9**
PLD	**Plovdiv**	**2.93**	**247**	*i* P	**Pn**	**08 31 23.3**	**+0.5**
ALN	**Alexandroupoli**	**2.94**	**216**	P	**Pn**	**08 31 24.3**	**+1.3**
ALN	**Alexandroupoli**	**2.94**	**216**	*i* P	**Pn**	**08 31 23.8**	**+0.8**
ALN	**Alexandroupoli**	**2.94**	**216**	P	**Pb**	**08 31 27.3**	**-2.3**
ALN	**Alexandroupoli**	**2.94**	**216**	Pn	**Pb**	**08 31 27.3**	**-2.3**
ALN					LR	08 32 17.6	
MDNY	**Mudanya-Bursa**	**2.95**	**172**	PN	**Pn**	**08 31 24.6**	**+1.5**
SAUV	**Serdivan-Sakar**	**2.95**	**149**	PN	**Pn**	**08 31 24.3**	**+1.2**
ERIK	**Erikli-Kesan**	**2.95**	**208**	PN	**Pn**	**08 31 24.8**	**+1.7**
EDC	**Edincik**	**2.97**	**187**	P	**Pn**	**08 31 24.7**	**+1.4**
EDC	**Edincik**	**2.97**	**187**	PN	**Pn**	**08 31 24.7**	**+1.4**
RDO	**Rodhopi**	**2.99**	**225**	P	**Pn**	**08 31 24.6**	**+1.0**
RDO	**Rodhopi**	**2.99**	**225**	PN	**Pn**	**08 31 25.1**	**+1.5**
KRBG	**Karabiga-Canak**	**3.00**	**195**	PN	**Pn**	**08 31 24.9**	**+1.1**
BIR	**Birlad**	**3.01**	**351**	⇓P	**Pn**	**08 31 24.7**	**+0.8**
BIR	**Birlad**	**3.01**	**351**	P	**Pn**	**08 31 24.7**	**+0.8**
BIR	**Birlad**	**3.01**	**351**		**Pn**	**08 31 24.7**	**+0.8**
KCTX	**Karacabey (Bur**	**3.03**	**180**	PN	**Pn**	**08 31 25.7**	**+1.5**
ENEZ	**Enez**	**3.03**	**213**	P	**Pn**	**08 31 24.9**	**+0.7**
ADVT	**Abdulvahap**	**3.05**	**159**	PN	**Pn**	**08 31 26.2**	**+1.8**
CAVK	**Edirne/Enez-Ca**	**3.06**	**213**	*i* P	**Pn**	**08 31 25.4**	**+0.7**
SAHE	**Sakarya_HENDEK**	**3.08**	**142**	*i* P	**Pn**	**08 31 25.8**	**+0.9**
SAHE				*i* S	**Sn**	**08 31 59.3**	**-1.5**
IGD	**Bursa**	**3.10**	**168**	*i* P	**Pn**	**08 31 26.3**	**+1.2**
IGD				*i* S	**Sn**	**08 32 00.1**	**-1.2**
RZN	**Rozhen**	**3.12**	**240**	P	**Pn**	**08 31 27.3**	**+1.7**
RZN	**Rozhen**	**3.12**	**240**	*i* P	**Pn**	**08 31 26.6**	**+1.0**
PGB	**Panagyurishte**	**3.15**	**258**	P	**Pn**	**08 31 27.4**	**+1.5**
PGB	**Panagyurishte**	**3.15**	**258**	*i* P	**Pn**	**08 31 27.4**	**+1.5**
GEYV	**SAKARYA_Geyve**	**3.17**	**152**	*i* P	**Pn**	**08 31 28.2**	**+2.2**
VOIR		**3.18**	**313**	⇓P	**Pn**	**08 31 29.2**	**+2.8**
VOIR		**3.18**	**313**	P	**Pn**	**08 31 29.2**	**+2.8**
VOIR		**3.18**	**313**		**Pn**	**08 31 29.2**	**+2.8**
ULDT	**Uludag**	**3.21**	**169**	*i* P	**Pn**	**08 31 27.9**	**+1.1**
ULDT				*i* S	**Sn**	**08 32 04.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**3.21**	**206**	PN	**Pn**	**08 31 28.2**	**+1.5**
YIGI	**Dzce**	**3.29**	**134**	*i* P	**Pn**	**08 31 28.6**	**+0.9**
CAVI	**Cavuskoy**	**3.29**	**159**	PN	**Pn**	**08 31 29.3**	**+1.5**
GULT	**Gulveren**	**3.29**	**150**	PN	**Pn**	**08 31 29.5**	**+1.6**
OZUR		**3.34**	**328**	⇓P	**Pn**	**08 31 30.0**	**+1.5**
OZUR		**3.34**	**328**	P	**Pn**	**08 31 30.0**	**+1.5**
VASR	**Vaslui**	**3.37**	**354**	⇑P	**Pn**

comp=Z,145nm,0.4s
SUDU smax smax
comp=N,53nm,0.5s
SUDU smax smax
comp=E,165nm,0.5s
SNOP Sinop 5.22 102 Pn **Pn 08 31 54.8 +0.5**
DRGR 5.30 313 ⇑P **Pn 08 31 58.7 +3.2**
DRGR 5.30 313 P **Pn 08 31 58.7 +3.2**
DRGR 5.30 313 Pn 08 31 58.7 +3.2
BZS Buzias 5.34 298 ⇑P **Pn 08 31 58.5 +2.6**
BZS Buzias 5.34 298 P **Pn 08 31 58.5 +2.6**
BZS Buzias 5.34 298 Pn 08 31 58.5 +2.6
BR131 Keskin Array S 5.34 130 P **Pn 08 31 57.4 +1.2**
BR131 Keskin Array S 5.34 130 Pn 08 31 57.4 +1.2
BRTR Keskin Array B 5.34 130 Pn **Pn 08 31 58.0 +1.9**
comp=E,0.9nm,0.3s,baz=357,slow=26,SNR=13
BRTR Sn **Sn 08 32 56.6 -0.4**
comp=E,1.0nm,0.3s,baz=310,slow=20,SNR=4.0
BRTR LR LR 08 34 37.1
comp=E,171nm,19.4s,baz=314,slow=45
BRTR Keskin Array B 5.34 130 Pn **Pn 08 31 57.4 +1.2**
FEO Feodosiya 5.36 69 *e*P **Pn 08 31 57.1 +0.9**
FEO *e*S **Sn 08 33 00.4 +3.4**
FEO smax smax
comp=N,51nm,0.2s
FEO smax smax
comp=E,41nm,0.2s
DIKM Dikmen 5.38 105 ⇓P **Pn 08 31 55.7 -0.7**
DIKM Dikmen 5.38 105 ⇓S **Sn 08 32 55.8 -1.7**
DIKM Dikmen 5.38 105 Pn 08 31 55.8 -0.7
DIKM **Sn 08 32 55.8 -1.7**
LIT Litokhoron 5.42 236 P **Pn 08 31 58.0 +1.0**
LIT Litokhoron 5.42 236 Pn **Pn 08 31 58.0 +1.0**
SIRR Siria 5.60 304 ⇓P **Pn 08 32 02.6 +3.0**
SIRR Siria 5.60 304 Pn 08 32 02.6 +3.0
FNA Florina 5.76 247 P **Pn 08 32 03.2 +1.5**
FNA Florina 5.76 247 Pn **Pn 08 32 03.2 +1.5**
DIVS Divibare 6.10 280 Pn **Pn 08 32 07.3 +0.9**
KERU Kerch 6.17 68 *e*P **Pn 08 32 10.6 +3.3**
KERU *e*S **Sn 08 33 17.2 +0.3**
KERU smax smax
comp=E,13nm,0.7s
AGG Agios Georgios 6.23 229 P **Pn 08 32 08.8 +0.7**
AGG Agios Georgios 6.23 229 Pn **Pn 08 32 08.8 +0.7**
PUK Puka 6.35 262 Pn **Pn 08 32 13.7 +3.8**
ANN Anapa 6.73 74 *e*P Pn **08 32 10.9 -4.0**
UZH Uzhgorod 6.80 324 *e*P Pn 08 32 21.4 +5.5
UZH *e*S **Sn 08 33 39.2 +6.8**
AKASG Malin Array Be 7.43 4 Pn **Pn 08 32 23.9 -0.7**
comp=E,2.8nm,0.3s,baz=195,slow=12,SNR=4.5
AKASG Lg Lg 08 34 24.8
comp=E,9.3nm,0.3s,baz=182,slow=30,SNR=7.6
AKASG Malin Array Be 7.43 4*c e*P **Pn 08 32 25.7 +1.1**
AKASG pmax pmax
comp=Z,1.0nm,0.2s
AKASG Malin Array Be 7.43 4 Pn **Pn 08 32 24.2 -0.4**
STON Ston 7.80 271 *e*Pn **Pn 08 32 31.9 +2.3**
STON Sn **Sn 08 33 53.5 -3.6**
RICI Ricice 8.16 275 *e*Pn **Pn 08 32 37.7 +3.0**
RICI Sn **Sn 08 34 03.2 -2.9**
SOC Sochi 8.29 84 *e*P **Pn 08 32 34.9 -1.5**
SOC *e*SS **Sn 08 34 12.2 +3.1**
SOC pmax pmax
comp=Z,14nm,0.8s
ZIRJ Zirje 9.24 277 *e*Pn **Pn 08 32 52.2 +2.8**
ZIRJ Sn **Sn 08 34 28.8 -3.6**
DUGI Dugi Otok 9.65 279 *e*Pn **Pn 08 32 59.1 +4.0**
DUGI Sn **Sn 08 34 38.5 -4.1**
VRAC Vranov 10.10 311 LR LR 08 37 48.5
comp=Z,91nm,19.1s,baz=112,slow=42
SHA1 Shidzhatmaz 10.41 83 *i* P **Pn 08 33 05.7 0.0**
KIV Kislovodsk 10.43 81 *e*P **Pn 08 33 06.1 +0.3**
KIV *e*S **Sn 08 35 01.1 -0.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
NEY Neytrino 10.49 85 *i* P **Pn 08 33 04.9 -1.9**
KBZ Khabaz 10.59 83 *i* P **Pn 08 33 05.7 -2.2**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
MNK Minsk 11.22 359 *i* P **Pn 08 33 16.3 -0.2**
MNK *i* S **Sn 08 35 22.0 +1.1**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.7s
MNK pmax pmax
comp=N,17nm,0.9s
MNK Minsk 11.22 359 *i* P **Pn 08 33 16.3 -0.1**
comp=E,2.0nm,0.7s
MNK *i* P **Pn 08 33 16.3 -0.1**
comp=N,17nm,0.8s
MNK *i* P **Pn 08 33 16.3 -0.1**
comp=Z,15nm,0.7s,baz=357
MNK *i* PP **PnPn 08 33 24.1 -0.1**
MNK *i* S **Sn 08 35 22.0 +1.1**
MNK *i* SS **SnSn 08 35 34.6 +1.7**
MNK *i* LQ LQ 08 36 32.5
MNK *i* LR LR 08 37 14.4
MNK *i* LRM MLR 08 37 44.7
comp=N,99nm,17.2s
MNK *i* LRM MLR 08 37 48.3
comp=Z,66nm,18.1s
MNK *i* LRM MLR 08 38 09.1
comp=E,9.0nm,21.7s
GERES GERESS Array B 11.57 304 LR LR 08 38 49.1
comp=E,92nm,18.9s,baz=102,slow=42
OBN Obninsk 12.98 21 *i* P **Pn 08 33 41.6 +1.1**
OBN *e*S **Sn 08 36 00.1 -3.9**
OBN pmax pmax
comp=Z,14nm,0.3s
OBN MLR MLR
comp=Z,103nm,17.0s
MOS Moscow 13.82 22 *e*P Pn 08 33 47.0 -4.9
VSU Vasula 15.22 357 P **P 08 34 17.1 +1.5**
FINES FINESS Array B 18.23 357 Pn **Pn 08 34 44.5 -4.3**
comp=Z,0.2nm,0.3s,baz=163,slow=14,SNR=8.0
FINES FINESS Array B 18.23 357*c e*P **P 08 34 53.9 +5.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 18.23 357 Pn **Pn 08 34 45.4 -3.4**
KLMR Klimovskoe 18.83 17 *e*P **P 08 34 54.3 -1.2**
KLMR *e* 08 38 23.8
KLMR pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 18.83 17 *e*Pn **P 08 34 54.4 -1.1**
KLMR AMP 08 35 02.3
comp=Z,11nm,1.3s
KLMR *e*Sn **Sn 08 38 23.9 -2.0**
KLMR *e*Sn **Sn 08 38 23.9 -2.0**
HFS Hagfors 19.07 337 Pn **P 08 34 55.2 -2.9**
comp=Z,0.1nm,0.3s,baz=182,slow=18,SNR=3.7
NC405 NORSAR Array S 20.43 337 P **P 08 35 10.6 -2.4**
NC405 IAmb IAmb 08 35 24.5
comp=Z,16nm,1.2s
NB2 NORSAR Subarra 20.52 336 P **P 08 35 12.1 -1.9**
comp=Z,1.6nm,0.7s,baz=143,slow=11
NOA NORSAR Array B 20.52 336 P **P 08 35 11.9 -2.1**
comp=Z,0.9nm,0.8s,baz=144,slow=10,SNR=3.6
PRGR Permogore 21.05 23 *e*P **P 08 35 17.5 -2.1**
PRGR pmax pmax
comp=Z,8.0nm,0.5s
AKTO Aktyubinsk 21.41 60 P **P 08 35 23.7 +0.1**
comp=Z,1.2nm,0.6s,baz=256,slow=14,SNR=4.0
ABKAR Akbulak array 22.54 64 P **P 08 35 35.0 -0.7**
ABKAR IAmb IAmb 08 35 55.6
comp=Z,3.4nm,1.0s
ARU Arti 23.27 45 P **P 08 35 43.3 +0.1**
comp=Z,0.8nm,0.3s,baz=253,slow=20,SNR=1.2
ARU Arti 23.27 45 P **P 08 35 43.4 +0.1**
ARU 08 36 08.8
ARU S **S 08 39 58.2 +4.5**
ARU SS **SnSn 08 40 33.3 +4.7**
MK31 Makanchi Array 37.66 65*c i* P **P 08 37 51.6 +0.9**
MK31 Makanchi Array 37.66 65 P **P 08 37 51.6 +0.9**
MK31 IAmb IAmb 08 37 52.6
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 37.66 65 P **P 08 37 51.7 +1.0**
comp=Z,1.2nm,0.6s,baz=284,slow=7.2,SNR=15
MKAR pP **pP 08 37 58.1 -0.3**
comp=Z,0.4nm,0.6s,baz=292,slow=6.6,SNR=4.1
MKAR Makanchi Array 37.66 65 P **P 08 37 51.9 +1.2**
TORD Torodi Ar. Bea 37.80 225 P **P 08 37 52.8 +0.6**
comp=Z,0.2nm,0.3s,baz=28,slow=8.7,SNR=4.6
ZALV Zalesovo Beam 37.86 53 P **P 08 37 53.4 +1.1**
comp=Z,1.1nm,0.5s,baz=285,slow=12,SNR=4.6
ZALV Zalesovo Beam 37.86 53 *i* P **P 08 37 51.9 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
DGZ Jazzator, Alta 40.26 60 *i* P **P 08 38 12.5 -0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.8s
TLY Talaya 49.46 52 *i* P **P 08 39 27.0 +1.4**
TLY pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 52.65 56 P **P 08 39 51.0 +1.3**
comp=Z,0.2nm,0.3s,baz=288,slow=7.1,SNR=6.3
BILL Bilibino 64.58 16⇓*e*P **P 08 41 15.1 +2.7**
BILL *e* 08 43 34.9
BILL *e*S **SKSac 08 51 04.6 +0.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,118nm,18.0s
YKA Yellowknife Ar 70.45 343 P **P 08 41 49.9 +0.4**
comp=Z,0.8nm,0.7s,baz=31,slow=6.0,SNR=7.0
YKA pP **pP 08 41 58.2 +0.6**
comp=Z,0.9nm,0.9s,baz=18,slow=6.2,SNR=3.7
PETK Petropavlovsk- 74.57 29 LR LR 09 20 11.8
comp=Z,32nm,18.4s,baz=217,slow=40

IDC ***15*** *08:41:53.0±2.9, 22°.63N×121°.95E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/52, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/47, Error ellipse: s-maj=244.1km s-min=23.2km az=63.0*
JMA ***15*** *08:41:54.8, 22°.56N×121°.49E, h2km±1km, M3.9*
TAP ***15*** *08:41:56.4, 22°.53N×121°.34E, h11km, ML4.0, B*
ISC 15 08:41:56.1±1.0, 22°.50N±0°.02×121°.39E±0°.02, h18km±3km, n120, ₙ0°92/189, mb3.6/4, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao** baz=39	**0.19**	**25**	*i* P	**Pg**	**08 42 02.1**	**+1.3**
LDUT	baz=39			S	**Sg**	**08 42 05.7**	**+1.6**
TTN	**Taitung** baz=323	**0.33**	**319**	*i* P	**Pb**	**08 42 03.5**	**0.0**
TTN	baz=323			*e*S	**Sb**	**08 42 08.3**	**-0.2**
ECL	**Taimali** baz=281	**0.41**	**283**	*i* P	**Pb**	**08 42 04.5**	**-0.3**
ECL	baz=281			*i* S	**Sb**	**08 42 10.3**	**-0.4**
TWGBT	**Beinan** baz=320	**0.42**	**318**	P	**Pb**	**08 42 04.7**	**-0.3**
TWGBT	baz=320			*e*S	**Sb**	**08 42 10.5**	**-0.6**
TWG	**Pinlang** baz=320	**0.43**	**318**	⇓*i* P	**Pb**	**08 42 04.8**	**-0.3**
TWG	baz=320			*e*S	**Sb**	**08 42 11.2**	**0.0**
LONT	**Longtian** baz=333	**0.46**	**330**	*i* P	**Pb**	**08 42 05.6**	**-0.1**
LONT	baz=333			*e*S	**Sb**	**08 42 12.3**	**0.0**
EDH	**Donghe** baz=356	**0.47**	**351**	*i* P	**Pb**	**08 42 06.0**	**+0.1**
EDH	baz=356			S	**Sb**	**08 42 12.9**	**+0.4**
TAW	**Tawu** baz=247	**0.47**	**252**	*i* P	**Pb**	**08 42 06.2**	**+0.3**
TAW	baz=247			S	**Sb**	**08 42 12.7**	**+0.1**
LAY	**Lan-yu** baz=157	**0.49**	**162**	*i* P	**Pn**	**08 42 07.7**	**-0.4**
LAY	baz=157			*e*S	**Sb**	**08 42 14.7**	**+1.7**
EAST	**Anshuo** baz=252	**0.51**	**256**	*i* P	**Pb**	**08 42 06.6**	**+0.1**
EAST	baz=252			S	**Sb**	**08 42 14.0**	**+0.4**
CHKT	**Chengkung** baz=3.0	**0.59**	**358**	*i* P	**Pb**	**08 42 07.5**	**-0.3**
CHKT	baz=3.0			S	**Sb**	**08 42 17.7**	**+1.8**
ECS	**Chishang** baz=349	**0.61**	**346**	P	**Pb**	**08 42 08.4**	**+0.3**
ECS	baz=349			*e*S	**Sb**	**08 42 17.0**	**+0.7**
SLIU	**Shizi** baz=238	**0.61**	**242**	*i* P	**Pb**	**08 42 08.3**	**+0.1**
SLIU	baz=238			S	**Sb**	**08 42 16.9**	**+0.5**
FULB	**Fuli** baz=356	**0.70**	**353**	*i* P	**Pb**	**08 42 09.1**	**-0.5**
FULB	baz=356			*i* S	**Sb**	**08 42 19.1**	**+0.2**
MASBT	**Mashibuluo** baz=277	**0.70**	**279**	P	**Pb**	**08 42 09.3**	**-0.4**
MASBT	baz=277			S	**Sg**	**08 42 18.4**	**-0.9**
TSMG	**Majia** baz=285	**0.71**	**286**	*i* P	**Pb**	**08 42 09.3**	**-0.6**
TSMG	baz=285			*e*S	**Sb**	**08 42 20.3**	**+0.9**
SCZT	**Fangliau** baz=256	**0.72**	**260**	*i* P	**Pb**	**08 42 10.0**	**0.0**
SCZT	baz=256			*e*S	**Sb**	**08 42 20.2**	**+0.7**
SSD	**Sandimen** baz=288	**0.74**	**289**	*i* P	**Pg**	**08 42 09.4**	**-1.1**
SSD	baz=288			*e*S	**Sb**	**08 42 20.0**	**-0.1**
TSEB	**Hengchuen, Pin** baz=215	**0.75**	**217**	*i* P	**Pn**	**08 42 11.8**	**+0.1**
TSEB	baz=215			*i* S	**Sn**	**08 42 23.0**	**+0.4**
SSPT	**Xinbi** baz=266	**0.76**	**269**	*i* P	**Pb**	**08 42 10.6**	**-0.1**
ELDTW	**Lidau** baz=336	**0.76**	**334**	*i* P	**Pb**	**08 42 10.5**	**-0.3**
ELDTW	baz=336			*e*S	**Sb**	**08 42 21.3**	**+0.4**
TWKBT	**Hengchun** baz=219	**0.77**	**223**	P	**Pn**	**08 42 11.3**	**-0.7**
TWKBT	baz=219			S	**Sb**	**08 42 21.8**	**+0.7**
TWK1	**Hengchun** baz=219	**0.77**	**224**	*i* P	**Pn**	**08 42 11.4**	**-0.6**
TWK1	baz=219			S	**Sn**	**08 42 22.8**	**-0.4**
HEN	**Hengchun** baz=226	**0.78**	**230**	*i* P	**Pn**	**08 42 12.0**	**-0.1**
HEN	baz=226			S	**Sn**	**08 42 22.9**	**-0.4**
SNW	**Nanwan** baz=224	**0.80**	**227**	*e*P	**Pn**	**08 42 12.0**	**-0.4**
SNW	baz=224			S	**Sn**	**08 42 23.6**	**-0.2**
SLGT	**Liugui** baz=306	**0.84**	**306**	*i* P	**Pb**	**08 42 11.6**	**-0.4**
SLGT	baz=306			*e*S	**Sb**	**08 42 24.3**	**+1.3**
TSPT	**Pingtung City** baz=281	**0.84**	**282**	*e*P	**Pn**	**08 42 12.7**	**-0.3**
TSPT	baz=281			*e*S	**Sb**	**08 42 24.5**	**+1.5**
EYUL	**Yuli** baz=358	**0.84**	**356**	*i* P	**Pn**	**08 42 12.9**	**-0.1**
TWF1	**Yuli** baz=357	**0.85**	**355**	*i* P	**Pg**	**08 42 11.4**	**-1.2**
TWF1	baz=357			S	**Sb**	**08 42 24.6**	**+1.3**
SGLT	**Jiouru** baz=284	**0.85**	**285**	*e*P	**Pn**	**08 42 12.8**	**-0.4**
STYH	**Taoyuan** baz=321	**0.87**	**320**	*i* P	**Pg**	**08 42 12.0**	**-1.1**
YULB	**Yu-li** baz=357	**0.89**	**355**	P	**Pg**	**08 42 12.2**	**-1.2**
SCST	**Cishan** baz=294	**0.91**	**295**	*i* P	**Pn**	**08 42 13.5**	**-0.4**
SCST	baz=294			*e*S	**Sn**	**08 42 26.6**	**+0.1**
SGST	**Jiashian** baz=308	**0.94**	**308**	*i* P	**Pg**	**08 42 13.0**	**-1.4**
SGST	baz=308			*e*S	**Sb**	**08 42 26.6**	**+0.7**
WLCH	**Liuqiu** baz=258	**0.94**	**261**	*e*P	**Pn**	**08 42 17.0**	**+2.7**
WLCH	baz=258			*e*S	**Sb**	**08 42 27.0**	**+1.0**
TWM1	**Shoushan** baz=289	**0.94**	**290**	*i* P	**Pn**	**08 42 14.5**	**+0.1**
TWM1	baz=289			*e*S	**Sb**	**08 42 27.4**	**+1.3**
HGSD	**Ruisui** baz=4.0	**0.98**	**2**	P	**Pn**	**08 42 14.8**	**-0.1**
HGSD	baz=4.0			*e*S	**Sb**	**08 42 28.3**	**+1.1**
KAU	**Kaohsiung** baz=272	**1.00**	**274**	*e*S	**Sb**	**08 42 28.1**	**+0.6**
EHY	**Hungye** baz=359	**1.00**	**357**	*i* P	**Pg**	**08 42 13.8**	**-1.7**
SNJT	**Kaohsiung City** baz=283	**1.00**	**285**	P	**Pn**	**08 42 15.8**	**+0.6**
SNJT	baz=283			*e*S	**Sn**	**08 42 29.3**	**+0.5**
WTP	**Ta-pu** baz=317	**1.02**	**316**	*i* P	**Pb**	**08 42 15.1**	**-0.2**
WTP	baz=317			*e*S	**Sn**	**08 42 30.0**	**+0.5**
CHN1	**Nanshi** baz=311	**1.04**	**311**	*i* P	**Pn**	**08 42 15.7**	**0.0**
CHN1	baz=311			*e*S	**Sb**	**08 42 29.9**	**+1.0**
TPUB	**Ta-pu** baz=319	**1.05**	**319**	P	**Pb**	**08 42 15.7**	**-0.1**
TPUB	baz=319			*e*S	**Sb**	**08 42 30.5**	**+1.2**
SNST	**Tainan City** baz=311	**1.08**	**311**	*i* P	**Pn**	**08 42 16.7**	**+0.3**
SNST	baz=311			*e*S	**Sb**	**08 42 31.0**	**+0.9**
CHN3	**Shinhua** baz=301	**1.10**	**301**	*i* P	**Pn**	**08 42 18.5**	**+2.0**
CHN3	baz=301			S	**Sb**	**08 42 31.4**	**+0.9**
TWK	**Hsinying** baz=313	**1.12**	**313**	*i* P	**Pn**	**08 42 17.1**	**+0.2**
TWK	baz=313			*e*S	**Sn**	**08 42 33.0**	**+1.1**
ALS	**Alishan** baz=333	**1.14**	**332**	*i* P	**Pg**	**08 42 16.6**	**-1.5**
ALS	baz=333			*e*S	**Sb**	**08 42 32.7**	**+0.8**
EGFH	**Guangfu** baz=4.0	**1.16**	**2**	*i* P	**Pn**	**08 42 18.6**	**+1.3**
EGFH	baz=4.0			*e*S	**Sn**	**08 42 33.8**	**+1.1**
TEGC	**Jichi Village** baz=9.0	**1.21**	**7**	P	**Pg**	**08 42 19.4**	**0.0**
TEGC	baz=9.0			S	**Sg**	**08 42 34.2**	**-1.1**
CHN5	**Tsauling** baz=330	**1.27**	**329**	*i* P	**Pg**	**08 42 19.3**	**-1.3**
CHN5	baz=330			*e*S	**Sn**	**08 42 37.7**	**+2.2**
WHYT	**Xinyi Township** baz=339	**1.28**	**338**	*i* P	**Pg**	**08 42 19.6**	**-1.3**
ESL	**Shilin** baz=4.0	**1.30**	**2**	*i* P	**Pg**	**08 42 19.9**	**-1.4**
ESL	baz=4.0			*e*S	**Sn**	**08 42 37.4**	**+1.1**
CHY	**Chiayi** baz=319	**1.33**	**318**	*i* P	**Pg**	**08 42 20.6**	**-1.1**
CHY	baz=319			S	**Sn**	**08 42 38.0**	**+1.1**
ICHU	**Yijhu** baz=310	**1.33**	**310**	*i* P	**Pb**	**08 42 20.4**	**-0.1**
ICHU	baz=310			*i* S	**Sg**	**08 42 38.2**	**-0.9**
SSLB	**Suanglung** baz=344	**1.34**	**343**	P	**Pn**	**08 42 19.9**	**0.0**
SSLB	baz=344			*e*S	**Sg**	**08 42 38.7**	**-0.7**
CHN8	**Yiju** baz=308	**1.37**	**308**	*i* S	**Sg**	**08 42 40.4**	**0.0**
TEYL	**Yanliau Villag** baz=10.0	**1.37**	**8**	P	**Pg**	**08 42 21.3**	**-1.2**
TEYL	baz=10.0			*e*S	**Sg**	**08 42 40.9**	**+0.4**
WGK	**Gukeng** baz=328	**1.40**	**327**	*i* P	**Pb**	**08 42 21.3**	**-0.3**
WGK	baz=328			*e*S	**Sb**	**08 42 39.9**	**+0.8**
WDLH	**Douliu** baz=327	**1.41**	**327**	*i* P	**Pg**	**08 42 21.9**	**-1.4**
WDLH	baz=327			S	**Sg**	**08 42 40.8**	**-1.0**
SMLT	**Sun Moon Lake** baz=343	**1.44**	**342**	*i* P	**Pg**	**08 42 23.0**	**-0.9**
SMLT	baz=343			*e*S	**Sg**	**08 42 41.8**	**-1.0**
WJS	**Zhushan** baz=336	**1.44**	**335**	*i* P	**Pg**	**08 42 22.6**	**-1.4**
OWD	**Renai** baz=354	**1.46**	**352**	*i* P	**Pb**	**08 42 22.3**	**-0.4**
ETM	**Tongmen** baz=5.0	**1.46**	**4**	P	**Pn**	**08 42 21.1**	**-0.4**
ETM	baz=5.0			S	**Sg**	**08 42 41.8**	**-1.4**
TYC	**Yuchr** baz=342	**1.48**	**341**	*i* P	**Pg**	**08 42 23.1**	**-1.4**
WTK	**Tuku** baz=322	**1.49**	**322**	*i* P	**Pb**	**08 42 22.8**	**-0.4**
WTK	baz=322			*i* S	**Sg**	**08 42 43.1**	**-1.2**
WNT	**Mingjian** baz=336	**1.51**	**335**	*i* P	**Pg**	**08 42 24.2**	**-1.0**
WNT	baz=336			*e*S	**Sb**	**08 42 43.0**	**+0.6**
WNT1	**Nantou City** baz=336	**1.54**	**335**	P	**Pb**	**08 42 23.7**	**-0.4**
WNT1	baz=336			*e*S	**Sb**	**08 42 43.8**	**+0.5**
WSF	**Szhu** baz=317	**1.56**	**317**	*i* S	**Sb**	**08 42 44.3**	**+0.7**
CHGB	**Renai** baz=354	**1.56**	**353**	P	**Pb**	**08 42 23.9**	**-0.6**
DPDB	**Guoxing** baz=345	**1.58**	**345**	P	**Pb**	**08 42 24.8**	**+0.1**
TWD	**Chiawan** baz=9.0	**1.58**	**7**	P	**Pb**	**08 42 24.4**	**-0.4**
TWD	baz=9.0			S	**Sg**	**08 42 45.7**	**-1.4**
WCS	**Beigang Elemen** baz=345	**1.61**	**344**	*i* P	**Pb**	**08 42 24.9**	**-0.3**
WYL	**Yuanlin Townsh** baz=333	**1.63**	**333**	*e*S	**Sb**	**08 42 46.5**	**+0.8**
WHF	**Hehuan Shan** baz=357	**1.64**	**356**	*i* P	**Pn**	**08 42 24.4**	**+0.1**
WWF	**Wufeng** baz=338	**1.66**	**338**	P	**Pg**	**08 42 26.7**	**-1.3**
WWF	baz=338			*e*S	**Sb**	**08 42 47.3**	**+0.7**
ETL	**Fush Village** baz=9.0	**1.66**	**8**	*e*S	**Sb**	**08 42 47.3**	**+0.5**
WRL	**Guolierlin Hig** baz=327	**1.67**	**327**	P	**Pn**	**08 42 25.0**	**+0.6**
WRL	baz=327			S	**Sb**	**08 42 47.2**	**+0.2**
NACB	**Ninganchiao** baz=8.0	**1.67**	**7**	P	**Pn**	**08 42 24.4**	**0.0**
NACB	baz=8.0			*e*S	**Sb**	**08 42 47.4**	**+0.3**
ETLH	**Xiulin Townshi** baz=4.0	**1.70**	**3**	P	**Pn**	**08 42 25.1**	**+0.2**
FUSS	**Fushou** baz=357	**1.74**	**356**	*i* P	**Pn**	**08 42 26.2**	**+0.6**
WCHH	**Zhanghua** baz=335	**1.74**	**334**	P	**Pn**	**08 42 26.3**	**+0.9**
WCHH	baz=335			*e*S	**Sn**	**08 42 48.4**	**+1.2**
TDCB	**Techi** baz=354	**1.75**	**353**	P	**Pb**	**08 42 27.2**	**-0.6**
WDGT	**Dungji** baz=295	**1.76**	**296**	*i* P	**Pn**	**08 42 25.7**	**+0.1**
WDGT	baz=295			*i* S	**Sn**	**08 42 47.0**	**-0.5**
TCU	**Taichung** baz=339	**1.76**	**338**	*i* P	**Pb**	**08 42 27.2**	**-0.6**
WHP	**Taichung City** baz=348	**1.81**	**347**	*i* P	**Pb**	**08 42 28.4**	**-0.3**
WHP	baz=348			*e*S	**Sn**	**08 42 50.4**	**+1.4**
NNSB	**Datong** baz=1.0	**1.92**	**360**	P	**Pn**	**08 42 28.6**	**+0.7**
NNSH	**Datong** baz=1.0	**1.92**	**360**	*i* P	**Pb**	**08 42 29.8**	**-0.8**

NNS Nan Shan 1.93 360 P Pb 08 42 29.8 -1.0
baz=1.0
NNS S Sn 08 42 53.8 +1.9
baz=1.0
VCHM Qimei 1.94 292 P Pn 08 42 28.1 +0.1
baz=291
VCHM S Sn 08 42 51.3 -0.6
baz=291
PHUB P'eng-hu 1.95 301 P Pn 08 42 28.2 0.0
baz=301
PHUB S Sn 08 42 51.8 -0.4
baz=301
WDJ Dajia District 1.96 340 *i* P **Pb 08 42 30.1 -1.0**
baz=340
EWUT Wuta 1.97 11 *e*P **Pb 08 42 30.2 -1.1**
baz=11
PNG Penghu 1.99 302 *i* P **Pn 08 42 28.9 +0.1**
baz=302
PNG *i* S **Sn 08 42 54.1 +0.9**
baz=302
NDT Datong Townshi 2.09 3 *i* P **Pb 08 42 32.7 -0.8**
baz=4.0
NMLH Miaoli 2.10 345 P Pb 08 42 32.3 -1.2
baz=345
NMLH S **Sb 08 42 58.4 -0.9**
baz=345
ENTT Nioudou 2.13 4 *e*P **Pb 08 42 32.8 -1.4**
baz=5.0
TWC Suao 2.14 11 P Pb 08 42 32.5 -1.8
baz=13
TWC S **Sn 08 42 58.9 +2.0**
baz=13
NDS Dongshan 2.14 8 P Pb 08 42 33.0 -1.3
baz=9.0
JYNG Yonagunijimaku 2.41 36 *e*S **Sn 08 43 03.8 +0.2**
YOJ Yonaguni jima 2.46 37 P Pn 08 42 35.6 +0.4
YOJ *e*S **Sn 08 43 05.2 +0.5**
HATJ Hateruma jima 2.71 55 *e*S **Sn 08 43 09.5 -1.5**
IRIF Iriomote-Funau 2.82 49 P Pn 08 42 40.7 +0.5
IRIF *e*S **Sn 08 43 13.6 -0.2**
JKRS Kuro-shima 2.96 54 P Pn 08 42 42.8 +0.6
JKRS *e*S **Sn 08 43 17.2 -0.1**
JIJ Ishigaki jima 3.14 53 P Pn 08 42 44.9 +0.3
JIJ *e*S **Sn 08 43 19.2 -2.4**
JISG Ishigakijimahi 3.39 52 P Pn 08 42 48.5 +0.4
JISG S **Sn 08 43 25.8 -2.0**
JTJ Tarama 3.71 54 P Pn 08 42 53.0 +0.5
JTJ *e*S **Sn 08 43 34.7 -1.1**
JIRB Irabujima 4.17 56 P Pn 08 42 59.8 +1.0
JMJ2 Miyako jima3 4.25 58 P Pn 08 43 00.5 +0.7
JMJ2 S **Sn 08 43 49.4 +0.5**
JIKM Ikemajima 4.28 55 P Pn 08 43 01.2 +0.9
JIKM S **Sn 08 43 49.9 +0.1**
TLY Talaya 32.20 339 LR LR 09 03 14.6
comp=Z,49nm,20.7s,baz=145,slow=40
MKAR Makanchi Array 39.68 317 P P 08 49 29.5 +2.4
0.8nm,0.7s,baz=109,slow=11,SNR=3.9
ZALV Zalesovo Beam 41.76 328 P P 08 49 44.6 +0.6
1.9nm,0.7s,baz=101,slow=7.6,SNR=2.7
H11N1 WAKE ISLAND Hy 42.42 85 T T 09 35 03.4
baz=282,slow=75,SNR=20
H11N2 WAKE ISLAND Hy 42.42 85 T T 09 35 06.4
baz=282,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 42.44 85 T T 09 35 05.3
baz=282,slow=75,SNR=19
H11S3 WAKE ISLAND Hy 42.50 87 T T 09 35 08.6
baz=284,slow=74,SNR=59
H11S1 WAKE ISLAND Hy 42.51 87 T T 09 35 09.7
baz=284,slow=74,SNR=55
H11S2 WAKE ISLAND Hy 42.52 87 T T 09 35 11.2
baz=284,slow=74,SNR=51
WRA Warramunga Arr 44.04 162 P P 08 50 02.1 -0.8
0.3nm,0.4s,baz=344,slow=8.8,SNR=8.4
ASAR Alice Springs 47.48 164 P P 08 50 30.1 0.0
0.2nm,0.3s,baz=340,slow=6.7,SNR=6.3

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*IDC **15** 08:44:27.1±0.8, 33°.13N×139°.72E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.7/60, mbtmp3.7/10, ML3.5/2, MS3.1/3, Ms1 3.2/3, ms1mx2.7/45, Error ellipse: s-maj=25.8km s-min=6.3km az=20.0*
*JMA **15** 08:44:28.5±0.1, 33°.24N×139°.56E, h33km±3km, M3.3*
*NEIC **15** 08:44:29.9±2.1, 33°.16N±0°.08×139°.46E±0°.05, h16km±8km, mb4.5/8, Error ellipse: s-maj=13.1km s-min=2.9km az=155.0*
ISC 15 08:44:29.2±1.2, 33°.26N±0°.05×139°.48E±0°.05, h13km±8km, n48, σ1°40/45, mb3.9/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.29**	**118**	Pn	**Pg**	**08 44 35.8**	**+0.5**
	703nm,0.3s,baz=337,slow=23,SNR=42						
JHJ				Sn	**Sg**	**08 44 40.9**	**+1.6**
	862nm,0.3s,baz=292,slow=13,SNR=15						
JHJ2	**Mitsune**	**0.32**	**117**	P	**Pb**	**08 44 35.5**	**-1.3**
JHJ2	**Mitsune**	**0.32**	**117**		**Pb**	**08 44 35.7**	**-1.1**
JHCJ	**Hachijojimakas**	**0.33**	**125**	P	**Pb**	**08 44 35.5**	**-1.4**
JHCJ				S	**Sb**	**08 44 40.4**	**-1.6**
JMKN	**Mikurajimanish**	**0.64**	**8**	P	**Pg**	**08 44 41.0**	**-0.7**
JMKN				S	**Sg**	**08 44 49.4**	**-0.8**
JIM2	**Oshima 3**	**1.46**	**358**	P	**Pn**	**08 44 52.9**	**-2.4**
JIZS	**Izushimoda**	**1.54**	**341**	P	**Pn**	**08 44 55.1**	**-1.3**
JIZS				S	**Sn**	**08 45 15.3**	**-0.9**
TK03	**Tokai 3**	**1.55**	**306**	P	**Pn**	**08 44 55.3**	**-1.1**
TK03				*e*S	**Sn**	**08 45 15.3**	**-1.1**
TK02	**Tokai 2**	**1.59**	**296**	P	**Pn**	**08 44 55.8**	**-1.1**
BSO3	**Boso 3**	**1.76**	**29**	P	**Pn**	**08 44 58.0**	**-1.2**
JSG	**Sagara**	**1.77**	**323**	Pn	**Pn**	**08 45 01.2**	**+1.6**
INU	**Inuyama**	**2.92**	**316**		**Pn**	**08 45 14.5**	**-0.8**
JGF	**Kuroka**	**2.92**	**324**		**Pn**	**08 45 15.4**	**0.0**
JYT	**Yasato**	**3.02**	**11**	Pn	**Pn**	**08 45 16.7**	**0.0**
MJAR	**Matsushiro Arr**	**3.44**	**343**	Pn	**Pn**	**08 45 25.3**	**+2.8**
	0.5nm,0.3s,baz=152,slow=12,SNR=11						
MJAR				LR	LR	08 47 02.2	
	comp=Z,230nm,18.7s,baz=130,slow=43						
MJAR	**Matsushiro Arr**	**3.44**	**343**		**Pn**	**08 45 24.5**	**+2.0**
MAJO	**Matsushiro**	**3.44**	**343**		**Pn**	**08 45 24.6**	**+2.0**
MAT	**Matsushiro**	**3.44**	**343**	P	**Pn**	**08 45 25.4**	**+2.9**
MAT				*e*S	**Sn**	**08 46 04.6**	**+1.4**
MJB9	**Matsu-Tunnel**	**3.44**	**343**		**Pn**	**08 45 25.1**	**+2.5**
JWT	**Wachi**	**3.93**	**302**		**Pn**	**08 45 27.4**	**-1.9**
JMM	**Marumori**	**4.72**	**13**		**Pn**	**08 45 40.8**	**+0.7**
JHS	**Saijyo**	**5.55**	**290**		**Pn**	**08 45 52.0**	**+0.4**
JNU	**Nakatsue**	**7.21**	**271**	Pn	**Pn**	**08 46 15.7**	**+1.3**
	1.6nm,0.3s,baz=317,slow=1.5,SNR=6.9						
KSRS	**Korea Array**	**10.32**	**297**	LR	LR	08 50 42.6	
	comp=Z,150nm,19.9s,baz=129,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.89**	**112**	T	T	09 19 32.3	
	baz=305,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**27.90**	**112**	T	T	09 19 26.1	
	baz=305,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**27.91**	**112**	T	T	09 19 27.7	
	baz=305,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**28.45**	**114**	T	T	09 20 07.5	
	baz=307,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy**	**28.45**	**114**	T	T	09 20 07.6	
	baz=307,slow=75,SNR=55						
H11S2	**WAKE ISLAND Hy**	**28.46**	**114**	T	T	09 20 08.7	
	baz=307,slow=75,SNR=50						
SONM	**Songino Array**	**28.79**	**310**	P	**P**	**08 50 28.5**	**+1.6**
	0.6nm,0.8s,baz=101,slow=15,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.09**	**258**	LR	LR	09 07 50.8	
	comp=Z,21nm,18.2s,baz=190,slow=36						
MKAR	**Makanchi Array**	**44.88**	**305**	P	**P**	**08 52 43.4**	**+0.1**
	0.5nm,0.6s,baz=90,slow=10,SNR=5.8						
NEA2	**Nenana**	**52.60**	**31**	P	**P**	**08 53 43.8**	**+1.4**
MDM	**Murphy Dome**	**52.96**	**31**	P	**P**	**08 53 46.4**	**+1.4**
MDM				IAmb	IAmb	08 53 46.8	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**53.13**	**186**	P	**P**	**08 53 46.2**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=1.6,slow=7.8,SNR=1.5						
IL31		**53.53**	**31**	P	**P**	**08 53 49.7**	**+0.5**
ILAR	**Eielson Array**	**53.53**	**31**	P	**P**	**08 53 48.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=270,slow=6.0,SNR=16						
M24K	**Tolsona, Glenn**	**53.98**	**34**	P	**P**	**08 53 53.1**	**+0.5**
EPYK	**Eagle Plains**	**57.59**	**28**	P	**P**	**08 54 19.8**	**+1.4**
EPYK				IAmb	IAmb	08 54 20.7	
	comp=Z,4.1nm,0.7s						
INK	**Inuvik**	**58.46**	**26**	P	**P**	**08 54 25.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=266,slow=5.4,SNR=4.2						
INK	**Inuvik**	**58.46**	**26**	IAmb	IAmb	08 54 37.2	
	comp=Z,5.8nm,1.4s						
AKASG	**Malin Array Be**	**76.30**	**322**		**P**	**08 56 15.7**	**-1.9**
AKASG				IAmb	IAmb	08 56 23.1	
	comp=Z,4.2nm,0.8s						
AKBB	**Malin Array Si**	**76.30**	**322**		**P**	**08 56 17.5**	**-0.1**
NB2	**NORSAR Subarra**	**77.04**	**337**	P	**P**	**08 56 21.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=43,slow=5.6						
NOA	**NORSAR Array B**	**77.04**	**337**	P	**P**	**08 56 22.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=43,slow=5.6,SNR=7.1						
NVAR	**Mina Array Bea**	**78.55**	**52**	P	**P**	**08 56 31.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=315,slow=4.3,SNR=4.2						
TXAR	**Lajitas Array**	**93.69**	**51**	P	**P**	**08 57 46.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=302,slow=3.0,SNR=6.1						

IDC 15 08:50:12.9±27.0, 9°.68S×111°.46E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/52, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/34, Error ellipse: s-maj=460.3km s-min=193.1km az=138.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.33**	**117**	P	P	08 55 33.3	+0.7
	0.2nm,0.4s,baz=290,slow=9.7,SNR=4.7						
ASAR	**Alice Springs**	**25.55**	**126**	P	P	08 55 43.7	0.0
	0.4nm,0.5s,baz=306,slow=9.4,SNR=7.0						
STKA	**Stephens Creek**	**35.59**	**133**	P	P	08 57 11.8	-0.6
	3.1nm,1.0s,baz=311,slow=8.4,SNR=5.4						
HNR	**Honiara**	**47.78**	**94**	LR	LR	09 20 07.1	
	comp=Z,56nm,18.7s,baz=300,slow=38						

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*IDC **15** 08:55:34.3±3.2, 37°.35N×72°.29E, h153km±28km, mb3.5/7, mb1 3.6/10, mb1mx3.3/66, mbtmp4.1/10, Error ellipse: s-maj=24.9km s-min=20.8km az=17.0*
*NNC **15** 08:55:39.2±2.7, 37°.83N×71°.93E, h155km±46km, mb3.5, mpv4.0, Error ellipse: s-maj=25.0km s-min=17.6km az=154.0*
*SOME **15** 08:55:44.6, 39°.17N×71°.70E, h0km*
ISC 15 08:55:37.4±0.6, 37°.57N±0°.05×72°.13E±0°.06, h200km, n39, σ3°.14/44, mb3.6/6, 3C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.74**	**183**	P	**Pn**	**08 56 35.7**	**-0.5**
CHCP	**Chirah Chowk**	**4.01**	**166**	P	**Pn**	**08 56 39.1**	**-0.3**
THW	**Thamme Wali**	**4.77**	**184**	P	**Pn**	**08 56 48.6**	**-0.4**
MRKS	**Merke**	**5.24**	**9**	*e*P	**Pn**	**08 56 56.6**	**+1.7**
	12nm,0.3s						
MRKS				*e*S	**Sn**	**08 57 48.9**	**-7.2**
	60nm,0.3s						
AAK	**Ala-Archa**	**5.38**	**19**	P	**Pn**	**08 56 55.7**	**-1.0**
	3.2nm,0.3s,baz=196,slow=7.8,SNR=14						
AAK				S	**Sn**	**08 57 54.8**	**-4.7**
	4.2nm,0.3s,baz=15,slow=20,SNR=13						
AAK	**Ala-Archa**	**5.38**	**19**	⇑P	**Pn**	**08 56 55.4**	**-1.4**
	15nm,0.7s						
AAK				⇑S	**Sn**	**08 57 53.9**	**-5.6**
	39nm,0.8s						
KK31	**Karatay Array**	**5.66**	**348**	⇓P	**Pn**	**08 56 59.5**	**-0.8**
	5.8nm,0.3s,baz=172,slow=13,SNR=108						
KK31				⇓S	**Sn**	**08 57 60.0**	**-5.9**
	237nm,0.7s,baz=160,slow=23,SNR=38						
KST	**Kastek**	**6.20**	**27**	*e*P	Pn	08 57 18.7	+11
	4.9nm,0.4s						
KST				*e*S	Sn	08 58 26.7	+8.1
	18nm,1.5s						
DGS	**Degeres**	**6.31**	**25**	*e*P	Pn	08 57 19.3	+11
	8.4nm,0.7s						
DGS				*e*S	**Sn**	**08 58 27.5**	**+6.4**
	7.2nm,0.8s						
KRBS	**Karabastau**	**6.69**	**23**	*e*P	Pn	08 57 25.8	+12
	4.3nm,0.9s						
KRBS				*e*S	Sn	08 58 38.4	+8.5
	6.7nm,1.0s						
BTLS	**Baital**	**7.60**	**10**	*e*P	Pn	08 57 37.4	+12
	1.2nm,0.5s						
BTLS				*e*S	**Sn**	**08 58 58.1**	**+6.8**
	4.1nm,0.9s						
GEYT	**Alibeck**	**11.10**	**276**	P	**Pn**	**08 58 10.4**	**-0.4**
	1.7nm,0.3s,baz=129,slow=10,SNR=7.4						
GYA0B	**ALIBECK ARRAY**	**11.10**	**276**	⇓P	**Pn**	**08 58 09.3**	**-1.5**
GYA0B				⇓S	**Sn**	**09 00 11.9**	**-2.7**
MKAR	**Makanchi Array**	**11.90**	**36**	P	**Pn**	**08 58 17.6**	**-3.3**
	0.1nm,0.3s,baz=201,slow=7.7,SNR=2.4						
PYUN	**Piuthan**	**13.13**	**133**	*e*P	**Pn**	**08 58 34.2**	**-2.5**
	69nm,0.3s						
DANN	**Dangsing**	**13.40**	**130**	*e*P	**Pn**	**08 58 38.0**	**-2.3**
	60nm,0.2s						
KOLN	**Koldanda**	**13.73**	**132**	*e*P	**Pn**	**08 58 42.1**	**-2.2**
	18nm,0.2s						
KURBB	**Kurchatov Arra**	**13.83**	**17**	P	**Pn**	**08 58 42.5**	**-2.6**
	0.0nm,0.3s,baz=208,slow=11,SNR=3.2						
GKN	**Gorkha**	**14.19**	**129**	*e*P	**Pn**	**08 58 48.1**	**-1.8**
	44nm,0.5s						
AB31	**Akbulak array**	**14.63**	**327**	⇓P	**Pn**	**08 58 55.6**	**+0.6**
	7.3nm,0.6s,baz=140,slow=11,SNR=64						
AB31				⇑S	**S**	**09 01 31.1**	**-6.3**
	6.8nm,0.6s,baz=138,slow=25,SNR=17						
KKN	**Kakani**	**14.74**	**128**	*e*P	**Pn**	**08 58 55.4**	**-1.3**
DMN	**Daman**	**14.76**	**129**	*e*P	**P**	**08 58 55.9**	**-2.1**
	14nm,0.3s						
PKIN	**Phulchoki**	**14.96**	**128**	*e*P	**P**	**08 58 59.0**	**-1.2**
	49nm,0.5s						
PKI	**Pulchoki**	**14.98**	**128**	*e*P	**Pn**	**08 58 58.1**	**-1.6**
	53nm,0.7s						
GUN	**Gumba**	**15.04**	**126**	*e*P	**Pn**	**08 58 58.9**	**-1.6**
JIRN	**Jiri**	**15.41**	**126**	*e*P	**P**	**08 59 03.7**	**-1.6**
	58nm,0.5s						
RAMN	**Ramite**	**16.16**	**127**	*e*P	**Pn**	**08 59 13.0**	**-1.0**
	19nm,0.3s						
AKTO	**Aktyubinsk**	**16.35**	**326**	P	**Pn**	**08 59 17.4**	**+1.7**
	0.9nm,0.3s,baz=131,slow=9.7,SNR=48						
AKTO	**Aktyubinsk**	**16.35**	**326**	⇓P	**Pn**	**08 59 17.2**	**+1.5**
	19nm,0.8s						
AKTO				⇓S	**S**	**09 02 15.3**	**-0.5**
	12nm,0.8s						
TAPN	**Taplejung**	**16.61**	**123**	*e*P	**Pn**	**08 59 19.0**	**-0.5**
	20nm,0.4s						
ODAN	**Odare**	**16.73**	**125**	*e*P	**Pn**	**08 59 20.7**	**-0.1**
	20nm,0.5s						
ZALV	**Zalesovo Beam**	**18.57**	**24**	P	**Pn**	**08 59 40.5**	**-1.4**
	0.4nm,0.3s,baz=222,slow=11,SNR=5.7						
ARU	**Arti**	**20.94**	**339**	P	**P**	**09 00 07.0**	**+2.5**
	2.5nm,0.2s,baz=151,slow=9.9,SNR=12						
FINES	**FINESS Array B**	**37.11**	**325**	P	**P**	**09 02 31.7**	**+3.4**
	1.2nm,0.7s,baz=116,slow=8.7,SNR=4.1						
ARCES	**ARCESS Array B**	**40.51**	**337**	P	**P**	**09 02 60.0**	**+3.5**
	2.6nm,0.7s,baz=114,slow=7.9,SNR=11						
HFS	**Hagfors**	**42.79**	**321**	P	**P**	**09 03 18.2**	**+3.1**
	0.9nm,0.4s,baz=109,slow=8.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.64**	**269**	P	**P**	**09 06 09.6**	**+2.8**
	1.8nm,0.7s,baz=47,slow=5.5,SNR=9.4						
YKA	**Yellowknife Ar**	**80.13**	**3**	P	**P**	**09 07 28.1**	**+3.4**
	0.4nm,0.6s,baz=354,slow=5.2,SNR=2.6						
WRA	**Warramunga Arr**	**81.80**	**123**	P	**P**	**09 07 35.0**	**+0.8**
	0.4nm,0.4s,baz=324,slow=4.6,SNR=12						

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*IDC **15** 08:57:15.2±1.2, 36°.03N×97°.62W, h0km, mb1 3.6/4, mb1mx3.4/70, mbtmp3.3/4, ML3.7/3, Error ellipse: s-maj=18.1km s-min=13.3km az=159.0*
*TUL **15** 08:57:15.9±1.2, 35°.99N±0°.02×97°.57W±0°.05, h4km±7km, ML3.7, mb_Lg3.7/153(NEIC), Mwr3.4/22(SLM), Error ellipse: s-maj=6.0km s-min=2.2km az=70.0*
*NEIC **15** 08:57:15.9, 36°.00N×97°.57W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.10; $M_{\theta\theta}$=1.50; $M_{\phi\phi}$=-1.40; $M_{r\theta}$=-0.10; $M_{\theta\phi}$=0.78; $M_{r\phi}$=0.39; Fault plane solution: M_0=1.70000×10^{14} NP1:ϕ_s=120.00000°, δ=80.00000°, λ=-10.00000°. NP2:ϕ_s=212.00000°, δ=80.00000°, λ=-170.00000°. Principal axes: T 1.6968, Plg=0.0000°, Azm=346.0000°; N 0.0003, Plg=76.0000°, Azm=255.0000°; P -1.6971, Plg=14.0000°, Azm=76.0000°;*
*NEIC **15** 08:57:16.1±0.8, 36°.01N±0°.02×97°.56W±0°.06, h5km±2km Error ellipse: s-maj=8.9km s-min=3.0km az=251.0*
*ANF **15** 08:57:18.0±0.7, 36°.02N×97°.56W, h23km±7km, ML4.6/17, Error ellipse: s-maj=2.5km s-min=2.1km az=130.0*
ISC 15 08:57:16.2±1.0, 36°.02N±0°.02×97°.55W±0°.02, h9km±8km, n149, σ0°.95/122, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**161**		**Pg**	**08 57 20.4**	**-0.5**
OK029				Sg	**Sg**	**08 57 23.8**	**-0.3**
BCOK	**Bluff Creek, N**	**0.36**	**188**		**Pg**	**08 57 22.7**	**-0.6**
BCOK				Sg	**Sg**	**08 57 27.7**	**-0.5**
OK009	**Oakdale Elemen**	**0.45**	**167**		**Pg**	**08 57 24.4**	**-0.5**
OK005	**Luther M Schoo**	**0.46**	**141**		**Pg**	**08 57 25.0**	**-0.2**
OK025	**Westminster Rd**	**0.47**	**159**		**Pg**	**08 57 24.9**	**-0.3**
OK025				Sg	**Sg**	**08 57 31.4**	**0.0**
OK001	**Jones High Sch**	**0.50**	**155**	Pg	**Pg**	**08 57 25.6**	**-0.3**
OK031	**S. Brethren Rd**	**0.58**	**96**		**Pg**	**08 57 27.5**	**+0.1**
OK031				Sg	**Sg**	**08 57 35.6**	**+0.7**
CROK	**Carrier**	**0.60**	**324**		**Pg**	**08 57 27.9**	**0.0**
CROK				IAmb_Lg		08 57 35.2	
	comp=Z,940nm,0.8s						
OKCFA	**Oklahoma City**	**0.60**	**173**		**Pg**	**08 57 27.3**	**-0.6**
OKCFA				IAmb_Lg		08 57 34.1	
	comp=Z,2μm,1.1s						
OKCFA	**Oklahoma City**	**0.60**	**173**	P		08 57 27.3	
	baz=351						
OKCFA				S		08 57 35.5	
	baz=351						
OKCSW	**OKLAHOMA CITY**	**0.62**	**172**		**Pg**	**08 57 27.5**	**-0.6**
OKCSW				Sg	**Sg**	**08 57 35.9**	**-0.3**
QUOK	**Quay**	**0.70**	**77**		**Pg**	**08 57 29.8**	**+0.1**
FNO	**Franklin**	**0.77**	**171**		**Pg**	**08 57 30.1**	**-0.8**
BLOK	**Blackwell**	**0.79**	**20**		**Pg**	**08 57 31.7**	**+0.3**
GC02	**Grant County #**	**0.87**	**343**		**Pg**	**08 57 32.9**	**0.0**
OK032	**Salt Plains WL**	**0.95**	**326**		**Pg**	**08 57 34.2**	**-0.3**
KAN13	**South Haven SW**	**1.00**	**3**		**Pg**	**08 57 35.3**	**0.0**
KAN09	**Caldwell North**	**1.12**	**357**		**Pg**	**08 57 37.5**	**-0.2**
KAN05	**Bluff City Nor**	**1.12**	**347**		**Pg**	**08 57 37.5**	**-0.2**
KAN10	**Anthony SW Sta**	**1.19**	**338**		**Pg**	**08 57 38.3**	**-0.7**
KS20	**Mayfield South**	**1.21**	**360**		**Pg**	**08 57 39.2**	**-0.3**
T35A	**Sooner Cattle**	**1.23**	**43**		**Pg**	**08 57 39.5**	**-0.3**
T35B	**Sooner Cattle**	**1.23**	**43**	P		08 57 39.5	
	baz=223,SNR=328						
T35B				S		08 57 55.9	
	baz=223						
U32A	**Winter Ranch,**	**1.23**	**288**		**Pg**	**08 57 38.9**	**-1.0**
U32A	**Winter Ranch,**	**1.23**	**288**	P		08 57 38.9	
	baz=108						
U32A				S		08 57 55.7	
	baz=108						
KAN08	**Anthony NE Sta**	**1.26**	**344**		**Pg**	**08 57 39.9**	**-0.5**
KS21	**Milan North St**	**1.27**	**356**	IAmb_Lg		08 57 58.1	
	comp=Z,340nm,0.8s						
KAN12	**Harper NE Stat**	**1.33**	**344**	Pn	**Pn**	**08 57 41.3**	**+0.4**
TUL1	**Leonard**	**1.43**	**94**	P	**Pn**	**08 57 42.0**	**-0.2**
	baz=274,SNR=296						
TUL1				S	**Sb**	**08 58 01.6**	**+0.5**
	baz=274						
TUL1	**Leonard**	**1.43**	**94**	P		08 57 41.9	
	baz=274,SNR=502						
TUL1				S		08 58 01.7	
	baz=274						
X34A	**Smith Ranch, M**	**1.43**	**190**		**Pn**	**08 57 42.5**	**+0.2**
WMOK	**Wichita Mounta**	**1.63**	**219**	P	**Pn**	**08 57 44.8**	**-0.1**
	baz=38,SNR=188						
WMOK				S	**Sn**	**08 58 06.5**	**+0.4**
	baz=38						
WMOK	**Wichita Mounta**	**1.63**	**219**		**Pn**	**08 57 44.9**	**-0.1**
WMOK	**Wichita Mounta**	**1.63**	**219**	P		08 57 44.9	
	baz=38						
WMOK				S		08 58 06.1	
	baz=38						
LOOK	**Love County**	**2.04**	**171**		**Pn**	**08 57 51.2**	**+0.5**
LOOK				IAmb_Lg		08 58 22.7	
	comp=Z,250nm,0.8s						
X37A	**Clayton**	**2.28**	**128**	Pn	**Pn**	**08 57 54.9**	**+1.0**
X37A	**Clayton**	**2.28**	**128**	P		08 57 54.7	
	baz=309,SNR=114						
X37A				S		08 58 24.7	
	baz=309						
R32A	**Long Quarter,**	**2.58**	**339**		**Pn**	**08 58 00.1**	**+2.1**
R32A	**Long Quarter,**	**2.58**	**339**	P		08 57 59.0	
	baz=159						
U38A	**Gravette**	**2.59**	**80**		**Pn**	**08 57 59.4**	**+1.2**
U38A	**Gravette**	**2.59**	**80**	P		08 57 59.1	
	baz=261,SNR=379						
Z35A	**Perchaven, San**	**2.69**	**175**		**Pn**	**08 58 00.3**	**+0.7**
Z35A	**Perchaven, San**	**2.69**	**175**	P		08 58 00.1	
	baz=354,SNR=54						
HHAR	**Hobbs**	**2.93**	**84**		**Pn**	**08 58 03.3**	**+0.4**
HHAR				IAmb_Lg		08 58 47.3	
	comp=Z,224nm,0.7s						
HHAR	**Hobbs**	**2.93**	**84**	P		08 58 03.6	
	baz=266						
KSU1	**Kansas State U**	**3.17**	**13**	S	**Sn**	**08 58 44.8**	**+0.8**
	baz=194						
KSU1	**Kansas State U**	**3.17**	**13**	Pn	**Pn**	**08 58 07.2**	**+1.1**
KSU1				IAmb_Lg		08 59 05.1	
	comp=Z,160nm,0.8s						
W39A	**Magazine**	**3.17**	**104**	P	**Pn**	**08 58 07.0**	**+0.8**
	baz=286,SNR=20						
W39A				S	**Sn**	**08 58 44.7**	**+0.6**
	baz=286						
W39A	**Magazine**	**3.17**	**104**		**Pn**	**08 58 06.7**	**+0.5**
W39A				IAmb_Lg		08 59 04.7	
	comp=Z,247nm,0.8s						
W39A	**Magazine**	**3.17**	**104**	P		08 58 07.0	
	baz=286,SNR=24						
CBKS	**Cedar Bluff**	**3.29**	**329**	P	**Pn**	**08 58 08.8**	**+0.9**
	baz=148,SNR=14						
CBKS				Sb	**Sg**	**08 58 58.5**	**-3.5**
	baz=148						
CBKS	**Cedar Bluff**	**3.29**	**329**	Pn	**Pn**	**08 58 08.9**	**+0.9**
CBKS				IAmb_Lg		08 59 09.3	
	comp=Z,234nm,0.8s						
CBKS	**Cedar Bluff**	**3.29**	**329**	P		08 58 09.2	
	baz=148						
CBKS				S		08 58 48.8	
	baz=148						
Z38A	**Mt. Pleasant**	**3.47**	**142**		**Pn**	**08 58 10.9**	**+0.6**
Z38A				IAmb_Lg		08 59 07.5	
	comp=Z,216nm,0.7s						
Z38A	**Mt. Pleasant**	**3.47**	**142**	P		08 58 10.7	
	baz=323,SNR=8.5						
AMTX	**Amarillo**	**3.56**	**253**	P	**Pn**	**08 58 12.3**	**+0.7**
	baz=70						
AMTX				Sb	**Sb**	**08 59 05.4**	**+2.7**
	baz=70						
AMTX	**Amarillo**	**3.56**	**253**	Pn	**Pn**	**08 58 12.7**	**+1.1**
AMTX				IAmb_L

WLAR White Oak Lake 4.32 121 Pn 08 58 22.7 +0.7
WLAR IAmb_Lg 08 59 38.2
comp=Z,209nm,0.7s
WHAR Wooly Hollow 4.34 98 Pn 08 58 22.6 +0.3
WHAR IAmb_Lg 08 59 43.8
comp=Z,233nm,0.9s
MGMO Mountain Grove 4.40 73 IAmb_Lg 08 59 34.1
comp=Z,188nm,0.7s
W41B Gary Mavity, V 4.40 99 P **Pn 08 58 23.4 +0.3**
baz=282,SNR=12
W41B S **Sn 08 59 14.5 +0.1**
baz=282
W41B Gary Mavity, V 4.40 99 P 08 58 23.5
baz=282,SNR=50
FCAR Ozark Folk Cen 4.40 90 Pn 08 58 23.0 -0.1
FCAR IAmb_Lg 08 59 37.9
comp=Z,134nm,0.8s
N33B J Bar K, Exete 4.71 1 P 08 58 28.4
baz=181,SNR=6.3
N33A J Bar K, Exete 4.71 1 Pn **Pn 08 58 27.8 +0.3**
N33A IAmb_Lg 08 59 55.1
comp=Z,135nm,0.8s
MSTX Muleshoe 4.75 246 P **Pn 08 58 28.2 +0.1**
baz=63,SNR=14
MSTX Muleshoe 4.75 246 Pn **Pn 08 58 28.5 +0.4**
MSTX IAmb_Lg 08 59 48.9
comp=Z,108nm,1.0s
Z41A Richland Creek 4.78 124 P **Pn 08 58 28.9 +0.6**
baz=306
Z41A S **Sn 08 59 23.0 -0.8**
baz=306
R40A Maddies Statio 4.79 60 Pn 08 58 29.2 +0.8
R40A IAmb_Lg 08 59 55.6
comp=Z,121nm,0.8s
R40A Maddies Statio 4.79 60 P 08 58 29.1
baz=243,SNR=25
P38A Dawn 4.80 40 Pn **Pn 08 58 30.6 +1.9**
P38A IAmb_Lg 09 00 01.5
comp=Z,156nm,0.8s
NATX Nacogdoches 4.88 150 S **Sn 08 59 24.6 -1.5**
baz=331
KSCO Kaye Shedlock' 5.03 308 P **Pn 08 58 33.2 +1.4**
baz=125
KSCO Kaye Shedlock' 5.03 308 Pn **Pn 08 58 34.2 +2.4**
KSCO IAmb_Lg 09 00 01.5
comp=Z,104nm,0.8s
LCAR Lake Charles 5.18 88 Pn 08 58 34.0 +0.2
LCAR IAmb_Lg 09 00 05.7
comp=Z,100nm,0.9s
435B Jarrell 5.22 180 P **Pn 08 58 34.3 -0.1**
baz=0.1
435B Jarrell 5.22 180 Pn **Pn 08 58 34.2 -0.1**
435B IAmb_Lg 09 00 03.3
comp=Z,137nm,0.9s
T42A Van Buren 5.29 77 Pn 08 58 37.0 +1.6
T42A IAmb_Lg 09 00 08.9
comp=Z,151nm,1.1s
BGNE Belgrade 5.41 355 P **Pn 08 58 37.2 +0.3**
baz=175
BGNE S **Sn 08 59 38.1 -1.2**
baz=175
BGNE Belgrade 5.41 355 Pn **Pn 08 58 37.2 +0.3**
BGNE IAmb_Lg 09 00 15.4
comp=Z,132nm,0.7s
BGNE Belgrade 5.41 355 P 08 58 37.1
baz=175,SNR=11
CCM Cathedral Cave 5.44 66 P **Pn 08 58 37.3 0.0**
baz=250
CCM Cathedral Cave 5.44 66 Pn 08 58 37.3 0.0
CCM IAmb_Lg 09 00 16.2
comp=Z,132nm,1.1s
CCM Cathedral Cave 5.44 66 P 08 58 37.8
baz=250,SNR=9.7
P40A Paris 5.59 50 Pn **Pn 08 58 40.7 +1.2**
T25A Trinidad 5.64 283 IAmb_Lg 09 00 20.6
comp=Z,84nm,0.8s
JCT Junction City 5.84 200 P **Pn 08 58 42.2 -0.7**
baz=18
JCT Junction City 5.84 200 Pn **Pn 08 58 42.6 -0.2**
OGNE Ogallala 6.05 326 P **Pn 08 58 46.8 +1.0**
baz=143
OGNE Ogallala 6.05 326 IAmb_Lg 09 00 44.0
comp=Z,112nm,0.9s
143A Socs Landing, 6.06 121 IAmb_Lg 09 00 42.3
comp=Z,182nm,0.8s
MET Memphis--Engin 6.27 96 IAmb_Lg 09 00 44.2
comp=Z,173nm,0.7s
SLM Saint Louis 6.38 64 IAmb_Lg 09 00 41.2
comp=Z,127nm,0.8s
PENMO Penman 6.41 84 IAmb_Lg 09 00 49.6
comp=Z,166nm,0.8s
SDCO Great Sand Dun 6.61 287 P **Pn 08 58 54.4 +0.8**
baz=103,SNR=12
SDCO Great Sand Dun 6.61 287 Pn **Pn 08 58 54.2 +0.6**
SDCO IAmb_Lg 09 00 56.6
comp=Z,83nm,1.1s
HALT Halls 6.66 89 IAmb_Lg 09 00 50.2
comp=Z,161nm,0.8s
Q24A Divide 6.72 298 P **Pn 08 58 55.8 +0.4**
baz=114
SCIA State Center 6.78 29 P **Pn 08 58 56.8 +1.0**
baz=211
OXF Oxford 6.82 100 P **Pn 08 58 55.4 -1.0**
baz=285
OXF Oxford 6.82 100 Pn 08 58 57.3 +0.9
OXF IAmb_Lg 09 00 53.6
comp=Z,120nm,0.9s
S44A Carbondale 6.85 73 Pn 08 58 57.3 +0.5
S44A IAmb_Lg 09 01 04.1
comp=Z,131nm,0.9s
W45A Hickory Valley 6.87 95 IAmb_Lg 09 01 09.7
comp=Z,98nm,0.7s
SIUC Southern Illin 6.89 73 IAmb_Lg 09 00 59.2
comp=Z,118nm,0.8s
Y45A Yeager Farm, C 6.91 106 IAmb_Lg 09 01 12.6
comp=Z,84nm,0.8s
VBMS Vicksburg 6.95 121 IAmb_Lg 09 01 11.7
comp=Z,58nm,0.9s
735A Kenedy 7.14 182 IAmb_Lg 09 01 19.5
comp=Z,68nm,0.9s
P43A Skaggs, Pawnee 7.31 58 Pn 08 59 03.3 +0.3
ANMO Albuquerque 7.35 264 Pg **Pb 08 59 28.0 +4.1**
comp=Z,0.4nm,0.3s,baz=79,slow=16,SNR=10
ANMO Lg Lg 09 01 06.2
comp=Z,1.7nm,0.3s,baz=321,slow=22,SNR=5.5
ISCO Idaho Springs 7.41 303 IAmb_Lg 09 01 17.0
comp=Z,69nm,1.0s
ECSD EROS Data Cent 7.74 5 P **Pn 08 59 07.9 -1.0**
baz=186,SNR=6.1
ECSD EROS Data Cent 7.74 5 IAmb_Lg 09 01 26.7
comp=Z,65nm,1.1s
ECSD EROS Data Cent 7.74 5 P 08 59 08.2
baz=186,SNR=14
146A Union 7.79 113 IAmb_Lg 09 01 44.3
comp=Z,71nm,1.1s
PLAL Pickwick Lake 7.79 95 IAmb_Lg 09 01 31.2
comp=Z,64nm,1.0s
MNTX Cornudas Mount 7.81 239 P **Pn 08 59 09.6 -0.3**
baz=54
MNTX Cornudas Mount 7.81 239 Pn 08 59 10.2 +0.2
WVT Waverly 7.87 86 P **Pn 08 59 10.0 -0.7**
baz=272
WVT Waverly 7.87 86 IAmb_Lg 09 01 25.3
comp=Z,41nm,0.7s
HDIL Hopedale 7.91 53 P **Pn 08 59 11.0 -0.4**
baz=238,SNR=16
HDIL Hopedale 7.91 53 Pn 08 59 11.8 +0.5
Y22D IRIS PASSCAL I 7.93 259 IAmb_Lg 09 01 49.2
comp=Z,118nm,1.1s
PHWY Pilot Hill 8.13 313 Pn 08 59 14.5 -0.1
PHWY IAmb_Lg 09 01 46.6
comp=Z,52nm,1.1s
USIN University of 8.14 73 IAmb_Lg 09 01 54.2
comp=Z,66nm,0.8s
O44A Mansfield 8.26 57 Pn 08 59 16.2 +0.1
Z47A Carrollton 8.30 107 IAmb_Lg 09 02 01.4
comp=Z,41nm,0.8s
TXAR Lajitas Array 8.43 219 Pn **Pn 08 59 17.2 -1.3**
comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=7.4
TXAR Lg Lg 09 01 39.7
comp=Z,3.4nm,0.3s,baz=48,slow=24,SNR=11
T47A Sharon Grove 8.46 80 Pn 08 59 19.1 +0.2
T47A IAmb_Lg 09 01 59.7
comp=Z,64nm,0.9s
SUSD Miller 8.49 353 P **Pn 08 59 19.0 -0.2**
baz=172
SUSD Miller 8.49 353 IAmb_Lg 09 01 58.7
comp=Z,55nm,0.8s
I37A Lemond, Waseca 8.60 20 IAmb_Lg 09 02 03.0
comp=Z,88nm,0.8s
JFWS Jewell Farm 8.90 37 P **Pn 08 59 25.1 +0.2**
baz=222
JFWS Jewell Farm 8.90 37 IAmb_Lg 09 02 09.5
comp=Z,101nm,0.8s
M44A Midewin, Midew 9.16 51 IAmb_Lg 09 02 09.4
comp=Z,72nm,0.7s
WCI Wyandotte Cave 9.25 73 IAmb_Lg 09 02 15.2
comp=Z,66nm,0.9s
PV13 Radium Mtn., P 9.26 287 IAmb_Lg 09 02 32.1
comp=Z,35nm,1.1s
PV12 Saucer Basin, 9.27 288 IAmb_Lg 09 02 27.0
comp=Z,35nm,1.0s
SFIN Lafayette 9.30 59 IAmb_Lg 09 02 22.5
comp=Z,86nm,0.8s
PV11 David Mesa, Pa 9.32 288 IAmb_Lg 09 02 22.4
comp=Z,58nm,1.1s
PV16 Nyswonger Mesa 9.36 288 IAmb_Lg 09 02 32.8
comp=Z,35nm,1.2s
O20A White River Ci 9.38 299 IAmb_Lg 09 02 27.9
comp=Z,33nm,1.2s
Y49A Blount Mountai 9.39 100 IAmb_Lg 09 02 18.3
comp=Z,58nm,1.0s
PV20 West Nyswonger 9.41 288 IAmb_Lg 09 02 20.5
comp=Z,37nm,1.3s
RWWY Rawlins 9.43 310 IAmb_Lg 09 02 33.8
comp=Z,42nm,1.1s
SWET Sewanee 9.49 91 IAmb_Lg 09 02 21.5
comp=Z,57nm,0.9s
I40A Norwalk 9.49 32 IAmb_Lg 09 02 27.5
comp=Z,51nm,0.8s
RSSD Black Hills 9.50 330 P **Pn 08 59 33.7 +0.4**
baz=146
RSSD Black Hills 9.50 330 Pn **Pn 08 59 33.5 +0.2**
U49A Red Boiling Sp 9.52 84 IAmb_Lg 09 02 33.8
comp=Z,38nm,1.0s
K22A Casper 9.60 316 IAmb_Lg 09 02 38.2
comp=Z,44nm,0.8s
F33A 5 Mile Ranch, 9.86 5 Pn 08 59 37.8 -0.2
F33A IAmb_Lg 09 02 35.2
comp=Z,41nm,0.9s
FPAL Fort Paine 9.87 95 IAmb_Lg 09 02 38.1
comp=Z,50nm,1.0s
SPMN Marine on St. 9.88 20 P **Pn 08 59 38.6 +0.4**
baz=203
SPMN Marine on St. 9.88 20 IAmb_Lg 09 02 44.8
comp=Z,43nm,0.8s
TKL Tuckaleechee C 11.19 88 Pn **Pn 08 59 55.7 -0.5**
comp=Z,0.2nm,0.3s,baz=241,slow=10,SNR=1.1
TKL Lg Lg 09 03 01.8
comp=Z,2.4nm,0.3s,baz=168,slow=16,SNR=4.7
PDAR Pinedale Array 11.47 310 Pn **Pn 08 59 59.6 -0.8**
comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=3.0
PDAR Lg Lg 09 03 17.1
comp=Z,0.2nm,0.3s,baz=100,slow=29,SNR=3.7
ULM Lac du Bonnet 14.28 4 Pn **Pn 09 00 34.9 -3.5**
comp=Z,0.2nm,0.3s,baz=178,slow=14,SNR=1.1
ULM Lg Lg 09 04 37.8
comp=Z,0.4nm,0.3s,baz=101,slow=12,SNR=1.9
SADO Sadowa 16.50 52 Lg Lg 09 05 49.4
comp=Z,0.5nm,0.3s,baz=160,slow=20,SNR=3.9

IDC 15 09:00:21.1±3.3, 52°.29N×35°.04E, h0km, mb1 3.3/3, mb1mx3.1/51, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=39.9km s-min=16.7km az=114.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.97**	**17**	Lg	Lg	09 01 45.2	
	2.3nm,0.3s,baz=23,slow=23,SNR=11						
AKASG	**Main Array Be**	**3.97**	**249**	Pn	Pn	09 01 22.4	-0.7
	0.9nm,0.3s,baz=56,slow=13,SNR=2.4						
AKASG				Sn	Sn	09 02 14.1	+3.8
	2.5nm,0.3s,baz=60,slow=20,SNR=2.2						
AKASG				Lg	Lg	09 02 27.6	
	2.2nm,0.3s,baz=68,slow=29,SNR=2.2						
I43RU	**DUBNA INFRASON**	**4.62**	**15**	*i*		09 27 50.0	
	baz=196,slow=326,SNR=3.6						
FINES	**FINESS Array B**	**10.39**	**335**	Pn	Pn	09 02 45.8	-5.4
	0.3nm,0.3s,baz=152,slow=13,SNR=8.7						
FINES				Sn	Sn	09 04 38.4	-10
	0.2nm,0.3s,baz=154,slow=23,SNR=2.0						
I26DE	**FREYUNG INFRAS**	**13.97**	**264**	*i*		10 19 40.0	
	baz=67,slow=315,SNR=2.6						
ARCES	**ARCESS Array B**	**17.87**	**349**	Pn	Pn	09 04 25.7	-5.1
	baz=166,slow=11,SNR=5.0						
I37NO	**I37NO**	**18.54**	**341**	*i*		10 47 40.0	
	baz=151,slow=323,SNR=0.1						

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*TUL **15** 09:06:07.2±1.2, 35°.987N±0°.008×97°.56W±0°.02, h5km±7km, ML2.8, mb_Lg2.7/46(NEIC), Error ellipse: s-maj=2.8km s-min=1.2km az=81.0*

NEIC 15 09:06:07.2±0.7, 36°.00N±0°.01×97°.58W±0°.02, h5km, Error ellipse: s-maj=2.9km s-min=2.1km az=91.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**154**		Pg	09 06 11.6	-0.1
BCOK	**Bluff Creek, N**	**0.35**	**184**		Pg	09 06 13.9	0.0
BCOK				Sg	Sg	09 06 19.1	+0.7
OK025	**Westminster Rd**	**0.46**	**155**		Pg	09 06 16.1	0.0
OKCFA	**Oklahoma City**	**0.60**	**170**		Pg	09 06 18.4	-0.2
OKCFA				Sg	Sg	09 06 27.0	+0.6
OKCFA	**Oklahoma City**	**0.60**	**170**	P		09 06 18.4	
	baz=351						
OKCFA				S		09 06 26.6	
	baz=351						
CROK	**Carrier**	**0.60**	**327**		Pg	09 06 19.1	+0.4
OK031	**S. Brethren Rd**	**0.60**	**95**		Pg	09 06 18.7	0.0
OK031				Sg	Sg	09 06 26.9	+0.4
OKCSW	**OKLAHOMA CITY**	**0.61**	**169**		Pg	09 06 18.7	-0.1
OKCSW				Sg	Sg	09 06 27.2	+0.5
QUOK	**Quay**	**0.72**	**76**		Pg	09 06 21.0	-0.1
FNO	**Franklin**	**0.76**	**169**		Pg	09 06 21.3	-0.4
BLOK	**Blackwell**	**0.81**	**21**		Pg	09 06 22.9	+0.1
GC02	**Grant County #**	**0.88**	**345**		Pg	09 06 24.0	+0.1
OK032	**Salt Plains WL**	**0.95**	**328**		Pg	09 06 25.4	0.0
KAN13	**South Haven SW**	**1.01**	**5**		Pg	09 06 26.5	0.0
KAN05	**Bluff City Nor**	**1.13**	**348**		Pg	09 06 28.7	-0.1
KAN09	**Caldwell North**	**1.13**	**358**		Pg	09 06 28.7	-0.1
KAN10	**Anthony SW Sta**	**1.19**	**340**		Pg	09 06 29.9	-0.1
U32A	**Winter Ranch,**	**1.21**	**288**	Pg	Pg	09 06 30.1	-0.3
U32A	**Winter Ranch,**	**1.21**	**288**	P		09 06 30.1	
	baz=108						
KS20	**Mayfield South**	**1.22**	**1**		Pg	09 06 30.4	-0.2
T35A	**Sooner Cattle**	**1.25**	**43**	Pn	Pg	09 06 30.6	-0.5
T35B	**Sooner Cattle**	**1.25**	**43**	P		09 06 30.6	
	baz=222						
KAN08	**Anthony NE Sta**	**1.26**	**346**		Pg	09 06 30.7	-0.7
KAN12	**Harper NE Stat**	**1.33**	**345**		Pn	09 06 32.2	-0.3
X34A	**Smith Ranch, M**	**1.42**	**189**		Pn	09 06 33.6	+0.1
TUL1	**Leonard**	**1.45**	**93**	P		09 06 33.1	
	baz=274						
TUL1				S		09 06 52.9	
	baz=274						
WMOK	**Wichita Mounta**	**1.60**	**218**		Pn	09 06 36.0	-0.1
WMOK	**Wichita Mounta**	**1.60**	**218**	P		09 06 35.9	
	baz=38						
WMOK				S		09 06 57.3	
	baz=38						
LOOK	**Love County**	**2.03**	**171**		Pn	09 06 41.6	-0.4
X37A	**Clayton**	**2.29**	**127**		Pn	09 06 46.0	+0.4
X37A				IAmb_Lg		09 07 24.4	
	comp=Z,37nm,0.9s						
X37A	**Clayton**	**2.29**	**127**	P		09 06 45.9	
	baz=309						
R32A	**Long Quarter,**	**2.58**	**340**		Pn	09 06 49.9	+0.3
R32A	**Long Quarter,**	**2.58**	**340**	S		09 07 22.9	
	baz=159						
U38A	**Gravette**	**2.62**	**79**		Pn	09 06 50.1	0.0
Z35A	**Perchaven, San**	**2.68**	**174**	Pn	Pn	09 06 51.1	+0.2
HHAR	**Hobbs**	**2.96**	**84**		Pn	09 06 54.8	0.0
HHAR	**Hobbs**	**2.96**	**84**	P		09 06 55.0	
	baz=265						
CBKS	**Cedar Bluff**	**3.29**	**329**		Pn	09 07 00.1	+0.7
CBKS				IAmb_Lg		09 07 59.7	
	comp=Z,14nm,0.8s						
Z38A	**Mt. Pleasant**	**3.47**	**141**	Pn	Pn	09 07 01.1	-0.8
AMTX	**Amarillo**	**3.53**	**253**		Pn	09 07 02.7	0.0
MIAR	**Mount Ida**	**3.58**	**113**	Pn	Pn	09 07 03.5	+0.2
MIAR				IAmb_Lg		09 08 07.8	
	comp=Z,21nm,0.8s						
ABTX	**Abilene, Hawle**	**3.78**	**207**	IAmb_Lg		09 08 07.8	
	comp=Z,21nm,1.0s						
U40A	**Yellville**	**3.84**	**83**		Pn	09 07 07.2	+0.3
U40A				IAmb_Lg		09 08 16.4	
	comp=Z,13nm,0.8s						
WHTX	**Lake Whitney,**	**4.00**	**179**	Pn	Pn	09 07 07.9	-1.2
X40A	**Basin Creek Fa**	**4.17**	**110**	IAmb_Lg		09 08 18.9	
	comp=Z,28nm,1.1s						
WLAR	**White Oak Lake**	**4.34**	**121**	IAmb_Lg		09 08 28.9	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**98**	Pn	Pn	09 07 14.2	+0.1
WHAR				IAmb_Lg		09 08 34.8	
	comp=Z,18nm,0.9s						
MGMO	**Mountain Grove**	**4.42**	**73**	IAmb_Lg		09 08 33.2	
	comp=Z,14nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.43**	**90**	IAmb_Lg		09 08 32.7	
	comp=Z,13nm,0.9s						
MSTX	**Muleshoe**	**4.72**	**246**	IAmb_Lg		09 08 41.1	
	comp=Z,9.4nm,1.1s						
R40A	**Maddies Statio**	**4.82**	**60**	Pn	Pn	09 07 20.0	-0.3
P38A	**Dawn**	**4.83**	**40**	IAmb_Lg		09 08 42.6	
	comp=Z,11nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.01**	**308**	IAmb_Lg		09 08 54.1	
	comp=Z,9.4nm,0.8s						
LCAR	**Lake Charles**	**5.21**	**87**	IAmb_Lg		09 08 56.8	
	comp=Z,12nm,0.9s						
435B	**Jarrell**	**5.21**	**180**	IAmb_Lg		09 08 54.4	
	comp=Z,17nm,1.0s						
T42A	**Van Buren**	**5.32**	**77**	IAmb_Lg		09 09 00.5	
	comp=Z,9.4nm,0.7s						
CCM	**Cathedral Cave**	**5.46**	**66**	IAmb_Lg		09 09 14.1	
	comp=Z,8.8nm,0.9s						
T25A	**Trinidad**	**5.62**	**284**	IAmb_Lg		09 09 10.5	
	comp=Z,9.3nm,0.8s						
P40A	**Paris**	**5.62**	**50**	IAmb_Lg		09 09 06.4	
	comp=Z,15nm,0.8s						
JCT	**Junction City**	**5.81**	**199**	IAmb_Lg		09 09 20.1	
	comp=Z,19nm,0.9s						
PBMO	**Poplar Bluff**	**5.82**	**80**	IAmb_Lg		09 09 14.8	
	comp=Z,17nm,0.7s						
SDCO	**Great Sand Dun**	**6.58**	**288**	IAmb_Lg		09 09 47.7	
	comp=Z,6.3nm,1.0s						
HDIL	**Hopedale**	**7.94**	**53**	IAmb_Lg		09 10 36.9	
	comp=Z,14nm,0.8s						

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*IDC **15** 09:08:48.9±1.4, 20°.81S×178°.67W, h562km±15km, mb3.8/15, mb1 4.0/17, mb1mx3.9/26, mbtmp4.8/17, Error ellipse: s-maj=16.0km s-min=11.4km az=133.0*
*NOU **15** 09:08:49.5, 20°.84S×178°.49W, h590km, MLv4.1, Fiji Islands Region*
*NEIC **15** 09:08:50.9±1.4, 20°.82S±0°.10×178°.7W±0°.1, h574km±6km, mb4.3/80, Error ellipse: s-maj=16.1km s-min=12.8km az=122.0*

ISC 15 09:08:49.9±0.3, 20°.87S±0°.05×178°.58W±0°.06, h579km, n238, σ1$45/268, mb4.4/64, 13C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.46**	**314**	P	**P**	**09 10 18.6**	**+1.2**
	13nm,0.3s,baz=96,slow=23,SNR=54						
MSVF	**Nonsavu**	**4.46**	**314**	P	**P**	**09 10 18.7**	**+1.4**
MSVF	**Nonsavu**	**4.46**	**314**	P	**P**	**09 10 18.8**	**+1.4**
NIUE	**Niue**	**8.33**	**79**	P	**P**	**09 10 52.4**	**+0.6**
RIZ	**Raoul Island**	**8.36**	**176**	P	**P**	**09 10 55.4**	**+3.5**
RIZ				S	**S**	**09 12 29.2**	**-2.8**
RAO	**Raoul Island**	**8.37**	**176**	P	**P**	**09 10 54.7**	**+2.8**
	78nm,0.3s,baz=267,slow=23,SNR=2.7						
RAO				S	**S**	**09 12 30.1**	**-1.9**
	83nm,0.3s,baz=100,slow=22,SNR=8.3						
GLKZ	**Green Lake**	**8.38**	**176**	P	**P**	**09 10 51.0**	**-1.0**
GLKZ				S	**S**	**09 12 30.6**	**-1.6**
AFI	**Afiamalu**	**9.49**	**44**	P	**P**	**09 11 01.2**	**-2.1**
	21nm,0.3s,baz=131,slow=2.5,SNR=23						
AFI				S	**S**	**09 12 46.1**	**-6.7**
	12nm,0.3s,baz=147,slow=13,SNR=8.0						
AFI	**Afiamalu**	**9.49**	**44**	P	**P**	**09 11 01.8**	**-1.5**
AFI	**Afiamalu**	**9.49**	**44**	P	**P**	**09 11 01.6**	**-1.7**
MARNC	**Mare, Loyalty**	**12.51**	**265**	P	**P**	**09 11 33.5**	**-0.2**
MARNC	**Mare, Loyalty**	**12.51**	**265**	P	**P**	**09 11 33.7**	**0.0**
PINNC	**Pines Island,**	**13.10**	**260**	P	**P**	**09 11 39.4**	**-0.4**
PINNC	**Pines Island,**	**13.10**	**260**	P	**P**	**09 11 40.7**	**+0.9**
LIFNC	**LIFOU**	**13.26**	**268**	P	**P**	**09 11 40.0**	**-1.4**
LIFNC	**LIFOU**	**13.26**	**268**	P	**P**	**09 11 40.3**	**-1.2**
YATNC	**Mamie plateau,**	**13.58**	**262**	P	**P**	**09 11 45.9**	**+1.1**
ONTNC	**Ouen Toro**	**13.99**	**261**	P	**P**	**09 11 50.8**	**+1.9**
NOUC	**Port Laguerre**	**14.12**	**262**	P	**P**	**09 11 50.2**	**0.0**
OUZ	**Omahuta**	**15.87**	**204**	P	**P**	**09 12 08.3**	**+1.6**
OUZ	**Omahuta**	**15.87**	**204**	P	**P**	**09 12 07.9**	**+1.2**
KOUNC	**Koumac, New Ca**	**16.04**	**268**	P	**P**	**09 12 09.4**	**+0.8**
GRZ	**Great Barrier**	**16.19**	**198**	P	**P**	**09 12 10.6**	**+0.9**
WCZ	**Waipu Caves**	**16.24**	**201**	P	**P**	**09 12 12.0**	**+1.8**
KUZ	**Kuaotunu**	**16.58**	**196**	P	**P**	**09 12 14.6**	**+1.3**
ABAZ	**Army Bay**	**16.70**	**199**	P	**P**	**09 12 16.3**	**+2.0**
WIAZ	**Waiheke Island**	**16.79**	**198**	P	**P**	**09 12 16.7**	**+1.6**
MXZ	**Matakaoa Point**	**16.85**	**189**	P	**P**	**09 12 15.5**	**-0.2**
WTAZ	**Waiatarua**	**17.08**	**199**	P	**P**	**09 12 19.2**	**+1.4**
WMGZ	**Waiomatatini S**	**17.09**	**188**	P	**P**	**09 12 17.6**	**-0.3**
WMGZ				S	**S**	**09 15 10.8**	**+3.5**
HAZ	**Te Kaha**	**17.12**	**190**	P	**P**	**09 12 17.3**	**-0.8**
HAZ				S	**S**	**09 15 01.9**	**-5.8**
RUGZ	**Raukumara Rang**	**17.34**	**190**	P	**P**	**09 12 19.1**	**-1.2**
PUZ	**Puketiti**	**17.36**	**188**	P	**P**	**09 12 20.2**	**-0.2**
PUZ				S	**S**	**09 15 12.1**	**+0.4**
TGRZ	**Tauranga**	**17.39**	**194**	P	**P**	**09 12 22.5**	**+1.9**
OPRZ	**Ohinepanea**	**17.43**	**193**	P	**P**	**09 12 22.9**	**+1.9**
KARZ	**Kaharoa**	**17.67**	**194**	P	**P**	**09 12 26.0**	**+2.8**
URZ	**Urewera**	**17.73**	**191**	P	**P**	**09 12 22.1**	**-1.6**
	10nm,0.3s,baz=247,slow=2.1,SNR=31						
URZ	**Urewera**	**17.73**	**191**	P	**P**	**09 12 22.0**	**-1.6**
URZ				S	**S**	**09 15 11.5**	**-6.1**
MWZ	**Matawai**	**17.73**	**190**	P	**P**	**09 12 22.5**	**-1.2**
MWZ				S	**S**	**09 15 12.0**	**-5.7**
TKGZ	**Te Karaka**	**17.78**	**189**	P	**P**	**09 12 23.7**	**-0.4**
KNTN	**Kanton**	**19.19**	**21**	P	**P**	**09 12 36.6**	**-0.7**
KNTN	**Kanton**	**19.19**	**21**	P	**P**	**09 12 37.0**	**-0.4**
QRZ	**Quartz Range**	**21.28**	**199**	P	**P**	**09 12 55.9**	**0.0**
EIDS	**Eidsvold**	**28.23**	**255**	P	**P**	**09 13 57.5**	**+0.1**
EIDS				IAmb	IAmb	09 13 58.4	
	comp=Z,6.2nm,0.6s						
ARMA	**Armidale**	**28.42**	**244**	P	**P**	**09 13 59.9**	**+0.7**
ARMA				IAmb	IAmb	09 14 00.7	
	comp=Z,7.8nm,0.7s						
XMAS	**Kiritimati**	**30.78**	**45**	P	**P**	**09 14 20.5**	**+1.0**
XMAS	**Kiritimati**	**30.78**	**45**	P	**P**	**09 14 19.0**	**-0.5**
CTA	**Charters Tower**	**32.91**	**265**	P	**P**	**09 14 37.7**	**0.0**
	comp=Z,30nm,0.4s,baz=92,slow=12,SNR=20						
CTAO	**Charters Tower**	**32.91**	**265**	P	**P**	**09 14 37.6**	**0.0**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**09 14 54.5**	**+0.2**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**09 14 54.5**	**+0.2**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**09 14 54.5**	**+0.2**
TOO	**Toolangi**	**35.24**	**234**	P	**P**	**09 14 57.5**	**+0.5**
TOO				IAmb	IAmb	09 15 12.8	
	comp=Z,8.4nm,1.1s						
PATS	**Pohnpei**	**35.68**	**318**	P	**P**	**09 15 01.4**	**+0.6**
STKA	**Stephens Creek**	**37.14**	**244**	P	**P**	**09 15 12.8**	**+0.2**
	comp=Z,7.7nm,0.5s,baz=90,slow=11,SNR=22						
STKA				PcP	**PcP**	**09 17 17.4**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=359,slow=1.9,SNR=3.1						
STKA	**Stephens Creek**	**37.14**	**244**	P	**P**	**09 15 12.9**	**+0.3**
MANU	**Manus Island**	**38.10**	**295**	P	**P**	**09 15 21.3**	**+0.6**
WR0	**Warramunga Arr**	**43.82**	**263**	P	**P**	**09 16 04.9**	**-0.9**
WR0				IAmb	IAmb	09 16 06.4	
	comp=Z,27nm,1.2s						
AS31	**Alice Springs**	**43.90**	**257**	P	**P**	**09 16 06.2**	**-0.2**
AS31				IAmb	IAmb	09 16 06.7	
	comp=Z,9.9nm,0.7s						
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**09 16 05.8**	**-0.7**
	comp=Z,29nm,0.5s,baz=94,slow=7.9,SNR=413						
ASAR				PcP	**PcP**	**09 17 39.2**	**-0.3**
	comp=Z,4.6nm,0.6s,baz=107,slow=3.6,SNR=9.4						
ASAR				ScP	**ScP**	**09 20 38.2**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=100,slow=4.2,SNR=5.0						
ASAR				S	**S**	**09 21 52.2**	**-4.6**
	comp=Z,7.2nm,0.8s,baz=94,slow=16,SNR=27						
ASAR	**Alice Springs**	**43.91**	**257**	P	**P**	**09 16 06.2**	**-0.3**
WB0	**Warramunga Arr**	**43.99**	**263**	P	**P**	**09 16 06.4**	**-0.8**
WB2	**Warramunga Arr**	**44.00**	**263**	P	**P**	**09 16 05.9**

comp=Z,87nm,0.6s,baz=96,slow=14,SNR=10.0
WRA Warramunga Arr 44.01 263 P **P 09 16 05.0 -2.3**
KHLU Kahalu`u 45.94 30 P **P 09 16 22.3 +0.3**
HMH Humu'ula Sheep 46.14 31 P **P 09 16 25.0 +1.2**
DHH Diamond Head 46.54 27 P **P 09 16 27.4 +1.0**
MTN Manton Dam 48.62 271 P **P 09 16 41.5 -0.7**
FORT Forrest 48.65 247 P **P 09 16 41.7 -0.4**
KNRA Kununurra 50.09 267 P **P 09 16 52.6 -0.3**
FAKI Fak Fak 51.05 284 P **P 09 16 59.6 -0.4**
FAKI IAmb IAmb 09 17 09.9
comp=Z,63nm,1.5s
FAKI Fak Fak 51.05 284 P **P 09 16 59.1 -0.9**
comp=Z,27nm,1.0s
SWI Sorong 52.82 285 P **P 09 17 12.7 +0.1**
SOEI Soe 55.97 272 P **P 09 17 35.9 +1.1**
PSA00 Pilbara Seismi 57.05 257 P **P 09 17 41.3 -0.7**
PSA00 IAmb IAmb 09 17 42.4
comp=Z,34nm,0.8s
SBA Scott Base 57.47 184 P **P 09 17 47.1 +3.3**
VNDA Vanda 57.50 185 P **P 09 17 45.7 +1.6**
comp=Z,0.4nm,0.4s,baz=8.6,slow=7.1,SNR=7.0
VNDA Vanda 57.50 185 P **P 09 17 46.2 +2.1**
EDFI Ende, Flores 58.70 272 P **P 09 17 52.6 -0.8**
comp=Z,24nm,0.8s
MORW Morawa 59.19 248 P **P 09 17 55.7 -0.6**
MORW IAmb IAmb 09 17 56.4
comp=Z,10nm,0.6s
GTOI Gorontalo 60.92 283 P **P 09 18 08.9 +0.9**
comp=Z,23nm,0.6s
GIRL Giralia 61.93 255 P **P 09 18 15.0 +0.6**
PLAI Plampang 62.33 271 P **P 09 18 14.9 -2.3**
comp=Z,72nm,0.9s
TWSI Taliwang, Sumb 63.20 271 P **P 09 18 22.2 -0.5**
comp=Z,43nm,1.0s
CASY Casey 63.40 205 P **P 09 18 23.6 +0.6**
CASY IAmb IAmb 09 18 24.0
comp=Z,13nm,1.4s
MPSI Mapaga 63.65 281 P **P 09 18 25.0 -0.6**
comp=Z,2μmcomp=Z,26nm,0.8s
PCJI Pacitan 68.71 269 P **P 09 18 56.9 0.0**
comp=Z,127nm,0.9s
QSPA South Pole Qui 69.20 180 P **P 09 19 00.3 +1.2**
UGM Wanagama 69.41 269 P **P 09 19 00.7 -0.4**
UGM Wanagama 69.41 269 P **P 09 19 00.6 -0.6**
comp=Z,136nm,2.0s
MJAR Matsushiro Arr 70.19 324 P **P 09 19 04.2 -1.0**
comp=Z,4.3nm,0.6s,baz=156,slow=6.1,SNR=14
MJAR Matsushiro Arr 70.19 324 P **P 09 19 04.9 -0.3**
MAJO Matsushiro 70.19 324 P **P 09 19 05.1 -0.2**
MAJO IAmb IAmb 09 19 05.8
comp=Z,8.0nm,0.7s
MAT Matsushiro 70.19 324 P **P 09 19 04.7 -0.6**
JWT Wachi 70.87 321 P **P 09 19 09.4 +0.1**
JWT IAmb IAmb 09 19 10.3
comp=Z,14nm,0.9s
JHS Saijyo 72.03 320 P **P 09 19 16.7 +0.6**
JHS IAmb IAmb 09 19 17.4
comp=Z,16nm,0.7s
TPUB Ta-pu 73.72 303 P **P 09 19 24.8 -1.2**
PEA0B Petropavlovsk- 76.49 346 P **P 09 19 41.1 +0.4**
PEA0B IAmb IAmb 09 19 42.0
comp=Z,47nm,1.4s
PETK Petropavlovsk- 76.49 346 P **P 09 19 40.5 -0.1**
comp=Z,6.3nm,0.6s,baz=107,slow=7.9,SNR=13
PETK Petropavlovsk- 76.49 346 P **P 09 19 41.1 +0.4**
MDSI Maura Dua 76.50 270 P **P 09 19 40.1 -1.6**
comp=Z,17nm,1.1s
KSRS Korea Array 76.81 319 P **P 09 19 43.6 +0.9**
comp=Z,2.2nm,0.8s,baz=132,slow=6.2,SNR=8.5
USA0B Ussuriysk Arra 78.97 326 P **P 09 19 55.4 +1.2**
USA0B IAmb IAmb 09 19 55.6
comp=Z,20nm,1.3s
USRK Ussuriysk Ar. 78.97 326 P **P 09 19 55.1 +0.9**
comp=Z,5.7nm,0.6s,baz=152,slow=4.6,SNR=10
CBX Cerro Bola 79.38 49 P **P 09 19 58.7 +1.9**
MDPB Devils Postpil 80.71 44 P **P 09 20 05.0 +1.2**
YBH Yreka Blue Hor 80.92 39 P **P 09 20 06.9 +2.3**
YBH IAmb IAmb 09 20 07.1
comp=Z,5.5nm,0.8s
MAW Mawson 81.03 200 P **P 09 20 05.2 +0.5**
comp=Z,1.9nm,0.5s,baz=127,slow=6.3,SNR=6.7
MAW Mawson 81.03 200 P **P 09 20 05.4 +0.7**
PNTR Pine Nut 81.22 42 P **P 09 20 07.8 +1.4**
PNTR IAmb IAmb 09 20 08.9
comp=Z,10nm,0.8s
HUMO Hull Mountain 81.32 38 P **P 09 20 08.9 +2.4**
HUMO IAmb IAmb 09 20 26.5
comp=Z,14nm,1.4s
YERR Yerington 81.39 43 P **P 09 20 08.7 +1.4**
YERR IAmb IAmb 09 20 09.4
comp=Z,9.0nm,1.2s
NVAR Mina Array Bea 81.67 44 P **P 09 20 10.1 +1.4**
comp=Z,2.7nm,0.6s,baz=225,slow=7.9,SNR=26
NVAR Mina Array Bea 81.67 44 P **P 09 20 10.3 +1.6**
PAHR Pah Rah Range 81.72 42 P **P 09 20 10.5 +1.7**
PAHR IAmb IAmb 09 20 11.2
comp=Z,5.7nm,1.0s
NV11 Mina Array Sit 81.76 44 P **P 09 20 10.8 +1.7**
NV11 IAmb IAmb 09 20 11.3
comp=Z,7.6nm,1.3s
KVN Kaiserville 82.15 43 P **P 09 20 12.6 +1.5**
KVN IAmb IAmb 09 20 12.7
comp=Z,3.9nm,0.6s
TPNV Topopah Spring 82.19 46 P **P 09 20 13.0 +1.7**
TPNV IAmb IAmb 09 20 13.6
comp=Z,4.6nm,0.8s
MOD Modoc Plateau 82.45 40 P **P 09 20 13.8 +1.4**
MOD IAmb IAmb 09 20 14.8
comp=Z,4.9nm,0.7s
K05A Summer Lake 82.59 39 P **P 09 20 15.0 +1.7**
K05A IAmb IAmb 09 20 16.0
comp=Z,11nm,0.9s
MNSI Mandailing Nat 82.65 274 P **P 09 20 13.1 -0.9**
SHPR Sheep Range 82.68 47 P **P 09 20 15.7 +1.9**
Y14A Wickenburg 82.84 50 P **P 09 20 15.8 +1.3**
H04A Detroit Lake 83.05 37 P **P 09 20 16.4 +1.1**
H04A IAmb IAmb 09 20 17.1
comp=Z,12nm,1.2s
PINE Pine Mountain 83.21 38 P **P 09 20 18.0 +1.7**
PINE IAmb IAmb 09 20 19.0
comp=Z,8.0nm,0.8s
PRN Pahroc Range 83.24 46 P **P 09 20 18.3 +1.7**
SVW2 Sparrevohn 83.76 11 P **P 09 20 18.5 +0.1**
WVOR Wild Horse Val 83.76 40 P **P 09 20 20.1 +1.1**
X16A Lo Mia Camp, P 84.20 50 P **P 09 20 23.2 +1.8**
X16A IAmb IAmb 09 20 23.6
comp=Z,6.2nm,1.4s
I07A Izee 84.21 38 P **P 09 20 22.6 +1.4**
J08A Circle Bar Ran 84.39 39 P **P 09 20 23.2 +1.2**
U15A North Rim 84.61 48 P **P 09 20 25.2 +1.7**
U15A IAmb IAmb 09 20 26.1
comp=Z,5.4nm,0.7s
G08A Pilot Rock 85.24 38 P **P 09 20 27.8 +1.7**
G08A IAmb IAmb 09 20 27.9
comp=Z,3.1nm,0.7s
ENH Enshi 85.80 304 P **P 09 20 29.4 +0.3**
BMO Blue Mountains 85.94 39 P **P 09 20 30.8 +1.3**
MFID Camas Ranch 86.02 40 P **P 09 20 31.4 +1.6**
D08A Wollman Farm, 86.30 36 P **P 09 20 32.6 +1.7**
D08A IAmb IAmb 09 20 33.2
comp=Z,4.1nm,0.9s
F10A Beach Ranch, E 86.63 38 P **P 09 20 33.7 +1.1**
F10A IAmb IAmb 09 20 34.3
comp=Z,7.0nm,0.8s
TMUT Trail Mountain 86.80 46 P **P 09 20 35.5 +1.5**
TMUT IAmb IAmb 09 20 36.6
comp=Z,4.9nm,1.2s
B08A Colville Reser 86.84 35 P **P 09 20 34.2 +0.6**
B08A IAmb IAmb 09 20 34.9
comp=Z,4.8nm,0.7s
C09A Chrisman Ranch 87.09 36 P **P 09 20 35.3 +0.7**
C09A IAmb IAmb 09 20 36.5
comp=Z,4.0nm,0.6s
RND Reindeer 87.18 13 P **P 09 20 34.5 -0.3**
RND IAmb IAmb 09 20 35.7
comp=Z,5.6nm,0.7s
TXAR Lajitas Array 87.71 58 P **P 09 20 40.1 +2.0**
comp=Z,2.4nm,0.8s,baz=219,slow=6.2,SNR=29
TXAR PKKPbc **PKKPbc 09 38 22.7 +0.4**
comp=Z,0.2nm,0.5s,baz=160,slow=3.8,SNR=4.6
XAN Xi'an 87.92 308 P **P 09 20 39.6 +0.6**
XAN pmax pmax
comp=Z,16nm,1.5s
ANMO Albuquerque 88.06 51 P **P 09 20 41.0 +1.2**
ANMO IAmb IAmb 09 20 42.5
comp=Z,3.9nm,1.2s
MCMT McKenzie Canyo 88.59 40 P **P 09 20 43.2 +1.1**
IMAR Indian Mountai 88.61 10 P **P 09 20 41.1 -0.2**
ILAR Eielson Array 88.79 13 P **P 09 20 41.0 -1.2**
comp=Z,0.7nm,0.5s,baz=216,slow=5.9,SNR=12
KMI Kunming 89.03 297 ⇑P **P 09 20 46.3 +1.8**
KMI pmax pmax
comp=Z,14nm,0.8s
REDW Red Top Meadow 89.07 42 P **P 09 20 45.7 +1.4**
REDW IAmb IAmb 09 20 47.0
comp=Z,6.9nm,1.4s
SNOW Snow King Moun 89.18 42 P **P 09 20 46.5 +1.7**
SNOW IAmb IAmb 09 20 47.6
comp=Z,6.3nm,1.2s
K27K Chicken 89.26 15 P **P 09 20 45.8 +1.5**
BW06 Boulder Array 89.60 43 P **P 09 20 48.2 +1.4**
BW06 IAmb IAmb 09 20 48.2
comp=Z,2.1nm,0.7s
PD31 Pinedale Array 89.60 43 P **P 09 20 47.9 +1.1**
PD31 IAmb IAmb 09 20 48.2
comp=Z,1.9nm,0.7s
PDAR Pinedale Array 89.60 43 P **P 09 20 47.6 +0.8**
comp=Z,1.8nm,0.6s,baz=213,slow=4.0,SNR=22
PDAR Pinedale Array 89.60 43 P **P 09 20 48.1 +1.3**
CMAR Chiang Mai Arr 89.73 290 P **P 09 20 49.0 +1.4**
comp=Z,10nm,1.0s,baz=128,slow=3.0,SNR=33
DAWY Dawson 89.96 16 P **P 09 20 48.0 +0.3**
ZALV Zalesovo Beam 110.44 321 PKiKP **PKiKP 09 26 15.1 -1.5**
comp=Z,1.4nm,0.6s,baz=154,slow=0.7,SNR=5.1
MKAR Makanchi Array 111.06 313 PKiKP **PKiKP 09 26 16.9 -1.2**
comp=Z,0.5nm,0.4s,baz=162,slow=1.0,SNR=8.2
ARU Arti 125.19 325 PKPdf **PKPdf 09 26 45.0 +0.1**
BOSA Boshof 125.69 206 PKP **PKiKP 09 26 47.7 +0.2**
comp=Z,1.8nm,0.8s,baz=172,slow=6.1,SNR=3.1
ABKAR Akbulak array 125.98 316 PKPdf **PKPdf 09 26 46.5 -0.2**
ARCES ARCESS Array B 129.18 349 PKP **PKPdf 09 26 51.4 -0.7**
comp=Z,2.1nm,0.5s,baz=6.3,slow=0.9,SNR=20
KLMR Klimovskoe 132.00 336 *e*PKPdf **PKPdf 09 26 55.0 -2.7**
KLMR AMP 09 26 58.7
comp=Z,6.0nm,0.8s
KLMR *e*PP **PP 09 29 28.5 +0.7**
FINES FINESS Array B 135.97 343 PKP **PKPdf 09 27 06.0 +0.9**
comp=Z,5.9nm,1.1s,baz=93,slow=6.7,SNR=4.6
FINES SKPbc **SKPbc 09 29 43.6 +0.5**
comp=Z,2.2nm,0.7s,baz=64,slow=4.4,SNR=8.7
NB2 NORSAR Subarra 139.28 353 PKP **PKPdf 09 27 04.3 -7.0**
comp=Z,0.5nm,0.5s,baz=12,slow=3.1
NOA NORSAR Array B 139.28 353 PKhKP PKPpre 09 27 04.2
comp=Z,0.5nm,0.5s,baz=13,slow=4.4,SNR=5.3
SUW Suwalki 142.99 339 *e*PKP **PKPdf 09 27 16.0 -2.0**
AKASG Malin Array Be 143.07 330 PKhKP PKPpre 09 27 14.9
comp=Z,15nm,0.4s,baz=42,slow=4.3,SNR=48
GAZ Gaziantep 144.98 305 PKPbc 09 27 23.2 +0.3
SORM Soroca 145.23 328 ⇓P **PKPbc 09 27 23.7 +0.5**
BNN Bunyan 145.44 309 PKPdf **PKPbc 09 27 24.4 +0.1**
BR131 Keskin Array S 146.68 312 **PKPbc 09 27 27.5 -0.3**
BRTR Keskin Array B 146.68 312 PKPbc **PKPbc 09 27 26.9 -0.9**
comp=Z,5.0nm,0.5s,baz=139,slow=4.8,SNR=26
BRTR Keskin Array B 146.68 312 **PKPdf 09 27 26.3 +1.3**
KWP Kalwaria Pacla 146.68 335 *e*PKP **PKPbc 09 27 27.1 -0.2**
TLCR 146.88 323 ⇑P **PKPbc 09 27 27.5 -0.4**
BUR08 Bucovina Ar. S 147.10 330 **PKiKP 09 27 29.6 -0.7**
BURAR Bucovina Array 147.11 330 ⇑P **PKPbc 09 27 28.4 -0.2**
BURAR Bucovina Array 147.11 330 **PKiKP 09 27 29.6 -0.7**
TESR Tescani 147.18 327 ⇓P **PKPbc 09 27 28.0 -0.7**
CFR Carcaliu 147.27 324 ⇑P **PKPbc 09 27 29.0 +0.1**
TPGR Topolog 147.31 323 ⇓P **PKPbc 09 27 29.8 +0.7**
KOLS Kolonicke sedl 147.41 334 *e*PKP **PKPbc 09 27 29.9 +0.7**
TIRR Tirgusor 147.56 323 ⇓P **PKPbc 09 27 30.0 +0.4**
VRI Vrincioaia 147.57 326 ⇑P **PKPbc 09 27 30.0 +0.3**
HARR Harsova 147.69 323 ⇑P **PKPbc 09 27 29.8 -0.2**
CRVS Cervenica-Dubn 147.76 335 *e*PKP **PKPbc 09 27 30.5 +0.4**
CRVS *e* 09 27 34.6
MANR Mangalia 147.84 322 ⇓P **PKPbc 09 27 30.5 +0.1**
KSP Ksiaz 147.88 342 *e*PKP **PKPbc 09 27 30.7 +0.4**
MDUB Mudurnu 148.02 314 **PKPbc 09 27 31.3 +0.1**
DOPR Dopca 148.19 327 ⇓P **PKPbc 09 27 31.6 +0.3**
MLR Muntele Rosu 148.23 326 ⇓P **PKPbc 09 27 31.3 -0.3**
MLR Muntele Rosu 148.23 326 **PKPbc 09 27 31.4 -0.1**
CLL Collm 148.29 346 *e*PKPdf **PKPdf 09 27 27.0 -0.1**
CLL ⇑*i*PKPbc **PKPbc 09 27 31.6 +0.3**
comp=Z,14nm,1.0s
CLL *i* PKPab **PKPab 09 27 36.6 -0.1**
comp=Z,8.0nm,0.7s
CLL *e*pPKPab **pPKPab 09 29 47.0 +1.8**
DPC Dobruska-Polom 148.31 342 ⇑*e*PKP **PKPbc 09 27 31.4 -0.1**
DPC *e*PKPAB **PKPab 09 27 37.0 +0.1**
LANS Liptovska Anna 148.31 337 *e*PKP **PKiKP 09 27 32.7 0.0**
LANS *e* 09 27 38.1
MORC Moravsky Berou 148.44 340 **PKPbc 09 27 32.2 +0.4**
BRG Berggiesshubel 148.48 345 *e*PKP **PKPbc 09 27 32.2 +0.4**
BRG Amp 09 27 33.0
comp=Z,8.3nm,1.1s
CSS Mathiatis 148.65 303 **PKPbc 09 27 32.6 -0.2**
VOIR 148.73 327 ⇑P **PKPbc 09 27 32.2 -0.5**
VYHS Vyhne 149.09 337 *e*PKP **PKPbc 09 27 33.6 +0.2**
VYHS *e* 09 27 40.8
PRU Pruhonice 149.13 343 ⇑*e*PKP **PKPbc 09 27 33.7 +0.3**
VRAC Vranov 149.15 340 *e*PKP **PKPbc 09 27 33.5 0.0**
VRAC *e* 09 27 40.5
JAVC Velka Javorina 149.19 339 *e*PKP **PKiKP 09 27 34.9 +0.4**
KRUC Moravsky 149.43 340 *e*PKP **PKPbc 09 27 33.9 -0.3**
KRUC *e* 09 27 41.1
MODS Modra-Piesok 149.74 339 *e*PKP **PKiKP 09 27 36.4 +0.8**
MODS *e* 09 27 45.3
SIRR Siria 149.74 332 ⇓P **PKPbc 09 27 35.2 +0.2**
GZR Gura Zlata 149.88 329 ⇑P **PKPbc 09 27 34.6 -0.8**
KHC Kasperske Hory 150.17 344 ⇑*e*PKP **PKPbc 09 27 35.1 -0.9**
KHC *e*PKPAB **PKPab 09 27 45.3 +0.7**
KHC Kasperske Hory 150.17 344 **PKPab 09 27 45.2 +0.7**
BZS Buzias 150.26 331 ⇓P **PKPbc 09 27 35.8 -0.4**
CKRC Cesky Krumlov 150.26 343 ⇑*e*PKP **PKPbc 09 27 35.5 -0.7**
GERES GERESS Array B 150.40 343 PKPbc **PKPbc 09 27 36.1 -0.5**
comp=Z,2.2nm,0.6s,baz=54,slow=2.3,SNR=14
HERR Herculane 150.43 329 ⇓P **PKPbc 09 27 36.0 -0.7**
CONA Conrad Observa 150.59 340 *e*P **PKPbc 09 27 36.7 -0.3**
comp=Z,5.2nm,0.6s
CONA *e*P **PKPab 09 27 47.6 +1.1**
comp=Z,4.1nm,0.7s
MOA Molln 151.15 342 *e*P **PKPbc 09 27 37.6 -0.6**
comp=Z,2.1nm,0.5s
MOA *e*P **PKPab 09 27 49.1 +0.3**
comp=Z,0.6nm,0.3s
ARSA Arzberg 151.30 340 *e*P **PKPbc 09 27 36.7 -1.9**
comp=Z,1.0nm,0.4s
ARSA *e*P **PKPab 09 27 49.2 -0.2**
comp=Z,1.5nm,0.4s
VTS Vitosha 151.62 325 ⇓P **PKPbc 09 27 38.9 -0.7**
SOKA Soboth 151.96 340 *e*P **PKPbc 09 27 38.7 -1.5**
comp=Z,4.3nm,1.1s
SOKA *e*P **PKPab 09 27 52.2 -0.1**
comp=Z,5.3nm,1.4s
KBA Koelnbreinsper 152.12 342 *e*P **PKPab 09 27 54.0 +0.9**
comp=Z,2.0nm,0.5s
DIVS Divibare 152.16 331 **PKPbc 09 27 40.7 0.0**
DIVS PKPab **PKPab 09 27 52.9 -0.4**
WATA Walderalm 152.34 345 *e*P **PKPbc 09 27 40.3 -0.8**
comp=Z,3.8nm,0.5s
WATA *e*P **PKPab 09 27 53.1 -0.9**
comp=Z,3.1nm,0.5s
RETA Reutte 152.39 346 *e*P **PKPab 09 27 54.0 -0.1**
comp=Z,2.8nm,0.4s
WTTA Wattenberg 152.39 345 *e*P **PKPbc 09 27 40.5 -0.7**
comp=Z,4.0nm,0.4s
WTTA *e*P **PKPab 09 27 54.6 +0.4**
comp=Z,7.9nm,0.8s
MYKA Terra Mystica 152.44 342 *e*P **PKPbc 09 27 39.4 -1.7**
comp=Z,2.3nm,0.5s
MYKA *e*P **PKPab 09 27 53.8 -0.4**
comp=Z,2.2nm,0.4s
MOTA Moosalm 152.44 346 *e*P **PKPbc 09 27 41.2 -0.1**
comp=Z,8.5nm,1.2s
MOTA *e*P **PKPab 09 27 54.6 +0.2**
comp=Z,6.2nm,0.9s
PDKS Podkum 152.52 339 *i* PKPbc **PKPbc 09 27 40.3 -1.0**
ABTA Abfaltersbach 152.65 343 *e*P **PKPbc 09 27 39.6 -2.0**
comp=Z,5.1nm,0.5s
ABTA *e*P **PKPab 09 27 53.8 -1.4**
comp=Z,1.2nm,0.4s
CRNS Crni Vrh 152.74 340 *i* PKPbc **PKPbc 09 27 40.6 -1.2**
DAVA Damuels 152.77 347 *e*P **PKPbc 09 27 42.1 +0.1**
comp=Z,2.3nm,0.7s
DAVA *e*P **PKPab 09 27 56.4 +0.6**
comp=Z,3.6nm,0.6s
FETA Feichten 152.84 346 *e*P **PKPdf 09 27 34.2 -0.2**
comp=Z,2.5nm,0.6s
TUE Stuetta 153.65 348 PKPdf **PKPdf 09 27 35.1 -0.6**
FNA Florina 153.89 324 **PKPbc 09 27 43.7 -0.8**
TORD Torodi Ar. Bea 172.32 182 PKP **PKPdf 09 27 52.4 -1.3**
comp=Z,1.0nm,0.7s,baz=335,slow=2.2,SNR=4.2

NEIC ***15*** *09:22:21.3±1.7, 16°.0N±0°.1×96°.90W±0°.08, h25km±7km,*
Error ellipse: s-maj=20.2km s-min=2.8km az=213.0
IDC ***15*** *09:22:23.2±1.7, 16°.14N×96°.76W, h35km±3km, mb4.1/8,*
mb1 4.3/10, mb1mx3.9/40, mbtmp4.2/10, ML2.9/2, MS3.4/21,
Ms1 3.4/21, ms1mx3.3/31, Error ellipse: s-maj=34.3km
s-min=14.6km az=172.0
MEX ***15*** *09:22:23.5±1.8, 16°.11N×96°.92W, h37km±30km, MD4.5*
ISC 15 09:22:22.7±0.5,**16.12N**±0.04×**96.90W**±0.03,**h33**km±2km,
h33km:**pP-P,n323,**σ1§**15**/323,**mb4.6**/35,**MS3.4**/19,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.27 244**		*i* P	**Pb**	**09 22 29.1**	**-0.9**
PEIG				*e*S	**Sn**	**09 22 34.4**	**-0.4**
PANG	**Puerto Angel**	**0.61 137**		*e*P	**Pb**	**09 22 33.7**	**-1.3**
PANG				*e*S	**Sb**	**09 22 41.2**	**-2.1**
PANG	**Puerto Angel**	**0.61 137**			**Pb**	**09 22 33.7**	**-1.3**
PANG					**Sb**	**09 22 41.2**	**-2.1**
HUIG	**Huatulco**	**0.84 114**		*e*P	**Pn**	**09 22 37.3**	**-0.9**
HUIG				*e*S	**Sn**	**09 22 48.0**	**-1.3**
HUIG	**Huatulco**	**0.84 114**			**Pn**	**09 22 37.3**	**-0.9**
HUIG					**Sn**	**09 22 48.0**	**-1.3**
YOIG	**Yosondua**	**0.96 320**		*e*P	**Pn**	**09 22 38.7**	**-1.5**
YOIG				*i* S	**Sn**	**09 22 50.2**	**-2.7**
VHO	**Vista Hermosa**	**0.97 10**		*i* P	**Pn**	**09 22 39.4**	**-0.7**
VHO				*i* S	**Sn**	**09 22 52.1**	**-0.7**
TLIG	**Tlapa**	**2.15 312**		Pn	**Pn**	**09 22 56.4**	**0.0**
CMIG	**Matias Romero**	**2.16 63**		Pn	**Pn**	**09 22 55.6**	**-0.8**
	6.2nm,0.3s,baz=270,slow=24,SNR=85						
CMIG				Lg	Lg	09 23 30.0	
	444nm,0.3s,baz=160,slow=20,SNR=14						
CMIG				LR	LR	09 23 51.7	
	comp=Z,637nm,21.4s,baz=1.0,slow=44						
CMIG	**Matias Romero**	**2.16 63**		*e*P	**Pn**	**09 22 55.3**	**-1.1**
CMIG				*e*S	**Sb**	**09 23 26.4**	**-1.2**
CMIG	**Matias Romero**	**2.16 63**			**Pn**	**09 22 55.3**	**-1.1**
CMIG					**Sb**	**09 23 26.4**	**-1.2**
AMVM	**AMECAMECA**	**3.50 329**		*e*P	**Pn**	**09 23 18.2**	**+3.1**
AMVM				*e*S	**Sb**	**09 24 07.0**	**+0.6**
AMVM	**AMECAMECA**	**3.50 329**			**Pn**	**09 23 18.2**	**+3.1**
AMVM					LR	09 24 07.0	
MAVM	**Malinalco, Edo**	**3.76 319**		*e*P	**Pn**	**09 23 19.9**	**+1.3**
MAVM				*e*S	**Sn**	**09 24 00.4**	**-1.4**
MAVM	**Malinalco, Edo**	**3.76 319**			**Pn**	**09 23 19.9**	**+1.3**
MAVM					**Sn**	**09 24 00.4**	**-1.4**
CVM	**Colonia del Va**	**3.91 327**		*e*P	**Pn**	**09 23 19.0**	**-1.5**
CVM				*e*S	**Sn**	**09 24 06.5**	**+1.3**
PTVM	**Pico Tres Padr**	**4.05 329**		*e*P	**Pb**	**09 23 30.8**	**-2.7**
PTVM				*e*S	**Sn**	**09 24 14.4**	**+5.3**
PTVM	**Pico Tres Padr**	**4.05 329**			**Sn**	09 24 14.4	
ZUVM	**ZUMPANGO**	**4.23 331**		*e*P	**Pn**	**09 23 28.6**	**+3.4**
ZUVM				*e*S	**Sb**	**09 24 21.3**	**-6.1**
ZUVM	**ZUMPANGO**	**4.23 331**			**Pn**	**09 23 28.6**	**+3.4**
ZUVM					LR	09 24 21.3	
CCIG	**Comitan**	**4.58 87**			**Pn**	**09 23 30.7**	**+0.8**
THIG		**4.63 104**		*e*P	**Pn**	**09 23 30.8**	**+0.5**
THIG		**4.63 104**			**Pn**	**09 23 30.8**	**+0.5**
HUEH	**Huehuetenango**	**5.26 98**			**Pn**	**09 23 39.7**	**+0.4**
RTAL	**Retalhuleu**	**5.26 107**			**Pn**	**09 23 41.1**	**+1.9**
MOIG	**Morelia**	**5.41 312**			**Pn**	**09 23 41.5**	**+0.3**
PETF	**Flores**	**6.79 82**			**Pn**	**09 24 00.4**	**+0.3**
ESQI	**Esquipulas**	**7.45 101**		Pn	**Pn**	**09 24 10.2**	**+0.9**
MTO3	**Montecristo**	**7.47 102**			**Pn**	**09 24 10.2**	**+0.5**
ZAIG	**Zacatecas**	**8.51 322**			**Pn**	**09 24 23.2**	**-0.7**
TGUH	**Tegucigalpa,Un**	**9.52 101**		Pn	**Pn**	**09 24 37.8**	**+0.1**
833A	**Chaparral WMA,**	**12.37 350**		P	**Pn**	**09 25 18.2**	**+1.7**
	baz=169						
DUNO	**Dulce Nombre,**	**12.62 117**		Pn	**Pn**	**09 25 20.5**	**+0.4**
JTS	**Las Juntas de**	**12.99 115**		LR	LR	09 28 36.2	
	comp=Z,24nm,19.4s,baz=18,slow=29						
CAO2	**Cobano, Puntar**	**13.15 118**		Pn	**Pn**	**09 25 26.9**	**-0.3**
HPIG		**13.50 324**		Pn	**Pn**	**09 25 31.0**	**-1.2**
RIMA	**Rio Macho**	**14.18 115**			**Pn**	**09 25 41.5**	**0.0**
JCT	**Junction City**	**14.54 350**		P	**Pn**	**09 25 47.5**	**+1.2**
	baz=169						
JCT	**Junction City**	**14.54 350**		Pn	**Pn**	**09 25 46.6**	**+0.3**
TXAR	**Lajitas Array**	**14.56 336**		Pn	**Pn**	**09 25 47.8**	**+1.4**
	0.0nm,0.3s,baz=149,slow=12,SNR=6.1						
TXAR				Lg	Lg	09 30 14.2	
	0.0nm,0.3s,baz=148,slow=34,SNR=2.1						
TXAR	**Lajitas Array**	**14.56 336**			**Pn**	**09 25 47.0**	**+0.6**
TX31	**Lajitas Ar. Si**	**14.56 336**			**Pn**	**09 25 48.4**	**+1.9**
TX32	**Lajitas Array**	**14.56 336**			**Pn**	**09 25 47.7**	**+1.2**
435B	**Jarrell**	**14.62 358**			**Pn**	**09 25 48.9**	**+1.8**
SOR	**Soroa**	**14.68 61**		Pn	**Pn**	**09 25 49.6**	**+1.4**
NATX	**Nacogdoches**	**15.71 7**		Pn	**Pn**	**09 26 00.1**	**-1.5**
WHTX	**Lake Whitney,**	**15.81 358**		P	**Pn**	**09 26 04.2**	**+1.2**
	baz=178						
WHTX	**Lake Whitney,**	**15.81 358**			**Pn**	**09 26 02.2**	**-0.7**
WHTX				IAmb	IAmb	09 26 21.3	
	comp=Z,54nm,1.1s						
237A	**Washetta, Mont**	**15.85 3**			**Pn**	**09 26 02.7**	**-0.6**
237A				IAmb	IAmb	09 26 20.9	
	comp=Z,50nm,1.1s						
ABTX	**Abilene, Hawle**	**16.62 352**		P	**P**	**09 26 14.6**	**-0.9**
	baz=171						
ABTX	**Abilene, Hawle**	**16.62 352**		Pn	**Pn**	**09 26 13.1**	**-0.2**
ABTX				IAmb	IAmb	09 26 31.5	
	comp=Z,59nm,1.0s						
346A	**Big Creek Wild**	**16.65 23**			**Pn**	**09 26 14.2**	**+0.7**
346A				IAmb	IAmb	09 26 43.4	
	comp=Z,34nm,0.9s						
VBMS	**Vicksburg**	**17.05 19**		P	**Pn**	**09 26 18.4**	**-0.2**
	baz=201						
VBMS	**Vicksburg**	**17.05 19**		P	**Pn**	**09 26 18.0**	**-0.5**
Z35A	**Perchaven, San**	**17.14 359**		P	**Pn**	**09 26 19.2**	**-0.6**
Z35A				IAmb	IAmb	09 26 35.8	
	comp=Z,78nm,1.4s						
Z38A	**Mt. Pleasant**	**17.16 5**		P	**Pn**	**09 26 19.8**	**-0.2**
Z38A				IAmb	IAmb	09 26 36.3	
	comp=Z,53nm,0.9s						
143A	**Socs Landing,**	**17.25 16**		P	**P**	**09 26 21.8**	**-0.6**
143A				IAmb	IAmb	09 26 41.6	
	comp=Z,44nm,1.2s						
MNTX	**Cornudas Mount**	**17.33 335**		P	**P**	**09 26 22.9**	**-0.4**
	baz=152,SNR=6.0						
MNTX	**Cornudas Mount**	**17.33 335**		P	**P**	**09 26 23.2**	**-0.1**
Z41A	**Richland Creek**	**17.47 12**		P	**P**	**09 26 24.4**	**-0.4**
	baz=193						
WLAR	**White Oak Lake**	**17.83 10**		P	**P**	**09 26 29.1**	**+0.4**
WLAR				IAmb	IAmb	09 26 42.9	
	comp=Z,66nm,1.4s						
X34A	**Smith Ranch, M**	**18.43 358**			**Pn**	**09 26 35.9**	**+0.3**
X34A				IAmb	IAmb	09 26 58.0	
	comp=Z,52nm,1.1s						
X37A	**Clayton**	**18.45 4**			**P**	**09 26 35.3**	**-0.2**
X37A				IAmb	IAmb	09 26 51.2	
	comp=Z,40nm,1.3s						
MSTX	**Muleshoe**	**18.55 344**		P	**P**	**09 26 36.6**	**-0.2**
	baz=162,SNR=10						
MSTX	**Muleshoe**	**18.55 344**		P	**P**	**09 26 36.7**	**-0.2**
MSTX				IAmb	IAmb	09 26 52.9	
	comp=Z,33nm,1.1s						
MIAR	**Mount Ida**	**18.59 9**		P	**P**	**09 26 36.1**	**-1.1**
	baz=190,SNR=15						
MIAR	**Mount Ida**	**18.59 9**		P	**P**	**09 26 36.3**	**-0.9**
MIAR				IAmb	IAmb	09 26 52.9	
	comp=Z,32nm,0

W39A	Magazine	19.21	8	P	P	09 26 44.0	+0.1
	baz=189						
W39A	Magazine	19.21	8	P	P	09 26 43.9	+0.1
OK025	Westminster Rd	19.39	359	P	P	09 26 45.6	-0.3
OK025				IAmb	IAmb	09 27 06.5	
	comp=Z,44nm,1.2s						
W41B	Gary Mavity, V	19.43	12	P	P	09 26 46.2	-0.1
	baz=194						
BCOK	Bluff Creek, N	19.47	358	P	P	09 26 46.6	-0.1
OXF	Oxford	19.52	19	P	P	09 26 46.5	-0.7
	baz=202						
WHAR	Wooly Hollow	19.54	11	P	P	09 26 47.5	+0.1
TUL1	Leonard	19.74	3	P	P	09 26 49.5	-0.2
	baz=183						
OK031	S. Brethren Rd	19.76	0	P	P	09 26 49.1	-0.8
OK031				IAmb	IAmb	09 27 04.5	
	comp=Z,58nm,1.3s						
QUOK	Quay	19.98	0	P	P	09 26 52.0	-0.3
QUOK				IAmb	IAmb	09 27 06.2	
	comp=Z,41nm,1.4s						
BNM	Barren Site	19.98	336		P	09 26 52.5	-0.1
Y22D	IRIS PASSCAL I	20.03	335	P	P	09 26 53.3	+0.3
	baz=151						
Y49A	Blount Mountai	20.04	26	P	P	09 26 52.3	-0.7
Y49A				IAmb	IAmb	09 27 06.6	
	comp=Z,26nm,0.8s						
LENM	Lemitar	20.13	335		Pn	09 26 56.0	-0.2
FCAR	Ozark Folk Cen	20.15	11	P	P	09 26 54.0	-0.2
FCAR				IAmb	IAmb	09 27 08.8	
	comp=Z,19nm,0.6s						
HHAR	Hobbs	20.26	7	P	P	09 26 55.2	-0.1
LPAR	Lepanto	20.28	16	P	P	09 26 54.3	-1.3
X48A	Hartselle	20.29	24	P	P	09 26 54.5	-1.3
CROK	Carrier	20.33	357	P	P	09 26 56.5	+0.4
U38A	Gravette	20.37	6	P	P	09 26 56.3	-0.3
PLAL	Pickwick Lake	20.39	21	P	P	09 26 55.3	-1.4
TUC	Tucson	20.47	324	P	P	09 26 58.4	+0.7
	baz=139						
U40A	Yellville	20.48	9	P	P	09 26 57.4	-0.4
	baz=191,SNR=13						
U40A	Yellville	20.48	9	P	P	09 26 57.5	-0.2
U40A				IAmb	IAmb	09 27 15.1	
	comp=Z,20nm,0.8s						
LCAR	Lake Charles	20.52	13	P	P	09 26 57.5	-0.7
ANMO	Albuquerque	20.62	337	P	P	09 27 00.5	+1.0
	comp=Z,5.7nm,0.9s,baz=142,slow=12,SNR=20						
ANMO				LR	LR	09 35 56.6	
	comp=Z,135nm,19.4s,baz=164,slow=39						
ANMO	Albuquerque	20.62	337	P	P	09 26 59.6	+0.1
	baz=153						
ANMO	Albuquerque	20.62	337	P	P	09 26 58.5	-1.0
T35A	Sooner Cattle	20.72	1	P	P	09 27 00.1	-0.3
KAN13	South Haven SW	20.82	359	P	P	09 27 01.2	-0.3
KAN09	Caldwell North	20.95	358	P	P	09 27 02.1	-0.7
KAN09				IAmb	IAmb	09 27 19.0	
	comp=Z,25nm,0.9s						
GOGA	Godfrey	21.07	33	P	P	09 27 02.9	-1.2
	baz=218						
MGMO	Mountain Grove	21.36	10	P	P	09 27 06.4	-0.8
PBMO	Poplar Bluff	21.37	14	P	P	09 27 07.1	-0.2
PBMO				IAmb	IAmb	09 27 22.5	
	comp=Z,15nm,0.8s						
214A	Organ Pipe Nat	21.40	320	P	P	09 27 08.0	+0.2
	baz=134						
SWET	Sewanee	21.41	25	P	P	09 27 06.3	-1.4
PARMO	Parma	21.43	16	P	P	09 27 07.9	-0.1
T42A	Van Buren	21.46	13	P	P	09 27 08.1	-0.2
WVT	Waverly	21.51	20	P	P	09 27 07.8	-1.1
	baz=204						
WVT	Waverly	21.51	20	P	P	09 27 06.8	-2.1
V48A	Smith Brothers	21.52	23	P	P	09 27 07.8	-1.2
V48A				IAmb	IAmb	09 27 25.4	
	comp=Z,27nm,0.7s						
W50A	Signal Mountai	21.65	26	P	P	09 27 08.9	-1.5
T25A	Trinidad	21.97	344	P	P	09 27 14.7	+0.6
	baz=160,SNR=9.5						
CLTN	Cedars of Leba	22.01	23	P	P	09 27 13.2	-1.0
CLTN				IAmb	IAmb	09 27 27.3	
	comp=Z,17nm,0.8s						
T45A	Paducah	22.07	18	P	P	09 27 14.5	-0.3
W18A	Petrified Fore	22.14	331	P	P	09 27 16.2	+0.3
	baz=146						
CPCT	Cooper Cave	22.21	28	P	P	09 27 15.9	-0.5
CPCT				IAmb	IAmb	09 27 32.4	
	comp=Z,23nm,1.2s						
R32A	Long Quarter,	22.28	356	P	P	09 27 17.2	+0.1
CCM	Cathedral Cave	22.42	12	P	P	09 27 17.9	-0.7
	baz=194						
CCM	Cathedral Cave	22.42	12	P	P	09 27 18.7	+0.2
R40A	Maddies Statio	22.46	10	P	P	09 27 19.2	+0.1
R40A				IAmb	IAmb	09 27 33.5	
	comp=Z,20nm,0.9s						
S44A	Carbondale	22.53	16	P	P	09 27 19.5	-0.2
S44A				IAmb	IAmb	09 27 21.0	
	comp=Z,16nm,0.7s						
T47A	Sharon Grove	22.53	21	P	P	09 27 18.7	-1.1
SIUC	Southern Illin	22.56	16	P	P	09 27 19.1	-1.0
SIUC				IAmb	IAmb	09 27 20.9	
	comp=Z,14nm,0.7s						
U49A	Red Boiling Sp	22.59	24	P	P	09 27 18.9	-1.5
U49A				IAmb	IAmb	09 27 35.3	
	comp=Z,17nm,0.8s						
TKL	Tuckaleechee C	22.72	29	LR	LR	09 37 42.6	
	comp=Z,30nm,20.5s,baz=231,slow=41						
CBKS	Cedar Bluff	22.75	354	P	P	09 27 21.8	-0.3
	baz=173						
CBKS	Cedar Bluff	22.75	354	P	P	09 27 21.5	-0.7
SDCO	Great Sand Dun	22.85	342	P	P	09 27 23.1	-0.4
	baz=158,SNR=8.9						
SDCO	Great Sand Dun	22.85	342	P	P	09 27 23.3	-0.2
CBOC	Ciudad Bolivar	22.87	114	eP	P	09 27 31.2	+7.5
PLMC	San Jos del P	23.10	117	eP	P	09 27 34.7	+8.7
WUAZ	Wupatki	23.25	329	P	P	09 27 28.7	+1.3
	baz=143,SNR=12						
S22A	4UR Ranch, Cre	23.26	340	P	P	09 27 28.0	+0.3
	baz=155,SNR=10						
MVCO	Mesa Verde	23.39	336	P	P	09 27 28.7	-0.2
	baz=151,SNR=10						
MVCO	Mesa Verde	23.39	336	P	P	09 27 28.8	-0.1
GLA	Glamis	23.39	319	P	P	09 27 29.1	+0.3
	baz=132,SNR=6.8						
GLA	Glamis	23.39	319	P	P	09 27 27.6	-1.2
GLA				IAmb	IAmb	09 27 31.1	
	comp=Z,22nm,0.8s						
SMLC	San Martn de	23.43	105	eP	P	09 27 36.4	+7.2
YOTC	Yotoco, Valle	23.52	119	eP	P	09 27 40.5	+10
TZTN	Tazewell	23.55	28	P	P	09 27 28.6	-1.6
	baz=214						
P40A	Paris	23.71	9	P	P	09 27 31.2	-0.4
GUY2C	Guyana, Caldas	23.74	115	eP	P	09 27 34.7	+2.0
PDMCI	Parker Dam,Lak	23.84	323	P	P	09 27 33.2	+0.3
	baz=135						
BBAC	Balboa, Cauca	23.89	124	eP	P	09 27 46.9	+13
WCI	Wyandotte Cave	23.93	21	P	P	09 27 32.7	-1.0
	baz=206						
WCI	Wyandotte Cave	23.93	21	P	P	09 27 32.7	-1.0
NORC	Norcasia	24.02	113	eP	P	09 27 45.1	+10
TOLC	Tolima	24.09	116	eP	P	09 27 46.9	+11
CBX	Cerro Bola	24.12	316	P	P	09 27 34.0	-1.7
V55A	Taylorsville	24.13	33	P	P	09 27 35.0	-0.7
V55A				IAmb	IAmb	09 27 49.4	
	comp=Z,11nm,0.8s						
MONP2	Monument Peak	24.31	317	P	P	09 27 38.1	+0.5
	baz=129,SNR=6.0						
IRM	Iron Mountain	24.33	321	P	P	09 27 38.1	+0.5
	baz=133,SNR=10.0						
PV13	Radium Mtn., P	24.34	337	P	P	09 27 37.8	0.0
PV13				IAmb	IAmb	09 27 54.0	
	comp=Z,38nm,1.4s						
BAR	Barrett	24.35	316	P	P	09 27 37.1	-0.6
ORTC	Ortega, Tolima	24.50	117	eP	P	09 27 44.0	+4.7
BELC	Belle Mtn. Jos	24.75	320	P	P	09 27 42.0	+0.5
	baz=132,SNR=9.7						
TPFO	Pinon Flats	24.79	318	P	P	09 27 42.2	+0.4
	baz=130						
PFO	Pinyon Flats O	24.79	318	P	P	09 27 43.1	+1.2
	comp=Z,6.7nm,0.8s,baz=111,slow=6.8,SNR=12						
PFO				sP	sP	09 27 58.5	+2.6
	comp=Z,7.0nm,0.9s,baz=122,slow=11,SNR=6.6						
PFO				LR	LR	09 37 40.6	
	comp=Z,102nm,19.6s,baz=124,slow=37						
PFO	Pinyon Flats O	24.79	318	P	P	09 27 43.1	+1.2
	baz=130,SNR=5.6						
PFO	Pinyon Flats O	24.79	318	P	P	09 27 42.9	+1.0
ISCO	Idaho Springs	24.79	344	P	P	09 27 42.0	+0.1
	baz=160						
ISCO	Idaho Springs	24.79	344	P	P	09 27 42.1	+0.1
ISCO				IAmb	IAmb	09 27 59.2	
	comp=Z,19nm,1.2s						
N38A	Joes South For	24.80	7	P	P	09 27 40.5	-1.1
N38A				IAmb	IAmb	09 27 42.0	
	comp=Z,18nm,0.7s						
P46A	Rosedale	24.90	18	P	P	09 27 41.8	-0.8
N41A	Harden Midland	25.06	11	P	P	09 27 43.5	-0.5
GMRC	Granite Mounta	25.07	321	P	P	09 27 44.9	+0.5
	baz=133						
OGNE	Ogallala	25.14	351	P	P	09 27 45.1	+0.2
	baz=168						
HDIL	Hopedale	25.23	14	P	P	09 27 45.7	+0.1
	baz=197						
RUSC	La Rusia	25.46	111	eP	P	09 27 46.9	-1.6
BLA	Blacksburg	25.58	32	P	P	09 27 48.2	-0.7
	baz=219						
TUQ	Turquoise Moun	25.68	322	P	P	09 27 50.5	+0.6
	baz=134,SNR=6.3						
O20A	White River Ci	25.89	340	P	P	09 27 52.6	+0.8
	baz=154						
SCIA	State Center	25.90	6	P	P	09 27 51.0	-0.7
SCIA				IAmb	IAmb	09 28 05.8	
	comp=Z,18nm,0.8s						
N23A	Red Feather La	25.91	344	P	P	09 27 52.4	+0.3
	baz=160						
BFSC	Mount Baldy Ra	25.96	318	P	P	09 27 53.4	+1.0
	baz=129						
GSC	Goldstone, Bar	26.11	321	P	P	09 27 55.7	+1.9
	baz=132						
SHOC	Shoshone, Teco	26.20	322	P	P	09 27 56.4	+1.9
	baz=134						
N47A	Urbana	26.52	19	P	P	09 27 55.6	-1.6
EDW2	Edwards Air Fo	26.58	319	P	P	09 27 59.7	+1.8
	baz=130						
SDV	Santo Domingo	26.61	102	LR	LR	09 39 39.5	
	comp=Z,98nm,21.3s,baz=262,slow=39						
SNCC	San Nicolas Is	26.62	314	P	P	09 28 00.0	+1.8
	baz=124						
P52A	Corning	26.75	26	P	P	09 27 59.5	+0.2
	baz=213						
ACSO	Alum Creek Sta	26.91	24	P	P	09 28 01.1	+0.3
	baz=211						
ACSO	Alum Creek Sta	26.91	24	P	P	09 28 00.8	0.0
TPNV	Topopah Spring	26.92	324	P	P	09 28 02.4	+1.2
	baz=136,SNR=8.5						
JFWS	Jewell Farm	27.31	11	P	P	09 28 03.5	-0.8
	baz=194						
JFWS	Jewell Farm	27.31	11	P	P	09 28 03.5	-0.8
JFWS				IAmb	IAmb	09 28 04.0	
	comp=Z,15nm,0.8s						
ECSD	EROS Data Cent	27.53	0	P	P	09 28 07.4	+1.1
	baz=181						
R11A	Troy Canyon, C	27.58	327	P	P	09 28 08.6	+1.5
	baz=138						
GRAC	Grapevine Rang	27.59	323	P	P	09 28 09.0	+1.9
	baz=134						
CWC	Cottonwood Cre	27.64	321	P	P	09 28 09.0	+1.4
	baz=132						
O53A	New Philadelph	27.65	26	P	P	09 28 06.8	-0.6
	baz=214						
DUG	Dugway, Tooele	27.70	333	P	P	09 28 09.7	+1.6
	baz=146						
K22A	Casper	27.70	345	P	P	09 28 09.6	+1.5
	baz=160						
MCWV	Mont Chateau	27.78	29	P	P	09 28 08.1	-0.5
	baz=217						
VES	Vestal, Richgr	27.88	319	P	P	09 28 10.7	+1.3
	baz=129						
RSSD	Black Hills	28.57	349	P	P	09 28 16.0	+0.2
	baz=166						
BW06	Boulder Array	28.69	340	P	P	09 28 17.3	+0.3
	baz=154						
PDAR	Pinedale Array	28.69	340	P	P	09 28 13.9	-3.0
	comp=Z,1.2nm,0.9s,baz=153,slow=8.1,SNR=7.8						
PDAR				LR	LR	09 40 47.5	
	comp=Z,87nm,20.4s,baz=166,slow=38						
O56A	Blue Knob Stat	28.87	30	P	P	09 28 18.2	-0.1
	baz=219						
NVAR	Mina Array Bea	29.12	324	P	P	09 28 22.9	+2.0
	comp=Z,6.3nm,0.8s,baz=146,slow=9.3,SNR=44						
NVAR				sP	sP	09 28 37.3	+2.4
	comp=Z,8.3nm,1.1s,baz=143,slow=9.4,SNR=10.0						
NVAR				LR	LR	09 40 08.0	
	comp=Z,132nm,18.8s,baz=94,slow=37						
SPMN	Marine on St.	29.22	6	P	P	09 28 20.3	-1.1
	baz=188						
SPMN	Marine on St.	29.22	6	P	P	09 28 20.3	-1.1
SPMN				IAmb	IAmb	09 28 35.7	
	comp=Z,11nm,1.0s						
ELK	Elko	29.24	331	P	P	09 28 23.4	+1.5
	comp=Z,1.2nm,0.8s,baz=119,slow=6.3,SNR=5.9						
ELK				LR	LR	09 40 46.0	
	comp=Z,114nm,19.2s,baz=144,slow=38						
M54A	Oil Creek Stat	29.35	27	P	P	09 28 22.7	+0.2
	baz=216						
SJG	San Juan	29.44	82	LR	LR	09 41 04.9	
	comp=Z,48nm,20.8s,baz=254,slow=38						
TPAW	Teton Pass	29.80	339	P	P	09 28 26.9	+0.1
TPAW				IAmb	IAmb	09 28 43.3	
	comp=Z,19nm,1.4s						
RLMT	Red Lodge	30.74	343	P	P	09 28 34.9	-0.1
	baz=156,SNR=8.6						
RLMT	Red Lodge	30.74	343	P	P	09 28 35.0	-0.1
RLMT				IAmb	IAmb	09 28 37.0	
	comp=Z,8.2nm,0.9s						
BOZ	Bozeman (W)	31.89	340	P	P	09 28 44.8	-0.3
	baz=153,SNR=5.9						
DLMT	Dillon	32.00	339	P	P	09 28 47.5	+1.3
EYMN	Ely	32.05	7	P	P	09 28 45.0	-1.4
AGMN	Agassiz Nation	32.10	1	P	P	09 28 46.9	+0.2
	baz=182						
AGMN	Agassiz Nation	32.10	1	P	P	09 28 46.5	-0.3
AGMN				IAmb	IAmb	09 29 01.7	
	comp=Z,16nm,1.4s						
SADO	Sadowa	32.26	24	P	P	09 28 46.2	-2.0
	comp=Z,5.4nm,0.7s,baz=199,slow=4.5,SNR=2.1						
SADO				pP	pP	09 28 57.0	-1.1
	comp=Z,8.1nm,0.6s,baz=231,slow=7.6,SNR=2.2						
SADO				sP	sP	09 29 01.3	-1.0
	comp=Z,8.1nm,0.6s,baz=236,slow=8.4,SNR=3.8						
SADO	Sadowa	32.26	24	P	P	09 28 46.4	-1.7
SADO				IAmb	IAmb	09 29 02.1	
	comp=Z,7.9nm,0.7s						
LRM	Limekiln Ridge	32.36	339	P	P	09 28 50.2	+0.9
O03E	Paynes Creek	32.38	323	P	P	09 28 50.3	+0.9
	baz=131						
O02D	Mt. Diablo Mer	32.88	322	P	P	09 28 54.6	+0.8
	baz=130						
HRY	Holter Researc	32.94	341	P	P	09 28 55.2	+0.9
I58A	Old Forge	33.21	30	P	P	09 28 56.1	-0.5
	baz=221						
K61A	Williamstown	33.31	33	P	P	09 28 55.5	-1.9
	baz=224						
M04C	Macdoel	33.39	325	P	P	09 28 59.0	+0.7
	baz=133						
EGMT	Eagleton	33.54	344	P	P	09 28 59.7	+0.3
	baz=157						
H57A	Richville	33.60	28	P	P	09 28 59.8	-0.1
	baz=220						
MSO	Missoula	33.74	339	P	P	09 29 01.5	+0.3
	baz=150,SNR=5.3						
MSO	Missoula	33.74	339	P	P	09 29 01.6	+0.3
MSO				IAmb	IAmb	09 29 16.9	
	comp=Z,6.5nm,0.9s						
ULM	Lac du Bonnet	34.06	1	LR	LR	09 44 11.9	
	comp=Z,43nm,18.6s,baz=174,slow=38						
F10A	Beach Ranch, E	34.28	335	P	P	09 29 05.8	-0.1
I62A	Tamworth	35.16	33	P	P	09 29 11.9	-1.5
	baz=226						
F05D	White Salmon	36.09	330	P	P	09 29 22.0	+0.5
	baz=137						
NEW	Newport	36.11	337	P	P	09 29 21.6	0.0
	baz=146						
G62A	West of Eustis	36.50	32	P	P	09 29 23.5	-1.5
	baz=226						
G62A	West of Eustis	36.50	32	P	P	09 29 24.8	-0.1
G62A				pP	pP	09 29 34.5	-0.5
G62A				IAmb	IAmb	09 29 36.0	
	comp=Z,8.1nm,0.8s						
D58A	Chemin du LacG	36.75	28	P	P	09 29 28.0	+1.0
	baz=221						
D03D	Eldon	38.06	331	P	P	09 29 39.6	+1.5
	baz=137						
D61A	St Aubert, Com	38.07	30	P	P	09 29 40.5	+2.3
	baz=224						
CHGQ	Chibougamau	38.33	24	P	P	09 29 40.5	+0.1
	baz=216						
D62A	Allapoint, All	38.54	31	P	P	09 29 42.1	-0.1
D62A					pP	09 29 52.0	-0.3
E64A	Bridgewater	38.70	33	P	P	09 29 44.4	+0.9
	baz=228						
FFC	Flin Flon	38.73	355	P	P	09 29 43.3	-0.3
A04D	Lummi Island	38.76	333	P	P	09 29 44.5	+0.6
	baz=138						
EDM	Edmonton	39.22	344	P	P	09 29 48.0	+0.2
EDM				IAmb	IAmb	09 30 03.3	
	comp=Z,12nm,0.9s						
LPAZ	La Paz	42.92	137	LR	LR	09 46 16.4	
	comp=Z,95nm,21.9s,baz=318,slow=33						
YKA	Yellowknife Ar	47.98	349	P	P	09 30 57.1	-0.9
	comp=Z,2.6nm,0.8s,baz=153,slow=7.6,SNR=18						
YKA				pP	pP	09 31 09.5	+1.2
	comp=Z,4.0nm,1.0s,baz=152,slow=7.7,SNR=7.5						
YKA				sP	sP	09 31 11.8	-0.5
	comp=Z,3.8nm,1.0s,baz=155,slow=7.5,SNR=7.3						
YKA				LR	LR	09 52 14.8	
	comp=Z,46nm,18.3s,baz=0.0,slow=37						
H03N2	Juan Fernandez	52.18	161	T	T	10 28 14.3	
	baz=337						
H03N1	Juan Fernandez	52.19	161	T	T	10 28 01.3	
	baz=337						
H03N3	Juan Fernandez	52.19	161	T	T	10 28 24.5	
	baz=337						
DAWY	Dawson	55.98	339	P	P	09 31 57.2	-0.5
BMRM	Bremner River	56.20	334	P	P	09 31 59.4	+0.1
	baz=121						
BCAR	Beaver Creek A	56.24	337	P	P	09 32 00.0	+0.4
L27K	Beaver Creek,	56.25	337	P	P	09 31 59.6	0.0
	baz=125,SNR=7.1						
L27K	Beaver Creek,	56.25	337	P	P	09 32 00.3	+0.6
L27K				IAmb	IAmb	09 32 01.6	
	comp=Z,5.1nm,0.8s						
N25K	Chitina, Valde	56.53	335	P	P	09 32 03.2	+1.4
	baz=122						
EPYK	Eagle Plains	56.63	342	P	P	09 32 01.9	-0.4
	baz=133						
L26K	Log Cabin Wild	56.80	337	P	P	09 32 04.1	+0.6
	baz=124						
K27K	Chicken	56.91	338	P	P	09 32 05.3	+1.1
	baz=126						
KLU	Klutina	57.02	334	P	P	09 32 05.7	+0.5
	baz=120						
EGAK	Eagle	57.03	339	P	P	09 32 03.9	-1.2
	baz=127,SNR=7.7						
EGAK	Eagle	57.03	339	P	P	09 32 05.4	+0.3
EGAK				IAmb	IAmb	09 32 06.2	
	comp=Z,5.6nm,0.8s						
CPUP	Villa Florida	57.09	137	LR	LR	09 54 37.0	
	comp=Z,56nm,18.1s,baz=18,slow=34						
INK	Inuvik	57.12	345	P	P	09 32 04.8	-0.9
	baz=137,SNR=6.9						
INK	Inuvik	57.12	345	P	P	09 32 05.8	+0.1
INK				IAmb	IAmb	09 32 06.3	
	comp=Z,8.0nm,0.9s						
HARP	HAARP	57.17	336	P	P	09 32 06.3	+0.1
	baz=122						
SCRK	Sand Creek	57.57	337	P	P	09 32 08.5	-0.6
	baz=124,SNR=6.9						
PAX	Paxson	57.59	336	P	P	09 32 08.8	-0.5
	baz=122,SNR=7.2						
RIDG	Independent Ri	57.76	337	P	P	09 32 09.4	-1.0
	baz=122,SNR=7.5						
SEW	Seward	57.89	332	P	P	09 32 12.3	+1.1
	baz=116						
WAT6	Susitna Watana	58.30	335	P	P	09 32 13.6	-0.7
	baz=119,SNR=7.6						
BRSE	Bradley Lake S	58.33	331	P	P	09 32 14.4	+0.1
	baz=114						
CNPM	China Poot	58.47	331	P	P	09 32 16.1	+0.8
CNPM				IAmb	IAmb	09 32 16.3	
	comp=Z,5.3nm,0.7s						
OHAK	Old Harbor	58.61	328	P	P	09 32 16.0	-0.3
	baz=110						
WAT1	Susitna Watana	58.74	335	P	P	09 32 18.2	+1.0
	baz=118						
HDA	Harding Lake	58.90	337	P	P	09 32 17.4	-0.8
	baz=121,SNR=6.5						
PRP	Porcupine Dome	58.97	339	P	P	09 32 17.7	-1.1
	baz=123,SNR=6.2						
SUA	Susitna One	59.05	333	P	P	09 32 19.9	+0.4
	baz=115						
ILAR	Eielson Array	59.06	338	P	P	09 32 18.9	-0.4
	comp=Z,8.5nm,1.0s,baz=134,slow=4.7,SNR=42						
ILAR				sP	sP	09 32 34.5	+0.6
	comp=Z,3.9nm,0.9s,baz=137,slow=3.9,SNR=6.4						
ILAR				LR	LR	10 00 29.9	
	comp=Z,100nm,18.2s,baz=143,slow=39						
CUT	Chulitna	59.26	334	P	P	09 32 20.8	+0.1
	baz=116						
MCK	McKinley	59.33	336	P	P	09 32 21.3	+0.1
	baz=118						
POKR	Poker Plat Res	59.44	338	P	P	09 32 21.6	-0.4
	baz=120						
COLA	College	59.47	337	P	P	09 32 23.2	+1.1
	baz=120						
TCOL	CIGO, UAF Yank	59.48	337	P	P	09 32 23.2	+1.1
	baz=120						
SPCR	Spurr Chakacha	59.59	333	P	P	09 32 23.6	+0.5
	baz=114						
SKT	Skwentna	59.61	333	P	P	09 32 22.7	-0.5
	baz=115,SNR=9.3						
BMAR	Burnt Mountain	59.72	341	P	P	09 32 24.4	+0.5
TRF	Thorofare Moun	59.73	335	P	P	09 32 24.1	-0.1
	baz=117,SNR=16						
H24K	Noodor Dome	59.97	338	P	P	09 32 24.8	-0.8
	baz=120,SNR=12						
O19K	Port Alsworth	60.16	331	P	P	09 32 26.6	-0.3
	baz=111						
I23K	Minto, Yukon-K	60.16	337	P	P	09 32 27.0	+0.1
	baz=119						
I23K	Minto, Yukon-K	60.16	337	P	P	09 32 27.3	+0.4
PPLA	Purkeypile	60.27	334	P	P	09 32 27.8	-0.1
	baz=115						
BPAW	Bear Paw Mtn.	60.30	336	P	P	09 32 26.5	-1.4
	baz=116,SNR=5.7						
N19K	Bonanza Creek	60.46	332	P	P	09 32 27.9	-1.3
	baz=111,SNR=14						
O18K	Koktuh Hills	60.46	330	P	P	09 32 28.2	-0.9
	baz=110						
H23K	Yukon River	60.56	338	P	P	09 32 29.2	-0.4
	baz=119						
MLY	Manley	60.63	337	P	P	09 32 29.9	-0.2
	baz=117,SNR=18						
CHUM	Lake Minchumin	60.74	335	P	P	09 32 29.5	-1.3
	baz=115						
M19K	Big River Lodg	60.82	333	P	P	09 32 31.1	-0.4
	baz=112						
N18K	Kilae Creek	61.06	331	P	P	09 32 31.9	-1.2
	baz=110,SNR=7.4						
L19K	White Mountain	61.13	333	P	P	09 32 32.8	-0.8
	baz=112,SNR=7.6						
I21K	Tanana	61.16	337	P	P	09 32 32.3	-1.4
	baz=116,SNR=6.2						
K20K	Telida	61.24	334	P	P	09 32 33.2	-1.1
	baz=113,SNR=16						
J20K	Nowinta River	61.59	335	P	P	09 32 35.8	-0.8
	baz=113,SN

comp=Z,0.9nm,0.9s,baz=84,slow=2.5,SNR=3.5
ASAR Alice Springs 131.84 253 PKP PKPdf 09 41 33.6 +0.3
comp=Z,0.3nm,0.6s,baz=90,slow=1.9,SNR=2.1

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*NNC **15** 09:30:51.5±9.4, 53.°38N×88.°19E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=78.3km s-min=35.6km az=64.0, Suspected Mining explosion.*
IDC 15 09:30:53.8±2.9, 53.°60N×88.°00E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML2.8/2, 4C-7D, Error ellipse: s-maj=27.8km s-min=17.4km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**282**	*i*		09 42 50.0	
	baz=97,slow=301,SNR=2.2						
ZAA0	**Zalesovo Array**	**1.92**	**282**	⇓Pn	Pn	09 31 28.0	+0.3
	0.7nm,0.5s						
ZAA0				⇑Sn	Sg	09 31 54.9	-0.4
	3.8nm,0.5s						
ZALV	**Zalesovo Beam**	**1.92**	**282**	Pn	Pn	09 31 27.7	0.0
	2.6nm,0.3s,baz=98,slow=15,SNR=25						
ZALV				Lg	Lg	09 31 54.4	
	6.3nm,0.3s,baz=101,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.55**	**247**	Pn	Pn	09 32 31.6	+0.4
	0.2nm,0.3s,baz=64,slow=15,SNR=15						
KURBB				Lg	Lg	09 34 21.0	
	0.1nm,0.3s,baz=60,slow=33,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.55**	**247**	⇑Pn	Pn	09 32 31.6	+0.3
	1.9nm,0.4s						
KURBB				⇑Sn	Sn	09 33 43.1	-3.5
	5.6nm,0.7s						
KURBB				⇓Lg	Lg	09 34 20.2	
	8.4nm,0.8s						
MK31	**Makanchi Array**	**7.74**	**210**	⇑Pn	Pn	09 32 45.1	-2.5
	0.3nm,0.6s,baz=46,slow=13,SNR=7.2						
MK31				⇓Sn	Sn	09 34 14.2	-1.7
	0.3nm,0.6s						
MK31				⇓Lg	Lg	09 34 56.1	
	2.1nm,0.8s,baz=44,slow=33,SNR=3.6						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	09 32 49.0	+1.3
	0.1nm,0.3s,baz=27,slow=13,SNR=7.7						
MKAR				Lg	Lg	09 35 00.2	
	0.1nm,0.3s,baz=33,slow=33,SNR=5.9						
MAKZ	**Makanchi**	**7.82**	**212**	⇓Pn	Pn	09 32 46.0	-2.8
	0.7nm,0.8s						
MAKZ				⇓Sn	Sn	09 34 11.8	-6.1
	0.5nm,0.6s						
MAKZ				⇓Lg	Lg	09 34 57.7	
	1.8nm,1.1s						

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*KRNET **15** 09:42:31.2±0.1, 39.°47N×72.°99E, h18km, mb3.5*
*SOME **15** 09:42:35.0, 39.°82N×72.°83E, h10km*
*NNC **15** 09:42:37.8±1.1, 39.°75N×73.°25E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=8.5km s-min=5.1km az=178.0*
ISC 15 09:42:28.3±1.5, 39.°52N±0.°06×73.°10E±0.°03, h4km±13km, n42, σ1°32/76, 21C-16D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.01**	**268**	⇑*i*P	**Pb**	**09 42 48.5**	**0.0**
	baz=71						
DRK				⇑*i*S	**Sb**	**09 43 01.6**	**-0.7**
	baz=71						
OHH	**Osh**	**1.03**	**346**	⇑*e*P	**Pn**	**09 42 51.5**	**+1.8**
	baz=52						
OHH				⇑*i*S	**Sn**	**09 43 06.3**	**+1.7**
	baz=52						
BTK	**Batken**	**1.84**	**288**	⇑*i*P	**Pg**	**09 43 04.0**	**+0.4**
	baz=90						
BTK				⇑*i*S	**Sg**	**09 43 28.0**	**+0.5**
	baz=90						
TRKS	**Terek-Say**	**2.50**	**324**	⇓*e*P	**Pb**	**09 43 13.9**	**0.0**
	baz=26						
TRKS				⇓*i*S	**Sb**	**09 43 45.3**	**+0.1**
	baz=26						
ARLS	**Aral**	**2.52**	**21**	⇑*i*P	**Pg**	**09 43 16.1**	**-0.4**
	baz=23						
ARLS				⇑*i*S	**Sg**	**09 43 48.9**	**-0.2**
	baz=23						
AML	**Almayashu**	**2.65**	**10**	⇑*i*P	**Pg**	**09 43 18.0**	**-1.0**
	baz=11						
AML				⇑*i*S	**Sg**	**09 43 52.3**	**-1.0**
	baz=11						
MNAS	**Manas**	**3.00**	**351**	⇓*i*P	**Pb**	**09 43 22.4**	**0.0**
	baz=53						
MNAS				⇓*i*S	**Sb**	**09 43 59.9**	**+0.5**
	baz=53						
EKS2	**Erkin-Say**	**3.18**	**9**	⇑*i*P	**Pb**	**09 43 25.3**	**-0.1**
	baz=10.0						
EKS2				⇑*e*S	**Sb**	**09 44 05.0**	**+0.4**
	baz=10.0						
MRKS	**Merke**	**3.22**	**2**	*e*P	**Pg**	**09 43 30.9**	**+0.8**
	11nm,0.3s						
MRKS				*e*S	**Sg**	**09 44 13.0**	**+1.1**
	41nm,0.5s						
MRKS	**Merke**	**3.22**	**2**	Pg	**Pg**	**09 43 30.8**	**+0.7**
	12nm,0.5s						
MRKS				Pg	**Pg**	**09 43 32.5**	**+2.4**
	11nm,0.3s						
MRKS				Lg	Lg	09 44 12.4	
	36nm,0.5s						
MRKS				Lg	Lg	09 44 13.5	
	15nm,0.5s						
AAK	**Ala-Archa**	**3.29**	**18**	⇓*e*P	**Pb**	**09 43 27.1**	**-0.2**
	baz=19						
AAK				⇓*i*S	**Sb**	**09 44 07.7**	**0.0**
	baz=19						
AAK	**Ala-Archa**	**3.29**	**18**	⇑Pn	**Pb**	**09 43 27.1**	**-0.2**
	9.9nm,0.4s						
AAK				⇓Lg	Lg	09 44 11.6	
	29nm,0.9s						
TAS	**Tashkent**	**3.42**	**303**	⇑*e*P	**Pb**	**09 43 27.2**	**-2.3**
	baz=5.0						
TAS				⇑*i*S	**Sb**	**09 44 07.9**	**-3.5**
	baz=5.0						
FRU1	**Bishkek**	**3.48**	**19**	⇓*e*P	**Pb**	**09 43 30.0**	**-0.6**
	baz=20						
FRU1				⇓*e*S	**Sb**	**09 44 12.6**	**-0.6**
	baz=20						
ULHL	**Ulahol**	**3.62**	**40**	⇓*i*P	**Pb**	**09 43 32.0**	**-0.9**
	baz=41						
ULHL				⇓*i*S	**Sb**	**09 44 15.9**	**-1.3**
	baz=41						
BOOM	**Boomskoye usch**	**3.66**	**35**	⇑*e*P	**Pb**	**09 43 32.5**	**-1.2**
	baz=36						
BOOM				⇑*i*S	**Sb**	**09 44 17.1**	**-1.4**
	baz=36						
CHMS	**Chumysh**	**3.69**	**19**	⇑*e*P	**Pb**	**09 43 32.6**	**-1.5**
	baz=20						
CHMS				⇑*i*S	**Sb**	**09 44 17.3**	**-1.9**
	baz=20						
KDJ	**Kajisay**	**4.04**	**49**	⇓*e*P	**Pb**	**09 43 37.8**	**-2.4**
	baz=49						
KDJ				⇓*i*S	**Sb**	**09 44 26.6**	**-2.9**
	baz=49						
KK31	**Karatay Array**	**4.08**	**332**	⇑Pn	**Pb**	**09 43 38.7**	**-2.0**
	1.5nm,0.3s,baz=143,slow=13,SNR=17						
KK31				⇓Sn	**Sb**	**09 44 28.3**	**-2.0**
	6.3nm,0.5s,baz=148,slow=20,SNR=5.3						
KK31				⇓Lg	Lg	09 44 42.4	
	7.4nm,0.5s,baz=148,slow=28,SNR=5.0						
KST	**Kastek**	**4.13**	**31**	*e*P	**Pg**	**09 43 49.5**	**+2.2**
	9.9nm,0.6s						
KST				*e*S	**Sg**	**09 44 41.1**	**+0.3**
	17nm,1.0s						
KST	**Kastek**	**4.13**	**31**	Pg	**Pg**	**09 43 48.5**	**+1.2**
	6.0nm,0.5s						
KST				Pg	**Pg**	**09 43 49.1**	**+1.7**
	9.9nm,0.6s						
KST				Lg	Lg	09 44 41.1	
	17nm,1.0s						
KST				Lg	Lg	09 44 42.5	
	23nm,0.8s						
DGS	**Degeres**	**4.22**	**27**	*e*P	**Pg**	**09 43 51.2**	**+2.0**
	7.5nm,0.4s						
DGS				*e*S	**Sg**	**09 44 44.6**	**+0.6**
	12nm,0.3s						
DGS	**Degeres**	**4.22**	**27**	Pg	**Pg**	**09 43 50.1**	**+0.8**
	8.5nm,0.5s						
DGS				Lg	Lg	09 44 44.9	
	12nm,0.5s						
KRBS	**Karabastau**	**4.59**	**24**	*e*P	**Pg**	**09 43 57.2**	**+0.9**
	4.7nm,0.3s						
KRBS				*e*S	**Sg**	**09 44 54.9**	**-1.0**
	10nm,0.8s						
KRBS	**Karabastau**	**4.59**	**24**	Pg	**Pg**	**09 43 57.2**	**+0.9**
	4.5nm,0.7s						
KRBS				Pg	**Pg**	**09 43 57.4**	**+1.0**
	4.7nm,0.6s						
KRBS				Lg	Lg	09 44 54.9	
	10nm,0.8s						
KRBS				Lg	Lg	09 44 56.9	
	10nm,0.6s						
MDOK	**Medeo**	**4.70**	**38**	*e*P	**Pg**	**09 43 59.9**	**+1.7**
	4.9nm,0.6s						
MDOK				*e*S	**Sg**	**09 44 59.4**	**+0.3**
	12nm,0.9s						
MDOK	**Medeo**	**4.70**	**38**	Pg	**Pg**	**09 43 58.1**	**-0.1**
	11nm,1.1s						
MDOK				Lg	Lg	09 45 00.0	
	22nm,0.8s						
MDOK	**Medeo**	**4.70**	**38**	Pg	**Pg**	**09 43 58.6**	**+0.4**
	3.0nm,0.3s						
MDOK				Pg	**Pg**	**09 43 59.9**	**+1.7**
	4.9nm,0.6s						
MDOK				Lg	Lg	09 44 59.4	
	12nm,0.9s						
MDOK				Lg	Lg	09 44 59.5	
	11nm,0.9s						
KOTS	**Kotyrbulak**	**4.78**	**38**	*e*P	**Pg**	**09 44 02.0**	**+2.1**
	8.4nm,0.7s						
KOTS				*e*S	**Sg**	**09 45 02.5**	**+0.7**
	54nm,0.8s						
KOTS	**Kotyrbulak**	**4.78**	**38**	Pg	**Pg**	**09 44 00.5**	**+0.7**
	5.3nm,0.6s						
KOTS				Pg	**Pg**	**09 44 02.0**	**+2.1**
	8.4nm,0.7s						
KOTS				Lg	Lg	09 45 02.4	
	53nm,0.7s						
KOTS				Lg	Lg	09 45 02.5	
	54nm,0.8s						
KTBS	**Karatobe**	**4.97**	**31**	*e*P	**Pg**	**09 44 04.8**	**+1.2**
	4.7nm,0.7s						
KTBS				*e*S	**Sg**	**09 45 07.4**	**-0.5**
	18nm,0.6s						
KTBS	**Karatobe**	**4.97**	**31**	Pg	**Pg**	**09 44 04.0**	**+0.5**
	2.9nm,0.5s						
KTBS				Pg	**Pg**	**09 44 04.8**	**+1.2**
	4.7nm,0.7s						
KTBS				Lg	Lg	09 45 07.4	
	18nm,0.6s						
KTBS				Lg	Lg	09 45 08.5	
	20nm,0.6s						
KUU	**Kurty**	**4.99**	**28**	*e*P	**Pg**	**09 44 05.2**	**+1.3**
	3.4nm,0.6s						
KUU				*e*S	**Sg**	**09 45 08.3**	**-0.4**
	13nm,0.5s						
KUU	**Kurty**	**4.99**	**28**	Pg	**Pg**	**09 44 03.6**	**-0.3**
	2.2nm,0.6s						
KUU				Pg	**Pg**	**09 44 05.2**	**+1.3**
	3.4nm,0.6s						
KUU				Lg	Lg	09 45 07.9	
	16nm,0.9s						
KUU				Lg	Lg	09 45 08.3	
	13nm,0.5s						
SATY	**Saty**	**5.33**	**47**	*e*P	**Pg**	**09 44 11.9**	**+1.5**
	2.3nm,0.7s						
SATY				*e*S	**Sg**	**09 45 20.1**	**+0.6**
	7.5nm,0.7s						
SATY	**Saty**	**5.33**	**47**	Pg	**Pg**	**09 44 11.9**	**+1.5**
	2.3nm,0.7s						
SATY				Lg	Lg	09 45 20.1	
	7.5nm,0.7s						
KURS	**Kuram**	**5.49**	**42**	*e*P	**Pg**	**09 44 14.4**	**+0.9**
	3.9nm,0.3s						
KURS				*e*S	**Sg**	**09 45 24.3**	**-0.4**
	6.1nm,0.6s						
BTLS	**Baital**	**5.56**	**7**	*e*P	**Pg**	**09 44 14.7**	**-0.1**
	1.7nm,0.7s						
BTLS				*e*S	**Sg**	**09 45 24.2**	**-2.6**
	3.4nm,0.5s						
BTLS	**Baital**	**5.56**	**7**	Pg	**Pg**	**09 44 14.7**	**-0.1**
	1.7nm,0.7s						
BTLS				Lg	Lg	09 45 24.2	
	3.4nm,0.5s						
KPKS	**Kokpek**	**5.75**	**45**	*e*P	**Pg**	**09 44 19.6**	**+1.2**
	5.9nm,0.2s						
KPKS				*e*S	**Sg**	**09 45 33.0**	**+0.1**
	19nm,0.3s						
PDGK	**Podgornoye**	**6.12**	**50**	Pg	**Pg**	**09 44 24.9**	**-0.7**
	1.4nm,1.0s						
PDGK				Lg	Lg	09 45 42.1	
	3.2nm,1.1s						
PDGK	**Podgornoye**	**6.12**	**50**	⇑Pg	Pg	09 44 20.6	-5.0
	2.9nm,0.8s						
PDGK				⇓Lg	Lg	09 45 42.2	
	9.4nm,0.9s						

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*IDC **15** 10:00:10.2±1.0, 24.°76N×120.°93E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/39, mbtmp3.7/7, Error ellipse: s-maj=36.5km s-min=19.0km az=78.0*
*JMA **15** 10:00:26.0±0.1, 24.°62N×122.°50E, h108km±2km, M3.5*
*TAP **15** 10:00:26.5, 24.°67N×122.°53E, h106km, ML4.4, B*
ISC 15 10:00:25.9±0.8, 24.°67N±0.°03×122.°53E±0.°02, h108km±5km, n165, σ1°12/307, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.44**	**120**	P	**Pn**	**10 00 42.6**	**+0.4**
JYNG				S	**Sn**	**10 00 54.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.49**	**115**	P	**Pn**	**10 00 42.9**	**+0.4**
YOJ				S	**Sn**	**10 00 55.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.49**	**115**	P	**Pn**	**10 00 43.1**	**+0.6**
	baz=121						
YOJ				S	**Sn**	**10 00 53.8**	**-1.1**
	baz=121						
TWB1	**Santiao Chiao**	**0.59**	**304**	*i* P	**Pn**	**10 00 43.9**	**+0.6**
	baz=304						
TWB1				S	**Sn**	**10 00 56.3**	**0.0**
	baz=304						
TWC	**Suao**	**0.62**	**264**	*i* P	**Pn**	**10 00 43.6**	**+0.2**
	baz=262						
TWC				*i* S	**Sn**	**10 00 55.9**	**-0.7**
	baz=262						
NTC	**Toucheng**	**0.66**	**286**	*i* P	**Pn**	**10 00 44.1**	**+0.3**
	baz=283						
NTC				S	**Sn**	**10 00 56.7**	**-0.5**
	baz=283						
TIPB	**Shuangxi**	**0.70**	**295**	*i* P	**Pn**	**10 00 44.9**	**+0.7**
	baz=289						
TIPB				*i* S	**Sn**	**10 00 57.9**	**0.0**
	baz=289						
ILA	**Ilan**	**0.71**	**278**	P	**Pn**	**10 00 45.1**	**+0.9**
	baz=277						
ILA				S	**Sn**	**10 00 58.6**	**+0.6**
	baz=277						
EWUT	**Wuta**	**0.72**	**252**	*i* P	**Pn**	**10 00 45.0**	**+0.8**
	baz=254						
EWUT				*i* S	**Sn**	**10 00 58.0**	**-0.1**
	baz=254						
NDS	**Dongshan**	**0.74**	**267**	*i* P	**Pn**	**10 00 45.1**	**+0.6**
	baz=267						
NDS				*i* S	**Sn**	**10 00 58.2**	**-0.2**
	baz=267						
TWE	**Neicheng**	**0.78**	**274**	*i* P	**Pn**	**10 00 45.5**	**+0.6**
	baz=273						
TWE				*i* S	**Sn**	**10 00 59.2**	**+0.1**
	baz=273						
NWF	**Wu-fen Shan**	**0.79**	**300**	*i* P	**Pn**	**10 00 45.6**	**+0.7**
	baz=295						
NWF				*i* S	**Sn**	**10 00 59.4**	**+0.1**
	baz=295						
WFSB	**Wu-fen Shan**	**0.79**	**300**	P	**Pn**	**10 00 45.7**	**+0.8**
	baz=295						
WFSB				S	**Sn**	**10 00 59.2**	**+0.1**
	baz=295						
EHP	**Heping Village**	**0.80**	**243**	P	**Pn**	**10 00 45.1**	**+0.1**
	baz=238						
EHP				S	**Sn**	**10 00 60.0**	**+0.6**
	baz=238						
TNOU	**National Taiwa**	**0.83**	**305**	P	**Pn**	**10 00 46.1**	**+0.8**
	baz=301						
TNOU				S	**Sn**	**10 01 00.3**	**+0.3**
	baz=301						
ENTT	**Nioudou**	**0.88**	**268**	*i* P	**Pn**	**10 00 46.8**	**+1.1**
	baz=271						
ENTT				S	**Sn**	**10 01 01.7**	**+1.0**
	baz=271						
TWA	**Mucha**	**0.91**	**290**	*i* P	**Pn**	**10 00 46.5**	**+0.5**
	baz=282						
TWA				S	**Sn**	**10 01 00.9**	**-0.4**
	baz=282						
NDT	**Datong Townshi**	**0.93**	**266**	*i* P	**Pn**	**10 00 47.6**	**+1.4**
	baz=264						
NDT				*i* S	**Sn**	**10 01 02.5**	**+0.9**
	baz=264						
NWLT	**Wulai**	**0.94**	**277**	P	**Pn**	**10 00 46.9**	**+0.6**
	baz=282						
NWLT				S	**Sn**	**10 01 01.4**	**-0.4**
	baz=282						
NHY	**Taipei**	**0.94**	**293**	P	**Pn**	**10 00 47.2**	**+0.8**
	baz=293						
NHY				S	**Sn**	**10 01 02.5**	**+0.6**
	baz=293						
NHDH	**Xindian Distri**	**0.95**	**288**	*i* P	**Pn**	**10 00 47.2**	**+0.7**
	baz=281						
NHDH				S	**Sn**	**10 01 01.4**	**-0.6**
	baz=281						
ETL	**Fush Village**	**0.97**	**238**	P	**Pn**	**10 00 46.9**	**+0.2**
	baz=239						
ETL				S	**Sn**	**10 01 02.0**	**-0.4**
	baz=239						
NACB	**Ninganchiao**	**0.98**	**240**	P	**Pn**	**10 00 46.8**	**-0.1**
	baz=240						
NACB				S	**Sn**	**10 01 02.0**	**-0.6**
	baz=240						
YM01	**YM01**	**0.99**	**299**	P	**Pn**	**10 00 47.5**	**+0.6**
	baz=291						
YM01				S	**Sn**	**10 01 02.2**	**-0.5**
	baz=291						
TATO	**Taipei**	**0.99**	**288**	P	**Pn**	**10 00 47.1**	**+0.2**
	baz=281						
TATO				S	**Sn**	**10 01 01.7**	**-1.0**
	baz=281						
YM08	**YM08**	**0.99**	**301**	P	**Pn**	**10 00 47.7**	**+0.8**
	baz=293						
YM08				S	**Sn**	**10 01 02.3**	**-0.5**
	baz=293						
TAP	**Taipei**	**1.00**	**292**	P	**Pn**	**10 00 47.5**	**+0.6**
	baz=291						
TAP				S	**Sn**	**10 01 02.1**	**-0.7**
	baz=291						
TWD	**Chiawan**	**1.03**	**235**	*i* P	**Pn**	**10 00 47.5**	**+0.1**
	baz=231						
TWD				S	**Sn**	**10 01 03.3**	**-0.2**
	baz=231						
TWY	**Chenhua**	**1.03**	**306**	P	**Pn**	**10 00 48.3**	**+1.0**
	baz=298						
TWY				S	**Sn**	**10 01 04.2**	**+0.8**
	baz=298						
BACT	**New Taipei Cit**	**1.04**	**288**	P	**Pn**	**10 00 48.2**	**+0.8**
	baz=283						
BACT				S	**Sn**	**10 01 04.0**	**+0.5**
	baz=283						
PCYT	**Pengchaiyu**	**1.04**	**337**	P	**Pn**	**10 00 48.6**	**+1.2**
	baz=339						
YHNB	**Yeheng**	**1.05**	**270**	P	**Pn**	**10 00 48.5**	**+1.0**
	baz=264						
YHNB				S	**Sn**	**10 01 04.3**	**+0.4**
	baz=264						
ANP	**Anpu**	**1.05**	**299**	P	**Pn**	**10 00 48.1**	**+0.5**
	baz=292						
ANP				S	**Sn**	**10 01 04.1**	**+0.2**
	baz=292						
ETLH	**Xiulin Townshi**	**1.06**	**244**	P	**Pn**	**10 00 48.1**	**+0.4**
	baz=240						
ETLH				S	**Sn**	**10 01 03.6**	**-0.6**
	baz=240						
NSK	**Sanguang**	**1.06**	**270**	*i* P	**Pn**	**10 00 48.7**	**+1.0**
	baz=275						
NSK				*i* S	**Sn**	**10 01 04.4**	**+0.2**
	baz=275						
NNSB	**Datong**	**1.07**	**257**	P	**Pn**	**10 00 48.4**	**+0.6**
	baz=252						
NNSB				S	**Sn**	**10 01 04.4**	**0.0**
	baz=252						
NNSH	**Datong**	**1.07**	**257**	P	**Pn**	**10 00 48.5**	**+0.7**
	baz=252						
NNSH				S	**Sn**	**10 01 04.6**	**+0.2**
	baz=252						
NNS	**Nan Shan**	**1.08**	**258**	*i* P	**Pn**	**10 00 48.8**	**+0.9**
	baz=252						
NNS				*i* S	**Sn**	**10 01 04.7**	**+0.2**
	baz=252						
HWA	**Hwalien**	**1.09**	**231**	P	**Pn**	**10 00 48.4**	**+0.5**
	baz=226						
HWA				*e*S	**Sn**	**10 01 06.1**	**+1.6**
	baz=226						
TWS1	**Kuangyinshan**	**1.09**	**293**	*i* P	**Pn**	**10 00 48.8**	**+0.8**
	baz=293						
TWS1				*i* S	**Sn**	**10 01 04.7**	**+0.1**
	baz=293						
IRIF	**Iriomote-Funau**	**1.15**	**107**	P	**Pn**	**10 00 49.0**	**+0.5**
IRIF				*e*S	**Sn**	**10 01 05.9**	**+0.3**
NTY	**Taoyuan**	**1.16**	**287**	P	**Pn**	**10 00 49.6**	**+0.9**
	baz=284						
NTY				S	**Sn**	**10 01 06.2**	**+0.2**
	baz=284						
TEYL	**Yanliau Villag**	**1.17**	**227**	P	**Pn**	**10 00 48.9**	**+0.2**
	baz=224						
TEYL				S	**Sn**	**10 01 05.7**	**-0.3**
	baz=224						
ETM	**Tongmen**	**1.18**	**233**	P	**Pn**	**10 00 49.1**	**+0.2**
	baz=227						
ETM				S	**Sn**	**10 01 05.6**	**-0.6**
	baz=227						
FUSS	**Fushou**	**1.24**	**250**	P	**Pn**	**10 00 51.0**	**+1.1**
	baz=247						
FUSS				S	**Sn**	**10 01 08.3**	**+0.3**
	baz=247						
NCU	**National Centr**	**1.25**	**284**	P	**Pn**	**10 00 50.9**	**+1.1**
	baz=291						
NCU				S	**Sn**	**10 01 09.0**	**+1.2**
	baz=291						
NCUH	**Zhongli**	**1.25**	**284**	P	**Pn**	**10 00 50.9**	**+1.1**
	baz=291						
NCUH				S	**Sn**	**10 01 08.5**	**+0.7**
	baz=291						
WHF	**Hehuan Shan**	**1.27**	**246**	P	**Pn**	**10 00 51.0**	**+0.6**
	baz=241						
WHF				S	**Sn**	**10 01 08.4**	**-0.3**
	baz=241						
TWT	**Tachien**	**1.30**	**252**	P	**Pn**	**10 00 52.0**	**+1.6**
	baz=246						
TWT				S	**Sn**	**10 01 09.5**	**+0.5**
	baz=246						
NJD	**Zhudong**	**1.31**	**273**	P	**Pn**	**10 00 51.7**	**+1.3**
	baz=273						
NJD				S	**Sn**	**10 01 10.0**	**+1.0**
	baz=273						
ESL	**Shilin**	**1.31**	**230**	*i* P	**Pn**	**10 00 50.6**	**+0.1**
	baz=238						
ESL				*i* S	**Sn**	**10 01 08.2**	**-0.8**
	baz=238						
TDCB	**Techi**	**1.31**	**252**	P	**Pn**	**10 00 51.9**	**+1.3**
	baz=246						
TDCB				S	**Sn**	**10 01 09.4**	**+0.1**
	baz=246						
TEGC	**Jichi Village**	**1.32**	**223**	P	**Pn**	**10 00 50.9**	**+0.4**
	baz=223						
TEGC				S	**Sn**	**10 01 09.1**	**0.0**
	baz=223						
HATJ	**Hateruma jima**	**1.32**	**117**	S	**Sn**	**10 01 10.6**	**+1.6**
LIOB	**Emei**	**1.38**	**269**	*i* P	**Pn**	**10 00 52.1**	**+0.9**
	baz=269						
LIOB				*i* S	**Sn**	**10 01 10.8**	**+0.5**
	baz=269						
CHGB	**Renai**	**1.38**	**244**	P	**Pn**	**10 00 52.3**	**+0.9**
	baz=239						
CHGB				S	**Sn**	**10 01 11.4**	**+0.7**
	baz=239						
HSN1	**Hsinchu**	**1.38**	**275**	P	**Pn**	**10 00 52.3**	**+1.1**
	baz=274						
HSN1				S	**Sn**	**10 01 11.0**	**+0.7**
	baz=274						
NSTT	**Nanjuang**	**1.39**	**269**	*i* P	**Pn**	**10 00 52.2**	**+0.9**
	baz=268						
NSTT				S	**Sn**	**10 01 10.7**	**+0.1**
	baz=268						
SBCB	**Hsinchu**	**1.41**	**275**	P	**Pn**	**10 00 52.7**	**+1.2**
	baz=275						
SBCB				S	**Sn**	**10 01 11.6**	**+0.7**
	baz=275						
EGFH	**Guangfu**	**1.42**	**225**	*i* P	**Pn**	**10 00 51.7**	**0.0**
	baz=222						
EGFH				S	**Sn**	**10 01 10.0**	**-1.2**
	baz=222						
JKRS	**Kuro-shima**	**1.42**	**107**	P	**Pn**	**10 00 52.3**	**+0.7**

JKRS			S	Sn	10 01 11.7	+0.5
HSN	**Hsinchu**	**1.42 276**	P	Pn	10 00 52.2	+0.6
	baz=276					
HSN			S	Sn	10 01 11.3	+0.1
	baz=276					
OWD	**Renai**	**1.43 240**	*i* P	Pn	10 00 52.5	+0.6
	baz=236					
OWD			S	Sn	10 01 11.3	-0.2
	baz=236					
WHP	**Taichung City**	**1.49 255**	P	Pn	10 00 54.5	+1.8
	baz=255					
WHP			S	Sn	10 01 13.8	+0.9
	baz=255					
JIJ	**Ishigaki jima**	**1.50 101**	P	Pn	10 00 53.0	+0.3
JIJ			S	Sn	10 01 12.4	-0.6
NJN	**Zhunan**	**1.51 271**	*e*P	Pn	10 00 54.8	+2.1
	baz=271					
NJN			S	Sn	10 01 13.9	+0.9
	baz=271					
HGSD	**Ruisui**	**1.55 221**	P	Pn	10 00 53.5	+0.3
	baz=221					
HGSD			S	Sn	10 01 14.1	+0.2
	baz=221					
NMLH	**Miaoli**	**1.59 265**	*i* P	Pn	10 00 54.6	+0.9
	baz=265					
NMLH			*e*S	Sn	10 01 14.9	+0.2
	baz=265					
DPDB	**Guoxing**	**1.59 247**	P	Pn	10 00 55.4	+1.6
	baz=247					
DPDB			*e*S	Sn	10 01 17.1	+2.1
	baz=247					
WCS	**Beigang Elemen**	**1.59 248**	*i* P	Pn	10 00 55.5	+1.7
	baz=248					
WCS			S	Sn	10 01 16.5	+1.6
	baz=248					
EHY	**Hungye**	**1.60 224**	*i* P	Pn	10 00 53.6	-0.2
	baz=224					
EHY			S	Sn	10 01 13.6	-1.5
	baz=224					
JISG	**Ishigakijimahi**	**1.63 93**	P	Pn	10 00 54.6	+0.5
JISG			S	Sn	10 01 15.7	+0.1
NSY	**Sanyi**	**1.63 261**	*i* P	Pn	10 00 55.5	+1.3
	baz=261					
NSY			S	Sn	10 01 17.2	+1.4
	baz=261					
SMLT	**Sun Moon Lake**	**1.68 242**	P	Pn	10 00 56.5	+1.5
	baz=237					
SMLT			*e*S	Sn	10 01 19.8	+2.8
	baz=237					
SSLB	**Suanglung**	**1.69 239**	P	Pn	10 00 55.9	+1.0
	baz=236					
SSLB			S	Sn	10 01 17.4	+0.4
	baz=236					
YULB	**Yu-li**	**1.70 222**	P	Pn	10 00 54.9	-0.2
	baz=229					
YULB			S	Sn	10 01 15.7	-1.6
	baz=229					
TYC	**Yuchr**	**1.71 244**	P	Pn	10 00 56.8	+1.6
	baz=247					
TYC			*e*S	Sn	10 01 17.4	0.0
	baz=247					
EYUL	**Yuli**	**1.72 220**	P	Pn	10 00 55.9	+0.5
	baz=228					
EYUL			*e*S	Sn	10 01 18.9	+1.2
	baz=228					
TWF1	**Yuli**	**1.73 221**	*i* P	Pn	10 00 55.4	0.0
	baz=228					
TWF1			S	Sn	10 01 16.6	-1.3
	baz=228					
WDJ	**Dajia District**	**1.75 260**	*i* P	Pn	10 00 56.8	+1.1
	baz=260					
WDJ			S	Sn	10 01 19.2	+0.9
	baz=260					
TCU	**Taichung**	**1.77 253**	P	Pn	10 00 57.0	+1.1
	baz=253					
TCU			S	Sn	10 01 19.1	+0.4
	baz=253					
WWF	**Wufeng**	**1.78 250**	P	Pn	10 00 57.0	+0.9
	baz=259					
WWF			*e*S	Sn	10 01 19.6	+0.5
	baz=259					
WHYT	**Xinyi Township**	**1.81 238**	*i* P	Pn	10 00 58.7	+2.1
	baz=235					
WJS	**Zhushan**	**1.85 243**	*i* P	Pn	10 00 58.6	+1.7
	baz=253					
WJS			*i* S	Sn	10 01 22.5	+1.9
	baz=253					
WNT1	**Nantou City**	**1.85 246**	P	Pn	10 00 58.8	+1.8
	baz=246					
WNT1			S	Sn	10 01 22.3	+1.7
	baz=246					
FULB	**Fuli**	**1.85 218**	P	Pn	10 00 57.5	+0.5
	baz=213					
FULB			S	Sn	10 01 20.8	+0.1
	baz=213					
WNT	**Mingjian**	**1.86 245**	*i* P	Pn	10 00 58.9	+1.9
	baz=245					
WNT			S	Sn	10 01 22.9	+2.1
	baz=245					
WCHH	**Zhanghua**	**1.89 252**	P	Pn	10 00 58.2	+0.8
	baz=252					
WCHH			S	Sn	10 01 21.8	+0.3
	baz=252					
CHKT	**Chengkung**	**1.89 214**	*i* P	Pn	10 00 57.4	-0.1
	baz=209					
CHKT			S	Sn	10 01 20.3	-1.2
	baz=209					
WYL	**Yuanlin Townsh**	**1.91 249**	S	Sn	10 01 23.6	+1.6
	baz=257					
ALS	**Alishan**	**1.95 234**	*i* P	Pn	10 01 00.3	+1.8
	baz=229					
ALS			*e*S	Sn	10 01 25.9	+2.5
	baz=229					
ECS	**Chishang**	**1.97 218**	P	Pn	10 00 59.0	+0.4
	baz=226					
ECS			S	Sn	10 01 23.9	+0.5
	baz=226					
JTJ	**Tarama**	**1.98 90**	P	Pn	10 00 59.8	+1.3
JTJ			S	Sn	10 01 24.2	+0.7
CHN5	**Tsauling**	**2.00 238**	*i* P	Pn	10 01 00.8	+1.9
	baz=248					
CHN5			S	Sn	10 01 26.7	+2.6
	baz=248					
ELDTW	**Lidau**	**2.02 223**	*i* P	Pn	10 00 59.4	+0.2
	baz=223					
ELDTW			*e*S	Sn	10 01 24.7	0.0
	baz=223					
EDH	**Donghe**	**2.03 214**	P	Pn	10 00 59.2	0.0
	baz=209					
EDH			*i* S	Sn	10 01 23.6	-1.1
	baz=209					
WGK	**Gukeng**	**2.05 242**	*i* P	Pn	10 01 01.6	+2.2
	baz=242					
WGK			*e*S	Sn	10 01 28.1	+3.0
	baz=242					
WDLH	**Douliu**	**2.06 242**	*i* P	Pn	10 01 01.1	+1.4
	baz=242					
WDLH			S	Sn	10 01 28.2	+2.8
	baz=242					
WRL	**Guolierlin Hig**	**2.11 249**	P	Pn	10 01 00.8	+0.6
	baz=256					
WRL			S	Sn	10 01 26.5	+0.1
	baz=256					
LONT	**Longtian**	**2.17 216**	*i* P	Pn	10 01 00.9	-0.2
	baz=222					
LONT			*e*S	Sn	10 01 27.9	-0.2
	baz=222					
WTK	**Tuku**	**2.19 244**	P	Pn	10 01 02.2	+1.0
	baz=244					
WTK			S	Sn	10 01 28.9	+0.7
	baz=244					
CHN2	**Minshiung**	**2.19 239**	P	Pn	10 01 03.1	+1.8
	baz=249					
CHN2			S	Sn	10 01 30.3	+2.0
	baz=249					
STYH	**Taoyuan**	**2.19 227**	*i* P	Pn	10 01 02.7	+1.4
	baz=228					
STYH			S	Sn	10 01 29.4	+1.1
	baz=228					
CHN4	**Tsaushan**	**2.20 234**	P	Pn	10 01 03.4	+2.0
	baz=234					
CHN4			S	Sn	10 01 30.9	+2.2
	baz=234					
TPUB	**Ta-pu**	**2.21 232**	P	Pn	10 01 02.9	+1.3
	baz=227					
TPUB			*e*S	Sn	10 01 32.2	+3.4
	baz=227					
STYT	**Tauyuan**	**2.21 228**	P	Pn	10 01 03.4	+1.8
	baz=228					
STYT			*e*S	Sn	10 01 31.0	+2.1
	baz=228					
LDUT	**Ludao**	**2.21 206**	P	Pn	10 01 01.3	-0.3
	baz=211					
LDUT			S	Sn	10 01 28.2	-0.7
	baz=211					
CHY	**Chiayi**	**2.25 239**	*i* P	Pn	10 01 03.5	+1.5
	baz=249					
CHY			S	Sn	10 01 30.4	+0.7
	baz=249					
WTP	**Ta-pu**	**2.25 231**	*i* P	Pn	10 01 03.7	+1.6
	baz=231					
WTP			S	Sn	10 01 30.2	+0.3
	baz=231					
TWGBT	**Beinan**	**2.27 216**	P	Pn	10 01 01.8	-0.5
	baz=221					
TWGBT			S	Sn	10 01 29.4	-0.8
	baz=221					
TWG	**Pinlang**	**2.27 216**	*i* P	Pn	10 01 02.1	-0.3
	baz=221					
TWG			S	Sn	10 01 29.2	-1.1
	baz=221					
TTN	**Taitung**	**2.29 214**	P	Pn	10 01 03.2	+0.6
	baz=208					
TTN			S	Sn	10 01 31.2	+0.6
	baz=208					
TWK	**Hsinying**	**2.33 234**	*i* P	Pn	10 01 04.7	+1.6
	baz=234					
TWK			*i* S	Sn	10 01 31.8	+0.1
	baz=234					
WSF	**Szhu**	**2.34 244**	*i* P	Pn	10 01 04.1	+0.9
	baz=245					
WSF			S	Sn	10 01 32.9	+1.0
	baz=245					
CHN1	**Nanshi**	**2.35 231**	*i* P	Pn	10 01 05.2	+1.8
	baz=232					
CHN1			S	Sn	10 01 32.6	+0.5
	baz=232					
SGST	**Jiashian**	**2.38 229**	*i* P	Pn	10 01 04.8	+1.0
	baz=229					
SGST			S	Sn	10 01 33.2	+0.4
	baz=229					
SLGT	**Liugui**	**2.40 226**	P	Pn	10 01 06.0	+2.0
	baz=227					
SLGT			S	Sn	10 01 35.4	+2.1
	baz=227					
JIRB	**Irabujima**	**2.41 86**	S	Sn	10 01 33.5	+0.1
ICHU	**Yijhu**	**2.44 238**	P	Pn	10 01 05.3	+0.9
	baz=247					
ICHU			*e*S	Sn	10 01 34.4	+0.4
	baz=247					
JIKM	**Ikemajima**	**2.48 84**	*e*S	Sn	10 01 35.6	+0.5
CHN8	**Yiju**	**2.50 239**	P	Pn	10 01 06.2	+1.0
	baz=248					
CHN8			*e*S	Sn	10 01 35.2	-0.2
	baz=248					
JMJ	**Miyako jima 2**	**2.52 86**	P	Pn	10 01 07.7	+2.2
	baz=92					
JMJ			S	Sn	10 01 37.0	+1.0
	baz=92					
ECL	**Taimali**	**2.52 215**	*i* P	Pn	10 01 05.8	+0.2
	baz=210					
ECL			S	Sn	10 01 34.6	-1.4
	baz=210					
JMJ2	**Miyako jima3**	**2.55 88**	S	Sn	10 01 37.8	+1.2
SCST	**Cishan**	**2.58 227**	P	Pn	10 01 08.5	+2.2
	baz=227					
SSD	**Sandimen**	**2.59 223**	P	Pn	10 01 08.4	+2.0
	baz=223					
SSD			S	Sn	10 01 38.4	+0.8
	baz=223					
SCLT	**Jiali**	**2.60 236**	P	Pn	10 01 08.1	+1.5
	baz=228					
SCLT			S	Sn	10 01 38.2	+0.3
	baz=228					
TSMG	**Majia**	**2.61 222**	*i* P	Pn	10 01 08.5	+1.8
	baz=222					
TSMG			S	Sn	10 01 39.4	+1.3
	baz=222					
TAI1	**Yung-k'ang**	**2.66 233**	P	Pn	10 01 08.9	+1.6
	baz=233					
TAI1			*e*S	Sn	10 01 39.4	+0.2
	baz=233					
TWM1	**Shoushan**	**2.67 227**	P	Pn	10 01 08.9	+1.4
	baz=227					
TWM1			*e*S	Sn	10 01 39.5	+0.1
	baz=227					
MASBT	**Mashibuluo**	**2.69 221**	P	Pn	10 01 09.5	+1.7
	baz=221					
MASBT			*e*S	Sn	10 01 40.6	+0.6
	baz=221					
SGLT	**Jiouru**	**2.69 224**	*e*P	Pn	10 01 07.2	-0.6
	baz=225					
SGLT			*e*S	Sn	10 01 39.9	-0.1
	baz=225					
TAW	**Tawu**	**2.75 213**	P	Pn	10 01 08.5	0.0
	baz=214					
TAW			*e*S	Sn	10 01 41.4	+0.1
	baz=214					
EAST	**Anshuo**	**2.75 214**	*i* P	Pn	10 01 08.1	-0.5
	baz=211					
EAST			*e*S	Sn	10 01 41.9	+0.4
	baz=211					
LAY	**Lan-yu**	**2.77 199**	P	Pn	10 01 08.6	-0.3
	baz=193					
LAY			*e*S	Sn	10 01 39.6	-2.3
	baz=193					
MSUT	**Lienchiang**	**2.79 303**	*e*P	Pn	10 01 09.0	0.0
	baz=302					
MSUT			S	Sn	10 01 42.3	+0.1
	baz=302					
VWUC	**VWUC**	**2.81 277**	*e*P	Pn	10 01 08.9	-0.5
	baz=277					
VWUC			*e*S	Sn	10 01 41.8	-1.1
	baz=277					
SSPT	**Xinbi**	**2.83 220**	P	Pn	10 01 12.4	+2.8
	baz=221					
SCZT	**Fangliau**	**2.88 218**	P	Pn	10 01 12.0	+1.7
	baz=229					
SCZT			S	Sn	10 01 45.4	+0.9
	baz=229					
SLIU	**Shizi**	**2.92 213**	P	Pn	10 01 11.0	+0.2
	baz=211					
SLIU			S	Sn	10 01 45.2	-0.1
	baz=211					
PNG	**Penghu**	**2.93 249**	P	Pn	10 01 10.4	-0.5
	baz=249					
PNG			S	Sn	10 01 43.4	-2.3
	baz=249					
PHUB	**P'eng-hu**	**2.94 247**	P	Pn	10 01 10.8	-0.2
	baz=248					
PHUB			S	Sn	10 01 43.9	-1.9
	baz=248					
WDGT	**Dungji**	**2.98 242**	*i* P	Pn	10 01 12.1	+0.5
	baz=243					
WDGT			*i* S	Sn	10 01 45.2	-1.5
	baz=243					
WLCH	**Liuqiu**	**3.04 221**	*e*P	Pn	10 01 14.1	+1.7
	baz=222					
XPSS	**Dashiqiu**	**3.08 317**	*e*P	Pn	10 01 12.5	-0.4
	baz=307					
PTMZ	**Houxiangcun**	**3.12 277**	P	Pn	10 01 14.6	+1.2
	baz=277					
PTMZ			*e*S	Sn	10 01 49.0	-1.0
	baz=277					
LYJJ	**Jianjiangzhen**	**3.12 307**	*e*P	Pn	10 01 13.0	-0.4
	baz=306					
LYJJ			S	Sn	10 01 50.5	+0.3
	baz=306					
TSEB	**Hengchuen, Pin**	**3.14 209**	*e*P	Pn	10 01 17.4	+3.7
	baz=210					
TSEB			*e*S	Sn	10 01 49.8	-0.8
	baz=210					
TWKBT	**Hengchun**	**3.14 210**	*e*P	Pn	10 01 13.8	0.0
	baz=206					
TWKBT			S	Sn	10 01 50.6	-0.1
	baz=206					
TWK1	**Hengchun**	**3.14 211**	*e*P	Pn	10 01 13.2	-0.7
	baz=206					
TWK1			S	Sn	10 01 50.3	-0.4
	baz=206					
VCHM	**Qimei**	**3.19 243**	P	Pn	10 01 14.1	-0.3
	baz=236					
VCHM			S	Sn	10 01 49.9	-1.8
	baz=236					
MHZQ	**Yeshan**	**3.47 295**	P	Pn	10 01 19.6	+1.5
	baz=294					
MHZQ			S	Sn	10 01 58.6	+0.2
	baz=294					
KNM	**Kinmen**	**3.74 267**	*e*P	Pn	10 01 23.0	+1.3
	baz=267					
KNM			*e*S	Sn	10 02 05.8	+0.9
	baz=267					
KNMB	**Chin-men Tao**	**3.77 268**	P	Pn	10 01 22.3	+0.1
	baz=267					
KNMB			*e*S	Sn	10 02 03.9	-1.9
	baz=267					
AXDP	**Jialang**	**4.15 274**	P	Pn	10 01 28.6	+1.4
	baz=273					
AXDP			*e*S	Sn	10 02 12.5	-2.3
	baz=273					
ZPLA	**Ao Xicun**	**4.42 261**	P	Pn	10 01 31.1	+0.2
	baz=261					
JOW	**Kunigami**	**5.61 66**	*e*P	Pn	10 01 46.2	-0.8
	baz=67					
KSRS	**Korea Array**	**13.55 19**	Pn	P	10 03 36.0	-2.8
	0.4nm,0.3s,baz=204,slow=13,SNR=7.2					
USRK	**Ussuriysk Ar.**	**20.96 19**	P	P	10 05 00.4	+0.3
	3.7nm,0.8s,baz=206,slow=9.6,SNR=5.1					
KLR	**Kul'dur**	**25.56 14**	P	P	10 05 43.5	-1.0
	0.7nm,0.3s,baz=203,slow=8.8,SNR=5.2					
MKAR	**Makanchi Array**	**38.85 315**	P	P	10 07 28.8	-12
	1.0nm,0.7s,baz=127,slow=7.7,SNR=12					
KURBB	**Kurchatov Arra**	**42.53 319**	P	P	10 07 57.4	-13
	0.6nm,0.3s,baz=122,slow=7.5,SNR=4.1					
WRA	**Warramunga Arr**	**45.81 164**	P	P	10 08 37.6	+0.5
	1.4nm,0.6s,baz=346,slow=8.5,SNR=13					
ASAR	**Alice Springs**	**49.30 166**	P	P	10 09 05.0	+1.0
	0.2nm,0.3s,baz=345,slow=6.8,SNR=8.2					
ILAR	**Eielson Array**	**68.22 27**	P	P	10 11 15.4	+0.9
	0.5nm,0.7s,baz=298,slow=9.5,SNR=5.7					

MAN 15 10:03:12.7,7°.73N×127°.35E,h10km,mb4.6,ML3.5,MS3.4,
1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.27**	**274⇓**	*e*P	Pn	10 03 50.1	-0.2
BUKP				*i* S	Sn	10 04 19.3	+1.0
KCP	**Kidapawan**	**2.35**	**252⇓**	*e*P	Pn	10 03 51.9	+0.5
KCP				*i* S	Sn	10 04 21.2	+0.9
CGP	**Cagayan de Oro**	**2.72**	**286⇑**	*e*P	Pn	10 03 57.0	+0.5
CGP				*e*S	Sn	10 04 31.1	+1.6

WEL 15 10:13:37.5±0.7,35°S±12°×17°9E±2°0,h333km±10km,
M4.0/25,mB4.4/4,ML4.0/12,MLv4.1/25,Mw(mB)3.5/4,
Error ellipse: s-maj=0.0km s-min=0.0km az=118.2,
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.07**	**188**	P	Pn	10 14 36.6	+0.4
WMGZ				S	S	10 15 24.6	+1.2
HAZ	**Te Kaha**	**3.13**	**197**	P	Pn	10 14 36.2	-0.5
HAZ				S	S	10 15 24.0	-0.3
PKGZ	**Pakihiroa**	**3.19**	**193**	P	Pn	10 14 37.2	-0.2
PKGZ				S	S	10 15 25.8	+0.3
PUZ	**Puketiti**	**3.34**	**189**	P	Pn	10 14 39.0	+0.2
PUZ				S	S	10 15 27.4	-0.7
RUGZ	**Raukumara Rang**	**3.35**	**198**	P	Pn	10 14 38.4	-0.6
RUGZ				S	S	10 15 26.6	-1.8
TWGZ	**Tauwhareparae**	**3.49**	**193**	P	Pn	10 14 40.5	+0.2
TWGZ				S	S	10 15 31.5	+0.7
MWZ	**Matawai**	**3.74**	**197**	P	Pn	10 14 43.3	+0.5
MWZ				S	S	10 15 35.3	0.0
CNGZ	**Carnagh Statio**	**3.75**	**189**	P	Pn	10 14 44.1	+1.2
TKGZ	**Te Karaka**	**3.77**	**193**	P	Pn	10 14 43.2	+0.2
TKGZ				S	S	10 15 36.3	+0.5
URZ	**Urewera**	**3.79**	**203**	P	Pn	10 14 42.9	-0.3
URZ				S	S	10 15 37.3	+1.2
RIGZ	**Rimuhau**	**4.04**	**193**	P	Pn	10 14 44.9	-1.1
RIGZ				S	S	10 15 42.9	+1.8
MUGZ	**Murupara**	**4.09**	**205**	P	Pn	10 14 43.4	-3.0
RTZ	**Ruatahuna**	**4.15**	**202**	P	Pn	10 14 46.8	-0.3
SNGZ	**Shannon Statio**	**4.21**	**197**	P	Pn	10 14 47.7	0.0
SNGZ				S	S	10 15 45.1	+0.9
KNZ	**Kokohu**	**4.37**	**193**	P	Pn	10 14 48.9	-0.4
KNZ				S	S	10 15 46.0	-1.1
NMHZ	**Naumai**	**4.65**	**201**	P	Pn	10 14 53.6	+1.1
ARHZ	**Aropaoanui**	**4.75**	**199**	P	Pn	10 14 54.1	+0.6
ARHZ				S	S	10 15 58.3	+3.5
BKZ	**Black Stump Fm**	**4.81**	**203**	P	Pn	10 14 54.5	+0.3
BKZ				S	S	10 15 57.7	+1.5
HIZ	**Hauiti**	**4.98**	**220**	P	Pn	10 14 58.9	+2.8
KWHZ	**Kaweka Forest**	**5.07**	**203**	P	Pn	10 14 57.8	+0.7
KWHZ				S	S	10 16 04.0	+2.6
FWVZ	**Far West T-bar**	**5.24**	**210**	P	Pn	10 14 59.4	+0.2
BHHZ	**Black Hill Sta**	**5.25**	**205**	P	Pn	10 14 59.1	-0.1
BHHZ				S	S	10 16 05.2	+0.2
KAHZ	**Kahuranaki**	**5.28**	**198**	P	Pn	10 15 00.1	+0.6
KAHZ				S	S	10 16 06.9	+1.1
KRHZ	**Kereru**	**5.28**	**202**	P	Pn	10 14 59.6	+0.1
KRHZ				S	S	10 16 05.9	+0.2
PXZ	**Pawanui**	**5.51**	**197**	P	Pn	10 15 02.4	+0.4
PXZ				S	S	10 16 10.3	0.0
PNHZ	**Pukenui**	**5.58**	**202**	P	Pn	10 15 03.0	+0.1
PNHZ				S	S	10 16 12.4	+0.4
PRHZ	**Porangahau**	**5.79**	**198**	P	Pn	10 15 05.8	+0.6
PRHZ				S	S	10 16 21.0	+4.8
TSZ	**Takapari Road**	**5.79**	**203**	P	Pn	10 15 03.9	-1.4
TSZ				S	S	10 16 15.2	-1.1
BFZ	**Birch Farm**	**6.28**	**199**	P	Pn	10 15 11.4	+0.5
BFZ				S	S	10 16 27.0	+0.4
MRZ	**Mangatainoka R**	**6.46**	**203**	P	Pn	10 15 12.6	-0.5
MRZ				S	S	10 16 30.1	-0.4
TIWZ	**Tintock**	**6.47**	**201**	P	Pn	10 15 13.2	0.0
TIWZ				S	S	10 16 30.1	-0.6
HOWZ	**Holdsworth Sta**	**6.69**	**203**	P	Pn	10 15 15.5	-0.3
HOWZ				S	S	10 16 33.6	-1.9
OGWZ	**Otaki Gorge**	**6.74**	**205**	P	Pn	10 15 16.1	-0.2
OGWZ				S	S	10 16 36.4	-0.1

*IDC **15** 10:26:13.4±0.7,37°.25N×103°.61E,h0km,mb3.8/14,*
mb1 4.1/18,mb1mx3.9/41,mbtmp3.9/18,ML4.2/4,MS3.2/13,
Ms1 3.2/13,ms1mx3.1/49,Error ellipse: s-maj=18.6km
s-min=14.5km az=50.0
*BJI **15** 10:26:13.6±0.0,37°.12N×103°.71E,h14km,mB4.6/7,*
mb4.3/9,ML4.4/22,Ms4.0/15,Ms7 3.7/11

ISC 15 10:26:14.7±0.5,37.02N±0°.03×103.59E±0°.04,h10km,n33,
σ2.32/40,mb3.9/14,MS3.3/9,1C,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**0.95**	**168**	Pg	**Pb**	**10 26 33.3**	**0.0**
LZH				Sg	**Sb**	**10 26 46.8**	**+0.8**
LZH				S	**Sn**	**10 26 48.6**	**+0.7**
LZH				smax	smax		
	comp=N,5μm,1.2s						
LZH				smax	smax		
	comp=E,6μm,1.1s						
GTA	**Gaotai**	**3.82**	**310**	Pn	**Pn**	**10 27 14.0**	**+0.4**
GTA				Pg	**Pb**	**10 27 21.8**	**-0.4**
GTA				Sn	**Sn**	**10 27 59.8**	**+1.1**
GTA				Sg	**Sb**	**10 28 10.8**	**+2.2**
GTA				smax	smax		
	comp=N,1μm,0.8s						
GTA				smax	smax		
	comp=E,1μm,0.6s						
XAN	**Xi'an**	**5.26**	**123**	Pn	**Pn**	**10 27 32.6**	**-0.8**
XAN				Sn	**Sn**	**10 28 29.8**	**-4.4**
XAN				Sg	**Sg**	**10 29 05.8**	**+2.2**
XAN				smax	smax		
	comp=N,340nm,0.8s						
XAN				smax	smax		
	comp=E,280nm,1.0s						
XAN				LR	LR		
	comp=N,1μm,7.5s						
XAN				LR	LR		
	comp=Z,670nm,12.3s						
CD2	**Chengdu**	**6.09**	**179**	Pg	**Pg**	**10 28 10.4**	**-1.0**
CD2				Sg	**Sg**	**10 29 29.5**	**-0.8**
CD2				smax	smax		
	comp=N,260nm,0.8s						
CD2				smax	smax		
	comp=E,160nm,0.9s						
BTO	**Baotou**	**6.17**	**53**	Pn	**Pn**	**10 27 44.4**	**-1.5**
BTO				Pg	**Pb**	**10 28 03.0**	**+0.8**

BTO				Sg	Sb	10 29 19.8	+3.7
BTO				smax	smax		
	comp=E,1μm,0.8s						
BTO				smax	smax		
	comp=E,560nm,0.4s						
TIY	**Taiyuan**	**7.08**	**82**	Pg	Pb	10 28 20.0	+2.3
TIY				Sn	Sn	10 29 25.0	+6.1
TIY				Sg	Sg	10 29 51.1	-11
TIY				smax	smax		
	comp=E,220nm,0.6s						
TIY				smax	smax		
	comp=E,260nm,1.0s						
GYA	**Guiyang**	**10.84**	**165**	*e*P	Pn	10 28 53.8	+3.7
GYA				S	Sn	10 30 55.3	+3.7
GYA				pmax	pmax		
	comp=E,1.0nm,1.1s						
TIA	**Tai'an**	**10.91**	**90**	P	Pn	10 28 56.1	+5.3
SONM	**Songino Array**	**11.01**	**10**	Pn	Pn	10 28 50.6	-1.6
	comp=E,1.4nm,0.3s,baz=190,slow=14,SNR=19						
SONM				Lg	Lg	10 31 56.8	
	comp=E,2.5nm,0.3s,baz=208,slow=26,SNR=3.8						
WHN	**Wuhan**	**11.03**	**123**	⇑P	Pn	10 28 49.6	-2.9
WHN				S	Sn	10 30 51.0	-4.9
WHN				LR	LR		
	comp=E,1μm,6.4s						
WHN				LR	LR		
	comp=E,1μm,5.5s						
WHN				LR	LR		
	comp=E,1μm,7.8s						
WMQ	**Urumqi**	**13.88**	**304**	*e*P	Pn	10 29 32.5	+1.1
WMQ				LR	LR		
	comp=E,900nm,14.3s						
WMQ				LR	LR		
	comp=E,600nm,14.5s						
WMQ				LR	LR		
	comp=E,420nm,10.7s						
TLY	**Talaya**	**14.66**	**0**	Lg	Lg	10 33 55.0	
	comp=E,0.0nm,0.3s,baz=252,slow=18,SNR=4.0						
TLY				LR	LR	10 35 44.3	
	comp=E,42nm,18.2s,baz=174,slow=40						
MKAR	**Makanchi Array**	**18.57**	**308**	P	P	10 30 30.6	-1.1
	comp=E,0.5nm,0.3s,baz=108,slow=12,SNR=34						
MKAR				Lg	Lg	10 35 59.4	
	comp=E,0.0nm,0.3s,baz=120,slow=17,SNR=2.1						
MKAR				LR	LR	10 37 57.0	
	comp=E,52nm,21.4s,baz=91,slow=38						
CMAR	**Chiang Mai Arr**	**18.94**	**194**	P	Pn	10 30 40.2	+3.7
	comp=E,0.8nm,0.3s,baz=1.9,slow=11,SNR=5.8						
CMAR				LR	LR	10 39 01.6	
	comp=E,47nm,20.3s,baz=220,slow=40						
KSRS	**Korea Array**	**19.37**	**81**	P	P	10 30 39.6	-0.8
	comp=E,0.3nm,0.3s,baz=272,slow=10,SNR=10						
KSRS				LR	LR	10 38 33.4	
	comp=E,119nm,19.8s,baz=314,slow=38						
ZALV	**Zalesovo Beam**	**21.34**	**328**	P	P	10 30 59.8	-1.8
	comp=E,7.8nm,0.8s,baz=134,slow=10,SNR=20						
KURBB	**Kurchatov Arra**	**22.49**	**315**	P	P	10 31 12.7	-1.5
	comp=E,4.0nm,0.7s,baz=118,slow=12,SNR=20						
USRK	**Ussuriysk Ar.**	**22.65**	**63**	P	P	10 31 14.3	-1.5
	comp=E,1.7nm,0.7s,baz=260,slow=11,SNR=4.1						
AAK	**Ala-Archa**	**22.98**	**293**	LR	LR	10 40 50.1	
	comp=E,82nm,20.9s,baz=79,slow=38						
KLR	**Kul'dur**	**23.75**	**50**	P	P	10 31 26.2	-0.8
	comp=E,1.5nm,0.5s,baz=248,slow=8.5,SNR=6.5						
KLR				LR	LR	10 41 27.7	
	comp=E,63nm,21.6s,baz=270,slow=39						
PETK	**Petropavlovsk-**	**40.43**	**49**	P	P	10 33 52.1	-0.8
	comp=E,2.5nm,0.8s,baz=236,slow=8.0,SNR=4.8						
PETK				LR	LR	10 50 11.5	
	comp=E,45nm,18.0s,baz=261,slow=36						
KBZ	**Khabaz**	**45.82**	**298**	LR	LR	10 55 48.7	
	comp=E,33nm,21.0s,baz=102,slow=39						
ARCES	**ARCESS Array B**	**51.74**	**334**	P	P	10 35 20.6	-1.2
	comp=E,0.7nm,0.4s,baz=76,slow=8.2,SNR=15						
ARCES				LR	LR	10 59 34.1	
	comp=E,29nm,18.6s,baz=35,slow=39						
FINES	**FINESS Array B**	**52.49**	**324**	P	P	10 35 26.8	-0.7
	comp=E,0.7nm,0.4s,baz=82,slow=10.0,SNR=0.8						
AKASG	**Malin Array Be**	**53.15**	**310**	P	P	10 35 30.8	-1.7
	comp=E,0.4nm,0.3s,baz=64,slow=6.7,SNR=4.9						
AKASG				LR	LR	10 57 28.5	
	comp=E,36nm,19.5s,baz=30,slow=35						
BRTR	**Keskin Array B**	**53.62**	**296**	P	P	10 35 36.2	-0.1
	comp=E,0.7nm,0.5s,baz=72,slow=7.5,SNR=3.2						
NOA	**NORSAR Array B**	**59.50**	**326**	P	P	10 36 15.8	-2.0
	comp=E,0.6nm,0.5s,baz=70,slow=6.9,SNR=3.7						
NOA				LR	LR	11 01 48.2	
	comp=E,22nm,20.4s,baz=60,slow=36						
IDI	**Anoyia**	**61.77**	**294**	LR	LR	11 07 59.9	
	comp=E,16nm,18.1s,baz=25,slow=41						
JMIC	**Jan Mayen**	**62.12**	**340**	LR	LR	11 05 48.7	
	comp=E,27nm,19.1s,baz=42,slow=38						
WRA	**Warramunga Arr**	**63.65**	**148**	P	P	10 36 48.1	+2.0
	comp=E,1.6nm,0.9s,baz=335,slow=7.3,SNR=9.9						
ILAR	**Eielson Array**	**64.72**	**27**	P	P	10 36 50.8	-1.8
	comp=E,0.4nm,0.5s,baz=299,slow=3.8,SNR=3.8						
ASAR	**Alice Springs**	**66.78**	**150**	P	P	10 37 07.3	+0.9
	comp=E,0.6nm,0.7s,baz=343,slow=6.9,SNR=7.7						
YKA	**Yellowknife Ar**	**76.18**	**17**	P	P	10 38 02.2	-0.5
	comp=E,0.5nm,0.7s,baz=327,slow=5.5,SNR=4.1						

IDC ***15*** *10:59:04.8±1.8, 5.85S×152.85E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.9/31, mbtmp4.1/5, ML2.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=81.1km s-min=23.6km az=126.0*

NEIC ***15*** *10:59:12.4±1.0, 5.61S±0.09×152.42E±0.08, h35km±2km, mb4.1/9, Error ellipse: s-maj=19.1km s-min=8.6km az=140.0*

ISC 15 10:59:12.1±1.0, 5.6S±0.1×152.5E±0.2, h40km, n20, σ0.983/20, mb4.1/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.43**	**348**		**Pn**	**10 59 35.9**	**+0.3**
PMG	**Port Moresby**	**6.47**	**234**		**Pn**	**11 00 45.4**	**+0.6**
	2.7nm,0.3s,baz=44,slow=6.3,SNR=12						
PMG				Sn	**Sn**	**11 01 57.7**	**+0.3**
	5.7nm,0.3s,baz=237,slow=17,SNR=7.6						
PMG	**Port Moresby**	**6.47**	**234**		**Pn**	**11 00 44.6**	**-0.2**
EIDS	**Eidsvold**	**19.70**	**184**	P	**P**	**11 03 38.1**	**0.0**
EIDS				IAmb	IAmb	11 03 39.3	
	comp=Z,7.7nm,1.1s						
GUMO	**Guam**	**20.50**	**338**	LR	LR	11 12 26.0	
	comp=Z,40nm,18.1s,baz=230,slow=38						
WB0	**Warramunga Arr**	**22.52**	**230**	P	**P**	**11 04 08.5**	**-0.1**
WB0				IAmb	IAmb	11 04 28.4	
	comp=Z,14nm,1.2s						
WR0	**Warramunga Arr**	**22.52**	**229**	P	**P**	**11 04 08.7**	**+0.1**
WR0				IAmb	IAmb	11 04 26.1	
	comp=Z,7.3nm,1.0s						
WRAB	**Tennant Creek**	**22.65**	**229**	P	**P**	**11 04 09.9**	**0.0**
WRAB				IAmb	IAmb	11 04 20.6	
	comp=Z,7.1nm,0.8s						
WB2	**Warramunga Arr**	**22.65**	**229**	P	**P**	**11 04 08.7**	**-1.3**
WRA	**Warramunga Arr**	**22.66**	**229**	P	**P**	**11 04 08.2**	**-1.9**
	comp=Z,3.4nm,0.7s,baz=54,slow=9.8,SNR=30						
WRA	**Warramunga Arr**	**22.66**	**229**	P	**P**	**11 04 08.8**	**-1.3**
KNRA	**Kununurra**	**25.31**	**245**	P	**P**	**11 04 34.8**	**-0.5**
AS31	**Alice Springs**	**25.33**	**223**	P	**P**	**11 04 35.0**	**-0.4**
ASAR	**Alice Springs**	**25.33**	**223**	P	**P**	**11 04 34.4**	**-1.0**
	comp=Z,4.7nm,0.9s,baz=57,slow=9.2,SNR=46						
ASAR	**Alice Springs**	**25.33**	**223**	P	**P**	**11 04 35.4**	**+0.1**
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**11 11 22.3**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=93,slow=4.9,SNR=5.7						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**11 11 20.9**	**-0.3**
ILAR	**Eielson Array**	**83.03**	**22**	P	**P**	**11 11 32.1**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=238,slow=6.4,SNR=11						
QSPA	**South Pole Qui**	**84.36**	**180**	P	**P**	**11 11 40.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**150.22**	**287**	PKPbc	**PKiKP**	**11 19 00.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=31,slow=3.3,SNR=3.6						

IDC ***15*** *11:25:57.5±0.4, 27.37N×66.02E, h0km, mb5.2/37, mb1 5.3/40, mb1mx5.3/43, mbtmp5.2/40, ML4.4/3, MS4.6/33, Ms1 4.6/33, ms1mx4.5/42, Error ellipse: s-maj=11.2km s-min=9.4km az=25.0*

MOS ***15*** *11:25:58.6±1.0, 27.45N×66.05E, h15km, mb5.7/119, MS4.7/40, Error ellipse: s-maj=4.1km s-min=2.8km az=105.1*

BJI ***15*** *11:25:58.2±0.0, 27.48N×66.10E, h6km, mB5.3/61, mb5.2/83, Ms5.3/82, Ms7 5.0/74*

NEIC ***15*** *11:25:59.6±1.5, 27.33N±0.07×65.99E±0.08, h10km±1km, mb5.5/235, Ms_20 4.9/284, Mwb5.1/26, Mww5.3, Mwc5.3(GCMT), Error ellipse: s-maj=12.7km s-min=10.3km az=141.0*

GCMT ***15*** *11:26:00.6±0.1, 27.30N±0.01×65.89E±0.01, h12km, MW5.3/127, Moment Tensor Solution. s93,c136; s127,c241; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.76±.01; Mθθ-0.35±.01; Mφφ-0.39±.01; Mrθ-0.55±.04; Mrφ-0.45±.01; Mθr-0.66±.04; Best double couple: M0 1.16700×10^17 NP1:φs47.00000°, δ21.00000°, λ96.00000°. NP2:φs221.00000°, δ69.00000°, λ88.00000°. Principal axes: T 1.1340, Plg66.0000°, Azm126.0000°; N 0.0670, Plg2.0000°, Azm221.0000°; P -1.2000, Plg24.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *11:26:00.2, 27.39N×65.99E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr4.05; Mθθ0.14; Mφφ-4.19; Mrθ-1.84; Mrφ-3.07; Mθr-2.22; Fault plane solution: M0 5.89000×10^16 NP1:φs216.76000°, δ60.68000°, λ101.25000°. NP2:φs14.66000°, δ31.23000°, λ70.85000°. Principal axes: T 4.9070, Plg72.0000°, Azm153.0000°; N 1.6291, Plg10.0000°, Azm31.0000°; P -6.5361, Plg15.0000°, Azm299.0000°;*

BGR ***15*** *11:26:00.9±0.0, 27.36N×65.85E, h10km, mb5.5, Ms4.5*

NEIC ***15*** *11:26:03, 27.37N×65.97E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.89; Mθθ-0.36; Mφφ-0.53; Mrθ0.03; Mrφ-0.58; Mθr-0.30; Fault plane solution: M0 1.01000×10^17 NP1:φs56.00000°, δ41.00000°, λ113.00000°. NP2:φs207.00000°, δ53.00000°, λ72.00000°. Principal axes: T 0.9676, Plg74.0000°, Azm62.0000°; N 0.0816, Plg15.0000°, Azm218.0000°; P -1.0491, Plg6.0000°, Azm310.0000°;*

NEIC ***15*** *11:26:03, 26.75N×65.97E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.94; Mθθ-0.18; Mφφ-0.75; Mrθ0.47; Mrφ-0.84; Mθr-0.07; Fault plane solution: M0 1.29000×10^17 NP1:φs189.00000°, δ47.00000°, λ49.00000°. NP2:φs61.00000°, δ57.00000°, λ125.00000°. Principal axes: T 1.1876, Plg61.0000°, Azm27.0000°; N 0.1920, Plg29.0000°, Azm220.0000°; P -1.3796, Plg5.0000°, Azm127.0000°;*

ISC 15 11:25:59.3±0.4, 27.29N±0.03×65.98E±0.03, h13km±2km, h13km: pP-P, n1297, σ1.950/1319, mb5.5/405, MS4.8/233, 263C-132D, Fault plane solution: NP1:φs28.34014°, δ34.77542°, λ47.81374°. NP2:φs256.15387°, δ65.00001°, λ114.99999°. Principal axes: T Plg61.6001°, Azm205.0790°; N Plg22.5210°, Azm65.0054°; P Plg16.3782°, Azm328.0057°; **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**7.42**	**41**	P	**Pn**	**11 27 46.7**	**-0.7**
SARP	**Sargodha**	**7.43**	**50**	P	**Pn**	**11 27 46.5**	**-1.1**
KBL	**Kabul**	**7.69**	**19**	P	**Pn**	**11 27 51.2**	**-0.1**
KBL	**Kabul**	**7.69**	**19**	Pn	**Pn**	**11 27 51.2**	**-0.1**
HRA	**Herat**	**7.76**	**337**	Pn	**Pn**	**11 27 52.5**	**+0.2**
WSAR	**Wadi Sarin**	**7.78**	**240**	Pn	**Pn**	**11 27 51.4**	**-1.0**
	19nm,0.3s,baz=99,slow=9.0,SNR=85						
WSAR				Sn	**Sn**	**11 29 13.2**	**-7.1**
	10nm,0.3s,baz=338,slow=12,SNR=3.1						
WSAR				LR	LR	11 31 21.6	
	comp=Z,1μm,19.5s,baz=48,slow=41						
WSAR	**Wadi Sarin**	**7.78**	**240**	P	**Pn**	**11 27 52.1**	**-0.2**
	SNR=18						
JLN	**Jalan Bani Buh**	**7.86**	**231**	P	**Pn**	**11 27 52.1**	**-1.4**
	SNR=24						
WBK	**Wadi Bani Khal**	**7.88**	**235**	P	**Pn**	**11 27 53.1**	**-0.7**
	SNR=93						
BIDO	**Bidbid**	**8.03**	**244**	P	**Pn**	**11 27 56.8**	**+1.0**
	SNR=24						
CEP	**Cherat**	**8.28**	**37**	P	**Pn**	**11 27 58.3**	**-1.0**
SMDO	**Samad**	**8.32**	**241**	P	**Pn**	**11 28 01.0**	**+1.0**
	SNR=20						
SMDO				P	**Pn**	**11 28 01.0**	**+1.0**
	SNR=20						
SMDO				S	**Sn**	**11 29 30.1**	**-3.9**
SMDO				S	**Sn**	**11 29 30.1**	**-3.9**
HOQ	**Hoqain**	**8.66**	**247**	P	**Pn**	**11 28 04.1**	**-0.3**
	SNR=16						
HOQ				S	**Sn**	**11 29 37.8**	**-4.2**
JMDO	**Jabal Madar**	**8.67**	**237**	P	**Pn**	**11 28 06.0**	**+1.4**
	SNR=37						
JMDO				S	**Sn**	**11 29 38.7**	**-3.6**
BANOM	**Banah**	**8.77**	**263**	*i* Pn	**Pn**	**11 28 06.1**	**+0.2**
	SNR=44						
BANOM	**Banah**	**8.77**	**263**	P	**Pn**	**11 28 06.4**	**+0.4**
	SNR=44						
BANOM				P	**Pn**	**11 28 06.4**	**+0.4**
	SNR=44						
SHME	**Shamm**	**8.88**	**264**	*i* Pn	**Pn**	**11 28 08.3**	**+0.8**
	SNR=192						
SHME	**Shamm**	**8.88**	**264**	P	**Pn**	**11 28 08.6**	**+1.1**
	SNR=192						
SHME				S	**Sn**	**11 29 44.6**	**-3.0**
MDH	**Madha**	**8.91**	**259**	*i* Pn	**Pn**	**11 28 06.9**	**-0.9**
	SNR=70						
MDH				Sn	Sn	11 29 39.2	-9.0
MDH	**Madha**	**8.91**	**259**	P	**Pn**	**11 28 08.0**	**+0.1**
	SNR=72						
MDH				P	**Pn**	**11 28 08.0**	**+0.1**
	SNR=72						
MDH				P	**Pn**	**11 28 08.0**	**+0.1**
	SNR=72						
NIL	**Nilore**	**8.92**	**43**	P	**Pn**	**11 28 07.7**	**-0.3**
NIL	**Nilore**	**8.92**	**43**	Pn	**Pn**	**11 28 07.7**	**-0.3**
CHCP	**Chirah Chowk**	**8.93**	**43**	P	**Pn**	**11 28 07.4**	**-0.8**
MASF	**Masafi**	**9.01**	**260**	P	**Pn**	**11 28 09.5**	**+0.2**
	SNR=36						
MASF				P	**Pn**	**11 28 09.5**	**+0.2**
	SNR=36						
MASF				S	**Sn**	**11 29 49.5**	**-1.2**
	SNR=5.2						
MASF				S	**Sn**	**11 29 49.5**	**-1.2**
	SNR=5.2						
MSFE	**Esma-Masafi**	**9.02**	**260**	*i* Pn	**Pn**	**11 28 08.7**	**-0.6**
	SNR=36						
SOHO	**SOHO**	**9.08**	**252**	*i* Pn	**Pn**	**11 28 09.0**	**-1.1**
	SNR=11						
SOHO	**SOHO**	**9.08**	**252**	P	**Pn**	**11 28 09.6**	**-0.5**
UOSS	**Minazif**	**9.09**	**257**	*i* Pn	**Pn**	**11 28 08.8**	**-1.5**
	SNR=53						
UOSS	**Minazif**	**9.09**	**257**		**Pn**	**11 28 09.4**	**-0.9**
UOSS	**Minazif**	**9.09**	**257**	P	**Pn**	**11 28 09.6**	**-0.7**
UOSS				P	**Pn**	**11 28 09.6**	**-0.7**
UOSS				P	**Pn**	**11 28 09.6**	**-0.7**
BSY	**Bisya**	**9.16**	**242**	P	**Pn**	**11 28 13.0**	**+1.7**
	SNR=52						
BSY				S	**Sn**	**11 29 52.3**	**-2.0**
HATD	**Hatta, Dubai**	**9.19**	**257**	*i* Pn	**Pn**	**11 28 11.2**	**-0.5**
	SNR=25						
HATD	**Hatta, Dubai**	**9.19**	**257**	P	**Pn**	**11 28 12.0**	**+0.4**
	SNR=19						
ASHO	**Ashiyiah**	**9.29**	**256**	*i* Pn	**Pn**	**11 28 13.5**	**+0.3**
	SNR=91						
ASHO	**Ashiyiah**	**9.29**	**256**	P	**Pn**	**11 28 14.0**	**+0.8**
	SNR=12						
ASHO				S	**Sn**	**11 29 56.2**	**-1.4**
	SNR=8.2						
ARQ	**Araqi**	**9.42**	**247**	P	**Pn**	**11 28 17.3**	**+2.4**
	SNR=40						
ARQ				S	**Sn**	**11 29 59.3**	**-1.4**
NAZ	**Nazwa, Dubai**	**9.55**	**258**	*i* Pn	**Pn**	**11 28 18.5**	**+1.9**
	SNR=66						
NAZ	**Nazwa, Dubai**	**9.55**	**258**	P	**Pn**	**11 28 20.0**	**+3.4**
	SNR=66						
MHTO	**MHTO**	**9.63**	**231**	P	**Pn**	**11 28 18.1**	**+0.3**
FAQ	**Al Faqa, Dubai**	**9.68**	**257**	*i* Pn	**Pn**	**11 28 18.7**	**+0.4**
	SNR=29						
FAQ	**Al Faqa, Dubai**	**9.68**	**257**	P	**Pn**	**11 28 21.1**	**+2.8**
	SNR=29						
FAQ				P	**Pn**	**11 28 21.1**	**+2.8**
	SNR=29						
FAQ				P	**Pn**	**11 28 21.1**	**+2.8**
	SNR=29						
ALNE	**Al Ain**	**9.77**	**253**	*i* Pn	**Pn**	**11 28 19.4**	**-0.3**
	SNR=62						
ALNE	**Al Ain**	**9.77**	**253**	P	**Pn**	**11 28 21.7**	**+2.1**
	SNR=61						
ALNE				P	**Pn**	**11 28 21.7**	**+2.1**
	SNR=61						
ALNE				S	**Sn**	**11 30 07.1**	**-2.2**
ALNE				S	**Sn**	**11 30 07.1**	**-2.2**
NDI	**New Delhi**	**10.03**	**79**	*e*P	**Pn**	**11 28 23.0**	**-0.2**
NDI				*e*S	**Sn**	**11 30 15.0**	**-0.7**
AJN	**Ajban**	**10.26**	**257**	*i* Pn	**Pn**	**11 28 26.7**	**+0.4**
	SNR=12						
AJN	**Ajban**	**10.26**	**257**	P	**Pn**	**11 28 28.7**	**+2.4**
	SNR=22						
AJN				S	**Sn**	**11 30 18.3**	**-3.0**
SMLA	**Simla**	**10.50**	**66**	*e*P	**Pn**	**11 28 29.9**	**+0.3**
SMLA				*e*S	**Sn**	**11 30 25.7**	**-1.4**
SMLA				IAML		11 30 29.6	
	comp=N,4μm,1.1s						
SMLA				IAML		11 30 33.6	
	comp=Z,1μm,0.8s						
UMZA	**Um Al Zommool**	**10.81**	**247**	P	**Pn**	**11 28 35.1**	**+1.1**
UMZA				P	**Pn**	**11 28 35.1**	**+1.1**
DDI	**Dehra Dun**	**11.02**	**71**	*e*P	**Pn**	**11 28 35.4**	**-1.4**
DDI				*e*S	**Sn**	**11 30 36.3**	**-3.7**
DDI				IAML		11 30 43.3	
	comp=E,3μm,1.9s						
DDI				IAML		11 30 46.9	
	comp=N,1μm,1.5s						
BHPL	**Bhopal**	**11.12**	**109**	*e*P	**Pn**	**11 28 38.4**	**+0.2**
BHPL				*e*S	**Sn**	**11 30 42.6**	**+0.2**
BHPL				IAML		11 30 47.2	
	comp=N,286nm,1.1s						
POO	**Poona**	**11.34**	**139**	⇑*i*P	**Pn**	**11 28 41.0**	**-0.2**
	comp=N,20nm,1.0s						
POO				*i* x	x	11 31 07.0	
CHGR	**Chuyangaron**	**11.64**	**12**	Pn	**Pn**	**11 28 44.4**	**-1.0**
GAR	**Garm**	**12.23**	**16**		**Pn**	**11 28 52.8**	**-0.6**
GEYT	**Alibeck**	**12.50**	**330**	Pn	**Pn**	**11 28 55.9**	**-1.1**
	comp=N,0.3nm,0.3s,baz=179,slow=19,SNR=25						
GEYT				Lg	Lg	11 32 23.4	
	comp=N,0.4nm,0.3s,baz=142,slow=24,SNR=1.6						
GEYT				LR	LR	11 34 36.7	
	comp=N,4μm,20.9s,baz=135,slow=42						
GYA0B	**ALIBECK ARRAY**	**12.50**	**330**	Pn	**Pn**	**11 28 56.4**	**-0.6**
DRK	**Karamyk**	**13.09**	**20**		**Pn**	**11 29 05.1**	**-0.2**
BTK	**Batken**	**13.35**	**16**	P	**Pn**	**11 29 08.6**	**-0.1**
BTK	**Batken**	**13.35**	**16**	Pn	**Pn**	**11 29 08.6**	**-0.1**
TAS	**Tashkent**	**14.26**	**10**	P	**Pn**	**11 29 20.1**	**-1.0**
TAS	**Tashkent**	**14.26**	**10**		**Pn**	**11 29 20.1**	**-1.0**
KSH	**Kashi**	**14.76**	**32**	P	Pn	11 29 19.4	-8.6
KSH				S	Sn	11 31 49.0	-23
KSH				pmax	pmax		
	comp=N,46nm,1.1s						
KSH				LR	LR		
	comp=N,17μm,11.9s						
KSH				LR	LR		
	comp=N,15μm,9.6s						
KSH				LR	LR		
	comp=N,9μm,8.0s						
HYB	**Hyderabad**	**15.22**	**128**	*i* P	**Pn**	**11 29 33.0**	**-1.1**
	comp=N,200nm,1.4s						
HYB				*e*sP	**P**	**11 29 39.0**	**-0.1**
HYB				*e*S	**S**	**11 32 32.0**	**-7.5**
HYB	**Hyderabad**	**15.22**	**128**	*e*P	**Pn**	**11 29 33.1**	**-1.1**
QRN	**Al-Qurain**	**16.02**	**279**	*e*P	**Pn**	**11 29 42.0**	**-2.4**
AML	**Almayashu**	**16.09**	**21**	P	**Pn**	**11 29 43.5**	**-2.2**
	SNR=139						
AML	**Almayashu**	**16.09**	**21**	*i* Pn	**Pn**	**11 29 42.5**	**-3.3**
	SNR=198						
DZA	**Taraz**	**16.16**	**14**	*e*P	**Pn**	**11 29 44.2**	**-2.1**
	baz=15						
DZA				*e*S	**Sn**	**11 32 42.6**	**-2.9**
	baz=15						
DZA	**Taraz**	**16.16**	**14**	*e*P	**Pn**	**11 29 44.1**	**-2.1**
DZA				*e*S	**Sn**	**11 32 42.5**	**-2.9**
KK31	**Karatay Array**	**16.20**	**12**	P	**Pn**	**11 29 43.9**	**-2.8**
KK31				pmax	pmax		
	comp=Z,105nm,1.0s						
KK31	**Karatay Array**	**16.20**	**12**	Pn	**Pn**	**11 29 43.9**	**-2.8**
KKAR	**Karatay Array**	**16.20**	**12**	P	**Pn**	**11 29 43.8**	**-3.0**
KKAR				pmax	pmax		
	comp=Z,105nm,1.0s						
KKAR	**Karatay Array**	**16.20**	**12**	Pn	**Pn**	**11 29 43.8**	**-3.0**
KKAR	**Karatay Array**	**16.20**	**12**		**Pn**	**11 29 43.8**	**-3.0**
KKAR				IAmb	IAmb	11 29 53.4	
	comp=Z,105nm,0.9s						
UMR	**Umm Al-Rimmam**	**16.22**	**282**	*e*P	**Pn**	**11 29 44.1**	**-3.0**
EKS2	**Erkin-Say**	**16.60**	**21**	P	**Pn**	**11 29 49.1**	**-2.8**
	SNR=56						
AAK	**Ala-Archa**	**16.81**	**22**	Pn	**Pn**	**11 29 52.5**	**-2.2**
	comp=Z,2.5nm,0.3s,baz=211,slow=13,SNR=27						
AAK				Sn	Sn	11 32 45.6	-16
	comp=Z,0.5nm,0.3s,baz=292,slow=23,SNR=2.0						
AAK				LR	LR	11 38 17.7	
	comp=Z,1μm,21.4s,baz=221,slow=44						
AAK	**Ala-Archa**	**16.81**	**22**	P	**Pn**	**11 29 55.5**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**16.81**	**22**	*i* Pn	**Pn**	**11 29 51.7**	**-3.0**
	SNR=14						
AAK	**Ala-Archa**	**16.81**	**22**	*de*P	**Pn**	**11 29 52.6**	**-2.0**
AAK				pmax	pmax		
	comp=Z,158nm,1.7s						
AAK	**Ala-Archa**	**16.81**	**22**	Pn	**Pn**	**11 29 52.5**	**-2.2**
RST	**Umm Al-Ruwaisa**	**16.85**	**282**	*e*P	**Pn**	**11 29 51.9**	**-3.1**
FRU1	**Bishkek**	**17.01**	**22**	P	**Pn**	**11 29 54.9**	**-2.2**
FRU1				pmax	pmax		
	comp=Z,291nm,1.1s						
FRU1	**Bishkek**	**17.01**	**22**		**Pn**	**11 29 54.9**	**-2.2**
FRU1				IAmb	IAmb	11 30 23.4	
	comp=Z,291nm,1.1s						
ULHL	**Ulahol**	**17.11**	**27**	P	**Pn**	**11 29 56.0**	**-2.6**
	SNR=21						
BOOM	**Boomskoye usch**	**17.20**	**26**	P	**Pn**	**11 29 56.9**	**-2.7**
BOOM				pmax	pmax		
	comp=Z,158nm,1.0s						
BOOM	**Boomskoye usch**	**17.20**	**26**	P	**Pn**	**11 29 56.9**	**-2.7**
CHMS	**Chumysh**	**17.22**	**22**	P	**Pn**	**11 29 57.6**	**-2.0**
	SNR=28						
USP	**Ospenovka**	**17.37**	**21**	P	**P**	**11 30 03.4**	**+0.5**
	SNR=64						
KDJ	**Kajisay**	**17.41**	**29**	P	**Pn**	**11 29 59.4**	**-2.8**
KDJ				pmax	pmax		
	comp=Z,240nm,1.2s						
KDJ	**Kajisay**	**17.41**	**29**		**Pn**	**11 29 59.4**	**-2.8**
TKM2	**Tokmak 2**	**17.45**	**24**	P	**Pn**	**11

UZB Uzynbulak 19.04 30⇑ eP P 11 30 18.7 -2.6
comp=Z,149nm,2.5s,baz=31
UZB eS **Sn** **11 33 55.1 -0.1**
baz=31
UZB Uzynbulak 19.04 30 eP P 11 30 20.3 -1.0
UZB pmax pmax
comp=Z,108nm,1.9s
KPKS Kokpek 19.14 29 eP P 11 30 20.9 -1.5
baz=30
KPKS eS **Sn** **11 33 57.8 +0.2**
baz=30
KPKS Kokpek 19.14 29 eP P 11 30 20.8 -1.5
KPKS eS **Sn** **11 33 57.8 +0.2**
SHLS Shalkode 19.24 31 eP Pn 11 30 24.9 +0.4
baz=32
SHLS eS **S** **11 34 04.2 +2.8**
baz=32
SHLS Shalkode 19.24 31 eP Pn 11 30 24.9 +0.4
SHLS eS **S** **11 34 04.2 +2.8**
ARXS Arharly 19.39 26 eP P 11 30 22.5 -2.7
MDRS Chennai 19.46 134 eP Pn 11 30 27.5 +0.4
MDRS IAmb IAmb 11 30 35.5
comp=Z,89nm,0.6s
TDK Taldyqorghan 20.28 26 eP P 11 30 33.3 -1.4
baz=26
TDK eS **S** **11 34 20.0 -1.9**
baz=26
TDK Taldyqorghan 20.28 26 eP P 11 30 33.3 -1.4
TDK eS **S** **11 34 20.0 -1.9**
MNGR Mingechevir, A 20.58 316 P Pn 11 30 40.1 -0.1
SEKA Sheki 20.76 317 P P 11 30 39.7 -0.4
NAX Nakhchivan 20.78 310 P Pn 11 30 41.9 -0.8
GANJ Ganja 20.99 314 P P 11 30 42.3 -0.2
ZKTA Zakatala 21.37 317 P P 11 30 47.0 +0.5
DDFL Dedoflistskaro 21.56 316 P P 11 30 50.8 +2.1
MAK Makhachkala 21.67 321 *eP* **P 11 30 45.3 -4.3**
MAK eS **S** **11 34 45.4 -3.9**
MAK pmax pmax
comp=Z,297nm,1.1s
MAK MLR MLR
comp=Z,1μm,13.0s
LGD Lagodekhi 21.71 317 P **P 11 30 49.7 -0.5**
GNI Garni 21.76 312 P **P 11 30 51.6 +0.7**
comp=Z,174nm,0.9s,baz=135,slow=3.8,SNR=20
GNI LR LR 11 41 27.6
comp=Z,1μm,21.0s,baz=140,slow=43
GNI Garni 21.76 312 P **P 11 30 51.9 +1.0**
GNI pmax pmax
comp=Z,740nm,1.1s
GNI Garni 21.76 312 P **P 11 30 51.9 +1.0**
LSA Lhasa 22.24 78 P **P 11 30 58.4 +1.9**
LSA pmax pmax
comp=Z,600nm,1.1s
LSA LR LR
comp=Z,8μm,10.0s
LSA LR LR
comp=Z,10μm,10.3s
LSA Lhasa 22.24 78 P **P 11 30 58.6 +2.0**
LSA pmax pmax
comp=Z,444nm,1.1s
LSA Lhasa 22.24 78 P **P 11 30 58.6 +2.0**
SIRT Sirnak 22.27 303 P **P 11 30 56.7 +0.3**
ABKAR Akbulak array 22.42 350 P **P 11 30 58.0 +0.3**
ABKAR Akbulak array 22.42 350 P **P 11 30 57.9 +0.2**
SEAG Tbilisi Sea 22.56 315 P **P 11 31 02.3 +3.0**
KZRT Kazreti 22.61 314 P **P 11 31 01.6 +1.7**
GROC Groznyy 22.79 319 *eP* **P 11 31 01.7 0.0**
GROC e 11 31 24.1
GROC eS **S** **11 35 12.8 +2.3**
GROC eSS **SnSn** **11 35 43.8 +2.7**
GROC pmax pmax
comp=Z,29nm,0.5s
GROC MLR MLR
comp=Z,389nm,10.0s
GURO Guroymak-BITLI 22.95 305 P **P 11 31 04.9 +1.3**
GURO IAmb IAmb 11 31 22.6
comp=Z,192nm,1.1s
BGD Bogdanovka 23.07 313 P **P 11 31 07.3 +2.4**
KARS Kars 23.10 311 P **P 11 31 06.2 +1.1**
KARS pmax pmax
comp=Z,694nm,1.1s
KARS Kars 23.10 311 P **P 11 31 06.2 +1.1**
GUDG Gudauri 23.15 316 P **P 11 31 04.6 -1.1**
MAKZ Makanchi 23.21 29 P **P 11 31 04.9 -1.1**
MAKZ pmax pmax
comp=Z,168nm,0.9s
MAKZ MLR MLR
comp=Z,2μm,19.0s
MAKZ Makanchi 23.21 29 P **P 11 31 04.9 -1.1**
MAKZ IAmb IAmb 11 31 08.8
comp=Z,168nm,0.8s
AKH Akhalkalaki 23.21 313 P **P 11 31 07.0 +0.7**
BRZS Berezniki 23.23 11⇑ *iP* **P 11 31 05.3 -0.9**
comp=Z,43nm,0.9s,baz=11
BRZS eS **S** **11 35 19.2 +1.2**
baz=11
BRZS Berezniki 23.23 11 *eP* **P 11 31 03.3 -2.9**
BRZS pmax pmax
comp=Z,43nm,0.9s
SHL Shillong 23.25 88 P **P 11 31 07.0 +0.1**
SHL MLR MLR
comp=Z,3μm,19.0s
SHL Shillong 23.25 88 *eP* **P 11 31 06.4 -0.5**
SHL IAmb IAmb 11 31 10.8
comp=Z,234nm,0.6s
SHL Shillong 23.25 88 P **P 11 31 07.0 +0.1**
SHL IAMs_20 IAMs_20 11 39 41.4
comp=Z,3μm,19.0s
MK31 Makanchi Array 23.33 29 *i* P **P 11 31 05.4 -1.9**
MK31 Makanchi Array 23.33 29 P **P 11 31 06.3 -0.9**
MK31 IAmb IAmb 11 31 10.9
comp=Z,174nm,0.8s
MKAR Makanchi Array 23.33 29 P **P 11 31 05.5 -1.7**
comp=Z,198nm,0.6s,baz=207,slow=11,SNR=344
MKAR LR LR 11 42 33.7
comp=Z,1μm,18.8s,baz=226,slow=43
MKAR Makanchi Array 23.33 29 P **P 11 31 06.5 -0.8**
ZEI Tsey 23.68 316 *eP* **P 11 31 10.8 -0.2**
ZEI pmax pmax
comp=Z,100nm,1.1s
BRDH Bariadhala 23.70 96 P **P 11 31 14.3 +3.3**
comp=Z,317nm,0.8s,baz=344,slow=3.3,SNR=18
BRDH LR LR 11 40 52.1
comp=Z,2μm,20.7s,baz=298,slow=38
ONI Oni 23.85 316 P **P 11 31 13.8 +1.3**
ONI pmax pmax
comp=Z,234nm,1.2s
ONI Oni 23.85 316 P **P 11 31 13.8 +1.3**
ONI IAmb IAmb 11 31 33.2
comp=Z,234nm,1.2s
AKTO Aktyubinsk 23.90 347 P **P 11 31 12.7 -0.1**
comp=Z,102nm,0.8s,baz=152,slow=9.5,SNR=138
AKTO LR LR 11 41 18.3
comp=Z,1μm,21.9s,baz=157,slow=39
WMQ Urumqi 24.06 41 P **P 11 31 15.5 +1.1**
WMQ pP pP 11 31 17.8 -0.8
WMQ sP sP 11 31 22.8 +2.5
WMQ pmax pmax
comp=Z,330nm,0.9s
WMQ pmax pmax
comp=Z,2μm,3.7s
WMQ LR LR
comp=Z,7μm,17.5s
WMQ LR LR
comp=Z,3μm,18.1s
WMQ LR LR
comp=Z,2μm,16.3s
WMQ Urumqi 24.06 41 P **P 11 31 16.0 +1.6**
WMQ Urumqi 24.06 41 P **P 11 31 15.9 +1.6**
NCK Nalchik 24.26 318 *i* P **P 11 31 16.7 +0.5**
NCK pmax pmax
comp=Z,116nm,1.2s
NCK MLR MLR
comp=Z,936nm,14.0s
PALK Pallekele 24.32 142 P **P 11 31 18.9 +1.8**
comp=Z,15nm,0.8s,baz=53,slow=12,SNR=4.2
PALK LR LR 11 42 15.1
comp=Z,2μm,19.8s,baz=69,slow=40
PALK Pallekele 24.32 142 P **P 11 31 16.6 -0.5**
NEY Neytrino 24.66 316 *i* P **P 11 31 21.8 +1.8**
NEY pmax pmax
comp=Z,15nm,0.8s
KBZ Khabaz 24.81 317 P **P 11 31 21.7 +0.5**
comp=Z,76nm,0.9s,baz=101,slow=9.4,SNR=78
KBZ Khabaz 24.81 317 *ceP* **P 11 31 22.0 +0.8**
KBZ pmax pmax
comp=Z,88nm,0.9s
SHA1 Shidzhatmaz 24.96 317 *c iP* **P 11 31 24.0 +1.2**
ZSN Zaisan 24.98 31⇑ *iP* **P 11 31 21.9 -0.9**
comp=Z,70nm,1.0s,baz=32
ZSN eS **S** **11 35 48.3 +2.0**
baz=32
ZSN Zaisan 24.98 31 *c iP* **P 11 31 21.8 -0.9**
ZSN eS **S** **11 35 48.2 +2.0**
ZSN pmax pmax
comp=Z,70nm,1.0s
KVAR Kislovodsk Arr 25.06 318 P **P 11 31 27.2 +3.6**
comp=Z,52nm,0.8s,baz=107,slow=20,SNR=14
KVAR LR LR 11 43 08.8
comp=Z,382nm,21.1s,baz=1.0,slow=41
KIV Kislovodsk 25.07 318 *eP* **P 11 31 25.3 +1.7**
KIV eS **S** **11 35 50.8 +3.0**
KIV pmax pmax
comp=Z,228nm,3.8s
KIV pmax pmax
comp=Z,380nm,1.1s
KIV Kislovodsk 25.07 318 P **P 11 31 24.6 +1.0**
KURBB Kurchatov Arra 25.19 19 P **P 11 31 24.7 +0.2**
comp=Z,128nm,0.8s,baz=211,slow=9.1,SNR=229
KURK Kurchatov 25.30 19 P **P 11 31 24.7 -0.8**
KURK Kurchatov 25.30 19 P **P 11 31 24.7 -0.8**
GOF Gofitskoye 25.49 320⇑ *eP* **P 11 31 30.1 +2.8**
GOF pmax pmax
comp=Z,249nm,0.8s
SEM Semipalatinsk 25.53 21 *eP* **P 11 31 26.3 -1.6**
baz=22
SEM eS **S** **11 35 54.9 -0.3**
baz=22
SEM Semipalatinsk 25.53 21 *eP* **P 11 31 26.2 -1.6**
SEM eS **S** **11 35 54.9 -0.3**
MALT Malatya 25.54 302 P **P 11 31 29.5 +1.5**
BVAR Borovoye Array 25.91 6 P **P 11 31 30.7 -0.4**
comp=Z,104nm,0.9s,baz=222,slow=19,SNR=90
BRVK Borovoye 25.94 6 *ceP* **P 11 31 31.1 -0.2**
BRVK pmax pmax
comp=Z,150nm,1.0s
BRVK Borovoye 25.94 6 P **P 11 31 30.9 -0.3**
BRVK IAmb IAmb 11 32 01.3
comp=Z,162nm,1.0s
GAZ Gaziantep 26.16 299 P **P 11 31 34.1 +0.5**
SOC Sochi 26.71 314 *eP* **P 11 31 38.0 -0.4**
SOC *e*PPP PPP 11 32 23.5
SOC eS **S** **11 36 16.2 +2.6**
SOC pmax pmax
comp=Z,72nm,0.9s
SOC MLR MLR
comp=Z,715nm,18.0s
GHAJ Ghor Haditha 26.78 286 P **P 11 31 40.6 +1.5**
MMAI Mount Meron Ar 26.99 290 P **P 11 31 42.3 +1.2**
comp=Z,15nm,0.8s,baz=76,slow=6.1,SNR=4.9
MMAI LR LR 11 44 31.9
comp=Z,1μm,18.9s,baz=40,slow=41
EIL Elat 27.33 282 P **P 11 31 46.7 +2.6**
comp=Z,2.0nm,0.5s,baz=100,slow=8.2,SNR=7.2
EIL LR LR 11 44 53.9
comp=Z,1μm,20.3s,baz=120,slow=42
BNN Bunyan 27.63 302 P **P 11 31 47.2 +0.3**
BNN IAmb IAmb 11 32 09.2
comp=Z,108nm,0.9s
DGZ Jazzator, Alta 27.79 31 *c iP* **P 11 31 48.4 +0.2**
DGZ pmax pmax
comp=Z,63nm,0.7s
KVT Kavak 28.16 307 P **P 11 31 54.1 +2.6**
BELG Belogornoye 28.59 336 P **P 11 31 54.6 -0.5**
comp=Z,279nm,0.9s,baz=86,slow=0.7,SNR=26
BELG LR LR 11 45 28.1
comp=Z,871nm,20.1s,baz=126,slow=41
ANN Anapa 28.73 315 *eP* **P 11 31 55.0 -1.4**
ANN *e*PP **pP** **11 31 58.6 -2.2**
ANN eS **S** **11 36 47.1 +1.7**
ANN pmax pmax
comp=Z,67nm,1.1s
CSS Mathiatis 28.88 293 P **P 11 31 58.4 +0.5**
SNOP Sinop 29.08 308 P **P 11 31 59.2 -0.3**
BR131 Keskin Array S 29.51 303 P **P 11 32 03.3 -0.4**
BR131 pmax pmax
comp=Z,25nm,1.0s
BR131 Keskin Array S 29.51 303 P **P 11 32 03.3 -0.4**
BR131 Keskin Array S 29.51 303 P **P 11 32 05.5 +1.9**
SNR=12
BRTR Keskin Array B 29.51 303 P **P 11 32 02.9 -0.8**
comp=Z,6.9nm,0.9s,baz=120,slow=7.5,SNR=22
BRTR PcP **PcP** **11 35 09.0 +0.2**
comp=Z,2.4nm,0.9s,baz=154,slow=4.5,SNR=2.1
BRTR ScP **ScP** **11 38 53.9 +3.4**
comp=Z,1.1nm,0.8s,baz=151,slow=3.3,SNR=3.4
BRTR Keskin Array B 29.51 303 *ceP* **P 11 32 02.9 -0.8**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 29.51 303 P **P 11 32 03.3 -0.4**
ARU Arti 29.60 352 P **P 11 32 03.8 -0.3**
comp=Z,19nm,0.9s,baz=166,slow=7.5,SNR=38
ARU LR LR 11 46 24.6
comp=Z,1μm,18.2s,baz=162,slow=42
ARU Arti 29.60 352 *d iP* **P 11 32 03.7 -0.3**
ARU 11 32 58.3
ARU PPP PPP 11 33 09.2
ARU S **S** **11 37 01.0 +2.2**
ARU SS **SnSn** **11 38 30.5 +3.4**
ARU pmax pmax
comp=Z,54nm,0.9s
ARU MLR MLR
comp=Z,1μm,15.0s
ARU Arti 29.60 352 P **P 11 32 04.0 0.0**
ARU IAmb IAmb 11 32 08.7
comp=Z,61nm,1.0s
SVE Sverdlovsk 29.76 354 *ceP* **P 11 32 06.4 +1.0**
SVE eS **S** **11 37 07.9 +6.6**
SVE pmax pmax
comp=Z,66nm,1.0s
SVE MLR MLR
comp=Z,1μm,12.0s
ZAA0 Zalesovo Array 30.03 22 IAMs_20 IAMs_20 11 45 11.5
comp=Z,3μm,20.0s
ZALV Zalesovo Beam 30.03 22 P **P 11 32 07.4 -0.5**
comp=Z,42nm,0.6s,baz=225,slow=9.7,SNR=53
ZALV LR LR 11 45 22.7
comp=Z,2μm,20.0s,baz=219,slow=39
ZALV Zalesovo Beam 30.03 22 *i* P **P 11 32 07.5 -0.4**
ZALV pmax pmax
comp=Z,42nm,0.6s
ZALV Zalesovo Beam 30.03 22 P **P 11 32 07.8 0.0**
VRH Novokhopyorsk 30.12 329 *eP* **P 11 32 08.5 -0.1**
VRH eS **S** **11 37 05.3 -1.7**
VRH pmax pmax
comp=Z,40nm,1.2s
VRH smax smax
comp=N,300nm,12.2s
VRH MLR MLR
comp=Z,1μm,14.0s
ANTO Ankara 30.18 303 P **P 11 32 09.7 +0.2**
ANTO pmax pmax
comp=Z,46nm,1.2s
ANTO Ankara 30.18 303 P **P 11 32 09.7 +0.2**
BR231 Keskin MP Arra 30.19 303 P **P 11 32 09.8 +0.2**
GTA Gaotai 30.57 58⇑ P **P 11 32 14.4 +1.5**
GTA pP sP 11 32 18.8 -0.1
GTA sP pP 11 32 22.1 +5.0
GTA S **S** **11 37 17.3 +2.7**
GTA pmax pmax
comp=Z,28nm,1.2s
GTA pmax pmax
comp=Z,220nm,6.0s
GTA LR LR
comp=Z,3μm,19.1s
GTA LR LR
comp=Z,2μm,15.1s
GTA LR LR
comp=Z,2μm,14.7s
MHMT Maesarieng 30.76 100 P **P 11 32 16.6 +1.9**
comp=Z,82nm,1.1s
MHMT Maesarieng 30.76 100 P **P 11 32 16.6 +1.9**
comp=Z,82nm,1.1s
SIM Simferopol' 30.92 313 *eP* **P 11 32 16.2 +0.3**
SIM pmax pmax
comp=Z,84nm,1.1s
VORD Divnogorie 31.11 327 *eP* **P 11 32 14.9 -2.5**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 31.34 327 *eP* **P 11 32 18.1 -1.3**
VSR eS **S** **11 37 22.4 -3.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=N,240nm,8.3s
CM32 Chiang Mai Arr 31.39 99 P **P 11 32 21.0 +0.8**
CHTO Chiang Mai 31.41 99 P **P 11 32 21.1 +0.7**
CHTO pmax pmax
comp=Z,87nm,1.3s
CHTO MLR MLR
comp=Z,2μm,18.0s
CHTO Chiang Mai 31.41 99 P **P 11 32 21.4 +0.9**
comp=Z,812nmcomp=Z,52nm,1.5s
CHTO Chiang Mai 31.41 99 P **P 11 32 21.1 +0.7**
CHTO IAmb IAmb 11 32 22.8
comp=Z,87nm,1.3s
CHTO Chiang Mai 31.41 99 IAMs_20 IAMs_20 11 47 27.6
comp=Z,2μm,18.0s
CM33 Chiang Mai Arr 31.41 99 P **P 11 32 21.0 +0.5**
ISP Isparta 31.51 298 P **P 11 32 21.6 +0.3**
ISP pmax pmax
comp=Z,102nm,1.0s
ISP Isparta 31.51 298 P **P 11 32 21.6 +0.3**
ISP IAmb IAmb 11 32 48.2
comp=Z,102nm,1.0s
MDUB Mudurnu 31.51 304 P **P 11 32 20.8 -0.5**
MDUB IAmb IAmb 11 32 26.7
comp=Z,95nm,0.9s
CM13 Chiang Mai Arr 31.53 99 P **P 11 32 23.4 +2.0**
comp=Z,211nmcomp=Z,26nm,1.1s
CM13 Chiang Mai Arr 31.53 99 P **P 11 32 23.4 +2.0**
comp=Z,211nmcomp=Z,26nm,1.1s
CM15 Chiang Mai Arr 31.53 99 P **P 11 32 23.4 +1.9**
comp=Z,28nm,1.1s
CM15 Chiang Mai Arr 31.53 99 P **P 11 32 23.0 +1.5**
comp=Z,28nm,1.1s
CM31 Chiang Mai Arr 31.54 99 P **P 11 32 23.7 +2.1**
comp=Z,6μmcomp=Z,737nm,1.1s
CM31 Chiang Mai Arr 31.54 99 P **P 11 32 22.6 +0.9**
CM31 IAmb IAmb 11 33 12.2
comp=Z,51nm,1.1s
CMAR Chiang Mai Arr 31.54 99 P **P 11 32 22.0 +0.3**
comp=Z,22nm,1.1s,baz=295,slow=8.0,SNR=49
CMAR LR LR 11 47 51.6
comp=Z,1μm,18.9s,baz=326,slow=42
CMAR Chiang Mai Arr 31.54 99 *ceP* **P 11 32 23.0 +1.4**
CMAR pmax pmax
comp=Z,22nm,1.1s
CMAR Chiang Mai Arr 31.54 99 P **P 11 32 22.3 +0.7**
CM02 Chiang Mai Arr 31.56 99 P **P 11 32 23.6 +1.9**
comp=Z,268nmcomp=Z,35nm,1.0s
CM02 Chiang Mai Arr 31.56 99 P **P 11 32 23.0 +1.3**
comp=Z,268nmcomp=Z,35nm,1.0s
CM05 Chiang Mai Arr 31.57 99 P **P 11 32 23.6 +1.8**
CM05 Chiang Mai Arr 31.57 99 P **P 11 32 23.6 +1.8**
CM01 Chiang Mai Arr 31.57 99 P **P 11 32 23.8 +1.9**
comp=Z,295nmcomp=Z,40nm,1.1s
CM01 Chiang Mai Arr 31.57 99 P **P 11 32 23.9 +2.0**
comp=Z,295nmcomp=Z,40nm,1.1s
CM34 Chiang Mai Arr 31.58 98 P **P 11 32 23.0 +1.1**
CM09 Chiang Mai Arr 31.59 99 P **P 11 32 23.8 +1.8**
comp=Z,260nmcomp=Z,21nm,0.9s
CM09 Chiang Mai Arr 31.59 99 P **P 11 32 23.9 +1.8**
comp=Z,260nmcomp=Z,21nm,0.9s
CM04 Chiang Mai Arr 31.60 99 P **P 11 32 24.0 +1.9**
comp=Z,245nmcomp=Z,26nm,1.2s
CM04 Chiang Mai Arr 31.60 99 P **P 11 32 24.1 +1.9**
comp=Z,245nmcomp=Z,26nm,1.2s
FURI Furi 31.62 240 P **P 11 32 22.9 +0.2**
CM35 Chiang Mai Arr 31.65 99 P **P 11 32 23.0 +0.5**
ELL Elmali 31.84 296 P **P 11 32 24.7 +0.5**
ELL pmax pmax
comp=Z,318nm,1.0s
ELL MLR MLR
comp=Z,4μm,19.0s
ELL Elmali 31.84 296 P **P 11 32 24.7 +0.5**
LAMP Lampang 32.13 99 P **P 11 32 28.4 +1.7**
comp=Z,326nmcomp=Z,27nm,0.8s
LAMP Lampang 32.13 99 P **P 11 32 28.4 +1.7**
comp=Z,81nmcomp=Z,6.8nm,0.8s
LPSR Galich'ya Gora 32.34 329 *eP* **P 11 32 27.9 -0.3**
LPSR eS **S** **11 37 42.4 +0.6**
LPSR pmax pmax
comp=Z,90nm,1.0s
LPSR smax smax
comp=N,390nm,9.8s
UMPA Umpang Tak 32.38 103 P **P 11 32 32.4 +3.4**
comp=N,6μmcomp=N,76nm,1.5s
UMPA Umpang Tak 32.38 103 P **P 11 32 32.0 +3.0**
comp=N,1μmcomp=N,19nm,1.5s
KHLT Khaolaem Dam 32.77 106 P **P 11 32 36.2 +3.8**
comp=N,31nm,1.0s
KHLT Khaolaem Dam 32.77 106 P **P 11 32 36.3 +3.8**
comp=N,31nm,1.0s
KMI Kunming 32.98 85 ⇑P **P 11 32 35.1 +0.6**
KMI pP sP 11 32 43.6 +3.2
KMI sP pP 11 32 48.3 +10
KMI PP **PnPn** **11 33 45.4 +1.8**
KMI S **S** **11 37 44.4 -8.4**
KMI sS sS 11 38 00.3 +0.6
KMI SS **SnSn** **11 39 54.6 +4.2**
KMI pmax pmax
comp=N,28nm,0.8s
KMI pmax pmax
comp=N,240nm,4.1s
KMI LR LR
comp=N,1μm,17.8s
KMI LR LR
comp=N,1μm,22.1s
KMI LR LR
comp=N,2μm,18.0s
KMI Kunming 32.98 85 P **P 11 32 35.6 +1.1**
KMI Kunming 32.98 85 P **P 11 32 35.5 +1.1**
CD2 Chengdu 33.11 75 P **P 11 32 35.8 +0.5**
CD2 S **S** **11 37 56.3 +2.0**
CD2 pmax pmax
comp=N,100nm,0.8s
CD2 pmax pmax
comp=N,220nm,8.7s
CD2 LR LR
comp=N,3μm,17.4s
CD2 LR LR
comp=N,2μm,14.9s
CD2 LR LR
comp=N,2μm,12.7s
ARG Arkhangelos 33.22 295 P **P 11 32 40.4 +4.3**
LZH Lanzhou 33.23 65 ⇑P **P 11 32 37.5 +1.1**
LZH sP sP 11 32 43.4 +1.1
LZH PP **PP** **11 33 51.8 +0.3**
LZH sS sS 11 38 07.0 +3.8
LZH SS **SnSn** **11 39 56.1 +0.1**
LZH pmax pmax
comp=N,35nm,1.1s
LZH pmax pmax
comp=N,250nm,5.4s
LZH LR LR
comp=N,5μm,16.3s
LZH LR LR
comp=N,2μm,16.8s
LZH LR LR
comp=N,1μm,15.6s
UTTA Uttaradit 33.23 99 P **P 11 32 38.0 +1.6**
comp=N,509nmcomp=N,46nm,0.8s
UTTA Uttaradit 33.23 99 P **P 11 32 38.0 +1.6**
comp=N,127nmcomp=N,12nm,0.8s
PHIT Phitsanulok 33.33 100 P **P 11 32 39.4 +2.2**
comp=N,2μmcomp=N,189nm,1.0s
PHIT Phitsanulok 33.33 100 P **P 11 32 39.4 +2.2**
comp=N,419nmcomp=N,47nm,1.0s
KIRV Kirov 33.35 344 *ceP* **P 11 32 37.1 +0.2**
MSEY Mahe Island 33.36 199 P **P 11 32 38.7 +1.2**
MSEY pmax pmax
comp=Z,77nm,1.2s
MSEY MLR MLR
comp=Z,1μm,18.0s
MSEY Mahe Island 33.36 199 P **P 11 32 38.7 +1.2**
MSEY IAmb IAmb 11 32 44.1
comp=Z,77nm,1.2s
SRDT SRDT 33.44 106 P **P 11 32 40.8 +2.6**
comp=Z,2μmcomp=Z,124nm,1.4s
SRDT SRDT 33.44 106 P **P 11 32 40.9 +2.7**
comp=Z,2μmcomp=Z,124nm,1.4s
BALB Balikesir 33.84 301 P **P 11 32 41.2 -0.3**
BALB IAmb IAmb 11 33 01.0
comp=Z,107nm,1.3s
KARP Karpathos 33.96 294 P **P 11 32 41.5 -1.2**

MFTR	**Murfatlar**	**34.47 309**	⇑P	**P**	**11 32 46.8**	**-0.2**
PHET	**Kaeng Krachan**	**34.56 108**	P	**P**	**11 32 50.8**	**+2.8**
	comp=Z,1μmcomp=Z,164nm,0.8s					
PHET	**Kaeng Krachan**	**34.56 108**	P	**P**	**11 32 50.8**	**+2.8**
	comp=Z,340nmcomp=Z,42nm,0.8s					
TIRR	**Tirgusor**	**34.56 310**	⇑P	**P**	**11 32 47.8**	**+0.1**
TIRR	**Tirgusor**	**34.56 310**	P	**P**	**11 32 47.5**	**-0.2**
TIRR			pmax	pmax		
	comp=Z,140nm,0.9s					
TIRR	**Tirgusor**	**34.56 310**	P	**P**	**11 32 47.5**	**-0.2**
TPGR	**Topolog**	**34.67 310**	⇓P	**P**	**11 32 48.8**	**+0.1**
TLBR	**Topalu**	**34.84 310**	⇑P	**P**	**11 32 50.2**	**+0.1**
ICOR	**Ion Corvin**	**34.89 309**	⇑P	**P**	**11 32 50.3**	**-0.1**
HARR	**Harsova**	**34.96 310**	⇓P	**P**	**11 32 51.1**	**0.0**
CFR	**Carcaliu**	**34.96 311**	⇑P	**P**	**11 32 51.2**	**+0.1**
SLVN	**Son La**	**34.98 91**	P	**P**	**11 32 52.3**	**+0.7**
SLVN			IAmb	IAmb	11 33 09.8	
	comp=Z,98nm,1.4s					
MOS	**Moscow**	**35.01 332**	*e*P	**P**	**11 32 50.8**	**-0.6**
MOS			*e*		11 34 09.2	
MOS			*e*PPP	PPP	11 34 23.8	
MOS			*e*S	**S**	**11 38 21.1**	**-1.8**
MOS			*e*SS	**SnSn**	**11 40 40.5**	**+2.1**
MOS			pmax	pmax		
	comp=N,85nm,0.9s					
MOS			pmax	pmax		
	comp=E,78nm,0.9s					
MOS			pmax	pmax		
	comp=Z,131nm,1.1s					
MOS			MLR	MLR		
	comp=Z,1μm,17.0s					
OBN	**Obninsk**	**35.04 331**	*c i*P	**P**	**11 32 51.4**	**-0.3**
OBN			*e*		11 34 13.5	
OBN			*e*S	**S**	**11 38 16.8**	**-6.7**
OBN			*e*SS	**SnSn**	**11 40 31.4**	**-7.9**
OBN			pmax	pmax		
	comp=Z,70nm,1.0s					
OBN	**Obninsk**	**35.04 331**	P	**P**	**11 32 51.7**	**0.0**
OBN			IAmb	IAmb	11 32 57.1	
	comp=Z,57nm,0.7s					
EZN	**Ezine**	**35.05 301**	P	**P**	**11 32 52.5**	**+0.5**
CHAI	**Chaiyaphum**	**35.23 101**	P	**P**	**11 32 55.8**	**+2.1**
	comp=Z,3μmcomp=Z,49nm,0.9s					
CHAI	**Chaiyaphum**	**35.23 101**	P	**P**	**11 32 55.8**	**+2.1**
	comp=Z,710nmcomp=Z,12nm,0.9s					
NONG	**Nongkai**	**35.39 97**	P	**P**	**11 32 55.7**	**+0.6**
	comp=Z,1μmcomp=Z,103nm,1.0s					
NONG	**Nongkai**	**35.39 97**	P	**P**	**11 32 55.8**	**+0.6**
	comp=Z,1μmcomp=Z,104nm,1.0s					
ALN	**Alexandroupoli**	**35.44 303**	P	**P**	**11 32 54.1**	**-1.2**
ALN	**Alexandroupoli**	**35.44 303**	P	**P**	**11 32 55.1**	**-0.2**
ALN			pmax	pmax		
	comp=Z,39nm,1.0s					
ALN	**Alexandroupoli**	**35.44 303**	P	**P**	**11 32 55.1**	**-0.2**
PATY	**Pattaya**	**35.60 107**	P	**P**	**11 33 01.3**	**+4.4**
PATY	**Pattaya**	**35.60 107**	P	**P**	**11 33 01.4**	**+4.4**
KHON	**Khomkaen**	**35.78 100**	P	**P**	**11 33 00.3**	**+1.8**
	comp=Z,39nm,0.8s					
KHON	**Khomkaen**	**35.78 100**	P	**P**	**11 33 00.3**	**+1.8**
	comp=Z,9.8nm,0.8s					
SORM	**Soroca**	**35.83 316**	⇑P	**P**	**11 32 57.9**	**-0.6**
SORM	**Soroca**	**35.83 316**	P	**P**	**11 32 58.9**	**+0.4**
MOY	**Mondy**	**35.83 38**	*e*P	**P**	**11 33 00.0**	**+1.3**
MOY			pmax	pmax		
	comp=Z,76nm,1.7s					
RDO	**Rodhopi**	**35.86 303**	P	**P**	**11 32 58.0**	**-0.9**
SURT	**Suratani**	**35.96 114**	P	P	11 33 05.3	+5.3
	comp=Z,24nmcomp=Z,2.8nm,1.1s					
SURT	**Suratani**	**35.96 114**	P	P	11 33 05.4	+5.4
	comp=Z,24nmcomp=Z,2.8nm,1.1s					
SRAK	**Srakaew**	**36.10 104**	P	P	11 33 08.0	+6.7
PLOR	**Plostina**	**36.16 311**	⇓P	**P**	**11 33 02.7**	**+1.2**
GYA	**Guiyang**	**36.19 82**	⇓P	**P**	**11 33 02.4**	**+0.3**
GYA			S	**S**	**11 38 38.3**	**-3.8**
GYA			pmax	pmax		
	comp=Z,67nm,6.8s					
GYA			LR	LR		
	comp=Z,430nm,14.4s					
GYA			LR	LR		
	comp=Z,130nm,12.8s					
NEHR	**Nehoiu**	**36.28 311**	⇓P	**P**	**11 33 03.4**	**+0.9**
AKASG	**Malin Array Be**	**36.35 320**	P	**P**	**11 33 02.0**	**-1.0**
	comp=Z,26nm,0.9s,baz=110,slow=7.2,SNR=38					
AKASG			PP	**PP**	**11 34 26.2**	**+0.6**
	comp=Z,20nm,1.0s,baz=111,slow=11,SNR=5.8					
AKASG			PcP	**PcP**	**11 35 28.2**	**+0.8**
	comp=Z,8.0nm,0.8s,baz=91,slow=2.7,SNR=8.2					
AKASG	**Malin Array Be**	**36.35 320**	*i* P	**P**	**11 33 02.0**	**-1.0**
AKASG			pmax	pmax		
	comp=Z,32nm,0.9s					
AKASG	**Malin Array Be**	**36.35 320**	P	**P**	**11 33 03.2**	**+0.2**
AKASG				**PcP**	**11 35 28.1**	**+0.7**
AKBB	**Malin Array Si**	**36.35 320**	P	**P**	**11 33 02.1**	**-0.8**
AKBB			pmax	pmax		
	comp=Z,93nm,1.2s					
AKBB			MLR	MLR		
	comp=Z,600nm,18.0s					
AKBB	**Malin Array Si**	**36.35 320**	P	**P**	**11 33 02.1**	**-0.8**
AKBB			IAmb	IAmb	11 33 07.6	
	comp=Z,93nm,1.1s					
KIEV	**Kiev**	**36.35 320**	P	**P**	**11 33 02.0**	**-1.0**
TESR	**Tescani**	**36.36 312**	⇓P	**P**	**11 33 03.5**	**+0.3**
ZAK	**Zakamensk**	**36.53 41**	*e*P	**P**	**11 33 04.7**	**0.0**
ZAK			pmax	pmax		
	comp=Z,22nm,1.4s					
MLR	**Muntele Rosu**	**36.53 311**	⇑P	**P**	**11 33 06.0**	**+1.2**
MLR	**Muntele Rosu**	**36.53 311**	P	**P**	**11 33 05.3**	**+0.5**
MLR			pmax	pmax		
	comp=Z,129nm,1.0s					
MLR	**Muntele Rosu**	**36.53 311**	P	**P**	**11 33 05.3**	**+0.5**
MLR			IAmb	IAmb	11 33 09.1	
	comp=Z,129nm,1.0s					
PLD	**Plovdiv**	**36.64 305**	P	**P**	**11 33 06.8**	**+1.2**
PLD			pmax	pmax		
	comp=Z,144nm,1.1s					
KRAB	**Krabi**	**36.70 115**	P	**P**	**11 33 09.4**	**+3.0**
	comp=Z,829nm,0.9s					
KRAB	**Krabi**	**36.70 115**	P	**P**	**11 33 09.4**	**+3.0**
	comp=Z,207nm,0.9s					
OUR	**Ouranopolis**	**36.90 302**	P	**P**	**11 33 07.7**	**-0.1**
OUR	**Ouranopolis**	**36.90 302**	P	**P**	**11 33 10.5**	**+2.7**
PRGR	**Permogore**	**36.95 344**	*e*P	**P**	**11 33 06.8**	**-1.1**
PRGR			*e*		11 34 30.1	
PRGR			*e*S	**S**	**11 38 51.4**	**-1.1**
PRGR			pmax	pmax		
	comp=Z,22nm,0.5s					
DOPR	**Dopca**	**37.04 311**	⇑P	**P**	**11 33 09.3**	**+0.3**
MTUR	**Matau**	**37.06 310**	⇓P	**P**	**11 33 09.8**	**+0.5**
PAIG	**Paliouri**	**37.08 301**	P	**P**	**11 33 08.8**	**-0.6**
PAIG	**Paliouri**	**37.08 301**	P	**P**	**11 33 10.5**	**+1.1**
VOIR		**37.13 310**	⇑P	**P**	**11 33 10.0**	**+0.2**
NVR	**Nevrokopi**	**37.14 303**	P	**P**	**11 33 09.6**	**-0.3**
TLY	**Talaya**	**37.30 39**	*e*P	**P**	**11 33 12.4**	**+1.3**
TLY			*e*S	**S**	**11 38 55.8**	**-2.4**
TLY			*e*SS	**SnSn**	**11 41 33.1**	**-0.9**
TLY			*e*		11 43 24.1	
TLY			pmax	pmax		
	comp=Z,77nm,1.1s					
TLY			MLR	MLR		
	comp=Z,4μm,15.0s					
TLY	**Talaya**	**37.30 39**	P	**P**	**11 33 11.9**	**+0.8**
TLY			IAMs_20	IAMs_20	11 50 23.1	
	comp=Z,1μm,19.0s					
SRS	**Serrai**	**37.30 303**	P	**P**	**11 33 10.8**	**-0.5**
SRS	**Serrai**	**37.30 303**	P	**P**	**11 33 11.2**	**-0.1**
SRS			pmax	pmax		
	comp=Z,72nm,1.0s					
XAN	**Xi'an**	**37.34 69**	⇑P	**P**	**11 33 11.8**	**+0.1**
XAN			pP	sP	11 33 17.9	+0.2
XAN			sP	pP	11 33 21.6	+5.7
XAN			PP	**PP**	**11 34 37.0**	**+0.2**
XAN			PcP	**PcP**	**11 35 29.8**	**-1.0**
XAN			S	**S**	**11 39 01.3**	**+2.0**
XAN			ScS	**ScS**	**11 43 25.3**	**-0.6**
XAN			pmax	pmax		
	comp=Z,65nm,1.1s					
XAN			pmax	pmax		
	comp=Z,450nm,5.8s					
XAN			LR	LR		
	comp=Z,1μm,20.3s					
XAN			LR	LR		
	comp=Z,2μm,13.1s					
XAN			LR	LR		
	comp=Z,2μm,18.2s					
XAN	**Xi'an**	**37.34 69**	P	**P**	**11 33 12.3**	**+0.6**
XAN	**Xi'an**	**37.34 69**	P	**P**	**11 33 12.3**	**+0.6**
HORU	**Horodok**	**37.41 317**	P	**P**	**11 33 11.2**	**-0.8**
LTK	**Loutraki**	**37.47 298**	P	**P**	**11 33 11.3**	**-1.4**
SONM	**Songino Array**	**37.48 46**	P	**P**	**11 33 13.8**	**+0.9**
	comp=Z,18nm,0.7s,baz=250,slow=8.2,SNR=24					
SONM			LR	LR	11 51 25.4	
	comp=Z,3μm,18.8s,baz=248,slow=41					
SONM	**Songino Array**	**37.48 46**	P	**P**	**11 33 14.0**	**+1.1**
SONM			pmax	pmax		
	comp=Z,34nm,1.0s					
SONM	**Songino Array**	**37.48 46**	P	**P**	**11 33 14.0**	**+1.1**
LKR	**Lokris**	**37.48 299**	P	**P**	**11 33 11.7**	**-1.1**
BURAR	**Bucovina Array**	**37.63 314**	⇓P	**P**	**11 33 14.8**	**+0.7**
BURAR	**Bucovina Array**	**37.63 314**	P	**P**	**11 33 14.2**	**+0.1**
BURAR	**Bucovina Array**	**37.63 314**	P	**P**	**11 33 14.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**37.65 314**	P	**P**	**11 33 14.3**	**+0.1**
LODK	**Lodwar**	**37.67 236**	P	**P**	**11 33 15.2**	**+0.6**
VTS	**Vitosha**	**37.80 305**	⇓P	**P**	**11 33 15.5**	**-0.1**
VTS	**Vitosha**	**37.80 305**	P	**P**	**11 33 15.2**	**-0.4**
VTS			pmax	pmax		
	comp=Z,39nm,1.1s					
VTS	**Vitosha**	**37.80 305**	P	**P**	**11 33 15.2**	**-0.4**
KNT	**Kendrikon**	**37.83 303**	P	**P**	**11 33 14.7**	**-1.0**
IRK	**Irkutsk**	**37.89 38**	*e*P	**P**	**11 33 12.2**	**-3.9**
IRK			pmax	pmax		
	comp=Z,98nm,2.1s					
VLX	**Vlachokerasia**	**37.90 297**	P	**P**	**11 33 15.5**	**-0.9**
ULN	**Ulaanbaatar**	**37.91 46**	P	**P**	**11 33 17.5**	**+0.9**
ULN			pmax	pmax		
	comp=Z,29nm,1.1s					
ULN			MLR	MLR		
	comp=Z,4μm,19.0s					
ULN	**Ulaanbaatar**	**37.91 46**	P	**P**	**11 33 17.5**	**+0.9**
KSV	**Kosov**	**37.95 315**	P	**P**	**11 33 16.9**	**+0.3**
LOT	**Lotru**	**38.00 310**	⇑P	**P**	**11 33 17.1**	**-0.2**
LIT	**Litokhoron**	**38.01 301**	P	**P**	**11 33 16.4**	**-0.9**
LIT	**Litokhoron**	**38.01 301**	P	**P**	**11 33 16.7**	**-0.6**
LIT	**Litokhoron**	**38.01 301**	P	**P**	**11 33 16.7**	**-0.6**
KLMR	**Klimovskoe**	**38.03 339**	*e*P	**P**	**11 33 13.9**	**-3.1**
KLMR			*e*		11 34 39.4	
KLMR			*e*S	**S**	**11 39 04.8**	**-4.1**
KLMR			pmax	pmax		
	comp=Z,172nm,1.1s					
KLMR			MLR	MLR		
	comp=Z,1μm,13.0s					
KLMR	**Klimovskoe**	**38.03 339**	*e*P	**P**	**11 33 14.0**	**-3.1**
KLMR			AMP		11 33 21.5	
	comp=Z,172nm,1.1s					
KLMR			*e*PP	**PP**	**11 34 39.5**	**-4.4**
KLMR			*e*S	**S**	**11 39 04.8**	**-4.1**
KLMR			*e*S	**S**	**11 39 04.8**	**-4.1**
KLMR			LQ	LQ	11 46 14.1	
KLMR			LQ	LQ	11 46 14.1	
KLMR			LR	LR	11 48 55.3	
KLMR			AMP		11 51 02.2	
	comp=Z,1μm,13.0s					
ARCR	**ARCALIA**	**38.04 313**	⇑P	**P**	**11 33 18.3**	**+0.9**
ENH	**Enshi**	**38.08 75**	P	**P**	**11 33 18.7**	**+0.7**
ENH			IAmb	IAmb	11 33 54.2	
	comp=Z,59nm,1.0s					
ENH			IAMs_20	IAMs_20	11 50 52.5	
	comp=Z,2μm,18.0s					
KLV	**Kalavryta, Ach**	**38.11 298**	P	**P**	**11 33 17.1**	**-1.1**
SERG	**Sergoula**	**38.21 298**	P	**P**	**11 33 18.7**	**-0.3**
TPTI		**38.21 123**	P	**P**	**11 33 16.3**	**-2.9**
	comp=Z,666nmcomp=Z,34nm,1.3s					
THL	**Klokotos Trika**	**38.32 300**	P	**P**	**11 33 18.6**	**-1.3**
PYL	**PYLOS**	**38.39 296**	P	**P**	**11 33 18.9**	**-1.6**
AMT	**Artemida-Makis**	**38.44 297**	P	**P**	**11 33 20.7**	**-0.2**
BTO	**Baotou**	**38.49 58**	*e*P	**P**	**11 33 22.1**	**+0.7**
BTO			pmax	pmax		
	comp=Z,260nm,0.8s					
BTO			LR	LR		
	comp=Z,5μm,22.8s					
BTO			LR	LR		
	comp=Z,3μm,17.5s					
KZN	**Kozani**	**38.58 301**	P	**P**	**11 33 21.8**	**-0.3**
DEV	**Deva**	**38.70 310**	P	**P**	**11 33 25.2**	**+2.3**
BMR	**Baia Mare**	**38.76 313**	P	**P**	**11 33 27.4**	**+3.9**
MNK	**Minsk**	**38.83 325**	*i* P	**P**	**11 33 20.2**	**-3.7**
MNK			*i*		11 34 50.1	
MNK			*i*		11 35 30.1	
MNK			*i* S	**S**	**11 39 14.7**	**-6.6**
MNK			*i* SS	**SnSn**	**11 42 09.0**	**-1.9**
MNK			*i*		11 43 24.9	
MNK			pmax	pmax		
	comp=Z,76nm,0.9s					
MNK			pmax	pmax		
	comp=E,12nm,1.0s					
MNK			pmax	pmax		
	comp=N,57nm,0.8s					
MNK			MLR	MLR		
	comp=N,2μm,22.0s					
MNK			MLR	MLR		
	comp=Z,483nm,19.0s					
MNK	**Minsk**	**38.83 325**	*i* P	**P**	**11 33 20.2**	**-3.7**
	comp=E,12nm,1.0s					
MNK			*i* P	**P**	**11 33 20.2**	**-3.7**
	comp=N,57nm,0.8s					
MNK			*i* P	**P**	**11 33 20.2**	**-3.7**
	comp=Z,76nm,0.9s,baz=298					
MNK			*i* pP	**sP**	**11 33 33.8**	**+3.9**
MNK			*i* PP	**PP**	**11 34 50.1**	**-2.7**
MNK			*i* PcP	**PcP**	**11 35 30.1**	**-4.8**
MNK			*i* S	**S**	**11 39 14.7**	**-6.6**
MNK			*i* sS	sS	11 39 38.7	+10
MNK			*i* SS	**SnSn**	**11 42 09.0**	**-1.9**
MNK			*i* SSS	SSS	11 42 28.1	
MNK			*i* LR	LR	11 49 32.8	
MNK			*i* LRM	MLR	11 51 13.9	
	comp=N,2μm,22.4s					
MNK			*i* LRM	MLR	11 51 36.7	
	comp=Z,483nm,18.8s					
MNK			*i* LRM	MLR	11 51 40.6	
	comp=E,49nm,17.8s					
KPRO	**Kipourio**	**38.86 301**	P	**P**	**11 33 23.0**	**-1.5**
FNA	**Florina**	**38.93 302**	P	**P**	**11 33 24.5**	**-0.5**
FNA	**Florina**	**38.93 302**	P	**P**	**11 33 24.7**	**-0.3**
FNA			pmax	pmax		
	comp=Z,66nm,0.9s					
FNA	**Florina**	**38.93 302**	P	**P**	**11 33 24.7**	**-0.3**
FNA			IAmb	IAmb	11 33 30.4	
	comp=Z,66nm,0.9s					
MORS	**Morshin**	**38.95 316**	P	**P**	**11 33 25.6**	**+0.6**
LVV	**L'vov**	**39.08 317**	*e*P	**P**	**11 33 26.0**	**-0.1**
LVV			*e*S	**S**	**11 39 22.0**	**-3.2**
LVV			pmax	pmax		
	comp=Z,60nm,1.0s					
LVV			MLR	MLR		
	comp=Z,600nm,17.0s					
TSI	**Tuntungan**	**39.09 122**	P	**P**	**11 33 26.6**	**0.0**
	comp=Z,43nm,0.9s					
TRSU	**Trosnyk**	**39.23 314**	P	**P**	**11 33 27.5**	**+0.1**
MDVR	**Moldovita**	**39.28 308**	⇓P	**P**	**11 33 28.1**	**+0.2**
LKD2	**Lefkada island**	**39.32 299**	P	**P**	**11 33 26.2**	**-2.1**
KBN	**Korca**	**39.36 302**	P	**P**	**11 33 28.5**	**-0.1**
KBN			pmax	pmax		
	comp=Z,109nm,1.0s					
KBN	**Korca**	**39.36 302**	P	**P**	**11 33 28.5**	**-0.1**
KBN			IAmb	IAmb	11 33 50.2	
	comp=Z,109nm,1.0s					
BZS	**Buzias**	**39.52 310**	⇓P	**P**	**11 33 30.5**	**+0.7**
KMBO	**Kilima Mbogo**	**39.52 229**	P	**P**	**11 33 32.2**	**+1.7**
	comp=Z,12nm,0.9s,baz=30,slow=10,SNR=12					
IGT	**Igoumenitsa**	**39.62 300**	P	**P**	**11 33 30.7**	**-0.1**
IGT			pmax	pmax		
	comp=Z,67nm,1.0s					
SIRR	**Siria**	**39.63 311**	⇓P	**P**	**11 33 30.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**39.68 58**	*e*P	**P**	**11 33 33.3**	**+1.9**
HHC			S	**S**	**11 39 38.8**	**+4.1**
HHC			pmax	pmax		
	comp=Z,33nm,1.0s					
HHC			pmax	pmax		
	comp=Z,520nm,8.2s					
HHC			LR	LR		
	comp=Z,1μm,15.1s					
HHC			LR	LR		
	comp=Z,1μm,16.5s					
HHC			LR	LR		
	comp=Z,2μm,18.7s					
UZH	**Uzhgorod**	**39.80 314**	⇑*i* P	**P**	**11 33 33.9**	**+1.8**
UZH			*i*		11 33 37.1	
UZH			*i*		11 33 44.6	
UZH			*e*		11 35 04.9	
UZH			*i* S	**S**	**11 39 37.8**	**+1.7**
GSI	**Gunungsitoli**	**39.82 125**	P	**P**	**11 33 34.4**	**+1.8**
GSI	**Gunungsitoli**	**39.82 125**	P	**P**	**11 33 32.8**	**+0.2**
	comp=Z,238nm,1.4s					
PSI	**Prapat**	**39.82 122**	P	**P**	**11 33 33.5**	**+0.7**
PSI			pmax	pmax		
	comp=Z,103nm,0.9s					
PSI			MLR	MLR		
	comp=Z,1μm,18.0s					
KWP	**Kalwaria Pacla**	**39.84 316**	*e*P	**P**	**11 33 32.7**	**+0.3**
KWP	**Kalwaria Pacla**	**39.84 316**	P	**P**	**11 33 32.8**	**+0.3**
KWP	**Kalwaria Pacla**	**39.84 316**	P	**P**	**11 33 32.8**	**+0.3**
RPSI	**Rantau Prapat**	**39.89 122**	P	**P**	**11 33 33.5**	**+0.3**
RPSI			IAmb	IAmb	11 33 35.0	
	comp=Z,103nm,0.9s					
KOLS	**Kolonicke sedl**	**39.90 315**	*e*P	**P**	**11 33 34.0**	**+1.0**
KOLS	**Kolonicke sedl**	**39.90 315**	*e*P	**P**	**11 33 34.0**	**+1.0**
KIBK	**Kibwezi**	**39.90 227**	P	**P**	**11 33 34.5**	**+1.1**
KIBK	**Kibwezi**	**39.90 227**	P	**P**	**11 33 35.8**	**+2.4**
	SNR=12					
IIGN	**Ignalina**	**40.08 325**	*e*P	**P**	**11 33 35.4**	**+1.1**
TIR	**Tirane**	**40.12 303**	P	**P**	**11 33 33.9**	**-1.0**
TIR			pmax	pmax		
	comp=Z,68nm,0.9s					
TIR			MLR	MLR		
	comp=Z,600nm,22.0s					
TIR	**Tirane**	**40.12 303**	P	**P**	**11 33 33.9**	**-1.0**
TIR			IAmb	IAmb	11 33 41.2	
	comp=Z,68nm,0.9s					
TIY	**Taiyuan**	**40.18 63**	*e*P	**P**	**11 33 36.8**	**+1.3**
TIY			S	**S**	**11 39 44.3**	**+2.1**
TIY			pmax	pmax		
	comp=Z,45nm,0.9s					
TIY			LR	LR		
	comp=Z,1μm,10.9s					
TIY			LR	LR		
	comp=Z,770nm,13.2s					
TIY			LR	LR		
	comp=Z,1μm,20.4s					
ISAL	**Salakas**	**40.23 326**	*e*P	**P**	**11 33 36.4**	**+0.8**
DIVS	**Divibare**	**40.38 307**	⇑*i* P	**P**	**11 33 36.4**	**-0.7**
DIVS	**Divibare**	**40.38 307**	P	**P**	**11 33 36.6**	**-0.5**
CRVS	**Cervenica-Dubn**	**40.41 314**	*e*P	**P**	**11 33 37.7**	**+0.5**
CRVS			pmax	pmax		
	comp=Z,117nm,1.1s					
CRVS	**Cervenica-Dubn**	**40.41 314**	*e*P	**P**	**11 33 37.7**	**+0.5**
PUL	**Pulkovo**	**40.60 333**	*i* P	**P**	**11 33 38.3**	**-0.3**
PUL			pmax	pmax		
	comp=Z,170nm,0.8s					
FRGS	**Fruska Gora**	**40.68 308**	⇑*i* P	**P**	**11 33 39.4**	**-0.1**
PDG	**Podgorica**	**40.69 304**	⇓P	**P**	**11 33 38.7**	**-0.9**
PDG	**Podgorica**	**40.69 304**	*e*P	**P**	**11 33 38.2**	**-1.3**
PDG	**Podgorica**	**40.69 304**	P	**P**	**11 33 38.4**	**-1.1**
DRME	**Dracevica, Mon**	**40.71 304**	⇑*i* P	**P**	**11 33 38.3**	**-1.5**
RUDO	**Rudo**	**40.75 306**	*e*P	**P**	**11 33 40.4**	**+0.3**
BBLS	**Lazići**	**40.76 306**	⇑*i* P	**P**	**11 33 40.0**	**-0.2**
KECS	**Kecovo**	**40.92 314**	*e*P	**P**	**11 33 42.7**	**+1.3**
KECS			pmax	pmax		
	comp=Z,23nm,1.1s					
KECS	**Kecovo**	**40.92 314**	*e*P	**P**	**11 33 42.7**	**+1.3**
QIZ	**Qiongzhong**	**40.99 92**	P	**P**	**11 33 41.0**	**-1.4**
QIZ			pP	**pP**	**11 33 46.9**	**+0.3**
QIZ			S	**S**	**11 39 54.5**	**0.0**
QIZ			sS	**sS**	**11 40 00.6**	**-0.9**
QIZ			pmax	pmax		
	comp=Z,300nm,3.6s					
QIZ			LR	LR		
	comp=Z,1μm,20.4s					
QIZ			LR	LR		
	comp=Z,690nm,15.9s					
QIZ			LR	LR		
	comp=Z,690nm,17.7s					
UPM	**Unac-Piva**	**41.03 305**	*e*P	**P**	**11 33 43.0**	**+0.4**
SUW	**Suwalki**	**41.10 322**	*e*P	**P**	**11 33 42.8**	**0.0**
SUW	**Suwalki**	**41.10 322**	*e*P	**P**	**11 33 43.2**	**+0.4**
SUW	**Suwalki**	**41.10 322**	P	**P**	**11 33 41.4**	**-1.3**
SUW			pmax	pmax		
	comp=Z,115nm,1.1s					
SUW	**Suwalki**	**41.10 322**	P	**P**	**11 33 41.4**	**-1.3**
SUW			IAmb	IAmb	11 33 45.5	
	comp=Z,115nm,1.1s					
PSZ	**Piszkesteto**	**41.17 313**	⇑P	**P**	**11 33 44.4**	**+0.8**
PSZ	**Piszkesteto**	**41.17 313**	*e*P	**P**	**11 33 44.5**	**+0.9**
PSZ	**Piszkesteto**	**41.17 313**	P	**P**	**11 33 43.8**	**+0.2**
PSZ			pmax	pmax		
	comp=Z,66nm,1.1s					
PSZ	**Piszkesteto**	**41.17 313**	P	**P**	**11 33 43.8**	**+0.2**
PSZ			IAmb	IAmb	11 34 03.4	
	comp=Z,66nm,1.1s					
HCY	**Herceg Novi**	**41.25 304**	*e*P	**P**	**11 33 43.4**	**-0.8**
BRY	**Bratogost**	**41.26 305**	⇑*i* P	**P**	**11 33 43.1**	**-1.4**
PABE	**Paberze**	**41.30 325**	*e*P	**P**	**11 33 45.0**	**+0.6**
PABE	**Paberze**	**41.30 325**	P	**P**	**11 33 44.0**	**-0.4**
PABE			IAmb	IAmb	11 33 46.9	
	comp=Z,64nm,0.9s					
TREB	**Trebinje**	**41.38 305**	*e*P	**P**	**11 33 42.6**	**-2.7**
VSU	**Vasula**	**41.38 330**	*e*P	**P**	**11 33 45.2**	**+0.2**
VSU	**Vasula**	**41.38 330**	*i* P	**P**	**11 33 44.3**	**-0.7**
VSU			pmax	pmax		
	comp=Z,99nm,0.9s					
MNSI	**Mandailing Nat**	**41.63 124**	P	**P**	**11 33 47.9**	**+0.3**
	comp=Z,2μmcomp=Z,153nm,0.9s					
MORH	**Mrgy, Hungar**	**41.67 310**	⇓P	**P**	**11 33 47.7**	**+0.2**
MORH	**Mrgy, Hungar**	**41.67 310**	*e*P	**P**	**11 33 47.6**	**0.0**
MORH	**Mrgy, Hungar**	**41.67 310**	⇑*i* P	**P**	**11 33 47.6**	**0.0**
BEL	**Belsk**	**41.68 319**	*e*P	**P**	**11 33 50.1**	**+2.5**
LANS	**Liptovska Anna**	**41.74 314**	*e*P	**P**	**11 33 49.4**	**+1.2**
LANS			pmax	pmax		
	comp=Z,11nm,0.9s					
LANS	**Liptovska Anna**	**41.74 314**	*e*P	**P**	**11 33 49.4**	**+1.2**
STON	**Ston**	**41.87 305**	⇑*i* P	**P**	**11 33 47.6**	**-1.7**
VYHS	**Vyhne**	**41.99 313**	*e*P	**P**	**11 33 50.5**	**+0.3**
VYHS			pmax	pmax		
	comp=Z,40nm,1.1s					
VYHS	**Vyhne**	**41.99 313**	*e*P	**P**	**11 33 50.5**	**+0.3**
KOVH	**Kovagotottos**	**42.02 310**	*e*P	**P**	**11 33 50.8**	**+0.3**
CSKK	**Cskako**	**42.14 311**	*e*P	**P**	**11 33 51.0**	**-0.4**
WHN	**Wuhan**	**42.21 74**	⇑P	**P**	**11 33 53.0**	**+0.8**
WHN			S	**S**	**11 40 15.9**	**+3.5**
WHN			pmax	pmax		
	comp=Z,170nm,1.0s					
WHN			LR	LR		
	comp=Z,3μm,11.3s					
WHN			LR	LR		
	comp=Z,1μm,13.1s					
WHN			LR	LR		
	comp=Z,4μm,15.3s					
BLY	**Banja Luka**	**42.46 307**	⇑*i* P	**P**	**11 33 53.9**	**-0.2**
MGRS	**Mrkonjic Grad**	**42.49 307**	*e*P	**P**

MORC Moravsky Berou 43.11 315 P **P 11 33 59.2 -0.1**
MORC pmax pmax
comp=Z,32nm,1.0s
MORC Moravsky Berou 43.11 315 P **P 11 33 59.2 -0.1**
MORC Moravsky Berou 43.11 315 *eP* **P 11 33 59.2 -0.1**
BJT Baijiatuau 43.14 60 P **P 11 34 01.0 +1.4**
BJT pmax pmax
comp=Z,32nm,0.9s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 43.14 60 P **P 11 34 01.0 +1.4**
BJT Baijiatuau 43.14 60 IAMs_20 IAMs_20 11 54 57.6
comp=Z,1μm,21.0s
BJI Beijing 43.15 60 P **P 11 34 01.1 +1.4**
BJI pP **pP 11 34 03.5 -0.4**
BJI sP **sP 11 34 05.8 +0.1**
BJI PcP **PcP 11 35 46.6 -2.6**
BJI S **S 11 40 27.4 +1.6**
BJI pmax pmax
comp=Z,33nm,1.1s
BJI LR LR
comp=Z,2μm,13.1s
BJI LR LR
comp=Z,750nm,14.3s
BJI LR LR
comp=Z,890nm,21.6s
CIT Chita 43.15 42 *eP* **P 11 33 59.0 -0.6**
CIT pmax pmax
comp=Z,170nm,2.5s
SGRT San Giovanni R 43.24 303 P **P 11 33 59.9 -0.6**
FIA1 FINESS Array S 43.28 333 P **P 11 34 00.3 -0.1**
FIA1 IAmb IAmb 11 34 04.4
comp=Z,70nm,1.1s
FINES FINESS Array B 43.28 333 P **P 11 33 59.7 -0.7**
comp=Z,34nm,0.9s,baz=120,slow=11,SNR=28
FINES LR LR 11 53 29.4
comp=Z,678nm,21.8s,baz=120,slow=38
FINES FINESS Array B 43.28 333 *i P* **P 11 34 00.2 -0.2**
FINES pmax pmax
comp=Z,34nm,0.9s
FINES FINESS Array B 43.28 333 P **P 11 34 00.6 +0.2**
MEF Metsahovi 43.32 331 *eP* **P 11 34 01.8 +1.0**
SOP Sopron 43.33 312 *eP* **P 11 34 01.9 +0.9**
KOGS Kog 43.34 310 *i P* **P 11 34 01.3 +0.1**
KOGS *eS* **S 11 40 29.8 +1.3**
PDSI Padang 43.43 125 P **P 11 34 02.3 0.0**
comp=Z,793nmcomp=Z,83nm,1.1s
VRAC Vranov 43.61 314 *eP* **P 11 34 03.3 -0.1**
KRLC Kraliky 43.65 315 *eP* **P 11 34 04.2 +0.5**
KRLC *eS* **S 11 40 31.2 -2.0**
KRLC MLR MLR
comp=Z,400nm,18.0s
KRLC Kraliky 43.65 315 *eP* **P 11 34 04.2 +0.5**
KRLC *ex* x 11 34 16.6
KRLC *eS* **S 11 40 31.2 -2.0**
KRLC AMS AMS 11 56 10.0
comp=Z,400nm,18.0s
KRUC Moravsky 43.69 314 *eP* **P 11 34 03.9 -0.1**
CRES Cresnjev 43.80 309⇑*iP* **P 11 34 05.0 0.0**
CONA Conrad Observa 43.84 312 *i P* **P 11 34 04.7 -0.6**
comp=Z,21nm,0.9s,SNR=16
BOJS Bojanci 43.91 308⇑*iP* **P 11 34 05.8 0.0**
ARSA Arzberg 43.95 311 *i P* **P 11 34 06.2 +0.1**
comp=Z,48nm,0.9s,SNR=42
TIA Tai'an 43.97 65 ⇑P **P 11 34 07.4 +1.0**
TIA pmax pmax
comp=Z,35nm,1.2s
TIA pmax pmax
comp=Z,150nm,3.5s
TIA LR LR
comp=Z,1μm,12.4s
TIA LR LR
comp=Z,1μm,14.3s
TIA LR LR
comp=Z,2μm,14.7s
DPC Dobruska-Polom 44.00 315 *eP* **P 11 34 07.3 +0.8**
DPC *eS* **S 11 40 38.3 +0.1**
DPC MLR MLR
comp=Z,700nm,15.1s
DPC Dobruska-Polom 44.00 315 *eP* **P 11 34 07.3 +0.8**
DPC *ex* x 11 34 20.3
DPC *eS* **S 11 40 38.3 +0.1**
DPC AMS AMS 11 57 00.0
comp=Z,700nm,15.1s
PAOL Paolisi 44.09 302 P **P 11 34 07.7 +0.3**
OSTC Ostas 44.11 316 *eP* **P 11 34 08.1 +0.7**
KSP Ksiaz 44.13 316 *eP* **P 11 34 08.5 +1.0**
SOKA Soboth 44.20 310 *i P* **P 11 34 08.2 0.0**
comp=Z,30nm,1.0s,SNR=35
CHVC Chvalec 44.22 316 *eP* **P 11 34 09.1 +0.8**
UPC Upice 44.23 316 *eP* **P 11 34 09.1 +0.8**
UPC MLR MLR
comp=Z,700nm,14.9s
UPC Upice 44.23 316 *eP* **P 11 34 09.1 +0.8**
UPC AMS AMS 11 57 00.0
comp=Z,700nm,14.9s
RAFF Raffo Rosso 44.29 296 P **P 11 34 10.1 +1.2**
RAFF IAmb IAmb 11 34 28.4
comp=Z,80nm,0.9s
TREC Trest 44.32 314 *eP* **P 11 34 09.4 +0.3**
TREC MLR MLR
comp=Z,600nm,18.8s
TREC Trest 44.32 314 *eP* **P 11 34 09.4 +0.3**
TREC AMS AMS 11 56 20.0
comp=Z,600nm,18.8s
RGRI Rengat 44.45 122 P **P 11 34 10.4 0.0**
LJU Ljubljana 44.47 309⇑*iP* **P 11 34 10.3 0.0**
LJU Ljubljana 44.47 309 *i P* **P 11 34 10.7 +0.4**
CEY Cerknica 44.51 309⇑*iP* **P 11 34 10.6 0.0**
OBKA Obir 44.51 310 *i P* **P 11 34 10.3 -0.5**
comp=Z,60nm,1.3s,SNR=37
INTR Introdacqua 44.62 303 P **P 11 34 12.0 +0.4**
LVZ Lovozero 44.78 344*cePP* **11 34 13.6 +1.2**
LVZ pmax pmax
comp=Z,153nm,1.1s
LVZ Lovozero 44.78 344 P **P 11 34 12.2 -0.2**
SKDS Skadanscina 44.78 308⇑*iP* **P 11 34 11.9 -0.9**
APA Apatity 44.85 343⇓*iP* **P 11 34 11.5 -1.4**
APA *i* S **S 11 40 50.0 +0.1**
APA *i* 11 43 58.0
APA pmax pmax
comp=Z,121nm,1.0s
APA MLR MLR
comp=Z,1μm,13.0s
RAF Rauma 44.85 331 *eP* **P 11 34 12.8 -0.2**
MOA Molln 44.88 311 *i P* **P 11 34 13.2 -0.3**
comp=Z,21nm,0.9s,SNR=17
CKRC Cesky Krumlov 45.00 313 *eP* **P 11 34 14.9 +0.4**
CKRC *ex* x 11 34 27.3
CKRC AMS AMS 11 56 40.0
comp=Z,500nm,18.5s
AQU L'Aquila 45.01 304 P **P 11 34 14.9 +0.2**
AQU pmax pmax
comp=Z,68nm,0.8s
AQU L'Aquila 45.01 304⇑*iP* **P 11 34 14.9 +0.2**
AQU L'Aquila 45.01 304 P **P 11 34 14.9 +0.2**
AQU IAmb IAmb 11 34 35.7
comp=Z,68nm,0.8s
CADS Cadrg 45.04 309 *i P* **P 11 34 14.5 -0.4**
CADS *eS* **S 11 40 54.2 +0.8**
CADS *eSS* **ScS 11 44 12.5 +0.5**
PRU Pruhonice 45.05 315 *eP* **P 11 34 15.4 +0.6**
PRU *eS* S 11 40 43.4 -10
PRU MLR MLR
comp=Z,800nm,15.7s
PRU Pruhonice 45.05 315 *eP* **P 11 34 15.4 +0.6**
PRU *eS* S 11 40 43.4 -10
PRU AMS AMS 11 58 10.0
comp=Z,800nm,15.7s
CORL Corleone 45.10 297 P **P 11 34 15.5 0.0**
CORL IAmb IAmb 11 34 40.1
comp=Z,94nm,1.0s
PVCC Panska Ves 45.14 315 AMS AMS 11 57 50.0
comp=Z,800nm,15.0s
MYKA Terra Mystica 45.15 310 *i P* **P 11 34 15.3 -0.5**
comp=Z,19nm,1.0s,SNR=12
CLTB Caltabellotta 45.18 297 P **P 11 34 16.9 +0.7**
CLTB IAmb IAmb 11 34 52.3
comp=Z,40nm,1.1s
AAL Aland 45.24 330 *eP* **P 11 34 16.5 +0.3**
BOD Bodaibo 45.27 34 *eP* **P 11 34 16.1 -0.3**
BOD pmax pmax
comp=Z,31nm,1.3s
GEC2 GERESS Array S 45.40 313 P **P 11 34 17.5 -0.2**
GEC2 GERESS Array S 45.40 313 *eP* **P 11 34 17.6 -0.2**
comp=Z,16nm,0.9s,baz=99,slow=7.8
GERES GERESS Array B 45.40 313 P **P 11 34 16.9 -0.8**
comp=Z,14nm,0.8s,baz=96,slow=8.2,SNR=61
GERES PcP **PcP 11 35 57.5 +0.6**
comp=Z,8.4nm,0.9s,baz=98,slow=4.0,SNR=4.5
GERES GERESS Array B 45.40 313 P **P 11 34 17.0 -0.8**
KBA Koelnbreinsper 45.40 310 *i P* **P 11 34 17.6 -0.3**
comp=Z,49nm,1.0s,SNR=53
KHC Kasperske Hory 45.53 313 *eP* **P 11 34 18.9 +0.2**
KHC *eS* **S 11 40 56.3 -4.1**
KHC MLR MLR
comp=Z,500nm,15.8s
KHC Kasperske Hory 45.53 313 *eP* **P 11 34 18.9 +0.2**
KHC *eS* **S 11 40 56.3 -4.1**
KHC AMS AMS 11 58 40.0
comp=Z,500nm,15.8s
KHC Kasperske Hory 45.53 313 P **P 11 34 18.1 -0.6**
BRG Berggiesshubel 45.59 316 *eP* **P 11 34 19.7 +0.6**
BRG Amp 11 34 31.1
comp=Z,93nm,1.7s
BRG Berggiesshubel 45.59 316 S **S 11 40 59.0 -2.2**
BRG Berggiesshubel 45.59 316 SS SS 11 44 35.0 +10
BRG Amp 11 59 32.0
comp=N,0.3nm,20.4s
BRG Amp 11 59 39.0
comp=E,0.8nm,13.7s
BRG Amp 11 59 43.0
comp=Z,0.8nm,13.4s
BRG Berggiesshubel 45.59 316 *eP* **P 11 34 19.7 +0.6**
baz=99,slow=7.8
ZOU Zoufplan 45.60 310 P **P 11 34 19.1 -0.4**
ZOU IAmb IAmb 11 34 26.8
comp=Z,59nm,1.1s
MURB Monte Urbino 45.68 305 P **P 11 34 20.5 +0.4**
STAL STALIGIAL 45.75 309 P **P 11 34 19.9 -0.6**
STAL IAmb IAmb 11 34 22.5
comp=Z,64nm,1.0s
NJ2 Nanjing 45.82 71 ⇑P **P 11 34 22.1 +0.9**
NJ2 pP **pP 11 34 24.1 -1.3**
NJ2 sP **sP 11 34 27.9 +0.7**
NJ2 pmax pmax
comp=Z,53nm,0.9s
NJ2 pmax pmax
comp=Z,390nm,7.6s
NJ2 LR LR
comp=Z,880nm,15.2s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,1μm,16.6s
RJOB Jochberg 45.85 311 *eP* **P 11 34 21.1 -0.2**
comp=Z,82nm,0.8s,baz=99,slow=7.8
BLEU Blekinge 45.86 323 *eP* **P 11 34 21.5 +0.4**
ABTA Abfaltersbach 45.94 310 *i P* **P 11 34 21.6 -0.4**
comp=Z,94nm,0.9s,SNR=53
FBE Freiberg 45.97 316 *eP* **P 11 34 22.7 +0.6**
comp=Z,24nm,0.9s,baz=99,slow=7.8
WET Wettzell 45.98 313 *eP* **P 11 34 22.2 -0.1**
baz=99,slow=7.8
BSD Bornholm Skovb 46.00 322 *eP* **P 11 34 23.6 +1.4**
BSD Bornholm Skovb 46.00 322 *eP* **P 11 34 23.6 +1.4**
UPP Uppsala 46.19 328 *eP* **P 11 34 24.1 +0.4**
MASI Maura Aman, Be 46.24 125 P **P 11 34 24.8 +0.1**
comp=Z,330nm,1.0s
CLL Collm 46.26 316 *eP* **P 11 34 25.0 +0.7**
comp=Z,293nm,3.0s
CLL *i* 11 34 40.1
comp=Z,27nm,1.0s
CLL *e*PP **PP 11 36 17.0 +4.2**
CLL *e*PPP PPP 11 36 55.0
CLL *e*S **S 11 41 09.0 -1.7**
CLL *e*SS **SS 11 44 42.0 +6.1**
CLL LmH 11 56 00.0
comp=N,1μm,20.2s
CLL LmH 11 56 00.0
comp=E,600nm,19.8s
CLL LmV 11 57 00.0
comp=Z,500nm,20.2s
CLL Collm 46.26 316 *eP* **P 11 34 25.0 +0.7**
CLL *eS* **S 11 41 09.0 -1.7**
CLL pmax pmax
comp=Z,293nm,3.0s
CLL MLR MLR
comp=Z,500nm,20.2s
CLL Collm 46.26 316 P **P 11 34 24.5 +0.2**
CLL Collm 46.26 316 *eP* **P 11 34 25.1 +0.7**
baz=99,slow=7.8
JMBI JAMBI 46.27 122 P **P 11 34 24.8 -0.1**
TEOL Teolo 46.41 308 P **P 11 34 25.0 -0.6**
NKC Novy Kostel 46.42 315 AMS AMS 11 58 50.0
comp=Z,800nm,19.8s
HIA Hailar 46.43 47 P **P 11 34 26.9 +1.1**
HIA pmax pmax
comp=Z,60nm,1.3s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 46.43 47 P **P 11 34 26.9 +1.1**
HIA IAmb IAmb 11 34 30.1
comp=Z,60nm,1.3s
WERN Wernitzgruen 46.48 315 *eP* **P 11 34 26.7 +0.5**
baz=99,slow=7.8
ROTZ Rotzenmuhle 46.51 314 *eP* **P 11 34 26.5 +0.1**
baz=99,slow=7.8
GUNZ Gunzen 46.52 315 *eP* **P 11 34 27.3 +0.9**
baz=99,slow=7.8
WERD Werda 46.55 315 *eP* **P 11 34 27.7 +1.0**
baz=99,slow=7.8
WTTA Wattenberg 46.58 310 *i P* **P 11 34 26.3 -0.9**
comp=Z,47nm,0.8s,SNR=26
MANZ Manzenberg 46.60 314 *eP* **P 11 34 27.9 +0.8**
baz=99,slow=7.8
WATA Walderalm 46.63 310 *i P* **P 11 34 26.5 -1.0**
comp=Z,36nm,1.1s,SNR=13
KSI Kapahiang 46.84 125 P **P 11 34 30.0 +0.6**
comp=Z,6μmcomp=Z,192nm,0.9s
ZCCA Zocca 46.85 306 P **P 11 34 29.9 +0.7**
SQTA Sankt Quirin 46.87 310 *i P* **P 11 34 28.1 -1.3**
comp=Z,35nm,0.7s,SNR=9.1
CASP Castiglione de 46.89 304 P **P 11 34 28.6 -0.9**
DEL Delary 46.94 323 *eP* **P 11 34 31.5 +1.9**
LUNU Lund 46.95 322 *eP* **P 11 34 30.4 +0.7**
MOTA Moosalm 46.95 310 *i P* **P 11 34 28.7 -1.4**
comp=Z,61nm,0.8s,SNR=36
KNMB Chin-men Tao 46.96 81 IAMs_20 IAMs_20 11 56 47.8
comp=Z,1μm,19.0s
NEUB Neuenburg 47.00 316 *eP* **P 11 34 31.4 +1.2**
comp=Z,34nm,0.9s,baz=99,slow=7.8
MOX Moxa 47.01 315 *eP* **P 11 34 31.1 +0.8**
comp=Z,57nm,1.0s,baz=99,slow=7.8
MOX *e*L L 11 59 21.5
comp=Z,471nm,19.4s
GRA1 Grafenberg Arr 47.13 314 P **P 11 34 31.4 +0.1**
GRA1 IAmb IAmb 11 35 51.7
comp=Z,33nm,0.6s
GRF Grafenberg Arr 47.13 314 P **P 11 34 31.4 +0.1**
GRF pmax pmax
comp=Z,33nm,0.6s
GRF Grafenberg Arr 47.13 314 *eP* **P 11 34 31.9 +0.6**
baz=99,slow=7.8
GRF *e*L L 11 58 22.7
comp=Z,601nm,19.2s
GRFO Grafenberg 47.13 314 P **P 11 34 31.4 +0.1**
GRFO pmax pmax
comp=Z,32nm,0.6s
GRFO Grafenberg 47.13 314 P **P 11 34 31.4 +0.1**
GRFO IAmb IAmb 11 35 51.3
comp=Z,32nm,0.6s
FETA Feichten 47.18 310 *i P* **P 11 34 30.8 -1.1**
comp=Z,64nm,0.9s,SNR=66
RETA Reutte 47.19 311 *i P* **P 11 34 30.5 -1.4**
comp=Z,25nm,0.7s,SNR=23
SALO Salr 47.23 308 P **P 11 34 32.2 +0.1**
SALO IAmb IAmb 11 34 34.6
comp=Z,60nm,0.9s
VLC Villacollemand 47.27 306 P **P 11 34 32.0 -0.4**
PRMA PARMA 47.34 307 P **P 11 34 33.6 +0.7**
DL2 Dalian 47.39 61 P **P 11 34 34.8 +1.4**
DL2 *e*S **S 11 41 32.0 +4.8**
DL2 pmax pmax
comp=Z,39nm,1.0s
DL2 pmax pmax
comp=Z,580nm,6.3s
DL2 LR LR
comp=Z,830nm,16.7s
DL2 LR LR
comp=Z,2μm,18.6s
FLTG Flechtingen 47.52 317 *eP* **P 11 34 34.7 +0.6**
comp=Z,38nm,1.0s,baz=99,slow=7.8
LHSI Lahat 47.64 125 P **P 11 34 34.8 -0.8**
comp=Z,51nm,1.0s
UBR Ueberruh 47.65 311 *eP* **P 11 34 34.7 -0.7**
comp=Z,45nm,1.1s,baz=99,slow=7.8
DAVA Damuels 47.78 310 *i P* **P 11 34 35.4 -1.1**
comp=Z,83nm,0.8s,SNR=40
MSSA Maissana 47.89 306 P **P 11 34 36.3 -1.0**
SSE Sheshan 47.94 72 P **P 11 34 36.8 -0.9**
SSE S **S 11 41 34.3 -0.9**
SSE pmax pmax
comp=Z,6.0nm,1.2s
SSE pmax pmax
comp=Z,220nm,3.8s
SSE LR LR
comp=Z,350nm,16.9s
SSE LR LR
comp=Z,500nm,18.1s
CLZ Clausthal 47.96 316 *eP* **P 11 34 38.8 +1.1**
comp=Z,48nm,1.1s,baz=99,slow=7.8
PMBI Palembang 47.97 123 P **P 11 34 36.7 -1.4**
UBBA Unterbreizbach 48.05 315 *eP* **P 11 34 39.2 +1.0**
baz=99,slow=7.8
KEV Kevo 48.05 343 P **P 11 34 38.3 +0.2**
KEV pmax pmax
comp=Z,77nm,1.1s
KEV MLR MLR
comp=Z,1μm,20.0s
KEV Kevo 48.05 343 P **P 11 34 38.3 +0.2**
KEV IAmb IAmb 11 34 40.9
comp=Z,77nm,1.1s
KEV IAMs_20 IAMs_20 11 56 40.7
comp=Z,1μm,20.0s
VSL Villasalto 48.09 300 P **P 11 34 38.0 -0.8**
TUE Stuetta 48.09 309 P **P 11 34 38.5 -0.5**
GTTG Gottingen 48.17 316 *eP* **P 11 34 40.3 +1.0**
comp=Z,52nm,0.9s,baz=99,slow=7.8
ONAU Onsala 48.22 324 *eP* **P 11 34 40.3 +0.8**
NRDL Niedersach Rie 48.22 317 *eP* **P 11 34 40.5 +0.9**
comp=Z,37nm,1.1s,baz=99,slow=7.8
ARA0 ARCESS Array S 48.31 342 *eP* **P 11 34 39.9 -0.2**
ARCES ARCESS Array B 48.31 342 P **P 11 34 40.0 0.0**
comp=Z,113nm,1.0s,baz=139,slow=6.9,SNR=122
ARCES LR LR 11 56 58.4
comp=Z,951nm,19.3s,baz=115,slow=39
ARCES ARCESS Array B 48.31 342 P **P 11 34 40.1 0.0**
ARCES pmax pmax
comp=Z,100nm,0.9s
ARCES ARCESS Array B 48.31 342 P **P 11 34 40.1 0.0**
BSEG Bad Segeberg 48.34 319 *eP* **P 11 34 40.9 +0.4**
comp=Z,28nm,1.0s,baz=99,slow=7.8
STU Stuttgart 48.35 312 P **P 11 34 40.5 -0.3**
STU pmax pmax
comp=Z,61nm,1.0s
STU Stuttgart 48.35 312 P **P 11 34 40.5 -0.3**
STU IAmb IAmb 11 34 42.8
comp=Z,61nm,1.0s
STU Stuttgart 48.35 312 *eP* **P 11 34 40.6 -0.1**
comp=Z,55nm,1.1s,baz=99,slow=7.8
MILB Miltenberg 48.39 314 *eP* **P 11 34 41.7 +0.7**
comp=Z,49nm,1.1s,baz=99,slow=7.8
KEST Kesra 48.44 295 P **P 11 34 42.7 +1.0**
comp=Z,75nm,1.1s,baz=353,slow=1.9,SNR=33
KEST LR LR 12 01 15.6
comp=Z,460nm,18.7s,baz=2.5,slow=44
KEST Kesra 48.44 295 P **P 11 34 43.1 +1.4**
PPBI Pangkal Pinang 48.51 121 P **P 11 34 42.5 +0.2**
MDSI Maura Dua 48.56 125 P **P 11 34 40.4 -2.3**
comp=Z,17nm,1.0s
KTK1 Kautokeino 48.63 341 *eP* **P 11 34 42.7 +0.1**
SNY Shenyang 48.75 57 ⇑P **P 11 34 43.8 0.0**
SNY S **S 11 41 49.8 +3.5**
SNY pmax pmax
comp=Z,20nm,1.3s
SNY LR LR
comp=Z,1μm,15.5s
SNY LR LR
comp=Z,1μm,15.9s
SNY LR LR
comp=Z,2μm,17.2s
LWLI Liwa 48.84 125 P **P 11 34 44.5 -0.5**
comp=Z,4μmcomp=Z,204nm,0.8s
BFO Black Forest 48.89 312 P **P 11 34 43.7 -1.2**
BFO pmax pmax
comp=Z,21nm,1.1s
BFO Black Forest 48.89 312 P **P 11 34 43.7 -1.2**
BFO Black Forest 48.89 312 *eP* **P 11 34 44.4 -0.5**
comp=Z,14nm,1.1s,baz=99,slow=7.8
TNS Taunus Mts 48.97 314 *eP* **P 11 34 46.2 +0.7**
comp=Z,55nm,1.0s,baz=99,slow=7.8
STRU Stroemstad 49.03 326 *eP* **P 11 34 45.7 0.0**
KASTN Kahler Asten 49.09 315 *eP* **P 11 34 47.3 +0.9**
comp=Z,12nm,0.9s,baz=99,slow=7.8
NC602 NORSAR Array S 49.34 328 *eP* **P 11 34 47.5 -0.6**
NC602 NORSAR Array S 49.34 328 P **P 11 34 47.9 -0.2**
NORES NORESS Array B 49.34 328 P **P 11 34 47.7 -0.4**
NORES pmax pmax
comp=Z,13nm,0.5s
COCO West Island 49.36 139 *i P* **P 11 34 45.7 -3.1**
NC405 NORSAR Array S 49.37 329 P **P 11 34 47.0 -1.4**
MUD Monsted U'grnd 49.47 322 *i P* **P 11 34 50.8 +1.7**
MUD IAmb IAmb 11 34 52.6
comp=Z,32nm,0.9s
MUD Monsted U'grnd 49.47 322 *i P* **P 11 34 50.8 +1.7**
MUD pmax pmax
comp=Z,33nm,0.9s
HAMF Hammerfest 49.50 343 *eP* **P 11 34 49.3 +0.2**
KASI Kota Agung 49.50 125 P **P 11 34 48.7 -1.2**
comp=Z,106nm,0.8s
OSL Oslo 49.50 327 *eP* **P 11 34 49.7 +0.3**
SENIN Lac Senin/Sane 49.50 309 P **P 11 34 48.9 -1.0**
SENIN IAmb IAmb 11 34 51.6
comp=Z,33nm,0.8s
NB201 NORSAR Array S 49.55 329 P **P 11 34 49.1 -0.6**
NC303 NORSAR Array S 49.57 329 P **P 11 34 49.4 -0.5**
NC303 IAmb IAmb 11 34 53.5
comp=Z,54nm,1.1s
NB2 NORSAR Subarra 49.58 329 P **P 11 34 48.5 -1.5**
comp=Z,76nm,1.1s,baz=107,slow=7.9
NB2 NORSAR Subarra 49.58 329 P **P 11 34 48.5 -1.5**
baz=107,slow=7.9
NOA NORSAR Array B 49.58 329 P **P 11 34 48.5 -1.5**
comp=Z,50nm,1.0s,baz=108,slow=7.5,SNR=59
NOA PP **PP 11 36 45.8 +1.6**
comp=Z,9.4nm,1.1s,baz=116,slow=9.2,SNR=3.3
NOA LR LR 11 59 14.7
comp=Z,671nm,18.6s,baz=125,slow=40
IBBN Ibbenburen 49.62 317 *eP* **P 11 34 51.4 +1.0**
comp=Z,121nm,1.1s,baz=99,slow=7.8
ECH Echery 49.67 311 P **P 11 34 50.3 -0.6**
ECH pmax pmax
comp=Z,83nm,1.0s
ECH Echery 49.67 311 P **P 11 34 50.3 -0.6**
ECH IAmb IAmb 11 34 53.0
comp=Z,83nm,1.0s
NAO01 NORSAR Array S 49.68 328 P **P 11 34 50.5 -0.2**
NAO01 IAmb IAmb 11 34 53.7
comp=Z,61nm,1.1s
JETT Jettan, Norway 49.77 341 *eP* **P 11 34 52.3 +1.1**
NBO00 NORSAR Array S 49.78 328 P **P 11 34 49.6 -2.0**
BUG Bochum--Univer 49.83 316 *eP* **P 11 34 53.4 +1.4**
comp=Z,126nm,1.1s,baz=99,slow=7.8
NC204 NORSAR Array S 49.86 329 P **P 11 34 51.5 -0.6**
AHRW Bad Neuenahr-A 49.87 314 *eP* **P 11 34 53.7 +1.4**
comp=Z,61nm,1.1s,baz=99,slow=7.8
LPG La Plagne 49.87 308 *eP* **P 11 34 52.1 -0.7**
LPG pmax pmax
comp=Z,63nm,0.9s
LPL La Plagne 49.89 308 *eP* **P 11 34 52.0 -0.8**
LPL pmax pmax
comp=Z,67nm,0.8s
BNI Bardonecchia 49.92 307 P **P 11 34 52.0 -1.0**
BNI Bardonecchia 49.92 307 P **P 11 34 52.0 -1.0**
BNI **S 11 42 05.8 +2.6**
KONO Kongsberg 49.97 326*ceP* **P 11 34 52.6 -0.3**
KONO pmax pmax
comp=Z,52nm,1.1s
KONO Kongsberg 49.97 326 *eP* **P 11 34 52.7 -0.2**
KONO Kongsberg 49.97 326 P **P 11 34 53.1 +0.2**
KONO IAmb IAmb 11 34 56.1
comp=Z,49nm,1.1s
CN2 Changchun 50.07 54 *eP* **P 11 34 54.8 +0.9**
CN2 *e*S **S 11 42 02.5 -2.3**
CN2 pmax pmax

comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
MOR8 Moi Rana 50.08 335 *e*P **P 11 34 53.2 -0.5**
N2ST Straumen 50.19 337 *e*P **P 11 34 54.4 -0.1**
HOMB Homborsund 50.20 325 *e*P **P 11 34 55.0 +0.3**
HOMB Homborsund 50.20 325 *e*P **P 11 34 55.2 +0.6**
TRO Tromso 50.24 341 *e*P **P 11 34 54.9 +0.1**
FAUS Fauske 50.31 337 *e*P **P 11 34 55.5 +0.2**
N2IH Innhavet 50.35 338 *e*P **P 11 34 55.8 +0.1**
NSS Namsos 50.40 333 *e*P **P 11 34 55.5 -0.6**
WLF Walferdange 50.41 313 *d*P **P 11 34 56.9 +0.5**
comp=Z,71nm,1.4s
WLF Walferdange 50.41 313 P **P 11 34 57.4 +1.0**
WLF pmax pmax
comp=Z,116nm,1.2s
WLF Walferdange 50.41 313 P **P 11 34 57.4 +1.0**
WLF IAmb IAmb 11 34 60.0
comp=Z,116nm,1.2s
WLF Walferdange 50.41 313 *e*P **P 11 34 57.5 +1.1**
comp=Z,80nm,1.1s,baz=99,slow=7.8
N2TV T¥rnvik 50.45 337 *e*P **P 11 34 56.1 -0.3**
BTNL Ternell 50.48 314 *b*P **P 11 34 57.6 +0.6**
comp=Z,72nm,1.2s
BHOU Houvegnez 50.54 314 *b*P **P 11 34 58.5 +1.0**
comp=Z,50nm,1.2s
MEM Membach 50.56 314 *b*P **P 11 34 58.2 +0.7**
comp=Z,69nm,1.1s
STEI Steigen 50.57 338 *e*P **P 11 34 57.0 -0.4**
NBB05 Inndyr 50.60 336 *e*P **P 11 34 57.7 +0.1**
NBB15 Halsa Church 50.64 336 *e*P **P 11 34 58.4 +0.5**
NBB30 Finnes 50.68 336 *e*P **P 11 34 58.2 +0.1**
STOK Stokkvaagen 50.68 335 *e*P **P 11 34 58.8 +0.7**
NBB13 Alf Garage 50.68 336 *e*P **P 11 34 58.3 +0.1**
KONS Konsvik 50.71 336 *e*P **P 11 34 58.2 -0.1**
NBB40 Tonnes 50.75 336 *e*P **P 11 34 58.7 0.0**
BSTI Sart Tilman 50.84 314 *d*P **P 11 35 00.8 +1.2**
SKAR Skarslia 50.86 328 *e*P **P 11 35 00.2 +0.5**
DOMB Dombas 50.86 329 *e*P **P 11 34 59.8 +0.2**
SNART Snartemo 50.88 324 *i*P **P 11 34 59.0 -0.8**
SNART *e*P **pP 11 35 01.2 -2.9**
SNART Snartemo 50.88 324 *e*P **P 11 35 00.5 +0.6**
BCLA Clavier 50.99 314 *b*P **P 11 35 01.5 +0.7**
RCHB Rochefort 51.03 314 *b*P **P 11 35 02.0 +0.9**
comp=Z,99nm,1.2s
N2VI Vinje 51.09 338 *e*P **P 11 35 01.0 -0.3**
BGES Gesves 51.13 314 *d*P **P 11 35 02.5 +0.7**
comp=Z,72nm,1.3s
LOF Lofoten 51.23 338 *e*P **P 11 35 02.8 +0.5**
N2SV S_rv¥gen 51.31 337 *e*P **P 11 35 01.9 -1.0**
BMRD Maredsous 51.33 314 *b*P **P 11 35 04.0 +0.7**
comp=Z,101nm,1.2s
N2VA Vr_y 51.33 337 *e*P **P 11 35 01.9 -1.1**
VIVF Saint-Julien-l 51.35 307 *e*P **P 11 35 03.0 -0.7**
VIVF pmax pmax
comp=Z,111nm,1.0s
STKI Sintang 51.37 114 P **P 11 35 05.6 +1.5**
DOU Dourbes 51.43 314 *b*P **P 11 35 04.8 +0.7**
comp=Z,91nm,1.3s
INCN Inchon 51.44 62 P **P 11 35 04.5 +0.1**
INCN pmax pmax
comp=Z,156nm,1.5s
INCN Inchon 51.44 62 P **P 11 35 04.5 +0.1**
N2RO R st 51.47 337 *e*P **P 11 35 03.3 -0.8**
BLS5 Biasjo 51.48 326 *e*P **P 11 35 04.9 +0.6**
ODD1 Odda 51.50 326 *e*P **P 11 35 05.1 +0.6**
ZEA Zeya 51.61 42 *e*P **P 11 35 06.7 +1.3**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=E,30nm,0.9s
ZEA pmax pmax
comp=Z,60nm,0.9s
ZEA MLR MLR
comp=N,500nm,14.0s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=Z,600nm,15.0s
UCC Uccle 51.61 315 *b*P **P 11 35 05.8 +0.4**
UCC Uccle 51.61 315 P **P 11 35 05.6 +0.2**
UCC pmax pmax
comp=Z,79nm,0.9s
UCC Uccle 51.61 315 P **P 11 35 05.6 +0.2**
UCC IAmb IAmb 11 35 08.4
comp=Z,79nm,0.9s
SNF Seneffe 51.65 314 *b*P **P 11 35 06.4 +0.7**
comp=Z,181nm,1.0s
BAIF Baives 51.68 314 *e*P **P 11 35 05.9 -0.1**
BAIF pmax pmax
comp=Z,136nm,1.0s
MOL Molde 51.68 330 *e*P **P 11 35 06.2 +0.5**
AKN Aaknes 51.83 329 *e*P **P 11 35 07.3 +0.4**
HYA Hoyanger 51.98 328 *e*P **P 11 35 08.1 +0.2**
KMY Karmoy 52.05 325 *e*P **P 11 35 09.0 +0.4**
TJN Taejon 52.17 64 *ce*P **P 11 35 09.7 -0.2**
BER Bergen 52.23 327 *e*P **P 11 35 09.9 +0.1**
ASK Askoy 52.31 327 *e*P **P 11 35 10.8 +0.4**
VOI Vohitsoka 52.31 203 P **P 11 35 11.7 +0.7**
VOI IAmb IAmb 11 35 13.6
comp=Z,55nm,1.0s
KS19 Wonju Array Si 52.41 62 P **P 11 35 11.8 +0.1**
KS19 IAmb IAmb 11 35 17.1
comp=Z,40nm,0.8s
KSAR Wonju Array Be 52.44 62 P **P 11 35 11.9 +0.1**
KSAR Wonju Array Be 52.44 62 P **P 11 35 11.9 +0.1**
KSRS Korea Array 52.46 62 P **P 11 35 11.8 -0.2**
comp=Z,34nm,0.7s,baz=271,slow=7.3,SNR=44
KSRS LR LR 12 00 40.7
comp=Z,746nm,18.3s,baz=276,slow=40
FOO Floro 52.60 328 *e*P **P 11 35 13.2 +0.6**
SUE Sulen 52.63 328 *e*P **P 11 35 12.5 -0.3**
CLF Chambon-Foret 52.94 311 P **P 11 35 14.9 -0.4**
BJO1 Bjornoya 52.95 346 *e*P **P 11 35 14.5 -0.5**
MDJ Mudanjiang 53.01 53 P **P 11 35 16.1 +0.2**
MDJ sP pP 11 35 19.8 -0.5
MDJ S **S 11 42 45.3 -0.1**
MDJ pmax pmax
comp=Z,28nm,1.3s
MDJ pmax pmax
comp=Z,290nm,3.6s
MDJ LR LR
comp=Z,1µm,14.2s
MDJ LR LR
comp=Z,1µm,19.8s
MDJ LR LR
comp=Z,2µm,16.4s
MDJ Mudanjiang 53.01 53 P **P 11 35 16.1 +0.2**
MDJ IAmb IAmb 11 35 20.4
comp=Z,55nm,1.3s
HOPEN Hopen 53.05 349 *e*P **P 11 35 16.3 +0.6**
PBKI Pangkalan Bun 53.16 117 P **P 11 35 17.6 +0.2**
comp=Z,110nm,1.5s
YAK Yakutsk 53.98 32 *c i*P **P 11 35 22.2 -0.5**
YAK *e* 11 36 27.7
YAK *e* 11 37 23.7
YAK *e*PPP PPP 11 38 33.0
YAK *e*S **S 11 42 52.2 -5.8**
YAK *e* 11 45 08.9
YAK *e*SS **SKiKP 11 46 28.7 -6.6**
YAK pmax pmax
comp=Z,155nm,1.1s
YAK pmax pmax
comp=N,28nm,1.3s
YAK pmax pmax
comp=E,86nm,1.4s
YAK pmax pmax
comp=Z,50nm,1.1s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,29nm,1.4s
YAK smax smax
comp=E,53nm,1.9s
YAK smax smax
comp=N,37nm,2.1s
YAK Yakutsk 53.98 32 P **P 11 35 22.3 -0.4**
WACR West Acre 54.00 317 *e*P **P 11 35 22.8 -0.3**
WACR IAmb IAmb 11 35 25.9
comp=Z,274nm,0.8s
KLR Kul'dur 54.28 47 *ce*P **P 11 35 25.2 0.0**
KLR pmax pmax
comp=Z,136nm,0.9s
EBNR Beni Rached 54.62 297 P **P 11 35 31.5 +3.5**
MTKI Muara Teweh, K 54.74 113 P **P 11 35 28.7 -0.3**
comp=Z,4µmcomp=Z,37nm,0.7s
USA0B Ussuriysk Arra 54.75 54 P **P 11 35 28.5 -0.2**
USA0B pmax pmax
comp=Z,80nm,1.5s
USA0B MLR MLR
comp=Z,1µm,19.0s
USA0B Ussuriysk Arra 54.75 54 P **P 11 35 28.5 -0.2**
USA0B IAmb IAmb 11 35 43.3
comp=Z,80nm,1.5s
USRK Ussuriysk Ar. 54.75 54 P **P 11 35 29.0 +0.3**
comp=Z,14nm,0.8s,baz=281,slow=5.7,SNR=20
USRK LR LR 12 02 33.5
comp=Z,1µm,20.2s,baz=272,slow=40
USRK Ussuriysk Ar. 54.75 54 P **P 11 35 28.9 +0.2**
ECHA Ech Chlef 54.78 296 P **P 11 35 31.7 +2.7**
VLA Vladivostok 54.79 55 *i*P **P 11 35 29.1 +0.2**
VLA pmax pmax
comp=Z,77nm,1.1s
GDLE Glaisdale, N Y 54.90 319 *e*P **P 11 35 29.7 +0.2**
GDLE IAmb IAmb 11 35 31.7
comp=Z,90nm,0.9s
ETRT Tiaret 54.97 296 P **P 11 35 31.0 +0.4**
GRR Gorron 55.02 312 *e*P **P 11 35 29.0 -1.5**
GRR pmax pmax
comp=Z,55nm,1.2s
EANR 'Ain N'Sour 55.03 296 P **P 11 35 30.9 0.0**
HSPB Hornsund (broa 55.07 348 *e*P **P 11 35 31.5 +1.0**
HSPB Hornsund (broa 55.07 348 *e*P **P 11 35 31.1 +0.6**
LRW Lerwick 55.40 326 *e*P **P 11 35 32.2 -0.9**
LRW IAmb IAmb 11 35 35.0
comp=Z,64nm,0.9s
LBWR Ladybower, Pea 55.42 318 *e*P **P 11 35 32.8 -0.6**
LBWR IAmb IAmb 11 35 35.4
comp=Z,102nm,0.9s
EDMD Edmundbyers 55.57 319 *e*P **P 11 35 34.2 -0.2**
EDMD IAmb IAmb 11 35 36.8
comp=Z,302nm,0.9s
SPA0 Spitsbergen Ar 55.58 349 *e*P **P 11 35 34.4 +0.2**
JNU Nakatsue 55.61 67 P **P 11 35 35.3 +0.2**
STRD Stroud 55.72 316 *e*P **P 11 35 34.8 -0.7**
STRD IAmb IAmb 11 35 38.5
comp=Z,77nm,0.8s
JSA Saint Aubin 55.84 313 *e*P **P 11 35 35.9 -0.5**
JSA IAmb IAmb 11 35 38.5
comp=Z,120nm,0.9s
JVM Valle D.L. Mar 55.86 313 *e*P **P 11 35 35.9 -0.7**
TIXI Tiksi 55.87 20 *ce*P **P 11 35 35.4 -0.9**
TIXI Tiksi 55.87 20 P **P 11 35 35.9 -0.4**
TIXI IAmb IAmb 11 35 40.2
comp=Z,32nm,0.8s
DRUM Mains of Drumt 55.91 322 *e*P **P 11 35 36.1 -0.6**
DRUM IAmb IAmb 11 35 38.9
comp=Z,85nm,1.0s
OLDB Oldbury-Upon-S 55.96 316 *e*P **P 11 35 36.6 -0.6**
OLDB IAmb IAmb 11 35 39.3
comp=Z,193nm,0.9s
LSZ Lusaka 55.99 226 P **P 11 35 38.9 +0.9**
LSZ pmax pmax
comp=Z,48nm,1.4s
LSZ MLR MLR
comp=Z,600nm,20.0s
LSZ Lusaka 55.99 226 P **P 11 35 38.9 +0.9**
LSZ IAmb IAmb 11 35 41.0
comp=Z,48nm,1.4s
HLM1 Long Mynd 56.14 317 *e*P **P 11 35 38.0 -0.5**
HLM1 IAmb IAmb 11 35 43.2
comp=Z,57nm,0.9s
BBKI Banjar Baru 56.15 115 P **P 11 35 39.7 +0.6**
comp=Z,93nm,1.2s
MCH1 Michaelchurch 56.23 316 *e*P **P 11 35 38.6 -0.6**
MCH1 IAmb IAmb 11 35 41.2
comp=Z,69nm,0.8s
EKA Eskdalemuir Ar 56.26 320 P **P 11 35 38.5 -0.8**
ESK Eskdalemuir 56.29 320 *e*P **P 11 35 38.9 -0.6**
ESK IAmb IAmb 11 35 44.0
comp=Z,41nm,0.9s
ESK Eskdalemuir 56.29 320 P **P 11 35 39.4 -0.1**
ESK pmax pmax
comp=Z,44nm,0.9s
ESK Eskdalemuir 56.29 320 P **P 11 35 39.4 -0.1**
ESK IAmb IAmb 11 35 44.2
comp=Z,44nm,0.9s
FOEL Foel Wylfa 56.32 317 *e*P **P 11 35 39.7 -0.2**
FOEL IAmb IAmb 11 35 42.4
comp=Z,138nm,0.9s
MCD Coleburn Disti 56.34 323 *e*P **P 11 35 39.7 -0.2**
SBD1 Bryn Du 56.36 317 *e*P P 11 35 46.6 +6.5
CART Cartagena 56.39 299 P **P 11 35 40.0 -0.6**
CART IAmb IAmb 11 35 42.8
comp=Z,28nm,0.7s
BKB Balikpapan 56.57 112 P **P 11 35 41.0 -1.1**
comp=Z,204nm,0.9s
BIGH Upper Bighouse 56.71 324 *e*P **P 11 35 42.1 -0.4**
BIGH IAmb IAmb 11 35 44.6
comp=Z,120nm,0.9s
KBS Kingsbay 56.73 349 ⇑ *i*P **P 11 35 42.6 +0.3**
KBS IAmb IAmb 11 35 45.2
comp=Z,258nm,0.8s
KBS Kingsbay 56.73 349 *ce*P **P 11 35 42.3 -0.1**
KBS pmax pmax
comp=Z,113nm,0.8s
KBS Kingsbay 56.73 349 *e*P **P 11 35 42.7 +0.3**
KBS Kingsbay 56.73 349 P **P 11 35 42.9 +0.6**
INVG Invergeldie, C 56.76 321 *e*P **P 11 35 42.1 -0.8**
INVG IAmb IAmb 11 35 44.9
comp=Z,69nm,1.0s
DYA Yadsworthy 56.90 314 *e*P **P 11 35 43.7 -0.2**
DYA IAmb IAmb 11 35 46.4
comp=Z,293nm,0.9s
YLL Llanberis 56.90 317 *e*P **P 11 35 42.5 -1.4**
WME Myndd Eilian 56.97 318 *e*P **P 11 35 43.9 -0.5**
PGBU Glenifferbraes 57.01 321 *e*P **P 11 35 44.4 -0.2**
PGBU IAmb IAmb 11 35 47.1
comp=Z,108nm,0.9s
JHS Saijyo 57.03 64 P **P 11 35 45.1 -0.1**
JHS IAmb IAmb 11 35 48.5
comp=Z,85nm,1.5s
WLF1 Llynfaes 57.03 318 *e*P **P 11 35 43.5 -1.3**
WLF1 IAmb IAmb 11 35 49.5
comp=Z,173nm,1.1s
WPS Cemaes, Angles 57.09 318 *e*P **P 11 35 45.2 0.0**
WPS IAmb IAmb 11 35 47.7
comp=Z,73nm,1.0s
IOMK Kirk Michael 57.09 319 *e*P **P 11 35 45.2 -0.1**
IOMK IAmb IAmb 11 35 47.8
comp=Z,223nm,0.9s
KBKI Kotabaru 57.13 114 P **P 11 35 46.3 +0.2**
comp=Z,1µmcomp=Z,108nm,0.9s
GAL1 Galloway 57.16 320 *e*P **P 11 35 45.5 -0.2**
GAL1 IAmb IAmb 11 35 48.1
comp=Z,74nm,1.0s
WIM Isle of Man 57.16 319 *e*P **P 11 35 45.6 -0.1**
GRNR Gornyy 57.22 45 ⇑ *i*P **P 11 35 46.8 +0.6**
GRNR *e*S **S 11 43 44.6 +3.0**
GRNR pmax pmax
comp=E,20nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR smax smax
comp=E,4.0nm,0.7s
GRNR MLR MLR
comp=E,770nm,13.0s
GRNR MLR MLR
comp=N,350nm,12.0s
GRNR MLR MLR
comp=Z,1µm,13.0s
RSBS Rosebush, Pemb 57.31 316 *e*P **P 11 35 46.5 -0.3**
RSBS IAmb IAmb 11 35 48.6
comp=Z,74nm,0.9s
LINV Loch Inver, As 57.39 323 *e*P **P 11 35 46.8 -0.5**
LINV IAmb IAmb 11 35 49.4
comp=Z,51nm,1.0s
KAC Achnashellach 57.44 323 *e*P **P 11 35 47.3 -0.4**
LAWE Loch Awe, Argy 57.52 321 *e*P **P 11 35 47.9 -0.3**
LAWE IAmb IAmb 11 35 50.5
comp=Z,126nm,0.9s
KPL Plockton 57.63 322 *e*P **P 11 35 48.6 -0.4**
KPL IAmb IAmb 11 35 51.1
comp=Z,76nm,0.8s
CCA1 Carnmenellis 57.74 314 *e*P **P 11 35 49.4 -0.5**
CCA1 IAmb IAmb 11 35 52.3
comp=Z,211nm,0.8s
GMM Mts of Mourne 57.91 319 *e*P **P 11 35 50.5 -0.5**
JMN Monobe 57.92 66 P **P 11 35 50.9 -0.7**
MPSI Mapaga 58.22 108 P **P 11 35 53.7 0.0**
comp=Z,928nmcomp=Z,72nm,1.2s
LEWI Lewis, Hebride 58.27 323 *e*P **P 11 35 53.0 -0.6**
LEWI IAmb IAmb 11 35 55.9
comp=Z,58nm,1.0s
ESBB Sonseca Array 58.29 302 P **P 11 35 53.6 -0.4**
ESBB IAmb IAmb 11 35 56.5
comp=Z,34nm,0.9s
ESDC Sonseca Array 58.29 302 P **P 11 35 53.6 -0.4**
comp=Z,24nm,0.8s,baz=66,slow=7.1,SNR=60
ESDC LR LR 12 05 06.0
comp=Z,224nm,20.4s,baz=65,slow=40
ESDC Sonseca Array 58.29 302 P **P 11 35 53.0 -1.1**
ESDC IAmb IAmb 11 35 56.5
comp=Z,34nm,0.9s
TOLI2 Tolitoli 58.56 107 P **P 11 35 56.5 +0.3**
TOLI2 IAmb IAmb 11 35 57.8
comp=Z,87nm,2.0s
PAB San Pablo 58.61 301 P **P 11 35 55.9 -0.4**
PAB pmax pmax
comp=Z,60nm,0.9s
PAB San Pablo 58.61 301 P **P 11 35 55.9 -0.4**
PAB IAmb IAmb 11 35 58.8
comp=Z,60nm,0.9s
JMIC Jan Mayen 59.41 338 *e*P **P 11 36 01.9 +0.8**
MRSI Marisa 59.88 107 P **P 11 36 05.2 -0.1**
comp=Z,1µmcomp=Z,38nm,0.8s
PBRG Braganca 59.96 304 *e*P **P 11 36 05.3 -0.3**
comp=Z,55nm,1.6s
TTSI Tana Toraja 59.98 111 P **P 11 36 04.9 -1.1**
comp=Z,24nm,1.0s
INU Inuyama 60.06 63 P **P 11 36 06.5 +0.2**
JGF Kuroka 60.27 63 P **P 11 36 07.7 -0.1**
JGF IAmb IAmb 11 36 08.9
comp=Z,24nm,0.9s
MVO Moncorvo 60.30 304 *e*P **P 11 36 07.9 0.0**
comp=Z,84nm,0.9s
MVO *e*S **S 11 44 24.9 +2.8**
APSI Ampana 60.36 108 P **P 11 36 08.1 -0.5**
comp=Z,740nmcomp=Z,74nm,1.2s
JSD Sado 60.42 60 P **P 11 36 08.7 0.0**
JSD IAmb IAmb 11 36 09.5
comp=Z,57nm,0.9s
GTOI Gorontalo 60.71 106 P **P 11 36 09.3 -1.7**
comp=Z,421nmcomp=Z,23nm,0.8s
MJB9 Matsu-Tunnel 60.72 62 P **P 11 36 10.7 -0.1**
MJB9 IAmb IAmb 11 36 11.9
comp=Z,64nm,1.1s
MAJO Matsushiro 60.72 62 P **P 11 36 10.7 -0.1**
MAJO pmax pmax
comp=Z,63nm,1.1s
MAJO Matsushiro 60.72 62 P **P 11 36 10.7 -0.1**
MAJO IAmb IAmb 11 36 11.9
comp=Z,63nm,1.1s
MAT Matsushiro 60.72 62 P **P 11 36 10.3 -0.5**
MAT *e*S **S 11 44 30.8 +3.3**
MJAR Matsushiro Arr 60.72 62 P **P 11 36 10.4 -0.4**
comp=Z,29nm,0.7s,baz=287,slow=8.0,SNR=42
PVRL Vila Real 60.78 304 *e*P **P 11 36 11.3 +0.1**
comp=Z,95nm,1.1s
POLO Lamas de Olo 60.82 304 *e*P **P 11 36 11.4 -0.1**
comp=Z,41nm,1.1s
MTE Manteigas 60.84 303 *e*P **P 11 36 11.9 +0.3**
comp=Z,94nm,1.0s
MTE Manteigas 60.84 303 *e*PcP **PcP 11 36 58.3 +3.0**
MTE *e*S **S 11 44 28.2 -0.9**
MTE Manteigas 60.84 303 P **P 11 36 11.6 0.0**
PCBR Castelo Branco 60.91 302 *e*P **P 11 36 12.0 0.0**
comp=Z,142nm,1.1s
PCBR Castelo Branco 60.91 302 *e*PcP **PcP 11 36 59.0 +3.5**
PCAB Cabril 60.92 305 *e*P **P 11 36 12.2 0.0**
comp=Z,136nm,1.8s
PMRV Marv??o 60.94 302 *e*P **P 11 36 11.9 -0.3**
comp=Z,72nm,1.2s
PMRV *e*S **S 11 44 30.5 +0.3**
BNSI Bone 60.98 112 P **P 11 36 12.2 -0.6**
comp=Z,839nmcomp=Z,49nm,1.4s
KAPI Kappang 61.03 113 P **P 11 36 12.2 -1.0**
comp=Z,48nm,0.9s,baz=322,slow=4.4,SNR=15
KAPI Kappang 61.03 113 P **P 11 36 12.2 -1.0**
KAPI pmax pmax
comp=Z,61nm,1.0s
KAPI MLR MLR
comp=Z,600nm,21.0s
KAPI Kappang 61.03 113 P **P 11 36 12.2 -1.0**
UGL Uglegorsk 61.03 47 *e*P **P 11 36 13.8 +1.1**
UGL *e*S **S 11 44 28.5 -2.5**
UGL pmax pmax
comp=Z,140nm,1.0s
UGL MLR MLR
comp=N,2µm,14.0s
UGL MLR MLR
comp=E,2µm,14.0s
UGL MLR MLR
comp=Z,2µm,14.0s
PVIS Viseu 61.03 303 *e*P **P 11 36 13.2 +0.3**
comp=Z,115nm,1.1s
PGAV Gavieira, Arco 61.05 305 *e*P **P 11 36 13.3 +0.2**
comp=Z,104nm,1.6s
PGAV Gavieira, Arco 61.05 305 *e*PcP **PcP 11 36 58.3 +2.1**
PGAV *e*S **S 11 44 33.1 +1.3**
TYV Tymovskoe 61.13 45 *e*P **P 11 36 14.5 +1.2**
TYV *e*S **S 11 44 37.0 +4.7**
TYV pmax pmax
comp=Z,400nm,3.3s
TYV pmax pmax
comp=Z,46nm,1.2s
TYV smax smax
comp=E,11nm,1.9s
TYV smax smax
comp=E,400nm,3.0s
PESTR Estremoz 61.21 301 *e*P **P 11 36 13.6 -0.5**
comp=E,51nm,1.4s
PESTR Estremoz 61.21 301 P **P 11 36 13.9 -0.2**
TOC3 Torodi Ar. Sit 61.34 271 IAMs_20 IAMs_20 12 06 45.8
comp=Z,656nm,21.0s
TOC1 Torodi Ar. Sit 61.35 271 IAMs_20 IAMs_20 12 06 45.9
comp=Z,779nm,21.0s
TOA2 Torodi Ar. Sit 61.36 271 IAMs_20 IAMs_20 12 05 53.2
comp=Z,742nm,19.0s
TOB1 Torodi Ar. Sit 61.36 271 IAMs_20 IAMs_20 11 59 05.2
comp=Z,715nm,19.0s
TOB3 Torodi Ar. Sit 61.36 271 IAMs_20 IAMs_20 11 59 05.2
comp=Z,724nm,19.0s
TORD Torodi Ar. Bea 61.36 271 P **P 11 36 15.5 +0.1**
comp=Z,69nm,1.1s,baz=57,slow=6.1,SNR=94
TORD LR LR 12 04 40.6
comp=Z,607nm,21.2s,baz=55,slow=38
TORD Torodi Ar. Bea 61.36 271 P **P 11 36 15.6 +0.1**
TOA3 Torodi Ar. Sit 61.37 271 IAMs_20 IAMs_20 11 59 05.4
comp=Z,742nm,19.0s
TOC4 Torodi Ar. Sit 61.37 271 IAMs_20 IAMs_20 11 59 05.5
comp=Z,751nm,19.0s
TOC7 Torodi Ar. Sit 61.37 271 IAMs_20 IAMs_20 11 59 05.5
comp=Z,756nm,19.0s
TOB5 Torodi Ar. Sit 61.37 271 IAMs_20 IAMs_20 11 59 05.6
comp=Z,808nm,19.0s
TOB4 Torodi Ar. Sit 61.38 271 IAMs_20 IAMs_20 11 59 05.7
comp=Z,764nm,19.0s
TOC5 Torodi Ar. Sit 61.39 271 IAMs_20 IAMs_20 11 59 06.0
comp=Z,907nm,19.0s
BKSI Bulukumba 61.51 113 P **P 11 36 15.4 -1.0**
comp=Z,1µmcomp=Z,142nm,1.1s
EVO Evora 61.61 301 *e*P **P 11 36 16.7 -0.1**
comp=Z,126nm,1.1s
PBEJ Beja 61.62 300 *e*P **P 11 36 16.9 0.0**
PCAS Casmilo, Conde 61.63 303 *e*P **P 11 36 16.9 0.0**
comp=Z,56nm,1.4s
PMTG Montargil 61.65 302 *e*P **P 11 36 16.2 -0.8**
comp=Z,62nm,1.2s
PMTG Montargil 61.65 302 *e*PcP **PcP 11 36 58.9 +0.4**
PVAQ Vaqueiros 61.65 300 *e*P **P 11 36 16.2 -0.8**
comp=Z,56nm,2.4s
PVAQ *e*S **S 11 44 35.4 -3.9**
PVAQ Vaqueiros 61.65 300 P **P 11 36 16.3 -0.8**
PVAQ IAmb IAmb 11 36 19.3
comp=Z,44nm,1.1s
JEW Eniwo 61.76 54 P **P 11 36 18.6 +0.9**
PCVE Castro Verde 61.84 300 *e*P **P 11 36 18.0 -0.4**
comp=Z,94nm,1.2s

YSS Yuzh-Sakhalins 61.85 49*ce*P P 11 36 18.6 +0.3
YSS pmax pmax
comp=Z,214nm,0.9s
YSS Yuzh-Sakhalins 61.85 49 P P 11 36 18.6 +0.3
JTM Tenmabayashi 61.92 56 P P 11 36 18.8 -0.1
MESJ Messejana 61.93 300 *e*P P 11 36 19.0 0.0
MESJ IAmb IAmb 11 36 21.2
comp=Z,70nm,1.3s
MESJ *e*S **S 11 44 43.9 +1.0**
MESJ Messejana 61.93 300 *e*P P 11 36 18.9 0.0
MESJ *e*S **S 11 44 43.8 +1.0**
MESJ pmax pmax
comp=Z,70nm,1.3s
MESJ Messejana 61.93 300 *e*P P 11 36 19.9 +0.9
comp=Z,80nm,1.2s
MESJ Messejana 61.93 300 *e*PcP PcP 11 37 02.3 +2.6
PSBE So Bento 61.97 302 *e*P P 11 36 19.6 +0.3
comp=Z,112nm,2.4s
NOR Nord 62.10 351 *i* P P 11 36 19.3 -0.2
NOR IAmb IAmb 11 36 22.4
comp=Z,38nm,0.9s
NOR Nord 62.10 351 *i* P P 11 36 19.2 -0.2
NOR pmax pmax
comp=Z,38nm,0.9s
PNCL Nicolau / Gran 62.10 301 *e*P P 11 36 20.1 0.0
comp=Z,111nm,1.2s
BSSI Bau Bau, Buton 62.28 114 P P 11 36 20.6 -1.0
comp=Z,1μmcomp=Z,111nm,1.0s
ASAJ Asahikawa 62.31 52 P P 11 36 20.8 -0.6
comp=Z,18nm,0.8s,baz=263,slow=13,SNR=7.1
ASAJ Asahikawa 62.31 52 P P 11 36 21.5 +0.1
ASAJ pmax pmax
comp=Z,34nm,0.9s
ASAJ MLR MLR
comp=Z,2μm,18.0s
JKA Kamikawa-asahi 62.31 52 P P 11 36 21.5 +0.1
JKA IAmb IAmb 11 36 38.8
comp=Z,34nm,0.9s
JYT Yasato 62.35 61 P P 11 36 21.2 -0.6
PTEO Sao Teotonio 62.39 300 *e*P P 11 36 23.9 +1.8
comp=Z,113nm,1.7s
MORF Marmelete 62.40 300 *e*P P 11 36 22.1 -0.1
MORF IAmb IAmb 11 36 25.2
comp=Z,75nm,1.4s
MORF *e*S **S 11 44 49.7 +0.9**
MORF Marmelete 62.40 300 *e*P P 11 36 22.0 -0.1
MORF *e*S **S 11 44 49.7 +0.9**
MORF pmax pmax
comp=Z,75nm,1.4s
MORF Marmelete 62.40 300 *e*P P 11 36 22.8 +0.6
comp=Z,82nm,1.7s
JMM Marumori 62.40 60 P P 11 36 22.4 +0.3
DAG Danmarks Havn 62.42 345⇑*i*P P 11 36 21.2 -0.4
DAG IAmb IAmb 11 36 24.0
comp=Z,67nm,1.0s
DAG Danmarks Havn 62.42 345⇑*i*P P 11 36 21.2 -0.4
DAG pmax pmax
comp=Z,67nm,1.0s
PMST Lisbon--Monsan 62.45 301 *e*P P 11 36 22.8 +0.4
comp=Z,128nm,1.8s
PMAFR Mafra 62.47 302 *e*P P 11 36 23.6 +1.0
comp=Z,155nm,1.6s
PFVI Vila Bisbo 62.58 300 *e*P P 11 36 23.4 +0.1
comp=Z,137nm,1.2s
DBG Daneborg 62.94 342 *i* P P 11 36 27.1 +2.0
DBG IAmb IAmb 11 36 28.1
comp=Z,33nm,1.0s
WBSI Waikabubak, Su 63.44 118 P P 11 36 26.7 -2.6
comp=Z,118nm,1.1s
SCO Scoresbysund 63.87 338 *i* P P 11 36 32.0 +0.7
SCO IAmb IAmb 11 36 34.3
comp=Z,18nm,0.8s
SCO Scoresbysund 63.87 338 *i* P P 11 36 32.0 +0.7
SCO pmax pmax
comp=Z,18nm,0.8s
SCO Scoresbysund 63.87 338 P P 11 36 31.9 +0.6
SCO IAmb IAmb 11 36 35.0
comp=Z,48nm,1.4s
SCO IAMs_20 IAMs_20 12 05 38.8
comp=Z,651nm,18.0s
MA2 Magadan 64.30 34*ce*P P 11 36 35.0 +0.7
MA2 pmax pmax
comp=Z,68nm,1.1s
TNTI Ternate 64.39 103 P P 11 36 35.3 -0.3
TNTI Ternate 64.39 103 P P 11 36 35.9 +0.3
comp=Z,1μmcomp=Z,100nm,1.2s
BORG Borgarnes 64.53 332 P P 11 36 36.9 +1.2
BORG pmax pmax
comp=Z,40nm,0.9s
BORG Borgarnes 64.53 332 P P 11 36 36.9 +1.2
BORG IAmb IAmb 11 36 40.3
comp=Z,40nm,0.9s
SANI Sanana 64.64 107 P P 11 36 36.8 -0.4
comp=Z,1μmcomp=Z,100nm,1.2s
EDFI Ende, Flores 64.75 115 P P 11 36 34.8 -3.2
comp=Z,601nmcomp=Z,60nm,1.3s
LBTB Lobatse 64.96 220 P P 11 36 40.3 +1.1
LBTB Lobatse 64.96 220 P P 11 36 40.3 +1.1
MMRI Maumere 65.12 115 P P 11 36 37.7 -2.6
MMRI Maumere 65.12 115 P P 11 36 37.9 -2.4
comp=Z,147nm,1.6s
TSUM Tsumeb 65.84 231 P P 11 36 46.5 +1.5
TSUM IAmb IAmb 11 36 47.8
comp=Z,57nm,1.1s
TSUM Tsumeb 65.84 231 IAMs_20 IAMs_20 12 06 32.4
comp=Z,583nm,21.0s
KOWA Kowa 65.90 274 P P 11 36 46.2 +0.8
KOWA IAmb IAmb 11 36 48.4
comp=Z,50nm,0.9s
KOWA IAMs_20 IAMs_20 12 07 13.2
comp=Z,839nm,22.0s
NLAI Namlea 66.20 107 P P 11 36 48.2 +0.9
comp=Z,63nm,0.8s
BATI Baumata 67.17 115 P P 11 36 51.6 -1.9
comp=Z,40nm,0.7s
SOEI Soe 67.40 115 P P 11 36 54.1 -1.0
SOEI Soe 67.40 115 P P 11 36 53.3 -1.8
comp=Z,2μmcomp=Z,266nm,0.9s
BOSA Boshof 67.93 218 P P 11 36 58.5 +0.4
comp=Z,41nm,0.9s,baz=39,slow=7.1,SNR=50
BOSA LR LR 12 05 32.0
comp=Z,384nm,21.0s,baz=32,slow=35
BOSA Boshof 67.93 218 P P 11 36 58.7 +0.5
BOSA pmax pmax
comp=Z,66nm,1.0s
BOSA Boshof 67.93 218 P P 11 36 58.7 +0.5
SUMG Summit 68.40 342⇑*i*P P 11 37 00.9 0.0
SUMG IAmb IAmb 11 37 03.8
comp=Z,35nm,0.8s
SUMG Summit 68.40 342⇑*i*P P 11 37 00.8 0.0
SUMG pmax pmax
comp=Z,35nm,0.8s
SUMG Summit 68.40 342 P P 11 37 01.1 +0.2
SUMG IAmb IAmb 11 37 04.0
comp=Z,36nm,0.8s
SWI Sorong 68.58 103 P P 11 37 01.6 -0.8
comp=Z,2μmcomp=Z,77nm,1.1s
BILL Bilibino 68.73 23*d*i*P P 11 37 02.7 +0.2
BILL *e* 11 37 25.7
BILL *i* S **S 11 46 00.2 -5.0**
BILL pmax pmax
comp=Z,48nm,1.3s
BILL MLR MLR
comp=Z,804nm,17.0s
BILL Bilibino 68.73 23 P P 11 37 02.4 -0.1
BILL IAmb IAmb 11 37 05.9
comp=Z,48nm,1.2s
BILL IAMs_20 IAMs_20 12 09 43.8
comp=Z,860nm,20.0s
NEEM North Greenlan 69.11 348⇑*i*P P 11 37 04.8 -0.3
NEEM IAmb IAmb 11 37 11.6
comp=Z,48nm,1.1s
SKR Severo-Kuril's 69.48 43 *e*P P 11 37 07.0 -0.4
SKR *e*S **S 11 46 18.4 +3.8**
SKR pmax pmax
comp=Z,100nm,3.4s
SKR pmax pmax
comp=Z,59nm,0.9s
SKR MLR MLR
comp=Z,500nm,16.0s
SKR MLR MLR
comp=Z,500nm,15.0s
PEA0B Petropavlovsk- 69.65 40*ce*P P 11 37 08.6 +0.1
PEA0B Petropavlovsk- 69.65 40 P P 11 37 08.2 -0.3
PEA0B IAmb IAmb 11 37 10.2
comp=Z,53nm,1.1s
PEA0B IAMs_20 IAMs_20 12 09 09.7
comp=Z,716nm,19.0s
PETK Petropavlovsk- 69.65 40 P P 11 37 06.8 -1.7
comp=Z,26nm,1.0s,baz=20,slow=4.9,SNR=25
PETK PP **PP 11 39 40.8 -1.3**
comp=Z,6.3nm,1.0s,baz=260,slow=9.3,SNR=3.8
PETK Petropavlovsk- 69.65 40 P P 11 37 07.1 -1.4
PETK Petropavlovsk- 69.65 40 P P 11 37 07.0 -1.4
KIC Kosan Boka 69.98 267 *e*PKP1 P 11 37 12.5 +1.3
comp=Z,24nm,0.6s
TIC Toumodi 70.11 267 *e*PKP1 P 11 37 13.2 +1.3
ICESG Greenland Ices 70.14 338 *i* P P 11 37 11.7 0.0
ICESG IAmb IAmb 11 37 16.0
comp=Z,76nm,1.2s
PET Petropavlovsk 70.22 40 IAMs_20 IAMs_20 12 09 25.8
comp=Z,536nm,20.0s
LIC Lamto 70.30 267 *e*PKP1 P 11 37 13.3 +0.2
comp=Z,142nm,1.4s
PMOZ Porto Moniz, M 70.42 297 *e*S S 11 46 34.5 +8.0
FAKI Fak Fak 70.45 104 P P 11 37 14.1 +0.1
FAKI Fak Fak 70.45 104 P P 11 37 14.2 +0.2
comp=Z,96nm,1.2s
ANGG Ammassalik, Gr 70.85 335 *i* P P 11 37 15.8 +0.2
ANGG IAmb IAmb 11 37 18.3
comp=Z,73nm,1.0s
ANGG Ammassalik, Gr 70.85 335 P P 11 37 16.0 +0.4
PSA00 Pilbara Seismi 71.23 127 P P 11 37 18.3 -0.2
ISOG Isortoq, Green 71.39 335 *i* P P 11 37 19.5 +0.7
ISOG IAmb IAmb 11 37 20.9
comp=Z,43nm,0.9s
EUNU Eureka 71.82 355 P P 11 37 21.8 +0.5
SAUI Saumlaki 72.24 109 P P 11 37 26.6 +1.8
comp=Z,1μm,1.1s
TULEG Thule 72.75 350 *i* P P 11 37 27.4 +0.5
TULEG Thule 72.75 350 P P 11 37 27.2 +0.4
TULEG IAmb IAmb 11 37 49.8
comp=Z,79nm,1.2s
DY2G Dye2 73.59 337⇑*i*P P 11 37 32.0 -0.3
DY2G IAmb IAmb 11 37 35.0
comp=Z,33nm,0.6s
ILULI Ilulissat 73.66 341 *i* P P 11 37 31.7 -0.6
ILULI IAmb IAmb 11 37 36.7
comp=Z,19nm,0.8s
ILULI Ilulissat 73.66 341 *i* P P 11 37 31.7 -0.6
ILULI pmax pmax
comp=Z,19nm,0.8s
ILULI Ilulissat 73.66 341 P P 11 37 31.4 -0.9
GUMO Guam 74.15 83 LR LR 12 11 42.5
comp=Z,146nm,20.5s,baz=303,slow=37
KNRA Kununurra 74.36 117 P P 11 37 37.1 -0.1
KNRA IAmb IAmb 11 37 38.2
comp=Z,47nm,1.0s
MTN Manton Dam 74.70 113 P P 11 37 39.3 +0.1
MTN IAmb IAmb 11 37 40.5
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 74.76 339 *i* P P 11 37 40.0 +1.2
SFJD IAmb IAmb 11 37 41.5
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 74.76 339 *i* P P 11 37 40.0 +1.2
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 74.76 339 P P 11 37 39.4 +0.6
SFJD Kangerlussuaq 74.76 339 IAMs_20 IAMs_20 12 12 25.6
comp=Z,448nm,18.0s
NRS Narsarsuaq 76.03 332 *i* P P 11 37 47.7 +1.6
NRS IAmb IAmb 11 37 48.6
comp=Z,57nm,0.9s
NRS Narsarsuaq 76.03 332 *i* P P 11 37 47.7 +1.6
NRS pmax pmax
comp=Z,57nm,0.9s
NRS Narsarsuaq 76.03 332 P P 11 37 46.1 0.0
NRS IAmb IAmb 11 37 48.7
comp=Z,57nm,0.9s
NUUK Nuuk 76.77 337 *i* P P 11 37 51.4 +1.1
NUUK IAmb IAmb 11 37 52.7
comp=Z,58nm,1.1s
GENI Genyem 77.19 100 P P 11 37 54.4 +0.9
comp=Z,229nm,1.0s
NWAO Narrogin (SRO) 77.19 138 LR LR 12 09 27.1
comp=Z,236nm,20.3s,baz=314,slow=34
RDOG Red Dog Mine 78.31 17 P P 11 37 59.3 +0.4
baz=317
RDOG Red Dog Mine 78.31 17 P P 11 37 59.3 +0.4
RDOG IAmb IAmb 11 38 02.8
comp=Z,34nm,1.2s
RDOG IAMs_20 IAMs_20 12 14 46.2
comp=Z,551nm,19.0s
GAMB Gambell 78.62 23 P P 11 38 00.4 -0.2
baz=310
GAMB Gambell 78.62 23 IAMs_20 IAMs_20 12 15 32.9
comp=Z,542nm,19.0s
TNA Tin City 78.66 20 P P 11 37 59.9 -0.9
baz=313
ANM Nome 80.13 20 IAMs_20 IAMs_20 12 16 42.6
comp=Z,402nm,18.0s
TOLK Toolik Lake Re 80.84 12 P P 11 38 12.5 -0.2
baz=328
TOLK Toolik Lake Re 80.84 12 P P 11 38 12.8 +0.1
TOLK IAmb IAmb 11 38 16.4
comp=Z,57nm,0.9s
WB0 Warramunga Arr 81.08 118 P P 11 38 14.4 -0.3
WB0 IAmb IAmb 11 38 15.8
comp=Z,40nm,1.1s
WRA Warramunga Arr 81.14 118 P P 11 38 14.6 -0.4
comp=Z,22nm,1.0s,baz=312,slow=4.7,SNR=77
WRA LR LR 12 18 35.8
comp=Z,174nm,18.8s,baz=285,slow=39
WRA Warramunga Arr 81.14 118 P P 11 38 14.8 -0.2
WRAB Tennant Creek 81.14 118*ce*P P 11 38 15.3 +0.3
WRAB pmax pmax
comp=Z,48nm,1.3s
WRAB Tennant Creek 81.14 118 P P 11 38 15.0 0.0
WRAB IAmb IAmb 11 38 16.1
comp=Z,38nm,1.1s
WB2 Warramunga Arr 81.15 118 P P 11 38 14.8 -0.2
WB2 IAmb IAmb 11 38 16.1
comp=Z,45nm,1.1s
WR0 Warramunga Arr 81.31 118 P P 11 38 15.3 -0.5
IMAR Indian Mountai 82.18 15 P P 11 38 19.0 -0.7
H21K Melozitna Rive 82.67 15 P P 11 38 22.3 -0.1
baz=326
FORT Forrest 82.74 130 P P 11 38 22.5 -0.6
FORT IAmb IAmb 11 38 42.5
comp=Z,50nm,0.9s
BMAR Burnt Mountain 82.82 11 P P 11 38 23.2 0.0
AS31 Alice Springs 82.84 121 P P 11 38 24.0 0.0
ASAR Alice Springs 82.84 121 P P 11 38 23.6 -0.3
comp=Z,15nm,0.9s,baz=306,slow=5.0,SNR=82
ASAR LR LR 12 16 07.4
comp=Z,350nm,20.5s,baz=311,slow=36
H23K Yukon River 83.26 14 P P 11 38 25.4 0.0
baz=329,SNR=32
I21K Tanana 83.26 15 P P 11 38 25.3 -0.1
baz=327,SNR=27
MANU Manus Island 83.28 96 P P 11 38 26.5 +0.1
C36M Paulatuk 83.36 4 P P 11 38 24.5 -1.3
baz=351,SNR=5.9
FYU Fort Yukon 83.48 12 P P 11 38 27.1 +0.7
SPIA Saint Paul Isl 83.51 27 P P 11 38 26.3 -0.4
baz=312
J20K Nowinta River 83.57 17 P P 11 38 26.7 -0.3
baz=325,SNR=20
INK Inuvik 83.60 7 P P 11 38 26.8 -0.2
INK pmax pmax
comp=Z,31nm,1.1s
INK Inuvik 83.60 7 P P 11 38 26.5 -0.5
baz=343,SNR=30
INK Inuvik 83.60 7 P P 11 38 26.8 -0.2
INK IAmb IAmb 11 38 30.5
comp=Z,31nm,1.1s
H24K Noodor Dome 83.60 13 P P 11 38 27.1 -0.1
baz=330,SNR=23
MLY Manley 83.67 15 P P 11 38 27.3 -0.3
baz=328
MLY Manley 83.67 15 P P 11 38 27.3 -0.3
MLY IAMs_20 IAMs_20 12 18 18.0
comp=Z,477nm,21.0s
I23K Minto, Yukon-K 83.88 14 P P 11 38 28.5 -0.1
baz=329
I23K Minto, Yukon-K 83.88 14 P P 11 38 28.5 -0.1
I23K IAmb IAmb 11 38 59.7
comp=Z,26nm,1.1s
K20K Telida 84.26 17 P P 11 38 30.3 -0.3
baz=325,SNR=28
CHUM Lake Minchumin 84.27 16 P P 11 38 29.8 -0.8
baz=326,SNR=9.0
MDM Murphy Dome 84.29 14 P P 11 38 30.3 -0.4
MDM IAmb IAmb 11 38 33.5
comp=Z,40nm,1.0s
MDM IAMs_20 IAMs_20 12 17 55.2
comp=Z,396nm,19.0s
POKR Poker Plat Res 84.32 14 P P 11 38 30.4 -0.5
baz=331,SNR=6.5
POKR Poker Plat Res 84.32 14 P P 11 38 30.8 0.0
POKR IAmb IAmb 11 38 33.9
comp=Z,35nm,1.0s
POKR IAMs_20 IAMs_20 12 20 58.0
comp=Z,387nm,20.0s
PRP Porcupine Dome 84.35 13 P P 11 38 31.1 -0.1
baz=332,SNR=11
PRP Porcupine Dome 84.35 13 P P 11 38 31.4 +0.2
PRP IAMs_20 IAMs_20 12 17 14.8
comp=Z,381nm,20.0s
BPAW Bear Paw Mtn. 84.41 15 P P 11 38 30.7 -0.6
baz=328
BPAW Bear Paw Mtn. 84.41 15 P P 11 38 30.6 -0.7
BPAW IAmb IAmb 11 39 00.9
comp=Z,100nm,2.0s
BPAW IAMs_20 IAMs_20 12 21 48.3
comp=Z,436nm,19.0s
NEA2 Nenana 84.42 14 P P 11 38 30.3 -1.0
baz=329,SNR=30
NEA2 Nenana 84.42 14 P P 11 38 30.7 -0.6
NEA2 IAmb IAmb 11 39 05.4
comp=Z,28nm,1.1s
NEA2 IAMs_20 IAMs_20 12 20 27.9
comp=Z,469nm,22.0s
TCOL CIGO, UAF Yank 84.44 14 P P 11 38 31.0 -0.4
baz=330
TCOL CIGO, UAF Yank 84.44 14 P P 11 38 31.4 0.0
TCOL IAmb IAmb 11 39 02.0
comp=Z,42nm,1.2s
TCOL IAMs_20 IAMs_20 12 18 09.2
comp=Z,397nm,18.0s
COLA College 84.44 14*d*i*P P 11 38 31.1 -0.3
COLA pmax pmax
comp=Z,21nm,1.1s
COLA College 84.44 14 P P 11 38 30.9 -0.5
baz=330
COLA College 84.44 14 P P 11 38 31.4 0.0
COLA IAmb IAmb 11 39 02.0
comp=Z,41nm,1.2s
COLA College 84.44 14 IAMs_20 IAMs_20 12 18 08.2
comp=Z,383nm,19.0s
CCB Clear Creek Bu 84.65 14 P P 11 38 31.7 -0.8
BWN Browne 84.70 15 P P 11 38 32.4 -0.4
BWN IAmb IAmb 11 40 02.9
comp=Z,38nm,1.2s
IL31 84.74 14 P P 11 38 32.0 -0.9
ILAR Eielson Array 84.74 14 P P 11 38 31.6 -1.3
comp=Z,6.2nm,0.9s,baz=324,slow=3.8,SNR=38
ILAR PP **PP 11 41 52.0 +3.8**
comp=Z,3.5nm,1.0s,baz=323,slow=8.7,SNR=6.1
ILAR LR LR 12 21 20.5
comp=Z,324nm,20.8s,baz=312,slow=39
WRH Wood River Hil 84.74 14 P P 11 38 31.9 -1.1
KTH Kantishna Hill 84.89 16 P P 11 38 33.0 -0.8
KTH IAmb IAmb 11 38 44.1
comp=Z,20nm,1.1s
KTH IAMs_20 IAMs_20 12 21 25.0
comp=Z,381nm,18.0s
L19K White Mountain 85.01 18 P P 11 38 33.7 -0.8
baz=324,SNR=12
EPYK Eagle Plains 85.04 9 P P 11 38 33.6 -0.9
baz=340,SNR=13
EPYK Eagle Plains 85.04 9 P P 11 38 34.1 -0.4
EPYK IAmb IAmb 11 38 37.5
comp=Z,26nm,1.1s
HDA Harding Lake 85.04 14 P P 11 38 32.9 -1.6
baz=331
HDA Harding Lake 85.04 14 P P 11 38 33.2 -1.2
TRF Thorofare Moun 85.12 15 P P 11 38 34.6 -0.5
baz=328
TRF Thorofare Moun 85.12 15 P P 11 38 35.4 +0.3
TRF IAmb IAmb 11 39 05.8
comp=Z,31nm,1.4s
TRF IAMs_20 IAMs_20 12 22 20.3
comp=Z,393nm,19.0s
PPLA Purkeypile 85.13 17 P P 11 38 34.0 -1.1
baz=327
PPLA Purkeypile 85.13 17 IAMs_20 IAMs_20 12 21 11.4
comp=Z,446nm,19.0s
MCK McKinley 85.20 15 P P 11 38 35.0 -0.3
MCK pmax pmax
comp=Z,33nm,1.2s
MCK MLR MLR
comp=Z,400nm,20.0s
MCK McKinley 85.20 15 P P 11 38 34.3 -1.0
baz=329,SNR=13
MCK McKinley 85.20 15 P P 11 38 35.0 -0.3
MCK IAmb IAmb 11 39 11.1
comp=Z,33nm,1.2s
MCK IAMs_20 IAMs_20 12 18 52.2
comp=Z,388nm,20.0s
M19K Big River Lodg 85.37 18 P P 11 38 36.1 -0.1
baz=325
RND Reindeer 85.50 15 P P 11 38 35.9 -0.9
RND pmax pmax
comp=Z,16nm,0.9s
RND MLR MLR
comp=Z,400nm,21.0s
RND Reindeer 85.50 15 P P 11 38 35.9 -0.9
RND IAMs_20 IAMs_20 12 20 24.1
comp=Z,381nm,21.0s
SVW2 Sparrevohn 85.69 19 P P 11 38 38.4 +0.6
EGAK Eagle 85.83 11 P P 11 38 37.8 -0.6
baz=336,SNR=17
EGAK Eagle 85.83 11 P P 11 38 38.4 0.0
EGAK IAmb IAmb 11 38 41.2
comp=Z,30nm,1.3s
N18K Kilae Creek 85.94 19 P P 11 38 38.6 -0.4
baz=324,SNR=10
CUT Chulitna 86.02 16 P P 11 38 38.2 -1.1
baz=328
CUT Chulitna 86.02 16 P P 11 38 40.2 +0.9
CUT IAmb IAmb 11 39 07.3
comp=Z,32nm,1.0s
SCRK Sand Creek 86.03 13 P P 11 38 39.4 -0.2
baz=334,SNR=32
SCRK Sand Creek 86.03 13 P P 11 38 39.4 -0.2
SKT Skwentna 86.06 17 P P 11 38 38.3 -1.3
baz=327,SNR=9.9
SKT Skwentna 86.06 17 P P 11 38 38.1 -1.6
SKT IAmb IAmb 11 39 07.8
comp=Z,36nm,1.2s
SKT IAMs_20 IAMs_20 12 20 17.2
comp=Z,510nm,21.0s
WAT1 Susitna Watana 86.06 15 P P 11 38 38.3 -1.4
baz=330
RIDG Independent Ri 86.07 13 P P 11 38 38.5 -1.2
baz=333,SNR=7.7
RIDG Independent Ri 86.07 13 P P 11 38 39.1 -0.6
N19K Bonanza Creek 86.23 19 P P 11 38 40.3 -0.3
baz=325,SNR=34
DOT Dot Lake 86.31 13 P P 11 38 40.7 -0.1
DOT IAMs_20 IAMs_20 12 20 26.5
comp=Z,451nm,22.0s
K27K Chicken 86.35 12 P P 11 38 41.1 +0.1
baz=335
K27K Chicken 86.35 12 P P 11 38 41.1 +0.1
K27K IAmb IAmb 11 38 44.4
comp=Z,39nm,1.2s
WAT6 Susitna Watana 86.47 15 P P 11 38 40.7 -1.1
baz=330,SNR=12
PMG Port Moresby 86.53 102 P P 11 38 43.3 +0.7
comp=Z,52nm,0.9s,baz=283,slow=1.0,SNR=9.3
PMG Port Moresby 86.53 102*ce*P P 11 38 44.1 +1.4
PMG pmax pmax
comp=Z,83nm,1.7s
PMG Port Moresby 86.53 102 P P 11 38 42.6 -0.1
SPCR Spurr Chakacha 86.54 17 P P 11 38 41.2 -0.8
baz=327
PAX Paxson 86.63 14 P P 11 38 42.3 -0.2
PAX pmax pmax
comp=Z,21nm,1.2s
PAX Paxson 86.63 14 P P 11 38 42.0 -0.5
baz=332,SNR=15
PAX Paxson 86.63 14 P P 11 38 42.3 -0.2
PAX IAMs_20 IAMs_20 12 24 44.0
comp=Z,427nm,20.0s
SUA Susitna One 86.70 17 P P 11 38 41.8 -1.1
baz=328,SNR=8.4
SUA Susitna One 86.70 17 P P 11 38 42.5 -0.4

SUA IAms_20 IAms_20 12 20 49.1
comp=Z,448nm,21.0s
DAWY Dawson 86.79 11 P **P 11 38 42.8 -0.4**
DAWY IAmb IAmb 11 38 46.0
comp=Z,49nm,1.3s
O19K Port Alsworth 86.79 19 P **P 11 38 42.7 -0.5**
baz=325
O18K Koktuh Hills 86.81 19 P **P 11 38 43.3 0.0**
baz=324,SNR=18
GHO Glory Hole Cre 86.89 16 P **P 11 38 43.9 +0.1**
GHO IAmb IAmb 11 38 48.2
comp=Z,38nm,0.9s
NIKH Nikolski High 86.95 30 P **P 11 38 43.6 -0.5**
baz=313
SML Sawmill 87.00 16 P **P 11 38 43.6 -0.7**
baz=330,SNR=14
SML Sawmill 87.00 16 P **P 11 38 44.2 -0.1**
SML IAmb IAmb 11 39 13.2
comp=Z,48nm,1.0s
L26K Log Cabin Wild 87.01 13 P **P 11 38 44.1 -0.2**
baz=334,SNR=7.1
MENT Mentasta 87.02 13 P **P 11 38 44.7 +0.3**
HARP HAARP 87.20 14 P **P 11 38 45.7 +0.5**
baz=333
SCM Sheep Creek Mo 87.22 15 P **P 11 38 45.2 -0.2**
SCM pmax pmax
comp=Z,23nm,1.0s
SCM Sheep Creek Mo 87.22 15 P **P 11 38 45.2 -0.2**
SCM IAmb IAmb 11 39 14.8
comp=Z,23nm,1.0s
SCM IAms_20 IAms_20 12 23 46.6
comp=Z,378nm,19.0s
M24K Tolsona, Glenn 87.24 15 P **P 11 38 45.5 +0.1**
baz=332,SNR=12
M24K Tolsona, Glenn 87.24 15 P **P 11 38 45.9 +0.5**
L27K Beaver Creek, 87.28 12 P **P 11 38 45.5 -0.1**
baz=336,SNR=25
L27K Beaver Creek, 87.28 12 P **P 11 38 46.2 +0.6**
L27K IAmb IAmb 11 38 49.0
comp=Z,27nm,1.2s
RC01 Rabbit Creek A 87.28 16 P **P 11 38 44.6 -1.0**
baz=329,SNR=7.1
RC01 Rabbit Creek A 87.28 16 P **P 11 38 45.5 -0.1**
RC01 IAmb IAmb 11 38 50.0
comp=Z,26nm,0.8s
RC01 IAms_20 IAms_20 12 20 54.3
comp=Z,457nm,21.0s
BCAR Beaver Creek A 87.28 12 P **P 11 38 45.6 0.0**
O22K Cooper Landing 87.80 17 P **P 11 38 46.5 -1.5**
baz=329
O22K Cooper Landing 87.80 17 P **P 11 38 47.6 -0.4**
O22K IAms_20 IAms_20 12 21 13.2
comp=Z,541nm,21.0s
PWL Port Wells 87.83 16 P **P 11 38 47.8 -0.4**
PWL IAmb IAmb 11 38 51.3
comp=Z,19nm,0.8s
KLU Klutina 87.84 15 P **P 11 38 48.1 -0.3**
baz=332,SNR=14
KLU Klutina 87.84 15 P **P 11 38 48.2 -0.2**
KLU IAmb IAmb 11 38 58.7
comp=Z,18nm,0.9s
FALS False Pass 87.87 26 P **P 11 38 48.0 -0.5**
baz=318
N25K Chitina, Valde 88.03 14 P **P 11 38 49.0 -0.3**
baz=333,SNR=10
N25K Chitina, Valde 88.03 14 P **P 11 38 48.8 -0.4**
N25K IAmb IAmb 11 38 53.3
comp=Z,24nm,1.2s
BRLK Bradley Lake 88.11 18 P **P 11 38 48.3 -1.3**
BRLK IAmb IAmb 11 38 58.6
comp=Z,34nm,1.0s
BRLK IAms_20 IAms_20 12 23 20.4
comp=Z,358nm,20.0s
GLI Glacier Island 88.11 15 P **P 11 38 49.0 -0.5**
baz=331
GLI Glacier Island 88.11 15 P **P 11 38 49.6 +0.1**
GLI IAmb IAmb 11 38 54.7
comp=Z,16nm,0.8s
BRSE Bradley Lake S 88.17 18 P **P 11 38 48.5 -1.4**
baz=328
SEW Seward 88.19 17 P **P 11 38 49.2 -0.7**
baz=329,SNR=5.6
SEW Seward 88.19 17 P **P 11 38 49.2 -0.7**
SEW IAmb IAmb 11 38 58.6
comp=Z,30nm,1.0s
SEW IAms_20 IAms_20 12 22 36.6
comp=Z,500nm,22.0s
GLB Gilahina Butte 88.35 14 P **P 11 38 51.2 +0.4**
GLB IAms_20 IAms_20 12 22 29.4
comp=Z,391nm,20.0s
FID Port Fidalgo 88.37 15 IAms_20 IAms_20 12 21 51.8
comp=Z,371nm,20.0s
MCARA McCarthy VSAT 88.56 14 P **P 11 38 50.5 -1.2**
baz=334
BMRM Bremner River 88.60 14 P **P 11 38 50.5 -1.4**
baz=333,SNR=15
BMRM Bremner River 88.60 14 P **P 11 38 51.5 -0.4**
BMRM IAmb IAmb 11 39 29.4
comp=Z,42nm,1.1s
SDPT Sand Point 88.61 24 P **P 11 38 51.9 -0.1**
baz=320
VRDI Verde Repeater 88.61 14 P **P 11 38 51.6 -0.6**
VRDI IAmb IAmb 11 39 23.2
comp=Z,29nm,1.4s
EYAK Cordova Ski Ar 88.71 15 P **P 11 38 52.2 -0.2**
baz=332
EYAK Cordova Ski Ar 88.71 15 IAms_20 IAms_20 12 21 03.2
comp=Z,522nm,22.0s
CRQM Cirque 89.11 14 IAms_20 IAms_20 12 25 27.9
comp=Z,352nm,18.0s
CRQE Cirque 89.12 14 P **P 11 38 54.0 -0.5**
baz=334
BARN Barnard Glacie 89.14 13 P **P 11 38 54.5 -0.2**
BARN IAms_20 IAms_20 12 23 18.3
comp=Z,373nm,22.0s
CTG Chitna Glacier 89.29 13 P **P 11 38 55.1 -0.2**
baz=336
CTGM Chitina Glacie 89.29 13 P **P 11 38 55.9 +0.6**
CTGM IAms_20 IAms_20 12 21 49.3
comp=Z,417nm,21.0s
KDAK Kodiak Island 89.29 20 P **P 11 38 55.3 +0.2**
KDAK pmax pmax
comp=Z,33nm,1.4s
KDAK Kodiak Island 89.29 20 P **P 11 38 55.3 +0.2**
KDAK IAmb IAmb 11 39 15.0
comp=Z,33nm,1.4s
KDAK Kodiak Island 89.29 20 IAms_20 IAms_20 12 24 40.7
comp=Z,333nm,19.0s
CHNA Chernabura Isl 89.34 24 P **P 11 38 55.5 0.0**
baz=321
ISLE Juniper Island 89.42 14 IAms_20 IAms_20 12 23 30.7
comp=Z,311nm,18.0s
LOGN Logan Glacier 89.48 13 P **P 11 38 56.4 +0.1**
LOGN IAmb IAmb 11 39 30.3
comp=Z,45nm,1.4s
LOGN IAms_20 IAms_20 12 21 43.5
comp=Z,419nm,22.0s
OHAK Old Harbor 89.55 20 P **P 11 38 55.9 -0.4**
baz=326
MESA MESA 89.88 14 P **P 11 38 58.2 +0.1**
baz=335
HYT Haines Junctio 90.13 11 P **P 11 38 59.7 +0.5**
HYT IAmb IAmb 11 39 02.7
comp=Z,22nm,1.1s
PINM Pinnacle 90.30 13 P **P 11 38 59.7 -0.2**
baz=337
YKA Yellowknife Ar 90.53 0 P **P 11 39 00.3 -0.6**
comp=Z,6.6nm,0.9s,baz=354,slow=4.6,SNR=20
YKA LR LR 12 24 25.4
comp=Z,209nm,20.0s,baz=0.0,slow=39
YKA Yellowknife Ar 90.53 0*ceP* **P 11 39 00.6 -0.2**
YKA pmax pmax
comp=Z,7.0nm,0.9s
CTA Charters Tower 90.83 112 P **P 11 39 03.3 +0.3**
comp=Z,8.7nm,0.8s,baz=323,slow=4.5,SNR=11
CTAO Charters Tower 90.83 112 P **P 11 39 03.0 0.0**
CTAO pmax pmax
comp=Z,34nm,1.5s
CTAO Charters Tower 90.83 112 P **P 11 39 03.0 0.0**
CTAO IAmb IAmb 11 39 27.8
comp=Z,34nm,1.5s
CTAO Charters Tower 90.83 112 IAms_20 IAms_20 12 12 30.7
comp=Z,391nm,22.0s
SKAG Skagway 91.79 11 P **P 11 39 07.1 +0.3**
baz=341
STKA Stephens Creek 92.96 124 P **P 11 39 12.7 +0.2**
comp=Z,6.1nm,1.1s,baz=314,slow=8.3,SNR=3.9
STKA LR LR 12 24 20.8
comp=Z,320nm,18.6s,baz=275,slow=38
MAW Mawson 94.63 181 P **P 11 39 20.2 +0.8**
comp=Z,9.4nm,1.0s,baz=352,slow=5.1,SNR=12
MAW LR LR 12 15 53.3
comp=Z,391nm,19.4s,baz=45,slow=32
D63A Stockholm 95.21 330 P **P 11 39 23.3 +0.6**
baz=40
CHGQ Chibougamau 95.45 336 P **P 11 39 24.3 +0.4**
baz=35
E64A Bridgewater 95.56 330 P **P 11 39 24.0 -0.3**
baz=40
D62A Allapoint, All 95.58 331 P **P 11 39 24.7 +0.2**
baz=39
E63A Oxbow 95.82 330 P **P 11 39 25.8 +0.2**
baz=40
E62A Clayton Lake 96.14 331 P **P 11 39 27.4 +0.3**
baz=38
F64A Sherman 96.22 330 P **P 11 39 27.7 +0.3**
baz=40
G65A Princeton 96.36 329 P **P 11 39 28.2 +0.1**
baz=40
D60A Saint Jean D'O 96.51 332 P **P 11 39 28.4 -0.2**
baz=38
F63A Nahmakanta, Br 96.67 330 P **P 11 39 30.0 +0.5**
baz=39
EMMW East Machias 96.69 329 IAms_20 IAms_20 12 25 45.0
comp=Z,358nm,19.0s
E61A Lac Etchemin 96.71 331 P **P 11 39 30.0 +0.4**
baz=38
G64A Maxfield 96.87 330 P **P 11 39 31.4 +1.1**
baz=39
LATQ La Tuque 96.90 333 P **P 11 39 31.2 +0.8**
baz=36
F62A Pittston Farm, 96.90 331 P **P 11 39 31.0 +0.5**
baz=38
H65A Eastbrook 97.06 329 P Pdif 11 39 32.0 +0.7
baz=40
PKME Peaks-Kenny Pk 97.10 330 P Pdif 11 39 32.8 +1.3
baz=39
LSQQ Lebel-sur-Quev 97.11 336 P Pdif 11 39 31.8 +0.4
baz=33
E60A Ste Agathe de 97.16 332 P Pdif 11 39 32.7 +1.0
baz=37
D58A Chemin du LacG 97.17 333 P Pdif 11 39 32.8 +1.0
baz=36
F61A St Evariste 97.28 331 P Pdif 11 39 33.9 +1.6
baz=38
G63A Kingsbury 97.36 330 P Pdif 11 39 33.1 +0.4
baz=39
H64A Troy 97.55 330 P Pdif 11 39 34.5 +1.0
baz=39
G62A West of Eustis 97.68 331 P Pdif 11 39 35.6 +1.6
baz=38
H63A New Sharon 97.90 330 P Pdif 11 39 36.1 +1.0
baz=38
SYO Syowa Base 97.94 189↑ *eP* Pdif 11 39 35.8 +1.4
G61A St-Isidore-de- 98.06 331 P Pdif 11 39 36.5 +0.7
baz=37
I64A Boothbay 98.30 329 P Pdif 11 39 37.6 +0.8
baz=39
H62A Milan 98.46 331 P Pdif 11 39 38.8 +1.3
baz=38
I63A Otisfield 98.62 330 P Pdif 11 39 38.7 +0.4
baz=38
H61A Lyndonville 98.83 331 P **P 11 39 38.5 -0.8**
baz=37
LBNH Lisbon 99.06 331 P **Pdif 11 39 39.8 -0.5**
baz=37
ULM Lac du Bonnet 101.14 348 PP **PP 11 43 59.9 +2.9**
comp=Z,3.3nm,0.8s,baz=44,slow=11,SNR=3.2
EYMN Ely 102.42 345 IAms_20 IAms_20 12 28 57.4
comp=Z,368nm,19.0s
E38A The Farm, Brul 103.69 344 IAms_20 IAms_20 12 27 07.1
comp=Z,343nm,20.0s
B06A Marblemount 104.24 5 IAms_20 IAms_20 12 33 32.4
comp=Z,316nm,18.0s
B08A Colville Reser 104.55 4 IAms_20 IAms_20 12 32 29.5
comp=Z,373nm,21.0s
NEW Newport 104.74 2 PP **PP 11 44 24.1 +0.3**
comp=Z,3.2nm,0.9s,baz=333,slow=6.4,SNR=4.9
NEW Newport 104.74 2 PP **PP 11 44 24.5 +0.6**
NEW Newport 104.74 2 IAms_20 IAms_20 12 35 15.6
comp=Z,404nm,21.0s
F36A Milaca 104.85 345 IAms_20 IAms_20 12 31 56.7
comp=Z,394nm,20.0s
C09A Chrisman Ranch 105.16 3 IAms_20 IAms_20 12 34 04.6
comp=Z,369nm,19.0s
SPMN Marine on St. 105.28 345 IAms_20 IAms_20 12 31 29.5
comp=Z,361nm,20.0s
JTMT Jette 105.31 0 IAms_20 IAms_20 12 31 43.6
comp=Z,448nm,22.0s
E28A Huff 105.50 350 IAms_20 IAms_20 12 32 02.7
comp=Z,365nm,21.0s
LTY Liberty 105.56 5 IAms_20 IAms_20 12 34 12.3
comp=Z,284nm,21.0s
D08A Wollman Farm, 105.87 3 IAms_20 IAms_20 12 30 28.4
comp=Z,282nm,20.0s
Q56A Snyder Ridge, 106.42 332 IAms_20 IAms_20 12 29 30.3
comp=Z,457nm,22.0s
HAWA Hanford 106.49 4 IAms_20 IAms_20 12 30 41.0
comp=Z,303nm,19.0s
JFWS Jewell Farm 106.79 342 IAms_20 IAms_20 12 31 51.3
comp=Z,357nm,18.0s
ACSO Alum Creek Sta 106.88 336 IAms_20 IAms_20 12 36 00.0
comp=Z,392nm,20.0s
F07A Phinny Hill Vi 106.96 4 IAms_20 IAms_20 12 33 54.5
comp=Z,353nm,19.0s
P52A Corning 107.08 335 IAms_20 IAms_20 12 29 38.5
comp=Z,414nm,22.0s
BOZ Bozeman (W) 107.43 358 IAms_20 IAms_20 12 34 08.6
comp=Z,319nm,20.0s
ECSD EROS Data Cent 107.54 347 IAms_20 IAms_20 12 34 43.8
comp=Z,344nm,19.0s
Q52A Bidwell 107.72 334 IAms_20 IAms_20 12 30 21.3
comp=Z,416nm,22.0s
RLMT Red Lodge 107.80 356 IAms_20 IAms_20 12 37 43.6
comp=Z,300nm,18.0s
U59A Littleton 108.08 330 IAms_20 IAms_20 12 33 39.3
comp=Z,298nm,18.0s
BMO Blue Mountains 108.14 2 IAms_20 IAms_20 12 34 52.6
comp=Z,283nm,20.0s
RSSD Black Hills 108.35 352 IAms_20 IAms_20 12 31 40.1
comp=Z,254nm,20.0s
SCIA State Center 108.51 344 IAms_20 IAms_20 12 32 42.7
comp=Z,372nm,20.0s
H17A Grant Village 108.59 357 IAms_20 IAms_20 12 31 58.5
comp=Z,381nm,21.0s
O44A Masfield 108.81 340 IAms_20 IAms_20 12 32 47.9
comp=Z,357nm,19.0s
FLWY Flagg Ranch 108.91 357 IAms_20 IAms_20 12 35 51.9
comp=Z,348nm,19.0s
R50A Paris 109.09 336 IAms_20 IAms_20 12 33 39.5
comp=Z,356nm,20.0s
L34A Svendsen Farm, 109.18 346 IAms_20 IAms_20 12 35 45.4
comp=Z,394nm,20.0s
SNOW Snow King Moun 109.53 357 IAms_20 IAms_20 12 34 37.3
comp=Z,306nm,19.0s
J08A Circle Bar Ran 109.58 3 IAms_20 IAms_20 12 34 25.6
comp=Z,302nm,19.0s
REDW Red Top Meadow 109.63 358 IAms_20 IAms_20 12 38 02.0
comp=Z,284nm,18.0s
HUMO Hull Mountain 109.96 7 IAms_20 IAms_20 12 35 30.9
comp=Z,270nm,20.0s
K22A Casper 110.06 354 IAms_20 IAms_20 12 39 13.4
comp=Z,301nm,21.0s
BGNE Belgrade 110.08 347 IAms_20 IAms_20 12 35 10.1
comp=Z,397nm,22.0s
BW06 Boulder Array 110.17 356 IAms_20 IAms_20 12 36 55.2
comp=Z,291nm,19.0s
PDAR Pinedale Array 110.17 356 PKiKP **PKiKP 11 44 31.6 +0.2**
comp=Z,0.5nm,0.6s,baz=66,slow=3.7,SNR=4.1
PDAR PKKPab **PKKPab 11 55 43.0 -4.0**
comp=Z,0.4nm,0.8s,baz=130,slow=3.8,SNR=5.1
T50A Nancy 110.39 335 IAms_20 IAms_20 12 29 17.0
comp=Z,375nm,22.0s
WVOR Wild Horse Val 110.49 4 IAms_20 IAms_20 12 36 58.8
comp=Z,268nm,20.0s
MOD Modoc Plateau 110.91 5 IAms_20 IAms_20 12 36 44.8
comp=Z,250nm,20.0s
RWWY Rawlins 111.08 355 IAms_20 IAms_20 12 36 01.3
comp=Z,301nm,18.0s
PAULI Pauline 111.11 332 IAms_20 IAms_20 12 32 00.5
comp=Z,420nm,22.0s
PHWY Pilot Hill 111.29 353 IAms_20 IAms_20 12 31 29.0
comp=Z,231nm,18.0s
BG3 Lake Jocassee 111.43 333 IAms_20 IAms_20 12 34 55.7
comp=Z,291nm,19.0s
HODGE Hodges 111.81 332 IAms_20 IAms_20 12 24 37.9
comp=Z,289nm,19.0s
W50A Signal Mountai 112.18 335 IAms_20 IAms_20 12 37 21.4
comp=Z,346nm,19.0s
V48A Smith Brothers 112.25 336 IAms_20 IAms_20 12 35 07.3
comp=Z,324nm,18.0s
ELK Elko 112.30 1 IAms_20 IAms_20 12 34 45.6
comp=Z,286nm,21.0s
LNXT Lenox 112.84 339 IAms_20 IAms_20 12 42 47.5
comp=Z,284nm,18.0s
DUG Dugway, Tooele 112.85 359 IAms_20 IAms_20 12 42 24.1
comp=Z,312nm,19.0s
FPAL Fort Paine 112.88 335 IAms_20 IAms_20 12 32 46.9
comp=Z,385nm,21.0s
CBKS Cedar Bluff 112.89 348 IAms_20 IAms_20 12 33 09.6
comp=Z,404nm,22.0s
BEKR Beckworth 112.93 5 IAms_20 IAms_20 12 34 31.3
comp=Z,238nm,19.0s
GOGA Godfrey 113.02 332 IAms_20 IAms_20 12 32 49.9
comp=Z,324nm,20.0s
X48A Hartselle 113.49 336 IAms_20 IAms_20 12 37 57.0
comp=Z,262nm,21.0s
SMCO Snowmass 113.55 354 IAms_20 IAms_20 12 43 28.7
comp=Z,289nm,19.0s
W45A Hickory Valley 113.60 338 IAms_20 IAms_20 12 39 49.7
comp=Z,282nm,20.0s
Y49A Blount Mountai 113.78 335 IAms_20 IAms_20 12 33 26.9
comp=Z,371nm,20.0s
YERR Yerington 113.89 4 IAms_20 IAms_20 12 41 28.7
comp=Z,230nm,18.0s
HHAR Hobbs 113.99 342 IAms_20 IAms_20 12 39 43.9
comp=Z,292nm,19.0s
T35A Sooner Cattle 114.04 345 IAms_20 IAms_20 12 36 48.1
comp=Z,282nm,20.0s
RYN Ryan 114.29 4 IAms_20 IAms_20 12 39 27.3
comp=Z,234nm,19.0s
WHAR Wooly Hollow 114.45 341 IAms_20 IAms_20 12 25 10.2
comp=Z,301nm,20.0s
NVAR Mina Array Bea 114.50 4 PKP PKPdf 11 44 39.9 +0.1
comp=Z,1.3nm,0.7s,baz=329,slow=1.5,SNR=13
NVAR PKKPab **PKKPab 11 55 25.4 -2.3**
comp=Z,0.6nm,0.7s,baz=193,slow=6.9,SNR=4.4
NVAR Mina Array Bea 114.50 4 PKPdf 11 44 40.2 +0.5
PV20 West Nyswonger 114.54 356 IAms_20 IAms_20 12 27 55.9
comp=Z,312nm,20.0s
LHV Little Huntoon 114.67 4 IAms_20 IAms_20 12 33 12.2
comp=Z,240nm,19.0s
R11A Troy Canyon, C 114.69 1 IAms_20 IAms_20 12 40 38.8
comp=Z,290nm,19.0s
SDCO Great Sand Dun 114.81 353 IAms_20 IAms_20 12 41 02.2
comp=Z,296nm,20.0s
Z47A Carrollton 114.98 336 IAms_20 IAms_20 12 38 42.6
comp=Z,363nm,20.0s
U32A Winter Ranch, 115.11 347 IAms_20 IAms_20 12 30 14.1
comp=Z,268nm,22.0s
MDPB Devils Postpil 115.24 4 IAms_20 IAms_20 12 37 51.6
comp=Z,221nm,20.0s
T25A Trinidad 115.28 352 IAms_20 IAms_20 12 41 15.5
comp=Z,358nm,20.0s
OK025 Westminster Rd 115.51 345 IAms_20 IAms_20 12 34 13.9
comp=Z,330nm,21.0s
MVCO Mesa Verde 115.63 355 IAms_20 IAms_20 12 35 42.4
comp=Z,354nm,22.0s
143A Socs Landing, 116.57 339 IAms_20 IAms_20 12 35 39.5
comp=Z,288nm,21.0s
SC01 Santiago de Io 117.42 313 IAms_20 IAms_20 12 17 54.5
comp=Z,234nm,21.0s
VNDA Vanda 117.71 166 PKKPbc PKKPbc 11 55 07.4 -0.5
comp=Z,0.9nm,0.8s,baz=96,slow=8.6,SNR=4.9
WHTX Lake Whitney, 118.97 344 IAms_20 IAms_20 12 40 02.6
comp=Z,279nm,18.0s
TKX Tecate 120.42 3 **PKPdf 11 44 49.8 -1.3**
TJX Tijuana 120.46 3 IAms_20 IAms_20 12 19 22.6
The comp=Z,301nm,19.0s
CBX Cerro Bola 120.67 3 **PKPdf 11 44 50.8 -0.9**
MNTX Cornudas Mount 120.76 351 PKPdf **PKPdf 11 44 51.2 -0.5**
JCT Junction City 120.97 346 PKIKP **PKPdf 11 44 52.1 -0.1**
JCT Junction City 120.97 346 PKPdf **PKPdf 11 44 52.0 -0.1**
TX31 Lajitas Ar. S **122.83 349** **PKPdf 11 44 54.9 -0.9**
TX32 Lajitas Array 122.83 349 **PKPdf 11 44 54.9 -0.9**
TXAR Lajitas Array 122.83 349 PKP **PKPdf 11 44 55.4 -0.4**
comp=Z,1.6nm,0.7s,baz=173,slow=1.7,SNR=20
HPIG 125.49 351 **PKPdf 11 45 00.2 -1.0**
AQDB Aquidauana 126.64 264 PKPdf **PKPdf 11 45 03.1 0.0**
CPUP Villa Florida 129.77 257 *eP* **PKPdf 11 45 08.9 0.0**
comp=Z,7.5nm,0.8s,baz=56,slow=3.3,SNR=10
CPUP Villa Florida 129.77 257 *eP* **PKiKP 11 45 09.4 -0.3**
ITQB Itaqui 129.94 253 **PKPdf 11 45 08.7 -0.4**
PETF Flores 130.20 329 **PKPdf 11 45 09.6 -0.5**
PMSA Palmer Station 131.10 206 *eP* **PKiKP 11 45 11.8 +0.7**
CMIG Matias Romero 132.13 335 PKP **PKiKP 11 45 15.1 +0.4**
comp=Z,3.4nm,0.8s,baz=103,slow=19,SNR=4.4
MTO3 Montecristo 132.14 327 IAms_20 IAms_20 12 48 32.0
comp=Z,227nm,22.0s
LPAZ La Paz 136.22 275 PKP **PKPdf 11 45 21.9 -0.2**
comp=Z,4.6nm,0.7s,baz=8.0,slow=4.2,SNR=12
PLCA Paso Flores 141.93 238 PKP **PKPdf 11 45 32.0 +0.8**
comp=Z,9.7nm,0.9s,baz=110,slow=5.2,SNR=6.6
NNA Nana 141.99 286*c i* PKIKP **PKiKP 11 45 36.3 +1.4**
NNA pmax pmax
comp=Z,40nm,1.3s
BO02 Sierra Bellavi 142.43 248 **PKPdf 11 45 31.6 -0.6**
PPT2 Papeete2 145.85 81 *e*LR LR 12 33 42.5
comp=Z,268nm,25.8s
PMOR Pomariorio Ree 146.24 76 *e*PKPbc **PKiKP 11 45 42.9 -0.6**
comp=Z,92nm,1.1s
VAH Vaihoa 146.57 76 *e*PKPbc **PKiKP 11 45 43.6 -0.6**
comp=Z,104nm,1.1s
TBI Tubuai 147.79 91 *e*LR LR 12 34 35.4
comp=Z,301nm,23.5s
TAOE Nuku Hiva Isla 149.25 58 *e*LR LR 12 35 19.0
comp=Z,261nm,23.6s

IDC 15 11:29:49.2±3.1, 12°.41N×46°.52E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/40, mbtmp3.9/3, MS4.4/1, Ms1 4.4/1, ms1mx3.3/26 Error ellipse: s-maj=90.9km s-min=44.9km az=19.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.70**	**257**	LR	LR	11 32 03.5	
	comp=Z,102nm,18.5s,baz=359,slow=36						
GERES	**GERESS Array B**	**45.36**	**330**	P	P	11 38 09.5	+0.1
	0.9nm,0.7s,baz=138,slow=8.6,SNR=1.7						
GERES				LR	LR	11 58 46.8	
	comp=Z,507nm,21.7s,baz=98,slow=38						
CMAR	**Chiang Mai Arr**	**50.75**	**76**	P	P	11 38 51.6	+0.2
	0.9nm,0.4s,baz=268,slow=8.7,SNR=2.6						
ZALV	**Zalesovo Beam**	**51.28**	**28**	P	P	11 38 54.5	-0.4
	1.7nm,0.6s,baz=224,slow=8.1,SNR=2.6						
NVAR	**Mina Array Bea**	**127.47**	**345**	PKP	PKPdf	11 48 56.5	-0.5
	0.8nm,0.8s,baz=352,slow=1.8,SNR=4.4						

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*NEIC **15** 11:34:57.5±1.3, 10°.60S±0°.09×161°.66E±0°.06, h35km±2km, mb4.6/20, Error ellipse: s-maj=17.7km s-min=6.0km az=153.0*

*IDC **15** 11:35:01.2±4.7, 10°.65S×161°.58E, h75km±35km, mb3.8/11, mb1 4.0/12, mb1mx3.8/35, mbtmp4.1/12, ML4.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/24, Error ellipse: s-maj=37.2km s-min=22.5km az=123.0*

ISC 15 11:34:59.9±0.6, 10°.7S±0°.1×161°.6E±0°.1, h61km, n40, n0 98/41, mb4.3/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.02**	**307**	P	**Pn**	**11 35 32.8**	**+1.2**
	160nm,0.3s,baz=176,slow=12,SNR=33						
HNR				S	**Sn**	**11 35 57.9**	**+2.1**
	130nm,0.3s,baz=72,slow=20,SNR=3.7						
HNR				LR	LR	11 36 39.6	
	comp=Z,294nm,18.2s,baz=108,slow=49						
HNR	**Honiara**	**2.02**	**307**	Pn	**Pn**	**11 35 32.0**	**+0.4**
MSVF	**Nonsavu**	**17.44**	**116**	LR	LR	11 44 17.6	
	comp=Z,94nm,20.0s,baz=191,slow=32						
WR0	**Warramunga Arr**	**27.64**	**247**	P	**P**	**11 40 42.3**	**+0.3**
WB0	**Warramunga Arr**	**27.72**	**248**	P	**P**	**11 40 43.1**	**+0.3**
WRA	**Warramunga Arr**	**27.81**	**247**	P	**P**	**11 40 43.9**	**+0.3**
	1.7nm,0.7s,baz=78,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**29.37**	**240**	P	**P**	**11 40 57.2**	**-0.2**
	0.5nm,0.6s,baz=64,slow=9.8,SNR=4.9						
TOO	**Toolangi**	**30.46**	**206**	P	**P**	**11 41 07.1**	**+0.2**
KAPI	**Kappang**	**41.79**	**274**	P	**P**	**11 42 43.5**	**-0.3**
KAPI				IAmb	IAmb	11 42 45.5	

comp=Z,23nm,1.1s
KSRS Korea Array 57.33 328 P **P 11 44 41.2 -0.5**
comp=Z,2.1nm,0.8s,baz=160,slow=8.7,SNR=5.9
USRK Ussuriysk Ar. 60.85 336 P **P 11 45 06.5 +0.5**
comp=Z,4.5nm,0.8s,baz=115,slow=7.5,SNR=6.8
USRK Ussuriysk Ar. 60.85 336 P **P 11 45 05.7 -0.3**
PETK Petropavlovsk- 63.60 357 P **P 11 45 24.1 -0.1**
comp=Z,3.0nm,0.9s,baz=151,slow=9.1,SNR=4.8
KIWB Kanaga Island 64.91 14 P **P 11 45 33.1 +0.4**
SLVN Son La 64.94 300 P **P 11 45 30.9 -2.8**
SBA Scott Base 67.23 179 P **P 11 45 48.1 +0.8**
SBA IAmb IAmb 11 45 49.6
comp=Z,4.9nm,1.4s
SONM Songino Array 75.98 325 P **P 11 46 40.5 -0.1**
comp=Z,1.8nm,0.7s,baz=134,slow=6.2,SNR=4.8
SONM Songino Array 75.98 325 P **P 11 46 39.3 -1.2**
OHAK Old Harbor 77.11 23 P **P 11 46 46.6 +0.1**
OHAK IAmb IAmb 11 46 58.5
comp=Z,14nm,1.4s
KDAK Kodiak Island 77.78 23 P **P 11 46 49.9 -0.3**
comp=Z,5.6nm,0.9s,baz=259,slow=3.7,SNR=4.7
KDAK Kodiak Island 77.78 23 P **P 11 46 50.3 +0.1**
SVW2 Sparrevohn 79.07 20 P **P 11 46 57.8 +0.5**
QSPA South Pole Qui 79.34 180 P **P 11 46 59.6 +0.6**
KTH Kantishna Hill 82.35 19 P **P 11 47 14.5 -0.4**
KTH IAmb IAmb 11 47 15.2
comp=Z,5.3nm,0.9s
RND Reindeer 82.94 20 P **P 11 47 17.6 -0.4**
MCK McKinley 83.13 20 P **P 11 47 18.3 -0.6**
IMAR Indian Mountai 83.20 17 P **P 11 47 19.6 +0.5**
MLY Manley 83.42 18 P **P 11 47 20.5 +0.1**
MLY IAmb IAmb 11 47 21.5
comp=Z,4.1nm,1.1s
NEA2 Nenana 83.66 19 P **P 11 47 20.9 -0.7**
NEA2 IAmb IAmb 11 47 21.6
comp=Z,3.7nm,0.9s
HDA Harding Lake 84.24 20 P **P 11 47 24.2 -0.2**
HDA IAmb IAmb 11 47 25.4
comp=Z,4.9nm,1.0s
ILAR Eielson Array 84.49 20 P **P 11 47 24.2 -1.5**
comp=Z,1.3nm,0.8s,baz=257,slow=4.6,SNR=7.2
ILAR Eielson Array 84.49 20 P **P 11 47 25.2 -0.5**
DOT Dot Lake 84.77 21 P **P 11 47 27.4 +0.1**
DOT IAmb IAmb 11 47 28.6
comp=Z,3.3nm,0.8s
L27K Beaver Creek, 85.24 22 P **P 11 47 30.6 +1.0**
L27K IAmb IAmb 11 47 32.0
comp=Z,5.1nm,1.2s
BCAR Beaver Creek A 85.26 22 P **P 11 47 30.6 +0.8**
EGAK Eagle 86.46 21 P **P 11 47 36.4 +0.9**
EGAK IAmb IAmb 11 47 37.2
comp=Z,6.7nm,1.1s
BMAR Burnt Mountain 86.88 18 P **P 11 47 38.7 +1.1**
NVAR Mina Array Bea 88.92 51 P **P 11 47 49.7 +1.5**
comp=Z,0.5nm,0.7s,baz=228,slow=6.8,SNR=4.3
NVAR pP **pP 11 48 07.4 +1.9**
comp=Z,0.6nm,0.8s,baz=236,slow=4.0,SNR=3.0
MKAR Makanchi Array 90.46 318 P **P 11 47 53.4 -1.6**
comp=Z,0.4nm,0.7s,baz=94,slow=6.2,SNR=3.0
YKA Yellowknife Ar 96.52 28 P **P 11 48 20.8 -1.6**
comp=Z,0.2nm,0.4s,baz=251,slow=3.8,SNR=3.9

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*NNC **15** 11:38:22.6±1.8, 43°.38N×81°.09E, h0km, mb2.4, mpv2.7, Error ellipse: s-maj=12.4km s-min=8.7km az=137.0*
SOME 15 11:38:21.9, 43°.47N×81°.17E, h10km, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.59**	**268**	*e*P	Pg	11 38 33.4	0.0
KTMS	7.0nm,0.1s			*e*S	Sg	11 38 41.6	+0.3
PDGK	**Podgornoye**	**1.23**	**264**	P	Pn	11 38 44.4	-0.9
PDGK	9.1nm,0.2s 2.0nm,0.4s			S	Sb	11 39 00.6	-0.7
PDGK	**Podgornoye**	**1.23**	**264**	⇓P	Pn	11 38 44.2	-1.1
PDGK	15nm,0.4s 3.9nm,0.7s			⇑S	Sb	11 39 00.7	-0.6
SHLS	**Shalkode**	**1.28**	**257**	*e*P	Pn	11 38 41.0	-5.0
SHLS	18nm,0.5s 5.1nm,0.2s			*e*S	Sb	11 38 54.8	-8.0
SHLS	**Shalkode**	**1.28**	**257**	P	Pn	11 38 41.1	-5.0
SHLS	18nm,0.5s 4.4nm,0.3s			S	Sb	11 38 55.0	-7.8
DJR	**Jarkent**	**1.32**	**311**	*e*P	Pn	11 38 46.5	0.0
DJR	18nm,0.5s 0.4nm,0.2s			*e*S	Sn	11 39 04.2	0.0
DJR	**Jarkent**	**1.32**	**311**	P	Pg	11 38 47.4	+0.2
DJR	0.8nm,0.4s 0.7nm,0.2s			S	Sg	11 39 05.9	+1.6
UZB	**Uzynbulak**	**1.60**	**259**	*e*P	Pb	11 38 51.5	-0.1
UZB	1.0nm,0.3s 4.2nm,0.9s			*e*S	Sg	11 39 12.9	-0.3
UZB	**Uzynbulak**	**1.60**	**259**	P	Pb	11 38 51.5	-0.1
UZB	9.6nm,0.5s 4.2nm,0.9s			S	Sg	11 39 13.0	-0.3
SATY	**Saty**	**2.06**	**260**	*e*P	Pb	11 38 59.7	+0.2
SATY	9.6nm,0.5s 4.2nm,0.5s			*e*S	Sg	11 39 27.2	-0.9
SATY	**Saty**	**2.06**	**260**	Pg	Pb	11 38 59.7	+0.2
SATY	6.9nm,0.4s 4.2nm,0.5s			Lg	Lg	11 39 27.2	
ARXS	**Arharly**	**2.53**	**288**	*e*P	Pb	11 39 07.6	+0.2
ARXS	6.9nm,0.4s 2.9nm,0.0s			*e*S	Sb	11 39 40.2	+1.6
	13nm,0.3s						

KRNET 15 11:39:15.5±0.1, 43°.38N×78°.75E, h18km, mb2.6, 6C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.93**	**196**	⇑*i*P	Pg	11 39 33.7	+0.1
PRZ	baz=97			⇑*i*S	Sg	11 39 45.9	0.0
ANVS	**Anan'yevo**	**0.99**	**234**	⇓*i*P	Pg	11 39 35.1	+0.3
ANVS	baz=34			⇓*i*S	Sn	11 39 48.6	+0.2
KDJ	**Kajisay**	**1.70**	**223**	⇓*i*P	Pb	11 39 47.2	+0.8
KDJ	baz=23			⇓*i*S	Sg	11 40 10.1	-0.3
ULHL	**Ulahol**	**2.17**	**239**	⇑*i*P	Pb	11 39 54.3	0.0
ULHL	baz=39			⇑*i*S	Sg	11 40 24.9	-0.3
BOOM	**Boomskoye usch**	**2.25**	**248**	⇑*i*P	Pb	11 39 56.1	+0.4
BOOM	baz=48			⇑*i*S	Sg	11 40 25.7	-2.2
	baz=48						

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*IDC **15** 12:01:16.9±1.7, 11°.86N×46°.38E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/48, mbtmp3.7/8, Error ellipse: s-maj=42.7km s-min=27.8km az=8.0*
ISC 15 12:01:18.4±1.4, 11°.9N±0°.2×46°.4E±0°.2, h10km, n8, σ1§08/8, mb3.8/8, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**29.96**	**340**	P	**Pn**	**12 07 28.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**43.61**	**277**	P	**Pn**	**12 09 23.6**	**+0.2**
GERES	**GERESS Array B**	**45.77**	**330**	P	**Pn**	**12 09 39.1**	**-1.2**
MKAR	**Makanchi Array**	**46.12**	**34**	P	**Pn**	**12 09 42.5**	**-0.5**
KURBB	**Kurchatov Arra**	**46.73**	**28**	P	**Pn**	**12 09 46.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**51.01**	**76**	P	**Pn**	**12 10 21.4**	**+0.3**
ZALV	**Zalesovo Beam**	**51.83**	**28**	P	**Pn**	**12 10 28.0**	**+1.4**
WRA	**Warramunga Arr**	**92.08**	**110**	P	**Pn**	**12 14 28.3**	**-0.2**

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*IDC **15** 12:10:42.0±1.4, 29°.67S×179°.16W, h339km±17km, mb3.0/2, mb1 3.3/4, mb1mx3.1/20, mbtmp4.0/4, Error ellipse: s-maj=40.9km s-min=28.1km az=125.0*
ISC 15 12:10:40.7±0.9, 29°.96S±0°.07×178°.7W±0°.2, h350km, n27, σ2§49/40, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.96**	**44**	P	**Pn**	**12 11 26.9**	**+0.5**
GLKZ				S	**S**	**12 12 02.6**	**-0.3**
RIZ	**Raoul Island**	**0.96**	**43**	P	**Pn**	**12 11 27.4**	**+1.0**
RAO	**Raoul Island**	**0.96**	**44**	P	**Pn**	**12 11 27.1**	**+0.7**
RAO	20nm,0.3s,baz=270,slow=23,SNR=1.4			S	**S**	**12 12 00.9**	**-2.1**
MXZ	**Matakaoa Point**	**7.99**	**197**	P	**Pn**	**12 12 36.9**	**+2.3**
WMGZ	**Waiomatatini S**	**8.21**	**196**	P	**Pn**	**12 12 36.7**	**-0.4**
WMGZ				S	S	12 14 07.4	-4.8
HAZ	**Te Kaha**	**8.32**	**200**	P	**Pn**	**12 12 37.0**	**-1.4**
HAZ				S	**S**	**12 14 11.3**	**-3.3**
PKGZ	**Pakihiroa**	**8.36**	**198**	S	**S**	**12 14 13.1**	**-2.5**
WCZ	**Waipu Caves**	**8.36**	**223**	P	**P**	**12 12 42.6**	**+0.8**
WCZ				S	**S**	**12 14 19.6**	**+4.0**
PUZ	**Puketiti**	**8.48**	**197**	P	**P**	**12 12 45.2**	**+2.0**
PUZ				S	**S**	**12 14 15.2**	**-3.1**
RUGZ	**Raukumara Rang**	**8.54**	**200**	P	**Pn**	**12 12 43.4**	**+2.1**
RUGZ				S	S	12 14 15.1	-4.6
TWGZ	**Tauwhareparae**	**8.65**	**198**	P	**Pn**	**12 12 43.7**	**+1.2**
TWGZ				S	**S**	**12 14 19.9**	**-2.2**
CNGZ	**Carnagh Statio**	**8.89**	**196**	P	**Pn**	**12 12 49.4**	**+4.2**
CNGZ				S	S	12 14 18.7	-8.4
MWZ	**Matawai**	**8.93**	**200**	P	**Pn**	**12 12 47.4**	**+1.6**
MWZ				S	S	12 14 23.2	-4.8
TKGZ	**Te Karaka**	**8.94**	**198**	P	**Pn**	**12 12 48.6**	**+2.8**
TKGZ				S	**S**	**12 14 24.4**	**-3.7**
URZ	**Urewera**	**8.99**	**202**	P	**Pn**	**12 12 49.1**	**+2.7**
URZ	1.7nm,0.3s,baz=41,slow=19,SNR=17			S	**S**	**12 14 26.1**	**-3.1**
URZ	**Urewera**	**8.99**	**202**	P	**Pn**	**12 12 48.4**	**+2.0**
URZ	2.0nm,0.3s,baz=0.0,slow=18,SNR=14			S	**S**	**12 14 26.1**	**-3.1**
RIGZ	**Rimuhau**	**9.21**	**198**	P	**Pn**	**12 12 51.1**	**+2.0**
RIGZ				S	S	12 14 29.2	-5.0
MUGZ	**Murupara**	**9.30**	**203**	P	**Pn**	**12 12 49.7**	**-0.5**
MUGZ				S	**S**	**12 14 34.7**	**-1.4**
SNGZ	**Shannon Statio**	**9.40**	**199**	P	**Pn**	**12 12 54.8**	**+3.5**
SNGZ				S	**S**	**12 14 34.3**	**-4.0**
MHGZ	**Mahia Peninsul**	**9.60**	**196**	P	**P**	**12 12 58.2**	**+2.7**
NMHZ	**Naumai**	**9.85**	**201**	P	**Pn**	**12 12 59.8**	**+3.0**
NMHZ				S	**S**	**12 14 45.6**	**-2.7**
ARHZ	**Aropaoanui**	**9.94**	**200**	P	**Pn**	**12 12 59.7**	**+1.9**
ARHZ				S	**S**	**12 14 46.3**	**-4.0**
MSVF	**Nonsavu**	**12.53**	**345**	P	**Pn**	**12 13 26.7**	**-2.2**
ASAR	0.7nm,0.3s,baz=149,slow=18,SNR=4.7 **Alice Springs**	**42.55**	**267**	P	**P**	**12 18 02.3**	**-1.2**
WRA	0.3nm,0.4s,baz=106,slow=8.3,SNR=5.4 **Warramunga Arr**	**43.49**	**272**	P	**P**	**12 18 09.6**	**-1.4**
FINES	1.1nm,0.4s,baz=108,slow=7.9,SNR=39 **FINESS Array B**	**144.53**	**340**	PKP	**PKPdf**	**12 29 35.8**	**+0.8**
AKASG	0.9nm,0.3s,baz=40,slow=3.6,SNR=12 **Malin Array Be**	**150.59**	**323**	PKPbc	**PKiKP**	**12 29 52.4**	**+0.7**
	0.3nm,0.3s,baz=54,slow=2.2,SNR=1.4						

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*IDC **15** 12:12:24.9±9.8, 20°.05S×177°.89W, h358km±104km, mb3.0/8, mb1 3.4/9, mb1mx3.2/22, mbtmp3.8/9, Error ellipse: s-maj=38.0km s-min=26.1km az=6.0*
ISC 15 12:12:28.6±0.8, 20°.1S±0°.1×178°.0W±0°.2, h400km, n11, σ1§13/10, mb3.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**302**	P	**Pn**	**12 13 44.5**	**-0.3**
AFI	2.3nm,0.3s,baz=232,slow=21,SNR=11 **Afiamalu**	**8.58**	**45**	P	Pn	12 14 20.2	-10
AFI	1.9nm,0.3s,baz=280,slow=18,SNR=2.3			S	S	12 15 48.8	-21
URZ	1.2nm,0.3s,baz=262,slow=19,SNR=2.1 **Urewera**	**18.58**	**192**	P	**P**	**12 16 18.0**	**-1.1**
ASAR	0.4nm,0.3s,baz=311,slow=15,SNR=1.1 **Alice Springs**	**44.59**	**256**	P	**P**	**12 20 04.7**	**+1.3**
WRA	1.0nm,0.5s,baz=94,slow=8.3,SNR=13 **Warramunga Arr**	**44.64**	**262**	P	**P**	**12 20 04.3**	**+0.5**
VNDA	0.3nm,0.4s,baz=95,slow=6.8,SNR=4.9 **Vanda**	**58.30**	**185**	P	**P**	**12 21 42.8**	**+0.1**
PETK	0.5nm,0.6s,baz=38,slow=3.7,SNR=2.9 **Petropavlovsk-**	**75.89**	**345**	P	**P**	**12 23 32.1**	**0.0**
NVAR	0.8nm,0.6s,baz=121,slow=6.9,SNR=2.0 **Mina Array Bea**	**80.75**	**43**	P	**P**	**12 23 59.8**	**+0.7**
TXAR	0.4nm,0.5s,baz=221,slow=6.7,SNR=4.7 **Lajitas Array**	**86.86**	**57**	P	**P**	**12 24 31.1**	**+1.4**
ILAR	0.2nm,0.7s,baz=238,slow=5.2,SNR=2.8 **Eielson Array**	**87.94**	**13**	P	**P**	**12 24 32.1**	**-1.7**
PDAR	0.2nm,0.4s,baz=216,slow=4.5,SNR=2.3 **Pinedale Array**	**88.69**	**43**	P	**P**	**12 24 37.6**	**-0.6**
	0.2nm,0.6s,baz=260,slow=5.4,SNR=1.9						

IDC 15 12:15:52.0±2.3, 6°.33S×129°.53E, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.5/30, mbtmp3.6/3, ML4.1/2, Error ellipse: s-maj=163.5km s-min=31.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.32**	**161**	Pn	Pn	12 19 16.1	-0.1
WRA	1.0nm,0.3s,baz=344,slow=12,SNR=47			Sn	Sn	12 21 42.9	-13
ASAR	0.5nm,0.3s,baz=352,slow=24,SNR=3.1 **Alice Springs**	**17.75**	**167**	P	Pn	12 20 00.6	-0.1
ASAR	0.4nm,0.3s,baz=346,slow=10,SNR=5.5			S	Sn	12 23 06.0	-13
MKAR	0.1nm,0.3s,baz=0.0,slow=25,SNR=3.2 **Makanchi Array**	**67.41**	**327**	P	P	12 26 49.5	+0.1
	0.6nm,0.5s,baz=131,slow=6.6,SNR=7.9						

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*SLM **15** 12:21:13.3±0.8, 36°.538N±0°.008×89°.620W±0°.007, h7km±3km, Md2.5/11, mb_Lg2.1/14(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=197.0*
NEIC 15 12:21:13.3±0.7, 36°.540N±0°.008×89°.610W±0°.008, h13km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=200.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEM	**New Madrid Sch**	**0.04**	**30**		Pg	12 21 16.8	+1.1
MARMO	**Marston**	**0.05**	**258**		Pg	12 21 16.6	+0.9
WALK	**Watson Lake**	**0.05**	**91**		Pg	12 21 15.3	-0.5
NMMO	**New Madrid**	**0.07**	**44**		Pg	12 21 15.6	-0.4
CATM	**Catron**	**0.08**	**337**		Pg	12 21 17.6	+1.6
PENMO	**Penman**	**0.09**	**189**	Pg	Pg	12 21 15.6	-0.6
PENMO					Sg	12 21 17.7	-0.5
PGVM	**Portageville**	**0.12**	**230**		Pg	12 21 16.1	-0.5
POBM	**Portage Bay**	**0.14**	**198**		Pg	12 21 16.4	-0.4
PPLM	**Point Pleasant**	**0.14**	**171**		Pg	12 21 16.4	-0.3
PPLM					Sg	12 21 19.2	0.0
SJMO	**Saint John's B**	**0.14**	**50**		Pg	12 21 16.7	-0.1
SJMO					Sg	12 21 19.5	+0.3
KEWM	**Kewanee**	**0.16**	**5**		Pg	12 21 16.9	-0.1
KEWM					Sg	12 21 19.9	+0.2
PARMO	**Parma**	**0.17**	**317**	Pg	Pg	12 21 17.1	-0.2
PARMO					Sg	12 21 20.0	0.0
COKM	**Charter Oak**	**0.19**	**331**		Pg	12 21 17.6	0.0
COKM					Sg	12 21 20.9	+0.2
HENM	**Henderson Moun**	**0.21**	**32**		Pg	12 21 17.6	-0.3
WYBT	**Wynnburg**	**0.21**	**155**		Pg	12 21 17.9	-0.1
WYBT					Sg	12 21 21.6	+0.5
TOPM	**Tallapoosa**	**0.23**	**266**		Pg	12 21 17.9	-0.2
WADM	**Wardell**	**0.23**	**221**		Pg	12 21 18.0	-0.2
WADM					Sg	12 21 21.6	+0.1
MATM	**Matthews**	**0.23**	**1**		Pg	12 21 18.4	0.0
MATM					Sg	12 21 22.2	+0.4
FLPT	**Flippin**	**0.27**	**119**		Pg	12 21 18.9	0.0
EPRM	**East Prairie**	**0.27**	**49**		Pg	12 21 18.9	0.0
DWDM	**Dogwood**	**0.27**	**20**		Pg	12 21 19.0	0.0
DWDM					Sg	12 21 23.4	+0.5
HICK	**Hickman**	**0.31**	**90**		Pg	12 21 19.6	0.0
GLAT	**Glass**	**0.38**	**136**		Pg	12 21 20.8	0.0
LNXT	**Lenox**	**0.45**	**168**		Pg	12 21 22.0	-0.2
PEBM	**Pemiscott Bayo**	**0.47**	**206**		Pg	12 21 22.2	-0.4
GNAR	**Gosnell**	**0.66**	**210**		Pg	12 21 26.1	-0.1
GNAR				Sg	Sg	12 21 35.2	+0.3
HALT	**Halls**	**0.67**	**161**		Pg	12 21 26.1	-0.2
PBMO	**Poplar Bluff**	**0.70**	**290**		Pg	12 21 26.5	-0.5
CGM3	**Cape Girardeau**	**0.76**	**357**		Pg	12 21 27.7	-0.3
T45A	**Paducah**	**0.91**	**58**	Pg	Pg	12 21 30.1	-0.8
LPAR	**Lepanto**	**1.09**	**211**	Pg	Pb	12 21 33.2	-0.8
S44A	**Carbondale**	**1.19**	**14**	Pg	Pn	12 21 35.6	0.0
SIUC	**Southern Illin**	**1.21**	**15**	IAmb_Lg		12 21 52.2	
	comp=Z,11nm,0.7s						
HBAR	**Harrisburg**	**1.30**	**221**		Pn	12 21 36.9	-0.2
LCAR	**Lake Charles**	**1.33**	**250**		Pn	12 21 37.2	-0.4
EBZ	**Ebenezer Churc**	**1.41**	**171**		Pb	12 21 39.4	-0.1
WVT	**Waverly**	**1.49**	**105**		Pb	12 21 40.6	-0.3
CCM	**Cathedral Cave**	**2.00**	**320**		Pb	12 21 48.5	-1.0
CCM				IAmb_Lg		12 22 18.5	
	comp=Z,8.9nm,0.8s						
PWLA	**Pickwick Lake**	**2.00**	**141**		Pb	12 21 48.2	-1.4
NHIN	**New Harmony**	**2.07**	**40**		Pn	12 21 47.9	+0.1
FCAR	**Ozark Folk Cen**	**2.13**	**253**	IAmb_Lg		12 22 26.4	
	comp=Z,6.6nm,0.8s						
MGMO	**Mountain Grove**	**2.22**	**287**	Pn	Pb	12 21 52.2	-1.1
MGMO				IAmb_Lg		12 22 27.3	
	comp=Z,6.4nm,0.8s						
Q44A	**Meyer Farm, Va**	**2.41**	**11**	IAmb_Lg		12 22 35.9	
	comp=Z,6.0nm,0.9s						
W39A	**Magazine**	**3.65**	**250**	IAmb_Lg		12 23 13.5	
	comp=Z,4.7nm,0.9s						
Y49A	**Blount Mountai**	**3.74**	**135**	IAmb_Lg		12 23 14.1	
	comp=Z,8.9nm,1.3s						
MIAR	**Mount Ida**	**3.80**	**240**	Pn	Pn	12 22 12.0	+0.5
143A	**Socs Landing,**	**4.10**	**202**	IAmb_Lg		12 23 21.5	
	comp=Z,7.7nm,0.7s						

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*IDC **15** 12:51:30.4±1.5, 61°.35N×150°.99W, h42km±16km, mb3.6/8, mb1 3.8/13, mb1mx3.5/53, mbtmp3.7/13, ML3.3/5, Error ellipse: s-maj=20.2km s-min=9.8km az=106.0*
*NEIC **15** 12:51:31.9±1.6, 61°.37N±0°.01×150°.66W±0°.05, h55km±7km, Error ellipse: s-maj=3.9km s-min=1.3km az=63.0*
*ANF **15** 12:51:31.7±0.1, 61°.30N×150°.63W, h48km±3km, ML3.9/57, Error ellipse: s-maj=1.6km s-min=1.6km az=169.0*
*NEIC **15** 12:51:32, 61°.46N×150°.45W, h58km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.73; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$0.80; $M_{r\theta}$-0.25; $M_{\theta\phi}$2.27; $M_{\phi r}$4.94; Fault plane solution: $M_0$5.50000×10^{14} NP1:ϕ_s80.00000°, δ25.00000°, λ-10.00000°. NP2:ϕ_s179.00000°, δ86.00000°, λ-115.00000°. Principal axes: T 5.4961, Plg36.0000°, Azm290.0000°; N 0.0007, Plg25.0000°, Azm181.0000°; P -5.4968, Plg44.0000°, Azm65.0000°;*
*AEIC **15** 12:51:32±2.3, 61°.39N±0°.03×150°.56W±0°.04, h58km±6km, ML3.5, ML3.7/126(NEIC), Mwr3.8/9(SLM) Error ellipse: s-maj=3.9km s-min=2.7km az=207.0*
ISC 15 12:51:31.9±0.8, 61°.33N±0°.02×150°.63W±0°.02, h54km±5km, n228, σ0§87/252, mb3.7/9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.15**	**339**	P	**Pn**	**12 51 40.0**	**-0.5**
SUA	baz=130,SNR=1000			S	**Sn**	**12 51 46.7**	**0.0**
SUA	**Susitna One**	**0.15**	**339**		**Pn**	**12 51 40.0**	**-0.5**
SUA	baz=130				**Sn**	**12 51 46.7**	**0.0**
SUA				IAML		12 51 47.4	
	comp=N,8μm,0.5s						
FIS	**Fire Island**	**0.27**	**132**		**Pn**	**12 51 41.4**	**+0.3**
FIS				IAML		12 52 03.4	
	comp=N,4μm,0.5s						
RC01	**Rabbit Creek A**	**0.49**	**118**	P	**Pn**	**12 51 42.7**	**-0.6**
	baz=308,SNR=260						
RC01	**Rabbit Creek A**	**0.49**	**118**		**Pn**	**12 51 42.7**	**-0.6**
RC01					**Sn**	**12 51 52.2**	**+0.6**
RC01				IAML		12 51 52.8	
	comp=N,5μm,0.3s						
RC01				IAML		12 51 53.0	
	comp=E,3μm,0.3s						
STLK	**Strandline Lak**	**0.60**	**287**		**Pn**	**12 51 44.2**	**-0.4**
CAPN	**Captain Cook N**	**0.61**	**205**	P	**Pn**	**12 51 45.7**	**+1.1**
	baz=24,SNR=9.7						
CAPN	**Captain Cook N**	**0.61**	**205**		**Pn**	**12 51 45.7**	**+1.1**
CAPN					**Sn**	**12 51 56.0**	**+2.1**
SPCG	**Spurr Capps Gl**	**0.67**	**268**		**Pn**	**12 51 44.9**	**-0.7**
SPCG					**Sn**	**12 51 55.3**	**-0.2**
SPU	**Mount Spurr**	**0.70**	**259**		**Pn**	**12 51 45.2**	**-0.6**
SPCP	**Crater Peak Br**	**0.74**	**266**		**Pn**	**12 51 45.8**	**-0.6**
CRP	**Crater Peak**	**0.74**	**266**		**Pn**	**12 51 45.9**	**-0.5**
CRP					**Sn**	**12 51 56.7**	**-0.3**
SPCN	**Chakachatna No**	**0.76**	**263**		**Pn**	**12 51 46.0**	**-0.5**
SPCN					**Sn**	**12 51 57.4**	**+0.2**
SPCR	**Spurr Chakacha**	**0.77**	**261**	P	**Pn**	**12 51 46.0**	**-0.8**
SPCR	baz=76,SNR=116			S	**Sn**	**12 51 56.9**	**-0.8**
	baz=76						
SPCR	**Spurr Chakacha**	**0.77**	**261**		**Pn**	**12 51 45.9**	**-0.8**
SKT	**Skwentna**	**0.79**	**327**	P	**Pn**	**12 51 46.2**	**-0.7**
SKT	baz=142,SNR=270			S	**Sn**	**12 51 57.4**	**-0.5**
	baz=142						
SKT	**Skwentna**	**0.79**	**327**		**Pn**	**12 51 46.2**	**-0.7**
SKT					**Sn**	**12 51 57.3**	**-0.5**
SKT				IAML		12 51 58.1	
	comp=E,2μm,0.3s						
SPBG	**Spurr Blockage**	**0.84**	**266**		**Pn**	**12 51 47.0**	**-0.7**
SLKM	**Skilak Lake**	**0.84**	**166**		**Pn**	**12 51 47.0**	**-0.6**
GHO	**Glory Hole Cre**	**0.93**	**61**		**Pn**	**12 51 48.5**	**-0.4**
GHO					**Sn**	**12 52 01.6**	**+0.3**
O22K	**Cooper Landing**	**0.96**	**152**	P	**Pn**	**12 51 48.8**	**-0.3**
	baz=336,SNR=48						
O22K	**Cooper Landing**	**0.96**	**152**		**Pn**	**12 51 49.4**	**+0.3**
O22K					**Sn**	**12 52 02.9**	**+1.2**
KNK	**Knik Glacier**	**1.05**	**84**	P	**Pn**	**12 51 50.4**	**0.0**
	baz=270,SNR=104						
KNK	**Knik Glacier**	**1.05**	**84**		**Pn**	**12 51 50.7**	**+0.3**
CUT	**Chulitna**	**1.10**	**9**	P	**Pn**	**12 51 50.5**	**-0.4**
	baz=188,SNR=36						
CUT				S	**Sn**	**12 52 05.3**	**+0.2**
	baz=188						
CUT	**Chulitna**	**1.10**	**9**		**Pn**	**12 51 50.6**	**-0.4**
CUT				IAML		12 52 08.2	
	comp=N,1μm,0.4s						
CUT				IAML		12 52 09.8	
	comp=E,2μm,0.3s						
SML	**Sawmill**	**1.20**	**65**	P	**Pn**	**12 51 52.2**	**-0.2**
	baz=250,SNR=67						
SML	**Sawmill**	**1.20**	**65**		**Pn**	**12 51 52.3**	**-0.2**
PWL	**Port Wells**	**1.21**	**112**		**Pn**	**12 51 52.3**	**-0.2**
PWL					**Sn**	**12 52 08.3**	**+0.4**
PWL				IAML		12 52 11.0	
	comp=E,2μm,0.3s						
PWL				IAML		12 52 11.1	
	comp=N,2μm,0.5s						
DFR	**Drift River**	**1.24**	**235**		**Pn**	**12 51 52.7**	**-0.3**
DFR					**Sn**	**12 52 09.0**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.29**	**236**		**Pn**	**12 51 53.4**	**-0.3**
RDJH					**Sn**	**12 52 10.3**	**+0.4**
RSO	**Redoubt South**	**1.35**	**231**		**Pn**	**12 51 54.0**	**-0.6**
SEW	**Seward**	**1.35**	**154**	P	**Pn**	**12 51 54.1**	**-0.3**
	baz=337,SNR=45						
SEW	**Seward**	**1.35**	**154**

comp=N,1µm,0.7s
HUR Hurricane 1.72 15 Pn 12 51 59.5 0.0
WAT7 Susitna Watana 1.73 28 Pn 12 51 59.5 -0.1
PPLA Purkeypile 1.74 336 P **Pn 12 51 59.6 -0.2**
baz=153,SNR=41
PPLA S **Sn 12 52 21.7 +0.8**
baz=153
PPLA Purkeypile 1.74 336 Pn 12 51 59.9 +0.1
HOM Homer 1.75 197 P **Pn 12 51 59.6 -0.1**
baz=16,SNR=9.9
HOM Homer 1.75 197 Pn 12 52 00.7 +1.0
HOM IAML 12 52 40.1
comp=N,1µm,0.5s
IVE Iliamna Volcan 1.76 223 Pn 12 52 00.1 0.0
GLI Glacier Island 1.77 103 P **Pn 12 51 58.9 -1.2**
baz=288,SNR=72
GLI Glacier Island 1.77 103 Pn 12 51 58.9 -1.2
GLI IAML 12 52 22.1
comp=E,1µm,0.7s
GLI IAML 12 52 31.3
comp=N,976nm,0.7s
WAT1 Susitna Watana 1.80 32 P **Pn 12 52 00.3 -0.2**
baz=214
WAT1 Susitna Watana 1.80 32 Pn 12 52 00.1 -0.4
ILS Iliamna Low So 1.82 222 Pn 12 52 01.7 +0.8
CNPM China Poot 1.83 190 Pn 12 52 00.7 -0.3
CNPM IAML 12 52 28.8
comp=E,554nm,0.5s
CNPM IAML 12 52 30.2
comp=N,674nm,0.6s
WAT6 Susitna Watana 1.86 46 P **Pn 12 52 01.2 -0.2**
baz=230,SNR=30
M19K Big River Lodg 1.89 290 Pn 12 52 01.4 -0.3
N19K Bonanza Creek 1.94 256 P **Pn 12 52 02.3 -0.2**
baz=71,SNR=33
N19K S **Sn 12 52 25.9 +0.1**
baz=71
N19K Bonanza Creek 1.94 256 Pn 12 52 02.4 -0.2
JPK Jack Peak 1.97 96 Pn 12 52 02.0 -0.9
VMT TAPS Tl Valdez 2.08 95 Pn 12 52 03.8 -0.5
FID Port Fidalgo 2.10 104 Pn 12 52 02.8 -1.8
FID IAML 12 52 30.5
comp=N,680nm,0.4s
FID IAML 12 52 41.5
comp=E,841nm,0.5s
OPT Oil Point 2.11 219 Pn 12 52 06.2 +1.4
P19K Oil Pt 2.11 219 P **Pn 12 52 05.8 +1.0**
baz=36,SNR=37
P19K Oil Pt 2.11 219 Pn 12 52 06.0 +1.2
O19K Port Alsworth 2.14 240 P **Pn 12 52 04.7 -0.3**
baz=55,SNR=11
O19K Port Alsworth 2.14 240 Pn 12 52 04.8 -0.3
TRF Thorofare Moun 2.14 4 P **Pn 12 52 05.9 +0.6**
baz=184,SNR=27
TRF Thorofare Moun 2.14 4 Pn **Pn 12 52 05.8 +0.6**
TRF IAML 12 52 40.0
comp=E,339nm,0.8s
TRF IAML 12 52 47.8
comp=N,442nm,0.5s
L19K White Mountain 2.18 295 P **Pn 12 52 05.7 -0.1**
baz=109,SNR=137
L19K White Mountain 2.18 295 Pn 12 52 05.6 -0.1
HIN Hinchinbrook I 2.23 113 Pn 12 52 05.0 -1.3
HIN IAML 12 52 43.6
comp=E,453nm,1.0s
HIN IAML 12 52 50.1
comp=N,461nm,1.1s
KTH Kantishna Hill 2.24 357 Pn 12 52 07.4 +0.9
KTH IAML 12 52 35.6
comp=E,323nm,0.6s
KTH IAML 12 52 36.2
comp=N,307nm,0.5s
RND Reindeer 2.25 21 Pn 12 52 06.5 -0.2
M24K Tolsona, Glenn 2.26 68 P **Pn 12 52 07.3 +0.5**
baz=253,SNR=182
M24K Tolsona, Glenn 2.26 68 Pn 12 52 07.4 +0.5
M24K IAML 12 52 41.9
comp=N,630nm,0.9s
M24K IAML 12 52 44.8
comp=E,661nm,0.8s
KLU Klutina 2.27 84 P **Pn 12 52 06.2 -0.8**
baz=270,SNR=71
KLU Klutina 2.27 84 Pn 12 52 06.2 -0.8
KLU IAML 12 52 42.7
comp=N,581nm,0.4s
KLU IAML 12 52 42.9
comp=E,474nm,0.4s
DIV Divide 2.36 93 Pn 12 52 07.5 -0.7
AU22 Augustine Moun 2.38 216 Pn 12 52 09.5 +1.1
AUL Augustine Lava 2.40 217 Pn 12 52 09.6 +1.0
SVW2 Sparrevohn 2.41 267 Pn 12 52 08.3 -0.5
AUQ Augustine Qik' 2.41 216 Pn 12 52 10.2 +1.3
AGU Augustine-Summ 2.41 216 Pn 12 52 10.2 +1.3
AUCH Augustine Cone 2.42 217 Pn 12 52 10.1 +1.2
AUW Augustine West 2.42 217 Pn 12 52 10.1 +1.2
EYAK Cordova Ski Ar 2.51 106 P **Pn 12 52 08.6 -1.5**
baz=292,SNR=20
EYAK Cordova Ski Ar 2.51 106 Pn 12 52 08.6 -1.5
MCK McKinley 2.54 17 P **Pn 12 52 11.1 +0.5**
baz=199,SNR=35
MCK McKinley 2.54 17 Pn 12 52 11.3 +0.7
PS11 TAPS Pump St11 2.57 71 Pn 12 52 11.0 0.0
K20K Telida 2.59 323 P **Pn 12 52 11.4 0.0**
baz=139,SNR=108
K20K Telida 2.59 323 Pn 12 52 11.3 0.0
N18K Kilae Creek 2.64 258 P **Pn 12 52 11.6 -0.5**
baz=72,SNR=39
N18K Kilae Creek 2.64 258 Pn 12 52 11.5 -0.5
PS12 TAPS Pump St12 2.65 84 Pn 12 52 11.6 -0.5
CHUM Lake Minchumin 2.68 344 P **Pn 12 52 12.6 +0.1**
baz=161,SNR=90
CHUM S **Sn 12 52 43.6 -0.2**
baz=161
CHUM Lake Minchumin 2.68 344 Pn 12 52 12.4 -0.1
O18K Koktuh Hills 2.70 239 P **Pn 12 52 12.2 -0.5**
baz=54,SNR=18
O18K Koktuh Hills 2.70 239 Pn 12 52 12.3 -0.5
BPAW Bear Paw Mtn. 2.79 357 P **Pn 12 52 14.2 +0.2**
baz=176,SNR=17
BPAW Bear Paw Mtn. 2.79 357 Pn 12 52 13.8 -0.3
HARP HAARP 2.81 65 P **Pn 12 52 14.7 +0.4**
baz=251,SNR=68
HARP HAARP 2.81 65 Pn 12 52 14.5 +0.2
MID Middleton Isla 2.86 130 Pn 12 52 14.5 -0.4
MID IAML 12 53 09.7
comp=N,198nm,1.3s
MID IAML 12 53 19.4
comp=E,190nm,0.9s
BWN Browne 2.91 10 Pn 12 52 17.1 +1.5
BWN IAML 12 53 19.1
comp=E,317nm,0.7s
BWN IAML 12 53 19.2
comp=N,407nm,0.8s
N25K Chitina, Valde 2.91 82 P **Pn 12 52 14.7 -1.0**
baz=268,SNR=52
N25K Chitina, Valde 2.91 82 Pn 12 52 14.8 -1.0
N25K IAML 12 52 59.3
comp=E,200nm,0.6s
N25K IAML 12 53 01.3
comp=N,334nm,0.4s
PAX Paxson 2.93 53 P **Pn 12 52 16.4 +0.4**
baz=239,SNR=60
PAX Paxson 2.93 53 Pn 12 52 16.1 +0.1
BMRM Bremner River 2.94 94 P **Pn 12 52 14.6 -1.6**
baz=281,SNR=79
BMRM Bremner River 2.94 94 Pn 12 52 15.1 -1.0
BMRM IAML 12 52 59.7
comp=E,354nm,0.5s
TT01 Tatalina 2.99 304 Pn 12 52 16.3 -0.4
HMT Hamilton 3.27 105 Pn 12 52 18.7 -2.0
GLB Gilahina Butte 3.29 85 Pn 12 52 19.5 -1.3
GLB IAML 12 53 13.2
comp=N,207nm,0.4s
GLB IAML 12 53 21.2
comp=E,143nm,0.7s
J20K Nowinta River 3.29 332 P **Pn 12 52 20.6 -0.2**
baz=148,SNR=76
J20K Nowinta River 3.29 332 Pn 12 52 20.2 -0.6
NEA2 Nenana 3.36 12 P **Pn 12 52 21.5 -0.3**
baz=193,SNR=16
NEA2 Nenana 3.36 12 Pn 12 52 20.9 -0.8
WRH Wood River Hil 3.37 19 Pn 12 52 22.9 +1.0
NICHA Nichawak Mount 3.45 106 Pn 12 52 20.9 -2.1
VRDI Verde Repeater 3.47 88 Pn 12 52 22.3 -1.1
VRDI IAML 12 53 19.6
comp=N,105nm,0.6s
HDA Harding Lake 3.53 27 P **Pn 12 52 24.2 +0.2**
baz=210,SNR=20
HDA Harding Lake 3.53 27 Pn 12 52 24.6 +0.5
HDA IAML 12 53 23.4
comp=N,248nm,0.7s
HDA IAML 12 53 24.2
comp=E,174nm,1.2s
CCB Clear Creek Bu 3.58 20 Pn 12 52 26.2 +1.5
SUCK Suckling Hills 3.60 107 Pn **Pn 12 52 23.0 -2.0**
SUCK IAML 12 53 27.2
comp=E,91nm,0.6s
SUCK IAML 12 53 32.4
comp=N,129nm,0.7s
RIDG Independent Ri 3.61 45 P **Pn 12 52 26.4 +1.0**
baz=231,SNR=42
RIDG Independent Ri 3.61 45 Pn 12 52 26.5 +1.2
RIDG IAML 12 53 16.7
comp=E,180nm,0.8s
RIDG IAML 12 53 20.1
comp=N,205nm,0.7s
MENT Mentasta 3.63 60 Pn 12 52 25.7 +0.2
MCARA McCarthy VSAT 3.67 86 P **Pn 12 52 25.9 -0.1**
baz=274,SNR=8.9
MCARA McCarthy VSAT 3.67 86 Pn 12 52 26.1 +0.1
PS08 TAPS Pump Stn8 3.67 27 Pn 12 52 26.1 0.0
CRQM Cirque 3.69 96 Pn 12 52 26.1 -0.4
CRQM IAML 12 53 31.0
comp=N,216nm,0.7s
KDAK Kodiak Island 3.69 196 P **Pn 12 52 25.0 -1.3**
comp=N,0.6nm,0.3s,baz=70,slow=6.6,SNR=47
KDAK S **Sn 12 53 06.2 -2.3**
comp=N,4.8nm,0.3s,baz=26,slow=16,SNR=5.7
KDAK Lg Lg 12 53 18.7
comp=N,8.1nm,0.3s,baz=276,slow=19,SNR=4.1
KDAK Kodiak Island 3.69 196 Pn 12 52 27.1 +0.8
CRQE Cirque 3.71 96 P **Pn 12 52 25.6 -1.1**
baz=283,SNR=39
KHIT Khitrov Hills 3.72 101 Pn 12 52 25.7 -1.1
MLY Manley 3.72 359 P **Pn 12 52 27.1 +0.3**
baz=179,SNR=36
MLY Manley 3.72 359 Pn 12 52 27.1 +0.3
GRIN Grindle Hills 3.73 103 Pn 12 52 25.2 -1.8
KVTA Katmai Vly 10 3.77 221 Pn 12 52 28.0 +0.5
M26K Nabesna, AK 3.77 70 Pn 12 52 27.2 -0.3
TCOL CIGO, UAF Yank 3.78 18 P **Pn 12 52 28.4 +0.9**
baz=201,SNR=9.5
TCOL S **Sn 12 53 12.3 +1.7**
baz=201
TCOL CIGO, UAF Yank 3.78 18 Pn 12 52 27.2 -0.3
COLA College 3.78 18 P **Pn 12 52 28.3 +0.8**
baz=201
COLA College 3.78 18 Pn 12 52 28.0 +0.5
MDM Murphy Dome 3.81 16 Pn 12 52 27.8 -0.1
L26K Log Cabin Wild 3.82 60 P **Pn 12 52 28.3 +0.2**
baz=247,SNR=27
DOT Dot Lake 3.84 50 Pn 12 52 28.7 +0.4
TGL Tana Glacier 3.84 95 Pn 12 52 28.7 +0.2
TGL IAML 12 53 33.9
comp=N,198nm,0.6s
IL31 3.86 25 Pn 12 52 29.0 +0.5
ILAR Eielson Array 3.86 25 P **Pn 12 52 27.7 -0.9**
comp=N,2.4nm,0.3s,baz=210,slow=14,SNR=36
ILAR S **Sn 12 53 13.1 +0.6**
comp=N,4.1nm,0.3s,baz=202,slow=23,SNR=3.5
ILAR Lg Lg 12 53 28.8
comp=N,9.2nm,0.3s,baz=193,slow=28,SNR=4.9
ILAR Eielson Array 3.86 25 Pn **Pn 12 52 28.3 -0.3**
KELA Mount Kelaz 3.87 224 Pn 12 52 29.5 +0.6
I23K Minto, Yukon-K 3.88 8 P **Pn 12 52 28.9 0.0**
baz=189,SNR=30
I23K Minto, Yukon-K 3.88 8 Pn 12 52 28.5 -0.4
KABR Katmai Barrier 3.88 216 Pn 12 52 29.4 +0.4
WAX Waxell Ridge 3.90 100 Pn 12 52 28.2 -1.1
WAX IAML 12 53 39.8
comp=E,172nm,0.7s
I21K Tanana 3.92 352 P **Pn 12 52 29.6 +0.2**
baz=170,SNR=41
I21K Tanana 3.92 352 Pn 12 52 29.5 +0.2
PTPK Patty Peak 3.95 88 Pn 12 52 29.0 -1.0
BALM Baldy 4.02 90 Pn 12 52 29.8 -1.2
KULT Kultieth River 4.03 102 Pn 12 52 29.2 -1.8
KIAG Kiagna River 4.03 92 Pn 12 52 30.5 -0.7
SCRK Sand Creek 4.06 46 P **Pn 12 52 31.3 -0.2**
baz=232,SNR=15
SCRK Sand Creek 4.06 46 Pn 12 52 31.6 +0.1
SCRK IAML 12 53 36.9
comp=N,73nm,1.0s
SCRK IAML 12 53 43.5
comp=E,102nm,0.6s
POKR Poker Plat Res 4.07 19 P **Pn 12 52 31.8 +0.2**
baz=202
POKR Poker Plat Res 4.07 19 Pn 12 52 31.0 -0.6
ISLE Juniper Island 4.11 97 Pn 12 52 31.8 -0.4
ISLE IAML 12 53 37.3
comp=E,115nm,0.7s
BAGL Bagley Icefiel 4.25 98 Pn 12 52 33.4 -0.6
M27K Edge Creek, AK 4.28 72 Pn 12 52 34.5 0.0
OHAK Old Harbor 4.33 199 P **Pn 12 52 34.4 -0.7**
baz=17
OHAK Old Harbor 4.33 199 Pn 12 52 35.1 0.0
OHAK IAML 12 53 40.0
comp=N,84nm,0.7s
OHAK IAML 12 53 42.2
comp=E,62nm,0.9s
BARN Barnard Glacie 4.35 90 Pn 12 52 35.8 +0.2
BARN IAML 12 53 48.1
comp=N,80nm,0.7s
BARN IAML 12 53 51.5
comp=E,72nm,0.5s
MESA MESA 4.41 101 P **Pn 12 52 35.4 -1.0**
baz=290
MESA MESA 4.41 101 Pn 12 52 34.9 -1.5
MESA IAML 12 53 53.0
comp=E,111nm,0.5s
YAH Yahtse 4.45 99 Pn 12 52 37.3 +0.3
YAH IAML 12 53 49.0
comp=E,63nm,0.7s
YAH IAML 12 53 52.6
comp=N,68nm,0.7s
H21K Melozitna Rive 4.46 348 P **Pn 12 52 36.7 -0.1**
baz=166
H21K Melozitna Rive 4.46 348 Pn 12 52 36.9 0.0
L27K Beaver Creek, 4.48 63 P **Pn 12 52 36.7 -0.5**
baz=252,SNR=11
L27K Beaver Creek, 4.48 63 Pn 12 52 37.2 +0.1
BC03 4.50 63 Pn 12 52 37.1 -0.2
BCAR Beaver Creek A 4.50 63 Pn **Pn 12 52 37.5 +0.1**
CTGM Chitina Glacie 4.52 90 Pn 12 52 37.2 -0.7
H23K Yukon River 4.54 6 P **Pn 12 52 38.6 +0.6**
baz=186,SNR=15
H24K Noodor Dome 4.69 14 P **Pn 12 52 40.7 +0.6**
baz=196,SNR=11
H24K Noodor Dome 4.69 14 Pn 12 52 40.1 0.0
LOGN Logan Glacier 4.70 92 Pn 12 52 40.0 -0.3
LOGN IAML 12 54 00.4
comp=E,53nm,0.7s
LOGN IAML 12 54 00.9
comp=N,67nm,0.8s
YUK2 White River 4.71 80 Pn 12 52 40.4 +0.1
TABL Table Mountain 4.72 97 Pn 12 52 41.0 +0.3
TABL IAML 12 54 03.9
comp=N,42nm,1.0s
BVCY Beaver Creek 4.75 72 Pn 12 52 40.6 -0.3
K27K Chicken 4.79 52 P **Pn 12 52 41.1 -0.2**
baz=240,SNR=6.3
K27K Chicken 4.79 52 Pn 12 52 41.6 +0.3
K27K IAML 12 54 06.7
comp=N,45nm,0.8s
PRP Porcupine Dome 4.79 26 P **Pn 12 52 41.9 +0.4**
baz=211,SNR=40
PRP Porcupine Dome 4.79 26 Pn 12 52 42.5 +0.9
PRP IAML 12 54 02.2
comp=N,72nm,0.7s
PRP IAML 12 54 05.7
comp=E,44nm,1.0s
IM05 Indian Mountai 4.87 345 Pn 12 52 42.4 -0.1
IMAR Indian Mountai 4.88 345 Pn **Pn 12 52 43.0 +0.4**
YUK3 Moose Creek 4.89 80 Pn 12 52 42.5 -0.4
PCA Pinnacle 5.24 99 Pn 12 52 49.0 +1.4
PINM Pinnacle 5.25 99 P **Pn 12 52 47.0 -0.7**
baz=289
EGAK Eagle 5.53 47 P **Pn 12 52 51.3 -0.2**
baz=236,SNR=9.7
EGAK Eagle 5.53 47 Pn **Pn 12 52 51.5 0.0**
BCPM Bancas Point 5.58 99 Pn **Pn 12 52 51.9 -0.4**
YUK4 Talbot Arm 5.77 85 Pn 12 52 55.2 +0.2
FYU Fort Yukon 5.77 22 Pn **Pn 12 52 55.8 +1.0**
PNL Peninsula 5.80 102 Pn 12 52 54.1 -1.1
DAWY Dawson 5.86 57 Pn 12 52 54.9 -1.1
YUK6 Outpost Mounta 5.96 88 Pn 12 52 57.0 -0.6
YUK5 Granite Creek 6.17 86 Pn 12 52 59.4 -1.1
HYT Haines Junctio 6.39 89 Pn **Pn 12 53 03.3 -0.1**
BMAR Burnt Mountain 6.66 21 Pn **Pn 12 53 07.8 +0.7**
TOLK Toolik Lake Re 7.36 3 P **Pn 12 53 17.9 +1.3**
baz=184
TOLK Toolik Lake Re 7.36 3 Pn **Pn 12 53 17.8 +1.3**
TNA Tin City 8.82 306 Pn **Pn 12 53 37.2 +0.7**
INK Inuvik 10.07 39 P **Pn 12 53 53.1 -0.5**
comp=E,0.2nm,0.3s,baz=253,slow=6.6,SNR=4.4
INK S **Sn 12 55 49.9 +5.0**
comp=E,0.3nm,0.3s,baz=261,slow=20,SNR=2.7
DLBC Dease Lake 10.74 96 P **Pn 12 54 03.8 +1.0**
comp=E,0.2nm,0.3s,baz=274,slow=13,SNR=1.7
C36M Paulatuk 13.57 43 Pn **Pn 12 54 37.5 -3.8**
YKA Yellowknife Ar 16.87 70 P **P 12 55 25.1 -0.2**
comp=E,0.2nm,0.3s,baz=279,slow=9.5,SNR=13
NEW Newport 23.01 109 P **P 12 56 32.2 +0.3**
comp=E,1.4nm,0.6s,baz=294,slow=18,SNR=2.5
YBH Yreka Blue Hor 25.86 127 P **P 12 57 00.0 +1.8**
comp=E,2.3nm,0.8s,baz=326,slow=7.3,SNR=3.9
ELK Elko 29.74 117 P **P 12 57 34.6 +1.5**
comp=E,1.3nm,0.8s,baz=260,slow=6.1,SNR=6.1
NVAR Mina Array Bea 30.42 124 P **P 12 57 40.3 +1.2**
comp=E,0.9nm,0.6s,baz=317,slow=9.1,SNR=8.3
PDAR Pinedale Array 30.64 108 P **P 12 57 41.6 +0.6**
comp=E,0.5nm,0.7s,baz=334,slow=4.4,SNR=5.7
TXAR Lajitas Array 44.41 114 P **P 12 59 37.8 +0.6**
comp=E,0.7nm,0.8s,baz=323,slow=6.3,SNR=9.1
SONM Songino Array 54.94 307 P **P 13 00 57.0 0.0**
comp=E,1.0nm,0.6s,baz=54,slow=7.3,SNR=2.8
ZALV Zalesovo Beam 56.98 325 pP pP 13 01 25.1 -0.9
comp=E,1.0nm,0.5s,baz=33,slow=5.8,SNR=3.1
AKASG Malin Array Be 68.33 0 P **P 13 02 24.6 -2.2**
comp=E,0.4nm,0.3s,baz=1.6,slow=6.1,SNR=3.7

MEX 15 12:56:56.7±1.2, 15°.39N×92°.29W, h198km±22km, MD4.1,
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.48**	**177**	*i* P	Pn	12 57 22.1	-1.5
THIG				*i* S	Sn	12 57 44.5	+0.2
CCIG	**Comitan**	**0.90**	**9**	*i* P	Pn	12 57 23.3	-2.5
CCIG				*e*S	Sn	12 57 42.4	-6.1
TGIG		**1.59**	**330**	*i* P	Pn	12 57 29.6	-1.5
TGIG				*e*S	Sn	12 57 55.9	-2.0
CMIG	**Matias Romero**	**3.01**	**304**	*e*P	Pn	12 57 44.9	-1.4
CMIG				*i* S	Sn	12 58 22.0	-3.2
HUIG	**Huatulco**	**3.70**	**276**	*i* P	Pn	12 57 53.5	-1.2
HUIG				*e*S	Sn	12 58 34.5	-5.7
VHO	**Vista Hermosa**	**4.58**	**292**	*e*P	Pn	12 58 06.5	+0.5
VHO				*e*S	Sn	12 58 53.8	-6.6
PEIG	**Puerto Escondi**	**4.72**	**278**	*i* P	Pn	12 58 06.3	-1.2
PEIG				*e*S	Sn	12 58 57.4	-5.8
YOIG	**Yosondua**	**5.26**	**287**	*e*P	Pn	12 58 15.2	+0.6
YOIG				*e*S	Sn	12 59 09.1	-7.0

*IDC **15** 13:00:00.8±0.5, 18°.79N×67°.66W, h0km, mb4.1/17,*
mb1 4.3/17, mb1mx4.1/49, mbtmp4.1/17, MS3.4/3,
Ms1 3.4/3, ms1mx2.9/33, Error ellipse: s-maj=18.1km
s-min=13.1km az=52.0
*NEIC **15** 13:00:01.4±3.5, 19°.12N±0°.04×67°.78W±0°.03, h25km±4km,*
Error ellipse: s-maj=6.6km s-min=3.9km az=193.0
*RSPR **15** 13:00:03.3, 19°.16N×67°.78W, h51km±18km, MD3.8/16*
ISC 15 13:00:02.0±0.4, 19°.10N±0°.04×67°.73W±0°.03, h20km, n151,
σ2°.21/145, mb4.3/30, 18C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.75**	**161**	↑*e*P	Pb	**13 00 15.9**	**-0.5**
IDE	**Isla Desecheo**	**0.75**	**161**		Pb	**13 00 15.9**	**-0.5**
PCDR	**Punta Cana, DR**	**0.84**	**227**	↑*e*P	Pn	**13 00 19.2**	**+0.5**
PCDR	**Punta Cana, DR**	**0.84**	**227**	*e*S	Sn	**13 00 30.4**	**-0.1**
PCDR	**Punta Cana, DR**	**0.84**	**227**		Pn	**13 00 19.6**	**+0.9**
PCDR				Sn	Sn	**13 00 30.5**	**-0.1**
PCDR				IAML		13 00 35.2	
comp=N,10µm,0.3s							
AGPR	**Aguadilla, PR**	**0.86**	**137**	↑*e*P	Pb	**13 00 17.6**	**-0.6**
AGPR	**Aguadilla, PR**	**0.86**	**137**		Pb	**13 00 17.5**	**-0.7**
AGPR				Sn	Sb	**13 00 27.0**	**-2.3**
AGPR				IAML		13 00 28.3	
comp=E,11µm,0.6s							
AGPR				IAML		13 00 36.4	
comp=N,8µm,0.4s							
MPR	**Mayaguez**	**1.04**	**147**		Pb	**13 00 20.3**	**-1.1**
LSP	**Las Mesas**	**1.10**	**146**	↑*e*P	Pn	**13 00 21.7**	**-0.6**
LSP	**Las Mesas**	**1.10**	**146**		Pn	**13 00 21.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.19**	**129**	↑*e*P	Pn	**13 00 23.0**	**-0.5**
AOPR	**Arecibo Observ**	**1.19**	**129**	*e*S	Sb	**13 00 38.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.19**	**129**	*e*P	Pn	**13 00 22.0**	**-1.5**
AOPR	**Arecibo Observ**	**1.19**	**129**	Pn	Pn	**13 00 22.4**	**-1.2**
AOPR				IAML		13 00 42.9	
comp=N,8µm,0.4s							
EMPR	**Esperanza - Ma**	**1.29**	**118**	↑*e*P	Pn	**13 00 24.8**	**-0.2**
EMPR	**Esperanza - Ma**	**1.29**	**118**	*e*S	Sn	**13 00 41.8**	**+0.1**
EMPR	**Esperanza - Ma**	**1.29**	**118**		Pn	**13 00 24.6**	**-0.4**
EMPR	**Esperanza - Ma**	**1.29**	**118**		Sn	**13 00 41.8**	**+0.1**
EMPR	**Esperanza - Ma**	**1.29**	**118**	IAML		13 00 45.8	
comp=E,23µm,0.6s							
EMPR				IAML		13 00 46.8	
comp=N,9µm,0.5s							
MLPR	**Magueyes Islan**	**1.29**	**150**	↑*e*P	Pn	**13 00 23.7**	**-1.3**
MLPR	**Magueyes Islan**	**1.29**	**150**	*e*S	Sn	**13 00 40.9**	**-0.9**
MLPR	**Magueyes Islan**	**1.29**	**150**		Pn	**13 00 23.4**	**-1.6**
MLPR	**Magueyes Islan**	**1.29**	**150**		Sn	**13 00 40.9**	**-0.9**
MLPR	**Magueyes Islan**	**1.29**	**150**	IAML		13 00 42.2	
comp=E,8µm,0.8s							
MLPR				IAML		13 00 42.5	
comp=N,10µm,0.5s							
CELP	**Cerrillos**	**1.49**	**133**	↑*e*P	Pn	**13 00 27.6**	**-0.2**
CELP	**Cerrillos**	**1.49**	**133**	*e*S	Sb	**13 00 47.4**	**-0.2**
CELP	**Cerrillos**	**1.49**	**133**		Pn	**13 00 27.6**	**-0.2**
CELP					Sb	**13 00 47.4**	**-0.2**
OBIP	**Obispado Ponce**	**1.50**	**134**	↑*e*P	Pn	**13 00 27.6**	**-0.1**
OBIP	**Obispado Ponce**	**1.50**	**134**	*e*S	Sb	**13 00 47.6**	**-0.1**
OBIP	**Obispado Ponce**	**1.50**	**134**		Sb	**13 00 47.6**	**-0.1**
OBIP	**Obispado Ponce**	**1.50**	**134**		Pn	**13 00 27.4**	**-0.4**
OBIP	**Obispado Ponce**	**1.50**	**134**	IAML		13 00 50.4	
comp=E,7µm,0.5s							
OBIP				IAML		13 00 50.8	
comp=N,7µm,0.6s							
ICMP	**Isla Caja de M**	**1.66**	**136**	↑*e*P	Pn	**13 00 30.6**	**+0.6**
ICMP	**Isla Caja de M**	**1.66**	**136**	*e*S	Sb	**13 00 52.1**	**-0.2**
ICMP	**Isla Caja de M**	**1.66**	**136**		Pn	**13 00 30.0**	**0.0**
ICMP	**Isla Caja de M**	**1.66**	**136**		Sb	**13 00 52.1**	**-0.2**
ICMP	**Isla Caja de M**	**1.66**	**136**	IAML		13 00 58.5	
comp=N,4µm,0.9s							
ICMP				IAML		13 00 58.6	
comp=E,8µm,0.8s							
GCPR	**Guaynabo City**	**1.75**	**116**	↑*e*P	Pn	**13 00 31.8**	**+0.6**
GCPR	**Guaynabo City**	**1.75**	**116**	*e*S	Sb	**13 00 54.9**	**-0.1**
GCPR	**Guaynabo City**	**1.75**	**116**		Pn	**13 00 31.2**	**-0.1**
GCPR	**Guaynabo City**	**1.75**	**116**		Sb	**13 00 54.9**	**-0.1**
GCPR	**Guaynabo City**	**1.75**	**116**	IAML		13 00 55.2	
comp=E,1µm,1.0s							
GCPR				IAML		13 01 02.1	
comp=N,927nm,0.6s							
SJG	**San Juan**	**1.79**	**123**	Pn	Pn	**13 00 31.5**	**-0.3**
comp=N,123nm,0.3s,baz=305,slow=9.9,SNR=65							
SJG				Sn	Sn	**13 00 51.2**	**-2.8**
comp=N,137nm,0.3s,baz=314,slow=15,SNR=14							
SJG				LR	LR	13 01 12.0	
comp=N,687nm,21.9s,baz=57,slow=45							
SJG	**San Juan**	**1.79**	**123**		Pn	**13 00 31.8**	**0.0**
SJG	**San Juan**	**1.79**	**123**	IAML		13 00 56.5	
comp=N,5µm,0.6s							
SJG				IAML		13 00 57.1	
comp=N,4µm,0.5s							
SJG	**San Juan**	**1.79**	**123**	*e*P	Pn	**13 00 31.4**	**-0.3**
IGPR	**InterUniversit**	**1.91**	**126**	↑*e*P	Pn	**13 00 34.0**	**+0.6**
IGPR	**InterUniversit**	**1.91**	**126**	*e*S	Sb	**13 00 58.5**	**-1.1**
IGPR	**InterUniversit**	**1.91**	**126**	Pn	Pn	**13 00 33.0**	**-0.4**
IGPR				IAML		13 01 00.0	
comp=E,4µm,0.5s							
PDPR	**Patillas Dam,**	**1.94**	**123**	Pn	Pn	**13 00 34.1**	**+0.2**

PDPR IAML 13 01 00.6
comp=E,3μm,0.7s
CBYP Canovanas 1.96 114⇑ eP Pn 13 00 34.8 +0.6
CBYP Canovanas 1.96 114 eS Sb 13 01 00.2 -0.8
CBYP Canovanas 1.96 114 Pn 13 00 34.3 +0.1
CBYP Canovanas 1.96 114 Sb 13 01 00.2 -0.8
CBYP Canovanas 1.96 114 IAML 13 01 00.9
comp=E,6μm,0.9s
CBYP IAML 13 01 07.0
comp=N,5μm,0.2s
HUMP Col San Antoni 2.02 118⇑ eP Pn 13 00 35.5 +0.5
HUMP Col San Antoni 2.02 118 eS Sn 13 01 00.3 +0.6
HUMP Col San Antoni 2.02 118 Pn 13 00 35.2 +0.2
HUMP IAML 13 01 03.8
comp=E,2μm,0.7s
HUMP Col San Antoni 2.02 118 Sn 13 01 00.3 +0.6
MTP Monte Pirata 2.29 115⇑ eP Pn 13 00 39.1 +0.4
MTP Monte Pirata 2.29 115 eS Sn 13 01 06.6 +0.2
MTP Monte Pirata 2.29 115 Pn 13 00 38.6 -0.1
MTP Monte Pirata 2.29 115 Sn 13 01 06.6 +0.2
CUPR Culebra, Puert 2.45 108⇑ eP Pn 13 00 40.8 -0.1
CUPR Culebra, Puert 2.45 108 eS Sn 13 01 10.1 -0.1
CUPR Culebra, Puert 2.45 108 Pn **Pn 13 00 40.9 0.0**
CUPR Culebra, Puert 2.45 108 Sn 13 01 10.1 -0.1
CUPR Culebra, Puert 2.45 108 IAML 13 01 17.3
comp=N,620nm,0.6s
CUPR IAML 13 01 21.3
comp=E,541nm,0.6s
STVI Saint Thomas 2.73 105⇑ eP Pn 13 00 45.2 +0.4
STVI Saint Thomas 2.73 105 eS Sn 13 01 17.2 -0.1
STVI Saint Thomas 2.73 105 Sn 13 01 17.2 -0.1
STVI Saint Thomas 2.73 105 Pn 13 00 45.0 +0.2
SC01 Santiago de Io 2.85 277 Pn **Pn 13 00 44.0 -2.4**
SC01 IAML 13 01 41.2
comp=E,1μm,1.0s
SC01 IAML 13 01 43.6
comp=N,2μm,1.2s
CDVI St. Croix 3.12 115 eP Pn 13 00 50.1 0.0
CDVI St. Croix 3.12 115 Pn 13 00 50.7 +0.7
VGBI Virgin Gorda, 3.21 100⇑ eP Pn 13 00 52.8 +1.4
VGBI Virgin Gorda, 3.21 100 eS Sn 13 01 28.8 -0.3
VGBI Virgin Gorda, 3.21 100 Pn 13 00 52.8 +1.4
VGBI **Sn 13 01 28.8 -0.3**
ABVI Anegada Island 3.24 96 Pn 13 00 53.5 +1.8
SDDR Presa de Saban 3.37 269 eP Pb 13 00 59.9 -1.2
SABA Saba 4.51 108 Pn **Pn 13 01 10.2 +0.9**
SABA IAML 13 01 46.6
comp=N,420nm,1.0s
SMRT St. Maarten 4.54 102 Pn 13 01 10.7 +1.1
SMRT IAML 13 02 11.8
comp=N,312nm,0.4s
SMRT IAML 13 02 16.8
comp=E,363nm,0.6s
SKI Saint Kitts 5.06 109 Pn 13 01 17.9 +1.1
ANWB Willy Bob 5.82 103 Pn **Pn 13 01 28.4 +1.1**
ANBD Bethesda, Anti 6.03 109 eP Pn 13 01 32.7 +2.6
HATO Hato, Curacao 6.97 190 Pn **Pn 13 01 43.3 +0.1**
BIM Bigot 7.84 125 Pn **Pn 13 01 54.4 -0.6**
URIC Uribia, Colomb 8.42 210 Pn **Pn 13 02 01.4 -1.6**
PCRV Puerto La Cruz 9.36 161 Pn **Pn 13 02 19.6 +3.7**
comp=E,1.9nm,0.3s,baz=327,slow=7.7,SNR=9.8
PCRV Sn **Sn 13 03 53.9 -6.7**
comp=E,1.0nm,0.3s,baz=323,slow=9.1,SNR=2.9
PLCV Puerto La Cruz 9.38 161 Sn 13 03 53.9 -7.3
SDV Santo Domingo 10.53 196 LR LR 13 06 42.6
comp=E,200nm,21.1s,baz=20,slow=39
SOCV Socops 11.17 196 eP Pn 13 02 43.0 +2.3
UREC San Jos de Ur 13.58 215 eP Pn 13 03 16.0 +2.2
SOR Soroa 14.74 287 P 13 03 33.2 -2.2
HELC Santa Helena 14.90 212 eP P 13 03 36.0 -1.7
NORC Norcasia 15.14 208 eP P 13 03 40.3 +0.3
CBOC Ciudad Bolivar 15.43 213 eP P 13 03 43.5 +0.2
GUY2C Guyana, Caldas 15.67 209 eP P 13 03 46.4 +0.2
PLMC San Jos del P 16.39 212 eP P 13 03 55.2 +1.4
ORTC Ortega, Tolima 16.78 207 eP P 13 03 59.7 +1.5
YOTC Yotoco, Valle 17.21 210 eP P 13 04 06.9 +3.9
JTS Las Juntas de 18.80 245 P **Pn 13 04 27.2 +6.2**
comp=E,0.3nm,0.3s,baz=146,slow=8.7,SNR=5.6
BBAC Balboa, Cauca 19.36 210 eP Pn 13 04 31.7 +3.8
PTGA Pitinga 21.13 158 P **P 13 04 47.2 +1.5**
comp=E,4.3nm,0.8s,baz=313,slow=19,SNR=3.0
OTAV Otavalo 21.49 211 P **P 13 04 49.7 -0.5**
OTAV IAmb IAmb 13 05 00.1
comp=Z,25nm,1.2s
TKL Tuckaleechee C 21.75 323 S Sn 13 08 57.5 -4.2
comp=Z,6.2nm,0.7s,baz=53,slow=20,SNR=2.6
M57A Sunshine Farm, 23.58 342 P **P 13 05 07.8 -3.5**
M57A IAmb IAmb 13 05 21.9
comp=Z,17nm,1.1s
P38A Dawn 30.22 318 P **P 13 06 08.0 -3.3**
WMOK Wichita Mounta 31.61 306 P **P 13 06 19.3 -4.3**
WMOK IAmb IAmb 13 06 28.5
comp=Z,3.5nm,0.9s
TXAR Lajitas Array 34.20 294 P **P 13 06 50.6 +4.1**
comp=Z,1.0nm,0.9s,baz=111,slow=9.8,SNR=6.3
TXAR PcP **PcP 13 09 26.4 +3.2**
comp=Z,0.9nm,0.8s,baz=121,slow=3.5,SNR=8.6
TXAR LR LR 13 24 11.8
comp=Z,73nm,20.0s,baz=0.0,slow=42
LPAZ La Paz 35.16 181 P **P 13 06 55.5 +0.2**
comp=Z,1.1nm,0.8s,baz=334,slow=6.0,SNR=3.9
LPAZ La Paz 35.16 181 IAmb IAmb 13 07 01.2
comp=Z,6.1nm,1.4s
SIV San Ignacio 35.48 169 P **P 13 06 56.1 -1.4**
comp=Z,3.0nm,0.9s,baz=8.4,slow=11,SNR=3.3
PB01 IPOC Station P 39.93 183 P **P 13 07 34.1 -1.0**
PV04 Paradox Valley 40.50 307 P P 13 07 33.8 -6.1
LVC Limon Verde 41.47 182 P **P 13 07 47.0 -1.1**
comp=Z,3.7nm,0.7s,baz=41,slow=8.4,SNR=4.4
PDAR Pinedale Array 42.36 313 PcP **PcP 13 09 51.2 +2.8**
comp=Z,0.3nm,0.4s,baz=152,slow=4.1,SNR=4.2
GCMT Greycliff 43.57 317 P **P 13 08 00.6 -4.3**
DUG Dugway, Tooele 43.90 309 P P 13 08 02.6 -5.0
CPUP Villa Florida 46.27 167 P **P 13 08 24.2 -2.0**
comp=Z,2.3nm,0.7s,baz=321,slow=13,SNR=3.5
NVAR Mina Array Bea 47.70 305 P P 13 08 42.0 +4.3
comp=Z,1.2nm,0.8s,baz=108,slow=6.2,SNR=8.6
NVAR PcP **PcP 13 10 10.9 +4.0**
comp=Z,0.6nm,0.8s,baz=145,slow=3.3,SNR=3.7
MDPB Devils Postpil 48.19 304 P **P 13 08 38.2 -3.4**
MDPB IAmb IAmb 13 08 56.7
comp=Z,3.6nm,1.2s
YKA Yellowknife Ar 53.97 335 P **P 13 09 27.3 +3.0**
comp=Z,2.6nm,0.8s,baz=112,slow=7.6,SNR=21
ESDC Sonseca Array 58.04 55 P **P 13 09 57.4 +3.6**
comp=Z,1.9nm,0.8s,baz=273,slow=7.3,SNR=14
DLBC Dease Lake 59.48 327 P P 13 10 08.5 +4.9
comp=Z,5.5nm,0.9s,baz=118,slow=5.7,SNR=8.5
INK Inuvik 63.51 338 P **P 13 10 34.0 +3.5**
comp=Z,4.7nm,1.0s,baz=107,slow=7.2,SNR=5.9
INK LR LR 13 39 06.1
comp=Z,18nm,18.3s,baz=131,slow=37
INK Inuvik 63.51 338 P **P 13 10 27.7 -2.8**
DAWY Dawson 64.98 333 P **P 13 10 36.6 -3.8**
L27K Beaver Creek, 65.95 331 P **P 13 10 43.4 -3.2**
L27K IAmb IAmb 13 10 51.9
comp=Z,2.7nm,0.9s
SENIN Lac Senin/Sane 66.19 47 P **P 13 10 45.8 -2.9**
SENIN IAmb IAmb 13 10 50.9
comp=Z,3.7nm,1.1s
TORD Torodi Ar. Bea 66.60 84 P **P 13 10 53.2 +1.7**
comp=Z,0.5nm,0.7s,baz=296,slow=7.3,SNR=2.5
MENT Mentasta 66.80 331 P **P 13 10 47.9 -4.2**
MENT IAmb IAmb 13 10 56.9
comp=Z,3.8nm,0.7s
DOT Dot Lake 67.00 332 P **P 13 10 50.1 -3.2**
NAO01 NORSAR Array S 67.98 31 P **P 13 10 55.7 -3.8**
NB2 NORSAR Subarra 68.14 31 P **P 13 11 04.2 +3.6**
comp=Z,1.4nm,0.8s,baz=270,slow=6.5
NOA NORSAR Array B 68.14 31 P **P 13 11 04.7 +4.1**
comp=Z,1.1nm,0.8s,baz=270,slow=6.3,SNR=4.6
ILAR Eielson Array 68.28 333 P **P 13 11 04.6 +3.3**
comp=Z,2.2nm,0.9s,baz=103,slow=4.4,SNR=15
WRH Wood River Hil 68.80 333 P **P 13 11 01.5 -3.0**
WRH IAmb IAmb 13 11 11.7
comp=Z,4.6nm,1.3s
MCK McKinley 69.17 332 P **P 13 11 03.5 -3.5**
MCK IAmb IAmb 13 11 11.3
comp=Z,4.1nm,0.8s
TOLK Toolik Lake Re 69.41 337 P **P 13 11 04.3 -4.0**
TOLK IAmb IAmb 13 11 12.3
comp=Z,2.8nm,1.0s
CLL Collm 69.59 41 eP **P 13 11 06.0 -3.7**
MLY Manley 69.92 333 P **P 13 11 08.9 -2.7**

BPAW Bear Paw Mtn. 70.07 332 P **P 13 11 09.2 -3.2**
BPAW IAmb IAmb 13 11 16.6
comp=Z,4.9nm,0.9s
KDAK Kodiak Island 71.33 326 P **P 13 11 24.1 +3.9**
comp=Z,2.2nm,0.7s,baz=359,slow=2.1,SNR=4.1
ARCES ARCESS Array B 73.41 21 P **P 13 11 35.9 +3.4**
comp=Z,2.8nm,0.7s,baz=287,slow=4.9,SNR=12
FINES FINESS Array B 75.23 30 P **P 13 11 46.7 +3.6**
comp=Z,1.2nm,0.6s,baz=343,slow=4.0,SNR=4.7
MLR Muntele Rosu 79.14 46 P **P 13 12 01.7 -3.9**
MLR IAmb IAmb 13 12 10.7
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 79.74 40 P **P 13 12 10.7 +2.1**
comp=Z,0.5nm,0.5s,baz=286,slow=5.1,SNR=5.0
CMAR Chiang Mai Arr 140.45 20 PKP **PKiKP 13 19 33.3 0.0**
comp=Z,0.5nm,0.6s,baz=335,slow=4.0,SNR=2.4
WRA Warramunga Arr 159.18 264 PKP **PKPdf 13 20 01.1 +1.4**
comp=Z,1.3nm,1.1s,baz=87,slow=1.7,SNR=3.4
ASAR Alice Springs 159.35 253 PKP **PKPdf 13 20 01.6 +1.7**
comp=Z,1.2nm,1.1s,baz=75,slow=0.9,SNR=4.7
ASAR PKPab **PKPab 13 20 38.9 +1.4**
comp=Z,1.1nm,0.8s,baz=111,slow=4.7,SNR=9.3

*IDC **15** 13:06:01.7±1.0, 12°.09N×46°.42E, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/42, mbtmp3.9/13, ML3.9/2, MS3.8/23, Ms1 3.8/23, ms1mx3.7/41, Error ellipse: s-maj=25.6km s-min=21.0km az=179.0*
*NEIC **15** 13:06:02.9±2.1, 12°.0N±0°.1×46°.3E±0°.1, h12km±4km, mb4.3/26, Error ellipse: s-maj=17.4km s-min=12.0km az=144.0*
ISC 15 13:06:02.5±0.6, **12°.08N**±0°.10×**46°.38E**±0°.09, **h10**km, **n67**, σ0°.92/50, **mb4.2**/21, **MS3.8**/20, **Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.50**	**261**	Lg	Lg	13 07 53.5	
	14nm,0.3s,baz=324,slow=20,SNR=5.8						
ATD	**Arta Tunnel**	**3.50**	**261**	Pn	**Pn**	**13 06 55.7**	**-1.4**
UOSS	**Minazif**	**15.82**	**35**	Pn	**Pn**	**13 09 45.4**	**-0.1**
UOSS				IAmb	IAmb	13 09 52.5	
	comp=Z,50nm,1.4s						
KMBO	**Kilima Mbogo**	**15.94**	**215**	Pn	**Pn**	**13 09 48.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=46,slow=15,SNR=1.8						
KMBO				LR	LR	13 15 37.8	
	comp=Z,432nm,20.8s,baz=90,slow=36						
WSAR	**Wadi Sarin**	**16.10**	**45**	Pn	**Pn**	**13 09 50.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=255,slow=12,SNR=5.1						
WSAR				LR	LR	13 15 45.3	
	comp=Z,412nm,20.7s,baz=243,slow=36						
KIBK	**Kibwezi**	**16.54**	**211**	Pn	**Pn**	**13 09 54.5**	**-0.4**
MBAR	**Mbarara**	**20.00**	**232**	LR	LR	13 17 59.3	
	comp=Z,318nm,18.5s,baz=85,slow=36						
EIL	**Elat**	**20.48**	**330**	LR	LR	13 17 45.8	
	comp=Z,172nm,20.0s,baz=139,slow=34						
MMAI	**Mount Meron Ar**	**23.14**	**336**	LR	LR	13 19 44.1	
	comp=Z,299nm,20.0s,baz=25,slow=36						
CSS	**Mathiatis**	**25.68**	**335**	P	**P**	**13 11 33.2**	**+0.5**
CSS				IAmb	IAmb	13 11 56.6	
	comp=Z,7.3nm,1.0s						
HRA	**Herat**	**26.49**	**30**	P	**P**	**13 11 39.3**	**-1.1**
HRA				IAmb	IAmb	13 11 45.0	
	comp=Z,14nm,1.2s						
GEYT	**Alibeck**	**27.80**	**20**	LR	LR	13 24 44.5	
	comp=Z,373nm,20.3s,baz=215,slow=40						
GNI	**Garni**	**28.00**	**357**	LR	LR	13 24 20.5	
	comp=Z,343nm,18.1s,baz=178,slow=39						
BRTR	**Keskin Array B**	**29.76**	**340**	P	**P**	**13 12 11.9**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=190,slow=31,SNR=5.7						
BRTR				LR	LR	13 24 36.0	
	comp=Z,306nm,18.8s,baz=160,slow=37						
BRTR	**Keskin Array B**	**29.76**	**340**	P	**P**	**13 12 10.1**	**+0.7**
KBZ	**Khabaz**	**31.68**	**355**	LR	LR	13 26 49.5	
	comp=Z,191nm,18.2s,baz=186,slow=39						
VTS	**Vitosha**	**36.47**	**331**	P	**P**	**13 13 08.8**	**+0.8**
KK31	**Karatay Array**	**37.31**	**30**	P	**P**	**13 13 12.9**	**-2.1**
KK31				IAmb	IAmb	13 13 26.7	
	comp=Z,6.7nm,1.5s						
KKAR	**Karatay Array**	**37.31**	**30**	P	**P**	**13 13 13.4**	**-1.6**
KKAR	**Karatay Array**	**37.31**	**30**	P	**P**	**13 13 13.2**	**-1.7**
KKAR				IAmb	IAmb	13 13 26.6	
	comp=Z,6.7nm,1.5s						
ABKAR	**Akbulak array**	**38.74**	**14**	P	**P**	**13 13 26.4**	**-0.4**
ABKAR	**Akbulak array**	**38.74**	**14**	P	**P**	**13 13 26.4**	**-0.4**
ABKAR				IAmb	IAmb	13 13 32.3	
	comp=Z,4.2nm,1.1s						
AAK	**Ala-Archa**	**39.02**	**34**	P	**P**	**13 13 31.0**	**+1.5**
	comp=Z,2.4nm,0.4s,baz=226,slow=5.5,SNR=5.0						
AAK	**Ala-Archa**	**39.02**	**34**	IAmb	IAmb	13 13 33.8	
	comp=Z,12nm,1.4s						
BURAR	**Bucovina Array**	**39.62**	**337**	P	**P**	**13 13 34.1**	**-0.3**
BOOM	**Boomskoye usch**	**39.72**	**35**	P	**P**	**13 13 34.6**	**-0.8**
KDJ	**Kajisay**	**40.19**	**36**	P	**P**	**13 13 39.9**	**+0.6**
KDJ				IAmb	IAmb	13 13 45.5	
	comp=Z,7.1nm,1.2s						
KEST	**Kesra**	**40.87**	**312**	LR	LR	13 30 18.9	
	comp=Z,42nm,19.9s,baz=221,slow=36						
KEST	**Kesra**	**40.87**	**312**	P	**P**	**13 13 44.9**	**-0.1**
KEST				IAmb	IAmb	13 13 55.3	
	comp=Z,9.2nm,1.4s						
AKASG	**Malin Array Be**	**40.99**	**343**	P	**P**	**13 13 45.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=166,slow=7.3,SNR=9.0						
AKASG				LR	LR	13 33 34.4	
	comp=Z,51nm,18.8s,baz=115,slow=40						
AKBB	**Malin Array Si**	**40.99**	**343**	P	**P**	**13 13 45.9**	**+0.3**
AKBB				IAmb	IAmb	13 13 47.9	
	comp=Z,10nm,1.4s						
PSZ	**Piszkesteto**	**42.04**	**333**	P	**P**	**13 13 54.6**	**+0.3**
PSZ				IAmb	IAmb	13 14 17.8	
	comp=Z,5.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**43.58**	**276**	P	**P**	**13 14 08.0**	**+0.8**
	comp=Z,1.3nm,1.1s,baz=79,slow=8.7,SNR=6.3						
TORD				LR	LR	13 32 16.0	
	comp=Z,52nm,18.1s,baz=240,slow=36						
BOSA	**Boshof**	**45.32**	**206**	P	**P**	**13 14 20.2**	**-0.8**
GEC2	**GERESS Array S**	**45.58**	**330**	P	**P**	**13 14 22.0**	**-0.8**
GEC2				IAmb	IAmb	13 14 24.0	
	comp=Z,12nm,1.5s						
GERES	**GERESS Array B**	**45.58**	**330**	P	**P**	**13 14 22.6**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=138,slow=8.1,SNR=7.3						
GERES				LR	LR	13 36 42.6	
	comp=Z,39nm,19.9s,baz=130,slow=40						
GERES	**GERESS Array B**	**45.58**	**330**	P	**P**	**13 14 21.9**	**-0.9**
SUW	**Suwalki**	**45.70**	**341**	P	**P**	**13 14 23.6**	**+0.1**
MAKZ	**Makanchi**	**45.78**	**34**	P	**P**	**13 14 23.9**	**-0.5**
MAKZ				IAmb	IAmb	13 14 29.2	
	comp=Z,3.8nm,1.1s						
MK31	**Makanchi Array**	**45.95**	**34**	P	**P**	**13 14 24.7**	**-1.0**
MKAR	**Makanchi Array**	**45.95**	**34**	P	**P**	**13 14 25.3**	**-0.3**
	comp=Z,1.7nm,0.9s,baz=224,slow=9.3,SNR=9.9						
MKAR				LR	LR	13 37 53.4	
	comp=Z,95nm,18.2s,baz=242,slow=42						
MKAR	**Makanchi Array**	**45.95**	**34**	P	**P**	**13 14 25.0**	**-0.7**
CM31	**Chiang Mai Arr**	**50.97**	**76**	P	**P**	**13 15 04.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**50.97**	**76**	P	**P**	**13 15 05.3**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=271,slow=8.9,SNR=14						
CMAR	**Chiang Mai Arr**	**50.97**	**76**	P	**P**	**13 15 04.1**	**-0.6**
FIA1	**FINESS Array S**	**51.46**	**348**	P	**P**	**13 15 08.3**	**+0.6**
FINES	**FINESS Array B**	**51.46**	**348**	LR	LR	13 39 29.5	
	comp=Z,77nm,19.0s,baz=98,slow=39						
FINES	**FINESS Array B**	**51.46**	**348**	P	**P**	**13 15 08.5**	**+0.7**
ZAA0	**Zalesovo Array**	**51.65**	**28**	P	**P**	**13 15 08.4**	**-0.9**
ZAA0				IAmb	IAmb	13 15 10.3	
	comp=Z,6.2nm,1.4s						
ZALV	**Zalesovo Beam**	**51.65**	**28**	P	**P**	**13 15 08.7**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=230,slow=10.0,SNR=3.8						
ZALV				LR	LR	13 39 35.0	
	comp=Z,37nm,19.7s,baz=108,slow=39						
ZALV	**Zalesovo Beam**	**51.65**	**28**	P	**P**	**13 15 08.3**	**-1.0**
HFS	**Hagfors**	**53.70**	**340**	LR	LR	13 40 21.9	
	comp=Z,70nm,18.3s,baz=146,slow=38						
NOA	**NORSAR Array B**	**55.20**	**340**	LR	LR	13 41 46.6	
	comp=Z,44nm,18.2s,baz=120,slow=39						
ENH	**Enshi**	**60.86**	**62**	P	**P**	**13 16 16.4**	**+0.8**
SONM	**Songino Array**	**61.12**	**42**	P	**P**	**13 16 17.5**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=234,slow=6.8,SNR=4.9						
SONM				LR	LR	13 46 09.7	
	comp=Z,53nm,19.7s,baz=249,slow=39						
SONM	**Songino Array**	**61.12**	**42**	IAmb	IAmb	13 16 22.4	
	comp=Z,2.6nm,1.2s						
PMOZ	**Porto Moniz, M**	**61.40**	**301**	P	**P**	**13 16 19.6**	**+0.2**
KS19	**Wonju Array Si**	**76.05**	**54**	P	**P**	**13 17 49.7**	**-0.8**
KSAR	**Wonju Array Be**	**76.06**	**54**	P	**P**	**13 17 49.9**	**-0.6**
KSRS	**Korea Array**	**76.09**	**54**	LR	LR	13 53 29.3	
	comp=Z,50nm,18.3s,baz=135,slow=38						

MAW Mawson 80.36 174 LR LR 13 50 19.0
comp=Z,84nm,19.9s,baz=38,slow=33
ASAJ Asahikawa 86.11 46 LR LR 14 05 06.9
comp=Z,55nm,19.0s,baz=350,slow=41
JHJ Hachijo jima 2 86.31 57 LR LR 13 58 55.9
comp=Z,332nm,19.2s,baz=84,slow=37
WRA Warramunga Arr 92.16 110 P **P 13 19 13.6 +0.6**
comp=Z,1.0nm,0.8s,baz=289,slow=4.0,SNR=6.2
ASAR Alice Springs 92.54 114 P **P 13 19 15.4 +0.7**
comp=Z,0.6nm,0.8s,baz=286,slow=4.7,SNR=3.4
NVAR Mina Array Bea 127.75 345 PKP **PKiKP 13 25 10.4 +0.8**
comp=Z,0.9nm,0.9s,baz=96,slow=0.9,SNR=5.3
TXAR Lajitas Array 129.70 325 PKP **PKPdf 13 25 13.3 +0.5**
comp=Z,0.7nm,1.1s,baz=64,slow=4.1,SNR=3.7

*GUC **15** 13:07:39.0±0.5, 22°.39S×67°.59W, h199km±5km, ML3.7*
*SCB **15** 13:07:40.2±2.0, 22°.35S×67°.38W, h164km±19km, ML3.4/6, Error ellipse: s-maj=7.5km s-min=5.6km az=1.0*
ISC 15 13:07:36.2±1.8, **22°.38S**±0°.05×**67°.37W**±0°.06, **h189**km±16km, **n33**, σ1s46/52, **7C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.44**	**261**	eP	**Pn**	**13 08 10.2**	**+1.3**
LVC				i S	**Sn**	**13 08 34.0**	**-0.1**
LVC	**Limon Verde**	**1.44**	**261**	P	**Pn**	**13 08 09.7**	**+0.8**
YJA	**Yavi**	**1.73**	**84**	P	**Pn**	**13 08 12.2**	**+0.5**
PB09	**IPOC Station P**	**1.83**	**288⇑**	iP	**Pn**	**13 08 14.3**	**+1.9**
PB09	**IPOC Station P**	**1.83**	**288**	P	**Pn**	**13 08 13.6**	**+1.2**
MOCB	**Mochara**	**1.96**	**55**	P	**Pn**	**13 08 15.0**	**+0.9**
PB06	**IPOC Station P**	**2.06**	**261**	eP	**Pn**	**13 08 16.0**	**+1.2**
PB06				i S	**Sn**	**13 08 45.2**	**+0.5**
PB06				IAML		13 08 47.2	
	comp=E,112nm,0.1s						
PB06	**IPOC Station P**	**2.06**	**261**	P	**Pn**	**13 08 15.6**	**+0.8**
PB01	**IPOC Station P**	**2.38**	**304⇑**	iP	**Pn**	**13 08 19.5**	**+1.3**
PB01				i S	**Sn**	**13 08 50.8**	**-0.1**
PB01				IAML		13 08 52.4	
	comp=E,203nm,0.2s						
PB01	**IPOC Station P**	**2.38**	**304**	P	**Pn**	**13 08 19.3**	**+1.1**
PB01				S	**Sn**	**13 08 49.1**	**-1.8**
PB01				IAML		13 08 52.4	
	comp=E,194nm,0.2s						
PB07	**IPOC Station P**	**2.43**	**285⇑**	iP	**Pn**	**13 08 20.2**	**+1.3**
PB07				i S	**Sn**	**13 08 51.1**	**-0.8**
PB07				IAML		13 08 52.2	
	comp=N,192nm,0.2s						
PB07	**IPOC Station P**	**2.43**	**285**	P	**Pn**	**13 08 19.7**	**+0.9**
PB04	**IPOC Station P**	**2.58**	**271⇑**	iP	**Pn**	**13 08 21.6**	**+1.1**
PB04				i S	**Sn**	**13 08 53.8**	**-1.1**
PB04				IAML		13 08 54.9	
	comp=N,129nm,0.3s						
PB04	**IPOC Station P**	**2.58**	**271**	P	**Pn**	**13 08 21.5**	**+1.0**
PB04				S	**Sn**	**13 08 52.2**	**-2.8**
PB04				IAML		13 08 56.4	
	comp=N,76nm,0.2s						
PB02	**IPOC Station P**	**2.58**	**294⇑**	iP	**Pn**	**13 08 21.6**	**+1.1**
PB02				i S	**Sn**	**13 08 53.8**	**-1.1**
PB02				IAML		13 08 57.3	
	comp=E,219nm,0.2s						
PB02	**IPOC Station P**	**2.58**	**294**	P	**Pn**	**13 08 21.4**	**+0.9**
PB02				S	**Sn**	**13 08 52.0**	**-2.9**
PB02				IAML		13 08 57.2	
	comp=E,139nm,0.2s						
PB05	**IPOC Station P**	**2.66**	**259⇑**	iP	**Pn**	**13 08 22.4**	**+1.0**
PB05				i S	**Sn**	**13 08 55.1**	**-1.5**
PB05				IAML		13 08 58.2	
	comp=E,58nm,0.2s						
PB05	**IPOC Station P**	**2.66**	**259**	P	**Pn**	**13 08 22.1**	**+0.7**
PB08	**IPOC Station P**	**2.78**	**323⇑**	iP	**Pn**	**13 08 25.6**	**+2.5**
PB08				i S	**Sn**	**13 09 01.3**	**+1.6**
PB08				IAML		13 09 04.7	
	comp=E,84nm,0.4s						
PB08	**IPOC Station P**	**2.78**	**323**	P	**Pn**	**13 08 24.4**	**+1.2**
PB08				S	**Sn**	**13 08 58.0**	**-1.7**
PB08				IAML		13 09 04.0	
	comp=E,52nm,0.3s						
PB10	**IPOC Station P**	**3.15**	**248**	P	**Pn**	**13 08 27.5**	**+0.4**
TA01	**Diego Aracena**	**3.18**	**304**	eP	**Pn**	**13 08 28.2**	**+0.7**
TA01				i S	**Sn**	**13 09 05.9**	**-1.7**
TA01				IAML		13 09 08.0	
	comp=E,149nm,0.3s						
PB11	**IPOC Station P**	**3.37**	**320**	eP	**Pn**	**13 08 30.9**	**+0.8**
PB11				i S	**Sn**	**13 09 11.2**	**-0.8**
PB11	**IPOC Station P**	**3.37**	**320**	P	**Pn**	**13 08 31.0**	**+1.0**
PB11				S	**Sn**	**13 09 09.6**	**-2.5**
PB11				IAML		13 09 12.4	
	comp=E,107nm,0.2s						
GO02	**Mina Guanaco**	**3.44**	**216⇓**	iP	**Pn**	**13 08 32.0**	**+1.1**
GO02				i S	**Sn**	**13 09 12.7**	**-1.0**
GO02				IAML		13 09 15.1	
	comp=E,2μm,0.0s						
PSGC	**Pisagua**	**3.78**	**317**	eP	**Pn**	**13 08 35.1**	**0.0**
PSGC				i S	**Sn**	**13 09 18.7**	**-2.4**
PSGC				IAML		13 09 20.9	
	comp=E,54nm,0.3s						
PSGC	**Pisagua**	**3.78**	**317**	P	**Pn**	**13 08 35.6**	**+0.5**
MNMC	**Minye Minye**	**3.85**	**327**	eP	**Pn**	**13 08 38.1**	**+2.1**
MNMC				i S	**Sn**	**13 09 22.8**	**-0.1**
MNMC	**Minye Minye**	**3.85**	**327**	P	**Pn**	**13 08 37.2**	**+1.1**
MNMC				S	**Sn**	**13 09 20.3**	**-2.6**
MNMC				IAML		13 09 27.5	
	comp=E,104nm,0.2s						
BBOE	**La Paz, Chanca**	**5.57**	**354**	P	**Pn**	**13 09 00.0**	**+1.6**
LPAZ	**La Paz**	**6.11**	**353**	P	**Pn**	**13 09 07.1**	**+1.7**
BBOB	**La Paz, Bander**	**6.25**	**353**	P	**Pn**	**13 09 09.0**	**+1.8**
SIV	**San Ignacio**	**8.71**	**44**	P	**Pn**	**13 09 37.9**	**-0.9**

IDC 15 13:08:27.6±2.3, **21°.76N**×**94°.31E**, **h101**km±28km, **mb3.1**/3, **mb1 3.2**/5, **mb1mx3.0**/37, **mbtmp3.4**/5, **Error ellipse: s-maj=50.0km s-min=17.7km az=39.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.63**	**291**	P	Pn	13 09 09.4	+1.0
	baz=209,slow=19,SNR=1.0						
BRDH				S	Sn	13 09 40.4	+0.5
	29nm,0.3s,baz=235,slow=22,SNR=6.5						
CMAR	**Chiang Mai Arr**	**5.46**	**126**	P	Pn	13 09 45.9	-0.7
	0.2nm,0.3s,baz=300,slow=

MAT	**Matsushiro**	**2.70 255**	P	**Pn**	**13 17 54.6**	**+1.0**
MAT			*e*S	**Sn**	**13 18 26.3**	**+0.1**
H11N2	**WAKE ISLAND Hy 28.25 121**		T	T	13 52 40.5	
	baz=314,slow=75,SNR=32					
H11N1	**WAKE ISLAND Hy 28.25 121**		T	T	13 52 39.0	
	baz=314,slow=75,SNR=35					
H11N3	**WAKE ISLAND Hy 28.26 121**		T	T	13 52 38.9	
	baz=314,slow=75,SNR=34					
H11S1	**WAKE ISLAND Hy 28.96 123**		T	T	13 53 31.9	
	baz=316,slow=76,SNR=25					
H11S3	**WAKE ISLAND Hy 28.96 123**		T	T	13 53 31.6	
	baz=316,slow=76,SNR=22					
H11S2	**WAKE ISLAND Hy 28.98 123**		T	T	13 53 32.2	
	baz=316,slow=76,SNR=15					
MKAR	**Makanchi Array**	**44.02 302**	P	**P**	**13 25 19.2**	**+1.5**
	0.4nm,0.8s,baz=84,slow=7.0,SNR=2.6					
WRA	**Warramunga Arr**	**57.30 188**	P	**P**	**13 26 58.1**	**+0.1**
	0.7nm,1.0s,baz=4.8,slow=7.3,SNR=2.0					

TEH ***15*** *13:45:18.8, 33°.81N×47°.39E, h9km, ML3.1*
ISN ***15*** *13:45:18.6±1.0, 33°.79N×47°.38E, h7km±4km, ML3.2*
KISR ***15*** *13:45:22.2±0.6, 33°.46N×47°.40E, h22km±999km, ML3.9*

ISC 15 13:45:18.9±1.5, 33°.77N±0°.03×47°.39E±0°.03, h2km±12km, n31, σ1§17/39, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.45**	**123**	*e*Pg	**Pg**	**13 45 28.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**0.58**	**330**	*e*Pg	**Pg**	**13 45 29.5**	**-0.5**
KCHF				*e*		13 45 39.3	
	comp=Z,24μm,0.3s						
KER	**Kermanshah**	**0.65**	**341**	*e*Pg	**Pg**	**13 45 31.2**	**-0.1**
IDOB	**Doab**	**0.65**	**88**	*e*Pg	**Pg**	**13 45 31.3**	**-0.1**
IDOB				*e*Sg	**Sb**	**13 45 42.4**	**-0.4**
IBZA	**Bozab**	**0.80**	**29**	*e*Pg	**Pb**	**13 45 34.2**	**-1.5**
IGHG	**Ghaleghazi**	**0.88**	**309**	*e*Pg	**Pg**	**13 45 36.0**	**+0.2**
IGHG				*e*		13 45 57.0	
	comp=Z,8μm,0.5s						
DHL1	**Dehloran**	**1.09**	**185**	*e*Pg	**Pg**	**13 45 40.8**	**+1.0**
HSAM	**Samen**	**1.10**	**66**	*e*Pg	**Pg**	**13 45 39.5**	**-0.4**
BMDN	**Meydan**	**1.20**	**94**	*e*Pg	**Pg**	**13 45 42.2**	**+0.4**
BMDN				*e*Sg	**Sn**	**13 45 59.7**	**-0.1**
BMDN				*e*		13 46 07.3	
	comp=Z,6μm,0.4s						
ILIN	**Lien**	**1.20**	**343**	*e*Pg	**Pb**	**13 45 41.9**	**-0.6**
ILIN				*e*		13 46 07.5	
	comp=Z,4μm,0.4s						
IDHR	**Dehrash**	**1.25**	**318**	*e*Pg	**Pg**	**13 45 42.5**	**-0.3**
IDHR				*e*		13 46 07.4	
	comp=Z,6μm,0.6s						
IALM	**Almabolaq**	**1.26**	**30**	*e*Pg	**Pb**	**13 45 42.7**	**-0.9**
IBDR	**Badra**	**1.39**	**242**	*e*Pg	**Pn**	**13 45 45.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**13 46 05.0**	**+1.2**
IBDR				AML	AML	13 46 08.3	
	comp=E,852nm,0.5s						
IBDR				AML	AML	13 46 09.3	
	comp=N,556nm,0.6s						
HAGD	**Aghdareh**	**1.79**	**54**	*e*Pg	**Pg**	**13 45 52.2**	**-0.9**
HAGD				*e*		13 46 23.1	
	comp=Z,4μm,0.3s						
BHD	**Baghdad**	**2.57**	**260**	*e*Pn	**Pn**	**13 46 02.0**	**+0.5**
BHD				*e*Sn	**Sn**	**13 46 34.0**	**+0.7**
QABG	**Abgarm-Qazvin**	**2.64**	**42**	*e*Pn	**Pn**	**13 46 03.9**	**+1.1**
NSR	**Nassriya**	**2.95**	**201**	*e*Pn	**Pn**	**13 46 08.0**	**+1.2**
NSR				*e*Sn	**Sn**	**13 46 43.0**	**+0.2**
IKRK	**Kirkuk**	**3.00**	**304**	*e*Pn	**Pn**	**13 46 08.0**	**+0.6**
IKRK				*e*Sn	**Sn**	**13 46 45.0**	**+1.0**
IKRK				AML	AML	13 46 57.0	
	comp=N,67nm,0.7s						
IKRK				AML	AML	13 47 05.2	
	comp=E,93nm,0.6s						
IPIR	**Pirpir**	**3.13**	**109**	*e*Pn	**Pn**	**13 46 10.9**	**+1.4**
IPIR				*e*		13 47 17.3	
	comp=Z,428nm,0.5s						
IQOM	**Qom**	**3.23**	**70**	*e*Pn	**Pn**	**13 46 12.5**	**+1.7**
QAMS	**Qamsar**	**3.34**	**90**	*e*Pn	**Pn**	**13 46 13.2**	**+0.9**
IKLH	**Kolahrood**	**3.52**	**96**	*e*Pn	**Pn**	**13 46 16.2**	**+1.3**
QALM	**Alamut, Qazvin**	**3.76**	**44**	*e*Pn	**Pn**	**13 46 20.4**	**+2.2**
IVRN	**Varamin**	**3.79**	**70**	*e*Pn	**Pn**	**13 46 20.3**	**+1.9**
KRSH	**Karshahi**	**3.95**	**86**	*e*Pn	**Pn**	**13 46 21.5**	**+0.8**
MIB	**Mutribah**	**3.96**	**181**	*e*P	**Pn**	**13 46 21.0**	**+0.3**
ISFB	**Sefidab**	**4.07**	**80**	*e*Pn	**Pn**	**13 46 23.9**	**+1.7**
UMR	**Umm Al-Rimmam**	**4.22**	**176**	*e*P	**Pn**	**13 46 24.8**	**+0.6**
RST	**Umm Al-Ruwaisa**	**4.27**	**185**	*e*P	**Pn**	**13 46 24.9**	**0.0**
RST				*e*S	**Sn**	**13 47 13.0**	**-2.4**
RST				IAML		13 47 17.6	
	comp=Z,131nm,0.6s						
IRAM	**Ramesheh**	**4.63**	**114**	*e*Pn	**Pn**	**13 46 31.2**	**+1.0**
QRN	**Al-Qurain**	**5.03**	**175**	*e*P	**Pn**	**13 46 36.2**	**+0.8**
QRN				*e*S	**Sn**	**13 47 31.4**	**-2.8**
QRN				IAML		13 47 34.7	
	comp=Z,115nm,0.3s						

KRSC 15 13:50:49.0±1.6, 53°.73N×167°.76E, h45km±23km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.81**	**326**	*e*P	Pn	13 51 19.5	+1.8
BKI				*e*S	Sn	13 51 42.1	+2.7
MKZ	**Mys Kozlova**	**3.65**	**286**	*e*P	Pn	13 51 45.9	+3.1
MKZ				*e*S	Sn	13 52 29.8	+5.3
KZV	**Kizimen**	**4.58**	**291**	*e*P	Pn	13 51 58.8	+3.0
SMKR	**Semkarok**	**4.61**	**311**	P	Pn	13 52 00.5	+4.4
SMKR				*e*S	Sn	13 52 54.0	+5.7
TUMR	**Tumrok**	**4.71**	**292**	*e*P	Pn	13 52 02.0	+4.5
BDR	**Baidarnaya**	**4.72**	**310**	*e*P	Pn	13 52 02.6	+5.0
SRKR	**Sorokina**	**4.78**	**310**	*e*P	Pn	13 52 02.2	+3.7
KMNR	**Kamenistaya**	**4.81**	**298**	*e*P	Pn	13 52 02.9	+4.0
KMNR				*e*S	Sn	13 52 57.1	+3.7
UGLR	**Uglovaya**	**5.37**	**268**	*e*P	Pn	13 52 11.1	+4.5
AVH	**Avacha**	**5.41**	**269**	*e*P	Pn	13 52 11.4	+4.3
DALK	**Dalny**	**5.44**	**266**	P	Pn	13 52 11.5	+4.1
KRX	**Arik**	**5.45**	**270**	*e*P	Pn	13 52 11.7	+4.0
GNL	**Ganaly**	**5.83**	**274**	P	Pn	13 52 16.7	+3.7
GRL	**Gorelyy**	**5.95**	**263**	P	Pn	13 52 20.8	+6.2

BGR ***15*** *14:09:45.6±0.0, 18°.76S×41°.22E, h10km, mb5.3*
BUL ***15*** *14:09:55.2±3.4, 15°.92S×41°.89E, h11km±454km*
IDC ***15*** *14:10:00.9±0.5, 15°.59S×41°.13E, h0km, mb4.6/24, mb1 4.8/27, mb1mx4.7/41, mbtmp4.7/27, ML5.3/4, MS4.3/31, Ms1 4.3/31, ms1mx4.3/34, Error ellipse: s-maj=15.7km s-min=11.8km az=101.0*
MOS ***15*** *14:10:01.0±0.8, 15°.60S×41°.10E, h13km, mb5.3/79, MS4.2/7, Error ellipse: s-maj=9.6km s-min=4.1km az=100.8*
NEIC ***15*** *14:10:04.2±2.3, 15°.61S±0°.08×41°.05E±0°.08, h15km±3km, mb5.2/89, Error ellipse: s-maj=12.6km s-min=10.8km az=224.0*
GCMT ***15*** *14:10:06.2±0.2, 15°.58S±0°.01×41°.15E±0°.01, h29km, MW5.1/117, Moment Tensor Solution. s65,c91; s117,c174; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.56±.16; Mθθ-2.15±.12; Mϕϕ3.71±.14; Mrθ-2.08±.22; Mrϕ-4.60±.10; Mθϕ0.09±.21; Best double couple: M0:5.94300×10^16 NP1:ϕs14.00000°, δ67.00000°, λ-12.00000°. NP2:ϕs109.00000°, δ79.00000°, λ-156.00000°. Principal axes: T 6.3860, Plg8.0000°, Azm240.0000°; N -0.8870, Plg64.0000°, Azm133.0000°; P -5.4990, Plg25.0000°, Azm334.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***15*** *14:10:06.0±0.0, 15°.70S×41°.10E, h30km, mB5.2/21, mb4.7/28, Ms5.0/6, Ms7 4.7/9*
EAF ***15*** *14:10:09.6±10.0, 14°.69S×40°.47E, h10km±593km, mb6.8, mb6.1*

ISC 15 14:10:02.2±0.3, 15°.61S±0°.04×40°.98E±0°.04, h10km, n642, σ1§45/640, mb5.2/170, MS4.3/50, 76C-126D, Fault plane solution: NP1:ϕs6.86684°, δ64.92571°, λ-15.16585°. NP2:ϕs103.41973°, δ76.29286°, λ-154.13727°. Principal axes: T Plg7.5916°, Azm233.3542°; N Plg60.9521°, Azm129.4694°; P Plg27.8541°, Azm327.3929°;

Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**5.43**	**272**	*i* P	**Pn**	**14 11 26.1**	**+2.7**
ZOMB				S	**Sn**	**14 12 25.6**	**-0.4**
ZOMB	**Zomba**	**5.43**	**272**	*i* P	**Pn**	**14 11 26.1**	**+2.7**
ZOMB				S	**Sn**	**14 12 25.6**	**-0.4**
ZOMB	**Zomba**	**5.43**	**272**	*i* P	**Pn**	**14 11 26.6**	**+3.2**
ZOMB				*i* S	**Sn**	**14 12 24.8**	**-1.2**
ZOMB				IAML		14 13 08.6	
	comp=Z,970nm,0.6s						
CLK	**Chileka**	**5.78**	**268**	*i* P	**Pn**	**14 11 30.3**	**+2.1**
CLK				S	**Sn**	**14 12 33.5**	**-1.2**
CLK	**Chileka**	**5.78**	**268**	*i* P	**Pn**	**14 11 30.3**	**+2.1**
CLK				S	**Sn**	**14 12 33.5**	**-1.2**
OPO	**Ambohidratompo**	**6.63**	**117**	Pn	**Pn**	**14 11 39.7**	**-0.2**
	comp=Z,170nm,0.3s,baz=295,slow=13,SNR=922						
OPO				Sn	**Sn**	**14 12 47.8**	**-7.8**
	comp=Z,76nm,0.3s,baz=264,slow=18,SNR=3.1						
OPO	**Ambohidratompo**	**6.63**	**117**		**Pn**	**14 11 39.7**	**-0.2**
KIMO	**Ikongo**	**6.85**	**315**	*i* P	**Pn**	**14 11 43.3**	**+0.4**
KIMO				*i* S	**Sn**	**14 12 53.5**	**-7.6**
ABPO	**Ambohimpanom**	**6.86**	**120**	P	**Pn**	**14 11 42.1**	**-1.0**
ABPO	**Ambohimpanom**	**6.86**	**120**	Pn	**Pn**	**14 11 42.1**	**-1.0**
KURU	**Muhukuru**	**6.93**	**309**	*i* P	**Pn**	**14 11 44.6**	**+0.6**
KURU				*i* S	**Sn**	**14 12 55.5**	**-7.6**
NGEA	**Songea**	**7.12**	**313**	*i* P	**Pn**	**14 11 47.2**	**+0.5**
NGEA				*i* S	Sn	14 12 58.7	-9.1
NGEA				IAML		14 14 07.9	
	comp=Z,2μm,0.6s						
MBAM	**Mbamba Bay**	**7.42**	**305**	*i* P	**Pn**	**14 11 51.4**	**+0.7**
MBAM				IAML		14 14 13.6	
	comp=Z,3μm,1.3s						
LIGA	**Liganga**	**7.42**	**311**	*i* P	**Pn**	**14 11 51.7**	**+1.0**
LIGA				*i* S	Sn	14 13 05.8	-9.3
ZINI	**Mgazini**	**7.50**	**312**	*i* P	**Pn**	**14 11 52.4**	**+0.5**
BANG	**Mbangamawe**	**7.54**	**316**	*i* P	**Pn**	**14 11 52.6**	**+0.2**
BANG				IAML		14 14 25.2	
	comp=Z,3μm,1.1s						
TIRI	**Matiri**	**7.64**	**308**	*i* P	**Pn**	**14 11 54.9**	**+1.1**
LM118	**Lake Malawi, 1**	**7.72**	**304**	*i* P	**Pn**	**14 11 57.0**	**+2.3**
LM118				IAML		14 14 35.8	
	comp=Z,6μm,0.7s						
MKIL	**Mkili**	**7.72**	**307**	*i* P	**Pn**	**14 11 56.2**	**+1.3**
THAN	**Thanula**	**7.78**	**301**	*i* P	**Pn**	**14 11 57.7**	**+2.0**
BUMI	**Ibumi**	**8.02**	**312**	*i* P	**Pn**	**14 11 59.8**	**+0.7**
BUMI				IAML		14 14 32.6	
	comp=Z,2μm,0.4s						
WINO	**Wino**	**8.03**	**316**	*i* P	**Pn**	**14 11 58.6**	**-0.6**
LM302	**Lake Malawi, 3**	**8.03**	**305**	*i* P	**Pn**	**14 12 01.1**	**+2.2**
LM302				IAML		14 15 02.4	
	comp=Z,12μm,1.1s						
MANDA	**Manda**	**8.04**	**309**	*i* P	**Pn**	**14 12 00.1**	**+0.9**
MANDA				IAML		14 14 28.7	
	comp=Z,2μm,0.7s						
MLOW	**Mlowe**	**8.15**	**305**	*i* P	**Pn**	**14 12 01.6**	**+0.9**
MLOW				IAML		14 14 34.7	
	comp=Z,3μm,1.0s						
ENUK	**Enukweni**	**8.18**	**302**	*i* P	**Pn**	**14 12 01.7**	**+0.1**
ENUK				IAML		14 14 29.1	
	comp=Z,3μm,1.1s						
MUDIN	**Mudindi**	**8.21**	**313**	*i* P	**Pn**	**14 12 02.0**	**+0.4**
MUDIN				IAML		14 14 38.5	
	comp=Z,2μm,0.6s						
NIND	**Nindi**	**8.27**	**310**	*i* P	**Pn**	**14 12 02.9**	**+0.4**
NIND				IAML		14 14 37.0	
	comp=Z,2μm,0.5s						
NGON	**Ngonga**	**8.27**	**303**	*i* P	**Pn**	**14 12 02.5**	**0.0**
NGON				IAML		14 14 39.1	
	comp=Z,2μm,1.2s						
LM110	**Lake Malawi, 1**	**8.29**	**309**	*i* P	**Pn**	**14 12 05.0**	**+2.4**
LM110				IAML		14 14 38.5	
	comp=Z,9μm,0.5s						
KIFA	**Kifanya**	**8.32**	**316**	*i* P	**Pn**	**14 12 04.0**	**+0.8**
KIFA				*i* S	**Sn**	**14 13 29.9**	**-7.5**
LIVA	**Livingstonia**	**8.33**	**306**	*i* P	**Pn**	**14 12 04.6**	**+1.3**
LIVA				IAML		14 14 42.3	
	comp=Z,4μm,1.0s						
VOI	**Vohitsoka**	**8.34**	**140**	Pn	**Pn**	**14 12 01.4**	**-2.0**
MFRI	**Mfriga**	**8.37**	**318**	*i* P	**Pn**	**14 12 03.3**	**-0.5**
BOLE	**Bolero**	**8.41**	**302**	*i* P	**Pn**	**14 12 05.1**	**+0.7**
UNDA	**Madunda**	**8.54**	**311**	*i* P	**Pn**	**14 12 06.0**	**-0.2**
KIDE	**Kidegembe**	**8.57**	**317**	*i* P	**Pn**	**14 12 06.4**	**-0.3**
CHEL	**Chelinda**	**8.58**	**305**	*i* P	**Pn**	**14 12 07.5**	**+0.6**
CHEL				IAML		14 14 46.9	
	comp=Z,1μm,1.0s						
UWEM	**Njombe**	**8.59**	**315**	*i* P	**Pn**	**14 12 06.4**	**-0.5**
LM206	**Lake Malawi, 2**	**8.62**	**310**	*i* P	**Pn**	**14 12 08.2**	**+1.2**
LM206				IAML		14 14 55.3	
	comp=Z,13μm,1.1s						
THAZ	**Thazima**	**8.62**	**303**	*i* P	**Pn**	**14 12 07.3**	**0.0**
TOLA	**Matola**	**8.64**	**313**	*i* P	**Pn**	**14 12 07.8**	**+0.1**
LM203	**Lake Malawi, 2**	**8.66**	**309**	*i* P	**Pn**	**14 12 08.6**	**+1.0**
LM203				IAML		14 14 59.0	
	comp=Z,3μm,0.6s						
SCHM	**Mlare**	**8.66**	**308**	*i* P	**Pn**	**14 12 08.0**	**+0.3**
SCHM				IAML		14 15 01.4	
	comp=Z,854nm,1.1s						
NTHA	**Nthalire**	**8.86**	**305**	*i* P	**Pn**	**14 12 10.7**	**+0.2**
NTHA				IAML		14 14 56.6	
	comp=Z,2μm,1.2s						
LM103	**Lake Malawi, 1**	**8.90**	**310**	*i* P	**Pn**	**14 12 11.8**	**+0.9**
LM103				IAML		14 15 06.3	
	comp=Z,6μm,1.7s						
KARM1	**KARONGA**	**8.90**	**308**	*i* P	**Pn**	**14 12 11.7**	**+0.6**
KIPE	**Kipengere**	**8.95**	**314**	*i* P	**Pn**	**14 12 12.7**	**+0.7**
UKWA	**Ukwama**	**9.00**	**312**	*i* P	**Pn**	**14 12 13.0**	**+0.4**
BAKO	**Makambako**	**9.03**	**317**	*i* P	**Pn**	**14 12 12.4**	**-0.6**
BAKO				IAML		14 15 11.3	
	comp=Z,940nm,1.0s						
WENY	**Wenya**	**9.04**	**306**	*i* P	**Pn**	**14 12 13.6**	**+0.6**
KALO	**Kalowe**	**9.12**	**308**	*i* P	**Pn**	**14 12 15.0**	**+0.8**
KALO				IAML		14 15 06.2	
	comp=Z,730nm,0.9s						
MAKE	**Makete**	**9.21**	**312**	*i* P	**Pn**	**14 12 16.2**	**+0.7**
MAKE				IAML		14 15 08.0	
	comp=Z,2μm,1.0s						
KAPK	**Kapoka**	**9.35**	**307**	*i* P	**Pn**	**14 12 17.7**	**+0.5**
GAWA	**Igawa**	**9.37**	**316**	*i* P	**Pn**	**14 12 17.8**	**+0.3**
GAWA				IAML		14 15 16.3	
	comp=Z,886nm,0.8s						
ISOK	**Kyela**	**9.49**	**309**	*i* P	**Pn**	**14 12 19.8**	**+0.6**
ISOK				IAML		14 15 13.4	
	comp=Z,2μm,0.4s						
NKAL	**Nkalisi**	**9.50**	**311**	*i* P	**Pn**	**14 12 19.1**	**-0.2**
MATAM	**Matamba**	**9.52**	**313**	*i* P	**Pn**	**14 12 19.7**	**+0.1**
MATAM				IAML		14 15 20.8	
	comp=Z,1μm,0.6s						
CPMW	**Chitipa**	**9.54**	**307**	*i* P	**Pn**	**14 12 20.3**	**+0.4**
CPMW				IAML		14 15 10.9	
	comp=Z,737nm,1.3s						
CHML	**Chimala**	**9.57**	**314**	*i* P	**Pn**	**14 12 19.9**	**-0.3**
CHML				IAML		14 15 16.6	
	comp=Z,3μm,0.8s						
MZUN	**Kiwira**	**9.71**	**311**	*i* P	**Pn**	**14 12 23.1**	**+0.9**
MZUN				IAML		14 15 25.3	
	comp=Z,2μm,1.1s						
ILOM	**Ilombo**	**9.75**	**309**	*i* P	**Pn**	**14 12 22.9**	**0.0**
ILOM				IAML		14 15 18.0	
	comp=Z,725nm,0.5s						
ITUM	**Tunduma**	**9.79**	**308**	*i* P	**Pn**	**14 12 24.1**	**+0.8**
ITUM				IAML		14 15 39.0	
	comp=Z,497nm,0.8s						
ILIND	**Ilindi**	**9.89**	**310**	*i* P	**Pn**	**14 12 25.6**	**+0.8**
ILIND				IAML		14 15 33.9	
	comp=Z,910nm,0.5s						
JILO	**Lwanjilo**	**9.96**	**313**	*i* P	**Pn**	**14 12 26.7**	**+0.9**
JILO				IAML		14 15 32.6	
	comp=Z,647nm,0.8s						
PDHT	**Panda Hill**	**10.02**	**310**	*i* P	**Pn**	**14 12 26.5**	**0.0**
LOSI	**Makongolosi**	**10.48**	**312**	*i* P	**Pn**	**14 12 34.0**	**+1.3**
LOSI				IAML		14 15 50.1	
	comp=Z,497nm,1.4s						
DODT	**Dodoma, Tanzan**	**10.67**	**331**	*i* P	**Pn**	**14 12 33.7**	**-1.7**
KOND	**Kondoa**	**11.79**	**334**	*i* S	**Sn**	**14 15 06.0**	**+3.3**
LSZ	**Lusaka**	**12.34**	**270**	Pn	**Pn**	**14 12 59.3**	**+1.2**
	comp=Z,3.9nm,0.3s,baz=94,slow=11,SNR=34						
LSZ				Sn	**Sn**	**14 15 13.4**	**-2.5**
	comp=Z,7.7nm,0.3s,baz=12,slow=14,SNR=6.3						
LSZ				Lg	Lg	14 16 23.7	
	comp=Z,9.3nm,0.3s,baz=169,slow=18,SNR=2.5						
LSZ				LR	LR	14 17 47.3	
	comp=Z,1μm,19.3s,baz=92,slow=37						
LSZ	**Lusaka**	**12.34**	**270**	Pn	**Pn**	**14 12 58.5**	**+0.3**
LSZ	**Lusaka**	**12.34**	**270**	*i* P	**Pn**	**14 12 58.4**	**+0.2**
LSZ	**Lusaka**	**12.34**	**270**	*i* P	**Pn**	**14 12 58.4**	**+0.2**
LSZ	**Lusaka**	**12.34**	**270**	*i* P	**Pn**	**14 13 00.4**	**+2.2**
LSZ				IAML		14 16 54.7	
	comp=Z,800nm,1.6s						
SINGT	**Singida**	**12.36**	**330**	*i* P	**Pn**	**14 12 55.4**	**-3.2**
BLWY	**Bulawayo**	**12.61**	**247**	*i* P	**Pn**	**14 13 00.9**	**-0.9**
BLWY	**Bulawayo**	**12.61**	**247**	*i* P	**Pn**	**14 13 00.9**	**-0.9**
MATP	**Matopo**	**12.80**	**246**	Pn	**Pn**	**14 13 04.7**	**+0.2**
	comp=Z,3.7nm,0.3s,baz=72,slow=14,SNR=52						
MATP				Sn	**Sn**	**14 15 22.6**	**-4.6**
	comp=Z,2.5nm,0.3s,baz=128,slow=20,SNR=1.8						
MATP				Lg	Lg	14 16 36.5	
	comp=Z,11nm,0.3s,baz=140,slow=21,SNR=4.3						
MATP				LR	LR	14 18 10.7	
	comp=Z,2μm,18.7s,baz=80,slow=38						
MATP	**Matopo**	**12.80**	**246**		**Pn**	**14 13 04.7**	**+0.2**
MATP	**Matopo**	**12.80**	**246**	*i* P	**Pn**	**14 13 03.5**	**-1.0**
MATP	**Matopo**	**12.80**	**246**	*i* P	**Pn**	**14 13 03.5**	**-1.0**
KIBK	**Kibwezi**	**13.50**	**347**		**Pn**	**14 13 09.6**	**-4.4**
LBB	**Lubumbashi**	**13.70**	**285**	*i* P	**Pn**	**14 13 16.5**	**-0.3**
LESE	**Lesego, Limpop**	**13.71**	**229**	*i* P	**Pn**	**14 13 15.3**	**-1.5**
ITZ	**Itezhi-Tezhi**	**14.41**	**267**	*i* P	**Pn**	**14 13 26.6**	**+0.1**
ITZ				*i*		14 13 26.7	
	baz=162,slow=28						
ITZ				IVmB_BB		14 13 30.3	
	comp=Z,2μm,0.8s						
ITZ				*e*S	**Sn**	**14 16 00.2**	**-6.4**
ITZ				IAML		14 17 53.3	
	comp=Z,958nm,1.1s						
ITZ				IAmb	IAmb	14 17 53.9	
	comp=Z,2μm,1.1s						
ITZ	**Itezhi-Tezhi**	**14.41**	**267**	*i* P	**Pn**	**14 13 26.6**	**+0.1**
ITZ				*i*		14 13 26.7	
	baz=162,slow=28						
ITZ				IVmB_BB		14 13 30.3	
	comp=Z,2μm,0.8s						
ITZ				*e*S	**Sn**	**14 16 00.2**	**-6.4**
ITZ				IAML		14 17 53.3	
	comp=Z,958nm,1.1s						
ITZ				IAmb	IAmb	14 17 53.9	
	comp=Z,2μm,1.1s						
POGA	**Pongola**	**14.51**	**215**	*i* P	**Pn**	**14 13 24.2**	**-3.5**
POGA	**Pongola**	**14.51**	**215**	*i* P	**Pn**	**14 13 24.2**	**-3.5**
KMBO	**Kilima Mbogo**	**14.85**	**345**	Pn	**Pn**	**14 13 28.8**	**-3.9**
	comp=Z,3.9nm,0.3s,baz=167,slow=14,SNR=22						
KMBO				Sn	Sn	14 16 03.8	-14
	comp=Z,1.8nm,0.3s,baz=226,slow=22,SNR=1.8						
KMBO				Lg	Lg	14 17 52.2	
	baz=246,slow=20,SNR=1.3						
KMBO				LR	LR	14 19 35.1	
	comp=Z,3μm,19.2s,baz=152,slow=39						
KMBO	**Kilima Mbogo**	**14.85**	**345**		**Pn**	**14 13 28.8**	**-3.9**
LBTB	**Lobatse**	**17.18**	**235**	P	**Pn**	**14 13 59.9**	**-2.7**
LBTB	**Lobatse**	**17.18**	**235**	Pn	**Pn**	**14 13 59.9**	**-2.7**
MSEY	**Mahe Island**	**17.92**	**54**	P	**Pn**	**14 14 11.2**	**-0.7**
MSEY				pmax	pmax		
	comp=Z,260nm,1.4s						
MSEY	**Mahe Island**	**17.92**	**54**	P	**Pn**	**14 14 11.2**	**-0.7**
MSEY				IAmb	IAmb	14 14 13.8	
	comp=Z,260nm,1.4s						
MBAR	**Mbarara**	**18.02**	**325**	P	**Pn**	**14 14 10.8**	**-2.3**
	comp=Z,18nm,0.3s,baz=129,slow=16,SNR=68						
MBAR				S	Sn	14 17 18.2	-16
	comp=Z,9.7nm,0.3s,baz=66,slow=20,SNR=2.2						
MBAR				Lg	Lg	14 19 20.6	
	baz=151,slow=19,SNR=3.7						
MBAR				LR	LR	14 21 18.1	
	comp=Z,3μm,18.1s,baz=136,slow=37						
MBAR	**Mbarara**	**18.02**	**325**	P	**Pn**	**14 14 10.6**	**-2.5**
MBAR				pmax	pmax		
	comp=Z,101nm,0.8s						
MBAR	**Mbarara**	**18.02**	**325**	P	**Pn**	**14 14 10.6**	**-2.5**
MBAR	**Mbarara**	**18.02**	**325**	*e*P	**Pn**	**14 14 11.8**	**-1.3**
MBAR				*e*S	Sn	14 17 18.4	-16
MBAR	**Mbarara**	**18.02**	**325**	*i* P	**Pn**	**14 14 12.4**	**-0.7**
BOSA	**Boshof**	**19.46**	**226**	P	**P**	**14 14 29.3**	**0.0**
	comp=Z,6.5nm,0.3s,baz=54,slow=12,SNR=57						
BOSA				S	Sn	14 17 56.7	-12
	comp=Z,0.8nm,0.3s,baz=123,slow=22,SNR=2.2						
BOSA				LR	LR	14 23 17.5	
	comp=Z,1μm,19.2s,baz=65,slow=41						
BOSA	**Boshof**	**19.46**	**226**	P	**P**	**14 14 28.6**	**-0.7**
BOSA	**Boshof**	**19.46**	**226**		Sn	14 17 56.7	-12
BOSA	**Boshof**	**19.46**	**226**	*i* P	**P**	**14 14 26.3**	**-3.0**
BOSA	**Boshof**	**19.46**	**226**	*i* P	**P**	**14 14 26.3**	**-3.0**
BOSA	**Boshof**	**19.46**	**226**	*i* P	**P**	**14 14 29.5**	**+0.2**
LODK	**Lodwar**	**19.71**	**343**	P	**P**	**14 14 32.4**	**+0.4**
TSUM	**Tsumeb**	**22.60**	**258**	P	**P**	**14 15 05.1**	**+1.7**
	comp=Z,133nm,0.9s,baz=82,slow=8.5,SNR=106						
TSUM				S	**S**	**14 19 07.9**	**-3.4**
	comp

ISP Isparta 54.05 350 *e*P **P 14 19 27.0 0.0**
ISP Isparta 54.05 350 P **P 14 19 27.0 0.0**
ISP IAmb IAmb 14 19 28.7
comp=Z,32nm,0.8s
BNN Bunyan 54.39 355 P **P 14 19 30.2 +0.7**
BR131 Keskin Array S 55.47 353 *e*P **P 14 19 37.3 0.0**
BR131 Keskin Array S 55.47 353 P **P 14 19 37.3 0.0**
BR131 IAmb IAmb 14 19 39.1
comp=Z,25nm,1.1s
BRTR Keskin Array B 55.47 353 P **P 14 19 37.9 +0.6**
comp=Z,11nm,0.9s,baz=178,slow=8.7,SNR=49
BRTR LR LR 14 42 42.1
comp=Z,160nm,22.0s,baz=214,slow=35
BRTR Keskin Array B 55.47 353 P **P 14 19 37.0 -0.3**
GNI Garni 55.58 3 *de*P **P 14 19 39.0 +0.8**
GNI pmax pmax
comp=Z,30nm,1.4s
GNI Garni 55.58 3 P **P 14 19 38.4 +0.3**
GNI IAmb IAmb 14 19 53.2
comp=Z,39nm,1.4s
GEYT Alibeck 55.63 16 P **P 14 19 39.4 +1.0**
comp=Z,1.1nm,0.4s,baz=220,slow=13,SNR=2.2
GEYT LR LR 14 45 18.2
comp=Z,232nm,19.2s,baz=175,slow=38
BALB Balikesir 56.30 348 P **P 14 19 44.6 +1.4**
MDUB Mudurnu 56.53 351 P **P 14 19 45.9 +1.0**
AKH Akhalkalaki 56.78 2 P **P 14 19 48.9 +2.2**
EDC Edincik 56.99 348 P **P 14 19 50.2 +2.2**
ALN Alexandroupoli 57.90 347 P **P 14 19 55.4 +1.0**
ALN pmax pmax
comp=Z,23nm,1.0s
ALN Alexandroupoli 57.90 347 P **P 14 19 55.4 +1.0**
ALN IAmb IAmb 14 19 56.5
comp=Z,23nm,1.0s
ONI Oni 57.95 2 P **P 14 19 56.1 +1.3**
ONI pmax pmax
comp=Z,20nm,1.3s
ONI Oni 57.95 2 P **P 14 19 56.1 +1.3**
ZEI Tsey 58.17 3 *e*P **P 14 19 56.7 +0.2**
ZEI pmax pmax
comp=Z,36nm,1.4s
RAFF Raffo Rosso 58.22 335 P **P 14 19 57.6 +0.8**
RAFF IAmb IAmb 14 20 00.1
comp=Z,51nm,1.4s
SOH Sokhos 58.48 344 P **P 14 19 59.7 +1.2**
SOH pmax pmax
comp=Z,18nm,1.1s
MAK Makhachkala 58.59 6 *e*P P 14 19 53.8 -5.3
MAK *e*S **S 14 27 55.0 -8.1**
MAK pmax pmax
comp=Z,79nm,0.6s
MAK MLR MLR
comp=Z,164nm,15.0s
NEY Neytrino 58.59 1 *i*P **P 14 20 01.3 +1.9**
NEY pmax pmax
comp=Z,10.0nm,1.8s
GROC Groznyy 58.69 4 *e*P **P 14 19 56.9 -3.0**
GROC pmax pmax
comp=Z,25nm,0.5s
SRS Serrai 58.69 345 P **P 14 20 00.6 +0.6**
SRS pmax pmax
comp=Z,18nm,1.3s
NCK Nalchik 58.86 2 *i*P **P 14 20 01.1 0.0**
NCK pmax pmax
comp=Z,17nm,0.4s
FNA Florina 58.98 343 P **P 14 20 02.6 +0.5**
FNA pmax pmax
comp=Z,25nm,1.2s
FNA Florina 58.98 343 P **P 14 20 02.6 +0.5**
FNA IAmb IAmb 14 20 04.1
comp=Z,25nm,1.2s
CLTB Caltabellotta 59.00 334 P **P 14 20 03.1 +0.8**
CLTB IAmb IAmb 14 20 04.5
comp=Z,16nm,0.9s
KBN Korca 59.01 342 P **P 14 20 03.9 +1.6**
KBN pmax pmax
comp=Z,23nm,0.9s
KBN Korca 59.01 342 P **P 14 20 03.9 +1.6**
KBN IAmb IAmb 14 20 07.0
comp=Z,23nm,0.9s
KBZ Khabaz 59.07 2 P **P 14 20 03.8 +1.3**
comp=Z,4.3nm,0.9s,baz=183,slow=5.8,SNR=12
KBZ LR LR 14 48 26.3
comp=Z,134nm,18.5s,baz=179,slow=39
KBZ Khabaz 59.07 2 *ce*P **P 14 20 02.8 +0.3**
KBZ pmax pmax
comp=Z,15nm,1.4s
KBZ Khabaz 59.07 2 P **P 14 20 03.8 +1.3**
SHA1 Shidzhatmaz 59.08 1 *i*P **P 14 20 03.6 +0.7**
KEST Kesra 59.20 330 P **P 14 20 05.7 +2.0**
comp=Z,9.4nm,0.8s,baz=172,slow=7.6,SNR=14
KEST LR LR 14 45 46.1
comp=Z,328nm,20.8s,baz=9.5,slow=36
KEST Kesra 59.20 330 P **P 14 20 06.0 +2.3**
KEST IAmb IAmb 14 20 06.9
comp=Z,15nm,0.9s
SCTE Santa Cesarea 59.23 340 P **P 14 20 05.8 +2.2**
KIV Kislovodsk 59.29 1 *e*P **P 14 20 04.4 +0.2**
KIV *e*S **S 14 28 12.7 +0.2**
KIV *e*SS **SS 14 32 10.6 +2.9**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,94nm,17.0s
OHR Ohrid 59.45 342 *i*P P 14 19 58.6 -6.7
STIP Stip 59.60 344 *i*P **P 14 20 07.3 +1.0**
KALB Balgarevo 59.84 349 ⇓P P 14 20 21.9 +14
TIR Tirane 59.95 342 P **P 14 20 10.9 +2.3**
TIR pmax pmax
comp=Z,75nm,1.0s
SKO Skopje 60.06 343 *i*P **P 14 20 10.7 +1.2**
VTS Vitosha 60.20 345 ⇑P **P 14 20 10.8 +0.3**
VTS Vitosha 60.20 345 ⇑P **P 14 20 10.8 +0.3**
VTS Vitosha 60.20 345 P **P 14 20 09.8 -0.7**
MATE Matera 60.34 339 ⇓P **P 14 20 13.0 +1.6**
PUK Puka 60.57 342 P **P 14 20 14.7 +1.7**
PUK IAmb IAmb 14 20 15.9
comp=Z,29nm,1.0s
GAR Garm 60.86 26 P **P 14 20 15.3 +0.2**
TIRR Tirgusor 60.87 350 ⇑P **P 14 20 15.2 +0.4**
TIRR Tirgusor 60.87 350 P **P 14 20 15.3 +0.5**
TIRR pmax pmax
comp=Z,67nm,1.2s
TIRR Tirgusor 60.87 350 P **P 14 20 15.3 +0.5**
PDG Podgorica 61.12 342 ⇓P **P 14 20 18.2 +1.6**
PDG Podgorica 61.12 342 P **P 14 20 18.2 +1.6**
PDG IAmb IAmb 14 20 19.3
comp=Z,21nm,0.9s
TPGR Topolog 61.25 350 ⇓P **P 14 20 17.6 +0.1**
CFR Carcaliu 61.61 350 ⇓P **P 14 20 20.1 +0.3**
CFR Carcaliu 61.61 350 ⇓P **P 14 20 20.1 +0.3**
SNAA Sanae 61.73 194 P **P 14 20 22.0 +1.4**
SNAA Sanae 61.73 194 P **P 14 20 21.9 +1.4**
comp=Z,3.1nm,0.8s,baz=97,slow=6.5,SNR=9.2
SNAA Sanae 61.73 194 *i*P **P 14 20 20.8 +0.3**
SNAA pmax pmax
comp=Z,8.0nm,1.2s
SNAA Sanae 61.73 194 P **P 14 20 21.6 +1.1**
ISR Istrita 61.84 348 ⇓P **P 14 20 23.1 +1.6**
ISR Istrita 61.84 348 ⇓P **P 14 20 23.1 +1.6**
BISRR Bisoca 62.23 349 ⇑P P 14 20 17.3 -6.8
VSL Villasalto 62.25 333 P **P 14 20 24.9 +0.5**
VSL IAmb IAmb 14 20 27.5
comp=Z,24nm,0.9s
MLR Muntele Rosu 62.32 348 ⇓P **P 14 20 26.2 +1.4**
MLR Muntele Rosu 62.32 348 P **P 14 20 25.7 +0.9**
MLR pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 62.32 348 P **P 14 20 25.7 +0.9**
MLR IAmb IAmb 14 20 27.7
comp=Z,20nm,1.1s
ODBI Odobesti 62.37 349 ⇓P **P 14 20 27.4 +2.5**
VNA2 Neumayer--Watz 62.42 196 P **P 14 20 23.0 -2.1**
DIVS Divibare 62.44 343 P **P 14 20 26.9 +1.4**
DIVS IAmb IAmb 14 20 28.3
comp=Z,27nm,1.1s
VOIR 62.45 347 ⇑P **P 14 20 26.1 +0.5**
VOIR 62.45 347 ⇑P **P 14 20 26.1 +0.5**
HERR Herculane 62.52 345 ⇑P **P 14 20 27.0 +1.0**
PLOR Plostina 62.53 349 ⇓P **P 14 20 27.0 +0.9**
PLOR Plostina 62.53 349 ⇓P **P 14 20 27.0 +0.9**
VRI Vrincioaia 62.53 349 ⇓P **P 14 20 27.9 +1.8**
VRI Vrincioaia 62.53 349 ⇓P **P 14 20 27.9 +1.8**
MDVR Moldovita 62.61 345 ⇑P **P 14 20 27.4 +0.7**

LOT Lotru 62.74 346 ⇑P **P 14 20 28.4 +0.8**
DOPR Dopca 62.89 348 ⇓P **P 14 20 28.2 -0.3**
GZR Gura Zlata 62.92 346 ⇓P **P 14 20 29.9 +1.1**
GZR Gura Zlata 62.92 346 ⇓P **P 14 20 29.9 +1.1**
OZUR 62.93 348 ⇑P **P 14 20 28.8 0.0**
VNA3 Neumayer Olymp 63.21 196 P **P 14 20 32.2 +1.8**
BZS Buzias 63.41 345 ⇓P **P 14 20 32.8 +0.9**
BZS Buzias 63.41 345 ⇓P **P 14 20 32.8 +0.9**
FRGS Fruska Gora 63.46 343 ⇑P **P 14 20 33.6 +1.3**
KSH Kashi 63.82 30 P P 14 20 39.8 +4.8
KSH pmax pmax
comp=Z,6.0nm,2.2s
KSH pmax pmax
comp=Z,110nm,4.5s
KSH LR LR
comp=Z,170nm,7.7s
KSH LR LR
comp=Z,170nm,10.5s
KSH LR LR
comp=Z,230nm,8.9s
SIRR Siria 64.01 345 ⇓P **P 14 20 37.5 +1.6**
ARCR ARCALIA 64.17 347 ⇑P **P 14 20 38.3 +1.4**
DRGR 64.25 346 ⇑P **P 14 20 38.6 +1.1**
DRGR 64.25 346 ⇑P **P 14 20 38.6 +1.1**
SHL Shillong 64.27 51 P **P 14 20 39.9 +1.6**
SHL pmax pmax
comp=Z,18nm,0.9s
KK31 Karatay Array 64.41 24 P **P 14 20 38.6 0.0**
KK31 pmax pmax
comp=Z,73nm,1.4s
KK31 Karatay Array 64.41 24 P **P 14 20 38.5 0.0**
KKAR Karatay Array 64.41 24 P **P 14 20 38.5 -0.1**
KKAR 14 20 38.6
KKAR pmax pmax
comp=Z,73nm,1.4s
KKAR Karatay Array 64.41 24 P **P 14 20 38.5 -0.1**
KKAR Karatay Array 64.41 24 P **P 14 20 38.6 -0.1**
KKAR IAmb IAmb 14 20 52.6
comp=Z,73nm,1.4s
SORM Soroca 64.45 351 ⇓P **P 14 20 38.2 -0.5**
SORM Soroca 64.45 351 ⇓P **P 14 20 38.2 -0.5**
BURAR Bucovina Array 64.50 348 ⇓P **P 14 20 40.3 +1.1**
BURAR ⇑P **P 14 20 40.3 +1.1**
BURAR Bucovina Array 64.50 348 ⇑P **P 14 20 40.3 +1.1**
BURAR Bucovina Array 64.50 348 P **P 14 20 40.2 +1.1**
BURAR IAmb IAmb 14 20 41.9
comp=Z,29nm,1.3s
BUR08 Bucovina Ar. S 64.53 348 P **P 14 20 39.9 +0.5**
MORH Mrgy, Hungar 64.76 343 ⇑P **P 14 20 41.4 +0.6**
MORH Mrgy, Hungar 64.76 343 *e*P **P 14 20 40.6 -0.2**
KOVH Kovagotottos 64.80 343 *e*P **P 14 20 41.9 +0.9**
GCIS Gornji Cirnik 65.34 341 *i*P **P 14 20 45.9 +1.3**
PDKS Podkum 65.72 340 *i*P **P 14 20 48.3 +1.2**
comp=Z,64nm,1.0s
MPLH Magyarpolny 65.94 343 *e*P **P 14 20 49.1 +0.7**
PSZ Piszkesteto 65.99 345 ⇑P **P 14 20 49.0 +0.2**
PSZ Piszkesteto 65.99 345 *e*P **P 14 20 49.0 +0.2**
PSZ Piszkesteto 65.99 345 P **P 14 20 49.0 +0.2**
PSZ pmax pmax
comp=Z,17nm,0.8s
PSZ Piszkesteto 65.99 345 P **P 14 20 49.0 +0.2**
PSZ IAmb IAmb 14 20 50.2
comp=Z,17nm,0.8s
UZH Uzhgorod 66.08 347 *e*P **P 14 20 49.5 +0.3**
UZH *e* 14 20 58.9
BOOM Boomskoye usch 66.16 28 P **P 14 20 49.3 -0.9**
BOOM pmax pmax
comp=Z,15nm,1.2s
BOOM Boomskoye usch 66.16 28 P **P 14 20 49.3 -0.9**
SOKA Soboth 66.25 341 *i*P **P 14 20 51.6 +1.0**
comp=Z,27nm,1.3s,SNR=16
OBKA Obir 66.26 340 *i*P **P 14 20 51.7 +1.1**
comp=Z,33nm,1.1s,SNR=16
VORD Divnogorie 66.30 359 *e*P **P 14 20 50.4 -0.2**
VORD pmax pmax
comp=Z,30nm,1.0s
CMAR Chiang Mai Arr 66.36 61 P **P 14 20 51.4 -0.3**
comp=Z,0.6nm,0.4s,baz=262,slow=6.3,SNR=2.1
CMAR LR LR 14 45 57.0
comp=Z,93nm,19.9s,baz=246,slow=33
CMAR Chiang Mai Arr 66.36 61 P **P 14 20 51.4 -0.3**
KECS Kecovo 66.36 345 *e*P **P 14 20 52.2 +1.1**
KECS pmax pmax
comp=Z,13nm,0.9s
KECS Kecovo 66.36 345 *e*P **P 14 20 52.2 +1.1**
KOLS Kolonicke sedl 66.37 347 *e*P **P 14 20 52.1 +1.0**
KOLS Kolonicke sedl 66.37 347 *e*P **P 14 20 52.1 +1.0**
ROBS Robic 66.37 340 *i*P **P 14 20 51.8 +0.6**
comp=Z,50nm,1.3s
KDJ Kajisay 66.44 29 P **P 14 20 51.3 -0.7**
KDJ pmax pmax
comp=Z,7.0nm,1.0s
KDJ Kajisay 66.44 29 P **P 14 20 51.3 -0.7**
CRVS Cervenica-Dubn 66.52 346 *e*P **P 14 20 53.1 +0.9**
CRVS pmax pmax
comp=Z,45nm,1.4s
CRVS Cervenica-Dubn 66.52 346 *e*P **P 14 20 53.0 +0.9**
VRH Novokhopyorsk 66.53 1 *e*P **P 14 20 51.4 -0.6**
VRH pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 66.56 359 *e*P **P 14 20 51.7 -0.5**
VSR pmax pmax
comp=Z,40nm,1.0s
ARSA Arzberg 66.61 341 *e*P **P 14 20 53.8 +1.0**
comp=Z,25nm,1.5s,SNR=8.8
STAL STALIGIAL 66.66 339 P **P 14 20 54.0 +0.9**
STAL IAmb IAmb 14 20 54.8
comp=Z,28nm,1.2s
MYKA Terra Mystica 66.66 340 *i*P **P 14 20 54.0 +0.9**
comp=Z,17nm,1.3s,SNR=7.4
SOP Sopron 66.69 342 *e*P **P 14 20 53.7 +0.5**
SAOF Saorge 66.70 334 P **P 14 20 54.9 +1.5**
SAOF pmax pmax
comp=Z,15nm,0.5s
ABKAR Akbulak array 66.73 13 P **P 14 20 52.6 -0.8**
ABKAR IAmb IAmb 14 21 10.3
comp=Z,16nm,1.1s
ABKAR Akbulak array 66.73 13 P **P 14 20 52.9 -0.5**
VYHS Vyhne 66.79 344 *e*P **P 14 20 54.5 +0.6**
VYHS pmax pmax
comp=Z,30nm,1.5s
VYHS Vyhne 66.79 344 *e*P **P 14 20 54.5 +0.6**
ZOU Zoufplan 66.82 339 P **P 14 20 54.4 0.0**
ZOU IAmb IAmb 14 20 56.3
comp=Z,19nm,1.3s
AKASG Malin Array Be 66.83 352 P **P 14 20 53.2 -0.8**
comp=Z,9.1nm,0.8s,baz=172,slow=5.5,SNR=32
AKASG LR LR 14 53 04.4
comp=Z,64nm,18.8s,baz=10.0,slow=39
AKASG Malin Array Be 66.83 352 P **P 14 20 53.6 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,1.3s
AKASG Malin Array Be 66.83 352 P **P 14 20 53.6 -0.4**
AKBB Malin Array Si 66.83 352 *ce*P **P 14 20 53.3 -0.7**
AKBB Malin Array Si 66.83 352 P **P 14 20 53.8 -0.2**
AKBB IAmb IAmb 14 20 54.4
comp=Z,11nm,0.8s
SALO Salr 66.89 337 P **P 14 20 54.1 -0.4**
SALO IAmb IAmb 14 21 10.7
comp=Z,21nm,0.8s
KWP Kalwaria Pacla 66.93 347 *e*P **P 14 20 55.1 +0.4**
KWP Kalwaria Pacla 66.93 347 P **P 14 20 54.8 +0.1**
KWP Kalwaria Pacla 66.93 347 P **P 14 20 54.8 +0.1**
ZST Bratislava 67.00 343 *e*P **P 14 20 55.4 +0.3**
ZST pmax pmax
comp=Z,60nm,1.4s
ZST Bratislava 67.00 343 *e*P **P 14 20 55.4 +0.3**
ISO Isola 67.08 334 P **P 14 20 58.1 +2.3**
ISO pmax pmax
comp=Z,16nm,1.6s
MODS Modra-Piesok 67.11 343 *e*P **P 14 20 57.4 +1.5**
MODS pmax pmax
comp=Z,34nm,1.4s
MODS Modra-Piesok 67.11 343 *e*P **P 14 20 57.4 +1.5**
CONA Conrad Observa 67.11 342 *i*P **P 14 20 56.5 +0.5**
comp=Z,26nm,1.3s,SNR=14
ABTA Abfaltersbach 67.15 339 *e*P **P 14 20 57.2 +0.9**
comp=Z,14nm,1.1s,SNR=7.3
KBA Koelnbreinsper 67.16 340 *i*P **P 14 20 56.7 +0.3**
comp=Z,18nm,1.1s,SNR=7.2
KBA Koelnbreinsper 67.16 340 P **P 14 20 56.9 +0.5**
KBA pmax pmax
comp=Z,16nm,1.2s
LANS Liptovska Anna 67.24 345 *e*P **P 14 20 57.7 +1.0**

LANS pmax pmax
comp=Z,13nm,1.0s
LANS Liptovska Anna 67.24 345 *e*P **P 14 20 57.7 +1.0**
JAVC Velka Javorina 67.44 344 *e*P **P 14 20 58.8 +0.8**
MOA Molln 67.53 341 *i*P **P 14 20 59.3 +0.7**
comp=Z,36nm,1.5s,SNR=13
MBDF Montbardon 67.63 334 *e*P **P 14 21 02.3 +2.8**
MBDF pmax pmax
comp=Z,23nm,1.2s
WTTA Wattenberg 67.89 339 *i*P **P 14 21 01.8 +0.7**
comp=Z,16nm,0.9s,SNR=6.8
WTTA Wattenberg 67.89 339 P **P 14 21 02.0 +0.9**
WTTA pmax pmax
comp=Z,19nm,1.2s
BNI Bardonecchia 67.94 334 P **P 14 21 02.6 +1.2**
BNI pmax pmax
comp=Z,23nm,1.3s
BNI Bardonecchia 67.94 334 P **P 14 21 02.6 +1.2**
BNI IAmb IAmb 14 21 07.5
comp=Z,23nm,1.3s
LPSR Galich'ya Gora 67.95 359 *e*P **P 14 21 00.2 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
WATA Walderalm 67.98 339 *e*P **P 14 21 01.8 +0.2**
comp=Z,12nm,0.8s
KRUC Moravsky 67.98 343 P **P 14 21 01.4 0.0**
KRUC pmax pmax
comp=Z,12nm,1.6s
KRUC Moravsky 67.98 343 *e*P **P 14 21 01.1 -0.3**
FETA Feichten 68.01 338 *i*P **P 14 21 02.6 +0.8**
comp=Z,37nm,1.1s,SNR=25
TUE Stuetta 68.05 337 P **P 14 21 02.3 +0.2**
TUE IAmb IAmb 14 21 25.8
comp=Z,21nm,1.0s
VRAC Vranov 68.15 343 P **P 14 21 02.3 -0.2**
VRAC pmax pmax
comp=Z,12nm,1.3s
VRAC Vranov 68.15 343 *e*P **P 14 21 02.2 -0.2**
MOTA Moosalm 68.15 339 *i*P **P 14 21 03.0 +0.3**
comp=Z,27nm,1.1s,SNR=12
LPG La Plagne 68.27 335 *e*P **P 14 21 03.6 0.0**
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 68.29 335 *e*P **P 14 21 03.7 0.0**
LPL pmax pmax
comp=Z,16nm,1.2s
MORC Moravsky Berou 68.31 344 ⇓P **P 14 21 03.6 +0.1**
MORC Moravsky Berou 68.31 344 ⇓P **P 14 21 03.6 +0.1**
MORC Moravsky Berou 68.31 344 *e*P **P 14 21 03.8 +0.3**
CKRC Cesky Krumlov 68.38 341 *e*P **P 14 21 04.1 +0.2**
CKRC *ex* x 14 21 14.5
CKRC AMS AMS 14 55 10.0
comp=Z,200nm,22.0s
RETA Reutte 68.39 338 *i*P **P 14 21 04.8 +0.7**
comp=Z,35nm,1.2s,SNR=12
TREC Trest 68.45 342 AMS AMS 14 55 30.0
comp=Z,200nm,15.4s
DAVA Damuels 68.54 338 *i*P **P 14 21 06.0 +0.9**
comp=Z,39nm,1.3s,SNR=7.6
GEC2 GERESS Array S 68.59 341 P **P 14 21 05.3 -0.1**
GEC2 IAmb IAmb 14 21 06.4
comp=Z,13nm,0.9s
GERES GERESS Array B 68.59 341 P **P 14 21 05.5 +0.2**
comp=Z,6.0nm,0.8s,baz=141,slow=5.1,SNR=40
GERES LR LR 14 53 25.1
comp=Z,158nm,20.5s,baz=187,slow=38
GERES GERESS Array B 68.59 341 P **P 14 21 05.1 -0.3**
VIVF Saint-Julien-l 68.63 333 *e*P **P 14 21 06.9 +1.3**
VIVF pmax pmax
comp=Z,30nm,1.5s
SENIN Lac Senin/Sane 68.75 336 P **P 14 21 06.8 +0.2**
KRLC Kraliky 68.79 344 P **P 14 21 07.2 +0.7**
KRLC Kraliky 68.79 344 AMS AMS 14 56 40.0
comp=Z,100nm,17.2s
KHC Kasperske Hory 68.88 341 *e*P **P 14 21 06.8 -0.3**
KHC MLR MLR
comp=Z,200nm,22.3s
KHC Kasperske Hory 68.88 341 *e*P **P 14 21 06.8 -0.3**
KHC AMS AMS 14 53 20.0
comp=Z,200nm,22.3s
KHC Kasperske Hory 68.88 341 P **P 14 21 07.2 +0.1**
ESBB Sonseca Array 69.12 324 P **P 14 21 10.3 +1.5**
ESBB IAmb IAmb 14 21 11.6
comp=Z,12nm,0.8s
ESDC Sonseca Array 69.12 324 P **P 14 21 10.4 +1.6**
comp=Z,9.0nm,0.8s,baz=133,slow=5.6,SNR=58
ESDC LR LR 14 52 56.9
comp=Z,572nm,20.1s,baz=150,slow=37
ESDC Sonseca Array 69.12 324 P **P 14 21 10.2 +1.4**
DPC Dobruska-Polom 69.16 343 *e*P **P 14 21 09.1 +0.3**
DPC Dobruska-Polom 69.16 343 *e*P **P 14 21 09.1 +0.3**
PAB San Pablo 69.25 324 P **P 14 21 10.8 +1.2**
PAB pmax pmax
comp=Z,11nm,1.0s
PAB San Pablo 69.25 324 P **P 14 21 10.8 +1.2**
PRU Pruhonice 69.35 342 AMS AMS 14 53 30.0
comp=Z,200nm,18.3s
OSTC Ostas 69.38 343 AMS AMS 14 56 20.0
comp=Z,200nm,16.7s
UPC Upice 69.39 343 *e*P **P 14 21 10.5 +0.4**
UPC MLR MLR
comp=Z,200nm,20.5s
UPC Upice 69.39 343 *e*P **P 14 21 10.5 +0.4**
UPC AMS AMS 14 56 40.0
comp=Z,200nm,20.5s
PRA Prague 69.45 342 AMS AMS 14 54 10.0
comp=Z,200nm,21.8s
SLE Schleitheim 69.45 337 P **P 14 21 11.9 +1.3**
SLE pmax pmax
comp=Z,48nm,1.1s
KSP Ksiaz 69.62 344 *e*P **P 14 21 12.3 +0.8**
KSP Ksiaz 69.62 344 P **P 14 21 12.0 +0.5**
KSP pmax pmax
comp=Z,13nm,1.0s
MORW Morawa 69.72 116 P **P 14 21 12.5 -0.2**
MORW IAmb IAmb 14 21 36.2
comp=Z,23nm,1.2s
PVCC Panska Ves 69.82 342 AMS AMS 14 53 50.0
comp=Z,200nm,17.7s
PVAQ Vaqueiros 69.83 320 *e*LR LR 14 48 52.1
comp=Z,183nm,20.0s
BFO Black Forest 69.98 337 P **P 14 21 14.0 +0.1**
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 69.98 337 P **P 14 21 14.0 +0.1**
BFO IAmb IAmb 14 21 15.9
comp=Z,16nm,1.1s
HINF Hinteralfeld 70.12 336 *e*P **P 14 21 14.9 +0.2**
HINF pmax pmax
comp=Z,24nm,1.3s
GRA1 Grafenberg Arr 70.13 340 P **P 14 21 15.6 +0.9**
GRA1 IAmb IAmb 14 21 16.3
comp=Z,32nm,1.1s
GRF Grafenberg Arr 70.13 340 P **P 14 21 15.6 +0.9**
GRF pmax pmax
comp=Z,32nm,1.1s
GRF Grafenberg Arr 70.13 340 *e*P **P 14 21 15.0 +0.3**
comp=Z,26nm,0.9s,baz=140,slow=6.6
GRFO Grafenberg 70.13 340 P **P 14 21 15.9 +1.2**
GRFO pmax pmax
comp=Z,29nm,1.1s
GRFO Grafenberg 70.13 340 P **P 14 21 15.9 +1.2**
GRFO IAmb IAmb 14 21 16.2
comp=Z,29nm,1.1s
NKC Novy Kostel 70.20 341 P **P 14 21 15.9 +0.7**
NKC pmax pmax
comp=Z,5.0nm,0.9s
NKC Novy Kostel 70.20 341 AMS AMS 14 53 50.0
comp=Z,300nm,19.8s
BRG Berggiesshubel 70.31 342 P **P 14 21 16.2 +0.4**
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG Berggiesshubel 70.31 342 *e*P **P 14 21 16.0 +0.2**
BRG Amp 14 21 17.0
comp=Z,13nm,1.2s
BRG Berggiesshubel 70.31 342 P P 14 21 23.9 +8.2
BRG Amp 14 21 29.1
comp=Z,5.7nm,1.1s
PBEJ Beja 70.32 321 *e*P **P 14 21 17.9 +1.8**
PBEJ Beja 70.32 321 *e*PcP **PcP 14 21 37.9 +0.2**
ECH Echery 70.33 337 P **P 14 21 16.6 +0.6**
ECH pmax pmax
comp=Z,17nm,1.1s
ECH Echery 70.33 337 P **P 14 21 16.6 +0.6**
ECH IAmb IAmb 14 21 18.4

comp=Z,17nm,1.1s
MORF Marmelete 70.35 320 *e*P **P 14 21 18.1 +1.6**
MORF IAmb IAmb 14 21 20.1
comp=Z,47nm,1.3s
MORF Marmelete 70.35 320 *e*P **P 14 21 18.0 +1.6**
MORF pmax pmax
comp=Z,47nm,1.3s
MORF Marmelete 70.35 320 *e*P **P 14 21 19.0 +2.6**
comp=Z,49nm,1.4s
MORF Marmelete 70.35 320 *e*PcP **PcP 14 21 35.3 -2.6**
SMF Signal de Mont 70.40 334 *e*P **P 14 21 16.9 +0.4**
SMF pmax pmax
comp=Z,36nm,1.4s
MESJ Messejana 70.42 320 *e*P **P 14 21 18.4 +1.7**
MESJ IAmb IAmb 14 21 19.5
comp=Z,5.8nm,0.8s
MESJ Messejana 70.42 320 *e*P **P 14 21 18.4 +1.7**
MESJ pmax pmax
comp=Z,6.0nm,0.8s
MESJ Messejana 70.42 320 *e*P **P 14 21 18.8 +2.1**
HAU Haudompre 70.47 336 *e*P **P 14 21 17.1 +0.2**
HAU pmax pmax
comp=Z,47nm,1.2s
LFF La Frestale 70.48 331 *e*P **P 14 21 18.1 +1.2**
LFF pmax pmax
comp=Z,47nm,1.4s
OBN Obninsk 70.54 357*d i*P **P 14 21 16.9 -0.1**
OBN *e* 14 21 36.8
OBN *e*S **S 14 30 26.8 -3.5**
OBN pmax pmax
comp=Z,91nm,1.7s
PESTR Estremoz 70.69 322 *e*P **P 14 21 19.6 +1.2**
comp=Z,35nm,1.1s
PESTR Estremoz 70.69 322 *e*PcP **PcP 14 21 39.8 +0.5**
PESTR Estremoz 70.69 322 P **P 14 21 20.3 +1.9**
MNK Minsk 70.72 352 *i* P **P 14 21 17.9 -0.3**
MNK *i* 14 21 38.3
MNK *i* 14 23 54.6
MNK *i* PPP PPP 14 25 37.2
MNK *i* S **S 14 30 33.2 +0.8**
MNK *i* 14 31 20.2
MNK *i* SS **SS 14 35 05.6 +0.6**
MNK *i* SSS SSS 14 38 17.5
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,45nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK MLR MLR
comp=N,78nm,20.0s
MNK MLR MLR
comp=Z,109nm,22.0s
MNK Minsk 70.72 352 *i* P **P 14 21 17.9 -0.2**
comp=E,2.0nm,0.6s
MNK *i* P **P 14 21 17.9 -0.2**
comp=N,16nm,0.8s
MNK *i* P **P 14 21 17.9 -0.2**
comp=Z,45nm,0.9s,baz=346
MNK *i* PcP **PcP 14 21 38.4 -0.6**
MNK *i* PP **PP 14 23 54.6 -0.5**
MNK *i* PPP PPP 14 25 37.2
MNK *i* S **S 14 30 33.3 +0.8**
MNK *i* ScS **SKKSac 14 31 20.3 +0.1**
MNK *i* SS **SS 14 35 05.7 +0.7**
MNK *i* SSS SSS 14 38 17.6
MNK *i* LQ LQ 14 46 05.4
MNK *i* LR LR 14 50 59.6
MNK *i* LRM MLR 14 54 37.4
comp=N,78nm,20.3s
MNK *i* LRM MLR 14 54 44.7
comp=Z,109nm,21.7s
MNK *i* LRM MLR 14 54 58.1
comp=E,7.0nm,21.0s
AVF Avril sur Loir 70.72 334 *e*P **P 14 21 19.0 +0.6**
AVF pmax pmax
comp=Z,39nm,1.5s
EVO Evora 70.73 321 *e*P **P 14 21 20.6 +2.0**
comp=Z,28nm,1.8s
PNCL Nicolau / Gran 70.78 321 *e*P **P 14 21 20.7 +1.8**
MOX Moxa 70.82 341 P **P 14 21 19.7 +0.8**
MOX pmax pmax
comp=Z,14nm,1.4s
TCF Toulx Ste Croi 70.83 333 *e*P **P 14 21 20.3 +1.2**
TCF pmax pmax
comp=Z,25nm,1.4s
LOR Lormes 70.89 334 P **P 14 21 20.7 +1.3**
LOR pmax pmax
comp=Z,20nm,1.3s
PMRV Marv??o 70.94 322 *e*P **P 14 21 21.7 +1.8**
PMRV Marv??o 70.94 322 *e*LR LR 14 48 37.6
comp=Z,362nm,18.0s
CLL Collm 70.97 342⇓*i*P **P 14 21 20.0 +0.2**
comp=Z,15nm,1.1s
CLL Lm MLR 14 56 00.0
comp=Z,200nm,18.9s
CLL Collm 70.97 342⇓*i*P **P 14 21 20.0 +0.2**
CLL pmax pmax
comp=Z,15nm,1.1s
SUW Suwalki 71.00 349 *e*P **P 14 21 20.1 +0.2**
SUW Suwalki 71.00 349 *e*P **P 14 21 20.4 +0.5**
SUW Suwalki 71.00 349 P **P 14 21 20.2 +0.3**
SUW pmax pmax
comp=Z,29nm,0.9s
MOS Moscow 71.12 358 *e*P **P 14 21 19.7 -0.9**
MOS *e* 14 21 30.1
MOS pmax pmax
comp=Z,73nm,0.8s
PMTG Montargil 71.20 321 *e*P **P 14 21 23.4 +1.9**
PCBR Castelo Branco 71.25 323 *e*P **P 14 21 23.1 +1.3**
comp=Z,22nm,1.5s
TNS Taunus Mts 71.52 339 P **P 14 21 23.9 +0.6**
TNS pmax pmax
comp=Z,13nm,1.2s
GKP Gorka Klasztor 71.58 345 *e*P **P 14 21 24.6 +1.2**
GKP Gorka Klasztor 71.58 345 *e*P **P 14 21 24.4 +1.0**
GKP Gorka Klasztor 71.58 345 P **P 14 21 23.2 -0.2**
GKP pmax pmax
comp=Z,94nm,1.0s
MTE Manteigas 71.65 323 *e*P **P 14 21 26.6 +2.3**
comp=Z,27nm,1.3s
MTE Manteigas 71.65 323 *e*LR LR 14 47 23.1
comp=Z,332nm,16.0s
IDID Didziasalis 71.67 351 *e*P **P 14 21 24.6 +0.7**
IIGN Ignalina 71.78 351 *e*P **P 14 21 24.5 -0.1**
MVO Moncorvo 71.86 324 *e*P **P 14 21 27.0 +1.5**
comp=Z,22nm,1.5s
MVO Moncorvo 71.86 324 *e*PcP **PcP 14 21 41.6 -2.7**
MVO Moncorvo 71.86 324 *e*LR LR 14 48 25.6
comp=Z,474nm,20.0s
WLF Walferdange 71.90 337 *d*P **P 14 21 26.1 +0.7**
WLF *dx* x 14 21 37.2
PCAS Casmilo, Conde 71.99 322 *e*P **P 14 21 28.7 +2.5**
ISAL Salakas 72.01 351 *e*P **P 14 21 26.7 +0.8**
PBRG Braganca 72.12 324 *e*P **P 14 21 28.6 +1.6**
comp=Z,19nm,1.3s
CLF Chambon-Feret 72.15 334 P **P 14 21 28.0 +1.0**
MAKZ Makanchi 72.23 28 P **P 14 21 28.0 +0.4**
MAKZ pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 72.23 28 P **P 14 21 28.0 +0.4**
MAKZ IAmb IAmb 14 21 40.8
comp=Z,16nm,0.9s
PABE Paberze 72.28 350 *e*P **P 14 21 28.4 +0.8**
PABE Paberze 72.28 350 P **P 14 21 27.6 0.0**
MK31 Makanchi Array 72.36 28 P **P 14 21 26.8 -1.5**
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 72.36 28 P **P 14 21 26.8 -1.5**
MKAR Makanchi Array 72.36 28 P **P 14 21 27.3 -1.1**
comp=Z,3.4nm,0.9s,baz=217,slow=5.7,SNR=23
MKAR LR LR 14 52 29.8
comp=Z,75nm,19.9s,baz=226,slow=35
MKAR Makanchi Array 72.36 28 P **P 14 21 27.0 -1.3**
POLO Lamas de Olo 72.43 324 *e*P **P 14 21 30.9 +2.0**
BHOU Houvegnez 72.51 337 *d*P **P 14 21 30.6 +1.4**
BHOU *dx* x 14 21 41.7
KMI Kunming 72.52 57 ⇑P P 14 21 36.8 +6.8
KMI pmax pmax
comp=Z,10.0nm,0.8s
KMI LR LR
comp=Z,110nm,22.3s
BTNL Ternell 72.66 338 *d*P **P 14 21 31.4 +1.4**
BTNL *dx* x 14 21 42.1

MEM Membach 72.72 338 *d*P **P 14 21 31.6 +1.2**
GIVF Givet 72.76 337 *e*P **P 14 21 30.9 +0.3**
GIVF pmax pmax
comp=Z,28nm,1.4s
BCLA Clavier 72.83 337 κP **P 14 21 32.1 +1.2**
BCLA *dx* x 14 21 42.9
BSTI Sart Tilman 72.86 337 *d*P **P 14 21 33.1 +1.9**
BGES Gesves 72.88 337 *d*P **P 14 21 32.9 +1.6**
BRVK Borovoye 72.90 18*ce*P **P 14 21 31.0 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,2.1s
BRVK Borovoye 72.90 18 P **P 14 21 30.8 -0.6**
WMQ Urumqi 72.92 33 *e*P **P 14 21 34.8 +3.0**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.9s
WMQ LR LR
comp=Z,150nm,22.3s
BMRD Maredsous 72.94 337 *d*P **P 14 21 33.1 +1.5**
BMRD *dx* x 14 21 43.2
BAIF Baives 72.96 336 *e*P **P 14 21 32.2 +0.5**
BAIF pmax pmax
comp=Z,25nm,1.4s
PGAV Gavieira, Arco 73.08 324 *e*LR LR 14 50 12.4
comp=Z,454nm,16.0s
PBUR Paburge 73.14 349 *e*P **P 14 21 33.5 +0.8**
ARU Arti 73.26 10*c i*P **P 14 21 33.7 +0.3**
ARU 14 21 46.7
ARU S **S 14 31 02.8 +1.2**
ARU SS **SS 14 35 39.8 -4.1**
ARU pmax pmax
comp=Z,29nm,1.8s
ARU MLR MLR
comp=Z,186nm,20.0s
ARU Arti 73.26 10 P **P 14 21 32.8 -0.6**
ARU IAmb IAmb 14 21 48.1
comp=Z,22nm,0.9s
SNF Seneffe 73.29 337 *d*P **P 14 21 34.8 +1.2**
PMOZ Porto Moniz, M 73.53 312 *e*LR LR 14 50 00.7
comp=Z,298nm,18.0s
SVE Sverdlovsk 74.01 11 *e*P P 14 21 50.9 +13
BSEG Bad Segeberg 74.07 342 P **P 14 21 39.2 +1.0**
BSEG pmax pmax
comp=Z,25nm,1.3s
KIRV Kirov 74.25 5*ce*P **P 14 21 39.2 +0.1**
QSPA South Pole Qui 74.51 180 P **P 14 21 41.0 +0.1**
VSU Vasula 74.73 352 *e*P **P 14 21 42.8 +0.9**
VSU Vasula 74.73 352*d i*P **P 14 21 41.7 -0.2**
VSU pmax pmax
comp=Z,138nm,0.9s
MTSE Matsula 75.38 351 *e*P **P 14 21 46.5 +0.8**
KLMR Klimovskoe 76.21 359 *e*P **P 14 21 48.5 -1.8**
KLMR *e* 14 24 38.8
KLMR pmax pmax
comp=Z,60nm,1.3s
KLMR Klimovskoe 76.21 359 *e*P **P 14 21 48.6 -1.8**
KLMR AMP 14 21 51.4
comp=Z,60nm,1.3s
KLMR *e*PP **PP 14 24 38.8 -3.0**
GYA Guiyang 76.28 57 *e*P **P 14 21 54.3 +2.5**
MEF Metsahovi 76.74 352 *e*P **P 14 21 54.4 +1.0**
PRGR Permogore 77.07 2 *e*P **P 14 21 53.2 -2.0**
PRGR *e* 14 22 04.8
PRGR *e* 14 24 46.9
PRGR pmax pmax
comp=Z,3.0nm,0.6s
GTA Gaotai 77.45 43 *e*P **P 14 21 59.3 +1.2**
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,6.4s
GTA LR LR
comp=Z,150nm,17.1s
GTA LR LR
comp=Z,170nm,18.7s
GTA LR LR
comp=Z,200nm,19.5s
UPP Uppsala 77.55 348 *e*P **P 14 21 59.1 +1.1**
FIA1 FINESS Array S 77.71 353 P **P 14 21 58.8 0.0**
FIA1 IAmb IAmb 14 22 00.1
comp=Z,28nm,1.1s
FINES FINESS Array B 77.71 353 P **P 14 21 58.9 +0.1**
comp=Z,12nm,1.0s,baz=144,slow=6.8,SNR=18
FINES LR LR 14 59 15.4
comp=Z,70nm,18.6s,baz=174,slow=38
FINES FINESS Array B 77.71 353 P **P 14 21 58.6 -0.2**
RAF Rauma 77.91 351 *e*P **P 14 22 00.1 +0.2**
LZH Lanzhou 78.51 47 *e*P **P 14 22 07.6 +3.5**
LZH pP PcP 14 22 12.4 -0.8
LZH sP sP 14 22 15.0 +7.0
LZH pmax pmax
comp=Z,20nm,1.0s
JOF Joensuu 78.64 356 P **P 14 22 04.2 +0.3**
JOF pmax pmax
comp=Z,36nm,1.1s
ZAA0 Zalesovo Array 78.75 25 P **P 14 22 04.0 -0.8**
ZALV Zalesovo Beam 78.75 25 P **P 14 22 04.2 -0.6**
comp=Z,3.0nm,0.8s,baz=225,slow=6.1,SNR=9.7
ZALV LR LR 14 55 23.8
comp=Z,99nm,21.6s,baz=229,slow=35
ZALV Zalesovo Beam 78.75 25 P **P 14 22 04.2 -0.6**
KONO Kongsberg 79.20 344*ce*P **P 14 22 07.1 0.0**
KONO pmax pmax
comp=Z,25nm,1.3s
KONO Kongsberg 79.20 344 *e*P **P 14 22 08.6 +1.5**
KONO Kongsberg 79.20 344 P **P 14 22 07.1 0.0**
KONO IAmb IAmb 14 22 08.7
comp=Z,27nm,1.2s
NC602 NORSAR Array S 79.66 346 *e*P **P 14 22 10.5 +0.8**
NC602 NORSAR Array S 79.66 346 P **P 14 22 10.1 +0.5**
NORES NORESS Array B 79.66 346 P **P 14 22 11.0 +1.4**
NORES pmax pmax
comp=Z,2.0nm,0.7s
VAF Ylistaro 79.69 352 P **P 14 22 10.5 +0.8**
VAF pmax pmax
comp=Z,18nm,1.4s
BLS5 Blasjo 79.86 343 *e*P **P 14 22 12.2 +1.4**
ESK Eskdalemuir 79.89 336 P **P 14 22 11.6 +0.7**
ESK pmax pmax
comp=Z,11nm,0.9s
ESK Eskdalemuir 79.89 336 P **P 14 22 11.6 +0.7**
NAO01 NORSAR Array S 79.91 346 P **P 14 22 11.4 +0.4**
NC405 NORSAR Array S 79.95 346 P **P 14 22 11.7 +0.4**
NC405 IAmb IAmb 14 22 11.8
comp=Z,45nm,1.2s
NB201 NORSAR Array S 80.00 346 P **P 14 22 12.6 +1.1**
NB2 NORSAR Subarra 80.01 346 P **P 14 22 11.9 +0.4**
comp=Z,36nm,1.4s,baz=142,slow=5.3
NB2 NORSAR Subarra 80.01 346 P **P 14 22 11.9 +0.4**
baz=142,slow=5.3
NOA NORSAR Array B 80.01 346 P **P 14 22 11.9 +0.4**
comp=Z,8.3nm,1.0s,baz=143,slow=5.2,SNR=12
NOA LR LR 15 00 54.8
comp=Z,59nm,19.9s,baz=120,slow=38
NOA NORSAR Array B 80.01 346 P **P 14 22 11.9 +0.4**
NBO00 NORSAR Array S 80.10 346 P **P 14 22 12.1 +0.1**
NBO00 IAmb IAmb 14 22 26.2
comp=Z,28nm,0.8s
NC303 NORSAR Array S 80.13 346 P **P 14 22 12.7 +0.5**
NC303 IAmb IAmb 14 22 13.7
comp=Z,41nm,1.3s
NC204 NORSAR Array S 80.32 346 P **P 14 22 14.0 +0.7**
SKAR Skarslia 80.42 344 *e*P **P 14 22 14.9 +1.1**
BER Bergen 80.97 343 *e*P **P 14 22 18.0 +1.3**
VNDA Vanda 81.17 169 P **P 14 22 18.6 +0.9**
comp=Z,0.5nm,0.6s,baz=244,slow=5.6,SNR=1.8
VNDA LR LR 14 55 38.1
comp=Z,179nm,19.7s,baz=242,slow=34
OUL Oulu 81.26 354 *e*P **P 14 22 18.8 +0.7**
OUL pmax pmax
comp=Z,16nm,0.8s
XAN Xi'an 81.29 51 P P 14 22 28.8 +10
XAN pP PcP 14 22 38.8 +14
XAN sP sP 14 22 42.8 +20
XAN pmax pmax
comp=Z,10.0nm,1.3s
HYA Hoyanger 81.39 344 *e*P **P 14 22 20.5 +1.7**
DOMB Dombas 81.39 345 *e*P **P 14 22 20.0 +1.1**
MSF Maaselka 81.77 355 P **P 14 22 21.8 +1.0**
MSF pmax pmax
comp=Z,33nm,1.0s
NSS Namsos 82.92 348 *e*P **P 14 22 27.7 +0.9**
SGF Sodankyl 83.49 354 P **P 14 22 30.5 +0.8**

SGF pmax pmax
comp=Z,23nm,1.3s
MOR8 Moi Rana 83.92 349 *e*P **P 14 22 32.3 +0.3**
FAUS Fauske 84.88 350 *e*P **P 14 22 38.4 +1.6**
BDFB Brasilia 84.95 255 LR LR 14 57 49.8
comp=Z,140nm,20.5s,baz=20,slow=34
KTK1 Kautokeino 85.34 354 *e*P **P 14 22 39.7 +0.6**
STEI Steigen 85.39 351 *e*P **P 14 22 39.8 +0.6**
ARA0 ARCESS Array S 85.62 355 *e*P **P 14 22 41.3 +0.8**
ARCES ARCESS Array B 85.62 355 P **P 14 22 40.7 +0.3**
comp=Z,22nm,0.8s,baz=165,slow=5.0,SNR=44
ARCES ARCESS Array B 85.62 355 P **P 14 22 40.8 +0.3**
LOF Lofoten 85.84 350 *e*P **P 14 22 42.3 +0.7**
SONM Songino Array 85.84 38 P **P 14 22 40.6 -1.7**
comp=Z,1.1nm,0.8s,baz=192,slow=3.5,SNR=2.6
SONM LR LR 14 59 17.3
comp=Z,89nm,20.3s,baz=242,slow=34
HHC Hu-ho-hao-te 86.06 46 *e*P **P 14 22 44.9 +1.5**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,240nm,8.6s
JETT Jettan, Norway 86.18 353 *e*P **P 14 22 44.7 +1.4**
TLY Talaya 86.20 34 *e*P **P 14 22 41.8 -2.0**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,171nm,10.0s
TRO Tromso 86.43 352 *e*P **P 14 22 46.0 +1.5**
ASAR Alice Springs 86.47 113 P **P 14 22 45.1 -0.7**
comp=Z,0.6nm,0.5s,baz=265,slow=4.7,SNR=13
ASAR LR LR 14 53 21.9
comp=Z,219nm,21.7s,baz=268,slow=30
ASAR Alice Springs 86.47 113 P **P 14 22 45.1 -0.7**
HAMF Hammerfest 86.86 354 *e*P **P 14 22 47.7 +1.1**
WRA Warramunga Arr 87.85 110 P **P 14 22 51.2 -1.4**
comp=Z,1.2nm,0.9s,baz=255,slow=3.3,SNR=5.1
WRAB Tennant Creek 87.86 110 *i* P **P 14 22 50.7 -1.9**
WRAB pmax pmax
comp=Z,4.0nm,1.1s
NJ2 Nanjing 88.24 56 *e*P **P 14 22 55.3 +1.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CPUP Villa Florida 90.40 243 P **P 14 23 05.0 +0.6**
comp=Z,2.0nm,0.7s,baz=127,slow=8.1,SNR=3.7
CPUP LR LR 15 00 26.5
comp=Z,367nm,19.3s,baz=124,slow=33
CPUP Villa Florida 90.40 243 P **P 14 23 05.1 +0.6**
CPUP pmax pmax
comp=Z,14nm,1.1s
CPUP Villa Florida 90.40 243 P **P 14 23 05.0 +0.6**
CPUP Villa Florida 90.40 243 IAmb IAmb 14 23 19.8
comp=Z,14nm,1.1s
STKA Stephens Creek 90.60 123 LR LR 14 58 47.4
comp=Z,169nm,18.3s,baz=213,slow=32
SPA0 Spitsbergen Ar 94.65 355 *e*P **P 14 23 24.2 +1.3**
PLCA Paso Flores 95.45 225 LR LR 15 07 59.8
comp=Z,123nm,18.3s,baz=154,slow=36
KSRS Korea Array 96.95 53 LR LR 15 08 10.6
comp=Z,103nm,18.2s,baz=179,slow=36
TOLK Toolik Lake Re 126.57 5 P **PKiKP 14 29 06.8 +1.1**
baz=347
INK Inuvik 127.22 357 P **PKiKP 14 29 07.2 +0.3**
baz=6.5
IMAR Indian Mountai 128.71 8 **PKiKP 14 29 10.7 +0.7**
H21K Melozitna Rive 129.14 7 P **PKiKP 14 29 12.2 +1.3**
baz=343
EPYK Eagle Plains 129.26 359 P **PKiKP 14 29 11.3 +0.2**
baz=2.7
EYMN Ely 129.45 320 P **PKiKP 14 29 12.4 +0.4**
baz=67
I21K Tanana 129.70 7 P **PKiKP 14 29 13.3 +1.3**
baz=344
YKA Yellowknife Ar 130.11 345 PKP **PKPdf 14 29 11.3 -0.7**
comp=Z,0.9nm,0.9s,baz=47,slow=2.2,SNR=5.5
YKA PP **PP 14 31 23.2 -1.0**
comp=Z,1.1nm,0.9s,baz=27,slow=6.8,SNR=5.6
YKA Yellowknife Ar 130.11 345 **PKPdf 14 29 11.3 -0.7**
YKA **PP 14 31 23.2 -1.0**
J20K Nowinta River 130.38 9 P **PKiKP 14 29 14.4 +1.0**
baz=341
ILAR Eielson Array 130.59 4 PKP **PKPdf 14 29 12.0 -1.0**
comp=Z,0.2nm,0.6s,baz=338,slow=2.1,SNR=2.7
ILAR PP **PP 14 31 29.6 +2.3**
comp=Z,1.4nm,1.2s,baz=0.2,slow=7.5,SNR=5.0
ILAR Eielson Array 130.59 4 PKIKP **PKPdf 14 29 12.0 -1.0**
ILAR Eielson Array 130.59 4 PP 14 31 29.6 +2.3
K20K Telida 131.16 9 P **PKiKP 14 29 16.1 +1.0**
baz=340
BCAR Beaver Creek A 132.56 2 **PKiKP 14 29 17.4 -0.5**
L27K Beaver Creek, 132.56 2 P **PKiKP 14 29 19.2 +1.3**
baz=356
L27K Beaver Creek, 132.56 2 **PKiKP 14 29 17.7 -0.2**
TBI Tubuai 139.96 165 *e*LR LR 15 14 50.0
comp=Z,103nm,27.2s
PDAR Pinedale Array 143.01 323 PKP **PKPdf 14 29 36.5 -0.4**
comp=Z,1.1nm,0.8s,baz=107,slow=2.0,SNR=8.1
PDAR Pinedale Array 143.01 323 **PKPdf 14 29 36.5 -0.4**
BW06 Boulder Array 143.01 323 P **PKPdf 14 29 37.0 +0.2**
baz=52
SDCO Great Sand Dun 143.11 313 P PKPbc 14 29 34.8 +0.7
baz=62
S22A 4UR Ranch, Cre 144.04 314 P **PKPdf 14 29 38.2 -0.7**
baz=61
BCYI Bear Canyon 144.09 328 **PKPdf 14 29 38.8 +0.1**
F10A Beach Ranch, E 144.65 333 PKPbc 14 29 38.6 +0.4
TX31 Lajitas Ar. Si 144.74 299 **PKPdf 14 29 39.7 -0.4**
TX32 Lajitas Array 144.74 299 PKPbc 14 29 39.3 +0.3
TXAR Lajitas Array 144.74 299 PKP **PKPdf 14 29 39.6 -0.5**
comp=Z,9.0nm,0.8s,baz=103,slow=3.9,SNR=53
TXAR Lajitas Array 144.74 299 PKPdf **PKPdf 14 29 39.6 -0.5**
PV15 Paradox Valley 144.86 316 **PKPab 14 29 39.1 -0.2**
HWUT Hardware Ranch 144.90 323 PKPbc 14 29 39.4 +0.1
ANMO Albuquerque 145.04 309 PKIKP **PKPbc 14 29 39.0 -1.0**
ANMO Albuquerque 145.04 309 P **PKPdf 14 29 41.3 +0.7**
baz=65
ANMO Albuquerque 145.04 309 **PKPbc 14 29 39.0 -1.0**
PV12 Saucer Basin, 145.09 316 **PKPdf 14 29 40.6 0.0**
PV02 Paradox Valley 145.11 316 **PKPab 14 29 40.3 +0.1**
PV04 Paradox Valley 145.12 316 **PKPbc 14 29 39.8 -0.3**
PV11 David Mesa, Pa 145.15 316 **PKPbc 14 29 39.8 -0.4**
PV03 Paradox Valley 145.16 316 **PKPbc 14 29 40.2 -0.1**
PV16 Nyswonger Mesa 145.17 316 **PKPdf 14 29 40.9 +0.1**
PV13 Radium Mtn., P 145.19 316 **PKPab 14 29 40.5 +0.1**
PV20 West Nyswonger 145.19 316 **PKPdf 14 29 40.8 +0.1**
PV18 Skein Mesa, Pa 145.20 316 **PKPbc 14 29 40.3 -0.1**
PV14 Lion Creek, Pa 145.21 316 **PKPbc 14 29 40.0 -0.5**
PV17 East Wray Mesa 145.22 316 **PKPab 14 29 40.6 +0.1**
PV19 Morning Glory 145.22 316 **PKPab 14 29 40.6 +0.1**
PV10 Paradox Valley 145.22 316 **PKPdf 14 29 41.1 +0.2**
HAWA Hanford 145.26 336 **PKPbc 14 29 40.0 0.0**
PPT2 Papeete2 145.41 162 *e*LR LR 15 17 19.6
comp=Z,109nm,25.8s
PV05 Paradox Valley 145.42 316 **PKPbc 14 29 40.3 -0.8**
MNTX Cornudas Mount 145.45 304 P **PKPab 14 29 41.8 +0.4**
baz=70
MVCO Mesa Verde 145.46 314 P **PKPab 14 29 42.3 +0.9**
baz=60
MVCO Mesa Verde 145.46 314 **PKPbc 14 29 41.2 -0.1**
BNM Barren Site 145.50 308 PKPbc **PKPab 14 29 41.7 -0.1**
D03D Eldon 145.54 341 P **PKiKP 14 29 43.1 -1.7**
baz=28
BMO Blue Mountains 145.56 332 PKIKP **PKPbc 14 29 41.3 +0.1**
BMO Blue Mountains 145.56 332 PKPdf **PKPbc 14 29 41.3 +0.1**
CTU Camp Tracy 145.58 322 PKPbc **PKPab 14 29 42.0 +0.3**
P17A Butcher Ranch, 145.70 319 **PKPdf 14 29 40.6 -1.0**
SRU San Rafael Swe 145.77 319 PKP2 **PKPab 14 29 42.4 -0.2**
SRU San Rafael Swe 145.77 319 PKPbc **PKPab 14 29 42.4 -0.2**
G08A Pilot Rock 145.93 334 PKPdf **PKPdf 14 29 41.3 -0.4**
MFID Camas Ranch 145.95 329 PKPbc **PKPbc 14 29 42.7 +0.2**
TMUT Trail Mountain 146.10 320 PKPbc **PKPbc 14 29 43.1 -0.2**
BGU Big Grassy Mou 146.18 323 PKPbc **PKPab 14 29 43.8 -0.1**
NLU North Lily Min 146.23 321 PKPab **PKPab 14 29 44.9 +0.7**
DUG Dugway, Tooele 146.52 322 P **PKPbc 14 29 44.4 +0.1**
baz=50
121A Cookes Peak, D 147.04 306 P **PKPab 14 29 47.7 +0.1**
baz=66
I07A Izee 147.13 334 PKPbc **PKPbc 14 29 45.2 -0.7**
MSU Marysvale 147.17 319 PKP2 **PKPbc 14 29 45.8 -0.5**
MSU Marysvale 147.17 319 **PKPbc 14 29 45.8 -0.5**
MVU Marysvale 147.20 319 **PKPbc 14 29 46.6 +0.2**
J08A Circle Bar Ran 147.25 332 **PKPbc 14 29 45.5 -0.7**
MTPU Mount Pierson 147.45 319 PKPab **PKPab 14 29 48.9 -0.3**
ELK Elko 147.54 325 PKP2 **PKPbc 14 29 46.6 -0.7**

ELK	Elko	147.54	325	PKPbc	PKPbc	14 29 46.6 -0.7
I05D	Terrebonne, OR	147.67	336	P	PKiKP	14 29 49.2 -0.2
baz=33						
PSUT	Pine Spring	148.20	321	PKPdf	PKPdf	14 29 44.9 -0.9
U15A	North Rim	148.45	316		PKPbc	14 29 48.4 -1.5
CCUT	Cedar City	148.50	319		PKPbc	14 29 48.9 -1.1
J05D	Fort Rock, OR	148.51	335	P	PKiKP	14 29 51.4 +0.1
baz=34						
I04A	Tendick Farm,	148.55	337	P	PKiKP	14 29 50.5 -0.7
baz=32						
LCMT	Little Creek M	148.74	318		PKPbc	14 29 49.0 -1.4
MOD	Modoc Plateau	149.23	332		PKPbc	14 29 51.1 -0.4
R11A	Troy Canyon, C	149.36	322		PKPbc	14 29 52.1 +0.1
TUC	Tucson	149.44	308	PKP2	PKiKP	14 29 52.9 -0.5
TUC	Tucson	149.44	308	P	PKiKP	14 29 53.8 +0.4
baz=64						
TUC	Tucson	149.44	308		PKiKP	14 29 52.9 -0.5
L04D	Klamath Falls	149.83	335	P	PKiKP	14 29 54.3 +0.3
baz=33						
M04C	Macdoel	150.00	334	P	PKiKP	14 29 54.7 +0.4
baz=34						
KVN	Kaiserville	150.30	326	PKIKP	PKiKP	14 29 55.3 +0.2
KVN	Kaiserville	150.30	326		PKiKP	14 29 55.3 +0.2
NV11	Mina Array Sit	150.77	325		PKiKP	14 29 55.9 -0.2
BEKR	Beckworth	150.85	330		PKPbc	14 29 55.2 -0.4
NVAR	Mina Array Bea	150.85	325	PKP	PKPdf	14 29 51.0 +0.9
comp=Z,5.7nm,1.1s,baz=108,slow=1.8,SNR=12						
NVAR				PKPbc	PKiKP	14 29 56.5 +0.2
comp=Z,5.5nm,1.1s,baz=47,slow=2.5,SNR=13						
NVAR	Mina Array Bea	150.85	325	PKPdf	PKPdf	14 29 49.1 -0.9
PDMCI	Parker Dam,Lak	150.89	314	P	PKiKP	14 29 56.8 +0.6
baz=56						
FURC	Furnace Creek,	151.36	321	P	PKiKP	14 29 58.6 +1.5
baz=49						
GMRC	Granite Mounta	151.64	317	P	PKiKP	14 29 59.3 +1.4
baz=53						
IRM	Iron Mountain	151.66	315	P	PKiKP	14 29 59.2 +1.3
baz=55						
GSC	Goldstone, Bar	152.06	319	P	PKiKP	14 30 00.7 +2.0
baz=51						
CWC	Cottonwood Cre	152.11	322	P	PKiKP	14 30 00.5 +1.6
baz=47						
LRMC	Laurel Mtn Rad	152.50	320	P	PKiKP	14 30 01.2 +1.5
baz=49						
ISA	Isabella, Lake	152.87	321	PKP2	PKPab	14 30 12.7 +1.6
ISA	Isabella, Lake	152.87	321		PKPab	14 30 12.7 +1.6
TAOE	Nuku Hiva Isla	155.67	177	eLR	LR	15 22 12.7
comp=Z,132nm,22.5s						

ATH 15 14:19:35.0, 38.72N×22.47E, h13km±2km, ML1.7/9 Error ellipse: s-maj=2.9km s-min=0.8km az=255.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.32	340	P	Pg	14 19 41.4	-0.2
AGG				S	Sg	14 19 46.8	+0.9
AGG				AML	AML	14 19 47.7	
comp=N,439μm,0.3s							
AGG				AML	AML	14 19 47.8	
comp=E,310μm,0.3s							
AGG	Agios Georgios	0.32	340	P	Sg	14 19 47.0	+1.0
MAKR	Makrakomi, Fth	0.40	318	P	Pg	14 19 42.9	0.0
MAKR				S	Sg	14 19 47.4	-0.8
MAKR				AML	AML	14 19 49.6	
comp=N,218μm,0.5s							
MAKR				AML	AML	14 19 51.0	
comp=E,139μm,0.4s							
LKR	Lokris	0.42	99	P	Pg	14 19 43.1	-0.2
LKR				S	Sg	14 19 48.6	-0.3
LKR				AML	AML	14 19 50.3	
comp=N,293μm,0.3s							
LKR				AML	AML	14 19 51.4	
comp=E,437μm,0.2s							
SERG	Sergoula	0.45	227	P	Pg	14 19 43.4	-0.4
SERG				S	Sg	14 19 49.7	-0.1
SERG				AML	AML	14 19 52.4	
comp=N,558μm,0.2s							
SERG				AML	AML	14 19 52.9	
comp=E,506μm,0.2s							
ANX	Ano Chora	0.45	254	P	Pg	14 19 43.6	-0.3
ANX				S	Sg	14 19 49.4	-0.5
ANX				AML	AML	14 19 53.5	
comp=E,297μm,0.4s							
ANX				AML	AML	14 19 58.2	
comp=N,286μm,0.4s							
TRIZ	Trizonia	0.47	222	P	Pg	14 19 43.9	-0.4
TRIZ				S	Sb	14 19 51.4	-0.7
EVR	Evrytania	0.55	291	P	Pb	14 19 46.5	-0.1
EVR				S	Sg	14 19 52.3	-0.9
EVR				AML	AML	14 19 59.9	
comp=N,114μm,0.6s							
EVR				AML	AML	14 20 00.6	
comp=E,90μm,0.4s							
SMIA	Simia	0.60	74	P	Pb	14 19 47.0	-0.2
SMIA				AML	AML	14 19 58.1	
comp=N,264μm,0.6s							
SMIA				AML	AML	14 20 00.8	
comp=E,193μm,0.6s							
LAKA	Lakka	0.62	219	P	Pg	14 19 46.3	-0.7
LAKA				S	Sg	14 19 55.0	-0.2
THAL	Thalero	0.70	168	P	Pb	14 19 49.0	0.0
THAL				S	Sb	14 19 58.5	-0.1
KLV	Kalavryta, Ach	0.72	201	P	Pg	14 19 48.7	-0.3
KLV				S	Sg	14 19 58.6	+0.2
PVO	Paravola	0.75	262	P	Pg	14 19 49.6	+0.1
PVO				S	Sb	14 20 00.1	+0.2
LTK	Loutraki	0.80	151	P	Pg	14 19 49.8	-0.6
LTK				S	Sg	14 20 01.0	+0.1
LTK				AML	AML	14 20 07.3	
comp=N,148μm,0.3s							
LTK				AML	AML	14 20 09.2	
comp=E,125μm,0.5s							
LOUT	Loutraki	0.83	152	P	Pg	14 19 50.5	-0.5
LOUT				S	Sb	14 20 03.0	+0.6
XOR	Xorichti	0.85	41	P	Pg	14 19 50.3	-1.2
XOR				S	Sb	14 20 03.2	+0.2
XOR				AML	AML	14 20 06.0	
comp=E,70μm,0.4s							
XOR				AML	AML	14 20 06.8	
comp=N,117μm,0.3s							
THL	Klokotos Trika	0.92	337	P	Pg	14 19 52.4	-0.2
THL				S	Sb	14 20 05.3	+0.5
VLY	Voula,Athens	1.35	129	P	Pn	14 19 59.0	-0.6
VLY				S	Sb	14 20 16.8	-0.6

*SJA **15** 14:32:21.2±0.6, 22.34S×68.57W, h115km±3km, ML4.0, MW3.9*
*GUC **15** 14:32:22.3±0.8, 22.32S×68.61W, h109km±4km, ML3.8*
*IDC **15** 14:32:27.6±7.8, 22.07S×68.36W, h144km±60km, mb3.4/2, mb1 3.4/3, mb1mx3.1/16, mbtmp3.6/3, Error ellipse: s-maj=79.6km s-min=54.1km az=176.0*

ISC 15 14:32:22.1±0.8, 22.31S±0.03×68.54W±0.04, h116km±5km, n40, σ1°80/70, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.45	229	eP	Pn	14 32 39.2	-0.4
LVC				i S	Sn	14 32 51.6	-1.4
LVC	Limon Verde	0.45	229	eP	Pn	14 32 39.3	-0.4
LVC				eS	Sn	14 32 52.0	-0.9
LVC				IAML		14 32 53.3	
comp=Z,2μm,0.1s							
AF01	San Pedro de A	0.72	152	⇓ i P	Pn	14 32 42.0	+0.5
AF01				i S	Sn	14 32 56.4	+0.2
AF01				IAML		14 32 57.4	
comp=E,3μm,0.3s							
PB09	IPOC Station P	0.82	308	⇓ i P	Pn	14 32 42.6	+0.3
PB09				i S	Sn	14 32 57.2	-0.2
PB09				IAML		14 32 59.0	
comp=E,3μm,0.6s							
PB09	IPOC Station P	0.82	308	eP	Pn	14 32 42.4	+0.1
PB09				eS	Sn	14 32 57.7	+0.2
PB09				IAML		14 32 58.2	
comp=Z,3μm,0.5s							
PB06	IPOC Station P	1.03	247	⇑ i P	Pn	14 32 43.8	-0.4
PB06				i S	Sn	14 33 00.3	-0.6
PB06				IAML		14 33 02.1	
comp=N,4μm,0.2s							
PB06	IPOC Station P	1.03	247	eP	Pn	14 32 38.5	-5.7
PB06				eP	Pn	14 32 43.9	-0.3
PB06				eS	Sn	14 33 00.5	-0.4
PB06				IAML		14 33 02.3	
comp=Z,2μm,0.1s							
PB15	IPOC Station P	1.24	224	⇑ i P	Pn	14 32 46.5	0.0
PB15				i S	Sn	14 33 04.9	-0.1
PB15	IPOC Station P	1.24	224	eP	Pn	14 32 46.5	0.0
PB15				eS	Sn	14 33 05.0	+0.1
PB15				IAML		14 33 05.7	
comp=Z,8μm,0.2s							
PB07	IPOC Station P	1.37	295	⇑ i P	Pn	14 32 48.0	0.0
PB07				i S	Sn	14 33 06.6	-1.0
PB07				IAML		14 33 08.6	
comp=E,2μm,0.2s							
PB07	IPOC Station P	1.37	295	eP	Pn	14 32 47.8	-0.1
PB07				eS	Sn	14 33 07.0	-0.6
PB07				IAML		14 33 10.1	
comp=Z,2μm,0.2s							
PB04	IPOC Station P	1.49	269	⇑ i P	Pn	14 32 48.7	-0.5
PB04				i S	Sn	14 33 09.3	-0.6
PB04				IAML		14 33 14.8	
comp=N,2μm,0.1s							
PB04	IPOC Station P	1.49	269	eP	Pn	14 32 48.9	-0.3
PB04				eS	Sn	14 33 09.6	-0.3
PB04				IAML		14 33 12.4	
comp=Z,1μm,0.1s							
PB01	IPOC Station P	1.54	325	⇑ i P	Pn	14 32 49.9	+0.1
PB01				i S	Sn	14 33 10.6	-0.2
PB01	IPOC Station P	1.54	325	eP	Pn	14 32 50.0	+0.3
PB01				eS	Sn	14 33 11.2	+0.5
PB02	IPOC Station P	1.60	308	⇑ i P	Pn	14 32 50.5	0.0
PB02				eS	Sn	14 33 11.7	-0.4
PB02				IAML		14 33 13.2	
comp=E,1μm,0.4s							
PB02	IPOC Station P	1.60	308	eP	Pn	14 32 50.5	0.0
PB02				eS	Sn	14 33 12.0	-0.1
PB02				IAML		14 33 16.5	
comp=Z,2μm,0.4s							
PB05	IPOC Station P	1.63	250	⇑ i P	Pn	14 32 50.2	-0.7
PB05				i S	Sn	14 33 12.0	-0.7
PB05				IAML		14 33 17.1	
comp=N,846nm,0.2s							
PB05	IPOC Station P	1.63	250	eP	Pn	14 32 50.0	-0.8
PB05				eP	Pn	14 32 50.4	-0.5
PB05				eS	Sn	14 33 12.2	-0.5
PB10	IPOC Station P	2.21	237	eP	Pn	14 32 57.6	-0.3
PB10	IPOC Station P	2.21	237	eP	Pn	14 32 57.9	0.0
PB10				eS	Sn	14 33 22.7	-2.7
PB08	IPOC Station P	2.23	345	eP	Pn	14 33 00.3	+1.6
PB08				eS	Sn	14 33 29.5	+2.9
PB11	IPOC Station P	2.74	338	eP	Pn	14 33 05.2	+0.1
PB11				eS	Sn	14 33 29.5	-8.5
PB11				eS	Sn	14 33 38.5	+0.5
YJA	Yavi	2.81	88	eP	Pn	14 33 05.0	-1.1
PB14	IPOC Station P	2.87	216	eP	Pn	14 33 06.4	-0.4
PB14				eS	Sn	14 33 40.0	-1.2
PB14				IAML		14 33 49.9	
comp=Z,238nm,0.2s							
GO02	Mina Guanaco	3.00	198	⇑ i P	Pn	14 33 08.2	-0.3
GO02				eS	Sn	14 33 43.9	-0.3
GO02				IAML		14 33 52.9	
comp=N,332nm,0.2s							
HJA	Humahuaca	3.03	108	eP	Pn	14 33 07.0	-2.0
PSGCX	Pisagua	3.08	331	eP	Pn	14 33 08.3	-1.1
PSGCX				eS	Sn	14 33 32.5	-13
MNMCX	Minye Minye	3.31	343	eP	Pn	14 33 13.3	+0.6
MNMCX				eP	Pn	14 33 14.7	+2.0
MNMCX				IAML		14 34 28.6	
comp=Z,125nm,0.6s							
GO03	Copiap	5.48	196	eP	Pn	14 33 39.7	-1.8
GO03				eS	Sn	14 34 40.6	-2.7
LPAZ	La Paz	6.00	4	P	Pn	14 33 51.8	+2.6
comp=Z,0.3nm,0.3s,baz=105,slow=1.5,SNR=3.3							
LPAZ				S	Sn	14 34 47.2	-10
comp=Z,0.3nm,0.3s,baz=246,slow=20,SNR=4.3							
AGUA	GUANDACOL	7.15	180	eP	Pn	14 34 03.8	-0.3
AGUA				eS	Sn	14 35 31.9	+8.1
AGUA				IAML		14 35 36.2	
comp=Z,21nm,3.3s							
ACDV	Cuesta del Vie	7.85	184	eP	Pn	14 34 10.4	-3.2
ACDV				IAML		14 35 56.5	
comp=Z,13nm,2.7s							
ACCO	Cerro Coronel	8.26	183	eP	Pn	14 34 18.3	-1.0
TORD	Torodi Ar. Bea	77.31	70	P	P	14 44 05.1	+0.7
comp=Z,0.4nm,0.5s,baz=252,slow=5.2,SNR=5.7							
TORD				pP	pP	14 44 33.7	-1.4
comp=Z,0.7nm,0.7s,baz=261,slow=5.5,SNR=2.6							
YKA	Yellowknife Ar	92.06	340	P	P	14 45 18.3	+0.7
comp=Z,0.1nm,0.3s,baz=121,slow=5.8,SNR=3.7							
ASAR	Alice Springs	129.35	207	PKP	PKiKP	14 51 19.8	+1.3
comp=Z,0.2nm,0.8s,baz=110,slow=1.9,SNR=1.8							
WRA	Warramunga Arr	132.43	210	PKP	PKiKP	14 51 26.0	+1.3
comp=Z,0.3nm,0.8s,baz=150,slow=1.9,SNR=1.8							
ZALV	Zalesovo Beam	142.53	26	PKP	PKiKP	14 51 43.6	-0.5
comp=Z,0.5nm,0.4s,baz=293,slow=4.4,SNR=1.9							
MKAR	Makanchi Array	146.08	37	PKPbc	PKPab	14 51 49.8	+0.4
comp=Z,0.6nm,0.7s,baz=298,slow=4.0,SNR=7.4							

IDC 15 14:37:35.5±2.6, 44.37N×151.84E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/31, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=71.3km s-min=31.0km az=170.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.64	271	Pn	Pn	14 39 14.5	+0.2
0.5nm,0.3s,baz=76,slow=10,SNR=5.5							
PETK	Petropavlovsk-	9.56	22	Pn	Pn	14 39 54.4	+0.1
0.1nm,0.3s,baz=199,slow=16,SNR=2.1							
MKAR	Makanchi Array	47.27	299	P	P	14 46 10.2	-0.2
0.4nm,0.7s,baz=73,slow=8.5,SNR=4.9							
FINES	FINESS Array B	65.81	335	P	P	14 48 22.0	0.0
0.5nm,0.5s,baz=29,slow=15,SNR=1.6							
TXAR	Lajitas Array	79.46	59	P	P	14 49 44.0	+0.1
0.4nm,0.8s,baz=305,slow=4.4,SNR=5.0							

*IDC **15** 14:41:56.1±1.1, 46.49N×152.91E, h0km, mb3.7/13, mb1 4.0/14, mb1mx3.8/33, mbtmp3.7/14, ML2.5/1, Error ellipse: s-maj=29.2km s-min=21.9km az=165.0*
*MOS **15** 14:42:03.1±1.7, 46.76N×153.53E, h59km, mb4.0/1, Error ellipse: s-maj=24.6km s-min=11.7km az=68.2*
*SKHL **15** 14:42:03.9±0.4, 46.60N×153.50E, h80km±5km, mb4.6/6, msha5.4/4*

ISC 15 14:42:04.1±0.8, 46.72N±0.10×153.28E±0.09, h50km, n38, σ1°61/36, mb3.7/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.05	250	ePN	Pn	14 43 05.2	+1.7
KUR				eS	Sn	14 43 51.3	+1.6
KUR				pmax	pmax		
comp=Z,61nm,0.7s							
KUR				pmax	pmax		
comp=N,34nm,0.6s							
KUR				smax	smax		
comp=N,160nm,0.4s							
KUR				smax	smax		
comp=E,95nm,0.4s							
KUR	Kuril'sk	4.05	250	eP	Pn	14 43 05.6	+2.1
KUR				AMB	AMB	14 43 14.0	
comp=E,30nm,0.7s							
KUR				AMB	AMB	14 43 14.0	
comp=E,60nm,0.7s							
KUR				i S	Sn	14 43 51.6	+1.9
KUR				A	A	14 44 02.0	
comp=E,160nm,0.4s							
KUR				A	A	14 44 02.0	
comp=E,100nm,0.4s							
SKR	Severo-Kuril's	4.39	24	ePN	Pn	14 43 09.5	+1.4
SKR				eS	Sn	14 43 58.3	+0.5
SKR				pmax	pmax		
comp=Z,47nm,0.6s							
SKR				smax	smax		
comp=N,44nm,0.6s							
SKR				smax	smax		
comp=E,42nm,0.6s							
SKR	Severo-Kuril's	4.39	24	i P	Pn	14 43 08.6	+0.5
SKR				AMB	AMB	14 43 10.0	
comp=E,50nm,0.6s							
SKR				i S	Sn	14 43 57.1	-0.7
SKR				A	A	14 44 00.9	
comp=E,70nm,0.5s							
SKR				A	A	14 44 00.9	
comp=E,80nm,0.5s							
PAU	Pauzhetka	5.29	25	i P	Pn	14 43 21.5	+1.1
PAU				AMB	AMB	14 43 23.5	
comp=E,10.0nm,0.3s							
PAU				eS	Sn	14 44 20.0	+0.1
PAU				A	A	14 44 23.3	
comp=E,90nm,0.3s							
PAU				A	A	14 44 23.3	
comp=E,30nm,0.3s							
YUK	Yuzh-Kuril'sk	5.87	245	eP	Pn	14 43 30.9	+2.4
YUK				AMB	AMB	14 43 31.3	
comp=E,10.0nm,0.3s							
NMR	Nemuro--Hokkai	6.31	241	ePN	Pn	14 43 32.4	-2.1
NMR	Nemuro--Hokkai	6.31	241	i P	Pn	14 43 32.9	-1.6
PETK	Petropavlovsk-	7.00	22	Pn	Pn	14 43 43.4	-0.5
comp=E,0.4nm,0.3s,baz=179,slow=14,SNR=23							
PETK				Sn	Sn	14 45 11.8	+10
baz=174,slow=14,SNR=1.3							
AKK	Akkeshi	7.04	241	eP	Pn	14 43 46.0	+1.5
AKK				eS	Sn	14 45 02.4	-0.8
PET	Petropavlovsk	7.20	27	i P	Pn	14 43 47.0	+0.4
PET				AMB	AMB	14 43 47.8	
comp=E,20nm,0.4s							
PET				i S	Sn	14 45 05.0	-1.9
PET				A	A	14 45 14.6	
comp=E,20nm,0.7s							
PET				A	A	14 45 14.6	
comp=E,40nm,0.7s							
YSS	Yuzh-Sakhalins	7.22	276	eP	Pn	14 43 50.2	+3.3
YSS				AMB	AMB	14 43 51.6	
comp=E,10.0nm,0.3s							
ASAJ	Asahikawa	7.95	255	Pn	Pn	14 43 56.6	-0.3
comp=E,0.2nm,0.3s,baz=108,slow=22,SNR=1.3							
EKMR	Ekimchan	14.53	303	eP	Pn	14 45 25.0	-1.6
H11N2	WAKE ISLAND Hy	29.14	153	T	T	15 19 30.0	
baz=340,slow=75,SNR=213							
H11N1	WAKE ISLAND Hy	29.16	153	T	T	15 19 53.6	
baz=340,slow=75,SNR=119							
H11N3	WAKE ISLAND Hy	29.16	153	T	T	15 19 58.1	
baz=340,slow=75,SNR=104							
H11S1	WAKE ISLAND Hy	30.23	154	T	T	15 21 02.3	
baz=342,slow=74							
H11S3	WAKE ISLAND Hy	30.24	154	T	T	15 21 00.9	
baz=342,slow=74							
H11S2	WAKE ISLAND Hy	30.25	154	T	T	15 20 54.2	
baz=342							
ILAR	Eielson Array	36.50	39	P	P	14 49 06.1	+2.0
comp=E,0.3nm,0.8s,baz=268,slow=8.1,SNR=4.2							
INK	Inuvik	41.61	32	P	P	14 49 48.4	+1.7
comp=E,1.0nm,0.5s,baz=295,slow=4.1,SNR=5.5							
MKAR	Makanchi Array	47.05	297	P	P	14 50 29.3	-1.1
comp=E,0.2nm,0.5s,baz=53,slow=6.7,SNR=2.4							
YKA	Yellowknife Ar	50.88	37	P	P	14 51 01.0	+1.6
comp=E,0.2nm,0.3s,baz=296,slow=7.5,SNR=2.8							
ARCES	ARCESS Array B	57.92	341	P	P	14 51 49.5	-0.9
comp=E,2.5nm,0.9s,baz=21,slow=7.8,SNR=1.8							
NVAR	Mina Array Bea	62.35	62	P	P	14 52 23.7	+2.1
comp=E,0.3nm,0.6s,baz=294,slow=5.3,SNR=3.7							
FINES	FINESS Array B	64.11	335	P	P	14 52 31.8	-0.7
comp=E,1.3nm,0.4s,baz=28,slow=8.6,SNR=5.1							
PDAR	Pinedale Array	64.67	54	P	P	14 52 36.4	-0.5
comp=E,0.4nm,0.9s,baz=14,slow=3.1,SNR=3.5							
NB2	NORSAR Subarra	68.29	341	P	P	14 52 59.2	-0.2
comp=Z,0.8nm,0.5s,baz=27,slow=6.5							
NOA	NORSAR Array B	68.29	341	P	P	14 52 59.2	-0.2
comp=Z,1.5nm,0.7s,baz=28,slow=6.5,SNR=7.0							
AKASG	Malin Array Be	71.63	326	P	P	14 53 18.6	-1.3
comp=Z,1.0nm,0.4s,baz=36,slow=6.4,SNR=5.2							
ASAR	Alice Springs	72.22	199	P	P	14 53 20.8	-2.9
comp=Z,0.5nm,0.9s,baz=11,slow=5.7,SNR=1.9							
TXAR	Lajitas Array	77.41	61	P	P	14 53 55.4	+1.4
comp=Z,0.5nm,0.4s,baz=301,slow=5.1,SNR=15							
BRTR	Keskin Array B	78.49	317	P	P	14 54 00.3	+0.5
comp=Z,0.5nm,0.6s,baz=53,slow=7.4,SNR=3.3							
BOSA	Boshof	135.92	275	PKP	PKPdf	15 01 16.9	-2.4
comp=Z,0.9nm,0.3s,baz=0.0,slow=3.0,SNR=2.3							
H03N2	Juan Fernandez	138.64	90	T	T	17 36 18.4	
baz=309,slow=77,SNR=4.3							
H03N1	Juan Fernandez	138.65	90	T	T	17 36 20.7	
baz=309,slow=77,SNR=4.7							
H03N3	Juan Fernandez	138.65	90	T	T	17 36 19.4	
baz=309,slow=77,SNR=4.3							

*IDC **15** 15:00:49.1±1.6, 20.06S×177.34W, h530km±22km, mb3.5/5, mb1 3.5/8, mb1mx3.1/30, mbtmp4.4/8, Error ellipse: s-maj=33.1km s-min=19.6km az=146.0*
*NEIC **15** 15:00:50.1±0.7, 20.0S±0.2×177.4W±0.1, h530km±12km, mb4.1/15, Error ellipse: s-maj=26.1km s-min=14.7km az=164.0*

ISC 15 15:00:50.0±0.7, 19.9S±0.1×177.38W±0.10, h550km, n32, σ0°93/34, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.83	296	P	P	15 02 17.5	-1.1
3.1nm,0.3s,baz=76,slow=12,SNR=20							
MSVF	Nonsavu	4.83	296	P	P	15 02 17.4	-1.3
NIUE	Niue	7.08	85	P	P	15 02 38.3	-0.5
AFI	Afiamalu	8.01	43	P	P	15 02 48.0	-0.1
3.6nm,0.3s,baz=260,slow=6.0,SNR=4.8							
AFI				S	S	15 04 23.5	-1.3
5.0nm,0.3s,baz=294,slow=20,SNR=6.0							
AFI	Afiamalu	8.01	43	P	P	15 02 47.8	-0.3
PINNC	Pines Island,	14.40	257	P	P	15 03 51.5	-1.8
OUZ	Omahuta	17.22	206	P	P	15 04 21.8	+1.3
URZ	Urewera	18.91	193	P	P	15 04 35.6	-0.5
0.4nm,0.3s,baz=59,slow=5.9,SNR=3.2							
URZ				S	S	15 07 53.6	+14
0.4nm,0.3s,baz=34,slow=18,SNR=1.9							
BKZ	Black Stump Fm	19.92	194	P	P	15 04 44.1	-1.1
BKZ				IAmb	IAmb	15 05 10.4	
comp=Z,13nm,1.2s							
HNR	Honiara	24.24	292	P	P	15 05 26.6	+2.3
comp=Z,20nm,0.6s,baz=200,slow=15,SNR=1.7							
WHZ	Wether Hill Ro	28.61	202	P	P	15 06 02.9	+0.7
EIDS	Eidsvold	29.57	254	P	P	15 06 10.8	0.0
EIDS				IAmb	IAmb	15 06 30.4	
comp=Z,1.6nm,0.9s							
ARMA	Armidale	29.85	243	P	P	15 06 12.2	-1.1
ARMA				IAmb	IAmb	15 06 26.8	
comp=Z,8.5nm,1.1s							
CTA	Charters Tower	34.13	263	P	P	15 06 50.0	+0.2
comp=Z,3.8nm,0.3s,baz=80,slow=8.4,SNR=20							
CTAO	Charters Tower	34.13	263	P	P	15 06 50.1	+0.3
CTAO				IAmb	IAmb	15 06 50.8	
comp=Z,7.5nm,1.1s							
STKA	Stephens Creek	38.57	244	P	P	15 07 25.7	-0.5
comp=Z,2.2nm,0.8s,baz=99,slow=12,SNR=5.4							
STKA	Stephens Creek	38.57	244	P	P	15 07 25.6	-0.6
WR0	Warramunga Arr	45.07	261	P	P	15 08 17.6	+0.1
WR0				IAmb	IAmb	15 08 40.9	
comp=Z,2.3nm,0.9s							
AS31	Alice Springs	45.22	256	P	P	15 08 19.1	+0.3
ASAR	Alice Springs	45.22	256	P	P	15 08 19.1	+0.4
comp=Z,4.2nm,0.6s,baz=89,slow=8.4,SNR=82							
ASAR	Alice Springs	45.22	256	P	P	15 08 18.7	-0.1
W

mB4.5/10, ML4.6/33, MLv4.4/33, Mw(mB)3.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=127.4
*NEIC **15** 15:26:34.3±1.8, 35°.1S±0°.1×179°.3W±0°.2, h10km±1km, mb4.5/6, Error ellipse: s-maj=21.7km s-min=16.2km az=113.0*

ISC 15 15:26:32.8±0.8, 35°.23S±0°.07×179°.0W±0°.1, h10km, n79, σ1§45/105, mb4.5/8, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.21**	**223**	**Pn**		**15 27 22.9**	**-0.4**
MXZ	**Matakaoa Point**	**3.21**	**223**	P	**Pn**	**15 27 23.4**	**+0.1**
MXZ				S	**Sn**	**15 28 03.8**	**+2.2**
WMGZ	**Waiomatatini S**	**3.34**	**219**	P	**Pn**	**15 27 25.6**	**+0.5**
WMGZ				S	**Sn**	**15 28 05.6**	**+0.7**
PKGZ	**Pakihiroa**	**3.57**	**221**	P	**Pn**	**15 27 29.0**	**+0.7**
PKGZ				S	**Sn**	**15 28 12.8**	**+2.2**
PUZ	**Puketiti**	**3.62**	**218**	P	**Pn**	**15 27 29.2**	**+0.3**
PUZ				S	**Sn**	**15 28 14.3**	**+2.7**
HAZ	**Te Kaha**	**3.65**	**225**	P	**Pn**	**15 27 30.6**	**+1.4**
TWGZ	**Tauwhareparae**	**3.84**	**219**	P	**Pn**	**15 27 32.8**	**+0.8**
RUGZ	**Raukumara Rang**	**3.85**	**224**	P	**Pn**	**15 27 32.9**	**+0.7**
CNGZ	**Carnagh Statio**	**3.97**	**214**	P	**Pn**	**15 27 34.6**	**+0.9**
TKGZ	**Te Karaka**	**4.11**	**218**	P	**Pn**	**15 27 36.4**	**+0.9**
TKGZ				S	**Sn**	**15 28 24.5**	**+0.9**
MWZ	**Matawai**	**4.19**	**221**	P	**Pn**	**15 27 36.8**	**0.0**
RIGZ	**Rimuhau**	**4.35**	**216**	P	**Pn**	**15 27 39.0**	**0.0**
RIGZ				S	**Sn**	**15 28 30.9**	**+1.0**
RAGZ	**Rawiri**	**4.37**	**221**	P	**Pn**	**15 27 39.3**	**0.0**
RAGZ				S	**Sn**	**15 28 30.7**	**+0.4**
URZ	**Urewera**	**4.38**	**225**	Pn	**Pn**	**15 27 39.6**	**+0.3**
	4.4nm,0.3s,baz=276,slow=4.6,SNR=25						
URZ				Sn	**Sn**	**15 28 31.1**	**+0.8**
	4.2nm,0.3s,baz=185,slow=24,SNR=1.3						
URZ	**Urewera**	**4.38**	**225**		**Pn**	**15 27 38.8**	**-0.4**
URZ	**Urewera**	**4.38**	**225**	P	**Pn**	**15 27 39.0**	**-0.3**
URZ				S	**Sn**	**15 28 31.0**	**+0.8**
OPRZ	**Ohinepanea**	**4.46**	**233**	P	**Pn**	**15 27 41.6**	**+1.1**
PRGZ	**Paritu Road**	**4.47**	**214**	P	**Pn**	**15 27 40.9**	**+0.3**
PRGZ				S	**Sn**	**15 28 34.0**	**+1.2**
SNGZ	**Shannon Statio**	**4.62**	**219**	P	**Pn**	**15 27 42.8**	**+0.1**
SNGZ				S	**Sn**	**15 28 37.3**	**+0.8**
KNZ	**Kokohu**	**4.65**	**215**	P	**Pn**	**15 27 42.3**	**-0.7**
KNZ				S	**Sn**	**15 28 37.0**	**0.0**
MHGZ	**Mahia Peninsul**	**4.65**	**212**	P	**Pn**	**15 27 42.8**	**-0.2**
MHGZ				S	**Sn**	**15 28 36.0**	**-1.1**
RTZ	**Ruatahuna**	**4.70**	**223**	P	**Pn**	**15 27 44.8**	**+1.1**
RTZ				S	**Sn**	**15 28 40.0**	**+1.6**
MUGZ	**Murupara**	**4.72**	**225**	P	**Pn**	**15 27 43.9**	**-0.1**
MUGZ				S	**Sn**	**15 28 36.2**	**-2.6**
RAHZ	**Arahi**	**4.86**	**220**	P	**Pn**	**15 27 47.1**	**+1.2**
RAHZ				S	**Sn**	**15 28 44.3**	**+2.1**
WHHZ	**Waihua**	**4.90**	**217**	P	**Pn**	**15 27 48.5**	**+2.0**
WHHZ				S	**Sn**	**15 28 45.0**	**+1.7**
MTHZ	**Maungataniwha**	**4.94**	**222**	P	**Pn**	**15 27 47.6**	**+0.5**
MTHZ				S	**Sn**	**15 28 44.9**	**+0.6**
ALRZ	**Allen Road**	**5.03**	**227**	P	**Pn**	**15 27 49.9**	**+1.6**
TOZ	**Tahuroa Road**	**5.12**	**239**	P	**Pn**	**15 27 49.9**	**+0.4**
NMHZ	**Naumai**	**5.14**	**220**	P	**Pn**	**15 27 50.5**	**+0.7**
NMHZ				S	**Sn**	**15 28 50.0**	**+0.8**
ARHZ	**Aropaoanui**	**5.16**	**218**	P	**Pn**	**15 27 49.6**	**-0.5**
ARHZ				S	**Sn**	**15 28 52.0**	**+2.3**
ETAZ	**East Tamaki Re**	**5.25**	**249**	P	**Pn**	**15 27 54.7**	**+3.5**
BKZ	**Black Stump Fm**	**5.35**	**221**	Pn	**Pn**	**15 27 52.4**	**-0.4**
BKZ	**Black Stump Fm**	**5.35**	**221**	P	**Pn**	**15 27 53.1**	**+0.3**
BKZ				S	**Sn**	**15 28 54.8**	**+0.3**
MCHZ	**McNeill Hill**	**5.45**	**218**	P	**Pn**	**15 27 53.9**	**-0.2**
RVAZ	**Riverhead Bore**	**5.47**	**252**	P	**Pn**	**15 27 57.4**	**+3.1**
KWHZ	**Kaweka Forest**	**5.58**	**220**	P	**Pn**	**15 27 56.0**	**+0.1**
KWHZ				S	**Sn**	**15 29 00.4**	**+0.3**
KAHZ	**Kahuranaki**	**5.63**	**215**	P	**Pn**	**15 27 55.2**	**-1.5**
KAHZ				S	**Sn**	**15 28 60.0**	**-1.5**
TMVZ	**Te Maari**	**5.77**	**226**	P	**Pn**	**15 27 59.0**	**+0.5**
KRHZ	**Kereru**	**5.77**	**219**	P	**Pn**	**15 27 58.6**	**+0.1**
KRHZ				S	**Sn**	**15 29 02.9**	**-1.7**
NTVZ	**North Tongarir**	**5.77**	**226**	P	**Pn**	**15 27 58.8**	**+0.2**
BHHZ	**Black Hill Sta**	**5.82**	**222**	P	**Pn**	**15 27 59.1**	**0.0**
BHHZ				S	**Sn**	**15 29 05.3**	**-0.7**
OTVZ	**Oturere**	**5.82**	**226**	P	**Pn**	**15 27 57.8**	**-1.5**
NNVZ	**North Ngauruho**	**5.83**	**227**	P	**Pn**	**15 28 00.9**	**+1.5**
SNVZ	**South Ngauruho**	**5.85**	**226**	P	**Pn**	**15 27 59.5**	**-0.2**
MOVZ	**Moawhango**	**5.93**	**224**	P	**Pn**	**15 28 00.8**	**0.0**
MOVZ				S	**Sn**	**15 29 04.7**	**-4.1**
WNVZ	**Wahianoa**	**5.97**	**225**	P	**Pn**	**15 28 02.0**	**+0.7**
WNVZ				S	**Sn**	**15 29 08.8**	**-1.0**
WPHZ	**Waipukurau**	**6.05**	**216**	P	**Pn**	**15 27 58.8**	**-3.5**
WPHZ				S	**Sn**	**15 29 08.7**	**-3.0**
PNHZ	**Pukenui**	**6.06**	**218**	P	**Pn**	**15 28 01.7**	**-0.7**
OUZ	**Omahuta**	**6.10**	**268**	Pn	**Pn**	**15 28 03.3**	**+0.3**
TSZ	**Takapari Road**	**6.29**	**218**	P	**Pn**	**15 28 06.2**	**+0.7**
KHZ	**Kahutara**	**9.26**	**217**	Pn	**Pn**	**15 28 46.1**	**-0.2**
RPZ	**Rata Peaks**	**11.46**	**219**	Pn	**Pn**	**15 29 18.5**	**+2.1**
WHZ	**Wether Hill Ro**	**14.56**	**219**	Pn	**Pn**	**15 29 56.9**	**-2.0**
MSVF	**Nonsavu**	**17.63**	**351**	LR	LR	15 35 59.5	
	comp=Z,143nm,19.6s,baz=189,slow=33						
PPT	**Papeete**	**31.48**	**64**	LR	LR	15 43 28.4	
	comp=Z,24nm,20.9s,baz=257,slow=32						
CTA	**Charters Tower**	**34.11**	**287**	P	**P**	**15 33 17.4**	**-0.5**
	6.8nm,1.1s,baz=121,slow=11,SNR=5.6						
CTAO	**Charters Tower**	**34.11**	**287**	P	**P**	**15 33 17.3**	**-0.5**
AS31	**Alice Springs**	**42.29**	**273**	P	**P**	**15 34 24.9**	**-1.9**
ASAR	**Alice Springs**	**42.29**	**273**	P	**P**	**15 34 25.2**	**-1.5**
	4.9nm,0.7s,baz=117,slow=7.3,SNR=52						
ASAR	**Alice Springs**	**42.29**	**273**	P	**P**	**15 34 24.2**	**-2.6**
WB2	**Warramunga Arr**	**43.71**	**278**	P	**P**	**15 34 36.4**	**-1.9**
WB2				IAmb	IAmb	15 34 54.4	
	comp=Z,7.8nm,0.9s						
WRA	**Warramunga Arr**	**43.72**	**278**	P	**P**	**15 34 36.0**	**-2.3**
	comp=Z,47nm,0.3s,baz=121,slow=7.5,SNR=0.5						
WB0	**Warramunga Arr**	**43.76**	**278**	P	**P**	**15 34 36.8**	**-1.9**
WB0				IAmb	IAmb	15 34 38.9	
	comp=Z,7.7nm,1.1s						
PSA00	**Pilbara Seismi**	**54.76**	**267**	P	**P**	**15 36 00.6**	**-2.3**
PSA00				IAmb	IAmb	15 36 26.9	
	comp=Z,6.3nm,1.3s						
QSPA	**South Pole Qui**	**54.89**	**180**	P	**P**	**15 36 06.7**	**+3.4**
	comp=Z,2.6nm,0.9s,baz=14,slow=2.7,SNR=6.4						
QSPA	**South Pole Qui**	**54.89**	**180**	P	**P**	**15 36 06.9**	**+3.6**
QSPA				IAmb	IAmb	15 36 17.5	
	comp=Z,6.7nm,1.1s						
PETK	**Petropavlovsk-**	**90.29**	**346**	P	**P**	**15 39 33.9**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=165,slow=7.7,SNR=4.7						
PETK	**Petropavlovsk-**	**90.29**	**346**	P	**P**	**15 39 34.1**	**+0.8**
KBZ	**Khabaz**	**146.90**	**298**	PKPbc	**PKPdf**	**15 46 13.0**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=164,slow=1.9,SNR=4.9						
OBN	**Obninsk**	**148.53**	**320**	PKPbc	**PKPbc**	**15 46 18.3**	**-0.9**
	comp=Z,2.6nm,0.3s,baz=139,slow=23,SNR=6.8						
OBN	**Obninsk**	**148.53**	**320**		**PKPbc**	**15 46 19.5**	**+0.3**
FINES	**FINESS Array B**	**149.33**	**337**	PKPbc	**PKPbc**	**15 46 20.8**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=100,slow=5.8,SNR=12						
FINES	**FINESS Array B**	**149.33**	**337**		**PKPdf**	**15 46 18.7**	**+2.1**
MMAI	**Mount Meron Ar**	**151.56**	**275**	PKPbc	**PKiKP**	**15 46 28.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=75,slow=6.1,SNR=4.9						
NB2	**NORSAR Subarra**	**153.36**	**349**	PKP	**PKiKP**	**15 46 30.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=21,slow=2.6						
NOA	**NORSAR Array B**	**153.36**	**349**	PKPbc	**PKPbc**	**15 46 30.5**	**0.0**
	comp=Z,1.1nm,0.9s,baz=12,slow=4.5,SNR=4.3						
BRTR	**Keskin Array B**	**153.84**	**290**	PKPbc	**PKPbc**	**15 46 31.6**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=127,slow=1.9,SNR=7.5						
AKASG	**Malin Array Be**	**154.44**	**316**	PKPbc	**PKPbc**	**15 46 31.7**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=52,slow=2.9,SNR=4.3						
AKASG	**Malin Array Be**	**154.44**	**316**		**PKPbc**	**15 46 31.9**	**-1.1**

*IDC **15** 15:33:05.0±0.7, 12°.16N×46°.48E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/43, mbtmp3.9/15, ML3.9/1, MS3.5/14, Ms1 3.5/14, ms1mx3.3/38, Error ellipse: s-maj=20.3km s-min=19.5km az=161.0*
*NEIC **15** 15:33:07.5±1.8, 12°.1N±0°.1×46°.4E±0°.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=26.2km s-min=17.2km az=155.0*

ISC 15 15:33:06.1±0.6, 12°.1N±0°.1×46°.4E±0°.1, h10km, n46, σ0§98/38, mb4.0/17, MS3.5/12, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.55**	**262**		**Pn**	**15 33 59.8**	**-1.7**
UOSS	**Minazif**	**15.79**	**34**	P	**P**	**15 36 51.0**	**-1.6**
UOSS				IAmb	IAmb	15 37 06.0	
	comp=Z,23nm,1.0s						
KMBO	**Kilima Mbogo**	**15.98**	**215**	Pn	**Pn**	**15 36 50.7**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=48,slow=12,SNR=2.9						
KMBO				LR	LR	15 42 40.8	
	comp=Z,182nm,20.8s,baz=109,slow=36						
WSAR	**Wadi Sarin**	**16.06**	**45**	LR	LR	15 43 20.3	
	comp=Z,154nm,18.9s,baz=255,slow=38						
MBAR	**Mbarara**	**20.04**	**232**	LR	LR	15 44 54.1	
	comp=Z,109nm,21.0s,baz=73,slow=35						
EIL	**Elat**	**20.50**	**330**	LR	LR	15 44 49.8	
	comp=Z,86nm,20.1s,baz=106,slow=34						
MMAI	**Mount Meron Ar**	**23.16**	**336**	LR	LR	15 46 47.1	
	comp=Z,95nm,21.7s,baz=50,slow=36						
GEYT	**Alibeck**	**27.78**	**20**	LR	LR	15 51 47.1	
	comp=Z,172nm,20.6s,baz=80,slow=40						
GNI	**Garni**	**28.00**	**357**	LR	LR	15 51 23.4	
	comp=Z,131nm,18.8s,baz=168,slow=39						
BR131	**Keskin Array S**	**29.77**	**340**	P	**P**	**15 39 14.5**	**+1.3**
BR131				IAmb	IAmb	15 39 31.5	
	comp=Z,2.8nm,1.0s						
BRTR	**Keskin Array B**	**29.77**	**340**	P	**P**	**15 39 14.4**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=159,slow=10,SNR=4.4						
BRTR				PcP	**PcP**	**15 42 17.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=171,slow=5.1,SNR=4.6						
BRTR				LR	LR	15 51 39.8	
	comp=Z,90nm,20.1s,baz=132,slow=38						
BRTR	**Keskin Array B**	**29.77**	**340**	P	**P**	**15 39 15.2**	**+2.0**
KBZ	**Khabaz**	**31.68**	**355**	LR	LR	15 53 42.8	
	comp=Z,58nm,18.6s,baz=168,slow=39						
MATP	**Matopo**	**36.80**	**209**	P	**P**	**15 40 17.4**	**+2.8**
	comp=Z,2.5nm,1.0s,baz=353,slow=8.1,SNR=3.1						
ABKAR	**Akbulak array**	**38.72**	**14**	P	**P**	**15 40 31.2**	**+0.8**
AKTO	**Aktyubinsk**	**39.41**	**12**	LR	LR	16 00 11.9	
	comp=Z,108nm,18.3s,baz=187,slow=41						
BURAR	**Bucovina Array**	**39.64**	**337**	P	**P**	**15 40 38.9**	**+0.6**
BURAR				IAmb	IAmb	15 40 41.1	
	comp=Z,0.8nm,0.8s						
BELG	**Belogornoye**	**40.22**	**1**	LR	LR	16 00 46.9	
	comp=Z,62nm,18.0s,baz=192,slow=41						
AKASG	**Malin Array Be**	**41.01**	**343**	P	**P**	**15 40 50.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=152,slow=7.3,SNR=7.7						
AKASG	**Malin Array Be**	**41.01**	**343**	P	**P**	**15 40 49.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**43.63**	**276**	P	**P**	**15 41 11.1**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=98,slow=6.2,SNR=4.8						
TORD				PcP	**PcP**	**15 42 58.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=100,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**43.63**	**276**	P	**P**	**15 41 11.3**	**+0.1**
TORD				IAmb	IAmb	15 41 13.1	
	comp=Z,7.1nm,1.5s						
BOSA	**Boshof**	**45.34**	**207**	P	**P**	**15 41 25.2**	**+0.4**
GERES	**GERESS Array B**	**45.60**	**330**	P	**P**	**15 41 26.1**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=131,slow=7.4,SNR=8.7						
GERES	**GERESS Array B**	**45.60**	**330**	P	**P**	**15 41 26.8**	**+0.1**
MK31	**Makanchi Array**	**45.91**	**34**	P	**P**	**15 41 27.8**	**-1.3**
MK31				IAmb	IAmb	15 41 33.5	
	comp=Z,2.2nm,1.0s						
MKAR	**Makanchi Array**	**45.91**	**34**	P	**P**	**15 41 28.8**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=221,slow=7.2,SNR=10.0						
MKAR				LR	LR	16 01 59.9	
	comp=Z,53nm,18.6s,baz=217,slow=38						
MKAR	**Makanchi Array**	**45.91**	**34**	P	**P**	**15 41 29.7**	**+0.6**
KIRV	**Kirov**	**46.47**	**2**	LR	LR	16 03 30.4	
	comp=Z,64nm,19.4s,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**50.91**	**76**	P	**P**	**15 42 07.7**	**-0.4**
	comp=Z,3.9nm,0.9s,baz=272,slow=8.9,SNR=14						
CMAR	**Chiang Mai Arr**	**50.91**	**76**	P	**P**	**15 42 07.3**	**-0.8**
FINES	**FINESS Array B**	**51.46**	**348**	P	**P**	**15 42 11.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=136,slow=19,SNR=1.4						
FINES	**FINESS Array B**	**51.46**	**348**	P	**P**	**15 42 12.3**	**+0.9**
ZALV	**Zalesovo Beam**	**51.62**	**28**	P	**P**	**15 42 11.8**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=243,slow=6.5,SNR=4.9						
ZALV				LR	LR	16 06 25.1	
	comp=Z,23nm,19.0s,baz=127,slow=39						
NOA	**NORSAR Array B**	**55.21**	**340**	P	**P**	**15 42 38.1**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=146,slow=13,SNR=2.1						
SONM	**Songino Array**	**61.09**	**42**	P	**P**	**15 43 19.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=235,slow=6.8,SNR=2.4						
KSRS	**Korea Array**	**76.05**	**54**	P	**P**	**15 44 55.3**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=266,slow=4.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**84.33**	**54**	P	**P**	**15 45 38.9**	**0.0**
	comp=Z,3.7nm,0.5s,baz=274,slow=3.3,SNR=3.0						
WRA	**Warramunga Arr**	**92.12**	**110**	P	**P**	**15 46 16.6**	**+0.2**
	comp=Z,91nm,0.4s,baz=291,slow=5.1,SNR=5.8						
ASAR	**Alice Springs**	**92.49**	**114**	P	**P**	**15 46 18.1**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=297,slow=4.1,SNR=24						
PDAR	**Pinedale Array**	**121.15**	**340**	PKP	**PKPdf**	**15 51 58.8**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=36,slow=2.8,SNR=3.5						
PDAR	**Pinedale Array**	**121.15**	**340**		**PKiKP**	**15 51 59.6**	**-0.5**
NVAR	**Mina Array Bea**	**127.77**	**345**	PKP	**PKiKP**	**15 52 12.8**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=63,slow=0.6,SNR=9.2						
NVAR	**Mina Array Bea**	**127.77**	**345**		**PKiKP**	**15 52 14.1**	**+0.8**
TXAR	**Lajitas Array**	**129.72**	**326**	PKP	**PKiKP**	**15 52 17.0**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=64,slow=2.9,SNR=6.1						
TXAR	**Lajitas Array**	**129.72**	**326**	PKPdf	**PKiKP**	**15 52 17.2**	**-0.1**

IDC 15 15:35:19.9±35.0, 7°.10S×81°.98W, h0km, mb4.2/3, mb1 4.2/4, mb1mx3.7/23, mbtmp4.0/4, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/21, Error ellipse: s-maj=1030.0km s-min=69.2km az=58.0, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**14.12**	**33**	LR	LR	15 44 38.7	
	comp=Z,116nm,20.6s,baz=16,slow=40						
LPAZ	**La Paz**	**16.34**	**125**	Pn	Pn	15 39 12.2	+0.7
	0.1nm,0.3s,baz=311,slow=12,SNR=1.9						
LPAZ				LR	LR	15 45 51.5	
	comp=Z,142nm,18.8s,baz=308,slow=39						
H03N2	**Juan Fernandez**	**26.36**	**174**	T	T	16 08 57.0	
	baz=355,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**26.36**	**174**	T	T	16 09 00.4	
	baz=355,slow=76,SNR=21						
H03N3	**Juan Fernandez**	**26.38**	**174**	T	T	16 08 55.1	
	baz=355,slow=76,SNR=17						
KOWA	**Kowa**	**80.22**	**74**	P	P	15 47 32.9	-0.2
	0.8nm,0.3s,baz=258,slow=3.7,SNR=3.9						
ESDC	**Sonseca Array**	**85.36**	**49**	P	P	15 48 00.0	+0.5
	0.9nm,0.7s,baz=260,slow=5.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**85.49**	**76**	P	P	15 47 60.0	-0.6
	1.1nm,0.9s,baz=270,slow=4.3,SNR=2.6						

*THR **15** 15:41:57.3±0.9, 33°.46N×47°.45E, h14km±8km, ML3.5*
*ISN **15** 15:41:58.8±1.4, 33°.53N×47°.96E, h14km±7km, ML3.5*
*TEH **15** 15:41:59.4, 33°.51N×47°.94E, h8km, ML3.4*
*IDC **15** 15:42:00.1±2.1, 33°.56N×47°.66E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.4/40, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/36, Error ellipse: s-maj=58.2km s-min=25.6km az=157.0*

ISC 15 15:42:00.4±1.0, 33°.51N±0°.03×47°.85E±0°.03, h4km±7km, n58, σ1§39/63, mb3.8/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.02**	**345**	*e*Pg	**Pg**	**15 42 01.0**	**-0.2**
IDOB	**Doab**	**0.39**	**44**	*e*Sg	**Sg**	**15 42 12.5**	**-0.7**
IDOB				*e*Pg	**Pg**	**15 42 06.6**	**-1.4**
BMDN	**Meydan**	**0.83**	**78**	*e*Pg	**Pg**	**15 42 13.7**	**-2.6**
BMDN				*e*		15 42 29.0	
	comp=Z,18μm,0.3s						
DHL1	**Dehloran**	**0.95**	**210**	*e*Pg	**Pg**	**15 42 19.0**	**+0.3**
IBZA	**Bozab**	**0.96**	**0**	*e*Pg	**Pg**	**15 42 17.4**	**-1.5**
IBZA				*e*		15 42 39.0	
	comp=Z,12μm,0.5s						
IGHG	**Ghaleghazi**	**1.35**	**308**	*e*Pg	**Pb**	**15 42 27.4**	**+1.0**
ILIN	**Lien**	**1.59**	**333**	*e*Pg	**Pg**	**15 42 30.4**	**-0.5**
ILIN				*e*		15 42 59.9	
	comp=Z,7μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.61**	**150**	*e*Pg	**Pn**	**15 42 29.4**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.61**	**150**	*e*Pg	**Pn**	**15 42 29.5**	**-0.1**
SNGE	**Sanandaj**	**1.64**	**345**	*e*Pg	**Pn**	**15 42 27.3**	**-2.9**
SNGE	**Sanandaj**	**1.64**	**345**	*e*Pn	**Pn**	**15 42 27.3**	**-2.9**
IBDR	**Badra**	**1.66**	**257**	*e*Pg	**Pn**	**15 42 30.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**15 42 54.0**	**+0.3**
IBDR				AML	AML	15 43 00.3	
	comp=E,698nm,0.5s						
IBDR				AML	AML	15 43 06.5	
	comp=N,525nm,0.6s						
IDHR	**Dehrash**	**1.70**	**315**	*e*Pg	**Pg**	**15 42 32.4**	**-0.7**
ASAO	**Ashtian**	**2.08**	**59**	*e*Pn	**Pb**	**15 42 38.3**	**-0.6**
ASAO				IAML		15 43 12.3	
	comp=E,178nm,0.6s						
ASAO				IAML		15 43 16.6	
	comp=N,233nm,0.6s						
ASAO	**Ashtian**	**2.08**	**59**	*e*Pn	**Pb**	**15 42 38.3**	**-0.6**
AHWZ	**Ahwaz**	**2.27**	**163**	*e*Pn	**Pn**	**15 42 40.0**	**+1.3**
QABG	**Abgarm-Qazvin**	**2.62**	**32**	*e*Pn	**Pn**	**15 42 45.3**	**+1.6**
IPIR	**Pirpir**	**2.68**	**107**	*e*Pn	**Pn**	**15 42 45.0**	**+0.4**
IPIR				*e*		15 43 36.4	
	comp=Z,1μm,0.7s						
SHK1	**Shahrekord**	**2.81**	**114**	*e*Pn	**Pn**	**15 42 46.7**	**+0.4**
NSR	**Nassriya**	**2.88**	**211**	*e*Pn	**Pn**	**15 42 47.0**	**-0.1**
NSR				*e*Sn	**Sn**	**15 43 21.0**	**-1.1**
BHD	**Baghdad**	**2.92**	**266**	*e*Pn	**Pn**	**15 42 47.0**	**-0.5**
BHD				*e*Sn	**Sn**	**15 43 24.0**	**+1.0**
QAMS	**Qamsar**	**2.96**	**85**	*e*Pn	**Pn**	**15 42 50.3**	**+1.8**
IQOM	**Qom**	**2.98**	**63**	*e*Pn	**Pn**	**15 42 50.0**	**+1.3**
GHVR	**GHOM**	**3.02**	**70**	*e*P	**Pn**	**15 42 51.5**	**+2.4**
IKLH	**Kolahrood**	**3.12**	**92**	*e*Pn	**Pn**	**15 42 52.3**	**+1.6**
IMHD	**Mahdasht**	**3.18**	**46**	*e*Pn	**Pn**	**15 42 53.5**	**+2.2**
QSDN	**Sirdan**	**3.18**	**20**	*e*Pn	**Pn**	**15 42 53.1**	**+1.6**
ZNJK	**Zanjan**	**3.23**	**12**	*e*Pn	**Pn**	**15 42 51.8**	**-0.3**
ZNJK	**Zanjan**	**3.23**	**12**	*e*Pn	**Pn**	**15 42 51.8**	**-0.3**
THKV	**Tehran--Karaj**	**3.46**	**45**	*e*P	**Pn**	**15 42 56.0**	**+0.7**
IKRK	**Kirkuk**	**3.46**	**304**	*e*Pn	**Pn**	**15 42 55.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**15 43 37.0**	**+0.4**
IVRN	**Varamin**	**3.54**	**64**	*e*Pn	**Pn**	**15 42 56.4**	**+0.2**
KRSH	**Karshahi**	**3.60**	**81**	*e*Pn	**Pn**	**15 42 58.8**	**+1.7**
CHTH	**Charan**	**3.61**	**47**	*e*P	**Pn**	**15 42 59.0**	**+1.7**
CHTH	**Charan**	**3.61**	**47**	*e*Pn	**Pn**	**15 42 59.1**	**+1.7**
IGAR	**Gharneh**	**3.69**	**106**	*e*Pn	**Pn**	**15 42 58.7**	**+0.3**
MAHB	**Mahabad**	**3.70**	**332**	*e*Pn	**Pn**	**15 42 59.9**	**+1.4**
QALM	**Alamut, Qazvin**	**3.71**	**37**	*e*Pn	**Pn**	**15 43 00.3**	**+1.5**
MIB	**Mutribah**	**3.72**	**187**	*e*P	**Pn**	**15 42 58.6**	**0.0**
MIB				IAML		15 43 40.9	
	comp=Z,221nm,0.5s						
ISFB	**Sefidab**	**3.74**	**76**	*e*Pn	**Pn**	**15 43 00.0**	**+0.9**
IZEF	**Zefreh**	**3.80**	**98**	*e*Pn	**Pn**	**15 43 00.4**	**+0.4**
KLNJ	**Kolanjah**	**4.03**	**127**	*e*Pn	**Pn**	**15 43 02.8**	**-0.4**
RST	**Umm Al-Ruwaisa**	**4.06**	**191**	*e*P	**Pn**	**15 43 02.8**	**-0.5**
IRAM	**Ramesheh**	**4.18**	**113**	*e*Pn	**Pn**	**15 43 05.7**	**+0.6**
IFIR	**Firoozkooh**	**4.57**	**61**	*e*Pn	**Pn**	**15 43 11.5**	**+0.9**
ILAS	**Lasjerd**	**4.62**	**65**	*e*Pn	**Pn**	**15 43 12.1**	**+0.9**
QRN	**Al-Qurain**	**4.75**	**179**	*e*P	**Pn**	**15 43 12.3**	**-0.4**
ANAR	**Anarak**	**4.93**	**92**	*e*Pn	**Pn**	**15 43 16.2**	**+0.8**
ISHM	**Shahmirzad**	**5.04**	**61**	*e*P

U40A				S			15 56 00.6
	baz=272						
MIAR	**Mount Ida**	**3.21**	**124**	Pn	Pn		15 55 22.7 +0.7
MIAR				IAmb_Lg			15 56 17.1
	comp=Z,42nm,0.8s						
MIAR	**Mount Ida**	**3.21**	**124**	P			15 55 22.3
	baz=306,SNR=9.2						
Z38A	**Mt. Pleasant**	**3.47**	**154**	IAmb_Lg			15 56 26.9
	comp=Z,31nm,0.8s						
MGMO	**Mountain Grove**	**3.71**	**77**	Pn	Pn		15 55 30.1 +1.2
MGMO				IAmb_Lg			15 56 30.6
	comp=Z,42nm,1.0s						
X40A	**Basin Creek Fa**	**3.75**	**119**	Pn	Pn		15 55 30.4 +1.0
X40A				IAmb_Lg			15 56 29.5
	comp=Z,36nm,0.7s						
X40A	**Basin Creek Fa**	**3.75**	**119**	P			15 55 30.0
	baz=302,SNR=8.8						
X40A				P			15 55 30.0
	baz=302,SNR=8.8						
FCAR	**Ozark Folk Cen**	**3.81**	**96**	IAmb_Lg			15 56 38.4
	comp=Z,46nm,0.8s						
WHAR	**Wooly Hollow**	**3.82**	**106**	Pn	Pn		15 55 31.0 +0.7
WHAR				IAmb_Lg			15 56 40.4
	comp=Z,52nm,1.0s						
W41B	**Gary Mavity, V**	**3.89**	**107**	P			15 55 31.1
	baz=290,SNR=14						
W41B				S			15 56 17.8
	baz=290						
R40A	**Maddies Statio**	**4.07**	**61**	Pn	Pn		15 55 33.9 +0.1
R40A				IAmb_Lg			15 56 39.6
	comp=Z,36nm,0.8s						
R40A	**Maddies Statio**	**4.07**	**61**	P			15 55 33.9
	baz=244,SNR=6.7						
P38A	**Dawn**	**4.12**	**38**	Pn	Pn		15 55 36.2 +1.7
N33A	**J Bar K, Exete**	**4.36**	**353**	IAmb_Lg			15 56 53.5
	comp=Z,40nm,0.7s						
ABTX	**Abilene, Hawle**	**4.44**	**213**	Pn	Pn		15 55 40.3 +1.3
LCAR	**Lake Charles**	**4.57**	**92**	IAmb_Lg			15 56 59.7
	comp=Z,24nm,0.7s						
T42A	**Van Buren**	**4.62**	**80**	Pn	Pn		15 55 42.7 +1.4
T42A				IAmb_Lg			15 56 54.5
	comp=Z,54nm,0.9s						
CCM	**Cathedral Cave**	**4.72**	**68**	IAmb_Lg			15 57 08.4
	comp=Z,34nm,1.0s						
P40A	**Paris**	**4.88**	**49**	IAmb_Lg			15 57 05.5
	comp=Z,31nm,0.7s						
BGNE	**Belgrade**	**5.11**	**348**	IAmb_Lg			15 57 21.9
	comp=Z,50nm,0.8s						
N38A	**Joes South For**	**5.20**	**31**	IAmb_Lg			15 57 22.0
	comp=Z,37nm,0.9s						
435B	**Jarrell**	**5.64**	**187**	IAmb_Lg			15 57 44.4
	comp=Z,25nm,1.1s						
SLM	**Saint Louis**	**5.67**	**65**	IAmb_Lg			15 57 30.8
	comp=Z,34nm,0.8s						
OGNE	**Ogallala**	**6.12**	**319**	IAmb_Lg			15 57 50.4
	comp=Z,28nm,0.8s						
SCIA	**State Center**	**6.16**	**26**	IAmb_Lg			15 57 48.6
	comp=Z,36nm,0.8s						
T25A	**Trinidad**	**6.16**	**279**	IAmb_Lg			15 57 54.5
	comp=Z,30nm,0.7s						
W45A	**Hickory Valley**	**6.30**	**99**	IAmb_Lg			15 57 53.8
	comp=Z,36nm,0.8s						
OXF	**Oxford**	**6.31**	**105**	IAmb_Lg			15 57 50.0
	comp=Z,27nm,0.8s						
N41A	**Harden Midland**	**6.33**	**45**	IAmb_Lg			15 57 55.0
	comp=Z,25nm,0.8s						
JCT	**Junction City**	**6.42**	**204**	IAmb_Lg			15 58 02.0
	comp=Z,25nm,1.0s						
SDCO	**Great Sand Dun**	**7.09**	**284**	IAmb_Lg			15 58 15.8
	comp=Z,17nm,1.2s						
HDIL	**Hopedale**	**7.20**	**53**	IAmb_Lg			15 58 28.7
	comp=Z,31nm,0.7s						
PLAL	**Pickwick Lake**	**7.23**	**99**	IAmb_Lg			15 58 21.5
	comp=Z,12nm,0.7s						
WVT	**Waverly**	**7.24**	**89**	IAmb_Lg			15 58 25.3
	comp=Z,13nm,0.7s						
O44A	**Mansfield**	**7.54**	**58**	IAmb_Lg			15 58 31.7
	comp=Z,21nm,0.8s						
I37A	**Lemond, Waseca**	**8.04**	**18**	IAmb_Lg			15 58 48.5
	comp=Z,14nm,1.0s						
X48A	**Hartselle**	**8.19**	**101**	IAmb_Lg			15 58 46.6
	comp=Z,29nm,0.9s						
P46A	**Rosedale**	**8.22**	**64**	IAmb_Lg			15 58 58.8
	comp=Z,26nm,0.7s						
CLTN	**Cedars of Leba**	**8.46**	**89**	IAmb_Lg			15 59 00.0
	comp=Z,23nm,0.9s						
WCI	**Wyandotte Cave**	**8.56**	**75**	IAmb_Lg			15 59 03.6
	comp=Z,24nm,0.9s						
SFIN	**Lafayette**	**8.58**	**60**	IAmb_Lg			15 59 03.5
	comp=Z,24nm,0.8s						
BLO	**Bloomington**	**8.59**	**68**	IAmb_Lg			15 59 02.7
	comp=Z,22nm,0.7s						
Y49A	**Blount Mountai**	**8.87**	**104**	IAmb_Lg			15 59 20.0
	comp=Z,25nm,0.9s						
U49A	**Red Boiling Sp**	**8.87**	**86**	IAmb_Lg			15 59 25.9
	comp=Z,17nm,1.3s						
SWET	**Sewanee**	**8.90**	**94**	IAmb_Lg			15 59 26.5
	comp=Z,24nm,0.8s						
FPAL	**Fort Paine**	**9.30**	**98**	IAmb_Lg			15 59 21.6
	comp=Z,15nm,0.8s						
W50A	**Signal Mountai**	**9.40**	**94**	IAmb_Lg			15 59 32.1
	comp=Z,25nm,0.8s						
P48A	**Milroy**	**9.48**	**68**	IAmb_Lg			15 59 29.2
	comp=Z,22nm,1.0s						
CPCT	**Cooper Cave**	**9.99**	**92**	IAmb_Lg			15 59 51.5
	comp=Z,14nm,0.9s						

*IDC **15** 16:08:00.9±0.7,31.°99S×178.°07W,h0km,mb4.5/7, mb1 4.6/8,mb1mx4.2/27,mbtmp4.5/8,ML4.4/1,MS3.9/5, Ms1 3.8/5,ms1mx3.4/29,Error ellipse: s-maj=22.6km s-min=21.3km az=94.0*

*NEIC **15** 16:08:03.2±2.1,32.°1S±0.°1×178.°1W±0.°2,h10km±1km, mb4.7/15,Error ellipse: s-maj=26.7km s-min=18.3km az=91.0*

ISC 15 16:08:04.3±0.6,32.°21S±0.°06×178.°1W±0.°1,h24km,n79, σ2.°16/85,mb4.7/14,MS3.6/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.95**	**4**	P	**Pn**	**16 08 46.5**	**-3.2**
GLKZ				S	**Sn**	**16 09 20.6**	**-3.7**
RAO	**Raoul Island**	**2.96**	**4**	Pn	**Pn**	**16 08 47.6**	**-2.2**
	63nm,0.3s,baz=175,slow=21,SNR=6.2						
RAO				Sn	**Sn**	**16 09 21.4**	**-3.1**
	122nm,0.3s,baz=79,slow=19,SNR=4.4						
RAO	**Raoul Island**	**2.96**	**4**	Pn	**Pn**	**16 08 48.1**	**-1.6**
RIZ	**Raoul Island**	**2.96**	**3**	P	**Pn**	**16 08 47.5**	**-2.4**
RIZ				S	**Sn**	**16 09 23.5**	**-1.2**
MXZ	**Matakaoa Point**	**6.09**	**208**	S	**Sn**	**16 10 39.6**	**-2.1**
WMGZ	**Waiomatatini S**	**6.27**	**206**	P	**Pn**	**16 09 32.2**	**-3.1**
WMGZ				S	**Sn**	**16 10 44.4**	**-1.8**
PKGZ	**Pakihiroa**	**6.46**	**208**	P	**Pn**	**16 09 35.2**	**-2.8**
PKGZ				S	**Sn**	**16 10 46.7**	**-4.2**
HAZ	**Te Kaha**	**6.47**	**210**	P	**Pn**	**16 09 36.4**	**-1.7**
HAZ				S	**Sn**	**16 10 51.2**	**+0.2**
PUZ	**Puketiti**	**6.55**	**206**	P	**Pn**	**16 09 34.9**	**-4.3**
PUZ				S	**Sn**	**16 10 50.0**	**-3.1**
RUGZ	**Raukumara Rang**	**6.69**	**210**	P	**Pn**	**16 09 39.1**	**-2.1**
RUGZ				S	**Sn**	**16 10 56.2**	**-0.5**
TWGZ	**Tauwhareparae**	**6.75**	**207**	P	**Pn**	**16 09 40.2**	**-1.8**
TWGZ				S	**Sn**	**16 10 55.7**	**-2.4**
CNGZ	**Carnagh Statio**	**6.94**	**205**	P	**Pn**	**16 09 41.0**	**-3.4**
CNGZ				S	**Sn**	**16 11 00.9**	**-1.6**
TKGZ	**Te Karaka**	**7.03**	**207**	P	**Pn**	**16 09 44.1**	**-1.6**
TKGZ				S	**Sn**	**16 11 01.4**	**-3.4**
MWZ	**Matawai**	**7.06**	**209**	P	**Pn**	**16 09 43.1**	**-3.2**
MWZ				S	**Sn**	**16 11 02.5**	**-3.3**
URZ	**Urewera**	**7.18**	**212**	Pn	**Pn**	**16 09 45.9**	**-1.9**
	3.8nm,0.3s,baz=266,slow=4.3,SNR=16						
URZ				Sn	**Sn**	**16 11 05.8**	**-2.7**
	21nm,0.3s,baz=163,slow=20,SNR=17						
URZ	**Urewera**	**7.18**	**212**	Pn	**Pn**	**16 09 46.5**	**-1.2**
URZ	**Urewera**	**7.18**	**212**	P	**Pn**	**16 09 45.9**	**-1.9**
URZ				S	**Sn**	**16 11 06.2**	**-2.4**
RAGZ	**Rawiri**	**7.25**	**209**	P	**Pn**	**16 09 45.6**	**-3.2**
RAGZ				S	**Sn**	**16 11 07.8**	**-2.6**
RIGZ	**Rimuhau**	**7.29**	**206**	P	**Pn**	**16 09 45.6**	**-3.8**
RIGZ				S	**Sn**	**16 11 09.4**	**-2.1**
PRGZ	**Paritu Road**	**7.44**	**205**	P	**Pn**	**16 09 48.1**	**-3.3**
PRGZ				S	**Sn**	**16 11 12.5**	**-2.5**
MUGZ	**Murupara**	**7.51**	**212**	P	**Pn**	**16 09 49.0**	**-3.4**
MUGZ				S	**Sn**	**16 11 13.7**	**-3.1**
OUZ	**Omahuta**	**7.52**	**244**	Pn	Pn	16 09 57.2	+4.8
SNGZ	**Shannon Statio**	**7.52**	**208**	P	**Pn**	**16 09 50.5**	**-2.0**
SNGZ				S	**Sn**	**16 11 14.2**	**-2.9**
RAHZ	**Arahi**	**7.74**	**209**	P	**Pn**	**16 09 54.2**	**-1.3**
RAHZ				S	**Sn**	**16 11 20.1**	**-2.4**
BKZ	**Black Stump Fm**	**8.20**	**211**	Pn	**Pn**	**16 09 59.5**	**-2.4**
HIZ	**Hauiti**	**8.50**	**220**	Pn	**Pn**	**16 10 05.4**	**-0.5**
MSVF	**Nonsavu**	**14.83**	**346**	LR	LR	16 16 22.6
	comp=Z,259nm,18.3s,baz=166,slow=34						
WKZ	**Wanaka**	**16.09**	**215**	Pn	**Pn**	**16 11 48.5**	**-0.5**
WKZ				IAmb	IAmb	16 11 51.4
	comp=Z,12nm,1.0s						
MLZ	**Mavora Lakes**	**16.92**	**215**	P	**P**	**16 12 01.9**	**+0.6**
TBI	**Tubuai**	**26.79**	**78**	*e*LR	LR	16 20 32.9
	comp=Z,124nm,23.0s						
EIDS	**Eidsvold**	**27.77**	**276**	P	**P**	**16 13 53.0**	**+1.6**
EIDS				IAmb	IAmb	16 13 54.2
	comp=Z,5.4nm,0.8s						
PPT2	**Papeete2**	**29.59**	**67**	*e*LR	LR	16 21 43.8
	comp=Z,70nm,22.2s						
PPT	**Papeete**	**29.61**	**67**	LR	LR	16 25 12.3
	comp=Z,105nm,18.2s,baz=266,slow=35						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**16 14 47.8**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=90,slow=9.2,SNR=7.6						
STKA				LR	LR	16 27 53.8
	comp=Z,161nm,18.1s,baz=41,slow=35						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**16 14 49.1**	**+2.7**
CTA	**Charters Tower**	**34.02**	**282**	P	**P**	**16 14 48.5**	**+1.9**
	comp=Z,6.8nm,0.7s,baz=107,slow=9.8,SNR=19						
CTAO	**Charters Tower**	**34.02**	**282**	P	**P**	**16 14 48.3**	**+1.7**
CTAO				IAmb	IAmb	16 14 49.7
	comp=Z,11nm,0.8s						
TAOE	**Nuku Hiva Isla**	**42.15**	**65**	*e*LR	LR	16 27 19.2
	comp=Z,44nm,22.4s						
AS31	**Alice Springs**	**42.94**	**269**	P	**P**	**16 16 01.5**	**0.0**
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**16 16 01.3**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=106,slow=7.5,SNR=51						
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**16 16 01.1**	**-0.4**
WR0	**Warramunga Arr**	**43.91**	**274**	P	**P**	**16 16 09.2**	**-0.2**
WR0				IAmb	IAmb	16 16 11.3
	comp=Z,14nm,1.3s						
WB2	**Warramunga Arr**	**44.08**	**274**	P	**P**	**16 16 10.7**	**0.0**
WB2				IAmb	IAmb	16 16 14.2
	comp=Z,11nm,0.5s						
WRAB	**Tennant Creek**	**44.08**	**274**	P	**P**	**16 16 10.8**	**+0.1**
WRAB				IAmb	IAmb	16 16 24.3
	comp=Z,9.1nm,0.9s						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**16 16 10.5**	**-0.3**
	comp=Z,6.1nm,0.4s,baz=112,slow=8.1,SNR=41						
WRA	**Warramunga Arr**	**44.09**	**274**	P	**P**	**16 16 10.3**	**-0.4**
WB0	**Warramunga Arr**	**44.12**	**274**		**P**	**16 16 10.9**	**-0.1**
WB0				IAmb	IAmb	16 16 14.5
	comp=Z,10.0nm,0.5s						
FORT	**Forrest**	**45.50**	**257**	P	**P**	**16 16 21.5**	**-0.5**
VNDA	**Vanda**	**46.29**	**186**	LR	LR	16 32 07.1
	comp=Z,94nm,21.0s,baz=325,slow=31						
KNRA	**Kununurra**	**50.76**	**276**	P	**P**	**16 17 03.0**	**+0.3**
KNRA				IAmb	IAmb	16 17 18.8
	comp=Z,21nm,1.1s						
CASY	**Casey**	**53.49**	**208**	P	**P**	**16 17 22.6**	**+0.2**
CASY				IAmb	IAmb	16 17 23.9
	comp=Z,8.3nm,0.8s						
QSPA	**South Pole Qui**	**57.90**	**180**	P	**P**	**16 17 55.7**	**+1.5**
MAW	**Mawson**	**70.58**	**201**	P	**P**	**16 19 19.5**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=145,slow=4.3,SNR=3.5						
MAW	**Mawson**	**70.58**	**201**	P	P	16 19 21.2	+4.2
PMSA	**Palmer Station**	**70.66**	**156**	P	**P**	**16 19 19.9**	**+2.4**
	comp=Z,20nm,0.6s,baz=174,slow=10,SNR=10						
PMSA	**Palmer Station**	**70.66**	**156**	P	**P**	**16 19 21.1**	**+3.5**
SNAA	**Sanae**	**76.35**	**178**	P	P	16 20 01.6	+11
VNA3	**Neumayer Olymp**	**76.51**	**176**	P	P	16 20 03.0	+11
VNA2	**Neumayer--Watz**	**76.94**	**177**	P	P	16 20 05.6	+11
	baz=187,slow=3.3						
H03N3	**Juan Fernandez**	**79.76**	**123**	T	T	17 46 54.4
	baz=234,slow=71,SNR=3.9						
H03N2	**Juan Fernandez**	**79.76**	**123**	T	T	17 46 52.1
	baz=234,slow=71,SNR=2.9						
H03N1	**Juan Fernandez**	**79.78**	**123**	T	T	17 46 52.6
	baz=234,slow=71,SNR=3.0						
NVAR	**Mina Array Bea**	**89.64**	**43**	P	**P**	**16 21 00.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=235,slow=10,SNR=4.5						
NVAR	**Mina Array Bea**	**89.64**	**43**	P	**P**	**16 21 00.8**	**+0.5**
LVC	**Limon Verde**	**93.15**	**119**	LR	LR	16 52 58.2
	comp=Z,173nm,20.1s,baz=226,slow=29						
MKAR	**Makanchi Array**	**118.84**	**309**	PKP	**PKPdf**	**16 26 49.0**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=190,slow=0.9,SNR=4.2						
MKAR				PP	**PP**	**16 28 14.1**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=112,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**118.84**	**309**		**PKPdf**	**16 26 49.6**	**-0.8**
KBZ	**Khabaz**	**146.00**	**302**	PKPbc	**PKPab**	**16 27 42.1**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=188,slow=4.5,SNR=6.8						
FINES	**FINESS Array B**	**146.80**	**339**	PKPbc	**PKPbc**	**16 27 43.4**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=90,slow=4.0,SNR=19						
FINES	**FINESS Array B**	**146.80**	**339**	PKPdf	**PKPdf**	**16 27 42.4**	**+0.6**
NB2	**NORSAR Subarra**	**150.52**	**351**	PKP	**PKPbc**	**16 27 52.8**	**-0.6**
	comp=Z,9.3nm,1.4s,baz=14,slow=2.9						
NOA	**NORSAR Array B**	**150.52**	**351**	PKPbc	**PKPbc**	**16 27 52.7**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=4.7						
AKASG	**Malin Array Be**	**152.65**	**321**	PKPbc	**PKPbc**	**16 27 58.2**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=62,slow=2.2,SNR=6.6						
AKASG	**Malin Array Be**	**152.65**	**321**		**PKPbc**	**16 27 56.8**	**-1.6**
BRTR	**Keskin Array B**	**153.32**	**295**	PKPbc	**PKPbc**	**16 28 00.3**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=142,slow=3.5,SNR=7.0						
BRTR	**Keskin Array B**	**153.32**	**295**		**PKPbc**	**16 28 00.0**	**-0.5**
CLL	**Collm**	**159.24**	**340**	*e*PKPab	**PKPab**	**16 28 38.0**	**+0.7**
CLL				Lm	MLR	17 29 00.0
	comp=Z,100nm,19.2s						
TORD	**Torodi Ar. Bea**	**161.02**	**179**	PKPab	**PKPab**	**16 28 46.2**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=189,slow=3.5,SNR=1.9						
GERES	**GERESS Array B**	**161.15**	**335**	PKPab	**PKPab**	**16 28 44.2**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=15,slow=5.8,SNR=4.4						

IDC 15 16:29:37.8±3.1,33.°02S×178.°79W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.6/30,mbtmp3.7/3,ML3.4/1,Error ellipse: s-maj=70.9km s-min=36.7km az=113.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.21**	**211**	Pn	Pn	16 31 11.1	+0.4
	0.8nm,0.3s,baz=262,slow=4.4,SNR=11						
URZ				Sn	Sn	16 32 20.7	-1.6
	0.6nm,0.3s,baz=122,slow=10,SNR=1.8						
ASAR	**Alice Springs**	**42.37**	**270**	P	P	16 37 34.5	+0.5
	0.3nm,0.6s,baz=108,slow=7.9,SNR=10						
WRA	**Warramunga Arr**	**43.59**	**275**	P	P	16 37 43.4	-0.6
	0.6nm,0.6s,baz=115,slow=7.7,SNR=7.8						
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	PKPbc	16 49 21.6	-0.9
	1.1nm,0.7s,baz=107,slow=1.5,SNR=4.5						

*NEIC **15** 16:29:57.6±0.9,35.°35S±0.°03×71.°70W±0.°07,h65km±3km, Error ellipse: s-maj=8.4km s-min=4.0km az=73.0*

*GUC **15** 16:29:57.9±0.7,35.°35S×71.°69W,h63km±3km,ML3.8*

ISC 15 16:29:57.6±1.4,35.°34S±0.°03×71.°72W±0.°07,h63km±10km, n33,σ0.°55/54,7C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.38**	**332**	⇑*i*P	**Pn**	**16 30 08.9**	**+0.2**
GO05				*i* S	**Sn**	**16 30 17.2**	**+0.3**
GO05				IAML		16 30 19.4
	comp=E,5μm,0.4s						
GO05	**Huala**	**0.38**	**332**		**Pn**	**16 30 08.9**	**+0.2**
GO05				Sn	**Sn**	**16 30 17.1**	**+0.3**
ML02	**Panimavida**	**0.48**	**150**		**Pn**	**16 30 09.4**	**-0.3**
ML02				Sn	**Sn**	**16 30 18.5**	**0.0**
BO03	**Pichilemu**	**0.87**	**347**	⇑*i*P	**Pn**	**16 30 14.4**	**+0.3**
BO03				*i* S	**Sn**	**16 30 26.5**	**+0.2**
BO02	**Sierra Bellavi**	**0.94**	**55**	⇓*i*P	**Pn**	**16 30 14.8**	**-0.3**
BO02				*i* S	**Sn**	**16 30 27.8**	**-0.3**
BO02				IAML		16 30 28.8
	comp=N,5μm,0.1s						
BO02	**Sierra Bellavi**	**0.94**	**55**	Pn	**Pn**	**16 30 14.9**	**-0.3**
BO02				Sn	**Sn**	**16 30 27.5**	**-0.6**
BO01	**Tunca**	**1.08**	**29**	⇑*i*P	**Pn**	**16 30 16.6**	**-0.3**
BO01				*i* S	**Sn**	**16 30 30.6**	**-0.5**
BO01	**Tunca**	**1.08**	**29**	Pn	**Pn**	**16 30 16.6**	**-0.3**
BO01				Sn	**Sn**	**16 30 30.6**	**-0.5**
BI02	**San Fabin de**	**1.36**	**165**	*e*P	**Pn**	**16 30 20.8**	**+0.1**
BI02				*i* S	**Sn**	**16 30 37.8**	**-0.2**
BI02	**San Fabin de**	**1.36**	**165**	Pn	**Pn**	**16 30 20.6**	**-0.1**
BI02				Sn	**Sn**	**16 30 37.7**	**-0.2**
MT01	**Popeta**	**1.53**	**15**	⇑*i*P	**Pn**	**16 30 23.1**	**+0.4**
MT01				*i* S	**Sn**	**16 30 41.7**	**+0.1**
MT01				IAML		16 30 45.6
	comp=E,2μm,0.3s						
MT01	**Popeta**	**1.53**	**15**	Pn	**Pn**	**16 30 23.1**	**+0.4**
MT01				Sn	**Sn**	**16 30 42.2**	**+0.5**
MT09	**Talagante**	**1.68**	**21**	⇓*i*P	**Pn**	**16 30 24.9**	**0.0**
MT09				*i* S	**Sn**	**16 30 45.6**	**+0.1**
MT09				IAML		16 30 49.1
	comp=N,2μm,0.1s						
MT09	**Talagante**	**1.68**	**21**	Pn	**Pn**	**16 30 24.9**	**0.0**
MT09				Sn	**Sn**	**16 30 45.6**	**+0.1**
VA05	**Santo Domingo**	**1.69**	**3**	⇓*i*P	**Pn**	**16 30 24.3**	**-0.6**
VA05				*e*S	**Sn**	**16 30 43.3**	**-2.2**
VA05				IAML		16 30 51.0
	comp=E,2μm,0.1s						
VA05	**Santo Domingo**	**1.69**	**3**	Pn	**Pn**	**16 30 24.8**	**-0.1**
LMEL	**Las Melosas**	**1.95**	**40**	⇓*i*P	**Pn**	**16 30 29.3**	**+0.7**
LMEL				*i* S	**Sn**	**16 30 52.3**	**+0.2**
LMEL				IAML		16 30 57.5
	comp=N,959nm,0.2s						
MT03	**Universidad Ad**	**2.10**	**29**	*e*P	**Pn**	**16 30 30.9**	**+0.3**
MT03				*e*S	**Sn**	**16 30 55.9**	**+0.2**
MT03				IAML		16 31 06.2
	comp=E,904nm,0.2s						
MT03	**Universidad Ad**	**2.10**	**29**	Pn	**Pn**	**16 30 30.8**	**+0.2**
MT05	**Renca**	**2.11**	**23**	⇑*i*P	**Pn**	**16 30 31.0**	**+0.3**
MT05				*e*S	**Sn**	**16 30 56.2**	**+0.4**
MT05				IAML		16 31 02.9
	comp=E,1μm,0.5s						
MT05	**Renca**	**2.11**	**23**	Pn	**Pn**	**16 30 31.3**	**+0.6**
MT02	**Curacav**	**2.13**	**13**	⇑*i*P	**Pn**	**16 30 30.9**	**-0.1**
MT02				*e*S	**Sn**	**16 30 56.7**	**+0.2**
MT02	**Curacav**	**2.13**	**13**	Pn	**Pn**	**16 30 30.8**	**-0.2**
VA01	**Torpederas**	**2.32**	**1**	Pn	**Pn**	**16 30 32.3**	**-1.1**
ROCH	**El Roble**	**2.44**	**14**	⇑*i*P	**Pn**	**16 30 35.7**	**+0.4**
ROCH				*e*S	**Sn**	**16 31 04.3**	**+0.2**
ROCH				IAML		16 31 13.1
	comp=N,575nm,0.4s						
VA03	**San Esteban**	**2.75**	**21**	*e*P	**Pn**	**16 30 39.8**	**+0.3**
VA03				*e*S	**Sn**	**16 31 11.8**	**+0.2**
VA03				IAML		16 31 22.3
	comp=E,562nm,0.4s						
VA03	**San Esteban**	**2.75**	**21**		**Pn**	**16 30 39.6**	**+0.2**
LC01	**Cunco**	**3.55**	**182**	Pn	**Pn**	**16 30 50.2**	**-0.1**
CO02	**Combarbal**	**4.17**	**8**	Pn	**Pn**	**16 30 58.2**	**-0.7**
GO04	**Tololo Observa**	**5.21**	**9**	Pn	**Pn**	**16 31 12.2**	**-1.1**
PLCA	**Paso Flores**	**5.46**	**171**	Pn	**Pn**	**16 31 17.6**	**+1.2**
AC04	**Llanos de Chal**	**7.14**	**5**	Pn	**Pn**	**16 31 39.6**	**+0.2**
TRQA	**Tornquist**	**8.28**	**112**	Pn	**Pn**	**16 31 55.8**	**+0.9**

*ARE **15** 16:31:42±4.2, 15.°00S±0.°06×76.°51W±0.°06,h18km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0*

*IDC **15** 16:31:45.6±0.5, 14.°60S×76.°05W,h0km,mb4.6/17, mb1 4.8/19,mb1mx4.7/31,mbtmp4.6/19,ML4.3/2,MS4.0/19, Ms1 4.0/19,ms1mx3.9/23,Error ellipse: s-maj=21.1km s-min=10.7km az=70.0*

*NEIC **15** 16:31:47.6±1.3, 14.°72S±0.°06×76.°02W±0.°09,h10km±1km, mb4.9/151,ML5.0(ARE),Error ellipse: s-maj=15.7km s-min=8.3km az=249.0*

*VAO **15** 16:31:51.9±0.4, 14.°67S×75.°50W,h10km,mb4.8*

*GCMT **15** 16:31:52.7±0.5, 14.°73S±0.°03×76.°14W±0.°03,h31km±1km, MW5.0/68,Moment Tensor Solution. s19,c19; s68,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82±.26; $M_{\theta\theta}$0.13±.15; $M_{\phi\phi}$-2.95±.18; $M_{r\theta}$0.37±.17; $M_{\theta\phi}$1.55±.10; $M_{\phi r}$-1.59±.20; Best double couple: $M_0$3.60300×10^{16} NP1:ϕ_s330.00000°,δ32.00000°,λ79.00000°. NP2: ϕ_s163.00000°,δ59.00000°,λ97.00000°. Principal axes: T 3.2290, Plg75.0000°, Azm92.0000°; N 0.7500, Plg6.0000°, Azm340.0000°; P -3.9770, Plg13.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 16:31:47.0±0.3,14.°76S±0.°05×76.°06W±0.°06,h10km,n401, σ1.°41/340,mb4.9/89,MS4.0/19,2C,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.86**	**345**	Pn	**Pn**	**16 32 30.6**	**-2.2**
	39nm,0.3s,baz=155,slow=16,SNR=24						
NNA				LR	LR	16 33 02.6
	comp=Z,180nm,21.8s,baz=166,slow=28						
NNA

SALV Santo Antonio 19.68 96 *eP* **P 16 36 16.6 +0.1**
GUY2C Guyana, Caldas 19.87 2 *eP* **Pn 16 36 21.6 +1.0**
BO01 Tunca 20.05 168 P Pn 16 36 21.4 -0.8
CLDB Colider 20.13 81 *eP* **P 16 36 21.2 -0.3**
AQDB Aquidauana 20.21 109 Pn Pn 16 36 23.5 -0.7
AQDB IAmb IAmb 16 36 24.3
comp=Z,34nm,0.7s
AQDB Aquidauana 20.21 109 *eP* **P 16 36 23.3 +1.0**
NORC Norcasia 20.23 3 *eP* **P 16 36 23.2 +0.7**
CBOC Ciudad Bolivar 20.49 0 *eP* **P 16 36 25.3 -0.2**
GO05 Huala 20.50 170 P **P 16 36 26.1 +0.8**
GO05 IAmb IAmb 16 36 37.4
comp=Z,47nm,1.1s
BO02 Sierra Bellavi 20.50 168 Pn 16 36 27.8 +0.2
PP1B Ponte de Pedra 20.54 101 *eP* **P 16 36 26.5 +0.7**
RUSC La Rusia 20.73 8 Pn Pn 16 36 30.8 0.0
RUSC La Rusia 20.73 8 *eP* Pn 16 36 31.1 +0.3
CPUP Villa Florida 20.95 126 P Pn 16 36 31.6 -1.1
comp=Z,15nm,0.9s,baz=306,slow=9.4,SNR=13
CPUP LR LR 16 46 07.1
comp=Z,416nm,21.7s,baz=299,slow=41
CPUP Villa Florida 20.95 126 Pn Pn 16 36 32.2 -0.6
CPUP Villa Florida 20.95 126 *eP* **P 16 36 31.4 +1.2**
PTGA Pitinga 21.15 50 P **P 16 36 31.7 -0.8**
comp=Z,30nm,0.9s,baz=215,slow=12,SNR=18
PTGA LR LR 16 45 51.0
comp=Z,252nm,19.7s,baz=244,slow=40
ML02 Panimavida 21.32 170 P **P 16 36 36.7 +2.6**
ML02 IAmb IAmb 16 36 55.4
comp=Z,65nm,1.1s
BARC Barichara 21.41 8 *eP* **P 16 36 36.1 +0.7**
DBBC Dabeiba 21.64 360 *eP* **P 16 36 38.6 +0.9**
NPGB Novo Progresso 21.71 72 *eP* **P 16 36 36.8 -1.8**
ZARC Zaragoza, Cauc 22.14 3 *eP* **P 16 36 42.0 -1.1**
PAMC Pamplona, Colo 22.21 9 *eP* **P 16 36 46.1 +1.8**
BI02 San Fabin de 22.23 170 P **P 16 36 44.6 +0.7**
BI02 IAmb IAmb 16 37 07.1
comp=Z,32nm,1.1s
UREC San Jos de Ur 22.38 1 *eP* **P 16 36 46.4 +0.8**
ITTB Itaituba 22.53 65 *eP* **P 16 36 45.4 -1.9**
ELOV Elorza 22.59 17 *eP* **P 16 36 47.5 -0.4**
BOAV Boa Vista 22.97 43 *eP* **P 16 36 51.7 -0.2**
ITQB Itaqui 23.27 133 P **P 16 36 55.6 +0.7**
ITQB Itaqui 23.27 133 *eP* **P 16 36 56.0 +1.1**
ARAG Araguaiana, MT 23.42 95 *eP* **P 16 36 54.7 -1.8**
SMLC San Martn de 23.50 5 *eP* **P 16 36 55.6 -1.6**
TRCB Terra Rica 23.55 113 P **P 16 36 57.6 -0.2**
TRCB Terra Rica 23.55 113 *eP* **P 16 36 58.1 +0.3**
SDV Santo Domingo 24.11 13 P **P 16 37 02.5 -0.8**
comp=Z,35nm,0.4s,baz=179,slow=9.1,SNR=4.3
SDV Santo Domingo 24.11 13 P **P 16 37 02.5 -0.8**
SNDB Serra Nova Dou 24.25 86 *eP* **P 16 37 03.3 -1.2**
LC01 Cunco 24.32 172 P **P 16 37 05.4 +0.4**
LC01 IAmb IAmb 16 37 08.3
comp=Z,31nm,0.9s
PCMB Pacaembu 24.51 110 *eP* **P 16 37 08.2 +1.4**
SJCC San Jacinto, C 24.52 2 P **P 16 37 08.1 +1.2**
SJCC San Jacinto, C 24.52 2 *eP* **P 16 37 07.6 +0.7**
SRBA San Rafael, Bu 24.91 343 P **P 16 37 11.3 +0.8**
SRBA IAmb IAmb 16 37 13.5
comp=Z,16nm,0.8s
ITRB Iturama 25.02 105 *eP* **P 16 37 12.0 +0.5**
MALB Monte Alegre 25.05 61 *eP* **P 16 37 11.8 0.0**
PEZE Perez Zeledon, 25.15 342 IAmb IAmb 16 37 15.9
comp=Z,38nm,1.1s
RIMA Rio Macho 25.57 342 P **P 16 37 18.3 +1.7**
CPSB Cacapava Do Su 25.97 131 *eP* **P 16 37 20.5 +0.5**
PLCA Paso Flores 26.32 171 P **P 16 37 24.2 +1.2**
comp=Z,4.1nm,0.6s,baz=346,slow=8.6,SNR=9.9
PLCA LR LR 16 45 07.4
comp=Z,213nm,19.4s,baz=336,slow=30
PLCA Paso Flores 26.32 171 IAmb IAmb 16 37 25.5
comp=Z,29nm,1.4s
FRTB Fartura 26.43 113 *eP* **P 16 37 25.5 +1.3**
PLTB Pedras Altas 26.59 133 P **P 16 37 25.6 0.0**
PLTB Pedras Altas 26.59 133 *eP* **P 16 37 26.6 +0.9**
IPMB Ipameri, GO 26.90 101 *eP* **P 16 37 28.2 -0.4**
BB19B Bebedouro 26.92 107 *eP* **P 16 37 28.9 +0.2**
BDFB Brasilia 27.07 96 P **P 16 37 30.1 -0.1**
comp=Z,7.7nm,0.7s,baz=247,slow=8.9,SNR=8.1
BDFB LR LR 16 48 58.1
comp=Z,1μm,18.1s,baz=287,slow=38
BDFB Brasilia 27.07 96 P **P 16 37 29.8 -0.5**
PEXB Peixe 27.12 88 *eP* **P 16 37 29.8 -0.8**
PRPB Paraua pebas 27.16 74 *eP* **P 16 37 31.5 +0.6**
MCPB Macapa, AP 27.71 61 *eP* **P 16 37 36.8 +1.0**
SPB Sao Paulo 28.39 112 *eP* **P 16 37 43.2 +1.5**
SMTB Santa Maria do 28.46 81 *eP* **P 16 37 41.9 -0.7**
JANB Januaria 30.67 95 *eP* **P 16 38 01.6 -0.5**
MC01 Montes Claros 30.96 98 *eP* **P 16 38 04.9 +0.1**
DIAM Diamantina, MG 31.23 101 *eP* **P 16 38 07.9 +0.8**
MTO3 Montecristo 31.82 335 P **P 16 38 14.4 +2.0**
RPN Rapa Nui 33.31 243 LR LR 16 48 02.9
comp=Z,308nm,18.4s,baz=88,slow=29
ROSB Rosrio 33.63 73 *eP* **P 16 38 27.5 -0.6**
BSFB Barra de Sao F 33.92 102 *eP* **P 16 38 30.2 -0.4**
RIB01 Linhares ES 34.36 103 *eP* **P 16 38 34.3 -0.1**
NBPN Ponto Novo - B 35.16 88 *eP* **P 16 38 41.1 -0.3**
GDU01 Guandu, BA 35.36 93 *eP* **P 16 38 42.3 -0.8**
NBIT Itapeh - BA 35.38 95 *eP* **P 16 38 43.3 0.0**
NBPS Pedro II - PI 35.60 77 *eP* **P 16 38 44.7 -0.6**
NBPB Pedra_Branca-C 37.01 79 *eP* **P 16 38 56.9 -0.3**
NBLV Livramento - P 39.07 83 *eP* **P 16 39 14.4 -0.3**
NBAN Anadia - AL 39.18 87 *eP* **P 16 39 14.7 -0.9**
RCBR Riachuelo 40.44 82 *eP* **P 16 39 25.7 -0.4**
833A Chaparral WMA, 48.42 332 P **P 16 40 29.9 +0.2**
baz=149
NATX Nacogdoches 49.58 339 P **P 16 40 38.1 -0.3**
baz=156
435B Jarrell 49.79 336 P **P 16 40 40.2 +0.1**
baz=152
KMSC Kings Mountain 49.88 354 P **P 16 40 38.9 -1.7**
baz=173
V58A Windy Hill, Pi 50.36 357 P **P 16 40 43.8 -0.5**
V58A IAmb IAmb 16 41 12.4
comp=Z,14nm,1.1s
JCT Junction City 50.45 333 P **P 16 40 45.4 +0.2**
baz=150
CPCT Cooper Cave 50.58 351 P **P 16 40 45.2 -0.8**
WLAR White Oak Lake 50.85 342 P **P 16 40 48.1 +0.1**
TX31 Lajitas Ar. Si 51.31 329 IAmb IAmb 16 40 52.5
comp=Z,14nm,0.7s
TXAR Lajitas Array 51.31 329 P **P 16 40 51.7 0.0**
comp=Z,3.6nm,0.5s,baz=153,slow=8.7,SNR=70
TXAR LR LR 17 01 11.4
comp=Z,146nm,18.7s,baz=0.0,slow=34
TXAR Lajitas Array 51.31 329 P **P 16 40 51.5 -0.1**
TZTN Tazewell 51.52 352 P **P 16 40 51.9 -1.2**
TZTN IAmb IAmb 16 41 10.9
comp=Z,16nm,1.2s
T57A Hurt 51.57 357 IAmb IAmb 16 40 53.0
comp=Z,12nm,0.8s
MIAR Mount Ida 51.79 342 P **P 16 40 54.5 -0.5**
baz=158
MIAR Mount Ida 51.79 342 P **P 16 40 54.4 -0.6**
MIAR IAmb IAmb 16 41 08.2
comp=Z,8.3nm,0.8s
WVT Waverly 51.83 348 P **P 16 40 53.3 -2.0**
baz=166
W41B Gary Mavity, V 51.98 343 P **P 16 40 55.6 -0.9**
baz=160
ABTX Abilene, Hawle 52.24 335 P **P 16 40 58.2 -0.4**
baz=151,SNR=5.2
ABTX Abilene, Hawle 52.24 335 P **P 16 40 58.2 -0.4**
W39A Magazine 52.45 342 P **P 16 40 59.8 -0.2**
baz=158
R55A Marlinton 52.90 356 P **P 16 41 02.7 -0.6**
R55A IAmb IAmb 16 41 19.6
comp=Z,10nm,1.0s
U40A Yellville 53.26 343 P **P 16 41 05.0 -1.0**
baz=160,SNR=6.3
U40A Yellville 53.26 343 IAmb IAmb 16 41 05.8
comp=Z,8.1nm,0.8s
X34A Smith Ranch, M 53.28 338 P **P 16 41 06.3 +0.2**
WCI Wyandotte Cave 53.58 350 P **P 16 41 06.4 -1.8**
baz=168
WCI Wyandotte Cave 53.58 350 P **P 16 41 06.5 -1.8**
WCI IAmb IAmb 16 41 07.3
comp=Z,17nm,0.8s
S44A Carbondale 53.63 347 IAmb IAmb 16 41 08.7
comp=Z,14nm,0.7s
TUL1 Leonard 53.75 340 P **P 16 41 08.7 -0.9**
baz=156
WMOK Wichita Mounta 53.75 337 P **P 16 41 09.0 -0.6**
baz=152
MGMO Mountain Grove 53.85 344 IAmb IAmb 16 41 17.4
comp=Z,20nm,1.4s
MNTX Cornudas Mount 54.09 329 P **P 16 41 11.7 -0.4**
baz=144
OK031 S. Brethren Rd 54.14 339 P **P 16 41 11.4 -1.0**
OK031 IAmb IAmb 16 41 12.5
comp=Z,15nm,0.9s
QUOK Quay 54.29 339 P **P 16 41 12.6 -0.9**
QUOK IAmb IAmb 16 41 13.3
comp=Z,14nm,0.9s
P49A Miami Univ. Ec 54.62 352 P **P 16 41 13.6 -2.2**
baz=170
MSTX Muleshoe 54.74 333 P **P 16 41 16.4 -0.5**
baz=148
MSTX Muleshoe 54.74 333 IAmb IAmb 16 41 17.4
comp=Z,8.7nm,0.8s
T35A Sooner Cattle 54.90 340 P **P 16 41 17.2 -0.7**
R40A Meadies Statio 54.92 344 IAmb IAmb 16 41 17.4
comp=Z,10nm,0.7s
CROK Carrier 55.03 338 P **P 16 41 17.4 -1.6**
AMTX Amarillo 55.04 334 P **P 16 41 18.2 -0.9**
baz=149
ACSO Alum Creek Sta 55.09 354 P **P 16 41 17.1 -2.1**
baz=172
SSPA Standing Stone 55.14 358 P **P 16 41 17.1 -2.4**
baz=178
OK032 Salt Plains WL 55.38 338 P **P 16 41 20.8 -0.6**
N54A Moraine State 55.56 356 P **P 16 41 19.9 -2.8**
baz=175
SFIN Lafayette 55.81 350 P **P 16 41 21.8 -2.5**
baz=167
121A Cookes Peak, D 55.97 328 P **P 16 41 26.6 +0.6**
baz=142,SNR=5.1
121A Cookes Peak, D 55.97 328 P **P 16 41 26.7 +0.8**
121A IAmb IAmb 16 41 27.5
comp=Z,7.7nm,0.7s
LENM Lemitar 56.86 329 P **P 16 41 33.0 +0.7**
R32A Long Quarter, 57.01 339 P **P 16 41 32.3 -0.7**
ANMO Albuquerque 57.24 330 P **P 16 41 35.1 +0.1**
baz=144
ANMO Albuquerque 57.24 330 P **P 16 41 34.5 -0.5**
TUC Tucson 57.41 325 P **P 16 41 36.7 +0.6**
baz=139
TUC Tucson 57.41 325 P **P 16 41 36.3 +0.2**
J58A Remsen 57.84 1 P **P 16 41 36.1 -2.7**
baz=181
J63A Strafford 57.94 4 P **P 16 41 36.6 -2.9**
baz=186
T25A Trinidad 58.12 333 P **P 16 41 40.9 -0.2**
baz=147,SNR=5.2
T25A Trinidad 58.12 333 P **P 16 41 41.0 -0.1**
T25A IAmb IAmb 16 41 41.9
comp=Z,7.6nm,0.8s
JFWS Jewell Farm 58.85 348 P **P 16 41 44.8 -1.0**
baz=164
SDCO Great Sand Dun 59.10 333 P **P 16 41 47.4 -0.7**
baz=146,SNR=12
SDCO Great Sand Dun 59.10 333 P **P 16 41 47.8 -0.3**
SDCO IAmb IAmb 16 41 48.9
comp=Z,8.9nm,0.8s
LONY Lake Ozonia 59.11 1 P **P 16 41 45.0 -2.7**
baz=182
H59A Cadyville 59.16 2 P **P 16 41 46.4 -1.6**
baz=183
S22A 4UR Ranch, Cre 59.70 332 P **P 16 41 52.0 -0.2**
baz=145
G62A West of Eustis 59.91 5 P **P 16 41 51.4 -1.7**
baz=186
Q24A Divide 59.97 334 P **P 16 41 53.6 -0.5**
baz=147
MVCO Mesa Verde 60.04 330 P **P 16 41 54.6 0.0**
baz=143
WUAZ Wupatki 60.16 327 P **P 16 41 55.7 +0.4**
baz=140
WUAZ Wupatki 60.16 327 IAmb IAmb 16 42 04.1
comp=Z,17nm,1.2s
G65A Princeton 60.17 7 P **P 16 41 54.8 -0.1**
G65A IAmb IAmb 16 42 04.7
comp=Z,9.0nm,1.1s
F64A Sherman 60.74 6 P **P 16 41 55.8 -3.0**
baz=188
PV01 Paradox Valley 60.81 331 IAmb IAmb 16 42 08.2
comp=Z,14nm,1.3s
ISCO Idaho Springs 60.86 334 P **P 16 42 00.1 -0.1**
baz=147
ISCO Idaho Springs 60.86 334 P **P 16 41 59.6 -0.6**
SMCO Snowmass 60.94 333 IAmb IAmb 16 42 01.8
comp=Z,6.2nm,0.7s
PV15 Paradox Valley 60.94 331 IAmb IAmb 16 42 01.9
comp=Z,10.0nm,0.8s
PV02 Paradox Valley 60.95 331 IAmb IAmb 16 42 09.1
comp=Z,16nm,1.4s
PV13 Radium Mtn., P 60.95 331 P **P 16 42 00.3 -0.4**
PV13 IAmb IAmb 16 42 01.5
comp=Z,6.5nm,0.6s
PV18 Skein Mesa, Pa 61.06 331 P **P 16 42 01.2 -0.2**
PV18 IAmb IAmb 16 42 02.7
comp=Z,4.8nm,0.7s
PV12 Saucer Basin, 61.07 331 IAmb IAmb 16 42 03.0
comp=Z,6.5nm,0.8s
ECSD EROS Data Cent 61.17 343 P **P 16 42 00.4 -1.4**
baz=157,SNR=5.9
ECSD EROS Data Cent 61.17 343 IAmb IAmb 16 42 01.8
comp=Z,7.4nm,0.8s
IRM Iron Mountain 61.24 323 P **P 16 42 03.3 +0.8**
baz=136,SNR=5.7
SPMN Marine on St. 61.61 347 P **P 16 42 03.5 -1.1**
baz=162
TPFO Pinon Flats 61.61 322 P **P 16 42 06.4 +1.2**
baz=135
PFO Pinyon Flats O 61.62 322 P **P 16 42 06.1 +0.9**
baz=135
PFO Pinyon Flats O 61.62 322 P **P 16 42 05.2 0.0**
PFO IAmb IAmb 16 42 13.7
comp=Z,6.0nm,0.9s
BELC Belle Mtn. Jos 61.62 323 P **P 16 42 05.9 +0.7**
baz=135
D58A Chemin du LacG 61.64 2 P **P 16 42 02.6 -2.3**
baz=183
D62A Allapoint, All 61.88 5 P **P 16 42 03.3 -3.2**
baz=188
D61A St Aubert, Com 61.90 5 P **P 16 42 03.5 -3.1**
baz=186
N23A Red Feather La 61.92 335 P **P 16 42 06.3 -0.9**
baz=147
GMRC Granite Mounta 61.98 324 P **P 16 42 07.9 +0.3**
baz=136
MURC Murrieta 62.05 322 P **P 16 42 08.9 +0.9**
baz=134
KNB Kanab 62.06 327 P **P 16 42 09.1 +1.0**
KNB IAmb IAmb 16 42 17.3
comp=Z,14nm,1.2s
PHWY Pilot Hill 62.06 335 IAmb IAmb 16 42 16.1
comp=Z,4.2nm,0.8s
LCMT Little Creek M 62.28 327 IAmb IAmb 16 42 18.3
comp=Z,6.7nm,1.1s
O20A White River Ci 62.28 333 P **P 16 42 09.3 -0.3**
baz=144
O20A White River Ci 62.28 333 IAmb IAmb 16 42 10.4
comp=Z,8.6nm,0.8s
F36A Milaca 62.37 346 IAmb IAmb 16 42 09.5
comp=Z,8.9nm,0.8s
HEC Hector,Ludlow 62.40 323 P **P 16 42 11.5 +1.1**
baz=135
SCI2 San Clemente I 62.45 320 P **P 16 42 10.9 +0.3**
baz=133
SUSD Miller 62.51 342 P **P 16 42 09.6 -1.2**
baz=155
SRU San Rafael Swe 62.52 330 IAmb IAmb 16 42 18.6
comp=Z,9.2nm,1.1s
TUQ Turquoise Moun 62.60 324 P **P 16 42 12.3 +0.5**
baz=136
SZCU Shurtz Canyon 62.63 327 P **P 16 42 12.6 +0.5**
TAOE Nuku Hiva Isla 62.84 268 *eS* **S 16 50 42.2 -1.5**
comp=Z,71nm,25.4s
TAOE Nuku Hiva Isla 62.84 268 *eLR* LR 17 00 54.6
comp=Z,344nm,24.2s
TAOE Nuku Hiva Isla 62.84 268 *eT* T 17 50 08.5
comp=Z,34nm,0.3s
SHPR Sheep Range 62.94 325 P **P 16 42 14.2 +0.1**
TMUT Trail Mountain 62.99 330 IAmb IAmb 16 42 15.5
comp=Z,3.6nm,0.6s
GSC Goldstone, Bar 63.01 323 P **P 16 42 15.0 +0.5**
baz=135
RDMU Red Mountain 63.23 332 P **P 16 42 15.9 -0.1**
EDW2 Edwards Air Fo 63.41 322 P **P 16 42 18.0 +0.9**
baz=134
PRN Pahroc Range 63.54 326 IAmb IAmb 16 42 27.0
comp=Z,9.4nm,1.2s
K22A Casper 63.62 335 P **P 16 42 17.9 -0.5**
baz=147,SNR=6.6
PSUT Pine Spring 63.74 328 P **P 16 42 19.7 +0.4**
PSUT IAmb IAmb 16 42 20.9
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 63.87 325 P **P 16 42 20.9 +0.7**
baz=136,SNR=5.4
TPNV Topopah Spring 63.87 325 IAmb IAmb 16 42 32.0
comp=Z,10nm,1.2s
RSSD Black Hills 63.92 338 P **P 16 42 19.9 -0.5**
baz=150
RSSD Black Hills 63.92 338 P **P 16 42 19.6 -0.9**
RSSD IAmb IAmb 16 42 20.9
comp=Z,9.9nm,1.2s
EYMN Ely 63.93 349 P **P 16 42 18.7 -1.4**
baz=163
JLU Jordanelle 64.13 331 P **P 16 42 22.1 +0.2**
JLU IAmb IAmb 16 42 31.1
comp=Z,11nm,1.0s
ISA Isabella, Lake 64.24 322 P **P 16 42 23.0 +0.5**
baz=134
MATQ Matagami 64.25 359 P **P 16 42 20.1 -2.1**
baz=178
SPR3 Spring Creek 3 64.33 328 P **P 16 42 23.5 +0.1**
SPR3 IAmb IAmb 16 42 24.5
comp=Z,7.7nm,0.8s
DUG Dugway, Tooele 64.47 329 P **P 16 42 24.4 +0.4**
baz=140,SNR=8.8
DUG Dugway, Tooele 64.47 329 P **P 16 42 24.7 +0.6**
PKM Mcpherson Peak 64.52 321 P **P 16 42 25.3 +0.8**
baz=132
R11A Troy Canyon, C 64.52 326 P **P 16 42 25.1 +0.7**
baz=137,SNR=8.1
CWC Cottonwood Cre 64.55 323 P **P 16 42 24.6 0.0**
baz=134
B35A Bob, Littlefor 64.78 347 IAmb IAmb 16 42 25.2
comp=Z,7.4nm,0.9s
HWUT Hardware Ranch 64.97 331 P **P 16 42 26.9 -0.4**
HWUT IAmb IAmb 16 42 35.8
comp=Z,12nm,0.9s
BW06 Boulder Array 64.99 333 P **P 16 42 27.2 -0.3**
baz=144
BW06 Boulder Array 64.99 333 IAmb IAmb 16 42 43.1
comp=Z,5.0nm,0.5s
PDAR Pinedale Array 64.99 333 P **P 16 42 26.6 -0.9**
comp=Z,1.5nm,0.6s,baz=127,slow=9.4,SNR=16
AGMN Agassiz Nation 65.21 346 P **P 16 42 27.3 -1.2**
baz=159,SNR=6.8
AGMN Agassiz Nation 65.21 346 P **P 16 42 26.9 -1.5**
MDND Maddock 65.78 343 P **P 16 42 31.9 -0.3**
baz=155
LHV Little Huntoon 66.05 324 P **P 16 42 35.2 +1.1**
LHV IAmb IAmb 16 42 36.2
comp=Z,7.8nm,0.9s
NVAR Mina Array Bea 66.06 325 P **P 16 42 35.4 +0.9**
comp=Z,2.2nm,0.8s,baz=141,slow=6.4,SNR=14
NVAR LR LR 17 07 28.4
comp=Z,89nm,19.8s,baz=97,slow=32
LOHW Long Hollow 66.12 333 P **P 16 42 34.2 -0.6**
RLMT Red Lodge 66.78 335 P **P 16 42 38.2 -0.8**
baz=145
RLMT Red Lodge 66.78 335 P **P 16 42 38.3 -0.7**
RLMT IAmb IAmb 16 42 40.2
comp=Z,6.6nm,0.7s
LAO LASA Array 66.91 338 P **P 16 42 38.7 -0.8**
baz=148
YERR Yerington 66.97 325 IAmb IAmb 16 42 49.4
comp=Z,14nm,1.2s
YNE Yellowstone No 66.99 335 P **P 16 42 40.1 -0.3**
ULM Lac du Bonnet 67.04 346 P **P 16 42 38.7 -1.4**
comp=Z,6.0nm,0.6s,baz=155,slow=6.8,SNR=9.2
ULM Lac du Bonnet 67.04 346 IAmb IAmb 16 42 39.7
comp=Z,11nm,0.9s
YHH Holmes Hill 67.17 334 IAmb IAmb 16 42 43.0
comp=Z,5.8nm,0.8s
PNTR Pine Nut 67.25 324 IAmb IAmb 16 42 50.7
comp=Z,8.1nm,0.9s
QLMT Earthquake Lak 67.45 334 P **P 16 42 43.5 +0.3**
DGMT Dagmar 67.75 340 P **P 16 42 44.3 -0.4**
baz=150
BCYI Bear Canyon 67.92 332 P **P 16 42 46.4 +0.1**
BOZ Bozeman (W) 68.15 334 P **P 16 42 47.4 -0.1**
baz=143,SNR=8.2
BOZ Bozeman (W) 68.15 334 IAmb IAmb 16 42 48.4
comp=Z,4.4nm,0.8s
BEKR Beckworth 68.21 325 P **P 16 42 48.9 +0.9**
BEKR IAmb IAmb 16 43 00.5
comp=Z,7.8nm,1.2s
MFID Camas Ranch 68.38 330 IAmb IAmb 16 42 50.5
comp=Z,10nm,0.9s
DLMT Dillon 68.38 333 IAmb IAmb 16 42 57.3
comp=Z,11nm,1.2s
VNA3 Neumayer Olymp 68.60 161 P **P 16 42 51.4 +1.5**
ORV Oroville 68.64 324 P **P 16 42 50.8 +0.3**
HRY Holter Researc 69.12 335 P **P 16 42 53.6 0.0**
VNA2 Neumayer-Watz 69.22 161 P **P 16 42 55.0 +1.3**
baz=288,slow=6.6
TBI Tubuai 69.28 250 *eS* **S 16 52 00.7 -1.0**
comp=Z,254nm,28.8s
TBI Tubuai 69.28 250 *eLR* LR 17 03 59.5
comp=Z,168nm,24.2s
TBI Tubuai 69.28 250 *eT* T 17 58 12.2
comp=Z,30nm,0.3s
EGMT Eagleton 69.35 337 P **P 16 42 54.4 -0.4**
baz=145
EGMT Eagleton 69.35 337 IAmb IAmb 16 43 16.6
comp=Z,7.5nm,1.1s
MOD Modoc Plateau 69.58 326 P **P 16 42 56.5 0.0**
MOD IAmb IAmb 16 43 04.6
comp=Z,6.1nm,0.9s
TIAR Tiarei 70.04 256 *eT* T 17 59 09.0
comp=Z,3.5nm,0.2s
MSO Missoula 70.11 333 P **P 16 43 00.1 +0.5**
baz=141
MSO Missoula 70.11 333 IAmb IAmb 16 43 09.1
comp=Z,10nm,1.1s
PPT2 Papeete2 70.25 256 *eS* **S 16 52 14.0 +0.5**
comp=Z,46nm,22.8s
PPT2 Papeete2 70.25 256 *eLR* LR 17 04 23.2
comp=Z,106nm,25.2s
PPT Papeete 70.25 256 LR LR 17 05 41.8
comp=Z,42nm,21.5s,baz=107,slow=29
N02D Trinity Center 70.28 324 P **P 16 43 00.4 -0.4**
baz=132
I07A Izee 70.69 328 IAmb IAmb 16 43 12.3
comp=Z,10.0nm,1.2s
SNAA Sanae 70.82 161 P **P 16 43 04.8 +1.2**
SNAA Sanae 70.82 161 P **P 16 43 04.8 +1.2**
comp=Z,14nm,0.8s,baz=274,slow=7.0,SNR=58
SNAA Sanae 70.82 161 P **P 16 43 03.9 +0.3**
L04D Klamath Falls 70.88 325 P **P 16 43 04.5 +0.1**
baz=132
F10A Beach Ranch, E 70.95 331 IAmb IAmb 16 43 16.6
comp=Z,5.8nm,0.8s
J05D Fort Rock, OR 71.03 327 P **P 16 43 05.5 +0.1**
baz=134
PINE Pine Mountain 71.23 327 P **P 16 43 06.7 +0.1**
PINE IAmb IAmb 16 43 08.4
comp=Z,5.2nm,0.8s
L02E Cave Junction 71.56 325 P **P 16 43 08.9 +0.5**
baz=131
WALA Waterton Lakes 71.83 335 IAmb IAmb 16 43 10.6
comp=Z,5.3nm,0.7s
I04A Tendick Farm, 72.00 327 P **P 16 43 11.0 -0.1**
baz=133
HAWA Hanford 72.35 330 P **P 16 43 14.0 +0.9**
HAWA IAmb IAmb 16 43 22.6
comp=Z,6.9nm,1.0s
J01E Myrtle Point 72.41 325 P **P 16 43 14.2 +0.8**
baz=131
NEW Newport 72.60 333 P **P 16 43 14.5 0.0**
baz=138
D03D Eldon 74.89 329 P **P 16 43 27.5 -0.5**
baz=133
B05A Bryant 74.91 330 P **P 16 43 27.9 -0.2**
baz=134
QSPA South Pole Qui 75.39 180 P **P 16 43 32.6 +1.8**
comp=Z,9.7nm,0.8s,baz=168,slow=1.2,SNR=45
QSPA South Pole Qui 75.39 180 P **P 16 43 32.2 +1.4**
QSPA IAmb IAmb 16 43 35.1
comp=Z,12nm,0.9s
KOWA Kowa 76.95 71 P **P 16 43 39.7 -0.7**
TORD Torodi Ar. Bea 81.80 74 P **P 16 44 06.8 -0.1**
comp=Z,20nm,0.8s,baz=264,slow=4.9,SNR=66

TORD				LR	LR	17 18 30.9	
	comp=Z,112nm,21.0s,baz=260,slow=34						
TORD	**Torodi Ar. Bea**	**81.80**	**74**	P	**P**	**16 44 06.2**	**-0.7**
VNDA	**Vanda**	**82.22**	**191**	P	**P**	**16 44 10.4**	**+2.4**
	comp=Z,2.7nm,0.9s,baz=133,slow=3.8,SNR=14						
VNDA				LR	LR	17 16 49.7	
	comp=Z,40nm,18.8s,baz=138,slow=33						
VNDA	**Vanda**	**82.22**	**191**	P	**P**	**16 44 10.1**	**+2.1**
YKA	**Yellowknife Ar**	**82.70**	**343**	P	**P**	**16 44 09.7**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=138,slow=5.5,SNR=16						
YKA				LR	LR	17 22 16.6	
	comp=Z,60nm,18.5s,baz=0.0,slow=37						
DY2G	**Dye2**	**83.97**	**12**	⇑*i*P	**P**	**16 44 16.3**	**-1.0**
DY2G				IAmb	IAmb	16 44 17.1	
	comp=Z,20nm,0.9s						
DLBC	**Dease Lake**	**85.18**	**335**	IAmb	IAmb	16 44 25.4	
	comp=Z,6.0nm,0.8s						
ESDC	**Sonseca Array**	**86.07**	**47**	P	**P**	**16 44 28.1**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=255,slow=5.8,SNR=8.3						
ESDC				LR	LR	17 20 25.7	
	comp=Z,128nm,19.2s,baz=145,slow=34						
ICESG	**Greenland Ices**	**87.53**	**12**	*i*P	**P**	**16 44 34.2**	**-0.9**
ICESG				IAmb	IAmb	16 44 35.3	
	comp=Z,12nm,0.8s						
PINM	**Pinnacle**	**90.46**	**333**	P	**P**	**16 44 48.2**	**-0.5**
	baz=119						
SUMG	**Summit**	**90.61**	**11**	⇑*i*P	**P**	**16 44 49.6**	**0.0**
SUMG				IAmb	IAmb	16 44 50.4	
	comp=Z,17nm,0.7s						
SUMG	**Summit**	**90.61**	**11**	P	**P**	**16 44 49.1**	**-0.5**
CRQE	**Cirque**	**92.02**	**333**	P	**P**	**16 44 55.4**	**-0.6**
	baz=117						
INK	**Inuvik**	**92.39**	**342**	P	**P**	**16 44 56.5**	**-0.9**
	baz=125						
L27K	**Beaver Creek,**	**92.56**	**335**	P	**P**	**16 44 57.8**	**-0.6**
	baz=118						
MAW	**Mawson**	**92.61**	**165**	P	**P**	**16 44 58.4**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=246,slow=7.7,SNR=4.6						
MAW				LR	LR	17 24 01.2	
	comp=Z,84nm,21.9s,baz=237,slow=34						
BOSA	**Boshof**	**92.65**	**120**	LR	LR	17 24 33.9	
	comp=Z,107nm,18.5s,baz=302,slow=34						
SCO	**Scoresbysund**	**92.75**	**16**	*i*P	**P**	**16 44 59.5**	**+0.5**
SCO				IAmb	IAmb	16 45 00.4	
	comp=Z,4.7nm,0.7s						
SCO	**Scoresbysund**	**92.75**	**16**	P	**P**	**16 44 59.2**	**+0.2**
K27K	**Chicken**	**93.11**	**336**	P	**P**	**16 45 00.6**	**-0.3**
	baz=118						
EGAK	**Eagle**	**93.11**	**337**	P	**P**	**16 45 00.1**	**-0.7**
	baz=118						
NEEM	**North Greenlan**	**93.17**	**5**	*i*P	**P**	**16 45 01.1**	**-0.2**
NEEM				IAmb	IAmb	16 45 01.8	
	comp=Z,7.4nm,0.7s						
KLU	**Klutina**	**93.58**	**333**	P	**P**	**16 45 02.2**	**-0.9**
	baz=114						
SCRK	**Sand Creek**	**93.83**	**336**	P	**P**	**16 45 03.4**	**-1.0**
	baz=116						
M24K	**Tolsona, Glenn**	**93.94**	**334**	P	**P**	**16 45 03.8**	**-1.0**
	baz=114						
PAX	**Paxson**	**94.00**	**335**	P	**P**	**16 45 03.9**	**-1.2**
	baz=115						
RIDG	**Independent Ri**	**94.08**	**335**	P	**P**	**16 45 04.6**	**-0.8**
	baz=115						
WAT6	**Susitna Watana**	**94.80**	**334**	P	**P**	**16 45 07.4**	**-1.4**
	baz=113						
KEST	**Kesra**	**94.83**	**54**	LR	LR	17 27 42.6	
	comp=Z,62nm,19.8s,baz=289,slow=35						
O22K	**Cooper Landing**	**94.89**	**332**	P	**P**	**16 45 08.8**	**-0.2**
	baz=111						
RC01	**Rabbit Creek A**	**95.12**	**332**	P	**P**	**16 45 09.4**	**-0.7**
	baz=111						
HDA	**Harding Lake**	**95.19**	**336**	P	**P**	**16 45 09.7**	**-0.8**
	baz=113						
ILAR	**Eielson Array**	**95.31**	**336**	P	**P**	**16 45 10.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=132,slow=3.0,SNR=5.4						
ILAR				LR	LR	17 30 36.9	
	comp=Z,30nm,19.4s,baz=122,slow=37						
HOM	**Homer**	**95.50**	**330**	P	**P**	**16 45 11.7**	**-0.1**
	baz=110						
SUA	**Susitna One**	**95.71**	**332**	P	**P**	**16 45 12.1**	**-0.9**
	baz=110						
MDM	**Murphy Dome**	**95.92**	**336**	P	**P**	**16 45 12.7**	**-1.0**
MDM				IAmb	IAmb	16 45 13.8	
	comp=Z,4.5nm,0.8s						
O20K	**Slope Mountain**	**96.11**	**331**	P	**P**	**16 45 13.3**	**-1.4**
	baz=109						
NEA2	**Nenana**	**96.11**	**335**	P	**P**	**16 45 13.4**	**-1.2**
	baz=112						
H24K	**Noodor Dome**	**96.11**	**337**	P	**P**	**16 45 13.4**	**-1.3**
	baz=112						
TRF	**Thorofare Moun**	**96.20**	**334**	P	**P**	**16 45 13.8**	**-1.5**
	baz=110						
SKT	**Skwentna**	**96.23**	**333**	P	**P**	**16 45 14.1**	**-1.2**
	baz=110						
I23K	**Minto, Yukon-K**	**96.43**	**336**	P	**P**	**16 45 14.5**	**-1.5**
	baz=111						
BPAW	**Bear Paw Mtn.**	**96.72**	**335**	P	**P**	**16 45 16.3**	**-1.1**
	baz=110						
M20K	**Styx River**	**96.92**	**332**	P	**P**	**16 45 17.2**	**-1.3**
	baz=108						
MLY	**Manley**	**96.94**	**336**	P	**P**	**16 45 17.1**	**-1.3**
	baz=110						
TOLK	**Toolik Lake Re**	**97.76**	**339**	P	**P**	**16 45 21.1**	**-0.9**
	baz=110						
TTA	**Tatalina**	**98.51**	**333**	P	**P**	**16 45 25.2**	**-0.3**
	baz=106						
GERES	**GERESS Array B**	**100.81**	**42**	P	**Pdif**	**16 45 35.6**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=242,slow=2.9,SNR=8.4						
H11N3	**WAKE ISLAND Hyl**	**19.94**	**284**	T	T	19 01 49.1	
	baz=96,slow=74,SNR=389						
H11N2	**WAKE ISLAND Hyl**	**19.95**	**284**	T	T	19 01 49.5	
	baz=96,slow=74,SNR=316						
H11N1	**WAKE ISLAND Hyl**	**19.96**	**284**	T	T	19 01 54.5	
	baz=96,slow=74,SNR=153						
H11S2	**WAKE ISLAND Hyl**	**20.00**	**283**	T	T	19 01 45.2	
	baz=97,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hyl**	**20.00**	**283**	T	T	19 01 46.2	
	baz=97,slow=75,SNR=37						
H11S3	**WAKE ISLAND Hyl**	**20.01**	**283**	T	T	19 01 46.6	
	baz=97,slow=75,SNR=33						
KBZ	**Khabaz**	**120.93**	**48**	PKP	**PKPdf**	**16 50 39.9**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=110,slow=0.6,SNR=4.9						
PETK	**Petropavlovsk-**	**123.15**	**324**	PKP	**PKPdf**	**16 50 43.4**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=354,slow=1.5,SNR=4.5						
ASAR	**Alice Springs**	**131.86**	**218**	PKP	**PKPdf**	**16 51 00.5**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=117,slow=1.5,SNR=15						
ASAR	**Alice Springs**	**131.86**	**218**		**PKPdf**	**16 51 01.1**	**-0.5**
WRA	**Warramunga Arr**	**134.35**	**222**	PKP	**PKPdf**	**16 51 06.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=132,slow=1.9,SNR=24						
ZALV	**Zalesovo Beam**	**138.12**	**17**	PKP	**PKPdf**	**16 51 12.6**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=294,slow=1.5,SNR=14						
ZALV	**Zalesovo Beam**	**138.12**	**17**	PKPdf	**PKPdf**	**16 51 11.4**	**-0.8**
MKAR	**Makanchi Array**	**143.30**	**25**	PKP	**PKPdf**	**16 51 20.8**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=292,slow=0.8,SNR=8.9						
MKAR	**Makanchi Array**	**143.30**	**25**		PKPab	16 51 18.0	+0.4
KSH	**Kashi**	**145.23**	**39**	PKP	**PKPdf**	**16 51 25.8**	**+0.3**
KSH				PP	**PP**	**16 54 48.8**	**+4.7**
SONM	**Songino Array**	**146.96**	**357**	PKPbc	**PKPdf**	**16 51 28.7**	**+0.5**
	comp=Z,9.4nm,0.8s,baz=330,slow=1.7,SNR=65						
WMQ	**Urumqi**	**147.89**	**22**	*e*P	**PKPdf**	**16 51 30.3**	**+0.5**
WMQ				pmax	pmax		
	comp=Z,190nm,4.5s						
KSRS	**Korea Array**	**148.95**	**321**	PKPbc	**PKPdf**	**16 51 32.9**	**+1.3**
	comp=Z,3.5nm,1.0s,baz=28,slow=1.5,SNR=8.3						
HHC	**Hu-ho-hao-te**	**153.17**	**347**	*e*P	**PKPdf**	**16 51 33.3**	**-4.9**
GTA	**Gaotai**	**155.18**	**8**	PKPbc	**PKPdf**	**16 51 41.8**	**+0.7**
NJ2	**Nanjing**	**158.06**	**324**	*e*P	**PKPdf**	**16 51 44.6**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**160.28**	**348**	PKP	**PKPdf**	**16 51 41.9**	**-5.5**
XAN				pPKP	pPKPdf	16 51 49.8	-1.0
CMAR	**Chiang Mai Arr**	**173.97**	**52**	PKP	**PKPdf**	**16 51 57.5**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=267,slow=1.4,SNR=4.4						
CMAR				PKPab	**PKPab**	**16 53 28.6**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=309,slow=5.7,SNR=2.5						
CMAR	**Chiang Mai Arr**	**173.97**	**52**		**PKPdf**	**16 51 56.5**	**-1.3**

WEL 15 16:55:30.1±1.3,34°S±27″×17°9W±3°4,h223km±45km, M4.0/11,ML4.1/7,MLv4.0/11,Error ellipse: s-maj=0.1km s-min=0.0km az=125.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.99**	**208**	P	Pn	16 56 32.5	0.0
WMGZ				S	S	16 57 23.0	+1.3
PKGZ	**Pakihiroa**	**4.18**	**211**	P	Pn	16 56 34.8	-0.2
PKGZ				S	S	16 57 24.8	-1.3
HAZ	**Te Kaha**	**4.21**	**215**	P	Pn	16 56 35.7	+0.6
HAZ				S	S	16 57 28.3	+1.8
PUZ	**Puketiti**	**4.27**	**208**	P	Pn	16 56 32.4	-3.6
PUZ				S	S	16 57 25.7	-2.2
RUGZ	**Raukumara Rang**	**4.42**	**214**	P	Pn	16 56 38.4	+0.4
RUGZ				S	S	16 57 34.2	+2.6
TWGZ	**Tauwhareparae**	**4.47**	**210**	P	Pn	16 56 38.3	-0.2
TWGZ				S	S	16 57 34.1	+1.6
CNGZ	**Carnagh Statio**	**4.65**	**206**	P	Pn	16 56 41.0	+0.4
CNGZ				S	S	16 57 40.0	+3.7
TKGZ	**Te Karaka**	**4.75**	**209**	P	Pn	16 56 41.8	0.0
TKGZ				S	S	16 57 38.8	+0.3
MWZ	**Matawai**	**4.79**	**212**	P	Pn	16 56 43.7	+1.2
MWZ				S	S	16 57 39.5	-0.2
URZ	**Urewera**	**4.93**	**216**	P	Pn	16 56 45.3	+1.2
URZ				S	S	16 57 40.7	-1.9
RAGZ	**Rawiri**	**4.98**	**212**	P	Pn	16 56 44.8	0.0
RAGZ				S	S	16 57 44.2	+0.3
RIGZ	**Rimuhau**	**5.01**	**208**	P	Pn	16 56 45.6	+0.4
RIGZ				S	S	16 57 43.8	-0.8
SNGZ	**Shannon Statio**	**5.25**	**211**	P	Pn	16 56 47.6	-0.6
SNGZ				S	S	16 57 51.2	+1.2

*VAO **15** 17:19:33.8±0.3,32.°65S×69.°90W,h10km,mb4.5*
*SJA **15** 17:19:49.5±0.7,32.°05S×69.°24W,h119km±3km,ML4.5, MW4.3*
*NEIC **15** 17:19:50.8±1.6,32.°06S±0.°05×69.°26W±0.°07,h113km±4km, Error ellipse: s-maj=8.8km s-min=6.2km az=113.0*
*IDC **15** 17:19:51.3±0.5,32.°02S×69.°17W,h117km±4km,mb4.1/11, mb1 4.2/14,mb1mx4.1/27,mbtmp4.4/14,MS3.3/2, Ms1 3.3/2,ms1mx2.8/20,Error ellipse: s-maj=18.4km s-min=12.7km az=86.0*

ISC 15 17:19:50.3±0.4,32.°07S±0.°03×69.°22W±0.°04,h111km±4km, h111km:pP-P,n271,σ1936/299,mb4.7/64,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.21**	**223**	*e*P	**Pn**	**17 20 06.9**	**+0.6**
RTLS	**Leoncito**	**0.27**	**345**	*e*P	**Pn**	**17 20 07.2**	**+0.6**
RTLS				*e*S	**Sn**	**17 20 19.6**	**+0.9**
RTLS				IAML		17 20 21.8	
	comp=Z,16μm,0.3s						
RTCV	**Cerro Valdivia**	**0.61**	**71**	*e*P	**Pn**	**17 20 09.3**	**+1.2**
ZON	**Zonda**	**0.69**	**42**		**Pn**	**17 20 09.7**	**+0.9**
ZON				Sn	**Sn**	**17 20 24.1**	**+1.4**
ZON	**Zonda**	**0.69**	**42**	*e*P	**Pn**	**17 20 09.7**	**+0.9**
ZON				*e*S	**Sn**	**17 20 24.2**	**+1.5**
ZON				IAML		17 20 25.1	
	comp=Z,4μm,0.2s						
RTLL	**Cerro Villicun**	**0.97**	**41**	*e*P	**Pn**	**17 20 12.4**	**+1.0**
RTLL				*e*S	**Sn**	**17 20 28.3**	**+1.1**
RTLL				IAML		17 20 31.8	
	comp=Z,4μm,0.4s						
VA03	**San Esteban**	**1.33**	**238**		**Pn**	**17 20 15.8**	**+0.5**
VA03				Sn	**Sn**	**17 20 34.9**	**+0.7**
VA03	**San Esteban**	**1.33**	**238**	*e*P	**Pn**	**17 20 15.9**	**+0.6**
VA03				*e*S	**Sn**	**17 20 35.3**	**+1.1**
VA03				IAML		17 20 37.1	
	comp=Z,8μm,0.6s						
ACCO	**Cerro Coronel**	**1.48**	**5**	*e*P	**Pn**	**17 20 18.3**	**+1.0**
ACCO				*e*S	**Sn**	**17 20 39.2**	**+1.5**
CO02	**Combarbal**	**1.75**	**299**		**Pn**	**17 20 20.1**	**-0.2**
CO03	**El Pedregal**	**1.75**	**314**		**Pn**	**17 20 20.7**	**+0.3**
ROC1	**El Roble**	**1.77**	**239**	*e*P	**Pn**	**17 20 20.4**	**-0.3**
ROC1				*e*S	**Sn**	**17 20 43.0**	**-0.9**
MT03	**Universidad Ad**	**1.79**	**217**		**Pn**	**17 20 21.7**	**+0.8**
MT03	**Universidad Ad**	**1.79**	**217**	*e*P	**Pn**	**17 20 21.7**	**+0.8**
MT03				*e*S	**Sn**	**17 20 45.9**	**+1.7**
MT03				IAML		17 20 48.5	
	comp=Z,4μm,0.5s						
MT05	**Renca**	**1.84**	**224**		**Pn**	**17 20 21.8**	**+0.4**
ACDV	**Cuesta del Vie**	**1.89**	**3**	*e*P	**Pn**	**17 20 23.4**	**+1.3**
ACDV				*e*S	**Sn**	**17 20 44.9**	**-1.5**
ACDV				IAML		17 20 49.0	
	comp=Z,3μm,0.9s						
AROD	**Rodeo**	**1.91**	**353**	*e*P	**Pn**	**17 20 23.9**	**+1.3**
AROD				*e*S	**Sn**	**17 20 48.4**	**+1.4**
MT02	**Curacav**	**2.01**	**233**		**Pn**	**17 20 22.7**	**-0.8**
AVFE	**Valle Fertil**	**2.06**	**48**	*e*P	**Pn**	**17 20 24.9**	**+0.8**
AVFE				*e*S	**Sn**	**17 20 51.2**	**+1.2**
AVFE				IAML		17 20 53.2	
	comp=Z,2μm,0.5s						
VA01	**Torpederas**	**2.26**	**244**		**Pn**	**17 20 25.2**	**-1.4**
MT09	**Talagante**	**2.27**	**221**		**Pn**	**17 20 26.6**	**-0.3**
GO04	**Tololo Observa**	**2.32**	**324**	Pn	**Pn**	**17 20 27.5**	**-0.2**
GO04	**Tololo Observa**	**2.32**	**324**	*e*P	**Pn**	**17 20 27.6**	**-0.1**
GO04				*e*S	**Sn**	**17 20 56.4**	**0.0**
ACHE	**Chepes**	**2.36**	**68**	*e*P	**Pn**	**17 20 29.1**	**+1.0**
MT01	**Popeta**	**2.48**	**223**		**Pn**	**17 20 28.3**	**-1.2**
VA05	**Santo Domingo**	**2.57**	**231**		**Pn**	**17 20 29.3**	**-1.3**
AGUA	**GUANDACOL**	**2.65**	**14**	*e*P	**Pn**	**17 20 33.5**	**+1.7**
AGUA				IAML		17 21 10.8	
	comp=Z,820nm,0.4s						
RFA	**San Rafael**	**2.77**	**167**	*e*P	**Pn**	**17 20 33.7**	**+0.3**
RFA				*e*S	**Sn**	**17 21 05.7**	**-0.8**
RFA				IAML		17 21 07.2	
	comp=Z,2μm,0.5s						
BO01	**Tunca**	**2.80**	**214**		**Pn**	**17 20 32.9**	**-0.8**
APLL	**PUNTA DE LOS L**	**2.84**	**55**	*e*P	**Pn**	**17 20 34.8**	**+0.5**
LAMA	**Las Malvinas**	**2.86**	**180**	*e*P	**Pn**	**17 20 35.2**	**+0.7**
LAMA				*e*S	**Sn**	**17 21 06.7**	**-1.9**
MRA	**San Martin**	**2.99**	**98**	*e*P	**Pn**	**17 20 37.1**	**+0.8**
MRA				*e*S	**Sn**	**17 21 12.1**	**+0.4**
MRA				IAML		17 21 35.7	
	comp=Z,2μm,0.5s						
BO02	**Sierra Bellavi**	**3.02**	**205**		**Pn**	**17 20 37.0**	**+0.3**
BO02	**Sierra Bellavi**	**3.02**	**205**	*e*P	**Pn**	**17 20 37.2**	**+0.5**
BO02				*e*S	**Sn**	**17 21 14.6**	**+2.2**
BO02				IAML		17 21 22.1	
	comp=Z,669nm,0.1s						
COIS	**El Sosneado**	**3.05**	**186**	*e*P	**Pn**	**17 20 38.7**	**+1.7**
ACLC	**CERRO LA CRUZ**	**3.27**	**37**	*e*P	**Pn**	**17 20 40.5**	**+0.3**
ACLC				IAML		17 21 47.9	
	comp=Z,647nm,0.8s						
LCO	**Las Campanas**	**3.30**	**337**	Pn	**Pn**	**17 20 40.0**	**-0.6**
PUMA	**Malargue**	**3.43**	**183**	*e*P	**Pn**	**17 20 42.7**	**+0.7**
VCA	**Vinchina**	**3.43**	**15**	*e*P	**Pn**	**17 20 43.4**	**+1.1**
VCA				IAML		17 21 55.7	
	comp=Z,719nm,0.4s						
EDS3	**Malargue**	**3.70**	**182**	*e*P	**Pn**	**17 20 46.6**	**+0.8**
EDS3				*e*S	**Sn**	**17 21 23.7**	**-5.0**
GO05	**Huala**	**3.71**	**217**	Pn	**Pn**	**17 20 43.9**	**-1.9**
GO05	**Huala**	**3.71**	**217**	*e*P	**Pn**	**17 20 44.1**	**-1.7**
GO05				*e*S	Sn	17 21 12.5	-16
ML02	**Panimavida**	**4.12**	**206**		**Pn**	**17 20 49.6**	**-1.6**
AC04	**Llanos de Chal**	**4.17**	**337**	Pn	**Pn**	**17 20 50.6**	**-1.4**
GO03	**Copiap**	**4.54**	**349**	Pn	**Pn**	**17 20 56.1**	**-1.0**
GO03	**Copiap**	**4.54**	**349**	*e*P	**Pn**	**17 20 56.6**	**-0.5**
GO03				*e*S	**Sn**	**17 21 47.6**	**-1.3**
PIL	**Pilar**	**4.55**	**86**	*e*P	**Pn**	**17 20 59.0**	**+1.9**
PIL				IAML		17 22 24.8	
	comp=Z,969nm,0.5s						
CYA	**Choya**	**4.67**	**40**	*e*P	**Pn**	**17 20 58.0**	**-0.7**
CYA				*e*S	**Sn**	**17 21 50.4**	**-1.4**
CYA				IAML		17 22 52.7	
	comp=Z,220nm,0.7s						
BI02	**San Fabin de**	**4.89**	**200**		**Pn**	**17 21 01.0**	**-0.7**
BI02	**San Fabin de**	**4.89**	**200**	*e*P	**Pn**	**17 21 01.1**	**-0.7**
AC02	**Maricunga**	**5.21**	**1**	Pn	**Pn**	**17 21 06.4**	**-0.1**
FSA	**Cafayete**	**6.57**	**26**	*e*P	**Pn**	**17 21 24.2**	**-0.4**
GO02	**Mina Guanaco**	**6.88**	**357**	Pn	**Pn**	**17 21 27.3**	**-1.7**
LC01	**Cunco**	**7.15**	**197**	Pn	**Pn**	**17 21 34.5**	**+2.3**
PB14	**IPOC Station P**	**7.49**	**352**	Pn	**Pn**	**17 21 32.8**	**-4.3**
H03N1	**Juan Fernandez**	**8.28**	**258**	P	**Pn**	**17 21 47.2**	**-0.1**
H03N1				T	T	17 28 43.6	
	baz=87,slow=74,SNR=198						
H03N3	**Juan Fernandez**	**8.29**	**258**	P	**Pn**	**17 21 47.0**	**-0.5**
H03N3				T	T	17 28 46.9	
	baz=87,slow=74,SNR=272						
H03N2	**Juan Fernandez**	**8.30**	**258**	P	**Pn**	**17 21 47.3**	**-0.3**
H03N2				T	T	17 28 44.5	
	baz=87,slow=74,SNR=268						
H03S1	**Juan Fernandez**	**8.33**	**255**	P	**Pn**	**17 21 46.4**	**-1.6**
H03S1				T	T	17 28 31.8	
	baz=84,slow=75,SNR=37						
H03S3	**Juan Fernandez**	**8.33**	**255**	P	**Pn**	**17 21 46.6**	**-1.4**
H03S3				T	T	17 28 32.5	
	baz=84,slow=75,SNR=39						
H03S2	**Juan Fernandez**	**8.35**	**255**	P	**Pn**	**17 21 46.5**	**-1.7**
H03S2				T	T	17 28 29.2	
	baz=84,slow=75,SNR=32						
TRQA	**Tornquist**	**8.42**	**137**		**Pn**	**17 21 49.0**	**-0.4**
PLCA	**Paso Flores**	**8.72**	**187**	P	**Pn**	**17 21 53.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=1.6,slow=13,SNR=6.6						
PLCA	**Paso Flores**	**8.72**	**187**		**Pn**	**17 21 53.2**	**-0.3**
PLCA	**Paso Flores**	**8.72**	**187**	*e*P	Pn	17 21 30.4	-23
PLCA	**Paso Flores**	**8.72**	**187**	*e*P	**Pn**	**17 21 54.2**	**+0.7**
PLCA				*e*S	Sn	17 23 14.6	-15
PLCA				IAML		17 24 12.7	
	comp=Z,12nm,0.9s						
PB15	**IPOC Station P**	**8.83**	**358**		**Pn**	**17 21 52.0**	**-3.3**
PB15	**IPOC Station P**	**8.83**	**358**	*e*P	**Pn**	**17 21 53.9**	**-1.3**
PB15				IAML		17 24 31.1	
	comp=Z,52nm,0.4s						
LL04	**Puerto Octay**	**9.19**	**195**	Pn	**Pn**	**17 21 55.8**	**-4.1**
PB05	**IPOC Station P**	**9.22**	**354**	*e*P	**Pn**	**17 21 56.4**	**-4.1**
PB05				IAML		17 24 34.6	
	comp=Z,26nm,1.1s						
PB06	**IPOC Station P**	**9.33**	**358**	Pn	**Pn**	**17 21 58.2**	**-3.8**
LVC	**Limon Verde**	**9.42**	**2**	P	**Pn**	**17 22 00.3**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=144,slow=9.3,SNR=8.0						
LVC				S	**Sn**	**17 23 42.7**	**-5.1**
	baz=167,slow=23,SNR=1.6						
LVC				LR	LR	17 25 49.5	
	comp=Z,125nm,20.1s,baz=182,slow=38						
LVC	**Limon Verde**	**9.42**	**2**	Pn	**Pn**	**17 22 00.2**	**-3.3**
PB09	**IPOC Station P**	**10.23**	**360**	Pn	**Pn**	**17 22 11.4**	**-2.8**
PB09	**IPOC Station P**	**10.23**	**360**	*e*P	**Pn**	**17 22 12.4**	**-1.8**
PB09				*e*S	**Sn**	**17 24 10.5**	**+3.4**
PB07	**IPOC Station P**	**10.31**	**357**	Pn	**Pn**	**17 22 11.4**	**-4.0**
PB01	**IPOC Station P**	**10.98**	**359**	Pn	**Pn**	**17 22 20.7**	**-3.6**
ITQB	**Itaqui**	**11.08**	**81**	Pn	**Pn**	**17 22 22.9**	**-2.5**
ITQB	**Itaqui**	**11.08**	**81**	*e*P	**Pn**	**17 22 22.3**	**-3.2**
CPUP	**Villa Florida**	**11.85**	**64**	P	**Pn**	**17 22 32.6**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=234,slow=13,SNR=5.7						
CPUP	**Villa Florida**	**11.85**	**64**	Pn	**Pn**	**17 22 32.1**	**-3.7**
CPUP	**Villa Florida**	**11.85**	**64**	*e*P	**Pn**	**17 22 32.5**	**-3.2**
PB08	**IPOC Station P**	**11.88**	**0**	Pn	Pn	17 22 31.8	-4.7
PB11	**IPOC Station P**	**12.26**	**358**	Pn	**Pn**	**17 22 38.5**	**-2.9**
PSGCX	**Pisagua**	**12.44**	**356**	Pn	**Pn**	**17 22 39.7**	**-4.0**
MNMC	**Minye Minye**	**12.88**	**358**	Pn	**Pn**	**17 22 50.1**	**+0.5**
PLTB	**Pedras Altas**	**13.27**	**93**	Pn	**Pn**	**17 22 51.0**	**-3.4**
PLTB	**Pedras Altas**	**13.27**	**93**	*e*P	**Pn**	**17 22 50.1**	**-4.2**
CPSB	**Cacapava Do Su**	**13.60**	**87**	*e*P	**Pn**	**17 22 54.6**	**-4.1**
LPAZ	**La Paz**	**15.74**	**4**	P	**P**	**17 23 27.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=171,slow=6.2,SNR=22						
LPAZ	**La Paz**	**15.74**	**4**		**P**	**17 23 28.0**	**-0.2**
AQDB	**Aquidauana**	**16.72**	**50**	*e*P	**Pn**	**17 23 37.9**	**0.0**
TRCB	**Terra Rica**	**17.36**	**62**	P	**P**	**17 23 44.5**	**-0.9**
TRCB				IAmb	IAmb	17 23 45.4	
	comp=Z,30nm,0.9s						
TRCB	**Terra Rica**	**17.36**	**62**	*e*P	**P**	**17 23 44.9**	**-0.6**
SIV	**San Ignacio**	**17.63**	**27**	P	**Pn**	**17 23 49.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=226,slow=13,SNR=32						
PTLB	**Pontes e Lacer**	**18.92**	**31**	*e*P	**Pn**	**17 24 03.7**	**-0.6**
TIJ01	**Guaruva-PR**	**18.95**	**74**	*e*P	**P**	**17 24 01.1**	**-1.8**
PCMB	**Pacaembu**	**19.08**	**61**	*e*P	**P**	**17 24 05.1**	**+0.9**
PP1B	**Ponte de Pedra**	**19.38**	**45**	*e*P	**Pn**	**17 24 09.0**	**-0.7**
SALV	**Santo Antonio**	**20.25**	**41**	*e*P	**P**	**17 24 17.8**	**+0.9**
VILB	**Vilhena**	**20.75**	**26**	*e*P	**P**	**17 24 22.6**	**+0.4**
PET01	**Itanhaem-SP**	**20.81**	**74**	*e*P	**P**	**17 24 24.2**	**+1.3**
ITRB	**Iturama**	**20.92**	**59**	*e*P	**P**	**17 24 25.9**	**+1.8**
SPB	**Sao Paulo**	**21.01**	**72**	*e*P	**P**	**17 24 25.3**	**+0.3**
EFI	**East Falkland**	**21.24**	**161**	P	**P**	**17 24 27.3**	**+0.1**
BB19B

R58B IAmb IAmb 17 31 05.9
comp=Z,19nm,1.4s
ABTX Abilene, Hawle 70.47 333 P **P 17 30 53.0 +0.3**
ABTX IAmb IAmb 17 30 53.9
comp=Z,10nm,0.9s
T47A Sharon Grove 70.70 345 P **P 17 30 53.6 -0.3**
T47A IAmb IAmb 17 30 54.3
comp=Z,8.4nm,0.7s
R55A Marlinton 70.72 351 P **P 17 30 55.0 +0.9**
R55A IAmb IAmb 17 30 55.3
comp=Z,14nm,0.8s
W39A Magazine 70.78 339 P **P 17 30 55.3 +0.9**
W39A IAmb IAmb 17 30 56.0
comp=Z,15nm,0.8s
LCAR Lake Charles 70.83 341 P **P 17 30 54.7 0.0**
FCAR Ozark Folk Cen 70.93 340 P **P 17 30 55.3 -0.1**
FCAR IAmb IAmb 17 30 55.9
comp=Z,6.0nm,0.8s
PARMO Parma 71.02 343 P **P 17 30 56.0 +0.1**
PBMO Poplar Bluff 71.31 342 P **P 17 30 57.4 -0.2**
R50A Paris 71.39 347 P **P 17 30 57.5 -0.6**
R50A IAmb IAmb 17 30 58.5
comp=Z,6.1nm,0.8s
R49A Shelbyville 71.56 347 P **P 17 30 58.7 -0.4**
R49A IAmb IAmb 17 31 00.5
comp=Z,9.9nm,1.2s
X34A Smith Ranch, M 71.57 335 P **P 17 30 59.5 +0.2**
U40A Yellville 71.58 340 P **P 17 30 59.0 -0.3**
U40A IAmb IAmb 17 31 00.0
comp=Z,8.5nm,0.7s
T42A Van Buren 71.72 342 P **P 17 30 59.9 -0.1**
T42A IAmb IAmb 17 31 23.7
comp=Z,7.0nm,0.6s
WCI Wyandotte Cave 71.72 346 P **P 17 30 59.4 -0.7**
WCI IAmb IAmb 17 31 00.1
comp=Z,11nm,0.8s
HHAR Hobbs 71.83 339 P **P 17 31 00.8 0.0**
HHAR IAmb IAmb 17 31 01.6
comp=Z,8.9nm,0.9s
S44A Carbondale 71.88 343 P **P 17 31 00.8 -0.2**
S44A IAmb IAmb 17 31 01.3
comp=Z,15nm,1.1s
SIUC Southern Illin 71.89 343 P **P 17 31 00.8 -0.3**
SIUC IAmb IAmb 17 31 01.1
comp=Z,8.5nm,0.7s
LIC Lamto 71.90 70 *e*PKP1 **P 17 31 04.4 +2.6**
comp=Z,57nm,1.8s
MNTX Cornudas Mount 72.06 328 P **P 17 31 01.9 -0.4**
MGMO Mountain Grove 72.15 341 P **P 17 31 03.0 +0.2**
MGMO IAmb IAmb 17 31 03.2
comp=Z,8.2nm,0.9s
TIC Toumodi 72.16 70 *e*PKP1 **P 17 31 04.6 +1.3**
KIC Kosan Boka 72.21 70 *e*PKP1 **P 17 31 05.0 +1.4**
comp=Z,13nm,0.7s
OK025 Westminster Rd 72.28 336 P **P 17 31 03.1 -0.4**
P52A Corning 72.34 350 P **P 17 31 03.2 -0.6**
P52A IAmb IAmb 17 31 12.6
comp=Z,23nm,1.2s
OK029 Liberty Lake 72.52 336 P **P 17 31 04.9 0.0**
OK029 IAmb IAmb 17 31 05.5
comp=Z,14nm,1.0s
O52A Adamsville 72.77 350 P **P 17 31 06.2 -0.1**
MSTX Muleshoe 72.89 331 **P 17 31 07.5 +0.2**
MSTX IAmb IAmb 17 31 08.2
comp=Z,13nm,0.8s
ACSO Alum Creek Sta 73.06 349 **P 17 31 07.7 -0.3**
R40A Maddies Statio 73.22 341 P **P 17 31 09.0 0.0**
AMTX Amarillo 73.25 333 P **P 17 31 09.2 -0.2**
AMTX IAmb IAmb 17 31 10.5
comp=Z,7.0nm,0.7s
BLOK Blackwell 73.31 337 P **P 17 31 09.7 +0.1**
BLOK IAmb IAmb 17 31 10.6
comp=Z,10.0nm,0.8s
CROK Carrier 73.34 336 P **P 17 31 09.9 +0.2**
N54A Moraine State 73.34 352 **P 17 31 09.9 +0.3**
N54A IAmb IAmb 17 31 10.1
comp=Z,22nm,1.1s
U32A Winter Ranch, 73.58 335 **P 17 31 11.3 +0.1**
P43A Skaggs, Pawnee 73.79 344 P **P 17 31 11.8 -0.4**
121A Cookes Peak, D 73.86 327 P **P 17 31 14.6 +1.5**
N49A Columbus Grove 73.93 348 P **P 17 31 12.9 -0.2**
P40A Paris 74.32 342 P **P 17 31 15.6 +0.2**
P40A IAmb IAmb 17 31 16.1
comp=Z,15nm,0.8s
MAW Mawson 74.34 163 P **P 17 31 15.6 +0.4**
comp=Z,3.5nm,0.6s,baz=208,slow=7.4,SNR=6.2
MAW Mawson 74.34 163 P **P 17 31 15.9 +0.7**
P38A Dawn 74.81 341 P **P 17 31 18.3 +0.1**
P38A IAmb IAmb 17 31 18.6
comp=Z,9.8nm,0.9s
LENM Lemitar 74.86 328 P **P 17 31 19.9 +1.1**
ANMO Albuquerque 75.28 329 P **P 17 31 22.5 +1.2**
T25A Trinidad 76.30 332 P **P 17 31 28.1 +1.1**
T25A IAmb IAmb 17 31 29.1
comp=Z,6.6nm,0.8s
EMMW East Machias 76.42 1 P **P 17 31 28.6 +1.3**
EMMW IAmb IAmb 17 31 29.2
comp=Z,13nm,0.8s
L40A Anamosa 76.49 343 P **P 17 31 27.4 -0.4**
N35A Tabor 76.56 340 P **P 17 31 28.0 -0.2**
GGN Saint George 76.85 2 P **P 17 31 30.9 +1.3**
GGN IAmb IAmb 17 31 31.5
comp=Z,8.4nm,0.8s
G62A West of Eustis 76.93 359 P **P 17 31 30.7 +0.6**
G62A IAmb IAmb 17 31 31.7
comp=Z,9.8nm,0.8s
SADO Sadowa 77.00 353 P **P 17 31 30.4 -0.1**
SADO IAmb IAmb 17 31 42.3
comp=Z,16nm,1.2s
SDCO Great Sand Dun 77.26 331 P **P 17 31 33.3 +0.8**
F64A Sherman 77.57 1 P **P 17 31 34.4 +0.8**
F64A IAmb IAmb 17 31 35.6
comp=Z,9.1nm,0.9s
KOWA Kowa 77.67 64 P **P 17 31 35.3 +0.3**
KOWA IAmb IAmb 17 31 36.2
comp=Z,7.4nm,0.6s
E62A Clayton Lake 78.32 360 P **P 17 31 38.8 +0.9**
E62A IAmb IAmb 17 31 49.4
comp=Z,13nm,1.2s
D62A Allapoint, All 78.78 0 P **P 17 31 41.2 +0.9**
D62A IAmb IAmb 17 31 41.9
comp=Z,6.5nm,0.8s
BOSA Boshof 78.84 117 P **P 17 31 41.4 -0.1**
comp=Z,4.1nm,0.8s,baz=222,slow=6.7,SNR=8.0
BOSA Boshof 78.84 117 P **P 17 31 41.3 -0.2**
BOSA IAmb IAmb 17 31 41.8
comp=Z,13nm,1.4s
I37A Lemond, Waseca 78.87 342 P **P 17 31 41.0 +0.1**
PV13 Radium Mtn., P 79.01 329 P **P 17 31 42.5 +0.3**
SMCO Snowmass 79.09 331 P **P 17 31 42.9 +0.2**
SMCO IAmb IAmb 17 31 45.5
comp=Z,11nm,1.2s
U15A North Rim 79.17 326 P **P 17 31 44.4 +1.3**
E46A Sault Ste Mari 79.25 349 P **P 17 31 42.8 -0.1**
E46A IAmb IAmb 17 31 43.5
comp=Z,11nm,0.9s
ECSD EROS Data Cent 79.49 340 P **P 17 31 44.3 0.0**
ECSD IAmb IAmb 17 31 45.0
comp=Z,15nm,0.8s
E43A Lone Tree Farm 79.72 348 P **P 17 31 45.7 +0.3**
E43A IAmb IAmb 17 31 46.3
comp=Z,6.4nm,0.7s
KNB Kanab 79.90 326 P **P 17 31 48.4 +1.5**
MTPU Mount Pierson 80.43 327 P **P 17 31 51.0 +1.0**
CCUT Cedar City 80.58 326 P **P 17 31 52.4 +1.7**
F36A Milaca 80.63 343 P **P 17 31 50.0 -0.4**
D41A Chassel 80.67 347 P **P 17 31 51.1 +0.5**
TORD Torodi Ar. Bea 81.31 69 P **P 17 31 55.2 +0.5**
comp=Z,5.6nm,0.7s,baz=271,slow=5.4,SNR=21
TORD pP **pP 17 32 24.4 +0.8**
comp=Z,3.1nm,0.8s,baz=265,slow=4.6,SNR=6.8
TORD Torodi Ar. Bea 81.31 69 P **P 17 31 54.8 +0.1**
PSUT Pine Spring 81.60 326 P **P 17 31 56.8 +0.9**
RSSD Black Hills 82.21 335 P **P 17 31 59.7 +0.6**
R11A Troy Canyon, C 82.29 325 P **P 17 32 00.5 +1.0**
B35A Bob, Littlefor 83.02 344 P **P 17 32 02.4 -0.4**
B35A IAmb IAmb 17 32 03.3
comp=Z,6.8nm,0.6s
HWUT Hardware Ranch 83.05 329 P **P 17 32 03.4 0.0**
PD31 Pinedale Array 83.16 331 P **P 17 32 04.0 0.0**
PDAR Pinedale Array 83.16 331 P **P 17 32 03.6 -0.3**
comp=Z,1.2nm,0.7s,baz=129,slow=6.6,SNR=10
PDAR pP **pP 17 32 34.9 +1.7**
comp=Z,1.0nm,0.8s,baz=145,slow=5.4,SNR=4.8
AGMN Agassiz Nation 83.48 342 P **P 17 32 05.2 -0.1**
AGMN IAmb IAmb 17 32 05.7
comp=Z,5.6nm,0.8s
NVAR Mina Array Bea 83.70 323 P **P 17 32 06.4 -0.4**
comp=Z,1.8nm,0.9s,baz=146,slow=5.8,SNR=11
NVAR pP **pP 17 32 37.8 +1.6**
comp=Z,0.6nm,0.7s,baz=152,slow=4.7,SNR=3.5
NVAR LR LR 18 04 05.8
comp=Z,22nm,20.9s,baz=344,slow=32
KVN Kaiserville 84.07 324 P **P 17 32 08.8 +0.1**
YNE Yellowstone No 85.20 332 P **P 17 32 14.6 +0.3**
ULM Lac du Bonnet 85.29 343 P **P 17 32 13.7 -0.6**
comp=Z,2.4nm,0.5s,baz=138,slow=4.1,SNR=6.9
ULM Lac du Bonnet 85.29 343 P **P 17 32 14.0 -0.3**
ULM IAmb IAmb 17 32 14.7
comp=Z,5.2nm,0.8s
YHH Holmes Hill 85.36 332 P **P 17 32 16.1 +0.9**
MCMT McKenzie Canyo 86.21 331 P **P 17 32 20.3 +1.0**
J08A Circle Bar Ran 87.55 326 P **P 17 32 26.8 +1.2**
K05A Summer Lake 88.23 325 P **P 17 32 29.8 +0.8**
K05A IAmb IAmb 17 32 31.0
comp=Z,9.2nm,0.8s
I07A Izee 88.59 326 P **P 17 32 31.6 +1.1**
PINE Pine Mountain 89.05 325 P **P 17 32 33.9 +1.1**
PINE IAmb IAmb 17 32 34.8
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 118.82 59 PKP **PKiKP 17 38 25.6 -0.1**
comp=Z,0.8nm,0.7s,baz=182,slow=1.6,SNR=7.6
AKASG Malin Array Be 119.14 46 PKP **PKPdf 17 38 24.8 -0.9**
comp=Z,0.6nm,0.5s,baz=252,slow=3.3,SNR=2.0
ASAR Alice Springs 120.34 205 PKP **PKPdf 17 38 27.8 -1.2**
comp=Z,0.8nm,0.4s,baz=127,slow=1.5,SNR=27
WRA Warramunga Arr 123.58 207 PKP **PKPdf 17 38 34.4 -0.9**
comp=Z,3.5nm,0.6s,baz=160,slow=1.8,SNR=48
WRA pPKP **pPKPdf 17 39 05.8 -0.6**
comp=Z,0.7nm,0.6s,baz=175,slow=1.8,SNR=5.6
H11S2 WAKE ISLAND Hyl 28.17 269 T T 19 58 37.7
baz=117,slow=74,SNR=11
H11S1 WAKE ISLAND Hyl 28.19 269 T T 19 58 38.9
baz=117,slow=74,SNR=11
H11S3 WAKE ISLAND Hyl 28.19 269 T T 19 58 37.9
baz=117,slow=74,SNR=9.1
ZALV Zalesovo Beam 151.32 33 PKPbc **PKiKP 17 39 30.8 0.0**
comp=Z,14nm,0.6s,baz=299,slow=3.1,SNR=60
ZALV pPKPbc **pPKPbc 17 40 01.8 +0.2**
comp=Z,4.4nm,0.6s,baz=305,slow=3.3,SNR=7.5
MKAR Makanchi Array 153.71 48 PKP **PKPdf 17 39 29.7 +1.7**
comp=Z,0.5nm,0.8s,baz=354,slow=1.2,SNR=4.1
MKAR PKPbc **PKiKP 17 39 36.0 0.0**
comp=Z,1.6nm,0.7s,baz=301,slow=1.5,SNR=16
MKAR PKPab **PKPab 17 39 49.3 +0.1**
comp=Z,3.6nm,0.7s,baz=294,slow=4.0,SNR=19
MKAR pPKPbc **pPKPbc 17 40 07.3 0.0**
comp=Z,1.6nm,0.9s,baz=281,slow=1.9,SNR=2.7
MKAR Makanchi Array 153.71 48 **PKiKP 17 39 36.1 0.0**
SONM Songino Array 163.90 11 PKPab **PKPab 17 40 33.7 +0.4**
comp=Z,1.1nm,0.5s,baz=323,slow=4.8,SNR=9.5
SONM Songino Array 163.90 11 **PKPab 17 40 33.9 +0.6**
XAN Xi'an 177.49 38 PKP **PKPdf 17 39 47.9 +0.2**
XAN pPKP pPKPdf 17 40 16.3 -2.9

*DJA **15** 17:42:09.5±0.3, 9°S±5°×11°6E±°, h87km±5km, M4.3/16, mb4.6/6, mB4.7/4, MLv4.2/16, Mw(mB)3.9/4*
*NEIC **15** 17:42:10.1±1.0, 8°7S±0°1×116°06E±0°07, h126km±9km, mb4.0/7, Error ellipse: s-maj=18.0km s-min=9.7km az=174.0*
*IDC **15** 17:42:11.1±3.0, 8°60S×116°21E, h135km±24km, mb3.2/5, mb1 3.4/6, mb1mx3.2/32, mbtmp3.8/6, Error ellipse: s-maj=26.3km s-min=13.4km az=51.0*
ISC 15 17:42:08.1±0.7, 8°78S±0°08×116°12E±0°06, h103km, n34, σ1§81/35, mb3.8/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.76**	**87**	P	**Pn**	**17 42 27.8**	**+1.5**
TWSI				S	**Sn**	**17 42 40.8**	**+0.8**
DNP	**Denpasar**	**0.91**	**277**	P	**Pn**	**17 42 29.3**	**+1.6**
SRBI	**Singaraja**	**1.13**	**308**	P	**Pn**	**17 42 32.2**	**+2.0**
PLAI	**Plampang**	**1.64**	**92**	P	**Pn**	**17 42 38.3**	**+2.1**
JAGI	**Jajag, Banyuwa**	**1.97**	**279**		**Pn**	**17 42 41.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**1.97**	**279**	P	**Pn**	**17 42 41.9**	**+1.5**
KMMI	**Kalianget**	**2.74**	**309**	P	**Pn**	**17 42 53.2**	**+2.7**
WBSI	**Waikabubak, Su**	**3.34**	**105**	P	**Pn**	**17 42 58.1**	**-0.4**
PWJI	**Pagerwojo**	**4.34**	**280**	P	**Pn**	**17 43 12.8**	**+0.9**
PCJI	**Pacitan**	**4.92**	**276**	P	**Pn**	**17 43 21.6**	**+1.8**
BSSI	**Bau Bau, Buton**	**5.07**	**59**	P	**Pn**	**17 43 23.5**	**+1.7**
0.2nm53nm,1.0s							
KAPI	**Kappang**	**5.20**	**44**	P	**Pn**	**17 43 25.2**	**+1.6**
8.7nm,0.3s,baz=202,slow=7.2,SNR=47							
KAPI				S	**Sn**	**17 44 22.5**	**+0.2**
1.2nm,0.3s,baz=171,slow=21,SNR=5.8							
BKSI	**Bulukumba**	**5.25**	**49**	P	**Pn**	**17 43 26.2**	**+1.9**
0.3nm807nm75nm,0.5s							
KBKI	**Kotabaru**	**5.45**	**1**	P	**Pn**	**17 43 29.6**	**+2.6**
0.3nm704nm71nm,0.6s							
EDFI	**Ende, Flores**	**5.51**	**90**	P	**Pn**	**17 43 28.1**	**+0.3**
0.1nm421nm9.0nm,0.6s							
UGM	**Wanagama**	**5.61**	**278**	Pn	**Pn**	**17 43 30.5**	**+1.4**
UGM	**Wanagama**	**5.61**	**278**	P	**Pn**	**17 43 30.7**	**+1.6**
0.9nm81nm,1.4s							
BATI	**Baumata**	**7.58**	**101**	P	**Pn**	**17 43 56.2**	**+0.3**
CISI	**Cisompet, Garu**	**8.31**	**278**	Pn	**Pn**	**17 44 06.6**	**+0.7**
WB0	**Warramunga Arr**	**20.78**	**124**	P	**P**	**17 46 41.6**	**+0.5**
WB0				IAmb	IAmb	17 46 58.7	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**20.82**	**124**	P	**P**	**17 46 42.0**	**+0.4**
comp=Z,0.4nm,0.3s,baz=298,slow=12,SNR=14							
WRA				S	**S**	**17 50 27.6**	**-0.7**
comp=Z,0.7nm,1.0s,baz=293,slow=21,SNR=1.8							
WRAB	**Tennant Creek**	**20.83**	**124**	P	**P**	**17 46 42.9**	**+1.3**
WRAB				IAmb	IAmb	17 46 46.3	
comp=Z,13nm,1.4s							
WB2	**Warramunga Arr**	**20.83**	**124**	P	Pn	17 46 43.6	-1.4
WB2				IAmb	IAmb	17 47 09.3	
comp=Z,6.0nm,1.2s							
WR0	**Warramunga Arr**	**21.00**	**124**	P	**P**	**17 46 44.2**	**+0.8**
WR0				IAmb	IAmb	17 46 54.1	
comp=Z,13nm,1.5s							
AS31	**Alice Springs**	**22.55**	**133**	P	**P**	**17 47 00.4**	**+0.5**
ASAR	**Alice Springs**	**22.55**	**133**	P	**P**	**17 47 00.8**	**+1.0**
comp=Z,0.6nm,0.4s,baz=308,slow=8.6,SNR=28							
ASAR				PcP	**PcP**	**17 50 49.8**	**-0.2**
comp=Z,0.4nm,0.8s,baz=325,slow=1.8,SNR=4.1							
ASAR				S	**S**	**17 51 05.5**	**+5.6**
comp=Z,0.3nm,0.8s,baz=312,slow=25,SNR=2.0							
ASAR				ScP	**ScP**	**17 54 15.7**	**-2.7**
comp=Z,0.3nm,0.9s,baz=315,slow=2.7,SNR=2.1							
H08S2	**Diego Garcia H**	**43.18**	**268**	T	T	18 36 11.3	
baz=95,slow=76,SNR=3.9							
H08S3	**Diego Garcia H**	**43.19**	**268**	T	T	18 36 12.7	
baz=95,slow=76,SNR=4.4							
H08S1	**Diego Carcia H**	**43.19**	**268**	T	T	18 36 08.7	
baz=95,slow=76,SNR=3.7							
MJAR	**Matsushiro Arr**	**49.64**	**23**	P	**P**	**17 50 47.3**	**-2.0**
comp=Z,2.1nm,0.8s,baz=194,slow=7.9,SNR=4.2							
SONM	**Songino Array**	**57.02**	**352**	P	**P**	**17 51 41.4**	**-1.9**
comp=Z,0.6nm,0.6s,baz=174,slow=9.3,SNR=6.9							
SONM	**Songino Array**	**57.02**	**352**	IAmb	IAmb	17 51 42.8	
comp=Z,0.6nm,0.7s							
MKAR	**Makanchi Array**	**63.01**	**335**	P	**P**	**17 52 22.1**	**-2.0**
comp=Z,0.4nm,0.3s,baz=153,slow=6.3,SNR=14							
BOSA	**Boshof**	**86.61**	**242**	P	**P**	**17 54 41.6**	**+1.0**
comp=Z,1.4nm,0.8s,baz=90,slow=2.0,SNR=3.9							

*IDC **15** 17:44:00.2±4.2, 46°98N×145°72E, h329km±54km, mb2.8/7, mb1 3.1/8, mb1mx2.9/46, mbtmp3.5/8, Error ellipse: s-maj=44.3km s-min=22.3km az=2.0*
*JMA **15** 17:44:01.7±0.5, 46°19N×145°81E, h378km, M3.3*
ISC 15 17:44:00.8±0.8, 46°29N±0°09×145°7E±0°1, h367km, n20, σ1§51/24, mb3.2/7, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTKR	**Abashiri--Toko**	**2.66**	**210**	P	**Pn**	**17 45 00.6**	**+2.0**
JMP	**Maruseppu**	**2.84**	**217**	P	**Pn**	**17 45 01.9**	**+1.8**
JWK2	**Keihoku**	**2.86**	**251**	P	**Pn**	**17 45 02.0**	**+1.8**
NEM2	**Nemuro 2**	**2.93**	**180**	P	**Pn**	**17 45 01.0**	**+0.1**
NEM2				*e*S	**S**	**17 45 48.7**	**-0.5**
JAR	**Ashorobuto**	**3.31**	**206**	P	**Pn**	**17 45 06.5**	**+2.3**
JAK	**Akkeshi**	**3.38**	**193**	P	**Pn**	**17 45 05.5**	**+0.6**
JAK				*e*S	**S**	**17 45 56.3**	**-0.2**
JCH	**Churui**	**4.05**	**206**	P	**Pn**	**17 45 12.1**	**+0.7**
JCH				*e*S	**S**	**17 46 07.0**	**-1.4**
JNBK	**Urakawa-nobuka**	**4.55**	**209**	P	**Pn**	**17 45 17.3**	**+0.9**
JNBK				*e*S	**S**	**17 46 16.1**	**-1.5**
JKB	**Kayabe**	**5.55**	**219**	P	**Pn**	**17 45 28.4**	**+1.2**
JKB				*e*S	**S**	**17 46 35.7**	**-1.7**
JOT	**Ohata**	**5.96**	**216**	P	**Pn**	**17 45 32.6**	**+0.8**
JOT				*e*S	S	17 46 42.8	-2.9
JANG	**Nango**	**6.67**	**209**	P	**Pn**	**17 45 40.9**	**+1.1**
JANG				*e*S	S	17 46 57.7	-2.7
USRK	**Ussuriysk Ar.**	**9.92**	**263**	P	**Pn**	**17 46 18.4**	**+0.6**
baz=65,slow=11,SNR=8.4							
MJAR	**Matsushiro Arr**	**11.25**	**213**	P	Pn	17 46 39.0	+5.4
0.1nm,0.3s,baz=24,slow=8.5,SNR=4.4							
SONM	**Songino Array**	**26.65**	**288**	P	**P**	**17 49 09.7**	**+2.3**
0.3nm,0.4s,baz=69,slow=7.9,SNR=3.2							
ILAR	**Eielson Array**	**40.06**	**38**	P	**P**	**17 50 59.3**	**-2.1**
0.2nm,0.7s,baz=264,slow=7.2,SNR=4.9							
MKAR	**Makanchi Array**	**42.56**	**295**	P	**P**	**17 51 21.4**	**-0.4**
0.3nm,0.7s,baz=60,slow=8.5,SNR=3.1							
FINES	**FINESS Array B**	**62.16**	**332**	P	**P**	**17 53 41.3**	**-2.5**
1.0nm,0.9s,baz=39,slow=9.0,SNR=4.0							
NVAR	**Mina Array Bea**	**67.08**	**58**	P	**P**	**17 54 17.4**	**+1.5**
0.4nm,0.7s,baz=310,slow=7.0,SNR=1.6							
PDAR	**Pinedale Array**	**69.03**	**50**	P	**P**	**17 54 28.6**	**+0.6**
0.4nm,0.4s,baz=193,slow=0.7,SNR=4.0							
TXAR	**Lajitas Array**	**82.06**	**56**	P	**P**	**17 55 42.2**	**+1.0**
0.2nm,0.5s,baz=282,slow=3.5,SNR=3.8							

*NEIC **15** 17:56:41.9±0.9, 23°1S±0°2×179°8W±0°2, h555km±11km, mb4.5/19, Error ellipse: s-maj=27.4km s-min=24.6km az=83.0*
*IDC **15** 17:56:41.4±2.1, 23°18S×179°94W, h537km±26km, mb3.0/4, mb1 3.3/6, mb1mx3.0/23, mbtmp4.0/6, Error ellipse: s-maj=27.4km s-min=23.8km az=9.0*
ISC 15 17:56:40.7±0.8, 23°2S±0°1×179°9W±0°1, h543km, n29, σ1§22/28, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.76**	**340**	P	**P**	**17 58 17.6**	**+0.6**
2.1nm,0.3s,baz=242,slow=22,SNR=12							
MSVF	**Nonsavu**	**5.76**	**340**	P	**P**	**17 58 18.0**	**+1.0**
MARNC	**Mare, Loyalty**	**11.34**	**276**	P	**P**	**17 59 10.3**	**-2.1**
URZ	**Urewera**	**15.26**	**189**	P	**P**	**17 59 51.0**	**-1.7**
0.6nm,0.3s,baz=267,slow=19,SNR=1.3							
URZ	**Urewera**	**15.26**	**189**	IAmb	IAmb	18 00 17.0	
comp=Z,42nm,1.2s							
BKZ	**Black Stump Fm**	**16.24**	**190**	P	**P**	**17 59 59.8**	**-2.8**
BKZ				IAmb	IAmb	18 00 25.3	
comp=Z,41nm,1.5s							
BFZ	**Birch Farm**	**17.76**	**190**	P	**P**	**18 00 14.2**	**-2.3**
NNZ	**Nelson**	**18.87**	**196**	P	**P**	**18 00 27.2**	**+0.6**
TUWZ	**Tuamarina**	**18.93**	**195**	P	**P**	**18 00 27.4**	**+0.2**
THZ	**Tophouse**	**19.50**	**196**	P	**P**	**18 00 33.0**	**+0.5**
THZ				IAmb	IAmb	18 00 53.1	
comp=Z,32nm,1.3s							
KHZ	**Kahutara**	**19.96**	**194**	P	**P**	**18 00 36.7**	**+0.1**
LTZ	**Lake Taylor**	**20.62**	**197**	P	**P**	**18 00 41.3**	**-1.3**
LTZ				IAmb	IAmb	18 00 45.8	
comp=Z,23nm,1.2s							
CTAO	**Charters Tower**	**31.62**	**269**	P	**P**	**18 02 20.6**	**+1.0**
CTAO				IAmb	IAmb	18 02 21.5	
comp=Z,3.4nm,0.5s							
AS31	**Alice Springs**	**42.29**	**260**	P	**P**	**18 03 47.6**	**+0.5**
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**18 03 47.6**	**+0.5**
comp=Z,0.8nm,0.5s,baz=94,slow=7.2,SNR=27							
WR0	**Warramunga Arr**	**42.41**	**265**	P	**P**	**18 03 48.0**	**-0.1**
WR0				IAmb	IAmb	18 03 49.5	
comp=Z,10nm,1.4s							
WB2	**Warramunga Arr**	**42.58**	**265**	P	**P**	**18 03 49.5**	**+0.1**
WB2				IAmb	IAmb	18 04 11.5	
comp=Z,6.4nm,1.1s							
WB0	**Warramunga Arr**	**42.59**	**266**	P	**P**	**18 03 49.2**	**-0.2**
WB0				IAmb	IAmb	18 04 08.2	
comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**42.59**	**265**	P	**P**	**18 03 49.7**	**+0.2**
comp=Z,1.3nm,0.5s,baz=91,slow=8.3,SNR=72							
MTN	**Manton Dam**	**47.54**	**274**	P	**P**	**18 04 27.8**	**+0.4**
KNRA	**Kununurra**	**48.83**	**269**	P	**P**	**18 04 37.6**	**+0.6**
KNRA				IAmb	IAmb	18 04 41.9	
comp=Z,21nm,1.2s							
CASY	**Casey**	**60.82**	**206**	P	**P**	**18 06 01.3**	**+1.3**
QSPA	**South Pole Qui**	**66.90**	**180**	P	**P**	**18 06 40.3**	**+1.3**
comp=Z,1.1nm,0.6s,baz=49,slow=1.2,SNR=10							
TXAR	**Lajitas Array**	**89.93**	**58**	P	**P**	**18 08 44.0**	**+1.5**
comp=Z,0.3nm,0.7s,baz=216,slow=4.5,SNR=3.9							
TXAR	**Lajitas Array**	**89.93**	**58**	P	**P**	**18 08 41.1**	**-1.4**
O20A	**White River Ci**	**91.64**	**47**	P	**P**	**18 08 48.8**	**-1.5**
O20A				IAmb	IAmb	18 08 50.8	
comp=Z,3.9nm,0.6s							
BW06	**Boulder Array**	**92.08**	**44**	P	**P**	**18 08 51.9**	**-0.4**
BW06				IAmb	IAmb	18 08 57.1	
comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**144.43**	**328**	PKP	**PKPab**	**18 15 15.2**	**-0.3**
comp=Z,0.6nm,0.4s,baz=40,slow=3.7,SNR=2.7							
AKASG	**Malin Array Be**	**144.43**	**328**		**PKPab**	**18 15 15.4**	**-0.1**

MEX 15 18:12:57.2±0.3, 14°20N×92°14W, h60km, MD3.8, Near coast of Chiapas

*IDC **15** 18:45:25.4±4.5, 6°84S×129°60E, h166km±58km, mb2.9/1, mb1 3.5/4, mb1mx3.1/28, mbtmp3.9/4, Error ellipse: s-maj=92.3km s-min=20.0km az=83.0*
ISC 15 18:45:22.8±1.4, 7°03S±0°07×129°5E±0°3, h139km, n4, σ2§78/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.36**	**16**	P	**Pn**	**18 46 55.9**	**+1.7**
2.6nm,0.3s,baz=202,slow=21,SNR=40							
SIJI				S	**Sn**	**18 48 03.7**	**-2.1**
3.0nm,0.3s,baz=202,slow=23,SNR=9.8							
WRA	**Warramunga Arr**	**13.66**	**160**	P	**Pn**	**18 48 32.5**	**+1.5**
0.9nm,0.3s,baz=340,slow=12,SNR=53							
WRA				S	**Sn**	**18 51 01.1**	**-1.0**
0.5nm,0.3s,baz=328,slow=23,SNR=5.3							
ASAR	**Alice Springs**	**17.07**	**166**	P	**Pn**	**18 49 16.3**	**+3.0**
1.3nm,0.3s,baz=341,slow=9.9,SNR=114							
ASAR				S	**S**	**18 52 20.6**	**-3.1**
0.1nm,0.3s,baz=346,slow=34,SNR=2.1							
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**18 56 05.7**	**-1.2**
0.2nm,0.4s,baz=119,slow=8.7,SNR=2.3							

*IDC **15** 18:52:06.8±0.6, 11°22S×12°89W, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.2/32, mbtmp4.3/16, MS4.1/23, Ms1 4.1/23, ms1mx4.1/23, Error ellipse: s-maj=21.6km s-min=14.4km az=127.0*
*NEIC **15** 18:52:09.0±1.2, 11°18S±0°08×12°98W±0°08, h10km±1km, mb4.9/40, Error ellipse: s-maj=16.8km s-min=9.0km az=41.0*
*GCMT **15** 18:52:10.0±0.2, 11°20S±0°02×12°95W±0°02, h18km, MW5.0/114, Moment Tensor Solution. s25,c31; s114,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.96±.23; $M_{\theta\theta}$0.83±.13; $M_{\phi\phi}$3.12±.15; $M_{r\theta}$-0.58±.34; $M_{\theta\phi}$-1.58±.07; $M_{\phi r}$-0.22±.28; Best double couple: $M_0$3.99100×10^{16} NP1:ϕ_s341.00000°, δ45.00000°, λ-78.00000°. NP2:ϕ_s144.00000°, δ46.00000°, λ-102.00000°. Principal axes: T 3.9270, Plg1.0000°, Azm243.0000°; N 0.1180, Plg9.0000°, Azm153.0000°; P -4.0540, Plg81.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50

baz=149
H10N3 ASCENSION HYDR 3.62 335 Pn **Pn 18 53 03.2 -1.4**
baz=142,slow=73,SNR=11
H10N3 T T 18 56 55.2
baz=149
H10N2 ASCENSION HYDR 3.62 336 Pn **Pn 18 53 03.0 -1.7**
baz=142,slow=73,SNR=18
H10N2 T T 18 56 57.5
baz=149
LIC Lamto 19.00 25 *eP* **Pn 18 56 32.1 +0.6**
138nm,1.8s
KIC Kosan Boka 19.24 26 *eP* **P 18 56 34.4 +1.0**
87nm,1.6s
TIC Toumodi 19.38 25 *eP* **P 18 56 31.1 -3.9**
DBIC Dimbokro 19.47 25 P **P 18 56 36.4 +0.4**
RCBR Riachuelo 23.26 281 LR LR 19 04 11.8
comp=Z,801nm,20.1s,baz=138,slow=31
NBPA Parau_RN 24.45 281 *eP* **P 18 57 29.4 +1.3**
NBCL Cascavel-CE 25.99 283 *eP* **P 18 57 43.1 +1.1**
NBIT Itapeh - BA 26.03 259 *eP* **P 18 57 44.8 +2.3**
GDU01 Guandu, BA 26.08 262 *eP* **P 18 57 43.8 +0.9**
CMC01 Camacan, BA 26.15 258 *eP* **P 18 57 45.2 +1.7**
GUA01 Guaratinga, BA 26.57 255 *eP* **P 18 57 47.6 +0.3**
NBPN Ponto Novo - B 26.71 268 *eP* **P 18 57 48.6 0.0**
NBPB Pedra_Branca-C 26.89 280 *eP* **P 18 57 50.2 0.0**
KOWA Kowa 26.99 19 P **P 18 57 50.4 -0.6**
11nm,0.8s,baz=192,slow=9.2,SNR=19
KOWA LR LR 19 07 12.1
comp=Z,808nm,18.3s,baz=215,slow=34
KOWA Kowa 26.99 19 P **P 18 57 50.5 -0.5**
KOWA IAmb IAmb 18 57 56.6
comp=Z,41nm,1.2s
NBMO Morrinhos-CE 27.92 284 *eP* **P 18 58 00.8 +1.2**
BSFB Barra de Sao F 27.94 251 *eP* **P 18 58 00.9 +1.2**
TORD Torodi Ar. Bea 28.20 32 P **P 18 58 00.7 -1.2**
comp=Z,5.7nm,0.9s,baz=218,slow=8.9,SNR=16
TORD LR LR 19 07 25.1
comp=Z,698nm,20.8s,baz=225,slow=33
TORD Torodi Ar. Bea 28.20 32 P **P 18 58 01.3 -0.6**
MC01 Montes Claros 30.52 256 *eP* **P 18 58 22.5 -0.2**
JANB Januaria 30.74 259 *eP* **P 18 58 23.6 -0.9**
SDBA SAO DESIDERIO 31.26 264 *eP* **P 18 58 28.5 -0.7**
ROSB Rosrio 31.94 283 *eP* **P 18 58 34.4 -0.8**
BSCB Bom Sucesso 32.01 248 *eP* **P 18 58 36.0 +0.2**
ESAR Angra dos Reis 32.22 244 *eP* **P 18 58 39.3 +1.9**
SMTB Santa Maria do 34.14 271 *eP* **P 18 58 54.6 +0.2**
BDFB Brasilia 34.34 259 P **P 18 58 55.5 -0.7**
comp=Z,2.3nm,0.5s,baz=38,slow=10,SNR=3.9
BDFB LR LR 19 09 54.2
comp=Z,663nm,21.8s,baz=112,slow=31
BDFB Brasilia 34.34 259 P **P 18 58 55.8 -0.4**
BDFB IAmb IAmb 18 58 57.3
comp=Z,38nm,1.6s
VAO Valinhos 34.46 246 *eP* **P 18 58 56.8 -0.3**
IPMB Ipameri, GO 34.72 255 *eP* **P 18 59 00.0 +0.6**
BB19B Bebedouro 35.46 249 *eP* **P 18 59 06.1 +0.3**
TMAB Tom-Au,PA,Br 35.90 281 *eP* **P 18 59 10.4 +0.8**
PRPB Parauapebas 36.72 275 *eP* **P 18 59 17.2 +0.6**
FRTB Fartura 36.86 246 *eP* **P 18 59 18.8 +1.1**
ITRB Iturama 36.94 252 *eP* **P 18 59 18.5 0.0**
SNDB Serra Nova Dou 37.52 265 *eP* **P 18 59 24.7 +1.3**
ARAG Araguaiana, MT 37.99 259 *eP* **P 18 59 27.9 +0.5**
PCMB Pacaembu 38.06 249 *eP* **P 18 59 28.7 +0.8**
BOSA Boshof 39.72 122 LR LR 19 13 01.6
comp=Z,228nm,20.9s,baz=292,slow=32
LSZ Lusaka 40.25 100 P **P 18 59 47.4 +1.0**
comp=Z,1.0nm,0.4s,baz=254,slow=6.5,SNR=3.9
LSZ Lusaka 40.25 100 P **P 18 59 45.7 -0.7**
MCPB Macapa, AP 40.26 283 *eP* **P 18 59 47.5 +1.1**
MATP Matopo 40.87 108 *eP* **P 18 59 50.5 -1.0**
comp=Z,3.6nm,0.8s,baz=275,slow=8.2,SNR=7.2
PP1B Ponte de Pedra 41.02 256 *eP* **P 18 59 54.0 +1.4**
MALB Monte Alegre 41.98 280 *eP* **P 19 00 00.5 -0.1**
CLDB Colider 41.99 266 *eP* **P 19 00 01.6 +0.9**
NPGB Novo Progresso 42.01 272 *eP* **P 19 00 00.9 +0.2**
AQDB Aquidauana 42.02 252 P **P 19 00 01.2 +0.4**
AQDB IAmb IAmb 19 00 02.4
comp=Z,24nm,1.2s
AQDB Aquidauana 42.02 252 *eP* **P 19 00 01.4 +0.6**
CPSB Cacapava Do Su 42.10 237 *eP* **P 19 00 02.7 +1.4**
PLTB Pedras Altas 42.67 235 P **P 19 00 06.9 +0.9**
PLTB IAmb IAmb 19 00 09.0
comp=Z,22nm,1.2s
PLTB Pedras Altas 42.67 235 *eP* **P 19 00 08.1 +2.1**
ITTB Itaituba 42.85 276 *eP* **P 19 00 07.9 +0.3**
CPUP Villa Florida 44.38 244 P **P 19 00 19.3 -0.5**
comp=Z,8.8nm,1.0s,baz=76,slow=7.8,SNR=9.1
CPUP LR LR 19 15 38.4
comp=Z,528nm,18.2s,baz=86,slow=32
CPUP Villa Florida 44.38 244 P **P 19 00 19.1 -0.8**
CPUP IAmb IAmb 19 00 21.4
comp=Z,23nm,1.3s
CPUP Villa Florida 44.38 244 *eP* **P 19 00 20.8 +1.0**
ITQB Itaqui 44.54 239 P **P 19 00 20.3 -0.7**
ITQB Itaqui 44.54 239 *eP* **P 19 00 22.9 +1.9**
MBAR Mbarara 44.67 79 P **P 19 00 23.4 +0.9**
MBAR IAmb IAmb 19 00 30.1
comp=Z,29nm,1.6s
PTLB Pontes e Lacer 45.05 259 *eP* **P 19 00 26.1 +0.9**
VILB Vilhena 46.16 263 *eP* **P 19 00 32.6 -1.5**
SIV San Ignacio 46.91 259 P **P 19 00 39.9 -0.1**
comp=Z,0.5nm,0.3s,baz=125,slow=8.8,SNR=3.6
SIV PcP **PcP 19 02 13.8 +1.0**
comp=Z,0.6nm,0.3s,baz=88,slow=5.3,SNR=3.7
PTGA Pitinga 47.78 279 P **P 19 00 48.1 +1.3**
comp=Z,1.0nm,0.3s,baz=90,slow=5.6,SNR=4.6
PTGA Pitinga 47.78 279 IAmb IAmb 19 00 50.4
comp=Z,0.3nm,0.7s
MACA Manacapuru-AM 47.93 276 *eP* **P 19 00 50.0 +2.1**
BOAV Boa Vista 49.16 283 *eP* **P 19 00 58.3 +0.9**
KMBO Kilima Mbogo 50.86 82 LR LR 19 21 30.3
comp=Z,263nm,18.7s,baz=274,slow=35
KEST Kesra 51.19 23 P **P 19 01 13.4 +1.0**
comp=Z,9.1nm,1.0s,baz=151,slow=3.0,SNR=9.1
KEST LR LR 19 22 11.7
comp=Z,254nm,20.9s,baz=180,slow=35
KEST Kesra 51.19 23 P **P 19 01 13.5 +1.1**
TRQA Tornquist 51.22 230 P **P 19 01 12.3 -0.4**
ESDC Sonseca Array 51.26 9 P **P 19 01 16.1 +3.2**
comp=Z,0.7nm,1.0s,baz=240,slow=10,SNR=3.2
ESDC LR LR 19 22 20.0
comp=Z,199nm,18.3s,baz=195,slow=35
ESDC Sonseca Array 51.26 9 P **P 19 01 15.5 +2.6**
COI Coimbra 51.28 4 P **P 19 01 14.4 +1.5**
ETMB Extrema 52.30 266 *eP* **P 19 01 18.2 -2.9**
LPAZ La Paz 53.69 258 LR LR 19 22 56.8
comp=Z,196nm,21.1s,baz=122,slow=34
H05S1 Guadeloupe/Mar 53.81 297 T T 19 59 23.3
SNR=7.2
H05N1 Guadeloupe/Mar 54.83 299 T T 20 00 48.5
SNR=7.3
AC02 Maricunga 54.91 245 P **P 19 01 40.4 -0.4**
AC02 IAmb IAmb 19 01 42.7
comp=Z,19nm,1.3s
ZON Zonda 55.09 239 P **P 19 01 41.0 -0.4**
VA03 San Esteban 56.84 238 P **P 19 01 53.8 -0.2**
BO02 Sierra Bellavi 57.34 236 P **P 19 01 56.2 -1.3**
MT09 Talagante 57.35 237 P **P 19 01 57.0 -0.7**
BO01 Tunca 57.52 236 P **P 19 01 57.0 -1.7**
BO01 IAmb IAmb 19 01 58.9
comp=Z,14nm,0.9s
PLCA Paso Flores 58.34 229 LR LR 19 24 11.7
comp=Z,152nm,19.4s,baz=86,slow=33
CZSB Cruzeiro do Su 58.93 268 *eP* **P 19 02 09.8 +1.0**
LC01 Cunco 58.94 231 P **P 19 02 07.8 -0.8**
VNA1 Neumayer--Stat 59.52 178 P **P 19 02 12.5 +0.6**
VNA2 Neumayer--Watz 59.83 178 P **P 19 02 13.3 -0.8**
VNA3 Neumayer Olymp 60.08 179 P **P 19 02 15.3 -0.6**
SNAA Sanae 60.79 176 P **P 19 02 20.2 -0.6**
SNAA Sanae 60.79 176 P **P 19 02 19.8 -1.0**
comp=Z,8.3nm,1.0s,baz=340,slow=5.4,SNR=17
SNAA Sanae 60.79 176 P **P 19 02 19.7 -1.0**
SNAA IAmb IAmb 19 02 21.8
comp=Z,10nm,1.1s
ECH Echery 61.75 15 P **P 19 02 25.1 -2.4**
ECH IAmb IAmb 19 02 32.9
comp=Z,12nm,1.4s
ZOU Zoufplan 61.98 20 P **P 19 02 29.6 +0.3**
ZOU IAmb IAmb 19 02 55.9
comp=Z,8.4nm,1.3s
DIVS Divibare 62.62 26 P **P 19 02 34.8 +1.3**
VTS Vitosha 62.95 29 P **P 19 02 35.3 -0.5**
ROSC El Rosal 63.06 281 LR LR 19 30 34.4
comp=Z,290nm,18.3s,baz=78,slow=36
GERES GERESS Array B 64.22 19 P **P 19 02 44.2 +0.2**
comp=Z,0.7nm,0.8s,baz=197,slow=4.2,SNR=6.1
GERES LR LR 19 30 47.1
comp=Z,206nm,19.0s,baz=219,slow=36
GERES GERESS Array B 64.22 19 P **P 19 02 44.3 +0.4**
PSZ Piszkesteto 65.66 24 P **P 19 02 53.1 -0.2**
PSZ IAmb IAmb 19 03 05.9
comp=Z,8.0nm,1.2s
OTAV Otavalo 66.00 275 P **P 19 02 55.5 -1.3**
OTAV IAmb IAmb 19 02 59.4
comp=Z,14nm,1.6s
OTAV Otavalo 66.00 275 *eP* **P 19 02 57.0 +0.2**
CLL Collm 66.17 18 *eS* **S 19 11 47.0 +1.9**
CLL *e*PPS PPS 19 12 15.0
CLL *e*SS **SS 19 16 01.0 -0.3**
CLL *e*SSS SSS 19 19 12.0
CLL *e*SSSS 19 20 06.0
CLL LmV 19 31 00.0
comp=Z,200nm,19.5s
MORC Moravsky Berou 66.32 21 P **P 19 02 58.3 +0.8**
MLR Muntele Rosu 66.40 29 P **P 19 02 57.7 -0.6**
MLR IAmb IAmb 19 03 04.0
comp=Z,10nm,1.3s
BRTR Keskin Array B 66.58 38 P **P 19 02 58.9 -0.6**
comp=Z,0.9nm,0.9s,baz=224,slow=6.9,SNR=4.7
BRTR LR LR 19 31 48.1
comp=Z,96nm,21.9s,baz=242,slow=36
BRTR Keskin Array B 66.58 38 P **P 19 02 57.8 -1.8**
AKASG Malin Array Be 71.71 27 P **P 19 03 29.0 -1.9**
comp=Z,1.4nm,0.7s,baz=228,slow=7.2,SNR=3.3
AKASG LR LR 19 36 26.7
comp=Z,78nm,18.6s,baz=45,slow=37
AKBB Malin Array Si 71.71 27 P **P 19 03 29.0 -1.9**
AKBB IAmb IAmb 19 03 36.2
comp=Z,11nm,1.4s
GNI Garni 73.85 42 P **P 19 03 42.9 -1.3**
GNI IAmb IAmb 19 03 53.1
comp=Z,24nm,1.9s
MAW Mawson 74.37 157 P **P 19 03 44.9 -1.6**
comp=Z,5.7nm,1.0s,baz=288,slow=9.4,SNR=6.1
MAW LR LR 19 28 44.6
comp=Z,94nm,21.6s,baz=238,slow=30
MAW Mawson 74.37 157 P **P 19 03 46.0 -0.5**
NOA NORSAR Array B 74.47 12 LR LR 19 37 45.8
comp=Z,44nm,19.3s,baz=205,slow=37
KIV Kislovodsk 74.53 38 P **P 19 03 47.9 -0.1**
KBZ Khabaz 74.54 39 P **P 19 03 48.6 +0.8**
comp=Z,1.6nm,0.8s,baz=259,slow=3.2,SNR=4.9
KBZ LR LR 19 37 37.6
comp=Z,60nm,20.0s,baz=244,slow=37
FINES FINESS Array B 78.61 18 P **P 19 04 09.5 -0.9**
comp=Z,1.0nm,0.8s,baz=175,slow=8.4,SNR=2.3
FINES LR LR 19 40 35.9
comp=Z,99nm,18.6s,baz=224,slow=37
QSPA South Pole Qui 78.98 180 P **P 19 04 12.6 -0.2**
QSPA IAmb IAmb 19 04 15.4
comp=Z,15nm,1.0s
GEYT Alibeck 82.32 49 LR LR 19 40 09.4
comp=Z,126nm,21.3s,baz=215,slow=35
ARCES ARCESS Array B 84.83 13 LR LR 19 45 32.3
comp=Z,59nm,18.3s,baz=170,slow=38
LCAR Lake Charles 87.11 307 P **P 19 04 55.1 -0.1**
VNDA Vanda 91.43 179 P **P 19 05 14.8 0.0**
comp=Z,1.4nm,1.0s,baz=250,slow=5.1,SNR=3.6
VNDA LR LR 19 42 24.4
comp=Z,37nm,21.3s,baz=186,slow=33
ULM Lac du Bonnet 93.98 320 LR LR 19 41 27.0
comp=Z,90nm,19.4s,baz=35,slow=32
TXAR Lajitas Array 95.96 299 LR LR 19 45 18.1
comp=Z,8.4nm,21.7s,baz=0.0,slow=33
XAN Xi'an 122.54 57 PKP **PKiKP 19 11 06.8 +1.4**
TAOE Nuku Hiva Isla 123.81 251 *e*LR LR 19 49 33.2
comp=Z,243nm,34.2s
TBI Tubuai 125.32 231 *e*LR LR 19 50 17.2
comp=Z,141nm,23.0s
PPT2 Papeete2 128.48 237 *e*LR LR 19 51 43.3
comp=Z,132nm,23.2s

MEX 15 19:01:54.9±0.3, 14°.26N×92°.38W, h50km, MD3.6, Near coast of Chiapas

*NOU **15** 19:32:51.7, 39°.19S×176°.58E, h17km, ML3.5, North Island, New Zealand*

WEL 15 19:32:48.0±0.8, 39°.S±3°×17°.7E±°, h23km±6km, M3.7/9, ML4.0/9, MLv3.7/9, Error ellipse: s-maj=0.0km s-min=0.0km az=105.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MCHZ	**McNeill Hill**	**0.03**	**195**	P		Pb	19 32 52.6	+0.6
MCHZ				S		Sb	19 32 56.4	+1.6
KWHZ	**Kaweka Forest**	**0.22**	**268**	P		Pn	19 32 54.9	-1.0
KWHZ				S		Sb	19 33 00.3	+2.6
ARHZ	**Aropaoanui**	**0.27**	**56**	P		Pb	19 32 55.2	+0.8
ARHZ				S		Sn	19 33 01.1	-0.9
BKZ	**Black Stump Fm**	**0.30**	**326**	P		Pn	19 32 56.1	-0.9
BKZ				S		Sn	19 33 02.5	-0.3
NMHZ	**Naumai**	**0.33**	**14**	P		Pn	19 32 56.7	-0.7
NMHZ				S		Sn	19 33 03.5	+0.1
KRHZ	**Kereru**	**0.34**	**229**	P		Pb	19 32 56.4	+0.8
KRHZ				S		Sn	19 33 02.9	-0.9
CKHZ	**Cape Kidnapper**	**0.38**	**130**	P		Pb	19 32 56.7	+0.7
CKHZ				S		Sn	19 33 03.5	-1.0
KAHZ	**Kahuranaki**	**0.40**	**161**	P		Pb	19 32 56.9	+0.4
KAHZ				S		Sn	19 33 04.6	-0.7
BHHZ	**Black Hill Sta**	**0.50**	**261**	P		Pn	19 32 59.2	-0.6
WHHZ	**Waihua**	**0.53**	**51**	P		Pn	19 32 59.7	-0.4
WHHZ				S		Sn	19 33 09.3	+1.0
MTHZ	**Maungataniwha**	**0.57**	**11**	P		Pn	19 33 00.5	-0.2
RAHZ	**Arahi**	**0.58**	**31**	P		Pn	19 33 00.5	-0.3
MRHZ	**Matea Rd**	**0.62**	**339**	P		Pn	19 33 01.7	+0.2
PXZ	**Pawanui**	**0.63**	**169**	P		Pn	19 33 01.2	-0.2
PXZ				S		Sn	19 33 12.2	+1.5
PNHZ	**Pukenui**	**0.63**	**218**	P		Pn	19 33 01.1	-0.4
WPHZ	**Waipukurau**	**0.68**	**198**	P		Pn	19 33 02.1	-0.1
HATZ	**Hinemaiaia**	**0.71**	**317**	P		Pn	19 33 03.4	+0.8
MOVZ	**Moawhango**	**0.74**	**270**	P		Pn	19 33 03.4	+0.3
RITZ	**Rihia Road**	**0.79**	**303**	P		Pn	19 33 05.3	+1.5
SNGZ	**Shannon Statio**	**0.80**	**38**	P		Pn	19 33 04.4	+0.5
ETVZ	**East Tongariro**	**0.82**	**290**	P		Pn	19 33 05.5	+1.2
RTZ	**Ruatahuna**	**0.83**	**15**	P		Pn	19 33 04.7	+0.4
TUVZ	**Tukino**	**0.83**	**280**	P		Pn	19 33 05.5	+1.1
TMVZ	**Te Maari**	**0.83**	**291**	P		Pn	19 33 05.6	+1.2
OTVZ	**Oturere**	**0.85**	**287**	P		Pn	19 33 05.9	+1.3
KNZ	**Kokohu**	**0.85**	**63**	P		Pn	19 33 04.7	+0.3
PRHZ	**Porangahau**	**0.85**	**184**	P		Pn	19 33 04.4	-0.1
SNVZ	**South Ngauruho**	**0.86**	**285**	P		Pn	19 33 06.1	+1.3
NTVZ	**North Tongarir**	**0.86**	**291**	P		Pn	19 33 06.1	+1.3
TSZ	**Takapari Road**	**0.86**	**222**	P		Pn	19 33 04.8	+0.1
WNVZ	**Wahianoa**	**0.86**	**276**	P		Pn	19 33 06.0	+1.1
WHVZ	**Whangaehu Hut**	**0.88**	**278**	P		Pn	19 33 06.3	+1.2
KRVZ	**Karewarewa**	**0.89**	**291**	P		Pn	19 33 06.5	+1.4
NGZ	**Ngauruhoe**	**0.89**	**285**	P		Pn	19 33 06.6	+1.4
NNVZ	**North Ngauruho**	**0.89**	**288**	P		Pn	19 33 06.7	+1.4
ALRZ	**Allen Road**	**0.90**	**341**	P		Pn	19 33 06.6	+1.4
DRZ	**Dome Shelter**	**0.90**	**279**	P		Pn	19 33 06.8	+1.3
KATZ	**Kakaramea**	**0.90**	**299**	P		Pn	19 33 07.0	+1.7
TRVZ	**Turoa**	**0.91**	**277**	P		Pn	19 33 06.8	+1.3
FWVZ	**Far West T-bar**	**0.91**	**280**	P		Pn	19 33 06.7	+1.2
RATZ	**Rangitukua**	**0.91**	**307**	P		Pn	19 33 07.3	+1.9
WTVZ	**West Tongariro**	**0.92**	**289**	P		Pn	19 33 07.1	+1.5
MUGZ	**Murupara**	**0.94**	**3**	P		Pn	19 33 06.7	+1.0
PRRZ	**Plateau Road**	**0.95**	**345**	P		Pn	19 33 07.5	+1.6
WHTZ	**Whakaora**	**0.95**	**322**	P		Pn	19 33 08.4	+2.5
MTVZ	**Mangateitei**	**0.96**	**271**	P		Pn	19 33 07.6	+1.6
MHGZ	**Mahia Peninsul**	**0.97**	**75**	P		Pn	19 33 06.3	+0.2
DVHZ	**Dannevirke**	**0.97**	**205**	P		Pb	19 33 06.1	-0.1
WPRZ	**Whakapapatarin**	**0.99**	**334**	P		Pn	19 33 08.4	+1.9
WATZ	**Wairara**	**1.04**	**313**	P		Pb	19 33 09.6	+2.3
PRGZ	**Paritu Road**	**1.04**	**62**	P		Pb	19 33 07.6	+0.3
TWVZ	**Taurewa**	**1.04**	**289**	P		Pb	19 33 09.1	+1.7
ANWZ	**Angora Road**	**1.06**	**190**	P		Pn	19 33 07.2	-0.2
PKVZ	**Pokaka**	**1.06**	**276**	P		Pb	19 33 09.3	+1.7
RAGZ	**Rawiri**	**1.07**	**31**	P		Pb	19 33 08.7	+0.8
HRRZ	**Handcock Road**	**1.08**	**342**	P		Pb	19 33 09.8	+1.9
RIGZ	**Rimuhau**	**1.08**	**50**	P		Pb	19 33 08.1	+0.1
RRRZ	**Republican Roa**	**1.09**	**352**	P		Pb	19 33 09.9	+1.9
KUTZ	**Kaahu Road**	**1.15**	**323**	P		Pb	19 33 11.6	+2.4
HSRZ	**Hossack Road**	**1.16**	**342**	P		Pb	19 33 12.1	+2.7
GRRZ	**Galatos Road**	**1.16**	**336**	P		Pb	19 33 12.0	+2.6
TARZ	**Mount Tarawera**	**1.19**	**352**	P		Pb	19 33 11.9	+2.0
HLRZ	**Highlands Stat**	**1.20**	**346**	P		Pb	19 33 12.5	+2.5
URZ	**Urewera**	**1.20**	**15**	P		Pb	19 33 10.6	+0.7
POWZ	**Post Office Ro**	**1.21**	**216**	P		Pb	19 33 10.1	-0.1
MWZ	**Matawai**	**1.26**	**31**	P		Pb	19 33 10.8	-0.1
PRWZ	**Pori Road**	**1.27**	**206**	P		Pn	19 33 10.4	+0.1
MKRZ	**Makatiti**	**1.29**	**352**	P		Pb	19 33 14.3	+2.8
UTU	**Utuhina**	**1.30**	**342**	P		Pb	19 33 14.4	+2.7
BFZ	**Birch Farm**	**1.31**	**195**	P		Pn	19 33 10.2	-0.7
TKGZ	**Te Karaka**	**1.32**	**43**	P		Pn	19 33 11.4	+0.4
OHWZ	**Ohakea**	**1.33**	**233**	P		Pb	19 33 13.7	+1.5
OMRZ	**Omania**	**1.33**	**349**	P		Pb	19 33 13.7	+1.4
WAZ	**Wanganui**	**1.37**	**255**	P		Pb	19 33 14.7	+1.7
TLZ	**Tolley Road**	**1.42**	**320**	P		Pb	19 33 14.4	+0.6
CNGZ	**Carnagh Statio**	**1.50**	**52**	P		Pb	19 33 19.1	+4.1
TIWZ	**Tintock**	**1.50**	**205**	P		Pn	19 33 13.8	+0.3
MRZ	**Mangatainoka R**	**1.52**	**215**	P		Pn	19 33 13.4	-0.3
VRZ	**Vera Road**	**1.54**	**280**	P		Pb	19 33 16.2	+0.5
OPRZ	**Ohinepanea**	**1.57**	**356**	P		Pb	19 33 18.5	+2.2
TWGZ	**Tauwhareparae**	**1.59**	**39**	P		Pn	19 33 15.6	+0.9
RUGZ	**Raukumara Rang**	**1.64**	**28**	P		Pn	19 33 16.3	+0.9
KMRZ	**Kaimai**	**1.68**	**339**	P		Pb	19 33 20.3	+2.1
HIZ	**Hauiti**	**1.70**	**301**	P		Pb	19 33 18.1	-0.4
TGRZ	**Tauranga**	**1.72**	**348**	P		Pb	19 33 23.9	+5.0
HOWZ	**Holdsworth Sta**	**1.74**	**211**	P		Pn	19 33 16.0	-0.7
LREZ	**Lake Rotokare**	**1.79**	**268**	P		Pb	19 33 22.5	+2.5
TMWZ	**Te Maipa**	**1.80**	**200**	P		Pn	19 33 16.4	-1.2
PUZ	**Puketiti**	**1.81**	**43**	P		Pn	19 33 17.4	-0.3
OGWZ	**Otaki Gorge**	**1.83**	**220**	P		Pn	19 33 18.0	0.0
HAZ	**Te Kaha**	**1.86**	**27**	P		Pb	19 33 20.0	-1.2
PKGZ	**Pakihiroa**	**1.86**	**36**	P		Pn	19 33 18.9	+0.4
MHEZ	**Mangahewa**	**1.88**	**280**	P		Pb	19 33 23.1	+1.5
TOZ	**Tahuroa Road**	**1.93**	**330**	P		Pb	19 33 24.7	+2.2
MTW	**Mount Morrison**	**1.97**	**208**	P		Pn	19 33 18.6	-1.3
PREZ	**Palmer Road**	**1.98**	**271**	P		Pb	19 33 23.4	+0.2
KIW	**Kapiti Island**	**2.00**	**223**	P		Pn	19 33 20.6	+0.4
NEZ	**North Egmont**	**2.03**	**273**	P		Pb	19 33 24.7	+0.5
WMGZ	**Waiomatatini S**	**2.08**	**41**	P		Pn	19 33 21.3	-0.1
KHEZ	**Kahui Hut**	**2.09**	**272**	P		Pb	19 33 25.7	+0.5
CAW	**Cannon Point**	**2.10**	**216**	P		Pn	19 33 21.4	-0.4
PKE	**Pukeiti**	**2.12**	**275**	P		Pb	19 33 25.3	-0.4
TRWZ	**Traveller**	**2.13**	**201**	P		Pn	19 33 21.3	-0.8
NMEZ	**Namu Road**	**2.19**	**269**	P		Pb	19 33 28.7	+1.8
PAWZ	**Paruwai Farm**	**2.19**	**206**	P		Pn	19 33 21.9	-1.1
NBEZ	**Newall Road No**	**2.21**	**273**	P		Pb	19 33 29.2	+2.0
MSWZ	**Moikau Station**	**2.29**	**209**	P		Pn	19 33 23.0	-1.3
PLWZ	**Palliser**	**2.42**	**207**	P		Pn	19 33 24.7	-1.5
BHW	**Baring Head**	**2.43**	**215**	P		Pb	19 33 31.8	+0.7
DUWZ	**D'Urville Isla**	**2.54**	**236**	P		Pb	19 33 31.7	-1.3
TCW	**Tory Channel**	**2.58**	**225**	P		Pb	19 33 32.5	-1.0
NNZ	**Nelson**	**3.12**	**234**	P		Pb	19 33 41.6	-1.0
QRZ	**Quartz Range**	**3.50**	**245**	P		Pb	19 33 45.9	-3.3
THZ	**Tophouse**	**3.72**	**230**	P		Pb	19 33 49.8	-3.2
KHZ	**Kahutara**	**3.84**	**218**	P		Pn	19 33 45.8	+0.3
CTZ	**Chatham Island**	**6.61**	**133**	P		Pn	19 34 22.1	-1.5

IDC 15 19:50:09.9±15.0, 18°.59S×64°.85E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.6/5, Error ellipse: s-maj=489.2km s-min=35.0km az=59.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.17**	**35**	T		T	20 04 31.7	
baz=210,slow=75,SNR=1863								
H08S2	**Diego Garcia H**	**13.18**	**35**	T		T	20 04 34.1	
baz=210,slow=75,SNR=522								
H08S3	**Diego Garcia H**	**13.19**	**35**	T		T	20 04 38.0	
baz=210,slow=75,SNR=1958								
H01W2	**Cape Leeuwin H**	**46.45**	**121**	T		T	20 47 29.7	
baz=280,slow=75,SNR=952								
H01W3	**Cape Leeuwin H**	**46.45**	**121**	T		T	20 47 46.4	
baz=280,slow=75,SNR=673								
H01W1	**Cape Leeuwin H**	**46.46**	**121**	T		T	20 47 48.6	
baz=280,slow=75,SNR=904								
ASAR	**Alice Springs**	**64.06**	**108**	P		P	20 00 45.6	-0.6
0.4nm,0.9s,baz=270,slow=5.6,SNR=7.3								
WRA	**Warramunga Arr**	**65.16**	**104**	P		P	20 00 54.0	+0.7
0.9nm,1.1s,baz=264,slow=6.1,SNR=2.2								
MKAR	**Makanchi Array**	**66.95**	**13**	P		P	20 01 03.1	-1.1
0.4nm,0.7s,baz=216,slow=7.1,SNR=3.7								
ZALV	**Zalesovo Beam**	**74.26**	**12**	P		P	20 01 49.4	+0.8
0.5nm,0.6s,baz=189,slow=3.8,SNR=3.5								
SONM	**Songino Array**	**75.87**	**27**	P		P	20 01 58.9	+0.6
0.3nm,0.8s,baz=227,slow=7.7,SNR=2.9								

IDC 15 20:11:24.6±16.0, 11°.55N×46°.44E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/38, mbtmp3.3/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=378.0km s-min=55.1km az=8.0, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**28.28**	**20**	LR		LR	20 30 35.2	
comp=Z,66nm,20.2s,baz=45,slow=41								
BRTR	**Keskin Array B**	**30.28**	**340**	LR		LR	20 30 25.7	
comp=Z,28nm,19.4s,baz=140,slow=38								
BOSA	**Boshof**	**44.87**	**207**	LR		LR	20 38 01.4	
comp=Z,71nm,18.7s,baz=6.5,slow=36								
GERES	**GERESS Array B**	**46.07**	**330**	P		P	20 19 50.3	-0.1
0.3nm,0.5s,baz=131,slow=12,SNR=4.2								
MKAR	**Makanchi Array**	**46.35**	**34**	P		P	20 19 52.4	-0.1
0.6nm,0.9s,baz=228,slow=3.7,SNR=2.6								
SONM	**Songino Array**	**61.47**	**42**	P		P	20 21 43.3	0.0
0.3nm,0.8s,baz=243,slow=6.3,SNR=2.8								

*IDC **15** 20:24:35.6±1.2, 2°.65S×126°.43E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.7/31, mbtmp3.9/5, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/24, Error ellipse: s-maj=34.2km s-min=21.8km az=63.0*

*DJA **15** 20:24:38.1±0.2, 3°.S±3°×12°.6E±°, h10km, M4.2/15, mb4.5/6, mB4.9/4, MLv4.0/15, Mw(mB)4.1/4*

ISC 15 20:24:37.6±0.8, 2°.56S±0°.07×126°.42E±0°.06, h10km, n19, σ0°82/19, mb3.7/3, Ceram Sea

| Code | Station Name | Δ° | AZ° |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.24**	**36**	T	T	21 03 03.7	
	baz=210,slow=76,SNR=717						
H08S2	**Diego Garcia H**	**14.25**	**36**	T	T	21 03 04.4	
	baz=210,slow=76,SNR=178						
H08S3	**Diego Garcia H**	**14.26**	**36**	T	T	21 03 05.2	
	baz=210,slow=76,SNR=598						
H01W2	**Cape Leeuwin H**	**46.56**	**120**	T	T	21 46 09.8	
	baz=280,slow=75,SNR=171						
H01W3	**Cape Leeuwin H**	**46.56**	**120**	T	T	21 46 10.5	
	baz=280,slow=75,SNR=144						
H01W1	**Cape Leeuwin H**	**46.58**	**120**	T	T	21 46 11.7	
	baz=280,slow=75,SNR=146						
ASAR	**Alice Springs**	**64.41**	**108**	P	P	20 59 09.5	+0.3
	0.4nm,0.7s,baz=270,slow=5.6,SNR=5.6						
WRA	**Warramunga Arr**	**65.58**	**104**	P	P	20 59 16.3	-0.5
	0.5nm,0.7s,baz=264,slow=5.6,SNR=2.0						
MKAR	**Makanchi Array**	**67.94**	**13**	P	P	20 59 31.0	-0.2
	0.5nm,0.8s,baz=183,slow=5.2,SNR=3.1						
SONM	**Songino Array**	**76.93**	**28**	P	P	21 00 25.4	+0.4
	0.4nm,0.5s,baz=226,slow=3.8,SNR=3.7						

FUNV 15 20:50:44.8, 8°38N×61°74W, h14km, MW4.0, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOV	**Rio Grande**	**0.32**	**194**	*e*P	Pg	20 50 51.8	+0.3
RIOV				*e*S	Sg	20 50 56.6	+0.7
LUEV	**Luepa**	**2.54**	**174**	*e*P	Pn	20 51 25.3	-0.5
LUEV				*e*S	Sn	20 51 54.9	-1.8
CRUV	**Carupano**	**2.71**	**327**	*e*P	Pn	20 51 26.0	-2.1
CRUV				*e*S	Sn	20 51 57.0	-3.8
PRGV	**PARIAGUAN**	**2.90**	**278**	*e*P	Pn	20 51 30.6	-0.1
PRGV				*e*S	Sn	20 52 03.6	-1.8
PCRV	**Puerto La Cruz**	**3.37**	**302**	*e*P	Pn	20 51 34.9	-2.3
PCRV				*e*S	Sn	20 52 13.4	-3.7
GRGR	**Grenville**	**3.73**	**1**	*e*P	Pn	20 51 41.5	-0.5
GRGR				*e*S	Sn	20 52 22.1	-3.7
BIRV	**Birongo**	**4.93**	**295**	*e*P	Pn	20 51 57.6	-0.9
BIRV				*e*S	Sn	20 52 50.0	-5.5
TACV	**Tcata**	**5.51**	**289**	*e*P	Pn	20 52 03.9	-2.6
TACV				*e*S	Sn	20 53 03.7	-6.0
BENV	**Beln**	**6.00**	**286**	*e*P	Pn	20 52 10.4	-2.9
BENV				*e*S	Sn	20 53 15.7	-6.2
BAUV	**El Baul**	**6.26**	**276**	*e*P	Pn	20 52 13.9	-3.0
BAUV				*e*S	Sn	20 53 21.6	-6.6
TURV	**Turiamo**	**6.36**	**289**	*e*P	Pn	20 52 15.9	-2.4
TURV				*e*S	Sn	20 53 24.6	-6.2
PAYV	**Puerto Ayacuch**	**6.57**	**244**	*e*P	Pn	20 52 17.9	-3.3
PAYV				*e*S	Sn	20 53 28.1	-7.9

TIF ***15*** *21:13:37.6, 41'.60N×43'.54E, h17km*
DDA ***15*** *21:13:38.0, 41'.62N×43'.54E, h7km±2km, ML2.9*
NSSP ***15*** *21:13:38.2, 41'.53N×43'.50E, h10km, Ms3.0*
NORS ***15*** *21:13:39.5±0.0, 41'.79N×43'.45E, h1km, MPVA3.8*
ISK ***15*** *21:13:40.3, 41'.49N×43'.36E, h7km, ML2.8/8*
ISC 15 21:13:38.6±0.8, 41°59N±0'.01×43°51E±0'.02, h11km±5km, n59, σ1°00/109, 2C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKRG	**Bakuriani**	**0.17**	**3**	P	**Pg**	**21 13 42.1**	**-0.4**
BKRG				S	**Sg**	**21 13 44.1**	**-1.1**
AKH	**Akhalkalaki**	**0.18**	**184**	P	**Pg**	**21 13 43.1**	**+0.3**
AKH				S	**Sg**	**21 13 46.5**	**+0.8**
AKH	**Akhalkalaki**	**0.18**	**184**	PG	**Pg**	**21 13 43.1**	**+0.3**
AKH				SG	**Sg**	**21 13 46.3**	**+0.6**
BRNG	**Burnasheti**	**0.24**	**83**	P	**Pg**	**21 13 43.5**	**-0.2**
BRNG				S	**Sg**	**21 13 47.4**	**+0.3**
BGD	**Bogdanovka**	**0.34**	**169**	P	**Pg**	**21 13 45.7**	**+0.2**
BGD				S	**Sg**	**21 13 50.4**	**+0.4**
TRLG	**Trialeti**	**0.45**	**97**	P	**Pg**	**21 13 47.1**	**-0.4**
TRLG				S	**Sg**	**21 13 53.2**	**-0.2**
ABS	**Abastumani**	**0.55**	**287**	P	**Pg**	**21 13 49.3**	**-0.1**
ABS				S	**Sb**	**21 13 58.3**	**0.0**
DMNI	**Dmanisi**	**0.57**	**117**	P	**Pg**	**21 13 49.1**	**-0.7**
EPOS	**Posof**	**0.59**	**262**	*i* P	**Pb**	**21 13 50.5**	**-0.7**
EPOS				*i* S	**Sb**	**21 13 59.4**	**-0.2**
EPOS				IAML		21 14 04.0	
	comp=N,428nm,0.5s						
KZRT	**Kazreti**	**0.70**	**107**	P	**Pg**	**21 13 51.0**	**-1.2**
KZRT	**Kazreti**	**0.70**	**107**	*i* P	**Pg**	**21 13 51.0**	**-1.2**
KZRT				*i* S	**Sg**	**21 13 59.9**	**-1.4**
TKB	**Tkibuli**	**0.85**	**333**	P	**Pg**	**21 13 54.5**	**-0.5**
TKB				S	**Sb**	**21 14 06.6**	**-0.3**
EAK	**Akyaka**	**0.91**	**175**	*i* P	**Pg**	**21 13 55.6**	**-0.6**
EAK				IAML		21 14 08.0	
	comp=E,439nm,0.3s						
EAK				*i* S	**Sg**	**21 14 08.2**	**+0.1**
EAK				IAML		21 14 13.0	
	comp=N,267nm,0.5s						
BTNK	**Botanikuri**	**0.97**	**84**	P	**Pg**	**21 13 55.4**	**-1.9**
BTNK				S	**Sg**	**21 14 08.1**	**-1.8**
SEAG	**Tbilisi Sea**	**0.98**	**80**	P	**Pg**	**21 13 56.5**	**-1.1**
SEAG				S	**Sg**	**21 14 10.0**	**-0.4**
ONI	**Oni**	**1.00**	**357**	P	**Pb**	**21 13 57.9**	**0.0**
ONI				S	**Sb**	**21 14 11.8**	**+0.7**
ONI	**Oni**	**1.00**	**357**	*i* Pg	**Pb**	**21 13 58.0**	**0.0**
ONI				*e*Sg	**Sb**	**21 14 11.8**	**+0.7**
KARS	**Kars**	**1.02**	**199**	PG	**Pg**	**21 13 57.8**	**-0.5**
GUDG	**Gudauri**	**1.13**	**39**	P	**Pg**	**21 13 56.3**	**-4.1**
DIGO	**Kars**	**1.18**	**185**	*i* P	**Pg**	**21 14 00.8**	**-0.6**
DIGO				*i* S	**Sn**	**21 14 17.7**	**+0.2**
DIGO				IAML		21 14 21.0	
	comp=N,143nm,0.6s						
DIGO				IAML		21 14 23.0	
	comp=E,165nm,0.7s						
ZEI	**Tsey**	**1.23**	**14**	*e*Pg	**Pg**	**21 14 01.2**	**-1.1**
ZEI				*e*Sg	**Sn**	**21 14 18.5**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.30**	**2**	*e*Pg	**Pn**	**21 14 02.8**	**-0.2**
DIGR				*e*Sg	**Sn**	**21 14 21.7**	**+1.1**
DAGI	**Agillar**	**1.31**	**247**	*i* P	**Pn**	**21 14 02.9**	**-0.1**
DAGI				*i* S	**Sn**	**21 14 20.9**	**+0.4**
DAGI				IAML		21 14 23.0	
	comp=N,105nm,0.8s						
DAGI				IAML		21 14 24.0	
	comp=E,113nm,0.5s						
MTEO	**Meteo**	**1.32**	**35**	P	**Pn**	**21 14 03.2**	**-0.3**
MTEO				S	**Sn**	**21 14 21.4**	**+0.1**
PNSH	**Pansheti**	**1.33**	**38**	P	Pg	21 14 16.8	+13
PNSH				S	Sn	21 14 34.7	+14
SENK	**Senkaya-Erzuru**	**1.35**	**221**	PN	**Pn**	**21 14 03.6**	**-0.1**
LACR	**Lac**	**1.36**	**25**	*i* Pg	**Pn**	**21 14 03.3**	**-0.4**
LACR				*i* Sg	**Sn**	**21 14 22.0**	**+0.2**
ARUZ	**Aruch**	**1.38**	**161**	*i* P	**Pn**	**21 14 04.1**	**+0.2**
ARUZ				*i* S	**Sb**	**21 14 22.6**	**+0.4**
DBOC	**Borcka**	**1.41**	**260**	*i* P	**Pb**	**21 14 04.6**	**-0.4**
DBOC				*i* S	**Sb**	**21 14 22.3**	**-0.6**
DBOC				IAML		21 14 28.0	
	comp=E,188nm,0.5s						
DBAD	**Bademkaya**	**1.48**	**248**	*i* P	**Pb**	**21 14 05.9**	**-0.4**
DBAD				*i* S	**Sg**	**21 14 25.6**	**-0.9**
DBAD				IAML		21 14 27.0	
	comp=E,253nm,0.4s						
DBAD				IAML		21 14 30.0	
	comp=N,268nm,0.9s						
DDEM	**Demirkent**	**1.50**	**243**	*i* P	**Pb**	**21 14 06.5**	**-0.1**
DDEM				*i* S	**Sg**	**21 14 26.9**	**0.0**
DDEM				IAML		21 14 29.0	
	comp=E,498nm,0.3s						
DDEM				IAML		21 14 29.0	
	comp=N,523nm,0.4s						
METS	**Metsamor**	**1.51**	**163**	*i* P	**Pb**	**21 14 06.7**	**0.0**
METS				*i* S	**Sg**	**21 14 26.8**	**-0.2**
VNNZ	**Vanand**	**1.51**	**171**	*i* P	**Pb**	**21 14 06.5**	**-0.2**
VNNZ				*i* S	**Sg**	**21 14 26.7**	**-0.5**
CHVG	**Ch'k'valeri**	**1.55**	**317**	P	**Pb**	**21 14 07.2**	**-0.1**
CHVG				S	**Sg**	**21 14 29.2**	**+0.8**
KORR	**Kora**	**1.55**	**15**	*e*Pg	**Pg**	**21 14 07.9**	**-0.5**
KORR				*e*Sg	**Sg**	**21 14 29.3**	**+0.9**
KAPZ	**Kaputan**	**1.56**	**144**	*i* P	**Pb**	**21 14 07.8**	**+0.3**
KAPZ				*i* S	**Sg**	**21 14 28.8**	**0.0**
HOPA	**Hopa-Artvin**	**1.57**	**263**	PN	**Pb**	**21 14 06.9**	**-0.7**
HOPA				SN	**Sb**	**21 14 27.7**	**+0.3**
ARNR	**Ardon**	**1.69**	**20**	*e*Pg	**Pg**	**21 14 11.3**	**+0.3**
ARNR				*e*Sg	**Sg**	**21 14 34.8**	**+2.0**
VLKR	**Vladikavkaz**	**1.69**	**30**	*e*Pg	**Pg**	**21 14 11.0**	**0.0**
VLKR				*e*Sg	**Sg**	**21 14 35.0**	**+2.0**
LSNR	**Lesken**	**1.70**	**8**	*e*Pg	**Pg**	**21 14 10.7**	**-0.6**
LSNR				*e*Sg	**Sg**	**21 14 34.8**	**+1.5**
TASB	**TASBURUN-IGDIR**	**1.70**	**161**	PN	**Pb**	**21 14 09.7**	**-0.3**
TASB				SN	**Sb**	**21 14 32.1**	**+0.7**
GNI	**Garni**	**1.72**	**147**	⇑*i* P	**Pb**	**21 14 10.4**	**+0.1**
GNI				⇑*i* S	**Sg**	**21 14 33.3**	**-0.6**
GNI	**Garni**	**1.72**	**147**	PN	**Pb**	**21 14 10.7**	**+0.4**
NEY	**Neytrino**	**1.75**	**341**	*e*Pg	**Pg**	**21 14 11.5**	**-0.8**
NEY				*e*Sg	**Sg**	**21 14 34.3**	**-0.8**
KMGR	**Komgaron**	**1.77**	**34**	*e*Pg	**Pg**	**21 14 12.8**	**+0.1**
KMGR				*e*Sg	**Sg**	**21 14 37.9**	**+2.2**
NRKZ	**NAREK**	**1.81**	**151**	*i* P	**Pg**	**21 14 12.9**	**-0.5**
NRKZ				*i* S	**Sg**	**21 14 37.7**	**+0.7**
STDR	**Stavd-Durt**	**1.82**	**13**	*e*Pg	**Pg**	**21 14 14.1**	**+0.6**
STDR				*e*Sg	**Sg**	**21 14 39.1**	**+2.0**
NCK	**Nalchik**	**1.90**	**2**	*e*Pg	**Pg**	**21 14 14.6**	**-0.5**
NCK				*e*Sg	**Sg**	**21 14 40.7**	**+0.9**
BTKR	**Batakoyurt**	**1.93**	**23**	*e*Pg	**Pg**	**21 14 16.4**	**+0.7**
BTKR				*e*Sg	**Sg**	**21 14 43.3**	**+2.5**
DDFL	**Dedoflistskaro**	**1.96**	**93**	P	**Pg**	**21 14 15.9**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**2.04**	**219**	PN	**Pn**	**21 14 13.9**	**+0.9**
AGRB	**Hanur-Agry**	**2.06**	**191**	PN	**Pn**	**21 14 14.5**	**+1.2**
LGD	**Lagodekhi**	**2.06**	**82**	P	**Pn**	**21 14 14.1**	**+0.9**
LGD				S	**Sn**	**21 14 39.9**	**+1.1**
CHOM	**Cayeli-Rize**	**2.13**	**257**	PN	**Pb**	**21 14 15.6**	**-1.6**
SHA1	**Shidzhatmaz**	**2.23**	**344**	*e*Pg	**Pg**	**21 14 19.9**	**-1.5**
SHA1				*e*Sg	**Sg**	**21 14 49.5**	**-0.9**
GROC	**Groznyy**	**2.33**	**46**	*e*Pg	**Pg**	**21 14 22.1**	**-1.3**
GROC				*e*Sg	**Sg**	**21 14 53.6**	**0.0**
KIV	**Kislovodsk**	**2.44**	**346**	PN	**Pb**	**21 14 22.8**	**+0.3**
DBC	**Dubki**	**2.84**	**59**	*e*Pn	**Pb**	**21 14 30.1**	**+0.6**
DBC				*e*Sn	**Sg**	**21 15 07.6**	**-2.4**
MNK	**Minsk**	**16.56**	**327**	*i* P	**Pn**	**21 17 29.7**	**-0.9**
	comp=E,1.0nm,0.8s						
MNK				*i* P	**Pn**	**21 17 29.7**	**-0.9**
	comp=N,6.0nm,0.8s						
MNK				*i* P	**Pn**	**21 17 29.7**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=137						
MNK				*i* PP	**PnPn**	**21 17 39.0**	**-0.8**
MNK				*i* PPP	PPP	21 17 46.7	
MNK				*i* S	**Sn**	**21 20 35.2**	**+0.9**
MNK				*i* SS	**SnSn**	**21 20 50.1**	**+2.8**
MNK				*i* SSS	SSS	21 21 02.8	
MNK				*i* LQ	LQ	21 22 23.9	
MNK				*i* LR	LR	21 23 03.0	
MNK				*i* LRM	MLR	21 24 48.6	
	comp=Z,42nm,17.4s						
MNK				*i* LRM	MLR	21 24 48.7	
	comp=E,16nm,17.4s						
MNK				*i* LRM	MLR	21 24 48.7	
	comp=N,162nm,22.4s						

BJI ***15*** *21:14:06.8±0.0, 42'.60N×141'.90E, h137km, mB5.0/19, mb4.4/24*
MOS ***15*** *21:14:08.4±0.9, 42'.66N×141'.69E, h132km, mb4.6/19, Error ellipse: s-maj=6.9km s-min=5.0km az=105.5*
SKHL ***15*** *21:14:08.7±0.3, 42'.60N×141'.70E, h128km±5km, mb5.5/10, msha6.3/4*
JMA ***15*** *21:14:09.4±0.1, 42'.62N×141'.67E, h127km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs61.00000°, δ35.00000°, λ-95.00000°. NP2:φs248.00000°, δ55.00000°, λ-86.00000°. Principal axes: T Plg10.0000°, Azm335.0000°; N Plg3.0000°, Azm66.0000°; P Plg80.0000°, Azm172.0000°;*
JMA Felt I J1.
NIED ***15*** *21:14:09.5, 42'.62N×141'.67E, h127km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.35; Mθθ1.92; Mφφ-1.57; Mrθ0.89; Mθφ1.26; Mφr0.00; Fault plane solution: M0 2.30000×10^15 NP1: φs117.00000°, δ86.00000°, λ19.00000°. NP2:φs26.00000°, δ71.00000°, λ175.00000°.*
IDC ***15*** *21:14:09.2±1.0, 42'.63N×141'.68E, h123km±7km, mb4.0/18, mb1 4.1/22, mb1mx4.0/41, mbtmp4.3/22 Error ellipse: s-maj=12.4km s-min=10.6km az=139.0*
NEIC ***15*** *21:14:09.7±1.3, 42'.62N±0'.05×141'.61E±0'.07, h127km±3km, mb4.4/71, Error ellipse: s-maj=8.3km s-min=6.5km az=62.0*
ISC 15 21:14:09.2±0.5, 42°64N±0'.04×141°69E±0'.03, h129km±4km, n331, σ1°33/379, mb4.3/85, 36C-27D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.17**	**97**	⇓P	**Pn**	**21 14 27.2**	**+0.4**
JIAM				*e*S	**Sn**	**21 14 40.9**	**+0.9**
JEW	**Eniwo**	**0.26**	**319**	⇓P	**Pn**	**21 14 27.3**	**+0.3**
JEW				*e*S	**Sn**	**21 14 40.5**	**-0.1**
JEW	**Eniwo**	**0.26**	**319**		**Pn**	**21 14 27.4**	**+0.4**
JEW				Sn	**Sn**	**21 14 40.5**	**-0.1**
JNB	**Noboribetsu**	**0.51**	**250**	⇓P	**Pn**	**21 14 28.1**	**0.0**
JNB				*e*S	**Sn**	**21 14 42.0**	**-0.4**
JBT2	**Biratori 2**	**0.52**	**75**	⇓P	**Pn**	**21 14 28.4**	**+0.2**
JBT2				*e*S	**Sn**	**21 14 43.5**	**+0.9**
JISS	**Ishikarishitsu**	**0.66**	**343**	⇓P	**Pn**	**21 14 29.8**	**+0.7**
JISS				*e*S	**Sn**	**21 14 44.8**	**+0.6**
JFR	**Furan**	**0.85**	**52**	⇓P	**Pn**	**21 14 30.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.87**	**114**	⇑P	**Pn**	**21 14 31.2**	**+0.4**
JNBK				*e*S	**Sn**	**21 14 48.0**	**+0.9**
JKB	**Kayabe**	**0.90**	**213**	P	**Pn**	**21 14 30.9**	**-0.1**
JKB				*e*S	**Sn**	**21 14 46.5**	**-1.0**
JAB	**Ashibetsu**	**0.95**	**24**	⇓P	**Pn**	**21 14 32.3**	**+0.9**
JAB				*e*S	**Sn**	**21 14 49.2**	**+0.8**
JHR	**Hokuryu**	**1.10**	**2**	⇓P	**Pn**	**21 14 34.1**	**+1.2**
JHR				*e*S	**Sn**	**21 14 52.2**	**+1.2**
JSK	**Shakotan**	**1.14**	**309**	⇓P	**Pn**	**21 14 34.0**	**+0.8**
JSK				*e*S	**Sn**	**21 14 52.2**	**+0.7**
JCH	**Churui**	**1.24**	**91**	⇓P	**Pn**	**21 14 34.1**	**-0.2**
JCH				*e*S	**Sn**	**21 14 52.7**	**-0.7**
ERM	**Erimo**	**1.26**	**119**	*c i*PN	**Pn**	**21 14 34.9**	**+0.4**
ERM	**Erimo**	**1.26**	**119**	Pn	**Pn**	**21 14 34.9**	**+0.4**
ERM				Sn	**Sn**	**21 14 54.0**	**+0.3**
JOT	**Ohata**	**1.35**	**201**	⇑P	**Pn**	**21 14 35.3**	**-0.2**
JOT				*e*S	**Sn**	**21 14 54.7**	**-0.8**
JKK2	**Kamakawa 2**	**1.45**	**32**	⇓P	**Pn**	**21 14 37.1**	**+0.5**
JKK2				*e*S	**Sn**	**21 14 57.4**	**-0.2**
ASAJ	**Asahikawa**	**1.61**	**24**	P	**Pn**	**21 14 39.1**	**+0.6**
	52nm,0.3s,baz=186,slow=16,SNR=353						
ASAJ				LR	LR	21 14 56.8	
	comp=Z,27nm,19.0s,baz=341,slow=29						
ASAJ				S	**Sn**	**21 15 00.7**	**-0.2**
	176nm,0.3s,baz=326,slow=16,SNR=42						
JKA	**Kamikawa-asahi**	**1.62**	**24**	Pn	**Pn**	**21 14 38.9**	**+0.4**
JKA	**Kamikawa-asahi**	**1.62**	**24**	*e*P	**Pn**	**21 14 39.1**	**+0.6**
JKA				*e*S	**Sn**	**21 15 00.7**	**-0.2**
JAR	**Ashorobuto**	**1.66**	**66**	⇓P	**Pn**	**21 14 38.7**	**-0.3**
JAR				*e*S	**Sn**	**21 15 00.9**	**-0.9**
JOMM	**Oshimamatsumae**	**1.68**	**229**	⇓P	**Pn**	**21 14 39.7**	**+0.5**
JOMM				*e*S	**Sn**	**21 15 02.6**	**+0.6**
JOSM	**Okushiri--Mats**	**1.73**	**252**	⇓P	**Pn**	**21 14 40.2**	**+0.4**
JYG	**Yagishiri**	**1.79**	**354**	⇑P	**Pn**	**21 14 41.4**	**+0.9**
JYG				*e*S	**Sn**	**21 15 05.4**	**+0.9**
JTM	**Tenmabayashi**	**1.91**	**194**		**Pn**	**21 14 41.4**	**-0.6**
JTKR	**Abashiri--Toko**	**2.10**	**50**	⇓P	**Pn**	**21 14 45.0**	**+0.8**
JTKR				*e*S	**Sn**	**21 15 11.8**	**+0.8**
RUSJ	**Misakicho**	**2.98**	**59**	⇓*i*PN	**Pn**	**21 14 56.3**	**+0.9**
RUSJ				*e*S	**Sn**	**21 15 36.7**	**+5.6**
GLVR	**Golovnino**	**3.01**	**67**	*c i*PN	**Pn**	**21 14 56.3**	**+0.5**
GLVR				*e*S	**Sn**	**21 15 31.8**	**0.0**
GLVR				pmax	pmax		
	comp=Z,567nm,0.4s						
GLVR				pmax	pmax		
	comp=E,72nm,0.2s						
GLVR				pmax	pmax		
	comp=N,99nm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**3.01**	**67**	*i* P	**Pn**	**21 14 56.3**	**+0.5**
GLVR				AMB	AMB	21 14 57.0	
	comp=E,100nm,0.4s						
GLVR				AMB	AMB	21 14 57.0	
	comp=E,70nm,0.4s						
GLVR				AMB	AMB	21 14 57.0	
	comp=E,570nm,0.4s						
GLVR				*e*S	**Sn**	**21 15 31.8**	**0.0**
GLVR				A	A	21 15 37.0	
	comp=E,2μm,0.4s						
GLVR				A	A	21 15 37.0	
	comp=E,2μm,0.4s						
NMR	**Nemuro--Hokkai**	**3.05**	**75**	⇓*i*PN	**Pn**	**21 14 55.4**	**-0.9**
NMR				*i* S	**Sn**	**21 15 29.2**	**-3.6**
NMR	**Nemuro--Hokkai**	**3.05**	**75**	*i* P	**Pn**	**21 14 55.4**	**-0.9**
NMR				*i* S	**Sn**	**21 15 29.2**	**-3.6**
GRPR	**Tuman**	**3.27**	**64**	⇓*i*PN	**Pn**	**21 14 59.7**	**+0.5**
GRPR				*e*S	**Sn**	**21 15 38.2**	**+0.3**
GRPR				pmax	pmax		
	comp=E,309nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,1μm,0.3s						
GRPR				pmax	pmax		
	comp=N,283nm,0.4s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,647nm,0.3s						
GRPR	**Tuman**	**3.27**	**64**	*i* P	**Pn**	**21 14 59.7**	**+0.5**
GRPR				AMB	AMB	21 15 00.0	
	comp=E,280nm,0.3s						
GRPR				AMB	AMB	21 15 00.0	
	comp=E,310nm,0.3s						
GRPR				AMB	AMB	21 15 00.0	
	comp=E,1μm,0.3s						
GRPR				*e*S	**Sn**	**21 15 37.8**	**-0.1**
GRPR				A	A	21 15 40.0	
	comp=E,1μm,0.3s						
GRPR				A	A	21 15 40.0	
	comp=E,650nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.35**	**64**	*d i*PN	**Pn**	**21 15 01.0**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**3.35**	**64**	*i* P	**Pn**	**21 15 01.0**	**+0.8**
YUK				AMB	AMB	21 15 01.0	
	comp=E,1μm,0.4s						
YUK				*e*S	**Sn**	**21 15 40.6**	**+0.9**
YUK				A	A	21 15 43.0	
	comp=E,250nm,0.4s						
YUK				A	A	21 15 43.0	
	comp=E,920nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.38**	**10**	⇑*e*PN	**Pn**	**21 15 15.0**	**+1.2**
YSS				*e*S	**Sn**	**21 16 04.5**	**+0.5**
YSS				pmax	pmax		
	comp=Z,200nm,0.9s						
YSS				smax	smax		
	comp=N,60nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.38**	**10**	Pn	**Pn**	**21 15 14.7**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.38**	**10**	*e*P	**Pn**	**21 15 15.0**	**+1.2**
YSS				AMB	AMB	21 15 16.0	
	comp=N,200nm,0.9s						
YSS				*e*S	**Sn**	**21 16 04.5**	**+0.5**
YSS				A	A	21 16 08.8	
	comp=N,60nm,1.1s						
JMM	**Marumori**	**4.82**	**188**	Pn	**Pn**	**21 15 18.3**	**-1.5**
KUR	**Kuril'sk**	**5.16**	**58**	*c i*PN	**Pn**	**21 15 25.1**	**+0.8**
KUR				*e*S	**Sn**	**21 16 25.4**	**+2.6**
KUR				pmax	pmax		
	comp=N,35nm,0.4s						
KUR				pmax	pmax		
	comp=E,47nm,0.4s						
KUR				pmax	pmax		
	comp=Z,247nm,0.4s						
KUR				smax	smax		
	comp=N,92nm,0.2s						
KUR				smax	smax		
	comp=E,41nm,0.2s						
KUR	**Kuril'sk**	**5.16**	**58**	*i* P	**Pn**	**21 15 25.1**	**+0.8**
KUR				AMB	AMB	21 15 26.0	
	comp=E,40nm,0.4s						
KUR				AMB	AMB	21 15 26.0	
	comp=E,50nm,0.4s						
KUR				AMB	AMB	21 15 26.0	
	comp=E,250nm,0.4s						
KUR				*e*S	**Sn**	**21 16 23.4**	**+0.6**
KUR				A	A	21 16 34.0	
	comp=E,100nm,0.3s						
KUR				A	A	21 16 34.0	
	comp=E,670nm,0.3s						
JSD	**Sado**	**5.29**	**211**	Pn	**Pn**	**21 15 26.4**	**+0.3**
JYT	**Yasato**	**6.51**	**191**	Pn	**Pn**	**21 15 38.9**	**-3.6**
MAJO	**Matsushiro**	**6.66**	**205**	*i* PN	**Pn**	**21 15 45.0**	**+0.4**
MAJO	**Matsushiro**	**6.66**	**205**	Pn	**Pn**	**21 15 44.9**	**+0.4**
MAT	**Matsushiro**	**6.66**	**205**	P	**Pn**	**21 15 45.5**	**+1.0**
MAT				*e*S	**Sn**	**21 16 57.9**	**-1.2**
USA0B	**Ussuriysk Arra**	**7.23**	**286**	PN	**Pn**	**21 15 51.2**	**-0.9**
USA0B	**Ussuriysk Arra**	**7.23**	**286**	Pn	**Pn**	**21 15 51.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**7.23**	**286**	P	**Pn**	**21 15 53.1**	**+1.0**
	baz=88,slow=15,SNR=9.3						
USRK	**Ussuriysk Ar.**	**7.23**	**286**	Pn	**Pn**	**21 15 51.9**	**-0.2**
JGF	**Kuroka**	**7.79**	**207**	Pn	**Pn**	**21 15 59.4**	**-0.4**
INU	**Inuyama**	**8.14**	**208**	Pn	**Pn**	**21 16 05.4**	**+0.9**
JWT	**Wachi**	**8.83**	**216**	Pn	**Pn**	**21 16 13.7**	**0.0**
GRNR	**Gornyy**	**8.89**	**338**	⇓*i*PN	**Pn**	**21 16 15.9**	**+1.4**
GRNR				*e*S	**Sn**	**21 17 55.9**	**+3.0**
GRNR				pmax	pmax		
	comp=N,6.0nm,0.8s						
GRNR				pmax	pmax		
	comp=E,5.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GRNR				smax	smax		
	comp=N,3.0nm,0.7s						
GRNR				MLR	MLR		
	comp=N,150nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,170nm,13.0s						
**GRN

KROS Kirovskiy 15.26 326 *eP* **Pn 21 17 36.0 -1.6**
KROS AMB AMB 21 17 39.2
comp=Z,10.0nm,0.7s
HIA Hailar 16.60 301 P **Pn 21 17 53.2 -1.0**
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 16.60 301 P **Pn 21 17 53.2 -1.0**
HIA IAmb IAmb 21 17 54.2
comp=Z,10nm,0.6s
MA2 Magadan 17.86 15 P **P 21 18 08.2 +0.2**
comp=Z,1.6nm,0.3s,baz=197,slow=14,SNR=7.3
MA2 Magadan 17.86 15 P **P 21 18 07.8 -0.2**
MA2 IAmb IAmb 21 18 42.6
comp=Z,71nm,1.4s
YAK Yakutsk 20.69 344 P **P 21 18 36.4 -2.3**
comp=Z,16nm,0.4s,baz=139,slow=3.8,SNR=17
YAK Yakutsk 20.69 344 *ceP* **P 21 18 36.3 -2.3**
YAK pmax pmax
comp=Z,47nm,0.7s
YAK Yakutsk 20.69 344 P **P 21 18 36.4 -2.3**
SEY Seynchan 21.27 14 P **P 21 18 43.8 -1.1**
comp=Z,9.1nm,0.4s,baz=194,slow=7.7,SNR=44
HHC Hu-ho-hao-te 22.49 276 *eP* **P 21 18 57.6 -0.3**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.1s
ULN Ulaanbaatar 24.79 294 P **P 21 19 18.4 -0.7**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 24.79 294 P **P 21 19 18.4 -0.7**
ULN Ulaanbaatar 24.79 294 *eP* **P 21 19 18.4 -0.7**
SONM Songino Array 25.24 294 P **P 21 19 23.6 +0.5**
comp=Z,3.3nm,0.7s,baz=82,slow=8.3,SNR=21
SONM ScP **ScP 21 26 21.1 +1.1**
comp=Z,0.2nm,0.7s,baz=111,slow=4.3,SNR=3.7
SONM Songino Array 25.24 294 P **P 21 19 23.1 0.0**
XAN Xi'an 26.96 262 P **P 21 19 40.3 +1.7**
XAN pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 27.13 303 P **P 21 19 41.0 +1.0**
comp=Z,4.6nm,0.5s,baz=100,slow=3.9,SNR=5.5
TLY Talaya 27.13 303 *ceP* **P 21 19 41.1 +1.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY Talaya 27.13 303 P **P 21 19 40.1 +0.2**
TLY IAmb IAmb 21 19 42.9
comp=Z,6.4nm,0.8s
TLY Talaya 27.13 303 *eP* **P 21 19 41.1 +1.2**
ZAK Zakamensk 27.29 300 *eP* **P 21 19 41.3 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
ZAK Zakamensk 27.29 300 *eP* **P 21 19 41.3 -0.2**
BILL Bilibino 28.62 19 *ceP* **P 21 19 54.8 +1.8**
BILL *e**PP **pP 21 20 20.7 -0.1**
BILL *e* 21 20 56.8
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL Bilibino 28.62 19 *eP* **P 21 19 54.8 +1.8**
MOY Mondy 28.77 302 *eP* **P 21 19 56.0 +1.3**
MOY pmax pmax
comp=Z,15nm,1.3s
MOY Mondy 28.77 302 *eP* **P 21 19 56.0 +1.3**
TIXI Tiksi 29.76 352 P **P 21 20 01.0 -1.9**
comp=Z,1.4nm,0.3s,baz=137,slow=12,SNR=5.2
TIXI Tiksi 29.76 352 *ceP* **P 21 20 05.1 +2.1**
TIXI Tiksi 29.76 352 P **P 21 20 01.3 -1.6**
TIXI Tiksi 29.76 352 *eP* **P 21 20 05.1 +2.1**
H11N2 WAKE ISLAND Hy 31.20 129 T T 21 52 14.0
baz=325,slow=75,SNR=161
H11N1 WAKE ISLAND Hy 31.21 129 T T 21 52 12.1
baz=325,slow=75,SNR=29
H11N3 WAKE ISLAND Hy 31.22 129 T T 21 52 06.1
baz=325,slow=75,SNR=21
H11S1 WAKE ISLAND Hy 32.06 131 T T 21 53 24.0
baz=326,slow=76,SNR=52
H11S3 WAKE ISLAND Hy 32.07 131 T T 21 53 23.1
baz=326,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 32.08 131 T T 21 53 23.3
baz=326,slow=76,SNR=43
DGZ Jazzator, Alta 37.51 300 *i* P **P 21 21 11.9 +1.4**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 38.48 307 P **P 21 21 18.9 +0.5**
ZAA0 IAmb IAmb 21 21 20.7
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 38.48 307 P **P 21 21 18.7 +0.4**
comp=Z,12nm,0.3s,baz=92,slow=9.4,SNR=61
ZALV ScP **ScP 21 27 05.3 +0.9**
comp=Z,3.8nm,0.7s,baz=86,slow=3.3,SNR=16
ZALV Zalesovo Beam 38.48 307 *i* P **P 21 21 19.2 +0.9**
ZALV pmax pmax
comp=Z,13nm,0.3s
ZALV Zalesovo Beam 38.48 307 P **P 21 21 18.9 +0.5**
WMQ Urumqi 38.77 291 *eP* **P 21 21 22.8 +1.9**
SVW2 Sparrevohn 41.05 41 P **P 21 21 41.3 +1.9**
MK31 Makanchi Array 41.54 297 P **P 21 21 43.6 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 41.54 297 P **P 21 21 43.6 -0.1**
MK31 IAmb IAmb 21 21 48.9
comp=Z,4.3nm,0.8s
MKAR Makanchi Array 41.54 297 P **P 21 21 44.2 +0.5**
comp=Z,4.2nm,0.6s,baz=83,slow=9.6,SNR=21
MAKZ Makanchi 41.74 297 P **P 21 21 45.6 +0.3**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 41.74 297 P **P 21 21 45.6 +0.3**
MAKZ IAmb IAmb 21 21 50.6
comp=Z,8.3nm,1.0s
IMAR Indian Mountai 41.79 34 P **P 21 21 46.5 +1.0**
KURK Kurchatov 42.82 304 P **P 21 21 55.1 +1.1**
KURK S **S 21 28 12.3 +4.0**
KURK Kurchatov 42.82 304 *eP* **P 21 21 55.1 +1.1**
KURBB Kurchatov Arra 42.90 303 P **P 21 21 55.1 +0.5**
comp=Z,67nm,0.5s,baz=74,slow=9.0,SNR=19
KURBB ScP **ScP 21 27 22.7 +0.9**
comp=Z,0.2nm,0.5s,baz=85,slow=3.3,SNR=5.3
KURBB S **S 21 28 12.3 +2.8**
comp=Z,0.7nm,0.8s,baz=81,slow=17,SNR=5.2
KDAK Kodiak Island 42.91 46 P **P 21 21 55.0 +0.4**
KDAK pmax pmax
comp=Z,17nm,1.3s
KDAK Kodiak Island 42.91 46 P **P 21 21 55.0 +0.4**
KDAK IAmb IAmb 21 22 26.8
comp=Z,17nm,1.2s
SKT Skwentna 42.92 40 P **P 21 21 55.6 +0.9**
SKT IAmb IAmb 21 21 58.3
comp=Z,5.6nm,1.3s
MLY Manley 43.06 35 P **P 21 21 57.7 +1.9**
CMAR Chiang Mai Arr 43.38 250 P **P 21 22 00.5 +1.6**
comp=Z,0.7nm,0.3s,baz=47,slow=7.3,SNR=4.2
CMAR Chiang Mai Arr 43.38 250 P **P 21 21 58.6 -0.3**
TOLK Toolik Lake Re 43.44 30 P **P 21 21 59.9 +1.1**
TNTI Ternate 43.62 201 P **P 21 22 00.4 -0.4**
I23K Minto, Yukon-K 43.64 35 P **P 21 22 01.8 +1.4**
NEA2 Nenana 43.80 36 P **P 21 22 02.5 +0.8**
CCB Clear Creek Bu 44.34 36 P **P 21 22 07.2 +1.3**
ILAR Eielson Array 44.72 35 P **P 21 22 10.0 +1.0**
comp=Z,0.9nm,0.8s,baz=278,slow=6.5,SNR=6.1
ILAR Eielson Array 44.72 35 P **P 21 22 10.0 +1.0**
BMAR Burnt Mountain 45.38 31 P **P 21 22 16.2 +2.0**
FID Port Fidalgo 45.50 41 P **P 21 22 16.1 +0.9**
FID IAmb IAmb 21 22 46.4
comp=Z,13nm,1.3s
RIDG Independent Ri 45.74 37 P **P 21 22 18.0 +0.9**
SCRK Sand Creek 46.08 36 P **P 21 22 20.1 +0.2**
SCRK IAmb IAmb 21 22 23.7
comp=Z,2.6nm,0.5s
DOT Dot Lake 46.10 37 P **P 21 22 20.6 +0.7**
FAKI Fak Fak 46.15 193 P **P 21 22 20.8 0.0**
TARG Taragay, Kyrgy 46.31 292 P **P 21 22 22.7 +0.4**
KDJ Kajisay 46.58 292 P **P 21 22 25.0 +0.8**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
KDJ Kajisay 46.58 292 P **P 21 22 24.9 +0.8**
KDJ IAmb IAmb 21 22 29.1
comp=Z,3.0nm,0.6s
BRVK Borovoye 47.14 309 *ceP* **P 21 22 29.2 +1.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 47.14 309 P **P 21 22 28.9 +0.8**
BRVK IAmb IAmb 21 22 32.7
comp=Z,21nm,1.4s
BRVK Borovoye 47.14 309 *eP* **P 21 22 29.2 +1.1**

L27K Beaver Creek, 47.20 37 P **P 21 22 30.2 +1.7**
BCAR Beaver Creek A 47.22 37 P **P 21 22 30.2 +1.6**
BOOM Boomskoye usch 47.28 293 P **P 21 22 29.9 +0.3**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 47.28 293 P **P 21 22 29.9 +0.3**
BOOM IAmb IAmb 21 22 34.6
comp=Z,3.9nm,0.6s
AAK Ala-Archa 48.19 294 *i* P **P 21 22 37.9 +1.3**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 48.19 294 *i* P **P 21 22 37.9 +1.3**
KSH Kashi 48.51 290 P **P 21 22 43.3 +4.3**
KSH pP pP 21 23 11.8 +3.0
KSH pmax pmax
comp=Z,160nm,7.0s
EPYK Eagle Plains 48.61 32 P **P 21 22 40.8 +1.5**
EPYK IAmb IAmb 21 23 20.0
comp=Z,4.4nm,0.8s
INK Inuvik 49.34 29 P **P 21 22 47.0 +2.3**
comp=Z,2.3nm,0.3s,baz=282,slow=4.9,SNR=6.6
INK Inuvik 49.34 29 P **P 21 22 46.5 +1.7**
INK pmax pmax
comp=Z,7.0nm,1.5s
INK Inuvik 49.34 29 P **P 21 22 46.5 +1.7**
INK IAmb IAmb 21 22 47.9
comp=Z,6.7nm,1.4s
HYT Haines Junctio 49.75 39 P **P 21 22 50.4 +2.2**
HYT IAmb IAmb 21 23 21.5
comp=Z,8.4nm,1.0s
KK31 Karatay Array 50.66 296 P **P 21 22 55.5 +0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 50.66 296 P **P 21 22 55.5 +0.4**
KKAR Karatay Array 50.66 296 P **P 21 22 55.1 0.0**
KKAR Karatay Array 50.66 296 P **P 21 22 55.1 0.0**
SVE Sverdlovsk 51.17 316 ⇓*eP* **P 21 23 00.0 +1.3**
SVE pmax pmax
comp=Z,21nm,0.8s
SVE Sverdlovsk 51.17 316 *eP* **P 21 23 00.0 +1.3**
ARU Arti 52.39 316 *d i*P **P 21 23 08.3 +0.6**
ARU S **S 21 30 24.7 +1.4**
ARU SS **SS 21 33 59.8 -2.4**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 52.39 316 P **P 21 23 08.3 +0.6**
ARU IAmb IAmb 21 23 11.7
comp=Z,9.8nm,0.8s
ARU Arti 52.39 316 *i* P **P 21 23 08.3 +0.6**
CHGR Chuyangaron 53.60 292 P **P 21 23 17.6 +0.5**
ABKAR Abkulak array 54.59 307 P **P 21 23 24.3 +0.4**
ABKAR Abkulak array 54.59 307 P **P 21 23 24.5 +0.6**
EUNU Eureka 54.62 9 P **P 21 23 24.1 +0.3**
EUNU IAmb IAmb 21 23 25.6
comp=Z,4.4nm,0.7s
HOPEN Hopen 54.66 345 *eP* **P 21 23 24.5 +0.5**
SPA0 Spitsbergen Ar 55.07 348 *eP* **P 21 23 26.9 -0.1**
SPITS Spitsbergen Ar 55.07 348 P **P 21 23 27.5 +0.5**
SPITS pmax pmax
comp=Z,26nm,1.2s
KIRV Kirov 55.97 321 *ceP* **P 21 23 34.5 +0.9**
MTN Manton Dam 56.06 192 P **P 21 23 34.7 0.0**
PRGR Permogore 56.23 325 *eP* **P 21 23 34.9 -0.5**
PRGR pmax pmax
comp=Z,16nm,0.8s
LVZ Lovozero 57.11 334 P **P 21 23 42.1 +0.4**
LVZ pmax pmax
comp=Z,40nm,1.4s
LVZ Lovozero 57.11 334 P **P 21 23 42.0 +0.4**
KEV Kevo 58.30 338 P **P 21 23 49.8 0.0**
KEV pmax pmax
comp=Z,26nm,1.3s
KEV Kevo 58.30 338 P **P 21 23 49.8 0.0**
HAMF Hammerfest 58.61 340 *eP* **P 21 23 52.3 +0.3**
ARA0 ARCESS Array S 58.84 338 *eP* **P 21 23 53.7 +0.1**
ARCES ARCESS Array B 58.84 338 P **P 21 23 53.8 +0.2**
comp=Z,2.5nm,0.5s,baz=46,slow=8.5,SNR=26
ARCES ARCESS Array B 58.84 338 P **P 21 23 54.0 +0.4**
ARCES pmax pmax
comp=Z,36nm,1.5s
ARCES ARCESS Array B 58.84 338 P **P 21 23 54.0 +0.4**
KLMR Klimovskoe 59.17 326 *eP* **P 21 23 55.1 -0.9**
KLMR pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 59.17 326 *eP* **P 21 23 55.2 -0.8**
KLMR AMP 21 23 59.8
comp=Z,5.0nm,0.6s
KNRA Kununurra 59.24 195 P **P 21 23 57.5 +0.6**
TULEG Thule 59.52 8 P **P 21 23 57.9 -0.2**
TULEG IAmb IAmb 21 24 36.7
comp=Z,11nm,1.1s
KTK1 Kautokeino 59.80 338 *eP* **P 21 24 00.4 +0.2**
NEEM North Greenlan 59.92 3 *i* P **P 21 24 01.3 0.0**
NEEM IAmb IAmb 21 24 02.0
comp=Z,4.5nm,0.4s
TRO Tromso 60.50 340 *eP* **P 21 24 05.1 +0.2**
JOF Joensuu 61.15 331 P **P 21 24 09.9 +0.5**
JOF pmax pmax
comp=Z,26nm,0.7s
JOF Joensuu 61.15 331 *eP* **P 21 24 09.9 +0.5**
OUL Oulu 61.61 334 P **P 21 24 11.2 -1.3**
OUL pmax pmax
comp=Z,18nm,0.7s
WB0 Warramunga Arr 62.46 188 P **P 21 24 18.4 -0.2**
WB0 IAmb IAmb 21 24 24.8
comp=Z,11nm,1.4s
WRA Warramunga Arr 62.64 188 P **P 21 24 19.5 -0.3**
comp=Z,1.2nm,0.6s,baz=6.2,slow=6.9,SNR=22
WRA Warramunga Arr 62.64 188 *i* P **P 21 24 20.2 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 62.64 188 P **P 21 24 19.2 -0.7**
STEI Steigen 62.66 340 *eP* **P 21 24 19.6 +0.2**
LOF Lofoten 62.93 341 *eP* **P 21 24 21.7 +0.5**
FAUS Fauske 63.06 340 *eP* **P 21 24 22.1 +0.1**
OBN Obninsk 63.77 322 *deP* **P 21 24 27.3 +0.4**
OBN *e**PP **pP 21 24 57.1 -1.0**
OBN *e* 21 26 53.0
OBN *e*S **S 21 32 48.0 -3.3**
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 63.77 322 *eP* **P 21 24 27.3 +0.4**
FIA1 FINESS Array S 63.98 331 P **P 21 24 28.4 +0.3**
FINES FINESS Array B 63.98 331 P **P 21 24 28.4 +0.2**
comp=Z,14nm,0.5s,baz=50,slow=7.2,SNR=88
FINES FINESS Array B 63.98 331 P **P 21 24 28.2 0.0**
VAF Ylistaro 64.04 334 P **P 21 24 29.7 +1.1**
VAF pmax pmax
comp=Z,14nm,2.2s
MOR8 Moi Rana 64.19 339 *eP* **P 21 24 28.5 -1.0**
KONS Konsvik 64.29 340 *eP* **P 21 24 30.1 0.0**
STOK Stokkvaagen 64.44 340 *eP* **P 21 24 31.6 +0.5**
SUMG Summit 65.08 0 *i* P **P 21 24 36.6 +0.8**
SUMG IAmb IAmb 21 24 37.6
comp=Z,4.4nm,0.6s
SUMG Summit 65.08 0 *i* P **P 21 24 36.5 +0.8**
SUMG pmax pmax
comp=Z,4.0nm,0.6s
SUMG Summit 65.08 0 P **P 21 24 36.4 +0.7**
SUMG IAmb IAmb 21 24 37.4
comp=Z,4.4nm,0.6s
MEF Metsahovi 65.42 331 *eP* **P 21 24 37.6 0.0**
VSU Vasula 65.76 328 *eP* **P 21 24 40.7 +0.9**
RAF Rauma 65.78 332 *eP* **P 21 24 39.5 -0.3**
NSS Namsos 66.12 339 *eP* **P 21 24 42.0 0.0**
AS31 Alice Springs 66.37 188 P **P 21 24 44.3 +0.2**
ASAR Alice Springs 66.37 188 P **P 21 24 44.7 +0.6**
comp=Z,0.9nm,0.8s,baz=9.1,slow=6.8,SNR=15
MTSE Matsula 66.69 330 *eP* **P 21 24 43.3 -2.4**
AAL Aland 66.99 332 *eP* **P 21 24 47.6 0.0**
KIV Kislovodsk 67.45 309 *eP* **P 21 24 51.6 +0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 67.45 309 P **P 21 24 51.8 +0.9**
KIV IAmb IAmb 21 24 59.0
comp=Z,4.7nm,0.7s
KIV Kislovodsk 67.45 309 *eP* **P 21 24 51.6 +0.7**
KBZ Khabaz 67.47 309 P **P 21 24 52.3 +1.4**
comp=Z,1.3nm,0.6s,baz=22,slow=9.4,SNR=4.1
KBZ Khabaz 67.47 309 *ceP* **P 21 24 50.9 0.0**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 67.47 309 *eP* **P 21 24 50.9 0.0**
ISAL Salakas 67.99 326 *eP* **P 21 24 54.6 +0.6**

MNK Minsk 68.00 325 *i* P **P 21 24 51.3 -2.7**
MNK *i* *PP **pP 21 25 23.0 -2.6**
MNK *i* 21 27 22.6
MNK *i* PPP PPP 21 29 02.4
MNK *i* S **S 21 33 38.8 -3.8**
MNK *i* *SS **SKiKP 21 34 35.7 -0.5**
MNK *i* SS **SS 21 38 00.7 -5.4**
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=N,34nm,0.9s
MNK MLR MLR
comp=Z,73nm,25.0s
MNK MLR MLR
comp=E,11nm,22.0s
MNK MLR MLR
comp=N,138nm,22.0s
MNK Minsk 68.00 325 *i* P **P 21 24 51.3 -2.7**
comp=E,3.0nm,0.8s
MNK *i* P **P 21 24 51.3 -2.7**
comp=N,34nm,0.9s
MNK *i* P **P 21 24 51.3 -2.7**
comp=Z,16nm,0.7s,baz=47
MNK *i* PcP **PcP 21 25 16.5 -2.9**
MNK *i* pP **pP 21 25 23.1 -2.5**
MNK *i* PP **PP 21 27 22.6 -2.4**
MNK *i* PPP PPP 21 29 02.5
MNK *i* S **S 21 33 38.9 -3.7**
MNK *i* sS **SKiKP 21 34 35.7 -0.5**
MNK *i* SS **SS 21 38 00.7 -5.4**
MNK *i* SSS SSS 21 41 22.6
MNK *i* LRM MLR 21 57 10.6
comp=Z,73nm,25.3s
MNK *i* LRM MLR 21 57 38.9
comp=E,11nm,22.4s
MNK *i* LRM MLR 21 57 43.9
comp=N,138nm,22.4s
IIGN Ignalina 68.11 326 *eP* **P 21 24 55.5 +0.8**
ICESG Greenland Ices 68.58 1 *i* P **P 21 24 58.6 +0.8**
ICESG IAmb IAmb 21 24 59.3
comp=Z,3.1nm,0.5s
NC405 NORSAR Array S 68.91 336 P **P 21 24 59.1 -0.5**
PABE Paberze 68.91 327 *eP* **P 21 25 00.4 +0.8**
PABE Paberze 68.91 327 P **P 21 24 59.5 -0.1**
DOMB Dombas 68.91 338 *eP* **P 21 25 00.2 +0.6**
NB2 NORSAR Subarra 69.11 337 P **P 21 25 00.9 0.0**
comp=Z,3.0nm,0.7s,baz=35,slow=6.2
NB2 NORSAR Subarra 69.11 337 P **P 21 25 00.9 0.0**
baz=35,slow=6.2
NOA NORSAR Array B 69.11 337 P **P 21 25 01.0 +0.1**
comp=Z,2.7nm,0.6s,baz=37,slow=6.4,SNR=22
NORES NORESS Array B 69.26 336 P **P 21 25 03.8 +2.1**
NC602 NORSAR Array S 69.26 336 *eP* **P 21 25 01.6 -0.1**
AKASG Malin Array Be 70.02 321 P **P 21 25 06.6 0.0**
comp=Z,4.7nm,0.4s,baz=42,slow=6.3,SNR=13
AKASG Malin Array Be 70.02 321 *ceP* **P 21 25 06.8 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 70.02 321 P **P 21 25 07.5 +0.9**
AKBB Malin Array Si 70.02 321 *ceP* **P 21 25 07.4 +0.8**
AKBB Malin Array Si 70.02 321 P **P 21 25 06.9 +0.3**
AKBB IAmb IAmb 21 25 11.3
comp=Z,7.7nm,0.7s
KIEV Kiev 70.03 321 P **P 21 25 05.0 -1.6**
OSL Oslo 70.14 336 *eP* **P 21 25 07.2 +0.1**
SKAR Skarslia 70.24 338 *eP* **P 21 25 07.9 +0.1**
DY2G Dye2 71.04 3 *i* P **P 21 25 13.5 +0.7**
DY2G IAmb IAmb 21 25 14.4
comp=Z,7.3nm,0.6s
GURO Guroymak-BITLI 71.22 305 P **P 21 25 15.7 +1.4**
GURO IAmb IAmb 21 25 24.3
comp=Z,3.8nm,1.0s
KVN Kaiserville 71.24 54 P **P 21 25 15.6 +1.1**
KVN pmax pmax
comp=Z,3.0nm,0.7s
KVN Kaiserville 71.24 54 P **P 21 25 15.6 +1.1**
KVN IAmb IAmb 21 25 16.6
comp=Z,2.9nm,0.7s
LHV Little Huntoon 71.51 55 P **P 21 25 17.3 +1.5**
LHV IAmb IAmb 21 25 18.6
comp=Z,3.4nm,0.8s
NVAR Mina Array Bea 71.52 55 P **P 21 25 17.7 +1.5**
comp=Z,1.6nm,0.7s,baz=300,slow=5.8,SNR=11
NVAR Mina Array Bea 71.52 55 P **P 21 25 17.1 +0.9**
SORM Soroca 72.22 320 ⇑P **P 21 25 20.1 +0.2**
SORM Soroca 72.22 320 ⇑P **P 21 25 20.1 +0.2**
KMPD K-Podol'skiy 72.80 321 P **P 21 25 23.0 -0.3**
KWP Kalwaria Pacla 73.72 324 P **P 21 25 29.9 +1.2**
KWP pmax pmax
comp=Z,57nm,0.7s
KWP Kalwaria Pacla 73.72 324 P **P 21 25 29.9 +1.2**
BUR08 Bucovina Ar. S 74.05 321 P **P 21 25 31.7 +0.8**
BUR08 IAmb IAmb 21 25 37.3
comp=Z,3.2nm,0.7s
BURAR Bucovina Array 74.07 321 ⇑P **P 21 25 31.4 +0.5**
BURAR Bucovina Array 74.07 321 ⇑P **P 21 25 31.4 +0.5**
BURAR Bucovina Array 74.07 321 P **P 21 25 31.9 +1.0**
BURAR IAmb IAmb 21 25 37.3
comp=Z,3.5nm,0.7s
FORT Forrest 74.13 192 P **P 21 25 30.9 -0.2**
TESR Tescani 74.19 319 ⇓P **P 21 25 32.5 +1.1**
CFR Carcaliu 74.42 318 ⇑P **P 21 25 33.0 +0.2**
CFR Carcaliu 74.42 318 ⇑P **P 21 25 33.0 +0.2**
KOLS Kolonicke sedl 74.43 323 *eP* **P 21 25 33.5 +0.7**
KOLS Kolonicke sedl 74.43 323 *eP* **P 21 25 33.5 +0.7**
VRI Vrincioaia 74.61 319 ⇑P **P 21 25 38.1 +4.1**
PLOR Plostina 74.66 319 ⇑P **P 21 25 34.8 +0.5**
PLOR Plostina 74.66 319 ⇑P **P 21 25 34.8 +0.5**
CRVS Cervenica-Dubn 74.81 324 *eP* **P 21 25 34.2 -0.8**
CRVS Cervenica-Dubn 74.81 324 *eP* **P 21 25 34.2 -0.8**
TRPA Tarpa 74.91 323 ⇓P **P 21 25 37.0 +1.4**
MLR Muntele Rosu 75.26 319 ⇑P **P 21 25 37.1 -0.7**
MLR Muntele Rosu 75.26 319 P **P 21 25 38.3 +0.4**
MLR pmax pmax
comp=Z,6.0nm,1.5s
MLR Muntele Rosu 75.26 319 P **P 21 25 38.3 +0.4**
MLR IAmb IAmb 21 25 59.6
comp=Z,6.3nm,1.5s
BRTR Keskin Array B 75.32 311 P **P 21 25 38.5 +0.2**
BRTR Keskin Array B 75.32 311 P **P 21 25 38.5 +0.2**
VOIR 75.73 320 ⇑P **P 21 25 42.2 +1.8**
VOIR 75.73 320 ⇑P **P 21 25 42.3 +1.8**
MORC Moravsky Berou 75.79 326 ⇑P **P 21 25 41.7 +1.0**
MORC Moravsky Berou 75.79 326 ⇑P **P 21 25 41.7 +1.0**
MORC Moravsky Berou 75.79 326 P **P 21 25 41.5 +0.8**
MORC IAmb IAmb 21 25 47.4
comp=Z,3.6nm,0.7s
MORC Moravsky Berou 75.79 326 *eP* **P 21 25 41.7 +1.0**
MORC *e* 21 25 46.7
DPC Dobruska-Polom 75.83 327 *eP* **P 21 25 42.3 +1.4**
DPC Dobruska-Polom 75.83 327 *eP* **P 21 25 42.3 +1.4**
DPC *ex* x 21 25 46.1
KRLC Kraliky 75.87 327 *eP* **P 21 25 42.5 +1.4**
KRLC Kraliky 75.87 327 *eP* **P 21 25 42.5 +1.4**
CLL Collm 76.35 330 *eP* **P 21 25 44.0 +0.3**
CLL *i* Pmax 21 25 48.6
comp=Z,5.0nm,0.6s
CLL Collm 76.35 330 *eP* **P 21 25 44.0 +0.3**
CLL Collm 76.35 330 P **P 21 25 44.4 +0.7**
CLL IAmb IAmb 21 25 49.6
comp=Z,4.6nm,0.7s
VRAC Vranov 76.54 327 *eP* **P 21 25 44.6 -0.3**
KRUC Moravsky 76.82 327 P **P 21 25 45.6 -0.8**
KRUC pmax pmax
comp=Z,3.0nm,0.7s
PRU Pruhonice 76.82 328 *eP* **P 21 25 47.1 +0.7**
PRU *e* 21 25 51.8
PRU Pruhonice 76.82 328 *eP* **P 21 25 47.1 +0.7**
PRU *ex* x 21 25 51.8
GZR Gura Zlata 76.84 321 ⇑P **P 21 25 47.2 +0.5**
BZS Buzias 77.21 321 ⇑P **P 21 25 49.2 +0.5**
BZS Buzias 77.21 321 ⇑P **P 21 25 49.2 +0.5**
CKRC Cesky Krumlov 77.85 328 *eP* **P 21 25 53.5 +1.3**
CKRC *ex* x 21 25 58.2
KHC Kasperske Hory 77.89 328 *eP* **P 21 25 53.5 +1.1**
KHC *e* 21 25 59.0
KHC Kasperske Hory 77.89 328 *eP* **P 21 25 53.5 +1.1**
KHC *ex* x 21 25 59.0
KHC Kasperske Hory 77.89 328 P **P 21 25 52.8 +0.3**
KHC IAmb IAmb 21 25 59.9
comp=Z,4.1nm,0.7s

EKA	Eskdalemuir Ar	77.92	340	P	P	21 25 52.6 +0.2
CONA	Conrad Observa	77.93	326	eP	P	21 25 58.9 +6.1
	comp=Z,2.9nm,0.8s					
ESK	Eskdalemuir	77.95	340	P	P	21 25 53.4 +0.8
ESK				pmax	pmax	
	comp=Z,19nm,1.3s					
ESK	Eskdalemuir	77.95	340	P	P	21 25 53.4 +0.8
ESK				IAmb	IAmb	21 26 16.2
	comp=Z,19nm,1.2s					
GERES	GERESS Array B	78.07	328	P	P	21 25 54.8 +1.3
	comp=Z,1.0nm,0.6s,baz=39,slow=6,8,SNR=7.3					
VTS	Vitosha	78.70	319	⇑P	P	21 25 59.1 +1.9
VTS	Vitosha	78.70	319	⇑P	P	21 25 59.1 +1.9
CSS	Mathiatis	78.80	307	P	P	21 25 58.0 +0.3
CSS				IAmb	IAmb	21 26 19.5
	comp=Z,5.5nm,0.9s					
DIVS	Divibare	79.12	321	P	P	21 26 00.2 +0.9
KBA	Koelnbreinsper	79.64	327	eP	P	21 26 04.4 +2.2
	comp=Z,2.2nm,0.7s					
BCLA	Clavier	79.80	333	dP	P	21 26 03.4 +0.6
WATA	Walderalm	80.13	328	iP	P	21 26 10.8 +6.0
	comp=Z,3.7nm,0.6s					
WTTA	Wattenberg	80.16	328	eP	P	21 26 11.9 +6.9
	comp=Z,3.6nm,0.6s					
ABTA	Abfaltersbach	80.24	327	eP	P	21 26 06.6 +1.3
	comp=Z,3.5nm,1.2s					
MOTA	Moosalm	80.30	328	eP	P	21 26 06.6 +0.8
	comp=Z,4.0nm,0.5s					
SQTA	Sankt Quirin	80.36	328	iP	P	21 26 13.0 +6.9
	comp=Z,3.2nm,0.6s					
FETA	Feichten	80.71	328	eP	P	21 26 08.7 +0.7
	comp=Z,2.7nm,1.0s					
PDG	Podgorica	80.75	321	⇓P	P	21 26 08.6 +0.6
PDG	Podgorica	80.75	321	P	P	21 26 09.0 +1.0
PDG				IAmb	IAmb	21 26 15.5
	comp=Z,5.4nm,1.0s					
DAVA	Damuels	80.82	329	eP	P	21 26 12.6 +4.0
	comp=Z,4.6nm,0.6s					
ITM	Ithomi	83.47	316	P	P	21 26 21.6 -0.8
TXAR	Lajitas Array	86.54	53	P	P	21 26 39.5 +1.5
	comp=Z,0.4nm,0.5s,baz=295,slow=2.9,SNR=7.7					

PNSN ***15*** *21:23:01.0, 47°.94N×123°.00W, h49km, MD2.4, Fault plane solution: NP1:φ=115.00000°, δ=50.00000°, λ=150.00000°.*
SEA ***15*** *21:23:01.1±1.1, 47°.96N±0°.02×122°.97W±0°.04, h46km±3km, ML2.6/36, ML2.4/20(NEIC), Error ellipse: s-maj=3.8km s-min=3.4km az=57.0*

NEIC 15 21:23:01.2±0.9, 47°.96N±0°.02×123°.00W±0°.03, h43km±4km, Error ellipse: s-maj=3.3km s-min=3.2km az=215.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQM	Sequim	0.12	346		Pn	21 23 08.7	+0.5
B013	Quilcene	0.16	157		Pn	21 23 08.3	-0.1
B013					Sn	21 23 13.9	+0.4
B013	Quilcene	0.16	157		Pn	21 23 08.2	-0.2
B013					Sn	21 23 13.8	+0.4
C04A	Brinnon	0.24	175		Pn	21 23 09.0	-0.1
C04A					Sn	21 23 15.5	+0.8
HDW	Hoodsport	0.31	186		Pn	21 23 09.9	-0.1
HDW					Sn	21 23 16.6	+0.5
B04A	Port Angeles	0.35	287		Pn	21 23 10.3	0.0
GNW	Green Mountain	0.41	163		Pn	21 23 10.5	-0.4
GNW					Sn	21 23 17.9	+0.1
D03D	Eldon	0.43	188		Pn	21 23 10.9	-0.3
D03D					Sn	21 23 18.5	+0.3
GMW	Gold Mountain	0.44	160		Pn	21 23 10.8	-0.5
OSD	Olympics--Snow	0.49	254		Pn	21 23 12.2	0.0
VGZ	Gonzales	0.50	335		Pn	21 23 11.7	-0.4
SP2	Seward Park 2	0.65	128		Pn	21 23 14.6	+0.6
BLH	Bald Hill	0.67	100		Pn	21 23 13.9	-0.3
B05A	Bryant	0.68	63		Pn	21 23 14.2	-0.3
OLQ	Olympics--Lake	0.70	231		Pn	21 23 14.6	-0.1
OBC	Olympics--Boni	0.73	276		Pn	21 23 17.0	+1.9
MCW	Mount Constitu	0.73	9		Pn	21 23 15.2	-0.1
B011	North Saanich	0.75	337		Pn	21 23 15.1	-0.3
B011					Sn	21 23 25.6	-0.1
PGC	Sidney	0.75	337		Pn	21 23 15.2	-0.3
PGC				Sn	Sn	21 23 25.6	-0.1
JCW	Jim Creek	0.76	72		Pn	21 23 15.2	-0.3
P403	Sandy Floe Qua	0.77	278		Pn	21 23 15.5	-0.2
A04D	Lummi Island	0.79	14		Pn	21 23 15.8	0.0
D04E	Lakebay	0.80	169		Pn	21 23 16.4	+0.4
NLWA	Neilton Lookou	0.81	226		Pn	21 23 15.9	-0.4
NLWA				Sn	Sn	21 23 27.4	+0.2
C05A	Tolt Reservoir	0.92	106		Pn	21 23 17.4	-0.4
C05A					Sn	21 23 29.8	-0.1
RATT	Rattlesnake La	0.97	123		Pn	21 23 18.1	-0.3
D05A	Enumclaw	1.03	138		Pn	21 23 17.0	-2.2
D05A				Sn	Sn	21 23 33.2	+0.7
D05A				IAML		21 23 33.8	
	comp=N,74nm,0.7s						
D05A				IAML		21 23 34.3	
	comp=E,67nm,0.7s						
MBW	Mount Baker	1.11	41		Pn	21 23 21.0	+0.6
RPW	Rockport	1.11	63		Pn	21 23 20.7	+0.3
PFB	Port Renfrew	1.14	303		Pn	21 23 20.0	-0.7
B06A	Marblemount	1.16	61		Pn	21 23 20.9	-0.1
B06A				IAML		21 23 36.1	
	comp=N,56nm,0.2s						
B06A				IAML		21 23 36.4	
	comp=E,78nm,0.3s						
A05A	Maple Falls	1.21	30		Pn	21 23 21.4	-0.2
A05A				IAML		21 23 38.6	
	comp=N,81nm,0.9s						
A05A				IAML		21 23 43.7	
	comp=E,80nm,0.5s						
SHUK	Shuksan-Mt. Ba	1.26	44		Pn	21 23 24.7	+2.2
GPW	Glacier Peak	1.26	82		Pn	21 23 22.6	-0.1
LCW	Lucas Creek	1.30	171		Pn	21 23 19.1	-3.9
OBSR	Observation Ro	1.33	142		Pn	21 23 23.8	+0.2
FMW	Mount Fremont	1.37	138		Pn	21 23 24.3	+0.3
REMR	Mount Rainier-	1.39	145		Pn	21 23 24.3	+0.1
NLLB	Nanaimo Lost L	1.43	333		Pn	21 23 24.7	0.0
E04D	Cinebar	1.43	168		Pn	21 23 24.7	0.0
PANH	Panhandle Gap,	1.44	139		Pn	21 23 25.0	0.0
LON	Longmire	1.46	146		Pn	21 23 24.4	-0.7
LON				IAML		21 23 43.8	
	comp=E,42nm,0.3s						
E03A	Lebam	1.46	195		Pn	21 23 24.8	-0.3
SR41	SR410 Landslid	1.46	137		Pn	21 23 25.3	0.0
MGB	Mount Grey	1.53	313		Pn	21 23 25.8	-0.4
WPW	White Pass	1.60	141		Pn	21 23 28.4	+1.3
TDL	Tradedollar La	1.70	161		Pn	21 23 28.6	+0.1
ERK	Elk Rock	1.71	164		Pn	21 23 29.0	+0.3
LTY	Liberty	1.73	113		Pn	21 23 29.3	+0.5
LTY				IAML		21 23 52.4	
	comp=E,30nm,0.6s						
LTY				IAML		21 23 53.8	
	comp=N,44nm,0.4s						
B201	Coldwater, Mou	1.73	163		Pn	21 23 28.9	0.0
SHB	Sechelt	1.74	341		Pn	21 23 29.0	0.0
STD	Studebaker Rid	1.80	162		Pn	21 23 30.4	+0.5
B202	Windy Ridge, M	1.81	161		Pn	21 23 30.4	+0.3
FL2	Flat Top 2	1.82	166		Pn	21 23 30.4	+0.3
SEPW	September Lobe	1.84	162		Pn	21 23 31.4	+0.8
B203	Quarry, Mount	1.85	165		Pn	21 23 30.7	+0.2
B023	Clatskanie	1.85	182		Pn	21 23 30.1	-0.3
HSR	South Ridge	1.87	162		Pn	21 23 31.7	+0.8
LVP	Lakeview Peak	1.93	168		Pn	21 23 31.9	+0.2
KMOR	Kings Mountain	2.35	188		Pn	21 23 36.6	-0.8
LLLB	Lillooet	2.75	15	Pn	Pn	21 23 43.0	+0.1
H04A	Detroit Lake	3.32	170	Pn	Pn	21 23 50.7	-0.1
H04A				IAML		21 25 13.7	
	comp=E,9.5nm,3.6s						

IDC ***15*** *21:35:50.0±5.2, 36°.13N×70°.34E, h158km±46km, mb3.4/8, mb1 3.5/12, mb1mx3.2/42, mbtmp4.0/12, MS3.3/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=34.5km s-min=18.8km az=22.0*
NEIC ***15*** *21:35:55.8±1.8, 36°.56N±0°.07×70°.30E±0°.09, h204km±6km, mb4.0/10, Error ellipse: s-maj=10.4km s-min=9.8km az=69.0*
NNC ***15*** *21:36:01.6±6.0, 37°.02N×70°.64E, h222km±43km, mb3.2, mpv4.1, Error ellipse: s-maj=52.5km s-min=29.9km az=20.0*
SOME ***15*** *21:36:09.0, 38°.63N×70°.27E, h15km*

ISC 15 21:35:54.6±0.5, 36°.45N±0°.05×70°.39E±0°.06, h204km, n89, σ1§94/91, mb3.6/8, 5C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.20	210	Pn	Pn	21 36 37.0	+1.2
CHGR	Chuyangaron	2.41	336	Pn	Pn	21 36 37.8	-0.1
GAR	Garm	2.55	359		Pn	21 36 39.4	0.0
CEP	Cherat	2.90	154	P	Pn	21 36 45.1	+1.6
DRK	Karamyk	3.23	20		Pn	21 36 47.7	+0.3
BTK	Batken	3.62	5	Pn	Pn	21 36 52.7	+0.8
CHCP	Chirah Chowk	3.65	139	P	Pn	21 36 54.1	+1.8
NIL	Nilore	3.65	139		Pn	21 36 54.1	+1.8
THW	Thamme Wali	3.81	163	P	Pn	21 36 55.7	+1.4
AML	Almayashu	6.23	23	P	Pn	21 37 24.7	-0.5
	SNR=119						
KK31	Karatay Array	6.65	1	⇑P	Pn	21 37 29.5	-0.7
	6.8nm,0.3s,baz=173,slow=12						
KK31				⇓S	S	21 38 39.8	-6.3
	37nm,0.6s,baz=173,slow=23						
KK31	Karatay Array	6.65	1	Pn	Pn	21 37 29.3	-0.9
KKAR	Karatay Array	6.65	1		Pn	21 37 29.5	-0.8
KKAR	Karatay Array	6.65	1	Pn	Pn	21 37 29.7	-0.6
MRKS	Merke	6.66	18	eP	Pn	21 37 37.5	+7.0
	8.4nm,0.3s						
MRKS				eS	S	21 38 41.6	-4.8
	153nm,0.8s						
EKS2	Erkin-Say	6.74	22	P	Pn	21 37 31.4	-0.1
	SNR=31						
AAK	Ala-Archa	6.95	26	P	Pn	21 37 33.9	-0.3
	4.0nm,0.3s,baz=206,slow=5.7,SNR=12						
AAK				S	S	21 38 49.6	-3.7
	7.1nm,0.3s,baz=0.5,slow=14,SNR=8.3						
AAK	Ala-Archa	6.95	26	P	Pn	21 37 34.4	+0.1
	SNR=7.8						
AAK	Ala-Archa	6.95	26	⇓P	Pn	21 37 34.0	-0.3
	9.5nm,0.6s						
AAK				⇑S	S	21 38 49.6	-3.7
	81nm,0.8s						
AAK	Ala-Archa	6.95	26	Pn	Pn	21 37 34.2	-0.1
HRA	Herat	6.96	255	Pn	Pn	21 37 36.0	+1.4
FRU1	Bishkek	7.15	26		Pn	21 37 36.5	-0.3
ULHL	Ulahol	7.35	36	P	Pn	21 37 39.6	0.0
	SNR=6.2						
CHMS	Chumysh	7.36	26	P	Pn	21 37 39.2	-0.2
	SNR=12						
BOOM	Boomskoye usch	7.40	34		Pn	21 37 40.1	-0.2
USP	Ospenovka	7.51	24	P	Pn	21 37 40.1	-1.4
	SNR=10						
KDJ	Kajisay	7.74	41	Pn	Pn	21 37 44.0	-0.6
SMLA	Simla	7.74	131	eP	Pn	21 37 44.4	-0.1
SMLA				eS	S	21 39 07.9	-4.1
SMLA				IAML		21 39 10.9	
	comp=E,221nm,0.4s						
SMLA				IAML		21 39 10.9	
	comp=N,118nm,0.6s						
TARG	Taragay, Kyrgy	7.81	45	Pn	Pn	21 37 45.2	-0.6
KST	Kastek	7.86	31	eP	Pn	21 38 06.6	+21
	comp=N,5.7nm,0.6s						
KST				eS	S	21 39 31.2	+16
	comp=N,14nm,0.9s						
DGS	Degeres	7.95	30	eP	Pn	21 38 01.1	+14
	comp=N,5.4nm,0.6s						
DGS				eS	S	21 39 21.9	+5.0
	comp=N,7.0nm,0.6s						
KRBS	Karabastau	8.29	28	eP	Pn	21 38 11.1	+19
	comp=N,3.1nm,0.3s						
KRBS				eS	S	21 39 39.1	+14
	comp=N,9.9nm,0.6s						
MDOK	Medeo	8.44	35	eP	Pn	21 38 18.8	+25
	comp=N,2.4nm,0.4s						
MDOK				eS	S	21 39 52.1	+23
	comp=N,8.9nm,0.6s						
KUU	Kurty	8.72	30	eP	Pn	21 38 18.9	+22
	comp=N,0.9nm,0.3s						
KUU				eS	S	21 39 52.5	+17
	comp=N,11nm,0.8s						
DDI	Dehra Dun	8.85	131	eP	Pn	21 37 59.5	+0.5
DDI				eS	S	21 39 33.8	-4.7
DDI				IAML		21 39 37.8	
	comp=N,125nm,0.4s						
DDI				IAML		21 39 37.8	
	comp=E,143nm,0.3s						
BTLS	Baital	9.02	17	eP	Pn	21 38 20.2	+19
	comp=E,1.2nm,0.3s						
BTLS				eS	S	21 39 54.4	+12
	comp=E,8.3nm,0.5s						
GEYT	Alibeck	9.91	282	P	Pn	21 38 11.8	-0.8
	comp=E,0.5nm,0.3s,baz=121,slow=11,SNR=3.7						
GYA0B	ALIBECK ARRAY	9.91	282	Pn	Pn	21 38 12.1	-0.5
MAKZ	Makanchi	13.48	36	⇑P	Pn	21 38 56.8	-1.1
	comp=E,13nm,0.6s						
MAKZ	Makanchi	13.48	36		Pn	21 38 57.9	0.0
PYUN	Piuthan	13.51	124	eP	Pn	21 38 59.3	+0.7
	comp=E,33nm,0.3s						
MK31	Makanchi Array	13.62	37	⇓P	Pn	21 38 58.6	-1.0
	comp=E,2.6nm,0.5s,baz=242,slow=12,SNR=45						
MK31	Makanchi Array	13.62	37		Pn	21 38 59.7	+0.1
MKAR	Makanchi Array	13.62	37	P	Pn	21 38 59.9	+0.2
	comp=E,0.8nm,0.3s,baz=220,slow=14,SNR=27						
MKAR	Makanchi Array	13.62	37		Pn	21 38 59.5	-0.2
DANN	Dangsing	13.87	122	eP	Pn	21 39 04.3	+1.1
	comp=E,11nm,0.2s						
KOLN	Koldanda	14.14	124	eP	Pn	21 39 06.0	-0.3
	comp=E,6.1nm,0.2s						
BHPL	Bhopal	14.50	153	eP	P	21 39 12.2	+0.4
BHPL				eS	S	21 41 44.4	-7.2
GKN	Gorkha	14.69	121	eP	P	21 39 15.9	+1.8
	comp=E,24nm,0.3s						
AB31	Akbulak array	14.90	332	⇓P	Pn	21 39 14.5	-0.8
	comp=E,2.5nm,0.4s,baz=144,slow=11,SNR=98						
AB31				⇓S	S	21 41 58.6	-1.7
	comp=E,1.9nm,0.6s,baz=158,slow=21,SNR=3.5						
ABKAR	Akbulak array	14.90	332		Pn	21 39 14.4	-0.8
ABKAR	Akbulak array	14.90	332		Pn	21 39 14.7	-0.6
KKN	Kakani	15.27	120	eP	P	21 39 23.5	+3.0
KURBB	Kurchatov Arra	15.34	20	P	Pn	21 39 19.1	-1.5
	comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=7.0						
KURBB	Kurchatov Arra	15.34	20	⇓P	Pn	21 39 18.6	-1.9
	comp=E,2.8nm,0.8s						
KURK	Kurchatov	15.44	20	P	Pn	21 39 19.1	-2.8
PKIN	Phulchoki	15.48	121	eP	P	21 39 24.5	+1.6
	comp=E,18nm,0.3s						
PKI	Pulchoki	15.50	121	eP	P	21 39 24.6	+1.5
	comp=E,15nm,0.4s						
JIRN	Jiri	15.99	119	eP	Pn	21 39 31.7	+2.6
	comp=E,31nm,0.3s						
BVAR	Borovoye Array	16.58	360	P	Pn	21 39 35.2	-0.3
	comp=E,0.9nm,0.3s,baz=178,slow=19,SNR=11						
AKTO	Aktyubinsk	16.59	331	P	Pn	21 39 36.2	+0.7
	comp=E,1.3nm,0.3s,baz=144,slow=11,SNR=44						
AKTO	Aktyubinsk	16.59	331	⇓P	Pn	21 39 35.7	+0.1
	comp=E,15nm,0.7s						
AKTO				⇑S	S	21 42 34.3	-3.2
	comp=E,3.3nm,0.8s						
BRVK	Borovoye	16.61	360	⇑P	P	21 39 34.6	-0.1
	comp=E,3.7nm,0.7s						
BRVK	Borovoye	16.61	360	P	Pn	21 39 35.4	-0.4
BRVK				IAmb	IAmb	21 39 38.7	
	comp=Z,4.3nm,0.7s						
RAMN	Ramite	16.71	120	eP	Pn	21 39 38.0	+0.4
	comp=Z,20nm,0.4s						
TAPN	Taplejung	17.26	117	eP	Pn	21 39 45.4	+1.3
	comp=Z,18nm,0.5s						
ODAN	Odare	17.32	119	eP	Pn	21 39 45.7	+0.9
	comp=Z,20nm,0.7s						
LSA	Lhasa	18.64	105	P	Pn	21 40 00.8	+0.4
ZAA0	Zalesovo Array	20.17	25	⇓P	P	21 40 13.5	+0.2
	comp=Z,0.4nm,0.6s						
ZAA0	Zalesovo Array	20.17	25	P	P	21 40 13.8	+0.6
ZAA0				IAmb	IAmb	21 40 18.4	
	comp=Z,3.6nm,0.8s						
ZALV	Zalesovo Beam	20.17	25	P	P	21 40 13.9	+0.6
	comp=Z,3.5nm,0.4s,baz=215,slow=10,SNR=24						
SHL	Shillong	21.33	115	P	P	21 40 27.4	+1.3
SHL				IAmb	IAmb	21 40 28.9	
	comp=Z,3.6nm,0.8s						
ARU	Arti	21.53	342	P	P	21 40 30.3	+2.8
	comp=Z,0.8nm,0.4s,baz=137,slow=8.8,SNR=6.8						
ARU	Arti	21.53	342	P	P	21 40 28.9	+1.4
ARU				IAmb	IAmb	21 40 31.4	
	comp=Z,5.1nm,0.9s						
SONM	Songino Array	28.77	55	P	P	21 41 35.6	+2.2
	comp=Z,0.7nm,0.7s,baz=253,slow=10.0,SNR=6.5						
SONM	Songino Array	28.77	55	P	P	21 41 35.0	+1.6
FINES	FINESS Array B	37.26	326	P	P	21 42 48.2	+1.8
	comp=Z,1.3nm,0.6s,baz=113,slow=8.6,SNR=8.9						
FINES	FINESS Array B	37.26	326	P	P	21 42 47.6	+1.2
ARCES	ARCESS Array B	41.01	338	P	P	21 43 19.3	+2.0
	comp=Z,1.0nm,0.4s,baz=107,slow=7.6,SNR=14						
ARCES	ARCESS Array B	41.01	338	P	P	21 43 18.9	+1.5
ARCES				IAmb	IAmb	21 43 21.9	
	comp=Z,4.8nm,1.2s						
NC303	NORSAR Array S	44.07	323	P	P	21 43 43.7	+1.6
NB2	NORSAR Subarra	44.13	323	P	P	21 43 43.9	+1.3
	comp=Z,0.7nm,0.6s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.13	323	P	P	21 43 43.8	+1.2
	comp=Z,0.8nm,0.6s,baz=97,slow=7.7,SNR=5.6						
TIXI	Tiksi	46.01	22	P	P	21 43 58.4	+1.3
BORG	Borgarnes	58.40	330	LR	LR	22 14 03.2	
	comp=Z,22nm,18.8s,baz=326,slow=39						
TORD	Torodi Ar. Bea	65.22	268	P	P	21 46 14.3	-0.3
	comp=Z,0.2nm,0.4s,baz=49,slow=6.0,SNR=5.5						
IMAR	Indian Mountai	72.37	17	P	P	21 46 56.6	-1.2
BMAR	Burnt Mountain	73.11	13	P	P	21 47 00.5	-1.7
ASAR	Alice Springs	84.63	124	P	P	21 48 05.2	-0.2
	comp=Z,0.7nm,0.6s,baz=314,slow=5.2,SNR=10.0						

IDC 15 21:42:04.1±6.2, 15°.98S×173°.44W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/26, mbtmp3.9/3, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/43, Error ellipse: s-maj=285.0km s-min=27.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.61	38	Pn	Pn	21 42 46.8	-0.8
	17nm,0.3s,baz=218,slow=3.8,SNR=18						
AFI				Sn	Sn	21 43 11.1	-8.9
	126nm,0.3s,baz=138,slow=18,SNR=20						
PPT	Papeete	22.90	97	LR	LR	21 55 41.4	
	comp=Z,39nm,18.1s,baz=183,slow=36						
HNR	Honiara	26.75	281	LR	LR	21 57 45.1	
	comp=Z,57nm,19.3s,baz=290,slow=35						
WRA	Warramunga Arr	49.68	257	P	P	21 50 58.1	-0.1
	0.6nm,0.7s,baz=95,slow=7.6,SNR=12						
ASAR	Alice Springs	49.90	252	P	P	21 50 59.4	-0.5
	2.5nm,0.7s,baz=85,slow=8.2,SNR=26						
ELK	Elko	78.04	41	LR	LR	22 23 46.3	
	comp=Z,18nm,20.6s,baz=136,slow=32						
BRTR	Keskin Array B	146.58	320	PKPbc	PKPbc	22 01 48.2	+0.2
	0.8nm,0.8s,baz=23,slow=4.2,SNR=4.3						

NEIC ***15*** *22:00:17.8±1.7, 45°.44N±0°.01×74°.52W±0°.02, h4km±4km, Error ellipse: s-maj=2.3km s-min=1.8km az=215.0*
OTT ***15*** *22:00:18.6±0.1, 45°.47N×74°.54W, h14km, MN3.9/30*
OTT 9km southeast from Vankleek Hill, Ontario Felt Western Quebec Seismic Zone. Felt at Montreal, Qc. Hawksbury, Ontario.
LDO ***15*** *22:00:18.5±1.8, 45°.47N±0°.01×74°.54W±0°.02, h10km±4km, Error ellipse: s-maj=2.3km s-min=2.1km az=67.0*
ANF ***15*** *22:00:18.0±0.2, 45°.42N×74°.52W, h3km±1km, ML3.7/48, Error ellipse: s-maj=1.7km s-min=1.0km az=118.0*

ISC 15 22:00:17.9±0.9, 45°.46N±0°.02×74°.54W±0°.01, h12km±7km, n243, σ1§01/302, 1C-1D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFO	Alfred	0.29	306	⇑PG	Pg	22 00 24.3	+0.4
ALFO				SG	Sg	22 00 28.5	+0.6
ALFO				Trac		22 00 28.6	
	comp=Z,901nm,0.0s						
ALFO	Alfred	0.29	306		Pg	22 00 23.3	-0.6
ALFO					Sg	22 00 27.5	-0.4
BMNY	Brushton-Moira	0.62	178	P		22 00 30.2	
	baz=358,SNR=386						
BMNY				S		22 00 38.6	
	baz=358						
MNTQ	Montreal, Queb	0.65	86	PG	Pg	22 00 30.7	+0.2
MNTQ				SG	Sg	22 00 39.7	+0.6
MNTQ				Trac		22 00 41.3	
	comp=Z,168nm,0.1s						
MNTQ	Montreal, Queb	0.65	86		Pg	22 00 29.8	-0.7
MNTQ					Sg	22 00 38.8	-0.3
ORIO	Orleans, Innes	0.68	270	PG	Pg	22 00 31.6	+0.5
ORIO				SG	Sg	22 00 40.8	+0.7
ORIO				Trac		22 00 41.0	
	comp=Z,418nm,0.1s						
WBO	Williamsburg	0.69	229	PG	Pg	22 00 31.8	+0.6
WBO				SG	Sg	22 00 41.3	+1.0
WBO				Trac		22 00 41.5	
	comp=Z,1μm,0.1s						
WBO	Williamsburg	0.69	229		Pg	22 00 30.8	-0.5
WBO					Sg	22 00 40.2	-0.1
GAC	Glen Almond	0.70	291	PG	Pg	22 00 32.0	+0.5
GAC				⇓PG	Pg	22 00 32.0	+0.5
GAC				SG	Sg	22 00 41.2	+0.6
GAC				SG	Sg	22 00 41.3	+0.6
GAC				Trac		22 00 41.5	
	comp=Z,256nm,0.1s						
GAC				Trac		22 00 41.5	
	comp=Z,928nm,0.1s						
GAC	Glen Almond	0.70	291	Pg	Pg	22 00 32.0	+0.5
GAC				Sg	Sg	22 00 41.3	+0.6
OTT	Ottawa	0.83	266	PG	Pg	22 00 33.8	-0.1
OTT				SG	Sg	22 00 45.3	+0.6
OTT				Trac		22 00 45.7	
	comp=Z,559nm,0.1s						
OTT	Ottawa	0.83	266	Pg	Pg	22 00 33.8	-0.1
OTT				Sg	Sg	22 00 45.3	+0.6
LONY	Lake Ozonia	0.84	182	PG	Pg	22 00 34.0	-0.1
LONY				SG	Sg	22 00 45.5	+0.4
LONY				Trac		22 00 45.6	
	comp=Z,476nm,0.1s						
LONY	Lake Ozonia	0.84	182	P	Pg	22 00 33.9	-0.1
	baz=1.9,SNR=1000						
LONY				S	Sg	22 00 44.9	-0.2
	baz=1.9						
LONY	Lake Ozonia	0.84	182	Pg	Pg	22 00 33.9	-0.1
LONY				Sg	Sg	22 00 44.9	-0.2
VABQ	Val Des Bois	0.87	301	PG	Pg	22 00 33.9	-0.8
VABQ				SG	Sg	22 00 45.2	-0.8
VABQ				Trac		22 00 49.3	
	comp=Z,342nm,0.1s						
VABQ	Val Des Bois	0.87	301	Pg

GRQ			Trac			22 01 07.5
	comp=Z,802nm,0.2s					
GRQ	**Grand Remous**	**1.47 322**		**Pn**		**22 00 44.9 +0.8**
GRQ			Sg	**Sn**		**22 01 04.0 +0.7**
NCB	**Newcomb**	**1.50 171**	PN	**Pn**		**22 00 44.9 +0.3**
NCB			SN	**Sn**		**22 01 04.7 +0.5**
NCB	**Newcomb**	**1.50 171**		**Pn**		**22 00 44.9 +0.3**
NCB	**Newcomb**	**1.50 171**		**Sn**		**22 01 03.6 -0.6**
NCB	**Newcomb**	**1.50 171**	P			22 00 44.9
	baz=352					
NCB			S			22 01 04.5
	baz=352					
HBVT	**Hinesburg**	**1.52 136**		**Pn**		**22 00 44.0 -0.8**
HBVT				**Sn**		**22 01 04.4 -0.1**
H60A	**Morristown**	**1.59 124**	P	**Pn**		**22 00 46.7 +0.9**
	baz=306,SNR=146					
H60A			S	**Sb**		**22 01 08.0 +0.9**
	baz=306					
H60A	**Morristown**	**1.59 124**		**Pn**		**22 00 45.8 0.0**
H60A				**Sn**		**22 01 05.3 -0.8**
MOQ	**Mont Orford**	**1.62 94**	PN	**Pn**		**22 00 47.3 +1.1**
MOQ			SN	**Sn**		**22 01 07.5 +0.4**
MOQ			Trac			22 01 12.0
	comp=Z,144nm,0.1s					
MOQ	**Mont Orford**	**1.62 94**		**Pn**		**22 00 47.6 +1.3**
WCNY	**West Carthage**	**1.68 209**		**Pn**		**22 00 47.0 0.0**
WCNY				**Sn**		**22 01 08.2 -0.1**
WCNY	**West Carthage**	**1.68 209**	P			22 00 48.0
	baz=28,SNR=86					
VT1	**Waterbury**	**1.70 131**		**Pn**		**22 00 48.6 +1.3**
VT1				**Pb**		**22 00 48.7 -0.3**
VT1	**Waterbury**	**1.70 131**	Pb			22 00 49.1
	baz=313,SNR=26					
I57A	**Carthage**	**1.71 208**	P	**Pn**		**22 00 48.5 +1.0**
	baz=27,SNR=257					
I57A			S	**Sn**		**22 01 11.1 +1.8**
	baz=27					
I57A	**Carthage**	**1.71 208**		**Pn**		**22 00 47.5 0.0**
I57A				**Sn**		**22 01 09.2 -0.2**
I59A	**Olmsteadville**	**1.73 164**	P	**Pn**		**22 00 48.4 +0.8**
	baz=344,SNR=157					
I59A			S	**Sn**		**22 01 11.2 +1.6**
	baz=344					
I59A	**Olmsteadville**	**1.73 164**		**Pn**		**22 00 47.5 -0.2**
I59A				**Sn**		**22 01 09.7 0.0**
DPQ	**Saint Jean**	**1.73 45**	PN	**Pn**		**22 00 48.4 +0.7**
DPQ			SN	**Sn**		**22 01 09.4 -0.4**
DPQ			Trac			22 01 12.2
	comp=Z,205nm,0.1s					
DPQ	**Saint Jean**	**1.73 45**	Pn	**Pn**		**22 00 48.4 +0.7**
DPQ			Sn	**Sn**		**22 01 09.4 -0.4**
E59A	**St. Maurice**	**1.75 53**	P	**Pn**		**22 00 49.0 +1.0**
	baz=235					
MDV	**Middlebury**	**1.75 146**		**Pn**		**22 00 47.7 -0.3**
MDV				**Sn**		**22 01 10.5 +0.3**
I58A	**Old Forge**	**1.79 190**	P	**Pn**		**22 00 49.8 +1.2**
	baz=9.6,SNR=171					
I58A			S	**Sn**		**22 01 12.8 +1.5**
	baz=9.6					
I58A	**Old Forge**	**1.79 190**		**Pn**		**22 00 48.9 +0.3**
I58A				**Sn**		**22 01 11.0 -0.3**
PLVO	**Plevna**	**1.84 258**	PN	**Pn**		**22 00 49.6 +0.5**
PLVO			SN	**Sn**		**22 01 12.4 +0.1**
PLVO			LG	Lg		22 01 16.8
PLVO			Trac			22 01 19.3
	comp=Z,576nm,0.2s					
PLVO	**Plevna**	**1.84 258**		**Pn**		**22 00 50.1 +0.9**
I60A	**Shoreham**	**1.84 151**	P	**Pn**		**22 00 50.1 +0.8**
	baz=332,SNR=114					
I60A			S	**Sn**		**22 01 14.1 +1.7**
	baz=332					
I60A	**Shoreham**	**1.84 151**		**Pn**		**22 00 49.2 0.0**
I60A				**Sn**		**22 01 13.1 +0.6**
KGNO	**Kingston**	**1.85 229**	PN	**Pn**		**22 00 50.1 +0.7**
KGNO			SN	**Sn**		**22 01 12.8 +0.1**
KGNO			Trac			22 01 15.5
	comp=Z,192nm,0.1s					
KGNO			LG	Lg		22 01 17.3
MCVT	**Middlebury Col**	**1.87 143**		**Pn**		**22 00 49.5 -0.1**
MCVT				**Sn**		**22 01 12.7 -0.4**
MCVT	**Middlebury Col**	**1.87 143**	P			22 00 50.5
	baz=325,SNR=80					
PEMO	**Pembroke**	**1.91 278**	PN	**Pn**		**22 00 50.8 +0.6**
PEMO			SN	**Sn**		**22 01 13.8 -0.4**
PEMO			LG	Lg		22 01 18.7
PEMO			Trac			22 01 19.4
	comp=Z,268nm,0.1s					
J59A	**Piesco**	**1.99 179**		**Pn**		**22 00 51.8 +0.5**
J59A	**Piesco**	**1.99 179**		**Pn**		**22 00 52.8 +1.5**
J59A	**Piesco**	**1.99 179**	P			22 00 52.7
	baz=359,SNR=208					
J59A			P			22 00 52.7
	baz=359,SNR=208					
D58A	**Chemin du LacG**	**2.00 35**	P	**Pn**		**22 00 52.9 +1.4**
	baz=216					
CRLO	**Chalk River**	**2.07 287**	PN	**Pn**		**22 00 52.6 +0.2**
CRLO			SN	**Sn**		**22 01 17.0 -1.0**
CRLO			Trac			22 01 24.1
	comp=Z,169nm,0.2s					
H61A	**Lyndonville**	**2.07 116**	P	**Pn**		**22 00 53.8 +1.4**
	baz=298,SNR=128					
H61A	**Lyndonville**	**2.07 116**		**Pn**		**22 00 52.8 +0.4**
G61A	**St-Isidore-de-**	**2.13 94**	P	**Pn**		**22 00 54.6 +1.4**
	baz=276,SNR=131					
G61A			S	**Sb**		**22 01 21.9 -0.9**
	baz=276					
G61A	**St-Isidore-de-**	**2.13 94**		**Pn**		**22 00 53.6 +0.4**
G61A				**Sb**		**22 01 23.9 +1.1**
J58A	**Remsen**	**2.16 194**	P	**Pn**		**22 00 54.8 +1.1**
	baz=14					
J58A	**Remsen**	**2.16 194**		**Pn**		**22 00 55.3 +1.6**
J58A	**Remsen**	**2.16 194**	P			22 00 55.4
	baz=14,SNR=147					
J58A			P			22 00 55.4
	baz=14,SNR=147					
ACCN	**Adirondack Com**	**2.17 163**		**Pn**		**22 00 53.9 +0.2**
ACCN	**Adirondack Com**	**2.17 163**		**Pn**		**22 00 54.9 +1.2**
ACCN			IAmb_Lg			22 01 30.4
	comp=Z,72nm,0.9s					
ACCN	**Adirondack Com**	**2.17 163**	P			22 00 54.9
	baz=344,SNR=22					
LBNH	**Lisbon**	**2.22 122**	P	**Pn**		**22 00 55.9 +1.4**
	baz=305,SNR=79					
LBNH	**Lisbon**	**2.22 122**		**Pn**		**22 00 55.8 +1.3**
LBNH	**Lisbon**	**2.22 122**	P			22 00 55.9
	baz=305,SNR=51					
I61A	**Oroboro, Fairl**	**2.26 132**	P	**Pn**		**22 00 56.1 +1.2**
	baz=314					
I61A	**Oroboro, Fairl**	**2.26 132**		**Pn**		**22 00 55.3 +0.4**
LATQ	**La Tuque**	**2.28 32**	P	**Pn**		**22 00 57.4 +2.2**
	baz=213,SNR=42					
LATQ			S	**Sb**		**22 01 27.0 0.0**
	baz=213					
LATQ	**La Tuque**	**2.28 32**		**Pn**		**22 00 57.5 +2.2**
J57A	**Williamstown**	**2.30 207**		**Pn**		**22 00 56.0 +0.6**
J57A	**Williamstown**	**2.30 207**		**Pn**		**22 00 56.6 +1.2**
J57A	**Williamstown**	**2.30 207**	P			22 00 56.5
	baz=26					
J57A			P			22 00 56.5
	baz=26					
PECO	**Prince Edward**	**2.32 230**		**Pn**		**22 00 56.9 +1.1**
J60A	**Lant Hill Farm**	**2.35 160**	P	**Pn**		**22 00 57.4 +1.1**
	baz=341,SNR=80					
J60A	**Lant Hill Farm**	**2.35 160**		**Pn**		**22 00 56.3 0.0**
J60A				LR		22 01 25.7
DELO	**Deloro Mine**	**2.38 248**	PN	**Pn**		**22 00 56.9 +0.4**
DELO			SN	**Sn**		**22 01 25.6 0.0**
DELO			Trac			22 01 33.9
	comp=Z,120nm,0.1s					
DELO			LG	Lg		22 01 34.5
DELO	**Deloro Mine**	**2.38 248**	Pn	**Pn**		**22 00 57.2 +0.7**
HNH	**Hanover**	**2.38 137**		**Pn**		**22 00 57.7 +1.0**
D59A	**Saint-Raymond**	**2.44 50**	P	**Pn**		**22 00 59.5 +2.1**
	baz=232					
F61A	**St Evariste**	**2.54 77**	P	**Pn**		**22 01 00.2 +1.3**
	baz=260,SNR=50					
F61A	**St Evariste**	**2.54 77**		**Pn**		**22 00 59.5 +0.6**
J61A	**Chester**	**2.55 145**	P	**Pn**		**22 00 59.9 +0.9**
	baz=327,SNR=20					
J61A	**Chester**	**2.55 145**		**Pn**		**22 01 00.0 +1.1**
J61A	**Chester**	**2.55 145**	P			22 00 59.9
	baz=327,SNR=18					
J61A			P			22 00 59.9
	baz=327,SNR=18					
H62A	**Milan**	**2.56 109**	P	**Pn**		**22 01 00.2 +1.1**
	baz=292,SNR=20					
H62A	**Milan**	**2.56 109**	Pn	**Pn**		**22 01 00.4 +1.3**
QCQ	**Quebec**	**2.63 59**	PN	**Pn**		**22 01 01.1 +1.0**
QCQ			SN	**Sn**		**22 01 30.9 -0.9**
QCQ			Trac			22 01 41.8
	comp=Z,141nm,0.2s					
J56A	**Wolcott**	**2.74 218**		**Pn**		**22 01 02.6 +1.1**
J56A	**Wolcott**	**2.74 218**	P			22 01 02.1
	baz=36					
J56A			P			22 01 02.1
	baz=36					
HCNY	**Howe Caverns**	**2.76 178**		**Pn**		**22 01 03.2 +1.3**
HCNY				LR		22 01 39.6
HCNY	**Howe Caverns**	**2.76 178**	P			22 01 03.6
	baz=358,SNR=20					
I62A	**Tamworth**	**2.78 124**	P	**Pn**		**22 01 02.9 +0.7**
	baz=306,SNR=17					
I62A			S	**Sn**		**22 01 36.6 +1.0**
	baz=306					
I62A	**Tamworth**	**2.78 124**		**Pn**		**22 01 03.4 +1.3**
I62A	**Tamworth**	**2.78 124**	P			22 01 03.6
	baz=306,SNR=10					
I62A			P			22 01 03.6
	baz=306,SNR=10					
TRY	**Troy**	**2.80 167**		**Pn**		**22 01 03.7 +1.3**
G62A	**West of Eustis**	**2.84 93**	P	**Pn**		**22 01 04.0 +1.0**
	baz=277,SNR=93					
G62A	**West of Eustis**	**2.84 93**	Pn	**Pn**		**22 01 04.2 +1.2**
G62A	**West of Eustis**	**2.84 93**	P			22 01 04.0
	baz=277,SNR=82					
G62A			P			22 01 04.0
	baz=277,SNR=82					
FFD	**Franklin Falls**	**2.87 133**		**Pn**		**22 01 05.0 +1.7**
D60A	**Saint Jean D'O**	**2.91 59**	P	**Pn**		**22 01 04.6 +0.7**
	baz=241					
K61A	**Williamstown**	**2.93 161**		**Pn**		**22 01 04.2 -0.1**
K61A				**Sb**		**22 01 46.0 +0.1**
J62A	**Henniker**	**2.97 138**	P	**Pn**		**22 01 05.7 +1.0**
	baz=320,SNR=25					
J62A	**Henniker**	**2.97 138**		**Pn**		**22 01 05.7 +1.0**
J62A				**Pb**		**22 01 11.0 +0.3**
E61A	**Lac Etchemin**	**2.99 70**	P	**Pn**		**22 01 06.2 +1.1**
	baz=253					
E61A			S	**Sn**		**22 01 43.8 +3.0**
	baz=253					
E61A	**Lac Etchemin**	**2.99 70**		**Pn**		**22 01 06.4 +1.3**
E61A				**Pb**		**22 01 11.3 +0.2**
K57A	**Scipio Center**	**3.07 208**	Pn	**Pn**		**22 01 07.3 +1.1**
K57A	**Scipio Center**	**3.07 208**	P			22 01 07.3
	baz=27					
WLVO	**Wesleyville**	**3.15 242**	PN	**Pn**		**22 01 07.3 +0.2**
WLVO			SN	**Sn**		**22 01 43.7 -0.9**
WLVO			LG	Lg		22 01 56.0
WLVO			Trac			22 01 57.2
	comp=Z,90nm,0.1s					
I63A	**Otisfield**	**3.15 115**	P	**Pn**		**22 01 07.9 +0.7**
	baz=298,SNR=14					
I63A			S	**Sn**		**22 01 46.8 +2.0**
	baz=298					
I63A	**Otisfield**	**3.15 115**		**Pn**		**22 01 08.2 +0.9**
I63A	**Otisfield**	**3.15 115**	P			22 01 08.9
	baz=298,SNR=9.6					
I63A			P			22 01 08.9
	baz=298,SNR=9.6					
J55A	**Hilton**	**3.21 228**		**Pn**		**22 01 09.1 +1.1**
J55A	**Hilton**	**3.21 228**	P			22 01 08.6
	baz=46					
J55A			P			22 01 08.6
	baz=46					
F62A	**Pittston Farm,**	**3.24 81**		**Pn**		**22 01 09.8 +1.4**
K62A	**Royalston**	**3.25 148**	P	**Pn**		**22 01 09.5 +0.9**
	baz=330,SNR=8.0					
K62A	**Royalston**	**3.25 148**		**Pn**		**22 01 09.3 +0.7**
K62A	**Royalston**	**3.25 148**	P			22 01 09.4
	baz=330,SNR=5.6					
K62A			P			22 01 09.4
	baz=330,SNR=5.6					
L59A	**Walton**	**3.29 186**		**Pn**		**22 01 10.9 +1.8**
L59A			IAmb_Lg			22 02 02.5
	comp=Z,78nm,0.8s					
L59A	**Walton**	**3.29 186**	P			22 01 10.8
	baz=6.1,SNR=48					
L59A			P			22 01 10.8
	baz=6.1,SNR=48					
H63A	**New Sharon**	**3.29 102**		**Pn**		**22 01 11.0 +1.8**
L61B	**Northampton**	**3.29 155**	P	**Pn**		**22 01 10.2 +1.0**
	baz=337,SNR=14					
L61B	**Northampton**	**3.29 155**		**Pn**		**22 01 10.8 +1.6**
L61B	**Northampton**	**3.29 155**	P			22 01 10.8
	baz=337,SNR=15					
J63A	**Strafford**	**3.30 130**	P	**Pn**		**22 01 10.0 +0.7**
	baz=313,SNR=28					
J63A	**Strafford**	**3.30 130**		**Pn**		**22 01 10.5 +1.2**
J63A				**Pg**		**22 01 22.4 +1.3**
VLDQ	**Val d'Or**	**3.33 324**	PN	**Pn**		**22 01 11.5 +1.9**
VLDQ			SN	**Sn**		**22 01 51.0 +2.0**
VLDQ			LG	Lg		22 02 08.4
VLDQ			Trac			22 02 12.0
	comp=Z,80nm,0.2s					
VLDQ	**Val d'Or**	**3.33 324**		**Pn**		**22 01 12.9 +3.3**
VLDQ			IAmb_Lg			22 02 13.7
	comp=Z,51nm,0.8s					
SADO	**Sadowa**	**3.33 260**	PN	**Pn**		**22 01 09.8 +0.1**
SADO			SN	**Sn**		**22 01 47.0 -2.0**
SADO			LG	Lg		22 02 03.0
SADO			Trac			22 02 03.5
	comp=Z,53nm,0.1s					
SADO	**Sadowa**	**3.33 260**	Pn	**Pn**		**22 01 09.6 -0.1**
EEO	**Eldee**	**3.37 292**	PN	**Pn**		**22 01 10.8 +0.5**
EEO			SN	**Sn**		**22 01 48.5 -1.7**
EEO			Trac			22 02 09.9
	comp=Z,48nm,0.1s					
K56A	**Middlesex**	**3.41 217**	P	**Pn**		**22 01 12.1 +1.3**
	baz=35,SNR=176					
K56A	**Middlesex**	**3.41 217**		**Pn**		**22 01 12.9 +2.1**
K56A				**Sn**		**22 01 51.8 +0.7**
BUKO	**Buck Lake**	**3.42 271**	PN	**Pn**		**22 01 10.5 -0.4**
BUKO			SN	**Sn**		**22 01 50.3 -1.0**
BUKO			LG	Lg		22 02 07.1
BUKO			Trac			22 02 08.8
	comp=Z,56nm,0.1s					
BINY	**Binghamton**	**3.42 198**	P	**Pn**		**22 01 11.9 +1.0**
	baz=17,SNR=12					
BINY	**Binghamton**	**3.42 198**		**Pn**		**22 01 12.2 +1.2**
BINY			IAmb_Lg			22 02 08.7
	comp=Z,84nm,0.9s					
BINY	**Binghamton**	**3.42 198**	P			22 01 12.2
	baz=17,SNR=7.4					
A54	**Misere**	**3.49 54**	PN	**Pn**		**22 01 12.1 +0.2**
A54			SN	**Sn**		**22 01 51.4 -1.6**
A54			LG	Lg		22 02 06.5
A54			Trac			22 02 10.2
	comp=Z,56nm,0.2s					
D61A	**St Aubert, Com**	**3.49 58**	P	**Pn**		**22 01 12.7 +0.9**
	baz=242					
D61A	**St Aubert, Com**	**3.49 58**		**Pn**		**22 01 12.7 +0.9**
D61A				**Pb**		**22 01 18.8 -0.7**
G63A	**Kingsbury**	**3.49 94**	P	**Pn**		**22 01 12.6 +0.7**
	baz=278,SNR=44					
G63A	**Kingsbury**	**3.49 94**		**Sn**		**22 01 53.9 +0.7**
K63A	**Dunstable**	**3.52 141**	P	**Pn**		**22 01 13.0 +0.8**
	baz=323,SNR=6.8					
K63A	**Dunstable**	**3.52 141**	Pn	**Pn**		**22 01 12.5 +0.3**
K63A			IAmb_Lg			22 02 11.1
	comp=Z,89nm,1.2s					
L58A	**Harry Jones Me**	**3.54 196**	P	**Pn**		**22 01 14.0 +1.4**
	baz=15					
L58A	**Harry Jones Me**	**3.54 196**		**Pn**		**22 01 14.5 +1.9**
L58A				**Pb**		**22 01 18.0 -2.4**
L58A				**Sn**		**22 01 56.0 +1.7**
UNH	**University of**	**3.54 131**	P			22 01 13.4
	baz=313,SNR=7.2					
PKRO	**Pickering**	**3.56 247**		**Pb**		**22 01 21.7 +1.1**
LMQ	**La Malbaie**	**3.59 53**	PN	**Pn**		**22 01 12.5 -0.7**
LMQ			SN	**Sn**		**22 01 53.5 -2.0**
LMQ			LG	Lg		22 02 10.3
LMQ			Trac			22 02 20.1
	comp=Z,71nm,0.2s					
LMQ	**La Malbaie**	**3.59 53**	Pn	**Pn**		**22 01 14.0 +0.8**
LMQ			IAmb_Lg			22 02 17.5
	comp=Z,80nm,0.8s					
MEDO	**Medina**	**3.62 232**		**Pn**		**22 01 13.2 -0.5**
HRV	**Adam Dziewonsk**	**3.65 143**	Pn	**Pn**		**22 01 14.2 +0.1**
J54A	**Appleton**	**3.66 235**		**Pn**		**22 01 14.2 0.0**
J54A			IAmb_Lg			22 02 18.2
	comp=Z,79nm,0.7s					
E62A	**Clayton Lake**	**3.69 70**	P	**Pn**		**22 01 15.6 +1.0**
	baz=254,SNR=26					
E62A	**Clayton Lake**	**3.69 70**		**Pn**		**22 01 15.8 +1.2**
E62A			IAmb_Lg			22 02 19.9
	comp=Z,51nm,1.0s					
E62A	**Clayton Lake**	**3.69 70**	P			22 01 15.7
	baz=254,SNR=35					
E62A			P			22 01 15.7
	baz=254,SNR=35					
PKME	**Peaks-Kenny Pk**	**3.71 91**	PN	**Pn**		**22 01 15.3 +0.4**
PKME			SN	**Sn**		**22 01 57.5 -0.9**
PKME			Trac			22 02 19.4
	comp=Z,32nm,0.1s					
PKME			LG	Lg		22 02 19.8
PKME	**Peaks-Kenny Pk**	**3.71 91**	P	**Pn**		**22 01 15.5 +0.6**
	baz=275,SNR=9.2					
PKME	**Peaks-Kenny Pk**	**3.71 91**		**Pn**		**22 01 15.7 +0.8**
PKME			IAmb_Lg			22 02 17.6
	comp=Z,55nm,0.7s					
NPNY	**Mohonk Preserv**	**3.71 175**		**Sn**		**22 01 59.1 +0.6**
NPNY				**Sb**		**22 02 06.4 -1.9**
NPNY	**Mohonk Preserv**	**3.71 175**	P			22 01 17.1
	baz=356,SNR=13					
KSCT	**Kent School, K**	**3.81 168**		**Pn**		**22 01 17.6 +1.4**
I64A	**Boothbay**	**3.82 112**	P	**Pn**		**22 01 17.2 +0.7**
	baz=296,SNR=15					
F63A	**Nahmakanta, Br**	**3.83 84**	P	**Pn**		**22 01 17.6 +1.1**
	baz=268					
F63A	**Nahmakanta, Br**	**3.83 84**		**Pn**		**22 01 17.7 +1.1**
F63A	**Nahmakanta, Br**	**3.83 84**	P			22 01 17.6
	baz=268,SNR=11					
F63A			P			22 01 17.6
	baz=268,SNR=11					
L56A	**Greenwood**	**3.97 214**		**Pn**		**22 01 20.0 +1.4**
L56A	**Greenwood**	**3.97 214**	P			22 01 20.1
	baz=32,SNR=26					
L56A			P			22 01 20.1
	baz=32,SNR=26					
KLBO	**Killbear Provi**	**3.99 271**	PN	**Pn**		**22 01 18.3 -0.5**
KLBO			SN	**Sn**		**22 02 02.6 -2.9**
KLBO			LG	Lg		22 02 22.4
KLBO			Trac			22 02 26.6
	comp=Z,84nm,0.1s					
KSPA	**Keystone Colle**	**4.00 193**	Pn	**Pn**		**22 01 20.3 +1.4**
KSPA	**Keystone Colle**	**4.00 193**		**Pg**		**22 01 32.7 -1.7**
KSPA	**Keystone Colle**	**4.00 193**	IAmb_Lg			22 02 30.2
	comp=Z,76nm,0.9s					
UCCT	**U. Connecticut**	**4.03 155**		**Pb**		**22 01 30.6 +1.9**
UCCT	**U. Connecticut**	**4.03 155**	Pn	**Pn**		**22 01 20.2 +0.9**
G64A	**Maxfield**	**4.08 91**	P	**Pn**		**22 01 20.6 +0.5**
	baz=275,SNR=9.3					
D62A	**Allapoint, All**	**4.14 65**	Pn	**Pn**		**22 01 21.3 +0.4**
BRYW	**Bryant College**	**4.16 147**	Pn	**Pn**		**22 01 22.0 +0.9**
BRYW			IAmb_Lg			22 02 38.2
	comp=Z,45nm,1.1s					
L63A	**North Scituate**	**4.17 148**	P	**Pn**		**22 01 21.9 +0.7**
	baz=331,SNR=7.0					
L63A	**North Scituate**	**4.17 148**	Pn	**Pn**		**22 01 22.0 +0.7**
TRNY	**Table Rock, Ra**	**4.32 177**		**Pn**		**22 01 24.3 +1.1**
TRNY			IAmb_Lg			22 02 33.4
	comp=Z,52nm,0.9s					
F64A	**Sherman**	**4.36 82**	P	**Pn**		**22 01 24.6 +0.7**
	baz=267,SNR=19					
F64A	**Sherman**	**4.36 82**		**Pn**		**22 01 24.6 +0.7**
F64A	**Sherman**	**4.36 82**	P			22 01 24.6
	baz=267,SNR=22					
F64A			P			22 01 24.6
	baz=267,SNR=22					
ODNJ	**Ogdensburg**	**4.37 181**		**Pn**		**22 01 25.1 +1.1**
ODNJ			IAmb_Lg			22 02 35.8
	comp=Z,70nm,0.9s					
E63A	**Oxbow**	**4.38 75**	P	**Pn**		**22 01 24.4 +0.3**
	baz=260					
E63A	**Oxbow**	**4.38 75**	Pn	**Pn**		**22 01 24.1 0.0**
E63A			IAmb_Lg			22 02 37.2
	comp=Z,48nm,1.0s					
E63A	**Oxbow**	**4.38 75**	P			22 01 24.3
	baz=260,SNR=29					
E63A			P			22 01 24.3
	baz=260,SNR=29					
M63A	**Gales Ferry**	**4.44 155**	Pn	**Pn**		**22 01 25.5 +0.6**
M63A			IAmb_Lg			22 02 45.9
	comp=Z,52nm,0.9s					
CHGQ	**Chibougamau**	**4.46 1**	PN	**Pn**		**22 01 24.5 -0.7**
CHGQ			SN	**Sn**		**22 02 14.6 -2.4**
CHGQ			LG	Lg		22 02 38.0
CHGQ			Trac			22 02 44.6
	comp=Z,45nm,0.2s					
PAL	**Palisades**	**4.47 174**		**Pn**		**22 01 26.2 +0.8**
PAL			IAmb_Lg			22 02 42.8
	comp=Z,53nm,0.8s					
M57A	**Sunshine Farm,**	**4.53 205**		**Pn**		**22 01 27.1 +0.9**
M57A	**Sunshine Farm,**	**4.53 205**	P			22 01 26.9
	baz=24,SNR=22					
M57A			P			22 01 26.9
	baz=24,SNR=22					
M64A	**Tiverton**	**4.60 147**	Pn	**Pn**		**22 01 28.2 +1.1**
N59A	**State Game Lan**	**4.62 192**	P			22 01 28.7
	baz=11,SNR=16					
N59A	**State Game Lan**	**4.63 192**	P	**Pn**		**22 01 28.4 +0.9**
	baz=11,SNR=13					
N59A	**State Game Lan**	**4.63 192**		**Pn**		**22 01 28.6 +1.0**
N59A			IAmb_Lg			22 02 46.8
	comp=Z,48nm,0.7s					
CPNY	**Central Park**	**4.68 175**	IAmb_Lg			22 02 53.7
	comp=Z,52nm,1.0s					
PQI	**Presque Isle**	**4.70 73**		**Pn**		**22 01 28.5 0.0**
PQI			IAmb_Lg			22 02 47.3
	comp=Z,64nm,1.3s					
D63A	**Stockholm**	**4.74 68**	P	**Pn**		**22 01 29.4 +0.3**
	baz=253					
D63A	**Stockholm**	**4.74 68**		**Pn**		**22 01 30.5 +1.5**
BRNJ	**Basking Ridge**	**4.77 180**	IAmb_Lg			22 03 00.1
	comp=Z,46nm,0.8s					
E64A	**Bridgewater**	**4.78 76**	P	**Pn**		**22 01 30.2 +0.6**
	baz=261					
E64A	**Bridgewater**	**4.78 76**		**Pn**		**22 01 29.9 +0.2**
M65A	**Busby, Falmout**	**4.81 143**	IAmb_Lg			22 02 55.8
	comp=Z,52nm,0.8s					
N58A	**Sunbury**	**4.88 200**		**Pn**		**22 01 31.9 +0.9**
N58A	**Sunbury**	**4.88 200**	P			22 01 31.6
	baz=18,SNR=9.2					
N58A			P			22 01 31.6
	baz=18,SNR=9.2					
LUPA	**Lehigh Univers**	**4.89 187**	IAmb_Lg			22 02 55.3
	comp=Z,38nm,0.8s					
G65A	**Princeton**	**4.93 91**	Pn	**Pn**		**22 01 32.2 +0.6**
M55A	**Ridgway**	**5.03 219**	IAmb_Lg			22 03 04.7
	comp=Z,56nm,0.8s					
EMMW	**East Machias**	**5.07 96**	Pn	**Pn**		**22 01 33.4 -0.3**
ERPA	**Erie**	**5.17 232**	IAmb_Lg			22 03 02.5
	comp=Z,61nm,0.8s					
SSPA	**Standing Stone**	**5.41 208**	P	**Pn**		**22 01 38.8 +0.5**
	baz=26					
SSPA	**Standing Stone**	**5.41 208**	Pn	**Pn**		**22 01 39.2 +1.0**
M54A	**Oil Creek Stat**	**5.43 225**	P	**Pn**		**22 01 39.5 +1.0**
	baz=41,SNR=11					
M54A	**Oil Creek Stat**	**5.43 225**	Pn	**Pn**		**22 01 39.5 +1.0**
GGN	**Saint George**	**5.45 91**		**Pn**		**22 01 39.5 +0.8**
PAGS	**Pennsylvania G**	**5.47 198**	IAmb_Lg			22 03 16.9
	comp=Z,30nm,0.7s					
WUPA

comp=Z,29nm,0.9s
O54A Avella 6.79 221 Pn Pn 22 01 58.0 +0.7
O54A IAmb_Lg 22 04 06.7
comp=Z,36nm,0.8s
LMN Caledonia Moun 6.84 83 Pn Pn 22 01 58.5 +0.6
MCWV Mont Chateau 6.99 216 IAmb_Lg 22 04 06.9
comp=Z,36nm,1.0s
O53A New Philadelph 7.15 226 Pn Pn 22 02 03.3 +1.1
O53A IAmb_Lg 22 04 02.6
comp=Z,48nm,0.8s
Q56A Snyder Ridge, 7.28 210 Pn Pn 22 02 05.3 +1.4
Q56A Snyder Ridge, 7.28 210 P 22 02 05.4
baz=27,SNR=11
Q56A P 22 02 05.4
baz=27,SNR=11
N51A Ashland 7.30 234 IAmb_Lg 22 04 31.3
comp=Z,31nm,0.8s
M50A Fremont 7.39 240 IAmb_Lg 22 04 11.4
comp=Z,44nm,0.7s
O52A Adamsville 7.56 228 Pn Pn 22 02 09.0 +1.1
P53A Whipple 7.82 223 Pn Pn 22 02 12.6 +1.2
P53A IAmb_Lg 22 04 32.3
comp=Z,32nm,0.8s
R58B Mineral 7.89 200 Pn Pn 22 02 12.1 -0.2
R58B IAmb_Lg 22 04 34.0
comp=Z,20nm,0.9s
Q54A Coxs Mills 7.97 218 Pn Pn 22 02 14.4 +0.9
L48A N Adams 7.98 247 Pn Pn 22 02 12.9 -0.6
L48A IAmb_Lg 22 04 30.1
comp=Z,36nm,0.9s
P52A Corning 8.07 227 Pn Pn 22 02 15.0 +0.1
P52A IAmb_Lg 22 04 31.6
comp=Z,40nm,0.7s
ACSO Alum Creek Sta 8.10 233 IAmb_Lg 22 04 41.3
comp=Z,35nm,0.9s
R55A Marlinton 8.29 212 Pn Pn 22 02 17.9 +0.1
S57A Dark Hollow, R 8.37 205 Pn Pn 22 02 19.5 +0.6
S57A IAmb_Lg 22 04 40.6
comp=Z,33nm,1.1s
N49A Columbus Grove 8.37 241 IAmb_Lg 22 04 49.8
comp=Z,34nm,1.0s
T60A Surry 8.47 192 Pn Pn 22 02 20.9 +0.6
Q52A Bidwell 8.65 224 Pn Pn 22 02 23.8 +1.0
P51A Williamsport 8.67 229 IAmb_Lg 22 04 54.3
comp=Z,34nm,0.9s
E43A Lone Tree Farm 8.73 280 Pn Pn 22 02 24.8 +0.9
O49A Covington 8.91 237 IAmb_Lg 22 04 57.4
comp=Z,34nm,0.8s
R53A Hurricane 9.01 220 Pn Pn 22 02 27.7 +0.1
Q51A Peebles 9.15 229 Pn Pn 22 02 29.3 -0.4
T57A Hurt 9.16 204 IAmb_Lg 22 05 15.5
comp=Z,19nm,0.8s
GBN Guysborough 9.17 86 Pn Pn 22 02 29.6 -0.2
S54A Dingess, Beckl 9.17 216 IAmb_Lg 22 05 18.4
comp=Z,20nm,0.8s
L46A Eue Claire 9.18 252 IAmb_Lg 22 05 23.4
comp=Z,27nm,0.7s
N47A Urbana 9.34 245 IAmb_Lg 22 05 17.2
comp=Z,25nm,0.7s
BLA Blacksburg 9.35 210 IAmb_Lg 22 05 15.0
comp=Z,27nm,0.9s
U59A Littleton 9.42 196 IAmb_Lg 22 05 30.2
comp=Z,16nm,1.1s
H43A Windswept, Lux 9.43 269 IAmb_Lg 22 05 23.1
comp=Z,18nm,0.8s

IDC 15 22:02:25.1±9.4,22°.63N×144°.06E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/46,mbtmp3.5/3,Error ellipse: s-maj=364.5km s-min=32.3km az=75.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**21.48**	**94**	T	T	22 29 13.6	
baz=279							
H11N2	**WAKE ISLAND Hy**	**21.48**	**93**	T	T	22 29 16.6	
baz=279							
H11N3	**WAKE ISLAND Hy**	**21.50**	**93**	T	T	22 29 19.0	
baz=279							
H11S3	**WAKE ISLAND Hy**	**21.57**	**97**	T	T	22 29 23.0	
baz=281,slow=75,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**21.58**	**97**	T	T	22 29 15.3	
baz=281,slow=75,SNR=5.7							
H11S2	**WAKE ISLAND Hy**	**21.59**	**97**	T	T	22 29 18.4	
baz=281,slow=75,SNR=5.3							
SONM	**Songino Array**	**39.15**	**319**	P	P	22 09 54.6	-0.1
0.1nm,0.3s,baz=110,slow=7.9,SNR=1.7							
WRA	**Warramunga Arr**	**43.37**	**193**	P	P	22 10 29.2	-0.1
0.6nm,0.5s,baz=14,slow=8.5,SNR=7.5							
ASAR	**Alice Springs**	**47.07**	**193**	P	P	22 10 58.6	-0.2
0.4nm,0.6s,baz=14,slow=11,SNR=5.9							

*JMA **15** 22:16:03.8±0.2,23°.22N×121°.65E,h40km±4km,M3.0*
*TAP **15** 22:16:05.2,23°.26N×121°.59E,h40km,ML3.7,C*
ISC 15 22:16:04.8±1.0,23°.24N±0'.02×121°.62E±0'.02,h30km±10km, n130,σ0°82/221,6C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.27**	**239**	P	**Pn**	**22 16 12.8**	**0.0**
baz=227							
CHKT				S	**Sn**	**22 16 18.5**	**+0.6**
baz=227							
EYUL	**Yuli**	**0.30**	**291**	P	**Pn**	**22 16 13.7**	**+0.6**
baz=289							
EYUL				*e*S	**Sn**	**22 16 19.8**	**+1.3**
baz=289							
FULB	**Fuli**	**0.30**	**263**	P	**Pn**	**22 16 13.2**	**+0.1**
baz=257							
FULB				*e*S	**Sn**	**22 16 19.4**	**+0.7**
baz=257							
HGSD	**Ruisui**	**0.31**	**325**	⇑*i*P	**Pn**	**22 16 13.0**	**-0.3**
baz=326							
HGSD				*e*S	**Sn**	**22 16 18.8**	**0.0**
baz=326							
TWF1	**Yuli**	**0.32**	**291**	⇑*i*P	**Pn**	**22 16 13.5**	**+0.1**
baz=289							
TWF1				*e*S	**Sn**	**22 16 19.7**	**+0.7**
baz=289							
YULB	**Yu-li**	**0.33**	**297**	⇑*i*P	**Pn**	**22 16 13.6**	**0.0**
baz=296							
YULB				*e*S	**Sn**	**22 16 19.7**	**+0.3**
baz=296							
EHY	**Hungye**	**0.38**	**314**	⇑*i*P	**Pn**	**22 16 14.0**	**-0.2**
baz=304							
EHY				S	**Sn**	**22 16 20.4**	**-0.3**
baz=304							
EDH	**Donghe**	**0.39**	**228**	P	**Pn**	**22 16 14.3**	**-0.1**
baz=219							
EDH				*e*S	**Sn**	**22 16 21.0**	**+0.2**
baz=219							
ECS	**Chishang**	**0.40**	**249**	P	**Pn**	**22 16 14.9**	**+0.5**
baz=244							
ECS				S	**Sn**	**22 16 20.6**	**-0.3**
baz=244							
EGFH	**Guangfu**	**0.46**	**338**	*i*P	**Pn**	**22 16 15.3**	**-0.1**
baz=328							
EGFH				*e*S	**Sn**	**22 16 22.7**	**+0.1**
baz=328							
TEGC	**Jichi Village**	**0.47**	**351**	P	**Pn**	**22 16 15.5**	**-0.1**
baz=1.0							
TEGC				*e*S	**Sn**	**22 16 23.0**	**+0.1**
baz=1.0							
ELDTW	**Lidau**	**0.56**	**265**	*i*P	**Pn**	**22 16 16.1**	**-0.6**
baz=257							
ELDTW				*e*S	**Sb**	**22 16 23.3**	**-0.8**
baz=257							
LONT	**Longtian**	**0.56**	**234**	P	**Pn**	**22 16 16.2**	**-0.5**
baz=240							
LONT				*e*S	**Sn**	**22 16 24.6**	**-0.3**
baz=240							
LDUT	**Ludao**	**0.58**	**194**	*e*P	**Pb**	**22 16 16.2**	**-0.3**
baz=184							
LDUT				*e*S	**Sb**	**22 16 24.4**	**-0.1**
baz=184							
ESL	**Shilin**	**0.60**	**343**	P	**Pb**	**22 16 16.4**	**-0.5**
baz=337							
ESL				*e*S	**Sb**	**22 16 24.4**	**-0.6**
baz=337							
TEYL	**Yanliau Villag**	**0.63**	**358**	*i*P	**Pb**	**22 16 17.7**	**+0.4**
baz=9.0							
TEYL				S	**Sn**	**22 16 27.3**	**+0.7**
baz=9.0							
TTN	**Taitung**	**0.65**	**222**	*e*P	**Pn**	**22 16 19.1**	**+1.1**
baz=230							
TTN				*e*S	**Sn**	**22 16 29.3**	**+2.1**
baz=230							
TWGBT	**Beinan**	**0.65**	**230**	P	**Pb**	**22 16 17.2**	**-0.5**
baz=237							
TWGBT				*e*S	**Sn**	**22 16 26.5**	**-0.7**
baz=237							
TWG	**Pinlang**	**0.65**	**231**	P	**Pb**	**22 16 17.2**	**-0.6**
baz=237							
TWG				*e*S	**Sn**	**22 16 26.4**	**-0.9**
baz=237							
ETM	**Tongmen**	**0.73**	**351**	*i*P	**Pn**	**22 16 18.4**	**-0.8**
baz=343							
ETM				*e*S	**Sb**	**22 16 26.8**	**-2.1**
baz=343							
HWA	**Hwalien**	**0.73**	**359**	P	**Pn**	**22 16 18.7**	**-0.4**
baz=9.0							
HWA				*e*S	**Sb**	**22 16 29.6**	**+0.8**
baz=9.0							
STYH	**Taoyuan**	**0.78**	**265**	P	**Pb**	**22 16 19.7**	**-0.1**
baz=263							
STYH				*e*S	**Sn**	**22 16 29.9**	**-0.5**
baz=263							
ALS	**Alishan**	**0.80**	**290**	P	**Pb**	**22 16 20.6**	**+0.2**
baz=289							
ALS				*e*S	**Sn**	**22 16 31.2**	**0.0**
baz=289							
STYT	**Tauyuan**	**0.80**	**265**	P	**Pb**	**22 16 20.0**	**-0.2**
baz=262							
STYT				*e*S	**Sn**	**22 16 29.4**	**-1.5**
baz=262							
SSLB	**Suanglung**	**0.82**	**312**	⇑*i*P	**Pn**	**22 16 20.2**	**-0.1**
baz=312							
SSLB				*e*S	**Sn**	**22 16 29.7**	**-1.8**
baz=312							
OWD	**Renai**	**0.82**	**330**	⇑*i*P	**Pn**	**22 16 19.9**	**-0.6**
baz=338							
OWD				*e*S	**Sn**	**22 16 29.9**	**-1.7**
baz=338							
TWD	**Chiawan**	**0.84**	**359**	P	**Pn**	**22 16 19.4**	**-1.1**
baz=348							
TWD				*e*S	**Sn**	**22 16 30.8**	**-1.0**
baz=348							
WHYT	**Xinyi Township**	**0.84**	**303**	P	**Pb**	**22 16 21.1**	**+0.2**
baz=305							
WHYT				*e*S	**Sb**	**22 16 31.9**	**+0.1**
baz=305							
ECL	**Taimali**	**0.89**	**224**	P	**Pn**	**22 16 19.9**	**-1.3**
baz=221							
ECL				*e*S	**Sn**	**22 16 31.0**	**-2.0**
baz=221							
TPUB	**Ta-pu**	**0.91**	**274**	P	**Pb**	**22 16 22.4**	**+0.2**
baz=272							
TPUB				*e*S	**Sb**	**22 16 34.7**	**+0.8**
baz=272							
CHGB	**Renai**	**0.91**	**334**	P	**Pn**	**22 16 21.7**	**-0.1**
baz=341							
CHGB				*e*S	**Sn**	**22 16 32.7**	**-1.3**
baz=341							
ETL	**Fush Village**	**0.92**	**0**	P	**Pn**	**22 16 21.1**	**-0.5**
baz=7.0							
SMLT	**Sun Moon Lake**	**0.92**	**314**	*i*P	**Pb**	**22 16 22.1**	**-0.2**
baz=318							
SMLT				*e*S	**Sb**	**22 16 34.1**	**-0.2**
baz=318							
WTP	**Ta-pu**	**0.92**	**271**	P	**Pb**	**22 16 22.5**	**+0.2**
baz=268							
WTP				*e*S	**Sb**	**22 16 35.4**	**+1.1**
baz=268							
SLGT	**Liugui**	**0.93**	**255**	P	**Pb**	**22 16 22.4**	**+0.1**
baz=253							
SLGT				*e*S	**Sb**	**22 16 34.8**	**+0.4**
baz=253							
NACB	**Ninganchiao**	**0.93**	**359**	P	**Pn**	**22 16 21.1**	**-0.7**
baz=350							
CHN5	**Tsauling**	**0.94**	**293**	P	**Pb**	**22 16 23.2**	**+0.6**
baz=292							
CHN5				*e*S	**Sb**	**22 16 35.2**	**+0.5**
baz=292							
CHN4	**Tsaushan**	**0.95**	**277**	P	**Pb**	**22 16 23.1**	**+0.3**
baz=275							
CHN4				*e*S	**Sb**	**22 16 36.2**	**+1.2**
baz=275							
WHF	**Hehuan Shan**	**0.96**	**340**	P	**Pn**	**22 16 22.2**	**-0.4**
baz=342							
WHF				*e*S	**Sn**	**22 16 34.0**	**-1.5**
baz=342							
TYC	**Yuchr**	**0.96**	**314**	*e*P	**Pb**	**22 16 22.8**	**-0.2**
baz=322							
TYC				*e*S	**Sb**	**22 16 35.5**	**+0.1**
baz=322							
SGST	**Jiashian**	**0.97**	**261**	P	**Pb**	**22 16 22.3**	**-0.7**
baz=252							
SGST				*e*S	**Sb**	**22 16 35.6**	**+0.1**
baz=252							
ETLH	**Xiulin Townshi**	**0.97**	**353**	P	**Pn**	**22 16 22.0**	**-0.4**
baz=354							
WJS	**Zhushan**	**1.00**	**306**	P	**Pb**	**22 16 24.1**	**+0.4**
baz=305							
WJS				*e*S	**Sb**	**22 16 36.9**	**+0.4**
baz=305							
CHN1	**Nanshi**	**1.00**	**267**	*e*P	**Pb**	**22 16 24.1**	**+0.4**
baz=265							
CHN1				*e*S	**Sb**	**22 16 37.1**	**+0.5**
baz=265							
DPDB	**Guoxing**	**1.01**	**321**	P	**Pb**	**22 16 23.5**	**-0.3**
baz=322							
DPDB				*e*S	**Sb**	**22 16 37.6**	**+0.7**
baz=322							
SNST	**Tainan City**	**1.03**	**269**	*e*P	**Pb**	**22 16 24.4**	**+0.3**
baz=267							
SNST				*e*S	**Sb**	**22 16 38.6**	**+1.3**
baz=267							
SSD	**Sandimen**	**1.03**	**242**	*e*P	**Pb**	**22 16 23.4**	**-0.7**
baz=235							
TWK	**Hsinying**	**1.04**	**272**	P	**Pb**	**22 16 24.2**	**-0.1**
baz=270							
TWK				*e*S	**Sb**	**22 16 37.7**	**+0.1**
baz=270							
WCS	**Beigang Elemen**	**1.04**	**322**	*e*P	**Pb**	**22 16 24.2**	**0.0**
baz=329							
TSMG	**Majia**	**1.04**	**240**	*e*P	**Pb**	**22 16 23.7**	**-0.6**
baz=232							
FUSS	**Fushou**	**1.06**	**341**	*e*P	**Pn**	**22 16 23.9**	**+0.1**
baz=352							
WGK	**Gukeng**	**1.07**	**295**	P	**Pb**	**22 16 25.1**	**+0.4**
baz=294							
WGK				*e*S	**Sb**	**22 16 39.1**	**+0.7**
baz=294							
WNT	**Mingjian**	**1.07**	**307**	P	**Pb**	**22 16 24.7**	**0.0**
baz=306							
WNT				*e*S	**Sb**	**22 16 39.6**	**+1.2**
baz=306							
TWT	**Tachien**	**1.09**	**338**	P	**Pn**	**22 16 24.6**	**+0.5**
baz=345							
TWT				*e*S	**Sn**	**22 16 37.1**	**-1.2**
baz=345							
WDLH	**Douliu**	**1.09**	**295**	P	**Pb**	**22 16 25.5**	**+0.4**
baz=293							
WDLH				*e*S	**Sb**	**22 16 40.7**	**+1.8**
baz=293							
WNT1	**Nantou City**	**1.09**	**308**	*e*P	**Pb**	**22 16 25.6**	**+0.5**
baz=296							
WNT1				*e*S	**Sb**	**22 16 39.2**	**+0.2**
baz=296							
CHN2	**Minshiung**	**1.09**	**286**	*e*P	**Pb**	**22 16 25.7**	**+0.6**
baz=284							
CHN2				*e*S	**Sb**	**22 16 40.7**	**+1.8**
baz=284							
SCST	**Cishan**	**1.09**	**251**	P	**Pb**	**22 16 26.1**	**+0.9**
baz=249							
SCST				*e*S	**Sb**	**22 16 40.6**	**+1.5**
baz=249							
TDCB	**Techi**	**1.09**	**337**	P	**Pn**	**22 16 24.3**	**+0.1**
baz=345							
TDCB				*e*S	**Sn**	**22 16 37.4**	**-1.0**
baz=345							
TAW	**Tawu**	**1.10**	**217**	*e*P	**Pn**	**22 16 23.6**	**-0.5**
baz=215							
TAW				*e*S	**Sn**	**22 16 37.0**	**-1.3**
baz=215							
MASBT	**Mashibuluo**	**1.10**	**236**	P	**Pn**	**22 16 24.1**	**-0.1**
baz=229							
MASBT				*e*S	**Sb**	**22 16 38.4**	**-0.9**
baz=229							
EAST	**Anshuo**	**1.11**	**220**	P	**Pn**	**22 16 23.6**	**-0.7**
baz=217							
CHY	**Chiayi**	**1.13**	**283**	*e*P	**Pb**	**22 16 25.1**	**-0.6**
baz=282							
CHY				*e*S	**Sb**	**22 16 40.6**	**+0.6**
baz=282							
SGLT	**Jiouru**	**1.16**	**244**	*e*P	**Pb**	**22 16 27.8**	**+1.5**
baz=231							
SGLT				*e*S	**Sb**	**22 16 42.2**	**+1.3**
baz=231							
WWF	**Wufeng**	**1.16**	**314**	P	**Pb**	**22 16 26.6**	**+0.3**
baz=301							
WWF				*e*S	**Sb**	**22 16 42.0**	**+0.9**
baz=301							
TSPT	**Pingtung City**	**1.18**	**242**	*e*P	**Pb**	**22 16 28.6**	**+2.0**
baz=228							
TWM1	**Shoushan**	**1.18**	**250**	*e*P	**Pb**	**22 16 28.3**	**+1.7**
baz=247							
WYL	**Yuanlin Townsh**	**1.19**	**307**	*e*P	**Pb**	**22 16 26.9**	**+0.1**
baz=308							
LAY	**Lan-yu**	**1.20**	**183**	P	**Pn**	**22 16 24.8**	**-0.7**
baz=175							
LAY				*e*S	**Sn**	**22 16 40.5**	**-0.2**
baz=175							
NNSB	**Datong**	**1.20**	**350**	*e*P	**Pn**	**22 16 25.8**	**+0.1**
baz=360							
NNSH	**Datong**	**1.20**	**350**	*e*P	**Pn**	**22 16 25.5**	**-0.2**
baz=359							
WHP	**Taichung City**	**1.20**	**329**	P	**Pb**	**22 16 27.0**	**-0.1**
baz=334							
WHP				*e*S	**Sb**	**22 16 42.4**	**+0.1**
baz=334							
EWUT	**Wuta**	**1.21**	**7**	P	**Pn**	**22 16 25.4**	**-0.2**
baz=9.0							
EWUT				*e*S	**Sn**	**22 16 40.2**	**-0.9**
baz=9.0							
WTK	**Tuku**	**1.22**	**292**	*e*P	**Pn**	**22 16 25.8**	**+0.1**
baz=291							
WTK				*e*S	**Sb**	**22 16 41.6**	**-0.9**
baz=291							
NNS	**Nan Shan**	**1.22**	**349**	*e*P	**Pn**	**22 16 26.3**	**+0.4**
baz=360							
SSPT	**Xinbi**	**1.23**	**232**	*e*P	**Pb**	**22 16 27.1**	**-0.3**
baz=222							
SSPT				*e*S	**Sb**	**22 16 44.5**	**+1.7**
baz=222							
ICHU	**Yijhu**	**1.24**	**276**	P	**Pb**	**22 16 26.8**	**-0.7**
baz=274							
ICHU				*e*S	**Sb**	**22 16 42.7**	**-0.5**
baz=274							
TCU	**Taichung**	**1.25**	**316**	P	**Pb**	**22 16 28.1**	**+0.3**
baz=304							
TCU				*e*S	**Sb**	**22 16 44.5**	**+0.9**
baz=304							
SCZT	**Fangliau**	**1.26**	**227**	P	**Pn**	**22 16 26.6**	**+0.2**
baz=217							
SCZT				*e*S	**Sn**	**22 16 42.2**	**-0.1**
baz=217							
SLIU	**Shizi**	**1.27**	**217**	*e*P	**Pn**	**22 16 25.8**	**-0.6**
baz=215							
SLIU				*e*S	**Sb**	**22 16 43.9**	**-0.2**
baz=215							
SNJT	**Kaohsiung City**	**1.28**	**248**	*e*P	**Pb**	**22 16 28.7**	**+0.5**
baz=245							
SNJT				*e*S	**Sb**	**22 16 46.9**	**+2.6**
baz=245							
WCHH	**Zhanghua**	**1.28**	**311**	*e*P	**Pb**	**22 16 28.7**	**+0.3**
baz=310							
WCHH				*e*S	**Sb**	**22 16 45.2**	**+0.7**
baz=310							
CHN8	**Yiju**	**1.30**	**275**	P	**Pb**	**22 16 27.6**	**-1.0**
baz=273							
CHN8				S	**Sb**	**22 16 44.8**	**-0.2**
baz=273							
SCLT	**Jiali**	**1.31**	**268**	*e*P	**Pb**	**22 16 26.8**	**-0.3**
baz=266							
WRL	**Guolierlin Hig**	**1.32**	**300**	P	**Pb**	**22 16 27.8**	**-1.1**
baz=300							
WRL				S	**Sb**	**22 16 44.5**	**-0.9**
baz=300							
WSF	**Szhu**	**1.34**	**287**	*e*P	**Pn**	**22 16 27.9**	**+0.4**
baz=286							
WSF				*e*S	**Sb**	**22 16 45.7**	**-0.5**
baz=286							
NDT	**Datong Townshi**	**1.36**	**356**	*e*P	**Pb**	**22 16 29.1**	**-0.6**
baz=358							
TWC	**Suao**	**1.38**	**9**	P	**Pb**	**22 16 28.6**	**+0.6**
baz=11							
TWC				*e*S	**Sn**	**22 16 44.9**	**-0.3**
baz=11							
NDS	**Dongshan**	**1.39**	**4**	*e*P	**Pn**	**22 16 28.3**	**+0.2**
baz=354							
ENTT	**Nioudou**	**1.40**	**358**	*e*P	**Pn**	**22 16 28.5**	**+0.2**
baz=360							
WMLT	**Mailiao**	**1.40**	**294**	*e*P	**Pn**	**22 16 28.8**	**+0.6**
baz=294							
NSY	**Sanyi**	**1.41**	**326**	*e*P	**Pb**	**22 16 30.5**	**-0.1**
baz=326							
NSY				*e*S	**Sb**	**22 16 49.3**	**+1.1**
baz=326							
WDJ	**Dajia District**	**1.42**	**321**	P	**Pb**	**22 16 30.3**	**-0.4**
baz=334							
WDJ				*e*S	**Sb**	**22 16 49.8**	**+1.3**
baz=334							
YHNB	**Yeheng**	**1.44**	**351**	P	**Pn**	**22 16 29.2**	**+0.3**
baz=352							
YHNB				*e*S	**Sn**	**22 16 46.5**	**-0.4**
baz=352							
TWE	**Neicheng**	**1.48**	**2**	*e*P	**Pn**	**22 16 30.4**	**+1.0**
baz=355							
TWKBT	**Hengchun**	**1.49**	**210**	*e*P	**Pn**	**22 16 28.9**	**-0.6**
baz=208							
TWK1	**Hengchun**	**1.49**	**210**	*e*P	**Pn**	**22 16 28.6**	**-1.0**
baz=208							
NSTT	**Nanjuang**	**1.50**	**338**	*e*P	**Pb**	**22 16 31.0**	**-1.0**
baz=338							
NSTT				*e*S	**Sn**	**22 16 48.8**	**+0.6**
baz=338							
NMLH	**Miaoli**	**1.50**	**330**	P	**Pb**	**22 16 30.9**	**-1.1**
baz=342							
NMLH				*e*S	**Sb**	**22 16 50.2**	**-0.4**
baz=342							
LIOB	**Emei**	**1.51**	**339**	*e*P	**Pb**	**22 16 31.1**	**-1.1**
baz=339							
LIOB				*e*S	**Sb**	**22 16 50.4**	**-0.5**
baz=339							
NWLT	**Wulai**	**1.54**	**356**	*e*P	**Pn**	**22 16 31.2**	**+1.0**
baz=357							
NWLT				*e*S	**Sn**	**22 16 49.1**	**-0.1**
baz=357							
NJD	**Zhudong**	**1.57**	**342**	*e*P	**Pn**	**22 16 31.9**	**+1.4**
baz=330							
NJD				*e*S	**Sb**	**22 16 53.2**	**+0.5**
baz=330							
NTC	**Toucheng**	**1.62**	**7**	*e*P	**Pn**	**22 16 31.3**	**0.0**
baz=18							
JYNG	**Yonagunijimaku**	**1.71**	**45**	P	**Pn**	**22 16 33.5**	**+0.9**
JYNG				*e*S	**Sn**	**22 16 53.4**	**0.0**
TATO	**Taipei**	**1.73**	**356**	*e*P	**Pn**	**22 16 33.0**	**+0.2**
baz=358							
TIPB	**Shuangxi**	**1.74**	**6**	*e*P	**Pn**	**22 16 34.6**	**+1.7**
baz=357							
TIPB				*e*S	**Sn**	**22 16 55.7**	**+1.6**
baz=357							
YOJ	**Yonaguni jima**	**1.76**	**46**	P	**Pn**	**22 16 34.3**	**+1.0**
YOJ				*e*S	**Sn**	**22 16 55.0**	**+0.3**
YOJ	**Yonaguni jima**	**1.76**	**46**	*e*P	**Pn**	**22 16 34.0**	**+0.7**
baz=47							
WDGT	**Dungji**	**1.80**	**271**	*e*P	**Pn**	**22 16 33.9**	**+0.1**
baz=269							
WDGT				*e*S	**Sn**	**22 16 54.6**	**-1.0**
baz=269							
NWF	**Wu-fen Shan**	**1.83**	**5**	*e*P	**Pn**	**22 16 35.3**	**+1.0**
baz=356							
WFSB	**Wu-fen Shan**	**1.83**	**5**	*e*P	**Pn**	**22 16 35.4**	**+1.2**
baz=353							
WFSB				*e*S	**Sn**	**22 16 58.5**	**+2.2**
baz=353							
TWS1	**Kuangyinshan**	**1.86**	**354**	*e*P	**Pb**	**22 16 37.4**	**-0.8**
baz=10.0							
YM01	**YM01**	**1.90**	**359**	*e*P	**Pn**	**22 16 36.2**	**+1.0**
PHUB	**P'eng-hu**	**1.90**	**279**	*e*P	**Pn**	**22 16 33.5**	**-1.6**
baz=264							
PHUB				*e*S	**Sn**	**22 16 57.8**	**-0.3**
baz=264							
PNG	**Penghu**	**1.92**	**280**	*e*P	**Pn**	**22 16 35.2**	**-0.3**
baz=266							
PNG				*e*S	**Sn**	**22 16 57.4**	**-1.3**
baz=266							
VCHM	**Qimei**	**2.01**	**270**	*e*P	**Pn**	**22 16 36.0**	**-0.7**
baz=268							
HATJ	**Hateruma jima**	**2.16**	**67**	S	**Sn**	**22 17 03.6**	**-1.0**

IRIF	Iriomote-Funau	2.22	60	P	Pn	22 16 40.6	+1.1
IRIF				eS	Sn	22 17 06.0	0.0
JKRS	Kuro-shima	2.41	65	P	Pn	22 16 43.1	+1.0
JKRS				S	Sn	22 17 11.2	+0.7
JIJ	Ishigaki jima	2.57	64	P	Pn	22 16 44.5	+0.2
JIJ				eS	Sn	22 17 13.8	-0.8
VWUC	VWUC	2.64	312	eP	Pn	22 16 45.3	0.0
	baz=312						
JISG	Ishigakijimahi	2.81	61	P	Pn	22 16 47.8	+0.2
JISG				S	Sn	22 17 19.2	-1.2
PTMZ	Houxiangcun	2.90	309	eP	Pn	22 16 49.9	+1.0
	baz=309						
KNM	Kinmen	3.14	293	eP	Pn	22 16 52.6	+0.3
	baz=291						
JTJ	Tarama	3.15	63	eS	Sn	22 17 29.0	+0.2
KNMB	Chin-men Tao	3.20	293	eP	Pn	22 16 52.1	-0.9
	baz=292						
MSUT	Lienchiang	3.30	332	eP	Pn	22 16 54.5	+0.1
	baz=334						
ZPLA	Ao Xicun	3.62	282	eP	Pn	22 16 58.5	-0.3
	baz=280						
MHZQ	Yesham	3.70	321	eP	Pn	22 17 00.2	+0.3
	baz=322						
LYJJ	Jianjiangzhen	3.70	333	eP	Pn	22 16 59.9	0.0
	baz=336						

NEIC ***15*** *22:16:18.5±1.5, 18°.83N±0°.08×145°.15E±0°.10, h507km±5km, mb5.0/248, Error ellipse: s-maj=13.2km s-min=11.8km az=71.0*

MOS ***15*** *22:16:18.5±0.9, 18°.80N×145°.08E, h529km, mb5.1/37, Error ellipse: s-maj=7.3km s-min=4.4km az=110.4*

BJI ***15*** *22:16:18.1±0.0, 18°.91N×145°.24E, h523km, mB4.8/47, mb5.0/65*

GCMT ***15*** *22:16:19.5±0.3, 18°.89N±0°.02×145°.11E±0°.03, h516km±1km, MW5.4/99, Moment Tensor Solution. s99,c167; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr-0.35±.04; Mθθ0.57±.05; Mφφ-0.22±.06; Mrθ-0.69±.05; Mθφ1.55±.05; Mφr-0.17±.05; Best double couple: M0=1.73100×10^17^ NP1:φs186.00000°, δ68.00000°, λ180.00000°. NP2:φs276.00000°, δ90.00000°, λ22.00000°. Principal axes: T 1.9570, Plg16.0000°, Azm144.0000°; N -0.4530, Plg68.0000°, Azm277.0000°; P -1.5040, Plg16.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

IDC ***15*** *22:16:19.1±0.5, 18°.79N×145°.11E, h523km±5km, mb4.3/43, mb1 4.4/48, mb1mx4.4/55, mbtmp5.2/48 Error ellipse: s-maj=8.4km s-min=5.7km az=88.0*

ISC 15 22:16:19.1±0.3, 18°.79N±0°.03×145°.10E±0°.04, h524km±3km, h525km:pP-P,n985,σ1°13/1099, mb5.0/285, 69C-223D, Fault plane solution: NP1:φs76.19746°, δ78.47222°, λ-46.52971°. **NP2:φs178.10165°, δ44.67620°,** λ-163.48708°. **Principal axes:** T Plg21.1928°, Azm134.7470°; N Plg42.3843°, Azm245.4701°; P Plg40.1003°, Azm25.6904°; **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	5.18	182	P	P	22 17 48.0	-1.0
	172nm,0.3s,baz=93,slow=1.5,SNR=28						
GUMO				S	S	22 18 57.0	-5.4
	260nm,0.3s,baz=238,slow=23,SNR=20						
GUMO	Guam	5.18	182	P	P	22 17 48.2	-0.8
GUMO	Guam	5.18	182		P	22 17 48.2	-0.8
GUMO	Guam	5.18	182	P	P	22 17 48.3	-0.8
JCJ	Chichijima	8.69	343	P	P	22 18 23.6	+0.6
	276nm,0.3s,baz=270,slow=20,SNR=14						
JCJ	Chichijima	8.69	343	P	P	22 18 23.4	+0.3
JMZ	Minamidaito 2	14.62	301	P	P	22 19 23.9	-1.0
JOW	Kunigami	17.44	300	P	P	22 19 52.7	-0.5
	29nm,0.3s,baz=126,slow=13,SNR=17						
JOW	Kunigami	17.44	300	P	P	22 19 53.2	0.0
PATS	Pohnpei	17.51	131	P	P	22 19 53.5	-0.5
JYT	Yasato	17.90	347	P	P	22 19 56.7	-0.5
JMN	Monobe	17.94	328	P	P	22 19 57.1	-0.5
INU	Inuyama	17.98	338	P	P	22 19 57.8	-0.2
JGF	Kuroka	18.09	339	P	P	22 19 58.6	-0.4
JGF				IAmb	IAmb	22 20 00.1	
	comp=Z,64nm,0.9s						
JSU	Suzuyama	18.30	317	P	P	22 20 01.6	+0.6
JWT	Wachi	18.54	334	P	P	22 20 03.2	+0.2
JWT				IAmb	IAmb	22 20 05.0	
	comp=Z,88nm,1.2s						
MJAR	Matsushiro Arr	18.70	342	P	P	22 20 02.9	-1.6
	comp=Z,3.1nm,0.3s,baz=165,slow=9.9,SNR=113						
MAJO	Matsushiro	18.70	342	P	P	22 20 03.7	-0.8
MAJO				pmax	pmax		
	comp=Z,154nm,1.2s						
MAJO	Matsushiro	18.70	342		P	22 20 03.7	-0.8
MAT	Matsushiro	18.70	342	P	P	22 20 03.5	-1.0
MAT				S	S	22 23 10.6	+2.6
MJB9	Matsu-Tunnel	18.70	342	P	P	22 20 03.8	-0.7
JNU	Nakatsue	19.13	321	P	P	22 20 09.1	+0.6
	comp=Z,5.4nm,0.3s,baz=110,slow=3.6,SNR=44						
JNU	Nakatsue	19.13	321	P	P	22 20 08.6	+0.1
JHS	Saijyo	19.33	329	P	P	22 20 10.4	+0.1
JMM	Marumori	19.38	350	P	P	22 20 11.3	+0.6
JSD	Sado	20.09	344	P	P	22 20 16.9	-0.1
MANU	Manus Island	20.82	174	P	P	22 20 23.5	-0.6
JTU	Tsushima	20.99	321	P	P	22 20 25.4	+0.1
YOJ	Yonaguni jima	21.28	289	P	P	22 20 28.7	+0.5
YOJ				pmax	pmax		
	comp=Z,97nm,0.6s						
YOJ	Yonaguni jima	21.28	289	P	P	22 20 28.7	+0.5
MSLP	Maasin	21.39	249	||eP	P	22 20 29.0	-0.2
NACB	Ninganchiao	22.50	288	P	P	22 20 39.4	+0.2
YULB	Yu-li	22.66	286	P	P	22 20 41.1	+0.5
YULB				IAmb	IAmb	22 20 46.2	
	comp=Z,47nm,0.6s						
TATO	Taipei	22.74	290	P	P	22 20 42.5	+1.3
TATO				IAmb	IAmb	22 20 46.9	
	comp=Z,52nm,0.8s						
YHNB	Yeheng	22.79	289	P	P	22 20 42.1	+0.4
TWG	Pinlang	22.81	284	P	P	22 20 42.0	+0.1
TWG				IAmb	IAmb	22 20 48.6	
	comp=Z,55nm,0.9s						
SSLB	Suanglung	23.03	287	P	P	22 20 44.4	+0.6
ERM	Erimo	23.21	356	P	P	22 20 46.9	+1.8
ERM				pmax	pmax		
	comp=Z,328nm,1.9s						
ERM	Erimo	23.21	356	P	P	22 20 46.9	+1.8
TPUB	Ta-pu	23.26	285	P	P	22 20 46.3	+0.4
TJN	Taejon	23.47	322	ceP	P	22 20 47.6	+0.1
SWI	Sorong	23.80	216	P	P	22 20 51.2	+0.4
SWI				pmax	pmax		
	comp=Z,65nm,0.9s						
SWI	Sorong	23.80	216	P	P	22 20 50.9	+0.1
	comp=Z,68nm,1.1s						
SIJI	Sorong	23.80	216	P	P	22 20 50.1	-0.7
	comp=Z,34nm,0.7s,baz=22,slow=11,SNR=15						
RABL	Rabaul	23.87	162	P	P	22 20 51.2	-0.2
KSRS	Korea Array	23.91	325	P	P	22 20 51.5	+0.1
	comp=Z,35nm,0.7s,baz=146,slow=9.1,SNR=104						
KSRS				pP	pP	22 22 10.5	-5.8
	comp=Z,19nm,0.9s,baz=135,slow=11,SNR=11						
KSAR	Wonju Array Be	23.92	324	P	P	22 20 51.4	-0.2
KSAR	Wonju Array Be	23.92	324	P	P	22 20 51.4	-0.2
KS19	Wonju Array Si	23.98	325	P	P	22 20 51.5	-0.6
KS19				IAmb	IAmb	22 20 53.6	
	comp=Z,41nm,0.8s						
TNTI	Ternate	24.97	226	P	P	22 21 01.1	-0.1
TNTI				IAmb	IAmb	22 21 03.2	
	comp=Z,22nm,0.7s						
TNTI	Ternate	24.97	226	P	P	22 21 01.0	-0.1
	comp=Z,42nm,0.8s						
FAKI	Fak Fak	25.01	212	P	P	22 21 01.2	-0.3
FAKI				IAmb	IAmb	22 21 02.7	
	comp=Z,127nm,1.6s						
QZH	Quanzhou	25.32	289	P	P	22 21 05.3	+1.1
QZH				S	S	22 24 56.4	+3.1
QZH				pmax	pmax		
	comp=Z,38nm,0.7s						
ASAJ	Asahikawa	25.34	356	P	P	22 21 05.0	+1.0
	comp=Z,12nm,0.3s,baz=220,slow=9.7,SNR=18						
ASAJ	Asahikawa	25.34	356	P	P	22 21 04.4	+0.4
ASAJ				pmax	pmax		
	comp=Z,22nm,0.6s						
JKA	Kamikawa-asahi	25.34	356	P	P	22 21 04.4	+0.4
JKA				IAmb	IAmb	22 21 07.8	
	comp=Z,22nm,0.6s						
USA0B	Ussuriysk Arra	27.62	339	P	P	22 21 24.5	+0.4
USA0B				pmax	pmax		
	comp=Z,31nm,1.6s						
USA0B	Ussuriysk Arra	27.62	339	P	P	22 21 24.4	+0.4
USRK	Ussuriysk Ar.	27.62	339	P	P	22 21 24.4	+0.3
	comp=Z,6.0nm,0.6s,baz=156,slow=9.2,SNR=23						
USRK				pP	pP	22 22 47.8	-1.8
	comp=Z,3.9nm,0.6s,baz=135,slow=6.8,SNR=5.5						
PMG	Port Moresby	28.09	176	P	P	22 21 28.2	-0.4
	comp=Z,83nm,0.6s,baz=3.9,slow=6.3,SNR=23						
PMG	Port Moresby	28.09	176	ceP	P	22 21 28.5	-0.1
PMG				pmax	pmax		
	comp=Z,240nm,1.3s						
PMG	Port Moresby	28.09	176	P	P	22 21 28.2	-0.4
PMG	Port Moresby	28.09	176	P	P	22 21 28.6	0.0
PMG	Port Moresby	28.09	176	P	P	22 21 28.6	0.0
YSS	Yuzh-Sakhalins	28.16	357	iP	P	22 21 27.8	-0.9
GTOI	Gorontalo	28.20	233	P	P	22 21 30.3	+0.7
	comp=Z,444nmcomp=Z,20nm,0.7s						
MRSI	Marisa	29.11	234	P	P	22 21 38.3	+0.7
	comp=Z,3μmcomp=Z,261nm,1.1s						
LUWI	Luwuk	29.49	230	P	P	22 21 40.1	-0.7
LUWI	Luwuk	29.49	230	P	P	22 21 40.6	-0.2
	comp=Z,5μmcomp=Z,350nm,0.9s						
TOLI2	Tolitoli	29.62	236	P	P	22 21 42.2	+0.2
CN2	Changchun	29.91	331	eP	P	22 21 43.8	-0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
APSI	Ampana	30.24	232	P	P	22 21 47.5	+0.2
	comp=Z,3μmcomp=Z,239nm,1.1s						
MPSI	Mapaga	30.79	236	P	P	22 21 52.4	+0.4
	comp=Z,2μmcomp=Z,120nm,0.8s						
SPMM	Sapulut	31.26	247	P	P	22 21 57.0	+0.9
HNR	Honiara	31.64	151	P	P	22 21 58.3	-1.0
	comp=Z,74nm,0.4s,baz=177,slow=9.2,SNR=9.4						
HNR	Honiara	31.64	151	P	P	22 21 58.5	-0.8
HNR				pmax	pmax		
	comp=Z,292nm,0.9s						
HNR	Honiara	31.64	151	P	P	22 21 58.5	-0.8
KLR	Kul'dur	32.22	344	P	P	22 22 04.1	+0.3
	comp=Z,25nm,0.7s,baz=152,slow=6.8,SNR=85						
KLR				pP	pP	22 23 33.3	+2.4
	comp=Z,6.5nm,0.9s,baz=151,slow=12,SNR=9.2						
KLR				PcP	PcP	22 24 37.0	+0.4
	comp=Z,3.1nm,0.3s,baz=159,slow=2.5,SNR=5.6						
KLR	Kul'dur	32.22	344	ceP	P	22 22 04.5	+0.7
TARA	Tarawa	32.32	119	P	P	22 22 04.4	-0.7
GRNR	Gornyy	32.65	350	⇑iP	P	22 22 08.3	+0.9
GRNR				pmax	pmax		
	comp=Z,30nm,0.7s						
GRNR				MLR	MLR		
	comp=E,310nm,16.0s						
GRNR				MLR	MLR		
	comp=N,130nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,140nm,13.0s						
BJT	Baijiatuau	32.67	317	P	P	22 22 07.9	+0.1
BJT				pmax	pmax		
	comp=Z,19nm,0.6s						
BJT	Baijiatuau	32.67	317	P	P	22 22 07.9	+0.1
BJT				IAmb	IAmb	22 22 09.7	
	comp=Z,19nm,0.6s						
BJI	Beijing	32.67	317	P	P	22 22 08.1	+0.3
BJI				S	S	22 26 45.8	-1.0
BJI				pmax	pmax		
	comp=Z,31nm,0.8s						
TTSI	Tana Toraja	33.01	232	P	P	22 22 12.7	+1.7
	comp=Z,3μmcomp=Z,382nm,0.9s						
QIZ	Qiongzhong	33.32	276	P	P	22 22 15.1	+1.5
QIZ				S	S	22 26 58.0	+0.8
QIZ				sS	sS	22 29 44.0	+3.0
QIZ				pmax	pmax		
	comp=Z,35nm,0.8s						
QIZ	Qiongzhong	33.32	276	P	P	22 22 15.0	+1.5
QIZ				IAmb	IAmb	22 22 15.7	
	comp=Z,26nm,0.8s						
BNSI	Bone	33.72	229	P	P	22 22 18.7	+1.7
	comp=Z,2μmcomp=Z,162nm,1.0s						
ENH	Enshi	34.22	296	P	P	22 22 21.6	+0.5
ENH				IAmb	IAmb	22 22 22.6	
	comp=Z,44nm,0.8s						
MTN	Manton Dam	34.32	205	P	P	22 22 22.1	+0.2
BKSI	Bulukumba	34.35	228	P	P	22 22 22.6	+0.3
	comp=Z,62nm,0.7s						
KAPI	Kappang	34.40	229	P	P	22 22 23.6	+0.9
	comp=Z,52nm,0.6s,baz=55,slow=1.9,SNR=47						
KAPI	Kappang	34.40	229	P	P	22 22 23.6	+0.9
KAPI				pmax	pmax		
	comp=Z,228nm,1.5s						
KAPI	Kappang	34.40	229	P	P	22 22 23.6	+0.9
BSSI	Bau Bau, Buton	34.67	227	P	P	22 22 26.2	+1.2
	comp=Z,2μmcomp=Z,163nm,1.4s						
SOEI	Soe	35.02	218	P	P	22 22 26.9	-1.1
SOEI				IAmb	IAmb	22 22 34.4	
	comp=Z,48nm,0.9s						
SOEI	Soe	35.02	218	P	P	22 22 28.4	+0.4
	comp=Z,53nm,0.6s						
MMRI	Maumere	35.37	222	P	P	22 22 30.2	-0.6
MMRI				IAmb	IAmb	22 22 31.7	
	comp=Z,91nm,1.1s						
MTKI	Muara Teweh, K	35.57	240	P	P	22 22 32.9	+0.4
	comp=Z,2μmcomp=Z,143nm,1.0s						
XAN	Xi'an	35.57	303	P	P	22 22 32.8	+0.5
XAN				pP	pwP	22 24 06.3	-1.2
XAN				PcP	PcP	22 24 47.5	+0.6
XAN				sP	sP	22 25 03.8	+2.6
XAN				S	S	22 27 29.0	-1.9
XAN				ScP	ScP	22 27 39.9	-3.2
XAN				PcS	PcS	22 28 33.8	-1.3
XAN				ScS	ScS	22 31 47.5	-2.3
XAN				pmax	pmax		
	comp=Z,28nm,0.7s						
XAN	Xi'an	35.57	303	IAmb	IAmb	22 22 33.3	
	comp=Z,18nm,0.6s						
PEA0B	Petropavlovsk-	35.63	13	ceP	P	22 22 33.5	+1.1
PEA0B	Petropavlovsk-	35.63	13	P	P	22 22 33.1	+0.7
PETK	Petropavlovsk-	35.63	13	P	P	22 22 32.8	+0.4
	comp=Z,8.6nm,0.7s,baz=190,slow=7.5,SNR=16						
PETK				PcP	PcP	22 24 46.2	-0.3
	comp=Z,4.5nm,0.6s,baz=190,slow=7.2,SNR=4.9						
BATI	Baumata	35.74	218	P	P	22 22 34.1	+0.2
	comp=Z,46nm,0.9s						
PET	Petropavlovsk	35.76	14	eP	P	22 22 34.3	+0.8
PET				e*PP	pwP	22 24 07.4	-2.7
PET				eS	S	22 27 35.0	+2.0
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET	Petropavlovsk	35.76	14	P	P	22 22 33.8	+0.3
PET				IAmb	IAmb	22 22 35.3	
	comp=Z,84nm,1.5s						
EDFI	Ende, Flores	35.80	222	P	P	22 22 34.3	-0.2
	comp=Z,395nmcomp=Z,18nm,0.7s						
KBKI	Kotabaru	35.96	235	P	P	22 22 36.4	+0.7
	comp=Z,50nm,0.8s						
HHC	Hu-ho-hao-te	36.13	315	eP	P	22 22 38.0	+1.1
HHC				S	S	22 27 42.4	+3.2
HHC				pmax	pmax		
	comp=Z,43nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
GYA	Guiyang	36.18	289	||P	P	22 22 39.3	+1.7
GYA				pP	pP	22 24 10.0	+3.0
GYA				PcP	PcP	22 24 49.6	+0.6
GYA				S	S	22 27 40.9	+0.5
GYA				ScP	ScP	22 27 45.1	-0.6
GYA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,42nm,8.1s						
HIA	Hailar	36.61	332	P	P	22 22 41.6	+1.0
HIA				pmax	pmax		
	comp=Z,18nm,0.6s						
HIA	Hailar	36.61	332	P	P	22 22 41.6	+1.0
ZEA	Zeya	37.51	343	eP	P	22 22 48.2	+0.3
ZEA				pmax	pmax		
	comp=N,10.0nm,0.6s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KNRA	Kununurra	37.84	206	P	P	22 22 51.8	+0.8
KNRA				IAmb	IAmb	22 24 29.5	
	comp=Z,40nm,1.2s						
WBSI	Waikabubak, Su	37.96	224	P	P	22 22 52.3	+0.1
	comp=Z,1μmcomp=Z,99nm,0.6s						
PLAI	Plampang	38.46	227	P	P	22 22 56.6	+0.4
	comp=Z,3μmcomp=Z,132nm,0.8s						
CTAO	Charters Tower	38.65	178	P	P	22 22 58.0	+0.3
CTAO				pmax	pmax		
	comp=Z,150nm,1.1s						
CTAO	Charters Tower	38.65	178	P	P	22 22 58.0	+0.3
SLVN	Son La	38.70	281	P	P	22 22 59.5	+1.3
SLVN				IAmb	IAmb	22 23 01.1	
	comp=Z,36nm,1.0s						
TWSI	Taliwang, Sumb	39.02	228	P	P	22 23 00.8	0.0
	comp=Z,1μmcomp=Z,126nm,0.8s						
SKNT	Sakolnakorn	39.11	274	P	P	22 23 02.6	+1.1
	comp=Z,1μmcomp=Z,107nm,1.0s						
SKNT	Sakolnakorn	39.11	274	P	P	22 23 02.6	+1.1
	comp=Z,1μmcomp=Z,107nm,1.0s						
CD2	Chengdu	39.20	296	P	P	22 23 02.8	+0.7
CD2				sP	sP	22 25 34.4	+2.1
CD2				S	S	22 28 26.9	+2.2
CD2				pmax	pmax		
	comp=Z,110nm,0.7s						
CD2				pmax	pmax		
	comp=Z,470nm,6.4s						
PBKI	Pangkalan Bun	39.22	241	P	P	22 23 03.1	+0.7
	comp=Z,321nm,0.9s						
KMI	Kunming	39.67	287	||P	P	22 23 08.0	+1.9
KMI				pP	pwP	22 24 43.3	-0.7
KMI				PP	PP	22 24 52.8	-0.3
KMI				ScP	ScP	22 27 58.8	-0.3
KMI				S	S	22 28 26.8	-5.3
KMI				sS	sS	22 31 20.8	+0.4
KMI				SS	SS	22 31 47.8	-6.2
KMI				pmax	pmax		
	comp=Z,25nm,0.9s						
KMI				pmax	pmax		
	comp=Z,260nm,5.7s						
KMI	Kunming	39.67	287	IAmb	IAmb	22 23 08.3	
	comp=Z,20nm,0.5s						
WB0	Warramunga Arr	39.73	196	P	P	22 23 06.4	0.0
WB0				IAmb	IAmb	22 23 07.1	
	comp=Z,36nm,0.8s						
NONG	Nongkai	39.74	276	P	P	22 23 07.9	+1.4
	comp=Z,14μmcomp=Z,166nm,1.0s						
NONG	Nongkai	39.74	276	P	P	22 23 08.0	+1.4
	comp=Z,14μmcomp=Z,168nm,1.0s						
WR0	Warramunga Arr	39.88	196	P	P	22 23 07.9	+0.3
WR0				IAmb	IAmb	22 23 09.0	
	comp=Z,126nm,1.6s						
WRAB	Tennant Creek	39.90	196	ceP	P	22 23 08.3	+0.6
WRAB				pmax	pmax		
	comp=Z,124nm,1.7s						
WRAB	Tennant Creek	39.90	196	P	P	22 23 07.9	+0.1
WRAB				IAmb	IAmb	22 23 09.2	
	comp=Z,88nm,1.1s						
WB2	Warramunga Arr	39.91	196	P	P	22 23 08.2	+0.4
WB2				IAmb	IAmb	22 23 09.2	
	comp=Z,98nm,1.1s						
WRA	Warramunga Arr	39.91	196	P	P	22 23 07.9	0.0
	comp=Z,34nm,0.7s,baz=19,slow=6.3,SNR=499						
WRA				pP	pP	22 24 40.4	+0.4
	comp=Z,10nm,0.9s,baz=15,slow=9.3,SNR=2.9						
WRA				ScP	ScP	22 27 60.0	+0.2
	comp=Z,7.9nm,0.9s,baz=16,slow=4.2,SNR=7.1						
WRA				S	S	22 28 34.0	-1.2
	comp=Z,9.9nm,1.1s,baz=21,slow=16,SNR=6.9						
WRA	Warramunga Arr	39.91	196	P	P	22 23 07.0	-0.8
LZH	Lanzhou	40.12	304	||P	P	22 23 11.5	+1.9
LZH				pP	pwP	22 24 48.6	+1.2
LZH				S	S	22 28 35.5	-2.9
LZH				sS	sS	22 31 30.5	+3.5
LZH				SS	SS	22 31 56.6	-4.3
LZH				pmax	pmax		
	comp=Z,92nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.9s						
KHON	Khomkaen	40.31	273	P	P	22 23 12.2	+1.1
	comp=Z,6μmcomp=Z,356nm,0.7s						
KHON	Khomkaen	40.31	273	P	P	22 23 12.2	+1.1
	comp=Z,1μmcomp=Z,89nm,0.7s						
SANVU	Saraoutou	40.39	146	P	P	22 23 12.3	+0.6
SMY	Shemya	40.71	27	P	P	22 23 15.0	+1.3
SMY				pmax	pmax		
	comp=Z,174nm,1.0s						
SMY	Shemya	40.71	27	P	P	22 23 15.0	+1.3
MA2	Magadan	40.94	4	P	P	22 23 15.9	+0.4
	comp=Z,53nm,0.7s,baz=187,slow=8.9,SNR=17						
MA2	Magadan	40.94	4	ceP	P	22 23 16.7	+1.2
MA2				pmax	pmax		
	comp=Z,43nm,0.7s						
MA2	Magadan	40.94	4	P	P	22 23 16.0	+0.4
MA2				IAmb	IAmb	22 23 17.6	
	comp=Z,54nm,0.6s						
CHAI	Chaiyaphum	41.18	273	P	P	22 23 18.8	+0.8
	comp=Z,3μmcomp=Z,226nm,0.7s						
CHAI	Chaiyaphum	41.18	273	P	P	22 23 18.9	+0.8
	comp=Z,644nmcomp=Z,56nm,0.7s						
PBKT	Sadao Pong	42.02	274	P	P	22 23 26.8	+2.1
	comp=Z,68nm,0.6s						
PBKT	Sadao Pong	42.02	274	P	P	22 23 26.8	+2.1
	comp=Z,68nm,0.6s						
PBKT	Sadao Pong	42.02	274	P	P	22 23 25.9	+1.2
PBKT				IAmb	IAmb	22 23 27.1	
	comp=Z,42nm,0.5s						
AMKA	Amchitka	42.22	32	P	P	22 23 26.7	+0.9
UTTA	Uttaradit	42.23	276	P	P	22 23 27.3	+1.0
	comp=Z,1μmcomp=Z,123nm,0.7s						
UTTA	Uttaradit	42.23	276	P	P	22 23 27.3	+1.0
	comp=Z,340nmcomp=Z,31nm,0.7s						
PWJI	Pagerwojo	42.28	234	P	P	22 23 26.9	+0.1
	comp=Z,184nm,0.7s						
ULN	Ulaanbaatar	42.35	322	P	P	22 23 28.1	+1.1
ULN				pmax	pmax		
	comp=Z,21nm,0.7s						
ULN	Ulaanbaatar	42.35	322	P	P	22 23 28.1	+1.1
ULN				IAmb	IAmb	22 23 29.0	
	comp=Z,21nm,0.7s						
ULN	Ulaanbaatar	42.35	322	P	P	22 23 28.2	+1.1
PHIT	Phitsanulok	42.45	275	P	P	22 23 29.3	+1.3
	comp=Z,5μmcomp=Z,668nm,0.8s						
PHIT	Phitsanulok	42.45	275	P	P	22 23 29.3	+1.3
	comp=Z,1μmcomp=Z,166nm,0.8s						
SONM	Songino Array	42.72	322	P	P	22 23 31.0	+1.0
	comp=Z,17nm,0.6s,baz=138,slow=7.5,SNR=150						
SONM				PcP	PcP	22 25 10.3	+0.6
	comp=Z,7.2nm,0.7s,baz=133,slow=4.5,SNR=12						
SONM	Songino Array	42.72	322	P	P	22 23 30.9	+1.0
SMRI	Semarang	42.74	236	P	P	22 23 31.0	+0.6
SMRI				IAmb	IAmb	22 24 02.9	
	comp=Z,121nm,1.2s						
LAMP	Lampang	42.99	277	P	P	22 23 33.5	+1.2
	comp=Z,1μmcomp=Z,103nm,0.7s						
LAMP	Lampang	42.99	277	P	P	22 23 33.5	+1.2
	comp=Z,366nmcomp=Z,26nm,0.7s						
UGM	Wanagama	43.20	235	P	P	22 23 33.6	-0.5
UGM	Wanagama	43.20	235	P	P	22 23 34.8	+0.8
	comp=Z,259nm,1.2s						
YOGI	Yogyakarta	43.32	236	P	P	22 23 35.5	+0.6
	comp=Z,320nm,1.4s						
KOUNC	Koumac, New Ca	43.38	153	P	P	22 23

comp=Z,1μcomp=Z,189nm,0.8s
CM01 Chiang Mai Arr 43.63 277 P **P** **22 23 38.9 +1.6**
comp=Z,1μcomp=Z,155nm,0.9s
CM01 Chiang Mai Arr 43.63 277 P **P** **22 23 38.0 +0.7**
comp=Z,1μcomp=Z,155nm,0.9s
CM02 Chiang Mai Arr 43.64 277 P **P** **22 23 38.8 +1.4**
comp=Z,958nmcomp=Z,142nm,0.8s
CM02 Chiang Mai Arr 43.64 277 P **P** **22 23 38.9 +1.5**
comp=Z,958nmcomp=Z,142nm,0.8s
CM31 Chiang Mai Arr 43.64 277 P **P** **22 23 38.9 +1.4**
comp=Z,28μmcomp=Z,3μm,0.6s
CM31 Chiang Mai Arr 43.64 277 P **P** **22 23 38.8 +1.4**
CM31 Chiang Mai Arr 43.64 277 P **P** **22 23 39.1 +1.7**
SNR=19
CMAR Chiang Mai Arr 43.64 277 P **P** **22 23 39.0 +1.6**
comp=Z,71nm,0.6s,baz=70,slow=6.8,SNR=368
CMAR PcP **PcP** **22 25 13.9 +0.6**
comp=Z,5.2nm,0.9s,baz=98,slow=1.3,SNR=5.1
CMAR ScP **ScP** **22 28 14.9 -0.1**
comp=Z,1.0nm,0.6s,baz=92,slow=1.5,SNR=4.0
CMAR Chiang Mai Arr 43.64 277 *ce*P **P** **22 23 39.0 +1.6**
CMAR pmax pmax
comp=Z,77nm,0.6s
CMAR Chiang Mai Arr 43.64 277 P **P** **22 23 38.8 +1.4**
UTHA Uthaitani 43.65 273 P **P** **22 23 39.0 +1.6**
comp=Z,349nmcomp=Z,36nm,0.8s
CM05 Chiang Mai Arr 43.65 277 P **P** **22 23 38.9 +1.5**
comp=Z,1μcomp=Z,177nm,0.8s
CM05 Chiang Mai Arr 43.65 277 P **P** **22 23 39.0 +1.5**
comp=Z,1μcomp=Z,177nm,0.8s
CM15 Chiang Mai Arr 43.66 277 P **P** **22 23 38.9 +1.3**
comp=Z,1μcomp=Z,161nm,0.8s
CM15 Chiang Mai Arr 43.66 277 P **P** **22 23 38.0 +0.4**
comp=Z,1μcomp=Z,161nm,0.8s
CM13 Chiang Mai Arr 43.68 277 P **P** **22 23 39.1 +1.4**
comp=Z,2μcomp=Z,203nm,0.7s
CM13 Chiang Mai Arr 43.68 277 P **P** **22 23 39.1 +1.4**
comp=Z,2μcomp=Z,203nm,0.7s
CM32 Chiang Mai Arr 43.71 278 P **P** **22 23 39.0 +1.1**
MYKOM Kota Tinggi 43.79 252 P **P** **22 23 41.0 +2.4**
PHET Kaeng Krachan 44.04 269 P **P** **22 23 42.4 +1.9**
comp=Z,631nmcomp=Z,74nm,0.9s
PHET Kaeng Krachan 44.04 269 P **P** **22 23 42.5 +1.9**
comp=Z,162nmcomp=Z,19nm,0.9s
GTA Gaotai 44.04 308 ⇑P **P** **22 23 41.6 +1.2**
GTA PcP **pP** **22 25 15.5 +0.8**
GTA pP pwP 22 25 20.3 +0.1
GTA sP sP 22 26 19.4 +6.4
GTA S **S** **22 29 33.8 -0.7**
GTA sS sS 22 32 33.3 +6.9
GTA pmax pmax
comp=Z,21nm,0.8s
GTA pmax pmax
comp=Z,120nm,7.6s
UMPA Umpang Tak 44.08 274 P **P** **22 23 42.9 +2.1**
comp=Z,3μcomp=Z,270nm,0.7s
UMPA Umpang Tak 44.08 274 P **P** **22 23 42.9 +2.1**
comp=Z,833nmcomp=Z,67nm,0.7s
KPJI Karang Pucung 44.11 237 P **P** **22 23 41.3 +0.3**
comp=Z,130nm,0.9s
JRMM Jerantut 44.19 256 P **P** **22 23 44.0 +2.3**
SRDT SRDT 44.20 271 P **P** **22 23 43.2 +1.5**
comp=Z,120nm,0.7s
SRDT SRDT 44.20 271 P **P** **22 23 43.0 +1.3**
comp=Z,120nm,0.7s
EIDS Eidsvold 44.28 172 P **P** **22 23 41.8 -0.3**
EIDS lAmb lAmb 22 23 42.4
comp=Z,32nm,0.8s
KIWB Kanaga Island 44.30 33 P **P** **22 23 42.8 +0.8**
SEY Seymchan 44.39 5 P **P** **22 23 43.0 +0.6**
comp=Z,12nm,0.6s,baz=184,slow=8.9,SNR=30
YAK Yakutsk 44.53 350 P **P** **22 23 43.2 -0.3**
comp=Z,68nm,0.6s,baz=333,slow=1.1,SNR=29
YAK Yakutsk 44.53 350 *d iP* **P** **22 23 43.2 -0.3**
YAK *e* 22 25 14.2
YAK *e**PP **pwP** **22 25 22.5 -2.5**
YAK *e* 22 25 37.8
YAK *e*S **S** **22 29 39.4 -0.9**
YAK *e* 22 32 34.1
YAK pmax pmax
comp=Z,49nm,0.8s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,37nm,1.8s
YAK pmax pmax
comp=N,27nm,1.6s
YAK pmax pmax
comp=E,19nm,1.9s
YAK smax smax
comp=N,42nm,1.1s
YAK smax smax
comp=E,22nm,1.1s
YAK Yakutsk 44.53 350 P **P** **22 23 43.0 -0.5**
ADK Adak 44.55 33 P **P** **22 23 44.5 +0.6**
ADK pmax pmax
comp=Z,86nm,0.9s
ADK Adak 44.55 33 P **P** **22 23 44.5 +0.6**
ADK lAmb lAmb 22 23 46.5
comp=Z,86nm,0.9s
KHLT Khaolaem Dam 44.61 272 P **P** **22 23 46.7 +1.8**
comp=Z,663nmcomp=Z,73nm,0.6s
KHLT Khaolaem Dam 44.61 272 P **P** **22 23 46.8 +1.8**
comp=Z,663nmcomp=Z,73nm,0.6s
MHMT Maesarieng 44.63 277 P **P** **22 23 46.6 +1.5**
comp=Z,1μcomp=Z,142nm,0.9s
MHMT Maesarieng 44.63 277 P **P** **22 23 46.0 +0.9**
comp=Z,1μcomp=Z,142nm,0.9s
LEM Lembang 44.87 239 P **P** **22 23 47.9 +0.8**
comp=Z,84nm,0.9s
LIFNC LIFOU 44.91 150 P **P** **22 23 47.5 +0.4**
LIFNC LIFOU 44.91 150 P **P** **22 23 48.2 +1.1**
comp=Z,184nm,1.2s
GSTR Great Sitkin T 44.99 33 P **P** **22 23 47.9 +0.5**
CISI Cisompet, Garu 45.13 238 P **P** **22 23 47.5 -1.5**
CISI lAmb lAmb 22 23 49.8
comp=Z,46nm,0.5s
CISI Cisompet, Garu 45.13 238 P **P** **22 23 47.7 -1.3**
comp=Z,21μmcomp=Z,61nm,0.5s
PMBI Palembang 45.16 246 P **P** **22 23 49.8 +0.6**
BOD Bodaibo 45.20 337 *eP* **P** **22 23 48.2 -0.6**
BOD pmax pmax
comp=Z,12nm,1.0s
CBJI Citeko 45.27 240 P **P** **22 23 51.0 +1.1**
comp=Z,157nm,1.4s
IPM Ipoh 45.30 257 P **P** **22 23 52.0 +1.7**
KULM Kulim 45.35 259 P **P** **22 23 53.0 +2.4**
DBJI Dramaga 45.42 240 P **P** **22 23 52.2 +1.0**
comp=Z,47nm,1.4s
JMBI JAMBI 45.52 248 P **P** **22 23 54.5 +2.6**
comp=Z,2μcomp=Z,81nm,0.7s
NOUC Port Laguerre 45.63 152 P **P** **22 23 53.3 +0.8**
KRAB Krabi 45.73 263 P **P** **22 23 55.7 +2.2**
comp=Z,48μmcomp=Z,2μm,0.7s
KRAB Krabi 45.73 263 P **P** **22 23 55.7 +2.2**
comp=Z,12μcomp=Z,425nm,0.7s
ZAK Zakamensk 45.74 323 *eP* **P** **22 23 53.3 +0.1**
ZAK *e* 22 25 19.4
ZAK pmax pmax
comp=Z,14nm,1.0s
YATNC Mamie plateau, 45.85 151 P **P** **22 23 55.5 +1.2**
ONTNC Ouen Toro 45.87 152 P **P** **22 23 54.7 +0.3**
ONTNC lAmb lAmb 22 23 55.9
comp=Z,80nm,1.0s
SURT Suratani 45.88 264 P **P** **22 23 58.1 +3.4**
comp=Z,44nmcomp=Z,5.8nm,1.1s
SURT Suratani 45.88 264 P **P** **22 23 58.1 +3.4**
MARNC Mare, Loyalty 45.89 150 P **P** **22 23 55.2 +0.7**
BLSI Bandar Lampung 46.02 242 P **P** **22 23 56.1 +0.3**
comp=Z,3μcomp=Z,381nm,0.8s
ATKA Atka Island 46.03 34 P **P** **22 23 55.3 +0.1**
OUENC Ouen Island, N 46.14 152 P **P** **22 23 57.1 +0.6**
OUENC lAmb lAmb 22 23 58.6
comp=Z,146nm,1.4s
OUENC Ouen Island, N 46.14 152 P **P** **22 23 57.4 +0.9**
TLY Talaya 46.16 325 P **P** **22 23 57.6 +1.3**
comp=Z,10nm,0.6s,baz=140,slow=6.3,SNR=7.2
TLY Talaya 46.16 325 *ce*P **P** **22 23 57.6 +1.3**
TLY pmax pmax
comp=Z,21nm,1.3s
TLY Talaya 46.16 325 P **P** **22 23 57.1 +0.8**
MDSI Maura Dua 46.46 244 P **P** **22 23 58.9 -0.2**
comp=Z,20nm,0.9s
PINNC Pines Island, 46.59 151 P **P** **22 24 00.2 +0.4**
PINNC lAmb lAmb 22 24 02.6
comp=Z,52nm,0.8s
LHSI Lahat 46.69 245 P **P** **22 24 01.4 +0.6**
comp=Z,82nm,1.6s
KASI Kota Agung 46.73 243 P **P** **22 23 59.7 -1.4**
comp=Z,2μcomp=Z,172nm,1.0s
LWLI Liwa 46.84 244 P **P** **22 24 02.5 +0.4**
comp=Z,69nm,0.6s
BKNI Bangkinang 46.95 252 P **P** **22 24 03.4 +0.6**
BKNI Bangkinang 46.95 252 P **P** **22 24 03.0 +0.2**
comp=Z,1μcomp=Z,133nm,0.9s
PSA00 Pilbara Seismi 47.12 213 P **P** **22 24 04.3 +0.4**
PSA00 Pilbara Seismi 47.12 213 P **P** **22 24 04.1 +0.3**
PSA00 lAmb lAmb 22 25 05.7
comp=Z,50nm,1.4s
KSI Kapahiang 47.41 246 P **P** **22 24 06.0 -0.3**
comp=Z,153nm,1.1s
KNTN Kanton 47.58 112 P **P** **22 24 08.1 +0.6**
MOY Mondy 47.61 324 *eP* **P** **22 24 08.0 +0.7**
MOY pmax pmax
comp=Z,18nm,1.9s
PSI Prapat 47.87 256 P **P** **22 24 11.2 +1.3**
PSI pmax pmax
comp=Z,53nm,1.1s
RPSI Rantau Prapat 47.91 256 P **P** **22 24 11.2 +1.1**
RPSI lAmb lAmb 22 24 12.1
comp=Z,53nm,1.1s
MNSI Mandailing Nat 48.08 254 P **P** **22 24 13.3 +2.0**
comp=Z,1μcomp=Z,167nm,0.9s
XMIS Christmas Isla 48.57 236 P **P** **22 24 14.2 -0.7**
MSVF Nonsavu 48.65 136 P **P** **22 24 16.9 +1.4**
comp=Z,41nm,0.6s,baz=290,slow=7.2,SNR=42
MSVF Nonsavu 48.65 136 P **P** **22 24 17.1 +1.6**
MSVF pmax pmax
comp=Z,77nm,0.8s
MSVF Nonsavu 48.65 136 P **P** **22 24 17.1 +1.6**
MSVF lAmb lAmb 22 24 17.6
comp=Z,77nm,0.8s
MSVF Nonsavu 48.65 136 P **P** **22 24 17.6 +2.1**
NIKH Nikolski High 49.26 35 P **P** **22 24 19.1 -0.3**
baz=244
ARMA Armidale 49.33 173 P **P** **22 24 20.9 +0.6**
ARMA lAmb lAmb 22 24 22.1
comp=Z,153nm,1.6s
SHL Shillong 49.47 288 P **P** **22 24 22.2 +0.5**
SHL pmax pmax
comp=Z,136nm,0.4s
SHL Shillong 49.47 288 P **P** **22 24 22.2 +0.5**
SHL Shillong 49.47 288 P **P** **22 24 22.4 +0.7**
SNR=8.3
GSI Gunungsitoli 49.70 255 P **P** **22 24 23.9 +0.6**
GSI Gunungsitoli 49.70 255 P **P** **22 24 23.7 +0.4**
comp=Z,4μcomp=Z,385nm,0.8s
LSA Lhasa 49.99 293 P **P** **22 24 27.9 +2.1**
LSA pmax pmax
comp=Z,200nm,0.7s
LSA Lhasa 49.99 293 P **P** **22 24 27.8 +2.1**
LSA Lhasa 49.99 293 P **P** **22 24 27.7 +1.9**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA Lhasa 49.99 293 P **P** **22 24 27.7 +1.9**
LSA lAmb lAmb 22 24 29.1
comp=Z,38nm,0.8s
STKA Stephens Creek 50.49 184 P **P** **22 24 28.7 0.0**
comp=Z,27nm,0.7s,baz=4.7,slow=7.8,SNR=66
STKA Stephens Creek 50.49 184 P **P** **22 24 28.8 0.0**
STKA pmax pmax
comp=Z,6.0nm,0.6s
STKA Stephens Creek 50.49 184 P **P** **22 24 28.8 0.0**
SPIA Saint Paul Isl 50.54 30 P **P** **22 24 29.0 +0.2**
baz=240
BILL Bilibino 51.03 10 *c iP* **P** **22 24 32.1 0.0**
BILL *e**PP **pP** **22 26 11.8 +2.1**
BILL *e* 22 26 35.9
BILL *e*SS **SKiKP** **22 35 01.9 -0.5**
BILL pmax pmax
comp=Z,83nm,1.7s
BILL Bilibino 51.03 10 P **P** **22 24 32.2 +0.1**
BILL lAmb lAmb 22 24 33.5
comp=Z,35nm,0.7s
GIRL Giralia 51.05 218 P **P** **22 24 34.3 +1.3**
AKUT Akutan 51.42 35 P **P** **22 24 35.2 0.0**
FORT Forrest 51.94 199 P **P** **22 24 39.8 +0.6**
FORT lAmb lAmb 22 24 40.4
comp=Z,67nm,0.7s
FALS False Pass 52.96 35 P **P** **22 24 45.9 -0.4**
baz=248,SNR=12
FALS False Pass 52.96 35 P **P** **22 24 46.2 0.0**
TAPN Taplejung 53.10 290 *eP* **P** **22 24 49.2 +1.1**
comp=Z,30nm,0.3s
ODAN Odare 53.42 290 *eP* **P** **22 24 51.2 +0.9**
comp=Z,66nm,0.4s
AFI Afiamalu 53.49 124 P **P** **22 24 51.1 +0.4**
AFI pmax pmax
comp=Z,157nm,1.5s
AFI Afiamalu 53.49 124 P **P** **22 24 51.1 +0.4**
AFI lAmb lAmb 22 26 13.4
comp=Z,157nm,1.5s
GAMB Gambell 53.58 22 P **P** **22 24 51.0 +0.5**
baz=234
GAMB Gambell 53.58 22 P **P** **22 24 50.8 +0.3**
TIXI Tiksi 53.72 354 P **P** **22 24 50.6 -0.8**
comp=Z,11nm,0.3s,baz=141,slow=6.4,SNR=27
TIXI Tiksi 53.72 354 *ce*P **P** **22 24 50.7 -0.6**
WMQ Urumqi 53.82 311 P **P** **22 24 54.4 +1.7**
WMQ PcP **PcP** **22 25 51.8 +1.6**
WMQ pP pP 22 26 35.1 +2.4
WMQ PP **PP** **22 27 03.1 +2.0**
WMQ S **S** **22 31 49.3 +1.3**
WMQ pmax pmax
comp=Z,65nm,1.3s
WMQ pmax pmax
comp=Z,170nm,5.5s
WMQ Urumqi 53.82 311 lAmb lAmb 22 24 55.4
comp=Z,86nm,1.2s
CAN Canberra 53.94 176 P **P** **22 24 54.9 +1.4**
RAMN Ramite 54.11 290 *eP* **P** **22 24 56.2 +0.9**
comp=Z,30nm,0.4s
JIRN Jiri 54.42 291 *eP* **P** **22 24 58.8 +1.2**
comp=Z,157nm,0.5s
SDPT Sand Point 54.72 35 P **P** **22 24 58.4 -0.2**
baz=251,SNR=5.2
SDPT Sand Point 54.72 35 P **P** **22 24 58.6 -0.1**
CHNA Chernabura Isl 55.03 35 P **P** **22 25 00.5 -0.4**
baz=252
PKI Pulchoki 55.12 291 *eP* **P** **22 25 02.9 +0.5**
comp=Z,48nm,0.3s
PKIN Phulchoki 55.13 291 *eP* **P** **22 25 02.9 +0.5**
comp=Z,53nm,0.4s
KKN Kakani 55.22 291 *eP* **P** **22 25 03.9 +0.9**
MORW Morawa 55.24 211 P **P** **22 25 02.6 -0.1**
MORW lAmb lAmb 22 25 56.7
comp=Z,108nm,1.9s
DMN Daman 55.39 291 *eP* **P** **22 25 05.1 +0.9**
comp=Z,86nm,0.4s
GKN Gorkha 55.77 291 *eP* **P** **22 25 07.6 +0.9**
TNA Tin City 55.94 22 P **P** **22 25 07.3 +0.3**
baz=237
TNA Tin City 55.94 22 P **P** **22 25 07.2 +0.2**
TOO Toolangi 56.06 180 P **P** **22 25 09.0 +0.7**
TOO pmax pmax
comp=Z,113nm,1.8s
TOO Toolangi 56.06 180 P **P** **22 25 09.0 +0.7**
TOO lAmb lAmb 22 25 10.5
comp=Z,113nm,1.8s
ZSN Zaisan 56.33 315 *eP* **P** **22 25 10.9 +0.8**
baz=314
ZSN *e*pP **pP** **22 26 50.6 -1.2**
baz=314
ZSN *e*S S 22 32 05.8 -15
baz=314
ZSN Zaisan 56.33 315 *eP* **P** **22 25 10.9 +0.8**
ZSN *e**PP **pP** **22 26 50.5 -1.2**
ANM Nome 56.34 23 P **P** **22 25 10.4 +0.7**
ANM pmax pmax
comp=Z,30nm,0.9s
ANM Nome 56.34 23 P **P** **22 25 10.5 +0.7**
baz=240,SNR=9.7
ANM Nome 56.34 23 P **P** **22 25 10.4 +0.7**
DANN Dangsing 56.51 292 *eP* **P** **22 25 13.3 +1.3**
comp=Z,312nm,0.4s
KOLN Koldanda 56.70 291 *eP* **P** **22 25 14.2 +1.0**
PYUN Piuthan 57.21 292 *eP* **P** **22 25 17.6 +0.9**
comp=Z,152nm,0.6s
ZAA0 Zalesovo Array 57.60 323 P **P** **22 25 18.7 +0.1**
ZALV Zalesovo Beam 57.60 323 P **P** **22 25 18.4 -0.1**
comp=Z,9.5nm,0.3s,baz=108,slow=6.8,SNR=60
ZALV PcP **PcP** **22 26 04.1 -0.6**
comp=Z,3.9nm,0.6s,baz=116,slow=5.3,SNR=5.2
ZALV pP **pP** **22 27 00.1 -0.3**
comp=Z,5.5nm,0.9s,baz=94,slow=6.7,SNR=3.1
ZALV Zalesovo Beam 57.60 323 *i P* **P** **22 25 18.5 -0.1**
ZALV pmax pmax
comp=Z,9.0nm,0.3s
NWAO Narrogin (SRO) 57.92 208 P **P** **22 25 21.0 -0.1**
NWAO pmax pmax
comp=Z,92nm,1.7s
NWAO Narrogin (SRO) 57.92 208 P **P** **22 25 20.9 -0.1**
NWAO lAmb lAmb 22 25 33.8
comp=Z,92nm,1.7s
MK31 Makanchi Array 57.99 314 P **P** **22 25 22.4 +0.9**
MK31 pmax pmax
comp=Z,22nm,1.1s
MK31 Makanchi Array 57.99 314 P **P** **22 25 22.4 +0.9**
MKAR Makanchi Array 57.99 314 P **P** **22 25 22.2 +0.7**
comp=Z,12nm,0.3s,baz=86,slow=8.7,SNR=307
MKAR PcP **PcP** **22 26 06.3 -0.2**
comp=Z,9.8nm,0.8s,baz=91,slow=5.1,SNR=9.7
MKAR pP **pP** **22 27 04.5 +0.6**
comp=Z,2.3nm,0.7s,baz=91,slow=7.0,SNR=1.6
MKAR Makanchi Array 57.99 314 P **P** **22 25 22.3 +0.8**
MKAR Makanchi Array 57.99 314 P **P** **22 25 22.3 +0.8**
NIUE Niue 58.01 128 P **P** **22 25 22.5 +0.6**
MAKZ Makanchi 58.20 314 P **P** **22 25 23.9 +0.9**
MAKZ pmax pmax
comp=Z,36nm,0.9s
MAKZ Makanchi 58.20 314 P **P** **22 25 23.9 +0.9**
XMAS Kiritimati 58.62 99 P **P** **22 25 26.1 -0.1**
XMAS Kiritimati 58.62 99 P **P** **22 25 26.7 +0.5**
N18K Kilae Creek 58.75 30 P **P** **22 25 26.9 +0.6**
baz=252,SNR=16
O18K Koktuh Hills 58.82 31 P **P** **22 25 27.3 +0.4**
baz=253,SNR=19
RDOG Red Dog Mine 58.94 20 P **P** **22 25 29.3 +1.9**
baz=241,SNR=7.9
RDOG Red Dog Mine 58.94 20 P **P** **22 25 29.1 +1.6**
RDOG lAmb lAmb 22 25 30.7
comp=Z,36nm,0.8s
SVW2 Sparrevohn 59.02 29 P **P** **22 25 28.8 +0.6**
OHAK Old Harbor 59.09 34 P **P** **22 25 28.8 +0.2**
baz=256,SNR=6.6
OHAK Old Harbor 59.09 34 P **P** **22 25 28.6 0.0**
O19K Port Alsworth 59.35 30 P **P** **22 25 30.3 +0.1**
baz=254
N19K Bonanza Creek 59.45 30 P **P** **22 25 31.8 +0.7**
baz=253,SNR=27
KDAK Kodiak Island 59.59 33 P **P** **22 25 32.1 0.0**
comp=Z,16nm,0.3s,baz=262,slow=1.8,SNR=62
KDAK Kodiak Island 59.59 33 P **P** **22 25 32.0 0.0**
KDAK pmax pmax
comp=Z,29nm,1.0s
KDAK Kodiak Island 59.59 33 P **P** **22 25 32.0 0.0**
L19K White Mountain 59.69 28 P **P** **22 25 32.9 +0.3**
baz=252,SNR=25
SHLS Shalkode 59.72 309 ⇓ *iP* **P** **22 25 31.5 -1.9**
baz=309
SHLS *e*pP **pP** **22 27 14.0 -2.5**
baz=309
SHLS Shalkode 59.72 309 *d iP* **P** **22 25 31.4 -1.9**
SHLS *e**PP **pP** **22 27 13.9 -2.5**
P19K Oil Pt 59.73 31 P **P** **22 25 32.4 -0.5**
baz=255,SNR=7.5
SEM Semipalatinsk 59.76 318 ⇓ *eP* **P** **22 25 32.8 -0.7**
comp=Z,38nm,1.0s,baz=318
SEM *e*pP **pP** **22 27 14.8 -1.5**
baz=318
SEM *e*S **S** **22 33 02.2 -2.2**
baz=318
SEM Semipalatinsk 59.76 318 *de*P **P** **22 25 32.8 -0.7**
SEM *e**PP **pP** **22 27 14.8 -1.5**
SEM *e*S **S** **22 33 02.1 -2.2**
SEM pmax pmax
comp=Z,38nm,1.0s
M19K Big River Lodg 59.81 28 P **P** **22 25 34.2 +0.7**
baz=252
UZB Uzynbulak 60.04 309 ⇓ *iP* **P** **22 25 36.2 +0.7**
comp=Z,6.8nm,0.5s,baz=309
UZB *e*pP **pP** **22 27 19.2 +0.5**
baz=309
UZB *e*S **S** **22 33 08.7 +0.7**
baz=309
UZB Uzynbulak 60.04 309 *d iP* **P** **22 25 36.1 +0.7**
UZB *e**PP **pP** **22 27 19.2 +0.5**
UZB *e*S **S** **22 33 08.7 +0.7**
UZB pmax pmax
comp=Z,7.0nm,0.5s
O20K Slope Mountain 60.14 31 P **P** **22 25 34.4 -1.2**
baz=255,SNR=6.0
OUZ Omahuta 60.14 153 P **P** **22 25 36.8 +0.9**
OUZ lAmb lAmb 22 25 38.5
comp=Z,54nm,1.2s
KPKS Kokpek 60.30 310 ⇓ *eP* **P** **22 25 36.5 -0.6**
comp=Z,21nm,0.7s,baz=309
KPKS *e*pP **pP** **22 27 19.7 -1.1**
baz=309
KPKS *e*S **S** **22 33 12.2 +1.1**
baz=309
KPKS Kokpek 60.30 310 *de*P **P** **22 25 36.5 -0.6**
KPKS *e**PP **pP** **22 27 19.6 -1.1**
KPKS *e*S **S** **22 33 12.2 +1.1**
KPKS pmax pmax
comp=Z,21nm,0.7s
M20K Styx River 60.38 29 P **P** **22 25 38.1 +0.8**
baz=254
K20K Telida 60.40 27 P **P** **22 25 38.2 +0.9**
baz=252,SNR=89
PRZ Przheval'sk 60.48 309 P **P** **22 25 39.9 +1.4**
PRZ pmax pmax
comp=Z,89nm,0.7s
PRZ Przheval'sk 60.48 309 P **P** **22 25 39.9 +1.4**
SATY Saty 60.49 309 ⇓ *iP* **P** **22 25 39.3 +0.9**
baz=309
SATY *e*pP **pP** **22 27 22.6 +0.5**
baz=309
SATY *e*S **S** **22 33 14.9 +1.2**
baz=309
SATY Saty 60.49 309 *d iP* **P** **22 25 39.3 +0.9**
SATY *e**PP **pP** **22 27 22.6 +0.5**
SATY *e*S **S** **22 33 14.8 +1.2**
HOM Homer 60.51 31 P **P** **22 25 37.4 -0.6**
baz=256
TDK Taldyqorghan 60.56 312 *eP* **P** **22 25 37.9 -0.8**
baz=311
TDK *e*pP **pP** **22 27 22.3 -0.2**
baz=311
TDK *e*S **S** **22 33 15.5 +1.4**
baz=311
TDK Taldyqorghan 60.56 312 *eP* **P** **22 25 37.8 -0.8**
TDK *e**PP **pP** **22 27 22.3 -0.2**
TDK *e*S **S** **22 33 15.5 +1.4**
SPCR Spurr Chakacha 60.62 30 P **P** **22 25 38.6 -0.3**
baz=255
J20K Nowinta River 60.62 26 P **P** **22 25 39.6 +0.9**
baz=252,SNR=80
CNPM China Poot 60.68 32 P **P** **22 25 38.8 -0.5**
CNPM lAmb lAmb 22 25 39.8
comp=Z,55nm,0.8s
TARG Taragay, Kyrgy 60.92 308 P **P** **22 25 42.8 +1.2**
ARXS Arharly 60.94 311 *eP* **P** **22 25 41.6 +0.3**
BRSE Bradley Lake S 60.98 31 P **P** **22 25 40.2 -1.0**
baz=257,SNR=7.6
SKT Skwentna 61.13 29 P **P** **22 25 41.5 -0.7**
baz=255,SNR=60
SKT Skwentna 61.13 29 P **P** **22 25 41.6 -0.6**
SKT lAmb lAmb 22 25 42.6
comp=Z,39nm,0.5s
IMAR Indian Mountai 61.37 24 P **P** **22 25 43.6 0.0**
SUA Susitna One 61.37 29 P **P** **22 25 42.9 -1.0**
baz=256,SNR=28
SUA Susitna One 61.37 29 P **P** **22 25 43.3 -0.5**
SUA lAmb lAmb 22 25 45.4
comp=Z,40nm,0.9s
KDJ Kajisay 61.39 308 P **P** **22 25 45.4 +1.0**
KDJ pmax pmax
comp=Z,68nm,1.3s
KDJ Kajisay 61.39 308 P **P** **22 25 45.4 +1.0**
KDJ lAmb lAmb 22 25 46.7
comp=Z,68nm,1.2s
TAU Tasmania Unive 61.42 178 P **P** **22 25 44.9 +0.7**
TAU pmax pmax
comp=Z,102nm,1.5s

TAU Tasmania Unive 61.42 178 P P 22 25 44.9 +0.7
TAU IAmb IAmb 22 26 50.7
comp=Z,102nm,1.5s
MDOK Medeo 61.49 309 *i* P **P 22 25 44.2 -0.9**
baz=309
MDOK *e*pP **pP 22 27 30.1 +1.0**
baz=309
MDOK *e*S **S 22 33 24.5 -1.5**
baz=309
MDOK Medeo 61.49 309 *i* P **P 22 25 44.1 -0.9**
MDOK *e**PP **pP 22 27 30.0 +1.0**
MDOK *e*S **S 22 33 24.5 -1.5**
CHKK Chushkaly 61.54 310 *e*P **P 22 25 44.1 -1.1**
baz=310
CHKK Chushkaly 61.54 310 *e*P **P 22 25 44.0 -1.1**
AAA Alma-Ata 61.59 309 *e*P **P 22 25 45.1 -0.4**
baz=309
AAA *e*S **S 22 33 28.4 +1.4**
baz=309
AAA Alma-Ata 61.59 309 *e*P **P 22 25 45.1 -0.4**
AAA *e*S **S 22 33 28.4 +1.4**
H21K Melozitna Rive 61.63 25 P **P 22 25 46.0 +0.7**
baz=252
O22K Cooper Landing 61.63 31 P **P 22 25 45.2 -0.2**
baz=258
O22K Cooper Landing 61.63 31 P **P 22 25 45.3 -0.1**
SEW Seward 61.69 31 P **P 22 25 45.1 -0.6**
baz=258,SNR=7.9
RC01 Rabbit Creek A 61.76 30 P **P 22 25 45.6 -0.6**
baz=257,SNR=28
KTH Kantishna Hill 61.81 27 P **P 22 25 46.3 -0.3**
KTH IAmb IAmb 22 25 47.6
comp=Z,58nm,1.0s
CUT Chulitna 61.81 29 P **P 22 25 45.5 -1.1**
baz=256,SNR=6.6
I21K Tanana 61.82 25 P **P 22 25 47.2 +0.6**
baz=253,SNR=47
BPAW Bear Paw Mtn. 61.93 27 P **P 22 25 47.5 +0.2**
baz=255,SNR=88
BPAW Bear Paw Mtn. 61.93 27 P **P 22 25 47.5 +0.2**
BPAW IAmb IAmb 22 25 48.6
comp=Z,78nm,1.1s
KUU Kurty 62.01 310⇓ *i*P **P 22 25 47.3 -0.9**
comp=Z,50nm,0.6s,baz=310
KUU *e*pP **pP 22 27 31.9 -0.9**
baz=310
KUU *e*S **S 22 33 32.7 +0.5**
baz=310
KUU Kurty 62.01 310 *d i*P **P 22 25 47.3 -0.9**
KUU *e**PP **pP 22 27 31.8 -0.9**
KUU *e*S **S 22 33 32.6 +0.5**
KUU pmax pmax
comp=Z,50nm,0.6s
TRF Thorofare Moun 62.06 27 P **P 22 25 47.7 -0.7**
baz=256,SNR=40
TRF Thorofare Moun 62.06 27 P **P 22 25 47.8 -0.5**
TRF IAmb IAmb 22 25 48.9
comp=Z,35nm,0.8s
ULHL Ulahol 62.08 308 P **P 22 25 49.7 +0.7**
SNR=23
MLY Manley 62.28 26 P **P 22 25 49.9 +0.3**
baz=254,SNR=101
MLY Manley 62.28 26 P **P 22 25 50.0 +0.3**
MLY IAmb IAmb 22 25 51.1
comp=Z,52nm,0.9s
GHO Glory Hole Cre 62.29 29 P **P 22 25 49.2 -0.5**
GHO IAmb IAmb 22 25 51.0
comp=Z,44nm,0.6s
BOOM Boomskoye usch 62.30 309 P **P 22 25 51.1 +0.7**
BOOM pmax pmax
comp=Z,33nm,0.6s
BOOM Boomskoye usch 62.30 309 P **P 22 25 51.1 +0.7**
BOOM IAmb IAmb 22 25 52.4
comp=Z,33nm,0.6s
KSH Kashi 62.35 305 P **P 22 25 53.6 +2.9**
KSH pP pwP 22 27 38.3 -1.4
KSH S **S 22 33 43.5 +6.8**
KSH sS sS 22 36 45.3 +2.0
KSH pmax pmax
comp=Z,31nm,0.6s
KSH pmax pmax
comp=Z,130nm,4.4s
A21K Barrow 62.38 18 P **P 22 25 50.7 +0.7**
baz=245
A21K Barrow 62.38 18 P **P 22 25 50.2 +0.2**
A21K IAmb IAmb 22 25 51.8
comp=Z,90nm,0.9s
KNK Knik Glacier 62.43 30 P **P 22 25 50.4 -0.2**
baz=258,SNR=24
SML Sawmill 62.57 29 P **P 22 25 51.3 -0.3**
baz=258,SNR=48
BWN Browne 62.59 27 P **P 22 25 51.6 0.0**
BWN IAmb IAmb 22 25 52.9
comp=Z,114nm,1.1s
WAT1 Susitna Watana 62.68 28 P **P 22 25 51.5 -0.7**
baz=258
MCK McKinley 62.72 27 P **P 22 25 51.9 -0.5**
MCK pmax pmax
comp=Z,37nm,1.1s
MCK McKinley 62.72 27 P **P 22 25 51.7 -0.7**
baz=257
MCK McKinley 62.72 27 P **P 22 25 51.9 -0.5**
MCK IAmb IAmb 22 25 52.9
comp=Z,37nm,1.1s
NEA2 Nenana 62.86 26 P **P 22 25 52.6 -0.7**
baz=256,SNR=21
I23K Minto, Yukon-K 62.88 26 P **P 22 25 53.6 +0.3**
baz=256,SNR=60
I23K Minto, Yukon-K 62.88 26 P **P 22 25 53.6 +0.3**
I23K IAmb IAmb 22 25 55.0
comp=Z,88nm,1.3s
H23K Yukon River 62.97 25 P **P 22 25 54.5 +0.5**
baz=255,SNR=51
GLI Glacier Island 62.98 31 P **P 22 25 53.9 -0.2**
baz=260,SNR=12
WAT6 Susitna Watana 63.00 29 P **P 22 25 54.1 -0.4**
baz=258,SNR=43
CHMS Chumysh 63.17 309 P **P 22 25 56.9 +1.2**
SNR=14
SGDS Sogindy 63.25 310 *e*P **P 22 25 54.7 -1.6**
baz=310
SGDS Sogindy 63.25 310 *e*P **P 22 25 54.7 -1.6**
FRU1 Bishkek 63.27 309 P **P 22 25 57.1 +0.7**
FRU1 pmax pmax
comp=Z,34nm,1.1s
FRU1 Bishkek 63.27 309 P **P 22 25 57.1 +0.7**
FRU1 IAmb IAmb 22 25 58.4
comp=Z,34nm,1.1s
USP Ospenovka 63.35 310 P **P 22 25 58.1 +1.2**
SNR=15
AAK Ala-Archa 63.37 309 P **P 22 25 58.2 +1.0**
AAK Ala-Archa 63.37 309 *ce*P **P 22 25 58.2 +1.0**
AAK pmax pmax
comp=Z,71nm,1.7s
AAK Ala-Archa 63.37 309 P **P 22 25 57.9 +0.6**
AAK Ala-Archa 63.37 309 P **P 22 25 58.4 +1.1**
TCOL CIGO, UAF Yank 63.43 26 P **P 22 25 56.2 -0.7**
baz=257
COLA College 63.43 26 P **P 22 25 56.5 -0.4**
COLA pmax pmax
comp=Z,28nm,0.9s
COLA College 63.43 26 P **P 22 25 56.3 -0.7**
baz=257
COLA College 63.43 26 P **P 22 25 56.5 -0.4**
COLA IAmb IAmb 22 25 59.1
comp=Z,28nm,0.9s
PALK Pallekele 63.49 269 P **P 22 25 58.4 +0.1**
PALK pmax pmax
comp=Z,28nm,0.9s
PALK Pallekele 63.49 269 P **P 22 25 58.4 +0.1**
PALK IAmb IAmb 22 25 59.8
comp=Z,28nm,0.9s
EYAK Cordova Ski Ar 63.58 31 P **P 22 25 58.0 +0.1**
baz=261,SNR=8.9
M24K Tolsona, Glenn 63.63 29 P **P 22 25 58.5 +0.1**
baz=260,SNR=7.2
H24K Noodor Dome 63.64 25 P **P 22 25 58.7 +0.4**
baz=257,SNR=34
KLU Klutina 63.64 30 P **P 22 25 58.6 +0.1**
baz=261,SNR=37
BTLS Baital 63.65 312⇓ *i*P **P 22 25 59.3 +0.5**
comp=Z,8.1nm,0.3s,baz=311
BTLS *e*pP **pP 22 27 43.1 -1.0**
baz=311
BTLS *e*S **S 22 33 51.6 -0.4**
baz=311

BTLS Baital 63.65 312 *d i*P **P 22 25 59.2 +0.5**
BTLS *e**PP **pP 22 27 43.0 -1.0**
BTLS *e*S **S 22 33 51.6 -0.4**
BTLS pmax pmax
comp=Z,8.0nm,0.3s
POKR Poker Plat Res 63.66 26 P **P 22 25 57.0 -1.4**
baz=258
POKR Poker Plat Res 63.66 26 P **P 22 25 57.8 -0.7**
HDA Harding Lake 63.72 27 P **P 22 25 57.5 -1.3**
baz=258,SNR=30
TOLK Toolik Lake Re 63.72 22 P **P 22 25 59.7 +0.9**
baz=254,SNR=52
TOLK Toolik Lake Re 63.72 22 P **P 22 25 59.6 +0.8**
TOLK IAmb IAmb 22 26 00.8
comp=Z,38nm,0.6s
IL31 63.81 26 P **P 22 25 58.0 -1.3**
IL31 IAmb IAmb 22 25 59.2
comp=Z,31nm,0.8s
ILAR Eielson Array 63.81 26 P **P 22 25 58.1 -1.3**
comp=Z,23nm,0.8s,baz=257,slow=4.8,SNR=134
ILAR PcP **PcP 22 26 28.6 -1.2**
comp=Z,3.4nm,0.8s,baz=287,slow=4.2,SNR=4.4
ILAR Eielson Array 63.81 26 P **P 22 25 57.9 -1.5**
ILAR Eielson Array 63.81 26 P **P 22 25 57.9 -1.5**
EKS2 Erkin-Say 63.90 309 P **P 22 26 01.4 +0.9**
SNR=14
AML Almayashu 63.98 308 P **P 22 26 02.8 +1.4**
SNR=29
AML Almayashu 63.98 308 *i* P **P 22 26 02.6 +1.1**
SNR=30
AML Almayashu 63.98 308 P **P 22 26 03.2 +1.8**
PAX Paxson 64.10 28 P **P 22 26 01.3 0.0**
baz=260,SNR=63
HARP HAARP 64.15 29 P **P 22 26 01.9 +0.3**
baz=261,SNR=18
BMRM Bremner River 64.20 31 P **P 22 26 02.2 +0.2**
baz=262,SNR=27
URZ Urewera 64.22 152 P **P 22 26 02.1 -0.2**
N25K Chitina, Valde 64.29 30 P **P 22 26 03.0 +0.4**
baz=262,SNR=19
RIDG Independent Ri 64.50 28 P **P 22 26 03.6 -0.3**
baz=261,SNR=49
RIDG Independent Ri 64.50 28 P **P 22 26 03.5 -0.4**
RIDG IAmb IAmb 22 26 04.8
comp=Z,60nm,1.0s
PRP Porcupine Dome 64.53 26 P **P 22 26 02.1 -2.1**
baz=259,SNR=8.6
BRZS Berezniki 64.58 317⇓ *i*P **P 22 26 03.8 -0.9**
comp=Z,14nm,1.2s,baz=317
BRZS *e*pP **pP 22 27 48.7 -1.1**
baz=317
BRZS *e*S **S 22 34 02.8 -0.4**
baz=317
BRZS Berezniki 64.58 317 *d i*P **P 22 26 03.7 -0.9**
BRZS *e**PP **pP 22 27 48.7 -1.1**
BRZS *e*S **S 22 34 02.7 -0.4**
BRZS pmax pmax
comp=Z,14nm,1.2s
BKZ Black Stump Fm 64.71 153 P **P 22 26 05.1 -0.4**
BKZ IAmb IAmb 22 26 06.2
comp=Z,62nm,1.2s
VRDI Verde Repeater 64.78 30 P **P 22 26 05.8 0.0**
VRDI IAmb IAmb 22 26 06.5
comp=Z,34nm,1.0s
FYU Fort Yukon 64.84 24 P **P 22 26 06.5 +0.6**
CRQE Cirque 64.90 31 P **P 22 26 06.7 +0.1**
baz=264
SCRK Sand Creek 64.92 27 P **P 22 26 06.3 -0.4**
baz=261,SNR=54
SCRK Sand Creek 64.92 27 P **P 22 26 06.2 -0.4**
SCRK IAmb IAmb 22 26 07.5
comp=Z,28nm,0.8s
NIL Nilore 64.99 299 P **P 22 26 08.4 +0.9**
NIL pmax pmax
comp=Z,214nm,1.0s
NIL Nilore 64.99 299 P **P 22 26 08.4 +0.9**
MCARA McCarthy VSAT 65.01 30 P **P 22 26 07.3 +0.2**
baz=263,SNR=10
L26K Log Cabin Wild 65.06 28 P **P 22 26 07.5 +0.1**
baz=262,SNR=8.3
BMAR Burnt Mountain 65.26 24 P **P 22 26 09.6 +1.0**
MESA MESA 65.41 32 P **P 22 26 10.5 +0.6**
baz=265,SNR=8.8
MESA MESA 65.41 32 P **P 22 26 10.4 +0.6**
MESA IAmb IAmb 22 26 11.6
comp=Z,64nm,1.0s
THZ Tophouse 65.52 157 P **P 22 26 11.9 +1.3**
YAH Yahtse 65.53 32 P **P 22 26 11.0 +0.4**
YAH IAmb IAmb 22 26 11.8
comp=Z,36nm,1.0s
DRK Karamyk 65.58 305 P **P 22 26 12.2 +0.8**
DRK IAmb IAmb 22 26 13.5
comp=Z,73nm,1.4s
BARN Barnard Glacie 65.63 31 P **P 22 26 11.4 +0.2**
L27K Beaver Creek, 65.75 29 P **P 22 26 11.9 +0.2**
baz=264,SNR=43
K27K Chicken 65.76 27 P **P 22 26 12.2 +0.5**
baz=263
BCAR Beaver Creek A 65.77 29 P **P 22 26 12.1 +0.2**
CTG Chitna Glacier 65.78 31 P **P 22 26 12.4 +0.3**
baz=265,SNR=15
TABL Table Mountain 65.83 31 P **P 22 26 12.8 +0.3**
TABL IAmb IAmb 22 26 14.0
comp=Z,64nm,0.9s
BFZ Birch Farm 65.88 154 P **P 22 26 12.9 +0.1**
WVZ Waitaha Valley 65.92 160 P **P 22 26 12.2 -0.7**
LOGN Logan Glacier 65.93 31 P **P 22 26 13.4 +0.4**
LOGN IAmb IAmb 22 26 14.6
comp=Z,35nm,1.0s
MSWZ Moikau Station 66.10 156 P **P 22 26 13.8 -0.3**
BRVK Borovoye 66.11 320 *ce*P **P 22 26 14.2 +0.1**
BRVK pmax pmax
comp=Z,56nm,0.8s
BRVK Borovoye 66.11 320 P **P 22 26 14.5 +0.5**
BRVK IAmb IAmb 22 26 15.5
comp=Z,48nm,0.8s
BRVK Borovoye 66.11 320 P **P 22 26 15.1 +1.0**
LTZ Lake Taylor 66.18 158 P **P 22 26 14.7 0.0**
LTZ IAmb IAmb 22 26 15.2
comp=Z,33nm,1.0s
LTZ Lake Taylor 66.18 158 P **P 22 26 11.4 -3.2**
PLWZ Palliser 66.23 156 P **P 22 26 14.5 -0.5**
EGAK Eagle 66.24 27 P **P 22 26 14.6 -0.1**
baz=264
EGAK Eagle 66.24 27 P **P 22 26 14.7 -0.1**
PINM Pinnacle 66.25 32 P **P 22 26 15.3 +0.4**
baz=266,SNR=6.8
KK31 Karatay Array 66.27 310 P **P 22 26 15.7 +0.4**
KK31 pmax pmax
comp=Z,47nm,0.8s
KK31 Karatay Array 66.27 310 P **P 22 26 15.7 +0.4**
KK31 IAmb IAmb 22 26 17.0
comp=Z,47nm,0.8s
KKAR Karatay Array 66.27 310 P **P 22 26 15.8 +0.4**
KKAR Karatay Array 66.27 310 P **P 22 26 15.8 +0.4**
BTK Batken 66.28 306 P **P 22 26 15.6 0.0**
BTK pmax pmax
comp=Z,36nm,1.5s
BTK Batken 66.28 306 P **P 22 26 15.6 0.0**
BTK IAmb IAmb 22 26 17.2
comp=Z,36nm,1.4s
KHZ Kahutara 66.31 157 P **P 22 26 14.2 -1.2**
RPZ Rata Peaks 66.60 160 P **P 22 26 17.0 -0.2**
RPZ IAmb IAmb 22 26 17.2
comp=Z,63nm,0.8s
RPZ Rata Peaks 66.60 160 P **P 22 26 16.9 -0.3**
MHCZ Mount Hutt 66.61 159 P **P 22 26 14.6 -2.7**
GVZ Greta Valley S 66.61 158 P P 22 26 12.3 -5.0
GAR Garm 66.77 305 P **P 22 26 19.1 +0.5**
GAR IAmb IAmb 22 26 20.2
comp=Z,52nm,0.7s
ARCZ Arundel 66.85 160 P P 22 26 13.7 -5.0
LBZ Lake Benmore 66.92 161 P **P 22 26 21.2 +2.0**
DAWY Dawson 66.94 28 P **P 22 26 19.4 +0.3**
DAWY IAmb IAmb 22 26 20.7
comp=Z,26nm,0.9s
POO Poona 67.04 283 *ex* **P 22 26 17.0 -3.6**
TMZ Timaru 67.18 160 P **P 22 26 21.2 +0.5**
MLZ Mavora Lakes 67.20 163 P **P 22 26 20.9 0.0**
CHGR Chuyangaron 67.70 305 P **P 22 26 24.7 +0.3**
EPYK Eagle Plains 68.21 25 P **P 22 26 27.1 +0.3**
baz=267,SNR=35
EPYK Eagle Plains 68.21 25 P **P 22 26 26.9 +0.1**
EPYK IAmb IAmb 22 26 28.4
comp=Z,38nm,0.9s

KBL Kabul 68.34 300 P **P 22 26 28.6 +0.2**
KBL pmax pmax
comp=Z,65nm,0.8s
KBL Kabul 68.34 300 P **P 22 26 28.6 +0.2**
KBL IAmb IAmb 22 26 29.9
comp=Z,65nm,0.8s
KBL Kabul 68.34 300 P **P 22 26 29.0 +0.6**
SNR=24
SKAG Skagway 68.73 33 P **P 22 26 30.7 +0.7**
baz=271
SIT Sitka 68.79 35 P **P 22 26 30.5 +0.1**
baz=272
BESE Bessie Mountai 68.99 34 P **P 22 26 32.2 +0.4**
BESE IAmb IAmb 22 26 33.6
comp=Z,36nm,1.0s
INK Inuvik 69.51 23 P **P 22 26 34.4 -0.2**
comp=Z,31nm,0.8s,baz=260,slow=6.2,SNR=63
INK Inuvik 69.51 23 P **P 22 26 34.4 -0.2**
INK pmax pmax
comp=Z,45nm,1.0s
INK Inuvik 69.51 23 P **P 22 26 34.4 -0.2**
baz=269,SNR=39
INK Inuvik 69.51 23 P **P 22 26 34.4 -0.2**
INK IAmb IAmb 22 26 35.6
comp=Z,45nm,0.9s
CRAG Craig 70.10 37 P **P 22 26 38.9 +0.6**
baz=274
WRAK Wrangell Islan 70.46 36 P **P 22 26 41.0 +0.6**
baz=275,SNR=7.3
WRAK Wrangell Islan 70.46 36 P **P 22 26 41.3 +0.8**
DIB Dawson Inlet, 70.68 39 P **P 22 26 41.6 -0.1**
H02S1 DAWSON INLET T 70.68 39 P **P 22 26 41.4 -0.4**
SNR=6.5
SVE Sverdlovsk 71.47 325⇑ *e*P **P 22 26 46.5 +0.1**
SVE pmax pmax
comp=Z,52nm,1.1s
DLBC Dease Lake 71.53 34 P **P 22 26 47.9 +1.0**
comp=Z,12nm,0.5s,baz=284,slow=6.5,SNR=26
DLBC Dease Lake 71.53 34 P **P 22 26 47.2 +0.4**
DLBC IAmb IAmb 22 26 49.0
comp=Z,31nm,0.9s
ARU Arti 72.66 324 *d i*P **P 22 26 53.1 -0.2**
ARU 22 27 07.1
ARU *PP **pP 22 28 41.5 -0.1**
ARU 22 29 43.4
ARU PPP PPP 22 31 35.4
ARU S **S 22 35 36.4 +0.3**
ARU 22 36 06.6
ARU pmax pmax
comp=Z,54nm,0.7s
ARU Arti 72.66 324 P **P 22 26 53.3 0.0**
ARU IAmb IAmb 22 26 54.5
comp=Z,53nm,0.7s
C36M Paulatuk 72.88 22 P **P 22 26 54.0 -0.2**
baz=278
C36M Paulatuk 72.88 22 P **P 22 26 54.1 -0.2**
C36M IAmb IAmb 22 26 55.1
comp=Z,42nm,0.8s
ABKAR Akbulak array 72.89 317 P **P 22 26 54.5 -0.2**
ABKAR IAmb IAmb 22 26 55.6
comp=Z,31nm,0.7s
ABKAR Akbulak array 72.89 317 P **P 22 26 54.4 -0.3**
BBB Bella Bella 73.44 40 P **P 22 26 58.0 +0.2**
comp=Z,13nm,0.8s,baz=342,slow=22,SNR=4.6
BBB Bella Bella 73.44 40 P **P 22 26 58.4 +0.6**
PPT2 Papeete2 73.68 115 *e*S **S 22 35 48.8 +0.1**
comp=Z,294nm,25.5s
PPT2 Papeete2 73.68 115 *e*LR LR 22 50 33.6
comp=Z,96nm,23.8s
HRA Herat 73.89 301 P **P 22 27 01.4 +0.4**
HRA IAmb IAmb 22 27 02.7
comp=Z,36nm,0.7s
PMOR Pomariorio Ree 74.02 112 *e*P **P 22 27 02.4 +0.7**
comp=Z,101nm,1.1s
GEYT Alibeck 76.38 306 P **P 22 27 15.3 +0.6**
comp=Z,55nm,0.5s,baz=119,slow=1.9,SNR=26
GEYT pP **pwP 22 29 06.7 -0.9**
comp=Z,3.4nm,0.8s,baz=219,slow=32,SNR=2.9
GYA0B ALIBECK ARRAY 76.38 306 P **P 22 27 14.9 +0.2**
KIRV Kirov 77.08 328 *ce*P **P 22 27 18.4 +0.4**
NLWA Neilton Lookou 77.10 44 P **P 22 27 19.6 +1.2**
NLWA IAmb IAmb 22 27 20.8
comp=Z,64nm,1.1s
E03A Lebam 77.50 45 P **P 22 27 21.3 +0.7**
E03A IAmb IAmb 22 27 22.6
comp=Z,69nm,1.0s
A04D Lummi Island 77.53 43 P **P 22 27 21.3 +0.7**
baz=284
D03D Eldon 77.58 44 P **P 22 27 22.1 +1.2**
baz=284,SNR=26
EUNU Eureka 77.71 8 P **P 22 27 21.3 +0.1**
EUNU IAmb IAmb 22 27 22.6
comp=Z,32nm,0.8s
KEBM Edson Butte 77.87 49 P **P 22 27 23.4 +0.7**
D04E Lakebay 77.87 44 P **P 22 27 23.9 +1.4**
baz=284
I02D Swisshome 77.91 47 P **P 22 27 23.5 +0.7**
baz=284
F04D Rainier, OR 77.99 45 P **P 22 27 23.8 +0.6**
baz=285
G03D McMinnville, O 78.03 46 P **P 22 27 24.0 +0.5**
baz=285
B05A Bryant 78.04 43 P **P 22 27 24.0 +0.6**
baz=285
PRGR Permogore 78.06 331 *e*P **P 22 27 19.5 -3.7**
PRGR *e**PP **pP 22 29 13.8 -0.5**
PRGR pmax pmax
comp=Z,4.0nm,1.2s
J01E Myrtle Point 78.08 48 P **P 22 27 23.4 -0.4**
baz=285
E04D Cinebar 78.17 45 P **P 22 27 24.6 +0.4**
baz=285,SNR=10
YKA Yellowknife Ar 78.17 28 P **P 22 27 23.7 -0.2**
comp=Z,18nm,0.8s,baz=289,slow=5.2,SNR=56
I03D Drain, OR 78.36 48 P **P 22 27 26.0 +0.8**
baz=285,SNR=7.4
D05A Enumclaw 78.39 44 P **P 22 27 25.2 -0.1**
K02D Willamette Mer 78.39 49 P **P 22 27 26.1 +0.5**
baz=285,SNR=6.9
HOPEN Hopen 78.48 348 *e*P **P 22 27 25.6 +0.3**
H04D Lebanon 78.57 47 P **P 22 27 27.2 +0.8**
baz=285
L02E Cave Junction 78.57 49 P **P 22 27 27.3 +0.8**
baz=285
LON Longmire 78.62 44 P **P 22 27 26.6 -0.1**
LON pmax pmax
comp=Z,15nm,1.2s
LON Longmire 78.62 44 P **P 22 27 26.6 -0.1**
KHMM Horse Mountain 78.81 51 P **P 22 27 28.7 +0.7**
C06D Leavenworth 78.91 43 P **P 22 27 28.5 +0.4**
baz=286
SPA0 Spitsbergen Ar 78.98 351 *e*P **P 22 27 28.4 +0.5**
SPITS Spitsbergen Ar 78.98 351 P **P 22 27 28.4 +0.5**
SPITS pmax pmax
comp=Z,35nm,1.2s
F05D White Salmon 79.08 45 P **P 22 27 29.7 +0.6**
baz=286
KBS Kingsbay 79.11 352 P **P 22 27 29.1 +0.5**
KBS pmax pmax
comp=Z,35nm,0.9s
KBS Kingsbay 79.11 352 *e*P **P 22 27 28.4 -0.2**
KBS Kingsbay 79.11 352 P **P 22 27 29.1 +0.5**
KBS IAmb IAmb 22 29 09.3
comp=Z,35nm,0.8s
M02C Callahan 79.31 50 P **P 22 27 31.5 +1.0**
baz=286,SNR=7.8
YBH Yreka Blue Hor 79.33 50 P **P 22 27 31.3 +0.8**
comp=Z,18nm,0.9s,baz=284,slow=2.7,SNR=27
YBH Yreka Blue Hor 79.33 50 P **P 22 27 31.4 +0.8**
YBH pmax pmax
comp=Z,31nm,1.1s
YBH Yreka Blue Hor 79.33 50 P **P 22 27 31.4 +0.8**
J04D Umpqua Nationa 79.35 48 P **P 22 27 31.5 +0.7**
baz=286,SNR=5.2
G05D Wamic, OR 79.35 46 P **P 22 27 30.7 +0.2**
baz=286
L04D Klamath Falls 79.49 49 P **P 22 27 31.9 +0.4**
baz=286,SNR=11
N02D Trinity Center 79.53 50 P **P 22 27 32.4 +0.7**
baz=286,SNR=5.5
WBK Wadi Bani Khal 79.54 290 P **P 22 27 33.0 +1.0**
I05D Terrebonne, OR 79.59 47 P **P 22 27 32.5 +0.6**
baz=286
WSAR Wadi Sarin 79.67 291 P **P 22 27 33.8 +1.1**
O02D Mt. Diablo Mer 79.69 51 P **P 22 27 33.4 +0.9**
baz=286,SNR=7.8

K04D	Chiloquin, OR	79.77	48	P		P	22 27 33.3	+0.3
	baz=286,SNR=5.6							
M04C	Macdoel	79.94	49	P		P	22 27 34.1	+0.3
	baz=286,SNR=8.1							
J05D	Fort Rock, OR	79.95	48	P		P	22 27 34.4	+0.4
	baz=286,SNR=9.6							
PINE	Pine Mountain	80.01	47	P		P	22 27 35.0	+0.7
PINE				IAmb		IAmb	22 27 36.2	
	comp=Z,56nm,1.0s							
BIDO	Bidbid	80.04	291	P		P	22 27 36.1	+1.5
	SNR=6.8							
LVZ	Lovozero	80.15	339	P		P	22 27 34.5	+0.2
LVZ				pmax		pmax		
	comp=Z,185nm,1.9s							
LVZ	Lovozero	80.15	339	P		P	22 27 34.5	+0.2
LVZ				IAmb		IAmb	22 27 54.4	
	comp=Z,185nm,1.9s							
HAWA	Hanford	80.23	44	P		P	22 27 35.4	+0.2
SMDO	Samad	80.23	291	P		P	22 27 36.6	+0.9
JMDO	Jabal Madar	80.38	290	P		P	22 27 37.4	+1.0
O03E	Paynes Creek	80.38	51	P		P	22 27 36.1	-0.1
	baz=286,SNR=7.5							
APA	Apatity	80.72	339	⇓*i*P		P	22 27 35.7	-1.5
APA				*i* S		S	22 36 58.0	-3.4
APA				pmax		pmax		
	comp=Z,13nm,0.8s							
HOQ	Hoqain	80.74	292	P		P	22 27 39.4	+1.2
	SNR=9.2							
ORV	Oroville	80.81	51	P		P	22 27 38.2	-0.1
ORV				pmax		pmax		
	comp=Z,30nm,1.1s							
ORV	Oroville	80.81	51	P		P	22 27 38.2	-0.1
MHTO	MHTO	80.89	289	P		P	22 27 39.8	+0.8
BJO1	Bjornoya	80.89	347	*e*P		P	22 27 36.6	-1.4
BANOM	Banah	80.96	294	*i* P		P	22 27 40.5	+1.1
	SNR=10							
BANOM	Banah	80.96	294	P		P	22 27 41.0	+1.7
SHME	Shamm	81.06	294	P		P	22 27 41.1	+1.3
SHME	Shamm	81.06	294	P		P	22 27 41.3	+1.5
BSY	Bisya	81.08	291	P		P	22 27 41.0	+1.0
KLMR	Klimovskoe	81.11	331	*e*P		P	22 27 37.5	-1.8
KLMR				*e**PP		pP	22 29 29.5	-1.8
KLMR				*e**SP		sP	22 30 24.4	-0.1
KLMR				*e*			22 30 51.4	
KLMR				pmax		pmax		
	comp=Z,38nm,0.9s							
KLMR	Klimovskoe	81.11	331	*e*P		P	22 27 37.5	-1.8
KLMR				AMP			22 27 39.6	
	comp=Z,38nm,0.9s							
KLMR				*e*pP		pP	22 29 29.5	-1.8
KLMR				*e*sP		sP	22 30 24.5	-0.1
KLMR				*e*PP		PP	22 30 51.4	-2.0
MDH	Madha	81.14	294	P		P	22 27 41.0	+0.8
MDH	Madha	81.14	294	P		P	22 27 41.1	+0.8
NEW	Newport	81.23	42	P		P	22 27 40.4	+0.1
	comp=Z,20nm,0.8s,baz=282,slow=4.5,SNR=30							
NEW	Newport	81.23	42	P		P	22 27 40.4	+0.1
NEW				pmax		pmax		
	comp=Z,27nm,1.0s							
NEW	Newport	81.23	42	P		P	22 27 40.3	+0.1
	baz=288,SNR=24							
NEW	Newport	81.23	42	P		P	22 27 40.4	+0.1
MASF	Masafi	81.24	294	P		P	22 27 42.1	+1.3
	SNR=5.3							
MSFE	Esma-Masafi	81.24	294	*i* P		P	22 27 42.0	+1.2
	SNR=7.5							
SOHO	SOHO	81.27	292	*i* P		P	22 27 41.4	+0.5
	SNR=8.8							
SOHO	SOHO	81.27	292	P		P	22 27 41.9	+1.0
UOSS	Minazif	81.32	293	P		P	22 27 41.8	+0.6
UOSS	Minazif	81.32	293	P		P	22 27 41.5	+0.3
UOSS	Minazif	81.32	293	P		P	22 27 41.9	+0.7
AFDM	Forest Hills D	81.38	52	P		P	22 27 41.2	-0.1
HATD	Hatta, Dubai	81.42	293	*i* P		P	22 27 42.7	+1.0
	SNR=9.6							
HATD	Hatta, Dubai	81.42	293	P		P	22 27 43.1	+1.4
	SNR=7.3							
ARQ	Araqi	81.50	292	P		P	22 27 43.8	+1.7
ASHO	Ashiyiah	81.52	293	*i* P		P	22 27 43.0	+0.8
	SNR=7.8							
ASHO	Ashiyiah	81.52	293	P		P	22 27 43.5	+1.2
	SNR=6.2							
BEKR	Beckworth	81.57	51	P		P	22 27 42.4	0.0
BEKR				IAmb		IAmb	22 27 43.6	
	comp=Z,35nm,1.0s							
DQM	DQM	81.58	288	P		P	22 27 43.5	+0.9
KEV	Kevo	81.67	342	P		P	22 27 41.4	-0.6
KEV				pmax		pmax		
	comp=Z,22nm,1.1s							
KEV	Kevo	81.67	342	P		P	22 27 41.4	-0.6
NAZ	Nazwa, Dubai	81.78	294	P		P	22 27 44.7	+1.1
	SNR=5.3							
FAQ	Al Faqa, Dubai	81.91	293	*i* P		P	22 27 44.6	+0.4
	SNR=11							
FAQ	Al Faqa, Dubai	81.91	293	P		P	22 27 45.2	+0.9
ALNE	Al Ain	81.97	293	*i* P		P	22 27 45.3	+0.8
	SNR=8.8							
ALNE	Al Ain	81.97	293	P		P	22 27 46.1	+1.6
	SNR=7.9							
WVOR	Wild Horse Val	82.03	48	P		P	22 27 44.9	+0.2
WVOR				pmax		pmax		
	comp=Z,17nm,0.9s							
WVOR	Wild Horse Val	82.03	48	P		P	22 27 44.9	+0.2
HAMF	Hammerfest	82.11	343	*e*P		P	22 27 43.0	-1.3
BMO	Blue Mountains	82.19	45	P		P	22 27 45.4	0.0
BMO				pmax		pmax		
	comp=Z,31nm,1.1s							
BMO	Blue Mountains	82.19	45	P		P	22 27 45.4	0.0
ARA0	ARCESS Array S	82.23	342	*e*P		P	22 27 44.3	-0.6
ARCES	ARCESS Array B	82.23	342	P		P	22 27 44.1	-0.8
	comp=Z,7.6nm,0.4s,baz=86,slow=8.3,SNR=109							
ARCES	ARCESS Array B	82.23	342	P		P	22 27 44.6	-0.3
ARCES				pmax		pmax		
	comp=Z,23nm,0.9s							
ARCES	ARCESS Array B	82.23	342	P		P	22 27 44.6	-0.3
AJN	Ajban	82.49	293	*i* P		P	22 27 47.5	+0.4
	SNR=6.3							
AJN	Ajban	82.49	293	P		P	22 27 48.1	+1.0
	SNR=8.1							
TULEG	Thule	82.70	8	⇓*i*P		P	22 27 47.4	+0.3
TULEG				IAmb		IAmb	22 27 48.4	
	comp=Z,50nm,0.9s							
TULEG	Thule	82.70	8	P		P	22 27 47.5	+0.3
TULEG				IAmb		IAmb	22 27 48.7	
	comp=Z,62nm,1.0s							
UMZA	Um Al Zommool	82.88	291	P		P	22 27 49.4	+0.2
WALA	Waterton Lakes	82.97	41	P		P	22 27 49.7	+0.4
KTK1	Kautokeino	83.19	342	*e*P		P	22 27 49.0	-0.7
JTMT	Jette	83.20	42	P		P	22 27 50.4	0.0
JTMT				IAmb		IAmb	22 27 51.7	
	comp=Z,35nm,1.0s							
VOG	Valley Oaks Go	83.38	54	P		P	22 27 51.1	-0.3
	baz=288							
MLAC	Mammoth, Mammo	83.39	53	P		P	22 27 52.2	+0.5
	baz=289							
NEEM	North Greenlan	83.49	4	⇓*i*P		P	22 27 51.9	+0.4
NEEM				IAmb		IAmb	22 27 52.9	
	comp=Z,57nm,0.7s							
PKM	Mcpherson Peak	83.50	56	P		P	22 27 52.7	+0.5
	baz=288,SNR=12							
NVAR	Mina Array Bea	83.53	52	P		P	22 27 52.9	+0.5
	comp=Z,21nm,0.8s,baz=262,slow=6.3,SNR=113							
NVAR				pP		pP	22 29 47.2	+2.2
	comp=Z,0.6nm,0.3s,baz=274,slow=5.3,SNR=3.5							
NVAR	Mina Array Bea	83.53	52	P		P	22 27 52.6	+0.2
MFID	Camas Ranch	83.66	46	P		P	22 27 53.1	+0.3
MFID				IAmb		IAmb	22 27 54.3	
	comp=Z,62nm,0.8s							
JETT	Jettan, Norway	83.67	343	*e*P		P	22 27 52.2	0.0
SBC	Santa Barbara	83.72	56	P		P	22 27 52.9	-0.2
	baz=288							
MSO	Missoula	83.74	43	P		P	22 27 52.2	-0.9
	baz=291,SNR=6.9							
MSO	Missoula	83.74	43	P		P	22 27 52.8	-0.3
VES	Vestal, Richgr	83.76	54	P		P	22 27 52.6	-0.7
	baz=289							
GROC	Groznyy	83.89	313	*e*P		P	22 27 53.4	-0.4
GROC				*e**PP		pP	22 29 45.3	-1.1
GROC				*e**SP		sP	22 30 39.6	+0.1
GROC				*e*S		SKSac	22 37 26.8	-0.1
GROC				pmax		pmax		
	comp=Z,35nm,0.7s							
SCZ2	Santa Cruz Isl	83.92	56	P		P	22 27 54.0	-0.2
	baz=288							
TRO	Tromso	84.02	343	*e*P		P	22 27 53.0	-0.8
TIN	Tinemaha, Big	84.03	53	P		P	22 27 55.5	+0.7
	baz=289							
MOS	Moscow	84.08	327	*e*P		P	22 27 52.7	-1.7
MOS				*e**PP		pP	22 29 45.0	-2.1
MOS				*e*S		SKSac	22 37 24.6	-2.9
MOS				pmax		pmax		
	comp=Z,35nm,0.9s							
MOS				smax		smax		
	comp=E,500µm,3.9s							
DAG	Danmarks Havn	84.14	356	⇓*i*P		P	22 27 53.6	-0.7
DAG				IAmb		IAmb	22 27 54.7	
	comp=Z,20nm,0.8s							
DAG	Danmarks Havn	84.14	356	⇓*i*P		P	22 27 53.6	-0.7
DAG				pmax		pmax		
	comp=Z,21nm,0.8s							
ARVC	Arvin	84.19	55	P		P	22 27 55.4	0.0
	baz=289							
SNCC	San Nicolas Is	84.24	57	P		P	22 27 55.7	0.0
	baz=289							
ISA	Isabella, Lake	84.29	54	P		P	22 27 55.6	-0.4
ISA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ISA	Isabella, Lake	84.29	54	P		P	22 27 55.6	-0.4
	baz=289							
ISA	Isabella, Lake	84.29	54	P		P	22 27 55.6	-0.4
CWC	Cottonwood Cre	84.34	54	P		P	22 27 56.4	0.0
	baz=289							
TPH	Tonopah	84.45	52	P		P	22 27 57.1	+0.1
TPH				pmax		pmax		
	comp=Z,94nm,1.0s							
TPH	Tonopah	84.45	52	P		P	22 27 57.1	+0.1
GHWR	Ruwais	84.51	293	P		P	22 27 58.4	+1.3
HLID	Hailey	84.58	46	P		P	22 27 57.6	+0.2
	baz=291							
HLID	Hailey	84.58	46	P		P	22 27 57.7	+0.2
HLID				IAmb		IAmb	22 27 58.9	
	comp=Z,28nm,0.9s							
DMTO	DMTO	84.58	287	P		P	22 27 58.5	+0.9
GRAC	Grapevine Rang	84.70	53	P		P	22 27 58.5	+0.6
	baz=290							
OBN	Obninsk	84.89	327	*d i*P		P	22 27 57.0	-1.4
OBN				*e**PP		pP	22 29 50.0	-1.4
OBN				*e*			22 31 20.9	
OBN				pmax		pmax		
	comp=Z,49nm,1.7s							
OBN	Obninsk	84.89	327	P		P	22 27 57.3	-1.1
OBN				IAmb		IAmb	22 27 57.8	
	comp=Z,38nm,1.3s							
EDW2	Edwards Air Fo	84.92	55	P		P	22 27 59.3	+0.2
	baz=289,SNR=6.3							
LRMC	Laurel Mtn Rad	84.96	54	P		P	22 27 59.7	+0.3
	baz=289							
ELK	Elko	84.99	49	P		P	22 27 59.9	+0.3
ELK	Elko	84.99	49	P		P	22 27 59.9	+0.3
ELK				pmax		pmax		
	comp=Z,39nm,1.0s							
ELK	Elko	84.99	49	P		P	22 27 59.9	+0.3
ELK				IAmb		IAmb	22 28 01.1	
	comp=Z,39nm,1.0s							
BCYI	Bear Canyon	84.99	45	P		P	22 27 59.9	+0.4
PASC	Pasadena Art C	85.00	56	P		P	22 27 58.7	-0.7
PASC				IAmb		IAmb	22 28 00.7	
	comp=Z,36nm,1.4s							
DOK	Doka	85.04	288	P		P	22 28 00.3	+0.4
FMP	Fort Macarthur	85.07	56	P		P	22 28 00.0	+0.3
	baz=289							
CIS	Catalina Islan	85.07	57	P		P	22 27 59.6	-0.3
	baz=289							
SCI2	San Clemente I	85.11	57	P		P	22 27 59.8	-0.1
	baz=289							
HRY	Holter Researc	85.13	42	P		P	22 28 00.3	+0.3
FURC	Furnace Creek,	85.26	53	P		P	22 28 00.9	+0.3
	baz=290,SNR=13							
RBK	Rabkut	85.32	287	P		P	22 28 01.9	+0.6
ZEI	Tsey	85.34	314	*e*P		P	22 27 59.5	-1.7
ZEI				pmax		pmax		
	comp=Z,32nm,1.0s							
BFSC	Mount Baldy Ra	85.39	56	P		P	22 28 01.2	-0.3
	baz=290							
SLWR	Sila	85.50	294	P		P	22 28 03.7	+1.7
TPNV	Topopah Spring	85.56	53	P		P	22 28 02.5	+0.2
TPNV				pmax		pmax		
	comp=Z,44nm,1.1s							
TPNV	Topopah Spring	85.56	53	P		P	22 28 02.4	+0.2
	baz=290,SNR=34							
TPNV	Topopah Spring	85.56	53	P		P	22 28 02.5	+0.2
TPNV				IAmb		IAmb	22 28 03.8	
	comp=Z,44nm,1.1s							
SHMA	Al-Shehemyia	85.56	296	P		P	22 28 02.1	-0.2
R11A	Troy Canyon, C	85.57	51	P		P	22 28 02.6	+0.2
	baz=290,SNR=17							
WHFO	Wadi Hawf	85.58	287	P		P	22 28 02.8	+0.2
KBZ	Khabaz	85.68	315	P		P	22 28 01.8	-0.6
	comp=Z,25nm,0.9s,baz=145,slow=3.2,SNR=42							
KBZ				pP		pP	22 29 58.2	+2.6
	comp=Z,13nm,1.0s,baz=89,slow=2.4,SNR=7.3							
KBZ	Khabaz	85.68	315	*ce*P		P	22 28 02.1	-0.3
BOZ	Bozeman (W)	85.68	43	P		P	22 28 02.7	0.0
BOZ				pmax		pmax		
	comp=Z,54nm,1.9s							
BOZ	Bozeman (W)	85.68	43	P		P	22 28 02.5	-0.1
	baz=292,SNR=13							
BOZ	Bozeman (W)	85.68	43	P		P	22 28 02.6	0.0
BOZ				IAmb		IAmb	22 28 04.0	
	comp=Z,54nm,1.9s							
RRX	Edison Barstow	85.69	55	P		P	22 28 03.2	+0.4
	baz=290							
GNI	Garni	85.69	311	P		P	22 28 03.4	+0.5
GNI	Garni	85.69	311	*ce*P		P	22 28 03.6	+0.7
GNI				pmax		pmax		
	comp=Z,19nm,1.3s							
GNI	Garni	85.69	311	P		P	22 28 03.2	+0.3
GNI	Garni	85.69	311	P		P	22 28 03.8	+0.9
GSC	Goldstone, Bar	85.69	54	P		P	22 28 03.0	+0.1
	baz=290,SNR=14							
ONI	Oni	85.72	314	P		P	22 28 03.8	+1.0
ONI				pmax		pmax		
	comp=Z,27nm,0.8s							
ONI	Oni	85.72	314	P		P	22 28 03.8	+1.0
ONI				IAmb		IAmb	22 28 05.6	
	comp=Z,27nm,0.8s							
KIV	Kislovodsk	85.73	315	*i* P		P	22 28 02.2	-0.6
	SNR=15							
KIV	Kislovodsk	85.73	315	*e*P		P	22 28 02.5	-0.4
KIV				*e**PP		pP	22 29 57.0	+0.9
KIV				*e*			22 37 37.3	
KIV				pmax		pmax		
	comp=Z,29nm,1.1s							
KIV				MLR		MLR		
	comp=Z,59nm,20.0s							
KIV	Kislovodsk	85.73	315	P		P	22 28 02.2	-0.6
KIV				IAmb		IAmb	22 28 04.8	
	comp=Z,23nm,0.9s							
KIV	Kislovodsk	85.73	315	P		P	22 28 02.9	0.0
SAKB	Bahrain	85.89	296	P		P	22 28 05.1	+1.3
SHOC	Shoshone, Teco	85.90	54	P		P	22 28 03.7	-0.1
	baz=290,SNR=8.0							
EGMT	Eagleton	85.92	41	P		P	22 28 03.4	-0.3
	baz=294							
EGMT	Eagleton	85.92	41	P		P	22 28 03.6	-0.1
N2IH	Innhavet	85.94	343	*e*P		P	22 28 02.3	-0.9
MURC	Murrieta	85.97	56	P		P	22 28 03.7	-0.4
	baz=290							
STEI	Steigen	86.16	343	*e*P		P	22 28 03.5	-0.7
N2VI	Vinje	86.17	344	*e*P		P	22 28 04.3	0.0
ABTO	Aybut	86.19	287	P		P	22 28 06.1	+0.6
HEC	Hector,Ludlow	86.22	55	P		P	22 28 05.4	0.0
	baz=290,SNR=5.3							
109C	Camp Elliot, M	86.28	57	P		P	22 28 05.5	-0.1
	baz=290							
TUQ	Turquoise Moun	86.33	54	P		P	22 28 06.3	+0.4
	baz=290							
N2TV	T¥rnvik	86.44	343	*e*P		P	22 28 04.8	-0.8
LOF	Lofoten	86.48	344	*e*P		P	22 28 05.6	-0.2
BGU	Big Grassy Mou	86.49	48	P		P	22 28 06.7	+0.1
FAUS	Fauske	86.52	343	*e*P		P	22 28 04.4	-1.6
PFO	Pinyon Flats O	86.54	56	P		P	22 28 06.9	0.0
	comp=Z,13nm,0.9s,baz=288,slow=3.4,SNR=14							
PFO	Pinyon Flats O	86.54	56	P		P	22 28 07.0	0.0
PFO				pmax		pmax		
	comp=Z,17nm,1.0s							
PFO	Pinyon Flats O	86.54	56	P		P	22 28 06.9	0.0
	baz=290,SNR=12							
PFO	Pinyon Flats O	86.54	56	P		P	22 28 07.0	0.0
TPFO	Pinon Flats	86.55	56	P		P	22 28 07.0	0.0
	baz=290,SNR=10							
FIA1	FINESS Array S	86.56	335	P		P	22 28 04.6	-1.7
FIA1				IAmb		IAmb	22 28 06.2	
	comp=Z,17nm,0.8s							
FINES	FINESS Array B	86.56	335	P		P	22 28 04.6	-1.7
	comp=Z,11nm,0.3s,baz=63,slow=4.3,SNR=262							
FINES	FINESS Array B	86.56	335	P		P	22 28 04.7	-1.6
DBG	Daneborg	86.64	356	⇓*i*P		P	22 28 05.7	-0.8
DBG				IAmb		IAmb	22 28 07.2	
	comp=Z,11nm,0.6s							
KARS	Kars	86.70	312	P		P	22 28 08.1	+0.5
KARS				pmax		pmax		
	comp=Z,86nm,1.0s							
KARS	Kars	86.70	312	P		P	22 28 08.1	+0.5
NBB08	Skaug oppvekst	86.70	343	*e*P		P	22 28 07.1	+0.3
GMRC	Granite Mounta	86.76	54	P		P	22 28 08.3	+0.3
	baz=291,SNR=27							
BELC	Belle Mtn. Jos	86.77	55	P		P	22 28 07.8	-0.2
	baz=290,SNR=11							
N2SV	S rvHgen	86.79	344	*e*P		P	22 28 06.6	-0.6
MONP2	Monument Peak	86.82	56	P		P	22 28 08.2	-0.2
	baz=290,SNR=7.9							
CBX	Cerro Bola	86.83	57	P		P	22 28 08.4	0.0
H17A	Grant Village	86.84	44	P		P	22 28 10.3	+2.0
	baz=293							
DUG	Dugway, Tooele	86.91	49	P		P	22 28 08.9	+0.3
DUG				pmax		pmax		
	comp=Z,36nm,1.1s							
DUG	Dugway, Tooele	86.91	49	P		P	22 28 08.9	+0.3
	baz=292,SNR=26							
DUG	Dugway, Tooele	86.91	49	P		P	22 28 08.9	+0.3
DUG				IAmb		IAmb	22 28 10.1	
	comp=Z,36nm,1.1s							
N2VA	Vr,y	87.04	344	*e*P		P	22 28 08.0	-0.4
UMR	Umm Al-Rimmam	87.07	300	*e*P		P	22 28 08.3	-1.0
NBB05	Inndyr	87.12	343	*e*P		P	22 28 07.9	-0.9
IKP	In-Ko-Pah, Jac	87.15	57	P		P	22 28 10.0	+0.2
	baz=290							
QRN	Al-Qurain	87.18	299	*e*P		P	22 28 08.7	-1.2
NBB30	Finnes	87.24	343	*e*P		P	22 28 08.3	-1.1
HWUT	Hardware Ranch	87.25	47	P		P	22 28 10.5	+0.3
HWUT				IAmb		IAmb	22 28 11.6	
	comp=Z,21nm,1.0s							
SWSC	Sam W. Stewart	87.29	56	P		P	22 28 10.3	0.0
	baz=291							
MIB	Mutribah	87.30	300	*e*P		P	22 28 09.2	-1.2
N2RO	R st	87.30	344	*e*P		P	22 28 09.6	0.0
FFC	Flin Flon	87.32	32	P		P	22 28 10.1	+0.1
FFC				pmax		pmax		
	comp=Z,39nm,1.0s							
FFC	Flin Flon	87.32	32	P		P	22 28 10.1	+0.1
FFC				IAmb		IAmb	22 28 11.1	
	comp=Z,39nm,0.9s							
IRM	Iron Mountain	87.38	55	P		P	22 28 11.0	+0.2
	baz=291,SNR=7.1							
RLMT	Red Lodge	87.40	43	P		P	22 28 11.5	+0.6
	baz=294,SNR=8.2							
NBB15	Halsa Church	87.45	343	*e*P		P	22 28 10.3	-0.1
NEE2	Needles Airpor	87.56	54	P		P	22 28 12.0	+0.4
	baz=291							
NBB13	Alf Garage	87.60	343	*e*P		P	22 28 10.0	-1.1
MOR8	Moi Rana	87.61	342	*e*P		P	22 28 09.5	-1.7
KONS	Konsvik	87.75	343	*e*P		P	22 28 12.2	+0.4
MEF	Metsahovi	87.94	335	*e*P		P	22 28 11.7	-1.0
VSU	Vasula	87.95	332	*e*P		P	22 28 12.0	-0.9
MVU	Marysvale	87.98	50	P		P	22 28 14.4	+0.6
W13A	Hualapai Mount	88.00	54	P		P	22 28 14.3	+0.4
W13A				IAmb		IAmb	22 28 15.6	
	comp=Z,16nm,1.0s							
GLA	Glamis	88.02	56	P		P	22 28 14.5	+0.6
	baz=291							
PDMCI	Parker Dam,Lak	88.10	54	P		P	22 28 14.4	+0.3
	baz=292,SNR=17							
BW06	Boulder Array	88.17	45	P		P	22 28 13.9	-0.6
	baz=294							
PD31	Pinedale Array	88.17	45	P		P	22 28 14.2	-0.4
PDAR	Pinedale Array	88.17	45	P		P	22 28 14.0	-0.6
	comp=Z,2.3nm,0.5s,baz=248,slow=0.6,SNR=21							
PDAR	Pinedale Array	88.17	45	P		P	22 28 13.7	-0.8
GURO	Guroymak-BITLI	88.24	310	P		P	22 28 15.5	+0.7
RAF	Rauma	88.50	336	*e*P		P	22 28 13.3	-2.1
LAO	LASA Array	88.66	41	P		P	22 28 16.8	+0.2
	baz=296							
CASY	Casey	88.69	193	P		P	22 28 16.6	+0.7
SUMG	Summit	88.83	1	*i* P		P	22 28 17.0	-0.2
SUMG				IAmb		IAmb	22 28 19.5	
	comp=Z,11nm,1.0s							
SUMG	Summit	88.83	1	*i* P		P	22 28 17.0	-0.2
SUMG				pmax		pmax		
	comp=Z,11nm,1.0s							
SUMG	Summit	88.83	1	P		P	22 28 16.9	-0.4
MTSE	Matsula	89.06	334	*e*P		P	22 28 17.2	-0.8
NSS	Namsos	89.50	342	*e*P		P	22 28 20.0	+0.1
MNK	Minsk	89.58	329	*i* P		P	22 28 22.4	+1.9
MNK				*i*			22 32 02.2	
MNK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MNK				pmax		pmax		
	comp=N,13nm,0.9s							
MNK				pmax		pmax		
	comp=E,2.0nm,0.8s							
MNK				MLR		MLR		
	comp=E,13nm,20.0s							
MNK				MLR		MLR		
	comp=N,67nm,19.0s							
MNK				MLR		MLR		
	comp=Z,98nm,20.0s							
MNK	Minsk	89.58	329	*i* P		P	22 28 22.4	+1.9
	comp=E,2.0nm,0.8s							
MNK				*i* P		P	22 28 22.4	+1.9
	comp=N,13nm,0.9s							
MNK				*i* P		P	22 28 22.4	+1.9
	comp=Z,10.0nm,0.8s,baz=58							
MNK				*i* PP		PP	22 32 02.2	+1.2
MNK				*i* SS		SS	22 44 51.5	+14
MNK				*i* SSS		SSS	22 48 38.0	
MNK				*i* LRM		MLR	23 10 37.6	
	comp=E,13nm,19.6s							
MNK				*i* LRM		MLR	23 10 42.0	
	comp=N,67nm,18.8s							
MNK				*i* LRM		MLR	23 10 55.0	
	comp=Z,98nm,20.3s							
IDID	Didziasalis	89.69	330	*e*P		P	22 28 20.7	-0.3
AAL	Aland	89.71	336	*e*P		P	22 28 19.5	-1.5
WUAZ	Wupatki	89.75

comp=Z,18nm,1.1s
RSSD Black Hills 91.20 42 P **P 22 28 28.1 -0.5**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 91.20 42 P **P 22 28 28.0 -0.5**
baz=298
RSSD Black Hills 91.20 42 P **P 22 28 28.1 -0.5**
N23A Red Feather La 91.41 46 P **P 22 28 30.2 +0.5**
baz=296,SNR=24
TUC Tucson 91.45 55 P **P 22 28 29.3 -0.5**
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC Tucson 91.45 55 P **P 22 28 30.5 +0.7**
baz=293
TUC Tucson 91.45 55 P **P 22 28 29.3 -0.5**
MDND Maddock 92.07 38 P **P 22 28 32.0 -0.2**
baz=301
ISCO Idaho Springs 92.12 47 P **P 22 28 32.7 -0.3**
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO Idaho Springs 92.12 47 P **P 22 28 33.4 +0.4**
baz=297,SNR=8.6
ISCO Idaho Springs 92.12 47 P **P 22 28 32.6 -0.3**
ISCO IAmb IAmb 22 28 34.5
comp=Z,11nm,0.9s
SUW Suwalki 92.13 330 P **P 22 28 31.0 -1.3**
SUW pmax pmax
comp=Z,34nm,1.0s
SUW Suwalki 92.13 330 P **P 22 28 31.0 -1.3**
S22A 4UR Ranch, Cre 92.17 49 P **P 22 28 33.5 +0.2**
baz=296,SNR=11
NB2 NORSAR Subarra 92.29 339 P **P 22 28 30.7 -2.3**
comp=Z,6.6nm,1.2s,baz=42,slow=4.6
NB2 NORSAR Subarra 92.29 339 P **P 22 28 30.7 -2.3**
baz=42,slow=4.6
NOA NORSAR Array B 92.29 339 P **P 22 28 31.1 -1.9**
comp=Z,1.0nm,0.6s,baz=42,slow=4.6,SNR=12
ICESG Greenland Ices 92.30 2 *i P* **P 22 28 31.6 -1.6**
ICESG IAmb IAmb 22 28 33.3
comp=Z,8.9nm,0.9s
NORES NORESS Array B 92.40 339 P **P 22 28 33.0 -0.4**
BNN Bunyan 92.52 312 P **P 22 28 34.0 -0.6**
Q24A Divide 92.81 47 P **P 22 28 36.1 -0.1**
baz=297
ULM Lac du Bonnet 92.84 34 P **P 22 28 35.1 -0.6**
comp=Z,4.2nm,0.8s,baz=297,slow=4.1,SNR=5.8
ULM Lac du Bonnet 92.84 34 P **P 22 28 35.0 -0.6**
ULM pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 92.84 34 P **P 22 28 35.0 -0.6**
SDCO Great Sand Dun 93.11 48 P **P 22 28 37.6 0.0**
baz=297,SNR=6.4
SDCO Great Sand Dun 93.11 48 P **P 22 28 37.0 -0.6**
BR131 Keskin Array S 93.64 314 P **P 22 28 38.3 -1.4**
BR131 pmax pmax
comp=Z,14nm,0.8s
BR131 Keskin Array S 93.64 314 P **P 22 28 38.3 -1.4**
BR131 IAmb IAmb 22 28 39.9
comp=Z,14nm,0.8s
BR131 Keskin Array S 93.64 314 P **P 22 28 39.2 -0.6**
SNR=9.5
BRTR Keskin Array B 93.64 314 P **P 22 28 38.1 -1.7**
comp=Z,8.7nm,0.8s,baz=87,slow=3.4,SNR=58
BRTR pP **pP 22 30 35.9 +1.3**
comp=Z,1.3nm,1.0s,baz=82,slow=3.1,SNR=3.5
BRTR Keskin Array B 93.64 314 *ceP* **P 22 28 38.5 -1.3**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
BRTR Keskin Array B 93.64 314 P **P 22 28 38.4 -1.4**
ANMO Albuquerque 93.65 51 *ceP* **P 22 28 40.5 +0.5**
ANMO pmax pmax
comp=Z,8.0nm,1.7s
ANMO Albuquerque 93.65 51 P **P 22 28 40.1 +0.2**
baz=296
ANMO Albuquerque 93.65 51 P **P 22 28 39.7 -0.2**
121A Cookes Peak, D 93.68 54 P **P 22 28 40.2 0.0**
baz=295
BLEU Blekinge 93.93 334 *i P* **P 22 28 38.3 -2.1**
AGMN Agassiz Nation 93.94 36 P **P 22 28 40.3 -0.4**
baz=304
OGNE Ogallala 94.01 44 P **P 22 28 40.2 -1.1**
baz=299
ANTO Ankara 94.15 314 P **P 22 28 41.0 -1.0**
ANTO pmax pmax
comp=Z,15nm,1.1s
ANTO Ankara 94.15 314 P **P 22 28 41.0 -1.0**
ANTO IAmb IAmb 22 28 41.9
comp=Z,15nm,1.1s
T25A Trinidad 94.16 49 P **P 22 28 42.2 -0.1**
baz=297
KSCO Kaye Shedlock' 94.53 46 P **P 22 28 43.2 -0.7**
baz=298
DEL Delary 94.60 335 *i P* **P 22 28 41.9 -1.6**
BUR08 Bucovina Ar. S 94.79 324 P **P 22 28 44.0 -0.8**
BJUU Bjuv 95.21 335 *i P* **P 22 28 44.8 -1.5**
LUNU Lund 95.36 335 *i P* **P 22 28 45.4 -1.6**
KOLS Kolonicke sedl 95.62 326 *e*PDIFF **P 22 28 48.1 -0.3**
MNTX Cornudas Mount 95.88 54 P **P 22 28 50.2 +0.3**
baz=296,SNR=6.6
MNTX Cornudas Mount 95.88 54 P **P 22 28 49.8 -0.1**
ECSD EROS Data Cent 96.02 40 P **P 22 28 49.6 -0.7**
baz=303
MSTX Muleshoe 96.81 51 P **P 22 28 53.4 -0.8**
baz=298
TXAR Lajitas Array 98.25 55 P Pdif 22 29 00.6 -0.1
comp=Z,1.1nm,0.8s,baz=263,slow=3.6,SNR=7.5
CLL Collm 98.59 332 *e*Pdif Pdif 22 29 00.0 -1.6
CLL *e*pP pwP 22 31 02.0 +0.1
CLL *es*P sP 22 31 54.0 +4.8
CLL Collm 98.59 332 *e*P Pdif 22 29 00.0 -1.6
CLL *e**PP pwP 22 31 02.0 +0.1
CLL *e**SP sP 22 31 54.0 +4.8
WMOK Wichita Mounta 99.32 49 P **Pdif 22 29 04.8 -0.4**
baz=301
ABTX Abilene, Hawle 99.75 51 P **Pdif 22 29 06.7 -0.5**
baz=300
KHC Kasperske Hory 99.85 330 *e*P PKiKP 22 33 20.0 -12
GERES GERESS Array B 99.99 330 P **Pdif 22 29 07.2 -0.8**
comp=Z,0.3nm,0.5s,baz=74,slow=5.7,SNR=5.2
BCLA Clavier 102.52 335 *d*PP **PKiKP 22 33 39.5 +2.6**
BMRD Maredsous 102.82 335 *d*PP **PKiKP 22 33 40.8 +3.3**
ESDC Sonseca Array 115.06 334 PP PP 22 35 09.5 +0.6
comp=Z,1.0nm,0.8s,baz=21,slow=7.9,SNR=5.5
ESDC PKKPab **PKKPab 22 44 47.1 -0.9**
comp=Z,1.3nm,0.8s,baz=219,slow=4.2,SNR=7.7
SNAA Sanae 123.90 192 *c i* PKIKP **PKiKP 22 34 17.1 -0.1**
SNAA pmax pmax
comp=Z,5.0nm,1.3s
SNAA Sanae 123.90 192 PKPdf **PKPdf 22 34 16.6 -0.3**
BOSA Boshof 124.54 248 PKP **PKiKP 22 34 19.8 -0.1**
comp=Z,2.3nm,0.8s,baz=117,slow=2.3,SNR=4.3
BOSA Boshof 124.54 248 PKIKP **PKPdf 22 34 19.5 0.0**
BOSA Boshof 124.54 248 **PKPdf 22 34 19.5 0.0**
TORD Torodi Ar. Bea 131.96 309 PKP **PKPdf 22 34 34.0 +0.2**
comp=Z,1.7nm,0.5s,baz=38,slow=1.3,SNR=16
TORD PP **PP 22 37 04.5 +2.5**
comp=Z,1.7nm,0.8s,baz=39,slow=4.6,SNR=4.9
TORD SKPbc **SKPbc 22 37 09.4 -1.7**
comp=Z,3.2nm,0.9s,baz=44,slow=3.8,SNR=6.0
TORD Torodi Ar. Bea 131.96 309 **PKPdf 22 34 34.3 +0.5**
OTAV Otavalo 133.26 71 *e*P **PKiKP 22 34 37.6 -0.6**
SDV Santo Domingo 135.30 55 *e*P **PKiKP 22 34 41.5 -0.5**
KIC Kosan Boka 141.16 307 *e*P **PKPdf 22 34 46.2 -4.7**
comp=Z,12nm,0.6s
TIC Toumodi 141.18 308 *e*P **PKPdf 22 34 44.1 -6.8**
LIC Lamto 141.46 307 *e*P **PKPdf 22 34 44.2 -7.2**
comp=Z,107nm,1.9s
PLCA Paso Flores 142.48 133 PKP **PKPdf 22 34 50.0 -2.5**
comp=Z,15nm,1.0s,baz=216,slow=4.4,SNR=13
PLCA SKPbc **SKiKP 22 37 41.8 -0.4**
comp=Z,2.8nm,0.7s,baz=239,slow=3.8,SNR=5.8
GO05 Huala 143.48 124 PKPdf PKPbc 22 34 53.4 +0.4
BI02 San Fabin de 143.49 127 **PKPdf 22 34 53.7 -0.7**
ML02 Panimavida 143.66 125 **PKPdf 22 34 54.1 -0.6**
VA05 Santo Domingo 144.10 122 **PKPab 22 34 55.0 -0.1**
BO01 Tunca 144.33 123 **PKPdf 22 34 55.9 0.0**
MT01 Popeta 144.34 122 **PKPdf 22 34 55.9 0.0**
BO02 Sierra Bellavi 144.45 124 **PKPab 22 34 56.5 0.0**
MT09 Talagante 144.57 122 **PKPdf 22 34 56.4 -0.1**
MT02 Curacav 144.59 121 PKPdf PKPbc 22 34 56.6 +0.2
MT05 Renca 144.88 122 PKPbc 22 34 57.7 +0.3
MT03 Universidad Ad 145.03 122 **PKPbc 22 34 58.0 0.0**
CO02 Combarbal 145.18 118 **PKPbc 22 34 58.6 +0.2**
VA03 San Esteban 145.19 121 **PKPbc 22 34 58.6 +0.2**
CO03 El Pedregal 145.52 117 **PKPbc 22 34 59.1 -0.3**
GO04 Tololo Observa 145.56 116 **PKPbc 22 34 59.5 -0.2**
AUSP Uspallata 146.28 120 *i* P **PKPbc 22 35 02.4 +0.6**
GO03 Copiap 146.46 112 **PKPbc 22 35 02.3 +0.2**
RTLS Leoncito 146.46 119 *i* P **PKPbc 22 35 02.9 +0.5**
ACCO Cerro Coronel 146.94 117 *i* P **PKPbc 22 35 04.0 +0.3**
ACDV Cuesta del Vie 146.98 117 *i* P **PKPbc 22 35 04.2 +0.6**
ZON Zonda 147.03 119 PKP2 **PKPbc 22 35 03.9 +0.3**
ZON Zonda 147.03 119 **PKPbc 22 35 03.9 +0.3**
RTCV Cerro Valdivia 147.07 120 *i* P **PKPbc 22 35 03.7 +0.1**
BOAV Boa Vista 147.16 53 *eP* **PKPbc 22 35 03.2 -1.1**
PB11 IPOC Station P 147.21 97 **PKPbc 22 35 04.7 +0.2**
MNMC Minye Minye 147.22 96 **PKPdf 22 35 01.9 +0.5**
MNMC PKPbc **PKiKP 22 35 05.6 -0.8**
PB01 IPOC Station P 147.44 100 **PKPbc 22 35 05.6 +0.6**
PB15 IPOC Station P 147.48 104 **PKPbc 22 35 05.9 +0.7**
AC02 Maricunga 147.53 111 **PKiKP 22 35 06.4 -0.7**
AGUA GUANDACOL 147.66 116 *i* P **PKiKP 22 35 06.2 -0.6**
PB09 IPOC Station P 147.69 101 **PKPbc 22 35 06.3 +0.7**
PB08 IPOC Station P 147.71 98 **PKPdf 22 35 03.4 +1.0**
PB08 PKPbc **PKiKP 22 35 07.0 -0.6**
LVC Limon Verde 148.00 103 PKP2 **PKiKP 22 35 07.5 -0.6**
LVC Limon Verde 148.00 103 **PKiKP 22 35 07.5 -0.6**
LVC Limon Verde 148.00 103 *eP* **PKPdf 22 35 04.1 +1.3**
VCA Vinchina 148.05 114 *i* P **PKiKP 22 35 07.3 -0.4**
LPAZ La Paz 148.24 91 PKP **PKPdf 22 35 04.2 +0.6**
comp=Z,14nm,0.6s,baz=300,slow=1.7,SNR=31
LPAZ PKPbc **PKiKP 22 35 08.3 -0.6**
comp=Z,14nm,0.6s,baz=267,slow=2.3,SNR=32
LPAZ La Paz 148.24 91 PKP2 **PKiKP 22 35 08.4 -0.6**
LPAZ La Paz 148.24 91 PKPdf **PKPdf 22 35 03.8 +0.2**
LPAZ **PKiKP 22 35 08.4 -0.6**
LPAZ La Paz 148.24 91 *eP* **PKPdf 22 35 03.9 +0.2**
AVFE Valle Fertil 148.27 118 *i* P **PKPbc 22 35 06.7 0.0**
ACHE Chepes 148.80 119 *i* P **PKPbc 22 35 08.3 +0.1**
ACLC CERRO LA CRUZ 148.98 116 *i* P **PKPbc 22 35 08.7 0.0**
TRQA Tornquist 149.59 135 *eP* **PKPdf 22 35 06.3 +1.9**
CYA Choya 150.18 115 *i* P **PKiKP 22 35 11.8 -0.2**
MACA Manacapuru-AM 150.38 61 *eP* **PKPdf 22 35 07.0 +0.6**
TCA Tanti 150.44 121 *i* P **PKiKP 22 35 12.2 -0.3**
VILB Vilhena 155.00 80 *eP* **PKPdf 22 35 14.1 +1.1**
PTLB Pontes e Lacer 156.61 86 *eP* **PKPdf 22 35 15.1 +0.1**
CPUP Villa Florida 157.99 114 PKPab **PKPab 22 35 53.9 +0.6**
comp=Z,7.8nm,0.8s,baz=264,slow=6.9,SNR=11
PRPB Parauapebas 160.81 51 *eP* **PKPdf 22 35 20.6 +0.6**
SNDB Serra Nova Dou 162.81 69 *eP* **PKPdf 22 35 22.8 +0.8**
FRTB Fartura 165.59 111 *eP* **PKPdf 22 35 24.3 0.0**
NBPB Pedra_Branca-C 166.06 20 *eP* **PKPdf 22 35 27.8 +2.9**
RCBR Riachuelo 167.08 4 *eP* **PKPdf 22 35 28.6 +2.9**
GDU01 Guandu, BA 173.25 42 *eP* **PKPdf 22 35 31.3 +2.4**
NBIT Itapeh - BA 174.21 49 *eP* **PKPdf 22 35 32.6 +3.3**

MEX 15 22:25:43.3±0.4, 14°.38N×92°.55W, h40km±69km, MD3.6, Near coast of Chiapas

*NEIC **15** 22:30:23.2±1.2, 18°.94N±0°.06×67°.64W±0°.03, h20km±7km, Error ellipse: s-maj=8.5km s-min=4.3km az=185.0*
*OSPL **15** 22:30:24.6±0.7, 18°.94N×67°.61W, h39km±52km, ML3.6*
*RSPR **15** 22:30:25.0, 18°.99N×67°.67W, h20km±8km, MD3.3/18*
ISC 15 22:30:24.3±1.2, 18°.87N±0°.06×67°.66W±0°.03, h27km, n67, σ0s92/75, 13C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.51**	**159**	↓*eP*	**Pb**	**22 30 34.8**	**-0.1**
IDE	**Isla Desecheo**	**0.51**	**159**	*eS*	**Sb**	**22 30 42.6**	**+0.6**
IDE	**Isla Desecheo**	**0.51**	**159**		**Pb**	**22 30 34.8**	**-0.1**
IDE					**Sb**	**22 30 42.6**	**+0.6**
AGPR	**Aguadilla, PR**	**0.66**	**127**	↑*eP*	**Pb**	**22 30 36.5**	**-0.8**
AGPR	**Aguadilla, PR**	**0.66**	**127**		**Pb**	**22 30 36.5**	**-0.8**
AGPR					**Sb**	**22 30 45.8**	**-0.3**
AGPR	**Aguadilla, PR**	**0.66**	**127**	*i P*	**Pb**	**22 30 36.3**	**-1.0**
AGPR				*eS*	**Sb**	**22 30 45.8**	**-0.3**
AGPR				IAML		22 30 49.3	
comp=Z,3μm,0.2s							
PCDR	**Punta Cana, DR**	**0.77**	**243**	↑*eP*	**Pn**	**22 30 39.4**	**+0.1**
PCDR	**Punta Cana, DR**	**0.77**	**243**		**Pn**	**22 30 39.4**	**+0.1**
PCDR					**Sn**	**22 30 49.4**	**-0.5**
PCDR	**Punta Cana, DR**	**0.77**	**243**	IAML		22 30 54.3	
comp=N,3μm,0.5s							
PCDR	**Punta Cana, DR**	**0.77**	**243**	*i P*	**Pn**	**22 30 39.4**	**+0.1**
PCDR				*eS*	**Sn**	**22 30 49.5**	**-0.5**
PCDR				IAML		22 30 54.0	
comp=Z,2μm,0.5s							
MPR	**Mayaguez**	**0.82**	**143**	↓*eP*	**Pn**	**22 30 39.7**	**-0.4**
MPR	**Mayaguez**	**0.82**	**143**	*eS*	**Sn**	**22 30 52.1**	**+0.7**
MPR	**Mayaguez**	**0.82**	**143**		**Pn**	**22 30 39.7**	**-0.4**
MPR					**Sn**	**22 30 52.1**	**+0.7**
MPR	**Mayaguez**	**0.82**	**143**	*i P*	**Pn**	**22 30 39.1**	**-1.0**
MPR				IAML		22 30 53.5	
comp=Z,673nm,0.4s							
LSP	**Las Mesas**	**0.88**	**141**	↑*eP*	**Pn**	**22 30 40.4**	**-0.6**
LSP	**Las Mesas**	**0.88**	**141**	*eS*	**Sn**	**22 30 54.6**	**+1.7**
LSP	**Las Mesas**	**0.88**	**141**		**Pn**	**22 30 40.4**	**-0.6**
LSP					**Sn**	**22 30 54.6**	**+1.7**
AOPR	**Arecibo Observ**	**1.01**	**121**	↑*eP*	**Pn**	**22 30 41.5**	**-1.2**
AOPR	**Arecibo Observ**	**1.01**	**121**	*eS*	**Sn**	**22 30 55.8**	**-0.2**
AOPR	**Arecibo Observ**	**1.01**	**121**		**Pn**	**22 30 41.5**	**-1.2**
AOPR					**Sn**	**22 30 55.8**	**-0.2**
AOPR	**Arecibo Observ**	**1.01**	**121**	IAML		22 31 10.4	
comp=N,3μm,0.3s							
MLPR	**Magueyes Islan**	**1.07**	**147**	↑*eP*	**Pn**	**22 30 42.1**	**-1.5**
MLPR	**Magueyes Islan**	**1.07**	**147**	*eS*	**Sb**	**22 30 58.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.07**	**147**		**Pn**	**22 30 42.1**	**-1.5**
MLPR					**Sb**	**22 30 58.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.07**	**147**	IAML		22 31 01.1	
comp=N,2μm,0.6s							
MLPR				IAML		22 31 01.1	
comp=E,2μm,0.4s							
EMPR	**Esperanza - Ma**	**1.14**	**110**	↓*eP*	**Pn**	**22 30 43.9**	**-0.7**
EMPR	**Esperanza - Ma**	**1.14**	**110**	*eS*	**Sn**	**22 30 58.5**	**-0.8**
EMPR	**Esperanza - Ma**	**1.14**	**110**		**Pn**	**22 30 43.9**	**-0.7**
EMPR					**Sn**	**22 30 58.5**	**-0.8**
EMPR	**Esperanza - Ma**	**1.14**	**110**	IAML		22 31 02.5	
comp=N,1μm,0.3s							
EMPR				IAML		22 31 02.7	
comp=E,2μm,0.4s							
GBPR	**Guanica, Bosqu**	**1.16**	**140**	↑*eP*	**Pb**	**22 30 45.0**	**-0.7**
GBPR				*eS*	**Sn**	**22 30 59.5**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.16**	**140**		**Pb**	**22 30 45.0**	**-0.7**
GBPR					**Sn**	**22 30 59.5**	**-0.3**
CELP	**Cerrillos**	**1.30**	**127**	↑*eP*	**Pn**	**22 30 46.2**	**-0.4**
CELP	**Cerrillos**	**1.30**	**127**	*eS*	**Sn**	**22 31 03.2**	**0.0**
CELP	**Cerrillos**	**1.30**	**127**		**Pn**	**22 30 46.2**	**-0.4**
CELP					**Sn**	**22 31 03.2**	**0.0**
OBIP	**Obispado Ponce**	**1.30**	**129**	↑*eP*	**Pn**	**22 30 46.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.30**	**129**	*eS*	**Sb**	**22 31 04.3**	**0.0**
OBIP	**Obispado Ponce**	**1.30**	**129**		**Pn**	**22 30 46.3**	**-0.3**
OBIP				IAML		22 31 08.3	
comp=N,1μm,0.3s							
OBIP				IAML		22 31 08.5	
comp=E,854nm,0.3s							
OBIP	**Obispado Ponce**	**1.30**	**129**		**Sb**	**22 31 04.3**	**0.0**
ICMP	**Isla Caja de M**	**1.46**	**132**	↓*eP*	**Pb**	**22 30 49.7**	**-1.0**
ICMP	**Isla Caja de M**	**1.46**	**132**		**Pn**	**22 30 49.4**	**+0.6**
ICMP				IAML		22 31 15.2	
comp=N,940nm,0.4s							
ICMP				IAML		22 31 20.3	
comp=E,1μm,0.5s							
GCPR	**Guaynabo City**	**1.60**	**110**		**Pn**	**22 30 50.2**	**-0.6**
SJG	**San Juan**	**1.62**	**117**		**Pn**	**22 30 50.6**	**-0.5**
SJG				IAML		22 31 16.8	
comp=E,1μm,0.3s							
SJG				IAML		22 31 17.1	
comp=E,1μm,0.3s							
IGPR	**InterUniversit**	**1.73**	**121**	↓*eP*	**Pn**	**22 30 52.6**	**0.0**
IGPR	**InterUniversit**	**1.73**	**121**	*eS*	**Sn**	**22 31 14.4**	**+0.6**
PDPR	**Patillas Dam,**	**1.77**	**118**	↓*eP*	**Pn**	**22 30 53.3**	**+0.1**
PDPR	**Patillas Dam,**	**1.77**	**118**		**Pn**	**22 30 52.8**	**-0.4**
CBYP	**Canovanas**	**1.81**	**109**	↑*eP*	**Pn**	**22 30 53.5**	**-0.3**
CBYP	**Canovanas**	**1.81**	**109**		**Pn**	**22 30 53.3**	**-0.5**
HUMP	**Col San Antoni**	**1.87**	**113**	↓*eP*	**Pn**	**22 30 54.2**	**-0.3**
HUMP	**Col San Antoni**	**1.87**	**113**	*eS*	**Sn**	**22 31 17.2**	**0.0**
HUMP	**Col San Antoni**	**1.87**	**113**		**Pn**	**22 30 54.1**	**-0.3**
HUMP				IAML		22 31 28.1	
comp=E,679nm,0.2s							
HUMP				IAML		22 31 28.3	
comp=N,586nm,0.2s							
HUMP	**Col San Antoni**	**1.87**	**113**		**Sn**	**22 31 17.2**	**0.0**
MTP	**Monte Pirata**	**2.15**	**111**	↓*eP*	**Pn**	**22 30 58.0**	**-0.4**
MTP	**Monte Pirata**	**2.15**	**111**		**Pn**	**22 30 58.0**	**-0.4**
CUPR	**Culebra, Puert**	**2.33**	**104**	↑*eP*	**Pn**	**22 31 00.2**	**-0.6**
CUPR	**Culebra, Puert**	**2.33**	**104**		**Pn**	**22 30 59.8**	**-1.0**
STVI	**Saint Thomas**	**2.62**	**101**	↑*eP*	**Pn**	**22 31 06.2**	**+1.3**
STVI	**Saint Thomas**	**2.62**	**101**	*eS*	**Sn**	**22 31 38.0**	**+2.2**
STVI	**Saint Thomas**	**2.62**	**101**	Pn	**Pn**	**22 31 04.5**	**-0.3**
STVI	**Saint Thomas**	**2.62**	**101**		**Sn**	**22 31 38.0**	**+2.2**
STVI	**Saint Thomas**	**2.62**	**101**	IAML		22 31 46.6	
comp=N,191nm,0.3s							
STVI				IAML		22 31 49.3	
comp=E,207nm,0.3s							
CDVI	**St. Croix**	**2.97**	**112**		**Pn**	**22 31 09.8**	**+0.2**
VGBI	**Virgin Gorda,**	**3.12**	**96**	↑*eP*	**Pn**	**22 31 14.2**	**+2.5**
VGBI	**Virgin Gorda,**	**3.12**	**96**		**Pn**	**22 31 14.2**	**+2.5**
SDDR	**Presa de Saban**	**3.43**	**272**		**Pn**	**22 31 18.0**	**+1.9**
SDDR				IAML		22 32 13.3	
comp=E,204nm,0.9s							
SDDR				IAML		22 32 18.2	
comp=E,240nm,0.5s							
GRTK	**Grand Turk**	**4.18**	**309**	Pn	**Pn**	**22 31 24.9**	**-1.5**
GRTK				IAML		22 32 24.1	
comp=E,73nm,1.8s							
GRTK				IAML		22 32 58.0	
comp=E,88nm,1.6s							
BIM	**Bigot**	**7.66**	**123**	Pn	**Pn**	**22 32 15.5**	**+1.3**

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*JMA **15** 22:47:27.4±0.1, 24°.77N×125°.27E, h46km±1km, M4.0*
JMA Felt I J1.
*NIED **15** 22:47:27.4, 24°.77N×125°.27E, h46km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.82; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.53; $M_{\theta\phi}$-0.44; $M_{\phi r}$0.01; Fault plane solution: $M_0$1.00000×10^{15} NP1: ϕ_s238.00000°, δ59.00000°, λ117.00000°. NP2: ϕ_s13.00000°, δ40.00000°, λ53.00000°.*
*NEIC **15** 22:47:29.0±1.9, 24°.72N±0°.09×125°.22E±0°.05, h45km±8km, mb4.3/27 Error ellipse: s-maj=14.4km s-min=2.6km az=151.0*
*IDC **15** 22:47:30.5±4.5, 24°.85N×125°.38E, h67km±45km, mb3.7/10, mb1 3.8/11, mb1mx3.5/38, mbtmp4.0/11, ML3.0/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/40, Error ellipse: s-maj=42.9km s-min=13.9km az=64.0*
ISC 15 22:47:27.9±0.7, 24°.62N±0°.04×125°.30E±0°.04, h34km±2km, n70, σ1s50/75, mb4.2/24, MS3.1/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.13**	**11**	P	**Pb**	**22 47 34.4**	**+0.4**
JMJ2				S	**Sb**	**22 47 39.8**	**+1.7**
JOGS	**Gusukube**	**0.17**	**34**	P	**Pb**	**22 47 34.8**	**+0.5**
JOGS				S	**Sb**	**22 47 40.4**	**+1.7**
JIRB	**Irabujima**	**0.24**	**331**	P	**Pn**	**22 47 34.5**	**-0.2**
JIRB				S	**Sb**	**22 47 39.7**	**-0.2**
JIKM	**Ikemajima**	**0.31**	**351**	P	**Pb**	**22 47 35.0**	**-0.9**
JIKM				S	**Sn**	**22 47 40.7**	**-0.2**
JTJ	**Tarama**	**0.55**	**273**	P	**Pn**	**22 47 39.0**	**-0.3**
JTJ				S	**Sn**	**22 47 47.1**	**-0.1**
JISG	**Ishigakijimahi**	**0.90**	**268**	P	**Pn**	**22 47 43.6**	**-0.6**
JISG				S	**Sn**	**22 47 55.3**	**-0.8**
JIJ	**Ishigaki jima**	**1.08**	**257**	P	**Pn**	**22 47 46.8**	**0.0**
JIJ				S	**Sb**	**22 48 01.5**	**-0.6**
JKRS	**Kuro-shima**	**1.23**	**253**	P	**Pn**	**22 47 49.3**	**+0.5**
JKRS				*eS*	**Sb**	**22 48 07.3**	**+0.9**
IRIF	**Iriomote-Funau**	**1.46**	**259**	P	**Pn**	**22 47 51.7**	**-0.2**
IRIF				S	**Sb**	**22 48 12.2**	**-0.5**
HATJ	**Hateruma jima**	**1.47**	**248**	P	**Pb**	**22 47 54.2**	**-0.5**
HATJ				S	**Sb**	**22 48 14.5**	**+1.4**
YOJ	**Yonaguni jima**	**2.09**	**266**		**Pn**	**22 48 00.1**	**-0.5**
NACB	**Ninganchiao**	**3.41**	**263**		**Pn**	**22 48 18.3**	**-0.4**
JOW	**Kunigami**	**3.48**	**50**	P	**Pn**	**22 48 20.1**	**+0.4**
3.0nm,0.3s,baz=140,slow=18,SNR=6.6							
TATO	**Taipei**	**3.48**	**277**		**Pn**	**22 48 20.4**	**+0.6**
YHNB	**Yeheng**	**3.57**	**272**		**Pn**	**22 48 22.1**	**+1.1**
YULB	**Yu-li**	**3.86**	**252**		**Pn**	**22 48 23.8**	**-1.2**
SSLB	**Suanglung**	**4.05**	**259**		**Pn**	**22 48 28.2**	**+0.5**
TWG	**Pinlang**	**4.27**	**246**		**Pn**	**22 48 28.9**	**-1.7**
TPUB	**Ta-pu**	**4.47**	**254**		**Pn**	**22 48 34.1**	**+0.7**
KSRS	**Korea Array**	**12.99**	**9**	P	Pn	22 50 34.0	+3.8
baz=186,slow=14,SNR=4.6							
KSRS				LR	LR	22 55 08.0	
comp=Z,139nm,21.1s,baz=140,slow=36							
JYT	**Yasato**	**17.27**	**44**		**P**	**22 51 28.0**	**+0.3**
JYT				IAmb	IAmb	22 51 40.6	
comp=Z,77nm,1.5s							
SLVN	**Son La**	**19.96**	**265**	P	**P**	**22 51 57.6**	**+0.1**
GUMO	**Guam**	**21.47**	**117**	LR	LR	22 58 30.2	
comp=Z,82nm,20.1s,baz=136,slow=31							
ASAJ	**Asahikawa**	**24.04**	**32**	LR	LR	23 02 39.9	
comp=Z,104nm,18.4s,baz=154,slow=38							
KLR	**Kul'dur**	**25.09**	**10**	LR	LR	23 03 00.4	
comp=Z,65nm,21.0s,baz=123,slow=37							
CMAR	**Chiang Mai Arr**	**25.25**	**261**	LR	LR	23 03 52.6	
comp=Z,58nm,18.8s,baz=124,slow=39							
SONM	**Songino Array**	**27.60**	**332**	P	**P**	**22 53 09.7**	**-2.5**
comp=Z,0.6nm,0.5s,baz=153,slow=10,SNR=5.1							
SONM				LR	LR	23 05 41.5	
comp=Z,53nm,20.8s,baz=143,slow=40							
SONM	**Songino Array**	**27.60**	**332**	P	**P**	**22 53 08.5**	**-3.6**
FAKI	**Fak Fak**	**28.19**	**165**	P	**P**	**22 53 17.2**	**-0.4**
FAKI				IAmb	IAmb	22 53 43.6	
comp=Z,18nm,1.0s							
MK31	**Makanchi Array**	**40.69**	**314**	P	**P**	**22 55 02.7**	**-2.6**
MKAR	**Makanchi Array**	**40.69**	**314**	P	**P**	**22 55 02.8**	**-2.5**
comp=Z,1.3nm,0.5s,baz=101,slow=11,SNR=20							
MAKZ	**Makanchi**	**40.90**	**314**	P	**P**	**22 55 04.7**	**-2.3**
MAKZ				IAmb	IAmb	22 55 05.4	
comp=Z,2.0nm,0.7s							
ZAA0	**Zalesovo Array**	**41.98**	**325**	P	**P**	**22 55 11.9**	**-3.8**
ZALV	**Zalesovo Beam**	**41.98**	**325**	P	**P**	**22 55 12.3**	**-3.4**
comp=Z,1.0nm,0.5s,baz=110,slow=8.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**41.98**	**325**	P	**P**	**22 55 12.5**	**-3.2**
KDJ	**Kajisay**	**43.21**	**306**	P	**P**	**22 55 23.8**	**-2.3**
KDJ				IAmb	IAmb	22 55 26.1	
comp=Z,5.9nm,1.4s							
KURK	**Kurchatov**	**

BRTR	**Keskin Array B**	**75.92**	**307**	P	**P**	**22 59 10.5**	**-1.1**
BUR08	**Bucovina Ar. S**	**78.62**	**317**	P	**P**	**22 59 25.8**	**-0.8**
BUR08				IAmb	IAmb	22 59 54.5	
	comp=Z,2.1nm,1.2s						
BURAR	**Bucovina Array**	**78.63**	**317**	P	**P**	**22 59 25.7**	**-0.9**
MLR	**Muntele Rosu**	**79.03**	**315**	P	**P**	**22 59 28.6**	**-0.2**
MLR				IAmb	IAmb	22 59 54.0	
	comp=Z,5.9nm,1.4s						
ELL	**Elmali**	**79.74**	**306**	P	**P**	**22 59 31.3**	**-1.6**
YKA	**Yellowknife Ar**	**81.09**	**24**	P	**P**	**22 59 36.5**	**-2.9**
	comp=Z,0.5nm,0.6s,baz=312,slow=5.7,SNR=2.7						
VTS	**Vitosha**	**82.01**	**313**	P	**P**	**22 59 44.1**	**-0.8**
VTS				IAmb	IAmb	22 59 55.9	
	comp=Z,1.4nm,0.8s						
SUMG	**Summit**	**82.43**	**355**	P	**P**	**22 59 46.7**	**-0.2**
SUMG				IAmb	IAmb	23 00 13.9	
	comp=Z,6.6nm,1.3s						

SIGU ***15*** *23:38:30.2, 45.°69N×26.°63E, h146km*
BUC ***15*** *23:38:30.9±0.3, 45.°70N×26.°63E, h141km±2km, ml4.0/60, Error ellipse: s-maj=1.8km s-min=1.6km az=173.0*
IDC ***15*** *23:38:31.7±0.6, 45.°86N×26.°94E, h116km±10km, mb3.2/6, mb1 3.0/10, mb1mx2.9/41, mbtmp3.4/10, Error ellipse: s-maj=24.7km s-min=12.9km az=116.0*
SOF ***15*** *23:38:31.0, 45.°79N×26.°53E, h100km, MD3.6*
ISC 15 23:38:31.3±0.8, 45.°72N±0.°02×26.°62E±0.°03, h146km±4km, n181, σ0.°97/233, mb3.4/6, 106C-83D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.13**	**9**	↑P	**Pn**	**23 38 50.3**	**-0.6**
PLOR				↓S	**Sn**	23 39 05.0	-1.1
PLOR	**Plostina**	**0.13**	**9**	↑P	**Pn**	23 38 50.3	-0.6
VRI	**Vrincioaia**	**0.16**	**27**	↑P	**Pn**	23 38 50.5	-0.5
VRI				↑S	**Sn**	23 39 04.8	-1.3
VRI	**Vrincioaia**	**0.16**	**27**	↑P	**Pn**	23 38 50.5	-0.5
BISRR	**Bisoca**	**0.18**	**160**	↓P	**Pn**	23 38 50.9	-0.3
BISRR				↓S	**Sn**	23 39 05.6	-0.5
BISRR	**Bisoca**	**0.18**	**160**	↓P	**Pn**	23 38 50.9	-0.3
ODBI	**Odobesti**	**0.31**	**82**	↑P	**Pn**	23 38 51.7	+0.4
ODBI				↑S	**Sn**	23 39 06.7	+0.2
ODBI	**Odobesti**	**0.31**	**82**	↑P	**Pn**	23 38 51.7	+0.4
NEHR	**Nehoiu**	**0.37**	**218**	↓P	**Pn**	23 38 51.2	-0.4
NEHR				↓S	**Sn**	23 39 05.6	-1.5
NEHR	**Nehoiu**	**0.37**	**218**	↓P	**Pn**	23 38 51.2	-0.4
GRER		**0.42**	**144**	↓P	**Pn**	23 38 52.2	+0.4
GRER				↑S	**Sn**	23 39 07.2	-0.1
GRER		**0.42**	**144**	↓P	**Pn**	23 38 52.2	+0.4
PETR	**Petresti**	**0.43**	**90**	↓P	**Pn**	23 38 51.7	-0.1
PETR				↓S	**Sn**	23 39 07.2	-0.1
PETR	**Petresti**	**0.43**	**90**	↓P	**Pn**	23 38 51.7	-0.1
MLR	**Muntele Rosu**	**0.53**	**244**	P	**Pn**	**23 38 51.7**	**-0.7**
	122nm,0.3s,baz=102,slow=2.0,SNR=6135						
MLR				S	**Sn**	**23 39 07.5**	**-1.0**
	50nm,0.3s,baz=78,slow=23,SNR=18						
MLR	**Muntele Rosu**	**0.53**	**244**	↑P	**Pn**	23 38 51.9	-0.5
MLR				↓S	**Sn**	23 39 07.2	-1.3
MLR	**Muntele Rosu**	**0.53**	**244**	↑P	**Pn**	23 38 51.9	-0.5
ISR	**Istrita**	**0.60**	**185**	↑P	**Pn**	23 38 52.5	-0.3
ISR				↑S	**Sn**	23 39 08.5	-0.7
ISR	**Istrita**	**0.60**	**185**	↑P	**Pn**	23 38 52.5	-0.3
GHRR		**0.65**	**58**	↑P	**Pn**	23 38 52.8	-0.1
GHRR				↓S	**Sn**	23 39 08.9	-0.5
GHRR		**0.65**	**58**	↑P	**Pn**	23 38 52.8	-0.1
OZUR		**0.69**	**303**	↑P	**Pn**	23 38 52.4	-0.8
OZUR				↓S	**Sn**	23 39 07.9	-2.2
OZUR		**0.69**	**303**	↑P	**Pn**	23 38 52.4	-0.8
TUDR		**0.75**	**99**	↓P	**Pn**	23 38 52.9	-0.6
TUDR				↑S	**Sn**	23 39 09.8	-0.7
TUDR		**0.75**	**99**	↓P	**Pn**	23 38 52.9	-0.6
SECR		**0.79**	**210**	↑P	**Pn**	23 38 53.8	-0.1
SECR				↑S	**Sn**	23 39 11.5	+0.3
SECR		**0.79**	**210**	↑P	**Pn**	23 38 53.8	-0.1
TESR	**Tescani**	**0.79**	**1**	↓P	**Pn**	23 38 53.1	-0.8
TESR				↑S	**Sn**	23 39 09.2	-2.1
TESR	**Tescani**	**0.79**	**1**	↓P	**Pn**	23 38 53.1	-0.8
PGOR	**Pogoanele**	**0.85**	**162**	↓P	**Pn**	23 38 54.2	-0.2
PGOR				↑S	**Sn**	23 39 12.0	0.0
PGOR	**Pogoanele**	**0.85**	**162**	↓P	**Pn**	23 38 54.2	-0.2
SCHL	**Schela**	**0.88**	**104**	↑P	**Pn**	23 38 54.1	-0.5
SCHL				↑S	**Sn**	23 39 10.9	-1.4
SCHL	**Schela**	**0.88**	**104**	↑P	**Pn**	23 38 54.1	-0.5
VARL	**Varlezi**	**0.88**	**78**	↓P	**Pn**	23 38 54.3	-0.3
VARL				↓S	**Sn**	23 39 11.2	-1.2
VARL	**Varlezi**	**0.88**	**78**	↓P	**Pn**	23 38 54.3	-0.3
BIR	**Birlad**	**0.89**	**52**	↑P	**Pn**	23 38 54.5	-0.2
BIR				↓S	**Sn**	23 39 11.5	-1.0
BIR	**Birlad**	**0.89**	**52**	↑P	**Pn**	23 38 54.5	-0.2
DOPR	**Dopca**	**0.90**	**286**	↑P	**Pn**	23 38 54.2	-0.5
DOPR				↓S	**Sn**	23 39 11.2	-1.5
DOPR	**Dopca**	**0.90**	**286**	↑P	**Pn**	23 38 54.2	-0.5
PLAR	**PLOIESTI**	**0.91**	**208**	↓P	**Pn**	23 38 54.7	-0.1
PLAR				↑S	**Sn**	23 39 13.3	+0.5
PLAR	**PLOIESTI**	**0.91**	**208**	↓P	**Pn**	23 38 54.7	-0.1
GISR	**Galati**	**1.04**	**105**	↑P	**Pn**	23 38 55.7	-0.3
GISR				↓S	**Sn**	23 39 13.7	-1.1
GISR	**Galati**	**1.04**	**105**	↑P	**Pn**	23 38 55.7	-0.3
SULR		**1.07**	**194**	↑P	**Pn**	23 38 56.0	-0.3
SULR				↓S	**Sn**	23 39 14.5	-0.8
SULR		**1.07**	**194**	↑P	**Pn**	23 38 56.0	-0.3
VOIR		**1.14**	**256**	↑P	**Pn**	23 38 56.1	-0.8
VOIR				↓S	**Sn**	23 39 15.7	-0.8
VOIR		**1.14**	**256**	↑P	**Pn**	23 38 56.1	-0.8
CFR	**Carcaliu**	**1.20**	**116**	↓P	**Pn**	23 38 56.6	-0.7
CFR				↓S	**Sn**	23 39 15.6	-1.7
CFR	**Carcaliu**	**1.20**	**116**	↓P	**Pn**	23 38 56.6	-0.7
MTUR	**Matau**	**1.20**	**246**	↓P	**Pn**	23 38 57.3	-0.3
MTUR	**Matau**	**1.20**	**246**	↓P	**Pn**	23 38 57.3	-0.3
AMRR	**Amara**	**1.22**	**155**	↑P	**Pn**	23 38 57.3	-0.3
AMRR				↑S	**Sn**	23 39 16.8	-0.9
AMRR	**Amara**	**1.22**	**155**	↑P	**Pn**	23 38 57.3	-0.3
VASR	**Vaslui**	**1.23**	**41**	↓P	**Pn**	23 38 57.5	-0.2
VASR				↓S	**Sn**	23 39 16.7	-1.3
VASR	**Vaslui**	**1.23**	**41**	↓P	**Pn**	23 38 57.5	-0.2
GIRR	**Girov**	**1.24**	**356**	↓P	**Pn**	23 38 57.7	-0.1
GIRR	**Girov**	**1.24**	**356**	↓P	**Pn**	23 38 57.7	-0.1
JOSR	**Joseni**	**1.25**	**322**	↑P	**Pn**	23 38 57.2	-0.8
JOSR	**Joseni**	**1.25**	**322**	↑P	**Pn**	23 38 57.2	-0.8
LEHL	**Lehliu**	**1.26**	**173**	↑P	**Pn**	23 38 57.6	-0.4
LEHL				↑S	**Sn**	23 39 17.4	-0.9
LEHL	**Lehliu**	**1.26**	**173**	↑P	**Pn**	23 38 57.6	-0.4
INCR	**INCERC-Sediu C**	**1.32**	**194**	↑P	**Pn**	23 38 58.0	-0.6
INCR				↑S	**Sn**	23 39 18.4	-1.1
INCR	**INCERC-Sediu C**	**1.32**	**194**	↑P	**Pn**	23 38 58.0	-0.6
HARR	**Harsova**	**1.39**	**138**	↓P	**Pn**	23 38 58.7	-0.6
HARR	**Harsova**	**1.39**	**138**	↓P	**Pn**	23 38 58.7	-0.6
BUC1	**Bucharest**	**1.44**	**197**	↑P	**Pn**	23 38 59.3	-0.5
BUC1				↑S	**Sn**	23 39 20.6	-1.0
BUC1	**Bucharest**	**1.44**	**197**	↑P	**Pn**	23 38 59.3	-0.5
STFAR	**Stefanesti-Arg**	**1.45**	**234**	↑P	**Pn**	23 38 59.7	-0.3
STFAR				↑S	**Sn**	23 39 20.1	-1.9
STFAR	**Stefanesti-Arg**	**1.45**	**234**	↑P	**Pn**	23 38 59.7	-0.3
RASA	**Rasa**	**1.55**	**166**	↑P	**Pn**	23 39 00.4	-0.7
RASA				↓S	**Sn**	23 39 22.7	-1.1
RASA	**Rasa**	**1.55**	**166**	↑P	**Pn**	23 39 00.4	-0.7
SGRR	**Singureni**	**1.57**	**197**	↓P	**Pn**	23 39 00.4	-0.8
SGRR				↑S	**Sn**	23 39 22.3	-1.8
SGRR	**Singureni**	**1.57**	**197**	↓P	**Pn**	23 39 00.4	-0.8
IAS	**Iasi**	**1.61**	**24**	↑P	**Pn**	23 39 01.2	-0.4
IAS				↓S	**Sn**	23 39 23.2	-1.7
IAS	**Iasi**	**1.61**	**24**	↑P	**Pn**	23 39 01.2	-0.4
TLCR		**1.64**	**108**	↑P	**Pn**	23 39 01.6	-0.3
TLCR				↑S	**Sn**	23 39 23.9	-1.4
TLCR		**1.64**	**108**	↑P	**Pn**	23 39 01.6	-0.3
PRAR	**RASCA**	**1.66**	**351**	↓P	**Pn**	23 39 02.3	0.0
PRAR	**RASCA**	**1.66**	**351**	↓P	**Pn**	23 39 02.3	0.0
RMVG	**GOVORA**	**1.78**	**248**	↑S	**Sn**	23 39 27.7	-0.7
RMVG	**GOVORA**	**1.78**	**248**	↑S	**Sn**	23 39 27.7	-0.7
TIRR	**Tirgusor**	**1.79**	**134**	↓P	**Pn**	23 39 03.1	-0.6
TIRR				↑S	**Sn**	23 39 25.9	-2.6
TIRR	**Tirgusor**	**1.79**	**134**	↓P	**Pn**	23 39 03.1	-0.6
ICOR	**Ion Corvin**	**1.81**	**152**	↓P	**Pn**	23 39 03.7	-0.2
ICOR				↑S	**Sn**	23 39 26.8	-2.1
ICOR	**Ion Corvin**	**1.81**	**152**	↓P	**Pn**	23 39 03.7	-0.2
COPA	**Copaceanca**	**1.87**	**213**	↓P	**Pn**	23 39 03.7	-0.9
COPA				↓S	**Sn**	23 39 28.4	-1.8
COPA	**Copaceanca**	**1.87**	**213**	↓P	**Pn**	23 39 03.7	-0.9
KIS	**Kishinev**	**1.99**	**49**	*e*P	**Pn**	**23 39 05.5**	**-0.4**
	14nm,0.1s						
KIS				*e*S	**Sn**	**23 39 29.5**	**-3.1**
	60nm,0.2s						
KIS	**Kishinev**	**1.99**	**49**	↑P	**Pn**	23 39 05.5	-0.4
KIS				↓S	**Sn**	23 39 31.3	-1.3
KIS	**Kishinev**	**1.99**	**49**	↑P	**Pn**	23 39 05.5	-0.4
MFTR	**Murfatlar**	**2.00**	**140**	↓P	**Pn**	23 39 05.7	-0.5
MFTR				↑S	**Sn**	23 39 30.7	-2.3
MFTR	**Murfatlar**	**2.00**	**140**	↓P	**Pn**	23 39 05.7	-0.5
LOT	**Lotru**	**2.02**	**263**	↓P	**Pn**	23 39 06.5	0.0
LOT				↑S	**Sn**	23 39 32.5	-0.9
LOT	**Lotru**	**2.02**	**263**	↓P	**Pn**	23 39 06.5	0.0
ARCR	**ARCALIA**	**2.08**	**312**	↓P	**Pn**	23 39 06.7	-0.3
ARCR	**ARCALIA**	**2.08**	**312**	↓P	**Pn**	23 39 06.7	-0.3
BURAR	**Bucovina Array**	**2.13**	**333**	↑P	**Pn**	23 39 08.7	+1.0
BURAR	**Bucovina Array**	**2.13**	**333**	↑P	**Pn**	23 39 08.7	+1.0
TSCT	**Constanta Port**	**2.13**	**136**	↑S	**Sn**	23 39 33.6	-2.0
TSCT	**Constanta Port**	**2.13**	**136**	↑S	**Sn**	23 39 33.6	-2.0
EFOR	**EFORIE**	**2.18**	**138**	↓P	**Pn**	23 39 07.8	-0.4
EFOR				↑S	**Sn**	23 39 35.2	-1.3
EFOR	**EFORIE**	**2.18**	**138**	↓P	**Pn**	23 39 07.8	-0.4
ZIMR		**2.25**	**204**	↓P	**Pn**	23 39 08.2	-0.9
ZIMR				↑S	**Sn**	23 39 35.6	-2.5
ZIMR		**2.25**	**204**	↓P	**Pn**	23 39 08.2	-0.9
TSSL	**Sulina**	**2.26**	**103**	↓S	**Sn**	23 39 37.5	-0.7
TSSL	**Sulina**	**2.26**	**103**	↓S	**Sn**	23 39 37.5	-0.7
CJR	**Cluj-Napoca**	**2.32**	**296**	↑P	**Pn**	23 39 09.6	-0.4
CJR	**Cluj-Napoca**	**2.32**	**296**	↑P	**Pn**	23 39 09.6	-0.4
PSN	**Preselentsi**	**2.32**	**151**	*i* P	**Pn**	23 39 09.8	-0.2
VLAD	**Vladila**	**2.33**	**223**	↑P	**Pn**	23 39 08.9	-1.2
VLAD	**Vladila**	**2.33**	**223**	↑P	**Pn**	23 39 08.9	-1.2
MANR	**Mangalia**	**2.36**	**143**	↓P	**Pn**	23 39 10.1	-0.4
MANR				↓S	**Sn**	23 39 39.2	-1.4
MANR	**Mangalia**	**2.36**	**143**	↓P	**Pn**	23 39 10.1	-0.4
TSMN	**Mangalia Port-**	**2.38**	**143**	↑S	**Sn**	23 39 39.2	-1.7
TSMN	**Mangalia Port-**	**2.38**	**143**	↑S	**Sn**	23 39 39.2	-1.7
SZH	**Strazhica**	**2.50**	**192**	*i* P	**Pn**	23 39 11.4	-0.8
PRD	**Provadia**	**2.58**	**167**	*i* P	**Pn**	23 39 13.4	+0.2
DEV	**Deva**	**2.60**	**275**	↑P	**Pn**	23 39 13.8	+0.3
DEV	**Deva**	**2.60**	**275**	↑P	**Pn**	23 39 13.8	+0.3
SRE	**Strehaia**	**2.64**	**248**	↑P	**Pn**	23 39 13.0	-0.9
SRE				↑S	**Sn**	23 39 44.4	-2.3
SRE	**Strehaia**	**2.64**	**248**	↑P	**Pn**	23 39 13.0	-0.9
ROIA	**ROIAK**	**2.68**	**168**	*i* P	**Pn**	23 39 14.8	+0.3
SORM	**Soroca**	**2.69**	**26**	↓P	**Pn**	23 39 13.8	-0.7
SORM	**Soroca**	**2.69**	**26**	↓P	**Pn**	23 39 13.8	-0.7
GZR	**Gura Zlata**	**2.72**	**264**	↑P	**Pn**	23 39 15.8	+0.8
GZR				↑S	**Sn**	23 39 48.5	-0.2
GZR	**Gura Zlata**	**2.72**	**264**	↑P	**Pn**	23 39 15.8	+0.8
KSV	**Kosov**	**2.80**	**338**	*e*P	**Pn**	23 39 16.1	+0.2
KMPD	**K-Podol'skiy**	**2.84**	**358**	*e*Pn	**Pn**	23 39 15.5	-0.9
KMPD				*e*Sn	**Sn**	23 39 49.5	-1.8
RAKU	**Rahkiv**	**2.85**	**325**	*e*Pn	**Pn**	23 39 16.7	+0.1
NSLU	**Nyzhne Selyshc**	**2.89**	**330**	*e*Pn	Pn	23 39 22.6	+5.7
BMR	**Baia Mare**	**2.90**	**313**	↓P	**Pn**	23 39 17.1	0.0
BMR	**Baia Mare**	**2.90**	**313**	↓P	**Pn**	23 39 17.1	0.0
MESR	**Meseseni**	**2.91**	**301**	↑P	**Pn**	23 39 16.6	-0.7
MESR	**Meseseni**	**2.91**	**301**	↑P	**Pn**	23 39 16.6	-0.7
DRGR		**2.92**	**293**	↓P	**Pn**	23 39 16.4	-1.0
DRGR		**2.92**	**293**	↓P	**Pn**	23 39 16.4	-1.0
NDNU	**Novodnistrovsk**	**2.92**	**10**	*e*Pn	**Pn**	23 39 16.7	-0.6
NDNU				Pm		23 39 17.1	
NDNU				*e*Sn	**Sn**	23 39 50.0	-3.0
NDNU				Sm		23 39 53.7	
RMGR	**Halanga-Turnu**	**2.97**	**251**	↑P	**Pn**	23 39 17.0	-1.1
RMGR	**Halanga-Turnu**	**2.97**	**251**	↑P	**Pn**	23 39 17.0	-1.1
PUNG	**Punghina**	**2.99**	**242**	↑P	**Pn**	23 39 16.6	-1.6
PUNG	**Punghina**	**2.99**	**242**	↑P	**Pn**	23 39 16.6	-1.6
HERR	**Herculane**	**3.08**	**256**	↑P	**Pn**	23 39 18.4	-1.1
HERR	**Herculane**	**3.08**	**256**	↑P	**Pn**	23 39 18.4	-1.1
MPEP	**Malo Peshtene**	**3.14**	**222**	*i* P	**Pn**	23 39 19.5	-0.7
JMB	**Yambol**	**3.25**	**180**	P	**Pn**	23 39 20.8	-0.9
STNU	**Starunia**	**3.32**	**335**	*e*Pn	**Pn**	23 39 22.8	+0.3
KORU	**Korolevo**	**3.41**	**317**	*e*P	**Pn**	23 39 23.8	+0.2
HORU	**Horodok**	**3.50**	**358**	*e*Pn	**Pn**	23 39 24.3	-0.5
HORU				Pm		23 39 24.9	
HORU				*e*Sn	**Sn**	23 40 04.8	-1.5
HORU				Sm		23 40 07.3	
SIRR	**Siria**	**3.50**	**281**	↑P	**Pn**	23 39 24.5	-0.4
SIRR	**Siria**	**3.50**	**281**	↑P	**Pn**	23 39 24.5	-0.4
BZS	**Buzias**	**3.51**	**270**	↑P	**Pn**	23 39 24.4	-0.5
BZS				↓S	**Sn**	23 40 05.5	-1.1
BZS	**Buzias**	**3.51**	**270**	↑P	**Pn**	23 39 24.4	-0.5
MDVR	**Moldovita**	**3.59**	**257**	↓P	**Pn**	23 39 25.3	-0.8
MDVR	**Moldovita**	**3.59**	**257**	↓P	**Pn**	23 39 25.3	-0.8
BRIU	**Brid**	**3.59**	**318**	*e*Pn	**Pn**	23 39 26.4	+0.4
TRPA	**Tarpa**	**3.69**	**312**	↓P	**Pn**	23 39 26.8	-0.5
TRPA	**Tarpa**	**3.69**	**312**	↓P	**Pn**	23 39 26.8	-0.5
BERU	**Beregovo**	**3.70**	**314**	*e*Pg	**Pn**	23 39 27.2	-0.2
MUKU	**Mukachevo**	**3.83**	**317**	*e*Pn	**Pn**	23 39 29.2	+0.1
MORS	**Morshin**	**3.88**	**333**	*e*Pn	**Pn**	23 39 30.9	+1.1
VTS	**Vitosha**	**3.94**	**219**	↑P	**Pn**	23 39 30.2	-0.6
VTS				↓S	**Sn**	23 40 16.1	-0.9
VTS	**Vitosha**	**3.94**	**219**	↑P	**Pn**	23 39 30.2	-0.6
HOLU	**Holmets**	**4.03**	**316**	*e*Pn	**Pn**	23 39 31.8	+0.1
RZN	**Rozhen**	**4.26**	**200**	P	**Pn**	23 39 34.3	-0.7
KOLS	**Kolonicke sedl**	**4.37**	**319**	*e*P	**Pn**	23 39 36.6	+0.5
CRVS	**Cervenica-Dubn**	**4.74**	**314**	*e*P	**Pn**	23 39 41.4	+0.4
KECS	**Kecovo**	**5.02**	**306**	*e*P	**Pn**	23 39 44.3	-0.4
SEV	**Sevastopol'**	**5.12**	**101**	P	**Pn**	23 39 45.6	-0.6
SEV				Pm		23 39 45.8	
SEV				S	**Sn**	23 40 44.0	-0.6
SEV				Sm		23 40 44.4	
STHS	**Stebnicka Huta**	**5.19**	**317**	*e*P	**Pn**	23 39 47.7	+0.7
AKASG	**Malin Array Be**	**5.28**	**18**	P	**Pn**	23 39 47.3	-0.9
	1.7nm,0.3s,baz=209,slow=12,SNR=5.4						
AKASG				S	**Sn**	**23 40 43.6**	**-4.6**
	2.7nm,0.3s,baz=201,slow=22,SNR=12						
YAL	**Yalta**	**5.47**	**100**	P	**Pn**	23 39 49.4	-1.4
YAL				Pm		23 39 50.5	
LANS	**Liptovska Anna**	**5.94**	**308**	*e*P	**Pn**	23 39 57.4	+0.3
BRTR	**Keskin Array B**	**7.91**	**137**	P	**Pn**	23 40 22.7	-0.8
	0.1nm,0.3s,baz=321,slow=10,SNR=7.3						
GERES	**GERESS Array B**	**9.32**	**294**	P	**Pn**	**23 40 43.3**	**+1.1**
	0.2nm,0.3s,baz=39,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**15.76**	**359**	P	**Pn**	**23 42 05.3**	**+0.4**
	0.2nm,0.3s,baz=165,slow=11,SNR=8.1						
ARU	**Arti**	**22.54**	**50**	P	**P**	**23 43 19.3**	**+0.6**
	0.5nm,0.4s,baz=245,slow=17,SNR=3.8						
KURBB	**Kurchatov Arra**	**34.37**	**63**	P	**P**	**23 45 04.9**	**+0.9**
	0.4nm,0.5s,baz=287,slow=9.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**37.46**	**56**	P	**P**	**23 45 29.9**	**-0.3**
	0.5nm,0.4s,baz=283,slow=8.3,SNR=2.2						
MKAR	**Makanchi Array**	**37.82**	**68**	P	**P**	**23 45 35.0**	**+1.6**
	0.3nm,0.5s,baz=280,slow=7.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**38.73**	**221**	P	P	23 45 47.4	+6.2
	0.4nm,0.7s,baz=28,slow=9.9,SNR=1.9						
SONM	**Songino Array**	**52.33**	**57**	P	**P**	**23 47 29.4**	**+1.5**
	0.5nm,0.6s,baz=270,slow=6.9,SNR=3.0						

IDC ***16*** *00:13:24.0±1.3, 22.°58S×66.°69W, h186km±12km, mb3.0/3, mb1 3.4/7, mb1mx3.2/32, mbtmp3.7/7, Error ellipse: s-maj=24.0km s-min=14.3km az=145.0*
GUC ***16*** *00:13:26.2±0.6, 22.°61S×67.°23W, h248km±10km, ML4.1*
ISC 16 00:13:25.0±1.0, 22.°57S±0.°05×66.°86W±0.°09, h202km±11km, n23, σ1.°59/41, mb3.2/3, 10C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.90**	**268**	P	**Pn**	**00 14 03.6**	**+0.5**
	36nm,0.3s,baz=96,slow=5.6,SNR=130						
LVC				S	**S**	**00 14 32.1**	**+0.1**
	8.9nm,0.3s,baz=232,slow=21,SNR=12						
PB09	**IPOC Station P**	**2.34**	**289**	↑*e*P	**Pn**	00 14 08.7	+1.2
PB09				*e*S	**S**	00 14 41.7	+1.9
PB15	**IPOC Station P**	**2.50**	**255**	*e*P	**Pn**	00 14 09.7	+0.5
PB15				*e*S	**S**	00 14 43.3	+0.4
PB06	**IPOC Station P**	**2.51**	**266**	*e*P	**Pn**	00 14 09.7	+0.3
PB06				*e*S	**S**	00 14 43.2	0.0
PB06				IAML		00 14 45.1	
	comp=N,297nm,0.1s						
PB01	**IPOC Station P**	**2.88**	**301**	*e*P	**Pn**	00 14 13.8	+0.4
PB01				*e*S	**S**	00 14 50.4	-0.1
PB01				IAML		00 14 51.6	
	comp=N,325nm,0.3s						
PB07	**IPOC Station P**	**2.93**	**286**	↑*e*P	**Pn**	00 14 14.5	+0.3
PB07				*e*S	**S**	00 14 50.8	-1.0
PB04	**IPOC Station P**	**3.06**	**274**	↑*e*P	**Pn**	00 14 15.6	0.0
PB04				*e*S	**S**	00 14 52.4	-2.1
PB04				IAML		00 14 55.1	
	comp=N,473nm,0.1s						
PB02	**IPOC Station P**	**3.08**	**293**	↑*e*P	**Pn**	00 14 15.8	0.0
PB02				*e*S	**S**	00 14 53.0	-1.9
PB02				IAML		00 14 56.6	
	comp=E,492nm,0.1s						
PB05	**IPOC Station P**	**3.10**	**264**	↑*e*P	**Pn**	00 14 15.9	-0.2
PB05				*e*S	**S**	00 14 53.2	-2.1
PB05				IAML		00 14 55.1	
	comp=N,138nm,0.2s						
PB08	**IPOC Station P**	**3.23**	**318**	↑*e*P	**Pn**	00 14 19.4	+1.5
PB08				*e*S	**S**	00 14 60.0	+1.5
PB10	**IPOC Station P**	**3.54**	**254**	*e*P	**Pn**	00 14 20.5	-0.6
PB10				*e*S	**S**	00 15 01.3	-3.3
GO02	**Mina Guanaco**	**3.60**	**224**	↑*e*P	**Pn**	00 14 22.2	0.0
GO02				*e*S	**S**	00 15 05.2	-1.2
PB11	**IPOC Station P**	**3.82**	**316**	↑*e*P	**Pn**	00 14 24.6	-0.3
PB11				*e*S	**S**	00 15 10.1	-1.2
PB14	**IPOC Station P**	**3.85**	**237**	↑*e*P	**Pn**	00 14 24.7	-0.5
PB14				*e*S	**S**	00 15 09.1	-2.8
PSGC	**Pisagua**	**4.25**	**313**	↑*e*P	**Pn**	00 14 29.2	-0.9
PSGC				*e*S	**S**	00 15 17.1	-3.6
MNMC	**Minye Minye**	**4.27**	**323**	*e*P	**Pn**	00 14 30.9	+0.3
MNMC				*e*S	**S**	00 15 20.5	-1.0
LPAZ	**La Paz**	**6.36**	**349**	P	**Pn**	00 14 59.0	+1.4
	comp=N,1.1nm,0.3s,baz=169,slow=10,SNR=35						
LPAZ				S	**S**	**00 16 09.4**	**-1.1**
	comp=N,0.2nm,0.3s,baz=35,slow=12,SNR=3.9						
SIV	**San Ignacio**	**8.52**	**41**	P	**Pn**	**00 15 23.0**	**-2.1**
	comp=N,2.8nm,0.3s,baz=226,slow=9.2,SNR=59						
SIV				S	**S**	**00 16 57.0**	**-4.0**
	comp=N,0.1nm,0.3s,baz=303,slow=18,SNR=2.0						
BDFB	**Brasilia**	**19.08**	**72**	P	**P**	**00 17 32.5**	**-0.1**
	comp=N,0.5nm,0.3s,baz=249,slow=9.

	comp=E,0.3nm,0.6s							
KSL					AML	AML	00 23 51.8	
	comp=E,0.5nm,1.1s							
AKAS	**Kas**	**1.64**	**64**	*i* P		**Pb**	**00 23 02.2**	**-0.6**
AKAS					IAML		00 23 32.0	
	comp=E,80nm,0.9s							
AKAS					IAML		00 23 48.0	
	comp=N,187nm,0.7s							
AKAS	**Kas**	**1.64**	**64**	PN		**Pb**	**00 23 02.6**	**-0.2**
YER	**Yerkesik**	**1.65**	**14**	PN		**Pb**	**00 23 02.6**	**-0.4**
MLSB	**Milas**	**1.76**	**0**	PN		**Pb**	**00 23 04.4**	**-0.4**
MULA	**Mugla, Merkez-**	**1.78**	**14**	*i* P		**Pg**	**00 23 05.7**	**-1.0**
MULA				*i* S		**Sg**	**00 23 30.9**	**+1.2**
MULA					IAML		00 23 38.0	
	comp=N,150nm,0.9s							
MULA					IAML		00 23 42.0	
	comp=E,232nm,0.7s							
NPS	**Neapolis**	**1.79**	**262**	P		**Pb**	**00 23 04.9**	**-0.3**
NPS	**Neapolis**	**1.79**	**262**	P		**Pb**	**00 23 04.9**	**-0.3**
NPS					AML	AML	00 23 34.4	
	comp=E,1244μm,0.7s							
NPS					AML	AML	00 23 34.8	
	comp=N,1248μm,0.8s							
CAME	**Cameli-Denizli**	**1.88**	**41**	PN		**Pb**	**00 23 05.9**	**-0.9**
LAST	**Lasithi**	**1.91**	**260**	P		**Pb**	**00 23 07.5**	**+0.1**
LAST					AML	AML	00 23 48.4	
	comp=N,822μm,0.7s							
LAST					AML	AML	00 23 52.0	
	comp=E,699μm,0.8s							
CAEL	**Denizli, Camel**	**2.02**	**38**	*i* P		**Pb**	**00 23 08.9**	**-0.3**
CAEL					IAML		00 23 45.0	
	comp=E,264nm,0.8s							
CAEL					IAML		00 24 04.0	
	comp=N,371nm,1.0s							
THR8	**Santorini-Mono**	**2.06**	**296**	P		**Pn**	**00 23 07.6**	**+0.6**
THR6	**Thira Island,**	**2.10**	**294**	P		**Pn**	**00 23 08.2**	**+0.7**
THR2	**Thira island,**	**2.11**	**296**	P		**Pn**	**00 23 08.0**	**+0.4**
THR3	**Thira Island,**	**2.12**	**295**	P		**Pn**	**00 23 08.6**	**+0.8**
SNT5	**Nea Kammeni, S**	**2.12**	**295**	P		**Pn**	**00 23 08.9**	**+1.1**
AYDN	**Tasoluk**	**2.13**	**2**	*i* P		**Pb**	**00 23 09.2**	**-1.8**
AYDN				*i* S		**Sg**	**00 23 39.5**	**-1.4**
AYDN					IAML		00 23 44.0	
	comp=E,73nm,0.4s							
AYDN					IAML		00 23 48.0	
	comp=N,81nm,0.5s							
THR9	**Santorini-Faro**	**2.13**	**294**	P		**Pb**	**00 23 10.1**	**-1.0**
TAVA	**DENIZLI_Tavas**	**2.14**	**25**	*i* P		**Pb**	**00 23 10.2**	**-1.1**
TAVA				*i* S		**Sg**	**00 23 42.2**	**+0.9**
TAVA					IAML		00 23 47.0	
	comp=N,158nm,0.5s							
TAVA					IAML		00 23 47.0	
	comp=E,146nm,0.4s							
HRKL	**Herakleio**	**2.19**	**265**	PN		**Pb**	**00 23 10.9**	**-1.2**
GCAM	**G?zelcaml?**	**2.21**	**349**	*i* P		**Pb**	**00 23 11.2**	**-1.2**
GCAM				*i* S		**Sb**	**00 23 38.3**	**-1.5**
GCAM					IAML		00 23 51.0	
	comp=E,87nm,0.9s							
GCAM					IAML		00 23 55.0	
	comp=N,62nm,0.4s							
GCAM	**G?zelcaml?**	**2.21**	**349**	PN		**Pb**	**00 23 10.9**	**-1.5**
AKUM	**Antalya-Kumluc**	**2.23**	**68**	*i* P		**Pn**	**00 23 10.4**	**+1.1**
AKUM				*i* S		**Sb**	**00 23 41.7**	**+1.4**
AKUM					IAML		00 23 42.0	
	comp=E,45nm,0.4s							
AKUM					IAML		00 24 15.0	
	comp=N,36nm,1.6s							
GOLH	**Golhisar**	**2.23**	**40**	*i* P		**Pb**	**00 23 12.4**	**-0.5**
GOLH					IAML		00 23 43.0	
	comp=E,58nm,2.6s							
GOLH					IAML		00 24 03.0	
	comp=N,183nm,0.7s							
IDI	**Anoyia**	**2.37**	**265**	Pn		**Pb**	**00 23 13.6**	**-1.6**
	comp=N,6.2nm,0.3s,baz=80,slow=16,SNR=38							
IDI				Sn		**Sb**	**00 23 42.8**	**-1.6**
	comp=N,8.6nm,0.3s,baz=340,slow=22,SNR=2.5							
IDI	**Anoyia**	**2.37**	**265**	P		**Pn**	**00 23 12.1**	**+0.8**
IDI				S		**Sn**	**00 23 42.0**	**+1.6**
	comp=N,158nm,0.5s							
IDI	**Anoyia**	**2.37**	**265**	P		**Pb**	**00 23 13.3**	**-1.9**
IDI				S		**Sb**	**00 23 42.9**	**-1.6**
IDI					AML	AML	00 23 51.5	
	comp=N,276μm,0.5s							
IDI					AML	AML	00 23 52.6	
	comp=E,359μm,0.5s							
IDI	**Anoyia**	**2.37**	**265**	PN		**Pb**	**00 23 13.3**	**-1.9**
APE	**Apeiranthos**	**2.38**	**311**	P		**Pn**	**00 23 12.8**	**+1.4**
APE	**Apeiranthos**	**2.38**	**311**	PN		**Pb**	**00 23 13.1**	**-2.2**
SIVA	**Sivas**	**2.48**	**259**	P		**Pb**	**00 23 16.6**	**-0.4**
KORT	**Korkueli**	**2.55**	**54**	*i* P		**Pb**	**00 23 16.3**	**-1.9**
KORT				*i* S		**Sg**	**00 23 52.0**	**-2.3**
KORT					IAML		00 23 55.0	
	comp=E,86nm,0.5s							
KORT					IAML		00 24 00.0	
	comp=N,59nm,0.5s							
BRDR	**BURDUR-Merkez**	**2.84**	**40**	*i* P		**Pn**	**00 23 19.9**	**+2.1**
BRDR					IAML		00 24 18.0	
	comp=N,48nm,0.8s							
BRDR					IAML		00 24 27.0	
	comp=E,36nm,0.6s							
VAM	**Vamos**	**2.92**	**269**	P		**Pb**	**00 23 21.9**	**-2.6**
IMMV	**Iera Moni Meta**	**3.10**	**270**	P		**Pn**	**00 23 24.1**	**+2.8**
PASA	**Karahalli, USA**	**3.13**	**25**	*i* P		**Pn**	**00 23 23.3**	**+1.5**
PASA				*i* S		**Sb**	**00 24 07.2**	**+0.8**
PASA					IAML		00 24 22.0	
	comp=N,18nm,0.7s							
PASA					IAML		00 24 22.0	
	comp=E,32nm,1.1s							
USAK	**Uak-Merkez**	**3.33**	**17**	*i* P		**Pn**	**00 23 26.0**	**+1.5**
USAK					IAML		00 24 07.0	
	comp=N,40nm,1.1s							
USAK					IAML		00 25 27.0	
	comp=E,52nm,4.0s							
AKMS	**Akamas**	**3.77**	**96**	P		**Pn**	**00 23 30.4**	**0.0**
AKMS					AML	AML	00 24 17.2	
	comp=E,0.2nm,0.3s							
AKMS					AML	AML	00 24 17.2	
	comp=E,0.2nm,0.3s							
ALFC	**Alefka**	**3.96**	**94**	⇑P		**Pn**	**00 23 32.7**	**-0.5**
ALFC				S		**Sn**	**00 24 20.0**	**+0.5**
ALFC					AML	AML	00 24 20.6	
	comp=E,0.2nm,0.2s							
ALFC					AML	AML	00 24 20.6	
	comp=E,0.2nm,0.2s							
ALFC					AML	AML	00 24 21.1	
	comp=E,0.2nm,0.5s							
ALFC					AML	AML	00 24 21.1	
	comp=E,0.2nm,0.5s							
NATA	**Nata**	**4.00**	**99**	P		**Pn**	**00 23 33.8**	**+0.1**
SZAC	**Souni**	**4.25**	**99**	⇑P		**Pn**	**00 23 36.7**	**-0.5**
SZAC				S		**Sn**	**00 24 27.7**	**+0.8**
SZAC					AML	AML	00 24 28.5	
	comp=E,0.1nm,0.6s							
SZAC					AML	AML	00 24 28.5	
	comp=E,0.1nm,0.6s							
SZAC					AML	AML	00 24 29.3	
	comp=E,0.2nm,0.4s							
SZAC					AML	AML	00 24 29.3	
	comp=E,0.2nm,0.4s							
ASGA	**Asgata**	**4.54**	**98**	P		**Pn**	**00 23 40.6**	**-0.5**
SLUM	**Salum**	**4.56**	**209**	P		**Pn**	**00 23 42.5**	**+1.1**
	baz=211							
SLUM				S		**Sn**	**00 24 31.5**	**-2.8**
	baz=211							
CSS	**Mathiatis**	**4.58**	**95**	⇑P		**Pn**	**00 23 41.8**	**+0.2**
MVOU	**Mavrovouni**	**4.82**	**94**	⇑P		**Pn**	**00 23 44.6**	**-0.3**
BRTR	**Keskin Array B**	**6.26**	**46**	Pn		**Pn**	**00 24 05.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=225,slow=15,SNR=4.8							
BRTR				Sn		**Sn**	**00 25 17.5**	**+1.1**
	comp=E,0.2nm,0.3s,baz=214,slow=26,SNR=3.5							
BRTR				LR		LR	00 27 04.1	
	comp=E,52nm,20.2s,baz=248,slow=44							
SWA2		**6.57**	**198**	P		**Pn**	**00 24 10.4**	**+1.5**
	baz=200							
SWA2				AMP			00 25 00.0	
	baz=200							
MMAI	**Mount Meron Ar**	**6.79**	**109**	Pn		**Pn**	**00 24 09.7**	**-2.4**
	comp=E,1.9nm,0.3s,baz=313,slow=11,SNR=14							
MMAI				Sn		**Sn**	**00 25 27.8**	**-1.7**
	comp=E,1.5nm,0.3s,baz=295,slow=22,SNR=3.4							
GLL	**Jalalah**	**6.80**	**150**	P		**Pn**	**00 24 12.4**	**+0.2**
	baz=150							
SUZ	**Suez**	**7.09**	**142**	P		**Pn**	**00 24 16.4**	**+0.2**
	baz=142							
HFRF	**Wahat Farafira**	**8.37**	**177**	P		**Pn**	**00 24 34.0**	**+0.4**
	baz=177							
EIL	**Elat**	**8.41**	**132**	Pn		**Pn**	**00 24 33.6**	**-0.6**
	comp=E,0.4nm,0.3s,baz=220,slow=3.8,SNR=6.4							
EIL				Sn		**Sn**	**00 26 03.4**	**-5.8**
	comp=E,0.5nm,0.3s,baz=3.0,slow=6.8,SNR=3.8							
HBST	**Basata**	**8.61**	**135**	P		**Pn**	**00 24 37.3**	**+0.3**
	baz=135							
GERES	**GERESS Array B**	**16.87**	**326**	Pn		**P**	**00 26 31.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=137,slow=11,SNR=5.5							
ESDC	**Sonseca Array**	**25.41**	**289**	P		**P**	**00 28 00.5**	**+0.5**
	comp=E,0.7nm,0.6s,baz=84,slow=9.1,SNR=4.7							
FINES	**FINESS Array B**	**25.96**	**358**	P		**P**	**00 28 03.3**	**-1.3**
	comp=E,1.3nm,1.0s,baz=160,slow=8.9,SNR=1.7							
HFS	**Hagfors**	**26.26**	**344**	P		**P**	**00 28 06.4**	**-0.9**
	comp=E,1.4nm,0.8s,baz=161,slow=14,SNR=2.2							
TORD	**Torodi Ar. Bea**	**32.39**	**233**	P		**P**	**00 29 03.3**	**+1.0**
	comp=E,0.8nm,0.4s,baz=33,slow=9.0,SNR=14							
ARCES	**ARCESS Array B**	**34.08**	**359**	P		**P**	**00 29 17.2**	**+0.6**
	comp=E,1.5nm,0.9s,baz=161,slow=8.4,SNR=2.0							
MKAR	**Makanchi Array**	**41.78**	**57**	P		**P**	**00 30 22.5**	**+0.7**
	comp=E,0.4nm,0.7s,baz=294,slow=4.6,SNR=3.8							
SONM	**Songino Array**	**57.59**	**51**	P		**P**	**00 32 23.6**	**+1.2**
	comp=E,0.3nm,0.5s,baz=251,slow=4.4,SNR=2.4							

*IDC **16** 00:44:51.9±6.4, 37.°40N×78.°19E, h0km, mb3.6/2, mb1 3.5/4, mb1mx3.2/50, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=146.9km s-min=36.1km az=128.0*
*NNC **16** 00:44:58.3±3.0, 37.°85N×78.°62E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=23.7km s-min=20.1km az=55.0*

ISC 16 00:44:56.2±1.9, 37.°8N±0.°1×78.°0E±0.°1, h10km, n19, σ1°73/22, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.23**	**3**	Pg	**Pg**	**00 46 36.0**	**-0.3**
	4.2nm,0.2s						
SATY				Lg	Lg	00 47 47.4	
	17nm,0.6s						
TNSS	**Tian-Shan**	**5.26**	**351**	Pg	**Pg**	**00 46 35.3**	**-1.7**
	5.4nm,0.3s						
TNSS				Lg	Lg	00 47 45.8	
	19nm,0.8s						
IZV	**Izvestkoviy**	**5.31**	**349**	Pg	**Pg**	**00 46 36.8**	**-1.0**
	4.0nm,0.2s						
IZV				Lg	Lg	00 47 48.8	
	14nm,0.5s						
MDOK	**Medeo**	**5.38**	**352**	⇑Pn	**Pg**	**00 46 38.1**	**-1.0**
	6.4nm,0.5s						
MDOK				Lg	Lg	00 47 45.3	
	10nm,0.7s						
MDOK	**Medeo**	**5.38**	**352**	Pg	**Pg**	**00 46 36.9**	**-2.2**
	4.4nm,0.4s						
MDOK				Lg	Lg	00 47 49.0	
	22nm,0.6s						
SHLS	**Shalkode**	**5.43**	**11**	Pg	**Pg**	**00 46 42.1**	**+2.0**
	7.8nm,0.3s						
KST	**Kastek**	**5.44**	**344**	Pg	**Pg**	**00 46 41.5**	**+1.2**
	3.0nm,0.2s						
KST				Lg	Lg	00 47 56.7	
	8.2nm,0.8s						
KOTS	**Kotyrbulak**	**5.44**	**353**	Pg	**Pg**	**00 46 38.9**	**-1.4**
	4.2nm,0.3s						
KOTS				Lg	Lg	00 47 52.5	
	18nm,0.7s						
KRBS	**Karabastau**	**6.12**	**344**	Pg	**Pg**	**00 46 51.5**	**-1.9**
	1.5nm,0.3s						
KRBS				Lg	Lg	00 48 13.8	
	5.0nm,0.6s						
MRKS	**Merke**	**6.13**	**325**	Pg	**Pg**	**00 46 55.6**	**+2.1**
	2.0nm,0.2s						
SGDS	**Sogindy**	**6.18**	**336**	Pg	**Pg**	**00 46 54.3**	**-0.2**
	1.9nm,0.4s						
SGDS				Lg	Lg	00 48 18.9	
	2.9nm,0.5s						
KUU	**Kurty**	**6.19**	**349**	Pg	**Pg**	**00 46 52.2**	**-2.4**
	0.9nm,0.1s						
KUU				Lg	Lg	00 48 14.9	
	8.9nm,0.6s						
ARXS	**Arharly**	**6.38**	**359**	Pg	**Pg**	**00 46 55.7**	**-2.5**
	2.6nm,0.4s						
ARXS				Lg	Lg	00 48 21.3	
	9.4nm,0.6s						
MAKZ	**Makanchi**	**9.43**	**17**	⇑Pn	**Pn**	**00 47 11.3**	**-0.8**
	1.1nm,0.7s						
MAKZ				⇑Pg		00 47 31.1	
	1.1nm,0.4s						
MAKZ				⇑Sn	**Sn**	**00 48 59.2**	**+1.1**
	1.6nm,1.1s						
MK31	**Makanchi Array**	**9.49**	**18**	⇑Pn	**Pn**	**00 47 11.2**	**-1.7**
	0.2nm,0.2s,baz=199,slow=12,SNR=25						
MK31				⇓Pg		00 47 31.7	
	0.4nm,0.3s,baz=190,slow=12,SNR=6.0						
MK31				⇑Sn	**Sn**	**00 48 59.7**	**0.0**
	1.4nm,0.6s,baz=197,slow=24,SNR=6.0						
MKAR	**Makanchi Array**	**9.49**	**18**	Pn	**Pn**	**00 47 15.5**	**+2.6**
	0.6nm,0.3s,baz=200,slow=13,SNR=27						
MKAR				Sn	**Sn**	**00 49 00.6**	**+1.0**
	0.6nm,0.3s,baz=191,slow=26,SNR=7.4						
ZALV	**Zalesovo Beam**	**16.78**	**14**	P	**P**	**00 48 55.0**	**+1.7**
	0.2nm,0.3s,baz=202,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**39.63**	**324**	P	**P**	**00 52 28.3**	**+0.6**
	0.4nm,0.5s,baz=100,slow=7.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**71.32**	**272**	P	**P**	**00 56 14.6**	**-1.8**
	0.5nm,0.8s,baz=40,slow=5.7,SNR=1.8						

*IDC **16** 00:45:10.6±3.5, 4.°06S×152.°97E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/41, mbtmp3.9/7, ML1.7/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/33, Error ellipse: s-maj=102.1km s-min=25.3km az=107.0*

ISC 16 00:45:16.0±3.3, 4.°1S±0.°3×153.°0E±0.°6, h35km, n12, σ0°70/8, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.83**	**227**	Pn	**Pn**	**00 47 08.0**	**+0.6**
	0.6nm,0.3s,baz=16,slow=4.2,SNR=7.7						
PMG				LR	LR	00 49 53.8	
	comp=Z,180nm,20.4s,baz=355,slow=36						
HNR	**Honiara**	**8.76**	**128**	LR	LR	00 50 26.6	
	comp=Z,104nm,20.1s,baz=339,slow=36						
GUMO	**Guam**	**19.29**	**336**	LR	LR	00 57 25.0	
	comp=Z,75nm,18.9s,baz=124,slow=38						
DZM	**Mont Dzumac**	**22.17**	**145**	LR	LR	00 57 51.7	
	comp=Z,183nm,21.1s,baz=288,slow=34						
WRA	**Warramunga Arr**	**24.05**	**227**	P	**P**	**00 50 26.7**	**-1.4**
	4.3nm,0.9s,baz=49,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**26.79**	**222**	P	**P**	**00 50 53.0**	**-0.1**
	1.3nm,0.9s,baz=50,slow=7.8,SNR=7.6						
STKA	**Stephens Creek**	**29.65**	**200**	LR	LR	01 02 37.2	
	comp=Z,74nm,19.3s,baz=20,slow=35						
CMAR	**Chiang Mai Arr**	**57.70**	**295**	P	**P**	**00 55 03.5**	**-0.2**
	0.7nm,0.4s,baz=98,slow=6.3,SNR=5.2						
SONM	**Songino Array**	**65.79**	**328**	P	**P**	**00 55 58.0**	**+0.2**
	0.3nm,0.7s,baz=93,slow=2.9,SNR=2.4						
MKAR	**Makanchi Array**	**79.87**	**319**	P	**P**	**00 57 21.2**	**0.0**
	0.3nm,0.6s,baz=102,slow=4.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**80.63**	**326**	P	**P**	**00 57 25.2**	**+0.1**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=1.2						
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	**PKPbc**	**01 05 04.8**	**+0.3**
	0.8nm,0.9s,baz=86,slow=3.3,SNR=2.2						

*JMA **16** 00:51:04.2±0.3, 31.°98N×138.°21E, h393km, M3.8*
*IDC **16** 00:51:06.6±0.8, 32.°20N×138.°02E, h378km±10km, mb3.0/6, mb1 3.2/12, mb1mx2.9/64, mbtmp4.0/12, Error ellipse: s-maj=24.6km s-min=13.2km az=77.0*

ISC 16 00:51:06.5±0.9, 32.°20N±0.°08×138.°05E±0.°09, h380km, n25, σ0°89/33, mb3.1/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.73**	**57**	P	**Pn**	**00 52 00.5**	**+1.6**
	27nm,0.3s,baz=340,slow=17,SNR=6.2						
JHJ				S	**S**	**00 52 41.4**	**+0.3**
	18nm,0.3s,baz=70,slow=22,SNR=1.3						
JIE	**Ise**	**2.46**	**333**	P	**Pn**	**00 52 05.2**	**+1.4**
BSO3	**Boso 3**	**3.31**	**38**	P	**Pn**	**00 52 10.8**	**+0.3**
BSO3				*e*S	**S**	**00 53 01.9**	**-0.4**
BSO4	**Boso 4**	**3.38**	**34**	P	**Pn**	**00 52 11.6**	**+0.3**
BSO4				*e*S	**S**	**00 53 04.0**	**+0.3**
BSO1	**Boso 1**	**3.46**	**44**	P	**Pn**	**00 52 11.9**	**+0.4**
BSO1				*e*S	**S**	**00 53 03.7**	**-0.6**
JHU	**Hanno**	**3.79**	**15**	P	**Pn**	**00 52 15.9**	**+0.7**
JHU				*e*S	**S**	**00 53 11.4**	**+0.6**
JRY	**Ryogami san**	**3.88**	**10**	P	**Pn**	**00 52 17.7**	**+1.6**
JRY				*e*S	**S**	**00 53 14.5**	**+2.1**
MJAR	**Matsushiro Arr**	**4.34**	**2**	P	**Pn**	**00 52 20.5**	**-0.2**
	0.7nm,0.3s,baz=154,slow=10,SNR=16						
MJAR				S	**S**	**00 53 19.0**	**-1.7**
	0.2nm,0.3s,baz=224,slow=56,SNR=1.4						
MAT	**Matsushiro**	**4.34**	**2**	P	**Pn**	**00 52 21.5**	**+0.9**
MAT				*e*S	**S**	**00 53 19.3**	**-1.4**
JAG	**Ashikaga**	**4.38**	**15**	P	**Pn**	**00 52 21.4**	**+0.4**
JYT	**Yasato**	**4.40**	**23**	P	**Pn**	**00 52 21.1**	**-0.1**
JHO	**Hitachi**	**4.87**	**25**	P	**Pn**	**00 52 25.8**	**-0.3**
JFK	**Kawauchi**	**5.66**	**23**	P	**Pn**	**00 52 34.6**	**+0.1**
JNU	**Nakatsue**	**6.12**	**281**	P	**Pn**	**00 52 40.4**	**+0.7**
	0.9nm,0.3s,baz=95,slow=4.4,SNR=4.7						
JMK	**Ichinoseki**	**7.22**	**20**	P	**P**	**00 52 52.4**	**-0.5**
JOW	**Kunigami**	**10.05**	**240**	P	**P**	**00 53 24.0**	**-1.4**
	2.4nm,0.3s,baz=89,slow=16,SNR=2.2						
ASAJ	**Asahikawa**	**12.42**	**15**	P	**Pn**	**00 53 52.4**	**-0.3**
	0.8nm,0.3s,baz=262,slow=30,SNR=1.9						
USRK	**Ussuriysk Ar.**	**12.89**	**340**	P	**P**	**00 53 56.5**	**0.0**
	baz=134,slow=8.3,SNR=4.7						
KLR	**Kul'dur**	**17.66**	**346**	P	**P**	**00 54 48.1**	**0.0**
	0.6nm,0.3s,baz=183,slow=7.3,SNR=9.4						
SONM	**Songino Array**	**28.59**	**312**	P	**P**	**00 56 29.7**	**+0.4**
	0.3nm,0.4s,baz=134,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**44.52**	**306**	P	**P**	**00 58 41.8**	**-0.1**
	0.9nm,0.7s,baz=90,slow=9.6,SNR=7.8						
WRA	**Warramunga Arr**	**51.96**	**184**	P	**P**	**00 59 37.8**	**-0.5**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=8.8						
ASAR	**Alice Springs**	**55.69**	**185**	P	**P**	**01 00 05.6**	**+0.6**
	0.2nm,0.3s,baz=15,slow=12,SNR=2.3						
ARCES	**ARCESS Array B**	**67.54**	**339**	P	**P**	**01 01 23.4**	**+0.7**
	1.8nm,0.9s,baz=64,slow=8.4,SNR=1.6						
FINES	**FINESS Array B**	**71.79**	**332**	P	**P**	**01 01 48.4**	**+0.1**
	0.4nm,0.5s,baz=46,slow=6.0,SNR=1.5						

MEX 16 00:52:05.0±0.4, 14.°68N×93.°50W, h50km, MD3.9, Near coast of Chiapas

*BGR **16** 01:14:58.7±0.0, 41.°01N×143.°93E, h47km±1km, mb4.7*
*BJI **16** 01:15:06.8±0.0, 41.°28N×142.°64E, h49km, mB5.1/43, mb4.9/67, Ms4.4/44, Ms7 4.2/45*
*MOS **16** 01:15:07.1±0.9, 41.°36N×142.°52E, h37km, mb5.2/97, MS4.2/13, Error ellipse: s-maj=5.9km s-min=3.8km az=113.2*
*GCMT **16** 01:15:08.3±0.4, 41.°22N±0.°02×142.°82E±0.°04, h49km±1km, MW4.9/78, Moment Tensor Solution. s38,c46; s78,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.32±.20; $M_{\theta\theta}$-0.25±.14; $M_{\phi\phi}$-2.08±.13; $M_{r\theta}$0.36±.09; $M_{\theta\phi}$-1.58±.10; $M_{\phi r}$1.33±.09; Best double couple: $M_0$3.00100×10^{16} NP1:ϕ_s221.00000°, δ33.00000°, λ107.00000°. NP2: ϕ_s21.00000°, δ59.00000°, λ80.00000°. Principal axes: T 2.6930, Plg74.0000°, Azm264.0000°; N 0.6080, Plg9.0000°, Azm27.0000°; P -3.3090, Plg13.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NIED **16** 01:15:08.8, 41.°33N×142.°65E, h38km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.25; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-1.14; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.17; $M_{\phi r}$1.11; Fault plane solution: $M_0$1.78000×10^{16} NP1:ϕ_s25.00000°, δ69.00000°, λ101.00000°. NP2:ϕ_s177.00000°, δ23.00000°, λ64.00000°.*
*JMA **16** 01:15:08.8±0.1, 41.°33N×142.°65E, h38km±4km, M4.8 Broadband fault plane solution: P waves. NP1: ϕ_s198.00000°, δ36.00000°, λ92.00000°. NP2:ϕ_s16.00000°, δ54.00000°, λ89.00000°. Principal axes: T Plg81.0000°, Azm281.0000°; N Plg1.0000°, Azm17.0000°; P Plg9.0000°, Azm107.0000°;*
JMA Felt II J1.
*NEIC **16** 01:15:09.3±1.6, 41.°39N±0.°05×142.°55E±0.°07, h36km±6km, mb4.9/241 Error ellipse: s-maj=9.6km s-min=5.2km az=130.0*
*IDC **16** 01:15:11.1±1.8, 41.°41N×142.°56E, h57km±14km, mb4.4/21, mb1 4.6/26, mb1mx4.5/40, mbtmp4.7/26, MS4.1/23, Ms1 4.1/23, ms1mx3.9/55, Error ellipse: s-maj=14.7km s-min=10.8km az=127.0*

ISC 16 01:15:08.9±0.4, 41.°38N±0.°03×142.°63E±0.°03, h40km±3km, h41km:pP-P, n911, σ1°17/887, mb4.9/272, MS4.3/45, 223C-95D, Fault plane solution: NP1:ϕ_s348.13019°, δ64.67125°, λ71.15394°. NP2:ϕ_s206.71446°, δ31.19477°, λ124.31282°. Principal axes: T Plg65.1452°, Azm225.2128°; N Plg16.9761°, Azm356.4380°; P Plg17.5993°, Azm91.9949°; **Fault plane solution: NP1:ϕ_s**149.88313°, δ18.66270°, λ27.36871°. **NP2:** ϕ_s33.75800°, δ81.54069°, λ106.69660°. **Principal axes:** T Plg50.7096°, Azm322.4700°; N Plg16.5097°, Azm211.2315°; P Plg34.4652°, Azm109.4931°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.75**	**32**	*c i*P	**Pn**	**01 15 23.1**	**0.0**
ERM	**Erimo**	**0.75**	**32**		**Pn**	**01 15 23.2**	**+0.1**
ERM				Sn	**Sn**	**01 15 33.4**	**+0.1**
JEM	**Erimo**	**0.75**	**32**	⇑P	**Pn**	**01 15 23.2**	**+0.1**
JEM				*e*S	**Sn**	**01 15 33.7**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.91**	**6**	⇓P	**Pn**	**01 15 26.1**	**+0.8**
JNBK				*e*S	**Sn**	**01 15 38.6**	**+1.4**
JAHD	**Aomorihigashid**	**0.98**	**264**	⇓P	**Pn**	**01 15 26.5**	**+0.4**
JAHD				*e*S	**Sn**	**01 15 38.7**	**-0.1**
JARK	**Aomorirokkasho**	**1.02**	**249**	⇓P	**Pn**	**01 15 26.9**	**+0.

GRPR pmax pmax
comp=N,238nm,0.1s
GRPR smax smax
comp=N,3μm,0.4s
GRPR smax smax
comp=E,1μm,0.3s
YUK Yuzh-Kuril'sk 3.57 41 *d iP* **Pn 01 16 01.9 +0.1**
YUK *e*S **Sn 01 16 40.9 -1.8**
YUK pmax pmax
comp=Z,1μm,0.3s
YUK pmax pmax
comp=N,249nm,0.2s
YUK smax smax
comp=N,3.0nm,0.5s
YUK smax smax
comp=E,5.0nm,0.5s
YUK MLR MLR
comp=Z,1μm,13.0s
JMM Marumori 3.78 203 Pn **Pn 01 16 05.5 +0.8**
JSD Sado 4.74 227 Pn 01 16 19.8 +1.9
KUR Kuril'sk 5.43 43 *ceP* **Pn 01 16 28.6 +1.3**
KUR *e*S **Sn 01 17 28.4 -0.1**
KUR pmax pmax
comp=Z,253nm,0.6s
KUR pmax pmax
comp=N,105nm,0.5s
KUR pmax pmax
comp=E,103nm,0.5s
KUR smax smax
comp=N,327nm,0.5s
KUR smax smax
comp=E,176nm,0.4s
JYT Yasato 5.48 201 Pn **Pn 01 16 28.6 +0.6**
YSS Yuzh-Sakhalins 5.58 1 *ceP* **Pn 01 16 31.1 +1.8**
YSS pmax pmax
comp=Z,78nm,1.0s
YSS Yuzh-Sakhalins 5.58 1 Pn **Pn 01 16 30.5 +1.2**
MAJO Matsushiro 5.93 217 *c iP* **Pn 01 16 37.0 +2.8**
MAJO Matsushiro 5.93 217 Pn **Pn 01 16 36.9 +2.7**
MAT Matsushiro 5.93 217 P **Pn 01 16 36.7 +2.5**
MAT *e*S **Sn 01 17 42.9 +2.1**
MJAR Matsushiro Arr 5.93 217 P **Pn 01 16 36.1 +1.9**
comp=Z,1.9nm,0.3s,baz=27,slow=13,SNR=38
MJAR LR LR 01 19 16.3
comp=Z,1μm,19.9s,baz=55,slow=41
VLA Vladivostok 8.16 286 *i* P **Pn 01 17 04.9 +0.2**
VLA pmax pmax
comp=Z,31nm,0.8s
USA0B Ussuriysk Arra 8.32 293 P **Pn 01 17 07.5 +0.6**
USA0B Ussuriysk Arra 8.32 293 Pn **Pn 01 17 07.5 +0.6**
USRK Ussuriysk Ar. 8.32 293 P **Pn 01 17 08.4 +1.5**
baz=101,slow=14,SNR=66
USRK LR LR 01 20 11.5
comp=Z,1μm,21.9s,baz=111,slow=36
USRK Ussuriysk Ar. 8.32 293 P **Pn 01 17 08.4 +1.5**
USRK Ussuriysk Ar. 8.32 293 Pn **Pn 01 17 07.8 +0.9**
TYV Tymovskoe 9.49 0 *eP* Pn 01 17 28.5 +5.6
TYV *e*S Sn 01 19 19.9 +12
TYV pmax pmax
comp=Z,26nm,0.8s
TYV smax smax
comp=E,13nm,0.5s
TYV MLR MLR
comp=Z,1μm,14.0s
TYV MLR MLR
comp=N,2μm,15.0s
MDJ Mudanjiang 10.08 293 P **Pn 01 17 31.3 +0.2**
MDJ PP **PnPn 01 17 39.1 +0.4**
MDJ S **Sn 01 19 23.5 +0.7**
MDJ SS **SnSn 01 19 37.3 +2.9**
MDJ pmax pmax
comp=N,8.0nm,0.5s
MDJ pmax pmax
comp=N,240nm,5.5s
MDJ LR LR
comp=N,440nm,9.8s
MDJ LR LR
comp=N,800nm,21.8s
MDJ LR LR
comp=N,2μm,21.6s
MDJ Mudanjiang 10.08 293 Pn **Pn 01 17 30.8 -0.3**
GRNR Gornyy 10.33 338 *eP* **Pn 01 17 36.9 +2.4**
GRNR MLR MLR
comp=E,340nm,14.0s
GRNR MLR MLR
comp=N,480nm,15.0s
GRNR MLR MLR
comp=Z,520nm,14.0s
KLR Kul'dur 10.96 319 P **Pn 01 17 45.4 +2.3**
comp=Z,0.3nm,0.3s,baz=133,slow=13,SNR=17
KLR LR LR 01 22 00.2
comp=Z,995nm,21.7s,baz=148,slow=38
KLR Kul'dur 10.96 319 *ceP* **Pn 01 17 44.7 +1.6**
KLR pmax pmax
comp=Z,50nm,1.1s
NKL Nikolayevsk 11.85 354 *eP* **Pn 01 17 52.5 -2.7**
NKL *e*S **Sn 01 20 04.4 -1.6**
NKL pmax pmax
comp=N,303nm,0.9s
NKL pmax pmax
comp=Z,53nm,1.3s
NKL pmax pmax
comp=E,36nm,0.7s
NKL smax smax
comp=E,96nm,1.2s
NKL smax smax
comp=N,881nm,1.4s
NKL MLR MLR
comp=E,1μm,14.0s
NKL MLR MLR
comp=N,11μm,18.0s
NKL MLR MLR
comp=Z,447nm,16.0s
KSRS Korea Array 12.03 256 P **Pn 01 18 01.2 +3.5**
comp=Z,2.0nm,0.3s,baz=71,slow=14,SNR=13
KSRS S **Sn 01 20 15.8 +5.4**
comp=Z,0.9nm,0.3s,baz=69,slow=24,SNR=3.5
KSRS Korea Array 12.03 256 P **Pn 01 18 01.2 +3.5**
CN2 Changchun 12.89 287 *eP* **Pn 01 18 12.3 +2.8**
CN2 *es*P P 01 18 26.8 +7.4
CN2 *e*S **Sn 01 20 33.3 +1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,1μm,19.0s
TJN Taejon 12.89 252 *i* P **Pn 01 18 08.6 -0.9**
SKR Severo-Kuril's 13.19 41 *eP* **P 01 18 21.3 -1.4**
SKR *e*S **Sn 01 20 44.7 +6.0**
SKR pmax pmax
comp=Z,132nm,1.2s
SKR MLR MLR
comp=Z,600nm,12.0s
SKR MLR MLR
comp=Z,700nm,16.0s
PETK Petropavlovsk- 15.53 36 LR LR 01 25 04.6
comp=Z,290nm,18.9s,baz=218,slow=38
ZEA Zeya 16.10 325 *eP* **Pn 01 18 46.9 -5.2**
ZEA pmax pmax
comp=Z,30nm,0.9s
ZEA MLR MLR
comp=E,300nm,11.0s
ZEA MLR MLR
comp=N,200nm,15.0s
DL2 Dalian 16.24 268 P **P 01 18 55.6 -1.1**
DL2 pmax pmax
comp=N,71nm,1.0s
HIA Hailar 17.88 304 P **Pn 01 19 12.7 -1.7**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 17.88 304 Pn **Pn 01 19 12.7 -1.7**
MA2 Magadan 18.92 13 LR LR 01 27 50.8
comp=Z,186nm,18.9s,baz=192,slow=40
BJI Beijing 20.07 275 P **P 01 19 37.6 -1.2**
BJI pmax pmax
comp=Z,47nm,0.9s
BJI LR LR
comp=Z,370nm,17.5s
BJI LR LR
comp=Z,770nm,19.8s
BJI LR LR
comp=Z,1μm,19.6s
BJT Baijiatuau 20.09 275 P **P 01 19 37.6 -1.3**
BJT pmax pmax
comp=Z,35nm,0.9s
BJT Baijiatuau 20.09 275 P **P 01 19 37.5 -1.3**
BJT IAmb IAmb 01 19 39.1
comp=Z,35nm,0.9s
TIA Tai'an 20.50 264 ⇓P **P 01 19 42.3 -1.2**
TIA pmax pmax
comp=Z,23nm,0.8s
TIA LR LR
comp=N,490nm,19.0s
TIA LR LR
comp=E,410nm,20.6s
TIA LR LR
comp=Z,590nm,21.1s
NJ2 Nanjing 21.15 252 *eP* **P 01 19 52.0 +1.5**
NJ2 pmax pmax
comp=Z,24nm,0.6s
YAK Yakutsk 22.10 344 LR LR 01 28 54.9
comp=Z,405nm,20.8s,baz=89,slow=37
YAK Yakutsk 22.10 344 *eP* **P 01 19 56.0 -4.4**
YAK *e**PP pP 01 20 02.4 -7.8
YAK *e*S S 01 23 51.1 -10
YAK *e**SS Sn 01 24 05.0 -8.9
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax smax
comp=E,78nm,2.5s
YAK smax smax
comp=N,38nm,1.3s
YAK MLR MLR
comp=Z,568nm,26.0s
YAK MLR MLR
comp=N,462nm,24.0s
YAK MLR MLR
comp=E,230nm,18.0s
YAK Yakutsk 22.10 344 P **P 01 19 56.9 -3.5**
YAK IAmb IAmb 01 20 14.5
comp=Z,49nm,1.0s
HHC Hu-ho-hao-te 23.35 279 *eP* **P 01 20 11.4 -2.3**
HHC pP pP 01 20 24.9 +1.1
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.6s
HHC LR LR
comp=Z,340nm,18.3s
HHC LR LR
comp=Z,750nm,19.6s
HHC LR LR
comp=Z,950nm,19.4s
BOD Bodaibo 24.52 322 *eP* **P 01 20 22.9 -1.4**
BOD pmax pmax
comp=Z,47nm,0.9s
WHN Wuhan 25.21 254 ⇓P **P 01 20 31.3 +0.5**
WHN pP **sP 01 20 44.8 -1.2**
WHN S **S 01 24 51.5 -1.8**
WHN pmax pmax
comp=Z,66nm,0.9s
WHN LR LR
comp=Z,1μm,19.9s
ULN Ulaanbaatar 25.97 297 P **P 01 20 37.2 -0.6**
ULN pmax pmax
comp=Z,23nm,0.9s
ULN Ulaanbaatar 25.97 297 P **P 01 20 37.2 -0.6**
ULN IAmb IAmb 01 20 39.2
comp=Z,23nm,0.9s
SONM Songino Array 26.41 296 P **P 01 20 41.6 -0.1**
comp=Z,22nm,0.9s,baz=96,slow=8.8,SNR=90
SONM LR LR 01 31 40.0
comp=Z,508nm,21.2s,baz=92,slow=38
SONM Songino Array 26.41 296 P **P 01 20 41.7 -0.1**
SONM pmax pmax
comp=Z,24nm,0.8s
SONM Songino Array 26.41 296 P **P 01 20 41.7 -0.1**
SONM IAmb IAmb 01 20 43.3
comp=Z,24nm,0.8s
XAN Xi'an 27.53 266 P **P 01 20 50.6 -1.2**
XAN pP pP 01 20 58.8 -3.6
XAN sP sP 01 21 04.9 -2.2
XAN pmax pmax
comp=Z,20nm,1.0s
GUMO Guam 27.75 175 LR LR 01 30 32.2
comp=Z,204nm,21.9s,baz=340,slow=33
IRK Irkutsk 28.09 306 *eP* **P 01 20 55.6 -1.0**
IRK pmax pmax
comp=Z,32nm,1.2s
TLY Talaya 28.41 305 LR LR 01 32 53.5
comp=Z,368nm,21.5s,baz=82,slow=38
TLY Talaya 28.41 305 *eP* **P 01 21 00.1 +0.6**
TLY *e*S **S 01 25 50.9 +7.2**
TLY pmax pmax
comp=Z,61nm,1.3s
TLY MLR MLR
comp=Z,896nm,19.0s
TLY Talaya 28.41 305 P **P 01 20 59.9 +0.3**
TLY IAmb IAmb 01 21 00.9
comp=Z,16nm,0.9s
ZAK Zakamensk 28.54 302 *eP* **P 01 21 00.0 -0.8**
ZAK pmax pmax
comp=Z,13nm,1.3s
ENH Enshi 28.90 258 IAmb IAmb 01 21 19.9
comp=Z,19nm,0.9s
BILL Biilibino 29.61 18⇑ *eP* **P 01 21 11.0 +1.2**
BILL *i* 01 22 05.7
BILL *e*S **S 01 26 05.2 +3.2**
BILL *e*SS **SnSn 01 27 36.1 +3.4**
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,229nm,19.0s
H11N2 WAKE ISLAND Hy 29.86 129 T T 01 52 58.5
baz=322,slow=75,SNR=19
H11N1 WAKE ISLAND Hy 29.87 129 T T 01 52 55.2
baz=322,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 29.87 129 T T 01 52 58.6
baz=322,slow=75,SNR=13
MOY Mondy 30.06 304 *eP* **P 01 21 13.0 -1.2**
MOY pmax pmax
comp=Z,42nm,2.0s
LZH Lanzhou 30.53 273 *eP* **P 01 21 18.5 -0.1**
LZH pP pP 01 21 30.8 +1.6
LZH sP sP 01 21 34.3 +0.4
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,400nm,16.3s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,370nm,15.1s
H11S1 WAKE ISLAND Hy 30.70 131 T T 01 53 51.1
baz=324,slow=76
H11S3 WAKE ISLAND Hy 30.71 131 T T 01 53 51.7
baz=324,slow=76
H11S2 WAKE ISLAND Hy 30.72 131 T T 01 53 51.0
baz=324,slow=76
GTA Gaotai 32.43 281 *eP* **P 01 21 35.0 -0.2**
GTA pP pP 01 21 44.1 -1.8
GTA sP sP 01 21 48.8 -1.7
GTA PcP **PcP 01 24 22.8 +1.1**
GTA pmax pmax
comp=Z,17nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.4s
GTA LR LR
comp=Z,210nm,17.8s
GTA LR LR
comp=Z,420nm,18.5s
GTA LR LR
comp=Z,630nm,17.5s
CD2 Chengdu 32.84 264 P **P 01 21 37.1 -1.6**
CD2 pmax pmax
comp=Z,40nm,0.8s
GYA Guiyang 33.08 255 ⇓P **P 01 21 40.8 -0.2**
GYA pP pP 01 21 51.4 -0.3
GYA S **S 01 26 57.8 +0.4**
GYA pmax pmax
comp=Z,4.0nm,0.8s
GYA pmax pmax
comp=Z,44nm,5.1s
GYA LR LR
comp=Z,86nm,16.1s
KMI Kunming 36.73 256 ⇑P **P 01 22 11.6 -1.0**
KMI S **S 01 27 50.5 -3.1**
KMI SS **SnSn 01 30 23.6 -3.0**
KMI pmax pmax
comp=Z,17nm,1.3s
KMI pmax pmax
comp=Z,98nm,4.5s
KMI LR LR
comp=Z,320nm,20.1s
KMI LR LR
comp=Z,350nm,21.0s
KMI LR LR
comp=Z,410nm,16.6s
SLVN Son La 38.23 250 P **P 01 22 23.8 -1.3**
SLVN IAmb IAmb 01 22 28.5
comp=Z,19nm,1.1s
DGZ Jazzator, Alta 38.77 302 *c iP* **P 01 22 29.9 +0.4**
DGZ pmax pmax
comp=Z,47nm,0.9s
ZAA0 Zalesovo Array 39.81 309 P **P 01 22 37.6 -0.3**
ZALV Zalesovo Beam 39.81 309 P **P 01 22 38.1 +0.3**
comp=Z,22nm,0.6s,baz=88,slow=7.9,SNR=81
ZALV pP **sP 01 22 52.5 -1.1**
comp=Z,40nm,0.7s,baz=91,slow=6.6,SNR=15
ZALV PcP **PcP 01 24 43.4 +0.2**
comp=Z,3.7nm,0.7s,baz=96,slow=4.9,SNR=4.2
ZALV LR LR 01 40 13.3
comp=Z,352nm,18.9s,baz=84,slow=38
ZALV Zalesovo Beam 39.81 309 *i* P **P 01 22 38.2 +0.3**
ZALV pmax pmax
comp=Z,22nm,0.6s
ZALV Zalesovo Beam 39.81 309 P **P 01 22 37.6 -0.3**
ZALV **PcP 01 24 43.6 +0.3**
WMQ Urumqi 39.88 293 P **P 01 22 39.8 +1.0**
WMQ pP sP 01 22 52.0 -2.3
WMQ pmax pmax
comp=Z,90nm,0.9s
WMQ pmax pmax
comp=Z,240nm,5.3s
WMQ LR LR
comp=Z,440nm,13.1s
WMQ LR LR
comp=Z,330nm,15.5s
WMQ LR LR
comp=Z,380nm,16.7s
ZSN Zaisan 40.88 299 *eP* **P 01 22 45.9 -1.0**
baz=299
ZSN Zaisan 40.88 299 *eP* **P 01 22 45.8 -1.0**
NONG Nongkai 40.93 247 P **P 01 22 48.5 +1.0**
comp=Z,5μmcomp=Z,42nm,1.1s
NONG Nongkai 40.93 247 P **P 01 22 48.0 +0.5**
comp=Z,5μmcomp=Z,42nm,1.1s
SKNT Sakolnakorn 41.10 245 P **P 01 22 49.8 +0.9**
comp=Z,20nm,0.9s
SKNT Sakolnakorn 41.10 245 P **P 01 22 49.9 +0.9**
comp=Z,20nm,0.9s
N18K Kilae Creek 41.41 41 P **P 01 22 51.8 +0.8**
baz=271
SVW2 Sparrevohn 41.55 40 P **P 01 22 53.5 +1.3**
L19K White Mountain 41.89 39 P **P 01 22 55.4 +0.4**
baz=270
N19K Bonanza Creek 42.09 41 P **P 01 22 58.6 +1.9**
baz=272
M19K Big River Lodg 42.11 39 P **P 01 22 57.8 +1.1**
baz=271
J20K Nowinta River 42.23 36 P **P 01 22 59.2 +1.5**
baz=269,SNR=27
K20K Telida 42.25 37 P **P 01 22 59.6 +1.7**
baz=270,SNR=9.9
IMAR Indian Mountai 42.47 33 P **P 01 23 00.6 +1.0**
M20K Styx River 42.71 39 P **P 01 23 03.1 +1.4**
baz=272
MK31 Makanchi Array 42.75 298 P **P 01 23 02.1 0.0**
MK31 pmax pmax
comp=Z,24nm,0.9s
MK31 Makanchi Array 42.75 298 P **P 01 23 02.1 0.0**
MK31 IAmb IAmb 01 23 03.2
comp=Z,24nm,0.8s
MKAR Makanchi Array 42.75 298 P **P 01 23 02.1 0.0**
comp=Z,22nm,0.8s,baz=83,slow=9.5,SNR=138
MKAR LR LR 01 41 56.3
comp=Z,251nm,20.9s,baz=80,slow=38
MKAR Makanchi Array 42.75 298 P **P 01 23 02.2 0.0**
MKAR Makanchi Array 42.75 298 P **P 01 23 01.9 -0.3**
P19K Oil Pt 42.78 42 P **P 01 23 03.0 +0.7**
baz=274
H21K Melozitna Rive 42.84 33 P **P 01 23 03.6 +1.0**
baz=268
MAKZ Makanchi 42.95 299 P **P 01 23 03.4 -0.4**
MAKZ pmax pmax
comp=Z,33nm,0.9s
MAKZ Makanchi 42.95 299 P **P 01 23 03.4 -0.4**
MAKZ IAmb IAmb 01 23 04.9
comp=Z,33nm,0.9s
UTTA Uttaradit 42.96 250 P **P 01 23 06.4 +2.3**
comp=Z,9.2nm,0.7s
UTTA Uttaradit 42.96 250 P **P 01 23 06.4 +2.3**
comp=Z,2.3nm,0.7s
RSO Redoubt South 42.96 41 P **P 01 23 04.8 +0.9**
O20K Slope Mountain 43.05 42 P **P 01 23 04.7 +0.2**
baz=274
LAMP Lampang 43.09 251 P P 01 23 12.3 +7.1
LAMP Lampang 43.09 251 P P 01 23 12.3 +7.1
comp=Z,7.0nm,0.8s
SEM Semipalatinsk 43.17 304 *eP* **P 01 23 03.4 -2.4**
baz=304
SEM Semipalatinsk 43.17 304 *eP* **P 01 23 03.4 -2.4**
I21K Tenana 43.18 34 P **P 01 23 06.8 +1.5**
baz=270,SNR=11
SPCR Spurr Chakacha 43.18 40 P **P 01 23 06.3 +0.7**
baz=274
CHAI Chaiyaphum 43.21 246 P **P 01 23 06.6 +0.4**
comp=Z,407nmcomp=Z,43nm,0.9s
CHAI Chaiyaphum 43.21 246 P **P 01 23 06.6 +0.4**
comp=Z,101nmcomp=Z,11nm,0.9s
CM34 Chiang Mai Arr 43.22 252 P P 01 23 12.0 +5.7
SPU Mount Spurr 43.26 40 P **P 01 23 06.7 +0.6**
KDAK Kodiak Island 43.30 45 P **P 01 23 06.7 +0.3**
comp=Z,13nm,0.8s,baz=260,slow=1.0,SNR=8.7
KDAK Kodiak Island 43.30 45 P **P 01 23 06.7 +0.3**
KDAK Kodiak Island 43.30 45 P **P 01 23 06.9 +0.5**
baz=277
CM35 Chiang Mai Arr 43.33 252 P **P 01 23 10.0 +2.8**
CHTO Chiang Mai 43.40 252 P **P 01 23 07.1 -0.6**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 43.40 252 P **P 01 23 10.7 +3.0**
comp=Z,14nm,0.7s
BPAW Bear Paw Mtn. 43.62 36 P **P 01 23 10.3 +1.3**
baz=272,SNR=10
BPAW Bear Paw Mtn. 43.62 36 P **P 01 23 10.1 +1.2**
CM31 Chiang Mai Arr 43.63 252 P **P 01 23 11.1 +1.6**
CM31 IAmb IAmb 01 23 25.4
comp=Z,25nm,1.4s
CMAR Chiang Mai Arr 43.63 252 P **P 01 23 10.2 +0.7**
comp=Z,3.1nm,0.4s,baz=44,slow=8.6,SNR=8.9
CMAR LR LR 01 42 55.0
comp=Z,176nm,18.7s,baz=95,slow=38
CMAR Chiang Mai Arr 43.63 252 *i* P **P 01 23 10.3 +0.7**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 43.63 252 P **P 01 23 09.8 +0.2**
CM04 Chiang Mai Arr 43.64 252 P P 01 23 16.2 +6.6
CM04 Chiang Mai Arr 43.64 252 P P 01 23 16.3 +6.7
comp=Z,5.8nm,0.8s
CM15 Chiang Mai Arr 43.65 252 P P 01 23 04.9 -4.8
CM15 Chiang Mai Arr 43.65 252 P P 01 23 04.0 -5.7
KTH Kantishna Hill 43.66 36 P **P 01 23 10.4 +1.1**
KTH IAmb IAmb 01 23 12.2
comp=Z,36nm,1.2s
CM05 Chiang Mai Arr 43.66 252 P P 01 23 15.0 +5.2
CM05 Chiang Mai Arr 43.66 252 P P 01 23 15.0 +5.2
comp=Z,6.8nm,0.9s
MLY Manley 43.70 34 P **P 01 23 11.1 +1.5**
baz=271,SNR=30
MLY Manley 43.70 34 P **P 01 23 10.8 +1.2**
MLY IAmb IAmb 01 23 12.9
comp=Z,15nm,0.9s
CNPM China Poot 43.80 42 P **P 01 23 12.3 +1.8**
CNPM IAmb IAmb 01 23 13.1
comp=Z,15nm,1.0s
TRF Thorofare Moun 43.95 37 P **P 01 23 12.5 +0.7**

baz=273
TRF Thorofare Moun 43.95 37 P **P 01 23 13.6 +1.8**
H23K Yukon River 44.19 33 P **P 01 23 15.0 +1.5**
baz=271,SNR=26
TOLK Toolik Lake Re 44.20 29 P **P 01 23 14.1 +0.5**
baz=268
BWN Browne 44.28 36 P **P 01 23 16.1 +1.9**
I23K Minto, Yukon-K 44.29 34 P **P 01 23 15.4 +1.2**
baz=272,SNR=11
I23K Minto, Yukon-K 44.29 34 P **P 01 23 15.5 +1.2**
I23K IAmb IAmb 01 23 16.9
comp=Z,20nm,1.2s
NEA2 Nenana 44.43 35 P **P 01 23 16.5 +1.1**
baz=273,SNR=11
NEA2 Nenana 44.43 35 P **P 01 23 16.7 +1.2**
NEA2 IAmb IAmb 01 23 20.3
comp=Z,17nm,0.8s
SHL Shillong 44.54 266 P **P 01 23 16.9 -0.1**
SHL pmax pmax
comp=Z,16nm,0.9s
SHL Shillong 44.54 266 P **P 01 23 16.9 -0.1**
SHL IAmb IAmb 01 23 35.6
comp=Z,16nm,0.9s
MCK McKinley 44.54 36 P **P 01 23 16.5 +0.2**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 44.54 36 P **P 01 23 17.1 +0.7**
baz=274,SNR=5.4
MCK McKinley 44.54 36 P **P 01 23 16.5 +0.2**
MCK IAmb IAmb 01 23 18.9
comp=Z,10nm,0.9s
RND Reindeer 44.60 37 P **P 01 23 17.5 +0.6**
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 44.60 37 P **P 01 23 17.5 +0.6**
RND IAmb IAmb 01 23 18.6
comp=Z,13nm,1.0s
RND PcP **PP 01 25 01.8 +0.6**
GHO Glory Hole Cre 44.71 39 IAmb IAmb 01 23 19.7
comp=Z,14nm,0.9s
MDM Murphy Dome 44.77 34 P **P 01 23 19.8 +1.6**
MDM IAmb IAmb 01 23 20.7
comp=Z,24nm,1.1s
WRH Wood River Hil 44.86 35 P **P 01 23 19.5 +0.7**
H24K Noodor Dome 44.88 33 P **P 01 23 20.5 +1.5**
baz=273,SNR=26
TCOL CIGO, UAF Yank 44.94 34 P **P 01 23 20.5 +1.1**
COLA College 44.94 34 P **P 01 23 20.4 +1.0**
COLA pmax pmax
comp=Z,118nm,0.2s
COLA College 44.94 34 P **P 01 23 20.4 +1.0**
KNK Knik Glacier 44.97 39 P **P 01 23 20.7 +1.0**
baz=276
CCB Clear Creek Bu 44.97 35 P **P 01 23 19.9 +0.2**
SML Sawmill 44.98 39 P **P 01 23 20.5 +0.6**
SML Sawmill 44.98 39 P **P 01 23 20.7 +0.8**
baz=276
SML Sawmill 44.98 39 P **P 01 23 20.6 +0.6**
SML IAmb IAmb 01 23 26.8
comp=Z,12nm,0.9s
POKR Poker Plat Res 45.10 34 P **P 01 23 22.2 +1.4**
baz=274,SNR=6.4
POKR Poker Plat Res 45.10 34 P **P 01 23 22.1 +1.4**
WAT6 Susitna Watana 45.18 38 P **P 01 23 22.0 +0.4**
baz=276,SNR=7.4
IL31 45.36 35 P **P 01 23 23.5 +0.8**
IL31 IAmb IAmb 01 23 25.8
comp=Z,19nm,1.1s
ILAR Eielson Array 45.36 35 P **P 01 23 23.9 +1.1**
comp=Z,16nm,1.0s,baz=266,slow=6.1,SNR=68
ILAR LR LR 01 43 44.8
comp=Z,65nm,21.7s,baz=292,slow=38
ILAR Eielson Array 45.36 35 P **P 01 23 23.9 +1.1**
ILAR Eielson Array 45.36 35 P **P 01 23 23.2 +0.4**
HDA Harding Lake 45.36 35 P **P 01 23 23.7 +0.9**
baz=275,SNR=8.7
HDA Harding Lake 45.36 35 P **P 01 23 23.4 +0.5**
HDA IAmb IAmb 01 23 24.4
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 45.45 39 P **P 01 23 25.1 +1.4**
SCM pmax pmax
comp=Z,15nm,1.0s
SCM Sheep Creek Mo 45.45 39 P **P 01 23 25.1 +1.4**
SCM IAmb IAmb 01 23 25.9
comp=Z,15nm,1.0s
SHLS Shalkode 45.78 294 *e*P **P 01 23 23.6 -3.0**
comp=Z,15nm,0.7s,baz=294
SHLS Shalkode 45.78 294 *e*P **P 01 23 23.6 -3.0**
SHLS pmax pmax
comp=Z,15nm,0.7s
PRP Porcupine Dome 45.87 33 P **P 01 23 28.5 +1.4**
baz=275,SNR=10
PRP Porcupine Dome 45.87 33 P **P 01 23 28.4 +1.4**
TDK Taldyqorghan 45.87 297 *e*P **P 01 23 26.8 -0.4**
baz=297
TDK Taldyqorghan 45.87 297 *e*P **P 01 23 26.7 -0.4**
FYU Fort Yukon 45.91 32 P **P 01 23 28.6 +1.5**
M24K Tolsona, Glenn 45.96 38 P **P 01 23 29.1 +1.5**
baz=278
M24K Tolsona, Glenn 45.96 38 P **P 01 23 29.0 +1.3**
M24K IAmb IAmb 01 23 42.5
comp=Z,26nm,1.2s
BMAR Burnt Mountain 46.10 31 P **P 01 23 29.7 +1.0**
KLU Klutina 46.16 39 P **P 01 23 30.6 +1.3**
baz=278,SNR=6.8
KLU Klutina 46.16 39 P **P 01 23 29.8 +0.5**
KLU IAmb IAmb 01 23 34.6
comp=Z,10nm,0.9s
PAX Paxson 46.17 37 P **P 01 23 30.2 +0.9**
baz=278
KPKS Kokpek 46.20 295⇑ *i*P **P 01 23 29.8 -0.1**
comp=Z,26nm,1.0s,baz=295
KPKS Kokpek 46.20 295 *c i*P **P 01 23 29.7 -0.1**
KPKS pmax pmax
comp=Z,26nm,1.0s
RIDG Independent Ri 46.35 36 P **P 01 23 30.3 -0.4**
HARP HAARP 46.39 38 P **P 01 23 32.6 +1.6**
baz=278,SNR=5.1
EYAK Cordova Ski Ar 46.39 40 P **P 01 23 31.9 +0.9**
baz=280
ARXS Arharly 46.53 296 *e*P **P 01 23 32.4 0.0**
SATY Saty 46.54 295 *e*P **P 01 23 32.4 -0.1**
comp=Z,8.3nm,0.6s,baz=294
SATY Saty 46.54 295 *e*P **P 01 23 32.4 -0.1**
SATY pmax pmax
comp=Z,8.0nm,0.6s
SCRK Sand Creek 46.70 36 P **P 01 23 34.0 +0.5**
baz=278,SNR=19
SCRK Sand Creek 46.70 36 P **P 01 23 33.6 +0.1**
SCRK IAmb IAmb 01 23 35.1
comp=Z,18nm,1.1s
DOT Dot Lake 46.71 36 P **P 01 23 33.4 -0.1**
TAPN Taplejung 46.71 271 *e*P **P 01 23 34.8 +0.5**
PRZ Przheval'sk 46.75 294 P **P 01 23 34.7 +0.4**
PRZ pmax pmax
comp=Z,32nm,0.8s
PRZ Przheval'sk 46.75 294 P **P 01 23 34.6 +0.4**
N25K Chitina, Valde 46.77 39 P **P 01 23 34.6 +0.5**
baz=280
BMRM Bremner River 46.88 40 P **P 01 23 35.8 +1.0**
baz=280
BMRM Bremner River 46.88 40 P **P 01 23 36.4 +1.6**
BMRM IAmb IAmb 01 23 44.9
comp=Z,12nm,1.1s
PHET Kaeng Krachan 46.93 246 P **P 01 23 38.0 +2.3**
comp=Z,45nm,0.8s
PHET Kaeng Krachan 46.93 246 P **P 01 23 38.0 +2.3**
comp=Z,12nm,0.8s
L26K Log Cabin Wild 47.12 37 P **P 01 23 38.5 +1.8**
baz=279,SNR=8.0
ODAN Odare 47.21 270 *e*P **P 01 23 38.5 +0.4**
CHKK Chushkaly 47.22 296 *e*P **P 01 23 36.4 -1.3**
baz=296
CHKK Chushkaly 47.22 296 *e*P **P 01 23 36.4 -1.3**
VRDI Verde Repeater 47.38 39 P **P 01 23 40.4 +1.4**
MDOK Medeo 47.43 295 *e*P **P 01 23 38.5 -1.1**
baz=295
MDOK Medeo 47.43 295 *e*P **P 01 23 38.4 -1.1**
AAA Alma-Ata 47.50 295 *e*P **P 01 23 40.1 0.0**
baz=295
AAA Alma-Ata 47.50 295 *e*P **P 01 23 40.0 0.0**
K27K Chicken 47.52 35 P **P 01 23 41.0 +1.3**
baz=279
K27K Chicken 47.52 35 IAmb IAmb 01 23 55.9
comp=Z,7.8nm,0.8s
MCARA McCarthy VSAT 47.55 39 P **P 01 23 41.4 +1.4**
baz=281
CRQM Cirque 47.62 40 P **P 01 23 42.5 +1.7**
CRQM IAmb IAmb 01 23 43.6
comp=Z,14nm,1.0s
KUU Kurty 47.64 296⇑ *i*P **P 01 23 40.3 -0.7**
comp=Z,37nm,0.9s,baz=296
KUU Kurty 47.64 296 *c i*P **P 01 23 40.3 -0.7**
KUU pmax pmax
comp=Z,37nm,0.9s
CRQE Cirque 47.64 40 P **P 01 23 42.1 +1.2**
baz=281
BGLC Bering Glacier 47.68 41 P **P 01 23 41.7 +0.8**
baz=282
JIRN Jiri 47.69 272 *e*P **P 01 23 42.4 +0.4**
KDJ Kajisay 47.72 294 P **P 01 23 41.8 -0.1**
KDJ pmax pmax
comp=Z,23nm,0.9s
KDJ Kajisay 47.72 294 P **P 01 23 41.8 -0.1**
RAMN Ramite 47.76 271 *e*P **P 01 23 42.4 0.0**
EGAK Eagle 47.79 34 P **P 01 23 42.5 +0.7**
baz=279,SNR=9.1
EGAK Eagle 47.79 34 P **P 01 23 42.7 +0.8**
EGAK IAmb IAmb 01 23 43.8
comp=Z,17nm,1.4s
L27K Beaver Creek, 47.80 37 P **P 01 23 43.6 +1.7**
baz=280,SNR=24
L27K Beaver Creek, 47.80 37 P **P 01 23 43.5 +1.6**
L27K IAmb IAmb 01 23 47.4
comp=Z,16nm,1.0s
BCAR Beaver Creek A 47.81 37 P **P 01 23 43.7 +1.6**
BRZS Berezniki 47.97 305⇑ *i*P **P 01 23 43.2 -0.3**
comp=Z,10nm,0.6s,baz=305
BRZS Berezniki 47.97 305 *c i*P **P 01 23 43.2 -0.3**
BRZS pmax pmax
comp=Z,10.0nm,0.6s
KKN Kakani 48.31 273 *e*P **P 01 23 46.8 +0.2**
comp=Z,63nm,0.7s
MESA MESA 48.32 40 P **P 01 23 46.7 +0.5**
baz=283
ULHL Ulahol 48.32 294 P **P 01 23 46.2 -0.3**
SNR=18
PKI Pulchoki 48.33 272 *e*P **P 01 23 46.8 -0.1**
PKIN Phulchoki 48.33 272 *e*P **P 01 23 46.6 -0.2**
BOOM Boomskoye usch 48.44 295 P **P 01 23 47.5 +0.1**
BOOM pmax pmax
comp=Z,47nm,0.9s
BOOM Boomskoye usch 48.44 295 P **P 01 23 47.5 +0.1**
CTG Chitna Glacier 48.44 39 P **P 01 23 46.9 -0.2**
baz=283
BRVK Borovoye 48.49 310 *c e*P **P 01 23 47.7 +0.3**
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 48.49 310 P **P 01 23 47.2 -0.2**
BRVK IAmb IAmb 01 24 05.2
comp=Z,18nm,1.1s
DMN Daman 48.53 273 *e*P **P 01 23 48.0 -0.4**
GKN Gorkha 48.68 273 *e*P **P 01 23 49.4 0.0**
BTLS Baital 48.76 299⇑ *i*P **P 01 23 48.6 -1.0**
comp=Z,9.5nm,1.2s,baz=298
BTLS Baital 48.76 299 *c i*P **P 01 23 48.6 -1.0**
BTLS pmax pmax
comp=Z,10.0nm,1.2s
SGDS Sogindy 48.96 296⇑ *i*P **P 01 23 50.5 -0.8**
comp=Z,12nm,1.1s,baz=296
SGDS Sogindy 48.96 296 *c i*P **P 01 23 50.4 -0.8**
SGDS pmax pmax
comp=Z,12nm,1.1s
CHMS Chumysh 49.05 296 P **P 01 23 51.9 +0.1**
SNR=5.8
USP Ospenovka 49.12 296 P **P 01 23 52.4 0.0**
SNR=20
DANN Dangsing 49.15 274 *e*P **P 01 23 53.8 +0.6**
FRU1 Bishkek 49.20 296 P **P 01 23 53.0 -0.1**
FRU1 pmax pmax
comp=Z,22nm,0.9s
FRU1 Bishkek 49.20 296 P **P 01 23 53.0 -0.1**
EPYK Eagle Plains 49.32 32 P **P 01 23 55.2 +1.6**
baz=282,SNR=24
EPYK Eagle Plains 49.32 32 P **P 01 23 55.1 +1.5**
AAK Ala-Archa 49.36 296 *c e*P **P 01 23 54.7 +0.3**
AAK pmax pmax
comp=Z,73nm,1.7s
AAK Ala-Archa 49.36 296 P **P 01 23 54.2 -0.3**
AAK IAmb IAmb 01 23 55.0
comp=Z,11nm,0.8s
KOLN Koldanda 49.58 274 *e*P **P 01 23 56.7 +0.4**
comp=Z,30nm,0.3s
KSH Kashi 49.61 291 P **P 01 23 59.8 +3.5**
KSH pP sP 01 24 14.4 +2.3
KSH S **S 01 31 03.1 +1.3**
KSH sS sS 01 31 25.6 +5.4
KSH pmax pmax
comp=Z,13nm,1.1s
KSH pmax pmax
comp=Z,82nm,3.2s
KSH LR LR
comp=Z,180nm,7.6s
KSH LR LR
comp=Z,290nm,10.0s
KSH LR LR
comp=Z,170nm,4.9s
EKS2 Erkin-Say 49.84 296 P **P 01 23 58.2 +0.2**
SNR=15
PYUN Piuthan 49.86 274 *e*P **P 01 23 58.8 +0.3**
comp=Z,44nm,0.3s
AML Almayashu 50.11 295 P **P 01 24 01.0 +0.6**
SNR=16
INK Inuvik 50.11 29 P **P 01 24 00.3 +0.8**
INK pmax pmax
comp=Z,26nm,1.2s
INK Inuvik 50.11 29 P **P 01 24 00.6 +1.1**
baz=283,SNR=21
INK Inuvik 50.11 29 P **P 01 24 00.3 +0.8**
HYT Haines Junctio 50.29 39 P **P 01 24 03.2 +2.0**
KRAB Krabi 50.61 242 P **P 01 24 06.0 +2.0**
comp=Z,815nm,0.7s
KRAB Krabi 50.61 242 P **P 01 24 06.0 +2.0**
DZA Taraz 51.40 297 *e*P **P 01 24 08.6 -1.0**
baz=297
DZA Taraz 51.40 297 *e*P **P 01 24 08.6 -1.0**
KK31 Karatay Array 51.86 298 P **P 01 24 12.3 -0.8**
KK31 pmax pmax
comp=Z,17nm,0.8s
KK31 Karatay Array 51.86 298 P **P 01 24 12.3 -0.8**
KK31 IAmb IAmb 01 24 13.8
comp=Z,16nm,0.8s
KKAR Karatay Array 51.86 298 P **P 01 24 12.3 -0.8**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 51.86 298 P **P 01 24 12.4 -0.6**
KKAR Karatay Array 51.86 298 P **P 01 24 12.3 -0.8**
KKAR IAmb IAmb 01 24 13.8
comp=Z,16nm,0.8s
DRK Karamyk 52.53 293 P **P 01 24 18.7 +0.2**
DRK IAmb IAmb 01 24 38.0
comp=Z,14nm,0.6s
SVE Sverdlovsk 52.58 317⇓ *e*P **P 01 24 18.7 +0.6**
SVE pmax pmax
comp=Z,27nm,1.0s
SVE MLR MLR
comp=Z,338nm,17.0s
BTK Batken 52.95 294 P **P 01 24 20.9 -0.5**
BTK pmax pmax
comp=Z,12nm,0.9s
BTK Batken 52.95 294 P **P 01 24 20.9 -0.5**
BTK IAmb IAmb 01 24 26.4
comp=Z,12nm,0.9s
C36M Paulatuk 53.11 26 P **P 01 24 22.7 +0.9**
baz=290
C36M Paulatuk 53.11 26 P **P 01 24 22.4 +0.5**
C36M IAmb IAmb 01 24 23.8
comp=Z,25nm,1.1s
GAR Garm 53.78 293 P **P 01 24 26.6 -0.8**
ARU Arti 53.79 317 *c i*P **P 01 24 27.0 -0.1**
ARU 01 25 31.8
ARU 01 26 26.3
ARU S **S 01 32 00.2 +1.7**
ARU SS **SS 01 35 43.0 +3.8**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU MLR MLR
comp=Z,329nm,18.0s
ARU Arti 53.79 317 P **P 01 24 26.4 -0.7**
ARU IAmb IAmb 01 24 35.6
comp=Z,23nm,1.1s
NIL Nilore 54.24 286 P **P 01 24 31.0 +0.2**
NIL pmax pmax
comp=Z,51nm,1.1s
NIL Nilore 54.24 286 P **P 01 24 31.0 +0.2**
CHGR Chuyangaron 54.74 293 P **P 01 24 33.8 -0.6**
RPSI Rantau Prapat 54.95 237 IAmb IAmb 01 24 36.9
comp=Z,16nm,0.9s
BKNI Bangkinang 55.48 234 P **P 01 24 40.5 +0.6**
BKNI Bangkinang 55.48 234 P **P 01 24 41.6 +1.7**
EUNU Eureka 55.76 9 P **P 01 24 41.3 +0.2**
ABKAR Akbulak array 55.93 308 P **P 01 24 42.7 0.0**
ABKAR IAmb IAmb 01 24 51.0
comp=Z,14nm,0.9s
ABKAR Akbulak array 55.93 308 P **P 01 24 42.0 -0.6**
MNSI Mandailing Nat 56.01 235 P **P 01 24 44.4 +0.8**
SPA0 Spitsbergen Ar 56.46 348 *e*P **P 01 24 46.4 +0.3**
NOR Nord 56.78 356 *i* P **P 01 24 47.8 -0.5**
NOR IAmb IAmb 01 24 49.4
comp=Z,7.3nm,0.9s
NOR Nord 56.78 356 *i* P **P 01 24 47.8 -0.5**
NOR pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 56.82 289 P **P 01 24 48.3 -1.2**
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 56.82 289 P **P 01 24 48.3 -1.2**
KBL IAmb IAmb 01 24 49.7
comp=Z,17nm,0.9s
LHSI Lahat 57.38 228 P **P 01 24 55.1 +1.8**
KIRV Kirov 57.40 322 *c e*P **P 01 24 53.1 +0.2**
PRGR Permogore 57.67 326 *e*P **P 01 24 53.0 -1.8**
PRGR *e* 01 25 45.3
PRGR pmax pmax
comp=Z,10.0nm,0.9s
HAMF Hammerfest 60.04 340 *e*P **P 01 25 10.7 -0.4**
ARA0 ARCESS Array S 60.28 339 *e*P **P 01 25 13.0 +0.2**
ARCES ARCESS Array B 60.28 339 P **P 01 25 12.5 -0.3**
comp=Z,3.0nm,0.7s,baz=43,slow=7.4,SNR=22
ARCES LR LR 01 55 52.0
comp=Z,189nm,19.3s,baz=80,slow=40
ARCES ARCESS Array B 60.28 339 P **P 01 25 12.5 -0.3**
KLMR Klimovskoe 60.62 327 *e*P **P 01 25 13.4 -1.8**
KLMR *e* 01 27 26.6
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 60.62 327 *e*P **P 01 25 13.4 -1.8**
KLMR AMP 01 25 16.0
comp=Z,29nm,1.4s
KLMR *e*PP **PP 01 27 26.6 -2.0**
TULEG Thule 60.68 8⇑ *i*P **P 01 25 14.9 -0.5**
TULEG IAmb IAmb 01 25 15.7
comp=Z,15nm,0.7s
NEEM North Greenlan 61.15 3 *i* P **P 01 25 18.3 -0.7**
NEEM IAmb IAmb 01 25 20.2
comp=Z,15nm,0.8s
KTK1 Kautokeino 61.24 339 *e*P **P 01 25 19.3 0.0**
WB0 Warramunga Arr 61.31 189 P **P 01 25 20.9 +0.6**
WB0 IAmb IAmb 01 25 39.2
comp=Z,9.5nm,0.8s
SGF Sodankyl 61.33 337 P **P 01 25 19.8 -0.1**
SGF pmax pmax
comp=Z,20nm,1.1s
WRAB Tennant Creek 61.48 189 P **P 01 25 21.7 +0.3**
WRAB pmax pmax
comp=Z,20nm,0.8s
WRAB Tennant Creek 61.48 189 P **P 01 25 21.7 +0.3**
WRA Warramunga Arr 61.49 189 P **P 01 25 20.8 -0.7**
comp=Z,2.4nm,0.7s,baz=5.8,slow=7.1,SNR=8.6
WRA Warramunga Arr 61.49 189 P **P 01 25 21.7 +0.2**
WRA Warramunga Arr 61.49 189 P **P 01 25 21.6 +0.2**
DAG Danmarks Havn 61.53 355⇑ *i*P **P 01 25 20.9 -0.3**
DAG IAmb IAmb 01 25 21.7
comp=Z,12nm,0.7s
DAG Danmarks Havn 61.53 355⇑ *i*P **P 01 25 20.8 -0.3**
DAG pmax pmax
comp=Z,12nm,0.7s
JETT Jettan, Norway 61.61 340 *e*P **P 01 25 22.6 +0.8**
HRA Herat 61.69 292 P **P 01 25 22.8 -0.4**
HRA IAmb IAmb 01 25 24.0
comp=Z,9.3nm,0.8s
TRO Tromso 61.93 341 *e*P **P 01 25 23.6 -0.2**
JOF Joensuu 62.60 331 P **P 01 25 28.2 -0.3**
JOF pmax pmax
comp=Z,25nm,0.9s
GEYT Alibeck 62.61 298 P **P 01 25 28.9 -0.2**
comp=Z,163nm,0.9s,baz=224,slow=5.6,SNR=10.0
GYA0B ALIBECK ARRAY 62.61 298 P **P 01 25 28.0 -1.1**
GYA0B IAmb IAmb 01 25 30.0
comp=Z,15nm,1.1s
STEI Steigen 64.09 340 *e*P **P 01 25 38.3 0.0**
MOS Moscow 64.35 323 *e*P **P 01 25 39.3 -0.9**
MOS *e* 01 27 58.7
MOS pmax pmax
comp=Z,39nm,1.4s
LOF Lofoten 64.36 341 *e*P **P 01 25 39.4 -0.6**
FAUS Fauske 64.49 340 *e*P **P 01 25 40.8 -0.1**
VRH Novokhopyorsk 65.02 317 *e*P **P 01 25 43.7 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 65.21 323 *d i*P **P 01 25 45.6 -0.1**
OBN *i* 01 25 53.1
OBN *i* 01 26 19.3
OBN *i* 01 28 08.2
OBN pmax pmax
comp=Z,14nm,0.8s
OBN MLR MLR
comp=Z,162nm,21.0s
ASAR Alice Springs 65.21 189 P **P 01 25 46.0 -0.1**
ASAR Alice Springs 65.21 189 P **P 01 25 46.0 -0.1**
FIA1 FINESS Array S 65.43 332 P **P 01 25 46.2 -0.9**
FINES FINESS Array B 65.43 332 P **P 01 25 46.7 -0.4**
comp=Z,21nm,0.8s,baz=52,slow=6.8,SNR=84
FINES LR LR 01 56 46.3
comp=Z,344nm,20.5s,baz=40,slow=38
FINES FINESS Array B 65.43 332 *i* P **P 01 25 46.7 -0.4**
FINES pmax pmax
comp=Z,21nm,0.8s
FINES FINESS Array B 65.43 332 P **P 01 25 46.3 -0.8**
LPSR Galich'ya Gora 65.60 319 *e*P **P 01 25 46.4 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
MOR8 Moi Rana 65.63 339 *e*P **P 01 25 47.0 -1.4**
KONS Konsvik 65.72 340 *e*P **P 01 25 49.1 +0.3**
L02E Cave Junction 66.20 54 P **P 01 25 54.0 +1.5**
baz=305
SUMG Summit 66.35 0⇑ *i*P **P 01 25 54.2 +0.9**
SUMG IAmb IAmb 01 25 55.0
comp=Z,22nm,0.7s
SUMG Summit 66.35 0⇑ *i*P **P 01 25 54.2 +0.9**
SUMG pmax pmax
comp=Z,23nm,0.7s
SUMG Summit 66.35 0 P **P 01 25 53.8 +0.4**
NEW Newport 66.40 46 P **P 01 25 54.3 +0.6**
baz=306
PINE Pine Mountain 66.86 51 P **P 01 25 59.2 +2.3**
PINE IAmb IAmb 01 26 00.2
comp=Z,7.4nm,0.9s
E09A Wood Farm, Sta 66.87 48 IAmb IAmb 01 25 59.5
comp=Z,9.9nm,1.2s
MEF Metsahovi 66.87 331 *e*P **P 01 25 56.2 -0.1**
DZM Mont Dzumac 66.88 156 *e*LR LR 01 46 12.5
comp=Z,216nm,22.7s
L04D Klamath Falls 66.96 54 P **P 01 25 58.2 +0.8**
baz=306
J05D Fort Rock, OR 66.98 52 P **P 01 25 59.0 +1.5**
baz=306
M02C Callahan 67.10 55 P **P 01 25 59.2 +0.9**
baz=306
VSU Vasula 67.20 329 *e*P **P 01 25 58.8 +0.3**
RAF Rauma 67.22 333 *e*P **P 01 25 57.5 -1.1**
AKT Akhty 67.28 306 *e*P **P 01 25 59.4 -0.1**
AKT *e* 01 26 27.2
AKT pmax pmax
comp=Z,18nm,1.0s
N02D Trinity Center 67.44 55 P **P 01 26 01.7 +1.2**
baz=306
K05A Summer Lake 67.51 52 P **P 01 26 02.2 +1.2**
K05A IAmb IAmb 01 26 04.4
comp=Z,7.9nm,1.0s
NSS Namsos 67.56 339 *e*P **P 01 26 00.3 -0.3**
O02D Mt. Diablo Mer 67.85 56 P **P 01 26 04.6 +1.6**
baz=306
SCO Scoresbysund 67.89 354 *i* P **P 01 26 02.9 +0.2**
SCO IAmb IAmb 01 26 04.0

comp=Z,8.1nm,1.0s
SCO Scoresbysund 67.89 354 *i* P **P 01 26 02.8 +0.2**
SCO pmax pmax
comp=Z,8.0nm,1.0s
SCO Scoresbysund 67.89 354 P **P 01 26 03.3 +0.7**
SCO IAmb IAmb 01 26 03.7
comp=Z,7.6nm,1.0s
MTSE Matsula 68.14 330 *e*P **P 01 26 01.7 -2.6**
O03E Paynes Creek 68.39 55 P **P 01 26 07.0 +0.6**
baz=306
AAL Aland 68.44 333 *e*P **P 01 26 05.8 -0.4**
ZEI Tsey 68.80 309 *e*P **P 01 26 07.9 -1.2**
ZEI pmax pmax
comp=Z,15nm,1.7s
KIV Kislovodsk 68.80 310 *e*P **P 01 26 09.9 +1.0**
KIV pmax pmax
comp=Z,35nm,1.0s
KIV Kislovodsk 68.80 310 P **P 01 26 09.2 +0.3**
KBZ Khabaz 68.81 310 P **P 01 26 09.5 +0.7**
comp=Z,9.5nm,0.9s,baz=65,slow=4.0,SNR=22
KBZ LR LR 01 58 08.6
comp=Z,118nm,21.4s,baz=40,slow=38
KBZ Khabaz 68.81 310 *ce*P **P 01 26 09.2 +0.3**
KBZ pmax pmax
comp=Z,10.0nm,0.9s
SHA1 Shidzhatmaz 68.95 310 *c i*P **P 01 26 10.7 +0.7**
MSO Missoula 68.98 46 P **P 01 26 10.1 +0.1**
baz=308
MSO Missoula 68.98 46 IAmb IAmb 01 26 14.0
comp=Z,11nm,1.5s
ORV Oroville 69.02 55 P **P 01 26 10.5 +0.3**
ORV pmax pmax
comp=Z,5.0nm,0.9s
ORV Oroville 69.02 55 P **P 01 26 10.5 +0.3**
ONI Oni 69.18 309 IAmb IAmb 01 26 14.5
comp=Z,18nm,1.3s
IDID Didziasalis 69.36 327 *e*P **P 01 26 12.5 +0.4**
ISAL Salakas 69.44 327 *e*P **P 01 26 13.1 +0.6**
MNK Minsk 69.44 326 *i* P **P 01 26 12.5 -0.1**
MNK *i* 01 26 35.6
MNK *i* 01 28 45.7
MNK *i* PPP PPP 01 30 26.8
MNK *i* S **S 01 35 17.4 +0.7**
MNK *i* SSS SSS 01 42 51.0
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=Z,36nm,1.0s
MNK MLR MLR
comp=N,142nm,17.0s
MNK MLR MLR
comp=Z,163nm,17.0s
MNK Minsk 69.44 326 *i* P **P 01 26 12.5 -0.1**
comp=E,2.0nm,1.0s
MNK *i* P **P 01 26 12.5 -0.1**
comp=N,15nm,1.0s
MNK *i* P **P 01 26 12.5 -0.1**
comp=Z,36nm,1.0s,baz=47
MNK *i* PcP **PcP 01 26 35.7 0.0**
MNK *i* PP **PP 01 28 45.8 0.0**
MNK *i* PPP PPP 01 30 26.8
MNK *i* S **S 01 35 17.4 +0.8**
MNK *i* ScS ScS 01 36 27.4 +17
MNK *i* SS SS 01 39 14.5 -29
MNK *i* SSS SSS 01 42 51.0
MNK *i* LQ LQ 01 49 54.5
MNK *i* LR LR 01 52 49.8
MNK *i* LRM MLR 01 58 12.8
comp=E,12nm,18.0s
MNK *i* LRM MLR 01 58 36.7
comp=N,142nm,17.4s
MNK *i* LRM MLR 01 58 37.0
comp=Z,163nm,17.4s
UPP Uppsala 69.47 334 *e*P **P 01 26 12.4 -0.2**
BEKR Beckworth 69.53 55 IAmb IAmb 01 26 16.2
comp=Z,11nm,0.8s
IIGN Ignalina 69.55 327 *e*P **P 01 26 13.7 +0.4**
FFC Flin Flon 69.57 34 P **P 01 26 13.4 +0.1**
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 69.57 34 P **P 01 26 13.4 +0.1**
FFC IAmb IAmb 01 26 14.7
comp=Z,6.9nm,0.8s
ICESG Greenland Ices 69.84 1⇑ *i*P **P 01 26 15.8 +0.6**
ICESG IAmb IAmb 01 26 16.6
comp=Z,26nm,0.7s
GNI Garni 69.89 306 *ce*P **P 01 26 16.2 +0.3**
GNI pmax pmax
comp=Z,12nm,1.3s
GNI Garni 69.89 306 P **P 01 26 16.9 +1.0**
GNI IAmb IAmb 01 26 31.5
comp=Z,9.8nm,1.0s
HRY Holter Researc 70.18 45 P **P 01 26 18.6 +1.2**
PAHR Pah Rah Range 70.23 54 IAmb IAmb 01 26 20.6
comp=Z,8.6nm,0.9s
VCNR Virginia City 70.31 55 P **P 01 26 18.8 +0.3**
VCNR IAmb IAmb 01 26 21.4
comp=Z,5.8nm,0.7s
MOL Molde 70.32 340 *e*P **P 01 26 17.8 0.0**
DOMB Dombas 70.35 339 *e*P **P 01 26 17.9 -0.2**
NC405 NORSAR Array S 70.35 337 P **P 01 26 17.0 -1.1**
PABE Paberze 70.36 328 *e*P **P 01 26 18.2 0.0**
PABE Paberze 70.36 328 P **P 01 26 18.0 -0.2**
NC303 NORSAR Array S 70.36 337 IAmb IAmb 01 26 19.0
comp=Z,15nm,0.8s
LRM Limekiln Ridge 70.42 46 P **P 01 26 19.8 +0.7**
EGMT Eagleton 70.42 43 P **P 01 26 19.3 +0.4**
baz=311
EGMT Eagleton 70.42 43 IAmb IAmb 01 26 21.1
comp=Z,7.1nm,1.0s
PNTR Pine Nut 70.47 55 IAmb IAmb 01 26 22.0
comp=Z,9.2nm,0.9s
NC204 NORSAR Array S 70.49 338 P **P 01 26 18.7 -0.3**
NB2 NORSAR Subarra 70.55 337 P **P 01 26 18.4 -1.0**
comp=Z,17nm,0.9s,baz=38,slow=6.2
NB2 NORSAR Subarra 70.55 337 P **P 01 26 15.6 -3.8**
NB2 pmax pmax
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 70.55 337 P **P 01 26 18.4 -1.0**
baz=38,slow=6.2
NOA NORSAR Array B 70.55 337 P **P 01 26 18.9 -0.5**
comp=Z,11nm,0.8s,baz=37,slow=6.1,SNR=45
NOA pP **sP 01 26 33.4 -2.1**
comp=Z,4.3nm,0.8s,baz=37,slow=6.1,SNR=5.4
NOA LR LR 02 00 39.1
comp=Z,143nm,21.6s,baz=30,slow=39
NOA NORSAR Array B 70.55 337 P **P 01 26 18.9 -0.5**
DLMT Dillon 70.63 46 IAmb IAmb 01 26 22.9
comp=Z,8.7nm,0.9s
NC602 NORSAR Array S 70.70 337 *e*P **P 01 26 19.9 -0.3**
NORES NORESS Array B 70.70 337 P **P 01 26 22.2 +2.0**
YERR Yerington 70.76 55 P **P 01 26 21.9 +0.7**
YERR IAmb IAmb 01 26 24.1
comp=Z,14nm,0.9s
HLID Hailey 70.76 49 P **P 01 26 22.1 +0.9**
baz=309
BOZ Bozeman (W) 71.00 46 P **P 01 26 23.0 +0.5**
baz=310
BOZ Bozeman (W) 71.00 46 IAmb IAmb 01 26 24.6
comp=Z,7.1nm,0.9s
UOSS Minazif 71.41 287 P **P 01 26 24.7 -0.4**
KVN Kaiserville 71.41 54 IAmb IAmb 01 26 28.0
comp=Z,11nm,0.9s
AKASG Malin Array Be 71.45 322 P **P 01 26 24.5 -0.4**
comp=Z,16nm,0.8s,baz=43,slow=6.3,SNR=55
AKASG LR LR 02 00 23.8
comp=Z,177nm,19.6s,baz=65,slow=38
AKASG Malin Array Be 71.45 322 *i* P **P 01 26 24.5 -0.4**
AKASG pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 71.45 322 *ce*P **P 01 26 24.7 -0.2**
SFJD Kangerlussuaq 71.48 5 LR LR 01 59 31.1
comp=Z,132nm,19.9s,baz=280,slow=37
OSL Oslo 71.59 337 *e*P **P 01 26 25.6 0.0**
LHV Little Huntoon 71.66 55 IAmb IAmb 01 26 30.0
comp=Z,12nm,0.9s
NVAR Mina Array Bea 71.67 55 P **P 01 26 28.2 +1.5**
comp=Z,5.6nm,0.8s,baz=285,slow=6.3,SNR=44
NVAR Mina Array Bea 71.67 55 P **P 01 26 27.9 +1.1**
SKAR Skarslia 71.68 338 *e*P **P 01 26 26.6 +0.4**
SUW Suwalki 71.75 327 *e*P **P 01 26 26.1 -0.5**
SUW Suwalki 71.75 327 *e*P **P 01 26 26.4 -0.3**
YHB Horse Butte 71.78 46 IAmb IAmb 01 26 31.5
comp=Z,9.9nm,0.9s
YHH Holmes Hill 71.95 46 P **P 01 26 29.3 +0.9**
KONO Kongsberg 72.15 337 *ce*P **P 01 26 28.1 -0.9**
KONO pmax pmax
comp=Z,31nm,1.7s
DY2G Dye2 72.27 4⇑ *i*P **P 01 26 30.1 +0.3**
DY2G IAmb IAmb 01 26 30.9
comp=Z,20nm,0.8s
H17A Grant Village 72.35 46 P **P 01 26 31.9 +1.1**
baz=311
H17A Grant Village 72.35 46 IAmb IAmb 01 26 35.6
comp=Z,12nm,1.1s
GURO Guroymak-BITLI 72.53 306 P **P 01 26 33.4 +1.6**
GURO IAmb IAmb 01 26 34.5
comp=Z,8.8nm,0.9s
RLMT Red Lodge 72.58 45 P **P 01 26 33.5 +1.4**
baz=312
ASK Askoy 72.69 339 *e*P **P 01 26 32.6 +0.5**
BER Bergen 72.73 339 *e*P **P 01 26 32.7 +0.3**
TPAW Teton Pass 72.74 47 P **P 01 26 34.3 +1.2**
ODD1 Odda 72.78 339 *e*P **P 01 26 33.3 +0.6**
STKA Stephens Creek 72.89 181 P **P 01 26 33.4 -0.2**
comp=Z,3.6nm,0.7s,baz=347,slow=9.6,SNR=5.0
STKA Stephens Creek 72.89 181 P **P 01 26 33.4 -0.2**
CWC Cottonwood Cre 73.06 56 P **P 01 26 36.1 +1.1**
baz=309
BLS5 Blasjo 73.24 338 *e*P **P 01 26 35.9 +0.4**
SPUT South Promonto 73.32 49 P **P 01 26 36.1 -0.3**
R11A Troy Canyon, C 73.38 53 P **P 01 26 38.0 +1.1**
baz=310
HWUT Hardware Ranch 73.63 49 P **P 01 26 39.5 +1.1**
SORM Soroca 73.64 320 ⇑P **P 01 26 37.6 -0.4**
SORM Soroca 73.64 320 ⇑P **P 01 26 37.6 -0.4**
FURC Furnace Creek, 73.80 56 P **P 01 26 40.7 +1.6**
baz=310
DUG Dugway, Tooele 73.84 51 P **P 01 26 40.0 +0.5**
baz=311
TPNV Topopah Spring 73.87 55 P **P 01 26 40.6 +0.8**
baz=310
BW06 Boulder Array 73.98 47 P **P 01 26 41.2 +0.8**
baz=312
BW06 Boulder Array 73.98 47 P **P 01 26 40.7 +0.3**
PD31 Pinedale Array 73.98 47 P **P 01 26 41.0 +0.6**
PDAR Pinedale Array 73.98 47 P **P 01 26 41.0 +0.6**
comp=Z,2.2nm,0.5s,baz=281,slow=2.2,SNR=34
BSD Bornholm Skovb 74.07 332 *e*P **P 01 26 40.5 +0.1**
BSD Bornholm Skovb 74.07 332⇑ *i*P **P 01 26 39.7 -0.6**
BSD IAmb IAmb 01 26 41.3
comp=Z,32nm,1.1s
BSD Bornholm Skovb 74.07 332⇑ *i*P **P 01 26 39.7 -0.6**
BSD pmax pmax
comp=Z,32nm,1.1s
EDW2 Edwards Air Fo 74.10 58 P **P 01 26 42.1 +1.1**
baz=310
BEL Belsk 74.33 327 *e*P **P 01 26 42.8 +0.8**
NLU North Lily Min 74.42 50 P **P 01 26 44.5 +1.5**
LVV L'vov 74.43 324 *e*P **P 01 26 42.5 -0.1**
MPU Maple Canyon 74.64 50 IAmb IAmb 01 26 46.9
comp=Z,7.0nm,0.9s
GKP Gorka Klasztor 74.65 329 *e*P **P 01 26 44.0 +0.3**
GKP Gorka Klasztor 74.65 329 *e*P **P 01 26 44.5 +0.7**
GKP Gorka Klasztor 74.65 329 P **P 01 26 44.6 +0.8**
IAS Iasi 74.68 320 ⇑P **P 01 26 43.1 -1.0**
IAS Iasi 74.68 320 ⇑P **P 01 26 43.1 -1.0**
BFSC Mount Baldy Ra 74.72 58 P **P 01 26 46.2 +1.4**
baz=310
VASR Vasqui 74.96 320 ⇑P **P 01 26 45.9 +0.2**
TUQ Turquoise Moun 75.04 56 P **P 01 26 47.5 +1.0**
baz=310
RGN Rugen 75.08 332 *e*P **P 01 26 47.0 +0.8**
baz=35,slow=5.5
RGN *e*pP **PcP 01 27 00.2 +0.5**
KWP Kalwaria Pacla 75.16 324 *e*P **P 01 26 47.3 +0.5**
KWP Kalwaria Pacla 75.16 324 P **P 01 26 47.5 +0.7**
HEC Hector,Ludlow 75.18 57 P **P 01 26 48.8 +1.5**
baz=310
PRAR RASCA 75.20 321 ⇑P P 01 26 53.4 +6.3
MVU Marysvale 75.30 52 IAmb IAmb 01 26 52.6
comp=Z,18nm,1.2s
ULM Lac du Bonnet 75.38 34 P **P 01 26 47.4 -0.7**
comp=Z,1.7nm,0.5s,baz=297,slow=6.7,SNR=3.6
ULM Lac du Bonnet 75.38 34 P **P 01 26 47.4 -0.7**
RDMU Red Mountain 75.44 49 IAmb IAmb 01 26 51.6
comp=Z,17nm,0.9s
BUR08 Bucovina Ar. S 75.48 322 P **P 01 26 48.8 0.0**
BUR08 IAmb IAmb 01 26 50.2
comp=Z,12nm,0.8s
MDND Maddock 75.49 38 P **P 01 26 49.9 +1.1**
baz=317
BURAR Bucovina Array 75.49 322 ⇑P **P 01 26 49.1 +0.2**
BURAR Bucovina Array 75.49 322 P **P 01 26 49.1 +0.2**
BURAR pmax pmax
comp=Z,16nm,0.8s
BURAR Bucovina Array 75.49 322 P **P 01 26 49.1 +0.2**
BURAR IAmb IAmb 01 26 50.6
comp=Z,16nm,0.8s
LNIZ Loecknitz 75.61 331 *e*P **P 01 26 49.9 +0.7**
comp=Z,9.0nm,0.8s,baz=35,slow=5.5
LNIZ *e*pP **PcP 01 27 03.0 +1.0**
TESR Tescani 75.61 320 ⇑P **P 01 26 49.8 +0.3**
GMRC Granite Mounta 75.63 56 P **P 01 26 51.1 +1.2**
baz=311
K22A Casper 75.71 45 P **P 01 26 51.3 +1.0**
baz=314
K22A Casper 75.71 45 IAmb IAmb 01 27 07.7
comp=Z,13nm,1.4s
SCHL Schela 75.75 319 ⇑P **P 01 26 54.2 +3.9**
CFR Carcaliu 75.83 318 ⇑P **P 01 26 49.3 -1.4**
CFR Carcaliu 75.83 318 ⇑P **P 01 26 49.3 -1.4**
KOLS Kolonicke sedl 75.86 324 *e*P **P 01 26 51.2 +0.3**
KOLS Kolonicke sedl 75.86 324 *e*P **P 01 26 51.2 +0.3**
PFO Pinyon Flats O 75.88 58 P **P 01 26 51.4 0.0**
baz=310
TPFO Pinon Flats 75.89 58 P **P 01 26 51.3 -0.1**
baz=310
STHS Stebnicka Huta 75.95 325 *e*P **P 01 26 51.8 +0.4**
STHS Stebnicka Huta 75.95 325 *e*P **P 01 26 51.8 +0.4**
RSSD Black Hills 75.99 43 P **P 01 26 51.8 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.6s
RSSD Black Hills 75.99 43 P **P 01 26 52.2 +0.2**
baz=315
RSSD Black Hills 75.99 43 P **P 01 26 51.8 -0.1**
RSSD IAmb IAmb 01 26 53.3
comp=Z,5.0nm,0.6s
RWWY Rawlins 76.00 46 IAmb IAmb 01 26 53.7
comp=Z,13nm,0.9s
VRI Vrincioaia 76.03 320 ⇑P **P 01 26 53.2 +1.3**
VRI Vrincioaia 76.03 320 ⇑P **P 01 26 53.2 +1.3**
UZH Uzhgorod 76.08 324 *e*P **P 01 26 52.3 +0.2**
UZH *i* 01 27 03.5
PLOR Plostina 76.08 320 ⇓P **P 01 26 49.7 -2.5**
PLOR Plostina 76.08 320 ⇓P **P 01 26 49.7 -2.5**
CRVS Cervenica-Dubn 76.24 324 *e*P **P 01 26 53.5 +0.5**
CRVS pmax pmax
comp=Z,15nm,1.0s
CRVS Cervenica-Dubn 76.24 324 *e*P **P 01 26 53.5 +0.5**
BMR Baia Mare 76.25 323 ⇑P **P 01 26 54.1 +1.1**
BMR Baia Mare 76.25 323 ⇑P **P 01 26 54.1 +1.1**
BISRR Bisoca 76.27 319 ⇑P **P 01 26 54.7 +1.3**
HARR Harsova 76.28 318 ⇑P **P 01 26 53.7 +0.5**
HARR Harsova 76.28 318 ⇑P **P 01 26 53.7 +0.5**
ARCR ARCALIA 76.28 322 ⇑P **P 01 26 54.4 +1.1**
OZUR 76.32 320 ⇑P **P 01 26 54.3 +0.8**
GAZ Gaziantep 76.33 308 IAmb IAmb 01 26 55.9
comp=Z,8.6nm,0.9s
TRPA Tarpa 76.34 323 ⇑P **P 01 26 54.4 +0.9**
TRPA Tarpa 76.34 323 *e*P **P 01 26 54.3 +0.8**
IRM Iron Mountain 76.36 57 P **P 01 26 54.7 +0.8**
baz=311
O20A White River Ci 76.49 48 P **P 01 26 55.1 +0.3**
baz=313
DOPR Dopca 76.61 320 ⇑P **P 01 26 56.3 +1.1**
BSEG Bad Segeberg 76.61 333 *e*P **P 01 26 54.8 -0.1**
comp=Z,13nm,0.9s,baz=35,slow=5.5
BR131 Keskin Array S 76.68 311 P **P 01 26 55.7 -0.2**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BR131 Keskin Array S 76.68 311 P **P 01 26 55.7 -0.2**
BRTR Keskin Array B 76.68 311 P **P 01 26 56.1 +0.2**
comp=Z,2.0nm,0.9s,baz=77,slow=2.9,SNR=12
BRTR PP **PP 01 29 48.0 -0.1**
comp=Z,3.7nm,1.1s,baz=43,slow=7.2,SNR=5.7
BRTR LR LR 02 06 28.3
comp=Z,90nm,18.1s,baz=50,slow=40
BRTR Keskin Array B 76.68 311 *i* P **P 01 26 56.0 +0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
MLR Muntele Rosu 76.68 320 ⇑P **P 01 26 54.9 -0.8**
MLR Muntele Rosu 76.68 320 ⇑P **P 01 26 54.9 -0.8**
MLR Muntele Rosu 76.68 320 IAmb IAmb 01 26 57.4
comp=Z,8.9nm,1.1s
AGMN Agassiz Nation 76.85 36 P **P 01 26 56.3 -0.1**
baz=319
MESR Meseseni 76.88 322 ⇑P **P 01 26 57.9 +1.2**
CBBR Cluj-Babes-Bol 76.89 322 ⇑P **P 01 26 57.4 +0.7**
CJR Cluj-Napoca 76.91 322 ⇑P **P 01 26 58.0 +1.1**
CJR Cluj-Napoca 76.91 322 ⇑P **P 01 26 58.0 +1.1**
KSP Ksiaz 76.91 328 *e*P **P 01 26 57.3 +0.6**
LANS Liptovska Anna 76.92 326 *e*P **P 01 26 58.0 +1.1**
LANS pmax pmax
comp=Z,7.0nm,0.9s
LANS Liptovska Anna 76.92 326 *e*P **P 01 26 58.0 +1.1**
LANS *e*PP **PP 01 29 48.1 -1.5**
OKC Ostrava-Krasne 76.94 327 AMS AMS 02 03 40.0
comp=Z,300nm,19.9s
BR231 Keskin MP Arra 77.09 312 P **P 01 26 58.6 +0.5**
BR231 IAmb IAmb 01 26 59.3
comp=Z,11nm,0.8s
VOIR 77.16 320 ⇑P **P 01 26 58.1 -0.2**
VOIR 77.16 320 ⇑P **P 01 26 58.1 -0.2**
OSTC Ostas 77.16 328 *e*P **P 01 26 58.4 +0.2**
OSTC AMS AMS 02 04 20.0
comp=Z,200nm,21.9s
CHVC Chvalec 77.20 328 *e*P **P 01 26 59.0 +0.6**
PV10 Paradox Valley 77.23 50 IAmb IAmb 01 27 02.2
comp=Z,21nm,1.1s
N23A Red Feather La 77.23 46 P **P 01 26 60.0 +0.9**
baz=314
MORC Moravsky Berou 77.24 327 ⇑P **P 01 26 59.2 +0.5**
MORC Moravsky Berou 77.24 327 ⇑P **P 01 26 59.2 +0.5**
MORC Moravsky Berou 77.24 327 IAmb IAmb 01 27 00.3
comp=Z,17nm,0.9s
MORC Moravsky Berou 77.24 327 *e*P **P 01 26 58.9 +0.2**
PV14 Lion Creek, Pa 77.24 50 IAmb IAmb 01 27 01.9
comp=Z,12nm,1.0s
DRGR 77.26 322 ⇑P **P 01 26 59.0 +0.1**
DRGR 77.26 322 ⇑P **P 01 26 59.0 +0.1**
PV22 Blue Mesa, Par 77.27 50 IAmb IAmb 01 27 02.3
comp=Z,9.8nm,1.1s
DPC Dobruska-Polom 77.28 328 *e*P **P 01 26 59.3 +0.4**
DPC MLR MLR
comp=Z,200nm,21.1s
DPC Dobruska-Polom 77.28 328 *e*P **P 01 26 59.3 +0.4**
DPC AMS AMS 02 04 40.0
comp=Z,200nm,21.1s
UPC Upice 77.28 328 AMS AMS 02 04 40.0
comp=Z,200nm,20.3s
GLA Glamis 77.28 57 P **P 01 27 00.4 +1.2**
baz=311
PV20 West Nyswonger 77.30 50 P **P 01 27 00.2 +0.8**
PV20 IAmb IAmb 01 27 02.1
comp=Z,8.8nm,1.0s
PV19 Morning Glory 77.31 50 IAmb IAmb 01 27 01.6
comp=Z,11nm,1.1s
KRLC Kraliky 77.31 328 *e*P **P 01 26 59.9 +0.8**
KRLC Kraliky 77.31 328 *e*P **P 01 26 59.9 +0.8**
PV11 David Mesa, Pa 77.38 50 IAmb IAmb 01 27 02.7
comp=Z,9.9nm,1.1s
PV05 Paradox Valley 77.40 50 IAmb IAmb 01 27 02.9
comp=Z,7.7nm,0.9s
PV13 Radium Mtn., P 77.50 50 IAmb IAmb 01 27 03.4
comp=Z,8.9nm,1.1s
FLTG Flechtingen 77.61 332 *e*P **P 01 27 00.6 0.0**
comp=Z,12nm,0.8s,baz=35,slow=5.5
PSZ Piszkesteto 77.67 325 ⇑P **P 01 27 01.7 +0.5**
PSZ Piszkesteto 77.67 325 *e*P **P 01 27 01.8 +0.5**
PSZ Piszkesteto 77.67 325 ⇑P **P 01 27 01.7 +0.5**
PSZ Piszkesteto 77.67 325 P **P 01 27 01.3 +0.1**
PSZ IAmb IAmb 01 27 03.1
comp=Z,19nm,1.1s
VYHS Vyhne 77.69 326 *e*P **P 01 27 02.4 +1.2**
VYHS Vyhne 77.69 326 *e*P **P 01 27 02.4 +1.2**
B35A Bob, Littlefor 77.73 35 IAmb IAmb 01 27 02.0
comp=Z,8.5nm,0.9s
WUAZ Wupatki 77.78 53 P **P 01 27 03.0 +0.9**
baz=312
BRG Berggiesshubel 77.80 330 *e*P **P 01 27 01.8 +0.2**
BRG Amp 01 27 03.1
comp=Z,8.3nm,1.2s
BRG Berggiesshubel 77.80 330 *e*P **P 01 27 01.9 +0.2**
comp=Z,5.1nm,1.1s,baz=35,slow=5.5
CLL Collm 77.80 330⇓ *i*P **P 01 27 01.6 -0.1**
comp=Z,15nm,1.0s
CLL *e*pP **pP 01 27 14.0 +0.6**
CLL *e*sP **sP 01 27 18.0 +0.1**
CLL *e*PP **PP 01 29 54.0 -2.8**
CLL *e*PPP PPP 01 31 47.0
CLL Collm 77.80 330 P **P 01 27 01.7 0.0**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 77.80 330 P **P 01 27 01.6 0.0**
CLL IAmb IAmb 01 27 02.6
comp=Z,15nm,1.0s
CLL Collm 77.80 330 *e*P **P 01 27 02.1 +0.4**
comp=Z,9.2nm,0.9s,baz=35,slow=5.5
DEV Deva 77.85 322 ⇑P **P 01 27 02.7 +0.6**
DEV Deva 77.85 322 ⇑P **P 01 27 02.7 +0.6**
NRDL Niedersach Rie 77.87 333 *e*P **P 01 27 02.1 +0.1**
comp=Z,4.9nm,0.8s,baz=35,slow=5.5
JAVC Velka Javorina 77.90 326 *e*P **P 01 27 03.8 +1.4**
ASSE Asse, Remlinge 77.97 332 *e*P **P 01 27 03.2 +0.6**
baz=35,slow=5.5
FBE Freiberg 77.98 330 *e*P **P 01 27 02.9 +0.2**
comp=Z,5.4nm,0.8s,baz=35,slow=5.5
VRAC Vranov 77.99 327 ⇑P **P 01 27 03.8 +1.0**
VRAC Vranov 77.99 327 ⇑P **P 01 27 03.8 +1.0**
VRAC Vranov 77.99 327 *e*P **P 01 27 03.5 +0.7**
COPA Copaceanca 78.03 319 ⇓P **P 01 27 02.7 -0.4**
SIRR Siria 78.13 323 ⇑P **P 01 27 04.0 +0.3**
ISCO Idaho Springs 78.18 47 P **P 01 27 05.2 +0.7**
baz=315
PRA Prague 78.25 329 *e*P **P 01 27 04.8 +0.6**
PRA Prague 78.25 329 *e*P **P 01 27 04.8 +0.6**
KRUC Moravsky 78.26 327 *e*P **P 01 27 04.7 +0.4**
SMOL Smolenice 78.27 326 *e*P **P 01 27 05.6 +1.2**
SMOL pmax pmax
comp=Z,6.0nm,1.1s
SMOL Smolenice 78.27 326 *e*P **P 01 27 05.6 +1.2**
GZR Gura Zlata 78.27 321 ⇑P **P 01 27 04.7 +0.2**
GZR Gura Zlata 78.27 321 ⇑P **P 01 27 04.7 +0.2**
PRU Pruhonice 78.27 329 *e*P **P 01 27 05.0 +0.7**
PRU MLR MLR
comp=Z,200nm,20.8s
PRU Pruhonice 78.27 329 *e*P **P 01 27 05.0 +0.7**
PRU AMS AMS 02 05 40.0
comp=Z,200nm,20.8s
SUSD Miller 78.29 40 P **P 01 27 05.4 +0.8**
ZIMR 78.30 319 ⇑P **P 01 27 05.6 +1.0**
ZIMR 78.30 319 ⇑P **P 01 27 05.6 +1.0**
CLZ Clausthal 78.32 332 *e*P **P 01 27 04.9 +0.2**
comp=Z,8.4nm,0.8s,baz=35,slow=5.5
NEUB Neuenburg 78.33 331 *e*P **P 01 27 05.0 +0.4**
comp=Z,10nm,0.8s,baz=35,slow=5.5
MVCO Mesa Verde 78.34 50 P **P 01 27 05.9 +0.6**
baz=314
BUD Budapest 78.38 325 *e*P **P 01 27 05.6 +0.6**
MODS Modra-Piesok 78.44 326 *e*P **P 01 27 07.5 +2.2**
MODS pmax pmax
comp=Z,17nm,1.2s
MODS Modra-Piesok 78.44 326 *e*P **P 01 27 07.5 +2.2**
SRO2 Moca 78.44 325 *e*P **P 01 27 04.9 -0.4**
SRO2 pmax pmax
comp=Z,12nm,0.7s
SRO2 Moca 78.44 325 *e*P **P 01 27 04.9 -0.4**
TREC Trest 78.45 328 *e*P **P 01 27 06.0 +0.6**
TREC Trest 78.45 328 *e*P **P 01 27 06.0 +0.6**
VLAD Vladila 78.52 320 ⇑P **P 01 27 05.0 -0.8**
BZS Buzias 78.64 322 ⇑P **P 01 27 06.2 -0.3**
BZS Buzias 78.64 322 ⇑P **P 01 27 06.2 -0.3**
ZST Bratislava 78.65 326 *e*P **P 01 27 07.5 +1.0**
ZST pmax pmax
comp=Z,18nm,1.1s
ZST Bratislava 78.65 326 *e*P **P 01 27 07.5 +1.0**
WERD Werda 78.76 330 *e*P **P 01 27 07.0 0.0**
comp=Z,3.0nm,0.9s,baz=35,slow=5.5
GUNZ Gunzen 78.81 330 *e*P **P 01 27 07.5 +0.2**
comp=Z,3.6nm,0.8s,baz=35,slow=5.5
HERR Herculane 78.82 321 ⇑P **P 01 27 07.5 +0.1**

IBBN	Ibbenburen	78.83	334	eP	P	01 27 07.4	+0.1
	comp=Z,14nm,0.8s,baz=35,slow=5.5						
MOX	Moxa	78.85	331	eP	P	01 27 07.8	+0.2
	comp=Z,7.3nm,1.1s,baz=35,slow=5.5						
WERN	Wernitzgruen	78.86	330	eP	P	01 27 07.8	+0.1
	comp=Z,5.8nm,0.9s,baz=35,slow=5.5						
NKC	Novy Kostel	78.88	330	eP	P	01 27 08.3	+0.6
NKC				MLR	MLR		
	comp=Z,200nm,20.2s						
NKC	Novy Kostel	78.88	330	eP	P	01 27 08.3	+0.6
NKC				AMS	AMS	02 04 20.0	
	comp=Z,200nm,20.2s						
S22A	4UR Ranch, Cre	78.93	49	P	P	01 27 09.3	+0.8
	baz=314						
EYMN	Ely	78.99	34	P	P	01 27 08.6	+0.2
	baz=322						
BAIL	Bailesti	79.02	320	⇑P	P	01 27 09.5	+1.0
EGYH	Egyhazaskeszo	79.16	326	eP	P	01 27 06.3	-3.0
MANZ	Manzenberg	79.20	330	eP	P	01 27 09.6	0.0
	comp=Z,4.7nm,1.0s,baz=35,slow=5.5						
MDVR	Moldovita	79.23	322	⇑P	P	01 27 08.6	-1.1
MPLH	Magyarpolny	79.27	325	eP	P	01 27 10.4	+0.6
SOP	Sopron	79.28	326	eP	P	01 27 11.0	+1.1
OGNE	Ogallala	79.29	44	P	P	01 27 10.1	-0.2
	baz=316						
CKRC	Cesky Krumlov	79.30	328	eP	P	01 27 10.2	+0.2
CKRC				AMS	AMS	02 06 00.0	
	comp=Z,100nm,20.9s						
KHC	Kasperske Hory	79.33	329	eP	P	01 27 10.2	-0.1
KHC				e		01 27 22.3	
KHC				MLR	MLR		
	comp=Z,200nm,18.9s						
KHC	Kasperske Hory	79.33	329	eP	P	01 27 10.2	-0.1
KHC				epP	pP	01 27 22.3	+0.3
KHC				AMS	AMS	02 06 20.0	
	comp=Z,200nm,18.9s						
KHC	Kasperske Hory	79.33	329	IAmb	IAmb	01 27 11.9	
	comp=Z,11nm,0.8s						
ROTZ	Rotzenmuhle	79.35	330	eP	P	01 27 10.4	+0.2
	comp=Z,4.9nm,0.9s,baz=35,slow=5.5						
EKA	Eskdalemuir Ar	79.35	341	P	P	01 27 09.8	-0.4
CONA	Conrad Observa	79.38	327	iP	P	01 27 11.6	+1.0
	comp=Z,13nm,1.4s,SNR=8.5						
GEC2	GERESS Array S	79.52	328	eP	P	01 27 11.5	+0.1
	comp=Z,3.0nm,0.9s,baz=35,slow=5.5						
GERES	GERESS Array B	79.52	328	P	P	01 27 11.4	+0.1
	comp=Z,2.6nm,0.7s,baz=33,slow=5.4,SNR=28						
GERES				PP	PP	01 30 09.4	-2.0
	comp=Z,0.7nm,0.8s,baz=44,slow=7.9,SNR=4.1						
GERES				LR	LR	02 05 56.4	
	comp=Z,114nm,19.0s,baz=43,slow=38						
GERES	GERESS Array B	79.52	328	P	P	01 27 11.5	+0.1
GERES	GERESS Array B	79.52	328	P	P	01 27 11.2	-0.1
MORH	Mrgy, Hungar	79.53	324	⇑P	P	01 27 11.2	-0.1
MORH	Mrgy, Hungar	79.53	324	eP	P	01 27 10.8	-0.4
MORH	Mrgy, Hungar	79.53	324	⇑iP	P	01 27 10.9	-0.4
KASTN	Kahler Asten	79.53	333	eP	P	01 27 11.6	+0.3
	comp=Z,3.2nm,0.8s,baz=35,slow=5.5						
WET	Wettzell	79.59	329	eP	P	01 27 12.2	+0.5
	comp=Z,7.3nm,0.9s,baz=35,slow=5.5						
SDCO	Great Sand Dun	79.68	48	P	P	01 27 13.7	+1.0
	baz=315						
GRA1	Grafenberg Arr	79.78	330	IAmb	IAmb	01 27 14.4	
	comp=Z,22nm,1.0s						
GRF	Grafenberg Arr	79.78	330	eP	P	01 27 12.7	0.0
	comp=Z,16nm,0.9s,baz=35,slow=5.5						
GRFO	Grafenberg	79.78	330	P	P	01 27 13.2	+0.6
GRFO				pmax	pmax		
	comp=Z,21nm,1.0s						
GRFO	Grafenberg	79.78	330	P	P	01 27 13.2	+0.6
GRFO				IAmb	IAmb	01 27 14.3	
	comp=Z,21nm,1.0s						
FRGS	Fruska Gora	79.82	323	⇑P	P	01 27 13.3	+0.3
FRGS	Fruska Gora	79.82	323	⇑iP	P	01 27 12.9	0.0
KOVH	Kovagotottos	79.86	324	eP	P	01 27 12.9	-0.3
ECSD	EROS Data Cent	79.94	39	P	P	01 27 13.8	+0.2
	baz=319						
ECSD	EROS Data Cent	79.94	39	P	P	01 27 13.2	-0.4
ECSD				IAmb	IAmb	01 27 14.6	
	comp=Z,7.2nm,0.8s						
ALN	Alexandroupoli	79.97	316	IAmb	IAmb	01 27 15.2	
	comp=Z,13nm,1.1s						
RDO	Rodhopi	80.05	317	P	P	01 27 14.6	+0.4
ARSA	Arzberg	80.05	327	eP	P	01 27 14.9	+0.7
	comp=Z,7.4nm,1.0s						
MOA	Molln	80.09	328	eP	P	01 27 14.9	+0.6
	comp=Z,11nm,2.0s						
VTS	Vitosha	80.12	319	⇑P	P	01 27 15.8	+1.0
VTS	Vitosha	80.12	319	⇑P	P	01 27 15.8	+1.0
VTS	Vitosha	80.12	319	P	P	01 27 15.0	+0.2
VTS				IAmb	IAmb	01 27 16.6	
	comp=Z,21nm,0.9s						
TUC	Tucson	80.31	55	P	P	01 27 16.8	+0.9
	baz=313						
TNS	Taunus Mts	80.34	332	eP	P	01 27 15.8	+0.1
	comp=Z,11nm,1.2s,baz=35,slow=5.5						
MILB	Miltenberg	80.37	331	eP	P	01 27 15.8	0.0
	comp=Z,6.3nm,0.9s,baz=35,slow=5.5						
DIVS	Divibare	80.55	322	⇑iP	P	01 27 16.8	-0.2
DIVS	Divibare	80.55	322	P	P	01 27 17.0	+0.1
DIVS				IAmb	IAmb	01 27 18.0	
	comp=Z,11nm,1.0s						
GROS	Grobnik	80.69	326	iP	P	01 27 17.7	0.0
PERS	Pernice	80.71	326	iP	P	01 27 18.0	+0.2
SOKA	Soboth	80.71	326	iP	P	01 27 18.2	+0.4
	comp=Z,24nm,0.9s,SNR=22						
T25A	Trinidad	80.72	48	P	P	01 27 18.8	+0.6
	baz=316						
T25A	Trinidad	80.72	48	IAmb	IAmb	01 27 20.1	
	comp=Z,9.6nm,1.1s						
RJOB	Jochberg	80.77	328	eP	P	01 27 18.4	+0.3
	comp=Z,38nm,0.8s,baz=35,slow=5.5						
BEBN	Eben Emael	80.80	334	dP	P	01 27 18.0	-0.1
BTNL	Ternell	80.83	334	dP	P	01 27 18.2	-0.1
MEM	Membach	80.85	334	bP	P	01 27 18.0	-0.3
	comp=Z,7.6nm,1.0s						
BBLS	Lazići	81.00	322	⇑iP	P	01 27 19.9	+0.5
FUR	Furstenfeldbru	81.01	329	eP	P	01 27 19.4	+0.1
	comp=Z,18nm,0.9s,baz=35,slow=5.5						
BSTI	Sart Tilman	81.02	334	dP	P	01 27 19.1	-0.1
OBKA	Obir	81.05	327	iP	P	01 27 19.8	+0.2
	comp=Z,10.0nm,0.8s,SNR=10						
BHOU	Houvegnez	81.07	334	dP	P	01 27 19.7	+0.1
KBA	Koelnbreinsper	81.08	328	iP	P	01 27 20.7	+0.8
	comp=Z,17nm,1.0s,SNR=8.0						
ANMO	Albuquerque	81.10	51	P	P	01 27 21.5	+1.3
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ANMO	Albuquerque	81.10	51	P	P	01 27 21.2	+1.0
	baz=315						
ANMO	Albuquerque	81.10	51	P	P	01 27 21.5	+1.3
LEGS	Legarje	81.17	326	iP	P	01 27 20.1	-0.1
RUDO	Rudo	81.20	322	⇑iP	P	01 27 19.7	-0.7
CRES	Cresnjev	81.21	326	⇑iP	P	01 27 20.1	-0.3
BCLA	Clavier	81.25	334	dP	P	01 27 20.1	-0.3
BCLA				dpP	pP	01 27 31.3	-0.9
BLY	Banja Luka	81.31	324	⇑iP	P	01 27 20.5	-0.4
MYKA	Terra Mystica	81.32	327	iP	P	01 27 20.8	-0.2
	comp=Z,14nm,1.3s,SNR=6.6						
BGES	Gesves	81.35	334	dP	P	01 27 20.4	-0.5
	comp=Z,7.0nm,1.3s						
LJU	Ljubljana	81.43	326	⇑iP	P	01 27 21.3	-0.2
LJU	Ljubljana	81.43	326	eP	P	01 27 21.3	-0.2
SNF	Seneffe	81.50	335	dP	P	01 27 21.7	-0.1
BMRD	Maredsous	81.52	334	dP	P	01 27 21.8	-0.1
BOJS	Bojanci	81.56	326	⇑iP	P	01 27 22.0	-0.2
WATA	Walderalm	81.57	329	iP	P	01 27 22.8	+0.4
	comp=Z,12nm,1.1s,SNR=6.5						
WTTA	Wattenberg	81.61	329	iP	P	01 27 23.2	+0.5
	comp=Z,11nm,0.8s,SNR=8.0						
MGRS	Mrkonjic Grad	81.62	324	⇑iP	P	01 27 23.3	+0.7
ZOU	Zoufplan	81.65	328	P	P	01 27 21.8	-1.2
GIVF	Givet	81.68	334	eP	P	01 27 21.9	-0.8
GIVF				pmax	pmax		
	comp=Z,11nm,1.2s						
ABTA	Abfaltersbach	81.68	328	iP	P	01 27 23.1	+0.2
	comp=Z,9.5nm,1.3s,SNR=5.2						
PLG	Polygyros	81.69	318	P	P	01 27 22.8	-0.2
CEY	Cerknica	81.72	326	⇑iP	P	01 27 22.7	-0.4
CEY	Cerknica	81.72	326	eP	P	01 27 22.7	-0.4
UPM	Unac-Piva	81.74	322	eP	P	01 27 22.6	-0.9
MOTA	Moosalm	81.75	329	iP	P	01 27 23.7	+0.3
	comp=Z,28nm,0.9s,SNR=15						
DOU	Dourbes	81.76	334	bP	P	01 27 22.2	-1.0
	comp=Z,11nm,2.0s						
DOU				dpP	pP	01 27 34.4	-0.6
DOU				dsP	sP	01 27 39.4	0.0
RETA	Reutte	81.76	329	iP	P	01 27 23.9	+0.5
	comp=Z,23nm,1.0s,SNR=12						
SQTA	Sankt Quirin	81.81	329	iP	P	01 27 23.9	+0.2
	comp=Z,14nm,1.1s,SNR=7.9						
UBR	Ueberruh	81.85	330	eP	P	01 27 23.8	-0.1
	comp=Z,2.4nm,0.9s,baz=35,slow=5.5						
UBR				epP	pP	01 27 37.5	+1.9
BAIF	Baives	81.92	334	eP	P	01 27 23.2	-0.8
BAIF				pmax	pmax		
	comp=Z,11nm,1.2s						
BFO	Black Forest	81.97	331	P	P	01 27 23.2	-1.2
BFO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BFO	Black Forest	81.97	331	P	P	01 27 23.2	-1.2
BFO				IAmb	IAmb	01 27 26.7	
	comp=Z,6.1nm,0.8s						
BFO	Black Forest	81.97	331	eP	P	01 27 24.4	0.0
	comp=Z,5.5nm,0.8s,baz=35,slow=5.5						
121A	Cookes Peak, D	81.99	53	P	P	01 27 25.9	+1.0
	baz=314						
STAL	STALIGIAL	82.00	327	IAmb	IAmb	01 27 24.4	
	comp=Z,12nm,0.9s						
SKDS	Skadanscina	82.04	326	⇑iP	P	01 27 23.8	-1.0
CBKS	Cedar Bluff	82.05	44	P	P	01 27 24.1	-0.9
	baz=318						
BRY	Bratogost	82.14	322	⇑iP	P	01 27 24.7	-0.8
FETA	Feichten	82.16	329	iP	P	01 27 26.0	+0.4
	comp=Z,14nm,0.9s,SNR=8.6						
PUK	Puka	82.17	321	IAmb	IAmb	01 27 27.7	
	comp=Z,8.4nm,0.6s						
PDG	Podgorica	82.17	321	⇑P	P	01 27 25.5	0.0
PDG	Podgorica	82.17	321	⇑iP	P	01 27 25.5	0.0
PDG	Podgorica	82.17	321	P	P	01 27 25.7	+0.2
DAVA	Damuels	82.27	330	eP	P	01 27 26.4	+0.3
	comp=Z,25nm,0.9s,SNR=15						
TREB	Trebinje	82.37	322	eP	P	01 27 25.0	-1.5
DRME	Dracevica, Mon	82.40	321	⇑iP	P	01 27 26.6	-0.1
FNA	Florina	82.42	319	IAmb	IAmb	01 27 29.1	
	comp=Z,5.7nm,0.8s						
ECH	Echery	82.49	332	IAmb	IAmb	01 27 27.9	
	comp=Z,7.8nm,1.0s						
HCY	Herceg Novi	82.52	322	⇑iP	P	01 27 25.7	-1.6
STON	Ston	82.55	323	⇑iP	P	01 27 26.4	-1.0
MATQ	Matagami	82.60	25	P	P	01 27 27.1	-0.5
	baz=331						
DAVOX	Davos/Dischmat	82.69	329	LR	LR	02 07 12.1	
	comp=Z,164nm,19.6s,baz=28,slow=38						
KBN	Korca	82.83	319	P	P	01 27 31.1	+2.1
NEST	Nestorio	82.86	319	P	P	01 27 29.1	-0.1
HAU	Haudompre	82.95	332	eP	P	01 27 28.7	-0.8
HAU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TUE	Stuetta	83.15	330	IAmb	IAmb	01 27 32.0	
	comp=Z,8.4nm,0.8s						
TEOL	Teolo	83.16	328	P	P	01 27 29.9	-0.7
LKR	Lokris	83.21	317	P	P	01 27 29.9	-1.0
AGG	Agios Georgios	83.27	317	IAmb	IAmb	01 27 31.1	
	comp=Z,10nm,0.9s						
LSK	Leskovik	83.28	319	P	P	01 27 32.7	+1.3
LSQQ	Lebel-sur-Quev	83.42	25	P	P	01 27 31.4	-0.5
	baz=331						
CHGQ	Chibougamau	83.47	23	P	P	01 27 31.8	-0.3
	baz=333						
JFWS	Jewell Farm	83.51	36	P	P	01 27 32.5	0.0
	baz=323						
SRN	Sarande	83.78	319	P	P	01 27 34.6	+0.8
ANX	Ano Chora	83.81	317	P	P	01 27 33.6	-0.5
SERG	Sergoula	83.87	317	P	P	01 27 35.3	+0.9
MSTX	Muleshoe	83.92	49	P	P	01 27 35.6	+0.7
	baz=317						
EFP	Efpalio	83.94	317	P	P	01 27 37.6	+2.9
SENIN	Lac Senin/Sane	84.01	331	P	P	01 27 34.4	-0.8
SENIN				IAmb	IAmb	01 27 39.1	
	comp=Z,6.1nm,1.0s						
KEK	Kerkira	84.01	319	P	P	01 27 34.6	-0.4
MNTX	Cornudas Mount	84.03	53	P	P	01 27 35.9	+0.6
	baz=316						
LAKA	Lakka	84.04	317	P	P	01 27 35.7	+0.4
VLDQ	Val d'Or	84.10	26	IAmb	IAmb	01 27 35.2	
	comp=Z,10nm,0.7s						
LKD2	Lefkada island	84.29	318	P	P	01 27 36.1	-0.4
SGRT	San Giovanni R	84.32	323	P	P	01 27 36.1	-0.6
NYDR	Nydri-Lefkada	84.33	318	P	P	01 27 37.2	+0.5
EVGI	Lefkada island	84.42	318	P	P	01 27 37.4	+0.2
RLS	Riolos of Patr	84.44	317	P	P	01 27 37.2	0.0
LOR	Lormes	84.45	333	eP	P	01 27 36.4	-0.8
LOR				pmax	pmax		
	comp=Z,15nm,1.0s						
MURB	Monte Urbino	84.52	326	P	P	01 27 38.6	+1.0
FLN	La Foliniere	84.52	336	eP	P	01 27 36.9	-0.6
FLN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
P38A	Dawn	84.57	40	IAmb	IAmb	01 27 39.0	
	comp=Z,8.6nm,0.8s						
FSK	Fiskardo	84.59	318	P	P	01 27 38.0	0.0
VTN	Vitineika	84.69	317	P	P	01 27 41.5	+3.0
MATE	Matera	84.76	322	⇓P	P	01 27 38.5	-0.3
ITM	Ithomi	84.87	316	P	P	01 27 38.7	-0.8
MSSA	Maissana	84.88	328	IAmb	IAmb	01 27 39.5	
	comp=Z,12nm,1.0s						
AQU	L'Aquila	84.88	325	eP	P	01 27 39.1	-0.4
LPL	La Plagne	84.94	331	eP	P	01 27 39.7	-0.2
LPL				pmax	pmax		
	comp=Z,17nm,0.9s						
INTR	Introdacqua	84.94	324	P	P	01 27 39.0	-0.8
LPG	La Plagne	84.94	331	eP	P	01 27 39.8	-0.2
LPG				pmax	pmax		
	comp=Z,18nm,0.8s						
GRR	Gorron	84.97	337	eP	P	01 27 39.1	-0.6
GRR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SMF	Signal de Mont	85.00	333	eP	P	01 27 39.4	-0.5
SMF				pmax	pmax		
	comp=Z,17nm,1.0s						
AVF	Avril sur Loir	85.04	333	eP	P	01 27 39.7	-0.4
AVF				pmax	pmax		
	comp=Z,25nm,1.1s						
PMOR	Pomariorio Ree	85.09	115	eT	T	03 01 01.6	
	comp=Z,7.1nm,0.2s						
BNI	Bardonecchia	85.35	330	IAmb	IAmb	01 27 43.1	
	comp=Z,10nm,0.9s						
P40A	Paris	85.36	39	IAmb	IAmb	01 27 43.5	
	comp=Z,7.9nm,0.9s						
SGMF	Saint Gilles	85.59	337	eP	P	01 27 42.7	-0.1
SGMF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMOK	Wichita Mounta	85.59	46	P	P	01 27 43.5	+0.4
	baz=319						
MBDF	Montbardon	85.59	330	eP	P	01 27 42.2	-0.9
MBDF				pmax	pmax		
	comp=Z,11nm,0.8s						
ORIF	Oris-en-Rattie	85.76	331	eP	P	01 27 43.5	-0.4
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ALGO	Algonquin Park	85.78	27	P	P	01 27 43.0	-0.8
	baz=331						
PPT2	Papeete2	85.79	118	eLR	LR	01 54 56.9	
	comp=Z,227nm,21.2s,baz=318						
PPT2	Papeete2	85.79	118	eT	T	03 02 07.5	
	comp=Z,2.2nm,0.3s						
HDIL	Hopedale	85.83	37	P	P	01 27 43.7	-0.4
	baz=324						
TCF	Toulx Ste Croi	85.86	334	eP	P	01 27 44.1	-0.1
TCF				pmax	pmax		
	comp=Z,14nm,1.2s						
QUIF	Quistinic	86.07	338	eP	P	01 27 44.7	-0.5
QUIF				pmax	pmax		
	comp=Z,34nm,1.4s						
VIVF	Saint-Julien-l	86.25	331	eP	P	01 27 46.0	-0.2
VIVF				pmax	pmax		
	comp=Z,19nm,1.0s						
FRF	La Foret Royal	86.63	330	eP	P	01 27 47.0	-1.1
FRF				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ABTX	Abilene, Hawle	86.69	48	P	P	01 27 49.2	+0.6
	baz=318						
TX31	Lajitas Ar. Si	86.75	53	IAmb	IAmb	01 27 50.8	
	comp=Z,7.3nm,0.8s						
TXAR	Lajitas Array	86.75	53	P	P	01 27 50.0	+1.1
	comp=Z,2.4nm,0.8s,baz=296,slow=3.8,SNR=28						
TXAR	Lajitas Array	86.75	53	P	P	01 27 50.1	+1.1
LMR	La Mourre	86.88	330	eP	P	01 27 48.5	-0.8
LMR				pmax	pmax		
	comp=Z,12nm,1.0s						
CCM	Cathedral Cave	86.91	40	P	P	01 27 49.6	+0.1
CCM				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CCM	Cathedral Cave	86.91	40	P	P	01 27 49.9	+0.4
	baz=323						
CCM	Cathedral Cave	86.91	40	P	P	01 27 49.5	+0.1
CCM				IAmb	IAmb	01 27 51.0	
	comp=Z,9.3nm,1.1s						
CAF	Calviac	87.10	333	eP	P	01 27 50.8	+0.4
CAF				pmax	pmax		
	comp=Z,21nm,0.9s						
U40A	Yellville	87.46	42	P	P	01 27 52.3	+0.1
	baz=322						
U40A	Yellville	87.46	42	IAmb	IAmb	01 27 53.1	
	comp=Z,8.0nm,0.8s						
E61A	Lac Etchemin	87.73	22	P	P	01 27 53.4	+0.1
	baz=336						
W39A	Magazine	87.89	43	P	P	01 27 54.4	+0.1
	baz=321						
H57A	Richville	87.99	26	P	P	01 27 54.6	+0.1
	baz=332						
F61A	St Evariste	88.00	23	P	P	01 27 55.2	+0.6
	baz=336						
FCAR	Ozark Folk Cen	88.19	42	IAmb	IAmb	01 27 56.4	
	comp=Z,4.4nm,0.8s						
PBMO	Poplar Bluff	88.32	40	IAmb	IAmb	01 27 57.6	
	comp=Z,10nm,1.1s						
F62A	Pittston Farm,	88.37	22	P	P	01 27 56.7	+0.3
	baz=336						
H59A	Cadyville	88.38	25	P	P	01 27 55.7	-0.8
	baz=334						
ERPA	Erie	88.40	30	P	P	01 27 55.9	-0.7
	baz=330						
H58A	Gabriels	88.43	25	P	P	01 27 56.5	-0.2
	baz=333						
G61A	St-Isidore-de-	88.47	23	P	P	01 27 57.0	+0.1
	baz=335						
MIAR	Mount Ida	88.50	43	P	P	01 27 57.9	+0.7
	baz=321						
MIAR	Mount Ida	88.50	43	IAmb	IAmb	01 27 59.1	
	comp=Z,6.2nm,0.9s						
P49A	Miami Univ. Ec	88.68	35	P	P	01 27 58.2	+0.2
	baz=326						
W41B	Gary Mavity, V	88.69	42	P	P	01 27 58.6	+0.6
	baz=322						
M53A	Wi Miller and	88.72	31	P	P	01 27 58.4	+0.3
	baz=329						
H60A	Morristown	88.77	24	P	P	01 27 58.7	+0.4
	baz=334						
ACSO	Alum Creek Sta	88.82	33	P	P	01 27 58.5	-0.1
	baz=328						
X40A	Basin Creek Fa	88.93	43	P	P	01 27 60.0	+0.8
	baz=322						
M54A	Oil Creek Stat	89.05	30	P	P	01 28 00.2	+0.5
	baz=330						
WCI	Wyandotte Cave	89.07	36	P	P	01 28 00.0	+0.3
	baz=326						
H62A	Milan	89.23	23	P	P	01 28 01.2	+0.8
	baz=335						
N54A	Moraine State	89.39	31	P	P	01 28 01.9	+0.6
	baz=330						
O53A	New Philadelph	89.52	32	P	P	01 28 02.4	+0.5
	baz=329						
G65A	Princeton	89.67	21	P	P	01 28 03.1	+0.7
	baz=338						
J60A	Lant Hill Farm	89.72	25	P	P	01 28 03.1	+0.4
	baz=334						
H64A	Troy	89.73	22	P	P	01 28 03.1	+0.3
	baz=337						
ETSF	Etsaut	89.78	334	eP	P	01 28 03.4	+0.3
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
I63A	Otisfield	89.87	23	P	P	01 28 03.6	+0.1
	baz=336						
H65A	Eastbrook	89.95	21	P	P	01 28 03.8	0.0
	baz=337						
TBI	Tubuai	89.97	122	eLR	LR	01 56 35.6	
	comp=Z,173nm,26.0s						
TBI	Tubuai	89.97	122	eT	T	03 07 18.9	
	comp=Z,7.0nm,0.3s						
WVT	Waverly	90.08	39	P	P	01 28 05.2	+0.6
	baz=325						
I64A	Boothbay	90.27	23	P	P	01 28 05.5	+0.3
	baz=336						
K61A	Williamstown	90.29	26	P	P	01 28 05.6	+0.2
	baz=334						
J63A	Strafford	90.43	24	P	P	01 28 06.5	+0.5
	baz=335						
SSPA	Standing Stone	90.47	30	P	P	01 28 06.8	+0.5
	baz=331						
O56A	Blue Knob Stat	90.54	30	P	P	01 28 07.1	+0.4
	baz=330						
N59A	State Game Lan	91.00	28	P	P	01 28 09.1	+0.3
	baz=332						
P60A	Greenville	92.02	29	P	P	01 28 13.8	+0.4
	baz=332						
KEST	Kesra	92.12	324	P	P	01 28 13.7	-0.5
	comp=Z,4.8nm,0.8s,baz=320,slow=0.8,SNR=7.8						
KEST	Kesra	92.12	324	IAmb	IAmb	01 28 14.6	
	comp=Z,7.6nm,1.0s						
LRAL	Lakeview Retre	93.00	40	P	P	01 28 18.3	+0.1
	baz=325						
ESDC	Sonseca Array	93.79	335	P	P	01 28 21.6	-0.2
	comp=Z,1.4nm,1.0s,baz=30,slow=4.0,SNR=6.9						
ESDC				PP	PP	01 32 06.3	-0.1
	comp=Z,0.5nm,0.9s,baz=27,slow=9.2,SNR=4.3						
ESDC				LR	LR	02 16 37.5	
	comp=Z,92nm,19.0s,baz=15,slow=39						
GOGA	Godfrey	94.34	37	P	P	01 28 24.0	-0.3
	baz=327						
TORD	Torodi Ar. Bea	114.86	317	PP	PP	01 34 40.6	-2.9
	comp=Z,2.2nm,1.1s,baz=32,slow=6.6,SNR=4.6						
ITTB	Itaituba	139.65	29	eP	PKiKP	01 34 35.4	+0.3
ROSB	Rosrio	141.21	11	eP	PKiKP	01 34 39.1	+0.8
LPAZ	La Paz	143.58	56	PKP	PKPbc	01 34 38.8	+0.9
	comp=Z,1.7nm,0.9s,baz=358,slow=3.2,SNR=4.3						
LPAZ	La Paz	143.58	56	PKIKP	PKPbc	01 34 38.8	+1.0
NBPV	Pedro Velho	145.14	356	eP	PKPdf	01 34 43.8	+1.3
SNAA	Sanae	145.16	198	PKPdf	PKPab	01 34 40.6	0.0
CLDB	Colider	145.57	33	eP	PKPab	01 34 45.3	+1.7
SMTB	Santa Maria do	146.38	18	eP	PKiKP	01 34 48.6	-0.3
VNA3	Neumayer

JMKN				eS	Sg	01 16 08.9	-0.1
JAOM	**Aogashimamukai**	**0.84**	**169**	P	**Pb**	**01 16 04.5**	**-1.0**
JAOM				eS	**Sb**	**01 16 15.9**	**-0.7**
JKO	**Kozu shima**	**0.97**	**338**	P	**Pb**	**01 16 06.3**	**-1.4**
JTHY	**Toshimahigashi**	**1.25**	**349**	P	**Pn**	**01 16 10.7**	**-1.5**
JIM2	**Oshima 3**	**1.43**	**355**	P	**Pn**	**01 16 13.7**	**-1.0**
JIZS	**Izushimoda**	**1.54**	**338**	P	**Pn**	**01 16 14.7**	**-1.4**
JIZS				eS	**Sn**	**01 16 34.1**	**-1.8**
JSG	**Sagara**	**1.80**	**321**		**Pn**	**01 16 19.3**	**-0.4**
JGF	**Kuroka**	**2.94**	**322**		**Pn**	**01 16 35.1**	**-0.4**
INU	**Inuyama**	**2.95**	**315**	Pn	**Pn**	**01 16 34.8**	**-0.8**
JWT	**Wachi**	**3.98**	**301**	Pn	**Pn**	**01 16 48.7**	**-1.0**
JMM	**Marumori**	**4.67**	**12**	Pn	**Pn**	**01 17 00.8**	**+1.5**
JMN	**Monobe**	**4.78**	**277**		**Pn**	**01 17 00.2**	**-0.6**
JHS	**Saijyo**	**5.62**	**289**	Pn	**Pn**	**01 17 11.7**	**-0.5**
JNU	**Nakatsue**	**7.29**	**271**	Pn	**Pn**	**01 17 35.4**	**+0.2**
	3.0nm,0.3s,baz=89,slow=6.5,SNR=10						
JNU				Sn	**Sn**	**01 18 59.7**	**+1.9**
	0.9nm,0.3s,baz=250,slow=9.7,SNR=1.4						
JNU	**Nakatsue**	**7.29**	**271**	Pn	**Pn**	**01 17 34.3**	**-0.9**
JSU	**Suzuyama**	**7.91**	**259**		**Pn**	**01 17 43.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**23.52**	**297**	eP	**P**	**01 20 58.3**	**-0.6**
HHC				pP	sP	01 21 05.3	+0.8
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,6.6s						
HHC				LR	LR		
	comp=N,310nm,16.1s						
HHC				LR	LR		
	comp=E,750nm,20.0s						
HHC				LR	LR		
	comp=Z,950nm,19.2s						
MA2	**Magadan**	**27.32**	**12**	P	**P**	**01 21 33.9**	**+0.7**
	comp=Z,8.8nm,0.5s,baz=189,slow=11,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**27.83**	**112**	T	T	01 50 51.9	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**27.84**	**112**	T	T	01 50 52.9	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**27.85**	**112**	T	T	01 50 53.2	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**28.39**	**115**	T	T	01 51 33.1	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**28.39**	**114**	T	T	01 51 33.2	
	baz=308						
H11S2	**WAKE ISLAND Hy**	**28.40**	**115**	T	T	01 51 34.3	
	baz=308						
ULN	**Ulaanbaatar**	**28.42**	**310**	P	**P**	**01 21 45.1**	**+1.7**
ULN				IAmb	IAmb	01 21 46.0	
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**28.83**	**310**	P	**P**	**01 21 46.8**	**-0.2**
	comp=Z,6.6nm,0.8s,baz=117,slow=9.1,SNR=5.4						
SONM	**Songino Array**	**28.83**	**310**	P	**P**	**01 21 48.6**	**+1.6**
LZH	**Lanzhou**	**29.41**	**286**	eP	**P**	**01 21 52.3**	**0.0**
LZH				pP	sP	01 21 58.3	+0.2
LZH				sP	pP	01 22 00.0	+3.7
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=N,340nm,16.3s						
LZH				LR	LR		
	comp=E,390nm,15.7s						
LZH				LR	LR		
	comp=Z,270nm,15.6s						
CD2	**Chengdu**	**30.34**	**275**	P	**P**	**01 21 59.9**	**-0.6**
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
GTA	**Gaotai**	**32.41**	**292**	eP	**P**	**01 22 19.3**	**+0.6**
GTA				pP	sP	01 22 27.9	+3.5
GTA				sP	pP	01 22 31.3	+8.5
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,150nm,4.7s						
GTA				LR	LR		
	comp=N,210nm,17.4s						
GTA				LR	LR		
	comp=E,420nm,18.2s						
GTA				LR	LR		
	comp=Z,630nm,17.1s						
KMI	**Kunming**	**33.03**	**266**	⇑P	**P**	**01 22 26.1**	**+1.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TIXI	**Tiksi**	**38.84**	**355**	P	**P**	**01 23 13.3**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=138,slow=6.7,SNR=6.3						
TIXI	**Tiksi**	**38.84**	**355**	P	**P**	**01 23 12.7**	**-0.6**
WMQ	**Urumqi**	**41.30**	**300**	eP	**P**	**01 23 35.9**	**+1.7**
WMQ				LR	LR		
	comp=N,240nm,15.1s						
WMQ				LR	LR		
	comp=E,360nm,15.9s						
WMQ				LR	LR		
	comp=Z,370nm,16.5s						
GAMB	**Gambell**	**42.70**	**29**	P	**P**	**01 23 47.0**	**+1.7**
	baz=248						
ZAA0	**Zalesovo Array**	**43.42**	**315**	P	**P**	**01 23 52.3**	**+1.1**
ZALV	**Zalesovo Beam**	**43.42**	**315**	P	**P**	**01 23 52.1**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=90,slow=8.6,SNR=1.1						
ZALV				PcP	**PcP**	**01 25 39.0**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=107,slow=2.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.42**	**315**	P	**P**	**01 23 52.6**	**+1.4**
TNA	**Tin City**	**44.86**	**28**	P	**P**	**01 24 04.3**	**+1.8**
	baz=250						
ANM	**Nome**	**45.58**	**30**	P	**P**	**01 24 09.1**	**+0.8**
	baz=254						
N18K	**Kilae Creek**	**49.25**	**36**	P	**P**	**01 24 38.2**	**+1.3**
	baz=267						
O18K	**Koktuh Hills**	**49.55**	**37**	P	**P**	**01 24 39.5**	**+0.2**
	baz=268						
L19K	**White Mountain**	**49.84**	**34**	P	**P**	**01 24 42.7**	**+1.3**
	baz=266						
N19K	**Bonanza Creek**	**49.95**	**36**	P	**P**	**01 24 43.2**	**+0.8**
	baz=268						
M19K	**Big River Lodg**	**50.04**	**34**	P	**P**	**01 24 43.6**	**+0.6**
	baz=267						
K20K	**Telida**	**50.28**	**32**	P	**P**	**01 24 46.0**	**+1.3**
	baz=266,SNR=8.4						
J20K	**Nowinta River**	**50.31**	**31**	P	**P**	**01 24 45.8**	**+0.9**
	baz=265,SNR=9.6						
OHAK	**Old Harbor**	**50.55**	**40**	P	**P**	**01 24 48.0**	**+1.2**
	baz=272						
M20K	**Styx River**	**50.64**	**34**	P	**P**	**01 24 48.2**	**+0.6**
	baz=268						
O20K	**Slope Mountain**	**50.85**	**37**	P	**P**	**01 24 49.7**	**+0.5**
	baz=270						
KDAK	**Kodiak Island**	**50.91**	**40**	P	**P**	**01 24 51.3**	**+1.8**
	comp=Z,11nm,0.9s,baz=346,slow=6.3,SNR=4.3						
KDAK	**Kodiak Island**	**50.91**	**40**	P	**P**	**01 24 50.3**	**+0.7**
	baz=272						
KDAK	**Kodiak Island**	**50.91**	**40**	P	**P**	**01 24 51.1**	**+1.6**
KDAK				IAmb	IAmb	01 24 51.6	
	comp=Z,21nm,1.2s						
H21K	**Melozitna Rive**	**51.00**	**30**	P	**P**	**01 24 50.6**	**+0.5**
	baz=265						
SPCR	**Spurr Chakacha**	**51.06**	**35**	P	**P**	**01 24 51.5**	**+0.7**
	baz=270						
I21K	**Tanana**	**51.31**	**30**	P	**P**	**01 24 52.7**	**+0.3**
	baz=266,SNR=10.0						
SKT	**Skwentna**	**51.39**	**34**	P	**P**	**01 24 53.7**	**+0.5**
	baz=270						
BPAW	**Bear Paw Mtn.**	**51.69**	**32**	P	**P**	**01 24 55.9**	**+0.5**
	baz=268,SNR=6.3						
BPAW	**Bear Paw Mtn.**	**51.69**	**32**		**P**	**01 24 56.7**	**+1.4**
SUA	**Susitna One**	**51.77**	**35**	P	**P**	**01 24 56.5**	**+0.4**
	baz=271						
MLY	**Manley**	**51.83**	**30**	P	**P**	**01 24 56.8**	**+0.4**
	baz=268,SNR=16						
MLY	**Manley**	**51.83**	**30**		**P**	**01 24 57.5**	**+1.1**
MLY				IAmb	IAmb	01 24 59.8	
	comp=Z,15nm,0.9s						
H23K	**Yukon River**	**52.35**	**29**	P	**P**	**01 25 01.0**	**+0.7**
	baz=268,SNR=12						
I23K	**Minto, Yukon-K**	**52.41**	**30**	P	**P**	**01 25 01.6**	**+0.9**
	baz=269						
I23K	**Minto, Yukon-K**	**52.41**	**30**	P	**P**	**01 25 02.6**	**+1.9**
SEW	**Seward**	**52.44**	**37**	P	**P**	**01 25 01.5**	**+0.6**
	baz=273						
TOLK	**Toolik Lake Re**	**52.49**	**26**	P	**P**	**01 25 01.6**	**+0.3**
	baz=266,SNR=6.3						
TOLK	**Toolik Lake Re**	**52.49**	**26**	P	**P**	**01 25 02.8**	**+1.5**
TOLK				IAmb	IAmb	01 25 04.4	
	comp=Z,14nm,0.9s						
NEA2	**Nenana**	**52.53**	**31**	P	**P**	**01 25 02.4**	**+0.8**
	baz=270,SNR=16						
NEA2	**Nenana**	**52.53**	**31**	P	**P**	**01 25 02.9**	**+1.3**
NEA2	**Nenana**	**52.53**	**31**	PcP	**P**	**01 25 01.9**	**+0.3**
MCK	**McKinley**	**52.59**	**32**	P	**P**	**01 25 02.5**	**+0.4**
	baz=270						
MCK	**McKinley**	**52.59**	**32**	P	**P**	**01 25 03.3**	**+1.2**
MCK				IAmb	IAmb	01 25 06.7	
	comp=Z,9.1nm,0.8s						
RND	**Reindeer**	**52.63**	**32**	P	**P**	**01 25 04.0**	**+1.6**
RND				IAmb	IAmb	01 25 04.5	
	comp=Z,14nm,0.8s						
WAT1	**Susitna Watana**	**52.78**	**33**	P	**P**	**01 25 04.1**	**+0.6**
	baz=271						
KNK	**Knik Glacier**	**52.87**	**35**	P	**P**	**01 25 04.5**	**+0.4**
	baz=273						
KNK	**Knik Glacier**	**52.87**	**35**	P	**P**	**01 25 05.8**	**+1.6**
MDM	**Murphy Dome**	**52.89**	**31**	P	**P**	**01 25 05.5**	**+1.2**
SML	**Sawmill**	**52.91**	**35**	P	**P**	**01 25 04.8**	**+0.2**
	baz=272,SNR=6.6						
SML	**Sawmill**	**52.91**	**35**	P	**P**	**01 25 05.4**	**+0.9**
H24K	**Noodor Dome**	**53.04**	**29**	P	**P**	**01 25 06.0**	**+0.6**
	baz=270						
COLA	**College**	**53.05**	**31**	P	**P**	**01 25 07.4**	**+2.0**
COLA				IAmb	IAmb	01 25 08.9	
	comp=Z,11nm,0.8s						
WAT6	**Susitna Watana**	**53.16**	**34**	P	**P**	**01 25 06.9**	**+0.4**
	baz=272						
WRA	**Warramunga Arr**	**53.17**	**186**	P	**P**	**01 25 03.8**	**-3.0**
	comp=Z,1.3nm,0.7s,baz=4.5,slow=7.8,SNR=11						
POKR	**Poker Plat Res**	**53.23**	**30**	P	**P**	**01 25 07.1**	**+0.3**
	baz=271						
HDA	**Harding Lake**	**53.45**	**31**	P	**P**	**01 25 08.6**	**+0.2**
	baz=272,SNR=7.8						
HDA	**Harding Lake**	**53.45**	**31**	P	**P**	**01 25 08.8**	**+0.4**
HDA				IAmb	IAmb	01 25 10.2	
	comp=Z,14nm,0.9s						
IL31		**53.47**	**31**	P	**P**	**01 25 09.2**	**+0.8**
IL31				IAmb	IAmb	01 25 10.3	
	comp=Z,8.7nm,0.8s						
ILAR	**Eielson Array**	**53.47**	**31**	P	**P**	**01 25 09.2**	**+0.8**
	comp=Z,7.2nm,0.8s,baz=272,slow=6.0,SNR=9.3						
ILAR	**Eielson Array**	**53.47**	**31**	P	**P**	**01 25 09.4**	**+0.9**
GLI	**Glacier Island**	**53.56**	**36**	P	**P**	**01 25 09.2**	**-0.1**
	baz=274						
PRP	**Porcupine Dome**	**54.02**	**30**	P	**P**	**01 25 13.1**	**+0.4**
	baz=272						
KLU	**Klutina**	**54.08**	**35**	P	**P**	**01 25 13.9**	**+0.7**
	baz=275						
PAX	**Paxson**	**54.18**	**33**	P	**P**	**01 25 14.6**	**+0.7**
	baz=274						
EYAK	**Cordova Ski Ar**	**54.25**	**36**	P	**P**	**01 25 14.9**	**+0.6**
	baz=276						
BMAR	**Burnt Mountain**	**54.34**	**27**	P	**P**	**01 25 17.2**	**+2.3**
HARP	**HAARP**	**54.37**	**34**	P	**P**	**01 25 15.7**	**+0.6**
	baz=275						
RIDG	**Independent Ri**	**54.41**	**32**	P	**P**	**01 25 15.8**	**+0.3**
	baz=274						
N25K	**Chitina, Valde**	**54.70**	**35**	P	**P**	**01 25 18.1**	**+0.5**
	baz=276						
DOT	**Dot Lake**	**54.76**	**32**	P	**P**	**01 25 18.5**	**+0.5**
BMRM	**Bremner River**	**54.76**	**35**	P	**P**	**01 25 18.2**	**+0.2**
	baz=276						
SCRK	**Sand Creek**	**54.77**	**32**	P	**P**	**01 25 18.2**	**+0.1**
	baz=275,SNR=5.8						
SCRK	**Sand Creek**	**54.77**	**32**	P	**P**	**01 25 19.2**	**+1.1**
SCRK				IAmb	IAmb	01 25 20.4	
	comp=Z,10nm,0.9s						
MENT	**Mentasta**	**54.98**	**33**	P	**P**	**01 25 21.6**	**+2.0**
MENT				IAmb	IAmb	01 25 22.8	
	comp=Z,12nm,0.9s						
L26K	**Log Cabin Wild**	**55.14**	**33**	P	**P**	**01 25 21.4**	**+0.7**
	baz=276						
MCARA	**McCarthy VSAT**	**55.48**	**35**	P	**P**	**01 25 24.3**	**+1.1**
	baz=277						
CRQM	**Cirque**	**55.50**	**36**	P	**P**	**01 25 25.0**	**+1.4**
CRQE	**Cirque**	**55.52**	**36**	P	**P**	**01 25 24.4**	**+0.8**
	baz=278						
K27K	**Chicken**	**55.60**	**32**	P	**P**	**01 25 24.9**	**+0.9**
	baz=276						
K27K	**Chicken**	**55.60**	**32**	P	**P**	**01 25 25.6**	**+1.6**
K27K				IAmb	IAmb	01 25 27.1	
	comp=Z,9.5nm,0.9s						
L27K	**Beaver Creek,**	**55.82**	**33**	P	**P**	**01 25 26.3**	**+0.6**
	baz=277,SNR=7.6						
BCAR	**Beaver Creek A**	**55.84**	**33**	P	**P**	**01 25 27.7**	**+1.8**
EGAK	**Eagle**	**55.91**	**31**	P	**P**	**01 25 26.5**	**+0.3**
	baz=276						
CTG	**Chitna Glacier**	**56.34**	**35**	P	**P**	**01 25 30.0**	**+0.5**
	baz=279						
CTGM	**Chitina Glacie**	**56.35**	**35**	P	**P**	**01 25 31.5**	**+1.9**
CTGM				IAmb	IAmb	01 25 32.8	
	comp=Z,9.4nm,0.8s						
ASAR	**Alice Springs**	**56.90**	**186**	P	**P**	**01 25 31.6**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=13,slow=9.8,SNR=7.6						
ASAR	**Alice Springs**	**56.90**	**186**	P	**P**	**01 25 31.2**	**-2.4**
EPYK	**Eagle Plains**	**57.52**	**28**	P	**P**	**01 25 38.8**	**+1.1**
	baz=279						
INK	**Inuvik**	**58.40**	**26**	P	**P**	**01 25 44.9**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=295,slow=3.8,SNR=4.6						
INK	**Inuvik**	**58.40**	**26**	P	**P**	**01 25 44.3**	**+0.6**
	baz=281						
INK	**Inuvik**	**58.40**	**26**	P	**P**	**01 25 44.5**	**+0.8**
INK				IAmb	IAmb	01 25 46.1	
	comp=Z,7.1nm,0.8s						
EIDS	**Eidsvold**	**59.35**	**168**	P	**P**	**01 25 50.0**	**-0.8**
EIDS				IAmb	IAmb	01 26 07.5	
	comp=Z,6.9nm,0.8s						
C36M	**Paulatuk**	**61.45**	**24**	P	**P**	**01 26 05.4**	**+0.8**
	baz=289,SNR=7.5						
C36M	**Paulatuk**	**61.45**	**24**	P	**P**	**01 26 05.7**	**+1.0**
DLBC	**Dease Lake**	**62.51**	**36**	P	**P**	**01 26 13.9**	**+1.8**
DLBC				IAmb	IAmb	01 26 16.2	
	comp=Z,7.3nm,1.1s						
STKA	**Stephens Creek**	**64.84**	**178**	P	**P**	**01 26 26.4**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=357,slow=7.6,SNR=4.2						
STKA	**Stephens Creek**	**64.84**	**178**	P	**P**	**01 26 25.2**	**-2.4**
ARCES	**ARCESS Array B**	**66.97**	**340**	P	**P**	**01 26 41.6**	**+0.8**
	comp=Z,5.4nm,0.7s,baz=64,slow=8.4,SNR=6.5						
ARCES	**ARCESS Array B**	**66.97**	**340**	P	**P**	**01 26 41.4**	**+0.5**
FIA1	**FINESS Array S**	**71.42**	**332**	P	**P**	**01 27 08.4**	**-0.1**
FINES	**FINESS Array B**	**71.42**	**332**	P	**P**	**01 27 08.7**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=93,slow=7.6,SNR=4.3						
J01E	**Myrtle Point**	**72.36**	**50**	P	**P**	**01 27 15.1**	**+0.5**
	baz=299						
I03D	**Drain, OR**	**72.47**	**49**	P	**P**	**01 27 16.1**	**+0.9**
	baz=299						
B08A	**Colville Reser**	**72.57**	**43**	P	**P**	**01 27 16.4**	**+0.6**
N02D	**Trinity Center**	**74.24**	**51**	P	**P**	**01 27 26.8**	**+0.9**
	baz=300						
NC204	**NORSAR Array S**	**77.01**	**337**	P	**P**	**01 27 41.1**	**-0.2**
NOA	**NORSAR Array B**	**77.04**	**337**	P	**P**	**01 27 41.5**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=43,slow=5.6,SNR=15						
NVAR	**Mina Array Bea**	**78.47**	**52**	P	**P**	**01 27 51.2**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=293,slow=4.7,SNR=3.6						
BOZ	**Bozeman (W)**	**78.49**	**43**	P	**P**	**01 27 50.5**	**+0.5**
	baz=306						
SBC	**Santa Barbara**	**79.70**	**56**	P	**P**	**01 27 56.9**	**+0.4**
	baz=303						
CWC	**Cottonwood Cre**	**79.71**	**53**	P	**P**	**01 27 57.2**	**+0.3**
	baz=304						
ISA	**Isabella, Lake**	**79.87**	**54**	P	**P**	**01 27 58.3**	**+0.7**
	baz=304						
BRTR	**Keskin Array B**	**80.19**	**311**	P	**P**	**01 27 59.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=114,slow=5.7,SNR=5.0						
R11A	**Troy Canyon, C**	**80.28**	**50**	P	**P**	**01 28 00.4**	**+0.5**
	baz=305						
SNCC	**San Nicolas Is**	**80.48**	**57**	P	**P**	**01 28 01.3**	**+0.4**
	baz=304						
FURC	**Furnace Creek,**	**80.51**	**53**	P	**P**	**01 28 01.3**	**+0.5**
	baz=304						
EDW2	**Edwards Air Fo**	**80.64**	**54**	P	**P**	**01 28 02.2**	**+0.5**
	baz=304						
TPNV	**Topopah Spring**	**80.64**	**52**	P	**P**	**01 28 01.9**	**+0.1**
	baz=305						
DUG	**Dugway, Tooele**	**80.97**	**48**	P	**P**	**01 28 04.4**	**+0.9**
	baz=306						
BBRC	**Big Bear Solar**	**81.71**	**54**	P	**P**	**01 28 08.1**	**+0.5**
	baz=305						
TUQ	**Turquoise Moun**	**81.72**	**53**	P	**P**	**01 28 08.0**	**+0.5**
	baz=305						
HEC	**Hector,Ludlow**	**81.79**	**54**	P	**P**	**01 28 07.5**	**-0.4**
	baz=305						
GMRC	**Granite Mounta**	**82.27**	**53**	P	**P**	**01 28 10.8**	**+0.3**
	baz=305						
PFO	**Pinyon Flats O**	**82.40**	**55**	P	**P**	**01 28 11.9**	**+0.7**
	baz=305						
MONP2	**Monument Peak**	**82.84**	**55**	P	**P**	**01 28 14.1**	**+0.6**
	baz=305						
IKP	**In-Ko-Pah, Jac**	**83.19**	**55**	P	**P**	**01 28 15.3**	**+0.1**
	baz=305						
CLL	**Collm**	**83.57**	**330**	eP	**P**	**01 28 16.0**	**-0.7**
	comp=Z,5.0nm,0.8s						
CLL				e		01 28 26.0	
GLA	**Glamis**	**83.84**	**54**	P	**P**	**01 28 19.2**	**+0.7**
	baz=306						
WUAZ	**Wupatki**	**84.67**	**51**	P	**P**	**01 28 23.2**	**+0.3**
	baz=308						
GERES	**GERESS Array B**	**85.07**	**328**	P	**P**	**01 28 24.0**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=46,slow=5.8,SNR=4.3						
BMRD	**Maredsous**	**87.67**	**333**	dP	**P**	**01 28 37.0**	**-0.1**
LSQQ	**Lebel-sur-Quev**	**91.78**	**23**	P	**P**	**01 28 56.4**	**-0.1**
	baz=330						
WMOK	**Wichita Mounta**	**92.98**	**45**	P	**P**	**01 29 01.5**	**-0.8**
	baz=315						
TXAR	**Lajitas Array**	**93.61**	**51**	P	**P**	**01 29 06.5**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=285,slow=3.6,SNR=5.1						
TXAR	**Lajitas Array**	**93.61**	**51**	P	**P**	**01 29 04.6**	**-0.8**
D60A	**Saint Jean D'O**	**95.57**	**20**	P	**P**	**01 29 14.3**	**+0.5**
	baz=335						
G61A	**St-Isidore-de-**	**96.86**	**22**	P	**P**	**01 29 19.0**	**-0.7**
	baz=334						
PKME	**Peaks-Kenny Pk**	**97.54**	**20**	P	**P**	**01 29 22.3**	**-0.5**
	baz=336						
O56A	**Blue Knob Stat**	**98.76**	**29**	P	**P**	**01 29 28.0**	**-0.5**
	baz=329						
LPAZ	**La Paz**	**149.82**	**63**	PKPbc	**PKiKP**	**01 35 40.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=319,slow=7.5,SNR=5.5						
LPAZ	**La Paz**	**149.82**	**63**	PKPdf	**PKPdf**	**01 35 33.9**	**-1.4**

*IDC **16** 01:25:30.5±53.0, 24°.39S×175°.55W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/35, mbtmp4.2/3, Error ellipse: s-maj=983.4km s-min=180.4km az=89.0*
*NEIC **16** 01:25:39.0±0.4, 24°.4S±0°.4×175°.7W±0°.2, h40km±18km, mb4.2/9, Error ellipse: s-maj=56.5km s-min=22.9km az=204.0*

ISC 16 01:25:41.5±6.9, 24°.9S±0°.9×176°.2W±0°.7, h35km, n14, σ0.88/14, mb4.3/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.19**	**276**	Pn	**Pn**	**01 29 26.8**	**+0.2**
CTAO	**Charters Tower**	**34.97**	**270**	P	**P**	**01 32 31.8**	**+1.2**
CTAO				IAmb	IAmb	01 32 32.6	
	comp=Z,3.6nm,0.6s						
STKA	**Stephens Creek**	**37.62**	**250**	P	**P**	**01 32 52.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=90,slow=8.1,SNR=3.2						
STKA	**Stephens Creek**	**37.62**	**250**	P	**P**	**01 32 53.4**	**+0.2**
STKA				IAmb	IAmb	01 33 08.7	
	comp=Z,2.6nm,1.4s						
AS31	**Alice Springs**	**45.32**	**261**	P	**P**	**01 33 56.3**	**-0.1**
AS31				IAmb	IAmb	01 33 56.7	
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**45.32**	**261**	P	**P**	**01 33 55.2**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=95,slow=8.3,SNR=24						
ASAR	**Alice Springs**	**45.32**	**261**	P	**P**	**01 33 55.5**	**-1.0**
WR0	**Warramunga Arr**	**45.63**	**266**	P	**P**	**01 33 58.4**	**-0.5**
WR0				IAmb	IAmb	01 34 02.0	
	comp=Z,6.1nm,1.4s						
WB2	**Warramunga Arr**	**45.81**	**266**	P	**P**	**01 33 59.8**	**-0.5**
WB0	**Warramunga Arr**	**45.82**	**266**	P	**P**	**01 33 60.0**	**-0.4**
WB0				IAmb	IAmb	01 34 00.0	
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**45.82**	**266**	P	**P**	**01 33 59.8**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=103,slow=8.0,SNR=39						
WRA	**Warramunga Arr**	**45.82**	**266**	P	**P**	**01 33 60.0**	**-0.4**
KNRA	**Kununurra**	**52.17**	**269**	P	**P**	**01 34 47.4**	**-1.6**
VNDA	**Vanda**	**53.73**	**186**	P	**P**	**01 34 60.0**	**+0.3**

*IDC **16** 01:26:55.1±0.9, 33°.10N×139°.74E, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.7/46, mbtmp3.8/9, ML3.1/2, Error ellipse: s-maj=26.5km s-min=6.7km az=174.0*
*JMA **16** 01:26:56.9±0.1, 33°.25N×139°.51E, h27km±4km, M3.2*
*NEIC **16** 01:26:58.3±2.0, 33°.21N±0°.09×139°.52E±0°.06, h16km±6km, mb4.4/11, Error ellipse: s-maj=13.3km s-min=6.3km az=198.0*

ISC 16 01:26:57.0±1.3, 33°.23N±0°.05×139°.51E±0°.05, h11km±8km, n44, σ1.43/46, mb4.0/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.25**	**115**	Pn	**Pb**	**01 27 03.8**	**+0.3**
	953nm,0.3s,baz=266,slow=12,SNR=47						
JHJ				Sn	**Sb**	**01 27 08.2**	**+0.3**
	2μm,0.3s,baz=251,slow=23,SNR=28						
JHJ2	**Mitsune**	**0.28**	**114**	P	**Pb**	**01 27 03.7**	**-0.3**
JHJ2				S	**Sb**	**01 27 08.7**	**0.0**
JHJ2	**Mitsune**	**0.28**	**114**		**Pb**	**01 27 03.9**	**-0.2**
JHJ2					**Sb**	**01 27 08.7**	**0.0**
JHCJ	**Hachijojimakas**	**0.28**	**123**	P	**Pg**	**01 27 03.8**	**+0.9**
JHCJ				S	**Sb**	**01 27 08.6**	**-0.3**
JMKN	**Mikurajimanish**	**0.67**	**6**	P	**Pg**	**01 27 09.2**	**-0.8**
JMKN				S	**Sg**	**01 27 18.2**	**-0.6**
JIZS	**Izushimoda**	**1.58**	**341**	P	**Pn**	**01 27 23.5**	**-1.4**
TK02	**Tokai 2**	**1.63**	**297**	P	**Pn**	**01 27 24.2**	**-1.3**
TK02				S	**Sn**	**01 27 44.1**	**-2.2**
KTJ3	**Kamata3**	**1.74**	**348**	P	**Pn**	**01 27 26.2**	**-1.0**
KTJ3				S	**Sn**	**01 27 47.5**	**-1.9**
BSO3	**Boso 3**	**1.78**	**28**	P	**Pn**	**01 27 26.4**	**-1.0**
BSO1	**Boso 1**	**1.87**	**40**	P	**Pn**	**01 27 26.8**	**-1.7**
JGF	**Kuroka**	**2

NVAR Mina Array Bea 78.54 52 P P 01 38 59.6 +0.8
comp=Z,0.3nm,0.7s,baz=298,slow=6.0,SNR=2.9
TXAR Lajitas Array 93.69 51 P P 01 40 14.6 +0.5
comp=Z,0.3nm,0.7s,baz=316,slow=3.5,SNR=3.7

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*IDC **16** 01:44:37.9±0.8, 7°.10N×122°.90E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/44, mbtmp4.1/10, ML4.5/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/33, Error ellipse: s-maj=28.1km s-min=15.4km az=54.0*
*DJA **16** 01:44:43.8±1.9, 7°.N±16°.×12°.3E±1°.3, h10km, M4.8/6, mB5.0/4, mb4.9/6, MLv4.8/6, Mw(mB)4.4/4*
*NEIC **16** 01:44:44.5±1.5, 7°.08N±0°.06×123°.04E±0°.08, h37km±8km, mb4.4/16, Error ellipse: s-maj=11.3km s-min=7.7km az=68.0*
ISC 16 01:44:38.8±1.8, 7°.15N±0°.04×123°.12E±0°.06, h3km±12km, n62, σ1§33/68, mb4.2/17, MS3.6/7, 8C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.74**	**20**	⇓*e*P	**Pg**	**01 44 52.9**	**-0.2**
PAGZ				*e*S	**Sg**	**01 45 03.1**	**+0.5**
DCPH	**Dipolog City**	**1.44**	**9**	⇓*e*P	**Pn**	**01 45 05.6**	**-0.2**
DCPH				*i* S	**Sn**	**01 45 25.1**	**-0.2**
KCP	**Kidapawan**	**1.96**	**94**	⇑*i*P	**Pb**	**01 45 14.0**	**-1.1**
CGP	**Cagayan de Oro**	**2.03**	**60**	⇑*e*P	**Pb**	**01 45 15.7**	**-0.5**
CGP				*i* S	**Sg**	**01 45 43.5**	**-0.5**
BUKP	**Musuan**	**2.06**	**69**	⇑*e*P	**Pb**	**01 45 16.6**	**-0.1**
BUKP				*e*S	**Sg**	**01 45 46.1**	**+1.2**
SNPH	**Sibulan**	**2.18**	**3**	⇑*i*P	**Pn**	**01 45 16.2**	**+0.1**
SNPH				*i* S	**Sb**	**01 45 45.3**	**-1.2**
DAV	**Davao City (W)**	**2.44**	**92**	Pn	**Pb**	**01 45 22.2**	**-1.1**
94nm,0.3s,baz=233,slow=5.1,SNR=6.3							
DAV				Sn	**Sg**	**01 45 56.3**	**-0.9**
77nm,0.3s,baz=298,slow=22,SNR=7.1							
DAV	**Davao City (W)**	**2.44**	**92**	Pn	**Pb**	**01 45 22.5**	**-0.8**
DAV				Sn	**Sg**	**01 45 56.1**	**-1.1**
CNOP	**Candoni, Negro**	**2.71**	**350**	⇑*e*P	**Pn**	**01 45 21.4**	**-1.7**
CNOP				*e*S	**Sn**	**01 45 58.6**	**+2.2**
LLP	**Lapu-Lapu**	**3.26**	**15**	⇓*e*P	**Pn**	**01 45 30.6**	**-0.2**
LLP				*e*S	**Sn**	**01 46 10.9**	**+0.8**
MSLP	**Maasin**	**3.43**	**30**	⇑*e*P	**Pn**	**01 45 36.2**	**+3.1**
JAP	**San Jose, Anti**	**3.76**	**342**	⇑*e*P	**Pn**	**01 45 40.7**	**+3.0**
SGSI	**Sangihe**	**4.19**	**145**	P	**Pn**	**01 45 44.1**	**+0.5**
RCP	**Roxas**	**4.40**	**355**	⇑*e*P	**Pn**	**01 45 46.8**	**+0.3**
GTOI	**Gorontalo**	**6.47**	**181**	P	**Pn**	**01 46 12.8**	**-2.2**
0.2nm1μm44nm,0.5s							
MRSI	**Marisa**	**6.73**	**190**	P	**Pn**	**01 46 18.7**	**+0.2**
0.3nm864nm32nm,0.6s							
APSI	**Ampana**	**8.14**	**190**	P	**Pn**	**01 46 40.2**	**+2.3**
0.2nm669nm74nm,0.9s							
LUWI	**Luwuk**	**8.14**	**182**	Pn	**Pn**	**01 46 39.3**	**+1.3**
LUWI				Sn	**Sn**	**01 48 10.6**	**0.0**
LUWI	**Luwuk**	**8.14**	**182**	P	**Pn**	**01 46 41.3**	**+3.4**
0.7nm4μm180nm,0.6s							
TTSI	**Tana Toraja**	**10.65**	**198**	P	Pn	01 47 21.2	+8.9
SIJI	**Sorong**	**11.38**	**134**	LR	LR	01 51 54.6	
comp=Z,183nm,20.8s,baz=302,slow=38							
KAPI	**Kappang**	**12.54**	**196**	LR	LR	01 52 31.2	
comp=Z,158nm,19.1s,baz=9.0,slow=38							
GENI	**Genyem**	**19.57**	**119**	P	**Pn**	**01 49 10.1**	**+0.8**
MDSI	**Maura Dua**	**22.16**	**239**	P	**P**	**01 49 37.5**	**+1.4**
BKNI	**Bangkinang**	**23.04**	**254**	P	**P**	**01 49 44.4**	**-1.1**
BKNI	**Bangkinang**	**23.04**	**254**	P	**P**	**01 49 46.1**	**+0.6**
KSI	**Kapahiang**	**23.13**	**243**	P	**P**	**01 49 48.2**	**+1.8**
MNSI	**Mandailing Nat**	**24.31**	**256**	P	**P**	**01 49 57.5**	**-0.3**
RPSI	**Rantau Prapat**	**24.51**	**261**	P	**P**	**01 49 58.7**	**-1.0**
RPSI				IAmb	IAmb	01 50 00.4	
comp=Z,21nm,1.1s							
CMAR	**Chiang Mai Arr**	**26.08**	**298**	P	**P**	**01 50 13.0**	**-0.9**
comp=Z,0.8nm,0.3s,baz=111,slow=7.7,SNR=5.5							
CMAR				LR	LR	02 00 25.6	
comp=Z,140nm,18.4s,baz=153,slow=37							
CMAR	**Chiang Mai Arr**	**26.08**	**298**	P	**P**	**01 50 13.3**	**-0.6**
JNU	**Nakatsue**	**26.83**	**15**	P	**P**	**01 50 20.5**	**0.0**
JMN	**Monobe**	**28.26**	**19**	P	**P**	**01 50 35.6**	**+2.3**
PSA00	**Pilbara Seismi**	**28.72**	**186**	P	**P**	**01 50 37.0**	**-0.4**
PSA00	**Pilbara Seismi**	**28.72**	**186**	P	**P**	**01 50 37.1**	**-0.4**
PSA00				IAmb	IAmb	01 50 37.8	
comp=Z,7.7nm,0.8s							
WB0	**Warramunga Arr**	**28.96**	**158**	P	**P**	**01 50 39.2**	**-0.5**
WRA	**Warramunga Arr**	**29.10**	**158**	P	**P**	**01 50 40.1**	**-0.7**
comp=Z,2.0nm,0.8s,baz=337,slow=9.9,SNR=11							
WRA				LR	LR	02 05 51.9	
comp=Z,69nm,18.6s,baz=225,slow=44							
WRA	**Warramunga Arr**	**29.10**	**158**	P	**P**	**01 50 40.2**	**-0.7**
WB2	**Warramunga Arr**	**29.10**	**158**	P	**P**	**01 50 38.7**	**-2.2**
WB2				IAmb	IAmb	01 50 53.7	
comp=Z,7.1nm,1.2s							
WR0	**Warramunga Arr**	**29.19**	**158**	P	**P**	**01 50 42.3**	**+0.6**
WR0				IAmb	IAmb	01 50 58.6	
comp=Z,8.2nm,1.1s							
KSRS	**Korea Array**	**30.48**	**8**	LR	LR	02 02 42.4	
comp=Z,101nm,21.4s,baz=200,slow=36							
MJAR	**Matsushiro Arr**	**32.34**	**23**	LR	LR	02 03 09.2	
comp=Z,121nm,19.1s,baz=200,slow=34							
ASAR	**Alice Springs**	**32.39**	**161**	P	**P**	**01 51 09.8**	**-0.1**
comp=Z,0.7nm,0.5s,baz=345,slow=6.9,SNR=8.0							
ASAR				PcP	**PcP**	**01 53 56.4**	**-1.4**
comp=Z,0.6nm,0.6s,baz=342,slow=2.6,SNR=2.5							
ASAR	**Alice Springs**	**32.39**	**161**	P	**P**	**01 51 09.5**	**-0.4**
ASAR					**PcP**	**01 53 56.6**	**-1.1**
STKA	**Stephens Creek**	**42.63**	**157**	P	**P**	**01 52 37.7**	**+1.2**
comp=Z,6.0nm,0.8s,baz=315,slow=9.7,SNR=8.5							
STKA	**Stephens Creek**	**42.63**	**157**	P	**P**	**01 52 36.3**	**-0.2**
ULN	**Ulaanbaatar**	**42.82**	**344**	P	**P**	**01 52 37.4**	**-0.7**
ULN				IAmb	IAmb	01 52 42.9	
comp=Z,6.6nm,1.2s							
SONM	**Songino Array**	**42.98**	**343**	P	**P**	**01 52 38.2**	**-1.1**
comp=Z,2.3nm,1.0s,baz=143,slow=8.6,SNR=5.6							
SONM				LR	LR	02 13 10.9	
comp=Z,86nm,18.7s,baz=154,slow=40							
SONM	**Songino Array**	**42.98**	**343**	P	**P**	**01 52 40.1**	**+0.8**
MK31	**Makanchi Array**	**52.72**	**326**	P	**P**	**01 53 55.5**	**+0.6**
MK31				IAmb	IAmb	01 54 08.9	
comp=Z,3.2nm,0.9s							
MKAR	**Makanchi Array**	**52.72**	**326**	P	**P**	**01 53 53.6**	**-1.3**
comp=Z,0.9nm,0.6s,baz=106,slow=7.8,SNR=8.4							
MKAR				LR	LR	02 16 31.6	
comp=Z,114nm,22.0s,baz=111,slow=36							
MKAR	**Makanchi Array**	**52.72**	**326**	P	**P**	**01 53 55.7**	**+0.8**
NIL	**Nilore**	**53.01**	**307**	P	**P**	**01 53 58.5**	**+1.3**
NIL				IAmb	IAmb	01 54 18.3	
comp=Z,9.2nm,1.0s							
PETK	**Petropavlovsk-**	**53.76**	**25**	P	**P**	**01 54 03.0**	**+0.7**
comp=Z,2.3nm,0.9s,baz=266,slow=14,SNR=1.9							
PETK	**Petropavlovsk-**	**53.76**	**25**	P	**P**	**01 54 04.1**	**+1.8**
ZALV	**Zalesovo Beam**	**55.94**	**334**	P	**P**	**01 54 18.9**	**+0.7**
comp=Z,0.8nm,0.6s,baz=116,slow=7.4,SNR=2.9							
ZALV	**Zalesovo Beam**	**55.94**	**334**	P	**P**	**01 54 15.7**	**-2.4**
KKAR	**Karatay Array**	**58.30**	**317**	P	**P**	**01 54 34.4**	**-0.6**
ARU	**Arti**	**70.15**	**328**	P	**P**	**01 55 52.1**	**-0.4**
ARU				IAmb	IAmb	01 55 55.6	
comp=Z,13nm,1.5s							
BRTR	**Keskin Array B**	**85.09**	**309**	P	**P**	**01 57 14.1**	**-2.4**
comp=Z,1.1nm,0.9s,baz=113,slow=5.0,SNR=7.5							
BRTR	**Keskin Array B**	**85.09**	**309**	P	**P**	**01 57 14.7**	**-1.9**
NOA	**NORSAR Array B**	**94.14**	**333**	LR	LR	02 42 47.9	
comp=Z,46nm,20.9s,baz=65,slow=37							

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*REN **16** 01:50:49.2±1.8, 41°.87N±0°.04×119°.63W±0°.02, h9km±6km, ML3.4/4, ML3.4/34(NEIC), Error ellipse: s-maj=5.4km s-min=1.5km az=158.0*
NEIC 16 01:50:49.5±1.9, 41°.87N±0°.04×119°.62W±0°.05, h15km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=133.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.51**	**274**	Pg	Pg	01 50 59.2	-0.5
MOD				IAML		01 51 06.8	
comp=N,4μm,0.4s							
MOD				IAML		01 51 09.2	
comp=E,3μm,0.3s							
MOD	**Modoc Plateau**	**0.51**	**274**		Sg	01 51 06.6	0.0
WVOR	**Wild Horse Val**	**0.92**	**52**		Pn	01 51 08.0	-0.2
WVOR					Sn	01 51 22.4	+1.2
WVOR	**Wild Horse Val**	**0.92**	**52**	IAML		01 51 22.7	
comp=E,855nm,0.6s							
K05A	**Summer Lake**	**1.28**	**313**	Pn	Pb	01 51 13.6	+0.3
K05A				IAML		01 51 34.1	
comp=N,458nm,0.8s							

BEKR Beckworth 2.08 196 Pn Pn 01 51 24.5 +0.5
BEKR Sn Sn 01 51 50.5 +0.8
PINE Pine Mountain 2.15 334 Pn Pn 01 51 25.6 +0.5
PINE IAML 01 51 59.2
comp=E,181nm,0.6s
PAHR Pah Rah Range 2.17 175 Pn Pn 01 51 25.5 +0.3
YBH Yreka Blue Hor 2.31 268 Pn Pn 01 51 26.2 -1.0
YBH IAML 01 52 56.2
comp=N,180nm,0.9s
YBH IAML 01 52 56.4
comp=E,243nm,1.0s
WDC Whiskeytown Da 2.55 241 Pn Pn 01 51 29.7 -0.7
WDC IAML 01 53 04.6
comp=N,170nm,1.1s
WDC IAML 01 53 05.2
comp=E,197nm,1.1s
HUMO Hull Mountain 2.58 288 Pn Pn 01 51 30.7 -0.2
HUMO IAML 01 53 03.8
comp=N,155nm,0.9s
HUMO IAML 01 53 05.0
comp=E,266nm,1.3s
ORV Oroville 2.72 212 Pn Pn 01 51 31.6 -1.0
ORV IAML 01 53 13.2
comp=N,114nm,0.8s
G08A Pilot Rock 3.46 8 Pn Pn 01 51 41.8 -1.1
G08A IAML 01 54 00.2
comp=E,122nm,0.9s
HOPS Hopland Field 3.90 224 Pn Pn 01 51 49.2 +0.3
HOPS IAML 01 53 42.0
comp=E,71nm,2.4s
HOPS IAML 01 54 22.4
comp=N,96nm,2.9s
HLID Hailey 4.19 64 Pn Pn 01 51 53.0 -0.1
E07A Sunnyside 4.69 358 Pn Pn 01 51 58.6 -1.2
SPR3 Spring Creek 3 4.95 124 Pn Pn 01 52 02.3 -1.3
LON Longmire 5.13 343 Pn Pn 01 52 05.5 -0.3
BCYI Bear Canyon 5.17 60 Pn Pn 01 52 06.0 -0.5
DUG Dugway, Tooele 5.41 106 Pn Pn 01 52 09.3 -0.5
MSO Missoula 6.42 37 Pn 01 52 22.2 -1.3
MSO Sn 01 53 37.6 +1.0
CCUT Cedar City 6.47 130 Sn 01 53 40.1 +2.0
LRM Limekiln Ridge 6.52 50 Pn Pn 01 52 25.0 -0.1
MVU Marysvale 6.59 118 Pn 01 52 26.0 -0.1
YHH Holmes Hill 7.03 63 Pn Pn 01 52 32.0 -0.2
P17A Butcher Ranch, 7.16 107 Pn Pn 01 52 33.8 -0.1
HRY Holter Researc 7.39 46 Pn Pn 01 52 35.4 -1.6
PD31 Pinedale Array 7.51 80 Sn 01 54 04.4 +0.6
RDMU Red Mountain 7.69 96 Pn Pn 01 52 39.8 -1.4
U15A North Rim 7.87 131 Pn 01 52 43.3 -0.4
RLMT Red Lodge 8.20 63 Pn Pn 01 52 48.6 +0.5
RLMT Sn 01 54 19.1 -1.5

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*ANF **16** 01:52:10.3±0.7, 41°.82N×119°.61W, h1km±6km, ML4.6/22, Error ellipse: s-maj=3.2km s-min=2.8km az=137.0*
*REN **16** 01:52:12.0±2.2, 41°.90N±0°.04×119°.64W±0°.06, h10km±4km, ML4.6/5, mb4.3/50(NEIC), ML4.6/32(SEA), ML4.2/75(NEIC), Mwr4.5/115(NEIC), Mww4.5(NEIC), Error ellipse: s-maj=6.4km s-min=5.3km az=52.0*
*IDC **16** 01:52:11.7±0.5, 41°.96N×119°.68W, h0km, mb3.9/11, mb1 3.9/18, mb1mx3.8/66, mbtmp3.8/18, ML3.4/7, MS3.7/11, Ms1 3.7/11, ms1mx3.5/38, Error ellipse: s-maj=8.6km s-min=6.8km az=19.0*
*NEIC **16** 01:52:12.5±2.3, 41°.86N±0°.04×119°.63W±0°.05, h13km±3km, Error ellipse: s-maj=6.7km s-min=2.8km az=221.0*
*SEA **16** 01:52:12.9±3.5, 41°.81N±0°.04×119°.66W±0°.06, h0km±4km, Error ellipse: s-maj=6.7km s-min=5.0km az=60.0*
*NEIC **16** 01:52:13.2, 41°.92N×119°.67W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.96; $M_{\theta\theta}$-2.34; $M_{\phi\phi}$4.30; $M_{r\theta}$-3.22; $M_{\theta\phi}$-0.08; $M_{\phi r}$-4.93; Fault plane solution: $M_0$6.97000×10^{15} NP1:ϕ_s31.64000°, δ80.23000°, λ-64.55000°. NP2:ϕ_s141.27000°, δ27.14000°, λ-158.16000°. Principal axes: T 7.2587, Plg31.0000°, Azm101.0000°; N -0.6083, Plg25.0000°, Azm207.0000°; P -6.6504, Plg49.0000°, Azm329.0000°;*
*NEIC **16** 01:52:17, 41°.93N×119°.65W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.29; $M_{\theta\theta}$-2.56; $M_{\phi\phi}$5.86; $M_{r\theta}$-1.59; $M_{\theta\phi}$-0.81; $M_{\phi r}$-5.94; Fault plane solution: $M_0$8.02000×10^{15} NP1:ϕ_s142.00000°, δ26.00000°, λ-141.00000°. NP2:ϕ_s16.00000°, δ74.00000°, λ-69.00000°. Principal axes: T 8.7744, Plg26.0000°, Azm90.0000°; N -1.8324, Plg20.0000°, Azm190.0000°; P -6.9420, Plg56.0000°, Azm313.0000°;*
ISC 16 01:52:10.7±1.2, 41°.88N±0°.03×119°.62W±0°.02, h3km±8km, n222, σ1§40/230, mb4.3/31, MS3.7/6, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.51**	**273**	Pg	**Pg**	**01 52 21.7**	**+1.1**
MOD				Sg	**Sb**	**01 52 29.2**	**-1.2**
MOD				IAML		01 52 31.1	
comp=N,20μm,0.6s							
LKVW	**Lakeview**	**0.65**	**302**		**Pg**	**01 52 24.3**	**+1.0**
LKVW					**Sb**	**01 52 33.7**	**-0.8**
WVOR	**Wild Horse Val**	**0.92**	**52**	Pg	**Pg**	**01 52 29.3**	**+1.0**
WVOR	**Wild Horse Val**	**0.92**	**52**		**Sb**	**01 52 42.3**	**+0.3**
WVOR	**Wild Horse Val**	**0.92**	**52**	IAML		01 52 45.9	
comp=N,8μm,1.1s							
WVOR				IAML		01 52 46.1	
comp=N,15μm,1.2s							
K05A	**Summer Lake**	**1.27**	**312**	Pn	**Pn**	**01 52 35.9**	**+0.2**
K05A	**Summer Lake**	**1.27**	**312**		**Sn**	**01 52 53.6**	**+0.2**
HOG	**Hogback Mounta**	**1.60**	**284**		**Pb**	**01 52 41.1**	**0.0**
M04C	**Macdoel**	**1.66**	**267**	P	**Pn**	**01 52 40.6**	**-0.3**
M04C				S	**Sg**	**01 53 03.9**	**-0.3**
baz=85,SNR=527							
J08A	**Circle Bar Ran**	**1.70**	**29**		**Pn**	**01 52 41.6**	**+0.1**
K04D	**Chiloquin, OR**	**1.75**	**296**	P	**Pn**	**01 52 42.3**	**+0.1**
baz=114,SNR=80							
K04D				S	**Sg**	**01 53 06.6**	**-0.4**
baz=114							
K04D	**Chiloquin, OR**	**1.75**	**296**		**Pg**	**01 52 44.2**	**-0.1**
J05D	**Fort Rock, OR**	**1.84**	**320**	P	**Pn**	**01 52 44.0**	**+0.5**
baz=139,SNR=329							
J05D				S	**Sg**	**01 53 09.4**	**-0.6**
baz=139							
LHEM	**Herd Peak**	**1.96**	**264**		**Pb**	**01 52 47.4**	**+0.1**
L04D	**Klamath Falls**	**2.03**	**281**	P	**Pn**	**01 52 45.8**	**-0.2**
baz=98,SNR=56							
L04D				S	**Sb**	**01 53 13.4**	**-0.8**
baz=98							
TMBU	**Tom Butte, New**	**2.06**	**327**		**Pb**	**01 52 49.8**	**+0.9**
TMBU					Lg	01 53 18.8	
BEKR	**Beckworth**	**2.09**	**196**	Pn	**Pn**	**01 52 47.5**	**+0.6**
BEKR				IAML		01 53 21.2	
comp=E,2μm,0.7s							
BEKR				IAML		01 53 22.8	
comp=N,1μm,0.6s							
PINE	**Pine Mountain**	**2.15**	**333**	Pn	**Pn**	**01 52 48.0**	**+0.3**
PINE				IAML		01 53 28.4	
comp=N,3μm,0.9s							
PAHR	**Pah Rah Range**	**2.18**	**175**	Pn	**Pn**	**01 52 48.5**	**+0.4**
PAHR				IAML		01 53 27.2	
comp=E,961nm,1.2s							
I07A	**Izee**	**2.21**	**2**		**Pn**	**01 52 49.1**	**+0.6**
I07A				IAML		01 53 22.8	
comp=N,2μm,0.5s							
I07A				IAML		01 53 32.3	
comp=E,2μm,1.6s							
O03E	**Paynes Creek**	**2.29**	**227**	P	**Pn**	**01 52 49.7**	**+0.2**
baz=45,SNR=37							
O03E				Sb	**Sb**	**01 53 22.5**	**+1.0**
baz=45							
J04D	**Umpqua Nationa**	**2.29**	**307**	P	**Pn**	**01 52 50.1**	**+0.4**
baz=126,SNR=44							
J04D				Sb	**Sg**	**01 53 25.0**	**+0.7**
baz=126							
YBH	**Yreka Blue Hor**	**2.32**	**267**	Pn	**Pn**	**01 52 49.7**	**-0.2**
comp=E,34nm,0.3s,baz=83,slow=13,SNR=22							
YBH				Lg	Lg	01 53 23.8	
comp=E,75nm,0.3s,baz=346,slow=10,SNR=7.8							
YBH	**Yreka Blue Hor**	**2.32**	**267**	Pn	**Pn**	**01 52 49.9**	**-0.1**
YBH	**Yreka Blue Hor**	**2.32**	**267**		LR	01 53 23.7	
ASBU	**Astronaut Butt**	**2.33**	**327**		**Pb**	**01 52 53.3**	**-0.2**
ASBU					Lg	01 53 24.8	
M02C	**Callahan**	**2.47**	**260**	P	**Pn**	**01 52 51.4**	**-0.7**
baz=77,SNR=38							
M02C				Sb	**Sb**	**01 53 28.3**	**+1.4**
baz=77							

N02D Trinity Center 2.49 250 P Pn 01 52 51.7 -0.6
baz=67,SNR=19
N02D Sb **Sb 01 53 28.5 +1.2**
baz=67
WDC Whiskeytown Da 2.56 241 Pn Pn 01 52 52.9 -0.2
VCNR Virginia City 2.58 181 Pn Pn 01 52 54.0 +0.4
HUMO Hull Mountain 2.58 287 Pn Pn 01 52 53.6 0.0
HUMO IAML 01 53 39.5
comp=E,893nm,1.5s
HUMO IAML 01 53 41.5
comp=N,1μm,1.7s
ORV Oroville 2.73 212 Pn Pn 01 52 55.8 +0.3
I05D Terrebonne, OR 2.76 333 Pb Pb 01 53 01.6 +0.8
baz=152
I05D Sb **Sg 01 53 39.2 -0.3**
baz=152
PNTR Pine Nut 2.79 180 Pn Pn 01 52 56.4 -0.1
PNTR IAML 01 53 46.9
comp=N,1μm,0.8s
PNTR IAML 01 53 47.2
comp=E,1μm,1.1s
PRLK Prince Lake 2.90 324 Pb 01 53 04.7 +1.6
YERR Yerington 2.90 174 Pn Pn 01 52 59.4 +1.3
YERR IAML 01 53 51.6
comp=N,1μm,0.8s
YERR IAML 01 53 54.5
comp=E,981nm,0.9s
O02D Mt. Diablo Mer 2.94 236 P Pn 01 52 58.2 -0.3
baz=53,SNR=100
O02D Sb **Sb 01 53 41.9 +1.7**
baz=53
L02E Cave Junction 2.98 277 P Pn 01 52 59.3 +0.3
baz=94,SNR=72
L02E Sb **Sb 01 53 43.4 +2.0**
baz=94
KVN Kaiserville 3.05 157 Pn Pn 01 53 02.1 +2.0
KVN IAML 01 53 55.8
comp=E,412nm,1.0s
KVN IAML 01 53 55.9
comp=N,447nm,0.9s
AFDM Forest Hills D 3.10 200 Pn Pn 01 53 03.4 +2.7
K02D Willamette Mer 3.11 287 P Pn 01 53 01.9 +1.0
baz=104,SNR=242
K02D Sb **Sg 01 53 48.3 -2.5**
baz=104
MFID Camas Ranch 3.19 60 Pn Pn 01 53 02.7 +0.8
KRMB Red Mountain 3.23 265 Pn Pn 01 53 02.6 +0.1
KRMB IAML 01 54 13.3
comp=N,491nm,1.6s
KHMM Horse Mountain 3.25 253 Pn Pn 01 53 04.0 +1.2
KHMM IAML 01 53 28.7
comp=N,417nm,0.9s
KHMM IAML 01 54 09.7
comp=E,440nm,1.8s
I03D Drain, OR 3.29 305 Pb Pb 01 53 10.7 +0.9
baz=122
I03D Sb **Sg 01 53 53.8 -2.8**
baz=122
RYN Ryan 3.35 165 Pn Pn 01 53 05.4 +1.2
RYN IAML 01 54 05.0
comp=E,643nm,0.7s
RYN IAML 01 54 05.3
comp=N,471nm,0.7s
WAKR Walker 3.37 178 Pn Pn 01 53 05.9 +1.3
H04A Detroit Lake 3.37 327 Pn Pn 01 53 05.5 +1.1
H04A IAML 01 54 09.1
comp=N,358nm,1.0s
H04A IAML 01 54 16.5
comp=E,334nm,1.1s
BUCK Buck Mountain 3.39 314 Pn Pn 01 53 04.6 0.0
BUCK IAML 01 54 03.3
comp=E,502nm,1.7s
BUCK IAML 01 54 03.5
comp=N,849nm,1.7s
J01E Myrtle Point 3.44 293 Pg Pg 01 53 16.5 -0.1
baz=110
KBO Bosley Butte 3.45 277 Pn 01 53 05.5 0.0
KBO IAML 01 54 08.5
comp=E,744nm,1.7s
KBO IAML 01 54 20.3
comp=N,905nm,1.4s
ELK Elko 3.49 107 Pn Pn 01 53 08.7 +2.6
comp=N,13nm,0.3s,baz=299,slow=16,SNR=4.8
ELK Lg Lg 01 53 59.2
comp=N,45nm,0.3s,baz=80,slow=23,SNR=3.4
ELK Elko 3.49 107 Pn Pn 01 53 07.4 +1.3
JCC Jacoby Creek, 3.49 254 Pn Pn 01 53 06.5 +0.6
JCC IAML 01 54 08.8
comp=E,407nm,1.4s
JCC IAML 01 54 16.6
comp=N,350nm,2.8s
H04D Lebanon 3.49 320 Pg Pg 01 53 18.2 +0.5
baz=138
H04D Sb **Sg 01 54 00.8 -2.1**
baz=138
KMRM Mail Ridge 3.51 243 Pn Pn 01 53 07.6 +1.3
KMRM IAML 01 54 16.9
comp=E,537nm,1.6s
G05D Wamic, OR 3.58 340 P Pn 01 53 08.0 +0.8
baz=159,SNR=8.4
NVAR Mina Array Bea 3.59 163 Pn Pn 01 53 10.8 +3.3
comp=E,3.7nm,0.3s,baz=340,slow=13,SNR=4.5
NVAR Pg **Pg 01 53 18.2 -1.3**
comp=E,26nm,0.3s,baz=335,slow=14,SNR=23
NVAR Lg Lg 01 54 06.1
comp=E,70nm,0.3s,baz=329,slow=16,SNR=3.4
NVAR Mina Array Bea 3.59 163 Pn Pn 01 53 08.7 +1.2
KEBM Edson Butte 3.63 287 Pn Pn 01 53 07.5 -0.5
LHV Little Huntoon 3.72 166 Pn Pn 01 53 10.6 +1.5
COR Corvallis 3.82 316 Pn Pn 01 53 11.0 +0.5
COR IAML 01 54 25.1
comp=E,554nm,2.3s
COR IAML 01 54 26.5
comp=E,480nm,1.1s
I02D Swisshome 3.82 307 Pb Pb 01 53 18.3 -0.4
baz=124
CMB Columbia Colle 3.88 189 Pn 01 53 13.1 +1.7
HLID Hailey 4.19 65 Pb Pb 01 53 24.9 -0.2
baz=248
F05D White Salmon 4.22 342 Sb Sg 01 54 22.1 -4.2
baz=161
HAWA Hanford 4.51 1 Pn 01 53 21.2 +1.2
HAWA IAML 01 54 45.9
comp=E,164nm,0.9s
E07A Sunnyside 4.68 358 Pn Pn 01 53 23.1 +0.7
E07A IAML 01 54 56.4
comp=N,219nm,1.2s
E07A IAML 01 55 01.6
comp=E,268nm,1.3s
F04D Rainier, OR 4.87 331 Pb Pb 01 53 37.2 +0.6
baz=149
SPR3 Spring Creek 3 4.95 124 Pn Pn 01 53 27.8 +1.4
BGU Big Grassy Mou 5.04 99 Pn Pn 01 53 28.5 +1.0
BGU IAML 01 54 59.5
comp=N,250nm,2.7s
E04D Cinebar 5.14 337 P Pn 01 53 29.6 +1.1
baz=155
D08A Wollman Farm, 5.20 5 Pn 01 53 29.8 +0.3
D08A IAML 01 55 12.4
comp=E,151nm,2.0s
SAO San Andreas Ge 5.30 196 Pn Pn 01 53 31.6 +0.8
DUG Dugway, Tooele 5.41 106 P Pn 01 53 33.0 +0.4
baz=290
LTY Liberty 5.43 352 Pn Pn 01 53 33.6 +0.9
PRN Pahroc Range 5.69 140 Pn Pn 01 53 37.7 +1.4
PMPB Monarch Peak 5.73 190 Pn Pn 01 53 38.0 +1.2
MCMT McKenzie Canyo 5.75 57 Pn Pn 01 53 40.5 +3.2
NLU North Lily Min 6.03 106 Pn Pn 01 53 41.6 +0.6
CTU Camp Tracy 6.04 99 Pn Pn 01 53 42.8 +1.5
DLMT Dillon 6.17 53 Pn 01 53 43.0 0.0
D03D Eldon 6.17 338 P Pn 01 53 42.2 -0.6
baz=155,SNR=6.5
ISA Isabella, Lake 6.27 171 Pn Pn 01 53 45.0 +0.8
JLU Jordanelle 6.29 99 Pn 01 53 47.2 +2.6
NLWA Neilton Lookou 6.39 333 Pn Pn 01 53 44.4 -0.1
MPU Maple Canyon 6.32 104 Pn Pn 01 53 45.1 +0.1
TCRU Three Creeks R 6.38 118 Pn 01 53 45.7 -0.2
LRM Limekiln Ridge 6.51 50 Pn 01 53 46.9 -0.8
TPAW Teton Pass 6.59 73 Pn 01 53 51.1 +2.3
MVU Marysvale 6.59 118 Pn 01 53 49.4 +0.5
SZCU Shurtz Canyon 6.60 128 Pn Pn 01 53 49.5 +0.6
MSU Marysvale 6.61 118 Pn Pn 01 53 49.7 +0.6
B05A Bryant 6.62 345 P Pn 01 53 50.8 +1.8
baz=164,SNR=10
NEW Newport 6.63 15 Pn Pn 01 53 48.3 -0.7
comp=E,0.2nm,0.3s,baz=291,slow=15,SNR=3.0

NEW Lg Lg 01 55 38.4
comp=E,1.3nm,0.3s,baz=277,slow=7.4,SNR=6.2
NEW Newport 6.63 15 Pn Pn 01 53 48.3 -0.7
REDW Red Top Meadow 6.63 74 Pn 01 53 49.4 0.0
MTPU Mount Pierson 6.88 121 Pn Pn 01 53 53.4 +0.6
BOZ Bozeman (W) 6.88 55 Pn 01 53 53.1 +0.5
YPP Pitchstone Pla 6.88 67 Pn Pn 01 53 53.9 +1.0
TMUT Trail Mountain 6.90 109 Pn Pn 01 53 54.6 +1.5
LCMT Little Creek M 6.92 133 Pn 01 53 54.8 +1.5
JTMT Jette 6.99 31 Pn Pn 01 53 54.3 +0.2
H17A Grant Village 7.08 66 Pn Pn 01 53 58.1 +2.7
KNB Kanab 7.15 131 Pn Pn 01 53 58.4 +1.9
P17A Butcher Ranch, 7.16 107 Pn 01 53 58.2 +1.6
PKCU Pink Cliffs 7.17 126 Pn 01 53 58.5 +1.7
SRU San Rafael Swe 7.46 109 Pn 01 54 01.2 +0.5
BW06 Boulder Array 7.51 80 Pn 01 54 02.5 +1.1
PDAR Pinedale Array 7.51 80 Pn Pn 01 54 06.0 +4.6
comp=E,0.3nm,0.3s,baz=265,slow=13,SNR=13
PDAR Pinedale Array 7.51 80 Pn Pn 01 54 03.6 +2.2
RDMU Red Mountain 7.69 96 Pn 01 54 05.9 +2.1
U15A North Rim 7.87 131 Pn 01 54 07.8 +1.4
W13A Hualapai Mount 8.12 145 Pn Pn 01 54 11.2 +1.4
RLMT Red Lodge 8.19 63 Pn Pn 01 54 12.5 +1.8
WALA Waterton Lakes 8.22 27 Pn 01 54 14.3 +3.3
O20A White River Ci 8.78 98 Pn Pn 01 54 18.6 -0.1
PV14 Lion Creek, Pa 8.84 110 Pn 01 54 20.7 +1.1
PV04 Paradox Valley 8.91 109 Pn 01 54 21.5 +0.9
PV17 East Wray Mesa 8.92 110 Pn 01 54 22.0 +1.2
PV16 Nyswonger Mesa 8.94 110 Pn 01 54 21.3 +0.3
PV11 David Mesa, Pa 8.98 110 Pn 01 54 21.7 +0.2
PV12 Saucer Basin, 9.02 110 Pn 01 54 24.6 +2.5
WUAZ Wupatki 9.04 132 Pn 01 54 22.5 +0.2
PV13 Radium Mtn., P 9.08 111 Pn Pn 01 54 22.7 -0.2
RWWY Rawlins 9.27 87 Pn Pn 01 54 25.6 0.0
K22A Casper 9.74 81 Pn Pn 01 54 31.9 0.0
SMCO Snowmass 10.00 101 Pn Pn 01 54 35.1 -0.5
PHWY Pilot Hill 10.62 88 Pn 01 54 44.6 +0.5
ISCO Idaho Springs 10.81 96 Pn 01 54 50.3 +3.6
SDCO Great Sand Dun 11.61 106 Pn 01 54 59.2 +1.5
BBB Bella Bella 11.82 334 LR LR 02 00 11.3
comp=E,513nm,18.2s,baz=142,slow=41
TUC Tucson 11.86 141 Pn **Pn 01 55 01.3 +0.4**
ANMO Albuquerque 12.42 120 Pn **Pn 01 55 12.4 +3.8**
comp=E,0.1nm,0.3s,baz=301,slow=12,SNR=5.3
ANMO Albuquerque 12.42 120 Pn **Pn 01 55 10.0 +1.4**
T25A Trinidad 12.66 107 Pn **Pn 01 55 12.7 +0.8**
121A Cookes Peak, D 13.25 131 Pn **Pn 01 55 20.9 +0.9**
MNTX Cornudas Mount 15.25 127 P **P 01 55 52.1 0.0**
MSTX Muleshoe 15.44 115 Pn **Pn 01 55 51.1 +1.5**
MSTX IAmb IAmb 01 55 59.3
comp=Z,26nm,1.4s
GDL2 Guadalupe Moun 15.52 124 Pn **Pn 01 55 52.1 +1.4**
R32A Long Quarter, 16.35 95 Pn **Pn 01 56 01.5 +0.2**
R32A IAmb IAmb 01 56 10.6
comp=Z,16nm,0.9s
ECSD EROS Data Cent 16.98 76 Pn **Pn 01 56 09.4 +0.2**
FFC Flin Flon 17.34 36 Pn **Pn 01 56 13.4 -0.2**
WMOK Wichita Mounta 17.82 107 Pn **Pn 01 56 19.6 -0.1**
DLBC Dease Lake 17.83 342 P **P 01 56 24.8 +4.2**
comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=4.6
DLBC LR LR 02 02 38.4
comp=Z,40nm,20.7s,baz=100,slow=35
DLBC Dease Lake 17.83 342 Pn **Pn 01 56 17.4 -2.4**
TX32 Lajitas Array 17.99 129 Pn **Pn 01 56 20.0 -1.9**
TXAR Lajitas Array 17.99 129 P **P 01 56 24.3 +1.8**
comp=Z,0.0nm,0.3s,baz=324,slow=8.9,SNR=6.8
TXAR LR LR 02 04 22.2
comp=Z,253nm,20.1s,baz=0.0,slow=40
TXAR Lajitas Array 17.99 129 Pn **Pn 01 56 20.9 -1.1**
N35A Tabor 18.02 85 Pn **Pn 01 56 20.9 -1.2**
N35A IAmb IAmb 01 56 30.4
comp=Z,47nm,1.1s
ULM Lac du Bonnet 18.42 55 P **Pn 01 56 28.7 +1.7**
comp=Z,0.2nm,0.3s,baz=231,slow=6.5,SNR=2.0
ULM LR LR 02 03 14.9
comp=Z,161nm,18.8s,baz=250,slow=36
ULM Lac du Bonnet 18.42 55 P **P 01 56 26.3 -0.7**
F36A Milaca 19.20 69 P 01 56 34.4 -1.3
I37A Lemond, Waseca 19.29 75 P P 01 56 35.9 -0.7
LPIG La Paz 19.35 154 LR LR 02 03 59.1
comp=Z,142nm,20.3s,baz=332,slow=36
SPMN Marine on St. 19.69 71 P **P 01 56 40.0 -1.0**
SPMN IAmb IAmb 01 56 48.2
comp=Z,12nm,1.0s
N38A Joes South For 19.82 84 P **P 01 56 42.0 -0.4**
K38A Parkersburg 19.86 79 P **P 01 56 42.2 -0.7**
K38A IAmb IAmb 01 56 53.3
comp=Z,32nm,1.1s
P38A Dawn 19.87 88 P **P 01 56 42.5 -0.5**
P38A IAmb IAmb 01 56 56.4
comp=Z,9.7nm,0.9s
U38A Gravette 20.27 97 P **P 01 56 45.9 -1.5**
X37A Clayton 20.35 103 P **P 01 56 47.9 -0.4**
X37A IAmb IAmb 01 56 54.3
comp=Z,14nm,1.2s
HHAR Hobbs 20.66 97 P **P 01 56 51.3 -0.4**
HHAR IAmb IAmb 01 56 60.0
comp=Z,11nm,1.1s
P40A Paris 21.00 87 P **P 01 56 54.5 -0.8**
L40A Anamosa 21.08 80 P **P 01 56 55.3 -0.8**
L40A IAmb IAmb 01 57 04.5
comp=Z,24nm,1.0s
W39A Magazine 21.23 100 P **P 01 57 00.1 +2.3**
W39A IAmb IAmb 01 57 08.0
comp=Z,19nm,1.2s
I40A Norwalk 21.30 75 P **P 01 56 57.1 -1.4**
I40A IAmb IAmb 01 57 01.2
comp=Z,29nm,1.1s
U40A Yellville 21.44 96 P **P 01 56 59.2 -0.8**
U40A IAmb IAmb 01 57 08.5
comp=Z,17nm,1.3s
G40A Rib Lake 21.52 71 P **P 01 57 00.2 -0.7**
G40A IAmb IAmb 01 57 06.6
comp=Z,13nm,1.1s
MGMO Mountain Grove 21.58 94 P **P 01 57 04.1 +2.6**
N41A Harden Midland 21.60 83 P **P 01 57 02.4 +0.7**
N41A IAmb IAmb 01 57 06.8
comp=Z,31nm,1.3s
JFWS Jewell Farm 21.67 77 P **P 01 57 02.2 -0.3**
MIAR Mount Ida 21.68 101 P **P 01 57 01.8 -0.8**
MIAR IAmb IAmb 01 57 08.8
comp=Z,21nm,1.4s
HYT Haines Junctio 21.88 336 P **P 01 57 02.8 -1.9**
HYT IAmb IAmb 01 57 10.2
comp=Z,18nm,1.3s
CCM Cathedral Cave 22.03 91 P **P 01 57 04.2 -2.2**
CCM IAmb IAmb 01 57 13.6
comp=Z,11nm,0.8s
FCAR Ozark Folk Cen 22.17 97 P **P 01 57 06.4 -1.5**
FCAR IAmb IAmb 01 57 20.4
comp=Z,9.6nm,1.1s
L42A Oliver, Polo 22.23 80 P **P 01 57 07.2 -1.3**
WHAR Wooly Hollow 22.30 98 P **P 01 57 09.1 -0.2**
T42A Van Buren 22.50 93 P **P 01 57 10.1 -1.3**
T42A IAmb IAmb 01 57 21.4
comp=Z,9.3nm,1.1s
LCAR Lake Charles 22.82 95 P **P 01 57 13.7 -1.1**
LCAR IAmb IAmb 01 57 21.4
comp=Z,14nm,1.1s
PBMO Poplar Bluff 23.09 93 P **P 01 57 16.8 -0.8**
PBMO IAmb IAmb 01 57 24.0
comp=Z,23nm,1.4s
Q44A Meyer Farm, Va 23.43 87 P **P 01 57 20.1 -1.0**
O44A Mansfield 23.51 84 P **P 01 57 20.5 -1.3**
P46A Rosedale 24.58 84 P **P 01 57 29.2 -2.7**
USIN University of 24.73 88 P **P 01 57 32.7 -0.7**
BCAR Beaver Creek A 24.90 336 P **P 01 57 33.0 -1.7**
WVT Waverly 25.27 93 P **P 01 57 35.8 -2.4**
WVT IAmb IAmb 01 57 45.4
comp=Z,7.2nm,0.7s
T47A Sharon Grove 25.49 90 P **P 01 57 38.1 -2.1**
T47A IAmb IAmb 01 57 47.5
comp=Z,9.9nm,1.0s
PLAL Pickwick Lake 25.55 95 P **P 01 57 40.1 -0.6**
PLAL IAmb IAmb 01 57 46.2
comp=Z,9.2nm,0.8s
WCI Wyandotte Cave 25.67 87 P **P 01 57 40.9 -0.9**
KDAK Kodiak Island 26.20 319 LR LR 02 06 28.1
comp=Z,192nm,20.1s,baz=132,slow=33
EPYK Eagle Plains 26.32 344 P **P 01 57 45.5 -2.0**
EPYK IAmb IAmb 01 57 56.4
comp=Z,11nm,1.4s
INK Inuvik 27.52 349 LR LR 02 10 22.4
comp=Z,196nm,19.2s,baz=156,slow=40
ILAR Eielson Array 27.70 335 P **P 01 58 02.3 +2.4**
comp=Z,2.2nm,0.8s,baz=151,slow=7.7,SNR=13
ILAR LR LR 02 08 47.5
comp=Z,160nm,18.4s,baz=136,slow=36
ILAR Eielson Array 27.70 335 P **P 01 57 56.3 -3.6**
250A Grady 28.28 100 P **P 01 58 04.4 -0.9**
SADO Sadowa 29.38 70 LR LR 02 10 45.6
comp=Z,144nm,21.1s,baz=308,slow=38
CMIG Matias Romero 32.55 132 LR LR 02 12 26.8
comp=Z,186nm,20.4s,baz=0.0,slow=37
RES Resolute Bay 34.77 11 LR LR 02 13 42.0
comp=Z,138nm,20.4s,baz=108,slow=37
NB2 NORSAR Subarra 69.92 23 P **P 02 03 23.8 +0.9**
comp=Z,8.6nm,1.7s,baz=322,slow=6.2
NOA NORSAR Array B 69.92 23 P **P 02 03 23.3 +0.4**
comp=Z,0.5nm,0.7s,baz=327,slow=4.4,SNR=2.6
NOA NORSAR Array B 69.92 23 P **P 02 03 23.3 +0.4**
HFS Hagfors 71.38 23 P **P 02 03 33.1 +1.4**
comp=Z,1.6nm,0.8s,baz=332,slow=5.5,SNR=4.0
HFS Hagfors 71.38 23 P **P 02 03 33.1 +1.4**
FINES FINESS Array B 73.33 16 P **P 02 03 44.4 +1.0**
comp=Z,1.2nm,0.8s,baz=354,slow=5.7,SNR=7.1
FINES FINESS Array B 73.33 16 P **P 02 03 43.7 +0.4**
ESDC Sonseca Array 80.02 45 P **P 02 04 23.0 +1.4**
comp=Z,0.5nm,0.7s,baz=314,slow=5.4,SNR=3.3
SONM Songino Array 81.84 331 P **P 02 04 33.0 +1.7**
comp=Z,0.5nm,0.8s,baz=86,slow=1.5,SNR=4.1
SONM Songino Array 81.84 331 P **P 02 04 30.2 -1.1**
ARU Arti 82.05 1 P **P 02 04 32.8 +0.7**
comp=Z,0.5nm,0.3s,baz=346,slow=15,SNR=4.3
ARU Arti 82.05 1 P **P 02 04 30.6 -1.5**
ARU IAmb IAmb 02 04 33.1
comp=Z,2.6nm,0.8s
ZALV Zalesovo Beam 82.27 346 P **P 02 04 33.8 +0.5**
comp=Z,0.7nm,0.5s,baz=25,slow=6.1,SNR=4.2
ZALV Zalesovo Beam 82.27 346 P **P 02 04 32.2 -1.0**
AKASG Malin Array Be 83.86 19 P **P 02 04 42.3 +0.7**
comp=Z,0.3nm,0.3s,baz=332,slow=4.5,SNR=4.4
AKASG Malin Array Be 83.86 19 P **P 02 04 40.3 -1.3**
BVAR Borovoye Array 85.08 354 P **P 02 04 48.2 +0.5**
comp=Z,0.4nm,0.6s,baz=262,slow=8.6,SNR=4.1
BVAR Borovoye Array 85.08 354 P **P 02 04 48.2 +0.5**
HHC Hu-ho-hao-te 85.52 324 *e*P **P 02 04 48.1 -2.2**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,150nm,6.6s
NJ2 Nanjing 88.88 314 *e*P **P 02 05 05.9 -0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
MKAR Makanchi Array 89.59 345 P **P 02 05 11.2 +1.5**
comp=Z,0.4nm,0.7s,baz=54,slow=11,SNR=4.3
MKAR Makanchi Array 89.59 345 P **P 02 05 06.7 -3.0**
WMQ Urumqi 91.23 341 *e*P **P 02 05 18.6 +1.2**
LZH Lanzhou 92.81 326 *e*P **P 02 05 22.6 -2.4**
LZH pP pP 02 05 27.3 +0.8
LZH sP sP 02 05 30.3 +3.3
LZH pmax pmax
comp=Z,17nm,1.0s

*ANF **16** 01:57:25.7±0.5, 41.°87N×119.°71W, h0km, ML4.3/11, Error ellipse: s-maj=4.6km s-min=2.9km az=101.0*
*IDC **16** 01:57:26.4±0.6, 41.°90N×119.°64W, h0km, mb3.9/8, mb1 3.9/13, mb1mx3.7/66, mbtmp3.8/13, ML3.5/5, MS2.4/1, Ms1 2.4/1, ms1mx2.2/37, Error ellipse: s-maj=10.7km s-min=6.8km az=9.0*
*REN **16** 01:57:26.3±2.1, 41.°90N±0.°04×119.°64W±0.°03, h8km±6km, ML4.0/5, mb4.1/7(NEIC), ML3.8/66(NEIC), Mwr4.0/62(NEIC), Error ellipse: s-maj=6.3km s-min=2.5km az=204.0*
*NEIC **16** 01:57:27.1±1.9, 41.°93N±0.°04×119.°65W±0.°05, h6km±5km, Error ellipse: s-maj=6.5km s-min=5.0km az=209.0*
*NEIC **16** 01:57:27.3, 41.°98N×119.°67W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}=0.49; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=0.83; $M_{r\theta}$=-0.39; $M_{\phi\phi}$=0.21; $M_{\phi r}$=-0.85; Fault plane solution: M_0=1.20000×10^15^ NP1:ϕ_s=26.23000°, δ73.59000°, λ-74.45000°. NP2:ϕ_s=161.67000°, δ22.45000°, λ-132.31000°. Principal axes: T 1.3246, Plg27.0000°, Azm104.0000°; N -0.3109, Plg15.0000°, Azm202.0000°; P -1.0137, Plg59.0000°, Azm318.0000°;*
ISC 16 01:57:26.2±1.2, 41.°91N±0.°03×119.°65W±0.°03, h2km±9km, n88, σ1°23/95, mb3.9/9, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MOD	**Modoc Plateau**	**0.49**	**270**	Pg	**Pg**	**Pg**	**01 57 36.0**	**+0.3**
MOD				Sg	**Sg**	**Sg**	**01 57 43.4**	**+1.4**
MOD				IAML			01 57 46.8	
comp=N,11μm,0.5s								
WVOR	**Wild Horse Val**	**0.92**	**55**	Pg	**Pg**	**Pg**	**01 57 43.8**	**0.0**
WVOR	**Wild Horse Val**	**0.92**	**55**			**Sg**	**01 57 56.4**	**+0.8**
WVOR	**Wild Horse Val**	**0.92**	**55**	IAML			01 57 59.9	
comp=N,2μm,1.1s								
WVOR				IAML			01 58 00.4	
comp=N,3μm,1.4s								
K05A	**Summer Lake**	**1.24**	**312**	Pn	**Pg**	**Pn**	**01 57 49.7**	**-0.1**
M04C	**Macdoel**	**1.64**	**266**	P	**Pn**	**Pn**	**01 57 55.4**	**-0.8**
M04C				Sb	**Sn**	**Sn**	**01 58 17.9**	**-0.1**
baz=85								
J08A	**Circle Bar Ran**	**1.69**	**30**	Pn	**Pn**	**Pn**	**01 57 56.2**	**-0.6**
J08A				IAML			01 58 22.7	
comp=E,959nm,1.1s								
J08A				IAML			01 58 29.9	
comp=N,1μm,0.8s								
K04D	**Chiloquin, OR**	**1.72**	**295**	P	**Pn**	**Pn**	**01 57 56.9**	**-0.4**
K04D				S	**Sn**	**Sn**	**01 58 19.6**	**-0.2**
baz=114								
J05D	**Fort Rock, OR**	**1.81**	**320**	Pb	**Pb**	**Pb**	**01 57 59.8**	**-0.3**
baz=139								
J05D				Sb	**Sg**	**Sg**	**01 58 25.2**	**+0.8**
baz=139								
L04D	**Klamath Falls**	**2.00**	**280**	P	**Pn**	**Pn**	**01 58 00.0**	**-1.1**
baz=98								
L04D				Sb	**Sb**	**Sb**	**01 58 29.7**	**+0.9**
baz=98								
BEKR	**Beckworth**	**2.11**	**195**	Pn	**Pn**	**Pn**	**01 58 02.8**	**+0.2**
BEKR				IAML			01 58 34.1	
comp=N,606nm,0.3s								
BEKR				IAML			01 58 35.1	
comp=E,1μm,0.6s								
PINE	**Pine Mountain**	**2.11**	**334**	Pn	**Pb**	**Pb**	**01 58 05.1**	**-0.2**
PINE				IAML			01 58 42.2	
comp=N,488nm,1.0s								
PINE				IAML			01 58 42.3	
comp=E,889nm,1.1s								
I07A	**Izee**	**2.18**	**3**	Pn	**Pb**	**Pb**	**01 58 05.8**	**-0.5**
PAHR	**Pah Rah Range**	**2.21**	**175**	Pn	**Pb**	**Pb**	**01 58 06.3**	**-0.5**
PAHR				IAML			01 58 37.5	
comp=E,484nm,0.7s								
J04D	**Umpqua Nationa**	**2.26**	**307**	Pb	**Pb**	**Pb**	**01 58 07.4**	**-0.4**
baz=126								
O03E	**Paynes Creek**	**2.29**	**226**	P	**Pn**	**Pn**	**01 58 03.9**	**-1.1**
baz=45								
O03E				Sb	**Sb**	**Sb**	**01 58 37.5**	**+0.5**
baz=45								
YBH	**Yreka Blue Hor**	**2.30**	**267**	Pn	**Pb**	**Pb**	**01 58 06.7**	**-1.7**
comp=E,20nm,0.3s,baz=48,slow=17,SNR=24								
YBH				Lg	Lg	Lg	01 58 38.2	
comp=E,82nm,0.3s,baz=186,slow=4.3,SNR=12								
YBH				LR	LR	LR	01 58 55.1	
comp=E,72nm,18.4s,baz=180,slow=39								
YBH	**Yreka Blue Hor**	**2.30**	**267**	Pn	**Pn**	**Pn**	**01 58 05.0**	**-0.2**
YBH				IAML			01 58 39.9	
comp=N,478nm,0.7s								
M02C	**Callahan**	**2.46**	**259**	Pb	**Pb**	**Pb**	**01 58 09.8**	**-1.3**
baz=77								
N02D	**Trinity Center**	**2.48**	**249**	P	**Pn**	**Pn**	**01 58 06.6**	**-1.1**
baz=67								
N02D				Sg	**Sg**	**Sg**	**01 58 45.5**	**-0.4**
baz=67								
WDC	**Whiskeytown Da**	**2.55**	**240**	Pn	**Pn**	**Pn**	**01 58 09.7**	**+1.1**
WDC				IAML			01 58 48.4	
comp=N,656nm,0.7s								
WDC				IAML			01 58 48.8	
comp=E,282nm,0.6s								
HUMO	**Hull Mountain**	**2.56**	**287**	Pn	**Pn**	**Pn**	**01 58 07.9**	**-0.7**
HUMO				IAML			01 58 49.7	
comp=N,484nm,1.1s								
HUMO				IAML			01 58 51.2	
comp=E,389nm,0.7s								
VCNR	**Virginia City**	**2.61**	**180**	Pn	**Pn**	**Pn**	**01 58 11.1**	**+1.6**
I05D	**Terrebonne, OR**	**2.73**	**334**	Pb	**Pb**	**Pb**	**01 58 15.8**	**+0.1**
baz=152								
I05D				Sb	**Sg**	**Sg**	**01 58 53.1**	**-0.7**
baz=152								
ORV	**Oroville**	**2.74**	**212**	Pn	**Pn**	**Pn**	**01 58 12.1**	**+0.9**
RUBR	**Rubicon Trail**	**2.88**	**188**	Pn	**Pb**	**Pb**	**01 58 16.9**	**-1.4**
RUBR				IAML			01 59 11.7	
comp=N,371nm,1.1s								
RUBR				IAML			01 59 14.5	
comp=E,316nm,1.6s								
YERR	**Yerington**	**2.94**	**174**	Pn	**Pn**	**Pn**	**01 58 14.6**	**+0.7**
O02D	**Mt. Diablo Mer**	**2.94**	**235**	Pb	**Pb**	**Pb**	**01 58 17.9**	**-1.4**
baz=53								
O02D				Sb	**Sb**	**Sb**	**01 58 57.0**	**+1.4**
baz=53								
L02E	**Cave Junction**	**2.96**	**276**	P	**Pn**	**Pn**	**01 58 14.1**	**-0.1**
baz=94								
L02E				Sb	**Sb**	**Sb**	**01 58 57.3**	**+1.1**
baz=94								
KVN	**Kaiserville**	**3.09**	**157**	Pn	**Pn**	**Pn**	**01 58 18.4**	**+2.3**
KVN				IAML			01 59 13.1	
comp=E,219nm,0.7s								
KVN				IAML			01 59 14.5	
comp=N,214nm,0.7s								
MFID	**Camas Ranch**	**3.19**	**61**	Pn	**Pn**	**Pn**	**01 58 17.5**	**+0.1**
MFID				IAML			01 59 16.6	
comp=N,275nm,0.7s								
MFID				IAML			01 59 17.4	
comp=N,404nm,0.8s								
KRMB	**Red Mountain**	**3.21**	**265**		**Pn**	**Pn**	**01 58 17.8**	**+0.1**
KRMB				IAML			01 59 20.8	
comp=E,211nm,0.9s								
KRMB				IAML			01 59 23.8	
comp=N,250nm,1.3s								
KHMM	**Horse Mountain**	**3.24**	**253**		**Pn**	**Pn**	**01 58 18.7**	**+0.6**
KHMM				IAML			01 59 24.7	
comp=N,374nm,1.4s								
KHMM				IAML			01 59 25.6	
comp=E,444nm,1.0s								
H04A	**Detroit Lake**	**3.34**	**327**	Pn	**Pn**	**Pn**	**01 58 20.3**	**+0.9**
BUCK	**Buck Mountain**	**3.35**	**314**	Pn	**Pn**	**Pn**	**01 58 20.9**	**+1.3**
BUCK				IAML			01 59 26.4	
comp=E,245nm,1.1s								
BUCK				IAML			01 59 27.9	
comp=N,183nm,1.5s								
G08A	**Pilot Rock**	**3.42**	**8**	Pn	**Pn**	**Pn**	**01 58 22.0**	**+1.5**
KBO	**Bosley Butte**	**3.42**	**277**		**Pn**	**Pn**	**01 58 22.9**	**+2.3**
JCC	**Jacoby Creek,**	**3.47**	**253**	Pn	**Pn**	**Pn**	**01 58 22.9**	**+1.7**
JCC				IAML			01 59 30.6	
comp=N,265nm,2.4s								
KMRM	**Mail Ridge**	**3.50**	**243**	Pn	**Pn**	**Pn**	**01 58 21.8**	**+0.1**
ELK	**Elko**	**3.52**	**108**	Pn	**Pn**	**Pn**	**01 58 23.3**	**+1.3**
comp=N,12nm,0.3s,baz=293,slow=13,SNR=22								
ELK				Lg	Lg	Lg	01 59 14.1	
comp=N,15nm,0.3s,baz=20,slow=22,SNR=3.5								
ELK	**Elko**	**3.52**	**108**	Pn	**Pn**	**Pn**	**01 58 23.0**	**+1.0**
KEBM	**Edson Butte**	**3.60**	**287**	Pn	**Pn**	**Pn**	**01 58 23.6**	**+0.6**
NVAR	**Mina Array Bea**	**3.62**	**163**	Pn	**Pn**	**Pn**	**01 58 25.5**	**+2.1**
comp=N,4.2nm,0.3s,baz=343,slow=12,SNR=7.0								
NVAR				Lg	Lg	Lg	01 59 19.3	
comp=N,26nm,0.3s,baz=356,slow=30,SNR=3.4								
NVAR	**Mina Array Bea**	**3.62**	**163**		**Pn**	**Pn**	**01 58 22.3**	**-1.2**
KCPM	**Cahto Peak**	**3.72**	**235**	Pn	**Pn**	**Pn**	**01 58 24.5**	**-0.2**
KCPM				IAML			01 59 33.9	
comp=N,152nm,1.4s								
KCPM				IAML			01 59 40.5	
comp=E,161nm,1.5s								
COR	**Corvallis**	**3.78**	**316**	Pn	**Pn**	**Pn**	**01 58 25.9**	**+0.5**
COR				IAML			01 59 38.9	
comp=E,128nm,2.0s								
COR				IAML			01 59 47.0	
comp=E,144nm,1.8s								
CMB	**Columbia Colle**	**3.91**	**189**	Pn	**Pn**	**Pn**	**01 58 27.1**	**-0.1**
TPH	**Tonopah**	**4.25**	**153**		**Pn**	**Pn**	**01 58 32.3**	**+0.2**
TPH	**Tonopah**	**4.25**	**153**	IAML			01 59 44.3	
comp=E,151nm,0.7s								
TPH				IAML			01 59 46.1	
comp=N,148nm,0.9s								
MDPB	**Devils Postpil**	**4.29**	**174**	Pn	**Pn**	**Pn**	**01 58 33.2**	**+0.5**
SPUT	**South Promonto**	**5.43**	**94**		**Pn**	**Pn**	**01 58 47.9**	**-0.3**
DUG	**Dugway, Tooele**	**5.44**	**106**	P	**Pn**	**Pn**	**01 58 48.7**	**+0.3**
baz=291								
NLU	**North Lily Min**	**6.06**	**106**			**Pn**	**01 58 57.8**	**+0.9**
AHID	**Auburn Hatcher**	**6.39**	**79**	Pn	**Pn**	**Pn**	**01 59 00.9**	**-0.6**
LRM	**Limekiln Ridge**	**6.51**	**51**	Pn	**Pn**	**Pn**	**01 59 02.9**	**-0.2**
CCUT	**Cedar City**	**6.51**	**130**		**Pn**	**Pn**	**01 59 05.5**	**+2.4**
TPAW	**Teton Pass**	**6.60**	**73**	Pn	**Pn**	**Pn**	**01 59 04.2**	**-0.2**
MVU	**Marysvale**	**6.63**	**118**		**Pn**	**Pn**	**01 59 05.7**	**+0.9**
SZCU	**Shurtz Canyon**	**6.64**	**128**		**Pn**	**Pn**	**01 59 05.6**	**+0.8**
REDW	**Red Top Meadow**	**6.65**	**74**	Pn	**Pn**	**Pn**	**01 59 05.4**	**+0.4**
SNOW	**Snow King Moun**	**6.73**	**74**	Pn	**Pn**	**Pn**	**01 59 07.6**	**+1.3**
YHB	**Horse Butte**	**6.79**	**62**	Pn	**Pn**	**Pn**	**01 59 07.1**	**+0.2**
MTPU	**Mount Pierson**	**6.91**	**122**		**Pn**	**Pn**	**01 59 07.3**	**-1.4**
FLWY	**Flagg Ranch**	**6.91**	**69**	Pn	**Pn**	**Pn**	**01 59 09.6**	**+0.9**
TMUT	**Trail Mountain**	**6.93**	**109**		**Pn**	**Pn**	**01 59 10.1**	**+1.1**
LCMT	**Little Creek M**	**6.96**	**133**		**Pn**	**Pn**	**01 59 09.8**	**+0.7**
PD31	**Pinedale Array**	**7.52**	**80**		**Pn**	**Pn**	**01 59 17.3**	**+0.2**
PDAR	**Pinedale Array**	**7.52**	**80**	Pn	**Pn**	**Pn**	**01 59 21.1**	**+4.0**
comp=N,0.0nm,0.3s,baz=258,slow=13,SNR=7.4								
YNE	**Yellowstone No**	**7.67**	**63**	Pn	**Pn**	**Pn**	**01 59 18.7**	**-0.3**
U15A	**North Rim**	**7.91**	**131**		**Pn**	**Pn**	**01 59 22.4**	**+0.1**
CBKS	**Cedar Bluff**	**15.49**	**95**	Pn	**Pn**	**Pn**	**02 01 06.2**	**+0.6**
CBKS				IAmb	IAmb	IAmb	02 01 26.0	
comp=Z,11nm,1.1s								
DLBC	**Dease Lake**	**17.80**	**342**	P	**P**	**P**	**02 01 37.0**	**+1.3**
comp=Z,0.1nm,0.3s,baz=98,slow=7.6,SNR=2.6								
TXAR	**Lajitas Array**	**18.02**	**129**			**Pn**	**02 01 36.4**	**-1.4**
ULM	**Lac du Bonnet**	**18.42**	**55**	P	**Pn**	**Pn**	**02 01 40.1**	**-2.4**
ULM				IAmb	IAmb	IAmb	02 02 07.0	
comp=Z,29nm,1.5s								
HHAR	**Hobbs**	**20.69**	**97**	P	**P**	**P**	**02 02 06.2**	**-1.3**
HHAR				IAmb	IAmb	IAmb	02 02 15.4	
comp=Z,6.1nm,0.8s								
L40A	**Anamosa**	**21.09**	**80**	P	**P**	**P**	**02 02 11.8**	**0.0**
HYT	**Haines Junctio**	**21.84**	**336**	P	**P**	**P**	**02 02 15.0**	**-4.8**
HYT				IAmb	IAmb	IAmb	02 02 17.5	
comp=Z,8.7nm,0.8s								
SCRK	**Sand Creek**	**26.21**	**336**	P	**P**	**P**	**02 03 00.1**	**-2.0**
INK	**Inuvik**	**27.48**	**349**	P	**P**	**P**	**02 03 13.6**	**+0.2**
comp=Z,2.0nm,1.0s,baz=142,slow=12,SNR=3.3								
INK	**Inuvik**	**27.48**	**349**	P	**P**	**P**	**02 03 11.2**	**-2.2**
INK				IAmb	IAmb	IAmb	02 03 14.9	
comp=Z,3.2nm,1.0s								
ILAR	**Eielson Array**	**27.67**	**335**	P	**P**	**P**	**02 03 17.3**	**+2.2**
comp=Z,1.3nm,0.8s,baz=156,slow=8.4,SNR=12								
HFS	**Hagfors**	**71.36**	**23**	P	**P**	**P**	**02 08 47.3**	**+0.2**
comp=Z,3.4nm,1.0s,baz=328,slow=5.1,SNR=3.0								
SONM	**Songino Array**	**81.80**	**331**	P	**P**	**P**	**02 09 47.6**	**+1.0**
comp=Z,0.2nm,0.3s,baz=51,slow=4.2,SNR=2.0								
ZALV	**Zalesovo Beam**	**82.23**	**346**	P	**P

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BGR ***16*** *01:59:03.0±0.0, 25°.25S×175°.64W, h33km*
ISC 16 01:58:53.2±0.3**, 27°.02S**±0°.04×**176°.16W**±0°.05**, h10**km**, n746,** σ**1**°**64**/713**, mb5.3**/145**, MS4.9**/44**, 55C-16D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.71**	**214**	Pn		**Pn**	**01 59 39.9**	**+3.0**
	794nm,0.3s,baz=70,slow=7.1,SNR=48							
RAO				Sn		**Sb**	**02 00 14.8**	**-0.4**
	2μm,0.3s,baz=113,slow=19,SNR=11							
RAO				LR		LR	02 00 28.2	
	comp=Z,4μm,19.1s,baz=72,slow=34							
RAO	**Raoul Island**	**2.71**	**214**	Pn		**Pn**	**01 59 39.7**	**+2.8**
RAO				Sn		**Sb**	**02 00 14.4**	**-0.7**
RAO	**Raoul Island**	**2.71**	**214**	P		**Pn**	**01 59 39.7**	**+2.8**
RIZ	**Raoul Island**	**2.71**	**215**	P		**Pb**	**01 59 40.3**	**-1.5**
RIZ				S		**Sb**	**02 00 15.2**	**0.0**
GLKZ	**Green Lake**	**2.72**	**214**	P		**Pn**	**01 59 40.2**	**+3.2**
GLKZ				S		**Sn**	**02 00 13.8**	**+3.9**
NIUE	**Niue**	**9.77**	**37**	P		Pn	02 01 06.1	-7.6
	baz=9.1,SNR=14							
NIUE	**Niue**	**9.77**	**37**	P		Pn	02 01 06.1	-7.7
MSVF	**Nonsavu**	**10.68**	**329**	Pn		**Pn**	**02 01 27.1**	**+0.8**
	2.7nm,0.3s,baz=161,slow=12,SNR=19							
MSVF				LR		LR	02 04 57.4	
	comp=Z,8μm,19.4s,baz=136,slow=35							
MSVF	**Nonsavu**	**10.68**	**329**	P		**Pn**	**02 01 23.8**	**-2.6**
MSVF	**Nonsavu**	**10.68**	**329**	Pn		**Pn**	**02 01 23.8**	**-2.6**
MSVF	**Nonsavu**	**10.68**	**329**	P		**Pn**	**02 01 28.6**	**+2.2**
DGTI	**Dogotuki**	**11.33**	**340**	P		**Pn**	**02 01 37.9**	**+2.7**
WMGZ	**Waiomatatini S**	**11.70**	**202**	S		**Sn**	**02 03 43.6**	**-7.3**
OUZ	**Omahuta**	**11.99**	**225**	P		Pn	02 01 55.2	+11
URZ	**Urewera**	**12.55**	**205**	Pn		Pn	02 01 44.8	-7.0
	0.6nm,0.3s,baz=281,slow=16,SNR=7.4							
URZ				Sn		**Sn**	**02 04 05.4**	**-6.4**
	5.8nm,0.3s,baz=315,slow=6.1,SNR=15							
AFI	**Afiamalu**	**13.67**	**18**	Pn		Pn	02 02 00.4	-6.9
	16nm,0.3s,baz=180,slow=1.0,SNR=9.9							
AFI				Sn		Sn	02 04 18.0	-21
	4.7nm,0.3s,baz=266,slow=22,SNR=1.9							
AFI	**Afiamalu**	**13.67**	**18**	P		**Pn**	**02 02 04.1**	**-3.2**
AFI	**Afiamalu**	**13.67**	**18**	Pn		Pn	02 02 00.3	-7.0
AFI	**Afiamalu**	**13.67**	**18**	P		Pn	02 02 02.0	-5.3
HIZ	**Hauiti**	**13.72**	**211**	Pn		**Pn**	**02 02 09.0**	**+1.3**
KRHZ	**Kereru**	**14.04**	**204**	P		**P**	**02 02 22.1**	**+1.9**
KRHZ				S		Sn	02 04 38.6	-10
WNVZ	**Wahianoa**	**14.07**	**207**	P		**Pn**	**02 02 14.7**	**+2.0**
WNVZ				S		**Sn**	**02 04 42.2**	**-6.9**
MOVZ	**Moawhango**	**14.08**	**207**	P		**P**	**02 02 21.9**	**+1.3**
MOVZ				S		Sn	02 04 39.5	-10
PNHZ	**Pukenui**	**14.35**	**204**	P		**P**	**02 02 22.7**	**-0.8**
PNHZ				S		Sn	02 04 44.7	-11
DVHZ	**Dannevirke**	**14.70**	**204**	P		**P**	**02 02 27.8**	**+0.4**
DVHZ				S		Sn	02 04 51.6	-12
ANWZ	**Angora Road**	**14.73**	**203**	P		P	02 02 34.6	+6.9
ANWZ				S		Sn	02 04 54.8	-10
PRWZ	**Pori Road**	**14.99**	**204**	P		**P**	**02 02 33.7**	**+3.1**
PRWZ				S		Sn	02 04 58.7	-13
BFZ	**Birch Farm**	**15.01**	**203**	P		**Pn**	**02 02 20.6**	**-4.7**
BFZ				S		Sn	02 04 57.8	-14
MRZ	**Mangatainoka R**	**15.23**	**205**	P		**Pn**	**02 02 22.9**	**-5.4**
MRZ				S		Sn	02 05 04.0	-13
MARNC	**Mare, Loyalty**	**15.43**	**288**	Pn		**Pn**	**02 02 29.9**	**-1.2**
MARNC	**Mare, Loyalty**	**15.43**	**288**	P		**P**	**02 02 38.1**	**+2.5**
HOWZ	**Holdsworth Sta**	**15.46**	**204**	P		**Pn**	**02 02 26.2**	**-5.1**
HOWZ				S		Sn	02 05 09.1	-14
TMWZ	**Te Maipa**	**15.51**	**203**	P		**P**	**02 02 37.2**	**+0.8**
TMWZ				S		Sn	02 05 09.9	-14
PINNC	**Pines Island,**	**15.52**	**283**	Pn		**Pn**	**02 02 31.5**	**-0.6**
PINNC				IAmb		IAmb	02 02 43.8	
	comp=Z,241nm,1.1s							
PINNC	**Pines Island,**	**15.52**	**283**	P		**P**	**02 02 37.9**	**+1.4**
OGWZ	**Otaki Gorge**	**15.52**	**205**	P		**Pn**	**02 02 28.7**	**-3.4**
OGWZ				S		Sn	02 05 10.9	-13
MTW	**Mount Morrison**	**15.69**	**204**	P		**Pn**	**02 02 36.3**	**+1.9**
MTW				S		Sn	02 05 14.1	-14
TRWZ	**Traveller**	**15.84**	**203**	P		**Pn**	**02 02 38.1**	**+1.9**
TRWZ				S		Sn	02 05 17.7	-14
PAWZ	**Paruwai Farm**	**15.91**	**204**	P		**Pn**	**02 02 36.4**	**-0.9**
PAWZ				S		Sn	02 05 20.4	-13
MSWZ	**Moikau Station**	**16.01**	**204**	Pn		**Pn**	**02 02 39.2**	**+0.7**
MSWZ	**Moikau Station**	**16.01**	**204**	P		**Pn**	**02 02 40.2**	**+1.7**
MSWZ				S		Sn	02 05 21.2	-15
RAR	**Rarotonga**	**16.03**	**72**	P		**Pn**	**02 02 37.4**	**-1.5**
RAR				pmax		pmax		
	comp=Z,119nm,1.1s							
RAR	**Rarotonga**	**16.03**	**72**			**Pn**	**02 02 37.4**	**-1.5**
RAR	**Rarotonga**	**16.03**	**72**	P		Pn	02 02 28.2	-11
OUENC	**Ouen Island, N**	**16.11**	**283**	P		**P**	**02 02 43.5**	**+0.4**
OUENC	**Ouen Island, N**	**16.11**	**283**	P		**P**	**02 02 46.5**	**+3.4**
BHW	**Baring Head**	**16.14**	**205**	P		**Pn**	**02 02 36.0**	**-4.2**
PLWZ	**Palliser**	**16.14**	**204**	P		**P**	**02 02 43.9**	**+0.4**
PLWZ				S		Sn	02 05 24.6	-15
YATNC	**Mamie plateau,**	**16.19**	**284**	P		**P**	**02 02 48.1**	**+4.0**
LIFNC	**LIFOU**	**16.39**	**289**	P		**P**	**02 02 45.8**	**-0.6**
LIFNC				IAmb		IAmb	02 02 49.1	
	comp=Z,370nm,1.2s							
LIFNC	**LIFOU**	**16.39**	**289**	P		**P**	**02 02 50.9**	**+4.6**
ONTNC	**Ouen Toro**	**16.48**	**283**	P		**P**	**02 02 47.6**	**+0.4**
ONTNC				IAmb		IAmb	02 03 02.6	
	comp=Z,219nm,1.1s							
ONTNC	**Ouen Toro**	**16.48**	**283**	P		**P**	**02 02 51.1**	**+3.8**
TUWZ	**Tuamarina**	**16.52**	**207**	P		**Pn**	**02 02 42.8**	**-2.2**
DZM	**Mont Dzumac**	**16.57**	**284**	*e*Pn		**P**	**02 02 49.2**	**+0.8**
	comp=Z,467nm,1.4s							
DZM				*e*LR		LR	02 06 37.4	
	comp=Z,8μm,23.8s							
DZM	**Mont Dzumac**	**16.57**	**284**	Pn		**P**	**02 02 48.0**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=89,slow=16,SNR=27							
DZM				LR		LR	02 08 08.5	
	comp=Z,6μm,18.5s,baz=122,slow=34							
DZM	**Mont Dzumac**	**16.57**	**284**	P		**P**	**02 02 47.5**	**-0.9**
DZM				IAmb		IAmb	02 03 04.1	
	comp=Z,291nm,1.4s							
DZM	**Mont Dzumac**	**16.57**	**284**	P		**P**	**02 02 51.1**	**+2.7**
NOUC	**Port Laguerre**	**16.68**	**283**	P		**P**	**02 02 52.3**	**+2.8**
THZ	**Tophouse**	**17.23**	**209**	P		**Pn**	**02 02 51.4**	**-2.6**
KHZ	**Kahutara**	**17.52**	**206**	P		**Pn**	**02 02 53.2**	**-4.3**
KHZ				S		Sn	02 05 55.6	-17
KOUNC	**Koumac, New Ca**	**19.01**	**286**	P		**Pn**	**02 03 18.9**	**+3.0**
LHI	**Lord Howe Isla**	**22.06**	**252**	P		**P**	**02 03 51.3**	**+3.1**
TBI	**Tubuai**	**24.42**	**87**	*e*S		**S**	**02 08 22.5**	**-9.5**
	comp=Z,428nm,24.3s							
TBI				*e*LQ		LQ	02 08 48.2	
	comp=Z,1μm,28.8s							
TBI				*e*LR		LR	02 10 06.2	
	comp=Z,3μm,28.2s,baz=256							
TBI	**Tubuai**	**24.42**	**87**	*e*T		T	02 29 10.8	
	comp=Z,9.4nm,0.3s							
PAE	**Paea**	**26.24**	**75**	*e*T		T	02 31 25.4	
	comp=Z,7.1nm,0.3s							
PPT2	**Papeete2**	**26.28**	**75**	*e*S		**S**	**02 08 54.4**	**-7.4**
	comp=Z,266nm,23.3s							
PPT2				*e*LQ		LQ	02 09 33.7	
	comp=Z,3μm,24.0s							
PPT2				*e*LR		LR	02 10 58.2	
	comp=Z,3μm,24.2s,baz=246							
PPT2	**Papeete2**	**26.28**	**75**	*e*T		T	02 31 29.5	
	comp=Z,8.4nm,0.4s							
PPT	**Papeete**	**26.29**	**75**	LR		LR	02 12 22.5	
	comp=Z,1μm,19.9s,baz=246,slow=31							
HNR	**Honiara**	**28.56**	**303**	LR		LR	02 14 09.6	
	comp=Z,3μm,21.2s,baz=150,slow=32							
VAH	**Vaihoa**	**29.01**	**72**	*e*T		T	02 34 51.9	
	comp=Z,5.6nm,0.2s							
EIDS	**Eidsvold**	**29.40**	**266**	P		**P**	**02 04 56.8**	**0.0**
	baz=30,SNR=7.9							
EIDS	**Eidsvold**	**29.40**	**266**	P		**P**	**02 04 57.2**	**+0.4**
EIDS				IAmb		IAmb	02 04 59.2	
	comp=Z,25nm,0.9s							
TARA	**Tarawa**	**30.11**	**338**	P		**P**	**02 05 00.1**	**-3.0**
TARA	**Tarawa**	**30.11**	**338**	P		**P**	**02 05 02.7**	**-0.4**
RMQ	**Roma**	**31.27**	**263**	P		**P**	**02 05 13.5**	**0.0**
	baz=32,SNR=14							
CMSA	**Cobar Meteorol**	**33.47**	**253**	P		**P**	**02 05 32.4**	**-0.2**
	baz=34,SNR=6.9							
MOO	**Moorlands**	**33.53**	**233**	P		**P**	**02 05 34.5**	**+1.5**
	baz=34,SNR=4.1							
TOO	**Toolangi**	**33.88**	**242**	P		**P**	**02 05 36.6**	**+0.4**
	baz=34,SNR=5.9							
TOO	**Toolangi**	**33.88**	**242**	P		**P**	**02 05 36.8**	**+0.6**
TOO				pmax		pmax		
	comp=Z,18nm,1.0s							
TOO	**Toolangi**	**33.88**	**242**	P		**P**	**02 05 36.8**	**+0.6**
CTA	**Charters Tower**	**35.04**	**273**	P		**P**	**02 05 46.3**	**-0.2**
	comp=Z,15nm,0.4s,baz=102,slow=11,SNR=35							
CTA				LR		LR	02 19 06.3	
	comp=Z,3μm,18.1s,baz=112,slow=35							
CTAO	**Charters Tower**	**35.04**	**273**	P		**P**	**02 05 46.2**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,79nm,1.4s							
CTAO	**Charters Tower**	**35.04**	**273**			**P**	**02 05 46.2**	**-0.2**
CTAO				IAmb		IAmb	02 05 48.7	
	comp=Z,79nm,1.4s							
ARPS	**Mount Arapiles**	**36.71**	**244**	P		**P**	**02 06 00.9**	**+0.4**
	baz=37,SNR=5.5							
STKA	**Stephens Creek**	**36.94**	**252**	P		**P**	**02 06 02.1**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=84,slow=9.1,SNR=8.1							
STKA				LR		LR	02 20 10.6	
	comp=Z,3μm,18.2s,baz=81,slow=35							
STKA	**Stephens Creek**	**36.94**	**252**	P		**P**	**02 06 02.1**	**-0.4**
STKA				pmax		pmax		
	comp=Z,6.0nm,1.6s							
STKA	**Stephens Creek**	**36.94**	**252**	P		**P**	**02 06 02.1**	**-0.4**
TAOE	**Nuku Hiva Isla**	**38.54**	**69**	*e*LR		LR	02 16 40.3	
	comp=Z,2μm,31.0s							
PMG	**Port Moresby**	**38.80**	**290**	P		**P**	**02 06 17.0**	**-1.4**
	comp=Z,16nm,0.7s,baz=130,slow=20,SNR=5.6							
PMG				LR		LR	02 20 25.8	
	comp=Z,2μm,18.8s,baz=126,slow=34							
PMG	**Port Moresby**	**38.80**	**290**	*ce*P		**P**	**02 06 18.1**	**-0.3**
PMG				pmax		pmax		
	comp=Z,22nm,1.0s							
PMG	**Port Moresby**	**38.80**	**290**	P		**P**	**02 06 16.9**	**-1.4**
PMG				IAmb		IAmb	02 06 18.5	
	comp=Z,32nm,0.9s							
PMG	**Port Moresby**	**38.80**	**290**	P		**P**	**02 06 18.4**	**0.0**
PMG	**Port Moresby**	**38.80**	**290**	P		**P**	**02 06 18.5**	**0.0**
QIS	**Mount Isa**	**40.83**	**269**	P		**P**	**02 06 34.6**	**-0.7**
	baz=41,SNR=18							
AS31	**Alice Springs**	**45.02**	**263**	P		**P**	**02 07 08.2**	**-1.1**
ASAR	**Alice Springs**	**45.02**	**263**	P		**P**	**02 07 07.8**	**-1.6**
	comp=Z,7.3nm,0.4s,baz=93,slow=6.7,SNR=93							
ASAR				S		**S**	**02 13 40.1**	**-8.1**
	comp=Z,0.6nm,0.7s,baz=90,slow=18,SNR=3.1							
ASAR				LR		LR	02 25 09.5	
	comp=Z,2μm,18.1s,baz=108,slow=35							
ASAR	**Alice Springs**	**45.02**	**263**	P		**P**	**02 07 08.0**	**-1.3**
ASAR	**Alice Springs**	**45.02**	**263**	P		**P**	**02 07 08.0**	**-1.3**
WR0	**Warramunga Arr**	**45.53**	**268**	P		**P**	**02 07 11.7**	**-1.6**
WR0				IAmb		IAmb	02 07 14.2	
	comp=Z,57nm,1.1s							
WB2	**Warramunga Arr**	**45.70**	**268**	P		**P**	**02 07 12.4**	**-2.3**
WRAB	**Tennant Creek**	**45.71**	**268**	*ce*P		**P**	**02 07 13.1**	**-1.6**
WRAB				pmax		pmax		
	comp=Z,59nm,1.0s							
WRA	**Warramunga Arr**	**45.71**	**268**	P		**P**	**02 07 12.8**	**-2.0**
	comp=Z,50nm,0.9s,baz=106,slow=7.2,SNR=67							
WRA				PcP		**PcP**	**02 08 52.9**	**+0.2**
	comp=Z,17nm,1.3s,baz=89,slow=4.0,SNR=6.4							
WRA				S		**S**	**02 13 53.9**	**-4.3**
	comp=Z,2.6nm,1.1s,baz=106,slow=13,SNR=4.6							
WRA				LR		LR	02 24 46.3	
	comp=Z,1μm,21.2s,baz=135,slow=34							
WRA	**Warramunga Arr**	**45.71**	**268**	P		**P**	**02 07 12.8**	**-2.0**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**45.71**	**268**	P		**P**	**02 07 12.8**	**-2.0**
WB0	**Warramunga Arr**	**45.72**	**268**	P		**P**	**02 07 12.9**	**-1.9**
FORT	**Forrest**	**48.56**	**252**	P		**P**	**02 07 35.0**	**-1.8**
WRKA	**Warakurna**	**49.61**	**259**	P		**P**	**02 07 43.0**	**-2.0**
	baz=50,SNR=99							
KDU	**Kakadu**	**50.05**	**276**	P		**P**	**02 07 46.0**	**-2.4**
	baz=50,SNR=12							
MTN	**Manton Dam**	**51.17**	**275**	P		**P**	**02 07 54.7**	**-2.2**
	baz=51,SNR=6.8							
SBA	**Scott Base**	**51.52**	**185**	P		**P**	**02 08 02.4**	**+3.8**
SBA				pmax		pmax		
	comp=Z,66nm,1.1s							
SBA	**Scott Base**	**51.52**	**185**	P		**P**	**02 08 02.4**	**+3.8**
VNDA	**Vanda**	**51.61**	**186**	P		**P**	**02 08 02.9**	**+3.6**
	comp=Z,3.7nm,0.6s,baz=58,slow=3.5,SNR=14							
VNDA				LR		LR	02 26 07.7	
	comp=Z,538nm,20.8s,baz=20,slow=32							
VNDA	**Vanda**	**51.61**	**186**	P		**P**	**02 08 02.4**	**+3.1**
VNDA				pmax		pmax		
	comp=Z,48nm,1.8s							
VNDA	**Vanda**	**51.61**	**186**	P		**P**	**02 08 02.4**	**+3.1**
VNDA				IAmb		IAmb	02 08 06.4	
	comp=Z,48nm,1.8s							
KNRA	**Kununurra**	**52.17**	**271**	P		**P**	**02 08 02.6**	**-1.8**
	baz=52,SNR=7.0							
KNRA	**Kununurra**	**52.17**	**271**	P		**P**	**02 08 03.6**	**-0.7**
SWI	**Sorong**	**56.72**	**288**	P		**P**	**02 08 35.5**	**-1.9**
	comp=Z,1μmcomp=Z,111nm,1.0s							
KLBR	**Kellerberrin**	**57.03**	**248**	P		**P**	**02 08 37.4**	**-2.2**
	baz=57,SNR=6.6							
NWAO	**Narrogin (SRO)**	**57.16**	**247**	LR		LR	02 30 12.2	
	comp=Z,525nm,20.7s,baz=106,slow=33							
MEEK	**Meekatharra**	**57.58**	**254**	P		**P**	**02 08 41.4**	**-2.2**
	baz=58,SNR=11							
BLDU	**Ballidu**	**58.14**	**249**	P		**P**	**02 08 45.3**	**-2.0**
	baz=58,SNR=8.2							
CASY	**Casey**	**58.87**	**207**	P		**P**	**02 08 53.1**	**+1.3**
GIRL	**Giralia**	**62.60**	**257**	P		**P**	**02 09 18.1**	**+0.2**
	baz=63,SNR=3.4							
QSPA	**South Pole Qui**	**63.08**	**180**	P		**P**	**02 09 23.1**	**+2.5**
	comp=Z,17nm,0.7s,baz=32,slow=1.4,SNR=113							
QSPA	**South Pole Qui**	**63.08**	**180**	P		**P**	**02 09 23.2**	**+2.5**
GTOI	**Gorontalo**	**64.54**	**285**	P		**P**	**02 09 31.3**	**+0.4**
	comp=Z,15nm,0.6s							
APSI	**Ampana**	**64.96**	**283**	P		**P**	**02 09 33.7**	**+0.1**
	comp=Z,26nm,0.9s							
TOLI2	**Tolitoli**	**66.71**	**284**	P		**P**	**02 09 42.5**	**-2.4**
TOLI2				IAmb		IAmb	02 09 49.0	
	comp=Z,11nm,0.9s							
MPSI	**Mapaga**	**67.09**	**283**	P		**P**	**02 09 47.8**	**+0.5**
	comp=Z,7μmcomp=Z,27nm,0.9s							
JAGI	**Jajag, Banyuwa**	**68.13**	**272**	P		**P**	**02 09 52.0**	**-2.0**
UGM	**Wanagama**	**71.61**	**270**	P		**P**	**02 10 14.2**	**-1.2**
CISI	**Cisompet, Garu**	**74.18**	**270**	P		**P**	**02 10 28.8**	**-1.9**
CISI				IAmb		IAmb	02 10 29.7	
	comp=Z,37nm,1.0s							
CISI	**Cisompet, Garu**	**74.18**	**270**	P		**P**	**02 10 26.3**	**-4.4**
JOW	**Kunigami**	**75.65**	**310**	P		**P**	**02 10 37.5**	**-1.2**
MAW	**Mawson**	**76.03**	**200**	P		**P**	**02 10 42.6**	**+2.2**
	comp=Z,14nm,0.8s,baz=109,slow=7.2,SNR=19							
MAW				LR		LR	02 44 06.1	
	comp=Z,753nm,18.7s,baz=104,slow=36							
MAW	**Mawson**	**76.03**	**200**	P		**P**	**02 10 42.5**	**+2.2**
MAW				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MAW	**Mawson**	**76.03**	**200**	P		**P**	**02 10 42.5**	**+2.2**
JMM	**Marumori**	**76.13**	**326**	P		**P**	**02 10 40.7**	**-0.5**
JGF	**Kuroka**	**76.19**	**323**	P		**P**	**02 10 41.0**	**-0.7**
MJAR	**Matsushiro Arr**	**76.44**	**324**	P		**P**	**02 10 42.2**	**-0.9**
	comp=Z,30nm,1.0s,baz=155,slow=6.4,SNR=29							
MAJO	**Matsushiro**	**76.44**	**324**	P		**P**	**02 10 42.5**	**-0.5**
MAJO				pmax		pmax		
	comp=Z,62nm,1.1s							
MAJO	**Matsushiro**	**76.44**	**324**	P		**P**	**02 10 42.5**	**-0.5**
MAT	**Matsushiro**	**76.44**	**324**	P		**P**	**02 10 41.9**	**-1.2**
MAT				*e*S		**S**	**02 20 25.2**	**-3.4**
MJB9	**Matsu-Tunnel**	**76.44**	**324**	P		**P**	**02 10 42.6**	**-0.5**
JWT	**Wachi**	**77.03**	**321**	P		**P**	**02 10 45.2**	**-1.2**
JSU	**Suzuyama**	**77.32**	**315**	P		**P**	**02 10 47.3**	**-0.9**
JSD	**Sado**	**77.54**	**325**	P		**P**	**02 10 48.7**	**-0.5**
YOJ	**Yonaguni jima**	**77.87**	**306**	P		**P**	**02 10 51.0**	**-0.3**
YOJ				pmax		pmax		
	comp=Z,80nm,1.0s							
YOJ	**Yonaguni jima**	**77.87**	**306**	P		**P**	**02 10 51.0**	**-0.3**
NACB	**Ninganchiao**	**78.73**	**304**	P		**P**	**02 10 54.5**	**-1.6**
NACB				IAmb		IAmb	02 10 55.9	
	comp=Z,31nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**78.80**	**333**	*e*P		**P**	**02 10 54.3**	**-1.7**
YUK				S		**S**	**02 20 56.1**	**+2.4**
YUK				pmax		pmax		
	comp=Z,111nm,1.2s							
YUK				pmax		pmax		
	comp=E,93nm,0.8s							
YUK				pmax		pmax		
	comp=N,89nm,1.2s							
SSLB	**Suanglung**	**78.98**	**304**	P		**P**	**02 10 55.2**	**-2.4**
SSLB				IAmb		IAmb	02 10 58.3	
	comp=Z,35nm,1.0s							
YHNB	**Yeheng**	**79.18**	**305**	P		**P**	**02 10 57.8**	**-0.9**
YHNB				IAmb		IAmb	02 11 03.2	
	comp=Z,30nm,1.0s							
TATO	**Taipei**	**79.28**	**305**	P		**P**	**02 10 58.5**	**-0.6**
JKA	**Kamikawa-asahi**	**80.23**	**331**	P		**P**	**02 11 03.1**	**-0.7**
ASAJ	**Asahikawa**	**80.23**	**331**	P		**P**	**02 11 03.1**	**-0.7**
ASAJ				pmax		pmax		
	comp=Z,66nm,1.3s							
SYO	**Syowa Base**	**80.76**	**192**	*e*P		**P**	**02 11 06.8**	**+0.4**
SYO	**Syowa Base**	**80.76**	**192**	*e*sP		sP	02 11 12.0	+3.2
UNV	**Unalaska Valle**	**80.96**	**6**	P		**P**	**02 11 08.3**	**+0.8**
	baz=189							
H03S2	**Juan Fernandez**	**80.97**	**123**	T		T	03 40 29.9	
	baz=242,slow=74,SNR=5.7							
H03S1	**Juan Fernandez**	**80.98**	**123**	T		T	03 40 32.9	
	baz=242,slow=74,SNR=5.6							
H03S3	**Juan Fernandez**	**80.99**	**123**	T		T	03 40 31.7	
	baz=242,slow=74,SNR=4.8							
SKR	**Severo-Kuril's**	**81.16**	**343**	*e*P		**P**	**02 11 04.9**	**-3.7**
SKR				*e*S		**S**	**02 21 25.6**	**+7.4**
SKR				pmax		pmax		
	comp=Z,49nm,1.3s							
SKR				pmax		pmax		
	comp=Z,100nm,7.5s							
SKR				pmax		pmax		
	comp=Z,200nm,8.7s							
SKR				MLR		MLR		
	comp=Z,400nm,16.0s							
SKR				MLR		MLR		
	comp=Z,200nm,18.0s							
CIS	**Catalina Islan**	**81.33**	**46**	P		**P**	**02 11 10.7**	**+0.7**
	baz=230							
QZH	**Quanzhou**	**81.40**	**304**	P		**P**	**02 11 11.0**	**+0.5**
QZH				pmax		pmax		
	comp=Z,29nm,1.0s							
QZH				pmax		pmax		
	comp=Z,510nm,8.0s							
PKM	**Mcpherson Peak**	**81.42**	**44**	P		**P**	**02 11 11.3**	**+0.6**
	baz=229							
SNAA	**Sanae**	**81.47**	**178**	P		**P**	**02 11 11.5**	**+1.2**
SNAA	**Sanae**	**81.47**	**178**	*ce*P		**P**	**02 11 10.8**	**+0.5**
SNAA				pmax		pmax		
	comp=Z,18nm,1.3s							
SNAA	**Sanae**	**81.47**	**178**	P		**P**	**02 11 11.7**	**+1.4**
SNAA				IAmb		IAmb	02 11 17.1	
	comp=Z,14nm,0.9s							
VNA3	**Neumayer Olymp**	**81.55**	**176**	P		**P**	**02 11 11.5**	**+0.9**
PAGB	**Antelope Grade**	**81.72**	**43**	P		**P**	**02 11 12.9**	**+0.9**
PAGB				IAmb		IAmb	02 11 23.1	
	comp=Z,68nm,1.8s							
VNA2	**Neumayer--Watz**	**82.01**	**176**	P		**P**	**02 11 14.8**	**+1.8**
ARVC	**Arvin**	**82.19**	**44**	P		**P**	**02 11 15.4**	**+1.0**
	baz=229							
VNA1	**Neumayer--Stat**	**82.22**	**176**	P		**P**	**02 11 16.0**	**+1.8**
MURC	**Murrieta**	**82.24**	**46**	P		**P**	**02 11 15.7**	**+0.9**
	baz=230							
FALS	**False Pass**	**82.27**	**7**	P		**P**	**02 11 16.0**	**+1.6**
	baz=192							
MONP2	**Monument Peak**	**82.30**	**47**	P		**P**	**02 11 16.0**	**+0.6**
	baz=231							
IKP	**In-Ko-Pah, Jac**	**82.35**	**48**	P		**P**	**02 11 16.1**	**+0.6**
	baz=231							
BFSC	**Mount Baldy Ra**	**82.35**	**45**	P		**P**	**02 11 16.0**	**+0.4**
	baz=230							
YSS	**Yuzh-Sakhalins**	**82.45**	**333**	*e*P		**P**	**02 11 16.0**	**+0.5**
YSS				pmax		pmax		
	comp=Z,50nm,1.1s							
YSS				pmax		pmax		
	comp=Z,300nm,4.5s							
YSS	**Yuzh-Sakhalins**	**82.45**	**333**	P		**P**	**02 11 15.6**	**+0.1**
TJN	**Taejon**	**82.48**	**317**	*ce*P		**P**	**02 11 16.0**	**0.0**
VES	**Vestal, Richgr**	**82.50**	**43**	P		**P**	**02 11 16.8**	**+0.7**
	baz=229,SNR=5.1							
EDW2	**Edwards Air Fo**	**82.55**	**45**	P		**P**	**02 11 17.5**	**+1.0**
	baz=230,SNR=5.1							
PET	**Petropavlovsk**	**82.67**	**345**	*e*P		**P**	**02 11 15.6**	**-0.9**
PET				*e*			02

baz=230
SHOC Shoshone, Teco 84.28 45 P P 02 11 26.4 +1.1
baz=231
GRAC Grapevine Rang 84.30 43 P P 02 11 26.7 +1.3
baz=230
PNTR Pine Nut 84.33 41 P P 02 11 25.2 -0.5
PNTR IAmb IAmb 02 11 27.9
comp=Z,21nm,0.9s
LHV Little Huntoon 84.42 42 P P 02 11 25.4 -0.4
LHV IAmb IAmb 02 11 54.2
comp=Z,38nm,1.4s
YERR Yerington 84.47 41 P P 02 11 25.4 -1.0
YERR IAmb IAmb 02 11 46.9
comp=Z,29nm,1.5s
K02D Willamette Mer 84.54 36 P P 02 11 27.3 +0.8
baz=225
RYN Ryan 84.66 42 P P 02 11 27.5 +0.2
RYN IAmb IAmb 02 11 53.5
comp=Z,34nm,1.7s
NVAR Mina Array Bea 84.66 42 P P 02 11 28.7 +1.3
comp=Z,7.5nm,0.9s,baz=222,slow=8.8,SNR=42
NVAR LR LR 02 42 55.4
comp=Z,455nm,18.9s,baz=252,slow=31
NVAR Mina Array Bea 84.66 42 P P 02 11 26.5 -0.9
PDMCI Parker Dam,Lak 84.66 47 P P 02 11 28.8 +1.6
baz=232
J01E Myrtle Point 84.73 36 P P 02 11 28.6 +1.3
baz=225
PAHR Pah Rah Range 84.86 40 P P 02 11 28.1 -0.2
PAHR IAmb IAmb 02 11 30.3
comp=Z,11nm,1.0s
M04C Macdoel 84.88 38 P P 02 11 28.9 +0.6
baz=227
L04D Klamath Falls 84.93 37 P P 02 11 29.6 +1.0
baz=226
TPNV Topopah Spring 84.96 44 P P 02 11 29.1 +0.2
TPNV pmax pmax
comp=Z,26nm,1.4s
TPNV Topopah Spring 84.96 44 P P 02 11 29.4 +0.5
baz=231,SNR=9.3
TPNV Topopah Spring 84.96 44 P P 02 11 29.1 +0.2
TPNV IAmb IAmb 02 11 59.3
comp=Z,26nm,1.4s
TPH Tonopah 85.08 43 P P 02 11 29.6 +0.1
TPH pmax pmax
comp=Z,106nm,1.3s
TPH Tonopah 85.08 43 P P 02 11 29.6 +0.1
KVN Kaiserville 85.19 42 P P 02 11 29.5 -0.5
KVN pmax pmax
comp=Z,11nm,1.0s
KVN Kaiserville 85.19 42 P P 02 11 29.4 -0.5
KVN IAmb IAmb 02 11 37.3
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 85.27 325 P P 02 11 29.8 -0.2
USA0B pmax pmax
comp=Z,60nm,1.5s
USA0B Ussuriysk Arra 85.27 325 P P 02 11 29.8 -0.2
USRK Ussuriysk Ar. 85.27 325 P P 02 11 30.8 +0.8
comp=Z,15nm,1.0s,baz=136,slow=4.1,SNR=24
USRK LR LR 02 44 08.5
comp=Z,331nm,19.7s,baz=129,slow=32
USRK Ussuriysk Ar. 85.27 325 P P 02 11 29.9 -0.1
NJ2 Nanjing 85.31 309 ⇑P P 02 11 31.1 +0.6
NJ2 pmax pmax
comp=Z,25nm,0.9s
W13A Hualapai Mount 85.32 47 P P 02 11 30.4 -0.4
SHPR Sheep Range 85.36 45 P P 02 11 30.4 -0.5
SHPR IAmb IAmb 02 11 42.0
comp=Z,33nm,1.8s
I03D Drain, OR 85.41 35 P P 02 11 32.1 +1.4
baz=226
TYV Tymovskoe 85.64 335 eP P 02 11 32.1 +0.4
TYV pmax pmax
comp=Z,400nm,4.8s
TYV pmax pmax
comp=Z,21nm,1.4s
TUC Tucson 85.73 51 P P 02 11 32.1 -0.7
TUC pmax pmax
comp=Z,12nm,1.1s
TUC Tucson 85.73 51 P P 02 11 33.2 +0.4
baz=234
TUC Tucson 85.73 51 P P 02 11 32.1 -0.7
TUC IAmb IAmb 02 11 35.6
comp=Z,12nm,1.1s
J04D Umpqua Nationa 85.74 36 P P 02 11 33.8 +1.1
baz=226
PRN Pahroc Range 85.99 44 P P 02 11 33.8 -0.2
PRN IAmb IAmb 02 11 36.8
comp=Z,17nm,1.0s
J05D Fort Rock, OR 86.24 37 P P 02 11 35.9 +0.8
baz=227
R11A Troy Canyon, C 86.25 43 P P 02 11 35.9 +0.6
baz=231
R11A Troy Canyon, C 86.25 43 P P 02 11 35.2 -0.1
MT01 Popeta 86.58 126 P P 02 11 38.4 +1.4
MT01 IAmb IAmb 02 11 51.4
comp=Z,24nm,1.1s
RPSI Rantau Prapat 86.68 275 P P 02 11 35.2 -2.5
RPSI IAmb IAmb 02 11 38.2
comp=Z,32nm,1.1s
PSI Prapat 86.73 275 P P 02 11 35.2 -3.0
PSI pmax pmax
comp=Z,32nm,1.1s
KDAK Kodiak Island 86.77 12 P P 02 11 39.4 +2.4
baz=201
MDJ Mudanjiang 86.79 325 P P 02 11 38.1 +0.6
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,220nm,4.5s
LCMT Little Creek M 86.89 46 P P 02 11 38.4 0.0
I05D Terrebonne, OR 86.90 36 P P 02 11 39.1 +0.9
baz=227
CCUT Cedar City 87.14 45 P P 02 11 38.1 -1.6
U15A North Rim 87.15 46 P P 02 11 39.6 -0.3
U15A IAmb IAmb 02 11 42.6
comp=Z,11nm,0.9s
KNB Kanab 87.16 46 P P 02 11 39.4 -0.4
KNB pmax pmax
comp=Z,17nm,1.2s
KNB Kanab 87.16 46 P P 02 11 39.4 -0.4
KNB IAmb IAmb 02 11 49.9
comp=Z,16nm,1.2s
WUAZ Wupatki 87.21 48 P P 02 11 40.7 +0.6
baz=234
WUAZ Wupatki 87.21 48 P P 02 11 39.8 -0.3
SZCU Shurtz Canyon 87.34 45 P P 02 11 39.8 -0.9
SPR3 Spring Creek 3 87.42 43 P P 02 11 40.1 -1.0
PSUT Pine Spring 87.43 44 P P 02 11 40.5 -0.6
G05D Wamic, OR 87.53 35 P P 02 11 42.1 +1.0
baz=227
X18A Snowflake 87.58 49 P P 02 11 41.2 -0.7
WHN Wuhan 87.64 306 ⇑iP P 02 11 42.8 +0.8
WHN sP pwP 02 11 56.8 +7.6
WHN pmax pmax
comp=Z,160nm,0.9s
WHN LR LR
comp=Z,2μm,20.6s
I07A Izee 87.70 37 P P 02 11 41.2 -0.9
E04D Cinebar 87.80 34 P P 02 11 43.4 +1.1
baz=226
121A Cookes Peak, D 87.94 52 P P 02 11 44.0 +0.3
baz=236
GRNR Gornyy 88.04 332 ⇑iP P 02 11 43.8 +0.4
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR MLR MLR
comp=E,120nm,11.0s
GRNR MLR MLR
comp=N,100nm,14.0s
MTPU Mount Pierson 88.18 45 P P 02 11 44.1 -0.8
MTPU IAmb IAmb 02 11 48.0
comp=Z,10nm,1.0s
D03D Eldon 88.23 33 P P 02 11 45.1 +0.7
baz=226
O18K Koktuh Hills 88.26 10 P P 02 11 44.1 -0.2
baz=199,SNR=5.4
P19K Oil Pt 88.40 11 P P 02 11 44.7 -0.2
baz=200
MVU Marysvale 88.44 45 P P 02 11 44.6 -1.4
CN2 Changchun 88.46 322 eP P 02 11 45.8 +0.2
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,600nm,18.0s
D05A Enumclaw 88.53 34 P P 02 11 45.7 -0.1
CNPM China Poot 88.65 12 P P 02 11 45.4 -0.7
G08A Pilot Rock 88.79 36 P P 02 11 47.1 -0.2
G08A IAmb IAmb 02 11 49.3
comp=Z,14nm,1.0s
TIA Tai'an 88.89 312 ⇑P P 02 11 48.4 +0.6
TIA pmax pmax
comp=Z,42nm,1.2s
O20K Slope Mountain 88.91 12 P P 02 11 47.0 -0.4
baz=201
BRLK Bradley Lake 88.94 12 P P 02 11 47.7 +0.2
N18K Kilae Creek 88.94 10 P P 02 11 47.7 +0.2
baz=198
BRSE Bradley Lake S 88.94 13 P P 02 11 47.7 +0.2
baz=203
KLR Kul'dur 88.96 329 eP P 02 11 48.2 +0.4
KLR pmax pmax
comp=Z,27nm,1.6s
E07A Sunnyside 89.17 35 P P 02 11 48.7 -0.2
E07A IAmb IAmb 02 11 51.2
comp=Z,21nm,0.9s
TX31 Lajitas Ar. Si 89.19 56 P P 02 11 49.2 -0.3
TX32 Lajitas Array 89.19 56 IAmb IAmb 02 12 04.2
comp=Z,14nm,1.4s
TXAR Lajitas Array 89.19 56 P P 02 11 51.0 +1.5
comp=Z,3.3nm,1.0s,baz=210,slow=7.2,SNR=13
TXAR LR LR 02 44 03.0
comp=Z,259nm,20.8s,baz=0.0,slow=30
TXAR Lajitas Array 89.19 56 P P 02 11 48.6 -1.0
MNTX Cornudas Mount 89.19 54 P P 02 11 50.3 +1.0
baz=237
MNTX Cornudas Mount 89.19 54 P P 02 11 49.0 -0.3
MNTX IAmb IAmb 02 12 21.9
comp=Z,15nm,1.4s
B05A Bryant 89.22 33 P P 02 11 50.3 +1.2
baz=226
HAWA Hanford 89.23 35 P P 02 11 48.5 -0.6
HAWA IAmb IAmb 02 11 51.3
comp=Z,13nm,1.0s
LTY Liberty 89.23 34 IAmb IAmb 02 12 26.1
comp=Z,15nm,1.3s
A04D Lummi Island 89.24 32 P P 02 11 50.5 +1.5
baz=226
N19K Bonanza Creek 89.28 10 P P 02 11 48.2 -1.0
baz=199,SNR=5.6
BMO Blue Mountains 89.39 38 P P 02 11 49.5 -0.6
BMO pmax pmax
comp=Z,20nm,1.8s
BMO Blue Mountains 89.39 38 P P 02 11 49.5 -0.6
BMO IAmb IAmb 02 12 01.1
comp=Z,20nm,1.8s
E08A Dider Farm, El 89.54 35 P P 02 11 50.3 -0.3
E08A IAmb IAmb 02 12 00.8
comp=Z,14nm,1.2s
TMUT Trail Mountain 89.54 45 IAmb IAmb 02 11 53.6
comp=Z,9.2nm,0.8s
KHON Khomkaen 89.58 288 P P 02 11 52.9 +1.5
KHON Khomkaen 89.58 288 P P 02 11 52.9 +1.5
comp=Z,3μmcomp=Z,82nm,0.7s
KHON Khomkaen 89.58 288 P P 02 11 53.0 +1.5
comp=Z,762nmcomp=Z,20nm,0.7s
PATY Pattaya 89.66 285 P P 02 11 54.7 +2.8
B06A Marblemount 89.69 33 P P 02 11 51.0 -0.2
B06A IAmb IAmb 02 11 52.9
comp=Z,15nm,0.9s
CAPN Captain Cook N 89.82 12 P P 02 11 52.4 +0.9
baz=202
SRU San Rafael Swe 89.86 45 P P 02 11 52.2 -0.4
SRU pmax pmax
comp=Z,13nm,1.2s
SRU San Rafael Swe 89.86 45 P P 02 11 52.2 -0.4
SRU IAmb IAmb 02 12 04.7
comp=Z,13nm,1.2s
SPUT South Promonto 89.97 42 P P 02 11 51.6 -1.4
D08A Wollman Farm, 89.98 35 P P 02 11 52.6 -0.1
CRAG Craig 90.01 23 P P 02 11 53.3 +0.8
baz=218
E09A Wood Farm, Sta 90.03 36 IAmb IAmb 02 11 54.6
comp=Z,22nm,0.9s
SPCR Spurr Chakacha 90.03 11 P P 02 11 52.2 -0.4
baz=201
MVCO Mesa Verde 90.08 48 P P 02 11 54.0 +0.3
baz=236
NONG Nongkai 90.12 290 P P 02 11 55.0 +1.1
F10A Beach Ranch, E 90.16 37 P P 02 11 53.1 -0.5
F10A IAmb IAmb 02 11 55.0
comp=Z,19nm,0.9s
PV05 Paradox Valley 90.18 47 P P 02 11 54.4 +0.3
PV05 IAmb IAmb 02 11 57.0
comp=Z,11nm,1.1s
HLID Hailey 90.19 40 P P 02 11 54.4 +0.4
baz=232,SNR=5.8
ANMO Albuquerque 90.20 50 eP P 02 11 55.1 +0.9
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO Albuquerque 90.20 50 P P 02 11 55.4 +1.2
baz=237
ANMO Albuquerque 90.20 50 P P 02 11 54.0 -0.2
M19K Big River Lodg 90.33 10 P P 02 11 54.0 0.0
baz=199
PV17 East Wray Mesa 90.39 47 IAmb IAmb 02 12 16.3
comp=Z,37nm,2.0s
RC01 Rabbit Creek A 90.39 12 P P 02 11 54.1 -0.1
baz=203
PV14 Lion Creek, Pa 90.40 46 IAmb IAmb 02 12 04.4
comp=Z,12nm,1.3s
PV13 Radium Mtn., P 90.41 47 IAmb IAmb 02 12 09.1
comp=Z,17nm,1.7s
PV02 Paradox Valley 90.49 47 P P 02 11 54.6 -0.9
M20K Styx River 90.52 11 P P 02 11 54.1 -0.7
baz=200
L19K White Mountain 90.53 10 P P 02 11 55.0 +0.1
baz=199,SNR=6.4
PV01 Paradox Valley 90.56 47 P P 02 11 55.3 -0.5
SIT Sitka 90.56 21 P P 02 11 55.5 +0.5
baz=216
B08A Colville Reser 90.64 34 P P 02 11 55.6 -0.2
B08A IAmb IAmb 02 11 57.0
comp=Z,8.0nm,0.9s
PV22 Blue Mesa, Par 90.64 46 P P 02 11 55.6 -0.6
PV07 Paradox Valley 90.68 47 P P 02 11 56.0 -0.5
EYAK Cordova Ski Ar 90.72 14 P P 02 11 56.0 +0.3
baz=207
EYAK Cordova Ski Ar 90.72 14 IAmb IAmb 02 11 57.3
comp=Z,19nm,0.9s
GLI Glacier Island 90.73 14 P P 02 11 55.8 0.0
baz=206
GLI Glacier Island 90.73 14 P P 02 11 55.4 -0.4
SKT Skwentna 90.88 11 P P 02 11 55.3 -1.2
baz=202
KNK Knik Glacier 90.93 13 P P 02 11 56.8 0.0
baz=204,SNR=5.8
KNK Knik Glacier 90.93 13 IAmb IAmb 02 11 58.2
comp=Z,23nm,1.1s
WRAK Wrangell Islan 91.03 23 P P 02 11 58.5 +1.3
baz=218
WRAK Wrangell Islan 91.03 23 IAmb IAmb 02 11 59.9
comp=Z,23nm,1.1s
ENH Enshi 91.06 304 P P 02 11 57.6 -0.6
GHO Glory Hole Cre 91.17 13 P P 02 11 57.8 -0.1
MESA MESA 91.30 16 P P 02 11 59.7 +0.9
baz=210
WAX Waxell Ridge 91.31 16 P P 02 11 58.4 -0.2
BMRM Bremner River 91.36 15 P P 02 11 59.0 +0.2
baz=208,SNR=7.6
S22A 4UR Ranch, Cre 91.48 48 P P 02 12 00.3 0.0
baz=237
CUT Chulitna 91.50 12 P P 02 11 59.9 +0.6
baz=203
YAH Yahtse 91.51 16 P P 02 11 59.5 -0.2
CRQM Cirque 91.51 16 P P 02 11 59.2 -0.5
CRQM IAmb IAmb 02 12 01.4
comp=Z,18nm,1.1s
CRQE Cirque 91.52 16 P P 02 11 59.8 +0.1
baz=209
KLU Klutina 91.53 14 P P 02 11 59.6 0.0
baz=207,SNR=5.4
KLU Klutina 91.53 14 P P 02 11 59.3 -0.3
KLU IAmb IAmb 02 12 11.4
comp=Z,13nm,1.1s
SCM Sheep Creek Mo 91.54 13 P P 02 11 59.5 -0.1
SCM pmax pmax
comp=Z,28nm,1.0s
SCM Sheep Creek Mo 91.54 13 P P 02 11 59.5 -0.1
ISLE Juniper Island 91.57 16 P P 02 11 59.2 -0.6
ISLE IAmb IAmb 02 12 01.6
comp=Z,18nm,0.9s
BJT Baijiatuau 91.67 315 P P 02 11 59.5 -1.2
BJT pmax pmax
comp=Z,17nm,1.0s
BJT Baijiatuau 91.67 315 P P 02 11 59.5 -1.2
BJT IAmb IAmb 02 12 14.6
comp=Z,17nm,1.0s
BJI Beijing 91.68 315 P P 02 12 01.4 +0.7
BJI pmax pmax
comp=Z,15nm,1.5s
BJI LR LR
comp=Z,460nm,26.5s
NEW Newport 91.69 35 P P 02 12 00.4 -0.3
NEW pmax pmax
comp=Z,17nm,1.8s
NEW Newport 91.69 35 P P 02 12 00.9 +0.2
baz=230
NEW Newport 91.69 35 P P 02 12 00.4 -0.3
NEW IAmb IAmb 02 13 59.4
comp=Z,17nm,1.8s
K20K Telida 91.76 10 P P 02 12 01.3 +0.8
baz=200
MCMT McKenzie Canyo 91.85 40 P P 02 12 01.3 -0.4
O20A White River Ci 91.89 45 P P 02 12 02.4 +0.4
baz=236
N25K Chitina, Valde 91.92 14 P P 02 12 01.7 +0.3
baz=208,SNR=9.2
N25K Chitina, Valde 91.92 14 P P 02 12 01.0 -0.5
N25K IAmb IAmb 02 12 03.2
comp=Z,16nm,0.9s
GLB Gilahina Butte 91.96 15 P P 02 12 01.2 -0.3
GLB IAmb IAmb 02 12 03.2
comp=Z,12nm,0.9s
PHIT Phitsanulok 92.01 288 P P 02 12 04.8 +2.0
PHIT Phitsanulok 92.01 288 P P 02 12 04.8 +2.0
comp=Z,91nm,1.1s
PHIT Phitsanulok 92.01 288 P P 02 12 04.0 +1.2
comp=Z,22nm,1.1s
MCARA McCarthy VSAT 92.09 15 P P 02 12 02.7 +0.6
baz=209
UTHA Uthaitani 92.09 286 P P 02 12 05.7 +2.5
LOGN Logan Glacier 92.09 16 P P 02 12 02.3 0.0
LOGN IAmb IAmb 02 12 04.1
comp=Z,13nm,1.1s
CTG Chitna Glacier 92.13 16 P P 02 12 03.0 +0.6
baz=211
CTGM Chitina Glacie 92.13 16 IAmb IAmb 02 12 04.2
comp=Z,12nm,0.9s
BARN Barnard Glacie 92.13 16 IAmb IAmb 02 12 04.4
comp=Z,20nm,1.0s
WAT6 Susitna Watana 92.14 13 P P 02 12 02.4 -0.1
baz=205
REDW Red Top Meadow 92.14 42 IAmb IAmb 02 12 10.5
comp=Z,18nm,1.3s
UTTA Uttaradit 92.15 289 P P 02 12 05.4 +2.0
UTTA Uttaradit 92.15 289 P P 02 12 05.4 +2.0
UTTA Uttaradit 92.15 289 P P 02 12 05.4 +2.0
TPAW Teton Pass 92.16 41 IAmb IAmb 02 12 18.3
comp=Z,20nm,1.4s
WAT1 Susitna Watana 92.21 12 P P 02 12 03.0 +0.3
baz=204
MSTX Muleshoe 92.26 53 P P 02 12 04.0 +0.3
baz=239
SNOW Snow King Moun 92.26 41 IAmb IAmb 02 12 05.8
comp=Z,11nm,1.0s
DLMT Dillon 92.32 39 IAmb IAmb 02 12 26.3
comp=Z,10nm,1.2s
SDCO Great Sand Dun 92.36 48 P P 02 12 04.6 +0.2
baz=237
LOHW Long Hollow 92.43 41 IAmb IAmb 02 12 14.6
comp=Z,8.6nm,1.2s
TRF Thorofare Moun 92.46 11 P P 02 12 03.4 -0.6
baz=203,SNR=7.2
TRF Thorofare Moun 92.46 11 IAmb IAmb 02 12 23.3
comp=Z,11nm,0.9s
MSO Missoula 92.47 37 P P 02 12 04.9 +0.6
baz=232
MSO Missoula 92.47 37 P P 02 12 03.7 -0.7
J20K Nowinta River 92.52 9 P P 02 12 04.2 +0.2
baz=200
BW06 Boulder Array 92.57 43 P P 02 12 05.7 +0.6
baz=235
PDAR Pinedale Array 92.57 43 P P 02 12 05.6 +0.5
comp=Z,3.2nm,1.0s,baz=220,slow=3.7,SNR=16
PDAR LR LR 02 47 59.2
comp=Z,320nm,19.0s,baz=252,slow=32
FLWY Flagg Ranch 92.65 41 IAmb IAmb 02 12 07.8
comp=Z,12nm,0.9s
JCT Junction City 92.66 57 P P 02 12 06.0 +0.5
baz=240
RND Reindeer 92.68 12 IAmb IAmb 02 12 05.9
comp=Z,13nm,1.0s
NNA Nana 92.76 105 LR LR 02 45 46.1
comp=Z,204nm,18.2s,baz=246,slow=30
T25A Trinidad 92.77 49 P P 02 12 06.6 +0.5
baz=238
TIY Taiyuan 92.85 311 eP P 02 12 07.3 +1.0
TIY LR LR
comp=Z,180nm,9.7s
TIY LR LR
comp=Z,220nm,5.5s
TIY LR LR
comp=Z,340nm,16.6s
H17A Grant Village 92.91 41 P P 02 12 07.1 +0.5
baz=234
H17A Grant Village 92.91 41 IAmb IAmb 02 12 31.9
comp=Z,15nm,1.4s
BPAW Bear Paw Mtn. 92.94 11 P P 02 12 07.7 +1.6
baz=202
MCK McKinley 92.96 12 P P 02 12 06.7 +0.6
baz=204
MCK McKinley 92.96 12 IAmb IAmb 02 12 19.5
comp=Z,8.4nm,1.0s
YHH Holmes Hill 92.98 40 IAmb IAmb 02 12 17.9
comp=Z,13nm,1.3s
BOZ Bozeman (W) 93.00 39 P P 02 12 07.6 +0.6
baz=234,SNR=14
BOZ Bozeman (W) 93.00 39 IAmb IAmb 02 12 08.9
comp=Z,9.4nm,0.9s
SEY Seymchan 93.08 346 P P 02 12 06.3 -0.3
comp=Z,3.9nm,0.7s,baz=150,slow=7.1,SNR=6.7
Q24A Divide 93.25 48 P P 02 12 08.3 -0.1
baz=238
XAN Xi'an 93.38 307 P P 02 12 09.8 +1.0
XAN pmax pmax
comp=Z,15nm,1.1s
DLBC Dease Lake 93.39 22 P P 02 12 09.3 +1.0
comp=Z,2.6nm,0.7s,baz=219,slow=7.0,SNR=7.2
ISCO Idaho Springs 93.39 47 P P 02 12 09.3 +0.2
baz=238
YNE Yellowstone No 93.59 41 IAmb IAmb 02 12 12.7
comp=Z,9.6nm,1.0s
ATAH Atahualpa 93.66 100 LR LR 02 46 04.1
comp=Z,606nm,18.6s,baz=237,slow=30
KMI Kunming 93.77 296 ⇑P P 02 12 12.3 +1.3
KMI pP pwP 02 12 23.1 +4.9
KMI sP sP 02 12 26.3 +13
KMI SKS **SKSac 02 22 47.3 +1.1**
KMI S **ScS 02 23 25.4 +3.0**
KMI pmax pmax
comp=Z,42nm,1.2s
KMI pmax pmax
comp=Z,280nm,5.3s
KMI LR LR
comp=Z,330nm,17.4s
KMI LR LR
comp=Z,280nm,19.9s
KMI LR LR
comp=Z,230nm,13.7s
RIDG Independent Ri 93.77 13 P P 02 12 09.9 +0.1
baz=208,SNR=5.3
RIDG Independent Ri 93.77 13 IAmb IAmb 02 12 11.1
comp=Z,7.3nm,1.0s
N23A Red Feather La 93.77 46 P P 02 12 10.9 +0.2
baz=237
CM04 Chiang Mai Arr 93.78 289 P P 02 12 12.9 +2.0
comp=Z,155nmcomp=Z,17nm,1.0s
CM04 Chiang Mai Arr 93.78 289 P P 02 12 12.9 +2.0
comp=Z,155nmcomp=Z,17nm,1.0s
CM04 Chiang Mai Arr 93.78 289 P P 02 12 13.0 +2.0
comp=Z,155nmcomp=Z,17nm,1.0s
CM09 Chiang Mai Arr 93.79 289 P P 02 12 13.2 +2.2
comp=Z,18nm,1.0s
CM09 Chiang Mai Arr 93.79 289 P P 02 12 13.2 +2.2

comp=Z,18nm,1.0s
CM09 Chiang Mai Arr 93.79 289 P **P** **02 12 13.3 +2.2**
comp=Z,18nm,1.0s
I21K Tanana 93.79 10 P **P** **02 12 10.2 +0.3**
baz=202
WRH Wood River Hil 93.79 12 IAmb IAmb 02 12 10.6
comp=Z,11nm,1.0s
CM01 Chiang Mai Arr 93.80 289 P **P** **02 12 13.3 +2.2**
comp=Z,158nmcomp=Z,17nm,1.2s
CM01 Chiang Mai Arr 93.80 289 P **P** **02 12 13.3 +2.2**
comp=Z,158nmcomp=Z,17nm,1.2s
CM01 Chiang Mai Arr 93.80 289 P **P** **02 12 13.3 +2.2**
comp=Z,158nmcomp=Z,17nm,1.2s
CM05 Chiang Mai Arr 93.81 289 P **P** **02 12 12.8 +1.7**
comp=Z,123nmcomp=Z,14nm,1.0s
CM05 Chiang Mai Arr 93.81 289 P **P** **02 12 12.8 +1.7**
comp=Z,123nmcomp=Z,14nm,1.0s
CM05 Chiang Mai Arr 93.81 289 P **P** **02 12 12.8 +1.7**
comp=Z,123nmcomp=Z,14nm,1.0s
CM02 Chiang Mai Arr 93.82 289 P **P** **02 12 13.2 +2.1**
comp=Z,130nmcomp=Z,17nm,1.1s
CM02 Chiang Mai Arr 93.82 289 P **P** **02 12 13.2 +2.1**
comp=Z,130nmcomp=Z,17nm,1.1s
CM02 Chiang Mai Arr 93.82 289 P **P** **02 12 13.2 +2.1**
comp=Z,130nmcomp=Z,17nm,1.1s
L27K Beaver Creek, 93.83 15 P **P** **02 12 11.0 +0.9**
baz=210
CMAR Chiang Mai Arr 93.83 289 P **P** **02 12 12.6 +1.4**
comp=Z,11nm,1.0s,baz=142,slow=3.4,SNR=32
ABTX Abilene, Hawle 93.84 55 P **P** **02 12 11.0 0.0**
baz=240
CM13 Chiang Mai Arr 93.85 289 P **P** **02 12 13.1 +1.9**
comp=Z,147nmcomp=Z,16nm,1.0s
CM13 Chiang Mai Arr 93.85 289 P **P** **02 12 13.1 +1.9**
CM13 Chiang Mai Arr 93.85 289 P **P** **02 12 13.2 +1.9**
comp=Z,147nmcomp=Z,16nm,1.0s
CM15 Chiang Mai Arr 93.85 289 P **P** **02 12 13.3 +2.0**
CM15 Chiang Mai Arr 93.85 289 P **P** **02 12 13.3 +2.0**
DOT Dot Lake 93.85 14 IAmb IAmb 02 12 11.4
comp=Z,8.2nm,1.0s
MLY Manley 93.85 11 P **P** **02 12 09.6 -0.6**
baz=203
HDA Harding Lake 93.95 12 P **P** **02 12 10.4 -0.2**
baz=206
HDA Harding Lake 93.95 12 IAmb IAmb 02 12 11.3
comp=Z,6.6nm,0.8s
CHTO Chiang Mai 94.00 289 P **P** **02 12 10.7 -1.2**
CHTO pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 94.00 289 P **P** **02 12 13.3 +1.4**
comp=Z,567nmcomp=Z,39nm,1.2s
CHTO Chiang Mai 94.00 289 P **P** **02 12 13.3 +1.4**
comp=Z,567nmcomp=Z,39nm,1.2s
CHTO Chiang Mai 94.00 289 P **P** **02 12 10.7 -1.2**
RLMT Red Lodge 94.09 41 P **P** **02 12 12.4 +0.4**
baz=235
RLMT Red Lodge 94.09 41 IAmb IAmb 02 12 14.0
comp=Z,7.8nm,1.1s
ZEA Zeya 94.11 330 *e*P **P** **02 12 11.8 +0.2**
ZEA *e*S **S** **02 23 23.8 +1.6**
ZEA smax smax
comp=N,300nm,11.4s
H21K Melozitna Rive 94.11 9 P **P** **02 12 12.4 +1.1**
baz=201
SCRK Sand Creek 94.15 14 P **P** **02 12 11.8 +0.1**
baz=208,SNR=6.0
I23K Minto, Yukon-K 94.19 11 P **P** **02 12 12.0 +0.3**
baz=204
COLA College 94.20 12 *i* P **P** **02 12 11.1 -0.6**
COLA pmax pmax
comp=Z,6.0nm,0.9s
IMAR Indian Mountai 94.29 9 P **P** **02 12 11.9 -0.3**
ILAR Eielson Array 94.29 12 P **P** **02 12 11.8 -0.3**
comp=Z,2.8nm,0.8s,baz=222,slow=5.3,SNR=18
K22A Casper 94.36 44 P **P** **02 12 12.8 -0.4**
baz=237
K27K Chicken 94.61 14 P **P** **02 12 14.0 +0.4**
baz=210
HHC Hu-ho-hao-te 95.07 313 *e*P **P** **02 12 17.3 +0.8**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,240nm,6.6s
PRP Porcupine Dome 95.22 12 P **P** **02 12 16.2 -0.4**
baz=207,SNR=8.7
PRP Porcupine Dome 95.22 12 IAmb IAmb 02 12 17.9
comp=Z,6.4nm,1.0s
EGAK Eagle 95.46 14 P **P** **02 12 18.3 +0.8**
baz=211
BILL Bilibino 95.67 353 *e*P **P** **02 12 17.8 -0.6**
BILL *e*SS SS 02 29 59.1 -5.8
BILL pmax pmax
comp=Z,14nm,1.1s
BILL MLR MLR
comp=Z,146nm,16.0s
CD2 Chengdu 95.68 302 ⇑*i*P **P** **02 12 19.5 +0.1**
CD2 pmax pmax
comp=Z,30nm,1.3s
CD2 pmax pmax
comp=Z,330nm,6.2s
RSSD Black Hills 96.68 44 P **P** **02 12 22.7 -1.2**
RSSD pmax pmax
comp=Z,13nm,1.1s
RSSD Black Hills 96.68 44 P **P** **02 12 23.9 0.0**
baz=239
RSSD Black Hills 96.68 44 P **P** **02 12 22.7 -1.2**
RSSD IAmb IAmb 02 12 25.6
comp=Z,13nm,1.1s
EPYK Eagle Plains 97.81 15 P Pdif 02 12 28.8 +0.5
baz=215
LPAZ La Paz 98.00 113 LR LR 02 47 53.8
comp=Z,199nm,21.4s,baz=236,slow=30
LZH Lanzhou 98.02 306 *e*P Pdif 02 12 35.0 +4.9
LZH pP pwP 02 12 41.3 +4.0
LZH sP sP 02 12 44.3 +11
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.9s
LZH LR LR
comp=Z,340nm,19.5s
LZH LR LR
comp=Z,460nm,19.5s
LZH LR LR
comp=Z,340nm,20.6s
DGMT Dagmar 98.83 40 P Pdif 02 12 33.9 +0.7
baz=239
SONM Songino Array 101.73 318 P **Pdif** **02 12 46.4 +0.1**
comp=Z,0.5nm,0.8s,baz=104,slow=6.1,SNR=2.5
GTA Gaotai 102.34 308 *e*P **Pdif** **02 12 50.5 +1.3**
GTA pP sPdif 02 12 57.8 +5.8
GTA sP pPdif 02 13 01.6 +10
GTA pmax pmax
comp=Z,3.0nm,1.6s
GTA pmax pmax
comp=Z,80nm,5.3s
GTA LR LR
comp=Z,200nm,19.3s
GTA LR LR
comp=Z,250nm,21.4s
GTA LR LR
comp=Z,250nm,20.7s
KMSC Kings Mountain 108.69 60 P **PKiKP** **02 17 22.9 +0.3**
baz=250
WMQ Urumqi 112.39 309 *e*PKP **PKiKP** **02 17 30.1 +0.6**
ZALV Zalesovo Beam 116.56 319 PKP **PKPdf** **02 17 36.0 -1.0**
comp=Z,2.8nm,0.7s,baz=142,slow=1.1,SNR=10
ZALV Zalesovo Beam 116.56 319 PKIKP **PKPdf** **02 17 36.0 -1.0**
MK31 Makanchi Array 116.81 311 PKIKP **PKPdf** **02 17 37.1 -0.7**
MK31 Makanchi Array 116.81 311 **PKPdf** **02 17 37.1 -0.7**
MKAR Makanchi Array 116.81 311 PKP **PKPdf** **02 17 36.8 -1.0**
comp=Z,2.5nm,0.7s,baz=64,slow=2.1,SNR=20
AAK Ala-Archa 121.53 305 *c i* PKIKP **PKiKP** **02 17 47.9 +0.5**
AAK pmax pmax
comp=Z,11nm,1.3s
KBL Kabul 124.32 295 PKIKP **PKPdf** **02 17 52.4 -0.5**
KBL Kabul 124.32 295 PKPdf **PKPdf** **02 17 52.4 -0.5**
BVAR Borovoye Array 125.07 317 PKP **PKPdf** **02 17 52.6 -0.9**
comp=Z,3.5nm,0.9s,baz=192,slow=14,SNR=20
BRVK Borovoye 125.13 317 *c i* PKIKP **PKPdf** **02 17 53.2 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 125.13 317 PKPdf **PKPdf** **02 17 52.9 -0.6**
ARU Arti 131.45 323 PKP **PKPdf** **02 18 05.3 -0.2**
comp=Z,1.7nm,0.5s,baz=102,slow=1.2,SNR=10.0
ARU Arti 131.45 323 *i* PKIKP **PKPdf** **02 18 05.9 +0.4**
ARU 02 20 21.7
ARU SS SS 02 37 57.1 -0.8
ARU MLR MLR
comp=Z,292nm,21.0s
LSZ Lusaka 131.76 212 PKIKP **PKiKP** **02 18 08.5 0.0**
AKTO Aktyubinsk 132.94 315 PKP **PKPdf** **02 18 08.6 +0.1**
comp=Z,2.5nm,0.7s,baz=91,slow=1.5,SNR=13
GEYT Alibeck 133.51 298 PKP **PKiKP** **02 18 11.4 +0.1**
comp=Z,2.7nm,0.6s,baz=58,slow=30,SNR=3.7
KIRV Kirov 135.40 328 *c i* PKIKP **PKPdf** **02 18 12.8 0.0**
ARCES ARCESS Array B 135.61 349 PKP **PKPdf** **02 18 12.8 -0.1**
comp=Z,5.0nm,0.7s,baz=31,slow=1.0,SNR=14
ARCES ARCESS Array B 135.61 349 PKIKP **PKPdf** **02 18 13.2 +0.3**
ARCES ARCESS Array B 135.61 349 **PKPdf** **02 18 13.2 +0.3**
PRGR Permogore 135.61 333 *e*PKIKP **PKPdf** **02 18 11.4 -1.7**
PRGR pmax pmax
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 138.48 334 *e*PKIKP **PKPdf** **02 18 16.3 -2.2**
KLMR pmax pmax
comp=Z,25nm,1.5s
KLMR Klimovskoe 138.48 334 *e*PKPdf **PKPdf** **02 18 16.3 -2.2**
KLMR AMP 02 18 21.0
comp=Z,25nm,1.5s
KLMR *e*PP **PP** **02 21 02.7 -5.9**
AKT Akhty 141.37 303 *e*PKIKP **PKiKP** **02 18 30.1 +2.8**
AKT *e* 02 21 31.9
AKT pmax pmax
comp=Z,12nm,1.0s
MOS Moscow 142.37 329 *i* PKIKP **PKPdf** **02 18 24.5 -1.1**
FINES FINESS Array B 142.47 343 PKhKP PKPpre 02 18 20.6
comp=Z,1.1nm,0.5s,baz=39,slow=1.6,SNR=12
VRH Novokhopyorsk 142.58 321 *e*PKIKP **PKPdf** **02 18 24.7 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 143.23 329 *i* PKIKP PKPbc 02 18 24.8 +0.7
OBN *i* 02 21 33.1
OBN pmax pmax
comp=Z,14nm,1.0s
LPSR Galich'ya Gora 143.45 324 *e*PKIKP PKPab 02 18 23.4 -0.5
LPSR pmax pmax
comp=Z,7.0nm,0.8s
GNI Garni 143.81 302 *i* PKIKP PKPab 02 18 25.9 0.0
ZEI Tsey 143.94 306 *i* PKIKP PKPab 02 18 25.4 -1.0
ZEI pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 144.43 308 PKP **PKPab** **02 18 28.0 +0.2**
comp=Z,5.4nm,1.0s,baz=157,slow=5.4,SNR=5.6
KBZ Khabaz 144.43 308 *i* PKIKP **PKPab** **02 18 26.3 -1.6**
KIV Kislovodsk 144.52 309 *i* PKIKP **PKPab** **02 18 27.2 -1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
AKH Akhalkalaki 144.53 304 ⇓P PKPbc 02 18 29.6 +0.8
CLDR Caldiran 144.58 300 *e*P PKPbc 02 18 29.2 +0.1
SHA1 Shidzhatmaz 144.60 308 *i* PKIKP **PKPab** **02 18 27.4 -1.4**
VSU Vasula 144.72 339 *e*P **PKPab** **02 18 28.1 -0.4**
KARS Kars 144.98 303 *e*P PKPbc 02 18 30.7 +0.4
CUKT Cukurca 145.03 297 *e*P **PKPab** **02 18 30.2 -0.3**
AAL Aland 145.05 346 *e*P **PKPab** **02 18 28.8 -0.8**
AGRB Hanur-Agry 145.22 301 *e*P **PKPbc** **02 18 30.6 -0.5**
CHVG Ch'k'valeri 145.26 307 ⇑P **PKPdf** **02 18 31.3 +0.1**
CHVG Ch'k'valeri 145.26 307 ⇑PKIKP **PKPdf** **02 18 31.3 +0.1**
MTSE Matsula 145.38 342 *e*P **PKPbc** **02 18 30.7 0.0**
AKDM Akdamar-Van 145.41 299 *e*P **PKPbc** **02 18 31.6 -0.1**
SENK Senkaya-Erzuru 145.54 303 *e*P **PKPbc** **02 18 32.3 +0.2**
NB2 NORSAR Subarra 145.62 354 PKP **PKPdf** **02 18 30.6 -0.7**
comp=Z,83nm,1.2s,baz=13,slow=3.2
NB2 NORSAR Subarra 145.62 354 PKP **PKPdf** **02 18 30.6 -0.7**
baz=13,slow=3.2
NOA NORSAR Array B 145.62 354 PKPbc **PKPdf** **02 18 30.9 -0.4**
comp=Z,23nm,0.9s,baz=11,slow=2.4,SNR=46
UPP Uppsala 145.83 348 *e*P **PKPdf** **02 18 31.0 -0.5**
NAO01 NORSAR Array S 145.84 354 **PKPdf** **02 18 31.9 +0.3**
NORES NORESS Array B 145.89 353 PKIKP **PKPdf** **02 18 31.7 0.0**
NORES pmax pmax
comp=Z,13nm,0.7s
KOPR Koprukoy-ERZUR 146.02 302 *e*P **PKPbc** **02 18 33.6 0.0**
HFS Hagfors 146.21 351 PKPbc **PKPdf** **02 18 32.6 +0.4**
comp=Z,16nm,0.7s,baz=43,slow=2.8,SNR=34
VRTB Varto-Mus 146.47 301 *e*P **PKPab** **02 18 36.8 +0.9**
CHOM Cayeli-Rize 146.61 304 *e*P **PKPbc** **02 18 34.5 -0.6**
SOC Sochi 146.69 309 *e*PKP2 **PKPdf** **02 18 34.1 +0.6**
SOC *e* 02 22 04.2
SOC pmax pmax
comp=Z,22nm,0.9s
SVAN Silvan-Diyarba 146.82 299 *e*P **PKPbc** **02 18 36.1 +0.2**
BNGB Bingl 147.09 301 *e*P **PKPbc** **02 18 36.9 +0.2**
YEDI Yedisu-Bingol 147.11 302 *e*P **PKPbc** **02 18 37.2 +0.4**
KONO Kongsberg 147.14 355 *c i* PKP2 **PKPbc** **02 18 36.3 +0.3**
KONO pmax pmax
comp=Z,42nm,1.3s
IDID Didziasalis 147.19 336 *e*P **PKPdf** **02 18 34.5 +0.5**
ISAL Salakas 147.22 337 *e*P **PKPbc** **02 18 36.7 +0.4**
IIGN Ignalina 147.35 336 *e*P **PKPbc** **02 18 36.4 -0.3**
KTUT Trabzon 147.36 305 ⇑P **PKPbc** **02 18 36.8 -0.4**
KTUT Trabzon 147.36 305 *e*P **PKPbc** **02 18 37.2 0.0**
MNK Minsk 147.37 334 *i* PKP2 **PKPdf** **02 18 35.0 +0.7**
MNK *i* 02 22 03.4
MNK *i* PPP PPP 02 25 19.8
MNK *i* 02 25 43.8
MNK pmax pmax
comp=Z,48nm,1.0s
MNK pmax pmax
comp=N,24nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK MLR MLR
comp=Z,185nm,19.0s
MNK MLR MLR
comp=N,104nm,19.0s
MNK Minsk 147.37 334 *i* PKP **PKPdf** **02 18 35.1 +0.7**
comp=E,4.0nm,1.0s
MNK *i* PKP **PKPdf** **02 18 35.1 +0.7**
comp=N,24nm,1.0s
MNK *i* PKP **PKPdf** **02 18 35.1 +0.7**
comp=Z,48nm,1.0s,baz=42
MNK *i* SKP 02 21 42.9
MNK *i* PP **PP** **02 22 03.5 +1.2**
MNK *i* PKS **PKSdf** **02 22 10.3 +1.0**
MNK *i* PPP PPP 02 25 19.9
MNK *i* SKS **SKSdf** **02 25 43.8 +0.9**
MNK *i* SKKS 02 36 44.6
MNK *i* SS **SS** **02 41 12.1 +7.7**
MNK *i* SSS SSS 02 46 09.9
MNK *i* LQ LQ 03 13 14.1
MNK *i* LR LR 03 16 54.5
MNK *i* LRM MLR 03 25 03.0
comp=Z,185nm,18.7s
MNK *i* LRM MLR 03 25 06.3
comp=E,12nm,18.7s
MNK *i* LRM MLR 03 25 06.9
comp=N,104nm,18.7s
MAZI Mazidag 147.51 298 *e*P **PKPbc** **02 18 37.8 -0.1**
ANN Anapa 147.82 312 *i* PKP2 **PKPdf** **02 18 36.6 +1.2**
ANN pmax pmax
comp=Z,68nm,0.9s
PABE Paberze 148.01 338 *e*P **PKPbc** **02 18 38.9 +0.5**
ESPY Espiye-Giresun 148.14 305 *e*P **PKPbc** **02 18 38.2 -1.2**
HOMB Homborsund 148.59 355 *i* P **PKPbc** **02 18 39.9 0.0**
SNART Snartemo 148.61 357 *i* P **PKPbc** **02 18 40.2 +0.2**
URFA Urfa 148.79 298 *e*P **PKPbc** **02 18 41.5 +0.3**
KAC Achnashellach 148.85 10 *e*P **PKPbc** **02 18 40.5 -0.1**
ARPR Arapgir-MALATY 148.86 302 *e*P **PKPbc** **02 18 42.2 +0.7**
MALT Malatya 148.95 300 *e*P **PKPbc** **02 18 42.2 +0.6**
KPL Plockton 148.96 10 *e*P **PKPbc** **02 18 40.6 -0.2**
AKASG Malin Array Be 149.46 328 PKPbc **PKPbc** **02 18 41.5 -0.8**
comp=Z,16nm,0.8s,baz=40,slow=3.0,SNR=17
SUW Suwalki 149.49 337 *e*PKP **PKPbc** **02 18 42.0 -0.3**
SUW Suwalki 149.49 337 *e*P **PKPbc** **02 18 42.2 0.0**
SUW Suwalki 149.49 337 PKP2 **PKPbc** **02 18 42.3 0.0**
SVSK Karacayir 149.68 304 *e*P **PKiKP** **02 18 44.0 -0.2**
DEL Delary 149.70 349 *i* P **PKPbc** **02 18 42.2 -0.5**
DRUM Mains of Drumt 149.79 7 *e*P **PKPbc** **02 18 42.8 -0.2**
INVG Invergeldie, C 150.07 9 *e*P **PKPbc** **02 18 43.7 +0.1**
BJUU Bjuv 150.22 350 *i* P **PKPbc** **02 18 43.8 -0.2**
EAB Aberfoyle 150.26 9 *e*P **PKPbc** **02 18 44.1 0.0**
KMRS Kahramanmaras 150.29 299 *e*P **PKPbc** **02 18 44.8 -0.1**
MUD Monsted U'grnd 150.34 354 *i* P **PKPbc** **02 18 44.2 0.0**
MUD Monsted U'grnd 150.34 354 *i* PKIKP **PKPbc** **02 18 44.2 0.0**
DIKM Dikmen 150.43 308 ⇑P **PKPab** **02 18 51.8 +0.3**
LUNU Lund 150.57 349 *i* P **PKPbc** **02 18 44.9 +0.1**
ESY Stoneypath 150.75 7 *e*P **PKPbc** **02 18 44.6 -0.7**
BSD Bornholm Skovb 150.79 347 *e*P **PKPbc** **02 18 45.7 +0.3**
BSD Bornholm Skovb 150.79 347 *i* P **PKPbc** **02 18 45.0 -0.4**
BSD Bornholm Skovb 150.79 347 *i* PKIKP **PKPbc** **02 18 45.0 -0.4**
EBL Broad Law 150.84 8 *e*P **PKPbc** **02 18 45.2 -0.3**
BZK Bozkurt 151.19 309 ⇑P **PKPdf** **02 18 43.2 +2.3**
EKA Eskdalemuir Ar 151.25 8 PKPbc **PKPbc** **02 18 46.4 -0.1**
comp=Z,3.1nm,0.7s,baz=321,slow=1.4,SNR=17
ESK Eskdalemuir 151.26 8 *e*P **PKPbc** **02 18 45.3 -1.2**
ESK Eskdalemuir 151.26 8 PKIKP **PKPdf** **02 18 40.4 -0.1**
ESK Eskdalemuir 151.26 8 **PKPdf** **02 18 40.4 -0.1**
GAL1 Galloway 151.48 10 *e*P **PKPbc** **02 18 47.0 0.0**
SORM Soroca 151.55 324 ⇑P **PKPbc** **02 18 45.4 -2.0**
SORM Soroca 151.55 324 ⇑PKIKP **PKPbc** **02 18 45.4 -2.0**
EDMD Edmundbyers 151.89 7 *e*P **PKPbc** **02 18 47.5 -0.5**
GKP Gorka Klasztor 151.95 343 *e*P **PKiKP** **02 18 48.9 +0.5**
MMAI Mount Meron Ar 152.09 290 PKPbc **PKiKP** **02 18 49.7 +0.2**
comp=Z,11nm,0.8s,baz=108,slow=4.7,SNR=20
BRTR Keskin Array B 152.21 305 PKPbc **PKPbc** **02 18 49.1 -0.3**
comp=Z,5.3nm,1.0s,baz=143,slow=2.6,SNR=22
BRTR Keskin Array B 152.21 305 **PKPdf** **02 18 42.3 -0.4**
LVV L'vov 152.45 331 *e*PKIKP **PKPbc** **02 18 48.9 -0.5**
LNIZ Loecknitz 152.46 347 *e*PKPbc **PKiKP** **02 18 49.8 +0.3**
baz=15,slow=2.1
EIL Elat 152.53 283 PKPbc **PKiKP** **02 18 50.6 +0.1**
comp=Z,11nm,1.0s,baz=112,slow=2.6,SNR=12
BSEG Bad Segeberg 152.69 352 *e*PKPbc **PKiKP** **02 18 50.1 +0.2**
baz=15,slow=2.1
ANTO Ankara 152.78 305 PKIKP **PKPdf** **02 18 42.4 -1.0**
ANTO Ankara 152.78 305 PKPdf **PKPdf** **02 18 42.4 -1.0**
TLCR 153.04 319 ⇑P **PKPbc** **02 18 50.8 -0.1**
TLCR 153.04 319 ⇑PKIKP **PKPbc** **02 18 50.8 -0.1**
KWP Kalwaria Pacla 153.15 332 *e*PKP **PKPbc** **02 18 51.2 +0.2**
KWP Kalwaria Pacla 153.15 332 PKIKP **PKPdf** **02 18 43.7 +0.1**
CFR Carcaliu 153.44 319 ⇑P **PKPbc** **02 18 50.8 -0.9**
CFR Carcaliu 153.44 319 ⇑PKIKP **PKPbc** **02 18 50.8 -0.9**
TPGR Topolog 153.46 319 ⇓P **PKiKP** **02 18 52.1 +0.2**
BURAR Bucovina Array 153.48 326 ⇑P **PKPbc** **02 18 51.1 -0.8**
BURAR Bucovina Array 153.48 326 ⇑PKIKP **PKPbc** **02 18 51.1 -0.8**
RUE Ruedersdorf 153.50 346 *e*PKPbc **PKiKP** **02 18 52.1 +0.4**
baz=15,slow=2.1
EFOR EFORIE 153.76 317 ⇑P **PKiKP** **02 18 55.4 +2.9**
VRI Vrincioaia 153.83 322 ⇓P **PKPab** **02 19 03.9 -1.7**
HARR Harsova 153.84 319 ⇑P **PKPbc** **02 18 50.0 -2.6**
HARR Harsova 153.84 319 ⇑PKIKP **PKPbc** **02 18 50.0 -2.6**
KOLS Kolonicke sedl 153.87 332 *e*PKIKP **PKPdf** **02 18 45.3 +0.7**
KOLS *e* 02 18 53.5
KOLS Kolonicke sedl 153.87 332 *e*PKP **PKPdf** **02 18 45.3 +0.7**
KOLS *e* 02 18 53.5
PLOR Plostina 153.88 322 ⇓P **PKPbc** **02 18 52.1 -0.6**
PLOR Plostina 153.88 322 ⇓PKIKP **PKPbc** **02 18 52.1 -0.6**
LEF Lefka 153.91 295 ⇑P **PKPdf** **02 18 48.6 +3.5**
STHS Stebnicka Huta 153.91 334 *e*PKIKP **PKPbc** **02 18 52.6 -0.1**
STHS Stebnicka Huta 153.91 334 *e*PKP **PKPbc** **02 18 52.6 -0.1**
BISRR Bisoca 154.04 321 ⇑P **PKPab** **02 19 09.4 +2.8**
UZH Uzhgorod 154.09 331 *e*PKIKP **PKPdf** **02 18 45.9 +1.0**
UZH *i* 02 18 47.7
UZH *e* 02 19 05.8
FLTG Flechtingen 154.11 350 *e*PKPbc **PKPbc** **02 18 53.0 +0.1**
baz=15,slow=2.1
NRDL Niedersach Rie 154.12 351 *e*PKPbc **PKPbc** **02 18 53.0 +0.2**
baz=15,slow=2.1
CRVS Cervenica-Dubn 154.23 333 *e*PKIKP **PKPdf** **02 18 45.5 +0.4**
CRVS *e* 02 19 05.0
CRVS Cervenica-Dubn 154.23 333 *e*PKP **PKPdf** **02 18 45.5 +0.4**
CRVS *e* 02 19 05.0
BMR Baia Mare 154.26 328 ⇑P **PKPab** **02 19 06.4 -0.9**
BMR Baia Mare 154.26 328 ⇑PKP2 **PKPab** **02 19 06.4 -0.9**
KSP Ksiaz 154.38 342 *e*PKP **PKiKP** **02 18 54.1 +0.5**
MLR Muntele Rosu 154.50 322 ⇑P **PKPbc** **02 18 50.4 -3.8**
MLR Muntele Rosu 154.50 322 ⇑PKIKP **PKPbc** **02 18 50.4 -3.8**
OSTC Ostas 154.66 341 *e*PKPDF **PKPdf** **02 18 45.4 -0.3**
OSTC *e*PKPAB **PKPab** **02 19 09.0 +0.1**
OSTC AMS AMS 03 30 20.0
comp=Z,300nm,21.1s
CHVC Chvalec 154.68 342 *e*PKPDF **PKPdf** **02 18 46.2 +0.5**
CHVC *e*PKPAB **PKPab** **02 19 09.1 +0.1**
CLZ Clausthal 154.72 350 *e*PKPbc **PKPbc** **02 18 54.4 +0.1**
baz=15,slow=2.1
CLL Collm 154.76 346 *e*PKPdf **PKPdf** **02 18 44.0 -1.8**
comp=Z,13nm,1.5s
CLL *i* PKPbc **PKPbc** **02 18 53.8 -0.6**
comp=Z,14nm,1.1s
CLL *i* PKPab **PKPab** **02 19 08.1 -1.2**
comp=Z,20nm,1.5s
CLL *i* 02 19 15.7
CLL *e*PP **PP** **02 22 42.0 -2.4**
CLL LmV 03 36 00.0
comp=Z,200nm,19.6s
CLL Collm 154.76 346 *e*PKIKP **PKPdf** **02 18 44.0 -1.8**
CLL *i* 02 19 08.1
CLL pmax pmax
comp=Z,13nm,1.5s
CLL pmax pmax
comp=Z,20nm,1.5s
CLL Collm 154.76 346 *e*PKPbc **PKiKP** **02 18 54.7 +0.3**
baz=15,slow=2.1
UPC Upice 154.76 342 AMS AMS 03 35 10.0
comp=Z,300nm,21.5s
LANS Liptovska Anna 154.81 335 *e*PKP **PKiKP** **02 18 55.8 +1.2**
DPC Dobruska-Polom 154.82 341 *e*PKIKP **PKPdf** **02 18 46.3 +0.3**
DPC MLR MLR
comp=Z,200nm,21.0s
DPC Dobruska-Polom 154.82 341 *e*PKPDF **PKPdf** **02 18 46.3 +0.3**
DPC *e*PKPAB **PKPab** **02 19 09.6 0.0**
DPC AMS AMS 03 32 40.0
comp=Z,200nm,21.0s
MESR Meseseni 154.90 328 ⇑P **PKPdf** **02 18 46.6 +0.5**
KRLC Kraliky 154.92 340 *e*PKIKP **PKPdf** **02 18 46.7 +0.6**
KRLC Kraliky 154.92 340 *e*PKPDF **PKPdf** **02 18 46.7 +0.6**
MORC Moravsky Berou 154.95 339 ⇑P **PKPdf** **02 18 46.3 +0.1**
MORC Moravsky Berou 154.95 339 ⇑PKIKP **PKPdf** **02 18 46.3 +0.1**
MORC Moravsky Berou 154.95 339 *e*PKP **PKPdf** **02 18 46.3 +0.1**
MORC *e* 02 19 10.2
BRG Berggiesshubel 154.96 345 *e*PKP **PKPdf** **02 18 46.2 +0.1**
BRG Amp 02 18 47.3
comp=Z,13nm,1.4s
BRG Berggiesshubel 154.96 345 P **PKiKP** **02 18 55.4 +0.5**
BRG Amp 02 18 56.8
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 154.96 345 P **PKPab** **02 19 09.8 -0.4**
BRG Amp 02 19 16.7
comp=Z,13nm,1.2s
BRG Berggiesshubel 154.96 345 *e*PKPbc **PKiKP** **02 18 55.3 +0.5**
baz=15,slow=2.1
VOIR 155.02 323 ⇑P **PKPdf** **02 18 45.2 -1.3**
VOIR 155.02 323 ⇑PKIKP **PKPdf** **02 18 45.2 -1.3**
FBE Freiberg 155.05 346 *e*PKPbc 02 18 55.5
baz=15,slow=2.1
PVCC Panska Ves 155.13 344 AMS AMS 03 28 00.0
comp=Z,300nm,20.9s
DRGR 155.27 328 ⇑P **PKPdf** **02 18 52.7 +6.0**
DRGR 155.27 328 ⇑PKIKP **PKPdf** **02 18 52.7 +6.0**
VYHS Vyhne 155.59 335 *e*PKP2 **PKPab** **02 19 13.1 +0.1**
HUMR Humele 155.63 321 ⇑P **PKPdf** **02 18 49.7 +2.5**
PRU Pruhonice 155.63 343 AMS AMS 03 28 40.0
comp=Z,200nm,19.3s
PSZ Piszkesteto 155.65 333 *e*P **PKPab** **02 19 13.9 +0.6**
VRAC Vranov 155.66 339 ⇑P **PKPdf** **02 18 47.8 +0.7**
VRAC Vranov 155.66 339 ⇑PKIKP **PKPdf** **02 18 47.8 +0.7**
JAVC Velka Javorina 155.69 337 *e*PKP **PKPdf** **02 18 48.1 +0.9**
JAVC *e* 02 19 13.9
NKC Novy Kostel 155.90 346 AMS AMS 03 27 30.0
comp=Z,200nm,18.7s
KRUC Moravsky 155.94 339 *e*PKP **PKPdf** **02 18 47.2 -0.2**
KRUC *e* 02 19 13.3
TREC Trest 156.00 341 AMS AMS 03 36 00.0
comp=Z,300nm,22.6s
SIRR Siria 156.15 328 ⇓P **PKPdf** **02 18 46.4 -1.5**
MANZ Manzenberg 156.20 347 *e*PKPbc PKPdf 02 18 57.7 +10
baz=15,slow=2.1
GZR Gura Zlata 156.23 325 ⇓P **PKPdf** **02 18 47.8 -0.3**
GZR Gura Zlata 156.23 325 ⇓PKIKP **PKPdf** **02 18 47.8 -0.3**
MODS Modra-Piesok 156.25 337 *e*PKIKP **PKPdf** **02 18 49.1 +1.2**
MODS Modra-Piesok 156.25 337 *e*PKP **PKPdf** **02 18 49.1 +1.2**
MODS *e* 02 18 59.8
MODS *e* 02 19 15.8
VLAD Vladila 156.29 321 ⇓P **PKPdf** **02 18 47.3 -0.8**
BTNL Ternell 156.40 356 *d*PKP **PKPab** **02 19 15.8 -0.5**
TNS Taunus Mts 156.56 353 *e*PKPbc PKPdf 02 18 58.5 +10
baz=15,slow=2.1
BGES Gesves 156.65 358 *d*PKP **PKPab** **02 19 16.1 -1.2**
BZS Buzias 156.65 327 ⇑P **PKPdf** **02 18 46.9 -1.6**
BZS Buzias 156.65 327 ⇑PKIKP **PKPdf** **02 18 46.9 -1.6**
GRF Grafenberg Arr 156.66 348 *e*PKPbc PKPdf 02 18 58.7 +10
baz=15,slow=2.1
KHC Kasperske Hory 156.67 344 *e*PKIKP **PKPdf** **02 18 48.4 -0.1**

KHC				MLR	MLR		
	comp=Z,300nm,18.9s						
KHC	**Kasperske Hory**	**156.67 344**	*e*PKPDF	**PKPdf**		**02 18 48.4**	**-0.1**
KHC			*e*PKPAB	**PKPab**		**02 19 17.7**	**+0.1**
KHC			AMS	AMS		03 37 00.0	
	comp=Z,300nm,18.9s						
KHC	**Kasperske Hory**	**156.67 344**	PKPdf	**PKPdf**		**02 18 48.4**	**-0.1**
KHC				**pPKPdf**		**02 18 48.6**	**-1.7**
BMRD	**Maredsous**	**156.74 358**	*d*PKP	**PKPab**		**02 19 17.4**	**-0.3**
CKRC	**Cesky Krumlov**	**156.76 342**	*e*PKPDF	**PKPdf**		**02 18 47.5**	**-1.1**
CKRC			*e*PKPAB	**PKPab**		**02 19 18.1**	**+0.1**
CKRC			AMS	AMS		03 38 00.0	
	comp=Z,200nm,18.8s						
HERR	**Herculane**	**156.77 325**	⇑P	**PKPdf**		**02 18 54.0**	**+5.3**
WET	**Wettzell**	**156.83 345**	*e*PKPbc	PKPdf		02 18 59.3	+11
	baz=15,slow=2.1						
MILB	**Miltenberg**	**156.84 351**	*e*PKPbc	PKPdf		02 18 59.0	+10
	baz=15,slow=2.1						
GEC2	**GERESS Array S**	**156.90 343**	*e*PKPbc	PKPdf		02 18 59.0	+10
	baz=15,slow=2.1						
GERES	**GERESS Array B**	**156.90 343**	PKPab	**PKPab**		**02 19 16.3**	**-2.4**
	comp=Z,1.2nm,0.7s,baz=54,slow=1.7,SNR=5.6						
CONA	**Conrad Observa**	**157.10 339**	*e*P	**PKPdf**		**02 18 49.1**	**-0.1**
	comp=Z,4.5nm,1.7s						
CONA			*e*P	**PKPab**		**02 19 20.6**	**+1.0**
	comp=Z,12nm,1.6s						
MPLH	**Magyarpolny**	**157.17 335**	*e*PKPDF	**PKPdf**		**02 18 46.5**	**-2.6**
MPLH			*e*PKPpB			02 19 14.7	
MDVR	**Moldovita**	**157.20 326**	⇑P	**PKPdf**		**02 18 44.4**	**-4.9**
WLF	**Walferdange**	**157.32 356**	*d*PKP	**PKPab**		**02 19 20.1**	**-0.2**
MORH	**Mrgy, Hungar**	**157.53 332**	⇑P	**PKPdf**		**02 18 49.8**	**+0.2**
MOA	**Molin**	**157.66 341**	*e*P	**PKPab**		**02 19 22.7**	**+0.8**
	comp=Z,6.3nm,1.1s						
ARSA	**Arzberg**	**157.81 339**	*e*P	**PKPdf**		**02 18 50.1**	**+0.2**
	comp=Z,5.0nm,1.2s						
ARSA			*e*P	**PKPab**		**02 19 23.3**	**+0.8**
	comp=Z,6.8nm,1.0s						
VTS	**Vitosha**	**157.81 320**	⇓P	**PKPab**		**02 19 23.6**	**+0.7**
VTS	**Vitosha**	**157.81 320**	⇓PKP2	**PKPab**		**02 19 23.6**	**+0.7**
KOGS	**Kog**	**158.26 336**	*i* PKPab	**PKPab**		**02 19 23.9**	**-0.6**
SOKA	**Soboth**	**158.47 339**	*e*P	**PKPdf**		**02 18 50.8**	**-0.1**
	comp=Z,3.9nm,1.3s						
SOKA			*e*P	**PKPab**		**02 19 24.7**	**-0.8**
	comp=Z,11nm,1.2s						
PERS	**Pernice**	**158.48 338**	*e*PKPdf	**PKPdf**		**02 18 49.5**	**-1.3**
PERS			*i* PKPab	**PKPab**		**02 19 25.1**	**-0.4**
KBA	**Koelnbreinsper**	**158.62 342**	*e*P	**PKPab**		**02 19 26.8**	**+0.6**
	comp=Z,4.3nm,0.7s						
OBKA	**Obir**	**158.78 339**	*e*P	**PKPdf**		**02 18 48.4**	**-2.8**
	comp=Z,3.1nm,1.2s						
UBR	**Ueberruh**	**158.80 348**	*e*PKPbc	PKPdf		02 19 03.5	+12
	baz=15,slow=2.1						
WATA	**Walderalm**	**158.82 345**	*e*P	**PKPab**		**02 19 26.9**	**-0.2**
	comp=Z,7.9nm,1.1s						
RETA	**Reutte**	**158.86 347**	*e*P	**PKPab**		**02 19 26.7**	**-0.4**
	comp=Z,5.5nm,1.1s						
WTTA	**Wattenberg**	**158.88 345**	*e*P	**PKPdf**		**02 18 51.6**	**+0.2**
	comp=Z,6.8nm,1.2s						
WTTA			*e*P	**PKPab**		**02 19 27.6**	**+0.2**
	comp=Z,12nm,1.6s						
MOTA	**Moosalm**	**158.92 346**	*e*P	**PKPdf**		**02 18 51.6**	**+0.1**
	comp=Z,4.7nm,1.4s						
MOTA			*e*P	**PKPab**		**02 19 27.6**	**+0.1**
	comp=Z,7.4nm,1.3s						
MYKA	**Terra Mystica**	**158.94 341**	*e*P	**PKPab**		**02 19 27.1**	**-0.4**
	comp=Z,13nm,1.4s						
GCIS	**Gornji Cirnik**	**158.98 337**	*i* PKPab	**PKPab**		**02 19 26.9**	**-0.7**
SQTA	**Sankt Quirin**	**159.02 346**	*e*P	**PKPdf**		**02 18 50.9**	**-0.6**
	comp=Z,3.7nm,1.1s						
ABTA	**Abfaltersbach**	**159.15 343**	*e*P	**PKPdf**		**02 18 50.4**	**-1.3**
	comp=Z,2.7nm,1.0s						
ABTA			*e*P	**PKPab**		**02 19 28.2**	**-0.2**
	comp=Z,5.8nm,1.0s						
DAVA	**Damuels**	**159.22 348**	*e*P	**PKPdf**		**02 18 52.1**	**+0.3**
	comp=Z,3.1nm,1.1s						
VISS	**Visnje**	**159.31 338**	*e*PKPdf	**PKPdf**		**02 18 51.4**	**-0.4**
VISS			*e*PKPab	**PKPab**		**02 19 28.4**	**-0.7**
FETA	**Feichten**	**159.31 347**	*e*P	**PKPdf**		**02 18 51.5**	**-0.5**
	comp=Z,3.4nm,1.0s						
BOJS	**Bojanci**	**159.42 337**	*e*PKPdf	**PKPdf**		**02 18 51.2**	**-0.7**
BNI	**Bardonecchia**	**161.86 354**	PKIKP	**PKPdf**		**02 18 54.5**	**-0.3**
BNI	**Bardonecchia**	**161.86 354**	PKPdf	**PKPdf**		**02 18 54.5**	**-0.3**
ESDC	**Sonseca Array**	**165.80 25**	PKP	**PKPdf**		**02 18 59.2**	**+0.7**
	comp=Z,2.3nm,1.1s,baz=316,slow=1.7,SNR=8.4						
ESDC			PKPab	**PKPab**		**02 19 58.0**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=322,slow=4.3,SNR=8.2						
ESDC	**Sonseca Array**	**165.80 25**		**PKPdf**		**02 18 58.4**	**-0.1**
ESDC				**PKPab**		**02 19 58.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**166.05 171**	PKP	**PKPdf**		**02 18 59.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=135,slow=0.2,SNR=8.1						
TORD			PKPab	**PKPab**		**02 20 00.7**	**+1.4**
	comp=Z,7.4nm,0.8s,baz=187,slow=4.1,SNR=15						
TORD	**Torodi Ar. Bea**	**166.05 171**		**PKPdf**		**02 18 58.9**	**-0.3**
TORD			PKPab	**PKPab**		**02 20 00.1**	**+0.8**

IDC 16 02:32:42.0±4.6, 27°.09N×66°.22E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/28, mbtmp3.6/4, Error ellipse: s-maj=109.6km s-min=37.1km az=142.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**23.40**	**29**	P	P	02 37 52.5	+0.1
	0.9nm,0.6s,baz=212,slow=10.0,SNR=9.8						
FINES	**FINESS Array B**	**43.55**	**333**	P	P	02 40 46.7	-0.5
	0.6nm,0.6s,baz=123,slow=6.8,SNR=1.4						
ARCES	**ARCESS Array B**	**48.57**	**342**	P	P	02 41 26.9	+0.2
	1.2nm,0.8s,baz=114,slow=9.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**61.58**	**271**	P	P	02 43 01.5	0.0
	0.6nm,0.9s,baz=66,slow=5.9,SNR=2.0						

*IDC **16** 02:45:24.4±0.7, 26°.76S×176°.39W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.4/21, mbtmp4.3/13, ML5.1/1, MS4.1/15, Ms1 4.1/15, ms1mx3.9/32, Error ellipse: s-maj=24.2km s-min=17.2km az=119.0*

*NEIC **16** 02:45:30.9±1.9, 26°.87S±0°.08×176°.5W±0°.2, h41km±6km, mb4.7/21, Error ellipse: s-maj=19.5km s-min=12.0km az=99.0*

ISC 16 02:45:29.7±0.5, 26°.85S±0°.07×176°.3W±0°.1, h35km, n77, σ1§08/62, mb4.6/24, MS4.1/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.77**	**210**	Pn	**Pn**	**02 46 11.6**	**-0.1**
	291nm,0.3s,baz=64,slow=11,SNR=31						
RAO				Sn	**Sn**	**02 46 45.9**	**+2.0**
	440nm,0.3s,baz=81,slow=21,SNR=9.5						
RAO				LR	LR	02 47 11.4	
	comp=Z,817nm,18.6s,baz=142,slow=38						
RAO	**Raoul Island**	**2.77**	**210**		**Pn**	**02 46 11.5**	**-0.2**
RAO				Sn	**Sn**	**02 46 44.0**	**0.0**
MSVF	**Nonsavu**	**10.46**	**329**	Pn	**Pn**	**02 47 59.0**	**+1.6**
	baz=81,slow=7.4,SNR=3.9						
MSVF				LR	LR	02 51 29.0	
	comp=Z,1μm,18.3s,baz=105,slow=35						
MSVF	**Nonsavu**	**10.46**	**329**		**Pn**	**02 47 58.5**	**+1.2**
URZ	**Urewera**	**12.64**	**204**	Pn	Pn	02 48 17.9	-9.1
	0.3nm,0.3s,baz=57,slow=12,SNR=1.0						
URZ				Sn	Sn	02 50 35.8	-11
	3.0nm,0.3s,baz=348,slow=20,SNR=13						
AFI	**Afiamalu**	**13.56**	**19**	Pn	Pn	02 48 33.9	-5.9
	1.0nm,0.3s,baz=260,slow=18,SNR=2.3						
AFI				Sn	Sn	02 50 51.7	-18
	3.4nm,0.3s,baz=65,slow=17,SNR=1.7						
BFZ	**Birch Farm**	**15.10**	**202**	Pn	**Pn**	**02 49 01.0**	**+0.6**
DZM	**Mont Dzumac**	**16.39**	**283**	*e*Pn	**P**	**02 49 21.8**	**+2.0**
	22nm,0.7s						
DZM				*e*LR	LR	02 53 15.3	
	comp=Z,1μm,24.0s						
DZM	**Mont Dzumac**	**16.39**	**283**	Pn	**P**	**02 49 20.5**	**+0.7**
	0.6nm,0.3s,baz=74,slow=16,SNR=6.2						
DZM				LR	LR	02 54 31.1	
	comp=Z,1μm,18.8s,baz=106,slow=34						
DZM	**Mont Dzumac**	**16.39**	**283**	P	**Pn**	**02 49 16.6**	**-0.7**
TBI	**Tubuai**	**24.56**	**88**	*e*LR	LR	02 56 38.4	
	comp=Z,463nm,27.8s,baz=251						
TBI	**Tubuai**	**24.56**	**88**	*e*T	T	03 15 40.1	
	6.3nm,0.4s						
PAE	**Paea**	**26.34**	**75**	*e*T	T	03 17 51.8	
	4.4nm,0.4s						
PPT2	**Papeete2**	**26.37**	**75**	*e*LQ	LQ	02 56 19.1	
	340nm,23.2s						
PPT2				*e*LR	LR	02 57 28.0	
	comp=Z,446nm,24.2s,baz=244						
PPT2	**Papeete2**	**26.37**	**75**	*e*T	T	03 17 54.6	
	3.3nm,0.3s						
PPT	**Papeete**	**26.38**	**75**	LR	LR	02 58 54.2	
	comp=Z,203nm,18.6s,baz=246,slow=31						
HNR	**Honiara**	**28.35**	**303**	LR	LR	03 00 41.1	
	comp=Z,350nm,19.3s,baz=158,slow=32						
EIDS	**Eidsvold**	**29.27**	**266**	P	**P**	**02 51 28.2**	**-0.4**
CTA	**Charters Tower**	**34.89**	**273**	P	**P**	**02 52 18.9**	**+0.8**
	3.1nm,0.4s,baz=98,slow=12,SNR=9.5						
CTAO	**Charters Tower**	**34.89**	**273**	P	**P**	**02 52 18.0**	**-0.1**
CTAO				IAmb	IAmb	02 52 20.1	
	comp=Z,7.3nm,1.0s						
STKA	**Stephens Creek**	**36.85**	**252**	P	**P**	**02 52 35.0**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=7.0,slow=18,SNR=1.8						
STKA				LR	LR	03 06 23.6	
	comp=Z,565nm,18.2s,baz=55,slow=34						
STKA	**Stephens Creek**	**36.85**	**252**	P	**P**	**02 52 32.2**	**-2.5**
PMG	**Port Moresby**	**38.61**	**290**	LR	LR	03 07 17.1	
	comp=Z,288nm,18.4s,baz=132,slow=34						
ASAR	**Alice Springs**	**44.90**	**263**	P	**P**	**02 53 39.6**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=94,slow=6.7,SNR=19						
ASAR				PcP	**PcP**	**02 55 22.0**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=107,slow=4.7,SNR=2.4						
ASAR				LR	LR	03 11 21.9	
	comp=Z,313nm,18.3s,baz=127,slow=35						
ASAR	**Alice Springs**	**44.90**	**263**	P	**P**	**02 53 39.8**	**-1.4**
ASAR				PcP	**PcP**	**02 55 21.4**	**-1.1**
WR0	**Warramunga Arr**	**45.39**	**268**	P	**P**	**02 53 42.9**	**-2.2**
WR0				IAmb	IAmb	02 53 46.5	
	comp=Z,5.5nm,0.7s						
WB2	**Warramunga Arr**	**45.56**	**268**	P	**P**	**02 53 44.7**	**-1.8**
WB2				IAmb	IAmb	02 53 47.1	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**45.58**	**268**	P	**P**	**02 53 45.0**	**-1.6**
	comp=Z,7.8nm,0.6s,baz=106,slow=7.7,SNR=44						
WRA				LR	LR	03 10 56.4	
	comp=Z,257nm,20.8s,baz=125,slow=34						
WRA	**Warramunga Arr**	**45.58**	**268**	P	**P**	**02 53 44.4**	**-2.3**
WB0	**Warramunga Arr**	**45.58**	**268**	P	**P**	**02 53 45.2**	**-1.4**
WB0				IAmb	IAmb	02 53 47.2	
	comp=Z,11nm,0.8s						
SBA	**Scott Base**	**51.67**	**185**	P	**P**	**02 54 34.4**	**+1.7**
SBA				IAmb	IAmb	02 54 41.7	
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**51.76**	**186**	P	**P**	**02 54 35.3**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=7.9,slow=8.5,SNR=5.1						
VNDA	**Vanda**	**51.76**	**186**	P	**P**	**02 54 33.9**	**+0.6**
KNRA	**Kununurra**	**52.03**	**271**	P	**P**	**02 54 35.2**	**-1.0**
SIJI	**Sorong**	**56.52**	**288**	LR	LR	03 19 46.2	
	comp=Z,154nm,18.0s,baz=165,slow=36						
CASY	**Casey**	**58.96**	**207**	P	**P**	**02 55 25.0**	**-0.2**
JCJ	**Chichijima**	**66.86**	**320**	LR	LR	03 20 52.7	
	comp=Z,1μm,21.8s,baz=223,slow=32						
MAW	**Mawson**	**76.13**	**200**	P	**P**	**02 57 14.1**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=114,slow=6.0,SNR=8.1						
MAW	**Mawson**	**76.13**	**200**	P	**P**	**02 57 14.4**	**+0.8**
MJAR	**Matsushiro Arr**	**76.22**	**324**	P	**P**	**02 57 13.9**	**-0.6**
	comp=Z,423nm,1.2s,baz=168,slow=5.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**76.22**	**324**	P	**P**	**02 57 14.8**	**+0.2**
H03S2	**Juan Fernandez**	**81.18**	**123**	T	T	04 27 06.7	
	baz=242,slow=74,SNR=6.0						
H03S1	**Juan Fernandez**	**81.19**	**123**	T	T	04 27 05.9	
	baz=242,slow=74,SNR=5.4						
H03S3	**Juan Fernandez**	**81.20**	**123**	T	T	04 27 00.1	
	baz=242,slow=74,SNR=5.4						
SNAA	**Sanae**	**81.64**	**178**	P	**P**	**02 57 43.2**	**-0.7**
VNA3	**Neumayer Olymp**	**81.72**	**176**	P	**P**	**02 57 43.8**	**-0.5**
KSRS	**Korea Array**	**82.64**	**318**	P	**P**	**02 57 48.3**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=140,slow=5.1,SNR=5.1						
KSRS				LR	LR	03 33 03.5	
	comp=Z,22nm,18.1s,baz=145,slow=35						
PETK	**Petropavlovsk-**	**82.78**	**345**	P	**P**	**02 57 51.0**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=180,slow=9.7,SNR=2.7						
NVAR	**Mina Array Bea**	**84.63**	**42**	P	**P**	**02 58 00.4**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=220,slow=8.1,SNR=8.6						
NVAR				LR	LR	03 28 38.4	
	comp=Z,93nm,19.5s,baz=271,slow=31						
NVAR	**Mina Array Bea**	**84.63**	**42**	P	**P**	**02 58 00.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**85.06**	**325**	P	**P**	**02 58 02.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=84,slow=4.5,SNR=6.3						
USRK	**Ussuriysk Ar.**	**85.06**	**325**	P	**P**	**02 58 01.8**	**+0.2**
PRN	**Pahroc Range**	**85.98**	**44**	P	**P**	**02 58 06.5**	**0.0**
PRN				IAmb	IAmb	02 58 14.4	
	comp=Z,4.3nm,1.0s						
LCMT	**Little Creek M**	**86.88**	**46**	P	**P**	**02 58 10.4**	**-0.6**
LCMT				IAmb	IAmb	02 58 14.0	
	comp=Z,3.7nm,1.2s						
U15A	**North Rim**	**87.14**	**47**	P	**P**	**02 58 13.4**	**+0.9**
U15A				IAmb	IAmb	02 58 32.8	
	comp=Z,3.5nm,1.0s						
G08A	**Pilot Rock**	**88.75**	**36**	P	**P**	**02 58 19.9**	**+0.2**
G08A				IAmb	IAmb	02 58 40.1	
	comp=Z,4.5nm,1.1s						
F10A	**Beach Ranch, E**	**90.11**	**37**	P	**P**	**02 58 25.8**	**-0.3**
F10A				IAmb	IAmb	02 58 27.4	
	comp=Z,4.3nm,1.0s						
ANMO	**Albuquerque**	**90.20**	**50**	P	**P**	**02 58 27.4**	**+0.5**
ANMO				IAmb	IAmb	02 58 30.9	
	comp=Z,5.1nm,1.5s						
ENH	**Enshi**	**90.85**	**304**	P	**P**	**02 58 29.3**	**-0.5**
PDAR	**Pinedale Array**	**92.55**	**43**	P	**P**	**02 58 38.1**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=198,slow=3.0,SNR=3.9						
PDAR				LR	LR	03 35 28.4	
	comp=Z,45nm,18.4s,baz=276,slow=32						
CMAR	**Chiang Mai Arr**	**93.64**	**289**	P	**P**	**02 58 44.6**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=141,slow=3.2,SNR=7.1						
ILAR	**Eielson Array**	**94.16**	**12**	P	**P**	**02 58 43.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=217,slow=5.6,SNR=2.5						
ILAR	**Eielson Array**	**94.16**	**12**	P	**P**	**02 58 43.6**	**-0.6**
LPAZ	**La Paz**	**98.20**	**113**	LR	LR	03 36 33.5	
	comp=Z,53nm,18.6s,baz=156,slow=31						
ZALV	**Zalesovo Beam**	**116.34**	**319**	PKP	**PKPdf**	**03 04 08.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=3.8,slow=4.3,SNR=1.9						
MKAR	**Makanchi Array**	**116.59**	**311**	PKP	**PKPdf**	**03 04 08.7**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=81,slow=2.0,SNR=5.5						
ARCES	**ARCESS Array B**	**135.42**	**349**	PKP	**PKPdf**	**03 04 45.3**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=349,slow=1.8,SNR=6.4						
H10N3	**ASCENSION HYDR**	**141.27**	**150**	T	T	05 43 33.0	
	baz=205,slow=75,SNR=36						
H10N1	**ASCENSION HYDR**	**141.27**	**150**	T	T	05 43 27.4	
	baz=205,slow=75,SNR=60						
H10N2	**ASCENSION HYDR**	**141.28**	**150**	T	T	05 43 34.2	
	baz=205,slow=75,SNR=51						
FINES	**FINESS Array B**	**142.27**	**343**	PKhKP	PKPpre	03 04 52.3	
	comp=Z,1.1nm,0.8s,baz=40,slow=3.2,SNR=5.5						
NB2	**NORSAR Subarra**	**145.44**	**354**	PKP	**PKPbc**	**03 05 02.9**	**-0.6**
	comp=Z,3.9nm,1.2s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.44**	**354**	PKPbc	**PKPbc**	**03 05 03.1**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=12,slow=2.7,SNR=8.6						
AKASG	**Malin Array Be**	**149.24**	**328**	PKPbc	**PKPbc**	**03 05 13.4**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=40,slow=3.3,SNR=11						
BRTR	**Keskin Array B**	**152.00**	**305**	PKPbc	**PKPbc**	**03 05 20.4**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=75,slow=4.5,SNR=7.0						
BRTR	**Keskin Array B**	**152.00**	**305**		**PKPbc**	**03 05 20.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.24**	**172**	PKP	**PKPdf**	**03 05 31.2**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=243,slow=1.0,SNR=3.3						
TORD				PKPab	**PKPab**	**03 06 32.4**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=192,slow=4.1,SNR=5.5						

MEX 16 02:49:16.1±0.5, 14°.87N×93°.31W, h60km, MD3.7, Near coast of Chiapas

*IDC **16** 03:06:34.3±2.6, 12°.57S×122°.37E, h0km, mb3.8/2, mb1 4.3/5, mb1mx3.8/31, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=138.9km s-min=29.1km az=52.0*

ISC 16 03:06:34.2±1.0, 12°.67S±0°.07×122°.49E±0°.07, h10km, n19, σ2§44/19, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.70**	**25**	P	**Pn**	**03 07 18.6**	**+0.9**
BATI				S	**Sn**	**03 07 49.1**	**-1.4**
SOEI	**Soe**	**3.38**	**31**	P	**Pn**	**03 07 29.1**	**+2.0**
SOEI				S	**Sn**	**03 08 06.0**	**-1.4**
EDFI	**Ende, Flores**	**3.97**	**348**	P	Pn	03 07 32.4	-2.9
MMRI	**Maumere**	**4.01**	**356**	P	**Pn**	**03 07 34.8**	**-1.0**
WBSI	**Waikabubak, Su**	**4.28**	**314**	P	**Pn**	**03 07 38.7**	**-0.7**
PLAI	**Plampang**	**6.00**	**309**	P	**Pn**	**03 08 03.0**	**-0.1**
	0.4nm57nm,0.6s						
TWSI	**Taliwang, Sumb**	**6.75**	**305**	P	**Pn**	**03 08 12.9**	**-0.6**
	0.3nm813nm46nm,0.5s						
BSSI	**Bau Bau, Buton**	**6.78**	**343**	P	**Pn**	**03 08 13.0**	**-0.8**
	0.3nm60nm,0.9s						
BKSI	**Bulukumba**	**7.66**	**342**	P	**Pn**	**03 08 25.0**	**-1.0**
	0.2nm590nm51nm,0.9s						
KAPI	**Kappang**	**8.07**	**340**	Pn	**Pn**	**03 08 31.8**	**+0.2**
	6.3nm,0.3s,baz=165,slow=5.6,SNR=26						
DNP	**Denpasar**	**8.18**	**298**	P	**Pn**	**03 08 31.7**	**-1.3**
	2.8nm320nm,0.6s						
BNSI	**Bone**	**8.54**	**344**	P	**Pn**	**03 08 36.7**	**-1.4**
	38nm,0.9s						
WRA	**Warramunga Arr**	**13.47**	**124**	Pn	**Pn**	**03 09 48.2**	**+2.6**
	1.2nm,0.3s,baz=296,slow=13,SNR=31						
WRA				Sn	**Sn**	**03 12 10.2**	**-5.4**
	1.8nm,0.3s,baz=302,slow=26,SNR=11						
ASAR	**Alice Springs**	**15.39**	**137**	Pn	**Pn**	**03 10 16.5**	**+4.8**
	0.7nm,0.3s,baz=318,slow=13,SNR=51						
ASAR				Sn	**Sn**	**03 12 57.9**	**-4.5**
	1.2nm,0.3s,baz=314,slow=23,SNR=17						
H08S2	**Diego Garcia H**	**49.41**	**271**	T	T	04 08 28.2	
	baz=99,slow=75,SNR=25						
H08S3	**Diego Garcia H**	**49.42**	**271**	T	T	04 08 33.5	
	baz=99,slow=75,SNR=25						
H08S1	**Diego Garcia H**	**49.43**	**271**	T	T	04 08 48.2	
	baz=99,slow=75,SNR=15						
SONM	**Songino Array**	**61.91**	**348**	P	**P**	**03 16 54.6**	**+0.5**
	0.7nm,0.8s,baz=169,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**69.28**	**332**	P	**P**	**03 17 42.6**	**+1.0**
	0.8nm,0.5s,baz=139,slow=7.0,SNR=7.9						

IDC 16 03:24:06.2±2.4, 27°.41S×74°.93E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.6/3, MS3.8/7, Ms1 3.7/7, ms1mx3.4/33, Error ellipse: s-maj=398.0km s-min=35.9km az=13.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**19.80**	**353**	T	T	03 49 50.5	
	baz=176,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**19.80**	**353**	T	T	03 49 47.6	
	baz=176,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**19.81**	**353**	T	T	03 49 43.8	
	baz=176,slow=76,SNR=12						
MAW	**Mawson**	**40.88**	**187**	LR	LR	03 45 38.6	
	comp=Z,71nm,18.4s,baz=220,slow=32						
BOSA	**Boshof**	**43.62**	**256**	LR	LR	03 46 29.9	
	comp=Z,53nm,19.0s,baz=121,slow=31						
ASAR	**Alice Springs**	**52.92**	**100**	P	P	03 33 24.4	-0.2
	0.3nm,0.5s,baz=249,slow=6.6,SNR=4.9						
WRA	**Warramunga Arr**	**54.49**	**96**	P	P	03 33 36.1	0.0
	0.7nm,0.8s,baz=252,slow=7.6,SNR=4.6						
VNDA	**Vanda**	**62.78**	**166**	LR	LR	03 58 07.9	
	comp=Z,53nm,18.2s,baz=209,slow=32						
AKTO	**Aktyubinsk**	**78.94**	**349**	LR	LR	04 09 22.3	
	comp=Z,56nm,18.1s,baz=276,slow=34						
JNU	**Nakatsue**	**80.29**	**45**	LR	LR	04 07 26.1	
	comp=Z,145nm,21.4s,baz=250,slow=32						
ZALV	**Zalesovo Beam**	**81.47**	**6**	LR	LR	04 13 00.7	
	comp=Z,56nm,19.5s,baz=274,slow=36						
TORD	**Torodi Ar. Bea**	**81.59**	**289**	P	P	03 36 26.5	0.0
	0.8nm,1.0s,baz=103,slow=6.2,SNR=3.1						
TLY	**Talaya**	**82.70**	**18**	LR	LR	04 13 11.3	
	comp=Z,36nm,20.3s,baz=327,slow=36						

*SKO **16** 03:33:41.5, 41°.95N×23°.22E, h15km*
*BEO **16** 03:33:42.5±1.2, 41°.90N×23°.24E, h7km±5km, ML3.0/9*
*SOF **16** 03:33:42.5, 41°.96N×23°.27E, h10km, MD3.3*
*ATH **16** 03:33:43.4, 41°.90N×23°.23E, h6km±2km, ML3.1/8, Error ellipse: s-maj=2.9km s-min=1.7km az=158.0*
*THE **16** 03:33:45.1, 41°.81N×23°.24E, h5km±1km, ML3.0/11, Error ellipse: s-maj=1.9km s-min=0.7km az=196.0*

ISC 16 03:33:42.6±0.9, 41°.92N±0°.01×23°.21E±0°.02, h10km±7km, n112, σ1§30/147, 26C-23D, Greece-Bulgaria border region

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

KAVA				AML	AML	03 34 27.7
	comp=N,1547μm,0.3s					
BARS	**Barje**	**1.36 311**	*e*Pg		**Pn**	**03 34 06.8 -0.9**
BARS			*e*Sg		**Sb**	**03 34 26.4 +0.7**
BARS	**Barje**	**1.36 311**	*i* Pg		**Pn**	**03 34 06.6 -1.1**
BARS			*i* Sg		**Sb**	**03 34 26.4 +0.7**
ZAPS	**Zavoj**	**1.42 343**	*e*Pg		**Pn**	**03 34 09.2 +0.7**
MPEP	**Malo Peshtene**	**1.49 15**	P		**Pb**	**03 34 10.8 +0.4**
PLG	**Polygyros**	**1.56 173**	P		**Pb**	**03 34 11.2 -0.3**
PLG			S		**Sg**	**03 34 31.6 -1.1**
	comp=N,408nm,0.4s					
PLG	**Polygyros**	**1.56 173**	P		**Pb**	**03 34 11.2 -0.3**
PLG			S		**Sg**	**03 34 31.6 -1.1**
PLG				AML	AML	03 34 34.7
	comp=N,727μm,0.3s					
PLG				AML	AML	03 34 35.5
	comp=E,893μm,0.5s					
OUR	**Ouranopolis**	**1.69 159**	P		**Pn**	**03 34 12.5 +0.3**
OUR			S		**Sn**	**03 34 33.7 -0.1**
	comp=E,998nm,0.4s					
OUR	**Ouranopolis**	**1.69 159**	P		**Pn**	**03 34 12.5 +0.3**
THAS	**Thassos island**	**1.74 138**	P		**Pb**	**03 34 13.5 -1.1**
THAS	**Thassos island**	**1.74 138**	P		**Pb**	**03 34 13.5 -1.1**
BLKB	**Belogradchik**	**1.75 347**	⇑S		**Sb**	**03 34 37.6 +0.8**
FNA	**Florina**	**1.79 231**	P		**Pb**	**03 34 14.9 -0.6**
FNA	**Florina**	**1.79 231**	P		**Pb**	**03 34 14.9 -0.6**
FNA	**Florina**	**1.79 231**	*i* Pn		**Pb**	**03 34 14.9 -0.6**
LIT	**Litokhoron**	**1.90 197**	P		**Pb**	**03 34 16.5 -0.8**
LIT	**Litokhoron**	**1.90 197**	P		**Pb**	**03 34 16.5 -0.8**
RDO	**Rodhopi**	**1.91 113**	P		**Pb**	**03 34 17.2 -0.4**
RDO			S		**Sb**	**03 34 41.1 -0.4**
	comp=E,438nm,0.3s					
RDO	**Rodhopi**	**1.91 113**	P		**Pb**	**03 34 17.2 -0.4**
RDO			S		**Sg**	**03 34 42.7 -1.5**
RDO				AML	AML	03 34 45.7
	comp=E,749μm,0.2s					
RDO				AML	AML	03 34 48.9
	comp=N,994μm,0.4s					
KZN	**Kozani**	**1.94 214**	P		**Pn**	**03 34 16.6 +0.9**
KZN	**Kozani**	**1.94 214**	P		**Pn**	**03 34 16.7 +0.9**
OHR	**Ohrid**	**1.98 247**	*i* Pn		**Pg**	**03 34 20.5 -0.1**
OHR			*e*Sn		**Sg**	**03 34 47.1 +0.8**
OHR			*e*Lg		Lg	03 34 51.7
	comp=N,44nm,0.8s					
OHR			*e*Lg		Lg	03 34 52.2
	comp=E,55nm,0.9s					
SELS	**Selova**	**2.02 311**	*e*Pn		**Pn**	**03 34 17.3 +0.6**
SELS			*e*Sn		**Sn**	**03 34 43.7 +1.8**
ZAGS	**Zajecar**	**2.02 340**	*e*Pn		**Pn**	**03 34 16.9 +0.1**
PAIG	**Paliouri**	**2.02 170**	P		**Pn**	**03 34 17.3 -0.5**
PAIG	**Paliouri**	**2.02 170**	P		**Pn**	**03 34 17.3 +0.5**
VLAD	**Vladila**	**2.25 23**	⇑P		**Pb**	**03 34 22.5 -0.9**
VLAD	**Vladila**	**2.25 23**	⇑S		**Sg**	**03 34 54.9 -0.2**
ZIMR		**2.35 42**	⇓P		**Pb**	**03 34 23.7 -1.4**
ZIMR		**2.35 42**	⇑S		**Sg**	**03 34 57.6 -0.6**
PUNG	**Punghina**	**2.37 355**	⇑P		**Pn**	**03 34 21.9 +0.4**
PUNG	**Punghina**	**2.37 355**	⇑S		**Sb**	**03 34 54.0 -0.5**
ALN	**Alexandroupoli**	**2.37 115**	P		**Pn**	**03 34 22.8 +1.3**
SZH	**Strazhica**	**2.42 55**	P		**Pn**	**03 34 23.4 +1.1**
COPA	**Copaceanca**	**2.66 33**	⇓S		**Sb**	**03 35 05.2 +2.3**
GRUS	**Gruza**	**2.69 318**	*e*Pn		**Pn**	**03 34 26.6 +0.7**
KUBS	**Kucevo**	**2.73 336**	*e*Pn		**Pn**	**03 34 26.3 -0.2**
SJES	**Sjenica**	**2.74 300**	*e*Pn		**Pn**	**03 34 27.8 +1.1**
SRE	**Strehaia**	**2.74 360**	⇑P		**Pn**	**03 34 27.2 +0.5**
SRE	**Strehaia**	**2.74 360**	⇓S		**Sn**	**03 35 02.5 +2.7**
SVIS	**Svilajnac**	**2.76 329**	*e*Pn		**Pn**	**03 34 27.7 +0.8**
IVAS	**Ivanjica**	**2.79 307**	*e*Pn		**Pn**	**03 34 27.8 +0.4**
PDG	**Podgorica**	**2.98 281**	⇑P		Pn	03 34 23.6 -6.3
PDG	**Podgorica**	**2.98 281**	⇑S		**Sn**	**03 34 58.2 -7.4**
HERR	**Herculane**	**3.01 349**	⇓P		**Pn**	**03 34 29.8 -0.6**
HERR	**Herculane**	**3.01 349**	⇓S		**Sn**	**03 35 09.4 +2.8**
MDVR	**Moldovita**	**3.06 340**	⇑P		**Pn**	**03 34 31.0 -0.1**
MDVR	**Moldovita**	**3.06 340**	⇓S		**Sn**	**03 35 07.8 0.0**
SGRR	**Singureni**	**3.07 40**	⇓P		**Pn**	**03 34 34.1 +3.0**
SGRR	**Singureni**	**3.07 40**	⇑S		**Sb**	**03 35 16.0 +1.3**
BUC1	**Bucharest**	**3.19 39**	⇓P		**Pn**	**03 34 35.3 +2.5**
BUC1	**Bucharest**	**3.19 39**	⇓S		**Sb**	**03 35 18.8 +0.7**
STFAR	**Stefanesti-Arg**	**3.21 23**	⇑P		**Pn**	**03 34 34.6 +1.5**
STFAR	**Stefanesti-Arg**	**3.21 23**	⇑S		**Sb**	**03 35 17.0 -1.8**
DIVS	**Divibare**	**3.21 314**	*e*Pn		**Pn**	**03 34 33.8 +0.7**
BBLS	**Lazići**	**3.40 306**	*e*Pn		**Pn**	**03 34 36.7 +0.9**
GZR	**Gura Zlata**	**3.48 355**	⇑P		**Pn**	**03 34 37.9 +1.0**
SULR		**3.54 38**	⇓P		**Pn**	**03 34 40.7 +3.1**
SULR		**3.54 38**	⇓S		**Sb**	**03 35 27.0 -1.4**
LOT	**Lotru**	**3.55 6**	⇑P		**Pn**	**03 34 37.8 -0.1**
VOIR		**3.76 20**	⇓P		**Pn**	**03 34 41.6 +0.8**
VOIR		**3.76 20**	⇑S		**Sb**	**03 35 32.1 -2.7**
BZS	**Buzias**	**3.87 343**	⇓P		**Pn**	**03 34 41.4 -0.8**
BZS	**Buzias**	**3.87 343**	⇓S		**Sn**	**03 35 28.8 +1.2**
ISR	**Istrita**	**4.01 36**	⇑P		**Pn**	**03 34 46.3 +2.1**
ICOR	**Ion Corvin**	**4.02 55**	⇓P		**Pn**	**03 34 46.9 +2.7**
FRGS	**Fruska Gora**	**4.07 324**	⇓P		**Pn**	**03 34 42.9 -2.0**
MLR	**Muntele Rosu**	**4.08 28**	⇓P		**Pn**	**03 34 47.1 +1.8**
NEHR	**Nehoiu**	**4.16 32**	⇓P		**Pn**	**03 34 48.4 +2.3**
STON	**Ston**	**4.19 285**	*e*Pn		**Pn**	**03 34 49.0 +2.5**
STON			Sn		**Sn**	**03 35 37.4 +2.0**
DOPR	**Dopca**	**4.34 21**	⇓P		**Pn**	**03 34 49.8 +1.1**
SIRR	**Siria**	**4.49 346**	⇑P		**Pn**	**03 34 50.6 -0.1**
OZUR		**4.57 23**	⇓P		**Pn**	**03 34 53.1 +1.3**
TIRR	**Tirgusor**	**4.57 55**	⇓P		**Pn**	**03 34 54.3 +2.4**
PLOR	**Plostina**	**4.65 31**	⇑P		**Pn**	**03 34 54.9 +2.0**
VRI	**Vrincioaia**	**4.69 32**	⇑P		**Pn**	**03 34 55.6 +2.1**
TPGR	**Topolog**	**4.80 51**	⇑P		**Pn**	**03 34 57.3 +2.3**
CFR	**Carcaliu**	**4.84 46**	⇑P		**Pn**	**03 34 56.8 +1.3**
DRGR		**4.88 356**	⇓P		**Pn**	**03 34 55.7 -0.5**
HVAR	**Hvar**	**5.15 286**	*e*Pn		**Pn**	**03 35 00.6 +0.9**
HVAR			Sn		**Sn**	**03 35 57.0 -2.1**
ZIRJ	**Zirje**	**5.83 290**	*e*Pn		**Pn**	**03 35 10.8 +1.7**
ZIRJ			Sn		**Sn**	**03 36 14.8 -1.0**
DUGI	**Dugi Otok**	**6.33 292**	*e*Pn		**Pn**	**03 35 17.5 +1.6**
DUGI			Sn		**Sn**	**03 36 27.1 -1.0**

TAP ***16*** *03:43:22.3,24°.21N×122°.93E,h26km±2km,ML2.8,C*
JMA ***16*** *03:43:23.3±0.1,24°.25N×122°.85E,h25km±3km,M2.1*
ISC 16 03:43:23.1±0.9,**24°.23N**±0°.04×**122°.88E**±0°.02,**h26**km±7km,
n78,σ0°.**73**/140,**1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.23**	**14**	P	**Pb**	**03 43 29.0**	**-0.3**
JYNG				*e*S	**Sb**	**03 43 33.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.26**	**27**	P	**Pb**	**03 43 29.6**	**-0.1**
YOJ				*e*S	**Sb**	**03 43 34.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.26**	**27**	⇑P	**Pb**	**03 43 29.6**	**-0.1**
	baz=13						
YOJ				S	**Sb**	**03 43 34.3**	**+0.2**
	baz=13						
IRIF	**Iriomote-Funau**	**0.78**	**82**	P	**Pn**	**03 43 38.2**	**-0.2**
IRIF				*e*S	**Sn**	**03 43 50.2**	**+0.9**
HATJ	**Hateruma jima**	**0.86**	**101**	P	**Pn**	**03 43 39.9**	**+0.4**
TWC	**Suao**	**1.02**	**292**	*i* P	**Pb**	**03 43 41.8**	**-0.2**
	baz=291						
TWC				*i* S	**Sn**	**03 43 55.3**	**+0.2**
	baz=291						
JKRS	**Kuro-shima**	**1.03**	**89**	P	**Pb**	**03 43 42.4**	**+0.1**
JKRS				S	**Sn**	**03 43 57.1**	**+1.7**
EWUT	**Wuta**	**1.03**	**282**	P	**Pb**	**03 43 42.1**	**-0.2**
	baz=282						
EWUT				*i* S	**Sn**	**03 43 56.5**	**+1.0**
	baz=282						
EHP	**Heping Village**	**1.04**	**275**	*e*S	**Sn**	**03 43 56.1**	**+0.2**
	baz=274						
TWB1	**Santiao Chiao**	**1.12**	**314**	*i* P	**Pn**	**03 43 41.7**	**-1.5**
	baz=312						
TWB1				*i* S	**Sb**	**03 43 58.0**	**-0.2**
	baz=312						
NDS	**Dongshan**	**1.14**	**291**	*e*P	**Pn**	**03 43 43.0**	**-0.4**
	baz=290						
NDS				*e*S	**Sn**	**03 43 58.0**	**-0.2**
	baz=290						
NTC	**Toucheng**	**1.14**	**303**	*e*P	**Pb**	**03 43 44.2**	**-0.1**
	baz=302						
NTC				*e*S	**Sb**	**03 43 59.8**	**+1.2**
	baz=302						
ETL	**Fush Village**	**1.15**	**267**	*e*P	**Pn**	**03 43 43.6**	**0.0**
	baz=267						
ETL				*e*S	**Sb**	**03 43 59.4**	**+0.4**
	baz=267						
JIJ	**Ishigaki jima**	**1.16**	**83**	P	**Pb**	**03 43 44.0**	**-0.5**
JIJ				S	**Sb**	**03 43 59.7**	**+0.6**
ILA	**Ilan**	**1.16**	**298**	P	**Pn**	**03 43 43.9**	**+0.1**
	baz=297						
ILA				S	**Sb**	**03 43 59.1**	**-0.2**
	baz=297						
NACB	**Ninganchiao**	**1.18**	**268**	P	**Pn**	**03 43 43.5**	**-0.4**
	baz=268						
NACB				S	**Sb**	**03 44 00.7**	**+1.0**
	baz=268						
TWD	**Chiawan**	**1.19**	**263**	P	**Pn**	**03 43 43.7**	**-0.3**
	baz=263						
TWD				S	**Sn**	**03 43 59.0**	**-0.3**
	baz=263						
HWA	**Hwalien**	**1.20**	**258**	*e*P	**Pb**	**03 43 44.5**	**-0.6**
	baz=258						
HWA				*e*S	**Sb**	**03 44 00.6**	**+0.5**
	baz=258						
TWE	**Neicheng**	**1.21**	**294**	P	**Pb**	**03 43 44.9**	**-0.5**
	baz=293						
TWE				*i* S	**Sb**	**03 44 00.5**	**-0.2**
	baz=293						
TIPB	**Shuangxi**	**1.21**	**308**	P	**Pn**	**03 43 44.0**	**-0.5**
	baz=306						
TIPB				S	**Sb**	**03 44 01.0**	**+0.3**
	baz=306						
TEYL	**Yanliau Villag**	**1.23**	**253**	*e*P	**Pn**	**03 43 43.8**	**-0.9**
	baz=255						
TEYL				S	**Sb**	**03 44 00.8**	**-0.3**
	baz=255						
ENTT	**Nioudou**	**1.27**	**289**	*e*P	**Pb**	**03 43 45.9**	**-0.5**
	baz=288						
ENTT				S	**Sn**	**03 44 01.6**	**+0.2**
	baz=288						
ETLH	**Xiulin Townshi**	**1.28**	**269**	P	**Pn**	**03 43 45.6**	**+0.2**
	baz=269						
ETLH				*e*S	**Sb**	**03 44 02.9**	**+0.2**
	baz=269						
ETM	**Tongmen**	**1.30**	**259**	*e*P	**Pn**	**03 43 44.7**	**-0.9**
	baz=259						
ETM				*e*S	**Sn**	**03 44 02.4**	**+0.3**
	baz=259						
NDT	**Datong Townshi**	**1.30**	**287**	P	**Pb**	**03 43 46.6**	**-0.4**
	baz=286						
NDT				S	**Sb**	**03 44 03.1**	**-0.2**
	baz=286						
NWF	**Wu-fen Shan**	**1.31**	**310**	*e*P	**Pb**	**03 43 46.2**	**-0.8**
	baz=309						
NWF				*e*S	**Sb**	**03 44 03.1**	**-0.4**
	baz=309						
JISG	**Ishigakijimahi**	**1.35**	**74**	P	**Pn**	**03 43 46.5**	**+0.2**
JISG				*e*S	**Sb**	**03 44 04.3**	**-0.3**
TNOU	**National Taiwa**	**1.36**	**312**	*e*S	**Sb**	**03 44 05.2**	**+0.2**
	baz=311						
NWLT	**Wulai**	**1.37**	**294**	*e*P	**Pb**	**03 43 48.0**	**-0.1**
	baz=293						
NWLT				*e*S	**Sb**	**03 44 05.4**	**+0.1**
	baz=293						
NNSB	**Datong**	**1.38**	**279**	*e*P	**Pb**	**03 43 47.6**	**-0.8**
	baz=278						
NNSB				S	**Sn**	**03 44 04.8**	**+0.4**
	baz=278						
ESL	**Shilin**	**1.39**	**253**	*e*P	**Pn**	**03 43 45.5**	**-1.4**
	baz=253						
ESL				S	**Sn**	**03 44 04.1**	**-0.3**
	baz=253						
NNS	**Nan Shan**	**1.39**	**279**	*e*P	**Pb**	**03 43 47.9**	**-0.6**
	baz=278						
NNS				*e*S	**Sb**	**03 44 05.4**	**-0.6**
	baz=278						
YHNB	**Yeheng**	**1.44**	**288**	P	**Pb**	**03 43 48.9**	**-0.5**
	baz=287						
YHNB				S	**Sb**	**03 44 06.7**	**-0.6**
	baz=287						
NSK	**Sanguang**	**1.46**	**288**	*e*P	**Pb**	**03 43 49.9**	**+0.2**
	baz=287						
NSK				*e*S	**Sb**	**03 44 07.8**	**0.0**
	baz=287						
WHF	**Hehuan Shan**	**1.48**	**267**	P	**Pn**	**03 43 48.5**	**0.0**
	baz=267						
WHF				S	**Sn**	**03 44 07.9**	**+0.7**
	baz=267						
TAP	**Taipei**	**1.49**	**303**	*e*P	**Pn**	**03 43 48.9**	**+0.7**
	baz=302						
TAP				*e*S	**Sb**	**03 44 07.7**	**-1.0**
	baz=302						
FUSS	**Fushou**	**1.50**	**271**	*e*P	**Pn**	**03 43 49.0**	**+0.5**
	baz=271						
FUSS				*e*S	**Sb**	**03 44 08.2**	**-0.8**
	baz=271						
HGSD	**Ruisui**	**1.52**	**241**	*e*P	**Pn**	**03 43 48.6**	**0.0**
	baz=242						
HGSD				S	**Sn**	**03 44 06.9**	**-0.8**
	baz=242						
CHGB	**Renai**	**1.57**	**264**	P	**Pn**	**03 43 49.6**	**+0.1**
	baz=264						
CHGB				S	**Sn**	**03 44 08.8**	**-0.3**
	baz=264						
TDCB	**Techi**	**1.57**	**271**	*e*P	**Pb**	**03 43 50.6**	**-1.1**
	baz=271						
TDCB				*e*S	**Sn**	**03 44 09.6**	**+0.4**
	baz=271						
OWD	**Renai**	**1.58**	**260**	*e*P	**Pn**	**03 43 49.4**	**-0.3**
	baz=260						
OWD				*e*S	**Sn**	**03 44 09.1**	**-0.2**
	baz=260						
TWS1	**Kuangyinshan**	**1.59**	**303**	*e*S	**Sb**	**03 44 10.9**	**-0.6**
	baz=302						
EHY	**Hungye**	**1.60**	**244**	P	**Pn**	**03 43 48.5**	**-1.2**
	baz=244						
EHY				*i* S	**Sn**	**03 44 09.6**	**0.0**
	baz=244						
YULB	**Yu-li**	**1.68**	**240**	P	**Pn**	**03 43 49.5**	**-1.3**
	baz=241						
YULB				S	**Sn**	**03 44 09.9**	**-1.5**
	baz=241						
EYUL	**Yuli**	**1.68**	**239**	*e*S	**Sn**	**03 44 12.4**	**+0.9**
	baz=239						
TWF1	**Yuli**	**1.69**	**239**	*e*P	**Pn**	**03 43 50.4**	**-0.7**
	baz=240						
TWF1				*e*S	**Sn**	**03 44 11.8**	**-0.1**
	baz=240						
JTJ	**Tarama**	**1.71**	**76**	P	**Pb**	**03 43 52.5**	**-1.3**
NCU	**National Centr**	**1.71**	**296**	*e*P	**Pn**	**03 43 52.3**	**+1.0**
	baz=295						
NCUH	**Zhongli**	**1.71**	**296**	*e*S	**Sn**	**03 44 13.0**	**+0.6**
	baz=295						
NSTT	**Nanjuang**	**1.76**	**283**	*e*S	**Sn**	**03 44 14.7**	**+1.1**
	baz=283						
WHP	**Taichung City**	**1.77**	**272**	*e*P	**Pn**	**03 43 53.1**	**+0.9**
	baz=272						
WHP				*e*S	**Sn**	**03 44 15.1**	**+1.2**
	baz=272						
FULB	**Fuli**	**1.78**	**235**	*e*P	**Pn**	**03 43 52.9**	**+0.6**
	baz=236						
FULB				*e*S	**Sn**	**03 44 14.7**	**+0.6**
	baz=236						
HSN1	**Hsinchu**	**1.79**	**288**	*e*S	**Sn**	**03 44 13.9**	**-0.2**
	baz=287						
DPDB	**Guoxing**	**1.80**	**264**	*e*P	**Pn**	**03 43 52.9**	**+0.3**
	baz=264						
DPDB				*e*S	**Sn**	**03 44 15.2**	**+0.7**
	baz=264						
WCS	**Beigang Elemen**	**1.81**	**265**	*e*P	**Pn**	**03 43 53.2**	**+0.6**
	baz=265						
WCS				*e*S	**Sn**	**03 44 15.1**	**+0.3**
	baz=265						
SSLB	**Suanglung**	**1.82**	**256**	*e*P	**Pn**	**03 43 53.8**	**+1.0**
	baz=256						
SSLB				S	**Sn**	**03 44 16.0**	**+1.0**
	baz=256						
SMLT	**Sun Moon Lake**	**1.84**	**260**	*e*P	**Pn**	**03 43 53.8**	**+0.6**
	baz=259						
SMLT				*e*S	**Sn**	**03 44 16.6**	**+0.8**
	baz=259						
ECS	**Chishang**	**1.90**	**234**	*e*P	**Pn**	**03 43 53.6**	**-0.2**
	baz=234						
ECS				*e*S	**Sn**	**03 44 17.3**	**+0.4**
	baz=234						
EDH	**Donghe**	**1.91**	**229**	*e*P	**Pn**	**03 43 54.4**	**+0.3**
	baz=230						
EDH				*e*S	**Sn**	**03 44 17.5**	**+0.2**
	baz=230						
NMLH	**Miaoli**	**1.93**	**280**	*e*P	**Pn**	**03 43 55.0**	**+0.6**
	baz=279						
NMLH				*e*S	**Sn**	**03 44 18.7**	**+0.9**
	baz=279						
ELDTW	**Lidau**	**2.00**	**239**	*e*P	**Pn**	**03 43 55.7**	**+0.4**
	baz=239						
ELDTW				*e*S	**Sn**	**03 44 20.2**	**+0.6**
	baz=239						
ALS	**Alishan**	**2.03**	**250**	*e*P	**Pn**	**03 43 56.3**	**+0.4**
	baz=250						
ALS				S	**Sn**	**03 44 20.9**	**+0.3**
	baz=250						
WDJ	**Dajia District**	**2.05**	**274**	*e*P	**Pn**	**03 43 56.7**	**+0.7**
	baz=273						
WDJ				*e*S	**Sn**	**03 44 22.1**	**+1.4**
	baz=273						
CHN5	**Tsauling**	**2.11**	**253**	P	**Pn**	**03 43 58.6**	**+1.8**
	baz=253						
CHN5				*e*S	**Sn**	**03 44 23.2**	**+0.8**
	baz=253						
WYL	**Yuanlin Townsh**	**2.12**	**263**	*e*P	**Pn**	**03 43 57.2**	**+0.3**
	baz=263						
WYL				*e*S	**Sn**	**03 44 22.5**	**0.0**
	baz=263						
WCHH	**Zhanghua**	**2.13**	**266**	*e*P	**Pn**	**03 43 57.4**	**+0.4**
	baz=266						
TWGBT	**Beinan**	**2.17**	**230**	*e*S	**Sn**	**03 44 24.3**	**+0.6**
	baz=230						
TWG	**Pinlang**	**2.17**	**230**	*e*S	**Sn**	**03 44 23.6**	**-0.2**
	baz=230						
STYH	**Taoyuan**	**2.20**	**242**	*e*P	**Pn**	**03 43 57.8**	**-0.2**
	baz=242						
STYH				*e*S	**Sn**	**03 44 24.6**	**+0.2**
	baz=242						
TPUB	**Ta-pu**	**2.26**	**246**	*e*P	**Pn**	**03 44 00.5**	**+1.6**
	baz=246						
TPUB				*e*S	**Sn**	**03 44 27.6**	**+1.6**
	baz=246						
JMJ	**Miyako jima 2**	**2.27**	**75**	*e*P	**Pn**	**03 43 57.2**	**-1.7**
	baz=74						
CHN4	**Tsaushan**	**2.27**	**248**	*e*P	**Pn**	**03 44 00.7**	**+1.7**
	baz=248						
CHN4				*e*S	**Sn**	**03 44 27.0**	**+0.8**
	baz=248						
WTP	**Ta-pu**	**2.30**	**245**	*e*P	**Pn**	**03 44 00.6**	**+1.2**
	baz=245						
WTP				*e*S	**Sn**	**03 44 28.2**	**+1.3**
	baz=245						
TWK	**Hsinying**	**2.40**	**247**	*e*P	**Pn**	**03 44 01.8**	**+1.0**
	baz=247						
TWK				*e*S	**Sn**	**03 44 30.4**	**+1.2**
	baz=247						
CHN1	**Nanshi**	**2.40**	**245**	*e*P	**Pn**	**03 44 01.5**	**+0.7**
	baz=245						
CHN1				*e*S	**Sn**	**03 44 29.5**	**+0.2**
	baz=245						
WMLT	**Mailiao**	**2.47**	**261**	*e*S	**Sn**	**03 44 31.8**	**+0.8**
	baz=260						
WSF	**Szhu**	**2.50**	**257**	*e*P	**Pn**	**03 44 02.7**	**+0.6**
	baz=256						
WSF				*e*S	**Sn**	**03 44 32.7**	**+0.8**
	baz=256						
SSD	**Sandimen**	**2.54**	**235**	*e*S	**Sn**	**03 44 32.3**	**-0.5**
	baz=235						

TAP ***16*** *03:49:31.8,24°.16N×122°.87E,h17km,ML3.1,C*
JMA ***16*** *03:49:32.8±0.1,24°.25N×122°.85E,h26km±2km,M2.8*
ISC 16 03:49:32.2±1.0,**24°.16N**±0°.03×**122°.87E**±0°.02,**h16**km±7km,
n92,σ0°.**65**/165,**1C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.30**	**12**	P	**Pg**	**03 49 38.6**	**0.0**
JYNG				S	**Sg**	**03 49 42.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.33**	**22**	P	**Pg**	**03 49 39.1**	**0.0**
YOJ				S	**Sg**	**03 49 43.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.33**	**22**	⇑P	**Pg**	**03 49 39.2**	**0.0**
	baz=23						
YOJ				S	**Sg**	**03 49 43.9**	**0.0**
	baz=23						
IRIF	**Iriomote-Funau**	**0.80**	**77**	P	**Pb**	**03 49 47.8**	**+0.1**
IRIF				S	**Sb**	**03 49 58.8**	**+0.5**
HATJ	**Hateruma jima**	**0.86**	**96**	P	**Pb**	**03 49 49.0**	**+0.3**
HATJ				S	**Sg**	**03 50 01.1**	**+0.9**
TWC	**Suao**	**1.04**	**296**	*i* P	**Pb**	**03 49 50.9**	**-0.9**
	baz=310						
TWC				*i* S	**Sb**	**03 50 05.2**	**+0.1**
	baz=310						
EWUT	**Wuta**	**1.04**	**286**	*e*P	**Pb**	**03 49 51.1**	**-0.7**
	baz=286						
EWUT				S	**Sb**	**03 50 05.8**	**+0.5**
	baz=286						
JKRS	**Kuro-shima**	**1.04**	**85**	P	**Pb**	**03 49 52.0**	**+0.2**
JKRS				S	**Sg**	**03 50 06.6**	**+0.6**
ETL	**Fush Village**	**1.14**	**270**	P	**Pn**	**03 49 53.8**	**+0.2**
	baz=250						
ETL				*e*S	**Sn**	**03 50 09.2**	**+0.3**
	baz=250						
NDS	**Dongshan**	**1.16**	**295**	*e*P	**Pn**	**03 49 52.5**	**-1.2**
	baz=308						
NDS				S	**Sb**	**03 50 08.3**	**-0.3**
	baz=308						
NACB	**Ninganchiao**	**1.17**	**271**	P	**Pn**	**03 49 53.2**	**-0.6**
	baz=251						
NACB				S	**Sb**	**03 50 08.9**	**0.0**
	baz=251						
TWD	**Chiawan**	**1.17**	**267**	P	**Pn**	**03 49 53.2**	**-0.7**
	baz=265						
TWD				S	**Sn**	**03 50 09.5**	**0.0**
	baz=265						
TWB1	**Santiao Chiao**	**1.17**	**317**	*e*P	**Pn**	**03 49 53.1**	**-0.8**
	baz=330						
TWB1				S	**Sb**	**03 50 08.6**	**-0.3**
	baz=330						
HWA	**Hwalien**	**1.17**	**262**	*e*P	**Pn**	**03 49 53.8**	**-0.1**
	baz=260						
HWA				*e*S	**Sn**	**03 50 09.8**	**+0.3**
	baz=260						
JIJ	**Ishigaki jima**	**1.18**	**80**	P	**Pn**	**03 49 53.2**	**-0.8**
JIJ				S	**Sb**	**03 50 09.3**	**+0.2**
NTC	**Toucheng**	**1.18**	**306**	*e*P	**Pn**	**03 49 53.7**	**-0.3**
	baz=306						
NTC				*e*S	**Sb**	**03 50 08.9**	**-0.3**
	baz=306						
ILA	**Ilan**	**1.19**	**301**	*e*S	**Sn**	**03 50 10.3**	**+0.3**
	baz=318						
TEYL	**Yanliau Villag**	**1.20**	**257**	*e*P	**Pn**	**03 49 54.1**	**-0.2**
	baz=240						
TEYL				*e*S	**Sn**	**03 50 10.5**	**+0.3**
	baz=240						
TWE	**Neicheng**	**1.24**	**297**	P	**Pn**	**03 49 54.6**	**-0.1**
	baz=312						
TWE				S	**Sn**	**03 50 11.2**	**+0.1**
	baz=312						
**TIPB

NNSH			S		Sb	03 50 15.6	+0.3
	baz=281						
NWLT	**Wulai**	**1.39 297**	*e*P		**Pn**	**03 49 57.1**	**+0.1**
	baz=312						
NWLT			*e*S		**Sn**	**03 50 15.3**	**+0.2**
	baz=312						
NNS	**Nan Shan**	**1.40 282**	*i* P		**Pn**	**03 49 57.5**	**+0.3**
	baz=281						
NNS			S		**Sb**	**03 50 16.1**	**+0.5**
	baz=281						
EGFH	**Guangfu**	**1.41 250**	*e*P		**Pn**	**03 49 56.2**	**-0.9**
	baz=249						
EGFH			*e*S		**Sn**	**03 50 14.9**	**-0.5**
	baz=249						
TWA	**Mucha**	**1.43 305**	*e*P		**Pn**	**03 49 57.3**	**-0.2**
	baz=320						
TWA			S		**Sb**	**03 50 16.5**	**-0.1**
	baz=320						
YHNB	**Yeheng**	**1.46 291**	P		**Pn**	**03 49 58.7**	**+0.8**
	baz=272						
YHNB			S		**Sb**	**03 50 18.1**	**+0.7**
	baz=272						
WHF	**Hehuan Shan**	**1.47 270**	*i* P		**Pn**	**03 49 57.4**	**-1.0**
	baz=269						
WHF			*i* S		**Sn**	**03 50 17.4**	**-0.1**
	baz=269						
NSK	**Sanguang**	**1.48 291**	*i* P		**Pb**	**03 49 59.3**	**0.0**
	baz=272						
NSK			S		**Sb**	**03 50 18.4**	**+0.5**
	baz=272						
HGSD	**Ruisui**	**1.48 244**	P		**Pn**	**03 49 56.6**	**-1.6**
	baz=243						
HGSD			S		**Sn**	**03 50 16.1**	**-1.1**
	baz=243						
FUSS	**Fushou**	**1.49 274**	*e*P		**Pn**	**03 49 58.0**	**-0.5**
	baz=273						
FUSS			*e*S		**Sb**	**03 50 18.4**	**0.0**
	baz=273						
TATO	**Taipei**	**1.50 303**	*e*P		**Pb**	**03 49 59.4**	**-0.3**
	baz=319						
TATO			S		**Sb**	**03 50 18.4**	**-0.1**
	baz=319						
TAP	**Taipei**	**1.52 306**	*e*P		**Pn**	**03 49 58.7**	**0.0**
	baz=320						
TAP			S		**Sn**	**03 50 18.3**	**0.0**
	baz=320						
CHGB	**Renai**	**1.56 267**	P		**Pn**	**03 49 59.2**	**-0.2**
	baz=266						
CHGB			S		**Sn**	**03 50 18.8**	**-0.6**
	baz=266						
EHY	**Hungye**	**1.56 246**	P		**Pn**	**03 49 58.2**	**-1.1**
	baz=244						
EHY			S		**Sn**	**03 50 18.8**	**-0.4**
	baz=244						
OWD	**Renai**	**1.56 263**	*e*P		**Pn**	**03 49 58.9**	**-0.6**
	baz=262						
OWD			*e*S		**Sn**	**03 50 18.6**	**-0.8**
	baz=262						
TDCB	**Techi**	**1.57 274**	P		**Pn**	**03 49 59.9**	**+0.4**
	baz=273						
TDCB			*e*S		**Sb**	**03 50 20.6**	**0.0**
	baz=273						
TWY	**Chenhua**	**1.61 314**	*e*P		**Pn**	**03 49 59.9**	**0.0**
	baz=314						
TWY			*e*S		**Sn**	**03 50 20.7**	**+0.4**
	baz=314						
TWS1	**Kuangyinshan**	**1.63 306**	*e*S		**Sn**	**03 50 21.1**	**+0.3**
	baz=319						
YULB	**Yu-li**	**1.63 243**	P		**Pn**	**03 49 58.9**	**-1.4**
	baz=241						
YULB			*e*S		**Sn**	**03 50 19.7**	**-1.3**
	baz=241						
EYUL	**Yuli**	**1.64 241**	*e*P		**Pn**	**03 49 59.8**	**-0.5**
	baz=239						
EYUL			*e*S		**Sn**	**03 50 19.1**	**-1.9**
	baz=239						
TWF1	**Yuli**	**1.65 241**	P		**Pn**	**03 49 59.4**	**-1.1**
	baz=240						
TWF1			S		**Sn**	**03 50 20.4**	**-1.0**
	baz=240						
FULB	**Fuli**	**1.73 237**	*e*P		**Pn**	**03 50 01.4**	**-0.3**
	baz=222						
FULB			S		**Sn**	**03 50 23.9**	**+0.4**
	baz=222						
JTJ	**Tarama**	**1.74 73**	P		**Pn**	**03 50 01.8**	**+0.1**
JTJ			*e*S		**Sb**	**03 50 24.6**	**-0.6**
NCUH	**Zhongli**	**1.74 298**	*e*P		**Pn**	**03 50 01.4**	**-0.3**
	baz=314						
LIOB	**Emei**	**1.76 286**	P		**Pb**	**03 50 03.8**	**-0.3**
	baz=286						
LIOB			*e*S		**Sb**	**03 50 25.8**	**-0.2**
	baz=286						
WHP	**Taichung City**	**1.76 274**	*e*P		**Pn**	**03 50 02.8**	**+0.6**
	baz=261						
NSTT	**Nanjuang**	**1.77 286**	P		**Pb**	**03 50 03.8**	**-0.5**
	baz=273						
NSTT			*e*S		**Sn**	**03 50 25.5**	**+1.1**
	baz=273						
DPDB	**Guoxing**	**1.78 267**	*e*P		**Pn**	**03 50 02.6**	**+0.2**
	baz=266						
SSLB	**Suanglung**	**1.79 259**	*e*P		**Pn**	**03 50 02.6**	**+0.1**
	baz=257						
SSLB			*e*S		**Sn**	**03 50 24.1**	**-0.9**
	baz=257						
WCS	**Beigang Elemen**	**1.79 267**	*e*P		**Pn**	**03 50 02.9**	**+0.5**
	baz=266						
WCS			S		**Sn**	**03 50 25.1**	**+0.2**
	baz=266						
SMLT	**Sun Moon Lake**	**1.82 262**	P		**Pn**	**03 50 03.1**	**+0.1**
	baz=261						
SMLT			S		**Sn**	**03 50 26.2**	**+0.3**
	baz=261						
SBCB	**Hsinchu**	**1.83 291**	*e*P		**Pn**	**03 50 02.9**	**-0.1**
	baz=290						
SBCB			*e*S		**Sn**	**03 50 26.7**	**+0.8**
	baz=290						
ECS	**Chishang**	**1.85 236**	*e*S		**Sn**	**03 50 26.4**	**+0.1**
	baz=221						
HSN	**Hsinchu**	**1.85 291**	*e*S		**Sn**	**03 50 26.2**	**-0.1**
	baz=310						
EDH	**Donghe**	**1.86 231**	*e*P		**Pn**	**03 50 03.6**	**+0.3**
	baz=218						
EDH			*e*S		**Sn**	**03 50 26.0**	**-0.5**
	baz=218						
TYC	**Yuchr**	**1.86 263**	P		**Pn**	**03 50 03.5**	**+0.1**
	baz=262						
TYC			*e*S		**Sn**	**03 50 26.2**	**-0.3**
	baz=262						
TWQ1	**Liyutan**	**1.93 276**	*e*P		**Pn**	**03 50 04.7**	**+0.4**
	baz=275						
TWQ1			*e*S		**Sn**	**03 50 28.5**	**+0.3**
	baz=275						
NMLH	**Miaoli**	**1.94 282**	*e*S		**Sn**	**03 50 29.0**	**+0.5**
	baz=281						
ELDTW	**Lidau**	**1.96 241**	*e*P		**Pn**	**03 50 05.0**	**+0.3**
	baz=239						
ELDTW			*e*S		**Sn**	**03 50 27.2**	**-1.8**
	baz=239						
LDUT	**Ludao**	**1.96 221**	*e*S		**Sn**	**03 50 26.2**	**-2.8**
	baz=220						
ALS	**Alishan**	**2.00 252**	P		**Pn**	**03 50 05.8**	**+0.2**
	baz=250						
ALS			S		**Sn**	**03 50 30.6**	**+0.2**
	baz=250						
TCU	**Taichung**	**2.01 270**	*e*P		**Pn**	**03 50 05.6**	**+0.2**
	baz=270						
WNT	**Mingjian**	**2.02 263**	*e*S		**Sn**	**03 50 31.1**	**+0.6**
	baz=261						
WNT1	**Nantou City**	**2.02 263**	*e*P		**Pn**	**03 50 05.4**	**-0.2**
	baz=263						
LONT	**Longtian**	**2.03 233**	*e*P		**Pn**	**03 50 06.8**	**+1.1**
	baz=222						
LONT			*e*S		**Sn**	**03 50 30.9**	**+0.3**
	baz=222						
CHN5	**Tsauling**	**2.08 255**	P		**Pn**	**03 50 07.2**	**+0.6**
	baz=242						
CHN5			S		**Sn**	**03 50 32.5**	**+0.3**
	baz=242						
STYH	**Taoyuan**	**2.16 243**	*e*P		**Pn**	**03 50 08.2**	**+0.7**
	baz=242						
STYH			*e*S		**Sn**	**03 50 34.1**	**+0.2**
	baz=242						
TPUB	**Ta-pu**	**2.23 248**	P		**Pn**	**03 50 09.3**	**+0.8**
	baz=247						
TPUB			*e*S		**Sn**	**03 50 35.4**	**-0.3**
	baz=247						
CHN4	**Tsaushan**	**2.24 250**	*e*P		**Pn**	**03 50 09.1**	**+0.5**
	baz=248						
CHN4			*e*S		**Sn**	**03 50 36.8**	**+0.9**
	baz=248						
WTP	**Ta-pu**	**2.26 247**	P		**Pn**	**03 50 09.5**	**+0.5**
	baz=234						
WTP			*e*S		**Sn**	**03 50 37.1**	**+0.6**
	baz=234						
JMJ	**Miyako jima 2**	**2.30 73**	*e*S		**Sn**	**03 50 37.1**	**-0.3**
	baz=74						
ECL	**Taimali**	**2.35 229**	*e*S		**Sn**	**03 50 38.2**	**-0.4**
	baz=227						
CHN1	**Nanshi**	**2.36 246**	P		**Pn**	**03 50 11.6**	**+1.3**
	baz=245						
CHN1			*e*S		**Sn**	**03 50 39.6**	**+0.7**
	baz=245						
SGST	**Jiashian**	**2.36 244**	*e*P		**Pn**	**03 50 11.0**	**+0.8**
	baz=231						
SGST			*e*S		**Sn**	**03 50 39.2**	**+0.4**
	baz=231						
TWK	**Hsinying**	**2.36 248**	P		**Pn**	**03 50 11.2**	**+0.9**
	baz=247						
TWK			*e*S		**Sn**	**03 50 39.6**	**+0.6**
	baz=247						
EAST	**Anshuo**	**2.56 227**	*e*P		**Pn**	**03 50 13.3**	**+0.2**
	baz=225						
EAST			*e*S		**Sn**	**03 50 44.0**	**0.0**
	baz=225						
MASBT	**Mashibuluo**	**2.57 234**	*e*P		**Pn**	**03 50 14.4**	**+1.2**
	baz=226						
MASBT			*e*S		**Sn**	**03 50 44.7**	**+0.6**
	baz=226						
SCZT	**Fangliau**	**2.73 230**	*e*P		**Pn**	**03 50 16.5**	**+1.2**
	baz=221						
TWKBT	**Hengchun**	**2.91 221**	*e*P		**Pn**	**03 50 16.9**	**-1.0**
	baz=219						
TWKBT			*e*S		**Sn**	**03 50 51.9**	**-0.5**
	baz=219						
TWK1	**Hengchun**	**2.91 221**	*e*S		**Sn**	**03 50 52.3**	**-0.2**
	baz=219						
WDGT	**Dungji**	**3.08 254**	*e*P		**Pn**	**03 50 20.9**	**+0.8**
	baz=253						
PHUB	**P'eng-hu**	**3.09 259**	*e*P		**Pn**	**03 50 20.0**	**-0.3**
	baz=257						
PHUB			*e*S		**Sn**	**03 50 56.8**	**-0.1**
	baz=257						

TAP ***16*** *03:50:41.6, 24.°18N×122.°85E, h15km, ML3.0, D*
JMA ***16*** *03:50:42.2±0.1, 24.°23N×122.°85E, h23km±2km, M2.7*
ISC 16 03:50:41.8±1.0, 24.°19N±0.°03×122.°85E±0.°02, h19km±2km,
n80, σ0.80/145, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**18**	P	**Pg**	**03 50 48.1**	**0.0**
JYNG				S	**Sg**	**03 50 52.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.31**	**28**	P	**Pb**	**03 50 48.6**	**-0.2**
YOJ				*e*S	**Sb**	**03 50 53.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.31**	**28**	P	**Pb**	**03 50 48.8**	**0.0**
	baz=35						
YOJ				S	**Sb**	**03 50 53.5**	**0.0**
	baz=35						
IRIF	**Iriomote-Funau**	**0.81**	**79**	P	**Pb**	**03 50 57.4**	**0.0**
IRIF				S	**Sg**	**03 51 08.7**	**+0.1**
HATJ	**Hateruma jima**	**0.88**	**98**	P	**Pb**	**03 50 58.5**	**0.0**
HATJ				*e*S	**Sb**	**03 51 10.4**	**+0.5**
TWC	**Suao**	**1.01**	**295**	P	**Pb**	**03 50 60.0**	**-0.7**
	baz=309						
TWC				*i* S	**Sn**	**03 51 15.6**	**+1.0**
	baz=309						
EWUT	**Wuta**	**1.01**	**285**	*e*P	**Pb**	**03 51 00.8**	**0.0**
	baz=285						
EWUT				*e*S	**Sg**	**03 51 15.8**	**+0.9**
	baz=285						
JKRS	**Kuro-shima**	**1.06**	**87**	P	**Pb**	**03 51 01.5**	**0.0**
JKRS				*e*S	**Sn**	**03 51 15.6**	**-0.3**
ETL	**Fush Village**	**1.12**	**269**	*e*P	**Pb**	**03 51 02.8**	**+0.1**
	baz=248						
ETL				*e*S	**Sg**	**03 51 19.0**	**+0.7**
	baz=248						
NDS	**Dongshan**	**1.13**	**294**	P	**Pn**	**03 51 02.4**	**-0.2**
	baz=305						
NDS				S	**Sn**	**03 51 17.7**	**0.0**
	baz=305						
TWB1	**Santiao Chiao**	**1.14**	**316**	*e*P	**Pn**	**03 51 02.6**	**-0.1**
	baz=332						
TWB1				S	**Sg**	**03 51 18.0**	**-0.7**
	baz=332						
NTC	**Toucheng**	**1.15**	**306**	*e*P	**Pn**	**03 51 02.6**	**-0.3**
	baz=307						
NTC				*e*S	**Sg**	**03 51 18.7**	**-0.4**
	baz=307						
NACB	**Ninganchiao**	**1.15**	**270**	P	**Pn**	**03 51 02.6**	**-0.3**
	baz=250						
NACB				S	**Sg**	**03 51 18.9**	**-0.3**
	baz=250						
TWD	**Chiawan**	**1.15**	**265**	*e*P	**Pb**	**03 51 03.6**	**+0.4**
	baz=265						
TWD				S	**Sg**	**03 51 19.5**	**+0.2**
	baz=265						
HWA	**Hwalien**	**1.16**	**260**	*e*S	**Sg**	**03 51 19.4**	**-0.1**
	baz=260						
ILA	**Ilan**	**1.16**	**300**	*e*P	**Pb**	**03 51 03.4**	**+0.1**
	baz=301						
ILA				*e*S	**Sg**	**03 51 19.2**	**-0.3**
	baz=301						
TEYL	**Yanliau Villag**	**1.19**	**255**	P	**Pg**	**03 51 04.7**	**-0.1**
	baz=239						
TEYL				*e*S	**Sg**	**03 51 20.5**	**0.0**
	baz=239						
JIJ	**Ishigaki jima**	**1.19**	**81**	P	**Pn**	**03 51 02.8**	**-0.7**
JIJ				S	**Sb**	**03 51 18.9**	**0.0**
TWE	**Neicheng**	**1.20**	**297**	P	**Pg**	**03 51 05.4**	**+0.2**
	baz=297						
TWE				S	**Sg**	**03 51 20.6**	**-0.3**
	baz=297						
TIPB	**Shuangxi**	**1.22**	**310**	*e*P	**Pn**	**03 51 03.2**	**-0.7**
	baz=311						
TIPB				S	**Sn**	**03 51 20.0**	**0.0**
	baz=311						
ETLH	**Xiulin Townshi**	**1.25**	**271**	*e*P	**Pn**	**03 51 04.5**	**+0.1**
	baz=272						
ETLH				S	**Sg**	**03 51 22.8**	**+0.3**
	baz=272						
ENTT	**Nioudou**	**1.26**	**291**	P	**Pb**	**03 51 04.9**	**-0.1**
	baz=306						
ENTT				S	**Sg**	**03 51 22.1**	**-0.5**
	baz=306						
ETM	**Tongmen**	**1.26**	**260**	P	**Pn**	**03 51 03.7**	**-0.7**
	baz=247						
ETM				S	**Sn**	**03 51 21.3**	**+0.3**
	baz=247						
NDT	**Datong Townshi**	**1.29**	**289**	P	**Pg**	**03 51 06.2**	**-0.6**
	baz=290						
NDT				S	**Sb**	**03 51 22.3**	**+0.5**
	baz=290						
NWF	**Wu-fen Shan**	**1.31**	**312**	*e*P	**Pn**	**03 51 05.4**	**+0.1**
	baz=313						
NWF				*e*S	**Sb**	**03 51 22.6**	**+0.1**
	baz=313						
WFSB	**Wu-fen Shan**	**1.31**	**312**	*e*P	**Pn**	**03 51 05.4**	**+0.2**
	baz=313						
WFSB				*e*S	**Sg**	**03 51 23.9**	**-0.5**
	baz=313						
ESL	**Shilin**	**1.35**	**254**	S	**Sn**	**03 51 23.1**	**0.0**
	baz=241						
NNSB	**Datong**	**1.36**	**281**	P	**Pb**	**03 51 06.5**	**-0.3**
	baz=281						
NNSB				*e*S	**Sb**	**03 51 24.9**	**+0.9**
	baz=281						
NNSH	**Datong**	**1.36**	**281**	*e*P	**Pb**	**03 51 06.8**	**0.0**
	baz=281						
NNSH				S	**Sb**	**03 51 24.9**	**+1.0**
	baz=281						
NWLT	**Wulai**	**1.36**	**296**	*e*P	**Pb**	**03 51 06.8**	**0.0**
	baz=314						
NWLT				S	**Sb**	**03 51 24.4**	**+0.5**
	baz=314						
NNS	**Nan Shan**	**1.37**	**281**	*i* P	**Pb**	**03 51 07.0**	**0.0**
	baz=281						
NNS				S	**Sg**	**03 51 26.3**	**0.0**
	baz=281						
JISG	**Ishigakijimahi**	**1.39**	**73**	P	**Pn**	**03 51 06.1**	**-0.1**
JISG				*e*S	**Sb**	**03 51 24.4**	**-0.2**
TWA	**Mucha**	**1.40**	**305**	*e*P	**Pb**	**03 51 07.0**	**-0.4**
	baz=323						
TWA				S	**Sb**	**03 51 25.7**	**+0.8**
	baz=323						
EGFH	**Guangfu**	**1.40**	**249**	*e*S	**Sb**	**03 51 25.4**	**+0.4**
	baz=248						
YHNB	**Yeheng**	**1.43**	**290**	P	**Pb**	**03 51 08.4**	**+0.5**
	baz=304						
YHNB				S	**Sg**	**03 51 27.0**	**-1.1**
	baz=304						
NSK	**Sanguang**	**1.45**	**290**	*i* P	**Pb**	**03 51 08.6**	**+0.4**
	baz=304						
NSK				S	**Sg**	**03 51 27.8**	**-0.9**
	baz=304						
WHF	**Hehuan Shan**	**1.45**	**269**	P	**Pn**	**03 51 07.2**	**-0.3**
	baz=269						
WHF				S	**Sg**	**03 51 28.1**	**-0.7**
	baz=269						
FUSS	**Fushou**	**1.47**	**273**	*e*P	**Pn**	**03 51 08.1**	**+0.6**
	baz=273						
FUSS				*e*S	**Sb**	**03 51 27.8**	**+0.7**
	baz=273						
HGSD	**Ruisui**	**1.48**	**242**	P	**Pn**	**03 51 07.6**	**+0.2**
	baz=242						
HGSD				S	**Sn**	**03 51 25.7**	**-0.6**
	baz=242						
TAP	**Taipei**	**1.49**	**305**	*e*S	**Sb**	**03 51 28.0**	**+0.5**
	baz=322						
CHGB	**Renai**	**1.54**	**266**	P	**Pn**	**03 51 08.6**	**+0.1**
	baz=266						
CHGB				S	**Sn**	**03 51 28.1**	**0.0**
	baz=266						
TDCB	**Techi**	**1.55**	**273**	P	**Pb**	**03 51 09.4**	**-0.6**
	baz=273						
TDCB				*e*S	**Sb**	**03 51 29.9**	**+0.6**
	baz=273						
OWD	**Renai**	**1.55**	**262**	*e*P	**Pn**	**03 51 08.6**	**0.0**
	baz=262						
OWD				*e*S	**Sn**	**03 51 28.1**	**-0.1**
	baz=262						
EHY	**Hungye**	**1.56**	**245**	P	**Pn**	**03 51 07.6**	**-0.9**
	baz=244						
EHY				*e*S	**Sn**	**03 51 28.4**	**+0.2**
	baz=244						
TWS1	**Kuangyinshan**	**1.59**	**305**	*e*P	**Pb**	**03 51 09.8**	**-0.9**
	baz=321						
TWS1				*e*S	**Sb**	**03 51 30.2**	**-0.2**
	baz=321						
NTST	**Danshui**	**1.61**	**308**	*e*S	**Sb**	**03 51 31.2**	**+0.4**
	baz=309						
YULB	**Yu-li**	**1.63**	**241**	P	**Pn**	**03 51 08.6**	**-0.9**
	baz=241						
YULB				S	**Sn**	**03 51 28.9**	**-1.1**
	baz=241						
EYUL	**Yuli**	**1.63**	**240**	*e*S	**Sn**	**03 51 30.2**	**+0.1**
	baz=239						
TWF1	**Yuli**	**1.65**	**240**	P	**Pn**	**03 51 08.8**	**-1.0**
	baz=239						
TWF1				S	**Sn**	**03 51 30.9**	**+0.4**
	baz=239						
NCU	**National Centr**	**1.71**	**298**	*e*P	**Pn**	**03 51 11.2**	**+0.6**
	baz=316						
NCU				*e*S	**Sb**	**03 51 32.8**	**-0.8**
	baz=316						
FULB	**Fuli**	**1.73**	**236**	*e*P	**Pn**	**03 51 10.4**	**-0.6**
	baz=220						
FULB				*e*S	**Sn**	**03 51 32.5**	**-0.1**
	baz=220						
LIOB	**Emei**	**1.74**	**286**	*e*P	**Pb**	**03 51 12.2**	**-0.9**
	baz=286						
CHKT	**Chengkung**	**1.74**	**232**	*e*P	**Pn**	**03 51 11.9**	**+0.8**
	baz=232						
WHP	**Taichung City**	**1.74**	**273**	*e*P	**Pb**	**03 51 12.3**	**-0.9**
	baz=274						
WHP				*e*S	**Sb**	**03 51 34.5**	**-0.4**
	baz=274						
NSTT	**Nanjuang**	**1.75**	**285**	P	**Pb**	**03 51 13.3**	**+0.1**
	baz=286						
NSTT				*e*S	**Sb**	**03 51 34.0**	**-0.8**
	baz=286						
JTJ	**Tarama**	**1.75**	**75**	P	**Pn**	**03 51 11.4**	**+0.3**
HSN1	**Hsinchu**	**1.77**	**290**	*e*P	**Pn**	**03 51 12.0**	**+0.5**
	baz=290						
WCS	**Beigang Elemen**	**1.78**	**266**	*e*P	**Pn**	**03 51 12.7**	**+1.1**
	baz=266						
WCS				*e*S	**Sb**	**03 51 35.4**	**-0.3**
	baz=266						
SSLB	**Suanglung**	**1.78**	**258**	P	**Pn**	**03 51 12.0**	**+0.4**
	baz=257						
SSLB				*e*S	**Sn**	**03 51 35.0**	**+1.1**
	baz=257						
SMLT	**Sun Moon Lake**	**1.81**	**261**	P	**Pn**	**03 51 12.0**	**-0.1**
	baz=261						
SMLT				S	**Sn**	**03 51 35.3**	**+0.6**
	baz=261						
HSN	**Hsinchu**	**1.82**	**290**	*e*P	**Pn**	**03 51 12.8**	**+0.7**
	baz=311						
HSN				*e*S	**Sb**	**03 51 36.3**	**-0.8**
	baz=311						
TYC	**Yuchr**	**1.84**	**262**	P	**Pn**	**03 51 13.2**	**+0.7**
	baz=261						
TYC				*e*S	**Sb**	**03 51 36.9**	**-0.8**
	baz=261						
EDH	**Donghe**	**1.86**	**230**	*e*S	**Sn**	**03 51 35.4**	**-0.4**
	baz=229						
ELDTW	**Lidau**	**1.95**	**240**	*e*P	**Pn**	**03 51 14.3**	**+0.2**
	baz=239						
ELDTW				*e*S	**Sn**	**03 51 38.9**	**+0.7**
	baz=239						
ALS	**Alishan**	**1.99**	**251**	P	**Pn**	**03 51 15.4**	**+0.7**
	baz=250						
ALS				S	**Sn**	**03 51 39.7**	**+0.3**
	baz=250						
LONT	**Longtian**	**2.03**	**231**	*e*P	**Pn**	**03 51 16.1**	**+1.0**
	baz=222						
LONT				*e*S	**Sn**	**03 51 40.8**	**+0.9**
	baz=222						
CHN5	**Tsauling**	**2.07**	**254**	P	**Pb**	**03 51 17.6**	**-1.4**
	baz=241						
CHN5				*e*S	**Sn**	**03 51 42.1**	**+1.0**
	baz=241						
STYH	**Taoyuan**	**2.15**	**242**	*e*P	**Pn**	**03 51 17.7**	**+1.0**
	baz=242						
STYH				*e*S	**Sn**	**03 51 43.2**	**+0.3**
	baz=242						
WDLH	**Douliu**	**2.17**	**257**	*e*P	**Pn**	**03 51 18.9**	**+1.8**
	baz=258						
TPUB	**Ta-pu**	**2.22**	**247**	P	**Pn**	**03 51 18.7**	**+1.0**
	baz=246						
TPUB				S	**Sn**	**03 51 46.5**	**+1.9**
	baz=246						
CHN4	**Tsaushan**	**2.23**	**249**	*e*P	**Pn**	**03 51 19.4**	**+1.5**
	baz=248						
CHN4				*e*S	**Sn**	**03 51 46.8**	**+1.9**
	baz=248						
WTP	**Ta-pu**	**2.25**	**246**	P	**Pb**	**03 51 20.3**	**-1.7**
	baz=245						
WTP				*e*S	**Sb**	**03 51 48.1**	**-1.4**
	baz=245						
WRL	**Guolierlin Hig**	**2.28**	**263**	*e*P	**Pn**	**03 51 20.0**	**+1.5**
	baz=264						
CHY	**Chiayi**	**2.33**	**253**	*e*P	**Pn**	**03 51 20.2**	**+1.0**
	baz=253						
CHY				*e*S	**Sn**	**03 51 48.5**	**+1.2**
	baz=253						
TWK	**Hsinying**	**2.35**	**248**	P	**Pn**	**03 51 21.1**	**+1.6**
	baz=247						
TWK				*e*S	**Sn**	**03 51 50.2**	**+2.3**
	baz=247						
CHN1	**Nanshi**	**2.35**	**245**	P	**Pn**	**03 51 21.3**	**+1.8**
	baz=245						
CHN1				*e*S	**Sb**	**03 51 50.7**	**-1.6**
	baz=245						
SGST	**Jiashian**	**2.35**	**243**	P	**Pn**	**03 51 20.8**	**+1.3**
	baz=230						
SGST				*e*S	**Sb**	**03 51 50.4**	**-1.9**
	baz=230						
ECL	**Taimali**	**2.35**	**228**	*e*P	**Pn**	**03 51 20.5**	**+1.0**
	baz=227						
ECL				*e*S	**Sn**	**03 51 48.5**	**+0.5**
	baz=227						
SSD	**Sandimen**	**2.49**	**235**	*e*P	**Pn**	**03 51 22.9**	**+1.5**
	baz=227						
MASBT	**Mashibuluo**	**2.57**	**233**	*e*P	**Pn**	**03 51 24.6**	**+2.1**
	baz=225						

IDC 16 03:54:34.7±3.5, 10.°16S×124.°79E, h83km±39km, mb3.5/3, mb1 3.8/6, mb1mx3.4/38, mbtmp4.0/6, MS2.6/1, Ms1 2.6/1, ms1mx2.4/20, Error ellipse: s-maj=123.1km s-min=23.3km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.15**	**315**	P	Pn	03 56 17.1	+0.4
KAPI	0.7nm,0.3s,baz=152,slow=15,SNR=1.5			LR	LR	03 59 38.4	
	comp=Z,44nm,19.8s,baz=148,slow=42						
WRA	**Warramunga Arr**	**13.39**	**138**	P	Pn	03 57 40.2	-1.3
WRA	1.8nm,0.3s,baz=316,slow=15,SNR=51			S	Sn	04 00 05.9	-2.9
	1.0nm,0.3s,baz=318,slow=25,SNR=5.7						
ASAR	**Alice Springs**	**16.00**	**148**	P	P	03 58 16.5	-0.4
ASAR	0.9nm,0.3s,baz=320,slow=12,SNR=30			S	Sn	04 01 12.7	+0.8
	0.6nm,0.3s,baz=317,slow=22,SNR=10						
SONM	**Songino Array**	**60.01**	**346**	P	P	04 04 32.0	-0.8
	0.4nm,0.5s,baz=162,slow=10.0,SNR=2.9						
MKAR	**Makanchi Array**	**68.20**	**330**	P	P	04 05 26.8	+0.5
	0.7nm,0.6s,baz=142,slow=7.3,SNR=7.7						
KURBB	**Kurchatov Arra**	**72.64**	**331**	P	P	04 05 53.1	-0.1
	0.8nm,0.4s,baz=145,slow=5.4,SNR=5.2						

*IDC **16** 04:04:13.0±0.9, 28.°07S×74.°28E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/44, mbtmp3.9/7, Error ellipse: s-maj=31.6km s-min=22.9km az=16.0*
*NEIC **16** 04:04:15.2±1.6, 28.°05±0.°1×74.°2E±0.°2, h10km±1km, mb4.4/7, Error ellipse: s-maj=28.0km s-min=18.9km az=254.0*
ISC 16 04:04:14.6±0.8, 28.°1S±0.°2×74.°3E±0.°2, h10km, n20, σ0.°37/17, mb4.0/11, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.41**	**355**	T	T	04 29 52.4	
	baz=174						
H08S1	**Diego Carcia H**	**20.41**	**355**	T	T	04 29 49.5	
	baz=174						
H08S3	**Diego Garcia H**	**20.43**	**355**	T	T	04 29 50.5	
	baz=174						
MAW	**Mawson**	**40.13**	**187**	P	**P**	**04 11 50.0**	**-0.3**
MAW				IAmb	IAmb	04 11 52.3	
	comp=Z,2.7nm,1.7s						
BOSA	**Boshof**	**42.90**	**257**	P	**P**	**04 12 13.9**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=127,slow=10,SNR=3.9						
BOSA	**Boshof**	**42.90**	**257**	P	**P**	**04 12 13.8**	**+0.1**
BOSA				IAmb	IAmb	04 12 14.0	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**53.37**	**100**	P	**P**	**04 13 34.9**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=252,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**53.37**	**100**	P	**P**	**04 13 34.7**	**+0.1**
WRA	**Warramunga Arr**	**54.99**	**96**	P	**P**	**04 13 46.4**	**0.0**
	comp=Z,2.3nm,0.7s,baz=251,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**54.99**	**96**	P	**P**	**04 13 46.6**	**+0.1**
WB2	**Warramunga Arr**	**55.00**	**96**	P	**P**	**04 13 47.2**	**+0.7**
WB2				IAmb	IAmb	04 13 50.0	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	**55.10**	**95**	P	**P**	**04 13 47.9**	**+0.6**
WB0				IAmb	IAmb	04 13 49.1	
	comp=Z,4.3nm,0.8s						
WR0	**Warramunga Arr**	**55.16**	**96**	P	**P**	**04 13 47.3**	**-0.4**
WR0				IAmb	IAmb	04 14 02.1	
	comp=Z,20nm,1.8s						
QSPA	**South Pole Qui**	**62.04**	**180**	P	**P**	**04 14 34.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=253,slow=1.8,SNR=6.6						
QSPA	**South Pole Qui**	**62.04**	**180**	P	**P**	**04 14 35.3**	**+0.2**
MKAR	**Makanchi Array**	**74.89**	**6**	P	**P**	**04 15 54.6**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=191,slow=4.9,SNR=4.8						
MKAR	**Makanchi Array**	**74.89**	**6**	P	**P**	**04 15 55.2**	**-0.1**
BRTR	**Keskin Array B**	**77.36**	**329**	P	**P**	**04 16 09.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=157,slow=6.7,SNR=5.5						
BRTR	**Keskin Array B**	**77.36**	**329**	P	**P**	**04 16 09.7**	**0.0**
TORD	**Torodi Ar. Bea**	**81.28**	**290**	P	**P**	**04 16 31.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=113,slow=3.9,SNR=3.7						

IDC 16 04:05:06.7±1.1, 28.°09S×74.°24E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.8/6, Error ellipse: s-maj=41.7km s-min=28.5km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**20.40**	**355**	T	T	04 31 09.9	
	baz=176,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**20.40**	**355**	T	T	04 31 00.9	
	baz=176,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**20.42**	**355**	T	T	04 30 57.4	
	baz=176,slow=76,SNR=36						
H01W2	**Cape Leeuwin H**	**34.52**	**112**	T	T	04 48 30.3	
	baz=268,slow=74,SNR=3.5						
H01W3	**Cape Leeuwin H**	**34.52**	**111**	T	T	04 48 30.3	
	baz=268						
H01W1	**Cape Leeuwin H**	**34.53**	**112**	T	T	04 48 36.6	
	baz=268,slow=74,SNR=3.5						
ASAR	**Alice Springs**	**53.41**	**100**	P	P	04 14 28.6	0.0
	0.8nm,0.5s,baz=250,slow=6.7,SNR=5.6						
WRA	**Warramunga Arr**	**55.03**	**96**	P	P	04 14 40.5	+0.1
	1.2nm,0.8s,baz=252,slow=7.6,SNR=5.6						
QSPA	**South Pole Qui**	**62.05**	**180**	P	P	04 15 28.5	-0.3
	0.9nm,0.8s,baz=295,slow=3.0,SNR=1.7						
MKAR	**Makanchi Array**	**74.89**	**6**	P	P	04 16 48.7	-0.3
	0.4nm,0.7s,baz=180,slow=5.8,SNR=1.9						
BRTR	**Keskin Array B**	**77.34**	**329**	P	P	04 17 03.4	+0.1
	0.4nm,0.7s,baz=133,slow=8.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**81.24**	**290**	P	P	04 17 25.3	+0.3
	0.4nm,0.7s,baz=104,slow=3.0,SNR=2.0						

IDC 16 04:05:23.1±1.1, 28.°14S×74.°21E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/44, mbtmp4.0/5, Error ellipse: s-maj=42.1km s-min=28.3km az=24.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**53.43**	**100**	P	P	04 14 45.0	-0.2
	1.7nm,0.6s,baz=252,slow=6.5,SNR=9.8						
WRA	**Warramunga Arr**	**55.05**	**96**	P	P	04 14 57.1	0.0
	1.9nm,0.7s,baz=251,slow=7.5,SNR=7.7						
QSPA	**South Pole Qui**	**62.00**	**180**	P	P	04 15 45.0	0.0
	2.5nm,0.8s,baz=239,slow=1.9,SNR=6.3						
BRTR	**Keskin Array B**	**77.36**	**329**	P	P	04 17 20.1	+0.2
	0.7nm,0.8s,baz=136,slow=7.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**81.23**	**290**	P	P	04 17 41.3	-0.1
	0.7nm,0.7s,baz=114,slow=3.2,SNR=2.7						

*NNC **16** 04:40:14.9±8.7, 37.°83N×73.°66E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=63.9km s-min=57.6km az=142.0*
*IDC **16** 04:40:17.8±9.6, 36.°89N×71.°67E, h115km±73km, mb3.3/2, mb1 3.5/4, mb1mx3.0/40, mbtmp3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/40, Error ellipse: s-maj=223.3km s-min=56.1km az=98.0*
ISC 16 04:40:13.8±1.8, 36.°9N±0.°1×70.°9E±0.°2, h100km, n15, σ0.°77/16, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.66**	**22**	P	**Pn**	**04 41 36.0**	**+0.3**
	SNR=18						
MRKS	**Merke**	**6.11**	**17**	Pg	**Pn**	**04 41 42.4**	**+0.8**
	23nm,0.3s						
MRKS				Lg	Lg	04 42 49.3	
	28nm,0.4s						
EKS2	**Erkin-Say**	**6.17**	**20**	P	**Pn**	**04 41 43.6**	**+1.1**
	SNR=36						
KK31	**Karatay Array**	**6.20**	**358**	⇑P	**Pn**	**04 41 43.0**	**+0.3**
	3.2nm,0.2s,baz=173,slow=11,SNR=179						
KK31				⇑S	**Sn**	**04 42 51.2**	**-1.0**
	2.2nm,0.3s,baz=179,slow=23,SNR=4.1						
AAK	**Ala-Archa**	**6.37**	**25**	P	**Pn**	**04 41 46.3**	**+1.1**
	2.7nm,0.3s,baz=205,slow=4.2,SNR=4.6						
AAK				S	**Sn**	**04 42 55.4**	**-1.1**
	2.6nm,0.3s,baz=161,slow=22,SNR=9.9						
CHMS	**Chumysh**	**6.78**	**25**	P	**Pn**	**04 41 51.2**	**+0.6**
	SNR=5.3						
USP	**Ospenovka**	**6.94**	**23**	P	**Pn**	**04 41 52.8**	**0.0**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.02**	**30**	P	**Pn**	**04 41 54.5**	**+0.4**
	SNR=8.1						
SGDS	**Sogindy**	**7.15**	**23**	Pg	**Pn**	**04 41 56.4**	**+0.8**
	5.0nm,0.1s						
SGDS				Lg	Lg	04 43 13.7	
	8.0nm,0.3s						
DGS	**Degeres**	**7.36**	**29**	Pg	**Pn**	**04 41 58.8**	**+0.2**
	2.2nm,0.4s						
DGS				Lg	Lg	04 43 17.6	
	3.1nm,0.3s						

KURBB	**Kurchatov Arra**	**14.78**	**19**	P	**P**	**04 43 41.5**	**+0.6**
	0.1nm,0.3s,baz=207,slow=10,SNR=6.9						
ZALV	**Zalesovo Beam**	**19.59**	**25**	P	**P**	**04 44 34.1**	**+0.3**
	0.3nm,0.3s,baz=224,slow=12,SNR=5.1						
ASAJ	**Asahikawa**	**53.43**	**58**	LR	LR	05 15 27.0	
	comp=Z,92nm,18.6s,baz=150,slow=40						
WRA	**Warramunga Arr**	**82.30**	**122**	P	**P**	**04 52 23.8**	**-0.6**
	0.5nm,0.6s,baz=319,slow=4.8,SNR=6.0						
ASAR	**Alice Springs**	**84.57**	**125**	P	**P**	**04 52 35.6**	**-0.4**
	0.4nm,0.6s,baz=313,slow=5.1,SNR=4.4						

*MOS **16** 04:53:29.3±0.0, 43.°19N×46.°42E, h10km, MPVA4.1*
*DRS **16** 04:53:29.1±0.0, 43.°33N×46.°32E, h15km, ML3.1/4*
NORS 16 04:53:29.5±0.0, 43.°08N×46.°35E, h4km, MPVA4.1, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.20**	**93**	*e*PG	Pg	04 53 35.7	+2.2
DLMR				*e*S	Sg	04 53 40.0	+3.8
DLMR	**Dylym**	**0.20**	**93**	*e*Pg	Pg	04 53 35.4	+1.9
DLMR				*i* Sg	Sg	04 53 38.7	+2.6
	8μm,0.3s						
DBC	**Dubki**	**0.36**	**100**	⇑*i*PG	Pb	04 53 38.4	0.0
DBC				*e*S	Sb	04 53 45.3	+0.9
DBC	**Dubki**	**0.36**	**100**	*i* Pg	Pb	04 53 38.0	-0.5
DBC				*i* Sg	Sb	04 53 44.4	-0.1
	1μm,0.5s						
GROC	**Groznyy**	**0.42**	**287**	*e*PG	Pb	04 53 39.6	0.0
GROC				*e*		04 53 44.5	
GROC				pmax	pmax		
	comp=Z,70nm,0.6s						
GROC				smax	smax		
	comp=N,397nm,0.5s						
GROC				smax	smax		
	comp=E,551nm,0.5s						
GROC				smax	smax		
	comp=E,710nm,0.5s						
GROC	**Groznyy**	**0.42**	**287**	*e*Pg	Pb	04 53 39.8	+0.3
GROC				*e*Sg	Sb	04 53 48.3	+2.0
BTLR	**Botlikh**	**0.43**	**193**	⇓*i*PG	Pn	04 53 41.3	-1.2
BTLR				*e*S	Sb	04 53 50.3	+3.9
BTLR				pmax	pmax		
	comp=Z,180nm,0.4s						
BTLR	**Botlikh**	**0.43**	**193**	*i* Pg	Pn	04 53 41.4	-1.1
BTLR				*i* Sg	Sb	04 53 50.4	+3.9
	comp=Z,452nm,0.7s						
KRNR	**Karanay**	**0.48**	**122**	*e*PG	Pb	04 53 40.9	+0.3
KRNR				*e*S	Sb	04 53 49.2	+1.2
KRNR	**Karanay**	**0.48**	**122**	*i* Pg	Pb	04 53 40.8	+0.2
KRNR				*i* Sg	Sb	04 53 49.1	+1.1
	comp=Z,472nm,0.3s						
XNZR	**Khunzakh**	**0.60**	**154**	*e*PG	Pn	04 53 44.5	-0.4
XNZR				*e*S	Sn	04 53 55.8	+0.7
XNZR				pmax	pmax		
	comp=Z,118nm,0.3s						
XNZR	**Khunzakh**	**0.60**	**154**	*e*Pg	Pn	04 53 44.5	-0.5
XNZR				*e*Sg	Sn	04 53 55.8	+0.6
BUJR	**Buynaksk**	**0.61**	**114**	*e*PG	Pn	04 53 44.3	-0.7
BUJR				*e*S	Sn	04 53 55.1	-0.2
BUJR				pmax	pmax		
	comp=Z,159nm,0.4s						
BUJR	**Buynaksk**	**0.61**	**114**	*e*Pg	Pb	04 53 43.7	+0.9
BUJR				*e*Sg	Sn	04 53 53.9	-1.4
ARKR	**Arakani**	**0.67**	**135**	*e*PG	Pn	04 53 45.0	-0.8
ARKR				*e*S	Sn	04 53 56.4	-0.4
ARKR				pmax	pmax		
	comp=Z,90nm,0.3s						
ARKR	**Arakani**	**0.67**	**135**	*i* Pg	Pn	04 53 45.0	-0.8
ARKR				*e*Sg	Sn	04 53 55.9	-0.9
GNBR	**Gunib**	**0.82**	**147**	*e*PG	Pn	04 53 48.7	+0.8
GNBR				*e*S	Sn	04 54 01.1	+0.5
GNBR	**Gunib**	**0.82**	**147**	*e*Pg	Pn	04 53 48.7	+0.8
GNBR				*e*Sg	Sn	04 54 01.1	+0.5
KANR	**Karaman**	**0.84**	**82**	*e*PG	Pg	04 53 43.8	-1.8
KANR				*e*S	Sb	04 53 59.1	+0.8
KANR	**Karaman**	**0.84**	**82**	*e*Pg	Pg	04 53 43.8	-1.9
KANR				*e*Sg	Sb	04 53 59.1	+0.8
MAK	**Makhachkala**	**0.85**	**98**	*e*PG	Pn	04 53 50.4	+2.1
MAK				*e*		04 54 03.2	
MAK				pmax	pmax		
	comp=Z,110nm,0.3s						
MAK				smax	smax		
	comp=N,688nm,0.6s						
MAK				smax	smax		
	comp=N,777nm,0.4s						
MAK	**Makhachkala**	**0.85**	**98**	*e*Pg	Pg	04 53 46.1	+0.2
MAK				*e*Sg	Sb	04 53 59.5	+0.8
KMGR	**Komgaron**	**1.09**	**269**	*e*PG	Pn	04 53 53.0	+1.4
KMGR				*e*S	Sn	04 54 10.8	+3.7
KMGR	**Komgaron**	**1.09**	**269**	*e*Pg	Pn	04 53 53.0	+1.4
KMGR				*e*Sg	Sn	04 54 10.8	+3.7
KMKR	**Kumukh**	**1.10**	**150**	*e*PG	Pn	04 53 54.0	+2.2
KMKR				*e*S	Sn	04 54 11.7	+4.2
KMKR				pmax	pmax		
	comp=Z,2μm,0.3s						
SGKR	**Sergokala**	**1.15**	**122**	*e*PG	Pn	04 53 54.6	+2.3
SGKR				*e*S	Sn	04 54 12.8	+4.4
SGKR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SGKR	**Sergokala**	**1.15**	**122**	*e*Pg	Pn	04 53 53.4	+1.1
SGKR				*e*Sg	Sn	04 54 12.5	+4.1
VLKR	**Vladikavkaz**	**1.23**	**269**	*e*PG	Pn	04 53 55.3	+1.8
VLKR				*e*S	Sn	04 54 14.8	+4.3
VLKR	**Vladikavkaz**	**1.23**	**269**	*e*Pg	Pn	04 53 55.3	+1.8
VLKR				*e*Sg	Sn	04 54 14.8	+4.3
URKR	**Urkarakh**	**1.31**	**134**	*e*PG	Pb	04 53 57.0	+2.2
URKR				*e*S	Sn	04 54 16.4	+3.6
URKR	**Urkarakh**	**1.31**	**134**	*e*Pg	Pb	04 53 57.0	+2.2
URKR				*e*Sg	Sn	04 54 16.4	+3.7
TRKR	**Terskaya**	**1.34**	**299**	⇓*e*PG	Pn	04 53 55.1	+0.1
TRKR				*e*S	Sn	04 54 13.7	+0.4
TRKR	**Terskaya**	**1.34**	**299**	*e*Pg	Pb	04 53 55.1	-0.1
TRKR				*e*Sg	Sn	04 54 13.7	+0.4
BTKR	**Batakoyurt**	**1.35**	**283**	*e*PG	Pg	04 53 56.6	+1.1
BTKR				*e*S	Sn	04 54 17.3	+3.7
BTKR	**Batakoyurt**	**1.35**	**283**	*e*Pg	Pg	04 53 56.6	+1.2
BTKR				*e*Sg	Sn	04 54 17.3	+3.7
ZKTA	**Zakatala**	**1.46**	**172**	PN	Pg	04 54 00.0	+2.6
ARNR	**Ardon**	**1.52**	**274**	*e*PG	Pg	04 53 58.5	-0.1
ARNR				*e*S	Sg	04 54 20.8	+2.6
ARNR	**Ardon**	**1.52**	**274**	*e*Pg	Pg	04 53 58.5	-0.1
ARNR				*e*Sg	Sg	04 54 20.8	+2.6
LACR	**Lac**	**1.53**	**261**	*e*PG	Pb	04 53 58.4	-0.1
LACR				pmax	pmax		
	comp=Z,112nm,0.4s						
LACR	**Lac**	**1.53**	**261**	*e*Pg	Pb	04 53 58.4	0.0
LACR				*e*Sg	Sg	04 54 20.6	+1.9
PRTR	**Priterechnaya**	**1.65**	**295**	*e*PG	Pb	04 54 00.6	+0.1
PRTR				*e*S	Sg	04 54 24.2	+1.7
PRTR	**Priterechnaya**	**1.65**	**295**	*e*Pg	Pb	04 54 00.6	+0.2
PRTR				*e*Sg	Sg	04 54 24.2	+1.7
KORR	**Kora**	**1.67**	**271**	*e*PN	Pg	04 54 02.9	+1.3
KORR				*e*S	Sg	04 54 26.5	+3.3
KORR	**Kora**	**1.67**	**271**	*e*Pg	Pg	04 54 02.9	+1.3
KORR				*e*Sg	Sg	04 54 26.6	+3.3
STDR	**Stavd-Durt**	**1.70**	**281**	*e*PN	Pg	04 54 02.3	+0.3
STDR				*e*S	Sg	04 54 26.9	+2.9
STDR	**Stavd-Durt**	**1.70**	**281**	*e*Pg	Pg	04 54 02.4	+0.3
STDR				*e*Sg	Sg	04 54 26.9	+2.9
ZEI	**Tsey**	**1.82**	**262**	*e*PN	Pg	04 54 04.2	-0.2
ZEI				*e*S	Sg	04 54 28.8	+0.7
ZEI	**Tsey**	**1.82**	**262**	*e*Pg	Pg	04 54 04.2	-0.3
ZEI				*e*Sg	Sg	04 54 28.8	+0.8
AKT	**Akhty**	**1.90**	**147**	*e*PN	Pg	04 54 08.2	+2.3
AKT				*e*S	Sg	04 54 36.0	+5.5
AKT				pmax	pmax		
	comp=Z,130nm,0.2s						
AKT	**Akhty**	**1.90**	**147**	*e*Pg	Pg	04 54 06.8	+1.0
AKT				*e*Sg	Sg	04 54 31.8	+1.3
SEKA	**Sheki**	**1.97**	**161**	PN	Pg	04 54 08.0	+0.7
KSMR	**Kasumkent**	**1.98**	**138**	*e*PN	Pg	04 54 07.8	+0.4
KSMR	**Kasumkent**	**1.98**	**138**	*e*Pg	Pg	04 54 07.8	+0.4
KSMR				*e*Sg	Sb	04 54 31.5	+0.4
DIGR	**Digorskoe uzhe**	**2.04**	**266**	*e*PN	Pb	04 54 06.3	-0.9
DIGR				*e*S	Sb	04 54 34.0	+0.9
DIGR	**Digorskoe uzhe**	**2.04**	**266**	*e*Pg	Pb	04 54 06.3	-0.9
DIGR				*e*Sg	Sb	04 54 34.0	+1.0
NCK	**Nalchik**	**2.06**	**283**	*i* PN	Pb	04 54 06.5	-0.9
ONI	**Oni**	**2.19**	**258**	*e*PN	Pb	04 54 09.6	-0.1
ONI				*e*S	Sg	04 54 40.5	+0.7

ONI	**Oni**	**2.19**	**258**	*e*Pn	Pb	04 54 09.6	-0.1
ONI				*e*Sn	Sg	04 54 40.5	+0.8
GANJ	**Ganja**	**2.43**	**181**	PN	Pb	04 54 13.6	-0.2
PYA1	**Pyatigorsk**	**2.56**	**294**	*i* PN	Pn	04 54 12.5	+0.7
NEY	**Neytrino**	**2.66**	**275**	*i* PN	Pb	04 54 15.7	-2.1
NEY	**Neytrino**	**2.66**	**275**	*e*Pn	Pn	04 54 14.1	+0.8
BEYR	**Belyy Ugol+**	**2.73**	**291**	*e*PN	Pn	04 54 13.7	-0.5
BEYR				*e*S	Sn	04 54 44.7	-3.0
SHA1	**Shidzhatmaz**	**2.77**	**285**	*i* PN	Pn	04 54 13.7	-1.2
KIV	**Kislovodsk**	**2.81**	**289**	*e*PN	Pn	04 54 14.7	-0.5
KIV				*e*S	Sn	04 54 47.9	-1.6
ALER	**Alexandrovskoy**	**3.00**	**305**	*e*PN	Pn	04 54 16.6	-1.2
ALER				*e*S	Sn	04 54 52.1	-2.1
GOF	**Gofitskoye**	**3.10**	**311**	*e*PN	Pn	04 54 10.7	-8.4
GOF				*e*S	Sn	04 54 55.8	-0.8
GOF	**Gofitskoye**	**3.10**	**311**	*e*Sn	Sn	04 54 55.8	-0.8
GNI	**Garni**	**3.17**	**203**	*i* PN	Pb	04 54 25.2	-1.2
GNI	**Garni**	**3.17**	**203**	*e*Pn	Pb	04 54 25.4	-1.1
DOMR	**Dombai**	**3.46**	**275**	*i* PN	Pn	04 54 25.0	+0.7
ARXR	**Arkhyz**	**3.74**	**279**	*i* PN	Pn	04 54 29.0	+0.9
RPOR	**Krasnaya Polya**	**4.48**	**280**	*i* PN	Pn	04 54 40.1	+1.9
SOC	**Sochi**	**4.87**	**278**	*e*PN	Pn	04 54 43.9	+0.5
SOC				*e*		04 55 41.8	
SOC				*e*SS	Sb	04 55 55.0	+0.9
SOC				MLR	MLR		
	comp=Z,35nm,6.0s						
TPSR	**Tuapse**	**5.37**	**283**	*i* PN	Pn	04 54 51.8	+1.5
BRVK	**Borovoye**	**18.77**	**50**	*i* P	Pn	04 57 50.2	+0.4
BRVK				pmax	pmax		
	comp=Z,5.0nm,2.2s						
AAK	**Ala-Archa**	**20.60**	**82**	*i* P	P	04 58 09.9	+0.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**22.01**	**334**	*i* P	P	04 58 24.6	+0.1

*IDC **16** 05:06:46.2±0.8, 33.°10N×139.°76E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/49, mbtmp3.8/9, ML3.2/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/44, Error ellipse: s-maj=23.3km s-min=6.2km az=163.0*
*JMA **16** 05:06:47.9±0.1, 33.°24N×139.°52E, h26km, M3.5*
ISC 16 05:06:49.6±0.7, 33.°29N±0.°05×139.°61E±0.°09, h22km, n30, σ1.9±57/24, mb3.8/7, MS2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.22**	**139**	Pn	**Pb**	**05 06 54.7**	**-0.7**
	2μm,0.3s,baz=333,slow=23,SNR=115						
JHJ				Sn	**Sb**	**05 06 58.8**	**-0.6**
	2μm,0.3s,baz=61,slow=23,SNR=24						
JHJ2	**Mitsune**	**0.25**	**135**	P	**Pb**	**05 06 54.6**	**-1.0**
JHCJ	**Hachijojimakas**	**0.27**	**144**	P	**Pb**	**05 06 54.7**	**-1.2**
JHCJ				S	**Sb**	**05 06 59.3**	**-0.9**
JMKN	**Mikurajimanish**	**0.60**	**359**	P	**Pb**	**05 07 00.4**	**-1.1**
JMKN				S	**Sb**	**05 07 09.1**	**-0.5**
JTHY	**Toshimahigashi**	**1.26**	**348**	P	**Pb**	**05 07 11.3**	**-1.3**
JIM2	**Oshima 3**	**1.43**	**354**	P	**Pn**	**05 07 13.3**	**-0.9**
JIZS	**Izushimoda**	**1.55**	**337**	P	**Pn**	**05 07 14.9**	**-0.9**
TK02	**Tokai 2**	**1.68**	**294**	P	**Pn**	**05 07 16.2**	**-1.2**
KTJ3	**Kamata3**	**1.70**	**345**	P	**Pn**	**05 07 17.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.44**	**341**	Pn	**Pn**	**05 07 43.4**	**+1.6**
	0.4nm,0.3s,baz=157,slow=14,SNR=22						
MAT	**Matsushiro**	**3.44**	**341**	P	**Pn**	**05 07 44.4**	**+2.5**
MAT				*e*S	**Sb**	**05 08 27.6**	**-3.7**
JNU	**Nakatsue**	**7.32**	**271**	Pn	**Pn**	**05 08 35.9**	**+0.7**
	0.8nm,0.3s,baz=351,slow=4.7,SNR=5.3						
KSRS	**Korea Array**	**10.40**	**297**	LR	LR	05 13 10.9	
	comp=Z,63nm,20.1s,baz=109,slow=36						
PETK	**Petropavlovsk-**	**23.67**	**28**	LR	LR	05 21 59.2	
	comp=Z,24nm,19.1s,baz=130,slow=38						
MA2	**Magadan**	**27.32**	**12**	LR	LR	05 24 31.7	
	comp=Z,34nm,20.4s,baz=136,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.80**	**112**	T	T	05 41 41.0	
	baz=305,slow=75,SNR=67						
H11N1	**WAKE ISLAND Hy**	**27.81**	**112**	T	T	05 41 41.1	
	baz=305,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**27.82**	**112**	T	T	05 41 42.5	
	baz=305,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**28.36**	**115**	T	T	05 42 22.7	
	baz=307,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**28.36**	**115**	T	T	05 42 22.9	
	baz=307,slow=75,SNR=70						
H11S2	**WAKE ISLAND Hy**	**28.38**	**115**	T	T	05 42 24.0	
	baz=307,slow=75,SNR=85						
SONM	**Songino Array**	**28.86**	**310**	P	**P**	**05 12 49.0**	**+2.5**
	1.1nm,0.9s,baz=120,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**44.95**	**305**	P	**P**	**05 15 04.3**	**+1.4**
	0.5nm,0.8s,baz=90,slow=11,SNR=2.8						
WRA	**Warram

NTC				S		Sg	05 13 09.4	0.0
	baz=305							
ILA	**Ilan**	**1.17 301**		P		**Pg**	**05 12 54.8**	**+0.2**
	baz=299							
ILA				S		**Sg**	**05 13 09.6**	**-0.2**
	baz=299							
TEYL	**Yanliau Villag**	**1.17 256**		P		**Pn**	**05 12 54.3**	**0.0**
	baz=238							
TEYL				S		**Sb**	**05 13 09.7**	**+0.3**
	baz=238							
JIJ	**Ishigaki jima**	**1.21 80**		P		**Pn**	**05 12 54.0**	**-0.8**
JIJ				S		**Sb**	**05 13 09.6**	**-0.8**
TWE	**Neicheng**	**1.21 298**	*i*	P		**Pb**	**05 12 54.7**	**-0.2**
	baz=296							
TWE			*i*	S		**Sn**	**05 13 10.2**	**-0.9**
	baz=296							
TIPB	**Shuangxi**	**1.23 311**		P		**Pn**	**05 12 54.8**	**-0.3**
	baz=326							
TIPB			*e*	S		**Sn**	**05 13 10.5**	**-1.1**
	baz=326							
ETLH	**Xiulin Townshi**	**1.24 272**		P		**Pb**	**05 12 55.7**	**+0.1**
	baz=270							
ETLH				S		**Sg**	**05 13 13.4**	**+1.0**
	baz=270							
ETM	**Tongmen**	**1.25 261**		P		**Pn**	**05 12 55.1**	**-0.3**
	baz=259							
ETM				S		**Sb**	**05 13 11.4**	**-0.1**
	baz=259							
ENTT	**Nioudou**	**1.26 293**	*i*	P		**Pb**	**05 12 55.6**	**-0.2**
	baz=303							
ENTT			*i*	S		**Sg**	**05 13 12.3**	**-0.4**
	baz=303							
TEGC	**Jichi Village**	**1.27 250**	*e*	S		**Sn**	**05 13 12.7**	**+0.2**
	baz=247							
NDT	**Datong Townshi**	**1.29 290**		P		**Pb**	**05 12 56.2**	**-0.1**
	baz=288							
NDT				S		**Sg**	**05 13 13.6**	**-0.2**
	baz=288							
NWF	**Wu-fen Shan**	**1.32 313**	*i*	P		**Pn**	**05 12 56.1**	**-0.4**
	baz=312							
NWF				S		**Sb**	**05 13 13.3**	**-0.6**
	baz=312							
WFSB	**Wu-fen Shan**	**1.32 313**		P		**Pn**	**05 12 56.0**	**-0.5**
	baz=312							
WFSB				S		**Sb**	**05 13 13.4**	**-0.5**
	baz=312							
ESL	**Shilin**	**1.33 255**	*i*	P		**Pn**	**05 12 55.6**	**-0.9**
	baz=242							
ESL			*e*	S		**Sn**	**05 13 12.7**	**-1.4**
	baz=242							
NNSH	**Datong**	**1.36 282**	*e*	P		**Pb**	**05 12 58.1**	**+0.6**
	baz=279							
NNSH				S		**Sg**	**05 13 15.7**	**-0.3**
	baz=279							
NNSB	**Datong**	**1.36 282**	⇑	P		**Pb**	**05 12 57.5**	**0.0**
	baz=279							
NNSB				S		**Sb**	**05 13 15.2**	**+0.3**
	baz=279							
NWLT	**Wulai**	**1.37 297**	*e*	P		**Pg**	**05 12 58.4**	**-0.1**
	baz=311							
NWLT			*i*	S		**Sb**	**05 13 14.8**	**-0.2**
	baz=311							
NNS	**Nan Shan**	**1.37 282**	*i*	P		**Pb**	**05 12 58.2**	**+0.5**
	baz=280							
NNS			*i*	S		**Sg**	**05 13 16.3**	**-0.1**
	baz=280							
EGFH	**Guangfu**	**1.38 250**	*i*	P		**Pn**	**05 12 57.0**	**-0.2**
	baz=247							
EGFH			*e*	S		**Sn**	**05 13 14.7**	**-0.7**
	baz=247							
TNOU	**National Taiwa**	**1.39 316**		P		**Pn**	**05 12 56.2**	**-1.1**
	baz=328							
TNOU			*e*	S		**Sn**	**05 13 14.1**	**-1.3**
	baz=328							
JISG	**Ishigakijimahi**	**1.41 72**		P		**Pn**	**05 12 56.7**	**-0.8**
JISG				S		**Sn**	**05 13 15.3**	**-0.6**
TWA	**Mucha**	**1.41 306**		P		**Pb**	**05 12 57.8**	**-0.6**
	baz=320							
TWA			*e*	S		**Sg**	**05 13 16.5**	**-1.1**
	baz=320							
YHNB	**Yeheng**	**1.43 291**	⇑	P		**Pb**	**05 12 58.9**	**+0.2**
	baz=300							
YHNB				S		**Sb**	**05 13 17.2**	**+0.3**
	baz=300							
NHDH	**Xindian Distri**	**1.44 304**	*e*	P		**Pb**	**05 12 58.6**	**-0.3**
	baz=318							
NHDH			*e*	S		**Sb**	**05 13 16.3**	**-0.8**
	baz=318							
NSK	**Sanguang**	**1.45 291**	*i*	P		**Pb**	**05 12 59.1**	**+0.1**
	baz=301							
NSK			*i*	S		**Sb**	**05 13 17.3**	**-0.1**
	baz=301							
NHY	**Taipei**	**1.45 307**	*e*	P		**Pn**	**05 12 57.9**	**-0.3**
	baz=321							
NHY			*e*	S		**Sn**	**05 13 16.0**	**-1.1**
	baz=321							
HGSD	**Ruisui**	**1.46 243**	⇑	P		**Pn**	**05 12 57.1**	**-1.1**
	baz=241							
HGSD				S		**Sn**	**05 13 17.0**	**-0.2**
	baz=241							
FUSS	**Fushou**	**1.46 274**	*i*	P		**Pb**	**05 12 59.6**	**+0.2**
	baz=271							
FUSS			*e*	S		**Sn**	**05 13 17.4**	**-0.3**
	baz=271							
TATO	**Taipei**	**1.48 304**		P		**Pn**	**05 12 58.6**	**+0.1**
	baz=317							
TATO				S		**Sb**	**05 13 18.1**	**-0.1**
	baz=317							
TAP1	**Taipei**	**1.49 306**	*e*	S		**Sb**	**05 13 18.1**	**-0.3**
	baz=319							
TAP	**Taipei**	**1.50 306**	*e*	P		**Pb**	**05 12 59.7**	**-0.2**
	baz=319							
TAP				S		**Sb**	**05 13 17.7**	**-1.1**
	baz=319							
YM01	**YM01**	**1.52 311**		P		**Pn**	**05 12 58.7**	**-0.4**
	baz=309							
YM01			*e*	S		**Sn**	**05 13 17.5**	**-1.3**
	baz=309							
BACT	**New Taipei Cit**	**1.52 304**	*e*	P		**Pb**	**05 13 00.7**	**+0.4**
	baz=302							
TWT	**Tachien**	**1.52 274**		P		**Pb**	**05 13 00.9**	**+0.5**
	baz=271							
TWT			*e*	S		**Sb**	**05 13 20.5**	**+0.8**
	baz=271							
CHGB	**Renai**	**1.53 267**	⇑	P		**Pn**	**05 12 59.8**	**+0.4**
	baz=264							
CHGB			*e*	S		**Sb**	**05 13 20.1**	**+0.2**
	baz=264							
YM08	**YM08**	**1.53 312**	*e*	P		**Pn**	**05 12 59.4**	**+0.1**
	baz=311							
YM08				S		**Sn**	**05 13 17.9**	**-1.2**
	baz=311							
EHY	**Hungye**	**1.54 245**	⇑	*i*	P	**Pn**	**05 12 58.8**	**-0.6**
	baz=243							
EHY			*i*	S		**Sn**	**05 13 17.9**	**-1.2**
	baz=243							
OWD	**Renai**	**1.54 263**	*e*	P		**Pn**	**05 12 59.9**	**+0.4**
	baz=260							
OWD			*e*	S		**Sn**	**05 13 19.4**	**0.0**
	baz=260							
TDCB	**Techi**	**1.54 274**		P		**Pb**	**05 13 00.6**	**0.0**
	baz=272							
TDCB			*e*	S		**Sn**	**05 13 19.1**	**-0.3**
	baz=272							
ANP	**Anpu**	**1.58 311**	*e*	S		**Sn**	**05 13 18.9**	**-1.4**
	baz=309							
TWY	**Chenhua**	**1.58 315**	*e*	P		**Pn**	**05 13 00.2**	**+0.2**
	baz=313							
TWY			*e*	S		**Sn**	**05 13 19.2**	**-1.1**
	baz=313							
TWS1	**Kuangyinshan**	**1.60 306**		P		**Pb**	**05 13 01.1**	**-0.5**
	baz=318							
TWS1			*e*	S		**Sn**	**05 13 19.9**	**-0.8**
	baz=318							
YULB	**Yu-li**	**1.61 242**		P		**Pn**	**05 12 59.9**	**-0.4**
	baz=240							
YULB				S		**Sn**	**05 13 19.7**	**-1.3**
	baz=240							
EYUL	**Yuli**	**1.61 240**	*e*	P		**Pn**	**05 12 59.6**	**-0.8**
	baz=238							
EYUL			*e*	S		**Sn**	**05 13 20.7**	**-0.3**
	baz=238							
TWF1	**Yuli**	**1.63 241**	*i*	P		**Pn**	**05 12 59.8**	**-0.7**
	baz=238							
TWF1				S		**Sn**	**05 13 21.0**	**-0.4**
	baz=238							
NCU	**National Centr**	**1.71 299**		P		**Pn**	**05 13 02.1**	**+0.5**
	baz=313							
NCU			*e*	S		**Sb**	**05 13 23.9**	**-1.0**
	baz=313							
FULB	**Fuli**	**1.71 236**		P		**Pn**	**05 13 00.6**	**-1.1**
	baz=221							
FULB				S		**Sn**	**05 13 22.9**	**-0.6**
	baz=221							
NCUH	**Zhongli**	**1.71 298**	*e*	P		**Pb**	**05 13 02.6**	**-0.9**
	baz=313							
NCUH			*e*	S		**Sb**	**05 13 24.2**	**-0.7**
	baz=313							
CHKT	**Chengkung**	**1.72 232**	*i*	P		**Pn**	**05 13 00.2**	**-1.6**
	baz=216							
CHKT			*e*	S		**Sn**	**05 13 20.2**	**-3.4**
	baz=216							
LIOB	**Emei**	**1.73 287**	*e*	P		**Pg**	**05 13 05.0**	**-0.5**
	baz=272							
LIOB			*e*	S		**Sb**	**05 13 25.5**	**-0.1**
	baz=272							
WHP	**Taichung City**	**1.73 274**		P		**Pb**	**05 13 03.6**	**-0.3**
	baz=272							
WHP			*e*	S		**Sb**	**05 13 26.4**	**+0.7**
	baz=272							
NSTT	**Nanjuang**	**1.74 286**	*i*	P		**Pb**	**05 13 04.2**	**+0.2**
	baz=272							
NSTT			*e*	S		**Sb**	**05 13 25.3**	**-0.6**
	baz=272							
DPDB	**Guoxing**	**1.75 266**		P		**Pn**	**05 13 03.5**	**+1.1**
	baz=264							
DPDB			*e*	S		**Sn**	**05 13 24.8**	**+0.2**
	baz=264							
JTJ	**Tarama**	**1.76 74**		P		**Pn**	**05 13 02.3**	**-0.1**
SSLB	**Suanglung**	**1.77 258**	⇑	P		**Pn**	**05 13 02.5**	**-0.1**
	baz=256							
SSLB				S		**Sn**	**05 13 24.4**	**-0.4**
	baz=256							
WCS	**Beigang Elemen**	**1.77 267**	*e*	P		**Pb**	**05 13 03.9**	**-0.5**
	baz=265							
WCS			*e*	S		**Sb**	**05 13 25.7**	**-0.8**
	baz=265							
HSN1	**Hsinchu**	**1.77 291**	*e*	P		**Pb**	**05 13 04.9**	**+0.3**
	baz=308							
HSN1			*e*	S		**Sb**	**05 13 27.1**	**+0.4**
	baz=308							
SMLT	**Sun Moon Lake**	**1.80 262**	⇑	*i*	P	**Pn**	**05 13 03.8**	**+0.8**
	baz=259							
SMLT			*i*	S		**Sn**	**05 13 26.6**	**+0.9**
	baz=259							
SBCB	**Hsinchu**	**1.81 291**	*e*	P		**Pb**	**05 13 04.1**	**-1.0**
	baz=308							
SBCB			*e*	S		**Sb**	**05 13 27.5**	**-0.1**
	baz=308							
HSN	**Hsinchu**	**1.82 291**	*e*	P		**Pn**	**05 13 03.7**	**+0.5**
	baz=309							
HSN			*e*	S		**Sb**	**05 13 26.6**	**-1.5**
	baz=309							
ECS	**Chishang**	**1.83 235**	*e*	P		**Pn**	**05 13 01.9**	**-1.4**
	baz=219							
ECS				S		**Sn**	**05 13 25.8**	**-0.5**
	baz=219							
TYC	**Yuchr**	**1.83 262**	⇑	*i*	P	**Pn**	**05 13 04.1**	**+0.7**
	baz=260							
TYC			*e*	S		**Sn**	**05 13 26.3**	**-0.1**
	baz=260							
EDH	**Donghe**	**1.84 230**	*e*	P		**Pn**	**05 13 01.9**	**-1.6**
	baz=216							
EDH				S		**Sn**	**05 13 24.0**	**-2.7**
	baz=216							
WHYT	**Xinyi Township**	**1.88 256**	*e*	P		**Pb**	**05 13 06.1**	**-0.2**
	baz=240							
WHYT				S		**Sn**	**05 13 28.3**	**+0.7**
	baz=240							
NMLH	**Miaoli**	**1.91 282**	*e*	P		**Pb**	**05 13 07.3**	**+0.4**
	baz=280							
NMLH			*e*	S		**Sb**	**05 13 30.6**	**0.0**
	baz=280							
NSY	**Sanyi**	**1.92 278**	*i*	P		**Pb**	**05 13 07.1**	**+0.1**
	baz=276							
NSY			*e*	S		**Sb**	**05 13 30.0**	**-0.8**
	baz=276							
ELDTW	**Lidau**	**1.93 240**	⇑	*i*	P	**Pn**	**05 13 04.2**	**-0.7**
	baz=238							
ELDTW			*i*	S		**Sn**	**05 13 28.3**	**-0.8**
	baz=238							
LDUT	**Ludao**	**1.94 221**	*e*	P		**Pn**	**05 13 03.6**	**-1.3**
	baz=219							
LDUT				S		**Sn**	**05 13 26.5**	**-2.7**
	baz=219							
WJS	**Zhushan**	**1.96 261**	*e*	P		**Pb**	**05 13 08.1**	**+0.3**
	baz=259							
WWF	**Wufeng**	**1.96 267**		P		**Pb**	**05 13 07.8**	**+0.1**
	baz=265							
WWF			*e*	S		**Sb**	**05 13 33.7**	**+1.6**
	baz=265							
ALS	**Alishan**	**1.97 251**	*i*	P		**Pn**	**05 13 06.6**	**+1.0**
	baz=249							
ALS				S		**Sn**	**05 13 30.1**	**-0.3**
	baz=249							
TCU	**Taichung**	**1.98 270**	*e*	P		**Pb**	**05 13 07.3**	**-0.8**
	baz=268							
TCU			*e*	S		**Sb**	**05 13 32.1**	**-0.5**
	baz=268							
WNT	**Mingjian**	**1.99 262**		P		**Pb**	**05 13 07.9**	**-0.4**
	baz=260							
WNT				S		**Sb**	**05 13 32.9**	**-0.2**
	baz=260							
WNT1	**Nantou City**	**1.99 263**		P		**Pb**	**05 13 08.1**	**-0.2**
	baz=261							
WNT1				S		**Sb**	**05 13 33.5**	**+0.5**
	baz=261							
LONT	**Longtian**	**2.00 232**	*e*	P		**Pn**	**05 13 05.0**	**-0.7**
	baz=220							
LONT			*e*	S		**Sn**	**05 13 30.1**	**-0.6**
	baz=220							
WDJ	**Dajia District**	**2.02 276**	*e*	P		**Pb**	**05 13 08.1**	**-0.6**
	baz=274							
WDJ			*e*	S		**Sb**	**05 13 34.1**	**+0.3**
	baz=274							
CHN5	**Tsauling**	**2.06 255**		P		**Pn**	**05 13 07.7**	**+1.2**
	baz=240							
CHN5				S		**Sn**	**05 13 32.9**	**+0.8**
	baz=240							
WYL	**Yuanlin Townsh**	**2.08 265**	*e*	P		**Pb**	**05 13 09.6**	**-0.1**
	baz=264							
WCHH	**Zhanghua**	**2.09 268**	*e*	P		**Pb**	**05 13 09.3**	**-0.7**
	baz=266							
WCHH			*e*	S		**Sb**	**05 13 34.9**	**-0.9**
	baz=266							
TTN	**Taitung**	**2.09 228**	*e*	P		**Pn**	**05 13 07.4**	**+0.5**
	baz=214							
TTN			*e*	S		**Sn**	**05 13 31.5**	**-1.3**
	baz=214							
TWGBT	**Beinan**	**2.10 231**	*e*	P		**Pn**	**05 13 06.1**	**-0.9**
	baz=220							
TWGBT			*e*	S		**Sn**	**05 13 31.6**	**-1.4**
	baz=220							
TWG	**Pinlang**	**2.10 231**		P		**Pn**	**05 13 06.0**	**-1.0**
	baz=220							
TWG				S		**Sn**	**05 13 31.7**	**-1.4**
	baz=220							
STYH	**Taoyuan**	**2.13 243**	*e*	P		**Pn**	**05 13 08.3**	**+0.8**
	baz=232							
STYH			*e*	S		**Sn**	**05 13 32.9**	**-0.9**
	baz=232							
WGK	**Gukeng**	**2.14 258**		P		**Pb**	**05 13 10.1**	**-0.7**
	baz=256							
WGK			*e*	S		**Sb**	**05 13 36.3**	**-0.9**
	baz=256							
STYT	**Tauyuan**	**2.15 243**		P		**Pn**	**05 13 08.2**	**+0.3**
	baz=232							
STYT				S		**Sn**	**05 13 34.4**	**-0.1**
	baz=232							
WDLH	**Douliu**	**2.16 258**	*e*	P		**Pb**	**05 13 10.3**	**-0.9**
	baz=256							
WDLH			*e*	S		**Sb**	**05 13 38.3**	**+0.5**
	baz=256							
TPUB	**Ta-pu**	**2.20 248**	⇑	P		**Pn**	**05 13 10.0**	**+1.5**
	baz=245							
TPUB				S		**Sb**	**05 13 37.7**	**-1.4**
	baz=245							
CHN4	**Tsaushan**	**2.21 249**	*i*	P		**Pn**	**05 13 10.0**	**+1.4**
	baz=247							
CHN4				S		**Sb**	**05 13 38.0**	**-1.3**
	baz=247							
WTP	**Ta-pu**	**2.23 246**	*i*	P		**Pn**	**05 13 10.3**	**+1.3**
	baz=244							
WTP				S		**Sb**	**05 13 38.7**	**-1.4**
	baz=244							
CHN2	**Minshiung**	**2.25 254**		P		**Pb**	**05 13 11.7**	**-1.0**
	baz=253							
CHN2			*e*	S		**Sb**	**05 13 40.6**	**0.0**
	baz=253							
WRL	**Guolierlin Hig**	**2.27 264**	*e*	P		**Pn**	**05 13 11.0**	**+1.6**
	baz=262							
WRL			*e*	S		**Sb**	**05 13 40.9**	**-0.1**
	baz=262							
WTK	**Tuku**	**2.29 259**	*e*	P		**Pb**	**05 13 12.4**	**-1.0**
	baz=257							
WTK			*e*	S		**Sb**	**05 13 41.4**	**-0.3**
	baz=257							
CHY	**Chiayi**	**2.31 254**	*e*	P		**Pn**	**05 13 12.1**	**+2.1**
	baz=252							
CHY			*e*	S		**Sb**	**05 13 40.9**	**-1.3**
	baz=252							
SLGT	**Liugui**	**2.32 241**	*e*	P		**Pn**	**05 13 11.9**	**+1.7**
	baz=230							
SLGT			*e*	S		**Sn**	**05 13 40.9**	**+2.2**
	baz=230							
JMJ	**Miyako jima 2**	**2.33 73**	*e*	P		**Pn**	**05 13 11.5**	**+1.3**
	baz=76							
JMJ			*e*	S		**Sn**	**05 13 39.1**	**+0.5**
	baz=76							
ECL	**Taimali**	**2.33 229**	*e*	P		**Pn**	**05 13 09.0**	**-1.2**
	baz=226							
ECL				S		**Sn**	**05 13 37.1**	**-1.5**
	baz=226							
CHN1	**Nanshi**	**2.33 246**		P		**Pn**	**05 13 12.0**	**+1.7**
	baz=244							
CHN1			*e*	S		**Sn**	**05 13 40.7**	**+1.9**
	baz=244							
SGST	**Jiashian**	**2.33 243**	*e*	P		**Pn**	**05 13 11.1**	**+0.8**
	baz=229							
SGST				S		**Sn**	**05 13 40.5**	**+1.7**
	baz=229							
TWK	**Hsinying**	**2.33 248**		P		**Pn**	**05 13 12.0**	**+1.7**
	baz=246							
TWK				S		**Sn**	**05 13 41.2**	**+2.3**
	baz=246							
SNST	**Tainan City**	**2.34 247**	*e*	P		**Pb**	**05 13 13.0**	**-1.3**
	baz=245							
SNST			*e*	S		**Sn**	**05 13 41.1**	**+2.1**
	baz=245							
LAY	**Lan-yu**	**2.42 210**	*e*	P		**Pn**	**05 13 09.6**	**-2.0**
	baz=208							
LAY			*e*	S		**Sn**	**05 13 39.4**	**-1.6**
	baz=208							
WSF	**Szhu**	**2.45 258**		P		**Pn**	**05 13 14.1**	**+2.2**
	baz=257							
WSF			*e*	S		**Sb**	**05 13 44.5**	**-1.7**
	baz=257							
SSD	**Sandimen**	**2.47 236**	*e*	P		**Pn**	**05 13 13.5**	**+1.4**
	baz=227							
SSD			*e*	S		**Sn**	**05 13 44.3**	**+2.1**
	baz=227							
ICHU	**Yijhu**	**2.48 252**	*e*	P		**Pn**	**05 13 13.9**	**+1.6**
	baz=251							
TSMG	**Majia**	**2.48 235**	*e*	P		**Pn**	**05 13 14.1**	**+1.8**
	baz=226							
TSMG			*e*	S		**Sn**	**05 13 44.0**	**+1.5**
	baz=226							
SCST	**Cishan**	**2.50 240**	*e*	P		**Pb**	**05 13 16.1**	**-0.9**
	baz=225							
SCST			*e*	S		**Sb**	**05 13 46.0**	**-1.7**
	baz=225							
CHN3	**Shinhua**	**2.51 245**	*e*	S		**Sb**	**05 13 48.2**	**+0.2**
	baz=243							
CHN8	**Yiju**	**2.54 252**	*e*	P		**Pn**	**05 13 14.7**	**+1.5**
	baz=250							
CHN8			*e*	S		**Sb**	**05 13 47.7**	**-1.2**
	baz=250							
EAST	**Anshuo**	**2.55 226**	*e*	P		**Pn**	**05 13 12.1**	**-1.1**
	baz=224							
EAST			*e*	S		**Sn**	**05 13 42.6**	**-1.6**
	baz=224							
MASBT	**Mashibuluo**	**2.55 233**	*e*	P		**Pn**	**05 13 13.5**	**+0.3**
	baz=224							
MASBT			*e*	S		**Sn**	**05 13 46.3**	**+2.2**
	baz=224							
TWM1	**Shoushan**	**2.59 240**		P		**Pb**	**05 13 17.2**	**-1.3**
	baz=238							
TWM1			*e*	S		**Sb**	**05 13 50.0**	**-0.3**
	baz=238							
SCLT	**Jiali**	**2.62 249**	*e*	P		**Pb**	**05 13 17.2**	**-1.7**
	baz=248							
SNJT	**Kaohsiung City**	**2.69 239**	*e*	P		**Pn**	**05 13 16.9**	**+1.7**
	baz=238							
SNJT			*e*	S		**Sb**	**05 13 51.4**	**-1.8**
	baz=238							
SLIU	**Shizi**	**2.70 225**	*e*	P		**Pn**	**05 13 15.0**	**-0.2**
	baz=222							
SLIU			*e*	S		**Sn**	**05 13 46.9**	**-0.9**
	baz=222							
SCZT	**Fangliau**	**2.71 229**	*e*	P		**Pn**	**05 13 17.2**	**+1.8**
	baz=219							
SCZT			*e*	S		**Sn**	**05 13 48.5**	**+0.5**
	baz=219							
TSEB	**Hengchuen, Pin**	**2.87 219**	*e*	S		**Sn**	**05 13 52.0**	**-0.2**
	baz=217							
HEN	**Hengchun**	**2.89 223**	*e*	P		**Pn**	**05 13 20.4**	**+2.5**
	baz=220							
HEN			*e*	S		**Sn**	**05 13 52.8**	**+0.3**
	baz=220							
TWKBT	**Hengchun**	**2.89 221**	*e*	P		**Pn**	**05 13 18.6**	**+0.7**
	baz=218							
TWKBT			*e*	S		**Sn**	**05 13 53.1**	**+0.5**
	baz=218							
WLCH	**Liuqiu**	**2.89 232**	*e*	P		**Pb**	**05 13 22.9**	**-0.7**
	baz=225							
TWK1	**Hengchun**	**2.89 221**	*e*	P		**Pn**	**05 13 18.6**	**+0.7**
	baz=218							
TWK1			*e*	S		**Sn**	**05 13 53.1**	**+0.4**
	baz=218							
WDGT	**Dungji**	**3.05 254**	*e*	P		**Pn**	**05 13 21.5**	**+1.4**
	baz=252							
WDGT			*e*	S		**Sn**	**05 13 57.6**	**+1.1**
	baz=252							
PHUB	**P'eng-hu**	**3.06 259**	*e*	P		**Pn**	**05 13 20.4**	**+0.1**
	baz=257							
PHUB			*e*	S		**Sn**	**05 13 57.9**	**+1.1**
	baz=257							
PNG	**Penghu**	**3.06 260**	*e*	P		**Pn**	**05 13 21.5**	**+1.2**
	baz=258							
PNG			*e*	S		**Sn**	**05 13 58.2**	**+1.3**
	baz=258							
VWUC	**VWUC**	**3.20 286**	*e*	P		**Pn**	**05 13 22.9**	**+0.8**
	baz=285							
VWUC			*e*	S		**Sn**	**05 14 00.8**	**+0.6**
	baz=285							
VCHM	**Qimei**	**3.27 254**	*e*	P		**Pn**	**05 13 24.6**	**+1.5**
	baz=253							
VCHM			*e*	S		**Sn**	**05 14 02.2**	**+0.3**
	baz=253							
PTMZ	**Houxiangcun**	**3.50 285**	*e*	P		**Pn**	**05 13 27.8**	**+1.5**
	baz=284							
PTMZ			*e*	S		**Sn**	**05 14 08.4**	**+0.9**
	baz=284							
XPSS	**Dashiqiu**	**3.65 320**	*e*	P		**Pn**	**05 13 28.6**	**+0.2**
	baz=319							
XPSS			*e*	S		**Sn**	**05 14 10.7**	**-0.7**
	baz=319							
LYJJ	**Jianjiangzhen**	**3.67 311**	*e*	P		**Pn**	**05 13 28.6**	**0.0**
	baz=310							
LYJJ			*e*	S		**Sn**	**05 14 09.9**	**-1.8**
	baz=310							
MHZQ	**Yeshan**	**3.96 300**	*e*	P		**Pn**	**05 13 32.9**	**+0.3**
	baz=310							
KNM	**Kinmen**	**4.03 275**	*e*	P		**Pn**	**05 13 35.7**	**+2.1**
	baz=261							
KNM			*e*	S		**Sn**	**05 14 22.1**	**+1.4**
	baz=261							
KNMB	**Chin-men Tao**	**4.07 275**	*e*	P		**Pn**	**05 13 34.9**	**+0.7**
	baz=274							
KNMB			*e*	S		**Sn**	**05 14 21.0**	**-0.8**
	baz=274							
AXDP	**Jialang**	**4.50 280**	*e*	P		**Pn**	**05 13 41.7**	**+1.7**
	baz=279							
AXDP			*e*	S		**Sn**	**05 14 31.5**	**-0.7**
	baz=279							
ZPLA	**Ao Xicun**	**4.66 268**	*e*	P		**Pn**	**05 13 43.1**	**+0.9**
	baz=267							
ZPLA			*e*	S		**Sn**	**05 14 34.1**	**-2.2**
	baz=267							
KSRS	**Korea Array**	**13.95 17**		LR		LR	05 22 30.3	
	comp=Z,49nm,18.7s,baz=135,slow=43							
USRK	**Ussuriysk Ar.**	**21.35 18**		P		**P**	**05 17 18.5**	**-0.5**
	2.4nm,0.6s,baz=200,slow=10,SNR=7.3							
CMAR	**Chiang Mai Arr**	**22.96 260**		LR		LR	05 27 21.6	
	comp=Z,92nm,18.7s,baz=150,slow=39							

KLR Kul'dur 25.99 13 P **P 05 18 03.7 -0.8**
2.7nm,0.8s,baz=214,slow=7.2,SNR=6.0
SONM Songino Array 27.00 335 P **P 05 18 13.4 -0.6**
1.2nm,0.6s,baz=153,slow=9.1,SNR=8.1
MKAR Makanchi Array 39.41 315 P **P 05 20 01.8 -0.1**
0.8nm,0.6s,baz=103,slow=9.5,SNR=7.2
MKAR LR LR 05 37 34.9
comp=Z,50nm,18.8s,baz=112,slow=38
ZALV Zalesovo Beam 41.10 326 P **P 05 20 13.7 -1.9**
0.5nm,0.3s,baz=104,slow=10.0,SNR=3.7
KURBB Kurchatov Arra 43.11 319 P **P 05 20 31.3 -0.8**
0.2nm,0.4s,baz=109,slow=9.8,SNR=4.1
WRA Warramunga Arr 45.24 165 P **P 05 20 50.0 +0.6**
2.9nm,0.7s,baz=346,slow=8.8,SNR=15
ASAR Alice Springs 48.74 166 P **P 05 21 17.8 +1.0**
1.0nm,0.6s,baz=350,slow=6.5,SNR=12
STKA Stephens Creek 58.53 161 P **P 05 22 29.3 +0.9**
0.8nm,0.3s,baz=330,slow=7.2,SNR=3.5
ILAR Eielson Array 68.54 27 P **P 05 23 34.6 +0.4**
0.3nm,0.5s,baz=275,slow=5.0,SNR=4.4
INK Inuvik 72.68 22 P **P 05 23 59.2 -0.1**
1.2nm,0.6s,baz=267,slow=3.5,SNR=4.1
DLBC Dease Lake 78.19 31 P **P 05 24 32.6 +1.3**
2.0nm,0.8s,baz=305,slow=8.4,SNR=4.5
DLBC LR LR 06 01 56.0
comp=Z,26nm,19.1s,baz=70,slow=38
YKA Yellowknife Ar 82.40 23 P **P 05 24 53.6 -0.1**
1.4nm,0.7s,baz=314,slow=4.4,SNR=8.3
NVAR Mina Array Bea 95.41 44 P **P 05 25 57.9 +0.9**
0.4nm,0.6s,baz=314,slow=5.6,SNR=6.0

*INET **16** 05:20:22.0, 12°.48N×88°.52W, h16km, MW3.9*
*GCG **16** 05:20:27.5±0.3, 12°.07N×89°.24W, h147km±106km, MD4.2*
*UCR **16** 05:20:29.6±2.0, 12°.69N×88°.51W, h20km±10km, ML4.2, MW4.1, mb4.2(NEIC)*
*SNET **16** 05:20:30.3±1.0, 12°.74N×88°.42W, h49km±18km, ML4.3*
*IDC **16** 05:20:30.4±2.0, 12°.72N×88°.34W, h58km±25km, mb3.4/5, mb1 3.8/7, mb1mx3.5/43, mbtmp3.7/7, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=84.0km s-min=11.9km az=40.0*
*NEIC **16** 05:20:31.2±1.1, 12°.79N±0°.08×88°.35W±0°.06, h61km±13km, mb4.2/6, Md4.3(SNET), Error ellipse: s-maj=12.8km s-min=6.9km az=211.0*
ISC 16 05:20:30.6±1.0, 12°.78N±0°.06×88°.37W±0°.04, h55km±10km, n118, σ0°92/134, mb3.9/8, 9C-12D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**341**	⇓iP	**Pn**	**05 20 42.9**	**-0.2**
ALJI				eS	**Sn**	**05 20 52.8**	**+0.5**
ALJI				IAML		05 20 54.7	
comp=Z,11μm,0.2s							
ALJI	**Alcalda de J**	**0.58**	**341**	⇓iP	**Pn**	**05 20 42.9**	**-0.2**
ALJI				eS	**Sn**	**05 20 52.8**	**+0.5**
ALJI				IAML		05 20 54.7	
comp=Z,11μm,0.2s							
LCY	**Lacayo**	**0.65**	**7**	⇓iP	**Pn**	**05 20 44.0**	**-0.1**
LCY	**Lacayo**	**0.65**	**7**	⇓iP	**Pn**	**05 20 44.0**	**-0.1**
PACA	**Pacayal**	**0.69**	**4**	eP	**Pn**	**05 20 44.6**	**0.0**
PACA				eS	**Sn**	**05 20 55.8**	**+0.9**
PACA	**Pacayal**	**0.69**	**4**	eP	**Pn**	**05 20 44.6**	**0.0**
PACA				eS	**Sn**	**05 20 55.8**	**+0.9**
LCND	**La Caada**	**0.71**	**42**	⇓eP	**Pn**	**05 20 44.2**	**-0.6**
LCND				eS	**Sn**	**05 20 56.9**	**+1.9**
LCND				IAML		05 20 60.0	
comp=Z,7μm,0.3s							
LCND	**La Caada**	**0.71**	**42**	⇓eP	**Pn**	**05 20 44.2**	**-0.6**
LCND				eS	**Sn**	**05 20 56.9**	**+1.9**
LCND				IAML		05 20 60.0	
comp=Z,7μm,0.3s							
CNRM	**Centro Naciona**	**0.72**	**16**	eP	**Pn**	**05 20 44.8**	**-0.2**
CNRM	**Centro Naciona**	**0.72**	**16**	eP	**Pn**	**05 20 44.8**	**-0.2**
CNCH	**Conchagua**	**0.72**	**47**	eP	**Pn**	**05 20 44.5**	**-0.5**
CNCH	**Conchagua**	**0.72**	**47**	eP	**Pn**	**05 20 44.5**	**-0.5**
TECA	**Tecapa**	**0.72**	**350**	⇓iP	**Pn**	**05 20 44.9**	**-0.3**
TECA	**Tecapa**	**0.72**	**350**	⇓iP	**Pn**	**05 20 44.9**	**-0.3**
COEB	**Comit de Eme**	**0.73**	**348**	⇓iP	**Pn**	**05 20 44.8**	**-0.4**
COEB				eS	**Sn**	**05 20 56.0**	**+0.3**
COEB				IAML		05 20 58.9	
comp=Z,7μm,0.5s							
COEB	**Comit de Eme**	**0.73**	**348**	⇓iP	**Pn**	**05 20 44.8**	**-0.4**
COEB				eS	**Sn**	**05 20 56.0**	**+0.3**
COEB				IAML		05 20 58.9	
comp=Z,7μm,0.5s							
TECO	**Alcaldia de Te**	**0.85**	**332**	eP	**Pn**	**05 20 46.0**	**-0.6**
PQSS	**Presa 15 de Se**	**0.86**	**348**	eP	**Pn**	**05 20 46.8**	**+0.1**
UESV	**Universidad de**	**0.95**	**335**	eP	**Pn**	**05 20 47.7**	**-0.1**
UESV	**Universidad de**	**0.95**	**335**	eP	**Pn**	**05 20 47.7**	**-0.1**
COEG	**Centro de Oper**	**0.97**	**330**	eP	**Pn**	**05 20 47.9**	**-0.3**
COEG				IAML		05 21 07.8	
comp=Z,9μm,0.3s							
COEG	**Centro de Oper**	**0.97**	**330**	eP	**Pn**	**05 20 47.9**	**-0.3**
COEG				IAML		05 21 07.8	
comp=Z,9μm,0.3s							
SJTE	**Alcalda de S**	**1.04**	**324**	⇑iP	**Pn**	**05 20 48.7**	**-0.4**
SJTE	**Alcalda de S**	**1.04**	**324**	⇑iP	**Pn**	**05 20 48.7**	**-0.4**
PAVA	**Las Pavas**	**1.08**	**330**	eP	**Pn**	**05 20 49.8**	**+0.1**
PAVA				eS	**Sn**	**05 21 04.7**	**+0.8**
PAVA	**Las Pavas**	**1.08**	**330**	eP	**Pn**	**05 20 49.8**	**+0.1**
PAVA				eS	**Sn**	**05 21 04.7**	**+0.8**
LBRS	**Las Brisas**	**1.16**	**326**	eP	**Pn**	**05 20 50.9**	**+0.2**
LBRS	**Las Brisas**	**1.16**	**326**	eP	**Pn**	**05 20 50.9**	**+0.2**
LALI	**Alcalda de L**	**1.16**	**308**	eP	**Pn**	**05 20 49.8**	**-0.9**
LALI	**Alcalda de L**	**1.16**	**308**	eP	**Pn**	**05 20 49.8**	**-0.9**
AEIL	**Aeropuerto Ilo**	**1.17**	**322**	eP	**Pn**	**05 20 50.9**	**+0.1**
AEIL				IAML		05 21 10.5	
comp=Z,8μm,0.3s							
AEIL	**Aeropuerto Ilo**	**1.17**	**322**	eP	**Pn**	**05 20 50.9**	**+0.1**
AEIL				IAML		05 21 10.5	
comp=Z,8μm,0.3s							
UDBS	**Universidad Do**	**1.21**	**321**	eP	**Pn**	**05 20 51.0**	**-0.3**
UDBS	**Universidad Do**	**1.21**	**321**	eP	**Pn**	**05 20 51.0**	**-0.3**
IGN	**Direccin Gen**	**1.21**	**320**	eP	**Pn**	**05 20 51.2**	**-0.2**
IGN	**Direccin Gen**	**1.21**	**320**	eP	**Pn**	**05 20 51.2**	**-0.2**
SNET	**Serv Nac Est T**	**1.23**	**317**	eP	**Pn**	**05 20 51.3**	**-0.4**
SNET				IAML		05 21 12.7	
comp=Z,5μm,0.3s							
SNET	**Serv Nac Est T**	**1.23**	**317**	eP	**Pn**	**05 20 51.3**	**-0.4**
SNET				IAML		05 21 12.7	
comp=Z,5μm,0.3s							
SNET	**Serv Nac Est T**	**1.23**	**317**		**Pn**	**05 20 51.2**	**-0.5**
UEES	**Universidad Ev**	**1.26**	**318**	eP	**Pn**	**05 20 51.8**	**-0.3**
UEES	**Universidad Ev**	**1.26**	**318**	eP	**Pn**	**05 20 51.8**	**-0.3**
CRIN	**San Cristobal**	**1.29**	**93**		**Pn**	**05 20 52.2**	**-0.3**
CRIN				Sn	**Sn**	**05 21 09.0**	**+0.2**
BOQS	**Boqueron**	**1.30**	**317**	eP	**Pn**	**05 20 52.6**	**-0.1**
BOQS	**Boqueron**	**1.30**	**317**	eP	**Pn**	**05 20 52.6**	**-0.1**
PMON	**Piamonte**	**1.31**	**316**	⇓iP	**Pn**	**05 20 52.5**	**-0.2**
PMON				eS	**Sn**	**05 21 09.8**	**+0.6**
PMON	**Piamonte**	**1.31**	**316**	⇓iP	**Pn**	**05 20 52.5**	**-0.2**
PMON				eS	**Sn**	**05 21 09.8**	**+0.6**
JAYA	**Jayaque - finc**	**1.36**	**310**	⇑eP	**Pn**	**05 20 52.8**	**-0.8**
JAYA				IAML		05 21 11.4	
comp=Z,6μm,0.1s							
JAYA	**Jayaque - finc**	**1.36**	**310**	⇑eP	**Pn**	**05 20 52.8**	**-0.8**
JAYA				IAML		05 21 11.4	
comp=Z,6μm,0.1s							
CEDA	**San Andres**	**1.43**	**316**	eP	**Pn**	**05 20 54.1**	**-0.2**
CEDA	**San Andres**	**1.43**	**316**	eP	**Pn**	**05 20 54.1**	**-0.2**
TACO	**Tacachico**	**1.52**	**321**	⇑eP	**Pn**	**05 20 55.4**	**-0.2**
TACO	**Tacachico**	**1.52**	**321**	⇑eP	**Pn**	**05 20 55.4**	**-0.2**
CEVE	**Cerro Verde**	**1.60**	**311**	eP	**Pn**	**05 20 56.1**	**-0.8**
CEVE	**Cerro Verde**	**1.60**	**311**	eP	**Pn**	**05 20 56.1**	**-0.8**
SBLS	**San Blas**	**1.61**	**311**	eP	**Pn**	**05 20 57.0**	**+0.1**
SBLS	**San Blas**	**1.61**	**311**	eP	**Pn**	**05 20 57.0**	**+0.1**
CNGN	**Cerro Negro**	**1.66**	**99**		**Pn**	**05 20 57.8**	**+0.4**
UNIC	**Universidad Ca**	**1.66**	**316**	eP	**Pn**	**05 20 57.6**	**+0.2**
UNIC	**Universidad Ca**	**1.66**	**316**	eP	**Pn**	**05 20 57.6**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.66**	**40**		**Pn**	**05 20 57.6**	**0.0**
SLOZ	**Alcaldia de Sa**	**1.85**	**312**	⇑eP	**Pn**	**05 21 00.1**	**0.0**
MTO3	**Montecristo**	**1.88**	**329**	⇑eP	**Pn**	**05 21 00.7**	**+0.2**
MTO3	**Montecristo**	**1.88**	**329**	⇑eP	**Pn**	**05 21 00.7**	**+0.2**
MTO3	**Montecristo**	**1.88**	**329**		**Pn**	**05 21 00.8**	**+0.2**
ESQI	**Esquipulas**	**2.01**	**332**	eP	**Pn**	**05 21 02.9**	**+0.7**
ESQI	**Esquipulas**	**2.01**	**332**	Pn	**Pn**	**05 21 02.9**	**+0.7**
MASN	**Masaya**	**2.31**	**110**	Pn	**Pn**	**05 21 05.8**	**-0.5**
NBG	**Las Nubes**	**2.63**	**313**	eP	**Pn**	**05 21 12.9**	**+2.0**
PCG	**Pacaya**	**2.70**	**307**	eP	**Pn**	**05 21 12.1**	**+0.2**
PCG				eS	**Sn**	**05 21 46.8**	**+3.3**
FUG	**Fuego 3**	**2.92**	**305**	eP	**Pn**	**05 21 16.5**	**+1.7**
FUG				eS	**Sn**	**05 21 50.1**	**+1.3**
ACON	**Acoyapa**	**3.23**	**104**		**Pn**	**05 21 17.9**	**-0.9**
HZTE	**Horizontes, Gu**	**3.41**	**127**		**Pn**	**05 21 21.8**	**+0.5**
BUEV	**Buena Vista**	**3.51**	**124**	eP	**Pn**	**05 21 23.2**	**+0.4**
GPS2	**Hotel Rincn d**	**3.58**	**124**	eP	**Pn**	**05 21 25.7**	**+2.0**
RTAL	**Retalhuleu**	**3.67**	**299**	Pn	**Pn**	**05 21 24.9**	**0.0**
SAJU	**San Juanillo,**	**3.75**	**136**	eP	**Pn**	**05 21 25.4**	**-0.6**
DUNO	**Dulce Nombre,**	**3.89**	**133**		**Pn**	**05 21 28.2**	**+0.2**
GRZA	**Playa Garza**	**3.91**	**136**	eP	**Pn**	**05 21 27.4**	**-0.8**
HUEH	**Huehuetenango**	**3.95**	**310**	Pn	**Pn**	**05 21 29.0**	**0.0**
JTS	**Las Juntas de**	**4.16**	**126**	P	**Pn**	**05 21 31.8**	**+0.1**
comp=Z,2.2nm,0.3s,baz=9.1,slow=6.6,SNR=32							
JTS				S	**Sn**	**05 22 17.6**	**-1.5**
comp=Z,3.3nm,0.3s,baz=6.6,slow=19,SNR=1.3							
JTS	**Las Juntas de**	**4.16**	**126**		**Pn**	**05 21 31.7**	**0.0**
ARE1	**Arenal 1**	**4.26**	**122**	eP	**Pn**	**05 21 34.0**	**+1.0**
COVE	**Coope Vega, Sa**	**4.39**	**117**	Pn	**Pn**	**05 21 33.3**	**-1.5**
CAO2	**Cobano, Puntar**	**4.44**	**133**		**Pn**	**05 21 35.9**	**+0.4**
LAFE	**Finca La Fe, P**	**4.50**	**131**	eP	**Pn**	**05 21 36.1**	**-0.2**
JACO	**JACO, Garabito**	**4.78**	**130**	eP	**Pn**	**05 21 42.7**	**+2.6**
JACO	**JACO, Garabito**	**4.78**	**130**	Pn	**Pn**	**05 21 41.1**	**+1.0**
HDC	**Heredia**	**5.00**	**123**		**Pn**	**05 21 43.8**	**+0.4**
OCM	**Ochomogo**	**5.19**	**123**	eP	**Pn**	**05 21 48.2**	**+2.3**
LCR2	**La Lucha 2**	**5.24**	**125**	eP	**Pn**	**05 21 48.5**	**+1.8**
CVTR	**Volcan Turrial**	**5.29**	**121**		**Pn**	**05 21 47.7**	**+0.2**
RIMA	**Rio Macho**	**5.34**	**124**	eP	**Pn**	**05 21 50.1**	**+2.1**
RIMA	**Rio Macho**	**5.34**	**124**		**Pn**	**05 21 50.0**	**+2.0**
CDM	**Cerro de Muert**	**5.54**	**125**	eP	**Pn**	**05 21 52.5**	**+1.5**
MRVA	**Morvia de Chi**	**5.66**	**121**	eP	**Pn**	**05 21 55.1**	**+2.9**
PEZE	**Perez Zeledon,**	**5.71**	**126**	eP	**Pn**	**05 21 54.1**	**+1.2**
PEZE	**Perez Zeledon,**	**5.71**	**126**		**Pn**	**05 21 54.3**	**+1.3**
SRBA	**San Rafael, Bu**	**6.05**	**125**		**Pn**	**05 21 58.8**	**+1.2**
DRK0	**Durika**	**6.13**	**124**	eP	**Pn**	**05 21 60.0**	**+1.2**
DRK0	**Durika**	**6.13**	**124**		**Pn**	**05 22 00.1**	**+1.4**
EDBA	**Buenos Aires**	**6.16**	**125**	eP	**Pn**	**05 22 00.0**	**+0.9**
LPLA	**Las Palmas La**	**6.45**	**125**	eP	**Pn**	**05 22 04.0**	**+0.8**
CDITO	**Canoas**	**6.83**	**127**		**Pn**	**05 22 09.3**	**+1.0**
BRU2	**Volcan**	**6.84**	**125**	eP	**Pn**	**05 22 10.3**	**+1.8**
CMIG	**Matias Romero**	**7.62**	**305**	P	**Pn**	**05 22 20.5**	**+1.5**
comp=Z,0.8nm,0.3s,baz=93,slow=22,SNR=3.1							
CMIG				S	**Sn**	**05 23 44.6**	**+0.6**
comp=Z,0.9nm,0.3s,baz=281,slow=22,SNR=1.6							
MTDJ	**Mount Denham**	**11.77**	**61**	Pn	**Pn**	**05 23 15.5**	**-0.4**
TXAR	**Lajitas Array**	**21.76**	**322**	P	**P**	**05 25 17.6**	**-0.2**
comp=Z,1.6nm,0.5s,baz=148,slow=9.5,SNR=19							
TXAR	**Lajitas Array**	**21.76**	**322**	P	**P**	**05 25 17.8**	**0.0**
TX31	**Lajitas Ar. Si**	**21.76**	**322**	P	**P**	**05 25 17.5**	**-0.3**
TX31				IAmb	IAmb	05 25 19.9	
comp=Z,8.0nm,0.8s							
TX32	**Lajitas Array**	**21.76**	**322**	P	**P**	**05 25 17.6**	**-0.2**
LPIG	**La Paz**	**23.62**	**302**	LR	LR	05 34 11.9	
comp=Z,33nm,20.7s,baz=210,slow=35							
PDAR	**Pinedale Array**	**35.06**	**332**	P	**P**	**05 27 17.9**	**-0.7**
comp=Z,0.2nm,0.4s,baz=134,slow=10,SNR=2.8							
REDW	**Red Top Meadow**	**36.12**	**332**	P	**P**	**05 27 26.9**	**-0.7**
REDW				IAmb	IAmb	05 27 28.0	
comp=Z,4.9nm,0.8s							
SNOW	**Snow King Moun**	**36.15**	**332**	P	**P**	**05 27 26.8**	**-1.2**
TPAW	**Teton Pass**	**36.27**	**332**	P	**P**	**05 27 29.0**	**+0.1**
TPAW				IAmb	IAmb	05 27 30.0	
comp=Z,1.9nm,0.8s							
NVAR	**Mina Array Bea**	**36.87**	**319**	P	**P**	**05 27 34.7**	**+0.6**
comp=Z,0.2nm,0.4s,baz=118,slow=11,SNR=2.5							
SIV	**San Ignacio**	**39.32**	**136**	P	**P**	**05 27 53.5**	**-1.2**
comp=Z,0.5nm,0.4s,baz=314,slow=6.7,SNR=8.1							
DLBC	**Dease Lake**	**55.23**	**335**	P	**P**	**05 29 57.8**	**-0.1**
comp=Z,1.6nm,0.6s,baz=121,slow=5.1,SNR=4.8							

*IDC **16** 05:39:11.9±0.7, 38°.25N×142°.08E, h35km±5km, mb3.8/14, mb1 4.1/17, mb1mx3.8/43, mbtmp4.0/17, ML3.5/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/42, Error ellipse: s-maj=16.2km s-min=15.4km az=77.0*
*NIED **16** 05:39:11.0, 38°.30N×142°.11E, h37km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.09; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=-0.24; $M_{r\theta}$=0.43; $M_{\theta\phi}$=0.24; $M_{\phi r}$=1.14; Fault plane solution: M_0=1.28000×10^{15} NP1: ϕ_s=203.00000°, δ=89.00000°, λ=-107.00000°. NP2: ϕ_s=108.00000°, δ=17.00000°, λ=-5.00000°.*
*JMA **16** 05:39:11.0±0.1, 38°.30N×142°.11E, h37km±1km, M4.1*
JMA Felt III J1.
*NEIC **16** 05:39:12.4±1.2, 38°.28N±0°.07×142°.01E±0°.07, h35km±7km, mb4.4/14, Error ellipse: s-maj=10.8km s-min=6.1km az=145.0*
ISC 16 05:39:12.0±0.7, 38°.29N±0°.04×142°.05E±0°.05, h34km±2km, n71, σ0°86/76, mb4.2/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.46**	**273**	P	**Pb**	**05 39 21.5**	**-0.5**
JIKH				S	**Sb**	**05 39 28.6**	**-0.4**
JIO	**Ouri**	**0.57**	**287**	P	**Pn**	**05 39 23.3**	**-0.3**
JIO				S	**Sb**	**05 39 31.6**	**-0.4**
JKMT	**Kesennumamotoy**	**0.69**	**319**	P	**Pn**	**05 39 24.7**	**-0.5**
JKMT				S	**Sn**	**05 39 34.2**	**-0.5**
OFUJ	**Ofunato**	**0.84**	**339**	P	**Pn**	**05 39 26.4**	**-1.0**
OFUJ				eS	**Sn**	**05 39 37.3**	**-1.3**
JMK	**Ichinoseki**	**0.93**	**316**	P	**Pn**	**05 39 28.3**	**-0.2**
JMK				S	**Sn**	**05 39 40.0**	**-0.6**
JMM	**Marumori**	**1.08**	**247**	P	**Pn**	**05 39 30.0**	**-0.6**
JMM				S	**Sn**	**05 39 43.7**	**-0.6**
JMM	**Marumori**	**1.08**	**247**		**Pn**	**05 39 30.1**	**-0.5**
JOU	**Okura**	**1.09**	**274**	P	**Pn**	**05 39 31.2**	**+0.4**
JOU				S	**Sn**	**05 39 45.7**	**+0.9**
JFK	**Kawauchi**	**1.31**	**226**	P	**Pn**	**05 39 32.7**	**-1.1**
JFK				S	**Sn**	**05 39 48.3**	**-1.8**
JOM	**Ohasama**	**1.32**	**334**	P	**Pn**	**05 39 33.8**	**-0.2**
JOM				eS	**Sn**	**05 39 50.2**	**-0.2**
JYK	**Kaneyama**	**1.47**	**296**	P	**Pn**	**05 39 36.4**	**+0.4**
JYT	**Yasato**	**2.53**	**216**		**Pn**	**05 39 50.2**	**-0.5**
JTM	**Tenmabayashi**	**2.61**	**343**		**Pn**	**05 39 52.8**	**+1.2**
JSD	**Sado**	**3.00**	**266**		**Pn**	**05 39 56.9**	**-0.1**
MJAR	**Matsushiro Arr**	**3.52**	**241**	Pn	**Pn**	**05 40 04.7**	**+0.5**
0.2nm,0.3s,baz=64,slow=12,SNR=3.2							
MJAR	**Matsushiro Arr**	**3.52**	**241**		**Pn**	**05 40 03.8**	**-0.4**
MAJO	**Matsushiro**	**3.52**	**242**		**Pn**	**05 40 02.9**	**-1.3**
MAT	**Matsushiro**	**3.52**	**242**	P	**Pn**	**05 40 06.6**	**+2.4**
MAT				eS	**Sn**	**05 40 47.4**	**+2.7**
MJB9	**Matsu-Tunnel**	**3.52**	**242**		**Pn**	**05 40 03.0**	**-1.2**
ERM	**Erimo**	**3.82**	**12**	Pn	**Pn**	**05 40 08.0**	**-0.2**
JEW	**Eniwo**	**4.57**	**354**	Pn	**Pn**	**05 40 19.4**	**+0.8**
JGF	**Kuroka**	**4.62**	**236**		**Pn**	**05 40 19.6**	**+0.2**
INU	**Inuyama**	**4.99**	**236**	Pn	Pn	05 40 19.8	-4.6
ASAJ	**Asahikawa**	**5.84**	**4**	Pn	**Pn**	**05 40 37.0**	**+1.0**
2.4nm,0.3s,baz=214,slow=15,SNR=5.8							
ASAJ				LR	LR	05 43 19.0	
comp=Z,80nm,21.2s,baz=162,slow=42							
JKA	**Kamikawa-asahi**	**5.84**	**4**		**Pn**	**05 40 36.9**	**+0.9**
JWT	**Wachi**	**6.12**	**243**	Pn	**Pn**	**05 40 40.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.60**	**311**		**Pn**	**05 41 25.7**	**-1.9**
USRK	**Ussuriysk Ar.**	**9.60**	**311**	Pn	**Pn**	**05 41 29.2**	**+1.5**
baz=122,slow=15,SNR=9.0							
USRK				LR	LR	05 45 03.0	
comp=Z,113nm,18.5s,baz=114,slow=36							
USRK	**Ussuriysk Ar.**	**9.60**	**311**		**Pn**	**05 41 29.9**	**+2.2**
PETK	**Petropavlovsk-**	**18.35**	**31**	LR	LR	05 50 05.7	
comp=Z,58nm,18.4s,baz=208,slow=36							
ULN	**Ulaanbaatar**	**27.09**	**302**	P	**P**	**05 44 51.4**	**-0.1**
ULN				IAmb	IAmb	05 44 53.4	
comp=Z,4.0nm,1.1s							
SONM	**Songino Array**	**27.53**	**302**	P	**P**	**05 44 56.5**	**+1.1**
comp=Z,1.3nm,0.5s,baz=121,slow=11,SNR=8.3							
SONM	**Songino Array**	**27.53**	**302**	P	**P**	**05 44 55.3**	**-0.1**
ENH	**Enshi**	**27.96**	**263**	P	**P**	**05 44 58.7**	**-0.6**
ENH				IAmb	IAmb	05 45 00.2	
comp=Z,11nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	06 14 50.7	
baz=315,SNR=649							
H11N1	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	06 15 27.5	
baz=315,slow=74,SNR=667							
H11N3	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	06 15 28.1	
baz=315,slow=74,SNR=722							
H11S1	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	06 16 21.2	
baz=318,slow=76,SNR=371							
H11S3	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	06 16 21.4	
baz=318,slow=76,SNR=437							
H11S2	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	06 16 22.4	
baz=318,slow=76,SNR=350							
TLY	**Talaya**	**29.91**	**309**	P	**P**	**05 45 16.6**	**+0.2**
TLY				IAmb	IAmb	05 45 46.0	
comp=Z,5.6nm,1.0s							
ZAA0	**Zalesovo Array**	**41.45**	**311**	P	**P**	**05 46 55.0**	**-0.1**
ZAA0				IAmb	IAmb	05 46 55.9	
comp=Z,3.8nm,0.6s							
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	**P**	**05 46 55.4**	**+0.3**
comp=Z,4.2nm,0.4s,baz=87,slow=7.6,SNR=13							
ZALV	**Zalesovo Beam**	**41.45**	**311**	P	**P**	**05 46 54.7**	**-0.4**
MK31	**Makanchi Array**	**43.89**	**301**	P	**P**	**05 47 14.2**	**-0.9**
MKAR	**Makanchi Array**	**43.89**	**301**	P	**P**	**05 47 15.2**	**+0.1**
comp=Z,1.2nm,0.6s,baz=89,slow=11,SNR=9.5							
MKAR				pP	**pP**	**05 47 24.8**	**-0.3**
comp=Z,1.8nm,0.7s,baz=87,slow=10.0,SNR=8.1							
MKAR	**Makanchi Array**	**43.89**	**301**	P	**P**	**05 47 14.5**	**-0.6**
MAKZ	**Makanchi**	**44.10**	**301**	P	**P**	**05 47 16.9**	**+0.2**
MAKZ				IAmb	IAmb	05 47 27.6	
comp=Z,6.7nm,1.4s							
ILAR	**Eielson Array**	**48.17**	**33**	P	**P**	**05 47 48.5**	**+0.1**
comp=Z,0.7nm,0.6s,baz=272,slow=6.4,SNR=8.9							
ABKAR	**Akbulak array**	**57.52**	**310**	P	**P**	**05 48 57.6**	**-0.1**
ABKAR				IAmb	IAmb	05 48 58.1	
comp=Z,3.4nm,0.6s							
ABKAR	**Akbulak array**	**57.52**	**310**	P	**P**	**05 48 57.1**	**-0.6**
WB0	**Warramunga Arr**	**58.19**	**188**	P	**P**	**05 49 02.2**	**-0.4**
WR0	**Warramunga Arr**	**58.37**	**188**	P	**P**	**05 49 03.5**	**-0.3**
WR0				IAmb	IAmb	05 49 08.1	
comp=Z,5.2nm,1.1s							
WB2	**Warramunga Arr**	**58.37**	**189**	P	**P**	**05 49 03.6**	**-0.2**
WRA	**Warramunga Arr**	**58.37**	**189**	P	**P**	**05 49 03.1**	**-0.8**
comp=Z,0.5nm,0.4s,baz=6.1,slow=7.3,SNR=16							
WRA	**Warramunga Arr**	**58.37**	**189**	P	**P**	**05 49 03.9**	**0.0**
ASAR	**Alice Springs**	**62.10**	**188**	P	**P**	**05 49 29.1**	**-0.2**
comp=Z,0.5nm,0.7s,baz=5.4,slow=6.8,SNR=5.4							
ASAR				pP	**pP**	**05 49 39.9**	**+0.1**
comp=Z,0.8nm,0.7s,baz=11,slow=5.9,SNR=4.2							
YKA	**Yellowknife Ar**	**62.47**	**31**	LR	LR	06 21 34.9	
comp=Z,19nm,18.2s,baz=0.0,slow=41							
ARCES	**ARCESS Array B**	**63.00**	**339**	P	**P**	**05 49 34.9**	**0.0**
comp=Z,1.5nm,0.8s,baz=38,slow=6.1,SNR=5.0							
ARCES	**ARCESS Array B**	**63.00**	**339**	P	**P**	**05 49 34.8**	**0.0**
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**05 50 06.6**	**-0.2**
comp=Z,3.6nm,0.6s,baz=41,slow=9.6,SNR=18							
KBZ	**Khabaz**	**70.47**	**311**	P	**P**	**05 50 23.4**	**+0.6**
comp=Z,3.1nm,0.9s,baz=21,slow=7.1,SNR=4.8							
NB2	**NORSAR Subarra**	**73.22**	**337**	P	**P**	**05 50 39.2**	**+0.1**
comp=Z,0.8nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**73.22**	**337**	P	**P**	**05 50 39.0**	**-0.1**
comp=Z,1.6nm,0.8s,baz=39,slow=5.9,SNR=5.1							
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**05 50 41.3**	**-0.3**
comp=Z,1.3nm,0.5s,baz=45,slow=5.9,SNR=10							
AKBB	**Malin Array Si**	**73.61**	**322**	P	**P**	**05 50 40.8**	**-0.7**
AKBB				IAmb	IAmb	05 50 42.0	

WFSB				*e*S	**Sg**	**05 43 21.9**	**-1.2**
	baz=313						
ESL	**Shilin**	**1.35 255**	*e*P		**Pn**	**05 43 03.2**	**-0.7**
	baz=243						
ESL				S	**Sn**	**05 43 20.2**	**-1.1**
	baz=243						
NNSB	**Datong**	**1.37 281**	P		**Pn**	**05 43 04.7**	**+0.4**
	baz=281						
NNSB				S	**Sb**	**05 43 22.2**	**-0.1**
	baz=281						
NNSH	**Datong**	**1.37 281**	*e*P		**Pb**	**05 43 04.9**	**-0.3**
	baz=281						
NNSH				*e*S	**Sb**	**05 43 23.4**	**+1.1**
	baz=281						
NWLT	**Wulai**	**1.37 296**	P		**Pb**	**05 43 05.6**	**+0.5**
	baz=308						
NWLT				S	**Sb**	**05 43 22.8**	**+0.5**
	baz=308						
TNOU	**National Taiwa**	**1.38 315**	*e*P		**Pn**	**05 43 04.3**	**-0.1**
	baz=330						
TNOU				*e*S	**Sn**	**05 43 22.0**	**-0.2**
	baz=330						
JISG	**Ishigakijimahi**	**1.39 72**	P		**Pn**	**05 43 03.9**	**-0.6**
JISG			S		**Sn**	**05 43 22.3**	**-0.1**
EGFH	**Guangfu**	**1.40 249**	*e*P		**Pn**	**05 43 04.1**	**-0.5**
	baz=249						
TWA	**Mucha**	**1.41 305**	*e*P		**Pn**	**05 43 04.7**	**0.0**
	baz=321						
TWA				S	**Sb**	**05 43 23.8**	**+0.4**
	baz=321						
YHNB	**Yeheng**	**1.44 290**	*e*P		**Pb**	**05 43 06.4**	**+0.1**
	baz=302						
YHNB				S	**Sb**	**05 43 24.9**	**+0.6**
	baz=302						
NHDH	**Xindian Distri**	**1.44 303**	*e*P		**Pb**	**05 43 06.1**	**-0.3**
	baz=320						
NHDH				*e*S	**Sb**	**05 43 25.3**	**+0.9**
	baz=320						
WHF	**Hehuan Shan**	**1.45 269**	P		**Pn**	**05 43 05.5**	**-0.3**
	baz=269						
WHF				*e*S	**Sb**	**05 43 25.8**	**+0.7**
	baz=269						
NSK	**Sanguang**	**1.45 290**	*i* P		**Pb**	**05 43 06.7**	**+0.1**
	baz=303						
NSK				S	**Sb**	**05 43 25.3**	**+0.6**
	baz=303						
FUSS	**Fushou**	**1.47 273**	P		**Pn**	**05 43 06.5**	**+0.7**
	baz=273						
FUSS				*e*S	**Sb**	**05 43 25.3**	**-0.2**
	baz=273						
HGSD	**Ruisui**	**1.47 243**	*e*P		**Pn**	**05 43 04.4**	**-1.2**
	baz=242						
HGSD				*e*S	**Sn**	**05 43 23.8**	**-0.6**
	baz=242						
TATO	**Taipei**	**1.48 303**	*e*P		**Pb**	**05 43 07.5**	**+0.5**
	baz=319						
TATO				*e*S	**Sb**	**05 43 24.9**	**-0.5**
	baz=319						
YM01	**YM01**	**1.52 310**	*e*P		**Pn**	**05 43 06.5**	**+0.2**
	baz=310						
YM01				*e*S	**Sn**	**05 43 25.5**	**-0.1**
	baz=310						
CHGB	**Renai**	**1.54 266**	P		**Pn**	**05 43 07.0**	**+0.2**
	baz=266						
CHGB				*e*S	**Sn**	**05 43 26.6**	**+0.3**
	baz=266						
OWD	**Renai**	**1.55 262**	*e*P		**Pn**	**05 43 06.5**	**-0.3**
	baz=262						
OWD				*e*S	**Sb**	**05 43 27.8**	**+0.2**
	baz=262						
TDCB	**Techi**	**1.55 273**	*e*P		**Pb**	**05 43 07.9**	**-0.4**
	baz=273						
TDCB				*e*S	**Sb**	**05 43 27.2**	**-0.4**
	baz=273						
EHY	**Hungye**	**1.55 245**	*i* P		**Pn**	**05 43 05.9**	**-0.8**
	baz=244						
EHY				S	**Sn**	**05 43 26.2**	**-0.2**
	baz=244						
TWY	**Chenhua**	**1.58 314**	*e*P		**Pn**	**05 43 07.6**	**+0.4**
	baz=314						
TWS1	**Kuangyinshan**	**1.60 306**	*e*S		**Sn**	**05 43 27.8**	**+0.3**
	baz=320						
YULB	**Yu-li**	**1.62 242**	P		**Pn**	**05 43 07.0**	**-0.8**
	baz=241						
YULB				*e*S	**Sn**	**05 43 27.5**	**-0.6**
	baz=241						
EYUL	**Yuli**	**1.63 240**	*e*P		**Pn**	**05 43 07.4**	**-0.4**
	baz=239						
EYUL				*e*S	**Sn**	**05 43 28.3**	**0.0**
	baz=239						
TWF1	**Yuli**	**1.64 240**	P		**Pn**	**05 43 07.4**	**-0.6**
	baz=239						
TWF1				*e*S	**Sn**	**05 43 28.1**	**-0.5**
	baz=239						
NCU	**National Centr**	**1.71 298**	*e*P		**Pn**	**05 43 09.2**	**+0.3**
	baz=314						
FULB	**Fuli**	**1.73 236**	*e*P		**Pn**	**05 43 09.5**	**+0.3**
	baz=221						
FULB				*e*S	**Sn**	**05 43 30.5**	**-0.2**
	baz=221						
LIOB	**Emei**	**1.74 286**	P		**Pb**	**05 43 11.9**	**+0.4**
	baz=286						
WHP	**Taichung City**	**1.75 274**	*e*P		**Pn**	**05 43 10.6**	**+1.1**
	baz=273						
WHP				*e*S	**Sb**	**05 43 32.9**	**-0.3**
	baz=273						
JTJ	**Tarama**	**1.75 74**	P		**Pb**	**05 43 11.4**	**-0.2**
JTJ			S		**Sn**	**05 43 31.9**	**+0.7**
NSTT	**Nanjuang**	**1.75 285**	*e*P		**Pn**	**05 43 09.9**	**+0.5**
	baz=285						
NSTT				*e*S	**Sn**	**05 43 31.9**	**+0.6**
	baz=285						
DPDB	**Guoxing**	**1.77 266**	*e*P		**Pn**	**05 43 10.6**	**+0.8**
	baz=266						
WCS	**Beigang Elemen**	**1.78 267**	*e*P		**Pn**	**05 43 10.2**	**+0.4**
	baz=266						
WCS				*e*S	**Sb**	**05 43 33.2**	**-0.8**
	baz=266						
SSLB	**Suanglung**	**1.78 258**	P		**Pn**	**05 43 10.6**	**+0.6**
	baz=257						
SSLB				*e*S	**Sn**	**05 43 32.9**	**+0.9**
	baz=257						
SMLT	**Sun Moon Lake**	**1.81 261**	P		**Pn**	**05 43 11.2**	**+0.8**
	baz=260						
SMLT				S	**Sn**	**05 43 32.8**	**-0.1**
	baz=260						
HSN	**Hsinchu**	**1.83 290**	*e*P		**Pn**	**05 43 10.7**	**+0.2**
	baz=292						
TYC	**Yuchr**	**1.84 262**	P		**Pn**	**05 43 11.4**	**+0.7**
	baz=261						
TYC				*e*S	**Sn**	**05 43 34.1**	**+0.5**
	baz=261						
EDH	**Donghe**	**1.86 230**	S		**Sn**	**05 43 31.9**	**-2.0**
	baz=216						
TWQ1	**Liyutan**	**1.91 276**	*e*P		**Pn**	**05 43 12.9**	**+1.3**
	baz=276						
ELDTW	**Lidau**	**1.95 240**	*e*P		**Pn**	**05 43 11.2**	**-1.2**
	baz=239						
ELDTW				*e*S	**Sn**	**05 43 34.9**	**-1.5**
	baz=239						
LDUT	**Ludao**	**1.96 221**	*e*P		**Pn**	**05 43 12.2**	**-0.2**
	baz=220						
ALS	**Alishan**	**1.99 251**	P		**Pn**	**05 43 13.7**	**+0.7**
	baz=250						
ALS				*e*S	**Sn**	**05 43 37.8**	**+0.3**
	baz=250						
WNT	**Mingjian**	**2.00 262**	*e*P		**Pb**	**05 43 15.3**	**-0.7**
	baz=261						
WNT				*e*S	**Sb**	**05 43 39.6**	**-1.0**
	baz=261						
CHN5	**Tsauling**	**2.07 254**	P		**Pn**	**05 43 15.3**	**+1.3**
	baz=241						
CHN5				S	**Sn**	**05 43 40.8**	**+1.5**
	baz=241						
STYH	**Taoyuan**	**2.15 243**	*e*P		**Pn**	**05 43 14.9**	**-0.1**
	baz=232						
STYH				*e*S	**Sn**	**05 43 41.5**	**+0.4**
	baz=232						
WGK	**Gukeng**	**2.15 257**	*e*P		**Pn**	**05 43 15.5**	**+0.5**
	baz=257						
STYT	**Tauyuan**	**2.17 243**	*e*P		**Pn**	**05 43 15.8**	**+0.5**
	baz=242						
STYT				*e*S	**Sn**	**05 43 42.1**	**+0.4**
	baz=242						
WDLH	**Douliu**	**2.17 258**	*e*P		**Pn**	**05 43 16.7**	**+1.4**
	baz=257						
TPUB	**Ta-pu**	**2.22 247**	*e*P		**Pn**	**05 43 17.4**	**+1.5**
	baz=246						
TPUB				*e*S	**Sn**	**05 43 43.5**	**+0.7**
	baz=246						
CHN4	**Tsaushan**	**2.23 249**	*e*P		**Pn**	**05 43 17.3**	**+1.2**
	baz=248						
CHN4				*e*S	**Sb**	**05 43 45.6**	**-1.4**
	baz=248						
WTP	**Ta-pu**	**2.25 246**	*e*P		**Pn**	**05 43 17.3**	**+0.8**
	baz=233						
WTP				*e*S	**Sn**	**05 43 44.5**	**+0.8**
	baz=233						
WRL	**Guolierlin Hig**	**2.28 264**	*e*P		**Pn**	**05 43 18.6**	**+1.8**
	baz=264						
WTK	**Tuku**	**2.31 258**	*e*P		**Pn**	**05 43 18.8**	**+1.6**
	baz=245						
JMJ	**Miyako jima 2**	**2.31 73**	*e*P		**Pn**	**05 43 18.3**	**+1.1**
	baz=74						
JMJ				*e*S	**Sn**	**05 43 45.6**	**+0.4**
	baz=74						
ECL	**Taimali**	**2.35 228**	*e*P		**Pn**	**05 43 18.4**	**+0.8**
	baz=240						
CHN1	**Nanshi**	**2.35 246**	*e*P		**Pn**	**05 43 19.3**	**+1.6**
	baz=244						
CHN1				*e*S	**Sn**	**05 43 48.4**	**+2.3**
	baz=244						
TWK	**Hsinying**	**2.35 248**	*e*P		**Pn**	**05 43 19.1**	**+1.3**
	baz=246						
TWK				*e*S	**Sb**	**05 43 48.9**	**-1.7**
	baz=246						
SGST	**Jiashian**	**2.35 243**	*e*P		**Pn**	**05 43 19.1**	**+1.3**
	baz=229						
SGST				*e*S	**Sn**	**05 43 47.8**	**+1.7**
	baz=229						
SNST	**Tainan City**	**2.36 247**	*e*P		**Pn**	**05 43 18.4**	**+0.6**
	baz=245						
SNST				*e*S	**Sn**	**05 43 47.5**	**+1.2**
	baz=245						
SSD	**Sandimen**	**2.49 236**	*e*P		**Pn**	**05 43 19.2**	**-0.4**
	baz=225						
ICHU	**Yijhu**	**2.49 252**	*e*P		**Pn**	**05 43 21.1**	**+1.4**
	baz=250						
ICHU				*e*S	**Sn**	**05 43 51.7**	**+2.1**
	baz=250						
TSMG	**Majia**	**2.50 235**	*e*P		**Pn**	**05 43 20.7**	**+0.9**
	baz=226						
TSMG				*e*S	**Sn**	**05 43 49.8**	**0.0**
	baz=226						
MASBT	**Mashibuluo**	**2.56 233**	*e*P		**Pn**	**05 43 21.4**	**+0.7**
	baz=225						
MASBT				*e*S	**Sn**	**05 43 52.4**	**+1.1**
	baz=225						

JMA 16 05:45:20.0±0.1, 24°.26N×122°.83E, h26km±4km, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.26**	**39**	P	Pb	05 45 26.5	0.0
YOJ				S	Sb	05 45 31.0	0.0
JKRS	**Kuro-shima**	**1.08**	**91**	P	Pn	05 45 39.6	+0.2
JKRS				S	Sn	05 45 53.3	-0.2
JIJ	**Ishigaki jima**	**1.20**	**85**	P	Pn	05 45 41.1	0.0
JIJ				*e*S	Sn	05 45 56.1	-0.5

TAP 16 05:45:57.8, 23°.43N×121°.38E, h56km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.08**	**31**	*e*P	Pn	05 46 05.8	-0.5
	baz=30						
HGSD				S	Sn	05 46 12.9	+0.6
	baz=30						
YULB	**Yu-li**	**0.08**	**246**	P	Pn	05 46 06.5	+0.2
	baz=246						
YULB				S	Sn	05 46 13.1	+0.7
	baz=246						
EHY	**Hungye**	**0.10**	**326**	P	Pn	05 46 06.5	+0.2
	baz=328						
EHY				S	Sn	05 46 12.9	+0.5
	baz=328						
EYUL	**Yuli**	**0.10**	**216**	*e*P	Pn	05 46 06.9	+0.6
	baz=216						
EYUL				*e*S	Sn	05 46 13.1	+0.6
	baz=216						
TWF1	**Yuli**	**0.11**	**226**	P	Pn	05 46 06.8	+0.4
	baz=222						
TWF1				S	Sn	05 46 12.9	+0.4
	baz=222						
FULB	**Fuli**	**0.24**	**199**	*e*P	Pn	05 46 07.7	+0.7
	baz=199						
FULB				*e*S	Sn	05 46 14.1	+0.4
	baz=199						
EGFH	**Guangfu**	**0.24**	**10**	*e*P	Pn	05 46 07.5	+0.5
	baz=9.0						
EGFH				*e*S	Sn	05 46 14.5	+0.7
	baz=9.0						
TEGC	**Jichi Village**	**0.32**	**27**	P	Pn	05 46 08.0	+0.3
	baz=28						
TEGC				*e*S	Sn	05 46 15.2	+0.5
	baz=28						
CHKT	**Chengkung**	**0.33**	**183**	*e*P	Pn	05 46 07.5	-0.2
	baz=181						
CHKT				*e*S	Sn	05 46 15.8	+1.0
	baz=181						
EDH	**Donghe**	**0.46**	**189**	*e*P	Pn	05 46 09.6	+0.6
	baz=188						
EDH				*e*S	Sn	05 46 17.6	+0.6
	baz=188						
SSLB	**Suanglung**	**0.53**	**313**	P	Pn	05 46 10.7	+0.8
	baz=312						
SSLB				S	Sn	05 46 19.4	+0.9
	baz=312						
ALS	**Alishan**	**0.54**	**279**	*e*P	Pn	05 46 09.8	-0.3
	baz=278						
ALS				*e*S	Sn	05 46 18.9	-0.2
	baz=278						
ETM	**Tongmen**	**0.55**	**11**	*e*S	Sn	05 46 20.0	+1.2
	baz=10.0						
WHYT	**Xinyi Township**	**0.55**	**299**	*e*S	Sn	05 46 20.1	+1.1
	baz=299						
OWD	**Renai**	**0.56**	**340**	*e*S	Sn	05 46 19.8	+0.5
	baz=340						
STYH	**Taoyuan**	**0.61**	**246**	*e*P	Pn	05 46 11.1	+0.4
	baz=245						
STYH				*e*S	Sn	05 46 21.6	+1.5
	baz=245						
SMLT	**Sun Moon Lake**	**0.63**	**316**	*e*P	Pn	05 46 11.2	+0.1
	baz=316						
SMLT				*e*S	Sn	05 46 21.5	+0.7
	baz=316						

*KRNET **16** 05:47:41.2±0.1, 41°.05N×69°.73E, h15km, mb2.8*
*ISU **16** 05:47:44, 41°.10N×70°.10E, h5km*
ISC 16 05:47:43.0±1.2, 41°.06N±0°.03×70°.06E±0°.04, h1km±12km, n12, σ1§57/22, 12C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBZ	**Yangibazar**	**0.43**	**304**	*e*P	**Pg**	**05 47 53.0**	**+1.7**
CHMG	**Chimgan**	**0.49**	**356**	*e*P	**Pg**	**05 47 51.0**	**-1.5**
CHMG				*e*S	**Sg**	**05 47 59.0**	**+0.1**
TAS	**Tashkent**	**0.64**	**295**	⇑*i*P	Pg	05 47 49.8	-5.4
	baz=11						
TAS				⇑*i*S	**Pg**	**05 47 55.9**	**+0.8**
	baz=11						
TAS	**Tashkent**	**0.64**	**295**	*e*P	**Pg**	**05 47 56.0**	**+0.8**
TAS				*e*S	**Sg**	**05 48 04.0**	**+0.5**
TRKS	**Terek-Say**	**0.94**	**60**	⇓*i*P	**Pb**	**05 48 02.7**	**+0.5**
	baz=69						
TRKS				⇓*i*S	**Sn**	**05 48 18.3**	**+0.7**
	baz=69						
BTK	**Batken**	**1.15**	**150**	⇑*i*P	**Pg**	**05 48 05.2**	**+0.1**
	baz=40						
BTK				⇑*i*S	**Sb**	**05 48 22.9**	**+1.7**
	baz=40						
BTK	**Batken**	**1.15**	**150**	*i* P	**Pg**	**05 48 05.0**	**-0.1**
BTK				*i* S	**Sn**	**05 48 26.0**	**+3.3**
GAR	**Garm**	**2.06**	**174**	⇑*e*P	**Pn**	**05 48 18.1**	**-0.8**
	baz=67						
GAR				⇑*i*S	**Sn**	**05 48 45.5**	**+0.2**
	baz=67						
OHH	**Osh**	**2.14**	**104**	⇓*i*P	**Pb**	**05 48 22.4**	**-0.1**
	baz=2.0						
OHH				⇓*i*S	**Sg**	**05 48 52.1**	**+0.5**
	baz=2.0						
MNAS	**Manas**	**2.32**	**51**	⇑*i*P	**Pb**	**05 48 24.5**	**-1.2**
	baz=54						
MNAS				⇑*e*S	**Sg**	**05 48 56.4**	**-1.1**
	baz=54						
CHGR	**Chuyangaron**	**2.50**	**196**	⇑*e*P	**Pn**	**05 48 22.6**	**-2.2**
	baz=91						
CHGR				⇑*i*S	**Sn**	**05 48 53.4**	**-2.5**
	baz=91						
AML	**Almayashu**	**2.93**	**67**	⇑*e*P	**Pn**	**05 48 33.2**	**+2.2**
	baz=69						
AML				⇑*i*S	**Sb**	**05 49 10.6**	**-2.0**
	baz=69						

*ANF **16** 05:51:27.2±0.4, 41°.73N×119°.23W, h20km±5km, ML3.7/20, Error ellipse: s-maj=4.2km s-min=2.4km az=98.0*
*REN **16** 05:51:30.4±2.9, 41°.85N±0°.04×119°.65W±0°.06, h8km±7km, ML3.8/5, ML3.6/40(SEA), ML3.4/52(NEIC), Mwr3.6/58(NEIC), Error ellipse: s-maj=6.3km s-min=5.5km az=83.0*
*NEIC **16** 05:51:30.4, 41°.85N×119°.65W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.79; $M_{\theta\theta}$=-1.61; $M_{\phi\phi}$=2.39; $M_{r\theta}$=-1.24; $M_{r\phi}$=1.56; $M_{\theta\phi}$=-0.51; Fault plane solution: M_0=2.95000×10^{14} NP1:φ=59.97000°, δ=79.40000°, λ=-31.15000°. NP2:φ=156.31000°, δ=59.44000°, λ=-167.66000°. Principal axes: T 3.1377, Plg13.0000°, Azm112.0000°; N -0.4288, Plg57.0000°, Azm223.0000°; P -2.7089, Plg29.0000°, Azm14.0000°;*
*NEIC **16** 05:51:31.1±3.0, 41°.88N±0°.03×119°.68W±0°.05, h4km±4km Error ellipse: s-maj=6.0km s-min=4.2km az=86.0*
*SEA **16** 05:51:31.7±3.5, 41°.83N±0°.02×119°.64W±0°.06, h8km±6km, Error ellipse: s-maj=6.4km s-min=3.3km az=89.0*
ISC 16 05:51:30.4±1.3, 41°.87N±0°.03×119°.67W±0°.03, h2km±14km, n67, σ1§14/76, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.48**	**275**	Pg	**Pg**	**05 51 40.3**	**+0.7**
MOD	**Modoc Plateau**	**0.48**	**275**		**Sg**	**05 51 47.4**	**+1.6**
LKVW	**Lakeview**	**0.63**	**305**		**Pg**	**05 51 43.0**	**+0.5**
WVOR	**Wild Horse Val**	**0.95**	**53**		**Pg**	**05 51 48.3**	**-0.3**
WVOR					**Sb**	**05 52 01.5**	**-1.3**
WVOR				IAML		05 52 05.1	
	2μm,0.6s						
K05A	**Summer Lake**	**1.25**	**314**		**Pn**	**05 51 54.5**	**-0.7**
K05A					**Sb**	**05 52 12.0**	**+0.5**
K05A				IAML		05 52 19.2	
	comp=E,1μm,1.0s						
LASM	**Arnica Sink**	**1.46**	**260**		**Pn**	**05 51 57.2**	**-0.8**
LTIM	**Timbered Crate**	**1.53**	**244**		**Pb**	**05 51 59.5**	**-0.1**
HOG	**Hogback Mounta**	**1.57**	**285**		**Pn**	**05 51 58.9**	**-0.5**
M04C	**Macdoel**	**1.63**	**268**	P	**Pn**	**05 51 59.4**	**-0.8**
	baz=87,SNR=205						
M04C				S	**Sg**	**05 52 23.4**	**+0.8**
	baz=87						
M04C	**Macdoel**	**1.63**	**268**		**Pn**	**05 51 59.5**	**-0.8**
LBCM	**Butte Creek Ri**	**1.63**	**232**		**Pn**	**05 51 59.5**	**-0.8**
K04D	**Chiloquin, OR**	**1.73**	**297**	P	**Pn**	**05 52 00.9**	**-0.6**
	baz=116,SNR=91						
K04D				S	**Sg**	**05 52 26.9**	**+1.0**
	baz=116						
K04D	**Chiloquin, OR**	**1.73**	**297**		**Pn**	**05 52 01.0**	**-0.6**
J08A	**Circle Bar Ran**	**1.73**	**30**	Pn	**Pn**	**05 52 00.7**	**-1.0**
J05D	**Fort Rock, OR**	**1.83**	**321**	P	**Pn**	**05 52 02.4**	**-0.6**
	baz=140,SNR=547						
J05D				S	**Sb**	**05 52 28.5**	**+0.3**
	baz=140						
J05D	**Fort Rock, OR**	**1.83**	**321**		**Pb**	**05 52 04.4**	**-0.3**
LHEM	**Herd Peak**	**1.93**	**264**		**Pb**	**05 52 05.8**	**-0.5**
M03C	**McCloud**	**1.94**	**253**		**Pb**	**05 52 05.9**	**-0.6**
L04D	**Klamath Falls**	**2.00**	**281**	P	**Pn**	**05 52 04.4**	**-0.9**
	baz=100,SNR=96						
L04D				S	**Sb**	**05 52 33.7**	**+0.8**
	baz=100						
L04D	**Klamath Falls**	**2.00**	**281**		**Pn**	**05 52 04.4**	**-0.9**
B040	**Montague**	**2.06**	**270**		**Pn**	**05 52 04.8**	**-1.3**
PINE	**Pine Mountain**	**2.14**	**334**		**Pb**	**05 52 09.6**	**-0.5**
PINE				IAML		05 52 47.5	
	comp=N,307nm,0.5s						
PAHR	**Pah Rah Range**	**2.17**	**174**	Pn	**Pn**	**05 52 07.2**	**-0.5**
PAHR				IAML		05 52 39.9	
	comp=E,145nm,0.7s						
I07A	**Izee**	**2.22**	**3**	Pn	**Pn**	**05 52 08.9**	**+0.6**
I07A				IAML		05 52 42.4	
	comp=N,202nm,0.8s						
I07A				IAML		05 52 50.4	
	comp=E,220nm,0.8s						
O03E	**Paynes Creek**	**2.25**	**227**	Pb	**Pb**	**05 52 10.7**	**-1.2**
	baz=46,SNR=74						
O03E				Sb	**Sb**	**05 52 41.2**	**+1.0**
	baz=46						
J04D	**Umpqua Nationa**	**2.27**	**308**	P	**Pn**	**05 52 08.8**	**-0.4**
	baz=127						
J04D	**Umpqua Nationa**	**2.27**	**308**		**Pb**	**05 52 11.9**	**-0.3**
YBH	**Yreka Blue Hor**	**2.28**	**268**	Pn	**Pn**	**05 52 07.5**	**-1.7**
YBH				IAML		05 52 47.1	
	comp=N,135nm,0.9s						
M02C	**Callahan**	**2.44**	**260**	P	**Pn**	**05 52 09.8**	**-1.5**
	baz=78,SNR=65						
N02D	**Trinity Center**	**2.45**	**250**	P	**Pn**	**05 52 10.2**	**-1.3**
	baz=68,SNR=24						
N02D	**Trinity Center**	**2.45**	**250**		**Pb**	**05 52 13.8**	**-1.4**
WDC	**Whiskeytown Da**	**2.52**	**240**		**Pb**	**05 52 15.1**	**-1.3**
WDC	**Whiskeytown Da**	**2.52**	**240**	Pn	**Pn**	**05 52 12.4**	**0.0**
WDC	**Whiskeytown Da**	**2.52**	**240**	IAML		05 52 49.1	
	comp=N,124nm,0.7s						
HUMO	**Hull Mountain**	**2.55**	**288**	Pn	**Pn**	**05 52 11.8**	**-1.1**
VCNR	**Virginia City**	**2.57**	**180**		**Pb**	**05 52 16.9**	**-0.3**
ORV	**Oroville**	**2.70**	**212**		**Pn**	**05 52 16.0**	**+1.2**
ORV	**Oroville**	**2.70**	**212**	Pn	**Pn**	**05 52 15.4**	**+0.6**
I05D	**Terrebonne, OR**	**2.76**	**334**	Pb	**Pb**	**05 52 20.4**	**-0.1**
	baz=153						
I05D				Sb	**Sg**	**05 52 58.6**	**-0.5**
	baz=153						
YERR	**Yerington**	**2.90**	**173**	Pn	**Pb**	**05 52 20.0**	**-2.9**
YERR				IAML		05 53 06.0	
	comp=E,204nm,1.1s						
O02D	**Mt. Diablo Mer**	**2.90**	**236**	Pb	**Pb**	**05 52 21.6**	**-1.4**
	baz=54						
O02D				Sb	**Sg**	**05 53 01.7**	**-2.0**
	baz=54						
L02E	**Cave Junction**	**2.95**	**277**	P	**Pn**	**05 52 17.8**	**-0.5**
	baz=95						
KVN	**Kaiserville**	**3.06**	**156**	Pn	**Pn**	**05 52 20.6**	**+0.7**
KVN				IAML		05 53 11.1	
	comp=E,108nm,0.9s						
KVN				IAML		05 53 19.1	
	comp=N,66nm,0.7s						
AFDM	**Forest Hills D**	**3.08**	**199**	Pn	**Pn**	**05 52 19.9**	**-0.2**
K02D	**Willamette Mer**	**3.08**	**287**	P	**Pn**	**05 52 19.8**	**-0.4**
	baz=104						
K02D	**Willamette Mer**	**3.08**	**287**		**Pn**	**05 52 21.5**	**+1.3**
KRMB	**Red Mountain**	**3.20**	**265**		**Pn**	**05 52 21.9**	**+0.1**
MFID	**Camas Ranch**	**3.23**	**60**	Pn	**Pn**	**05 52 22.0**	**-0.2**
I03D	**Drain, OR**	**3.27**	**305**	P	**Pn**	**05 52 23.7**	**+1.0**
	baz=123						
RYN	**Ryan**	**3.35**	**165**		**Pn**	**05 52 25.8**	**+1.9**
RYN				IAML		05 53 20.6	
	comp=E,106nm,1.2s						
RYN				IAML		05 53 23.4	
	comp=N,76nm,0.8s						
WAKR	**Walker**	**3.36**	**177**		**Pn**	**05 52 26.4**	**+2.3**
WAKR				IAML		05 53 26.7	
	comp=E,51nm,1.3s						
WAKR				IAML		05 53 29.7	
	comp=N,48nm,1.0s						
BUCK	**Buck Mountain**	**3.37**	**315**		**Pn**	**05 52 25.1**	**+0.9**
BUCK				IAML		05 53 22.0	
	comp=E,54nm,1.9s						
BUCK				IAML		05 53 24.3	
	comp=N,59nm,1.6s						
J01E	**Myrtle Point**	**3.41**	**294**	P	**Pn**	**05 52 25.7**	**+1.1**
	baz=111						
KBO	**Bosley Butte**	**3.42**	**277**		**Pn**	**05 52 22.9**	**-1.9**
KBO				IAML		05 53 26.2	
	comp=N,96nm,1.5s						
KBO				IAML		05 53 32.8	
	comp=E,99nm,1.5s						
JCC	**Jacoby Creek,**	**3.45**	**254**	Pn	**Pn**	**05 52 24.8**	**-0.3**
JCC				IAML		05 53 33.2	
	comp=E,71nm,1.6s						
JCC				IAML	

	baz=139					
ELK	Elko	3.52	107	Pn	Pn	05 52 27.2 +0.9
G05D	Wamic, OR	3.58	341	Pb	Pb	05 52 34.1 -0.4
	baz=160					
G05D				Sb	Sg	05 53 23.3 -2.1
	baz=160					
KEBM	Edson Butte	3.60	288		Pn	05 52 27.6 +0.3
KEBM				IAML		05 52 51.4
	comp=E,92nm,1.0s					
KEBM				IAML		05 53 35.0
	comp=N,79nm,1.4s					
I02D	Swisshome	3.80	308	Pb	Pb	05 52 39.6 +1.5
	baz=125					
HLID	Hailey	4.22	65	Pb	Pn	05 52 36.2 +0.3
	baz=248					
HLID	Hailey	4.22	65	Pn	Pn	05 52 37.0 +1.1
HLID				IAML		05 53 44.5
	comp=N,51nm,0.6s					
R11A	Troy Canyon, C	4.70	137	Pb	Pn	05 52 44.2 +1.7
	baz=320					
SPR3	Spring Creek 3	4.98	123	Pn	Pn	05 52 49.7 +3.2
SPR3				IAML		05 54 12.6
	comp=N,30nm,1.2s					
SPR3				IAML		05 54 17.1
	comp=E,28nm,0.8s					
SPUT	South Promonto	5.44	93	Pn	Pn	05 52 51.5 -1.2
DUG	Dugway, Tooele	5.44	106	Pb	Pn	05 52 54.0 +1.3
	baz=290					
DUG	Dugway, Tooele	5.44	106	Pn	Pn	05 52 53.7 +1.0

BJI **16** *06:13:19.7±0.0, 33°.03N×140°.21E, h10km, mB4.9/32, mb4.5/50, Ms4.5/33, Ms7 4.2/33*

MOS **16** *06:13:24.4±1.0, 33°.14N×139°.54E, h13km, mb4.9/40, Error ellipse: s-maj=8.9km s-min=5.4km az=99.4*

NIED **16** *06:13:26.1, 33°.29N×139°.58E, h21km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=0.83; Mθθ=0.08; Mφφ=0.76; Mrθ=0.27; Mφθ=0.14; Mφr=0.99; Fault plane solution: M0=1.31000×10^16 NP1: φs=165.00000°, δ=71.00000°, λ=-92.00000°. NP2: φs=352.00000°, δ=19.00000°, λ=-84.00000°.*

IDC **16** *06:13:26.5±1.4, 33°.11N×139°.76E, h20km±10km, mb4.2/24, mb1 4.4/28, mb1mx4.3/54, mbtmp4.3/28, ML3.9/3, MS3.8/18, Ms1 3.8/18, ms1mx3.6/51 Error ellipse: s-maj=14.5km s-min=3.8km az=4.0*

JMA **16** *06:13:26.1, 33°.29N×139°.58E, h21km±3km, M4.7*

JMA Felt II J1.

NEIC **16** *06:13:26.2±1.3, 33°.22N±0°.06×139°.46E±0°.03, h10km±1km, mb4.8/138, Error ellipse: s-maj=10.5km s-min=2.9km az=200.0*

GCMT **16** *06:13:28.2±0.5, 33°.24N±0°.04×139°.46E±0°.03, h20km±1km, MW4.8/72, Moment Tensor Solution. s17,c17; s72,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.20±.21; Mθθ=0.26±.11; Mφφ=1.93±.13; Mrθ=-0.32±.22; Mφθ=-0.72±.07; Mφr=0.79±.18; Best double couple: M0=2.35900×10^16 NP1:φs=340.00000°, δ=34.00000°, λ=-89.00000°. NP2: φs=159.00000°, δ=56.00000°, λ=-91.00000°. Principal axes: T 2.3590, Plg11.0000°, Azm249.0000°; N -0.0070, Plg0.0000°, Azm159.0000°; P -2.3590, Plg79.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 06:13:27.4±0.3, 33°.26N±0°.03×139°.60E±0°.04, h22km, n427, σ1§34/421, mb4.8/118, MS4.0/23, 13C-11D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.20	132	Pn	Pb	06 13 32.2	-0.8
	3μm,0.3s,baz=271,slow=6.3,SNR=76						
JHJ				Sn	Sb	06 13 35.8	-1.1
	7μm,0.3s,baz=55,slow=18,SNR=44						
JHJ2	Mitsune	0.23	129	⇑P	Pb	06 13 32.2	-1.1
JHJ2	Mitsune	0.23	129	Pg	Pb	06 13 32.2	-1.1
JHCJ	Hachijojimakas	0.25	139	⇑P	Pb	06 13 32.3	-1.2
JHCJ				S	Sb	06 13 36.8	-0.8
JMKN	Mikurajimanish	0.63	359	⇑P	Pb	06 13 37.9	-1.9
JMKN				S	Sb	06 13 46.0	-2.3
JAOM	Aogashimamukai	0.80	170	P	Pb	06 13 41.8	-0.9
JKO	Kozu shima	1.00	337	P	Pb	06 13 44.1	-2.0
JTHY	Toshimahigashi	1.29	348	P	Pn	06 13 48.6	-1.5
JIM2	Oshima 3	1.46	354	P	Pn	06 13 51.1	-1.4
JIZS	Izushimoda	1.58	338	⇓P	Pn	06 13 52.6	-1.4
TK03	Tokai 3	1.64	304	P	Pn	06 13 53.5	-1.2
TK02	Tokai 2	1.69	295	P	Pn	06 13 53.8	-1.5
BSO3	Boso 3	1.71	26	P	Pn	06 13 54.7	-1.0
BSO3				S	Sn	06 14 15.1	-1.7
KTJ3	Kamata3	1.73	345	P	Pn	06 13 55.3	-0.8
BSO1	Boso 1	1.80	39	⇑P	Pn	06 13 54.8	-1.8
BSO4	Boso 4	1.83	19	P	Pn	06 13 56.6	-0.8
JSG	Sagara	1.84	321	Pn	Pn	06 13 57.1	-0.6
JGF	Kuroka	2.98	322		Pn	06 14 13.8	+0.4
INU	Inuyama	2.99	315	Pn	Pn	06 14 12.4	-1.0
JYT	Yasato	3.00	9		Pn	06 14 13.8	+0.2
MJAR	Matsushiro Arr	3.47	341	Pn	Pn	06 14 20.7	+0.6
	1.5nm,0.3s,baz=159,slow=13,SNR=34						
MJAR				LR	LR	06 15 37.2	
	comp=Z,432nm,21.6s,baz=165,slow=36						
MAJO	Matsushiro	3.47	341	*c*eP	Pn	06 14 21.0	+0.9
MAJO	Matsushiro	3.47	341		Pn	06 14 20.2	+0.1
MAT	Matsushiro	3.47	341	P	Pn	06 14 20.6	+0.5
MAT				*e*S	Sn	06 15 04.4	+3.8
MJB9	Matsu-Tunnel	3.48	341	Pn	Pn	06 14 20.4	+0.3
JWT	Wachi	4.02	301		Pn	06 14 26.5	-1.1
JMM	Marumori	4.70	12	Pn	Pn	06 14 37.0	+0.1
JMN	Monobe	4.81	277		Pn	06 14 36.4	-2.0
JSD	Sado	4.89	347		Pn	06 14 39.5	-0.1
JHS	Saijyo	5.65	290		Pn	06 14 48.8	-1.3
JNU	Nakatsue	7.32	271	Pn	Pn	06 15 13.3	+0.4
	5.8nm,0.3s,baz=92,slow=7.0,SNR=22						
JNU				LR	LR	06 18 05.6	
	comp=Z,1μm,21.8s,baz=107,slow=38						
JNU	Nakatsue	7.32	271	Pn	Pn	06 15 11.4	-1.5
JTM	Tenmabayashi	7.61	8	Pn	Pn	06 15 16.7	-0.1
ERM	Erimo	9.18	17	⇑*e*P	Pn	06 15 39.7	+1.2
ERM	Erimo	9.18	17	Pn	Pn	06 15 38.5	0.0
JEW	Eniwo	9.68	8	Pn	Pn	06 15 45.6	+0.3
JMZ	Minamidaito 2	10.40	227	Pn	Pn	06 15 53.6	-1.6
KSRS	Korea Array	10.41	297	Pn	Pn	06 15 58.3	+3.0
	0.3nm,0.3s,baz=114,slow=14,SNR=5.6						
KSRS				LR	LR	06 19 50.7	
	comp=Z,633nm,22.0s,baz=107,slow=36						
ASAJ	Asahikawa	11.09	11	LR	LR	06 21 17.5	
	comp=Z,398nm,18.1s,baz=276,slow=42						
JOW	Kunigami	11.71	240	LR	LR	06 20 20.6	
	comp=Z,795nm,20.6s,baz=255,slow=35						
YUK	Yuzh-Kuril'sk	11.81	23	⇑*e*P	Pn	06 16 17.8	+3.3
USA0B	Ussuriysk Arra	12.43	334	P	Pn	06 16 22.0	-0.9
USA0B	Ussuriysk Arra	12.43	334	Pn	Pn	06 16 22.0	-0.9
USRK	Ussuriysk Ar.	12.43	334	Pn	Pn	06 16 26.1	+3.2
	baz=137,slow=9.9,SNR=9.2						
USRK				LR	LR	06 20 48.5	
	comp=Z,231nm,18.2s,baz=144,slow=35						
USRK	Ussuriysk Ar.	12.43	334	Pn	Pn	06 16 22.5	-0.4
MDJ	Mudanjiang	13.75	329	P	Pn	06 16 41.4	+0.5
MDJ				pP	P	06 16 49.1	-0.2
MDJ				sP		06 16 54.8	
MDJ				S	Sn	06 19 15.6	+2.8
MDJ				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,230nm,5.3s						
MDJ				LR	LR		
	comp=N,780nm,7.5s						
MDJ				LR	LR		
	comp=E,600nm,10.8s						
MDJ				LR	LR		
	comp=Z,520nm,13.3s						
MDJ	Mudanjiang	13.75	329	Pn	Pn	06 16 40.2	-0.7
YSS	Yuzh-Sakhalins	13.89	9	⇓*e*P	Pn	06 16 43.4	+0.6
YSS				pmax	pmax		
	comp=Z,12nm,0.9s						
YSS	Yuzh-Sakhalins	13.89	9	Pn	Pn	06 16 42.7	-0.1
DL2	Dalian	15.58	296	P	P	06 17 09.8	+0.1
DL2				pmax	pmax		
	comp=Z,57nm,1.2s						
DL2				LR	LR		
	comp=Z,1μm,14.7s						
DL2				LR	LR		
	comp=Z,960nm,17.7s						
YOJ	Yonaguni jima	16.96	243	P	Pn	06 17 22.1	-1.1
YOJ				pmax	pmax		
	comp=Z,99nm,1.3s						
YOJ	Yonaguni jima	16.96	243	Pn	Pn	06 17 22.1	-1.1
YOJ				IAmb	IAmb	06 17 36.3	
	comp=Z,99nm,1.3s						
KLR	Kul'dur	17.00	342	P	Pn	06 17 21.4	-2.2
	comp=Z,0.1nm,0.3s,baz=141,slow=11,SNR=9.4						
NJ2	Nanjing	17.52	272	*e*P	Pn	06 17 30.4	+0.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TYV	Tymovskoe	17.73	6	*e*P	P	06 17 34.7	+1.2
TYV				pmax	pmax		
	comp=Z,24nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,2.9s						
TWG	Pinlang	19.35	242	P	P	06 17 49.6	-1.9
BJI	Beijing	19.95	297	P	Pn	06 18 01.5	+1.9
BJI				S	S	06 21 39.1	-2.1
BJI				pmax	pmax		
	comp=Z,11nm,1.1s						
BJI				LR	LR		
	comp=Z,660nm,14.3s						
BJI				LR	LR		
	comp=Z,680nm,19.0s						
BJI				LR	LR		
	comp=Z,920nm,26.5s						
GUMO	Guam	20.16	165	LR	LR	06 24 39.9	
	comp=Z,289nm,20.1s,baz=340,slow=34						
WHN	Wuhan	21.60	270	⇓P	P	06 18 17.8	+2.1
WHN				pP	pP	06 18 20.3	-1.3
WHN				S	S	06 22 16.4	+2.4
WHN				pmax	pmax		
	comp=Z,64nm,1.1s						
WHN				LR	LR		
	comp=Z,1μm,10.2s						
HIA	Hailar	21.78	323	⇓*e*P	P	06 18 18.3	+0.7
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZEA	Zeya	22.28	340	*e*P	P	06 18 23.5	+0.6
ZEA				*e*S	S	06 22 19.1	-7.7
ZEA				*e*SS	SnSn	06 23 24.5	+30
ZEA				pmax	pmax		
	comp=N,30nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,40nm,0.9s						
ZEA				smax	smax		
	comp=N,200nm,5.4s						
HHC	Hu-ho-hao-te	23.56	297	*e*P	P	06 18 39.4	+3.1
HHC				S	S	06 22 47.1	-2.2
HHC				pmax	pmax		
	comp=N,25nm,1.0s						
HHC				pmax	pmax		
	comp=N,150nm,5.7s						
HHC				LR	LR		
	comp=N,750nm,14.9s						
HHC				LR	LR		
	comp=N,610nm,15.2s						
HHC				LR	LR		
	comp=N,530nm,20.4s						
PETK	Petropavlovsk-	23.70	28	LR	LR	06 28 34.0	
	comp=N,93nm,19.4s,baz=204,slow=38						
PETK	Petropavlovsk-	23.70	28	P	P	06 18 34.9	-2.6
PETK	Petropavlovsk-	23.70	28	P	P	06 18 34.9	-2.6
XAN	Xi'an	25.51	280	P	P	06 18 55.5	+1.2
XAN				pmax	pmax		
	comp=N,9.0nm,1.2s						
XAN	Xi'an	25.51	280	P	P	06 18 56.0	+1.7
XAN	Xi'an	25.51	280	P	P	06 18 56.0	+1.7
ENH	Enshi	25.74	272	P	P	06 18 56.1	-0.2
ENH				IAmb	IAmb	06 19 02.7	
	comp=Z,31nm,1.1s						
MA2	Magadan	27.35	12	LR	LR	06 29 31.8	
	comp=Z,177nm,22.0s,baz=184,slow=35						
MA2	Magadan	27.35	12	⇓*e*P	P	06 19 10.9	+0.3
MA2				pmax	pmax		
	comp=Z,11nm,0.9s						
H11N2	WAKE ISLAND Hy	27.80	112	T	T	06 48 20.5	
	baz=305,slow=75,SNR=393						
H11N1	WAKE ISLAND Hy	27.80	112	T	T	06 48 15.2	
	baz=305,slow=75,SNR=366						
H11N3	WAKE ISLAND Hy	27.81	112	T	T	06 48 18.6	
	baz=305,slow=75,SNR=326						
H11S3	WAKE ISLAND Hy	28.35	115	T	T	06 48 59.0	
	baz=307,slow=75,SNR=126						
H11S1	WAKE ISLAND Hy	28.35	114	T	T	06 48 59.1	
	baz=307,slow=75,SNR=149						
H11S2	WAKE ISLAND Hy	28.37	114	T	T	06 49 00.3	
	baz=307,slow=75,SNR=102						
ULN	Ulaanbaatar	28.46	311	P	P	06 19 20.4	-0.5
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ULN	Ulaanbaatar	28.46	311	P	P	06 19 20.4	-0.5
SONM	Songino Array	28.87	310	P	P	06 19 25.7	+1.2
	comp=Z,5.7nm,0.9s,baz=114,slow=8.5,SNR=19						
SONM				LR	LR	06 31 30.9	
	comp=Z,277nm,18.5s,baz=106,slow=37						
SONM	Songino Array	28.87	310	P	P	06 19 24.9	+0.5
SONM				IAmb	IAmb	06 19 30.8	
	comp=Z,18nm,1.4s						
DAV	Davao City (W)	29.12	210	LR	LR	06 29 42.0	
	comp=Z,5.7nm,21.7s,baz=132,slow=34						
GYA	Guiyang	29.28	265	*e*P	P	06 19 29.6	+1.4
LZH	Lanzhou	29.44	286	⇑P	P	06 19 35.1	+5.4
LZH				pP	sP	06 19 39.5	+0.9
LZH				sP	pP	06 19 42.5	+6.5
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,450nm,14.6s						
LZH				LR	LR		
	comp=Z,550nm,15.2s						
LZH				LR	LR		
	comp=Z,360nm,15.7s						
YAK	Yakutsk	29.48	350	P	P	06 19 29.0	-0.5
CD2	Chengdu	30.37	275	P	P	06 19 38.8	+1.0
CD2				S	S	06 24 36.8	-0.4
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				pmax	pmax		
	comp=Z,300nm,5.3s						
CD2				LR	LR		
	comp=Z,860nm,16.3s						
CD2				LR	LR		
	comp=Z,1μm,13.5s						
CD2				LR	LR		
	comp=Z,1μm,15.1s						
ZAK	Zakamensk	31.62	314	*e*P	P	06 19 49.9	+1.2
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TLY	Talaya	31.85	316	P	P	06 19 49.4	-1.2
	comp=Z,4.2nm,0.5s,baz=197,slow=13,SNR=4.0						
TLY				LR	LR	06 32 20.5	
	comp=Z,100nm,18.1s,baz=114,slow=35						
TLY	Talaya	31.85	316	*e*P	P	06 19 53.4	+2.8
TLY				pmax	pmax		
	comp=Z,27nm,0.9s						
TLY				MLR	MLR		
	comp=Z,719nm,12.0s						
TLY	Talaya	31.85	316	P	P	06 19 49.4	-1.2
TLY				IAmb	IAmb	06 19 56.4	
	comp=Z,10nm,0.8s						
GTA	Gaotai	32.44	292	*e*P	P	06 20 00.1	+4.0
GTA				pP	sP	06 20 06.0	+1.0
GTA				sP	pP	06 20 09.8	+7.4
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,65nm,4.0s						
GTA				LR	LR		
	comp=Z,350nm,16.7s						
GTA				LR	LR		
	comp=Z,230nm,17.4s						
GTA				LR	LR		
	comp=Z,310nm,16.4s						
KMI	Kunming	33.05	266	⇑P	P	06 20 06.9	+5.2
KMI				S	S	06 25 20.4	+0.9
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI				LR	LR		
	comp=Z,390nm,17.1s						
KMI				LR	LR		
	comp=Z,370nm,15.1s						
KMI				LR	LR		
	comp=Z,420nm,12.1s						
TIXI	Tiksi	38.88	355	P	P	06 20 50.4	-0.2
	comp=Z,4.2nm,0.5s,baz=126,slow=6.1,SNR=8.3						
TIXI	Tiksi	38.88	355	⇑*e*P	P	06 20 50.7	0.0
TIXI	Tiksi	38.88	355	P	P	06 20 50.5	-0.2
CMAR	Chiang Mai Arr	39.19	258	LR	LR	06 40 02.2	
	comp=Z,96nm,18.5s,baz=92,slow=41						
WMQ	Urumqi	41.34	300	*e*P	P	06 21 10.3	-1.3
WMQ				pP	pP	06 21 16.4	-1.7
WMQ				pmax	pmax		
	comp=Z,28nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.3s						
WMQ				LR	LR		
	comp=Z,470nm,17.5s						
DGZ	Jazzator, Alta	41.52	309	⇓*e*P	P	06 21 13.3	+0.3
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAA0	Zalesovo Array	43.46	315	P	P	06 21 28.5	-0.1
ZALV	Zalesovo Beam	43.46	315	P	P	06 21 28.1	-0.5
	comp=Z,3.3nm,0.9s,baz=103,slow=6.5,SNR=7.8						
ZALV				PcP	PcP	06 23 16.9	+0.4
	comp=Z,2.7nm,0.7s,baz=91,slow=5.9,SNR=5.6						
ZALV				LR	LR	06 40 01.0	
	comp=Z,76nm,18.0s,baz=98,slow=36						
ZALV	Zalesovo Beam	43.46	315	P	P	06 21 27.6	-0.9
SRIT	Nakonsritamara	44.29	246	P	P	06 21 34.8	-0.9
MK31	Makanchi Array	44.97	305	P	P	06 21 41.0	+0.2
MK31				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MK31	Makanchi Array	44.97	305	P	P	06 21 41.0	+0.2
MKAR	Makanchi Array	44.97	305	P	P	06 21 41.2	+0.3
	comp=Z,2.6nm,0.8s,baz=88,slow=9.8,SNR=12						
MKAR				LR	LR	06 41 12.5	
	comp=Z,197nm,19.4s,baz=85,slow=37						
MKAR	Makanchi Array	44.97	305	P	P	06 21 40.7	-0.1
MAKZ	Makanchi	45.18	305	P	P	06 21 42.3	-0.2
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAKZ	Makanchi	45.18	305	P	P	06 21 42.3	-0.2
KURK	Kurchatov	47.18	311	P	P	06 21 58.4	+0.3
KURK	Kurchatov	47.18	311	P	P	06 21 58.4	+0.3
KURBB	Kurchatov Arra	47.24	311	P	P	06 21 58.4	-0.2
	comp=Z,3.5nm,0.9s,baz=86,slow=7.9,SNR=23						
RDOG	Red Dog Mine	47.54	25	P	P	06 22 03.1	+2.4
RDOG				IAmb	IAmb	06 22 29.6	
	comp=Z,5.0nm,0.6s						
N18K	Kilae Creek	49.26	36	P	P	06 22 15.7	+1.6
	baz=267						
SVW2	Sparrevohn	49.44	35	P	P	06 22 16.9	+1.5
L19K	White Mountain	49.85	34	P	P	06 22 20.2	+1.6
	baz=266						
M19K	Big River Lodg	50.05	34	P	P	06 22 21.2	+1.2
	baz=267						
K20K	Telida	50.29	32	P	P	06 22 23.1	+1.3
	baz=266,SNR=8.5						
J20K	Nowinta River	50.32	31	P	P	06 22 23.5	+1.4
	baz=265,SNR=9.9						
IMAR	Indian Mountai	50.66	29	P	P	06 22 24.7	+0.1
RSO	Redoubt South	50.80	36	P	P	06 22 26.7	+0.8
O20K	Slope Mountain	50.86	37	P	P	06 22 27.3	+1.0
	baz=270						
KDAK	Kodiak Island	50.92	40	P	P	06 22 27.1	+0.4
	comp=Z,18nm,1.1s,baz=287,slow=4.4,SNR=11						
H21K	Melozitna Rive	51.01	30	P	P	06 22 29.1	+1.8
	baz=265						
SPCR	Spurr Chakacha	51.07	35	P	P	06 22 29.6	+1.7
	baz=270						
PPLA	Purkeypile	51.12	33	P	P	06 22 30.0	+1.7
	baz=268						
PPLA	Purkeypile	51.12	33	P	P	06 22 30.3	+2.0
PPLA				IAmb	IAmb	06 22 31.3	
	comp=Z,22nm,1.3s						
I21K	Tanana	51.32	30	P	P	06 22 30.9	+1.3
	baz=266,SNR=11						
SKT	Skwentna	51.41	34	P	P	06 22 31.6	+1.3
	baz=270						
SKT	Skwentna	51.41	34	P	P	06 22 31.8	+1.5
BPAW	Bear Paw Mtn.	51.70	32	P	P	06 22 33.8	+1.3
	baz=268						
KTH	Kantishna Hill	51.71	32	P	P	06 22 34.6	+2.0
KTH				IAmb	IAmb	06 22 36.1	
	comp=Z,14nm,1.2s						
MLY	Manley	51.84	30	P	P	06 22 34.2	+0.7
	baz=268,SNR=16						
MLY	Manley	51.84	30	P	P	06 22 34.7	+1.1
MLY				IAmb	IAmb	06 22 37.0	
	comp=Z,26nm,1.4s						
BVAR	Borovoye Array	52.08	314	PcP	PcP	06 23 48.0	+0.7
	comp=Z,1.9nm,0.8s,baz=156,slow=11,SNR=4.0						
BRVK	Borovoye	52.14	314	⇓*e*P	P	06 22 38.0	+2.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
O22K	Cooper Landing	52.30	36	P	P	06 22 39.2	+2.3
BWN	Browne	52.37	32	P	P	06 22 39.6	+2.2
H23K	Yukon River	52.37	29	P	P	06 22 38.6	+1.2
	baz=268,SNR=20						
I23K	Minto, Yukon-K	52.43	30	P	P	06 22 38.4	+0.6
	baz=269						
I23K	Minto, Yukon-K	52.43	30	P	P	06 22 40.0	+2.2
I23K				IAmb	IAmb	06 22 44.4	
	comp=Z,16nm,1.4s						
SEW	Seward	52.45	37	P	P	06 22 38.6	+0.6
	baz=273						
TOLK	Toolik Lake Re	52.50	26	P	P	06 22 39.4	+0.9
	baz=266,SNR=9.7						
TOLK	Toolik Lake Re	52.50	26	P	P	06 22 40.2	+1.8
TOLK				IAmb	IAmb	06 22 44.9	
	comp=Z,14nm,1.1s						
NEA2	Nenana	52.54	31	P	P	06 22 39.0	+0.3
	baz=270,SNR=16						
NEA2	Nenana	52.54	31	P	P	06 22 40.5	+1.8
NEA2				IAmb	IAmb	06 22 45.1	
	comp=Z,19nm,1.0s						
MCK	McKinley	52.60	32	P	P	06 22 40.3	+1.1
MCK				pmax	pmax		
	comp=Z,14nm,1.2s						
MCK	McKinley	52.60	32	P	P	06 22 40.1	+1.0
	baz=270						
MCK	McKinley	52.60	32	P	P	06 22 40.2	+1.1
MCK				IAmb	IAmb	06 22 42.5	
	comp=Z,14nm,1.2s						
RND	Reindeer	52.64	32	P	P	06 22 40.5	+1.0
RND				pmax	pmax		
	comp=Z,12nm,0.9s						
RND	Reindeer	52.64	32	P	P	06 22 40.5	+1.0
RND				IAmb	IAmb	06 22 45.1	
	comp=Z,12nm,0.9s						
WAT1	Susitna Watana	52.79	33	P	P	06 22 41.4	+0.8
	baz=271						
KNK	Knik Glacier	52.88	35	P	P	06 22 42.5	+1.2
	baz=273						
MDM	Murphy Dome	52.91	31	P	P	06 22 42.5	+1.1
SML	Sawmill	52.92	34	P	P	06 22 42.5	+0.9
	baz=272						
WRH	Wood River Hil	52.97	31	P	P	06 22 42.7	+0.8
H24K	Noodor Dome	53.05	29	P	P	06 22 43.8	+1.3
	baz=270,SNR=10						
COLA	College	53.07	31	⇓*e*P	P	06 22 44.4	+1.9
COLA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CCB	Clear Creek Bu	53.09	31	P	P	06 22 42.9	+0.2
WR0	Warramunga Arr	53.14	186	P	P	06 22 41.5	-2.1
WR0				IAmb	IAmb	06 23 06.7	
	comp=Z,12nm,1.3s						
WB2	Warramunga Arr	53.14	186	P	P	06 22 42.0	-1.5
WB2				IAmb	IAmb	06 22 48.6	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	53.14	186	P	P	06 22 41.2	-2.4
	comp=Z,1.2nm,0.6s,baz=4.3,slow=7.7,SNR=8.1						
WRA	Warramunga Arr	53.14	186	P	P	06 22 41.8	-1.8
WRA	Warramunga Arr	53.14	186	P	P	06 22 41.8	-1.8
WAT6	Susitna Watana	53.17	34	P	P	06 22 44.3	+0.8
	baz=272						
POKR	Poker Plat Res	53.24	30	P	P	06 22 44.5	+0.6
	baz=271						
POKR	Poker Plat Res	53.24	30	P	P	06 22 45.0	+1.1
HDA	Harding Lake

ILAR	Eielson Array	53.48	31	P	P	06 22 45.8	+0.2
KK31	Karatay Array	53.80	302	P	P	06 22 48.1	-0.2
KK31				pmax	pmax		
	comp=Z,15nm,1.5s						
KK31	Karatay Array	53.80	302	P	P	06 22 48.1	-0.2
KK31				IAmb	IAmb	06 22 53.5	
	comp=Z,15nm,1.4s						
KKAR	Karatay Array	53.80	302	P	P	06 22 47.9	-0.4
KKAR				pmax	pmax		
	comp=Z,15nm,1.5s						
KKAR	Karatay Array	53.80	302	P	P	06 22 47.9	-0.4
KKAR	Karatay Array	53.80	302	P	P	06 22 48.2	-0.1
KKAR				IAmb	IAmb	06 22 53.5	
	comp=Z,15nm,1.4s						
PRP	Porcupine Dome	54.03	30	P	P	06 22 51.0	+1.1
	baz=272						
PRP	Porcupine Dome	54.03	30	P	P	06 22 51.4	+1.6
KLU	Klutina	54.09	35	P	P	06 22 51.5	+1.3
	baz=275						
FYU	Fort Yukon	54.12	28	P	P	06 22 52.0	+1.8
PAX	Paxson	54.19	33	P	P	06 22 52.1	+1.1
PAX				pmax	pmax		
	comp=Z,17nm,1.4s						
PAX	Paxson	54.19	33	P	P	06 22 51.9	+1.0
	baz=274						
PAX	Paxson	54.19	33	P	P	06 22 52.1	+1.1
PAX				IAmb	IAmb	06 22 57.0	
	comp=Z,17nm,1.4s						
BMAR	Burnt Mountain	54.35	27	P	P	06 22 53.9	+1.8
HARP	HAARP	54.38	34	P	P	06 22 53.6	+1.4
	baz=275						
RIDG	Independent Ri	54.42	32	P	P	06 22 53.7	+1.1
	baz=274						
BMRM	Bremner River	54.77	35	P	P	06 22 56.2	+1.0
	baz=276						
BMRM	Bremner River	54.77	35	P	P	06 22 56.2	+1.0
BMRM				IAmb	IAmb	06 23 04.6	
	comp=Z,14nm,1.0s						
DOT	Dot Lake	54.77	32	P	P	06 22 56.0	+0.9
DOT				IAmb	IAmb	06 23 01.7	
	comp=Z,9.9nm,1.4s						
SCRK	Sand Creek	54.78	32	P	P	06 22 55.7	+0.4
	baz=275,SNR=12						
SCRK	Sand Creek	54.78	32	P	P	06 22 56.1	+0.8
SCRK				IAmb	IAmb	06 23 00.9	
	comp=Z,14nm,1.1s						
MENT	Mentasta	54.99	33	P	P	06 22 58.6	+1.9
MENT				IAmb	IAmb	06 23 04.5	
	comp=Z,7.3nm,0.8s						
GLB	Gilahina Butte	55.10	35	P	P	06 22 58.9	+1.3
L26K	Log Cabin Wild	55.15	33	P	P	06 22 58.8	+1.0
	baz=276,SNR=8.3						
MCARA	McCarthy VSAT	55.49	35	P	P	06 23 01.8	+1.6
	baz=277						
CRQM	Cirque	55.51	36	P	P	06 23 02.3	+1.6
CRQE	Cirque	55.53	36	P	P	06 23 02.2	+1.5
	baz=278						
K27K	Chicken	55.62	31	P	P	06 23 02.5	+1.4
	baz=276						
K27K	Chicken	55.62	31	P	P	06 23 02.8	+1.6
K27K				IAmb	IAmb	06 23 03.7	
	comp=Z,13nm,1.2s						
L27K	Beaver Creek,	55.84	33	P	P	06 23 03.4	+0.6
	baz=277,SNR=9.3						
L27K	Beaver Creek,	55.84	33	P	P	06 23 04.8	+2.0
L27K				IAmb	IAmb	06 23 09.4	
	comp=Z,10nm,1.1s						
BCAR	Beaver Creek A	55.85	33	P	P	06 23 04.3	+1.4
EGAK	Eagle	55.93	31	P	P	06 23 04.4	+1.0
	baz=276						
EGAK	Eagle	55.93	31	P	P	06 23 04.1	+0.8
EGAK				IAmb	IAmb	06 23 10.1	
	comp=Z,10nm,1.4s						
DAWY	Dawson	56.78	31	P	P	06 23 11.0	+1.5
DAWY				IAmb	IAmb	06 23 17.0	
	comp=Z,12nm,1.4s						
ASAR	Alice Springs	56.87	186	P	P	06 23 08.5	-1.9
	comp=Z,0.6nm,0.6s,baz=16,slow=13,SNR=10						
EPYK	Eagle Plains	57.54	28	P	P	06 23 15.6	+0.8
	baz=279,SNR=23						
EPYK	Eagle Plains	57.54	28	P	P	06 23 16.8	+1.9
HYT	Haines Junctio	58.22	35	P	P	06 23 22.4	+2.6
HYT				IAmb	IAmb	06 23 27.1	
	comp=Z,13nm,1.0s						
ARU	Arti	58.24	320	*c iP*	P	06 23 20.0	+0.2
ARU						06 24 10.4	
ARU				S	S	06 31 21.6	+1.3
ARU				SS	SS	06 35 10.1	-1.6
ARU				pmax	pmax		
	comp=Z,14nm,1.2s						
ARU	Arti	58.24	320	P	P	06 23 19.3	-0.5
ARU				IAmb	IAmb	06 23 24.1	
	comp=Z,14nm,1.2s						
INK	Inuvik	58.42	26	P	P	06 23 21.9	+1.0
	comp=Z,6.1nm,0.9s,baz=291,slow=6.5,SNR=9.5						
INK				LR	LR	06 47 14.3	
	comp=Z,215nm,21.9s,baz=355,slow=35						
INK	Inuvik	58.42	26	P	P	06 23 22.1	+1.2
INK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
INK	Inuvik	58.42	26	P	P	06 23 21.4	+0.6
	baz=281,SNR=7.5						
INK	Inuvik	58.42	26	P	P	06 23 22.1	+1.2
INK				IAmb	IAmb	06 23 26.6	
	comp=Z,8.0nm,0.9s						
ABKAR	Akbulak array	59.28	311	P	P	06 23 26.6	-0.6
ABKAR	Akbulak array	59.28	311	P	P	06 23 27.0	-0.1
ABKAR				IAmb	IAmb	06 23 39.5	
	comp=Z,8.2nm,1.2s						
EIDS	Eidsvold	59.32	168	P	P	06 23 27.3	-0.3
EIDS				IAmb	IAmb	06 23 35.4	
	comp=Z,7.7nm,1.1s						
AKTO	Aktyubinsk	60.13	313	P	P	06 23 33.4	+0.4
	comp=Z,3.0nm,0.8s,baz=74,slow=11,SNR=12						
DZM	Mont Dzumac	60.69	151	*e*LR	LR	06 41 36.9	
	comp=Z,129nm,24.9s						
C36M	Paulatuk	61.47	24	P	P	06 23 42.9	+1.1
	baz=289						
C36M	Paulatuk	61.47	24	P	P	06 23 42.4	+0.6
WRAK	Wrangell Islan	61.99	39	P	P	06 23 46.4	+0.9
	baz=289						
DLBC	Dease Lake	62.52	36	P	P	06 23 50.3	+1.1
DLBC				IAmb	IAmb	06 23 56.2	
	comp=Z,9.3nm,1.1s						
PRGR	Permogore	63.14	328	*e*P	P	06 23 50.3	-2.8
PRGR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FORT	Forrest	64.62	191	P	P	06 24 02.0	-1.1
STKA	Stephens Creek	64.81	178	P	P	06 24 03.4	-0.9
	comp=Z,3.1nm,0.8s,baz=340,slow=6.1,SNR=3.9						
KLMR	Klimovskoe	66.16	328	*e*P	P	06 24 08.8	-4.0
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	Klimovskoe	66.16	328	*e*P	P	06 24 08.9	-3.9
KLMR				AMP		06 24 17.0	
	comp=Z,8.0nm,1.1s						
KLMR				*e*PP	PP	06 26 33.8	-4.3
ARCES	ARCESS Array B	67.01	340	P	P	06 24 19.8	+1.7
	comp=Z,2.3nm,0.7s,baz=74,slow=8.9,SNR=4.9						
ARCES				LR	LR	06 59 22.5	
	comp=Z,83nm,18.3s,baz=10.0,slow=41						
ARCES	ARCESS Array B	67.01	340	P	P	06 24 18.9	+0.8
YKA	Yellowknife Ar	67.82	29	P	P	06 24 23.6	+0.3
	comp=Z,2.6nm,0.9s,baz=297,slow=5.8,SNR=12						
JOF	Joensuu	68.60	332	P	P	06 24 28.7	+0.5
JOF				pmax	pmax		
	comp=Z,20nm,1.1s						
OUL	Oulu	69.41	336	P	P	06 24 33.6	+0.4
OUL				pmax	pmax		
	comp=Z,11nm,0.9s						
A05A	Maple Falls	70.67	44	P	P	06 24 42.4	+1.2
A05A				IAmb	IAmb	06 24 43.4	
	comp=Z,9.0nm,1.0s						
B06A	Marblemount	71.25	44	P	P	06 24 46.2	+1.4
B06A				IAmb	IAmb	06 24 48.6	
	comp=Z,16nm,1.3s						
FIA1	FINESS Array S	71.46	332	P	P	06 24 45.7	0.0
FIA1				IAmb	IAmb	06 24 47.6	
	comp=Z,12nm,0.9s						
FINES	FINESS Array B	71.46	332	P	P	06 24 45.9	+0.2
	comp=Z,7.8nm,0.8s,baz=73,slow=6.6,SNR=22						
FINES	FINESS Array B	71.46	332	P	P	06 24 46.0	+0.2
FINES	FINESS Array B	71.46	332	P	P	06 24 46.0	+0.2
E04D	Cinebar	71.56	46	P	P	06 24 48.0	+1.3
	baz=299						
KBZ	Khabaz	72.24	311	P	P	06 24 52.1	+1.4
	comp=Z,3.1nm,0.9s,baz=196,slow=5.2,SNR=5.5						
KIV	Kislovodsk	72.26	311	*e*P	P	06 24 52.6	+1.5
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LTY	Liberty	72.35	45	P	P	06 24 53.2	+1.7
J01E	Myrtle Point	72.36	50	P	P	06 24 53.1	+1.6
	baz=299						
B08A	Colville Reser	72.58	43	P	P	06 24 54.0	+1.2
B08A				IAmb	IAmb	06 24 59.0	
	comp=Z,12nm,1.4s						
H04A	Detroit Lake	72.71	48	P	P	06 24 54.9	+1.2
H04A				IAmb	IAmb	06 25 04.4	
	comp=Z,10nm,1.0s						
EDM	Edmonton	73.24	37	P	P	06 24 57.0	+0.4
EDM				pmax	pmax		
	comp=Z,22nm,1.2s						
EDM	Edmonton	73.24	37	P	P	06 24 57.0	+0.4
C09A	Chrisman Ranch	73.47	43	P	P	06 24 58.7	+0.6
L04D	Klamath Falls	73.87	50	P	P	06 25 01.5	+0.8
	baz=300						
NEW	Newport	73.89	43	P	P	06 25 01.4	+0.8
NEW				pmax	pmax		
	comp=Z,6.0nm,1.2s						
NEW	Newport	73.89	43	P	P	06 25 01.4	+0.8
	baz=302						
NEW	Newport	73.89	43	P	P	06 25 01.4	+0.8
M02C	Callahan	73.93	51	P	P	06 25 02.1	+1.1
	baz=300						
PINE	Pine Mountain	73.94	48	P	P	06 25 03.0	+1.9
J05D	Fort Rock, OR	74.01	49	P	P	06 25 02.8	+1.3
	baz=301						
N02D	Trinity Center	74.24	51	P	P	06 25 04.0	+1.2
	baz=300						
O02D	Mt. Diablo Mer	74.59	52	P	P	06 25 06.2	+1.3
	baz=301						
WALA	Waterton Lakes	75.24	41	P	P	06 25 09.0	+0.5
WALA				IAmb	IAmb	06 25 14.6	
	comp=Z,17nm,1.4s						
MOD	Modoc Plateau	75.31	49	P	P	06 25 10.9	+1.8
BMO	Blue Mountains	75.60	46	P	P	06 25 12.2	+1.5
BMO				pmax	pmax		
	comp=Z,11nm,1.5s						
BMO	Blue Mountains	75.60	46	P	P	06 25 12.2	+1.5
BMO				IAmb	IAmb	06 25 17.1	
	comp=Z,11nm,1.5s						
J08A	Circle Bar Ran	75.69	47	P	P	06 25 12.5	+1.3
J08A				IAmb	IAmb	06 25 22.7	
	comp=Z,5.8nm,0.9s						
JTMT	Jette	75.77	42	P	P	06 25 12.9	+1.3
JTMT				IAmb	IAmb	06 25 17.8	
	comp=Z,18nm,1.4s						
WVOR	Wild Horse Val	76.08	48	P	P	06 25 14.7	+1.3
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WVOR	Wild Horse Val	76.08	48	P	P	06 25 14.7	+1.3
WVOR				IAmb	IAmb	06 25 37.7	
	comp=Z,9.1nm,1.0s						
AKASG	Malin Array Be	76.37	322	P	P	06 25 14.6	-0.1
	comp=Z,0.6nm,0.4s,baz=50,slow=5.6,SNR=8.1						
AKASG	Malin Array Be	76.37	322	*i* P	P	06 25 13.8	-0.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NC405	NORSAR Array S	76.86	337	P	P	06 25 16.8	-0.5
HFS	Hagfors	76.90	335	P	P	06 25 17.5	-0.1
	comp=Z,9.0nm,0.9s,baz=54,slow=7.5,SNR=12						
NB201	NORSAR Array S	77.05	337	P	P	06 25 18.1	-0.3
NC204	NORSAR Array S	77.05	337	P	P	06 25 18.4	0.0
NB2	NORSAR Subarra	77.08	337	P	P	06 25 18.1	-0.5
	comp=Z,2.4nm,0.7s,baz=41,slow=5.6						
NOA	NORSAR Array B	77.08	337	P	P	06 25 18.8	+0.1
	comp=Z,5.3nm,0.8s,baz=42,slow=5.6,SNR=18						
NOA				LR	LR	07 03 09.8	
	comp=Z,92nm,19.5s,baz=35,slow=39						
MFID	Camas Ranch	77.28	46	P	P	06 25 21.7	+1.5
CMB	Columbia Colle	77.30	53	P	P	06 25 21.6	+1.3
CMB				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CMB	Columbia Colle	77.30	53	P	P	06 25 21.6	+1.3
CMB				IAmb	IAmb	06 25 25.5	
	comp=Z,8.2nm,1.3s						
YERR	Yerington	77.55	52	P	P	06 25 22.6	+0.7
FFC	Flin Flon	77.69	31	P	P	06 25 22.8	+0.7
FFC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
FFC	Flin Flon	77.69	31	P	P	06 25 22.8	+0.7
FFC				IAmb	IAmb	06 25 27.1	
	comp=Z,10nm,1.2s						
HRY	Holter Researc	77.73	42	P	P	06 25 24.3	+1.7
LRM	Limekiln Ridge	77.90	43	P	P	06 25 25.1	+1.4
HLID	Hailey	78.05	46	P	P	06 25 25.5	+1.0
	baz=305						
DLMT	Dillon	78.08	43	P	P	06 25 25.1	+0.4
DLMT				IAmb	IAmb	06 25 36.2	
	comp=Z,9.4nm,1.1s						
EGMT	Eagleton	78.10	40	P	P	06 25 25.4	+0.8
	baz=307						
EGMT	Eagleton	78.10	40	P	P	06 25 26.2	+1.6
EGMT				IAmb	IAmb	06 25 35.4	
	comp=Z,10nm,1.0s						
RYN	Ryan	78.21	52	P	P	06 25 26.8	+1.3
BCYI	Bear Canyon	78.22	45	P	P	06 25 25.7	+0.1
KVN	Kaiserville	78.26	51	P	P	06 25 27.1	+1.3
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KVN	Kaiserville	78.26	51	P	P	06 25 27.1	+1.3
LHV	Little Huntoon	78.43	52	P	P	06 25 28.2	+1.7
LHV				IAmb	IAmb	06 25 37.6	
	comp=Z,7.9nm,1.1s						
NVAR	Mina Array Bea	78.46	52	P	P	06 25 28.4	+1.3
	comp=Z,1.6nm,0.7s,baz=295,slow=5.2,SNR=12						
BOZ	Bozeman (W)	78.50	43	P	P	06 25 28.2	+1.2
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BOZ	Bozeman (W)	78.50	43	P	P	06 25 28.2	+1.2
	baz=306						
BOZ	Bozeman (W)	78.50	43	P	P	06 25 28.1	+1.2
KONO	Kongsberg	78.66	337	*ce*P	P	06 25 31.8	+4.4
KONO				pmax	pmax		
	comp=Z,24nm,1.7s						
ELK	Elko	79.14	48	P	P	06 25 31.8	+1.1
ELK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ELK	Elko	79.14	48	P	P	06 25 31.8	+1.1
BNN	Bunyan	79.31	309	P	P	06 25 31.5	-0.1
VES	Vestal, Richgr	79.36	54	P	P	06 25 32.5	+0.8
	baz=303						
TPH	Tonopah	79.37	51	P	P	06 25 33.1	+1.1
TPH				pmax	pmax		
	comp=Z,56nm,1.4s						
TPH	Tonopah	79.37	51	P	P	06 25 33.0	+1.1
PKM	Mcpherson Peak	79.38	55	P	P	06 25 33.0	+0.9
	baz=303						
YMR	Madison River	79.42	43	P	P	06 25 33.3	+1.1
GCMT	Greycliff	79.49	42	P	P	06 25 33.9	+1.5
SBC	Santa Barbara	79.69	56	P	P	06 25 34.9	+1.4
	baz=303						
CWC	Cottonwood Cre	79.71	53	P	P	06 25 34.9	+1.2
	baz=304						
H17A	Grant Village	79.81	43	P	P	06 25 35.6	+1.3
H17A				IAmb	IAmb	06 25 47.7	
	comp=Z,10nm,1.1s						
ISA	Isabella, Lake	79.87	54	P	P	06 25 34.7	+0.1
ISA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ISA	Isabella, Lake	79.87	54	P	P	06 25 35.1	+0.5
	baz=304						
ISA	Isabella, Lake	79.87	54	P	P	06 25 34.7	+0.1
GRAC	Grapevine Rang	79.88	52	P	P	06 25 35.7	+1.2
	baz=304						
ARVC	Arvin	79.92	55	P	P	06 25 35.8	+1.1
	baz=304						
RLMT	Red Lodge	80.12	42	P	P	06 25 37.1	+1.2
	baz=308						
BR131	Keskin Array S	80.23	311	P	P	06 25 36.6	+0.1
BR131				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BR131	Keskin Array S	80.23	311	P	P	06 25 36.6	+0.1
BRTR	Keskin Array B	80.23	311	P	P	06 25 36.6	+0.1
	comp=Z,2.3nm,0.9s,baz=114,slow=3.1,SNR=14						
R11A	Troy Canyon, C	80.28	50	P	P	06 25 38.0	+1.1
	baz=305						
R11A	Troy Canyon, C	80.28	50	P	P	06 25 37.1	+0.3
BURAR	Bucovina Array	80.34	321	P	P	06 25 37.0	+0.1
FURC	Furnace Creek,	80.51	53	P	P	06 25 39.3	+1.5
	baz=304						
LRMC	Laurel Mtn Rad	80.51	54	P	P	06 25 39.2	+1.1
	baz=304						
EDW2	Edwards Air Fo	80.63	54	P	P	06 25 39.7	+1.1
	baz=304						
TPNV	Topopah Spring	80.64	52	P	P	06 25 39.8	+0.9
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TPNV	Topopah Spring	80.64	52	P	P	06 25 39.7	+0.9
	baz=305						
TPNV	Topopah Spring	80.64	52	P	P	06 25 39.8	+0.9
TPNV				IAmb	IAmb	06 25 49.6	
	comp=Z,8.9nm,1.1s						
LAO	LASA Array	80.81	40	P	P	06 25 40.6	+1.2
	baz=309						
LAO	LASA Array	80.81	40	P	P	06 25 40.4	+1.0
LAO				IAmb	IAmb	06 25 44.6	
	comp=Z,14nm,1.4s						
HWUT	Hardware Ranch	80.89	46	P	P	06 25 41.5	+1.4
DUG	Dugway, Tooele	80.97	48	P	P	06 25 41.7	+1.2
	baz=306						
PRN	Pahroc Range	81.17	51	P	P	06 25 42.7	+1.1
GSC	Goldstone, Bar	81.20	54	P	P	06 25 42.9	+1.1
	baz=305						
SHOC	Shoshone, Teco	81.22	53	P	P	06 25 42.9	+1.2
	baz=305						
BFSC	Mount Baldy Ra	81.22	55	P	P	06 25 42.9	+1.0
	baz=304						
PSUT	Pine Spring	81.28	50	P	P	06 25 43.3	+1.0
MDUB	Mudurnu	81.31	313	P	P	06 25 41.7	-0.5
PDAR	Pinedale Array	81.39	44	P	P	06 25 43.0	+0.2
	comp=Z,0.5nm,0.6s,baz=326,slow=1.8,SNR=4.9						
PDAR	Pinedale Array	81.39	44	P	P	06 25 43.0	+0.2
SHPR	Sheep Range	81.61	52	P	P	06 25 44.8	+0.8
SHPR				IAmb	IAmb	06 25 55.1	
	comp=Z,8.7nm,1.3s						
TUQ	Turquoise Moun	81.72	53	P	P	06 25 45.5	+0.9
	baz=305						
CCUT	Cedar City	82.17	50	P	P	06 25 47.7	+0.7
GMRC	Granite Mounta	82.27	53	P	P	06 25 48.1	+0.7
	baz=305						
MVU	Marysvale	82.34	49	P	P	06 25 49.2	+1.3
MSU	Marysvale	82.36	49	P	P	06 25 49.4	+1.4
MSU	Marysvale	82.36	49	P	P	06 25 49.4	+1.4
PFO	Pinyon Flats O	82.40	55	LR	LR	06 53 54.4	
	comp=Z,140nm,21.6s,baz=263,slow=30						
PFO	Pinyon Flats O	82.40	55	*ce*P	P	06 25 53.2	+5.1
PFO	Pinyon Flats O	82.40	55	P	P	06 25 48.7	+0.7
	baz=305						
PFO	Pinyon Flats O	82.40	55	P	P	06 25 48.8	+0.7
PFO				IAmb	IAmb	06 25 58.7	
	comp=Z,13nm,1.4s						
TPFO	Pinon Flats	82.40	55	P	P	06 25 48.8	+0.6
	baz=305						
BELC	Belle Mtn. Jos	82.49	54	P	P	06 25 49.0	+0.4
	baz=305						
LCMT	Little Creek M	82.57	50	P	P	06 25 50.2	+1.3
LCMT				IAmb	IAmb	06 25 54.3	
	comp=Z,5.2nm,1.0s						
MTPU	Mount Pierson	82.64	49	P	P	06 25 51.1	+1.5
P17A	Butcher Ranch,	82.68	47	P	P	06 25 49.9	+0.4
P17A				IAmb	IAmb	06 25 54.9	
	comp=Z,9.6nm,1.1s						
MORC	Moravsky Berou	82.69	326	P	P	06 25 48.7	-0.5
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORC	Moravsky Berou	82.69	326	P	P	06 25 48.7	-0.5
RDMU	Red Mountain	82.72	46	P	P	06 25 50.8	+1.0
RDMU				IAmb	IAmb	06 26 01.0	
	comp=Z,10nm,1.0s						
MONP2	Monument Peak	82.83	55	P	P	06 25 51.2	+0.8
	baz=305						
KNB	Kanab	82.84	50	P	P	06 25 51.9	+1.5
KNB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KNB	Kanab	82.84	50	P	P	06 25 51.9	+1.5
KNB				IAmb	IAmb	06 25 56.1	
	comp=Z,9.2nm,1.2s						
PSZ	Piszkesteto	82.84	324	P	P	06 25 49.4	-0.7
PSZ				pmax	pmax		
	comp=Z,16nm,1.5s						
PSZ	Piszkesteto	82.84	324	P	P	06 25 49.4	-0.7
PSZ				IAmb	IAmb	06 25 56.0	
	comp=Z,16nm,1.5s						
VYHS	Vyhne	82.97	325	*e*P	P	06 25 52.4	+1.8
VYHS	Vyhne	82.97	325	*e*P	P	06 25 52.4	+1.8
SRU	San Rafael Swe	83.03	47	P	P	06 25 52.5	+1.1
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SRU	San Rafael Swe	83.03	47	P	P	06 25 52.5	+1.1
SRU				IAmb	IAmb	06 25 56.9	
	comp=Z,6.1nm,0.6s						
IKP	In-Ko-Pah, Jac	83.19	55	P	P	06 25 53.5	+1.4
	baz=305						
K22A	Casper	83.21	43	P	P	06 25 52.5	+0.3
	baz=310						
K22A	Casper	83.21	43	P	P	06 25 52.5	+0.3
K22A				IAmb	IAmb	06 25 59.0	
	comp=Z,8.6nm,1.1s						
SWSC	Sam W. Stewart	83.23	55	P	P	06 25 54.1	+1.8
	baz=305						
U15A	North Rim	83.53	50	P	P	06 25 55.5	+1.3
U15A				IAmb	IAmb	06 26 04.2	
	comp=Z,5.0nm,1.1s						
CLL	Collm	83.61	330	*i* P	P	06 25 53.8	-0.1
	comp=Z,9.0nm,1.2s						
CLL	Collm	83.61	330	*i* P	P	06 25 53.8	-0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CLL	Collm	83.61	330	P	P	06 25 53.8	-0.1
CLL				IAmb	IAmb	06 25 55.3	
	comp=Z,8.1nm,1.1s						
SMOL	Smolenice	83.63	326	*e*P	P	06 25 55.2	+1.2
SMOL	Smolenice	83.63	326	*e*P	P	06 25 55.2	+1.2
RSSD	Black Hills	83.64	40	P	P	06 25 56.1	+1.6
RSSD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
RSSD	Black Hills	83.64	40	P	P	06 25 56.1	+1.6
RSSD				IAmb	IAmb	06 25 56.6	
	comp=Z,5.7nm,1.2s						
O20A	White River Ci	83.79	46	P	P	06 25 56.4	+1.1
	baz=309						
MODS	Modra-Piesok	83.80	325	*e*P	P	06 26 00.1	+5.2
MODS	Modra-Piesok	83.80	325	*e*P	P	06 26 00.1	+5.2
GLA	Glamis	83.83	54	P	P	06 25 57.1	+1.6
	baz=306						
PMOR	Pomariorio Ree	84.09	112	*e*T	T	07 58 00.6	
	comp=Z,5.7nm,0.2s						
PPT2	Papeete2	84.34	115	*e*LR	LR	06 52 19.6	
	comp=Z,220nm,28.5s						
PV10	Paradox Valley	84.40	47	P	P	06 25 59.3	+0.8
PV22	Blue Mesa, Par	84.45	47	P	P	06 26 00.3	+1.6
PV22				IAmb	IAmb	06 26 10.3	
	comp=Z,6.5nm,0.9s						
PV20	West Nyswonger	84.46	47	P	P	06 25 59.9	+1.2
PV04	Paradox Valley	84.47	47	P	P	06 25 59.8	+1.0
PV19	Morning Glory	84.47	47	P	P	06 25 58.7	-0.1
PV17	East Wray Mesa	84.51	47	P	P	06 25 59.7	+0.7
PV16	Nyswonger Mesa	84.51	47	P	P	06 25 59.9	+0.9
PV05	Paradox Valley	84.55	48	P	P	06

MVCO	Mesa Verde	85.46	48	P	P	06 26 04.9	+1.0
	baz=309						
ISCO	Idaho Springs	85.56	45	P	P	06 26 05.0	+0.7
	baz=310						
S22A	4UR Ranch, Cre	86.15	47	P	P	06 26 08.4	+1.0
	baz=310						
SDCO	Great Sand Dun	86.95	46	P	P	06 26 12.5	+1.3
	baz=311						
EYMN	Ely	87.12	32	P	P	06 26 12.5	+1.0
	baz=319						
SNF	Seneffe	87.73	333	*d*P	P	06 26 14.3	0.0
SNF				*d*x	x	06 26 29.0	
ECSD	EROS Data Cent	87.81	37	P	P	06 26 15.4	+0.5
	baz=316						
TBI	Tubuai	87.91	120	*e*LR	LR	06 53 48.9	
	comp=Z,83nm,34.8s						
T25A	Trinidad	88.01	46	P	P	06 26 16.9	+0.6
	baz=311						
ANMO	Albuquerque	88.17	49⇓	*e*P	P	06 26 18.3	+1.3
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	Albuquerque	88.17	49	P	P	06 26 18.1	+1.0
	baz=310						
BGNE	Belgrade	88.66	40	P	P	06 26 19.3	+0.2
	baz=315						
121A	Cookes Peak, D	88.85	51	P	P	06 26 21.1	+0.9
	baz=310						
TX31	Lajitas Ar. Si	93.61	51	P	P	06 26 42.4	+0.1
TXAR	Lajitas Array	93.61	51	P	P	06 26 43.3	+1.0
	comp=Z,2.0nm,0.8s,baz=291,slow=3.0,SNR=15						
F64A	Sherman	97.28	19	P	P	06 26 58.6	0.0
LPAZ	La Paz	149.81	63	PKPbc	PKPbc	06 33 16.0	-0.9
	comp=Z,3.1nm,0.8s,baz=359,slow=3.0,SNR=9.3						
LPAZ	La Paz	149.81	63	PKHKP	PKPdf	06 33 11.2	-1.0
LPAZ	La Paz	149.81	63		PKPdf	06 33 11.2	-1.0

KMA 16 06:14:29.1±0.1, 36°.45N×129°.64E, h11km, Error ellipse: s-maj=1.2km s-min=0.4km az=273.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSYOD	Yeongdeok	0.20	286	P	Pg	06 14 34.0	+0.6
	SNR=28						
KSYOD	Yeongdeok	0.20	286	P	Pg	06 14 34.0	+0.6
	SNR=28						
KSULJ	Uljin	0.32	324	P	Pg	06 14 35.7	+0.2
	SNR=867						
KSULJ	Uljin	0.32	324	P	Pg	06 14 35.7	+0.2
	SNR=867						
KSPHA	Pohang	0.33	221	P	Pg	06 14 36.3	+0.5
	SNR=402						
KSPHA	Pohang	0.33	221	P	Pg	06 14 36.3	+0.5
	SNR=402						
KSADO	Andong	0.56	267	P	Pg	06 14 40.1	+0.1
	SNR=114						
KSADO	Andong	0.56	267	P	Pg	06 14 40.1	+0.1
	SNR=114						
UJN	ULJIN	0.58	341	P	Pg	06 14 40.5	+0.1
	SNR=29						
UJN	ULJIN	0.58	341	P	Pg	06 14 40.5	+0.1
	SNR=29						
KSYOC	YEONGCHEON	0.73	230	P	Pg	06 14 43.2	-0.1
	SNR=81						
KSYOC	YEONGCHEON	0.73	230	P	Pg	06 14 43.2	-0.1
	SNR=81						
KSEUS	ULSEONG	0.78	263	P	Pg	06 14 44.0	-0.1
	SNR=23						
KSEUS	ULSEONG	0.78	263	P	Pg	06 14 44.0	-0.1
	SNR=23						
IMWB	Imwonan-gil	0.83	343	P	Pg	06 14 44.7	-0.4
	SNR=143						
IMWB	Imwonan-gil	0.83	343	P	Pg	06 14 44.7	-0.4
	SNR=143						
KSUSN	Ulsan	0.85	210	P	Pg	06 14 45.3	-0.3
	SNR=94						
KSUSN	Ulsan	0.85	210	P	Pg	06 14 45.3	-0.3
	SNR=94						
KSTBA	Taebaek	0.87	321	P	Pg	06 14 45.6	-0.4
	SNR=181						
KSTBA	Taebaek	0.87	321	P	Pg	06 14 45.6	-0.4
	SNR=181						
KSDAG	Daegu	0.91	222	P	Pg	06 14 46.3	-0.3
	SNR=282						
KSDAG	Daegu	0.91	222	P	Pg	06 14 46.3	-0.3
	SNR=282						
KSGWL	Sabuk	1.00	319	P	Pg	06 14 48.3	-0.2
	SNR=31						
KSGWL	Sabuk	1.00	319	P	Pg	06 14 48.3	-0.2
	SNR=31						
KSSAJ	Sangju	1.20	269	P	Pn	06 14 51.4	-0.5
	SNR=45						
KSSAJ	Sangju	1.20	269	P	Pn	06 14 51.4	-0.5
	SNR=45						
KSYOW	Yeongwol	1.20	308	P	Pn	06 14 51.5	-0.4
	SNR=45						
KSYOW	Yeongwol	1.20	308	P	Pn	06 14 51.5	-0.4
	SNR=45						
MIYA	Miryang-si	1.20	218	P	Pg	06 14 52.0	-0.2
	SNR=15						
MIYA	Miryang-si	1.20	218	P	Pg	06 14 52.0	-0.2
	SNR=15						
KSBUS	Busan	1.27	200	P	Pn	06 14 52.5	-0.3
	SNR=32						
KSBUS	Busan	1.27	200	P	Pn	06 14 52.5	-0.3
	SNR=31						
KSBUS	Busan	1.27	200	P	Pn	06 14 52.5	-0.3
	SNR=32						
OKEB	Okgye-meyeon	1.29	336	P	Pn	06 14 53.0	-0.1
	SNR=6.8						
OKEB	Okgye-meyeon	1.29	336	P	Pn	06 14 53.0	-0.1
	SNR=6.8						
KSMGY	Mungyeong	1.29	280	P	Pn	06 14 52.6	-0.5
	SNR=238						
KSMGY	Mungyeong	1.29	280	P	Pn	06 14 52.6	-0.5
	SNR=238						
KSGIC	Gimchen	1.30	254	P	Pn	06 14 53.2	0.0
	SNR=34						
KSGIC	Gimchen	1.30	254	P	Pn	06 14 53.2	0.0
	SNR=34						
KSCPR	CHUPUNGNYEONG	1.37	261	P	Pn	06 14 53.8	-0.4
	SNR=50						
KSCPR	CHUPUNGNYEONG	1.37	261	P	Pn	06 14 53.8	-0.4
	SNR=50						
KSCHJ	Chungju	1.41	288	P	Pn	06 14 54.3	-0.4
	SNR=129						
KSCHJ	Chungju	1.41	288	P	Pn	06 14 54.8	+0.1
	SNR=128						
KSCHJ	Chungju	1.41	288	P	Pn	06 14 54.3	-0.4
	SNR=129						
KSBSA	Busan_acc	1.43	201	P	Pb	06 14 55.8	0.0
	SNR=10						
KSDGY	Daegwallycong	1.46	328	P	Pn	06 14 56.0	+0.4
	SNR=44						
KSDGY	Daegwallycong	1.46	328	P	Pn	06 14 56.0	+0.4
	SNR=44						
KSBON	Boeun	1.48	273	P	Pn	06 14 55.5	-0.3
	SNR=225						
OKCB	Cheongsan-myeo	1.49	267	P	Pn	06 14 56.0	+0.1
	SNR=100						
OKCB	Cheongsan-myeo	1.49	267	P	Pn	06 14 56.0	+0.1
	SNR=100						
EURB	Uiryeong-eup	1.57	225	P	Pb	06 14 58.0	-0.2
	SNR=23						
EURB	Uiryeong-eup	1.57	225	P	Pb	06 14 58.0	-0.2
	SNR=23						
KSWJU	Wonju	1.59	307	P	Pb	06 14 58.2	-0.4
	SNR=66						
KSJMJ	Jumunjin	1.60	334	P	Pb	06 14 58.1	-0.6
	SNR=16						
KSKCH	Geochang	1.62	240	P	Pb	06 14 58.5	-0.6
	SNR=21						
EMSB	Eumseong	1.71	289	P	Pb	06 15 00.2	-0.3
	SNR=25						
HAMB	Hamyang	1.80	239	P	Pb	06 15 02.0	-0.1
	SNR=30						
HAMB	Hamyang	1.80	239	P	Pb	06 15 02.0	-0.1
	SNR=30						
KSCEA	Cheonan	1.95	282	P	Pn	06 15 02.4	+0.1
	SNR=35						
KSIJA	INJE	1.96	322	P	Pb	06 15 05.5	+0.6
	SNR=11						
KSIJA	INJE	1.96	322	P	Pb	06 15 05.5	+0.6
	SNR=11						
KSJEO	Jeonju	1.97	256	P	Pb	06 15 05.0	+0.1
	SNR=54						
KSJEO	Jeonju	1.97	256	P	Pb	06 15 05.0	+0.1
	SNR=54						
KSICN	Icheon	1.97	296	P	Pb	06 15 04.8	-0.3
	SNR=11						
KSCHC	Chuncheon	1.98	313	P	Pb	06 15 05.0	-0.1
	SNR=27						
KSCHC	Chuncheon	1.98	313	P	Pb	06 15 05.0	-0.1
	SNR=27						
KOJ2	Gongju-si	2.01	271	P	Pb	06 15 06.0	+0.2
	SNR=12						
KOJ2	Gongju-si	2.01	271	P	Pb	06 15 06.0	+0.2
	SNR=12						
NAWB	Namwon	2.09	241	P	Pb	06 15 07.0	-0.1
	SNR=18						
NAWB	Namwon	2.09	241	P	Pb	06 15 07.0	-0.1
	SNR=18						
SEHB	SEOHWA	2.13	329	P	Pn	06 15 04.6	-0.1
	SNR=9.8						
GWYB	Gwangyang	2.18	227	P	Pg	06 15 10.0	-1.0
	SNR=9.2						
KSCWO	Cheorwon	2.35	315	P	Pb	06 15 12.2	+0.6
	SNR=13						
HWCB	Hwacheon	2.37	319	P	Pb	06 15 13.0	+1.1
	SNR=37						
KSJEU	Jeongeup	2.40	247	P	Pb	06 15 12.1	-0.2
	SNR=28						
KSKWJ	Gwangju	2.51	240	P	Pn	06 15 11.4	+1.6
	SNR=9.5						
BOSB	Boseong-gun	2.59	230	P	Pb	06 15 16.0	+0.3
	SNR=21						
KOHB	KOHEUNG	2.65	227	P	Pb	06 15 17.9	+1.3
	SNR=20						

JMA 16 06:15:00.1, 31°.06N×131°.30E, h29km±1km, M2.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	Tashiro 2	0.34	288	P	Pb	06 15 07.7	-0.4
JTSR				S	Sb	06 15 14.0	+0.5
JNAR	Kushima--Naru	0.47	357	P	Pb	06 15 09.6	-0.4
JNAR				S	Sb	06 15 16.9	+0.3
JTN	Tanegashima 3	0.49	214	P	Pb	06 15 10.3	0.0
JNKG	Nichinankitago	0.60	6	P	Pb	06 15 12.0	-0.2
JNKG				S	Sb	06 15 20.9	+0.5
JMTN	Minamitane	0.74	208	P	Pb	06 15 14.5	0.0
JSU	Suzuyama	0.85	302	P	Pn	06 15 15.3	-0.8
JSU				*e*S	Sb	06 15 27.1	-0.3
JSU	Suzuyama	0.85	302	Pn	Pn	06 15 15.6	-0.5
JTZ	Takazaki	0.86	348	P	Pn	06 15 15.8	-0.4
JTZ				*e*S	Sn	06 15 28.2	+0.4
JYAK	Yakushimahirau	1.07	220	P	Pn	06 15 19.3	+0.2
JYAK				S	Sn	06 15 33.1	+0.2
JKC	Kuchinoerabu	1.12	238	P	Pn	06 15 19.9	+0.1
JKC				*e*S	Sb	06 15 35.1	0.0

*IDC **16** 06:21:53.1±0.5, 55°.25N×35°.35W, h0km, mb4.4/29, mb1 4.5/30, mb1mx4.3/61, mbtmp4.4/30, ML4.1/1, MS3.9/31, Ms1 3.9/31, ms1mx3.7/59, Error ellipse: s-maj=17.3km s-min=9.9km az=177.0*

*GCMT **16** 06:21:54.9±0.3, 55°.63N±0°.04×35°.08W±0°.03, h12km, MW4.8/78, Moment Tensor Solution. s14,c17; s78,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.52±.06; $M_{\theta\theta}$0.40±.07; $M_{\phi\phi}$1.12±.04; $M_{r\theta}$0.94±.26; $M_{\theta\phi}$0.65±.04; $M_{\phi r}$-0.77±.20; Best double couple: $M_0$1.85100×10^{16} NP1:ϕ_s234.00000°, δ47.00000°, λ-50.00000°. NP2: ϕ_s3.00000°, δ56.00000°, λ-125.00000°. Principal axes: T 1.5180, Plg5.0000°, Azm116.0000°; N 0.6640, Plg28.0000°, Azm24.0000°; P -2.1850, Plg61.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **16** 06:21:54.1±0.0, 55°.83N×35°.46W, h7km, mB5.4/14, mb4.9/28, Ms5.0/2, Ms7 4.8/2*

*NEIC **16** 06:21:55.9±1.2, 55°.38N±0°.08×35°.2W±0°.1, h10km±1km, mb4.7/252, Error ellipse: s-maj=13.6km s-min=12.9km az=187.0*

*DNK **16** 06:22:32.9±2.9, 58°.10N×35°.29W, h98km±106km, mb4.1*

ISC 16 06:21:55.0±0.3, 55°.31N±0°.06×35°.29W±0°.05, h10km, n477, σ1°.02/469, mb4.7/152, MS3.9/27, 1C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	7.93	322	Pn	Pn	06 23 50.1	0.0
NRS					Sn	06 25 19.6	-0.1
ANGG	Ammassalik, Gr	10.40	355	P	Pn	06 24 21.2	-2.8
ANGG	Ammassalik, Gr	10.40	355	Pn	Pn	06 24 21.2	-2.8
BORG	Borgarnes	11.73	31	Pn	Pn	06 24 46.0	+3.9
	0.6nm,0.3s,baz=292,slow=8.2,SNR=2.3						
BORG				LR	LR	06 28 12.6	
	comp=Z,727nm,19.2s,baz=258,slow=32						
DY2G	Dye2	12.38	339	*i* P	Pn	06 24 51.5	+0.2
DY2G				IAmb	IAmb	06 24 52.2	
	comp=Z,67nm,1.1s						
SFJD	Kangerlussuaq	13.80	334	LR	LR	06 29 34.8	
	comp=Z,655nm,20.6s,baz=140,slow=33						
DRLN	Deer Lake	14.85	255	Pn	Pn	06 25 26.1	+1.2
ILULI	Ilulissat	15.68	339	P	Pn	06 25 35.6	-0.1
ILULI	Ilulissat	15.68	339	Pn	Pn	06 25 35.4	-0.3
SUMG	Summit	17.39	357	*i* P	Pn	06 25 55.0	-2.7
SUMG	Summit	17.39	357		Pn	06 25 57.2	-0.6
SCHQ	Schefferville	17.99	282	Pn	Pn	06 26 03.5	-1.5
ESK	Eskdalemuir	18.18	77	P	Pn	06 26 07.2	-0.1
EKA	Eskdalemuir Ar	18.20	77	P	P	06 26 08.2	+0.4
	baz=283,slow=7.6,SNR=20						
FRB	Frobisher Bay	18.65	310	LR	LR	06 31 44.6	
	comp=Z,586nm,20.1s,baz=83,slow=32						
GBN	Guysborough	19.33	250	P	P	06 26 19.7	-0.4
GBN				IAmb	IAmb	06 26 24.7	
	comp=Z,43nm,0.9s						
JMIC	Jan Mayen	19.54	26	LR	LR	06 31 48.3	
	comp=Z,110nm,21.1s,baz=215,slow=30						
DBG	Daneborg	19.99	12	*i* P	P	06 26 27.6	+0.4
DBG				IAmb	IAmb	06 26 31.6	
	comp=Z,12nm,1.1s						
LMN	Caledonia Moun	20.85	255	P	P	06 26 36.0	-0.8
LMN				IAmb	IAmb	06 26 54.2	
	comp=Z,34nm,1.2s						
HAL	Halifax	20.95	251	P	P	06 26 37.5	-0.3
HAL				IAmb	IAmb	06 26 42.5	
	comp=Z,66nm,1.1s						
D63A	Stockholm	22.00	262	P	P	06 26 48.7	-0.4
	baz=56						
PQI	Presque Isle	22.16	261	P	P	06 26 49.7	-1.1
PQI				IAmb	IAmb	06 26 55.5	
	comp=Z,24nm,1.0s						
E64A	Bridgewater	22.20	260	P	P	06 26 51.1	-0.1
	baz=54						
GGN	Saint George	22.43	256	P	P	06 26 53.8	+0.2
GGN				IAmb	IAmb	06 26 57.1	
	comp=Z,42nm,1.4s						
D62A	Allapoint, All	22.51	263	P	P	06 26 54.5	-0.1
	baz=56						
D62A	Allapoint, All	22.51	263		P	06 26 54.7	+0.1
D62A				IAmb	IAmb	06 27 00.7	
	comp=Z,20nm,0.9s						
E63A	Oxbow	22.53	261	P	P	06 26 54.6	-0.2
	baz=54						
E63A	Oxbow	22.53	261	P	P	06 26 55.3	+0.5
E63A				IAmb	IAmb	06 26 59.9	
	comp=Z,30nm,0.9s						
G65A	Princeton	22.78	257	P	P	06 26 56.6	-0.8
	baz=52						
G65A	Princeton	22.78	257	P	P	06 26 55.0	-2.4
F64A	Sherman	22.82	259	P	P	06 26 57.5	-0.3
	baz=53,SNR=6.1						
H66A	Whiting	22.90	256	P	P	06 26 57.5	-1.1
	baz=51						
NEEM	North Greenlan	22.93	351	*i* P	P	06 26 59.2	+0.1
NEEM				IAmb	IAmb	06 27 00.8	
	comp=Z,13nm,1.0s						
LMQ	La Malbaie	22.98	265	P	P	06 26 59.2	-0.3
LMQ				IAmb	IAmb	06 27 09.9	
	comp=Z,24nm,0.9s						
E62A	Clayton Lake	23.04	262	P	P	06 26 59.5	-0.6
	baz=55						
E62A	Clayton Lake	23.04	262	P	P	06 27 00.8	+0.7
E62A				IAmb	IAmb	06 27 02.6	
	comp=Z,21nm,1.1s						
D61A	St Aubert, Com	23.09	264	P	P	06 26 60.0	-0.6
	baz=56						
F63A	Nahmakanta, Br	23.34	260	P	P	06 27 03.3	+0.2
	baz=53						
F63A	Nahmakanta, Br	23.34	260	P	P	06 27 07.8	+4.6
F63A				IAmb	IAmb	06 27 10.6	
	comp=Z,29nm,1.1s						
G64A	Maxfield	23.41	259	P	P	06 27 03.6	-0.3
	baz=52						
H65A	Eastbrook	23.47	257	P	P	06 27 04.8	+0.3
	baz=51						
D60A	Saint Jean D'O	23.67	264	P	P	06 27 06.0	-0.4
	baz=56						
E61A	Lac Etchemin	23.70	263	P	P	06 27 06.1	-0.6
	baz=55						
PKME	Peaks-Kenny Pk	23.71	259	P	P	06 27 06.2	-0.6
	baz=52						
F62A	Pittston Farm,	23.71	261	P	P	06 27 05.4	-1.5
	baz=54,SNR=7.2						
F62A	Pittston Farm,	23.71	261	P	P	06 27 07.6	+0.8
G63A	Kingsbury	23.98	259	P	P	06 27 08.4	-1.1
	baz=52						
H64A	Troy	24.05	258	P	P	06 27 08.4	-1.7
	baz=51						
CHGQ	Chibougamau	24.10	273	P	P	06 27 10.1	-0.4
	baz=62						
D59A	Saint-Raymond	24.14	265	P	P	06 27 09.8	-1.1
	baz=56						
F61A	St Evariste	24.25	262	P	P	06 27 11.5	-0.4
	baz=54						
E60A	Ste Agathe de	24.27	264	P	P	06 27 12.0	-0.2
	baz=55						
G62A	West of Eustis	24.43	260	P	P	06 27 13.1	-0.5
	baz=53						
G62A	West of Eustis	24.43	260	P	P	06 27 14.0	+0.4
G62A				IAmb	IAmb	06 27 19.6	
	comp=Z,21nm,1.1s						
LATQ	La Tuque	24.47	267	P	P	06 27 13.3	-0.6
	baz=57						
NC204	NORSAR Array S	24.49	57	P	P	06 27 13.9	-0.2
NC204				IAmb	IAmb	06 27 32.5	
	comp=Z,41nm,1.5s						
NBO00	NORSAR Array S	24.53	58	P	P	06 27 11.9	-2.4
NBO00				IAmb	IAmb	06 27 23.9	
	comp=Z,19nm,1.1s						
D58A	Chemin du LacG	24.68	266	P	P	06 27 15.3	-0.6
	baz=56						
I64A	Boothbay	24.74	257	P	P	06 27 16.7	+0.4
	baz=50						
NB2	NORSAR Subarra	24.74	58	P	P	06 27 15.9	-0.4
	comp=Z,8.5nm,1.4s,baz=277,slow=9.3						
NOA	NORSAR Array B	24.74	58	P	P	06 27 16.6	+0.3
	comp=Z,1.5nm,0.9s,baz=276,slow=10,SNR=4.1						
NOA				LR	LR	06 35 18.5	
	comp=Z,136nm,21.7s,baz=270,slow=32						
G61A	St-Isidore-de-	24.96	262	P	P	06 27 18.3	0.0
	baz=53						
NC405	NORSAR Array S	24.97	57	P	P	06 27 17.7	-0.6
NC405				IAmb	IAmb	06 27 23.4	
	comp=Z,34nm,1.4s						
H62A	Milan	25.18	260	P	P	06 27 20.3	0.0
	baz=52						
MOQ	Mont Orford	25.35	262	P	P	06 27 22.3	+0.3
H61A	Lyndonville	25.64	261	P	P	06 27 24.4	-0.1
	baz=52						
PAB	San Pablo	25.92	115	P	P	06 27 27.6	+0.4
J63A	Strafford	25.95	257	P	P	06 27 26.5	-0.9
	baz=50						
LSQQ	Lebel-sur-Quev	26.00	274	P	P	06 27 27.2	-0.5
	baz=60						
ESDC	Sonseca Array	26.02	114	P	P	06 27 27.4	-0.7
	comp=Z,4.3nm,1.0s,baz=314,slow=8.9,SNR=15						
ESDC				LR	LR	06 35 47.5	
	comp=Z,340nm,18.6s,baz=305,slow=32						
ESDC	Sonseca Array	26.02	114	P	P	06 27 29.3	+1.2
MATQ	Matagami	26.03	275	P	P	06 27 27.9	-0.1
	baz=61						
H60A	Morristown	26.06	261	P	P	06 27 28.1	-0.2
	baz=52						
HFS	Hagfors	26.09	59	P	P	06 27 30.2	+1.7
	comp=Z,4.1nm,0.8s,baz=262,slow=7.3,SNR=6.3						
HFS				LR	LR	06 36 09.7	
	comp=Z,182nm,20.2s,baz=284,slow=33						
I61A	Oroboro, Fairl	26.17	260	P	P	06 27 28.7	-0.6
	baz=51						
FRNY	Flat Rock	26.39	263	P	P	06 27 33.4	+2.0
FRNY				IAmb	IAmb	06 27 39.5	
	comp=Z,27nm,1.2s						
H59A	Cadyville	26.57	262	P	P	06 27 32.6	-0.3
	baz=52						
VLDQ	Val d'Or	26.75	272	P	P	06 27 37.0	+2.5
H58A	Gabriels	26.98	263	P	P	06 27 37.8	+1.1
	baz=52						
LONY	Lake Ozonia	27.09	263	P	P	06 27 38.1	+0.5
	baz=52						
I59A	Olmsteadville	27.19	261	P	P	06 27 39.3	+0.7
	baz=51						
H57A	Richville	27.64	264	P	P	06 27 43.2	+0.6
	baz=52						
I57A	Carthage	28.12	263	P	P	06 27 46.8	0.0
	baz=52						
BNI	Bardonecchia	28.36	94	P	P	06 27 48.7	-0.4
CLL	Collm	28.66	78	*e*P	P	06 27 51.0	-0.6
CLL				LmV		06 38 00.0	
	comp=Z,200nm,21.4s						
CLL	Collm	28.66	78	P	P	06 27 51.2	-0.4
DAVOX	Davos/Dischmat	29.19	88	LR	LR	06 39 08.4	
	comp=Z,586nm,18.4s,baz=294,slow=35						
SADO	Sadowa	29.59	268	P	P	06 28 00.3	+0.3
	comp=Z,6.8nm,0.8s,baz=70,slow=9.9,SNR=6.6						
SADO				LR	LR	06 38 47.3	
	comp=Z,235nm,18.4s,baz=46,slow=34						
SADO	Sadowa	29.59	268	P	P	06 28 00.9	+1.0
K56A	Middlesex	29.84	263	P	P	06 28 02.1	-0.1
	baz=50						
ARCES	ARCESS Array B	29.99	38	P	P	06 28 02.8	-0.4
	comp=Z,8.4nm,0.9s,baz=263,slow=9.7,SNR=13						
ARCES				LR	LR	06 37 37.8	
	comp=Z,151nm,20.1s,baz=290,slow=31						
ARCES	ARCESS Array B	29.99	38	P	P	06 28 01.9	-1.3
ARCES				IAmb	IAmb	06 28 04.1	
	comp=Z,20nm,1.2s						
GEC2	GERESS Array S	30.26	82	P	P	06 28 06.3	+0.4
GERES	GERESS Array B	30.26	82	P	P	06 28 06.2	+0.3
	comp=Z,0.5nm,0.4s,baz=305,slow=8.0,SNR=5.4						
GERES				LR	LR	06 39 45.0	
	comp=Z,168nm,18.5s,baz=293,slow=35						
GERES	GERESS Array B	30.26	82	P	P	06 28 05.9	-0.1
P60A	Greenville	30.81	257	P	P	06 28 10.2	-0.5
	baz=46						
MDT	Midelt	31.07	124	LR	LR	06 39 56.8	
	comp=Z,166nm,18.0s,baz=341,slow=35						
FCC	Fort Churchill	31.28	301	P	P	06 28 15.3	+0.7
Q61A	Milford	31.29	255	P	P	06 28 13.6	-1.3
	baz=45						
E46A	Sault Ste Mari	31.62	274	P	P	06 28 19.0	+1.2
E46A				IAmb	IAmb	06 28 20.4	
	comp=Z,11nm,0.9s						
VRAC	Vranov	31.65	79	LR	LR	06 40 23.8	
	comp=Z,182nm,20.2s,baz=292,slow=35						
FINES	FINESS Array B	31.66	53	P	P	06 28 18.1	+0.1
	comp=Z,7.3nm,0.9s,baz=287,slow=7.4,SNR=17						
FINES				LR	LR	06 39 11.9	
	comp=Z,84nm,21.4s,baz=264,slow=33						
FINES	FINESS Array B	31.66	53	P	P	06 28 18.4	+0.4
FIA1	FINESS Array S	31.66	53	P	P	06 28 17.9	-0.1
FIA1				IAmb	IAmb	06 28 20.8	
	comp=Z,14nm,1.1s						
SDMD	Soldier's Deli	31.76	257	P	P	06 28 20.1	+1.0
SDMD				IAmb	IAmb	06 28 34.0	
	comp=Z,16nm,1.4s						
M54A	Oil Creek Stat	31.94	263	P	P	06 28 19.4	-1.3
	baz=49						
I49A	Point Hope	32.20	269	P	P	06 28 24.1	+1.2
N54A	Moraine State	32.48	263	P	P	06 28 24.2	-1.2
	baz=48						
N54A	Moraine State	32.48	263	P	P	06 28 26.8	+1.4
M53A	WI Miller and	32.56	264	P	P	06 28 25.0	-1.1
	ba

comp=Z,13nm,1.1s
P52A Corning 34.59 263 P P 06 28 43.0 -0.7
baz=47
ACSO Alum Creek Sta 34.67 264 P P 06 28 43.7 -0.7
baz=48
ACSO Alum Creek Sta 34.67 264 P P 06 28 46.2 +1.8
ACSO IAmb IAmb 06 28 51.3
comp=Z,18nm,1.1s
EYMN Ely 34.80 282 P P 06 28 45.0 -0.6
baz=56
EYMN Ely 34.80 282 P P 06 28 46.7 +1.1
EYMN IAmb IAmb 06 28 53.3
comp=Z,20nm,1.4s
N49A Columbus Grove 34.89 266 P P 06 28 47.2 +0.8
P51A Williamsport 35.22 264 P P 06 28 50.6 +1.4
BLA Blacksburg 35.30 258 P P 06 28 50.5 +0.5
baz=44
BLA Blacksburg 35.30 258 P P 06 28 52.2 +2.2
BLA IAmb IAmb 06 28 57.3
comp=Z,22nm,1.2s
PAOL Paolisi 35.38 93 P P 06 28 50.9 +0.3
O49A Covington 35.47 266 P P 06 28 51.8 +0.4
O49A IAmb IAmb 06 28 58.0
comp=Z,24nm,1.2s
Q51A Peebles 35.69 263 P P 06 28 55.1 +1.8
Q51A IAmb IAmb 06 29 02.5
comp=Z,20nm,1.2s
I42A Draeger Farm, 35.71 274 P P 06 28 54.6 +1.2
I42A IAmb IAmb 06 28 56.0
comp=Z,26nm,1.4s
N47A Urbana 35.78 268 P P 06 28 54.2 +0.1
N47A IAmb IAmb 06 29 00.5
comp=Z,12nm,0.9s
ULM Lac du Bonnet 35.97 288 P P 06 28 54.5 -1.0
comp=Z,7.0nm,0.9s,baz=65,slow=8.8,SNR=9.0
ULM PcP **PcP 06 31 20.9 -1.1**
comp=Z,2.6nm,0.7s,baz=1.3,slow=5.5,SNR=3.9
ULM LR LR 06 42 20.4
comp=Z,424nm,19.3s,baz=53,slow=34
ULM Lac du Bonnet 35.97 288 P P 06 28 56.1 +0.6
ULM IAmb IAmb 06 29 02.6
comp=Z,26nm,1.4s
KEST Kesra 36.10 104 P P 06 28 57.1 +0.2
comp=Z,5.8nm,0.9s,baz=342,slow=2.6,SNR=8.4
KEST Kesra 36.10 104 P P 06 28 57.1 +0.2
P48A Milroy 36.58 266 P P 06 29 02.4 +1.5
P48A IAmb IAmb 06 29 03.7
comp=Z,11nm,0.8s
R50A Paris 36.76 263 P P 06 29 03.6 +1.2
R50A IAmb IAmb 06 29 05.4
comp=Z,12nm,1.1s
CORL Corleone 36.78 98 P P 06 29 01.9 -0.8
CORL IAmb IAmb 06 29 08.9
comp=Z,16nm,1.4s
FFC Flin Flon 36.91 298 P P 06 29 03.9 +0.3
FFC IAmb IAmb 06 29 06.2
comp=Z,9.5nm,0.8s
SFIN Lafayette 36.92 268 P P 06 29 04.2 +0.4
baz=48
SFIN Lafayette 36.92 268 P P 06 29 04.1 +0.4
SFIN IAmb IAmb 06 29 06.5
comp=Z,12nm,0.8s
AGMN Agassiz Nation 37.03 285 P P 06 29 04.0 -0.6
baz=56
JFWS Jewell Farm 37.08 274 P P 06 29 04.7 -0.4
baz=51
JFWS Jewell Farm 37.08 274 P P 06 29 06.3 +1.2
JFWS IAmb IAmb 06 29 07.7
comp=Z,13nm,1.1s
SPMN Marine on St. 37.11 279 P P 06 29 04.2 -1.1
baz=53
SPMN Marine on St. 37.11 279 P P 06 29 05.8 +0.5
PDG Podgorica 37.15 87 P P 06 29 06.8 +1.1
L42A Oliver, Polo 37.33 272 P P 06 29 08.0 +0.8
L42A IAmb IAmb 06 29 10.4
comp=Z,18nm,0.9s
BUR08 Bucovina Ar. S 37.36 76 P P 06 29 08.3 +0.7
BURAR Bucovina Array 37.38 76 P P 06 29 08.3 +0.6
BLO Bloomington 37.40 266 P P 06 29 09.3 +1.5
BLO IAmb IAmb 06 29 16.8
comp=Z,19nm,1.2s
P46A Rosedale 37.49 267 P P 06 29 09.1 +0.5
P46A IAmb IAmb 06 29 13.0
comp=Z,12nm,0.9s
TZTN Tazewell 37.54 260 P P 06 29 08.3 -0.7
baz=44
V53A Saluda 37.75 259 P P 06 29 12.7 +1.8
V53A IAmb IAmb 06 29 20.1
comp=Z,11nm,0.9s
RAFF Raffo Rosso 37.85 97 P P 06 29 11.5 -0.2
RAFF IAmb IAmb 06 29 19.5
comp=Z,13nm,1.0s
O44A Mansfield 37.85 269 P P 06 29 12.8 +1.1
AKASG Malin Array Be 37.85 69 P P 06 29 10.6 -0.9
comp=Z,5.2nm,0.8s,baz=304,slow=8.6,SNR=21
AKASG LR LR 06 46 07.0
comp=Z,112nm,18.6s,baz=275,slow=38
AKASG Malin Array Be 37.85 69 P P 06 29 10.0 -1.6
AKBB Malin Array Si 37.85 69 P P 06 29 11.1 -0.5
WCI Wyandotte Cave 37.91 265 P P 06 29 12.0 -0.2
baz=46
WCI Wyandotte Cave 37.91 265 P P 06 29 13.8 +1.6
WCI IAmb IAmb 06 29 15.5
comp=Z,17nm,1.2s
KLMR Klimovskoe 37.93 50 *eP* **P 06 29 09.0 -3.1**
KLMR AMP 06 29 13.1
comp=Z,30nm,1.0s
HDIL Hopedale 38.05 270 P P 06 29 13.6 +0.2
baz=48
HDIL Hopedale 38.05 270 P P 06 29 14.0 +0.7
HDIL IAmb IAmb 06 29 16.5
comp=Z,12nm,0.9s
L40A Anamosa 38.17 274 P P 06 29 15.6 +1.2
L40A IAmb IAmb 06 29 22.6
comp=Z,12nm,1.1s
NHSC New Hope 38.19 253 P P 06 29 15.1 +0.6
baz=41
TKL Tuckaleechee C 38.30 260 LR LR 06 44 21.9
comp=Z,279nm,19.2s,baz=60,slow=35
K38A Parkersburg 38.69 276 P P 06 29 18.6 0.0
P43A Skaggs, Pawnee 38.80 269 P P 06 29 20.5 +0.9
U49A Red Boiling Sp 38.82 262 P P 06 29 20.7 +0.9
U49A IAmb IAmb 06 29 26.1
comp=Z,22nm,1.4s
N41A Harden Midland 38.85 272 P P 06 29 21.3 +1.2
CPCT Cooper Cave 38.87 260 P P 06 29 21.5 +1.2
USIN University of 38.88 266 P P 06 29 21.4 +1.1
USIN IAmb IAmb 06 29 23.4
comp=Z,24nm,0.8s
Q44A Meyer Farm, Va 39.01 268 P P 06 29 22.4 +1.0
Q44A IAmb IAmb 06 29 27.3
comp=Z,16nm,0.8s
MLR Muntele Rosu 39.04 78 PcP **PcP 06 31 30.5 -1.1**
comp=Z,4.7nm,0.9s,baz=249,slow=8.6,SNR=4.8
YKA Yellowknife Ar 39.11 314 P P 06 29 21.6 -0.4
comp=Z,5.0nm,0.9s,baz=64,slow=9.1,SNR=21
YKA PcP **PcP 06 31 30.1 -1.2**
comp=Z,2.8nm,0.9s,baz=60,slow=3.8,SNR=8.7
YKA LR LR 06 44 15.8
comp=Z,207nm,19.2s,baz=0.0,slow=34
T47A Sharon Grove 39.24 264 P P 06 29 24.1 +0.8
VTS Vitosha 39.30 84 P P 06 29 23.2 -0.8
OBN Obninsk 39.30 60 LR LR 06 44 22.7
comp=Z,35nm,21.1s,baz=19,slow=34
OBN Obninsk 39.30 60 P P 06 29 23.1 -0.6
SCIA State Center 39.41 275 P P 06 29 26.6 +1.8
SCIA IAmb IAmb 06 29 26.9
comp=Z,26nm,1.1s
FNA Florina 39.43 87 P P 06 29 24.4 -0.6
CLTN Cedars of Leba 39.43 263 P P 06 29 25.7 +0.7
Y52A Lilburn 39.77 258 P P 06 29 29.6 +1.8
Y52A IAmb IAmb 06 29 31.3
comp=Z,14nm,0.9s
GOGA Godfrey 39.77 257 P P 06 29 28.4 +0.5
baz=42
GOGA Godfrey 39.77 257 P P 06 29 29.4 +1.5
SIUC Southern Illin 39.94 267 P P 06 29 30.5 +1.4
SIUC IAmb IAmb 06 29 32.9
comp=Z,25nm,0.8s
V48A Smith Brothers 39.96 263 P P 06 29 30.6 +1.2
V48A IAmb IAmb 06 29 32.4
comp=Z,18nm,1.2s
S44A Carbondale 39.97 267 P P 06 29 30.8 +1.3
N38A Joes South For 40.15 274 P P 06 29 31.5 +0.6
N38A IAmb IAmb 06 29 33.3
comp=Z,19nm,1.0s
154A Montrose 40.17 256 P P 06 29 32.8 +1.7
ECSD EROS Data Cent 40.17 280 P P 06 29 31.1 0.0
baz=51,SNR=6.0
ECSD EROS Data Cent 40.17 280 P P 06 29 32.1 +1.0
WVT Waverly 40.26 264 P P 06 29 32.2 +0.4
baz=44
WVT Waverly 40.26 264 P P 06 29 33.2 +1.4
P40A Paris 40.31 271 P P 06 29 33.1 +0.9
P40A IAmb IAmb 06 29 34.8
comp=Z,16nm,1.1s
Z51A Franklin 40.80 259 P P 06 29 37.6 +1.2
Z51A IAmb IAmb 06 29 39.4
comp=Z,15nm,1.1s
CCM Cathedral Cave 40.86 269 P P 06 29 37.0 +0.2
baz=46
CCM Cathedral Cave 40.86 269 P P 06 29 37.3 +0.5
152A Waverly Hall 41.03 257 P P 06 29 39.6 +1.4
P38A Dawn 41.10 273 P P 06 29 39.0 +0.2
P38A IAmb IAmb 06 29 40.4
comp=Z,14nm,1.2s
L34A Svendsen Farm, 41.17 277 P P 06 29 38.8 -0.5
L34A IAmb IAmb 06 29 41.6
comp=Z,14nm,0.9s
PBMO Poplar Bluff 41.28 267 P P 06 29 41.5 +1.2
PBMO IAmb IAmb 06 29 42.8
comp=Z,14nm,0.9s
R40A Maddies Statio 41.28 270 P P 06 29 40.8 +0.5
DGMT Dagmar 41.47 290 P P 06 29 41.5 -0.2
baz=54
DGMT Dagmar 41.47 290 P P 06 29 43.6 +1.9
DGMT IAmb IAmb 06 29 48.1
comp=Z,22nm,1.4s
T42A Van Buren 41.48 268 P P 06 29 43.1 +1.2
W45A Hickory Valley 41.72 264 P P 06 29 44.6 +0.7
LRAL Lakeview Retre 42.03 260 P P 06 29 46.7 +0.3
baz=42
LRAL Lakeview Retre 42.03 260 P P 06 29 47.2 +0.8
LRAL IAmb IAmb 06 29 52.8
comp=Z,16nm,1.4s
LPAR Lepanto 42.04 266 P P 06 29 48.0 +1.5
LPAR IAmb IAmb 06 29 55.6
comp=Z,16nm,0.8s
K31A O'Neill 42.09 280 P P 06 29 48.4 +1.5
K31A IAmb IAmb 06 29 50.0
comp=Z,28nm,1.2s
LCAR Lake Charles 42.19 267 P P 06 29 48.6 +0.9
LCAR IAmb IAmb 06 29 50.2
comp=Z,11nm,0.9s
OXF Oxford 42.31 264 P P 06 29 49.1 +0.4
baz=43
OXF Oxford 42.31 264 P P 06 29 49.3 +0.5
250A Grady 42.41 258 P P 06 29 50.8 +1.2
Z47A Carrollton 42.52 261 P P 06 29 51.2 +0.8
Z47A IAmb IAmb 06 29 53.5
comp=Z,13nm,0.8s
FCAR Ozark Folk Cen 42.88 267 P P 06 29 54.2 +0.9
U40A Yellville 42.96 268 P P 06 29 54.4 +0.4
baz=45,SNR=7.0
U40A Yellville 42.96 268 P P 06 29 55.2 +1.2
INK Inuvik 43.01 327 P P 06 29 53.7 -0.3
baz=56,SNR=8.1
INK Inuvik 43.01 327 P P 06 29 53.7 -0.3
EDM Edmonton 43.39 301 P P 06 29 57.9 +0.6
EDM IAmb IAmb 06 30 00.6
comp=Z,29nm,1.5s
WHAR Wooly Hollow 43.40 267 P P 06 29 58.7 +1.2
WHAR IAmb IAmb 06 30 00.2
comp=Z,11nm,0.8s
W41B Gary Mavity, V 43.46 267 P P 06 29 58.2 +0.2
baz=44,SNR=9.3
HHAR Hobbs 43.63 269 P P 06 30 00.5 +1.0
LAO LASA Array 43.64 289 P P 06 29 59.8 +0.3
baz=51,SNR=18
LAO LASA Array 43.64 289 P P 06 30 00.8 +1.4
LAO IAmb IAmb 06 30 03.8
comp=Z,21nm,0.9s
CCAR Cane Creek 44.09 265 P P 06 30 04.0 +0.9
X40A Basin Creek Fa 44.28 267 P P 06 30 05.4 +0.8
baz=44,SNR=10
X40A Basin Creek Fa 44.28 267 P P 06 30 05.3 +0.6
X40A IAmb IAmb 06 30 06.7
comp=Z,13nm,0.8s
W39A Magazine 44.32 268 P P 06 30 05.9 +0.9
baz=44,SNR=5.7
W39A Magazine 44.32 268 P P 06 30 05.8 +0.9
W39A IAmb IAmb 06 30 07.4
comp=Z,15nm,1.0s
VBMS Vicksburg 44.62 262 P P 06 30 08.3 +0.9
346A Big Creek Wild 44.65 261 P P 06 30 08.0 +0.4
MIAR Mount Ida 44.66 267 P P 06 30 08.6 +0.9
baz=44,SNR=10
MIAR Mount Ida 44.66 267 P P 06 30 09.0 +1.3
EGMT Eagleton 44.69 293 P P 06 30 08.1 +0.2
baz=51,SNR=7.9
EGMT Eagleton 44.69 293 P P 06 30 08.8 +0.9
EGMT IAmb IAmb 06 30 11.2
comp=Z,13nm,1.0s
143A Socs Landing, 44.77 264 P P 06 30 08.8 +0.2
R32A Long Quarter, 44.87 275 P P 06 30 09.3 0.0
R32A IAmb IAmb 06 30 10.7
comp=Z,11nm,0.9s
TUL1 Leonard 44.96 270 P P 06 30 10.1 +0.1
baz=45,SNR=5.5
WLAR White Oak Lake 45.02 266 P P 06 30 11.8 +1.3
KS20 Mayfield South 45.04 273 P P 06 30 11.5 +0.8
OGNE Ogallala 45.04 280 P P 06 30 12.0 +1.3
EPYK Eagle Plains 45.16 326 P P 06 30 10.7 -0.6
baz=52,SNR=12
EPYK Eagle Plains 45.16 326 P P 06 30 11.6 +0.3
Z41A Richland Creek 45.16 265 P P 06 30 12.5 +0.9
baz=43
344A Westbrook Farm 45.32 262 P P 06 30 13.8 +0.9
SDDR Presa de Saban 45.33 231 P P 06 30 13.8 +0.6
CROK Carrier 45.79 273 P P 06 30 17.3 +0.7
OK029 Liberty Lake 45.99 272 P P 06 30 19.1 +0.9
GCMT Greycliff 46.06 291 P P 06 30 20.0 +1.2
OK025 Westminster Rd 46.07 271 P P 06 30 19.7 +0.8
BCOK Bluff Creek, N 46.17 272 P P 06 30 20.5 +0.9
WALA Waterton Lakes 46.20 297 P P 06 30 20.7 +0.8
WALA IAmb IAmb 06 30 22.6
comp=Z,11nm,0.8s
BELG Belogornoye 46.25 57 P P 06 30 19.5 -0.4
comp=Z,34nm,0.9s,baz=179,slow=0.5,SNR=13
OKCFA Oklahoma City 46.26 271 P P 06 30 21.3 +1.0
RLMT Red Lodge 46.28 290 P P 06 30 19.6 -1.0
baz=49
RLMT Red Lodge 46.28 290 P P 06 30 22.3 +1.7
RLMT IAmb IAmb 06 30 30.3
comp=Z,14nm,1.4s
GTBY Guantanamo Bay 46.28 236 P P 06 30 21.5 +0.9
FNO Franklin 46.34 271 P P 06 30 21.8 +0.8
K22A Casper 46.40 285 P P 06 30 20.9 -0.7
baz=48
HRY Holter Researc 46.61 293 P P 06 30 24.2 +1.1
KSCO Kaye Shedlock' 46.69 279 P P 06 30 24.9 +1.1
YNE Yellowstone No 46.75 290 P P 06 30 23.5 -0.8
YNE IAmb IAmb 06 30 27.2
comp=Z,7.1nm,0.9s
BMAR Burnt Mountain 46.85 330 P P 06 30 25.0 +0.4
BR131 Keskin Array S 47.10 79 P P 06 30 27.5 +0.5
BRTR Keskin Array B 47.10 79 P P 06 30 27.9 +0.8
comp=Z,5.9nm,0.8s,baz=316,slow=5.1,SNR=30
BRTR LR LR 06 51 49.4
comp=Z,136nm,18.8s,baz=330,slow=38
BRTR Keskin Array B 47.10 79 P P 06 30 27.4 +0.4
JTMT Jette 47.22 296 P P 06 30 27.9 0.0
JTMT IAmb IAmb 06 30 30.1
comp=Z,5.6nm,0.8s
BOZ Bozeman (W) 47.23 292 P P 06 30 26.9 -1.1
baz=49,SNR=11
BOZ Bozeman (W) 47.23 292 P P 06 30 28.8 +0.8
BOZ IAmb IAmb 06 30 31.1
comp=Z,9.9nm,1.1s
N23A Red Feather La 47.26 283 P P 06 30 27.8 -0.6
baz=47
NATX Nacogdoches 47.32 266 P P 06 30 29.5 +0.8
baz=42
TOLK Toolik Lake Re 47.37 333 P P 06 30 28.1 -0.5
baz=45,SNR=5.1
TOLK Toolik Lake Re 47.37 333 P P 06 30 29.2 +0.6
TOLK IAmb IAmb 06 30 31.4
comp=Z,16nm,1.4s
H17A Grant Village 47.46 290 P P 06 30 29.7 -0.2
baz=48
DAWY Dawson 47.50 325 P P 06 30 30.2 +0.5
DAWY IAmb IAmb 06 30 32.8
comp=Z,10nm,1.1s
WMOK Wichita Mounta 47.50 272 P P 06 30 29.8 -0.3
baz=44,SNR=6.4
WMOK Wichita Mounta 47.50 272 P P 06 30 30.4 +0.3
WMOK IAmb IAmb 06 30 32.4
comp=Z,8.1nm,1.0s
LRM Limekiln Ridge 47.52 292 P P 06 30 31.4 +1.1
EGAK Eagle 47.60 326 P P 06 30 29.8 -0.5
baz=48,SNR=8.8
EGAK Eagle 47.60 326 P P 06 30 30.6 +0.2
FYU Fort Yukon 47.62 329 P P 06 30 31.4 +0.9
YPP Pitchstone Pla 47.66 290 P P 06 30 32.0 +0.5
YPP IAmb IAmb 06 30 48.9
comp=Z,12nm,1.5s
ISCO Idaho Springs 47.82 282 P P 06 30 32.1 -0.8
baz=46,SNR=5.4
ISCO Idaho Springs 47.82 282 P P 06 30 34.0 +1.1
ISCO IAmb IAmb 06 30 36.2
comp=Z,4.6nm,0.8s
DLMT Dillon 47.90 292 P P 06 30 34.0 +0.8
DLMT IAmb IAmb 06 30 36.5
comp=Z,7.5nm,1.0s
BW06 Boulder Array 47.99 287 P P 06 30 33.0 -1.1
baz=48
BW06 Boulder Array 47.99 287 P P 06 30 33.4 -0.7
PD31 Pinedale Array 47.99 287 P P 06 30 33.2 -0.8
PDAR Pinedale Array 47.99 287 P P 06 30 33.0 -1.1
comp=Z,1.4nm,0.7s,baz=68,slow=6.9,SNR=14
PDAR PcP **PcP 06 32 00.6 -1.5**
comp=Z,1.0nm,1.0s,baz=70,slow=7.9,SNR=3.5
PDAR LR LR 06 49 47.5
comp=Z,331nm,19.0s,baz=43,slow=35
PDAR Pinedale Array 47.99 287 P P 06 30 33.6 -0.4
TPAW Teton Pass 48.26 289 P P 06 30 36.1 -0.1
REDW Red Top Meadow 48.29 289 P P 06 30 36.5 +0.1
NEW Newport 48.34 298 P P 06 30 36.0 -0.5
baz=49
NEW Newport 48.34 298 P P 06 30 36.8 +0.4
MCMT McKenzie Canyo 48.39 292 P P 06 30 37.9 +0.8
K27K Chicken 48.40 326 P P 06 30 36.0 -0.6
baz=47,SNR=5.8
K27K Chicken 48.40 326 P P 06 30 37.2 +0.6
K27K IAmb IAmb 06 30 40.5
comp=Z,7.5nm,1.1s
PRP Porcupine Dome 48.44 328 P P 06 30 36.2 -0.9
baz=46,SNR=11
PRP Porcupine Dome 48.44 328 P P 06 30 37.5 +0.4
PRP IAmb IAmb 06 30 40.1
comp=Z,8.7nm,1.0s
ARU Arti 48.64 48 P P 06 30 38.7 +0.2
comp=Z,4.6nm,0.8s,baz=302,slow=4.2,SNR=14
ARU Arti 48.64 48 P P 06 30 38.4 -0.2
H24K Noodor Dome 48.90 330 P P 06 30 40.0 -0.6
baz=44,SNR=12
BNN Bunyan 48.94 79 P P 06 30 41.8 +0.5
BCAR Beaver Creek A 48.96 325 P P 06 30 42.0 +1.0
L27K Beaver Creek, 48.98 325 P P 06 30 41.0 -0.2
baz=46,SNR=7.5
L27K Beaver Creek, 48.98 325 P P 06 30 42.0 +0.8
L27K IAmb IAmb 06 30 48.9
comp=Z,9.7nm,1.4s
T25A Trinidad 49.00 278 P P 06 30 42.3 +0.5
baz=45
T25A Trinidad 49.00 278 P P 06 30 43.3 +1.5
T25A IAmb IAmb 06 30 44.4
comp=Z,15nm,1.4s
HYT Haines Junctio 49.01 321 P P 06 30 42.6 +1.1
BCYI Bear Canyon 49.03 291 P P 06 30 43.4 +1.4
SCRK Sand Creek 49.04 326 P P 06 30 41.2 -0.5
baz=46,SNR=17
SCRK Sand Creek 49.04 326 P P 06 30 42.6 +0.8
SCRK IAmb IAmb 06 30 45.0
comp=Z,14nm,1.1s
AMTX Amarillo 49.05 274 P P 06 30 43.0 +0.8
baz=44
AMTX Amarillo 49.05 274 P P 06 30 43.1 +1.0
O20A White River Ci 49.06 284 P P 06 30 42.8 +0.6
baz=46
SDCO Great Sand Dun 49.19 280 P P 06 30 43.4 0.0
baz=45
C09A Chrisman Ranch 49.23 298 P P 06 30 43.7 +0.5
C09A IAmb IAmb 06 30 45.6
comp=Z,8.8nm,0.9s
POKR Poker Plat Res 49.29 329 P P 06 30 43.3 -0.2
baz=44,SNR=5.9
POKR Poker Plat Res 49.29 329 P P 06 30 44.5 +1.0
DOT Dot Lake 49.30 326 P P 06 30 44.0 +0.4
DOT IAmb IAmb 06 30 46.7
comp=Z,8.7nm,1.4s
ILAR Eielson Array 49.37 328 P P 06 30 44.5 +0.5
comp=Z,7.0nm,1.1s,baz=42,slow=6.0,SNR=28
ILAR PcP **PcP 06 32 05.8 -0.5**
comp=Z,1.2nm,0.9s,baz=11,slow=3.6,SNR=4.5
ILAR LR LR 06 51 13.4
comp=Z,220nm,20.2s,baz=70,slow=36
H23K Yukon River 49.39 330 P P 06 30 43.6 -0.6
baz=43,SNR=17
B08A Colville Reser 49.39 299 P P 06 30 44.6 +0.1
B08A IAmb IAmb 06 30 46.9
comp=Z,10nm,1.1s
KBZ Khabaz 49.46 69 P P 06 30 46.3 +1.3
comp=Z,5.7nm,0.9s,baz=317,slow=8.4,SNR=9.3
RIDG Independent Ri 49.48 327 P P 06 30 45.0 0.0
baz=45
RIDG Independent Ri 49.48 327 P P 06 30 46.4 +1.4
RIDG IAmb IAmb 06 30 55.0
comp=Z,8.1nm,1.0s
RDMU Red Mountain 49.49 285 P P 06 30 46.1 +0.5
RDMU IAmb IAmb 06 30 55.4
comp=Z,5.2nm,0.7s
ABTX Abilene, Hawle 49.53 271 P P 06 30 45.5 -0.3
baz=42
ABTX Abilene, Hawle 49.53 271 P P 06 30 45.4 -0.3
ABTX IAmb IAmb 06 30 47.4
comp=Z,9.5nm,1.0s
MDM Murphy Dome 49.64 329 P P 06 30 46.8 +0.7
MDM IAmb IAmb 06 30 53.4
comp=Z,15nm,1.0s
HDA Harding Lake 49.65 328 P P 06 30 45.2 -1.1
baz=44
HDA Harding Lake 49.65 328 P P 06 30 46.8 +0.6
HDA IAmb IAmb 06 30 52.8
comp=Z,8.5nm,0.7s
I23K Minto, Yukon-K 49.83 330 P P 06 30 48.1 +0.6
I23K IAmb IAmb 06 30 50.9
comp=Z,15nm,1.1s
HWUT Hardware Ranch 49.87 288 P P 06 30 48.3 -0.1
HWUT IAmb IAmb 06 30 57.9
comp=Z,6.0nm,0.8s
F10A Beach Ranch, E 49.91 296 P P 06 30 48.5 -0.1
S22A 4UR Ranch, Cre 49.93 281 P P 06 30 48.8 -0.3
baz=45
WRH Wood River Hil 49.95 329 P P 06 30 49.0 +0.5
WRH IAmb IAmb 06 30 55.3
comp=Z,10nm,1.0s
HLID Hailey 50.07 291 P P 06 30 50.1 +0.2
baz=47,SNR=7.4
HLID Hailey 50.07 291 P P 06 30 50.8 +0.9
NEA2 Nenana 50.15 329 P P 06 30 50.5 +0.4
NEA2 IAmb IAmb 06 30 53.0
comp=Z,13nm,1.2s
MSTX Muleshoe 50.34 274 P P 06 30 51.3 -0.6
baz=43
MSTX Muleshoe 50.34 274 P P 06 30 52.5 +0.5
MSTX IAmb IAmb 06 30 54.5
comp=Z,15nm,1.1s
IMAR Indian Mountai 50.42 332 P P 06 30 52.9 +0.8
BWN Browne 50.58 329 P P 06 30 53.6 +0.3
PV02 Paradox Valley 50.68 283 P P 06 30 55.1 +0.5
PV03 Paradox Valley 50.71 283 P P 06 30 55.5 +0.7
BMO Blue Mountains 50.71 294 P P 06 30 54.0 -0.7
MFID Camas Ranch 50.92 292 P P 06 30 58.3 +2.1
N25K Chitina, Valde 50.93 324 P P 06 30 54.7 -1.3
baz=44
TORD Torodi Ar. Bea 50.93 131 P P 06 30 55.2 -1.2
comp=Z,2.6nm,0.9s,baz=327,slow=5.0,SNR=8.0
TORD LR LR 06 51 17.5
comp=Z,86nm,18.4s,baz=180,slow=35
TORD Torodi Ar. Bea 50.93 131 P P 06 30 55.3 -1.2
TGL Tana Glacier 50.94 323 P P 06 30 56.6 +0.4
CRQE Cirque 51.03 323 P P 06 30 55.7 -1.2
baz=44,SNR=5.9
JCT Junction City 51.21 269 P P 06 30 58.6 +0.1
baz=41,SNR=6.5

JCT	Junction City	51.21	269	P	P	06 30 58.4 -0.1
JCT				IAmb	IAmb	06 31 00.7
comp=Z,14nm,0.9s						
G08A	Pilot Rock	51.27	296	P	P	06 30 58.8 0.0
ANMO	Albuquerque	51.72	278	LR	LR	06 52 35.8
comp=Z,139nm,18.1s,baz=49,slow=36						
ANMO	Albuquerque	51.72	278	P	P	06 31 02.7 +0.3
baz=43						
ANMO	Albuquerque	51.72	278	P	P	06 31 03.6 +1.1
SML	Sawmill	51.99	326	P	P	06 31 02.1 -1.9
baz=42						
KNK	Knik Glacier	52.33	326	P	P	06 31 05.8 -0.5
baz=42						
J08A	Circle Bar Ran	52.35	294	P	P	06 31 07.7 +0.7
J08A				IAmb	IAmb	06 31 09.9
comp=Z,14nm,0.9s						
I07A	Izee	52.38	295	P	P	06 31 07.8 +0.6
BNM	Barren Site	52.40	277	P	P	06 31 07.9 +0.3
AKTO	Aktyubinsk	52.44	54	P	P	06 31 07.5 +0.2
comp=Z,7.6nm,0.8s,baz=325,slow=7.5,SNR=23						
AKTO				LR	LR	06 51 10.8
comp=Z,85nm,20.4s,baz=44,slow=34						
ELK	Elko	52.46	289	LR	LR	06 52 33.5
comp=Z,290nm,19.1s,baz=39,slow=35						
ELK	Elko	52.46	289	P	P	06 31 09.5 +1.5
TIXI	Tiksi	52.84	6	P	P	06 31 11.0 +1.0
comp=Z,13nm,0.9s,baz=340,slow=5.3,SNR=13						
TIXI	Tiksi	52.84	6	P	P	06 31 10.6 +0.6
TIXI				IAmb	IAmb	06 31 13.2
comp=Z,15nm,1.0s						
GNI	Garni	52.93	71	P	P	06 31 11.9 +0.6
WVOR	Wild Horse Val	53.09	293	P	P	06 31 13.3 +0.9
WVOR				IAmb	IAmb	06 31 15.5
comp=Z,9.6nm,1.1s						
PINE	Pine Mountain	53.33	296	P	P	06 31 14.0 -0.3
PINE				IAmb	IAmb	06 31 18.0
comp=Z,12nm,1.0s						
MNTX	Cornudas Mount	53.49	274	P	P	06 31 15.5 +0.2
baz=42,SNR=5.9						
MNTX	Cornudas Mount	53.49	274	P	P	06 31 15.3 0.0
J05D	Fort Rock, OR	53.84	296	P	P	06 31 18.1 +0.2
baz=45,SNR=12						
K05A	Summer Lake	54.06	295	P	P	06 31 20.4 +0.8
ABKAR	Abkulak array	54.15	54	P	P	06 31 20.4 +0.4
ABKAR	Abkulak array	54.15	54	P	P	06 31 20.4 +0.4
ABKAR				IAmb	IAmb	06 31 23.2
comp=Z,10nm,1.4s						
TX31	Lajitas Ar. Si	54.28	271	P	P	06 31 20.6 -0.6
TX31				IAmb	IAmb	06 31 31.7
comp=Z,19nm,1.5s						
TX32	Lajitas Array	54.28	271	P	P	06 31 20.8 -0.5
TXAR	Lajitas Array	54.28	271	P	P	06 31 21.3 +0.1
comp=Z,1.5nm,0.8s,baz=66,slow=7.2,SNR=11						
TXAR				PcP	PcP	06 32 25.3 -0.1
comp=Z,1.2nm,0.8s,baz=74,slow=4.8,SNR=6.7						
TXAR				LR	LR	06 53 58.4
comp=Z,191nm,19.6s,baz=0.0,slow=36						
MOD	Modoc Plateau	54.34	294	P	P	06 31 21.7 +0.1
I03D	Drain, OR	54.63	297	P	P	06 31 23.6 +0.2
baz=44						
KVN	Kaiserville	55.21	290	P	P	06 31 29.1 +1.1
KVN				IAmb	IAmb	06 31 31.0
comp=Z,9.0nm,1.0s						
M04C	Macdoel	55.22	295	P	P	06 31 28.1 +0.1
baz=44						
PAHR	Pah Rah Range	55.43	291	P	P	06 31 30.7 +1.2
PAHR				IAmb	IAmb	06 31 33.0
comp=Z,11nm,1.0s						
TPH	Tonopah	55.44	288	P	P	06 31 30.2 +0.5
SMLC	San Martn de	55.58	229	eP	P	06 31 27.9 -2.8
YBH	Yreka Blue Hor	55.71	295	LR	LR	06 54 05.0
comp=Z,113nm,21.5s,baz=18,slow=35						
TPNV	Topopah Spring	55.73	287	P	P	06 31 31.4 -0.3
baz=43						
NVAR	Mina Array Bea	55.77	289	P	P	06 31 32.8 +0.7
comp=Z,0.3nm,0.4s,baz=58,slow=7.1,SNR=7.0						
BEKR	Beckworth	55.83	292	P	P	06 31 32.8 +0.4
BEKR				IAmb	IAmb	06 31 41.9
comp=Z,6.0nm,0.9s						
L02E	Cave Junction	55.86	296	P	P	06 31 32.1 -0.3
baz=44						
YERR	Yerington	55.87	291	P	P	06 31 34.0 +1.2
PNTR	Pine Nut	55.99	291	P	P	06 31 34.6 +1.0
PNTR				IAmb	IAmb	06 31 37.0
comp=Z,10nm,0.9s						
LHV	Little Huntoon	56.01	289	P	P	06 31 34.7 +1.2
N02D	Trinity Center	56.26	295	P	P	06 31 34.4 -1.0
baz=43						
GRAC	Grapevine Rang	56.31	288	P	P	06 31 35.6 -0.2
baz=43,SNR=5.6						
FURC	Furnace Creek,	56.42	287	P	P	06 31 36.6 +0.2
baz=43						
CWC	Cottonwood Cre	57.10	288	P	P	06 31 41.2 -0.3
baz=42						
BELC	Belle Mtn. Jos	57.77	284	P	P	06 31 46.4 +0.2
baz=42						
GLA	Glamis	57.82	283	P	P	06 31 46.1 -0.4
baz=42						
GLA	Glamis	57.82	283	P	P	06 31 47.4 +0.9
GLA				IAmb	IAmb	06 31 50.0
comp=Z,11nm,0.9s						
CCIG	Comitan	58.07	251	P	P	06 31 48.7 +0.1
CCIG				IAmb	IAmb	06 31 49.9
comp=Z,10nm,0.9s						
VES	Vestal, Richgr	58.09	288	P	P	06 31 47.9 -0.4
baz=42						
DBBC	Dabeiba	58.10	230	eP	P	06 31 48.1 -0.5
MTO3	Montecristo	58.14	247	P	P	06 31 48.9 -0.2
EDW2	Edwards Air Fo	58.21	286	P	P	06 31 49.1 -0.2
baz=42						
PFO	Pinyon Flats O	58.31	284	P	P	06 31 50.3 +0.3
baz=41						
TPFO	Pinon Flats	58.31	284	P	P	06 31 50.4 +0.4
baz=41						
SWSC	Sam W. Stewart	58.44	283	P	P	06 31 51.4 +0.6
baz=41						
BFSC	Mount Baldy Ra	58.50	286	P	P	06 31 51.2 -0.2
baz=42						
HELC	Santa Helena	58.55	229	eP	P	06 31 51.9 -0.2
MURC	Murrieta	58.73	285	P	P	06 31 52.6 -0.2
baz=41						
MONP2	Monument Peak	58.83	284	P	P	06 31 54.0 +0.3
baz=41						
NORC	Norcasia	58.83	228	eP	P	06 31 53.3 -0.4
IKP	In-Ko-Pah, Jac	58.83	283	P	P	06 31 53.6 -0.1
baz=41						
CMIG	Matias Romero	58.91	254	LR	LR	06 58 11.5
comp=Z,96nm,19.2s,baz=359,slow=37						
CBOC	Ciudad Bolivar	59.05	229	eP	P	06 31 51.0 -4.3
ROSC	El Rosal	59.25	227	P	P	06 31 57.3 +0.3
ROSC	El Rosal	59.25	227	eP	P	06 31 58.8 +1.8
GUY2C	Guyana, Caldas	59.34	228	eP	P	06 31 57.5 -0.3
TOLC	Tolima	59.90	228	eP	P	06 31 59.7 -1.7
PLMC	San Jos del P	60.02	229	eP	P	06 32 02.6 +0.6
SNCC	San Nicolas Is	60.27	286	P	P	06 32 02.8 -0.6
baz=41						
ORTC	Ortega, Tolima	60.48	227	eP	P	06 32 06.3 +1.3
KURK	Kurchatov	60.92	42	P	P	06 32 07.8 +0.2
KURBB	Kurchatov Arra	60.96	42	P	P	06 32 07.8 -0.1
comp=Z,2.7nm,0.7s,baz=320,slow=8.0,SNR=9.0						
POPC	Popayan, Colom	62.31	228	eP	P	06 32 07.2 -10
KK31	Karatay Array	63.60	52	P	P	06 32 26.3 +0.5
KKAR	Karatay Array	63.60	52	P	P	06 32 26.3 +0.5
KKAR	Karatay Array	63.60	52	P	P	06 32 26.4 +0.7
KKAR				IAmb	IAmb	06 32 28.6
comp=Z,3.2nm,1.0s						
OTAV	Otavalo	65.14	229	P	P	06 32 36.7 +0.1
OTAV				IAmb	IAmb	06 32 47.1
comp=Z,9.0nm,1.2s						
OTAV	Otavalo	65.14	229	eP	P	06 32 35.7 -0.9
MAKZ	Makanchi	65.40	42	P	P	06 32 37.3 -0.1
MAKZ				IAmb	IAmb	06 32 38.3
comp=Z,6.3nm,1.4s						
MK31	Makanchi Array	65.53	42	P	P	06 32 38.1 -0.1
MKAR	Makanchi Array	65.53	42	P	P	06 32 37.9 -0.4
comp=Z,1.9nm,0.8s,baz=336,slow=5.3,SNR=11						
MKAR	Makanchi Array	65.53	42	P	P	06 32 38.1 -0.1
AAK	Ala-Archa	65.74	50	P	P	06 32 40.2 +0.4
AAK				IAmb	IAmb	06 32 43.5
comp=Z,9.0nm,1.3s						
BTK	Batken	66.16	54	P	P	06 32 43.2 +0.7
BTK				IAmb	IAmb	06 32 45.5
comp=Z,8.2nm,0.9s						
BOOM	Boomskoye usch	66.48	49	P	P	06 32 45.3 +0.6
BOOM				IAmb	IAmb	06 32 56.0
comp=Z,4.1nm,0.9s						
GAR	Garm	66.77	55	P	P	06 32 47.4 +0.9
DRK	Karamyk	67.08	53	P	P	06 32 49.6 +1.0
KDJ	Kajisay	67.31	48	P	P	06 32 49.9 0.0
KDJ				IAmb	IAmb	06 32 51.8
comp=Z,5.0nm,1.0s						
TARG	Taragay, Kyrgy	67.90	48	P	P	06 32 54.8 +0.9
TARG				IAmb	IAmb	06 32 58.0
comp=Z,9.2nm,1.0s						
WMQ	Urumqi	70.08	40	eP	P	06 33 09.8 +2.8
PETK	Petropavlovsk-	71.41	352	P	P	06 33 15.6 +0.7
BDFB	Brasília	71.49	193	P	P	06 33 15.2 -0.6
comp=Z,5.6nm,0.7s,baz=352,slow=3.9,SNR=6.5						
ATAH	Atahualpa	71.76	226	LR	LR	07 03 37.3
comp=Z,34nm,19.7s,baz=303,slow=35						
SONM	Songino Array	72.30	26	P	P	06 33 20.3 -0.2
comp=Z,2.9nm,1.0s,baz=318,slow=3.9,SNR=9.7						
SONM				LR	LR	07 07 12.7
comp=Z,46nm,18.2s,baz=312,slow=38						
SONM	Songino Array	72.30	26	P	P	06 33 20.3 -0.2
ULN	Ulaanbaatar	72.43	26	P	P	06 33 22.2 +0.9
ULN				IAmb	IAmb	06 33 44.0
comp=Z,6.5nm,1.2s						
NIL	Nilore	72.49	56	P	P	06 33 22.2 +0.5
NIL				IAmb	IAmb	06 33 35.5
comp=Z,11nm,1.3s						
KLR	Kul'dur	75.27	9	P	P	06 33 37.5 -0.1
comp=Z,0.7nm,0.5s,baz=333,slow=6.8,SNR=4.0						
AQDB	Aquidauana	77.46	200	P	P	06 33 49.9 -0.4
AQDB				IAmb	IAmb	06 33 51.1
comp=Z,9.3nm,0.9s						
GTA	Gaotai	78.17	34	⇑P	P	06 33 54.4 0.0
GTA				pP	pwP	06 33 59.9 -0.1
GTA				sP	PcP	06 34 03.1 -0.8
GTA				pmax	pmax	
comp=Z,5.0nm,1.0s						
SPB	Sao Paulo	79.27	191	P	P	06 34 00.6 +0.4
MDJ	Mudanjiang	79.62	11	P	P	06 34 01.4 -0.7
MDJ				pmax	pmax	
comp=Z,8.0nm,0.7s						
MDJ				pmax	pmax	
comp=Z,210nm,3.9s						
HHC	Hu-ho-hao-te	80.13	25	eP	P	06 34 05.3 +0.2
HHC				pmax	pmax	
comp=Z,19nm,0.8s						
HHC				pmax	pmax	
comp=Z,350nm,6.6s						
USA0B	Ussuriysk Arra	80.28	9	P	P	06 34 05.8 +0.1
USA0B				IAmb	IAmb	06 34 17.6
comp=Z,9.9nm,1.4s						
USRK	Ussuriysk Ar.	80.28	9	P	P	06 34 05.4 -0.3
comp=Z,2.3nm,0.9s,baz=343,slow=6.0,SNR=4.6						
BJI	Beijing	81.94	22	P	P	06 34 15.0 +0.4
BJI				pmax	pmax	
comp=Z,10.0nm,0.8s						
LZH	Lanzhou	82.48	32	eP	P	06 34 19.4 +1.7
LZH				pP	pwP	06 34 25.1 +1.8
LZH				sP	PcP	06 34 28.8 +6.0
LZH				S	S	06 44 24.3 -10
LZH				SKS	SKSac	06 44 31.3 -7.5
LZH				sS	sS	06 44 40.3 +1.9
LZH				SS	SS	06 49 55.6 +1.8
LZH				pmax	pmax	
comp=Z,13nm,1.0s						
LZH				pmax	pmax	
comp=Z,140nm,6.0s						
SHL	Shillong	87.70	46	P	P	06 34 43.9 -0.1
NJ2	Nanjing	90.20	22	eP	P	06 34 55.3 -0.2
NJ2				pmax	pmax	
comp=Z,6.0nm,0.6s						
CMAR	Chiang Mai Arr	96.91	43	P	P	06 35 26.5 -0.1
comp=Z,0.7nm,0.3s,baz=312,slow=4.3,SNR=5.5						
CMAR	Chiang Mai Arr	96.91	43	P	P	06 35 26.2 -0.4
KRAB	Krabi	106.26	47	P	Pdif	06 36 04.0 -4.3
WRA	Warramunga Arr	143.83	17	PKP	PKPab	06 41 27.2 -0.1
comp=Z,2.9nm,1.0s,baz=340,slow=1.9,SNR=12						
CTA	Charters Tower	144.81	357	PKP	PKPab	06 41 30.8 -0.2
comp=Z,9.9nm,1.0s,baz=30,slow=6.3,SNR=11						
ASAR	Alice Springs	147.39	19	PKPbc	PKPdf	06 41 38.2 +1.9
comp=Z,19nm,0.7s,baz=348,slow=2.6,SNR=133						
ASAR	Alice Springs	147.39	19		PKPdf	06 41 38.0 +1.7

TAP ***16*** *06:26:13.6,24°.20N×122°.82E,h10km±1km,ML2.8,D*
JMA ***16*** *06:26:14.5±0.1,24°.24N×122°.84E,h24km±3km,M2.2*
ISC 16 06:26:13.7±1.1,24°.21N±0°.03×122°.84E±0°.02,h15km±9km,
n70,g0°57/121,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.26	21	P	Pb	06 26 20.4	+0.3
JYNG				S	Sb	06 26 24.6	+0.3
YOJ	Yonaguni jima	0.29	31	P	Pb	06 26 21.0	+0.3
YOJ				S	Sb	06 26 25.4	0.0
YOJ	Yonaguni jima	0.29	31	⇑P	Pb	06 26 21.0	+0.3
baz=31							
YOJ				S	Sb	06 26 25.7	+0.4
baz=31							
IRIF	Iriomote-Funau	0.82	81	P	Pb	06 26 29.7	+0.1
IRIF				S	Sg	06 26 41.1	+0.7
TWC	Suao	0.99	294	P	Pb	06 26 32.4	-0.2
baz=294							
TWC				S	Sg	06 26 45.9	+0.1
baz=294							
EWUT	Wuta	1.00	284	eP	Pb	06 26 32.5	-0.2
baz=284							
EWUT				S	Sn	06 26 46.4	-0.6
baz=284							
EHP	Heping Village	1.01	276	eS	Sn	06 26 48.0	+0.7
baz=276							
JKRS	Kuro-shima	1.06	88	P	Pb	06 26 34.2	+0.4
JKRS				S	Sn	06 26 48.6	0.0
NDS	Dongshan	1.11	293	eP	Pb	06 26 34.5	-0.1
baz=293							
NDS				S	Sn	06 26 49.2	-0.6
baz=293							
TWB1	Santiao Chiao	1.11	316	eP	Pb	06 26 34.6	-0.1
baz=316							
TWB1				S	Sn	06 26 49.5	-0.3
baz=316							
ETL	Fush Village	1.11	268	eP	Pg	06 26 35.3	+0.1
baz=267							
ETL				eS	Sg	06 26 50.4	+0.5
baz=267							
NTC	Toucheng	1.12	305	eP	Pg	06 26 35.2	-0.2
baz=305							
NTC				eS	Sg	06 26 50.6	+0.5
baz=305							
NACB	Ninganchiao	1.14	268	P	Pn	06 26 34.9	-0.2
baz=268							
NACB				S	Sg	06 26 51.0	+0.3
baz=268							
ILA	Ilan	1.14	299	P	Pg	06 26 36.2	+0.5
baz=300							
ILA				S	Sg	06 26 51.4	+0.8
baz=300							
TWD	Chiawan	1.15	264	eP	Pn	06 26 35.2	0.0
baz=263							
TWD				eS	Sg	06 26 50.8	0.0
baz=263							
HWA	Hwalien	1.16	259	eP	Pn	06 26 35.2	-0.1
baz=258							
HWA				eS	Sn	06 26 50.8	0.0
baz=258							
TWE	Neicheng	1.19	296	P	Pb	06 26 36.2	+0.3
baz=296							
TWE				S	Sg	06 26 52.2	+0.1
baz=296							
TEYL	Yanliau Villag	1.19	254	eP	Pn	06 26 35.8	0.0
baz=255							
JIJ	Ishigaki jima	1.20	82	P	Pn	06 26 35.5	-0.4
JIJ				S	Sb	06 26 50.7	-0.7
TIPB	Shuangxi	1.20	310	P	Pn	06 26 35.6	-0.3
baz=310							
TIPB				eS	Sg	06 26 53.1	+0.6
baz=310							
ENTT	Nioudou	1.24	290	P	Pb	06 26 37.0	+0.1
baz=290							
ENTT				eS	Sg	06 26 53.8	0.0
baz=290							
ETLH	Xiulin Townshi	1.24	270	P	Pb	06 26 37.0	0.0
baz=270							
ETLH				S	Sg	06 26 54.9	+0.9
baz=270							
NDT	Datong Townshi	1.27	288	P	Pg	06 26 38.0	-0.3
baz=288							
NDT				S	Sg	06 26 54.3	-0.6
baz=288							
NWF	Wu-fen Shan	1.29	312	P	Pn	06 26 37.3	0.0
baz=312							
NWF				S	Sg	06 26 55.5	0.0
baz=312							
WFSB	Wu-fen Shan	1.29	312	P	Pb	06 26 37.6	-0.1
baz=312							
WFSB				eS	Sg	06 26 55.5	0.0
baz=312							
NWLT	Wulai	1.34	295	P	Pg	06 26 39.4	-0.3
baz=295							
NWLT				S	Sg	06 26 56.8	-0.4
baz=295							
ESL	Shilin	1.35	253	eS	Sb	06 26 55.9	+0.1
baz=252							
NNSB	Datong	1.35	280	P	Pb	06 26 38.8	0.0
baz=279							
NNSB				eS	Sb	06 26 55.9	0.0
baz=279							
NNSH	Datong	1.35	280	eP	Pb	06 26 38.9	+0.1
baz=279							
NNSH				eS	Sg	06 26 56.5	-0.8
baz=279							
TNOU	National Taiwa	1.35	314	eS	Sg	06 26 56.9	-0.4
baz=314							
NNS	Nan Shan	1.36	280	P	Pb	06 26 39.1	+0.1
baz=280							
NNS				S	Sb	06 26 56.7	+0.5
baz=280							
TWA	Mucha	1.38	304	eP	Pb	06 26 38.8	-0.5
baz=304							
TWA				S	Sg	06 26 57.4	-0.9
baz=304							
JISG	Ishigakijimahi	1.39	74	P	Pn	06 26 37.9	-0.7
JISG				eS	Sn	06 26 55.8	-0.9
YHNB	Yeheng	1.41	289	P	Pg	06 26 40.5	-0.4
baz=289							
YHNB				eS	Sg	06 26 58.4	-0.9
baz=289							
NSK	Sanguang	1.43	289	*i* P	Pg	06 26 41.0	-0.3
baz=289							
NSK				S	Sg	06 26 59.5	-0.4
baz=289							
WHF	Hehuan Shan	1.44	268	P	Pn	06 26 39.2	-0.5
baz=267							
WHF				S	Sb	06 26 59.0	+0.1
baz=267							
TATO	Taipei	1.45	302	eP	Pn	06 26 39.7	+0.3
baz=302							
TATO				eS	Sb	06 26 59.1	+0.4
baz=302							
FUSS	Fushou	1.46	272	P	Pb	06 26 40.4	-0.3
baz=271							
FUSS				eS	Sb	06 26 59.5	+0.3
baz=271							
TAP	Taipei	1.47	304	eP	Pn	06 26 39.8	+0.1
baz=304							
TAP				eS	Sb	06 26 59.5	+0.2
baz=304							
HGSD	Ruisui	1.48	241	P	Pn	06 26 40.1	+0.3
baz=241							
HGSD				S	Sb	06 26 59.3	-0.3
baz=241							
YM01	YM01	1.49	309	eP	Pb	06 26 41.6	+0.5
baz=309							
CHGB	Renai	1.53	265	P	Pn	06 26 41.0	+0.3
baz=264							
CHGB				eS	Sn	06 27 00.4	-0.1
baz=264							
OWD	Renai	1.54	261	eP	Pn	06 26 40.7	-0.1
baz=260							
OWD				eS	Sb	06 27 01.3	-0.3
baz=260							
EHY	Hungye	1.56	244	P	Pn	06 26 40.0	-1.0
baz=243							
EHY				S	Sn	06 27 00.4	-0.5
baz=243							
PCYT	Pengchaiyu	1.58	334	eS	Sb	06 27 02.0	-0.3
baz=334							
YULB	Yu-li	1.63	240	eP	Pn	06 26 41.0	-0.9
baz=240							
TWF1	Yuli	1.65	239	P	Pn	06 26 41.0	-1.2
baz=238							
TWF1				S	Sn	06 27 03.4	+0.1
baz=238							
LIOB	Emei	1.72	285	eP	Pb	06 26 45.3	+0.3
baz=285							
WHP	Taichung City	1.73	273	eP	Pn	06 26 44.3	+0.9
baz=272							
FULB	Fuli	1.74	235	eP	Pn	06 26 44.3	+0.8
baz=234							
FULB				eS	Sn	06 27 04.5	-0.8
baz=234							
DPDB	Guoxing	1.76	265	eP	Pb	06 26 44.7	-1.0
baz=264							
WCS	Beigang Elemen	1.77	265	eP	Pb	06 26 45.0	-0.9
baz=265							
WCS				eS	Sb	06 27 07.1	-0.8
baz=265							
SSLB	Suanglung	1.78	257	eP	Pn	06 26 44.7	+0.8
baz=256							
SSLB				eS	Sn	06 27 06.8	+0.5
baz=256							
SBCB	Hsinchu	1.79	289	eS	Sb	06 27 07.8	-0.6
baz=289							
SMLT	Sun Moon Lake	1.81	260	eP	Pn	06 26 44.9	+0.5
baz=259							
SMLT				eS	Sn	06 27 07.5	+0.4
baz=259							
TYC	Yuchr	1.84	261	eP	Pn	06 26 45.5	+0.7
baz=260							
TYC				eS	Sn	06 27 08.3	+0.5
baz=260							
EDH	Donghe	1.87	229	eP	Pn	06 26 46.1	+0.8
baz=228							
EDH				eS	Sn	06 27 08.6	0.0
baz=228							
WJS	Zhushan	1.97	259	eP	Pn	06 26 47.3	+0.7
baz=258							
WJS				eS	Sn	06 27 11.8	+0.8
baz=258							
ALS	Alishan	1.99	250	P	Pn	06 26 47.5	+0.4
baz=249							
ALS				eS	Sn	06 27 12.3	+0.3
baz=249							
WNT	Mingjian	2.00	261	eP	Pb	06 26 48.5	-1.4
baz=260							
CHN5	Tsauling	2.07	253	eP	Pn	06 26 49.3	+1.3
baz=252							
CHN5				eS	Sn	06 27 14.1	+0.4
baz=252							
TTN	Taitung	2.13	227	eS	Sn	06 27 15.3	+0.4
baz=226							
TWG	Pinlang	2.13	230	eS	Sn	06 27 15.0	-0.1
baz=229							
STYH	Taoyuan	2.16	242	eP	Pn	06 26 49.9	+0.8
baz=241							
TPUB	Ta-pu	2.22	246	eP	Pn	06 26 50.8	+0.8
baz=245							
TPUB				eS	Sn	06 27 17.4	+0.1
baz=245							
CHN4	Tsaushan	2.23	248	eP	Pn	06 26 51.1	+1.0
baz=247							
WTP	Ta-pu	2.26	245	eP	Pn	06 26 51.7	+1.2
baz=244							
TWK	Hsinying	2.35	247	eP	Pn	06 26 53.1	+1.2
baz=246							
CHN1	Nanshi	2.35	245	eP	Pn	06 26 53.2	+1.3
baz=244							
CHN1				eS	Sn	06 27 21.7	+1.2
baz=244							
MASBT	Mashibuluo	2.58	232	eP	Pn	06 26 55.5	+0.5
baz=231							

IDC 16 06:27:29.8±2.0,1°.18N×126°.56E,h0km,mb3.8/3,
mb1 4.0/3,mb1mx3.5/47,mbtmp3.8/3,MS3.6/1,Ms1 3.6/1,
ms1mx2.6/44,Error ellipse: s-maj=171.6km
s-min=24.5km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.33	160	P	P	06 32 29.2	-0.2
2.8nm,0.9s,baz=339,slow=11,SNR=15							
ASAR	Alice Springs	25.71	164	P	P	06 33 02.1	+0.1
1.8nm,0.8s,baz=346,slow=13,SNR=15							
TLY	Talaya	53.89	343	LR	LR	07 02 39.1	

comp=Z,53nm,18.6s,baz=345,slow=39
MKAR Makanchi Array 59.56 326 P P 06 37 35.2 -0.1
0.8nm,0.6s,baz=120,slow=7.7,SNR=7.5

IDC 16 06:29:44.1±2.8, 54.14N×86.37E, h0km, mb1 3.3/2, mb1mx3.1/62, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=22.0km s-min=13.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**259**	*i*		06 35 50.0	
	baz=80,slow=308,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.93**	**259**	Pg	Pg	06 30 00.6	-1.3
	1.3nm,0.3s,baz=77,slow=17,SNR=11						
ZALV				Lg	Lg	06 30 15.6	
	2.2nm,0.3s,baz=76,slow=29,SNR=8.8						
ZALV				Rg	Rg	06 30 19.9	
	45nm,1.2s,baz=72,slow=23,SNR=7.7						
KURBB	**Kurchatov Arra**	**5.95**	**237**	Pn	Pn	06 31 14.3	+1.0
	0.3nm,0.3s,baz=56,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	06 31 39.9	+1.2
	0.2nm,0.3s,baz=21,slow=14,SNR=5.1						

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*TAP **16** 06:36:25.9, 24.15N×122.87E, h14km±1km, ML2.9, D*
*JMA **16** 06:36:27.2±0.1, 24.23N×122.85E, h22km±3km, M2.1*
ISC 16 06:36:26.5±1.1, 24.18N±0.03×122.86E±0.02, h18km±4km, n77, σ0.53/130, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**17**	P	**Pb**	**06 36 32.9**	**-0.2**
JYNG				S	**Sb**	**06 36 37.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.32**	**27**	P	**Pb**	**06 36 33.6**	**-0.1**
YOJ				S	**Sb**	**06 36 38.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.32**	**27**	⇑P	**Pb**	**06 36 33.6**	**-0.1**
	baz=21						
YOJ				S	**Sb**	**06 36 38.4**	**0.0**
	baz=21						
IRIF	**Iriomote-Funau**	**0.81**	**79**	P	**Pg**	**06 36 42.4**	**0.0**
HATJ	**Hateruma jima**	**0.88**	**98**	P	**Pn**	**06 36 43.8**	**-0.1**
TWC	**Suao**	**1.01**	**295**	*i* P	**Pn**	**06 36 45.9**	**+0.1**
	baz=296						
TWC				*i* S	**Sg**	**06 36 59.5**	**-0.1**
	baz=296						
EWUT	**Wuta**	**1.02**	**285**	*e*P	**Pb**	**06 36 45.0**	**-0.6**
	baz=286						
EWUT				*e*S	**Sg**	**06 36 59.5**	**-0.2**
	baz=286						
EHP	**Heping Village**	**1.03**	**278**	*e*P	**Pg**	**06 36 46.3**	**-0.1**
	baz=278						
JKRS	**Kuro-shima**	**1.05**	**87**	P	**Pg**	**06 36 46.8**	**-0.2**
JKRS				S	**Sg**	**06 37 01.8**	**+1.0**
ETL	**Fush Village**	**1.13**	**269**	P	**Pn**	**06 36 47.1**	**-0.3**
	baz=270						
ETL				*e*S	**Sg**	**06 37 03.8**	**+0.7**
	baz=270						
NDS	**Dongshan**	**1.13**	**294**	*i* P	**Pn**	**06 36 47.4**	**-0.1**
	baz=294						
NDS				*i* S	**Sg**	**06 37 03.1**	**-0.3**
	baz=294						
TWB1	**Santiao Chiao**	**1.14**	**316**	P	**Pg**	**06 36 48.3**	**-0.3**
	baz=316						
TWB1				S	**Sn**	**06 37 02.9**	**+0.1**
	baz=316						
NACB	**Ninganchiao**	**1.15**	**270**	P	**Pn**	**06 36 47.4**	**-0.3**
	baz=270						
NACB				S	**Sg**	**06 37 04.9**	**+0.9**
	baz=270						
NTC	**Toucheng**	**1.15**	**306**	*e*P	**Pg**	**06 36 48.5**	**-0.4**
	baz=306						
NTC				*e*S	**Sg**	**06 37 03.8**	**-0.1**
	baz=306						
TWD	**Chiawan**	**1.16**	**265**	*e*P	**Pn**	**06 36 47.9**	**+0.1**
	baz=266						
TWD				S	**Sn**	**06 37 03.4**	**+0.2**
	baz=266						
HWA	**Hwalien**	**1.16**	**260**	*e*P	**Pn**	**06 36 47.3**	**-0.6**
	baz=261						
ILA	**Ilan**	**1.17**	**300**	*e*S	**Sg**	**06 37 05.0**	**+0.6**
	baz=300						
JIJ	**Ishigaki jima**	**1.19**	**81**	P	**Pn**	**06 36 47.9**	**-0.4**
JIJ				S	**Sb**	**06 37 03.4**	**-0.2**
TEYL	**Yanliau Villag**	**1.19**	**255**	*e*S	**Sn**	**06 37 04.7**	**+0.7**
	baz=257						
TWE	**Neicheng**	**1.21**	**297**	P	**Pb**	**06 36 48.9**	**0.0**
	baz=297						
TWE				S	**Sg**	**06 37 05.5**	**-0.3**
	baz=297						
TIPB	**Shuangxi**	**1.23**	**310**	P	**Pg**	**06 36 49.7**	**-0.6**
	baz=310						
TIPB				*e*S	**Sg**	**06 37 06.8**	**+0.5**
	baz=310						
ETLH	**Xiulin Townshi**	**1.25**	**272**	*e*P	**Pn**	**06 36 49.2**	**0.0**
	baz=272						
ETLH				*e*S	**Sn**	**06 37 06.2**	**+0.5**
	baz=272						
ENTT	**Nioudou**	**1.26**	**292**	*e*P	**Pb**	**06 36 49.7**	**-0.1**
	baz=292						
ENTT				S	**Sn**	**06 37 06.2**	**+0.4**
	baz=292						
ETM	**Tongmen**	**1.26**	**261**	*e*P	**Pn**	**06 36 49.0**	**-0.3**
	baz=261						
ETM				S	**Sb**	**06 37 05.9**	**+0.1**
	baz=261						
NDT	**Datong Townshi**	**1.29**	**289**	*i* P	**Pb**	**06 36 50.4**	**+0.1**
	baz=289						
NDT				*i* S	**Sb**	**06 37 07.5**	**+0.9**
	baz=289						
NWF	**Wu-fen Shan**	**1.32**	**312**	*e*P	**Pn**	**06 36 50.3**	**+0.1**
	baz=312						
WFSB	**Wu-fen Shan**	**1.32**	**312**	P	**Pn**	**06 36 50.3**	**+0.2**
	baz=312						
WFSB				*e*S	**Sg**	**06 37 08.3**	**-1.0**
	baz=312						
ESL	**Shilin**	**1.35**	**255**	P	**Pn**	**06 36 50.0**	**-0.5**
	baz=255						
ESL				*e*S	**Sb**	**06 37 08.6**	**+0.3**
	baz=255						
NNSB	**Datong**	**1.37**	**281**	P	**Pb**	**06 36 51.3**	**-0.3**
	baz=281						
NNSB				S	**Sg**	**06 37 09.9**	**-0.9**
	baz=281						
NNSH	**Datong**	**1.37**	**281**	P	**Pb**	**06 36 51.8**	**+0.1**
	baz=281						
NNSH				*e*S	**Sb**	**06 37 09.3**	**+0.5**
	baz=281						
NWLT	**Wulai**	**1.37**	**296**	*e*P	**Pb**	**06 36 52.1**	**+0.4**
	baz=296						
NWLT				*e*S	**Sb**	**06 37 09.1**	**+0.2**
	baz=296						
NNS	**Nan Shan**	**1.38**	**281**	P	**Pb**	**06 36 51.9**	**+0.1**
	baz=281						
NNS				*i* S	**Sb**	**06 37 09.6**	**+0.5**
	baz=281						
TNOU	**National Taiwa**	**1.38**	**315**	*e*P	**Pb**	**06 36 51.3**	**-0.5**
	baz=314						
TNOU				*e*S	**Sb**	**06 37 09.8**	**+0.7**
	baz=314						
JISG	**Ishigakijimahi**	**1.39**	**73**	P	**Pn**	**06 36 50.7**	**-0.3**
JISG				S	**Sb**	**06 37 10.0**	**+0.7**
EGFH	**Guangfu**	**1.40**	**249**	*e*S	**Sb**	**06 37 09.8**	**0.0**
	baz=249						
TWA	**Mucha**	**1.41**	**305**	*e*P	**Pb**	**06 36 51.8**	**-0.5**
	baz=305						
TWA				S	**Sb**	**06 37 10.2**	**+0.3**
	baz=305						
YHNB	**Yeheng**	**1.44**	**290**	P	**Pb**	**06 36 53.4**	**+0.6**
	baz=290						
YHNB				S	**Sb**	**06 37 11.1**	**+0.4**
	baz=290						
NHY	**Taipei**	**1.45**	**306**	P	**Pb**	**06 36 53.4**	**+0.4**
	baz=306						
NHY				S	**Sb**	**06 37 12.0**	**+0.9**
	baz=306						
NSK	**Sanguang**	**1.45**	**290**	*i* P	**Pb**	**06 36 53.5**	**+0.5**
	baz=290						
NSK				*i* S	**Sn**	**06 37 10.8**	**+0.2**
	baz=290						
WHF	**Hehuan Shan**	**1.45**	**269**	*i* P	**Pn**	**06 36 52.2**	**-0.1**
	baz=269						
WHF				S	**Sb**	**06 37 12.2**	**+0.5**
	baz=269						
FUSS	**Fushou**	**1.47**	**273**	P	**Pn**	**06 36 53.0**	**+0.5**
	baz=273						
FUSS				*e*S	**Sn**	**06 37 11.7**	**+0.4**
	baz=273						
TATO	**Taipei**	**1.48**	**303**	*e*P	**Pb**	**06 36 53.5**	**+0.1**
	baz=303						
TATO				S	**Sb**	**06 37 12.6**	**+0.7**
	baz=303						
HGSD	**Ruisui**	**1.48**	**243**	P	**Pn**	**06 36 52.2**	**-0.1**
	baz=243						
HGSD				*e*S	**Sn**	**06 37 10.5**	**-0.6**
	baz=243						
TAP	**Taipei**	**1.50**	**305**	P	**Pn**	**06 36 52.4**	**-0.2**
	baz=305						
TAP				*e*S	**Sb**	**06 37 12.6**	**+0.1**
	baz=305						
TWT	**Tachien**	**1.54**	**273**	S	**Sb**	**06 37 13.8**	**0.0**
	baz=273						
CHGB	**Renai**	**1.54**	**266**	P	**Pn**	**06 36 53.7**	**+0.4**
	baz=266						
CHGB				S	**Sn**	**06 37 13.5**	**+0.5**
	baz=266						
OWD	**Renai**	**1.55**	**262**	*e*P	**Pn**	**06 36 53.2**	**-0.1**
	baz=262						
OWD				*e*S	**Sn**	**06 37 13.2**	**+0.1**
	baz=262						
TDCB	**Techi**	**1.55**	**273**	*e*P	**Pn**	**06 36 53.9**	**+0.5**
	baz=273						
TDCB				*e*S	**Sb**	**06 37 14.2**	**0.0**
	baz=273						
EHY	**Hungye**	**1.56**	**245**	*i* P	**Pn**	**06 36 52.8**	**-0.5**
	baz=245						
EHY				S	**Sn**	**06 37 13.8**	**+0.8**
	baz=245						
TWS1	**Kuangyinshan**	**1.60**	**305**	*e*P	**Pn**	**06 36 53.5**	**-0.4**
	baz=305						
PCYT	**Pengchaiyu**	**1.61**	**334**	*e*P	**Pn**	**06 36 53.9**	**-0.1**
	baz=333						
PCYT				S	**Sb**	**06 37 15.9**	**+0.2**
	baz=333						
YULB	**Yu-li**	**1.63**	**242**	P	**Pn**	**06 36 53.4**	**-0.9**
	baz=242						
YULB				S	**Sn**	**06 37 13.5**	**-1.3**
	baz=242						
EYUL	**Yuli**	**1.63**	**240**	*e*S	**Sn**	**06 37 15.5**	**+0.5**
	baz=240						
TWF1	**Yuli**	**1.65**	**240**	P	**Pn**	**06 36 54.1**	**-0.5**
	baz=240						
TWF1				S	**Sn**	**06 37 15.3**	**-0.1**
	baz=240						
NJD	**Zhudong**	**1.70**	**289**	*e*S	**Sb**	**06 37 17.7**	**-0.7**
	baz=289						
NCUH	**Zhongli**	**1.71**	**298**	*e*P	**Pn**	**06 36 55.9**	**+0.5**
	baz=297						
NCUH				*e*S	**Sb**	**06 37 18.4**	**-0.2**
	baz=297						
LIOB	**Emei**	**1.74**	**286**	*e*P	**Pn**	**06 36 56.8**	**+0.9**
	baz=286						
LIOB				*e*S	**Sb**	**06 37 18.7**	**-0.8**
	baz=286						
WHP	**Taichung City**	**1.75**	**274**	*e*P	**Pb**	**06 36 57.5**	**-0.6**
	baz=273						
WHP				S	**Sb**	**06 37 19.0**	**-0.7**
	baz=273						
NSTT	**Nanjuang**	**1.75**	**285**	*e*P	**Pn**	**06 36 56.4**	**+0.4**
	baz=285						
NSTT				*e*S	**Sn**	**06 37 18.0**	**+0.1**
	baz=285						
WCS	**Beigang Elemen**	**1.78**	**266**	*e*P	**Pn**	**06 36 56.8**	**+0.4**
	baz=266						
WCS				*e*S	**Sn**	**06 37 18.9**	**+0.3**
	baz=266						
SSLB	**Suanglung**	**1.78**	**258**	*e*P	**Pn**	**06 36 57.0**	**+0.5**
	baz=258						
SSLB				*e*S	**Sn**	**06 37 19.8**	**+1.1**
	baz=258						
SBCB	**Hsinchu**	**1.81**	**290**	*e*P	**Pb**	**06 36 58.3**	**-0.8**
	baz=290						
SMLT	**Sun Moon Lake**	**1.81**	**261**	P	**Pn**	**06 36 57.3**	**+0.3**
	baz=261						
SMLT				*e*S	**Sn**	**06 37 18.9**	**-0.7**
	baz=261						
HSN	**Hsinchu**	**1.83**	**290**	*e*S	**Sn**	**06 37 19.8**	**+0.1**
	baz=291						
TYC	**Yuchr**	**1.85**	**262**	P	**Pn**	**06 36 58.0**	**+0.7**
	baz=262						
TYC				S	**Sn**	**06 37 19.9**	**-0.3**
	baz=262						
EDH	**Donghe**	**1.86**	**230**	*e*P	**Pn**	**06 36 57.7**	**+0.2**
	baz=230						
EDH				*e*S	**Sn**	**06 37 19.8**	**-0.8**
	baz=230						
NJN	**Zhunan**	**1.88**	**286**	*e*S	**Sb**	**06 37 22.3**	**-1.1**
	baz=286						
TWQ1	**Liyutan**	**1.91**	**275**	*e*S	**Sn**	**06 37 22.9**	**+1.1**
	baz=275						
NMLH	**Miaoli**	**1.92**	**281**	*e*S	**Sn**	**06 37 22.6**	**+0.6**
	baz=281						
ELDTW	**Lidau**	**1.95**	**240**	*e*S	**Sn**	**06 37 22.3**	**-0.7**
	baz=240						
LDUT	**Ludao**	**1.97**	**221**	*e*S	**Sn**	**06 37 22.8**	**-0.4**
	baz=221						
WJS	**Zhushan**	**1.98**	**260**	*e*S	**Sn**	**06 37 24.2**	**+0.8**
	baz=260						
ALS	**Alishan**	**1.99**	**251**	*e*P	**Pn**	**06 37 00.1**	**+0.5**
	baz=251						
ALS				*e*S	**Sn**	**06 37 24.4**	**+0.2**
	baz=251						
LONT	**Longtian**	**2.03**	**232**	*e*S	**Sn**	**06 37 24.9**	**+0.1**
	baz=232						
TWGBT	**Beinan**	**2.12**	**231**	*e*S	**Sn**	**06 37 27.7**	**+0.7**
	baz=230						
TWG	**Pinlang**	**2.12**	**231**	*e*S	**Sn**	**06 37 27.7**	**+0.6**
	baz=231						
WTP	**Ta-pu**	**2.25**	**246**	*e*P	**Pn**	**06 37 04.6**	**+1.6**
	baz=246						

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*NEIC **16** 06:37:48.8±2.0, 7.27S±0.07×107.5W±0.1, h10km±1km, mb4.6/69, Error ellipse: s-maj=23.1km s-min=11.0km az=263.0*
*IDC **16** 06:37:49.1±2.9, 6.37S×107.46W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/33, mbtmp3.9/9, MS4.0/14, Ms1 4.0/14, ms1mx3.8/30, Error ellipse: s-maj=89.2km s-min=31.0km az=47.0*
*GCMT **16** 06:37:53.8±0.3, 6.17S±0.01×107.30W±0.02, h20km±1km, MW4.9/94, Moment Tensor Solution. s22,c26; s94,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.64±.13; $M_{\theta\theta}$=1.27±.10; $M_{\phi\phi}$=-0.63±.10; $M_{r\theta}$=0.13±.17; $M_{r\phi}$=2.27±.08; $M_{\theta\phi}$=-1.18±.21; Best double couple: M_0=2.78400×10^{16} NP1:ϕ_s=279.00000°, δ=64.00000°, λ=-14.00000°. NP2: ϕ_s=15.00000°, δ=78.00000°, λ=-153.00000°. Principal axes: T 2.8710, Plg9.0000°, Azm144.0000°; N -0.1750, Plg60.0000°, Azm37.0000°; P -2.6960, Plg28.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 06:37:47.1±0.8, 7.3S±0.1×107.3W±0.1, h10km, n107, σ1.54/79, mb4.6/42, MS4.0/17, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**18.20**	**70**	P	**Pn**	**06 41 58.1**	**-2.1**
RPN	**Rapa Nui**	**19.82**	**185**	LR	LR	06 48 32.1	
	comp=Z,443nm,19.6s,baz=16,slow=31						
RPN	**Rapa Nui**	**19.82**	**185**	P	**P**	**06 42 17.5**	**-0.5**
TLIG	**Tlapa**	**26.17**	**19**	P	**P**	**06 43 22.4**	**+0.3**
TLIG				IAmb	IAmb	06 43 44.1	
	comp=Z,22nm,1.6s						
JTS	**Las Juntas de**	**28.30**	**52**	LR	LR	06 51 47.2	
	comp=Z,635nm,20.8s,baz=339,slow=30						
OTAV	**Otavalo**	**29.74**	**77**	P	**P**	**06 43 53.3**	**-1.3**
OTAV				IAmb	IAmb	06 44 11.3	
	comp=Z,12nm,1.6s						
NNA	**Nana**	**30.38**	**101**	LR	LR	06 53 12.0	
	comp=Z,190nm,18.3s,baz=267,slow=30						
TAOE	**Nuku Hiva Isla**	**32.54**	**265**	*e*LR	LR	06 52 43.8	
	comp=Z,258nm,25.1s						
TAOE	**Nuku Hiva Isla**	**32.54**	**265**	*e*T	T	07 18 27.7	
	comp=Z,23nm,0.3s						
SRIG	**Santa Rosalia**	**34.74**	**352**	P	**P**	**06 44 37.0**	**-0.6**
ROSC	**El Rosal**	**35.06**	**71**	LR	LR	06 56 25.9	
	comp=Z,176nm,19.2s,baz=289,slow=32						
KVTX	**Kingsville**	**35.82**	**14**	P	**P**	**06 44 45.8**	**-1.1**
HSIG		**36.27**	**355**	P	**P**	**06 44 51.0**	**+0.1**
HSIG				IAmb	IAmb	06 44 57.1	
	comp=Z,22nm,1.6s						
RUSC	**La Rusia**	**36.58**	**70**	P	**P**	**06 44 55.4**	**+1.2**
RUSC				IAmb	IAmb	06 45 08.1	
	comp=Z,28nm,1.5s						
TXAR	**Lajitas Array**	**36.59**	**5**	P	**P**	**06 44 50.6**	**-3.0**
	comp=Z,0.9nm,0.9s,baz=188,slow=8.3,SNR=6.2						
TXAR	**Lajitas Array**	**36.59**	**5**	P	**P**	**06 44 54.7**	**+1.1**
TX31	**Lajitas Ar. Si**	**36.59**	**5**	P	**P**	**06 44 54.9**	**+1.2**
TX31				IAmb	IAmb	06 44 57.6	
	comp=Z,11nm,1.1s						
TX32	**Lajitas Array**	**36.59**	**5**	P	**P**	**06 44 54.6**	**+1.0**
H03N2	**Juan Fernandez**	**36.96**	**139**	T	T	07 25 10.4	
	baz=313,slow=77,SNR=84						
H03N1	**Juan Fernandez**	**36.98**	**139**	T	T	07 25 17.5	
	baz=313,slow=77,SNR=96						
H03N3	**Juan Fernandez**	**36.98**	**139**	T	T	07 25 17.0	
	baz=313,slow=77,SNR=101						
JCT	**Junction City**	**38.24**	**10**	P	**P**	**06 45 08.7**	**+1.1**
PB10	**IPOC Station P**	**38.77**	**119**	P	**P**	**06 45 13.3**	**+1.1**
MNTX	**Cornudas Mount**	**38.82**	**3**	P	**P**	**06 45 10.0**	**-2.4**
LPAZ	**La Paz**	**39.31**	**107**	P	P	06 45 24.5	+7.0
	comp=Z,1.5nm,0.9s,baz=288,slow=6.4,SNR=3.8						
LVC	**Limon Verde**	**39.95**	**117**	LR	LR	06 58 16.7	
	comp=Z,300nm,18.3s,baz=284,slow=30						
RMX	**La Rumorosa**	**40.55**	**349**	P	**P**	**06 45 25.5**	**-1.4**
RMX				IAmb	IAmb	06 45 38.2	
	comp=Z,15nm,1.0s						
237A	**Washetta, Mont**	**40.59**	**15**	P	**P**	**06 45 28.2**	**+1.1**
237A				IAmb	IAmb	06 45 48.9	
	comp=Z,11nm,0.8s						
AC02	**Maricunga**	**41.11**	**123**	P	**P**	**06 45 33.2**	**+1.0**
BNM	**Barren Site**	**41.23**	**1**	P	**P**	**06 45 33.4**	**+0.8**
MSTX	**Muleshoe**	**41.27**	**6**	P	**P**	**06 45 31.8**	**-1.0**
X18A	**Snowflake**	**41.67**	**357**	P	**P**	**06 45 36.9**	**+0.6**
PPT	**Papeete**	**42.43**	**252**	LR	LR	06 58 28.5	
	comp=Z,226nm,21.9s,baz=64,slow=29						
PPT2	**Papeete2**	**42.43**	**252**	*e*LQ	LQ	06 55 37.8	
	comp=Z,618nm,28.0s						
PPT2				*e*LR	LR	06 57 34.6	
	comp=Z,514nm,26.5s,baz=74						
WUAZ	**Wupatki**	**42.76**	**355**	P	**P**	**06 45 45.4**	**+0.4**
OSI	**Osito Audit: C**	**43.06**	**346**	P	**P**	**06 45 48.6**	**+1.3**
OSI				IAmb	IAmb	06 46 17.2	
	comp=Z,14nm,1.0s						
TBI	**Tubuai**	**43.48**	**244**	*e*LR	LR	06 58 06.2	
	comp=Z,442nm,27.0s,baz=71						
MIAR	**Mount Ida**	**43.59**	**17**	P	**P**	**06 45 53.5**	**+1.8**
BCOK	**Bluff Creek, N**	**43.69**	**11**	P	**P**	**06 45 53.4**	**+1.0**
MVCO	**Mesa Verde**	**44.29**	**359**	P	**P**	**06 45 58.4**	**+0.9**
LCMT	**Little Creek M**	**44.42**	**353**	P	**P**	**06 45 59.2**	**+0.8**
OXF	**Oxford**	**44.90**	**21**	P	**P**	**06 46 03.7**	**+1.6**
PV05	**Paradox Valley**	**45.17**	**358**	P	**P**	**06 46 05.8**	**+1.3**
152A	**Waverly Hall**	**45.19**	**27**	P	**P**	**06 46 06.0**	**+1.5**
152A				IAmb	IAmb	06 46 07.6	
	comp=Z,12nm,1.3s						
PV13	**Radium Mtn., P**	**45.24**	**358**	P	**P**	**06 46 05.0**	**0.0**
PV13				IAmb	IAmb	06 46 29.2	
	comp=Z,5.9nm,1.1s						
LCAR	**Lake Charles**	**45.73**	**18**	P	**P**	**06 46 11.2**	**+2.6**
LCAR				IAmb	IAmb	06 46 11.5	
	comp=Z,6.9nm,0.9s						
PLAL	**Pickwick Lake**	**45.81**	**22**	P	**P**	**06 46 11.2**	**+1.9**
TPH	**Tonopah**	**46.07**	**349**	P	**P**	**06 46 13.1**	**+1.5**
LHV	**Little Huntoon**	**46.50**	**348**	IAmb	IAmb	06 46 23.6	
	comp=Z,7.8nm,1.3s						
NVAR	**Mina Array Bea**	**46.63**	**348**	P	**P**	**06 46 11.2**	**-4.8**
	comp=Z,0.7nm,0.8s,baz=152,slow=6.7,SNR=5.5						
NVAR	**Mina Array Bea**	**46.63**	**348**		pP	06 46 16.7	-1.4
P17A	**Butcher Ranch,**	**46.64**	**356**	P	**P**	**06 46 17.8**	**+1.8**
P17A				IAmb	IAmb	06 46 24.4	
	comp=Z,6.4nm,1.1s						
PLCA	**Paso Flores**	**46.69**	**141**	LR	LR	07 01 33.0	
	comp=Z,368nm,18.5s,baz=300,slow=30						
KVN	**Kaiserville**	**47.19**	**349**	P	**P**	**06 46 21.5**	**+1.2**
KVN				IAmb	IAmb	06 46 26.3	
	comp=Z,15nm,1.7s						
O20A	**White River Ci**	**47.20**	**359**	P	**P**	**06 46 22.1**	**+1.7**
O20A				IAmb	IAmb	06 46 38.1	
	comp=Z,10nm,1.2s						
DUG	**Dugway, Tooele**	**47.53**	**354**	P	**P**	**06 46 23.8**	**+1.0**
DUG				IAmb	IAmb	06 46 31.8	
	comp=Z,4.0nm,0.9s						
PNTR	**Pine Nut**	**47.54**	**347**	P	**P**	**06 46 22.8**	**-0.3**
PNTR				IAmb	IAmb	06 46 25.6	
	comp=Z,6.5nm,1.0s						
HODGE	**Hodges**	**47.63**	**28**	P	**P**	**06 46 24.7**	**+1.1**
PTGA	**Pitinga**	**47.64**	**84**	LR	LR	07 04 02.3	
	comp=Z,74nm,19.3s,baz=265,slow=33						
PAULI	**Pauline**	**48.32**	**28**	P	**P**	**06 46 31.7**	**+2.8**
PAULI				IAmb	IAmb	06 46 47.0	
	comp=Z,14nm,1.3s						
ELK	**Elko**	**48.36**	**352**	P	**P**	**06 46 24.7**	**-4.7**
	comp=Z,0.7nm,0.7s,baz=174,slow=10,SNR=2.4						
ELK	**Elko**	**48.36**	**352**	P	**P**	**06 46 30.8**	**+1.3**
R49A	**Shelbyville**	**49.82**	**23**	P	**P**	**06 46 41.0**	**+0.7**
BW06	**Boulder Array**	**49.87**	**358**	P	**P**	**06 46 42.3**	**+1.3**
PDAR	**Pinedale Array**	**49.87**	**358**	P	**P**	**06 46 38.2**	**-2.7**
	comp=Z,0.9nm,1.0s,baz=181,slow=7.2,SNR=3.3						
PDAR				LR	LR	07 04 24.0	
	comp=Z,60nm,19.2s,baz=220,slow=33						
U56A	**King**	**50.24**	**28**	P	**P**	**06 46 44.8**	**+1.2**
U56A				IAmb	IAmb	06 46 46.5	
	comp=Z,11nm,1.1s						
FLWY	**Flagg Ranch**	**51.23**	**357**	P	**P**	**06 46 52.5**	**+1.2**
FLWY				IAmb	IAmb	06 46 59.3	
	comp=Z,8.5nm,1.2s						
J08A	**Circle Bar Ran**	**51.42**	**350**	P	**P**	**06 46 54.0**	**+1.4**
Q52A	**Bidwell**	**51.56**	**25**	P	**P**	**06 46 55.1**	**+1.7**
BCYI	**Bear Canyon**	**51.66**	**354**	P	**P**	**06 46 55.4**	**+1.0**
QLMT	**Earthquake Lak**	**52.02**	**356**	P	**P**	**06 46 58.0**	**+0.9**
MCMT	**McKenzie Canyo**	**52.12**	**355**	P	**P**	**06 46 56.6**	**-1.3**
RLMT	**Red Lodge**	**52.21**	**358**	P	**P**	**06 46 57.9**	**-0.6**
RLMT				IAmb	IAmb	06 47 02.4	
	comp=Z,8.0nm,1.5s						
I07A	**Izee**	**52.31**	**349**	P	**P**	**06 47 00.8**	**+1.7**
PINE	**Pine Mountain**	**52.33**	**348**	P	**P**	**06 46 60.0**	**+0.6**
PINE				IAmb	IAmb	06 47 05.0	
	comp=Z,7.1nm,1.2s						
ACSO	**Alum Creek Sta**	**52.35**	**23**	P	**P**	**06 47 00.7**	**+1.3**
ACSO				IAmb	IAmb	06 47 01.3	
	comp=Z,10nm,1.1s						
G08A	**Pilot Rock**	**53.38**	**350**	P	**P**	**06 47 08.6**	**+1.5**
C09A	**Chrisman Ranch**	**55.71**	**351**	P	**P**	**06 47 23.6**	**-0.2**
C09A				IAmb	IAmb	06 47 27.7	
	comp=Z,5.5nm,1.1s						
MDP	**Montagnes des**	**55.92**	**79**	LR	LR	07 09 33.0	
	comp=Z,108nm,18.4s,baz=296,slow=34						
SADO	**Sadowa**	**57.70**	**23**	P	**P**	**06 47 35.1**	**-2.9**
	comp=Z,4.8nm,0.8s,baz=196,slow=7.4,SNR=4.7						
SADO	**Sadowa**	**57.70**	**23**	P	**P**	**06 47 38.7**	**+0.7**
ULM	**Lac du Bonnet**	**58.16**	**9**	LR	LR	07 10 01.1	
	comp=Z,107nm,20.9s,baz=206,slow=34						
**

WRH				IAmb	IAmb	06 50 02.7	
	comp=Z,9.0nm,1.2s						
PRP	**Porcupine Dome**	**77.87**	**345**	P	**P**	**06 49 44.3**	**-0.6**
PRP				IAmb	IAmb	06 49 49.8	
	comp=Z,6.1nm,1.0s						
I23K	**Minto, Yukon-K**	**78.64**	**343**	P	**P**	**06 49 49.4**	**+0.4**
I23K				IAmb	IAmb	06 49 58.4	
	comp=Z,8.7nm,1.4s						
DZM	**Mont Dzumac**	**83.84**	**249**	*e*LR	LR	07 16 46.4	
	comp=Z,99nm,22.4s						
H11N3	**WAKE ISLAND Hy**	**88.48**	**290**	T	T	08 28 12.7	
	baz=97,slow=75,SNR=62						
H11N2	**WAKE ISLAND Hy**	**88.50**	**290**	T	T	08 28 14.2	
	baz=97,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**88.50**	**290**	T	T	08 28 11.8	
	baz=97,slow=75,SNR=69						
H11S2	**WAKE ISLAND Hy**	**88.50**	**289**	T	T	08 28 13.4	
	baz=97,slow=75,SNR=145						
H11S1	**WAKE ISLAND Hy**	**88.51**	**289**	T	T	08 28 13.9	
	baz=97,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	**88.52**	**289**	T	T	08 28 18.1	
	baz=97,slow=75,SNR=145						
PETK	**Petropavlovsk-**	**98.78**	**323**	LR	LR	07 26 49.6	
	comp=Z,49nm,20.5s,baz=108,slow=30						

*TUL **16** 06:53:02.9±1.1, 36°.17N±0°.01×97°.24W±0°.01, h5km±6km, ML2.7, mb_Lg2.5/25(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=134.0*

NEIC 16 06:53:02.9±0.9, 36°.18N±0°.01×97°.25W±0°.01, h2km±7km, Error ellipse: s-maj=1.7km s-min=1.6km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.40**	**124**		Pg	06 53 10.9	+0.2
OK031				Sg	Sg	06 53 16.6	+0.7
OK029	**Liberty Lake**	**0.41**	**203**		Pg	06 53 11.1	+0.2
OK029				Sg	Sg	06 53 16.9	+0.7
QUOK	**Quay**	**0.44**	**91**		Pg	06 53 11.6	+0.2
QUOK				Sg	Sg	06 53 17.5	+0.4
BLOK	**Blackwell**	**0.58**	**3**		Pg	06 53 14.2	+0.1
BLOK				Sg	Sg	06 53 22.3	+0.6
BCOK	**Bluff Creek, N**	**0.59**	**209**		Pg	06 53 14.3	+0.1
BCOK				Sg	Sg	06 53 22.6	+0.6
OK025	**Westminster Rd**	**0.60**	**187**		Pg	06 53 14.5	+0.2
OK025				Sg	Sg	06 53 22.9	+0.8
CROK	**Carrier**	**0.67**	**299**		Pg	06 53 15.9	0.0
CROK				Sg	Sg	06 53 25.2	+0.7
OKCFA	**Oklahoma City**	**0.78**	**192**		Pg	06 53 17.7	-0.1
OKCFA				Sg	Sg	06 53 28.5	+0.6
OKCSW	**OKLAHOMA CITY**	**0.78**	**191**		Pg	06 53 17.8	-0.1
OKCSW				Sg	Sg	06 53 28.7	+0.6
GC02	**Grant County #**	**0.83**	**324**		Pg	06 53 18.8	-0.1
KAN13	**South Haven SW**	**0.85**	**348**	Pg	Pg	06 53 19.2	-0.1
FNO	**Franklin**	**0.93**	**187**		Pg	06 53 20.3	-0.4
T35A	**Sooner Cattle**	**0.95**	**39**		Pg	06 53 20.9	-0.2
OK032	**Salt Plains WL**	**0.99**	**309**		Pg	06 53 21.6	-0.4
KAN09	**Caldwell North**	**1.00**	**343**		Pg	06 53 21.9	-0.2
KAN05	**Bluff City Nor**	**1.05**	**332**	Pg	Pg	06 53 22.8	-0.3
KS20	**Mayfield South**	**1.08**	**347**		Pg	06 53 23.3	-0.3
KAN10	**Anthony SW Sta**	**1.16**	**325**		Pg	06 53 24.8	-0.4
KAN08	**Anthony NE Sta**	**1.20**	**331**		Pg	06 53 25.5	-0.3
KAN12	**Harper NE Stat**	**1.27**	**332**		Pg	06 53 26.8	-0.4
U32A	**Winter Ranch,**	**1.43**	**279**		Pn	06 53 29.6	-0.2
U32A				IAmb_Lg		06 53 51.9	
	comp=Z,44nm,0.8s						
X34A	**Smith Ranch, M**	**1.64**	**197**		Pn	06 53 32.3	-0.5
WMOK	**Wichita Mounta**	**1.90**	**221**		Pn	06 53 36.7	+0.4
X37A	**Clayton**	**2.21**	**135**		Pn	06 53 41.0	+0.4
R32A	**Long Quarter,**	**2.52**	**333**	IAmb_Lg		06 54 23.6	
	comp=Z,14nm,0.8s						
HHAR	**Hobbs**	**2.68**	**87**	Pn	Pn	06 53 48.1	+1.1
W39A	**Magazine**	**2.99**	**108**	IAmb_Lg		06 54 41.1	
	comp=Z,16nm,0.8s						
MIAR	**Mount Ida**	**3.42**	**117**	Pn	Pn	06 53 56.9	-0.3
U40A	**Yellville**	**3.56**	**86**	Pn	Pn	06 53 58.7	-0.4
MGMO	**Mountain Grove**	**4.12**	**75**	IAmb_Lg		06 55 14.5	
	comp=Z,11nm,0.8s						
R40A	**Maddies Statio**	**4.50**	**61**	Pn	Pn	06 54 11.5	-0.6
P38A	**Dawn**	**4.53**	**39**	IAmb_Lg		06 55 36.4	
	comp=Z,9.2nm,0.8s						
LCAR	**Lake Charles**	**4.94**	**89**	IAmb_Lg		06 55 37.2	
	comp=Z,6.6nm,0.9s						
T42A	**Van Buren**	**5.03**	**78**	IAmb_Lg		06 55 44.0	
	comp=Z,10.0nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.12**	**305**	IAmb_Lg		06 55 57.7	
	comp=Z,6.5nm,0.8s						
P40A	**Paris**	**5.31**	**49**	IAmb_Lg		06 56 05.4	
	comp=Z,7.0nm,0.9s						
PBMO	**Poplar Bluff**	**5.53**	**82**	IAmb_Lg		06 56 08.2	
	comp=Z,8.1nm,0.8s						
T25A	**Trinidad**	**5.83**	**282**	IAmb_Lg		06 56 24.8	
	comp=Z,8.1nm,1.1s						
SDCO	**Great Sand Dun**	**6.79**	**286**	IAmb_Lg		06 56 39.7	
	comp=Z,4.5nm,1.0s						

*IDC **16** 06:54:21.9±2.5, 53°.74N×88°.09E, h0km, mb1 3.7/3, mb1mx3.4/44, mbtmp3.7/3, ML3.5/3, Error ellipse: s-maj=21.6km s-min=14.0km az=58.0*

*NNC **16** 06:54:25.8±2.4, 53°.60N×87°.69E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=17.2km s-min=15.7km az=52.0, Suspected Mining explosion.*

ISC 16 06:54:23.0±3.1, 53°.8N±0°.1×87°.8E±0°.2, h0km, n9, σ1°.27/13, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**276**	*i*		07 06 40.0	
	baz=92,slow=308,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.76**	**276**	Pn	**Pb**	**06 54 56.0**	**-0.2**
	11nm,0.3s,baz=96,slow=9.9,SNR=129						
ZALV				Lg	Lg	06 55 23.9	
	22nm,0.3s,baz=90,slow=26,SNR=23						
KURBB	**Kurchatov Arra**	**6.51**	**245**	Pn	**Pn**	**06 56 01.2**	**+1.2**
	0.9nm,0.3s,baz=62,slow=14,SNR=46						
KURBB				Sn	**Sn**	**06 57 16.7**	**+1.9**
	0.1nm,0.3s,baz=66,slow=24,SNR=2.6						
KURBB				Lg	Lg	06 57 51.9	
	0.2nm,0.3s,baz=65,slow=34,SNR=12						
KURBB	**Kurchatov Arra**	**6.51**	**245**	⇑Pn	**Pn**	**06 56 01.1**	**+1.2**
	8.0nm,0.3s						
KURBB				⇓Sn	**Sn**	**06 57 15.1**	**+0.3**
	23nm,0.6s						
KURBB				⇓Lg	Lg	06 57 52.7	
	29nm,0.7s						
MK31	**Makanchi Array**	**7.83**	**209**	Pn	**Pn**	**06 56 18.9**	**+0.8**
	0.6nm,0.4s,baz=29,slow=12,SNR=38						
MK31				⇑Sn	**Sn**	**06 57 46.9**	**-0.6**
	1.6nm,0.5s,baz=31,slow=26,SNR=6.9						
MK31				Lg	Lg	06 58 30.2	
	4.3nm,0.7s,baz=35,slow=26,SNR=4.0						
MKAR	**Makanchi Array**	**7.83**	**209**	Pn	**Pn**	**06 56 18.7**	**+0.5**
	0.8nm,0.3s,baz=32,slow=14,SNR=40						
MKAR				Sn	**Sn**	**06 57 47.3**	**-0.2**
	0.8nm,0.3s,baz=23,slow=16,SNR=11						
MKAR				Lg	Lg	06 58 32.3	
	0.3nm,0.3s,baz=30,slow=29,SNR=2.2						
MAKZ	**Makanchi**	**7.91**	**210**	⇑Pn	**Pn**	**06 56 19.2**	**0.0**
	0.6nm,0.4s						
MAKZ				⇑Sn	**Sn**	**06 57 49.1**	**-0.3**
	4.9nm,0.7s						
MAKZ				⇓Lg	Lg	06 58 28.6	
	8.2nm,0.9s						
BVAR	**Borovoye Array**	**10.41**	**273**	Pn	**Pn**	**06 56 54.5**	**+1.0**
	0.4nm,0.3s,baz=134,slow=4.3,SNR=4.5						
BVAR				Sn	**Sn**	**06 58 48.1**	**-2.6**
	0.5nm,0.3s,baz=105,slow=23,SNR=6.6						
SONM	**Songino Array**	**13.18**	**109**	Lg	Lg	07 01 13.1	
	0.1nm,0.3s,baz=299,slow=31,SNR=2.7						

*JMA **16** 07:24:26.6±0.1, 24°.23N×122°.85E, h23km±2km, M2.6*
*TAP **16** 07:24:26.6, 24°.26N×122°.81E, h17km±1km, ML2.8, C*

ISC 16 07:24:26.0±1.2, 24°.18N±0°.04×122°.84E±0°.02, h19km±3km, n56, σ0°.70/80, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.29**	**20**	P	**Pg**	**07 24 32.4**	**0.0**
JYNG				S	**Sg**	**07 24 36.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.32**	**29**	P	**Pg**	**07 24 33.0**	**+0.1**
YOJ				S	**Sg**	**07 24 37.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.32**	**29**	*i* P	**Pg**	**07 24 33.0**	**+0.1**
	baz=46						
YOJ				*i* S	**Sg**	**07 24 37.5**	**-0.1**
	baz=46						
IRIF	**Iriomote-Funau**	**0.83**	**79**	P	**Pb**	**07 24 41.9**	**+0.1**
IRIF				*e*S	**Sb**	**07 24 53.0**	**+0.5**
HATJ	**Hateruma jima**	**0.89**	**98**	P	**Pb**	**07 24 42.9**	**0.0**
HATJ				*e*S	**Sb**	**07 24 54.8**	**+0.4**
TWC	**Suao**	**1.00**	**295**	*e*P	**Pb**	**07 24 43.9**	**-0.7**
	baz=302						
TWC				S	**Sb**	**07 24 56.6**	**-0.8**
	baz=302						
EWUT	**Wuta**	**1.00**	**285**	P	**Pb**	**07 24 44.3**	**-0.4**
	baz=280						
EWUT				*e*S	**Sb**	**07 24 58.0**	**+0.5**
	baz=280						
JKRS	**Kuro-shima**	**1.07**	**87**	P	**Pb**	**07 24 46.0**	**+0.1**
JKRS				S	**Sn**	**07 25 00.3**	**0.0**
NDS	**Dongshan**	**1.12**	**294**	*e*P	**Pn**	**07 24 46.1**	**-0.5**
	baz=298						
NDS				*e*S	**Sb**	**07 24 59.8**	**-1.1**
	baz=298						
TWB1	**Santiao Chiao**	**1.13**	**317**	*e*P	**Pn**	**07 24 46.4**	**-0.4**
	baz=315						
NACB	**Ninganchiao**	**1.14**	**270**	P	**Pn**	**07 24 47.0**	**+0.1**
	baz=265						
NACB				S	**Sg**	**07 25 03.1**	**+0.2**
	baz=265						
TWE	**Neicheng**	**1.20**	**297**	*e*P	**Pn**	**07 24 47.6**	**-0.1**
	baz=293						
JIJ	**Ishigaki jima**	**1.20**	**81**	P	**Pn**	**07 24 47.5**	**-0.3**
JIJ				S	**Sb**	**07 25 03.3**	**-0.1**
TIPB	**Shuangxi**	**1.21**	**311**	*e*P	**Pb**	**07 24 48.6**	**+0.2**
	baz=308						
ETLH	**Xiulin Townshi**	**1.24**	**271**	P	**Pb**	**07 24 48.9**	**+0.1**
	baz=267						
ENTT	**Nioudou**	**1.25**	**292**	*e*P	**Pb**	**07 24 49.1**	**+0.2**
	baz=287						
NDT	**Datong Townshi**	**1.28**	**289**	P	**Pb**	**07 24 49.9**	**+0.4**
	baz=285						
ESL	**Shilin**	**1.34**	**254**	*e*P	**Pn**	**07 24 49.1**	**-0.6**
	baz=250						
NNSH	**Datong**	**1.35**	**281**	P	**Pb**	**07 24 50.8**	**0.0**
	baz=261						
NNSH				*e*S	**Sn**	**07 25 07.7**	**+0.2**
	baz=261						
NNSB	**Datong**	**1.35**	**281**	P	**Pb**	**07 24 50.8**	**0.0**
	baz=261						
NNSB				*e*S	**Sb**	**07 25 08.3**	**+0.6**
	baz=261						
NWLT	**Wulai**	**1.35**	**296**	*e*P	**Pb**	**07 24 51.1**	**+0.3**
	baz=309						
NWLT				*e*S	**Sb**	**07 25 07.8**	**0.0**
	baz=309						
NNS	**Nan Shan**	**1.36**	**281**	P	**Pb**	**07 24 50.9**	**0.0**
	baz=261						
NNS				*e*S	**Sb**	**07 25 08.1**	**+0.1**
	baz=261						
TWA	**Mucha**	**1.39**	**305**	*e*P	**Pn**	**07 24 50.0**	**-0.4**
	baz=302						
JISG	**Ishigakijimahi**	**1.40**	**73**	P	**Pn**	**07 24 50.1**	**-0.4**
JISG				*e*S	**Sn**	**07 25 08.0**	**-0.5**
YHNB	**Yeheng**	**1.42**	**290**	P	**Pb**	**07 24 52.7**	**+0.8**
	baz=300						
YHNB				S	**Sb**	**07 25 09.9**	**+0.2**
	baz=300						
NSK	**Sanguang**	**1.44**	**290**	P	**Pb**	**07 24 52.3**	**+0.1**
	baz=301						
WHF	**Hehuan Shan**	**1.44**	**269**	⇑*i*P	**Pn**	**07 24 51.7**	**+0.2**
	baz=264						
FUSS	**Fushou**	**1.46**	**273**	*e*P	**Pb**	**07 24 52.5**	**-0.1**
	baz=269						
TATO	**Taipei**	**1.46**	**303**	*e*P	**Pn**	**07 24 52.1**	**+0.8**
	baz=300						
HGSD	**Ruisui**	**1.47**	**242**	*e*P	**Pn**	**07 24 50.5**	**-0.9**
	baz=238						
CHGB	**Renai**	**1.52**	**266**	P	**Pn**	**07 24 52.8**	**+0.3**
	baz=261						
CHGB				*e*S	**Sb**	**07 25 12.8**	**-0.1**
	baz=261						
OWD	**Renai**	**1.54**	**262**	P	**Pn**	**07 24 52.6**	**+0.1**
	baz=258						
TDCB	**Techi**	**1.54**	**273**	P	**Pb**	**07 24 53.6**	**-0.3**
	baz=269						
EHY	**Hungye**	**1.54**	**244**	*e*P	**Pn**	**07 24 52.0**	**-0.5**
	baz=240						
EHY				*e*S	**Sn**	**07 25 11.3**	**-0.8**
	baz=240						
YULB	**Yu-li**	**1.61**	**241**	P	**Pn**	**07 24 53.0**	**-0.5**
	baz=238						
TWF1	**Yuli**	**1.64**	**240**	*e*P	**Pn**	**07 24 53.3**	**-0.5**
	baz=236						
LIOB	**Emei**	**1.73**	**286**	*e*P	**Pb**	**07 24 57.1**	**0.0**
	baz=282						
WHP	**Taichung City**	**1.73**	**274**	*e*P	**Pb**	**07 24 56.8**	**-0.5**
	baz=269						
WHP				*e*S	**Sb**	**07 25 20.4**	**+1.7**
	baz=269						
NSTT	**Nanjuang**	**1.73**	**285**	*e*P	**Pn**	**07 24 55.4**	**+0.3**
	baz=281						
DPDB	**Guoxing**	**1.75**	**266**	*e*P	**Pn**	**07 24 56.4**	**+0.9**
	baz=262						
WCS	**Beigang Elemen**	**1.77**	**266**	*e*P	**Pb**	**07 24 57.3**	**-0.4**
	baz=263						
SSLB	**Suanglung**	**1.77**	**258**	*e*P	**Pn**	**07 24 55.8**	**+0.2**
	baz=254						
SMLT	**Sun Moon Lake**	**1.80**	**261**	*e*P	**Pb**	**07 24 58.4**	**0.0**
	baz=257						
TYC	**Yuchr**	**1.83**	**262**	*e*P	**Pb**	**07 24 58.5**	**-0.4**
	baz=258						
EDH	**Donghe**	**1.85**	**230**	*e*P	**Pn**	**07 24 56.3**	**-0.4**
	baz=214						
ELDTW	**Lidau**	**1.94**	**240**	*e*P	**Pn**	**07 24 57.3**	**-0.7**
	baz=237						
WWF	**Wufeng**	**1.96**	**266**	*e*P	**Pb**	**07 25 00.5**	**-0.6**
	baz=263						
WJS	**Zhushan**	**1.96**	**260**	*e*P	**Pb**	**07 25 01.4**	**+0.2**
	baz=257						
ALS	**Alishan**	**1.98**	**251**	P	**Pn**	**07 24 59.6**	**+0.9**
	baz=247						
CHN5	**Tsauling**	**2.06**	**254**	*e*P	**Pn**	**07 25 00.9**	**+1.2**
	baz=239						
CHN4	**Tsaushan**	**2.22**	**249**	*e*P	**Pb**	**07 25 04.4**	**-1.1**
	baz=245						
CHN4				*e*S	**Sb**	**07 25 33.3**	**+0.7**
	baz=245						
WTP	**Ta-pu**	**2.24**	**246**	P	**Pn**	**07 25 03.9**	**+1.8**
	baz=242						
WTP				*e*S	**Sb**	**07 25 32.4**	**-0.9**
	baz=242						
TWK	**Hsinying**	**2.34**	**248**	P	**Pn**	**07 25 05.2**	**+1.7**
	baz=244						
TWK				*e*S	**Sb**	**07 25 34.6**	**-1.5**
	baz=244						
CHN1	**Nanshi**	**2.34**	**245**	P	**Pn**	**07 25 05.6**	**+2.1**
	baz=242						
CHN1				S	**Sb**	**07 25 35.6**	**-0.5**
	baz=242						
MASBT	**Mashibuluo**	**2.56**	**233**	*e*P	**Pn**	**07 25 07.4**	**+1.0**
	baz=221						
EAST	**Anshuo**	**2.56**	**226**	*e*P	**Pn**	**07 25 08.2**	**+1.6**
	baz=223						

*JMA **16** 07:25:09.4±0.1, 24°.25N×122°.84E, h26km±2km, M3.0*
*TAP **16** 07:25:09.6, 24°.27N×122°.79E, h14km, ML3.1, C*

ISC 16 07:25:08.6±1.0, 24°.21N±0°.03×122°.83E±0°.02, h14km±9km, n70, σ0°.84/103, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**23**	P	**Pb**	**07 25 15.3**	**+0.2**
JYNG				S	**Sb**	**07 25 19.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.29**	**33**	P	**Pg**	**07 25 15.8**	**+1.0**
YOJ				S	**Sb**	**07 25 20.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.29**	**33**	*i* P	**Pb**	**07 25 16.0**	**+0.3**
	baz=44						
YOJ				*i* S	**Sb**	**07 25 20.6**	**+0.1**
	baz=44						
IRIF	**Iriomote-Funau**	**0.83**	**81**	P	**Pg**	**07 25 24.9**	**+0.3**
IRIF				S	**Sg**	**07 25 35.9**	**+0.4**
HATJ	**Hateruma jima**	**0.90**	**100**	P	**Pb**	**07 25 25.9**	**-0.1**
HATJ				S	**Sb**	**07 25 37.7**	**-0.2**
TWC	**Suao**	**0.98**	**294**	*i* P	**Pb**	**07 25 26.8**	**-0.6**
	baz=304						
TWC				*i* S	**Sb**	**07 25 39.2**	**-1.0**
	baz=304						
EWUT	**Wuta**	**0.99**	**284**	P	**Pb**	**07 25 27.4**	**-0.1**
	baz=270						
EWUT				S	**Sg**	**07 25 40.4**	**-0.3**
	baz=270						
JKRS	**Kuro-shima**	**1.07**	**89**	P	**Pb**	**07 25 28.6**	**-0.4**
JKRS				*e*S	**Sb**	**07 25 43.7**	**+0.8**
NDS	**Dongshan**	**1.10**	**292**	P	**Pb**	**07 25 29.3**	**-0.2**
	baz=300						
NDS				*e*S	**Sg**	**07 25 43.4**	**-0.9**
	baz=300						
TWB1	**Santiao Chiao**	**1.10**	**316**	*e*P	**Pg**	**07 25 29.5**	**-0.4**
	baz=315						
TWB1				*e*S	**Sn**	**07 25 43.9**	**-0.8**
	baz=315						
ETL	**Fush Village**	**1.11**	**267**	*e*P	**Pb**	**07 25 29.5**	**-0.1**
	baz=264						
NTC	**Toucheng**	**1.11**	**305**	*e*P	**Pg**	**07 25 30.5**	**+0.3**
	baz=303						
ILA	**Ilan**	**1.13**	**299**	*e*P	**Pg**	**07 25 30.6**	**+0.2**
	baz=307						
NACB	**Ninganchiao**	**1.13**	**268**	P	**Pb**	**07 25 29.9**	**-0.1**
	baz=264						
NACB				*e*S	**Sn**	**07 25 46.4**	**+0.9**
	baz=264						
TWD	**Chiawan**	**1.14**	**264**	P	**Pn**	**07 25 30.8**	**+0.6**
	baz=260						
TWE	**Neicheng**	**1.18**	**296**	P	**Pn**	**07 25 30.9**	**+0.2**
	baz=303						
TWE				S	**Sg**	**07 25 45.7**	**-1.0**
	baz=303						
TIPB	**Shuangxi**	**1.19**	**310**	*i* P	**Pn**	**07 25 31.1**	**+0.2**
	baz=322						
TIPB				*e*S	**Sn**	**07 25 46.7**	**-0.2**
	baz=322						
JIJ	**Ishigaki jima**	**1.20**	**83**	P	**Pn**	**07 25 30.3**	**-0.8**
JIJ				S	**Sb**	**07 25 45.5**	**-1.1**
ENTT	**Nioudou**	**1.23**	**290**	P	**Pb**	**07 25 31.8**	**+0.1**
	baz=301						
ENTT				S	**Sg**	**07 25 48.2**	**-0.2**
	baz=301						
ETLH	**Xiulin Townshi**	**1.23**	**270**	P	**Pn**	**07 25 31.6**	**+0.1**
	baz=267						
NDT	**Datong Townshi**	**1.27**	**288**	*e*P	**Pg**	**07 25 32.9**	**-0.1**
	baz=285						
NWF	**Wu-fen Shan**	**1.28**	**312**	*e*P	**Pn**	**07 25 32.3**	**+0.1**
	baz=300						
WFSB	**Wu-fen Shan**	**1.28**	**312**	*e*P	**Pn**	**07 25 32.1**	**0.0**
	baz=300						
NWLT	**Wulai**	**1.34**	**295**	P	**Pn**	**07 25 32.8**	**-0.2**
	baz=303						
NWLT				S	**Sg**	**07 25 51.0**	**-0.8**
	baz=303						
NNSB	**Datong**	**1.34**	**279**	P	**Pb**	**07 25 33.9**	**+0.2**
	baz=259						
NNSB				S	**Sg**	**07 25 52.1**	**+0.2**
	baz=259						
NNSH	**Datong**	**1.34**	**279**	P	**Pb**	**07 25 33.9**	**+0.2**
	baz=276						
ESL	**Shilin**	**1.34**	**253**	*e*P	**Pn**	**07 25 31.7**	**-1.2**
	baz=250						
NNS	**Nan Shan**	**1.35**	**280**	*i* P	**Pb**	**07 25 34.0**	**+0.2**
	baz=260						
NNS				*e*S	**Sg**	**07 25 51.4**	**-0.8**
	baz=260						
TWA	**Mucha**	**1.37**	**304**	*e*P	**Pn**	**07 25 33.7**	**+0.3**
	baz=302						
TWA				*e*S	**Sg**	**07 25 51.9**	**-1.0**
	baz=302						
JISG	**Ishigakijimahi**	**1.40**	**74**	P	**Pn**	**07 25 33.1**	**-0.6**
JISG				*e*S	**Sn**	**07 25 51.7**	**-0.3**
YHNB	**Yeheng**	**1.41**	**289**	*e*P	**Pg**	**07 25 35.5**	**-0.1**
	baz=300						
YHNB				S	**Sb**	**07 25 52.3**	**-0.3**
	baz=300						
NSK	**Sanguang**	**1.42**	**289**	P	**Pg**	**07 25 35.7**	**-0.3**
	baz=299						
NSK				S	**Sb**	**07 25 52.8**	**-0.3**
	baz=299						
WHF	**Hehuan Shan**	**1.44**	**268**	P	**Pn**	**07 25 34.4**	**-0.3**
	baz=264						
TATO	**Taipei**	**1.44**	**302**	*e*P	**Pb**	**07 25 35.1**	**-0.2**
	baz=299						
TATO				*e*S	**Sb**	**07 25 53.4**	**-0.1**
	baz=299						
FUSS	**Fushou**	**1.45**	**272**	P	**Pn**	**07 25 35.1**	**+0.4**
	baz=269						
HGSD	**Ruisui**	**1.48**	**241**	*e*P	**Pn**	**07 25 33.4**	**-1.4**
	baz=238						
YM01	**YM01**	**1.48**	**309**	*e*P	**Pb**	**07 25 36.0**	**0.0**
	baz=307						
CHGB	**Renai**	**1.52**	**265**	P	**Pn**	**07 25 35.8**	**+0.1**
	baz=261						
CHGB				S	**Sb**	**07 25 55.8**	**-0.3**
	baz=261						
TDCB	**Techi**	**1.53**	**272**	P	**Pn**	**07 25 36.3**	**+0.6**
	baz=269						
OWD	**Renai**	**1.54**	**261**	*e*P	**Pn**	**07 25 35.4**	**-0.4**
	baz=258						
EHY	**Hungye**	**1.55**	**243**	*e*P	**Pn**	**07 25 34.8**	**-1.1**
	baz=240						
EHY				*e*S	**Sn**	**07 25 54.3**	**-1.6**
	baz=240						
YULB	**Yu-li**	**1.63**	**240**	*e*P	**Pn**	**07 25 36.0**	**-0.9**
	baz=237						
EYUL	**Yuli**	**1.64**	**238**	*e*P	**Pn**	**07 25 36.5**	**-0.5**
	baz=236						
TWF1	**Yuli**	**1.65**	**239**	P	**Pn**	**07 25 36.4**	**-0.8**
	baz=235						
TWF1				*e*S	**Sn**	**07 25 57.2**	**-1.1**
	baz=235						
LIOB	**Emei**	**1.71**	**285**	*e*P	**Pb**	**07 25 40.2**	**+0.3**
	baz=281						
NSTT	**Nanjuang**	**1.72**	**284**	*e*P	**Pb**	**07 25 40.0**	**-0.1**
	baz=281						
WHP	**Taichung City**	**1.73**	**272**	*e*P	**Pb**	**07 25 40.3**	**+0.2**
	baz=256						
FULB	**Fuli**	**1.74**	**235**	*e*P	**Pn**	**07 25 38.1**	**-0.3**
	baz=232						
CHKT	**Chengkung**	**1.75**	**231**	*e*P	**Pn**	**07 25 37.5**	**-1.1**
	baz=228						
DPDB	**Guoxing**	**1.75**	**264**	*e*P	**Pn**	**07 25 39.4**	**+0.8**
	baz=262						
JTJ	**Tarama**	**1.75**	**76**	*e*S	**Sn**	**07 26 00.5**	**-0.3**
WCS	**Beigang Elemen**	**1.76**	**265**	*e*P	**Pb**	**07 25 40.6**	**-0.1**
	baz=263						
SSLB	**Suanglung**	**1.77**	**257**	*e*P	**Pn**	**07 25 39.1**	**+0.2**
	baz=254						
SMLT	**Sun Moon Lake**	**1.80**	**260**	*e*P	**Pn**	**07 25 40.5**	**+1.2**
	baz=257						
TYC	**Yuchr**	**1.83**	**261**	*e*P	**Pn**	**07 25 40.8**	**+1.1**
	baz=258						
EDH	**Donghe**	**1.87**	**229**	*e*P	**Pn**	**07 25 39.7**	**-0.6**

	baz=241						
SSD	**Sandimen**	**2.50**	**235**	*e*P	**Pn**	**07 25 50.5**	**+1.6**
	baz=223						
MASBT	**Mashibuluo**	**2.58**	**232**	*e*P	**Pn**	**07 25 50.5**	**+0.5**
	baz=221						
MASBT				*e*S	**Sn**	**07 26 23.6**	**+2.4**
	baz=221						

TAP ***16*** *07:26:23.0, 24°.22N×122°.82E, h15km, ML2.7, C*
JMA ***16*** *07:26:23.2±0.1, 24°.21N×122°.85E, h20km±2km, M2.8*
ISC 16 07:26:22.9±1.1, 24°.22N±0°.04×122°.84E±0°.02, h18km±7km, n53, σ0s59/72, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**23**	P	**Pg**	**07 26 29.0**	**+0.4**
JYNG				S	**Sb**	**07 26 33.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.29**	**33**	P	**Pg**	**07 26 29.6**	**+0.4**
YOJ				S	**Sb**	**07 26 34.2**	**+0.1**
YOJ	**Yonaguni jima**	**0.29**	**33**	*i* P	**Pb**	**07 26 29.8**	**+0.2**
	baz=43						
YOJ				*i* S	**Sb**	**07 26 34.5**	**+0.4**
	baz=43						
IRIF	**Iriomote-Funau**	**0.82**	**82**	P	**Pb**	**07 26 38.3**	**-0.4**
IRIF				S	**Sb**	**07 26 49.8**	**+0.4**
HATJ	**Hateruma jima**	**0.90**	**100**	P	**Pb**	**07 26 39.6**	**-0.4**
HATJ				S	**Sg**	**07 26 52.4**	**+0.2**
TWC	**Suao**	**0.98**	**293**	P	**Pb**	**07 26 40.6**	**-0.8**
	baz=294						
TWC				*e*S	**Sb**	**07 26 53.7**	**-0.4**
	baz=294						
EWUT	**Wuta**	**0.99**	**283**	*e*P	**Pb**	**07 26 40.7**	**-1.0**
	baz=317						
JKRS	**Kuro-shima**	**1.07**	**89**	P	**Pb**	**07 26 42.7**	**-0.2**
JKRS				S	**Sb**	**07 26 57.1**	**+0.6**
TWB1	**Santiao Chiao**	**1.10**	**316**	*e*P	**Pb**	**07 26 43.5**	**0.0**
	baz=317						
TWB1				S	**Sb**	**07 26 57.5**	**-0.1**
	baz=317						
NDS	**Dongshan**	**1.10**	**292**	*e*P	**Pb**	**07 26 42.8**	**-0.7**
	baz=288						
NDS				*e*S	**Sb**	**07 26 57.6**	**-0.1**
	baz=288						
ETL	**Fush Village**	**1.11**	**267**	P	**Pb**	**07 26 43.8**	**0.0**
	baz=278						
NACB	**Ninganchiao**	**1.14**	**268**	*i* P	**Pn**	**07 26 43.6**	**-0.4**
	baz=268						
NACB				S	**Sg**	**07 26 59.7**	**-0.2**
	baz=268						
TWE	**Neicheng**	**1.18**	**295**	*e*P	**Pn**	**07 26 44.2**	**-0.3**
	baz=305						
TIPB	**Shuangxi**	**1.19**	**309**	*e*P	**Pn**	**07 26 44.5**	**-0.2**
	baz=310						
JIJ	**Ishigaki jima**	**1.20**	**83**	P	**Pn**	**07 26 44.3**	**-0.5**
JIJ				S	**Sb**	**07 26 59.9**	**-0.4**
ENTT	**Nioudou**	**1.23**	**290**	*e*P	**Pb**	**07 26 45.9**	**+0.1**
	baz=290						
ETLH	**Xiulin Townshi**	**1.24**	**270**	P	**Pn**	**07 26 45.5**	**0.0**
	baz=270						
ETM	**Tongmen**	**1.26**	**259**	*e*P	**Pn**	**07 26 44.7**	**-1.0**
	baz=259						
NDT	**Datong Townshi**	**1.27**	**288**	*e*P	**Pb**	**07 26 46.5**	**+0.2**
	baz=288						
NWLT	**Wulai**	**1.34**	**295**	*e*P	**Pb**	**07 26 47.7**	**+0.1**
	baz=296						
NWLT				*e*S	**Sb**	**07 27 05.1**	**+0.7**
	baz=296						
NNSB	**Datong**	**1.35**	**279**	P	**Pb**	**07 26 47.5**	**-0.2**
	baz=279						
NNSB				S	**Sb**	**07 27 05.0**	**+0.3**
	baz=279						
NNSH	**Datong**	**1.35**	**279**	*e*P	**Pn**	**07 26 47.2**	**+0.2**
	baz=272						
NNS	**Nan Shan**	**1.36**	**280**	P	**Pb**	**07 26 47.8**	**-0.1**
	baz=280						
NNS				*e*S	**Sb**	**07 27 05.0**	**0.0**
	baz=280						
JISG	**Ishigakijimahi**	**1.39**	**74**	P	**Pn**	**07 26 47.0**	**-0.5**
JISG				S	**Sn**	**07 27 05.5**	**+0.1**
YHNB	**Yeheng**	**1.41**	**289**	P	**Pb**	**07 26 49.0**	**+0.3**
	baz=297						
YHNB				S	**Sg**	**07 27 07.6**	**-0.9**
	baz=297						
NSK	**Sanguang**	**1.43**	**289**	*i* P	**Pb**	**07 26 49.5**	**+0.5**
	baz=297						
NSK				S	**Sb**	**07 27 07.3**	**+0.4**
	baz=297						
WHF	**Hehuan Shan**	**1.44**	**267**	P	**Pn**	**07 26 48.3**	**-0.3**
	baz=267						
WHF				S	**Sn**	**07 27 07.2**	**0.0**
	baz=267						
TATO	**Taipei**	**1.44**	**302**	*e*P	**Pb**	**07 26 49.2**	**-0.1**
	baz=302						
FUSS	**Fushou**	**1.46**	**271**	*e*P	**Pn**	**07 26 49.2**	**+0.5**
	baz=278						
HGSD	**Ruisui**	**1.48**	**241**	*e*P	**Pn**	**07 26 48.6**	**-0.2**
	baz=241						
CHGB	**Renai**	**1.53**	**264**	P	**Pn**	**07 26 49.5**	**-0.1**
	baz=264						
CHGB				S	**Sn**	**07 27 09.2**	**0.0**
	baz=264						
TDCB	**Techi**	**1.54**	**272**	*e*P	**Pn**	**07 26 49.5**	**-0.1**
	baz=278						
OWD	**Renai**	**1.54**	**260**	*e*P	**Pn**	**07 26 49.4**	**-0.3**
	baz=261						
EHY	**Hungye**	**1.56**	**243**	*e*P	**Pn**	**07 26 48.7**	**-1.1**
	baz=243						
YULB	**Yu-li**	**1.64**	**240**	*e*P	**Pn**	**07 26 49.8**	**-1.1**
	baz=240						
TWF1	**Yuli**	**1.66**	**239**	*e*P	**Pn**	**07 26 50.5**	**-0.7**
	baz=238						
LIOB	**Emei**	**1.72**	**285**	*e*P	**Pb**	**07 26 53.9**	**-0.1**
	baz=285						
WHP	**Taichung City**	**1.73**	**272**	*e*P	**Pb**	**07 26 54.5**	**+0.3**
	baz=259						
JTJ	**Tarama**	**1.75**	**76**	S	**Sn**	**07 27 14.4**	**+0.2**
WCS	**Beigang Elemen**	**1.77**	**265**	*e*P	**Pn**	**07 26 53.0**	**+0.4**
	baz=265						
SSLB	**Suanglung**	**1.78**	**256**	*e*P	**Pn**	**07 26 53.1**	**+0.3**
	baz=256						
SMLT	**Sun Moon Lake**	**1.81**	**260**	*e*P	**Pn**	**07 26 52.6**	**-0.7**
	baz=260						
TYC	**Yuchr**	**1.84**	**261**	*e*P	**Pn**	**07 26 53.8**	**+0.2**
	baz=261						
EDH	**Donghe**	**1.88**	**229**	*e*P	**Pn**	**07 26 52.6**	**-1.6**
	baz=215						
ALS	**Alishan**	**1.99**	**250**	*e*P	**Pn**	**07 26 55.9**	**-0.2**
	baz=249						
CHN5	**Tsauling**	**2.07**	**253**	*e*P	**Pn**	**07 26 57.4**	**+0.5**
	baz=253						
TWGBT	**Beinan**	**2.13**	**230**	*e*P	**Pn**	**07 26 58.0**	**+0.2**
	baz=217						
STYH	**Taoyuan**	**2.16**	**242**	*e*P	**Pn**	**07 26 59.1**	**+1.1**
	baz=241						
TPUB	**Ta-pu**	**2.22**	**246**	*e*P	**Pn**	**07 26 59.3**	**+0.3**
	baz=246						
CHN4	**Tsaushan**	**2.23**	**248**	*e*P	**Pn**	**07 27 00.1**	**+1.0**
	baz=247						
TWK	**Hsinying**	**2.35**	**247**	*e*P	**Pn**	**07 27 02.0**	**+1.1**
	baz=246						
CHN1	**Nanshi**	**2.36**	**245**	*e*P	**Pn**	**07 27 02.5**	**+1.7**
	baz=244						
MASBT	**Mashibuluo**	**2.58**	**232**	*e*P	**Pn**	**07 27 05.6**	**+1.7**
	baz=222						

BUL ***16*** *08:07:07.6±1.4, 9°.67S×31°.53E, h10km, MD5.2*
ISC 16 08:07:04.6±1.6, 9.03S±0°.07×29.55E±0°.08, h10km, n24, σ2s73/32, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITUM	**Tunduma**	**3.61**	**96**	*i* P	**Pg**	**08 08 14.0**	**+0.2**
ITUM				*i* S	**Sb**	**08 08 52.3**	**-0.3**
CPMW	**Chitipa**	**3.73**	**101**	*i* P	**Pb**	**08 08 08.4**	**-2.3**
CPMW				*i* S	**Sb**	**08 08 56.6**	**+0.5**
ILIND	**Ilindi**	**3.74**	**91**	*i* P	**Pb**	**08 08 10.4**	**-0.4**
ILIND				*i* S	**Sb**	**08 08 54.8**	**-1.4**
ILOM	**Ilombo**	**3.75**	**94**	*i* P	**Pb**	**08 08 09.6**	**-1.5**
JILO	**Lwanjilo**	**3.98**	**86**	*i* P	**Pg**	**08 08 20.1**	**-0.8**
KALO	**Kalowe**	**4.13**	**103**	*i* P	**Pb**	**08 08 15.0**	**-2.6**
KARM1	**KARONGA**	**4.38**	**103**	*i* P	**Pb**	**08 08 18.5**	**-3.3**
LM103	**Lake Malawi, 1**	**4.55**	**99**	*i* P	**Pg**	**08 08 34.4**	**+2.5**
LM103				IAML		08 10 45.4	
	comp=Z,792nm,1.2s						
BOLE	**Bolero**	**4.56**	**116**	*i* P	Pn	08 08 19.4	+5.6
LM203	**Lake Malawi, 2**	**4.65**	**103**	*i* P	**Pb**	**08 08 22.3**	**-4.0**
LM203				IAML		08 10 03.0	
	comp=Z,369nm,0.8s						
GAWA	**Igawa**	**4.79**	**87**	*i* P	**Pb**	**08 08 25.0**	**-3.7**
LM302	**Lake Malawi, 3**	**5.03**	**112**	*i* P	Pb	08 08 26.9	-5.8
LM302				IAML		08 10 21.7	
	comp=Z,688nm,1.1s						
LM118	**Lake Malawi, 1**	**5.27**	**115**	*i* P	**Pb**	**08 08 33.5**	**-3.4**
LSZ	**Lusaka**	**6.36**	**192**	*e*P	**Pn**	**08 08 41.9**	**+3.4**
LSZ				*e*S	**Sn**	**08 09 50.8**	**-0.4**
LSZ	**Lusaka**	**6.36**	**192**	*e*P	**Pn**	**08 08 41.9**	**+3.4**
LSZ				*e*S	**Sn**	**08 09 50.8**	**-0.4**
KIMO	**Ikongo**	**6.61**	**105**	*i* P	**Pn**	**08 08 46.3**	**+4.3**
SINGT	**Singida**	**6.64**	**51**	*i* S	**Sg**	**08 10 39.1**	**+1.3**
SINGT				*i* P	**Sb**	**08 10 17.8**	**-2.0**
DODT	**Dodoma, Tanzan**	**6.76**	**66**	*i* P	**Pn**	**08 08 45.0**	**+1.0**
KOND	**Kondoa**	**7.42**	**57**	*i* S	**Sg**	**08 11 02.7**	**-0.3**
KRI	**Karoi**	**7.76**	**180**	*e*P	**Pn**	**08 09 00.2**	**+2.4**
KRI				*e*S	**Sn**	**08 10 20.5**	**-5.4**
KRI	**Karoi**	**7.76**	**180**	*e*P	**Pn**	**08 09 00.2**	**+2.4**
KRI				*e*S	**Sn**	**08 10 20.5**	**-5.4**
BBAT	**Babati**	**7.81**	**53**	*i* S	**Sg**	**08 11 14.4**	**-1.0**
CLK	**Chileka**	**8.47**	**142**	*i* P	**Pn**	**08 09 10.5**	**+2.9**
CLK				S	**Sn**	**08 10 45.1**	**+1.7**
CLK	**Chileka**	**8.47**	**142**	*i* P	**Pn**	**08 09 10.5**	**+2.9**
CLK				S	**Sn**	**08 10 45.1**	**+1.7**

TUL ***16*** *08:21:05.2±0.9, 36°.134N±0°.004×97°.46W±0°.02, h5km±7km, ML2.6, mb_Lg2.2/20(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=87.0*
NEIC 16 08:21:05.3±0.8, 36°.14N±0°.01×97°.46W±0°.02, h4km±7km, Error ellipse: s-maj=2.2km s-min=1.6km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.34**	**180**		Pg	08 21 12.1	+0.2
OK029				Sg	Sg	08 21 17.0	+0.7
BCOK	**Bluff Creek, N**	**0.50**	**195**		Pg	08 21 14.9	+0.2
BCOK				Sg	Sg	08 21 21.8	+0.6
OK031	**S. Brethren Rd**	**0.53**	**110**		Pg	08 21 15.7	+0.2
OK031				Sg	Sg	08 21 23.3	+0.8
CROK	**Carrier**	**0.56**	**311**		Pg	08 21 16.2	+0.2
CROK				Sg	Sg	08 21 24.0	+0.7
OK025	**Westminster Rd**	**0.56**	**170**		Pg	08 21 16.3	+0.2
QUOK	**Quay**	**0.61**	**87**		Pg	08 21 17.2	+0.3
BLOK	**Blackwell**	**0.65**	**17**		Pg	08 21 17.9	+0.1
BLOK				Sg	Sg	08 21 26.8	+0.5
OKCFA	**Oklahoma City**	**0.72**	**180**		Pg	08 21 18.9	-0.2
OKCFA				IAmb_Lg		08 21 28.4	
	comp=Z,26nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**0.73**	**179**		Pg	08 21 19.3	0.0
GC02	**Grant County #**	**0.78**	**336**		Pg	08 21 20.1	-0.2
KAN13	**South Haven SW**	**0.87**	**359**		Pg	08 21 22.0	0.0
FNO	**Franklin**	**0.88**	**177**		Pg	08 21 21.9	-0.3
OK032	**Salt Plains WL**	**0.90**	**318**		Pg	08 21 22.2	-0.3
KAN09	**Caldwell North**	**1.00**	**353**		Pg	08 21 24.3	-0.3
KAN05	**Bluff City Nor**	**1.02**	**341**		Pg	08 21 24.7	-0.3
T35A	**Sooner Cattle**	**1.09**	**44**		Pg	08 21 25.9	-0.3
KS20	**Mayfield South**	**1.09**	**356**	Pg	Pg	08 21 25.9	-0.4
KAN10	**Anthony SW Sta**	**1.11**	**333**		Pg	08 21 26.0	-0.6
KAN08	**Anthony NE Sta**	**1.16**	**339**		Pg	08 21 27.1	-0.5
KAN12	**Harper NE Stat**	**1.24**	**340**		Pg	08 21 28.4	-0.6
U32A	**Winter Ranch,**	**1.27**	**281**		Pg	08 21 28.8	-0.8
X34A	**Smith Ranch, M**	**1.56**	**191**		Pn	08 21 34.1	+0.3
WMOK	**Wichita Mounta**	**1.77**	**218**		Pn	08 21 36.4	-0.3
LOOK	**Love County**	**2.15**	**174**		Pn	08 21 42.4	+0.4
LOOK				IAmb_Lg		08 22 13.0	
	comp=Z,7.6nm,0.9s						
X37A	**Clayton**	**2.30**	**132**	IAmb_Lg		08 22 18.9	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	**3.55**	**115**	IAmb_Lg		08 23 04.2	
	comp=Z,8.4nm,0.8s						
U40A	**Yellville**	**3.73**	**85**	IAmb_Lg		08 23 02.0	
	comp=Z,6.3nm,0.9s						
ABTX	**Abilene, Hawle**	**3.94**	**208**	IAmb_Lg		08 23 10.5	
	comp=Z,6.0nm,0.7s						
P38A	**Dawn**	**4.66**	**41**	IAmb_Lg		08 23 29.9	
	comp=Z,4.5nm,1.0s						
MSTX	**Muleshoe**	**4.87**	**245**	IAmb_Lg		08 23 44.5	
	comp=Z,3.9nm,1.1s						
LCAR	**Lake Charles**	**5.10**	**89**	IAmb_Lg		08 23 47.6	
	comp=Z,3.3nm,0.8s						

NEIC ***16*** *08:44:06.1±1.0, 18°.6N±0°.3×67°.96W±0°.09, h102km±9km, Error ellipse: s-maj=44.6km s-min=10.6km az=188.0*
RSPR ***16*** *08:44:07.8, 18°.52N×67°.90W, h101km±2km, MD3.1/6*
OSPL ***16*** *08:44:08.6±0.5, 18°.95N×67°.64W, h12km±11km, ML2.1*
ISC 16 08:44:07.5±1.3, 18°.4N±0°.2×67°.94W±0°.05, h99km, n40, σ0s77/38, 8C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.43**	**282⇑**	*e*P	**Pn**	**08 44 23.1**	**+0.4**
PCDR	**Punta Cana, DR**	**0.43**	**282**	*e*S	**Sn**	**08 44 34.7**	**+0.6**
PCDR	**Punta Cana, DR**	**0.43**	**282**		**Pn**	**08 44 23.1**	**+0.4**
PCDR					**Sn**	**08 44 34.7**	**+0.6**
PCDR	**Punta Cana, DR**	**0.43**	**282**	IAML		08 44 58.4	
	comp=E,56nm,1.8s						
PCDR	**Punta Cana, DR**	**0.43**	**282**	*i* P	**Pn**	**08 44 23.5**	**+0.8**
PCDR				*e*S	**Sn**	**08 44 33.9**	**-0.2**
PCDR				IAML		08 44 41.9	
	comp=Z,128nm,2.0s						
AGPR	**Aguadilla, PR**	**0.79**	**87**	*i* P	Pn	08 44 20.7	-4.9
AGPR				*e*S	Sn	08 44 30.2	-9.1
AGPR				IAML		08 44 31.9	
	comp=Z,41nm,1.5s						
MLPR	**Magueyes Islan**	**0.96**	**118⇑**	*e*P	**Pn**	**08 44 27.0**	**-0.5**
MLPR	**Magueyes Islan**	**0.96**	**118**	*e*S	**Sn**	**08 44 43.0**	**+0.6**
MLPR	**Magueyes Islan**	**0.96**	**118**		**Pn**	**08 44 27.0**	**-0.5**
MLPR				IAML		08 44 52.3	
	comp=E,33nm,2.2s						
MLPR	**Magueyes Islan**	**0.96**	**118**		**Sn**	**08 44 43.0**	**+0.6**
MLPR	**Magueyes Islan**	**0.96**	**118**	IAML		08 44 40.8	
	comp=N,24nm,2.8s						
AOPR	**Arecibo Observ**	**1.13**	**94⇑**	*e*P	**Pn**	**08 44 28.3**	**-1.1**
AOPR	**Arecibo Observ**	**1.13**	**94**	*e*S	**Sn**	**08 44 45.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.13**	**94**		**Pn**	**08 44 28.3**	**-1.1**
AOPR					**Sn**	**08 44 45.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.13**	**94**	IAML		08 44 50.1	
	comp=E,62nm,0.5s						
AOPR				IAML		08 44 54.7	
	comp=N,39nm,1.0s						
OBIP	**Obispado Ponce**	**1.32**	**106⇑**	*e*P	**Pn**	**08 44 30.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.32**	**106**	*e*S	**Sn**	**08 44 50.5**	**+0.7**
OBIP	**Obispado Ponce**	**1.32**	**106**		**Pn**	**08 44 30.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.32**	**106**		**Sn**	**08 44 50.5**	**+0.7**
OBIP	**Obispado Ponce**	**1.32**	**106**	IAML		08 44 44.9	
	comp=N,22nm,3.0s						
CELP	**Cerrillos**	**1.34**	**105⇓**	*e*P	**Pn**	**08 44 31.2**	**-0.5**
CELP	**Cerrillos**	**1.34**	**105**	*e*S	**Sn**	**08 44 50.2**	**+0.1**
CELP	**Cerrillos**	**1.34**	**105**		**Pn**	**08 44 31.2**	**-0.5**
CELP					**Sn**	**08 44 50.2**	**+0.1**
IGPR	**InterUniversit**	**1.80**	**104⇑**	*e*P	**Pn**	**08 44 37.6**	**+0.1**
IGPR	**InterUniversit**	**1.80**	**104**	*e*S	**Sn**	**08 45 00.0**	**-0.3**
IGPR	**InterUniversit**	**1.80**	**104**		**Sn**	**08 45 00.0**	**-0.3**
CBYP	**Canovanas**	**1.98**	**94⇑**	*e*P	**Pn**	**08 44 40.0**	**+0.1**
CBYP	**Canovanas**	**1.98**	**94**	*e*S	**Sn**	**08 45 03.6**	**-1.0**
CBYP	**Canovanas**	**1.98**	**94**		**Pn**	**08 44 40.0**	**+0.1**
CBYP					**Sn**	**08 45 03.6**	**-1.0**
HUMP	**Col San Antoni**	**2.00**	**98⇑**	*e*P	**Pn**	**08 44 40.6**	**+0.5**
HUMP	**Col San Antoni**	**2.00**	**98**	*e*S	**Sn**	**08 45 04.3**	**-0.7**
HUMP	**Col San Antoni**	**2.00**	**98**		**Pn**	**08 44 40.6**	**+0.5**
HUMP	**Col San Antoni**	**2.00**	**98**		**Sn**	**08 45 04.3**	**-0.7**
HUMP	**Col San Antoni**	**2.00**	**98**	IAML		08 45 03.5	
	comp=N,14nm,2.5s						
HUMP				IAML		08 45 03.7	
	comp=E,19nm,3.0s						
MTP	**Monte Pirata**	**2.29**	**98⇑**	*e*P	**Pn**	**08 44 44.6**	**+0.7**
MTP	**Monte Pirata**	**2.29**	**98**	*e*S	**Sn**	**08 45 13.2**	**+1.6**
MTP	**Monte Pirata**	**2.29**	**98**		**Pn**	**08 44 44.6**	**+0.7**
MTP					**Sn**	**08 45 13.2**	**+1.6**
MTP	**Monte Pirata**	**2.29**	**98**	IAML		08 46 08.9	
	comp=N,18nm,2.4s						
BANI	**BANI**	**2.30**	**270**		**Sn**	**08 45 10.2**	**-1.8**
BANI	**BANI**	**2.30**	**270**	*i* P	Pn	08 44 49.4	+5.4

IDC 16 09:03:41.1±2.6, 54°.27N×86°.10E, h0km, mb1 3.0/2, mb1mx2.9/36, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=19.0km s-min=11.9km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.82**	**248**	*i*		09 09 10.0	
	baz=67,slow=311,SNR=1.6						
ZALV	**Zalesovo Beam**	**0.82**	**248**	Pg	Pg	09 03 55.7	-1.0
	2.1nm,0.3s,baz=63,slow=17,SNR=13						
ZALV				Lg	Lg	09 04 08.6	
	7.2nm,0.3s,baz=70,slow=29,SNR=18						
ZALV				Rg	Rg	09 04 12.6	
	8.2nm,0.3s,baz=69,slow=33,SNR=8.2						
KURBB	**Kurchatov Arra**	**5.89**	**235**	Pn	Pn	09 05 10.4	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=6.5						
KURBB				Lg	Lg	09 06 48.1	
	0.1nm,0.3s,baz=46,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**7.86**	**199**	Pn	Pn	09 05 37.7	+1.0
	0.1nm,0.3s,baz=23,slow=13,SNR=5.2						
MKAR				Sn	Sn	09 07 05.7	-0.6
	0.2nm,0.3s,baz=29,slow=30,SNR=2.9						
MKAR				Lg	Lg	09 07 49.7	
	0.2nm,0.3s,baz=28,slow=31,SNR=2.1						

IDC ***16*** *09:22:41.2±0.6, 33°.14N×139°.80E, h0km, mb3.8/11, mb1 4.0/14, mb1mx3.9/33, mbtmp3.9/14, ML3.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.7/48, Error ellipse: s-maj=20.8km s-min=4.6km az=66.0*
NIED ***16*** *09:22:42.8, 33°.23N×139°.53E, h25km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.92; Mθθ0.48; Mφφ0.43; Mrθ0.39; Mθφ-0.63; Mφr-1.25; Fault plane solution: M0 1.65000×10^15 NP1: φs336.00000°, δ72.00000°, λ-74.00000°. NP2: φs112.00000°, δ24.00000°, λ-132.00000°.*
JMA ***16*** *09:22:42.8, 33°.23N×139°.53E, h25km±2km, M3.5*
JMA Felt I J1.
NEIC ***16*** *09:22:43.0±1.9, 33°.20N±0°.09×139°.6E±0°.1, h8km±6km, mb4.4/11, Error ellipse: s-maj=14.9km s-min=11.7km az=140.0*
ISC 16 09:22:43.6±1.1, 33°.28N±0°.03×139°.59E±0°.05, h13km±7km, n58, σ1s31/57, mb4.1/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.23**	**134**	Pn	**Pb**	**09 22 49.2**	**-0.4**
	1μm,0.3s,baz=300,slow=23,SNR=29						
JHJ				Sn	**Sb**	**09 22 53.7**	**0.0**
	4μm,0.3s,baz=127,slow=20,SNR=25						
JHJ2	**Mitsune**	**0.26**	**131**	P	**Pg**	**09 22 49.2**	**+0.2**
JHJ2				S	**Sb**	**09 22 53.9**	**-0.5**
JHJ2	**Mitsune**	**0.26**	**131**		**Pg**	**09 22 47.0**	**-1.9**
JHCJ	**Hachijojimakas**	**0.27**	**140**	P	**Pg**	**09 22 49.3**	**0.0**
JHCJ				S	**Sg**	**09 22 53.6**	**+0.5**
JMKN	**Mikurajimanish**	**0.61**	**0**	P	**Pg**	**09 22 55.3**	**-0.2**
JMKN				*e*S	**Sg**	**09 23 04.2**	**+0.7**
JTHY	**Toshimahigashi**	**1.26**	**349**	P	**Pn**	**09 23 05.8**	**-1.1**
JIM2	**Oshima 3**	**1.44**	**355**	P	**Pn**	**09 23 08.1**	**-1.3**
JIM2				S	**Sn**	**09 23 27.0**	**-1.1**
JIZS	**Izushimoda**	**1.55**	**338**	P	**Pn**	**09 23 09.5**	**-1.3**
JIZS				*e*S	**Sn**	**09 23 29.1**	**-1.7**
TK03	**Tokai 3**	**1.61**	**304**	P	**Pn**	**09 23 10.6**	**-1.0**
TK03				S	**Sn**	**09 23 30.6**	**-1.6**
TK02	**Tokai 2**	**1.66**	**294**	P	**Pn**	**09 23 10.8**	**-1.4**
TK02				S	**Sn**	**09 23 31.9**	**-1.4**
KTJ3	**Kamata3**	**1.70**	**346**	P	**Pn**	**09 23 12.4**	**-0.6**
TK01	**Tokai 1**	**1.73**	**287**	S	**Sn**	**09 23 32.6**	**-2.4**
JGF	**Kuroka**	**2.96**	**322**		**Pn**	**09 23 30.3**	**0.0**
INU	**Inuyama**	**2.96**	**315**	Pn	**Pn**	**09 23 29.4**	**-0.9**
JYT	**Yasato**	**2.98**	**10**		**Pn**	**09 23 30.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.44**	**341**	Pn	**Pn**	**09 23 38.1**	**+1.2**
	0.5nm,0.3s,baz=151,slow=13,SNR=39						
MJAR				Sn	**Sb**	**09 24 23.2**	**-3.0**
	baz=282,slow=25,SNR=1.7						
MAJO	**Matsushiro**	**3.44**	**341**		**Pn**	**09 23 38.2**	**+1.3**
MAT	**Matsushiro**	**3.44**	**341**	P	**Pn**	**09 23 38.0**	**+1.0**
MAT				*e*S	**Sn**	**09 24 20.6**	**+2.9**
MJB9	**Matsu-Tunnel**	**3.45**	**341**	Pn	**Pn**	**09 23 37.9**	**+0.8**
JWT	**Wachi**	**4.00**	**301**	Pn	**Pn**	**09 23 43.5**	**-1.1**
JMM	**Marumori**	**4.68**	**12**		**Pn**	**09 23 54.2**	**+0.4**
JMN	**Monobe**	**4.79**	**277**	Pn	**Pn**	**09 23 54.3**	**-1.2**
JSD	**Sado**	**4.87**	**348**	Pn	**Pn**	**09 23 58.4**	**+2.0**
JHS	**Saijyo**	**5.63**	**289**	Pn	**Pn**	**09 24 06.8**	**-0.2**
JNU	**Nakatsue**	**7.30**	**271**	Pn	**Pn**	**09 24 30.3**	**+0.3**
	2.7nm,0.3s,baz=144,slow=8.7,SNR=13						
JNU				Sn	**Sn**	**09 25 55.5**	**+2.7**
	0.6nm,0.3s,baz=206,slow=14,SNR=2.3						
JTM	**Tenmabayashi**	**7.58**	**9**	Pn	**Pn**	**09 24 34.3**	**+0.6**
ASAJ	**Asahikawa**	**11.07**	**11**	Pn	**Pn**	**09 25 20.5**	**-1.0**
	0.4nm,0.3s,baz=216,slow=14,SNR=6.1						
ASAJ				LR	LR	09 30 04.6	
	comp=Z,105nm,19.5s,baz=217,slow=40						
JOW	**Kunigami

*IDC **16** 09:33:53.9±2.7, 68.°02N×32.°53E, h0km, mb1 2.8/2, mb1mx2.7/50, mbtmp2.7/2, ML1.8/2, Error ellipse: s-maj=28.8km s-min=11.8km az=91.0*

ISC 16 09:33:50.9±1.3, 68.°08N±0.°04×32.°90E±0.°06, h0km, n24, σ1§14/42, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.48**	**176**	P	**Pg**	**09 33 59.4**	**-0.7**
APA0				S	**Sg**	**09 34 06.3**	**0.0**
APA	**Apatity**	**0.55**	**159**	P	**Pg**	**09 34 00.5**	**-0.9**
APA				S	**Sg**	**09 34 08.3**	**-0.2**
VRF	**Varrio**	**1.29**	**256**	PG	**Pg**	**09 34 15.1**	**-0.5**
VRF				MSG		09 34 32.5	
	comp=Z,10.0nm,0.2s						
VRF				SG	**Sn**	**09 34 34.9**	**+0.9**
OLKF	**Oulanka, Finla**	**2.23**	**219**	PG	**Pn**	**09 34 30.2**	**+1.1**
OLKF				SG	**Sb**	**09 34 60.0**	**-0.3**
KU6	**Riekki**	**2.38**	**211**	PG	**Pn**	**09 34 32.0**	**+0.9**
	baz=33						
KU6				MSG		09 35 01.2	
	comp=Z,3.4nm,0.2s						
KU6				SG	**Sb**	**09 35 04.5**	**+0.1**
SGF	**Sodankyl**	**2.51**	**258**	SB	**Sb**	**09 35 07.9**	**-0.2**
MSF	**Maaselka**	**2.66**	**217**	PG	**Pb**	**09 34 39.5**	**+0.2**
MSF				SG	**Sb**	**09 35 11.8**	**-0.6**
KEV	**Kevo**	**2.71**	**311**	*e*P	**Pn**	**09 34 36.3**	**+0.7**
KEV	**Kevo**	**2.71**	**311**	PN	**Pn**	**09 34 36.5**	**+0.8**
KEV				MSG		09 35 13.4	
	comp=Z,1.6nm,0.2s						
KEV				SB	**Sb**	**09 35 13.6**	**-0.3**
RNF	**Rovaniemi**	**3.05**	**244**	PN	**Pn**	**09 34 40.8**	**+0.6**
RNF				SN	**Sn**	**09 35 18.5**	**+1.1**
ARA0	**ARCESS Array S**	**3.05**	**302**	*e*P	**Pn**	**09 34 41.0**	**+0.7**
ARA0				*e*S	**Sn**	**09 35 16.9**	**-0.6**
ARA0				IAML		09 35 27.1	
	comp=Z,2.8nm,0.7s						
ARCES	**ARCESS Array B**	**3.05**	**302**	Pn	**Pn**	**09 34 41.0**	**+0.6**
	baz=120,slow=14,SNR=9.6						
ARCES				Pg	**Pg**	**09 34 48.2**	**-1.1**
	baz=114,slow=15,SNR=4.3						
ARCES				Sn	**Sn**	**09 35 17.4**	**-0.2**
	baz=115,slow=28,SNR=1.9						
ARCES				Lg	Lg	09 35 25.4	
	baz=117,slow=34,SNR=3.8						
HEF	**Hetta**	**3.46**	**280**	*e*P	**Pn**	**09 34 46.1**	**+0.2**
HEF	**Hetta**	**3.46**	**280**	PN	**Pn**	**09 34 46.4**	**+0.5**
	baz=92						
HEF				SB	**Sb**	**09 35 36.9**	**+1.6**
KLF	**Kolari**	**3.52**	**260**	PN	**Pn**	**09 34 47.1**	**+0.4**
KLF				SN	**Sn**	**09 35 32.5**	**+3.5**
KTK1	**Kautokeino**	**3.67**	**289**	*e*P	**Pn**	**09 34 48.8**	**0.0**
KTK1				*e*S	**Sn**	**09 35 32.3**	**-0.4**
KTK1				IAML		09 35 49.0	
	comp=Z,25nm,0.4s						
PAJU	**Pajala**	**3.90**	**259**	PN	**Pn**	**09 34 52.0**	**0.0**
PAJU				SG	**Sg**	**09 35 53.1**	**-2.9**
TOF	**Tornio**	**3.91**	**243**	PN	**Pn**	**09 34 52.8**	**+0.8**
TOF				SN	**Sn**	**09 35 38.1**	**-0.5**
LANU	**Lannavaara**	**4.09**	**275**	PN	**Pn**	**09 34 54.3**	**-0.3**
	baz=84						
LANU				SB	**Sb**	**09 35 54.4**	**+0.7**
ERTU	**Ertsjaerv**	**4.42**	**255**	PN	**Pn**	**09 34 59.3**	**+0.2**
ERTU				SN	**Sn**	**09 35 51.1**	**-0.1**
KIF	**Kilpisjarvi**	**4.54**	**287**	*e*P	**Pn**	**09 34 59.8**	**-0.9**
KIF	**Kilpisjarvi**	**4.54**	**287**	PN	**Pn**	**09 35 00.6**	**-0.1**
KIF				SB	**Sb**	**09 36 10.2**	**+3.8**
I37NO	**I37NO**	**5.33**	**287**	*i*		10 04 30.0	
	baz=95,slow=322,SNR=8.5						
FINES	**FINESS Array B**	**7.27**	**207**	Pn	**Pn**	**09 35 38.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=0.8						

*IDC **16** 09:35:10.8±0.6, 33.°12N×139.°81E, h0km, mb3.4/5, mb1 3.8/8, mb1mx3.5/50, mbtmp3.6/8, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/30, Error ellipse: s-maj=32.0km s-min=4.9km az=91.0*

*JMA **16** 09:35:12.2±0.1, 33.°24N×139.°58E, h27km±3km, M3.4*

JMA Felt I J1.

*NIED **16** 09:35:12.2, 33.°24N×139.°58E, h27km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}-1.97; $M_{\theta\phi}$2.77; $M_{\phi\phi}$-0.80; $M_{r\theta}$-0.99; $M_{\theta\phi}$-3.15; $M_{\theta r}$-2.48; Fault plane solution: $M_0$4.80000×10^14^ NP1: ϕ_s337.00000°, δ65.00000°, λ-35.00000°. NP2: ϕ_s84.00000°, δ59.00000°, λ-151.00000°.*

ISC 16 09:35:11.5±1.2, 33.°39N±0.°03×139.°60E±0.°05, h6km±9km, n27, σ1§28/27, mb3.4/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.30**	**150**	Pn	**Pb**	**09 35 18.4**	**-1.0**
	2μm,0.3s,baz=154,slow=23,SNR=182						
JHJ				Sn	**Sb**	**09 35 22.9**	**-1.7**
	3μm,0.3s,baz=139,slow=19,SNR=20						
JHJ2	**Mitsune**	**0.33**	**147**	P	**Pg**	**09 35 18.3**	**+0.5**
JHJ2				*e*S	**Sg**	**09 35 22.8**	**+0.7**
JHCJ	**Hachijojimakas**	**0.35**	**152**	P	**Pg**	**09 35 18.6**	**+0.3**
JHCJ				*e*S	**Sg**	**09 35 22.7**	**-0.2**
JMKN	**Mikurajimanish**	**0.51**	**359**	P	**Pn**	**09 35 24.8**	**-0.5**
JMKN				*e*S	**Sn**	**09 35 33.6**	**-0.8**
JIZS	**Izushimoda**	**1.46**	**336**	P	**Pb**	**09 35 39.1**	**0.0**
TK03	**Tokai 3**	**1.57**	**300**	*e*S	**Sn**	**09 36 00.6**	**+0.1**
BSO3	**Boso 3**	**1.60**	**28**	P	**Pg**	**09 35 41.4**	**-0.8**
KTJ3	**Kamata3**	**1.61**	**344**	P	**Pg**	**09 35 42.3**	**0.0**
KTJ3				*e*S	**Sg**	**09 36 03.9**	**+0.8**
TK02	**Tokai 2**	**1.64**	**290**	P	**Pn**	**09 35 40.2**	**-0.5**
TK02				*e*S	**Sn**	**09 36 01.1**	**-0.9**
BSO1	**Boso 1**	**1.70**	**42**	P	**Pb**	**09 35 41.6**	**-1.3**
TK01	**Tokai 1**	**1.72**	**283**	*e*S	**Sn**	**09 36 01.9**	**-2.0**
MJAR	**Matsushiro Arr**	**3.35**	**340**	Pn	**Pb**	**09 36 07.7**	**-3.7**
	0.2nm,0.3s,baz=171,slow=12,SNR=6.2						
MJAR				Sn	**Sb**	**09 36 53.4**	**+1.0**
	baz=70,slow=29,SNR=2.2						
MAT	**Matsushiro**	**3.35**	**340**	P	**Pb**	**09 36 09.9**	**-1.5**
MAT				*e*S	**Sb**	**09 36 52.5**	**+0.1**
JNU	**Nakatsue**	**7.31**	**270**	Pn	**Pn**	**09 36 59.6**	**+0.7**
	1.7nm,0.3s,baz=117,slow=11,SNR=8.0						
ASAJ	**Asahikawa**	**10.97**	**11**	Pn	**Pn**	**09 37 50.9**	**+2.0**
	0.4nm,0.3s,baz=164,slow=15,SNR=1.5						
JOW	**Kunigami**	**11.78**	**239**	LR	LR	09 41 55.6	
	comp=Z,80nm,18.2s,baz=187,slow=34						
H11N2	**WAKE ISLAND Hy 27.84**	**112**		T	T	10 09 47.5	
	baz=304,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy 27.85**	**112**		T	T	10 09 47.6	
	baz=304,slow=75,SNR=83						
H11N3	**WAKE ISLAND Hy 27.86**	**112**		T	T	10 09 54.6	
	baz=304,slow=75,SNR=95						
H11S3	**WAKE ISLAND Hy 28.40**	**115**		T	T	10 10 29.1	
	baz=307,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy 28.41**	**115**		T	T	10 10 42.6	
	baz=307,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy 28.42**	**115**		T	T	10 10 30.4	
	baz=307,slow=75,SNR=25						
SONM	**Songino Array**	**28.79**	**310**	P	P	09 41 14.4	+4.1
	0.3nm,0.5s,baz=123,slow=7.1,SNR=1.6						
WRA	**Warramunga Arr**	**53.27**	**186**	P	**P**	**09 44 30.5**	**-0.7**
	0.3nm,0.6s,baz=2.4,slow=7.5,SNR=1.7						
ILAR	**Eielson Array**	**53.37**	**31**	P	**P**	**09 44 32.8**	**+1.4**
	0.2nm,0.6s,baz=264,slow=6.1,SNR=2.6						
ASAR	**Alice Springs**	**56.99**	**186**	P	**P**	**09 44 57.7**	**-0.4**
	0.4nm,0.9s,baz=357,slow=6.5,SNR=1.4						
TXAR	**Lajitas Array**	**93.53**	**51**	P	**P**	**09 48 29.4**	**+0.6**
	0.3nm,0.8s,baz=302,slow=5.2,SNR=2.8						

TAP 16 09:40:36.3, 24.°14N×121.°60E, h6km, ML1.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.03**	**39**	P	Pg	09 40 37.5	-0.1
	baz=38						
ETL				*i* S	Sg	09 40 38.9	+0.4
	baz=38						
NACB	**Ninganchiao**	**0.04**	**349**	*i* P	Pg	09 40 38.0	+0.4
	baz=348						
NACB				S	Sg	09 40 38.8	+0.2
	baz=348						
TWD	**Chiawan**	**0.06**	**187**	P	Pg	09 40 38.6	+0.8
	baz=178						
TWD				*i* S	Sg	09 40 40.0	+1.1
	baz=178						
ETLH	**Xiulin Townshi**	**0.13**	**303**	P	Pg	09 40 40.3	+1.2
	baz=302						
ETLH				S	Sg	09 40 42.7	+1.7
	baz=302						
WHF	**Hehuan Shan**	**0.31**	**272**	P	Pb	09 40 43.6	-0.9
	baz=271						
WHF				*i* S	Sb	09 40 48.6	-1.5
	baz=271						
FUSS	**Fushou**	**0.35**	**289**	P	Pb	09 40 44.9	-0.2
	baz=288						
FUSS				S	Sb	09 40 50.2	-0.7
	baz=288						
NNSB	**Datong**	**0.35**	**325**	P	Pb	09 40 44.6	-0.5
	baz=325						
NNSB				S	Sb	09 40 49.9	-1.1
	baz=325						
NNSH	**Datong**	**0.35**	**325**	P	Pb	09 40 44.7	-0.5
	baz=325						
NNSH				S	Sb	09 40 49.7	-1.3
	baz=325						
ESL	**Shilin**	**0.36**	**206**	P	Pb	09 40 44.2	-0.9
	baz=204						
ESL				S	Sb	09 40 50.0	-0.9
	baz=204						
NNS	**Nan Shan**	**0.37**	**325**	P	Pb	09 40 45.1	-0.2
	baz=326						
NNS				S	Sb	09 40 50.2	-1.2
	baz=326						
CHGB	**Renai**	**0.40**	**259**	*e*P	Pb	09 40 46.1	+0.2
	baz=259						
CHGB				S	Sb	09 40 51.8	-0.7
	baz=259						
TDCB	**Techi**	**0.42**	**286**	P	Pb	09 40 45.9	-0.5
	baz=285						
TDCB				S	Sb	09 40 52.5	-0.6
	baz=285						
TEGC	**Jichi Village**	**0.43**	**188**	P	Pg	09 40 45.3	+0.7
	baz=186						
OWD	**Renai**	**0.43**	**245**	P	Pb	09 40 46.1	-0.3
	baz=245						
OWD				*e*S	Sb	09 40 52.4	-0.9
	baz=245						
NDT	**Datong Townshi**	**0.47**	**350**	P	Pb	09 40 46.8	-0.3
	baz=349						
NDT				S	Sb	09 40 54.6	+0.3
	baz=349						
ENTT	**Nioudou**	**0.50**	**356**	P	Pb	09 40 47.2	-0.4
	baz=356						
NDS	**Dongshan**	**0.51**	**12**	P	Pb	09 40 47.5	-0.2
	baz=11						
YHNB	**Yeheng**	**0.57**	**339**	P	Pb	09 40 49.1	+0.3
	baz=338						
YHNB				S	Sb	09 40 57.9	+0.6
	baz=338						
NSK	**Sanguang**	**0.58**	**337**	*e*P	Pb	09 40 49.7	+0.7
	baz=338						
NSK				S	Sb	09 40 58.1	+0.5
	baz=338						
WHP	**Taichung City**	**0.62**	**283**	P	Pb	09 40 50.3	+0.7
	baz=283						
WHP				S	Sb	09 40 59.4	+0.8
	baz=283						
NWLT	**Wulai**	**0.65**	**352**	P	Pb	09 40 49.5	-0.6
	baz=351						
NWLT				*e*S	Sb	09 40 59.0	-0.3
	baz=351						
SSLB	**Suanglung**	**0.69**	**240**	P	Pb	09 40 51.1	+0.3
	baz=239						
SSLB				S	Sb	09 41 00.8	+0.2
	baz=239						

JMA 16 09:41:31.6±0.1, 24.°21N×122.°84E, h20km±3km, M1.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.26**	**22**	P	Pb	09 41 37.4	-0.2
JYNG				S	Sb	09 41 41.6	-0.1
YOJ	**Yonaguni jima**	**0.29**	**32**	P	Pb	09 41 38.1	-0.1
YOJ				S	Sb	09 41 42.7	0.0
IRIF	**Iriomote-Funau**	**0.82**	**81**	P	Pb	09 41 47.1	-0.1
IRIF				S	Sb	09 41 57.8	0.0
HATJ	**Hateruma jima**	**0.90**	**100**	*e*S	Sb	09 41 59.9	0.0
JKRS	**Kuro-shima**	**1.07**	**88**	P	Pn	09 41 51.7	+0.3
JKRS				*e*S	Sn	09 42 05.9	+0.2
JIJ	**Ishigaki jima**	**1.20**	**82**	P	Pn	09 41 52.7	-0.5
JIJ				*e*S	Sb	09 42 08.2	-0.5
JISG	**Ishigakijimahi**	**1.39**	**74**	P	Pn	09 41 55.7	-0.2
JISG				*e*S	Sn	09 42 13.1	-0.6
JTJ	**Tarama**	**1.75**	**75**	*e*S	Sb	09 42 24.3	-0.3

*ANF **16** 09:45:33.2±0.9, 41.°83N×119.°62W, h1km±8km, ML3.4/17, Error ellipse: s-maj=3.5km s-min=2.9km az=87.0*

*REN **16** 09:45:34.1±2.6, 41.°87N±0.°04×119.°64W±0.°03, h2km±7km, ML3.7/4, ML3.1/42(NEIC), Mwr3.5/20(SLM), Error ellipse: s-maj=6.5km s-min=2.6km az=159.0*

*NEIC **16** 09:45:34.1, 41.°87N×119.°64W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M_{rr}-7.04; $M_{\theta\theta}$-0.57; $M_{\phi\phi}$1.28; $M_{r\theta}$-0.65; $M_{r\phi}$1.24; $M_{\theta\phi}$1.09; Fault plane solution: $M_0$2.09000×10^14^ NP1: ϕ_s65.00000°, δ50.00000°, λ-20.00000°. NP2: ϕ_s168.00000°, δ75.00000°, λ-138.00000°. Principal axes: T 4.0669, Plg5.0000°, Azm295.0000°; N 1.0997, Plg10.0000°, Azm204.0000°; P -5.1666, Plg79.0000°, Azm50.0000°;*

*NEIC **16** 09:45:35.2±2.5, 41.°87N±0.°05×119.°62W±0.°02, h12km±6km Error ellipse: s-maj=7.1km s-min=0.9km az=162.0*

ISC 16 09:45:34.6±1.4, 41.°90N±0.°04×119.°65W±0.°03, h2km±12km, n44, σ1§04/53, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.49**	**271**		**Sg**	**09 45 51.9**	**+1.6**
MOD	**Modoc Plateau**	**0.49**	**271**	Pg	**Pg**	**09 45 44.2**	**+0.3**
MOD	**Modoc Plateau**	**0.49**	**271**	IAML		09 45 52.1	
	comp=E,3μm,0.5s						
MOD				IAML		09 45 52.3	
	comp=N,2μm,0.7s						
WVOR	**Wild Horse Val**	**0.92**	**54**		**Sb**	**09 46 05.4**	**-0.8**
WVOR	**Wild Horse Val**	**0.92**	**54**	Pg	**Pg**	**09 45 52.6**	**+0.3**
WVOR	**Wild Horse Val**	**0.92**	**54**	IAML		09 46 08.6	
	comp=N,2μm,0.8s						
WVOR				IAML		09 46 09.1	
	comp=N,1μm,0.8s						
K05A	**Summer Lake**	**1.24**	**312**	Pn	**Pg**	**09 45 58.4**	**+0.1**
K05A				IAML		09 46 21.1	
	comp=E,466nm,1.0s						
M04C	**Macdoel**	**1.64**	**267**	P	**Pn**	**09 46 03.5**	**-1.1**
	baz=86,SNR=207						
M04C				Sb	**Sg**	**09 46 27.5**	**+0.2**
	baz=86						
J08A	**Circle Bar Ran**	**1.70**	**30**	Pn	**Pn**	**09 46 04.6**	**-0.8**
J08A				IAML		09 46 30.9	
	comp=E,318nm,0.5s						
K04D	**Chiloquin, OR**	**1.73**	**296**	P	**Pn**	**09 46 05.0**	**-0.7**
	baz=115,SNR=17						
K04D				S	**Sn**	**09 46 28.8**	**+0.4**
	baz=115						
J05D	**Fort Rock, OR**	**1.82**	**320**	Pb	**Pb**	**09 46 08.5**	**-0.2**
	baz=140,SNR=350						
J05D				Sb	**Sg**	**09 46 34.2**	**+1.3**
	baz=140						
L04D	**Klamath Falls**	**2.00**	**280**	P	**Pn**	**09 46 08.5**	**-1.1**
	baz=99,SNR=34						
L04D				Sb	**Sg**	**09 46 38.6**	**-0.3**
	baz=99						
PINE	**Pine Mountain**	**2.12**	**334**	Pn	**Pb**	**09 46 13.0**	**-0.9**
I07A	**Izee**	**2.19**	**3**	Pn	**Pb**	**09 46 14.8**	**-0.2**
I07A				IAML		09 46 46.1	
	comp=N,123nm,0.6s						
I07A				IAML		09 46 55.2	
	comp=E,124nm,1.5s						
J04D	**Umpqua Nationa**	**2.26**	**307**	Pb	**Pb**	**09 46 15.9**	**-0.4**
	baz=126,SNR=18						
O03E	**Paynes Creek**	**2.28**	**226**	P	**Pn**	**09 46 12.4**	**-1.0**
	baz=45,SNR=21						
O03E				Sb	**Sb**	**09 46 45.5**	**+0.2**
	baz=45						
YBH	**Yreka Blue Hor**	**2.29**	**267**		**Pn**	**09 46 12.3**	**-1.3**
YBH	**Yreka Blue Hor**	**2.29**	**267**	Pn	**Pn**	**09 46 11.9**	**-1.7**
M02C	**Callahan**	**2.46**	**259**	P	**Pn**	**09 46 14.1**	**-1.7**
	baz=78,SNR=12						
N02D	**Trinity Center**	**2.48**	**249**	P	**Pn**	**09 46 14.2**	**-1.8**
	baz=68,SNR=9.3						
N02D				Sb	**Sb**	**09 46 51.8**	**+0.9**
	baz=68						
WDC	**Whiskeytown Da**	**2.55**	**240**	Pn	**Pn**	**09 46 15.7**	**-1.2**
WDC				IAML		09 47 00.1	
	comp=N,44nm,0.8s						
HUMO	**Hull Mountain**	**2.56**	**287**	Pn	**Pn**	**09 46 15.9**	**-1.3**
HUMO				IAML		09 47 02.5	
	comp=N,46nm,0.7s						
HUMO				IAML		09 47 09.7	
	comp=E,46nm,1.0s						
ORV	**Oroville**	**2.73**	**212**	Pn	**Pn**	**09 46 18.4**	**-1.1**
I05D	**Terrebonne, OR**	**2.74**	**334**	Pb	**Pb**	**09 46 24.3**	**0.0**
	baz=153,SNR=39						
I05D				Sb	**Sg**	**09 47 01.6**	**-1.0**
	baz=153						
O02D	**Mt. Diablo Mer**	**2.93**	**235**	P	**Pn**	**09 46 21.1**	**-1.2**
	baz=54						
O02D				Sb	**Sb**	**09 47 04.2**	**+0.3**
	baz=54						
L02E	**Cave Junction**	**2.96**	**276**	P	**Pn**	**09 46 22.0**	**-0.7**
	baz=94,SNR=42						
L02E				Sb	**Sb**	**09 47 06.0**	**+1.3**
	baz=94						
K02D	**Willamette Mer**	**3.09**	**286**	P	**Pn**	**09 46 24.1**	**-0.3**
	baz=104,SNR=108						
K02D				Sb	**Sb**	**09 47 11.0**	**+2.6**
	baz=104						
AFDM	**Forest Hills D**	**3.11**	**199**	Pn	**Pn**	**09 46 23.9**	**-0.9**
MFID	**Camas Ranch**	**3.20**	**60**	Pn	**Pn**	**09 46 25.4**	**-0.7**
KRMB	**Red Mountain**	**3.21**	**265**	Pn	**Pn**	**09 46 25.4**	**-0.8**
KRMB				IAML		09 47 23.5	
	comp=N,40nm,2.6s						
KRMB				IAML		09 47 52.4	
	comp=E,44nm,2.5s						
KHMM	**Horse Mountain**	**3.24**	**253**	Pn	**Pn**	**09 46 26.0**	**-0.6**
KHMM				IAML		09 47 25.6	
	comp=N,50nm,2.2s						
KHMM				IAML		09 48 29.3	
	comp=E,39nm,2.5s						
I03D	**Drain, OR**	**3.27**	**305**	Pb	**Pb**	**09 46 32.1**	**-1.1**
	baz=123						
I03D				Sb	**Sg**	**09 47 17.2**	**-2.3**
	baz=123						
H04A	**Detroit Lake**	**3.35**	**327**	Pn	**Pn**	**09 46 28.6**	**+0.6**
BUCK	**Buck Mountain**	**3.36**	**314**	Pn	**Pn**	**09 46 29.3**	**+1.1**
BUCK				IAML		09 47 26.3	
	comp=E,35nm,1.7s						
BUCK				IAML		09 47 28.4	
	comp=N,27nm,2.8s						
J01E	**Myrtle Point**	**3.41**	**293**	P	**Pn**	**09 46 29.2**	**+0.4**
	baz=111,SNR=6.0						
BMO	**Blue Mountains**	**3.41**	**29**	Pn	**Pn**	**09 46 28.2**	**-0.8**
BMO				IAML		09 47 25.8	
	comp=N,32nm,0.7s						
H04D	**Lebanon**	**3.46**	**320**	Pb	**Pb**	**09 46 36.5**	**-0.2**
	baz=138						
JCC	**Jacoby Creek,**	**3.47**	**253**	Pn	**Pn**	**09 46 29.9**	**+0.3**
JCC				IAML		09 47 30.1	
	comp=E,58nm,1.4s						
JCC				IAML		09 47 36.8	
	comp=N,59nm,1.7s						
KMRM	**Mail Ridge**	**3.50**	**243**	Pn	**Pn**	**09 46 30.6**	**+0.5**
KMRM				IAML		09 48 34.4	
	comp=E,49nm,2.9s						
KMRM				IAML		09 48 45.5	
	comp=N,53nm,3.9s						
G05D	**Wamic, OR**	**3.56**	**341**	Pb	**Pb**	**09 46 37.8**	**-0.5**
	baz=160						
NVAR	**Mina Array Bea**	**3.61**	**163**	Pn	**Pn**	**09 46 32.5**	**+0.7**
HLID	**Hailey**	**4.20**	**65**	P	**Pn**	**09 46 38.5**	**-1.4**
	baz=248						
HLID	**Hailey**	**4.20**	**65**	Pn	**Pn**	**09 46 40.5**	**+0.6**
HLID				IAML		09 47 48.0	
	comp=N,36nm,0.6s						
BGU	**Big Grassy Mou**	**5.07**	**99**	Pn	**Pn**	**09 46 52.8**	**+1.0**
BGU				IAML		09 48 23.8	
	comp=N,10nm,1.2s						
BGU				IAML		09 48 28.2	
	comp=E,16nm,1.4s						

*GCG **16** 09:53:02.4±0.5, 15.°63N×90.°62W, h13km±999km, MD4.2*

*INET **16** 09:53:04.7, 13.°97N×89.°86W, h30km, ML4.2*

*SNET **16** 09:53:07.1±2.0, 13.°98N×89.°91W, h6km±4km, ML4.2, MW4.7, Fault plane solution: NP1: ϕ_s204.02000°, δ80.15000°, λ-1.75000°.*

*UCR **16** 09:53:07.5±2.0, 14.°00N×89.°90W, h6km±5km, ML4.3, MW4.7, mb4.3(NEIC), Fault plane solution: NP1: ϕ_s204.02000°, δ80.15000°, λ-1.75000°.*

*NEIC **16** 09:53:09.9±2.3, 14.°08N±0.°07×89.°86W±0.°04, h10km±1km, mb4.3/32, Md4.1(SNET), Error ellipse: s-maj=11.5km s-min=6.5km az=187.0*

*IDC **16** 09:53:11.5±2.0, 13.°62N×90.°07W, h60km±24km, mb3.4/7, mb1 3.8/9, mb1mx3.5/43, mbtmp3.8/9, ML4.0/2, MS3.4/14, Ms1 3.4/14, ms1mx3.3/24, Error ellipse: s-maj=50.0km s-min=13.6km az=36.0*

ISC 16 09:53:08.9±0.8, 14.°00N±0.°03×89.°84W±0.°03, h13km±5km, n138, σ1§48/166, mb4.2/18, MS3.4/11, 22C-15D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	**Alcaldia de Sa**	**0.06**	**64**	⇑*i*P	**Pg**	**09 53 11.0**	**-0.5**
SLOZ				⇓*e*S	**Sg**	**09 53 14.1**	**+0.7**
SLOZ				IAML		09 53 16.3	
	comp=Z,76μm,0.5s						
CEVE	**Cerro Verde**	**0.27**	**129**	*e*P	**Pg**	**09 53 13.5**	**-1.2**
CEVE				*e*S	**Sg**	**09 53 18.0**	**-0.5**
CEVE	**Cerro Verde**	**0.27**	**129**	*e*P	**Pg**	**09 53 13.5**	**-1.2**
CEVE				*e*S	**Sg**	**09 53 18.0**	**-0.5**
UNIC	**Universidad Ca**	**0.28**	**94**	⇑*i*P	**Pg**	**09 53 14.5**	**-0.3**
UNIC				*e*S	**Sb**	**09 53 19.7**	**-0.9**
UNIC	**Universidad Ca**	**0.28**	**94**	⇑*i*P	**Pg**	**09 53 14.5**	**-0.3**
UNIC				*e*S	**Sb**	**09 53 19.7**	**-0.9**
TACO	**Tacachico**	**0.47**	**93**	⇑*i*P	**Pg**	**09 53 17.9**	**-0.3**
TACO				*e*S	**Sb**	**09 53 25.8**	**-0.3**
TACO	**Tacachico**	**0.47**	**93**	⇑*i*P	**Pg**	**09 53 17.9**	**-0.3**
TACO				*e*S	**Sb**	**09 53 25.8**	**-0.3**
CEDA	**San Andres**	**0.47**	**114**	⇑*i*P	**Pg**	**09 53 17.9**	**-0.4**
CEDA				IAML		09 53 30.0	
	comp=Z,16μm,0.6s						
CEDA	**San Andres**	**0.47**	**114**	⇑*i*P	**Pg**	**09 53 17.9**	**-0.4**
CEDA				IAML		09 53 30.0	
	comp=Z,16μm,0.6s						
JAYA	**Jayaque - finc**	**0.51**	**132**	⇓*i*P	**Pg**	**09 53 18.0**	**-1.0**
JAYA				⇓*e*S	**Sb**	**09 53 26.9**	**-0.4**
JAYA				IAML		09 53 27.2	
	comp=Z,14μm,0.2s						
JAYA	**Jayaque - finc**	**0.51**	**132**	⇓*i*P	**Pg**	**09 53 18.0**	**-1.0**
JAYA				⇓*e*S	**Sb**	**09 53 26.9**	**-0.4**
JAYA				IAML		09 53 27.2	
	comp=Z,14μm,0.2s						
PMON	**Piamonte**	**0.59**	**119**	⇑*i*P	**Pg**	**09 53 19

NBG	**Las Nubes**	**0.76 320**	⇓*e*P		**Pb**	**09 53 22.3**	**-1.9**
NBG			*e*S		**Sn**	**09 53 37.8**	**+0.6**
AEIL	**Aeropuerto Ilo**	**0.77 113**	*e*P		**Pb**	**09 53 23.4**	**-0.8**
AEIL			*e*S		**Sn**	**09 53 36.3**	**-0.6**
AEIL	**Aeropuerto Ilo**	**0.77 113**	*e*P		**Pb**	**09 53 23.4**	**-0.8**
AEIL			*e*S		**Sn**	**09 53 36.3**	**-0.6**
PCG	**Pacaya**	**0.84 298**	⇑*i*P		**Pb**	**09 53 23.4**	**-2.1**
PCG			*e*S		**Sn**	**09 53 42.7**	**+3.6**
SJTE	**Alcalda de S**	**0.90 115**	*e*P		**Pb**	**09 53 25.2**	**-1.2**
SJTE			*e*S		**Sn**	**09 53 39.3**	**-1.0**
SJTE	**Alcalda de S**	**0.90 115**	*e*P		**Pb**	**09 53 25.2**	**-1.2**
SJTE			*e*S		**Sn**	**09 53 39.3**	**-1.0**
PAVA	**Las Pavas**	**0.92 108**	⇑*i*P		**Pb**	**09 53 26.0**	**-0.9**
PAVA			*e*S		**Sn**	**09 53 40.3**	**-0.6**
PAVA	**Las Pavas**	**0.92 108**	⇑*i*P		**Pb**	**09 53 26.0**	**-0.9**
PAVA			*e*S		**Sn**	**09 53 40.3**	**-0.6**
COEG	**Centro de Oper**	**1.01 112**	*e*P		**Pb**	**09 53 27.3**	**-1.0**
COEG	**Centro de Oper**	**1.01 112**	*e*P		**Pb**	**09 53 27.3**	**-1.0**
FUG	**Fuego 3**	**1.07 295**	⇑*i*P		**Pb**	**09 53 26.8**	**-2.5**
FUG			*e*S		**Sb**	**09 53 40.8**	**-2.6**
UESV	**Universidad de**	**1.08 109**	⇑*i*P		**Pb**	**09 53 28.6**	**-0.9**
UESV			*e*S		**Sn**	**09 53 45.8**	**+1.0**
UESV	**Universidad de**	**1.08 109**	⇑*i*P		**Pb**	**09 53 28.6**	**-0.9**
UESV			*e*S		**Sn**	**09 53 45.8**	**+1.0**
TECO	**Alcaldia de Te**	**1.13 114**	*e*P		**Pb**	**09 53 28.9**	**-1.4**
TECO			*e*S		**Sg**	**09 53 45.7**	**+0.4**
PQSS	**Presa 15 de Se**	**1.30 107**	⇓*i*P		**Pn**	**09 53 32.2**	**-0.6**
PQSS			*e*S		**Sg**	**09 53 51.3**	**+0.5**
COEB	**Comit de Eme**	**1.37 111**	*e*P		**Pn**	**09 53 33.1**	**-0.7**
COEB			*e*S		**Sg**	**09 53 53.7**	**+0.7**
COEB	**Comit de Eme**	**1.37 111**	*e*P		**Pn**	**09 53 33.1**	**-0.7**
COEB			*e*S		**Sg**	**09 53 53.7**	**+0.7**
ALJI	**Alcalda de J**	**1.40 118**	*e*P		**Pn**	**09 53 33.7**	**-0.6**
ALJI			*e*S		**Sg**	**09 53 54.1**	**-0.1**
ALJI	**Alcalda de J**	**1.40 118**	*e*P		**Pn**	**09 53 33.7**	**-0.6**
ALJI			*e*S		**Sg**	**09 53 54.1**	**-0.1**
CNRM	**Centro Naciona**	**1.71 108**	⇓*i*P		**Pb**	**09 53 39.2**	**-1.0**
CNRM	**Centro Naciona**	**1.71 108**	⇓*i*P		**Pb**	**09 53 39.2**	**-1.0**
RTAL	**Retalhuleu**	**1.87 286**	*e*P		**Pn**	**09 53 39.1**	**-1.6**
RTAL			*e*S		**Sn**	**09 54 03.1**	**-1.1**
RTAL	**Retalhuleu**	**1.87 286**			**Pn**	**09 53 39.5**	**-1.2**
RTAL				Sn	**Sn**	**09 54 03.9**	**-0.4**
HUEH	**Huehuetenango**	**2.08 309**			**Pn**	**09 53 43.1**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.49 88**	*e*P		**Pn**	**09 53 48.4**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.49 88**	*e*P		**Pn**	**09 53 48.4**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.49 88**		Pn	**Pn**	**09 53 48.6**	**-0.8**
PETF	**Flores**	**2.90 360**			**Pn**	**09 53 54.9**	**+0.1**
CRIN	**San Cristobal**	**3.01 115**			**Pn**	**09 53 58.4**	**+2.0**
CCIG	**Comitan**	**3.17 316**			**Pn**	**09 53 59.0**	**+0.2**
CNGN	**Cerro Negro**	**3.40 116**			**Pn**	**09 54 03.7**	**+1.9**
ACON	**Acoyapa**	**4.98 113**			**Pn**	**09 54 24.3**	**+0.9**
HZTE	**Horizontes, Gu**	**5.28 128**			**Pn**	**09 54 29.2**	**+1.7**
CMIG	**Matias Romero**	**5.75 303**		P	**Pn**	**09 54 32.9**	**-1.1**
	comp=Z,5.4nm,0.3s,baz=119,slow=13,SNR=58						
CMIG				S	**Sn**	**09 55 40.8**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=90,slow=20,SNR=1.3						
CMIG				LR	LR	09 56 58.6	
	comp=Z,616nm,18.3s,baz=182,slow=39						
DUNO	**Dulce Nombre,**	**5.77 132**			**Pn**	**09 54 35.7**	**+1.4**
JTS	**Las Juntas de**	**6.04 127**		P	**Pn**	**09 54 38.9**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=18,slow=19,SNR=12						
JTS				S	**Sn**	**09 55 45.3**	**-1.8**
	comp=Z,2.2nm,0.3s,baz=30,slow=22,SNR=1.9						
JTS	**Las Juntas de**	**6.04 127**	Pn		**Pn**	**09 54 38.3**	**+0.3**
COVE	**Coope Vega, Sa**	**6.23 121**	Pn		**Pn**	**09 54 42.3**	**+1.6**
LAFE	**Finca La Fe, P**	**6.38 130**	*e*P		**Pn**	**09 54 44.0**	**+1.3**
JACO	**JACO, Garabito**	**6.66 130**	Pn		**Pn**	**09 54 48.1**	**+1.6**
HDC	**Heredia**	**6.87 125**			**Pn**	**09 54 51.3**	**+1.8**
LCR2	**La Lucha 2**	**7.11 126**	*e*P		**Pn**	**09 54 55.6**	**+2.6**
RIMA	**Rio Macho**	**7.21 125**	*e*P		**Pn**	**09 54 57.2**	**+3.0**
RIMA			*e*S		**Sn**	**09 56 17.4**	**+1.3**
RIMA	**Rio Macho**	**7.21 125**	Pn		**Pn**	**09 54 56.4**	**+2.2**
CDM	**Cerro de Muert**	**7.41 126**	*e*P		**Pn**	**09 55 00.6**	**+3.3**
MRVA	**Moravia de Chi**	**7.51 123**	*e*P		**Pn**	**09 55 02.0**	**+3.6**
PEZE	**Perez Zeledon,**	**7.58 127**	*e*P		**Pn**	**09 55 01.9**	**+2.6**
PEZE			*e*S		**Sn**	**09 56 24.4**	**-0.9**
SRBA	**San Rafael, Bu**	**7.92 126**			**Pn**	**09 55 05.8**	**+1.9**
DRK0	**Durika**	**7.99 125**			**Pn**	**09 55 07.6**	**+2.5**
EDBA	**Buenos Aires**	**8.03 126**	*e*P		**Pn**	**09 55 07.9**	**+2.5**
PIRO	**Carate, Puerto**	**8.46 130**	*e*P		**Pn**	**09 55 13.9**	**+2.5**
CDITO	**Canoas**	**8.70 128**	Pn		**Pn**	**09 55 16.2**	**+1.6**
TLIG	**Tlapa**	**9.12 294**			**Pn**	**09 55 21.4**	**+1.0**
SOR	**Soroa**	**10.88 36**	Pn		**Pn**	**09 55 45.6**	**+1.1**
ZARC	**Zaragoza, Cauc**	**16.07 112**	*e*P		**P**	**09 56 58.3**	**+0.1**
GUY2C	**Guyana, Caldas**	**16.71 120**	*e*P		**P**	**09 57 07.6**	**+1.8**
BBAC	**Balboa, Cauca**	**17.22 133**	*e*P		**P**	**09 57 10.9**	**-0.2**
ORTC	**Ortega, Tolima**	**17.55 123**	*e*P		P	09 57 25.4	+11
SOTA	**Rioblanco**	**17.61 131**	*e*P		**P**	**09 57 16.5**	**+0.8**
ROSC	**El Rosal**	**17.80 119**	LR		LR	10 04 44.7	
	comp=Z,108nm,20.9s,baz=68,slow=39						
JCT	**Junction City**	**18.80 332**	P		**Pn**	**09 57 30.6**	**+1.8**
LRAL	**Lakeview Retre**	**19.13 7**	P		**Pn**	**09 57 33.6**	**+1.0**
WHTX	**Lake Whitney,**	**19.22 340**	P		**P**	**09 57 33.0**	**+0.1**
TX32	**Lajitas Array**	**19.92 322**	P		**Pn**	**09 57 42.9**	**+0.7**
TXAR	**Lajitas Array**	**19.92 322**	P		**P**	**09 57 41.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=147,slow=12,SNR=15						
TXAR			LR		LR	10 05 26.0	
	comp=Z,43nm,19.0s,baz=0.0,slow=37						
TXAR	**Lajitas Array**	**19.92 322**	P		**P**	**09 57 40.5**	**-0.2**
TX31	**Lajitas Ar. Si**	**19.92 322**	P		**P**	**09 57 40.5**	**-0.2**
TX31			IAmb		IAmb	09 57 47.9	
	comp=Z,24nm,1.2s						
PTLC	**Puerto Leguiza**	**20.26 131**	*e*P		Pn	09 57 47.9	+1.5
Z35A	**Perchaven, San**	**20.39 342**	P		Pn	09 57 47.5	-0.2
Z35A			IAmb		IAmb	09 57 48.8	
	comp=Z,13nm,0.8s						
ABTX	**Abilene, Hawle**	**20.59 336**	P		Pn	09 57 49.5	-0.5
MIAR	**Mount Ida**	**20.73 351**	P		**P**	**09 57 48.4**	**-0.9**
MIAR			IAmb		IAmb	09 57 54.6	
	comp=Z,13nm,0.8s						
X37A	**Clayton**	**21.10 347**	P		**P**	**09 57 54.2**	**+0.9**
X37A			IAmb		IAmb	09 58 00.7	
	comp=Z,14nm,1.0s						
WHAR	**Wooly Hollow**	**21.31 354**	P		**P**	**09 57 57.8**	**+2.2**
WHAR			IAmb		IAmb	09 58 01.9	
	comp=Z,14nm,1.2s						
LPIG	**La Paz**	**21.77 301**	LR		LR	10 06 30.2	
	comp=Z,249nm,18.4s,baz=94,slow=37						
LNXT	**Lenox**	**22.01 1**	P		**P**	**09 58 07.7**	**+4.7**
FNO	**Franklin**	**22.24 343**	P		**P**	**09 58 05.5**	**0.0**
TKL	**Tuckaleechee C**	**22.25 13**	P		**P**	**09 58 08.3**	**+2.8**
	comp=Z,5.5nm,1.0s,baz=189,slow=11,SNR=3.6						
TKL			LR		LR	10 07 23.2	
	comp=Z,74nm,18.4s,baz=193,slow=38						
U40A	**Yellville**	**22.43 354**	P		**P**	**09 58 08.1**	**+0.5**
U40A			IAmb		IAmb	09 58 22.8	
	comp=Z,9.4nm,1.1s						
HHAR	**Hobbs**	**22.49 351**	P		**P**	**09 58 09.6**	**+1.4**
HHAR			IAmb		IAmb	09 58 21.3	
	comp=Z,9.9nm,1.0s						
BCOK	**Bluff Creek, N**	**22.67 343**	P		**P**	**09 58 12.3**	**+2.2**
OK029	**Liberty Lake**	**22.76 344**	P		**P**	**09 58 12.6**	**+1.5**
QUOK	**Quay**	**22.92 346**	P		**P**	**09 58 15.0**	**+2.2**
QUOK			IAmb		IAmb	09 58 16.9	
	comp=Z,9.8nm,0.8s						
MSTX	**Muleshoe**	**23.08 332**	P		**P**	**09 58 12.9**	**-1.6**
MSTX			IAmb		IAmb	09 58 17.4	
	comp=Z,7.8nm,0.9s						
SJG	**San Juan**	**23.12 77**	LR		LR	10 07 33.0	
	comp=Z,50nm,19.5s,baz=316,slow=37						
AMTX	**Amarillo**	**23.38 335**	P		**P**	**09 58 16.4**	**-1.1**
AMTX			IAmb		IAmb	09 58 23.3	
	comp=Z,9.7nm,0.8s						
S44A	**Carbondale**	**23.60 1**	P		**P**	**09 58 20.1**	**+0.5**
ATAH	**Atahualpa**	**23.87 151**	LR		LR	10 06 44.8	
	comp=Z,58nm,21.6s,baz=315,slow=34						
KAN12	**Harper NE Stat**	**24.32 344**	P		**P**	**09 58 27.9**	**+1.6**
WCI	**Wyandotte Cave**	**24.34 7**	P		**P**	**09 58 28.4**	**+1.8**
WCI			IAmb		IAmb	09 58 31.9	
	comp=Z,7.6nm,0.8s						
PFO	**Pinyon Flats O**	**31.06 314**	LR		LR	10 13 43.0	
	comp=Z,96nm,18.2s,baz=156,slow=40						
PDAR	**Pinedale Array**	**33.33 333**	LR		LR	10 16 42.9	
	comp=Z,39nm,18.7s,baz=150,slow=42						
SNOW	**Snow King Moun**	**34.41 333**	P		**P**	**09 59 56.5**	**+0.1**
SNOW			IAmb		IAmb	09 59 56.8	
	comp=Z,3.1nm,0.8s						
TPAW	**Teton Pass**	**34.52 332**	P		**P**	**09 59 57.5**	**+0.1**
TPAW			IAmb		IAmb	10 00 01.1	
	comp=Z,4.2nm,1.1s						
NVAR	**Mina Array Bea**	**35.01 319**	P		**P**	**10 00 01.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.3,SNR=2.1						
NVAR			LR		LR	10 16 16.5	
	comp=Z,82nm,19.9s,baz=136,slow=40						
MCMT	**McKenzie Canyo**	**36.42 332**	P		**P**	**10 00 13.8**	**+0.2**
ULM	**Lac du Bonnet**	**36.48 353**	P		**P**	**10 00 15.2**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=164,slow=9.5,SNR=2.0						
ULM			LR		LR	10 17 05.4	
	comp=Z,50nm,20.4s,baz=198,slow=39						
LPAZ	**La Paz**	**36.96 144**	LR		LR	10 16 08.8	
	comp=Z,66nm,18.0s,baz=284,slow=37						
WVOR	**Wild Horse Val**	**37.69 324**	P		**P**	**10 00 25.4**	**+1.1**
J08A	**Circle Bar Ran**	**38.20 326**	P		**P**	**10 00 28.6**	**0.0**
J08A			IAmb		IAmb	10 00 32.3	
	comp=Z,5.5nm,1.1s						
F10A	**Beach Ranch, E**	**39.34 330**	IAmb		IAmb	10 00 41.0	
	comp=Z,6.0nm,1.1s						
YBH	**Yreka Blue Hor**	**39.68 320**	LR		LR	10 19 04.5	
	comp=Z,63nm,19.8s,baz=156,slow=39						
RPN	**Rapa Nui**	**45.05 205**	LR		LR	10 15 15.2	
	comp=Z,50nm,21.7s,baz=82,slow=30						
YKA	**Yellowknife Ar**	**51.53 346**	P		**P**	**10 02 12.5**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=143,slow=7.3,SNR=2.9						
INK	**Inuvik**	**61.04 343**	P		**P**	**10 03 18.9**	**-3.2**
	comp=Z,1.8nm,0.9s,baz=135,slow=11,SNR=4.6						
ILAR	**Eielson Array**	**63.67 336**	P		**P**	**10 03 36.7**	**-3.1**
	comp=Z,0.3nm,0.8s,baz=116,slow=6.1,SNR=2.9						
WRA	**Warramunga Arr**	**137.43 256**	PKP		**PKPdf**	**10 12 30.6**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=92,slow=1.7,SNR=2.1						

TAP 16 10:01:20.4, 24°.89N×121°.23E, *h*4km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCUH	**Zhongli**	**0.08 334**		*e*P	Pg	10 01 24.9	+2.7
	baz=335						
NCU	**National Centr**	**0.09 336**		P	Pg	10 01 23.2	+1.0
	baz=340						
NJD	**Zhudong**	**0.20 219**		P	Pg	10 01 25.6	+1.4
	baz=217						
NJD				S	Sg	10 01 29.9	+3.0
	baz=217						
HSN	**Hsinchu**	**0.25 249**		*e*P	Pg	10 01 24.7	-0.5
	baz=252						
HSN				S	Sg	10 01 30.3	+1.8
	baz=252						
YHNB	**Yeheng**	**0.26 148**		P	Pb	10 01 26.7	-1.0
	baz=150						
YHNB				S	Sb	10 01 30.9	-1.7
	baz=150						
NWLT	**Wulai**	**0.28 114**		*i* P	Pb	10 01 26.9	-1.0
	baz=114						

JMA 16 10:01:48.2±0.3, 24°.96N×123°.59E, *h*13km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.64 168**		P	Pg	10 02 00.6	0.0
IRIF				S	Sg	10 02 07.6	-1.4
YOJ	**Yonaguni jima**	**0.72 227**		*e*S	Sg	10 02 11.5	-0.3
JISG	**Ishigakijimahi**	**0.75 119**		P	Pg	10 02 02.4	-0.4
JISG				S	Sg	10 02 12.7	0.0
JIJ	**Ishigaki jima**	**0.78 140**		P	Pg	10 02 02.7	-0.6
JIJ				*e*S	Sg	10 02 12.9	-0.6
JKRS	**Kuro-shima**	**0.81 152**		P	Pb	10 02 04.1	-0.1
JKRS				*e*S	Sb	10 02 15.1	0.0
JTJ	**Tarama**	**1.06 107**		*e*S	Sb	10 02 22.0	-0.2

*IDC **16** 10:02:03.1±1.1, 12°.04N×46°.45E, *h*0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/36, mbtmp3.8/8, MS3.3/8, Ms1 3.3/8, ms1mx3.1/31, Error ellipse: s-maj=36.9km s-min=24.4km az=17.0*

ISC 16 10:02:04.6±1.1, 12°.0N±0°.2×46°.5E±0°.2, *h*10km, n16, σ0°.80/11, mb3.9/8, MS3.3/8, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**20.01 232**		LR	LR	10 13 59.8	
	comp=Z,56nm,18.2s,baz=186,slow=36						
GEYT	**Alibeck**	**27.84 20**		LR	LR	10 20 45.3	
	comp=Z,98nm,18.1s,baz=210,slow=40						
GNI	**Garni**	**28.07 357**		LR	LR	10 20 23.3	
	comp=Z,42nm,19.2s,baz=153,slow=39						
BRTR	**Keskin Array B**	**29.84 340**		P	**P**	**10 08 13.8**	**+1.5**
	0.4nm,0.5s,baz=136,slow=7.2,SNR=4.1						
BRTR				LR	LR	10 20 18.0	
	comp=Z,48nm,18.6s,baz=146,slow=37						
TORD	**Torodi Ar. Bea**	**43.65 276**		P	**P**	**10 10 09.9**	**+0.1**
	0.6nm,0.7s,baz=90,slow=5.8,SNR=2.7						
BOSA	**Boshof**	**45.29 207**		LR	LR	10 28 35.3	
	comp=Z,56nm,18.6s,baz=4.0,slow=35						
GERES	**GERESS Array B**	**45.67 330**		P	**P**	**10 10 24.5**	**-1.1**
	0.8nm,0.6s,baz=126,slow=6.9,SNR=8.2						
MKAR	**Makanchi Array**	**45.96 34**		P	**P**	**10 10 27.2**	**-0.7**
	0.7nm,0.8s,baz=202,slow=6.0,SNR=5.6						
MKAR				LR	LR	10 31 08.3	
	comp=Z,37nm,19.1s,baz=159,slow=38						
CMAR	**Chiang Mai Arr**	**50.91 76**		P	**P**	**10 11 06.5**	**+0.1**
	3.3nm,1.0s,baz=272,slow=9.1,SNR=8.2						
CMAR				LR	LR	10 32 17.3	
	comp=Z,22nm,18.1s,baz=196,slow=36						
ARCES	**ARCESS Array B**	**59.01 352**		LR	LR	10 37 45.6	
	comp=Z,28nm,18.4s,baz=40,slow=36						
SONM	**Songino Array**	**61.12 42**		P	**P**	**10 12 19.4**	**+0.2**
	1.0nm,1.0s,baz=261,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**92.08 110**		P	**P**	**10 15 15.2**	**+0.5**
	0.4nm,0.6s,baz=296,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**92.45 114**		P	**P**	**10 15 16.7**	**+0.3**
	0.6nm,0.9s,baz=295,slow=5.0,SNR=4.3						
PDAR	**Pinedale Array**	**121.22 340**		PKP	**PKPdf**	**10 20 57.7**	**-0.8**
	0.4nm,0.9s,baz=129,slow=4.0,SNR=4.0						
NVAR	**Mina Array Bea**	**127.84 345**		PKP	**PKiKP**	**10 21 11.9**	**0.0**
	0.5nm,0.8s,baz=90,slow=0.7,SNR=5.0						
TXAR	**Lajitas Array**	**129.79 326**		PKP	**PKPdf**	**10 21 14.9**	**-0.2**
	0.4nm,0.8s,baz=90,slow=2.5,SNR=5.0						

ISC 16 10:12:20.1±1.4, 49°.06N±0°.06×18°.16E±0°.05, *h*9km±12km, n6, σ0°.71/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.38 238**		*e*PG	**Pg**	**10 12 27.4**	**-0.3**
JAVC				*e*SG	**Sg**	**10 12 31.9**	**-0.8**
KOLL	**Kolacno**	**0.51 162**		*e*PG	**Pg**	**10 12 30.2**	**+0.2**
KOLL				*e*SG	**Sg**	**10 12 37.1**	**+0.4**
VYHS	**Vyhne**	**0.72 142**		*e*PG	**Pb**	**10 12 34.3**	**-0.6**
VYHS				*e*SG	**Sg**	**10 12 43.6**	**+0.1**
MORC	**Moravsky Berou**	**0.82 331**		*e*PG	**Pn**	**10 12 37.5**	**-0.5**
MORC				*e*SG	**Sb**	**10 12 48.7**	**+0.8**
MODS	**Modra-Piesok**	**0.91 221**		*e*PG	**Pn**	**10 12 40.1**	**+1.0**
MODS				*e*SG	**Sn**	**10 12 51.7**	**-0.7**
VRAC	**Vranov**	**1.06 284**		*e*PG	**Pg**	**10 12 41.0**	**+0.5**
VRAC				*e*SG	**Sg**	**10 12 54.5**	**+0.3**

*ISK **16** 10:13:04.6, 42°.61N×26°.31E, *h*5km, ML3.1/13*
*SOF **16** 10:13:04.4, 42°.66N×26°.29E, *h*10km, MD3.3*
*THE **16** 10:13:06.5, 42°.54N×26°.27E, *h*0km±10km, ML2.6/6, Error ellipse: s-maj=18.0km s-min=1.1km az=29.0*
*BEO **16** 10:13:06.9±0.9, 42°.63N×26°.04E, *h*0km, ML3.1/7*
*DDA **16** 10:13:09.1, 42°.40N×26°.52E, *h*36km, ML2.9*

ISC 16 10:13:05.0±1.0, 42°.63N±0°.02×26°.39E±0°.02, *h*11km±8km, n96, σ1°.44/113, 15C-18D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.22 138**		PG	**Pg**	**10 13 09.8**	**+0.3**
JMB				SG	**Sg**	**10 13 13.3**	**+0.8**
JMB	**Yambol**	**0.22 138**		*i* Pg	**Pg**	**10 13 09.8**	**+0.3**
SZH	**Strazhica**	**0.72 332**		*i* Pg	**Pg**	**10 13 18.1**	**-0.8**
EDRB	**Edirne**	**0.82 161**		P	**Pg**	**10 13 21.1**	**+0.2**
EDRB				S	**Sb**	**10 13 32.5**	**+0.1**
	432nm,0.3s						
EDRB	**Edirne**	**0.82 161**		PG	**Pg**	**10 13 21.2**	**+0.3**
EDRB				SG	**Sb**	**10 13 32.7**	**+0.3**
DIM	**Dimitrovgrad**	**0.86 228**		*i* Pg	**Pg**	**10 13 20.7**	**-0.8**
ROIA	**ROIAK**	**0.86 57**		*i* Pg	**Pn**	**10 13 23.0**	**-0.1**
PRD	**Provadia**	**0.94 52**		*i* Pg	**Pb**	**10 13 23.0**	**-0.3**
PVL	**Pavlikeni**	**0.97 308**		*i* Pg	**Pg**	**10 13 23.6**	**-0.1**
KIRK	**Kırklareli**	**1.00 148**		*i* P	**Pg**	**10 13 24.1**	**0.0**
KIRK				*i* S	**Sg**	**10 13 35.7**	**-1.4**
ARMN	**Kirklareli, Me**	**1.09 134**		*i* P	**Pg**	**10 13 25.5**	**-0.3**
ARMN				*i* S	**Sg**	**10 13 38.5**	**-1.4**
ZIMR		**1.27 324**		⇑P	**Pg**	**10 13 33.3**	**+3.9**
PLD	**Plovdiv**	**1.35 248**		PN	**Pn**	**10 13 29.1**	**-0.8**
PLD	**Plovdiv**	**1.35 248**		Pg	**Pn**	**10 13 29.0**	**-0.8**
VIZE	**Kirklareli, Vi**	**1.50 134**		*i* P	**Pb**	**10 13 33.2**	**+0.3**
VIZE				*i* S	**Sn**	**10 13 50.8**	**-0.8**
UKOP	**Uzunkopru-Edir**	**1.51 173**		PN	**Pn**	**10 13 32.8**	**+0.8**
RZN	**Rozhen**	**1.56 234**		*i* P	**Pn**	**10 13 32.8**	**-0.1**
RDO	**Rodhopi**	**1.61 204**		P	**Pn**	**10 13 33.6**	**+0.2**
RDO				S	**Sn**	**10 13 54.3**	**+0.1**
	335nm,0.4s						
RDO	**Rodhopi**	**1.61 204**		PN	**Pn**	**10 13 33.7**	**+0.3**
SGRR	**Singureni**	**1.62 349**		⇑P	**Pg**	**10 13 38.0**	**+1.9**
PGB	**Panagyurishte**	**1.64 268**		*i* P	**Pn**	**10 13 34.6**	**+0.7**
KALB	**Balgarevo**	**1.68 62**		⇑P	**Pg**	**10 13 36.4**	**-0.7**
KALB	**Balgarevo**	**1.68 62**		⇑S	**Sg**	**10 13 58.4**	**-0.5**
RASA	**Rasa**	**1.68 19**		⇓P	**Pg**	**10 13 37.3**	**+0.1**
PSN	**Preselentsi**	**1.68 51**		P	**Pn**	**10 13 34.5**	**+0.1**
BUC1	**Bucharest**	**1.74 351**		⇓P	**Pg**	**10 13 38.7**	**+0.4**
ALN	**Alexandroupoli**	**1.75 189**		P	**Pn**	**10 13 36.0**	**+0.8**
ALN				S	**Sn**	**10 13 59.0**	**+1.4**
	155nm,0.4s						
ALN	**Alexandroupoli**	**1.75 189**		PN	**Pn**	**10 13 36.1**	**+0.8**
ICOR	**Ion Corvin**	**1.81 34**		⇓P	**Pg**	**10 13 39.1**	**-0.6**
KESN	**Edirne-Kesan**	**1.81 173**		*i* P	**Pn**	**10 13 37.3**	**+0.7**
KESN				*i* S	**Sn**	**10 13 58.8**	**-0.9**
KESN				IAML		10 14 07.0	
	comp=E,169nm,0.4s						
KESN				IAML		10 14 08.0	
	comp=N,160nm,0.3s						
CTYL	**Yalıkoy Yolu**	**1.82 129**		PN	**Pb**	**10 13 37.8**	**-0.6**
ENEZ	**Enez**	**1.90 185**		P	**Pn**	**10 13 38.0**	**+0.7**
ENEZ	**Enez**	**1.90 185**		PN	**Pn**	**10 13 38.2**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**1.94 185**		*i* P	**Pg**	**10 13 41.9**	**-0.3**
SLVT	**Silivri**	**1.95 135**		PN	**Pb**	**10 13 39.8**	**-0.7**
ERIK	**Erikli-Kesan**	**1.96 177**		PN	**Pn**	**10 13 39.1**	**+0.9**
MAR4	**Marsite Statio**	**1.96 159**		PN	**Pn**	**10 13 39.4**	**+1.1**
MANR	**Mangalia**	**2.00 53**		⇓P	**Pb**	**10 13 41.1**	**-0.2**
GZKV	**Gazikoy-Tekird**	**2.01 159**		PN	**Pn**	**10 13 40.1**	**+1.3**
SART	**Tekirdag**	**2.03 163**		*i* P	**Pn**	**10 13 40.4**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.03 163**		PN	**Pn**	**10 13 40.3**	**+1.1**
SULR		**2.05 357**		⇑P	**Pg**	**10 13 43.6**	**-0.8**
MPEP	**Malo Peshtene**	**2.08 291**		P	**Pn**	**10 13 39.8**	**0.0**
AMRR	**Amara**	**2.10 19**		⇑S	**Sg**	**10 14 11.4**	**-1.0**
CTKS	**Kestanelik-??a**	**2.10 131**		PN	**Pn**	**10 13 41.6**	**+1.4**
ELBA	**Catalca**	**2.12 133**		*i* P	**Pg**	**10 13 45.4**	**-0.3**
MFTR	**Murfatlar**	**2.14 43**		⇓P	**Pb**	**10 13 43.8**	**0.0**
KAVA	**Kavala**	**2.15 221**		P	**Pn**	**10 13 41.2**	**+0.4**
KAVA				S	**Sn**	**10 14 08.0**	**+0.5**
	comp=N,95nm,0.4s						
HUMR	**Humele**	**2.16 332**		⇑P	**Pb**	**10 13 45.2**	**+1.1**
MRMT	**Marmara Adasi**	**2.22 156**		PN	**Pn**	**10 13 42.9**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.23 178**		PN	**Pn**	**10 13 43.0**	**+1.1**
**MMB

SJA ***16*** *10:47:58.0±0.6,29°.40S×72°.56W,h8km±5km,ML5.3, MW4.9*

BJI ***16*** *10:48:03.9±0.0,30°.07S×72°.38W,h10km,mB5.3/11, Ms5.5/16,Ms7 5.5/16*

NEIC ***16*** *10:48:04.9±1.9,29°.50S±0°.04×71°.81W±0°.05,h8km±3km, mb5.3/329,Mwr4.9/29,Mww5.0,ML5.3(GUC),Error ellipse: s-maj=6.5km s-min=5.4km az=115.0*

GUC ***16*** *10:48:04.9±0.7,29°.54S×71°.79W,h29km±4km,ML5.3, MW5.3*

MOS ***16*** *10:48:04.5±1.4,29°.44S×71°.69W,h10km,mb5.4/31,Error ellipse: s-maj=11.3km s-min=7.1km az=102.0*

IDC ***16*** *10:48:04.0±0.4,29°.53S×71°.64W,h0km,mb5.0/13, mb1 5.0/17,mb1mx4.9/21,mbtmp4.8/17,ML4.6/4,MS4.6/10, Ms1 4.6/10,ms1mx4.2/41,Error ellipse: s-maj=20.2km s-min=13.5km az=79.0*

NEIC ***16*** *10:48:04.2,29°.48S×71°.82W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}-1.91; $M_{\theta\theta}$0.16; $M_{\phi\phi}$1.76; $M_{r\theta}$0.14; $M_{\theta\phi}$0.84; $M_{\phi r}$-1.79; Fault plane solution: $M_0$2.71000×10^16^ NP1:ϕ_s220.75000°, δ28.13000°,λ-57.92000°. NP2:ϕ_s5.35000°,δ66.46000°, λ-105.85000°. Principal axes: T 2.6985, Plg20.0000°, Azm107.0000°; N 0.0178, Plg15.0000°, Azm12.0000°; P -2.7163, Plg65.0000°, Azm248.0000°;*

VAO ***16*** *10:48:06.6±0.2,29°.51S×71°.58W,h10km,mb5.1*

NEIC ***16*** *10:48:09,29°.50S×71°.91W,h24km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}-3.92; $M_{\theta\theta}$0.32; $M_{\phi\phi}$3.60; $M_{r\theta}$1.94; $M_{\theta\phi}$1.59; $M_{\phi r}$0.87; Fault plane solution: $M_0$4.61000×10^16^ NP1:ϕ_s5.00000°,δ37.00000°, λ-119.00000°. NP2:ϕ_s220.00000°,δ58.00000°, λ-69.00000°. Principal axes: T 4.5384, Plg11.0000°, Azm295.0000°; N 0.1416, Plg17.0000°, Azm29.0000°; P -4.6799, Plg69.0000°, Azm175.0000°;*

GCMT ***16*** *10:48:09.9±0.3,29°.40S±0°.02×71°.82W±0°.03,h32km, MW5.2/67,Moment Tensor Solution. s43,c45; s67,c89; Duration: 1s0 Moment tensor: Scale 10^17^Nm; M_{rr}-0.72±.04; $M_{\theta\theta}$0.15±.02; $M_{\phi\phi}$0.57±.03; $M_{r\theta}$0.32±.03; $M_{\theta\phi}$0.26±.02; $M_{\phi r}$-0.05±.04; Best double couple: $M_0$0.77300×10^17^ NP1:ϕ_s8.00000°,δ45.00000°, λ-119.00000°. NP2:ϕ_s225.00000°,δ52.00000°, λ-65.00000°. Principal axes: T 0.7060, Plg4.0000°, Azm297.0000°; N 0.1340, Plg20.0000°, Azm29.0000°; P -0.8390, Plg70.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 10:48:05.6±0.9,29°.52S±0°.02×71°.78W±0°.03,h12km±5km, n754,σ1§55/685,mb5.3/181,16C-20D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.62**	**131⇑**	*eP*	**Pb**	**10 48 17.9**	**-0.4**
CO05				*eS*	**Sb**	**10 48 26.4**	**-0.5**
CO05				IAML		10 48 27.3	
	comp=N,212μm,0.3s						
LCO	**Las Campanas**	**1.07**	**62⇑**	*eP*	**Pg**	**10 48 25.6**	**-0.6**
LCO				*eS*	**Sn**	**10 48 42.3**	**+0.8**
LCO	**Las Campanas**	**1.07**	**62** P		**Pg**	**10 48 25.0**	**-1.2**
LCO	**Las Campanas**	**1.07**	**62**		**Pg**	**10 48 25.9**	**-0.3**
LCO					**Sg**	**10 48 39.5**	**-0.6**
LCO				Sn	**Sb**	**10 48 39.6**	**-0.5**
GO04	**Tololo Observa**	**1.07**	**128⇓**	*eP*	**Pb**	**10 48 25.2**	**-1.0**
GO04				*eS*	**Sn**	**10 48 41.5**	**-0.1**
GO04	**Tololo Observa**	**1.07**	**128** Pg		**Pb**	**10 48 25.6**	**-0.7**
GO04	**Tololo Observa**	**1.07**	**128**	*eP*	**Pb**	**10 48 25.4**	**-0.8**
GO04				*eP*	**Pb**	**10 48 25.6**	**-0.7**
GO04				*eS*	**Sn**	**10 48 41.2**	**-0.4**
CO06	**Fray Jorge**	**1.16**	**174⇓**	*eP*	**Pb**	**10 48 25.8**	**-1.8**
CO06				*eS*	**Sb**	**10 48 42.1**	**-0.5**
AC04	**Llanos de Chal**	**1.45**	**25⇓**	*eP*	**Pn**	**10 48 31.2**	**-0.3**
AC04				*eS*	**Sn**	**10 48 50.2**	**-0.2**
AC04	**Llanos de Chal**	**1.45**	**25**		**Pn**	**10 48 31.7**	**+0.1**
CO03	**El Pedregal**	**1.62**	**145**		**Pn**	**10 48 33.9**	**-0.2**
CO02	**Combarbal**	**1.81**	**158⇑**	*eP*	**Pn**	**10 48 36.8**	**+0.1**
CO02				*eS*	**Sb**	**10 49 01.0**	**-0.4**
CO02	**Combarbal**	**1.81**	**158**		**Pn**	**10 48 36.9**	**+0.2**
GO03	**Copiap**	**2.35**	**36⇓**	*eP*	**Pn**	**10 48 44.5**	**+0.4**
GO03				*eS*	**Sb**	**10 49 15.3**	**-1.5**
GO03				IAML		10 49 26.2	
	comp=E,16μm,0.7s						
GO03	**Copiap**	**2.35**	**36**		**Pn**	**10 48 44.5**	**+0.4**
GO03	**Copiap**	**2.35**	**36**	*eP*	**Pn**	**10 48 44.7**	**+0.7**
GO03				*eS*	**Sg**	**10 49 19.0**	**-2.1**
AGUA	**GUANDACOL**	**2.87**	**90**	*eP*	**Pb**	**10 48 56.3**	**-0.4**
AGUA				*eS*	**Sg**	**10 49 39.9**	**+2.2**
AGUA				IAML		10 49 47.9	
	comp=Z,5μm,1.2s						
RTLS	**Leoncito**	**3.12**	**137**	*eP*	**Pb**	**10 48 58.8**	**-2.4**
RTLS				*eS*	**Sg**	**10 49 44.0**	**-1.9**
RTLS				IAML		10 49 51.5	
	comp=Z,4μm,0.6s						
VCA	**Vinchina**	**3.22**	**77**	*eP*	**Pb**	**10 49 01.2**	**-1.6**
VCA				*eS*	**Sg**	**10 49 49.4**	**+0.3**
ZON	**Zonda**	**3.35**	**128** P		**Pn**	**10 49 00.7**	**+2.8**
ZON	**Zonda**	**3.35**	**128**		**Pn**	**10 49 00.7**	**+2.8**
ZON	**Zonda**	**3.35**	**128**	*eP*	**Pb**	**10 49 01.6**	**-3.4**
ZON				*eS*	**Sg**	**10 49 57.8**	**+4.5**
ZON				IAML		10 50 02.6	
	comp=Z,5μm,2.2s						
RTLL	**Cerro Villicun**	**3.38**	**123**	*eP*	**Pn**	**10 49 01.6**	**+3.4**
RTLL				*eS*	**Sg**	**10 49 51.5**	**-2.6**
RTLL				IAML		10 50 07.2	
	comp=Z,5μm,0.7s						
AUSP	**Uspallata**	**3.39**	**143**	*eP*	**Pb**	**10 49 02.2**	**-3.6**
VA03	**San Esteban**	**3.40**	**162⇓**	*eP*	**Pn**	**10 48 59.6**	**+1.0**
VA03	**San Esteban**	**3.40**	**162**		**Pn**	**10 49 00.5**	**+1.9**
SJA	**San Juan**	**3.42**	**127**	*eP*	**Pb**	**10 49 02.6**	**-3.6**
SJA				IAML		10 50 09.6	
	comp=Z,5μm,2.5s						
VA01	**Torpederas**	**3.50**	**178⇓**	*eP*	**Pn**	**10 48 58.5**	**-1.2**
VA01				IAML		10 50 09.1	
	comp=N,3μm,0.6s						
VA01	**Torpederas**	**3.50**	**178**		**Pn**	**10 48 58.6**	**-1.2**
ROCH	**El Roble**	**3.51**	**169⇓**	*eP*	**Pn**	**10 49 00.1**	**0.0**
ROC1	**El Roble**	**3.51**	**169**	*eP*	**Pn**	**10 49 00.2**	**0.0**
ROC1				*eS*	**Sb**	**10 49 53.0**	**+2.5**
AC02	**Maricunga**	**3.55**	**42⇓**	*eP*	**Pn**	**10 49 02.5**	**+1.5**
AC02				*eS*	**Sn**	**10 49 46.7**	**+3.5**
AC02				IAML		10 50 03.4	
	comp=N,7μm,0.2s						
AC02	**Maricunga**	**3.55**	**42**		**Pn**	**10 49 02.7**	**+1.7**
RTCV	**Cerro Valdivia**	**3.64**	**131**	*eP*	**Pn**	**10 49 05.2**	**+3.4**
RTCV				IAML		10 50 17.8	
	comp=Z,927nm,3.5s						
MT02	**Curacav**	**3.77**	**172**	*eP*	**Pn**	**10 49 02.9**	**-0.7**
MT02				*eS*	**Sn**	**10 49 49.0**	**+1.1**
MT02	**Curacav**	**3.77**	**172** Pn		**Pn**	**10 49 03.4**	**-0.1**
MT05	**Renca**	**3.96**	**167⇓**	*eP*	**Pn**	**10 49 06.6**	**+0.3**
MT05	**Renca**	**3.96**	**167** Pn		**Pn**	**10 49 06.7**	**+0.4**
ASAL	**Salagasta**	**3.97**	**141**	*eP*	**Pn**	**10 49 10.8**	**+4.4**
ASAL				IAML		10 50 38.5	
	comp=Z,2μm,1.3s						
MT03	**Universidad Ad**	**4.11**	**165⇓**	*eP*	**Pn**	**10 49 09.0**	**+0.8**
MT03	**Universidad Ad**	**4.11**	**165**		**Pn**	**10 49 09.1**	**+0.8**
ARCO	**CERRO ARCO**	**4.12**	**144**	*eP*	**Pn**	**10 49 12.6**	**+4.2**
ARCO				*eS*	**Sg**	**10 50 16.7**	**-1.1**
VA05	**Santo Domingo**	**4.13**	**178**	*eP*	**Pn**	**10 49 07.3**	**-1.2**
VA05	**Santo Domingo**	**4.13**	**178**		**Pn**	**10 49 07.3**	**-1.2**
ACLC	**CERRO LA CRUZ**	**4.21**	**90**	*eS*	**Sb**	**10 50 13.4**	**+2.8**
MT09	**Talagante**	**4.30**	**171⇓**	*eP*	**Pn**	**10 49 11.1**	**+0.2**
MT09				*eS*	**Sn**	**10 50 01.9**	**+0.8**
MT09	**Talagante**	**4.30**	**171**		**Pn**	**10 49 10.9**	**-0.1**
MT01	**Popeta**	**4.36**	**174⇓**	*eP*	**Pn**	**10 49 11.0**	**-0.6**
MT01	**Popeta**	**4.36**	**174**		**Pn**	**10 49 11.1**	**-0.6**
AAGR	**Agrelo**	**4.36**	**145**	*eP*	**Pn**	**10 49 16.0**	**+4.2**
GO02	**Mina Guanaco**	**4.75**	**25** Pn		**Pn**	**10 49 17.2**	**-0.2**
AVIZ	**Vizcacheras**	**4.83**	**146**	*eP*	**Pn**	**10 49 22.0**	**+3.8**
BO01	**Tunca**	**4.90**	**173⇓**	*eP*	**Pn**	**10 49 18.3**	**-0.7**
BO01	**Tunca**	**4.90**	**173**		**Pn**	**10 49 18.6**	**-0.5**
BO03	**Pichilemu**	**4.97**	**182⇓**	*eP*	**Pn**	**10 49 18.1**	**-1.8**
PB14	**IPOC Station P**	**5.02**	**14⇓**	*eP*	**Pn**	**10 49 19.0**	**-2.1**
PB14	**IPOC Station P**	**5.02**	**14** Pn		**Pn**	**10 49 18.6**	**-2.5**
PB14	**IPOC Station P**	**5.02**	**14**	*eP*	**Pn**	**10 49 19.4**	**-1.7**
PB14				IAML		10 50 52.0	
	comp=Z,2μm,1.0s						
BO02	**Sierra Bellavi**	**5.33**	**171**		**Pn**	**10 49 24.8**	**-0.2**
BO02	**Sierra Bellavi**	**5.33**	**171**	*eP*	**Pn**	**10 49 25.4**	**+0.4**
BO02				*eS*	**Sb**	**10 50 47.2**	**+4.6**
BO02				IAML		10 51 02.6	
	comp=Z,2μm,1.1s						
CYA	**Choya**	**5.34**	**80**	*eP*	**Pn**	**10 49 27.8**	**+2.6**
CYA				*eS*	**Sb**	**10 50 39.2**	**-3.9**
GO05	**Huala**	**5.48**	**181**		**Pn**	**10 49 25.2**	**-1.9**
GO05	**Huala**	**5.48**	**181**	*eP*	**Pn**	**10 49 25.1**	**-1.9**
LAMA	**Las Malvinas**	**5.82**	**159**	*eP*	**Pn**	**10 49 34.4**	**+2.6**
COIS	**El Sosneado**	**5.87**	**162**	*eP*	**Pn**	**10 49 35.2**	**+2.7**
RFA	**San Rafael**	**5.94**	**153**	*eP*	**Pn**	**10 49 35.2**	**+1.7**
RFA				IAML		10 51 27.9	
	comp=Z,783nm,0.8s						
MRA	**San Martin**	**5.96**	**121**	*eP*	**Pn**	**10 49 35.4**	**+1.7**
MRA				*eS*	**Sb**	**10 50 52.0**	**-8.7**
MRA				IAML		10 51 17.1	
	comp=Z,755nm,0.6s						
PB10	**IPOC Station P**	**6.08**	**11**	Pn	**Pn**	**10 49 32.1**	**-3.2**
FSA	**Cafayete**	**6.16**	**58**	*eP*	**Pn**	**10 49 40.6**	**+4.1**
ML02	**Panimavida**	**6.24**	**177**		**Pn**	**10 49 36.5**	**-0.9**
PUMA	**Malargue**	**6.28**	**162**	*eS*	**Sn**	**10 50 50.9**	**+1.2**
TCA	**Tanti**	**6.46**	**108**	*eP*	**Pn**	**10 49 41.4**	**+0.8**
TCA				*eS*	**Sg**	**10 51 24.8**	**-8.3**
EDS3	**Malargue**	**6.55**	**163**	*eP*	**Pn**	**10 49 44.9**	**+3.0**
PB15	**IPOC Station P**	**6.62**	**19**		**Pn**	**10 49 42.3**	**-0.6**
PB06	**IPOC Station P**	**7.07**	**17**		**Pn**	**10 49 46.6**	**-2.4**
BI02	**San Fabin de**	**7.14**	**177**		**Pn**	**10 49 49.3**	**-0.6**
H03N1	**Juan Fernandez**	**7.24**	**235**	Pn	**Pn**	**10 49 48.7**	**-2.2**
	baz=113,slow=18,SNR=365						
H03N1				T	T	10 57 24.6	
	baz=62,slow=72,SNR=9007						
H03N2	**Juan Fernandez**	**7.25**	**236**	Pn	**Pn**	**10 49 48.8**	**-2.3**
	baz=113,slow=18,SNR=204						
H03N2				Sn	Sn	10 51 04.3	-8.9
H03N2				T	T	10 57 31.7	
	baz=62,slow=72,SNR=7948						
H03N3	**Juan Fernandez**	**7.25**	**235**	Pn	**Pn**	**10 49 48.7**	**-2.5**
	baz=113,slow=18,SNR=373						
H03N3				T	T	10 57 34.1	
	baz=62,slow=72,SNR=6396						
PB04	**IPOC Station P**	**7.30**	**12**	Pn	**Pn**	**10 49 48.8**	**-3.4**
LVC	**Limon Verde**	**7.34**	**21**	Pn	**Pn**	**10 49 51.7**	**-1.3**
	comp=Z,4.0nm,0.3s,baz=170,slow=11,SNR=58						
LVC				Sn	**Sn**	**10 51 13.9**	**-2.6**
	comp=Z,9.4nm,0.3s,baz=248,slow=12,SNR=1.3						
LVC				LR	LR	10 52 45.7	
	comp=Z,7μm,18.1s,baz=216,slow=38						
LVC	**Limon Verde**	**7.34**	**21**	P	**Pn**	**10 49 54.8**	**+1.7**
LVC				pmax	pmax		
	comp=Z,195nm,0.6s						
LVC	**Limon Verde**	**7.34**	**21**	Pn	**Pn**	**10 49 51.6**	**-1.4**
LVC	**Limon Verde**	**7.34**	**21**	*eP*	**Pn**	**10 49 54.7**	**+1.7**
SLA	**San Lorenzo**	**7.35**	**51**	*eP*	**Pn**	**10 49 56.8**	**+3.9**
SLA				IAML		10 52 59.2	
	comp=Z,315nm,1.2s						
H03S3	**Juan Fernandez**	**7.44**	**233**	Pn	**Pn**	**10 49 51.0**	**-2.8**
H03S3				Sn	**Sn**	**10 51 10.5**	**-7.5**
	baz=32,slow=17,SNR=7.5						
H03S1	**Juan Fernandez**	**7.45**	**233**	Pn	**Pn**	**10 49 50.6**	**-3.2**
	baz=32,slow=17,SNR=25						
H03S2	**Juan Fernandez**	**7.46**	**233**	Pn	**Pn**	**10 49 51.0**	**-3.0**
	baz=32,slow=17,SNR=35						
PB07	**IPOC Station P**	**7.94**	**13**	Pn	**Pn**	**10 49 58.4**	**-2.7**
PB09	**IPOC Station P**	**8.02**	**17**		**Pn**	**10 50 00.6**	**-1.5**
PB01	**IPOC Station P**	**8.69**	**14**	Pn	**Pn**	**10 50 08.8**	**-2.4**
TA01	**Diego Aracena**	**9.03**	**10**	Pn	**Pn**	**10 50 12.8**	**-3.0**
PB08	**IPOC Station P**	**9.63**	**15**	Pn	**Pn**	**10 50 21.8**	**-2.7**
PB11	**IPOC Station P**	**9.90**	**12**	Pn	**Pn**	**10 50 23.9**	**-4.0**
PSGCX	**Pisagua**	**9.99**	**9**	Pn	**Pn**	**10 50 26.4**	**-2.7**
MNMC	**Minye Minye**	**10.53**	**11**	Pn	**Pn**	**10 50 33.2**	**-3.4**
PLCA	**Paso Flores**	**11.23**	**175**	Pn	**Pn**	**10 50 45.2**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=341,slow=10,SNR=58						
PLCA				LR	LR	10 55 05.4	
	comp=Z,3μm,19.6s,baz=356,slow=38						
PLCA	**Paso Flores**	**11.23**	**175**	P	**Pn**	**10 50 45.5**	**-0.5**
PLCA	**Paso Flores**	**11.23**	**175**		**Pn**	**10 50 45.5**	**-0.5**
PLCA	**Paso Flores**	**11.23**	**175**	*eP*	**Pn**	**10 50 46.2**	**+0.1**
LL04	**Puerto Octay**	**11.38**	**182**	Pn	**Pn**	**10 50 46.1**	**-1.8**
LL03	**Petrohue**	**11.61**	**182**	Pn	**Pn**	**10 50 50.4**	**-0.7**
TRQA	**Tornquist**	**11.78**	**139**	P	**Pn**	**10 50 53.2**	**-0.3**
TRQA	**Tornquist**	**11.78**	**139**		**Pn**	**10 50 53.2**	**-0.3**
TRQA	**Tornquist**	**11.78**	**139**	*eP*	**Pn**	**10 50 53.2**	**-0.3**
LL01	**San Ignacio de**	**12.85**	**182**	Pn	**Pn**	**10 51 05.6**	**-2.3**
CPUP	**Villa Florida**	**13.16**	**80**	Pn	**Pn**	**10 51 10.3**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=255,slow=9.6,SNR=15						
CPUP				LR	LR	10 56 34.7	
	comp=Z,3μm,19.7s,baz=257,slow=39						
CPUP	**Villa Florida**	**13.16**	**80**	P	**Pn**	**10 51 10.8**	**-1.6**
CPUP	**Villa Florida**	**13.16**	**80**	Pn	**Pn**	**10 51 10.8**	**-1.6**
CPUP	**Villa Florida**	**13.16**	**80**	*eP*	**Pn**	**10 51 11.2**	**-1.2**
ITQB	**Itaqui**	**13.19**	**94**	Pn	**Pn**	**10 51 10.9**	**-1.8**
ITQB	**Itaqui**	**13.19**	**94**	*eP*	**Pn**	**10 51 11.3**	**-1.4**
LPAZ	**La Paz**	**13.59**	**15**	Pn	**Pn**	**10 51 16.5**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=219,slow=5.3,SNR=9.0						
LPAZ				LR	LR	10 56 45.9	
	comp=Z,1μm,19.8s,baz=181,slow=38						
LPAZ	**La Paz**	**13.59**	**15**	*eP*	**Pn**	**10 51 22.4**	**+3.7**
LPAZ	**La Paz**	**13.59**	**15**	*eP*	**Pn**	**10 51 18.0**	**-0.7**
LL02	**Futaleuf**	**13.65**	**180**	Pn	**Pn**	**10 51 18.6**	**-0.2**
GO07	**Milladeo Hill,**	**13.65**	**186**	Pn	**Pn**	**10 51 16.0**	**-3.0**
PLTB	**Pedras Altas**	**15.80**	**103**		**Pn**	**10 51 46.4**	**-1.7**
PLTB	**Pedras Altas**	**15.80**	**103**	*eP*	**Pn**	**10 51 47.2**	**-0.8**
CPSB	**Cacapava Do Su**	**15.92**	**98**	*eP*	**Pn**	**10 51 49.7**	**+0.2**
SIV	**San Ignacio**	**16.68**	**39**	Pn	**Pn**	**10 51 54.1**	**-5.2**
	comp=Z,0.5nm,0.3s,baz=243,slow=12,SNR=5.0						
SIV				LR	LR	10 59 18.1	
	comp=Z,2μm,21.5s,baz=228,slow=41						
AQDB	**Aquidauana**	**17.12**	**62**	Pn	**Pn**	**10 52 04.6**	**-0.2**
AQDB	**Aquidauana**	**17.12**	**62**	*eP*	**Pn**	**10 52 05.1**	**+0.4**
NNA	**Nana**	**18.07**	**344**	LR	LR	10 57 38.2	
	comp=Z,930nm,20.8s,baz=172,slow=32						
PTLB	**Pontes e Lacer**	**18.21**	**42**	*eP*	**P**	**10 52 18.8**	**+0.3**
TRCB	**Terra Rica**	**18.43**	**73**	P	**P**	**10 52 20.3**	**-0.7**
TRCB				IAmb	IAmb	10 52 24.0	
	comp=Z,172nm,1.1s						
TRCB	**Terra Rica**	**18.43**	**73**	*eP*	**Pn**	**10 52 21.5**	**+0.4**
PP1B	**Ponte de Pedra**	**19.48**	**56**	*eP*	**P**	**10 52 32.7**	**+0.2**
VILB	**Vilhena**	**19.68**	**36**	*eP*	**P**	**10 52 34.5**	**-0.2**
SALV	**Santo Antonio**	**20.06**	**51**	*eP*	**P**	**10 52 38.3**	**-0.6**
PCMB	**Pacaembu**	**20.10**	**72**	*eP*	**P**	**10 52 40.0**	**+0.8**
ETMB	**Extrema**	**20.28**	**16**	*eP*	**P**	**10 52 42.1**	**+0.9**
TIJ01	**Guaruva-PR**	**20.64**	**84**	*eP*	**P**	**10 52 43.8**	**-1.3**
FRTB	**Fartura**	**20.81**	**78**	*eP*	**P**	**10 52 47.2**	**+0.3**
CZSB	**Cruzeiro do Su**	**21.69**	**358**	*eP*	**P**	**10 52 58.3**	**+1.9**
GO09	**Cerro Castillo**	**21.73**	**181**	P	**P**	**10 52 57.2**	**+0.5**
GO09				IAmb	IAmb	10 53 13.2	
	comp=Z,134nm,1.1s						
ITRB	**Iturama**	**21.75**	**68**	*eP*	**P**	**10 52 56.7**	**-0.4**
PET01	**Itanhaem-SP**	**22.45**	**82**	*eP*	**P**	**10 53 04.3**	**-0.2**
SPB	**Sao Paulo**	**22.54**	**81**	P	**P**	**10 53 06.5**	**+0.9**
SPB				IAmb	IAmb	10 53 15.7	
	comp=Z,75nm,1.0s						
SPB	**Sao Paulo**	**22.54**	**81**	*eP*	**P**	**10 53 04.0**	**-1.5**
BB19B	**Bebedouro**	**22.61**	**74**	*eP*	**P**	**10 53 05.2**	**-1.1**
ARAG	**Araguaiana, MT**	**22.94**	**58**	*eP*	**P**	**10 53 09.5**	**-0.3**
ATAH	**Atahualpa**	**23.12**	**343**	P	**P**	**10 53 13.6**	**+1.5**
	comp=Z,4.6nm,0.6s,baz=67,slow=5.6,SNR=5.3						
ATAH				LR	LR	11 00 36.3	
	comp=Z,570nm,19.5s,baz=210,slow=32						
VAO	**Valinhos**	**23.15**	**80**	*eP*	**P**	**10 53 10.8**	**-1.3**
CLDB	**Colider**	**23.80**	**42**	*eP*	**P**	**10 53 17.2**	**-1.2**
PARB	**Paraibuna**	**24.19**	**81**	*eP*	**P**	**10 53 21.3**	**-0.9**
EFI	**East Falkland**	**24.38**	**159⇑**	*eP*	**P**	**10 53 22.6**	**-0.9**
EFI				pmax	pmax		
	comp=Z,23nm,0.6s						
IPMB	**Ipameri, GO**	**24.39**	**67**	*eP*	**P**	**10 53 23.2**	**-0.8**
TBTG	**Tabatinga, AM**	**25.25**	**4**	*eP*	**P**	**10 53 32.5**	**+0.8**
ESAR	**Angra dos Reis**	**25.32**	**82**	*eP*	**P**	**10 53 32.2**	**0.0**
USHA	**Ushuaia**	**25.41**	**175**	P	**P**	**10 53 33.6**	**+0.8**
	comp=Z,118nm,0.8s,baz=3.9,slow=6.4,SNR=15						
USHA				LR	LR	11 04 17.3	
	comp=Z,2μm,21.4s,baz=18,slow=38						
BSCB	**Bom Sucesso**	**25.81**	**77**	*eP*	**P**	**10 53 37.3**	**+0.4**
SNDB	**Serra Nova Dou**	**25.84**	**52**	*eP*	**P**	**10 53 36.6**	**-0.4**
BDFB	**Brasilia**	**25.86**	**63**	P	**P**	**10 53 36.6**	**-0.7**
	comp=Z,40nm,0.9s,baz=253,slow=4.3,SNR=23						
BDFB				LR	LR	11 05 16.6	
	comp=Z,2μm,19.2s,baz=240,slow=40						
BDFB	**Brasilia**	**25.86**	**63**	P	**P**	**10 53 36.4**	**-0.9**
BDFB				IAmb	IAmb	10 53 43.3	
	comp=Z,61nm,1.0s						
VAS01	**Vassouras-RJ**	**26.45**	**81**	*eP*	**P**	**10 53 42.5**	**0.0**
NPGB	**Novo Progresso**	**27.18**	**38**	*eP*	**P**	**10 53 49.4**	**+0.2**
PEXB	**Peixe**	**27.86**	**56**	*eP*	**P**	**10 53 55.7**	**+0.4**
DIAM	**Diamantina, MG**	**27.95**	**73**	*eP*	**P**	**10 53 55.8**	**-0.3**
MACA	**Manacapuru-AM**	**28.25**	**24**	*eP*	**P**	**10 53 58.6**	**-0.1**
MC01	**Montes Claros**	**28.52**	**70**	*eP*	**P**	**10 54 00.6**	**-0.6**
JANB	**Januaria**	**29.11**	**66**	*eP*	**P**	**10 54 06.1**	**-0.3**
ITTB	**Itaituba**	**29.27**	**34**	*eP*	**P**	**10 54 07.1**	**-0.7**
PTLC	**Puerto Leguiza**	**29.66**	**354**	*eP*	**P**	**10 54 10.2**	**-1.0**
BSFB	**Barra de Sao F**	**30.07**	**76**	*eP*	**P**	**10 54 13.8**	**-1.1**
SDBA	**SAO DESIDERIO**	**30.21**	**61**	*eP*	**P**	**10 54 15.9**	**-0.3**
RIB01	**Linhares ES**	**30.24**	**78**	*eP*	**P**	**10 54 16.8**	**+0.3**
OTAV	**Otavalo**	**30.27**	**347**	P	**P**	**10 54 19.7**	**+2.6**
OTAV				pmax	pmax		
	comp=Z,11nm,2.2s						
OTAV	**Otavalo**	**30.27**	**347**	*eP*	**P**	**10 54 19.6**	**+2.6**
SMTB	**Santa Maria do**	**30.60**	**53**	*eP*	**P**	**10 54 20.0**	**+0.4**
PRPB	**Paraupebas**	**31.12**	**46**	*eP*	**P**	**10 54 23.5**	**-0.7**
NAN01	**Guarapari, ES**	**31.13**	**75**	*eP*	**P**	**10 54 23.8**	**-0.4**
BBAC	**Balboa, Cauca**	**31.79**	**350**	*eP*	**P**	**10 54 32.6**	**+2.3**
SOTA	**Rioblanco**	**31.81**	**351**	*eP*	**P**	**10 54 33.7**	**+3.0**
PCON	**Cinco Dias**	**31.97**	**351**	*eP*	**P**	**10 54 35.7**	**+3.5**
GUA01	**Guaratinga, BA**	**32.00**	**73**	*eP*	**P**	**10 54 31.8**	**-0.1**
MALB	**Monte Alegre**	**32.16**	**34**	*eP*	**P**	**10 54 32.9**	**-0.4**
POPC	**Popayan, Colom**	**32.22**	**351**	*eP*	P	10 54 27.9	-6.2
CMC01	**Camacan, BA**	**32.85**	**72**	*eP*	**P**	**10 54 39.1**	**-0.3**
NBIT	**Itapeh - BA**	**33.14**	**71**	*eP*	**P**	**10 54 42.5**	**+0.6**
ORTC	**Ortega, Tolima**	**33.40**	**354**	*eP*	**P**	**10 54 46.5**	**+2.4**
VILC	**Villavicencio,**	**33.49**	**357**	*eP*	**P**	**10 54 46.7**	**+1.7**
BOAV	**Boa Vista**	**33.51**	**21**	*eP*	**P**	**10 54 44.3**	**-0.8**
YOTC	**Yotoco, Valle**	**33.60**	**352**	*eP*	**P**	**10 54 47.9**	**+1.9**
GDU01	**Guandu, BA**	**33.67**	**69**	*eP*	**P**	**10 54 46.2**	**-0.3**
CHIC	**Chingaza**	**34.00**	**357**	*eP*	**P**	**10 54 51.8**	**+1.9**
TOLC	**Tolima**	**34.08**	**354**	*eP*	**P**	**10 54 54.0**	**+3.7**
PLMC	**San Jos del P**	**34.50**	**352**	*eP*	**P**	**10 54 54.9**	**+1.2**
GUY2C	**Guyana, Caldas**	**34.71**	**354**	*eP*	**P**	**10 54 58.2**	**+2.2**
NBPN	**Ponto Novo - B**	**34.80**	**64**	*eP*	**P**	**10 54 55.9**	**-0.5**
NORC	**Norcasia**	**35.01**	**355**	*eP*	**P**	**10 54 59.9**	**+1.8**
TMAB	**Tom-Au,PA,Br**	**35.15**	**44**	*eP*	**P**	**10 54 59.9**	**+0.6**
RUSC	**La Rusia**	**35.23**	**358**	P	**P**	**10 55 01.7**	**+1.2**
RUSC	**La Rusia**	**35.23**	**358**	*eP*	**P**	**10 55 01.9**	**+1.4**
CBOC	**Ciudad Bolivar**	**35.41**	**353**	*eP*	**P**	**10 55 03.3**	**+1.6**
PMSA	**Palmer Station**	**35.61**	**174**	*eP*	**P**	**10 55 04.3**	**+1.6**
HELC	**Santa

TZTN	Tazewell	66.64	350	P	P	10 58 55.7 -0.2
CLTN	Cedars of Leba	66.68	347	P	P	10 58 55.0 -1.1
CLTN				IAmb	IAmb	10 58 57.6
	comp=Z,26nm,0.9s					
X40A	Basin Creek Fa	66.69	341	P	P	10 58 56.7 +0.5
	baz=160					
BLA	Blacksburg	66.87	353	P	P	10 58 58.0 +0.6
	baz=172					
MIAR	Mount Ida	66.96	341	P	P	10 58 58.0 0.0
MIAR				pmax	pmax	
	comp=Z,23nm,1.2s					
MIAR	Mount Ida	66.96	341	P	P	10 58 58.2 +0.2
	baz=160,SNR=8.0					
MIAR	Mount Ida	66.96	341	P	P	10 58 58.0 0.0
MIAR				IAmb	IAmb	10 58 59.9
	comp=Z,23nm,1.2s					
U49A	Red Boiling Sp	66.99	348	IAmb	IAmb	10 58 59.3
	comp=Z,23nm,1.0s					
WVT	Waverly	67.02	346	P	P	10 58 57.7 -0.6
WVT				pmax	pmax	
	comp=Z,33nm,1.0s					
WVT	Waverly	67.02	346	P	P	10 58 58.3 -0.1
	baz=165					
WVT	Waverly	67.02	346	P	P	10 58 57.7 -0.6
WVT				IAmb	IAmb	10 58 59.5
	comp=Z,33nm,1.0s					
W41B	Gary Mavity, V	67.18	342	P	P	10 58 59.8 +0.5
	baz=161,SNR=6.9					
ABTX	Abilene, Hawle	67.22	335	P	P	10 59 00.5 +0.8
	baz=154,SNR=11					
ABTX	Abilene, Hawle	67.22	335	P	P	10 58 60.0 +0.3
S57A	Dark Hollow, R	67.26	354	P	P	10 58 59.7 -0.1
S57A				IAmb	IAmb	10 59 01.6
	comp=Z,20nm,0.9s					
WHAR	Wooly Hollow	67.30	342	P	P	10 59 00.5 +0.4
WHAR				IAmb	IAmb	10 59 01.8
	comp=Z,18nm,1.0s					
SBA	Scott Base	67.50	191	P	P	10 59 01.6 +0.7
SBA				pmax	pmax	
	comp=Z,35nm,1.4s					
SBA	Scott Base	67.50	191	P	P	10 59 01.6 +0.7
SBA				IAmb	IAmb	10 59 15.3
	comp=Z,35nm,1.4s					
X37A	Clayton	67.54	339	IAmb	IAmb	10 59 03.8
	comp=Z,21nm,1.1s					
CBN	Corbin Frederi	67.57	355	P	P	10 59 02.5 +0.8
	baz=175					
LOOK	Love County	67.58	337	IAmb	IAmb	10 59 04.0
	comp=Z,31nm,1.1s					
W39A	Magazine	67.63	341	P	P	10 59 03.3 +1.1
	baz=160,SNR=18					
W39A	Magazine	67.63	341	IAmb	IAmb	10 59 04.6
	comp=Z,35nm,0.9s					
T47A	Sharon Grove	67.70	347	P	P	10 59 00.9 -1.7
S51A	Beattyville	67.72	350	IAmb	IAmb	10 59 03.8
	comp=Z,16nm,0.9s					
LCAR	Lake Charles	67.74	343	P	P	10 59 02.6 -0.2
FCAR	Ozark Folk Cen	67.82	342	P	P	10 59 03.1 -0.3
R55A	Marlinton	67.90	353	IAmb	IAmb	10 59 06.0
	comp=Z,43nm,1.2s					
T45A	Paducah	68.05	346	P	P	10 59 04.4 -0.4
Q61A	Milford	68.12	357	P	P	10 59 07.3 +2.1
	baz=177					
PBMO	Poplar Bluff	68.23	344	P	P	10 59 05.1 -0.8
U40A	Yellville	68.45	342	P	P	10 59 07.7 +0.4
	baz=160,SNR=14					
U40A	Yellville	68.45	342	IAmb	IAmb	10 59 09.0
	comp=Z,20nm,0.9s					
VNDA	Vanda	68.53	191	P	P	10 59 09.0 +1.6
	comp=Z,9.1nm,1.1s,baz=132,slow=5.1,SNR=15					
VNDA	Vanda	68.53	191	P	P	10 59 09.0 +1.6
VNDA	Vanda	68.53	191	P	P	10 59 07.2 -0.2
VNDA				IAmb	IAmb	10 59 10.2
	comp=Z,18nm,1.2s					
R49A	Shelbyville	68.61	349	IAmb	IAmb	10 59 10.8
	comp=Z,17nm,1.1s					
T42A	Van Buren	68.63	343	IAmb	IAmb	10 59 09.8
	comp=Z,16nm,1.1s					
TBI	Tubuai	68.65	255	eS	S	11 08 14.6 +2.6
	comp=Z,227nm,30.5s					
TBI	Tubuai	68.65	255	eLR	LR	11 19 49.4
	comp=Z,265nm,25.2s,baz=110					
TBI	Tubuai	68.65	255	eT	T	12 13 49.2
	comp=Z,14nm,0.2s					
HHAR	Hobbs	68.69	341	P	P	10 59 08.4 -0.4
HHAR				IAmb	IAmb	10 59 10.5
	comp=Z,26nm,0.9s					
MNTX	Cornudas Mount	68.75	330	P	P	10 59 09.1 -0.2
	baz=149,SNR=19					
MNTX	Cornudas Mount	68.75	330	P	P	10 59 09.1 -0.2
WCI	Wyandotte Cave	68.75	348	P	P	10 59 08.4 -0.7
WCI				pmax	pmax	
	comp=Z,19nm,0.9s					
WCI	Wyandotte Cave	68.75	348	P	P	10 59 09.4 +0.2
	baz=167					
WCI	Wyandotte Cave	68.75	348	P	P	10 59 08.4 -0.7
WCI				IAmb	IAmb	10 59 10.0
	comp=Z,19nm,0.8s					
WMOK	Wichita Mounta	68.81	336	P	P	10 59 09.9 +0.3
WMOK				pmax	pmax	
	comp=Z,16nm,0.9s					
WMOK	Wichita Mounta	68.81	336	P	P	10 59 09.9 +0.3
	baz=155,SNR=8.8					
Q52A	Bidwell	68.83	351	IAmb	IAmb	10 59 10.8
	comp=Z,37nm,1.1s					
TUL1	Leonard	68.89	339	P	P	10 59 10.5 +0.4
	baz=158,SNR=11					
Q51A	Peebles	69.04	350	P	P	10 59 10.5 -0.5
Q51A				IAmb	IAmb	10 59 12.2
	comp=Z,28nm,1.0s					
MGMO	Mountain Grove	69.05	343	IAmb	IAmb	10 59 12.8
	comp=Z,23nm,1.1s					
P60A	Greenville	69.07	357	P	P	10 59 12.2 +1.1
	baz=176					
OK025	Westminster Rd	69.08	338	P	P	10 59 11.5 +0.2
MCWV	Mont Chateau	69.23	353	P	P	10 59 12.7 +0.6
	baz=173					
P53A	Whipple	69.23	352	IAmb	IAmb	10 59 14.1
	comp=Z,27nm,1.1s					
OK031	S. Brethren Rd	69.26	338	IAmb	IAmb	10 59 13.9
	comp=Z,35nm,1.0s					
OK029	Liberty Lake	69.32	338	P	P	10 59 12.6 -0.2
OK029				IAmb	IAmb	10 59 14.2
	comp=Z,37nm,1.0s					
QUOK	Quay	69.42	339	P	P	10 59 13.5 +0.1
QUOK				IAmb	IAmb	10 59 15.0
	comp=Z,23nm,0.9s					
P51A	Williamsport	69.44	351	IAmb	IAmb	10 59 14.5
	comp=Z,30nm,0.8s					
P52A	Corning	69.47	351	P	P	10 59 13.6 0.0
	baz=170,SNR=6.0					
P52A	Corning	69.47	351	IAmb	IAmb	10 59 14.6
	comp=Z,32nm,0.9s					
OLIL	Olney	69.59	346	P	P	10 59 13.5 -0.8
MSTX	Muleshoe	69.61	333	P	P	10 59 15.4 +0.6
	baz=152,SNR=18					
MSTX	Muleshoe	69.61	333	IAmb	IAmb	10 59 16.7
	comp=Z,40nm,1.1s					
CCM	Cathedral Cave	69.64	344	P	P	10 59 14.8 +0.1
CCM				pmax	pmax	
	comp=Z,49nm,1.0s					
CCM	Cathedral Cave	69.64	344	P	P	10 59 15.3 +0.6
	baz=162					
CCM	Cathedral Cave	69.64	344	P	P	10 59 14.8 +0.1
O56A	Blue Knob Stat	69.72	354	P	P	10 59 15.7 +0.6
	baz=174					
MEH	Mehetia	69.74	260	eT	T	12 15 09.8
	comp=Z,16nm,0.2s					
P49A	Miami Univ. Ec	69.75	349	P	P	10 59 14.8 -0.5
	baz=168					
P49A	Miami Univ. Ec	69.75	349	IAmb	IAmb	10 59 16.1
	comp=Z,16nm,0.8s					
P48A	Milroy	69.79	349	IAmb	IAmb	10 59 16.2
	comp=Z,26nm,0.9s					
O52A	Adamsville	69.91	352	IAmb	IAmb	10 59 17.4
	comp=Z,27nm,0.9s					
Q44A	Meyer Farm, Va	69.94	346	P	P	10 59 16.2 -0.3
Q44A				IAmb	IAmb	10 59 17.4
	comp=Z,30nm,0.8s					
SYO	Syowa Base	69.95	159⇑	epP	P	10 59 16.5 +0.2
SLM	Saint Louis	69.96	345	P	P	10 59 16.8 +0.2
SLM				pmax	pmax	
	comp=Z,57nm,0.9s					
SLM	Saint Louis	69.96	345	P	P	10 59 16.8 +0.2
O53A	New Philadelph	69.96	352	P	P	10 59 16.8 +0.1
	baz=171					
AMTX	Amarillo	69.99	334	P	P	10 59 17.8 +0.8
	baz=153					
AMTX	Amarillo	69.99	334	IAmb	IAmb	10 59 19.2
	comp=Z,38nm,1.2s					
SSPA	Standing Stone	70.03	355	P	P	10 59 17.3 +0.3
	baz=174					
T35A	Sooner Cattle	70.04	339	IAmb	IAmb	10 59 19.2
	comp=Z,36nm,1.3s					
BLOK	Blackwell	70.12	338	IAmb	IAmb	10 59 19.6
	comp=Z,31nm,1.1s					
ACSO	Alum Creek Sta	70.17	351	P	P	10 59 17.8 -0.1
	baz=170,SNR=5.5					
ACSO	Alum Creek Sta	70.17	351	P	P	10 59 17.5 -0.4
N59A	State Game Lan	70.18	357	P	P	10 59 18.4 +0.4
	baz=176					
N59A	State Game Lan	70.18	357	P	P	10 59 17.2 -0.8
N59A				IAmb	IAmb	10 59 26.8
	comp=Z,60nm,1.7s					
O49A	Covington	70.33	350	IAmb	IAmb	10 59 19.9
	comp=Z,40nm,1.0s					
KAN13	South Haven SW	70.44	338	P	P	10 59 20.5 +0.9
KAN13				IAmb	IAmb	10 59 21.6
	comp=Z,48nm,1.3s					
OK032	Salt Plains WL	70.48	338	P	P	10 59 20.4 +0.5
OK032				IAmb	IAmb	10 59 21.8
	comp=Z,18nm,1.0s					
121A	Cookes Peak, D	70.53	328	P	P	10 59 20.4 -0.2
	baz=147,SNR=7.7					
N54A	Moraine State	70.53	353	P	P	10 59 21.0 +0.8
	baz=173					
KAN09	Caldwell North	70.59	338	IAmb	IAmb	10 59 22.6
	comp=Z,32nm,1.0s					
KAN05	Bluff City Nor	70.65	338	IAmb	IAmb	10 59 23.0
	comp=Z,28nm,1.0s					
KS20	Mayfield South	70.66	338	IAmb	IAmb	10 59 23.0
	comp=Z,35nm,1.0s					
KAN08	Anthony NE Sta	70.79	338	IAmb	IAmb	10 59 23.9
	comp=Z,35nm,0.9s					
M55A	Ridgway	70.92	354	IAmb	IAmb	10 59 24.4
	comp=Z,41nm,1.1s					
TIAR	Tiarei	70.97	260	eT	T	12 16 42.7
	comp=Z,3.7nm,0.2s					
SFIN	Lafayette	70.98	348	P	P	10 59 22.1 -0.8
	baz=166,SNR=6.0					
SFIN	Lafayette	70.98	348	IAmb	IAmb	10 59 23.4
	comp=Z,33nm,1.1s					
N49A	Columbus Grove	71.02	350	P	P	10 59 22.9 -0.2
L63A	North Scituate	71.02	0	P	P	10 59 23.5 +0.4
	baz=180					
O44A	Mansfield	71.03	347	P	P	10 59 22.1 -1.0
O44A				IAmb	IAmb	10 59 23.9
	comp=Z,28nm,0.8s					
M54A	Oil Creek Stat	71.04	354	P	P	10 59 23.1 -0.1
	baz=173					
M53A	WI Miller and	71.08	353	P	P	10 59 23.2 -0.2
	baz=172,SNR=5.4					
M53A	WI Miller and	71.08	353	IAmb	IAmb	10 59 24.8
	comp=Z,35nm,1.0s					
L64A	Middleborough	71.10	1	P	P	10 59 24.5 +1.0
	baz=181					
PPT2	Papeete2	71.16	260	eS	S	11 08 41.5 -0.2
	comp=Z,142nm,25.2s					
PPT2	Papeete2	71.16	260	eLR	LR	11 20 59.5
	comp=Z,424nm,22.2s,baz=111					
P40A	Paris	71.24	344	P	P	10 59 24.7 +0.3
L58A	Harry Jones Me	71.31	357	P	P	10 59 25.3 +0.5
	baz=176					
L59A	Walton	71.41	357	IAmb	IAmb	10 59 27.9
	comp=Z,40nm,0.9s					
BINY	Binghamton	71.47	357	P	P	10 59 26.4 +0.6
	baz=176					
L56A	Greenwood	71.50	355	P	P	10 59 25.5 -0.5
HDIL	Hopedale	71.59	346	P	P	10 59 26.6 +0.1
	baz=164					
HDIL	Hopedale	71.59	346	IAmb	IAmb	10 59 27.7
	comp=Z,39nm,1.0s					
L61B	Northampton	71.61	359	P	P	10 59 26.7 0.0
	baz=179					
HRV	Adam Dziewonsk	71.67	0	P	P	10 59 28.0 +1.1
	baz=180					
ERPA	Erie	71.68	354	P	P	10 59 27.1 +0.1
	baz=173					
P38A	Dawn	71.71	342	IAmb	IAmb	10 59 28.7
	comp=Z,28nm,0.9s					
TUC	Tucson	71.77	326	P	P	10 59 29.9 +2.0
TUC				pmax	pmax	
	comp=Z,11nm,1.3s					
TUC	Tucson	71.77	326	P	P	10 59 28.6 +0.7
	baz=145					
TUC	Tucson	71.77	326	P	P	10 59 29.9 +2.0
K62A	Royalston	71.83	360	P	P	10 59 28.6 +0.7
	baz=180					
K61A	Williamstown	71.84	359	P	P	10 59 28.8 +0.8
	baz=179					
K63A	Dunstable	71.85	0	P	P	10 59 28.0 0.0
	baz=180					
ANMO	Albuquerque	71.98	331	deP	P	10 59 30.1 +0.8
ANMO				pmax	pmax	
	comp=Z,8.0nm,1.3s					
ANMO	Albuquerque	71.98	331	P	P	10 59 30.4 +1.1
	baz=149					
ANMO	Albuquerque	71.98	331	P	P	10 59 30.0 +0.8
K56A	Middlesex	72.04	356	P	P	10 59 29.5 +0.3
	baz=175					
L48A	N Adams	72.06	350	IAmb	IAmb	10 59 30.2
	comp=Z,38nm,0.9s					
MMNY	Mt. Morris Dam	72.11	355	P	P	10 59 28.3 -1.3
R32A	Long Quarter,	72.12	338	P	P	10 59 30.6 +0.7
R32A				IAmb	IAmb	10 59 32.0
	comp=Z,28nm,1.1s					
M44A	Midewin, Midew	72.14	347	IAmb	IAmb	10 59 30.8
	comp=Z,48nm,1.1s					
J62A	Henniker	72.39	360	P	P	10 59 32.1 +0.9
	baz=180					
214A	Organ Pipe Nat	72.50	324	P	P	10 59 34.0 +1.8
	baz=143,SNR=5.8					
J61A	Chester	72.51	359	P	P	10 59 32.8 +0.8
	baz=179					
J56A	Wolcott	72.59	356	IAmb	IAmb	10 59 33.9
	comp=Z,27nm,0.9s					
J57A	Williamstown	72.67	357	IAmb	IAmb	10 59 34.7
	comp=Z,30nm,1.0s					
CBKS	Cedar Bluff	72.81	337	P	P	10 59 33.3 -0.7
CBKS				pmax	pmax	
	comp=Z,27nm,0.9s					
CBKS	Cedar Bluff	72.81	337	P	P	10 59 34.7 +0.8
	baz=155,SNR=6.6					
CBKS	Cedar Bluff	72.81	337	P	P	10 59 33.3 -0.7
CBKS				IAmb	IAmb	10 59 36.2
	comp=Z,27nm,0.8s					
L44A	Lake County Fo	72.88	348	P	P	10 59 34.0 -0.2
	baz=166					
I58A	Old Forge	72.91	358	P	P	10 59 35.4 +1.0
	baz=177					
I59A	Olmsteadville	72.98	358	P	P	10 59 35.6 +0.8
	baz=178					
I60A	Shoreham	73.02	359	P	P	10 59 35.7 +0.8
	baz=179					
T25A	Trinidad	73.03	333	P	P	10 59 36.9 +1.4
	baz=151,SNR=16					
T25A	Trinidad	73.03	333	IAmb	IAmb	10 59 38.5
	comp=Z,33nm,1.2s					
I62A	Tamworth	73.03	0	P	P	10 59 36.7 +1.7
	baz=180					
L42A	Oliver, Polo	73.06	346	IAmb	IAmb	10 59 36.5
	comp=Z,37nm,1.2s					
I61A	Oroboro, Fairl	73.09	360	P	P	10 59 37.2 +1.8
	baz=180					
I64A	Boothbay	73.11	2	P	P	10 59 36.9 +1.5
	baz=182					
I57A	Carthage	73.18	357	P	P	10 59 36.8 +0.8
	baz=177					
LIC	Lamto	73.19	73	eP	P	10 59 36.6 -0.1
	comp=Z,90nm,1.1s					
I63A	Otisfield	73.22	1	P	P	10 59 37.8 +1.7
	baz=181					
I63A	Otisfield	73.22	1	P	P	10 59 37.2 +1.1
I63A				IAmb	IAmb	10 59 38.6
	comp=Z,63nm,1.4s					
PECO	Prince Edward	73.25	356	P	P	10 59 36.3 0.0
PECO				IAmb	IAmb	10 59 38.0
	comp=Z,28nm,1.1s					
J47A	Sunmer	73.38	350	IAmb	IAmb	10 59 38.1
	comp=Z,25nm,0.8s					
LBNH	Lisbon	73.40	360	P	P	10 59 38.3 +1.1
	baz=180					
TIC	Toumodi	73.42	72	eP	P	10 59 37.6 -0.5
K43A	Burlington	73.46	347	P	P	10 59 37.7 +0.1
K43A				IAmb	IAmb	10 59 38.9
	comp=Z,22nm,0.9s					
KIC	Kosan Boka	73.50	73	eP	P	10 59 38.7 +0.1
	comp=Z,41nm,0.8s					
DBIC	Dimbokro	73.57	72	P	P	10 59 36.8 -2.2
DBIC	Dimbokro	73.57	72	P	P	10 59 36.8 -2.2
W18A	Petrified Fore	73.58	328	P	P	10 59 40.3 +1.6
	baz=146					
H58A	Gabriels	73.61	358	P	P	10 59 39.5 +1.0
	baz=178,SNR=5.3					
H61A	Lyndonville	73.69	360	P	P	10 59 40.9 +2.0
	baz=180,SNR=6.3					
H57A	Richville	73.70	357	P	P	10 59 39.2 +0.3
	baz=177					
H60A	Morristown	73.72	359	P	P	10 59 40.4 +1.3
	baz=179					
H62A	Milan	73.74	0	P	P	10 59 40.4 +1.2
	baz=181					
LONY	Lake Ozonia	73.82	358	P	P	10 59 40.5 +0.8
	baz=178					
H59A	Cadyville	73.83	359	P	P	10 59 40.9 +1.2
	baz=178					
H63A	New Sharon	73.84	1	P	P	10 59 41.7 +1.9
	baz=182					
H64A	Troy	73.84	2	P	P	10 59 41.3 +1.6
	baz=182					
H65A	Eastbrook	73.93	3	P	P	10 59 41.5 +1.3
	baz=183					
SDCO	Great Sand Dun	73.98	333	P	P	10 59 43.0 +1.8
	baz=150,SNR=13					
SDCO	Great Sand Dun	73.98	333	P	P	10 59 42.8 +1.5
KSCO	Kaye Shedlock'	74.00	335	P	P	10 59 41.5 +0.5
	baz=152,SNR=7.4					
KSCO	Kaye Shedlock'	74.00	335	P	P	10 59 41.7 +0.6
KSCO				IAmb	IAmb	10 59 43.8
	comp=Z,50nm,1.1s					
FRNY	Flat Rock	74.01	359	P	P	10 59 41.3 +0.5
FRNY				IAmb	IAmb	10 59 42.9
	comp=Z,23nm,0.9s					
JFWS	Jewell Farm	74.05	346	P	P	10 59 40.1 -1.0
JFWS				pmax	pmax	
	comp=Z,36nm,1.0s					
JFWS	Jewell Farm	74.05	346	P	P	10 59 41.5 +0.4
	baz=164,SNR=6.8					
JFWS	Jewell Farm	74.05	346	P	P	10 59 40.1 -1.0
JFWS				IAmb	IAmb	10 59 42.6
	comp=Z,36nm,1.0s					
H66A	Whiting	74.06	3	P	P	10 59 42.8 +1.7
	baz=184					
SADO	Sadowa	74.23	355	IAmb	IAmb	10 59 43.5
	comp=Z,33nm,1.0s					
G63A	Kingsbury	74.30	2	P	P	10 59 43.9 +1.4
	baz=182					
K38A	Parkersburg	74.36	344	IAmb	IAmb	10 59 44.1
	comp=Z,30nm,0.9s					
G62A	West of Eustis	74.39	1	P	P	10 59 43.7 +0.7
	baz=181,SNR=8.5					
GLA	Glamis	74.40	323	P	P	10 59 45.1 +1.7
	baz=142					
G61A	St-Isidore-de-	74.44	0	P	P	10 59 44.5 +1.2
	baz=180					
PKME	Peaks-Kenny Pk	74.46	2	P	P	10 59 44.6 +1.2
	baz=182					
G65A	Princeton	74.46	3	P	P	10 59 44.9 +1.5
	baz=184					
G64A	Maxfield	74.46	2	P	P	10 59 44.6 +1.2
	baz=183					
S22A	4UR Ranch, Cre	74.52	332	P	P	10 59 44.7 +0.3
	baz=149,SNR=9.9					
L34A	Svendsen Farm,	74.66	341	IAmb	IAmb	10 59 46.0
	comp=Z,45nm,0.8s					
BGNE	Belgrade	74.67	340	P	P	10 59 45.9 +1.1
	baz=156					
WUAZ	Wupatki	74.67	327	P	P	10 59 47.0 +1.9
	baz=145,SNR=17					
WUAZ	Wupatki	74.67	327	IAmb	IAmb	10 59 48.4
	comp=Z,29nm,1.1s					
I42A	Draeger Farm,	74.72	347	IAmb	IAmb	10 59 46.4
	comp=Z,25nm,0.9s					
IKP	In-Ko-Pah, Jac	74.76	322	P	P	10 59 47.6 +2.0
	baz=141					
MVCO	Mesa Verde	74.77	330	P	P	10 59 46.9 +1.2
	baz=148,SNR=13					
MVCO	Mesa Verde	74.77	330	IAmb	IAmb	10 59 48.7
	comp=Z,25nm,1.1s					
SWSC	Sam W. Stewart	74.83	323	P	P	10 59 47.7 +1.8
	baz=141					
Q24A	Divide	74.90	334	P	P	10 59 48.1 +1.5
	baz=150,SNR=8.1					
F63A	Nahmakanta, Br	74.90	2	P	P	10 59 47.5 +1.5
	baz=182					
I40A	Norwalk	75.06	346	P	P	10 59 45.9 -1.1
I40A				IAmb	IAmb	10 59 48.4
	comp=Z,28nm,1.1s					
H43A	Windswept, Lux	75.07	348	P	P	10 59 46.3 -0.6
H43A				IAmb	IAmb	10 59 48.3
	comp=Z,34nm,0.9s					
F62A	Pittston Farm,	75.08	1	P	P	10 59 48.6 +1.7
	baz=182					
F64A	Sherman	75.09	2	P	P	10 59 48.4 +1.4
	baz=183,SNR=5.1					
MONP2	Monument Peak	75.12	322	P	P	10 59 49.0 +1.2
	baz=141,SNR=6.5					
ALGO	Algonquin Park	75.33	355	P	P	10 59 49.7 +1.3
	baz=174,SNR=5.3					
IRM	Iron Mountain	75.43	324	P	P	10 59 49.8 +0.4
	baz=142,SNR=6.9					
E60A	Ste Agathe de	75.53	0	P	P	10 59 51.1 +1.6
	baz=180					
W13A	Hualapai Mount	75.54	325	P	P	10 59 49.9 -0.3
PV01	Paradox Valley	75.58	331	P	P	10 59 50.2 -0.2
PV01				IAmb	IAmb	10 59 53.6
	comp=Z,33nm,1.4s					
E61A	Lac Etchemin	75.60	1	P	P	10 59 51.6 +1.6
	baz=181					
E63A	Oxbow	75.64	2	P	P	10 59 51.4 +1.2
	baz=183					
E64A	Bridgewater	75.66	3	P	P	10 59 51.8 +1.5
	baz=184					
TPFO	Pinon Flats	75.69	323	P	P	10 59 52.4 +1.4
	baz=141,SNR=7.5					
PFO	Pinyon Flats O	75.69	323	P	P	10 59 49.0 -2.0
PFO				pmax	pmax	
	comp=Z,13nm,1.2s					
PFO	Pinyon Flats O	75.69	323	P	P	10 59 52.6 +1.6
	baz=141,SNR=6.8					
PFO	Pinyon Flats O	75.69	323	P	P	10 59 49.0 -2.0
PV13	Radium Mtn., P	75.71	331	P	P	10 59 50.5 -0.6
PV13				IAmb	IAmb	10 59 53.9
	comp=Z,21nm,1.1s					
PV02	Paradox Valley	75.71	331	P	P	10 59 50.9 -0.2
PV15	Paradox Valley	75.72	331	IAmb	IAmb	10 59 54.5
	comp=Z,26nm,1.3s					
BELC	Belle Mtn. Jos	75.75	323	P	P	10 59 52.9 +1.5
	baz=141					
PV05	Paradox Valley	75.76	330	P	P	10 59 51.8 +0.4
PV05				IAmb	IAmb	10 59 54.1
	comp=Z,40nm,1.5s					
PV03	Paradox Valley	75.80	331	P	P	10 59 52.4 +0.8
ISCO	Idaho Springs	75.80	334	P	P	10 59 52.6 +0.9
ISCO				pmax	pmax	
	comp=Z,12nm,1.1s					
ISCO	Idaho Springs	75.80	334	P	P	10 59 53.1 +1.4
	baz=150,SNR=10					
ISCO	Idaho Springs	75.80	334	P	P	10 59 52.5 +0.9
SMCO	Snowmass	75.81	332	P	P	10 59 52.4 +0.6
SMCO				IAmb	IAmb	10 59 55.1
	comp=Z,35nm,1.1s					
I37A	Lemond, Waseca	75.81	344	P	P	10 59 51.4 +0.1
E62A	Clayton Lake	75.81	2	P	P	10 59 53.0 +1.9
	baz=182					
PV18	Skein Mesa, Pa	75.82	331	P	P	10 59 53.2 +1.5
PV12	Saucer Basin,	75.83	331	P	P	10 59 52.0 +0.2
PV11	David Mesa, Pa	75.85	331	P	P	10 59 53.2 +1.3
PV11				IAmb	IAmb	10 59 54.6
	comp=Z,57nm,1.7s					
PV07	Paradox Valley	75.87	331	P	P	10 59 51.6 -0.4
PV17	East Wray Mesa	75.87	331	IAmb	IAmb	10 59 54.6
	comp=Z,45nm,1.6s					
PV16	Nyswonger Mesa	75.88	331	P	P	10 59 51.6 -0.5
PV16				IAmb	IAmb	10 59 54.8
	comp=Z,44nm,1.7s					
PV19	Morning Glory	75.90	331	P	P	10 59 52.0 -0.2
PV19				IAmb	IAmb	10 59 54.9
	comp=Z,34nm,1.7s					
PV20	West Nyswonger	75.92	331	P	P	10 59 53.9 +1.6

PV04 Paradox Valley 75.94 331 P P 10 59 51.8 -0.6
PV04 IAmb IAmb 10 59 55.3
comp=Z,24nm,1.3s
PV14 Lion Creek, Pa 75.97 331 P P 10 59 54.3 +1.7
PV14 IAmb IAmb 10 59 55.3
comp=Z,22nm,1.1s
PV10 Paradox Valley 75.98 331 IAmb IAmb 10 59 54.9
comp=Z,18nm,0.9s
PV22 Blue Mesa, Par 76.01 331 P P 10 59 53.0 +0.3
PV22 IAmb IAmb 10 59 56.7
comp=Z,45nm,1.7s
MURC Murrieta 76.07 322 P P 10 59 55.0 +2.0
baz=140
D60A Saint Jean D'O 76.08 1 P P 10 59 54.1 +1.5
baz=181
GMRC Granite Mounta 76.19 324 P P 10 59 55.0 +1.2
baz=142,SNR=12
D58A Chemin du LacG 76.26 359 P P 10 59 54.9 +1.2
baz=179,SNR=10
D63A Stockholm 76.27 3 P P 10 59 55.2 +1.5
baz=183
D62A Allapoint, All 76.28 2 P P 10 59 55.1 +1.2
baz=183,SNR=6.1
G40A Rib Lake 76.30 347 IAmb IAmb 10 59 55.5
comp=Z,24nm,1.2s
ECSD EROS Data Cent 76.37 342 P P 10 59 54.7 +0.3
baz=158,SNR=44
E46A Sault Ste Mari 76.38 351 IAmb IAmb 10 59 55.6
comp=Z,44nm,0.9s
D61A St Aubert, Com 76.38 1 P P 10 59 55.2 +0.9
baz=182
LATQ La Tuque 76.55 359 P P 10 59 56.4 +1.1
baz=179
KNB Kanab 76.57 327 IAmb IAmb 10 59 59.4
comp=Z,39nm,1.2s
HEC Hector,Ludlow 76.57 324 P P 10 59 58.1 +2.2
baz=141,SNR=9.0
CIS Catalina Islan 76.58 321 P P 10 59 56.7 +0.8
baz=140
E43A Lone Tree Farm 76.78 349 P P 10 59 56.1 -0.6
E43A IAmb IAmb 10 59 58.2
comp=Z,21nm,0.8s
BFSC Mount Baldy Ra 76.81 322 P P 10 59 58.4 +1.0
baz=140,SNR=7.0
SPMN Marine on St. 76.81 345 P P 10 59 57.4 +0.5
baz=161,SNR=7.4
SPMN Marine on St. 76.81 345 IAmb IAmb 10 59 58.0
comp=Z,22nm,0.9s
SUR Sutherland 76.83 120 P P 10 59 58.3 +0.5
SUR IAmb IAmb 11 00 00.0
comp=Z,31nm,0.9s
TUQ Turquoise Moun 76.83 324 P P 10 59 59.4 +1.9
baz=142
N23A Red Feather La 76.88 334 P P 10 59 59.6 +1.8
baz=150,SNR=10
COWI Conover 76.89 348 IAmb IAmb 10 59 59.0
comp=Z,24nm,1.1s
SNCC San Nicolas Is 77.08 320 P P 10 59 59.9 +1.2
baz=139
O20A White River Ci 77.13 332 P P 11 00 00.6 +1.5
baz=148,SNR=24
O20A White River Ci 77.13 332 IAmb IAmb 11 00 02.1
comp=Z,41nm,1.1s
GSC Goldstone, Bar 77.18 324 P P 11 00 01.2 +1.8
baz=141,SNR=9.7
CCUT Cedar City 77.25 327 IAmb IAmb 11 00 03.5
comp=Z,23nm,1.1s
SHOC Shoshone, Teco 77.37 324 P P 11 00 01.6 +1.3
baz=141
MAW Mawson 77.41 164 P P 11 00 00.2 +0.1
comp=Z,27nm,0.9s,baz=213,slow=6.4,SNR=47
EDW2 Edwards Air Fo 77.48 323 P P 11 00 02.4 +1.4
baz=140,SNR=6.1
F36A Milaca 77.58 345 IAmb IAmb 11 00 02.4
comp=Z,20nm,0.8s
P17A Butcher Ranch, 77.63 330 P P 11 00 02.1 +0.3
P17A IAmb IAmb 11 00 04.6
comp=Z,27nm,1.1s
LRMC Laurel Mtn Rad 77.77 323 P P 11 00 04.1 +1.4
baz=140
E38A The Farm, Brul 77.85 346 IAmb IAmb 11 00 04.0
comp=Z,21nm,1.0s
RDMU Red Mountain 78.05 332 IAmb IAmb 11 00 06.8
comp=Z,33nm,1.1s
SBC Santa Barbara 78.07 321 P P 11 00 05.5 +1.3
baz=139
FURC Furnace Creek, 78.11 324 P P 11 00 06.2 +1.8
baz=141,SNR=9.5
TPNV Topopah Spring 78.18 325 P P 11 00 06.8 +1.8
baz=142,SNR=15
PSUT Pine Spring 78.27 328 P P 11 00 04.7 -0.8
ISA Isabella, Lake 78.33 323 P P 11 00 05.8 +0.1
ISA pmax pmax
comp=Z,18nm,1.1s
ISA Isabella, Lake 78.33 323 P P 11 00 07.4 +1.7
baz=140,SNR=14
ISA Isabella, Lake 78.33 323 P P 11 00 05.8 +0.1
LSQQ Lebel-sur-Quev 78.36 357 P P 11 00 05.4 0.0
baz=176
PKM Mcpherson Peak 78.46 321 P P 11 00 08.7 +2.1
baz=139,SNR=10.0
MPU Maple Canyon 78.47 330 IAmb IAmb 11 00 09.3
comp=Z,22nm,1.1s
KOWA Kowa 78.61 66 P P 11 00 07.8 +0.2
KOWA IAmb IAmb 11 00 08.9
comp=Z,39nm,0.8s
K22A Casper 78.61 335 P P 11 00 08.6 +1.4
baz=150,SNR=21
K22A Casper 78.61 335 IAmb IAmb 11 00 10.0
comp=Z,43nm,0.9s
NLU North Lily Min 78.61 330 IAmb IAmb 11 00 10.3
comp=Z,29nm,1.5s
CWC Cottonwood Cre 78.72 324 P P 11 00 08.3 +0.4
baz=140
GRAC Grapevine Rang 78.78 324 P P 11 00 09.4 +1.2
baz=141
VES Vestal, Richgr 78.79 322 P P 11 00 09.7 +1.6
baz=139,SNR=9.9
SMMC Simmler 78.88 322 P P 11 00 10.8 +2.0
baz=139,SNR=7.7
R11A Troy Canyon, C 78.95 326 P P 11 00 11.0 +1.8
baz=142,SNR=5.1
RSSD Black Hills 79.00 337 P P 11 00 08.9 -0.5
RSSD pmax pmax
comp=Z,19nm,0.8s
RSSD Black Hills 79.00 337 P P 11 00 10.6 +1.2
baz=152
RSSD Black Hills 79.00 337 P P 11 00 08.9 -0.5
RSSD IAmb IAmb 11 00 11.8
comp=Z,19nm,0.8s
MATQ Matagami 79.09 356 P P 11 00 09.6 +0.1
baz=175
CHGQ Chibougamau 79.11 358 P P 11 00 10.0 +0.4
baz=178
EYMN Ely 79.12 347 P P 11 00 09.5 -0.1
baz=163,SNR=6.1
DUG Dugway, Tooele 79.13 329 P P 11 00 11.9 +1.8
DUG pmax pmax
comp=Z,21nm,1.2s
DUG Dugway, Tooele 79.13 329 P P 11 00 11.5 +1.3
baz=145,SNR=16
TIN Tinemaha, Big 79.26 324 P P 11 00 12.8 +1.9
baz=140,SNR=13
DRLN Deer Lake 79.45 9 P P 11 00 12.2 +0.8
DRLN IAmb IAmb 11 00 13.3
comp=Z,39nm,0.9s
D32A Dogwood Acres, 79.62 343 IAmb IAmb 11 00 14.2
comp=Z,46nm,1.0s
HWUT Hardware Ranch 79.75 331 IAmb IAmb 11 00 15.7
comp=Z,32nm,0.8s
BW06 Boulder Array 79.88 333 P P 11 00 14.8 +0.6
baz=147,SNR=15
BW06 Boulder Array 79.88 333 P P 11 00 13.6 -0.7
PD31 Pinedale Array 79.88 333 P P 11 00 13.8 -0.5
PDAR Pinedale Array 79.88 333 P P 11 00 14.9 +0.7
comp=Z,5.5nm,0.9s,baz=145,slow=5.4,SNR=36
PDAR LR LR 11 34 28.3
comp=Z,867nm,21.9s,baz=120,slow=35
B35A Bob, Littlefor 79.98 345 IAmb IAmb 11 00 15.7
comp=Z,25nm,1.0s
MLAC Mammoth, Mammo 80.01 324 P P 11 00 16.4 +1.3
baz=140,SNR=6.8
E28A Huff 80.13 340 IAmb IAmb 11 00 17.4
comp=Z,44nm,0.9s
TSUM Tsumeb 80.25 106 P P 11 00 16.8 0.0
TSUM IAmb IAmb 11 00 28.8
comp=Z,60nm,1.2s

LHV Little Huntoon 80.32 324 P P 11 00 15.8 -0.5
NVAR Mina Array Bea 80.35 325 P P 11 00 18.2 +1.3
comp=Z,3.6nm,0.8s,baz=159,slow=6.7,SNR=32
AGMN Agassiz Nation 80.42 344 P P 11 00 17.2 +0.5
baz=159,SNR=15
AGMN Agassiz Nation 80.42 344 IAmb IAmb 11 00 18.2
comp=Z,26nm,0.9s
AHID Auburn Hatcher 80.51 332 IAmb IAmb 11 00 19.8
comp=Z,32nm,1.2s
MDND Maddock 80.97 341 P P 11 00 20.5 +0.8
baz=156,SNR=16
MDND Maddock 80.97 341 P P 11 00 19.9 +0.2
LOHW Long Hollow 81.01 333 P P 11 00 18.7 -1.6
FLWY Flagg Ranch 81.44 333 IAmb IAmb 11 00 25.2
comp=Z,24nm,0.9s
H17A Grant Village 81.65 333 P P 11 00 25.3 +1.6
baz=147
RLMT Red Lodge 81.75 334 P P 11 00 25.3 +1.1
baz=148,SNR=13
YNE Yellowstone No 81.94 334 P P 11 00 26.2 +1.0
BOSA Boshof 81.97 118 P P 11 00 25.8 0.0
comp=Z,12nm,0.4s,baz=246,slow=3.5,SNR=42
BOSA Boshof 81.97 118 P P 11 00 24.5 -1.3
BOSA IAmb IAmb 11 00 26.6
comp=Z,36nm,1.1s
LAO LASA Array 81.99 337 P P 11 00 26.2 +1.0
baz=150,SNR=20
LAO LASA Array 81.99 337 P P 11 00 25.3 +0.1
LAO IAmb IAmb 11 00 27.4
comp=Z,40nm,1.0s
YMR Madison River 82.03 333 IAmb IAmb 11 00 28.6
comp=Z,30nm,0.9s
YHH Holmes Hill 82.08 333 IAmb IAmb 11 00 28.8
comp=Z,24nm,1.0s
ULM Lac du Bonnet 82.24 345 P P 11 00 26.9 +0.5
comp=Z,30nm,0.9s,baz=161,slow=4.1,SNR=30
ULM Lac du Bonnet 82.24 345 IAmb IAmb 11 00 27.6
comp=Z,37nm,0.9s
QLMT Earthquake Lak 82.35 333 P P 11 00 26.7 -0.6
GCMT Greycliff 82.47 334 P P 11 00 26.2 -1.7
TORD Torodi Ar. Bea 82.49 70 P P 11 00 28.4 0.0
comp=Z,23nm,0.7s,baz=273,slow=4.5,SNR=117
TORD Torodi Ar. Bea 82.49 70 P P 11 00 28.2 -0.2
TORD IAmb IAmb 11 00 39.9
comp=Z,32nm,1.1s
HLID Hailey 82.56 330 P P 11 00 29.4 +1.0
baz=144,SNR=33
HLID Hailey 82.56 330 P P 11 00 29.1 +0.7
HLID IAmb IAmb 11 00 31.2
comp=Z,21nm,1.0s
ORV Oroville 82.83 324 IAmb IAmb 11 00 32.7
comp=Z,41nm,1.3s
BOZ Bozeman (W) 83.06 333 P P 11 00 30.6 -0.4
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 83.06 333 P P 11 00 31.6 +0.6
baz=146,SNR=7.7
BOZ Bozeman (W) 83.06 333 P P 11 00 30.6 -0.4
DLMT Dillon 83.26 332 P P 11 00 31.8 -0.2
O03E Paynes Creek 83.54 324 P P 11 00 33.6 +0.1
baz=138,SNR=5.6
O02D Mt. Diablo Mer 83.96 323 P P 11 00 35.5 -0.1
baz=137
LBTB Lobatse 84.00 115 P P 11 00 35.5 -0.9
LBTB Lobatse 84.00 115 P P 11 00 35.5 -0.9
J08A Circle Bar Ran 84.22 328 P P 11 00 37.5 +0.6
EGMT Eagleton 84.38 335 P P 11 00 38.3 +0.8
baz=148
CASY Casey 84.49 181 P P 11 00 38.3 +0.4
N02D Trinity Center 84.50 324 P P 11 00 38.4 +0.1
baz=137
M04C Macdoel 84.66 325 P P 11 00 40.3 +1.1
baz=138,SNR=7.6
BMO Blue Mountains 84.85 329 IAmb IAmb 11 00 41.9
comp=Z,34nm,1.9s
MSO Missoula 84.99 332 P P 11 00 41.6 +0.9
baz=144
L04D Klamath Falls 85.21 325 P P 11 00 42.5 +0.5
baz=138
I07A Izee 85.25 328 IAmb IAmb 11 00 44.8
comp=Z,16nm,1.1s
J05D Fort Rock, OR 85.48 326 P P 11 00 44.7 +1.5
baz=139,SNR=7.5
F10A Beach Ranch, E 85.69 330 P P 11 00 44.2 0.0
PINE Pine Mountain 85.71 327 P P 11 00 44.3 -0.2
PINE IAmb IAmb 11 00 47.4
comp=Z,25nm,0.9s
L02E Cave Junction 85.83 324 P P 11 00 45.8 +1.0
baz=137
J04D Umpqua Nationa 85.87 326 P P 11 00 46.8 +1.5
baz=138,SNR=5.4
JTMT Jette 85.87 333 IAmb IAmb 11 00 47.2
comp=Z,14nm,0.8s
G08A Pilot Rock 85.93 329 IAmb IAmb 11 00 47.8
comp=Z,40nm,1.9s
K02D Willamette Mer 86.25 324 P P 11 00 48.5 +1.5
baz=137,SNR=8.6
I05D Terrebonne, OR 86.31 327 P P 11 00 48.8 +1.5
baz=138,SNR=12
WALA Waterton Lakes 86.79 334 IAmb IAmb 11 00 51.5
comp=Z,34nm,1.1s
I03D Drain, OR 86.82 325 P P 11 00 51.1 +1.4
baz=137
H04A Detroit Lake 86.98 327 IAmb IAmb 11 00 52.3
comp=Z,24nm,0.9s
G05D Wamic, OR 86.98 327 P P 11 00 52.1 +1.7
baz=139,SNR=7.6
HAWA Hanford 87.03 329 P P 11 00 50.6 0.0
HAWA IAmb IAmb 11 00 53.0
comp=Z,16nm,0.9s
LTZ Lake Taylor 87.08 222 P P 11 00 52.4 +1.1
RPZ Rata Peaks 87.19 220 P P 11 00 52.2 +0.4
NEW Newport 87.44 332 P P 11 00 53.1 +0.4
baz=142
COR Corvallis 87.44 326 P P 11 00 54.4 +1.7
COR pmax pmax
comp=Z,45nm,1.0s
COR Corvallis 87.44 326 P P 11 00 54.4 +1.7
F05D White Salmon 87.53 328 P P 11 00 54.4 +1.3
baz=138
C09A Chrisman Ranch 87.56 331 IAmb IAmb 11 00 55.0
comp=Z,14nm,0.8s
FFC Flin Flon 87.84 343 P P 11 00 54.4 +0.1
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 87.84 343 P P 11 00 54.4 +0.1
LTY Liberty 88.20 329 IAmb IAmb 11 00 58.1
comp=Z,24nm,1.4s
E04D Cinebar 88.54 328 P P 11 00 58.7 +0.9
baz=138
D04E Lakebay 89.09 328 P P 11 01 02.0 +1.6
baz=138
D03D Eldon 89.50 328 P P 11 01 03.0 +0.7
baz=137,SNR=6.9
B05A Bryant 89.59 329 P P 11 01 03.4 +0.7
baz=138
FCC Fort Churchill 89.89 349 IAmb IAmb 11 01 05.7
comp=Z,27nm,0.8s
A05A Maple Falls 90.13 330 IAmb IAmb 11 01 06.6
comp=Z,16nm,0.8s
ESDC Sonseca Array 93.31 46 P P 11 01 20.9 +0.6
comp=Z,1.2nm,0.8s,baz=248,slow=5.1,SNR=6.2
YKA Yellowknife Ar 97.89 341 P P 11 01 40.5 -0.1
comp=Z,3.6nm,0.9s,baz=143,slow=4.7,SNR=12
L27K Beaver Creek, 107.51 333 P PKiKP 11 06 31.9 +0.3
baz=121
GERES GERESS Array B 108.82 44 PKiKP PKiKP 11 06 34.7 +0.2
comp=Z,1.1nm,0.7s,baz=202,slow=1.4,SNR=8.8
ILAR Eielson Array 110.30 334 PKiKP PKiKP 11 06 37.4 +0.7
comp=Z,0.4nm,0.8s,baz=314,slow=1.3,SNR=5.5
H24K Noodor Dome 111.13 335 P PKiKP 11 06 39.1 +0.8
baz=115
BPAW Bear Paw Mtn. 111.64 332 P PKiKP 11 06 39.8 +0.5
baz=113
H23K Yukon River 111.75 334 P PKiKP 11 06 40.3 +0.8
baz=114
VYHS Vyhne 111.85 46 *e*P Pdif 11 02 44.8 +1.7
VYHS Vyhne 111.85 46 *e*PDIFF Pdif 11 02 44.8 +1.7
N19K Bonanza Creek 111.90 328 P PKiKP 11 06 40.5 +0.6
baz=111
N18K Kilae Creek 112.50 328 P PKiKP 11 06 41.2 +0.2
baz=110
TOLK Toolik Lake Re 112.87 337 P PKiKP 11 06 42.3 +0.7
baz=112
H21K Melozitna Rive 112.94 334 P PKiKP 11 06 42.2 +0.5
baz=111
TTA Tatalina 113.32 330 P PKiKP 11 06 43.6 +1.0

baz=109
FALS False Pass 114.48 321 P PKiKP 11 06 45.2 +0.3
baz=107
AKASG Malin Array Be 118.95 46 PKP PKPdf 11 06 53.0 -0.6
comp=Z,4.5nm,0.6s,baz=264,slow=2.8,SNR=25
AKASG Malin Array Be 118.95 46*c i* PKIKP PKPdf 11 06 53.4 -0.3
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 118.95 46 PKPdf PKPdf 11 06 51.9 -1.8
FINES FINESS Array B 119.15 33 PKP PKiKP 11 06 54.2 +0.4
comp=Z,3.3nm,0.8s,baz=191,slow=9.3,SNR=9.7
BRTR Keskin Array B 119.39 59 PKP PKPdf 11 06 55.0 -0.1
comp=Z,4.4nm,0.8s,baz=186,slow=2.5,SNR=25
BRTR Keskin Array B 119.39 59*c i* PKIKP PKiKP 11 06 55.5 +0.3
BRTR pmax pmax
comp=Z,4.0nm,0.8s
ASAR Alice Springs 121.64 208 PKP PKPdf 11 06 58.8 -1.1
comp=Z,1.6nm,0.8s,baz=156,slow=1.9,SNR=10
ASAR PKKPbc **PKKPbc 11 16 59.4 +0.6**
comp=Z,1.2nm,0.6s,baz=329,slow=2.6,SNR=7.1
OBN Obninsk 123.97 41 *i* PKIKP PKPdf 11 07 02.5 -0.6
OBN pmax pmax
comp=Z,18nm,1.1s
SOC Sochi 124.67 55 *i* PKIKP PKPdf 11 07 04.6 -0.3
SOC *e* 11 08 53.7
SOC *e*PPP PPP 11 11 29.9
SOC *e*PS **PS 11 18 44.4 -7.6**
SOC *e*SSS SSS 11 30 17.6
WRA Warramunga Arr 124.75 210 PKP PKPdf 11 07 05.2 -0.7
comp=Z,4.6nm,0.6s,baz=157,slow=1.6,SNR=73
WRAB Tennant Creek 124.76 210⇑ *i*PKIKP PKPdf 11 07 04.0 -1.9
LPSR Galich'ya Gora 125.20 44 *e*PKIKP PKPdf 11 07 05.0 -0.6
LPSR pmax pmax
comp=Z,20nm,0.8s
VORD Divnogorie 125.30 46 *e*PKIKP PKPdf 11 07 05.3 -0.5
VORD pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 125.62 34 *e*PKIKP PKPdf 11 07 03.7 -2.4
KLMR pmax pmax
comp=Z,63nm,1.3s
KLMR Klimovskoe 125.62 34 *e*PKPdf PKPdf 11 07 03.7 -2.4
KLMR AMP 11 07 08.2
comp=Z,63nm,1.3s
KLMR *e*PP PP 11 08 45.9 -12
H11S2 WAKE ISLAND Hyl 25.94 272 T T 13 26 00.2
baz=115,slow=75,SNR=55
H11S1 WAKE ISLAND Hyl 25.95 272 T T 13 25 57.6
baz=115,slow=75,SNR=75
H11S3 WAKE ISLAND Hyl 25.96 272 T T 13 25 58.0
baz=115,slow=75,SNR=73
H11N3 WAKE ISLAND Hyl 26.24 274 T T 13 26 22.8
baz=113,slow=75,SNR=20
H11N1 WAKE ISLAND Hyl 26.25 274 T T 13 26 23.9
baz=113,slow=75,SNR=10
H11N2 WAKE ISLAND Hyl 26.25 274 T T 13 26 20.1
baz=113,slow=75,SNR=39
VRH Novokhopyorsk 126.85 46 *e*PKIKP PKPdf 11 07 07.8 -1.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIV Kislovodsk 126.85 55 *e*PKIKP PKiKP 11 07 09.6 -0.1
KIV pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 126.97 56 PKP PKiKP 11 07 10.2 +0.5
comp=Z,9.7nm,0.9s,baz=220,slow=3.6,SNR=16
RST Umm Al-Ruwaisa 127.30 74 *e*P PKiKP 11 07 10.7 -0.2
GNI Garni 127.82 60⇓ *i*PKIKP PKiKP 11 07 12.0 +0.2
QRN Al-Qurain 127.86 75 *e*P PKiKP 11 07 12.4 +0.3
UMR Umm Al-Rimmam 127.91 74 *e*P PKiKP 11 07 12.5 +0.4
PRGR Permogore 128.48 33 *e*PKIKP PKPdf 11 07 10.9 -0.7
BILL Bilibino 128.88 336 *i* PKIKP PKiKP 11 07 13.3 +0.4
BILL *i* 11 09 17.9
BILL *e*SS SS 11 26 56.3 +19
BILL pmax pmax
comp=Z,17nm,1.1s
BILL MLR MLR
comp=Z,512nm,18.0s
ARU Arti 136.14 38 *i* PKIKP PKiKP 11 07 27.3 -0.6
ARU 11 10 08.2
TIXI Tiksi 136.33 351*c i*PKIKP PKPdf 11 07 26.8 +0.7
PETK Petropavlovsk- 137.10 318 PKP PKiKP 11 07 29.1 -0.9
comp=Z,16nm,0.9s,baz=156,slow=4.0,SNR=16
GEYT Alibeck 137.91 65 PKP PKPdf 11 07 29.3 -0.9
comp=Z,300nm,1.1s,baz=288,slow=3.0,SNR=4.5
SKR Severo-Kuril's 138.59 314*c i*PKIKP PKPdf 11 07 31.2 +0.3
BRVK Borovoye 143.68 39*c i*PKIKP PKPdf 11 07 38.8 -1.2
KAPI Kappang 143.93 200 PKP PKPbc 11 07 40.2 +0.8
comp=Z,21nm,0.7s,baz=274,slow=0.8,SNR=16
KAPI Kappang 143.93 200 PKPdf PKPab 11 07 38.5 -0.3
YAK Yakutsk 144.56 343 *e*PKIKP PKPbc 11 07 40.0 +0.1
YAK *e* 11 10 57.0
YAK pmax pmax
comp=Z,176nm,1.1s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,12nm,1.3s
YAK pmax pmax
comp=Z,136nm,3.8s
YAK pmax pmax
comp=N,79nm,4.1s
YAK pmax pmax
comp=E,49nm,3.5s
KUR Kuril'sk 145.19 308*ce*PKIKP PKPdf 11 07 43.4 +0.5
TYV Tymovskoe 146.59 319 *e*PKP2 PKPbc 11 07 46.3 -0.3
TYV pmax pmax
comp=Z,400nm,3.7s
TYV pmax pmax
comp=Z,60nm,1.0s
UGL Uglegorsk 147.71 317 *e*PKIKP PKPdf 11 07 48.2 +1.2
YSS Yuzh-Sakhalins 148.10 313 *i* PKP2 PKPbc 11 07 50.7 -0.2
YSS *e* 11 11 17.9
YSS *e*SS SS 11 30 28.7 +3.1
YSS pmax pmax
comp=Z,40nm,0.9s
ERM Erimo 149.24 303⇑ *e*PKHKP PKPdf 11 07 48.9 -0.8
EKS2 Erkin-Say 149.45 55 P PKPdf 11 07 51.6 +1.3
SNR=33
AML Almayashu 149.51 56 P PKiKP 11 07 56.8 +0.5
SNR=17
USP Ospenovka 149.81 54 P PKiKP 11 07 56.2 -0.3
SNR=34
AAK Ala-Archa 149.97 55 P PKiKP 11 07 57.6 +0.6
SNR=24
AAK Ala-Archa 149.97 55⇑ *e*PKHKP PKPdf 11 07 52.5 +1.4
CHMS Chumysh 150.06 54 P PKPbc 11 07 54.0 -2.1
SNR=16
ZALV Zalesovo Beam 150.25 28 PKP PKPdf 11 07 51.4 +0.4
comp=Z,13nm,0.8s,baz=298,slow=3.2,SNR=38
ZALV PKPbc **PKiKP 11 07 56.8 -0.1**
comp=Z,120nm,0.8s,baz=298,slow=3.2,SNR=106
KBK Karagaybulak 150.29 55 P PKiKP 11 07 58.1 +0.5
SNR=13
HYB Hyderabad 150.33 107 *i* PKP PKPbc 11 07 56.0 -1.5
ULHL Ulahol 151.32 55 P PKiKP 11 08 00.8 +1.0
SNR=31
BOD Bodaibo 151.42 354 *e*PKIKP PKPdf 11 07 51.9 -0.7
BOD pmax pmax
comp=Z,46nm,1.7s
KSH Kashi 151.75 61 PKPbc PKiKP 11 08 00.6 -0.1
KSH PP **PP 11 11 35.9 -5.0**
KSH SKS **SKSdf 11 15 04.0 +2.6**
KSH AMB AMB
comp=Z,60nm,2.4s
KSH LR LR
comp=N,410nm,7.8s
KSH LR LR
comp=E,260nm,6.9s
KSH LR LR
comp=Z,170nm,6.6s
ZEA Zeya 152.10 336 *e*PKIKP PKPdf 11 07 54.5 +0.7
ZEA pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 153.47 42 PKP PKPdf 11 07 55.8 -0.3
comp=Z,4.6nm,0.8s,baz=314,slow=1.3,SNR=34
MKAR PKPbc **PKiKP 11 08 04.4 +0.5**
comp=Z,15nm,0.7s,baz=314,slow=2.2,SNR=52
MJAR Matsushiro Arr 153.97 293 PKPbc PKiKP 11 08 05.4 +0.2
comp=Z,1.3nm,0.4s,baz=139,slow=38,SNR=4.9
MJAR PKPab **PKPab 11 08 17.7 -0.8**
comp=Z,14nm,1.0s,baz=128,slow=1.9,SNR=13
USRK Ussuriysk Ar. 156.11 314 PKP PKPdf 11 08 00.0 +0.3
comp=Z,1.0nm,0.6s,baz=102,slow=8.0,SNR=5.8
USRK PKPbc **sPKPdf 11 08 09.8 +5.7**
comp=Z,4.1nm,1.0s,baz=36,slow=3.5,SNR=7.1
USRK PKPab **PKPab 11 08 28.3 +1.0**
comp=Z,4.1nm,1.0s,baz=73,slow=3.0,SNR=5.6

IRK	Irkutsk	157.11	6	ePKIKP	PKPdf	11 07 59.9	-0.9
IRK				pmax	pmax		
comp=Z,26nm,1.5s							
MDJ	Mudanjiang	157.34	318	PKP	PKPdf	11 08 01.4	+0.1
TLY	Talaya	157.60	7	iPKIKP	PKPdf	11 08 01.8	+0.3
TLY				pmax	pmax		
comp=Z,31nm,1.3s							
WMQ	Urumqi	158.29	43	ePKP	PKPdf	11 08 02.4	-0.3
WMQ				LR	LR		
comp=Z,560nm,18.7s							
WMQ				LR	LR		
comp=Z,490nm,19.7s							
WMQ				LR	LR		
comp=Z,760nm,20.5s							
ZAK	Zakamensk	158.83	9	ePKIKP	PKPdf	11 08 03.8	+0.7
ZAK				pmax	pmax		
comp=Z,6.0nm,1.4s							
CN2	Changchun	160.20	321	ePKP	PKPdf	11 08 05.8	+1.0
CN2				PP	PP	11 12 31.0	+4.0
CN2				LR	LR		
comp=Z,700nm,22.0s							
CN2				LR	LR		
comp=Z,400nm,22.0s							
CN2				LR	LR		
comp=Z,700nm,25.0s							
SONM	Songino Array	161.66	4	PKP	PKPdf	11 08 06.6	+0.2
comp=Z,3.5nm,1.0s,baz=205,slow=0.6,SNR=11							
SONM				PKPab	PKPab	11 08 52.5	+1.2
comp=Z,4.3nm,0.9s,baz=333,slow=3.5,SNR=9.7							
SONM				PP	PP	11 12 35.4	+1.2
comp=Z,0.4nm,0.4s,baz=347,slow=6.1,SNR=4.3							
KSRS	Korea Array	161.78	301	PKP	PKPdf	11 08 07.0	+0.3
comp=Z,1.6nm,0.9s,baz=174,slow=1.3,SNR=4.5							
KSRS	Korea Array	161.78	301	PKIKP	PKPdf	11 08 07.0	+0.3
CMAR	Chiang Mai Arr	166.11	140	PKP	PKPdf	11 08 11.7	+0.5
comp=Z,0.5nm,0.3s,baz=263,slow=1.4,SNR=5.8							
CMAR				PKPab	PKPab	11 09 10.5	-1.0
comp=Z,3.7nm,0.9s,baz=238,slow=5.4,SNR=11							
PANO	Nakornpanom	167.25	164	PKP	PKPdf	11 08 12.4	+0.3
GTA	Gaotai	167.94	33	⇓PKP	PKPdf	11 08 13.0	+0.9
GTA				pPKP	sPKPdf	11 08 19.5	+3.0
GTA				PKPab	PKPab	11 09 19.8	+0.5
GTA				LR	LR		
comp=Z,490nm,24.0s							
GTA				LR	LR		
comp=Z,410nm,23.3s							
GTA				LR	LR		
comp=Z,750nm,24.0s							
HHC	Hu-ho-hao-te	168.37	347	ePKP	PKPdf	11 08 07.8	-4.5
NJ2	Nanjing	170.51	288	ePKP	PKPdf	11 08 13.1	-0.6
LZH	Lanzhou	172.49	28	ePKP	PKPdf	11 08 16.1	+1.3
KMI	Kunming	173.45	131	⇑PKP	PKPdf	11 08 14.6	-1.0
KMI				SKKS		11 20 24.3	
KMI				SS	SS	11 34 48.3	-3.8
KMI				LR	LR		
comp=Z,380nm,28.9s							
KMI				LR	LR		
comp=Z,420nm,28.9s							
KMI				LR	LR		
comp=Z,800nm,27.4s							
XAN	Xi'an	175.45	353	PKP	PKPdf	11 08 17.3	+1.5
GYA	Guiyang	176.66	155	⇑PKP	PKPdf	11 08 16.6	+0.2

NEIC **16** *10:51:40.5±1.4, 19°.70N±0°.10×65°.43W±0°.04, h38km±46km, Error ellipse: s-maj=14.5km s-min=5.6km az=182.0*
RSPR **16** *10:51:41.9, 19°.60N×65°.50W, h72km±9km, MD3.5/8*
ISC 16 10:51:43.2±2.0, 19°.6N±0°.1×65°.51W±0°.04, h35km, n57, σ0s87/60, 7C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.25	170	⇑iP		Pn	10 52 03.5	-0.8
CUPR	Culebra, Puert	1.25	170	eS		Sn	10 52 20.5	+0.6
CUPR	Culebra, Puert	1.25	170			Pn	10 52 03.5	-0.8
CUPR						Sn	10 52 20.5	+0.6
CUPR	Culebra, Puert	1.25	170	IAML			10 52 22.9	
comp=N,330nm,0.5s								
CUPR				IAML			10 52 23.9	
comp=E,258nm,0.5s								
STVI	Saint Thomas	1.30	156	⇑eP		Pn	10 52 04.1	-0.9
STVI	Saint Thomas	1.30	156	eS		Sn	10 52 21.6	+0.5
STVI	Saint Thomas	1.30	156			Pn	10 52 04.1	-0.9
STVI						Sn	10 52 21.6	+0.5
STVI	Saint Thomas	1.30	156	IAML			10 52 36.5	
comp=N,284nm,0.7s								
CBYP	Canovanas	1.31	194			Pn	10 52 03.9	-1.2
GCPR	Guaynabo City	1.35	204	⇓iP		Pn	10 52 04.5	-1.1
GCPR	Guaynabo City	1.35	204	eS		Sn	10 52 22.9	+0.7
GCPR	Guaynabo City	1.35	204			Pn	10 52 04.5	-1.1
GCPR						Sn	10 52 22.9	+0.7
TBVI	Tortola	1.41	143	⇑eP		Pn	10 52 03.0	-3.4
TBVI	Tortola	1.41	143	eS		Sn	10 52 24.6	+0.8
TBVI	Tortola	1.41	143			Pn	10 52 03.0	-3.4
TBVI						Sn	10 52 24.6	+0.8
EMPR	Esperanza - Ma	1.44	222	⇓eP		Pn	10 52 06.0	-0.7
EMPR	Esperanza - Ma	1.44	222	eS		Sn	10 52 26.6	+2.1
EMPR	Esperanza - Ma	1.44	222			Pn	10 52 06.0	-0.7
EMPR						Sn	10 52 26.6	+2.1
EMPR	Esperanza - Ma	1.44	222	IAML			10 52 33.5	
comp=E,631nm,0.6s								
EMPR				IAML			10 52 35.7	
comp=N,461nm,0.7s								
HUMP	Col San Antoni	1.44	193	⇓eP		Pn	10 52 05.8	-1.0
HUMP	Col San Antoni	1.44	193	eS		Sn	10 52 25.2	+0.8
HUMP	Col San Antoni	1.44	193			Pn	10 52 05.8	-1.0
HUMP						Sn	10 52 25.2	+0.8
HUMP	Col San Antoni	1.44	193	IAML			10 52 27.4	
comp=N,213nm,0.4s								
HUMP				IAML			10 52 30.2	
comp=E,249nm,0.5s								
MTP	Monte Pirata	1.45	181	⇑eP		Pn	10 52 06.3	-0.7
MTP	Monte Pirata	1.45	181	eS		Sn	10 52 25.3	+0.6
MTP	Monte Pirata	1.45	181			Pn	10 52 06.3	-0.7
MTP						Sn	10 52 25.3	+0.6
MTP	Monte Pirata	1.45	181	IAML			10 52 26.2	
comp=N,212nm,0.8s								
VGBI	Virgin Gorda,	1.49	135	⇑eP		Pn	10 52 06.9	-0.6
VGBI	Virgin Gorda,	1.49	135	eS		Sn	10 52 25.7	-0.1
VGBI	Virgin Gorda,	1.49	135			Pn	10 52 06.9	-0.6
VGBI						Sn	10 52 25.7	-0.1
SJG	San Juan	1.55	203			Pn	10 52 07.4	-0.9
SJG				IAML			10 52 32.4	
comp=N,217nm,0.8s								
SJG				IAML			10 52 34.3	
comp=N,315nm,0.7s								
PDPR	Patillas Dam,	1.60	198			Pn	10 52 07.8	-1.3
PDPR				IAML			10 52 28.7	
comp=E,184nm,0.8s								
IGPR	InterUniversit	1.67	200	⇑iP		Pn	10 52 09.3	-0.7
IGPR	InterUniversit	1.67	200	eS		Sn	10 52 31.6	+1.4
AOPR	Arecibo Observ	1.68	225	⇓eP		Pn	10 52 09.5	-0.6
AOPR	Arecibo Observ	1.68	225	eS		Sn	10 52 31.1	+0.7
AOPR	Arecibo Observ	1.68	225			Pn	10 52 09.5	-0.6
AOPR						Sn	10 52 31.1	+0.7
CELP	Cerrillos	1.78	215	⇑iP		Pn	10 52 10.8	-0.7
CELP	Cerrillos	1.78	215	eS		Sn	10 52 32.8	-0.2
CELP	Cerrillos	1.78	215			Pn	10 52 10.8	-0.7
CELP						Sn	10 52 32.8	-0.2
OBIP	Obispado Ponce	1.82	215	⇑iP		Pn	10 52 11.5	-0.6
OBIP	Obispado Ponce	1.82	215	eS		Sn	10 52 34.1	+0.2
OBIP	Obispado Ponce	1.82	215			Pn	10 52 11.5	-0.6
OBIP						Sn	10 52 34.1	+0.2
OBIP	Obispado Ponce	1.82	215	IAML			10 52 37.6	
comp=N,170nm,0.8s								
AGPR	Aguadilla, PR	1.86	235	⇓eP		Pn	10 52 12.0	-0.6
AGPR	Aguadilla, PR	1.86	235			Pn	10 52 12.0	-0.6
AGPR	Aguadilla, PR	1.86	235	IAML			10 52 49.6	
comp=N,151nm,0.8s								
ICMP	Isla Caja de M	1.91	210			Pn	10 52 13.9	+0.5
ICMP				IAML			10 52 44.5	
comp=N,189nm,0.6s								
ICMP				IAML			10 52 44.6	
comp=E,166nm,0.5s								
CDVI	St. Croix	1.92	158	⇑eP		Pn	10 52 14.1	+0.6
CDVI	St. Croix	1.92	158			Pn	10 52 14.1	+0.6
LSP	Las Mesas	2.02	228	⇑eP		Pn	10 52 13.8	-1.1
LSP	Las Mesas	2.02	228			Pn	10 52 13.8	-1.1
MPR	Mayaguez	2.04	229			Pn	10 52 14.0	-1.0
MLPR	Magueyes Islan	2.14	223	⇑eP		Pn	10 52 15.2	-1.3
MLPR	Magueyes Islan	2.14	223	eS		Sn	10 52 41.6	-0.2
MLPR	Magueyes Islan	2.14	223			Pn	10 52 15.2	-1.3
MLPR						Sn	10 52 41.6	-0.2

SDDR	Presa de Saban	5.48	265		Pn	10 53 02.7	+0.2

IDC **16** *11:01:44.2±0.4, 13°.93N×58°.45W, h0km, mb5.0/29, mb1 5.2/32, mb1mx5.1/35, mbtmp5.1/32, ML4.6/3, MS4.7/28, Ms1 4.7/28, ms1mx4.7/44, Error ellipse: s-maj=10.9km s-min=9.5km az=120.0*
MOS **16** *11:01:44.2±0.9, 13°.92N×58°.49W, h10km, mb5.3/65, MS4.9/26, Error ellipse: s-maj=6.5km s-min=4.6km az=55.7*
NEIC **16** *11:01:45.9±2.0, 13°.88N±0°.06×58°.47W±0°.07, h7km±3km, mb5.3/494, Ms_20 5.1/298, Mwb5.6/66, Mww5.7, Mwc5.7(GCMT), Error ellipse: s-maj=9.7km s-min=8.4km az=68.0*
TRN **16** *11:01:48.7, 13°.95N×58°.64W, h55km, MD6.3*
TRN Felt MMI Barbados III, V and VI, Dominica III, Saint Lucia III, Grenada III and St. Vincent IV.
NEIC **16** *11:01:48.4, 13°.89N×58°.50W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.38; $M_{\theta\theta}$=2.43; $M_{\phi\phi}$2.81; $M_{r\theta}$0.31; $M_{\theta\phi}$0.09; $M_{\phi r}$0.78; Fault plane solution: $M_0$2.77000×10^{17} NP1:ϕ_s46.13000°, δ86.86000°, λ15.52000°. NP2:ϕ_s315.26000°, δ74.51000°, λ176.75000°. Principal axes: T 2.9911, Plg13.0000°, Azm272.0000°; N -0.5162, Plg74.0000°, Azm57.0000°; P -2.4748, Plg9.0000°, Azm180.0000°;*
GCMT **16** *11:01:48.9±0.1, 13°.91N±0°.01×58°.36W±0°.01, h17km, MW5.7/147, Moment Tensor Solution. s130,c232; s147,c297; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.04±.04; $M_{\theta\theta}$-3.87±.04; $M_{\phi\phi}$4.92±.05; $M_{r\theta}$0.79±.11; $M_{\theta\phi}$0.97±.04; $M_{\phi r}$0.40±.11; Best double couple: $M_0$4.60900×10^{17} NP1:ϕ_s322.00000°, δ77.00000°, λ-174.00000°. NP2:ϕ_s230.00000°, δ84.00000°, λ-13.00000°. Principal axes: T 5.0650, Plg5.0000°, Azm277.0000°; N -0.9010, Plg76.0000°, Azm25.0000°; P -4.1540, Plg14.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR **16** *11:01:49.2±0.0, 13°.88N×58°.62W, h10km, mb5.3*
NEIC **16** *11:01:50, 13°.89N×58°.43W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.41; $M_{\theta\theta}$-4.03; $M_{\phi\phi}$5.44; $M_{r\theta}$0.11; $M_{\theta\phi}$0.98; $M_{\phi r}$0.32; Fault plane solution: $M_0$5.00000×10^{17} NP1:ϕ_s321.00000°, δ87.00000°, λ179.00000°. NP2:ϕ_s51.00000°, δ89.00000°, λ3.00000°. Principal axes: T 5.5557, Plg3.0000°, Azm276.0000°; N -1.4235, Plg87.0000°, Azm65.0000°; P -4.1323, Plg2.0000°, Azm186.0000°;*
UPA **16** *11:01:50.0±2.2, 15°.06N×59°.14W, h5km±26km, MW5.8*
NEIC **16** *11:01:52, 13°.91N×58°.48W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.01; $M_{\theta\theta}$-3.95; $M_{\phi\phi}$4.96; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.79; $M_{\phi r}$-0.83; Fault plane solution: $M_0$4.68000×10^{17} NP1:ϕ_s140.00000°, δ84.00000°, λ175.00000°. NP2:ϕ_s230.00000°, δ85.00000°, λ6.00000°. Principal axes: T 5.1418, Plg8.0000°, Azm95.0000°; N -1.1204, Plg82.0000°, Azm266.0000°; P -4.0214, Plg1.0000°, Azm5.0000°;*
ISC 16 11:01:45.6±0.5, 13°.88N±0°.03×58°.54W±0°.03, h11km±2km, h11km:pP-P, n1276, σ1s33/1050, mb5.2/361, MS5.0/219, 102C-94D, Fault plane solution: NP1:ϕ_s73.08205°, δ76.33301°, λ5.47562°. NP2:ϕ_s341.78455°, δ84.67988°, λ166.27272°. Principal axes: T Plg13.4524°, Azm296.7182°; N Plg75.2963°, Azm140.9994°; P Plg5.8262°, Azm28.1168°; **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.18	229	eP		Pg	11 02 09.5	+1.1
BBGH	Gun Hill	1.24	234	eP		Pg	11 02 10.8	+1.4
BBGH				eS		Sn	11 02 26.7	+1.2
BBGH	Gun Hill	1.24	234			Pg	11 02 10.9	+1.4
BCHC	Barbados, Cave	1.30	235	eP		Pg	11 02 11.6	+0.9
H05S1	Guadeloupe/Mar	2.29	284	Pn		Pn	11 02 23.4	0.0
H05S1				Sn		Sn	11 02 52.3	+0.6
MPOM	Morne Pois Mar	2.32	284	eP		Pn	11 02 23.8	0.0
MPOM				eS		Sn	11 02 49.2	-3.1
MPOM	Morne Pois Mar	2.32	284			Pn	11 02 23.8	0.0
MCLT	Moule a Chique	2.34	266	eP		Pn	11 02 24.2	+0.1
MCLT				eS		Sn	11 02 51.5	-1.4
MCLT	Moule a Chique	2.34	266			Pn	11 02 22.8	-1.4
SLBI	Saint Lucia, B	2.37	274	eP		Pn	11 02 24.2	-0.3
SLBI				eS		Sn	11 02 51.4	-2.1
MVM	Montagne Vaucl	2.38	287	eP		Pn	11 02 25.1	+0.4
SLCP	Castries, St.	2.38	273	eP		Pn	11 02 25.7	+1.0
ILAM	Ilet Lapin Mar	2.43	292	eP		Pn	11 02 25.6	+0.3
ILAM	Ilet Lapin Mar	2.43	292			Pn	11 02 25.6	+0.3
SLB	Belfond	2.43	269	eP		Pn	11 02 26.4	+1.0
LPMF	Morne Lapointe	2.45	287	eP		Pn	11 02 26.0	+0.3
ZAM	Aeronautique	2.51	286	eP		Pn	11 02 26.7	+0.3
TRMF	Trois Ilets	2.52	285	eP		Pn	11 02 26.8	+0.2
BIM	Bigot	2.54	285	eP		Pn	11 02 27.3	+0.4
BIM				eS		Sn	11 02 55.9	-1.8
BIM	Bigot	2.54	285			Pn	11 02 27.1	+0.3
FDF	Fort de France	2.67	289	P		Pn	11 02 29.3	+0.6
FDF	Fort de France	2.67	289	eP		Pn	11 02 29.2	+0.6
BAMF	Morne Balai	2.69	290	eP		Pn	11 02 29.8	+0.8
GBMF	Grand Be	2.70	290	eP		Pn	11 02 29.8	+0.7
SVB	Belmont	2.71	257	eP		Pn	11 02 30.1	+0.9
SVB				eS		Sn	11 03 00.4	-1.6
SVB	Belmont	2.71	257			Pn	11 02 29.9	+0.7
SVOC	Richmond Hill,	2.71	255	eP		Pn	11 02 30.3	+1.1
SVOC				eS		Sn	11 03 01.3	-0.6
CXM	Morne La Croix	2.71	290	eP		Pn	11 02 30.2	+0.8
PML	Morne Lenard	2.72	290	eP		Pn	11 02 30.1	+0.8
SVN	Savane Anatole	2.72	291	eP		Pn	11 02 30.2	+0.8
PCM	Pelee Case Pet	2.75	290	eP		Pn	11 02 30.4	+0.6
PCM	Pelee Case Pet	2.75	290	eP		Pn	11 02 30.6	+0.8
DLPL	La Plaine	2.99	299	eP		Pn	11 02 33.8	+0.7
DLPL				eS		Sn	11 03 06.0	-3.0
DLPL	La Plaine	2.99	299	Pn		Pn	11 02 33.8	+0.7
GCMP	Grenada, Carri	3.14	244	eP		Pn	11 02 36.2	+1.2
GCMP				eS		Sn	11 03 11.6	-0.9
DSLB	Salisbury	3.19	299	eP		Pn	11 02 36.6	+0.8
DSLB				eS		Sn	11 03 10.8	-3.1
TOSP	Speyside	3.23	217	eP		Pn	11 02 37.7	+1.5
TOSP	Speyside	3.23	217			Pn	11 02 37.6	+1.4
MAGL	Barre de l'ile	3.35	308	eP		Pn	11 02 38.3	+0.2
MAGL				eS		Sn	11 03 14.3	-3.6
H05N1	Guadeloupe/Mar	3.43	315	Pn		Pn	11 02 38.7	-0.4
H05N1				Sn		Sn	11 03 17.9	-1.9
TPR	Prospect	3.46	219	eP		Pn	11 02 42.0	+2.5
GRGR	Grenville	3.50	241	eP		Pn	11 02 41.3	+1.2
GRGR				eS		Sn	11 03 20.6	-0.9
GRGR	Grenville	3.50	241			Pn	11 02 40.9	+0.9
TDBA	Terre de Bas,	3.58	304	eP		Pn	11 02 41.6	+0.5
TDBA				eS		Sn	11 03 20.5	-2.9
TBG	Guadaloupe-3	3.59	303	eP		Pn	11 02 41.9	+0.7
TBG				eS		Sn	11 03 20.6	-3.0
CBE	Ff, Capester	3.68	307	eP		Pn	11 02 43.3	+0.8
CBE				eS		Sn	11 03 23.4	-2.6
ABD	La Joyeuse, An	3.84	312	eP		Pn	11 02 45.0	+0.3
ABD				eS		Sn	11 03 26.5	-3.3
TBH	Brigand Hill	4.19	216	eP		Pn	11 02 52.8	+3.3
TBH				eS		Sn	11 03 36.8	-1.6
TRN	Trinidad (W)	4.26	221	eP		Pn	11 02 52.4	+1.8
TRN	Trinidad (W)	4.26	221	eS		Sn	11 03 37.8	-2.6
ANBD	Bethesda, Anti	4.42	316	eP		Pn	11 02 53.2	+0.4
ANBD	Bethesda, Anti	4.42	316	eS		Sn	11 03 41.0	-3.3
BPA	Boggy Peak	4.49	315	eP		Pn	11 02 53.7	0.0
BPA	Boggy Peak	4.49	315	eS		Sn	11 03 42.7	-3.2
ANDO	Antigua, Disas	4.51	316	eP		Pn	11 02 54.9	+1.0
ANDO	Antigua, Disas	4.51	316	eS		Sn	11 03 43.7	-2.8
ANOC	Antigua Open C	4.52	316	eP		Pn	11 02 55.0	+0.9
ANOC	Antigua Open C	4.52	316	eS		Sn	11 03 42.9	-3.8
TPP	Pointe-a-Pierr	4.55	219	eP		Pn	11 02 57.0	+2.5
ANWB	Willy Bob	4.89	321	eP		Pn	11 02 59.1	-0.1
ANWB	Willy Bob	4.89	321	eS		Sn	11 03 51.7	-4.1
ANWB	Willy Bob	4.89	321	Pn		Pn	11 02 58.6	-0.6
NVDO	Nevis, Disaste	5.08	310	eP		Pn	11 03 02.3	+0.5
SKOC	St. Kitts, UWI	5.28	311	eP		Pn	11 03 05.1	+0.6
SKI	Saint Kitts	5.31	311	P		Pn	11 03 05.4	+0.5
SKI	Saint Kitts	5.31	311	eP		Pn	11 03 05.9	+1.0
SKI	Saint Kitts	5.31	311	Pn		Pn	11 03 05.4	+0.5
SEUS	St. Eustatius	5.58	311	eP		Pn	11 03 09.9	+1.2
SEUS	St. Eustatius	5.58	311			Pn	11 03 09.3	+0.6
SABA	Saba	5.86	310	eP		Pn	11 03 13.6	+1.1
SABA	Saba	5.86	310			Pn	11 03 13.5	+1.1
SMRT	St. Maarten	6.02	314	eP		Pn	11 03 14.6	-0.1
SMRT	St. Maarten	6.02	314	eS		Sn	11 04 19.4	-4.2
PLCV	Puerto La Cruz	6.98	239			Sn	11 04 43.4	-4.0
PCRV	Puerto La Cruz	7.01	239	Pn		Pn	11 03 29.2	+0.8
202nm,0.3s,baz=92,slow=4.5,SNR=179								
PCRV				Sn		Sn	11 04 43.4	-4.8
39nm,0.3s,baz=246,slow=14,SNR=2.1								
CDVI	St. Croix	7.12	303	eP		Pn	11 03 29.7	-0.1
CDVI	St. Croix	7.12	303	Pn		Pn	11 03 30.0	+0.2
ABVI	Anegada Island	7.36	312			Pn	11 03 34.4	+1.3
STVI	Saint Thomas	7.60	307	Pn		Pn	11 03 37.3	+0.9
MTP	Monte Pirata	7.94	303	Pn		Pn	11 03 42.0	+0.9
HUMP	Col San Antoni	8.21	302			Pn	11 03 45.3	+0.6
CBYP	Canovanas	8.28	303			Pn	11 03 47.1	+1.4
PDPR	Patillas Dam,	8.29	301			Pn	11 03 46.4	+0.5
SJG	San Juan	8.44	301	Pn		Pn	11 03 48.5	+0.6
54nm,0.3s,baz=92,slow=11,SNR=51								
SJG	San Juan	8.44	301	eP		Pn	11 03 48.6	+0.6
SJG	San Juan	8.44	301			Pn	11 03 48.3	+0.4
SJG	San Juan	8.44	301	eP		Pn	11 03 48.5	+0.6
GCPR	Guaynabo City	8.48	302			Pn	11 03 49.7	+1.1
ICMP	Isla Caja de M	8.65	298	Pn		Pn	11 03 51.6	+0.7
EMPR	Esperanza - Ma	8.93	302	Pn		Pn	11 03 55.8	+1.1
AOPR	Arecibo Observ	9.06	300	eP		Pn	11 03 57.3	+0.9
AOPR	Arecibo Observ	9.06	300			Pn	11 03 57.9	+1.4
MPR	Mayaguez	9.32	299			Pn	11 04 01.0	+0.9
AGPR	Aguadilla, PR	9.41	300			Pn	11 04 01.2	-0.1
HATO	Hato, Curacao	10.29	262			Pn	11 04 12.6	-0.8
MDP	Montagnes des	10.48	146	Pn		Pn	11 04 10.6	-5.4
53nm,0.3s,baz=336,slow=15,SNR=231								
MDP				Sn		Sn	11 05 56.3	-17
441nm,0.3s,baz=322,slow=17,SNR=17								
PCDR	Punta Cana, DR	10.52	297			Pn	11 04 16.9	+0.5
BAUV	El Baul	10.53	243	eP		Pn	11 04 17.3	+0.7
BAUV	El Baul	10.53	243	eS		Sn	11 06 08.3	-6.4
DR12	Loma Pena Alta	11.49	297			Pn	11 04 31.6	+1.8
BOAV	Boa Vista	11.58	190	eP		Pn	11 04 26.5	-4.6
DABV	Dabajuro	12.18	257	eP		Pn	11 04 38.2	-1.0
ELOV	Elorza	12.75	239	eP		Pn	11 04 45.4	-1.6
ELOV				eP		Pn	11 04 47.9	+0.9
SDV	Santo Domingo	12.85	249	Pn		Pn	11 04 47.9	-0.7
13nm,0.3s,baz=50,slow=8.4,SNR=35								
SDV				Sn		Sn	11 07 07.5	-4.4
25nm,0.3s,baz=358,slow=16,SNR=4.1								
SDV	Santo Domingo	12.85	249	Pn		Pn	11 04 50.1	+1.5
SDV	Santo Domingo	12.85	249	eP		Pn	11 04 48.6	0.0
SDV	Santo Domingo	12.85	249	eP		Pn	11 04 49.2	+0.6
SC01	Santiago de lo	12.91	297	Pn		Pn	11 04 48.7	-0.5
SDDR	Presa de Saban	13.24	294	eP		Pn	11 04 54.2	+0.5
URIC	Uribia, Colomb	13.30	262	Pn		Pn	11 04 51.9	-2.7
URIC	Uribia, Colomb	13.30	262	eP		Pn	11 04 50.2	-4.3
SOCV	Socops	13.30	247	eP		Pn	11 04 52.8	-1.8
JAKH	Jacmel	14.12	290			Pn	11 05 06.6	+0.9
GRTK	Grand Turk	14.19	304	Pn		Pn	11 05 03.0	-3.7
PTGA	Pitinga	14.59	186	Pn		Pn	11 05 06.3	-5.9
39nm,0.3s,baz=12,slow=14,SNR=148								
PTGA				Sn		Sn	11 07 39.9	-14
48nm,0.3s,baz=209,slow=23,SNR=2.8								
LL2C	La Loma 2 Cana	15.21	255	eP		Pn	11 05 17.5	-3.0
LL1C	La Loma 1 Cana	15.32	255	eP		Pn	11 05 22.9	+0.8
PAMC	Pamplona, Colo	15.36	246	eP		Pn	11 05 21.2	-1.8
OCAC	Ocana	15.55	250	eP		Pn	11 05 23.2	-2.0
SMRC	Santa Marta, M	15.55	262	eP		P	11 05 29.1	-0.3
SMRC				eP		pP	11 05 29.2	-2.3
ARGC	Ariguani, Magd	15.88	257	eP		Pn	11 05 28.1	-1.3
SMLC	San Martn de	16.04	253	eP		Pn	11 05 28.6	-2.8
BARC	Barichara	16.12	245	eP		Pn	11 05 30.3	-2.3
RUSC	La Rusia	16.37	242	eP		Pn	11 05 34.0	-2.1
PTGC	Puerto Gaitan,	16.51	236	eP		Pn	11 05 37.5	+0.1
SJCC	San Jacinto, C	16.76	258	eP		P	11 05 42.0	-0.9
SJCC				eS		Sn	11 08 46.0	-0.9
SJCC	San Jacinto, C	16.76	258			Pn	11 05 37.7	-2.9
SJCC				IAmb	IAmb		11 05 46.3	
comp=Z,285nm,0.7s								
SJCC	San Jacinto, C	16.76	258	eP		Pn	11 05 38.0	-2.6
GTBY	Guantanamo Bay	16.95	293	IAmb	IAmb		11 05 47.6	
comp=Z,429nm,1.5s								

OTAV IAmb IAmb 11 07 12.3
comp=Z,164nm,1.5s
OTAV Otavalo 23.93 237 *eP* **P 11 07 00.4 -0.1**
OTAV Otavalo 23.93 237 *eP* **P 11 07 00.1 -0.4**
061Z Ochoppi 24.13 303 P **P 11 07 02.5 +0.7**
PAC1 Pacto, Paraso 24.19 238 *eP* **P 11 07 02.5 0.0**
BRU2 Volcan 24.21 261⇑ *eP* **P 11 07 04.2 +1.4**
060A Indiantown 24.22 306 P **P 11 07 03.1 +0.5**
CDITO Canoas 24.44 260 P **P 11 07 04.9 +0.2**
BATAN Batan 24.58 264 P **P 11 07 06.8 +0.8**
DRK0 Durika 24.63 262 P **P 11 07 08.1 +1.5**
MRVA Moravia de Chi 24.70 263⇑ *iP* **P 11 07 08.1 +0.9**
CLDB Colider 24.75 174 *eP* **P 11 07 08.2 +0.8**
ETMB Extrema 24.75 198 *eP* **P 11 07 07.5 0.0**
MAPC Malpelo 24.79 249 *eP* **P 11 07 09.6 +1.7**
SOR Soroa 24.83 294 IAmb IAmb 11 07 12.3
comp=Z,87nm,0.8s
NBPS Pedro II - PI 24.85 136 *eP* **P 11 07 07.8 -0.6**
PIRO Carate, Puerto 24.92 260⇑ *iP* **P 11 07 10.8 +1.7**
CVTR Volcan Turrial 24.96 264⇑ *iP* **P 11 07 11.4 +1.5**
CVTR Volcan Turrial 24.96 264 IAmb IAmb 11 07 37.0
comp=Z,74nm,0.8s
PEZE Perez Zeledon, 25.02 262⇑ *iP* **P 11 07 11.6 +1.5**
PEZE Perez Zeledon, 25.02 262 IAmb IAmb 11 07 15.9
comp=Z,67nm,0.8s
CDM Cerro de Muert 25.06 263⇑ *eP* **P 11 07 12.2 +1.4**
RIFO Rio Frio, Sara 25.07 265⇑ *iP* **P 11 07 11.8 +1.4**
NBMO Morrinhos-CE 25.07 132 *eP* **P 11 07 11.2 +0.8**
SMTB Santa Maria do 25.07 154 *eP* **P 11 07 10.3 -0.1**
RIMA Rio Macho 25.12 263⇑ *iP* **P 11 07 12.5 +1.4**
RIMA Rio Macho 25.12 263 P **P 11 07 11.1 +0.1**
RIMA IAmb IAmb 11 07 17.5
comp=Z,99nm,1.1s
ESPN Las Esperanzas 25.15 269 P **P 11 07 12.2 +1.0**
ESPN IAmb IAmb 11 07 35.3
comp=Z,92nm,0.8s
OCM Ochomogo 25.18 264⇑ *iP* **P 11 07 13.8 +2.1**
LCR2 La Lucha 2 25.26 263⇑ *iP* **P 11 07 13.8 +1.5**
HDC Heredia 25.31 264⇑ *iP* **P 11 07 14.3 +1.6**
COVE Coope Vega, Sa 25.46 266 P **P 11 07 14.3 +0.3**
DWPF Disney Wildern 25.57 307 P **P 11 07 12.3 -2.6**
comp=Z,119nm,1.1s
DWPF Disney Wildern 25.57 307 P **P 11 07 15.1 +0.3**
CZSB Cruzeiro do Su 25.67 214 *eP* **P 11 07 18.0 +2.2**
ARE1 Arenal 1 25.81 265⇑ *eP* **P 11 07 18.2 +1.0**
ACON Acoyapa 26.03 269 P **P 11 07 18.8 -0.3**
ACON IAmb IAmb 11 07 43.7
comp=Z,101nm,1.3s
JTS Las Juntas de 26.07 265 P **P 11 07 20.3 +0.8**
comp=Z,29nm,0.6s,baz=245,slow=1.8,SNR=26
JTS LR LR 11 19 46.7
comp=Z,1μm,20.0s,baz=126,slow=41
JTS Las Juntas de 26.07 265 *ceP* **P 11 07 19.9 +0.4**
JTS pmax pmax
comp=Z,29nm,0.6s
JTS Las Juntas de 26.07 265 P **P 11 07 19.4 -0.1**
JTS IAmb IAmb 11 07 46.9
comp=Z,55nm,0.9s
LAFE Finca La Fe, P 26.12 264 *eP* **P 11 07 23.3 +3.4**
CAO2 Cobano, Puntar 26.33 264 P **P 11 07 22.3 +0.4**
CAO2 IAmb IAmb 11 07 46.5
comp=Z,51nm,0.8s
BUEV Buena Vista 26.42 266 *eP* **P 11 07 24.1 +1.3**
DUNO Dulce Nombre, 26.63 265 P **P 11 07 28.1 +3.5**
SNDB Serra Nova Dou 26.68 164 *eP* **P 11 07 24.4 -0.5**
NBPB Pedra_Branca-C 26.95 134 *eP* **P 11 07 26.5 -0.9**
NBCL Cascavel-CE 26.97 130 *eP* **P 11 07 30.3 +2.7**
456A Hilliard 27.35 312 P **P 11 07 32.5 +1.7**
CNGN Cerro Negro 27.45 270 P **P 11 07 32.5 +0.5**
CNGN IAmb IAmb 11 08 00.0
comp=Z,50nm,0.9s
CNNC Cliffs of the 27.50 324 IAms_20 IAms_20 11 16 48.2
comp=Z,4μm,22.0s
PEXB Peixe 27.74 158 *eP* **P 11 07 33.7 -0.8**
255A Hazlehurst 28.33 313 IAmb IAmb 11 08 03.2
comp=Z,124nm,1.4s
ATAH Atahualpa 28.71 225 P **P 11 07 45.7 +2.0**
comp=Z,133nm,0.9s,baz=42,slow=4.6,SNR=55
NBPA Parau_RN 28.86 131 *eP* **P 11 07 44.1 -0.4**
PTLB Pontes e Lacer 29.15 181 *eP* **P 11 07 47.4 +0.4**
SDBA SAO DESIDERIO 29.41 152 *eP* **P 11 07 48.3 -1.2**
CBN Corbin Frederi 29.43 329 IAms_20 IAms_20 11 19 18.1
comp=Z,4μm,22.0s
KMSC Kings Mountain 29.50 320 P **P 11 07 50.9 +0.9**
baz=130
M65A Busby, Falmout 29.52 341 P **P 11 07 50.6 +0.5**
baz=156
SIV San Ignacio 29.79 185 P **P 11 07 53.9 +1.2**
comp=Z,29nm,1.1s,baz=26,slow=8.3,SNR=31
SIV LR LR 11 21 25.5
comp=Z,3μm,19.5s,baz=24,slow=40
RCBR Riachuelo 29.80 130 P **P 11 07 52.2 -0.7**
comp=Z,45nm,1.2s,baz=358,slow=2.7,SNR=2.5
RCBR Riachuelo 29.80 130 P **P 11 07 52.2 -0.7**
RCBR pmax pmax
comp=Z,48nm,1.0s
RCBR Riachuelo 29.80 130 IAmb IAmb 11 08 14.9
comp=Z,48nm,1.0s
GOGA Godfrey 29.85 315 P **P 11 07 55.0 +1.9**
baz=125
MTO3 Montecristo 29.88 275 IAms_20 IAms_20 11 20 43.7
comp=Z,5μm,21.0s
P60A Greenville 29.88 333 IAms_20 IAms_20 11 19 52.1
comp=Z,4μm,22.0s
L64A Middleborough 29.92 341 P **P 11 07 53.8 +0.2**
baz=156
L64A Middleborough 29.92 341 IAms_20 IAms_20 11 17 28.8
comp=Z,4μm,19.0s
BLA Blacksburg 30.34 324 IAms_20 IAms_20 11 20 13.3
comp=Z,4μm,20.0s
WES Weston 30.48 341 IAms_20 IAms_20 11 19 58.6
comp=Z,4μm,20.0s
NBPN Ponto Novo - B 30.57 143 *eP* **P 11 07 59.4 -0.3**
HRV Adam Dziewonsk 30.66 341 P **P 11 08 03.8 +3.6**
baz=155
HRV Adam Dziewonsk 30.66 341 IAms_20 IAms_20 11 17 53.5
comp=Z,4μm,22.0s
V53A Saluda 30.77 319 IAmb IAmb 11 08 09.9
comp=Z,21nm,0.7s
K63A Dunstable 30.82 341 P **P 11 08 03.1 +1.6**
baz=155
K63A Dunstable 30.82 341 IAms_20 IAms_20 11 17 57.6
comp=Z,4μm,22.0s
N59A State Game Lan 30.85 334 P **P 11 08 03.7 +1.8**
baz=146
L61B Northampton 30.98 339 P **P 11 08 04.9 +1.8**
baz=153
Q56A Snyder Ridge, 30.99 328 IAmb IAmb 11 08 27.4
comp=Z,28nm,0.9s
Z51A Franklin 30.99 313 IAmb IAmb 11 08 10.0
comp=Z,57nm,1.1s
K62A Royalston 31.02 340 P **P 11 08 02.9 -0.5**
baz=154
BDFB Brasilia 31.13 160 P **P 11 08 05.3 +0.7**
comp=Z,10nm,0.5s,baz=334,slow=9.2,SNR=14
BDFB Brasilia 31.13 160 P **P 11 08 04.7 0.0**
W52A Murphy 31.14 317 P **P 11 08 04.4 -0.1**
J63A Strafford 31.22 342 P **P 11 08 04.9 -0.2**
baz=156
BRAL Brewton 31.32 308 P **P 11 08 06.2 +0.1**
baz=117
TKL Tuckaleechee C 31.38 318 P **P 11 08 06.7 +0.1**
comp=Z,12nm,0.8s,baz=121,slow=14,SNR=9.1
K61A Williamstown 31.38 339 P **P 11 08 08.3 +1.8**
baz=152
I64A Boothbay 31.41 345 P **P 11 08 07.6 +0.9**
baz=159
LPAZ La Paz 31.44 198 P **P 11 08 08.8 +0.8**
comp=Z,30nm,1.0s,baz=7.6,slow=9.0,SNR=43
LPAZ La Paz 31.44 198 IAmb IAmb 11 08 27.2
comp=Z,51nm,0.8s
LPAZ La Paz 31.44 198 *eP* **P 11 08 08.9 +1.0**
LPAZ La Paz 31.44 198 *eP* **P 11 08 09.0 +1.0**
X51A Calhoun 31.46 315 IAmb IAmb 11 08 26.1
comp=Z,29nm,0.8s
NNA Nana 31.46 216 P **P 11 08 09.2 +1.6**
comp=Z,90nm,0.9s,baz=14,slow=11,SNR=12
NNA Nana 31.46 216 P **P 11 08 08.3 +0.7**
NNA Nana 31.46 216 IAms_20 IAms_20 11 22 40.9
comp=Z,3μm,22.0s
PP1B Ponte de Pedra 31.49 173 *eP* **P 11 08 06.5 -1.2**
FFD Franklin Falls 31.57 342 IAms_20 IAms_20 11 20 31.3
comp=Z,4μm,21.0s
SSPA Standing Stone 31.57 331 P **P 11 08 09.3 +1.1**
baz=142
SSPA Standing Stone 31.57 331 IAms_20 IAms_20 11 20 31.7
comp=Z,4μm,21.0s
O56A Blue Knob Stat 31.61 330 P **P 11 08 10.3 +1.7**
baz=141
O56A Blue Knob Stat 31.61 330 IAms_20 IAms_20 11 20 33.7
comp=Z,3μm,20.0s
TZTN Tazewell 31.78 320 P **P 11 08 10.0 -0.1**
baz=129
TZTN Tazewell 31.78 320 IAmb IAmb 11 08 33.9
comp=Z,45nm,1.4s
TZTN IAms_20 IAms_20 11 21 21.5
comp=Z,3μm,21.0s
I63A Otisfield 31.78 343 P **P 11 08 09.9 -0.2**
baz=157
I63A Otisfield 31.78 343 IAms_20 IAms_20 11 20 49.1
comp=Z,3μm,20.0s
M57A Sunshine Farm, 31.78 333 IAmb IAmb 11 08 32.7
comp=Z,27nm,0.7s
MCWV Mont Chateau 31.79 328 IAms_20 IAms_20 11 20 42.6
comp=Z,4μm,20.0s
H65A Eastbrook 31.80 347 P **P 11 08 11.1 +0.9**
baz=162
Q54A Coxs Mills 31.82 326 IAmb IAmb 11 08 30.9
comp=Z,38nm,0.7s
L58A Harry Jones Me 31.82 335 P **P 11 08 13.2 +2.8**
baz=147
I62A Tamworth 31.84 342 IAms_20 IAms_20 11 20 49.5
comp=Z,3μm,19.0s
V51A Loudon 31.84 318 IAmb IAmb 11 08 26.4
comp=Z,23nm,0.7s
J60A Lant Hill Farm 31.94 339 P **P 11 08 14.3 +2.9**
baz=152
FPAL Fort Paine 31.96 315 IAmb IAmb 11 08 17.2
comp=Z,27nm,0.8s
HNH Hanover 31.97 341 IAms_20 IAms_20 11 18 41.2
comp=Z,3μm,20.0s
H64A Troy 31.98 346 P **P 11 08 13.3 +1.5**
baz=160
R53A Hurricane 31.99 324 IAmb IAmb 11 08 34.4
comp=Z,30nm,0.9s
BINY Binghamton 32.01 335 P **P 11 08 13.8 +1.8**
baz=147
JANB Januaria 32.02 153 *eP* **P 11 08 10.5 -1.9**
WVL Waterville 32.02 345 IAms_20 IAms_20 11 20 55.2
comp=Z,3μm,21.0s
W50A Signal Mountai 32.12 316 IAmb IAmb 11 08 32.2
comp=Z,59nm,0.8s
G65A Princeton 32.14 348 P **P 11 08 15.1 +1.9**
baz=163
G65A Princeton 32.14 348 IAms_20 IAms_20 11 20 26.5
comp=Z,4μm,19.0s
ACCN Adirondack Com 32.15 339 P **P 11 08 14.6 +1.3**
ACCN IAmb IAmb 11 08 19.6
comp=Z,42nm,1.1s
Y49A Blount Mountai 32.16 313 P **P 11 08 13.5 0.0**
Y49A IAmb IAmb 11 08 20.1
comp=Z,26nm,0.9s
LRAL Lakeview Retre 32.16 311 P **P 11 08 15.8 +2.3**
baz=120,SNR=23
NBAN Anadia - AL 32.18 135 *eP* **P 11 08 14.6 +0.8**
NBRF Rio Formoso - 32.28 133 *eP* **P 11 08 15.4 +0.6**
LMN Caledonia Moun 32.30 352 IAmb IAmb 11 08 21.8
comp=Z,36nm,0.8s
LBNH Lisbon 32.35 342 P **P 11 08 16.8 +1.8**
baz=155
LBNH Lisbon 32.35 342 IAms_20 IAms_20 11 21 05.0
comp=Z,3μm,20.0s
I60A Shoreham 32.42 340 P **P 11 08 17.9 +2.2**
baz=152
H62A Milan 32.43 343 P **P 11 08 18.6 +2.9**
baz=157
H62A Milan 32.43 343 IAms_20 IAms_20 11 21 18.1
comp=Z,3μm,19.0s
G64A Maxfield 32.45 346 P **P 11 08 17.7 +1.9**
baz=161
O54A Avella 32.45 328 IAmb IAmb 11 08 37.9
comp=Z,22nm,0.8s
G63A Kingsbury 32.52 345 P **P 11 08 18.4 +1.8**
baz=160
SWET Sewanee 32.55 316 IAmb IAmb 11 08 35.9
comp=Z,28nm,0.9s
I59A Olmsteadville 32.58 339 P **P 11 08 16.8 -0.2**
baz=152
PKME Peaks-kenny Pk 32.58 346 P **P 11 08 19.3 +2.2**
baz=160
PKME Peaks-Kenny Pk 32.58 346 IAms_20 IAms_20 11 21 02.2
comp=Z,4μm,21.0s
Q52A Bidwell 32.60 324 IAmb IAmb 11 08 38.0
comp=Z,23nm,0.8s
H61A Lyndonville 32.61 342 P **P 11 08 19.2 +1.8**
baz=155
M55A Ridgway 32.63 331 IAmb IAmb 11 08 36.1
comp=Z,40nm,0.8s
VT1 Waterbury 32.69 341 IAms_20 IAms_20 11 19 03.7
comp=Z,4μm,21.0s
J58A Remsen 32.71 337 P **P 11 08 20.0 +1.8**
baz=149
N54A Moraine State 32.84 329 P **P 11 08 20.0 +0.7**
baz=139
N54A Moraine State 32.84 329 IAms_20 IAms_20 11 22 40.3
comp=Z,3μm,18.0s
G62A West of Eustis 32.85 344 P **P 11 08 21.6 +2.2**
baz=156
G62A West of Eustis 32.85 344 IAms_20 IAms_20 11 20 59.3
comp=Z,3μm,21.0s
H60A Morristown 32.87 341 P **P 11 08 20.1 +0.4**
baz=154
I58A Old Forge 32.88 338 P **P 11 08 20.5 +0.7**
baz=150,SNR=7.9
X48A Hartselle 32.91 313 IAmb IAmb 11 08 25.5
comp=Z,43nm,0.7s
O53A New Philadelph 32.93 327 P **P 11 08 21.9 +1.7**
baz=136
O53A New Philadelph 32.93 327 IAmb IAmb 11 08 44.1
comp=Z,25nm,0.8s
O53A IAms_20 IAms_20 11 21 28.9
comp=Z,4μm,21.0s
F64A Sherman 32.94 347 P **P 11 08 22.0 +1.9**
baz=162
F64A Sherman 32.94 347 IAms_20 IAms_20 11 21 00.6
comp=Z,4μm,21.0s
F63A Nahmakanta, Br 32.95 346 P **P 11 08 23.2 +2.9**
baz=161
F63A Nahmakanta, Br 32.95 346 IAms_20 IAms_20 11 21 01.0
comp=Z,3μm,22.0s
K56A Middlesex 32.98 334 P **P 11 08 21.6 +1.0**
baz=145
P52A Corning 32.99 325 P **P 11 08 21.0 +0.3**
baz=134
P52A Corning 32.99 325 IAmb IAmb 11 08 30.1
comp=Z,26nm,0.8s
P52A IAms_20 IAms_20 11 21 33.5
comp=Z,4μm,22.0s
M54A Oil Creek Stat 33.09 330 P **P 11 08 21.6 0.0**
baz=140
M54A Oil Creek Stat 33.09 330 IAms_20 IAms_20 11 21 30.0
comp=Z,4μm,20.0s
N53A Lisbon 33.15 328 IAmb IAmb 11 08 44.3
comp=Z,27nm,0.8s
G61A St-Isidore-de- 33.18 343 P **P 11 08 23.8 +1.5**
baz=156
U49A Red Boiling Sp 33.19 318 IAmb IAmb 11 08 41.2
comp=Z,44nm,1.4s
H58A Gabriels 33.23 339 P **P 11 08 23.9 +1.1**
baz=152
GDU01 Guandu, BA 33.24 145 *eP* **P 11 08 22.8 -0.3**
J56A Wolcott 33.26 335 P **P 11 08 24.4 +1.4**
J56A IAmb IAmb 11 08 30.9
comp=Z,40nm,0.8s
IPMB Ipameri, GO 33.26 162 *eP* **P 11 08 23.7 +0.4**
Q51A Peebles 33.26 323 P **P 11 08 23.9 +0.8**
Q51A IAmb IAmb 11 08 50.9
comp=Z,26nm,0.8s
H59A Cadyville 33.27 340 P **P 11 08 24.2 +1.1**
baz=152
CLTN Cedars of Leba 33.31 317 IAmb IAmb 11 08 46.9
comp=Z,38nm,1.4s
F62A Pittston Farm, 33.34 345 IAms_20 IAms_20 11 21 25.2
comp=Z,4μm,21.0s
I57A Carthage 33.35 337 P **P 11 08 26.2 +2.5**
baz=149
E64A Bridgewater 33.36 348 P **P 11 08 25.4 +1.5**
baz=163
P51A Williamsport 33.41 324 IAmb IAmb 11 08 34.9
comp=Z,28nm,0.7s
V48A Smith Brothers 33.45 316 IAmb IAmb 11 08 48.1
comp=Z,53nm,1.2s
E63A Oxbow 33.49 348 P **P 11 08 26.4 +1.5**
baz=162
E63A Oxbow 33.49 348 IAms_20 IAms_20 11 21 18.0
comp=Z,3μm,20.0s
M53A WI Miller and 33.53 329 P **P 11 08 25.4 0.0**
baz=139
M53A WI Miller and 33.53 329 IAms_20 IAms_20 11 21 57.8
comp=Z,3μm,21.0s
LONY Lake Ozonia 33.55 339 P **P 11 08 25.9 +0.4**
baz=151
PQI Presque Isle 33.64 348 IAms_20 IAms_20 11 21 43.2
comp=Z,3μm,20.0s
MC01 Montes Claros 33.64 154 *eP* **P 11 08 25.9 -0.8**
H57A Richville 33.70 338 P **P 11 08 28.3 +1.5**
baz=150
ERPA Erie 33.72 331 IAms_20 IAms_20 11 21 49.5
comp=Z,3μm,20.0s
SACV Santiago Islan 33.83 84 P **P 11 08 27.7 -0.6**
SACV IAmb IAmb 11 08 41.8
comp=Z,41nm,1.1s
ACSO Alum Creek Sta 33.88 325 P **P 11 08 30.4 +2.0**
baz=134
ACSO Alum Creek Sta 33.88 325 IAmb IAmb 11 08 44.1
comp=Z,23nm,0.7s
ACSO IAms_20 IAms_20 11 22 21.9
comp=Z,3μm,21.0s
PLAL Pickwick Lake 33.91 313 IAms_20 IAms_20 11 23 08.2
comp=Z,3μm,21.0s
E62A Clayton Lake 33.91 346 P **P 11 08 30.5 +1.8**
baz=161
E62A Clayton Lake 33.91 346 IAms_20 IAms_20 11 21 42.4
comp=Z,4μm,21.0s
E61A Lac Etchemin 33.97 345 P **P 11 08 29.6 +0.4**
baz=159
D63A Stockholm 34.01 348 P **P 11 08 31.3 +1.8**
baz=163
D62A Allapoint, All 34.25 347 P **P 11 08 33.4 +1.8**
baz=162
D62A Allapoint, All 34.25 347 IAmb IAmb 11 08 52.5
comp=Z,34nm,0.9s
D62A IAms_20 IAms_20 11 21 51.2
comp=Z,3μm,22.0s
AQDB Aquidauana 34.26 175 P **P 11 08 33.4 +1.5**
AQDB Aquidauana 34.26 175 *eP* **P 11 08 30.7 -1.1**
344A Westbrook Farm 34.29 306 P **P 11 08 33.6 +1.4**
NBIT Itapeh - BA 34.31 146 *eP* **P 11 08 32.9 +0.5**
ITRB Iturama 34.33 166 *eP* **P 11 08 32.1 -0.5**
T47A Sharon Grove 34.33 317 IAmb IAmb 11 08 52.9
comp=Z,33nm,0.8s
WVT Waverly 34.34 315 P **P 11 08 34.1 +1.6**
WVT pmax pmax
comp=Z,44nm,0.8s
WVT MLR MLR
comp=Z,3μm,22.0s
WVT Waverly 34.34 315 P **P 11 08 33.7 +1.1**
baz=123
WVT Waverly 34.34 315 P **P 11 08 34.1 +1.6**
WVT IAmb IAmb 11 08 50.9
comp=Z,44nm,0.8s
P49A Miami Univ. Ec 34.40 323 P **P 11 08 34.5 +1.6**
baz=131
P49A Miami Univ. Ec 34.40 323 P **P 11 08 34.4 +1.4**
P49A IAmb IAmb 11 08 55.2
comp=Z,95nm,1.4s
P49A IAms_20 IAms_20 11 23 02.7
comp=Z,4μm,20.0s
VBMS Vicksburg 34.44 307 P **P 11 08 33.0 -0.4**
baz=115
VBMS Vicksburg 34.44 307 IAms_20 IAms_20 11 22 56.2
comp=Z,3μm,21.0s
D60A Saint Jean D'O 34.53 345 P **P 11 08 35.1 +1.2**
baz=158
WCI Wyandotte Cave 34.54 320 IAms_20 IAms_20 11 22 59.5
comp=Z,3μm,22.0s
MNMC Minye Minye 34.57 199 IAmb IAmb 11 08 51.6
comp=Z,45nm,1.1s
MNMC IAms_20 IAms_20 11 24 41.9
comp=Z,3μm,22.0s
O49A Covington 34.61 324 IAmb IAmb 11 08 56.7
comp=Z,75nm,1.4s
CMC01 Camacan, BA 34.61 146 *eP* **P 11 08 35.3 +0.3**
OXF Oxford 34.63 312 P **P 11 08 36.6 +1.5**
baz=119,SNR=33
P48A Milroy 34.77 322 IAmb IAmb 11 08 57.8
comp=Z,63nm,1.3s
CMIG Matias Romero 35.14 280 LR LR 11 24 13.1
comp=Z,1μm,21.2s,baz=81,slow=38
DIAM Diamantina, MG 35.18 155 *eP* **P 11 08 39.5 -0.5**
D58A Chemin du LacG 35.22 343 P **P 11 08 42.1 +2.1**
baz=155
BLO Bloomington 35.25 321 P **P 11 08 42.0 +1.7**
BLO pmax pmax
comp=Z,40nm,0.6s
BLO Bloomington 35.25 321 P **P 11 08 42.0 +1.7**
BLO IAmb IAmb 11 09 03.7
comp=Z,40nm,0.6s
USIN University of 35.26 318 P **P 11 08 41.3 +0.9**
USIN IAmb IAmb 11 09 00.4
comp=Z,38nm,0.8s
DRLN Deer Lake 35.28 1 P **P 11 08 40.9 +0.5**
DRLN IAmb IAmb 11 08 47.7
comp=Z,58nm,0.7s
PB08 IPOC Station P 35.39 197 IAmb IAmb 11 08 57.3
comp=Z,70nm,0.9s
SADO Sadowa 35.43 334 IAmb IAmb 11 08 49.2
comp=Z,31nm,0.9s
LATQ La Tuque 35.45 343 P **P 11 08 43.1 +1.1**
baz=156
GUA01 Guaratinga, BA 35.48 148 *eP* **P 11 08 42.4 -0.1**
AAM Ann Arbor 35.69 327 IAms_20 IAms_20 11 22 54.8
comp=Z,3μm,21.0s
N47A Urbana 35.84 324 IAmb IAmb 11 09 07.3
comp=Z,103nm,1.4s
L48A N Adams 35.85 326 P **P 11 08 48.4 +2.9**
L48A IAmb IAmb 11 09 11.1
comp=Z,26nm,0.7s
P46A Rosedale 35.94 321 P **P 11 08 45.8 -0.5**
P46A IAmb IAmb 11 08 58.9
comp=Z,33nm,0.8s
PARMO Parma 35.94 315 P **P 11 08 47.6 +1.3**
ALGO Algonquin Park 35.96 337 P **P 11 08 47.4 +1.1**
baz=146
PCMB Pacaembu 35.98 168 *eP* **P 11 08 46.1 -0.6**
BB19B Bebedouro 36.10 164 *eP* **P 11 08 47.6 -0.2**
PB01 IPOC Station P 36.34 197 IAmb IAmb 11 09 06.1
comp=Z,78nm,0.9s
SFIN Lafayette 36.34 322 P **P 11 08 50.2 +0.5**
baz=128
NAN01 Guarapari, ES 36.38 150 *eP* **P 11 08 49.5 -0.7**
PBMO Poplar Bluff 36.47 314 IAmb IAmb 11 09 08.9
comp=Z,55nm,0.8s
Z41A Richland Creek 36.62 308 P **P 11 08 53.1 +0.9**
baz=114
SJMB Sao Joao De Ma 36.62 152 *eP* **P 11 08 52.1 -0.2**
Q44A Meyer Farm, Va 36.66 318 IAmb IAmb 11 09 11.2
comp=Z,50nm,0.7s
BSFB Barra de Sao F 36.89 151 *eP* **P 11 08 54.0 -0.5**
TRCB Terra Rica 36.91 171 *eP* **P 11 08 53.9 -0.8**
J47A Sunmer 36.96 327 IAmb IAmb 11 09 13.8
comp=Z,35nm,0.8s
PB09 IPOC Station P 36.98 197 IAms_20 IAms_20 11 24 53.8
comp=Z,3μm,20.0s
W41B Gary Mavity, V 37.01 311 P **P 11 08 56.1 +0.6**
baz=116,SNR=38
WLAR White Oak Lake 37.03 308 P **P 11 08 57.7 +2.1**
O44A Mansfield 37.04 321 P **P 11 08 55.1 -0.5**
O44A IAmb IAmb 11 09 18.1
comp=Z,58nm,0.7s
T42A Van Buren 37.06 314 IAms_20 IAms_20 11 23 19.4
comp=Z,3μm,21.0s
WHAR Wooly Hollow 37.09 311 IAmb IAmb 11 09 02.4
comp=Z,64nm,1.0s
X40A Basin Creek Fa 37.15 310 P **P 11 08 58.3 +1.7**
baz=115,SNR=46
X40A Basin Creek Fa 37.15 310 IAmb IAmb 11 09 03.0
comp=Z,61nm,0.8s
BSCB Bom Sucesso 37.21 158 *eP* **P 11 08 56.8 -0.5**
FCAR Ozark Folk Cen 37.24 312 IAmb IAmb 11 09 19.0
comp=Z,106nm,1.2s
P43A Skaggs, Pawnee 37.40 319 IAms_20 IAms_20 11 24 49.4
comp=Z,3μm,22.0s
RIB01 Linhares ES 37.52 151 *eP* **P 11 09 00.5 +0.7**
NATX Nacogdoches 37.52 304 P **P 11 09 01.5 +1.7**
baz=110,SNR=10
LVC Limon Verde 37.66 196 P **P 11 09 01.7 +0.2**
comp=Z,138nm,1.0s,baz=9.4,slow=7.0,SNR=42
LVC Limon Verde 37.66 196 P **P 11 09 01.6 +0.2**
LVC Limon Verde 37.66 196 *eP* **P 11 09 00.2 -1.3**

HQIL	Hanson Quary C	37.68 323	IAMs_20	IAMs_20	11 24 41.6
	comp=Z,3μm,21.0s				
CCM	Cathedral Cave	37.68 316	P	P	11 09 02.4 +1.3
CCM			pmax	pmax	
	comp=Z,78nm,0.7s				
CCM			MLR	MLR	
	comp=Z,2μm,22.0s				
CCM	Cathedral Cave	37.68 316	P	P	11 09 02.5 +1.3
	baz=121				
CCM	Cathedral Cave	37.68 316	P	P	11 09 02.4 +1.3
CCM	Cathedral Cave	37.68 316	IAMs_20	IAMs_20	11 23 25.8
	comp=Z,3μm,22.0s				
MIAR	Mount Ida	37.73 309	P	P	11 09 03.2 +1.6
	baz=114,SNR=21				
PB04	IPOC Station P	37.75 198	IAmb	IAmb	11 09 20.6
	comp=Z,92nm,1.2s				
HDIL	Hopedale	37.79 321	IAMs_20	IAMs_20	11 24 59.6
	comp=Z,3μm,22.0s				
PB06	IPOC Station P	37.94 197	P	P	11 09 02.0 -1.5
PB06			IAMs_20	IAMs_20	11 22 56.1
	comp=Z,2μm,18.0s				
MGMO	Mountain Grove	37.94 314	IAmb	IAmb	11 09 20.3
	comp=Z,50nm,0.7s				
L44A	Lake County Fo	37.95 324	P	P	11 09 04.1 +0.8
	baz=129				
L44A	Lake County Fo	37.95 324	IAMs_20	IAMs_20	11 24 49.8
	comp=Z,3μm,21.0s				
GLMI	Grayling	37.98 329	P	P	11 09 05.8 +2.3
	baz=136				
GLMI	Grayling	37.98 329	IAMs_20	IAMs_20	11 24 46.4
	comp=Z,3μm,21.0s				
U40A	Yellville	37.98 312	P	P	11 09 04.6 +0.9
	baz=117,SNR=22				
U40A	Yellville	37.98 312	P	P	11 09 04.5 +0.9
U40A			IAmb	IAmb	11 09 22.9
	comp=Z,47nm,0.9s				
U40A			IAMs_20	IAMs_20	11 27 33.9
	comp=Z,3μm,22.0s				
FRTB	Fartura	38.03 167	eP	P	11 09 04.5 +0.3
W39A	Magazine	38.15 310	P	P	11 09 05.7 +0.6
	baz=115,SNR=20				
W39A	Magazine	38.15 310	IAmb	IAmb	11 09 27.8
	comp=Z,69nm,0.9s				
CHGQ	Chibougamau	38.19 343	P	P	11 09 06.3 +1.1
	baz=155				
LSQQ	Lebel-sur-Quev	38.22 340	P	P	11 09 05.9 +0.4
	baz=150				
Z38A	Mt. Pleasant	38.31 307	IAmb	IAmb	11 09 12.8
	comp=Z,94nm,0.9s				
VAO	Valinhos	38.37 163	eP	P	11 09 06.6 -0.5
R40A	Maddies Statio	38.49 315	IAmb	IAmb	11 09 25.9
	comp=Z,45nm,0.7s				
TLIG	Tlapa	38.66 281	IAmb	IAmb	11 09 20.6
	comp=Z,44nm,0.8s				
L42A	Oliver, Polo	38.87 322	IAmb	IAmb	11 09 38.3
	comp=Z,63nm,0.8s				
P40A	Paris	38.98 317	IAmb	IAmb	11 09 30.1
	comp=Z,42nm,0.7s				
PB10	IPOC Station P	38.98 198	IAMs_20	IAMs_20	11 27 32.8
	comp=Z,4μm,22.0s				
MATQ	Matagami	39.05 340	P	P	11 09 12.4 0.0
	baz=150				
KVTX	Kingsville	39.06 297	IAMs_20	IAMs_20	11 28 18.1
	comp=Z,2μm,18.0s				
X37A	Clayton	39.10 308	IAMs_20	IAMs_20	11 25 28.7
	comp=Z,3μm,22.0s				
435B	Jarrell	39.60 302	P	P	11 09 18.8 +1.4
	baz=106				
JFWS	Jewell Farm	39.76 323	P	P	11 09 19.6 +1.1
	baz=127				
JFWS	Jewell Farm	39.76 323	IAMs_20	IAMs_20	11 25 55.8
	comp=Z,3μm,20.0s				
WHTX	Lake Whitney,	39.85 304	P	P	11 09 20.4 +1.0
	baz=108,SNR=20				
WHTX	Lake Whitney,	39.85 304	IAmb	IAmb	11 09 25.4
	comp=Z,48nm,0.7s				
TUL1	Leonard	39.94 310	P	P	11 09 21.3 +1.3
	baz=114,SNR=32				
CPUP	Villa Florida	39.99 178	P	P	11 09 19.9 -0.6
	comp=Z,8.9nm,0.6s,baz=360,slow=8.1,SNR=9.8				
CPUP			LR	LR	11 26 47.6
	comp=Z,2μm,21.7s,baz=1.0,slow=38				
CPUP	Villa Florida	39.99 178	P	P	11 09 17.9 -2.6
PB14	IPOC Station P	39.99 197	P	P	11 09 20.4 -0.5
P38A	Dawn	40.01 316	IAmb	IAmb	11 09 38.8
	comp=Z,66nm,0.7s				
GO02	Mina Guanaco	40.28 196	P	P	11 09 22.8 -0.5
LOOK	Love County	40.28 307	IAmb	IAmb	11 09 49.1
	comp=Z,37nm,0.6s				
MBO	M'Bour	40.29 84	IAMs_20	IAMs_20	11 22 25.8
	comp=Z,3μm,21.0s				
N38A	Joes South For	40.41 318	IAmb	IAmb	11 09 44.4
	comp=Z,83nm,0.8s				
833A	Chaparral WMA,	40.53 297	P	P	11 09 25.8 +0.7
	baz=102,SNR=10.0				
QUOK	Quay	40.72 310	P	P	11 09 27.4 +0.9
QUOK			IAmb	IAmb	11 09 46.1
	comp=Z,46nm,0.8s				
OK031	S. Brethren Rd	40.73 310	P	P	11 09 27.6 +0.9
OK031			IAmb	IAmb	11 09 45.7
	comp=Z,73nm,0.7s				
T35A	Sooner Cattle	40.88 311	IAmb	IAmb	11 09 44.8
	comp=Z,73nm,0.8s				
OK025	Westminster Rd	40.97 309	IAmb	IAmb	11 09 47.8
	comp=Z,66nm,0.9s				
OK025			IAMs_20	IAMs_20	11 27 47.2
	comp=Z,3μm,22.0s				
SCIA	State Center	40.99 320	IAMs_20	IAMs_20	11 26 50.4
	comp=Z,3μm,20.0s				
X34A	Smith Ranch, M	41.00 307	P	P	11 09 30.7 +1.8
X34A			IAmb	IAmb	11 09 38.2
	comp=Z,55nm,1.0s				
K38A	Parkersburg	41.12 321	P	P	11 09 31.6 +1.8
K38A			IAmb	IAmb	11 09 54.1
	comp=Z,140nm,1.4s				
OK029	Liberty Lake	41.14 309	IAmb	IAmb	11 09 49.5
	comp=Z,41nm,0.8s				
OK029			IAMs_20	IAMs_20	11 27 52.6
	comp=Z,2μm,22.0s				
COWI	Conover	41.16 327	P	P	11 09 32.9 +2.8
BCOK	Bluff Creek, N	41.20 309	IAmb	IAmb	11 09 49.7
	comp=Z,78nm,0.9s				
JCT	Junction City	41.36 301	P	P	11 09 32.0 0.0
JCT			pmax	pmax	
	comp=Z,96nm,1.2s				
JCT			MLR	MLR	
	comp=Z,300nm,18.0s				
JCT	Junction City	41.36 301	P	P	11 09 32.7 +0.7
	baz=104,SNR=22				
JCT	Junction City	41.36 301	P	P	11 09 32.0 0.0
JCT			IAmb	IAmb	11 09 34.9
	comp=Z,96nm,1.1s				
D41A	Chassel	41.51 329	IAmb	IAmb	11 09 52.4
	comp=Z,39nm,0.8s				
KAN13	South Haven SW	41.62 311	IAmb	IAmb	11 09 51.1
	comp=Z,45nm,0.8s				
AC02	Maricunga	41.76 194	P	P	11 09 35.3 -0.4
KS20	Mayfield South	41.76 311	IAmb	IAmb	11 09 52.3
	comp=Z,70nm,0.8s				
KS20			IAMs_20	IAMs_20	11 27 55.1
	comp=Z,2μm,21.0s				
KAN09	Caldwell North	41.77 311	P	P	11 09 35.9 +0.7
KAN09			IAmb	IAmb	11 09 52.2
	comp=Z,46nm,0.9s				
WMOK	Wichita Mounta	41.78 307	P	P	11 09 35.5 +0.2
	baz=110,SNR=101				
WMOK	Wichita Mounta	41.78 307	IAmb	IAmb	11 09 40.8
	comp=Z,55nm,0.6s				
WMOK	Wichita Mounta	41.78 307	IAMs_20	IAMs_20	11 27 14.6
	comp=Z,3μm,22.0s				
ABTX	Abilene, Hawle	41.80 304	P	P	11 09 36.4 +0.8
	baz=107,SNR=17				
ABTX	Abilene, Hawle	41.80 304	IAmb	IAmb	11 09 40.7
	comp=Z,125nm,1.4s				
KSU1	Kansas State U	41.87 314	P	P	11 09 37.2 +1.2
	baz=116				
KSU1	Kansas State U	41.87 314	IAmb	IAmb	11 09 52.4
	comp=Z,64nm,0.7s				
KSU1	Kansas State U	41.87 314	IAMs_20	IAMs_20	11 26 07.9
	comp=Z,3μm,22.0s				
KAN05	Bluff City Nor	41.95 311	P	P	11 09 37.9 +1.3
KAN05			IAmb	IAmb	11 09 54.3
	comp=Z,56nm,0.8s				
PMOZ	Porto Moniz, M	42.05 56	eS	S	11 15 59.0 +2.0
KAN08	Anthony NE Sta	42.07 311	IAmb	IAmb	11 09 54.8
	comp=Z,59nm,0.8s				
OK032	Salt Plains WL	42.08 310	IAmb	IAmb	11 09 54.8
	comp=Z,55nm,0.7s				
OK032			IAMs_20	IAMs_20	11 30 04.6
	comp=Z,2μm,22.0s				
KAN10	Anthony SW Sta	42.12 311	IAmb	IAmb	11 09 55.0
	comp=Z,72nm,0.7s				
I37A	Lemond, Waseca	42.27 322	P	P	11 09 39.7 +0.5
U32A	Winter Ranch,	42.52 309	P	P	11 09 43.3 +1.9
ZAIG	Zacatecas	42.59 289	IAmb	IAmb	11 09 47.0
	comp=Z,29nm,0.7s				
SPMN	Mane on St.	42.62 324	P	P	11 09 43.2 +1.2
	baz=126,SNR=5.9				
CYA	Choya	42.66 189‖	eP	P	11 09 41.6 -0.9
R32A	Long Quarter,	43.08 312	IAmb	IAmb	11 10 07.1
	comp=Z,76nm,0.8s				
N33A	J Bar K, Exete	43.18 316	IAmb	IAmb	11 10 10.0
	comp=Z,58nm,0.9s				
ITQB	Itaqui	43.34 178	P	P	11 09 46.8 -1.1
ITQB			IAmb	IAmb	11 09 49.6
	comp=Z,119nm,1.2s				
ITQB	Itaqui	43.34 178	eP	P	11 09 46.4 -1.5
VCA	Vinchina	43.39 192‖	eP	P	11 09 48.5 0.0
EYMN	Ely	43.59 328	P	P	11 09 49.2 -0.6
	baz=130				
EYMN	Ely	43.59 328	IAMs_20	IAMs_20	11 27 46.8
	comp=Z,3μm,20.0s				
ACLC	CERRO LA CRUZ	43.81 191‖	eP	P	11 09 50.9 -1.1
BGNE	Belgrade	43.96 316	P	P	11 09 54.1 +1.2
	baz=117				
CBKS	Cedar Bluff	43.97 312	P	P	11 09 53.7 +0.6
	baz=113,SNR=12				
CBKS	Cedar Bluff	43.97 312	IAmb	IAmb	11 10 09.8
	comp=Z,64nm,0.8s				
CBKS			IAMs_20	IAMs_20	11 29 09.5
	comp=Z,3μm,22.0s				
ECSD	EROS Data Cent	44.08 320	P	P	11 09 54.4 +0.6
	baz=121,SNR=24				
ECSD	EROS Data Cent	44.08 320	IAMs_20	IAMs_20	11 28 45.1
	comp=Z,3μm,21.0s				
AMTX	Amarillo	44.09 306	P	P	11 09 54.4 +0.3
	baz=107				
AMTX	Amarillo	44.09 306	IAmb	IAmb	11 10 00.9
	comp=Z,35nm,0.7s				
AGUA	GUANDACOL	44.17 192	eP	P	11 09 54.3 -0.5
LCO	Las Campanas	44.23 195	P	P	11 09 55.8 +0.4
LCO			pmax	pmax	
	comp=Z,143nm,1.1s				
LCO	Las Campanas	44.23 195	P	P	11 09 55.8 +0.4
CPSB	Cacapava Do Su	44.30 174	eP	P	11 09 55.5 -0.2
TX31	Lajitas Ar. Si	44.40 298	IAmb	IAmb	11 10 02.1
	comp=Z,55nm,0.8s				
TX32	Lajitas Array	44.40 298	P	P	11 09 57.4 +0.7
TXAR	Lajitas Array	44.40 298	P	P	11 09 57.6 +0.9
	comp=Z,15nm,0.7s,baz=112,slow=7.9,SNR=89				
APLL	PUNTA DE LOS L	44.69 190	eP	P	11 09 58.1 -0.7
MSTX	Muleshoe	44.69 304	P	P	11 09 59.5 +0.5
	baz=106,SNR=67				
B35A	Bob, Littlefor	45.01 327	IAmb	IAmb	11 10 16.0
	comp=Z,20nm,0.7s				
TCA	Tanti	45.34 187‖	eP	P	11 09 58.7 -5.3
PLTB	Pedras Altas	45.63 174	eP	P	11 10 05.7 -0.6
HPIG		45.79 294	P	P	11 10 08.9 +1.0
SUSD	Miller	45.89 320	P	P	11 10 09.2 +0.9
	baz=119				
AGMN	Agassiz Nation	46.12 326	P	P	11 10 10.6 +0.6
	baz=125,SNR=22				
AGMN	Agassiz Nation	46.12 326	IAmb	IAmb	11 10 27.6
	comp=Z,37nm,0.7s				
AGMN			IAMs_20	IAMs_20	11 29 37.9
	comp=Z,3μm,20.0s				
KSCO	Kaye Shedlock'	46.14 311	P	P	11 10 11.7 +1.2
	baz=110,SNR=12				
KSCO	Kaye Shedlock'	46.14 311	IAmb	IAmb	11 10 27.2
	comp=Z,44nm,0.9s				
MNTX	Cornudas Mount	46.30 301	P	P	11 10 13.0 +1.3
	baz=102,SNR=104				
CO02	Combarbal	46.40 195	P	P	11 10 11.9 -0.5
OGNE	Ogallala	46.42 314	P	P	11 10 12.3 -0.3
	baz=113				
OGNE	Ogallala	46.42 314	IAmb	IAmb	11 10 33.7
	comp=Z,41nm,0.8s				
OGNE			IAMs_20	IAMs_20	11 32 59.4
	comp=Z,2μm,20.0s				
RTCV	Cerro Valdivia	46.48 192‖	eP	P	11 10 12.9 -0.1
MRA	San Martin	46.55 188	eP	P	11 10 12.3 -1.3
RTLS	Leoncito	46.58 193‖	eP	P	11 10 14.5 +0.4
T25A	Trinidad	46.87 308	P	P	11 10 17.1 +0.8
	baz=107,SNR=21				
T25A	Trinidad	46.87 308	IAmb	IAmb	11 10 38.7
	comp=Z,20nm,0.8s				
T25A			IAMs_20	IAMs_20	11 30 49.4
	comp=Z,3μm,22.0s				
AUSP	Uspallata	47.01 193	eP	P	11 10 17.3 -0.1
ASAL	Salagasta	47.25 192‖	eP	P	11 10 19.1 0.0
ULM	Lac du Bonnet	47.27 328	P	P	11 10 19.1 +0.1
	comp=Z,8.1nm,0.5s,baz=128,slow=8.0,SNR=15				
ULM			LR	LR	11 30 22.0
	comp=Z,2μm,21.5s,baz=127,slow=36				
ULM	Lac du Bonnet	47.27 328	P	P	11 10 18.6 -0.4
ULM			IAmb	IAmb	11 10 40.2
	comp=Z,30nm,0.8s				
ARCO	CERRO ARCO	47.51 192‖	eP	P	11 10 21.1 -0.1
AAGR	Agrelo	47.73 192	eP	P	11 10 22.4 -0.4
BNM	Barren Site	47.84 304	P	P	11 10 25.8 +1.9
SDCO	Great Sand Dun	47.88 309	P	P	11 10 23.9 -0.3
	baz=107,SNR=29				
SDCO	Great Sand Dun	47.88 309	IAmb	IAmb	11 10 45.5
	comp=Z,20nm,1.1s				
ANMO	Albuquerque	47.88 305	c iP	P	11 10 26.2 +2.0
ANMO			pmax	pmax	
	comp=Z,6.0nm,0.8s				
ANMO	Albuquerque	47.88 305	P	P	11 10 25.0 +0.7
	baz=104				
ANMO	Albuquerque	47.88 305	P	P	11 10 26.2 +2.0
MDND	Maddock	47.98 323	P	P	11 10 26.1 +1.6
	baz=121				
Q24A	Divide	47.98 310	P	P	11 10 24.7 -0.3
	baz=108				
AVIZ	Vizcacheras	48.04 191‖	eP	P	11 10 25.5 +0.3
Y22D	IRIS PASSCAL I	48.06 303	P	P	11 10 27.0 +1.4
	baz=103				
ROC1	El Roble	48.10 194	eP	P	11 10 26.1 +0.3
NRS	Narsarsuaq	48.16 8	P	P	11 10 26.6 +1.0
NRS			pmax	pmax	
	comp=Z,58nm,1.1s				
NRS			MLR	MLR	
	comp=Z,2μm,20.0s				
NRS	Narsarsuaq	48.16 8	P	P	11 10 26.6 +1.0
NRS			IAMs_20	IAMs_20	11 30 27.6
	comp=Z,2μm,20.0s				
121A	Cookes Peak, D	48.46 301	P	P	11 10 30.4 +1.7
	baz=101,SNR=29				
121A	Cookes Peak, D	48.46 301	P	P	11 10 31.0 +2.3
ISCO	Idaho Springs	48.58 311	P	P	11 10 30.1 +0.4
	baz=108,SNR=19				
ISCO	Idaho Springs	48.58 311	IAmb	IAmb	11 10 47.1
	comp=Z,20nm,0.8s				
H10N3	ASCENSION HYDR	48.74 114	T	T	12 04 05.7
	baz=294,slow=75,SNR=190				
H10N2	ASCENSION HYDR	48.75 114	T	T	12 04 06.3
	baz=294,slow=75,SNR=176				
H10N1	ASCENSION HYDR	48.77 114	T	T	12 04 07.3
	baz=294,slow=75,SNR=201				
S22A	4UR Ranch, Cre	48.89 308	P	P	11 10 33.0 +0.9
	baz=106,SNR=17				
PHWY	Pilot Hill	48.96 313	IAmb	IAmb	11 10 49.8
	comp=Z,33nm,0.8s				
PHWY			IAMs_20	IAMs_20	11 31 56.6
	comp=Z,2μm,22.0s				
RSSD	Black Hills	49.03 317	P	P	11 10 32.2 -0.7
RSSD			pmax	pmax	
	comp=Z,14nm,0.7s				
RSSD			MLR	MLR	
	comp=Z,3μm,22.0s				
RSSD	Black Hills	49.03 317	P	P	11 10 33.2 +0.2
	baz=114				
RSSD	Black Hills	49.03 317	P	P	11 10 32.2 -0.7
H10S3	ASCENSION HYDR	49.10 115	T	T	12 04 23.3
	baz=287,slow=74,SNR=112				
H10S2	ASCENSION HYDR	49.12 115	T	T	12 04 21.2
	baz=293,slow=74,SNR=9.3				
N23A	Red Feather La	49.17 312	P	P	11 10 33.6 -0.6
	baz=109,SNR=11				
RFA	San Rafael	49.30 191‖	eP	P	11 10 34.6 -0.2
SMCO	Snowmass	49.40 310	IAmb	IAmb	11 11 01.1
	comp=Z,35nm,1.4s				
SLBS	Sierra La Lagu	49.41 289	P	P	11 10 38.5 +2.5
	comp=Z,55nm,0.7s				
SLBS	Sierra La Lagu	49.41 289	IAMs_20	IAMs_20	11 32 57.4
	comp=Z,2μm,21.0s				
LAMA	Las Malvinas	49.60 192‖	eP	P	11 10 37.1 +0.1
LPIG	La Paz	49.76 290	LR	LR	11 33 18.7
	comp=Z,561nm,21.9s,baz=109,slow=38				
MORF	Marmelete	50.00 53	eP	P	11 10 41.2 +0.9
MORF			eS	S	11 17 52.2 +1.1
MORF			IAMs_20	IAMs_20	11 23 13.6
	comp=N,5μm,31.8s				
MORF	Marmelete	50.00 53	eP	P	11 10 41.1 +0.9
MORF			eS	S	11 17 52.2 +1.1
MORF	Marmelete	50.00 53	eP	P	11 10 41.7 +1.5
MORF			i LQ	LQ	11 10 54.3
MVCO	Mesa Verde	50.03 307	P	P	11 10 41.7 +1.0
	baz=104				
K22A	Casper	50.17 314	P	P	11 10 42.7 +1.0
	baz=110,SNR=15				
K22A	Casper	50.17 314	IAmb	IAmb	11 11 00.8
	comp=Z,39nm,0.8s				
PUMA	Malargue	50.19 192	eP	P	11 10 41.6 +0.1
GO05	Huala	50.26 194	P	P	11 10 41.4 -0.7
GO05			IAmb	IAmb	11 10 43.5
	comp=Z,82nm,1.2s				
PNCL	Nicolau / Gran	50.29 52	eP	P	11 10 43.0 +0.6
	comp=Z,38nm,1.5s				
PNCL			i LQ	LQ	11 11 03.1
PV15	Paradox Valley	50.30 309	IAmb	IAmb	11 11 05.4
	comp=Z,26nm,0.8s				
RWWY	Rawlins	50.33 313	IAmb	IAmb	11 11 03.1
	comp=Z,48nm,1.4s				
MESJ	Messejana	50.46 52	eP	P	11 10 44.9 +1.2
MESJ			eS	S	11 17 58.7 +1.3
MESJ			IAMs_20	IAMs_20	11 23 11.7
	comp=N,3μm,22.5s				
MESJ	Messejana	50.46 52	eP	P	11 10 44.8 +1.2
MESJ			eS	S	11 17 58.7 +1.3
MESJ	Messejana	50.46 52	i LQ	LQ	11 10 58.2
PV02	Paradox Valley	50.46 308	IAmb	IAmb	11 11 06.2
	comp=Z,24nm,0.9s				
PV13	Radium Mtn., P	50.51 308	IAmb	IAmb	11 11 10.0
	comp=Z,95nm,1.4s				
PV12	Saucer Basin,	50.54 308	IAmb	IAmb	11 10 59.4
	comp=Z,45nm,1.1s				
W18A	Petrified Fore	50.55 304	P	P	11 10 45.3 +0.7
	baz=101				
PCVE	Castro Verde	50.55 52	eP	P	11 10 44.1 -0.2
PV03	Paradox Valley	50.56 308	IAmb	IAmb	11 11 02.9
	comp=Z,28nm,1.0s				
PV22	Blue Mesa, Par	50.58 309	P	P	11 10 47.0 +2.1
PV11	David Mesa, Pa	50.59 308	IAmb	IAmb	11 11 03.1
	comp=Z,28nm,0.7s				
PV18	Skein Mesa, Pa	50.60 308	IAmb	IAmb	11 11 06.9
	comp=Z,23nm,0.9s				
X18A	Snowflake	50.61 303	IAmb	IAmb	11 11 03.7
	comp=Z,35nm,0.9s				
O20A	White River Ci	50.61 311	P	P	11 10 44.4 -0.6
	baz=107				
O20A	White River Ci	50.61 311	IAmb	IAmb	11 11 12.8
	comp=Z,32nm,1.2s				
PV16	Nyswonger Mesa	50.62 308	IAmb	IAmb	11 11 10.5
	comp=Z,39nm,1.2s				
PV17	East Wray Mesa	50.65 308	P	P	11 10 46.9 +1.6
PV17			IAmb	IAmb	11 11 03.5
	comp=Z,18nm,0.7s				
HSIG		50.66 296	IAmb	IAmb	11 10 53.4
	comp=Z,38nm,1.4s				
PV20	West Nyswonger	50.67 308	IAmb	IAmb	11 11 10.9
	comp=Z,23nm,0.8s				
PVAQ	Vaqueiros	50.74 53	eP	P	11 10 44.8 -1.0
PVAQ			i LQ	LQ	11 11 00.4
PVAQ			eS	S	11 18 01.8 +0.4
PVAQ			eLR	LR	11 23 59.8
	comp=Z,2μm,20.0s				
PMTG	Montargil	50.77 51	eP	P	11 10 46.0 0.0
	comp=Z,60nm,0.8s				
PMTG			i LQ	LQ	11 10 59.8
PBEJ	Beja	50.78 52	i LQ	LQ	11 11 07.3
EVO	Evora	50.79 51	eP	P	11 10 43.7 -2.5
	comp=Z,6.7nm,0.6s				
EVO			i LQ	LQ	11 10 59.9
PCAS	Casmilo, Conde	50.83 49	eP	P	11 10 47.3 +0.8
	comp=Z,52nm,2.1s				
PCAS			i LQ	LQ	11 11 00.0
TUC	Tucson	50.93 300	P	P	11 10 48.3 +0.9
TUC			pmax	pmax	
	comp=Z,39nm,1.0s				
TUC			MLR	MLR	
	comp=Z,1μm,22.0s				
TUC	Tucson	50.93 300	P	P	11 10 46.8 -0.6
	baz=98				
TUC	Tucson	50.93 300	P	P	11 10 48.3 +0.9
TUC			IAmb	IAmb	11 11 05.6
	comp=Z,38nm,1.0s				
COI	Coimbra	50.94 49	P	P	11 10 46.3 -0.9
COI			pmax	pmax	
	comp=Z,55nm,0.9s				
COI	Coimbra	50.94 49	eP	P	11 10 49.0 +1.8
COI			i LQ	LQ	11 11 01.3
COI	Coimbra	50.94 49	P	P	11 10 46.3 -0.9
COI			IAmb	IAmb	11 11 07.3
	comp=Z,55nm,0.8s				
DGMT	Dagmar	50.97 322	IAmb	IAmb	11 11 15.1
	comp=Z,38nm,0.7s				
PBAR	Barrancos	51.45 52	eP	P	11 10 50.2 -0.9
PVIS	Viseu	51.46 49	eP	P	11 10 51.1 -0.1
	comp=Z,34nm,2.0s				
PVIS			i LQ	LQ	11 11 05.1
LAO	LASA Array	51.46 319	P	P	11 10 52.1 +0.9
	baz=113,SNR=9.8				
LAO	LASA Array	51.46 319	IAmb	IAmb	11 11 10.2
	comp=Z,31nm,0.8s				
LAO			IAMs_20	IAMs_20	11 33 48.5
	comp=Z,2μm,20.0s				
PMRV	Marv??o	51.49 50	eP	P	11 10 52.2 +0.8
	comp=Z,24nm,1.7s				
PMRV			i LQ	LQ	11 11 05.1
PMRV			eS	S	11 18 10.8 -0.8
PMRV			eSS	SS	11 21 48.8 +1.2
PMRV			eLR	LR	11 25 00.1
	comp=Z,1μm,20.0s				
PCBR	Castelo Branco	51.53 50	eP	P	11 10 52.2 +0.5
	comp=Z,39nm,1.6s				
PCBR			i LQ	LQ	11 11 05.4
PGAV	Gavieira, Arco	51.55 47	eP	P	11 10 51.6 -0.3
	comp=Z,60nm,1.7s				
PGAV			eS	S	11 18 11.4 -1.2
PGAV			eSS	SS	11 21 46.8 -1.9
PGAV			eLR	LR	11 24 07.0
	comp=Z,776nm,16.0s				
MTE	Manteigas	51.63 49	eP	P	11 10 52.8 +0.3
	comp=Z,45nm,1.7s				
MTE			i LQ	LQ	11 11 06.4
MTE			eS	S	11 18 12.9 -0.8
MTE			eSS	SS	11 21 55.6 +5.6
MTE			eLR	LR	11 24 19.0
	comp=Z,908nm,18.0s				
MTE	Manteigas	51.63 49	P	P	11 10 51.4 -1.2
SRIG	Santa Rosalia	51.66 294	IAmb	IAmb	11 11 00.1
	comp=Z,79nm,1.2s				
BI02	San Fabin de	51.69 193	IAmb	IAmb	11 10 54.5
	comp=Z,90nm,1.2s				
RDMU	Red Mountain	51.70 311	IAmb	IAmb	11 11 22.1
	comp=Z,55nm,1.4s				
POLO	Lamas de Olo	51.72 48	eP	P	11 10 53.2 0.0
	comp=Z,19nm,1.8s				
POLO			i LQ	LQ	11 11 07.2
TRQA	Tornquist	51.77 183	P	P	11 10 50.7 -2.7
TRQA			pmax	pmax	
	comp=Z,28nm,1.3s				
TRQA	Tornquist	51.77 183	P	P	11 10 50.6 -2.7
TRQA	Tornquist	51.77 183	eP	P	11 10 52.6 -0.7
WUAZ	Wupatki	51.94 304	P	P	11 10 55.7 +0.6
	baz=101,SNR=33				
WUAZ	Wupatki	51.94 304	IAmb	IAmb	11 11 18.5
	comp=Z,42nm,0.9s				
FCC	Fort Churchill	52.03 337	IAmb	IAmb	11 11 01.7
	comp=Z,22nm,0.8s				
SRU	San Rafael Swe	52.04 309	IAmb	IAmb	11 11 15.7
	comp=Z,34nm,0.7s				
MVO	Moncorvo	52.22 48	eP	P	11 10 58.1 +1.2
	comp=Z,43nm,2.0s				
MVO			i LQ	LQ	11 11 14.1
MVO			eS	S	11 18 21.0 -0.7
MVO			eLR	LR	11 25 09.6
	comp=Z,587nm,22.0s				
P17A	Butcher Ranch,	52.29 309	IAmb	IAmb	11 11 26.8

comp=Z,46nm,1.1s
PD31 Pinedale Array 52.33 314 IAmb IAmb 11 11 15.6
comp=Z,22nm,0.7s
PDAR Pinedale Array 52.33 314 P **P** **11 10 58.6 +0.8**
comp=Z,12nm,0.6s,baz=111,slow=9.5,SNR=35
BW06 Boulder Array 52.33 314 P **P** **11 10 58.2 +0.3**
baz=108,SNR=49
BW06 Boulder Array 52.33 314 IAmb IAmb 11 11 15.7
comp=Z,25nm,0.7s
BW06 IAMs_20 IAMs_20 11 36 59.6
comp=Z,2μm,21.0s
MDT Midelt 52.40 59 LR LR 11 29 32.0
comp=Z,2μm,20.8s,baz=276,slow=32
214A Organ Pipe Nat 52.58 300 P **P** **11 11 00.5 +0.8**
baz=97
PBRG Braganca 52.60 48 *e*P **P** **11 10 58.9 -0.8**
comp=Z,23nm,1.5s
PBRG *i* LQ LQ 11 11 13.0
TMUT Trail Mountain 52.60 309 IAmb IAmb 11 11 18.5
comp=Z,35nm,0.7s
KOWA Kowa 52.75 82 P **P** **11 11 00.8 -0.3**
comp=Z,22nm,0.5s,baz=286,slow=8.7,SNR=41
KOWA Kowa 52.75 82 P **P** **11 11 00.5 -0.6**
KOWA IAmb IAmb 11 11 22.7
comp=Z,42nm,0.9s
KOWA IAMs_20 IAMs_20 11 30 38.2
comp=Z,2μm,20.0s
U15A North Rim 52.84 305 P **P** **11 11 02.9 +1.0**
RLMT Red Lodge 52.87 317 P **P** **11 11 03.2 +1.3**
baz=110,SNR=15
RLMT Red Lodge 52.87 317 IAmb IAmb 11 11 19.2
comp=Z,34nm,0.9s
FFC Flin Flon 52.90 330 P **P** **11 11 01.3 -0.3**
FFC pmax pmax
comp=Z,17nm,1.2s
FFC MLR MLR
comp=Z,3μm,22.0s
FFC Flin Flon 52.90 330 P **P** **11 11 01.3 -0.3**
PKCU Pink Cliffs 53.05 307 P **P** **11 11 03.4 0.0**
PKCU IAmb IAmb 11 11 29.2
comp=Z,62nm,1.5s
TIC Toumodi 53.06 92 *e*P **P** **11 11 04.4 +1.0**
MTPU Mount Pierson 53.07 307 IAmb IAmb 11 11 30.3
comp=Z,38nm,1.2s
LIC Lamto 53.14 93 *e*P **P** **11 11 04.0 0.0**
comp=Z,85nm,0.6s
DY2G Dye2 53.18 6 *i* P **P** **11 11 04.0 +0.3**
DY2G IAmb IAmb 11 11 06.1
comp=Z,38nm,0.8s
DBIC Dimbokro 53.21 92 P **P** **11 11 03.4 -1.1**
DBIC Dimbokro 53.21 92 P **P** **11 11 03.4 -1.1**
ISOG Isortoq, Green 53.30 10 *i* P **P** **11 11 05.2 +0.9**
ISOG IAmb IAmb 11 11 06.1
comp=Z,27nm,0.9s
LOHW Long Hollow 53.31 314 IAmb IAmb 11 11 22.9
comp=Z,17nm,0.7s
LOHW IAMs_20 IAMs_20 11 34 13.5
comp=Z,2μm,22.0s
SFJD Kangerlussuaq 53.32 4 P **P** **11 11 04.6 +0.1**
comp=Z,13nm,0.9s,baz=203,slow=6.9,SNR=4.0
CTU Camp Tracy 53.34 311 IAmb IAmb 11 11 31.9
comp=Z,42nm,0.8s
YMP Mirror Lake Pl 53.34 316 IAmb IAmb 11 11 35.4
comp=Z,18nm,0.8s
GCMT Greycliff 53.36 317 P **P** **11 11 07.2 +1.9**
KNB Kanab 53.37 306 IAmb IAmb 11 11 23.8
comp=Z,23nm,0.9s
SNOW Snow King Moun 53.37 314 P **P** **11 11 06.4 +0.8**
SNOW IAmb IAmb 11 11 22.7
comp=Z,27nm,1.0s
SNOW IAMs_20 IAMs_20 11 34 15.2
comp=Z,2μm,21.0s
KIC Kosan Boka 53.39 92 *e*P **P** **11 11 06.8 +0.9**
comp=Z,43nm,0.7s
REDW Red Top Meadow 53.41 314 IAMs_20 IAMs_20 11 34 51.2
comp=Z,2μm,22.0s
HWUT Hardware Ranch 53.43 312 IAmb IAmb 11 11 32.6
comp=Z,34nm,0.8s
TPAW Teton Pass 53.51 314 IAmb IAmb 11 11 25.4
comp=Z,20nm,0.7s
TPAW IAMs_20 IAMs_20 11 38 03.0
comp=Z,1μm,20.0s
H17A Grant Village 53.52 315 P **P** **11 11 07.8 +1.1**
baz=108
YNR Norris Junctio 53.69 316 P **P** **11 11 10.3 +2.3**
LCMT Little Creek M 53.70 306 P **P** **11 11 09.3 +1.3**
PAB San Pablo 53.80 51 P **P** **11 11 07.4 -1.2**
PAB pmax pmax
comp=Z,10.0nm,0.9s
PAB San Pablo 53.80 51 P **P** **11 11 07.4 -1.2**
YHH Holmes Hill 53.83 316 P **P** **11 11 09.9 +0.9**
YHH IAmb IAmb 11 11 27.8
comp=Z,19nm,0.8s
YMR Madison River 53.87 316 IAmb IAmb 11 11 29.9
comp=Z,29nm,0.8s
W13A Hualapai Mount 53.90 303 IAmb IAmb 11 11 27.2
comp=Z,16nm,0.8s
PDMCI Parker Dam,Lak 53.99 302 P **P** **11 11 10.8 +0.9**
baz=98
DUG Dugway, Tooele 54.01 310 P **P** **11 11 10.6 +0.4**
baz=103,SNR=22
DUG Dugway, Tooele 54.01 310 IAmb IAmb 11 11 36.8
comp=Z,44nm,1.1s
DUG IAMs_20 IAMs_20 11 37 34.4
comp=Z,2μm,20.0s
ESDC Sonseca Array 54.12 51 P **P** **11 11 10.9 0.0**
comp=Z,4.7nm,0.9s,baz=257,slow=7.3,SNR=21
ESDC LR LR 11 30 14.3
comp=Z,1μm,20.9s,baz=260,slow=32
ESDC Sonseca Array 54.12 51 P **P** **11 11 10.9 0.0**
ESBB Sonseca Array 54.12 51 P **P** **11 11 10.1 -0.8**
EGMT Eagleton 54.19 320 P **P** **11 11 12.7 +1.4**
baz=111,SNR=10
EGMT Eagleton 54.19 320 IAmb IAmb 11 11 33.8
comp=Z,41nm,0.8s
EGMT IAMs_20 IAMs_20 11 34 41.7
comp=Z,2μm,21.0s
GLA Glamis 54.40 301 P **P** **11 11 15.2 +2.1**
baz=96
BOZ Bozeman (W) 54.60 316 P **P** **11 11 15.3 +0.9**
baz=108,SNR=16
IRM Iron Mountain 54.80 302 P **P** **11 11 18.1 +2.2**
baz=97,SNR=34
HRY Holter Researc 55.08 318 P **P** **11 11 19.8 +1.9**
DLMT Dillon 55.18 316 P **P** **11 11 20.0 +1.4**
SWSC Sam W. Stewart 55.20 301 P **P** **11 11 21.0 +2.2**
baz=96
GMRC Granite Mounta 55.30 303 P **P** **11 11 20.9 +1.3**
baz=97,SNR=11
IKP In-Ko-Pah, Jac 55.43 300 P **P** **11 11 20.6 0.0**
baz=96
PLCA Paso Flores 55.47 191 P **P** **11 11 20.4 -0.2**
comp=Z,46nm,1.0s,baz=9.6,slow=8.6,SNR=40
PLCA Paso Flores 55.47 191 *e*P **P** **11 11 20.5 0.0**
BELC Belle Mtn. Jos 55.48 302 P **P** **11 11 21.9 +0.9**
baz=96,SNR=10
ILULI Ilulissat 55.49 3 *i* P **P** **11 11 21.3 +1.1**
ILULI IAmb IAmb 11 11 23.0
comp=Z,34nm,0.6s
ILULI Ilulissat 55.49 3 *i* P **P** **11 11 21.3 +1.1**
ILULI pmax pmax
comp=Z,34nm,0.6s
ILULI Ilulissat 55.49 3 P **P** **11 11 20.4 +0.2**
ILULI IAMs_20 IAMs_20 11 33 20.6
comp=Z,1μm,19.0s
TUQ Turquoise Moun 55.59 304 P **P** **11 11 22.4 +0.7**
baz=98
MONP2 Monument Peak 55.72 300 P **P** **11 11 23.7 +0.9**
baz=95,SNR=15
R11A Troy Canyon, C 55.76 307 P **P** **11 11 24.8 +1.8**
baz=100,SNR=16
TPFO Pinon Flats 55.82 301 P **P** **11 11 23.7 +0.3**
baz=96
PFO Pinyon Flats O 55.82 301 P **P** **11 11 25.0 +1.6**
PFO pmax pmax
comp=Z,13nm,1.1s
PFO MLR MLR
comp=Z,600nm,20.0s
PFO Pinyon Flats O 55.82 301 P **P** **11 11 25.1 +1.6**
baz=96
PFO Pinyon Flats O 55.82 301 P **P** **11 11 25.0 +1.6**
HEC Hector,Ludlow 55.85 303 P **P** **11 11 25.3 +1.7**
baz=97
BAR Barrett 55.91 300 IAmb IAmb 11 11 42.3
comp=Z,23nm,1.1s
ELK Elko 55.94 310 IAMs_20 IAMs_20 11 35 53.3
comp=Z,2μm,22.0s

SHOC Shoshone, Teco 55.94 304 P **P** **11 11 25.2 +1.1**
baz=98
HLID Hailey 55.96 313 P **P** **11 11 25.3 +1.0**
baz=104,SNR=24
TPNV Topopah Spring 56.06 305 P **P** **11 11 26.6 +1.5**
baz=98,SNR=34
TPNV Topopah Spring 56.06 305 IAmb IAmb 11 11 43.3
comp=Z,35nm,1.0s
TPNV IAMs_20 IAMs_20 11 39 20.9
comp=Z,2μm,22.0s
BBRC Big Bear Solar 56.27 302 P **P** **11 11 29.6 +2.9**
baz=96
109C Camp Elliot, M 56.29 300 P **P** **11 11 28.8 +2.2**
baz=95
109C Camp Elliot, M 56.29 300 IAmb IAmb 11 11 45.0
comp=Z,36nm,1.2s
GSC Goldstone, Bar 56.29 303 P **P** **11 11 28.2 +1.4**
baz=97,SNR=7.0
RRX Edison Barstow 56.40 303 P **P** **11 11 28.9 +1.5**
baz=96
MURC Murrieta 56.43 301 P **P** **11 11 29.8 +2.1**
baz=96
ICESG Greenland Ices 56.47 8⇓ *i*P **P** **11 11 27.4 -0.3**
FURC Furnace Creek, 56.48 305 P **P** **11 11 28.8 +0.9**
baz=98
MSO Missoula 56.50 317 P **P** **11 11 28.9 +0.9**
baz=106
QUIF Quistinic 56.79 41 *e*P **P** **11 11 31.1 +1.2**
QUIF pmax pmax
comp=Z,32nm,1.4s
BORG Borgarnes 56.83 18 IAMs_20 IAMs_20 11 33 40.8
comp=Z,1μm,20.0s
BFSC Mount Baldy Ra 56.88 302 P **P** **11 11 32.6 +1.6**
baz=96
SJPF Ste Jean 56.88 47 *e*P **P** **11 11 31.3 +0.6**
SJPF pmax pmax
comp=Z,34nm,1.4s
MFID Camas Ranch 56.93 313 P **P** **11 11 32.3 +1.2**
MFID IAMs_20 IAMs_20 11 37 08.4
comp=Z,2μm,22.0s
GRAC Grapevine Rang 56.95 305 P **P** **11 11 32.8 +1.5**
baz=98
JTMT Jette 56.98 318 P **P** **11 11 30.9 -0.6**
LRMC Laurel Mtn Rad 57.02 303 P **P** **11 11 33.6 +1.7**
baz=96
EDW2 Edwards Air Fo 57.22 303 P **P** **11 11 34.7 +1.4**
baz=96,SNR=8.8
SGMF Saint Gilles 57.28 41 *e*P **P** **11 11 34.0 +0.6**
SGMF pmax pmax
comp=Z,45nm,1.4s
ETSF Etsaut 57.31 48 *e*P **P** **11 11 35.6 +1.8**
ETSF pmax pmax
comp=Z,13nm,1.1s
FMP Fort Macarthur 57.35 301 P **P** **11 11 33.9 -0.2**
baz=95
LL01 San Ignacio de 57.42 192 IAmb IAmb 11 11 46.2
comp=Z,64nm,1.1s
CIS Catalina Islan 57.43 301 P **P** **11 11 36.2 +1.4**
baz=95
CWC Cottonwood Cre 57.45 304 P **P** **11 11 37.0 +2.0**
baz=97
TIN Tinemaha, Big 57.65 305 P **P** **11 11 39.1 +2.7**
baz=97
ISA Isabella, Lake 57.69 303 P **P** **11 11 38.6 +2.1**
baz=96
NV11 Mina Array Sit 57.77 307 IAmb IAmb 11 11 54.4
comp=Z,32nm,1.1s
NVAR Mina Array Bea 57.88 307 P **P** **11 11 39.7 +1.6**
comp=Z,8.8nm,0.7s,baz=95,slow=6.3,SNR=46
NVAR LR LR 11 41 36.1
comp=Z,952nm,18.5s,baz=100,slow=41
NVAR Mina Array Bea 57.88 307 P **P** **11 11 39.9 +1.8**
ARVC Arvin 57.92 303 P **P** **11 11 40.0 +1.8**
baz=95
EPF Esparros 57.98 48 *e*P **P** **11 11 37.6 -0.9**
EPF pmax pmax
comp=Z,15nm,0.9s
LHV Little Huntoon 58.02 307 P **P** **11 11 40.8 +2.1**
LHV IAmb IAmb 11 11 54.6
comp=Z,26nm,1.2s
LL02 Futaleuf 58.09 191 IAmb IAmb 11 12 00.9
comp=Z,22nm,1.1s
VES Vestal, Richgr 58.20 304 P **P** **11 11 40.5 +0.5**
baz=96
MDPB Devils Postpil 58.39 306 IAmb IAmb 11 11 59.6
comp=Z,22nm,0.9s
GRR Gorron 58.41 41 *e*P **P** **11 11 41.4 +0.1**
GRR pmax pmax
comp=Z,17nm,0.8s
TORD Torodi Ar. Bea 58.43 83 P **P** **11 11 41.5 -0.5**
comp=Z,25nm,1.0s,baz=277,slow=6.1,SNR=46
TORD Torodi Ar. Bea 58.43 83 P **P** **11 11 41.5 -0.5**
SCZ2 Santa Cruz Isl 58.49 301 P **P** **11 11 43.3 +1.1**
baz=94
PKM Mcpherson Peak 58.70 302 P **P** **11 11 43.4 -0.5**
baz=95
FLN La Foliniere 58.75 41 *e*P **P** **11 11 43.9 +0.2**
FLN pmax pmax
comp=Z,29nm,1.0s
WVOR Wild Horse Val 58.76 311 IAMs_20 IAMs_20 11 38 08.9
comp=Z,1μm,21.0s
J08A Circle Bar Ran 58.80 312 P **P** **11 11 45.5 +1.2**
J08A IAmb IAmb 11 12 03.0
comp=Z,15nm,0.8s
SMMC Simmler 58.89 303 P **P** **11 11 44.3 -0.6**
baz=95
LDF La Druitiere 58.94 41 *e*P **P** **11 11 46.1 +1.1**
LDF pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 58.96 318 P **P** **11 11 44.2 -1.1**
baz=105,SNR=17
NEW Newport 58.96 318 IAmb IAmb 11 12 09.4
comp=Z,23nm,0.8s
RJF Les Rejaudoux 59.27 45 *e*P **P** **11 11 48.8 +1.4**
RJF pmax pmax
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 59.27 33 LR LR 11 33 51.6
comp=Z,566nm,18.3s,baz=310,slow=33
CMB Columbia Colle 59.46 306 IAMs_20 IAMs_20 11 41 43.8
comp=Z,1μm,20.0s
CAF Calviac 59.57 46 *e*P **P** **11 11 49.5 0.0**
CAF pmax pmax
comp=Z,33nm,1.4s
C09A Chrisman Ranch 59.60 318 P **P** **11 11 50.8 +1.2**
C09A IAmb IAmb 11 12 00.7
comp=Z,22nm,1.2s
I07A Izee 59.67 313 IAmb IAmb 11 12 07.2
comp=Z,21nm,1.1s
SUMG Summit 59.86 7⇓ *i*P **P** **11 11 51.6 +0.1**
SUMG IAmb IAmb 11 11 53.2
comp=Z,54nm,1.3s
SUMG Summit 59.86 7⇓ *i*P **P** **11 11 51.5 +0.1**
SUMG pmax pmax
comp=Z,54nm,1.3s
SUMG Summit 59.86 7 P **P** **11 11 50.2 -1.2**
SUMG IAmb IAmb 11 11 58.7
comp=Z,31nm,0.8s
D08A Wollman Farm, 59.86 317 P **P** **11 11 52.0 +0.6**
D08A IAmb IAmb 11 12 13.0
comp=Z,16nm,0.9s
MOD Modoc Plateau 59.89 311 IAMs_20 IAMs_20 11 41 21.0
comp=Z,1μm,19.0s
TCF Toulx Ste Croi 59.94 44 *e*P **P** **11 11 52.2 +0.2**
TCF pmax pmax
comp=Z,21nm,1.4s
HAWA Hanford 60.13 316 P **P** **11 11 53.6 +0.4**
HAWA IAmb IAmb 11 12 10.1
comp=Z,14nm,0.8s
B08A Colville Reser 60.42 318 P **P** **11 11 55.4 +0.2**
K05A Summer Lake 60.45 311 P **P** **11 11 55.8 0.0**
ORV Oroville 60.49 308 IAmb IAmb 11 12 23.0
comp=Z,28nm,1.2s
J05D Fort Rock, OR 60.78 312 P **P** **11 11 58.0 0.0**
baz=99,SNR=11
O03E Paynes Creek 60.81 309 P **P** **11 11 58.2 +0.1**
baz=96
AVF Avril sur Loir 60.81 44 *e*P **P** **11 11 57.7 -0.2**
AVF pmax pmax
comp=Z,10.0nm,0.8s
SCO Scoresbysund 60.88 13 P **P** **11 11 57.6 -0.3**
SCO pmax pmax
comp=Z,29nm,1.5s
SCO Scoresbysund 60.88 13 P **P** **11 11 57.6 -0.3**
SCO IAmb IAmb 11 12 21.8
comp=Z,29nm,1.5s
SCO IAMs_20 IAMs_20 11 35 45.9
comp=Z,1μm,20.0s

M04C Macdoel 61.01 310 P **P** **11 11 59.6 0.0**
baz=97,SNR=11
I05D Terrebonne, OR 61.02 313 P **P** **11 12 00.5 +1.1**
baz=99,SNR=10
K04D Chiloquin, OR 61.06 311 P **P** **11 11 59.2 -0.6**
baz=98
LTY Liberty 61.07 317 IAmb IAmb 11 12 20.6
comp=Z,36nm,1.2s
G05D Wamic, OR 61.15 314 P **P** **11 11 58.8 -1.5**
baz=100
LOR Lormes 61.25 44 *e*P **P** **11 12 00.6 -0.3**
LOR pmax pmax
comp=Z,27nm,1.0s
C06D Leavenworth 61.35 317 P **P** **11 12 00.5 -1.1**
baz=101
F05D White Salmon 61.35 315 P **P** **11 12 03.2 +1.6**
baz=100
SSB Saint Sauveur 61.36 46 IAMs_20 IAMs_20 11 34 02.9
comp=Z,1μm,20.0s
VIVF Saint-Julien-l 61.38 46 *e*P **P** **11 12 02.6 +0.7**
VIVF pmax pmax
comp=Z,13nm,0.9s
L04D Klamath Falls 61.41 311 P **P** **11 12 01.3 -1.0**
baz=97
N02D Trinity Center 61.56 309 P **P** **11 12 01.6 -1.6**
baz=96
HOPS Hopland Field 61.65 307 IAMs_20 IAMs_20 11 43 12.8
comp=Z,2μm,21.0s
YBH Yreka Blue Hor 61.65 310 P **P** **11 12 06.0 +2.1**
YBH pmax pmax
comp=Z,13nm,0.8s
YBH MLR MLR
comp=Z,1μm,21.0s
YBH Yreka Blue Hor 61.65 310 P **P** **11 12 06.0 +2.1**
YBH IAmb IAmb 11 12 21.9
comp=Z,12nm,0.8s
H04A Detroit Lake 61.67 313 P **P** **11 12 05.5 +1.7**
H04A IAmb IAmb 11 12 20.7
comp=Z,20nm,0.8s
M02C Callahan 61.72 310 P **P** **11 12 01.0 -3.3**
baz=96
HUMO Hull Mountain 61.94 311 IAMs_20 IAMs_20 11 40 38.1
comp=Z,2μm,22.0s
H04D Lebanon 62.03 313 P **P** **11 12 05.1 -1.1**
baz=98
BAIF Baives 62.03 40 *e*P **P** **11 12 05.9 -0.2**
BAIF pmax pmax
comp=Z,11nm,0.8s
SNF Seneffe 62.18 40 *d*P **P** **11 12 07.0 0.0**
SNF *dp*P **sP** **11 12 11.4 +0.8**
SNF *ds*P **pwP** **11 12 13.0 -0.7**
B05A Bryant 62.20 317 P **P** **11 12 05.9 -1.4**
baz=101
E04D Cinebar 62.22 315 P **P** **11 12 06.4 -1.1**
baz=99
ORIF Oris-en-Rattie 62.24 46 *e*P **P** **11 12 09.9 +2.1**
ORIF pmax pmax
comp=Z,23nm,1.4s
DOU Dourbes 62.29 40 *d*P **P** **11 12 08.2 +0.4**
I03D Drain, OR 62.36 312 P **P** **11 12 06.3 -2.1**
baz=97
YKA Yellowknife Ar 62.43 334 P **P** **11 12 07.9 -0.7**
comp=Z,4.7nm,0.8s,baz=107,slow=8.0,SNR=25
YKA LR LR 11 39 26.6
comp=Z,903nm,21.9s,baz=0.0,slow=36
YKA Yellowknife Ar 62.43 334 *i* P **P** **11 12 08.1 -0.4**
YKA pmax pmax
comp=Z,8.0nm,0.8s
GIVF Givet 62.43 40 *e*P **P** **11 12 08.5 -0.3**
GIVF pmax pmax
comp=Z,19nm,1.0s
BMRD Maredsous 62.44 40 *d*P **P** **11 12 08.7 -0.1**
BMRD *d*PcP **PcP** **11 12 48.6 +0.4**
COR Corvallis 62.44 313 IAMs_20 IAMs_20 11 40 28.3
comp=Z,2μm,22.0s
K02D Willamette Mer 62.47 311 P **P** **11 12 08.0 -1.3**
baz=96
G03D McMinnville, O 62.50 314 P **P** **11 12 08.2 -1.1**
baz=98
CABF La Chapelle 62.64 45 *e*P **P** **11 12 10.3 -0.1**
CABF pmax pmax
comp=Z,65nm,1.8s
BGES Gesves 62.65 40 *d*P **P** **11 12 10.2 -0.1**
BGES *dp*P **sP** **11 12 13.7 0.0**
J01E Myrtle Point 62.72 312 P **P** **11 12 08.6 -2.2**
baz=96
D03D Eldon 62.73 317 P **P** **11 12 09.4 -1.4**
baz=99
I02D Swisshome 62.77 313 P **P** **11 12 11.4 +0.2**
baz=97
BCLA Clavier 62.80 40 *d*P **P** **11 12 11.6 +0.4**
BCLA *ds*P **pwP** **11 12 17.8 0.0**
BCLA *d*PcP **PcP** **11 12 49.1 -0.6**
BNI Bardonecchia 62.82 46 P **P** **11 12 12.7 +1.0**
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 62.82 46 P **P** **11 12 12.7 +1.0**
BNI IAMs_20 IAMs_20 11 35 13.7
comp=Z,1μm,20.0s
MBDF Montbardon 62.84 47 *e*P **P** **11 12 13.6 +1.7**
MBDF pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 62.93 46 *e*P **P** **11 12 13.5 +0.9**
LPG pmax pmax
comp=Z,29nm,1.4s
HAU Haudompre 63.03 43 *e*P **P** **11 12 12.2 -0.7**
HAU pmax pmax
comp=Z,4.0nm,0.7s
BEBN Eben Emael 63.10 40 *d*P **P** **11 12 13.7 +0.5**
BEBN *ds*P **pwP** **11 12 19.6 -0.3**
BEBN *d*PcP **PcP** **11 12 51.4 +0.5**
WLF Walferdange 63.19 41 *d*P **P** **11 12 14.1 +0.3**
WLF Walferdange 63.19 41 *e*P **P** **11 12 14.3 +0.4**
comp=Z,29nm,1.4s,baz=263,slow=6.3
BHOU Houvegnez 63.23 40 *d*P **P** **11 12 14.4 +0.3**
comp=Z,19nm,1.6s
BHOU *ds*P **pwP** **11 12 20.5 -0.2**
MEM Membach 63.27 40 κP **P** **11 12 14.7 +0.3**
BTNL Ternell 63.35 40 κP **P** **11 12 15.2 +0.2**
comp=Z,12nm,1.5s
SENIN Lac Senin/Sane 63.43 45 P **P** **11 12 15.0 -0.8**
NEEM North Greenlan 63.69 2 *i* P **P** **11 12 17.6 +0.6**
AHRW Bad Neuenahr-A 63.93 40 *e*P **P** **11 12 19.2 +0.4**
comp=Z,35nm,1.3s,baz=263,slow=6.3
RES Resolute Bay 64.04 350 LR LR 11 39 28.6
comp=Z,972nm,21.1s,baz=124,slow=35
DBG Daneborg 64.10 11 *i* P **P** **11 12 20.4 +1.0**
KEST Kesra 64.14 57 P **P** **11 12 21.1 +0.5**
comp=Z,11nm,0.9s,baz=204,slow=4.7,SNR=11
KEST Kesra 64.14 57 P **P** **11 12 20.1 -0.4**
KEST IAmb IAmb 11 12 44.8
comp=Z,29nm,0.9s
BUG Bochum--Univer 64.21 39 *e*P **P** **11 12 20.2 -0.4**
baz=263,slow=6.3
PGF Pioggiola 64.22 49 *e*P **P** **11 12 21.9 +0.9**
PGF pmax pmax
comp=Z,20nm,1.1s
VSL Villasalto 64.31 53 IAmb IAmb 11 12 44.3
comp=Z,17nm,0.8s
BFO Black Forest 64.39 43 *e*P **P** **11 12 21.2 -0.6**
baz=263,slow=6.3
TNS Taunus Mts 64.75 41 *e*P **P** **11 12 24.2 0.0**
comp=Z,30nm,1.3s,baz=263,slow=6.3
TUE Stuetta 64.85 45 P **P** **11 12 24.5 -0.6**
TUE IAmb IAmb 11 12 43.0
comp=Z,14nm,0.9s
KASTN Kahler Asten 64.88 40 *e*P **P** **11 12 24.8 -0.2**
comp=Z,28nm,1.7s,baz=263,slow=6.3
DAVOX Davos/Dischmat 65.25 45 LR LR 11 35 57.6
comp=Z,1μm,21.1s,baz=265,slow=32
EFI East Falkland 65.28 180⇑ *e*P **P** **11 12 27.3 0.0**
EFI pmax pmax
comp=Z,42nm,1.0s
DAVA Damuels 65.30 44 *i* P **P** **11 12 28.8 +0.8**
comp=Z,33nm,1.4s,SNR=7.9
VLC Villacollemand 65.36 48 IAmb IAmb 11 12 49.2
comp=Z,24nm,1.1s
UBR Ueberruh 65.50 44 *e*P **P** **11 12 29.0 -0.2**
comp=Z,20nm,1.2s,baz=263,slow=6.3
CASP Castiglione de 65.61 49 IAmb IAmb 11 12 52.9
comp=Z,16nm,0.8s
ZCCA Zocca 65.80 47 IAmb IAmb 11 12 53.4
comp=Z,21nm,0.7s
UBBA Unterbreizbach 65.81 40 *e*P **P** **11 12 30.4 -0.4**
baz=263,slow=6.3
FETA Feichten 65.85 45 *i* P **P** **11 12 32.2 +0.7**

comp=Z,31nm,1.2s,SNR=15
RETA Reutte 65.92 44 *e*P **P 11 12 32.5 +0.7**
comp=Z,13nm,1.4s
OSSC Osservatorio P 65.94 48 P **P 11 12 31.0 -1.0**
OSSC IAmb IAmb 11 12 47.7
comp=Z,18nm,1.0s
NRDL Niedersach Rie 66.11 39 *e*P **P 11 12 32.8 0.0**
comp=Z,56nm,1.8s,baz=263,slow=6.3
MOTA Moosalm 66.14 44 *i* P **P 11 12 33.5 +0.2**
comp=Z,27nm,1.6s,SNR=6.8
DAG Danmarks Havn 66.19 9 *i* P **P 11 12 33.0 0.0**
DAG Danmarks Havn 66.19 9 *i* P **P 11 12 33.0 0.0**
SQTA Sankt Quirin 66.19 44 *e*P **P 11 12 34.3 +0.6**
comp=Z,29nm,1.2s
MUD Monsted U'grnd 66.25 34 *i* P **P 11 12 33.0 -0.6**
MUD Monsted U'grnd 66.25 34 *i* P **P 11 12 33.0 -0.6**
ASSE Asse, Remlinge 66.41 39 *e*P **P 11 12 34.4 -0.3**
comp=Z,14nm,1.2s,baz=263,slow=6.3
GRF Grafenberg Arr 66.45 42 *e*P **P 11 12 34.4 -0.7**
baz=263,slow=6.3
WATA Walderalm 66.45 44 *e*P **P 11 12 35.6 +0.2**
comp=Z,6.5nm,0.7s
BSEG Bad Segeberg 66.46 37 *e*P **P 11 12 34.8 -0.2**
comp=Z,20nm,0.9s,baz=263,slow=6.3
WTTA Wattenberg 66.49 44 *e*P **P 11 12 35.9 +0.3**
comp=Z,17nm,1.5s
FLTG Flechtingen 66.78 39 *e*P **P 11 12 36.3 -0.8**
comp=Z,18nm,1.1s,baz=263,slow=6.3
MOX Moxa 66.81 41 *e*P **P 11 12 37.0 -0.4**
baz=263,slow=6.3
MOL Molde 66.82 27 *e*P **P 11 12 37.9 +0.7**
MURB Monte Urbino 66.85 49 IAmb IAmb 11 12 59.7
comp=Z,20nm,0.8s
ABTA Abfaltersbach 67.05 45 *e*P **P 11 12 39.2 +0.1**
comp=Z,18nm,1.5s
MANZ Manzenberg 67.05 41 *e*P **P 11 12 39.1 0.0**
comp=Z,25nm,1.4s,baz=263,slow=6.3
ROTZ Rotzenmuhle 67.10 42 *e*P **P 11 12 38.6 -0.7**
comp=Z,22nm,1.5s,baz=263,slow=6.3
WERN Wernitzgruen 67.26 41 *e*P **P 11 12 40.1 -0.1**
comp=Z,12nm,1.2s,baz=263,slow=6.3
CLTB Caltabellotta 67.27 55 IAmb IAmb 11 13 03.3
comp=Z,29nm,1.0s
NKC Novy Kostel 67.30 41 AMS AMS 11 38 00.0
comp=Z,800nm,20.7s
RJOB Jochberg 67.31 44 *e*P **P 11 12 40.1 -0.7**
comp=Z,112nm,1.8s,baz=263,slow=6.3
DOMB Dombas 67.38 28 *e*P **P 11 12 40.7 -0.1**
AQU L'Aquila 67.47 50 IAMs_20 IAMs_20 11 38 45.8
comp=Z,910nm,20.0s
WET Wettzell 67.48 42 *e*P **P 11 12 41.0 -0.7**
comp=Z,20nm,1.4s,baz=263,slow=6.3
KBA Koelnbreinsper 67.64 45 *i* P **P 11 12 42.9 -0.1**
comp=Z,15nm,1.2s,SNR=9.2
CLL Collm 67.75 40⇓ *i* P **P 11 12 43.0 -0.3**
comp=Z,19nm,1.2s
CLL *e* 11 12 49.0
CLL *e*S **S 11 21 42.0 +1.0**
CLL *e*PS **PnS 11 22 05.0 +1.6**
CLL *e*SS **SS 11 26 06.0 +3.9**
CLL Lm MLR 11 37 00.0
comp=N,400nm,21.1s
CLL Lm MLR 11 37 00.0
comp=E,600nm,20.6s
CLL Lm MLR 11 37 00.0
comp=Z,1μm,19.8s
CLL Lmax 11 37 00.0
CLL Collm 67.75 40⇓ *i* P **P 11 12 43.0 -0.3**
CLL *e* 11 12 49.0
CLL *e*S **S 11 21 42.0 +1.0**
CLL pmax pmax
comp=Z,19nm,1.2s
CLL MLR MLR
comp=Z,1μm,19.8s
CLL Collm 67.75 40 IAmb IAmb 11 12 50.8
comp=Z,16nm,1.0s
CLL IAMs_20 IAMs_20 11 37 24.9
comp=Z,1μm,19.0s
CLL Collm 67.75 40 *e*P **P 11 12 42.8 -0.5**
comp=Z,19nm,1.2s,baz=263,slow=6.3
MYKA Terra Mystica 67.81 45 *i* P **P 11 12 44.0 0.0**
comp=Z,15nm,1.4s,SNR=5.2
CADS Cadrg 67.86 46 *e*P **P 11 12 43.9 -0.3**
CADS *e*S **S 11 21 42.9 +0.3**
KHC Kasperske Hory 67.93 42 *e*P **P 11 12 45.0 +0.4**
KHC *e* 11 12 50.6
KHC *e*S **S 11 21 43.7 +0.3**
KHC MLR MLR
comp=Z,900nm,19.2s
KHC Kasperske Hory 67.93 42 *e*P **P 11 12 45.0 +0.4**
KHC *e*pP **pwP 11 12 50.6 -0.6**
KHC *e*S **S 11 21 43.7 +0.3**
KHC AMS AMS 11 38 40.0
comp=Z,900nm,19.2s
KHC Kasperske Hory 67.93 42 P **P 11 12 42.4 -2.2**
FBE Freiberg 67.94 40 *e*P **P 11 12 44.4 -0.1**
comp=Z,26nm,1.5s,baz=263,slow=6.3
GEC2 GERESS Array S 67.99 43 IAmb IAmb 11 12 51.9
comp=Z,14nm,0.8s
GEC2 GERESS Array S 67.99 43 *e*P **P 11 12 44.6 -0.4**
comp=Z,33nm,1.6s,baz=263,slow=6.3
GERES GERESS Array B 67.99 43 P **P 11 12 44.6 -0.4**
comp=Z,5.4nm,0.8s,baz=270,slow=3.5,SNR=28
GERES LR LR 11 38 04.6
comp=Z,579nm,20.0s,baz=258,slow=32
NC204 NORSAR Array S 68.00 29 P **P 11 12 47.1 +2.3**
JAVS Javornik 68.07 46 *e*P **P 11 12 45.6 0.0**
JAVS *e*S **S 11 21 46.2 +0.9**
JAVS *e* 11 29 19.6
NB2 NORSAR Subarra 68.17 29 P **P 11 12 46.3 +0.4**
comp=Z,4.3nm,0.7s,baz=268,slow=4.6
NB2 NORSAR Subarra 68.17 29 P **P 11 12 46.3 +0.4**
baz=268,slow=4.6
NOA NORSAR Array B 68.17 29 P **P 11 12 45.3 -0.5**
comp=Z,4.5nm,0.9s,baz=281,slow=6.8,SNR=8.5
NOA LR LR 11 38 06.6
comp=Z,783nm,21.4s,baz=260,slow=32
RAFF Raffo Rosso 68.19 55 P **P 11 12 46.6 +0.2**
NB201 NORSAR Array S 68.21 29 P **P 11 12 45.7 -0.3**
NB201 IAmb IAmb 11 12 50.9
comp=Z,41nm,1.1s
CRNS Crni Vrh 68.22 46 *e*P **P 11 12 46.1 -0.3**
CRNS *e*S **S 11 21 48.1 +1.2**
NC602 NORSAR Array S 68.27 30 *e*P **P 11 12 47.4 +1.0**
NC602 NORSAR Array S 68.27 30 IAmb IAmb 11 12 55.6
comp=Z,48nm,1.4s
NORES NORESS Array B 68.27 30 P **P 11 12 47.2 +0.8**
NORES pmax pmax
comp=Z,10.0nm,1.0s
NC303 NORSAR Array S 68.28 29 IAmb IAmb 11 13 05.9
comp=Z,19nm,0.9s
BRG Berggiesshubel 68.30 41 *e*P **P 11 12 46.8 -0.1**
BRG Amp 11 12 49.5
comp=Z,18nm,1.2s
BRG Berggiesshubel 68.30 41 P P 11 12 52.6 +5.8
BRG Amp 11 12 54.1
comp=Z,12nm,0.9s
BRG Berggiesshubel 68.30 41 S **S 11 21 50.0 +2.3**
BRG Berggiesshubel 68.30 41 SS SS 11 26 19.0 +8.4
BRG Amp 11 38 42.0
comp=Z,0.8nm,16.0s
BRG Amp 11 38 47.0
comp=E,0.8nm,17.4s
BRG Berggiesshubel 68.30 41 *e*P **P 11 12 46.5 -0.3**
comp=E,18nm,1.2s,baz=263,slow=6.3
MOA Molln 68.31 44 *i* P **P 11 12 47.0 +0.1**
comp=E,16nm,1.1s,SNR=11
CKRC Cesky Krumlov 68.39 43 *e*P **P 11 12 47.0 -0.5**
CKRC *e*S **S 11 21 46.9 -2.0**
CKRC AMS AMS 11 37 40.0
comp=E,600nm,22.5s
LJU Ljubljana 68.40 46 *i* P **P 11 12 47.6 +0.1**
LJU *e*S **S 11 21 49.3 +0.3**
OBKA Obir 68.43 45 *i* P **P 11 12 48.0 +0.1**
comp=E,18nm,1.7s,SNR=7.8
VNDS Vrh nad Dolski 68.52 46 *e*P **P 11 12 48.3 0.0**
C36M Paulatuk 68.55 340 IAMs_20 IAMs_20 11 41 32.5
comp=Z,1μm,20.0s
PRA Prague 68.56 41 AMS AMS 11 43 20.0
comp=Z,600nm,18.3s
DLBC Dease Lake 68.59 328 IAmb IAmb 11 13 12.2
comp=Z,11nm,0.7s
PRU Pruhonice 68.62 42 *e*P **P 11 12 49.0 +0.2**
PRU *e* 11 12 55.2
PRU *e*S **S 11 21 52.6 +1.1**
PRU MLR MLR
comp=Z,700nm,19.1s
PRU Pruhonice 68.62 42 *e*P **P 11 12 49.0 +0.2**
PRU *e*pP **pwP 11 12 55.2 -0.3**
PRU *e*S **S 11 21 52.6 +1.1**
PRU AMS AMS 11 41 30.0
comp=Z,700nm,19.1s
PVCC Panska Ves 68.67 41 AMS AMS 11 41 20.0
comp=Z,800nm,17.2s
ALE Alert 68.68 359 IAMs_20 IAMs_20 11 42 05.0
comp=Z,910nm,20.0s
SOKA Soboth 68.78 45 *i* P **P 11 12 49.7 -0.3**
comp=Z,7.4nm,1.3s,SNR=5.6
ARSA Arzberg 69.13 45 *i* P **P 11 12 52.0 -0.2**
comp=Z,20nm,1.3s,SNR=5.5
NSS Namsos 69.20 26 *e*P **P 11 12 51.7 -0.4**
HFS Hagfors 69.22 31 LR LR 11 39 48.2
comp=Z,678nm,18.6s,baz=256,slow=33
CONA Conrad Observa 69.38 44 *i* P **P 11 12 54.1 +0.3**
comp=Z,26nm,1.6s,SNR=12
UPC Upice 69.59 41 *e*P **P 11 12 55.1 +0.2**
UPC *e*S **S 11 22 03.5 +0.5**
UPC MLR MLR
comp=Z,900nm,19.7s
UPC Upice 69.59 41 *e*P **P 11 12 55.1 +0.2**
UPC *e*S **S 11 22 03.5 +0.5**
UPC AMS AMS 11 42 20.0
comp=Z,900nm,19.7s
OSTC Ostas 69.72 41 *e*P **P 11 12 55.4 -0.3**
OSTC *e*x x 11 12 59.7
OSTC AMS AMS 11 42 10.0
comp=Z,900nm,18.6s
KRUC Moravsky 69.78 43 *e*P **P 11 12 55.8 -0.2**
KRUC *e*S **S 11 22 03.8 -1.4**
DPC Dobruska-Polom 69.78 41 *e*P **P 11 12 56.5 +0.4**
DPC *e* 11 13 00.0
DPC *e*S **S 11 22 04.4 -0.9**
DPC MLR MLR
comp=Z,800nm,20.2s
DPC Dobruska-Polom 69.78 41 *e*P **P 11 12 56.5 +0.4**
DPC *e*pP **sP 11 13 00.0 +0.4**
DPC *e*S **S 11 22 04.4 -0.9**
DPC AMS AMS 11 44 10.0
comp=Z,800nm,20.2s
KSP Ksiaz 69.79 41 P **P 11 12 59.9 +3.8**
VRAC Vranov 69.92 42 LR LR 11 39 32.5
comp=Z,372nm,19.1s,baz=250,slow=32
VRAC Vranov 69.92 42 *e*P **P 11 12 56.6 -0.3**
VRAC *e*S **S 11 22 05.7 -1.2**
NOR Nord 69.99 6 *i* P **P 11 12 56.6 -0.2**
NOR Nord 69.99 6 *i* P **P 11 12 56.6 -0.2**
STOK Stokkvaagen 69.99 24 *e*P **P 11 12 58.1 +1.1**
KRLC Kraliky 70.07 42 *e*P **P 11 12 58.2 +0.3**
KRLC MLR MLR
comp=Z,800nm,18.0s
KRLC Kraliky 70.07 42 *e*P **P 11 12 58.2 +0.3**
KRLC AMS AMS 11 44 20.0
comp=Z,800nm,18.0s
ZST Bratislava 70.22 44 *e*P **P 11 12 58.9 +0.1**
ZST pmax pmax
comp=Z,65nm,1.4s
ZST Bratislava 70.22 44 *e*P **P 11 12 58.9 +0.1**
MODS Modra-Piesok 70.34 43 *e*P **P 11 13 01.0 +1.4**
MODS pmax pmax
comp=Z,27nm,1.3s
MODS Modra-Piesok 70.34 43 *e*P **P 11 13 01.0 +1.4**
SMOL Smolenice 70.45 43 *e*P **P 11 13 00.3 +0.1**
SMOL pmax pmax
comp=Z,12nm,1.6s
SMOL Smolenice 70.45 43 *e*P **P 11 13 00.3 +0.1**
MPLH Magyarpolny 70.50 45 *e*P **P 11 13 00.5 -0.1**
MOR8 Moi Rana 70.53 24 *e*P **P 11 13 01.2 +0.9**
MORC Moravsky Berou 70.55 42⇑ P **P 11 13 01.1 +0.3**
MORC Moravsky Berou 70.55 42⇑ P **P 11 13 01.1 +0.3**
MORC Moravsky Berou 70.55 42 *e*P **P 11 13 01.0 +0.2**
MORC *e*S **S 11 22 13.2 -1.1**
JAVC Velka Javorina 70.61 43 *e*P **P 11 13 01.9 +0.7**
JAVC *e*S **S 11 22 15.7 +0.6**
KOVH Kovagotottos 70.89 46 *e*P **P 11 13 02.5 -0.4**
OKC Ostrava-Krasne 70.94 42 AMS AMS 11 39 20.0
comp=Z,500nm,21.6s
FAUS Fauske 71.06 23 *e*P **P 11 13 04.3 +0.8**
STEI Steigen 71.14 23 *e*P **P 11 13 03.9 -0.1**
MORH Mrgy, Hungar 71.27 46⇑ P **P 11 13 05.6 +0.5**
MORH Mrgy, Hungar 71.27 46 *e*P **P 11 13 05.1 0.0**
VYHS Vyhne 71.38 43 *e*P **P 11 13 06.2 +0.3**
VYHS Vyhne 71.38 43 *e*P **P 11 13 06.2 +0.3**
SKAG Skagway 71.44 328 P **P 11 13 07.2 +1.3**
baz=94
INK Inuvik 71.65 338 P **P 11 13 06.9 -0.1**
baz=99,SNR=14
INK Inuvik 71.65 338 IAmb IAmb 11 13 28.7
comp=Z,49nm,1.1s
LANS Liptovska Anna 71.80 43 *e*P **P 11 13 09.4 +1.0**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 71.80 43 *e*P **P 11 13 09.4 +1.0**
PDG Podgorica 71.80 50⇑ P **P 11 13 09.0 +0.6**
PDG Podgorica 71.80 50 IAmb IAmb 11 13 27.0
comp=Z,21nm,1.0s
PSZ Piszkesteto 72.10 44 *e*P **P 11 13 10.6 +0.4**
PUK Puka 72.29 50 P **P 11 13 11.7 +0.1**
HYT Haines Junctio 72.61 330 IAmb IAmb 11 13 32.2
comp=Z,23nm,0.9s
EPYK Eagle Plains 72.64 336 P **P 11 13 13.0 -0.1**
baz=95
EPYK Eagle Plains 72.64 336 IAMs_20 IAMs_20 11 44 53.7
comp=Z,1μm,21.0s
TRO Tromso 72.72 21 *e*P **P 11 13 13.9 +0.6**
KBS Kingsbay 72.74 11 IAMs_20 IAMs_20 11 42 46.2
comp=Z,863nm,22.0s
CRVS Cervenica-Dubn 73.11 43 *e*P **P 11 13 17.0 +0.8**
CRVS pmax pmax
comp=Z,35nm,1.3s
CRVS Cervenica-Dubn 73.11 43 *e*P **P 11 13 17.0 +0.8**
JETT Jettan, Norway 73.22 21 *e*P **P 11 13 17.6 +1.1**
RAF Rauma 73.27 30 *e*P **P 11 13 15.4 -1.4**
SIRR Siria 73.36 46⇓ P **P 11 13 18.2 +0.5**
BZS Buzias 73.36 46 P **P 11 13 19.1 +1.4**
SPA0 Spitsbergen Ar 73.41 12 *e*P **P 11 13 19.1 +1.6**
FNA Florina 73.48 51 IAmb IAmb 11 13 43.4
comp=Z,19nm,0.7s
DAWY Dawson 73.62 333 IAmb IAmb 11 13 35.8
comp=Z,28nm,0.8s
KOLS Kolonicke sedl 73.65 43 *e*P **P 11 13 20.3 +0.9**
KOLS Kolonicke sedl 73.65 43 *e*P **P 11 13 20.3 +0.9**
UZH Uzhgorod 73.68 43 *e*P **P 11 13 19.3 -0.2**
UZH *e* 11 13 34.0
KWP Kalwaria Pacla 73.90 42 P **P 11 13 21.1 +0.2**
KWP Kalwaria Pacla 73.90 42 P **P 11 13 21.1 +0.2**
DRGR 74.05 45⇑ P **P 11 13 21.9 +0.1**
DRGR 74.05 45⇑ P **P 11 13 21.9 +0.1**
GZR Gura Zlata 74.19 46⇓ P **P 11 13 22.9 +0.2**
KTK1 Kautokeino 74.19 22 *e*P **P 11 13 22.3 +0.2**
ITM Ithomi 74.22 55 IAmb IAmb 11 13 50.8
comp=Z,25nm,0.9s
MTSE Matsula 74.29 32 *e*P **P 11 13 25.0 +2.2**
LOGN Logan Glacier 74.32 330 IAmb IAmb 11 13 44.2
comp=Z,36nm,0.6s
LOGN IAMs_20 IAMs_20 11 47 07.5
comp=Z,1μm,22.0s
TABL Table Mountain 74.39 329 IAMs_20 IAMs_20 11 47 34.4
comp=Z,1μm,22.0s
EGAK Eagle 74.40 334 P **P 11 13 23.7 +0.3**
baz=91,SNR=13
EGAK Eagle 74.40 334 IAmb IAmb 11 13 40.4
comp=Z,20nm,0.8s
EGAK IAMs_20 IAMs_20 11 46 48.3
comp=Z,1μm,21.0s
HAMF Hammerfest 74.42 20 *e*P **P 11 13 24.4 +1.0**
CTG Chitna Glacier 74.48 330 P **P 11 13 24.2 0.0**
baz=89
MEF Metsahovi 74.56 31 *e*P **P 11 13 25.0 +0.6**
BARN Barnard Glacie 74.64 330 IAmb IAmb 11 13 45.1
comp=Z,28nm,0.8s
BARN IAMs_20 IAMs_20 11 47 28.9
comp=Z,1μm,21.0s
BCAR Beaver Creek A 74.68 332 P **P 11 13 26.7 +1.6**
L27K Beaver Creek, 74.70 332 P **P 11 13 25.8 +0.6**
baz=90,SNR=38
L27K Beaver Creek, 74.70 332 IAmb IAmb 11 13 41.4
comp=Z,29nm,0.7s
L27K IAMs_20 IAMs_20 11 49 32.2
comp=Z,893nm,22.0s
VTS Vitosha 74.73 49⇑ P **P 11 13 26.1 +0.2**
VTS Vitosha 74.73 49 P **P 11 13 25.4 -0.6**
K27K Chicken 74.80 333 P **P 11 13 27.4 +1.6**
baz=90
K27K Chicken 74.80 333 IAmb IAmb 11 13 44.7
comp=Z,22nm,0.8s
K27K IAMs_20 IAMs_20 11 44 21.9
comp=Z,1μm,19.0s
MESA MESA 74.80 329 P **P 11 13 25.3 -0.7**
baz=89
ISLE Juniper Island 74.98 329 IAMs_20 IAMs_20 11 51 57.0
comp=Z,1μm,20.0s
ARA0 ARCESS Array S 75.01 21 *e*P **P 11 13 27.4 +0.5**
ARCES ARCESS Array B 75.01 21 P **P 11 13 27.3 +0.4**
comp=Z,7.8nm,0.7s,baz=267,slow=5.5,SNR=17
ARCES LR LR 11 42 33.7
comp=Z,199nm,18.1s,baz=285,slow=33
ARCES ARCESS Array B 75.01 21 P **P 11 13 26.3 -0.6**
ARCES IAmb IAmb 11 13 45.8
comp=Z,19nm,0.8s
ARCR ARCALIA 75.16 45⇓ P **P 11 13 29.2 +1.1**
TGL Tana Glacier 75.22 330 IAMs_20 IAMs_20 11 52 04.2
comp=Z,1μm,21.0s
MCARA McCarthy VSAT 75.29 330 P **P 11 13 27.5 -1.2**
baz=88,SNR=8.9
MCARA McCarthy VSAT 75.29 330 IAMs_20 IAMs_20 11 46 55.1
comp=Z,1μm,22.0s
CRQE Cirque 75.35 330 P **P 11 13 27.1 -2.0**
baz=88
FINES FINESS Array B 75.35 30 P **P 11 13 28.9 -0.1**
comp=Z,11nm,0.6s,baz=260,slow=3.5,SNR=37
FINES LR LR 11 42 18.2
comp=Z,800nm,21.3s,baz=274,slow=32
FIA1 FINESS Array S 75.35 30 IAmb IAmb 11 13 47.6
comp=Z,23nm,0.8s
CRQM Cirque 75.37 330 IAMs_20 IAMs_20 11 52 16.6
comp=Z,1μm,19.0s
L26K Log Cabin Wild 75.39 332 P **P 11 13 30.4 +1.2**
baz=88
VRDI Verde Repeater 75.50 330 IAmb IAmb 11 13 49.4
comp=Z,22nm,0.8s
VRDI IAMs_20 IAMs_20 11 47 45.7
comp=Z,1μm,22.0s
MENT Mentasta 75.56 332 P **P 11 13 30.0 -0.2**
SCRK Sand Creek 75.64 333 P **P 11 13 30.5 -0.2**
baz=88,SNR=8.2
SCRK Sand Creek 75.64 333 P **P 11 13 31.4 +0.7**
SCRK IAMs_20 IAMs_20 11 44 26.2
comp=Z,1μm,20.0s
GLB Gilahina Butte 75.67 330 IAmb IAmb 11 13 46.3
comp=Z,24nm,1.1s
GLB IAMs_20 IAMs_20 11 47 40.0
comp=Z,1μm,22.0s
BUR08 Bucovina Ar. S 75.68 44 IAmb IAmb 11 13 39.5
comp=Z,28nm,0.9s
BURAR Bucovina Array 75.70 44⇑ P **P 11 13 31.6 +0.2**
BURAR Bucovina Array 75.70 44 IAmb IAmb 11 13 50.7
comp=Z,30nm,0.8s
VOIR 75.78 46⇑ P **P 11 13 31.8 0.0**
VOIR 75.78 46⇑ P **P 11 13 31.8 0.0**
VSU Vasula 75.82 33 *e*P **P 11 13 32.5 +0.8**
VSU Vasula 75.82 33 *ce*P **P 11 13 31.9 +0.2**
VSU pmax pmax
comp=Z,101nm,0.9s
DOPR Dopca 75.96 46⇓ P **P 11 13 32.9 0.0**
RIDG Independent Ri 76.03 333 P **P 11 13 33.4 +0.5**
baz=87
RIDG Independent Ri 76.03 333 IAMs_20 IAMs_20 11 53 25.5
comp=Z,941nm,21.0s
N25K Chitina, Valde 76.04 331 P **P 11 13 30.7 -2.3**
baz=87
N25K Chitina, Valde 76.04 331 P **P 11 13 33.3 +0.3**
N25K IAmb IAmb 11 14 02.8
comp=Z,18nm,0.9s
N25K IAMs_20 IAMs_20 11 47 19.7
comp=Z,1μm,22.0s
FYU Fort Yukon 76.06 336 IAMs_20 IAMs_20 11 47 44.0
comp=Z,1μm,22.0s
BMRM Bremner River 76.08 330 P **P 11 13 32.3 -0.9**
baz=86
BMRM Bremner River 76.08 330 IAmb IAmb 11 13 56.3
comp=Z,28nm,0.8s
PRP Porcupine Dome 76.23 335 P **P 11 13 33.4 -0.7**
baz=87,SNR=11
PRP Porcupine Dome 76.23 335 IAmb IAmb 11 13 52.3
comp=Z,26nm,0.8s
PRP IAMs_20 IAMs_20 11 46 20.6
comp=Z,1μm,21.0s
HARP HAARP 76.25 331 P **P 11 13 34.0 -0.2**
baz=86
PAX Paxson 76.36 332 P **P 11 13 35.7 +0.8**
PAX pmax pmax
comp=Z,14nm,0.9s
PAX Paxson 76.36 332 P **P 11 13 34.9 +0.1**
baz=86
PAX Paxson 76.36 332 P **P 11 13 35.7 +0.8**
MLR Muntele Rosu 76.40 46⇓ P **P 11 13 35.2 -0.3**
MLR Muntele Rosu 76.40 46⇓ P **P 11 13 35.2 -0.3**
MLR Muntele Rosu 76.40 46 IAMs_20 IAMs_20 11 45 26.0
comp=Z,820nm,19.0s
KLU Klutina 76.68 330 P **P 11 13 34.3 -2.3**
baz=86
KLU Klutina 76.68 330 IAmb IAmb 11 13 52.6
comp=Z,17nm,0.7s
M24K Tolsona, Glenn 76.75 331 P **P 11 13 37.4 +0.4**
baz=85
M24K Tolsona, Glenn 76.75 331 IAMs_20 IAMs_20 11 52 13.5
comp=Z,789nm,18.0s
MNK Minsk 76.76 37 *i* P **P 11 13 36.4 -0.7**
MNK *i* 11 13 51.1
MNK *i* 11 16 28.7
MNK *i* PPP PPP 11 18 15.6
MNK *i* S **S 11 23 23.5 -0.7**
MNK *i* 11 23 52.0
MNK pmax pmax
comp=N,47nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=N,317nm,20.0s
MNK MLR MLR
comp=Z,643nm,19.0s
MNK MLR MLR
comp=E,51nm,19.0s
MNK Minsk 76.76 37 *i* P **P 11 13 36.4 -0.7**
comp=E,2.0nm,0.8s
MNK *i* P **P 11 13 36.4 -0.7**
comp=N,47nm,0.8s
MNK *i* P **P 11 13 36.4 -0.7**
comp=Z,14nm,0.8s,baz=95
MNK *i* PcP **PcP 11 13 51.2 +2.8**
MNK *i* PP **PP 11 16 28.8 -0.8**
MNK *i* PPP PPP 11 18 15.7
MNK *i* S **S 11 23 23.6 -0.6**
MNK *i* ScS **ScS 11 23 52.1 -1.5**
MNK *i* SS SS 11 28 36.3 +17
MNK *i* SSS SSS 11 32 12.2
MNK *i* LQ LQ 11 35 48.4
MNK *i* LR LR 11 42 17.7
MNK *i* LRM MLR 11 49 09.3
comp=N,317nm,20.0s
MNK *i* LRM MLR 11 49 58.2
comp=Z,643nm,19.4s
MNK *i* LRM MLR 11 50 01.5
comp=E,51nm,19.4s
TESR Tescani 76.78 45⇓ P **P 11 13 37.9 +0.5**
IDI Anoyia 76.82 57 LR LR 11 44 12.4
comp=E,437nm,21.9s,baz=265,slow=33
PLOR Plostina 76.85 46⇓ P **P 11 13 37.9 0.0**
PLOR Plostina 76.85 46⇓ P **P 11 13 37.9 0.0**
IL31 76.86 334 IAmb IAmb 11 14 04.5
comp=Z,14nm,0.8s
ILAR Eielson Array 76.86 334 P **P 11 13 37.4 -0.1**
comp=Z,6.8nm,0.8s,baz=105,slow=4.2,SNR=29
ILAR LR LR 11 48 45.9
comp=Z,472nm,20.6s,baz=80,slow=37
ILAR Eielson Array 76.86 334 P **P 11 13 37.7 +0.2**
ILAR Eielson Array 76.86 334 P **P 11 13 37.7 +0.2**
VRI Vrincioaia 76.90 46⇑ P **P 11 13 38.5 +0.3**
VRI Vrincioaia 76.90 46⇑ P **P 11 13 38.5 +0.3**
HDA Harding Lake 76.91 334 P **P 11 13 38.7 +0.9**
baz=85
POKR Poker Plat Res 77.06 334 P **P 11 13 38.5 -0.2**
baz=85

POKR	Poker Plat Res	77.06	334	IAmb	IAmb	11 14 06.5	
	comp=Z,18nm,0.8s						
POKR				IAms_20	IAms_20	11 49 25.5	
	comp=Z,985nm,19.0s						
H24K	Noodor Dome	77.18	335	P	P	11 13 38.1	-1.2
	baz=85,SNR=17						
COLA	College	77.26	334	*ce*P	P	11 13 40.4	+0.7
COLA				pmax	pmax		
	comp=Z,11nm,1.1s						
COLA	College	77.26	334	P	P	11 13 39.3	-0.4
	baz=85						
COLA	College	77.26	334	P	P	11 13 40.7	+1.0
COLA				IAmb	IAmb	11 13 56.5	
	comp=Z,19nm,0.9s						
COLA	College	77.26	334	IAms_20	IAms_20	11 51 55.9	
	comp=Z,719nm,20.0s						
CCB	Clear Creek Bu	77.26	334	IAmb	IAmb	11 13 56.0	
	comp=Z,14nm,0.7s						
CCB				IAms_20	IAms_20	11 45 58.9	
	comp=Z,1μm,21.0s						
TCOL	CIGO, UAF Yank	77.26	334	P	P	11 13 39.6	-0.1
	baz=85						
TCOL	CIGO, UAF Yank	77.26	334	IAmb	IAmb	11 13 56.5	
	comp=Z,20nm,0.9s						
TCOL				IAms_20	IAms_20	11 51 55.9	
	comp=Z,750nm,20.0s						
GLI	Glacier Island	77.30	330	P	P	11 13 38.2	-1.9
	baz=84						
SCM	Sheep Creek Mo	77.31	331	P	P	11 13 41.0	+0.8
SCM	Sheep Creek Mo	77.31	331	P	P	11 13 41.0	+0.8
SCM				IAmb	IAmb	11 14 04.5	
	comp=Z,26nm,0.7s						
WRH	Wood River Hil	77.40	334	IAmb	IAmb	11 13 55.7	
	comp=Z,17nm,0.8s						
MDM	Murphy Dome	77.41	334	IAmb	IAmb	11 13 55.8	
	comp=Z,25nm,0.8s						
MDM				IAms_20	IAms_20	11 50 59.8	
	comp=Z,737nm,20.0s						
WAT6	Susitna Watana	77.43	332	P	P	11 13 40.4	-0.6
	baz=84,SNR=9.8						
TOLK	Toolik Lake Re	77.56	338	P	P	11 13 41.9	+0.4
	baz=84,SNR=5.6						
TOLK	Toolik Lake Re	77.56	338	IAmb	IAmb	11 14 04.3	
	comp=Z,13nm,0.7s						
TOLK				IAms_20	IAms_20	11 49 31.5	
	comp=Z,1μm,22.0s						
SORM	Soroca	77.74	43	⇑P	P	11 13 42.0	-0.8
SORM	Soroca	77.74	43	⇑P	P	11 13 42.0	-0.8
WAT1	Susitna Watana	77.78	332	P	P	11 13 41.8	-0.9
	baz=84						
SML	Sawmill	77.79	331	P	P	11 13 41.6	-1.3
	baz=84						
SML	Sawmill	77.79	331	IAms_20	IAms_20	11 46 09.1	
	comp=Z,1μm,20.0s						
NEA2	Nenana	77.81	334	P	P	11 13 42.7	-0.1
	baz=83,SNR=29						
NEA2	Nenana	77.81	334	IAms_20	IAms_20	11 45 48.3	
	comp=Z,895nm,21.0s						
MCK	McKinley	77.85	333	P	P	11 13 43.2	+0.1
	baz=83						
RND	Reindeer	77.85	333	P	P	11 13 43.9	+0.7
RND				pmax	pmax		
	comp=Z,12nm,0.8s						
RND				MLR	MLR		
	comp=Z,1μm,20.0s						
RND	Reindeer	77.85	333	P	P	11 13 43.9	+0.7
H23K	Yukon River	77.86	335	P	P	11 13 41.9	-1.2
	baz=83,SNR=7.0						
I23K	Minto, Yukon-K	77.87	334	P	P	11 13 43.7	+0.6
	baz=83,SNR=11						
I23K	Minto, Yukon-K	77.87	334	IAmb	IAmb	11 14 01.7	
	comp=Z,15nm,0.7s						
I23K				IAms_20	IAms_20	11 51 48.9	
	comp=Z,1μm,22.0s						
KNK	Knik Glacier	77.90	331	P	P	11 13 41.5	-1.9
	baz=83						
KNK	Knik Glacier	77.90	331	IAms_20	IAms_20	11 49 33.9	
	comp=Z,1μm,22.0s						
AKASG	Malin Array Be	77.99	41	P	P	11 13 43.5	-0.6
	comp=Z,3.8nm,0.9s,baz=270,slow=4.3,SNR=12						
AKASG				LR	LR	11 43 52.0	
	comp=Z,465nm,22.0s,baz=290,slow=32						
AKASG	Malin Array Be	77.99	41	*i* P	P	11 13 43.7	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
APA	Apatity	78.02	23	⇑*i*P	P	11 13 43.8	-0.1
APA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
APA				MLR	MLR		
	comp=Z,700nm,16.0s						
BWN	Browne	78.03	333	IAms_20	IAms_20	11 45 55.3	
	comp=Z,1μm,20.0s						
GHO	Glory Hole Cre	78.07	331	P	P	11 13 44.5	0.0
GHO				IAmb	IAmb	11 13 59.8	
	comp=Z,19nm,0.8s						
GHO				IAms_20	IAms_20	11 50 01.6	
	comp=Z,1μm,22.0s						
TPGR	Topolog	78.21	47	⇓P	P	11 13 45.1	-0.4
MLY	Manley	78.46	334	P	P	11 13 45.9	-0.6
	baz=82,SNR=9.6						
MLY	Manley	78.46	334	IAms_20	IAms_20	11 52 40.6	
	comp=Z,849nm,20.0s						
TRF	Thorofare Moun	78.48	333	P	P	11 13 47.1	+0.3
	baz=82						
TRF	Thorofare Moun	78.48	333	IAms_20	IAms_20	11 51 57.3	
	comp=Z,1μm,21.0s						
PMSA	Palmer Station	78.53	182	*e*P	P	11 13 47.7	+1.1
BALB	Balikesir	78.56	52	IAmb	IAmb	11 13 48.8	
	comp=Z,40nm,1.1s						
CUT	Chulitna	78.62	332	P	P	11 13 47.1	-0.2
	baz=82						
CUT	Chulitna	78.62	332	IAmb	IAmb	11 14 09.0	
	comp=Z,38nm,0.9s						
CUT				IAms_20	IAms_20	11 46 14.9	
	comp=Z,885nm,22.0s						
BPAW	Bear Paw Mtn.	78.70	333	P	P	11 13 48.3	+0.4
	baz=82						
BPAW	Bear Paw Mtn.	78.70	333	IAmb	IAmb	11 14 04.3	
	comp=Z,20nm,0.8s						
BPAW				IAms_20	IAms_20	11 46 53.9	
	comp=Z,967nm,22.0s						
KTH	Kantishna Hill	78.75	333	IAmb	IAmb	11 14 12.7	
	comp=Z,26nm,0.9s						
KTH				IAms_20	IAms_20	11 47 58.3	
	comp=Z,1μm,21.0s						
I21K	Tanana	78.96	335	P	P	11 13 49.0	-0.2
	baz=81						
H21K	Melozitna Rive	79.22	335	P	P	11 13 51.4	+0.8
	baz=80						
SKT	Skwentna	79.27	331	P	P	11 13 51.4	+0.4
	baz=81						
CHUM	Lake Minchumin	79.31	333	P	P	11 13 51.9	+0.8
	baz=80						
PPLA	Purkeypile	79.42	332	P	P	11 13 52.9	+0.9
	baz=80						
J20K	Nowinta River	80.05	334	P	P	11 13 55.6	+0.5
	baz=79						
O20K	Slope Mountain	80.12	330	P	P	11 13 55.0	-0.7
	baz=80						
K20K	Telida	80.18	333	P	P	11 13 56.1	+0.2
	baz=79,SNR=10.0						
P19K	Oil Pt	80.50	329	P	P	11 13 59.4	+1.7
	baz=79						
KDAK	Kodiak Island	80.52	327	P	P	11 13 57.9	+0.1
	baz=79						
ELL	Elmali	80.61	54	P	P	11 14 00.3	+1.4
M19K	Big River Lodg	80.61	331	P	P	11 13 59.3	+1.1
	baz=78						
L19K	White Mountain	80.77	332	P	P	11 13 57.8	-1.3
	baz=78						
N19K	Bonanza Creek	80.88	330	P	P	11 13 59.0	-0.8
	baz=78						
O19K	Port Alsworth	80.93	330	P	P	11 14 00.7	+0.8
	baz=78						
MDUB	Mudurnu	80.93	51	P	P	11 14 00.5	-0.1
N18K	Kilae Creek	81.58	330	P	P	11 14 02.1	-1.4
	baz=77						
OBN	Obninsk	81.63	35	LR	LR	11 47 29.0	
	comp=Z,103nm,19.4s,baz=274,slow=34						
OBN	Obninsk	81.63	35	*i* P	P	11 14 03.9	+0.2
OBN				*i*		11 14 07.6	
OBN				*i* S	S	11 24 11.6	-4.4
OBN				pmax	pmax		
	comp=Z,38nm,1.1s						
OBN				MLR	MLR		
	comp=Z,596nm,19.0s						
OBN	Obninsk	81.63	35	IAms_20	IAms_20	11 48 29.9	
	comp=Z,959nm,21.0s						
TSUM	Tsumeb	81.83	112	P	P	11 14 05.7	+0.1
KLMR	Klimovskoe	81.88	29	*e*P	P	11 14 02.9	-2.0
KLMR				pmax	pmax		
	comp=Z,35nm,1.4s						
KLMR	Klimovskoe	81.88	29	*e*P	P	11 14 03.0	-2.0
KLMR				AMP		11 14 18.8	
	comp=Z,35nm,1.4s						
MOS	Moscow	82.09	35	*e*P	P	11 14 05.4	-0.7
MOS				pmax	pmax		
	comp=Z,45nm,0.6s						
MOS				MLR	MLR		
	comp=Z,700nm,19.0s						
MOS				MLR	MLR		
	comp=Z,600nm,17.0s						
ANTO	Ankara	82.25	51	P	P	11 14 08.1	+0.6
ANTO				pmax	pmax		
	comp=Z,24nm,1.0s						
ANTO				MLR	MLR		
	comp=Z,300nm,21.0s						
ANTO	Ankara	82.25	51	P	P	11 14 08.1	+0.6
ANTO				IAmb	IAmb	11 14 25.2	
	comp=Z,24nm,1.0s						
RDOG	Red Dog Mine	82.51	338	P	P	11 14 08.5	+0.4
	baz=72						
BR131	Keskin Array S	82.92	51	IAmb	IAmb	11 14 28.7	
	comp=Z,23nm,0.8s						
BRTR	Keskin Array B	82.92	51	P	P	11 14 10.3	-0.7
	comp=Z,7.0nm,1.0s,baz=270,slow=3.7,SNR=31						
BRTR				LR	LR	11 47 41.8	
	comp=Z,394nm,21.9s,baz=287,slow=33						
BRTR	Keskin Array B	82.92	51	*i* P	P	11 14 10.8	-0.2
BRTR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPSR	Galich'ya Gora	83.57	37	*e*P	P	11 14 13.3	-0.6
LPSR				pmax	pmax		
	comp=Z,40nm,1.2s						
VORD	Divnogorie	84.20	39	*e*P	P	11 14 16.1	-1.1
VORD				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PRGR	Permogore	84.49	28	*e*P	P	11 14 16.4	-2.0
PRGR				pmax	pmax		
	comp=Z,57nm,1.0s						
ANN	Anapa	84.52	45	*e*P	P	11 14 14.1	-4.8
ANN				pmax	pmax		
	comp=Z,68nm,1.0s						
ANM	Nome	84.63	335	P	P	11 14 19.4	+0.3
	baz=69						
TNA	Tin City	85.26	337	P	P	11 14 21.5	-0.7
	baz=67						
SDPT	Sand Point	85.36	326	P	P	11 14 21.4	-1.4
	baz=72						
VRH	Novokhopyorsk	85.61	38	*e*P	P	11 14 22.2	-2.0
VRH				pmax	pmax		
	comp=Z,20nm,1.2s						
MMAI	Mount Meron Ar	85.80	57	LR	LR	11 50 08.2	
	comp=Z,41nm,21.9s,baz=10.0,slow=34						
SOC	Sochi	86.42	46	*e*P	P	11 14 29.3	+0.9
SOC				*e*		11 17 49.6	
SOC				*e*PPP	PPP	11 19 46.1	
SOC				*e*S	SKSac	11 24 55.1	0.0
SOC				*e*SS	SS	11 30 38.6	-5.4
SOC				*e*SSS	SSS	11 34 13.9	
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
SOC				MLR	MLR		
	comp=Z,297nm,16.0s						
MALT	Malatya	86.87	51	P	P	11 14 32.1	+1.2
FALS	False Pass	87.11	36	P	P	11 14 29.7	-1.8
	baz=70						
GAMB	Gambell	87.49	336	P	P	11 14 32.8	-0.4
	baz=63						
KIV	Kislovodsk	88.37	45	*e*P	P	11 14 38.5	+0.5
KIV				*e*		11 25 06.1	
KIV				*e*SS	SS	11 31 14.2	+1.5
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KIV				MLR	MLR		
	comp=Z,228nm,20.0s						
BATM	Batumi	88.38	48	P	P	11 14 41.4	+3.5
KBZ	Khabaz	88.59	45	P	P	11 14 39.4	+0.6
	comp=Z,4.2nm,0.9s,baz=279,slow=7.7,SNR=7.3						
KBZ				LR	LR	11 51 02.2	
	comp=Z,260nm,21.8s,baz=298,slow=33						
UNV	Unalaska Valle	89.17	326	P	P	11 14 41.5	+0.1
	baz=67						
ONI	Oni	89.33	46	P	P	11 14 44.5	+2.0
ONI	Oni	89.33	46	IAmb	IAmb	11 14 45.1	
	comp=Z,28nm,1.5s						
MBAR	Mbarara	89.44	91	IAms_20	IAms_20	11 54 59.6	
	comp=Z,816nm,19.0s						
LBTB	Lobatse	90.59	116	P	P	11 14 49.7	+1.0
LBTB	Lobatse	90.59	116	P	P	11 14 49.6	+1.0
GNI	Garni	91.02	48	⇓*e*P	P	11 14 52.1	+1.5
GNI				pmax	pmax		
	comp=Z,31nm,1.6s						
VNA3	Neumayer Olymp	91.09	166	P	P	11 14 50.5	+0.7
BOSA	Boshof	91.22	119	P	P	11 14 51.8	+0.2
	comp=Z,14nm,1.0s,baz=259,slow=2.3,SNR=14						
BOSA				LR	LR	11 49 48.9	
	comp=Z,638nm,20.0s,baz=280,slow=32						
BOSA	Boshof	91.22	119	P	P	11 14 52.4	+0.8
BOSA				pmax	pmax		
	comp=Z,26nm,1.0s						
BOSA	Boshof	91.22	119	P	P	11 14 52.4	+0.8
BOSA				IAmb	IAmb	11 15 07.4	
	comp=Z,26nm,1.0s						
MAK	Makhachkala	92.01	45	*e*P	P	11 14 51.0	-3.8
MAK				*e*		11 18 28.9	
MAK				*e*		11 25 20.6	
MAK				*e*SS	SS	11 32 07.8	+2.7
MAK				*e*SSS	SSS	11 35 42.1	
MAK				pmax	pmax		
	comp=Z,40nm,0.5s						
MAK				MLR	MLR		
	comp=Z,318nm,16.0s						
BILL	Bilibino	92.19	345	IAms_20	IAms_20	12 02 04.1	
	comp=Z,651nm,21.0s						
ARU	Arti	92.72	30	P	P	11 14 58.2	+0.3
ARU						11 18 40.1	
ARU				S	SKSac	11 25 31.7	+0.1
ARU				MLR	MLR		
	comp=Z,1μm,19.0s						
SNAA	Sanae	93.04	165	⇑*i*P	P	11 14 59.3	+0.4
SNAA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SNAA	Sanae	93.04	165	P	P	11 14 57.0	-1.9
TIXI	Tiksi	94.53	358	IAms_20	IAms_20	11 58 29.3	
	comp=Z,666nm,20.0s						
PPT	Papeete	95.07	253	LR	LR	11 53 28.4	
	comp=Z,249nm,20.4s,baz=77,slow=33						
PPT2	Papeete2	95.07	253	*e*LR	LR	11 45 54.4	
	comp=Z,1μm,31.8s						
KMBO	Kilima Mbogo	95.89	90	LR	LR	11 57 50.2	
	comp=Z,604nm,19.3s,baz=276,slow=35						
TBI	Tubuai	96.22	248	*e*LQ	LQ	11 42 21.5	
	comp=Z,819nm,39.0s						
TBI				*e*LR	LR	11 46 26.3	
	comp=Z,852nm,29.5s						
KIBK	Kibwezi	96.94	91	IAms_20	IAms_20	11 59 37.6	
	comp=Z,693nm,20.0s						
ABKAR	Akbulak array	97.08	35	P	P	11 15 17.4	-0.5
ABKAR	Akbulak array	97.08	35	P	P	11 15 17.6	-0.4
ABKAR				IAmb	IAmb	11 15 36.5	
	comp=Z,3.3nm,0.8s						
UOSS	Minazif	105.60	59	IAms_20	IAms_20	12 09 47.0	
	comp=Z,630nm,20.0s						
SYO	Syowa Base	105.78	158	⇓*e*X	Pdif	11 15 50.0	-6.1
PET	Petropavlovsk	106.10	338	IAms_20	IAms_20	12 06 24.1	
	comp=Z,563nm,20.0s						
AAK	Ala-Archa	109.16	35	*i* P	Pdif	11 16 08.9	-3.2
AAK	Ala-Archa	109.16	35	IAms_20	IAms_20	12 11 06.9	
	comp=Z,654nm,20.0s						
TLY	Talaya	112.90	12	⇓*i*PKIKP	PKiKP	11 20 23.8	+1.0
WMQ	Urumqi	114.83	26	*e*PKP	PKPdf	11 20 27.4	+0.6
WMQ				LR	LR		
	comp=Z,630nm,18.7s						
WMQ				LR	LR		
	comp=Z,530nm,18.7s						
WMQ				LR	LR		
	comp=Z,770nm,21.5s						
MDJ	Mudanjiang	121.31	353	PKP	PKiKP	11 20 39.9	+0.6
MDJ				AMB	AMB		
	comp=Z,270nm,5.1s						
GTA	Gaotai	123.27	20	*e*PKPbc	PKiKP	11 20 55.5	+12
GTA				LR	LR		
	comp=N,490nm,20.7s						
GTA				LR	LR		
	comp=E,260nm,21.4s						
GTA				LR	LR		
	comp=Z,760nm,22.2s						
HHC	Hu-ho-hao-te	124.78	9	*e*PKP	PKPdf	11 20 42.9	-3.2
MAT	Matsushiro	127.42	343	*e*PKP	PKPdf	11 20 49.5	-1.7
LZH	Lanzhou	127.58	18	*e*PKP	PKiKP	11 20 52.3	+0.1
LZH				LR	LR		
	comp=Z,480nm,19.0s						
LZH				LR	LR		
	comp=Z,530nm,19.5s						
LZH				LR	LR		
	comp=Z,400nm,20.1s						
LSA	Lhasa	127.73	34	IAms_20	IAms_20	12 25 13.1	
	comp=Z,302nm,20.0s						
CD2	Chengdu	132.32	21	PKP	PKPdf	11 21 00.8	+0.1
CD2				LR	LR		
	comp=Z,970nm,29.9s						
CD2				LR	LR		
	comp=Z,690nm,21.1s						
CD2				LR	LR		
	comp=Z,800nm,30.9s						
NJ2	Nanjing	134.26	3	*e*PKP	PKPdf	11 21 04.3	+0.1
DZM	Mont Dzumac	136.57	253	*e*LR	LR	12 05 05.5	
	comp=Z,546nm,25.1s						
KMI	Kunming	137.15	25	⇑PKP	PKPdf	11 21 09.4	-0.7
KMI				SS	SS	11 42 03.3	+5.0
KMI				LR	LR		
	comp=Z,280nm,26.3s						
KMI				LR	LR		
	comp=Z,490nm,19.9s						
KMI				LR	LR		
	comp=Z,740nm,24.5s						
GYA	Guiyang	137.40	20	*e*PKP	PKPdf	11 21 09.5	-0.9
GYA				PP	PP	11 23 57.5	+3.5
GYA				AMB	AMB		
	comp=Z,24nm,5.5s						
GYA				LR	LR		
	comp=Z,130nm,27.8s						
CMAR	Chiang Mai Arr	140.94	35	PKP	PKPdf	11 21 17.3	+0.5
	comp=Z,0.5nm,0.3s,baz=316,slow=5.0,SNR=5.4						
CHAI	Chaiyaphum	144.69	34	PKP	PKPbc	11 21 22.4	+0.1
SKNT	Sakolnakorn	144.81	30	PKP	PKPab	11 21 22.5	-0.1
QIZ	Qiongzhong	145.35	20	PKPbc	PKPdf	11 21 25.0	+0.4
QIZ				PP	PP	11 24 44.1	+1.7
QIZ				SS	SS	11 43 35.0	+1.8
QIZ				LR	LR		
	comp=Z,460nm,17.7s						
QIZ				LR	LR		
	comp=Z,380nm,13.7s						
QIZ				LR	LR		
	comp=Z,650nm,26.5s						
ARMA	Armidale	147.72	234	PKPab	PKPab	11 21 33.5	0.0
TOO	Toolangi	148.16	218	PKP2	PKiKP	11 21 33.7	-0.2
TOO	Toolangi	148.16	218	PKPab	PKiKP	11 21 33.7	-0.2
EIDS	Eidsvold	149.93	243	PKPab	PKiKP	11 21 39.1	+1.3
STKA	Stephens Creek	154.30	222	PKP	PKPdf	11 21 38.7	+0.3
	comp=Z,4.0nm,0.9s,baz=320,slow=7.9,SNR=6.7						
STKA				PKPbc	PKiKP	11 21 47.2	+0.5
	comp=Z,5.3nm,0.8s,baz=124,slow=5.3,SNR=8.7						
ASAR	Alice Springs	164.73	229	PKP	PKPdf	11 21 49.6	-1.0
	comp=Z,2.3nm,1.1s,baz=138,slow=1.9,SNR=7.2						
ASAR				PKPab	PKPab	11 22 47.1	+1.0
	comp=Z,1.4nm,0.7s,baz=125,slow=3.1,SNR=6.6						
WRA	Warramunga Arr	166.29	242	PKP	PKPdf	11 21 51.6	-0.3
	comp=Z,1.9nm,1.1s,baz=150,slow=0.5,SNR=6.3						
WRA				PKPab	PKPab	11 22 53.4	+0.3
	comp=Z,2.9nm,0.9s,baz=110,slow=4.3,SNR=7.4						
WRA	Warramunga Arr	166.29	242		PKPdf	11 21 49.4	-2.6

*IDC **16** 11:04:43.2±5.3,5°.12S×133°.23E,h0km,mb4.3/1,*
mb1 4.5/4,mb1mx3.9/26,mbtmp4.3/4,ML4.4/3 Error
ellipse: s-maj=313.2km s-min=26.4km az=76.0
*NEIC **16** 11:04:49.0±2.4,5°.26S±0°.07×132°.5E±0°.2,h30km±10km,*
mb4.2/5,Error ellipse: s-maj=25.2km s-min=10.5km
az=89.0
*DJA **16** 11:04:49.9±0.5,5°.S±4°×13°.2E±°,h141km±11km,M4.7/8,*
mB5.3/5,mb4.8/6,MLv4.7/8,Mw(mB)4.7/5
ISC 16 11:04:45.8±0.7,5°.19S±0°.05×132°.45E±0°.07,h10km,n27,
σ1§72/28,mb4.4/3,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.97	39	P	Pg	11 05 24.5	+0.9
KMPI				S	Sg	11 05 48.9	-0.3
FAKI	Fak Fak	2.27	355		Pb	11 05 26.9	-0.1
FAKI	Fak Fak	2.27	355	P	Pb	11 05 27.4	+0.5
BNDI	Bandanaira	2.62	285	P	Pb	11 05 32.3	-0.7
MSAI	Masohi	3.96	297	P	Pn	11 05 49.3	+2.5
SIJI	Sorong	4.46	345	Pn	Pn	11 05 54.9	+1.4
	19nm,0.3s,baz=16,slow=1.2,SNR=74						
SIJI				Sn	Sn	11 06 41.7	-3.9
	50nm,0.3s,baz=259,slow=22,SNR=11						
SWI	Sorong	4.46	344	P	Pn	11 05 56.8	+3.2
MTN	Manton Dam	7.71	190		Pn	11 06 40.5	+2.2
LUWI	Luwuk	10.51	293	Pn	Pn	11 07 18.7	+2.1
KNRA	Kununurra	11.03	199		Pn	11 07 24.6	+0.8
EDFI	Ende, Flores	11.25	251	P	Pn	11 07 27.5	+0.6
	7.6nm,1.2s						
BNSI	Bone	12.33	273	P	Pn	11 07 40.6	-1.0
	1μm105nm,1.2s						
TTSI	Tana Toraja	12.78	279	P	Pn	11 07 45.0	-2.8
TOLI2	Tolitoli	13.23	298		Pn	11 07 53.8	-0.2
MPSI	Mapaga	13.69	293	P	Pn	11 07 54.3	-5.9
WB0	Warramunga Arr	14.61	173		Pn	11 08 11.5	-1.3
WRAB	Tennant Creek	14.77	173	Pn	Pn	11 08 13.7	-1.3
WRA	Warramunga Arr	14.77	173	Pn	Pn	11 08 13.3	-1.7
	2.2nm,0.3s,baz=356,slow=13,SNR=47						
WRA				Sn	Sn	11 10 47.0	-12
	3.0nm,0.3s,baz=358,slow=23,SNR=10						
WB2	Warramunga Arr	14.78	173	Pn	Pn	11 08 13.5	-1.6
WR0	Warramunga Arr	14.82	172		Pn	11 08 14.2	-1.4
AS31	Alice Springs	18.42	176	P	Pn	11 08 59.2	-2.3
ASAR	Alice Springs	18.42	176	P	P	11 09 00.7	-0.8
	1.0nm,0.3s,baz=358,slow=13,SNR=30						
ASAR				S	Sn	11 12 14.1	-13
	0.7nm,0.3s,baz=357,slow=26,SNR=10						
PSA00	Pilbara Seismi	20.36	216	P	P	11 09 22.9	+0.3
PSA00				IAmb	IAmb	11 09 40.7	
	comp=Z,11nm,0.9s						
FORT	Forrest	25.78	189	P	P	11 10 16.5	-0.6
MK31	Makanchi Array	68.10	325	P	P	11 15 47.0	+1.0
MK31				IAmb	IAmb	11 15 48.1	
	comp=Z,1.8nm,0.9s						
MKAR	Makanchi Array	68.10	325	P	P	11 15 47.4	+1.4
	comp=Z,1.5nm,0.5s,baz=113,slow=8.1,SNR=24						
MAKZ	Makanchi	68.28	325	P	P	11 15 47.1	0.0
MAKZ				IAmb	IAmb	11 15 49.1	
	comp=Z,3.0nm,1.0s						

*NEIC **16** 11:07:27.8±2.1,19°.9N±0°.1×65°.59W±0°.08,h38km±46km,*
Error ellipse: s-maj=15.6km s-min=8.8km az=205.0
*RSPR **16** 11:07:32.0,19°.62N×65°.60W,h13km±8km,MD3.0/4*
ISC 16 11:07:31.4±4.0,19°.6N±0°.2×65°.6W±0°.1,h35km,n18,
σ0§19/18,5C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.34	167	⇑*e*P	Pn	11 07 53.3	-0.3
CUPR	Culebra, Puert	1.34	167	*e*S	Sn	11 08 10.4	+0.1
CUPR	Culebra, Puert	1.34	167		Pn	11 07 53.3	-0.3
CUPR					Sn	11 08 10.4	+0.1
CBYP	Canovanas	1.36	190	⇑*e*P	Pn	11 07 53.9	-0.1
CBYP	Canovanas	1.36	190		Pn	11 07 53.9	-0.1
GCPR	Guaynabo City	1.38	199	Pn	Pn	11 07 54.0	-0.2
GCPR				IAML		11 08 03.2	
	comp=N,74nm,3.

MTP	**Monte Pirata**	**1.52 178**	*e*S		**Sn**	**11 08 14.4 -0.1**
MTP	**Monte Pirata**	**1.52 178**			**Pn**	**11 07 56.2 +0.1**
MTP					**Sn**	**11 08 14.4 -0.1**
MTP	**Monte Pirata**	**1.52 178**	IAML			11 08 42.4
	comp=N,47nm,4.4s					
AOPR	**Arecibo Observ**	**1.67 221**	⇑*e*P		**Pn**	**11 07 58.2 0.0**
AOPR	**Arecibo Observ**	**1.67 221**			**Pn**	**11 07 58.2 0.0**
AOPR	**Arecibo Observ**	**1.67 221**	IAML			11 08 31.5
	comp=N,87nm,0.5s					

IDC 16 11:24:55.1±8.6, 18°.88S×173°.30W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/31, mbtmp3.6/3, Error ellipse: s-maj=378.1km s-min=39.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.21**	**255**	P	P	11 33 46.4	+0.8
	0.8nm,0.4s,baz=89,slow=7.7,SNR=26						
WRA	**Warramunga Arr**	**49.23**	**260**	P	P	11 33 44.1	-1.7
	0.3nm,0.8s,baz=101,slow=7.8,SNR=1.2						
ILAR	**Eielson Array**	**85.82**	**11**	P	P	11 37 36.0	0.0
	0.3nm,0.7s,baz=211,slow=5.8,SNR=6.0						

*KRNET **16** 12:16:35.0±0.1, 41°.05N×69°.77E, mb2.8*
*ISU **16** 12:16:35, 41°.00N×69°.60E, h5km*
ISC 16 12:16:35.0±1.3, 41°.01N±0°.03×69°.72E±0°.05, h5km±12km, n10, σ1§32/20, 8C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.58**	**22**	*e*P	**Pg**	**12 16 47.0**	**+0.8**
CHMG				*e*S	**Sg**	**12 16 55.0**	**+1.3**
TRKS	**Terek-Say**	**1.19**	**64**	⇓*i*P	**Pb**	**12 16 56.3**	**-1.9**
	baz=68						
TRKS				⇓*i*S	**Sb**	**12 17 12.4**	**-1.5**
	baz=68						
BTK	**Batken**	**1.27**	**138**	⇓*i*P	**Pg**	**12 16 59.4**	**+0.1**
	baz=41						
BTK				⇓*i*S	**Sn**	**12 17 16.9**	**-0.1**
	baz=41						
BTK	**Batken**	**1.27**	**138**	*i*P	**Pg**	**12 17 00.0**	**+0.7**
BTK				*i*S	**Sn**	**12 17 20.0**	**+3.0**
KRSA	**Karasay**	**1.75**	**240**	*e*P	**Pn**	**12 17 06.0**	**-0.2**
KRSA				*e*S	**Sg**	**12 17 31.0**	**-0.4**
GAR	**Garm**	**2.06**	**167**	⇑*i*P	**Pb**	**12 17 12.6**	**-0.4**
	baz=68						
GAR				⇑*i*S	**Sg**	**12 17 40.7**	**-0.6**
	baz=68						
KK31	**Karatay Array**	**2.17**	**15**	P	**Pb**	**12 17 14.4**	**-0.4**
	2.2nm,0.3s,baz=195,slow=16,SNR=62						
KK31				S	**Sg**	**12 17 45.2**	**+0.4**
	7.8nm,0.3s,baz=196,slow=32,SNR=17						
DRK	**Karamyk**	**2.21**	**133**	⇑*i*P	**Pb**	**12 17 14.8**	**-0.8**
	baz=34						
DRK				⇑*i*S	**Sb**	**12 17 43.6**	**+0.2**
	baz=34						
MNAS	**Manas**	**2.55**	**54**	⇑*i*P	**Pb**	**12 17 19.5**	**-1.9**
	baz=54						
MNAS				⇑*i*S	**Sb**	**12 17 51.3**	**-1.8**
	baz=54						
AML	**Almayashu**	**3.18**	**68**	⇑*i*P	**Pn**	**12 17 27.3**	**+1.1**
	baz=69						
AML				⇑*i*S	**Sn**	**12 18 05.5**	**+0.8**
	baz=69						

*IDC **16** 12:26:56.0±0.9, 26°.58S×176°.65W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.1/32, mbtmp4.1/8, ML4.9/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/31, Error ellipse: s-maj=35.1km s-min=21.7km az=137.0*
*NEIC **16** 12:26:57.0±2.8, 26°.72S±0°.09×176°.3W±0°.2, h10km±1km, mb4.6/12, Error ellipse: s-maj=25.9km s-min=10.9km az=114.0*
ISC 16 12:26:57.0±0.6, 26°.6S±0°.1×176°.4W±0°.2, h10km, n34, σ1§23/27, mb4.3/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.94**	**207**	Pn	**Pn**	**12 27 44.0**	**+0.3**
	164nm,0.3s,baz=257,slow=19,SNR=5.5						
RAO				Sn	**Sn**	**12 28 20.6**	**+1.6**
	243nm,0.3s,baz=68,slow=23,SNR=5.9						
NIUE	**Niue**	**9.59**	**40**	Pn	**Pn**	**12 29 13.3**	**-1.9**
MSVF	**Nonsavu**	**10.26**	**329**	LR	LR	12 33 00.9	
	comp=Z,589nm,18.3s,baz=40,slow=36						
URZ	**Urewera**	**12.82**	**204**	Pn	Pn	12 29 51.1	-8.1
	0.3nm,0.3s,baz=309,slow=14,SNR=1.3						
URZ				Sn	Sn	12 32 11.2	-11
	0.6nm,0.3s,baz=173,slow=22,SNR=1.9						
AFI	**Afiamalu**	**13.38**	**20**	Pn	Pn	12 30 01.4	-5.7
	1.6nm,0.3s,baz=153,slow=9.0,SNR=2.0						
AFI				Sn	Sn	12 32 20.4	-16
	1.3nm,0.3s,baz=358,slow=18,SNR=1.7						
RAR	**Rarotonga**	**16.11**	**74**	Pn	Pn	12 30 34.7	-8.9
	2.1nm,0.3s,baz=246,slow=12,SNR=4.1						
RAR				Sn	Sn	12 33 16.1	-26
	0.6nm,0.3s,baz=281,slow=23,SNR=2.2						
DZM	**Mont Dzumac**	**16.30**	**283**	LR	LR	12 35 53.4	
	comp=Z,402nm,20.3s,baz=104,slow=34						
THZ	**Tophouse**	**17.47**	**208**	Pn	**Pn**	**12 30 59.5**	**-1.3**
THZ				IAmb	IAmb	12 31 16.4	
	comp=Z,44nm,1.4s						
KHZ	**Kahutara**	**17.77**	**205**		**Pn**	**12 31 03.8**	**-0.6**
LTZ	**Lake Taylor**	**18.58**	**207**	P	**P**	**12 31 11.3**	**-2.8**
OXZ	**Oxford**	**19.13**	**207**	P	**P**	**12 31 19.0**	**-1.1**
OXZ				IAmb	IAmb	12 31 32.0	
	comp=Z,30nm,1.2s						
PPT	**Papeete**	**26.38**	**75**	LR	LR	12 40 52.7	
	comp=Z,118nm,19.0s,baz=260,slow=32						
STKA	**Stephens Creek**	**36.87**	**252**	LR	LR	12 46 45.9	
	comp=Z,567nm,21.6s,baz=336,slow=32						
ASAR	**Alice Springs**	**44.88**	**262**	P	**P**	**12 35 09.4**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=108,slow=7.5,SNR=13						
WR0	**Warramunga Arr**	**45.35**	**268**	P	**P**	**12 35 15.9**	**+0.2**
WR0				IAmb	IAmb	12 35 43.0	
	comp=Z,9.9nm,1.3s						
WB2	**Warramunga Arr**	**45.52**	**268**	P	**P**	**12 35 16.3**	**-0.7**
WB2				IAmb	IAmb	12 35 19.0	
	comp=Z,8.7nm,1.0s						
WRA	**Warramunga Arr**	**45.53**	**268**	P	**P**	**12 35 16.2**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=105,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**45.53**	**268**	P	**P**	**12 35 16.5**	**-0.6**
WB0	**Warramunga Arr**	**45.54**	**268**	P	**P**	**12 35 17.1**	**-0.1**
WB0				IAmb	IAmb	12 35 34.9	
	comp=Z,7.5nm,1.1s						
KNRA	**Kununurra**	**51.98**	**271**	P	**P**	**12 36 07.3**	**+0.7**
RPN	**Rapa Nui**	**59.11**	**107**	LR	LR	12 58 53.1	
	comp=Z,78nm,18.3s,baz=234,slow=32						
CASY	**Casey**	**59.12**	**207**	P	**P**	**12 36 57.0**	**-0.4**
QSPA	**South Pole Qui**	**63.45**	**180**	P	**P**	**12 37 27.3**	**+0.4**
QSPA				IAmb	IAmb	12 37 38.5	
	comp=Z,9.4nm,1.0s						
NVAR	**Mina Array Bea**	**84.51**	**42**	P	**P**	**12 39 32.0**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=224,slow=7.6,SNR=7.3						
USRK	**Ussuriysk Ar.**	**84.85**	**326**	P	**P**	**12 39 30.9**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=135,slow=5.1,SNR=2.7						
TXAR	**Lajitas Array**	**89.15**	**56**	P	**P**	**12 39 54.4**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=202,slow=9.6,SNR=2.9						
ENH	**Enshi**	**90.69**	**304**	P	**P**	**12 40 01.1**	**+0.9**
PDAR	**Pinedale Array**	**92.42**	**43**	P	**P**	**12 40 09.6**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=246,slow=3.8,SNR=2.3						
CMAR	**Chiang Mai Arr**	**93.53**	**289**	P	**P**	**12 40 14.9**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=4.1,SNR=4.6						
NB2	**NORSAR Subarra**	**145.23**	**354**	PKP	**PKPdf**	**12 46 34.8**	**+0.4**
	comp=Z,6.6nm,1.7s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.23**	**354**	PKPbc	**PKPbc**	**12 46 33.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=11,slow=2.4,SNR=2.5						
AKASG	**Malin Array Be**	**149.04**	**328**	PKPbc	**PKPbc**	**12 46 44.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=40,slow=2.8,SNR=4.4						
BRTR	**Keskin Array B**	**151.84**	**305**	PKPbc	**PKPbc**	**12 46 51.7**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=90,slow=1.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.45**	**172**	PKPab	**PKPab**	**12 48 04.7**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=189,slow=3.8,SNR=2.9						

*IDC **16** 12:59:45.7±2.7, 39°.32N×144°.71E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/39, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=64.3km s-min=33.5km az=140.0*
*JMA **16** 12:59:49.1±0.2, 39°.37N×144°.58E, h44km, M3.7*
ISC 16 12:59:47.7±1.2, 39°.29N±0°.06×144°.75E±0°.08, h23km, n25, σ2§05/39, mb4.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.29**	**278**	P	**Pn**	**13 00 23.6**	**-0.4**
MIYJ				*e*S	**Sn**	**13 00 49.3**	**-2.2**
JTH	**Tanohata**	**2.32**	**287**	P	**Pn**	**13 00 23.8**	**-0.7**
JTH				*e*S	**Sn**	**13 00 50.2**	**-2.1**
OFUJ	**Ofunato**	**2.40**	**266**	P	**Pn**	**13 00 25.2**	**-0.4**
JOM	**Ohasama**	**2.69**	**275**	P	**Pn**	**13 00 29.5**	**0.0**
JANG	**Nango**	**2.71**	**295**	P	**Pn**	**13 00 29.0**	**-0.9**
JMK	**Ichinoseki**	**2.77**	**264**	P	**Pn**	**13 00 30.5**	**-0.1**
JMK				*e*S	**Sn**	**13 01 00.8**	**-2.5**
JNBK	**Urakawa-nobuka**	**3.35**	**334**	P	**Pn**	**13 00 39.1**	**+0.5**
JNBK				*e*S	**Sn**	**13 01 16.7**	**-1.0**
JYK	**Kaneyama**	**3.44**	**265**	P	**Pn**	**13 00 40.1**	**+0.3**
JCH	**Churui**	**3.48**	**343**	P	**Pn**	**13 00 40.0**	**-0.5**
JCH				*e*S	**Sn**	**13 01 18.4**	**-2.6**
JOT	**Ohata**	**3.52**	**308**	P	**Pn**	**13 00 40.9**	**0.0**
JOT				*e*S	**Sn**	**13 01 19.5**	**-2.3**
JAK	**Akkeshi**	**3.71**	**359**	P	**Pn**	**13 00 42.2**	**-1.3**
JAK				*e*S	**Sn**	**13 01 23.6**	**-2.8**
JKB	**Kayabe**	**3.84**	**314**	P	**Pn**	**13 00 45.5**	**+0.1**
JKB				*e*S	**Sn**	**13 01 27.1**	**-2.6**
NEM2	**Nemuro 2**	**4.14**	**10**	P	**Pn**	**13 00 47.7**	**-1.8**
NEM2				*e*S	**Sn**	**13 01 32.7**	**-4.5**
JTKR	**Abashiri--Toko**	**4.72**	**353**	P	**Pn**	**13 00 57.3**	**-0.1**
JTKR				S	**Sn**	**13 01 48.4**	**-3.0**
JOSM	**Okushiri--Mats**	**4.88**	**307**	P	**Pn**	**13 01 01.0**	**+1.3**
JHR	**Hokuryu**	**5.00**	**334**	*e*S	**Sn**	**13 01 58.4**	**+0.1**
ASAJ	**Asahikawa**	**5.09**	**342**	Pn	**Pn**	**13 01 02.9**	**+0.4**
	0.9nm,0.3s,baz=178,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**13 01 57.9**	**-2.6**
	1.7nm,0.3s,baz=282,slow=32,SNR=9.2						
BSO1	**Boso 1**	**5.52**	**214**	P	**Pn**	**13 01 06.3**	**-1.7**
BSO1				*e*S	**Sn**	**13 02 06.4**	**-4.1**
JRY	**Ryogami san**	**5.67**	**237**	P	**Pn**	**13 01 09.9**	**-0.7**
JRY				*e*S	**Sn**	**13 02 09.9**	**-5.1**
MJAR	**Matsushiro Arr**	**5.85**	**244**	Pn	**Pn**	**13 01 13.2**	**+0.1**
	0.9nm,0.3s,baz=52,slow=10,SNR=40						
MAT	**Matsushiro**	**5.85**	**244**	P	**Pn**	**13 01 14.0**	**+0.9**
MAT				*e*S	**Sn**	**13 02 18.7**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.72**	**301**	Pn	**Pn**	**13 02 22.7**	**+3.0**
	baz=99,slow=15,SNR=5.7						
ILAR	**Eielson Array**	**46.18**	**34**	P	**P**	**13 08 11.6**	**+1.3**
	0.5nm,0.7s,baz=266,slow=6.4,SNR=6.2						
FINES	**FINESS Array B**	**68.03**	**333**	P	**P**	**13 10 46.2**	**+1.5**
	1.5nm,0.9s,baz=32,slow=5.4,SNR=2.2						
AKASG	**Malin Array Be**	**74.09**	**323**	P	**P**	**13 11 23.3**	**+1.6**
	0.6nm,0.3s,baz=40,slow=6.1,SNR=2.8						

*BJI **16** 13:02:03.6±0.0, 14°.80N×147°.21E, h6km, mB5.3/51, mb5.1/78, Ms4.9/75, Ms7 4.7/73*
*IDC **16** 13:02:05.0±0.5, 14°.66N×146°.94E, h0km, mb4.8/33, mb1 4.9/34, mb1mx4.8/43, mbtmp4.8/34, ML4.9/1, MS4.4/34, Ms1 4.4/34, ms1mx4.3/40, Error ellipse: s-maj=15.8km s-min=10.3km az=94.0*
*DJA **16** 13:02:07.9±2.1, 15°.N±4°.×14°.7E±°, h13km±13km, M5.3/51, mb5.3/51, mB5.8/23, MLv5.0/1, Mw(mB)5.4/23, MwMwp5.1/1, Mwp5.3/1*
*NEIC **16** 13:02:07.3±2.0, 14°.61N±0°.09×146°.92E±0°.09, h10km±1km, mb5.3/59, Error ellipse: s-maj=15.6km s-min=14.4km az=143.0*
*MOS **16** 13:02:09.4±1.0, 14°.65N×146°.81E, h41km, mb5.4/54, MS4.6/10, Error ellipse: s-maj=8.0km s-min=4.6km az=108.3*
*GCMT **16** 13:02:11.3±0.2, 14°.50N±0°.02×147°.08E±0°.01, h14km, MW5.0/113, Moment Tensor Solution. s52,c67; s113,c181; Duration: 0 Moment tensor: Scale 1016Nm; Mrr3.87±.18; Mθθ0.96±.11; Mϕϕ-4.82±.13; Mrθ-0.42±.30; Mθϕ-0.78±.08; Mϕr1.57±.22; Best double couple: M0=4.70700×1016 NP1:ϕs199.00000°, δ37.00000°, λ108.00000°. NP2:ϕs357.00000°, δ55.00000°, λ77.00000°. Principal axes: T 4.2380, Plg76.0000°, Azm227.0000°; N 0.9430, Plg11.0000°, Azm5.0000°; P -5.1750, Plg9.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 13:02:06.7±0.3, 14°.64N±0°.04×146°.93E±0°.05, h10km, n396, σ1§65/418, mb5.2/187, MS4.5/65, 28C-14D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.25**	**243**	Pn	**Pn**	**13 02 44.6**	**+0.5**
	285nm,0.3s,baz=138,slow=4.6,SNR=57						
GUMO				Sn	**Sn**	**13 03 13.0**	**+1.2**
	247nm,0.3s,baz=310,slow=23,SNR=6.9						
GUMO				LR	LR	13 03 49.9	
	comp=Z,5μm,19.6s,baz=120,slow=46						
GUMO	**Guam**	**2.25**	**243**		**Pn**	**13 02 43.8**	**-0.2**
PATS	**Pohnpei**	**13.60**	**124**		Pn	13 05 14.5	-5.3
MANU	**Manus Island**	**16.58**	**178**	P	**P**	**13 06 02.3**	**+0.3**
GENI	**Genyem**	**18.38**	**202**	P	**Pn**	**13 06 21.2**	**-0.7**
	5μm223nm,1.7s						
JOW	**Kunigami**	**21.21**	**308**	P	**P**	**13 06 52.8**	**+0.1**
	146nm,1.1s,baz=143,slow=11,SNR=16						
JOW				LR	LR	13 14 29.9	
	comp=Z,1μm,19.5s,baz=133,slow=35						
JOW	**Kunigami**	**21.21**	**308**		**P**	**13 06 52.9**	**+0.1**
JOW				IAmb	IAmb	13 06 55.8	
	comp=Z,208nm,1.1s						
SIJI	**Sorong**	**21.85**	**226**	P	**P**	**13 07 00.6**	**+0.8**
	comp=Z,204nm,1.0s,baz=31,slow=11,SNR=48						
SIJI				LR	LR	13 16 11.4	
	comp=Z,854nm,18.3s,baz=58,slow=39						
SWI	**Sorong**	**21.85**	**226**	P	**P**	**13 07 01.1**	**+1.4**
SWI				pmax	pmax		
	comp=Z,355nm,1.3s						
SWI	**Sorong**	**21.85**	**226**	P	**P**	**13 07 00.5**	**+0.8**
	comp=Z,5μmcomp=Z,358nm,1.3s						
JYT	**Yasato**	**22.33**	**346**	P	**P**	**13 07 04.2**	**-0.4**
JSU	**Suzuyama**	**22.57**	**321**	P	**P**	**13 07 07.5**	**+0.3**
JSU				IAmb	IAmb	13 07 09.9	
	comp=Z,92nm,0.9s						
FAKI	**Fak Fak**	**22.71**	**221**	P	**P**	**13 07 08.0**	**-0.9**
FAKI	**Fak Fak**	**22.71**	**221**	P	**P**	**13 07 09.7**	**+0.8**
	comp=Z,2μmcomp=Z,6μmcomp=Z,436nm,1.6s						
MJAR	**Matsushiro Arr**	**23.16**	**342**	P	**P**	**13 07 11.9**	**-1.6**
	comp=Z,9.5nm,0.8s,baz=167,slow=9.4,SNR=11						
MJAR				LR	LR	13 14 00.1	
	comp=Z,753nm,22.0s,baz=175,slow=31						
MAJO	**Matsushiro**	**23.16**	**342**	⇑*i*P	**P**	**13 07 12.8**	**-0.6**
MAJO	**Matsushiro**	**23.16**	**342**	P	**P**	**13 07 11.7**	**-1.7**
MAT	**Matsushiro**	**23.16**	**342**	P	**P**	**13 07 11.6**	**-1.8**
MJB9	**Matsu-Tunnel**	**23.17**	**342**	P	**P**	**13 07 10.9**	**-2.6**
JNU	**Nakatsue**	**23.48**	**324**	P	**P**	**13 07 16.3**	**-0.4**
	comp=Z,57nm,1.0s,baz=116,slow=6.1,SNR=9.3						
JNU	**Nakatsue**	**23.48**	**324**	P	**P**	**13 07 16.5**	**-0.2**
JNU				IAmb	IAmb	13 07 51.8	
	comp=Z,229nm,1.6s						
SGSI	**Sangihe**	**23.73**	**245**	P	**P**	**13 07 21.7**	**+2.4**
	comp=Z,3μmcomp=Z,97nm,0.6s						
JMM	**Marumori**	**23.77**	**348**	P	**P**	**13 07 18.3**	**-1.1**
JMM				IAmb	IAmb	13 07 20.3	
	comp=Z,76nm,1.1s						
PMG	**Port Moresby**	**23.89**	**179**	P	**P**	**13 07 19.8**	**-0.9**
	comp=Z,49nm,0.9s,baz=335,slow=6.1,SNR=13						
PMG				LR	LR	13 17 53.8	
	comp=Z,455nm,18.4s,baz=350,slow=40						
PMG	**Port Moresby**	**23.89**	**179**	*de*P	**P**	**13 07 19.8**	**-0.9**
PMG				pmax	pmax		
	comp=Z,190nm,1.7s						
PMG	**Port Moresby**	**23.89**	**179**	P	**P**	**13 07 18.6**	**-2.1**
YOJ	**Yonaguni jima**	**24.53**	**297**	P	**P**	**13 07 26.2**	**-0.4**
YOJ				pmax	pmax		
	comp=Z,66nm,1.0s						
YOJ	**Yonaguni jima**	**24.53**	**297**	P	**P**	**13 07 26.2**	**-0.4**
YOJ				IAmb	IAmb	13 07 28.3	
	comp=Z,66nm,1.0s						
MSAI	**Masohi**	**25.25**	**226**	P	**P**	**13 07 35.1**	**+2.0**
	comp=Z,1μmcomp=Z,38nm,0.8s						
MNI	**Manado**	**25.45**	**241**	P	**P**	**13 07 35.3**	**+0.2**
MNI				pmax	pmax		
	comp=Z,160nm,1.0s						
YULB	**Yu-li**	**25.71**	**294**	P	**P**	**13 07 35.0**	**-2.4**
JTM	**Tenmabayashi**	**26.55**	**350**	P	**P**	**13 07 45.2**	**+0.5**
JTM				IAmb	IAmb	13 08 05.2	
	comp=Z,99nm,1.2s						
HNR	**Honiara**	**27.18**	**151**	LR	LR	13 18 32.7	
	comp=Z,782nm,18.6s,baz=277,slow=36						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**27.43**	**242**	P	**P**	**13 07 54.4**	**+1.5**
	comp=Z,328nmcomp=Z,21nm,0.9s						
ERM	**Erimo**	**27.47**	**354**	⇓*e*P	**P**	**13 07 54.5**	**+1.5**
ERM				pmax	pmax		
	comp=Z,56nm,1.7s						
TJN	**Taejon**	**27.83**	**325**	⇓*e*P	**P**	**13 07 55.7**	**-0.5**
KSRS	**Korea Array**	**28.31**	**327**	P	**P**	**13 07 59.8**	**-0.8**
	comp=Z,17nm,0.7s,baz=146,slow=9.4,SNR=34						
KSAR	**Wonju Array Be**	**28.32**	**327**	P	**P**	**13 08 01.1**	**+0.5**
KSAR	**Wonju Array Be**	**28.32**	**327**	P	**P**	**13 08 01.1**	**+0.5**
MRSI	**Marisa**	**28.43**	**243**	P	**P**	**13 08 02.9**	**+1.1**
	comp=Z,94nm,1.0s						
LUWI	**Luwuk**	**28.54**	**239**	P	**P**	**13 08 00.4**	**-2.4**
LUWI	**Luwuk**	**28.54**	**239**	P	**P**	**13 07 59.8**	**-3.0**
SSE	**Sheshan**	**28.72**	**309**	P	**P**	**13 08 04.3**	**+0.1**
SSE				S	**S**	**13 12 52.0**	**-1.5**
SSE				pmax	pmax		
	comp=Z,27nm,0.8s						
SSE				pmax	pmax		
	comp=Z,170nm,4.1s						
SSE				LR	LR		
	comp=Z,170nm,17.9s						
SSE				LR	LR		
	comp=Z,720nm,16.9s						
TOLI2	**Tolitoli**	**29.12**	**245**	P	**P**	**13 08 06.3**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**29.31**	**358**	⇓*e*P	**P**	**13 08 10.4**	**+1.0**
APSI	**Ampana**	**29.40**	**240**	P	**P**	**13 08 12.1**	**+1.6**
	comp=Z,478nmcomp=Z,33nm,1.1s						
ASAJ	**Asahikawa**	**29.61**	**354**	P	**P**	**13 08 13.3**	**+1.3**
	comp=Z,27nm,1.0s,baz=227,slow=14,SNR=16						
ASAJ				LR	LR	13 21 26.0	
	comp=Z,413nm,18.6s,baz=194,slow=39						
MPSI	**Mapaga**	**30.27**	**244**	P	**P**	**13 08 18.3**	**+0.1**
KUR	**Kuril'sk**	**30.51**	**1**	⇑*e*P	**P**	**13 08 19.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,120nm,1.5s						
NJ2	**Nanjing**	**30.92**	**309**	⇑P	**P**	**13 08 25.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,21nm,0.6s						
NJ2				LR	LR		
	comp=Z,1μm,17.2s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
NJ2				LR	LR		
	comp=Z,2μm,15.2s						
VLA	**Vladivostok**	**31.18**	**338**	*d i*P	**P**	**13 08 26.1**	**+0.2**
VLA				pmax	pmax		
	comp=Z,50nm,1.0s						
TTSI	**Tana Toraja**	**32.09**	**239**	P	**P**	**13 08 36.7**	**+2.4**
	comp=Z,26nm,1.3s						
USA0B	**Ussuriysk Arra**	**32.10**	**340**	P	**P**	**13 08 34.9**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,38nm,1.5s						
USA0B	**Ussuriysk Arra**	**32.10**	**340**	P	**P**	**13 08 34.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**32.10**	**340**	P	**P**	**13 08 33.4**	**-0.6**
	comp=Z,9.1nm,0.8s,baz=154,slow=8.8,SNR=25						
USRK				LR	LR	13 21 28.5	
	comp=Z,749nm,18.4s,baz=148,slow=36						
YSS	**Yuzh-Sakhalins**	**32.41**	**355**	*e*P	**P**	**13 08 36.7**	**+0.1**
YSS				*e*S	**S**	**13 13 52.7**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
BNSI	**Bone**	**32.63**	**237**	P	**P**	**13 08 40.7**	**+1.7**
	comp=Z,1μmcomp=Z,100nm,1.4s						
DL2	**Dalian**	**32.87**	**322**	P	**P**	**13 08 42.8**	**+1.9**
DL2				pmax	pmax		
	comp=Z,85nm,0.9s						
DL2				LR	LR		
	comp=Z,780nm,6.0s						
DL2				LR	LR		
	comp=Z,910nm,17.3s						
SOEI	**Soe**	**33.05**	**224**	P	**P**	**13 08 41.4**	**-1.3**
SOEI	**Soe**	**33.05**	**224**	P	**P**	**13 08 46.4**	**+3.6**
BKSI	**Bulukumba**	**33.16**	**235**	P	**P**	**13 08 45.3**	**+1.7**
	comp=Z,31nm,1.2s						
MDJ	**Mudanjiang**	**33.31**	**337**	P	**P**	**13 08 45.0**	**+0.4**
MDJ				PP	**PnPn**	**13 09 58.0**	**+2.9**
MDJ				S	**S**	**13 14 05.1**	**-0.1**
MDJ				pmax	pmax		
	comp=Z,16nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,260nm,4.2s						
MDJ				LR	LR		
	comp=Z,670nm,12.1s						
MDJ				LR	LR		
	comp=Z,740nm,14.8s						
MDJ				LR	LR		
	comp=Z,1μm,16.9s						
BSSI	**Bau Bau, Buton**	**33.37**	**234**	P	**P**	**13 08 47.4**	**+1.9**
	comp=Z,59nm,1.1s						
BATI	**Baumata**	**33.78**	**224**	P	**P**	**13 08 50.5**	**+1.4**
	comp=Z,42nm,0.9s						
WHN	**Wuhan**	**33.83**	**303**	⇓P	**P**	**13 08 50.6**	**+1.3**
WHN				pmax	pmax		
	comp=Z,96nm,1.3s						
WHN				LR	LR		
	comp=Z,2μm,20.6s						
EDFI	**Ende, Flores**	**34.15**	**229**	P	**P**	**13 08 52.2**	**-0.2**
	comp=Z,20nm,1.1s						
TIA	**Tai'an**	**34.21**	**314**	⇓P	**P**	**13 08 53.1**	**+0.5**
TIA				S	**S**	**13 14 19.3**	**0.0**
TIA				pmax	pmax		
	comp=Z,14nm,1.2s						
TIA				pmax

WRA	**Warramunga Arr**	**36.53 200**	P	**P**	**13 09 12.4**	**-0.2**
	comp=Z,21nm,0.8s,baz=22,slow=9.2,SNR=62					
WRA			PcP	**PcP**	**13 11 37.1**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=15,slow=3.9,SNR=2.0					
WRA			LR	LR	13 23 30.1	
	comp=Z,503nm,21.6s,baz=295,slow=35					
WRA	**Warramunga Arr**	**36.53 200**	*i* P	**P**	**13 09 12.5**	**-0.1**
WRA			pmax	pmax		
	comp=Z,21nm,0.8s					
KLR	**Kul'dur**	**36.67 343**	P	**P**	**13 09 12.0**	**-1.6**
	comp=Z,15nm,0.9s,baz=144,slow=9.7,SNR=31					
KLR	**Kul'dur**	**36.67 343**	P	**P**	**13 09 12.0**	**-1.6**
SKR	**Severo-Kuril's**	**36.72 10**	*e*P	**P**	**13 09 14.4**	**+0.5**
SKR			*e*S	**S**	**13 15 00.7**	**+3.4**
SKR			pmax	pmax		
	comp=Z,200nm,5.4s					
SKR			pmax	pmax		
	comp=Z,44nm,1.5s					
SKR			MLR	MLR		
	comp=Z,300nm,15.0s					
SKR			MLR	MLR		
	comp=Z,400nm,15.0s					
BJI	**Beijing**	**36.91 319**	P	**P**	**13 09 16.0**	**+0.3**
BJI			pP	**pwP**	**13 09 24.9**	**+0.7**
BJI			sP	sP	13 09 28.8	+11
BJI			PP	**PP**	**13 10 40.5**	**+0.7**
BJI			S	**S**	**13 15 00.3**	**-0.4**
BJI			pmax	pmax		
	comp=Z,51nm,1.2s					
BJI			LR	LR		
	comp=Z,810nm,17.5s					
BJI			LR	LR		
	comp=Z,750nm,13.3s					
BJI			LR	LR		
	comp=Z,1μm,16.9s					
GRNR	**Gornyy**	**37.03 349⇓**	*i* P	**P**	**13 09 17.3**	**+0.7**
GRNR			pmax	pmax		
	comp=Z,10.0nm,0.7s					
GRNR			MLR	MLR		
	comp=N,140nm,14.0s					
GRNR			MLR	MLR		
	comp=Z,320nm,14.0s					
TWSI	**Taliwang, Sumb**	**37.78 234**	P	**P**	**13 09 23.6**	**+0.3**
	comp=Z,48nm,0.8s					
STKI	**Sintang**	**37.93 251**	P	**P**	**13 09 25.1**	**+0.5**
	comp=Z,6μmcomp=Z,13nm,0.6s					
TIY	**Taiyuan**	**38.22 313**	*e*P	**P**	**13 09 28.3**	**+1.4**
TIY			S	**S**	**13 15 20.8**	**0.0**
TIY			pmax	pmax		
	comp=Z,27nm,0.6s					
TIY			LR	LR		
	comp=Z,240nm,6.6s					
TIY			LR	LR		
	comp=Z,560nm,12.5s					
TIY			LR	LR		
	comp=Z,1μm,15.5s					
KSM	**Kuching**	**38.46 253**	P	**P**	**13 09 29.0**	**-0.1**
SRBI	**Singaraja**	**38.72 236**	P	**P**	**13 09 32.9**	**+1.7**
	comp=Z,2μmcomp=Z,160nm,1.8s					
PBKI	**Pangkalan Bun**	**38.94 247**	P	**P**	**13 09 34.5**	**+1.3**
	comp=Z,159nm,1.0s					
PETK	**Petropavlovsk-**	**39.32 10**	P	**P**	**13 09 35.8**	**0.0**
	comp=Z,5.2nm,1.0s,baz=204,slow=6.3,SNR=5.3					
PETK			LR	LR	13 25 17.5	
	comp=Z,560nm,20.3s,baz=200,slow=35					
PETK	**Petropavlovsk-**	**39.32 10**	P	**P**	**13 09 35.5**	**-0.4**
GYA	**Guiyang**	**39.34 294** ⇓	P	**P**	**13 09 38.5**	**+2.0**
GYA			pP	pwP	13 09 48.1	+2.4
GYA			S	**S**	**13 15 37.8**	**-0.2**
GYA			pmax	pmax		
	comp=Z,6.0nm,1.6s					
XAN	**Xi'an**	**39.35 306**	P	**P**	**13 09 37.0**	**+0.5**
XAN			pP	sP	13 09 42.4	+4.2
XAN			S	**S**	**13 15 32.3**	**-5.6**
XAN			pmax	pmax		
	comp=Z,38nm,1.4s					
XAN			LR	LR		
	comp=Z,830nm,13.6s					
XAN			LR	LR		
	comp=Z,530nm,11.6s					
XAN			LR	LR		
	comp=Z,800nm,14.7s					
PET	**Petropavlovsk**	**39.41 11**	*e*P	**P**	**13 09 38.0**	**+1.4**
PET			*e*S	**S**	**13 15 39.6**	**+1.5**
PET			pmax	pmax		
	comp=Z,56nm,1.1s					
PET			MLR	MLR		
	comp=Z,700nm,17.0s					
AS31	**Alice Springs**	**40.14 199**	P	**P**	**13 09 43.0**	**0.0**
ASAR	**Alice Springs**	**40.14 199**	P	**P**	**13 09 43.0**	**-0.1**
	comp=Z,5.1nm,0.6s,baz=24,slow=8.8,SNR=64					
ASAR			PP	**PP**	**13 11 17.1**	**+1.6**
	comp=Z,6.5nm,1.0s,baz=24,slow=9.7,SNR=4.2					
ASAR			LR	LR	13 28 22.8	
	comp=Z,510nm,18.6s,baz=24,slow=39					
ASAR	**Alice Springs**	**40.14 199**	P	**P**	**13 09 43.0**	**-0.1**
ASAR	**Alice Springs**	**40.14 199**	P	**P**	**13 09 42.0**	**-1.1**
HHC	**Hu-ho-hao-te**	**40.32 317**	*e*P	**P**	**13 09 45.5**	**+1.0**
HHC			pP	pwP	13 09 54.6	+1.6
HHC			S	**S**	**13 15 53.6**	**+1.2**
HHC			SS	**SS**	**13 18 46.3**	**-4.7**
HHC			pmax	pmax		
	comp=Z,68nm,1.3s					
HHC			pmax	pmax		
	comp=Z,160nm,5.7s					
HHC			LR	LR		
	comp=Z,560nm,16.1s					
HHC			LR	LR		
	comp=Z,790nm,18.7s					
HHC			LR	LR		
	comp=Z,990nm,16.8s					
DZM	**Mont Dzumac**	**41.20 152**	*e*P	**P**	**13 09 53.6**	**+1.8**
	comp=Z,83nm,1.4s					
DZM			*e*LQ	LQ	13 19 27.0	
	comp=Z,817nm,24.4s					
DZM			*e*LR	LR	13 21 07.7	
	comp=Z,635nm,27.0s					
PWJI	**Pagerwojo**	**41.47 239**	P	**P**	**13 09 54.2**	**0.0**
	comp=Z,160nm,1.1s					
ZEA	**Zeya**	**41.97 343**	*e*P	**P**	**13 09 56.8**	**-1.0**
ZEA			*e*S	**S**	**13 16 16.1**	**-0.2**
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.2s					
ZEA			smax	smax		
	comp=N,100nm,5.6s					
ZEA			MLR	MLR		
	comp=E,200nm,14.0s					
ZEA			MLR	MLR		
	comp=N,400nm,15.0s					
ZEA			MLR	MLR		
	comp=Z,400nm,15.0s					
NONG	**Nongkai**	**42.08 281**	P	**P**	**13 10 01.1**	**+1.9**
	comp=Z,20nm,1.3s					
NONG	**Nongkai**	**42.08 281**	P	**P**	**13 10 01.0**	**+1.9**
	comp=Z,20nm,1.3s					
PCJI	**Pacitan**	**42.09 240**	P	**P**	**13 10 00.1**	**+0.9**
	comp=Z,126nm,1.3s					
KHON	**Khomkaen**	**42.48 278**	P	**P**	**13 10 03.9**	**+1.5**
KHON	**Khomkaen**	**42.48 278**	P	**P**	**13 10 03.0**	**+0.6**
UGM	**Wanagama**	**42.49 241**	P	**P**	**13 10 04.1**	**+1.6**
	comp=Z,237nm,1.8s					
KMI	**Kunming**	**42.67 291** ⇑	P	**P**	**13 10 05.1**	**+0.9**
KMI			PP	**PP**	**13 11 47.9**	**+4.8**
KMI			pmax	pmax		
	comp=Z,25nm,1.7s					
KMI			pmax	pmax		
	comp=Z,230nm,4.4s					
KMI			LR	LR		
	comp=Z,440nm,17.2s					
KMI			LR	LR		
	comp=Z,590nm,20.5s					
KMI			LR	LR		
	comp=Z,670nm,18.3s					
CD2	**Chengdu**	**42.68 300⇓**	*i* P	**P**	**13 10 04.8**	**+0.8**
CD2			S	**S**	**13 16 27.0**	**-0.6**
CD2			sS	sS	13 16 42.8	+13
CD2			pmax	pmax		
	comp=Z,60nm,1.0s					
CD2			pmax	pmax		
	comp=Z,470nm,8.8s					
CD2			LR	LR		
	comp=Z,1μm,18.4s					
CD2			LR	LR		
	comp=Z,1μm,14.9s					
CD2			LR	LR		
	comp=Z,1μm,20.4s					

CHAI	**Chaiyaphum**	**43.31 278**	P	**P**	**13 10 10.2**	**+1.1**
	comp=Z,33nm,1.0s					
CHAI	**Chaiyaphum**	**43.31 278**	P	**P**	**13 10 10.3**	**+1.1**
	comp=Z,8.1nm,1.0s					
SRAK	**Srakaew**	**43.44 275**	P	**P**	**13 10 07.5**	**-2.7**
	comp=Z,4μmcomp=Z,383nm,1.0s					
KPJI	**Karang Pucung**	**43.55 242**	P	**P**	**13 10 12.6**	**+1.5**
	comp=Z,49nm,1.0s					
LZH	**Lanzhou**	**43.95 307** ⇑	P	**P**	**13 10 15.8**	**+1.5**
LZH			S	**S**	**13 16 47.3**	**+1.0**
LZH			pmax	pmax		
	comp=Z,96nm,1.1s					
LZH			pmax	pmax		
	comp=Z,360nm,4.6s					
LZH			LR	LR		
	comp=Z,660nm,16.3s					
LZH			LR	LR		
	comp=Z,680nm,17.9s					
LZH			LR	LR		
	comp=Z,560nm,19.0s					
MYKOM	**Kota Tinggi**	**44.40 257**	P	**P**	**13 10 19.0**	**+1.1**
LEM	**Lembang**	**44.43 244**	P	**P**	**13 10 17.6**	**-0.8**
LEM			pmax	pmax		
	comp=Z,39nm,1.5s					
PHIT	**Phitsanulok**	**44.72 280**	P	**P**	**13 10 22.1**	**+1.6**
	comp=Z,94nm,1.1s					
PHIT	**Phitsanulok**	**44.72 280**	P	**P**	**13 10 22.0**	**+1.6**
	comp=Z,23nm,1.1s					
MA2	**Magadan**	**44.95 3**	P	**P**	**13 10 22.5**	**+0.8**
	comp=Z,33nm,0.9s,baz=151,slow=7.8,SNR=6.8					
MA2	**Magadan**	**44.95 3**	*ce*P	**P**	**13 10 23.0**	**+1.3**
MA2			pmax	pmax		
	comp=Z,91nm,2.5s					
ARMA	**Armidale**	**45.02 174**	P	**P**	**13 10 21.6**	**-1.1**
LAMP	**Lampang**	**45.40 282**	P	**P**	**13 10 27.4**	**+1.6**
	comp=Z,21nm,1.1s					
LAMP	**Lampang**	**45.40 282**	P	**P**	**13 10 27.5**	**+1.6**
	comp=Z,5.3nm,1.1s					
UTHA	**Uthaitani**	**45.78 278**	P	**P**	**13 10 31.4**	**+2.5**
	comp=Z,6.8nm,1.2s					
CM34	**Chiang Mai Arr**	**45.84 282**	P	**P**	**13 10 30.0**	**+0.6**
CM35	**Chiang Mai Arr**	**45.84 282**	P	**P**	**13 10 30.0**	**+0.6**
BLSI	**Bandar Lampung**	**45.86 247**	P	**P**	**13 10 31.0**	**+1.5**
	comp=Z,55nm,1.1s					
CM09	**Chiang Mai Arr**	**46.01 282**	P	**P**	**13 10 32.5**	**+1.8**
	comp=Z,229nmcomp=Z,26nm,1.1s					
CM09	**Chiang Mai Arr**	**46.01 282**	P	**P**	**13 10 32.6**	**+1.8**
	comp=Z,229nmcomp=Z,26nm,1.1s					
CM04	**Chiang Mai Arr**	**46.02 282**	P	**P**	**13 10 32.5**	**+1.7**
	comp=Z,232nmcomp=Z,31nm,1.1s					
CM04	**Chiang Mai Arr**	**46.02 282**	P	**P**	**13 10 32.6**	**+1.7**
	comp=Z,232nmcomp=Z,31nm,1.1s					
CM33	**Chiang Mai Arr**	**46.03 282**	P	**P**	**13 10 31.0**	**+0.1**
CHTO	**Chiang Mai**	**46.04 282**	P	**P**	**13 10 31.5**	**+0.6**
CHTO			pmax	pmax		
	comp=Z,7.0nm,1.8s					
CHTO	**Chiang Mai**	**46.04 282**	P	**P**	**13 10 31.9**	**+1.0**
	comp=Z,12nm,1.8s					
CM01	**Chiang Mai Arr**	**46.04 282**	P	**P**	**13 10 32.7**	**+1.7**
	comp=Z,227nmcomp=Z,29nm,1.2s					
CM01	**Chiang Mai Arr**	**46.04 282**	P	**P**	**13 10 32.0**	**+1.0**
	comp=Z,227nmcomp=Z,29nm,1.2s					
CM02	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 32.8**	**+1.8**
	comp=Z,212nmcomp=Z,27nm,1.1s					
CM02	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 32.0**	**+1.0**
	comp=Z,212nmcomp=Z,27nm,1.1s					
CM31	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 33.0**	**+2.0**
	comp=Z,787nm,0.8s					
CMAR	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 32.0**	**+0.9**
	comp=Z,20nm,1.0s,baz=80,slow=6.2,SNR=56					
CMAR			PcP	**PcP**	**13 12 09.7**	**+2.1**
	comp=Z,8.0nm,0.8s,baz=90,slow=2.1,SNR=6.5					
CMAR			LR	LR	13 31 49.6	
	comp=Z,192nm,18.1s,baz=132,slow=39					
CM05	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 32.5**	**+1.5**
	comp=Z,180nmcomp=Z,21nm,1.1s					
CM05	**Chiang Mai Arr**	**46.05 282**	P	**P**	**13 10 32.6**	**+1.5**
	comp=Z,180nmcomp=Z,21nm,1.1s					
CM15	**Chiang Mai Arr**	**46.07 282**	P	**P**	**13 10 32.9**	**+1.7**
	comp=Z,24nm,1.2s					
CM15	**Chiang Mai Arr**	**46.07 282**	P	**P**	**13 10 32.0**	**+0.8**
	comp=Z,24nm,1.2s					
CM13	**Chiang Mai Arr**	**46.09 282**	P	**P**	**13 10 32.7**	**+1.3**
	comp=Z,171nmcomp=Z,20nm,1.2s					
CM13	**Chiang Mai Arr**	**46.09 282**	P	**P**	**13 10 32.0**	**+0.6**
	comp=Z,171nmcomp=Z,20nm,1.2s					
CM32	**Chiang Mai Arr**	**46.13 282**	P	**P**	**13 10 33.0**	**+1.3**
SRDT	**SRDT**	**46.22 276**	P	**P**	**13 10 35.2**	**+2.8**
	comp=Z,36nm,1.5s					
SRDT	**SRDT**	**46.22 276**	P	**P**	**13 10 35.0**	**+2.6**
	comp=Z,36nm,1.5s					
UMPA	**Umpang Tak**	**46.28 279**	P	**P**	**13 10 35.7**	**+2.8**
	comp=Z,3μmcomp=Z,39nm,1.0s					
UMPA	**Umpang Tak**	**46.28 279**	P	**P**	**13 10 35.0**	**+2.1**
	comp=Z,692nmcomp=Z,9.7nm,1.0s					
IPM	**Ipoh**	**46.29 262**	P	**P**	**13 10 34.0**	**+1.0**
KULM	**Kulim**	**46.43 263**	P	**P**	**13 10 34.0**	**-0.1**
MDSI	**Maura Dua**	**46.44 249**	P	**P**	**13 10 32.8**	**-1.3**
	comp=Z,40nm,1.1s					
STKA	**Stephens Creek**	**46.53 186**	P	**P**	**13 10 34.5**	**0.0**
	comp=Z,8.0nm,0.8s,baz=358,slow=8.5,SNR=7.5					
STKA			LR	LR	13 32 21.5	
	comp=Z,372nm,18.4s,baz=4.2,slow=39					
STKA	**Stephens Creek**	**46.53 186**	P	**P**	**13 10 32.3**	**-2.2**
ULN	**Ulaanbaatar**	**46.70 324**	P	**P**	**13 10 36.2**	**+0.3**
ULN			pmax	pmax		
	comp=Z,117nm,2.0s					
ULN	**Ulaanbaatar**	**46.70 324**	P	**P**	**13 10 36.2**	**+0.3**
LHSI	**Lahat**	**46.76 250**	P	**P**	**13 10 36.4**	**-0.2**
	comp=Z,1μmcomp=Z,85nm,1.0s					
LWLI	**Liwa**	**46.77 248**	P	**P**	**13 10 34.3**	**-2.5**
MHMT	**Maesarieng**	**47.03 281**	P	**P**	**13 10 40.6**	**+1.9**
	comp=Z,49nm,1.1s					
MHMT	**Maesarieng**	**47.03 281**	P	**P**	**13 10 40.7**	**+1.9**
	comp=Z,49nm,1.1s					
SONM	**Songino Array**	**47.06 323**	P	**P**	**13 10 38.8**	**+0.1**
	comp=Z,16nm,0.9s,baz=135,slow=9.9,SNR=43					
SONM			LR	LR	13 31 14.5	
	comp=Z,768nm,18.0s,baz=118,slow=37					
SONM	**Songino Array**	**47.06 323**	P	**P**	**13 10 39.5**	**+0.8**
SONM			pmax	pmax		
	comp=Z,24nm,1.1s					
SONM	**Songino Array**	**47.06 323**	P	**P**	**13 10 39.5**	**+0.8**
SONM			IAmb	IAmb	13 10 42.5	
	comp=Z,24nm,1.1s					
SURT	**Suratani**	**47.38 269**	P	P	13 10 47.8	+6.3
SURT	**Suratani**	**47.38 269**	P	P	13 10 47.9	+6.4
KSI	**Kapahiang**	**47.54 251**	P	**P**	**13 10 41.9**	**-0.9**
KSI			pmax	pmax		
	comp=Z,170nm,0.9s					
KSI	**Kapahiang**	**47.54 251**	P	**P**	**13 10 41.8**	**-1.0**
	comp=Z,7μmcomp=Z,169nm,0.9s					
GTA	**Gaotai**	**48.00 310** ⇑	P	**P**	**13 10 47.0**	**+0.8**
GTA			PcP	**PcP**	**13 12 15.5**	**+1.3**
GTA			ScP	**ScP**	**13 16 08.3**	**-0.7**
GTA			S	**S**	**13 17 45.3**	**+0.9**
GTA			pmax	pmax		
	comp=Z,35nm,1.4s					
GTA			pmax	pmax		
	comp=Z,320nm,4.4s					
GTA			LR	LR		
	comp=Z,370nm,17.8s					
GTA			LR	LR		
	comp=Z,700nm,17.1s					
GTA			LR	LR		
	comp=Z,830nm,17.1s					
SEY	**Seymchan**	**48.39 3**	P	**P**	**13 10 48.2**	**-0.3**
	comp=Z,28nm,1.0s,baz=174,slow=6.7,SNR=32					
PDSI	**Padang**	**48.50 255**	P	**P**	**13 10 49.1**	**-1.1**
	comp=Z,11nm,1.0s					
FORT	**Forrest**	**48.67 202**	P	**P**	**13 10 51.4**	**+0.3**
FORT			IAmb	IAmb	13 10 54.6	
	comp=Z,47nm,1.1s					
MNSI	**Mandailing Nat**	**48.76 258**	P	**P**	**13 10 52.1**	**-0.1**
	comp=Z,20nm,1.0s					
PSI	**Prapat**	**48.77 261**	P	**P**	**13 10 50.5**	**-1.9**
PSI			pmax	pmax		
	comp=Z,19nm,0.9s					
RPSI	**Rantau Prapat**	**48.80 261**	P	**P**	**13 10 50.5**	**-2.0**
YAK	**Yakutsk**	**48.91 349**	P	**P**	**13 10 51.8**	**-0.8**
	comp=Z,6.3nm,0.4s,baz=38,slow=1.8,SNR=8.7					
YAK	**Yakutsk**	**48.91 349**	*c i* P	**P**	**13 10 51.9**	**-0.7**
YAK			pmax	pmax		
	comp=Z,28nm,0.8s					
BOD	**Bodaibo**	**49.69 338**	*e*P	**P**	**13 10 57.4**	**-1.2**
BOD			pmax	pmax		
	comp=Z,17nm,1.7s					

ZAK	**Zakamensk**	**50.11 325**	*e*P	**P**	**13 11 00.6**	**-1.5**
ZAK			pmax	pmax		
	comp=Z,22nm,1.3s					
IRK	**Irkutsk**	**50.52 327**	*e*P	**P**	**13 11 04.2**	**-0.9**
IRK			pmax	pmax		
	comp=Z,30nm,1.8s					
TLY	**Talaya**	**50.56 326**	*e*P	**P**	**13 11 05.5**	**+0.1**
TLY			*e*S	S	13 18 10.3	-9.5
TLY			pmax	pmax		
	comp=Z,49nm,1.1s					
TLY			MLR	MLR		
	comp=Z,1μm,18.0s					
TOO	**Toolangi**	**51.95 181**	P	**P**	**13 11 16.0**	**+0.1**
TOO			pmax	pmax		
	comp=Z,65nm,1.4s					
TOO	**Toolangi**	**51.95 181**	P	**P**	**13 11 16.0**	**+0.1**
TOO			IAmb	IAmb	13 11 20.3	
	comp=Z,65nm,1.4s					
MOY	**Mondy**	**51.99 325**	*e*P	**P**	**13 11 16.7**	**+0.4**
MOY			pmax	pmax		
	comp=Z,43nm,2.1s					
SHL	**Shillong**	**52.51 291**	P	**P**	**13 11 20.5**	**-0.1**
SHL			pmax	pmax		
	comp=Z,43nm,1.1s					
MORW	**Morawa**	**52.71 214**	P	**P**	**13 11 21.4**	**-0.3**
MORW			IAmb	IAmb	13 11 25.7	
	comp=Z,41nm,1.1s					
LSA	**Lhasa**	**53.31 296**	P	**P**	**13 11 27.8**	**+1.0**
LSA			pmax	pmax		
	comp=Z,170nm,0.9s					
BILL	**Bilibino**	**54.82 9** ⇑	*e*P	**P**	**13 11 38.7**	**+2.1**
BILL			*e*S	**S**	**13 19 18.8**	**+1.5**
BILL			pmax	pmax		
	comp=Z,41nm,1.4s					
TAPN	**Taplejung**	**56.26 293**	*e*P	**P**	**13 11 48.6**	**+0.5**
	comp=Z,108nm,0.8s					
ODAN	**Odare**	**56.55 293**	*e*P	**P**	**13 11 50.4**	**+0.4**
	comp=Z,279nm,1.3s					
JIRN	**Jiri**	**57.61 294**	*e*P	**P**	**13 11 58.2**	**+0.5**
	comp=Z,220nm,1.1s					
WMQ	**Urumqi**	**57.88 313**	P	**P**	**13 12 00.8**	**+1.8**
WMQ			S	**S**	**13 19 58.8**	**-0.1**
WMQ			pmax	pmax		
	comp=Z,97nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,290nm,5.3s					
WMQ			LR	LR		
	comp=Z,580nm,16.1s					
WMQ			LR	LR		
	comp=Z,670nm,17.7s					
WMQ			LR	LR		
	comp=Z,650nm,18.3s					
WMQ	**Urumqi**	**57.88 313**	P	**P**	**13 12 01.4**	**+2.4**
WMQ	**Urumqi**	**57.88 313**	P	**P**	**13 12 01.4**	**+2.4**
GUN	**Gumba**	**57.89 294**	*e*P	**P**	**13 12 00.2**	**+0.6**
	comp=Z,269nm,1.1s					
TIXI	**Tiksi**	**58.02 353**	*de*P	**P**	**13 11 59.0**	**-0.3**
PKI	**Pulchoki**	**58.31 294**	*e*P	**P**	**13 12 02.6**	**0.0**
	comp=Z,167nm,1.2s					
PKIN	**Phulchoki**	**58.32 294**	*e*P	**P**	**13 12 02.4**	**-0.2**
	comp=Z,150nm,1.3s					
KKN	**Kakani**	**58.42 294**	*e*P	**P**	**13 12 03.2**	**0.0**
	comp=Z,133nm,1.2s					
DMN	**Daman**	**58.57 294**	*e*P	**P**	**13 12 05.0**	**+0.7**
GKN	**Gorkha**	**58.98 294**	*e*P	**P**	**13 12 07.3**	**+0.2**
	comp=Z,316nm,1.2s					
DGZ	**Jazzator, Alta**	**59.34 319**	*c i* P	**P**	**13 12 10.0**	**+0.9**
DGZ			pmax	pmax		
	comp=Z,49nm,1.0s					
URZ	**Urewera**	**59.75 153**	LR	LR	13 35 11.9	
	comp=Z,189nm,19.1s,baz=344,slow=33					
DANN	**Dangsing**	**59.75 294**	*e*P	**P**	**13 12 12.9**	**+0.4**
	comp=Z,338nm,1.2s					
KOLN	**Koldanda**	**59.91 294**	*e*P	**P**	**13 12 13.5**	**0.0**
	comp=Z,165nm,1.1s					
BKZ	**Black Stump Fm**	**60.23 154**	P	**P**	**13 12 14.1**	**-1.0**
PYUN	**Piuthan**	**60.44 294**	*e*P	**P**	**13 12 17.2**	**0.0**
	comp=Z,191nm,1.1s					
ZSN	**Zaisan**	**60.51 316** ⇑	*i* P	**P**	**13 12 17.3**	**+0.2**
	comp=Z,38nm,1.3s,baz=316					
ZSN	**Zaisan**	**60.51 316**	*c i* P	**P**	**13 12 17.3**	**+0.2**
ZSN			pmax	pmax		
	comp=Z,38nm,1.3s					
ZALV	**Zalesovo Beam**	**61.95 324**	P	**P**	**13 12 26.4**	**-0.3**
	comp=Z,12nm,0.7s,baz=104,slow=6.3,SNR=26					
ZALV			LR	LR	13 38 41.7	
	comp=Z,485nm,20.7s,baz=98,slow=36					
MK31	**Makanchi Array**	**62.14 315**	P	**P**	**13 12 29.0**	**+0.9**
MK31			pmax	pmax		
	comp=Z,27nm,1.0s					
MK31	**Makanchi Array**	**62.14 315**	P	**P**	**13 12 29.0**	**+0.9**
MK31			IAmb	IAmb	13 12 30.0	
	comp=Z,27nm,0.9s					
MKAR	**Makanchi Array**	**62.14 315**	P	**P**	**13 12 28.6**	**+0.5**
	comp=Z,19nm,0.7s,baz=94,slow=9.0,SNR=139					
MKAR			S	**S**	**13 20 50.9**	**-2.6**
	comp=Z,0.9nm,1.0s,baz=96,slow=13,SNR=4.4					
MKAR			LR	LR	13 41 18.6	
	comp=Z,133nm,19.0s,baz=100,slow=38					
MKAR			PKPPKP	**P'P'df**	**13 41 35.7**	**-3.9**
	comp=Z,0.1nm,0.4s,baz=278,slow=2.2,SNR=1.3					
MAKZ	**Makanchi**	**62.35 315**	P	**P**	**13 12 30.3**	**+0.8**
MAKZ			pmax	pmax		
	comp=Z,44nm,0.8s					
MAKZ	**Makanchi**	**62.35 315**	P	**P**	**13 12 30.3**	**+0.8**
K20K	**Telida**	**63.33 26**	P	**P**	**13 12 37.9**	**+2.2**
	baz=248					
J20K	**Nowinta River**	**63.60 25**	P	**P**	**13 12 39.8**	**+2.3**
	baz=248					
SHLS	**Shalkode**	**63.73 311** ⇑	*e*P	**P**	**13 12 36.8**	**-2.2**
	comp=Z,18nm,1.1s,baz=311					
SHLS	**Shalkode**	**63.73 311**	*ce*P	**P**	**13 12 36.7**	**-2.2**
SHLS			pmax	pmax		
	comp=Z,18nm,1.1s					
SEM	**Semipalatinsk**	**64.01 319**	*e*P	**P**	**13 12 38.2**	**-2.6**
	baz=319					
SEM	**Semipalatinsk**	**64.01 319**	*e*P	**P**	**13 12 38.1**	**-2.6**
KPKS	**Kokpek**	**64.32 311** ⇑	*e*P	**P**	**13 12 42.0**	**-0.7**
	comp=Z,26nm,1.4s,baz=311					
KPKS	**Kokpek**	**64.32 311**	*ce*P	**P**	**13 12 42.0**	**-0.7**
KPKS			pmax	pmax		
	comp=Z,27nm,1.4s					
SATY	**Saty**	**64.49 311** ⇑	*i* P	**P**	**13 12 44.5**	**+0.5**
	comp=Z,20nm,1.2s,baz=311					
SATY	**Saty**	**64.49 311**	*c i* P	**P**	**13 12 44.4**	**+0.5**
SATY			pmax	pmax		
	comp=Z,20nm,1.2s					
TDK	**Taldyqorghan**	**64.63 313**	*e*P	**P**	**13 12 45.3**	**+0.6**
	baz=313					
TDK	**Taldyqorghan**	**64.63 313**	*e*P	**P**	**13 12 45.2**	**+0.6**
H21K	**Melozitna Rive**	**64.69 23**	P	**P**	**13 12 46.8**	**+2.2**
	baz=248					
I21K	**Tanana**	**64.84 24**	P	**P**	**13 12 47.6**	**+2.1**
	baz=249					
BPAW	**Bear Paw Mtn.**	**64.87 25**	P	**P**	**13 12 47.6**	**+1.7**
	baz=251					
KURBB	**Kurchatov Arra**	**65.13 319**	PKPPKP		13 41 29.5	
	comp=Z,0.3nm,0.7s,baz=289,slow=3.8,SNR=2.5					
PALK	**Pallekele**	**65.25 271**	LR	LR	13 40 47.2	
	comp=Z,154nm,19.7s,baz=175,slow=36					
MLY	**Manley**	**65.28 24**	P	**P**	**13 12 50.3**	**+1.7**
	baz=251					
MLY	**Manley**	**65.28 24**	P	**P**	**13 12 49.4**	**+0.8**
MLY			IAmb	IAmb	13 13 32.2	
	comp=Z,19nm,1.1s					
SML	**Sawmill**	**65.35 28**	P	**P**	**13 12 50.5**	**+1.5**
	baz=254			

SCM	Sheep Creek Mo	65.81	28	P	P	13 12 53.1	+1.0
SCM				IAmb	IAmb	13 13 02.6	
	comp=Z,32nm,1.0s						
I23K	Minto, Yukon-K	65.87	25	P	P	13 12 54.2	+2.0
	baz=252						
I23K	Minto, Yukon-K	65.87	25	IAmb	IAmb	13 13 12.6	
	comp=Z,39nm,1.4s						
H23K	Yukon River	66.01	24	P	P	13 12 55.0	+1.8
	baz=251						
KUU	Kurty	66.04	312⇑	iP	P	13 12 53.9	+0.1
	comp=Z,33nm,0.7s,baz=312						
KUU	Kurty	66.04	312	c iP	P	13 12 53.9	+0.1
KUU				pmax	pmax		
	comp=Z,33nm,0.7s						
ULHL	Ulahol	66.05	310	P	P	13 12 55.5	+1.3
	SNR=16						
WRH	Wood River Hil	66.19	25	IAmb	IAmb	13 13 24.0	
	comp=Z,22nm,1.2s						
KSH	Kashi	66.20	307	P	P	13 12 57.9	+2.8
KSH				S	S	13 21 47.5	+3.1
KSH				sS	sS	13 22 02.8	+16
KSH				SS	SS	13 26 01.0	+0.8
KSH				pmax	pmax		
	comp=Z,16nm,1.8s						
KSH				pmax	pmax		
	comp=Z,210nm,3.4s						
KSH				LR	LR		
	comp=Z,370nm,10.2s						
KSH				LR	LR		
	comp=Z,450nm,8.8s						
KSH				LR	LR		
	comp=Z,290nm,4.8s						
BOOM	Boomskoye usch	66.28	310	IAmb	IAmb	13 12 57.5	
	comp=Z,20nm,1.1s						
COLA	College	66.40	25⇑	eP	P	13 12 58.0	+2.3
COLA				pmax	pmax		
	comp=Z,12nm,1.7s						
TKM2	Tokmak 2	66.55	311	P	P	13 12 58.1	+0.8
	SNR=18						
HDA	Harding Lake	66.65	26	P	P	13 12 57.8	+0.5
	baz=254						
H24K	Noodor Dome	66.67	24	P	P	13 12 59.2	+1.7
	baz=253						
IL31		66.77	25	IAmb	IAmb	13 13 16.6	
	comp=Z,22nm,1.2s						
ILAR	Eielson Array	66.77	25	P	P	13 12 57.6	-0.4
	comp=Z,1.2nm,0.4s,baz=255,slow=5.7,SNR=20						
ILAR				LR	LR	13 40 22.6	
	comp=Z,222nm,20.4s,baz=266,slow=34						
ILAR	Eielson Array	66.77	25	P	P	13 12 58.9	+0.8
ILAR	Eielson Array	66.77	25	P	P	13 12 58.9	+0.8
PAX	Paxson	66.93	27	P	P	13 13 00.5	+1.3
	baz=256						
TOLK	Toolik Lake Re	66.93	21	P	P	13 13 01.1	+2.0
	baz=250						
KBK	Karagaybulak	67.02	310	P	P	13 13 00.8	+0.5
	SNR=7.2						
CHMS	Chumysh	67.17	311	P	P	13 13 02.0	+0.9
	SNR=7.0						
SGDS	Sogindy	67.27	311	eP	P	13 12 59.4	-2.3
	baz=311						
SGDS	Sogindy	67.27	311	eP	P	13 12 59.4	-2.3
AAK	Ala-Archa	67.35	310	c iP	P	13 13 02.9	+0.5
AAK				pmax	pmax		
	comp=Z,63nm,1.7s						
USP	Ospenovka	67.36	311	P	P	13 12 59.9	-2.4
	SNR=5.5						
RIDG	Independent Ri	67.38	27	P	P	13 13 03.5	+1.4
	baz=257						
DOT	Dot Lake	67.70	27	IAmb	IAmb	13 13 34.3	
	comp=Z,25nm,1.2s						
BTLS	Baital	67.72	313⇑	iP	P	13 13 04.3	-0.2
	comp=Z,26nm,1.5s,baz=313						
BTLS	Baital	67.72	313	c iP	P	13 13 04.2	-0.2
BTLS				pmax	pmax		
	comp=Z,26nm,1.5s						
SCRK	Sand Creek	67.80	26	P	P	13 13 06.1	+1.3
	baz=257						
SCRK	Sand Creek	67.80	26	IAmb	IAmb	13 13 25.3	
	comp=Z,35nm,1.3s						
EKS2	Erkin-Say	67.88	310	P	P	13 13 06.5	+0.7
	SNR=6.1						
L26K	Log Cabin Wild	67.89	27	P	P	13 13 06.7	+1.4
	baz=258						
AML	Almayashu	67.94	310	P	P	13 13 07.5	+1.1
	SNR=18						
BMAR	Burnt Mountain	68.37	23	P	P	13 13 10.0	+1.8
CTG	Chitna Glacier	68.46	30	P	P	13 13 10.6	+1.6
	baz=261						
TABL	Table Mountain	68.47	30	P	P	13 13 10.0	+0.9
L27K	Beaver Creek,	68.57	28	P	P	13 13 10.2	+0.7
	baz=260						
K27K	Chicken	68.64	27	P	P	13 13 12.2	+2.3
	baz=259						
BRZS	Berezniki	68.81	318	eP	P	13 13 09.5	-1.8
	baz=318						
BRZS	Berezniki	68.81	318	eP	P	13 13 09.4	-1.8
EGAK	Eagle	69.17	26	P	P	13 13 15.6	+2.5
	baz=260						
EGAK	Eagle	69.17	26	IAmb	IAmb	13 13 43.8	
	comp=Z,25nm,1.1s						
DZA	Taraz	69.68	311	eP	P	13 13 15.7	-1.2
	baz=311						
DZA	Taraz	69.68	311	eP	P	13 13 15.6	-1.2
KKAR	Karatay Array	70.28	311	IAmb	IAmb	13 13 22.0	
	comp=Z,39nm,1.0s						
PPT	Papeete	70.32	115	LR	LR	13 41 58.9	
	comp=Z,434nm,18.1s,baz=296,slow=34						
PPT2	Papeete2	70.33	115	eS	S	13 22 30.2	-3.8
	comp=Z,696nm,27.8s						
PPT2	Papeete2	70.33	115	eLR	LR	13 34 25.9	
	comp=Z,669nm,25.0s,baz=290						
BRVK	Borovoye	70.42	321	c iP	P	13 13 21.1	0.0
BRVK				pmax	pmax		
	comp=Z,61nm,1.0s						
BRVK	Borovoye	70.42	321	P	P	13 13 21.2	+0.2
GAR	Garm	70.61	307	P	P	13 13 22.0	-0.7
EPYK	Eagle Plains	71.22	24	P	P	13 13 27.0	+1.2
	baz=263						
EPYK	Eagle Plains	71.22	24	P	P	13 13 26.4	+0.7
EPYK				IAmb	IAmb	13 14 38.1	
	comp=Z,37nm,1.5s						
INK	Inuvik	72.64	23	P	P	13 13 34.6	+0.5
	comp=Z,6.7nm,1.0s,baz=250,slow=9.9,SNR=14						
INK	Inuvik	72.64	23	P	P	13 13 35.0	+0.9
	baz=266						
TBI	Tubuai	72.76	120	eS	S	13 22 57.7	-4.0
	comp=Z,156nm,28.0s						
TBI	Tubuai	72.76	120	eLR	LR	13 35 22.0	
	comp=Z,322nm,26.5s,baz=304						
DLBC	Dease Lake	74.03	33	P	P	13 13 42.7	+0.1
BBB	Bella Bella	75.51	39	LR	LR	13 40 22.1	
	comp=Z,248nm,21.3s,baz=298,slow=30						
SVE	Sverdlovsk	75.86	326	deP	P	13 13 53.6	+0.4
SVE				pmax	pmax		
	comp=Z,60nm,1.4s						
TAOE	Nuku Hiva Isla	75.97	103	eLR	LR	13 37 06.2	
	comp=Z,762nm,25.8s						
C36M	Paulatuk	76.07	21	P	P	13 13 54.9	+0.8
	baz=274						
C36M	Paulatuk	76.07	21	IAmb	IAmb	13 14 25.3	
	comp=Z,34nm,1.4s						
ARU	Arti	77.05	325	c iP	P	13 13 59.7	-0.2
ARU						13 16 51.8	
ARU				PPP	PPP	13 18 38.2	
ARU				S	S	13 23 48.7	+0.2
ARU				SS	SS	13 28 41.8	-3.4
ARU				pmax	pmax		
	comp=Z,48nm,1.1s						
ARU	Arti	77.05	325	P	P	13 13 59.8	-0.2
ARU				IAmb	IAmb	13 14 01.1	
	comp=Z,45nm,1.1s						
ABKAR	Akbulak array	77.11	318	IAmb	IAmb	13 14 01.2	
	comp=Z,23nm,0.9s						
GEYT	Alibeck	80.23	307	P	P	13 14 17.8	-0.2
	comp=Z,12nm,0.9s,baz=202,slow=7.0,SNR=11						
GEYT				LR	LR	13 54 02.3	
	comp=Z,243nm,18.6s,baz=90,slow=39						
YBH	Yreka Blue Hor	80.68	49	LR	LR	13 45 53.6	
	comp=Z,136nm,18.7s,baz=278,slow=33						
YKA	Yellowknife Ar	81.01	28	P	P	13 14 21.4	-0.1
	comp=Z,3.7nm,0.8s,baz=287,slow=5.0,SNR=15						
YKA				LR	LR	13 50 09.6	
	comp=Z,206nm,19.4s,baz=0.0,slow=36						
M04C	Macdoel	81.31	49	P	P	13 14 28.1	+4.4
	baz=282						
J05D	Fort Rock, OR	81.44	48	P	P	13 14 28.7	+4.3
	baz=282						
PRGR	Permogore	82.53	332	eP	P	13 14 28.4	-1.1
PRGR				pmax	pmax		
	comp=Z,23nm,0.8s						
NEW	Newport	83.12	42	LR	LR	13 46 59.1	
	comp=Z,142nm,19.5s,baz=294,slow=32						
NEW	Newport	83.12	42	P	P	13 14 34.6	+1.6
	baz=284						
NOR	Nord	83.58	358	i P	P	13 14 34.6	0.0
NOR				IAmb	IAmb	13 14 36.5	
	comp=Z,8.3nm,1.0s						
NOR	Nord	83.58	358	i P	P	13 14 34.6	0.0
NOR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
UOSS	Minazif	84.59	294	P	P	13 14 38.6	-2.3
NVAR	Mina Array Bea	84.71	52	P	P	13 14 42.5	+1.0
	comp=Z,1.8nm,0.8s,baz=263,slow=5.3,SNR=12						
NVAR				LR	LR	13 52 36.0	
	comp=Z,76nm,18.6s,baz=284,slow=36						
APA	Apatity	85.20	339⇓	iP	P	13 14 40.8	-2.3
APA				i S	S	13 25 05.0	-8.0
APA				i PS	PnS	13 26 02.0	-6.0
APA				pmax	pmax		
	comp=Z,12nm,1.0s						
APA				MLR	MLR		
	comp=Z,400nm,12.0s						
KLMR	Klimovskoe	85.57	332	eP	P	13 14 41.5	-3.5
KLMR				e		13 18 01.5	
KLMR				pmax	pmax		
	comp=Z,53nm,1.3s						
KLMR	Klimovskoe	85.57	332	eP	P	13 14 41.6	-3.5
KLMR				AMP		13 14 45.3	
	comp=Z,53nm,1.3s						
KLMR				ePP	PP	13 18 01.6	-1.6
KLMR				LR	LR	13 50 50.4	
HLID	Hailey	86.19	46	P	P	13 14 50.6	+1.9
	baz=286						
FURC	Furnace Creek,	86.32	53	P	P	13 14 52.9	+3.6
	baz=285						
TPNV	Topopah Spring	86.67	53	P	P	13 14 54.2	+3.0
	baz=286						
GSC	Goldstone, Bar	86.67	55	P	P	13 14 54.3	+3.1
	baz=286						
ARCES	ARCESS Array B	86.70	343	P	P	13 14 50.4	-0.1
	comp=Z,11nm,0.9s,baz=57,slow=8.8,SNR=12						
ARCES				LR	LR	13 58 28.4	
	comp=Z,373nm,18.3s,baz=100,slow=39						
ARCES	ARCESS Array B	86.70	343	P	P	13 14 49.8	-0.7
MAK	Makhachkala	86.89	314	eP	P	13 14 51.3	-0.6
MAK				e		13 18 10.2	
MAK				e		13 25 16.0	
MAK				eSS	SS	13 31 06.1	-6.1
MAK				pmax	pmax		
	comp=Z,47nm,0.4s						
AKT	Akhty	87.17	312	eP	P	13 14 52.5	-1.0
AKT				pmax	pmax		
	comp=Z,14nm,1.0s						
TPFO	Pinon Flats	87.41	56	P	P	13 14 57.8	+2.9
	baz=286						
MONP2	Monument Peak	87.63	57	P	P	13 14 57.7	+1.7
	baz=286						
GMRC	Granite Mounta	87.72	55	P	P	13 14 57.5	+1.2
	baz=286						
DAG	Danmarks Havn	88.37	357	i P	P	13 14 56.9	-1.5
DAG				IAmb	IAmb	13 14 59.4	
	comp=Z,7.0nm,1.0s						
DAG	Danmarks Havn	88.37	357	i P	P	13 14 56.8	-1.5
DAG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOS	Moscow	88.50	328	eP	P	13 14 57.5	-1.9
MOS				MLR	MLR		
	comp=Z,700nm,19.0s						
OBN	Obninsk	89.31	327	i P	P	13 15 01.0	-2.2
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,708nm,18.0s						
PDAR	Pinedale Array	89.81	46	P	P	13 15 06.3	+0.1
	comp=Z,0.3nm,0.6s,baz=270,slow=1.5,SNR=4.9						
PDAR				LR	LR	13 52 16.3	
	comp=Z,153nm,18.9s,baz=313,slow=34						
KBZ	Khabaz	89.84	315	P	P	13 15 04.5	-1.3
	comp=Z,5.7nm,1.0s,baz=64,slow=5.2,SNR=5.2						
KBZ				LR	LR	13 57 08.7	
	comp=Z,185nm,21.5s,baz=64,slow=37						
KIV	Kislovodsk	89.90	316	eP	P	13 15 06.2	-0.2
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WUAZ	Wupatki	90.85	53	P	P	13 15 14.4	+3.3
	baz=289						
FIA1	FINESS Array S	91.05	336	IAmb	IAmb	13 15 10.8	
	comp=Z,22nm,0.9s						
FINES	FINESS Array B	91.05	336	P	P	13 15 10.0	-1.1
	comp=Z,13nm,0.8s,baz=83,slow=6.3,SNR=38						
FINES				LR	LR	13 56 51.0	
	comp=Z,220nm,20.1s,baz=58,slow=36						
VNDA	Vanda	92.39	177	P	P	13 15 15.7	-1.2
	comp=Z,1.5nm,0.9s,baz=307,slow=3.7,SNR=4.4						
VSU	Vasula	92.42	333	c iP	P	13 15 16.2	-1.4
VSU				pmax	pmax		
	comp=Z,63nm,1.1s						
SUMG	Summit	92.92	2	i P	P	13 15 20.1	0.0
SUMG	Summit	92.92	2	i P	P	13 15 20.1	0.0
S22A	4UR Ranch, Cre	93.53	50	P	P	13 15 24.6	+1.0
	baz=291						
MNK	Minsk	94.02	329	i P	P	13 15 22.7	-2.3
MNK				i S	SKSac	13 25 54.7	-5.4
MNK				i SS	SS	13 32 53.6	-0.7
MNK				i SSS	SSS	13 36 35.4	
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK	Minsk	94.02	329	i P	P	13 15 22.8	-2.3
	comp=E,2.0nm,0.9s						
MNK				i P	P	13 15 22.8	-2.3
	comp=N,12nm,0.9s						
MNK				i P	P	13 15 22.8	-2.3
	comp=Z,8.0nm,0.9s,baz=238						
MNK				i PP	PP	13 18 40.6	-30
MNK				i PPP	PPP	13 20 22.8	
MNK				i S	SKSac	13 25 54.7	-5.4
MNK				i SKS	SKSac	13 26 07.5	+7.4
MNK				i SS	SS	13 32 53.7	-0.6
MNK				i SSS	SSS	13 36 35.5	
MNK				i LQ	LQ	13 54 15.4	
MNK				i LR	LR	13 57 44.9	
MNK				i LRM	MLR	14 04 31.9	
	comp=Z,334nm,18.5s						
MNK				i LRM	MLR	14 04 33.8	
	comp=N,389nm,18.5s						
MNK				i LRM	MLR	14 05 53.6	
	comp=E,95nm,18.9s						
SDCO	Great Sand Dun	94.51	49	P	P	13 15 29.9	+1.9
	baz=292						
ULM	Lac du Bonnet	95.25	35	P	P	13 15 30.4	-0.4
	comp=E,1.1nm,0.4s,baz=251,slow=3.8,SNR=3.0						
AKASG	Malin Array Be	95.30	326	P	P	13 15 27.9	-3.1
	comp=E,0.5nm,0.4s,baz=54,slow=3.9,SNR=1.6						
AKASG				LR	LR	14 00 58.7	
	comp=E,306nm,19.4s,baz=80,slow=37						
NOA	NORSAR Array B	96.77	340	P	P	13 15 35.6	-2.0
	comp=E,1.8nm,1.0s,baz=48,slow=4.8,SNR=4.0						
NOA				LR	LR	14 03 45.7	
	comp=E,137nm,18.2s,baz=70,slow=38						
MNTX	Cornudas Mount	96.86	55	P	P	13 15 39.5	+0.9
	baz=292						
BRTR	Keskin Array B	97.78	314	P	P	13 15 41.1	-1.5
	comp=E,1.2nm,0.8s,baz=83,slow=3.9,SNR=8.8						
BRTR				LR	LR	14 05 34.2	
	comp=E,140nm,19.5s,baz=58,slow=39						
TXAR	Lajitas Array	99.12	57	P	Pdif	13 15 47.7	-1.2
	comp=E,0.1nm,0.4s,baz=281,slow=6.3,SNR=1.8						
TXAR				LR	LR	13 55 38.1	
	comp=E,220nm,19.7s,baz=0.0,slow=32						
CLL	Collm	103.06	332	e(sPdif)		13 16 13.0	
CLL				ePP	PP	13 20 19.0	-0.6
CLL				LmH		14 02 00.0	
	comp=N,200nm,18.8s						
CLL				LmH		14 02 00.0	
	comp=E,300nm,18.6s						
CLL				LmV		14 06 00.0	
	comp=Z,300nm,18.4s						
KHC	Kasperske Hory	104.31	330	eP	PKiKP	13 20 30.5	+2.5
SYO	Syowa Base	109.77	201⇓	eX	Pdif	13 16 33.6	-1.4
ESDC	Sonseca Array	119.54	334	PKP	PKPdf	13 20 57.4	+0.2
	comp=Z,0.6nm,0.9s,baz=34,slow=1.8,SNR=4.2						
ESDC				PP	PP	13 22 17.2	-0.8
	comp=Z,1.7nm,1.0s,baz=33,slow=8.5,SNR=6.6						
TORD	Torodi Ar. Bea	135.87	307	PKP	PKPdf	13 21 28.4	-0.4
	comp=Z,1.8nm,1.0s,baz=357,slow=2.6,SNR=3.7						
TORD				PP	PP	13 24 06.5	-0.3
	comp=Z,3.2nm,1.1s,baz=46,slow=6.1,SNR=5.8						
PLCA	Paso Flores	138.33	136	PKP	PKPdf	13 21 32.3	-0.5
	comp=Z,1.6nm,0.7s,baz=241,slow=3.8,SNR=4.7						
AGUA	GUANDACOL	144.17	120	eP	PKPbc	13 21 42.9	+1.3
GO02	Mina Guanaco	144.21	113	PKPdf	PKPdf	13 21 43.7	-0.3
AC02	Maricunga	144.29	116	PKPdf	PKPbc	13 21 43.8	+1.1
VCA	Vinchina	144.62	119	eP	PKPdf	13 21 44.9	+0.4
PB11	IPOC Station P	144.73	104	PKPdf	PKPbc	13 21 44.9	+1.1
DBIC	Dimbokro	144.91	305	PKIKP	PKPdf	13 21 45.5	+0.3
DBIC	Dimbokro	144.91	305	PKPdf	PKPdf	13 21 45.5	+0.3
KIC	Kosan Boka	145.00	305	ePKIKP	PKPab	13 21 45.5	+0.9
	comp=Z,107nm,0.9s						
TIC	Toumodi	145.06	305	ePKIKP	PKPdf	13 21 45.9	+0.4
LIC	Lamto	145.31	305	ePKIKP	PKPbc	13 21 45.6	0.0
	comp=Z,315nm,1.0s						
TRQA	Tornquist	145.39	138	PKIKP	PKPbc	13 21 45.8	+0.6
TRQA	Tornquist	145.39	138		PKPbc	13 21 45.8	+0.6
MRA	San Martin	145.42	127	eP	PKPbc	13 21 45.8	+0.2
ACLC	CERRO LA CRUZ	145.47	121	eP	PKPbc	13 21 46.1	+0.2
APLL	PUNTA DE LOS L	145.51	123	eP	PKPdf	13 21 46.0	+0.1
LPAZ	La Paz	146.19	97	PKPbc	PKPdf	13 21 48.4	+0.3
	comp=Z,6.7nm,0.7s,baz=346,slow=1.8,SNR=14						
TCA	Tanti	146.72	125	eP	PKPbc	13 21 49.9	+0.3
CYA	Choya	146.73	120	eP	PKPbc	13 21 49.8	+0.2
FSA	Cafayete	147.20	116	eP	PKPbc	13 21 51.8	+0.5
CPUP	Villa Florida	154.52	121	PKPab	PKPab	13 22 23.1	+0.2
	comp=Z,3.0nm,0.7s,baz=258,slow=4.4,SNR=5.1						

*IDC **16** 13:04:08.2±2.8, 23°.11S×68°.61W, h0km, mb4.2/1, mb1 4.0/2, mb1mx3.7/16, mbtmp3.9/2, ML3.6/1, Error ellipse: s-maj=84.9km s-min=13.5km az=75.0*
*GUC **16** 13:04:30.5±0.5, 21°.64S×68°.32W, h140km±3km, ML4.0*
ISC 16 13:04:30.4±1.1, 21°.63S±0°.04×68°.5W±0°.1, h149km±9km, n20, σ0°56/36, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.72	257⇑	iP	Pn	13 04 53.3	+0.1
PB09				i S	Sn	13 05 10.9	+0.3
LVC	Limon Verde	1.05	202	eP	Pn	13 04 55.3	-0.7
LVC				i S	Sn	13 05 14.7	-0.9
PB01	IPOC Station P	1.10	302⇑	iP	Pn	13 04 56.0	-0.2
PB01				i S	Sn	13 05 15.7	0.0
PB01				IAML		13 05 17.5	
	comp=E,3μm,0.2s						
PB03	IPOC Station P	1.25	250⇑	iP	Pn	13 04 57.8	+0.2
PB03				i S	Sn	13 05 18.4	+0.1
PB03				IAML		13 05 19.2	
	comp=E,3μm,0.3s						
PB07	IPOC Station P	1.31	265⇑	iP	Pn	13 04 58.5	+0.3
PB07				i S	Sn	13 05 19.8	+0.5
PB02	IPOC Station P	1.35	283⇑	iP	Pn	13 04 58.8	+0.2
PB02				i S	Sn	13 05 20.3	+0.3
PB06	IPOC Station P	1.47	223⇑	iP	Pn	13 05 00.1	+0.3
PB06				eS	Sn	13 05 22.5	+0.2
PB06				IAML		13 05 23.5	
	comp=E,2μm,0.2s						
PB08	IPOC Station P	1.61	337⇑	iP	Pn	13 05 01.7	+0.1
PB08				i S	Sn	13 05 25.4	+0.1
PB04	IPOC Station P	1.70	245	eP	Pn	13 05 02.7	+0.4
PB04				i S	Sn	13 05 27.0	+0.4
PB04				IAML		13 05 30.7	
	comp=N,2μm,0.2s						
PB15	IPOC Station P	1.82	210	eP	Pn	13 05 04.4	+0.8
PB15				i S	Sn	13 05 29.6	+0.4
TA01	Diego Aracena	1.91	303	eP	Pn	13 05 04.5	0.0
TA01				eS	Sn	13 05 30.8	+0.3
PB05	IPOC Station P	2.00	232	eP	Pn	13 05 05.8	+0.1
PB05				i S	Sn	13 05 33.0	+0.2
PB05				IAML		13 05 33.9	
	comp=E,604nm,0.4s						
TA02	Huaiquique	2.05	311	i S	Sn	13 05 33.6	+0.1
TA02				IAML		13 05 35.4	
	comp=N,916nm,0.1s						
PB11	IPOC Station P	2.16	329	eP	Pn	13 05 06.9	-0.7
PB11				i S	Sn	13 05 36.1	-0.1
PB11				IAML		13 05 37.2	
	comp=N,1μm,0.2s						
PSGC	Pisagua	2.54	322	eP	Pn	13 05 11.0	-1.2
PSGC				i S	Sn	13 05 43.6	-0.7
PSGC				IAML		13 05 45.3	
	comp=E,281nm,0.5s						
PB10	IPOC Station P	2.68	225⇑	eP	Pn	13 05 13.7	-0.1
PB10				i S	Sn	13 05 45.6	-1.6
MNMC	Minye Minye	2.70	337	eP	Pn	13 05 14.0	-0.3
MNMC				i S	Sn	13 05 48.2	+0.1
LPAZ	La Paz	5.32	4	Pn	Pn	13 05 49.9	+1.1
	comp=E,0.6nm,0.3s,baz=174,slow=4.7,SNR=11						
TORD	Torodi Ar. Bea	77.03	70	P	P	13 16 07.0	-0.4
	comp=E,1.6nm,0.7s,baz=252,slow=5.4,SNR=6.0						
MKAR	Makanchi Array	145.50	36	PKPbc	PKPdf	13 23 51.3	+0.5
	comp=E,0.2nm,0.4s,baz=327,slow=4.6,SNR=4.0						

*TEH **16** 13:08:16.0, 37°.26N×54°.53E, h13km, ML3.5*
*THR **16** 13:08:21.4±0.3, 37°.12N×54°.99E, h15km±6km, ML3.2*
ISC 16 13:08:16.3±1.1, 37°.28N±0°.07×54°.53E±0°.04, h10km, n30, σ1°08/32, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	0.70	92	ePg	Pb	13 08 29.9	-0.7
IMND				eSg	Sg	13 08 38.9	-0.1
IMND				e		13 08 40.8	
	comp=Z,29μm,0.2s						
IGLO	Ghaloghah	0.96	216	ePg	Pb	13 08 35.0	-0.1
IGLO				eSg	Sb	13 08 47.8	-0.1
IGLO				e		13 08 59.9	
	comp=Z,30μm,0.4s						
MRVT	Maraveh tapeh	1.30	73	eP	Pb	13 08 40.6	-0.2
MRVT	Maraveh tapeh	1.30	73	ePg	Pb	13 08 40.6	-0.2
SHRO	Shahrood	1.75	137	ePg	Pn	13 08 47.0	+0.1
SHRO				IAML		13 09 11.5	
	comp=N,483nm,0.2s						
SHRO				IAML		13 09 14.1	
	comp=E,292nm,0.3s						
SHRO	Shahrood	1.75	137	ePg	Pn	13 08 47.0	+0.1
ISHM	Shahmirzad	1.78	214	ePn	Pb	13 08 48.7	-0.4
ISHM				e		13 09 15.6	
	comp=Z,7μm,0.2s						
IANJ	Anjilo	1.88	196	ePn	Pb	13 08 50.0	-0.8
IANJ				e		13 09 16.6	
	comp=Z,3μm,0.4s						
IPRN	Peran	2.04	240	ePn	Pb	13 08 51.9	-1.7
IPRN				e		13 09 36.5	
	comp=Z,7μm,0.6s						
IFIR	Firoozkooh	2.17	222	ePn	Pb	13 08 54.4	-1.5
ILAS	Lasjerd	2.28	214	ePn	Pb	13 08 56.2	-1.5
ILAS				e		13 09 34.2	
	comp=Z,2μm,0.2s						
BJRD	Bojnurd	2.33	79	eP	Pb	13 08 56.9	-1.5
BJRD	Bojnurd	2.33	79	ePn	P

*IDC **16** 13:18:59.8±1.1,39°.81N×43°.30E,h0km,mb3.3/6,*
mb1 3.4/10,mb1mx3.3/38,mbtmp3.2/10,ML2.8/4,MS3.0/2,
Ms1 3.0/2,ms1mx2.6/34,Error ellipse: s-maj=14.2km
s-min=8.6km az=2.0
*DDA **16** 13:19:00.6,39°.91N×43°.25E,h19km±1km,MW4.1*
ISC 16 13:19:01.9±0.8,39°.89N±0°.02×43°.24E±0°.02,h11km±6km,
n70,σ1§49/114,mb3.1/6,8C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.09**	**197**	⇓*i*P	**Pg**	**13 19 04.4**	**-0.4**
KOTA				*i* S	**Sg**	**13 19 07.5**	**+0.7**
AGRB	**Hanur-Agry**	**0.37**	**211**	PG	**Pg**	**13 19 08.8**	**-0.6**
AGRB				SG	**Sb**	**13 19 14.9**	**-1.6**
DYDN	**Diyadin**	**0.49**	**135**	⇓*i*P	**Pg**	**13 19 10.6**	**-0.9**
DYDN				*i* S	**Sb**	**13 19 19.2**	**-0.7**
VNNZ	**Vanand**	**0.49**	**65**	*i* P	**Pg**	**13 19 11.2**	**-0.3**
VNNZ				*i* S	**Sb**	**13 19 20.6**	**+0.7**
DIGO	**Kars**	**0.53**	**11**	⇓*i*P	**Pg**	**13 19 10.2**	**-2.2**
DIGO				*i* S	**Sg**	**13 19 19.5**	**+0.1**
EATA	**Eleskirt**	**0.58**	**267**	⇑*i*P	**Pg**	**13 19 11.7**	**-1.5**
EATA				*i* S	**Sb**	**13 19 22.1**	**-0.5**
IGDI	**IGDIR**	**0.64**	**92**	⇑*i*P	**Pg**	**13 19 13.1**	**-1.3**
IGDI				*i* S	**Sn**	**13 19 25.6**	**-1.7**
METS	**Metsamor**	**0.69**	**68**	*i* P	**Pg**	**13 19 14.8**	**-0.6**
METS				*i* S	**Sb**	**13 19 26.7**	**+1.1**
KARS	**Kars**	**0.74**	**350**	PG	**Pg**	**13 19 13.9**	**-2.5**
KARS				SG	**Sg**	**13 19 25.2**	**-0.9**
ARUZ	**Aruch**	**0.76**	**59**	*i* P	**Pg**	**13 19 15.2**	**-1.4**
ARUZ				*i* S	**Sb**	**13 19 27.3**	**-0.3**
TASB	**TASBURUN-IGDIR**	**0.77**	**83**	PG	**Pg**	**13 19 15.7**	**-1.1**
EAK	**Akyaka**	**0.84**	**19**	⇓*i*P	**Pg**	**13 19 16.6**	**-1.6**
EAK				*i* S	**Sb**	**13 19 31.7**	**+1.6**
CLDR	**Caldiran**	**0.91**	**145**	⇓*i*P	**Pg**	**13 19 17.8**	**-1.7**
CLDR				*i* S	**Sb**	**13 19 32.0**	**-0.1**
CLDR	**Caldiran**	**0.91**	**145**	PG	**Pg**	**13 19 17.9**	**-1.6**
CLDR				SG	**Sb**	**13 19 32.1**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.92**	**216**	PG	**Pg**	**13 19 18.9**	**-0.8**
MLAZ				SG	**Sb**	**13 19 32.5**	**+0.2**
SENK	**Senkaya-Erzuru**	**0.95**	**315**	PG	**Pg**	**13 19 18.9**	**-1.5**
SENK				SG	**Sg**	**13 19 33.4**	**+0.6**
HOMI	**Horasan**	**1.04**	**279**	⇑*i*P	**Pg**	**13 19 20.0**	**-2.0**
HOMI				*i* S	**Sn**	**13 19 37.4**	**+0.1**
NRKZ	**NAREK**	**1.09**	**84**	*i* P	**Pb**	**13 19 22.7**	**-0.2**
NRKZ				*i* S	**Sn**	**13 19 40.6**	**+2.2**
EKAR	**Karacoban**	**1.11**	**235**	*i* P	**Pn**	**13 19 23.1**	**-0.5**
EKAR				*i* S	**Sn**	**13 19 41.5**	**+2.5**
ADCV	**BITLIS_Adilcev**	**1.16**	**201**	*i* P	**Pg**	**13 19 23.2**	**-0.9**
ADCV				*i* S	**Sn**	**13 19 40.2**	**+0.1**
GNI	**Garni**	**1.18**	**77**	Pg	**Pg**	**13 19 22.6**	**-2.0**
	113nm,0.3s,baz=309,slow=1.3,SNR=88						
GNI				Lg	Lg	13 19 39.5	
	140nm,0.3s,baz=335,slow=18,SNR=12						
GNI				LR	LR	13 19 50.3	
	comp=Z,501nm,21.2s,baz=346,slow=44						
GNI	**Garni**	**1.18**	**77**	*i* P	**Pg**	**13 19 22.8**	**-1.8**
GNI				*i* S	**Sn**	**13 19 41.3**	**+0.7**
GNI	**Garni**	**1.18**	**77**	PN	**Pg**	**13 19 22.9**	**-1.7**
KAPZ	**Kaputan**	**1.20**	**69**	*i* P	**Pg**	**13 19 23.4**	**-1.9**
KAPZ				*i* S	**Sn**	**13 19 41.1**	**0.0**
VANB	**Van**	**1.30**	**175**	PN	**Pg**	**13 19 27.3**	**+0.4**
OZAP	**Van, Ozalp-Mer**	**1.36**	**154**	⇓*i*P	**Pg**	**13 19 28.3**	**+0.3**
OZAP				*i* S	**Sn**	**13 19 51.2**	**+6.0**
TVAN	**Van**	**1.37**	**175**	⇓*i*P	**Pg**	**13 19 27.5**	**-0.7**
TVAN				*i* S	**Sn**	**13 19 48.7**	**+3.3**
ERZM	**Erzurum**	**1.44**	**271**	⇑*i*P	**Pn**	**13 19 27.9**	**-0.3**
ERZM				*i* S	**Sg**	**13 19 53.6**	**+5.2**
EJDE	**Erzurum, Palan**	**1.49**	**268**	⇑*i*P	**Pn**	**13 19 28.9**	**-0.2**
EJDE				*i* S	**Sg**	**13 19 54.0**	**+3.9**
DDEM	**Demirkent**	**1.52**	**312**	⇑*i*P	**Pn**	**13 19 28.9**	**-0.2**
DDEM				*i* S	**Sg**	**13 19 51.9**	**+1.2**
AKH	**Akhalkalaki**	**1.53**	**7**	PN	**Pn**	**13 19 28.6**	**-0.7**
ATA5	**Erzurum, Merke**	**1.54**	**271**	*i* P	**Pb**	**13 19 30.0**	**-0.5**
ATA5				*i* S	**Sn**	**13 19 47.6**	**-1.9**
DAGI	**Agillar**	**1.56**	**320**	⇓*i*P	**Pn**	**13 19 29.2**	**-0.5**
DAGI				*i* S	**Sg**	**13 19 54.0**	**+2.0**
VRTB	**Varto-Mus**	**1.56**	**243**	⇑*i*P	**Pg**	**13 19 31.4**	**-0.5**
VRTB				*i* S	**Sg**	**13 19 55.2**	**+3.0**
VRTB	**Varto-Mus**	**1.56**	**243**	PN	**Pn**	**13 19 29.9**	**+0.1**
AKDM	**Akdamar-Van**	**1.57**	**188**	PN	**Pn**	**13 19 29.9**	**-0.1**
GEVA	**Gevas**	**1.58**	**185**	⇓*i*P	**Pn**	**13 19 30.1**	**0.0**
GEVA				*i* S	**Sg**	**13 19 54.5**	**+1.7**
DBAD	**Bademkaya**	**1.63**	**314**	*i* P	**Pn**	**13 19 30.5**	**-0.1**
DBAD				*i* S	**Sb**	**13 19 53.3**	**+0.6**
GURO	**Guroymak-BITLI**	**1.64**	**215**	PN	**Pn**	**13 19 31.0**	**+0.2**
GURO				SN	**Sg**	**13 19 53.9**	**-0.7**
EPOS	**Posof**	**1.66**	**347**	⇓*i*P	**Pn**	**13 19 30.8**	**-0.3**
EPOS				*i* S	**Sg**	**13 19 55.6**	**+0.4**
BLIS	**Bitlis-Merkez**	**1.72**	**211**	⇓*i*P	**Pn**	**13 19 32.2**	**+0.3**
BLIS				*i* S	**Sg**	**13 19 55.8**	**-1.3**
KZRT	**Kazreti**	**1.73**	**30**	*i* P	**Pn**	**13 19 32.0**	**0.0**
KZRT				*i* S	**Sn**	**13 19 55.3**	**+1.1**
EMRE	**Erzurum,Aziziy**	**1.75**	**275**	*i* P	**Pn**	**13 19 32.6**	**+0.2**
EMRE				*i* S	**Sg**	**13 19 59.4**	**+1.3**
MUSM	**Mu-Merkez**	**1.78**	**230**	⇑*i*P	**Pn**	**13 19 32.2**	**-0.6**
MUSM				*i* S	**Sg**	**13 19 57.8**	**-1.3**
BASK	**Baskale_VAN**	**1.93**	**162**	*i* P	**Pg**	**13 19 37.8**	**-1.2**
SLHN	**Bingol, Solhan**	**1.96**	**242**	*i* P	**Pb**	**13 19 37.1**	**-0.5**
SLHN				*i* S	**Sb**	**13 20 01.3**	**-0.8**
KOPT	**Kop Dagi**	**2.11**	**274**	*i* P	**Pb**	**13 19 40.6**	**+0.2**
KOPT				*i* S	**Sg**	**13 20 11.7**	**+1.8**
YEDI	**Yedisu-Bingol**	**2.13**	**259**	PN	**Pn**	**13 19 37.8**	**+0.2**
SRTM	**Siirt_Merkez**	**2.16**	**209**	*i* P	**Pb**	**13 19 39.4**	**-1.7**
SRTM				*i* S	**Sn**	**13 20 03.6**	**-1.2**
BNGB	**Bingl**	**2.18**	**246**	PN	**Pn**	**13 19 38.4**	**+0.2**
BAYB	**BAYBURT**	**2.32**	**280**	*i* P	**Pb**	**13 19 43.6**	**-0.3**
BAYB				*i* S	**Sg**	**13 20 15.2**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.36**	**223**	*i* P	**Pn**	**13 19 41.7**	**+1.1**
SVAN				*i* S	**Sn**	**13 20 09.1**	**-0.4**
HAKT	**HAKKARI**	**2.36**	**171**	*i* P	**Pb**	**13 19 43.6**	**-1.0**
HAKT				*i* S	**Sg**	**13 20 16.9**	**-0.9**
YOVA	**Hakkari_Yksek**	**2.44**	**160**	*i* P	**Pb**	**13 19 45.4**	**-0.6**
YOVA				*i* S	**Sb**	**13 20 15.2**	**-1.0**
BTMN	**Batman**	**2.52**	**218**	*i* P	**Pn**	**13 19 44.4**	**+1.5**
HANI	**Diyarbakir_Han**	**2.66**	**237**	*i* P	**Pn**	**13 19 45.1**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.97**	**256**	*i* P	**Pn**	**13 19 50.3**	**+1.2**
TNCL				*i* S	**Sg**	**13 20 34.6**	**-2.6**
KBZ	**Khabaz**	**3.84**	**356**	Pn	**Pn**	**13 20 02.7**	**+1.7**
	0.1nm,0.3s,baz=179,slow=9.1,SNR=5.5						
KBZ				Pg	**Pb**	**13 20 11.5**	**+1.8**
	0.4nm,0.3s,baz=198,slow=7.6,SNR=5.3						
KBZ				Lg	Lg	13 21 03.1	
	baz=268,slow=18,SNR=1.0						
KVAR	**Kislovodsk Arr**	**4.08**	**354**	Pn	**Pn**	**13 20 06.8**	**+2.4**
	baz=138,slow=18,SNR=2.0						
KVAR				Lg	Lg	13 21 14.0	
	baz=189,slow=15,SNR=1.2						
BRTR	**Keskin Array B**	**7.40**	**272**	Pn	**Pn**	**13 20 52.6**	**+2.7**
	0.1nm,0.3s,baz=94,slow=8.1,SNR=1.8						
BRTR				Lg	Lg	13 22 55.8	
	0.0nm,0.3s,baz=110,slow=12,SNR=0.9						
BRTR				LR	LR	13 23 21.7	
	comp=Z,96nm,19.3s,baz=80,slow=35						
EIL	**Elat**	**12.26**	**216**	LR	LR	13 26 49.2	
	comp=Z,62nm,18.9s,baz=102,slow=38						
AKASG	**Malin Array Be**	**14.61**	**322**	Pn	**Pn**	**13 22 29.1**	**+0.8**
	0.3nm,0.3s,baz=132,slow=11,SNR=1.2						
BVAR	**Borovoye Array**	**22.68**	**46**	P	**P**	**13 24 02.7**	**-0.6**
	0.2nm,0.3s,baz=224,slow=18,SNR=1.2						
GERES	**GERESS Array B**	**22.82**	**303**	P	**P**	**13 24 03.5**	**-1.3**
	0.2nm,0.4s,baz=91,slow=7.9,SNR=1.7						
KHC	**Kasperske Hory**	**22.96**	**304**	*e*P	P	13 24 15.0	+8.8
CLL	**Collm**	**23.86**	**309**	*e*P	**P**	**13 24 15.0**	**-0.1**
CLL				*e*		13 24 18.0	
KURBB	**Kurchatov Arra**	**26.82**	**55**	P	**P**	**13 24 41.8**	**-0.2**
	0.2nm,0.5s,baz=264,slow=9.2,SNR=5.7						
MKAR	**Makanchi Array**	**28.99**	**63**	P	**P**	**13 25 00.8**	**-0.7**
	0.1nm,0.4s,baz=276,slow=7.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**45.15**	**246**	P	**P**	**13 27 18.0**	**-0.7**
	0.5nm,0.8s,baz=27,slow=9.7,SNR=2.1						
CMAR	**Chiang Mai Arr**	**52.23**	**97**	P	**P**	**13 28 13.8**	**+0.7**
	0.3nm,0.3s,baz=299,slow=8.0,SNR=1.1						

*IDC **16** 13:33:28.1±1.4,29°.24N×113°.37W,h0km,mb3.9/3,*
mb1 4.0/9,mb1mx3.8/42,mbtmp3.8/9,ML3.5/5,MS3.3/5,
Ms1 3.2/5,ms1mx3.0/47,Error ellipse: s-maj=23.1km
s-min=9.7km az=38.0
*MEX **16** 13:33:29.9±0.3,29°.17N×113°.59W,h10km,MD4.3*
*NEIC **16** 13:33:30.0±2.9,29°.08N±0°.07×113°.56W±0°.07,h28km±8km,*
mb4.3/2,Md4.3/19(MEX),Error ellipse: s-maj=11.1km
s-min=7.0km az=220.0
*ANF **16** 13:33:33.7±1.9,29°.61N×113°.47W,h15km,ML4.0/10,*
Error ellipse: s-maj=13.0km s-min=4.0km az=14.0
ISC 16 13:33:27.8±0.9,29°.18N±0°.06×113°.50W±0°.04,h10km,n73,
σ1§90/91,mb3.8/3,MS3.4/3,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**2.16**	**149**	*e*P	**Pn**	**13 34 03.1**	**-0.8**
SRIG				*e*S	**Sn**	**13 34 28.2**	**-2.5**
SRIG	**Santa Rosalia**	**2.16**	**149**		**Pn**	**13 34 02.9**	**-1.0**
SFX	**San Felipe**	**2.19**	**328**	Pn	**Pn**	**13 34 02.3**	**-2.0**
HSIG		**2.24**	**94**	*e*P	**Pn**	**13 34 03.7**	**-1.3**
HSIG		**2.24**	**94**		**Pn**	**13 34 03.7**	**-1.3**
SPIG	**San Pedro Mart**	**2.52**	**318**	*e*P	**Pn**	**13 34 07.7**	**-1.4**
SPIG				*i* S	**Sn**	**13 34 36.8**	**-3.3**
SPIG	**San Pedro Mart**	**2.52**	**318**		**Pn**	**13 34 07.7**	**-1.4**
SPIG					**Sn**	**13 34 36.8**	**-3.3**
214A	**Organ Pipe Nat**	**2.83**	**12**	P	**Pn**	**13 34 12.5**	**-0.5**
	baz=194,SNR=44						
214A				S	**Sn**	**13 34 42.9**	**-4.3**
	baz=194						
214A	**Organ Pipe Nat**	**2.83**	**12**	*e*P	**Pn**	**13 34 12.6**	**-0.5**
214A				*i* S	**Sn**	**13 34 46.4**	**-0.8**
214A	**Organ Pipe Nat**	**2.83**	**12**		**Pn**	**13 34 12.7**	**-0.5**
MBIG	**Mexicali**	**3.53**	**336**	*e*P	**Pn**	**13 34 22.5**	**-0.2**
MBIG				*i* S	**Sn**	**13 35 02.1**	**-2.4**
NZIG	**Nacozari, Sono**	**3.63**	**70**	*i* P	**Pn**	**13 34 24.6**	**+0.4**
NZIG				*i* S	**Sn**	**13 35 05.5**	**-1.7**
TUC	**Tucson**	**3.90**	**36**	P	**Pn**	**13 34 27.6**	**-0.2**
	baz=221						
TUC				S	**Sn**	**13 35 12.6**	**-1.1**
	baz=221						
TUC	**Tucson**	**3.90**	**36**	*e*P	**Pn**	**13 34 28.0**	**+0.2**
TUC				*i* S	**Sn**	**13 35 12.2**	**-1.4**
TUC	**Tucson**	**3.90**	**36**		**Pn**	**13 34 28.0**	**+0.2**
GLA	**Glamis**	**4.02**	**344**	P	**Pn**	**13 34 30.3**	**+0.8**
	baz=161						
GLA	**Glamis**	**4.02**	**344**		**Pn**	**13 34 33.4**	**+3.9**
IKP	**In-Ko-Pah, Jac**	**4.12**	**328**	Pg	**Pg**	**13 34 45.2**	**-1.5**
	baz=143,SNR=33						
IKP				Sg	**Sg**	**13 35 40.5**	**+0.3**
	baz=143						
CBX	**Cerro Bola**	**4.14**	**320**	*i* P	**Pn**	**13 34 30.7**	**-0.5**
CBX				*e*S	**Sn**	**13 35 17.2**	**-2.6**
CBX	**Cerro Bola**	**4.14**	**320**		**Pn**	**13 34 30.8**	**-0.5**
SWSC	**Sam W. Stewart**	**4.24**	**333**	Pg	**Pg**	**13 34 49.0**	**0.0**
	baz=149						
TJIG	**Tijuana**	**4.24**	**321**	*e*P	**Pn**	**13 34 32.6**	**+0.2**
TJIG				*i* S	**Sn**	**13 35 20.0**	**-2.0**
TJIG	**Tijuana**	**4.24**	**321**		**Pn**	**13 34 32.6**	**+0.2**
TJIG					**Sn**	**13 35 20.0**	**-2.0**
BAR	**Barrett**	**4.42**	**323**		**Pn**	**13 34 34.9**	**-0.2**
MONP2	**Monument Peak**	**4.47**	**327**	P	**Pn**	**13 34 35.9**	**+0.1**
	baz=142,SNR=15						
MONP2				Sg	**Sg**	**13 35 49.6**	**-1.7**
	baz=142						
109C	**Camp Elliot, M**	**4.82**	**321**	Pb	**Pb**	**13 34 53.5**	**+1.1**
	baz=136						
TPFO	**Pinon Flats**	**5.08**	**331**	Pg	**Pg**	**13 35 03.0**	**-2.2**
	baz=147,SNR=18						
TPFO				Sg	**Sg**	**13 36 10.5**	**-0.5**
	baz=147						
PFO	**Pinyon Flats O**	**5.09**	**331**	Pn	**Pn**	**13 34 45.4**	**+1.2**
	0.3nm,0.3s,baz=150,slow=10.0,SNR=3.9						
PFO				Pg	**Pg**	**13 35 02.3**	**-3.0**
	0.6nm,0.3s,baz=205,slow=18,SNR=6.6						
PFO				Sn	**Sn**	**13 35 46.5**	**+3.4**
	1.1nm,0.3s,baz=201,slow=5.6,SNR=1.6						
PFO				Lg	Lg	13 36 08.6	
	3.8nm,0.3s,baz=111,slow=14,SNR=8.3						
PFO				LR	LR	13 36 40.3	
	comp=Z,110nm,19.4s,baz=121,slow=38						
PFO	**Pinyon Flats O**	**5.09**	**331**	Pg	**Pg**	**13 35 03.3**	**-2.0**
	baz=147,SNR=17						
PFO				Sg	**Sg**	**13 36 11.5**	**+0.3**
	baz=147						
BELC	**Belle Mtn. Jos**	**5.25**	**337**	Pg	**Pg**	**13 35 08.3**	**-0.2**
	baz=153						
LPIG	**La Paz**	**5.81**	**150**	Pn	**Pn**	**13 34 55.4**	**+1.3**
	9.7nm,0.3s,baz=218,slow=1.8,SNR=1.7						
LPIG				Lg	Lg	13 36 32.6	
	13nm,0.3s,baz=255,slow=2.6,SNR=2.0						
BBRC	**Big Bear Solar**	**5.84**	**331**	Sg	**Sg**	**13 36 35.4**	**0.0**
	baz=147						
121A	**Cookes Peak, D**	**5.94**	**54**	P	**Pn**	**13 34 57.3**	**+1.4**
	baz=240,SNR=25						
121A	**Cookes Peak, D**	**5.94**	**54**	Pn	**Pn**	**13 34 57.4**	**+1.4**
X18A	**Snowflake**	**6.12**	**29**	Pn	**Pn**	**13 35 00.2**	**+1.6**
WUAZ	**Wupatki**	**6.57**	**15**	P	**Pn**	**13 35 06.3**	**+1.7**
	baz=197,SNR=17						
WUAZ	**Wupatki**	**6.57**	**15**		**Pn**	**13 35 06.6**	**+2.0**
W18A	**Petrified Fore**	**6.72**	**27**	P	**Pn**	**13 35 08.5**	**+1.8**
	baz=211,SNR=44						
W18A	**Petrified Fore**	**6.72**	**27**		**Pn**	**13 35 09.1**	**+2.3**
U15A	**North Rim**	**7.30**	**8**		**Pn**	**13 35 17.1**	**+2.4**
MNTX	**Cornudas Mount**	**7.44**	**68**	P	**Pn**	**13 35 17.8**	**+1.3**
	baz=255,SNR=10						
MNTX	**Cornudas Mount**	**7.44**	**68**	Pn	**Pn**	**13 35 17.6**	**+1.1**
LENM	**Lemitar**	**7.46**	**47**		**Pn**	**13 35 14.9**	**-1.9**
BNM	**Barren Site**	**7.67**	**48**	Pn	**Pn**	**13 35 20.8**	**+1.0**
LCMT	**Little Creek M**	**7.81**	**2**		**Pn**	**13 35 23.2**	**+1.6**
KNB	**Kanab**	**7.83**	**4**	Pn	**Pn**	**13 35 25.0**	**+3.0**
ANMO	**Albuquerque**	**8.29**	**44**	Pn	**Pn**	**13 35 27.4**	**-0.8**
	1.0nm,0.3s,baz=218,slow=14,SNR=13						
ANMO				Pg	**Pg**	**13 36 02.4**	**-4.0**
	0.3nm,0.3s,baz=221,slow=18,SNR=1.2						
ANMO				Sn	**Sn**	**13 37 02.5**	**+0.4**
	0.1nm,0.3s,baz=19,slow=19,SNR=1.0						
ANMO				Lg	Lg	13 37 48.4	
	0.4nm,0.3s,baz=262,slow=9.3,SNR=2.8						
ANMO	**Albuquerque**	**8.29**	**44**	P	**Pn**	**13 35 28.8**	**+0.6**
	baz=230						
ANMO	**Albuquerque**	**8.29**	**44**	Pn	**Pn**	**13 35 29.2**	**+1.0**
PKCU	**Pink Cliffs**	**8.30**	**7**		**Pn**	**13 35 32.0**	**+3.5**
CCUT	**Cedar City**	**8.35**	**1**	Pn	**Pn**	**13 35 32.9**	**+3.8**
TX31	**Lajitas Ar. Si**	**8.59**	**87**		**Pn**	**13 35 34.0**	**+1.7**
TX32	**Lajitas Array**	**8.59**	**87**		**Pn**	**13 35 34.1**	**+1.7**
TXAR	**Lajitas Array**	**8.59**	**87**	Pn	**Pn**	**13 35 33.7**	**+1.4**
	3.2nm,0.3s,baz=258,slow=15,SNR=174						
TXAR				Lg	Lg	13 37 55.3	
	0.3nm,0.3s,baz=269,slow=29,SNR=1.9						
TXAR				LR	LR	13 38 56.5	
	comp=Z,115nm,21.3s,baz=0.0,slow=39						
TXAR	**Lajitas Array**	**8.59**	**87**	Pn	**Pn**	**13 35 34.0**	**+1.6**
MVCO	**Mesa Verde**	**9.03**	**26**	P	**Pn**	**13 35 39.6**	**+1.0**
	baz=210,SNR=11						
MVCO	**Mesa Verde**	**9.03**	**26**	Pn	**Pn**	**13 35 40.8**	**+2.3**
R11A	**Troy Canyon, C**	**9.30**	**350**	P	**Pn**	**13 35 44.8**	**+2.6**
	baz=168						
PV05	**Paradox Valley**	**9.60**	**21**	Pn	**Pn**	**13 35 50.0**	**+3.7**
NVAR	**Mina Array Bea**	**10.05**	**338**	Pn	**Pn**	**13 35 55.3**	**+2.9**
	0.1nm,0.3s,baz=164,slow=15,SNR=8.0						
SRU	**San Rafael Swe**	**10.20**	**13**		**Pn**	**13 35 58.6**	**+4.0**
T25A	**Trinidad**	**10.99**	**41**	P	**Pn**	**13 36 05.9**	**+0.6**
	baz=228						
SMCO	**Snowmass**	**11.34**	**27**	Pn	**Pn**	**13 36 11.6**	**+1.4**
ELK	**Elko**	**11.62**	**353**	Pn	**Pn**	**13 36 15.6**	**+1.6**
	0.1nm,0.3s,baz=180,slow=19,SNR=2.2						
YBH	**Yreka Blue Hor**	**14.59**	**332**	Pn	**Pn**	**13 36 56.0**	**+1.7**
	0.1nm,0.3s,baz=132,slow=15,SNR=2.1						
K05A	**Summer Lake**	**14.77**	**338**	Pn	**Pn**	**13 36 54.7**	**-2.2**
OK031	**S. Brethren Rd**	**15.57**	**60**	Pn	**Pn**	**13 37 06.0**	**-1.4**
OK031				IAmb	IAmb	13 37 16.6	
	comp=Z,42nm,1.0s						
ECSD	**EROS Data Cent**	**19.83**	**38**	P	**P**	**13 37 56.7**	**-1.9**
ECSD				IAmb	IAmb	13 38 02.5	
	comp=Z,7.7nm,1.0s						
CMIG	**Matias Romero**	**20.89**	**121**	LR	LR	13 47 13.0	
	comp=Z,109nm,18.3s,baz=181,slow=40						
ULM	**Lac du Bonnet**	**24.91**	**27**	P	**P**	**13 38 51.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=232,slow=12,SNR=1.5						
TKL	**Tuckaleechee C**	**25.85**	**68**	P	**P**	**13 38 59.9**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=274,slow=16,SNR=4.4						
TKL				LR	LR	13 50 15.9	
	comp=Z,106nm,18.2s,baz=316,slow=39						
ILAR	**Eielson Array**	**41.30**	**339**	P	**P**	**13 41 15.2**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=151,slow=7.8,SNR=12						
KLR	**Kul'dur**	**82.74**	**323**	LR	LR	14 21 55.9	
	comp=Z,19nm,19.3s,baz=178,slow=35						

*IDC **16** 13:33:55.0±2.4,25°.39S×179°.62E,h501km±26km,mb3.1/4,*
mb1 3.5/6,mb1mx3.1/34,mbtmp4.0/6,Error ellipse:
s-maj=31.3km s-min=20.7km az=145.0
ISC 16 13:33:55.2±0.9,25°.4S±0°.1×179°.6E±0°.2,h507km,n7,
σ0§61/8,mb3.5/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.79**	**349**	P	**P**	**13 35 49.3**	**-0.4**
	0.9nm,0.3s,baz=240,slow=8.6,SNR=6.9						
URZ	**Urewera**	**12.97**	**189**	P	**P**	**13 36 43.6**	**-0.1**
	1.2nm,0.3s,baz=44,slow=1.1,SNR=7.3						
URZ				S	**S**	**13 39 02.4**	**-0.3**
	0.4nm,0.3s,baz=193,slow=22,SNR=2.0						
ASAR	**Alice Springs**	**41.44**	**262**	P	**P**	**13 40 58.2**	**+0.9**
	1.1nm,0.6s,baz=90,slow=6.7,SNR=35						
WRA	**Warramunga Arr**	**41.95**	**268**	P	**P**	**13 41 01.2**	**-0.2**
	1.5nm,0.4s,baz=100,slow=7.2,SNR=27						
NVAR	**Mina Array Bea**	**86.10**	**44**	P	**P**	**13 45 41.9**	**-0.4**
	0.4nm,0.6s,baz=232,slow=7.2,SNR=4.7						
TXAR	**Lajitas Array**	**91.55**	**58**	P	**P**	**13 46 08.5**	**+0.8**
	0.5nm,0.9s,baz=215,slow=6.4,SNR=4.1						
BRTR	**Keskin Array B**	**148.17**	**305**	PKPbc	**PKPbc**	**13 52 43.9**	**-0.1**
	0.1nm,0.3s,baz=98,slow=3.1,SNR=1.6						

IDC 16 13:53:22.4±4.0,30°.83N×140°.79E,h0km,mb3.3/2,
mb1 3.5/2,mb1mx3.2/28,mbtmp3.3/2,ML2.0/1,Error
ellipse: s-maj=220.1km s-min=34.9km az=80.0,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.09**	**340**	Pn	Pn	13 54 53.4	-0.3
	0.0nm,0.3s,baz=161,slow=12,SNR=1.2						
WRA	**Warramunga Arr**	**50.86**	**188**	P	P	14 02 24.7	-0.4
	0.1nm,0.3s,baz=6.7,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**54.59**	**188**	P	P	14 02 52.9	+0.2
	0.3nm,0.8s,baz=1.0,slow=5.7,SNR=5.5						

*BEO **16** 14:14:29.4±0.4,42°.96N×18°.29E,h17km±4km,ML2.0/8*
*PDG **16** 14:14:29.0±0.1,42°.98N×18°.29E,h14km,MD2.8/2,*
ML2.5/14,Error ellipse: s-maj=0.2km s-min=0.2km az=0.0
*RHSSO **16** 14:14:30.2±0.2,43°.02N×18°.29E,h4km±2km,ML2.2/12*
ISC 16 14:14:29.4±0.9,42°.99N±0°.02×18°.30E±0°.01,h13km±7km,
n51,σ0§95/97,10C-9D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**116**	⇑*i*Pg	**Pg**	**14 14 34.3**	**+0.4**
BRY				*e*Sg	**Sb**	**14 14 38.5**	**0.0**
BRY	**Bratogost**	**0.19**	**116**	⇑*i*Pg	**Pg**	**14 14 33.2**	**-0.7**
BRY				*i* Sg	**Sg**	**14 14 37.2**	**+0.3**
TREB	**Trebinje**	**0.27**	**173**	*e*Pg	**Pg**	**14 14 35.3**	**+0.2**
TREB				*e*Sg	**Sb**	**14 14 40.2**	**-0.5**
TREB	**Trebinje**	**0.27**	**173**	⇑*i*Pg	**Pg**	**14 14 35.3**	**+0.2**
TREB				*e*Sg	**Sb**	**14 14 40.5**	**-0.2**
STON	**Ston

1.9nm,0.3s,baz=182,slow=1.4,SNR=25
KRMR Karymshinskiy 2.85 66 eP P 14 20 06.3 +2.2
RUS Russkaya 2.97 75 eP P 14 20 06.1 +1.1
RUS eS S 14 20 58.6 -0.7
PET Petropavlovsk 3.22 65 eP P 14 20 07.8 +1.0
PET eS S 14 21 02.1 -0.6
DALK Dalny 3.27 65 eP P 14 20 08.1 +0.8
DALK eS S 14 21 02.8 -0.7
KOK Koryaka 3.31 61 eP P 14 20 09.5 +1.8
KRX Arik 3.35 60 eP P 14 20 09.3 +1.2
AVH Avacha 3.36 61 eP P 14 20 10.3 +2.3
KRER Koryakskii 3.38 61 eP P 14 20 09.6 +1.2
UGLR Uglovaya 3.38 63 eP P 14 20 09.5 +1.2
SMAR Somma 3.39 62 eP P 14 20 09.4 +0.9
SDLR Sedlovina 3.44 62 eP P 14 20 09.7 +0.9
SPN Mys Shipunski 4.02 68 eP P 14 20 13.1 -0.4
SPN eS S 14 21 11.0 -3.8
ESO Esso 5.07 33 eP P 14 20 26.0 +2.8
KZV Kizimen 5.12 47 eP P 14 20 25.3 +1.5
TUMR Tumrok 5.16 44 eP P 14 20 24.7 +0.5
TUMR eS S 14 21 31.2 -3.2
MKZ Mys Kozlova 5.52 56 eP P 14 20 27.6 +0.1
MKZ eS S 14 21 36.0 -4.5
KMNR Kamenistaya 5.52 41 eP P 14 20 30.1 +2.4
SRDR Sredinnyy 5.73 35 eP P 14 20 30.2 +0.5
LGNR Loginova 5.93 40 eP P 14 20 34.1 +2.1
BDR Baidarnaya 6.47 39 eP P 14 20 38.9 +1.5
SRKR Sorokina 6.52 38 eP P 14 20 39.1 +1.2
SRKR eS S 14 21 56.1 -3.3
SMKR Semkarok 6.59 40 eP P 14 20 39.2 +0.6
KBTR Krutoberegovo 6.92 46 eP P 14 20 41.9 -0.1
MA2 Magadan 8.02 349 P P 14 20 44.0 -10
0.2nm,0.3s,baz=273,slow=23,SNR=1.9
MA2 S S 14 22 17.3 -11
0.5nm,0.3s,baz=154,slow=23,SNR=2.4
BKI Bering 8.02 60 eP P 14 20 57.4 +3.7
BKI eS S 14 22 27.4 -1.1
ASAJ Asahikawa 10.73 229 P P 14 21 21.7 -1.6
0.2nm,0.3s,baz=52,slow=12,SNR=5.6
SEY Seymchan 11.23 357 P P 14 21 23.1 -5.3
0.2nm,0.3s,baz=165,slow=20,SNR=1.5
ILAR Eielson Array 32.45 43 P P 14 24 49.5 +0.2
0.5nm,0.8s,baz=285,slow=10,SNR=5.4
MKAR Makanchi Array 45.21 293 P P 14 26 27.1 -6.4
0.2nm,0.5s,baz=60,slow=8.5,SNR=2.7
YKA Yellowknife Ar 46.69 40 P P 14 26 44.1 -0.4
0.5nm,0.6s,baz=310,slow=9.8,SNR=2.5
FINES FINESS Array B 59.72 334 P P 14 28 11.8 -5.9
1.1nm,0.8s,baz=23,slow=7.5,SNR=3.4
PDAR Pinedale Array 61.49 56 P P 14 28 30.7 +0.6
0.4nm,0.5s,baz=348,slow=3.6,SNR=4.1
WRA Warramunga Arr 73.41 199 P P 14 29 42.9 -0.5
0.3nm,0.7s,baz=14,slow=6.9,SNR=1.6
TXAR Lajitas Array 74.67 62 P P 14 29 52.8 +2.0
0.2nm,0.4s,baz=280,slow=4.0,SNR=5.5
ASAR Alice Springs 77.11 199 P P 14 30 04.9 +0.8
0.3nm,0.8s,baz=16,slow=5.4,SNR=4.1

*IDC **16** 14:20:34.3±1.0, 0.°62N×126.°71E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/46, mbtmp4.0/6, Error ellipse: s-maj=70.0km s-min=18.2km az=72.0*
*NEIC **16** 14:20:43.0±0.3, 0.°6N±0.°1×126.°70E±0.°07, h62km±10km, mb4.1/9, Error ellipse: s-maj=15.9km s-min=10.1km az=171.0*
ISC 16 14:20:41.0±0.7, 0.°53N±0.°09×126.°5E±0.°1, h50km, n22, σ1s54/21, mb4.1/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.89	74		Pn	14 20 57.2	-0.1
LUWI	Luwuk	4.05	247		Sn	14 22 41.1	+14
TOLI2	Tolitoli	5.75	276	Pn	Pn	14 22 07.9	+4.0
FAKI	Fak Fak	6.68	121	Pn	Pn	14 22 19.1	+2.4
KAPI	Kappang	8.71	231	Pn	Pn	14 22 42.6	-1.8
KNRA	Kununurra	16.25	172	P	Pn	14 24 28.2	+2.2
KNRA				IAmb	IAmb	14 24 32.9	
comp=Z,20nm,1.2s							
WB0	Warramunga Arr	21.60	159	P	P	14 25 27.0	+0.1
WRAB	Tennant Creek	21.74	160	P	P	14 25 28.6	+0.2
WRA	Warramunga Arr	21.74	160	P	P	14 25 28.4	0.0
comp=Z,4.3nm,0.4s,baz=338,slow=11,SNR=107							
WRA	Warramunga Arr	21.74	160	P	P	14 25 27.2	-1.2
WB2	Warramunga Arr	21.75	160	P	P	14 25 28.6	+0.2
WB2				IAmb	IAmb	14 25 30.9	
comp=Z,6.6nm,0.6s							
WR0	Warramunga Arr	21.83	159	P	P	14 25 29.6	+0.2
WR0				IAmb	IAmb	14 25 30.6	
comp=Z,3.9nm,0.8s							
AS31	Alice Springs	25.10	164	P	P	14 26 01.4	+0.1
ASAR	Alice Springs	25.10	164	P	P	14 26 00.9	-0.3
comp=Z,3.1nm,0.5s,baz=345,slow=12,SNR=86							
ASAR	Alice Springs	25.10	164	P	P	14 26 01.6	+0.3
CTAO	Charters Tower	28.18	138	P	P	14 26 27.4	-1.6
CTAO				IAmb	IAmb	14 26 36.4	
comp=Z,5.9nm,1.2s							
STKA	Stephens Creek	35.25	157	P	P	14 27 30.6	-0.3
comp=Z,1.5nm,0.7s,baz=337,slow=7.7,SNR=4.3							
SONM	Songino Array	50.25	342	P	P	14 29 32.6	+0.3
comp=Z,0.4nm,0.6s,baz=148,slow=8.5,SNR=2.3							
PETK	Petropavlovsk-	58.47	21	P	P	14 30 30.7	-1.1
comp=Z,1.7nm,0.9s,baz=212,slow=5.3,SNR=4.3							
PETK	Petropavlovsk-	58.47	21	P	P	14 30 29.1	-2.7
MK31	Makanchi Array	60.06	326	P	P	14 30 43.5	+0.5
MK31				IAmb	IAmb	14 30 57.0	
comp=Z,1.8nm,1.3s							
MKAR	Makanchi Array	60.06	326	P	P	14 30 43.3	+0.3
comp=Z,1.1nm,0.4s,baz=120,slow=8.1,SNR=21							

*NEIC **16** 14:40:40.6±3.0, 9.°37S±0.°06×121.°51E±0.°06, h69km±11km, mb4.1/12, Error ellipse: s-maj=11.2km s-min=4.8km az=133.0*
*IDC **16** 14:40:41.3±3.6, 9.°02S×121.°78E, h85km±31km, mb3.9/4, mb1 4.2/6, mb1mx3.6/39, mbtmp4.4/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/33, Error ellipse: s-maj=56.0km s-min=17.9km az=57.0*
*DJA **16** 14:40:42.4±0.8, 9.°S±3.°×12.°2E±.°, h21km±7km, M4.6/13, mB5.5/3, mb4.8/13, MLv4.5/12, Mw(mB)5.0/3*
ISC 16 14:40:42.6±0.5, 9.°50S±0.°05×121.°60E±0.°05, h100km, n60, σ2s50/64, mb4.2/5, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	Ende, Flores	0.75	7	P	Pn	14 40 57.0	-3.6
EDFI				S	Sn	14 41 07.1	-7.0
MMRI	Maumere	1.07	36		Pn	14 40 59.2	-4.6
MMRI	Maumere	1.07	36	P	Pn	14 41 01.3	-2.4
MMRI				S	Sn	14 41 15.8	-3.9
BASI	Baing, Sumba	1.23 235		P	Pn	14 41 06.0	+0.4
BASI				S	Sn	14 41 21.6	-1.5
BATI	Baumata	2.15 109		P	Pn	14 41 17.3	+0.2
WBSI	Waikabubak, Su	2.19 266		P	Pn	14 41 17.5	-0.1
SOEI	Soe	2.64 96			Pn	14 41 22.7	-0.9
SOEI	Soe	2.64 96		P	Pn	14 41 24.1	+0.5
BSSI	Bau Bau, Buton	3.52 342		P	Pn	14 41 33.8	-1.5
PLAI	Plampang	3.84 280		P	Pn	14 41 40.1	+0.5
BKSI	Bulukumba	4.41 340		P	Pn	14 41 46.7	-0.6
TWSI	Taliwang, Sumb	4.72 279		P	Pn	14 41 52.7	+1.2
KAPI	Kappang	4.82 338		P	Pn	14 41 53.6	+0.7
16nm,0.3s,baz=160,slow=7.9,SNR=51							
KAPI				S	Sn	14 42 46.9	-0.7
baz=60,slow=23,SNR=1.2							
KAPI				LR	LR	14 43 43.0	
comp=Z,104nm,21.0s,baz=130,slow=41							
KAPI	Kappang	4.82 338			Pn	14 41 52.4	-0.5
BNSI	Bone	5.28 344		P	Pn	14 41 59.9	+0.8
0.3nm94nm,0.7s							
SRBI	Singaraja	6.47 282		P	Pn	14 42 15.6	+0.3
0.3nm40nm,0.9s							
TTSI	Tana Toraja	6.66 344		P	Pn	14 42 18.8	+1.0
0.1nm18nm,0.6s							
JAGI	Jajag, Banyuwa	7.43 277		Pn	Pn	14 42 25.9	-2.5
JAGI	Jajag, Banyuwa	7.43 277		P	Pn	14 42 25.9	-2.5
KBKI	Kotabaru	8.19 318		P	Pn	14 42 39.2	+0.5
45nm,0.6s							
NLAI	Namlea	8.28	42	P	Pn	14 42 43.9	+4.0
LUWI	Luwuk	8.49	8		Pn	14 42 43.5	+0.8
LUWI	Luwuk	8.49	8	P	Pn	14 42 44.1	+1.4
2μm40nm,0.8s							
APSI	Ampana	8.54	0	P	Pn	14 42 44.7	+1.3
19nm,1.0s							
SANI	Sanana	8.59	31	P	Pn	14 42 44.1	-0.1
85nm,0.9s							
BBKI	Banjar Baru	9.01	311	P	Pn	14 42 52.6	+2.8
31nm,0.9s							
KNRA	Kununurra	9.30	132		Pn	14 42 52.3	-1.5
BKB	Balikpapan	9.43	330	Pn	Pn	14 42 53.1	-2.5
BKB	Balikpapan	9.43	330	P	Pn	14 43 00.3	+4.7
126nm,0.8s							
PWJI	Pagerwojo	9.80	278	P	Pn	14 43 01.1	+0.6
58nm,0.8s							
MTN	Manton Dam	9.92	110		Pn	14 42 59.5	-2.8
MTKI	Muara Teweh, K	10.81	321	P	Pn	14 43 17.1	+2.7
UGM	Wanagama	11.06	277	Pn	Pn	14 43 15.2	-2.7
PSA00	Pilbara Seismi	12.12	188	Pn	Pn	14 43 31.0	-0.9
FAKI	Fak Fak	12.44	59	Pn	Pn	14 43 34.9	-1.3
SIJI	Sorong	12.88	49	P	Pn	14 43 36.8	-5.3
1.0nm,0.3s,baz=246,slow=20,SNR=1.6							
SIJI				S	Sn	14 46 10.6	+6.7
0.7nm,0.3s,baz=13,slow=23,SNR=2.3							
CISI	Cisompet, Garu	13.77	277	Pn	Pn	14 43 50.8	-2.9
GIRL	Giralia	14.85	208	Pn	Pn	14 44 07.7	+0.3
CBJI	Citeko	14.93	281	P	P	14 44 12.0	+0.4
195nm,0.8s							
WB0	Warramunga Arr	16.03	131		Pn	14 44 20.2	-2.1
WB0				IAmb	IAmb	14 44 27.0	
comp=Z,9.7nm,0.7s							
WRA	Warramunga Arr	16.10	132	P	Pn	14 44 21.1	-2.1
comp=Z,2.3nm,0.3s,baz=294,slow=13,SNR=88							
WRA				S	Sn	14 47 09.0	-13
comp=Z,1.2nm,0.3s,baz=306,slow=24,SNR=4.8							
WRA	Warramunga Arr	16.10	132		Pn	14 44 21.0	-2.1
WRAB	Tennant Creek	16.10	132		Pn	14 44 21.8	-1.4
WRAB				IAmb	IAmb	14 44 37.8	
comp=Z,12nm,0.6s							
WB2	Warramunga Arr	16.11	132		Pn	14 44 21.6	-1.7
WB2				IAmb	IAmb	14 44 37.8	
comp=Z,9.3nm,0.8s							
WR0	Warramunga Arr	16.26	131		Pn	14 44 23.4	-1.7
WR0				IAmb	IAmb	14 44 26.0	
comp=Z,9.4nm,0.5s							
AS31	Alice Springs	18.35	142		Pn	14 44 52.8	+2.3
AS31				IAmb	IAmb	14 44 56.1	
comp=Z,11nm,0.6s							
ASAR	Alice Springs	18.35	142	P	Pn	14 44 52.1	+1.6
comp=Z,3.7nm,0.3s,baz=323,slow=13,SNR=163							
ASAR				S	S	14 48 06.3	-7.7
comp=Z,0.7nm,0.3s,baz=322,slow=22,SNR=10							
ASAR				ScP	ScP	14 52 46.4	+2.9
comp=Z,0.1nm,0.3s,baz=315,slow=1.5,SNR=4.5							
ASAR	Alice Springs	18.35	142		Pn	14 44 52.5	+1.9
MORW	Morawa	20.15	194		Pn	14 45 12.5	+0.8
FORT	Forrest	22.01	165	P	P	14 45 29.1	+0.3
RPSI	Rantau Prapat	25.64	297	P	P	14 46 03.5	+0.4
RPSI				IAmb	IAmb	14 46 10.5	
comp=Z,4.4nm,0.8s							
STKA	Stephens Creek	28.97	143	P	P	14 46 35.2	+2.5
comp=Z,4.4nm,0.7s,baz=319,slow=8.7,SNR=12							
STKA	Stephens Creek	28.97	143	P	P	14 46 35.9	+3.1
RABL	Rabaul	30.79	82	P	P	14 46 49.8	+0.8
CMAR	Chiang Mai Arr	35.66	321	P	P	14 47 30.6	-0.7
comp=Z,0.4nm,0.4s,baz=151,slow=6.2,SNR=4.4							
MKAR	Makanchi Array	66.09	332	P	P	14 51 17.0	-2.0
comp=Z,1.5nm,0.5s,baz=141,slow=7.7,SNR=22							
MKAR	Makanchi Array	66.09	332	P	P	14 51 17.5	-1.4
ZALV	Zalesovo Beam	70.44	338	P	P	14 51 43.1	-2.8
comp=Z,2.2nm,0.4s,baz=136,slow=5.1,SNR=12							
QSPA	South Pole Qui	80.49	180	P	P	14 52 45.8	+2.4
TORD	Torodi Ar. Bea	121.08	280	PKP	PKiKP	14 59 25.9	+1.2
comp=Z,0.3nm,0.5s,baz=56,slow=2.2,SNR=2.0							

*NOU **16** 14:41:34.1, 39.°36S×176.°97E, h11km, ML3.8, North Island, New Zealand*
WEL 16 14:41:35.8, 39.°S±2.°×17.°7E±.°, h25km±3km, M3.4/101, ML3.6/99, MLv3.4/101, Error ellipse: s-maj=0.0km s-min=0.0km az=93.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARHZ	Aropaoanui	0.12	64	P	Pb	14 41 40.9	+0.3
ARHZ				S	Sb	14 41 45.5	+1.7
MCHZ	McNeill Hill	0.18	224	P	Pb	14 41 41.9	+0.6
MCHZ				S	Sb	14 41 46.0	+1.0
NMHZ	Naumai	0.22	349	P	Pb	14 41 42.2	+0.4
NMHZ				S	Sb	14 41 47.6	+1.7
BKZ	Black Stump Fm	0.32	297	P	Pb	14 41 43.3	+0.1
BKZ				S	Sb	14 41 49.4	+1.1
KWHZ	Kaweka Forest	0.36	252	P	Pb	14 41 44.0	+0.3
KWHZ				S	Sn	14 41 50.7	-1.1
WHHZ	Waihua	0.38	51	P	Pb	14 41 44.2	+0.2
WHHZ				S	Sn	14 41 51.6	-0.5
CKHZ	Cape Kidnapper	0.38	154	P	Pn	14 41 45.0	-0.8
CKHZ				S	Sn	14 41 52.8	+0.4
RAHZ	Arahi	0.43	24	P	Pb	14 41 45.1	+0.1
RAHZ				S	Sn	14 41 52.5	-1.1
MTHZ	Maungataniwha	0.46	358	P	Pb	14 41 45.4	0.0
MTHZ				S	Sb	14 41 53.1	+1.1
KAHZ	Kahuranaki	0.48	178	P	Pn	14 41 46.6	-0.5
KAHZ				S	Sn	14 41 55.9	+1.1
KRHZ	Kereru	0.50	229	P	Pb	14 41 46.3	+0.2
KRHZ				S	Sn	14 41 54.7	-0.6
MRHZ	Matea Rd	0.59	324	P	Pb	14 41 47.6	0.0
BHHZ	Black Hill Sta	0.64	254	P	Pb	14 41 48.3	-0.1
BHHZ				S	Sb	14 41 57.8	+0.7
SNGZ	Shannon Statio	0.65	35	P	Pb	14 41 48.8	+0.2
SNGZ				S	Sn	14 41 59.0	0.0
KNZ	Kokohu	0.70	65	P	Pb	14 41 49.2	-0.1
KNZ				S	Sn	14 42 00.3	+0.3
RTZ	Ruatahuna	0.70	8	P	Pb	14 41 49.4	-0.1
RTZ				S	Sn	14 41 59.7	-0.6
PXZ	Pawanui	0.72	180	P	Pb	14 41 49.4	-0.2
PXZ				S	Sn	14 42 02.2	+1.7
HATZ	Hinemaiaia	0.73	305	P	Pb	14 41 50.2	+0.3
PNHZ	Pukenui	0.79	220	P	Pb	14 41 50.9	0.0
PNHZ				S	Sn	14 42 03.2	+0.9
WPHZ	Waipukurau	0.82	203	P	Pb	14 41 51.2	-0.2
MHGZ	Mahia Peninsul	0.83	79	P	Pb	14 41 51.0	-0.6
MUGZ	Murupara	0.84	355	P	Pb	14 41 51.6	-0.2
RITZ	Rihia Road	0.85	293	P	Pn	14 41 52.5	+0.4
ALRZ	Allen Road	0.85	332	P	Pn	14 41 52.2	0.0
MOVZ	Moawhango	0.86	263	P	Pb	14 41 52.1	0.0
PRGZ	Paritu Road	0.89	64	P	Pb	14 41 51.8	-0.7
PRRZ	Plateau Road	0.89	336	P	Pn	14 41 52.8	+0.1
ETVZ	East Tongariro	0.91	281	P	Pn	14 41 53.4	+0.2
TMVZ	Te Maari	0.92	282	P	Pn	14 41 53.5	+0.3
RAGZ	Rawiri	0.93	28	P	Pb	14 41 53.0	-0.2
RIGZ	Rimuhau	0.93	49	P	Pb	14 41 52.6	-0.7
TUVZ	Tukino	0.94	272	P	Pn	14 41 53.9	+0.4
OTVZ	Oturere	0.94	279	P	Pn	14 41 53.9	+0.3
NTVZ	North Tongarir	0.94	283	P	Pn	14 41 53.9	+0.3
SNVZ	South Ngauruho	0.96	277	P	Pb	14 41 54.2	+0.4
WHTZ	Whakaora	0.96	312	P	Pb	14 41 54.5	+0.7
RATZ	Rangitukua	0.96	297	P	Pb	14 41 54.1	+0.4
WPRZ	Whakapapatarin	0.96	325	P	Pn	14 41 53.7	-0.1
KATZ	Kakaramea	0.97	290	P	Pb	14 41 54.4	+0.4
PRHZ	Porangahau	0.97	190	P	Pn	14 41 52.9	-0.9
KRVZ	Karewarewa	0.97	283	P	Pb	14 41 54.5	+0.4
WNVZ	Wahianoa	0.98	269	P	Pb	14 41 54.5	+0.3
NNVZ	North Ngauruho	0.98	280	P	Pb	14 41 54.7	+0.4
NGZ	Ngauruhoe	0.99	278	P	Pb	14 41 54.7	+0.4
WHVZ	Whangaehu Hut	0.99	271	P	Pb	14 41 54.7	+0.4
DRZ	Dome Shelter	1.01	272	P	Pb	14 41 55.2	+0.4
WTVZ	West Tongariro	1.01	281	P	Pb	14 41 55.1	+0.5
RRRZ	Republican Roa	1.01	344	P	Pn	14 41 54.3	-0.1
FWVZ	Far West T-bar	1.02	273	P	Pb	14 41 55.1	+0.3
TSZ	Takapari Road	1.02	223	P	Pn	14 41 53.8	-0.8
TRVZ	Turoa	1.02	270	P	Pb	14 41 55.3	+0.4
HRRZ	Handcock Road	1.03	334	P	Pb	14 41 54.9	0.0
WATZ	Wairara	1.07	304	P	Pn	14 41 55.2	+0.1
URZ	Urewera	1.07	11	P	Pn	14 41 54.9	-0.3
MTVZ	Mangateitei	1.08	266	P	Pb	14 41 56.0	+0.2
MWZ	Matawai	1.11	28	P	Pn	14 41 55.3	-0.4
HSRZ	Hossack Road	1.11	334	P	Pn	14 41 55.8	0.0
TARZ	Mount Tarawera	1.11	345	P	Pb	14 41 56.2	-0.2
DVHZ	Dannevirke	1.12	208	P	Pn	14 41 54.8	-1.2
GRRZ	Galatos Road	1.13	328	P	Pn	14 41 56.3	+0.3
HLRZ	Highlands Stat	1.13	339	P	Pb	14 41 57.3	+0.5
TWVZ	Taurewa	1.13	282	P	Pn	14 41 56.2	+0.1
KUTZ	Kaahu Road	1.15	315	P	Pn	14 41 56.4	+0.1
TKGZ	Te Karaka	1.17	42	P	Pn	14 41 55.9	-0.6
PKVZ	Pokaka	1.18	271	P	Pb	14 41 57.2	-0.2
ANWZ	Angora Road	1.18	194	P	Pn	14 41 55.7	-1.0
UTU	Utuhina	1.25	335	P	Pn	14 41 58.0	+0.3
OMRZ	Omania	1.27	342	P	Pn	14 41 57.8	-0.1
NGRZ	Ngongotaha	1.32	336	P	Pn	14 41 59.2	+0.6
MARZ	Manawahe	1.33	354	P	Pn	14 41 59.4	+0.5
CNGZ	Carnagh Statio	1.34	52	P	Pn	14 41 57.9	-1.0
POWZ	Post Office Ro	1.37	218	P	Pn	14 41 58.6	-0.6
KARZ	Kaharoa	1.38	339	P	Pn	14 41 59.3	-0.1
PRWZ	Pori Road	1.42	209	P	Pn	14 41 58.9	-1.1
TLZ	Tolley Road	1.43	313	P	Pn	14 42 00.0	-0.1
TWGZ	Tauwhareparae	1.43	38	P	Pn	14 41 60.0	-0.3
BFZ	Birch Farm	1.45	199	P	Pn	14 41 58.9	-1.5
WHRZ	Whale Island	1.46	4	P	Pb	14 42 01.9	-0.4
OHWZ	Ohakea	1.49	233	P	Pn	14 42 01.8	+0.9
OPRZ	Ohinepanea	1.49	351	P	Pn	14 42 01.7	+0.8
RUGZ	Raukumara Rang	1.49	26	P	Pn	14 42 00.7	-0.4
WAZ	Wanganui	1.52	253	P	Pb	14 42 02.5	-0.7
VRZ	Vera Road	1.64	276	P	Pn	14 42 03.5	+0.4
TGRZ	Tauranga	1.65	343	P	Pb	14 42 09.0	+3.5
PUZ	Puketiti	1.65	42	P	Pn	14 42 01.9	-1.4
MRZ	Mangatainoka R	1.67	216	P	Pn	14 42 01.8	-1.6
CPWZ	Castlepoint	1.67	197	P	Pn	14 42 02.8	-0.7
PKGZ	Pakihiroa	1.71	34	P	Pn	14 42 03.6	-0.5
HAZ	Te Kaha	1.71	25	P	Pn	14 42 03.9	-0.1
HIZ	Hauiti	1.76	296	P	Pn	14 42 04.9	+0.2
TOZ	Tahuroa Road	1.91	326	P	Pn	14 42 06.5	-0.1
LREZ	Lake Rotokare	1.91	265	P	Pn	14 42 08.0	+1.3
WMGZ	Waiomatatini S	1.93	40	P	Pn	14 42 05.8	-1.2
OGWZ	Otaki Gorge	1.98	220	P	Pn	14 42 06.1	-1.7
MHEZ	Mangahewa	1.99	276	P	Pn	14 42 09.2	+1.4
DREZ	Durham Road	2.07	273	P	Pn	14 42 10.4	+1.4
MXZ	Matakaoa Point	2.08	33	P	Pn	14 42 09.0	-0.1
PREZ	Palmer Road	2.10	268	P	Pn	14 42 10.9	+1.6
MTW	Mount Morrison	2.12	209	P	Pn	14 42 07.2	-2.4
NEZ	North Egmont	2.15	270	P	Pn	14 42 11.3	+1.3
KIW	Kapiti Island	2.15	223	P	Pn	14 42 08.4	-1.7
KHEZ	Kahui Hut	2.21	270	P	Pn	14 42 12.8	+1.9
PKE	Pukeiti	2.23	272	P	Pn	14 42 12.7	+1.5
CAW	Cannon Point	2.26	217	P	Pn	14 42 09.0	-2.5
TRWZ	Traveller	2.27	203	P	Pn	14 42 09.3	-2.3
NMEZ	Namu Road	2.31	267	P	Pn	14 42 14.0	+1.8
NBEZ	Newall Road No	2.32	270	P	Pn	14 42 14.2	+1.8
PAWZ	Paruwai Farm	2.34	207	P	Pn	14 42 10.0	-2.7
MSWZ	Moikau Station	2.43	210	P	Pn	14 42 11.3	-2.7
PLWZ	Palliser	2.56	208	P	Pn	14 42 12.4	-3.4
BHW	Baring Head	2.59	215	P	Pn	14 42 15.8	-0.3
DUWZ	D'Urville Isla	2.70	236	P	Pn	14 42 16.4	-1.3
TCW	Tory Channel	2.74	225	P	Pn	14 42 15.9	-2.2
ETAZ	East Tamaki Re	2.81	327	P	Pn	14 42 20.0	+1.0
AWAZ	Awhitu Peninsu	2.85	321	P	Pn	14 42 20.0	+0.4
WIAZ	Waiheke Island	2.86	331	P	Pn	14 42 20.8	+0.9
MBAZ	Motutapu North	2.98	328	P	Pn	14 42 22.4	+1.0
TUWZ	Tuamarina	3.07	226	P	Pn	14 42 20.5	-2.2
RVAZ	Riverhead Bore	3.11	324	P	Pn	14 42 24.6	+1.3
NNZ	Nelson	3.27	233	P	Pn	14 42 23.2	-2.3
BSWZ	Blackbirch Sta	3.31	223	P	Pn	14 42 24.4	-1.5
QRZ	Quartz Range	3.65	244	P	Pn	14 42 28.2	-2.4
THZ	Tophouse	3.88	230	P	Pn	14 42 31.6	-2.3
WCZ	Waipu Caves	3.92	329	P	Pn	14 42 35.7	+1.4
KHZ	Kahutara	3.99	218	P	Pn	14 42 34.2	-1.2
GVZ	Greta Valley S	4.65	217	P	Pn	14 42 43.4	-1.1
OUZ	Omahuta	4.84	326	P	Pn	14 42 48.2	+1.1
MQZ	McQueen's Vall	5.41	214	P	Pn	14 42 51.3	-3.5
AKCZ	Akaroa Harbour	5.43	212	P	Pn	14 42 53.0	-2.2
CTZ	Chatham Island	6.59	134	P	Pn	14 43 09.4	-1.6
TMZ	Timaru	6.69	219	P	Pn	14 43 09.1	-3.3

*IDC **16** 14:44:39.6±0.7, 17.°40S×66.°38E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/46, mbtmp3.8/14, ML3.6/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/40, Error ellipse: s-maj=21.3km s-min=18.6km az=159.0*
ISC 16 14:44:42.0±0.7, 17.°4S±0.°1×66.°4E±0.°1, h14km, n22, σ0s74/14, mb3.9/13, MS3.8/4, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	11.40	32	T	T	14 58 58.7	
baz=210,slow=75,SNR=2917							
H08S2	Diego Garcia H	11.41	32	T	T	14 59 13.9	
baz=210,slow=75,SNR=902							
H08S3	Diego Garcia H	11.42	32	T	T	14 59 00.1	
baz=210,slow=75,SNR=3246							
OPO	Ambohidratompo	18.26	263	P	P	14 48 55.9	+0.4
0.2nm,0.3s,baz=340,slow=16,SNR=1.7							
PALK	Pallekele	28.33	31	LR	LR	14 59 51.3	
comp=Z,120nm,18.1s,baz=311,slow=32							
KMBO	Kilima Mbogo	32.87	296	LR	LR	15 02 22.4	
comp=Z,291nm,18.4s,baz=97,slow=32							
LBTB	Lobatse	38.62	252	P	P	14 52 05.7	+0.4
5.0

X40A	**Basin Creek Fa**	**4.20 113**	IAmb_Lg		14 54 38.3
	comp=Z,6.6nm,0.8s				
LCAR	**Lake Charles**	**5.13 90**	IAmb_Lg		14 55 09.7
	comp=Z,3.9nm,0.9s				

*IDC **16** 14:53:56.7±1.6, 5.°97W×125.°38E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=50.5km s-min=14.0km az=97.0*

ISC 16 14:53:57.3±1.9, 7.7N±0.°1×125.°9E±0.°2, h100km, n10, σ3§12/8, mb3.2/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.68**	**204**	Pg	**Pn**	**14 54 19.1**	**+4.5**
	169nm,0.3s,baz=268,slow=6.9,SNR=7.7						
DAV				LR	LR	14 54 27.5	
	comp=Z,11nm,18.3s,baz=142,slow=28						
DAV				Lg	Lg	14 54 32.1	
	146nm,0.3s,baz=323,slow=22,SNR=16						
BUKP	**Musuan**	**0.81**	**283**	⇓*i*P	**Pn**	**14 54 15.1**	**-0.6**
BUKP				*i* S	**Sn**	**14 54 29.5**	**-0.2**
KCP	**Kidapawan**	**1.02**	**228**	⇓*e*P	**Pn**	**14 54 20.3**	**+2.3**
KCP				*i* S	**Sn**	**14 54 31.8**	**-1.8**
CGP	**Cagayan de Oro**	**1.38**	**304**	⇑*i*P	**Pn**	**14 54 25.4**	**+3.3**
CGP				*i* S	**Sn**	**14 54 40.7**	**-0.1**
WRA	**Warramunga Arr**	**28.70**	**163**	P	**P**	**14 59 42.3**	**-2.9**
	0.4nm,0.9s,baz=340,slow=10.0,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**41.51**	**69**	T	T	15 47 53.5	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**41.52**	**69**	T	T	15 47 55.8	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**41.52**	**69**	T	T	15 47 53.2	
	baz=255						
MKAR	**Makanchi Array**	**53.84**	**324**	P	P	15 03 28.7	+19
	0.1nm,0.4s,baz=111,slow=6.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**56.69**	**332**	P	P	15 03 51.9	+22
	0.5nm,0.4s,baz=111,slow=7.9,SNR=2.3						

*BGR **16** 15:16:25.5±0.0, 13.°02N×58.°97W, h5km, mb6.3, mB_BB6.5, Ms6.0*
*BJI **16** 15:16:30.5±0.0, 13.°80N×58.°60W, h10km, mB6.3/56, Ms6.5/67, Ms7 6.3/67*
*IDC **16** 15:16:30.0±0.3, 13.°94N×58.°49W, h0km, mb5.7/52, mb1 5.8/56, mb1mx5.8/58, mbtmp5.7/56, ML5.1/4, MS5.9/26, Ms1 5.9/26, ms1mx5.8/37, Error ellipse: s-maj=9.0km s-min=7.1km az=133.0*
*MOS **16** 15:16:31.4±1.1, 13.°90N×58.°61W, h17km, mb6.3/72, MS6.0/51, Error ellipse: s-maj=5.6km s-min=4.0km az=62.6*
*NEIC **16** 15:16:32.1, 13.°88N×58.°51W, h21km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.64; Mθθ=-4.83; Mφφ=5.47; Mrθ=0.52; Mrφ=2.64; Mθφ=1.25; Fault plane solution: M0=5.97000×1018 NP1:φs=59.01000°, δ84.25000°, λ9.53000°. NP2:φs=328.04000°, δ80.51000°, λ174.17000°. Principal axes: T 6.3624, Plg11.0000°, Azm284.0000°; N -0.8860, Plg79.0000°, Azm90.0000°; P -5.4764, Plg3.0000°, Azm193.0000°;*
*TRN **16** 15:16:32.6, 13.°96N×58.°49W, h65km, MD6.6*
TRN Felt in Barbados MMI III, IV, V; St. Vincent IV, Saint Lucia IV; Trinidad II, III and IV; Tobago III; Surinama III;Guyana III; Dominica IV; Martinique IV.
*NEIC **16** 15:16:33.8±2.0, 13.°87N±0.°04×58.°55W±0.°04, h20km±1km, mb6.2/805, Ms_20 6.1/707, Mwb6.5/87, Mwc6.5/59, Mww6.5, Mwc6.5(GCMT), Mwr6.3(CAR), Error ellipse: s-maj=8.2km s-min=3.3km az=47.0*
*FUNV **16** 15:16:34.8, 13.°69N×58.°47W, h13km, MW6.3*
*GCMT **16** 15:16:36.8±0.0, 13.°92N×58.°38W, h19km, MW6.5/159, Moment Tensor Solution. s159,c376; s159,c673; Duration: 4s1 Moment tensor: Scale 1018Nm; Mrr=0.76±.02; Mθθ=-5.42±.02; Mφφ6.18±.03; Mrθ0.25±.05; Mrφ1.36±.02; Mθφ0.29±.05; Best double couple: M0=5.96900×1018 NP1:φs=322.00000°, δ86.00000°, λ-180.00000°. NP2:φs=232.00000°, δ90.00000°, λ-4.00000°. Principal axes: T 6.3520, Plg3.0000°, Azm277.0000°; N -0.7590, Plg86.0000°, Azm51.0000°; P -5.5870, Plg3.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*
*CAR **16** 15:16:37.9±2.5, 13.°63N±0.°06×58.°62W±0.°06, h14km±3km Error ellipse: s-maj=8.9km s-min=7.6km az=142.0*
*NEIC **16** 15:16:38, 13.°83N×58.°33W, h14km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=0.58; Mθθ=-5.54; Mφφ6.12; Mrθ=-0.06; Mrφ1.12; Mθφ0.12; Fault plane solution: M0=5.96000×1018 NP1:φs=50.00000°, δ89.00000°, λ0.00000°. NP2:φs=320.00000°, δ90.00000°, λ179.00000°. Principal axes: T 6.2278, Plg1.0000°, Azm275.0000°; N -0.5830, Plg89.0000°, Azm134.0000°; P -5.6448, Plg1.0000°, Azm5.0000°;*
*NEIC **16** 15:16:38, 13.°95N×58.°37W, h19km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=1.04; Mθθ=-5.27; Mφφ6.31; Mrθ0.44; Mrφ1.53; Mθφ0.19; Fault plane solution: M0=6.08000×1018 NP1:φs=322.00000°, δ85.00000°, λ-178.00000°. NP2:φs=232.00000°, δ88.00000°, λ-5.00000°. Principal axes: T 6.5170, Plg2.0000°, Azm277.0000°; N -1.0101, Plg84.0000°, Azm27.0000°; P -5.5069, Plg5.0000°, Azm187.0000°;*
*NEIC **16** 15:16:53.8, 14.°32N×58.°23W, h10km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=1.18; Mθθ=-4.59; Mφφ5.77; Mrθ4.81; Mφφ1.63; Mθφ4.12; Fault plane solution: M0=8.39000×1018 NP1:φs=325.29000°, δ39.91000°, λ-172.24000°. NP2:φs=229.32000°, δ85.03000°, λ-50.35000°. Principal axes: T 8.6949, Plg29.0000°, Azm288.0000°; N -0.6174, Plg39.0000°, Azm45.0000°; P -8.0775, Plg37.0000°, Azm174.0000°;*

ISC 16 15:16:33.0±0.5, 13.°80N±0.°02×58.°57W±0.°02, h19km±1km, h20km:pP-P, n2307, σ1§62/2315, mb6.2/631, MS6.1/475, 323C-407D, Fault plane solution: NP1:φs63.93414°, δ68.96671°, λ-6.20510°. NP2:φs156.16882°, δ84.20980°, λ-158.85368°. Principal axes: T Plg10.5125°, Azm288.2938°; N Plg68.1104°, Azm170.7873°; P Plg18.9732°, Azm21.9517°; **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.11**	**231**	*e*P	**Pg**	**15 16 55.7**	**+1.2**
BBGH	**Gun Hill**	**1.16**	**236**	*e*P	**Pg**	**15 16 56.9**	**+1.3**
BBGH				*e*S	**Sg**	**15 17 14.0**	**+3.2**
BBGH	**Gun Hill**	**1.16**	**236**		**Pg**	**15 16 56.8**	**+1.2**
BBGH					**Sg**	**15 17 11.0**	**+0.1**
BBGH	**Gun Hill**	**1.16**	**236**	⇓P	**Pg**	**15 16 56.8**	**+1.2**
BBGH	**Gun Hill**	**1.16**	**236**	*e*P	**Pg**	**15 16 56.5**	**+0.9**
BBGH				*e*S	**Sg**	**15 17 12.3**	**+1.5**
BCHC	**Barbados, Cave**	**1.23**	**237**	*e*P	**Pg**	**15 16 57.9**	**+1.1**
BCHC				*e*S	**Sg**	**15 17 14.5**	**+1.7**
H05S1	**Guadeloupe/Mar**	**2.29**	**286**	Pn	**Pn**	**15 17 08.8**	**-0.9**
H05S1				Sn	**Sn**	**15 17 37.3**	**0.0**
MPOM	**Morne Pois Mar**	**2.31**	**286**	*e*P	**Pn**	**15 17 10.1**	**+0.1**
MPOM				*e*S	**Sn**	**15 17 38.1**	**+0.2**
MPOM	**Morne Pois Mar**	**2.31**	**286**		**Pn**	**15 17 09.0**	**-1.0**
MPOM				Sn	**Sn**	**15 17 37.3**	**-0.6**
SLBI	**Saint Lucia, B**	**2.34**	**276**	*e*P	**Pn**	**15 17 10.7**	**+0.2**
SLBI				*e*S	**Sn**	**15 17 38.9**	**+0.2**
SLCP	**Castries, St.**	**2.36**	**275**	*e*P	**Pn**	**15 17 10.9**	**+0.2**
SLCP				*e*S	**Sn**	**15 17 40.3**	**+1.2**
MVM	**Montagne Vaucl**	**2.38**	**289**	*e*P	**Pn**	**15 17 10.8**	**-0.1**
SLB	**Belfond**	**2.40**	**271**	*e*P	**Pn**	**15 17 11.1**	**-0.2**
ILAM	**Ilet Lapin Mar**	**2.43**	**294**	*e*P	**Pn**	**15 17 11.0**	**-0.7**
ILAM				*e*S	**Sn**	**15 17 40.3**	**-0.6**
ILAM	**Ilet Lapin Mar**	**2.43**	**294**		**Pn**	**15 17 10.9**	**-0.8**
ILAM				Sn	**Sn**	**15 17 40.9**	**0.0**
LPMF	**Morne Lapointe**	**2.45**	**289**	*e*P	**Pn**	**15 17 11.6**	**-0.3**
TRMF	**Trois Ilets**	**2.52**	**287**	*e*P	**Pn**	**15 17 12.4**	**-0.4**
BIM	**Bigot**	**2.53**	**287**	*e*P	**Pn**	**15 17 12.6**	**-0.5**
BIM				*e*S	**Sn**	**15 17 43.5**	**+0.1**
BIM	**Bigot**	**2.53**	**287**		**Pn**	**15 17 12.2**	**-0.8**
BIM				Sn	**Sn**	**15 17 43.9**	**+0.6**
SVOC	**Richmond Hill,**	**2.66**	**256**	*e*P	**Pn**	**15 17 15.7**	**+0.9**
SVOC				*e*S	**Sn**	**15 17 48.1**	**+1.7**
SVB	**Belmont**	**2.66**	**259**	*e*P	**Pn**	**15 17 15.4**	**+0.6**
SVB				*e*S	**Sn**	**15 17 47.5**	**+0.9**
SVB	**Belmont**	**2.66**	**259**		**Pn**	**15 17 15.0**	**+0.1**
FDF	**Fort de France**	**2.67**	**291**	⇑P	**Pn**	**15 17 14.3**	**-0.7**
FDF	**Fort de France**	**2.67**	**291**	*e*P	**Pn**	**15 17 14.7**	**-0.3**
FDF	**Fort de France**	**2.67**	**291**	⇑P	**Pn**	**15 17 14.3**	**-0.7**
BAMF	**Morne Balai**	**2.69**	**292**	*e*P	**Pn**	**15 17 15.6**	**+0.2**
GBMF	**Grand Be**	**2.70**	**292**	*e*P	**Pn**	**15 17 15.4**	**-0.1**
CXM	**Morne La Croix**	**2.71**	**292**	*e*P	**Pn**	**15 17 16.8**	**+1.1**
PML	**Morne Lenard**	**2.71**	**291**	*e*P	**Pn**	**15 17 15.6**	**0.0**
SVN	**Savane Anatole**	**2.72**	**293**	*e*P	**Pn**	**15 17 16.5**	**+0.8**
PCM	**Pelee Case Pet**	**2.75**	**292**	*e*P	**Pn**	**15 17 15.3**	**-0.8**
PCM	**Pelee Case Pet**	**2.75**	**292**	*e*P	**Pn**	**15 17 16.2**	**+0.1**
DLPL	**La Plaine**	**3.01**	**301**	*e*P	**Pn**	**15 17 19.2**	**-0.4**
DLPL				*e*S	**Sn**	**15 17 54.4**	**-0.7**
DLPL	**La Plaine**	**3.01**	**301**	Pn	**Pn**	**15 17 19.0**	**-0.6**
GCMP	**Grenada, Carri**	**3.07**	**245**	*e*P	**Pn**	**15 17 22.1**	**+1.6**
GCMP				*e*S	**Sn**	**15 17 57.4**	**+0.7**
TOSP	**Speyside**	**3.14**	**218**	*e*P	**Pn**	**15 17 23.4**	**+1.9**
TOSP				*e*S	**Sn**	**15 18 01.1**	**+2.7**
TOSP	**Speyside**	**3.14**	**218**		**Pn**	**15 17 22.9**	**+1.4**
TOSP	**Speyside**	**3.14**	**218**	*e*P	**Pn**	**15 17 23.4**	**+1.9**
TOSP				*e*S	**Sn**	**15 17 58.1**	**-0.3**
DSLB	**Salisbury**	**3.20**	**301**	*e*P	**Pn**	**15 17 21.7**	**-0.6**
TPR	**Prospect**	**3.38**	**220**	*e*P	**Pn**	**15 17 27.5**	**+2.8**
MAGL	**Barre de l'ile**	**3.38**	**310**	*e*P	**Pn**	**15 17 23.8**	**-1.0**
MAGL				*e*S	**Sn**	**15 18 01.4**	**-2.9**
GRGR	**Grenville**	**3.43**	**241**	*e*P	**Pn**	**15 17 26.9**	**+1.3**
GRGR				*e*S	**Sn**	**15 18 06.0**	**+0.4**
GRGR	**Grenville**	**3.43**	**241**		**Pn**	**15 17 26.5**	**+1.0**
GRGR				Sn	**Sn**	**15 18 07.1**	**+1.5**
GRGR	**Grenville**	**3.43**	**241**	⇑P	**Pn**	**15 17 26.6**	**+1.2**
GRGR	**Grenville**	**3.43**	**241**	*e*P	**Pn**	**15 17 26.8**	**+1.3**
GRGR				*e*S	**Sn**	**15 18 06.4**	**+0.7**
DEG	**La Desirade**	**3.47**	**316**	*e*P	**Pn**	**15 17 25.7**	**-0.3**
H05N1	**Guadeloupe/Mar**	**3.47**	**316**	Pn	**Pn**	**15 17 23.7**	**-2.2**
H05N1				Sn	**Sn**	**15 18 02.5**	**-4.0**
TBG	**Guadaloupe-3**	**3.61**	**305**	*e*P	**Pn**	**15 17 26.9**	**-0.9**
CBE	**Ff, Capester**	**3.70**	**308**	*e*P	**Pn**	**15 17 28.7**	**-0.5**
CBE				*e*S	**Sn**	**15 18 09.2**	**-3.1**
ABD	**La Joyeuse, An**	**3.87**	**314**	*e*P	**Pn**	**15 17 30.2**	**-1.3**
ABD				*e*S	**Sn**	**15 18 13.4**	**-3.1**
TRN	**Trinidad (W)**	**4.18**	**222**	*e*P	**Pn**	**15 17 37.7**	**+1.9**
TRN	**Trinidad (W)**	**4.18**	**222**	*e*S	**Sn**	**15 18 26.2**	**+2.1**
TRN	**Trinidad (W)**	**4.18**	**222**	*e*P	**Pn**	**15 17 37.1**	**+1.4**
TRN				*e*S	**Sn**	**15 18 22.4**	**-1.7**
ANBD	**Bethesda, Anti**	**4.46**	**317**	*e*P	**Pn**	**15 17 38.3**	**-1.3**
ANBD	**Bethesda, Anti**	**4.46**	**317**	*e*S	**Sn**	**15 18 26.2**	**-4.8**
BPA	**Boggy Peak**	**4.52**	**316**	*e*P	**Pn**	**15 17 38.9**	**-1.6**
ANDO	**Antigua, Disas**	**4.55**	**317**	*e*P	**Pn**	**15 17 39.6**	**-1.2**
ANDO	**Antigua, Disas**	**4.55**	**317**	*e*S	**Sn**	**15 18 29.2**	**-4.0**
ANOC	**Antigua Open C**	**4.56**	**317**	*e*P	**Pn**	**15 17 39.9**	**-1.0**
ANOC	**Antigua Open C**	**4.56**	**317**	*e*S	**Sn**	**15 18 28.9**	**-4.5**
ANWB	**Willy Bob**	**4.94**	**322**	*e*P	**Pn**	**15 17 45.0**	**-1.1**
ANWB	**Willy Bob**	**4.94**	**322**	*e*S	**Sn**	**15 18 38.8**	**-4.0**
ANWB	**Willy Bob**	**4.94**	**322**	Pn	**Pn**	**15 17 43.3**	**-2.8**
ANWB				Sn	**Sn**	**15 18 37.9**	**-4.8**
ANWB	**Willy Bob**	**4.94**	**322**	⇑P	**Pn**	**15 17 43.4**	**-2.8**
SKI	**Saint Kitts**	**5.34**	**312**	P	**Pn**	**15 17 50.1**	**-1.6**
SKI						15 18 50.9	
SKI	**Saint Kitts**	**5.34**	**312**	*e*P	**Pn**	**15 17 50.5**	**-1.2**
SKI	**Saint Kitts**	**5.34**	**312**	Pn	**Pn**	**15 17 50.0**	**-1.6**
SKI				Sn	**Sn**	**15 18 50.9**	**-1.7**
CRUV	**Carupano**	**5.52**	**236**	⇑*e*P	**Pn**	**15 17 56.0**	**+1.8**
CRUV				*e*S	**Sn**	**15 18 54.4**	**-2.7**
SEUS	**St. Eustatius**	**5.62**	**311**	*e*P	**Pn**	**15 17 54.5**	**-1.0**
SEUS	**St. Eustatius**	**5.62**	**311**		**Pn**	**15 17 54.6**	**-0.9**
SEUS				Sn	**Sn**	**15 18 57.6**	**-1.8**
SABA	**Saba**	**5.89**	**311**	*e*P	**Pn**	**15 17 58.0**	**-1.3**
SABA	**Saba**	**5.89**	**311**		**Pn**	**15 17 58.3**	**-0.9**
SMRT	**St. Maarten**	**6.05**	**315**	*e*P	**Pn**	**15 17 59.6**	**-1.8**
SMRT	**St. Maarten**	**6.05**	**315**		**Pn**	**15 17 59.5**	**-2.0**
PCRV	**Puerto La Cruz**	**6.94**	**239**	Pn	**Pn**	**15 18 15.2**	**+1.4**
	154nm,0.3s,baz=101,slow=4.3,SNR=163						
PCRV				Sn	**Sn**	**15 19 30.8**	**-1.4**
	197nm,0.3s,baz=61,slow=21,SNR=9.1						
PCRV	**Puerto La Cruz**	**6.94**	**239**	*e*P	**Pn**	**15 18 14.7**	**+0.9**
PCRV				*e*S	**Sn**	**15 19 27.0**	**-5.3**
CDVI	**St. Croix**	**7.14**	**304**	*e*P	**Pn**	**15 18 15.8**	**-0.6**
CDVI	**St. Croix**	**7.14**	**304**	Pn	**Pn**	**15 18 15.4**	**-1.1**
ABVI	**Anegada Island**	**7.39**	**312**		**Pn**	**15 18 18.2**	**-1.7**
STVI	**Saint Thomas**	**7.62**	**307**	Pn	**Pn**	**15 18 21.5**	**-1.5**
PRGV	**PARIAGUAN**	**7.78**	**231**	*e*P	**Pn**	**15 18 26.1**	**+0.8**
PRGV				*e*S	**Sn**	**15 19 47.1**	**-5.9**
CUPR	**Culebra, Puert**	**7.86**	**306**	Pn	**Pn**	**15 18 25.1**	**-1.1**
MTP	**Monte Pirata**	**7.96**	**303**	Pn	**Pn**	**15 18 26.6**	**-1.0**
BIRV	**Birongo**	**8.22**	**247**	*e*P	**Pn**	**15 18 31.9**	**+0.6**
BIRV				*e*S	**Sn**	**15 19 58.5**	**-5.2**
HUMP	**Col San Antoni**	**8.22**	**303**		**Pn**	**15 18 30.3**	**-1.0**
CBYP	**Canovanas**	**8.30**	**303**		**Pn**	**15 18 31.5**	**-0.9**
PDPR	**Patillas Dam,**	**8.30**	**301**		**Pn**	**15 18 31.4**	**-1.0**
PDPR					**Sn**	**15 20 03.7**	**-2.0**
IGPR	**InterUniversit**	**8.35**	**301**	Pn	**Pn**	**15 18 31.4**	**-1.7**
LUEV	**Luepa**	**8.40**	**200**	*e*P	**Pn**	**15 18 32.2**	**-1.8**
LUEV				*e*S	Sn	**15 19 59.4**	**-9.1**
SJG	**San Juan**	**8.46**	**301**	Pn	**Pn**	**15 18 33.9**	**-0.6**
	65nm,0.3s,baz=103,slow=12,SNR=104						
SJG				Sn	**Sn**	**15 20 07.9**	**-1.5**
	70nm,0.3s,baz=154,slow=15,SNR=1.3						
SJG				LR	LR	15 23 29.0	
	comp=Z,110μm,18.1s,baz=136,slow=50						
SJG	**San Juan**	**8.46**	**301**	*e*P	**Pn**	**15 18 33.8**	**-0.6**
SJG	**San Juan**	**8.46**	**301**		**Pn**	**15 18 33.6**	**-0.9**
SJG	**San Juan**	**8.46**	**301**	⇑*e*P	**Pn**	**15 18 33.8**	**-0.6**
SJG	**San Juan**	**8.46**	**301**	⇑P	**Pn**	**15 18 33.8**	**-0.7**
GCPR	**Guaynabo City**	**8.50**	**303**	Pn	**Pn**	**15 18 34.6**	**-0.5**
ICMP	**Isla Caja de M**	**8.67**	**299**	Pn	**Pn**	**15 18 36.7**	**-0.6**
CARV	**Caracas**	**8.80**	**249**	*e*P	**Pn**	**15 18 39.9**	**+0.5**
OBIP	**Obispado Ponce**	**8.80**	**300**		**Pn**	**15 18 38.2**	**-1.1**
MERV	**Las Mercedes**	**8.82**	**240**	*e*P	**Pn**	**15 18 39.9**	**+0.4**
MERV				*e*S	**Sn**	**15 20 12.3**	**-6.1**
EMPR	**Esperanza - Ma**	**8.95**	**302**	Pn	**Pn**	**15 18 41.1**	**-0.1**
TACV	**Tcata**	**9.04**	**247**	*e*P	**Pn**	**15 18 43.6**	**+1.1**
TACV				*e*S	**Sn**	**15 20 17.8**	**-6.1**
AOPR	**Arecibo Observ**	**9.07**	**301**	*e*P	**Pn**	**15 18 42.4**	**-0.6**
AOPR	**Arecibo Observ**	**9.07**	**301**		**Pn**	**15 18 42.6**	**-0.4**
MLPR	**Magueyes Islan**	**9.14**	**298**	Pn	**Pn**	**15 18 42.0**	**-1.9**
MPR	**Mayaguez**	**9.33**	**299**		**Pn**	**15 18 45.8**	**-0.7**
AGPR	**Aguadilla, PR**	**9.43**	**301**		**Pn**	**15 18 47.3**	**-0.5**
BENV	**Beln**	**9.62**	**248**	*e*P	**Pn**	**15 18 52.2**	**+1.6**
BENV				*e*S	**Sn**	**15 20 37.8**	**-0.5**
TURV	**Turiamo**	**9.66**	**251**	*e*P	**Pn**	**15 18 50.8**	**-0.2**
TURV				*e*S	**Sn**	**15 20 32.1**	**-6.9**
CACV	**CAICARA DEL OR**	**9.98**	**232**	*e*P	Pn	**15 18 49.9**	**-5.6**
CACV				*e*S	Sn	**15 20 28.8**	**-18**
HATO	**Hato, Curacao**	**10.25**	**262**		**Pn**	**15 18 57.9**	**-1.2**
HATO	**Hato, Curacao**	**10.25**	**262**	*e*P	**Pn**	**15 18 57.7**	**-1.4**
HATO				*e*S	**Sn**	**15 20 49.0**	**-4.6**
JACV	**Jacura**	**10.38**	**256**	*e*P	**Pn**	**15 19 00.9**	**0.0**
JACV				*e*S	**Sn**	**15 20 49.8**	**-7.0**
MDP	**Montagnes des**	**10.43**	**145**	Pn	**Pn**	**15 18 57.0**	**-4.7**
	64nm,0.3s,baz=334,slow=15,SNR=305						
MDP				Sn	Sn	15 20 39.2	-19
	232nm,0.3s,baz=334,slow=16,SNR=2.6						
MDP				LR	LR	15 22 34.5	
	comp=Z,59μm,22.0s,baz=328,slow=35						
BAUV	**El Baul**	**10.46**	**244**	*e*P	**Pn**	**15 19 03.0**	**+0.9**
BAUV	**El Baul**	**10.46**	**244**	*e*P	**Pn**	**15 19 02.2**	**+0.2**
BAUV				*e*S	**Sn**	**15 20 50.4**	**-8.4**
PCDR	**Punta Cana, DR**	**10.53**	**298**	Pn	**Pn**	**15 19 03.2**	**+0.3**
MONV	**Montecano**	**11.27**	**262**	*e*P	**Pn**	**15 19 11.8**	**-1.3**
MONV				*e*S	**Sn**	**15 21 10.2**	**-8.3**
SIQV	**Siquisique**	**11.42**	**255**	*e*P	**Pn**	**15 19 14.2**	**-1.1**
SIQV				*e*S	Sn	**15 21 13.3**	**-9.1**
DR12	**Loma Pena Alta**	**11.50**	**297**		**Pn**	**15 19 15.6**	**-0.7**
CURV	**Curarigua**	**11.76**	**253**	⇑*e*P	**Pn**	**15 19 19.5**	**-0.4**
CURV				*e*S	Sn	**15 21 21.7**	**-9.2**
SDD	**Santo Domingo**	**11.84**	**295**		**Pn**	**15 19 20.1**	**-0.8**
DABV	**Dabajuro**	**12.13**	**258**	*e*P	**Pn**	**15 19 23.6**	**-1.2**
DABV	**Dabajuro**	**12.13**	**258**	⇑*e*P	**Pn**	**15 19 23.9**	**-1.0**
DABV				*e*S	Sn	**15 21 29.9**	**-10**
BANI	**BANI**	**12.21**	**294**		**Pn**	**15 19 25.2**	**-0.9**
PAYV	**Puerto Ayacuch**	**12.23**	**228**	*e*P	**Pn**	**15 19 24.7**	**-1.5**
PAYV				*e*S	Sn	**15 21 29.6**	**-12**
ELOV	**Elorza**	**12.68**	**239**	*e*P	**Pn**	**15 19 31.8**	**-0.6**
ELOV	**Elorza**	**12.68**	**239**	*e*P	**Pn**	**15 19 31.2**	**-1.2**
ELOV				*e*S	Sn	**15 21 41.3**	**-12**
SDV	**Santo Domingo**	**12.79**	**249**	Pn	**Pn**	**15 19 35.5**	**+1.4**
	57nm,0.3s,baz=64,slow=9.4,SNR=93						
SDV				Sn	**Sn**	**15 21 48.5**	**-7.8**
	baz=14,slow=17,SNR=1.0						
SDV	**Santo Domingo**	**12.79**	**249**		**Pn**	**15 19 34.4**	**+0.3**
SDV	**Santo Domingo**	**12.79**	**249**	*e*P	**Pn**	**15 19 32.7**	**-1.5**
SDV	**Santo Domingo**	**12.79**	**249**	*e*P	**Pn**	**15 19 33.5**	**-0.7**
SDV				*e*S	Sn	**15 21 45.1**	**-11**
SDV	**Santo Domingo**	**12.79**	**249**	*e*P	**Pn**	**15 19 34.6**	**+0.4**
SC01	**Santiago de lo**	**12.92**	**297**		**Pn**	**15 19 33.2**	**-2.5**
SDDR	**Presa de Saban**	**13.24**	**295**	*e*P	**Pn**	**15 19 38.0**	**-2.1**
SDDR	**Presa de Saban**	**13.24**	**295**		**Pn**	**15 19 38.7**	**-1.4**
SDDR	**Presa de Saban**	**13.24**	**295**	⇑P	**Pn**	**15 19 38.7**	**-1.4**
SOCV	**Socops**	**13.24**	**247**	*e*P	**Pn**	**15 19 37.4**	**-2.8**
SOCV				*e*S	Sn	**15 21 54.8**	**-12**
URIC	**Uribia, Colomb**	**13.26**	**262**		**Pn**	**15 19 37.5**	**-2.8**
JAKH	**Jacmel**	**14.11**	**290**		**Pn**	**15 19 50.2**	**-1.7**
JAKH					**Sn**	**15 22 27.9**	**-0.2**
MCQV	**Machiques**	**14.16**	**256**	*e*P	**Pn**	**15 19 50.9**	**-1.8**
MCQV				*e*S	Sn	**15 22 15.8**	**-14**
GRTK	**Grand Turk**	**14.21**	**304**		Pn	**15 19 47.1**	**-6.1**
GRTK	**Grand Turk**	**14.21**	**304**	⇑P	Pn	**15 19 47.8**	**-5.5**
LGNH	**Logne**	**14.27**	**291**		**Pn**	**15 19 51.9**	**-2.2**
PTGA	**Pitinga**	**14.50**	**186**	Pn	**Pn**	**15 19 53.5**	**-3.8**
	52nm,0.3s,baz=13,slow=14,SNR=447						
PTGA				Sn	Sn	**15 22 26.6**	**-11**
	126nm,0.3s,baz=276,slow=18,SNR=6.0						
CAPV	**Capacho**	**14.73**	**248**	*e*P	**Pn**	**15 19 59.0**	**-1.7**
CAPV				*e*S	Sn	**15 22 28.3**	**-15**
LL2C	**La Loma 2 Cana**	**15.16**	**255**	⇑*e*P	**Pn**	**15 20 02.9**	**-3.3**
LL1C	**La Loma 1 Cana**	**15.27**	**256**	*e*P	**Pn**	**15 20 04.4**	**-3.2**
PAMC	**Pamplona, Colo**	**15.30**	**247**	*e*P	**Pn**	**15 20 06.8**	**-1.7**
OCAC	**Ocana**	**15.49**	**251**	⇑*e*P	**Pn**	**15 20 08.4**	**-2.3**
SMRC	**Santa Marta, M**	**15.51**	**262**	⇑*e*P	**Pn**	**15 20 05.0**	**-5.8**
ARGC	**Ariguani, Magd**	**15.83**	**257**	*e*P	**Pn**	**15 20 10.4**	**-4.6**
SMLC	**San Martn de**	**15.99**	**254**	⇑*e*P	**Pn**	**15 20 14.0**	**-3.0**
BARC	**Baricha**	**16.06**	**245**	*e*P	**Pn**	**15 20 17.2**	**-0.9**
RUSC	**La Rusia**	**16.31**	**243**		**Pn**	**15 20 20.1**	**-1.4**
RUSC	**La Rusia**	**16.31**	**243**	*e*P	**Pn**	**15 20 20.2**	**-1.4**
RUSC	**La Rusia**	**16.31**	**243**	*e*P	**Pn**	**15 20 19.2**	**-2.3**
RUSC				*e*S	Sn	**15 23 02.9**	**-19**
PTGC	**Puerto Gaitan,**	**16.43**	**236**	*e*P	**Pn**	**15 20 21.3**	**-1.4**
SJCC	**San Jacinto, C**	**16.71**	**258**		**Pn**	**15 20 22.1**	**-4.1**
SJCC				IAmb	IAmb	15 20 35.4	
	comp=Z,3μm,1.1s						
SJCC	**San Jacinto, C**	**16.71**	**258**	⇑*e*P	**Pn**	**15 20 21.6**	**-4.6**
GTBY	**Guantanamo Bay**	**16.96**	**293**		**Pn**	**15 20 24.5**	**-4.7**
GTBY	**Guantanamo Bay**	**16.96**	**293**	⇑P	**Pn**	**15 20 24.0**	**-5.2**
MOTC	**Monteria, Cord**	**17.49**	**255**	*e*P	**Pn**	**15 20 29.8**	**-6.1**
CHIC	**Chingaza**	**17.51**	**240**	⇑*e*P	**Pn**	**15 20 34.7**	**-1.9**
CMJ	**Castle Mountai**	**17.65**	**286**	*i* P	**P**	**15 20 39.3**	**+0.5**
GUVC	**San Jose del G**	**17.84**	**232**	*e*P	**P**	**15 20 41.4**	**+0.6**
ROSC	**El Rosal**	**17.90**	**242**	P	**P**	**15 20 42.8**	**+0.8**
	comp=Z,25nm,0.3s,baz=87,slow=5.5,SNR=115

DWPF Disney Wildern 25.60 307 P **P** **15 22 02.0 +0.9**
baz=119
DWPF Disney Wildern 25.60 307 P **P** **15 22 00.8 -0.3**
DWPF Disney Wildern 25.60 307 ⇑P **P** **15 22 01.8 +0.7**
DWPF Disney Wildern 25.60 307 P 15 22 02.0
baz=119,SNR=34
JACO JACO, Garabito 25.86 264 P **P** **15 22 04.1 +0.4**
JACO IAmb IAmb 15 22 29.4
comp=Z,850nm,1.2s
ACON Acoyapa 25.99 269 P **P** **15 22 04.6 -0.3**
ACON IAmb IAmb 15 22 34.9
comp=Z,776nm,1.0s
JTS Las Juntas de 26.03 265 P **P** **15 22 06.0 +0.7**
comp=Z,255nm,1.0s,baz=146,slow=4.9,SNR=38
JTS S **S** **15 26 34.8 -0.6**
comp=Z,4.8nm,0.5s,baz=141,slow=15,SNR=0.9
JTS LR LR 15 34 34.0
comp=Z,14μm,20.2s,baz=126,slow=42
JTS Las Juntas de 26.03 265*c iP* **P** **15 22 06.2 +1.0**
JTS pmax pmax
comp=Z,197nm,1.0s
JTS MLR MLR
comp=Z,23μm,22.0s
JTS Las Juntas de 26.03 265 P **P** **15 22 05.2 -0.1**
JTS IAmb IAmb 15 22 32.6
comp=Z,710nm,1.2s
JTS Las Juntas de 26.03 265 ⇑P **P** **15 22 04.0 -1.2**
CAO2 Cobano, Puntar 26.29 264 P **P** **15 22 07.4 -0.2**
CAO2 IAmb IAmb 15 22 44.5
comp=Z,1μm,1.4s
HZTE Horizontes, Gu 26.58 266 P **P** **15 22 10.1 -0.1**
DUNO Dulce Nombre, 26.59 265 P **P** **15 22 10.4 +0.1**
SNDB Serra Nova Dou 26.61 164 *e*P **P** **15 22 10.3 0.0**
VILB Vilhena 26.63 184 *e*P **P** **15 22 12.1 +1.5**
Y60A Bolivia 26.87 322 P **P** **15 22 12.0 -0.6**
Y60A IAmb IAmb 15 22 45.3
comp=Z,332nm,0.8s
Y60A IAms_20 IAms_20 15 33 15.8
comp=Z,43μm,21.0s
Y60A Bolivia 26.87 322 S 15 26 50.5
baz=134
Y60A S 15 26 50.5
baz=134
NBPB Pedra_Branca-C 26.92 134 *e*P **P** **15 22 13.4 +0.2**
HUEN 26.92 270 P **P** **15 22 14.9 +1.7**
NBCL Cascavel-CE 26.94 130 *e*P **P** **15 22 14.7 +1.3**
NBCL *e*S **S** **15 26 47.7 -2.0**
MASN Masaya 26.94 269 P **P** **15 22 14.6 +1.1**
656A Willston 27.06 309 P **P** **15 22 13.7 -0.6**
656A IAmb IAmb 15 22 18.8
comp=Z,1μm,1.3s
656A Willston 27.06 309 P 15 22 15.8
baz=120,SNR=23
656A S 15 26 54.4
baz=120
V61A Roper 27.23 327 P **P** **15 22 16.0 +0.2**
V61A IAmb IAmb 15 23 02.0
comp=Z,807nm,1.2s
V61A IAms_20 IAms_20 15 32 49.1
comp=Z,49μm,20.0s
V61A Roper 27.23 327 S 15 26 55.2
baz=139
V61A S 15 26 55.2
baz=139
Y59A Loris 27.26 321 P **P** **15 22 14.3 -1.8**
Y59A IAmb IAmb 15 22 27.5
comp=Z,499nm,0.8s
Y59A IAms_20 IAms_20 15 33 28.2
comp=Z,46μm,22.0s
Y59A Loris 27.26 321 S 15 26 56.2
baz=133
Y59A S 15 26 56.2
baz=133
CSU Charleston Sou 27.36 318 P **P** **15 22 16.2 -0.7**
456A Hilliard 27.38 312 P **P** **15 22 16.8 -0.4**
456A Hilliard 27.38 312 P 15 22 19.1
baz=123,SNR=32
456A S 15 27 00.3
baz=123
257A Skidaway Islan 27.38 315 P 15 22 19.0
baz=126,SNR=5.6
257A S 15 27 00.3
baz=126
257A Skidaway Islan 27.38 315 P **P** **15 22 15.6 -1.6**
257A IAms_20 IAms_20 15 32 15.7
comp=Z,44μm,20.0s
RGRS Roger Stewart 27.39 318 P **P** **15 22 17.9 +0.6**
CNGN Cerro Negro 27.42 271 **P** **15 22 20.4 +2.6**
NHSC New Hope 27.50 318 P **P** **15 22 18.7 +0.4**
baz=129,SNR=6.4
NHSC New Hope 27.50 318 P **P** **15 22 18.5 +0.2**
NHSC IAms_20 IAms_20 15 33 14.8
comp=Z,41μm,22.0s
NHSC New Hope 27.50 318 P 15 22 22.4
baz=129,SNR=6.4
NHSC S 15 27 01.4
baz=129
CNNC Cliffs of the 27.55 324 P **P** **15 22 19.3 +0.7**
baz=136
CNNC Cliffs of the 27.55 324 P **P** **15 22 17.1 -1.5**
CNNC IAms_20 IAms_20 15 32 49.7
comp=Z,43μm,22.0s
PEXB Peixe 27.68 158 *e*P **P** **15 22 20.2 +0.2**
Y58A Scranton 27.69 320 P **P** **15 22 20.1 +0.1**
Y58A IAmb IAmb 15 23 16.9
comp=Z,547nm,0.9s
Y58A Scranton 27.69 320 S 15 27 03.8
baz=131
Y58A S 15 27 03.8
baz=131
CRIN San Cristobal 27.74 271 P **P** **15 22 20.8 +0.1**
TGUH Tegucigalpa,Un 27.85 274 P **P** **15 22 21.1 -0.6**
TGUH IAms_20 IAms_20 15 34 05.5
comp=Z,42μm,20.0s
TGUH Tegucigalpa,Un 27.85 274 ⇑P **P** **15 22 22.1 +0.3**
X58A Rowland 27.92 321 P **P** **15 22 21.0 -1.0**
X58A IAms_20 IAms_20 15 33 46.7
comp=Z,48μm,22.0s
X58A Rowland 27.92 321 S 15 27 06.9
baz=133
X58A S 15 27 06.9
baz=133
Y57A Sumter 28.22 319 P **P** **15 22 24.0 -0.7**
Y57A IAmb IAmb 15 22 59.8
comp=Z,462nm,1.1s
Y57A IAms_20 IAms_20 15 33 57.8
comp=Z,40μm,22.0s
Y57A Sumter 28.22 319 P 15 22 27.9
baz=130,SNR=6.4
Y57A P 15 22 27.9
baz=130,SNR=6.4
Y57A S 15 27 12.2
baz=130
Y57A S 15 27 12.2
baz=130
S61A Accomac 28.24 330 P **P** **15 22 26.2 +1.5**
S61A IAms_20 IAms_20 15 34 24.6
comp=Z,46μm,20.0s
S61A Accomac 28.24 330 S 15 27 13.8
baz=143
S61A S 15 27 13.8
baz=143
U59A Littleton 28.30 326 P **P** **15 22 25.3 -0.1**
U59A IAms_20 IAms_20 15 33 10.6
comp=Z,40μm,19.0s
U59A Littleton 28.30 326 S 15 27 12.9
baz=138
U59A S 15 27 12.9
baz=138
T60A Surry 28.34 328 P **P** **15 22 25.9 +0.2**
T60A IAmb IAmb 15 22 55.7
comp=Z,447nm,0.9s
T60A IAms_20 IAms_20 15 33 21.4
comp=Z,51μm,22.0s
T60A Surry 28.34 328 S 15 27 13.9
baz=140
T60A S 15 27 13.9
baz=140
255A Hazlehurst 28.36 314 P **P** **15 22 26.1 +0.2**
255A IAmb IAmb 15 23 15.9
comp=Z,648nm,1.1s
255A Hazlehurst 28.36 314 S 15 27 16.8
baz=124
R61A Willards 28.60 332 P **P** **15 22 27.7 -0.3**
R61A IAms_20 IAms_20 15 33 25.2
comp=Z,49μm,22.0s
R61A Willards 28.60 332 S 15 27 20.7
baz=144
R61A S 15 27 20.7
baz=144
HAW Hawthorne Fire 28.60 317 P 15 22 28.7
baz=128,SNR=56
HAW S 15 27 17.8
baz=128
ATAH Atahualpa 28.64 225 P **P** **15 22 31.7 +2.7**
comp=Z,801nm,1.0s,baz=56,slow=4.6,SNR=124
ATAH S **S** **15 27 21.0 +3.8**
comp=Z,78nm,1.1s,baz=44,slow=6.6,SNR=1.7
T59A Double "B" Far 28.64 327 P **P** **15 22 27.4 -0.9**
T59A IAms_20 IAms_20 15 33 41.3
comp=Z,53μm,21.0s
T59A Double "B" Far 28.64 327 P 15 22 30.6
baz=139,SNR=7.9
T59A P 15 22 30.6
baz=139,SNR=7.9
T59A S 15 27 18.1
baz=139
T59A S 15 27 18.1
baz=139
V58A Windy Hill, Pi 28.64 323 P **P** **15 22 28.6 +0.1**
V58A Windy Hill, Pi 28.64 323 P 15 22 29.5
baz=135,SNR=8.8
V58A P 15 22 29.5
baz=135,SNR=8.8
V58A S 15 27 18.1
baz=135
V58A S 15 27 18.1
baz=135
BIRD Birdtown, Kers 28.67 320 P 15 22 29.6
baz=131
BIRD S 15 27 18.0
baz=131
BIRD Birdtown, Kers 28.68 320 P **P** **15 22 28.7 0.0**
BIRD IAmb IAmb 15 23 29.3
comp=Z,239nm,0.8s
BIRD IAms_20 IAms_20 15 34 11.7
comp=Z,44μm,22.0s
W57A Gilead 28.72 321 P **P** **15 22 28.2 -1.0**
W57A IAms_20 IAms_20 15 34 22.9
comp=Z,41μm,22.0s
W57A Gilead 28.72 321 P 15 22 30.4
baz=132,SNR=9.8
W57A P 15 22 30.4
baz=132,SNR=9.8
NBPA Parau_RN 28.83 131 *e*P **P** **15 22 30.7 +0.4**
553A Crawfordville 28.89 309 P **P** **15 22 30.5 -0.3**
553A IAms_20 IAms_20 15 32 45.1
comp=Z,39μm,22.0s
553A Crawfordville 28.89 309 P 15 22 32.6
baz=119,SNR=11
JSC Jenkinsville 28.95 319 P **P** **15 22 31.2 +0.1**
JSC pmax pmax
comp=Z,100nm,0.8s
JSC Jenkinsville 28.95 319 P **P** **15 22 31.2 +0.1**
JSC Jenkinsville 28.95 319 P 15 22 33.7
baz=129,SNR=33
Q61A Milford 29.04 332 P **P** **15 22 31.9 0.0**
baz=145
PTLB Pontes e Lacer 29.07 181 *e*P **P** **15 22 32.4 +0.1**
M66A Nantucket 29.16 342 P **P** **15 22 32.9 0.0**
baz=156
154A Montrose 29.19 314 P **P** **15 22 33.3 0.0**
154A IAmb IAmb 15 23 28.1
comp=Z,665nm,1.1s
154A IAms_20 IAms_20 15 33 22.6
comp=Z,42μm,22.0s
154A Montrose 29.19 314 P 15 22 34.8
baz=124,SNR=22
JSRW J. Sargeant Re 29.35 328 P **P** **15 22 34.6 -0.1**
SDBA SAO DESIDERIO 29.35 152 *e*P **P** **15 22 34.3 -0.6**
P61A Hammonton 29.46 334 P **P** **15 22 34.0 -1.6**
P61A IAmb IAmb 15 23 39.5
comp=Z,603nm,1.4s
CBN Corbin Frederi 29.48 329 P **P** **15 22 36.1 +0.2**
baz=140
CBN Corbin Frederi 29.48 329 P **P** **15 22 34.3 -1.6**
CBN IAmb IAmb 15 23 04.7
comp=Z,341nm,1.2s
CBN IAms_20 IAms_20 15 33 54.6
comp=Z,46μm,21.0s
KMSC Kings Mountain 29.54 320 P **P** **15 22 36.8 +0.3**
baz=130,SNR=7.5
KMSC Kings Mountain 29.54 320 P **P** **15 22 36.1 -0.3**
KMSC IAms_20 IAms_20 15 34 47.6
comp=Z,45μm,22.0s
KMSC Kings Mountain 29.54 320 P 15 22 37.2
baz=130,SNR=7.5
R58B Mineral 29.55 328 P **P** **15 22 36.8 +0.4**
R58B IAms_20 IAms_20 15 34 08.6
comp=Z,47μm,22.0s
R58B Mineral 29.55 328 P 15 22 37.6
baz=139,SNR=8.0
R58B P 15 22 37.6
baz=139,SNR=8.0
HODGE Hodges 29.56 318 P **P** **15 22 36.0 -0.6**
HODGE Hodges 29.56 318 P 15 22 38.3
baz=128,SNR=34
T57A Hurt 29.58 325 P 15 22 37.1
baz=136
T57A P 15 22 37.1
baz=136
T57A Hurt 29.58 325 P **P** **15 22 36.4 -0.3**
T57A IAms_20 IAms_20 15 34 23.4
comp=Z,37μm,22.0s
M65A Busby, Falmout 29.59 341 P **P** **15 22 36.7 0.0**
baz=156
M65A Busby, Falmout 29.59 341 P **P** **15 22 36.7 0.0**
M65A IAmb IAmb 15 22 40.0
comp=Z,248nm,0.9s
M65A IAms_20 IAms_20 15 34 15.9
comp=Z,43μm,20.0s
PAULI Pauline 29.64 319 P **P** **15 22 37.5 +0.2**
PAULI Pauline 29.64 319 P 15 22 38.7
baz=129,SNR=8.6
SALV Santo Antonio 29.65 174 *e*P **P** **15 22 38.0 +0.5**
SIV San Ignacio 29.70 185 P **P** **15 22 39.0 +1.0**
comp=Z,175nm,1.1s,baz=18,slow=8.9,SNR=160
M64A Tiverton 29.76 341 P **P** **15 22 38.5 +0.3**
baz=155,SNR=8.1
M64A Tiverton 29.76 341 P **P** **15 22 38.5 +0.3**
M64A IAmb IAmb 15 22 41.9
comp=Z,657nm,1.6s
M64A IAms_20 IAms_20 15 34 21.4
comp=Z,39μm,20.0s
U56A King 29.77 323 P **P** **15 22 39.2 +0.8**
SNET Serv Nac Est T 29.77 273 P **P** **15 22 38.6 -0.2**
RCBR Riachuelo 29.78 129 P **P** **15 22 39.0 +0.3**
comp=Z,152nm,1.1s,baz=319,slow=9.6,SNR=15
RCBR S **S** **15 27 32.5 -2.0**
comp=Z,34nm,1.0s,baz=133,slow=16,SNR=1.6
RCBR Riachuelo 29.78 129 P **P** **15 22 39.6 +0.9**
RCBR pmax pmax
comp=Z,230nm,1.0s
RCBR MLR MLR
comp=Z,16μm,21.0s
RCBR Riachuelo 29.78 129 P **P** **15 22 39.6 +0.9**
RCBR Riachuelo 29.78 129 ⇑P **P** **15 22 40.3 +1.6**
ESQI Esquipulas 29.83 275 P **P** **15 22 40.1 +0.8**
L65A Cape Cod Natio 29.84 343 P **P** **15 22 39.4 +0.4**
baz=157
MTO3 Montecristo 29.86 275 P **P** **15 22 38.6 -1.1**
MTO3 IAms_20 IAms_20 15 35 31.6
comp=Z,53μm,21.0s
GOGA Godfrey 29.89 315 P **P** **15 22 39.6 +0.1**
GOGA pmax pmax
comp=Z,180nm,1.2s
GOGA MLR MLR
comp=Z,42μm,22.0s
GOGA Godfrey 29.89 315 P **P** **15 22 40.7 +1.2**
baz=125,SNR=26
GOGA Godfrey 29.89 315 P **P** **15 22 39.5 +0.1**
GOGA Godfrey 29.89 315 IAms_20 IAms_20 15 34 53.1
comp=Z,42μm,22.0s
GOGA Godfrey 29.89 315 P 15 22 40.5
baz=125,SNR=26
352A Blakely 29.90 310 P **P** **15 22 39.6 0.0**
352A Blakely 29.90 310 P 15 22 40.8
baz=120,SNR=34
M63A Gales Ferry 29.90 339 P **P** **15 22 39.9 +0.4**
M63A IAmb IAmb 15 22 43.2
comp=Z,442nm,1.2s
M63A Gales Ferry 29.90 339 P 15 22 41.7
baz=153,SNR=18
M63A P 15 22 41.7
baz=153,SNR=18
V55A Taylorsville 29.93 321 P **P** **15 22 40.0 +0.2**
V55A IAmb IAmb 15 23 24.9
comp=Z,487nm,1.6s
V55A IAms_20 IAms_20 15 35 10.9
comp=Z,39μm,21.0s
V55A Taylorsville 29.93 321 P 15 22 40.7
baz=132,SNR=13
V55A P 15 22 40.7
baz=132,SNR=13
P60A Greenville 29.94 333 P **P** **15 22 41.1 +1.2**
baz=145,SNR=8.3
P60A Greenville 29.94 333 P **P** **15 22 39.6 -0.3**
P60A IAms_20 IAms_20 15 33 53.6
comp=Z,36μm,22.0s
P60A Greenville 29.94 333 P 15 22 42.1
baz=145,SNR=8.3
S57A Dark Hollow, R 29.97 326 P **P** **15 22 40.2 0.0**
S57A IAms_20 IAms_20 15 34 11.6
comp=Z,46μm,21.0s
S57A Dark Hollow, R 29.97 326 P 15 22 40.9
baz=137,SNR=12
S57A P 15 22 40.9
baz=137,SNR=12
L64A Middleborough 29.99 342 P 15 22 42.8
baz=156,SNR=11
L64A P 15 22 42.8
baz=156,SNR=11
L64A Middleborough 29.99 342 P **P** **15 22 41.4 +1.1**
baz=156,SNR=11
L64A Middleborough 29.99 342 P **P** **15 22 40.5 +0.3**
L64A IAmb IAmb 15 22 43.7
comp=Z,390nm,1.2s
L64A IAms_20 IAms_20 15 34 29.5
comp=Z,45μm,19.0s
N62A Caumsett State 30.00 337 P **P** **15 22 41.5 +1.2**
N62A IAmb IAmb 15 23 34.0
comp=Z,333nm,1.4s
PANJ Princeton 30.01 335 P 15 22 43.4
baz=147,SNR=9.1
WUPA West Chester U 30.03 333 P **P** **15 22 40.4 -0.3**
CPNY Central Park 30.07 336 P **P** **15 22 41.8 +0.8**
ARAG Araguaiana, MT 30.07 167 *e*P **P** **15 22 42.1 +0.8**
451A Vernon 30.10 308 P **P** **15 22 40.8 -0.5**
451A Vernon 30.10 308 P 15 22 43.9
baz=118,SNR=8.9
FOR Fordham 30.10 336 P 15 22 43.8
baz=149,SNR=6.3
YLE Yale 30.14 338 P **P** **15 22 39.9 -1.7**
WSPT Westport, CT 30.15 337 P **P** **15 22 41.8 +0.1**
WSPT IAms_20 IAms_20 15 34 43.0
comp=Z,29μm,18.0s
SDMD Soldier's Deli 30.17 331 P **P** **15 22 41.6 -0.3**
SDMD Soldier's Deli 30.17 331 P 15 22 43.6
baz=143,SNR=7.1
L63A North Scituate 30.17 340 P **P** **15 22 42.1 +0.2**
baz=154
L63A North Scituate 30.17 340 P **P** **15 22 43.0 +1.2**
L63A IAms_20 IAms_20 15 34 22.2
comp=Z,35μm,21.0s
BRYW Bryant College 30.19 341 P **P** **15 22 43.4 +1.3**
BRYW IAms_20 IAms_20 15 34 22.9
comp=Z,36μm,21.0s
BRNJ Basking Ridge 30.22 335 P **P** **15 22 44.0 +1.7**
BRNJ Basking Ridge 30.22 335 P 15 22 44.9
baz=148,SNR=5.9
PAL Palisades 30.23 337 P **P** **15 22 43.0 +0.6**
PAL pmax pmax
comp=Z,210nm,1.3s
PAL MLR MLR
comp=Z,24μm,18.0s
PAL Palisades 30.23 337 P **P** **15 22 43.8 +1.4**
baz=149,SNR=8.4
PAL Palisades 30.23 337 P **P** **15 22 43.0 +0.6**
PAL Palisades 30.23 337 P 15 22 45.0
baz=149,SNR=8.4
UCCT U. Connecticut 30.31 340 P **P** **15 22 43.7 +0.6**
PETF Flores 30.32 280 P **P** **15 22 44.2 +0.7**
PETF IAms_20 IAms_20 15 35 19.7
comp=Z,37μm,21.0s
152A Waverly Hall 30.36 313 P **P** **15 22 44.4 +0.7**
152A IAms_20 IAms_20 15 33 59.6
comp=Z,40μm,22.0s
152A Waverly Hall 30.36 313 P 15 22 44.8
baz=122,SNR=133
BLA Blacksburg 30.39 324 P **P** **15 22 44.6 +0.6**
BLA pmax pmax
comp=Z,248nm,0.8s
BLA MLR MLR
comp=Z,45μm,21.0s
BLA Blacksburg 30.39 324 P **P** **15 22 44.1 +0.2**
baz=134
BLA Blacksburg 30.39 324 P **P** **15 22 44.6 +0.6**
BLA IAmb IAmb 15 23 45.9
comp=Z,248nm,0.8s
BLA IAms_20 IAms_20 15 34 59.8
comp=Z,45μm,21.0s
BLA Blacksburg 30.39 324 P 15 22 45.3
baz=134
MVL Millersville 30.41 332 P **P** **15 22 43.2 -0.8**
MVL IAms_20 IAms_20 15 34 56.1
comp=Z,51μm,22.0s
BCX Boston College 30.45 341 P **P** **15 22 46.2 +1.9**
BCX IAmb IAmb 15 22 47.8
comp=Z,524nm,1.4s
BCX IAms_20 IAms_20 15 34 42.8
comp=Z,44μm,19.0s
BG3 Lake Jocassee 30.47 318 P **P** **15 22 45.9 +1.3**
BG3 IAmb IAmb 15 23 41.0
comp=Z,551nm,1.6s
CASEE Lake Jocassee 30.47 318 P 15 22 46.1
baz=128,SNR=39
TRNY Table Rock, Ra 30.47 336 P **P** **15 22 44.6 0.0**
LUPA Lehigh Univers 30.48 334 P **P** **15 22 44.9 +0.3**
LUPA IAmb IAmb 15 22 49.0
comp=Z,375nm,1.2s
LUPA IAms_20 IAms_20 15 34 57.7
comp=Z,38μm,22.0s
NBPN Ponto Novo - B 30.52 142 *e*P **P** **15 22 45.4 +0.1**
WES Weston 30.55 341 P **P** **15 22 44.7 -0.5**
WES pmax pmax
comp=Z,475nm,1.3s
WES MLR MLR
comp=Z,44μm,20.0s
WES Weston 30.55 341 P **P** **15 22 44.7 -0.5**
WES IAmb IAmb 15 22 48.6
comp=Z,475nm,1.3s
WES IAms_20 IAms_20 15 34 46.2
comp=Z,44μm,20.0s
WES Weston 30.55 341 P 15 22 47.3
baz=155,SNR=16
Y52A Lilburn 30.55 315 P 15 22 46.6
baz=125,SNR=28
Y52A P 15 22 46.6
baz=125,SNR=28
Y52A Lilburn 30.55 315 P **P** **15 22 44.9 -0.5**
Y52A IAmb IAmb 15 22 55.2
comp=Z,588nm,1.7s
Y52A IAms_20 IAms_20 15 34 03.7
comp=Z,41μm,22.0s
ODNJ Ogdensburg 30.57 336 P **P** **15 22 45.2 -0.3**
ODNJ IAmb IAmb 15 23 52.3
comp=Z,569nm,1.8s
ODNJ Ogdensburg 30.57 336 P 15 22 47.4
baz=148,SNR=12
BRNY Black Rk. Fore 30.62 337 P 15 22 48.0
baz=150,SNR=11
KSCT Kent School, K 30.70 338 P **P** **15 22 46.9 +0.3**
KSCT IAmb IAmb 15 22 50.5
comp=Z,494nm,1.9s
HRV Adam Dziewonsk 30.73 341 P 15 22 48.9
baz=155,SNR=13
HRV Adam Dziewonsk 30.73 341 P **P** **15 22 46.6 -0.2**
HRV pmax pmax
comp=Z,343nm,1.4s
HRV MLR MLR
comp=Z,38μm,21.0s
HRV Adam Dziewonsk 30.73 341 P **P** **15 22 47.0 +0.2**
baz=155
HRV Adam Dziewonsk 30.73 341 P **P** **15 22 46.6 -0.2**
HRV IAmb IAmb 15 22 50.5
comp=Z,343nm,1.4s
HRV Adam Dziewonsk 30.73 341 IAms_20 IAms_20 15 34 51.1
comp=Z,38μm,21.0s
U54A Nelsons Funny 30.74 322 P **P** **15 22 46.6 -0.5**

U54A			IAMs_20	IAMs_20	15 35 24.3	
	comp=Z,38µm,22.0s					
U54A	**Nelsons Funny**	**30.74 322**	P		15 22 50.9	
	baz=131,SNR=6.4					
U54A			P		15 22 50.9	
	baz=131,SNR=6.4					
PAGS	**Pennsylvania G**	**30.77 332**	P	**P**	**15 22 48.1**	**+0.9**
PAGS			IAMs_20	IAMs_20	15 35 05.4	
	comp=Z,53µm,22.0s					
P57A	**Homestead Farm**	**30.79 330**	P		15 22 50.8	
	baz=141,SNR=11					
P57A			P		15 22 50.8	
	baz=141,SNR=11					
P57A	**Homestead Farm**	**30.79 330**	P	**P**	**15 22 47.9**	**+0.5**
P57A			IAMs_20	IAMs_20	15 34 45.1	
	comp=Z,39µm,21.0s					
V53A	**Saluda**	**30.81 319**	P	**P**	**15 22 47.4**	**-0.3**
V53A			IAMs_20	IAMs_20	15 35 27.2	
	comp=Z,41µm,22.0s					
V53A	**Saluda**	**30.81 319**	P		15 22 48.6	
	baz=129,SNR=22					
V53A			P		15 22 48.6	
	baz=129,SNR=22					
K63A	**Dunstable**	**30.89 341**	P	**P**	**15 22 48.8**	**+0.7**
	baz=155,SNR=16					
K63A	**Dunstable**	**30.89 341**	P	**P**	**15 22 48.3**	**+0.1**
K63A			IAMs_20	IAMs_20	15 34 55.2	
	comp=Z,46µm,19.0s					
N59A	**State Game Lan**	**30.91 334**	P	**P**	**15 22 49.8**	**+1.3**
	baz=146,SNR=12					
N59A	**State Game Lan**	**30.91 334**	P	**P**	**15 22 48.9**	**+0.4**
N59A			IAmb	IAmb	15 23 46.1	
	comp=Z,406nm,1.6s					
N59A			IAMs_20	IAMs_20	15 35 10.2	
	comp=Z,44µm,22.0s					
N59A	**State Game Lan**	**30.91 334**	P		15 22 50.5	
	baz=146,SNR=12					
NPNY	**Mohonk Preserv**	**30.96 337**	P		15 22 51.4	
	baz=150,SNR=16					
R55A	**Marlinton**	**30.98 326**	P	**P**	**15 22 49.0**	**-0.2**
R55A			IAMs_20	IAMs_20	15 35 16.4	
	comp=Z,38µm,21.0s					
R55A	**Marlinton**	**30.98 326**	P		15 22 51.1	
	baz=136,SNR=8.2					
R55A			P		15 22 51.1	
	baz=136,SNR=8.2					
Z51A	**Franklin**	**31.03 313**	P	**P**	**15 22 48.8**	**-0.8**
Z51A			IAmb	IAmb	15 22 57.0	
	comp=Z,390nm,1.1s					
Z51A			IAMs_20	IAMs_20	15 34 42.3	
	comp=Z,34µm,21.0s					
Z51A	**Franklin**	**31.03 313**	P		15 22 51.0	
	baz=122,SNR=28					
HAL	**Halifax**	**31.03 353**	P	**P**	**15 22 49.4**	**0.0**
HAL			pmax	pmax		
	comp=Z,255nm,1.1s					
HAL	**Halifax**	**31.03 353**	P	**P**	**15 22 49.4**	**0.0**
Q56A	**Snyder Ridge,**	**31.04 328**	P		15 22 51.1	
	baz=138,SNR=26					
Q56A			P		15 22 51.1	
	baz=138,SNR=26					
Q56A	**Snyder Ridge,**	**31.04 328**	P	**P**	**15 22 49.3**	**-0.4**
Q56A			IAmb	IAmb	15 23 57.3	
	comp=Z,310nm,1.2s					
Q56A			IAMs_20	IAMs_20	15 35 03.9	
	comp=Z,48µm,21.0s					
L61B	**Northampton**	**31.05 340**	P		15 22 51.5	
	baz=153,SNR=13					
L61B	**Northampton**	**31.05 340**	P	**P**	**15 22 50.6**	**+1.0**
	baz=153,SNR=13					
UNH	**University of**	**31.05 342**	P		15 22 51.5	
	baz=156,SNR=16					
BDFB	**Brasilia**	**31.06 160**	P	**P**	**15 22 50.6**	**+0.5**
	comp=Z,57nm,0.6s,baz=349,slow=8.2,SNR=54					
BDFB			S	**S**	**15 27 55.0**	**+0.4**
	comp=Z,166nm,1.2s,baz=294,slow=8.9,SNR=1.8					
BDFB	**Brasilia**	**31.06 160**	P	**P**	**15 22 50.4**	**+0.3**
BDFB			IAmb	IAmb	15 23 36.2	
	comp=Z,221nm,1.0s					
K62A	**Royalston**	**31.09 340**	P	**P**	**15 22 50.5**	**+0.5**
	baz=154,SNR=14					
K62A	**Royalston**	**31.09 340**	P	**P**	**15 22 50.1**	**+0.1**
K62A			IAmb	IAmb	15 22 53.9	
	comp=Z,370nm,1.4s					
K62A	**Royalston**	**31.09 340**	P		15 22 52.2	
	baz=154,SNR=14					
K62A			P		15 22 52.2	
	baz=154,SNR=14					
250A	**Grady**	**31.14 310**	P	**P**	**15 22 50.0**	**-0.5**
250A	**Grady**	**31.14 310**	P		15 22 51.8	
	baz=119,SNR=88					
W52A	**Murphy**	**31.18 317**	P	**P**	**15 22 49.9**	**-1.1**
W52A			IAMs_20	IAMs_20	15 35 30.1	
	comp=Z,35µm,22.0s					
W52A	**Murphy**	**31.18 317**	P		15 22 53.8	
	baz=126,SNR=9.6					
N58A	**Sunbury**	**31.26 333**	P	**P**	**15 22 51.0**	**-0.6**
N58A	**Sunbury**	**31.26 333**	P		15 22 53.5	
	baz=144,SNR=9.8					
N58A			P		15 22 53.5	
	baz=144,SNR=9.8					
J63A	**Strafford**	**31.29 342**	P	**P**	**15 22 52.6**	**+0.9**
	baz=156,SNR=18					
S54A	**Dingess, Beckl**	**31.30 324**	P	**P**	**15 22 51.9**	**-0.2**
S54A			IAMs_20	IAMs_20	15 35 29.1	
	comp=Z,43µm,22.0s					
PSWB	**Penn State Wil**	**31.34 334**	P		15 22 54.8	
	baz=146,SNR=8.2					
BRAL	**Brewton**	**31.34 308**	P	**P**	**15 22 53.0**	**+0.6**
	baz=117,SNR=20					
BRAL	**Brewton**	**31.34 308**	P	**P**	**15 22 52.1**	**-0.3**
BRAL	**Brewton**	**31.34 308**	⇓P	**P**	**15 22 54.4**	**+2.0**
BRAL	**Brewton**	**31.34 308**	P		15 22 54.7	
	baz=117,SNR=20					
LPAZ	**La Paz**	**31.35 198**	P	**P**	**15 22 54.2**	**+1.0**
	comp=Z,171nm,1.0s,baz=16,slow=11,SNR=153					
LPAZ			S	**S**	**15 28 01.6**	**+1.4**
	comp=Z,30nm,0.9s,baz=241,slow=22,SNR=0.7					
LPAZ	**La Paz**	**31.35 198**	P	**P**	**15 22 54.0**	**+0.7**
LPAZ			IAmb	IAmb	15 23 12.5	
	comp=Z,350nm,1.0s					
LPAZ	**La Paz**	**31.35 198**	⇓P	**P**	**15 22 54.1**	**+0.8**
LPAZ	**La Paz**	**31.35 198**	*e*P	**P**	**15 22 54.3**	**+1.0**
NNA	**Nana**	**31.38 216**	P	**P**	**15 22 54.9**	**+2.0**
	comp=Z,139nm,0.9s,baz=25,slow=6.9,SNR=26					
NNA			S	**S**	**15 28 00.4**	**+0.8**
	comp=Z,34nm,1.0s,baz=90,slow=13,SNR=1.6					
NNA	**Nana**	**31.38 216**	P	**P**	**15 22 53.9**	**+1.0**
NNA			IAmb	IAmb	15 23 13.0	
	comp=Z,389nm,1.1s					
NNA	**Nana**	**31.38 216**	⇓P	**P**	**15 22 54.7**	**+1.8**
PP1B	**Ponte de Pedra**	**31.41 173**	*e*P	**P**	**15 22 54.2**	**+1.1**
V52A	**Sevierville**	**31.41 319**	P	**P**	**15 22 52.5**	**-0.5**
V52A			IAMs_20	IAMs_20	15 35 47.3	
	comp=Z,36µm,22.0s					
V52A	**Sevierville**	**31.41 319**	P		15 22 53.2	
	baz=128,SNR=30					
TKL	**Tuckaleechee C**	**31.42 318**	P		15 22 54.5	
	baz=128,SNR=32					
TKL	**Tuckaleechee C**	**31.42 318**	P	**P**	**15 22 52.7**	**-0.2**
	comp=Z,23nm,0.8s,baz=134,slow=9.8,SNR=16					
TKL			S	**S**	**15 28 01.1**	**+1.3**
	comp=Z,21nm,0.9s,baz=97,slow=20,SNR=1.7					
TKL	**Tuckaleechee C**	**31.42 318**	P	**P**	**15 22 52.8**	**-0.2**
TKL			pmax	pmax		
	comp=Z,112nm,0.8s					
TKL			MLR	MLR		
	comp=Z,33µm,22.0s					
TKL	**Tuckaleechee C**	**31.42 318**	P	**P**	**15 22 52.8**	**-0.2**
TKL			IAMs_20	IAMs_20	15 35 35.4	
	comp=Z,33µm,22.0s					
KSPA	**Keystone Colle**	**31.44 335**	P	**P**	**15 22 52.9**	**-0.3**
KSPA			IAmb	IAmb	15 23 25.6	
	comp=Z,462nm,1.7s					
KSPA	**Keystone Colle**	**31.44 335**	P		15 22 55.6	
	baz=147,SNR=16					
K61A	**Williamstown**	**31.44 339**	P	**P**	**15 22 53.5**	**+0.4**
	baz=152,SNR=37					
J62A	**Henniker**	**31.46 341**	P	**P**	**15 22 53.3**	**+0.1**
	baz=155,SNR=20					
I64A	**Boothbay**	**31.48 345**	P	**P**	**15 22 54.0**	**+0.7**
	baz=159,SNR=13					
X51A	**Calhoun**	**31.49 316**	P	**P**	**15 22 53.2**	**-0.5**
X51A			IAMs_20	IAMs_20	15 34 53.6	
	comp=Z,37µm,22.0s					
X51A	**Calhoun**	**31.49 316**	P		15 22 55.2	
	baz=125,SNR=18					
X51A			P		15 22 55.2	
	baz=125,SNR=18					
GBN	**Guysborough**	**31.60 356**	P	**P**	**15 22 54.3**	**-0.1**
GBN			IAmb	IAmb	15 22 57.4	
	comp=Z,623nm,1.2s					
SSPA	**Standing Stone**	**31.63 331**	P		15 22 55.9	
	baz=142,SNR=27					
SSPA	**Standing Stone**	**31.63 331**	P	**P**	**15 22 55.3**	**+0.5**
	baz=142					
SSPA	**Standing Stone**	**31.63 331**	P	**P**	**15 22 54.5**	**-0.3**
SSPA			IAmb	IAmb	15 23 17.6	
	comp=Z,347nm,1.4s					
SSPA	**Standing Stone**	**31.63 331**	IAMs_20	IAMs_20	15 35 19.3	
	comp=Z,40µm,22.0s					
SSPA	**Standing Stone**	**31.63 331**	⇓P	**P**	**15 22 56.2**	**+1.4**
FFD	**Franklin Falls**	**31.63 342**	P	**P**	**15 22 55.3**	**+0.5**
FFD			IAmb	IAmb	15 22 58.6	
	comp=Z,344nm,1.2s					
FFD			IAMs_20	IAMs_20	15 35 18.0	
	comp=Z,53µm,20.0s					
TRY	**Troy**	**31.64 339**	IAmb	IAmb	15 22 58.6	
	comp=Z,386nm,1.2s					
TRY	**Troy**	**31.64 339**	P		15 22 56.9	
	baz=151,SNR=24					
O56A	**Blue Knob Stat**	**31.66 330**	P	**P**	**15 22 55.0**	**-0.2**
	baz=141,SNR=26					
O56A	**Blue Knob Stat**	**31.66 330**	P	**P**	**15 22 55.5**	**+0.3**
O56A			IAmb	IAmb	15 23 18.3	
	comp=Z,402nm,1.3s					
O56A			IAMs_20	IAMs_20	15 35 22.3	
	comp=Z,38µm,21.0s					
O56A	**Blue Knob Stat**	**31.66 330**	P		15 22 57.1	
	baz=141,SNR=26					
L59A	**Walton**	**31.68 336**	P		15 22 57.6	
	baz=148,SNR=12					
L59A			P		15 22 57.6	
	baz=148,SNR=12					
L59A	**Walton**	**31.68 336**	P	**P**	**15 22 55.4**	**+0.1**
L59A			IAmb	IAmb	15 22 59.2	
	comp=Z,513nm,1.9s					
EMMW	**East Machias**	**31.72 348**	IAmb	IAmb	15 22 59.2	
	comp=Z,575nm,1.5s					
EMMW			IAMs_20	IAMs_20	15 34 58.1	
	comp=Z,36µm,21.0s					
EMMW	**East Machias**	**31.72 348**	P		15 22 57.4	
	baz=163,SNR=18					
H66A	**Whiting**	**31.77 348**	P	**P**	**15 22 55.9**	**-0.1**
	baz=164					
CPCT	**Cooper Cave**	**31.78 317**	P	**P**	**15 22 56.5**	**+0.3**
CPCT			IAmb	IAmb	15 23 57.6	
	comp=Z,212nm,0.8s					
J61A	**Chester**	**31.80 340**	P		15 22 58.5	
	baz=154,SNR=14					
J61A			P		15 22 58.5	
	baz=154,SNR=14					
J61A	**Chester**	**31.80 340**	P	**P**	**15 22 56.7**	**+0.4**
	baz=154,SNR=14					
TZTN	**Tazewell**	**31.82 320**	P	**P**	**15 22 56.2**	**-0.4**
	baz=129,SNR=16					
TZTN	**Tazewell**	**31.82 320**	IAmb	IAmb	15 23 34.1	
	comp=Z,263nm,1.2s					
TZTN			IAMs_20	IAMs_20	15 35 58.0	
	comp=Z,34µm,21.0s					
TZTN	**Tazewell**	**31.82 320**	P		15 22 57.8	
	baz=129,SNR=16					
MCWV	**Mont Chateau**	**31.84 328**	P	**P**	**15 22 56.2**	**-0.5**
	baz=138,SNR=5.5					
MCWV	**Mont Chateau**	**31.84 328**	P	**P**	**15 22 57.0**	**+0.3**
MCWV			IAmb	IAmb	15 23 36.4	
	comp=Z,266nm,1.3s					
MCWV			IAMs_20	IAMs_20	15 35 29.1	
	comp=Z,50µm,21.0s					
M57A	**Sunshine Farm,**	**31.84 333**	IAmb	IAmb	15 23 29.7	
	comp=Z,306nm,1.1s					
M57A	**Sunshine Farm,**	**31.84 333**	P		15 22 57.9	
	baz=144,SNR=35					
M57A			P		15 22 57.9	
	baz=144,SNR=35					
I63A	**Otisfield**	**31.85 343**	P	**P**	**15 22 56.9**	**+0.2**
	baz=158,SNR=21					
I63A	**Otisfield**	**31.85 343**	IAmb	IAmb	15 23 00.9	
	comp=Z,504nm,1.4s					
I63A			IAMs_20	IAMs_20	15 35 24.7	
	comp=Z,42µm,21.0s					
I63A	**Otisfield**	**31.85 343**	P		15 22 58.7	
	baz=158,SNR=21					
I63A			P		15 22 58.7	
	baz=158,SNR=21					
Q54A	**Coxs Mills**	**31.87 326**	P		15 22 58.1	
	baz=136,SNR=21					
Q54A			P		15 22 58.1	
	baz=136,SNR=21					
Q54A	**Coxs Mills**	**31.87 326**	P	**P**	**15 22 57.2**	**+0.3**
Q54A			IAmb	IAmb	15 23 25.2	
	comp=Z,285nm,1.1s					
Q54A			IAMs_20	IAMs_20	15 35 33.0	
	comp=Z,39µm,22.0s					
HCNY	**Howe Caverns**	**31.87 338**	P		15 22 59.3	
	baz=150,SNR=7.6					
H65A	**Eastbrook**	**31.88 347**	P	**P**	**15 22 56.6**	**-0.3**
	baz=162,SNR=29					
V51A	**Loudon**	**31.88 318**	IAmb	IAmb	15 23 58.1	
	comp=Z,159nm,0.7s					
V51A	**Loudon**	**31.88 318**	P		15 22 58.9	
	baz=127,SNR=47					
L58A	**Harry Jones Me**	**31.88 335**	P	**P**	**15 22 55.8**	**-1.2**
	baz=147,SNR=17					
HUEH	**Huehuetenango**	**31.89 277**	IAmb	IAmb	15 23 24.9	
	comp=Z,367nm,0.9s					
HUEH			IAMs_20	IAMs_20	15 36 31.5	
	comp=Z,36µm,21.0s					
I62A	**Tamworth**	**31.91 342**	P		15 22 59.6	
	baz=156,SNR=14					
I62A			P		15 22 59.6	
	baz=156,SNR=14					
I62A	**Tamworth**	**31.91 342**	P	**P**	**15 22 57.5**	**+0.3**
	baz=156,SNR=14					
I62A	**Tamworth**	**31.91 342**	P	**P**	**15 22 57.7**	**+0.5**
I62A			IAmb	IAmb	15 23 01.2	
	comp=Z,542nm,1.7s					
I62A			IAMs_20	IAMs_20	15 35 37.2	
	comp=Z,44µm,20.0s					
JANB	**Januaria**	**31.96 153**	*e*P	**P**	**15 22 56.8**	**-1.1**
FPAL	**Fort Paine**	**32.00 315**	P	**P**	**15 22 59.0**	**+0.8**
FPAL			IAmb	IAmb	15 23 08.0	
	comp=Z,705nm,1.8s					
GGN	**Saint George**	**32.00 349**	P	**P**	**15 22 56.9**	**-1.0**
J60A	**Lant Hill Farm**	**32.00 339**	P	**P**	**15 22 58.6**	**+0.5**
	baz=152,SNR=36					
R53A	**Hurricane**	**32.04 324**	IAMs_20	IAMs_20	15 35 51.5	
	comp=Z,42µm,22.0s					
R53A	**Hurricane**	**32.04 324**	P		15 22 59.2	
	baz=133,SNR=10					
R53A			P		15 22 59.2	
	baz=133,SNR=10					
HNH	**Hanover**	**32.04 341**	P	**P**	**15 22 59.0**	**+0.6**
HNH			IAmb	IAmb	15 23 02.3	
	comp=Z,358nm,1.2s					
HNH			IAMs_20	IAMs_20	15 35 40.8	
	comp=Z,39µm,20.0s					
HNH	**Hanover**	**32.04 341**	P		15 23 00.6	
	baz=154,SNR=24					
H64A	**Troy**	**32.05 346**	P	**P**	**15 22 59.1**	**+0.6**
	baz=160,SNR=45					
BINY	**Binghamton**	**32.07 335**	P	**P**	**15 23 00.1**	**+1.4**
	baz=147,SNR=25					
BINY	**Binghamton**	**32.07 335**	IAmb	IAmb	15 23 02.8	
	comp=Z,417nm,1.4s					
BINY			IAMs_20	IAMs_20	15 33 23.7	
	comp=Z,33µm,22.0s					
BINY	**Binghamton**	**32.07 335**	P		15 23 01.3	
	baz=147,SNR=25					
WVL	**Waterville**	**32.09 345**	P	**P**	**15 22 59.5**	**+0.7**
WVL			IAmb	IAmb	15 23 02.6	
	comp=Z,436nm,1.2s					
WVL			IAMs_20	IAMs_20	15 35 20.9	
	comp=Z,45µm,21.0s					
WVL	**Waterville**	**32.09 345**	P		15 23 01.4	
	baz=159,SNR=22					
RTAL	**Retalhuleu**	**32.11 275**	IAmb	IAmb	15 23 07.0	
	comp=Z,258nm,1.1s					
RTAL			IAMs_20	IAMs_20	15 38 25.3	
	comp=Z,47µm,20.0s					
NBAN	**Anadia - AL**	**32.14 135**	*e*P	**P**	**15 23 00.1**	**+0.5**
W50A	**Signal Mountai**	**32.16 316**	IAmb	IAmb	15 23 24.3	
	comp=Z,296nm,1.1s					
W50A			IAMs_20	IAMs_20	15 35 14.2	
	comp=Z,34µm,22.0s					
W50A	**Signal Mountai**	**32.16 316**	P		15 23 00.7	
	baz=125,SNR=70					
Y49A	**Blount Mountai**	**32.19 313**	P	**P**	**15 22 59.7**	**-0.2**
Y49A			IAmb	IAmb	15 23 09.4	
	comp=Z,461nm,1.3s					
Y49A			IAMs_20	IAMs_20	15 35 06.1	
	comp=Z,42µm,22.0s					
Y49A	**Blount Mountai**	**32.19 313**	P		15 23 00.9	
	baz=122,SNR=44					
LRAL	**Lakeview Retre**	**32.19 311**	P	**P**	**15 23 00.5**	**+0.7**
	baz=120,SNR=155					
LRAL	**Lakeview Retre**	**32.19 311**	IAMs_20	IAMs_20	15 35 07.8	
	comp=Z,34µm,22.0s					
LRAL	**Lakeview Retre**	**32.19 311**	P		15 23 01.0	
	baz=120,SNR=155					
ACCN	**Adirondack Com**	**32.21 339**	IAmb	IAmb	15 23 03.8	
	comp=Z,371nm,1.2s					
ACCN	**Adirondack Com**	**32.21 339**	P		15 23 02.0	
	baz=152,SNR=36					
G65A	**Princeton**	**32.22 348**	P	**P**	**15 23 00.2**	**+0.4**
	baz=163,SNR=26					
G65A	**Princeton**	**32.22 348**	IAMs_20	IAMs_20	15 35 13.2	
	comp=Z,45µm,19.0s					
G65A	**Princeton**	**32.22 348**	P		15 23 01.8	
	baz=163,SNR=26					
G65A			P		15 23 01.8	
	baz=163,SNR=26					
I61A	**Oroboro, Fairl**	**32.22 341**	P	**P**	**15 23 00.8**	**+0.8**
	baz=155,SNR=16					
NBRF	**Rio Formoso -**	**32.25 133**	*e*P	**P**	**15 23 01.7**	**+1.1**
H63A	**New Sharon**	**32.27 345**	P	**P**	**15 23 00.2**	**-0.2**
	baz=159,SNR=10					
LMN	**Caledonia Moun**	**32.38 352**	P	**P**	**15 23 00.6**	**-0.7**
LBNH	**Lisbon**	**32.41 342**	P	**P**	**15 23 02.0**	**+0.4**
	baz=155,SNR=28					
LBNH	**Lisbon**	**32.41 342**	IAmb	IAmb	15 23 05.7	
	comp=Z,445nm,1.2s					
LBNH			IAMs_20	IAMs_20	15 35 51.7	
	comp=Z,42µm,20.0s					
LBNH	**Lisbon**	**32.41 342**	P		15 23 03.9	
	baz=155,SNR=28					
PSDB	**Penn State Uni**	**32.42 331**	P		15 23 04.3	
	baz=141,SNR=14					
CCIG	**Comitan**	**32.49 279**	P	**P**	**15 23 02.2**	**-0.6**
CCIG			IAMs_20	IAMs_20	15 36 09.2	
	comp=Z,39µm,22.0s					
MCVT	**Middlebury Col**	**32.49 340**	P		15 23 04.4	
	baz=153,SNR=19					
I60A	**Shoreham**	**32.49 340**	P	**P**	**15 23 03.1**	**+0.8**
	baz=153,SNR=27					
H62A	**Milan**	**32.49 343**	P	**P**	**15 23 02.7**	**+0.4**
	baz=157,SNR=44					
H62A	**Milan**	**32.49 343**	P	**P**	**15 23 02.3**	**0.0**
H62A			IAMs_20	IAMs_20	15 35 43.7	
	comp=Z,44µm,21.0s					
H62A	**Milan**	**32.49 343**	P		15 23 05.4	
	baz=157,SNR=44					
H62A			P		15 23 05.4	
	baz=157,SNR=44					
O54A	**Avella**	**32.50 328**	IAmb	IAmb	15 23 48.1	
	comp=Z,365nm,1.6s					
O54A			IAMs_20	IAMs_20	15 35 50.6	
	comp=Z,51µm,21.0s					
O54A	**Avella**	**32.50 328**	P		15 23 05.7	
	baz=138,SNR=15					
O54A			P		15 23 05.7	
	baz=138,SNR=15					
G64A	**Maxfield**	**32.52 347**	P	**P**	**15 23 02.5**	**-0.1**
	baz=161,SNR=55					
P53A	**Whipple**	**32.53 326**	P		15 23 06.5	
	baz=136,SNR=13					
P53A			P		15 23 06.5	
	baz=136,SNR=13					
P53A	**Whipple**	**32.53 326**	IAMs_20	IAMs_20	15 35 53.5	
	comp=Z,41µm,22.0s					
S51A	**Beattyville**	**32.54 321**	P		15 23 03.6	
	baz=130,SNR=27					
S51A			P		15 23 03.6	
	baz=130,SNR=27					
S51A	**Beattyville**	**32.54 321**	P	**P**	**15 23 02.3**	**-0.6**
S51A			IAMs_20	IAMs_20	15 36 31.0	
	comp=Z,43µm,22.0s					
UPAO	**U. Pittsburgh**	**32.54 329**	P		15 23 05.9	
	baz=139,SNR=9.8					
J59A	**Piesco**	**32.58 338**	IAmb	IAmb	15 23 07.2	
	comp=Z,390nm,1.6s					
J59A	**Piesco**	**32.58 338**	P		15 23 05.6	
	baz=150,SNR=22					
J59A			P		15 23 05.6	
	baz=150,SNR=22					
G63A	**Kingsbury**	**32.59 345**	P	**P**	**15 23 03.5**	**+0.2**
	baz=160,SNR=34					
I59A	**Olmsteadville**	**32.65 339**	P	**P**	**15 23 03.6**	**-0.1**
	baz=152,SNR=22					
Q52A	**Bidwell**	**32.65 324**	P	**P**	**15 23 03.8**	**0.0**
Q52A			IAMs_20	IAMs_20	15 36 20.7	
	comp=Z,34µm,20.0s					
Q52A	**Bidwell**	**32.65 324**	P		15 23 04.9	
	baz=134,SNR=11					
Q52A			P		15 23 04.9	
	baz=134,SNR=11					
PKME	**Peaks-Kenny Pk**	**32.65 346**	P		15 23 06.1	
	baz=160,SNR=26					
PKME	**Peaks-Kenny Pk**	**32.66 346**	P	**P**	**15 23 03.7**	**-0.1**
	baz=160,SNR=26					
PKME	**Peaks-Kenny Pk**	**32.66 346**	IAmb	IAmb	15 23 07.4	
	comp=Z,468nm,1.3s					
PKME			IAMs_20	IAMs_20	15 35 36.9	
	comp=Z,46µm,21.0s					
L56A	**Greenwood**	**32.68 333**	P	**P**	**15 23 03.9**	**-0.2**
L56A			IAmb	IAmb	15 23 26.7	
	comp=Z,268nm,1.1s					
L56A	**Greenwood**	**32.68 333**	P		15 23 06.5	
	baz=144,SNR=22					
L56A			P		15 23 06.5	
	baz=144,SNR=22					
H61A	**Lyndonville**	**32.68 342**	P	**P**	**15 23 03.3**	**-0.7**
	baz=155,SNR=32					
M55A	**Ridgway**	**32.69 331**	IAmb	IAmb	15 23 26.9	
	comp=Z,604nm,1.3s					
M55A			IAMs_20	IAMs_20	15 36 59.4	
	comp=Z,35µm,20.0s					
M55A	**Ridgway**	**32.69 331**	P		15 23 05.2	
	baz=142,SNR=44					
M55A			P		15 23 05.2	
	baz=142,SNR=44					
K57A	**Scipio Center**	**32.73 335**	P	**P**	**15 23 05.1**	**+0.7**
K57A			IAmb	IAmb	15 23 08.4	
	comp=Z,487nm,1.4s					
K57A	**Scipio Center**	**32.73 335**	P		15 23 06.5	
	baz=146					
VT1	**Waterbury**	**32.75 341**	IAMs_20	IAMs_20	15 36 01.3	
	comp=Z,40µm,21.0s					
VT1	**Waterbury**	**32.75 341**	P		15 23 07.0	
	baz=154,SNR=11					
J58A	**Remsen**	**32.78 337**	P	**P**	**15 23 04.4**	**-0.4**
	baz=149,SNR=23					
J58A	**Remsen**	**32.78 337**	P		15 23 07.4	
	baz=149,SNR=23					
J58A			P		15 23 07.4	
	baz=149,SNR=23					
N54A	**Moraine State**	**32.89 329**	P	**P**	**15 23 06.4**	**+0.5**
	baz=139,SNR=23					
N54A	**Moraine State**	**32.89 329**	P	**P**	**15 23 06.3**	**+0.5**
N54A			IAmb	IAmb	15 23 38.0	
	comp=Z,226nm,0.9s					
N54A			IAMs_20	IAMs_20	15 37 27.8	
	comp=Z,36µm,20.0s					
N54A	**Moraine State**	**32.89 329**	P		15 23 07.6	
	baz=139,SNR=23					
NCB	**Newcomb**	**32.92 339**	IAmb	IAmb	15 23 10.1	
	comp=Z,306nm,1.3s					
NCB	**Newcomb**	**32.92 339**	P		15 23 08.4	
	baz=151,SNR=36					
G62A	**West of Eustis**	**32.92 344**	P	**P**	**15 23 06.3**	**+0.2**
	baz=158,SNR=24					
G62A	**West of Eustis**	**32.92 344**	IAmb	IAmb	15 23 10.2	
	comp=Z,485nm,1.4s					
G62A			IAMs_20	IAMs_20	15 35 45.9	
	comp=Z,42µm,21.0s					
G62A	**West of Eustis**	**32.92 344**	P		15 23 08.1	
	baz=158,SNR=24					
G62A			P		15 23 08.1	
	baz=158,SNR=24					
T50A	**Nancy**	**32.93 319**	IAMs_20	IAMs_20	15 37 07.3	
	comp=Z,32µm,21

T50A			P			15 23 07.4
	baz=128					
H60A	**Morristown**	**32.94 341**	P	**P**		**15 23 06.5 +0.2**
	baz=154,SNR=19					
I58A	**Old Forge**	**32.94 338**	P	**P**		**15 23 07.4 +1.0**
	baz=150,SNR=79					
X48A	**Hartselle**	**32.95 314**	P	**P**		**15 23 07.2 +0.7**
X48A			IAmb	IAmb		15 23 15.4
	comp=Z,471nm,1.2s					
X48A			IAMs_20	IAMs_20		15 35 40.1
	comp=Z,41μm,22.0s					
X48A	**Hartselle**	**32.95 314**	P			15 23 07.7
	baz=122,SNR=88					
O53A	**New Philadelph**	**32.99 327**	P	**P**		**15 23 07.9 +1.2**
	baz=137,SNR=17					
O53A	**New Philadelph**	**32.99 327**	IAMs_20	IAMs_20		15 36 05.4
	comp=Z,48μm,21.0s					
F64A	**Sherman**	**33.01 347**	P	**P**		**15 23 08.5 +1.6**
	baz=162,SNR=17					
F64A	**Sherman**	**33.01 347**	IAmb	IAmb		15 23 09.6
	comp=Z,386nm,1.5s					
F64A			IAMs_20	IAMs_20		15 35 47.3
	comp=Z,44μm,21.0s					
F64A	**Sherman**	**33.01 347**	P			15 23 08.1
	baz=162,SNR=17					
F64A			P			15 23 08.1
	baz=162,SNR=17					
F63A	**Nahmakanta, Br**	**33.02 346**	P	**P**		**15 23 08.4 +1.4**
	baz=161,SNR=23					
F63A	**Nahmakanta, Br**	**33.02 346**	P	**P**		**15 23 06.9 -0.1**
F63A			IAmb	IAmb		15 23 10.5
	comp=Z,422nm,1.4s					
F63A			IAMs_20	IAMs_20		15 35 47.6
	comp=Z,40μm,21.0s					
F63A	**Nahmakanta, Br**	**33.02 346**	P			15 23 08.5
	baz=161,SNR=23					
F63A			P			15 23 08.5
	baz=161,SNR=23					
K56A	**Middlesex**	**33.04 334**	P	**P**		**15 23 08.4 +1.3**
	baz=145,SNR=13					
P52A	**Corning**	**33.04 326**	P	**P**		**15 23 08.0 +0.7**
	baz=135,SNR=15					
P52A	**Corning**	**33.04 326**	P	**P**		**15 23 05.5 -1.8**
P52A			IAmb	IAmb		15 23 35.5
	comp=Z,290nm,1.1s					
P52A			IAMs_20	IAMs_20		15 36 21.0
	comp=Z,42μm,22.0s					
Z47A	**Carrollton**	**33.06 311**	IAMs_20	IAMs_20		15 35 35.1
	comp=Z,29μm,21.0s					
Z47A	**Carrollton**	**33.06 311**	P			15 23 08.7
	baz=119,SNR=89					
J57A	**Williamstown**	**33.09 336**	P			15 23 09.8
	baz=148					
J57A			P			15 23 09.8
	baz=148					
J57A	**Williamstown**	**33.09 336**	IAmb	IAmb		15 23 11.6
	comp=Z,388nm,1.3s					
M54A	**Oil Creek Stat**	**33.15 330**	P	**P**		**15 23 09.3 +1.2**
	baz=140,SNR=25					
M54A	**Oil Creek Stat**	**33.15 330**	IAmb	IAmb		15 23 30.9
	comp=Z,326nm,1.2s					
M54A			IAMs_20	IAMs_20		15 36 07.6
	comp=Z,39μm,21.0s					
M54A	**Oil Creek Stat**	**33.15 330**	P			15 23 10.6
	baz=140,SNR=25					
GDU01	**Guandu, BA**	**33.19 145**	*e*P	**P**		**15 23 08.2 -0.5**
IPMB	**Ipameri, GO**	**33.19 162**	*e*P	**P**		**15 23 08.8 +0.1**
N53A	**Lisbon**	**33.20 328**	P			15 23 10.3
	baz=138,SNR=26					
N53A			P			15 23 10.3
	baz=138,SNR=26					
N53A	**Lisbon**	**33.20 328**	P	**P**		**15 23 08.1 -0.5**
N53A			IAMs_20	IAMs_20		15 36 22.0
	comp=Z,41μm,21.0s					
O52A	**Adamsville**	**33.22 326**	IAMs_20	IAMs_20		15 36 25.7
	comp=Z,43μm,21.0s					
O52A	**Adamsville**	**33.22 326**	P			15 23 10.3
	baz=136,SNR=16					
O52A			P			15 23 10.3
	baz=136,SNR=16					
U49A	**Red Boiling Sp**	**33.23 318**	P	**P**		**15 23 08.8 -0.1**
U49A			IAmb	IAmb		15 23 40.6
	comp=Z,339nm,1.4s					
U49A			IAMs_20	IAMs_20		15 37 07.4
	comp=Z,32μm,22.0s					
U49A	**Red Boiling Sp**	**33.23 318**	P			15 23 09.8
	baz=126,SNR=61					
G61A	**St-Isidore-de-**	**33.25 343**	P	**P**		**15 23 10.1 +1.2**
	baz=157,SNR=38					
H58A	**Gabriels**	**33.30 339**	P	**P**		**15 23 09.4 0.0**
	baz=152,SNR=20					
346A	**Big Creek Wild**	**33.30 307**	P			15 23 11.4
	baz=115,SNR=17					
Q51A	**Peebles**	**33.31 324**	P			15 23 10.8
	baz=132,SNR=12					
Q51A			P			15 23 10.8
	baz=132,SNR=12					
Q51A	**Peebles**	**33.31 324**	IAMs_20	IAMs_20		15 36 42.2
	comp=Z,40μm,21.0s					
MMNY	**Mt. Morris Dam**	**33.31 334**	P	**P**		**15 23 09.9 +0.4**
MMNY			IAmb	IAmb		15 23 13.4
	comp=Z,696nm,1.9s					
MMNY			IAMs_20	IAMs_20		15 36 57.7
	comp=Z,36μm,21.0s					
J56A	**Wolcott**	**33.32 335**	IAmb	IAmb		15 23 27.8
	comp=Z,199nm,0.8s					
J56A	**Wolcott**	**33.32 335**	P			15 23 11.9
	baz=146,SNR=25					
J56A			P			15 23 11.9
	baz=146,SNR=25					
H59A	**Cadyville**	**33.34 340**	P	**P**		**15 23 11.1 +1.4**
	baz=153,SNR=49					
CLTN	**Cedars of Leba**	**33.35 317**	P	**P**		**15 23 09.1 -0.9**
CLTN			IAmb	IAmb		15 23 18.9
	comp=Z,454nm,1.7s					
R50A	**Paris**	**33.40 322**	IAMs_20	IAMs_20		15 36 34.0
	comp=Z,31μm,22.0s					
R50A	**Paris**	**33.40 322**	P			15 23 12.4
	baz=130,SNR=18					
R50A			P			15 23 12.4
	baz=130,SNR=18					
F62A	**Pittston Farm,**	**33.41 345**	P	**P**		**15 23 11.4 +1.0**
	baz=160,SNR=6.9					
F62A	**Pittston Farm,**	**33.41 345**	IAmb	IAmb		15 23 14.0
	comp=Z,466nm,1.9s					
F62A			IAMs_20	IAMs_20		15 36 10.9
	comp=Z,46μm,21.0s					
F62A	**Pittston Farm,**	**33.41 345**	P			15 23 12.3
	baz=160,SNR=6.9					
F62A			P			15 23 12.3
	baz=160,SNR=6.9					
I57A	**Carthage**	**33.41 337**	P	**P**		**15 23 11.2 +0.8**
	baz=149,SNR=22					
E64A	**Bridgewater**	**33.44 348**	P	**P**		**15 23 10.8 +0.3**
	baz=164,SNR=39					
WCNY	**West Carthage**	**33.45 337**	P			15 23 12.9
	baz=149,SNR=19					
P51A	**Williamsport**	**33.45 324**	P			15 23 11.3
	baz=133,SNR=12					
P51A			P			15 23 11.3
	baz=133,SNR=12					
P51A	**Williamsport**	**33.45 324**	P	**P**		**15 23 09.7 -1.1**
P51A			IAmb	IAmb		15 23 35.5
	comp=Z,191nm,0.9s					
P51A			IAMs_20	IAMs_20		15 36 46.0
	comp=Z,34μm,21.0s					
FRNY	**Flat Rock**	**33.47 340**	P	**P**		**15 23 11.4 +0.5**
FRNY			IAmb	IAmb		15 23 14.8
	comp=Z,456nm,1.2s					
FRNY	**Flat Rock**	**33.47 340**	P			15 23 13.6
	baz=153,SNR=59					
V48A	**Smith Brothers**	**33.48 316**	IAmb	IAmb		15 23 20.3
	comp=Z,358nm,1.2s					
V48A			IAMs_20	IAMs_20		15 35 54.2
	comp=Z,35μm,22.0s					
V48A	**Smith Brothers**	**33.48 316**	P			15 23 12.5
	baz=124,SNR=70					
ALLY	**Alegheny Colle**	**33.49 330**	IAmb	IAmb		15 23 33.6
	comp=Z,352nm,1.2s					
ALLY			IAMs_20	IAMs_20		15 37 45.6
	comp=Z,42μm,19.0s					
ALLY	**Alegheny Colle**	**33.49 330**	P			15 23 14.4
	baz=140,SNR=8.3					
146A	**Union**	**33.53 309**	P	**P**		**15 23 11.8 +0.3**
146A	**Union**	**33.53 309**	P			15 23 14.3
	baz=117,SNR=14					
E63A	**Oxbow**	**33.56 348**	P	**P**		**15 23 11.7 +0.1**
	baz=162,SNR=43					
E63A	**Oxbow**	**33.56 348**	P	**P**		**15 23 11.4 -0.2**
E63A			IAmb	IAmb		15 23 15.3
	comp=Z,461nm,1.2s					
E63A			IAMs_20	IAMs_20		15 36 04.0
	comp=Z,37μm,21.0s					
E63A	**Oxbow**	**33.56 348**	P			15 23 12.2
	baz=162,SNR=43					
E63A			P			15 23 12.2
	baz=162,SNR=43					
MC01	**Montes Claros**	**33.58 154**	*e*P	**P**		**15 23 12.5 +0.3**
M53A	**WI Miller and**	**33.59 329**	P	**P**		**15 23 13.0 +1.1**
	baz=139,SNR=11					
M53A	**WI Miller and**	**33.59 329**	IAMs_20	IAMs_20		15 36 11.3
	comp=Z,37μm,22.0s					
LONY	**Lake Ozonia**	**33.61 339**	P	**P**		**15 23 13.1 +0.9**
	baz=151,SNR=22					
LONY	**Lake Ozonia**	**33.61 339**	IAmb	IAmb		15 23 15.9
	comp=Z,456nm,1.9s					
J55A	**Hilton**	**33.71 334**	P	**P**		**15 23 13.5 +0.6**
J55A			IAMs_20	IAMs_20		15 37 10.2
	comp=Z,32μm,21.0s					
J55A	**Hilton**	**33.71 334**	P			15 23 15.6
	baz=145,SNR=12					
J55A			P			15 23 15.6
	baz=145,SNR=12					
PQI	**Presque Isle**	**33.72 348**	IAmb	IAmb		15 23 16.5
	comp=Z,416nm,1.3s					
PQI			IAMs_20	IAMs_20		15 36 08.9
	comp=Z,38μm,22.0s					
F61A	**St Evariste**	**33.74 344**	P	**P**		**15 23 14.6 +1.4**
	baz=158,SNR=9.8					
H57A	**Richville**	**33.76 338**	P	**P**		**15 23 14.8 +1.4**
	baz=150,SNR=25					
ERPA	**Erie**	**33.77 331**	P	**P**		**15 23 14.6 +1.1**
	baz=140,SNR=8.3					
ERPA	**Erie**	**33.77 331**	P	**P**		**15 23 14.5 +0.9**
ERPA			IAmb	IAmb		15 23 36.2
	comp=Z,652nm,1.7s					
ERPA			IAMs_20	IAMs_20		15 36 37.0
	comp=Z,38μm,22.0s					
ERPA	**Erie**	**33.77 331**	P			15 23 16.3
	baz=140,SNR=8.3					
BMNY	**Brushton-Moira**	**33.78 339**	P			15 23 16.4
	baz=151,SNR=27					
SACV	**Santiago Islan**	**33.87 84**	P	**P**		**15 23 14.1 -0.6**
SACV			IAmb	IAmb		15 23 29.3
	comp=Z,626nm,1.4s					
SACV	**Santiago Islan**	**33.87 84**	IAMs_20	IAMs_20		15 34 23.7
	comp=Z,29μm,22.0s					
SACV	**Santiago Islan**	**33.87 84**	⇓P	**P**		**15 23 15.1 +0.4**
MEDO	**Medina**	**33.90 333**	IAmb	IAmb		15 23 35.9
	comp=Z,292nm,1.2s					
MEDO			IAMs_20	IAMs_20		15 36 52.3
	comp=Z,41μm,22.0s					
R49A	**Shelbyville**	**33.92 321**	IAmb	IAmb		15 24 01.0
	comp=Z,657nm,1.7s					
R49A			IAMs_20	IAMs_20		15 37 25.5
	comp=Z,38μm,22.0s					
R49A	**Shelbyville**	**33.92 321**	P			15 23 16.7
	baz=129,SNR=14					
R49A			P			15 23 16.7
	baz=129,SNR=14					
ACSO	**Alum Creek Sta**	**33.93 325**	P	**P**		**15 23 16.0 +1.1**
	baz=134,SNR=18					
ACSO	**Alum Creek Sta**	**33.93 325**	P	**P**		**15 23 14.4 -0.5**
ACSO			IAmb	IAmb		15 23 37.8
	comp=Z,256nm,1.1s					
ACSO			IAMs_20	IAMs_20		15 36 36.4
	comp=Z,38μm,22.0s					
ACSO	**Alum Creek Sta**	**33.93 325**	P			15 23 16.0
	baz=134,SNR=18					
PLAL	**Pickwick Lake**	**33.95 314**	IAmb	IAmb		15 23 22.7
	comp=Z,419nm,1.0s					
PLAL			IAMs_20	IAMs_20		15 36 22.6
	comp=Z,32μm,22.0s					
E62A	**Clayton Lake**	**33.99 346**	P	**P**		**15 23 16.3 +0.9**
	baz=161,SNR=39					
E62A	**Clayton Lake**	**33.99 346**	IAmb	IAmb		15 23 19.0
	comp=Z,420nm,1.2s					
E62A			IAMs_20	IAMs_20		15 36 28.1
	comp=Z,44μm,21.0s					
E62A	**Clayton Lake**	**33.99 346**	P			15 23 16.7
	baz=161,SNR=39					
E62A			P			15 23 16.7
	baz=161,SNR=39					
M52A	**Chesterland**	**34.01 329**	P	**P**		**15 23 15.1 -0.5**
E61A	**Lac Etchemin**	**34.04 345**	P	**P**		**15 23 16.3 +0.4**
	baz=159,SNR=40					
J54A	**Appleton**	**34.06 333**	P			15 23 18.9
	baz=144,SNR=23					
J54A			P			15 23 18.9
	baz=144,SNR=23					
J54A	**Appleton**	**34.07 333**	IAmb	IAmb		15 23 38.4
	comp=Z,272nm,1.1s					
J54A			IAMs_20	IAMs_20		15 36 57.7
	comp=Z,43μm,22.0s					
N51A	**Ashland**	**34.08 327**	P	**P**		**15 23 16.3 +0.1**
N51A			IAMs_20	IAMs_20		15 36 50.4
	comp=Z,46μm,22.0s					
D63A	**Stockholm**	**34.08 348**	P	**P**		**15 23 16.9 +0.7**
	baz=163,SNR=104					
AQDB	**Aquidauana**	**34.18 175**	*e*P	**P**		**15 23 18.7 +1.4**
E60A	**Ste Agathe de**	**34.23 344**	P	**P**		**15 23 17.2 -0.2**
	baz=157					
NBIT	**Itapeh - BA**	**34.26 146**	*e*P	**P**		**15 23 18.8 +0.8**
ITRB	**Iturama**	**34.26 166**	*e*P	**P**		**15 23 18.7 +0.7**
344A	**Westbrook Farm**	**34.31 306**	P			15 23 20.6
	baz=114,SNR=24					
344A	**Westbrook Farm**	**34.32 306**	P	**P**		**15 23 19.7 +1.3**
344A			IAMs_20	IAMs_20		15 37 37.4
	comp=Z,44μm,22.0s					
D62A	**Allapoint, All**	**34.32 347**	P	**P**		**15 23 18.8 +0.6**
	baz=162,SNR=70					
D62A	**Allapoint, All**	**34.32 347**	IAmb	IAmb		15 23 21.8
	comp=Z,587nm,1.3s					
D62A			IAMs_20	IAMs_20		15 36 38.4
	comp=Z,38μm,21.0s					
D62A	**Allapoint, All**	**34.32 347**	P			15 23 19.5
	baz=162,SNR=70					
D62A			P			15 23 19.5
	baz=162,SNR=70					
T47A	**Sharon Grove**	**34.37 317**	IAmb	IAmb		15 23 27.1
	comp=Z,377nm,1.2s					
T47A			IAMs_20	IAMs_20		15 37 19.7
	comp=Z,36μm,22.0s					
T47A	**Sharon Grove**	**34.37 317**	P			15 23 20.2
	baz=125,SNR=50					
WVT	**Waverly**	**34.38 316**	P			15 23 19.6
	baz=123,SNR=107					
WVT	**Waverly**	**34.38 316**	P	**P**		**15 23 18.9 0.0**
WVT			pmax	pmax		
	comp=Z,282nm,1.1s					
WVT			MLR	MLR		
	comp=Z,32μm,22.0s					
WVT	**Waverly**	**34.38 316**	P	**P**		**15 23 19.1 +0.2**
	baz=123					
WVT	**Waverly**	**34.38 316**	P	**P**		**15 23 18.9 0.0**
WVT			IAmb	IAmb		15 23 25.0
	comp=Z,282nm,1.1s					
WVT	**Waverly**	**34.38 316**	IAMs_20	IAMs_20		15 36 21.0
	comp=Z,32μm,22.0s					
WVT	**Waverly**	**34.38 316**	⇓P	**P**		**15 23 19.6 +0.7**
P49A	**Miami Univ. Ec**	**34.44 323**	P	**P**		**15 23 19.9 +0.5**
	baz=131,SNR=23					
P49A	**Miami Univ. Ec**	**34.44 323**	IAMs_20	IAMs_20		15 37 51.2
	comp=Z,38μm,21.0s					
P49A	**Miami Univ. Ec**	**34.44 323**	P			15 23 20.1
	baz=131,SNR=23					
Y45A	**Yeager Farm, C**	**34.45 311**	P	**P**		**15 23 20.0 +0.4**
Y45A	**Yeager Farm, C**	**34.45 311**	P			15 23 20.7
	baz=118,SNR=48					
VBMS	**Vicksburg**	**34.46 308**	P	**P**		**15 23 20.9 +1.2**
	baz=115,SNR=27					
VBMS	**Vicksburg**	**34.46 308**	IAMs_20	IAMs_20		15 38 55.1
	comp=Z,29μm,21.0s					
VBMS	**Vicksburg**	**34.46 308**	P			15 23 21.9
	baz=115,SNR=27					
MNMC	**Minye Minye**	**34.48 199**	IAmb	IAmb		15 23 55.6
	comp=Z,221nm,0.9s					
MNMC			IAMs_20	IAMs_20		15 38 30.4
	comp=Z,25μm,20.0s					
MNMC	**Minye Minye**	**34.48 199**	⇑P	**P**		**15 23 19.1 -1.0**
MNMCX	**Minye Minye**	**34.48 199**	*e*P	**P**		**15 23 17.6 -2.6**
PAYG	**Puerto Ayora**	**34.55 248**	P	**P**		**15 23 21.0 +0.4**
PAYG	**Puerto Ayora**	**34.55 248**	⇓P	**P**		**15 23 23.0 +2.3**
CMC01	**Camacan, BA**	**34.56 146**	*e*P	**P**		**15 23 20.7 +0.1**
WCI	**Wyandotte Cave**	**34.58 320**	P	**P**		**15 23 21.5 +0.9**
WCI			pmax	pmax		
	comp=Z,156nm,0.9s					
WCI			MLR	MLR		
	comp=Z,36μm,21.0s					
WCI	**Wyandotte Cave**	**34.58 320**	P	**P**		**15 23 21.2 +0.6**
	baz=127					
WCI	**Wyandotte Cave**	**34.58 320**	P	**P**		**15 23 21.5 +0.9**
WCI	**Wyandotte Cave**	**34.58 320**	IAMs_20	IAMs_20		15 37 46.0
	comp=Z,35μm,21.0s					
WCI	**Wyandotte Cave**	**34.58 320**	⇑P	**P**		**15 23 21.7 +1.1**
WCI	**Wyandotte Cave**	**34.58 320**	P			15 23 22.9
	baz=127,SNR=26					
D60A	**Saint Jean D'O**	**34.60 345**	P	**P**		**15 23 21.3 +0.7**
	baz=158,SNR=40					
E59A	**St. Maurice**	**34.62 343**	P	**P**		**15 23 21.3 +0.5**
	baz=156					
O49A	**Covington**	**34.65 324**	IAmb	IAmb		15 23 43.9
	comp=Z,274nm,1.1s					
O49A			IAMs_20	IAMs_20		15 37 22.7
	comp=Z,37μm,22.0s					
O49A	**Covington**	**34.65 324**	P			15 23 22.0
	baz=132,SNR=18					
O49A			P			15 23 22.0
	baz=132,SNR=18					
DELO	**Deloro Mine**	**34.66 336**	P	**P**		**15 23 21.7 +0.5**
DELO			IAMs_20	IAMs_20		15 37 25.2
	comp=Z,23μm,18.0s					
OXF	**Oxford**	**34.66 312**	P	**P**		**15 23 21.7 +0.3**
	baz=119,SNR=84					
OXF	**Oxford**	**34.66 312**	IAMs_20	IAMs_20		15 36 34.7
	comp=Z,33μm,22.0s					
OXF	**Oxford**	**34.66 312**	P			15 23 22.1
	baz=119,SNR=84					
D61A	**St Aubert, Com**	**34.69 346**	P	**P**		**15 23 22.3 +0.9**
	baz=160,SNR=31					
M50A	**Fremont**	**34.78 327**	IAMs_20	IAMs_20		15 37 11.9
	comp=Z,44μm,21.0s					
M50A	**Fremont**	**34.78 327**	P			15 23 24.5
	baz=135,SNR=7.5					
M50A			P			15 23 24.5
	baz=135,SNR=7.5					
P48A	**Milroy**	**34.81 322**	IAmb	IAmb		15 23 47.8
	comp=Z,513nm,1.4s					
P48A			IAMs_20	IAMs_20		15 37 16.1
	comp=Z,28μm,22.0s					
P48A	**Milroy**	**34.81 322**	P			15 23 23.6
	baz=130,SNR=15					
P48A			P			15 23 23.6
	baz=130,SNR=15					
W45A	**Hickory Valley**	**34.82 313**	P	**P**		**15 23 22.9 +0.2**
W45A			IAMs_20	IAMs_20		15 36 48.7
	comp=Z,38μm,22.0s					
W45A	**Hickory Valley**	**34.82 313**	P			15 23 23.6
	baz=120,SNR=14					
GAC	**Glen Almond**	**34.87 339**	⇓P	**P**		**15 23 24.9 +1.9**
PLVO	**Plevna**	**34.88 337**	IAmb	IAmb		15 23 26.6
	comp=Z,470nm,2.0s					
D59A	**Saint-Raymond**	**34.92 344**	P	**P**		**15 23 24.1 +0.7**
	baz=157,SNR=17					
N49A	**Columbus Grove**	**35.06 325**	IAMs_20	IAMs_20		15 37 33.5
	comp=Z,37μm,22.0s					
H07S1	**FLORES T-PHASE**	**35.07 38**	*e*P	**P**		**15 23 25.0 +0.2**
H07S1			*e*S	**S**		**15 28 55.7 -0.7**
PSGCX	**Pisagua**	**35.08 199**	P	**P**		**15 23 23.6 -1.6**
PSGCX			IAmb	IAmb		15 23 42.3
	comp=Z,308nm,1.0s					
PB11	**IPOC Station P**	**35.09 198**	*e*P	**P**		**15 23 23.7 -1.6**
DIAM	**Diamantina, MG**	**35.12 155**	*e*P	**P**		**15 23 25.7 +0.2**
UTMT	**University of**	**35.20 315**	P	**P**		**15 23 26.0 0.0**
D58A	**Chemin du LacG**	**35.29 343**	P	**P**		**15 23 27.4 +0.8**
	baz=155,SNR=29					
BLO	**Bloomington**	**35.29 321**	IAmb	IAmb		15 24 12.1
	comp=Z,368nm,1.3s					
BLO			IAMs_20	IAMs_20		15 38 08.9
	comp=Z,39μm,21.0s					
USIN	**University of**	**35.30 318**	IAmb	IAmb		15 23 35.1
	comp=Z,443nm,1.1s					
USIN			IAMs_20	IAMs_20		15 37 58.1
	comp=Z,31μm,22.0s					
PB08	**IPOC Station P**	**35.30 197**	*e*P	**P**		**15 23 26.6 -0.7**
HALT	**Halls**	**35.31 314**	P	**P**		**15 23 27.3 +0.4**
H07N1	**FLORES T-PHASE**	**35.31 38**	*e*S	**S**		**15 29 02.7 +2.5**
MET	**Memphis--Engin**	**35.34 312**	P	**P**		**15 23 28.0 +0.9**
MET			IAMs_20	IAMs_20		15 37 04.4
	comp=Z,33μm,21.0s					
143A	**Socs Landing,**	**35.34 308**	IAMs_20	IAMs_20		15 38 09.5
	comp=Z,35μm,22.0s					
143A	**Socs Landing,**	**35.34 308**	P			15 23 29.4
	baz=114,SNR=15					
DRLN	**Deer Lake**	**35.37 1**	P	**P**		**15 23 26.0 -1.2**
DRLN	**Deer Lake**	**35.37 1**	⇑P	**P**		**15 23 26.2 -1.0**
T45B	**Paducah**	**35.41 316**	P			15 23 29.1
	baz=123					
T45A	**Paducah**	**35.41 316**	IAMs_20	IAMs_20		15 36 52.3
	comp=Z,36μm,22.0s					
GUA01	**Guaratinga, BA**	**35.43 148**	*e*P	**P**		**15 23 27.3 -0.8**
GLAT	**Glass**	**35.45 315**	P	**P**		**15 23 28.4 +0.2**
SADO	**Sadowa**	**35.49 334**	P	**P**		**15 23 26.9 -1.5**
	comp=Z,127nm,1.0s,baz=162,slow=7.6,SNR=42					
SADO			S	**S**		**15 28 56.8 -5.9**
	comp=Z,13nm,0.9s,baz=224,slow=13,SNR=2.0					
SADO	**Sadowa**	**35.49 334**	IAmb	IAmb		15 23 46.5
	comp=Z,227nm,0.9s					
SADO	**Sadowa**	**35.49 334**	IAMs_20	IAMs_20		15 38 13.2
	comp=Z,27μm,21.0s					
SADO	**Sadowa**	**35.49 334**	⇓P	**P**		**15 23 28.7 +0.4**
LNXT	**Lenox**	**35.51 314**	P			15 23 30.1
	baz=121					
LATQ	**La Tuque**	**35.52 343**	P	**P**		**15 23 29.4 +0.8**
	baz=156,SNR=10					
342B	**Flagon Creek P**	**35.54 305**	P			15 23 31.2
	baz=112,SNR=66					
K50A	**Casco**	**35.55 329**	IAMs_20	IAMs_20		15 37 44.2
	comp=Z,40μm,21.0s					
HICK	**Hickman**	**35.56 315**	P	**P**		**15 23 29.0 0.0**
TA02	**Huaiquique**	**35.72 199**	P	**P**		**15 23 30.0 -0.5**
TA02			IAmb	IAmb		15 23 47.5
	comp=Z,351nm,1.1s					
AAM	**Ann Arbor**	**35.74 327**	P	**P**		**15 23 31.5 +0.9**
	baz=135					
AAM	**Ann Arbor**	**35.74 327**	IAmb	IAmb		15 23 51.0
	comp=Z,223nm,1.1s					
AAM			IAMs_20	IAMs_20		15 37 41.3
	comp=Z,41μm,21.0s					
PEBM	**Pemiscott Bayo**	**35.77 314**	P	**P**		**15 23 30.6 -0.3**
N47A	**Urbana**	**35.89 324**	P			15 23 32.2
	baz=131,SNR=25					
N47A			P			15 23 32.2
	baz=131,SNR=25					
N47A	**Urbana**	**35.89 324**	IAmb	IAmb		15 23 57.4
	comp=Z,463nm,1.1s					
L48A	**N Adams**	**35.90 326**	P	**P**		**15 23 31.8 -0.2**
L48A	**N Adams**	**35.90 326**	P			15 23 33.3
	baz=134,SNR=13					
L48A			P			15 23 33.3
	baz=134,SNR=13					
PCMB	**Pacaembu**	**35.91 168**	*e*P	**P**		**15 23 32.4 +0.2**
P46A	**Rosedale**	**35.99 321**	IAmb	IAmb		15 23 58.9
	comp=Z,431nm,1.1s					
P46A			IAMs_20	IAMs_20		15 38 40.2
	comp=Z,36μm,21.0s					
P46A	**Rosedale**	**35.99 321**	P			15 23 33.9
	baz=128,SNR=27					
TA01	**Diego Aracena**	**36.01 199**	IAmb	IAmb		15 23 51.2
	comp=Z,545nm,1.4s					
441A	**DeRidder**	**36.01 304**	P	**P**		**15 23 34.1 +1.1**
441A	**DeRidder**	**36.01 304**	P			15 23 35.1
	baz=110,SNR=33					
OLIL	**Olney**	**36.02 319**	IAmb	IAmb		15 23 42.2
	comp=Z,349nm,0.9s					
OLIL			IAMs_20	IAMs_20		15 38 42.1
	comp=Z,29μm,21.0s					
OLIL	**Olney**	**36.02 319**	P			15 23 34.5
	baz=126,SNR=32					
ALGO	**Algonquin Park**	**36.02 337**

comp=Z,32µm,22.0s
S44A Carbondale 36.19 317 P **P 15 23 35.1 +0.7**
S44A IAMs_20 IAMs_20 15 37 14.8
comp=Z,28µm,22.0s
S44A Carbondale 36.19 317 P 15 23 35.5
baz=123,SNR=64
PCAN Candelaria 36.22 42 *e*P **P 15 23 35.6 +0.9**
PB01 IPOC Station P 36.25 197 P **P 15 23 34.6 -0.6**
PB01 IAMs_20 IAMs_20 15 40 40.3
comp=Z,32µm,21.0s
PB01 IPOC Station P 36.25 197 *e*P **P 15 23 33.5 -1.7**
PICO Pico 36.28 42 *e*P **P 15 23 36.2 +0.9**
comp=Z,499nm,1.3s
NAN01 Guarapari, ES 36.33 149 *e*P **P 15 23 35.8 0.0**
PPNO Prainha do Nor 36.37 42 *e*P **P 15 23 36.3 +0.2**
comp=Z,252nm,1.1s
PPNO *e*S **S 15 29 18.9 +2.4**
SFIN Lafayette 36.39 322 P 15 23 37.1
baz=129,SNR=10
SFIN Lafayette 36.39 322 P **P 15 23 36.9 +0.8**
baz=129,SNR=10
SFIN Lafayette 36.39 322 IAMs_20 IAMs_20 15 38 38.8
comp=Z,31µm,22.0s
PID Ribeirinha 36.45 42 *e*P **P 15 23 36.8 +0.1**
comp=Z,105nm,1.4s
PID *e*S **S 15 29 20.2 +2.6**
PBMO Poplar Bluff 36.51 315 IAmb IAmb 15 23 47.4
comp=Z,411nm,0.9s
PBMO IAMs_20 IAMs_20 15 37 49.3
comp=Z,33µm,22.0s
PBMO Poplar Bluff 36.51 315 P 15 23 37.5
baz=120,SNR=68
I49A Point Hope 36.51 330 IAmb IAmb 15 23 56.2
I49A IAMs_20 IAMs_20 15 38 01.5
comp=Z,36µm,20.0s
I49A Point Hope 36.51 330 P 15 23 38.9
baz=138,SNR=14
I49A P 15 23 38.9
baz=138,SNR=14
ROSA Rosais 36.52 42 *e*P **P 15 23 36.8 -0.5**
comp=Z,268nm,1.6s
ROSA Rosais 36.52 42 P **P 15 23 38.0 +0.7**
ROSA IAmb IAmb 15 24 34.8
comp=Z,839nm,1.7s
PMAN Manadas 36.57 42 *e*P **P 15 23 38.9 +1.2**
comp=Z,141nm,1.0s
PB02 IPOC Station P 36.63 198 *e*P **P 15 23 36.1 -2.3**
Z41A Richland Creek 36.64 308 P **P 15 23 39.1 +0.7**
baz=114,SNR=27
Z41A Richland Creek 36.64 308 P 15 23 40.3
baz=114,SNR=27
Z41A P 15 23 40.3
baz=114,SNR=27
LCAR Lake Charles 36.66 313 IAmb IAmb 15 23 49.1
comp=Z,289nm,1.0s
LCAR Lake Charles 36.66 313 P 15 23 38.9
baz=119,SNR=65
Q44A Meyer Farm, Va 36.70 319 IAmb IAmb 15 23 54.5
comp=Z,882nm,1.6s
Q44A Meyer Farm, Va 36.70 319 P 15 23 40.2
baz=125,SNR=28
SRBC Serra Branca 36.83 41 *e*P **P 15 23 40.4 +0.5**
comp=Z,1µm,1.3s
TRCB Terra Rica 36.83 171 P **P 15 23 40.9 +0.8**
TRCB IAmb IAmb 15 23 57.9
comp=Z,1µm,2.0s
TRCB Terra Rica 36.83 171 *e*P **P 15 23 40.4 +0.3**
PGRA Graciosa 36.87 41 *e*P **P 15 23 40.4 +0.2**
comp=Z,596nm,1.6s
PB09 IPOC Station P 36.89 197 IAMs_20 IAMs_20 15 40 17.3
comp=Z,26µm,19.0s
PB09 IPOC Station P 36.89 197 *e*P **P 15 23 41.4 +0.6**
L46A Eue Claire 36.97 325 P **P 15 23 41.6 +0.5**
L46A IAmb IAmb 15 24 03.7
comp=Z,469nm,1.8s
L46A IAMs_20 IAMs_20 15 38 43.1
comp=Z,41µm,22.0s
J47A Sunmer 37.01 328 IAmb IAmb 15 24 03.5
comp=Z,230nm,0.9s
J47A IAMs_20 IAMs_20 15 38 41.9
comp=Z,36µm,21.0s
J47A Sunmer 37.01 328 P 15 23 43.4
baz=134,SNR=10
J47A P 15 23 43.4
baz=134,SNR=10
PB07 IPOC Station P 37.01 198 P **P 15 23 41.1 -0.7**
PB07 IPOC Station P 37.01 198 *e*P **P 15 23 40.7 -1.0**
W41B Gary Mavity, V 37.04 311 P 15 23 42.5
baz=117,SNR=212
W41B Gary Mavity, V 37.04 311 P **P 15 23 42.1 +0.4**
baz=117,SNR=212
O44A Mansfield 37.08 321 IAmb IAmb 15 23 52.4
comp=Z,383nm,0.8s
O44A Mansfield 37.08 321 P 15 23 43.7
baz=127,SNR=24
ADH Angra Heroismo 37.14 42 *e*P **P 15 23 42.7 +0.2**
comp=Z,320nm,1.3s
BSCB Bom Sucesso 37.14 158 *e*P **P 15 23 43.3 +0.5**
X40A Basin Creek Fa 37.17 310 P **P 15 23 43.6 +0.7**
baz=115,SNR=206
X40A Basin Creek Fa 37.17 310 IAmb IAmb 15 23 54.8
comp=Z,458nm,1.1s
X40A Basin Creek Fa 37.17 310 P 15 23 44.0
baz=115,SNR=206
X40A P 15 23 44.0
baz=115,SNR=206
PAGU Agualva, Azore 37.23 42 *e*P **P 15 23 43.1 -0.3**
comp=Z,488nm,1.5s
PSCM Serra do Cume 37.24 42 *e*P **P 15 23 44.0 +0.5**
comp=Z,388nm,1.4s
PSCM *e*S **S 15 29 31.5 +1.8**
PB03 IPOC Station P 37.28 197 *e*P **P 15 23 42.2 -1.8**
SLM Saint Louis 37.35 317 IAMs_20 IAMs_20 15 37 38.4
comp=Z,36µm,22.0s
HJA Humahuaca 37.38 190 *e*P **P 15 23 44.0 -1.1**
RIB01 Linhares ES 37.46 151 *e*P **P 15 23 45.9 +0.5**
NATX Nacogdoches 37.54 305 P **P 15 23 47.4 +1.3**
baz=110,SNR=58
NATX Nacogdoches 37.54 305 P 15 23 47.5
baz=110,SNR=58
LVC Limon Verde 37.58 196 P **P 15 23 47.3 +0.6**
comp=Z,780nm,1.0s,baz=356,slow=5.7,SNR=103
LVC S **S 15 29 33.5 -2.1**
comp=Z,12nm,1.0s,baz=302,slow=7.2,SNR=1.2
LVC LR LR 15 42 13.4
comp=Z,24µm,20.9s,baz=352,slow=41
LVC Limon Verde 37.58 196 P **P 15 23 46.9 +0.1**
LVC Limon Verde 37.58 196 IAMs_20 IAMs_20 15 42 00.5
comp=Z,24µm,20.0s
LVC Limon Verde 37.58 196 ⇓P **P 15 23 46.9 +0.1**
LVC Limon Verde 37.58 196 *e*P **P 15 23 47.0 +0.1**
LVC Limon Verde 37.58 196 *e*P **P 15 23 46.7 -0.1**
M44A Midewin, Midew 37.58 323 IAmb IAmb 15 24 11.8
comp=Z,388nm,1.4s
M44A IAMs_20 IAMs_20 15 39 24.2
comp=Z,29µm,22.0s
RCLB Rio Claro- Sao 37.59 163 *e*P **P 15 23 48.0 +1.5**
PB04 IPOC Station P 37.66 198 P **P 15 23 45.8 -1.5**
PB04 IAmb IAmb 15 24 05.0
comp=Z,469nm,1.0s
PB04 IPOC Station P 37.66 198 *e*P **P 15 23 44.4 -2.9**
CCM Cathedral Cave 37.72 316 P **P 15 23 47.2 -0.3**
CCM pmax pmax
comp=Z,598nm,1.2s
CCM MLR MLR
comp=Z,30µm,22.0s
CCM Cathedral Cave 37.72 316 P **P 15 23 47.6 +0.1**
baz=121
CCM Cathedral Cave 37.72 316 P **P 15 23 47.1 -0.3**
CCM IAmb IAmb 15 23 55.0
comp=Z,598nm,1.2s
CCM Cathedral Cave 37.72 316 IAMs_20 IAMs_20 15 38 24.2
comp=Z,30µm,22.0s
CCM Cathedral Cave 37.72 316 ⇑P **P 15 23 47.4 -0.1**
CCM Cathedral Cave 37.72 316 P 15 23 47.6
baz=121,SNR=163
PSET Sete Cidades 37.72 45 *e*P **P 15 23 48.1 +0.6**
comp=Z,573nm,1.7s
PSET *e*S **S 15 29 40.9 +3.9**
PSMA Santa Maria 37.72 46 *e*P **P 15 23 48.0 +0.6**
comp=Z,439nm,1.5s
PSMA *e*S **S 15 29 39.4 +2.5**
HQIL Hanson Quary C 37.72 323 IAMs_20 IAMs_20 15 39 28.0
comp=Z,32µm,21.0s
MIAR Mount Ida 37.75 309 ⇑P **P 15 23 48.1 +0.3**
MIAR Mount Ida 37.75 309 P **P 15 23 48.2 +0.3**
baz=114,SNR=138
MIAR Mount Ida 37.75 309 IAmb IAmb 15 23 56.4
comp=Z,441nm,1.2s
MIAR Mount Ida 37.75 309 ⇑P **P 15 23 48.1 +0.3**
MIAR Mount Ida 37.75 309 P 15 23 48.6
baz=114,SNR=138
PSMN Pico do Norte, 37.76 46 *e*P **P 15 23 48.7 +0.8**
comp=Z,460nm,1.6s
PSMN *e*S **S 15 29 38.2 +0.6**
GRON Grota Negra 37.82 45 *e*P **P 15 23 50.1 +1.7**
comp=Z,607nm,1.7s
GRON *e*S **S 15 29 42.6 +4.1**
CMLA Cha da Macela 37.82 45 *e*P **P 15 23 48.6 +0.3**
comp=Z,613nm,1.4s
CMLA *e*S **S 15 29 40.4 +1.9**
CMLA Cha da Macela 37.82 45 P **P 15 23 48.8 +0.5**
CMLA pmax pmax
comp=Z,624nm,1.1s
CMLA Cha da Macela 37.82 45 P **P 15 23 48.8 +0.5**
CMLA IAmb IAmb 15 24 30.9
comp=Z,624nm,1.1s
HDIL Hopedale 37.83 321 P **P 15 23 48.9 +0.6**
baz=126,SNR=13
HDIL Hopedale 37.83 321 IAMs_20 IAMs_20 15 39 48.0
comp=Z,37µm,22.0s
HDIL Hopedale 37.83 321 P 15 23 49.8
baz=126,SNR=13
PB06 IPOC Station P 37.85 197 P **P 15 23 48.2 -0.7**
PB06 IPOC Station P 37.85 197 *e*P **P 15 23 48.1 -0.7**
PCALD Caldeiras da R 37.86 45 *e*P **P 15 23 49.3 +0.6**
comp=Z,702nm,1.0s
PCALD *e*S **S 15 29 41.4 +2.3**
FRTB Fartura 37.95 166 *e*P **P 15 23 49.4 -0.1**
MGMO Mountain Grove 37.97 314 IAmb IAmb 15 23 55.0
comp=Z,472nm,1.2s
MGMO IAMs_20 IAMs_20 15 38 33.1
comp=Z,42µm,22.0s
L44A Lake County Fo 38.00 324 P **P 15 23 50.2 +0.5**
baz=129
L44A Lake County Fo 38.00 324 IAMs_20 IAMs_20 15 39 37.2
comp=Z,35µm,22.0s
U40A Yellville 38.01 312 P **P 15 23 49.6 -0.4**
baz=117,SNR=152
U40A Yellville 38.01 312 IAmb IAmb 15 23 54.6
comp=Z,316nm,1.1s
U40A IAMs_20 IAMs_20 15 42 22.3
comp=Z,40µm,22.0s
U40A Yellville 38.01 312 P 15 23 50.1
baz=117,SNR=152
U40A P 15 23 50.1
baz=117,SNR=152
GLMI Grayling 38.03 330 P **P 15 23 50.4 +0.3**
baz=136,SNR=5.7
GLMI Grayling 38.03 330 IAmb IAmb 15 24 10.8
comp=Z,404nm,0.8s
GLMI IAMs_20 IAMs_20 15 38 36.3
comp=Z,32µm,20.0s
GLMI Grayling 38.03 330 P 15 23 53.0
baz=136,SNR=5.7
BART Pico Bartolome 38.07 45 *e*P **P 15 23 50.9 +0.3**
comp=Z,346nm,1.3s
PB05 IPOC Station P 38.17 198 *e*P **P 15 23 51.0 -0.5**
W39A Magazine 38.18 310 P **P 15 23 52.1 +0.7**
baz=115,SNR=239
W39A Magazine 38.18 310 P 15 23 52.7
baz=115,SNR=239
CHGQ Chibougamau 38.26 343 P **P 15 23 52.3 +0.4**
baz=155,SNR=82
LSQQ Lebel-sur-Quev 38.29 340 P **P 15 23 53.0 +0.9**
baz=150
PB15 IPOC Station P 38.30 196 P **P 15 23 51.0 -1.7**
PB15 IAMs_20 IAMs_20 15 41 01.5
comp=Z,21µm,20.0s
PB15 IPOC Station P 38.30 196 *e*P **P 15 23 52.7 0.0**
I45A Fountain 38.30 327 IAmb IAmb 15 24 14.2
comp=Z,394nm,1.1s
VAO Valinhos 38.30 163 *e*P **P 15 23 53.0 +0.4**
Z38A Mt. Pleasant 38.33 307 IAMs_20 IAMs_20 15 39 50.7
comp=Z,32µm,22.0s
Z38A Mt. Pleasant 38.33 307 P 15 23 54.0
baz=112,SNR=25
ALF01 Guarapari-ES 38.44 152 *e*P **P 15 23 54.3 +0.6**
R40A Maddies Statio 38.53 316 IAMs_20 IAMs_20 15 38 48.8
comp=Z,34µm,22.0s
R40A Maddies Statio 38.53 316 P 15 23 54.1
baz=120,SNR=100
237A Washetta, Mont 38.54 304 P 15 23 56.5
baz=109,SNR=40
K43A Burlington 38.57 324 P 15 23 55.5
baz=129
K43A Burlington 38.57 324 IAMs_20 IAMs_20 15 39 43.4
comp=Z,42µm,22.0s
TLIG Tlapa 38.64 281 P **P 15 23 55.0 -0.7**
TLIG IAMs_20 IAMs_20 15 40 34.1
comp=Z,24µm,21.0s
G45A Suttons Bay 38.70 329 IAMs_20 IAMs_20 15 39 30.7
comp=Z,37µm,20.0s
SPB Sao Paulo 38.73 164 ⇓P **P 15 23 57.4 +1.3**
SPB Sao Paulo 38.73 164 *e*P **P 15 23 57.1 +1.0**
HHAR Hobbs 38.76 312 IAmb IAmb 15 24 00.3
comp=Z,514nm,1.4s
HHAR Hobbs 38.76 312 P 15 23 56.9
baz=116
VAS01 Vassouras-RJ 38.80 157 *e*P **P 15 23 57.4 +0.6**
SLA San Lorenzo 38.88 190 *e*P **P 15 23 58.8 +1.3**
N41A Harden Midland 38.89 320 IAmb IAmb 15 24 18.2
comp=Z,373nm,1.1s
N41A IAMs_20 IAMs_20 15 40 21.1
comp=Z,32µm,20.0s
N41A Harden Midland 38.89 320 P 15 23 58.2
baz=124,SNR=17
PB10 IPOC Station P 38.89 198 P **P 15 23 57.8 +0.3**
PB10 IAMs_20 IAMs_20 15 42 20.3
comp=Z,30µm,22.0s
PB10 IPOC Station P 38.89 198 *e*P **P 15 23 54.5 -2.9**
L42A Oliver, Polo 38.92 322 IAMs_20 IAMs_20 15 40 06.7
comp=Z,26µm,21.0s
L42A Oliver, Polo 38.92 322 P 15 23 57.9
baz=127,SNR=40
E46A Sault Ste Mari 39.01 331 IAMs_20 IAMs_20 15 39 36.7
comp=Z,34µm,21.0s
E46A Sault Ste Mari 39.01 331 P 15 23 59.5
baz=138,SNR=37
P40A Paris 39.02 317 IAMs_20 IAMs_20 15 38 53.6
comp=Z,27µm,22.0s
P40A Paris 39.02 317 P 15 23 58.5
baz=122,SNR=78
PARB Paraibuna 39.02 161 *e*P **P 15 23 58.4 -0.3**
DUB01 Friburgo-RJ 39.04 156 *e*P **P 15 23 59.3 +0.5**
KVTX Kingsville 39.07 297 P **P 15 24 00.4 +1.4**
KVTX Kingsville 39.07 297 P 15 24 01.1
baz=102,SNR=8.7
CAM01 Campos-RJ 39.10 155 *e*P **P 15 23 59.3 +0.1**
MATQ Matagami 39.11 340 P **P 15 23 59.6 +0.6**
baz=150,SNR=50
ESAR Angra dos Reis 39.12 159 *e*P **P 15 24 00.4 +1.1**
X37A Clayton 39.13 308 IAmb IAmb 15 24 19.8
comp=Z,610nm,1.2s
X37A IAMs_20 IAMs_20 15 40 16.7
comp=Z,31µm,21.0s
X37A Clayton 39.13 308 P 15 24 00.1
baz=113,SNR=51
U38A Gravette 39.15 312 IAmb IAmb 15 24 08.3
comp=Z,701nm,1.8s
U38A IAMs_20 IAMs_20 15 39 10.6
comp=Z,23µm,21.0s
U38A Gravette 39.15 312 P 15 23 59.5
baz=116,SNR=28
735A Kenedy 39.30 299 P 15 24 01.9
baz=104,SNR=18
H43A Windswept, Lux 39.41 327 P 15 24 02.8
baz=132,SNR=22
PET01 Itanhaem-SP 39.43 164 *e*P **P 15 24 02.3 +0.4**
435B Jarrell 39.62 302 P **P 15 24 03.6 +0.1**
baz=106,SNR=30
435B Jarrell 39.62 302 P 15 24 04.0
baz=106,SNR=30
I42A Draeger Farm, 39.65 325 P 15 24 04.8
baz=130,SNR=15
JFWS Jewell Farm 39.81 323 P **P 15 24 05.5 +0.5**
baz=127,SNR=27
JFWS Jewell Farm 39.81 323 IAmb IAmb 15 24 28.5
comp=Z,893nm,1.9s
JFWS Jewell Farm 39.81 323 IAMs_20 IAMs_20 15 40 33.2
comp=Z,33µm,22.0s
JFWS Jewell Farm 39.81 323 P 15 24 06.7
baz=127,SNR=27
WHTX Lake Whitney, 39.87 304 P **P 15 24 05.7 +0.1**
baz=108,SNR=84
WHTX Lake Whitney, 39.87 304 IAmb IAmb 15 24 09.6
comp=Z,804nm,1.1s
WHTX Lake Whitney, 39.87 304 P 15 24 06.1
baz=108,SNR=84
L40A Anamosa 39.89 321 P 15 24 06.5
baz=125,SNR=28
PB14 IPOC Station P 39.90 197 P **P 15 24 05.4 -0.8**
PB14 IAmb IAmb 15 24 24.1
comp=Z,754nm,1.3s
PB14 IPOC Station P 39.90 197 *e*P **P 15 24 06.4 +0.2**
CPUP Villa Florida 39.91 178 P **P 15 24 05.0 -0.9**
comp=Z,115nm,0.9s,baz=359,slow=7.8,SNR=62
CPUP S **S 15 30 07.0 -3.0**
comp=Z,19nm,1.0s,baz=108,slow=14,SNR=2.2
CPUP LR LR 15 41 36.2
comp=Z,16µm,21.8s,baz=1.0,slow=38
CPUP Villa Florida 39.91 178 P **P 15 24 04.8 -1.0**
CPUP Villa Florida 39.91 178 ⇑P **P 15 24 05.0 -0.9**
CPUP Villa Florida 39.91 178 *e*P **P 15 24 05.4 -0.4**
TUL1 Leonard 39.97 310 P **P 15 24 06.4 +0.1**
baz=114,SNR=77
TUL1 Leonard 39.97 310 P 15 24 06.8
baz=114,SNR=77
TIJ01 Guaruva-PR 39.99 166 *e*P **P 15 24 06.9 +0.2**
P38A Dawn 40.05 317 P 15 24 07.2
baz=120,SNR=76
Z35A Perchaven, San 40.13 306 P 15 24 09.3
baz=110,SNR=54
GO02 Mina Guanaco 40.19 196 P **P 15 24 08.1 -0.5**
GO02 IAMs_20 IAMs_20 15 42 13.7
comp=Z,22µm,20.0s
LOOK Love County 40.30 307 IAmb IAmb 15 24 43.5
comp=Z,493nm,1.3s
E43A Lone Tree Farm 40.31 329 IAMs_20 IAMs_20 15 40 30.1
comp=Z,33µm,22.0s
E43A Lone Tree Farm 40.31 329 P 15 24 09.9
baz=134
MBO M'Bour 40.33 84 IAMs_20 IAMs_20 15 37 48.7
comp=Z,31µm,22.0s
N38A Joes South For 40.45 318 IAmb IAmb 15 24 34.8
comp=Z,843nm,1.2s
N38A IAMs_20 IAMs_20 15 40 58.6
comp=Z,31µm,22.0s
N38A Joes South For 40.45 318 P 15 24 11.5
baz=122,SNR=68
F42A Maple Grove Fa 40.46 328 P **P 15 24 10.5 +0.2**
833A Chaparral WMA, 40.54 298 P **P 15 24 11.0 -0.2**
baz=102,SNR=30
833A S **S 15 30 20.0 +0.4**
baz=102
833A Chaparral WMA, 40.54 298 P 15 24 11.3
baz=102,SNR=30
I40A Norwalk 40.62 324 IAmb IAmb 15 24 35.2
comp=Z,1µm,1.9s
I40A Norwalk 40.62 324 P 15 24 11.7
baz=128,SNR=20
KAPO Kapuskasing 40.62 336 ⇓P **P 15 24 11.9 +0.4**
QUOK Quay 40.75 310 IAmb IAmb 15 24 21.7
comp=Z,581nm,1.1s
QUOK IAMs_20 IAMs_20 15 40 03.5
comp=Z,30µm,22.0s
T35B Sooner Cattle 40.90 311 P 15 24 14.2
baz=114,SNR=52
T35A Sooner Cattle 40.91 311 IAmb IAmb 15 24 23.0
comp=Z,417nm,0.9s
OK025 Westminster Rd 41.00 309 IAMs_20 IAMs_20 15 41 11.1
comp=Z,27µm,22.0s
OKCFA Oklahoma City 41.02 309 P **P 15 24 15.3 +0.2**
OKCFA IAmb IAmb 15 24 23.6
comp=Z,492nm,1.3s
OKCFA IAMs_20 IAMs_20 15 44 26.8
comp=Z,18µm,19.0s
SCIA State Center 41.03 320 P **P 15 24 15.3 +0.2**
baz=123,SNR=16
SCIA S **S 15 30 26.3 -0.4**
baz=123
SCIA State Center 41.03 320 IAmb IAmb 15 24 40.7
comp=Z,1µm,1.6s
SCIA State Center 41.03 320 P 15 24 15.9
baz=123,SNR=16
K38A Parkersburg 41.16 321 IAmb IAmb 15 24 41.4
comp=Z,909nm,1.4s
K38A Parkersburg 41.16 321 P 15 24 16.6
baz=124,SNR=15
OK029 Liberty Lake 41.16 309 IAMs_20 IAMs_20 15 43 04.5
comp=Z,23µm,22.0s
COWI Conover 41.21 328 P 15 24 17.4
baz=131,SNR=22
COWI Conover 41.21 328 P **P 15 24 16.1 -0.4**
BCOK Bluff Creek, N 41.23 309 IAmb IAmb 15 24 24.6
comp=Z,578nm,0.9s
G40A Rib Lake 41.24 326 IAmb IAmb 15 24 39.9
comp=Z,526nm,1.5s
G40A Rib Lake 41.24 326 P 15 24 17.2
baz=129,SNR=26
BLOK Blackwell 41.36 311 IAmb IAmb 15 24 26.9
comp=Z,509nm,0.9s
JCT Junction City 41.38 301 P **P 15 24 18.0 -0.2**
baz=104,SNR=212
JCT S **S 15 30 32.0 -0.2**
baz=104
JCT Junction City 41.38 301 ⇑P **P 15 24 17.8 -0.4**
JCT Junction City 41.38 301 P 15 24 17.9
baz=104,SNR=212
D41A Chassel 41.56 329 P 15 24 20.9
baz=133,SNR=17
D41A Chassel 41.56 329 IAMs_20 IAMs_20 15 41 09.3
comp=Z,28µm,22.0s
MACI Morro de la Ar 41.59 63 P **P 15 24 20.1 0.0**
MACI IAmb IAmb 15 24 42.5
comp=Z,669nm,0.9s
KAN13 South Haven SW 41.65 311 IAmb IAmb 15 24 29.3
comp=Z,691nm,1.4s
AC02 Maricunga 41.67 194 P **P 15 24 21.4 +0.4**
WMOK Wichita Mounta 41.80 307 ⇑P **P 15 24 20.9 -0.7**
WMOK Wichita Mounta 41.80 307 P **P 15 24 21.0 -0.5**
baz=110,SNR=127
WMOK S **S 15 30 38.6 +0.3**
baz=110
WMOK Wichita Mounta 41.80 307 IAmb IAmb 15 24 29.8
comp=Z,638nm,1.5s
WMOK Wichita Mounta 41.80 307 IAMs_20 IAMs_20 15 42 13.5
comp=Z,32µm,22.0s
WMOK Wichita Mounta 41.80 307 ⇑P **P 15 24 20.9 -0.7**
WMOK Wichita Mounta 41.80 307 P 15 24 21.1
baz=110,SNR=127
KAN09 Caldwell North 41.80 311 IAmb IAmb 15 24 46.8
comp=Z,1µm,1.9s
ABTX Abilene, Hawle 41.82 304 P **P 15 24 21.8 0.0**
baz=107,SNR=132
ABTX S **S 15 30 37.7 -1.0**
baz=107
ABTX Abilene, Hawle 41.82 304 P 15 24 21.9
baz=107,SNR=132
CROK Carrier 41.83 310 IAMs_20 IAMs_20 15 44 35.0
comp=Z,26µm,21.0s
KSU1 Kansas State U 41.91 314 P **P 15 24 21.6 -0.8**
baz=116
KSU1 S **S 15 30 38.3 -1.4**
baz=116
KSU1 Kansas State U 41.91 314 IAmb IAmb 15 24 32.8
comp=Z,245nm,0.7s
KSU1 Kansas State U 41.91 314 IAMs_20 IAMs_20 15 44 44.2
comp=Z,30µm,20.0s
KSU1 Kansas State U 41.91 314 ⇑P **P 15 24 22.1 -0.2**
KSU1 Kansas State U 41.91 314 P 15 24 21.6
baz=116
KAN05 Bluff City Nor 41.98 311 P **P 15 24 22.9 -0.1**
KAN05 IAmb IAmb 15 24 36.1
comp=Z,518nm,1.1s
N35A Tabor 42.06 317 IAmb IAmb 15 24 27.9
comp=Z,524nm,1.1s
N35A Tabor 42.06 317 P 15 24 23.7
baz=119,SNR=31
KAN08 Anthony NE Sta 42.10 311 IAmb IAmb 15 24 37.1
comp=Z,693nm,1.3s
PMOZ Porto Moniz, M 42.12 56 *e*P **P 15 24 25.8 +1.5**
comp=Z,2µm,1.6s
PMOZ *e*S **S 15 30 43.4 +0.2**
PMOZ Porto Moniz, M 42.12 56 P **P 15 24 24.4 +0.1**
PMOZ Porto Moniz, M 42.12 56 ⇓P **P 15 24 25.9 +1.5**
PMOZ Porto Moniz, M 42.12 56 P 15 24 26.1
KAN10 Anthony SW Sta 42.15 311 IAmb IAmb 15 24 33.2
comp=Z,272nm,0.8s
I37A Lemond, Waseca 42.31 322 IAMs_20 IAMs_20 15 42 11.5

comp=Z,33µm,22.0s
I37B Waseca 42.31 322 P 15 24 26.5
baz=124,SNR=21
FUL Funchal 42.32 56 *e*P **P 15 24 26.5 +0.8**
comp=Z,611nm,1.4s
PMAR Madeira 42.32 56 *e*P **P 15 24 27.1 +1.1**
comp=Z,861nm,1.4s
TINO Tinogasta 42.52 192 *e*P **P 15 24 28.8 +1.3**
U32A Winter Ranch, 42.54 309 IAmb IAmb 15 24 36.6
comp=Z,1µm,1.8s
U32A Winter Ranch, 42.54 309 P 15 24 28.3
baz=111,SNR=16
CYA Choya 42.57 189 *e*P **P 15 24 26.6 -1.2**
ZAIG Zacatecas 42.59 289 P **P 15 24 28.6 +0.2**
ZAIG IAmb IAmb 15 24 33.9
comp=Z,735nm,1.2s
SPMN Marine on St. 42.66 324 P **P 15 24 28.6 +0.2**
baz=126,SNR=16
SPMN S **S 15 30 50.3 -0.4**
baz=126
SPMN Marine on St. 42.66 324 IAmb IAmb 15 24 51.5
comp=Z,564nm,1.6s
SPMN IAMs_20 IAMs_20 15 41 57.8
comp=Z,33µm,22.0s
SPMN Marine on St. 42.66 324 P 15 24 28.5
baz=126,SNR=16
GO03 Copiap 42.67 195 P **P 15 24 28.2 -0.5**
GO03 IAmb IAmb 15 24 48.3
comp=Z,636nm,1.1s
GO03 Copiap 42.67 195 ⇓P **P 15 24 28.9 +0.2**
GO03 Copiap 42.67 195 *e*P **P 15 24 28.6 -0.1**
E38A The Farm, Brul 42.82 326 P 15 24 30.3
baz=129,SNR=16
PMPS Porto Santo 42.88 56 *e*P **P 15 24 31.8 +1.5**
comp=Z,559nm,1.5s
PMPST Porto Santo, M 42.89 56 *e*P **P 15 24 31.7 +1.3**
comp=Z,667nm,1.4s
TER01 Tubaro-SC 43.06 168 *e*P **P 15 24 32.2 +0.5**
L34A Svendsen Farm, 43.08 318 P 15 24 32.3
baz=119,SNR=40
L34A Svendsen Farm, 43.09 318 IAmb IAmb 15 24 56.9
comp=Z,697nm,1.1s
R32A Long Quarter, 43.11 312 IAMs_20 IAMs_20 15 45 41.2
comp=Z,26µm,20.0s
R32A Long Quarter, 43.11 312 P 15 24 32.2
baz=114,SNR=33
N33B J Bar K, Exete 43.22 316 P 15 24 33.3
baz=117
N33A J Bar K, Exete 43.22 316 IAmb IAmb 15 24 56.2
comp=Z,306nm,0.9s
N33A IAMs_20 IAMs_20 15 42 09.9
comp=Z,28µm,22.0s
ITQB Itaqui 43.26 178 P **P 15 24 32.2 -1.0**
ITQB IAmb IAmb 15 24 36.8
comp=Z,491nm,1.2s
ITQB Itaqui 43.26 178 *e*P **P 15 24 32.8 -0.5**
VCA Vinchina 43.30 192 *e*P **P 15 24 35.5 +1.7**
F36A Milaca 43.45 324 P 15 24 34.1
baz=126,SNR=15
F36A Milaca 43.45 324 P **P 15 24 33.5 -1.2**
AC04 Llanos de Chal 43.48 196 P **P 15 24 34.7 -0.4**
EYMN Ely 43.64 328 P **P 15 24 36.3 0.0**
baz=130,SNR=12
EYMN S **S 15 31 05.6 +0.7**
baz=130
EYMN Ely 43.64 328 P 15 24 38.8
baz=130,SNR=12
ACLC CERRO LA CRUZ 43.73 191 *e*P **P 15 24 36.5 -0.8**
BGNE Belgrade 43.99 316 P **P 15 24 38.8 -0.5**
baz=117,SNR=25
BGNE S **S 15 31 09.6 -0.8**
baz=117
BGNE Belgrade 43.99 316 IAMs_20 IAMs_20 15 42 34.4
comp=Z,25µm,22.0s
BGNE Belgrade 43.99 316 P 15 24 39.8
baz=117,SNR=25
CBKS Cedar Bluff 44.00 312 P **P 15 24 39.1 -0.3**
CBKS S **S 15 31 09.7 -0.9**
baz=113
CBKS Cedar Bluff 44.00 312 IAmb IAmb 15 24 49.5
comp=Z,368nm,0.8s
CBKS IAMs_20 IAMs_20 15 46 28.9
comp=Z,25µm,20.0s
CBKS Cedar Bluff 44.00 312 ⇑P **P 15 24 38.8 -0.6**
CBKS Cedar Bluff 44.00 312 P 15 24 39.6
baz=113,SNR=50
AGUA GUANDACOL 44.09 192 *e*P **P 15 24 39.9 -0.2**
AMTX Amarillo 44.11 306 P **P 15 24 40.1 -0.2**
baz=108
AMTX S **S 15 31 12.5 +0.2**
baz=108
AMTX Amarillo 44.11 306 IAmb IAmb 15 24 48.9
comp=Z,692nm,1.3s
AMTX Amarillo 44.11 306 P 15 24 40.1
baz=108,SNR=53
ECSD EROS Data Cent 44.12 320 P **P 15 24 40.2 0.0**
baz=121,SNR=45
ECSD S **S 15 31 10.6 -1.5**
baz=121
ECSD EROS Data Cent 44.12 320 P 15 24 39.9
baz=121,SNR=45
LCO Las Campanas 44.15 195 P **P 15 24 41.6 +0.8**
LCO pmax pmax
comp=Z,678nm,1.1s
LCO MLR MLR
comp=Z,12µm,22.0s
LCO Las Campanas 44.15 195 P **P 15 24 41.6 +0.8**
LCO Las Campanas 44.15 195 ⇑P **P 15 24 41.2 +0.4**
CPSB Cacapava Do Su 44.23 174 *e*P **P 15 24 41.5 +0.4**
TX32 Lajitas Array 44.41 298 P **P 15 24 42.2 -0.6**
TX32 IAmb IAmb 15 24 48.4
comp=Z,418nm,1.3s
TXAR Lajitas Array 44.41 298 P **P 15 24 43.0 +0.2**
comp=Z,144nm,1.0s,baz=112,slow=6.2,SNR=136
TXAR Lajitas Array 44.41 298 P **P 15 24 42.8 -0.1**
TX31 Lajitas Ar. Si 44.41 298 P **P 15 24 42.5 -0.3**
TX31 Lajitas Ar. Si 44.41 298 ⇑P **P 15 24 42.8 -0.1**
TX31 Lajitas Ar. Si 44.41 298 P 15 24 42.9
baz=100,SNR=279
APLL PUNTA DE LOS L 44.60 190 *e*P **P 15 24 43.2 -1.0**
MSTX Muleshoe 44.71 305 P **P 15 24 44.5 -0.7**
baz=106,SNR=363
MSTX S **S 15 31 20.0 -1.2**
baz=106
MSTX Muleshoe 44.71 305 P 15 24 45.0
baz=106,SNR=363
ACDV Cuesta del Vie 44.88 193 *e*P **P 15 24 47.1 +0.6**
K31A O'Neill 44.95 318 IAMs_20 IAMs_20 15 46 05.6
comp=Z,17µm,19.0s
AROD Rodeo 44.96 193 *e*P **P 15 24 48.7 +1.4**
AVFE Valle Fertil 45.02 191 *e*P **P 15 24 47.6 +0.1**
F33A 5 Mile Ranch, 45.03 323 P **P 15 24 46.8 -0.7**
F33A 5 Mile Ranch, 45.03 323 P 15 24 47.1
baz=123,SNR=19
B35A Bob, Littlefor 45.06 327 P 15 24 47.1
baz=128,SNR=41
B35A Bob, Littlefor 45.06 327 IAmb IAmb 15 25 09.9
comp=Z,420nm,1.5s
B35A IAMs_20 IAMs_20 15 43 18.0
comp=Z,31µm,21.0s
TCA Tanti 45.25 187 *e*P **P 15 24 46.2 -3.1**
ACCO Cerro Coronel 45.27 193 *e*P **P 15 24 49.5 -0.3**
GO04 Tololo Observa 45.28 195 P **P 15 24 49.1 -0.7**
GO04 Tololo Observa 45.28 195 *e*P **P 15 24 48.6 -1.1**
ACHE Chepes 45.37 190 *e*P **P 15 24 50.4 0.0**
PLTB Pedras Altas 45.55 174 P **P 15 24 49.7 -1.9**
PLTB Pedras Altas 45.55 174 *e*P **P 15 24 50.7 -0.9**
HPIG 45.79 294 P **P 15 24 53.8 -0.2**
RTLL Cerro Villicun 45.87 192 *e*P **P 15 24 54.1 -0.1**
SUSD Miller 45.94 320 P **P 15 24 54.2 -0.5**
baz=119,SNR=22
SUSD S **S 15 31 37.6 -0.8**
baz=119
SUSD Miller 45.94 320 IAMs_20 IAMs_20 15 44 28.6
comp=Z,29µm,20.0s
SUSD Miller 45.94 320 P 15 24 54.7
baz=119,SNR=22
SJA San Juan 46.08 192 *e*P **P 15 24 57.3 +1.4**
ZON Zonda 46.12 192 P **P 15 24 55.8 -0.4**
ZON pmax pmax
comp=Z,1µm,1.4s
ZON MLR MLR
comp=Z,19µm,22.0s
ZON Zonda 46.12 192 P **P 15 24 55.8 -0.4**
ZON IAMs_20 IAMs_20 15 48 05.7
comp=Z,19µm,22.0s
ZON Zonda 46.12 192 *e*P **P 15 24 56.8 +0.6**
D32A Dogwood Acres, 46.16 324 IAmb IAmb 15 25 16.3
comp=Z,176nm,0.8s
D32B Dogwood Acres, 46.16 324 P 15 24 56.4
baz=123
AGMN Agassiz Nation 46.17 326 P **P 15 24 55.7 -0.7**
baz=125,SNR=40
AGMN S **S 15 31 39.4 -2.2**
baz=125
AGMN Agassiz Nation 46.17 326 IAmb IAmb 15 25 16.6
comp=Z,265nm,1.1s
AGMN Agassiz Nation 46.17 326 P 15 24 55.5
baz=125,SNR=40
KSCO Kaye Shedlock' 46.17 311 P **P 15 24 56.8 +0.1**
baz=110,SNR=60
KSCO S **S 15 31 41.6 -0.5**
baz=110
KSCO Kaye Shedlock' 46.17 311 IAmb IAmb 15 25 05.4
comp=Z,385nm,1.0s
KSCO IAMs_20 IAMs_20 15 47 19.3
comp=Z,21µm,20.0s
KSCO Kaye Shedlock' 46.17 311 P 15 24 57.0
baz=110,SNR=60
MNTX Cornudas Mount 46.31 301 P **P 15 24 58.3 +0.5**
baz=102,SNR=756
MNTX S **S 15 31 46.2 +2.0**
baz=102
MNTX Cornudas Mount 46.31 301 P 15 24 58.1
baz=102,SNR=756
RTCV Cerro Valdivia 46.40 192 *e*P **P 15 24 58.5 +0.1**
OGNE Ogallala 46.46 314 P **P 15 24 59.1 +0.2**
baz=113,SNR=25
OGNE Ogallala 46.46 314 IAMs_20 IAMs_20 15 47 35.7
comp=Z,29µm,21.0s
OGNE Ogallala 46.46 314 P 15 24 59.1
baz=113,SNR=25
MRA San Martin 46.46 188 *e*P **P 15 24 57.3 -1.7**
RTLS Leoncito 46.49 193 *e*P **P 15 24 59.6 +0.2**
T25A Trinidad 46.89 308 P **P 15 25 02.7 +0.2**
baz=107,SNR=46
T25A S **S 15 31 53.0 +0.2**
baz=107
T25A Trinidad 46.89 308 IAmb IAmb 15 25 10.8
comp=Z,365nm,1.3s
AUSP Uspallata 46.92 193 *e*P **P 15 25 03.4 +0.6**
KIDD KIDD Seismic O 47.27 301 P 15 25 05.7
baz=101,SNR=24
ULM Lac du Bonnet 47.33 328 P **P 15 25 04.3 -1.0**
comp=Z,84nm,0.8s,baz=132,slow=7.6,SNR=35
ULM S **S 15 31 52.5 -5.6**
comp=Z,15nm,1.1s,baz=113,slow=7.4,SNR=1.4
ULM LR LR 15 46 34.9
comp=Z,16µm,19.4s,baz=126,slow=38
ULM Lac du Bonnet 47.33 328 IAmb IAmb 15 25 25.4
comp=Z,165nm,0.9s
ULM IAMs_20 IAMs_20 15 44 46.8
comp=Z,24µm,20.0s
ULM Lac du Bonnet 47.33 328 ⇓P **P 15 25 04.2 -1.2**
VA03 San Esteban 47.70 194 P **P 15 25 08.1 -0.4**
SDCO Great Sand Dun 47.90 309 P **P 15 25 10.5 +0.1**
baz=107,SNR=98
SDCO S **S 15 32 08.6 +1.3**
baz=107
SDCO Great Sand Dun 47.90 309 IAmb IAmb 15 25 18.7
comp=Z,210nm,1.4s
SDCO Great Sand Dun 47.90 309 P 15 25 10.3
baz=107,SNR=98
ANMO Albuquerque 47.91 305 P **P 15 25 10.8 +0.4**
comp=Z,34nm,0.9s,baz=115,slow=7.9,SNR=61
ANMO PP **PP 15 27 05.5 +3.1**
comp=Z,16nm,0.9s,baz=101,slow=11,SNR=1.1
ANMO Albuquerque 47.91 305 *c i*P **P 15 25 10.6 +0.2**
ANMO pmax pmax
comp=Z,242nm,1.7s
ANMO MLR MLR
comp=Z,22µm,23.0s
ANMO Albuquerque 47.91 305 P **P 15 25 11.3 +0.9**
baz=104
ANMO S **S 15 32 04.4 -2.8**
baz=104
ANMO Albuquerque 47.91 305 P **P 15 25 10.5 +0.1**
ANMO IAmb IAmb 15 25 19.2
comp=Z,347nm,1.4s
ANMO Albuquerque 47.91 305 IAMs_20 IAMs_20 15 46 33.4
comp=Z,17µm,22.0s
ANMO Albuquerque 47.91 305 ⇑P **P 15 25 10.8 +0.4**
ANMO Albuquerque 47.91 305 P 15 25 10.9
baz=104,SNR=89
Q24A Divide 48.01 310 P **P 15 25 11.2 -0.1**
baz=108
Q24A S **S 15 32 08.8 +0.1**
baz=108
ROC1 El Roble 48.01 194 *e*P **P 15 25 12.6 +1.5**
MDND Maddock 48.02 324 P **P 15 25 10.9 0.0**
baz=121,SNR=13
MDND S **S 15 32 07.0 -1.1**
baz=121
MDND Maddock 48.02 324 P 15 25 10.9
baz=121,SNR=13
E28A Huff 48.03 322 P 15 25 11.6
baz=119,SNR=17
E28A Huff 48.03 322 IAmb IAmb 15 25 30.2
comp=Z,228nm,1.1s
E28A IAMs_20 IAMs_20 15 45 27.0
comp=Z,29µm,22.0s
Y22D IRIS PASSCAL I 48.08 304 P **P 15 25 12.6 +0.8**
baz=103,SNR=7.2
Y22D S **S 15 32 13.0 +3.4**
baz=103
Y22D IRIS PASSCAL I 48.08 304 P 15 25 13.8
baz=103,SNR=7.2
Y22A Socorro 48.09 303 P 15 25 13.3
baz=102,SNR=86
VA01 Torpederas 48.21 195 P **P 15 25 12.3 0.0**
VA01 IAmb IAmb 15 25 20.5
comp=Z,371nm,1.4s
NRS Narsarsuaq 48.24 9 *i*P **P 15 25 12.6 +0.3**
NRS IAmb IAmb 15 25 15.2
comp=Z,1µm,1.3s
NRS IAMs_20 IAMs_20 15 44 59.8
comp=Z,29µm,19.5s
NRS Narsarsuaq 48.24 9 *i*P **P 15 25 12.5 +0.3**
NRS pmax pmax
comp=Z,1µm,1.3s
NRS MLR MLR
comp=Z,29µm,20.0s
NRS Narsarsuaq 48.24 9 P **P 15 25 11.6 -0.6**
NRS Narsarsuaq 48.24 9 ⇓P **P 15 25 12.3 0.0**
MT02 Curacav 48.31 194 P **P 15 25 12.9 -0.3**
MT05 Renca 48.34 194 P **P 15 25 13.4 -0.1**
MT03 Universidad Ad 48.39 193 P **P 15 25 14.0 +0.1**
MT03 IAMs_20 IAMs_20 15 49 16.8
comp=Z,14µm,20.0s
121A Cookes Peak, D 48.48 301 P **P 15 25 16.0 +1.2**
baz=101,SNR=295
121A S **S 15 32 18.8 +3.5**
baz=101
121A Cookes Peak, D 48.48 301 P 15 25 16.6
baz=101,SNR=295
ISCO Idaho Springs 48.61 311 P **P 15 25 16.1 +0.2**
baz=109,SNR=123
ISCO S **S 15 32 18.6 +1.3**
baz=109
ISCO Idaho Springs 48.61 311 IAmb IAmb 15 25 42.0
comp=Z,478nm,1.6s
ISCO IAMs_20 IAMs_20 15 48 58.5
comp=Z,16µm,21.0s
ISCO Idaho Springs 48.61 311 P 15 25 16.2
baz=109,SNR=123
H10N3 ASCENSION HYDR 48.74 114 T T 16 17 20.5
baz=298,slow=74
H10N2 ASCENSION HYDR 48.75 114 T T 16 17 23.2
baz=298
H10N1 ASCENSION HYDR 48.76 114 T T 16 17 23.9
baz=298,slow=74
MT09 Talagante 48.77 194 P **P 15 25 16.4 -0.5**
VA05 Santo Domingo 48.80 194 P **P 15 25 17.8 +0.8**
VA05 IAmb IAmb 15 25 36.8
comp=Z,270nm,1.3s
ASCN Ascension 48.91 114 P **P 15 25 19.6 +1.5**
S22A 4UR Ranch, Cre 48.91 308 P **P 15 25 18.8 +0.5**
baz=106,SNR=71
S22A S **S 15 32 21.5 -0.1**
baz=106
MT01 Popeta 48.91 194 P **P 15 25 17.1 -0.7**
MT01 IAmb IAmb 15 25 33.0
comp=Z,236nm,1.2s
PHWY Pilot Hill 49.00 313 IAmb IAmb 15 25 45.7
comp=Z,509nm,1.4s
PHWY IAMs_20 IAMs_20 15 49 39.0
comp=Z,24µm,21.0s
RSSD Black Hills 49.07 317 P **P 15 25 18.6 -0.7**
RSSD pmax pmax
comp=Z,88nm,0.9s
RSSD MLR MLR
comp=Z,14µm,21.0s
RSSD Black Hills 49.07 317 P **P 15 25 19.4 +0.2**
baz=114
RSSD S **S 15 32 25.2 +1.8**
baz=114
RSSD Black Hills 49.07 317 P **P 15 25 18.6 -0.7**
RSSD Black Hills 49.07 317 ⇑P **P 15 25 19.7 +0.5**
RSSD Black Hills 49.07 317 P 15 25 19.9
baz=114,SNR=27
H10S3 ASCENSION HYDR 49.09 115 T T 16 17 47.4
baz=285,slow=74
H10S2 ASCENSION HYDR 49.11 115 T T 16 17 51.3
baz=295,slow=74
N23A Red Feather La 49.21 313 P **P 15 25 21.1 +0.7**
baz=109,SNR=40
N23A S **S 15 32 27.4 +1.9**
baz=109
RFA San Rafael 49.21 191 *e*P **P 15 25 19.7 -0.5**
BO01 Tunca 49.38 194 P **P 15 25 20.6 -0.8**
SLBS Sierra La Lagu 49.41 289 P **P 15 25 22.4 +0.4**
SLBS Sierra La Lagu 49.41 289 ⇓P **P 15 25 23.8 +1.8**
SMCO Snowmass 49.42 310 IAmb IAmb 15 25 48.2
comp=Z,265nm,1.4s
SMCO Snowmass 49.42 310 ⇓P **P 15 25 22.8 +0.5**
SMCO ⇑P **PP 15 27 21.8 +5.3**
OUK Oukaimeden 49.50 61 P 15 25 25.0
SRHM Skhour des Reh 49.68 59 P 15 25 25.1
BO02 Sierra Bellavi 49.70 193 P **P 15 25 23.8 -0.1**
BO02 PcP **PcP 15 26 47.2 +2.2**
COIS El Sosneado 49.75 192 *e*P **P 15 25 24.8 +0.6**
PFVI Vila Bisbo 49.89 53 *e*P **P 15 25 27.1 +1.7**
comp=Z,265nm,2.0s
PFVI Vila Bisbo 49.89 53 P **P 15 25 25.5 +0.1**
PMAFR Mafra 50.02 50 *e*P **P 15 25 26.0 -0.3**
comp=Z,254nm,1.5s
PMST Lisbon--Monsan 50.04 51 *e*P **P 15 25 27.6 +1.2**
comp=Z,400nm,1.4s
MVCO Mesa Verde 50.06 307 P **P 15 25 27.3 +0.4**
baz=104,SNR=19
MVCO S **S 15 32 39.3 +1.8**
baz=104
LIS Lisbon 50.06 51 *e*P **P 15 25 26.4 -0.2**
LIS *e*S **S 15 32 38.1 +1.2**
LIS IAMs_20 IAMs_20 15 39 35.1
comp=Z,26µm,44.2s
LIS Lisbon 50.06 51 *e*P **P 15 25 26.4 -0.2**
LIS *e*S **S 15 32 38.0 +1.2**
LIS Lisbon 50.06 51 *e*P **P 15 25 27.8 +1.2**
comp=Z,448nm,1.3s
MORF Marmelete 50.07 53 *e*P **P 15 25 26.7 -0.1**
MORF *e*S **S 15 32 38.3 +0.9**
MORF IAMs_20 IAMs_20 15 38 00.1
comp=N,48µm,22.8s
MORF Marmelete 50.07 53 *e*P **P 15 25 26.7 -0.1**
MORF *e*S **S 15 32 38.2 +0.9**
MORF Marmelete 50.07 53 *e*P **P 15 25 27.8 +1.0**
comp=N,304nm,1.5s
MORF Marmelete 50.07 53 ⇑P **P 15 25 26.9 0.0**
PTEO Sao Teotonio 50.08 52 *e*P **P 15 25 27.6 +0.9**
comp=N,239nm,1.2s
PUMA Malargue 50.10 192 *e*P **P 15 25 27.3 +0.4**
GO05 Huala 50.17 194 P **P 15 25 26.8 -0.6**
GO05 IAmb IAmb 15 25 47.9
comp=Z,179nm,1.0s
K22A Casper 50.21 315 P **P 15 25 28.5 +0.7**
baz=110,SNR=76
K22A S **S 15 32 40.9 +1.6**
baz=110
K22A Casper 50.21 315 IAmb IAmb 15 25 52.5
comp=Z,492nm,1.4s
K22A Casper 50.21 315 P 15 25 28.4
baz=110,SNR=76
AVE Averroes 50.22 58 PKP **P 15 25 28.7 +0.8**
PV15 Paradox Valley 50.33 309 IAmb IAmb 15 25 36.9
comp=Z,233nm,1.0s
PV01 Paradox Valley 50.34 308 IAmb IAmb 15 25 38.3
comp=Z,210nm,1.2s
PV01 IAMs_20 IAMs_20 15 50 43.5
comp=Z,15µm,22.0s
EDS3 Malargue 50.35 191 *e*P **P 15 25 30.2 +1.2**
RWWY Rawlins 50.37 313 IAmb IAmb 15 25 54.3
comp=Z,366nm,1.3s
RWWY IAMs_20 IAMs_20 15 47 27.3
comp=Z,24µm,21.0s
PNCL Nicolau / Gran 50.37 52 *e*P **P 15 25 30.0 +1.1**
comp=Z,246nm,1.6s
FRB Frobisher Bay 50.37 354 P **P 15 25 27.2 -1.3**
comp=Z,377nm,1.1s,baz=163,slow=7.5,SNR=32
FRB Frobisher Bay 50.37 354 ⇑P **P 15 25 27.9 -0.6**
PV07 Paradox Valley 50.48 309 IAmb IAmb 15 25 47.5
comp=Z,188nm,1.1s
PV07 IAMs_20 IAMs_20 15 48 46.1
comp=Z,16µm,22.0s
PV02 Paradox Valley 50.49 308 IAmb IAmb 15 25 39.4
comp=Z,390nm,1.2s
MESJ Messejana 50.54 52 *e*P **P 15 25 30.2 0.0**
MESJ *e*S **S 15 32 44.1 +0.5**
MESJ IAMs_20 IAMs_20 15 37 59.1
comp=N,41µm,23.1s
MESJ Messejana 50.54 52 *e*P **P 15 25 30.2 0.0**
MESJ *e*S **S 15 32 44.1 +0.5**
MESJ Messejana 50.54 52 *e*P **P 15 25 31.3 +1.1**
comp=N,120nm,1.8s
PV13 Radium Mtn., P 50.54 308 IAmb IAmb 15 25 39.7
comp=Z,375nm,1.1s
PV13 IAMs_20 IAMs_20 15 50 50.8
comp=Z,17µm,22.0s
PSBE So Bento 50.54 50 *e*P **P 15 25 30.8 +0.5**
comp=Z,331nm,1.7s
NUUK Nuuk 50.54 4 *i*P **P 15 25 30.6 +0.8**
NUUK IAmb IAmb 15 25 33.1
comp=Z,333nm,1.0s
NUUK IAMs_20 IAMs_20 15 48 17.2
comp=Z,13µm,17.3s
NUUK Nuuk 50.54 4 ⇓P **P 15 25 30.2 +0.5**
PV12 Saucer Basin, 50.56 308 IAmb IAmb 15 25 38.7
comp=Z,338nm,1.1s
W18A Petrified Fore 50.57 304 P **P 15 25 31.3 +0.5**
baz=102,SNR=30
W18A S **S 15 32 47.0 +2.4**
baz=102
W18A Petrified Fore 50.57 304 IAmb IAmb 15 25 46.8
comp=Z,426nm,1.3s
PV03 Paradox Valley 50.58 308 IAmb IAmb 15 25 44.7
comp=Z,307nm,1.3s
PV22 Blue Mesa, Par 50.61 309 IAmb IAmb 15 25 58.0
comp=Z,516nm,1.9s
PV22 IAMs_20 IAMs_20 15 47 49.6
comp=Z,18µm,22.0s
PV11 David Mesa, Pa 50.61 308 IAmb IAmb 15 25 39.6
comp=Z,441nm,1.3s
PCVE Castro Verde 50.62 52 *e*P **P 15 25 30.2 -0.7**
comp=Z,144nm,1.7s
X18A Snowflake 50.63 303 IAmb IAmb 15 25 43.5
comp=Z,222nm,1.0s
PV18 Skein Mesa, Pa 50.63 308 IAmb IAmb 15 25 41.8
comp=Z,202nm,1.0s
O20A White River Ci 50.64 311 P **P 15 25 32.0 +0.7**
baz=107,SNR=15
O20A S **S 15 32 48.2 +2.8**
baz=107
O20A White River Ci 50.64 311 P **P 15 25 31.7 +0.5**
PV16 Nyswonger Mesa 50.65 308 IAmb IAmb 15 26 16.2
comp=Z,398nm,1.5s
PV04 Paradox Valley 50.66 309 IAmb IAmb 15 25 58.7
comp=Z,428nm,1.5s
HSIG 50.67 296 P **P 15 25 31.5 +0.1**
PV17 East Wray Mesa 50.68 308 IAmb IAmb 15 25 58.7
comp=Z,571nm,1.6s
PV17 IAMs_20 IAMs_20 15 49 03.4
comp=Z,21µm,22.0s
PV20 West Nyswonger 50.70 308 IAmb IAmb 15 26 01.9
comp=Z,255nm,1.3s
PV19 Morning Glory 50.70 308 IAmb IAmb 15 25 58.9
comp=Z,419nm,1.6s
PV05 Paradox Valley 50.73 308 IAmb IAmb 15 26 13.5
comp=Z,212nm,1.2s

PV05 IAms_20 IAms_20 15 51 03.7
comp=Z,20µm,21.0s
PV10 Paradox Valley 50.76 308 IAmb IAmb 15 25 56.9
comp=Z,434nm,1.5s
PV10 IAms_20 IAms_20 15 51 06.0
comp=Z,14µm,21.0s
ML02 Panimavida 50.77 194 P **P 15 25 31.7 -0.2**
PVAQ Vaqueiros 50.82 53 *e*P **P 15 25 33.5 +1.1**
comp=Z,232nm,1.5s
PVAQ *e*S **S 15 32 47.8 +0.3**
PVAQ *e*LR LR 15 38 18.6
comp=Z,13µm,20.0s
PVAQ Vaqueiros 50.82 53 P **P 15 25 32.9 +0.5**
PVAQ Vaqueiros 50.82 53 P 15 25 33.6
PMTG Montargil 50.85 51 *e*P **P 15 25 31.9 -0.7**
comp=Z,379nm,1.3s
PBEJ Beja 50.85 52 *e*P **P 15 25 33.5 +0.9**
comp=Z,87nm,1.3s
EVO Evora 50.87 51 PKP **P 15 25 30.1 -2.7**
EVO Evora 50.87 51 *e*P **P 15 25 33.5 +0.8**
comp=Z,134nm,1.6s
ZHG ZHG 50.88 58 P 15 25 34.0
PCAS Casmilo, Conde 50.91 49 *e*P **P 15 25 32.3 -0.7**
comp=Z,342nm,1.5s
TUC Tucson 50.94 300 P **P 15 25 33.8 +0.3**
TUC pmax pmax
comp=Z,315nm,1.3s
TUC MLR MLR
comp=Z,12µm,22.0s
TUC Tucson 50.94 300 P **P 15 25 34.5 +1.0**
baz=98
TUC S **S 15 32 52.8 +3.2**
baz=98
TUC Tucson 50.94 300 P **P 15 25 33.8 +0.3**
TUC IAmb IAmb 15 25 38.9
comp=Z,315nm,1.2s
TUC Tucson 50.94 300 ⇑P **P 15 25 34.2 +0.7**
COI Coimbra 51.02 49 P **P 15 25 33.6 -0.2**
COI pmax pmax
comp=Z,458nm,1.1s
COI Coimbra 51.02 49 *e*P **P 15 25 35.0 +1.2**
comp=Z,579nm,1.3s
COI Coimbra 51.02 49 P **P 15 25 33.6 -0.2**
COI IAmb IAmb 15 25 53.8
comp=Z,458nm,1.1s
PESTR Estremoz 51.27 51 *e*P **P 15 25 35.3 -0.5**
comp=Z,247nm,1.5s
PESTR Estremoz 51.27 51 P **P 15 25 36.6 +0.8**
PESTR Estremoz 51.27 51 ⇓P **P 15 25 36.9 +1.1**
PESTR Estremoz 51.27 51 P 15 25 37.0
TZRR Tazzarine 51.40 62 P 15 25 39.1
LAO LASA Array 51.51 319 P **P 15 25 37.9 +0.4**
baz=114,SNR=52
LAO S **S 15 32 58.4 +1.4**
baz=114
LAO LASA Array 51.51 319 IAmb IAmb 15 26 09.5
comp=Z,557nm,1.6s
LAO LASA Array 51.51 319 P 15 25 38.2
baz=114,SNR=52
ARNO Arenosillo 51.52 53 PKP **P 15 25 37.7 +0.1**
PBAR Barrancos 51.52 52 *e*P **P 15 25 38.8 +1.1**
comp=Z,138nm,1.8s
PVIS Viseu 51.54 49 *e*P **P 15 25 38.2 +0.4**
comp=Z,174nm,1.6s
PMRV Marv??o 51.56 50 *e*P **P 15 25 37.5 -0.5**
comp=Z,186nm,1.5s
PMRV *e*S **S 15 32 57.2 -0.6**
PMRV *e*LR LR 15 39 20.1
comp=Z,9µm,20.0s
BI02 San Fabin de 51.60 193 P **P 15 25 37.4 -0.9**
BI02 IAmb IAmb 15 25 53.4
comp=Z,296nm,1.1s
BI02 IAMs_20 IAMs_20 15 51 02.9
comp=Z,14µm,18.0s
BI02 San Fabin de 51.60 193 *e*P **P 15 25 38.2 0.0**
PCBR Castelo Branco 51.61 50 *e*P **P 15 25 37.5 -0.8**
comp=Z,255nm,1.4s
PGAV Gavieira, Arco 51.63 47 *e*P **P 15 25 38.5 0.0**
comp=Z,261nm,1.7s
PGAV *e*S **S 15 32 57.2 -1.7**
PGAV *e*LR LR 15 39 48.6
comp=Z,8µm,20.0s
TRQA Tornquist 51.68 183 P **P 15 25 38.2 -0.5**
TRQA pmax pmax
comp=Z,82nm,1.1s
TRQA MLR MLR
comp=Z,20µm,22.0s
TRQA Tornquist 51.68 183 P **P 15 25 38.2 -0.5**
TRQA Tornquist 51.68 183 IAMs_20 IAMs_20 15 50 46.7
comp=Z,20µm,22.0s
TRQA Tornquist 51.68 183 ⇓P **P 15 25 38.2 -0.5**
TRQA Tornquist 51.68 183 *e*P **P 15 25 38.2 -0.5**
MTE Manteigas 51.71 49 *e*P **P 15 25 38.2 -0.9**
comp=Z,349nm,1.5s
MTE *e*S **S 15 32 58.4 -1.5**
MTE *e*LR LR 15 37 57.9
comp=Z,13µm,20.0s
MTE Manteigas 51.71 49 P **P 15 25 38.5 -0.6**
MTE IAmb IAmb 15 25 51.0
comp=Z,252nm,1.1s
MTE Manteigas 51.71 49 ⇑P **P 15 25 38.2 -0.9**
PCAB Cabril 51.73 47 *e*P **P 15 25 39.7 +0.5**
comp=Z,179nm,1.4s
RDMU Red Mountain 51.73 311 IAmb IAmb 15 26 04.2
comp=Z,518nm,1.4s
SFS San Fernando 51.80 54 PKP **P 15 25 40.5 +0.8**
POLO Lamas de Olo 51.80 48 *e*P **P 15 25 40.2 +0.4**
comp=Z,121nm,1.5s
RSA Sarsar 51.80 56 P 15 25 43.0
PVRL Vila Real 51.83 48 *e*P **P 15 25 39.8 -0.1**
comp=Z,198nm,1.7s
WUAZ Wupatki 51.96 304 P **P 15 25 41.7 +0.5**
baz=101,SNR=86
WUAZ S **S 15 33 06.8 +3.0**
baz=101
WUAZ Wupatki 51.96 304 IAmb IAmb 15 25 50.5
comp=Z,351nm,1.1s
WUAZ Wupatki 51.96 304 ⇑P **P 15 25 42.0 +0.8**
SRU San Rafael Swe 52.07 309 IAmb IAmb 15 26 09.1
comp=Z,306nm,0.9s
FCC Fort Churchill 52.09 337 IAmb IAmb 15 25 44.1
comp=Z,198nm,1.0s
CZD Col de Zad 52.14 59 P 15 25 45.0
IFR Ifrane 52.14 58 PKP **P 15 25 42.9 +0.3**
CHEFC Chefchaouen 52.23 56 P 15 25 45.0
MVO Moncorvo 52.29 48 *e*P **P 15 25 43.4 -0.1**
comp=Z,304nm,1.7s
MVO *e*S **S 15 33 06.6 -1.3**
MVO *e*LR LR 15 38 24.0
comp=Z,7µm,22.0s
SMIR Smir Dam 52.30 55 P 15 25 46.0
P17A Butcher Ranch, 52.32 309 IAmb IAmb 15 26 11.4
comp=Z,620nm,1.4s
CEU Ceuta 52.34 55 PKP **P 15 25 43.6 -0.2**
BW06 Boulder Array 52.36 314 P **P 15 25 44.3 +0.2**
baz=108,SNR=118
BW06 S **S 15 33 10.7 +1.5**
baz=108
BW06 Boulder Array 52.36 314 IAmb IAmb 15 26 09.2
comp=Z,303nm,1.1s
BW06 IAMs_20 IAMs_20 15 51 48.0
comp=Z,23µm,21.0s
PD31 Pinedale Array 52.36 314 IAmb IAmb 15 26 09.2
comp=Z,274nm,1.1s
PD31 Pinedale Array 52.36 314 ⇑P **P 15 25 43.8 -0.4**
PDAR Pinedale Array 52.36 314 P **P 15 25 43.8 -0.4**
comp=Z,32nm,0.8s,baz=111,slow=8.1,SNR=141
PDAR S **S 15 33 08.8 -0.3**
comp=Z,3.7nm,1.1s,baz=98,slow=9.2,SNR=1.7
PDAR Pinedale Array 52.36 314 P **P 15 25 43.4 -0.7**
LCRM LCR 52.39 58 P 15 25 47.0
MDT Midelt 52.47 59 P **P 15 25 44.4 -0.6**
comp=Z,28nm,1.1s,baz=274,slow=7.7,SNR=30
MDT LR LR 15 44 30.8
comp=Z,10µm,20.6s,baz=267,slow=32
MDT Midelt 52.47 59 P 15 25 46.2
214A Organ Pipe Nat 52.60 300 P **P 15 25 46.8 +1.0**
baz=97,SNR=47
214A S **S 15 33 16.4 +4.1**
baz=97
214A Organ Pipe Nat 52.60 300 IAmb IAmb 15 25 50.9
comp=Z,530nm,1.7s
ARF Arif 52.63 61 P 15 25 49.0
TMUT Trail Mountain 52.63 309 IAmb IAmb 15 26 07.1
comp=Z,207nm,0.8s
PBRG Braganca 52.68 48 *e*P **P 15 25 45.9 -0.4**
comp=Z,169nm,1.5s
CANA Caviahue 52.73 192 *e*P **P 15 25 43.7 -3.1**
KOWA Kowa 52.80 82 P **P 15 25 46.5 -1.0**
comp=Z,166nm,0.8s,baz=282,slow=7.3,SNR=118
KOWA Kowa 52.80 82 P **P 15 25 46.1 -1.4**
KOWA IAmb IAmb 15 26 03.0
comp=Z,381nm,0.9s
KOWA Kowa 52.80 82 *i* P **P 15 25 46.7 -0.7**
U15A North Rim 52.86 305 IAmb IAmb 15 26 32.3
comp=Z,646nm,1.8s
U15A IAMs_20 IAMs_20 15 52 07.5
comp=Z,19µm,20.0s
RLMT Red Lodge 52.91 317 P **P 15 25 48.8 +0.7**
baz=110,SNR=71
RLMT S **S 15 33 17.6 +1.1**
baz=110
RLMT Red Lodge 52.91 317 IAmb IAmb 15 26 21.6
comp=Z,218nm,1.0s
FFC Flin Flon 52.95 330 P **P 15 25 46.8 -1.2**
FFC pmax pmax
comp=Z,96nm,1.1s
FFC MLR MLR
comp=Z,39µm,22.0s
FFC Flin Flon 52.95 330 P **P 15 25 46.8 -1.2**
FFC Flin Flon 52.95 330 ⇑P **P 15 25 47.4 -0.6**
PKCU Pink Cliffs 53.07 307 IAmb IAmb 15 26 27.9
comp=Z,354nm,1.3s
PVLZ Peæn de 53.08 56 PKP **P 15 25 48.9 -0.3**
TIC Toumodi 53.09 92 *e*P **P 15 25 49.9 +0.2**
MTPU Mount Pierson 53.09 307 IAmb IAmb 15 26 17.6
comp=Z,474nm,1.5s
MPU Maple Canyon 53.12 310 IAmb IAmb 15 26 17.1
comp=Z,298nm,1.4s
LIC Lamto 53.17 93 *e*P **P 15 25 49.5 -0.7**
comp=Z,965nm,1.3s
DBIC Dimbokro 53.24 92 P **P 15 25 49.2 -1.5**
DBIC Dimbokro 53.24 92 P **P 15 25 49.2 -1.5**
EMAL Malaga-Limoner 53.25 54 PKP **P 15 25 51.0 +0.4**
DY2G Dye2 53.26 6 *i* P **P 15 25 50.3 -0.1**
DY2G IAmb IAmb 15 25 52.9
comp=Z,3µm,1.4s
DY2G IAMs_20 IAMs_20 15 50 21.4
comp=Z,18µm,18.4s
DY2G Dye2 53.26 6 ⇓P **P 15 25 49.2 -1.1**
LOHW Long Hollow 53.34 314 IAMs_20 IAMs_20 15 52 33.9
comp=Z,17µm,21.0s
CTU Camp Tracy 53.37 311 IAmb IAmb 15 26 19.0
comp=Z,663nm,1.5s
PALE Palemas 53.38 56 P 15 25 54.0
ISOG Isortoq, Green 53.38 10 *i* P **P 15 25 50.6 -0.4**
ISOG IAmb IAmb 15 25 53.3
comp=Z,594nm,1.1s
ISOG IAMs_20 IAMs_20 15 48 36.1
comp=Z,14µm,19.1s
ISOG Isortoq, Green 53.38 10 ⇑P **P 15 25 50.1 -0.8**
YMP Mirror Lake Pl 53.38 316 IAmb IAmb 15 26 17.2
comp=Z,662nm,1.9s
SNOW Snow King Moun 53.40 314 IAMs_20 IAMs_20 15 49 03.6
comp=Z,18µm,21.0s
SFJD Kangerlussuaq 53.41 4 P **P 15 25 48.5 -2.6**
comp=Z,235nm,1.1s,baz=194,slow=8.8,SNR=45
SFJD LR LR 15 44 45.4
comp=Z,9µm,20.3s,baz=192,slow=32
SFJD Kangerlussuaq 53.41 4 *i* P **P 15 25 50.6 -0.6**
SFJD IAmb IAmb 15 25 53.5
comp=Z,369nm,1.3s
SFJD Kangerlussuaq 53.41 4 *i* P **P 15 25 50.5 -0.6**
SFJD pmax pmax
comp=Z,370nm,1.3s
SFJD Kangerlussuaq 53.41 4 P **P 15 25 49.9 -1.2**
SFJD Kangerlussuaq 53.41 4 ⇑P **P 15 25 50.2 -0.9**
KIC Kosan Boka 53.42 92 *e*P **P 15 25 51.4 -0.7**
comp=Z,378nm,0.9s
REDW Red Top Meadow 53.44 314 IAmb IAmb 15 26 18.3
comp=Z,695nm,1.8s
REDW IAMs_20 IAMs_20 15 49 05.6
comp=Z,19µm,21.0s
AHID Auburn Hatcher 53.45 313 IAmb IAmb 15 26 17.2
comp=Z,433nm,1.2s
HWUT Hardware Ranch 53.47 312 IAmb IAmb 15 26 16.7
comp=Z,533nm,1.6s
HWUT IAMs_20 IAMs_20 15 49 34.4
comp=Z,16µm,22.0s
LKWY Lake 53.49 316 IAmb IAmb 15 26 27.1
comp=Z,531nm,1.9s
TPAW Teton Pass 53.55 314 IAmb IAmb 15 26 21.3
comp=Z,182nm,1.0s
TPAW IAMs_20 IAMs_20 15 52 50.4
comp=Z,18µm,22.0s
H17A Grant Village 53.56 315 P **P 15 25 53.7 +0.7**
baz=108
ANGG Ammassalik, Gr 53.68 11 *i* P **P 15 25 53.3 +0.2**
ANGG IAmb IAmb 15 25 55.3
comp=Z,794nm,1.4s
ANGG IAMs_20 IAMs_20 15 42 41.8
comp=Z,26µm,26.5s
ANGG Ammassalik, Gr 53.68 11 P **P 15 25 52.1 -1.0**
ANGG Ammassalik, Gr 53.68 11 ⇓P **P 15 25 52.5 -0.6**
SZCU Shurtz Canyon 53.71 307 IAmb IAmb 15 26 23.5
comp=Z,248nm,1.3s
YHH Holmes Hill 53.87 316 IAmb IAmb 15 26 20.3
comp=Z,533nm,1.8s
PAB San Pablo 53.88 51 P **P 15 25 55.2 0.0**
PAB San Pablo 53.88 51 P **P 15 25 55.2 0.0**
PAB San Pablo 53.88 51 ⇑P **P 15 25 54.9 -0.3**
PAB San Pablo 53.88 51 P 15 25 56.4
CCUT Cedar City 53.91 307 P **P 15 25 56.0 +0.4**
W13A Hualapai Mount 53.91 303 IAmb IAmb 15 26 00.9
comp=Z,294nm,1.6s
PDMCI Parker Dam,Lak 54.01 302 P **P 15 25 57.3 +1.2**
baz=98,SNR=34
PDMCI S **S 15 33 36.6 +5.3**
baz=98
DUG Dugway, Tooele 54.04 310 P **P 15 25 56.6 +0.2**
baz=103,SNR=104
DUG S **S 15 33 32.7 +0.8**
baz=103
DUG Dugway, Tooele 54.04 310 IAmb IAmb 15 26 03.6
comp=Z,276nm,1.2s
DUG IAMs_20 IAMs_20 15 48 47.3
comp=Z,22µm,22.0s
VAL Valentia 54.12 35 ⇑P **P 15 25 56.9 +0.3**
ESDC Sonseca Array 54.20 51 P **P 15 25 56.6 -0.8**
comp=Z,37nm,0.9s,baz=257,slow=6.3,SNR=129
ESDC S **S 15 33 32.9 -1.0**
comp=Z,0.3nm,0.4s,baz=118,slow=14,SNR=1.4
ESDC LR LR 15 45 12.4
comp=Z,5µm,21.0s,baz=260,slow=32
ESDC PKP2bc 15 56 25.4
comp=Z,1.2nm,1.1s,baz=118,slow=1.9,SNR=4.4
ESDC Sonseca Array 54.20 51 P **P 15 25 56.7 -0.8**
ESDC IAmb IAmb 15 26 00.3
comp=Z,220nm,1.4s
ESBB Sonseca Array 54.20 51 P **P 15 25 57.4 -0.1**
MELI Melilla 54.20 56 PKP **P 15 25 56.6 -0.9**
MELI Melilla 54.20 56 PKS **PKiKP 15 33 31.3 -5.5**
SFX San Felipe 54.23 298 P **P 15 25 57.9 +0.2**
SFX IAmb IAmb 15 26 07.7
comp=Z,326nm,1.3s
EGMT Eagleton 54.23 320 P **P 15 25 57.9 +0.3**
baz=111,SNR=29
EGMT S **S 15 33 36.1 +2.0**
baz=111
EGMT Eagleton 54.23 320 IAmb IAmb 15 26 26.4
comp=Z,272nm,0.8s
EGMT IAMs_20 IAMs_20 15 49 39.1
comp=Z,20µm,21.0s
JBK JBK 54.37 58 P 15 26 00.0
BGU Big Grassy Mou 54.37 311 IAmb IAmb 15 26 05.7
comp=Z,330nm,1.2s
GLA Glamis 54.42 301 P **P 15 26 00.4 +1.3**
baz=97,SNR=34
GLA S **S 15 33 41.5 +4.5**
baz=97
GLA Glamis 54.42 301 IAmb IAmb 15 26 04.1
comp=Z,587nm,1.6s
NEE2 Needles Airpor 54.46 303 P **P 15 26 00.4 +1.0**
baz=98
NEE2 S **S 15 33 41.8 +4.3**
baz=98
PSUT Pine Spring 54.48 308 IAmb IAmb 15 26 20.3
comp=Z,298nm,1.0s
BOZ Bozeman (W) 54.64 317 P **P 15 26 01.2 +0.5**
baz=108,SNR=101
BOZ S **S 15 33 42.3 +2.5**
baz=108
BOZ Bozeman (W) 54.64 317 IAmb IAmb 15 26 28.3
comp=Z,260nm,1.2s
TDRA Tendrara 54.65 59 P 15 26 02.0
IRM Iron Mountain 54.81 302 P **P 15 26 03.4 +1.4**
baz=97,SNR=213
IRM S **S 15 33 46.5 +4.2**
baz=97
UCM Universidad Co 54.87 50 PKP **P 15 26 01.9 -0.4**
UCM Universidad Co 54.87 50 PKS **PKiKP 15 33 42.7 +5.3**
SPR3 Spring Creek 3 54.94 308 IAmb IAmb 15 26 24.0
comp=Z,202nm,1.1s
SHPR Sheep Range 55.15 305 IAMs_20 IAMs_20 15 54 12.1
comp=Z,16µm,20.0s
FIGM Figuig 55.20 60 P 15 26 07.0
PRN Pahroc Range 55.21 306 IAmb IAmb 15 27 28.5
comp=Z,184nm,1.2s
PRN IAMs_20 IAMs_20 15 50 25.6
comp=Z,20µm,22.0s
PRN Pahroc Range 55.21 306 ⇑P **P 15 26 06.8 +1.9**
SWSC Sam W. Stewart 55.22 301 P **P 15 26 06.0 +1.1**
baz=96,SNR=23
SWSC S **S 15 33 52.7 +5.0**
baz=96
DLMT Dillon 55.22 316 P **P 15 26 04.9 0.0**
DLMT IAmb IAmb 15 26 30.8
comp=Z,416nm,1.4s
GMRC Granite Mounta 55.31 303 P **P 15 26 07.1 +1.4**
baz=97,SNR=42
GMRC S **S 15 33 52.8 +3.6**
baz=97
PLCA Paso Flores 55.38 191 P **P 15 26 06.3 +0.4**
comp=Z,125nm,1.0s,baz=5.9,slow=7.5,SNR=64
PLCA Paso Flores 55.38 191 P **P 15 26 06.0 0.0**
PLCA Paso Flores 55.38 191 ⇑P **P 15 26 06.3 +0.4**
PLCA Paso Flores 55.38 191 *e*P **P 15 26 05.8 -0.2**
IKP In-Ko-Pah, Jac 55.45 300 P **P 15 26 08.4 +1.7**
baz=96,SNR=56
IKP S **S 15 33 54.9 +3.9**
baz=96
BELC Belle Mtn. Jos 55.50 302 P **P 15 26 08.8 +1.7**
baz=96,SNR=39
BELC S **S 15 33 54.9 +3.2**
baz=96
ILULI Ilulissat 55.58 3 *i* P **P 15 26 06.5 -0.3**
ILULI IAmb IAmb 15 26 09.1
comp=Z,472nm,1.0s
ILULI Ilulissat 55.58 3 *i* P **P 15 26 06.5 -0.3**
ILULI pmax pmax
comp=Z,470nm,1.0s
ILULI Ilulissat 55.58 3 P **P 15 26 04.6 -2.2**
ILULI IAMs_20 IAMs_20 15 45 52.8
comp=Z,16µm,21.0s
TUQ Turquoise Moun 55.61 304 P **P 15 26 09.4 +1.5**
baz=98,SNR=73
TUQ S **S 15 33 56.5 +3.4**
baz=98
MONP2 Monument Peak 55.73 300 P **P 15 26 09.8 +0.9**
baz=96,SNR=95
MONP2 S **S 15 33 58.8 +3.8**
baz=96
R11A Troy Canyon, C 55.78 307 P **P 15 26 10.1 +0.9**
baz=100,SNR=83
R11A S **S 15 33 58.7 +3.3**
baz=100
R11A Troy Canyon, C 55.78 307 IAMs_20 IAMs_20 15 54 08.7
comp=Z,17µm,20.0s
TPFO Pinon Flats 55.83 301 P **P 15 26 10.8 +1.3**
baz=96,SNR=30
TPFO S **S 15 34 01.3 +5.2**
baz=96
PFO Pinyon Flats O 55.84 301 P **P 15 26 10.0 +0.4**
PFO pmax pmax
comp=Z,142nm,1.2s
PFO MLR MLR
comp=Z,6µm,22.0s
PFO Pinyon Flats O 55.84 301 P **P 15 26 10.7 +1.1**
baz=96,SNR=25
PFO S **S 15 33 59.8 +3.6**
baz=96
PFO Pinyon Flats O 55.84 301 P **P 15 26 09.9 +0.4**
CCX Cicese 55.85 299 P **P 15 26 10.5 +1.0**
CCX IAmb IAmb 15 26 19.1
comp=Z,313nm,1.5s
TKX Tecate 55.86 300 IAmb IAmb 15 26 14.3
comp=Z,404nm,1.7s
HEC Hector,Ludlow 55.87 303 P **P 15 26 10.9 +1.2**
baz=97,SNR=43
HEC S **S 15 34 01.6 +5.1**
baz=97
BAR Barrett 55.92 300 IAmb IAmb 15 26 19.3
comp=Z,224nm,1.3s
LL04 Puerto Octay 55.92 193 P **P 15 26 09.6 -0.1**
SHOC Shoshone, Teco 55.96 304 P **P 15 26 11.3 +1.0**
baz=98,SNR=28
SHOC S **S 15 34 00.3 +2.8**
baz=98
ELK Elko 55.97 310 IAMs_20 IAMs_20 15 53 32.2
comp=Z,18µm,19.0s
HLID Hailey 55.99 313 P **P 15 26 10.9 +0.4**
baz=104,SNR=65
HLID S **S 15 34 01.5 +3.4**
baz=104
HLID Hailey 55.99 313 IAMs_20 IAMs_20 15 49 15.2
comp=Z,17µm,21.0s
TPNV Topopah Spring 56.08 305 P **P 15 26 12.4 +1.1**
baz=98,SNR=134
TPNV S **S 15 34 02.8 +3.3**
baz=98
TPNV Topopah Spring 56.08 305 IAmb IAmb 15 26 23.4
comp=Z,190nm,0.9s
TPNV IAMs_20 IAMs_20 15 54 30.8
comp=Z,15µm,21.0s
TPNV Topopah Spring 56.08 305 ⇑P **P 15 26 12.3 +1.1**
CART Cartagena 56.09 54 PKP **P 15 26 09.9 -1.2**
LL03 Petrohue 56.14 193 P **P 15 26 12.3 +1.1**
BBRC Big Bear Solar 56.29 302 P **P 15 26 14.3 +1.5**
baz=96
BBRC S **S 15 34 05.1 +2.8**
baz=96
109C Camp Elliot, M 56.30 300 P **P 15 26 13.9 +1.2**
baz=95
109C S **S 15 34 06.6 +4.5**
baz=95
109C Camp Elliot, M 56.30 300 IAmb IAmb 15 26 22.0
comp=Z,220nm,1.1s
GSC Goldstone, Bar 56.31 303 P **P 15 26 13.8 +1.0**
baz=97,SNR=47
GSC S **S 15 34 05.8 +3.4**
baz=97
GSC Goldstone, Bar 56.31 303 IAmb IAmb 15 26 38.5
comp=Z,272nm,1.4s
CCA1 Carnmenellis 56.33 38 *e*P **P 15 26 12.6 0.0**
CCA1 IAmb IAmb 15 26 15.1
comp=Z,595nm,1.5s
CCA1 IAMs_20 IAMs_20 15 47 17.6
comp=Z,11µm,16.9s
RRX Edison Barstow 56.42 303 P **P 15 26 14.9 +1.4**
baz=96
RRX S **S 15 34 08.4 +4.8**
baz=96
MURC Murrieta 56.45 301 P **P 15 26 14.8 +1.0**
baz=96,SNR=41
MURC S **S 15 34 07.6 +3.5**
baz=96
FURC Furnace Creek, 56.51 305 P **P 15 26 15.3 +1.2**
baz=98,SNR=45
FURC S **S 15 34 08.0 +3.3**
baz=98
MSO Missoula 56.54 317 P **P 15 26 14.9 +0.6**
baz=107,SNR=18
MSO S **S 15 34 06.9 +1.9**
baz=107
ICESG Greenland Ices 56.55 8 *i* P **P 15 26 13.4 -0.8**
ICESG IAmb IAmb 15 26 16.1
comp=Z,976nm,1.3s
ICESG IAMs_20 IAMs_20 15 45 24.3
comp=Z,57µm,26.5s
ICESG Greenland Ices 56.55 8 ⇑P **P 15 26 12.7 -1.5**
ICESG ⇑P **P 15 26 12.8 -1.5**
ICESG ⇑P **P 15 26 15.6 +1.3**
LL05 Los Muermos 56.63 193 P **P 15 26 14.7 0.0**
BFSC Mount Baldy Ra 56.89 302 P **P 15 26 18.3 +1.2**
baz=96,SNR=43
BFSC S **S 15 34 13.4 +3.3**
baz=96
BORG Borgarnes 56.92 18 P **P 15 26 15.4 -1.1**
comp=Z,124nm,1.1s,baz=238,slow=5.2,SNR=15

BORG LR LR 15 46 27.9
comp=Z,14µm,20.8s,baz=229,slow=32
BORG Borgarnes 56.92 18 P **P 15 26 17.2 +0.7**
BORG pmax pmax
comp=Z,404nm,1.4s
BORG Borgarnes 56.92 18 P **P 15 26 17.2 +0.7**
BORG IAmb IAmb 15 26 20.4
comp=Z,404nm,1.4s
BORG Borgarnes 56.92 18 IAMs_20 IAMs_20 15 46 17.2
comp=Z,18µm,22.0s
BORG Borgarnes 56.92 18 ⇑P **P 15 26 17.7 +1.2**
MFID Camas Ranch 56.96 313 IAmb IAmb 15 26 42.2
comp=Z,250nm,1.4s
GRAC Grapevine Rang 56.98 305 P **P 15 26 18.6 +1.1**
baz=98,SNR=90
GRAC S **S 15 34 14.8 +3.7**
baz=98
JTMT Jette 57.02 318 P **P 15 26 16.9 -0.9**
JTMT IAmb IAmb 15 26 46.6
comp=Z,555nm,1.7s
JTMT IAMs_20 IAMs_20 15 49 34.1
comp=Z,21µm,21.0s
LRMC Laurel Mtn Rad 57.04 303 P **P 15 26 18.8 +0.7**
baz=96,SNR=61
LRMC S **S 15 34 16.1 +4.0**
baz=96
HTL Hartland 57.05 38 *e*P **P 15 26 18.0 +0.3**
HTL IAmb IAmb 15 26 20.3
comp=Z,570nm,1.9s
HTL IAMs_20 IAMs_20 15 44 07.8
comp=Z,17µm,26.8s
MWC Mount Wilson 57.22 302 IAmb IAmb 15 26 44.7
comp=Z,427nm,1.6s
EDW2 Edwards Air Fo 57.23 303 P **P 15 26 20.5 +1.1**
baz=96,SNR=90
EDW2 S **S 15 34 18.1 +3.6**
baz=96
RSBS Rosebush, Pemb 57.24 36 *e*P **P 15 26 18.3 -0.8**
RSBS IAmb IAmb 15 26 21.1
comp=Z,575nm,1.7s
RSBS IAMs_20 IAMs_20 15 43 36.7
comp=Z,21µm,26.5s
PASC Pasadena Art C 57.32 302 P **P 15 26 21.6 +1.6**
PASC IAmb IAmb 15 26 29.6
comp=Z,231nm,1.1s
LL01 San Ignacio de 57.33 192 P **P 15 26 19.2 -0.5**
LL01 IAmb IAmb 15 26 35.2
comp=Z,374nm,1.2s
FMP Fort Macarthur 57.37 301 P **P 15 26 21.3 +1.1**
baz=95
FMP S **S 15 34 20.3 +4.1**
baz=95
CIS Catalina Islan 57.44 301 P **P 15 26 22.2 +1.4**
baz=95,SNR=23
CIS S **S 15 34 20.8 +3.5**
baz=95
DECC Green Verdugo 57.45 302 S **S 15 34 17.8 +0.4**
baz=95
CWC Cottonwood Cre 57.48 304 P **P 15 26 22.7 +1.5**
baz=97
CWC S **S 15 34 19.8 +1.9**
baz=97
SCI2 San Clemente I 57.52 300 P **P 15 26 22.3 +1.0**
baz=94,SNR=17
SCI2 S **S 15 34 23.8 +5.6**
baz=94
TIN Tinemaha, Big 57.67 305 P **P 15 26 24.2 +1.7**
baz=97
TIN S **S 15 34 25.5 +5.2**
baz=97
KUKU Kukurantumi 57.70 91 *i*P **P 15 26 21.9 -1.0**
KUKU x **S 15 34 18.2 -2.9**
ISA Isabella, Lake 57.70 304 P **P 15 26 24.1 +1.4**
baz=96,SNR=47
ISA S **S 15 34 25.7 +5.0**
baz=96
ISA Isabella, Lake 57.70 304 IAmb IAmb 15 26 27.9
comp=Z,435nm,1.9s
NV11 Mina Array Sit 57.79 307 IAmb IAmb 15 26 51.5
comp=Z,429nm,1.3s
NV11 IAMs_20 IAMs_20 15 51 22.9
comp=Z,18µm,22.0s
NUUG Nuugaatsiaq 57.80 2 *i*P **P 15 26 22.5 -0.1**
NUUG IAmb IAmb 15 26 25.2
comp=Z,451nm,1.8s
NUUG IAMs_20 IAMs_20 15 52 05.6
comp=Z,11µm,17.4s
OSI Osito Audit: C 57.80 302 P **P 15 26 24.8 +1.4**
baz=95
OSI S **S 15 34 23.9 +1.9**
baz=95
OSI Osito Audit: C 57.80 302 IAMs_20 IAMs_20 15 52 50.7
comp=Z,13µm,22.0s
YRC Rhoscolyn 57.82 35 *e*P **P 15 26 23.1 +0.1**
KVN Kaiserville 57.84 308 IAMs_20 IAMs_20 15 51 27.0
comp=Z,16µm,22.0s
JSA Saint Aubin 57.88 40 *e*P **P 15 26 23.9 +0.3**
JSA IAmb IAmb 15 26 26.0
comp=Z,616nm,1.8s
JSA IAMs_20 IAMs_20 15 43 49.1
comp=Z,17µm,21.0s
JSA Saint Aubin 57.88 40 ⇓P **P 15 26 23.9 +0.3**
NVAR Mina Array Bea 57.91 307 P **P 15 26 24.9 +0.6**
comp=Z,23nm,0.7s,baz=106,slow=5.6,SNR=86
NVAR PP **PP 15 28 35.3 +2.7**
comp=Z,19nm,1.2s,baz=88,slow=6.4,SNR=0.9
NVAR LR LR 15 54 07.1
comp=Z,11µm,21.6s,baz=100,slow=39
NVAR PKP2bc 15 56 17.6
comp=Z,3.6nm,1.1s,baz=243,slow=3.9,SNR=7.4
NVAR Mina Array Bea 57.91 307 P **P 15 26 24.5 +0.3**
WPS Cemaes, Angles 57.91 35 *e*P **P 15 26 23.8 +0.1**
WPS IAmb IAmb 15 26 25.9
comp=Z,520nm,1.5s
WPS IAMs_20 IAMs_20 15 44 08.0
comp=Z,36µm,27.4s
WLF1 Llynfaes 57.93 35 *e*P **P 15 26 23.3 -0.5**
WLF1 IAmb IAmb 15 26 26.0
comp=Z,1µm,1.6s
WLF1 IAMs_20 IAMs_20 15 43 54.4
comp=Z,74µm,28.8s
ARVC Arvin 57.94 303 P **P 15 26 25.6 +1.3**
baz=96
ARVC S **S 15 34 28.0 +4.3**
baz=96
YLL Llanberis 58.00 35 *e*P **P 15 26 23.8 -0.5**
LL02 Futaleuf 58.00 191 P **P 15 26 23.8 -0.6**
WME Myndd Eilian 58.02 35 *e*P **P 15 26 24.3 -0.1**
LHV Little Huntoon 58.04 307 IAMs_20 IAMs_20 15 51 32.5
comp=Z,15µm,21.0s
WIM Isle of Man 58.10 34 *e*P **P 15 26 25.1 0.0**
RYN Ryan 58.10 307 IAmb IAmb 15 26 53.5
comp=Z,293nm,1.3s
RYN IAMs_20 IAMs_20 15 55 37.1
comp=Z,11µm,19.0s
VES Vestal, Richgr 58.22 304 P **P 15 26 27.5 +1.3**
baz=96,SNR=22
VES S **S 15 34 31.2 +3.9**
baz=96
MLAC Mammoth, Mammo 58.22 306 P **P 15 26 27.5 +1.0**
baz=97,SNR=16
MLAC S **S 15 34 32.4 +4.7**
baz=97
MCH1 Michaelchurch 58.27 37 *e*P **P 15 26 25.9 -0.4**
MCH1 IAmb IAmb 15 26 28.3
comp=Z,606nm,1.7s
MCH1 IAMs_20 IAMs_20 15 44 21.6
comp=Z,16µm,21.1s
MCH1 Michaelchurch 58.27 37 ⇑P **P 15 26 26.6 +0.4**
SNCC San Nicolas Is 58.36 301 P **P 15 26 27.5 +0.3**
baz=94
SNCC S **S 15 34 33.4 +4.2**
baz=94
SNCC San Nicolas Is 58.36 301 IAmb IAmb 15 26 48.8
comp=Z,242nm,1.1s
MDPB Devils Postpil 58.41 306 IAmb IAmb 15 26 56.2
comp=Z,158nm,0.9s
MDPB IAMs_20 IAMs_20 15 56 00.4
comp=Z,12µm,21.0s
OLDB Oldbury-Upon-S 58.42 37 *e*P **P 15 26 27.4 +0.1**
OLDB IAmb IAmb 15 26 29.6
comp=Z,963nm,1.6s
OLDB IAMs_20 IAMs_20 15 44 46.6
comp=Z,20µm,29.3s
FOEL Foel Wylfa 58.46 36 *e*P **P 15 26 27.6 0.0**
FOEL IAmb IAmb 15 26 29.6
comp=Z,791nm,1.7s
FOEL IAMs_20 IAMs_20 15 44 37.8
comp=Z,32µm,27.3s
TORD Torodi Ar. Bea 58.47 83 P **P 15 26 26.5 -1.8**
comp=Z,84nm,0.8s,baz=284,slow=5.4,SNR=135
TORD S **S 15 34 26.8 -4.2**
comp=Z,2.3nm,1.0s,baz=258,slow=5.7,SNR=1.7
TORD LR LR 15 49 11.1
comp=Z,17µm,21.5s,baz=280,slow=34
TORD PKPPKP **P'P'df 15 56 10.5 +1.0**
comp=Z,4.7nm,1.3s,baz=177,slow=0.7,SNR=5.3
TORD Torodi Ar. Bea 58.47 83 P **P 15 26 25.8 -2.4**
TORD IAmb IAmb 15 26 43.5
comp=Z,358nm,1.2s
SCZ2 Santa Cruz Isl 58.50 301 P **P 15 26 28.6 +0.4**
baz=94
SCZ2 S **S 15 34 34.4 +3.3**
baz=94
VOG Valley Oaks Go 58.51 304 P **P 15 26 28.8 +0.6**
baz=96
VOG S **S 15 34 33.8 +2.8**
baz=96
F10A Beach Ranch, E 58.51 316 ⇑P **P 15 26 27.9 -0.3**
HLM1 Long Mynd 58.52 36 *e*P **P 15 26 27.3 -0.6**
HLM1 IAmb IAmb 15 26 30.1
comp=Z,820nm,1.5s
HLM1 IAMs_20 IAMs_20 15 47 47.0
comp=Z,25µm,18.8s
LAWE Loch Awe, Argy 58.56 32 *e*P **P 15 26 28.2 0.0**
LAWE IAmb IAmb 15 26 30.2
comp=Z,386nm,1.7s
LAWE IAMs_20 IAMs_20 15 48 55.8
comp=Z,13µm,18.4s
SBC Santa Barbara 58.60 302 P **P 15 26 29.4 +0.5**
baz=94
SBC S **S 15 34 33.9 +1.6**
baz=94
LEWI Lewis, Hebride 58.65 29 *e*P **P 15 26 27.5 -1.3**
LEWI IAmb IAmb 15 26 30.5
comp=Z,319nm,1.7s
LEWI IAMs_20 IAMs_20 15 43 59.0
comp=Z,18µm,31.7s
STRD Stroud 58.69 37 *e*P **P 15 26 29.1 -0.1**
STRD IAmb IAmb 15 26 31.2
comp=Z,829nm,1.7s
STRD IAMs_20 IAMs_20 15 47 52.3
comp=Z,14µm,19.3s
YERR Yerington 58.71 307 IAMs_20 IAMs_20 15 52 06.1
comp=Z,19µm,22.0s
PKM Mcpherson Peak 58.72 303 P **P 15 26 31.0 +1.0**
baz=95,SNR=35
PKM S **S 15 34 37.2 +2.9**
baz=95
WVOR Wild Horse Val 58.79 311 IAMs_20 IAMs_20 15 52 56.5
comp=Z,13µm,20.0s
WAKR Walker 58.80 307 IAMs_20 IAMs_20 15 52 08.6
comp=Z,13µm,21.0s
J08A Circle Bar Ran 58.84 312 IAmb IAmb 15 26 58.5
comp=Z,264nm,1.3s
PGBU Glenifferbraes 58.85 32 *e*P **P 15 26 30.0 -0.2**
PGBU IAmb IAmb 15 26 32.3
comp=Z,527nm,1.3s
PGBU IAMs_20 IAMs_20 15 44 11.4
comp=Z,21µm,35.0s
KPL Plockton 58.88 30 *e*P **P 15 26 29.6 -0.8**
KPL IAmb IAmb 15 26 31.9
comp=Z,219nm,1.6s
KPL IAMs_20 IAMs_20 15 44 07.5
comp=Z,16µm,36.7s
SMMC Simmler 58.91 303 P **P 15 26 32.0 +0.9**
baz=95,SNR=32
SMMC S **S 15 34 40.3 +3.9**
baz=95
PAHR Pah Rah Range 58.92 308 IAMs_20 IAMs_20 15 53 22.5
comp=Z,20µm,22.0s
UPNV Upernavik 58.98 1 *i*P **P 15 26 31.6 +0.7**
NEW Newport 59.00 318 P **P 15 26 31.3 -0.2**
baz=105,SNR=73
NEW Newport 59.00 318 IAmb IAmb 15 26 59.7
comp=Z,334nm,1.2s
NEW Newport 59.00 318 IAMs_20 IAMs_20 15 52 01.3
comp=Z,21µm,22.0s
VCNR Virginia City 59.06 308 IAMs_20 IAMs_20 15 56 46.5
comp=Z,16µm,19.0s
EAB Aberfoyle 59.07 32 *e*P **P 15 26 30.6 -1.1**
WOL Wolverton 59.10 38 *e*P **P 15 26 32.0 -0.1**
KESW Keswick, Cumbr 59.12 34 *e*P **P 15 26 32.5 +0.4**
KESW IAmb IAmb 15 26 34.4
comp=Z,438nm,1.5s
KESW IAMs_20 IAMs_20 15 44 26.9
comp=Z,32µm,27.0s
KAC Achnashellach 59.12 30 *e*P **P 15 26 31.3 -0.8**
E09A Wood Farm, Sta 59.26 316 P **P 15 26 32.6 -0.6**
E09A IAmb IAmb 15 27 10.8
comp=Z,234nm,1.5s
E09A IAMs_20 IAMs_20 15 53 07.3
comp=Z,14µm,20.0s
INVG Invergeldie, C 59.31 32 *e*P **P 15 26 32.7 -0.7**
INVG IAmb IAmb 15 26 35.1
comp=Z,506nm,1.7s
INVG IAMs_20 IAMs_20 15 47 55.1
comp=Z,11µm,18.9s
ESK Eskdalemuir 59.33 33 P **P 15 26 33.4 -0.1**
ESK pmax pmax
comp=Z,471nm,1.9s
ESK Eskdalemuir 59.33 33 P **P 15 26 33.4 -0.1**
ESK IAmb IAmb 15 26 35.8
comp=Z,471nm,1.9s
ESK Eskdalemuir 59.33 33 ⇓P **P 15 26 33.9 +0.4**
EKA Eskdalemuir Ar 59.36 33 P **P 15 26 33.1 -0.7**
RUBR Rubicon Trail 59.42 307 IAMs_20 IAMs_20 15 52 30.0
comp=Z,19µm,22.0s
LINV Loch Inver, As 59.45 30 *e*P **P 15 26 33.5 -0.8**
LINV IAmb IAmb 15 26 35.9
comp=Z,277nm,1.4s
LINV IAMs_20 IAMs_20 15 48 06.2
comp=Z,13µm,18.2s
LBWR Ladybower, Pea 59.47 36 *e*P **P 15 26 34.7 +0.2**
LBWR IAmb IAmb 15 26 37.0
comp=Z,574nm,1.2s
LBWR IAMs_20 IAMs_20 15 45 08.1
comp=Z,32µm,28.2s
CMB Columbia Colle 59.48 306 P **P 15 26 36.1 +1.1**
CMB Columbia Colle 59.48 306 IAMs_20 IAMs_20 15 56 31.8
comp=Z,14µm,20.0s
MDO Dochfour 59.56 31 *e*P **P 15 26 33.5 -1.6**
EBL Broad Law 59.58 33 *e*P **P 15 26 34.7 -0.6**
C09A Chrisman Ranch 59.64 318 IAmb IAmb 15 27 04.1
comp=Z,221nm,1.2s
PMPB Monarch Peak 59.64 304 IAmb IAmb 15 27 03.9
comp=Z,148nm,1.1s
PMPB IAMs_20 IAMs_20 15 57 00.0
comp=Z,14µm,18.0s
BEKR Beckworth 59.68 308 IAMs_20 IAMs_20 15 53 46.8
comp=Z,18µm,22.0s
I07A Izee 59.70 313 IAmb IAmb 15 27 04.7
comp=Z,277nm,1.4s
I07A IAMs_20 IAMs_20 15 56 16.4
comp=Z,14µm,21.0s
HPK Haverah Park 59.71 35 *e*P **P 15 26 36.2 0.0**
HPK IAmb IAmb 15 26 38.2
comp=Z,920nm,1.9s
HPK IAMs_20 IAMs_20 15 44 59.9
comp=Z,36µm,29.5s
EDMD Edmundbyers 59.82 34 *e*P **P 15 26 36.4 -0.6**
EDMD IAmb IAmb 15 26 38.7
comp=Z,586nm,1.7s
EDMD IAMs_20 IAMs_20 15 44 47.3
comp=Z,29µm,25.7s
ESY Stoneypath 59.86 33 *e*P **P 15 26 36.4 -0.8**
E08A Dider Farm, El 59.87 316 P **P 15 26 37.1 -0.3**
E08A IAMs_20 IAMs_20 15 51 30.5
comp=Z,20µm,22.0s
EDU Dundee 59.89 32 *e*P **P 15 26 37.4 0.0**
D08A Wollman Farm, 59.90 317 IAMs_20 IAMs_20 15 53 25.2
comp=Z,16µm,20.0s
HMNX Herstmonceux 59.91 39 *e*P **P 15 26 38.2 +0.6**
HMNX IAmb IAmb 15 26 40.1
comp=Z,1µm,1.7s
HMNX IAMs_20 IAMs_20 15 49 55.7
comp=Z,16µm,18.2s
MOD Modoc Plateau 59.92 311 IAMs_20 IAMs_20 15 51 47.9
comp=Z,17µm,22.0s
SUMG Summit 59.94 7 *i*P **P 15 26 38.3 +0.3**
SUMG IAmb IAmb 15 26 40.8
comp=Z,1µm,1.4s
SUMG Summit 59.94 7 *i*P **P 15 26 38.3 +0.3**
SUMG pmax pmax
comp=Z,1µm,1.4s
SUMG Summit 59.94 7 ⇑P **P 15 26 37.2 -0.8**
SHEL Horse Pasture 60.01 118 P **P 15 26 38.9 +0.1**
SHEL pmax pmax
comp=Z,263nm,1.0s
SHEL Horse Pasture 60.01 118 P **P 15 26 38.9 +0.1**
SHEL IAmb IAmb 15 26 46.4
comp=Z,263nm,1.0s
AFDM Forest Hills D 60.04 307 IAmb IAmb 15 27 07.0
comp=Z,249nm,1.4s
AFDM IAMs_20 IAMs_20 15 52 59.4
comp=Z,20µm,22.0s
MCD Coleburn Disti 60.17 31 *e*P **P 15 26 38.4 -0.9**
HAWA Hanford 60.17 316 IAmb IAmb 15 27 07.0
comp=Z,168nm,1.2s
HAWA IAMs_20 IAMs_20 15 53 14.4
comp=Z,15µm,19.0s
HAWA Hanford 60.17 316 ⇓P **P 15 26 39.6 +0.1**
SAO San Andreas Ge 60.20 305 IAmb IAmb 15 27 09.5
comp=Z,203nm,1.3s
SAO IAMs_20 IAMs_20 15 53 24.9
comp=Z,11µm,21.0s
SAO San Andreas Ge 60.20 305 ⇓P **P 15 26 41.9 +1.9**
BIGH Upper Bighouse 60.21 30 *e*P **P 15 26 39.0 -0.6**
BIGH IAmb IAmb 15 26 41.3
comp=Z,878nm,1.5s
BIGH IAMs_20 IAMs_20 15 48 38.7
comp=Z,27µm,17.0s
DRUM Mains of Drumt 60.30 32 *e*P **P 15 26 39.4 -0.7**
DRUM IAmb IAmb 15 26 41.9
comp=Z,331nm,1.5s
DRUM IAMs_20 IAMs_20 15 45 57.1
comp=Z,8µm,19.4s
GDLE Glaisdale, N Y 60.31 35 *e*P **P 15 26 40.1 -0.3**
GDLE IAmb IAmb 15 26 42.4
comp=Z,779nm,1.5s
GDLE IAMs_20 IAMs_20 15 45 16.7
comp=Z,31µm,25.7s
F07A Phinny Hill Vi 60.34 315 IAmb IAmb 15 27 08.3
comp=Z,138nm,1.1s
COYC Coyhaique 60.34 191 ⇑P **P 15 26 42.2 +1.6**
E07A Sunnyside 60.42 316 IAmb IAmb 15 27 07.0
comp=Z,429nm,1.7s
E07A IAMs_20 IAMs_20 15 53 22.1
comp=Z,15µm,20.0s
CLF Chambon-Foret 60.43 42 ⇑P **P 15 26 41.5 +0.2**
B08A Colville Reser 60.46 318 IAmb IAmb 15 27 09.6
comp=Z,367nm,1.8s
K05A Summer Lake 60.48 311 P **P 15 26 42.1 +0.2**
MAHO Mahon 60.49 52 PKP **P 15 26 41.7 -0.1**
MAHO Mahon 60.49 52 ⇓P **P 15 26 43.0 +1.2**
ORV Oroville 60.52 308 IAmb IAmb 15 27 10.2
comp=Z,230nm,1.2s
WACR West Acre 60.61 37 *e*P **P 15 26 42.5 +0.1**
WACR IAmb IAmb 15 26 44.1
comp=Z,549nm,1.1s
WACR IAMs_20 IAMs_20 15 45 54.5
comp=Z,23µm,23.1s
PINE Pine Mountain 60.68 313 IAMs_20 IAMs_20 15 57 07.2
comp=Z,17µm,21.0s
J05D Fort Rock, OR 60.81 312 P **P 15 26 45.1 +0.9**
baz=99,SNR=42
J05D S **S 15 35 05.1 +4.2**
baz=99
O03E Paynes Creek 60.83 309 P **P 15 26 44.4 +0.1**
baz=97,SNR=27
O03E S **S 15 35 04.0 +2.9**
baz=97
SCO Scoresbysund 60.97 13 *i*P **P 15 26 45.0 +0.4**
SCO IAmb IAmb 15 26 47.1
comp=Z,406nm,1.5s
SCO IAMs_20 IAMs_20 15 48 23.9
comp=Z,15µm,21.7s
SCO Scoresbysund 60.97 13 *i*P **P 15 26 44.9 +0.4**
SCO pmax pmax
comp=Z,410nm,1.5s
SCO MLR MLR
comp=Z,15µm,22.0s
SCO Scoresbysund 60.97 13 P **P 15 26 43.6 -0.9**
SCO IAmb IAmb 15 26 47.5
comp=Z,398nm,1.5s
SCO IAMs_20 IAMs_20 15 50 33.2
comp=Z,14µm,20.0s
SET Setif 61.04 56 P **P 15 26 48.0 +2.2**
M04C Macdoel 61.04 310 P **P 15 26 46.1 +0.4**
baz=97,SNR=65
M04C S **S 15 35 07.9 +4.1**
baz=97
I05D Terrebonne, OR 61.05 313 P **P 15 26 46.4 +0.7**
baz=99,SNR=33
I05D S **S 15 35 08.5 +4.9**
baz=99
K04D Chiloquin, OR 61.09 311 P **P 15 26 45.9 -0.2**
baz=98
K04D S **S 15 35 08.8 +4.4**
baz=98
LTY Liberty 61.11 317 IAmb IAmb 15 27 13.6
comp=Z,328nm,1.4s
LTY IAMs_20 IAMs_20 15 52 16.1
comp=Z,18µm,22.0s
CKHR Kef el Ahmar 61.12 56 P **P 15 26 47.6 +1.2**
G05D Wamic, OR 61.18 314 P **P 15 26 46.6 +0.1**
baz=100,SNR=8.6
G05D S **S 15 35 10.0 +4.8**
baz=100
C06D Leavenworth 61.39 317 P **P 15 26 47.4 -0.4**
baz=101,SNR=8.3
C06D S **S 15 35 09.6 +1.8**
baz=101
WDC Whiskeytown Da 61.42 309 IAMs_20 IAMs_20 15 56 51.8
comp=Z,12µm,22.0s
WDC Whiskeytown Da 61.42 309 ⇑P **P 15 26 47.9 -0.3**
J04D Umpqua Nationa 61.44 312 P **P 15 26 48.2 -0.3**
baz=98,SNR=32
J04D S **S 15 35 12.4 +3.5**
baz=98
L04D Klamath Falls 61.44 311 P **P 15 26 48.3 -0.2**
baz=97,SNR=35
L04D S **S 15 35 12.4 +3.5**
baz=97
DFRA Djebel Bou Aff 61.45 56 P **P 15 26 50.5 +1.9**
O02D Mt. Diablo Mer 61.57 308 P **P 15 26 48.7 -0.6**
baz=96
O02D S **S 15 35 09.6 -0.9**
baz=96
N02D Trinity Center 61.59 309 P **P 15 26 48.5 -0.9**
baz=96,SNR=18
N02D S **S 15 35 12.2 +1.5**
baz=96
HOPS Hopland Field 61.68 307 IAmb IAmb 15 27 13.4
comp=Z,309nm,1.2s
HOPS IAMs_20 IAMs_20 15 58 02.7
comp=Z,17µm,19.0s
YBH Yreka Blue Hor 61.68 310 IAMs_20 IAMs_20 15 57 08.5
comp=Z,13µm,20.0s
H04A Detroit Lake 61.70 313 IAmb IAmb 15 27 17.7
comp=Z,200nm,1.3s
M02C Callahan 61.75 310 P **P 15 26 50.1 -0.3**
baz=96,SNR=18
M02C S **S 15 35 13.3 +0.6**
baz=96
CTEI Djebel Teioual 61.84 56 P **P 15 26 52.5 +1.2**
CASM Ain Smara 61.92 56 P **P 15 26 53.1 +1.4**
HUMO Hull Mountain 61.97 311 IAMs_20 IAMs_20 15 53 26.1
comp=Z,12µm,20.0s
HUMO Hull Mountain 61.97 311 ⇓P **P 15 26 51.7 -0.1**
D05A Enumclaw 61.98 316 IAmb IAmb 15 27 29.1
comp=Z,173nm,1.3s
D05A IAMs_20 IAMs_20 15 54 41.2
comp=Z,15µm,21.0s
H04D Lebanon 62.07 313 P **P 15 26 51.5 -0.9**
baz=98,SNR=11
H04D S **S 15 35 17.2 +0.8**
baz=98
CKFL Kef-Lekhel 62.12 56 P **P 15 26 54.6 +1.5**
KCPM Cahto Peak 62.13 308 IAmb IAmb 15 27 29.4
comp=Z,377nm,1.5s
LRW Lerwick 62.15 28 ⇑P **P 15 26 52.0 -0.6**
BUCK Buck Mountain 62.20 313 IAmb IAmb 15 27 22.1
comp=Z,194nm,1.1s
BUCK IAMs_20 IAMs_20 15 57 59.4
comp=Z,12µm,20.0s
B05A Bryant 62.24 317 P **P 15 26 52.3 -1.2**
baz=101,SNR=8.6
B05A S **S 15 35 16.6 -1.9**
baz=101
E04D Cinebar 62.26 316 P **P 15 26 52.9 -0.8**

baz=99,SNR=11
E04D S **S** **15 35 19.2 +0.4**
baz=99
SNF Seneffe 62.26 40 *d*P **P** **15 26 53.6 0.0**
SNF *dx* x 15 27 11.0
KHMM Horse Mountain 62.35 309 P **P** **15 26 54.8 +0.2**
KHMM IAmb IAmb 15 27 24.0
comp=Z,126nm,1.1s
KHMM IAMs_20 IAMs_20 15 58 23.5
comp=Z,13μm,20.0s
DOU Dourbes 62.37 40 κP **P** **15 26 53.5 -0.8**
comp=Z,147nm,1.4s
DOU *dx* x 15 27 14.6
UCC Uccle 62.37 40 *d*P **P** **15 26 54.1 -0.2**
UCC *dx* x 15 27 14.7
I03D Drain, OR 62.39 312 P **P** **15 26 54.3 -0.3**
baz=97
I03D S **S** **15 35 20.7 +0.2**
baz=97
L02E Cave Junction 62.39 310 P **P** **15 26 54.5 -0.1**
baz=96
L02E S **S** **15 35 21.3 +0.6**
baz=96
COR Corvallis 62.48 313 P **P** **15 26 55.1 0.0**
COR pmax pmax
comp=Z,517nm,1.6s
COR Corvallis 62.48 313 P **P** **15 26 55.1 0.0**
COR Corvallis 62.48 313 IAMs_20 IAMs_20 15 53 05.7
comp=Z,16μm,21.0s
COR Corvallis 62.48 313 ⇑P **P** **15 26 56.0 +0.9**
YKA Yellowknife Ar 62.49 334 P **P** **15 26 53.8 -1.2**
comp=Z,49nm,0.9s,baz=107,slow=8.0,SNR=92
YKA S **S** **15 35 16.3 -4.7**
comp=Z,1.2nm,0.9s,baz=103,slow=15,SNR=1.4
YKA LR LR 15 53 50.3
comp=Z,9μm,21.8s,baz=0.0,slow=36
YKA Yellowknife Ar 62.49 334 *ce*P **P** **15 26 53.7 -1.2**
YKA pmax pmax
comp=Z,25nm,0.6s
F04D Rainier, OR 62.49 315 P **P** **15 26 55.0 -0.2**
baz=99
F04D S **S** **15 35 23.2 +1.5**
baz=99
K02D Willamette Mer 62.50 311 P **P** **15 26 54.6 -0.9**
baz=96,SNR=17
K02D S **S** **15 35 23.3 +1.1**
baz=96
D04E Lakebay 62.50 316 P **P** **15 26 55.2 -0.1**
baz=100
D04E S **S** **15 35 22.0 +0.3**
baz=100
BMRD Maredsous 62.52 40 *d*P **P** **15 26 55.3 -0.1**
BMRD *dx* x 15 27 15.3
G03D McMinnville, O 62.53 314 P **P** **15 26 56.1 +0.6**
baz=98,SNR=15
G03D S **S** **15 35 24.7 +2.4**
baz=98
KRMB Red Mountain 62.55 310 IAmb IAmb 15 26 59.8
comp=Z,416nm,2.0s
KRMB IAMs_20 IAMs_20 15 58 34.6
comp=Z,14μm,21.0s
JCC Jacoby Creek, 62.58 309 IAMs_20 IAMs_20 15 53 15.3
comp=Z,13μm,20.0s
CMAH Djebel Manchou 62.69 56 P **P** **15 26 56.8 0.0**
ABSA Djebel Ababsia 62.72 56 P **P** **15 26 57.7 +0.6**
A04D Lummi Island 62.72 318 P **P** **15 26 56.8 0.0**
baz=100
A04D S **S** **15 35 22.9 -1.6**
baz=100
BGES Gesves 62.74 40 *d*P **P** **15 26 56.8 0.0**
comp=Z,166nm,1.8s
BGES *dx* x 15 27 15.7
J01E Myrtle Point 62.75 312 P **P** **15 26 56.4 -0.6**
baz=97,SNR=19
J01E S **S** **15 35 26.8 +1.8**
baz=97
D03D Eldon 62.77 317 P **P** **15 26 57.1 0.0**
baz=100,SNR=9.9
D03D S **S** **15 35 25.0 -0.1**
baz=100
RCHB Rochefort 62.78 40 *d*P **P** **15 26 56.6 -0.5**
comp=Z,184nm,1.2s
RCHB *dx* x 15 27 14.1
I02D Swisshome 62.80 313 P **P** **15 26 57.3 0.0**
baz=97,SNR=6.5
I02D S **S** **15 35 29.0 +3.3**
baz=97
KBO Bosley Butte 62.86 310 IAMs_20 IAMs_20 15 54 17.1
comp=Z,14μm,21.0s
BCLA Clavier 62.88 40 κP **P** **15 26 58.1 +0.4**
comp=Z,141nm,1.8s
BCLA *dx* x 15 27 17.1
BNI Bardonecchia 62.90 46 P **P** **15 26 58.1 -0.1**
BNI pmax pmax
comp=Z,79nm,1.1s
BNI Bardonecchia 62.90 46 P **P** **15 26 58.0 -0.1**
BNI IAMs_20 IAMs_20 15 49 07.0
comp=Z,12μm,22.0s
BNI Bardonecchia 62.90 46 ⇓P **P** **15 26 58.9 +0.7**
E03A Lebam 62.94 315 IAMs_20 IAMs_20 15 54 20.7
comp=Z,13μm,22.0s
TULEG Thule 62.97 357 *i* P **P** **15 26 58.6 +0.7**
TULEG IAMs_20 IAMs_20 15 53 21.9
comp=Z,13μm,18.7s
TULEG Thule 62.97 357 IAMs_20 IAMs_20 15 54 52.2
comp=Z,13μm,20.0s
BSTI Sart Tilman 63.08 40 *d*P **P** **15 26 59.3 +0.2**
BEBN Eben Emael 63.19 40 κP **P** **15 27 00.1 +0.3**
comp=Z,174nm,1.5s
PGC Sidney 63.20 318 IAmb IAmb 15 27 41.6
comp=Z,213nm,1.2s
NLWA Neilton Lookou 63.27 316 ⇓P **P** **15 27 01.1 +0.7**
WLF Walferdange 63.27 41 *d*P **P** **15 27 00.7 +0.3**
comp=Z,160nm,1.7s
WLF Walferdange 63.27 41 P **P** **15 27 00.2 -0.2**
WLF pmax pmax
comp=Z,562nm,1.7s
WLF Walferdange 63.27 41 P **P** **15 27 00.2 -0.2**
WLF Walferdange 63.27 41 *e*P **P** **15 27 00.9 +0.5**
comp=Z,428nm,1.6s,baz=263,slow=6.4
WLF Walferdange 63.27 41 ⇓P **P** **15 27 00.2 -0.2**
BHOU Houyognez 63.31 40 κP **P** **15 27 00.3 -0.3**
comp=Z,175nm,1.6s
BHOU *dx* x 15 27 21.9
MEM Membach 63.36 40 *d*P **P** **15 27 01.1 +0.1**
comp=Z,103nm,1.6s
MEM *dx* x 15 27 21.8
MEM *d*PcP **PcP** **15 27 38.4 +0.5**
BTNL Ternell 63.43 40 *b*P **P** **15 27 01.0 -0.4**
comp=Z,133nm,1.8s
BTNL *dx* x 15 27 19.2
SENIN Lac Senin/Sane 63.51 45 IAmb IAmb 15 27 05.5
comp=Z,156nm,1.3s
ECH Echery 63.69 43 P **P** **15 27 02.9 -0.3**
ECH pmax pmax
comp=Z,513nm,1.8s
ECH Echery 63.69 43 P **P** **15 27 02.9 -0.3**
ECH IAmb IAmb 15 27 05.5
comp=Z,513nm,1.8s
ECH Echery 63.69 43 ⇑P **P** **15 27 02.2 -1.0**
NEEM North Greenlan 63.77 2 *i* P **P** **15 27 03.2 -0.4**
NEEM IAmb IAmb 15 27 06.4
comp=Z,1μm,1.6s
MONC Moncucco Torin 63.78 46 ⇓P **P** **15 27 04.0 +0.1**
RPN Rapa Nui 63.89 230 P **P** **15 27 07.5 +2.8**
comp=Z,276nm,1.2s,baz=327,slow=3.2,SNR=5.6
RPN LR LR 15 55 36.3
comp=Z,5μm,19.9s,baz=50,slow=37
RPN Rapa Nui 63.89 230 P **P** **15 27 04.0 -0.7**
RPN Rapa Nui 63.89 230 IAMs_20 IAMs_20 15 52 04.3
comp=Z,14μm,22.0s
AHRW Bad Neuenahr-A 64.02 40 *e*P **P** **15 27 06.1 +0.9**
comp=Z,537nm,1.5s,baz=263,slow=6.4
TAMR Tamra 64.06 55 ⇑P **P** **15 27 06.8 +1.0**
RES Resolute Bay 64.12 350 P **P** **15 27 05.4 -0.1**
RES pmax pmax
comp=Z,164nm,1.3s
RES Resolute Bay 64.12 350 P **P** **15 27 05.4 -0.1**
RES IAmb IAmb 15 27 24.2
comp=Z,164nm,1.3s
RES Resolute Bay 64.12 350 ⇓P **P** **15 27 07.0 +1.5**
DBG Daneborg 64.19 11 *i* P **P** **15 27 06.2 +0.2**
DBG IAmb IAmb 15 27 09.1
comp=Z,516nm,1.3s
DBG IAMs_20 IAMs_20 15 55 35.6
comp=Z,18μm,19.1s

DBG Daneborg 64.19 11 ⇓P **P** **15 27 06.1 +0.2**
DBG ⇓P **P** **15 27 06.2 +0.2**
KEST Kesra 64.22 57 P **P** **15 27 06.7 -0.3**
comp=Z,53nm,0.8s,baz=215,slow=0.9,SNR=64
KEST S **S** **15 35 40.6 -3.2**
comp=Z,1.3nm,0.8s,baz=117,slow=21,SNR=0.7
KEST PKPPKP **P'P'df** **15 55 58.0 -2.9**
comp=Z,4.0nm,1.1s,baz=90,slow=4.0,SNR=3.8
KEST Kesra 64.22 57 P **P** **15 27 06.2 -0.7**
KEST IAmb IAmb 15 27 30.0
comp=Z,231nm,1.0s
BUG Bochum--Univer 64.30 39 *e*P **P** **15 27 07.4 +0.4**
comp=Z,267nm,1.3s,baz=263,slow=6.4
VSL Villasalto 64.38 53 IAmb IAmb 15 27 34.0
comp=Z,166nm,1.1s
VSL Villasalto 64.38 53 ⇓P **P** **15 27 07.8 -0.1**
BFO Black Forest 64.48 43 P **P** **15 27 08.1 -0.3**
BFO pmax pmax
comp=Z,87nm,1.2s
BFO Black Forest 64.48 43 P **P** **15 27 08.1 -0.3**
BFO Black Forest 64.48 43 *e*P **P** **15 27 08.6 +0.2**
comp=Z,330nm,2.0s,baz=263,slow=6.4
JMIC Jan Mayen 64.64 16 *e*P **P** **15 27 08.2 -0.8**
JMIC IVmB_BB 15 27 11.3
comp=Z,2μm,2.5s
JMIC *e*S **S** **15 35 49.2 +1.6**
JMIC IVMs_BB IVMs_BB 15 47 39.0
comp=Z,3μm,23.4s
IBBN Ibbenburen 64.75 38 *e*P **P** **15 27 10.4 +0.4**
comp=Z,704nm,1.5s,baz=263,slow=6.4
IBBN Ibbenburen 64.75 38 ⇓P **P** **15 27 09.5 -0.5**
BOB Bobbio (Coli) 64.82 47 ⇑P **P** **15 27 10.1 -0.7**
TNS Taunus Mts 64.83 41 *e*P **P** **15 27 11.1 +0.4**
comp=Z,592nm,1.7s,baz=263,slow=6.4
MSSA Maissana 64.83 47 IAmb IAmb 15 27 12.8
comp=Z,293nm,1.6s
KMY Karmoy 64.93 31 *e*P **P** **15 27 09.9 -1.1**
KMY *e*S **S** **15 35 50.5 -0.9**
TUE Stuetta 64.93 45 P **P** **15 27 11.1 -0.5**
TUE IAmb IAmb 15 27 34.8
comp=Z,425nm,1.6s
TUE IAMs_20 IAMs_20 15 50 12.6
comp=Z,15μm,22.0s
TUE Stuetta 64.93 45 ⇓P **P** **15 27 11.2 -0.4**
KASTN Kahler Asten 64.96 40 *e*P **P** **15 27 11.7 +0.2**
comp=Z,205nm,1.5s,baz=263,slow=6.4
STU Stuttgart 65.11 42 P **P** **15 27 13.5 +1.1**
STU pmax pmax
comp=Z,121nm,1.1s
STU Stuttgart 65.11 42 IAMs_20 IAMs_20 15 48 24.1
comp=Z,9μm,20.0s
STU Stuttgart 65.11 42 *e*P **P** **15 27 12.2 -0.2**
comp=Z,376nm,1.6s,baz=263,slow=6.4
HLG Helgoland 65.17 36 *e*P **P** **15 27 13.0 +0.3**
comp=Z,928nm,1.8s,baz=263,slow=6.4
EFI East Falkland 65.20 180 ⇑*e*P **P** **15 27 12.8 0.0**
EFI pmax pmax
comp=Z,132nm,0.9s
EFI East Falkland 65.20 180 P **P** **15 27 12.5 -0.3**
EFI IAmb IAmb 15 27 16.6
comp=Z,110nm,0.9s
SUE Sulen 65.22 29 *e*P **P** **15 27 11.9 -1.0**
SUE IVmB_BB 15 27 14.3
comp=Z,3μm,1.9s
SUE *e*S **S** **15 35 55.5 +0.5**
SUE IVMs_BB IVMs_BB 15 47 30.6
comp=Z,4μm,28.7s
ASK Askoy 65.25 29 *e*P **P** **15 27 12.0 -1.1**
ASK IVmB_BB 15 27 14.2
comp=Z,4μm,1.9s
ASK *e*S **S** **15 35 55.4 -0.1**
BER Bergen 65.29 29 P **P** **15 27 13.0 -0.4**
BER Bergen 65.29 29 *e*P **P** **15 27 12.2 -1.1**
BER IVmB_BB 15 27 14.5
comp=Z,2μm,1.7s
BER *e*S **S** **15 35 56.6 +0.7**
BER IVMs_BB IVMs_BB 15 47 31.8
comp=Z,3μm,26.6s
MILB Miltenberg 65.31 41 *e*P **P** **15 27 13.7 0.0**
comp=Z,219nm,1.8s,baz=263,slow=6.4
DAVOX Davos/Dischmat 65.33 45 P **P** **15 27 12.9 -1.2**
comp=Z,79nm,0.9s,baz=247,slow=5.9
DAVOX S **S** **15 35 58.7 +1.4**
comp=Z,0.8nm,0.3s,baz=134,slow=18,SNR=5.9
DAVA Damuels 65.38 44 *i* P **P** **15 27 15.1 +0.6**
comp=Z,256nm,1.2s,SNR=61
VLC Villacollemand 65.44 48 P **P** **15 27 14.3 -0.4**
VLC Villacollemand 65.44 48 ⇓P **P** **15 27 12.0 -2.7**
FOO Floro 65.50 28 *e*P **P** **15 27 13.8 -0.9**
FOO IVmB_BB 15 27 16.3
comp=Z,2μm,2.0s
FOO *e*S **S** **15 36 00.1 +1.7**
FOO *e*SS **SS** **15 40 15.4 +3.5**
FOO IVMs_BB IVMs_BB 15 53 19.9
comp=Z,5μm,17.7s
UBR Ueberruh 65.58 44 *e*P **P** **15 27 15.9 +0.3**
comp=Z,197nm,1.5s,baz=263,slow=6.4
BLS5 Blasjo 65.58 31 *e*P **P** **15 27 14.4 -0.9**
BLS5 IVmB_BB 15 27 16.7
comp=Z,3μm,1.8s
BLS5 *e*S **S** **15 35 59.8 +0.1**
BLS5 IVMs_BB IVMs_BB 15 51 39.5
comp=Z,3μm,16.6s
SALO Salr 65.66 46 ⇓P **P** **15 27 16.4 +0.2**
CASP Castiglione de 65.69 49 P **P** **15 27 15.0 -1.4**
SNART Snartemo 65.69 32 *i* P **P** **15 27 15.3 -0.7**
SNART Snartemo 65.69 32 *e*P **P** **15 27 14.9 -1.1**
SNART *e*S **S** **15 36 01.1 +0.1**
ODD1 Odda 65.79 30 *e*P **P** **15 27 15.5 -1.2**
ODD1 *e*S **S** **15 36 03.5 +1.2**
ZCCA Zocca 65.88 47 IAmb IAmb 15 27 43.4
comp=Z,411nm,1.5s
UBBA Unterbreizbach 65.90 40 *e*P **P** **15 27 17.8 +0.5**
comp=Z,207nm,1.8s,baz=263,slow=6.4
GO09 Cerro Castillo 65.90 189 P **P** **15 27 17.2 -0.2**
GO09 IAmb IAmb 15 27 34.4
comp=Z,234nm,1.2s
HYA Hoyanger 65.91 29 *e*P **P** **15 27 16.4 -1.0**
HYA *e*S **S** **15 36 05.1 +1.6**
FETA Feichten 65.93 45 *i* P **P** **15 27 17.5 -0.5**
comp=Z,263nm,1.2s,SNR=100
GTTG Gottingen 65.97 40 *e*P **P** **15 27 18.4 +0.4**
comp=Z,266nm,1.3s,baz=263,slow=6.4
RETA Reutte 66.00 44 *i* P **P** **15 27 17.9 -0.5**
comp=Z,155nm,1.3s,SNR=53
SKMB Sankelmark Bun 66.16 36 *e*P **P** **15 27 19.8 +0.7**
comp=Z,1μm,1.5s,baz=263,slow=6.4
NRDL Niedersach Rie 66.20 38 *e*P **P** **15 27 20.1 +0.8**
comp=Z,388nm,1.4s,baz=263,slow=6.4
MOTA Mosalm 66.22 44 *i* P **P** **15 27 19.0 -0.8**
comp=Z,184nm,1.2s,SNR=67
CLZ Clausthal 66.27 39 *e*P **P** **15 27 20.2 +0.3**
comp=Z,433nm,1.6s,baz=263,slow=6.4
SQTA Sankt Quirin 66.28 44 *i* P **P** **15 27 19.7 -0.5**
comp=Z,206nm,1.0s,SNR=62
DAG Danmarks Havn 66.28 9 *i* P **P** **15 27 19.3 -0.2**
DAG IAmb IAmb 15 27 21.7
comp=Z,367nm,1.3s
DAG IAMs_20 IAMs_20 15 55 15.0
comp=Z,18μm,19.9s
DAG Danmarks Havn 66.28 9 *i* P **P** **15 27 19.3 -0.2**
DAG pmax pmax
comp=Z,370nm,1.3s
DAG MLR MLR
comp=Z,18μm,20.0s
DAG Danmarks Havn 66.28 9 ⇓P **P** **15 27 18.8 -0.7**
DAG ⇓P **P** **15 27 18.9 -0.7**
MUD Monsted U'grnd 66.33 34 *i* P **P** **15 27 20.9 +0.7**
MUD IAmb IAmb 15 27 22.6
comp=Z,460nm,1.3s
MUD IAMs_20 IAMs_20 15 53 20.6
comp=Z,12μm,18.8s
MUD Monsted U'grnd 66.33 34 *i* P **P** **15 27 20.8 +0.7**
MUD pmax pmax
comp=Z,460nm,1.3s
MUD MLR MLR
comp=Z,12μm,19.0s
HOMB Homborsund 66.35 32 *i* P **P** **15 27 19.9 -0.3**
HOMB Homborsund 66.35 32 *e*P **P** **15 27 18.9 -1.2**
HOMB IVmB_BB 15 27 21.9
comp=Z,4μm,1.9s
HOMB *e*S **S** **15 36 10.0 +1.2**
HOMB IVMs_BB IVMs_BB 15 59 14.5
comp=Z,3μm,15.6s
FUR Furstenfeldbru 66.41 43 *e*P **P** **15 27 21.3 +0.4**
comp=Z,404nm,1.7s,baz=263,slow=6.4

TEOL Teolo 66.44 46 IAmb IAmb 15 27 44.8
comp=Z,198nm,1.0s
GOET G??ttrup 66.47 34 *i* P **P** **15 27 22.4 +1.4**
GOET IAmb IAmb 15 27 24.3
comp=Z,172nm,1.0s
GOET IAMs_20 IAMs_20 15 57 11.1
comp=Z,11μm,16.4s
CTI Castel Tesino 66.48 46 IAmb IAmb 15 27 43.8
comp=Z,457nm,2.0s
ASSE Asse, Remlinge 66.49 39 *e*P **P** **15 27 21.9 +0.7**
comp=Z,243nm,1.6s,baz=263,slow=6.4
GRFO Grafenberg 66.53 42 P **P** **15 27 21.4 -0.2**
GRFO pmax pmax
comp=Z,427nm,1.7s
GRFO Grafenberg 66.53 42 P **P** **15 27 21.4 -0.2**
GRFO IAmb IAmb 15 27 23.9
comp=Z,427nm,1.7s
GRA1 Grafenberg Arr 66.53 42 IAmb IAmb 15 27 24.0
comp=Z,456nm,1.7s
GRF Grafenberg Arr 66.53 42 *e*P **P** **15 27 21.8 +0.1**
comp=Z,292nm,1.4s,baz=263,slow=6.4
GRF *e*L L 15 50 17.2
comp=Z,7μm,21.1s
WATA Walderalm 66.54 44 *i* P **P** **15 27 21.7 -0.2**
comp=Z,125nm,1.3s,SNR=37
BSEG Bad Segeberg 66.54 37 *e*P **P** **15 27 21.7 +0.2**
comp=Z,439nm,1.5s,baz=263,slow=6.4
AKN Aaknes 66.56 28 *e*P **P** **15 27 23.3 +1.7**
AKN IVmB_BB 15 27 25.5
comp=Z,3μm,1.8s
AKN *e*S **S** **15 36 12.2 +0.8**
AKN *e*SS **SS** **15 40 31.9 +3.6**
AKN IVMs_BB IVMs_BB 15 48 05.9
comp=Z,6μm,38.0s
WTTA Wattenberg 66.57 44 *i* P **P** **15 27 21.6 -0.6**
comp=Z,150nm,1.3s,SNR=54
MGAB Montegabbione 66.61 49 ⇓P **P** **15 27 22.0 -0.3**
MGAB ⇓P **pP** **15 27 22.1 -5.4**
BBB Bella Bella 66.68 321 IAmb IAmb 15 27 52.8
comp=Z,376nm,1.7s
BBB Bella Bella 66.68 321 ⇑P **P** **15 27 23.4 +1.0**
BBB ⇓P **P** **15 27 23.7 +1.2**
SKAR Skarslia 66.79 30 *e*P **P** **15 27 23.7 +0.6**
SKAR *e*S **S** **15 36 14.5 +0.1**
SKAR IVMs_BB IVMs_BB 15 48 31.4
comp=Z,3μm,27.8s
FLTG Flechtingen 66.86 39 *e*P **P** **15 27 23.7 +0.1**
comp=Z,407nm,1.6s,baz=263,slow=6.4
MOX Moxa 66.89 41 *e*P **P** **15 27 24.1 +0.2**
comp=Z,300nm,2.2s,baz=263,slow=6.4
MOX *e*L L 15 53 44.3
comp=Z,10μm,19.4s
MOL Molde 66.91 27 *e*P **P** **15 27 24.6 +0.9**
MOL IVmB_BB 15 27 25.4
comp=Z,2μm,1.8s
MOL *e*S **S** **15 36 17.4 +1.8**
MOL IVMs_BB IVMs_BB 15 48 47.5
comp=Z,7μm,24.6s
MURB Monte Urbino 66.93 49 IAmb IAmb 15 28 01.7
comp=Z,295nm,1.4s
NEUB Neuenburg 67.06 40 *e*P **P** **15 27 25.1 +0.2**
comp=Z,153nm,1.3s,baz=263,slow=6.4
ABTA Abfaltersbach 67.13 45 *i* P **P** **15 27 24.2 -1.4**
comp=Z,87nm,1.1s,SNR=42
MANZ Manzenberg 67.14 41 *e*P **P** **15 27 25.9 +0.4**
comp=Z,364nm,1.5s,baz=263,slow=6.4
ROTZ Rotzenmuhle 67.18 42 *e*P **P** **15 27 25.9 +0.2**
comp=Z,170nm,1.3s,baz=263,slow=6.4
KONO Kongsberg 67.19 31 *d i* P **P** **15 27 26.3 +0.7**
KONO pmax pmax
comp=Z,309nm,1.7s
KONO MLR MLR
comp=Z,5μm,17.0s
KONO Kongsberg 67.19 31 *e*P **P** **15 27 24.7 -0.9**
KONO IVmB_BB 15 27 27.1
comp=Z,2μm,1.8s
KONO *e*S **S** **15 36 18.4 -0.7**
KONO IVMs_BB IVMs_BB 15 54 14.8
comp=Z,3μm,17.4s
KONO Kongsberg 67.19 31 P **P** **15 27 24.7 -0.9**
KONO IAmb IAmb 15 27 28.2
comp=Z,384nm,1.6s
KONO Kongsberg 67.19 31 ⇓P **P** **15 27 25.4 -0.2**
KONO ⇓P **P** **15 27 25.9 +0.3**
PLN Plauen 67.22 41 *e*P **P** **15 27 26.1 +0.1**
comp=Z,104nm,1.2s,baz=263,slow=6.4
WERD Werda 67.31 41 *e*P **P** **15 27 26.7 +0.1**
comp=Z,128nm,1.3s,baz=263,slow=6.4
GUNZ Gunzen 67.32 41 *e*P **P** **15 27 26.9 +0.2**
comp=Z,211nm,1.9s,baz=263,slow=6.4
WERN Wernitzgruen 67.34 41 *e*P **P** **15 27 27.1 +0.3**
comp=Z,191nm,1.5s,baz=263,slow=6.4
CLTB Caltabellotta 67.34 55 IAmb IAmb 15 27 42.7
comp=Z,317nm,1.4s
CLTB IAMs_20 IAMs_20 15 57 18.1
comp=Z,12μm,20.0s
CLTB Caltabellotta 67.34 55 ⇑P **P** **15 27 28.1 +1.0**
CLTB ⇓P **pP** **15 27 28.6 -3.8**
NKC Novy Kostel 67.38 41 *e*P **P** **15 27 27.0 0.0**
NKC MLR MLR
comp=Z,8μm,19.6s
NKC Novy Kostel 67.38 41 *e*P **P** **15 27 27.0 0.0**
NKC *e*x x 15 27 44.1
NKC AMS AMS 15 55 20.0
comp=Z,8μm,19.6s
RJOB Jochberg 67.39 44 *e*P **P** **15 27 27.1 -0.1**
comp=Z,713nm,1.7s,baz=263,slow=6.4
CORL Corleone 67.41 55 P **P** **15 27 27.7 +0.2**
CORL IAmb IAmb 15 28 15.3
comp=Z,241nm,1.3s
ZOU Zoufplan 67.43 45 P **P** **15 27 26.4 -1.3**
DOMB Dombas 67.46 28 *e*P **P** **15 27 26.4 -0.9**
DOMB IVmB_BB 15 27 30.2
comp=Z,2μm,1.6s
DOMB *e*S **S** **15 36 21.9 -0.5**
DOMB *e*SS **SS** **15 40 43.3 +0.8**
DOMB IVMs_BB IVMs_BB 15 49 04.8
comp=Z,5μm,26.6s
EUNU Eureka 67.49 355 P **P** **15 27 27.5 +0.2**
AQU L'Aquila 67.54 50 P **P** **15 27 29.8 +1.5**
AQU L'Aquila 67.54 50 ⇓*i* P **P** **15 27 29.0 +0.7**
AQU L'Aquila 67.54 50 IAmb IAmb 15 28 04.2
comp=Z,314nm,1.4s
AQU L'Aquila 67.54 50 ⇑P **P** **15 27 27.4 -0.9**
WET Wettzell 67.56 42 *e*P **P** **15 27 28.2 0.0**
comp=Z,257nm,1.5s,baz=263,slow=6.4
PTCC Patocco-Chiusa 67.68 45 ⇑P **P** **15 27 27.4 -1.6**
PTCC ⇑P **P** **15 27 27.9 -1.1**
KBA Koelnbreinsper 67.72 45 *i* P **P** **15 27 28.6 -0.8**
comp=Z,175nm,1.4s,SNR=78
ROBS Robic 67.78 46 *e*P **P** **15 27 28.7 -0.9**
ROBS *i* pP **pP** **15 27 30.0 -4.8**
ROBS *e*S **S** **15 36 26.6 -0.1**
ROBS *e* 15 43 59.4
OSL Oslo 67.81 31 *e*P **P** **15 27 28.4 -1.0**
OSL *e*S **S** **15 36 22.5 -3.9**
CLL Collm 67.83 40 *i* P **P** **15 27 29.7 -0.1**
comp=Z,304nm,1.5s
CLL *e*Pmax 15 27 37.0
CLL *e* 15 27 46.0
CLL *e*PP **PP** **15 30 03.0 +3.6**
CLL *e* 15 30 17.0
CLL *e*S **S** **15 36 24.0 -3.1**
comp=N,4μm,25.8s
CLL *e*S **S** **15 36 24.0 -3.1**
comp=E,1μm,22.9s
CLL *e*PS **PnS** **15 37 01.0 +10**
CLL *e* 15 37 42.0
CLL *e*SS **SS** **15 40 48.0 -0.6**
CLL Lmax 15 49 00.0
CLL Lm MLR 15 54 00.0
comp=N,5μm,21.5s
CLL Lm MLR 15 54 00.0
comp=E,7μm,19.3s
CLL Lm MLR 15 54 00.0
comp=Z,8μm,18.7s
CLL *e*PKPPKPab **P'P'ab** **15 55 58.0 +0.8**
CLL Collm 67.83 40 *i* P **P** **15 27 29.7 -0.1**
CLL *e*S **S** **15 36 24.0 -3.1**
comp=Z,304nm,1.5s
CLL pmax pmax
comp=Z,8μm,18.7s
CLL MLR MLR
CLL Collm 67.83 40 IAmb IAmb 15 27 32.1
comp=Z,410nm,1.7s

CLL	**Collm**	**67.83**	**40**	*e*P	**P**	**15 27 29.9**	**+0.1**
	comp=Z,304nm,1.5s,baz=263,slow=6.4						
STRU	**Stroemstad**	**67.87**	**32**	*i* P	**P**	**15 27 29.4**	**-0.5**
MYKA	**Terra Mystica**	**67.89**	**45**	*i* P	**P**	**15 27 29.7**	**-0.8**
	comp=Z,115nm,1.2s,SNR=62						
CADS	**Cadrg**	**67.94**	**46**	*i* P	**P**	**15 27 30.0**	**-0.7**
CADS				*e*S	**S**	**15 36 28.8**	**+0.1**
CADS				*e*		15 44 03.0	
ONAU	**Onsala**	**67.98**	**33**	*i* P	**P**	**15 27 30.4**	**-0.2**
KHC	**Kasperske Hory**	**68.02**	**42**	*e*P	**P**	**15 27 31.1**	**0.0**
KHC				*e*S	**S**	**15 36 29.8**	**+0.3**
KHC				MLR	MLR		
	comp=Z,10μm,19.0s						
KHC	**Kasperske Hory**	**68.02**	**42**	*e*P	**P**	**15 27 31.1**	**0.0**
KHC				*e*x	x	15 27 47.6	
KHC				*e*S	**S**	**15 36 29.8**	**+0.3**
KHC				AMS	AMS	15 53 30.0	
	comp=Z,10μm,19.0s						
KHC	**Kasperske Hory**	**68.02**	**42**	IAmb	IAmb	15 27 33.5	
	comp=Z,258nm,1.7s						
FBE	**Freiberg**	**68.02**	**40**	*e*P	**P**	**15 27 31.5**	**+0.5**
	comp=Z,371nm,1.6s,baz=263,slow=6.4						
NBO00	**NORSAR Array S**	**68.05**	**29**	P	**P**	**15 27 29.6**	**-1.4**
GEC2	**GERESS Array S**	**68.08**	**43**	IAmb	IAmb	15 27 33.6	
	comp=Z,460nm,1.7s						
GEC2	**GERESS Array S**	**68.08**	**43**	*e*P	**P**	**15 27 31.4**	**-0.1**
	comp=Z,239nm,1.3s,baz=263,slow=6.4						
GERES	**GERESS Array B**	**68.08**	**43**	P	**P**	**15 27 30.3**	**-1.2**
	comp=Z,43nm,0.8s,baz=263,slow=5.6,SNR=113						
GERES				S	**S**	**15 36 27.1**	**-3.2**
	comp=Z,1.2nm,0.9s,baz=297,slow=6.5,SNR=2.0						
GERES				LR	LR	15 51 53.1	
	comp=Z,5μm,21.1s,baz=258,slow=31						
GERES				PKPPKP		15 55 50.8	
	comp=Z,2.3nm,0.9s,baz=90,slow=2.7,SNR=9.8						
SKDS	**Skadanscina**	**68.10**	**46**	⇓*i*P	**P**	**15 27 30.9**	**-0.8**
JAVS	**Javornik**	**68.15**	**46**	*e*P	**P**	**15 27 31.7**	**-0.3**
JAVS				*i* pP	**P**	**15 27 32.8**	**+0.7**
JAVS				*e*		15 27 41.9	
JAVS				*e*S	**S**	**15 36 32.1**	**+0.8**
NB2	**NORSAR Subarra**	**68.26**	**29**	P	**P**	**15 27 31.8**	**-0.6**
	comp=Z,767nm,1.7s,baz=261,slow=6.9						
NB2	**NORSAR Subarra**	**68.26**	**29**	P	**P**	**15 27 31.8**	**-0.6**
	baz=261,slow=6.9						
NOA	**NORSAR Array B**	**68.26**	**29**	P	**P**	**15 27 31.8**	**-0.6**
	comp=Z,198nm,1.3s,baz=259,slow=6.8,SNR=53						
NOA				LR	LR	15 54 08.8	
	comp=Z,6μm,19.2s,baz=260,slow=33						
RAFF	**Raffo Rosso**	**68.26**	**55**	P	**P**	**15 27 31.8**	**-1.0**
RAFF				IAmb	IAmb	15 28 07.1	
	comp=Z,274nm,1.1s						
NC602	**NORSAR Array S**	**68.36**	**30**	*e*P	**P**	**15 27 31.9**	**-1.0**
NC602				*e*S	S	**15 36 34.9**	**+1.9**
NC602				IVMs_BB	IVMs_BB	15 49 42.8	
	comp=Z,4μm,26.0s						
NORES	**NORESS Array B**	**68.36**	**30**	P	**P**	**15 27 36.3**	**+3.4**
NORES				pmax	pmax		
	comp=Z,110nm,1.1s						
RGN	**Rugen**	**68.37**	**37**	*e*P	**P**	**15 27 33.6**	**+0.5**
	comp=Z,423nm,1.5s,baz=263,slow=6.4						
RGN	**Rugen**	**68.37**	**37**	⇓P	**P**	**15 27 33.2**	**+0.1**
BRG	**Berggiesshubel**	**68.39**	**41**	*e*P	**P**	**15 27 32.8**	**-0.6**
BRG				Amp		15 27 36.5	
	comp=Z,297nm,1.6s						
BRG	**Berggiesshubel**	**68.39**	**41**	S	**S**	**15 36 35.0**	**+1.3**
BRG	**Berggiesshubel**	**68.39**	**41**	*e*P	**P**	**15 27 33.5**	**+0.2**
	comp=Z,295nm,1.6s,baz=263,slow=6.4						
MOA	**Molln**	**68.39**	**44**	*i* P	**P**	**15 27 32.7**	**-0.7**
	comp=Z,162nm,1.2s,SNR=78						
BJUU	**Bjuv**	**68.39**	**35**	*i* P	**P**	**15 27 33.2**	**0.0**
PAOL	**Paolisi**	**68.39**	**51**	P	**P**	**15 27 33.5**	**-0.1**
PAOL				IAmb	IAmb	15 27 54.3	
	comp=Z,214nm,1.1s						
CEY	**Cerknica**	**68.40**	**46**	⇓*i*P	**P**	**15 27 32.7**	**-0.8**
WDD	**Wied Dalam**	**68.42**	**57**	P	**P**	**15 27 33.0**	**-0.9**
WDD				IAmb	IAmb	15 27 56.7	
	comp=Z,300nm,1.2s						
WDD	**Wied Dalam**	**68.42**	**57**	⇑P	**P**	**15 27 35.1**	**+1.3**
RUE	**Ruedersdorf**	**68.43**	**39**	*e*P	**P**	**15 27 33.6**	**+0.1**
	comp=Z,240nm,1.2s,baz=263,slow=6.4						
RUE	**Ruedersdorf**	**68.43**	**39**	⇑P	**P**	**15 27 32.8**	**-0.7**
MOZS	**Mozjanca**	**68.43**	**45**	*e*P	**P**	**15 27 33.2**	**-0.6**
MOZS				*e*S	**S**	**15 36 35.1**	**+0.6**
CKRC	**Cesky Krumlov**	**68.47**	**43**	*e*P	**P**	**15 27 33.1**	**-0.9**
CKRC				*e*S	**S**	**15 36 34.5**	**-0.4**
CKRC				AMS	AMS	15 53 50.0	
	comp=Z,5μm,17.2s						
LJU	**Ljubljana**	**68.48**	**46**	⇓*i*P	**P**	**15 27 33.7**	**-0.3**
LJU	**Ljubljana**	**68.48**	**46**	*i* P	**P**	**15 27 34.0**	**-0.1**
LJU				*i* pP	**P**	**15 27 35.0**	**+1.0**
LJU				*e*		15 27 43.8	
LJU				*e*S	**S**	**15 36 35.5**	**+0.4**
OBKA	**Obir**	**68.52**	**45**	*i* P	**P**	**15 27 33.7**	**-0.6**
	comp=Z,138nm,1.1s,SNR=70						
LUNU	**Lund**	**68.57**	**35**	*i* P	**P**	**15 27 33.7**	**-0.7**
C36M	**Paulatuk**	**68.62**	**340**	P	**P**	**15 27 33.8**	**-0.6**
	baz=108,SNR=14						
C36M				S	**S**	**15 36 33.5**	**-2.4**
	baz=108						
PRA	**Prague**	**68.64**	**41**	*e*P	**P**	**15 27 35.8**	**+0.9**
PRA				*e*S	**S**	**15 36 36.7**	**0.0**
PRA				MLR	MLR		
	comp=Z,7μm,19.1s						
PRA	**Prague**	**68.64**	**41**	*e*P	**P**	**15 27 35.8**	**+0.9**
PRA				*e*x	x	15 27 51.8	
PRA				*e*S	**S**	**15 36 36.7**	**0.0**
PRA				AMS	AMS	15 58 20.0	
	comp=Z,7μm,19.1s						
DLBC	**Dease Lake**	**68.65**	**328**	IAmb	IAmb	15 28 08.9	
	comp=Z,145nm,1.1s						
PRU	**Pruhonice**	**68.70**	**42**	*e*P	**P**	**15 27 35.5**	**+0.2**
PRU				*e*S	**S**	**15 36 31.5**	**-6.0**
PRU				MLR	MLR		
	comp=Z,8μm,17.8s						
PRU	**Pruhonice**	**68.70**	**42**	*e*P	**P**	**15 27 35.5**	**+0.2**
PRU				*e*x	x	15 27 52.2	
PRU				*e*S	**S**	**15 36 31.5**	**-6.0**
PRU				AMS	AMS	15 58 10.0	
	comp=Z,8μm,17.8s						
PVCC	**Panska Ves**	**68.76**	**41**	*e*P	**P**	**15 27 35.7**	**+0.1**
PVCC				*e*S	**S**	**15 36 40.6**	**+2.4**
PVCC				MLR	MLR		
	comp=Z,10μm,17.9s						
PVCC	**Panska Ves**	**68.76**	**41**	*e*P	**P**	**15 27 35.7**	**+0.1**
PVCC				*e*S	**S**	**15 36 40.6**	**+2.4**
PVCC				AMS	AMS	15 56 10.0	
	comp=Z,10μm,17.9s						
ALE	**Alert**	**68.76**	**359**	IAms_20	IAms_20	15 54 14.0	
	comp=Z,12μm,22.0s						
LNIZ	**Loecknitz**	**68.78**	**38**	*e*P	**P**	**15 27 36.0**	**+0.3**
	comp=Z,548nm,1.6s,baz=263,slow=6.4						
SOKA	**Soboth**	**68.86**	**45**	*e*P	**P**	**15 27 35.2**	**-1.2**
	comp=Z,80nm,1.3s,SNR=50						
MG01	**Puerto William**	**68.89**	**186**	P	**P**	**15 27 36.5**	**+0.3**
MG01				IAmb	IAmb	15 27 52.7	
	comp=Z,302nm,1.1s						
DEL	**Delary**	**68.91**	**35**	*i* P	**P**	**15 27 36.7**	**+0.2**
BOJS	**Bojanci**	**68.97**	**46**	⇓*i*P	**P**	**15 27 36.1**	**-1.0**
CRES	**Cresnjev**	**69.12**	**46**	⇓*i*P	**P**	**15 27 37.0**	**-1.0**
ARSA	**Arzberg**	**69.21**	**44**	*i* P	**P**	**15 27 37.6**	**-0.9**
	comp=Z,154nm,1.3s,SNR=67						
TREC	**Trest**	**69.28**	**42**	*e*P	**P**	**15 27 39.0**	**+0.1**
TREC				*e*		15 27 56.0	
TREC				*e*S	**S**	**15 36 43.7**	**-0.7**
TREC	**Trest**	**69.28**	**42**	*e*P	**P**	**15 27 39.0**	**+0.1**
TREC				*e*x	x	15 27 56.0	
TREC				*e*S	**S**	**15 36 43.7**	**-0.7**
NSS	**Namsos**	**69.29**	**26**	*e*P	**P**	**15 27 39.1**	**+0.5**
NSS				IVmB_BB		15 27 40.2	
	comp=Z,3μm,1.8s						
NSS				*e*S	**S**	**15 36 45.5**	**+1.6**
NSS				IVMs_BB	IVMs_BB	15 49 19.2	
	comp=Z,4μm,31.4s						
HFS	**Hagfors**	**69.31**	**31**	P	**P**	**15 27 38.7**	**-0.2**
	comp=Z,95nm,1.0s,baz=210,slow=5.0,SNR=62						
HFS				S	**S**	**15 36 42.6**	**-1.7**
	comp=Z,2.0nm,0.9s,baz=236,slow=10,SNR=1.8						
BSD	**Bornholm Skovb**	**69.35**	**36**	*e*P	**P**	**15 27 40.3**	**+1.1**
BSD	**Bornholm Skovb**	**69.35**	**36**	⇓*i*P	**P**	**15 27 39.2**	**0.0**
BSD				IAmb	IAmb	15 27 40.9	
	comp=Z,156nm,1.6s						
BSD				IAMs_20	IAMs_20	15 55 32.4	
	comp=Z,15μm,18.0s						
BSD	**Bornholm Skovb**	**69.35**	**36**	⇓*i*P	**P**	**15 27 39.2**	**0.0**
BSD				pmax	pmax		
	comp=Z,160nm,1.6s						
BSD				MLR	MLR		
	comp=Z,15μm,18.0s						
CEL	**Celeste**	**69.45**	**54**	P	**P**	**15 27 39.2**	**-1.1**
CONA	**Conrad Observa**	**69.47**	**44**	*i* P	**P**	**15 27 40.0**	**-0.2**
	comp=Z,225nm,1.4s,SNR=139						
WRAK	**Wrangell Islan**	**69.64**	**325**	P	**P**	**15 27 41.0**	**0.0**
	baz=96,SNR=14						
WRAK				S	**S**	**15 36 50.4**	**+2.1**
	baz=96						
UPC	**Upice**	**69.67**	**41**	*e*P	**P**	**15 27 41.4**	**+0.1**
UPC				MLR	MLR		
	comp=Z,10μm,18.7s						
UPC	**Upice**	**69.67**	**41**	*e*P	**P**	**15 27 41.4**	**+0.1**
UPC				AMS	AMS	15 56 50.0	
	comp=Z,10μm,18.7s						
CHVC	**Chvalec**	**69.71**	**41**	*e*P	**P**	**15 27 41.1**	**-0.5**
CHVC				AMS	AMS	15 56 50.0	
	comp=Z,9μm,18.4s						
OSTC	**Ostas**	**69.81**	**41**	*e*P	**P**	**15 27 42.3**	**+0.1**
OSTC				AMS	AMS	15 56 50.0	
	comp=Z,10μm,18.5s						
KRUC	**Moravsky**	**69.86**	**43**	*e*P	**P**	**15 27 42.1**	**-0.4**
KRUC				*e*S	**S**	**15 36 49.2**	**-2.1**
KRUC				*e*		15 44 34.3	
DPC	**Dobruska-Polom**	**69.87**	**41**	*e*P	**P**	**15 27 42.5**	**-0.1**
DPC				*e*		15 27 59.5	
DPC				*e*S	**S**	**15 36 50.0**	**-1.4**
DPC				MLR	MLR		
	comp=Z,9μm,17.4s						
DPC	**Dobruska-Polom**	**69.87**	**41**	*e*P	**P**	**15 27 42.5**	**-0.1**
DPC				*e*x	x	15 27 59.5	
DPC				*e*S	**S**	**15 36 50.0**	**-1.4**
DPC				AMS	AMS	15 56 50.0	
	comp=Z,9μm,17.4s						
KSP	**Ksiaz**	**69.87**	**41**	*e*P	**P**	**15 27 43.5**	**+1.0**
KSP				*e*PcP	**pwP**	**15 27 56.9**	**+4.7**
KSP				*e*S	**S**	**15 36 51.4**	**+0.1**
KSP				*e*L	L	15 50 21.6	
	comp=Z,18μm,32.4s						
KSP	**Ksiaz**	**69.87**	**41**	P	**P**	**15 27 43.3**	**+0.8**
KSP				pmax	pmax		
	comp=Z,115nm,2.0s						
SOP	**Sopron**	**69.93**	**44**	*e*P	**P**	**15 27 43.2**	**+0.3**
SOP	**Sopron**	**69.93**	**44**	P	**P**	**15 27 44.1**	**+1.2**
BLEU	**Blekinge**	**69.97**	**35**	*i* P	**P**	**15 27 43.0**	**0.0**
CRAG	**Craig**	**69.99**	**324**	P	**P**	**15 27 43.7**	**+0.6**
	baz=95						
CRAG				S	**S**	**15 36 54.4**	**+1.9**
	baz=95						
VRAC	**Vranov**	**70.00**	**42**	P	**P**	**15 27 41.7**	**-1.7**
	comp=Z,41nm,0.8s,baz=269,slow=6.9,SNR=75						
VRAC	**Vranov**	**70.00**	**42**	⇑P	**P**	**15 27 42.7**	**-0.7**
VRAC	**Vranov**	**70.00**	**42**	*e*P	**P**	**15 27 43.0**	**-0.4**
VRAC				*e*S	**S**	**15 36 52.8**	**-0.1**
VRAC				*e*		15 44 39.1	
MATE	**Matera**	**70.02**	**52**	⇓P	**P**	**15 27 43.2**	**-0.4**
MATE	**Matera**	**70.02**	**52**	⇓P	**P**	**15 27 43.3**	**-0.3**
NOR	**Nord**	**70.07**	**6**	*i* P	**P**	**15 27 42.7**	**-0.6**
NOR				IAmb	IAmb	15 27 45.5	
	comp=Z,344nm,1.5s						
NOR				IAMs_20	IAMs_20	15 53 47.1	
	comp=Z,39μm,25.1s						
NOR	**Nord**	**70.07**	**6**	*i* P	**P**	**15 27 42.6**	**-0.6**
NOR				pmax	pmax		
	comp=Z,340nm,1.5s						
NOR				MLR	MLR		
	comp=Z,39μm,25.0s						
KRLC	**Kraliky**	**70.15**	**42**	*e*P	**P**	**15 27 45.0**	**+0.7**
KRLC				*e*		15 27 59.6	
KRLC				*e*S	**S**	**15 36 56.6**	**+1.9**
KRLC				MLR	MLR		
	comp=Z,8μm,17.9s						
KRLC	**Kraliky**	**70.15**	**42**	*e*P	**P**	**15 27 45.0**	**+0.7**
KRLC				*e*x	x	15 27 59.6	
KRLC				*e*S	**S**	**15 36 56.6**	**+1.9**
KRLC				AMS	AMS	15 56 30.0	
	comp=Z,8μm,17.9s						
KONS	**Konsvik**	**70.15**	**24**	*e*P	**P**	**15 27 44.6**	**+0.7**
MGRS	**Mrkonjic Grad**	**70.26**	**48**	*e*P	**P**	**15 27 46.1**	**+1.0**
ZST	**Bratislava**	**70.31**	**44**	*e*P	**P**	**15 27 45.3**	**0.0**
ZST				pmax	pmax		
	comp=Z,693nm,1.6s						
ZST	**Bratislava**	**70.31**	**44**	*e*P	**P**	**15 27 45.2**	**0.0**
ZST				*e*S	**S**	**15 36 55.5**	**-1.0**
BLY	**Banja Luka**	**70.33**	**47**	⇓*i*P	**P**	**15 27 45.0**	**-0.4**
BLY	**Banja Luka**	**70.33**	**47**	⇓P	**P**	**15 27 46.2**	**+0.8**
BLY				⇓P	**P**	**15 27 46.3**	**+0.8**
HOPE	**Hope Point**	**70.38**	**166**	P	**P**	**15 27 46.0**	**+0.7**
HOPE				pmax	pmax		
	comp=Z,191nm,1.3s						
HOPE				MLR	MLR		
	comp=Z,17μm,21.0s						
HOPE	**Hope Point**	**70.38**	**166**	P	**P**	**15 27 46.0**	**+0.7**
HOPE				IAmb	IAmb	15 28 35.6	
	comp=Z,191nm,1.2s						
MODS	**Modra-Piesok**	**70.42**	**43**	*e*P	**P**	**15 27 47.1**	**+1.1**
MODS				pmax	pmax		
	comp=Z,332nm,1.4s						
MODS	**Modra-Piesok**	**70.42**	**43**	*e*P	**P**	**15 27 47.1**	**+1.1**
MODS				*e*S	**S**	**15 36 54.3**	**-3.6**
EGYH	**Egyhazaskeszo**	**70.45**	**44**	*e*P	**P**	**15 27 42.7**	**-3.4**
SMOL	**Smolenice**	**70.53**	**43**	*e*P	**P**	**15 27 47.0**	**+0.4**
SMOL				pmax	pmax		
	comp=Z,67nm,1.3s						
SMOL	**Smolenice**	**70.53**	**43**	*e*P	**P**	**15 27 47.0**	**+0.4**
GKP	**Gorka Klasztor**	**70.57**	**38**	*e*P	**P**	**15 27 48.0**	**+1.2**
GKP				*e*S	**S**	**15 36 58.6**	**-0.8**
GKP				*e*L	L	15 50 42.7	
	comp=Z,22μm,32.0s						
GKP	**Gorka Klasztor**	**70.57**	**38**	*e*P	**P**	**15 27 48.3**	**+1.5**
MPLH	**Magyarpolny**	**70.58**	**45**	*e*P	**P**	**15 27 46.4**	**-0.5**
MOR8	**Moi Rana**	**70.61**	**24**	*e*P	**P**	**15 27 46.8**	**0.0**
MOR8				IVmB_BB		15 27 49.2	
	comp=Z,2μm,2.4s						
MOR8				*e*PP	**PP**	**15 30 20.2**	**-2.9**
MOR8				*e*S	**S**	**15 37 02.0**	**+2.5**
MOR8				IVMs_BB	IVMs_BB	15 50 39.5	
	comp=Z,3μm,23.0s						
MORC	**Moravsky Berou**	**70.63**	**42**	⇑P	**P**	**15 27 46.5**	**-0.7**
MORC	**Moravsky Berou**	**70.63**	**42**	P	**P**	**15 27 47.6**	**+0.3**
MORC				pmax	pmax		
	comp=Z,118nm,1.4s						
MORC	**Moravsky Berou**	**70.63**	**42**	IAmb	IAmb	15 27 49.9	
	comp=Z,327nm,1.6s						
MORC	**Moravsky Berou**	**70.63**	**42**	*e*P	**P**	**15 27 47.0**	**-0.3**
MORC				*e*S	**S**	**15 36 59.7**	**-0.7**
MORC				*e*		15 44 48.8	
LOF	**Lofoten**	**70.64**	**22**	*e*P	**P**	**15 27 46.0**	**-0.8**
LOF				IVmB_BB		15 27 48.4	
	comp=Z,3μm,2.0s						
LOF				*e*S	**S**	**15 37 01.5**	**+1.9**
LOF				*e*SS	**SS**	**15 41 36.0**	**+5.0**
LOF				IVMs_BB	IVMs_BB	15 49 48.5	
	comp=Z,3μm,26.9s						
JAVC	**Velka Javorina**	**70.69**	**43**	*e*P	**P**	**15 27 48.1**	**+0.4**
JAVC				*e*S	**S**	**15 37 02.3**	**+1.1**
JAVC				*e*		15 44 47.4	
STON	**Ston**	**70.72**	**49**	⇓*i*P	**P**	**15 27 48.5**	**+0.7**
TIH	**Tihany**	**70.82**	**45**	*e*P	**P**	**15 27 48.9**	**+0.5**
KOVH	**Kovagotottos**	**70.97**	**46**	*e*P	**P**	**15 27 49.5**	**+0.2**
OKC	**Ostrava-Krasne**	**71.02**	**42**	*e*P	**P**	**15 27 50.9**	**+1.3**
OKC				*e*S	**S**	**15 37 02.9**	**-1.9**
OKC				MLR	MLR		
	comp=Z,6μm,18.2s						
OKC	**Ostrava-Krasne**	**71.02**	**42**	*e*P	**P**	**15 27 50.9**	**+1.3**
OKC				*e*S	**S**	**15 37 02.9**	**-1.9**
OKC				AMS	AMS	15 59 50.0	
	comp=Z,6μm,18.2s						
CSKK	**Cskako**	**71.08**	**44**	*e*P	**P**	**15 27 50.4**	**+0.4**
N2TV	**TŸrnvik**	**71.12**	**23**	*e*P	**P**	**15 27 50.4**	**+0.6**
FAUS	**Fauske**	**71.15**	**23**	*e*P	**P**	**15 27 50.5**	**+0.4**
FAUS				IVmB_BB		15 27 52.0	
	comp=Z,3μm,1.9s						
FAUS				*e*S	**S**	**15 37 07.5**	**+1.9**
FAUS				IVMs_BB	IVMs_BB	15 51 43.4	
	comp=Z,4μm,24.2s						
TREB	**Trebinje**	**71.20**	**49**	*e*P	**P**	**15 27 50.2**	**-0.6**
STEI	**Steigen**	**71.23**	**23**	*e*P	**P**	**15 27 51.2**	**+0.8**
STEI				IVmB_BB		15 27 52.1	
	comp=Z,2μm,1.9s						
STEI				*e*S	**S**	**15 37 08.7**	**+2.2**
STEI				IVMs_BB	IVMs_BB	15 50 08.9	
	comp=Z,3μm,22.9s						
UPP	**Uppsala**	**71.24**	**31**	*e*P	**P**	**15 27 50.4**	**-0.2**
HCY	**Herceg Novi**	**71.31**	**50**	*e*P	**P**	**15 27 50.0**	**-1.5**
HCY	**Herceg Novi**	**71.31**	**50**	*e*P	**P**	**15 27 52.9**	**+1.4**
SIT	**Sitka**	**71.33**	**326**	P	**P**	**15 27 51.5**	**+0.2**
	baz=93,SNR=6.0						
SIT				S	**S**	**15 37 10.5**	**+2.6**
	baz=93						
BRY	**Bratogost**	**71.33**	**49**	*e*P	**P**	**15 27 50.5**	**-1.3**
BRY	**Bratogost**	**71.33**	**49**	*e*P	**P**	**15 27 52.4**	**+0.6**
MORH	**Mrgy, Hungar**	**71.34**	**46**	⇑P	**P**	**15 27 51.4**	**-0.2**
MORH	**Mrgy, Hungar**	**71.34**	**46**	*e*P	**P**	**15 27 51.3**	**-0.2**
MORH	**Mrgy, Hungar**	**71.34**	**46**	⇓*i*P	**P**	**15 27 51.4**	**-0.2**
VYHS	**Vyhne**	**71.46**	**43**	*e*P	**P**	**15 27 52.6**	**+0.3**
VYHS				pmax	pmax		
	comp=Z,235nm,1.4s						
VYHS	**Vyhne**	**71.46**	**43**	*e*P	**P**	**15 27 52.6**	**+0.3**
VYHS				*e*S	**S**	**15 37 07.8**	**-2.2**
SKAG	**Skagway**	**71.49**	**328**	P	**P**	**15 27 52.9**	**+0.7**
	baz=94						
SKAG				S	**S**	**15 37 12.1**	**+2.3**
	baz=94						
BUD	**Budapest**	**71.59**	**44**	*e*P	**P**	**15 27 54.4**	**+1.3**
BUD	**Budapest**	**71.59**	**44**	P	**P**	**15 27 54.4**	**+1.3**
UPM	**Unac-Piva**	**71.59**	**49**	*e*P	**P**	**15 27 53.0**	**-0.4**
UPM	**Unac-Piva**	**71.59**	**49**	*e*P	**P**	**15 27 53.2**	**-0.2**
BUM	**Brajici-Budva**	**71.62**	**50**	*e*P	**P**	**15 27 53.9**	**+0.5**
CEME	**Cevo**	**71.62**	**49**	*e*P	**P**	**15 27 53.5**	**0.0**
NKME	**Niksic**	**71.64**	**49**	*e*P	**P**	**15 27 53.8**	**+0.2**
NKY	**Niksic**	**71.67**	**49**	*e*P	**P**	**15 27 54.2**	**+0.4**
INK	**Inuvik**	**71.71**	**338**	P	**P**	**15 27 53.5**	**+0.1**
	baz=99,SNR=119						
INK				S	**S**	**15 37 10.9**	**-1.2**
	baz=99						
DRME	**Dracevica, Mon**	**71.84**	**50**	⇓*i*P	**P**	**15 27 54.7**	**0.0**
DRME	**Dracevica, Mon**	**71.84**	**50**	*e*P	**P**	**15 27 54.3**	**-0.4**
PDG	**Podgorica**	**71.88**	**50**	⇑P	**P**	**15 27 54.5**	**-0.4**
PDG	**Podgorica**	**71.88**	**50**	*e*P	**P**	**15 27 54.9**	**0.0**
TTG	**Podgorica**	**71.88**	**50**	*e*P	**P**	**15 27 55.5**	**+0.6**
LANS	**Liptovska Anna**	**71.88**	**43**	*e*P	**P**	**15 27 55.7**	**+0.8**
LANS				pmax	pmax		
	comp=Z,47nm,1.1s						
LANS	**Liptovska Anna**	**71.88**	**43**	*e*P	**P**	**15 27 55.7**	**+0.8**
ULC	**Ulcinj**	**71.89**	**50**	*e*P	**P**	**15 27 55.0**	**0.0**
RUDO	**Rudo**	**71.92**	**48**	*e*P	**P**	**15 27 53.7**	**-1.4**
BBLS	**Lazići**	**71.94**	**48**	*e*P	**P**	**15 27 52.3**	**-3.0**
PLE	**Pljevlja**	**71.94**	**49**	*e*P	**P**	**15 27 55.7**	**+0.3**
KOME	**Kolasin**	**72.05**	**49**	*e*P	**P**	**15 27 55.8**	**-0.3**
PSZ	**Piszkesteto**	**72.18**	**44**	⇓P	**P**	**15 27 56.7**	**0.0**
PSZ	**Piszkesteto**	**72.18**	**44**	*e*P	**P**	**15 27 57.3**	**+0.6**
PSZ	**Piszkesteto**	**72.18**	**44**	P	**P**	**15 27 58.2**	**+1.5**
PSZ				pmax	pmax		
	comp=Z,85nm,1.9s						
FRGS	**Fruska Gora**	**72.18**	**47**	⇑P	**P**	**15 27 56.0**	**-0.8**
FRGS	**Fruska Gora**	**72.18**	**47**	⇓*i*P	**P**	**15 27 55.9**	**-0.8**
IVA	**Berane**	**72.33**	**49**	*e*P	**P**	**15 27 57.5**	**-0.2**
DIVS	**Divibare**	**72.35**	**48**	⇓*i*P	**P**	**15 27 57.3**	**-0.5**
KLNR	**Kaliningrad**	**72.38**	**37**	*d i*P	**P**	**15 27 58.2**	**+0.6**
KLNR				pmax	pmax		
	comp=Z,344nm,1.2s						
KLNR				MLR	MLR		
	comp=Z,7μm,16.0s						
TIR	**Tirane**	**72.38**	**51**	⇓P	**P**	**15 27 58.7**	**+0.8**
TIR	**Tirane**	**72.38**	**51**	P	**P**	**15 27 58.7**	**+0.8**
TIR				pmax	pmax		
	comp=Z,171nm,1.1s						
TIR	**Tirane**	**72.38**	**51**	P	**P**	**15 27 58.7**	**+0.8**
TIR				IAmb	IAmb	15 28 21.8	
	comp=Z,171nm,1.1s						
PVY	**Plav**	**72.39**	**49**	*e*P	**P**	**15 27 59.5**	**+1.4**
KEK	**Kerkira**	**72.43**	**52**	P	**P**	**15 27 57.4**	**-0.8**
AAL	**Aland**	**72.45**	**31**	*e*P	**P**	**15 27 57.3**	**-0.6**
KECS	**Kecovo**	**72.56**	**43**	*e*P	**P**	**15 28 00.3**	**+1.4**
KECS				pmax	pmax		
	comp=Z,38nm,1.1s						
KECS	**Kecovo**	**72.56**	**43**	*e*P	**P**	**15 28 00.3**	**+1.4**
SRN	**Sarande**	**72.57**	**52**	P	**P**	**15 27 59.9**	**+0.8**
HYT	**Haines Junctio**	**72.66**	**330**	IAmb	IAmb	15 28 18.3	
	comp=Z,216nm,1.0s						
HYT				IAMs_20	IAMs_20	16 01 00.7	
	comp=Z,12μm,21.0s						
EPYK	**Eagle Plains**	**72.70**	**336**	P	**P**	**15 27 59.4**	**0.0**
	baz=95,SNR=25						
EPYK				S	**S**	**15 37 22.3**	**-1.3**
	baz=95						
EPYK	**Eagle Plains**	**72.70**	**336**	P	**P**	**15 27 58.8**	**-0.6**
EPYK				IAmb	IAmb	15 28 17.3	
	comp=Z,

comp=Z,3μm,22.4s
SPA0 Spitsbergen Ar 73.50 12 *e*P **P 15 28 03.0 -1.0**
SPA0 *e*S **SKiKP 15 37 34.5 +0.9**
SPITS Spitsbergen Ar 73.50 12 P **P 15 28 03.6 -0.3**
comp=Z,94nm,1.1s,baz=204,slow=1.8,SNR=15
SPITS Spitsbergen Ar 73.50 12 P **P 15 28 03.8 -0.1**
SPITS pmax pmax
comp=Z,319nm,1.2s
SKO Skopje 73.52 50 *i*P **P 15 28 04.5 -0.2**
LTVH Ltavrtes, Hu 73.55 44 ⇓P **P 15 28 05.0 +0.3**
MDVR Moldovita 73.55 47 ⇓P **P 15 28 04.2 -0.7**
FNA Florina 73.56 51 P **P 15 28 04.2 -0.8**
FNA Florina 73.56 51 P **P 15 28 04.9 -0.1**
SLIT Slitere, Latvi 73.57 34 *e*P **P 15 28 04.3 -0.3**
KPRO Kipourio 73.61 52 P **P 15 28 07.2 +1.8**
BOVS Bovan 73.61 48 ⇑P **P 15 28 05.8 +0.6**
DAWY Dawson 73.68 333 IAmb IAmb 15 28 23.4
comp=Z,354nm,1.1s
BCPM Bancas Point 73.69 329 IAmb IAmb 15 28 23.4
comp=Z,180nm,1.1s
KOLS Kolonicke sedl 73.73 43 *e*P **P 15 28 07.4 +1.6**
KOLS Kolonicke sedl 73.73 43 *e*P **P 15 28 07.4 +1.6**
UZH Uzhgorod 73.76 43 ⇑*i*P **P 15 28 04.7 -1.2**
UZH *i* 15 28 07.4
UZH *i* 15 28 14.0
UZH *i* 15 28 23.4
UZH *i*S **SKiKP 15 37 31.5 -3.1**
RLS Riolos of Patr 73.85 54 P **P 15 28 05.7 -1.0**
KZN Kozani 73.90 52 P **P 15 28 06.0 -1.0**
TRPA Tarpa 73.94 44 ⇑P **P 15 28 06.8 -0.2**
TRPA Tarpa 73.94 44 *e*P **P 15 28 07.4 +0.4**
KWP Kalwaria Pacla 73.98 42 *e*P **P 15 28 09.4 +2.1**
KWP *e*PcP **PcP 15 28 23.3 +0.8**
KWP *e*L L 15 52 25.0
comp=Z,17μm,33.3s
KWP Kalwaria Pacla 73.98 42 P **P 15 28 09.4 +2.1**
PINM Pinnacle 74.00 329 P **P 15 28 07.6 +0.4**
baz=90,SNR=12
PINM S **S 15 37 41.1 +2.4**
baz=90
PCA Pinnacle 74.01 329 IAmb IAmb 15 28 25.9
comp=Z,275nm,1.1s
EVR Evrytania 74.04 53 P **P 15 28 08.4 +0.5**
HERR Herculane 74.04 47 ⇑P **P 15 28 07.3 -0.4**
STIP Stip 74.10 50 *i*P **P 15 28 08.6 +0.5**
SUW Suwalki 74.12 37 *e*P **P 15 28 08.7 +0.8**
SUW *e*PcP **PcP 15 28 22.2 -0.8**
SUW *e*S **S 15 37 38.4 -1.6**
SUW *e*L L 15 53 18.1
comp=Z,20μm,26.8s
SUW Suwalki 74.12 37 *e*P **P 15 28 08.0 +0.1**
SUW Suwalki 74.12 37 IAmb IAmb 15 28 10.2
comp=Z,360nm,1.4s
DRGR 74.13 45 ⇓P **P 15 28 07.6 -0.7**
DRGR 74.13 45 P **P 15 28 08.0 -0.3**
THL Klokotos Trika 74.14 52 P **P 15 28 08.8 +0.4**
ANX Ano Chora 74.16 53 P **P 15 28 09.1 +0.5**
EFP Efpalio 74.16 54 P **P 15 28 10.6 +2.1**
PYL PYLOS 74.17 55 P **P 15 28 06.6 -2.0**
LAKA Lakka 74.23 54 P **P 15 28 08.4 -0.6**
GZR Gura Zlata 74.27 46 ⇓P **P 15 28 08.6 -0.4**
MESR Meseseni 74.28 45 ⇓P **P 15 28 09.8 +0.8**
KTK1 Kautokeino 74.28 22 *e*P **P 15 28 07.7 -0.9**
KTK1 IVmB_BB 15 28 10.4
comp=Z,3μm,1.6s
KTK1 *e*S **S 15 37 40.7 -0.6**
KTK1 IVMs_BB IVMs_BB 15 52 01.7
comp=Z,3μm,31.0s
SERG Sergoula 74.28 54 P **P 15 28 10.3 +1.1**
MAKR Makrakomi, Fth 74.28 53 P **P 15 28 08.8 -0.5**
ITM Ithomi 74.29 55 P **P 15 28 10.0 +0.7**
ITM Ithomi 74.29 55 P **P 15 28 08.9 -0.4**
ITM IAmb IAmb 15 28 41.6
comp=Z,173nm,1.0s
TRIZ Trizonia 74.30 54 P **P 15 28 10.6 +1.3**
GRG Griva 74.32 51 P **P 15 28 10.6 +1.2**
DEV Deva 74.32 46 ⇑P **P 15 28 09.9 +0.7**
DEV Deva 74.32 46 P **P 15 28 07.4 +2.1**
MTSE Matsula 74.37 32 *e*P **P 15 28 09.6 +0.3**
LOGN Logan Glacier 74.38 330 IAmb IAmb 15 28 28.1
comp=Z,247nm,0.9s
KLV Kalavryta, Ach 74.39 54 P **P 15 28 10.0 +0.1**
AGG Agios Georgios 74.44 53 P **P 15 28 09.4 -0.7**
AGG Agios Georgios 74.44 53 P **P 15 28 11.8 +1.7**
TABL Table Mountain 74.45 329 IAmb IAmb 15 28 34.1
comp=Z,381nm,1.5s
PUNG Punghina 74.45 48 ⇑P **P 15 28 10.6 +0.6**
EGAK Eagle 74.46 334 P **P 15 28 10.0 +0.3**
baz=91,SNR=70
EGAK S **S 15 37 43.0 -0.5**
baz=91
EGAK Eagle 74.46 334 IAmb IAmb 15 28 27.4
comp=Z,286nm,1.1s
LIT Litokhoron 74.46 52 P **P 15 28 10.6 +0.3**
HAMF Hammerfest 74.51 20 *e*P **P 15 28 09.0 -0.9**
HAMF IVmB_BB 15 28 12.0
comp=Z,4μm,2.0s
HAMF *e*S **S 15 37 44.8 +1.0**
HAMF IVMs_BB IVMs_BB 15 52 03.4
comp=Z,5μm,25.9s
CTGM Chitina Glacie 74.54 330 IAmb IAmb 15 28 29.4
comp=Z,254nm,1.0s
CTG Chitna Glacier 74.54 330 P **P 15 28 11.5 +1.1**
baz=89,SNR=60
CTG S **S 15 37 48.1 +3.3**
baz=89
BMR Baia Mare 74.61 44 ⇑P **P 15 28 11.1 +0.2**
BMR Baia Mare 74.61 44 P **P 15 28 12.8 +1.9**
SRE Strehaia 74.62 47 ⇑P **P 15 28 11.7 +0.7**
VLX Vlachokerasia 74.63 55 P **P 15 28 10.9 -0.5**
MEF Metsahovi 74.65 31 *e*P **P 15 28 11.1 +0.2**
KNT Kendrikon 74.68 51 P **P 15 28 11.2 -0.3**
BARN Barnard Glacie 74.69 330 IAMs_20 IAMs_20 16 00 25.4
comp=Z,14μm,22.0s
BCAR Beaver Creek A 74.73 332 P **P 15 28 11.9 +0.4**
CJR Cluj-Napoca 74.75 45 ⇑P **P 15 28 12.4 +0.6**
CJR Cluj-Napoca 74.75 45 P **P 15 28 13.8 +2.0**
YAH Yahtse 74.75 329 IAmb IAmb 15 28 30.1
comp=Z,206nm,1.2s
L27K Beaver Creek, 74.75 332 P **P 15 28 11.9 +0.4**
baz=90,SNR=227
L27K S **S 15 37 49.1 +2.2**
baz=90
L27K Beaver Creek, 74.75 332 IAMs_20 IAMs_20 16 04 20.7
comp=Z,11μm,21.0s
VTS Vitosha 74.80 49 ⇓P **P 15 28 12.4 +0.1**
LVV L'vov 74.83 42 *e*P **P 15 28 13.4 +1.2**
LVV *e* 15 28 27.4
LVV *e* 15 31 01.3
LVV *e*PPP PPP 15 32 47.7
LVV *e*S **S 15 37 47.5 -0.7**
LVV *e*S **S 15 37 55.0 +6.8**
LVV *e* 15 38 12.1
LVV *e*PS **PnS 15 38 33.0 +9.1**
LVV *e*SSS SSS 15 45 54.7
LVV pmax pmax
comp=Z,400nm,1.5s
LVV smax smax
comp=N,1μm,7.0s
LVV MLR MLR
comp=E,4μm,19.0s
LVV MLR MLR
comp=N,2μm,18.0s
LVV MLR MLR
comp=Z,4μm,18.0s
MESA MESA 74.85 329 P **P 15 28 13.4 +1.0**
baz=89,SNR=8.2
MESA MESA 74.85 329 IAmb IAmb 15 28 33.6
comp=Z,376nm,1.3s
HORT Hortiatis 74.88 51 P **P 15 28 13.3 +0.5**
LOT Lotru 74.96 46 ⇑P **P 15 28 13.8 +0.6**
LKR Lokris 74.99 53 P **P 15 28 12.4 -0.9**
ISLE Juniper Island 75.04 329 IAmb IAmb 15 28 38.1
comp=Z,189nm,1.1s
SOH Sokhos 75.05 51 P **P 15 28 13.9 +0.2**
XOR Xorichti 75.07 53 P **P 15 28 13.0 -0.8**
ARA0 ARCESS Array S 75.10 21 *e*P **P 15 28 13.1 -0.3**
ARCES ARCESS Array B 75.10 21 P **P 15 28 12.8 -0.6**
comp=Z,91nm,1.0s,baz=269,slow=4.1,SNR=52
ARCES S **S 15 37 48.9 -1.6**
comp=Z,3.2nm,1.0s,baz=305,slow=13,SNR=1.8
ARCES LR LR 15 56 31.3
comp=Z,4μm,20.3s,baz=265,slow=32
ARCES ARCESS Array B 75.10 21 P **P 15 28 12.3 -1.1**
ARCES IAmb IAmb 15 28 15.9
comp=Z,320nm,1.2s
NEO Neokhori 75.10 53 P **P 15 28 12.7 -1.3**
VLI Veliai 75.14 55 P **P 15 28 14.3 +0.1**
PLG Polygyros 75.17 52 P **P 15 28 14.9 +0.6**
HOPEN Hopen 75.17 14 *e*P **P 15 28 13.8 +0.2**
HOPEN IVmB_BB 15 28 16.9
comp=Z,2μm,2.7s
HOPEN *e*S **S 15 37 54.0 +3.0**
HOPEN IVMs_BB IVMs_BB 15 52 38.5
comp=Z,4μm,22.7s
SRS Serrai 75.20 51 P **P 15 28 14.9 +0.4**
ARCR ARCALIA 75.24 45 ⇑P **P 15 28 14.1 -0.5**
TGL Tana Glacier 75.27 330 IAmb IAmb 15 28 33.0
comp=Z,212nm,1.1s
VILL Villia 75.29 54 P **P 15 28 15.2 +0.1**
WAX Waxell Ridge 75.30 329 IAmb IAmb 15 28 39.2
comp=Z,426nm,1.3s
MCARA McCarthy VSAT 75.35 330 P **P 15 28 15.6 +0.7**
baz=88,SNR=62
MCARA S **S 15 37 56.4 +2.9**
baz=88
MCARA McCarthy VSAT 75.35 330 IAMs_20 IAMs_20 16 02 04.6
comp=Z,12μm,20.0s
NVR Nevrokopi 75.38 50 P **P 15 28 14.6 -1.0**
PAIG Paliouri 75.39 52 P **P 15 28 14.6 -1.0**
PAIG Paliouri 75.39 52 P **P 15 28 17.1 +1.5**
CRQE Cirque 75.40 330 P **P 15 28 15.5 +0.1**
baz=88,SNR=13
CRQM Cirque 75.42 330 IAmb IAmb 15 28 39.4
comp=Z,360nm,1.2s
CRQM IAMs_20 IAMs_20 16 06 56.1
comp=Z,11μm,20.0s
FINES FINESS Array B 75.44 30 P **P 15 28 14.6 -0.9**
comp=Z,63nm,0.7s,baz=260,slow=3.5,SNR=151
FINES S **S 15 37 48.4 -6.0**
comp=Z,1.2nm,0.8s,baz=289,slow=11,SNR=1.6
FINES LR LR 15 58 21.9
comp=Z,6μm,18.7s,baz=274,slow=33
FINES FINESS Array B 75.44 30 P **P 15 28 14.2 -1.2**
L26K Log Cabin Wild 75.45 332 P **P 15 28 16.1 +0.6**
baz=88
L26K S **S 15 37 56.7 +2.1**
baz=88
ANKY Antikythira Is 75.53 56 P **P 15 28 16.1 -0.4**
VRDI Verde Repeater 75.56 330 IAmb IAmb 15 28 34.7
comp=Z,237nm,1.0s
OUR Ouranopolis 75.58 52 P **P 15 28 16.4 -0.2**
OUR Ouranopolis 75.58 52 P **P 15 28 17.2 +0.6**
MENT Mentasta 75.62 332 IAMs_20 IAMs_20 16 04 47.6
comp=Z,13μm,22.0s
KEV Kevo 75.62 21 P **P 15 28 15.9 -0.4**
KEV pmax pmax
comp=Z,460nm,1.6s
KEV Kevo 75.62 21 P **P 15 28 15.9 -0.4**
KEV IAmb IAmb 15 28 19.0
comp=Z,460nm,1.6s
ATH Athens Observa 75.62 54 P **P 15 28 15.8 -1.2**
ATHU Athens Univers 75.68 54 P **P 15 28 18.5 +1.2**
SCRK Sand Creek 75.70 333 P **P 15 28 16.6 -0.5**
baz=88,SNR=47
SCRK S **S 15 37 57.0 -0.5**
baz=88
PTL Penteli 75.73 54 P **P 15 28 17.9 +0.3**
DOT Dot Lake 75.75 333 IAMs_20 IAMs_20 15 59 15.0
comp=Z,12μm,21.0s
ISAL Salakas 75.75 36 *e*P **P 15 28 18.3 +1.0**
BUR08 Bucovina Ar. S 75.76 44 P **P 15 28 17.6 -0.1**
BUR08 IAmb IAmb 15 28 21.8
comp=Z,371nm,1.1s
BURAR Bucovina Array 75.78 44 ⇓P **P 15 28 17.7 -0.1**
BURAR Bucovina Array 75.78 44 P **P 15 28 17.4 -0.4**
DION Dionisos Attik 75.78 54 P **P 15 28 17.9 0.0**
IIGN Ignalina 75.82 36 *e*P **P 15 28 18.7 +1.0**
BMAR Burnt Mountain 75.83 337 P **P 15 28 17.5 -0.2**
VOIR 75.86 46 ⇓P **P 15 28 18.2 0.0**
HUMR Humele 75.89 47 ⇓P **P 15 28 19.2 +0.8**
KAVA Kavala 75.91 51 P **P 15 28 17.6 -0.9**
VSU Vasula 75.91 33 *e*P **P 15 28 18.4 +0.3**
VSU Vasula 75.91 33 *c i*P **P 15 28 17.8 -0.3**
VSU pmax pmax
comp=Z,765nm,1.2s
HMT Hamilton 76.00 329 IAmb IAmb 15 28 22.8
comp=Z,147nm,0.8s
DOPR Dopca 76.04 46 ⇑P **P 15 28 18.8 -0.5**
N25K Chitina, Valde 76.09 331 P **P 15 28 20.0 +0.7**
baz=87,SNR=31
N25K S **S 15 38 02.2 +0.4**
baz=87
N25K Chitina, Valde 76.09 331 IAmb IAmb 15 28 38.4
comp=Z,284nm,1.2s
RIDG Independent Ri 76.09 333 P **P 15 28 19.6 +0.4**
baz=87,SNR=29
RIDG S **S 15 38 01.8 0.0**
baz=87
RIDG Independent Ri 76.09 333 IAMs_20 IAMs_20 16 00 58.0
comp=Z,9μm,19.0s
COPA Copaceanca 76.10 48 ⇓P **P 15 28 19.5 0.0**
THAS Thassos island 76.11 51 P **P 15 28 19.5 -0.2**
IDID Didziasalis 76.12 36 *e*P **P 15 28 20.2 +0.8**
FYU Fort Yukon 76.12 336 IAmb IAmb 15 28 37.7
comp=Z,326nm,1.3s
BMRM Bremner River 76.13 330 P **P 15 28 20.2 +0.7**
baz=87,SNR=30
BMRM S **S 15 38 02.9 +0.7**
baz=87
PRP Porcupine Dome 76.29 335 P **P 15 28 20.3 -0.1**
baz=87,SNR=52
PRP S **S 15 38 03.8 -0.3**
baz=87
PRP Porcupine Dome 76.29 335 IAmb IAmb 15 28 38.7
comp=Z,336nm,1.2s
HARP HAARP 76.31 331 P **P 15 28 20.6 +0.2**
baz=86,SNR=24
HARP S **S 15 38 06.9 +2.8**
baz=86
PAX Paxson 76.42 332 P **P 15 28 20.8 -0.4**
baz=86,SNR=50
PAX Paxson 76.42 332 IAmb IAmb 15 28 39.2
comp=Z,201nm,1.1s
PAX IAMs_20 IAMs_20 16 02 57.7
comp=Z,10μm,19.0s
MLR Muntele Rosu 76.48 46 P **P 15 28 21.5 -0.3**
comp=Z,264nm,1.2s,baz=308,slow=3.9,SNR=117
MLR S **S 15 38 03.0 -3.8**
comp=Z,0.7nm,0.3s,baz=316,slow=18,SNR=1.1
MLR Muntele Rosu 76.48 46 ⇓P **P 15 28 21.6 -0.3**
MLR Muntele Rosu 76.48 46 IAMs_20 IAMs_20 16 00 03.2
comp=Z,7μm,21.0s
LIA Limnos Island 76.54 52 P **P 15 28 22.8 +0.7**
SECR 76.61 47 ⇓P **P 15 28 21.8 -0.7**
RDO Rodhopi 76.66 51 P **P 15 28 21.9 -0.9**
EYAK Cordova Ski Ar 76.72 330 P **P 15 28 23.7 +0.9**
baz=86,SNR=8.0
EYAK S **S 15 38 09.0 +0.5**
baz=86
NEHR Nehoiu 76.73 46 ⇓P **P 15 28 22.7 -0.5**
KLU Klutina 76.73 331 P **P 15 28 23.4 +0.4**
baz=86,SNR=36
KLU S **S 15 38 09.1 +0.2**
baz=86
SMTH Samothraki Isl 76.74 51 P **P 15 28 21.9 -1.4**
M24K Tolsona, Glenn 76.80 331 P **P 15 28 24.1 +0.8**
baz=86,SNR=8.6
M24K S **S 15 38 09.9 +0.3**
baz=86
M24K Tolsona, Glenn 76.80 331 IAMs_20 IAMs_20 16 01 52.0
comp=Z,8μm,22.0s
MNK Minsk 76.84 37 *i*P **P 15 28 22.6 -1.0**
MNK *i* 15 28 33.6
MNK *i* 15 31 15.0
MNK *i*PPP PPP 15 33 01.9
MNK *i*S **S 15 38 08.3 -1.8**
MNK *i*SS **SS 15 43 14.7 +8.6**
MNK pmax pmax
comp=E,16nm,1.1s
MNK pmax pmax
comp=N,39nm,1.1s
MNK pmax pmax
comp=Z,174nm,1.0s
MNK MLR MLR
comp=N,4μm,18.0s
MNK MLR MLR
comp=E,566nm,18.0s
MNK MLR MLR
comp=Z,6μm,18.0s
MNK Minsk 76.84 37 *i*P **P 15 28 22.6 -0.9**
comp=E,16nm,1.1s
MNK *i*P **P 15 28 22.6 -0.9**
comp=N,39nm,1.1s
MNK *i*P **P 15 28 22.6 -0.9**
comp=Z,174nm,1.1s,baz=95
MNK *i*PcP **PcP 15 28 33.6 -1.1**
MNK *i*PP **PP 15 31 15.0 -1.3**
MNK *i*PPP PPP 15 33 01.9
MNK *i*S **S 15 38 08.4 -1.8**
MNK *i*S **S 15 38 08.4 -1.8**
MNK *i*ScS **ScS 15 38 39.0 -0.2**
MNK *i*SS **SS 15 43 14.7 +8.6**
MNK *i*SSS SSS 15 46 10.1
MNK *i*LQ LQ 15 51 04.3
MNK *i*LR LR 15 53 37.1
MNK *i*LRM MLR 16 02 11.7
comp=N,4μm,18.1s
MNK *i*LRM MLR 16 02 33.6
comp=E,566nm,18.1s
MNK *i*LRM MLR 16 02 41.1
comp=Z,6μm,17.7s
TESR Tescani 76.86 45 ⇓P **P 15 28 23.6 -0.2**
IDI Anoyia 76.89 57 P **P 15 28 24.2 -0.1**
comp=Z,122nm,0.9s,baz=297,slow=6.2,SNR=17
IDI S **S 15 38 09.4 -2.2**
comp=Z,4.3nm,0.8s,baz=331,slow=21,SNR=1.1
IDI Anoyia 76.89 57 ⇓P **P 15 28 24.3 -0.1**
IDI Anoyia 76.89 57 P **P 15 28 23.1 -1.2**
IDI Anoyia 76.89 57 P **P 15 28 23.6 -0.8**
IDI IAmb IAmb 15 28 28.4
comp=Z,271nm,1.1s
ILAR Eielson Array 76.92 334 P **P 15 28 23.1 -0.7**
comp=Z,36nm,0.8s,baz=98,slow=3.7,SNR=107
ILAR S **S 15 38 06.3 -4.3**
comp=Z,0.4nm,1.0s,baz=111,slow=13,SNR=1.7
ILAR LR LR 16 03 22.4
comp=Z,7μm,21.0s,baz=80,slow=37
PLOR Plostina 76.93 46 ⇓P **P 15 28 24.4 +0.1**
ISR Istrita 76.94 46 ⇓P **P 15 28 24.4 +0.1**
HDA Harding Lake 76.97 334 P **P 15 28 23.9 -0.3**
baz=85,SNR=23
HDA S **S 15 38 09.2 -2.0**
baz=85
HDA S **S 15 38 09.2 -2.0**
baz=85
VRI Vrincioaia 76.98 46 ⇑P **P 15 28 25.0 +0.5**
VRI Vrincioaia 76.98 46 P **P 15 28 25.1 +0.5**
BISRR Bisoca 77.01 46 ⇓P **P 15 28 25.2 +0.4**
GADA Gvkgeada 77.05 51 P **P 15 28 24.6 -0.4**
FID Port Fidalgo 77.06 330 IAmb IAmb 15 28 43.2
comp=Z,270nm,1.0s
ALN Alexandroupoli 77.07 51 P **P 15 28 23.7 -1.4**
ALN Alexandroupoli 77.07 51 P **P 15 28 27.1 +2.0**
HIN Hinchinbrook I 77.11 329 IAmb IAmb 15 28 43.3
comp=Z,244nm,1.0s
POKR Poker Plat Res 77.12 334 P **P 15 28 24.6 -0.4**
baz=85,SNR=30
POKR S **S 15 38 11.4 -1.4**
baz=85
POKR Poker Plat Res 77.12 334 IAmb IAmb 15 28 43.2
comp=Z,403nm,1.4s
SIGR SIGRI 77.14 52 P **P 15 28 25.0 -0.5**
APE Apeiranthos 77.17 55 ⇑P **P 15 28 26.6 +0.8**
SANT Santorini 77.20 55 IAmb IAmb 15 28 56.1
comp=Z,188nm,1.1s
GRER 77.21 46 ⇓P **P 15 28 26.6 +0.8**
H24K Noodor Dome 77.24 335 P **P 15 28 26.1 +0.5**
baz=85,SNR=74
COLA College 77.32 334 *c i*P **P 15 28 25.9 -0.1**
COLA pmax pmax
comp=Z,103nm,1.1s
COLA MLR MLR
comp=Z,10μm,21.0s
COLA College 77.32 334 P **P 15 28 26.4 +0.3**
baz=85
COLA S **S 15 38 13.3 -1.6**
baz=85
COLA College 77.32 334 P **P 15 28 26.3 +0.3**
COLA IAmb IAmb 15 28 49.7
comp=Z,334nm,1.2s
COLA College 77.32 334 IAMs_20 IAMs_20 16 05 42.5
comp=Z,10μm,20.0s
CCB Clear Creek Bu 77.32 334 IAmb IAmb 15 28 43.8
comp=Z,183nm,1.2s
CCB IAMs_20 IAMs_20 16 03 24.4
comp=Z,10μm,19.0s
TCOL CIGO, UAF Yank 77.32 334 P **P 15 28 26.3 +0.2**
baz=85,SNR=12
TCOL S **S 15 38 13.3 -1.7**
baz=85
TCOL CIGO, UAF Yank 77.32 334 IAmb IAmb 15 28 49.7
comp=Z,307nm,1.1s
TCOL IAMs_20 IAMs_20 16 05 42.5
comp=Z,11μm,20.0s
GLI Glacier Island 77.35 330 P **P 15 28 26.8 +0.5**
baz=84,SNR=10.0
GLI S **S 15 38 14.9 -0.6**
baz=84
GLI Glacier Island 77.35 330 IAmb IAmb 15 28 44.3
comp=Z,249nm,1.0s
SCM Sheep Creek Mo 77.37 331 IAmb IAmb 15 28 44.8
comp=Z,274nm,1.2s
SCM IAMs_20 IAMs_20 16 03 08.0
comp=Z,10μm,19.0s
CHOS Chios island 77.40 53 P **P 15 28 24.6 -2.5**
IAS Iasi 77.41 44 ⇓P **P 15 28 27.3 +0.4**
IAS Iasi 77.41 44 P **P 15 28 29.2 +2.3**
EZN Ezine 77.42 52 P **P 15 28 28.5 +1.4**
WRH Wood River Hil 77.46 334 IAmb IAmb 15 28 44.7
comp=Z,192nm,1.1s
MDM Murphy Dome 77.47 334 IAMs_20 IAMs_20 16 07 34.4
comp=Z,12μm,20.0s
EDRB Edirne 77.48 50 P **P 15 28 27.1 -0.3**
WAT6 Susitna Watana 77.49 332 P **P 15 28 26.9 -0.4**
baz=84,SNR=47
WAT6 S **S 15 38 15.4 -1.9**
baz=84
TOLK Toolik Lake Re 77.62 338 P **P 15 28 28.0 +0.3**
baz=84,SNR=20
TOLK S **S 15 38 15.6 -2.7**
baz=84
TOLK Toolik Lake Re 77.62 338 IAMs_20 IAMs_20 16 04 19.1
comp=Z,12μm,21.0s
VASR Vaslui 77.63 45 ⇓P **P 15 28 28.7 +0.6**
PUL Pulkovo 77.64 31 *de*P **P 15 28 28.5 +0.6**
PUL pmax pmax
comp=Z,605nm,1.7s
SCHL Schela 77.80 46 ⇑P **P 15 28 28.5 -0.6**
WAT1 Susitna Watana 77.83 332 P **P 15 28 28.3 -0.7**
baz=84
WAT1 S **S 15 38 20.1 -0.7**
baz=84
SML Sawmill 77.85 331 P **P 15 28 29.0 -0.1**
baz=84,SNR=14
SML S **S 15 38 19.7 -1.3**
baz=84
SML Sawmill 77.85 331 IAMs_20 IAMs_20 16 04 31.1
comp=Z,13μm,22.0s
NEA2 Nenana 77.87 334 P **P 15 28 28.9 -0.3**
baz=84,SNR=108
NEA2 S **S 15 38 18.6 -2.3**
baz=84
NEA2 Nenana 77.87 334 IAMs_20 IAMs_20 16 07 48.9
comp=Z,11μm,20.0s
MCK McKinley 77.91 333 P **P 15 28 29.1 -0.3**
baz=83,SNR=25
MCK S **S 15 38 19.1 -2.4**
baz=83
RND Reindeer 77.91 333 IAmb IAmb 15 28 47.4
comp=Z,430nm,1.5s
H23K Yukon River 77.92 335 P **P 15 28 29.7 +0.3**
baz=83,SNR=58
H23K S **S 15 38 20.5 -1.1**
baz=83
I23K Minto, Yukon-K 77.93 334 P **P 15 28 29.6 +0.2**
baz=83,SNR=80
I23K S **S 15 38 20.1 -1.4**
baz=83
I23K Minto, Yukon-K 77.93 334 IAmb IAmb 15 28 47.1
comp=Z,159nm,0.9s
I23K IAMs_20 IAMs_20 16 04 37.4
comp=Z,9μm,20.0s
ICOR Ion Corvin 77.95 47 ⇓P **P 15 28 30.9 +1.0**
KNK Knik Glacier 77.95 331 P **P 15 28 29.6 -0.1**

baz=83,SNR=13
KNK S **S** **15 38 21.4 -0.6**
baz=83
KNK Knik Glacier 77.95 331 IAMs_20 IAMs_20 16 05 56.9
comp=Z,11μm,20.0s
HARR Harsova 77.97 47 ⇑P **P** **15 28 29.4 -0.6**
CFR Carcaliu 78.05 46 ⇓P **P** **15 28 29.9 -0.6**
KIEV Kiev 78.06 41 P **P** **15 28 31.0 +0.6**
AKASG Malin Array Be 78.07 41 P **P** **15 28 29.5 -0.9**
comp=Z,30nm,0.9s,baz=274,slow=4.1,SNR=105
AKASG S **S** **15 38 16.2 -7.4**
comp=Z,0.6nm,0.3s,baz=261,slow=15,SNR=3.2
AKASG LR LR 15 59 02.1
comp=Z,6μm,21.5s,baz=290,slow=33
AKASG Malin Array Be 78.07 41 *i* P **P** **15 28 29.7 -0.8**
AKASG pmax pmax
comp=Z,31nm,0.9s
AKASG Malin Array Be 78.07 41 P **P** **15 28 29.4 -1.1**
TLBR Topalu 78.07 47 ⇑P **P** **15 28 30.2 -0.4**
APA Apatity 78.11 23 ⇓*i*P **P** **15 28 28.8 -1.6**
APA *i* 15 31 27.0
APA *i* S **S** **15 38 20.0 -3.4**
APA *i* 15 38 36.0
APA *i* PS **PnS** **15 38 57.0 -8.2**
APA pmax pmax
comp=Z,34nm,1.0s
GHO Glory Hole Cre 78.13 331 IAmb IAmb 15 28 54.7
comp=Z,260nm,1.2s
MILM Milestii Mici 78.29 44 ⇑P **P** **15 28 31.7 -0.1**
TPGR Topolog 78.29 46 ⇓P **P** **15 28 30.9 -1.0**
TIRR Tirgusor 78.34 47 ⇓P **P** **15 28 31.4 -0.7**
TIRR Tirgusor 78.34 47 P **P** **15 28 33.7 +1.6**
TIRR Tirgusor 78.34 47 IAmb IAmb 15 28 34.5
comp=Z,195nm,1.1s
MFTR Murfatlar 78.39 47 ⇓P **P** **15 28 33.2 +0.8**
PMSA Palmer Station 78.45 182 P **P** **15 28 32.3 +0.2**
PMSA IAmb IAmb 15 28 50.3
comp=Z,276nm,1.1s
PMSA Palmer Station 78.45 182 *e*P **P** **15 28 33.8 +1.7**
EDC Edincik 78.52 51 P **P** **15 28 35.6 +2.4**
MLY Manley 78.52 334 P **P** **15 28 32.5 -0.3**
baz=82,SNR=70
MLY S **S** **15 38 26.4 -1.7**
baz=82
MLY Manley 78.52 334 IAMs_20 IAMs_20 16 02 50.2
comp=Z,12μm,22.0s
TLCR 78.53 46 ⇓P **P** **15 28 33.8 +0.6**
LVZ Lovozero 78.54 23 ⇑*e*P **P** **15 28 34.2 +1.4**
LVZ pmax pmax
comp=Z,91nm,1.7s
LVZ Lovozero 78.54 23 IAMs_20 IAMs_20 16 00 56.7
comp=Z,7μm,18.0s
TRF Thorofare Moun 78.54 333 P **P** **15 28 32.5 -0.6**
baz=82,SNR=22
TRF S **S** **15 38 26.9 -1.7**
baz=82
TRF Thorofare Moun 78.54 333 IAmb IAmb 15 28 56.4
comp=Z,420nm,1.2s
BODT Bodrum 78.58 54 P **P** **15 28 32.3 -1.3**
SEW Seward 78.60 329 P **P** **15 28 33.5 +0.3**
baz=82,SNR=8.4
SEW S **S** **15 38 27.8 -1.1**
baz=82
RC01 Rabbit Creek A 78.61 330 P **P** **15 28 33.3 +0.1**
baz=82,SNR=6.9
RC01 S **S** **15 38 27.3 -1.7**
baz=82
JURR Jurilovca 78.63 47 ⇓P **P** **15 28 34.9 +1.2**
BALB Balikesir 78.64 52 IAmb IAmb 15 28 51.9
comp=Z,248nm,1.1s
CUT Chulitna 78.68 332 P **P** **15 28 34.1 +0.5**
baz=82,SNR=14
CUT S **S** **15 38 27.9 -1.7**
baz=82
CUT Chulitna 78.68 332 IAMs_20 IAMs_20 16 04 18.4
comp=Z,9μm,22.0s
O22K Cooper Landing 78.68 330 P **P** **15 28 34.0 +0.3**
baz=82
O22K S **S** **15 38 27.3 -2.5**
baz=82
O22K Cooper Landing 78.68 330 IAmb IAmb 15 29 13.1
comp=Z,424nm,1.3s
BPAW Bear Paw Mtn. 78.76 333 P **P** **15 28 33.9 -0.2**
baz=82,SNR=88
BPAW S **S** **15 38 27.4 -3.2**
baz=82
BPAW Bear Paw Mtn. 78.76 333 IAmb IAmb 15 28 51.3
comp=Z,245nm,1.1s
BPAW IAMs_20 IAMs_20 16 02 49.5
comp=Z,12μm,22.0s
KTH Kantishna Hill 78.81 333 IAmb IAmb 15 28 52.8
comp=Z,486nm,1.3s
FIS Fire Island 78.83 330 IAMs_20 IAMs_20 16 07 08.6
comp=Z,8μm,21.0s
DAT Datca 78.84 55 P **P** **15 28 32.3 -2.9**
I21K Tanana 79.02 335 P **P** **15 28 35.4 0.0**
baz=81,SNR=39
I21K S **S** **15 38 30.5 -2.8**
baz=81
SUA Susitna One 79.03 331 P **P** **15 28 35.9 +0.1**
baz=81
SUA S **S** **15 38 32.9 -0.9**
baz=81
BRSE Bradley Lake S 79.30 329 P **P** **15 28 37.2 +0.1**
baz=81,SNR=6.1
BRSE S **S** **15 38 34.5 -1.9**
baz=81
ISK Istanbul-Kandi 79.31 50 P **P** **15 28 37.2 -0.3**
SKT Skwentna 79.33 331 P **P** **15 28 36.9 -0.3**
baz=81,SNR=24
SKT S **S** **15 38 34.7 -2.0**
baz=81
ARG Arkhangelos 79.36 55 P **P** **15 28 37.2 -0.7**
CHUM Lake Minchumin 79.37 333 P **P** **15 28 37.4 0.0**
baz=80
CHUM S **S** **15 38 34.0 -3.0**
baz=80
KULA Kula-Manisa 79.41 53 P **P** **15 28 37.8 -0.4**
PPLA Purkeypile 79.48 332 P **P** **15 28 38.0 -0.2**
baz=80
PPLA S **S** **15 38 35.5 -3.0**
baz=80
CNPM China Poot 79.58 329 P **P** **15 28 39.0 +0.4**
A21K Barrow 79.60 341 P **P** **15 28 38.8 +0.3**
baz=78
A21K S **S** **15 38 40.9 +1.8**
baz=78
IMAR Indian Mountai 79.61 336 P **P** **15 28 38.5 -0.1**
PTCN Pitcairn Islan 79.67 241 P **P** **15 28 39.2 -0.5**
PTCN IAmb IAmb 15 30 12.8
comp=Z,522nm,1.5s
HOM Homer 79.76 329 P **P** **15 28 40.2 +0.6**
baz=80
HOM Homer 79.76 329 P **P** **15 28 40.4 +0.9**
HOM IAmb IAmb 15 28 58.6
comp=Z,347nm,1.0s
SPCR Spurr Chakacha 79.77 331 P **P** **15 28 39.4 -0.4**
baz=80,SNR=10
SPCR S **S** **15 38 39.9 -1.7**
baz=80
J20K Nowinta River 80.11 334 P **P** **15 28 41.3 -0.1**
baz=79,SNR=30
J20K S **S** **15 38 41.0 -3.9**
baz=79
O20K Slope Mountain 80.17 330 P **P** **15 28 41.1 -0.8**
baz=80
O20K S **S** **15 38 44.6 -1.2**
baz=80
K20K Telida 80.23 333 P **P** **15 28 41.6 -0.6**
baz=79,SNR=60
K20K S **S** **15 38 42.6 -3.7**
baz=79
P19K Oil Pt 80.55 329 P **P** **15 28 43.5 -0.4**
baz=79
P19K S **S** **15 38 48.2 -1.5**
baz=79
KDAK Kodiak Island 80.58 327 P **P** **15 28 44.1 +0.1**
KDAK pmax pmax
comp=Z,157nm,1.0s
KDAK MLR MLR
comp=Z,18μm,20.0s
KDAK Kodiak Island 80.58 327 P **P** **15 28 44.3 +0.3**
baz=79
KDAK S **S** **15 38 49.5 -0.4**
baz=79
KDAK Kodiak Island 80.58 327 P **P** **15 28 44.1 +0.1**
KDAK IAmb IAmb 15 29 03.0
comp=Z,157nm,0.9s
ELL Elmali 80.68 54 P **P** **15 28 44.9 -0.3**
ELL pmax pmax
comp=Z,716nm,1.0s
ELL Elmali 80.68 54 P **P** **15 28 44.9 -0.3**
L19K White Mountain 80.83 332 P **P** **15 28 45.2 -0.1**
baz=78,SNR=38
L19K S **S** **15 38 48.9 -3.6**
baz=78
N19K Bonanza Creek 80.94 330 P **P** **15 28 45.5 -0.6**
baz=78,SNR=18
N19K S **S** **15 38 50.9 -2.9**
baz=78
ISP Isparta 80.97 53 P **P** **15 28 48.4 +1.7**
O19K Port Alsworth 80.98 330 P **P** **15 28 45.7 -0.4**
baz=78,SNR=14
O19K S **S** **15 38 51.9 -2.2**
baz=78
OHAK Old Harbor 81.06 327 P **P** **15 28 47.2 +0.6**
baz=78
OHAK S **S** **15 38 53.7 -1.3**
baz=78
TTA Tatalina 81.19 333 S **S** **15 38 52.9 -3.4**
baz=77
N18K Kilae Creek 81.64 330 P **P** **15 28 49.7 0.0**
baz=77,SNR=22
N18K S **S** **15 38 58.1 -2.9**
baz=77
OBN Obninsk 81.72 35 P **P** **15 28 49.6 -0.5**
comp=Z,43nm,0.7s,baz=253,slow=2.0,SNR=61
OBN Obninsk 81.72 35 ⇓P **P** **15 28 50.1 0.0**
OBN Obninsk 81.72 35 *i* P **P** **15 28 50.3 +0.2**
OBN *i* 15 31 54.7
OBN *i* S **S** **15 38 59.2 -2.7**
OBN *i* SS **SS** **15 44 19.2 +0.1**
OBN pmax pmax
comp=Z,731nm,1.7s
OBN Obninsk 81.72 35 P **P** **15 28 50.3 +0.2**
OBN IAMs_20 IAMs_20 16 03 17.6
comp=Z,10μm,20.0s
TSUM Tsumeb 81.82 112 P **P** **15 28 50.0 -1.5**
TSUM Tsumeb 81.82 112 IAMs_20 IAMs_20 16 02 31.6
comp=Z,8μm,21.0s
TSUM Tsumeb 81.82 112 *i* P **P** **15 28 51.5 -0.1**
KLMR Klimovskoe 81.97 29 *d* *i*P **P** **15 28 50.1 -1.2**
KLMR *e* 15 31 57.2
KLMR *e*S **S** **15 39 05.0 +0.8**
KLMR *e*SS **SS** **15 44 22.1 -0.4**
KLMR pmax pmax
comp=Z,393nm,1.5s
KLMR Klimovskoe 81.97 29 ⇓*i*P **P** **15 28 50.1 -1.2**
KLMR ⇓*i*P **P** **15 28 51.3 0.0**
KLMR ⇓*i*P **P** **15 28 51.3 0.0**
KLMR AMP 15 28 54.4
comp=Z,393nm,1.5s
KLMR *e*PP **PP** **15 31 57.2 -1.5**
KLMR *e*S **S** **15 39 05.0 +0.8**
KLMR *e*S **S** **15 39 05.0 +0.8**
KLMR *e*SS **SS** **15 44 22.2 -0.3**
KLMR *e*SS **SS** **15 44 22.2 -0.3**
KLMR LQ LQ 15 52 16.7
KLMR LQ LQ 15 52 16.7
KLMR LR LR 15 55 43.9
KLMR AMP 15 57 38.9
comp=Z,14μm,27.2s
MOS Moscow 82.17 35 *e*P **P** **15 28 52.3 -0.2**
MOS *e*S **S** **15 39 03.3 -3.2**
MOS pmax pmax
comp=Z,413nm,1.4s
MOS pmax pmax
comp=N,162nm,1.4s
MOS smax smax
comp=N,3μm,4.5s
MOS smax smax
comp=E,1μm,4.1s
NEPA Kaukuwa 82.19 110 *i* P **P** **15 28 55.6 +2.1**
SIM Simferopol' 82.27 46 *e*P **P** **15 28 54.2 +0.9**
SIM 15 28 59.0
SIM *e*S **S** **15 39 08.0 0.0**
SIM pmax pmax
comp=Z,98nm,1.2s
ANTO Ankara 82.33 51 P **P** **15 28 54.2 +0.4**
ANTO pmax pmax
comp=Z,154nm,1.1s
ANTO MLR MLR
comp=Z,3μm,20.0s
ANTO Ankara 82.33 51 P **P** **15 28 54.2 +0.4**
ANTO IAmb IAmb 15 28 56.7
comp=Z,154nm,1.1s
RDOG Red Dog Mine 82.58 338 P **P** **15 28 56.2 +1.8**
baz=72,SNR=27
RDOG S **S** **15 39 11.2 +0.8**
baz=72
RDOG Red Dog Mine 82.58 338 IAmb IAmb 15 29 19.7
comp=Z,177nm,1.0s
BZK Bozkurt 82.80 49 ⇓P **P** **15 28 56.5 +0.5**
BRTR Keskin Array B 82.99 51 P **P** **15 28 57.4 0.0**
comp=Z,49nm,1.0s,baz=261,slow=3.5,SNR=95
BRTR S **S** **15 39 14.6 -1.3**
comp=Z,0.2nm,0.3s,baz=297,slow=7.9,SNR=1.2
BRTR PKKPbc **PKKPbc** **15 47 21.6 +1.3**
comp=Z,2.4nm,1.1s,baz=158,slow=3.6,SNR=6.2
BRTR Keskin Array B 82.99 51 *ce*P **P** **15 28 57.9 +0.5**
BRTR pmax pmax
comp=Z,49nm,1.0s
BRTR Keskin Array B 82.99 51 P **P** **15 28 55.6 -1.8**
LEF Lefka 83.37 56 ⇑P **P** **15 28 59.0 -0.2**
LPSR Galich'ya Gora 83.66 37 *e*P **P** **15 29 01.2 +0.9**
LPSR *e* 15 29 01.8
LPSR pmax pmax
comp=Z,310nm,1.1s
SNOP Sinop 83.66 48 IAmb IAmb 15 29 03.0
comp=Z,240nm,1.5s
DIKM Dikmen 83.78 49 ⇓P **P** **15 29 01.3 +0.1**
TAOE Nuku Hiva Isla 84.01 259 *e*P **P** **15 29 05.8 +2.9**
comp=Z,508nm,1.4s
TAOE Nuku Hiva Isla 84.01 259 *e*LR LR 15 55 36.8
comp=Z,10μm,26.2s
VORR Voronezh 84.05 38 *e*P **P** **15 29 02.0 -0.3**
VORR pmax pmax
comp=Z,500nm,2.0s
VORD Divnogorie 84.28 39 *e*P **P** **15 29 03.8 +0.3**
VORD pmax pmax
comp=Z,150nm,1.1s
PRGR Permogore 84.58 28 *e*P **P** **15 29 02.7 -2.1**
PRGR pmax pmax
comp=Z,50nm,0.6s
ANN Anapa 84.60 45 ⇓*e*P **P** **15 29 05.3 +0.1**
ANN *e**PP **pP** **15 29 09.2 -1.5**
ANN *e**PP **pwP** **15 29 16.6 +1.9**
ANN *i* S **S** **15 39 29.3 -2.2**
ANN pmax pmax
comp=Z,227nm,1.3s
ANN MLR MLR
comp=Z,4μm,17.0s
ANM Nome 84.69 335 P **P** **15 29 04.9 -0.5**
baz=69
ANM S **S** **15 39 33.7 +2.0**
baz=69
CHNA Chernabura Isl 85.07 325 S **S** **15 39 38.3 +2.5**
baz=73
TNA Tin City 85.32 337 P **P** **15 29 09.2 +0.8**
baz=67,SNR=9.0
SDPT Sand Point 85.41 326 P **P** **15 29 10.5 +1.5**
baz=72
SDPT S **S** **15 39 41.1 +2.0**
baz=72
VRH Novokhopyorsk 85.70 38 *e*P **P** **15 29 10.9 +0.3**
VRH *e* 15 29 11.3
VRH *e*S **SKSac** **15 39 27.3 -7.9**
VRH *e*SS **SS** **15 45 18.4 +0.3**
VRH pmax pmax
comp=Z,220nm,1.2s
VRH smax smax
comp=N,2μm,8.7s
MMAI Mount Meron Ar 85.87 57 P **P** **15 29 12.2 +0.2**
comp=N,45nm,1.0s,baz=354,slow=21,SNR=32
EIL Elat 86.28 61 P **P** **15 29 15.0 +1.0**
comp=N,57nm,1.2s,baz=187,slow=2.6,SNR=58
GAZ Gaziantep 86.31 53 IAmb IAmb 15 29 31.6
comp=Z,251nm,1.6s
GHAJ Ghor Haditha 86.41 59 P **P** **15 29 15.5 +0.9**
SOC Sochi 86.50 46 *d* *i*P **P** **15 29 15.9 +1.1**
SOC *e* 15 32 35.2
SOC *e*S **SKSac** **15 39 42.3 +1.8**
SOC *e*SSS SSS 15 49 06.2
SOC pmax pmax
comp=Z,187nm,1.1s
SOC MLR MLR
comp=Z,3μm,16.0s
FALS False Pass 87.17 326 P **P** **15 29 18.6 +0.9**
baz=70,SNR=16
FALS S **S** **15 39 57.8 +1.5**
baz=70
FALS False Pass 87.17 326 IAMs_20 IAMs_20 16 10 29.5
comp=Z,9μm,21.0s
KTUT Trabzon 87.23 49 ⇑P **P** **15 29 18.5 +0.1**
KIRV Kirov 87.43 30 P **P** **15 29 18.6 -0.3**
comp=Z,24nm,0.7s,baz=293,slow=6.3,SNR=40
GAMB Gambell 87.55 336 P **P** **15 29 19.9 +0.5**
baz=63,SNR=8.1
GAMB S **S** **15 40 02.0 +2.4**
baz=63
GAMB Gambell 87.55 336 IAmb IAmb 15 29 42.2
comp=Z,110nm,1.0s
GAMB IAMs_20 IAMs_20 16 10 00.6
comp=Z,10μm,21.0s
GOF Gofitskoye 88.36 44 ⇑*e*P **P** **15 29 25.2 +1.5**
GOF pmax pmax
comp=Z,275nm,1.1s
CHVG Ch'k'valeri 88.40 46 ⇑P **P** **15 29 24.8 +0.8**
KIV Kislovodsk 88.45 45 ⇑P **P** **15 29 24.2 -0.1**
KIV Kislovodsk 88.45 45 *e*P **P** **15 29 25.5 +1.2**
KIV *e* 15 32 52.5
KIV *e* 15 39 53.9
KIV *e*SS SS 15 45 59.7 +0.7
KIV pmax pmax
comp=Z,171nm,4.1s
KIV pmax pmax
comp=Z,107nm,1.1s
KIV Kislovodsk 88.45 45 P **P** **15 29 25.0 +0.6**
KIV IAmb IAmb 15 29 43.6
comp=Z,94nm,1.0s
BATM Batumi 88.45 48 ⇑P **P** **15 29 25.0 +0.8**
KVAR Kislovodsk Arr 88.46 45 P **P** **15 29 24.3 -0.1**
comp=Z,13nm,0.8s,baz=77,slow=23,SNR=4.2
SUR Sutherland 88.56 124 P **P** **15 29 25.9 +0.8**
SUR IAmb IAmb 15 29 44.3
comp=Z,101nm,0.9s
ITZ Itezhi-Tezhi 88.61 106 *e*P **P** **15 29 24.1 -1.4**
ITZ Itezhi-Tezhi 88.61 106 *e*P **P** **15 29 24.1 -1.4**
KBZ Khabaz 88.67 45 P **P** **15 29 24.8 -0.4**
comp=Z,39nm,1.0s,baz=275,slow=5.1,SNR=65
KBZ PP **PP** **15 32 52.0 -1.6**
comp=Z,2.2nm,0.7s,baz=271,slow=12,SNR=0.7
KBZ S **SKSac** **15 39 49.8 -3.9**
comp=Z,0.8nm,0.5s,baz=73,slow=21,SNR=1.5
KBZ LR LR 16 06 03.6
comp=Z,5μm,21.9s,baz=304,slow=34
BELG Belogornoye 88.78 36 P **P** **15 29 25.2 -0.3**
comp=Z,120nm,0.9s,baz=100,slow=1.3,SNR=22
LBB Lubumbashi 88.96 102 *i* P P 15 29 38.1 +11
UNV Unalaska Valle 89.22 326 P **P** **15 29 28.2 +0.7**
baz=68,SNR=8.7
ONI Oni 89.41 46 IAmb IAmb 15 29 55.9
comp=Z,104nm,1.0s
MBAR Mbarara 89.47 91 *i* P P 15 29 42.6 +13
ZEI Tsey 89.66 46 *e*P **P** **15 29 30.3 +0.2**
ZEI pmax pmax
comp=Z,106nm,1.7s
AKH Akhalkalaki 89.80 47 ⇓P **P** **15 29 31.7 +0.9**
LSZ Lusaka 90.52 106 IAMs_20 IAMs_20 16 03 28.8
comp=Z,8μm,22.0s
LSZ Lusaka 90.52 106 *i* P P 15 29 48.8 +14
LBTB Lobatse 90.58 115 P **P** **15 29 34.8 +0.2**
LBTB Lobatse 90.58 115 P **P** **15 29 34.8 +0.2**
LBTB Lobatse 90.58 115 *i* P P 15 29 42.2 +7.6
GROC Groznyy 90.83 45 *e*P **P** **15 29 32.9 -2.4**
GROC *e* 15 33 08.2
GROC *e*S **SKSac** **15 40 04.5 -1.9**
GROC *e*PS PS 15 41 32.2 -8.8
GROC *e*SS **SS** **15 46 30.3 -3.1**
GROC pmax pmax
comp=Z,23nm,0.4s
VNA1 Neumayer--Stat 90.95 165 P **P** **15 29 38.0 +2.9**
VNA3 Neumayer Olymp 91.01 166 P **P** **15 29 37.7 +2.3**
GNI Garni 91.10 48 P **P** **15 29 36.9 0.0**
comp=Z,60nm,1.0s,baz=318,slow=0.8,SNR=12
GNI Garni 91.10 48 *d* *i*P **P** **15 29 38.6 +1.7**
GNI pmax pmax
comp=Z,115nm,1.4s
GNI MLR MLR
comp=Z,3μm,20.0s
GNI Garni 91.10 48 P **P** **15 29 38.0 +1.2**
BOSA Boshof 91.21 119 P **P** **15 29 37.8 +0.3**
comp=Z,92nm,0.9s,baz=292,slow=4.0,SNR=74
BOSA LR LR 16 05 06.7
comp=Z,6μm,18.6s,baz=280,slow=32
BOSA Boshof 91.21 119 P **P** **15 29 36.6 -0.9**
BOSA IAmb IAmb 15 29 57.2
comp=Z,148nm,1.1s
BOSA Boshof 91.21 119 *i* P P 15 29 45.0 +7.5
VNA2 Neumayer--Watz 91.35 165 P **P** **15 29 39.1 +2.1**
MAK Makhachkala 92.09 45 *e*P P 15 29 35.3 -5.8
MAK *e*PPP PPP 15 35 17.6
MAK *e* 15 40 05.4
MAK *e*SS SS 15 46 49.0 -2.4
MAK pmax pmax
comp=Z,407nm,1.6s
BILL Bilibino 92.26 345 ⇓*e*P **P** **15 29 42.0 +0.6**
BILL *i* 15 29 52.4
BILL *e*SS SS 15 47 02.0 +10
BILL pmax pmax
comp=Z,67nm,1.8s
BILL MLR MLR
comp=Z,8μm,20.0s
BILL Bilibino 92.26 345 IAMs_20 IAMs_20 16 13 01.7
comp=Z,8μm,20.0s
GETA Geita 92.43 92 *i* P P 15 29 54.4 +11
VAH Vaihoa 92.66 255 *e*P **P** **15 29 46.6 +2.4**
comp=Z,111nm,1.2s
AKT Akhty 92.78 46 *e*P **P** **15 29 46.2 +1.7**
AKT *e* 15 33 27.3
AKT pmax pmax
comp=Z,57nm,1.2s
ARU Arti 92.81 30 P **P** **15 29 42.7 -1.5**
comp=Z,8.1nm,0.8s,baz=290,slow=4.0,SNR=50
ARU Arti 92.81 30 *d* *i*P **P** **15 29 45.3 +1.1**
ARU 15 33 26.4
ARU S **SKSac** **15 40 15.1 -1.9**
ARU pmax pmax
comp=Z,157nm,1.7s
ARU Arti 92.81 30 P **P** **15 29 43.8 -0.4**
ARU IAmb IAmb 15 30 01.2
comp=Z,231nm,1.6s
PMOR Pomariorio Ree 92.86 255 *e*P **P** **15 29 47.7 +2.5**
comp=Z,122nm,1.2s
SNAA Sanae 92.97 165 P **P** **15 29 45.2 +0.6**
SNAA Sanae 92.97 165 ⇑*e*P **P** **15 29 45.8 +1.3**
SNAA pmax pmax
comp=Z,28nm,1.1s
SNAA MLR MLR
comp=Z,9μm,22.0s
SNAA Sanae 92.97 165 P **P** **15 29 43.8 -0.8**
SNAA IAMs_20 IAMs_20 16 10 01.3
comp=Z,9μm,22.0s
LODK Lodwar 93.01 86 P **P** **15 29 44.9 -1.1**
SVE Sverdlovsk 93.59 29 *ce*P **P** **15 29 49.0 +1.2**
SVE *e*S **SKSac** **15 40 23.5 +2.2**
SVE *e*SS **SS** **15 47 12.9 +0.9**
SVE pmax pmax
comp=Z,119nm,1.5s
LOSI Makongolosi 93.64 98 *i* P P 15 30 01.3 +12
PDHT Panda Hill 93.85 98 *i* P P 15 30 07.1 +17
ITUM Tunduma 93.89 99 *i* P P 15 30 04.2 +14
ILIND Ilindi 93.96 98 *i* P P 15 30 00.7 +10
LESE Lesego, Limpop 94.09 114 *i* P P 15 30 01.4 +11
JILO Lwanjilo 94.10 98 *i* P P 15 30 10.6 +19
MZUN Kiwira 94.16 98 *i* P P 15 30 05.7 +14
ISOK Kyela 94.21 99 *i* P P 15 30 05.2 +14
NKAL Nkalisi 94.41 98 *i* P P 15 30 11.5 +19
MATAM Matamba 94.54 98 *i* P P 15 30 09.8 +16
CHML Chimala 94.57 98 *i* P P 15 30 05.1 +12
CHML IAmb IAmb 15 30 23.6
comp=Z,55nm,1.2s
TIXI Tiksi 94.61 358 *d* *i*P **P** **15 29 53.0 +0.9**
TIXI Tiksi 94.61 358 P **P** **15 29 52.5 +0.4**
MAKE Makete 94.73 98 *i* P P 15 30 06.3 +12
FURI Furi 94.86 80 *i* P P 15 30 08.9 +14

FURI					IAmb	IAmb	15 30 26.6		
	comp=Z,25nm,0.5s								
FURI					IVMs_BB	IVMs_BB	16 10 47.0		
	comp=Z,6μm,20.0s								
UKWA	**Ukwama**	**94.89**	**98**	*i*	P	P	15 30 06.4	+11	
GAWA	**Igawa**	**94.90**	**98**	*i*	P	P	15 30 10.7	+16	
PPT	**Papeete**	**95.01**	**253**		LR	LR	16 08 15.7		
	comp=Z,2μm,20.2s,baz=76,slow=33								
PPT2	**Papeete2**	**95.02**	**253**	*e*	PP	**PP**	**15 33 41.4**	**-3.4**	
	comp=Z,1μm,25.2s								
PPT2				*e*	S	**S**	**15 41 08.8**	**-0.6**	
	comp=Z,5μm,24.6s								
PPT2	**Papeete2**	**95.02**	**253**	*e*	LR	LR	16 00 42.6		
	comp=Z,15μm,28.0s								
KIPE	**Kipengere**	**95.07**	**98**	*i*	P	P	15 30 09.4	+14	
UNDA	**Madunda**	**95.23**	**99**	*i*	P	P	15 30 08.7	+12	
BAKO	**Makambako**	**95.32**	**98**	*i*	P	P	15 30 16.5	+20	
NIND	**Nindi**	**95.39**	**99**	*i*	P	P	15 30 10.7	+14	
UWEM	**Njombe**	**95.44**	**98**	*i*	P	P	15 30 08.2	+11	
MANDA	**Manda**	**95.49**	**99**	*i*	P	**P**	**15 30 00.4**	**+3.0**	
AKTO	**Aktyubinsk**	**95.50**	**35**		P	**P**	**15 29 55.9**	**-0.8**	
	comp=Z,31nm,1.0s,baz=308,slow=4.0,SNR=59								
ADK	**Adak**	**95.61**	**327**		IAms_20	IAms_20	16 15 01.1		
	comp=Z,8μm,21.0s								
KIDE	**Kidegembe**	**95.63**	**98**	*i*	P	P	15 30 08.3	+10	
DODT	**Dodoma, Tanzan**	**95.63**	**95**	*i*	P	P	15 30 09.9	+12	
MKIL	**Mkili**	**95.66**	**100**	*i*	P	P	15 30 14.6	+16	
MUDIN	**Mudindi**	**95.68**	**99**	*i*	P	P	15 30 09.2	+11	
BUMI	**Ibumi**	**95.73**	**99**	*i*	P	P	15 30 17.0	+18	
BUMI					IAmb	IAmb	15 30 37.1		
	comp=Z,79nm,0.2s								
TIRI	**Matiri**	**95.82**	**100**	*i*	P	P	15 30 14.1	+15	
MFRI	**Mfriga**	**95.91**	**98**	*i*	P	P	15 30 12.1	+13	
KMBO	**Kilima Mbogo**	**95.92**	**90**		P	**P**	**15 30 00.1**	**+0.4**	
	comp=Z,5.0nm,0.9s,baz=330,slow=3.1,SNR=8.1								
KMBO					PP	**PP**	**15 33 53.1**	**+1.1**	
	comp=Z,1.7nm,0.7s,baz=269,slow=12,SNR=3.4								
KMBO					LR	LR	16 12 47.8		
	comp=Z,6μm,19.0s,baz=286,slow=35								
WINO	**Wino**	**96.00**	**99**	*i*	P	P	15 30 15.3	+15	
TBI	**Tubuai**	**96.16**	**248**	*e*	PP	**PP**	**15 33 52.7**	**-0.8**	
	comp=Z,632nm,25.8s								
TBI				*e*	S	**S**	**15 41 17.8**	**-1.2**	
	comp=Z,5μm,28.0s								
TBI	**Tubuai**	**96.16**	**248**	*e*	LQ	LQ	15 57 07.2		
	comp=Z,12μm,44.8s								
TBI				*e*	LR	LR	16 01 04.6		
	comp=Z,11μm,29.0s								
ZINI	**Mgazini**	**96.19**	**99**	*i*	P	P	15 30 08.8	+8.1	
NGEA	**Songea**	**96.56**	**99**	*i*	P	P	15 30 17.0	+15	
KIMO	**Ikongo**	**96.92**	**99**	*i*	P	P	15 30 15.2	+11	
ABKAR	**Akbulak array**	**97.17**	**35**		P	**P**	**15 30 04.0**	**-0.2**	
ZOMB	**Zomba**	**97.27**	**104**	*i*	P	Pdif	15 30 18.8	+13	
ATD	**Arta Tunnel**	**98.13**	**76**		IAms_20	IAms_20	16 13 34.3		
	comp=Z,8μm,20.0s								
ATD	**Arta Tunnel**	**98.13**	**76**	*i*	P	Pdif	15 30 26.7	+17	
SEY	**Seymchan**	**99.81**	**346**		LR	LR	16 18 23.6		
	comp=Z,11μm,19.1s,baz=22,slow=37								
BRVK	**Borovoye**	**100.30**	**29**	*d*	*i*P	**Pdif**	**15 30 19.2**	**+1.0**	
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
BVAR	**Borovoye Array**	**100.37**	**29**		P	**Pdif**	**15 30 18.1**	**-0.5**	
	comp=Z,0.9nm,0.4s,baz=215,slow=18,SNR=4.2								
GEYT	**Alibeck**	**101.53**	**46**		P	**Pdif**	**15 30 23.9**	**-0.2**	
	comp=Z,56nm,0.6s,baz=292,slow=29,SNR=1.9								
QSPA	**South Pole Qui**	**103.78**	**180**		PP	**PP**	**15 34 51.3**	**+1.0**	
	comp=Z,9.1nm,0.8s,baz=155,slow=7.1,SNR=4.7								
YAK	**Yakutsk**	**104.14**	**356**	*e*	P	**Pdif**	**15 30 34.8**	**-0.2**	
YAK				*e*			15 34 48.4		
YAK					pmax	pmax			
	comp=Z,7.0nm,0.9s								
YAK					pmax	pmax			
	comp=N,4.0nm,1.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,1.0s								
YAK					pmax	pmax			
	comp=Z,39nm,2.0s								
YAK					pmax	pmax			
	comp=N,29nm,1.9s								
YAK					pmax	pmax			
	comp=E,9.0nm,2.0s								
JOHN	**Johnston Islan**	**105.38**	**292**		IAms_20	IAms_20	16 16 27.5		
	comp=Z,4μm,19.0s								
ZALV	**Zalesovo Beam**	**105.65**	**21**		Pdiff	**Pdif**	**15 30 41.0**	**-0.9**	
	comp=Z,0.5nm,0.3s,baz=316,slow=6.0,SNR=2.0								
ZALV					PKKP	**PKKPdf**	**15 46 29.9**	**-0.9**	
	comp=Z,2.0nm,1.0s,baz=151,slow=3.3,SNR=2.5								
KURK	**Kurchatov**	**105.67**	**27**		P	**Pdif**	**15 30 41.3**	**-0.8**	
KURK							15 35 03.4		
KURK	**Kurchatov**	**105.67**	**27**			**Pdif**	**15 30 41.3**	**-0.8**	
KURK						**PP**	**15 35 03.4**	**-0.5**	
UOSS	**Minazif**	**105.67**	**59**		IAms_20	IAms_20	16 24 34.7		
	comp=Z,6μm,20.0s								
KURBB	**Kurchatov Arra**	**105.70**	**27**		Pdiff	**Pdif**	**15 30 41.3**	**-0.9**	
	comp=Z,2.0nm,1.1s,baz=310,slow=5.7,SNR=8.5								
KURBB					PP	**PP**	**15 35 03.4**	**-0.7**	
	comp=Z,1.8nm,0.7s,baz=316,slow=7.1,SNR=3.1								
SYO	**Syowa Base**	**105.71**	**158**	‖*e*	Pdiff	**Pdif**	**15 30 43.0**	**+1.2**	
SYO	**Syowa Base**	**105.71**	**158**	‖*es*	Pdiff	**Pdif**	**15 30 50.6**	**+8.8**	
PETK	**Petropavlovsk-**	**106.45**	**338**		PP	**PP**	**15 35 08.7**	**-0.8**	
	comp=Z,6.7nm,1.0s,baz=76,slow=7.8,SNR=5.2								
MIDW	**Midway**	**107.55**	**306**		IAms_20	IAms_20	16 22 30.2		
	comp=Z,5μm,21.0s								
SOCY	**Socotra**	**108.34**	**72**		IAms_20	IAms_20	16 18 10.9		
	comp=Z,7μm,22.0s								
BOD	**Bodaibo**	**108.38**	**4**	*e*	P	Pdif	15 31 11.1	+17	
BOD					pmax	pmax			
	comp=Z,11nm,1.6s								
ABPO	**Ambohimpanom**	**109.09**	**106**		IAms_20	IAms_20	16 15 19.2		
	comp=Z,6μm,22.0s								
AAK	**Ala-Archa**	**109.24**	**35**		IAms_20	IAms_20	16 25 54.8		
	comp=Z,6μm,19.0s								
MAKZ	**Makanchi**	**110.06**	**28**		IAms_20	IAms_20	16 22 35.6		
	comp=Z,7μm,22.0s								
MKAR	**Makanchi Array**	**110.21**	**28**		Pdiff	**Pdif**	**15 31 02.2**	**-0.3**	
	comp=Z,0.1nm,0.3s,baz=318,slow=1.9,SNR=1.4								
MKAR					PKiKP	**PKiKP**	**15 35 04.2**	**+0.5**	
	comp=Z,2.3nm,1.0s,baz=348,slow=3.1,SNR=3.6								
MKAR					PKKPbc	**PKKPbc**	**15 46 03.8**	**-2.5**	
	comp=Z,8.8nm,0.9s,baz=123,slow=4.5,SNR=21								
KSH	**Kashi**	**112.14**	**37**		PKP	**PKiKP**	**15 35 01.1**	**-6.7**	
KSH					SKS	**SKSdf**	**15 42 20.3**	**+1.0**	
KSH					SKKS	**SKKSac**	**15 42 50.6**	**-3.4**	
KSH					AMB	AMB			
	comp=Z,1μm,5.4s								
KSH					LR	LR			
	comp=Z,6μm,15.9s								
KSH					LR	LR			
	comp=Z,2μm,15.9s								
KSH					LR	LR			
	comp=Z,6μm,15.9s								
IRK	**Irkutsk**	**112.57**	**11**	*e*	PKIKP	PKiKP	15 35 16.0	+7.9	
IRK					pmax	pmax			
	comp=Z,39nm,2.7s								
TLY	**Talaya**	**112.98**	**12**	⇑*i*	PKIKP	**PKiKP**	**15 35 09.3**	**+0.4**	
TLY					MLR	MLR			
	comp=Z,13μm,20.0s								
VNDA	**Vanda**	**113.09**	**189**		PKiKP	**PKiKP**	**15 35 09.7**	**+1.4**	
	comp=Z,2.3nm,0.9s,baz=309,slow=1.6,SNR=4.9								
VNDA					PKKPbc	**PKKPbc**	**15 45 55.1**	**-2.3**	
	comp=Z,2.2nm,1.0s,baz=270,slow=4.3,SNR=3.5								
NIL	**Nilore**	**114.18**	**43**		IAms_20	IAms_20	16 27 12.8		
	comp=Z,4μm,21.0s								
MAW	**Mawson**	**114.40**	**159**		PKP	PKPdf	15 35 11.5	+0.6	
	comp=Z,3.2nm,0.7s,baz=250,slow=2.3,SNR=5.0								
MAW					PKKPbc	**PKKPbc**	**15 45 51.2**	**-1.5**	
	comp=Z,6.0nm,1.0s,baz=31,slow=3.6,SNR=6.9								
MAW	**Mawson**	**114.40**	**159**	*i*	PKIKP	PKPdf	15 35 11.5	+0.6	
MAW					MLR	MLR			
	comp=Z,1μm,20.0s								
MSEY	**Mahe Island**	**114.44**	**89**		IAms_20	IAms_20	16 22 16.6		
	comp=Z,5μm,20.0s								
WMQ	**Urumqi**	**114.91**	**26**	*e*	PKP	PKPdf	15 35 13.0	+0.1	
WMQ					PP	**PP**	**15 36 10.0**	**-0.7**	
WMQ					SKKS		15 43 07.9		
WMQ					SS	**SS**	**15 52 07.0**	**+2.4**	
WMQ					AMB	AMB			
	comp=Z,540nm,4.7s								
WMQ					LR	LR			
	comp=Z,5μm,20.9s								
WMQ					LR	LR			
	comp=Z,4μm,18.9s								
WMQ					LR	LR			
	comp=Z,7μm,22.1s								
KUR	**Kuril'sk**	**116.55**	**339**	⇑*i*	PKIKP	**PKiKP**	**15 35 16.9**	**+1.0**	
KUR					MLR	MLR			
	comp=Z,7μm,23.0s								
YSS	**Yuzh-Sakhalins**	**116.57**	**344**	*i*	PKIKP	**PKiKP**	**15 35 18.4**	**+2.5**	
YSS				*e*			15 36 20.5		
YSS				*e*			15 42 27.0		
YSS				*e*			15 45 59.0		
YSS				*e*	SS	SS	15 52 21.0	-4.6	
YSS					pmax	pmax			
	comp=Z,900nm,6.6s								
SONM	**Songino Array**	**117.19**	**11**		PKP	**PKiKP**	**15 35 17.5**	**+0.2**	
	comp=Z,2.8nm,0.7s,baz=244,slow=1.4,SNR=11								
SONM					PP	**PP**	**15 36 24.1**	**-2.3**	
	comp=Z,4.8nm,1.1s,baz=335,slow=6.6,SNR=4.4								
SONM					PKKPbc	**PKKPbc**	**15 45 42.3**	**-0.6**	
	comp=Z,9.7nm,1.1s,baz=170,slow=4.2,SNR=10								
JEW	**Eniwo**	**120.72**	**343**		IAms_20	IAms_20	16 27 25.5		
	comp=Z,6μm,22.0s								
ERM	**Erimo**	**120.96**	**341**	⇑*i*	PKIKP	**PKPdf**	**15 35 24.4**	**-0.1**	
MDJ	**Mudanjiang**	**121.39**	**353**		PKP	**PKiKP**	**15 35 25.6**	**+0.2**	
MDJ					PP	**PP**	**15 36 54.4**	**-0.7**	
MDJ					SS	SS	15 53 28.9	+1.2	
MDJ					AMB	AMB			
	comp=Z,440nm,7.0s								
MDJ					LR	LR			
	comp=Z,8μm,21.4s								
MDJ					LR	LR			
	comp=Z,6μm,24.3s								
MDJ					LR	LR			
	comp=Z,15μm,23.1s								
USA0B	**Ussuriysk Arra**	**121.48**	**351**		IAms_20	IAms_20	16 30 20.1		
	comp=Z,6μm,22.0s								
USRK	**Ussuriysk Ar.**	**121.48**	**351**		PKP	**PKPdf**	**15 35 25.0**	**-0.4**	
	comp=Z,6.2nm,0.8s,baz=318,slow=1.2,SNR=13								
USRK					PP	**PP**	**15 36 56.8**	**+1.0**	
	comp=Z,22nm,1.2s,baz=15,slow=6.0,SNR=4.6								
USRK					PKKPbc	**PKKPbc**	**15 45 26.5**	**-0.5**	
	comp=Z,3.1nm,0.8s,baz=214,slow=2.9,SNR=5.6								
USRK	**Ussuriysk Ar.**	**121.48**	**351**		PKIKP	**PKPdf**	**15 35 24.2**	**-1.2**	
USRK	**Ussuriysk Ar.**	**121.48**	**351**		PKPdf	**PKPdf**	**15 35 24.2**	**-1.2**	
CN2	**Changchun**	**122.56**	**357**	*e*	PKP	**PKPdf**	**15 35 27.5**	**0.0**	
CN2					PP	**PP**	**15 37 06.0**	**+3.0**	
CN2					SS	SS	15 53 43.3	+0.7	
CN2					LR	LR			
	comp=Z,6μm,21.0s								
CN2					LR	LR			
	comp=Z,3μm,21.0s								
CN2					LR	LR			
	comp=Z,6μm,22.0s								
GTA	**Gaotai**	**123.35**	**20**	*e*	PKP	**PKiKP**	**15 35 30.3**	**+0.7**	
GTA					PP	**PP**	**15 37 15.3**	**+6.5**	
GTA					SKKS		15 44 04.3		
GTA					AMB	AMB			
	comp=Z,460nm,6.9s								
GTA					LR	LR			
	comp=Z,6μm,23.6s								
GTA					LR	LR			
	comp=Z,4μm,22.9s								
GTA					LR	LR			
	comp=Z,10μm,22.5s								
SNY	**Shenyang**	**124.62**	**358**	⇓	PKP	**PKiKP**	**15 35 32.1**	**+0.3**	
SNY					AMB	AMB			
	comp=Z,650nm,6.6s								
SNY					LR	LR			
	comp=Z,3μm,24.6s								
SNY					LR	LR			
	comp=Z,5μm,24.0s								
SNY					LR	LR			
	comp=Z,7μm,23.9s								
HHC	**Hu-ho-hao-te**	**124.86**	**9**	*e*	PKP	**PKiKP**	**15 35 34.0**	**+1.5**	
HHC					PP	PP	15 37 27.4	+8.7	
HHC					SKKS		15 44 17.0		
HHC					SS	**SS**	**15 54 20.5**	**+8.4**	
HHC					LR	LR			
	comp=Z,7μm,22.7s								
HHC					LR	LR			
	comp=Z,2μm,18.0s								
HHC					LR	LR			
	comp=Z,10μm,23.1s								
URZ	**Urewera**	**125.27**	**233**		IAms_20	IAms_20	16 29 27.7		
	comp=Z,4μm,22.0s								
BFZ	**Birch Farm**	**125.42**	**230**		IAms_20	IAms_20	16 22 25.6		
	comp=Z,6μm,22.0s								
BJI	**Beijing**	**126.21**	**5**		PKP	**PKiKP**	**15 35 36.0**	**+1.0**	
BJI					PP	**PP**	**15 37 28.4**	**+0.9**	
BJI					PKS		15 39 10.4		
BJI					SS	SS	15 54 29.3	+0.6	
BJI					AMB	AMB			
	comp=Z,900nm,6.7s								
BJI					LR	LR			
	comp=Z,7μm,20.9s								
BJI					LR	LR			
	comp=Z,2μm,20.6s								
BJI					LR	LR			
	comp=Z,15μm,21.4s								
SNZO	**South Karori**	**126.41**	**229**		IAms_20	IAms_20	16 33 07.5		
	comp=Z,4μm,20.0s								
TARA	**Tarawa**	**126.81**	**282**		IAms_20	IAms_20	16 30 30.6		
	comp=Z,5μm,22.0s								
HIZ	**Hauiti**	**126.95**	**232**		IAms_20	IAms_20	16 24 40.2		
	comp=Z,4μm,22.0s								
CASY	**Casey**	**127.06**	**175**		PKPdf	**PKPdf**	**15 35 33.6**	**-1.7**	
JYT	**Yasato**	**127.18**	**341**		IAms_20	IAms_20	16 30 14.7		
	comp=Z,5μm,20.0s								
MQZ	**McQueen's Vall**	**127.19**	**225**		IAms_20	IAms_20	16 25 31.8		
	comp=Z,5μm,21.0s								
MAJO	**Matsushiro**	**127.48**	**343**		PKIKP	**PKPdf**	**15 35 36.1**	**-1.1**	
MAJO					MLR	MLR			
	comp=Z,5μm,22.0s								
MAJO	**Matsushiro**	**127.48**	**343**			**PKPdf**	**15 35 36.1**	**-1.1**	
MAJO	**Matsushiro**	**127.48**	**343**		IAms_20	IAms_20	16 30 39.6		
	comp=Z,5μm,22.0s								
MAT	**Matsushiro**	**127.48**	**343**		PKP	**PKPdf**	**15 35 36.2**	**-1.0**	
MJAR	**Matsushiro Arr**	**127.48**	**343**		PKP	**PKiKP**	**15 35 37.8**	**+0.1**	
	comp=Z,20nm,0.9s,baz=52,slow=1.4,SNR=20								
MJAR					PP	**PP**	**15 37 36.4**	**+0.2**	
	comp=Z,14nm,1.2s,baz=16,slow=4.1,SNR=5.9								
DL2	**Dalian**	**127.57**	**360**	*e*	PKP	PKiKP	15 35 50.3	+13	
DL2					PP	**PP**	**15 37 41.8**	**+5.3**	
DL2	**Dalian**	**127.57**	**360**		SS	SS	15 54 56.3	+11	
DL2					AMB	AMB			
	comp=Z,500nm,7.3s								
DL2					LR	LR			
	comp=E,6μm,21.6s								
DL2					LR	LR			
	comp=Z,8μm,25.5s								
LZH	**Lanzhou**	**127.67**	**18**	*e*	PKP	**PKiKP**	**15 35 39.8**	**+1.5**	
LZH					PP	**PP**	**15 37 44.8**	**+7.2**	
LZH					PKS		15 39 16.9		
LZH					SKKS		15 44 34.0		
LZH					SS	**SS**	**15 54 52.8**	**+5.2**	
LZH					AMB	AMB			
	comp=Z,270nm,5.4s								
LZH					LR	LR			
	comp=Z,6μm,20.6s								
LZH					LR	LR			
	comp=Z,4μm,20.6s								
LZH					LR	LR			
	comp=Z,4μm,20.1s								
OXZ	**Oxford**	**127.73**	**225**		IAms_20	IAms_20	16 30 51.2		
	comp=Z,5μm,19.0s								
LSA	**Lhasa**	**127.81**	**34**		IAms_20	IAms_20	16 41 49.8		
	comp=Z,4μm,22.0s								
TIY	**Taiyuan**	**128.07**	**9**	*e*	PKP	**PKiKP**	**15 35 40.4**	**+1.5**	
TIY					PP	**PP**	**15 37 41.8**	**+1.9**	
TIY					AMB	AMB			
	comp=Z,620nm,4.9s								
TIY					LR	LR			
	comp=Z,3μm,21.3s								
TIY					LR	LR			
	comp=Z,7μm,21.4s								
TIY					LR	LR			
	comp=Z,8μm,26.6s								
ODZ	**Otahua Downs**	**128.10**	**223**		IAms_20	IAms_20	16 28 17.7		
	comp=Z,5μm,21.0s								
KSRS	**Korea Array**	**128.66**	**353**		PKP	**PKPdf**	**15 35 39.6**	**+0.2**	
	comp=Z,13nm,1.1s,baz=24,slow=1.6,SNR=23								
KSRS					PP	**PP**	**15 37 44.0**	**+0.3**	
	comp=Z,3.9nm,1.0s,baz=12,slow=5.7,SNR=2.3								
KSAR	**Wonju Array Be**	**128.67**	**353**		PKIKP	**PKPdf**	**15 35 39.4**	**0.0**	
KSAR	**Wonju Array Be**	**128.67**	**353**		PKPdf	**PKPdf**	**15 35 39.4**	**0.0**	
KWAJ	**Kwajalein Atol**	**128.96**	**293**		IAms_20	IAms_20	16 23 34.1		
	comp=Z,4μm,20.0s								
FOZ	**Fox Glacier**	**129.19**	**225**		IAms_20	IAms_20	16 38 17.8		
	comp=Z,5μm,20.0s								
TIA	**Tai'an**	**130.09**	**5**		PKP	**PKiKP**	**15 35 49.5**	**+6.5**	
TIA					PP	**PP**	**15 37 53.6**	**+0.5**	
TIA					SKKS		15 44 50.6		
TIA	**Tai'an**	**130.09**	**5**		SS	SS	15 55 20.4	+3.5	
TIA					AMB	AMB			
	comp=Z,580nm,4.1s								
TIA					LR	LR			
	comp=N,5μm,20.6s								
TIA					LR	LR			
	comp=E,5μm,20.1s								
TIA					LR	LR			
	comp=Z,9μm,20.2s								
XAN	**Xi'an**	**130.96**	**14**		PKP	**PKiKP**	**15 35 45.3**	**+0.5**	
XAN					SKKS		15 44 54.3		
XAN					AMB	AMB			
	comp=Z,810nm,13.7s								
XAN					LR	LR			
	comp=Z,7μm,17.6s								
XAN					LR	LR			
	comp=Z,4μm,16.9s								
XAN					LR	LR			
	comp=Z,10μm,18.5s								
CD2	**Chengdu**	**132.41**	**21**		PKP	**PKPdf**	**15 35 46.3**	**-0.4**	
CD2					PP	**PP**	**15 38 12.5**	**+4.1**	
CD2					PKS	**PKSdf**	**15 39 21.6**	**-1.8**	
CD2					SKS	**SKSdf**	**15 42 56.6**	**-0.9**	
CD2					SS	**SS**	**15 55 50.0**	**+4.2**	
CD2					AMB	AMB			
	comp=Z,620nm,7.1s								
CD2					LR	LR			
	comp=Z,7μm,35.9s								
CD2					LR	LR			
	comp=Z,6μm,24.9s								
CD2					LR	LR			
	comp=Z,8μm,29.0s								
NJ2	**Nanjing**	**134.34**	**3**	*e*	PKP	**PKPdf**	**15 35 50.9**	**+0.6**	
NJ2					PP	**PP**	**15 38 19.9**	**-0.4**	
NJ2					PKS	**PKSdf**	**15 39 23.0**	**-3.7**	
NJ2					SKS	**SKSdf**	**15 43 00.3**	**-0.5**	
NJ2					SS	**SS**	**15 56 11.1**	**+2.6**	
NJ2					AMB	AMB			
	comp=Z,930nm,6.3s								
NJ2					LR	LR			
	comp=Z,4μm,23.6s								
NJ2					LR	LR			
	comp=Z,3μm,24.3s								
NJ2					LR	LR			
	comp=Z,7μm,24.6s								
PALK	**Pallekele**	**134.47**	**65**		IAms_20	IAms_20	16 43 16.6		
	comp=Z,5μm,22.0s								
ENH	**Enshi**	**134.70**	**15**			**PKPdf**	**15 35 47.4**	**-3.7**	
SSE	**Sheshan**	**135.36**	**0**		SS	SS	15 56 21.6	+0.8	
SSE					AMB	AMB			
	comp=Z,200nm,5.9s								
SSE					LR	LR			
	comp=N,2μm,19.2s								
SSE					LR	LR			
	comp=E,1μm,23.5s								
WHN	**Wuhan**	**135.39**	**9**	⇓	PKP	**PKiKP**	**15 35 53.3**	**-0.5**	
WHN					PP	**PP**	**15 38 28.3**	**+1.3**	
WHN					PKS		15 39 25.8		
WHN					AMB	AMB			
	comp=E,940nm,6.1s								
WHN					LR	LR			
	comp=E,12μm,20.0s								
WHN					LR	LR			
	comp=E,5μm,19.7s								
WHN					LR	LR			
	comp=E,24μm,29.4s								
DZM	**Mont Dzumac**	**136.52**	**252**	*e*	PKIKP	**PKPdf**	**15 35 55.5**	**+0.9**	
	comp=E,66nm,1.1s								
DZM	**Mont Dzumac**	**136.52**	**252**	*e*	PP	PP	15 38 38.5	+2.0	
	comp=E,2μm,27.1s								
DZM	**Mont Dzumac**	**136.52**	**252**	*e*	SS	SS	15 56 40.8	+1.9	
	comp=E,7μm,40.0s								
DZM	**Mont Dzumac**	**136.52**	**252**	*e*	LQ	LQ	16 14 09.2		
	comp=E,7μm,35.9s								
DZM				*e*	LR	LR	16 20 00.8		
	comp=E,6μm,24.9s								
DZM	**Mont Dzumac**	**136.52**	**252**		PKP	**PKPdf**	**15 35 54.8**	**+0.2**	
	comp=E,22nm,0.9s,baz=105,slow=7.1,SNR=8.4								
DZM	**Mont Dzumac**	**136.52**	**252**		PKPdf	**PKiKP**	**15 35 57.1**	**+0.7**	
DZM					IAms_20	IAms_20	16 37 40.9		
	comp=Z,4μm,22.0s								
KMI	**Kunming**	**137.23**	**25**	⇑	PKP	**PKPdf**	**15 35 53.0**	**-3.1**	
KMI					sPKP		15 35 58.8		
KMI					PP	**PP**	**15 38 38.0**	**-1.3**	
KMI					PKS		15 39 25.9		
KMI					SKKS		15 45 31.6		
KMI					SS	**SS**	**15 56 41.9**	**-2.5**	
KMI					LR	LR			
	comp=Z,5μm,26.8s								
KMI					LR	LR			
	comp=Z,2μm,23.0s								
KMI					LR	LR			
	comp=Z,9μm,26.8s								
GYA	**Guiyang**	**137.48**	**20**	*e*	PKP	**PKiKP**	**15 35 57.6**	**-0.7**	
GYA					PP	**PP**	**15 38 43.8**	**+3.2**	
GYA					SS	SS	15 56 44.4	-2.5	
GYA					LR	LR			
	comp=Z,690nm,33.4s								
GYA					LR	LR			
	comp=Z,520nm,19.9s								
GYA					LR	LR			
	comp=Z,1μm,27.2s								
CHTO	**Chiang Mai**	**140.74**	**35**		PKIKP	**PKPdf**	**15 35 58.1**	**-4.3**	
CHTO	**Chiang Mai**	**140.74**	**35**		PKPdf	**PKPdf**	**15 35 58.1**	**-4.3**	
CMAR	**Chiang Mai Arr**	**141.03**	**35**		PKhKP	PKPpre	15 35 57.5		
	comp=Z,4.0nm,0.7s,baz=304,slow=4.0,SNR=12								
CMAR	**Chiang Mai Arr**	**141.03**	**35**		PKHKP	PKPpre

comp=Z,29nm,1.1s,baz=50,slow=1.1,SNR=26
STKA PKPbc **PKiKP** **15 36 32.6 +0.3**
comp=Z,26nm,0.9s,baz=85,slow=1.9,SNR=15
PMG Port Moresby 154.43 277 PKP **PKPdf** **15 36 24.2 -0.7**
comp=Z,28nm,1.0s,baz=72,slow=3.3,SNR=4.5
PMG PKPbc **PKiKP** **15 36 34.0 +0.8**
comp=Z,26nm,1.1s,baz=275,slow=2.5,SNR=4.8
PMG Port Moresby 154.43 277 **PKPdf** **15 36 27.4 +2.6**
CTA Charters Tower 155.46 252 PKP **PKPdf** **15 36 27.1 +0.9**
comp=Z,28nm,1.1s,baz=92,slow=1.2,SNR=18
CTA PKPab **PKPab** **15 36 52.2 +0.4**
comp=Z,50nm,1.0s,baz=129,slow=3.6,SNR=12
GENI Genyem 158.39 299 P **PKPdf** **15 36 24.0 -6.1**
comp=Z,2μmcomp=Z,52nm,1.2s
ASAR Alice Springs 164.65 228 PKP **PKPdf** **15 36 36.8 +0.3**
comp=Z,24nm,1.1s,baz=138,slow=1.0,SNR=75
ASAR PKPab **PKPab** **15 37 32.2 +0.6**
comp=Z,19nm,1.1s,baz=129,slow=4.0,SNR=7.2
ASAR Alice Springs 164.65 228 PKIKP **PKPdf** **15 36 35.8 -0.6**
ASAR 15 37 32.2
ASAR Alice Springs 164.65 228 **PKPdf** **15 36 35.8 -0.6**
CISI Cisompet, Garu 165.26 66 PKPdf **PKPdf** **15 36 35.5 -1.8**
CISI PKPab **PKPab** **15 37 34.3 -0.4**
WB2 Warramunga Arr 166.21 242 **PKPdf** **15 36 37.4 -0.4**
WRAB Tennant Creek 166.22 242 *ce*PKIKP **PKPdf** **15 36 37.8 0.0**
WRA Warramunga Arr 166.22 242 PKP **PKPdf** **15 36 38.0 +0.2**
comp=Z,34nm,1.2s,baz=135,slow=0.2,SNR=36
WRA PKPab **PKPab** **15 37 39.4 +0.6**
comp=Z,18nm,0.9s,baz=111,slow=4.4,SNR=12
MMRI Maumere 174.81 351 PKPdf **PKPdf** **15 36 41.1 -1.5**
MMRI PKPab **PKPab** **15 38 15.7 -0.7**
MMRI Maumere 174.81 351 P PKPab 15 38 25.3 +8.8

*IDC **16** 15:19:44.6±1.8, 32°.24S×178°.07W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/27, mbtmp4.0/4, ML3.7/1 Error ellipse: s-maj=61.2km s-min=34.4km az=144.0*
*NEIC **16** 15:19:48.3±2.1, 32°.4S±0°.1×178°.4W±0°.2, h10km±6km, mb4.4/10, Error ellipse: s-maj=27.2km s-min=17.9km az=105.0*
ISC 16 15:19:48.1±1.2,**32°.5S**±0°.1×**178°.4W**±0°.2,**h10**km,**n23,**
σ2§**07**/23,**mb4.3/7,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.84**	**211**	Pn	**Pn**	**15 21 29.7**	**+1.2**
	1.2nm,0.3s,baz=38,slow=17,SNR=11						
URZ				Sn	**Sn**	**15 22 49.2**	**+2.9**
	3.0nm,0.3s,baz=144,slow=24,SNR=12						
BKZ	**Black Stump Fm**	**7.86**	**210**		**Pn**	**15 21 43.5**	**+0.9**
BFZ	**Birch Farm**	**9.25**	**206**	Pn	**Pn**	**15 22 02.2**	**+0.7**
SNZO	**South Karori**	**10.40**	**210**	Pn	Pn	15 22 13.2	-4.1
TUWZ	**Tuamarina**	**10.83**	**212**		**Sn**	**15 24 20.0**	**-4.4**
THZ	**Tophouse**	**11.57**	**214**	Pn	**Pn**	**15 22 32.7**	**-0.7**
THZ					**Sn**	**15 24 39.0**	**-3.8**
OXZ	**Oxford**	**13.20**	**212**		Sn	15 25 14.2	-8.1
STKA	**Stephens Creek**	**33.74**	**260**	P	**P**	**15 26 32.1**	**+2.2**
	1.4nm,0.7s,baz=106,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**33.74**	**260**	P	**P**	**15 26 32.7**	**+2.9**
STKA				IAmb	IAmb	15 26 41.3	
	comp=Z,2.8nm,1.6s						
CTAO	**Charters Tower**	**33.86**	**283**	P	**P**	**15 26 32.7**	**+1.6**
CTAO				IAmb	IAmb	15 26 56.0	
	comp=Z,4.8nm,1.1s						
AS31	**Alice Springs**	**42.71**	**269**	P	**P**	**15 27 44.3**	**-1.3**
ASAR	**Alice Springs**	**42.71**	**269**	P	**P**	**15 27 45.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=109,slow=7.6,SNR=13						
WR0	**Warramunga Arr**	**43.71**	**275**	P	**P**	**15 27 52.4**	**-1.2**
WR0				IAmb	IAmb	15 27 56.0	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.88**	**275**	P	**P**	**15 27 55.0**	**0.0**
WB2				IAmb	IAmb	15 27 56.9	
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**43.89**	**275**	P	**P**	**15 27 54.5**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=114,slow=7.6,SNR=23						
WB0	**Warramunga Arr**	**43.92**	**275**	P	**P**	**15 27 55.1**	**-0.2**
WB0				IAmb	IAmb	15 28 14.3	
	comp=Z,5.6nm,1.0s						
FORT	**Forrest**	**45.23**	**257**	P	**P**	**15 28 05.6**	**-0.1**
KNRA	**Kununurra**	**50.57**	**276**	P	**P**	**15 28 45.5**	**-1.7**
QSPA	**South Pole Qui**	**57.64**	**180**	P	**P**	**15 29 40.5**	**+2.2**
FINES	**FINESS Array B**	**146.97**	**339**	PKPbc	**PKPdf**	**15 39 27.2**	**-1.0**
	comp=Z,5.7nm,1.2s,baz=29,slow=3.2,SNR=4.4						
HFS	**Hagfors**	**151.20**	**347**	PKPbc	**PKPbc**	**15 39 38.2**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=41,slow=4.6,SNR=2.5						
MMAI	**Mount Meron Ar**	**151.64**	**280**	PKPbc	**PKPbc**	**15 39 42.0**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=81,slow=4.8,SNR=2.4						
AKASG	**Malin Array Be**	**152.71**	**320**	PKPbc	**PKPbc**	**15 39 43.0**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=78,slow=1.8,SNR=1.6						

*IDC **16** 15:22:36.6±1.2, 32°.24S×178°.02W, h0km, mb4.3/4, mb1 4.5/6, mb1mx4.2/27, mbtmp4.4/6, ML4.2/2, MS4.5/1, Ms1 4.5/1, ms1mx3.3/28, Error ellipse: s-maj=35.6km s-min=26.4km az=120.0*
*NEIC **16** 15:22:39.3±2.3, 32°.22S±0°.08×178°.1W±0°.2, h14km±6km, mb4.3/11, Error ellipse: s-maj=30.0km s-min=7.1km az=106.0*
ISC 16 15:22:33.8±1.1,**32°.51S**±0°.06×**177°.4W**±0°.1,**h10**km,**n79,**
σ3§**00**/94,**mb4.5/6,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.26**	**352**	P	**Pn**	**15 23 23.7**	**-1.3**
GLKZ				S	**Sn**	**15 23 58.0**	**-5.9**
RAO	**Raoul Island**	**3.27**	**352**	Pn	**Pn**	**15 23 23.8**	**-1.3**
	71nm,0.3s,baz=128,slow=20,SNR=1.7						
RAO				Sn	**Sn**	**15 23 59.2**	**-4.9**
	206nm,0.3s,baz=84,slow=22,SNR=3.1						
RAO	**Raoul Island**	**3.27**	**352**		**Pn**	**15 23 23.2**	**-1.9**
RAO				Sn	**Sn**	**15 23 58.2**	**-5.9**
RIZ	**Raoul Island**	**3.28**	**352**	P	**Pn**	**15 23 24.2**	**-1.0**
MXZ	**Matakaoa Point**	**6.15**	**214**	Pn	**Pn**	**15 24 08.9**	**+4.3**
MXZ				Sn	**Sn**	**15 25 14.5**	**-0.4**
MXZ	**Matakaoa Point**	**6.15**	**214**	P	**Pn**	**15 24 09.2**	**+4.6**
MXZ				S	**Sn**	**15 25 16.6**	**+1.6**
WMGZ	**Waiomatatini S**	**6.31**	**212**	P	**Pn**	**15 24 09.2**	**+2.3**
WMGZ				S	**Sn**	**15 25 21.5**	**+2.5**
PKGZ	**Pakihiroa**	**6.52**	**213**	P	**Pn**	**15 24 11.8**	**+2.0**
PKGZ				S	**Sn**	**15 25 24.9**	**+0.7**
HAZ	**Te Kaha**	**6.55**	**216**	P	**Pn**	**15 24 11.8**	**+1.6**
HAZ				S	**Sn**	**15 25 26.4**	**+1.5**
PUZ	**Puketiti**	**6.59**	**211**	P	**Pn**	**15 24 11.7**	**+1.0**
PUZ				S	**Sn**	**15 25 26.9**	**+1.1**
RUGZ	**Raukumara Rang**	**6.77**	**215**	P	**Pn**	**15 24 15.1**	**+1.8**
RUGZ				S	**Sn**	**15 25 32.4**	**+2.0**
TWGZ	**Tauwhareparae**	**6.80**	**212**	P	**Pn**	**15 24 14.8**	**+1.2**
TWGZ				S	**Sn**	**15 25 33.1**	**+2.0**
CNGZ	**Carnagh Statio**	**6.95**	**210**	P	**Pn**	**15 24 16.9**	**+1.2**
KUZ	**Kuaotunu**	**7.07**	**231**	P	**Pn**	**15 24 21.1**	**+3.9**
TKGZ	**Te Karaka**	**7.07**	**212**	P	**Pn**	**15 24 18.4**	**+1.1**
TKGZ				S	**Sn**	**15 25 38.3**	**+0.6**
MWZ	**Matawai**	**7.13**	**214**	P	**Pn**	**15 24 19.1**	**+0.9**
MWZ				S	**Sn**	**15 25 39.5**	**+0.2**
OPRZ	**Ohinepanea**	**7.26**	**221**	P	**Pn**	**15 24 22.5**	**+2.6**
URZ	**Urewera**	**7.28**	**216**	Pn	**Pn**	**15 24 21.0**	**+0.9**
	1.9nm,0.3s,baz=100,slow=8.1,SNR=1.6						
URZ				Sn	**Sn**	**15 25 41.5**	**-1.3**
	2.2nm,0.3s,baz=8.8,slow=6.1,SNR=2.5						
URZ				LR	LR	15 27 05.1	
	comp=Z,196nm,18.9s,baz=24,slow=37						
URZ	**Urewera**	**7.28**	**216**	Pn	**Pn**	**15 24 20.3**	**+0.2**
URZ	**Urewera**	**7.28**	**216**	P	**Pn**	**15 24 21.0**	**+0.9**
URZ				S	**Sn**	**15 25 41.5**	**-1.3**
RAGZ	**Rawiri**	**7.32**	**214**	P	**Pn**	**15 24 21.4**	**+0.7**
RAGZ				S	**Sn**	**15 25 44.5**	**+0.7**
RIGZ	**Rimuhau**	**7.33**	**211**	P	**Pn**	**15 24 22.7**	**+1.8**
RIGZ				S	**Sn**	**15 25 45.5**	**+1.3**
PRGZ	**Paritu Road**	**7.46**	**210**	P	**Pn**	**15 24 23.0**	**+0.4**
PRGZ				S	**Sn**	**15 25 44.8**	**-2.5**
SNGZ	**Shannon Statio**	**7.58**	**213**	P	**Pn**	**15 24 26.6**	**+2.3**
SNGZ				S	**Sn**	**15 25 51.2**	**+0.9**
MUGZ	**Murupara**	**7.62**	**217**	P	**Pn**	**15 24 26.6**	**+1.8**
MUGZ				S	**Sn**	**15 25 50.5**	**-0.7**
KNZ	**Kokohu**	**7.63**	**210**	P	**Pn**	**15 24 24.2**	**-0.7**
KNZ				S	**Sn**	**15 25 47.9**	**-3.5**
WCZ	**Waipu Caves**	**7.64**	**241**	P	**Pn**	**15 24 29.5**	**+4.4**
MHGZ	**Mahia Peninsul**	**7.64**	**209**	P	**Pn**	**15 24 25.9**	**+0.7**
TOZ	**Tahuroa Road**	**7.80**	**226**	P	**Pn**	**15 24 31.6**	**+4.3**
RAHZ	**Arahi**	**7.81**	**213**	P	**Pn**	**15 24 31.1**	**+3.6**
RAHZ				S	**Sn**	**15 25 55.3**	**-0.6**
MTHZ	**Maungataniwha**	**7.87**	**215**	P	**Pn**	**15 24 30.9**	**+2.6**
OUZ	**Omahuta**	**7.96**	**248**	P	**Pn**	**15 24 33.5**	**+4.1**
BKZ	**Black Stump Fm**	**8.29**	**215**		**Pn**	**15 24 34.0**	**0.0**
POWZ	**Post Office Ro**	**9.60**	**213**	P	**Sn**	**15 26 36.0**	**-3.7**
BFZ	**Birch Farm**	**9.62**	**210**		**Pn**	**15 24 49.7**	**-2.6**
BFZ	**Birch Farm**	**9.62**	**210**	P	**Sn**	**15 26 36.7**	**-3.7**
PRWZ	**Pori Road**	**9.63**	**212**	P	**Sn**	**15 26 37.5**	**-3.3**
CPWZ	**Castlepoint**	**9.83**	**210**	P	**Sn**	**15 26 43.0**	**-2.5**
MRZ	**Mangatainoka R**	**9.90**	**213**	P	**Sn**	**15 26 44.6**	**-2.6**
OGWZ	**Otaki Gorge**	**10.21**	**214**	P	**Sn**	**15 26 51.9**	**-3.0**
MTW	**Mount Morrison**	**10.33**	**211**	P	**Sn**	**15 26 53.3**	**-4.6**
KIW	**Kapiti Island**	**10.37**	**214**	P	**Sn**	**15 26 52.7**	**-6.0**
CAW	**Cannon Point**	**10.49**	**213**	P	**Sn**	**15 26 55.6**	**-6.0**
PAWZ	**Paruwai Farm**	**10.55**	**211**	P	**Sn**	**15 26 58.0**	**-5.1**
MSWZ	**Moikau Station**	**10.65**	**211**	P	**Sn**	**15 26 59.7**	**-6.0**
PLWZ	**Palliser**	**10.77**	**211**	P	**Sn**	**15 27 02.5**	**-6.2**
DUWZ	**D'Urville Isla**	**10.81**	**218**	P	**Sn**	**15 27 05.2**	**-4.5**
TCW	**Tory Channel**	**10.94**	**215**	P	**Sn**	**15 27 05.9**	**-6.9**
TUWZ	**Tuamarina**	**11.27**	**215**	Pn	**Pn**	**15 25 13.4**	**-1.4**
TUWZ	**Tuamarina**	**11.27**	**215**	P	**Sn**	**15 27 12.7**	**-8.1**
QRZ	**Quartz Range**	**11.58**	**221**	P	**Sn**	**15 27 21.7**	**-6.7**
THZ	**Tophouse**	**12.04**	**217**	Pn	**Pn**	**15 25 24.2**	**-1.2**
LTZ	**Lake Taylor**	**13.11**	**216**	Pn	**Pn**	**15 25 38.7**	**-1.3**
WHZ	**Wether Hill Ro**	**17.50**	**216**	Pn	**Pn**	**15 26 35.4**	**-2.4**
WHZ				IAmb	IAmb	15 26 46.5	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**34.55**	**260**	P	**P**	**15 29 23.2**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=105,slow=17,SNR=5.1						
STKA	**Stephens Creek**	**34.55**	**260**	IAmb	IAmb	15 29 44.2	
	comp=Z,2.3nm,1.4s						
AS31	**Alice Springs**	**43.54**	**269**	P	**P**	**15 30 36.4**	**-1.5**
ASAR	**Alice Springs**	**43.54**	**269**	P	**P**	**15 30 38.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=107,slow=6.9,SNR=14						
ASAR	**Alice Springs**	**43.54**	**269**	P	**P**	**15 30 37.6**	**-0.3**
WR0	**Warramunga Arr**	**44.54**	**274**	P	**P**	**15 30 45.7**	**-0.2**
WB2	**Warramunga Arr**	**44.70**	**274**	P	**P**	**15 30 47.0**	**-0.3**
WB2				IAmb	IAmb	15 31 02.4	
	comp=Z,6.6nm,0.8s						
WRA	**Warramunga Arr**	**44.72**	**274**	P	**P**	**15 30 47.2**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=112,slow=8.0,SNR=34						
WRA	**Warramunga Arr**	**44.72**	**274**	P	**P**	**15 30 45.8**	**-1.6**
WB0	**Warramunga Arr**	**44.75**	**274**	P	**P**	**15 30 47.5**	**-0.1**
WB0				IAmb	IAmb	15 31 17.9	
	comp=Z,11nm,1.2s						
FORT	**Forrest**	**46.03**	**257**	P	**P**	**15 30 57.4**	**-0.3**
MTN	**Manton Dam**	**50.83**	**280**	P	**P**	**15 31 35.0**	**+0.2**
KNRA	**Kununurra**	**51.39**	**276**	P	**P**	**15 31 40.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**54.15**	**251**	LR	LR	15 50 56.4	
	comp=Z,516nm,20.8s,baz=319,slow=32						
QSPA	**South Pole Qui**	**57.61**	**180**	P	P	15 32 30.1	+6.4
	comp=Z,11nm,1.0s,baz=236,slow=0.8,SNR=2.8						
QSPA	**South Pole Qui**	**57.61**	**180**	IAmb	IAmb	15 32 34.5	
	comp=Z,8.9nm,0.8s						
H03N3	**Juan Fernandez**	**79.09**	**123**	T	T	17 03 39.1	
	baz=241						
H03N2	**Juan Fernandez**	**79.09**	**123**	T	T	17 03 49.4	
	baz=241						
H03N1	**Juan Fernandez**	**79.11**	**123**	T	T	17 03 47.2	
	baz=241						
FINES	**FINESS Array B**	**147.29**	**339**	PKPbc	**PKPab**	**15 42 19.8**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=40,slow=4.4,SNR=11						
FINES	**FINESS Array B**	**147.29**	**339**		**PKPbc**	**15 42 18.9**	**+2.2**
NOA	**NORSAR Array B**	**150.90**	**351**	PKPbc	**PKiKP**	**15 42 28.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=14,slow=4.1,SNR=3.4						
HFS	**Hagfors**	**151.40**	**348**	PKPbc	**PKiKP**	**15 42 29.8**	**+2.3**
	comp=Z,1.7nm,0.7s,baz=55,slow=5.5,SNR=2.1						
MMAI	**Mount Meron Ar**	**152.46**	**280**	PKPbc	**PKiKP**	**15 42 34.4**	**+3.6**
	comp=Z,1.1nm,0.4s,baz=72,slow=4.7,SNR=4.5						
BRTR	**Keskin Array B**	**154.00**	**295**	PKPbc	**PKiKP**	**15 42 37.5**	**+3.7**
	comp=Z,0.6nm,0.9s,baz=54,slow=1.6,SNR=2.8						

*TRN **16** 15:29:17.7, 13°.93N×58°.57W, h97km, MD4.0*
TRN Felt in Barbados MMI III, V, VI; Dominica III;Gr enada III; St. Vincent IV, Saint Lucia III.
ISC 16 15:29:15.8±2.2,**14°.00N**±0°.04×**58°.5W**±0°.1,**h10**km,**n37,**
σ1§**44**/52,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**226**	*e*P	**Pg**	**15 29 41.1**	**+0.6**
BBSP				*e*S	**Sn**	**15 29 58.0**	**+1.0**
BBGH	**Gun Hill**	**1.33**	**231**	*e*P	**Pg**	**15 29 42.0**	**+0.6**
BBGH				*e*S	**Sn**	**15 29 59.6**	**+1.3**
BCHC	**Barbados, Cave**	**1.39**	**232**	*e*P	**Pg**	**15 29 42.6**	**+0.1**
BCHC				*e*S	**Sg**	**15 30 02.2**	**+1.6**
MPOM	**Morne Pois Mar**	**2.33**	**281**	*e*P	**Pn**	**15 29 54.6**	**+0.5**
MPOM				*e*S	**Sn**	**15 30 22.2**	**-0.6**
MCLT	**Moule a Chique**	**2.39**	**263**	*e*P	**Pn**	**15 29 55.2**	**+0.3**
MCLT				*e*S	**Sn**	**15 30 22.9**	**-1.4**
MVM	**Montagne Vaucl**	**2.39**	**284**	*e*P	**Pn**	**15 29 55.2**	**+0.2**
SLBI	**Saint Lucia, B**	**2.40**	**271**	*e*P	**Pn**	**15 29 54.9**	**-0.2**
SLBI				*e*S	**Sn**	**15 30 22.9**	**-1.7**
LPMF	**Morne Lapointe**	**2.46**	**284**	*e*P	**Pn**	**15 29 56.1**	**+0.2**
SLB	**Belfond**	**2.47**	**266**	*e*P	**Pn**	**15 29 57.2**	**+1.0**
ZAM	**Aeronautique**	**2.52**	**283**	*e*P	**Pn**	**15 29 56.8**	**+0.1**
TRMF	**Trois Ilets**	**2.53**	**283**	*e*P	**Pn**	**15 29 56.9**	**0.0**
BIM	**Bigot**	**2.54**	**282**	*e*P	**Pn**	**15 29 57.3**	**+0.1**
BIM				*e*S	**Sn**	**15 30 26.9**	**-1.4**
FDF	**Fort de France**	**2.67**	**286**	*e*P	**Pn**	**15 29 59.8**	**+0.9**
FDF				*e*S	**Sn**	**15 30 31.3**	**-0.1**
BAMF	**Morne Balai**	**2.69**	**288**	*e*P	**Pn**	**15 29 59.8**	**+0.6**
GBMF	**Grand Be**	**2.70**	**287**	*e*P	**Pn**	**15 30 00.1**	**+0.7**
CXM	**Morne La Croix**	**2.71**	**288**	*e*P	**Pn**	**15 30 00.4**	**+0.8**
PML	**Morne Lenard**	**2.71**	**287**	*e*P	**Pn**	**15 30 00.6**	**+1.0**
SVN	**Savane Anatole**	**2.72**	**288**	*e*P	**Pn**	**15 30 00.7**	**+1.1**
PCM	**Pelee Case Pet**	**2.75**	**288**	*e*P	**Pn**	**15 30 00.8**	**+0.8**
SVB	**Belmont**	**2.77**	**255**	*e*P	**Pn**	**15 30 01.1**	**+0.9**
SVB				*e*S	**Sn**	**15 30 32.6**	**-1.1**
DSLB	**Salisbury**	**3.17**	**297**	*e*P	**Pn**	**15 30 07.1**	**+1.4**
DSLB				*e*S	**Sn**	**15 30 43.1**	**-0.5**
GCMP	**Grenada, Carri**	**3.22**	**243**	*e*P	**Pn**	**15 30 06.6**	**+0.2**
GCMP				*e*S	**Sn**	**15 30 42.4**	**-2.4**
MAGL	**Barre de l'ile**	**3.32**	**306**	*e*P	**Pn**	**15 30 08.5**	**+0.8**
TOSP	**Speyside**	**3.34**	**217**	*e*P	**Pn**	**15 30 08.6**	**+0.6**
TDBA	**Terre de Bas,**	**3.55**	**302**	*e*P	**Pn**	**15 30 12.2**	**+1.3**
TBG	**Guadaloupe-3**	**3.56**	**302**	*e*P	**Pn**	**15 30 11.3**	**+0.3**
GRGR	**Grenville**	**3.59**	**239**	*e*P	**Pn**	**15 30 12.1**	**+0.6**
GRGR				*e*S	**Sn**	**15 30 50.4**	**-3.6**
CBE	**Ff, Capester**	**3.64**	**305**	*e*P	**Pn**	**15 30 14.0**	**+1.8**
CBE				*e*S	**Sn**	**15 30 54.2**	**-1.1**
ABD	**La Joyeuse, An**	**3.79**	**311**	*e*P	**Pn**	**15 30 14.5**	**+0.2**
ABD				*e*S	**Sn**	**15 30 57.3**	**-1.7**
ANBD	**Bethesda, Anti**	**4.37**	**314**	*e*P	**Pn**	**15 30 23.5**	**+1.2**
ANBD	**Bethesda, Anti**	**4.37**	**314**	*e*S	**Sn**	**15 31 12.2**	**-1.1**
TRN	**Trinidad (W)**	**4.37**	**221**	*e*P	**Pn**	**15 30 23.1**	**+0.8**
TRN				*e*S	**Sn**	**15 31 07.8**	**-5.5**
BPA	**Boggy Peak**	**4.43**	**314**	*e*P	**Pn**	**15 30 24.1**	**+0.9**
BPA	**Boggy Peak**	**4.43**	**314**	*e*S	**Sn**	**15 31 11.8**	**-3.1**
ANWB	**Willy Bob**	**4.83**	**320**	*e*P	**Pn**	**15 30 28.0**	**-0.5**
ANWB	**Willy Bob**	**4.83**	**320**	*e*S	**Sn**	**15 31 23.0**	**-1.6**
SKI	**Saint Kitts**	**5.26**	**310**	*e*P	**Pn**	**15 30 35.5**	**+1.0**

*IDC **16** 15:36:13.9±0.5, 13°.87N×58°.32W, h0km, mb4.4/23, mb1 4.7/27, mb1mx4.6/37, mbtmp4.5/27, ML4.2/4, Error ellipse: s-maj=14.2km s-min=12.0km az=118.0*
*MOS **16** 15:36:14.0±1.5, 13°.84N×58°.49W, h16km, mb5.3/19, Error ellipse: s-maj=10.2km s-min=7.9km az=29.2*
*NEIC **16** 15:36:15.3±2.0, 13°.94N±0°.05×58°.44W±0°.07, h11km±4km, mb5.1/158, Error ellipse: s-maj=9.3km s-min=7.3km az=90.0*
*TRN **16** 15:36:16.9, 13°.91N×58°.47W, h50km, MD4.9*
TRN Felt in Barbados MMI III, IV; Suriname III.
*CAR **16** 15:36:20.3±9.4, 14°.N±90°×5°.8W±9°.2, h21km±10km, Error ellipse: s-maj=0.0km s-min=0.0km az=144.0*
ISC 16 15:36:15.7±1.2,**13°.88N**±0°.03×**58°.46W**±0°.04,**h15**km±7km,
n501,σ1§**66**/492,**mb5.0**/107,**33C-20D,Fault plane solution: NP1:**ϕ1±15.61991°,δ89.31357°,λ18.09663°,
NP2:ϕ2±285.39560°,δ71.90472°,λ179.27785°. **Principal axes:** T Plg13.1851°, Azm241.9639°; N Plg71.8908°, Azm17.7195°; P Plg12.1900°, Azm149.0630°; **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**231**	*e*P	**Pg**	**15 36 40.2**	**+0.6**
BBSP				*e*S	**Sb**	**15 36 56.2**	**+1.6**
BBGH	**Gun Hill**	**1.29**	**235**	*e*P	**Pg**	**15 36 41.3**	**+0.6**
BBGH	**Gun Hill**	**1.29**	**235**		**Pg**	**15 36 41.2**	**+0.6**
BBGH				Sn	**Sg**	**15 36 60.0**	**+2.4**
BCHC	**Barbados, Cave**	**1.36**	**237**	*e*P	**Pg**	**15 36 42.1**	**+0.3**
BCHC				*e*S	**Sn**	**15 36 58.0**	**+0.1**
MPOM	**Morne Pois Mar**	**2.39**	**284**	*e*P	**Pn**	**15 36 54.4**	**0.0**
MPOM	**Morne Pois Mar**	**2.39**	**284**		**Pn**	**15 36 54.2**	**-0.2**
MPOM				Sn	**Sn**	**15 37 21.8**	**-1.6**
SLW	**Petit Monier**	**2.41**	**274**	*e*P	**Pn**	**15 36 55.7**	**+1.0**
MCLT	**Moule a Chique**	**2.41**	**266**	*e*P	**Pn**	**15 36 55.1**	**+0.4**
MCLT				*e*S	**Sn**	**15 37 23.8**	**-0.3**
MCLT	**Moule a Chique**	**2.41**	**266**		**Pn**	**15 36 51.8**	**-2.9**
SLBI	**Saint Lucia, B**	**2.44**	**274**	*e*P	**Pn**	**15 36 55.3**	**+0.2**
SLBI				*e*S	**Sn**	**15 37 24.3**	**-0.4**
MVM	**Montagne Vaucl**	**2.45**	**286**	*e*P	**Pn**	**15 36 56.0**	**+0.7**
SLCP	**Castries, St.**	**2.46**	**273**	*e*P	**Pn**	**15 36 55.3**	**+0.1**
ILAM	**Ilet Lapin Mar**	**2.50**	**291**	*e*P	**Pn**	**15 36 56.4**	**+0.6**
ILAM	**Ilet Lapin Mar**	**2.50**	**291**		**Pn**	**15 36 56.3**	**+0.4**
ILAM				Sn	**Sn**	**15 37 25.3**	**-0.8**
SLB	**Belfond**	**2.50**	**269**	*e*P	**Pn**	**15 36 56.3**	**+0.3**
SLDE	**Delcer**	**2.52**	**268**	*e*P	**Pn**	**15 36 57.1**	**+0.9**
LPMF	**Morne Lapointe**	**2.52**	**286**	*e*P	**Pn**	**15 36 56.8**	**+0.6**
ZAM	**Aeronautique**	**2.58**	**286**	*e*P	**Pn**	**15 36 57.8**	**+0.8**
TRMF	**Trois Ilets**	**2.59**	**285**	*e*P	**Pn**	**15 36 57.7**	**+0.6**
BIM	**Bigot**	**2.60**	**284**	*e*P	**Pn**	**15 36 57.8**	**+0.4**
BIM	**Bigot**	**2.60**	**284**		**Pn**	**15 36 57.4**	**0.0**
BIM				Sn	**Sn**	**15 37 28.5**	**-0.3**
FDF	**Fort de France**	**2.74**	**288**	P	**Pn**	**15 37 00.0**	**+0.8**
FDF	**Fort de France**	**2.74**	**288**	*i* P	**Pn**	**15 36 59.7**	**+0.5**
BAMF	**Morne Balai**	**2.76**	**290**	*e*P	**Pn**	**15 37 00.8**	**+1.2**
GBMF	**Grand Be**	**2.77**	**289**	*e*P	**Pn**	**15 37 00.8**	**+1.1**
SVB	**Belmont**	**2.78**	**258**	*e*P	**Pn**	**15 37 00.6**	**+0.8**
SVB				*e*S	**Sn**	**15 37 33.5**	**+0.4**
SVB	**Belmont**	**2.78**	**258**		**Pn**	**15 37 00.1**	**+0.4**
CXM	**Morne La Croix**	**2.78**	**290**	*e*P	**Pn**	**15 37 01.0**	**+1.2**
PML	**Morne Lenard**	**2.78**	**289**	*e*P	**Pn**	**15 37 01.2**	**+1.4**
SVN	**Savane Anatole**	**2.79**	**290**	*e*P	**Pn**	**15 37 01.2**	**+1.3**
PCM	**Pelee Case Pet**	**2.82**	**290**	*e*P	**Pn**	**15 37 01.5**	**+1.2**
PCM	**Pelee Case Pet**	**2.82**	**290**	*e*P	**Pn**	**15 37 01.6**	**+1.2**
DLPL	**La Plaine**	**3.06**	**298**	*e*P	**Pn**	**15 37 04.4**	**+0.8**
DLPL	**La Plaine**	**3.06**	**298**		**Pn**	**15 37 04.2**	**+0.7**
GCMP	**Grenada, Carri**	**3.20**	**245**	*e*P	**Pn**	**15 37 06.1**	**+0.5**
GCMP				*e*S	**Sn**	**15 37 43.2**	**-0.3**
DSLB	**Salisbury**	**3.25**	**299**	*e*P	**Pn**	**15 37 07.3**	**+1.0**
TOSP	**Speyside**	**3.27**	**218**	*e*P	**Pn**	**15 37 08.0**	**+1.5**
TOSP	**Speyside**	**3.27**	**218**		**Pn**	**15 37 07.6**	**+1.1**
MAGL	**Barre de l'ile**	**3.41**	**307**	*e*P	**Pn**	**15 37 09.1**	**+0.7**
GRGR	**Grenville**	**3.56**	**241**	*e*P	**Pn**	**15 37 11.4**	**+0.9**
**

ITTB	Itaituba	18.33 171	eP		Pn	15 40 28.3	-1.4
HELC	Santa Helena	18.45 247	eP		P	15 40 31.1	-0.3
DBBC	Dabeiba	18.73 250	eP		P	15 40 32.7	-1.5
GUY2C	Guyana, Caldas	18.74 244	eP		P	15 40 35.5	+0.8
MTDJ	Mount Denham	18.83 286			P	15 40 30.5	-4.7
MTDJ			IAmb	IAmb		15 40 46.4	
	comp=Z,243nm,1.6s						
TOLC	Tolima	19.02 243	eP		Pn	15 40 39.2	+0.9
CBOC	Ciudad Bolivar	19.02 247	eP		P	15 40 37.3	-0.2
ANIL	Santa Ana	19.13 242	eP		P	15 40 38.2	-0.7
TMAB	Tom-Au,PA,Br	19.14 147	eP		P	15 40 38.8	+0.1
MACC	Macarena, Meta	19.16 234	eP		P	15 40 38.7	-0.2
BBSR	BB Station	19.27 344	P		P	15 40 35.1	-4.7
ORTC	Ortega, Tolima	19.30 241	eP		P	15 40 40.5	+0.1
PLMC	San Jos del P	19.70 245	eP		P	15 40 44.1	-0.7
PTAC	Punta Ardita,	20.15 253	eP		P	15 40 50.5	+0.8
YOTC	Yotoco, Valle	20.20 243	eP		P	15 40 46.0	-4.3
GARC	Garzon, Huila	20.45 237	eP		P	15 40 54.0	+0.8
NPGB	Novo Progresso	21.02 171	eP		P	15 40 58.2	-0.9
BCIP	Isla Barro Col	21.45 260	P		P	15 41 03.6	-0.2
BCIP			pmax	pmax			
	comp=Z,234nm,1.5s						
BCIP	Isla Barro Col	21.45 260	P		P	15 41 03.5	-0.2
BCIP			IAmb	IAmb		15 41 17.2	
	comp=Z,234nm,1.5s						
PRPB	Parauapebas	21.70 156	eP		P	15 41 06.0	-0.4
ROSB	Rosrio	21.91 138	eP		P	15 41 08.3	-0.3
BBAC	Balboa, Cauca	21.99 239	eP		P	15 41 10.7	+0.9
AZU	Azuero	22.25 256	eP		P	15 41 18.1	+5.8
TUMC	Tumaco	23.34 241	P		P	15 41 22.3	-1.5
TUMC			IAmb	IAmb		15 41 32.3	
	comp=Z,98nm,1.0s						
OTAV	Otavalo	23.99 237	P		P	15 41 28.5	-2.0
OTAV			pmax	pmax			
	comp=Z,17nm,0.9s						
OTAV	Otavalo	23.99 237	P		P	15 41 28.5	-2.0
OTAV	Otavalo	23.99 237	eP		P	15 41 37.7	+7.2
OTAV	Otavalo	23.99 237	eP		P	15 41 30.6	0.0
060A	Indiantown	24.28 306	P		P	15 41 30.1	-2.6
CDITO	Canoas	24.51 260	P		P	15 41 32.4	-2.5
BATAN	Batan	24.65 264	P		P	15 41 33.2	-2.9
DRK0	Durika	24.70 262	P		P	15 41 33.1	-3.6
DRK0			IAmb	IAmb		15 42 05.2	
	comp=Z,66nm,0.8s						
CLDB	Colider	24.74 174	eP		P	15 41 36.8	0.0
ETMB	Extrema	24.77 198	eP		P	15 41 36.8	-0.3
NBPS	Pedro II - PI	24.80 136	eP		P	15 41 38.2	+0.7
SRBA	San Rafael, Bu	24.82 262	P		P	15 41 36.9	-0.8
SRBA			IAmb	IAmb		15 42 01.6	
	comp=Z,41nm,1.0s						
SOR	Soroa	24.89 294	P		P	15 41 40.6	+2.3
SOR			pmax	pmax			
	comp=Z,38nm,1.0s						
SOR	Soroa	24.89 294	P		P	15 41 40.6	+2.3
SOR			IAmb	IAmb		15 41 42.6	
	comp=Z,38nm,1.0s						
NBMO	Morrinhos-CE	25.02 132	eP		P	15 41 40.3	+0.9
CVTR	Volcan Turrial	25.04 264	P		P	15 41 37.4	-2.7
CVTR			IAmb	IAmb		15 42 14.0	
	comp=Z,34nm,0.6s						
SMTB	Santa Maria do	25.04 154	eP		P	15 41 40.1	+0.5
PEZE	Perez Zeledon,	25.09 262	P		P	15 41 40.6	+0.4
PEZE			IAmb	IAmb		15 42 06.8	
	comp=Z,62nm,1.2s						
RIMA	Rio Macho	25.19 263	P		P	15 41 40.6	-0.6
RIMA			IAmb	IAmb		15 41 56.5	
	comp=Z,122nm,1.7s						
ESPN	Las Esperanzas	25.22 269	P		P	15 41 40.8	-0.5
ESPN			IAmb	IAmb		15 41 44.7	
	comp=Z,39nm,0.8s						
COVE	Coope Vega, Sa	25.53 266	P		P	15 41 43.1	-1.0
DWPF	Disney Wildern	25.63 307	P		P	15 41 43.5	-1.3
CZSB	Cruzeiro do Su	25.71 214	eP		P	15 41 45.4	-0.2
JACO	JACO, Garabito	25.98 264	P		P	15 41 46.8	-1.4
JACO			IAmb	IAmb		15 42 25.1	
	comp=Z,131nm,1.8s						
ACON	Acoyapa	26.10 269	P		P	15 41 47.9	-1.3
ACON			IAmb	IAmb		15 42 05.8	
	comp=Z,42nm,1.2s						
JTS	Las Juntas de	26.14 265	P		P	15 41 50.4	+0.8
	comp=Z,14nm,1.0s,baz=117,slow=2.4,SNR=4.7						
JTS	Las Juntas de	26.14 265⇑	eP		P	15 41 47.5	-2.2
JTS			pmax	pmax			
	comp=Z,5.0nm,0.7s						
JTS	Las Juntas de	26.14 265	P		P	15 41 49.2	-0.5
CAO2	Cobano, Puntar	26.40 264	P		P	15 41 50.9	-1.1
CAO2			IAmb	IAmb		15 41 59.9	
	comp=Z,84nm,1.6s						
SNDB	Serra Nova Dou	26.66 164	eP		P	15 41 54.4	+0.1
VILB	Vilhena	26.72 184	eP		P	15 41 55.3	+0.5
Y60A	Bolivia	26.87 322	P		P	15 41 53.8	-2.2
Y60A			IAmb	IAmb		15 42 11.3	
	comp=Z,71nm,0.9s						
NBCL	Cascavel-CE	26.91 131	eP		P	15 41 57.5	+0.9
PEXB	Peixe	27.72 158	eP		P	15 42 03.9	+0.1
S61A	Accomac	28.22 330	P		P	15 42 07.0	-1.0
255A	Hazlehurst	28.38 313	P		P	15 42 09.0	-0.5
R61A	Willards	28.58 331	P		P	15 42 10.7	-0.6
BIRD	Birdtown, Kers	28.68 320	P		P	15 42 11.9	-0.3
W57A	Gilead	28.72 321	P		P	15 42 11.2	-1.4
NBPA	Parau_RN	28.80 131	eP		P	15 42 14.7	+1.2
PTLB	Pontes e Lacer	29.15 181	eP		P	15 42 16.4	-0.1
JSRW	J. Sargeant Re	29.34 327	P		P	15 42 16.9	-1.1
SDBA	SAO DESIDERIO	29.38 152	eP		P	15 42 18.8	+0.2
R58B	Mineral	29.54 328	P		P	15 42 18.3	-1.5
R58B			IAmb	IAmb		15 43 14.4	
	comp=Z,62nm,2.0s						
HODGE	Hodges	29.57 317	P		P	15 42 18.9	-1.3
HODGE			IAmb	IAmb		15 43 04.1	
	comp=Z,51nm,1.7s						
PAULI	Pauline	29.65 319	P		P	15 42 20.8	0.0
SALV	Santo Antonio	29.72 175	eP		P	15 42 21.4	-0.1
RCBR	Riachuelo	29.75 130	eP		P	15 42 23.2	+1.2
U56A	King	29.77 323	P		P	15 42 21.5	-0.3
SIV	San Ignacio	29.80 185	P		P	15 42 22.4	+0.1
	comp=Z,9.3nm,1.0s,baz=304,slow=7.3,SNR=1.5						
M63A	Gales Ferry	29.86 339	P		P	15 42 20.4	-2.2
GOGA	Godfrey	29.90 315	P		P	15 42 22.1	-1.0
GOGA			pmax	pmax			
	comp=Z,19nm,1.2s						
GOGA	Godfrey	29.90 315	P		P	15 42 22.1	-1.0
P60A	Greenville	29.92 333	P		P	15 42 21.3	-1.8
P60A			IAmb	IAmb		15 42 43.6	
	comp=Z,86nm,1.9s						
352A	Blakely	29.92 310	P		P	15 42 21.4	-1.9
352A			IAmb	IAmb		15 42 37.1	
	comp=Z,65nm,1.1s						
ESQI	Esquipulas	29.93 275	P		P	15 42 24.1	+0.5
ESQI			IAmb	IAmb		15 42 28.7	
	comp=Z,31nm,0.8s						
MTO3	Montecristo	29.95 275	P		P	15 42 24.4	+0.4
MTO3			IAmb	IAmb		15 42 27.1	
	comp=Z,18nm,0.8s						
ARAG	Araguaiana, MT	30.13 167	eP		P	15 42 25.2	0.0
PAL	Palisades	30.20 336	P		P	15 42 26.7	+1.1
PAL			pmax	pmax			
	comp=Z,55nm,1.4s						
PAL	Palisades	30.20 336	P		P	15 42 26.7	+1.1
PAL			IAmb	IAmb		15 42 29.1	
	comp=Z,55nm,1.4s						
152A	Waverly Hall	30.38 312	P		P	15 42 29.6	+2.3
152A			IAmb	IAmb		15 42 40.5	
	comp=Z,40nm,1.0s						
MVL	Millersville	30.39 332	P		P	15 42 27.9	+0.6
PETF	Flores	30.41 280	P		P	15 42 29.1	+1.4
BG3	Lake Jocassee	30.47 318	P		P	15 42 27.7	-0.5
NBPN	Ponto Novo - B	30.53 143	eP		P	15 42 29.6	+0.8
Y52A	Lilburn	30.57 315	P		P	15 42 27.7	-1.3
Y52A			IAmb	IAmb		15 42 44.8	
	comp=Z,42nm,1.5s						
NBPV	Pedro Velho	30.59 130	eP		P	15 42 30.5	+1.2
V53A	Saluda	30.81 319	P		P	15 42 30.2	-1.0
K63A	Dunstable	30.84 341	P		P	15 42 29.6	-1.6
K63A			IAmb	IAmb		15 42 59.9	
	comp=Z,73nm,1.4s						
BDFB	Brasilia	31.10 160	P		P	15 42 33.6	-0.4
	comp=Z,11nm,0.8s,baz=354,slow=10,SNR=1.3						
250A	Grady	31.16 310	P		P	15 42 33.3	-1.0
LPAZ	La Paz	31.46 198	P		P	15 42 38.2	+0.5
	comp=Z,7.7nm,0.8s,baz=26,slow=8.8,SNR=2.9						
LPAZ	La Paz	31.46 198	eP		P	15 42 36.5	-1.2
PP1B	Ponte de Pedra	31.48 173	eP		P	15 42 36.8	-0.4
JANB	Januaria	31.98 154	eP		P	15 42 41.6	0.0
NBAN	Anadia - AL	32.13 136	eP		P	15 42 43.7	+0.8
LRAL	Lakeview Retre	32.21 311	P		P	15 42 44.6	+1.2
	baz=120,SNR=6.2						
LRAL	Lakeview Retre	32.21 311	P		P	15 42 43.6	+0.1
LRAL			IAmb	IAmb		15 42 56.9	
	comp=Z,32nm,1.1s						
NBRF	Rio Formoso -	32.23 133	eP		P	15 42 44.9	+1.1
G64A	Maxfield	32.46 346	P		P	15 42 48.5	+3.0
	baz=161						
PKME	Peaks-Kenny Pk	32.60 346	P		P	15 42 48.7	+2.0
	baz=160						
I58A	Old Forge	32.91 338	P		P	15 42 51.8	+2.3
	baz=150						
X48A	Hartselle	32.96 313	P		P	15 42 48.2	-1.8
X48A			IAmb	IAmb		15 42 55.0	
	comp=Z,13nm,0.8s						
GDU01	Guandu, BA	33.20 145	eP		P	15 42 52.9	+0.7
IPMB	Ipameri, GO	33.24 162	eP		P	15 42 52.8	+0.1
E62A	Clayton Lake	33.93 346	P		P	15 42 59.3	+0.9
	baz=160						
PLAL	Pickwick Lake	33.97 313	P		P	15 42 58.1	-0.7
PLAL			IAmb	IAmb		15 43 11.8	
	comp=Z,19nm,0.8s						
D63A	Stockholm	34.02 348	P		P	15 43 01.5	+2.4
	baz=163						
D62A	Allapoint, All	34.26 347	P		P	15 43 02.6	+1.5
	baz=162						
NBIT	Itapeh - BA	34.27 146	eP		P	15 43 02.3	+0.8
P49A	Miami Univ. Ec	34.44 323	P		P	15 43 04.4	+1.6
	baz=131						
CMC01	Camacan, BA	34.57 146	eP		P	15 43 04.8	+0.6
OXF	Oxford	34.69 312	P		P	15 43 04.1	-0.9
OXF			pmax	pmax			
	comp=Z,127nm,1.2s						
OXF	Oxford	34.69 312	P		P	15 43 07.0	+2.0
	baz=119,SNR=7.0						
OXF	Oxford	34.69 312	P		P	15 43 04.1	-0.9
PB11	IPOC Station P	35.20 198	P		P	15 43 08.7	-1.1
PB08	IPOC Station P	35.41 198	P		P	15 43 11.5	-0.2
NAN01	Guarapari, ES	36.35 150	eP		P	15 43 20.1	+0.7
PB01	IPOC Station P	36.36 198	P		P	15 43 19.4	-0.2
PBMO	Poplar Bluff	36.52 314	IAmb	IAmb		15 43 33.4	
	comp=Z,32nm,1.0s						
LCAR	Lake Charles	36.68 313	P		P	15 43 20.9	-1.2
TRCB	Terra Rica	36.90 171	eP		P	15 43 24.1	0.0
W41B	Gary Mavity, V	37.06 311	P		P	15 43 27.4	+2.1
	baz=116,SNR=7.9						
PB07	IPOC Station P	37.12 198	P		P	15 43 25.9	-0.3
WHAR	Wooly Hollow	37.14 311	P		P	15 43 25.1	-1.0
WHAR			IAmb	IAmb		15 43 40.8	
	comp=Z,60nm,1.3s						
X40A	Basin Creek Fa	37.20 310	P		P	15 43 28.4	+1.8
	baz=115,SNR=7.1						
X40A	Basin Creek Fa	37.20 310	P		P	15 43 26.3	-0.3
X40A			IAmb	IAmb		15 43 39.5	
	comp=Z,18nm,0.8s						
FCAR	Ozark Folk Cen	37.29 312	IAmb	IAmb		15 43 44.5	
	comp=Z,42nm,1.2s						
NATX	Nacogdoches	37.58 304	P		P	15 43 31.1	+1.2
	baz=110						
LVC	Limon Verde	37.68 196	P		P	15 43 31.7	+0.6
	comp=Z,18nm,0.8s,baz=24,slow=8.0,SNR=15						
LVC	Limon Verde	37.68 196	P		P	15 43 31.2	+0.1
LVC			pmax	pmax			
	comp=Z,29nm,0.7s						
LVC	Limon Verde	37.68 196	P		P	15 43 31.2	+0.1
LVC			IAmb	IAmb		15 43 43.3	
	comp=Z,29nm,0.7s						
LVC	Limon Verde	37.68 196	eP		P	15 43 30.5	-0.7
CCM	Cathedral Cave	37.73 316	P		P	15 43 31.0	0.0
CCM			pmax	pmax			
	comp=Z,25nm,1.1s						
CCM	Cathedral Cave	37.73 316	P		P	15 43 32.9	+1.9
	baz=121						
CCM	Cathedral Cave	37.73 316	P		P	15 43 31.0	0.0
CCM			IAmb	IAmb		15 43 45.1	
	comp=Z,25nm,1.1s						
MIAR	Mount Ida	37.78 309	P		P	15 43 34.3	+2.8
MIAR	Mount Ida	37.78 309	P		P	15 43 32.8	+1.3
	baz=114						
MIAR	Mount Ida	37.78 309	IAmb	IAmb		15 43 45.4	
	comp=Z,41nm,1.4s						
MGMO	Mountain Grove	37.99 314	IAmb	IAmb		15 43 46.3	
	comp=Z,22nm,1.0s						
FRTB	Fartura	38.01 167	eP		P	15 43 33.4	-0.1
U40A	Yellville	38.03 312	P		P	15 43 34.9	+1.2
	baz=117,SNR=5.6						
U40A	Yellville	38.03 312	P		P	15 43 33.9	+0.2
U40A			IAmb	IAmb		15 43 48.6	
	comp=Z,69nm,1.6s						
W39A	Magazine	38.21 310	P		P	15 43 37.4	+2.4
	baz=115,SNR=8.6						
CHGQ	Chibougamau	38.21 343	P		P	15 43 36.3	+1.3
	baz=154						
VAO	Valinhos	38.35 163	eP		P	15 43 36.3	-0.2
PB15	IPOC Station P	38.41 196	IAmb	IAmb		15 43 48.4	
	comp=Z,68nm,1.1s						
R40A	Maddies Statio	38.54 315	P		P	15 43 38.0	+0.1
PARB	Paraibuna	39.07 161	eP		P	15 43 42.8	+0.4
CAM01	Campos-RJ	39.13 155	eP		P	15 43 43.0	+0.1
ESAR	Angra dos Reis	39.16 159	eP		P	15 43 43.5	+0.3
WHTX	Lake Whitney,	39.91 304	P		P	15 43 50.6	+1.2
	baz=108						
WHTX	Lake Whitney,	39.91 304	IAmb	IAmb		15 43 54.4	
	comp=Z,167nm,2.0s						
CPUP	Villa Florida	39.99 178	P		P	15 43 50.0	0.0
	comp=Z,13nm,1.1s,baz=10,0,slow=17,SNR=1.9						
TUL1	Leonard	39.99 310	P		P	15 43 52.3	+2.3
	baz=114						
P38A	Dawn	40.06 316	P		P	15 43 49.6	-1.0
P38A			IAmb	IAmb		15 44 03.3	
	comp=Z,66nm,1.8s						
GO02	Mina Guanaco	40.30 196	P		P	15 43 52.5	-0.4
833A	Chaparral WMA,	40.59 297	P		P	15 43 56.2	+1.1
	baz=102						
OK031	S. Brethren Rd	40.79 310	IAmb	IAmb		15 44 10.9	
	comp=Z,63nm,1.1s						
T35A	Sooner Cattle	40.93 311	P		P	15 43 56.8	-1.0
T35A			IAmb	IAmb		15 44 10.7	
	comp=Z,75nm,1.4s						
X34A	Smith Ranch, M	41.05 307	P		P	15 44 00.2	+1.3
X34A			IAmb	IAmb		15 44 13.7	
	comp=Z,29nm,1.0s						
K38A	Parkersburg	41.16 321	P		P	15 44 00.0	+0.4
K38A			IAmb	IAmb		15 44 12.2	
	comp=Z,88nm,1.7s						
BLOK	Blackwell	41.38 311	P		P	15 44 01.0	-0.6
BLOK			IAmb	IAmb		15 44 13.9	
	comp=Z,55nm,1.0s						
JCT	Junction City	41.42 300	P		P	15 44 02.2	+0.2
JCT			pmax	pmax			
	comp=Z,58nm,1.3s						
JCT	Junction City	41.42 300	P		P	15 44 03.2	+1.2
	baz=104,SNR=5.1						
JCT	Junction City	41.42 300	P		P	15 44 02.2	+0.2
JCT			IAmb	IAmb		15 44 14.3	
	comp=Z,58nm,1.3s						
AC02	Maricunga	41.78 194	P		P	15 44 05.3	-0.1
WMOK	Wichita Mounta	41.83 307	P		P	15 44 06.4	+1.2
	baz=110						
ABTX	Abilene, Hawle	41.86 304	P		P	15 44 06.6	+1.1
	baz=107						
ABTX	Abilene, Hawle	41.86 304	IAmb	IAmb		15 44 17.4	
	comp=Z,47nm,1.1s						
KSU1	Kansas State U	41.92 314	P		P	15 44 08.2	+2.3
	baz=116						
EYMN	Ely	43.62 328	P		P	15 44 22.6	+3.0
	baz=130						
BGNE	Belgrade	44.01 316	P		P	15 44 24.6	+1.8
	baz=117						
CBKS	Cedar Bluff	44.02 312	P		P	15 44 24.7	+1.7
	baz=113						
ECSD	EROS Data Cent	44.12 320	P		P	15 44 25.5	+1.9
	baz=120						
ECSD	EROS Data Cent	44.12 320	IAmb	IAmb		15 44 36.0	
	comp=Z,40nm,1.9s						
AMTX	Amarillo	44.14 306	P		P	15 44 25.1	+1.0
	baz=107						
AMTX	Amarillo	44.14 306	IAmb	IAmb		15 44 41.4	
	comp=Z,35nm,1.4s						
AGUA	GUANDACOL	44.19 193	eP		P	15 44 26.6	+2.2
TXAR	Lajitas Array	44.46 298	P		P	15 44 28.6	+1.9
	comp=Z,3.3nm,0.8s,baz=122,slow=6.3,SNR=17						
TX31	Lajitas Ar. Si	44.46 298	IAmb	IAmb		15 44 40.2	
	comp=Z,30nm,1.0s						
APLL	PUNTA DE LOS L	44.70 190	eP		P	15 44 26.4	-2.1
MSTX	Muleshoe	44.75 304	P		P	15 44 30.8	+1.8
	baz=106,SNR=12						
MSTX	Muleshoe	44.75 304	P		P	15 44 28.3	-0.7
AVFE	Valle Fertil	45.12 191	eP		P	15 44 33.1	+1.4
ACCO	Cerro Coronel	45.38 193	eP		P	15 44 36.2	+2.1
ACHE	Chepes	45.47 190	eP		P	15 44 35.8	+1.1
HPIG		45.85 294	IAmb	IAmb		15 44 41.2	
	comp=Z,23nm,0.7s						
SUSD	Miller	45.94 320	P		P	15 44 38.0	-0.1
	baz=119						
AGMN	Agassiz Nation	46.16 326	P		P	15 44 41.7	+2.0
	baz=125						
AGMN	Agassiz Nation	46.16 326	P		P	15 44 40.1	+0.3
AGMN			IAmb	IAmb		15 44 50.7	
	comp=Z,14nm,1.0s						
KSCO	Kaye Shedlock'	46.19 311	P		P	15 44 42.4	+2.0
	baz=110						
MNTX	Cornudas Mount	46.36 301	P		P	15 44 43.8	+2.2
	baz=101,SNR=23						
OGNE	Ogallala	46.48 314	P		P	15 44 42.6	+0.1
	baz=113						
RTCV	Cerro Valdivia	46.50 192	eP		P	15 44 44.3	+1.7
RTLS	Leoncito	46.59 193	eP		P	15 44 45.9	+2.2
T25A	Trinidad	46.92 308	P		P	15 44 46.6	+0.4
	baz=107						
T25A	Trinidad	46.92 308	P		P	15 44 45.4	-0.8
AUSP	Uspallata	47.02 193	eP		P	15 44 49.2	+2.1
ULM	Lac du Bonnet	47.31 328	P		P	15 44 49.6	+0.9
	comp=Z,7.1nm,0.8s,baz=117,slow=6.5,SNR=8.3						
ULM	Lac du Bonnet	47.31 328	IAmb	IAmb		15 44 59.9	
	comp=Z,26nm,1.2s						
SDCO	Great Sand Dun	47.93 309	P		P	15 44 55.9	+1.8
	baz=107						
SDCO	Great Sand Dun	47.93 309	P		P	15 44 52.8	-1.3
ANMO	Albuquerque	47.94 305⇑	eP		P	15 44 55.6	+1.4
ANMO			pmax	pmax			
	comp=Z,12nm,1.6s						
ANMO	Albuquerque	47.94 305	P		P	15 44 56.5	+2.3
	baz=104						
ANMO	Albuquerque	47.94 305	P		P	15 44 55.5	+1.4
ANMO			IAmb	IAmb		15 45 20.6	
	comp=Z,23nm,1.6s						
MT02	Curacav	48.41 194	P		P	15 44 59.2	+1.8
MT03	Universidad Ad	48.49 193	P		P	15 44 58.6	+0.4
121A	Cookes Peak, D	48.52 301	P		P	15 45 01.5	+2.9
	baz=100,SNR=7.4						
ISCO	Idaho Springs	48.64 311	P		P	15 45 01.8	+2.3
	baz=108						
H10N3	ASCENSION HYDR	48.68 114	T		T	16 37 12.0	
	baz=296,slow=74,SNR=6.5						
H10N2	ASCENSION HYDR	48.69 114	T		T	16 37 05.7	
	baz=296,slow=74,SNR=9.9						
H10N1	ASCENSION HYDR	48.70 114	T		T	16 37 20.0	
	baz=296,slow=74,SNR=8.3						
S22A	4UR Ranch, Cre	48.94 308	P		P	15 45 03.7	+1.7
	baz=106						
RSSD	Black Hills	49.08 317	P		P	15 45 05.8	+3.0
	baz=113						
BO01	Tunca	49.48 194	P		P	15 45 04.3	-1.4
K22A	Casper	50.22 314	P		P	15 45 14.9	+3.5
	baz=110						
K22A	Casper	50.22 314	P		P	15 45 12.2	+0.8
K22A			IAmb	IAmb		15 45 25.4	
	comp=Z,28nm,1.1s						
PV02	Paradox Valley	50.52 308	P		P	15 45 14.1	+0.2
PV02			IAmb	IAmb		15 45 26.9	
	comp=Z,20nm,1.0s						
O20A	White River Ci	50.66 311	P		P	15 45 16.8	+1.9
	baz=106						
PMTG	Montargil	50.71 51	eP		P	15 45 16.2	+1.2
PCAS	Casmilo, Conde	50.78 49	eP		P	15 45 17.2	+1.7
TUC	Tucson	50.99 300	P		P	15 45 18.5	+1.2
TUC			pmax	pmax			
	comp=Z,21nm,1.1s						
TUC	Tucson	50.99 300	P		P	15 45 19.9	+2.6
	baz=98						
TUC	Tucson	50.99 300	P		P	15 45 18.5	+1.2
TUC			IAmb	IAmb		15 45 30.9	
	comp=Z,21nm,1.1s						
PBAR	Barrancos	51.39 52	eP		P	15 45 21.7	+1.6
LAO	LASA Array	51.51 319	P		P	15 45 23.5	+2.5
	baz=113						
BI02	San Fabin de	51.71 193	P		P	15 45 22.4	-0.1
BI02			IAmb	IAmb		15 45 37.3	
	comp=Z,27nm,0.8s						
WUAZ	Wupatki	52.00 304	P		P	15 45 27.4	+2.4
	baz=100						
BW06	Boulder Array	52.38 314	P		P	15 45 29.2	+1.5
	baz=107,SNR=7.1						
BW06	Boulder Array	52.38 314	IAmb	IAmb		15 45 39.9	
	comp=Z,16nm,1.0s						
PDAR	Pinedale Array	52.38 314	P		P	15 45 29.0	+1.3
	comp=Z,4.8nm,0.8s,baz=116,slow=8.9,SNR=16						
214A	Organ Pipe Nat	52.64 300	P		P	15 45 33.0	+3.4
	baz=97						
RLMT	Red Lodge	52.92 317	P		P	15 45 34.1	+2.4
	baz=109						
RLMT	Red Lodge	52.92 317	P		P	15 45 31.3	-0.4
RLMT			IAmb	IAmb		15 45 44.2	
	comp=Z,23nm,1.1s						
TIC	Toumodi	52.99 92	ePKIKP		P	15 45 34.6	+2.2
LIC	Lamto	53.07 93	ePKIKP		P	15 45 34.7	+1.7
	comp=Z,47nm,1.5s						
KIC	Kosan Boka	53.32 92	ePKIKP		P	15 45 35.1	+0.3
	comp=Z,7.2nm,0.6s						
KNB	Kanab	53.42 306	P		P	15 45 34.7	-0.8
KNB			pmax	pmax			
	comp=Z,14nm,1.1s						
KNB	Kanab	53.42 306	P		P	15 45 34.7	-0.8
HWUT	Hardware Ranch	53.49 312	IAmb	IAmb		15 45 48.6	
	comp=Z,18nm,1.1s						
YHH	Holmes Hill	53.88 316	P		P	15 45 39.6	+0.8
PDMCI	Parker Dam,Lak	54.05 302	P		P	15 45 41.9	+2.0
	baz=98						
DUG	Dugway, Tooele	54.07 310	P		P	15 45 42.0	+1.9
	baz=103						
DUG	Dugway, Tooele	54.07 310	IAmb	IAmb		15 45 52.9	
	comp=Z,21nm,1.1s						
ESDC	Sonseca Array	54.07 51	P		P	15 45 39.9	-0.1
	comp=Z,1.5nm,0.8s,baz=259,slow=6.9,SNR=7.3						
EGMT	Eagleton	54.24 320	P		P	15 45 42.3	+1.1
	baz=111						
QLMT	Earthquake Lak	54.29 316	P		P	15 45 42.5	+0.7
BGU	Big Grassy Mou	54.39 311	IAmb	IAmb		15 45 55.0	
	comp=Z,16nm,0.9s						
GLA	Gl

	baz=97						
ISA	Isabella, Lake	57.74	303	P	P	15 46 08.8	+2.3
	baz=96						
NVAR	Mina Array Bea	57.94	307	P	P	15 46 09.4	+1.4
	comp=Z,3.4nm,0.8s,baz=97,slow=6.5,SNR=14						
TORD	Torodi Ar. Bea	58.36	83	P	P	15 46 10.3	-0.7
	comp=Z,1.9nm,0.8s,baz=283,slow=6.6,SNR=5.4						
TORD	Torodi Ar. Bea	58.36	83	P	P	15 46 10.5	-0.4
TORD				IAmb	IAmb	15 46 34.2	
	comp=Z,28nm,1.9s						
MDPB	Devils Postpil	58.45	306	P	P	15 46 10.2	-1.4
PKM	Mcpherson Peak	58.77	302	P	P	15 46 16.4	+2.7
	baz=95						
WAKR	Walker	58.83	307	P	P	15 46 13.4	-0.8
WAKR				IAmb	IAmb	15 46 43.8	
	comp=Z,13nm,1.2s						
NEW	Newport	59.01	318	P	P	15 46 17.6	+2.6
	baz=105						
SUMG	Summit	59.85	7	P	P	15 46 20.2	-0.6
SUMG				pmax	pmax		
	comp=Z,19nm,1.1s						
SUMG	Summit	59.85	7	P	P	15 46 20.2	-0.6
SUMG				IAmb	IAmb	15 46 23.5	
	comp=Z,19nm,1.1s						
ORV	Oroville	60.55	308	IAmb	IAmb	15 46 39.2	
	comp=Z,11nm,1.0s						
J05D	Fort Rock, OR	60.83	312	P	P	15 46 30.6	+2.8
	baz=98						
M04C	Macdoel	61.07	310	P	P	15 46 32.2	+2.8
	baz=97						
L04D	Klamath Falls	61.47	311	P	P	15 46 35.4	+3.3
	baz=97						
YKA	Yellowknife Ar	62.46	334	P	P	15 46 38.9	+0.7
	comp=Z,1.6nm,0.8s,baz=107,slow=8.0,SNR=11						
E03A	Lebam	62.95	315	P	P	15 46 43.0	+1.2
NLWA	Neilton Lookou	63.28	316	P	P	15 46 44.6	+0.6
KEST	Kesra	64.08	57	P	P	15 46 49.5	-0.1
	comp=Z,4.2nm,0.9s,baz=167,slow=4.1,SNR=6.4						
KEST	Kesra	64.08	57		pP	15 46 52.2	-1.1
DAVOX	Davos/Dischmat	65.20	45	P	P	15 46 56.3	-0.5
	comp=Z,2.7nm,0.6s,baz=252,slow=10,SNR=3.1						
EFI	East Falkland	65.28	180⇑	eP	P	15 46 55.0	-1.8
EFI				pmax	pmax		
	comp=Z,32nm,1.1s						
KONO	Kongsberg	67.07	31⇑	eP	P	15 47 06.1	-2.2
KONO				pmax	pmax		
	comp=Z,16nm,1.8s						
CLL	Collm	67.71	40	eP	P	15 47 13.0	+0.5
	comp=Z,7.0nm,1.2s						
CLL				ePP	PP	15 49 41.0	-0.7
CLL	Collm	67.71	40	eP	P	15 47 13.0	+0.5
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KHC	Kasperske Hory	67.89	42	eP	P	15 47 14.5	+0.7
KHC	Kasperske Hory	67.89	42	eP	P	15 47 14.5	+0.7
KHC				ex	x	15 47 31.0	
GERES	GERESS Array B	67.95	43	P	P	15 47 14.4	+0.2
	comp=Z,2.3nm,0.9s,baz=258,slow=4.0,SNR=9.8						
GERES	GERESS Array B	67.95	43	P	P	15 47 13.6	-0.6
GERES	GERESS Array B	67.95	43	P	P	15 47 13.6	-0.6
NB2	NORSAR Subarra	68.14	29	P	P	15 47 15.8	+0.7
	comp=Z,9.6nm,1.4s,baz=236,slow=6.5						
NOA	NORSAR Array B	68.14	29	P	P	15 47 15.9	+0.7
	comp=Z,0.9nm,0.8s,baz=241,slow=4.5,SNR=4.3						
BRG	Berggiesshubel	68.26	41	eP	P	15 47 17.1	+1.1
BRG				Amp		15 47 20.6	
	comp=Z,4.4nm,1.0s						
BRG				Amp		15 54 37.0	
	comp=Z,9.3nm,18.7s						
BRG				Amp		15 54 47.0	
	comp=N,0.8nm,17.0s						
BRG				Amp		15 54 50.0	
	comp=E,6.5nm,17.9s						
BRG				PKPPKP		15 55 54.2	
BRG				Amp		15 55 57.8	
	comp=Z,26nm,1.9s						
VYHS	Vyhne	71.33	43	eP	P	15 47 35.9	+0.9
VYHS	Vyhne	71.33	43	eP	P	15 47 35.9	+0.9
INK	Inuvik	71.67	338	P	P	15 47 36.8	+0.1
INK				pmax	pmax		
	comp=Z,36nm,1.7s						
INK	Inuvik	71.67	338	P	P	15 47 39.0	+2.3
	baz=99						
INK	Inuvik	71.67	338	P	P	15 47 36.8	+0.1
INK				IAmb	IAmb	15 47 51.5	
	comp=Z,36nm,1.6s						
EPYK	Eagle Plains	72.67	336	P	P	15 47 44.9	+2.2
	baz=95						
DAWY	Dawson	73.65	333	P	P	15 47 49.5	+0.9
DAWY				IAmb	IAmb	15 48 04.5	
	comp=Z,46nm,1.6s						
PINM	Pinnacle	73.99	329	P	P	15 47 52.7	+2.0
	baz=90						
EGAK	Eagle	74.43	334	P	P	15 47 55.2	+2.2
	baz=90						
CTG	Chitna Glacier	74.52	330	P	P	15 47 56.8	+2.9
	baz=89						
BCAR	Beaver Creek A	74.71	332	P	P	15 47 56.0	+1.2
L27K	Beaver Creek,	74.73	332	P	P	15 47 58.0	+3.1
	baz=89						
L27K	Beaver Creek,	74.73	332	P	P	15 47 55.7	+0.8
L27K				IAmb	IAmb	15 48 08.2	
	comp=Z,23nm,1.1s						
ARCES	ARCESS Array B	74.98	21	P	P	15 47 56.6	+0.4
	comp=Z,2.8nm,0.6s,baz=316,slow=5.1,SNR=8.3						
FINES	FINESS Array B	75.32	30	P	P	15 47 58.8	+0.6
	comp=Z,5.5nm,0.7s,baz=270,slow=3.8,SNR=16						
FIA1	FINESS Array S	75.32	30	P	P	15 47 58.5	+0.3
MCARA	McCarthy VSAT	75.33	330	P	P	15 48 01.4	+3.1
	baz=88						
CRQE	Cirque	75.38	330	P	P	15 48 02.2	+3.4
	baz=88						
L26K	Log Cabin Wild	75.42	332	P	P	15 48 02.4	+3.6
	baz=88						
SCRK	Sand Creek	75.67	333	P	P	15 48 02.8	+2.4
	baz=88						
VSU	Vasula	75.78	33⇑	eP	P	15 48 00.8	-0.1
VSU				pmax	pmax		
	comp=Z,35nm,1.0s						
BMAR	Burnt Mountain	75.80	337	P	P	15 48 00.5	-0.5
RIDG	Independent Ri	76.07	333	P	P	15 48 05.2	+2.7
	baz=87						
N25K	Chitina, Valde	76.07	331	P	P	15 48 04.7	+2.0
	baz=87						
BMRM	Bremner River	76.11	330	P	P	15 48 05.4	+2.5
	baz=86						
PRP	Porcupine Dome	76.26	335	P	P	15 48 06.2	+2.5
	baz=87						
HARP	HAARP	76.28	331	P	P	15 48 06.7	+2.9
	baz=86						
MLR	Muntele Rosu	76.35	46	IAmb	IAmb	15 48 23.0	
	comp=Z,25nm,1.5s						
PAX	Paxson	76.39	332	P	P	15 48 07.4	+3.0
	baz=86						
KLU	Klutina	76.71	330	P	P	15 48 08.8	+2.5
	baz=85						
ILAR	Eielson Array	76.89	334	P	P	15 48 08.2	+1.0
	comp=Z,1.0nm,0.7s,baz=98,slow=4.9,SNR=8.5						
ILAR	Eielson Array	76.89	334	P	P	15 48 06.4	-0.7
ILAR	Eielson Array	76.89	334		P	15 48 06.4	-0.7
HDA	Harding Lake	76.94	334	P	P	15 48 10.5	+3.1
	baz=85						
POKR	Poker Plat Res	77.09	334	P	P	15 48 12.4	+4.1
	baz=85						
H24K	Noodor Dome	77.21	335	P	P	15 48 12.5	+3.5
	baz=85						
COLA	College	77.29	334⇑	eP	P	15 48 10.2	+0.9
COLA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MDM	Murphy Dome	77.44	334	P	P	15 48 10.3	0.0
MDM				IAmb	IAmb	15 48 26.2	
	comp=Z,17nm,1.0s						
WAT6	Susitna Watana	77.47	332	P	P	15 48 13.5	+2.9
	baz=84						
WAT1	Susitna Watana	77.81	332	P	P	15 48 15.4	+3.0
	baz=83						
NEA2	Nenana	77.84	334	P	P	15 48 15.5	+3.1
	baz=83						
NEA2	Nenana	77.84	334	P	P	15 48 15.0	+2.5
NEA2				IAmb	IAmb	15 48 28.8	
	comp=Z,18nm,0.9s						
H23K	Yukon River	77.89	335	P	P	15 48 15.3	+2.6
	baz=83						
LVZ	Lovozero	78.42	23⇑	eP	P	15 48 15.4	-0.3
LVZ				pmax	pmax		
	comp=Z,55nm,1.8s						
OBN	Obninsk	81.59	35	i P	P	15 48 33.5	+0.5
OBN				i		15 48 39.2	
OBN				pmax	pmax		
	comp=Z,14nm,0.6s						
KLMR	Klimovskoe	81.84	29	eP	P	15 48 33.4	-0.8
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	Klimovskoe	81.84	29	eP	P	15 48 33.5	-0.8
KLMR				AMP		15 48 49.8	
	comp=Z,14nm,1.3s						
BRTR	Keskin Array B	82.86	51	P	P	15 48 40.3	+0.1
	comp=Z,2.3nm,0.9s,baz=243,slow=5.4,SNR=6.6						
BRTR	Keskin Array B	82.86	51	i P	P	15 48 41.5	+1.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	Keskin Array B	82.86	51	P	P	15 48 39.8	-0.4
PRGR	Permogore	84.46	28	eP	P	15 48 47.3	-0.4
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KIV	Kislovodsk	88.32	45	eP	P	15 49 04.7	-2.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GNI	Garni	90.97	48	ceP	P	15 49 18.6	-1.2
GNI				pmax	pmax		
	comp=Z,14nm,1.0s						
BOSA	Boshof	91.16	119	P	P	15 49 20.1	-0.6
	comp=Z,2.5nm,0.9s,baz=117,slow=2.3,SNR=1.8						
WMQ	Urumqi	114.79	26	eP	PKiKP	15 54 56.3	+0.1
WMQ				pmax	pmax		
	comp=Z,290nm,5.9s						
WMQ				LR	LR		
	comp=N,2μm,16.7s						
WMQ				LR	LR		
	comp=E,1μm,19.3s						
WMQ				LR	LR		
	comp=Z,2μm,17.9s						
YSS	Yuzh-Sakhalins	116.52	344	c iPKIKP	PKPdf	15 55 00.7	+1.4
YSS				pmax	pmax		
	comp=Z,17nm,1.7s						
HIA	Hailar	117.11	1	i PKIKP	PKPdf	15 54 59.7	-0.8
ERM	Erimo	120.92	341	⇑iPKIKP	PKPdf	15 55 05.2	-2.7
GTA	Gaotai	123.24	20	eP	PKiKP	15 55 22.8	+10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.9s						
HHC	Hu-ho-hao-te	124.77	9	eP	PKPdf	15 55 10.9	-4.6
LZH	Lanzhou	127.56	18	ePKP	PKPdf	15 55 12.3	-8.8
LZH				sPKP		15 55 30.5	
NJ2	Nanjing	134.25	3	eP	PKPdf	15 55 32.9	-0.7
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASAR	Alice Springs	164.78	228	PKP	PKPdf	15 56 20.4	+0.3
	comp=Z,0.4nm,1.0s,baz=149,slow=2.2,SNR=1.7						
ASAR				PKPab	pPKPab	15 57 17.7	-1.8
	comp=Z,0.6nm,1.1s,baz=130,slow=4.8,SNR=1.7						
WRA	Warramunga Arr	166.35	242	PKP	PKPdf	15 56 21.3	-0.1
	comp=Z,0.3nm,0.8s,baz=230,slow=0.2,SNR=1.4						

*EAF **16** 15:40:20.7±3.2, 21°.66S×25°.72E, h32km±37km, MD4.1(BUL)*
BUL 16 15:40:20.7±3.2, 21°.66S×25°.72E, h32km±37km, MD4.1, 2D, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	Matopo	2.87	65	eP	Pn	15 41 04.3	-0.1
MATP				eS	Sn	15 41 36.9	-1.0
MATP	Matopo	2.87	65	eP	Pn	15 41 04.3	-0.1
MATP				eS	Sn	15 41 36.9	-1.0
BLWY	Bulawayo	3.10	61	eP	Pn	15 41 08.1	+0.6
BLWY				eS	Sn	15 41 44.2	+0.7
BLWY	Bulawayo	3.10	61	eP	Pn	15 41 08.1	+0.6
BLWY				eS	Sn	15 41 44.2	+0.7
LBTB	Lobatse	3.35	182⇓	eP	Pn	15 41 10.9	0.0
LBTB	Lobatse	3.35	182⇓	eP	Pn	15 41 10.9	0.0
KRI	Karoi	6.05	38	eP	Pn	15 41 46.8	-1.3
KRI				eS	Sn	15 42 45.9	-10
KRI	Karoi	6.05	38	eP	Pn	15 41 46.8	-1.3
KRI				eS	Sn	15 42 45.9	-10
CHIPN	CHIPINGE	6.63	79	eP	Pn	15 41 57.9	+1.9
CHIPN				eS	Sn	15 43 09.3	-1.2
CHIPN	CHIPINGE	6.63	79	eP	Pn	15 41 57.9	+1.9
CHIPN				eS	Sn	15 43 09.3	-1.2
LSZ	Lusaka	6.76	21	eS	Sn	15 43 07.2	-6.7
LSZ	Lusaka	6.76	21	eP	Pn	15 41 55.2	-2.7
LSZ				eS	Sn	15 43 07.2	-6.7
LSZ	Lusaka	6.76	21	eP	Pn	15 41 55.2	-2.7
BOSA	Boshof	6.94	183	eS	Sn	15 43 12.0	-6.3
BOSA	Boshof	6.94	183	eP	Pn	15 41 59.6	-0.7
BOSA				eS	Sn	15 43 12.0	-6.3
BOSA	Boshof	6.94	183	eP	Pn	15 41 59.6	-0.7

*IDC **16** 15:43:30.2±3.1, 32°.45S×178°.07W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=71.6km s-min=36.4km az=116.0*
*NEIC **16** 15:43:32.9±2.2, 32°.6S±0°.2×178°.1W±0°.2, h10km±7km, mb4.3/8, Error ellipse: s-maj=27.2km s-min=19.5km az=125.0*
ISC 16 15:43:33.5±1.7, 32°.5S±0°.1×178°.0W±0°.2, h20km, n17, σ1§16/16, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.25	1		Pn	15 44 16.7	-6.6
URZ	Urewera	6.98	213	Pn	Pn	15 45 14.0	-0.6
	0.7nm,0.3s,baz=249,slow=4.5,SNR=18						
URZ				Sn	Sn	15 46 34.6	+1.2
	1.1nm,0.3s,baz=246,slow=22,SNR=9.0						
URZ	Urewera	6.98	213		Pn	15 45 14.4	-0.2
BKZ	Black Stump Fm	8.00	212	Pn	Pn	15 45 27.3	-1.4
BFZ	Birch Farm	9.37	208	Pn	Pn	15 45 44.9	-2.5
LTZ	Lake Taylor	12.81	214	Pn	Pn	15 46 33.3	-1.2
AS31	Alice Springs	43.03	269	P	P	15 51 32.3	+0.3
AS31				IAmb	IAmb	15 51 57.9	
	comp=Z,1.2nm,1.1s						
ASAR	Alice Springs	43.03	269	P	P	15 51 32.0	+0.1
	comp=Z,0.9nm,0.9s,baz=110,slow=7.5,SNR=8.5						
WR0	Warramunga Arr	44.03	274	P	P	15 51 39.4	-0.6
WR0				IAmb	IAmb	15 51 40.4	
	comp=Z,14nm,1.6s						
WB2	Warramunga Arr	44.20	274	P	P	15 51 40.9	-0.5
WRA	Warramunga Arr	44.21	274	P	P	15 51 40.3	-1.2
	comp=Z,0.4nm,0.3s,baz=111,slow=8.1,SNR=34						
WRA	Warramunga Arr	44.21	274	IAmb	IAmb	15 51 42.5	
	comp=Z,1.1nm,1.8s						
WB0	Warramunga Arr	44.24	275	P	P	15 51 41.3	-0.4
WB0				IAmb	IAmb	15 52 19.0	
	comp=Z,14nm,1.6s						
FORT	Forrest	45.53	257	P	P	15 51 52.2	+0.3
KNRA	Kununurra	50.88	276	P	P	15 52 34.4	+1.0
QSPA	South Pole Qui	57.61	180	P	P	15 53 23.2	+1.4
QSPA				IAmb	IAmb	15 53 53.6	
	comp=Z,4.7nm,1.2s						
FINES	FINESS Array B	147.11	339	PKPbc	PKPbc	16 03 13.4	-0.9
	comp=Z,0.6nm,0.6s,baz=49,slow=2.9,SNR=5.7						

*JMA **16** 16:12:16.2±0.1, 24°.53N×122°.50E, h102km±1km, M1.6*
*TAP **16** 16:12:16.3, 24°.66N×122°.50E, h99km, ML2.7, C*
ISC 16 16:12:17.4±1.5, 24°.61N±0°.05×122°.52E±0°.02, h89km±9km, n67, σ0§66/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.42	112	P	Pn	16 12 31.7	+0.2
JYNG				eS	Sn	16 12 43.4	+1.5
YOJ	Yonaguni jima	0.47	108	P	Pn	16 12 32.1	+0.3
YOJ				eS	Sn	16 12 43.7	+1.1
YOJ	Yonaguni jima	0.47	108	eP	Pn	16 12 31.1	-0.8
	baz=118						
YOJ				eS	Sn	16 12 43.8	+1.2
	baz=118						
TWC	Suao	0.61	270	P	Pn	16 12 32.4	-0.5
	baz=263						
TWC				eS	Sn	16 12 43.7	-0.8
	baz=263						
TWB1	Santiao Chiao	0.62	310	eP	Pn	16 12 32.9	-0.1
	baz=304						
NTC	Toucheng	0.67	291	eP	Pn	16 12 33.2	-0.3
	baz=285						
NTC				eS	Sn	16 12 46.0	+0.4
	baz=285						
EWUT	Wuta	0.69	256	P	Pn	16 12 33.8	+0.1
	baz=252						
EWUT				eS	Sn	16 12 46.6	+0.7
	baz=252						
TIPB	Shuangxi	0.72	300	P	Pn	16 12 33.8	-0.3
	baz=293						
TIPB				eS	Sn	16 12 46.1	-0.5
	baz=293						
NDS	Dongshan	0.73	272	eP	Pn	16 12 33.9	-0.2
	baz=270						
NDS				eS	Sn	16 12 46.5	0.0
	baz=270						
TWE	Neicheng	0.78	278	eP	Pn	16 12 34.4	-0.2
	baz=274						
TWE				eS	Sn	16 12 47.3	-0.1
	baz=274						
ENTT	Nioudou	0.86	272	P	Pn	16 12 35.7	+0.2
	baz=272						
ENTT				eS	Sn	16 12 49.7	+0.6
	baz=272						
NDT	Datong Townshi	0.91	270	P	Pn	16 12 36.4	+0.3
	baz=265						
NDT				eS	Sn	16 12 50.9	+0.9
	baz=265						
TWA	Mucha	0.92	294	eP	Pn	16 12 35.8	-0.4
	baz=284						
TWA				eS	Sn	16 12 49.6	-0.6
	baz=284						
ETL	Fush Village	0.93	241	eP	Pn	16 12 36.0	-0.3
	baz=238						
ETL				eS	Sn	16 12 50.1	-0.3
	baz=238						
NWLT	Wulai	0.94	280	P	Pn	16 12 36.1	-0.3
	baz=283						
NWLT				eS	Sn	16 12 50.0	-0.6
	baz=283						
NACB	Ninganchiao	0.94	243	P	Pn	16 12 35.8	-0.6
	baz=240						
NACB				S	Sn	16 12 50.3	-0.3
	baz=240						
TWD	Chiawan	0.99	238	eS	Sn	16 12 51.7	+0.1
	baz=231						
YM01	YM01	1.01	302	P	Pn	16 12 36.5	-0.7
	baz=291						
YM01				S	Sn	16 12 51.3	-0.8
	baz=291						
ETLH	Xiulin Townshi	1.02	247	eP	Pn	16 12 36.9	-0.5
	baz=239						
ETLH				eS	Sn	16 12 51.9	-0.5
	baz=239						
YHNB	Yeheng	1.04	273	P	Pn	16 12 37.5	-0.1
	baz=264						
YHNB				S	Sn	16 12 52.7	0.0
	baz=264						
NNSB	Datong	1.05	260	P	Pn	16 12 37.5	-0.2
	baz=251						
NNSB				S	Sn	16 12 52.7	-0.2
	baz=251						
NNSH	Datong	1.05	260	eP	Pn	16 12 37.5	-0.2
	baz=252						
NNSH				eS	Sn	16 12 52.9	0.0
	baz=252						
NNS	Nan Shan	1.05	261	P	Pn	16 12 37.4	-0.4
	baz=253						
NNS				S	Sn	16 12 52.9	-0.1
	baz=253						
NSK	Sanguang	1.05	274	P	Pn	16 12 37.5	-0.2
	baz=265						
NSK				S	Sn	16 12 52.8	-0.2
	baz=265						
IRIF	Iriomote-Funau	1.14	104	P	Pn	16 12 38.5	-0.2
IRIF				eS	Sn	16 12 55.1	+0.4
FUSS	Fushou	1.21	253	eP	Pn	16 12 40.4	+0.5
	baz=246						
FUSS				eS	Sn	16 12 56.5	-0.1
	baz=246						
WHF	Hehuan Shan	1.23	248	eP	Pn	16 12 39.8	-0.4
	baz=241						
WHF				eS	Sn	16 12 57.1	-0.2
	baz=241						
ESL	Shilin	1.27	231	eP	Pn	16 12 39.7	-0.5
	baz=224						
ESL				eS	Sn	16 12 56.7	-0.7
	baz=224						
TWT	Tachien	1.27	254	eP	Pn	16 12 40.7	+0.3
	baz=245						
TWT				eS	Sn	16 12 58.6	+0.8
	baz=245						
TDCB	Techi	1.29	254	P	Pn	16 12 40.7	+0.1
	baz=246						
TDCB				S	Sn	16 12 58.1	0.0
	baz=246						
CHGB	Renai	1.34	246	eP	Pn	16 12 41.3	0.0
	baz=239						
CHGB				eS	Sn	16 12 59.5	+0.1
	baz=239						
LIOB	Emei	1.36	272	eP	Pn	16 12 41.4	0.0
	baz=270						
LIOB				eS	Sn	16 12 59.3	-0.3
	baz=270						
EGFH	Guangfu	1.37	227	eP	Pn	16 12 41.1	-0.3
	baz=220						
EGFH				eS	Sn	16 12 59.1	-0.5
	baz=220						
NSTT	Nanjuang	1.38	271	eP	Pn	16 12 41.4	-0.2
	baz=269						
NSTT				eS	Sn	16 12 59.4	-0.5
	baz=269						
OWD	Renai	1.39	242	eP	Pn	16 12 42.0	+0.2
	baz=235						
OWD				eS	Sn	16 13 00.1	-0.1
	baz=235						
JKRS	Kuro-shima	1.41	105	P	Pn	16 12 42.2	+0.2
JKRS				S	Sn	16 13 01.4	+0.8
WHP	Taichung City	1.47	257	P	Pn	16 12 43.1	+0.3
	baz=255						
WHP				S	Sn	16 13 02.2	+0.2
	baz=255						
HGSD	Ruisui	1.50	222	eP	Pn	16 12 42.6	-0.4
	baz=221						
HGSD				eS	Sn	16 13 03.0	+0.6
	baz=221						
JIJ	Ishigaki jima	1.50	99	P	Pn	16 12 42.8	-0.3
JIJ				S	Sn	16 13 02.1	-0.5
EHY	Hungye	1.55	225	eP	Pn	16 12 43.4	-0.4
	baz=223						
EHY				eS	Sn	16 13 02.5	-1.2
	baz=223						
WCS	Beigang Elemen	1.56	250	eP	Pn	16 12 44.8	+0.9
	baz=248						
WCS				eS	Sn	16 13 04.6	+0.6
	baz=248						
JISG	Ishigakijimahi	1.64	90	P	Pn	16 12 44.5	-0.3
JISG				eS	Sn	16 13 04.9	-0.7
SMLT	Sun Moon Lake	1.64	244	eP	Pn	16 12 45.9	+0.8
	baz=236						
SMLT				eS	Sn	16 13 06.8	+0.8
	baz=236						
SSLB	Suanglung	1.64	240	P	Pn	16 12 45.4	+0.4
	baz=236						
SSLB				eS	Sn	16 13 05.6	-0.3
	baz=236						
YULB	Yu-li	1.65	223	eP	Pn	16 12 44.1	-0.9
	baz=228						
YULB				S	Sn	16 13 04.2	-1.7
	baz=228						
EYUL	Yuli	1.67	221	eP	Pn	16 12 44.9	-0.4
	baz=228						
EYUL				eS	Sn	16 13 05.9	-0.4
	baz=228						
TYC	Yuchr	1.67	245	eP	Pn	16 12 45.7	+0.5
	baz=239						
TYC				eS	Sn	16 13 06.5	+0.1
	baz=239						
TWF1	Yuli	1.68	222	eP	Pn	16 12 45.0	-0.4
	baz=228						
TWF1				eS	Sn	16 13 05.5	-1.2
	baz=228						
WHYT	Xinyi Township	1.77	239	eS	Sn	16 13 09.2	+0.4
	baz=233						
FULB	Fuli	1.80	219	eP	Pn	16 12 46.7	-0.3
	baz=212						
FULB				eS	Sn	16 13 09.3	-0.1
	baz=212						
WJS	Zhushan	1.81	245	eS	Sn	16 13 11.9	+2.2
	baz=254						
ALS	Alishan	1.91	235	eP	Pn	16 12 49.0	+0.4
	baz=228						
ALS				eS	Sn	16 13 13.2	+0.7

	baz=228						
CHN5	**Tsauling**	**1.96**	**239**	*e*P	**Pn**	**16 12 49.4**	**+0.3**
	baz=248						
CHN5				*e*S	**Sn**	**16 13 15.2**	**+1.9**
	baz=248						
ELDTW	**Lidau**	**1.97**	**224**	*e*P	**Pn**	**16 12 48.7**	**-0.6**
	baz=222						
ELDTW				*e*S	**Sn**	**16 13 12.4**	**-1.2**
	baz=222						
EDH	**Donghe**	**1.97**	**214**	*e*P	**Pn**	**16 12 48.5**	**-0.7**
	baz=209						
EDH				*e*S	**Sn**	**16 13 12.2**	**-1.2**
	baz=209						
JTJ	**Tarama**	**1.99**	**89**	P	**Pn**	**16 12 49.4**	**0.0**
JTJ				*e*S	**Sn**	**16 13 13.2**	**-0.7**
WDLH	**Douliu**	**2.03**	**243**	*e*S	**Sn**	**16 13 15.1**	**+0.3**
	baz=242						
LONT	**Longtian**	**2.12**	**217**	*e*S	**Sn**	**16 13 15.3**	**-1.6**
	baz=222						
STYH	**Taoyuan**	**2.14**	**228**	*e*S	**Sn**	**16 13 18.2**	**+0.8**
	baz=227						
LDUT	**Ludao**	**2.15**	**207**	*e*S	**Sn**	**16 13 16.2**	**-1.5**
	baz=210						
CHN4	**Tsaushan**	**2.16**	**235**	*e*P	**Pn**	**16 12 52.4**	**+0.7**
	baz=234						
CHN4				*e*S	**Sn**	**16 13 19.2**	**+1.3**
	baz=234						
STYT	**Tauyuan**	**2.16**	**229**	*e*P	**Pn**	**16 12 52.1**	**+0.3**
	baz=227						
STYT				*e*S	**Sn**	**16 13 18.9**	**+1.0**
	baz=227						
TPUB	**Ta-pu**	**2.16**	**233**	*e*P	**Pn**	**16 12 52.2**	**+0.5**
	baz=232						
TPUB				*e*S	**Sn**	**16 13 18.2**	**+0.2**
	baz=232						
WTP	**Ta-pu**	**2.21**	**232**	*e*P	**Pn**	**16 12 52.7**	**+0.3**
	baz=231						
WTP				*e*S	**Sn**	**16 13 19.2**	**+0.1**
	baz=231						
TWK	**Hsinying**	**2.29**	**235**	*e*P	**Pn**	**16 12 53.8**	**+0.3**
	baz=234						
TWK				*e*S	**Sn**	**16 13 21.1**	**+0.1**
	baz=234						
CHN1	**Nanshi**	**2.31**	**232**	*e*P	**Pn**	**16 12 54.0**	**+0.3**
	baz=232						
CHN1				*e*S	**Sn**	**16 13 21.9**	**+0.5**
	baz=232						
MASBT	**Mashibuluo**	**2.63**	**221**	*e*P	**Pn**	**16 12 59.0**	**+0.9**
	baz=221						
MASBT				*e*S	**Sn**	**16 13 30.4**	**+1.2**
	baz=221						

*TEH **16** 16:16:39.3, 32.°32N×56.°26E, h7km, ML3.5*
*THR **16** 16:16:39.8±0.8, 32.°28N×56.°33E, h16km±7km, ML3.3*
ISC 16 16:16:40.0±0.9, 32.°30N±0.°03×56.°29E±0.°03, h10km, n30, σ1§37/32, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPRV	**Parvadeh(Tabas**	**0.80**	**24**	*e*Pg	**Pg**	**16 16 54.9**	**-0.6**
IBAF	**Bafgh**	**0.94**	**221**	*e*Pg	**Pb**	**16 16 57.9**	**-0.6**
YZKH	**Yazd**	**1.44**	**274**	*e*Pg	**Pg**	**16 17 07.5**	**-0.2**
YZKH				*e*Sg	**Sg**	**16 17 26.5**	**0.0**
YZKH				IAML		16 17 28.8	
	comp=E,377nm,0.4s						
YZKH				IAML		16 17 30.4	
	comp=N,361nm,0.4s						
YZKH	**Yazd**	**1.44**	**274**	*e*Pg	**Pg**	**16 17 07.5**	**-0.2**
TKDS	**Koohdasht(Taba**	**1.48**	**28**	*e*		16 17 10.4	
	comp=Z,3μm,0.2s						
TKDS				*e*Pg	**Pg**	**16 17 07.6**	**-0.9**
TABS	**Tabas**	**1.51**	**27**	*e*Pg	**Pb**	**16 17 07.9**	**-0.4**
TABS	**Tabas**	**1.51**	**27**	*e*Pg	**Pb**	**16 17 07.9**	**-0.4**
ICHK	**Chekchek**	**1.60**	**269**	*e*Pg	**Pg**	**16 17 10.1**	**-0.6**
ICHK				*e*		16 17 34.6	
	comp=Z,9μm,0.3s						
TNSJ	**Nastanj**	**1.68**	**9**	*e*Pg	**Pg**	**16 17 11.9**	**-0.4**
TNSJ				*e*		16 17 37.2	
	comp=Z,8μm,0.5s						
IMEH	**Mehriz**	**1.69**	**238**	*e*Pg	**Pg**	**16 17 11.9**	**-0.6**
IMEH				*e*		16 17 37.6	
	comp=Z,3μm,0.3s						
KHGB	**Koh Gabri**	**1.93**	**175**	*e*Pn	**Pb**	**16 17 14.9**	**-0.5**
KHGB				*e*		16 17 43.9	
	comp=Z,4μm,0.2s						
ITEG	**Tejag**	**2.16**	**73**	*e*Pn	**Pb**	**16 17 19.5**	**+0.2**
ITEG				*e*		16 17 51.8	
	comp=Z,4μm,0.4s						
ISAD	**Sadrabad**	**2.25**	**261**	*e*Pn	**Pb**	**16 17 19.7**	**-1.2**
ISAD				*e*		16 17 53.1	
	comp=Z,3μm,0.3s						
ANAR	**Anarak**	**2.34**	**293**	*e*Pn	**Pb**	**16 17 19.6**	**-2.7**
TVBK	**TV Kerman**	**2.34**	**170**	*e*Pn	**Pb**	**16 17 20.9**	**-1.6**
BSRN	**Basiran**	**2.43**	**97**	*e*Pn	**Pn**	**16 17 20.7**	**+0.8**
BSRN				*e*Sg	**Sb**	**16 17 54.8**	**+0.9**
BSRN	**Basiran**	**2.43**	**97**	*e*Pn	**Pn**	**16 17 20.7**	**+0.8**
AFRZ	**Afriz**	**2.55**	**63**	*e*Pn	**Pb**	**16 17 25.0**	**-1.0**
CHMN	**Cheshme madani**	**2.66**	**156**	*e*Pn	**Pn**	**16 17 24.9**	**+1.7**
CHMN				*e*		16 18 06.1	
	comp=Z,902nm,0.2s						
NGRK	**Negar Kerman**	**2.67**	**172**	*e*Pn	**Pn**	**16 17 25.3**	**+1.8**
NHDN	**Nehbandan**	**3.32**	**105**	*e*Pn	**Pb**	**16 17 36.1**	**-3.0**
IRAM	**Ramesheh**	**3.36**	**263**	*e*Pn	**Pb**	**16 17 35.1**	**+2.3**
IZEF	**Zefreh**	**3.40**	**281**	*e*Pn	**Pn**	**16 17 35.1**	**+1.7**
SHRO	**Shahrood**	**3.69**	**356**	*e*Pn	**Pn**	**16 17 38.6**	**+1.4**
SHRO	**Shahrood**	**3.69**	**356**	*e*Pn	**Pn**	**16 17 38.6**	**+1.4**
KRSH	**Karshahi**	**3.87**	**297**	*e*Pn	**Pn**	**16 17 41.1**	**+1.4**
ISFB	**Sefidab**	**3.96**	**302**	*e*Pn	**Pn**	**16 17 41.4**	**+0.5**
IKLH	**Kolahrood**	**4.10**	**286**	*e*Pn	**Pn**	**16 17 43.3**	**+0.3**
SBZV	**Sabzevar**	**4.22**	**15**	*e*Pn	**Pn**	**16 17 45.8**	**+1.2**
ISHM	**Shahmirzad**	**4.29**	**325**	*e*Pn	**Pn**	**16 17 48.0**	**+2.3**

*TRN **16** 16:32:43.2, 13.°90N×58.°55W, h96km, MD3.9*
ISC 16 16:32:42.5±2.1, 13.°97N±0.°04×58.°6W±0.°1, h10km, n37, σ1§27/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.22**	**225**	*e*P	**Pg**	**16 33 06.4**	**+0.5**
BBSP				*e*S	**Sn**	**16 33 24.3**	**+2.2**
BBGH	**Gun Hill**	**1.26**	**229**	*e*P	**Pb**	**16 33 06.7**	**+0.3**
BBGH				*e*S	**Sn**	**16 33 25.6**	**+2.3**
BCHC	**Barbados, Cave**	**1.32**	**231**	*e*P	**Pb**	**16 33 07.5**	**+0.1**
BCHC				*e*S	**Sg**	**16 33 25.6**	**+0.5**
MPOM	**Morne Pois Mar**	**2.26**	**282**	*e*P	**Pn**	**16 33 20.5**	**+0.6**
MCLT	**Moule a Chique**	**2.31**	**264**	*e*P	**Pn**	**16 33 21.3**	**+0.7**
MCLT				*e*S	**Sn**	**16 33 48.7**	**-0.5**
MVM	**Montagne Vaucl**	**2.32**	**285**	*e*P	**Pn**	**16 33 21.1**	**+0.2**
SLBI	**Saint Lucia, B**	**2.33**	**271**	*e*P	**Pn**	**16 33 20.6**	**-0.3**
SLBI				*e*S	**Sn**	**16 33 49.5**	**-0.1**
LPMF	**Morne Lapointe**	**2.39**	**285**	*e*P	**Pn**	**16 33 22.1**	**+0.3**
SLB	**Belfond**	**2.40**	**267**	*e*P	**Pn**	**16 33 22.6**	**+0.7**
ZAM	**Aeronautique**	**2.45**	**284**	*e*P	**Pn**	**16 33 22.9**	**+0.3**
TRMF	**Trois Ilets**	**2.46**	**283**	*e*P	**Pn**	**16 33 22.9**	**+0.2**
BIM	**Bigot**	**2.48**	**283**	*e*P	**Pn**	**16 33 23.3**	**+0.4**
BIM				*e*S	**Sn**	**16 33 54.1**	**+0.7**
FDF	**Fort de France**	**2.61**	**287**	*e*P	**Pn**	**16 33 25.5**	**+0.7**
BAMF	**Morne Balai**	**2.63**	**289**	*e*P	**Pn**	**16 33 25.5**	**+0.4**
GBMF	**Grand Be**	**2.64**	**288**	*e*P	**Pn**	**16 33 26.0**	**+0.7**
CXM	**Morne La Croix**	**2.65**	**289**	*e*P	**Pn**	**16 33 24.4**	**-1.0**
PML	**Morne Lenard**	**2.65**	**288**	*e*P	**Pn**	**16 33 26.1**	**+0.7**
PCM	**Pelee Case Pet**	**2.69**	**288**	*e*P	**Pn**	**16 33 26.0**	**+0.2**
SVB	**Belmont**	**2.69**	**255**	*e*P	**Pn**	**16 33 25.9**	**-0.1**
DLPL	**La Plaine**	**2.92**	**298**	*e*P	**Pn**	**16 33 29.4**	**+0.4**
DSLB	**Salisbury**	**3.11**	**298**	*e*P	**Pn**	**16 33 32.7**	**+1.0**
DSLB				*e*S	**Sn**	**16 34 09.2**	**+0.2**
GCMP	**Grenada, Carri**	**3.15**	**242**	*e*P	**Pn**	**16 33 31.8**	**-0.3**
GCMP				*e*S	**Sn**	**16 34 07.7**	**-2.1**
MAGL	**Barre de l'ile**	**3.27**	**307**	*e*P	**Pn**	**16 33 35.7**	**+1.8**
TOSP	**Speyside**	**3.28**	**216**	*e*P	**Pn**	**16 33 33.3**	**-0.6**
TOSP				*e*S	**Sn**	**16 34 10.5**	**-2.5**
TDBA	**Terre de Bas,**	**3.50**	**303**	*e*P	**Pn**	**16 33 37.5**	**+0.5**
TDBA				*e*S	**Sn**	**16 34 16.2**	**-2.3**
TBG	**Guadaloupe-3**	**3.51**	**303**	*e*P	**Pn**	**16 33 38.5**	**+1.4**
GRGR	**Grenville**	**3.51**	**239**	*e*P	**Pn**	**16 33 36.8**	**-0.4**
GRGR				*e*S	**Sn**	**16 34 16.1**	**-2.8**
CBE	**Ff, Capester**	**3.59**	**306**	*e*P	**Pn**	**16 33 39.4**	**+1.1**
CBE				*e*S	**Sn**	**16 34 19.6**	**-1.3**
ABD	**La Joyeuse, An**	**3.75**	**312**	*e*P	**Pn**	**16 33 42.2**	**+1.8**
TRN	**Trinidad (W)**	**4.31**	**220**	*e*P	**Pn**	**16 33 47.9**	**-0.2**
ANBD	**Bethesda, Anti**	**4.33**	**315**	*e*P	**Pn**	**16 33 49.4**	**+0.9**
BPA	**Boggy Peak**	**4.40**	**314**	*e*P	**Pn**	**16 33 50.9**	**+1.5**
BPA	**Boggy Peak**	**4.40**	**314**	*e*S	**Sn**	**16 34 39.5**	**-1.2**
ANWB	**Willy Bob**	**4.80**	**320**	*e*P	**Pn**	**16 33 55.1**	**+0.2**
ANWB	**Willy Bob**	**4.80**	**320**	*e*S	**Sn**	**16 34 48.3**	**-2.3**
SKI	**Saint Kitts**	**5.22**	**310**	*e*P	**Pn**	**16 34 00.9**	**+0.2**
SKI	**Saint Kitts**	**5.22**	**310**	*e*S	**Sn**	**16 34 57.6**	**-3.4**

*SOME **16** 16:35:48.0, 37.°93N×78.°02E, h5km*
NNC 16 16:35:51.5±2.8, 37.°98N×77.°99E, h0km, mb4.1, mpv3.7, 1C-1D, Error ellipse: s-maj=19.2km s-min=18.3km az=120.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.09**	**3**	*e*P	Pg	16 37 26.0	-3.0
	11nm,0.8s						
SATY				*e*S	Sg	16 38 36.8	+1.9
	61nm,1.1s						
SATY	**Saty**	**5.09**	**3**	Pg	Pg	16 37 26.0	-3.0
	11nm,0.8s						
SATY				Lg	Lg	16 38 36.8	
	61nm,1.1s						
TNSS	**Tian-Shan**	**5.12**	**351**	Pg	Pg	16 37 26.8	-2.8
	10.0nm,0.5s						
TNSS				Lg	Lg	16 38 37.7	
	50nm,0.8s						
UZB	**Uzynbulak**	**5.22**	**8**	*e*P	Pb	16 37 25.6	+1.8
	4.2nm,0.7s						
UZB				*e*S	Sg	16 38 35.4	-3.9
	23nm,1.0s						
UZB	**Uzynbulak**	**5.22**	**8**	Pg	Pb	16 37 25.6	+1.8
	4.2nm,0.7s						
UZB				Lg	Lg	16 38 35.4	
	23nm,1.0s						
MDOK	**Medeo**	**5.23**	**352**	*e*P	Pb	16 37 26.2	+2.3
	5.7nm,1.0s						
MDOK				*e*S	Sg	16 38 36.8	-2.7
	32nm,0.9s						
MDOK	**Medeo**	**5.23**	**352**	Pn	Pb	16 37 23.5	-0.4
	12nm,0.7s						
MDOK				Sn	Sn	16 38 04.4	-7.8
	16nm,0.9s						
MDOK				Lg	Lg	16 38 35.5	
	61nm,1.1s						
MDOK	**Medeo**	**5.23**	**352**	Pg	Pb	16 37 26.2	+2.3
	5.7nm,1.0s						
MDOK				Lg	Lg	16 38 36.8	
	32nm,0.9s						
KST	**Kastek**	**5.29**	**344**	*e*P	Pg	16 37 30.1	-2.8
	8.9nm,0.6s						
KST				*e*S	Sg	16 38 43.5	+2.1
	25nm,0.8s						
KST	**Kastek**	**5.29**	**344**	Pg	Pg	16 37 30.1	-2.8
	8.9nm,0.6s						
KST				Lg	Lg	16 38 43.5	
	25nm,0.8s						
SHLS	**Shalkode**	**5.30**	**12**	*e*P	Pg	16 37 29.2	-3.8
	11nm,0.6s						
SHLS				*e*S	Sg	16 38 41.9	+0.3
	58nm,0.9s						
SHLS	**Shalkode**	**5.30**	**12**	Pg	Pg	16 37 32.5	-0.5
	9.9nm,0.7s						
AAK	**Ala-Archa**	**5.37**	**331**	⇑Pg	Pb	16 37 26.6	+0.4
	8.9nm,0.6s						
AAK				⇓Lg	Lg	16 38 39.3	
	70nm,1.2s						
KURS	**Kuram**	**5.51**	**1**	*e*P	Pg	16 37 32.8	-4.2
	14nm,1.2s						
KURS				*e*S	Sg	16 38 48.3	-0.2
	21nm,1.3s						
KURS	**Kuram**	**5.51**	**1**	Pg	Pg	16 37 32.8	-4.2
	14nm,1.2s						
KURS				Lg	Lg	16 38 48.3	
	21nm,1.3s						
KPKS	**Kokpek**	**5.51**	**5**	*e*P	Pb	16 37 31.4	+2.8
	12nm,0.7s						
KPKS				*e*S	Sg	16 38 45.6	-2.8
	23nm,1.1s						
DGS	**Degeres**	**5.52**	**343**	*e*P	Pg	16 37 34.7	-2.7
	6.8nm,0.6s						
DGS				*e*S	Sg	16 38 51.4	+2.4
	24nm,0.8s						
DGS	**Degeres**	**5.52**	**343**	Pg	Pg	16 37 34.7	-2.7
	6.8nm,0.6s						
KTMS	**Ketmen**	**5.75**	**17**	*e*P	Pb	16 37 34.4	+1.6
	4.0nm,0.6s						
KTMS				*e*S	Sg	16 38 51.0	-5.2
	12nm,1.0s						
KTMS	**Ketmen**	**5.75**	**17**	Pg	Pb	16 37 34.4	+1.6
	4.0nm,0.6s						
KTMS				Lg	Lg	16 38 51.0	
	12nm,1.0s						
KTBS	**Karatobe**	**5.81**	**351**	*e*P	Pb	16 37 36.5	+2.7
	2.3nm,0.6s						
KTBS				*e*S	Sg	16 38 54.5	-3.7
	27nm,0.8s						
KTBS	**Karatobe**	**5.81**	**351**	Pg	Pb	16 37 36.6	+2.7
	2.3nm,0.6s						
KTBS				Lg	Lg	16 38 54.5	
	27nm,0.8s						
CHKK	**Chushkaly**	**5.92**	**353**	*e*P	Pb	16 37 38.1	+2.5
	1.3nm,0.1s						
CHKK				*e*S	Sg	16 38 57.2	-4.5
	16nm,0.8s						
CHKK	**Chushkaly**	**5.92**	**353**	Pg	Pb	16 37 38.1	+2.5
	1.3nm,0.1s						
KRBS	**Karabastau**	**5.98**	**344**	*e*P	Pb	16 37 40.7	+4.2
	4.1nm,0.8s						
KRBS				*e*S	Sg	16 39 01.9	-1.6
	13nm,0.9s						
KRBS	**Karabastau**	**5.98**	**344**	Pg	Pb	16 37 40.7	+4.1
	4.1nm,0.8s						
KRBS				Lg	Lg	16 39 01.9	
	13nm,0.9s						
MRKS	**Merke**	**5.99**	**324**	*e*P	Pb	16 37 40.4	+3.5
	4.0nm,0.4s						
MRKS				*e*S	Sg	16 39 01.1	-2.9
	16nm,0.6s						
MRKS	**Merke**	**5.99**	**324**	Pg	Pb	16 37 40.4	+3.5
	4.0nm,0.4s						
MRKS				Lg	Lg	16 39 01.1	
	16nm,0.6s						
ARXS	**Arharly**	**6.23**	**359**	*e*P	Pb	16 37 43.4	+2.5
	10nm,0.8s						
ARXS				*e*S	Sg	16 39 06.5	-5.1
	10nm,0.9s						
ARXS	**Arharly**	**6.23**	**359**	Pg	Pb	16 37 43.4	+2.5
	10nm,0.8s						
ARXS				Lg	Lg	16 39 06.5	
	10nm,0.9s						
DJR	**Jarkent**	**6.49**	**12**	*e*P	Pb	16 37 49.2	+3.9
	0.3nm,0.9s						
DJR				*e*S	Sg	16 39 16.4	-3.7
	1.2nm,1.2s						
DJR	**Jarkent**	**6.49**	**12**	Pg	Pb	16 37 49.3	+3.9
	0.3nm,0.9s						
DJR				Lg	Lg	16 39 16.4	
	1.2nm,1.2s						

IDC 16 16:46:33.9±1.4, 0.°38N×125.°56E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, Error ellipse: s-maj=148.0km s-min=22.5km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.95**	**157**	P	P	16 51 29.8	+0.4
	0.4nm,0.3s,baz=338,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.24**	**162**	P	P	16 52 01.6	-0.2
	0.4nm,0.4s,baz=345,slow=11,SNR=14						
SONM	**Songino Array**	**50.12**	**343**	P	P	16 55 32.7	+1.7
	0.2nm,0.5s,baz=162,slow=5.7,SNR=1.4						
MKAR	**Makanchi Array**	**59.67**	**327**	P	P	16 56 38.4	-1.7
	0.1nm,0.5s,baz=132,slow=5.7,SNR=2.3						

*IDC **16** 16:56:31.5±2.0, 13.°70N×89.°78W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.8/34, mbtmp3.7/8, ML3.4/2, MS4.2/2, Ms1 4.2/2, ms1mx3.5/30, Error ellipse: s-maj=71.0km s-min=20.5km az=36.0*
*SNET **16** 16:56:32.1±1.6, 12.°88N×90.°37W, h20km, ML3.6*
*UCR **16** 16:56:32.1±1.6, 12.°88N×90.°37W, h20km, ML3.6, mb4.2(NEIC)*
*NEIC **16** 16:56:36.0±2.0, 13.°38N±0.°09×90.°05W±0.°08, h33km±6km, mb4.2/12, Md3.6(SNET), Error ellipse: s-maj=15.4km s-min=7.3km az=219.0*
ISC 16 16:56:31.6±0.8, 12.°93N±0.°07×90.°36W±0.°05, h24km, n51, σ1§83/54, mb4.1/10, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.15**	**51⇑**	*e*P	**Pb**	**16 56 53.1**	**+0.2**
JAYA				IAML		16 57 10.1	
	comp=Z,1μm,0.7s						
JAYA	**Jayaque - finc**	**1.15**	**51⇑**	*e*P	**Pb**	**16 56 53.1**	**+0.2**
JAYA				IAML		16 57 10.1	
	comp=Z,1μm,0.7s						
CEVE	**Cerro Verde**	**1.15**	**39⇑**	*e*P	**Pb**	**16 56 52.5**	**-0.5**
CEVE				IAML		16 57 17.6	
	comp=Z,3μm,0.2s						
CEVE	**Cerro Verde**	**1.15**	**39⇑**	*e*P	**Pb**	**16 56 52.5**	**-0.5**
CEVE				IAML		16 57 17.6	
	comp=Z,3μm,0.2s						
SLOZ	**Alcaldia de Sa**	**1.23**	**27**	*e*P	**Pb**	**16 56 54.1**	**-0.2**
SLOZ				*e*S	**Sb**	**16 57 12.1**	**+2.4**
SLOZ				IAML		16 57 21.0	
	comp=Z,635nm,0.6s						
TACO	**Tacachico**	**1.43**	**43**	*e*P	**Pb**	**16 56 57.1**	**-0.5**
TACO				*e*S	**Sb**	**16 57 17.6**	**+2.2**
TACO	**Tacachico**	**1.43**	**43**	*e*P	**Pb**	**16 56 57.1**	**-0.5**
TACO				*e*S	**Sb**	**16 57 17.6**	**+2.2**
SJTE	**Alcalda de S**	**1.49**	**63**	*e*P	**Pb**	**16 56 57.9**	**-0.8**
SJTE	**Alcalda de S**	**1.49**	**63**	*e*P	**Pb**	**16 56 57.9**	**-0.8**
PAVA	**Las Pavas**	**1.59**	**60**	*e*P	**Pb**	**16 57 00.3**	**-0.2**
PAVA				IAML		16 57 03.7	
	comp=Z,597nm,0.4s						
PAVA	**Las Pavas**	**1.59**	**60**	*e*P	**Pb**	**16 57 00.3**	**-0.2**
PAVA				IAML		16 57 03.7	
	comp=Z,597nm,0.4s						
COEG	**Centro de Oper**	**1.60**	**64**	*e*P	**Pb**	**16 56 59.4**	**-1.1**
COEG				IAML		16 57 08.2	
	comp=Z,1μm,0.4s						
COEG				*e*S	**Sb**	**16 57 23.2**	**+2.9**
COEG	**Centro de Oper**	**1.60**	**64**	*e*P	**Pb**	**16 56 59.4**	**-1.1**
COEG				IAML		16 57 08.2	
	comp=Z,1μm,0.4s						
COEG				*e*S	**Sb**	**16 57 23.2**	**+2.9**
RTAL	**Retalhuleu**	**2.05**	**321**		**Pn**	**16 57 05.8**	**+1.1**
LCND	**La Caada**	**2.44**	**81**	*e*P	**Pn**	**16 57 11.2**	**+1.2**
LCND				*e*S	**Sb**	**16 57 42.0**	**-2.5**
LCND	**La Caada**	**2.44**	**81**	*e*P	**Pn**	**16 57 11.2**	**+1.2**
LCND				*e*S	**Sb**	**16 57 42.0**	**-2.5**
HUEH	**Huehuetenango**	**2.62**	**335**	*e*P	**Pb**	**16 57 16.1**	**-2.0**
HUEH	**Huehuetenango**	**2.62**	**335**		**Pn**	**16 57 12.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.21**	**69**		Pn	16 57 14.5	-6.3
CRIN	**San Cristobal**	**3.24**	**94**		**Pn**	**16 57 20.8**	**-0.3**
CNGN	**Cerro Negro**	**3.60**	**96**	Pn	**Pn**	**16 57 26.0**	**0.0**
CCIG	**Comitan**	**3.75**	**333**		**Pn**	**16 57 28.8**	**+0.6**
PETF	**Flores**	**3.99**	**7**		**Pn**	**16 57 29.4**	**-2.0**
HZTE	**Horizontes, Gu**	**5.16**	**115**		**Pn**	**16 57 49.4**	**+2.0**
JTS	**Las Juntas de**	**5.91**	**116**	Pn	**Pn**	**16 58 00.0**	**+2.2**
	comp=Z,4.1nm,0.3s,baz=265,slow=16,SNR=9.4						
JTS				Sn	**Sn**	**16 59 07.6**	**+2.7**
	comp=Z,1.5nm,0.3s,baz=345,slow=16,SNR=1.6						
CMIG	**Matias Romero**	**6.02**	**314**	Pn	**Pn**	**16 57 59.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=90,slow=20,SNR=3.3						
CMIG				Sn	**Sn**	**16 59 10.5**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=104,slow=23,SNR=1.7						
JACO	**JACO, Garabito**	**6.47**	**120**	Pn	**Pn**	**16 58 07.7**	**+2.3**
RIMA	**Rio Macho**	**7.11**	**116**		**Pn**	**16 58 16.4**	**+2.0**
RIMA					**Sn**	**16 59 35.0**	**+0.4**
SRBA	**San Rafael, Bu**	**7.79**	**117**		**Pn**	**16 58 26.5**	**+2.8**
DRK0	**Durika**	**7.88**	**117**		**Pn**	**16 58 28.4**	**+3.4**
TX31	**Lajitas Ar. Si**	**20.47**	**325**	P	Pn	17 01 10.3	+0.2
TX31				IAmb	IAmb	17 01 21.0	
	comp=Z,9.9nm,1.0s						
TX32	**Lajitas Array**	**20.47**	**325**	P	Pn	17 01 09.7	-0.4
TXAR	**Lajitas Array**	**20.47**	**325**	P	Pn	17 01 09.1	-1.1
	comp=Z,1.9nm,0.8s,baz=150,slow=11,SNR=14						
MNTX	**Cornudas Mount**	**23.23**	**326**		**P**	**17 01 37.3**	**+0.1**
T47A	**Sharon Grove**	**24.14**	**6**	P	**P**	**17 01 44.5**	**-1.3**
T47A				IAmb	IAmb	17 01 47.1	
	comp=Z,10nm,0.8s						
CBYP	**Canovanas**	**24.18**	**74**	P	**P**	**17 01 42.8**	**-3.7**
121A	**Cookes Peak, D**	**25.21**	**324**		**P**	**17 01 58.9**	**+3.1**
121A				IAmb	IAmb	17 02 00.6	
	comp=Z,9.1nm,1.0s						
PFO	**Pinyon Flats O**	**31.44**	**315**	LR	LR	17 16 32.0	
	comp=Z,467nm,18.2s,baz=327,slow=38						
MTPU	**Mount Pierson**	**31.67**	**326**	P	**P**	**17 02 56.1**	**+2.4**
MTPU				IAmb	IAmb	17 03 05.0	
	comp=Z,3.0nm,0.8s						
E43A	**Lone Tree Farm**	**33.46**	**4**	P	**P**	**17 03 07.2**	**-1.6**
NVAR	**Mina Array Bea**	**35.50**	**321**	P	**P**	**17 03 29.8**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=138,slow=7.8,SNR=8.3						
ULM	**Lac du Bonnet**	**37.49**	**354**	P	**P**	**17 03 41.1**	**-2.2**
	comp=Z,2.1nm,0.6s,baz=153,slow=6.8,SNR=3.0						
ULM	**Lac du Bonnet**	**37.49**	**354**	IAmb	IAmb	17 03 45.1	
	comp=Z,6.1nm,1.3s						
J08A	**Circle Bar Ran**	**38.80**	**327**	P	**P**	**17 03 55.8**	**+1.1**
J08A				IAmb	IAmb	17 04 04.8	
	comp=Z,3.0nm,0.8s						
F10A	**Beach Ranch, E**	**40.01**	**331**	P	**P**	**17 04 05.1**	**+0.3**
F10A				IAmb	IAmb	17 04 07.9	
	comp=Z,3.4nm,0.9s						
YKA	**Yellowknife Ar**	**52.44**	**346**	P	**P**	**17 05 40.0**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=137,slow=7.3,SNR=4.4						
**ILAR

ANBD	Bethesda, Anti	4.30 317	eP	Pn	17 10 04.1	+0.6
ANBD	Bethesda, Anti	4.30 317	eS	Sn	17 10 52.6	-1.1
ANWB	Willy Bob	4.77 322	eP	Pn	17 10 11.3	+1.4
ANWB	Willy Bob	4.77 322	eS	Sn	17 11 03.0	-2.4
SKI	Saint Kitts	5.17 311	eP	Pn	17 10 15.5	0.0
SKI	Saint Kitts	5.17 311	eS	Sn	17 11 12.6	-2.7

KMA 16 17:09:57.0±0.2, 38°.78N×127°.62E, h1km, Error ellipse: s-maj=3.2km s-min=0.7km az=354.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWCB	Hwacheon	0.56 176		P	Pg	17 10 07.9	+0.3
	SNR=24						
HWCB	Hwacheon	0.56 176		P	Pg	17 10 07.9	+0.3
	SNR=24						
KSCWO	Cheorwon	0.70 187		P	Pg	17 10 10.4	+0.1
	SNR=36						
KSCWO	Cheorwon	0.70 187		P	Pg	17 10 10.4	+0.1
	SNR=36						
KSCWO				S	Sg	17 10 20.0	+0.7
SEHB	SEOHWA	0.71 135		P	Pg	17 10 10.6	+0.1
	SNR=29						
SEHB	SEOHWA	0.71 135		P	Pg	17 10 10.6	+0.1
	SNR=29						
SEHB				S	Sg	17 10 20.0	+0.3
KSSKC	Sokcho	0.86 124		P	Pg	17 10 13.4	0.0
	SNR=26						
KSSKC	Sokcho	0.86 124		P	Pg	17 10 13.4	0.0
	SNR=26						
KSIJA	INJE	0.88 154		P	Pg	17 10 13.7	0.0
	SNR=29						
KSIJA	INJE	0.88 154		P	Pg	17 10 13.7	0.0
	SNR=29						
YNCB	YEONCHEON	0.92 217		P	Pg	17 10 14.3	-0.2
	SNR=6.3						
KSDDC	Dongducheon	0.98 207		P	Pg	17 10 15.5	-0.2
	SNR=22						
KSCHC	Chuncheon	1.01 171		P	Pg	17 10 16.2	-0.1
	SNR=71						
KSMUS	Musan	1.12 218		P	Pg	17 10 18.6	+0.2
	SNR=18						
KSJMJ	Jumunjin	1.26 135		P	Pg	17 10 21.3	+0.1
	SNR=16						
KSDGY	Daegwallycong	1.37 142		P	Pg	17 10 23.0	-0.1
	SNR=12						
KSGAH	Ganghwa	1.41 221		P	Pn	17 10 23.7	-0.1
	SNR=19						
KSWJU	Wonju	1.41 166		P	Pn	17 10 23.6	-0.2
	SNR=28						
KSICN	Icheon	1.49 186		P	Pn	17 10 25.1	+0.2
	SNR=11						
KSSWO	Suwon	1.59 199		P	Pn	17 10 26.7	+0.4
	SNR=9.7						
HAWB	Hwaseong-si	1.82 202		P	Pb	17 10 31.0	0.0
	SNR=7.3						

IDC 16 17:11:03.3±7.7, 7°.87S×129°.61E, h250km±88km, mb2.9/1, mb1 2.6/3, mb1mx2.5/37, mbtmp3.2/3, Error ellipse: s-maj=194.9km s-min=36.1km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.85 160		P	Pn	17 13 57.5	0.0
	0.2nm,0.3s,baz=345,slow=13,SNR=20						
WRA				S	S	17 16 19.5	-0.8
	0.4nm,0.3s,baz=334,slow=22,SNR=9.0						
ASAR	Alice Springs	16.24 166		P	P	17 14 37.2	+0.3
	baz=332,slow=9.7,SNR=1.6						
ASAR				S	S	17 17 35.4	+1.2
	0.1nm,0.3s,baz=344,slow=25,SNR=1.7						
MKAR	Makanchi Array	68.74 327		P	P	17 21 40.3	0.0
	0.2nm,0.5s,baz=118,slow=8.0,SNR=4.8						

*IDC **16** 17:14:29.4±0.8, 42°.09N×119°.56W, h0km, mb1 3.1/5, mb1mx3.0/38, mbtmp2.7/5, ML3.2/5, Error ellipse: s-maj=11.6km s-min=4.8km az=6.0*
*NEIC **16** 17:14:31.5±2.8, 41°.84N±0°.04×119°.60W±0°.04, h4km±8km, Error ellipse: s-maj=5.2km s-min=4.5km az=159.0*
*REN **16** 17:14:32.3±2.0, 41°.90N±0°.04×119°.63W±0°.04, h8km±7km, ML3.7/4, ML3.6/48(SEA), ML3.5/80(NEIC), Mwr3.9/21(SLM), Error ellipse: s-maj=5.4km s-min=4.4km az=170.0*
*NEIC **16** 17:14:32.3, 41°.90N×119°.63W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=5.38; $M_{\theta\theta}$=1.13; $M_{\phi\phi}$=6.52; $M_{r\theta}$=4.11; $M_{\theta\phi}$=0.90; $M_{\phi r}$=5.03; Fault plane solution: M_0=8.91000×10^{14} NP1:ϕ_s=163.00000°, δ=28.00000°, λ=-133.00000°. NP2:ϕ_s=30.00000°, δ=70.00000°, λ=-70.00000°. Principal axes: T 8.9080, Plg=22.0000°, Azm=105.0000°; N 0.0016, Plg=19.0000°, Azm=203.0000°; P -8.9096, Plg=60.0000°, Azm=329.0000°;*
*ANF **16** 17:14:33.6±0.8, 41°.93N×119°.64W, h24km±6km, ML3.8/14 Error ellipse: s-maj=6.2km s-min=3.3km az=121.0*
*SEA **16** 17:14:33.2±2.8, 41°.88N±0°.04×119°.59W±0°.05, h20km±8km, Error ellipse: s-maj=5.8km s-min=4.9km az=158.0*

ISC 16 17:14:32.7±1.2, 41°.93N±0°.03×119°.62W±0°.03, h12km±11km, n130, σ1°25/138, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.51 267			Sg	17 14 49.7	+0.2
MOD	Modoc Plateau	0.51 267		Pg	Pg	17 14 42.2	-0.5
MOD	Modoc Plateau	0.51 267		IAML		17 14 49.9	
	comp=N,6μm,0.5s						
MOD				IAML		17 14 50.4	
	comp=E,9μm,0.6s						
LKVW	Lakeview	0.62 298			Pg	17 14 44.6	-0.2
WVOR	Wild Horse Val	0.89 55		Pg	Pb	17 14 49.4	-0.8
WVOR				IAML		17 15 05.9	
	comp=E,2μm,0.7s						
WVOR				IAML		17 15 06.5	
	comp=E,2μm,1.6s						
K05A	Summer Lake	1.23 311			Pg	17 14 55.8	-0.6
LASM	Arnica Sink	1.50 258			Pn	17 14 59.3	-0.3
HOG	Hogback Mounta	1.58 282			Pn	17 15 00.8	+0.1
LTIM	Timbered Crate	1.59 242			Pn	17 15 00.6	-0.2
J08A	Circle Bar Ran	1.66 30			Pn	17 15 01.2	-0.5
J08A				IAML		17 15 30.4	
	comp=N,605nm,0.7s						
J08A				IAML		17 15 34.1	
	comp=E,529nm,0.6s						
M04C	Macdoel	1.66 266		P	Pn	17 15 01.5	-0.3
	baz=85,SNR=218						
M04C				Sb	Sb	17 15 25.1	+0.9
	baz=85						
M04C	Macdoel	1.66 266			Pn	17 15 01.5	-0.3
M04C					Sg	17 15 26.1	0.0
LBCM	Butte Creek Ri	1.70 230			Pn	17 15 01.9	-0.3
K04D	Chiloquin, OR	1.73 294		P	Pn	17 15 02.6	0.0
	baz=114,SNR=26						
K04D				Sb	Sb	17 15 27.4	+1.4
	baz=114						
K04D	Chiloquin, OR	1.73 294			Pn	17 15 02.6	0.0
J05D	Fort Rock, OR	1.80 319		Pb	Pb	17 15 06.0	+0.3
	baz=139,SNR=432						
J05D				Sb	Sg	17 15 30.5	-0.2
	baz=139						
J05D	Fort Rock, OR	1.80 319			Pn	17 15 04.1	+0.4
LHEM	Herd Peak	1.96 262			Pn	17 15 05.8	-0.2
M03C	McCloud	1.98 252			Pn	17 15 05.7	-0.5
TMBU	Tom Butte, New	2.01 327			Pb	17 15 10.0	+0.7
L04D	Klamath Falls	2.02 279		P	Pn	17 15 06.2	-0.5
	baz=98,SNR=94						
L04D				Sb	Sb	17 15 35.9	+1.4
	baz=98						
L04D	Klamath Falls	2.02 279			Pn	17 15 06.3	-0.3
SVIC	Surveyors Ice	2.09 326			Pb	17 15 11.0	+0.4
B040	Montague	2.09 268			Pn	17 15 06.7	-0.9
NCOR	Newberry Crate	2.09 328			Pb	17 15 11.5	+0.8
PINE	Pine Mountain	2.10 333			Pn	17 15 08.2	+0.4
PINE				IAML		17 15 47.8	
	comp=E,315nm,0.8s						
PINE				IAML		17 15 49.8	
	comp=N,210nm,0.8s						
BEKR	Beckworth	2.14 195			Pn	17 15 07.8	-0.5
BEKR				IAML		17 15 44.5	
	comp=E,383nm,0.7s						
BEKR				IAML		17 15 44.7	
	comp=N,268nm,0.6s						
I07A	Izee	2.15 2			Pn	17 15 08.6	+0.1
I07A				IAML		17 15 43.0	
	comp=N,244nm,0.7s						
JORV	Jorden Valley	2.17 60			Pg	17 15 17.2	+2.9
PAHR	Pah Rah Range	2.23 175			Pn	17 15 08.3	-1.2
PAHR				IAML		17 15 45.6	
	comp=N,186nm,0.6s						
J04D	Umpqua Nationa	2.25 306		Pb	Pb	17 15 13.6	+0.1
	baz=126						
ASBU	Astronaut Butt	2.28 326			Pb	17 15 13.5	-0.4
YBH	Yreka Blue Hor	2.31 266		Pn	Pn	17 15 09.9	-0.8
	comp=N,6.1nm,0.3s,baz=65,slow=14,SNR=35						
YBH				Pg	Pb	17 15 13.2	-1.2
	comp=N,7.6nm,0.3s,baz=65,slow=13,SNR=29						
YBH				Lg	Lg	17 15 44.3	
	comp=N,42nm,0.3s,baz=41,slow=9.3,SNR=15						
YBH	Yreka Blue Hor	2.31 266			Pn	17 15 10.5	-0.2
YBH	Yreka Blue Hor	2.31 266		IAML		17 15 56.1	
	comp=N,202nm,1.5s						
O03E	Paynes Creek	2.32 226		P	Pn	17 15 10.4	-0.3
	baz=45,SNR=57						
O03E				Sb	Sb	17 15 44.9	+1.8
	baz=45						
M02C	Callahan	2.48 259		P	Pn	17 15 11.9	-1.0
	baz=77,SNR=13						
M02C				Sb	Sb	17 15 49.4	+1.7
	baz=77						
N02D	Trinity Center	2.50 249		P	Pn	17 15 12.4	-0.9
	baz=67,SNR=11						
N02D				Sb	Sb	17 15 50.8	+2.4
	baz=67						
N02D	Trinity Center	2.50 249			Pb	17 15 16.9	-0.7
HUMO	Hull Mountain	2.56 286			Pn	17 15 13.4	-0.6
HUMO				IAML		17 15 53.7	
	comp=E,198nm,0.7s						
HUMO				IAML		17 16 02.1	
	comp=N,220nm,1.6s						
WDC	Whiskeytown Da	2.58 239			Pn	17 15 13.6	-0.6
WDC	Whiskeytown Da	2.58 239		IAML		17 15 54.6	
	comp=N,147nm,0.9s						
WDC				IAML		17 15 56.6	
	comp=E,148nm,0.9s						
VCNR	Virginia City	2.63 180			Pn	17 15 14.5	-0.6
VIPM	Ingram Point	2.68 345			Pg	17 15 22.5	-1.5
I05D	Terrebonne, OR	2.71 333		Pb	Pb	17 15 21.7	+0.5
	baz=152						
I05D	Terrebonne, OR	2.71 333			Pb	17 15 22.1	+0.9
ORV	Oroville	2.77 212			Pn	17 15 18.1	+1.2
ORV	Oroville	2.77 212		Pn	Pn	17 15 16.3	-0.6
PNTR	Pine Nut	2.84 180			Pn	17 15 17.8	-0.2
PRLK	Prince Lake	2.85 324			Pb	17 15 22.8	-0.7
RUBR	Rubicon Trail	2.90 188			Pn	17 15 20.0	+1.1
RUBR				IAML		17 16 06.4	
	comp=E,158nm,0.9s						
RUBR				IAML		17 16 06.4	
	comp=N,236nm,0.8s						
DBO	Dodson Butte	2.93 295			Pb	17 15 25.2	+0.4
YERR	Yerington	2.96 174			Pn	17 15 19.5	-0.1
O02D	Mt. Diablo Mer	2.97 235		P	Pn	17 15 19.2	-0.4
	baz=53						
O02D				Sb	Sb	17 16 03.6	+1.9
	baz=53						
L02E	Cave Junction	2.97 276		Sb	Sb	17 16 03.5	+1.7
	baz=94						
K02D	Willamette Mer	3.09 286		P	Pn	17 15 22.3	+1.0
	baz=104,SNR=105						
K02D	Willamette Mer	3.09 286			Pn	17 15 23.6	+2.3
KVN	Kaiserville	3.10 158			Pn	17 15 22.8	+1.2
KVN				IAML		17 16 16.7	
	comp=E,119nm,1.3s						
KVN				IAML		17 16 19.4	
	comp=N,113nm,0.6s						
AFDM	Forest Hills D	3.15 199			Pn	17 15 19.6	-2.6
MFID	Camas Ranch	3.17 61		Pn	Pn	17 15 22.9	+0.4
MFID				IAML		17 16 17.7	
	comp=N,158nm,0.5s						
MFID				IAML		17 16 18.2	
	comp=N,178nm,0.6s						
H04A	Detroit Lake	3.33 327			Pn	17 15 24.4	-0.2
BUCK	Buck Mountain	3.35 314			Pn	17 15 24.1	-0.8
BUCK				IAML		17 16 26.7	
	comp=E,81nm,1.6s						
BUCK				IAML		17 16 35.2	
	comp=N,62nm,1.7s						
BMO	Blue Mountains	3.37 29			Pn	17 15 25.6	+0.3
BMO				IAML		17 16 31.8	
	comp=N,69nm,2.4s						
G08A	Pilot Rock	3.39 8			Pn	17 15 24.9	-0.7
RYN	Ryan	3.40 165			Pn	17 15 25.3	-0.4
RYN				IAML		17 16 24.7	
	comp=E,148nm,0.7s						
RYN				IAML		17 16 28.7	
	comp=N,137nm,1.1s						
WAKR	Walker	3.42 178			Pn	17 15 24.4	-1.6
WAKR				IAML		17 16 25.8	
	comp=N,77nm,0.8s						
KBO	Bosley Butte	3.44 276			Pn	17 15 26.4	+0.3
H04D	Lebanon	3.45 320		Pb	Pb	17 15 34.6	+0.9
	baz=138						
ELK	Elko	3.51 108		Pn	Pn	17 15 27.8	+0.6
	comp=N,3.6nm,0.3s,baz=300,slow=16,SNR=18						
ELK				Pg	Pb	17 15 32.4	-2.4
	comp=N,5.6nm,0.3s,baz=300,slow=18,SNR=23						
ELK				Sn	Sn	17 16 08.7	-0.1
	comp=N,4.4nm,0.3s,baz=298,slow=15,SNR=5.1						
ELK				Lg	Lg	17 16 19.6	
	comp=N,8.2nm,0.3s,baz=55,slow=12,SNR=3.9						
ELK	Elko	3.51 108		Pn	Pn	17 15 26.9	-0.3
NVAR	Mina Array Bea	3.64 163		Pn	Pb	17 15 29.2	+0.1
	comp=N,0.6nm,0.3s,baz=343,slow=15,SNR=8.3						
NVAR				Pg	Pb	17 15 36.5	-0.6
	comp=N,2.1nm,0.3s,baz=346,slow=13,SNR=13						
NVAR				Lg	Lg	17 16 27.5	
	comp=N,10nm,0.3s,baz=346,slow=28,SNR=2.2						
NVAR	Mina Array Bea	3.64 163			Pn	17 15 29.0	0.0
NV11	Mina Array Sit	3.67 162			Pn	17 15 27.6	-1.8
NV11				IAML		17 16 33.1	
	comp=E,76nm,1.1s						
NV11				IAML		17 16 44.4	
	comp=N,53nm,1.4s						
LHV	Little Huntoon	3.77 166			Pn	17 15 30.5	-0.2
COR	Corvallis	3.78 316			Pn	17 15 30.6	0.0
COR				IAML		17 16 44.0	
	comp=N,51nm,2.0s						
COR				IAML		17 16 48.8	
	comp=N,51nm,2.7s						
CMB	Columbia Colle	3.94 189		Pn	Pn	17 15 31.1	-1.8
CMB				IAML		17 16 38.2	
	comp=E,42nm,0.9s						
HOPS	Hopland Field	3.94 223		Pn	Pn	17 15 32.1	-0.9
HOPS				IAML		17 16 43.0	
	comp=N,70nm,2.4s						
HOPS				IAML		17 17 52.9	
	comp=E,65nm,2.9s						
TPH	Tonopah	4.27 154			Pn	17 15 37.0	-0.7
TPH	Tonopah	4.27 154		IAML		17 16 50.2	
	comp=E,80nm,1.1s						
MDPB	Devils Postpil	4.31 174			Pn	17 15 37.8	-0.5
F10A	Beach Ranch, E	4.40 22			Pn	17 15 40.8	+1.5
R11A	Troy Canyon, C	4.73 138		P	Pn	17 15 46.1	+2.2
	baz=320						
R11A	Troy Canyon, C	4.73 138			Pn	17 15 43.5	-0.5
R11A				IAML		17 17 05.2	
	comp=E,55nm,1.3s						
R11A				IAML		17 17 09.5	
	comp=N,44nm,1.0s						
SPR3	Spring Creek 3	4.99 124		Pn	Pn	17 15 48.2	+0.6
BGU	Big Grassy Mou	5.06 99		Pn	Pn	17 15 48.5	+0.1
BGU				IAML		17 17 19.9	
	comp=N,30nm,2.6s						
BGU				IAML		17 17 26.2	
	comp=E,40nm,1.9s						
DUG	Dugway, Tooele	5.43 106		Pn	Pn	17 15 51.6	-1.9
PSUT	Pine Spring	5.57 126			Pn	17 15 53.9	-1.6
TPNV	Topopah Spring	5.62 151		P	Pn	17 15 58.5	+2.3
	baz=333						
TPNV	Topopah Spring	5.62 151		Pn	Pn	17 15 58.0	+1.9
MCMT	McKenzie Canyo	5.72 57			Pn	17 15 56.4	-1.3
PRN	Pahroc Range	5.73 141			Pn	17 15 59.7	+2.0
HWUT	Hardware Ranch	6.04 90			Pn	17 15 56.5	-5.4
NLU	North Lily Min	6.05 107		Pn	Pn	17 15 59.9	-2.2
JLU	Jordanelle	6.30 99			Pn	17 16 04.4	-1.2
ISA	Isabella, Lake	6.32 171		Pn	Pn	17 16 04.4	-1.4
MPU	Maple Canyon	6.34 105		Pn	Pn	17 16 03.8	-2.3
MSO	Missoula	6.37 38		Pn	Pn	17 16 05.0	-1.4
TCRU	Three Creeks R	6.41 119		Pn	Pn	17 16 06.4	-0.8
SHPR	Sheep Range	6.43 146		Pn	Pn	17 16 06.8	-0.5
CCUT	Cedar City	6.51 130		Pn	Pn	17 16 09.3	+0.9
OSD	Olympics--Snow	6.56 335			Pb	17 16 25.5	-1.3
TPAW	Teton Pass	6.58 73			Pn	17 16 07.5	-1.9
MVU	Marysvale	6.62 119			Pn	17 16 09.9	-0.1
SZCU	Shurtz Canyon	6.64 129			Pn	17 16 10.8	+0.5
MSU	Marysvale	6.64 118			Pn	17 16 08.9	-1.4
YHB	Horse Butte	6.76 63			Pn	17 16 11.8	-0.1
FLWY	Flagg Ranch	6.89 69			Pn	17 16 11.7	-1.9
MTPU	Mount Pierson	6.91 122		Pn	Pn	17 16 12.7	-1.4
TMUT	Trail Mountain	6.92 110			Pn	17 16 12.0	-2.2
LCMT	Little Creek M	6.96 133			Pn	17 16 11.4	-3.2
YHH	Holmes Hill	7.00 63			Pn	17 16 13.8	-1.5
P17A	Butcher Ranch,	7.18 107		Pn	Pn	17 16 16.1	-1.6
KNB	Kanab	7.19 131		Pn	Pn	17 16 17.6	-0.1
PKCU	Pink Cliffs	7.20 126			Pn	17 16 17.3	-0.7
SRU	San Rafael Swe	7.48 109		Pn	Pn	17 16 20.2	-1.6
PDAR	Pinedale Array	7.50 80		Pn	Pn	17 16 21.0	-1.1
	comp=E,0.1nm,0.3s,baz=255,slow=14,SNR=2.3						
PDAR				Pg	Pb	17 16 35.0	-7.9
	comp=E,0.1nm,0.3s,baz=249,slow=11,SNR=4.7						
PDAR				Sn	Sn	17 17 45.4	-1.9
	comp=E,0.0nm,0.3s,baz=260,slow=15,SNR=1.3						
PDAR				Lg	Lg	17 18 22.1	
	comp=E,0.1nm,0.3s,baz=257,slow=16,SNR=1.6						
U15A	North Rim	7.91 132		Pn	Pn	17 16 29.1	+1.3
W13A	Hualapai Mount	8.17 145			Lg	17 18 55.0	
PV17	East Wray Mesa	8.95 111		Pn	Pn	17 16 38.6	-3.3
PV22	Blue Mesa, Par	8.95 109		Pn	Pn	17 16 41.8	-0.2
PV16	Nyswonger Mesa	8.96 110		Pn	Pn	17 16 42.1	0.0
PV18	Skein Mesa, Pa	9.00 111		Pn	Pn	17 16 44.4	+1.8
PV11	David Mesa, Pa	9.00 110		Pn	Pn	17 16 40.3	-2.3
PV03	Paradox Valley	9.04 110		Pn	Pn	17 16 40.1	-3.0
PV12	Saucer Basin,	9.04 110		Pn	Pn	17 16 42.0	-1.2
WUAZ	Wupatki	9.08 132		Pn	Pn	17 16 41.2	-2.5
PV13	Radium Mtn., P	9.10 111		Pn	Pn	17 16 43.8	-0.2
PV01	Paradox Valley	9.29 110		Pn	Pn	17 16 45.4	-1.2
TXAR	Lajitas Array	18.02 129		P	Pn	17 18 42.7	-0.4
	comp=E,0.0nm,0.3s,baz=329,slow=8.5,SNR=4.0						
LPIG	La Paz	19.40 154		P	Pn	17 18 60.0	+0.4
	comp=E,3.8nm,0.3s,baz=349,slow=10,SNR=1.3						

*IDC **16** 17:15:47.5±0.4, 33°.15N×139°.76E, h0km, mb3.9/21, mb1 4.1/27, mb1mx4.1/41, mbtmp4.0/27, ML3.7/4, MS4.3/1, Ms1 4.3/1, ms1mx3.5/30, Error ellipse: s-maj=15.3km s-min=4.1km az=43.0*
*JMA **16** 17:15:50.0, 33°.23N×139°.53E, h27km±3km, M4.5*
JMA Felt II J1.
*NEIC **16** 17:15:51.8±1.8, 33°.29N±0°.07×139°.48E±0°.06, h18km±3km, mb4.6/34, Error ellipse: s-maj=11.2km s-min=5.9km az=210.0*

ISC 16 17:15:49.9±0.4, 33°.26N±0°.03×139°.54E±0°.04, h10km, n109, σ1°24/110, mb4.4/38, 1C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	0.25 124		LR	LR	17 15 53.2	
	comp=Z,2μm,21.8s,baz=355,slow=96						
JHJ				Pn	Pg	17 15 56.0	+1.1
	6μm,0.3s,baz=329,slow=24,SNR=407						
JHJ				Sn	Sg	17 16 00.7	+2.4
	19μm,0.3s,baz=0.0,slow=20,SNR=47						
JHJ2	Mitsune	0.28 122		⇓P	Pb	17 15 56.6	-0.3
JHJ2				S	Sb	17 16 01.3	-0.3
JHJ2	Mitsune	0.28 122			Pb	17 15 56.6	-0.3
JHCJ	Hachijojimakas	0.29 131		⇓P	Pb	17 15 56.7	-0.4
JHCJ				S	Sb	17 16 01.1	-0.9
JMKN	Mikurajimanish	0.63 4		⇑P	Pg	17 16 02.9	+0.8
JMKN				eS	Sg	17 16 11.8	+1.4
JAOM	Aogashimamukai	0.82 167		P	Pg	17 16 04.7	-0.9
JKO	Kozu shima	0.98 340		P	Pg	17 16 07.9	-0.9
JTHY	Toshimahigashi	1.28 351		P	Pn	17 16 13.4	-0.4
JIM2	Oshima 3	1.46 357		P	Pn	17 16 15.7	-0.6
JIM2				S	Sn	17 16 34.1	-1.3
JIZS	Izushimoda	1.55 340		P	Pn	17 16 17.2	-0.4
TK02	Tokai 2	1.64 295		P	Pn	17 16 18.1	-0.4
KTJ3	Kamata3	1.71 347		P	Pn	17 16 19.3	-0.5
BSO3	Boso 3	1.74 27		P	Pn	17 16 19.6	-0.2
JSG	Sagara	1.80 322		Pn	Pn	17 16 20.1	-0.9
INU	Inuyama	2.95 316			Pn	17 16 36.8	0.0
JGF	Kuroka	2.95 323			Pn	17 16 37.1	+0.3
JYT	Yasato	3.01 10		Pn	Pn	17 16 35.9	-1.7
MJAR	Matsushiro Arr	3.45 342		Pn	Pn	17 16 43.5	-0.2
	0.5nm,0.3s,baz=158,slow=12,SNR=43						
MAJO	Matsushiro	3.45 342		Pn	Pn	17 16 43.6	-0.1
MAT	Matsushiro	3.45 342		P	Pn	17 16 45.9	+2.2
MAT				eS	Sn	17 17 22.4	-2.3
MJB9	Matsu-Tunnel	3.46 342		Pn	Pn	17 16 43.6	-0.1
JWT	Wachi	3.98 302		Pn	Pn	17 16 50.7	-0.2
JMM	Marumori	4.71 12		Pn	Pn	17 17 01.6	+0.7
JMN	Monobe	4.75 277		Pn	Pn	17 17 00.6	-1.0
JSD	Sado	4.88 348		Pn	Pn	17 17 05.0	+1.7
JHS	Saijyo	5.60 290		Pn	Pn	17 17 13.2	-0.1
JNU	Nakatsue	7.26 271		Pn	Pn	17 17 36.9	+0.8
	4.6nm,0.3s,baz=161,slow=9.7,SNR=36						
JNU				Sn	Sn	17 19 00.6	+2.0
	0.5nm,0.3s,baz=16,slow=20,SNR=1.4						
JNU	Nakatsue	7.26 271			Pn	17 17 36.7	+0.7
JTM	Tenmabayashi	7.61 9		Pn	Pn	17 17 41.0	+0.2
JSU	Suzuyama	7.88 260		Pn	Pn	17 17 45.2	+0.7
JMZ	Minamidaito 2	10.36 226		Pn	Pn	17 18 15.2	-3.3
KSRS	Korea Array	10.37 297		Pn	Pn	17 18 18.8	+0.3
	0.1nm,0.3s,baz=90,slow=17,SNR=1.9						
ASAJ	Asahikawa	11.10 12		Pn	Pn	17 18 26.6	-2.0
	0.3nm,0.3s,baz=233,slow=11,SNR=8.4						
ASAJ				Sn	Sn	17 20 29.3	-3.4
	baz=160,slow=33,SNR=2.0						
JKA	Kamikawa-asahi	11.10 12		Pn	Pn	17 18 27.9	-0.7
JOW	Kunigami	11.67 240		Pn	Pn	17 18 38.7	+2.3
	1.5nm,0.3s,baz=85,slow=19,SNR=2.0						
USRK	Ussuriysk Ar.	12.40 334		Pn	Pn	17 18 47.8	+1.4
	baz=173,slow=28,SNR=2.7						
KLR	Kul'dur	16.98 342		Pn	Pn	17 19 46.0	-1.4
	0.1nm,0.3s,baz=139,slow=11,SNR=8.7						
KLR				LR	LR	17 26 38.5	
	comp=Z,941nm,20.8s,baz=190,slow=38						
H11N2	WAKE ISLAND Hy	27.85 112		T	T	17 50 29.2	
	baz=304,slow=75,SNR=1047						
H11N1	WAKE ISLAND Hy	27.85 112		T	T	17 50 44.3	
	baz=304,slow=75,SNR=846						
H11N3	WAKE ISLAND Hy	27.87 112		T	T	17 50 45.3	
	baz=304,slow=75,SNR=711						
H11S3	WAKE ISLAND

BMAR Burnt Mountain 54.38 27 P **P 17 25 18.9 +2.3**
SCRK Sand Creek 54.81 32 P **P 17 25 20.5 +0.7**
SCRK IAmb IAmb 17 25 21.2
comp=Z,9.8nm,1.1s
K27K Chicken 55.64 31 P **P 17 25 27.3 +1.6**
K27K IAmb IAmb 17 25 27.9
comp=Z,7.2nm,1.1s
L27K Beaver Creek, 55.86 33 P **P 17 25 28.3 +1.0**
L27K IAmb IAmb 17 25 29.7
comp=Z,4.0nm,0.9s
BCAR Beaver Creek A 55.88 33 P **P 17 25 29.0 +1.5**
ASAR Alice Springs 56.86 186 P **P 17 25 32.1 -2.7**
comp=Z,0.5nm,0.9s,baz=0.4,slow=9.0,SNR=2.7
EPYK Eagle Plains 57.56 28 P **P 17 25 40.4 +1.1**
ARU Arti 58.20 320 P **P 17 25 45.1 +1.2**
HYT Haines Junctio 58.25 35 P **P 17 25 44.8 +0.4**
HYT IAmb IAmb 17 26 02.1
comp=Z,8.9nm,1.2s
INK Inuvik 58.44 26 P **P 17 25 44.3 -1.0**
comp=Z,3.2nm,0.8s,baz=290,slow=4.5,SNR=8.0
INK Inuvik 58.44 26 P **P 17 25 45.8 +0.5**
INK IAmb IAmb 17 25 46.8
comp=Z,2.8nm,0.8s
ABKAR Abkulak array 59.23 311 P **P 17 25 50.3 -1.0**
ABKAR Abkulak array 59.23 311 P **P 17 25 51.6 +0.4**
ABKAR IAmb IAmb 17 25 56.5
comp=Z,4.5nm,1.4s
C36M Paulatuk 61.49 24 P **P 17 26 06.7 +0.4**
C36M IAmb IAmb 17 26 12.9
comp=Z,9.5nm,1.2s
STKA Stephens Creek 64.82 178 P **P 17 26 28.5 -0.2**
comp=Z,1.4nm,0.7s,baz=313,slow=9.5,SNR=2.9
ARCES ARCESS Array B 66.98 340 P **P 17 26 43.9 +1.5**
comp=Z,2.2nm,0.9s,baz=79,slow=9.3,SNR=2.6
YKA Yellowknife Ar 67.84 29 P **P 17 26 48.1 +0.3**
comp=Z,0.7nm,0.8s,baz=335,slow=9.0,SNR=1.4
FINES FINESS Array B 71.43 332 P **P 17 27 10.5 +0.5**
comp=Z,2.7nm,1.0s,baz=90,slow=7.6,SNR=4.5
KBZ Khabaz 72.20 311 P **P 17 27 17.4 +2.5**
comp=Z,2.4nm,0.8s,baz=79,slow=5.2,SNR=5.6
KIV Kislovodsk 72.22 311 P **P 17 27 16.4 +1.2**
KIV IAmb IAmb 17 27 24.3
comp=Z,4.4nm,0.7s
ONI Oni 72.39 310 P **P 17 27 17.1 +0.8**
ONI IAmb IAmb 17 27 23.4
comp=Z,8.6nm,1.4s
B08A Colville Reser 72.61 43 P **P 17 27 17.5 +0.1**
B08A IAmb IAmb 17 27 27.0
comp=Z,11nm,1.1s
PINE Pine Mountain 73.97 48 P **P 17 27 27.0 +1.3**
J08A Circle Bar Ran 75.73 47 P **P 17 27 36.4 +0.6**
J08A IAmb IAmb 17 27 47.5
comp=Z,4.7nm,0.9s
AKASG Malin Array Be 76.33 322 P **P 17 27 39.5 +0.6**
comp=Z,0.6nm,0.5s,baz=48,slow=5.5,SNR=2.0
AKASG Malin Array Be 76.33 322 IAmb IAmb 17 27 44.9
comp=Z,3.1nm,1.4s
BEKR Beckworth 76.38 51 P **P 17 27 39.8 +0.1**
NOA NORSAR Array B 77.06 337 P **P 17 27 41.4 -1.5**
comp=Z,1.1nm,0.9s,baz=41,slow=5.7,SNR=4.0
PNTR Pine Nut 77.30 52 P **P 17 27 42.8 -2.2**
PNTR IAmb IAmb 17 27 46.6
comp=Z,5.4nm,0.9s
ILULI Ilulissat 77.53 4 P **P 17 27 44.9 -0.4**
LRM Limekiln Ridge 77.93 43 P **P 17 27 46.5 -1.9**
DLMT Dillon 78.12 43 P **P 17 27 49.8 +0.5**
DLMT IAmb IAmb 17 28 17.2
comp=Z,5.1nm,1.1s
NVAR Mina Array Bea 78.50 52 P **P 17 27 50.6 -1.1**
comp=Z,1.0nm,0.8s,baz=300,slow=5.2,SNR=7.2
BRTR Keskin Array B 80.19 311 P **P 17 27 59.9 -0.9**
comp=Z,0.7nm,0.9s,baz=46,slow=3.6,SNR=3.8
PDAR Pinedale Array 81.42 44 P **P 17 28 06.8 -0.6**
comp=Z,0.4nm,0.7s,baz=318,slow=2.0,SNR=4.4
SRU San Rafael Swe 83.07 47 P **P 17 28 16.2 +0.2**
SRU IAmb IAmb 17 28 17.2
comp=Z,3.5nm,0.7s
CLL Collm 83.58 330 *e*(PKPbc) P 17 28 23.0 +4.9
PV14 Lion Creek, Pa 84.45 47 P **P 17 28 22.6 -0.6**
PV16 Nyswonger Mesa 84.55 47 P **P 17 28 24.1 +0.4**
PV16 IAmb IAmb 17 28 30.3
comp=Z,9.3nm,1.2s
KHC Kasperske Hory 84.93 328 *eP* **P 17 28 29.5 +4.4**
GERES GERESS Array B 85.08 327 P **P 17 28 25.4 -0.6**
comp=Z,0.7nm,0.7s,baz=54,slow=5.0,SNR=2.6
TX31 Lajitas Ar. Si 93.65 51 P **P 17 29 05.8 -1.1**
TX32 Lajitas Array 93.65 51 P **P 17 29 06.3 -0.7**
TXAR Lajitas Array 93.66 51 P **P 17 29 07.3 +0.3**
comp=Z,0.7nm,0.7s,baz=292,slow=3.4,SNR=12
TXAR Lajitas Array 93.66 51 P **P 17 29 06.8 -0.2**
LPAZ La Paz 149.86 63 PKPbc **PKPbc 17 35 41.4 -0.2**
comp=Z,0.7nm,0.6s,baz=351,slow=3.7,SNR=1.1

TRN ***16*** *17:37:57.6, 13.°90N×58.°39W, h109km, MD4.1*
ISC 16 17:37:58.6±3.3, 13.°91N±0.°08×58.°5W±0.°2, h10km, n15, σ1§18/22, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.27**	**231**	*eP*	**Pg**	**17 38 23.6**	**+0.7**
BBSP				*eS*	**Sg**	**17 38 41.5**	**+2.0**
BBGH	**Gun Hill**	**1.32**	**235**	*eP*	**Pg**	**17 38 24.0**	**0.0**
BBGH				*eS*	**Sg**	**17 38 43.4**	**+2.3**
BCHC	**Barbados, Cave**	**1.39**	**236**	*eS*	**Sg**	**17 38 43.8**	**+0.6**
MPOM	**Morne Pois Mar**	**2.40**	**283**	*eP*	**Pn**	**17 38 37.6**	**-0.3**
MPOM				*eS*	**Sn**	**17 39 07.5**	**+0.1**
MCLT	**Moule a Chique**	**2.43**	**266**	*eP*	**Pn**	**17 38 37.2**	**-1.1**
SLBI	**Saint Lucia, B**	**2.45**	**273**	*eP*	**Pn**	**17 38 37.8**	**-0.9**
SLBI				*eS*	**Sn**	**17 39 07.5**	**-1.2**
SLB	**Belfond**	**2.52**	**268**	*eP*	**Pn**	**17 38 39.6**	**0.0**
BIM	**Bigot**	**2.61**	**284**	*eP*	**Pn**	**17 38 40.5**	**-0.4**
BIM				*eS*	**Sn**	**17 39 11.3**	**-1.4**
SSV	**Crater Summit**	**2.73**	**258**	*eS*	**Sn**	**17 39 14.8**	**-0.9**
FDF	**Fort de France**	**2.74**	**288**	*eP*	**Pn**	**17 38 42.4**	**-0.3**
FDF				*eS*	**Sn**	**17 39 14.5**	**-1.5**
SVV	**Soufriere Volc**	**2.75**	**258**	*eS*	**Sn**	**17 39 15.2**	**-0.9**
SVB	**Belmont**	**2.80**	**257**	*eP*	**Pn**	**17 38 43.0**	**-0.5**
SVB				*eS*	**Sn**	**17 39 16.1**	**-1.2**
GCMP	**Grenada, Carri**	**3.23**	**244**	*eP*	**Pn**	**17 38 47.8**	**-1.6**
DSLB	**Salisbury**	**3.25**	**298**	*eP*	**Pn**	**17 38 49.1**	**-0.6**
CBE	**Ff, Capester**	**3.73**	**305**	*e*	**Pn**	**17 38 57.7**	**+1.4**

IDC ***16*** *17:37:57.1±0.5, 19.°53N×64.°50W, h0km, mb4.2/22, mb1 4.4/25, mb1mx4.3/42, mbtmp4.3/25, ML4.0/3, MS4.0/6, Ms1 4.0/6, ms1mx3.7/34, Error ellipse: s-maj=13.5km s-min=11.1km az=99.0*
TRN ***16*** *17:37:58.4, 19.°73N×64.°43W, h24km*
RSPR ***16*** *17:37:59.6, 19.°86N×64.°37W, h35km±17km, MD4.2/15*
NEIC ***16*** *17:38:00.1±2.4, 19.°64N±0.°03×64.°50W±0.°04, h9km±3km, Error ellipse: s-maj=6.9km s-min=2.4km az=64.0*
OSPL ***16*** *17:38:01.0±1.0, 19.°37N×64.°47W, h0km±133km, ML4.5*
ISC 16 17:37:60.0±0.9, 19.°57N±0.°03×64.°47W±0.°03, h19km±3km, n482, σ1§37/493, mb4.6/76, MS3.9/3, 16C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.85**	**171**		**Pn**	**17 38 17.7**	**+0.9**
ABVI					**Sn**	**17 38 30.0**	**+1.3**
VGBI	**Virgin Gorda,**	**1.07**	**177**	⇑*eP*	**Pg**	**17 38 21.0**	**+0.1**
VGBI	**Virgin Gorda,**	**1.07**	**177**	*eS*	**Sn**	**17 38 37.3**	**+2.9**
VGBI	**Virgin Gorda,**	**1.07**	**177**		**Pg**	**17 38 21.0**	**+0.1**
VGBI					**Sn**	**17 38 37.3**	**+2.9**
TBVI	**Tortola**	**1.16**	**187**	⇑*eP*	**Pg**	**17 38 22.2**	**-0.2**
TBVI	**Tortola**	**1.16**	**187**	*eS*	**Sg**	**17 38 40.2**	**+2.7**
TBVI	**Tortola**	**1.16**	**187**		**Pg**	**17 38 22.2**	**-0.2**
TBVI					**Sg**	**17 38 40.2**	**+2.7**
STVI	**Saint Thomas**	**1.29**	**201**	⇑*eP*	**Pb**	**17 38 24.1**	**+0.4**
STVI	**Saint Thomas**	**1.29**	**201**	*eS*	**Sg**	**17 38 43.5**	**+1.5**
STVI	**Saint Thomas**	**1.29**	**201**		**Pb**	**17 38 23.9**	**+0.3**
STVI				Sn	**Sg**	**17 38 42.2**	**+0.2**
STVI				IAML		17 39 01.8	
	comp=N,2μm,0.7s						
STVI	**Saint Thomas**	**1.29**	**201**		**Sg**	**17 38 43.5**	**+1.5**
CUPR	**Culebra, Puert**	**1.47**	**212**	⇑*eP*	**Pn**	**17 38 26.4**	**+1.0**
CUPR	**Culebra, Puert**	**1.47**	**212**	*eS*	**Sg**	**17 38 47.5**	**-0.2**
CUPR	**Culebra, Puert**	**1.47**	**212**		**Pn**	**17 38 26.4**	**+1.0**
CUPR					**Sg**	**17 38 47.5**	**-0.2**
MTP	**Monte Pirata**	**1.79**	**215**		**Pn**	**17 38 30.6**	**+0.9**
CDVI	**St. Croix**	**1.83**	**189**	*eP*	**Pb**	**17 38 33.0**	**+0.2**
CDVI				*eS*	**Sb**	**17 38 57.3**	**+2.0**
CDVI	**St. Croix**	**1.83**	**189**	Pn	**Pb**	**17 38 32.6**	**-0.2**

CBYP Canovanas 1.84 226 ⇑*eP* **Pn 17 38 31.9 +1.3**
CBYP Canovanas 1.84 226 **Pn 17 38 30.9 +0.3**
GCPR Guaynabo City 1.98 231 ⇑*eP* **Pn 17 38 33.3 +0.9**
GCPR Guaynabo City 1.98 231 **Pn 17 38 32.2 -0.1**
SMRT St. Maarten 2.01 139 *eP* **Pn 17 38 34.4 +1.5**
SMRT *eS* **Sb 17 39 00.6 +0.1**
SMRT St. Maarten 2.01 139 **Pn 17 38 34.0 +1.2**
SMRT IAML 17 39 05.8
comp=E,2μm,0.8s
SMRT IAML 17 39 07.8
comp=N,2μm,1.0s
PDPR Patillas Dam, 2.13 224 **Pn 17 38 35.0 +0.5**
PDPR IAML 17 39 08.3
comp=E,1μm,0.6s
SJG San Juan 2.15 228 Pn **Pn 17 38 35.1 +0.3**
comp=E,56nm,0.3s,baz=66,slow=12,SNR=44
SJG Sn **Sn 17 39 01.5 +0.5**
comp=E,125nm,0.3s,baz=348,slow=20,SNR=8.8
SJG San Juan 2.15 228 *eP* **Pn 17 38 35.6 +0.8**
SJG San Juan 2.15 228 **Pn 17 38 35.1 +0.3**
SJG IAML 17 39 07.0
comp=E,948nm,0.6s
SJG San Juan 2.15 228 *eP* **Pn 17 38 35.4 +0.6**
IGPR InterUniversit 2.23 224 ⇑*eP* **Pn 17 38 37.1 +1.3**
IGPR InterUniversit 2.23 224 *eS* **Sb 17 39 06.5 -0.2**
IGPR InterUniversit 2.23 224 Pn **Pn 17 38 36.6 +0.8**
IGPR IAML 17 39 11.8
comp=E,1μm,0.4s
EMPR Esperanza - Ma 2.23 241 ⇑*eP* **Pn 17 38 36.4 +0.6**
EMPR Esperanza - Ma 2.23 241 *eS* **Sn 17 39 05.3 +2.4**
EMPR Esperanza - Ma 2.23 241 **Pn 17 38 36.4 +0.6**
EMPR IAML 17 39 12.0
comp=N,2μm,0.7s
EMPR IAML 17 39 14.1
comp=E,2μm,1.0s
EMPR Esperanza - Ma 2.23 241 **Sn 17 39 05.3 +2.4**
SABA Saba 2.26 149 **Pn 17 38 37.0 +0.7**
SABA IAML 17 39 40.5
comp=N,2μm,0.9s
AOPR Arecibo Observ 2.48 241 ⇑*eP* **Pn 17 38 39.7 +0.3**
AOPR Arecibo Observ 2.48 241 *eS* **Sn 17 39 11.7 +2.6**
AOPR Arecibo Observ 2.48 241 *eP* **Pn 17 38 40.6 +1.3**
AOPR Arecibo Observ 2.48 241 **Pn 17 38 39.5 +0.2**
AOPR Arecibo Observ 2.48 241 **Sn 17 39 11.7 +2.6**
CELP Cerrillos 2.49 234 ⇑ *iP* **Pn 17 38 40.3 +0.9**
CELP Cerrillos 2.49 234 *eS* **Sn 17 39 12.2 +2.9**
CELP Cerrillos 2.49 234 **Pn 17 38 40.3 +0.9**
CELP **Sn 17 39 12.2 +2.9**
OBIP Obispado Ponce 2.53 233 ⇑ *iP* **Pn 17 38 40.9 +0.9**
OBIP Obispado Ponce 2.53 233 *eS* **Sn 17 39 13.1 +2.8**
OBIP Obispado Ponce 2.53 233 **Pn 17 38 40.7 +0.8**
OBIP IAML 17 39 13.4
comp=E,771nm,0.6s
OBIP Obispado Ponce 2.53 233 **Sn 17 39 13.1 +2.8**
ICMP Isla Caja de M 2.57 230 ⇑*eP* **Pn 17 38 42.1 +1.6**
ICMP Isla Caja de M 2.57 230 *eS* **Sb 17 39 15.0 -1.6**
ICMP Isla Caja de M 2.57 230 **Pn 17 38 41.9 +1.3**
ICMP IAML 17 39 19.3
comp=E,1μm,0.6s
ICMP IAML 17 39 33.9
comp=N,879nm,1.1s
ICMP Isla Caja de M 2.57 230 **Sb 17 39 15.0 -1.6**
AGPR Aguadilla, PR 2.73 247 ⇑*eP* **Pn 17 38 43.5 +0.7**
AGPR Aguadilla, PR 2.73 247 *eS* **Sn 17 39 17.1 +1.9**
AGPR Aguadilla, PR 2.73 247 **Sn 17 39 17.1 +1.9**
AGPR Aguadilla, PR 2.73 247 **Pn 17 38 42.8 0.0**
AGPR Aguadilla, PR 2.73 247 IAML 17 39 23.5
comp=N,892nm,0.5s
AGPR IAML 17 39 36.9
comp=E,802nm,1.4s
AGPR Aguadilla, PR 2.73 247 *i P* **Pn 17 38 43.1 +0.4**
SKI Saint Kitts 2.77 143 *eP* **Pn 17 38 45.3 +2.0**
SKI *eS* **Sn 17 39 18.5 +2.3**
SKI Saint Kitts 2.77 143 Pn **Pn 17 38 45.7 +2.5**
GBPR Guanica, Bosqu 2.78 236 ⇑*eP* **Pn 17 38 44.8 +1.4**
GBPR Guanica, Bosqu 2.78 236 **Pn 17 38 44.8 +1.4**
SKOC St. Kitts, UWI 2.80 144 *eP* **Pn 17 38 45.8 +2.1**
LSP Las Mesas 2.84 241 ⇑*eP* **Pn 17 38 45.3 +1.0**
LSP Las Mesas 2.84 241 *eS* **Sn 17 39 20.2 +2.2**
LSP Las Mesas 2.84 241 **Pn 17 38 45.3 +1.0**
LSP **Sn 17 39 20.2 +2.2**
MPR Mayaguez 2.87 242 **Pn 17 38 45.0 +0.4**
MPR Mayaguez 2.87 242 *i P* **Pn 17 38 45.1 +0.4**
MPR IAML 17 39 20.3
comp=Z,378nm,0.7s
MLPR Magueyes Islan 2.91 237 ⇑*eP* **Pn 17 38 45.9 +0.7**
MLPR Magueyes Islan 2.91 237 **Pn 17 38 45.1 -0.2**
MLPR IAML 17 39 25.3
comp=N,543nm,0.7s
MLPR IAML 17 39 26.6
comp=E,548nm,0.6s
IDE Isla Desecheo 3.08 248 ⇑*eP* **Pn 17 38 47.8 +0.3**
IDE Isla Desecheo 3.08 248 *eS* **Sn 17 39 25.7 +1.9**
IDE Isla Desecheo 3.08 248 **Pn 17 38 47.8 +0.3**
IDE **Sn 17 39 25.7 +1.9**
ANWB Willy Bob 3.17 126 *eP* **Pn 17 38 50.1 +1.3**
ANWB Willy Bob 3.17 126 Pn **Pn 17 38 48.5 -0.3**
ANWB IAML 17 40 12.0
comp=E,542nm,2.1s
BPA Boggy Peak 3.53 135 *eP* **Pn 17 38 54.4 +0.6**
BPA *eS* **Sn 17 39 36.5 +1.5**
ANBD Bethesda, Anti 3.59 134 *eP* **Pn 17 38 55.3 +0.7**
ANBD *eS* **Sn 17 39 37.8 +1.3**
PCDR Punta Cana, DR 3.85 255 ⇑*eP* **Pn 17 38 58.5 +0.5**
PCDR Punta Cana, DR 3.85 255 *eS* **Sn 17 39 44.0 +1.2**
PCDR Punta Cana, DR 3.85 255 **Pn 17 38 58.4 +0.3**
PCDR IAML 17 39 43.4
comp=E,604nm,0.7s
PCDR Punta Cana, DR 3.85 255 *i P* **Pn 17 38 58.6 +0.5**
PCDR *eS* **Sn 17 39 41.9 -0.9**
PCDR IAML 17 39 42.8
comp=Z,600nm,0.6s
ABD La Joyeuse, An 4.19 137 *eP* **Pn 17 39 03.4 +0.6**
CBE Ff, Capester 4.42 141 *eP* **Pn 17 39 07.8 +1.7**
DR12 Loma Pena Alta 4.71 261 **Pn 17 39 09.7 -0.3**
MAGL Barre de l'ile 4.71 139 *eP* **Pn 17 39 11.7 +1.7**
SDD Santo Domingo 5.27 259 Pn **Pn 17 39 17.6 0.0**
SDD Santo Domingo 5.27 259 *i P* **Pn 17 39 17.8 +0.1**
SVN Savane Anatole 5.66 146 Pn **Pn 17 39 23.1 0.0**
BANI BANI 5.69 259 **Pn 17 39 24.4 +0.8**
BANI BANI 5.69 259 *i P* **Pn 17 39 24.9 +1.3**
BANI IAML 17 40 36.8
comp=Z,218nm,0.6s
SC01 Santiago de lo 5.90 270 **Pn 17 39 26.3 -0.1**
SC01 Santiago de lo 5.90 270 *i P* **Pn 17 39 27.3 +0.9**
SDDR Presa de Saban 6.47 266 *eP* **Pn 17 39 35.3 +1.1**
SDDR Presa de Saban 6.47 266 *eS* **Sn 17 40 46.3 -1.2**
SDDR Presa de Saban 6.47 266 Pn **Pn 17 39 34.5 +0.3**
SDDR Presa de Saban 6.47 266 *eP* **Pn 17 39 34.6 +0.4**
SDDR Presa de Saban 6.47 266 *i P* **Pn 17 39 35.2 +1.1**
SDDR IAML 17 40 53.4
comp=Z,223nm,0.6s
GRTK Grand Turk 6.54 288 Pn **Pn 17 39 33.8 -1.3**
JAKH Jacmel 7.73 261 Pn **Pn 17 39 51.6 +0.1**
LGNH Logne 7.77 264 **Pn 17 39 52.2 +0.2**
BBSP Saint Philip 8.03 142 *eP* Pn 17 39 42.2 -13
PCRV Puerto La Cruz 9.34 181 Pn **Pn 17 40 13.8 +0.1**
comp=Z,2.8nm,0.3s,baz=49,slow=7.2,SNR=6.2
PCRV Sn **Sn 17 41 51.1 -7.2**
comp=Z,0.4nm,0.3s,baz=34,slow=15,SNR=1.5
GTBY Guantanamo Bay 10.03 274 Pn **Pn 17 40 18.6 -4.4**
DABV Dabajuro 10.45 216 *eP* **Pn 17 40 31.5 +2.7**
SDV Santo Domingo 12.18 210 Pn **Pn 17 40 55.7 +3.0**
comp=Z,5.7nm,0.3s,baz=43,slow=10,SNR=15
SDV Sn **Sn 17 43 06.2 -2.0**
comp=Z,2.4nm,0.3s,baz=318,slow=14,SNR=1.1
SDV LR LR 17 46 40.2
comp=Z,584nm,18.3s,baz=66,slow=43
SDV Santo Domingo 12.18 210 *eP* **Pn 17 40 54.5 +1.8**
SDV *eS* **Sn 17 43 13.2 +5.1**
MTDJ Mount Denham 12.44 266 Pn **Pn 17 40 52.9 -3.2**
BBSR BB Station 12.75 359 **Pn 17 40 56.1 -4.1**
SOCV Socops 12.81 210 *eP* **Pn 17 41 03.5 +2.3**
ELOV Elorza 13.41 202 *eP* **Pn 17 41 12.2 +2.9**
SJCC San Jacinto, C 14.12 229 Pn **Pn 17 41 18.9 -0.2**
SJCC San Jacinto, C 14.12 229 *eP* **Pn 17 41 19.2 0.0**
OCAC Ocana 14.16 219 *eP* **Pn 17 41 18.4 -1.3**
SMLC San Martn de 14.18 222 *eP* **Pn 17 41 17.2 -2.6**
PAMC Pamplona, Colo 14.55 214 *eP* **Pn 17 41 27.1 +1.8**
MOTC Monteria, Cord 15.25 227 *eP* **Pn 17 41 35.6 +1.3**
BARC Barichara 15.43 214 *eP* **Pn 17 41 37.4 +0.5**
ZARC Zaragoza, Cauc 15.68 221 *eP* **Pn 17 41 39.2 -0.7**

UREC San Jos de Ur 15.91 224 *eP* **Pn 17 41 43.4 +0.5**
RUSC La Rusia 15.97 213 **Pn 17 41 43.2 -0.9**
RUSC IAmb IAmb 17 41 52.2
comp=Z,43nm,0.7s
RUSC La Rusia 15.97 213 *eP* **Pn 17 41 44.7 +0.6**
061Z Ochoppi 16.40 295 **Pn 17 41 47.7 -1.5**
061Z IAmb IAmb 17 42 07.7
comp=Z,50nm,0.8s
DBBC Dabeiba 16.90 224 *eP* **Pn 17 41 55.7 +0.1**
HELC Santa Helena 17.10 220 *eP* **Pn 17 41 58.2 -0.3**
NORC Norcasia 17.21 217 *eP* **Pn 17 42 00.0 +0.5**
CHIC Chingaza 17.38 212 *eP* **Pn 17 42 02.0 0.0**
BOAV Boa Vista 17.50 167 *eP* **Pn 17 42 03.3 +0.2**
ROSC El Rosal 17.51 215 P **Pn 17 42 03.9 +0.4**
comp=Z,6.5nm,0.3s,baz=67,slow=12,SNR=14
ROSC LR LR 17 49 21.7
comp=Z,700nm,21.0s,baz=51,slow=39
ROSC El Rosal 17.51 215 **Pn 17 42 03.0 -0.5**
ROSC IAmb IAmb 17 42 09.6
comp=Z,61nm,1.0s
ROSC El Rosal 17.51 215 *eP* **P 17 42 05.9 +1.3**
SOR Soroa 17.58 284 P **Pn 17 42 02.4 -1.6**
CBOC Ciudad Bolivar 17.66 221 *eP* **Pn 17 42 04.3 -0.8**
DWPF Disney Wildern 17.68 302 P **P 17 42 05.6 -0.4**
baz=114
GUY2C Guyana, Caldas 17.77 218 *eP* **Pn 17 42 06.4 -0.5**
PTAC Punta Ardita, 17.89 228 *eP* **Pn 17 42 06.0 -1.9**
BCIP Isla Barro Col 18.11 237 P **Pn 17 42 08.6 -2.0**
BCIP IAmb IAmb 17 42 19.0
comp=Z,30nm,0.8s
BCIP Isla Barro Col 18.11 237 *eP* **Pn 17 42 10.4 -0.1**
TOLC Tolima 18.27 217 *eP* **P 17 42 13.4 +0.5**
ANIL Santa Ana 18.39 217 *eP* **Pn 17 42 15.5 +1.2**
MDP Montagnes des 18.43 140 P **P 17 42 10.7 -3.6**
comp=Z,0.3nm,0.3s,baz=59,slow=12,SNR=2.0
MDP LR LR 17 51 49.3
comp=Z,261nm,18.1s,baz=353,slow=45
ORTC Ortega, Tolima 18.79 215 *eP* **P 17 42 18.1 -0.2**
656A Willston 19.10 304 P **P 17 42 20.3 -1.3**
656A IAmb IAmb 17 42 39.8
comp=Z,84nm,1.1s
Y59A Loris 19.25 321 P **P 17 42 21.6 -1.5**
YOTC Yotoco, Valle 19.34 218 *eP* **P 17 42 25.2 +0.6**
456A Hilliard 19.36 308 P **Pn 17 42 26.7 +1.1**
NHSC New Hope 19.46 317 P **P 17 42 25.6 +0.1**
baz=129
NHSC New Hope 19.46 317 **Pn 17 42 27.3 +0.5**
MACC Macarena, Meta 19.60 209 *eP* **P 17 42 25.7 -1.4**
X58A Rowland 19.91 322 P **P 17 42 30.3 -0.2**
GARC Garzon, Huila 20.36 213 *eP* Pn 17 42 37.4 -0.5
ESPN Las Esperanzas 20.42 252 P **P 17 42 35.4 -0.7**
ESPN IAmb IAmb 17 42 43.3
comp=Z,23nm,0.8s
T60A Surry 20.53 331 P **P 17 42 35.1 -2.1**
BIRD Birdtown, Kers 20.65 320 P Pn 17 42 39.3 -1.5
BIRD IAmb IAmb 17 42 53.4
comp=Z,28nm,0.7s
PTGA Pitinga 20.65 167 P **P 17 42 37.7 -0.9**
comp=Z,8.0nm,0.8s,baz=336,slow=13,SNR=11
PTGA LR LR 17 50 36.0
comp=Z,454nm,21.0s,baz=358,slow=37
PTGA Pitinga 20.65 167 P **P 17 42 39.2 +0.6**
V58A Windy Hill, Pi 20.68 324 P Pn 17 42 40.6 -0.6
V58A IAmb IAmb 17 42 51.0
comp=Z,35nm,1.0s
POPC Popayan, Colom 20.71 217 *eP* P 17 42 30.4 -9.1
W57A Gilead 20.72 322 P Pn 17 42 40.5 -1.1
W57A IAmb IAmb 17 42 55.5
comp=Z,25nm,0.8s
PCON Cinco Dias 20.73 216 *eP* **P 17 42 40.7 +0.7**
DRK0 Durika 20.85 243 P **P 17 42 40.1 -0.9**
JSC Jenkinsville 20.90 318 P **P 17 42 41.1 -0.1**
CVTR Volcan Turrial 20.91 246 P **P 17 42 38.7 -3.2**
CVTR IAmb IAmb 17 43 07.0
comp=Z,26nm,0.8s
SRBA San Rafael, Bu 20.96 243 P **P 17 42 43.3 +1.1**
RIMA Rio Macho 21.12 245 **P 17 42 44.1 +0.1**
RIMA IAmb IAmb 17 42 50.6
comp=Z,25nm,1.1s
ACON Acoyapa 21.30 252 P **P 17 42 45.2 -0.4**
Q61A Milford 21.41 336 P **P 17 42 48.0 +1.4**
baz=150
BBAC Balboa, Cauca 21.46 217 *eP* **P 17 42 47.5 -0.1**
KMSC Kings Mountain 21.51 320 P **P 17 42 48.2 +0.4**
baz=131
KMSC Kings Mountain 21.51 320 P **P 17 42 48.9 +1.1**
PAULI Pauline 21.60 318 P **P 17 42 49.0 +0.3**
T57A Hurt 21.65 326 P **P 17 42 49.9 +0.6**
T57A IAmb IAmb 17 42 55.2
comp=Z,27nm,1.1s
R58B Mineral 21.73 330 P **P 17 42 50.1 +0.1**
R58B IAmb IAmb 17 43 18.2
comp=Z,26nm,0.7s
PTLC Puerto Leguiza 21.77 209 *eP* **P 17 42 54.7 +4.0**
U56A King 21.79 323 P **P 17 42 51.8 +1.1**
JTS Las Juntas de 21.81 248 P **P 17 42 50.4 -0.8**
comp=Z,4.1nm,0.5s,baz=10,slow=4.9,SNR=4.6
JTS Las Juntas de 21.81 248 P **P 17 42 51.0 -0.2**
JTS IAmb IAmb 17 43 11.1
comp=Z,35nm,1.3s
GOGA Godfrey 21.84 313 P **P 17 42 51.6 +0.3**
baz=124
GOGA Godfrey 21.84 313 P **P 17 42 51.5 +0.3**
V55A Taylorsville 21.92 321 P **P 17 42 52.8 +0.6**
S57A Dark Hollow, R 22.09 328 P **P 17 42 54.4 +0.4**
S57A IAmb IAmb 17 43 20.5
comp=Z,26nm,0.7s
GCUF Volcan Galeras 22.16 216 *eP* **P 17 42 54.2 -1.3**
152A Waverly Hall 22.32 310 P **P 17 42 57.3 +0.7**
152A IAmb IAmb 17 43 20.1
comp=Z,14nm,0.7s
P60A Greenville 22.35 337 P **P 17 42 57.9 +1.2**
P60A IAmb IAmb 17 43 23.8
comp=Z,61nm,1.5s
BG3 Lake Jocassee 22.42 317 P **P 17 42 58.3 +0.7**
BLA Blacksburg 22.43 325 P **P 17 42 58.6 +0.9**
baz=137
BLA Blacksburg 22.43 325 P **P 17 42 58.5 +0.8**
WUPA West Chester U 22.44 337 P **P 17 42 59.0 +1.3**
SDMD Soldier's Deli 22.47 334 P **P 17 42 59.7 +1.7**
SDMD IAmb IAmb 17 43 14.1
comp=Z,19nm,0.6s
CNGN Cerro Negro 22.48 255 P **P 17 42 59.7 +1.4**
M64A Tiverton 22.65 347 P **P 17 43 01.7 +1.8**
baz=163
V53A Saluda 22.77 319 P **P 17 43 01.9 +0.6**
V53A IAmb IAmb 17 43 27.4
comp=Z,28nm,0.9s
WSPT Westport, CT 22.82 343 P **P 17 43 02.9 +1.2**
PAL Palisades 22.84 341 P **P 17 43 03.5 +1.6**
baz=156
PAL Palisades 22.84 341 P **P 17 43 01.6 -0.3**
MACA Manacapuru-AM 22.89 170 *eP* **P 17 43 03.2 +0.6**
P57A Homestead Farm 23.03 332 P **P 17 43 04.4 +0.5**
P57A IAmb IAmb 17 43 33.2
comp=Z,19nm,1.1s
TRNY Table Rock, Ra 23.06 341 P **P 17 43 05.5 +1.2**
TRNY IAmb IAmb 17 43 24.9
comp=Z,59nm,1.4s
R55A Marlinton 23.07 327 P **P 17 43 05.5 +1.1**
ODNJ Ogdensburg 23.12 340 P **P 17 43 05.6 +0.7**
W52A Murphy 23.13 316 P **P 17 43 05.4 +0.4**
W52A IAmb IAmb 17 43 22.6
comp=Z,33nm,1.1s
Q56A Snyder Ridge, 23.20 330 P **P 17 43 06.2 +0.5**
MCPB Macapa, AP 23.25 147 *eP* **P 17 43 05.3 -1.0**
N59A State Game Lan 23.37 338 P **P 17 43 09.1 +1.7**
baz=152
N59A State Game Lan 23.37 338 P **P 17 43 08.9 +1.5**
TKL Tuckaleechee C 23.37 317 P **P 17 43 09.0 +1.6**
V52A Sevierville 23.37 318 P **P 17 43 08.7 +1.3**
V52A IAmb IAmb 17 43 30.9
comp=Z,47nm,1.2s
MALB Monte Alegre 23.53 154 *eP* **P 17 43 08.6 -0.5**
OTAV Otavalo 23.60 217 P **P 17 43 10.3 0.0**
OTAV IAmb IAmb 17 43 14.8
comp=Z,22nm,1.1s
OTAV Otavalo 23.60 217 *eP* **P 17 43 09.3 -0.9**
TZTN Tazewell 23.79 319 P **P 17 43 12.1 +0.6**
baz=130
K63A Dunstable 23.81 347 P **P 17 43 12.7 +1.2**
baz=163
L61B Northampton 23.84 345 P **P 17 43 12.8 +0.9**
baz=160

O56A	Blue Knob Stat	23.91 333	P	P	17 43 14.3	+1.6
	baz=145					
SSPA	Standing Stone	23.93 334	P	P	17 43 13.8	+1.0
	baz=147					
Q54A	Coxs Mills	23.97 327	P	P	17 43 14.4	+1.2
Q54A			IAmb	IAmb	17 43 15.8	
	comp=Z,18nm,0.9s					
LRAL	Lakeview Retre	24.18 308	P	P	17 43 15.8	+0.7
	baz=118					
LRAL	Lakeview Retre	24.18 308	P	P	17 43 15.9	+0.8
PETF	Flores	24.26 268	P	P	17 43 17.2	+1.2
MTO3	Montecristo	24.34 262	P	P	17 43 18.3	+1.2
MTO3			IAmb	IAmb	17 43 24.7	
	comp=Z,20nm,0.9s					
J62A	Henniker	24.38 347	P	P	17 43 18.5	+1.6
	baz=163					
I64A	Boothbay	24.66 351	P	P	17 43 21.3	+1.9
	baz=168					
J61A	Chester	24.66 346	P	P	17 43 21.6	+2.2
	baz=161					
Q52A	Bidwell	24.70 325	P	P	17 43 20.8	+0.9
J60A	Lant Hill Farm	24.78 344	P	P	17 43 21.8	+1.4
	baz=159					
T50A	Nancy	24.89 319	P	P	17 43 22.1	+0.5
T50A			IAmb	IAmb	17 43 25.2	
	comp=Z,12nm,0.8s					
I62A	Tamworth	24.91 348	P	P	17 43 22.7	+1.0
	baz=164					
I63A	Otisfield	24.94 350	P	P	17 43 24.0	+2.1
	baz=166					
M55A	Ridgway	24.99 334	P	P	17 43 24.3	+1.8
M55A			IAmb	IAmb	17 43 27.1	
	comp=Z,38nm,1.4s					
N54A	Moraine State	25.11 331	P	P	17 43 24.7	+1.2
	baz=143					
N54A	Moraine State	25.11 331	P	P	17 43 25.3	+1.8
N54A			IAmb	IAmb	17 43 50.7	
	comp=Z,23nm,0.8s					
O53A	New Philadelph	25.12 329	P	P	17 43 24.3	+0.6
	baz=140					
O53A	New Philadelph	25.12 329	P	P	17 43 25.2	+1.5
P52A	Corning	25.12 327	P	P	17 43 24.8	+1.1
	baz=137					
P52A	Corning	25.12 327	P	P	17 43 24.6	+1.0
P52A			IAmb	IAmb	17 43 27.2	
	comp=Z,34nm,0.9s					
I61A	Oroboro, Fairl	25.14 347	P	P	17 43 25.7	+1.9
	baz=162					
U49A	Red Boiling Sp	25.18 317	P	P	17 43 25.1	+0.9
H66A	Whiting	25.26 355	P	P	17 43 26.9	+2.1
	baz=173					
ITTB	Itaituba	25.29 159	eP	P	17 43 23.4	-2.0
I60A	Shoreham	25.31 345	P	P	17 43 27.0	+1.8
	baz=160					
O52A	Adamsville	25.33 328	P	P	17 43 27.3	+1.8
O52A			IAmb	IAmb	17 43 29.5	
	comp=Z,22nm,1.2s					
Q51A	Peebles	25.34 324	P	P	17 43 26.9	+1.2
N53A	Lisbon	25.38 330	P	P	17 43 27.5	+1.5
R50A	Paris	25.39 321	P	P	17 43 27.6	+1.5
J58A	Remsen	25.40 341	P	P	17 43 27.8	+1.7
	baz=155					
I59A	Olmsteadville	25.41 344	P	P	17 43 27.7	+1.5
	baz=159					
V48A	Smith Brothers	25.43 314	P	P	17 43 29.0	+2.5
P51A	Williamsport	25.51 325	P	P	17 43 27.3	+0.2
H62A	Milan	25.55 349	P	P	17 43 29.4	+1.9
	baz=165					
I58A	Old Forge	25.61 342	P	P	17 43 30.7	+2.6
	baz=156					
H61A	Lyndonville	25.66 348	P	P	17 43 31.0	+2.5
	baz=163					
J57A	Williamstown	25.67 340	P	P	17 43 28.5	-0.1
J57A			IAmb	IAmb	17 43 57.7	
	comp=Z,7.8nm,0.6s					
M53A	WI Miller and	25.80 331	P	P	17 43 32.5	+2.7
	baz=142					
H60A	Morristown	25.85 346	P	P	17 43 33.1	+2.9
	baz=162					
G64A	Maxfield	25.86 353	P	P	17 43 33.1	+2.8
	baz=170					
PLAL	Pickwick Lake	25.90 311	P	P	17 43 32.0	+1.2
PKME	Peaks-Kenny Pk	25.93 352	P	P	17 43 33.8	+2.8
	baz=169					
ACSO	Alum Creek Sta	26.01 326	P	P	17 43 33.6	+1.9
	baz=136					
ACSO	Alum Creek Sta	26.01 326	P	P	17 43 33.2	+1.5
ACSO			IAmb	IAmb	17 44 02.6	
	comp=Z,28nm,0.9s					
G62A	West of Eustis	26.07 350	P	P	17 43 34.6	+2.4
	baz=167					
H59A	Cadyville	26.16 345	P	P	17 43 35.3	+2.3
	baz=160					
WVT	Waverly	26.33 314	P	P	17 43 33.7	-1.0
	baz=122					
H57A	Richville	26.44 342	P	P	17 43 37.6	+2.1
	baz=156					
P49A	Miami Univ. Ec	26.46 323	P	P	17 43 36.3	+0.6
	baz=132					
OXF	Oxford	26.64 309	P	P	17 43 38.3	+0.8
	baz=117					
TMAB	Tom-Au,PA,Br	27.09 142	eP	P	17 43 40.2	-1.5
E61A	Lac Etchemin	27.24 351	P	P	17 43 45.2	+2.4
	baz=167					
E62A	Clayton Lake	27.30 352	P	P	17 43 45.5	+2.3
	baz=169					
N47A	Urbana	27.92 324	P	P	17 43 49.1	+0.1
NPGB	Novo Progresso	27.93 160	eP	P	17 43 48.7	-0.4
SADO	Sadowa	27.94 337	P	P	17 43 53.2	+4.2
	comp=Z,1.3nm,0.4s,baz=197,slow=14,SNR=1.6					
L48A	N Adams	28.00 327	P	P	17 43 50.6	+1.0
D58A	Chemin du LacG	28.30 348	P	P	17 43 53.8	+1.6
	baz=163					
CZSB	Cruzeiro do Su	28.31 197	eP	P	17 43 52.6	0.0
SFIN	Lafayette	28.39 322	P	P	17 43 54.1	+1.1
	baz=130					
ALGO	Algonquin Park	28.60 340	P	P	17 43 57.2	+2.4
	baz=152					
W41B	Gary Mavity, V	29.02 308	P	P	17 43 59.6	+0.8
	baz=115					
X40A	Basin Creek Fa	29.18 306	P	P	17 44 00.9	+0.7
	baz=113					
ETMB	Extrema	29.25 184	eP	P	17 44 00.2	-0.7
PRPB	Parauapebas	29.37 149	eP	P	17 44 00.2	-1.8
CCM	Cathedral Cave	29.66 314	P	P	17 44 05.8	+1.4
	baz=120					
HDIL	Hopedale	29.81 320	P	P	17 44 07.1	+1.5
	baz=127					
W39A	Magazine	30.18 307	P	P	17 44 10.6	+1.5
	baz=113					
CHGQ	Chibougamau	31.29 348	P	P	17 44 21.0	+2.3
	baz=162					
E46A	Sault Ste Mari	31.30 333	P	P	17 44 20.1	+1.3
E46A			IAmb	IAmb	17 44 22.0	
	comp=Z,28nm,1.3s					
CLDB	Colider	31.43 163	eP	P	17 44 19.5	-0.8
JFWS	Jewell Farm	31.82 323	P	P	17 44 25.4	+2.0
	baz=129					
MATQ	Matagami	31.91 344	P	P	17 44 26.4	+2.4
	baz=156					
TUL1	Leonard	31.97 307	P	P	17 44 25.6	+0.8
	baz=112					
VILB	Vilhena	32.59 172	eP	P	17 44 29.2	-1.2
SMTB	Santa Maria do	32.78 148	eP	P	17 44 29.5	-2.7
NBPS	Pedro II - PI	32.86 134	eP	P	17 44 31.4	-1.5
NBMO	Morrinhos-CE	33.07 131	eP	P	17 44 31.6	-3.0
G40A	Rib Lake	33.32 326	P	P	17 44 38.1	+1.5
G40A			IAmb	IAmb	17 44 39.8	
	comp=Z,8.6nm,0.8s					
COWI	Conover	33.34 328	P	P	17 44 38.0	+1.3
COWI			IAmb	IAmb	17 44 40.6	
	comp=Z,16nm,1.4s					
SNDB	Serra Nova Dou	33.93 156	eP	P	17 44 40.7	-1.4
ABTX	Abilene, Hawle	33.99 300	P	P	17 44 43.6	+1.0
	baz=103					
ABTX	Abilene, Hawle	33.99 300	P	P	17 44 43.1	+0.5
ABTX			IAmb	IAmb	17 44 44.3	
	comp=Z,9.8nm,0.8s					
SPMN	Marine on St.	34.70 324	P	P	17 44 49.7	+1.2
	baz=128					
NBCL	Cascavel-CE	34.96 130	eP	P	17 44 49.5	-1.6
NBPB	Pedra_Branca-C	34.97 133	eP	P	17 44 49.5	-1.7
F36A	Milaca	35.49 324	P	P	17 44 55.3	0.0
SIV	San Ignacio	35.50 174	P	P	17 44 55.2	-0.5
	comp=Z,5.0nm,0.7s,baz=28,slow=10,SNR=18					
ZAIG	Zacatecas	35.60 282	P	P	17 44 58.1	+1.2
ZAIG			IAmb	IAmb	17 45 00.6	
	comp=Z,20nm,1.3s					
EYMN	Ely	35.79 329	P	P	17 44 59.7	+1.8
	baz=133					
LPAZ	La Paz	35.81 186	P	P	17 44 58.4	-0.7
	comp=Z,0.4nm,0.4s,baz=355,slow=4.7,SNR=1.5					
LPAZ	La Paz	35.81 186	eP	P	17 44 58.0	-1.0
AMTX	Amarillo	36.20 303	P	P	17 45 02.4	+0.7
	baz=105					
SALV	Santo Antonio	36.29 166	eP	P	17 45 01.4	-1.0
TXAR	Lajitas Array	36.83 293	P	P	17 45 07.4	+0.2
	comp=Z,2.0nm,0.8s,baz=115,slow=11,SNR=17					
TXAR			PcP	PcP	17 47 30.7	+1.8
	comp=Z,0.3nm,0.6s,baz=134,slow=7.7,SNR=1.7					
TXAR	Lajitas Array	36.83 293	P	P	17 45 07.9	+0.7
TX31	Lajitas Ar. Si	36.84 293	P	P	17 45 07.7	+0.6
TX31			IAmb	IAmb	17 45 09.7	
	comp=Z,11nm,1.0s					
TX32	Lajitas Array	36.84 293	P	P	17 45 07.9	+0.8
MSTX	Muleshoe	36.85 301	P	P	17 45 07.6	+0.3
	baz=102					
PP1B	Ponte de Pedra	38.12 165	eP	P	17 45 14.3	-3.6
AGMN	Agassiz Nation	38.25 326	P	P	17 45 19.4	+0.6
	baz=127,SNR=7.2					
AGMN	Agassiz Nation	38.25 326	P	P	17 45 18.7	0.0
AGMN			IAmb	IAmb	17 45 19.7	
	comp=Z,7.0nm,0.8s					
NBPN	Ponto Novo - B	38.54 140	eP	P	17 45 20.2	-1.4
BDFB	Brasilia	38.55 154	P	P	17 45 20.9	-0.8
	comp=Z,5.1nm,0.7s,baz=346,slow=12,SNR=5.9					
BDFB	Brasilia	38.55 154	IAmb	IAmb	17 45 24.4	
	comp=Z,18nm,1.2s					
MNTX	Cornudas Mount	38.60 297	P	P	17 45 22.6	+0.6
	baz=98					
MNTX	Cornudas Mount	38.60 297	P	P	17 45 21.4	-0.6
T25A	Trinidad	38.93 305	P	P	17 45 25.2	+0.3
	baz=105					
T25A	Trinidad	38.93 305	P	P	17 45 26.0	+1.1
T25A			IAmb	IAmb	17 45 29.0	
	comp=Z,10nm,1.2s					
ULM	Lac du Bonnet	39.47 328	P	P	17 45 28.4	-0.6
	comp=Z,6.0nm,0.6s,baz=123,slow=7.9,SNR=15					
ULM	Lac du Bonnet	39.47 328	P	P	17 45 28.8	-0.2
ULM			IAmb	IAmb	17 45 30.1	
	comp=Z,7.3nm,0.7s					
SDCO	Great Sand Dun	39.93 306	P	P	17 45 34.2	+0.8
	baz=105					
SDCO	Great Sand Dun	39.93 306	P	P	17 45 34.3	+1.0
BNM	Barren Site	40.03 300	P	P	17 45 34.8	+0.7
ANMO	Albuquerque	40.04 301	P	P	17 45 34.8	+0.7
	baz=101					
ANMO	Albuquerque	40.04 301	P	P	17 45 35.2	+1.1
MDND	Maddock	40.05 323	P	P	17 45 34.8	+1.0
	baz=122					
NBRF	Rio Formoso -	40.29 131	eP	P	17 45 33.4	-2.8
ISCO	Idaho Springs	40.59 309	P	P	17 45 39.8	+1.0
	baz=107					
121A	Cookes Peak, D	40.73 297	P	P	17 45 40.5	+0.5
	baz=97					
S22A	4UR Ranch, Cre	40.95 305	P	P	17 45 42.0	+0.2
	baz=104					
MC01	Montes Claros	41.31 149	eP	P	17 45 42.1	-2.5
MVCO	Mesa Verde	42.12 304	P	P	17 45 51.6	+0.2
	baz=102					
LVC	Limon Verde	42.15 186	P	P	17 45 49.9	-1.8
	comp=Z,4.6nm,0.8s,baz=29,slow=5.3,SNR=5.0					
LVC	Limon Verde	42.15 186	IAmb	IAmb	17 45 51.6	
	comp=Z,10nm,1.3s					
CMC01	Camacan, BA	42.51 143	eP	P	17 45 52.1	-2.2
PV02	Paradox Valley	42.52 306	P	P	17 45 56.0	+1.5
PV13	Radium Mtn., P	42.57 305	P	P	17 45 56.2	+1.2
PV12	Saucer Basin,	42.60 306	P	P	17 45 55.7	+0.5
PV03	Paradox Valley	42.62 306	P	P	17 45 55.6	+0.3
PV11	David Mesa, Pa	42.65 306	P	P	17 45 54.8	-0.8
PV11			IAmb	IAmb	17 45 57.8	
	comp=Z,21nm,1.4s					
PV18	Skein Mesa, Pa	42.66 306	P	P	17 45 55.6	-0.1
PV16	Nyswonger Mesa	42.68 306	P	P	17 45 56.4	+0.5
W18A	Petrified Fore	42.72 301	P	P	17 45 57.1	+1.0
	baz=99					
W18A	Petrified Fore	42.72 301	P	P	17 45 55.5	-0.6
W18A			IAmb	IAmb	17 45 58.2	
	comp=Z,9.2nm,0.9s					
PV14	Lion Creek, Pa	42.78 306	P	P	17 45 56.6	0.0
TUC	Tucson	43.23 297	P	P	17 46 00.2	0.0
	baz=95					
TUC	Tucson	43.23 297	P	P	17 46 01.3	+1.1
LAO	LASA Array	43.47 318	P	P	17 46 03.3	+1.4
	baz=114					
WUAZ	Wupatki	44.10 301	P	P	17 46 08.3	+1.0
	baz=98					
BW06	Boulder Array	44.31 312	P	P	17 46 09.3	+0.3
	baz=107					
BW06	Boulder Array	44.31 312	P	P	17 46 09.6	+0.6
PD31	Pinedale Array	44.31 312	P	P	17 46 09.9	+0.9
PDAR	Pinedale Array	44.31 312	P	P	17 46 08.6	-0.4
	comp=Z,1.8nm,0.9s,baz=126,slow=7.2,SNR=9.2					
PDAR	Pinedale Array	44.31 312	P	P	17 46 09.6	+0.6
TMUT	Trail Mountain	44.65 306	P	P	17 46 12.2	+0.5
TMUT			IAmb	IAmb	17 46 37.9	
	comp=Z,5.4nm,0.7s					
RLMT	Red Lodge	44.86 315	P	P	17 46 13.9	+0.6
	baz=109					
RLMT	Red Lodge	44.86 315	P	P	17 46 14.2	+1.0
RLMT			IAmb	IAmb	17 46 17.1	
	comp=Z,11nm,1.4s					
RCLB	Rio Claro- Sao	44.90 158	eP	P	17 46 11.6	-1.9
214A	Organ Pipe Nat	44.91 296	P	P	17 46 13.8	+0.1
	baz=93					
JLU	Jordanelle	45.12 308	P	P	17 46 15.2	-0.3
FFC	Flin Flon	45.16 330	P	P	17 46 15.4	+0.2
LOHW	Long Hollow	45.29 313	P	P	17 46 17.2	+0.4
LOHW			IAmb	IAmb	17 46 27.5	
	comp=Z,8.3nm,0.7s					
CTU	Camp Tracy	45.36 308	P	P	17 46 17.6	+0.4
REDW	Red Top Meadow	45.40 312	P	P	17 46 17.7	+0.1
REDW			IAmb	IAmb	17 46 29.3	
	comp=Z,19nm,1.2s					
TPAW	Teton Pass	45.50 312	P	P	17 46 19.1	+0.6
TPAW			IAmb	IAmb	17 46 25.6	
	comp=Z,7.0nm,0.7s					
DUG	Dugway, Tooele	46.04 307	P	P	17 46 23.1	+0.5
	baz=102					
CPUP	Villa Florida	46.15 171	P	P	17 46 23.0	-0.3
	comp=Z,8.5nm,0.8s,baz=350,slow=6.7,SNR=13					
CPUP	Villa Florida	46.15 171	P	P	17 46 23.0	-0.3
CPUP			IAmb	IAmb	17 46 23.9	
	comp=Z,8.8nm,0.8s					
CPUP	Villa Florida	46.15 171	eP	P	17 46 22.1	-1.2
EGMT	Eagleton	46.20 319	P	P	17 46 24.9	+1.2
	baz=112					
BGU	Big Grassy Mou	46.36 308	P	P	17 46 26.1	+0.9
BGU			IAmb	IAmb	17 46 27.5	
	comp=Z,13nm,1.3s					
BOZ	Bozeman (W)	46.59 315	P	P	17 46 27.6	+0.8
	baz=108					
SPR3	Spring Creek 3	46.97 305	P	P	17 46 31.2	+1.0
IRM	Iron Mountain	47.03 299	P	P	17 46 31.2	+0.9
	baz=94					
GMRC	Granite Mounta	47.51 300	P	P	17 46 34.9	+0.8
	baz=94					
BELC	Belle Mtn. Jos	47.73 298	P	P	17 46 36.4	+0.5
	baz=94					
IKP	In-Ko-Pah, Jac	47.74 297	P	P	17 46 36.7	+0.8
	baz=92					
TUQ	Turquoise Moun	47.78 300	P	P	17 46 37.1	+0.9
	baz=95					
R11A	Troy Canyon, C	47.84 304	P	P	17 46 37.7	+0.9
	baz=98					
ELK	Elko	47.96 308	P	P	17 46 37.5	-0.2
ELK			IAmb	IAmb	17 46 40.1	
	comp=Z,7.7nm,1.4s					
MONP2	Monument Peak	48.02 297	P	P	17 46 38.8	+0.6
	baz=92					
HEC	Hector,Ludlow	48.06 300	P	P	17 46 39.5	+1.0
	baz=94					
TPFO	Pinon Flats	48.08 298	P	P	17 46 39.6	+0.9
	baz=93					
PFO	Pinyon Flats O	48.08 298	P	P	17 46 39.9	+1.3
	baz=96					
TPNV	Topopah Spring	48.19 302	P	P	17 46 41.2	+1.7
	baz=96					
TPNV	Topopah Spring	48.19 302	P	P	17 46 39.8	+0.3
GSC	Goldstone, Bar	48.48 300	P	P	17 46 43.3	+1.6
	baz=94					
MFID	Camas Ranch	48.92 311	P	P	17 46 45.5	+0.5
MFID			IAmb	IAmb	17 46 48.0	
	comp=Z,7.5nm,1.2s					
EDW2	Edwards Air Fo	49.43 300	P	P	17 46 49.8	+0.9
	baz=93					
ITQB	Itaqui	49.54 171	eP	P	17 46 47.0	-2.5
NV11	Mina Array Sit	49.86 304	P	P	17 46 53.4	+1.2
NV11			IAmb	IAmb	17 47 17.3	
	comp=Z,6.7nm,1.0s					
NVAR	Mina Array Bea	49.97 304	P	P	17 46 53.9	+0.7
	comp=Z,1.0nm,0.7s,baz=95,slow=7.2,SNR=11					
NVAR	Mina Array Bea	49.97 304	P	P	17 46 53.5	+0.3
TER01	Tubaro-SC	50.07 162	eP	P	17 46 51.4	-2.2
LHV	Little Huntoon	50.11 304	P	P	17 46 54.8	+0.9
LHV			IAmb	IAmb	17 47 00.7	
	comp=Z,5.0nm,1.0s					
J08A	Circle Bar Ran	50.80 310	P	P	17 46 59.5	+0.2
J08A			IAmb	IAmb	17 47 02.4	
	comp=Z,5.8nm,1.0s					
NEW	Newport	50.95 317	P	P	17 47 01.1	+0.9
	baz=105					
NEW	Newport	50.95 317	P	P	17 47 00.7	+0.4
NEW			IAmb	IAmb	17 47 01.8	
	comp=Z,5.8nm,0.9s					
I07A	Izee	51.66 311	P	P	17 47 06.8	+1.1
M04C	Macdoel	53.04 308	P	P	17 47 17.2	+1.2
	baz=96					
YKA	Yellowknife Ar	54.86 334	P	P	17 47 28.6	-0.2
	comp=Z,4.4nm,0.7s,baz=107,slow=7.7,SNR=31					
ESDC	Sonseca Array	55.25 55	P	P	17 47 33.2	+1.2
	comp=Z,3.0nm,1.0s,baz=274,slow=5.5,SNR=12					
ESDC	Sonseca Array	55.25 55	P	P	17 47 33.9	+1.8
KOWA	Kowa	57.78 85	P	P	17 47 50.4	+0.1
	comp=Z,3.7nm,0.8s,baz=247,slow=10,SNR=2.7					
TORD	Torodi Ar. Bea	63.48 85	P	P	17 48 30.6	+1.3
	comp=Z,2.6nm,0.8s,baz=289,slow=7.2,SNR=10					
TORD	Torodi Ar. Bea	63.48 85	P	P	17 48 30.8	+1.5
INK	Inuvik	64.25 337	P	P	17 48 33.8	+0.4
	baz=102					
INK	Inuvik	64.25 337	P	P	17 48 33.4	0.0
INK			IAmb	IAmb	17 48 34.7	
	comp=Z,10nm,1.1s					
EPYK	Eagle Plains	65.13 335	P	P	17 48 39.5	+0.2
	baz=98					
DAWY	Dawson	65.99 332	P	P	17 48 46.0	+1.1
DAWY			IAmb	IAmb	17 48 47.9	
	comp=Z,7.3nm,0.9s					
NB2	NORSAR Subarra	66.15 31	P	P	17 48 48.0	+2.1
	comp=Z,5.5nm,1.1s,baz=267,slow=6.9					
NOA	NORSAR Array B	66.15 31	P	P	17 48 47.1	+1.2
	comp=Z,1.8nm,0.8s,baz=268,slow=6.6,SNR=4.7					
NOA			LR	LR	18 17 16.6	
	comp=Z,67nm,18.0s,baz=105,slow=36					
CTG	Chitna Glacier	66.72 329	P	P	17 48 51.0	+1.2
	baz=91					
EGAK	Eagle	66.80 333	P	P	17 48 50.6	+0.6
	baz=93					
EGAK	Eagle	66.80 333	P	P	17 48 50.9	+0.9
EGAK			IAmb	IAmb	17 48 53.1	
	comp=Z,4.6nm,0.7s					
BCAR	Beaver Creek A	67.00 331	P	P	17 48 52.3	+1.0
L27K	Beaver Creek,	67.02 331	P	P	17 48 52.8	+1.4
	baz=92					
L27K	Beaver Creek,	67.02 331	P	P	17 48 51.4	-0.1
L27K			IAmb	IAmb	17 48 53.9	
	comp=Z,7.8nm,0.8s					
K27K	Chicken	67.17 332	P	P	17 48 53.6	+1.3
K27K			IAmb	IAmb	17 48 56.5	
	comp=Z,15nm,1.4s					
CLL	Collm	67.20 42	epP	pP	17 48 56.0	-0.9
MCARA	McCarthy VSAT	67.55 329	P	P	17 48 56.0	+1.2
	baz=90					
L26K	Log Cabin Wild	67.71 331	P	P	17 48 56.8	+1.0
	baz=90					
GERES	GERESS Array B	67.81 44	P	P	17 48 58.2	+1.4
	comp=Z,0.6nm,0.6s,baz=270,slow=4.0,SNR=7.1					
GERES			LR	LR	18 14 49.9	
	comp=Z,221nm,21.4s,baz=56,slow=33					
GERES	GERESS Array B	67.81 44	P	P	17 48 57.9	+1.1
SCRK	Sand Creek	68.01 332	P	P	17 48 58.7	+1.0
	baz=90,SNR=8.1					
SCRK	Sand Creek	68.01 332	P	P	17 48 58.8	+1.0
SCRK			IAmb	IAmb	17 49 00.2	
	comp=Z,13nm,1.3s					
N25K	Chitina, Valde	68.30 330	P	P	17 48 60.0	+0.3
	baz=89					
BMRM	Bremner River	68.32 329	P	P	17 49 00.3	+0.6
	baz=88					
RIDG	Independent Ri	68.39 332	P	P	17 49 01.4	+1.3
	baz=89					
HARP	HAARP	68.55 330	P	P	17 49 02.3	+1.2
	baz=88					
PRP	Porcupine Dome	68.67 334	P	P	17 49 02.3	+0.4
	baz=89					
PRP	Porcupine Dome	68.67 334	P	P	17 49 01.9	0.0
PRP			IAmb	IAmb	17 49 04.5	
	comp=Z,17nm,1.4s					
PAX	Paxson	68.68 331	P	P	17 49 03.1	+1.1
	baz=88					
KLU	Klutina	68.94 329	P	P	17 49 05.0	+1.4
	baz=88					
IL31		69.26 333	P	P	17 49 05.4	+0.1
ILAR	Eielson Array	69.26 333	P	P	17 49 05.2	-0.2
	comp=Z,2.9nm,0.7s,baz=107,slow=4.5,SNR=24					
HDA	Harding Lake	69.30 333	P	P	17 49 06.7	+1.1
	baz=88					
POKR	Poker Plat Res	69.48 333	P	P	17 49 07.5	+0.7
	baz=88					
GLI	Glacier Island	69.54 329	P	P	17 49 07.3	+0.1
	baz=86					
H24K	Noodor Dome	69.64 334	P	P	17 49 08.0	+0.2
	baz=87,SNR=9.3					
CCB	Clear Creek Bu	69.66 333	P	P	17 49 08.1	+0.3
WAT6	Susitna Watana	69.74 331	P	P	17 49 09.1	+0.4
	baz=86					
MDM	Murphy Dome	69.82 333	P	P	17 49 08.7	-0.2
SML	Sawmill	70.07 330	P	P	17 49 11.0	+0.5
	baz=86					
KNK	Knik Glacier	70.16 329	P	P	17 49 11.3	+0.3
	baz=85					
TOLK	Toolik Lake Re	70.17 337	P	P	17 49 11.4	+0.4
	baz=87					
NEA2	Nenana	70.20 333	P	P	17 49 11.4	+0.1
	baz=86,SNR=5.5					
MCK	McKinley	70.20 332	P	P	17 49 11.4	+0.1
	baz=86					
I23K	Minto, Yukon-K	70.29 333	P	P	17 49 12.4	+0.7
	baz=86,SNR=6.8					
I23K	Minto, Yukon-K	70.29 333	P	P	17 49 11.6	-0.2
I23K			IAmb	IAmb	17 49 13.8	
	comp=Z,5.1nm,0.7s					
H23K	Yukon River	70.32 334	P	P	17 49 12.4	+0.4
	baz=86,SNR=6.0					
RC01	Rabbit Creek A	70.80 329	P	P	17 49 15.6	+0.6
	baz=84					
MLY	Manley	70.88 333	P	P	17 49 15.8	+0.3
	baz=84,SNR=5.4					
MLY	Manley	70.88 333	P	P	17 49 14.9	-0.6
BPAW	Bear Paw Mtn.	71.08 332	P	P	17 49 16.7	+0.1
	baz=84,SNR=6.5					
BPAW	Bear Paw Mtn.	71.08 332	P	P	17 49 16.0	-0.6
BPAW			IAmb	IAmb	17 49 17.9	
	comp=Z,7.3nm,0.9s					
SKT	Skwentna	71.56 330	P	P	17 49 19.7	+0.1
	baz=83					
CHUM	Lake Minchumin	71.68 332	P	P	17 49 20.6	+0.4
	baz=83					
ARCES	ARCESS Array B	71.83 22	P	P	17 49 22.1	+1.1
	comp=Z,3.5nm,0.9s,baz=299,slow=5.0,SNR=7.9					
ARCES	ARCESS Array B	71.83 22	P	P	17 49 20.7	-0.4
ARCES			IAmb	IAmb	17 49 34.6	
	comp=Z,6.0nm,1.1s					
J20K	Nowinta River	72.44 333	P	P	17 49 25.1	+0.3
	baz=81					
K20K	Telida	72.53 332	P	P	17 49 24.8	-0.5
	baz=81,SNR=5.6					
L19K	White Mountain	73.08 331	P	P	17 49 28.7

FALS	**False Pass**	**79.23 324**	P		**P**	**17 50 02.7**	**-1.0**
	baz=71						
SPIA	**Saint Paul Isl**	**81.97 328**	P		**P**	**17 50 18.2**	**-0.2**
	baz=66						
NIKH	**Nikolski High**	**82.91 324**	P		**P**	**17 50 23.6**	**+0.3**
	baz=67						
BRTR	**Keskin Array B**	**83.72 50**	P		**P**	**17 50 28.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=278,slow=3.5,SNR=8.2						
BRTR	**Keskin Array B**	**83.72 50**	P		**P**	**17 50 28.4**	**+0.3**
WRA	**Warramunga Arr**	**162.29 266**	PKP		**PKPdf**	**17 58 00.9**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=60,slow=0.4,SNR=4.1						
WRA			PKPab		**PKPab**	**17 58 48.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=82,slow=4.4,SNR=6.5						
WRA	**Warramunga Arr**	**162.29 266**	PKPdf		**PKPdf**	**17 58 00.5**	**-0.6**
ASAR	**Alice Springs**	**162.44 253**	PKP		**PKPdf**	**17 58 00.6**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=117,slow=1.0,SNR=4.7						
ASAR			PKPab		**PKPab**	**17 58 49.6**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=106,slow=4.7,SNR=18						
ASAR	**Alice Springs**	**162.44 253**			**PKPdf**	**17 58 00.9**	**-0.3**

MEX 16 17:43:20.2±2.2, 16°.92N×98°.60W, h32km±37km, MD4.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGIG	**Malinaltepec**	**0.32**	**354**	*eP*	Pb	17 43 25.9	-2.3
MGIG				*eP*	Pn	17 43 26.4	-2.4
MGIG				*i* S	Sb	17 43 32.3	-1.5
MGIG				*i* S	Sn	17 43 32.4	-2.0
CRIG	**Cruz Grande**	**0.54**	**251**	*i P*	Pb	17 43 28.9	-2.4
CRIG				*eS*	Sb	17 43 37.5	-1.5
TLIG	**Tlapa**	**0.64**	**3**	*eP*	Pb	17 43 30.8	-2.4
TLIG				*eS*	Sb	17 43 40.0	-2.1
DAIG	**Los Arroyos**	**1.01**	**276**	*i P*	Pn	17 43 35.8	-2.4
DAIG				*eS*	Sn	17 43 49.1	-2.2
YOIG	**Yosondua**	**1.01**	**93**	*i P*	Pn	17 43 36.4	-2.0
YOIG				*eS*	Sn	17 43 49.6	-2.1
HLIG	**Huajuapan de L**	**1.19**	**40**	*i P*	Pn	17 43 39.2	-1.6
HLIG				*i* S	Sn	17 43 54.4	-1.5
ACP2	**Acapulco**	**1.23**	**268**	*i P*	Pn	17 43 38.7	-2.5
ACP2				*eS*	Sn	17 43 54.8	-1.9
MEIG	**Mezcala**	**1.40**	**316**	*eP*	Pn	17 43 42.9	-0.7
MEIG				*i* S	Sn	17 44 00.7	-0.3
CAIG	**El Cayaco**	**1.60**	**275**	*eP*	Pn	17 43 43.8	-2.5
CAIG				*eS*	Sn	17 44 02.0	-3.9
PEIG	**Puerto Escondi**	**1.67**	**123**	*eP*	Pn	17 43 44.9	-2.3
PEIG				*eS*	Sn	17 44 04.7	-2.9
PLIG	**Platanillo**	**1.70**	**330**	*i P*	Pn	17 43 47.3	-0.5
PLIG				*eS*	Sn	17 44 04.8	-3.7
VHO	**Vista Hermosa**	**1.79**	**85**	*eP*	Pn	17 43 48.2	-1.0
VHO				*eS*	Sn	17 44 08.9	-2.0
TOIG	**Toxpalan**	**1.88**	**51**	*i P*	Pn	17 43 49.1	-1.2
TOIG				*eS*	Sn	17 44 11.6	-1.3
TPIG	**Tehuac#an**	**1.91**	**38**	*i P*	Pn	17 43 50.5	-0.2
TPIG				*eS*	Sn	17 44 12.9	-0.7
MAVM	**Malinalco, Edo**	**2.20**	**337**	*i P*	Pn	17 43 56.4	+1.7
MAVM				*i* S	Sb	17 44 24.0	-2.5
AMVM	**AMECAMECA**	**2.21**	**355**	*eS*	Sn	17 44 17.0	-4.4
TOVM	**TOLUCA**	**2.57**	**337**	*i P*	Pn	17 44 02.5	+2.6
TOVM				*eS*	Sb	17 44 34.4	-2.7
HUIG	**Huatulco**	**2.65**	**115**	*eP*	Pn	17 43 59.5	-1.2
PTVM	**Pico Tres Padr**	**2.71**	**350**	*i P*	Pn	17 44 04.5	+2.7
PTVM				*i* S	Sb	17 44 39.5	-1.6
ZUVM	**ZUMPANGO**	**2.93**	**351**	*i P*	Pn	17 44 06.9	+2.1
ACIG	**Acambay**	**3.28**	**338**	*eS*	Sb	17 44 53.1	-4.4
MMIG	**Aquila**	**4.73**	**287**	*eP*	Pn	17 44 28.6	-0.6
R15V		**5.59**	**294**	*eP*	Pb	17 44 49.9	-7.2

IDC 16 17:47:35.0±5.3, 7°.48S×129°.51E, h218km±72km, mb2.8/1, mb1 2.8/4, mb1mx2.7/24, mbtmp3.3/4, Error ellipse: s-maj=126.1km s-min=20.4km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.79**	**15**	P	Pn	17 49 12.1	-0.7
	1.3nm,0.3s,baz=190,slow=18,SNR=13						
SIJI				S	S	17 50 32.4	+1.7
	0.3nm,0.3s,baz=198,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**13.25**	**160**	P	Pn	17 50 33.6	-1.4
	0.1nm,0.3s,baz=343,slow=13,SNR=9.2						
WRA				S	S	17 52 54.1	-7.6
	0.8nm,0.3s,baz=337,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.64**	**166**	P	Pn	17 51 16.4	+0.2
	0.1nm,0.3s,baz=342,slow=11,SNR=8.3						
ASAR				S	S	17 54 14.0	-3.8
	0.2nm,0.3s,baz=347,slow=25,SNR=6.7						
MKAR	**Makanchi Array**	**68.36**	**327**	P	P	17 58 12.7	-0.1
	0.2nm,0.4s,baz=141,slow=7.1,SNR=2.0						

*NEIC **16** 17:58:03.5±1.9, 51°.16N±0°.06×178°.52W±0°.05, h25km±4km, ML3.6(AEIC), Error ellipse: s-maj=8.6km s-min=3.9km az=168.0*

AEIC 16 17:58:01±2.2, 51°.06N±0°.03×178°.49W±0°.04, h14km±4km, Error ellipse: s-maj=5.0km s-min=2.3km az=220.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.73**	**346**		Pb	17 58 16.1	+0.7
GALAA					Sb	17 58 26.1	+0.9
GAEA	**Gareloi East**	**0.74**	**348**		Pb	17 58 16.4	+0.6
TASE	**Tanaga Southea**	**0.83**	**20**		Pb	17 58 17.6	+0.4
TAFP	**Tanaga Falls P**	**0.90**	**21**		Pb	17 58 18.5	0.0
TAFP					Sn	17 58 31.3	-0.8
KIMD	**Kanaga Island**	**1.06**	**48**		Pb	17 58 20.9	-0.2
KIWB	**Kanaga Island**	**1.16**	**46**		Pb	17 58 22.4	-0.4
KIKV	**Kanaga Island**	**1.17**	**45**		Pn	17 58 22.4	-0.5
KICM	**Kanaga Island**	**1.18**	**43**		Pn	17 58 23.0	-0.2
ADK	**Adak**	**1.40**	**53**		Pn	17 58 25.8	-0.3
ADK					Sb	17 58 45.1	+0.4
AMKA	**Amchitka**	**1.42**	**284**		Pn	17 58 25.5	-0.9
CERB	**Semis' Cerberu**	**1.46**	**307**		Pb	17 58 27.6	-0.4
ADAG	**Mount Adagdak**	**1.50**	**51**		Pn	17 58 27.9	+0.4
GSTD	**Great Sitkin T**	**1.77**	**55**		Pn	17 58 32.2	+0.9
GSTD					Sb	17 58 55.3	-0.2
GSMY	**Great Sitkin M**	**1.81**	**56**		Pn	17 58 32.7	+0.9
GSMY					Sb	17 58 56.7	+0.1
GSTR	**Great Sitkin T**	**1.84**	**55**		Pn	17 58 33.3	+1.1
ATKA	**Atka Island**	**2.91**	**65**		Pn	17 58 48.2	+1.3
ATKA					Sn	17 59 24.3	+2.6
KOFP	**Korovin Flat P**	**3.00**	**64**		Pn	17 58 49.7	+1.6
MAPS	**Pakushin South**	**7.58**	**64**		Pn	17 59 53.3	+2.4
MREP	**Makushin Rep't**	**7.69**	**64**		Pn	17 59 55.2	+2.7
CNBA	**Chernabura Isl**	**12.00**	**64**	Pn	Pn	18 00 49.8	-1.7

IDC 16 18:22:07.6±4.3, 23°.33N×94°.92E, h122km±36km, mb3.1/3, mb1 3.2/4, mb1mx2.9/30, mbtmp3.3/4, MS3.6/1, Ms1 3.6/1, ms1mx2.9/19, Error ellipse: s-maj=136.3km s-min=23.6km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.13**	**141**	P	Pn	18 23 35.9	0.0
	0.1nm,0.3s,baz=315,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**25.53**	**340**	P	P	18 27 24.8	0.0
	0.4nm,0.6s,baz=143,slow=11,SNR=4.0						
MJAR	**Matsushiro Arr**	**39.44**	**60**	LR	LR	18 46 58.5	
	comp=Z,77nm,20.1s,baz=340,slow=38						
WRA	**Warramunga Arr**	**57.68**	**135**	P	P	18 31 45.0	-0.6
	0.4nm,0.6s,baz=323,slow=7.6,SNR=4.5						
ASAR	**Alice Springs**	**60.13**	**138**	P	P	18 32 02.8	+0.3
	0.7nm,0.8s,baz=317,slow=6.8,SNR=10.0						

*RSPR **16** 18:23:31.1, 18°.94N×67°.72W, h58km±7km, MD2.8/11*
*NEIC **16** 18:23:31.3±1.5, 18°.89N±0°.06×67°.64W±0°.04, h34km±10km, Error ellipse: s-maj=9.2km s-min=2.5km az=209.0*

ISC 16 18:23:29.9±1.2, 18°.92N±0°.07×67°.67W±0°.03, h27km, n46, σ0s87/50, 8C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.56**	**161**	⇑*eP*	**Pn**	**18 23 41.4**	**-0.7**
IDE	**Isla Desecheo**	**0.56**	**161**	*eS*	**Sn**	**18 23 49.9**	**-0.6**
IDE	**Isla Desecheo**	**0.56**	**161**		**Pn**	**18 23 41.4**	**-0.7**
IDE					**Sn**	**18 23 49.9**	**-0.6**
AGPR	**Aguadilla, PR**	**0.69**	**130**		**Pn**	**18 23 43.3**	**-0.7**
AGPR				IAML		18 23 54.5	
	comp=N,340nm,0.1s						
PCDR	**Punta Cana, DR**	**0.79**	**239**	⇑*eP*	**Pn**	**18 23 45.4**	**+0.2**
PCDR	**Punta Cana, DR**	**0.79**	**239**	*eS*	**Sn**	**18 23 56.3**	**+0.2**
PCDR	**Punta Cana, DR**	**0.79**	**239**		**Pn**	**18 23 45.4**	**+0.2**
PCDR					**Sn**	**18 23 56.3**	**+0.2**
PCDR	**Punta Cana, DR**	**0.79**	**239**	IAML		18 23 59.6	
	comp=N,491nm,0.5s						
MPR	**Mayaguez**	**0.86**	**144**	Pn	**Pb**	**18 23 46.2**	**0.0**
LSP	**Las Mesas**	**0.92**	**143**	⇑*eP*	**Pb**	**18 23 47.8**	**+0.5**
LSP	**Las Mesas**	**0.92**	**143**	*eS*	**Sn**	**18 24 00.8**	**+1.3**
LSP	**Las Mesas**	**0.92**	**143**		**Pb**	**18 23 47.8**	**+0.5**
LSP					**Sn**	**18 24 00.8**	**+1.3**
AOPR	**Arecibo Observ**	**1.04**	**123**	⇓*eP*	**Pn**	**18 23 48.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.04**	**123**	*eS*	**Sn**	**18 24 01.3**	**-1.0**
AOPR	**Arecibo Observ**	**1.04**	**123**		**Pn**	**18 23 48.5**	**-0.2**
AOPR					**Sn**	**18 24 01.3**	**-1.0**
AOPR	**Arecibo Observ**	**1.04**	**123**	IAML		18 24 11.5	
	comp=N,295nm,0.3s						
MLPR	**Magueyes Islan**	**1.11**	**148**	⇑*eP*	**Pb**	**18 23 49.7**	**-0.8**
MLPR	**Magueyes Islan**	**1.11**	**148**	*eS*	**Sb**	**18 24 05.9**	**+1.3**
MLPR	**Magueyes Islan**	**1.11**	**148**		**Sb**	**18 24 05.9**	**+1.3**
MLPR	**Magueyes Islan**	**1.11**	**148**		**Pn**	**18 23 49.2**	**-0.5**
MLPR				IAML		18 24 07.7	
	comp=E,234nm,0.4s						
EMPR	**Esperanza - Ma**	**1.17**	**112**	⇓*eP*	**Pb**	**18 23 51.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.17**	**112**	*eS*	**Sb**	**18 24 06.9**	**+0.8**
EMPR	**Esperanza - Ma**	**1.17**	**112**		**Sb**	**18 24 06.9**	**+0.8**
EMPR	**Esperanza - Ma**	**1.17**	**112**		**Pn**	**18 23 49.4**	**-1.0**
GBPR	**Guanica, Bosqu**	**1.20**	**141**	⇑*eP*	**Pb**	**18 23 51.5**	**-0.5**
GBPR				*eS*	**Sb**	**18 24 07.5**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.20**	**141**		**Pb**	**18 23 51.5**	**-0.5**
GBPR					**Sb**	**18 24 07.5**	**+0.4**
CELP	**Cerrillos**	**1.33**	**129**	⇓*eP*	**Pb**	**18 23 53.4**	**-0.8**
CELP	**Cerrillos**	**1.33**	**129**	*eS*	**Sb**	**18 24 11.3**	**+0.5**
CELP	**Cerrillos**	**1.33**	**129**		**Pb**	**18 23 53.4**	**-0.8**
CELP					**Sb**	**18 24 11.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.33**	**131**	⇑*eP*	**Pb**	**18 23 53.2**	**-1.0**
OBIP	**Obispado Ponce**	**1.33**	**131**		**Pb**	**18 23 53.2**	**-1.0**
OBIP	**Obispado Ponce**	**1.33**	**131**	IAML		18 24 15.9	
	comp=E,144nm,0.5s						
OBIP				IAML		18 24 16.3	
	comp=N,169nm,0.6s						
ICMP	**Isla Caja de M**	**1.49**	**133**	Pn	**Pb**	**18 23 55.6**	**-1.4**
ICMP				IAML		18 24 24.1	
	comp=E,150nm,0.5s						
GCPR	**Guaynabo City**	**1.62**	**112**	Pn	**Pn**	**18 23 57.5**	**+0.8**
DR12	**Loma Pena Alta**	**1.63**	**266**		**Pb**	**18 23 58.6**	**-0.7**
SJG	**San Juan**	**1.65**	**119**		**Pn**	**18 23 57.4**	**+0.3**
SJG				IAML		18 24 22.0	
	comp=E,114nm,0.6s						
SJG				IAML		18 24 22.9	
	comp=E,135nm,0.3s						
IGPR	**InterUniversit**	**1.76**	**122**	⇑*eP*	**Pb**	**18 24 00.2**	**-1.2**
IGPR	**InterUniversit**	**1.76**	**122**	*eS*	**Sn**	**18 24 21.1**	**+1.0**
PDPR	**Patillas Dam,**	**1.80**	**120**	Pn	**Pn**	**18 23 59.3**	**+0.1**
CBYP	**Canovanas**	**1.83**	**110**	⇓*eP*	**Pn**	**18 24 00.4**	**+0.7**
CBYP	**Canovanas**	**1.83**	**110**		**Pn**	**18 24 00.4**	**+0.7**
MTP	**Monte Pirata**	**2.17**	**112**	Pn	**Pb**	**18 24 06.2**	**-2.3**
CUPR	**Culebra, Puert**	**2.34**	**105**	⇑*eP*	**Pn**	**18 24 08.0**	**+1.3**
CUPR	**Culebra, Puert**	**2.34**	**105**		**Pn**	**18 24 08.0**	**+1.3**
STVI	**Saint Thomas**	**2.63**	**102**	Pn	**Pn**	**18 24 10.8**	**+0.1**
STVI				IAML		18 24 58.1	
	comp=N,32nm,1.0s						
SDDR	**Presa de Saban**	**3.43**	**272**	Pn	**Pn**	**18 24 21.5**	**-0.1**
SDDR				IAML		18 25 21.0	
	comp=N,29nm,1.0s						
SDDR				IAML		18 25 23.2	
	comp=N,31nm,0.6s						

*NEIC **16** 18:43:57.7±1.2, 18°.96N±0°.04×67°.69W±0°.03, h28km±10km, Error ellipse: s-maj=7.6km s-min=1.6km az=215.0*
*RSPR **16** 18:43:57.8, 19°.11N×67°.72W, h48km±7km, MD3.3/8*

ISC 16 18:43:57.5±1.3, 18°.97N±0°.08×67°.68W±0°.03, h27km, n51, σ0s72/53, 14C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.74**	**133**		**Pb**	**18 44 10.3**	**-1.6**
AGPR				IAML		18 44 21.1	
	comp=N,667nm,0.5s						
AGPR				IAML		18 44 21.4	
	comp=E,804nm,0.3s						
PCDR	**Punta Cana, DR**	**0.80**	**235**	⇑*eP*	**Pn**	**18 44 12.9**	**-0.2**
PCDR	**Punta Cana, DR**	**0.80**	**235**	*eS*	**Sn**	**18 44 24.3**	**+0.2**
PCDR	**Punta Cana, DR**	**0.80**	**235**		**Pn**	**18 44 12.9**	**-0.2**
PCDR					**Sn**	**18 44 24.3**	**+0.2**
PCDR	**Punta Cana, DR**	**0.80**	**235**	IAML		18 44 25.4	
	comp=E,355nm,0.7s						
PCDR				IAML		18 44 27.0	
	comp=N,995nm,0.5s						
MPR	**Mayaguez**	**0.92**	**146**		**Pn**	**18 44 13.0**	**-1.6**
LSP	**Las Mesas**	**0.98**	**144**	⇑*eP*	**Pb**	**18 44 15.7**	**-0.1**
LSP	**Las Mesas**	**0.98**	**144**	*eS*	**Sb**	**18 44 29.6**	**+1.2**
LSP	**Las Mesas**	**0.98**	**144**		**Pb**	**18 44 15.7**	**-0.1**
LSP					**Sb**	**18 44 29.6**	**+1.2**
AOPR	**Arecibo Observ**	**1.08**	**125**	⇑*eP*	**Pn**	**18 44 15.9**	**-1.0**
AOPR	**Arecibo Observ**	**1.08**	**125**	*eS*	**Sb**	**18 44 31.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.08**	**125**		**Pn**	**18 44 15.9**	**-1.0**
AOPR					**Sb**	**18 44 31.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.08**	**125**	IAML		18 44 38.6	
	comp=N,452nm,0.3s						
MLPR	**Magueyes Islan**	**1.17**	**149**	⇑*eP*	**Pn**	**18 44 18.1**	**0.0**
MLPR	**Magueyes Islan**	**1.17**	**149**	*eS*	**Sb**	**18 44 34.7**	**+0.8**
MLPR	**Magueyes Islan**	**1.17**	**149**		**Pn**	**18 44 16.0**	**-2.1**
MLPR				IAML		18 44 35.0	
	comp=E,459nm,0.4s						
MLPR	**Magueyes Islan**	**1.17**	**149**		**Sb**	**18 44 34.7**	**+0.8**
EMPR	**Esperanza - Ma**	**1.20**	**114**	⇑*eP*	**Pn**	**18 44 18.0**	**-0.5**
EMPR	**Esperanza - Ma**	**1.20**	**114**	*eS*	**Sn**	**18 44 34.5**	**+0.6**
EMPR	**Esperanza - Ma**	**1.20**	**114**		**Pn**	**18 44 18.0**	**-0.5**
EMPR					**Sn**	**18 44 34.5**	**+0.6**
EMPR	**Esperanza - Ma**	**1.20**	**114**	IAML		18 44 38.8	
	comp=N,499nm,0.4s						
GBPR	**Guanica, Bosqu**	**1.25**	**142**	⇑*eP*	**Pn**	**18 44 19.4**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.25**	**142**		**Pn**	**18 44 19.4**	**+0.2**
CELP	**Cerrillos**	**1.38**	**130**	⇑*eP*	**Pn**	**18 44 20.8**	**-0.2**
CELP	**Cerrillos**	**1.38**	**130**	*eS*	**Sb**	**18 44 39.8**	**-0.1**
CELP	**Cerrillos**	**1.38**	**130**		**Pn**	**18 44 20.8**	**-0.2**
CELP					**Sb**	**18 44 39.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.38**	**132**	⇑*eP*	**Pn**	**18 44 21.2**	**+0.2**
OBIP	**Obispado Ponce**	**1.38**	**132**	*eS*	**Sb**	**18 44 39.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.38**	**132**		**Pn**	**18 44 20.0**	**-1.0**
OBIP				IAML		18 44 43.2	
	comp=E,297nm,0.5s						
OBIP				IAML		18 44 43.6	
	comp=N,341nm,0.7s						
OBIP	**Obispado Ponce**	**1.38**	**132**		**Sb**	**18 44 39.8**	**-0.1**
ICMP	**Isla Caja de M**	**1.54**	**134**		**Pn**	**18 44 23.0**	**-0.3**
ICMP				IAML		18 44 51.0	
	comp=N,212nm,0.6s						
ICMP				IAML		18 44 51.4	
	comp=E,244nm,0.6s						
DR12	**Loma Pena Alta**	**1.62**	**264**		**Pb**	**18 44 26.2**	**-0.6**
GCPR	**Guaynabo City**	**1.66**	**113**	⇑*eP*	**Pn**	**18 44 24.0**	**-0.9**
GCPR	**Guaynabo City**	**1.66**	**113**	*eS*	**Sn**	**18 44 45.9**	**+0.6**
GCPR	**Guaynabo City**	**1.66**	**113**		**Pn**	**18 44 24.0**	**-0.9**
GCPR					**Sn**	**18 44 45.9**	**+0.6**
SJG	**San Juan**	**1.69**	**120**		**Pn**	**18 44 24.1**	**-1.2**
SJG				IAML		18 44 49.9	
	comp=E,255nm,0.5s						
SJG				IAML		18 44 50.1	
	comp=E,267nm,0.3s						
IGPR	**InterUniversit**	**1.80**	**124**	⇑*eP*	**Pn**	**18 44 27.2**	**+0.4**
IGPR	**InterUniversit**	**1.80**	**124**	*eS*	**Sn**	**18 44 50.0**	**+1.2**
PDPR	**Patillas Dam,**	**1.84**	**121**		**Pn**	**18 44 26.9**	**-0.4**
PDPR				IAML		18 45 03.7	
	comp=E,124nm,1.1s						
CBYP	**Canovanas**	**1.87**	**112**	⇑*eP*	**Pn**	**18 44 27.4**	**-0.5**
CBYP	**Canovanas**	**1.87**	**112**		**Pn**	**18 44 27.4**	**-0.5**
HUMP	**Col San Antoni**	**1.93**	**115**	⇑*eP*	**Pn**	**18 44 28.7**	**+0.1**
HUMP	**Col San Antoni**	**1.93**	**115**		**Pn**	**18 44 28.7**	**+0.1**
HUMP	**Col San Antoni**	**1.93**	**115**	IAML		18 45 02.2	
	comp=E,160nm,0.2s						
HUMP				IAML		18 45 04.0	
	comp=N,117nm,0.2s						
MTP	**Monte Pirata**	**2.20**	**113**	⇑*eP*	**Pn**	**18 44 32.7**	**+0.3**
MTP	**Monte Pirata**	**2.20**	**113**		**Pn**	**18 44 32.7**	**+0.3**
CUPR	**Culebra, Puert**	**2.37**	**106**	⇑*eP*	**Pn**	**18 44 34.5**	**-0.1**
CUPR	**Culebra, Puert**	**2.37**	**106**		**Pn**	**18 44 34.5**	**-0.1**
BANI	**BANI**	**2.60**	**258**	Pn	**Pn**	**18 44 37.6**	**-0.3**
STVI	**Saint Thomas**	**2.66**	**103**	Pn	**Pn**	**18 44 38.9**	**+0.2**
SDDR	**Presa de Saban**	**3.41**	**271**	Pn	**Pn**	**18 44 49.2**	**+0.2**
SDDR				IAML		18 45 50.5	
	comp=N,79nm,0.6s						

*IDC **16** 18:45:12.4±1.3, 22°.82N×12°.09W, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.7/33, mbtmp3.7/12, ML3.7/4, Error ellipse: s-maj=32.6km s-min=26.4km az=95.0*

ISC 16 18:45:14.2±1.0, 22°.71N±0°.08×11°.9W±0°.1, h10km, n18, σ1s65/19, mb3.7/8, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**11.07**	**136**	Pn	**Pn**	**18 47 54.4**	**+1.6**
	1.3nm,0.3s,baz=316,slow=11,SNR=18						
KOWA				Sn	**Sn**	**18 49 52.8**	**-4.0**
	0.2nm,0.3s,baz=152,slow=20,SNR=3.0						
KOWA				Lg	Lg	18 51 06.7	
	0.2nm,0.3s,baz=2.5,slow=7.0,SNR=1.5						
MDT	**Midelt**	**11.96**	**31**	Pn	**Pn**	**18 48 05.3**	**+0.3**
	0.1nm,0.3s,baz=210,slow=14,SNR=2.2						
MDT				Lg	Lg	18 51 27.7	
	0.2nm,0.3s,baz=142,slow=19,SNR=4.0						
TORD	**Torodi Ar. Bea**	**16.05**	**124**	Pn	**Pn**	**18 49 00.4**	**+0.2**
	0.2nm,0.3s,baz=316,slow=14,SNR=6.7						
TORD				Sn	**Sn**	**18 51 58.1**	**-0.2**
	0.1nm,0.3s,baz=310,slow=19,SNR=2.7						
TORD				Lg	Lg	18 53 41.8	
	baz=305,slow=23,SNR=2.2						
TIC	**Toumodi**	**17.30**	**156**	*eP*	**P**	**18 49 18.7**	**+1.3**
KIC	**Kosan Boka**	**17.66**	**156**	*eP*	**Pn**	**18 49 20.5**	**0.0**
	24nm,1.1s						
LIC	**Lamto**	**17.68**	**157**	*eP*	**Pn**	**18 49 20.2**	**-0.6**
	56nm,1.3s						
ESDC	**Sonseca Array**	**18.22**	**20**	P	**Pn**	**18 49 26.3**	**-1.0**
	0.1nm,0.3s,baz=239,slow=31,SNR=4.3						
I42PT	**GRACIOSA ISLAN**	**21.30**	**324**	*i*		20 52 30.0	
	baz=139,slow=306,SNR=3.2						
KEST	**Kesra**	**22.58**	**50**	P	**P**	**18 50 14.2**	**-0.8**
	2.3nm,0.9s,baz=216,slow=2.2,SNR=4.6						
GERES	**GERESS Array B**	**33.05**	**32**	P	**P**	**18 51 49.1**	**-0.8**
	0.7nm,0.6s,baz=220,slow=8.1,SNR=7.2						
BRTR	**Keskin Array B**	**42.01**	**55**	P	**P**	**18 53 07.5**	**+1.4**
	0.5nm,0.7s,baz=260,slow=6.0,SNR=3.9						
AKASG	**Malin Array Be**	**42.40**	**38**	P	**P**	**18 53 07.7**	**-1.1**
	0.2nm,0.2s,baz=239,slow=7.2,SNR=1.6						
FINES	**FINESS Array B**	**46.66**	**24**	P	**P**	**18 53 41.4**	**-1.3**
	0.7nm,0.5s,baz=194,slow=5.3,SNR=6.6						
MKAR	**Makanchi Array**	**76.56**	**45**	P	**P**	**18 57 05.5**	**+0.6**
	0.5nm,0.5s,baz=286,slow=5.8,SNR=9.7						
TXAR	**Lajitas Array**	**80.65**	**298**	P	**P**	**18 57 26.1**	**-1.8**
	0.3nm,0.8s,baz=106,slow=9.2,SNR=3.6						
SONM	**Songino Array**	**90.65**	**36**	P	**P**	**18 58 18.8**	**+1.5**
	0.3nm,0.6s,baz=289,slow=4.5,SNR=2.6						
WRA	**Warramunga Arr**	**148.48**	**91**	PKPbc	**PKPdf**	**19 05 01.6**	**+3.2**
	0.8nm,0.7s,baz=292,slow=2.8,SNR=5.8						
ASAR	**Alice Springs**	**148.61**	**99**	PKPbc	**PKPbc**	**19 05 02.5**	**+0.2**
	0.7nm,0.7s,baz=281,slow=1.8,SNR=13						

*TEH **16** 19:08:18.9, 32°.65N×46°.63E, h8km, ML3.0*
*ISN **16** 19:08:20.1±0.6, 32°.68N×46°.61E, h7km±3km, ML3.0*

ISC 16 19:08:19.9±0.9, 32°.66N±0°.04×46°.65E±0°.04, h10km, n27, σ1s28/30, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.53**	**88**	*e*Pg	**Pg**	**19 08 30.0**	**-0.2**
IBDR	**Badra**	**0.75**	**306**	*e*Pg	**Pb**	**19 08 34.0**	**-1.1**
IBDR				*e*Sg	**Sb**	**19 08 44.3**	**-1.1**
IBDR				AML	AML	19 08 52.9	
	comp=N,436nm,0.4s						
IBDR				AML	AML	19 08 53.5	
	com

TOO IAmb IAmb 19 21 15.6
comp=Z,27nm,1.4s
STKA Stephens Creek 38.71 240 P P 19 20 58.4 +0.1
comp=Z,5.2nm,0.5s,baz=84,slow=9.8,SNR=25
STKA Stephens Creek 38.71 240 P P 19 20 58.5 +0.1
WR0 Warramunga Arr 44.34 259 P P 19 21 41.6 -1.3
WR0 IAmb IAmb 19 21 49.3
comp=Z,8.0nm,1.2s
WB0 Warramunga Arr 44.49 259 P P 19 21 42.9 -1.2
WB0 IAmb IAmb 19 21 46.9
comp=Z,11nm,1.3s
WB2 Warramunga Arr 44.52 259 P P 19 21 43.1 -1.3
WRA Warramunga Arr 44.53 259 P P 19 21 43.4 -1.1
comp=Z,2.0nm,0.6s,baz=93,slow=7.0,SNR=32
WRA PcP **PcP 19 23 16.6 +0.7**
comp=Z,0.7nm,1.0s,baz=90,slow=4.2,SNR=2.0
WRA Warramunga Arr 44.53 259 P P 19 21 42.3 -2.2
AS31 Alice Springs 44.74 254 P P 19 21 45.6 -0.5
AS31 IAmb IAmb 19 21 46.2
comp=Z,6.6nm,0.6s
ASAR Alice Springs 44.74 254 P P 19 21 45.6 -0.4
comp=Z,20nm,0.6s,baz=87,slow=8.1,SNR=347
ASAR PcP **PcP 19 23 17.5 +0.9**
comp=Z,0.5nm,0.5s,baz=109,slow=4.2,SNR=2.3
ASAR ScP **ScP 19 26 20.6 +3.7**
comp=Z,1.0nm,0.8s,baz=96,slow=4.4,SNR=5.9
ASAR Alice Springs 44.74 254 P P 19 21 45.2 -0.9
MTN Manton Dam 48.61 268 P P 19 22 13.6 -1.7
SAUI Saumlaki 49.61 274 P P 19 22 20.7 -2.0
FORT Forrest 50.05 244 P P 19 22 25.0 -0.7
FORT IAmb IAmb 19 22 49.8
comp=Z,36nm,1.4s
KNRA Kununurra 50.34 264 P P 19 22 27.6 -0.4
SIJI Sorong 51.91 283 P P 19 22 39.6 +0.1
comp=Z,30nm,0.8s,baz=90,slow=5.2,SNR=12
PSA00 Pilbara Seismi 57.84 255 P P 19 23 20.4 -0.4
PSA00 Pilbara Seismi 57.84 255 P P 19 23 20.5 -0.4
PSA00 IAmb IAmb 19 23 46.8
comp=Z,37nm,1.4s
SBA Scott Base 60.95 184 P P 19 23 41.6 +1.1
GIRL Giralia 62.85 253 P P 19 23 54.8 +0.9
UGM Wanagama 69.46 268 P P 19 24 35.5 +0.4
QSPA South Pole Qui 72.69 180 P P 19 24 53.8 +0.6
NVAR Mina Array Bea 79.18 44 P P 19 25 30.5 +0.9
comp=Z,1.1nm,0.7s,baz=221,slow=8.4,SNR=9.5
LCMT Little Creek M 81.91 47 P P 19 25 44.6 +0.9
LCMT IAmb IAmb 19 26 10.9
comp=Z,4.3nm,0.8s
SEY Seymchan 83.20 347 P P 19 25 50.0 +0.6
comp=Z,1.1nm,0.5s,baz=128,slow=6.1,SNR=4.3
ILAR Eielson Array 85.40 13 P P 19 26 00.6 +0.3
comp=Z,0.5nm,0.4s,baz=213,slow=6.0,SNR=3.1
POKR Poker Plat Res 85.59 13 P P 19 26 00.2 -0.8
POKR IAmb IAmb 19 26 10.8
comp=Z,8.9nm,0.8s
TXAR Lajitas Array 85.88 58 P P 19 26 05.9 +2.4
comp=Z,1.2nm,0.8s,baz=221,slow=6.6,SNR=16
PDAR Pinedale Array 87.10 44 P P 19 26 10.5 +1.4
comp=Z,0.7nm,0.6s,baz=245,slow=3.9,SNR=2.4
BRTR Keskin Array B 144.25 315 PKP PKPab 19 32 55.5 +0.3
comp=Z,0.6nm,0.7s,baz=105,slow=1.9,SNR=4.3
CLL Collm 144.88 347 *i* PKPbc **PKPab 19 32 57.4 +0.3**
comp=Z,3.0nm,0.8s
GERES GERESS Array B 147.03 345 PKPbc **PKPbc 19 33 03.2 +0.7**
comp=Z,0.5nm,0.5s,baz=33,slow=3.2,SNR=6.3
GERES GERESS Array B 147.03 345 PKPdf 19 33 01.4 +1.9

KRNET ***16*** *19:16:30.2±0.1, 41°.02N×71°.41E, h20km, mb2.3*
SOME ***16*** *19:16:31.1, 40°.97N×71°.55E, h15km*
NNC ***16*** *19:16:31.6±1.3, 41°.05N×71°.55E, h0km, mb3.2, mpv2.7,*
Error ellipse: s-maj=10.3km s-min=4.5km az=11.0
ISC 16 19:16:30.3±1.3, 40°.98N±0°.03×71°.38E±0°.04, h1km±11km, n19, σ1§79/34, 11C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.58**	**342**	⇑*i*P	**Pg**	**19 16 39.5**	**-1.9**
	baz=38						
TRKS				⇑*i*S	**Sg**	**19 16 47.1**	**-1.8**
	baz=38						
BTK	**Batken**	**1.01**	**205**	⇓*i*P	**Pg**	**19 16 49.8**	**0.0**
	baz=5.0						
BTK				⇓*i*S	**Sb**	**19 17 04.6**	**0.0**
	baz=5.0						
OHH	**Osh**	**1.16**	**113**	⇓*i*P	**Pg**	**19 16 51.7**	**-0.9**
	baz=15						
OHH				⇓*i*S	**Sg**	**19 17 07.1**	**-0.6**
	baz=15						
DRK	**Karamyk**	**1.53**	**168**	⇑*i*P	**Pn**	**19 16 58.8**	**-0.3**
	baz=69						
DRK				⇑*i*S	**Sn**	**19 17 19.0**	**-0.8**
	baz=69						
MNAS	**Manas**	**1.73**	**29**	⇑*i*P	**Pn**	**19 17 00.5**	**-1.1**
	baz=29						
MNAS				⇑*i*S	**Sn**	**19 17 22.6**	**-1.8**
	baz=29						
CHM	**Chimkent**	**1.88**	**316**	*e*P	**Pg**	**19 17 07.0**	**+0.6**
	44nm,0.2s						
CHM				*e*S	**Sg**	**19 17 33.1**	**+2.3**
	169nm,0.2s						
DZA	**Taraz**	**1.91**	**359**	*e*P	**Pb**	**19 17 05.5**	**-0.5**
	34nm,0.1s						
DZA				*e*S	**Sb**	**19 17 30.9**	**+0.6**
	97nm,0.2s						
AML	**Almayashu**	**2.08**	**56**	⇑*e*P	**Pn**	**19 17 05.5**	**-1.3**
	baz=56						
AML				⇑*i*S	**Sn**	**19 17 31.3**	**-2.3**
	baz=56						
KK31	**Karatay Array**	**2.22**	**343**	⇑P	**Pn**	**19 17 09.2**	**+0.9**
	1.6nm,0.3s,baz=153,slow=12,SNR=14						
KK31				S	**Sb**	**19 17 38.5**	**-0.7**
	6.7nm,0.5s,baz=155,slow=22,SNR=18						
MRKS	**Merke**	**2.24**	**37**	*e*P	**Pn**	**19 17 10.4**	**+1.8**
	3.4nm,0.3s						
MRKS				*e*S	**Sb**	**19 17 39.2**	**-0.6**
	12nm,0.3s						
MRKS	**Merke**	**2.24**	**37**	Pg	**Pn**	**19 17 10.4**	**+1.8**
	3.4nm,0.3s						
MRKS				Lg	Lg	19 17 39.2	
	12nm,0.3s						
ARLS	**Aral**	**2.38**	**67**	⇓*i*P	**Pn**	**19 17 09.3**	**-1.4**
	baz=68						
ARLS				⇓*i*S	**Sn**	**19 17 38.7**	**-1.9**
	baz=68						
EKS2	**Erkin-Say**	**2.46**	**46**	⇑*e*P	**Pn**	**19 17 10.5**	**-1.2**
	baz=46						
EKS2				⇑*i*S	**Sn**	**19 17 41.1**	**-1.3**
	baz=46						
DGS	**Degeres**	**3.98**	**54**	*e*P	**Pb**	**19 17 41.5**	**+0.3**
	1.2nm,0.4s						
DGS				*e*S	**Sb**	**19 18 32.4**	**+2.6**
	3.0nm,0.6s						
DGS	**Degeres**	**3.98**	**54**	Pg	**Pb**	**19 17 41.5**	**+0.3**
	1.2nm,0.4s						
DGS				Lg	Lg	19 18 32.4	
	3.0nm,0.6s						
KRBS	**Karabastau**	**4.18**	**48**	*e*P	**Pb**	**19 17 45.2**	**+0.5**
	0.5nm,0.4s						
KRBS				*e*S	**Sb**	**19 18 38.5**	**+2.7**
	1.7nm,0.7s						
KRBS	**Karabastau**	**4.18**	**48**	Pg	**Pb**	**19 17 45.2**	**+0.5**
	0.5nm,0.4s						
KRBS				Lg	Lg	19 18 38.5	
	1.5nm,0.7s						
KTBS	**Karatobe**	**4.79**	**53**	*e*P	**Pb**	**19 17 57.0**	**+2.0**
	0.6nm,0.6s						
KTBS				*e*S	**Sb**	**19 18 58.6**	**+5.6**
	2.1nm,0.4s						
KTBS	**Karatobe**	**4.79**	**53**	Pg	**Pb**	**19 17 57.0**	**+2.0**
	0.6nm,0.6s						
KTBS				Lg	Lg	19 18 58.7	
	2.1nm,0.4s						

NEIC ***16*** *19:22:31.5±1.8, 5°.19N±0°.06×125°.36E±0°.08, h50km±11km, mb4.3/15, Error ellipse: s-maj=11.9km s-min=8.7km az=76.0*
DJA ***16*** *19:22:32.3±0.5, 5°N±4°×12°5E±°, h10km, M4.8/9, mb4.8/7, mB5.4/7, MLv4.8/9, Mw(mB)4.8/7*
IDC ***16*** *19:22:33.0±1.9, 5°.10N×125°.50E, h73km±19km, mb3.5/9, mb1 3.7/10, mb1mx3.5/33, mbtmp3.9/10, Error ellipse: s-maj=34.6km s-min=10.0km az=72.0*
ISC 16 19:22:31.1±0.6, 5°.11N±0°.05×125°.35E±0°.08, h50km, n48, σ1§96/49, mb4.1/16, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.43**	**173**	P	**Pn**	**19 22 55.8**	**+1.1**
KCP	**Kidapawan**	**1.91**	**352**	⇑*i*P	**Pn**	**19 23 01.7**	**+0.5**
KCP				*i* S	**Sn**	**19 23 25.1**	**+1.0**
DAV	**Davao City (W)**	**1.96**	**7**	P	**Pn**	**19 23 03.5**	**+1.5**
	105nm,0.3s,baz=234,slow=9.0,SNR=9.5						
DAV				S	**Sn**	**19 23 28.5**	**+3.0**
	335nm,0.3s,baz=1.6,slow=22,SNR=10						
DAV	**Davao City (W)**	**1.96**	**7**	Pn	**Pn**	**19 23 01.1**	**-0.9**
BUKP	**Musuan**	**2.77**	**354**	⇑*e*P	**Pn**	**19 23 13.7**	**+0.7**
BUKP				*i* S	**Sn**	**19 23 51.8**	**+6.5**
CGP	**Cagayan de Oro**	**3.39**	**349**	⇓*e*P	**Pn**	**19 23 22.3**	**+0.8**
CGP				*e*S	Sn	19 24 08.7	+8.2
TNTI	**Ternate**	**4.76**	**155**	Pn	**Pn**	**19 23 40.6**	**+0.3**
TNTI	**Ternate**	**4.76**	**155**	P	**Pn**	**19 23 45.0**	**+4.6**
GTOI	**Gorontalo**	**5.02**	**208**	P	**Pn**	**19 23 43.6**	**-0.3**
MRSI	**Marisa**	**5.72**	**217**	P	**Pn**	**19 23 54.7**	**+1.1**
	1.3nm3μm259nm,0.5s						
TOLI2	**Tolitoli**	**6.04**	**229**		**Pn**	**19 23 57.3**	**-0.7**
LUWI	**Luwuk**	**6.63**	**203**		**Pn**	**19 24 08.3**	**+2.3**
LUWI	**Luwuk**	**6.63**	**203**	P	**Pn**	**19 24 09.1**	**+3.1**
	1.8nm7μm495nm,0.6s						
APSI	**Ampana**	**7.03**	**212**	P	**Pn**	**19 24 14.5**	**+3.0**
	0.7nm3μm129nm,0.7s						
MPSI	**Mapaga**	**7.21**	**229**	P	**Pn**	**19 24 15.2**	**+1.1**
	0.2nm821nm8.4nm,0.4s						
SWI	**Sorong**	**8.37**	**135**	P	**Pn**	**19 24 33.9**	**+3.9**
SIJI	**Sorong**	**8.38**	**135**	P	**Pn**	**19 24 29.9**	**-0.2**
	4.3nm,0.3s,baz=297,slow=22,SNR=25						
SIJI				S	**Sn**	**19 26 00.2**	**-3.2**
	0.6nm,0.3s,baz=122,slow=23,SNR=1.9						
NLAI	**Namlea**	**8.47**	**168**	P	**Pn**	**19 24 34.9**	**+3.5**
TTSI	**Tana Toraja**	**9.80**	**214**	P	**Pn**	**19 24 51.5**	**+2.0**
	34nm,0.7s						
FAKI	**Fak Fak**	**10.54**	**139**	Pn	**Pn**	**19 25 00.8**	**+1.1**
TPUB	**Ta-pu**	**18.65**	**346**	P	**P**	**19 26 43.9**	**-1.1**
TPUB				IAmb	IAmb	19 27 09.9	
	comp=Z,33nm,1.4s						
MTN	**Manton Dam**	**18.74**	**162**	P	**P**	**19 26 45.7**	**-0.3**
KNRA	**Kununurra**	**20.93**	**171**	P	**P**	**19 27 09.8**	**+0.1**
KNRA				IAmb	IAmb	19 27 28.8	
	comp=Z,23nm,1.1s						
WB0	**Warramunga Arr**	**26.27**	**160**	P	**P**	**19 28 01.1**	**-0.9**
WB0				IAmb	IAmb	19 28 20.9	
	comp=Z,6.5nm,0.8s						
WRAB	**Tennant Creek**	**26.41**	**161**	P	**P**	**19 28 01.4**	**-1.9**
WRAB				IAmb	IAmb	19 28 27.1	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**26.42**	**161**	P	**P**	**19 28 02.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=330,slow=11,SNR=14						
WRA	**Warramunga Arr**	**26.42**	**161**	P	**P**	**19 28 01.7**	**-1.6**
WB2	**Warramunga Arr**	**26.42**	**161**	P	**P**	**19 28 02.7**	**-0.6**
WB2				IAmb	IAmb	19 28 15.1	
	comp=Z,8.3nm,1.0s						
WR0	**Warramunga Arr**	**26.50**	**160**	P	**P**	**19 28 02.9**	**-1.2**
WR0				IAmb	IAmb	19 28 29.9	
	comp=Z,9.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.99**	**299**	P	**P**	**19 28 27.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.1,SNR=4.3						
AS31	**Alice Springs**	**29.79**	**164**	P	**P**	**19 28 33.0**	**-0.5**
ASAR	**Alice Springs**	**29.79**	**164**	P	**P**	**19 28 33.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=346,slow=7.8,SNR=16						
KSRS	**Korea Array**	**32.28**	**4**	P	**P**	**19 28 54.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=181,slow=10,SNR=4.5						
JMM	**Marumori**	**35.52**	**21**	P	**P**	**19 29 22.9**	**-0.4**
SHL	**Shillong**	**37.95**	**306**	P	**P**	**19 29 44.5**	**+0.1**
USRK	**Ussurisyk Ar.**	**39.37**	**8**	P	**P**	**19 29 54.7**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=175,slow=6.7,SNR=7.0						
STKA	**Stephens Creek**	**39.91**	**158**	P	**P**	**19 30 00.2**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=334,slow=18,SNR=1.9						
H11N1	**WAKE ISLAND Hy**	**42.95**	**67**	T	T	20 16 14.9	
	baz=255,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**42.96**	**66**	T	T	20 16 13.5	
	baz=255,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**42.97**	**67**	T	T	20 16 16.1	
	baz=255,slow=75,SNR=22						
SONM	**Songino Array**	**45.56**	**342**	P	**P**	**19 30 46.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=8.3,SNR=2.8						
PETK	**Petropavlovsk-**	**54.70**	**23**	P	**P**	**19 31 54.4**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=201,slow=6.0,SNR=2.9						
MK31	**Makanchi Array**	**55.64**	**325**	P	**P**	**19 32 01.9**	**-0.2**
MKAR	**Makanchi Array**	**55.64**	**325**	P	**P**	**19 32 01.5**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=126,slow=7.7,SNR=11						
KDJ	**Kajisay**	**56.41**	**318**	P	**P**	**19 32 04.3**	**-3.6**
KDJ				IAmb	IAmb	19 32 09.1	
	comp=Z,1.7nm,1.0s						
KK31	**Karatay Array**	**61.29**	**317**	P	**P**	**19 32 41.2**	**-0.4**
KK31				IAmb	IAmb	19 32 42.0	
	comp=Z,1.7nm,0.9s						
KKAR	**Karatay Array**	**61.29**	**317**	P	**P**	**19 32 41.0**	**-0.5**
KKAR	**Karatay Array**	**61.29**	**317**	P	**P**	**19 32 41.1**	**-0.4**
KKAR				IAmb	IAmb	19 32 42.0	
	comp=Z,1.7nm,0.9s						

IDC ***16*** *19:34:33.2±0.5, 18°.81N×67°.63W, h0km, mb4.0/17, mb1 4.2/17, mb1mx4.1/36, mbtmp4.0/17, MS3.4/9, Ms1 3.4/9, ms1mx3.0/51, Error ellipse: s-maj=16.9km s-min=12.8km az=48.0*
RSPR ***16*** *19:34:36.6, 18°.99N×67°.75W, h66km±8km, MD3.5/12*
OSPL ***16*** *19:34:37.7±0.7, 18°.90N×67°.64W, h58km±17km, ML4.1*
NEIC ***16*** *19:34:37.5±2.0, 18°.91N±0°.04×67°.66W±0°.03, h19km±4km, Error ellipse: s-maj=6.9km s-min=2.8km az=213.0*
ISC 16 19:34:37.7±0.4, 18°.91N±0°.04×67°.64W±0°.03, h27km, n187, σ1§30/194, mb4.3/27, MS3.4/7, 10C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.54**	**163**	⇓*e*P	**Pb**	**19 34 48.4**	**-0.3**
IDE	**Isla Desecheo**	**0.54**	**163**	*e*S	**Sb**	**19 34 56.5**	**+0.3**
IDE	**Isla Desecheo**	**0.54**	**163**		**Pb**	**19 34 48.4**	**-0.3**
IDE					**Sb**	**19 34 56.5**	**+0.3**
AGPR	**Aguadilla, PR**	**0.67**	**131**		**Pb**	**19 34 50.1**	**-0.6**
AGPR				IAML		19 35 00.8	
	comp=E,10μm,0.7s						
AGPR				IAML		19 35 01.2	
	comp=N,8μm,0.7s						
AGPR	**Aguadilla, PR**	**0.67**	**131**	*i* P	**Pb**	**19 34 50.2**	**-0.6**
AGPR				*e*S	**Sn**	**19 35 00.4**	**-0.5**
AGPR				IAML		19 35 08.3	
	comp=Z,6μm,0.2s						
PCDR	**Punta Cana, DR**	**0.81**	**241**	⇑*e*P	**Pb**	**19 34 52.4**	**-0.7**
PCDR	**Punta Cana, DR**	**0.81**	**241**		**Pb**	**19 34 52.4**	**-0.7**
PCDR				IAML		19 35 05.0	
	comp=N,15μm,0.9s						
PCDR	**Punta Cana, DR**	**0.81**	**241**		**Sb**	**19 35 03.1**	**-0.5**
PCDR	**Punta Cana, DR**	**0.81**	**241**	*i* P	**Pb**	**19 34 52.4**	**-0.7**
PCDR				*e*S	**Sb**	**19 35 03.1**	**-0.5**
PCDR				IAML		19 35 05.9	
	comp=Z,11μm,0.2s						
MPR	**Mayaguez**	**0.84**	**146**	⇑*e*P	**Pb**	**19 34 53.2**	**-0.5**
MPR	**Mayaguez**	**0.84**	**146**		**Pb**	**19 34 52.9**	**-0.8**
MPR	**Mayaguez**	**0.84**	**146**	*i* P	**Pb**	**19 34 52.9**	**-0.8**
LSP	**Las Mesas**	**0.90**	**144**	⇓*e*P	**Pn**	**19 34 54.1**	**-0.6**
LSP	**Las Mesas**	**0.90**	**144**		**Pn**	**19 34 54.1**	**-0.6**
AOPR	**Arecibo Observ**	**1.01**	**124**	⇑*e*P	**Pn**	**19 34 55.1**	**-1.0**
AOPR	**Arecibo Observ**	**1.01**	**124**	*e*S	**Sn**	**19 35 10.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.01**	**124**		**Pn**	**19 34 55.1**	**-1.0**
AOPR					**Sn**	**19 35 10.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.01**	**124**	IAML		19 35 24.8	
	comp=N,8μm,0.5s						
AOPR				IAML		19 35 26.5	
	comp=E,11μm,0.5s						
MLPR	**Magueyes Islan**	**1.09**	**149**	⇑*e*P	**Pn**	**19 34 55.6**	**-1.6**
MLPR	**Magueyes Islan**	**1.09**	**149**	*e*S	**Sb**	**19 35 13.1**	**+1.3**
MLPR	**Magueyes Islan**	**1.09**	**149**		**Pn**	**19 34 55.6**	**-1.6**
MLPR					**Sb**	**19 35 13.1**	**+1.3**
MLPR	**Magueyes Islan**	**1.09**	**149**	IAML		19 35 15.0	
	comp=N,9μm,0.5s						
MLPR				IAML		19 35 15.3	
	comp=E,8μm,0.6s						
EMPR	**Esperanza - Ma**	**1.14**	**112**	⇑*e*P	**Pn**	**19 34 57.3**	**-0.5**
EMPR	**Esperanza - Ma**	**1.14**	**112**	*e*S	**Sb**	**19 35 14.0**	**+0.9**
EMPR	**Esperanza - Ma**	**1.14**	**112**		**Pn**	**19 34 57.3**	**-0.5**
EMPR					**Sb**	**19 35 14.0**	**+0.9**
EMPR	**Esperanza - Ma**	**1.14**	**112**	IAML		19 35 18.7	
	comp=N,9μm,0.6s						
GBPR	**Guanica, Bosqu**	**1.18**	**142**	⇑*e*P	**Pn**	**19 34 58.3**	**0.0**
GBPR				*e*S	**Sb**	**19 35 14.4**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.18**	**142**		**Pn**	**19 34 58.3**	**0.0**
GBPR					**Sb**	**19 35 14.4**	**+0.2**
CELP	**Cerrillos**	**1.30**	**129**	⇑*e*P	**Pn**	**19 35 00.0**	**-0.1**
CELP	**Cerrillos**	**1.30**	**129**	*e*S	**Sb**	**19 35 17.9**	**0.0**
CELP	**Cerrillos**	**1.30**	**129**		**Pn**	**19 35 00.0**	**-0.1**
CELP					**Sb**	**19 35 17.9**	**0.0**
OBIP	**Obispado Ponce**	**1.31**	**131**	⇑*e*P	**Pn**	**19 35 00.1**	**-0.1**
OBIP	**Obispado Ponce**	**1.31**	**131**	*e*S	**Sb**	**19 35 18.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.31**	**131**		**Pn**	**19 34 60.0**	**-0.1**
OBIP				IAML		19 35 22.9	
	comp=E,6μm,0.5s						
OBIP				IAML		19 35 23.3	
	comp=N,8μm,0.6s						
OBIP	**Obispado Ponce**	**1.31**	**131**		**Sb**	**19 35 18.3**	**+0.3**
ICMP	**Isla Caja de M**	**1.47**	**134**	⇑*e*P	**Pn**	**19 35 02.9**	**+0.5**
ICMP	**Isla Caja de M**	**1.47**	**134**	*e*S	**Sb**	**19 35 24.5**	**+1.9**
ICMP	**Isla Caja de M**	**1.47**	**134**		**Pn**	**19 35 02.9**	**+0.5**
ICMP					**Sb**	**19 35 24.5**	**+1.9**
ICMP	**Isla Caja de M**	**1.47**	**134**	IAML		19 35 30.7	
	comp=N,4μm,0.8s						
GCPR	**Guaynabo City**	**1.59**	**112**	⇑*e*P	**Pn**	**19 35 03.5**	**-0.6**
GCPR	**Guaynabo City**	**1.59**	**112**	*e*S	**Sb**	**19 35 25.5**	**-0.7**
GCPR	**Guaynabo City**	**1.59**	**112**		**Pn**	**19 35 03.5**	**-0.6**
GCPR					**Sb**	**19 35 25.5**	**-0.7**
SJG	**San Juan**	**1.62**	**119**	Pn	**Pn**	**19 35 04.0**	**-0.5**
	comp=N,163nm,0.3s,baz=308,slow=11,SNR=112						
SJG				Sn	**Sn**	**19 35 22.8**	**-1.7**
	comp=N,190nm,0.3s,baz=9.9,slow=15,SNR=10						
SJG	**San Juan**	**1.62**	**119**		**Pn**	**19 35 03.7**	**-0.8**
SJG				IAML		19 35 29.0	
	comp=N,4μm,0.6s						
SJG				IAML		19 35 30.2	
	comp=N,3μm,0.6s						
SJG	**San Juan**	**1.62**	**119**	*e*P	**Pn**	**19 35 03.8**	**-0.7**
DR12	**Loma Pena Alta**	**1.65**	**266**		**Pn**	**19 35 04.2**	**-0.8**
IGPR	**InterUniversit**	**1.73**	**123**	⇓*e*P	**Pn**	**19 35 06.2**	**+0.2**
IGPR	**InterUniversit**	**1.73**	**123**	*e*S	**Sb**	**19 35 29.6**	**-0.6**
IGPR	**InterUniversit**	**1.73**	**123**		**Sb**	**19 35 29.6**	**-0.6**
IGPR	**InterUniversit**	**1.73**	**123**	Pn	**Pn**	**19 35 04.9**	**-1.1**
IGPR				IAML		19 35 32.3	
	comp=E,5μm,0.3s						
PDPR	**Patillas Dam,**	**1.77**	**120**		**Pn**	**19 35 05.7**	**-0.9**
CBYP	**Canovanas**	**1.81**	**110**		**Pn**	**19 35 06.3**	**-0.8**
HUMP	**Col San Antoni**	**1.86**	**114**		**Pn**	**19 35 07.1**	**-0.7**
HUMP				IAML		19 35 42.0	
	comp=E,2μm,0.7s						
MTP	**Monte Pirata**	**2.14**	**112**		**Pn**	**19 35 11.2**	**-0.4**
SDD	**Santo Domingo**	**2.20**	**259**	Pn	**Pn**	**19 35 12.1**	**-0.4**
SDD				IAML		19 35 48.7	
	comp=N,2μm,1.0s						
SDD				IAML		19 35 52.4	
	comp=E,3μm,1.0s						
CUPR	**Culebra, Puert**	**2.31**	**105**	Pn	**Pn**	**19 35 12.9**	**-1.1**
STVI	**Saint Thomas**	**2.61**	**102**		**Pn**	**19 35 17.0**	**-1.0**
BANI	**BANI**	**2.63**	**259**		**Pn**	**19 35 19.7**	**+1.2**
BANI	**BANI**	**2.63**	**259**	IAML		19 36 06.6	
	comp=Z,951nm,0.8s						
CDVI	**St. Croix**	**2.96**	**112**	Pn	**Pn**	**19 35 24.6**	**+1.6**
SC01	**Santiago de lo**	**2.96**	**280**		**Pn**	**19 35 24.5**	**+1.5**
ABVI	**Anegada Island**	**3.14**	**93**		**Pn**	**19 35 26.0**	**+0.7**
SDDR	**Presa de Saban**	**3.45**	**272**	Pn	**Pn**	**19 35 30.0**	**+0.3**
SDDR	**Presa de Saban**	**3.45**	**272**	*e*P	**Pn**	**19 35 34.4**	**+4.6**
GRTK	**Grand Turk**	**4.18**	**309**	Pn	**Pn**	**19 35 37.9**	**-1.8**
GRTK	**Grand Turk**	**4.18**	**309**	*i* P	**Pn**	**19 35 37.6**	**-2.1**
GRTK				IAML		19 36 36.0	
	comp=Z,186nm,1.1s						
SABA	**Saba**	**4.37**	**106**		**Pn**	**19 35 39.8**	**-2.5**
SABA				IAML		19 36 42.7	
	comp=N,443nm,0.6s						
SMRT	**St. Maarten**	**4.42**	**100**		**Pn**	**19 35 42.5**	**-0.5**
SMRT				IAML		19 36 44.9	
	comp=E,374nm,0.5s						
SMRT				IAML		19 37 08.7	
	comp=N,281nm,1.1s						
JAKH	**Jacmel**	**4.67**	**263**	Pn	**Pn**	**19 35 46.4**	**-0.1**
JAKH				IAML		19 37 09.8	
	comp=E,414nm,1.1s						
JAKH				IAML		19 37 18.3	
	comp=N,523nm,0.9s						
LGNH	**Logne**	**4.72**	**266**	Pn	**Pn**	**19 35 46.2**	**-1.0**
LGNH				IAML		19 37 16.5	
	comp=E,415nm,1.1s						
LGNH				IAML		19 37 22.8	
	comp=N,380nm,1.4s						
SKI	**Saint Kitts**	**4.92**	**108**	Pn	**Pn**	**19 35 48.9**	**-1.0**
ANWB	**Willy Bob**	**5.70**	**102**	Pn	**Pn**	**19 35 59.9**	**-0.6**
H05N1	**Guadeloupe/Mar**	**6.79**	**111**	Pn	**Pn**	**19 36 16.1**	**+0.5**
H05N1				Sn	**Sn**	**19 37 30.9**	**-1.1**
BIM	**Bigot**	**7.66**	**124**	Pn	**Pn**	**19 36 28.7**	**+1.1**
URIC	**Uribia, Colomb**	**8.30**	**211**	Pn	**Pn**	**19 36 36.8**	**+0.4**
URIC	**Uribia, Colomb**	**8.30**	**211**	*e*P	**Pn**	**19 36 34.4**	**-2.0**
PCRV	**Puerto La Cruz**	**9.16**	**161**	Pn	**Pn**	**19 36 50.7**	**+2.5**
	comp=N,2.9nm,0.3s,baz=17,slow=3.5,SNR=10						
PCRV				Sn	**Sn**	**19 38 23.0**	**-7.4**
	comp=N,1.0nm,0.3s,baz=17,slow=21,SNR=1.7						
PLCV	**Puerto La Cruz**	**9.18**	**161**		**Pn**	**19 36 50.7**	**+2.2**
SDV	**Santo Domingo**	**10.38**	**197**	LR	LR	19 41 31.1	
	comp=N

comp=Z,36nm,1.9s
U49A Red Boiling Sp 23.71 321 P P 19 39 47.9 +0.5
R50A Paris 24.16 326 P P 19 39 52.8 +1.2
PLAL Pickwick Lake 24.18 316 P P 19 39 52.5 +0.6
PLAL IAmb IAmb 19 39 53.4
comp=Z,10nm,0.6s
WVT Waverly 24.71 318 P P 19 39 56.4 -0.3
SADO Sadowa 27.52 342 LR LR 19 51 08.9
comp=Z,81nm,21.8s,baz=149,slow=36
P40A Paris 29.43 319 P P 19 40 38.8 -0.3
G40A Rib Lake 32.28 330 P P 19 41 04.6 +0.4
COWI Conover 32.41 332 P P 19 41 05.0 -0.3
COWI IAmb IAmb 19 41 06.6
comp=Z,5.7nm,0.8s
TX32 Lajitas Array 34.36 294 P P 19 41 22.9 +0.3
TX32 IAmb IAmb 19 41 54.7
comp=Z,13nm,1.8s
TXAR Lajitas Array 34.36 294 P P 19 41 23.1 +0.5
comp=Z,0.8nm,0.6s,baz=112,slow=8.7,SNR=11
TXAR PcP PcP 19 43 58.5 +0.2
comp=Z,1.2nm,0.7s,baz=127,slow=5.7,SNR=8.2
TXAR Lajitas Array 34.36 294 P P 19 41 22.7 +0.1
TX31 Lajitas Ar. Si 34.36 294 P P 19 41 22.8 +0.2
MSTX Muleshoe 34.65 303 P P 19 41 24.9 -0.2
ECSD EROS Data Cent 34.69 322 P 19 41 25.4 +0.3
LPAZ La Paz 34.98 181 P P 19 41 27.4 -1.1
comp=Z,1.6nm,0.9s,baz=27,slow=5.8,SNR=4.7
LPAZ La Paz 34.98 181 P P 19 41 27.1 -1.4
LPAZ IAmb IAmb 19 41 37.0
comp=Z,7.5nm,1.5s
SIV San Ignacio 35.28 169 P P 19 41 28.4 -2.0
comp=Z,2.2nm,0.6s,baz=12,slow=10,SNR=13
MNTX Cornudas Mount 36.24 298 P 19 41 39.3 +0.6
H07S1 FLORES T-PHASE 37.45 49 T T 20 21 05.8
SNR=7.8
H07N1 FLORES T-PHASE 37.63 49 T T 20 21 17.2
SNR=11
BNM Barren Site 37.79 302 P 19 41 52.2 +0.1
SDCO Great Sand Dun 37.92 308 P 19 41 53.9 +0.7
ULM Lac du Bonnet 38.52 331 P P 19 41 56.1 -1.6
comp=Z,1.0nm,0.4s,baz=142,slow=8.4,SNR=3.2
ULM LR LR 19 57 41.8
comp=Z,60nm,19.4s,baz=116,slow=36
PV13 Radium Mtn., P 40.55 307 P 19 42 16.1 +1.1
LVC Limon Verde 41.28 182 P P 19 42 19.3 -2.0
comp=Z,4.6nm,0.6s,baz=34,slow=5.8,SNR=7.3
WUAZ Wupatki 41.90 302 P 19 42 26.9 +0.7
PDAR Pinedale Array 42.55 313 P P 19 42 31.2 -0.2
comp=Z,0.3nm,0.7s,baz=108,slow=8.6,SNR=2.3
PDAR PcP PcP 19 44 23.6 -0.1
comp=Z,0.7nm,0.6s,baz=113,slow=3.9,SNR=5.4
BGU Big Grassy Mou 44.44 310 P 19 42 44.8 -1.8
PSUT Pine Spring 44.47 306 P 19 42 47.9 +1.0
TPNV Topopah Spring 46.03 303 P 19 43 01.1 +1.8
NV11 Mina Array Sit 47.76 305 P 19 43 13.9 +1.0
NVAR Mina Array Bea 47.88 305 P P 19 43 15.0 +1.2
comp=Z,2.4nm,0.9s,baz=102,slow=6.5,SNR=11
NVAR PcP PcP 19 44 44.0 +1.8
comp=Z,0.6nm,0.7s,baz=116,slow=4.2,SNR=2.5
NVAR LR LR 20 05 12.1
comp=Z,55nm,19.4s,baz=94,slow=38
NVAR Mina Array Bea 47.88 305 P 19 43 14.2 +0.4
RYN Ryan 48.08 305 P 19 43 15.6 +0.3
SFJD Kangerlussuaq 49.31 9 LR LR 20 01 57.6
comp=Z,54nm,18.6s,baz=186,slow=33
YKA Yellowknife Ar 54.18 335 P P 19 44 00.0 -0.4
comp=Z,3.4nm,0.8s,baz=112,slow=7.5,SNR=15
SUMG Summit 56.21 10 *i* P P 19 44 16.0 +0.5
SUMG IAmb IAmb 19 44 17.5
comp=Z,3.9nm,1.0s
SUMG Summit 56.21 10 P 19 44 16.0 +0.5
ESDC Sonseca Array 58.07 55 P P 19 44 28.9 +0.1
comp=Z,1.8nm,0.8s,baz=268,slow=6.8,SNR=16
ESDC Sonseca Array 58.07 55 P 19 44 29.6 +0.9
ESBB Sonseca Array 58.07 55 P 19 44 29.8 +1.0
DLBC Dease Lake 59.68 327 P 19 44 40.8 +1.1
INK Inuvik 63.71 338 P 19 45 06.2 -0.4
EGAK Eagle 66.04 333 P 19 45 22.8 +1.1
BCAR Beaver Creek A 66.14 331 P 19 45 23.2 +0.7
L27K Beaver Creek, 66.15 331 P 19 45 23.3 +0.7
TORD Torodi Ar. Bea 66.53 84 P P 19 45 25.3 -0.5
comp=Z,0.6nm,0.6s,baz=285,slow=6.5,SNR=3.1
SCRK Sand Creek 67.19 332 P 19 45 30.0 +0.8
BMAR Burnt Mountain 67.68 336 P 19 45 32.7 +0.5
NB2 NORSAR Subarra 68.25 31 P P 19 45 36.8 +0.9
comp=Z,0.9nm,0.7s,baz=269,slow=6.5
NOA NORSAR Array B 68.25 31 P P 19 45 36.6 +0.7
comp=Z,1.1nm,0.7s,baz=271,slow=6.3,SNR=5.8
ILAR Eielson Array 68.48 333 P P 19 45 37.3 0.0
comp=Z,2.5nm,0.8s,baz=105,slow=4.9,SNR=14
ILAR LR LR 20 15 57.1
comp=Z,39nm,19.1s,baz=107,slow=36
ILAR Eielson Array 68.48 333 P 19 45 37.0 -0.2
MDM Murphy Dome 69.06 333 P 19 45 41.3 +0.4
NEA2 Nenana 69.42 333 P 19 45 43.5 +0.4
I23K Minto, Yukon-K 69.54 333 P 19 45 44.2 +0.5
MLY Manley 70.13 333 P 19 45 47.5 +0.1
GERES GERESS Array B 70.37 44 P P 19 45 48.5 -0.8
comp=Z,0.2nm,0.5s,baz=278,slow=3.9,SNR=3.9
GERES LR LR 20 14 55.8
comp=Z,17nm,19.5s,baz=268,slow=34
ARCES ARCESS Array B 73.54 21 P P 19 46 08.1 +0.3
comp=Z,3.2nm,0.6s,baz=297,slow=4.0,SNR=18
FINES FINESS Array B 75.34 30 P P 19 46 19.1 +0.7
comp=Z,1.5nm,0.6s,baz=230,slow=4.7,SNR=6.7
MLR Muntele Rosu 79.20 46 LR LR 20 17 05.1
comp=Z,21nm,21.8s,baz=8.0,slow=32
MLR Muntele Rosu 79.20 46 P P 19 46 42.6 +2.0
BRTR Keskin Array B 86.43 49 P P 19 47 18.7 +0.5
comp=Z,0.6nm,0.7s,baz=255,slow=3.7,SNR=4.6
CMAR Chiang Mai Arr 140.60 20 PKP PKPdf 19 54 05.6 0.0
comp=Z,0.5nm,0.6s,baz=329,slow=3.4,SNR=3.0
STKA Stephens Creek 150.71 238 PKPbc PKPbc 19 54 26.7 -1.2
comp=Z,2.1nm,0.7s,baz=80,slow=3.6,SNR=3.7
STKA Stephens Creek 150.71 238 PKPdf 19 54 20.8 -1.5
WRA Warramunga Arr 159.25 264 PKP PKPdf 19 54 33.6 -0.8
comp=Z,1.6nm,1.0s,baz=65,slow=1.5,SNR=4.9
ASAR Alice Springs 159.38 253 PKP PKPdf 19 54 34.0 -0.5
comp=Z,0.6nm,0.8s,baz=97,slow=1.4,SNR=7.3
ASAR PKPab PKPab 19 55 11.1 -1.1
comp=Z,1.8nm,0.7s,baz=109,slow=5.0,SNR=14
ASAR Alice Springs 159.38 253 PKPdf 19 54 33.3 -1.2

GII **16** *19:54:40.9±0.0, 33°.03N×35°.85E, h1km, MD2.3/8, Mm2.2/7*
GRAL **16** *19:54:41.4±0.3, 33°.01N×35°.97E, h0km±7km, MD2.9*
ISC 16 19:54:40.9±1.1, **33°.04N**±0°.03×**35°.91E**±0°.06, **h14**km±8km,
n19, σ0°**61**/34, **Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI	Neve Ativ	0.27	327	Pg	Pg	19 54 46.7	+0.1
NATI				Sg	Sb	19 54 51.3	-0.6
GEM	Giv'at Ha'Em	0.27	310	Pg	Pg	19 54 46.5	-0.2
GEM				Sg	Sg	19 54 50.7	+0.1
MMA0B	Mount Meron ar	0.42	267	Pg	Pb	19 54 49.7	-0.6
MMA0B				Sg	Sb	19 54 56.1	-0.5
RCY	Rachaya	0.46	352	*e*P	Pg	19 54 50.3	+0.1
RCY				*e*S	Sg	19 54 56.8	+0.3
HNTI	Hanita	0.62	274	Pg	Pb	19 54 53.3	-0.2
HNTI				Sg	Sb	19 55 02.4	+0.3
BLGI	Bet Lehem HaGe	0.68	244	Pg	Pb	19 54 54.5	0.0
DQRL	Dir Qamar	0.72	337	*e*P	Pg	19 54 55.1	0.0
DQRL				*e*S	Sb	19 55 05.4	+0.2
MMLI	Mount Malkishu	0.72	215	Pg	Pb	19 54 55.5	+0.2
MMLI				Sg	Sb	19 55 05.7	+0.6
HMDT	Nahal Hemdat	0.85	203	Pg	Pb	19 54 57.6	+0.2
HMDT				Sg	Sn	19 55 09.8	-0.8
OFRI	`Ofer	0.88	242	Pg	Pb	19 54 58.1	+0.1
OFRI				Sg	Sn	19 55 11.0	-0.5
BHL	Bhannes	0.89	346	*e*P	Pg	19 54 57.9	-0.3
SLTI	Sal'it	1.08	223	Pg	Pn	19 55 01.6	0.0
SLTI				Sg	Sn	19 55 16.8	+0.4
HWQ	Hawqa	1.24	1	*e*P	Pn	19 55 04.0	+0.1
DSI	Dead Sea	1.53	197	Pn	Pb	19 55 08.7	-0.3
DSI				Sn	Sg	19 55 30.1	-0.1
AMAZ	Amatzia	1.72	210	Pn	Pb	19 55 11.9	-0.4
AMAZ				Sn	Sg	19 55 35.9	-0.4
GHAJ	Ghor Haditha	1.75	190	Pn	Pb	19 55 12.4	-0.4
GHAJ				Sn	Sg	19 55 36.9	-0.4
YTIR	Yattir	1.80	202	Pn	Pb	19 55 13.3	-0.4
YTIR				Sn	Sg	19 55 38.4	-0.5
KZIT	Kziot	2.48	212	Pn	Pn	19 55 22.6	+1.7
PRNI	Paran	2.79	196	Pn	Pn	19 55 26.7	+1.6
PRNI				Sn	Sb	19 56 03.1	-1.4

NEIC **16** *20:26:23.9±1.6, 18°.96N±0°.08×67°.75W±0°.03, h19km±9km, Error ellipse: s-maj=11.5km s-min=3.5km az=187.0*
OSPL **16** *20:26:25.5±0.9, 19°.01N×67°.67W, h24km±9km, ML2.9*
RSPR **16** *20:26:25.5, 18°.93N×67°.78W, h73km±7km, MD2.9/9*
ISC 16 20:26:24.2±1.3, **19°.00N**±0°.08×**67°.73W**±0°.03, **h27**km, **n44,**
σ0°**76**/53, **7C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.78	232	*e*P	Pn	20 26 40.8	+1.3
PCDR	Punta Cana, DR	0.78	232	*e*S	Sn	20 26 51.3	+1.0
PCDR	Punta Cana, DR	0.78	232		Pn	20 26 40.8	+1.3
PCDR					Sn	20 26 51.3	+1.0
PCDR	Punta Cana, DR	0.78	232	*i* P	Pn	20 26 40.9	+1.3
PCDR				*e*S	Sn	20 26 50.7	+0.4
PCDR				IAML		20 26 55.1	
	comp=Z,570nm,0.3s						
AGPR	Aguadilla, PR	0.79	132	Pn	Pb	20 26 38.5	-0.9
AGPR	Aguadilla, PR	0.79	132	*i* P	Pb	20 26 38.5	-0.9
AGPR				*e*S	Sb	20 26 48.9	-0.9
AGPR				IAML		20 26 53.6	
	comp=Z,414nm,0.2s						
MPR	Mayaguez	0.97	144		Pn	20 26 41.4	-0.7
MPR	Mayaguez	0.97	144	*i* P	Pn	20 26 41.4	-0.7
MPR				*e*S	Sb	20 26 53.8	-0.9
LSP	Las Mesas	1.03	143	⇓*e*P	Pn	20 26 42.5	-0.3
LSP	Las Mesas	1.03	143	*e*S	Sn	20 26 58.1	+1.7
LSP	Las Mesas	1.03	143		Pn	20 26 42.5	-0.3
LSP					Sn	20 26 58.1	+1.7
AOPR	Arecibo Observ	1.13	125	⇓*e*P	Pn	20 26 43.9	-0.5
AOPR	Arecibo Observ	1.13	125	*e*S	Sb	20 26 59.8	+0.2
AOPR	Arecibo Observ	1.13	125		Pn	20 26 43.9	-0.5
AOPR					Sb	20 26 59.8	+0.2
AOPR	Arecibo Observ	1.13	125	IAML		20 27 03.5	
	comp=N,365nm,0.2s						
MLPR	Magueyes Islan	1.22	147	⇑*e*P	Pn	20 26 44.7	-0.8
MLPR	Magueyes Islan	1.22	147	*e*S	Sb	20 27 01.5	-0.4
MLPR	Magueyes Islan	1.22	147		Pn	20 26 44.7	-0.8
MLPR					Sb	20 27 01.5	-0.4
MLPR	Magueyes Islan	1.22	147	IAML		20 27 03.3	
	comp=N,374nm,0.5s						
EMPR	Esperanza - Ma	1.25	114	⇑*e*P	Pb	20 26 46.9	-0.3
EMPR	Esperanza - Ma	1.25	114	*e*S	Sb	20 27 03.5	+0.6
EMPR	Esperanza - Ma	1.25	114		Pn	20 26 45.7	-0.3
EMPR	Esperanza - Ma	1.25	114		Sb	20 27 03.5	+0.6
GBPR	Guanica, Bosqu	1.30	141	⇓*e*P	Pn	20 26 47.2	+0.5
GBPR				*e*S	Sn	20 27 03.5	+0.3
GBPR	Guanica, Bosqu	1.30	141		Pn	20 26 47.2	+0.5
GBPR					Sn	20 27 03.5	+0.3
CELP	Cerrillos	1.43	130	⇑*e*P	Pn	20 26 49.0	+0.5
CELP	Cerrillos	1.43	130	*e*S	Sb	20 27 07.8	-0.2
CELP	Cerrillos	1.43	130		Pn	20 26 49.0	+0.5
CELP					Sb	20 27 07.8	-0.2
OBIP	Obispado Ponce	1.43	132	⇑*e*P	Pn	20 26 48.4	-0.1
OBIP	Obispado Ponce	1.43	132	*e*S	Sn	20 27 06.9	+0.5
OBIP	Obispado Ponce	1.43	132		Pn	20 26 48.4	-0.1
OBIP					Sn	20 27 06.9	+0.5
DR12	Loma Pena Alta	1.57	262		Pb	20 26 52.2	-0.6
GCPR	Guaynabo City	1.71	114	⇑*e*P	Pn	20 26 53.5	+1.3
GCPR	Guaynabo City	1.71	114		Pn	20 26 52.6	+0.4
SJG	San Juan	1.74	120		Pn	20 26 52.8	+0.1
SJG				IAML		20 27 18.2	
	comp=N,187nm,0.3s						
SJG				IAML		20 27 18.6	
	comp=N,181nm,0.3s						
IGPR	InterUniversit	1.86	124	⇑*e*P	Pn	20 26 55.4	+1.1
PDPR	Patillas Dam,	1.90	121	Pn	Pn	20 26 54.4	-0.4
CBYP	Canovanas	1.92	112		Pn	20 26 55.5	+0.3
HUMP	Col San Antoni	1.98	115	Pn	Pn	20 26 56.6	+0.6
MTP	Monte Pirata	2.25	113	Pn	Pn	20 26 59.7	0.0
CUPR	Culebra, Puert	2.42	106	Pn	Pn	20 27 02.4	+0.3
BANI	BANI	2.56	257	Pn	Pn	20 27 03.5	-0.6
STVI	Saint Thomas	2.71	103	Pn	Pn	20 27 06.9	+0.8
SDDR	Presa de Saban	3.36	270	Pn	Pn	20 27 13.6	-1.4
SDDR				IAML		20 28 18.9	
	comp=N,56nm,1.1s						
SDDR				IAML		20 28 19.5	
	comp=N,50nm,0.9s						

TIF **16** *20:32:20.9, 42°.45N×40°.98E, h36km±2km*
MOS **16** *20:32:23.1±0.0, 42°.50N×41°.10E, h12km, MPVA2.9*
ISC 16 20:32:22.6±1.3, **42°.44N**±0°.04×**41°.16E**±0°.04, **h15**km±11km,
n15, σ0°**69**/30, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVG	Ch'k'valeri	0.74	67	P	Pn	20 32 37.7	-0.7
CHVG				S	Sn	20 32 49.9	+0.5
DOMR	Dombai	0.92	21	*e*Pg	Pn	20 32 41.2	+0.1
DOMR				*e*Sg	Sb	20 32 52.8	+0.4
BATM	Batumi	0.92	154	P	Pb	20 32 40.3	+0.1
BATM				S	Sn	20 32 53.5	-0.4
ARXR	Arkhyz	1.13	4	*e*Pg	Pg	20 32 44.6	+0.2
ARXR				*i* Sg	Sn	20 32 59.1	-0.2
TKB	Tkibuli	1.36	93	P	Pb	20 32 47.7	0.0
TKB				S	Sg	20 33 07.0	+0.6
ABS	Abastumani	1.40	118	P	Pg	20 32 49.0	-0.6
ABS				S	Sg	20 33 08.6	+0.7
NEY	Neytrino	1.40	54	*e*Pg	Pg	20 32 49.0	-0.7
NEY				*e*Sg	Sg	20 33 08.4	+0.5
RPOR	Krasnaya Polya	1.42	333	*i* Pg	Pb	20 32 48.3	-0.6
RPOR				*i* Sg	Sb	20 33 06.9	+0.1
SOC	Sochi	1.56	318	*e*Pg	Pn	20 32 49.8	0.0
SOC				*e*Sg	Sb	20 33 11.3	+0.6
ONI	Oni	1.70	84	P	Pg	20 32 54.7	-0.5
ONI				S	Sg	20 33 19.4	+2.1
ONI	Oni	1.70	84	*i* Pg	Pg	20 32 54.6	-0.6
ONI				*e*Sg	Sg	20 33 17.8	+0.5
SHA1	Shidzhatmaz	1.70	40	*e*Pg	Pb	20 32 53.8	+0.1
SHA1				*e*Sg	Sg	20 33 16.3	-1.1
GUZR	Guzeripl'	1.74	334	*i* Pg	Pb	20 32 53.7	-0.4
GUZR				*e*Sg	Sb	20 33 16.3	+0.4
BKRG	Bakuriani	1.88	110	P	Pb	20 32 56.6	-0.1
BKRG				S	Sg	20 33 23.2	+0.1
LZRR	Lazarevskoye	1.99	320	*e*Pg	Pn	20 32 56.6	+1.0
LZRR				*e*Sg	Sb	20 33 22.1	-0.9

TUL **16** *20:32:57.4±2.0, 36°.55N±0°.02×98°.60W±0°.02, h5km±7km, ML2.8, mb_Lg2.5/22(NEIC), Error ellipse: s-maj=3.6km s-min=1.9km az=142.0*
NEIC 16 20:32:57.5±1.7, **36°.56N**±0°.03×**98°.60W**±0°.03, **h17**km±4km,
Error ellipse: s-maj=4.9km s-min=2.2km az=146.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.37	241	Pg	Pg	20 33 04.5	-0.6
U32A				Sg	Sg	20 33 10.2	-0.1
OK032	Salt Plains WL	0.40	52	Pg	Pg	20 33 05.4	-0.3
OK032				Sg	Sg	20 33 11.3	0.0
CROK	Carrier	0.50	96		Pg	20 33 07.4	-0.2
GC02	Grant County #	0.67	64		Pg	20 33 10.1	-0.5
KAN10	Anthony SW Sta	0.70	36	Pg	Pg	20 33 10.6	-0.5
KAN10				Sg	Sg	20 33 20.5	0.0
KAN05	Bluff City Nor	0.80	47	Pg	Pb	20 33 12.3	-0.8
KAN05				Sg	Sg	20 33 23.9	0.0
KAN08	Anthony NE Sta	0.84	37	Pg	Pb	20 33 13.3	-0.3
KAN12	Harper NE Stat	0.88	33	Pg	Pb	20 33 13.2	-1.2
KAN09	Caldwell North	0.98	54		Pb	20 33 15.2	-0.8
KAN13	South Haven SW	1.01	63	Pg	Pb	20 33 16.3	-0.2
KS20	Mayfield South	1.08	51	Pg	Pb	20 33 16.6	-1.1
BLOK	Blackwell	1.13	79		Pb	20 33 18.7	+0.1
OK029	Liberty Lake	1.20	129	Pg	Pn	20 33 19.4	-0.1
BCOK	Bluff Creek, N	1.21	138	Pg	Pn	20 33 19.3	-0.3
OK025	Westminster Rd	1.41	133	Pn	Pn	20 33 22.6	+0.1
OK031	S. Brethren Rd	1.55	112	Pn	Pb	20 33 25.2	-0.5
QUOK	Quay	1.58	104		Pn	20 33 25.2	+0.4
FNO	Franklin	1.62	143	Pn	Pn	20 33 24.7	-0.7
T35A	Sooner Cattle	1.72	77		Pb	20 33 28.6	0.0
WMOK	Wichita Mounta	1.82	185	Pn	Pn	20 33 29.1	+1.0
R32A	Long Quarter,	1.86	357		Pb	20 33 31.2	0.0
X34A	Smith Ranch, M	2.05	162		Pb	20 33 33.8	-0.5
X34A				IAmb_Lg		20 34 04.7	
	comp=Z,32nm,1.0s						
CBKS	Cedar Bluff	2.42	339	Pn	Pn	20 33 36.8	+0.4
LOOK	Love County	2.81	155	Pn	Pn	20 33 42.4	+0.7
AMTX	Amarillo	3.01	237	Pn	Pn	20 33 43.5	-1.0
X37A	Clayton	3.29	126	Pn	Pn	20 33 46.6	-1.6
U38A	Gravette	3.40	91	Pn	Pn	20 33 51.0	+1.2
HHAR	Hobbs	3.77	93	Pn	Pn	20 33 56.1	+1.2
KSCO	Kaye Shedlock'	4.02	309	IAmb_Lg		20 35 05.4
	comp=Z,9.5nm,0.8s					
W39A	Magazine	4.14	108	IAmb_Lg		20 35 09.9
	comp=Z,8.7nm,0.8s					
MSTX	Muleshoe	4.28	234	IAmb_Lg		20 35 19.1
	comp=Z,7.2nm,0.8s					
MIAR	Mount Ida	4.56	115	IAmb_Lg		20 35 33.9
	comp=Z,9.5nm,1.0s					
T25A	Trinidad	4.69	279	Pn	Pn	20 34 07.8	0.0
T25A				IAmb_Lg		20 35 29.2
	comp=Z,7.1nm,0.9s					
X40A	Basin Creek Fa	5.14	112	IAmb_Lg		20 35 45.1
	comp=Z,5.8nm,0.8s					
WHAR	Wooly Hollow	5.28	102	Pn	Pn	20 34 18.1	+2.5
R40A	Maddies Statio	5.33	69	IAmb_Lg		20 35 48.4
	comp=Z,7.4nm,0.7s					
P40A	Paris	5.96	58	IAmb_Lg		20 36 09.9
	comp=Z,16nm,0.8s					
CCM	Cathedral Cave	6.05	74	IAmb_Lg		20 36 12.3
	comp=Z,7.5nm,0.8s					
JCT	Junction City	6.14	190	IAmb_Lg		20 36 23.0
	comp=Z,7.7nm,1.1s					
PHWY	Pilot Hill	7.14	314	IAmb_Lg		20 36 58.8
	comp=Z,5.7nm,0.9s					

IDC **16** *20:38:36.1±1.1, 77°.75N×113°.41W, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.6/53, mbtmp3.7/9, ML3.9/3, MS3.3/2, Ms1 3.2/2, ms1mx2.5/47, Error ellipse: s-maj=35.0km s-min=19.2km az=97.0*
ISC 16 20:38:37.7±0.9, **77°.7N**±0°.1×**112°.46W**±0°.09, **h10**km, **n13,**
σ2°**13**/12, **mb3.6/5, Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	5.16	117	Pn	Pn	20 39 56.4	+1.6
	1.3nm,0.3s,baz=306,slow=9.1,SNR=14						
RES				Sn	Sn	20 40 54.5	+0.2
	1.5nm,0.3s,baz=294,slow=22,SNR=1.7						
INK	Inuvik	11.15	224	Pn	Pn	20 41 10.8	-6.0
	0.8nm,0.3s,baz=1.9,slow=13,SNR=7.4						
INK				Sn	Sn	20 43 06.9	-14
	0.7nm,0.3s,baz=172,slow=3.2,SNR=4.1						
YKA	Yellowknife Ar	15.30	184	Pn	Pn	20 42 09.4	-3.9
	0.8nm,0.3s,baz=210,slow=3.2,SNR=15						
YKA				Sn	Sn	20 44 45.6	-17
	0.5nm,0.3s,baz=352,slow=21,SNR=8.9						
ILAR	Eielson Array	16.61	238	Pn	Pn	20 42 31.7	+1.5
	0.4nm,0.3s,baz=24,slow=11,SNR=25						
SUMG	Summit	18.35	67	*i* P	Pn	20 42 53.0	+0.8
SUMG				IAmb	IAmb	20 42 55.3	
	comp=Z,4.6nm,0.6s						
DLBC	Dease Lake	20.24	207	P	P	20 43 12.6	-0.1
	comp=Z,1.3nm,0.6s,baz=341,slow=5.6,SNR=3.1						
SFJD	Kangerlussuaq	20.30	87	P	P	20 43 09.5	-3.6
	comp=Z,7.9nm,0.6s,baz=155,slow=23,SNR=3.0						
ULM	Lac du Bonnet	28.26	157	P	P	20 44 31.1	+0.6
	comp=Z,2.2nm,0.7s,baz=38,slow=4.5,SNR=4.4						
ULM				LR	LR	20 55 55.1	
	comp=Z,43nm,20.9s,baz=348,slow=37						
NEW	Newport	29.60	186	LR	LR	20 57 23.4	
	comp=Z,70nm,19.8s,baz=177,slow=38						
PDAR	Pinedale Array	35.06	176	P	P	20 45 30.1	-0.6
	comp=Z,0.3nm,0.3s,baz=27,slow=7.0,SNR=6.0						
FINES	FINESS Array B	38.80	31	P	P	20 46 02.3	+0.5
	comp=Z,2.8nm,0.8s,baz=359,slow=9.5,SNR=7.1						
TXAR	Lajitas Array	48.62	170	P	P	20 47 23.7	+2.4
	comp=Z,0.1nm,0.6s,baz=4.8,slow=12,SNR=1.5						
MKAR	Makanchi Array	55.44	348	P	P	20 48 10.9	-0.9
	comp=Z,0.6nm,1.0s,baz=5.2,slow=3.2,SNR=4.0						

NOU **16** *20:41:26.3, 32°.78S×176°.21W, h15km, MLv5.4, South of Kermadec Islands*
BJI **16** *20:41:27.6±0.0, 33°.15S×176°.93W, h37km, mB5.8/10, mb5.0/10, Ms5.8/3, Ms7 5.3/3*
IDC **16** *20:41:33.4±0.6, 32°.16S×177°.78W, h0km, mb4.6/13, mb1 4.8/16, mb1mx4.6/39, mbtmp4.6/16, ML5.0/2, MS4.3/12, Ms1 4.3/12, ms1mx4.1/30, Error ellipse: s-maj=19.9km s-min=16.7km az=96.0*
NEIC **16** *20:41:36.4±2.4, 32°.20S±0°.08×177°.9W±0°.2, h10km±1km, mb5.1/46, Error ellipse: s-maj=22.9km s-min=13.7km az=94.0*
GCMT **16** *20:41:38.4±0.2, 32°.17S±0°.02×177°.53W±0°.02, h14km, MW5.0/109, Moment Tensor Solution. s34,c45; s109,c163; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.26±.23; Mθθ0.04±.13; Mφφ4.22±.16; Mrθ1.43±.37; Mθφ1.46±.09; Mφr-0.08±.30; Best double couple: Mo4.70800×10^16 NP1:φs0.00000°, δ45.00000°, λ-115.00000°. NP2:φs215.00000°, δ50.00000°, λ-66.00000°. Principal axes: T 4.6930, Plg2.0000°, Azm288.0000°; N 0.0240, Plg18.0000°, Azm19.0000°; P -4.7220, Plg72.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 20:41:36.2±0.4, **32°.25S**±0°.05×**177°.78W**±0°.08, **h20**km,
n210, σ1°**98**/185, **mb5.0**/40, **MS4.4**/12, **2C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.99	358	Pn	Pn	20 42 19.4	-3.1
	198nm,0.3s,baz=256,slow=22,SNR=7.3						
RAO				Sn	Sn	20 42 52.0	-5.8
	199nm,0.3s,baz=220,slow=21,SNR=4.0						
RAO				LR	LR	20 43 21.7	
	comp=Z,2μm,19.5s,baz=159,slow=37						
RAO	Raoul Island	2.99	358	Pn	Pn	20 42 20.7	-1.8
MXZ	Matakaoa Point	6.20	210	Pn	Pn	20 43 03.9	-2.6
URZ	Urewera	7.31	213	Pn	Pn	20 43 18.1	-3.6
	3.8nm,0.3s,baz=266,slow=2.2,SNR=23						
URZ				Sn	Sn	20 44 39.1	-5.0
	23nm,0.3s,baz=126,slow=22,SNR=23						
URZ	Urewera	7.31	213	Pn	Pn	20 43 18.5	-3.3
OUZ	Omahuta	7.77	245	Pn	Pn	20 43 28.1	-0.1
PLWZ

PPT2 eLR LR 20 54 55.6
comp=Z,670nm,20.2s,baz=234
PPT2 Papeete2 29.33 67 eT T 21 17 45.9
4.3nm,0.3s
PPT Papeete 29.34 67 LR LR 20 58 13.4
comp=Z,940nm,18.1s,baz=244,slow=34
RMQ Roma 29.65 272 P **P 20 47 42.5 +2.0**
baz=30,SNR=4.1
HNR Honiara 30.67 313 LR LR 20 57 19.8
comp=Z,195nm,21.5s,baz=166,slow=31
CMSA Cobar Meteorol 30.93 261 P **P 20 47 53.3 +1.6**
baz=31,SNR=59
VAH Vaihoa 32.22 65 eT T 21 21 22.0
8.4nm,0.3s
ARPS Mount Arapiles 33.41 251 P **P 20 48 15.2 +1.8**
baz=34,SNR=6.2
STKA Stephens Creek 34.29 260 P **P 20 48 21.1 0.0**
5.4nm,0.8s,baz=104,slow=10,SNR=13
STKA LR LR 21 01 58.5
comp=Z,412nm,18.3s,baz=103,slow=36
STKA Stephens Creek 34.29 260 P **P 20 48 21.8 +0.7**
CTA Charters Tower 34.32 282 P **P 20 48 23.3 +1.7**
21nm,0.4s,baz=112,slow=11,SNR=48
CTAO Charters Tower 34.32 282 P **P 20 48 23.2 +1.6**
QIS Mount Isa 39.67 276 P **P 20 49 08.1 +1.0**
baz=40,SNR=5.4
TAOE Nuku Hiva Isla 41.89 65 eLR LR 21 00 22.8
comp=Z,677nm,29.4s
AS31 Alice Springs 43.23 269 P **P 20 49 35.5 -0.7**
ASAR Alice Springs 43.23 269 P **P 20 49 35.8 -0.5**
6.8nm,0.4s,baz=107,slow=7.9,SNR=137
ASAR PcP **PcP 20 51 25.7 +0.3**
1.3nm,0.5s,baz=117,slow=4.2,SNR=1.5
ASAR Alice Springs 43.23 269 P **P 20 49 35.6 -0.6**
WR0 Warramunga Arr 44.21 274 P **P 20 49 43.4 -0.7**
WR0 IAmb IAmb 20 49 45.9
comp=Z,18nm,0.5s
WB2 Warramunga Arr 44.38 274 P **P 20 49 44.9 -0.6**
WRAB Tennant Creek 44.38 274 P **P 20 49 44.8 -0.8**
WRAB IAmb IAmb 20 49 47.5
comp=Z,43nm,1.2s
WRA Warramunga Arr 44.39 274 P **P 20 49 44.9 -0.7**
comp=Z,19nm,0.3s,baz=113,slow=7.8,SNR=366
WRA PcP **PcP 20 51 30.0 +0.7**
comp=Z,2.5nm,0.9s,baz=126,slow=3.2,SNR=2.3
WRA ScP **ScP 20 55 23.7 +3.4**
comp=Z,1.2nm,0.9s,baz=122,slow=3.8,SNR=5.1
WRA Warramunga Arr 44.39 274 P **P 20 49 43.5 -2.0**
WB0 Warramunga Arr 44.42 274 P **P 20 49 45.1 -0.7**
PATS Pohnpei 45.06 325 P **P 20 49 48.8 -2.1**
baz=45,SNR=4.8
FORT Forrest 45.78 257 P **P 20 49 55.9 -0.7**
baz=46,SNR=32
FORT Forrest 45.78 257 P **P 20 49 55.8 -0.7**
SBA Scott Base 46.21 184 P **P 20 50 02.6 +3.4**
VNDA Vanda 46.28 186 P **P 20 50 00.6 +0.8**
comp=Z,1.7nm,0.9s,baz=343,slow=7.0,SNR=4.1
VNDA LR LR 21 04 46.4
comp=Z,130nm,21.8s,baz=28,slow=30
WRKA Warakurna 47.46 264 P **P 20 50 08.0 -1.8**
baz=48,SNR=13
KDU Kakadu 49.45 281 P **P 20 50 24.5 -0.7**
baz=50,SNR=4.9
MTN Manton Dam 50.48 280 P **P 20 50 32.2 -0.7**
MTN IAmb IAmb 20 50 33.3
comp=Z,35nm,1.3s
KNRA Kununurra 51.06 276 P **P 20 50 38.5 +1.2**
baz=52,SNR=12
KNRA Kununurra 51.06 276 P **P 20 50 36.5 -0.9**
CASY Casey 53.60 208 P **P 20 50 55.7 +0.2**
CASY IAmb IAmb 20 51 00.9
comp=Z,20nm,0.7s
KLBR Kellerberrin 53.95 252 P **P 20 50 57.6 -1.0**
baz=54,SNR=12
MEEK Meekatharra 54.98 258 P **P 20 51 05.6 -0.6**
baz=55,SNR=5.0
QSPA South Pole Qui 57.87 180 P **P 20 51 27.6 +1.3**
comp=Z,12nm,1.0s,baz=28,slow=2.5,SNR=19
QSPA South Pole Qui 57.87 180 P **P 20 51 27.2 +0.9**
QSPA IAmb IAmb 20 51 44.7
comp=Z,22nm,0.9s
MAW Mawson 70.65 201 P **P 20 52 50.9 +1.1**
comp=Z,9.0nm,1.0s,baz=116,slow=7.1,SNR=11
MAW Mawson 70.65 201 P **P 20 52 48.8 -1.1**
baz=71,SNR=4.9
MAW Mawson 70.65 201 P **P 20 52 52.6 +2.7**
SYO Syowa Base 75.36 193‖ ePP pP 20 53 22.8 +0.5
SYO Syowa Base 75.36 193‖ ePcP **PcP 20 53 31.4 +0.5**
SNAA Sanae 76.31 178 P **P 20 53 24.4 +1.1**
SNAA Sanae 76.31 178 P **P 20 53 23.5 +0.3**
SNAA IAmb IAmb 20 53 41.8
comp=Z,13nm,1.0s
JHJ Hachijo jima 2 76.35 324 LR LR 21 19 35.5
comp=Z,582nm,20.5s,baz=220,slow=30
VNA3 Neumayer Olymp 76.45 176 P **P 20 53 24.2 +0.2**
VNA2 Neumayer--Watz 76.89 177 P **P 20 53 26.7 +0.3**
baz=174,slow=5.9
VNA1 Neumayer--Stat 77.12 176 P **P 20 53 28.6 +0.9**
H03S2 Juan Fernandez 79.29 123 T T 22 22 24.5
baz=236
H03S1 Juan Fernandez 79.30 123 T T 22 22 25.0
baz=236
H03S3 Juan Fernandez 79.31 123 T T 22 22 25.0
baz=236
H03N3 Juan Fernandez 79.49 123 T T 22 22 35.7
baz=246
H03N2 Juan Fernandez 79.49 123 T T 22 22 33.4
baz=246
H03N1 Juan Fernandez 79.51 123 T T 22 22 34.0
baz=246
PLCA Paso Flores 81.11 133 LR LR 21 22 39.5
comp=Z,388nm,19.1s,baz=226,slow=30
MT01 Popeta 84.61 127 P **P 20 54 10.2 +1.7**
KSRS Korea Array 85.88 320 P **P 20 54 14.8 +0.4**
comp=Z,1.3nm,0.8s,baz=127,slow=7.8,SNR=3.4
BFSC Mount Baldy Ra 87.00 46 P **P 20 54 22.2 +2.0**
baz=226
EDW2 Edwards Air Fo 87.23 45 P **P 20 54 23.6 +2.4**
baz=226
ISA Isabella, Lake 87.48 44 P **P 20 54 24.9 +2.5**
baz=226
ISA Isabella, Lake 87.48 44 P **P 20 54 22.8 +0.4**
NJ2 Nanjing 87.59 311 eP **P 20 54 19.0 -3.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
PETK Petropavlovsk- 87.65 345 P **P 20 54 23.3 +0.7**
comp=Z,3.2nm,0.6s,baz=120,slow=7.2,SNR=9.2
LRMC Laurel Mtn Rad 87.83 45 P **P 20 54 26.9 +2.7**
baz=226
BELC Belle Mtn. Jos 87.86 47 P **P 20 54 26.8 +2.5**
baz=227
CMB Columbia Colle 88.01 42 P **P 20 54 25.6 +0.7**
CMB IAmb IAmb 20 54 27.8
comp=Z,16nm,1.4s
HEC Hector,Ludlow 88.21 46 P **P 20 54 28.0 +2.1**
baz=227
O02D Mt. Diablo Mer 88.21 39 P **P 20 54 28.6 +2.8**
baz=223
CWC Cottonwood Cre 88.24 44 P **P 20 54 28.9 +2.8**
baz=226
IRM Iron Mountain 88.50 47 P **P 20 54 30.0 +2.8**
baz=228
GMRC Granite Mounta 88.59 47 P **P 20 54 30.0 +2.2**
baz=227
USRK Ussuriysk Ar. 88.81 326 P **P 20 54 29.3 +1.0**
comp=Z,1.7nm,0.6s,baz=132,slow=2.8,SNR=9.4
WAKR Walker 88.87 42 P **P 20 54 30.5 +1.4**
FURC Furnace Creek, 88.98 45 P **P 20 54 31.7 +2.3**
baz=227
PNTR Pine Nut 89.19 41 P **P 20 54 31.9 +1.3**
PNTR IAmb IAmb 20 54 51.7
comp=Z,13nm,1.0s
LHV Little Huntoon 89.23 43 P **P 20 54 32.2 +1.7**
LHV IAmb IAmb 20 54 48.0
comp=Z,18nm,1.3s
BEKR Beckworth 89.31 40 P **P 20 54 32.8 +1.7**
BEKR IAmb IAmb 20 54 33.2
comp=Z,13nm,1.5s
NVAR Mina Array Bea 89.47 43 P **P 20 54 32.4 +0.5**
comp=Z,4.4nm,1.0s,baz=220,slow=8.2,SNR=20
NVAR Mina Array Bea 89.47 43 P **P 20 54 33.0 +1.1**
NV11 Mina Array Sit 89.55 43 P **P 20 54 34.5 +2.3**
NV11 IAmb IAmb 20 54 35.3
comp=Z,12nm,1.4s
TPNV Topopah Spring 89.67 45 P **P 20 54 35.3 +2.5**
baz=227
TPNV Topopah Spring 89.67 45 P **P 20 54 35.5 +2.6**

TPNV IAmb IAmb 20 54 35.7
comp=Z,13nm,1.4s
PAHR Pah Rah Range 89.73 41 P **P 20 54 35.2 +2.2**
TPH Tonopah 89.85 43 P **P 20 54 35.7 +2.0**
HUMO Hull Mountain 89.87 37 P **P 20 54 34.7 +1.2**
HUMO IAmb IAmb 20 54 37.2
comp=Z,16nm,1.4s
W13A Hualapai Mount 89.90 47 P **P 20 54 35.1 +1.1**
W13A IAmb IAmb 20 54 37.7
comp=Z,12nm,1.3s
KVN Kaiserville 90.01 42 P **P 20 54 35.2 +0.8**
SHPR Sheep Range 90.03 46 P **P 20 54 36.6 +2.1**
SHPR IAmb IAmb 20 54 52.4
comp=Z,15nm,1.5s
TUC Tucson 90.12 51 P **P 20 54 36.7 +1.8**
TUC IAmb IAmb 20 54 53.1
comp=Z,16nm,1.5s
MDJ Mudanjiang 90.25 325 P **P 20 54 31.4 -3.7**
MDJ pmax pmax
comp=Z,3.0nm,0.4s
MDJ pmax pmax
comp=Z,200nm,3.9s
I02D Swisshome 90.51 36 P **P 20 54 33.5 -2.8**
baz=222
PRN Pahroc Range 90.69 45 P **P 20 54 39.6 +2.1**
PRN IAmb IAmb 20 54 41.5
comp=Z,19nm,1.5s
K05A Summer Lake 91.03 38 P **P 20 54 41.5 +2.4**
J05D Fort Rock, OR 91.24 38 P **P 20 54 42.3 +2.3**
baz=224
CN2 Changchun 91.73 323 eP **P 20 54 43.4 +1.4**
CN2 Changchun 91.73 323 eS **S 21 05 43.8 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
U15A North Rim 91.74 47 P **P 20 54 44.4 +1.8**
U15A IAmb IAmb 20 55 08.0
comp=Z,9.0nm,1.1s
WUAZ Wupatki 91.74 48 P **P 20 54 45.4 +2.9**
baz=230
WUAZ Wupatki 91.74 48 P **P 20 54 44.1 +1.6**
WUAZ IAmb IAmb 20 54 45.6
comp=Z,8.8nm,1.1s
H04A Detroit Lake 91.75 36 P **P 20 54 42.9 +0.7**
H04A IAmb IAmb 20 54 44.1
comp=Z,8.2nm,0.9s
KNB Kanab 91.79 47 P **P 20 54 45.3 +2.5**
KNB IAmb IAmb 20 55 00.5
comp=Z,14nm,1.4s
KLR Kul'dur 92.72 330 P **P 20 54 47.4 +0.9**
comp=Z,2.2nm,0.9s,baz=96,slow=1.3,SNR=6.1
ELK Elko 92.77 42 P **P 20 54 49.1 +1.9**
MTPU Mount Pierson 92.83 46 P **P 20 54 50.7 +3.0**
MTPU IAmb IAmb 20 55 05.8
comp=Z,7.0nm,1.2s
TXAR Lajitas Array 93.22 57 P **P 20 54 50.2 +0.8**
comp=Z,1.0nm,1.0s,baz=256,slow=5.0,SNR=5.9
TXAR Lajitas Array 93.22 57 P **P 20 54 50.0 +0.6**
G08A Pilot Rock 93.81 37 P **P 20 54 53.3 +1.5**
G08A IAmb IAmb 20 55 10.8
comp=Z,9.0nm,1.4s
MFID Camas Ranch 94.20 40 P **P 20 54 55.8 +2.2**
MFID IAmb IAmb 20 55 10.9
comp=Z,11nm,1.4s
LPAZ La Paz 97.21 114 LR LR 21 31 53.8
comp=Z,148nm,19.2s,baz=298,slow=31
HHC Hu-ho-hao-te 97.65 314 eP **P 20 55 06.5 -2.9**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,75nm,6.6s
PAX Paxson 98.35 14 P Pdif 20 55 19.2 +7.3
baz=206
CPUP Villa Florida 98.69 128 LR LR 21 36 59.6
comp=Z,138nm,18.3s,baz=240,slow=34
BATAN Batan 99.00 84 P **Pdif 20 55 18.2 +2.2**
WMQ Urumqi 114.51 308 ePKP PKPdf 21 00 06.3 -8.3
WMQ AMB AMB
comp=Z,100nm,4.9s
MK31 Makanchi Array 119.10 309 PKPdf 21 00 23.4 +0.1
MKAR Makanchi Array 119.10 309 PKP **PKPdf 21 00 22.5 -0.8**
comp=Z,0.6nm,0.6s,baz=72,slow=4.0,SNR=7.4
BOOM Boomskoye usch 122.22 303 PKiKP 21 00 30.7 +0.9
KK31 Karatay Array 126.24 302 PKiKP 21 00 37.7 +0.1
KKAR Karatay Array 126.24 302 PKiKP 21 00 37.5 -0.1
KKAR Karatay Array 126.24 302 PKPdf 21 00 37.1 0.0
BRVK Borovoye 127.92 315 PKiKP 21 00 41.3 +0.8
ARCES ARCESS Array B 140.43 347 PKP **PKPdf 21 01 00.7 -2.2**
comp=Z,1.7nm,0.8s,baz=15,slow=1.4,SNR=6.4
GNI Garni 145.06 295 PKPdf **PKPdf 21 01 12.8 +0.6**
ONI Oni 145.97 300 PKPbc 21 01 14.6 +0.3
KBZ Khabaz 146.27 302 PKPbc **PKPab 21 01 16.2 +0.4**
comp=Z,16nm,1.1s,baz=99,slow=3.8,SNR=14
KARS Kars 146.33 296 PKiKP 21 01 18.1 -0.5
KIV Kislovodsk 146.40 302 PKPdf 21 01 15.0 +0.7
FIA1 FINESS Array S 146.94 339 PKPdf **PKPdf 21 01 14.0 -0.4**
FINES FINESS Array B 146.94 339 PKPbc **PKPbc 21 01 16.0 -0.5**
comp=Z,9.0nm,0.5s,baz=51,slow=4.0,SNR=43
FINES FINESS Array B 146.94 339 PKPdf **PKPdf 21 01 14.0 -0.5**
GURO Guroymak-BITLI 147.14 292 PKPbc 21 01 17.1 -0.8
MEF Metsahovi 148.42 339 eP **PKiKP 21 01 21.7 -0.4**
RAF Rauma 148.51 342 eP **PKiKP 21 01 22.1 -0.2**
VSU Samara 148.98 335 eP **PKPbc 21 01 22.2 +0.3**
AAL Aland 149.69 342 eP **PKPbc 21 01 21.7 -2.0**
MTSE Matsula 149.79 338 eP **PKPdf 21 01 20.5 +1.3**
NC303 NORSAR Array S 150.41 351 PKPbc 21 01 25.8 +0.4
NB2 NORSAR Subarra 150.60 351 PKP **PKPbc 21 01 25.3 -0.6**
comp=Z,1.2nm,0.7s,baz=16,slow=2.6
NOA NORSAR Array B 150.60 351 PKPbc **PKPbc 21 01 25.4 -0.6**
comp=Z,2.0nm,0.8s,baz=14,slow=4.1,SNR=7.6
IDID Didziasalis 151.22 330 eP **PKiKP 21 01 29.6 +1.6**
IIGN Ignalina 151.41 331 eP **PKiKP 21 01 31.3 +2.9**
BNN Bunyan 151.97 293 PKPbc 21 01 30.2 +0.2
AKASG Malin Array Be 152.87 321 PKPbc **PKPbc 21 01 30.6 -0.7**
comp=Z,1.3nm,0.4s,baz=51,slow=2.8,SNR=12
AKASG Malin Array Be 152.87 321 PKiKP 21 01 32.1 +0.5
AKBB Malin Array Si 152.87 321 PKPbc 21 01 30.0 -1.4
SUW Suwalki 153.60 332 eP **PKPbc 21 01 31.9 -0.9**
SUW Suwalki 153.60 332 PKPdf 21 01 25.8 +0.7
BR131 Keskin Array S 153.60 295 PKPbc 21 01 32.8 -0.8
BRTR Keskin Array B 153.60 295 PKPbc **PKPbc 21 01 32.4 -1.2**
comp=Z,1.4nm,0.5s,baz=139,slow=4.3,SNR=11
BRTR Keskin Array B 153.60 295 PKPbc **PKPbc 21 01 31.9 -1.6**
BUR08 Bucovina Ar. S 156.75 318 PKPab 21 01 59.6 +0.3
DPC Dobruska-Polom 159.11 334 ePKP **PKPab 21 02 10.6 +1.3**
DPC ex x 21 02 23.4
KRLC Kraliky 159.16 333 ePKP **PKPab 21 02 10.0 +0.5**
KRLC ex x 21 02 22.8
CLL Collm 159.37 341‖ /pPKPab **PKPab 21 02 11.1 +0.8**
comp=Z,10.0nm,1.0s
CLL e 21 02 38.0
BRG Berggiesshubel 159.48 338 P PKPab 21 02 25.4 +15
BRG Amp 21 02 27.9
comp=Z,2.2nm,0.6s
TORD Torodi Ar. Bea 160.98 178 PKPab **PKPab 21 02 19.0 +0.8**
comp=Z,2.8nm,0.9s,baz=183,slow=3.5,SNR=8.1
TORD Torodi Ar. Bea 160.98 178 PKPab **PKPab 21 02 17.7 -0.5**
KHC Kasperske Hory 161.10 336 ePKP **PKPab 21 02 18.4 +0.4**
KHC ex x 21 02 32.9
KHC Kasperske Hory 161.10 336 PKPab **PKPab 21 02 17.7 -0.3**
CKRC Cesky Krumlov 161.11 335 ePKP **PKPab 21 02 18.2 +0.2**
CKRC ex x 21 02 31.8
CONA Conrad Observa 161.23 330 eP **PKPab 21 02 20.5 +1.8**
comp=Z,5.9nm,1.3s
GERES GERESS Array B 161.31 336 PKPab **PKPab 21 02 18.4 -0.6**
comp=Z,0.6nm,0.8s,baz=52,slow=8.6,SNR=5.6
GERES GERESS Array B 161.31 336 PKPab 21 02 19.9 +0.9
GRF Grafenberg Arr 161.32 342 ePKPbc **PKPab 21 02 20.2 +1.3**
baz=28,slow=3.8
DIVS Divibare 161.74 315 PKPab 21 02 21.0 -0.1
MOA Molln 161.93 333 eP **PKPab 21 02 23.1 +1.5**
comp=Z,4.0nm,1.1s
SOKA Soboth 162.56 329 eP **PKPab 21 02 25.4 +0.9**
comp=Z,5.4nm,1.3s
MYKA Terra Mystica 163.18 332 eP **PKPab 21 02 28.0 +0.8**
comp=Z,1.6nm,0.4s
WATA Walderalm 163.33 337 eP **PKPab 21 02 29.4 +1.5**
comp=Z,8.5nm,1.5s

WTTA Wattenberg 163.37 337 eP **PKPab 21 02 29.9 +1.7**
comp=Z,6.1nm,1.3s
RETA Reutte 163.45 339 eP **PKPab 21 02 30.0 +1.7**
comp=Z,8.9nm,1.4s
MOTA Moosalm 163.47 338 eP **PKPab 21 02 30.1 +1.5**
comp=Z,8.9nm,1.1s
ABTA Abfaltersbach 163.51 334 eP **PKPab 21 02 29.3 +0.6**
comp=Z,5.2nm,1.1s
SQTA Sankt Quirin 163.55 338 eP **PKPab 21 02 30.5 +1.7**
comp=Z,8.8nm,1.1s
FETA Feichten 163.88 339 eP **PKPab 21 02 31.9 +1.5**
comp=Z,5.8nm,1.1s
DAVA Damuels 163.88 341 i P **PKPab 21 02 31.4 +1.1**
comp=Z,9.2nm,1.4s
TUE Stuetta 164.78 341 PKPab 21 02 34.4 0.0
ESDC Sonseca Array 171.06 32 PKP **PKPdf 21 01 44.1 +1.1**
comp=Z,0.1nm,0.4s,baz=318,slow=1.7,SNR=1.2
ESDC PKPab **PKPab 21 03 01.6 -0.6**
comp=Z,1.0nm,0.9s,baz=314,slow=4.6,SNR=5.0
ESDC Sonseca Array 171.06 32 PKPab 21 03 02.0 -0.2

NEIC ***16*** *20:44:30.1±0.7, 18°.98N±0°.05×68°.03W±0°.04, h28km±5km, Error ellipse: s-maj=8.3km s-min=4.2km az=203.0*
RSPR ***16*** *20:44:30.8, 19°.04N×68°.02W, h55km±11km, MD3.0/8*
OSPL ***16*** *20:44:35.4±0.9, 18°.90N×67°.66W, h26km±13km, ML2.6*
ISC 16 20:44:28.6±2.0, 19°.1N±0°.1×67°.90W±0°.05, h10km, n38,
σ1°06/41, 1C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.71**	**220**	Pn	**Pg**	**20 44 40.4**	**-1.9**
PCDR				IAML		20 45 03.6	
comp=N,506nm,0.6s							
PCDR	**Punta Cana, DR**	**0.71**	**220**	*i* P	Pn	20 44 49.9	+5.2
PCDR				*e*S	**Sn**	**20 44 59.4**	**+3.7**
PCDR				IAML		20 45 05.3	
comp=Z,307nm,0.7s							
IDE	**Isla Desecheo**	**0.78**	**149**‖	*e*P	**Pg**	**20 44 45.3**	**+1.5**
IDE	**Isla Desecheo**	**0.78**	**149**		**Pg**	**20 44 45.3**	**+1.5**
AGPR	**Aguadilla, PR**	**0.95**	**128**‖	*e*P	**Pg**	**20 44 47.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.95**	**128**		**Pg**	**20 44 47.1**	**+0.1**
AGPR	**Aguadilla, PR**	**0.95**	**128**	IAML		20 44 59.9	
comp=N,287nm,0.2s							
AGPR				IAML		20 45 02.1	
comp=E,254nm,0.3s							
AGPR	**Aguadilla, PR**	**0.95**	**128**	*i* P	**Pg**	**20 44 47.1**	**+0.1**
AGPR				*e*S	**Sg**	**20 44 56.8**	**-2.5**
AGPR				IAML		20 44 58.1	
comp=Z,215nm,0.1s							
MPR	**Mayaguez**	**1.11**	**139**	Pn	**Pb**	**20 44 50.2**	**+0.2**
MPR	**Mayaguez**	**1.11**	**139**	*i* P	**Pb**	**20 44 50.1**	**+0.2**
LSP	**Las Mesas**	**1.17**	**139**‖	*e*P	**Pb**	**20 44 51.1**	**+0.1**
LSP	**Las Mesas**	**1.17**	**139**	*e*S	**Sb**	**20 45 07.1**	**+0.9**
LSP	**Las Mesas**	**1.17**	**139**		**Pb**	**20 44 51.1**	**+0.1**
LSP					**Sb**	**20 45 07.1**	**+0.9**
AOPR	**Arecibo Observ**	**1.30**	**123**‖	*e*P	**Pn**	**20 44 52.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.30**	**123**	*e*S	**Sb**	**20 45 10.4**	**+0.5**
AOPR	**Arecibo Observ**	**1.30**	**123**		**Pn**	**20 44 52.4**	**-0.4**
AOPR					**Sb**	**20 45 10.4**	**+0.5**
AOPR	**Arecibo Observ**	**1.30**	**123**	IAML		20 45 21.1	
comp=N,226nm,0.3s							
MLPR	**Magueyes Islan**	**1.35**	**143**‖	*e*P	**Pn**	**20 44 53.2**	**-0.4**
MLPR	**Magueyes Islan**	**1.35**	**143**	*e*S	**Sb**	**20 45 10.9**	**-0.6**
MLPR	**Magueyes Islan**	**1.35**	**143**		**Pn**	**20 44 53.2**	**-0.4**
MLPR					**Sb**	**20 45 10.9**	**-0.6**
MLPR	**Magueyes Islan**	**1.35**	**143**	IAML		20 45 11.9	
comp=N,176nm,0.5s							
MLPR				IAML		20 45 12.2	
comp=E,192nm,0.5s							
EMPR	**Esperanza - Ma**	**1.42**	**114**	Pn	**Pn**	**20 44 53.2**	**-1.3**
CELP	**Cerrillos**	**1.59**	**128**‖	*e*P	**Pn**	**20 44 57.3**	**+0.4**
CELP	**Cerrillos**	**1.59**	**128**	*e*S	**Sn**	**20 45 16.8**	**-0.7**
CELP	**Cerrillos**	**1.59**	**128**		**Pn**	**20 44 57.3**	**+0.4**
CELP					**Sn**	**20 45 16.8**	**-0.7**
OBIP	**Obispado Ponce**	**1.59**	**129**‖	*e*P	**Pn**	**20 44 57.0**	**+0.2**
OBIP	**Obispado Ponce**	**1.59**	**129**	*e*S	**Sn**	**20 45 16.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.59**	**129**		**Pn**	**20 44 57.0**	**+0.2**
OBIP					**Sn**	**20 45 16.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.59**	**129**	IAML		20 45 20.0	
comp=E,147nm,0.3s							
OBIP				IAML		20 45 20.5	
comp=N,135nm,0.3s							
GCPR	**Guaynabo City**	**1.88**	**113**	Pn	**Pn**	**20 44 59.5**	**-1.3**
PDPR	**Patillas Dam,**	**2.06**	**120**	Pn	**Pn**	**20 45 03.7**	**+0.4**
PDPR				IAML		20 45 25.1	
comp=E,91nm,1.4s							
CBYP	**Canovanas**	**2.09**	**112**‖	*e*P	**Pn**	**20 45 04.1**	**+0.3**
CBYP	**Canovanas**	**2.09**	**112**	*e*S	**Sn**	**20 45 30.2**	**+0.3**
CBYP	**Canovanas**	**2.09**	**112**		**Pn**	**20 45 04.1**	**+0.3**
CBYP					**Sn**	**20 45 30.2**	**+0.3**
HUMP	**Col San Antoni**	**2.15**	**115**	Pn	**Pn**	**20 45 04.8**	**+0.2**
HUMP				IAML		20 45 32.3	
comp=N,54nm,0.2s							
HUMP				IAML		20 45 33.5	
comp=E,64nm,0.2s							
MTP	**Monte Pirata**	**2.42**	**113**	Pn	**Pn**	**20 45 09.4**	**+1.1**
CUPR	**Culebra, Puert**	**2.59**	**106**	Pn	**Pn**	**20 45 11.6**	**+0.9**
STVI	**Saint Thomas**	**2.88**	**104**	Pn	**Pn**	**20 45 15.4**	**+0.8**
STVI				IAML		20 46 01.0	
comp=N,32nm,1.4s							
STVI				IAML		20 46 04.1	
comp=E,29nm,1.7s							

IDC ***16*** *20:50:05.8±1.3, 32°.32S×177°.82W, h0km, mb4.4/5, mb1 4.5/6, mb1mx4. 1/36, mbtmp4.4/6, ML3.8/1, Error ellipse: s-maj=36.2km s-min=26.7km az=42.0*
NEIC ***16*** *20:50:09.5±1.2, 32°.53S±0°.08×178°.1W±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=22.2km s-min=11.8km az=104.0*
ISC 16 20:50:10.1±0.8, 32°.46S±0°.07×178°.0W±0°.1, h20km, n43,
σ1°79/43, mb4.6/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.20**	**1**	Pn	**Pn**	**20 51 00.1**	**+0.9**
URZ	**Urewera**	**7.05**	**213**	Pn	**Pn**	**20 51 51.0**	**-1.1**
1.7nm,0.3s,baz=280,slow=3.9,SNR=7.2							
URZ				Sn	**Sn**	**20 53 12.5**	**+0.9**
7.7nm,0.3s,baz=257,slow=4.8,SNR=16							
SNGZ	**Shannon Statio**	**7.38**	**210**	P	**Sn**	**20 53 23.4**	**+3.6**
OUZ	**Omahuta**	**7.54**	**246**	Pn	**Pn**	**20 51 56.7**	**-2.2**
RAHZ	**Arahi**	**7.60**	**211**	P	**Sn**	**20 53 27.9**	**+2.7**
MTHZ	**Maungataniwha**	**7.65**	**212**	P	**Sn**	**20 53 29.2**	**+2.6**
WHHZ	**Waihua**	**7.67**	**209**	P	**Sn**	**20 53 29.2**	**+2.2**
ARHZ	**Aropaoanui**	**7.93**	**210**	P	**Sn**	**20 53 35.5**	**+2.3**
BKZ	**Black Stump Fm**	**8.06**	**212**	Pn	**Pn**	**20 52 05.0**	**-1.2**
MCHZ	**McNeill Hill**	**8.20**	**210**	P	**Sn**	**20 53 43.6**	**+3.5**
CKHZ	**Cape Kidnapper**	**8.23**	**208**	P	**Sn**	**20 53 41.1**	**+0.5**
ETVZ	**East Tongariro**	**8.41**	**216**	P	**Sn**	**20 53 47.9**	**+2.5**
KAHZ	**Kahuranaki**	**8.43**	**208**	P	**Sn**	**20 53 42.1**	**-3.5**
KRHZ	**Kereru**	**8.51**	**211**	P	**Sn**	**20 53 47.4**	**-0.3**
PXZ	**Pawanui**	**8.63**	**207**	P	**Sn**	**20 53 47.3**	**-3.3**
BFZ	**Birch Farm**	**9.43**	**208**	Pn	**Pn**	**20 52 22.1**	**-2.8**
TUWZ	**Tuamarina**	**11.04**	**214**	Pn	**Pn**	**20 52 45.3**	**-1.5**
THZ	**Tophouse**	**11.80**	**216**	Pn	**Pn**	**20 52 55.4**	**-1.8**
KHZ	**Kahutara**	**12.01**	**212**	Pn	**Pn**	**20 52 58.6**	**-1.4**
STKA	**Stephens Creek**	**34.10**	**260**	P	**P**	**20 56 53.0**	**-0.5**
1.7nm,0.6s,baz=111,slow=13,SNR=6.3							
STKA	**Stephens Creek**	**34.10**	**260**	IAmb	IAmb	20 56 56.8	
comp=Z,0.6nm,0.8s							
CTA	**Charters Tower**	**34.21**	**282**	P	**P**	**20 56 55.3**	**+0.8**
comp=Z,6.7nm,0.5s,baz=104,slow=9.8,SNR=13							
CTAO	**Charters Tower**	**34.21**	**282**	P	**P**	**20 56 56.2**	**+1.6**
AS31	**Alice Springs**	**43.07**	**269**	P	**P**	**20 58 08.4**	**-0.5**
ASAR	**Alice Springs**	**43.07**	**269**	P	**P**	**20 58 08.6**	**-0.3**
comp=Z,2.1nm,0.4s,baz=107,slow=8.1,SNR=41							
WR0	**Warramunga Arr**	**44.07**	**274**	P	**P**	**20 58 16.3**	**-0.7**
WR0				IAmb	IAmb	20 58 39.9	
comp=Z,14nm,1.4s							
WB2	**Warramunga Arr**	**44.24**	**274**	P	**P**	**20 58 17.6**	**-0.7**
WB2				IAmb	IAmb	20 58 18.7	
comp=Z,20nm,1.4s							
WRAB	**Tennant Creek**	**44.24**	**274**	P	**P**	**20 58 17.6**	**-0.7**
WRAB				IAmb	IAmb	20 58 33.4	
comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**20 58 17.7**	**-0.7**
comp=Z,3.8nm,0.3s,baz=111,slow=8.0,SNR=104							
WRA	**Warramunga Arr**	**44.25**	**274**	P	**P**	**20 58 16.6**	**-1.8**
WB0	**Warramunga Arr**	**44.28**	**274**	P	**P**	**20 58 17.9**	**-0.8**
FORT	**Forrest**	**45.59**	**257**	P	**P**	**20 58 28.4**	**-0.5**
CASY	**Casey**	**53.35**	**209**	P	**P**	**20 59 28.8**	**+1.2**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CASY				IAmb		IAmb	20 59 30.8	
	comp=Z,6.1nm,0.5s							
QSPA	**South Pole Qui**	**57.66**	**180**	P		**P**	**20 59 59.1**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=88,slow=1.6,SNR=12							
QSPA	**South Pole Qui**	**57.66**	**180**	P		**P**	**21 00 01.0**	**+2.2**
QSPA				IAmb		IAmb	21 00 29.5	
	comp=Z,3.4nm,0.8s							
MAW	**Mawson**	**70.40**	**201**	P		**P**	**21 01 21.5**	**-0.7**
MAW				IAmb		IAmb	21 01 32.2	
	comp=Z,1.5nm,1.4s							
SNAA	**Sanae**	**76.10**	**178**	P		**P**	**21 01 55.3**	**-0.7**
SNAA				IAmb		IAmb	21 01 57.0	
	comp=Z,3.7nm,1.1s							
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc		**PKPdf**	**21 09 48.4**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=40,slow=3.8,SNR=9.0							
FINES	**FINESS Array B**	**147.08**	**339**			**PKPdf**	**21 09 48.6**	**0.0**
AKASG	**Malin Array Be**	**152.93**	**320**	PKPbc		**PKPbc**	**21 10 03.9**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=62,slow=2.6,SNR=1.5							
AKASG	**Malin Array Be**	**152.93**	**320**			**PKPdf**	**21 10 00.1**	**+1.9**
BRTR	**Keskin Array B**	**153.55**	**295**	PKPbc		**PKPbc**	**21 10 06.1**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=81,slow=4.5,SNR=2.0							
TORD	**Torodi Ar. Bea**	**160.77**	**179**	PKPab		**PKPab**	**21 10 51.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=174,slow=3.2,SNR=5.1							

IDC ***16*** *20:53:11.6±0.4, 9.°08N×126.°76E, h0km, mb4.7/30, mb1 4.7/33, mb1mx4.7/41, mbtmp4.6/33, ML4.1/4, MS4.5/33, Ms1 4.5/33, ms1mx4.4/42, Error ellipse: s-maj=16.5km s-min=9.0km az=75.0*

NEIC ***16*** *20:53:13.6±1.8, 9.°13N±0.°06×126.°76E±0.°08, h10km±1km, mb5.3/159, Error ellipse: s-maj=12.9km s-min=10.9km az=271.0*

BJI ***16*** *20:53:14.9±0.0, 9.°09N×126.°78E, h35km, mB5.2/56, mb4.8/67, Ms5.0/77, Ms7 4.8/73*

MOS ***16*** *20:53:15.6±1.3, 9.°10N×126.°63E, h44km, mb5.3/39, MS4.7/9, Error ellipse: s-maj=7.9km s-min=4.1km az=115.9*

DJA ***16*** *20:53:15.1±0.2, 9.°N±2.°×12.°7E±.°, h10km, M5.2/59, mB5.6/41, mb5.2/59, MLv5.7/3, Mw(mB)5.1/41, MwMwp5.0/9, Mwp5.3/9*

GCMT ***16*** *20:53:17.6±0.2, 9.°16N±0.°01×126.°94E±0.°01, h16km, MW5.3/129, Moment Tensor Solution. s84,c119; s129,c211; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.73±.02; Mθθ-0.01±.01; Mφφ-0.71±.02; Mrθ-0.20±.04; Mrφ0.20±.01; Mθφ0.83±.05; Best double couple: M0 1.13800×10^17 NP1:φs164.00000°, δ21.00000°, λ88.00000°. NP2:φs346.00000°, δ69.00000°, λ91.00000°. Principal axes: T 1.1180, Plg66.0000°, Azm257.0000°; N 0.0390, Plg1.0000°, Azm166.0000°; P -1.1580, Plg24.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***16*** *20:53:21, 9.°18N×126.°67E, h50km, mb5.4*

ISC 16 20:53:15.6±0.5, 9.°15N±0.°03×126.°86E±0.°04, h26km±3km, h28km:pP-P, n647, σ2°03/666, mb5.1/209, MS4.7/57, 36C-22D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BBKI	**Banjar Baru**	**17.33**	**224**	P		**P**	**20 57 21.1**	**+4.0**
	comp=Z,2μmcomp=Z,128nm,1.3s							
QZH	**Quanzhou**	**17.57**	**334**	P		**Pn**	**20 57 17.9**	**-0.8**
QZH				S		**Sn**	**21 00 32.1**	**-1.6**
QZH				LR		LR		
	comp=Z,2μm,19.4s							
QZH				LR		LR		
	comp=Z,1μm,15.2s							
QZH				LR		LR		
	comp=Z,3μm,18.0s							
SAUI	**Saumlaki**	**17.59**	**165**			**P**	**20 57 19.7**	**-0.2**
JOW	**Kunigami**	**17.64**	**4**	P		**P**	**20 57 20.2**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=185,slow=12,SNR=6.8							
JOW				LR		LR	21 04 06.6	
	comp=Z,2μm,18.1s,baz=178,slow=37							
JOW	**Kunigami**	**17.64**	**4**			**Pn**	**20 57 17.6**	**-2.0**
JOW				IAmb		IAmb	20 57 35.4	
	comp=Z,269nm,1.6s							
GENI	**Genyem**	**17.66**	**131**	P		**P**	**20 57 20.8**	**0.0**
	comp=Z,4μmcomp=Z,5μmcomp=Z,110nm,1.0s							
STKI	**Sintang**	**17.77**	**240**	P		**P**	**20 57 26.7**	**+4.7**
	comp=Z,14μmcomp=Z,65nm,1.2s							
KSM	**Kuching**	**18.14**	**246**	P		**P**	**20 57 29.0**	**+2.9**
GUMO	**Guam**	**18.20**	**74**	LR		LR	21 05 10.6	
	comp=Z,3μm,18.4s,baz=252,slow=39							
GUMO	**Guam**	**18.20**	**74**	P		**P**	**20 57 27.4**	**+0.7**
GUMO				pmax		pmax		
	comp=Z,235nm,1.2s							
GUMO	**Guam**	**18.20**	**74**	P		**P**	**20 57 27.4**	**+0.7**
GUMO				IAmb		IAmb	20 57 39.1	
	comp=Z,235nm,1.2s							
MMRI	**Maumere**	**18.26**	**195**			**Pn**	**20 57 27.0**	**-0.3**
MMRI				IAmb		IAmb	20 57 40.4	
	comp=Z,175nm,1.0s							
MMRI	**Maumere**	**18.26**	**195**	P		**P**	**20 57 30.5**	**+3.2**
	comp=Z,3μmcomp=Z,3μmcomp=Z,182nm,0.9s							
EDFI	**Ende, Flores**	**18.51**	**196**	P		**Pn**	**20 57 33.6**	**+3.2**
	comp=Z,753nmcomp=Z,55nm,0.8s							
SOEI	**Soe**	**18.96**	**188**	P		**P**	**20 57 34.0**	**-1.1**
SOEI				IAmb		IAmb	20 57 54.8	
	comp=Z,207nm,0.9s							
PBKI	**Pangkalan Bun**	**19.18**	**233**	P		**Pn**	**20 57 42.4**	**+4.0**
	comp=Z,3μmcomp=Z,182nm,1.2s							
QIZ	**Qiongzhong**	**19.18**	**303**	P		**P**	**20 57 36.6**	**-0.9**
QIZ				sP		**pwP**	**20 57 49.3**	**-0.9**
QIZ				S		**Sn**	**21 01 11.9**	**-1.0**
QIZ				pmax		pmax		
	comp=Z,19nm,2.2s							
QIZ				LR		LR		
	comp=Z,2μm,15.1s							
QIZ				LR		LR		
	comp=Z,2μm,13.7s							
QIZ				LR		LR		
	comp=Z,3μm,16.5s							
BATI	**Baumata**	**19.49**	**189**	P		**Pn**	**20 57 43.5**	**+1.3**
	comp=Z,2μmcomp=Z,163nm,0.9s							
PLAI	**Plampang**	**20.02**	**207**	P		Pn	20 57 50.6	+2.2
	comp=Z,2μmcomp=Z,242nm,0.9s							
WBSI	**Waikabubak, Su**	**20.09**	**202**	P		Pn	20 57 51.0	+1.7
	comp=Z,1μmcomp=Z,87nm,0.9s							
TWSI	**Taliwang, Sumb**	**20.36**	**209**	P		Pn	20 57 53.5	+1.1
	comp=Z,1μmcomp=Z,102nm,0.8s							
KMMI	**Kalianget**	**20.59**	**219**	P		Pn	20 58 07.8	+13
SRBI	**Singaraja**	**20.68**	**214**	P		Pn	20 58 11.7	+16
JAGI	**Jajag, Banyuwa**	**21.60**	**216**	P		**P**	**20 58 03.9**	**+0.3**
MTN	**Manton Dam**	**22.26**	**169**	P		**P**	**20 58 10.5**	**-0.2**
	baz=22,SNR=23							
MTN	**Manton Dam**	**22.26**	**169**	P		**P**	**20 58 09.4**	**-1.3**
MTN				IAmb		IAmb	20 58 53.5	
	comp=Z,84nm,0.9s							
KDU	**Kakadu**	**22.40**	**165**	P		**P**	**20 58 11.7**	**-0.6**
	baz=22,SNR=19							
SSE	**Sheshan**	**22.47**	**347**	P		**P**	**20 58 13.3**	**+0.4**
SSE				S		**S**	**21 02 18.1**	**+0.1**
SSE				pmax		pmax		
	comp=Z,25nm,1.4s							
SSE				pmax		pmax		
	comp=Z,560nm,6.3s							
SSE				LR		LR		
	comp=Z,600nm,17.7s							
SSE				LR		LR		
	comp=Z,400nm,11.8s							
JSU	**Suzuyama**	**22.50**	**8**	P		**P**	**20 58 13.4**	**+0.1**
JSU				IAmb		IAmb	20 58 27.7	
	comp=Z,146nm,1.5s							
SMRI	**Semarang**	**22.95**	**226**	P		**P**	**20 58 17.6**	**-0.5**
SMRI	**Semarang**	**22.95**	**226**	P		P	20 58 33.5	+15
JCJ	**Chichijima**	**23.00**	**37**	LR		LR	21 08 01.2	
	comp=Z,1μm,18.4s,baz=252,slow=38							
JCJ	**Chichijima**	**23.00**	**37**	P		**P**	**20 58 17.6**	**-0.9**
MANU	**Manus Island**	**23.27**	**118**	P		**P**	**20 58 22.0**	**+0.6**
MANU				IAmb		IAmb	20 58 55.1	
	comp=Z,82nm,1.4s							
UGM	**Wanagama**	**23.50**	**224**	P		**P**	**20 58 24.6**	**+1.0**
UGM				IAmb		IAmb	20 58 53.4	
	comp=Z,169nm,1.2s							
PPBI	**Pangkal Pinang**	**23.51**	**242**	P		**P**	**20 58 27.8**	**+4.1**
	comp=Z,6μmcomp=Z,56nm,1.0s							
NJ2	**Nanjing**	**23.97**	**343**	⇑P		**P**	**20 58 28.1**	**+0.2**
NJ2				pP		**sP**	**20 58 38.1**	**+1.7**
NJ2				sP		**pwP**	**20 58 41.6**	**-0.8**
NJ2				pmax		pmax		
	comp=Z,87nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,1μm,3.6s							
NJ2				LR		LR		
	comp=Z,2μm,19.8s							
NJ2				LR		LR		
	comp=Z,1μm,11.8s							
NJ2				LR		LR		
	comp=Z,2μm,19.2s							
MYKOM	**Kota Tinggi**	**24.02**	**254**	P		**P**	**20 58 30.0**	**+1.4**
JNU	**Nakatsue**	**24.14**	**8**	P		**P**	**20 58 29.5**	**-0.1**
	comp=Z,23nm,0.9s,baz=165,slow=3.0,SNR=6.0							
JNU	**Nakatsue**	**24.14**	**8**	P		**P**	**20 58 30.1**	**+0.5**
JNU				IAmb		IAmb	20 58 42.7	
	comp=Z,98nm,1.2s							
JCJI	**Jatiwangi**	**24.18**	**231**	P		P	20 58 39.6	+10
	comp=Z,5μmcomp=Z,203nm,1.4s							
KPJI	**Karang Pucung**	**24.23**	**228**	P		P	20 58 37.9	+7.4
	comp=Z,3μmcomp=Z,90nm,1.5s							
WHN	**Wuhan**	**24.28**	**333**	⇓P		**P**	**20 58 30.6**	**-0.2**
WHN				LR		LR		
	comp=Z,2μm,10.5s							
WHN				LR		LR		
	comp=Z,3μm,12.5s							
WHN				LR		LR		
	comp=Z,5μm,16.3s							
KHON	**Khomkaen**	**24.49**	**289**	P		**P**	**20 58 35.1**	**+2.2**
	comp=Z,4μmcomp=Z,44nm,0.9s							
KHON	**Khomkaen**	**24.49**	**289**	P		**P**	**20 58 35.2**	**+2.3**
	comp=Z,899nmcomp=Z,11nm,0.9s							
NONG	**Nongkai**	**24.66**	**294**	P		**P**	**20 58 36.0**	**+1.5**
	comp=Z,5μmcomp=Z,44nm,1.7s							
NONG	**Nongkai**	**24.66**	**294**	P		**P**	**20 58 36.0**	**+1.5**
	comp=Z,6μmcomp=Z,44nm,1.7s							
KNRA	**Kununurra**	**24.74**	**176**	P		**P**	**20 58 34.1**	**-0.9**
	baz=25,SNR=41							
KNRA	**Kununurra**	**24.74**	**176**	P		**P**	**20 58 34.2**	**-0.9**
JRMM	**Jerantut**	**24.77**	**259**	P		**P**	**20 58 36.0**	**+0.5**
PMBI	**Palembang**	**25.07**	**242**	P		**P**	**20 58 37.1**	**-1.0**
PMBI	**Palembang**	**25.07**	**242**	P		**P**	**20 58 41.6**	**+3.5**
	comp=Z,11μmcomp=Z,296nm,1.1s							
CHAI	**Chaiyaphum**	**25.17**	**288**	P		**P**	**20 58 38.8**	**-0.3**
	comp=Z,529nmcomp=Z,66nm,0.9s							
CHAI	**Chaiyaphum**	**25.17**	**288**	P		**P**	**20 58 38.8**	**-0.3**
	comp=Z,132nmcomp=Z,16nm,0.9s							
SLVN	**Son La**	**25.20**	**301**	P		**P**	**20 58 38.0**	**-1.4**
SLVN				IAmb		IAmb	20 59 02.1	
	comp=Z,75nm,1.6s							
CBJI	**Citeko**	**25.23**	**233**	P		**P**	**20 58 43.7**	**+4.1**
	comp=Z,5μmcomp=Z,215nm,1.6s							
TNG	**Tangerang**	**25.25**	**234**	P		sP	20 58 49.9	+1.8
TNG				P		P	20 58 48.6	+8.9
	comp=Z,7μmcomp=Z,399nm,1.0s							
DBJI	**Dramaga**	**25.39**	**233**	P		P	20 58 48.7	+7.6
	comp=Z,6μmcomp=Z,57nm,1.0s							
JMBI	**JAMBI**	**25.49**	**246**	P		P	20 58 50.2	+8.2
	comp=Z,493μmcomp=Z,8μmcomp=Z,91nm,0.9s							
GYA	**Guiyang**	**25.74**	**315**	⇓P		**P**	**20 58 44.0**	**-0.3**
BLSI	**Bandar Lampung**	**25.92**	**237**	P		**P**	**20 58 49.8**	**+3.9**
	comp=Z,1μmcomp=Z,85nm,0.7s							
IPM	**Ipoh**	**26.06**	**261**	P		**P**	**20 58 48.0**	**+0.8**
KULM	**Kulim**	**26.27**	**263**	P		**P**	**20 58 50.0**	**+0.9**
MDSI	**Maura Dua**	**26.35**	**240**	P		**P**	**20 58 51.4**	**+1.6**
	comp=Z,540nmcomp=Z,31nm,1.1s							
JHS	**Saijyo**	**26.36**	**12**	P		**P**	**20 58 49.7**	**0.0**
ENH	**Enshi**	**26.55**	**325**	P		**P**	**20 58 48.0**	**-3.5**
LHSI	**Lahat**	**26.59**	**242**	P		**P**	**20 58 55.1**	**+3.1**
	comp=Z,1μmcomp=Z,58nm,1.1s							
KASI	**Kota Agung**	**26.63**	**238**	P		**P**	**20 58 58.7**	**+6.4**
	comp=Z,70nm,1.3s							
JHJ	**Hachijo jima 2**	**26.68**	**25**	LR		LR	21 08 35.9	
	comp=Z,2μm,20.5s,baz=260,slow=34							
LWLI	**Liwa**	**26.73**	**239**	P		**P**	**20 58 54.6**	**+1.3**
	comp=Z,4μmcomp=Z,325nm,1.0s							
PHIT	**Phitsanulok**	**26.93**	**290**	P		**P**	**20 59 00.0**	**+5.0**
	comp=Z,1μmcomp=Z,136nm,0.9s							
PHIT	**Phitsanulok**	**26.93**	**290**	P		**P**	**20 59 00.0**	**+5.0**
	comp=Z,348nmcomp=Z,34nm,0.9s							
UTTA	**Uttaradit**	**26.94**	**291**	P		**P**	**20 59 00.9**	**+5.8**
	comp=Z,224nmcomp=Z,21nm,0.9s							
UTTA	**Uttaradit**	**26.94**	**291**	P		**P**	**20 59 00.9**	**+5.8**
	comp=Z,56nmcomp=Z,5.3nm,0.9s							
PHET	**Kaeng Krachan**	**26.98**	**280**	P		**P**	**20 59 00.6**	**+5.2**
	comp=Z,63nm,1.0s							
PHET	**Kaeng Krachan**	**26.98**	**280**	P		**P**	**20 59 00.6**	**+5.2**
	comp=Z,16nm,1.0s							
TJN	**Taejon**	**27.11**	**1**	⇑*eP*		**P**	**20 58 56.7**	**+0.3**
BKNI	**Bangkinang**	**27.16**	**253**	P		**P**	**20 58 55.7**	**-1.4**
BKNI				IAmb		IAmb	20 59 31.3	
	comp=Z,224nm,2.0s							
BKNI	**Bangkinang**	**27.16**	**253**	P		P	20 59 08.9	+12
JWT	**Wachi**	**27.16**	**15**	P		**P**	**20 58 57.6**	**+0.8**
PMG	**Port Moresby**	**27.36**	**132**	P		**P**	**20 59 00.2**	**+1.3**
	comp=Z,8.3nm,0.3s,baz=237,slow=8.1,SNR=4.0							
PMG	**Port Moresby**	**27.36**	**132**	⇑*eP*		**P**	**20 58 57.9**	**-0.9**
PMG				pmax		pmax		
	comp=Z,29nm,1.0s							
PMG	**Port Moresby**	**27.36**	**132**	P		**P**	**20 58 58.0**	**-0.9**
UTHA	**Uthaitani**	**27.50**	**286**	P		P	20 59 10.4	+10
SRDT	**SRDT**	**27.63**	**283**	P		P	20 59 18.4	+17
SURT	**Suratani**	**27.71**	**272**	P		**P**	**20 59 07.2**	**+5.2**
	comp=Z,29nmcomp=Z,3.5nm,1.1s							
SURT	**Suratani**	**27.71**	**272**	P		**P**	**20 59 07.3**	**+5.2**
	comp=Z,29nmcomp=Z,3.5nm,1.1s							
KMI	**Kunming**	**27.91**	**308**	⇓P		**P**	**20 59 09.9**	**+5.9**
KMI				pP		pwP	20 59 15.8	-2.9
KMI				PP		**PnPn**	**20 59 55.3**	**+4.1**
KMI				S		**S**	**21 03 51.8**	**+5.3**
KMI				sS		sS	21 04 08.4	+12
KMI				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KMI				pmax		pmax		
	comp=Z,170nm,4.9s							
KMI				LR		LR		
	comp=N,910nm,18.7s							
KMI				LR		LR		
	comp=E,2μm,15.7s							
KMI				LR		LR		
	comp=Z,2μm,16.5s							
LAMP	**Lampang**	**27.99**	**292**	P		**P**	**20 59 10.1**	**+5.5**
	comp=Z,346nmcomp=Z,41nm,1.0s							
LAMP	**Lampang**	**27.99**	**292**	P		**P**	**20 59 10.0**	**+5.5**
	comp=Z,86nmcomp=Z,10nm,1.0s							
JGF	**Kuroka**	**28.02**	**18**	P		**P**	**20 59 04.5**	**-0.1**
JGF				IAmb		IAmb	20 59 55.9	
	comp=Z,85nm,1.5s							
UMPA	**Umpang Tak**	**28.18**	**287**	P		P	20 59 17.3	+11
KSAR	**Wonju Array Be**	**28.18**	**2**	P		**P**	**20 59 06.2**	**+0.2**
KSAR	**Wonju Array Be**	**28.18**	**2**	P		**P**	**20 59 06.2**	**+0.2**
KSRS	**Korea Array**	**28.20**	**2**	P		**P**	**20 59 07.4**	**+1.3**
	comp=Z,11nm,1.0s,baz=173,slow=9.7,SNR=14							
KSRS				PcP		**PcP**	**21 02 21.1**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=164,slow=4.1,SNR=4.4							
KSRS				LR		LR	21 11 34.4	
	comp=Z,1μm,19.1s,baz=169,slow=39							
INCN	**Inchon**	**28.21**	**360**	P		**P**	**20 59 06.0**	**-0.3**
INCN				pmax		pmax		
	comp=Z,86nm,1.7s							
INCN	**Inchon**	**28.21**	**360**	P		**P**	**20 59 06.0**	**-0.3**
INCN				IAmb		IAmb	20 59 46.4	
	comp=Z,86nm,1.7s							
KS19	**Wonju Array Si**	**28.24**	**2**	P		**P**	**20 59 06.7**	**+0.2**
KS19				IAmb		IAmb	20 59 23.3	
	comp=Z,36nm,1.1s							
TIA	**Tai'an**	**28.36**	**343**	⇑P		**P**	**20 59 07.5**	**-0.1**
TIA				S		**S**	**21 03 52.1**	**-0.7**
TIA				pmax		pmax		
	comp=Z,31nm,1.2s							
TIA				pmax		pmax		
	comp=Z,280nm,4.1s							
TIA				LR		LR		
	comp=Z,1μm,16.5s							
TIA				LR		LR		
	comp=Z,880nm,15.1s							
TIA				LR		LR		
	comp=Z,2μm,19.6s							
MNSI	**Mandailing Nat**	**28.39**	**255**	P		P	20 59 14.2	+6.1
	comp=Z,21nm,0.7s							
CM35	**Chiang Mai Arr**	**28.47**	**292**	P		**P**	**20 59 09.0**	**+0.2**
PSI	**Prapat**	**28.47**	**259**	P		**P**	**20 59 08.3**	**-0.7**
PSI				pmax		pmax		
	comp=Z,144nm,1.5s							
RPSI	**Rantau Prapat**	**28.50**	**259**	P		**P**	**20 59 08.2**	**-0.8**
CM34	**Chiang Mai Arr**	**28.52**	**293**	P		**P**	**20 59 09.0**	**-0.3**
CM04	**Chiang Mai Arr**	**28.56**	**292**	P		**P**	**20 59 12.8**	**+3.2**
	comp=Z,124nmcomp=Z,17nm,1.1s							
CM04	**Chiang Mai Arr**	**28.56**	**292**	P		**P**	**20 59 12.8**	**+3.2**
	comp=Z,124nmcomp=Z,17nm,1.1s							
CM09	**Chiang Mai Arr**	**28.56**	**292**	P		**P**	**20 59 12.3**	**+2.7**
	comp=Z,144nmcomp=Z,17nm,1.1s							
CM09	**Chiang Mai Arr**	**28.56**	**292**	P		**P**	**20 59 12.0**	**+2.4**
	comp=Z,144nmcomp=Z,17nm,1.1s							
CM01	**Chiang Mai Arr**	**28.58**	**292**	P		**P**	**20 59 11.8**	**+2.0**
	comp=Z,151nmcomp=Z,22nm,1.1s							
CM01	**Chiang Mai Arr**	**28.58**	**292**	P		**P**	**20 59 11.9**	**+2.1**
	comp=Z,151nmcomp=Z,22nm,1.1s							
CM05	**Chiang Mai Arr**	**28.59**	**292**	P		**P**	**20 59 13.0**	**+3.2**
	comp=Z,119nmcomp=Z,12nm,1.2s							
CM05	**Chiang Mai Arr**	**28.59**	**292**	P		**P**	**20 59 13.1**	**+3.2**
	comp=Z,119nmcomp=Z,12nm,1.2s							
CM02	**Chiang Mai Arr**	**28.59**	**292**	P		**P**	**20 59 12.5**	**+2.6**
	comp=Z,124nmcomp=Z,14nm,1.0s							
CM02	**Chiang Mai Arr**	**28.59**	**292**	P		**P**	**20 59 12.6**	**+2.6**
	comp=Z,124nmcomp=Z,14nm,1.0s							
CM31	**Chiang Mai Arr**	**28.61**	**292**	P		**P**	**20 59 10.0**	**0.0**
	comp=Z,248nm,0.9s							
CM31	**Chiang Mai Arr**	**28.61**	**292**	P		**P**	**20 59 09.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.61**	**292**	P		**P**	**20 59 10.2**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=102,slow=6.4,SNR=21							
CMAR				PcP		**PcP**	**21 02 22.6**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=92,slow=1.2,SNR=5.9							
CMAR				ScP		**ScP**	**21 06 02.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=110,slow=2.1,SNR=3.1							
CMAR	**Chiang Mai Arr**	**28.61**	**292**	P		**P**	**20 59 09.4**	**-0.6**
CM15	**Chiang Mai Arr**	**28.62**	**292**	P		**P**	**20 59 10.8**	**+0.7**
	comp=Z,126nmcomp=Z,16nm,1.1s							
CM15	**Chiang Mai Arr**	**28.62**	**292**	P		**P**	**20 59 10.8**	**+0.7**
	comp=Z,126nmcomp=Z,16nm,1.1s							
CM13	**Chiang Mai Arr**	**28.63**	**292**	P		**P**	**20 59 11.0**	**+0.8**
	comp=Z,102nmcomp=Z,10nm,1.0s							
CM13	**Chiang Mai Arr**	**28.63**	**292**	P		**P**	**20 59 11.0**	**+0.8**
	comp=Z,102nmcomp=Z,10nm,1.0s							
TSI	**Tuntungan**	**28.66**	**261**	P		P	20 59 15.6	+5.1
	comp=Z,84nm,1.3s							
CMMT	**Chiang Mai**	**28.69**	**293**	P		**P**	**20 59 14.1**	**+3.3**
	comp=Z,10nm,1.1s							
CMMT	**Chiang Mai**	**28.69**	**293**	P		**P**	**20 59 14.2**	**+3.3**
	comp=Z,10nm,1.1s							
CM33	**Chiang Mai Arr**	**28.70**	**293**	P		**P**	**20 59 14.0**	**+3.2**
CHTO	**Chiang Mai**	**28.70**	**293**	P		**P**	**20 59 09.9**	**-1.0**
CHTO				pmax		pmax		
	comp=Z,11nm,1.0s							
CHTO	**Chiang Mai**	**28.70**	**293**	P		**P**	**20 59 14.1**	**+3.3**
	comp=Z,10nm,1.1s							
CHTO	**Chiang Mai**	**28.70**	**293**	P		**P**	**20 59 09.9**	**-1.0**
CM32	**Chiang Mai Arr**	**28.74**	**292**	P		**P**	**20 59 11.0**	**-0.2**
MAT	**Matsushiro**	**29.16**	**19**	P		**P**	**20 59 14.0**	**-0.7**
MAT				*eS*		**S**	**21 04 01.8**	**-3.6**
MJAR	**Matsushiro Arr**	**29.16**	**19**	P		**P**	**20 59 14.1**	**-0.6**
	comp=Z,213nm,0.7s,baz=192,slow=8.5,SNR=3.4							
MJAR				LR		LR	21 10 14.1	
	comp=Z,2μm,19.6s,baz=190,slow=35							
MHMT	**Maesarieng**	**29.47**	**291**	P		P	20 59 24.5	+6.9
	comp=Z,47nm,1.0s							
MHMT	**Maesarieng**	**29.47**	**291**	P		P	20 59 24.0	+6.4
WB0	**Warramunga Arr**	**29.68**	**166**	P		**P**	**20 59 17.4**	**-2.1**
WB0				IAmb		IAmb	20 59 30.4	
	comp=Z,40nm,0.9s							
XAN	**Xi'an**	**29.76**	**329**	P		**P**	**20 59 18.8**	**-1.3**
XAN				S		**S**	**21 04 15.9**	**+0.9**

XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,290nm,9.4s
XAN LR LR
comp=Z,1μm,17.3s
XAN LR LR
comp=Z,1μm,14.6s
XAN LR LR
comp=Z,2μm,17.7s
WRA Warramunga Arr 29.83 166 P **P 20 59 19.0 -1.8**
comp=Z,7.8nm,0.6s,baz=345,slow=9.4,SNR=20
WRA PcP **PcP 21 02 23.7 -0.2**
comp=Z,2.2nm,0.8s,baz=337,slow=3.4,SNR=1.9
WRA Warramunga Arr 29.83 166 P **P 20 59 18.7 -2.1**
WB2 Warramunga Arr 29.84 166 P **P 20 59 18.1 -2.8**
WB2 IAmb IAmb 20 59 32.0
comp=Z,26nm,0.8s
WR0 Warramunga Arr 29.90 165 P **P 20 59 19.2 -2.2**
WR0 IAmb IAmb 20 59 32.6
comp=Z,31nm,0.9s
DL2 Dalian 30.00 352 P **P 20 59 24.0 +1.9**
DL2 S **S 21 04 23.5 +5.0**
DL2 pmax pmax
comp=Z,18nm,0.6s
DL2 LR LR
comp=Z,1μm,14.7s
DL2 LR LR
comp=Z,1μm,15.7s
CD2 Chengdu 30.52 318 P **P 20 59 31.3 +4.4**
CD2 S **S 21 04 28.1 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,270nm,5.9s
CD2 LR LR
comp=Z,3μm,15.3s
CD2 LR LR
comp=Z,3μm,16.7s
CD2 LR LR
comp=Z,4μm,16.5s
JSD Sado 30.55 18 P **P 20 59 28.8 +1.9**
JSD IAmb IAmb 21 00 10.9
comp=Z,67nm,1.1s
MBWA Marble Bar 30.92 193 P **P 20 59 30.1 -0.3**
JMM Marumori 31.23 22 P **P 20 59 33.3 +0.3**
JMM IAmb IAmb 20 59 47.8
comp=Z,73nm,1.2s
PSA00 Pilbara Seismi 31.30 193 P **P 20 59 32.8 -0.9**
PSA00 Pilbara Seismi 31.30 193 P **P 20 59 32.1 -1.6**
PSA00 IAmb IAmb 20 59 36.0
comp=Z,26nm,0.9s
QIS Mount Isa 32.07 157 P **P 20 59 40.1 -0.5**
baz=32,SNR=162
BJT Baijiatuau 32.19 344 P **P 20 59 40.6 -0.8**
BJT pmax pmax
comp=Z,93nm,1.4s
BJT Baijiatuau 32.19 344 P **P 20 59 40.6 -0.8**
BJI Beijing 32.20 345 P **P 20 59 41.6 +0.1**
BJI pP **sP 20 59 51.6 +1.5**
BJI S **S 21 04 55.3 +2.4**
BJI pmax pmax
comp=Z,42nm,1.5s
BJI pmax pmax
comp=Z,1.0nm,2.9s
BJI LR LR
comp=Z,720nm,15.4s
BJI LR LR
comp=Z,910nm,15.3s
BJI LR LR
comp=Z,1μm,20.3s
SNY Shenyang 32.68 355 ⇓P **P 20 59 47.0 +1.4**
SNY S **S 21 05 00.0 -0.3**
SNY pmax pmax
comp=Z,29nm,1.4s
SNY LR LR
comp=Z,850nm,16.3s
SNY LR LR
comp=Z,1μm,16.1s
SNY LR LR
comp=Z,1μm,18.0s
AS31 Alice Springs 33.33 168 P **P 20 59 49.8 -1.8**
ASAR Alice Springs 33.33 168 P **P 20 59 50.1 -1.5**
comp=Z,7.0nm,0.4s,baz=353,slow=7.1,SNR=64
ASAR PcP **PcP 21 02 34.3 +1.0**
comp=Z,4.5nm,0.8s,baz=350,slow=3.0,SNR=4.8
ASAR ScP **ScP 21 06 18.7 +2.5**
comp=Z,0.7nm,0.7s,baz=346,slow=3.3,SNR=2.4
ASAR LR LR 21 14 50.3
comp=Z,546nm,19.7s,baz=5.0,slow=39
ASAR Alice Springs 33.33 168 P **P 20 59 49.8 -1.8**
ASAR Alice Springs 33.33 168 P **P 20 59 49.8 -1.8**
GIRL Giralia 33.93 201 P **P 20 59 58.3 +1.5**
baz=34,SNR=4.2
GIRL Giralia 33.93 201 P **P 20 59 57.2 +0.4**
JTM Tenmabayashi 33.94 20 P **P 20 59 57.0 +0.3**
JTM IAmb IAmb 21 00 55.1
comp=Z,59nm,1.2s
WRKA Warakurna 34.01 178 P **P 20 59 56.4 -1.0**
baz=34,SNR=20
LZH Lanzhou 34.02 326 *e*P **P 20 59 57.3 -0.4**
LZH pP sP 21 00 09.3 +3.2
LZH sP pwP 21 00 15.4 +2.7
LZH S **S 21 05 25.0 +3.3**
LZH sS sS 21 05 37.4 +5.6
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,2μm,16.8s
LZH LR LR
comp=Z,1μm,17.3s
HHC Hu-ho-hao-te 34.36 339 *e*P **P 21 00 00.8 +0.3**
HHC S **S 21 05 29.1 +2.4**
HHC pmax pmax
comp=Z,28nm,1.4s
HHC pmax pmax
comp=Z,290nm,6.6s
HHC LR LR
comp=Z,1μm,16.1s
HHC LR LR
comp=Z,960nm,18.2s
HHC LR LR
comp=Z,1μm,12.5s
CN2 Changchun 34.54 358 *e*P **P 21 00 04.0 +2.1**
CN2 *e*S **S 21 05 28.8 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,1μm,17.0s
CTA Charters Tower 34.77 147 P **P 21 00 04.1 0.0**
comp=Z,7.6nm,0.8s,baz=318,slow=13,SNR=5.6
CTAO Charters Tower 34.77 147 P **P 21 00 04.5 +0.4**
CTAO pmax pmax
comp=Z,21nm,1.1s
CTAO Charters Tower 34.77 147 P **P 21 00 04.5 +0.4**
USA0B Ussuriysk Arra 35.20 6 P **P 21 00 08.1 +0.6**
USA0B pmax pmax
comp=Z,29nm,1.0s
USA0B Ussuriysk Arra 35.20 6 P **P 21 00 08.1 +0.6**
USA0B IAmb IAmb 21 00 28.3
comp=Z,29nm,0.9s
USRK Ussuriysk Ar. 35.20 6 P **P 21 00 08.6 +1.0**
comp=Z,11nm,0.8s,baz=190,slow=7.8,SNR=26
USRK LR LR 21 13 43.6
comp=Z,833nm,20.5s,baz=169,slow=35
USRK Ussuriysk Ar. 35.20 6 P **P 21 00 08.1 +0.6**
MDJ Mudanjiang 35.41 3 P **P 21 00 10.4 +1.0**
MDJ pP sP 21 00 21.8 +4.5
MDJ sP pwP 21 00 26.1 +0.9
MDJ S **S 21 05 46.3 +3.7**
MDJ pmax pmax
comp=Z,30nm,1.0s
MDJ pmax pmax
comp=Z,290nm,3.6s
MDJ LR LR
comp=Z,870nm,18.9s
MDJ LR LR
comp=Z,950nm,14.5s
MDJ LR LR
comp=Z,1μm,13.9s
MDJ Mudanjiang 35.41 3 P **P 21 00 09.6 +0.3**
MDJ IAmb IAmb 21 00 29.6
comp=Z,68nm,1.1s
MEEK Meekatharra 36.46 192 P **P 21 00 17.8 -0.8**
baz=36,SNR=24
COCO West Island 36.60 235 P **P 21 00 19.0 -0.9**
COCO pmax pmax
comp=Z,407nm,1.5s
COCO West Island 36.60 235 P **P 21 00 19.0 -0.9**
SHL Shillong 37.00 301 P **P 21 00 20.5 -3.0**
SHL pmax pmax
comp=Z,32nm,0.9s
SHL Shillong 37.00 301 P **P 21 00 20.5 -3.0**
SHL IAmb IAmb 21 00 28.1
comp=Z,32nm,0.9s
ASAJ Asahikawa 37.43 19 LR LR 21 15 16.4
comp=Z,2μm,20.1s,baz=212,slow=35
ASAJ Asahikawa 37.43 19 P **P 21 00 28.3 +1.7**
ASAJ pmax pmax
comp=Z,84nm,1.5s
JKA Kamikawa-asahi 37.43 19 P **P 21 00 28.2 +1.7**
JKA IAmb IAmb 21 00 58.6
comp=Z,84nm,1.5s
GTA Gaotai 38.63 326 ⇑P **P 21 00 35.8 -1.1**
GTA pP pP 21 00 43.0 +0.1
GTA sP sP 21 00 47.0 +1.6
GTA PP **PnPn 21 02 10.1 +2.3**
GTA S **S 21 06 30.0 -2.0**
GTA sS sS 21 06 50.3 +8.1
GTA SS **SnSn 21 09 16.5 -4.4**
GTA ScS **ScS 21 10 45.9 -0.1**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA pmax pmax
comp=Z,160nm,4.7s
GTA LR LR
comp=Z,1μm,17.8s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,16.4s
LSA Lhasa 39.15 306 P **P 21 00 40.1 -1.8**
LSA pmax pmax
comp=Z,33nm,1.4s
LSA Lhasa 39.15 306 P **P 21 00 40.7 -1.2**
LSA pmax pmax
comp=Z,46nm,1.5s
LSA Lhasa 39.15 306 P **P 21 00 40.7 -1.2**
MORW Morawa 39.40 195 P **P 21 00 42.7 -0.6**
baz=40,SNR=12
MORW Morawa 39.40 195 P **P 21 00 42.3 -1.0**
MORW IAmb IAmb 21 00 50.7
comp=Z,47nm,0.8s
H11S3 WAKE ISLAND Hy 39.70 72 T T 21 43 54.1
baz=262,slow=75,SNR=116
H11S1 WAKE ISLAND Hy 39.71 72 T T 21 43 54.1
baz=262,slow=75,SNR=60
FORT Forrest 39.72 178 P **P 21 00 45.3 -0.6**
baz=40,SNR=22
FORT Forrest 39.72 178 P **P 21 00 44.9 -1.1**
FORT IAmb IAmb 21 00 48.4
comp=Z,97nm,1.1s
H11S2 WAKE ISLAND Hy 39.72 72 T T 21 43 55.2
baz=262,slow=75,SNR=49
YSS Yuzh-Sakhalins 40.04 17 *e*P **P 21 00 50.0 +1.6**
YSS *e*S **S 21 06 53.7 +1.1**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 40.04 17 P **P 21 00 50.0 +1.6**
KLR Kul'dur 40.16 5 P **P 21 00 50.3 +0.9**
comp=Z,13nm,1.2s,baz=193,slow=7.8,SNR=16
KLR PcP **PcP 21 02 54.0 +0.6**
comp=Z,6.0nm,0.9s,baz=350,slow=4.2,SNR=2.2
HIA Hailar 40.43 353 P **P 21 00 51.7 0.0**
HIA pmax pmax
comp=Z,37nm,1.2s
HIA Hailar 40.43 353 P **P 21 00 51.7 0.0**
BLDU Ballidu 40.72 193 P **P 21 00 53.6 -0.6**
baz=41,SNR=18
TAPN Taplejung 41.12 301 *e*P **P 21 00 56.6 -1.4**
comp=Z,81nm,0.9s
ODAN Odare 41.24 301 *e*P **P 21 00 58.0 -1.0**
comp=Z,64nm,0.6s
RMQ Roma 41.32 150 P **P 21 00 58.3 -0.9**
baz=41,SNR=4.2
KLBR Kellerberrin 41.44 192 P **P 21 00 59.6 -0.5**
baz=42,SNR=14
EIDS Eidsvold 41.64 146 P **P 21 01 01.9 0.0**
baz=42,SNR=4.7
EIDS Eidsvold 41.64 146 P **P 21 01 01.3 -0.6**
ULN Ulaanbaatar 42.07 340 P **P 21 01 04.8 -0.6**
ULN pmax pmax
comp=Z,18nm,1.0s
ULN Ulaanbaatar 42.07 340 P **P 21 01 04.8 -0.6**
MUN Mundaring 42.14 194 P **P 21 01 05.6 -0.3**
baz=42,SNR=13
GRNR Gornyy 42.24 9 ⇓*i*P **P 21 01 08.4 +1.9**
GRNR pmax pmax
comp=Z,6.0nm,0.8s
GRNR MLR MLR
comp=N,480nm,15.0s
GRNR MLR MLR
comp=E,240nm,15.0s
SONM Songino Array 42.27 340 P **P 21 01 06.7 -0.2**
comp=E,3.3nm,0.7s,baz=160,slow=9.4,SNR=24
SONM PcP **PcP 21 03 03.5 +3.0**
comp=E,4.8nm,1.0s,baz=142,slow=4.9,SNR=2.7
SONM ScP **ScP 21 06 52.0 +2.4**
comp=E,2.0nm,0.9s,baz=163,slow=5.0,SNR=7.4
SONM LR LR 21 18 53.3
comp=E,610nm,21.4s,baz=157,slow=36
SONM Songino Array 42.27 340 P **P 21 01 06.5 -0.4**
SONM pmax pmax
comp=Z,53nm,1.8s
SONM Songino Array 42.27 340 P **P 21 01 06.5 -0.4**
JIRN Jiri 42.50 301 *e*P **P 21 01 08.4 -1.0**
comp=Z,35nm,0.4s
NWAO Narrogin (SRO) 42.83 192 P **P 21 01 11.3 -0.2**
baz=43,SNR=8.6
NWAO Narrogin (SRO) 42.83 192 P **P 21 01 11.5 0.0**
NWAO pmax pmax
comp=Z,50nm,1.0s
NWAO Narrogin (SRO) 42.83 192 P **P 21 01 11.5 0.0**
NWAO IAmb IAmb 21 01 24.5
comp=Z,50nm,1.0s
PKI Pulchoki 43.13 301 *e*P **P 21 01 13.3 -1.2**
comp=Z,21nm,0.5s
PKIN Phulchoki 43.15 301 *e*P **P 21 01 13.0 -1.6**
comp=Z,23nm,0.6s
STKA Stephens Creek 43.16 162 P **P 21 01 13.5 -0.7**
comp=Z,23nm,0.8s,baz=345,slow=7.9,SNR=14
STKA LR LR 21 23 36.7
comp=Z,379nm,18.2s,baz=340,slow=42
STKA Stephens Creek 43.16 162 P **P 21 01 12.9 -1.3**
STKA pmax pmax
comp=Z,8.0nm,1.1s
STKA Stephens Creek 43.16 162 P **P 21 01 12.9 -1.3**
KKN Kakani 43.31 301 *e*P **P 21 01 14.6 -1.2**
GKN Gorkha 43.91 301 *e*P **P 21 01 19.3 -1.3**
CIT Chita 44.11 348 *e*P **P 21 01 22.6 +0.9**
CIT *e* 21 01 36.6
CIT *e* 21 01 42.9
CIT pmax pmax
comp=Z,167nm,2.0s
CMSA Cobar Meteorol 44.29 157 P **P 21 01 23.0 -0.3**
baz=44,SNR=12
ZEA Zeya 44.47 0 *e*P **P 21 01 26.3 +1.9**
ZEA *e* 21 03 07.2
ZEA *e*S **S 21 07 59.1 +1.3**
ZEA pmax pmax
comp=Z,100nm,5.3s
ZEA pmax pmax
comp=Z,20nm,1.5s
ZEA smax smax
comp=E,100nm,5.1s
KOLN Koldanda 44.73 300 *e*P **P 21 01 26.5 -0.7**
comp=E,62nm,0.8s
DANN Dangsing 44.75 301 *e*P **P 21 01 26.5 -1.0**
NKL Nikolayevsk 45.28 12 *e*P **P 21 01 29.7 -1.2**
NKL *e*S **S 21 08 16.6 +7.0**
NKL pmax pmax
comp=N,310nm,1.2s
NKL pmax pmax
comp=Z,42nm,1.5s
NKL pmax pmax
comp=E,3.0nm,1.0s
NKL smax smax
comp=E,3.0nm,0.7s
NKL smax smax
comp=N,806nm,1.8s
PYUN Piuthan 45.34 301 *e*P **P 21 01 31.4 -0.6**
comp=N,153nm,0.9s
ZAK Zakamensk 45.51 339 *e*P **P 21 01 33.5 +0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
ARMA Armidale 45.98 150 P **P 21 01 35.8 -1.1**
baz=46,SNR=7.2
ARMA Armidale 45.98 150 P **P 21 01 37.0 +0.1**
ARMA IAmb IAmb 21 01 40.2
comp=Z,35nm,1.1s
TLY Talaya 46.48 340 P **P 21 01 41.0 +0.5**
comp=Z,12nm,0.8s,baz=82,slow=4.7,SNR=5.0
TLY Talaya 46.48 340 *e*P **P 21 01 41.7 +1.3**
TLY *e*S **S 21 08 31.1 +4.1**
TLY *e* 21 11 39.4
TLY pmax pmax
comp=Z,39nm,0.9s
TLY MLR MLR
comp=Z,1μm,16.0s
TLY Talaya 46.48 340 P **P 21 01 40.6 +0.2**
TLY IAmb IAmb 21 02 04.9
comp=Z,24nm,1.1s
TARA Tarawa 46.48 97 P **P 21 01 41.0 0.0**
IRK Irkutsk 46.75 341 *e*P **P 21 01 40.3 -2.2**
IRK pmax pmax
comp=Z,54nm,1.9s
MOY Mondy 47.39 338 *e*P **P 21 01 48.5 +0.8**
MOY pmax pmax
comp=Z,52nm,3.0s
HYB Hyderabad 47.62 285 *i* P **P 21 01 49.0 -0.9**
HYB *e*PcP **PcP 21 03 18.5 -0.9**
HYB *e*S **S 21 08 48.0 +3.8**
ARPS Mount Arapiles 47.80 164 P **P 21 01 51.4 +0.6**
baz=48,SNR=8.7
SKR Severo-Kuril's 47.94 25 *e*P **P 21 01 48.1 -3.7**
SKR *e*S **S 21 08 51.5 +3.8**
SKR pmax pmax
comp=Z,200nm,4.2s
SKR pmax pmax
comp=Z,29nm,1.0s
SKR pmax pmax
comp=Z,100nm,6.5s
SKR MLR MLR
comp=Z,400nm,17.0s
WMQ Urumqi 48.46 322 *e*P **P 21 01 56.3 +0.3**
WMQ pP sP 21 02 06.9 +2.4
WMQ sP pwP 21 02 12.9 +2.4
WMQ S **S 21 08 55.3 -0.2**
WMQ ScS **ScS 21 11 45.3 -2.0**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,2μm,18.3s
WMQ LR LR
comp=Z,950nm,16.3s
WMQ LR LR
comp=Z,990nm,19.7s
BOD Bodaibo 49.56 351 *e*P **P 21 02 04.9 +0.8**
BOD pmax pmax
comp=Z,74nm,1.3s
LIFNC LIFOU 49.60 127 P **P 21 02 04.9 -0.1**
TOO Toolangi 49.64 161 P **P 21 02 06.6 +1.5**
baz=50,SNR=4.4
TOO Toolangi 49.64 161 P **P 21 02 06.0 +0.9**
TOO pmax pmax
comp=Z,110nm,1.8s
TOO Toolangi 49.64 161 P **P 21 02 06.0 +0.9**
DZM Mont Dzumac 49.70 129 *e*P **P 21 02 05.2 -0.6**
comp=Z,54nm,1.1s
DZM *e*S **S 21 09 12.7 -0.7**
comp=Z,882nm,26.8s
DZM *e*LR LR 21 16 15.2
comp=Z,495nm,24.6s
DZM Mont Dzumac 49.70 129 P **P 21 02 05.8 0.0**
comp=Z,18nm,0.8s,baz=56,slow=6.8,SNR=8.8
DZM Mont Dzumac 49.70 129 P **P 21 02 05.4 -0.4**
DZM IAmb IAmb 21 02 14.1
comp=Z,21nm,0.9s
ONTNC Ouen Toro 49.84 129 P **P 21 02 06.5 -0.2**
ONTNC IAmb IAmb 21 02 36.2
comp=Z,52nm,1.1s
PEA0B Petropavlovsk- 50.42 24 P **P 21 02 12.2 +1.5**
PEA0B pmax pmax
comp=Z,70nm,1.7s
PEA0B Petropavlovsk- 50.42 24 P **P 21 02 12.2 +1.5**
PEA0B IAmb IAmb 21 02 36.0
comp=Z,70nm,1.6s
PETK Petropavlovsk- 50.42 24 P **P 21 02 12.2 +1.5**
comp=Z,7.1nm,0.8s,baz=197,slow=4.6,SNR=9.1
PETK LR LR 21 23 27.7
comp=Z,717nm,19.4s,baz=215,slow=36
PETK Petropavlovsk- 50.42 24 P **P 21 02 11.6 +0.8**
PETK Petropavlovsk- 50.42 24 P **P 21 02 11.6 +0.8**
PET Petropavlovsk 50.74 24 *e*P **P 21 02 16.1 +3.0**
PET *e*S **S 21 09 28.3 +1.4**
PET pmax pmax
comp=Z,300nm,7.8s
PET pmax pmax
comp=Z,36nm,1.1s
PET pmax pmax
comp=Z,100nm,7.2s
PET MLR MLR
comp=Z,800nm,17.0s
PET Petropavlovsk 50.74 24 P **P 21 02 15.2 +2.1**
PET IAmb IAmb 21 02 17.7
comp=Z,30nm,1.1s
DGZ Jazzator, Alta 52.02 328 *c*e*P **P 21 02 21.8 -1.2**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
ZSN Zaisan 52.11 325 *e*P **P 21 02 21.5 -2.1**
comp=Z,14nm,1.8s,baz=325
ZSN Zaisan 52.11 325 *e*P **P 21 02 21.5 -2.1**
ZSN pmax pmax
comp=Z,13nm,1.8s
YAK Yakutsk 52.82 2 *e*P **P 21 02 30.9 +2.4**
YAK *e**PP **pwP 21 02 44.4 -0.3**
YAK *e* 21 03 41.6
YAK *e* 21 04 25.0
YAK *e*S **S 21 09 53.2 -2.1**
YAK *e**SS sS 21 10 15.3 +11
YAK *e* 21 12 12.0
YAK *e*SSS SSS 21 15 19.3
YAK pmax pmax
comp=Z,43nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=Z,218nm,6.2s
YAK pmax pmax
comp=N,128nm,4.6s
YAK pmax pmax
comp=E,121nm,4.9s
YAK smax smax
comp=E,166nm,4.9s
YAK smax smax
comp=N,70nm,2.6s
YAK Yakutsk 52.82 2 P **P 21 02 28.8 +0.3**
YAK IAmb IAmb 21 02 43.9
comp=Z,36nm,0.9s
MK31 Makanchi Array 53.26 323 P **P 21 02 31.2 -0.9**
MK31 pmax pmax
comp=Z,16nm,0.8s
MK31 Makanchi Array 53.26 323 P **P 21 02 31.2 -0.9**
MKAR Makanchi Array 53.26 323 P **P 21 02 31.4 -0.7**
comp=Z,16nm,0.7s,baz=121,slow=8.2,SNR=95
MKAR LR LR 21 24 28.5
comp=Z,670nm,19.9s,baz=126,slow=35
MKAR Makanchi Array 53.26 323 P **P 21 02 31.2 -0.9**
MKAR Makanchi Array 53.26 323 P **P 21 02 31.2 -0.9**
SHLS Shalkode 53.36 318 *e*P **P 21 02 29.5 -3.6**
comp=Z,12nm,0.9s,baz=318
SHLS Shalkode 53.36 318 *e*P **P 21 02 29.4 -3.6**
SHLS pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 53.46 323 P **P 21 02 33.2 -0.3**
MAKZ IAmb IAmb 21 02 45.6

comp=Z,38nm,1.1s
MAKZ PcP **PcP** **21 03 40.1 -0.3**
MA2 Magadan 53.46 15⇓ *e*P **P** **21 02 34.4 +1.1**
MA2 pmax pmax
comp=Z,8.0nm,0.6s
MA2 Magadan 53.46 15 P **P** **21 02 35.0 +1.7**
MA2 IAmb IAmb 21 02 39.1
comp=Z,23nm,1.0s
UZB Uzynbulak 53.65 318 *e*P **P** **21 02 33.6 -1.5**
comp=Z,9.1nm,0.8s,baz=318
UZB Uzynbulak 53.65 318 *e*P **P** **21 02 33.6 -1.5**
UZB pmax pmax
comp=Z,9.0nm,0.8s
PRZ Przheval'sk 53.79 317 P **P** **21 02 35.6 -0.7**
PRZ pmax pmax
comp=Z,36nm,0.9s
PRZ Przheval'sk 53.79 317 P **P** **21 02 35.6 -0.7**
PRZ IAmb IAmb 21 02 48.7
comp=Z,36nm,0.9s
TARG Taragay, Kyrgy 53.90 316 P **P** **21 02 36.6 -0.7**
TARG IAmb IAmb 21 02 50.0
comp=Z,30nm,1.1s
KPKS Kokpek 54.00 318⇑ *i*P **P** **21 02 34.9 -2.8**
comp=Z,15nm,0.9s,baz=318
KPKS Kokpek 54.00 318 *c i*P **P** **21 02 34.8 -2.8**
KPKS pmax pmax
comp=Z,15nm,0.9s
SATY Saty 54.02 317 *e*P **P** **21 02 36.9 -1.0**
comp=Z,12nm,1.0s,baz=317
SATY Saty 54.02 317 *e*P **P** **21 02 36.8 -1.0**
SATY pmax pmax
comp=Z,12nm,1.0s
KDJ Kajisay 54.49 316 P **P** **21 02 40.4 -1.0**
KDJ pmax pmax
comp=Z,17nm,0.9s
KDJ Kajisay 54.49 316 P **P** **21 02 40.4 -1.0**
TDK Taldyqorghan 54.83 319 *e*P **P** **21 02 41.4 -2.3**
baz=320
TDK Taldyqorghan 54.83 319 *e*P **P** **21 02 41.3 -2.3**
NIL Nilore 54.84 305 P **P** **21 02 42.8 -1.1**
NIL pmax pmax
comp=Z,64nm,1.0s
NIL Nilore 54.84 305 P **P** **21 02 42.8 -1.1**
MDOK Medeo 54.97 317 *e*P **P** **21 02 43.2 -1.6**
baz=317
MDOK Medeo 54.97 317 *e*P **P** **21 02 43.2 -1.6**
TAU Tasmania Unive 55.07 162 P **P** **21 02 45.2 0.0**
TAU pmax pmax
comp=Z,147nm,1.7s
TAU Tasmania Unive 55.07 162 P **P** **21 02 45.2 0.0**
AAA Alma-Ata 55.08 317 *e*P **P** **21 02 43.5 -2.0**
baz=317
AAA Alma-Ata 55.08 317 *e*P **P** **21 02 43.5 -2.0**
ULHL Ulahol 55.18 316 P **P** **21 02 45.7 -0.7**
SNR=36
CHKK Chushkaly 55.28 318 *e*P **P** **21 02 44.7 -2.3**
baz=318
CHKK Chushkaly 55.28 318 *e*P **P** **21 02 44.6 -2.3**
BOOM Boomskoye usch 55.48 316 P **P** **21 02 47.8 -0.7**
BOOM pmax pmax
comp=Z,17nm,1.2s
BOOM Boomskoye usch 55.48 316 P **P** **21 02 47.8 -0.7**
KUU Kurty 55.73 318⇑ *i*P **P** **21 02 48.5 -1.6**
comp=Z,78nm,1.7s,baz=318
KUU Kurty 55.73 318 *c i*P **P** **21 02 48.5 -1.6**
KUU pmax pmax
comp=Z,78nm,1.7s
ZAA0 Zalesovo Array 55.88 331 P **P** **21 02 49.7 -1.3**
ZALV Zalesovo Beam 55.88 331 P **P** **21 02 50.2 -0.7**
comp=Z,5.6nm,0.7s,baz=122,slow=6.9,SNR=21
ZALV ScP **ScP** **21 07 47.3 +0.3**
comp=Z,1.3nm,0.8s,baz=121,slow=5.7,SNR=3.6
ZALV Zalesovo Beam 55.88 331 P **P** **21 02 49.0 -1.9**
ZALV Zalesovo Beam 55.88 331 P **P** **21 02 49.0 -1.9**
KBK Karagaybulak 56.22 316 P **P** **21 02 54.2 +0.4**
SNR=7.2
SEM Semipalatinsk 56.26 326 *e*P **P** **21 02 51.2 -2.8**
baz=326
SEM Semipalatinsk 56.26 326 *e*P **P** **21 02 51.2 -2.8**
CHMS Chumysh 56.48 316 P **P** **21 02 55.5 0.0**
SNR=18
FRU1 Bishkek 56.49 316 P **P** **21 02 55.2 -0.4**
FRU1 pmax pmax
comp=Z,32nm,1.3s
FRU1 Bishkek 56.49 316 P **P** **21 02 55.2 -0.4**
FRU1 IAmb IAmb 21 03 08.2
comp=Z,32nm,1.3s
SGDS Sogindy 56.72 316 *e*P **P** **21 02 53.9 -3.3**
baz=317
SGDS Sogindy 56.72 316 *e*P **P** **21 02 53.9 -3.3**
USP Ospenovka 56.74 316 P **P** **21 02 56.2 -1.2**
SNR=10
AML Almayashu 56.91 315 P **P** **21 02 59.4 +0.4**
SNR=23
EKS2 Erkin-Say 57.03 315 P **P** **21 03 00.1 +0.6**
SNR=6.1
MSVF Nonsavu 57.18 118 P **P** **21 03 01.1 +0.3**
comp=Z,7.8nm,0.6s,baz=278,slow=11,SNR=5.2
MSVF LR LR 21 29 27.2
comp=Z,449nm,18.6s,baz=340,slow=38
MSVF Nonsavu 57.18 118 P **P** **21 03 01.3 +0.4**
MSVF pmax pmax
comp=Z,30nm,1.1s
MSVF Nonsavu 57.18 118 P **P** **21 03 01.3 +0.4**
MSVF IAmb IAmb 21 03 05.1
comp=Z,30nm,1.1s
DRK Karamyk 57.47 311 P **P** **21 03 01.7 -1.2**
DRK IAmb IAmb 21 03 06.5
comp=Z,16nm,0.7s
BTLS Baital 57.69 318⇑ *e*P **P** **21 03 02.1 -1.8**
comp=Z,5.9nm,0.9s,baz=318
BTLS Baital 57.69 318 *ce*P **P** **21 03 02.1 -1.8**
BTLS pmax pmax
comp=Z,6.0nm,0.9s
BTK Batken 58.36 312 P **P** **21 03 08.2 -0.7**
BTK pmax pmax
comp=Z,34nm,1.3s
BTK Batken 58.36 312 P **P** **21 03 08.2 -0.7**
BTK IAmb IAmb 21 03 21.3
comp=Z,34nm,1.2s
KBL Kabul 58.44 305 P **P** **21 03 08.5 -1.2**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 58.44 305 P **P** **21 03 08.5 -1.2**
GAR Garm 58.45 310 P **P** **21 03 08.6 -1.0**
DZA Taraz 58.81 315 *e*P **P** **21 03 09.4 -2.5**
baz=315
DZA Taraz 58.81 315 *e*P **P** **21 03 09.3 -2.5**
CHGR Chuyangaron 59.24 310 P **P** **21 03 14.3 -0.7**
KK31 Karatay Array 59.45 315 P **P** **21 03 14.9 -1.4**
KK31 pmax pmax
comp=Z,30nm,1.3s
KK31 Karatay Array 59.45 315 P **P** **21 03 14.9 -1.4**
KK31 IAmb IAmb 21 03 28.5
comp=Z,30nm,1.2s
KKAR Karatay Array 59.45 315 P **P** **21 03 14.4 -1.9**
KKAR pmax pmax
comp=Z,30nm,1.3s
KKAR Karatay Array 59.45 315 P **P** **21 03 14.4 -1.9**
KKAR IAmb IAmb 21 03 28.5
comp=Z,30nm,1.2s
KKAR Karatay Array 59.45 315 P **P** **21 03 14.5 -1.7**
IUG Iuzhnay 59.51 314 *e*P **P** **21 03 13.9 -2.9**
baz=314
IUG Iuzhnay 59.51 314 *e*P **P** **21 03 13.9 -2.9**
AMKA Amchitka 59.98 35 P **P** **21 03 19.7 0.0**
BRZS Berezniki 60.41 323 *e*P **P** **21 03 20.9 -1.9**
comp=Z,14nm,1.2s,baz=323
BRZS Berezniki 60.41 323 *e*P **P** **21 03 20.9 -1.9**
BRZS pmax pmax
comp=Z,14nm,1.2s
JOHN Johnston Islan 62.25 76 P **P** **21 03 36.0 +0.3**
OUZ Omahuta 62.40 138 P **P** **21 03 37.5 +1.1**
OUZ IAmb IAmb 21 03 59.3
comp=Z,38nm,1.3s
TIXI Tiksi 62.46 1 P **P** **21 03 37.0 +0.9**
comp=Z,20nm,0.9s,baz=148,slow=5.0
TIXI Tiksi 62.46 1 *de*P **P** **21 03 36.6 +0.5**
TIXI Tiksi 62.46 1 P **P** **21 03 37.4 +1.3**
TIXI IAmb IAmb 21 03 48.7
comp=Z,33nm,1.0s
ADK Adak 62.48 36 P **P** **21 03 36.8 +0.2**
ADK pmax pmax
comp=Z,57nm,1.1s
ADK Adak 62.48 36 P **P** **21 03 36.8 +0.2**

BRVK Borovoye 62.98 326 *c i*P **P** **21 03 38.7 -1.3**
BRVK pmax pmax
comp=Z,40nm,1.3s
BRVK Borovoye 62.98 326 P **P** **21 03 39.5 -0.5**
HRA Herat 63.96 304 P **P** **21 03 45.6 -1.5**
BILL Biiibino 64.32 15 *e*P **P** **21 03 48.4 -0.2**
BILL *e* 21 06 11.7
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,290nm,18.0s
AFI Afiamalu 65.06 110 LR LR 21 28 47.2
comp=Z,455nm,19.0s,baz=276,slow=33
RAO Raoul Island 65.46 128 LR LR 21 34 22.5
comp=Z,179nm,18.2s,baz=249,slow=38
THZ Tophouse 65.93 144 P **P** **21 03 58.3 -1.2**
LBZ Lake Benmore 66.11 147 P **P** **21 04 00.8 +0.3**
RPZ Rata Peaks 66.14 146 P **P** **21 04 00.2 -0.6**
LTZ Lake Taylor 66.21 145 P **P** **21 04 01.5 +0.2**
LTZ IAmb IAmb 21 04 07.4
comp=Z,28nm,0.9s
OXZ Oxford 66.43 146 P **P** **21 04 02.6 0.0**
URZ Urewera 66.45 139 LR LR 21 33 02.8
comp=Z,496nm,19.8s,baz=312,slow=36
BKZ Black Stump Fm 66.56 140 P **P** **21 04 03.5 -0.1**
KHZ Kahutara 66.70 144 P **P** **21 04 04.4 0.0**
KHZ IAmb IAmb 21 04 07.1
comp=Z,30nm,0.9s
MQZ McQueen's Vall 67.01 146 P **P** **21 04 06.6 +0.3**
GEYT Alibeck 67.68 307 P **P** **21 04 11.0 +0.2**
comp=Z,4.3nm,0.8s,baz=96,slow=11,SNR=7.5
GEYT LR LR 21 38 29.2
comp=Z,507nm,19.1s,baz=185,slow=40
GYA0B ALIBECK ARRAY 67.68 307 P **P** **21 04 10.4 -0.3**
GYA0B IAmb IAmb 21 04 24.8
comp=Z,23nm,1.0s
ABKAR Akbulak array 68.10 319 P **P** **21 04 12.0 -1.1**
ABKAR IAmb IAmb 21 04 15.4
comp=Z,34nm,1.6s
SVE Sverdlovsk 69.46 328 *e*P **P** **21 04 21.1 -0.4**
SVE *e*S **S** **21 13 26.0 -1.2**
SVE pmax pmax
comp=Z,49nm,1.1s
SVE MLR MLR
comp=Z,514nm,15.0s
ARU Arti 70.47 327 *c i*P **P** **21 04 26.1 -1.6**
ARU 21 04 45.6
ARU 21 06 59.4
ARU PPP PPP 21 08 44.6
ARU S **S** **21 13 37.8 -1.3**
ARU pmax pmax
comp=Z,39nm,1.5s
ARU Arti 70.47 327 P **P** **21 04 26.1 -1.6**
LKRN Lenkeran, Azer 75.05 308 P **P** **21 04 53.8 -1.4**
AKT Akhty 75.86 310 *e*P **P** **21 04 59.2 -0.9**
AKT *e* 21 05 10.6
AKT *e* 21 07 50.2
AKT pmax pmax
comp=Z,25nm,1.0s
MAK Makhachkala 76.04 312 *e*P **P** **21 04 56.9 -3.9**
MAK *e*S **S** **21 14 38.2 -4.5**
MAK pmax pmax
comp=Z,109nm,1.2s
CASY Casey 76.18 187 P **P** **21 05 00.4 -0.6**
SEKA Sheki 76.27 310 P **P** **21 05 00.2 -2.1**
MNGR Mingechevir, A 76.35 310 P **P** **21 05 01.2 -1.5**
L19K White Mountain 76.50 28 P **P** **21 05 05.5 +2.4**
baz=264
N19K Bonanza Creek 76.53 30 P **P** **21 05 05.4 +1.9**
baz=265
ZKTA Zakatala 76.70 311 P **P** **21 05 03.7 -1.0**
GANJ Ganja 76.93 310 P **P** **21 05 04.7 -1.3**
J20K Nowinta River 77.02 26 P **P** **21 05 08.2 +2.2**
baz=264
M20K Styx River 77.28 29 P **P** **21 05 10.0 +2.4**
baz=266
KDAK Kodiak Island 77.28 33 P **P** **21 05 09.4 +1.9**
baz=267
GROC Groznyy 77.29 312 *e*P **P** **21 05 06.9 -1.0**
GROC *e* 21 05 17.1
GROC *e* 21 07 58.8
GROC pmax pmax
comp=Z,34nm,1.0s
IMAR Indian Mountai 77.38 24 P **P** **21 05 08.7 +0.7**
NAX Nakhchivan 77.60 308 P **P** **21 05 08.4 -1.5**
H21K Melozitna Rive 77.73 25 P **P** **21 05 11.8 +1.8**
baz=265
PRGR Permogore 77.84 331 *e*P **P** **21 05 08.3 -2.3**
I21K Tanana 78.04 25 P **P** **21 05 14.0 +2.4**
baz=266
RAR Rarotonga 78.06 114 LR LR 21 32 21.6
comp=Z,207nm,21.7s,baz=270,slow=30
GNI Garni 78.15 309 *de*P **P** **21 05 13.5 +0.5**
GNI pmax pmax
comp=Z,44nm,1.7s
GNI Garni 78.15 309 P **P** **21 05 12.5 -0.5**
GNI IAmb IAmb 21 05 16.6
comp=Z,48nm,1.4s
SUA Susitna One 78.39 29 P **P** **21 05 15.2 +1.4**
baz=268
BPAW Bear Paw Mtn. 78.40 26 P **P** **21 05 15.6 +1.9**
baz=267
BPAW Bear Paw Mtn. 78.40 26 P **P** **21 05 14.8 +1.1**
BPAW IAmb IAmb 21 05 32.6
comp=Z,29nm,1.0s
KTH Kantishna Hill 78.40 27 P **P** **21 05 13.3 -0.5**
KTH IAmb IAmb 21 05 58.2
comp=Z,75nm,1.9s
MLY Manley 78.56 25 P **P** **21 05 16.5 +1.9**
baz=267
MLY Manley 78.56 25 P **P** **21 05 15.5 +0.9**
ZEI Tsey 78.69 312 *e*P **P** **21 05 14.8 -1.2**
ZEI pmax pmax
comp=Z,44nm,1.3s
NCK Nalchik 78.89 313⇑ *e*P **P** **21 05 16.2 -0.6**
NCK pmax pmax
comp=Z,7.0nm,1.0s
SEW Seward 78.98 30 P **P** **21 05 20.2 +3.2**
baz=269
ONI Oni 79.03 312 P **P** **21 05 18.3 +0.6**
ONI pmax pmax
comp=Z,28nm,1.2s
ONI Oni 79.03 312 P **P** **21 05 18.3 +0.6**
ONI IAmb IAmb 21 05 32.3
comp=Z,28nm,1.2s
AKH Akhalkalaki 79.05 310⇑ P **P** **21 05 19.1 +1.1**
AKH Akhalkalaki 79.05 310 P **P** **21 05 19.1 +1.1**
H23K Yukon River 79.09 25 P **P** **21 05 19.8 +2.3**
baz=268
I23K Minto, Yukon-K 79.14 25 P **P** **21 05 19.9 +2.2**
baz=268
I23K Minto, Yukon-K 79.14 25 P **P** **21 05 17.6 -0.1**
I23K IAmb IAmb 21 05 38.3
comp=Z,103nm,2.0s
TOLK Toolik Lake Re 79.19 22 P **P** **21 05 20.4 +2.4**
baz=267
TOLK Toolik Lake Re 79.19 22 P **P** **21 05 19.8 +1.7**
TOLK IAmb IAmb 21 05 37.8
comp=Z,70nm,1.8s
NEA2 Nenana 79.25 26 P **P** **21 05 20.1 +1.7**
baz=269
NEA2 Nenana 79.25 26 P **P** **21 05 18.1 -0.3**
MCK McKinley 79.29 27 P **P** **21 05 19.0 +0.4**
MCK pmax pmax
comp=Z,42nm,1.1s
MCK McKinley 79.29 27 P **P** **21 05 20.1 +1.5**
baz=269
MCK McKinley 79.29 27 P **P** **21 05 19.0 +0.4**
MCK IAmb IAmb 21 05 37.4
comp=Z,42nm,1.1s
RND Reindeer 79.32 27 P **P** **21 05 18.4 -0.5**
RND pmax pmax
comp=Z,37nm,1.3s
RND Reindeer 79.32 27 P **P** **21 05 18.4 -0.5**
RND IAmb IAmb 21 05 31.6
comp=Z,37nm,1.3s
KBZ Khabaz 79.39 313 P **P** **21 05 19.1 -0.4**
comp=Z,5.6nm,1.0s,baz=75,slow=5.1,SNR=7.9
KBZ LR LR 21 47 39.2
comp=Z,300nm,18.5s,baz=78,slow=41
KARS Kars 79.40 310 P **P** **21 05 18.8 -1.1**
KARS pmax pmax
comp=Z,83nm,1.1s
KARS Kars 79.40 310 P **P** **21 05 18.8 -1.1**
WAT1 Susitna Watana 79.45 28 P **P** **21 05 21.0 +1.5**

baz=269
KNK Knik Glacier 79.49 29 P **P** **21 05 21.2 +1.4**
baz=270
KIV Kislovodsk 79.53 313⇑ P **P** **21 05 18.8 -1.6**
KIV Kislovodsk 79.53 313 *e*P **P** **21 05 19.5 -0.9**
KIV *e*S **S** **21 15 19.3 -1.3**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 79.53 313 P **P** **21 05 18.8 -1.6**
SML Sawmill 79.55 29 P **P** **21 05 21.4 +1.3**
baz=270
MDM Murphy Dome 79.62 26 P **P** **21 05 22.1 +1.7**
WRH Wood River Hil 79.67 26 P **P** **21 05 20.4 -0.3**
WRH IAmb IAmb 21 05 43.0
comp=Z,28nm,1.2s
H24K Noodor Dome 79.78 25 P **P** **21 05 23.4 +2.1**
baz=270
COLA College 79.78 26⇑ *e*P **P** **21 05 19.9 -1.3**
COLA pmax pmax
comp=Z,3.0nm,0.9s
CCB Clear Creek Bu 79.80 26 P **P** **21 05 22.3 +1.0**
CCB IAmb IAmb 21 05 42.6
comp=Z,29nm,1.4s
WAT6 Susitna Watana 79.83 28 P **P** **21 05 23.2 +1.4**
baz=270
VRH Novokhopyorsk 79.89 320 *e*P **P** **21 05 19.4 -2.7**
VRH pmax pmax
comp=Z,20nm,1.2s
SCM Sheep Creek Mo 80.03 29 P **P** **21 05 23.9 +1.2**
SCM pmax pmax
comp=Z,70nm,1.2s
SCM Sheep Creek Mo 80.03 29 P **P** **21 05 23.9 +1.2**
SCM IAmb IAmb 21 05 42.0
comp=Z,70nm,1.2s
CHVG Ch'k'valeri 80.03 312⇑ P **P** **21 05 23.4 +0.3**
CHVG Ch'k'valeri 80.03 312⇑ P **P** **21 05 23.4 +0.3**
HDA Harding Lake 80.17 26 P **P** **21 05 22.4 -0.9**
ILAR Eielson Array 80.19 26 P **P** **21 05 23.7 +0.3**
comp=Z,2.1nm,0.7s,baz=234,slow=5.8,SNR=10
ILAR LR LR 21 41 27.4
comp=Z,152nm,20.7s,baz=278,slow=36
ILAR Eielson Array 80.19 26 P **P** **21 05 22.8 -0.6**
ILAR Eielson Array 80.19 26 P **P** **21 05 22.8 -0.6**
GURO Guroymak-BITLI 80.33 308 P **P** **21 05 25.5 +0.5**
GURO IAmb IAmb 21 05 39.6
comp=Z,50nm,1.2s
KLMR Klimovskoe 80.78 330 *e*P **P** **21 05 22.9 -3.7**
KLMR pmax pmax
comp=Z,67nm,1.1s
KLMR Klimovskoe 80.78 330 *e*P **P** **21 05 23.0 -3.7**
KLMR AMP 21 05 39.0
comp=Z,67nm,1.1s
KLMR *e*PP **PP** **21 08 24.2 -6.5**
KLMR LQ LQ 21 35 55.4
KLMR LQ LQ 21 35 55.4
KLMR LR LR 21 40 31.7
BMAR Burnt Mountain 81.07 23 P **P** **21 05 29.9 +1.7**
RIDG Independent Ri 81.11 27 P **P** **21 05 30.8 +2.4**
baz=273
RIDG Independent Ri 81.11 27 P **P** **21 05 29.7 +1.2**
N25K Chitina, Valde 81.33 29 P **P** **21 05 29.1 -0.7**
N25K IAmb IAmb 21 05 44.4
comp=Z,45nm,1.5s
DOT Dot Lake 81.47 27 P **P** **21 05 30.7 +0.4**
SCRK Sand Creek 81.48 26 P **P** **21 05 32.5 +2.0**
baz=273
SCRK Sand Creek 81.48 26 P **P** **21 05 30.4 -0.1**
SCRK IAmb IAmb 21 05 50.5
comp=Z,28nm,1.4s
LPSR Galich'ya Gora 81.55 322 *e*P **P** **21 05 29.7 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SOC Sochi 81.70 313 *e*P **P** **21 05 28.7 -3.2**
SOC *e* 21 08 31.4
SOC *e*PPP PPP 21 10 28.2
SOC *e*S **S** **21 15 39.9 -3.2**
SOC *e*SS **SS** **21 21 03.6 +2.8**
SOC *e*SSS SSS 21 24 23.7
GLB Gilahina Butte 81.72 29 P **P** **21 05 31.3 -0.5**
GLB IAmb IAmb 21 05 52.0
comp=Z,44nm,1.4s
MOS Moscow 82.08 325 *e*P **P** **21 05 32.6 -1.0**
MOS *e*S **S** **21 15 50.7 +4.2**
K27K Chicken 82.32 26 P **P** **21 05 37.4 +2.7**
baz=275
K27K Chicken 82.32 26 P **P** **21 05 34.8 +0.1**
K27K IAmb IAmb 21 05 55.3
comp=Z,36nm,1.1s
LVZ Lovozero 82.42 338⇑ *e*P **P** **21 05 34.3 -1.0**
LVZ pmax pmax
comp=Z,83nm,2.8s
L27K Beaver Creek, 82.51 27 P **P** **21 05 38.6 +2.7**
baz=275
L27K Beaver Creek, 82.51 27 P **P** **21 05 37.8 +1.9**
BCAR Beaver Creek A 82.53 27 P **P** **21 05 37.7 +1.8**
EGAK Eagle 82.64 26 P **P** **21 05 37.1 +0.6**
EGAK IAmb IAmb 21 05 57.9
comp=Z,21nm,1.2s
OBN Obninsk 82.74 325 LR LR 21 45 30.3
comp=Z,53nm,18.9s,baz=72,slow=38
OBN Obninsk 82.74 325 *i*P **P** **21 05 36.2 -0.8**
OBN pmax pmax
comp=Z,13nm,1.2s
APA Apatity 82.93 337⇑ *i*P P 21 05 32.6 -5.2
APA *i* 21 08 54.0
APA *i*S S 21 15 44.0 -11
APA pmax pmax
comp=Z,13nm,1.1s
APA MLR MLR
comp=Z,600nm,13.0s
CTGM Chitina Glacie 82.95 29 P **P** **21 05 39.8 +1.5**
ANN Anapa 83.22 314 *e*P **P** **21 05 37.7 -2.1**
ANN *e*S **S** **21 15 57.3 -1.3**
ANN pmax pmax
comp=Z,39nm,1.6s
ABPO Ambohimpanom 83.28 250 P **P** **21 05 40.9 +0.1**
ABPO pmax pmax
comp=Z,15nm,1.2s
ABPO Ambohimpanom 83.28 250 P **P** **21 05 40.9 +0.1**
ABPO IAmb IAmb 21 05 45.1
comp=Z,15nm,1.1s
DAWY Dawson 83.49 26 P **P** **21 05 42.2 +1.4**
DAWY IAmb IAmb 21 06 05.7
comp=Z,42nm,1.5s
EPYK Eagle Plains 84.26 24 P **P** **21 05 46.4 +1.6**
baz=280
EPYK Eagle Plains 84.26 24 P **P** **21 05 45.6 +0.8**
GAZ Gaziantep 84.27 307 P **P** **21 05 44.0 -1.5**
GAZ IAmb IAmb 21 05 58.5
comp=Z,23nm,0.9s
HYT Haines Junctio 84.83 29 P **P** **21 05 47.2 -0.7**
HYT IAmb IAmb 21 06 08.2
comp=Z,23nm,0.9s
INK Inuvik 85.11 22 P **P** **21 05 49.5 +0.6**
INK pmax pmax
comp=Z,60nm,1.7s
INK Inuvik 85.11 22 P **P** **21 05 50.5 +1.6**
baz=282
INK Inuvik 85.11 22 P **P** **21 05 49.5 +0.6**
BNN Bunyan 85.12 308 P **P** **21 05 48.9 -1.0**
SPITS Spitsbergen Ar 85.22 349 P **P** **21 05 50.3 +0.9**
SPITS pmax pmax
comp=Z,72nm,1.1s
ARCES ARCESS Array B 85.44 340 P **P** **21 05 50.5 -0.1**
comp=Z,2.1nm,0.4s,baz=84,slow=6.5,SNR=43
ARCES PP PP 21 09 00.0 -8.6
comp=Z,1.0nm,0.5s,baz=80,slow=7.8,SNR=3.6
ARCES LR LR 21 49 37.0
comp=Z,309nm,18.3s,baz=75,slow=40
ARCES ARCESS Array B 85.44 340 P **P** **21 05 50.9 +0.3**
ARCES pmax pmax
comp=Z,71nm,1.8s
ARCES ARCESS Array B 85.44 340 P **P** **21 05 50.9 +0.3**
MMAI Mount Meron Ar 86.30 303 LR LR 21 48 10.2
comp=Z,129nm,20.1s,baz=45,slow=38
GHAJ Ghor Haditha 86.41 301 P **P** **21 05 55.7 -0.4**
GHAJ IAmb IAmb 21 06 09.3
comp=Z,24nm,0.9s
PPT Papeete 86.67 108 LR LR 21 40 58.0
comp=Z,144nm,18.6s,baz=308,slow=33
PPT2 Papeete2 86.67 108 *e*S **S** **21 16 31.6 -2.3**
comp=Z,174nm,25.8s
PPT2 Papeete2 86.67 108 *e*LR LR 21 33 18.8
comp=Z,383nm,24.0s,baz=291
BRTR Keskin Array B 86.69 310 P **P** **21 05 58.4 +0.8**

comp=Z,1.5nm,0.9s,baz=97,slow=5.3,SNR=5.9
BRTR LR LR 21 49 47.3
comp=Z,213nm,20.3s,baz=74,slow=39
BRTR Keskin Array B 86.69 310 P P 21 05 56.5 -1.1
BRTR Keskin Array B 86.69 310 P P 21 05 56.5 -1.1
FINES FINESS Array B 87.15 332 P P 21 05 58.6 -0.5
comp=Z,2.1nm,0.4s,baz=77,slow=4.4,SNR=23
FINES PP **PP 21 09 21.4 -1.2**
comp=Z,1.4nm,0.4s,baz=57,slow=5.0,SNR=10
FINES FINESS Array B 87.15 332 P P 21 05 58.1 -1.0
FINES FINESS Array B 87.15 332 P P 21 05 58.1 -1.0
VSU Vasula 87.53 329⇓ *e*P P 21 06 01.2 +0.2
VSU pmax pmax
comp=Z,26nm,0.8s
NOR Nord 87.74 355 *i* P **P 21 06 02.5 +0.8**
NOR IAmb IAmb 21 06 05.0
comp=Z,48nm,1.6s
NOR Nord 87.74 355 *i* P **P 21 06 02.5 +0.8**
NOR pmax pmax
comp=Z,48nm,1.6s
AKASG Malin Array Be 87.79 321 P P 21 06 01.7 -0.8
comp=Z,0.7nm,0.5s,baz=65,slow=5.1,SNR=6.7
AKASG Malin Array Be 87.79 321 P P 21 06 00.3 -2.1
AKASG Malin Array Be 87.79 321 P P 21 06 00.3 -2.1
MNK Minsk 87.79 325 *i* P **P 21 05 58.4 -4.0**
MNK *i* 21 09 24.4
MNK *i* PPP PPP 21 11 19.8
MNK *i* S **SKSac 21 16 23.5 -5.3**
MNK pmax pmax
comp=Z,29nm,1.0s
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK Minsk 87.79 325 *i* P **P 21 05 58.4 -4.0**
MNK *i* P **P 21 05 58.4 -4.0**
comp=N,9.0nm,1.0s
MNK *i* P **P 21 05 58.4 -4.0**
comp=Z,29nm,1.0s,baz=258
MNK *i* PP **PP 21 09 24.4 -3.6**
MNK *i* PPP PPP 21 11 19.8
MNK *i* S **SKSac 21 16 23.5 -5.3**
MNK *i* ScS ScS 21 17 04.4 +15
MNK *i* SS SS 21 22 04.0 -26
MNK *i* SSS SSS 21 26 46.4
MNK *i* LQ LQ 21 40 46.5
MNK *i* LR LR 21 44 53.1
MNK *i* LRM MLR 21 50 58.2
comp=N,115nm,19.8s
MNK *i* LRM MLR 21 50 58.2
comp=Z,284nm,19.8s
MNK *i* LRM MLR 21 51 34.6
comp=E,25nm,18.5s
TBI Tubuai 87.84 114 *e*S **S 21 16 41.8 -3.1**
comp=E,421nm,23.5s
TBI Tubuai 87.84 114 *e*LR LR 21 34 00.3
comp=E,480nm,28.2s,baz=298
C36M Paulatuk 88.10 20 P **P 21 06 04.5 +1.0**
baz=291
C36M Paulatuk 88.10 20 P **P 21 06 03.6 +0.1**
C36M IAmb IAmb 21 06 19.2
comp=Z,16nm,0.9s
VNDA Vanda 88.75 173 P **P 21 06 05.0 -1.3**
comp=Z,1.2nm,0.9s,baz=346,slow=2.1,SNR=2.9
VNDA LR LR 21 46 49.3
comp=Z,259nm,19.2s,baz=348,slow=36
MAW Mawson 88.85 200 P **P 21 06 07.7 +0.8**
comp=Z,8.4nm,1.2s,baz=34,slow=7.3,SNR=7.0
MAW LR LR 21 41 58.8
comp=Z,140nm,21.3s,baz=61,slow=33
SORM Soroca 88.89 318 ⇓P **P 21 06 03.7 -4.0**
SORM Soroca 88.89 318 ⇓P **P 21 06 03.7 -4.0**
CFR Carcaliu 89.67 316 ⇓P **P 21 06 15.8 +4.4**
CFR Carcaliu 89.67 316 ⇓P **P 21 06 15.8 +4.4**
KMBO Kilima Mbogo 89.78 269 P **P 21 06 13.2 +0.3**
comp=Z,3.9nm,0.9s,baz=40,slow=7.4,SNR=5.9
TESR Tescani 90.38 317 ⇑P **P 21 06 16.1 +1.4**
VRI Vrincioaia 90.48 317 ⇓P P 21 06 20.2 +5.0
VRI Vrincioaia 90.48 317 ⇓P P 21 06 20.2 +5.0
PLOR Plostina 90.53 317 ⇑P **P 21 06 20.3 +4.8**
PLOR Plostina 90.53 317 ⇑P **P 21 06 20.3 +4.8**
BURAR Bucovina Array 91.06 318 ⇑P **P 21 06 17.9 -0.1**
BURAR Bucovina Array 91.06 318 ⇑P **P 21 06 17.9 -0.1**
BURAR Bucovina Array 91.06 318 P **P 21 06 15.9 -2.1**
BUR08 Bucovina Ar. S 91.06 319 P **P 21 06 16.2 -1.8**
MLR Muntele Rosu 91.10 316 ⇑P P 21 06 24.6 +6.3
MLR Muntele Rosu 91.10 316 ⇑P P 21 06 24.6 +6.3
DAG Danmarks Havn 91.93 353 *i* P **P 21 06 21.1 -0.3**
DAG Danmarks Havn 91.93 353 *i* P **P 21 06 21.0 -0.3**
KOLS Kolonicke sedl 92.59 320 *e*P P 21 06 30.0 +5.0
KOLS Kolonicke sedl 92.59 320 *e* P 21 06 30.0 +5.0
UZH Uzhgorod 92.67 320 *e*P **P 21 06 25.7 +0.4**
UZH *e* 21 06 41.2
CRVS Cervenica-Dubn 93.11 320 *e*P **P 21 06 28.0 +0.6**
CRVS Cervenica-Dubn 93.11 320 *e*P **P 21 06 28.0 +0.6**
NEEM North Greenlan 93.54 360 *i* P **P 21 06 29.9 +0.8**
NEEM IAmb IAmb 21 06 34.2
comp=Z,41nm,1.1s
NB2 NORSAR Subarra 94.01 334 P **P 21 06 30.0 -1.3**
comp=Z,2.7nm,1.0s,baz=65,slow=4.6
NOA NORSAR Array B 94.01 334 P **P 21 06 29.8 -1.5**
comp=Z,1.0nm,0.8s,baz=62,slow=4.6,SNR=2.5
NOA LR LR 21 51 41.9
comp=Z,335nm,20.3s,baz=55,slow=37
DBG Daneborg 94.22 351 *i* P **P 21 06 31.8 -0.1**
DBG IAmb IAmb 21 06 37.3
comp=Z,22nm,1.0s
TAOE Nuku Hiva Isla 94.31 98 *e*LR LR 21 36 49.4
comp=Z,658nm,30.2s
IDI Anoyia 94.39 307 LR LR 21 54 40.3
comp=Z,87nm,21.2s,baz=82,slow=39
YKA Yellowknife Ar 94.54 24 P **P 21 06 34.6 +1.0**
comp=Z,1.5nm,0.8s,baz=303,slow=4.3,SNR=7.8
YKA LR LR 21 48 06.5
comp=Z,117nm,21.9s,baz=0.0,slow=35
MORC Moravsky Berou 95.25 322 *e*P **P 21 06 36.4 -0.8**
JAVC Velka Javorina 95.49 321 *e*P **P 21 06 37.9 -0.5**
VRAC Vranov 95.99 322 *e*P **P 21 06 39.5 -1.1**
KRUC Moravsky 96.20 322 *e*P **P 21 06 40.8 -0.7**
CLL Collm 97.34 325 *e*sP Pdif 21 06 51.0 +4.4
CLL *e*SKSac **SKSac 21 17 24.0 +1.8**
CLL *e*SKKSac **SKKSac 21 17 48.0 -1.5**
CLL *e*S **S 21 18 07.0 -2.0**
CLL *e*SP **SP 21 19 24.0 -6.2**
CLL *e*PPS PPS 21 20 18.0
CLL *e*PKKPbc **PKKPbc 21 23 19.0 -7.5**
CLL *e* 21 30 30.0
CLL *e*SSSS 21 32 12.0
CLL LmH 21 55 00.0
comp=N,400nm,18.4s
CLL LmH 21 55 00.0
comp=E,200nm,21.7s
CLL LmV 22 01 00.0
comp=Z,300nm,19.9s
CLL Collm 97.34 325 *e*P P 21 06 41.0 -5.6
CLL *e*S **S 21 18 07.0 -2.0**
SYO Syowa Base 97.49 201⇑ *e*P Pdif 21 06 47.6 +0.8
SCO Scoresbysund 97.77 350 *i* P Pdif 21 06 51.9 +3.7
SCO IAmb IAmb 21 06 53.6
comp=Z,9.4nm,1.1s
SCO Scoresbysund 97.77 350 *i* P Pdif 21 06 51.8 +3.7
SCO pmax pmax
comp=Z,9.0nm,1.1s
SCO Scoresbysund 97.77 350 P **P 21 06 46.7 -1.4**
SCO IAmb IAmb 21 06 53.8
comp=Z,11nm,1.2s
SUMG Summit 97.88 356 *i* P Pdif 21 06 50.5 +1.3
SUMG Summit 97.88 356 *i* P Pdif 21 06 50.4 +1.2
SUMG Summit 97.88 356 P **P 21 06 48.6 -0.5**
SUMG IAmb IAmb 21 06 57.2
comp=Z,13nm,1.1s
KHC Kasperske Hory 97.89 322 *e*P Pdif 21 06 54.0 +4.8
KHC Kasperske Hory 97.89 322 *e*P Pdif 21 06 54.0 +4.8
GERES GERESS Array B 97.93 322 P Pdif 21 06 51.4 +1.9
comp=Z,1.3nm,1.0s,baz=70,slow=5.8,SNR=6.9
NVAR Mina Array Bea 103.18 47 PKKPab 21 23 30.2
comp=Z,0.5nm,0.8s,baz=145,slow=5.4,SNR=3.7
PDAR Pinedale Array 107.18 40 PKKPab PKKPab 21 23 08.7 -4.2
comp=Z,1.2nm,1.0s,baz=104,slow=6.3,SNR=5.0
SNAA Sanae 110.45 195 PKKPab PKKPab 21 22 54.4 -1.4
comp=Z,2.3nm,1.0s,baz=318,slow=5.2,SNR=4.6
TXAR Lajitas Array 118.11 50 PKP **PKPdf 21 12 01.0 -0.1**
comp=Z,0.8nm,0.6s,baz=318,slow=1.7,SNR=8.3
TXAR PKKPbc **PKKPbc 21 22 21.8 +1.0**
comp=Z,1.3nm,1.1s,baz=134,slow=7.2,SNR=6.1
TXAR Lajitas Array 118.11 50 PKIKP **PKPdf 21 12 00.3 -0.8**
TXAR Lajitas Array 118.11 50 PKPdf 21 12 00.3 -0.8
JCT Junction City 120.36 47 PKIKP **PKPdf 21 12 04.0 -1.3**
JCT Junction City 120.36 47 PKPdf **PKPdf 21 12 04.0 -1.3**
TORD Torodi Ar. Bea 121.21 291 PKP **PKPdf 21 12 05.8 -1.5**
comp=Z,1.3nm,0.6s,baz=70,slow=2.0,SNR=11
TORD PP **PP 21 13 36.1 -1.4**
comp=Z,2.4nm,1.0s,baz=61,slow=4.2,SNR=4.2
TORD PKKPbc **PKKPab 21 22 09.9 -0.4**
comp=Z,1.2nm,0.8s,baz=256,slow=3.8,SNR=4.1
U40A Yellville 121.33 37 P **PKiKP 21 12 07.8 +0.7**
baz=313
U40A Yellville 121.33 37 PKPdf **PKPdf 21 12 06.3 -0.7**
PMSA Palmer Station 123.93 174 *e*P **PKiKP 21 12 13.8 +2.5**
PEZE Perez Zeledon, 144.46 60 PKPbc 21 12 49.5 +0.2
SRBA San Rafael, Bu 144.81 60 PKPdf 21 12 51.6 +0.1
DRK0 Durika 144.89 59 PKPdf 21 12 51.7 +0.1
PLCA Paso Flores 144.95 157 PKP PKPbc 21 12 50.4 +0.2
comp=Z,9.6nm,0.9s,baz=203,slow=4.3,SNR=8.6
PLCA Paso Flores 144.95 157 PKIKP PKPbc 21 12 50.2 +0.1
PLCA Paso Flores 144.95 157 PKPab 21 12 50.2 +0.1
LC01 Cunco 145.94 153 PKPdf 21 12 50.5 -2.1
DR12 Loma Pena Alta 147.95 30 PKPdf 21 12 54.5 -2.0
BI02 San Fabin de 148.05 152 PKPdf 21 12 55.9 -0.3
BO02 Sierra Bellavi 149.79 150 PKPbc 21 13 01.9 -2.0
BO01 Tunca 149.96 149 PKPbc 21 13 01.9 -2.3
CBYP Canovanas 150.00 25 PKPdf 21 13 00.1 +0.2
TRQA Tornquist 150.14 166 PKIKP **PKPdf 21 12 56.8 -2.7**
TRQA Tornquist 150.14 166 PKPdf **PKPdf 21 12 56.8 -2.7**
TRQA Tornquist 150.14 166 *e*P **PKPdf 21 13 01.6 +2.1**
PDPR Patillas Dam, 150.16 25 PKPdf 21 12 59.4 -0.7
STVI Saint Thomas 150.29 23 PKPbc 21 13 04.4 -1.0
MT09 Talagante 150.50 149 PKPdf 21 12 59.0 -1.3
OTAV Otavalo 153.13 71 *e*P **PKPdf 21 13 06.5 +1.2**
LVC Limon Verde 159.80 133 *e*P **PKPdf 21 13 15.6 +2.0**
CZSB Cruzeiro do Su 160.60 87 *e*P **PKPdf 21 13 18.8 +4.6**
NBPV Pedro Velho 162.10 277 *e*P **PKPdf 21 13 19.9 +4.1**
NBRF Rio Formoso - 162.19 270 *e*P **PKPdf 21 13 20.1 +4.2**
CPUP Villa Florida 162.46 167 PKPab **PKPab 21 14 03.9 +0.6**
comp=Z,6.4nm,1.0s,baz=203,slow=5.8,SNR=6.1
RCBR Riachuelo 162.59 280 *e*P **PKPdf 21 13 20.1 +3.7**
TIJ01 Guaruva-PR 163.44 193 *e*P **PKPdf 21 13 20.4 +3.4**
LPAZ La Paz 163.76 117 PKP **PKPdf 21 13 18.1 0.0**
comp=Z,1.0nm,0.8s,baz=302,slow=1.7,SNR=3.8
LPAZ PKPab **PKPab 21 14 10.8 +0.5**
comp=Z,3.2nm,1.0s,baz=230,slow=7.2,SNR=3.3
LPAZ La Paz 163.76 117 PKIKP **PKPdf 21 13 16.7 -1.4**
LPAZ La Paz 163.76 117 PKPdf 21 13 16.7 -1.4
GUA01 Guaratinga, BA 165.05 239 *e*P **PKPdf 21 13 22.1 +3.6**
AQDB Aquidauana 168.47 168 *e*P **PKPdf 21 13 25.4 +4.5**

IDC 16 20:58:45.1±3.9, 12°.88N×126°.03E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.6/3, 1C, Error ellipse: s-maj=289.9km s-min=30.0km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**4.59**	**197**⇑	*e*P	Pg	21 00 17.6	+4.4
CGP				*e*S	Sn	21 00 29.7	-20
WRA	**Warramunga Arr**	**33.63**	**166**	P	P	21 05 27.6	0.0
	0.8nm,0.8s,baz=347,slow=9.4,SNR=1.3						
ASAR	**Alice Springs**	**37.13**	**168**	P	P	21 05 57.6	-0.2
	0.3nm,0.3s,baz=353,slow=7.0,SNR=5.1						
MKAR	**Makanchi Array**	**49.83**	**322**	P	P	21 07 39.9	-0.1
	1.0nm,0.9s,baz=122,slow=7.0,SNR=3.6						

IDC 16 21:00:00.5±3.4, 11°.80N×120°.83E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/40, mbtmp3.5/3, Error ellipse: s-maj=433.8km s-min=30.4km az=62.0, Palawan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.24**	**157**	P	P	21 06 46.4	-1.9
	1.3nm,1.1s,baz=337,slow=6.4,SNR=1.5						
ASAR	**Alice Springs**	**37.50**	**160**	P	P	21 07 18.0	+1.6
	0.2nm,0.4s,baz=352,slow=6.8,SNR=1.1						
MKAR	**Makanchi Array**	**47.63**	**325**	P	P	21 08 38.4	-0.1
	0.7nm,0.8s,baz=111,slow=7.9,SNR=3.0						

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*IDC **16** 21:08:31.2±4.3, 9°.46N×127°.65E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx3.2/18, Error ellipse: s-maj=318.5km s-min=30.0km az=67.0*

ISC 16 21:08:37.4±1.6, 9°.2N±0°.2×127°.1E±0°.1, h35km, n5, σ0S49/5, mb3.3/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.45**	**253**⇓	*e*P	**Pn**	**21 09 15.0**	**+0.1**
CGP				*e*S	**Sn**	**21 09 43.6**	**-0.1**
KSRS	**Korea Array**	**28.16**	**1**	LR	LR	21 24 41.4	
	comp=Z,134nm,20.2s,baz=145,slow=35						
WRA	**Warramunga Arr**	**29.82**	**166**	P	**P**	**21 14 40.9**	**-0.5**
	0.3nm,0.6s,baz=349,slow=8.8,SNR=1.6						
ASAR	**Alice Springs**	**33.33**	**169**	P	**P**	**21 15 12.7**	**+0.5**
	0.2nm,0.4s,baz=350,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**53.36**	**323**	P	**P**	**21 17 53.4**	**0.0**
	0.2nm,0.6s,baz=108,slow=8.0,SNR=3.5						

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*OSPL **16** 21:09:30.3±0.3, 19°.97N×73°.57W, h85km, ML2.3*
*SSNC **16** 21:09:31.2±0.8, 19°.36N×73°.77W, h7km±32km, MD3.1, ML2.4, MW2.6*

ISC 16 21:09:28.5±1.2, 19°.28N±0°.09×73°.85W±0°.07, h10km, n7, σ2S10/11, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.96**	**338**	*e*P	**Pg**	**21 09 46.9**	**-0.1**
MASC				*e*S	**Sg**	**21 09 58.3**	**-1.1**
MASC				IAML		21 09 59.9	
	comp=N,53nm,0.1s						
MASC				IAML		21 09 60.0	
	comp=E,56nm,0.2s						
GTBY	**Guantanamo Bay**	**1.35**	**299**	*i* P	**Pn**	**21 09 54.1**	**+0.7**
GTBY				IAML		21 10 23.0	
	comp=Z,35nm,2.4s						
LGNH	**Logne**	**1.41**	**123**	*i* P	**Pb**	**21 09 57.5**	**+2.6**
GTMO	**Guantanamo**	**1.45**	**303**	*e*P	**Pn**	**21 09 53.6**	**-1.2**
GTMO				*e*S	**Sn**	**21 10 10.4**	**-3.5**
GTMO				IAML		21 10 15.8	
	comp=N,498nm,0.2s						
GTMO				IAML		21 10 16.5	
	comp=E,582nm,0.4s						
MOAC	**Moa**	**1.72**	**323**	*e*P	**Pn**	**21 10 00.2**	**+1.7**
MOAC				*e*S	**Sn**	**21 10 22.1**	**+1.5**
MOAC				IAML		21 10 23.9	
	comp=N,17nm,0.2s						
MOAC				IAML		21 10 24.9	
	comp=E,13nm,0.1s						
SDDR	**Presa de Saban**	**2.44**	**97**	*i* P	**Pn**	**21 10 06.0**	**-2.5**
LMGC	**Las Mercedes**	**3.07**	**285**	*e*P	**Pn**	**21 10 16.4**	**-0.7**
LMGC				*e*S	**Sn**	**21 10 52.9**	**-1.0**
LMGC				IAML		21 10 56.5	
	comp=E,5.4nm,0.0s						
LMGC				IAML		21 10 56.5	
	comp=N,8.1nm,0.1s						

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*KRNET **16** 21:09:29.8±0.1, 42°.83N×74°.27E, h25km, mb2.0*
*NNC **16** 21:09:29.1±0.5, 42°.81N×74°.30E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=4.9km s-min=2.4km az=178.0*
*SOME **16** 21:09:29.3, 42°.85N×74°.25E, h10km*

ISC 16 21:09:28.9±1.2, 42°.82N±0°.03×74°.27E±0°.02, h7km±10km, n37, σ0S49/70, 18C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.25**	**138**⇑	*i*P	**Pb**	**21 09 36.1**	**+0.2**
AAK				*i*S	**Sb**	**21 09 40.6**	**+0.1**
	baz=39						
FRU1	**Bishkek**	**0.27**	**93**⇑	*i*P	**Pb**	**21 09 36.1**	**0.0**
FRU1				*i*S	**Sb**	**21 09 40.6**	**-0.4**
	baz=89						
EKS2	**Erkin-Say**	**0.39**	**246**⇑	*i*P	**Pb**	**21 09 38.5**	**+0.2**
EKS2				*i*S	**Sb**	**21 09 44.7**	**+0.1**
	baz=46						
CHMS	**Chumysh**	**0.40**	**64**⇑	*i*P	**Pb**	**21 09 38.0**	**-0.3**
	baz=64						
CHMS				⇑*i*S	**Sb**	**21 09 43.7**	**-1.0**
	baz=64						
SGDS	**Sogindy**	**0.68**	**23**	P	**Pb**	**21 09 42.9**	**-0.3**
	4.7nm,0.1s						
SGDS				S	**Sb**	**21 09 52.1**	**-0.8**
	12nm,0.1s						
MRKS	**Merke**	**0.77**	**264**	*e*P	**Pb**	**21 09 44.6**	**-0.1**
MRKS				*e*S	**Sb**	**21 09 55.0**	**-0.3**
	baz=64						
MRKS	**Merke**	**0.77**	**264**	*e*P	**Pb**	**21 09 44.6**	**-0.1**
	3.3nm,0.2s						
MRKS				*e*S	**Sb**	**21 09 55.1**	**-0.3**
	10.0nm,0.1s						
MRKS	**Merke**	**0.77**	**264**	P	**Pb**	**21 09 44.6**	**-0.1**
	3.3nm,0.2s						
MRKS				S	**Sb**	**21 09 55.1**	**-0.3**
	10.0nm,0.1s						
AML	**Almayashu**	**0.81**	**212**⇑	*i*P	**Pb**	**21 09 45.5**	**-0.1**
	baz=12						
AML				⇑*i*S	**Sb**	**21 09 56.9**	**0.0**
	baz=12						
ARLS	**Aral**	**0.96**	**177**⇑	*i*P	**Pb**	**21 09 48.2**	**+0.2**
	baz=78						
ARLS				⇑*i*S	**Sb**	**21 10 01.0**	**0.0**
	baz=78						
TKM2	**Tokmak 2**	**0.98**	**84**⇓	*i*P	**Pg**	**21 09 47.8**	**0.0**
	baz=84						
TKM2				⇓*i*S	**Sg**	**21 10 01.2**	**+0.6**
	baz=84						
TKM2	**Tokmak 2**	**0.98**	**84**	⇑P	**Pg**	**21 09 47.2**	**-0.6**
	1.1nm,0.8s						
TKM2				⇑S	**Sg**	**21 10 00.9**	**+0.4**
	1.4nm,0.2s						
DGS	**Degeres**	**1.18**	**69**	*e*P	**Pn**	**21 09 51.9**	**-0.1**
	baz=69						
DGS				*e*S	**Sg**	**21 10 07.5**	**+0.7**
	baz=69						
DGS	**Degeres**	**1.18**	**69**	*e*P	**Pn**	**21 09 51.9**	**-0.1**
	1.1nm,0.2s						
DGS				*e*S	**Sg**	**21 10 07.6**	**+0.7**
	8.0nm,0.2s						
DGS	**Degeres**	**1.18**	**69**	P	**Pn**	**21 09 51.9**	**-0.1**
	1.1nm,0.2s						
DGS				S	**Sg**	**21 10 07.6**	**+0.7**
	8.0nm,0.2s						
KST	**Kastek**	**1.27**	**79**	*e*P	**Pb**	**21 09 53.3**	**+0.1**
	baz=80						
KST				*e*S	**Sn**	**21 10 10.1**	**-0.4**
	baz=80						
KST	**Kastek**	**1.27**	**79**	*e*P	**Pb**	**21 09 53.3**	**+0.1**
	1.2nm,0.1s						
KST				*e*S	**Sn**	**21 10 10.1**	**-0.4**
	7.3nm,0.3s						
KST	**Kastek**	**1.27**	**79**	P	**Pb**	**21 09 53.3**	**+0.1**
	1.2nm,0.1s						
KST				S	**Sn**	**21 10 10.1**	**-0.4**
	7.3nm,0.3s						
BOOM	**Boomskoye usch**	**1.28**	**105**⇑	*e*P	**Pn**	**21 09 53.0**	**-0.4**
	baz=5.0						
BOOM				⇑*i*S	**Sg**	**21 10 10.4**	**+0.4**
	baz=5.0						
MNAS	**Manas**	**1.34**	**256**⇑	*i*P	**Pn**	**21 09 54.2**	**0.0**
	baz=56						
MNAS				⇑*i*S	**Sb**	**21 10 12.2**	**+0.3**
	baz=56						
KRBS	**Karabastau**	**1.35**	**49**	*e*P	**Pb**	**21 09 54.7**	**+0.1**
	baz=49						
KRBS				*e*S	**Sn**	**21 10 12.3**	**-0.2**
	baz=49						
KRBS	**Karabastau**	**1.35**	**49**	*e*P	**Pb**	**21 09 54.7**	**+0.1**
	1.2nm,0.2s						
KRBS				*e*S	**Sn**	**21 10 12.3**	**-0.2**
	10nm,0.1s						
KRBS	**Karabastau**	**1.35**	**49**	P	**Pb**	**21 09 54.7**	**+0.1**
	1.2nm,0.2s						
KRBS				S	**Sn**	**21 10 12.3**	**-0.2**
	10nm,0.1s						
ULHL	**Ulahol**	**1.57**	**111**⇓	*i*P	**Pb**	**21 09 58.2**	**-0.2**
	baz=11						
ULHL				⇓*i*S	**Sb**	**21 10 18.7**	**+0.1**
	baz=11						
KUU	**Kurty**	**1.85**	**54**	*e*P	**Pb**	**21 10 02.9**	**-0.2**
	baz=54						
KUU				*e*S	**Sb**	**21 10 26.5**	**0.0**
	baz=54						
KUU	**Kurty**	**1.85**	**54**	*e*P	**Pb**	**21 10 02.9**	**-0.2**
	1.3nm,0.3s						
KUU				*e*S	**Sb**	**21 10 26.6**	**0.0**
	5.5nm,0.3s						
KUU	**Kurty**	**1.85**	**54**	P	**Pb**	**21 10 02.9**	**-0.2**
	1.3nm,0.3s						
KUU				S	**Sb**	**21 10 26.6**	**0.0**
	5.5nm,0.3s						
KTBS	**Karatobe**	**1.98**	**62**	*e*P	**Pb**	**21 10 05.4**	**+0.2**
	0.6nm,0.2s						
KTBS				*e*S	**Sb**	**21 10 30.8**	**+0.7**
	9.4nm,0.7s						
KTBS	**Karatobe**	**1.98**	**62**	P	**Pb**	**21 10 05.4**	**+0.2**
	0.6nm,0.2s						
KTBS				S	**Sb**	**21 10 30.8**	**+0.7**
	9.4nm,0.7s						
TNSS	**Tian-Shan**	**1.98**	**83**	Pg	**Pg**	**21 10 06.5**	**-0.3**
	1.3nm,0.5s						
TNSS				Lg	Lg	21 10 32.6	
	4.4nm,0.2s						
MDOK	**Medeo**	**2.07**	**80**	*e*P	**Pb**	**21 10 07.3**	**+0.4**
	1.0nm,0.1s						
MDOK				*e*S	**Sg**	**21 10 34.3**	**-1.0**
	2.3nm,0.5s						
MDOK	**Medeo**	**2.07**	**80**	Pg	**Pb**	**21 10 07.3**	**+0.4**
	1.0nm,0.1s						
MDOK				Lg	Lg	21 10 34.3	
	2.3nm,0.5s						
BTLS	**Baital**	**2.22**	**356**	*e*P	**Pb**	**21 10 10.1**	**+0.7**
	0.5nm,0.1s						
BTLS				*e*S	**Sb**	**21 10 38.6**	**+1.5**
	2.5nm,0.4s						
BTLS	**Baital**	**2.22**	**356**	Pg	**Pb**	**21 10 09.8**	**+0.4**
	0.5nm,0.1s						
BTLS				Lg	Lg	21 10 38.3	
	2.5nm,0.4s						
CHKK	**Chushkaly**	**2.24**	**62**	*e*P	**Pb**	**21 10 10.5**	**+0.9**
	0.6nm,0.1s						
CHKK				*e*S	**Sg**	**21 10 39.4**	**-1.3**
	5.5nm,0.2s						
CHKK	**Chushkaly**	**2.24**	**62**	Pg	**Pb**	**21 10 10.5**	**+0.9**
	0.6nm,0.1s						
CHKK				Lg	Lg	21 10 39.4	
	5.5nm,0.2s						
KDJ	**Kajisay**	**2.27**	**107**⇓	*i*P	**Pn**	**21 10 08.0**	**+1.1**
	baz=7.0						
KDJ				⇓*i*S	**Sn**	**21 10 35.6**	**+0.4**
	baz=7.0						

WEL 16 21:09:53.1, 38°S±17°×17°7E±2°0, h92km±27km, M2.8/31, mB5.3/1, ML2.8/9, MLv2.8/31, Mw(mB)4.7/1, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.35**	**123**	P	Pn	21 10 06.3	-0.6
RUGZ	**Raukumara Rang**	**0.45**	**152**	P	Pn	21 10 07.8	0.0
PKGZ	**Pakihiroa**	**0.62**	**122**	P	Pn	21 10 08.6	-0.5
MXZ	**Matakaoa Point**	**0.71**	**90**	P	Pn	21 10 06.9	-2.9
URZ	**Urewera**	**0.73**	**199**	P	Pn	21 10 11.4	+1.4
TWGZ	**Tauwhareparae**	**0.76**	**144**	P	Pn	21 10 11.4	+1.0
MWZ	**Matawai**	**0.77**	**173**	P	Pn	21 10 11.7	+1.1
WMGZ	**Waiomatatini S**	**0.83**	**108**	P	Pn	21 10 09.0	-2.1
PUZ	**Puketiti**	**0.84**	**127**	P	Pn	21 10 05.9	-5.3
RAGZ	**Rawiri**	**0.93**	**180**	P	Pn	21 10 14.0	+1.8
TKGZ	**Te Karaka**	**0.94**	**159**	P	Pn	21 10 13.0	+0.8
MUGZ	**Murupara**	**1.04**	**209**	P	Pn	21 10 14.6	+1.2
RTZ	**Ruatahuna**	**1.10**	**198**	P	Pn	21 10 14.7	+0.5
CNGZ	**Carnagh Statio**	**1.11**	**146**	P	Pn	21 10 14.7	+0.6
RIGZ	**Rimuhau**	**1.17**	**167**	P	Pn	21 10 15.6	+0.7
SNGZ	**Shannon Statio**	**1.21**	**183**	P	Pn	21 10 16.5	+1.0
MTHZ	**Maungataniwha**	**1.36**	**199**	P	Pn	21 10 18.9	+1.7
PRGZ	**Paritu Road**	**1.40**	**165**	P	Pn	21 10 18.7	+0.9
MHGZ	**Mahia Peninsul**	**1.63**	**166**	P	Pn	21 10 21.1	+0.5
BKZ	**Black Stump Fm**	**1.75**	**204**	P	Pn	21 10 23.1	+0.9
TMVZ	**Te Maari**	**2.05**	**220**	P	Pn	21 10 25.9	-0.2
ETVZ	**East Tongariro**	**2.06**	**220**	P	Pn	21 10 26.1	-0.1
SNVZ	**South Ngauruho**	**2.13**	**220**	P	Pn	21 10 27.0	-0.3

TWVZ	Taurewa	2.16	225	P	Pn	21 10 27.3	-0.2
TUVZ	Tukino	2.19	219	P	Pn	21 10 27.9	0.0
BHHZ	Black Hill Sta	2.19	208	P	Pn	21 10 27.6	-0.3
KRHZ	Kereru	2.23	201	P	Pn	21 10 28.0	-0.4
HIZ	Hauiti	2.23	244	P	Pn	21 10 27.5	-0.8
FWVZ	Far West T-bar	2.23	220	P	Pn	21 10 28.0	-0.6
MOVZ	Moawhango	2.25	215	P	Pn	21 10 27.5	-1.3
WNVZ	Wahianoa	2.26	218	P	Pn	21 10 29.1	+0.1
KAHZ	Kahuranaki	2.26	191	P	Pn	21 10 28.6	-0.3
BFZ	Birch Farm	3.24	196	P	Pn	21 10 39.2	-2.7
OGWZ	Otaki Gorge	3.68	208	P	Pn	21 10 44.2	-3.6
KIW	Kapiti Island	3.82	210	P	Pn	21 10 45.8	-3.9
MTW	Mount Morrison	3.88	202	P	Pn	21 10 46.4	-4.0
PLWZ	Palliser	4.33	202	P	Pn	21 10 51.7	-4.9
TUWZ	Tuamarina	4.70	214	P	Pn	21 10 56.5	-5.1
THZ	Tophouse	5.45	218	P	Pn	21 11 06.7	-5.1
KHZ	Kahutara	5.68	210	P	Pn	21 11 10.1	-4.8
OKCZ	Okains Bay	6.98	207	P	Pn	21 11 31.4	-1.2

*NEIC **16** 21:33:49.9±1.5, 9°.07N±0°.09×126°.81E±0°.07, h80km±7km, mb4.5/24, Error ellipse: s-maj=15.4km s-min=7.4km az=214.0*
*IDC **16** 21:33:51.1±2.0, 9°.04N×126°.70E, h92km±18km, mb3.9/18, mb1 3.9/20, mb1mx3.8/47, mbtmp4.2/20, MS3.3/4, Ms1 3.3/4, ms1mx3.1/26, Error ellipse: s-maj=22.2km s-min=11.6km az=75.0*
ISC 16 21:33:49.0±1.3, 9°.09N±0°.06×126°.84E±0°.09, h75km±13km, n72, σ1.940/75, mb4.4/34, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	2.13	236	eP	Pn	21 34 21.4	-1.3
BUKP				eS	Sn	21 34 52.6	+4.3
MSLP	Maasin	2.21	298	eP	Pn	21 34 21.1	-2.6
MSLP				eS	Sn	21 34 52.8	+2.6
CGP	Cagayan de Oro	2.22	254	iP	Pn	21 34 21.0	-2.7
CGP				eS	Sn	21 34 50.0	-0.3
DAV	Davao City (W)	2.37	212	P	Pn	21 34 26.5	+0.8
	78nm,0.3s,baz=40,slow=6.6,SNR=6.0						
DAV				S	Sn	21 34 55.0	+1.1
	90nm,0.3s,baz=249,slow=22,SNR=6.0						
DAV				LR	LR	21 35 28.3	
	comp=Z,84nm,19.8s,baz=64,slow=43						
DAV	Davao City (W)	2.37	212		Pn	21 34 26.2	+0.4
KCP	Kidapawan	2.70	220	eP	Pn	21 34 28.5	-1.8
KCP				iS	Sn	21 35 02.8	+0.8
LLP	Lapu-Lapu	3.09	293	eP	Pn	21 34 33.1	-2.4
LLP				iS	Sn	21 35 15.4	+4.0
DCPH	Dipolog City	3.49	262	eP	Pn	21 34 39.9	-1.0
SNPH	Sibulan	3.57	274	iP	Pn	21 34 40.5	-1.7
SNPH				iS	Sn	21 35 24.4	+1.2
RCP	Roxas	4.72	302	eP	Pn	21 34 55.7	-2.1
TNTI	Ternate	8.28	176	Pn	Pn	21 35 46.5	0.0
SIJI	Sorong	10.83	156	P	Pn	21 36 21.5	+0.2
	2.8nm,0.3s,baz=310,slow=14,SNR=6.3						
LUWI	Luwuk	10.85	202	Pn	Pn	21 36 22.6	+1.0
FAKI	Fak Fak	13.09	155	Pn	Pn	21 36 51.6	-0.5
KSRS	Korea Array	28.25	2	P	P	21 39 36.0	+1.0
	2.8nm,0.8s,baz=178,slow=10,SNR=7.2						
KSRS				LR	LR	21 52 02.9	
	comp=Z,104nm,19.5s,baz=165,slow=39						
CMAR	Chiang Mai Arr	28.61	292	P	P	21 39 38.2	-0.4
	1.1nm,0.8s,baz=99,slow=6.9,SNR=6.8						
MJAR	Matsushiro Arr	29.21	19	LR	LR	21 52 22.9	
	comp=Z,87nm,18.1s,baz=220,slow=38						
WRA	Warramunga Arr	29.78	166	P	P	21 39 48.1	-0.8
	1.4nm,0.5s,baz=349,slow=9.2,SNR=18						
WRA				PcP	PcP	21 42 52.3	+1.3
	0.7nm,0.7s,baz=337,slow=2.6,SNR=2.6						
WRA	Warramunga Arr	29.78	166	P	P	21 39 47.7	-1.1
WB2	Warramunga Arr	29.78	166	P	P	21 39 47.7	-1.2
WB2				IAmb	IAmb	21 40 06.9	
	comp=Z,17nm,1.5s						
WR0	Warramunga Arr	29.85	165	P	P	21 39 48.8	-0.7
AS31	Alice Springs	33.28	168	P	P	21 40 19.4	-0.1
ASAR	Alice Springs	33.28	168	P	P	21 40 19.4	-0.1
	comp=Z,1.6nm,0.4s,baz=355,slow=7.0,SNR=51						
ASAR				PcP	PcP	21 43 00.9	+0.5
	comp=Z,0.5nm,0.6s,baz=355,slow=2.3,SNR=4.1						
USA0B	Ussuriysk Arra	35.26	6	P	P	21 40 36.3	-0.1
USA0B				IAmb	IAmb	21 40 41.6	
	comp=Z,8.6nm,0.9s						
USRK	Ussuriysk Ar.	35.26	6	P	P	21 40 38.2	+1.8
	comp=Z,5.2nm,0.8s,baz=182,slow=6.7,SNR=7.9						
USRK				LR	LR	21 54 21.9	
	comp=Z,111nm,19.5s,baz=183,slow=35						
USRK	Ussuriysk Ar.	35.26	6	P	P	21 40 37.8	+1.4
MDJ	Mudanjiang	35.47	3	P	P	21 40 38.8	+0.5
SHL	Shillong	37.02	301	P	P	21 40 49.7	-2.3
SHL				IAmb	IAmb	21 40 52.1	
	comp=Z,8.0nm,1.1s						
H11S3	WAKE ISLAND Hy	39.73	72	T	T	22 24 21.0	
	baz=262,slow=73,SNR=17						
H11S1	WAKE ISLAND Hy	39.74	72	T	T	22 24 20.6	
	baz=262,slow=73,SNR=12						
H11S2	WAKE ISLAND Hy	39.74	72	T	T	22 24 21.5	
	baz=262,slow=73,SNR=8.6						
TAPN	Taplejung	41.14	301	eP	P	21 41 25.8	-0.7
	comp=Z,6.0nm,0.3s						
ODAN	Odare	41.26	301	eP	P	21 41 26.6	-0.8
ULN	Ulaanbaatar	42.12	340	P	P	21 41 35.1	+1.1
SONM	Songino Array	42.31	340	P	P	21 41 35.5	-0.1
	comp=Z,1.0nm,0.5s,baz=160,slow=9.8,SNR=8.3						
SONM	Songino Array	42.31	340	IAmb	IAmb	21 41 44.6	
	comp=Z,3.7nm,1.3s						
JIRN	Jiri	42.52	301	eP	P	21 41 37.0	-0.8
	comp=Z,8.6nm,0.4s						
NWAO	Narrogin (SRO)	42.77	192	P	P	21 41 39.9	+0.6
STKA	Stephens Creek	43.11	162	P	P	21 41 42.5	+0.5
	comp=Z,1.8nm,0.4s,baz=346,slow=8.1,SNR=4.2						
STKA	Stephens Creek	43.11	162	IAmb	IAmb	21 41 46.3	
	comp=Z,1.9nm,1.1s						
PKI	Pulchoki	43.15	301	eP	P	21 41 41.9	-1.0
	comp=Z,3.9nm,0.4s						
PKIN	Phulchoki	43.16	301	eP	P	21 41 41.7	-1.2
	comp=Z,3.7nm,0.3s						
KOLN	Koldanda	44.75	300	eP	P	21 41 53.9	-1.6
PYUN	Piuthan	45.36	301	eP	P	21 41 59.3	-1.1
TARA	Tarawa	46.48	97	P	P	21 42 08.2	-1.0
TLY	Talaya	46.53	340	P	P	21 42 08.6	-0.4
TLY				IAmb	IAmb	21 42 28.1	
	comp=Z,8.1nm,1.5s						
PETK	Petropavlovsk-	50.48	24	P	P	21 42 40.6	+1.3
	comp=Z,1.9nm,0.8s,baz=202,slow=5.4,SNR=6.0						
MK31	Makanchi Array	53.30	323	P	P	21 43 00.4	-0.1
MK31				IAmb	IAmb	21 43 01.2	
	comp=Z,4.5nm,1.0s						
MKAR	Makanchi Array	53.30	323	P	P	21 43 00.3	-0.1
	comp=Z,4.6nm,0.9s,baz=122,slow=8.0,SNR=32						
MKAR				PcP	PcP	21 44 08.5	+1.3
	comp=Z,0.8nm,0.6s,baz=191,slow=4.9,SNR=5.8						
MAKZ	Makanchi	53.50	323	P	P	21 43 01.5	-0.3
MAKZ				IAmb	IAmb	21 43 03.1	
	comp=Z,6.4nm,1.1s						
KDJ	Kajisay	54.52	316	P	P	21 43 09.8	+0.3
KDJ				IAmb	IAmb	21 43 13.0	
	comp=Z,3.6nm,0.8s						
NIL	Nilore	54.86	305	P	P	21 43 10.9	-1.2
ZALV	Zalesovo Beam	55.93	331	P	P	21 43 18.6	-0.6
	comp=Z,0.7nm,0.4s,baz=125,slow=5.5,SNR=4.7						
BTK	Batken	58.38	312	IAmb	IAmb	21 43 38.9	
	comp=Z,6.1nm,1.2s						
KKAR	Karatay Array	59.48	315	P	P	21 43 44.0	-0.4
BRVK	Borovoye	63.02	326	P	P	21 44 08.2	+0.1
BRVK				IAmb	IAmb	21 44 20.1	
	comp=Z,4.7nm,0.8s						
AKTO	Aktyubinsk	69.59	320	P	P	21 44 49.4	-0.7
	comp=Z,1.2nm,0.6s,baz=85,slow=11,SNR=4.4						
ARU	Arti	70.52	327	P	P	21 44 54.4	-1.3
	comp=Z,1.0nm,0.3s,baz=120,slow=7.4,SNR=8.0						
ARU	Arti	70.52	327	P	P	21 44 54.7	-1.0
ARU				IAmb	IAmb	21 44 59.8	
	comp=Z,5.0nm,0.7s						
POHA	Pohakuloa	75.40	72	P	P	21 45 23.4	-2.2
KIRV	Kirov	75.74	328	P	P	21 45 26.2	-0.2
	comp=Z,8.1nm,0.7s,baz=127,slow=4.6,SNR=6.1						
ILAR	Eielson Array	80.25	26	P	P	21 45 52.8	+1.5
	comp=Z,0.5nm,0.8s,baz=258,slow=4.8,SNR=2.1						
RIDG	Independent Ri	81.17	27	P	P	21 45 57.0	+0.6
SCRK	Sand Creek	81.54	26	P	P	21 45 58.9	+0.5
SCRK				IAmb	IAmb	21 46 02.2	
	comp=Z,13nm,1.5s						
K27K	Chicken	82.37	26	P	P	21 46 04.9	+2.3
K27K				IAmb	IAmb	21 46 07.6	
	comp=Z,9.9nm,1.2s						
SPITS	Spitsbergen Ar	85.28	349	P	P	21 46 18.9	+1.7
	comp=Z,8.3nm,0.8s,baz=93,slow=11,SNR=4.2						
ARCES	ARCESS Array B	85.49	340	P	P	21 46 18.6	+0.3
	comp=Z,0.9nm,0.4s,baz=83,slow=7.0,SNR=17						
FINES	FINESS Array B	87.19	332	P	P	21 46 26.3	-0.5
	comp=Z,0.5nm,0.4s,baz=79,slow=3.0,SNR=8.4						
VNDA	Vanda	88.70	173	P	P	21 46 32.8	-0.8
	comp=Z,0.4nm,0.7s,baz=359,slow=3.0,SNR=1.3						
DAG	Danmarks Havn	91.99	352	iP	P	21 46 50.3	+1.3
DAG				IAmb	IAmb	21 46 51.2	
	comp=Z,13nm,1.2s						
SCHQ	Schefferville	115.29	9	PKP	PKPdf	21 52 23.7	+1.8
	comp=Z,3.4nm,1.1s,baz=173,slow=19,SNR=1.3						
TORD	Torodi Ar. Bea	121.22	291	PKP	PKPdf	21 52 33.6	-0.8
	comp=Z,0.6nm,0.9s,baz=50,slow=1.9,SNR=6.3						

*IPEC **16** 21:40:59.0±0.3, 51°.52N×16°.06E, h0km, ML2.0/4, Error ellipse: s-maj=3.8km s-min=1.7km az=74.0*
*PRU **16** 21:41:00.8±0.0, 51°.46N×16°.13E, h0km*
*IDC **16** 21:41:01.6±1.0, 51°.42N×15°.98E, h0km, mb1 3.3/5, mb1mx3.1/42, mbtmp3.1/5, ML2.6/5, Error ellipse: s-maj=16.8km s-min=8.8km az=120.0*
*VIE **16** 21:41:03.2, 51°.29N×16°.11E, h0km, ML2.2/1 66 km WNW of Wroclaw Suspected Mining induced.*
ISC 16 21:40:58.8±0.9, 51°.54N±0°.04×16°.15E±0°.03, h0km, n36, σ0.996/72, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	172	ePg	Pg	21 41 12.7	+0.5
KSP				eSg	Sg	21 41 21.1	-0.2
CHVC	Chvalec	0.96	184	ePG	Pg	21 41 17.5	+0.5
CHVC				eSG	Sg	21 41 29.6	+0.2
	comp=Z,26nm,0.4s						
OSTC	Ostas	0.99	177	ePG	Pg	21 41 18.1	+0.5
OSTC				eSG	Sg	21 41 30.1	-0.3
UPC	Upice	1.04	185	ePG	Pg	21 41 18.8	+0.2
UPC				eSG	Sg	21 41 31.5	-0.6
	comp=Z,68nm,0.4s						
DPC	Dobruska-Polom	1.20	175	ePG	Pg	21 41 21.5	-0.2
DPC				eSG	Sg	21 41 36.0	-1.2
PVCC	Panska Ves	1.42	225	ePG	Pn	21 41 26.0	+0.2
PVCC				eSG	Sg	21 41 44.6	+0.2
	comp=Z,86nm,0.7s						
KRLC	Kraliky	1.52	164	ePG	Pn	21 41 27.2	-0.1
KRLC				eSG	Sg	21 41 47.1	-0.5
	comp=Z,30nm,0.5s						
BRG	Berggiesshubel	1.54	245	Pg	Pb	21 41 28.5	+0.3
BRG				Sg	Sn	21 41 48.5	+0.4
BRG				Amp		21 41 49.7	
	comp=Z,22nm,0.5s						
PRU	Pruhonice	1.86	214	ePG	Pn	21 41 32.9	+1.1
PRU				eSG	Sg	21 41 58.8	+0.4
	comp=Z,18nm,0.5s						
MORC	Moravsky Berou	1.98	153	ePn	Pn	21 41 33.7	+0.2
	baz=332						
MORC				eSg	Sb	21 42 01.0	+0.2
	comp=Z,5.7nm,0.2s,baz=332						
MORC	Moravsky Berou	1.98	153	ePN	Pn	21 41 33.7	+0.2
MORC				eSG	Sb	21 42 01.0	+0.2
CLL	Collm	1.98	264	ePn	Pn	21 41 33.0	-0.5
CLL				ePg	Pb	21 41 36.0	+0.3
CLL				e		21 41 39.0	
CLL				e		21 41 51.0	
CLL				e		21 41 59.0	
CLL				eSg	Sg	21 42 03.0	+0.6
	comp=Z,15nm,0.8s						
OKC	Ostrava-Krasne	2.13	143	ePG	Pb	21 41 39.1	+0.9
OKC				eSG	Sb	21 42 04.8	-0.3
	comp=Z,31nm,0.7s						
VRAC	Vranov	2.25	173	Pn	Pn	21 41 37.7	+0.4
	comp=Z,0.8nm,0.3s,baz=346,slow=14,SNR=7.5						
VRAC				Lg	Lg	21 42 10.7	
	comp=Z,1.7nm,0.3s,baz=61,slow=15,SNR=7.3						
VRAC	Vranov	2.25	173	ePn	Pn	21 41 37.7	+0.4
	baz=352						
VRAC				eSg	Sb	21 42 09.2	+0.5
	comp=Z,2.3nm,0.1s,baz=352						
VRAC	Vranov	2.25	173	ePN	Pn	21 41 37.8	+0.5
VRAC				eSG	Sb	21 42 09.3	+0.5
TREC	Trest	2.29	191	eSG	Sb	21 42 10.6	+0.9
KRUC	Moravsky	2.49	176	ePn	Pn	21 41 40.6	+0.1
	baz=355						
KRUC				eSg	Sb	21 42 16.4	+1.0
	comp=Z,7.8nm,0.4s,baz=355						
KRUC	Moravsky	2.49	176	ePN	Pn	21 41 40.6	+0.1
KRUC				eSG	Sb	21 42 16.5	+1.0
NKC	Novy Kostel	2.68	242	ePN	Pn	21 41 43.7	+0.5
NKC				ePG	Pg	21 41 49.9	-0.3
NKC				eSG	Sg	21 42 25.0	+0.1
	comp=Z,12nm,0.3s						
JAVC	Velka Javorina	2.86	159	ePn	Pn	21 41 45.8	+0.2
	baz=339						
JAVC				eSg	Sg	21 42 28.7	-1.8
	comp=Z,18nm,0.9s,baz=339						
JAVC	Velka Javorina	2.86	159	ePN	Pn	21 41 45.9	+0.3
JAVC				eSG	Sg	21 42 28.7	-1.8
KHC	Kasperske Hory	2.92	215	ePN	Pn	21 41 47.0	+0.5
KHC				ePG	Pb	21 41 52.7	+1.0
KHC				eSN	Sn	21 42 21.1	-1.2
KHC				eSG	Sg	21 42 31.6	-0.9
	comp=Z,8.1nm,0.6s						
CKRC	Cesky Krumlov	2.97	204	ePN	Pn	21 41 47.8	+0.7
CKRC				ePG	Pb	21 41 53.0	+0.5
CKRC				eSG	Sg	21 42 31.7	-2.4
	comp=Z,4.9nm,0.1s						
GERES	GERESS Array B	3.12	211	Pn	Pn	21 41 50.5	+1.1
	comp=Z,0.5nm,0.3s,baz=33,slow=12,SNR=14						
GERES				Pg	Pb	21 41 56.1	+0.9
	comp=Z,1.5nm,0.3s,baz=31,slow=17,SNR=31						
GERES				Sn	Sn	21 42 24.2	-3.1
	comp=Z,0.7nm,0.3s,baz=27,slow=27,SNR=4.9						
GERES				Lg	Lg	21 42 35.0	
	comp=Z,1.6nm,0.3s,baz=32,slow=26,SNR=8.2						
SMOL	Smolenice	3.14	164	ePG	Pg	21 41 58.7	-0.2
SMOL				eSG	Sg	21 42 38.0	-1.6
LANS	Liptovska Anna	3.20	137	ePG	Pg	21 42 01.0	+0.9
LANS				eSG	Sg	21 42 41.4	-0.1
MODS	Modra-Piesok	3.25	167	ePG	Pg	21 42 01.8	+0.7
MODS				eSG	Sg	21 42 40.9	-2.3
CONA	Conrad Observa	3.62	183	iPn	Pn	21 41 57.0	+0.9
	comp=Z,1.2nm,0.4s						
CONA				eSg	Sg	21 42 54.1	-0.9
	comp=Z,5.6nm,0.5s						
MOA	Molln	3.89	199	ePn	Pn	21 42 00.8	+1.0
	comp=Z,0.2nm,0.1s						
MOA				ePg	Pb	21 42 08.9	+0.7
	comp=Z,11nm,0.7s						
MOA				eSg	Sg	21 43 03.1	-0.6
	comp=Z,8.9nm,0.5s						
ARSA	Arzberg	4.31	186	Sg	Sg	21 43 16.5	-0.7
	comp=Z,5.5nm,0.6s						
KBA	Koelnbreinsper	4.83	203	Sg	Sg	21 43 31.6	-2.2
	comp=Z,3.5nm,0.6s						
OBKA	Obir	5.14	192	ePn	Pg	21 42 37.8	+0.5
	comp=Z,2.0nm,0.7s						
OBKA				Sg	Sg	21 43 45.2	+1.3
	comp=Z,3.3nm,0.6s						
AKASG	Malin Array Be	8.27	91	Pn	Pn	21 43 01.5	+1.6
	comp=Z,0.4nm,0.3s,baz=277,slow=13,SNR=1.7						
FINES	FINESS Array B	11.32	25	Pn	Pn	21 43 40.4	-1.3
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=4.7						
ARCES	ARCESS Array B	18.59	10	Pn	P	21 45 18.0	+0.9
	baz=195,slow=8.8,SNR=4.7						

*TUL **16** 22:13:41±1.0, 36°.29N±0°.01×97°.07W±0°.02, h5km±7km, ML2.8, mb_Lg2.8/54(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=67.0*
NEIC 16 22:13:40.9±1.1, 36°.29N±0°.01×97°.09W±0°.02, h1km±7km, Error ellipse: s-maj=2.3km s-min=1.7km az=86.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.33	111		Pg	22 13 47.2	+0.1
QUOK				Sg	Sg	22 13 51.5	+0.1
OK031	S. Brethren Rd	0.39	149		Pg	22 13 48.4	0.0
OK031				Sg	Sg	22 13 53.9	+0.4
BLOK	Blackwell	0.48	348		Pg	22 13 50.1	0.0
BLOK				Sg	Sg	22 13 56.9	+0.6
OK029	Liberty Lake	0.58	211		Pg	22 13 51.9	0.0
OK029				Sg	Sg	22 13 59.8	+0.3
OK005	Luther M Schoo	0.64	188	Pg	Pg	22 13 53.2	0.0
OK025	Westminster Rd	0.74	196		Pg	22 13 54.9	-0.1
OK025				Sg	Sg	22 14 05.0	+0.5
CROK	Carrier	0.75	287		Pg	22 13 55.2	-0.2
CROK				Sg	Sg	22 14 05.4	+0.3
BCOK	Bluff Creek, N	0.76	214	Pg	Pg	22 13 55.4	-0.1
BCOK				Sg	Sg	22 14 05.7	+0.3
T35A	Sooner Cattle	0.78	36	Pg	Pg	22 13 55.4	-0.4
T35A				Sg	Sg	22 14 05.3	-0.6
T35B	Sooner Cattle	0.78	36	P		22 13 55.4	
	baz=216						
T35B				S		22 14 05.5	
	baz=216						
KAN13	South Haven SW	0.79	336		Pg	22 13 55.7	-0.3
KAN13				Sg	Sg	22 14 06.4	+0.3
GC02	Grant County #	0.84	312		Pg	22 13 56.6	-0.3
GC02				Sg	Sg	22 14 07.8	+0.1
OKCFA	Oklahoma City	0.92	199		Pg	22 13 58.1	-0.5
OKCFA				Sg	Sg	22 14 10.9	+0.3
OKCFA	Oklahoma City	0.92	199	P		22 13 58.3	
	baz=19						
OKCFA				S		22 14 11.0	
	baz=19						
OKCSW	OKLAHOMA CITY	0.93	198		Pg	22 13 58.1	-0.5
OKCSW				Sg	Sg	22 14 11.1	+0.3
KAN09	Caldwell North	0.94	333	Pg	Pg	22 13 58.5	-0.5
KAN09				Sg	Sg	22 14 11.1	-0.2
KS20	Mayfield South	1.01	338	Pg	Pg	22 13 59.6	-0.7
KS20				Sg	Sg	22 14 13.9	+0.6
KAN05	Bluff City Nor	1.03	322	Pg	Pg	22 14 00.1	-0.6
KAN05				Sg	Sg	22 14 13.9	-0.2
OK032	Salt Plains WL	1.04	300	Pg	Pg	22 14 00.3	-0.6
FNO	Franklin	1.06	194	Pg	Pg	22 14 00.3	-0.9
FNO				Sg	Sg	22 14 15.2	+0.1
TUL1	Leonard	1.11	110	P		22 14 01.2	
	baz=291						
TUL1				S		22 14 16.0	
	baz=291						
KAN10	Anthony SW Sta	1.16	316		Pg	22 14 02.5	-0.6
KAN08	Anthony NE Sta	1.17	323		Pg	22 14 02.7	-0.7
KAN12	Harper NE Stat	1.24	324	Pg	Pg	22 14 04.0	-0.7
U32A	Winter Ranch,	1.55	274		Pn	22 14 09.2	-0.5
U32A	Winter Ranch,	1.55	274	P		22 14 09.3	
	baz=93						
U32A				S		22 14 30.3	
	baz=93						
X34A	Smith Ranch, M	1.79	200	Pn	Pn	22 14 12.7	-0.3
X34A				IAmb_Lg		22 14 39.7	
	comp=Z,58nm,0.8s						
WMOK	Wichita Mounta	2.08	222	Pn	Pn	22 14 16.7	-0.2
WMOK				IAmb_Lg		22 14 45.6	
	comp=Z,25nm,0.8s						
WMOK	Wichita Mounta	2.08	222	P		22 14 16.9	
	baz=41						
WMOK				S		22 14 44.5	
	baz=41						
U38A	Gravette	2.19	85		Pn	22 14 18.8	+0.5
U38A	Gravette	2.19	85	P		22 14 19.0	
	baz=267						
X37A	Clayton	2.20	140		Pn	22 14 18.8	+0.3
X37A				IAmb_Lg		22 14 56.3	
	comp=Z,34nm,0.9s						
X37A	Clayton	2.20	140	P		22 14 18.5	
	baz=321						
LOOK	Love County	2.29	182	Pn	Pn	22 14 19.6	-0.3
R32A	Long Quarter,	2.49	329	Pn	Pn	22 14 22.4	-0.2
R32A	Long Quarter,	2.49	329	S		22 14 53.7	
	baz=148						
HHAR	Hobbs	2.54	89	Pn	Pn	22 14 24.4	+1.2
KSU1	Kansas State U	2.83	8	Pn	Pn	22 14 26.6	-0.7
KSU1				IAmb_Lg		22 15 10.3	
	comp=Z,21nm,0.8s						
W39A	Magazine	2.90	111	IAmb_Lg		22 15 17.4	
	comp=Z,37nm,0.8s						
Z35A	Perchaven, San	2.96	183	Pn	Pn	22 14 28.9	-0.1
MIAR	Mount Ida	3.35	120	Pn	Pn	22 14 34.3	-0.1
U40A	Yellville	3.42	88	Pn	Pn	22 14 35.7	+0.4
U40A				IAmb_Lg		22 15 33.1	
	comp=Z,24nm,0.9s						
Z38A	Mt. Pleasant	3.48	150	IAmb_Lg		22 15 36.4	
	comp=Z,29nm,0.8s						
MGMO	Mountain Grove	3.96	76	Pn	Pn	22 14 42.9	+0.1
AMTX	Amarillo	4.00	251	Pn	Pn	22 14 44.2	+0.8
AMTX				IAmb_Lg		22 15 53.8	
	comp=Z,16nm,0.7s						
WHAR	Wooly Hollow	4.03	103	IAmb_Lg		22 15 50.3	
	comp=Z,39nm,1.0s						
WLAR	White Oak Lake	4.17	127	IAmb_Lg		22 16 02.1	
	comp=Z,17nm,0.7s						
R40A	Maddies Statio	4.33	61	Pn	Pn	22 14 47.7	-0.1
R40A				IAmb_Lg		22 15 58.8	
	comp=Z,21nm,0.7s						
P38A	Dawn	4.35	39	IAmb_Lg		22 16 03.7	
	comp=Z,25nm,0.9s						
237A	Washetta, Mont	4.41	166	Pn	Pn	22 14 48.4	-0.5
LCAR	Lake Charles	4.80	91	IAmb_Lg		22 16 11.3	
	comp=Z,14nm,1.0s						
T42A	Van Buren	4.88	80	IAmb_Lg		22 16 20.2	
	comp=Z,12nm,0.8s						
CCM	Cathedral Cave	4.99	68	IAmb_Lg		22 16 25.7	
	comp=Z,13nm,0.7s						
P40A	Paris	5.13	49	Pn	Pn	22 14 58.8	0.0
P40A				IAmb_Lg		22 16 28.6	
	comp=Z,24nm,0.9s						
KSCO	Kaye Shedlock'	5.17	303	IAmb_Lg		22 16 39.0	
	comp=Z,13nm,0.8s						
BGNE	Belgrade

RUGZ	Raukumara Rang	1.26 259	P	Pg	22 14 20.4 +0.8
RUGZ			S	Sn	22 14 35.5 +0.5
TKGZ	Te Karaka	1.30 237	P	Pg	22 14 21.1 +0.7
TKGZ			S	Sg	22 14 38.6 +1.2
MWZ	Matawai	1.48 246	P	Pg	22 14 24.1 +0.3
MWZ			S	Sb	22 14 40.6 -0.4
RIGZ	Rimuhau	1.51 230	P	Pg	22 14 25.9 +1.4
RIGZ			S	Sg	22 14 44.5 +0.3
PRGZ	Paritu Road	1.59 222	P	Pg	22 14 27.4 +1.4
RAGZ	Rawiri	1.63 242	P	Pg	22 14 26.8 +0.2
MHGZ	Mahia Peninsul	1.76 216	P	Pg	22 14 30.1 +1.0
URZ	Urewera	1.76 252	Pn	Pg	22 14 28.0 -1.1
	54nm,0.3s,baz=353,slow=0.3,SNR=335				
URZ			Sn	Sb	22 14 48.1 -1.0
	78nm,0.3s,baz=79,slow=11,SNR=8.7				
URZ			LR	LR	22 14 56.2
	comp=Z,97nm,20.2s,baz=354,slow=34				
URZ	Urewera	1.76 252	P	Pg	22 14 28.1 -1.1
URZ			Sn	Sb	22 14 47.7 -1.4
URZ	Urewera	1.76 252	P	Pg	22 14 28.1 -1.1
URZ			S	Sb	22 14 48.9 -0.2
KNZ	Kokohu	1.78 223	P	Pg	22 14 29.1 -0.3
WHRZ	Whale Island	1.80 266	P	Pb	22 14 28.2 +0.3
SNGZ	Shannon Statio	1.82 235	P	Pg	22 14 29.5 -0.8
RTZ	Ruatahuna	1.99 243	P	Pb	22 14 31.7 +0.6
EDRZ	Edgecumbe	2.01 259	P	Pb	22 14 31.5 -0.1
RAHZ	Arahi	2.06 235	P	Pb	22 14 33.1 +0.7
WHHZ	Waihua	2.07 229	P	Pg	22 14 33.5 -1.5
MUGZ	Mutupara	2.08 249	P	Pb	22 14 32.5 -0.2
OPRZ	Ohinepanea	2.13 266	P	Pb	22 14 31.7 -1.8
MTHZ	Maungataniwha	2.19 239	P	Pb	22 14 34.7 +0.1
TARZ	Mount Tarawera	2.22 256	P	Pb	22 14 34.3 -0.8
RRRZ	Republican Roa	2.24 254	P	Pb	22 14 34.6 -0.8
OMRZ	Omania	2.30 260	P	Pb	22 14 35.0 -1.5
ARHZ	Aropaoanui	2.33 228	P	Pb	22 14 36.9 0.0
HLRZ	Highlands Stat	2.34 256	P	Pb	22 14 35.9 -1.2
NMHZ	Naumai	2.35 234	P	Pb	22 14 37.1 -0.1
KARZ	Kaharoa	2.39 262	P	Pb	22 14 35.7 -2.2
ALRZ	Allen Road	2.43 249	P	Pb	22 14 37.0 -1.6
MYRZ	Mayor Island	2.43 280	P	Pb	22 14 36.5 -2.1
HSRZ	Hossack Road	2.44 255	P	Pb	22 14 37.6 -1.1
MRHZ	Matea Rd	2.48 243	P	Pb	22 14 38.1 -1.4
CKHZ	Cape Kidnapper	2.56 221	P	Pb	22 14 39.6 -1.2
BKZ	Black Stump Fm	2.59 236		Pb	22 14 39.6 -1.7
BKZ			Sn	Sn	22 15 08.3 +0.6
BKZ	Black Stump Fm	2.59 236	P	Pb	22 14 39.8 -1.5
MCHZ	McNeill Hill	2.62 229	P	Pb	22 14 40.6 -1.3
KAHZ	Kahuranaki	2.76 221	P	Pb	22 14 42.1 -2.2
KWHZ	Kaweka Forest	2.78 232	P	Pb	22 14 42.3 -2.3
KUTZ	Kaahu Road	2.80 253	P	Pn	22 14 41.8 +2.4
RITZ	Rihia Road	2.93 244	P	Pb	22 14 44.4 -2.8
KRHZ	Kereru	2.94 229	P	Pn	22 14 44.1 +2.7
PXZ	Pawanui	2.95 218	P	Pn	22 14 44.4 +2.9
RATZ	Rangitukua	2.95 247	P	Pb	22 14 45.1 -2.5
TOZ	Tahuroa Road	2.96 269	P	Pn	22 14 43.1 +1.5
KUZ	Kuaotunu	2.98 288	P	Pn	22 14 42.3 +0.5
TLZ	Tolley Road	2.98 257	P	Pn	22 14 44.1 +2.1
BHHZ	Black Hill Sta	3.04 234	P	Pn	22 14 45.9 +3.1
KATZ	Kakaramea	3.05 245	P	Pn	22 14 45.8 +2.8
TMVZ	Te Maari	3.10 243	P	Pn	22 14 46.2 +2.5
ETVZ	East Tongariro	3.10 242	P	Pn	22 14 46.2 +2.5
NTVZ	North Tongarir	3.11 243	P	Pn	22 14 46.5 +2.6
KRVZ	Karewarewa	3.14 243	P	Pn	22 14 46.7 +2.6
OTVZ	Oturere	3.15 242	P	Pn	22 14 47.4 +3.0
NNVZ	North Ngauruho	3.17 243	P	Pn	22 14 47.7 +3.0
SNVZ	South Ngauruho	3.18 242	P	Pn	22 14 47.1 +2.3
WTVZ	West Tongariro	3.18 243	P	Pn	22 14 47.7 +2.9
WPHZ	Waipukurau	3.19 222	P	Pn	22 14 47.5 +2.7
NGZ	Ngauruhoe	3.20 242	P	Pn	22 14 47.6 +2.5
MOVZ	Moawhango	3.20 238	P	Pn	22 14 47.7 +2.7
TUVZ	Tukino	3.20 240	P	Pn	22 14 48.0 +2.9
PNHZ	Pukenui	3.22 227	P	Pn	22 14 46.8 +1.6
PRHZ	Porangahau	3.24 218	P	Pn	22 14 47.9 +2.4
WHVZ	Whangaehu Hut	3.25 241	P	Pn	22 14 48.7 +2.8
FWVZ	Far West T-bar	3.27 241	P	Pn	22 14 48.7 +2.6
WNVZ	Wahianoa	3.27 240	P	Pn	22 14 48.4 +2.3
TWVZ	Taurewa	3.27 245	P	Pn	22 14 48.9 +2.9
GRZ	Great Barrier	3.37 295	P	Pn	22 14 48.4 +1.1
WIAZ	Waiheke Island	3.41 285	P	Pn	22 14 49.1 +1.3
PKAZ	Pokaka	3.43 224	P	Pn	22 14 51.0 +2.9
TSZ	Takapari Road	3.45 227	P	Pn	22 14 50.5 +2.0
ANWZ	Angora Road	3.47 218	P	Pn	22 14 51.4 +2.9
DVHZ	Dannevirke	3.50 222	P	Pn	22 14 51.3 +2.2
ETAZ	East Tamaki Re	3.53 282	P	Pn	22 14 52.3 +2.9
HIZ	Hauiti	3.54 256		Pn	22 14 52.7 +3.1
HIZ	Hauiti	3.54 256	P	Pn	22 14 52.8 +3.1
MBAZ	Motutapu North	3.60 284	P	Pn	22 14 52.3 +1.9
ABAZ	Army Bay	3.70 287	P	Pn	22 14 53.6 +1.8
AWAZ	Awhitu Peninsu	3.72 279	P	Pn	22 14 54.3 +2.2
BFZ	Birch Farm	3.75 217		Pn	22 14 54.4 +1.9
BFZ				Sn	22 15 35.3 -1.0
BFZ	Birch Farm	3.75 217	P	Pn	22 14 54.4 +1.9
VRZ	Vera Road	3.78 247	P	Pn	22 14 56.2 +3.3
PRWZ	Pori Road	3.79 221	P	Pn	22 14 55.6 +2.5
WTAZ	Waiatarua	3.81 281	P	Pn	22 14 55.4 +2.1
WAZ	Wanganui	3.89 238	P	Pn	22 14 58.1 +3.7
CPWZ	Castlepoint	3.95 216	P	Pn	22 14 57.3 +2.1
MRZ	Mangatainoka R	4.08 223	P	Pn	22 14 58.9 +2.0
LREZ	Lake Rotokare	4.16 244	P	Pn	22 15 01.6 +3.5
PREZ	Palmer Road	4.29 247	P	Pn	22 15 04.2 +4.2
NEZ	North Egmont	4.32 248	P	Pn	22 15 04.1 +3.7
WCZ	Waipu Caves	4.32 293	P	Pn	22 15 01.9 +1.6
PKE	Pukeiti	4.37 249	P	Pn	22 15 05.5 +4.4
KHEZ	Kahui Hut	4.38 248	P	Pn	22 15 05.6 +4.3
NBEZ	Newall Road No	4.48 248	P	Pn	22 15 05.6 +3.1
MSWZ	Moikau Station	4.80 219	Pn	Pn	22 15 07.0 +0.2
MSWZ			Sn	Sn	22 15 58.9 -3.2
PLWZ	Palliser	4.91 218	Pn	Pn	22 15 08.5 0.0
PLWZ				Sn	22 16 03.8 -1.2
BHW	Baring Head	4.98 221	Pn	Pn	22 15 09.4 0.0
BHW			Sn	Sn	22 16 04.3 -2.4
SNZO	South Karori	5.00 223	Pn	Pn	22 15 09.6 -0.1
SNZO			Sn	Sn	22 16 04.2 -2.9
OUZ	Omahuta	5.20 297		Pn	22 15 14.2 +1.9
OUZ	Omahuta	5.20 297	P	Pn	22 15 14.1 +1.8
TUWZ	Tuamarina	5.51 226	Pn	Pn	22 15 16.6 0.0
TUWZ				Sn	22 16 18.0 -1.6
CMWZ	Cape Campbell	5.57 222	Pn	Pn	22 15 18.4 +0.8
CMWZ			Sn	Sn	22 16 19.6 -1.6
NNZ	Nelson	5.71 231	Pn	Pn	22 15 20.0 +0.6
BSWZ	Blackbirch Sta	5.73 224	Pn	Pn	22 15 19.9 +0.1
QRZ	Quartz Range	6.05 237	Pn	Pn	22 15 23.7 -0.4
THZ	Tophouse	6.32 229	Pn	Pn	22 15 27.7 -0.2
THZ				Sn	22 16 37.9 -1.9
KHZ	Kahutara	6.40 221	Pn	Pn	22 15 29.3 +0.5
KHZ				Sn	22 16 36.6 -4.9
CTZ	Chatham Island	6.76 154	P	Pn	22 15 42.5 +8.7
LTZ	Lake Taylor	7.33 224	Pn	Pn	22 15 41.4 -0.3
MQZ	McQueen's Vall	7.78 218	Pn	Pn	22 15 47.1 -0.7
RPZ	Rata Peaks	8.62 224	Pn	Pn	22 16 00.5 +1.2
FOZ	Fox Glacier	9.21 228	Pn	Pn	22 16 07.5 +0.2
ODZ	Otahua Downs	9.74 219	Pn	Pn	22 16 13.8 -0.9
WKZ	Wanaka	10.45 224	Pn	Pn	22 16 25.3 +0.8
MLZ	Mavora Lakes	11.29 224	Pn	Pn	22 16 39.1 +3.2
SANVU	Saraoutou	24.63 331		P	22 19 15.2 +0.1
SANVU			IAmb	IAmb	22 19 27.9
	comp=Z,23nm,1.0s				
STKA	Stephens Creek	31.31 269	P	P	22 20 15.5 +0.7
	comp=Z,1.0nm,0.5s,baz=110,slow=15,SNR=2.8				
ASAR	Alice Springs	41.04 277	P	P	22 21 36.9 -1.2
	comp=Z,0.6nm,0.5s,baz=124,slow=7.9,SNR=7.3				
FORT	Forrest	42.44 264	P	P	22 21 50.3 +1.0
FORT			IAmb	IAmb	22 22 06.0
	comp=Z,16nm,1.1s				
WB2	Warramunga Arr	42.69 282	P	P	22 21 51.4 -0.2
WB2			IAmb	IAmb	22 22 03.9
	comp=Z,3.1nm,1.0s				
WRA	Warramunga Arr	42.70 282	P	P	22 21 50.0 -1.7
	comp=Z,0.7nm,0.6s,baz=123,slow=7.0,SNR=9.7				
WB0	Warramunga Arr	42.76 282	P	P	22 21 51.8 -0.3
WB0			IAmb	IAmb	22 22 10.0
	comp=Z,5.1nm,1.1s				
NWAO	Narrogin (SRO)	50.01 256	P	P	22 22 48.2 -0.7
H03N3	Juan Fernandez	78.55 123	T	T	23 52 36.6
	baz=234,slow=72,SNR=14				
H03N2	Juan Fernandez	78.56 123	T	T	23 52 35.2
	baz=234,slow=72,SNR=8.2				
H03N1	Juan Fernandez	78.57 123	T	T	23 52 35.6
	baz=234,slow=72,SNR=11				
ARCES	ARCESS Array B	145.14 344	PKP	PKPdf	22 33 32.8 +1.9
	comp=Z,1.3nm,0.9s,baz=35,slow=2.2,SNR=5.0				
FINES	FINESS Array B	150.98 333	PKPbc	PKPbc	22 33 47.4 +1.0
	comp=Z,0.8nm,0.7s,baz=58,slow=3.4,SNR=4.4				

IDC 16 22:18:23.7±3.3, 32°.43S×177°.74W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML2.6/1, Error ellipse: s-maj=77.1km s-min=37.9km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.17 214		Pn	Pn	22 20 09.0	-0.8
	0.1nm,0.3s,baz=308,slow=23,SNR=1.2						
URZ				Sn	Sn	22 21 33.0	+1.0
	1.0nm,0.3s,baz=165,slow=17,SNR=8.2						
ASAR	Alice Springs	43.26 269		P	P	22 26 27.3	+0.1
	0.4nm,0.4s,baz=102,slow=7.9,SNR=4.9						
WRA	Warramunga Arr	44.43 274		P	P	22 26 36.4	-0.2
	0.7nm,0.3s,baz=111,slow=8.0,SNR=26						
FINES	FINESS Array B	147.12 339		PKPbc	PKPbc	22 38 07.2	-0.7
	0.6nm,0.7s,baz=47,slow=2.5,SNR=4.3						

SOME 16 22:38:25.8, 40°.00N×77°.00E, h0km
KRNET 16 22:38:26.3±0.1, 39°.58N×77°.45E, mb3.2
NNC 16 22:38:29.1±1.0, 40°.05N×77°.03E, h0km, mb3.6, mpv3.2,
Error ellipse: s-maj=7.3km s-min=5.6km az=163.0

ISC 16 22:38:23.3±2.6, 39°.9N±0°.1×77°.02E±0°.04, h5km±17km, n50, σ1§45/79, 25C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.93	18	⇑iP	Pg	22 39 01.3	+0.9
	baz=7.0						
TARG				⇑iS	Sg	22 39 26.8	+1.3
	baz=7.0						
KDJ	Kajisay	2.24	3	⇑eP	Pg	22 39 06.7	+0.4
	baz=56						
KDJ				⇑iS	Sg	22 39 36.0	+0.6
	baz=56						
ULHL	Ulahol	2.43	346	⇑iP	Pg	22 39 10.4	+0.6
	baz=41						
ULHL				⇑iS	Sg	22 39 42.4	+1.1
	baz=41						
BOOM	Boomskoye usch	2.72	343	⇑iP	Pg	22 39 15.0	-0.5
	baz=39						
BOOM				⇑iS	Sg	22 39 50.0	-0.8
	baz=39						
PRZ	Przheval'sk	2.79	22	⇑iP	Pb	22 39 12.4	-1.4
	baz=13						
PRZ				⇑iS	Sb	22 39 46.4	-2.0
	baz=13						
ARLS	Aral	2.84	315	⇑iP	Pg	22 39 17.1	-0.6
	baz=15						
ARLS				⇑iS	Sg	22 39 53.5	-1.0
	baz=15						
ANVS	Anan'yevo	2.93	9	⇑iP	Pb	22 39 15.0	-1.2
	baz=3.0						
ANVS				⇑iS	Sb	22 39 51.0	-1.4
	baz=3.0						
TNSS	Tian-Shan	3.15	359	Pg	Pg	22 39 23.4	-0.3
	6.7nm,0.4s						
TNSS				Lg	Lg	22 40 05.1	
	25nm,0.6s						
IZV	Izvestkoviy	3.16	355	eP	Pg	22 39 24.0	+0.2
	5.5nm,0.4s						
IZV				eS	Sg	22 40 05.8	+1.0
	17nm,0.7s						
IZV	Izvestkoviy	3.16	355	Pg	Pg	22 39 24.0	+0.2
	5.5nm,0.4s						
IZV				Lg	Lg	22 40 05.8	
	17nm,0.7s						
KBK	Karagaybulak	3.17	331	⇑iP	Pb	22 39 21.3	+1.0
	baz=29						
KBK				⇑iS	Sb	22 40 01.6	+2.3
	baz=29						
TKM2	Tokmak 2	3.21	341	⇓Pn	Pb	22 39 21.5	+0.5
	3.5nm,0.4s						
TKM2				⇑Lg	Lg	22 40 03.3	
KST	Kastek	3.25	346	eP	Pg	22 39 25.3	-0.2
	4.1nm,0.4s						
KST				eS	Sg	22 40 08.6	+0.9
	15nm,0.4s						
KST	Kastek	3.25	346	Pg	Pg	22 39 25.3	-0.2
	4.1nm,0.4s						
KST				Lg	Lg	22 40 08.6	
	15nm,0.4s						
MDOK	Medeo	3.27	0	eP	Pg	22 39 25.5	-0.5
	3.2nm,0.3s						
MDOK				eS	Sg	22 40 08.9	+0.5
	26nm,0.5s						
MDOK	Medeo	3.27	0	Pn	Pb	22 39 24.3	+2.4
	2.4nm,0.5s						
MDOK				Sn	Sg	22 40 08.0	-0.4
MDOK	Medeo	3.27	0	Pg	Pg	22 39 25.5	-0.5
	3.2nm,0.3s						
MDOK				Lg	Lg	22 40 08.9	
	26nm,0.5s						
SATY	Saty	3.34	18	eP	Pg	22 39 27.2	0.0
	2.9nm,0.4s						
SATY				eS	Sg	22 40 11.2	+0.7
	27nm,0.5s						
SATY	Saty	3.34	18	Pg	Pg	22 39 27.2	0.0
	2.9nm,0.4s						
SATY				Lg	Lg	22 40 11.1	
	27nm,0.5s						
AAK	Ala-Archa	3.34	326	⇑Pn	Pb	22 39 20.4	-2.7
	4.7nm,0.7s						
AAK				⇑Lg	Lg	22 40 10.3	
AML	Almayashu	3.37	313	⇑iP	Pb	22 39 23.8	+0.1
	baz=13						
AML				⇑iS	Sb	22 40 07.3	+2.2
	baz=13						
FRU1	Bishkek	3.43	329	⇑iP	Pb	22 39 25.2	+0.7
	baz=28						
FRU1				⇑iS	Sb	22 40 08.4	+1.9
	baz=28						
DGS	Degeres	3.48	345	eP	Pg	22 39 29.7	-0.3
	8.3nm,0.4s						
DGS				eS	Sg	22 40 16.1	+1.1
	10nm,0.3s						
DGS	Degeres	3.48	345	Pg	Pg	22 39 29.7	-0.3
	8.3nm,0.4s						
DGS				Lg	Lg	22 40 16.1	
	10nm,0.3s						
CHMS	Chumysh	3.54	332	⇑eP	Pb	22 39 25.9	-0.6
	baz=30						
CHMS				⇑iS	Sb	22 40 10.1	+0.3
	baz=30						
UZB	Uzynbulak	3.59	24	eP	Pg	22 39 31.5	-0.5
	3.7nm,0.3s						
UZB				eS	Sg	22 40 18.4	-0.2
	5.0nm,0.5s						
UZB	Uzynbulak	3.59	24	Pg	Pg	22 39 31.5	-0.5
	3.7nm,0.3s						
UZB				Lg	Lg	22 40 18.4	
	5.0nm,0.5s						
KURS	Kuram	3.70	13	eP	Pg	22 39 33.3	-0.9
	3.1nm,0.5s						
KURS				eS	Sg	22 40 22.3	+0.2
	7.0nm,0.6s						
KURS	Kuram	3.70	13	Pg	Pg	22 39 33.3	-0.9
	3.1nm,0.5s						
KURS				Lg	Lg	22 40 22.3	
	7.0nm,0.6s						
SHLS	Shalkode	3.75	29	eP	Pg	22 39 38.2	+3.1
	4.7nm,0.5s						
SHLS				eS	Sg	22 40 30.2	+6.6
	12nm,0.9s						
SHLS	Shalkode	3.75	29	Pg	Pg	22 39 38.2	+3.1
	4.7nm,0.5s						
SHLS				Lg	Lg	22 40 30.2	
	12nm,0.9s						
KPKS	Kokpek	3.79	19	eP	Pg	22 39 34.9	-1.0
	3.0nm,0.3s						
KPKS				eS	Sg	22 40 24.3	-0.6
	19nm,0.5s						
KTBS	Karatobe	3.83	356	eP	Pg	22 39 35.1	-1.6
	3.3nm,0.4s						
KTBS				eS	Sg	22 40 25.3	-1.0
	14nm,0.4s						
KTBS	Karatobe	3.83	356	Pg	Pg	22 39 35.1	-1.6
	3.3nm,0.4s						
KTBS				Lg	Lg	22 40 25.3	
	14nm,0.4s						
PDGK	Podgornoye	3.91	28	Pg	Pg	22 39 37.3	-0.8
	1.5nm,0.3s						
PDGK				Lg	Lg	22 40 28.8	
	6.0nm,0.7s						
CHKK	Chushkaly	3.96	360	eP	Pg	22 39 38.4	-0.8
	4.9nm,0.3s						
CHKK				eS	Sg	22 40 30.6	0.0
	9.1nm,0.4s						
CHKK	Chushkaly	3.96	360	Pg	Pg	22 39 38.4	-0.8
	4.9nm,0.3s						
CHKK				Lg	Lg	22 40 30.6	
	9.1nm,0.4s						
SGDS	Sogindy	3.98	334	Pg	Pg	22 39 38.8	-0.8
	1.2nm,0.6s						
SGDS				Lg	Lg	22 40 31.4	
	3.1nm,0.5s						
KUU	Kurty	4.03	353	eP	Pg	22 39 39.1	-1.5
	0.8nm,0.3s						
KUU				eS	Sg	22 40 31.6	-1.2
	10nm,0.8s						
KUU	Kurty	4.03	353	Pg	Pg	22 39 39.1	-1.5
	0.8nm,0.3s						
KUU				Lg	Lg	22 40 31.6	
	10nm,0.8s						
MRKS	Merke	4.04	316	eP	Pg	22 39 40.0	-0.6
	4.5nm,0.4s						
MRKS				eS	Sg	22 40 33.7	+0.8
	6.5nm,0.4s						
MRKS	Merke	4.04	316	Pg	Pg	22 39 40.0	-0.6
	4.5nm,0.4s						
MRKS				Lg	Lg	22 40 33.7	
	6.5nm,0.4s						
KTMS	Ketmen	4.34	34	eP	Pg	22 39 45.8	-0.8
	0.1nm,0.1s						
KTMS				eS	Sg	22 40 43.1	+0.2
	5.4nm,0.2s						
KTMS	Ketmen	4.34	34	Pg	Pg	22 39 45.8	-0.8
	0.1nm,0.1s						
KTMS				Lg	Lg	22 40 43.1	
	5.4nm,0.2s						
ARXS	Arharly	4.36	8	eP	Pg	22 39 46.1	-0.8
	4.5nm,0.5s						
ARXS				eS	Sg	22 40 44.5	+1.1
	6.4nm,0.7s						
ARXS	Arharly	4.36	8	Pg	Pg	22 39 46.2	-0.8
	4.5nm,0.5s						
ARXS				Lg	Lg	22 40 44.5	
	6.4nm,0.7s						
DJR	Jarkent	4.90	24	eP	Pg	22 39 54.5	-2.5
	0.1nm,0.3s						
DJR				eS	Sg	22 40 58.5	-2.1
	0.6nm,0.4s						
DJR	Jarkent	4.90	24	Pg	Pg	22 39 54.6	-2.5
	0.1nm,0.3s						
DJR				Lg	Lg	22 40 58.5	
	0.6nm,0.4s						
BTLS	Baital	5.60	338	eP	Pg	22 40 09.2	-1.3
	2.1nm,0.6s						
BTLS				eS	Sg	22 41 23.5	+0.5
	3.4nm,0.5s						
BTLS	Baital	5.60	338	Pg	Pg	22 40 09.2	-1.3
	2.1nm,0.6s						
BTLS				Lg	Lg	22 41 23.5	
	3.4nm,0.5s						

NEIC 16 22:54:32.1±2.4, 18°.84N±0°.10×67°.88W±0°.06, h36km±73km,
Error ellipse: s-maj=17.0km s-min=1.1km az=211.0
RSPR 16 22:54:32.1, 19°.01N×67°.80W, h39km±8km, MD2.9/5

ISC 16 22:54:31.6±1.4, 18°.95N±0°.09×67°.83W±0°.06, h35km, n28, σ0§82/31, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.65	149	⇑eP	Pn	22 54 43.5	-0.9
IDE	Isla Desecheo	0.65	149		Pn	22 54 43.5	-0.9
AGPR	Aguadilla, PR	0.83	125	Pn	Pn	22 54 45.4	-1.5
AGPR				IAML		22 55 06.5	
	comp=N,92nm,2.4s						
AGPR				IAML		22 55 07.9	
	comp=E,120nm,2.6s						
MPR	Mayaguez	0.98	138	Pn	Pn	22 54 46.9	-2.0
LSP	Las Mesas	1.04	137	⇑eP	Pn	22 54 49.5	-0.2
LSP	Las Mesas	1.04	137	eS	Sn	22 55 03.3	+0.2
LSP	Las Mesas	1.04	137		Pn	22 54 49.5	-0.2
LSP					Sn	22 55 03.3	+0.2
AOPR	Arecibo Observ	1.18	120	⇑eP	Pn	22 54 51.1	-0.6
AOPR	Arecibo Observ	1.18	120	eS	Sn	22 55 06.0	-0.6
AOPR	Arecibo Observ	1.18	120		Pn	22 54 51.1	-0.6
AOPR	Arecibo Observ	1.18	120		Sn	22 55 07.9	+1.3
AOPR				IAML		22 55 17.4	
	comp=N,48nm,1.1s						
AOPR				IAML		22 55 25.4	
	comp=E,47nm,0.3s						
MLPR	Magueyes Islan	1.23	142	⇑eP	Pn	22 54 52.1	-0.1
MLPR	Magueyes Islan	1.23	142	eS	Sn	22 55 07.7	+0.1
MLPR	Magueyes Islan	1.23	142		Pn	22 54 52.1	-0.1
MLPR					Sn	22 55 07.7	+0.1
OBIP	Obispado Ponce	1.47	128	Pn	Pn	22 54 56.5	+0.9
CELP	Cerrillos	1.47	126	⇑eP	Pn	22 54 55.5	-0.1
CELP	Cerrillos	1.47	126	eS	Sn	22 55 13.4	-0.2
CELP	Cerrillos	1.47	126		Pn	22 54 55.5	-0.1
CELP					Sn	22 55 13.4	-0.2
DR12	Loma Pena Alta	1.48	264	Pn	Pn	22 54 56.0	+0.2
IGPR	InterUniversit	1.91	121	Pn	Pn	22 55 03.0	+1.4
IGPR				IAML		22 55 27.4	
	comp=E,22nm,0.3s						
PDPR	Patillas Dam,	1.95	118	Pn	Pn	22 55 03.5	+1.3
PDPR				IAML		22 55 36.8	
	comp=E,78nm,1.6s						
CBYP	Canovanas	1.99	109	Pn	Pn	22 55 01.9	-0.9
CBYP				IAML		22 55 34.1	
	comp=E,38nm,0.2s						
CBYP				IAML		22 55 35.3	
	comp=N,24nm,0.2s						
HUMP	Col San Antoni	2.04	113	Pn	Pn	22 55 04.0	+0.6
HUMP				IAML		22 55 38.2	
	comp=E,21nm,2.5s						
MTP	Monte Pirata	2.32	111	Pn	Pn	22 55 07.5	+0.2
MTP				IAML		22 55 39.5	
	comp=N,25nm,3.0s						
CUPR	Culebra, Puert	2.50	104	Pn	Pn	22 55 10.4	+0.7
CUPR				IAML		22 55 49.7	
	comp=N,12nm,1.1s						
CDVI	St. Croix	3.14	112	Pn	Pn	22 55 19.1	+0.4
SDDR	Presa de Saban	3.27	271	Pn	Pn	22 55 21.2	+0.7
SDDR				IAML		22 57 07.5	
	comp=N,20nm,2.8s						
GRTK	Grand Turk	4.02	310	Pn	Pn	22 55 29.4	-1.2

IDC 16 23:01:33.3±2.1, 4°.86S×129°.55E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.3/20, mbtmp3.4/3, ML3.0/2, Error ellipse: s-maj=127.4km s-min=30.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.70	163	Pn	Pn	23 05 17.3	+1.2

12nm,0.3s,baz=22,slow=18,SNR=2.6
LPAZ La Paz 11.17 118 Pn Pn 23 14 26.9 +5.7
0.1nm,0.3s,baz=304,slow=12,SNR=5.2
LPAZ La Paz 11.17 118 Pn 23 14 21.1 0.0
OTAV Otavalo 11.36 360 Pn 23 14 23.5 -0.1
MNMC Minye Minye 11.58 134 Pn **Pn 23 14 28.1 +1.7**
RUSC La Rusia 17.78 18 Pn 23 15 47.5 -0.6
RUSC IAmb IAmb 23 16 03.8
comp=Z,5.8nm,0.6s
H03N2 Juan Fernandez 22.15 181 T T 23 39 26.8
baz=2.5
H03N1 Juan Fernandez 22.15 181 T T 23 39 27.4
baz=2.5,slow=74,SNR=41
H03N3 Juan Fernandez 22.16 181 T T 23 39 25.0
baz=2.5,slow=74,SNR=42
PCRV Puerto La Cruz 25.25 33 LR LR 23 29 03.8
comp=Z,516nm,19.8s,slow=41
USHA Ushuaia 44.23 172 P **P 23 19 45.9 -2.0**
comp=Z,36nm,0.5s,baz=121,slow=0.6,SNR=4.4
JSC Jenkinsville 45.31 357 P **P 23 19 55.1 -1.6**
JSC IAmb IAmb 23 19 57.3
comp=Z,17nm,0.9s
TXAR Lajitas Array 47.10 329 P **P 23 20 11.6 +0.5**
comp=Z,0.3nm,0.6s,baz=149,slow=8.3,SNR=5.8
TX31 Lajitas Ar. Si 47.10 329 P **P 23 20 12.2 +1.1**
GDL2 Guadalupe Moun 49.80 331 P **P 23 20 32.6 +0.8**
PDAR Pinedale Array 60.81 334 P **P 23 21 51.0 0.0**
comp=Z,0.3nm,0.6s,baz=107,slow=8.1,SNR=2.1
NVAR Mina Array Bea 61.86 325 P **P 23 21 59.1 +0.9**
comp=Z,1.0nm,0.7s,baz=131,slow=7.0,SNR=6.9
NVAR Mina Array Bea 61.86 325 P **P 23 21 59.7 +1.5**
LRV Little Rabbit 62.08 322 P **P 23 22 00.0 +0.5**
ULM Lac du Bonnet 63.07 348 P **P 23 22 04.9 -0.8**
comp=Z,1.4nm,0.5s,baz=152,slow=7.7,SNR=3.6
ULM Lac du Bonnet 63.07 348 IAmb IAmb 23 22 19.8
comp=Z,4.0nm,0.9s
ORV Oroville 64.44 324 P **P 23 22 16.4 +1.4**
ORV IAmb IAmb 23 22 18.3
comp=Z,3.0nm,0.8s
ASAR Alice Springs 133.12 222 PKP **PKPdf 23 30 55.3 +0.5**
comp=Z,0.4nm,0.7s,baz=90,slow=1.9,SNR=2.3
WRA Warramunga Arr 135.33 226 PKP **PKiKP 23 31 00.3 -0.3**
comp=Z,0.4nm,0.5s,baz=124,slow=1.6,SNR=4.6

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*CNRM **16** 23:17:39.9, 35°.18N×5°.89W, h28km, ml1.7, Hypocentre not reviewed by the ISC*
*MDD **16** 23:17:41.8±2.7, 35°.31N×5°.77W, h16km±73km, mb2.7/6, Error ellipse: s-maj=85.0km s-min=16.0km az=3.0, PRXIMO SOLUCIN POBRE*
*SFS **16** 23:17:41.0, 35°.22N×5°.79W, ML1.3, TLETA RISSANA (MARRUECOS)*

ISC 16 23:17:37.9±1.4, 35°.25N±0°.05×5°.75W±0°.08, h10km, n8, σ1°80/15, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSA	**Sarsar**	**0.36**	**189**	P		23 17 47.0	
RSA				S		23 17 54.0	
CHEFC	**Chefchaouen**	**0.36**	**112**	P		23 17 48.9	
CHEFC				S		23 17 54.8	
SMIR	**Smir Dam**	**0.53**	**35**	P		23 17 54.0	
SMIR				S		23 18 01.2	
IFR	**Ifrane**	**1.80**	**163**	*e*P		**Pn**	**23 18 10.2 +1.1**
IFR				*e*S		**Sn**	**23 18 30.2 -1.9**
ZHG	**ZHG**	**1.94**	**203**	P			23 18 10.7
ZHG				S			23 18 34.6
CZD	**Col de Zad**	**2.29**	**165**	P			23 18 15.4
CZD				S			23 18 43.8
MD31	**MD31**	**2.51**	**161**	P			23 18 19.0
MD31				S			23 18 50.3
MDT	**Midelt**	**2.60**	**158**	P			23 18 20.5
MDT				S			23 18 51.6
EMIN	**Mina Concepcio**	**2.62**	**344**	P		**Pn**	**23 18 21.6 +1.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				S		**Sn**	**23 18 51.5 -0.7**
	4.0nm,1.2s,SNR=8.2						
EGRO	**El Granado**	**2.68**	**329**	P		**Pn**	**23 18 22.1 +1.1**
	0.7nm,0.1s,SNR=7.9						
EGRO				S		**Sn**	**23 18 52.4 -1.1**
	1.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.84**	**5**	P		**Pn**	**23 18 24.3 +1.0**
	0.1nm,0.2s,SNR=4.0						
ECAB				S		**Sn**	**23 18 56.4 -1.2**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.07**	**18**	P		**Pn**	**23 18 28.2 +1.8**
	0.3nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**23 19 01.9 -1.3**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.34**	**39**	P		**Pn**	**23 18 32.3 +2.0**
	0.1nm,0.1s,SNR=7.9						
EQES				S		**Sn**	**23 19 08.8 -1.3**
	0.1nm,0.1s,SNR=4.0						
EBAD	**Badajoz**	**3.65**	**344**	P		**Pn**	**23 18 35.7 +1.3**
	0.3nm,0.1s,SNR=7.9						
EBAD				S		**Sn**	**23 19 15.8 -1.6**
	1.1nm,0.1s,SNR=6.5						
PAB	**San Pablo**	**4.44**	**14**	S		**Sn**	**23 19 33.5 -3.5**
	0.1nm,0.1s,SNR=7.9						

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*TUL **16** 23:23:23.9±1.1, 36°.870N±0°.010×97°.89W±0°.01, h4km±4km, ML2.6, mb_Lg2.4/27(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=124.0*

NEIC 16 23:23:24.2±0.9, 36°.846N±0°.007×97°.87W±0°.02, h2km±4km, Error ellipse: s-maj=1.8km s-min=1.0km az=88.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.01**	**66**		Pg	23 23 25.2	+0.5
GC02				Sg	Sg	23 23 25.9	+0.9
KAN05	**Bluff City Nor**	**0.26**	**0**		Pg	23 23 29.2	0.0
KAN05				Sg	Sg	23 23 32.8	+0.1
OK032	**Salt Plains WL**	**0.27**	**261**	Pg	Pg	23 23 29.4	0.0
OK032				Sg	Sg	23 23 33.2	+0.3
KAN10	**Anthony SW Sta**	**0.33**	**327**		Pg	23 23 30.3	-0.2
KAN10				Sg	Sg	23 23 34.7	-0.1
CROK	**Carrier**	**0.35**	**194**		Pg	23 23 31.3	+0.4
CROK				Sg	Sg	23 23 36.8	+1.3
KAN09	**Caldwell North**	**0.35**	**35**	Pg	Pg	23 23 30.8	-0.2
KAN09				Sg	Sg	23 23 36.0	+0.4
KAN13	**South Haven SW**	**0.36**	**62**		Pg	23 23 31.3	+0.3
KAN13				Sg	Sg	23 23 36.3	+0.5
KAN08	**Anthony NE Sta**	**0.39**	**349**		Pg	23 23 31.3	-0.3
KAN08				Sg	Sg	23 23 38.1	+1.4
KAN12	**Harper NE Stat**	**0.46**	**348**		Pg	23 23 32.7	-0.4
KAN12				Sg	Sb	23 23 41.1	-1.2
BLOK	**Blackwell**	**0.54**	**99**		Pg	23 23 34.6	+0.2
U32A	**Winter Ranch,**	**1.02**	**243**		Pg	23 23 43.2	-0.5
T35A	**Sooner Cattle**	**1.09**	**86**		Pg	23 23 44.9	-0.2
OK029	**Liberty Lake**	**1.10**	**162**		Pg	23 23 44.9	-0.3
QUOK	**Quay**	**1.16**	**125**		Pg	23 23 46.3	0.0
BCOK	**Bluff Creek, N**	**1.21**	**170**		Pg	23 23 47.0	-0.3
OK025	**Westminster Rd**	**1.33**	**161**		Pg	23 23 49.3	-0.5
OKCFA	**Oklahoma City**	**1.47**	**166**		Pn	23 23 51.2	-0.5
OKCSW	**OKLAHOMA CITY**	**1.48**	**166**		Pn	23 23 51.8	-0.1
FNO	**Franklin**	**1.63**	**166**		Pn	23 23 53.9	-0.1
FNO				IAmb_Lg		23 24 16.9	
	comp=Z,31nm,0.7s						
R32A	**Long Quarter,**	**1.71**	**337**		Pn	23 23 54.3	-0.7
WMOK	**Wichita Mounta**	**2.23**	**200**	Pn	Pn	23 24 01.5	-0.6
X34A	**Smith Ranch, M**	**2.24**	**179**		Pn	23 24 02.0	-0.3
X34A				IAmb_Lg		23 24 40.3	
	comp=Z,14nm,0.9s						
CBKS	**Cedar Bluff**	**2.46**	**324**	Pn	Pn	23 24 05.2	-0.1
KSU1	**Kansas State U**	**2.46**	**24**	IAmb_Lg		23 24 46.1	
	comp=Z,15nm,0.8s						
U38A	**Gravette**	**2.83**	**97**		Pn	23 24 10.5	0.0
LOOK	**Love County**	**2.90**	**169**	Pn	Pn	23 24 11.6	+0.2
X37A	**Clayton**	**3.04**	**137**	Pn	Pn	23 24 15.1	+1.8
X37A				IAmb_Lg		23 25 04.3	
	comp=Z,11nm,0.7s						
HHAR	**Hobbs**	**3.22**	**99**		Pn	23 24 15.9	+0.2
W39A	**Magazine**	**3.70**	**115**	IAmb_Lg		23 25 24.7	
	comp=Z,15nm,0.8s						
MIAR	**Mount Ida**	**4.18**	**122**	IAmb_Lg		23 25 47.2	
	comp=Z,7.5nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.33**	**301**	IAmb_Lg		23 25 43.8	
	comp=Z,10nm,0.7s						
P38A	**Dawn**	**4.40**	**50**	IAmb_Lg		23 25 52.0	
	comp=Z,9.1nm,0.9s						
MGMO	**Mountain Grove**	**4.50**	**84**	IAmb_Lg		23 25 49.8	
	comp=Z,6.4nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.74**	**100**	IAmb_Lg		23 25 58.7	
	comp=Z,6.9nm,0.9s						
WHAR	**Wooly Hollow**	**4.78**	**107**	IAmb_Lg		23 25 54.2	
	comp=Z,5.7nm,0.8s						
L34A	**Svendsen Farm,**	**5.24**	**12**	IAmb_Lg		23 26 18.1	
	comp=Z,9.9nm,0.7s						
CCM	**Cathedral Cave**	**5.41**	**75**	IAmb_Lg		23 26 20.3	
	comp=Z,6.0nm,0.8s						
V48A	**Smith Brothers**	**8.99**	**94**	IAmb_Lg		23 28 26.9	
	comp=Z,3.7nm,1.2s						
F33A	**5 Mile Ranch,**	**9.06**	**7**	IAmb_Lg		23 28 03.5	
	comp=Z,3.7nm,1.0s						

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*IDC **16** 23:24:48.4±3.0, 28°.30N×84°.72E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/39, mbtmp3.6/6, ML4.1/2, Error ellipse: s-maj=65.1km s-min=38.6km az=38.0*

ISC 16 23:24:50.0±2.3, 28°.3N±0°.3×84°.7E±0°.3, h10km, n6, σ0°99/6, mb3.6/4, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.33**	**124**	Pn	**Pn**	**23 28 39.8**	**+0.3**
	0.6nm,0.3s,baz=310,slow=13,SNR=1.6						
MKAR	**Makanchi Array**	**18.56**	**355**	P	**P**	**23 29 08.0**	**+1.1**
	0.2nm,0.3s,baz=179,slow=12,SNR=9.9						
ZALV	**Zalesovo Beam**	**25.62**	**0**	P	**P**	**23 30 19.3**	**-0.2**
	0.4nm,0.3s,baz=162,slow=9.7,SNR=2.1						
SONM	**Songino Array**	**25.77**	**35**	P	**P**	**23 30 20.2**	**-0.9**
	0.2nm,0.4s,baz=218,slow=11,SNR=1.7						
FINES	**FINESS Array B**	**50.63**	**328**	P	**P**	**23 33 48.2**	**-0.7**
	1.4nm,0.8s,baz=107,slow=6.6,SNR=5.0						
ARCES	**ARCESS Array B**	**53.10**	**338**	P	**P**	**23 34 08.0**	**+0.6**
	0.6nm,0.6s,baz=101,slow=9.4,SNR=1.6						

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*BJI **16** 23:29:01.2±0.0, 11°.43N×142°.95E, h30km, mB5.1/39, mb4.7/53, Ms4.7/45, Ms7 4.5/46*
*NEIC **16** 23:29:03.9±1.6, 11°.66N±0°.08×142°.58E±0°.09, h10km±1km, mb5.0/126, Error ellipse: s-maj=14.4km s-min=12.6km az=284.0*
*IDC **16** 23:29:06.9±1.8, 11°.64N×142°.77E, h46km±17km, mb4.3/24, mb1 4.5/26, mb1mx4.4/34, mbtmp4.6/26, ML4.3/2, MS4.3/33, Ms1 4.3/33, ms1mx4.2/38, Error ellipse: s-maj=15.0km s-min=10.3km az=93.0*
*DJA **16** 23:29:06.5±2.6, 12°.N±5°.×14°.3E±°., h28km±21km, M4.9/12, mB5.2/7, mb4.9/12, MLv5.2/1, Mw(mB)4.6/7*
*GCMT **16** 23:29:06.9±0.2, 11°.48N±0°.01×142°.43E±0°.03, h14km, MW4.9/93, Moment Tensor Solution. s50,c56; s93,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=2.75±.14; $M_{\theta\theta}$=-2.51±.09; $M_{\phi\phi}$=-0.23±.08; $M_{r\theta}$=0.15±.19; $M_{\theta\phi}$=-0.75±.07; $M_{\phi r}$=-0.20±.26; Best double couple: M_0=2.75300×10^{16} NP1:φs249.00000°, δ44.00000°, λ83.00000°. NP2: φs78.00000°, δ46.00000°, λ97.00000°. Principal axes: T 2.7710, Plg85.0000°, Azm63.0000°; N -0.0300, Plg5.0000°, Azm254.0000°; P -2.7350, Plg1.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 23:29:03.8±1.7, 11°.65N±0°.05×142°.74E±0°.05, h15km±10km, n290, σ1°67/264, mb5.0/109, MS4.3/44, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.84**	**47**	P	**Pn**	**23 29 50.6**	**+2.0**
	84nm,0.3s,baz=68,slow=2.9,SNR=14						
GUMO				S	**Sn**	**23 30 22.4**	**-0.2**
	75nm,0.3s,baz=41,slow=21,SNR=4.3						
GUMO				LR	LR	23 30 40.5	
	comp=Z,778nm,19.2s,baz=226,slow=33						
GUMO	**Guam**	**2.84**	**47**		**Pn**	**23 29 50.7**	**+2.1**
GUMO	**Guam**	**2.84**	**47**	P	**Pn**	**23 29 50.9**	**+2.3**
MANU	**Manus Island**	**14.36**	**161**	Pn	**Pn**	**23 32 28.4**	**+1.8**
GENI	**Genyem**	**14.37**	**190**	P	**P**	**23 32 37.9**	**+4.1**
JCJ	**Chichijima**	**15.38**	**358**	Pn	**Pn**	**23 32 40.0**	**-0.4**
PATS	**Pohnpei**	**16.09**	**106**	Pn	**Pn**	**23 32 48.0**	**-1.7**
PATS				IAmb	IAmb	23 33 03.8	
	comp=Z,133nm,1.4s						
SIJI	**Sorong**	**16.87**	**223**	P	**P**	**23 33 01.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=49,slow=14,SNR=4.7						
SIJI				LR	LR	23 38 23.8	
	comp=Z,2μm,18.1s,baz=36,slow=33						
RABL	**Rabaul**	**18.32**	**149**	P	**P**	**23 33 18.8**	**+1.2**
TNTI	**Ternate**	**18.70**	**236**	P	**P**	**23 33 20.3**	**-1.4**
LBMI	**Labuha**	**19.45**	**232**	P	**P**	**23 33 28.6**	**-1.4**
MSAI	**Masohi**	**20.26**	**223**	P	Pn	23 33 40.7	-0.2
	comp=Z,11nm,0.7s						
JOW	**Kunigami**	**20.33**	**320**	P	Pn	23 33 40.7	-1.0
	comp=Z,54nm,0.8s,baz=148,slow=10,SNR=16						
JOW				LR	LR	23 41 16.1	
	comp=Z,839nm,19.8s,baz=134,slow=36						
JOW	**Kunigami**	**20.33**	**320**		**P**	**23 33 39.8**	**+0.2**
JOW				IAmb	IAmb	23 33 42.3	
	comp=Z,62nm,0.8s						
PMG	**Port Moresby**	**21.37**	**168**	P	**P**	**23 33 50.4**	**-0.4**
	comp=Z,26nm,0.7s,baz=358,slow=7.0,SNR=6.0						
PMG				LR	LR	23 41 27.6	
	comp=Z,914nm,18.0s,baz=324,slow=35						
PMG	**Port Moresby**	**21.37**	**168**	P	**P**	**23 33 51.4**	**+0.5**
PMG				IAmb	IAmb	23 34 07.0	
	comp=Z,124nm,1.4s						
GTOI	**Gorontalo**	**22.43**	**242**	P	**P**	**23 34 03.5**	**+1.2**
	comp=Z,482nmcomp=Z,26nm,0.8s						
YOJ	**Yonaguni jima**	**22.64**	**307**	P	**P**	**23 34 04.5**	**+0.1**
YOJ				IAmb	IAmb	23 34 12.2	
	comp=Z,96nm,1.2s						
JSU	**Suzuyama**	**22.79**	**332**	P	**P**	**23 34 05.5**	**-0.4**
JSU				IAmb	IAmb	23 34 08.9	
	comp=Z,48nm,0.7s						
MRSI	**Marisa**	**23.44**	**243**	P	**P**	**23 34 16.5**	**+3.7**
	comp=Z,1μmcomp=Z,61nm,2.0s						
TWG	**Pinlang**	**23.45**	**301**	P	**P**	**23 34 12.0**	**-0.8**
TWG				IAmb	IAmb	23 34 24.8	
	comp=Z,58nm,1.4s						
LUWI	**Luwuk**	**23.50**	**239**	P	**P**	**23 34 11.6**	**-1.8**
LUWI	**Luwuk**	**23.50**	**239**	P	**P**	**23 34 18.1**	**+4.7**
YULB	**Yu-li**	**23.51**	**303**	P	**P**	**23 34 13.7**	**+0.3**
NACB	**Ninganchiao**	**23.62**	**305**	P	**P**	**23 34 13.5**	**-1.0**
SSLB	**Suanglung**	**23.97**	**303**	P	**P**	**23 34 17.6**	**-0.2**
SSLB				IAmb	IAmb	23 34 31.3	
	comp=Z,72nm,1.3s						
JNU	**Nakatsue**	**23.98**	**335**	P	**P**	**23 34 17.5**	**-0.4**
	comp=Z,32nm,0.8s,baz=83,slow=3.4,SNR=14						
JNU				LR	LR	23 43 11.9	
	comp=Z,687nm,19.6s,baz=202,slow=35						
JNU	**Nakatsue**	**23.98**	**335**	P	**P**	**23 34 17.5**	**-0.4**
JNU				IAmb	IAmb	23 34 33.9	
	comp=Z,49nm,0.9s						
TPUB	**Ta-pu**	**24.02**	**302**	P	**P**	**23 34 17.7**	**-0.6**
YHNB	**Yeheng**	**24.03**	**306**	P	**P**	**23 34 18.0**	**-0.5**
YHNB				IAmb	IAmb	23 34 32.4	
	comp=Z,25nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**24.09**	**71**	T	T	23 59 32.7	
	baz=259						
H11S1	**WAKE ISLAND Hy**	**24.11**	**71**	T	T	23 59 37.2	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**24.11**	**71**	T	T	23 59 35.5	
	baz=253						
TOLI2	**Tolitoli**	**24.17**	**246**	P	**P**	**23 34 18.4**	**-1.4**
TOLI2				IAmb	IAmb	23 34 34.7	
	comp=Z,59nm,1.4s						
APSI	**Ampana**	**24.39**	**241**	P	P	23 34 32.8	+11
H11N1	**WAKE ISLAND Hy**	**24.57**	**68**	T	T	23 59 58.7	
	baz=255						
JYT	**Yasato**	**24.58**	**355**	P	**P**	**23 34 24.8**	**+1.5**
JYT				IAmb	IAmb	23 34 36.9	
	comp=Z,32nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**24.59**	**68**	T	T	00 00 03.8	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**24.59**	**68**	T	T	00 00 04.2	
	baz=255						
JHS	**Saijyo**	**24.84**	**341**	P	**P**	**23 34 25.1**	**-0.6**
MJAR	**Matsushiro Arr**	**25.12**	**351**	LR	LR	23 43 16.3	
	comp=Z,678nm,19.6s,baz=200,slow=34						
MAT	**Matsushiro**	**25.12**	**351**	P	**P**	**23 34 26.9**	**-1.3**
MPSI	**Mapaga**	**25.31**	**245**	P	**P**	**23 34 30.7**	**+0.6**
	comp=Z,721nmcomp=Z,20nm,1.8s						
MTN	**Manton Dam**	**26.92**	**206**	P	**P**	**23 34 45.0**	**+0.4**
MTN				IAmb	IAmb	23 35 11.9	
	comp=Z,60nm,1.4s						
HNR	**Honiara**	**27.04**	**140**	P	**P**	**23 34 44.9**	**-0.9**
	comp=Z,69nm,0.5s,baz=51,slow=19,SNR=1.8						
HNR				LR	LR	23 45 25.2	
	comp=Z,357nm,18.2s,baz=300,slow=36						
KAPI	**Kappang**	**28.23**	**235**	LR	LR	23 45 40.4	
	comp=Z,261nm,21.4s,baz=68,slow=35						
KSRS	**Korea Array**	**28.93**	**335**	P	**P**	**23 35 01.3**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=154,slow=9.2,SNR=3.8						
KSRS				LR	LR	23 44 30.8	
	comp=Z,340nm,21.8s,baz=160,slow=32						
NJ2	**Nanjing**	**29.93**	**316**	*e*P	**P**	**23 35 10.9**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CTAO	**Charters Tower**	**31.72**	**174**	P	**P**	**23 35 27.2**	**-0.1**
CTAO				IAmb	IAmb	23 35 30.7	
	comp=Z,24nm,1.1s						
WB0	**Warramunga Arr**	**32.28**	**195**	P	**P**	**23 35 31.4**	**-0.7**
ASAJ	**Asahikawa**	**32.35**	**360**	LR	LR	23 50 51.0	
	comp=Z,290nm,18.5s,baz=182,slow=40						
WR0	**Warramunga Arr**	**32.43**	**194**	P	**P**	**23 35 32.5**	**-0.9**
WB2	**Warramunga Arr**	**32.46**	**195**	P	**P**	**23 35 32.9**	**-0.8**
WRA	**Warramunga Arr**	**32.46**	**195**	P	**P**	**23 35 32.4**	**-1.4**
	comp=Z,7.6nm,0.9s,baz=14,slow=9.6,SNR=16						
WRA				LR	LR	23 49 25.7	
	comp=Z,616nm,18.1s,baz=20,slow=38						
QIZ	**Qiongzhong**	**32.52**	**287**	P	**P**	**23 35 33.8**	**-0.6**
QIZ				S	**S**	**23 40 47.3**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,20nm,1.7s						
QIZ				LR	LR		
	comp=Z,380nm,8.6s						
QIZ				LR	LR		
	comp=Z,470nm,15.1s						
QIZ				LR	LR		
	comp=Z,730nm,18.0s						
TIA	**Tai'an**	**33.65**	**321**	⇓P	**P**	**23 35 43.6**	**-0.5**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
USA0B	**Ussuriysk Arra**	**33.73**	**346**	P	**P**	**23 35 44.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**33.73**	**346**	P	**P**	**23 35 43.6**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=174,slow=8.9,SNR=13						
USRK				LR	LR	23 48 05.5	
	comp=Z,459nm,18.6s,baz=139,slow=34						
USRK	**Ussuriysk Ar.**	**33.73**	**346**	P	**P**	**23 35 44.2**	**-0.4**
CN2	**Changchun**	**35.35**	**338**	*e*P	**P**	**23 35 59.8**	**+1.2**
CN2				*e*S	**S**	**23 41 31.5**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,600nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
CN2				LR	LR		
	comp=Z,800nm,17.0s						
ENH	**Enshi**	**35.97**	**306**	P	**P**	**23 36 03.8**	**-0.3**
ENH				IAmb	IAmb	23 36 21.0	
	comp=Z,27nm,1.0s						
AS31	**Alice Springs**	**36.14**	**194**	P	**P**	**23 36 05.5**	**-0.2**
ASAR	**Alice Springs**	**36.14**	**194**	P	**P**	**23 36 04.4**	**-1.3**
	comp=Z,2.1nm,0.6s,baz=15,slow=12,SNR=14						
ASAR				PcP	**PcP**	**23 38 31.7**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=13,slow=4.9,SNR=5.2						
ASAR				LR	LR	23 51 40.9	
	comp=Z,856nm,18.2s,baz=2.5,slow=38						
BJT	**Baijiatuau**	**36.74**	**325**	P	**P**	**23 36 09.7**	**-0.9**
BJT				IAmb	IAmb	23 36 11.3	
	comp=Z,16nm,0.6s						
BJI	**Beijing**	**36.75**	**325**	P	**P**	**23 36 10.3**	**-0.4**
BJI				PP	**PP**	**23 37 35.3**	**+0.9**
BJI				S	**S**	**23 42 00.6**	**+6.6**
BJI				pmax	pmax		
	comp=Z,27nm,0.6s						
BJI				LR	LR		
	comp=Z,920nm,18.3s						
BJI				LR	LR		
	comp=Z,660nm,17.5s						
BJI				LR	LR		
	comp=Z,2μm,19.4s						
TIY	**Taiyuan**	**37.54**	**319**	*e*P	**P**	**23 36 17.5**	**0.0**
TIY				pmax	pmax		
	comp=Z,27nm,0.6s						
TIY				LR	LR		
	comp=Z,170nm,5.4s						
TIY				LR	LR		
	comp=Z,230nm,5.5s						
TIY				LR	LR		
	comp=Z,310nm,15.6s						
EIDS	**Eidsvold**	**37.68**	**168**	P	**P**	**23 36 18.2**	**-0.4**
XAN	**Xi'an**	**38.03**	**311**	P	**P**	**23 36 24.5**	**+2.8**
XAN				pP	pwP	23 36 32.8	+1.1
XAN				sP	sP	23 36 36.8	+11
XAN				S	**S**	**23 42 17.8**	**+3.9**
XAN				sS	ScP	23 42 28.5	+4.0
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,240nm,5.6s						
XAN				LR	LR		
	comp=Z,220nm,6.6s						
XAN				LR	LR		
	comp=Z,630nm,17.0s						
XAN				LR	LR		
	comp=Z,700nm,16.3s						
KLR	**Kul'dur**	**38.56**	**348**	LR	LR	23 50 36.0	
	comp=Z,418nm,19.9s,baz=172,slow=33						
CHAI	**Chaiyaphum**	**39.76**	**281**	P	**P**	**23 36 39.2**	**+2.8**
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**40.09**	**295**	⇑P	**P**	**23 36 41.8**	**+2.5**
KMI				pP	pwP	23 36 50.4	+1.5
KMI				sP	pP	23 36 54.6	+12
KMI				S	**S**	**23 42 46.9**	**+1.5**
KMI				SS	**SS**	**23 45 37.1**	**-5.9**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,110nm,4.8s						
KMI				LR	LR		
	comp=Z,490nm,14.8s						
KMI				LR	LR		
	comp=Z,320nm,16.1s						
KMI				LR	LR		
	comp=Z,460nm,16.1s						
DZM	**Mont Dzumac**	**40.79**	**145**	*e*P	**P**	**23 36 45.4**	**+0.6**
	comp=Z,20nm,0.8s						
DZM	**Mont Dzumac**	**40.79**	**145**	*e*LR	LR	23 47 55.8	
	comp=Z,626nm,31.6s						
DZM	**Mont Dzumac**	**40.79**	**145**	P	**P**	**23 36 47.8**	**+3.0**
CD2	**Chengdu**	**40.79**	**304**	P	**P**	**23 36 44.3**	**-0.5**
CD2				S	**S**	**23 42 55.3**	**-0.1**
CD2				SS	**SS**	**23 45 58.4**	**+1.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,6.4s						
CD2				LR	LR		
	comp=Z,730nm,17.8s				

CMAR				LR	LR	23 54 52.2	
	comp=Z,361nm,19.6s,baz=125,slow=36						
CMAR	**Chiang Mai Arr**	**42.75**	**285**	P	**P**	**23 37 00.6**	**-0.3**
CHTO	**Chiang Mai**	**42.77**	**285**	P	**P**	**23 37 02.0**	**+0.9**
CM15	**Chiang Mai Arr**	**42.77**	**285**	P	**P**	**23 37 04.6**	**+3.5**
	comp=Z,11nm,0.8s						
CM13	**Chiang Mai Arr**	**42.78**	**285**	P	**P**	**23 37 04.4**	**+3.2**
	comp=Z,103nmcomp=Z,6.6nm,0.7s						
PETK	**Petropavlovsk-**	**43.06**	**13**	P	**P**	**23 37 02.5**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=186,slow=4.3,SNR=2.8						
PETK				LR	LR	23 55 00.2	
	comp=Z,225nm,20.0s,baz=197,slow=36						
STKA	**Stephens Creek**	**43.29**	**181**	P	**P**	**23 37 03.5**	**-1.5**
	comp=Z,7.4nm,0.8s,baz=9.0,slow=9.7,SNR=7.7						
STKA				LR	LR	23 58 19.9	
	comp=Z,230nm,18.8s,baz=3.2,slow=40						
STKA	**Stephens Creek**	**43.29**	**181**	P	**P**	**23 37 04.1**	**-0.9**
RPSI	**Rantau Prapat**	**44.31**	**262**	P	**P**	**23 37 12.5**	**-1.1**
RPSI				IAmb	IAmb	23 37 27.0	
	comp=Z,16nm,0.9s						
FORT	**Forrest**	**44.48**	**198**	P	**P**	**23 37 14.3**	**-0.3**
FORT				IAmb	IAmb	23 37 17.7	
	comp=Z,30nm,0.9s						
MSVF	**Nonsavu**	**45.48**	**129**	P	**P**	**23 37 24.5**	**+1.6**
MSVF				IAmb	IAmb	23 37 25.9	
	comp=Z,19nm,0.7s						
ULN	**Ulaanbaatar**	**46.84**	**327**	P	**P**	**23 37 33.1**	**-0.2**
GTA	**Gaotai**	**46.95**	**314**	*eP*	**P**	**23 37 33.6**	**-0.7**
GTA				pP	sP	23 37 38.1	-0.5
GTA				PcP	**PcP**	**23 39 07.8**	**+1.0**
GTA				S	**S**	**23 44 23.4**	**-1.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,97nm,5.5s						
GTA				LR	LR		
	comp=Z,220nm,20.4s						
GTA				LR	LR		
	comp=Z,190nm,20.0s						
GTA				LR	LR		
	comp=Z,330nm,20.7s						
SONM	**Songino Array**	**47.17**	**327**	P	**P**	**23 37 35.4**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=146,slow=7.8,SNR=18						
SONM				PcP	**PcP**	**23 39 06.6**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=146,slow=3.9,SNR=4.9						
SONM				LR	LR	23 58 29.5	
	comp=Z,444nm,18.8s,baz=127,slow=37						
SONM	**Songino Array**	**47.17**	**327**	P	**P**	**23 37 35.7**	**-0.1**
MORW	**Morawa**	**47.99**	**212**	P	**P**	**23 37 41.5**	**-0.7**
AMKA	**Amchitka**	**49.50**	**29**	P	**P**	**23 37 54.4**	**+0.8**
SEY	**Seymchan**	**51.67**	**6**	P	**P**	**23 38 09.4**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=225,slow=16						
ADK	**Adak**	**51.79**	**31**	P	**P**	**23 38 11.7**	**+0.9**
WMQ	**Urumqi**	**57.00**	**315**	*eP*	**P**	**23 38 51.0**	**+1.9**
WMQ				pP	pwP	23 38 56.3	-2.7
WMQ				pmax	pmax		
	comp=Z,23nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.3s						
WMQ				LR	LR		
	comp=Z,410nm,20.3s						
WMQ				LR	LR		
	comp=Z,340nm,18.3s						
WMQ				LR	LR		
	comp=Z,390nm,19.3s						
SPIA	**Saint Paul Isl**	**57.86**	**28**	P	**P**	**23 38 54.9**	**+0.2**
	baz=238						
AKUT	**Akutan**	**58.59**	**33**	P	**P**	**23 39 01.1**	**+1.1**
FALS	**False Pass**	**60.14**	**33**	P	**P**	**23 39 10.6**	**-0.1**
	baz=246						
MLZ	**Mavora Lakes**	**61.20**	**160**	P	**P**	**23 39 19.4**	**+1.4**
MK31	**Makanchi Array**	**61.46**	**317**	P	**P**	**23 39 19.7**	**-0.2**
MKAR	**Makanchi Array**	**61.46**	**317**	P	**P**	**23 39 19.2**	**-0.7**
	comp=Z,6.9nm,0.6s,baz=91,slow=8.7,SNR=71						
MKAR				LR	LR	00 07 03.7	
	comp=Z,208nm,19.4s,baz=104,slow=37						
MAKZ	**Makanchi**	**61.68**	**317**	P	**P**	**23 39 21.0**	**-0.3**
MAKZ				IAmb	IAmb	23 39 21.9	
	comp=Z,12nm,0.7s						
SDPT	**Sand Point**	**61.89**	**33**	P	**P**	**23 39 22.3**	**-0.2**
	baz=248						
ZAA0	**Zalesovo Array**	**62.01**	**325**	P	**P**	**23 39 22.1**	**-1.2**
ZAA0					**PcP**	**23 40 02.5**	**-1.3**
ZALV	**Zalesovo Beam**	**62.01**	**325**	P	**P**	**23 39 22.1**	**-1.3**
	comp=Z,4.5nm,0.6s,baz=105,slow=6.7,SNR=17						
ZALV				PcP	**PcP**	**23 40 02.1**	**-1.7**
	comp=Z,4.7nm,0.6s,baz=118,slow=3.9,SNR=7.6						
ZALV				LR	LR	00 07 21.4	
	comp=Z,313nm,18.8s,baz=116,slow=37						
ZALV	**Zalesovo Beam**	**62.01**	**325**	P	**P**	**23 39 22.2**	**-1.1**
ZALV					**PcP**	**23 40 02.4**	**-1.4**
PRZ	**Przheval'sk**	**63.33**	**312**	P	**P**	**23 39 32.2**	**-0.5**
ANM	**Nome**	**63.77**	**22**	P	**P**	**23 39 34.7**	**-0.2**
	baz=239						
KDJ	**Kajisay**	**64.18**	**311**	P	**P**	**23 39 38.0**	**-0.3**
KDJ				IAmb	IAmb	23 39 38.8	
	comp=Z,12nm,0.7s						
KSH	**Kashi**	**64.78**	**308**	P	**P**	**23 39 43.6**	**+1.4**
KSH				pP	pwP	23 39 50.0	-2.0
KSH				S	**S**	**23 48 24.6**	**+1.9**
KSH				SS	**SS**	**23 52 39.8**	**+5.8**
KSH				pmax	pmax		
	comp=Z,100nm,2.8s						
KSH				LR	LR		
	comp=Z,130nm,4.1s						
KSH				LR	LR		
	comp=Z,120nm,3.7s						
KSH				LR	LR		
	comp=Z,140nm,5.1s						
ULHL	**Ulahol**	**64.88**	**311**	P	**P**	**23 39 42.3**	**-0.6**
	SNR=6.8						
BOOM	**Boomskoye usch**	**65.14**	**311**	P	**P**	**23 39 44.1**	**-0.4**
KBK	**Karagaybulak**	**65.88**	**312**	P	**P**	**23 39 49.1**	**-0.2**
	SNR=5.9						
CHMS	**Chumysh**	**66.07**	**312**	P	**P**	**23 39 49.8**	**-0.6**
	SNR=6.2						
N18K	**Kilae Creek**	**66.07**	**28**	P	**P**	**23 39 50.3**	**+0.4**
	baz=250						
O18K	**Koktuh Hills**	**66.12**	**29**	P	**P**	**23 39 50.5**	**+0.2**
	baz=251						
USP	**Ospenovka**	**66.28**	**312**	P	**P**	**23 39 51.0**	**-0.7**
	SNR=6.1						
OHAK	**Old Harbor**	**66.29**	**32**	P	**P**	**23 39 51.7**	**+0.4**
	baz=254						
RDOG	**Red Dog Mine**	**66.39**	**19**	P	**P**	**23 39 52.7**	**+0.8**
	baz=240						
RDOG	**Red Dog Mine**	**66.39**	**19**	P	**P**	**23 39 53.7**	**+1.8**
NIL	**Nilore**	**66.61**	**302**	P	**P**	**23 39 53.7**	**-0.3**
AML	**Almayashu**	**66.75**	**311**	P	**P**	**23 39 55.2**	**0.0**
	SNR=6.3						
N19K	**Bonanza Creek**	**66.77**	**28**	P	**P**	**23 39 54.8**	**+0.2**
	baz=252						
KDAK	**Kodiak Island**	**66.81**	**32**	P	**P**	**23 39 54.8**	**+0.1**
	baz=255						
L19K	**White Mountain**	**67.05**	**27**	P	**P**	**23 39 56.3**	**+0.1**
	baz=251,SNR=5.3						
M19K	**Big River Lodg**	**67.16**	**27**	P	**P**	**23 39 57.6**	**+0.7**
	baz=251						
RSO	**Redoubt South**	**67.47**	**29**	P	**P**	**23 39 58.2**	**-0.9**
M20K	**Styx River**	**67.72**	**27**	P	**P**	**23 40 00.7**	**+0.1**
	baz=252						
K20K	**Telida**	**67.78**	**26**	P	**P**	**23 40 01.2**	**+0.5**
	baz=251,SNR=6.0						
J20K	**Nowinta River**	**68.02**	**25**	P	**P**	**23 40 02.6**	**+0.3**
	baz=251,SNR=11						
BRSE	**Bradley Lake S**	**68.25**	**30**	P	**P**	**23 40 03.5**	**-0.3**
	baz=256						
PPLA	**Purkeypile**	**68.44**	**27**	P	**P**	**23 40 05.1**	**-0.1**
	baz=253						
PPLA	**Purkeypile**	**68.44**	**27**	P	**P**	**23 40 04.5**	**-0.6**
PPLA				IAmb	IAmb	23 40 11.8	
	comp=Z,9.0nm,0.8s						
SKT	**Skwentna**	**68.47**	**28**	P	**P**	**23 40 04.7**	**-0.5**
	baz=254						
CHUM	**Lake Minchumin**	**68.69**	**25**	P	**P**	**23 40 06.4**	**-0.1**
	baz=252						
SUA	**Susitna One**	**68.69**	**28**	P	**P**	**23 40 06.3**	**-0.4**
	baz=255						
BTK	**Batken**	**68.78**	**308**	IAmb	IAmb	23 40 11.4	
	comp=Z,5.8nm,0.7s						
SEW	**Seward**	**68.97**	**30**	P	**P**	**23 40 08.3**	**+0.1**
	baz=256						
H21K	**Melozitna Rive**	**69.05**	**24**	P	**P**	**23 40 09.1**	**+0.4**
	baz=251						
RC01	**Rabbit Creek A**	**69.07**	**29**	P	**P**	**23 40 08.5**	**-0.4**
	baz=256						
KK31	**Karatay Array**	**69.17**	**312**	P	**P**	**23 40 09.2**	**-0.7**
KK31					**PcP**	**23 40 32.4**	**-1.4**
KK31				IAmb	IAmb	23 40 33.5	
	comp=Z,7.0nm,0.7s						
KKAR	**Karatay Array**	**69.17**	**312**	P	**P**	**23 40 09.2**	**-0.7**
KKAR					**PcP**	**23 40 32.1**	**-1.6**
KKAR				IAmb	IAmb	23 40 33.5	
	comp=Z,7.0nm,0.7s						
KTH	**Kantishna Hill**	**69.18**	**26**	IAmb	IAmb	23 40 10.3	
	comp=Z,11nm,0.8s						
I21K	**Tanana**	**69.22**	**24**	P	**P**	**23 40 09.8**	**+0.1**
	baz=252,SNR=10						
BPAW	**Bear Paw Mtn.**	**69.31**	**25**	P	**P**	**23 40 10.1**	**-0.3**
	baz=254						
BPAW	**Bear Paw Mtn.**	**69.31**	**25**	IAmb	IAmb	23 40 11.4	
	comp=Z,13nm,0.8s						
TRF	**Thorofare Moun**	**69.43**	**26**	P	**P**	**23 40 10.9**	**-0.4**
	baz=254						
GHO	**Glory Hole Cre**	**69.61**	**28**	P	**P**	**23 40 12.2**	**-0.2**
PWL	**Port Wells**	**69.68**	**29**	P	**P**	**23 40 12.4**	**-0.3**
MLY	**Manley**	**69.68**	**25**	P	**P**	**23 40 12.5**	**-0.2**
	baz=254,SNR=20						
MLY	**Manley**	**69.68**	**25**	IAmb	IAmb	23 40 13.9	
	comp=Z,14nm,0.8s						
SML	**Sawmill**	**69.89**	**28**	P	**P**	**23 40 13.9**	**-0.1**
	baz=257						
WAT1	**Susitna Watana**	**70.03**	**27**	P	**P**	**23 40 14.7**	**-0.2**
	baz=256						
MCK	**McKinley**	**70.09**	**26**	P	**P**	**23 40 15.4**	**+0.3**
	baz=256						
KBL	**Kabul**	**70.11**	**303**	P	**P**	**23 40 15.1**	**-1.0**
KBL				IAmb	IAmb	23 40 18.8	
	comp=Z,19nm,1.5s						
BRVK	**Borovoye**	**70.23**	**322**	P	**P**	**23 40 15.6**	**-0.7**
I23K	**Minto, Yukon-K**	**70.27**	**25**	P	**P**	**23 40 16.1**	**-0.1**
	baz=255,SNR=11						
I23K	**Minto, Yukon-K**	**70.27**	**25**	IAmb	IAmb	23 40 18.7	
	comp=Z,12nm,0.8s						
WAT6	**Susitna Watana**	**70.34**	**27**	P	**P**	**23 40 16.5**	**-0.4**
	baz=257						
SCM	**Sheep Creek Mo**	**70.36**	**28**	P	**P**	**23 40 16.6**	**-0.3**
H23K	**Yukon River**	**70.38**	**24**	P	**P**	**23 40 16.6**	**-0.3**
	baz=254,SNR=11						
WRH	**Wood River Hil**	**70.63**	**25**	IAmb	IAmb	23 40 18.6	
	comp=Z,12nm,1.0s						
MDM	**Murphy Dome**	**70.69**	**25**	IAmb	IAmb	23 40 20.5	
	comp=Z,10nm,0.7s						
CCB	**Clear Creek Bu**	**70.79**	**25**	IAmb	IAmb	23 40 19.6	
	comp=Z,25nm,1.4s						
EYAK	**Cordova Ski Ar**	**70.86**	**30**	P	**P**	**23 40 20.0**	**+0.2**
	baz=260						
KLU	**Klutina**	**70.95**	**29**	P	**P**	**23 40 20.5**	**-0.1**
	baz=259						
KLU	**Klutina**	**70.95**	**29**	IAmb	IAmb	23 40 21.5	
	comp=Z,13nm,0.9s						
H24K	**Noodor Dome**	**71.05**	**24**	P	**P**	**23 40 20.8**	**-0.2**
	baz=256,SNR=15						
HDA	**Harding Lake**	**71.09**	**26**	P	**P**	**23 40 20.0**	**-1.2**
	baz=257						
TOLK	**Toolik Lake Re**	**71.16**	**21**	P	**P**	**23 40 21.9**	**+0.2**
	baz=253						
TOLK	**Toolik Lake Re**	**71.16**	**21**	P	**P**	**23 40 22.2**	**+0.5**
IL31		**71.20**	**25**	IAmb	IAmb	23 40 22.5	
	comp=Z,12nm,0.7s						
ILAR	**Eielson Array**	**71.20**	**25**	P	**P**	**23 40 19.9**	**-2.0**
	comp=Z,9.8nm,0.6s,baz=253,slow=5.4,SNR=73						
ILAR				LR	LR	00 08 48.2	
	comp=Z,160nm,22.0s,baz=268,slow=33						
HARP	**HAARP**	**71.48**	**28**	P	**P**	**23 40 24.3**	**+0.7**
	baz=260						
BMRM	**Bremner River**	**71.49**	**29**	P	**P**	**23 40 23.7**	**-0.1**
	baz=261						
N25K	**Chitina, Valde**	**71.60**	**29**	P	**P**	**23 40 24.2**	**-0.2**
	baz=260						
RIDG	**Independent Ri**	**71.86**	**27**	P	**P**	**23 40 25.4**	**-0.6**
	baz=260,SNR=8.1						
BGLC	**Bering Glacier**	**72.00**	**30**	P	**P**	**23 40 26.6**	**-0.2**
	baz=262						
SCRK	**Sand Creek**	**72.28**	**26**	P	**P**	**23 40 28.3**	**-0.2**
	baz=260,SNR=6.1						
SCRK	**Sand Creek**	**72.28**	**26**	P	**P**	**23 40 28.5**	**-0.1**
L26K	**Log Cabin Wild**	**72.41**	**27**	P	**P**	**23 40 29.4**	**+0.2**
	baz=261						
BMAR	**Burnt Mountain**	**72.69**	**23**	P	**P**	**23 40 31.6**	**+0.8**
PPT	**Papeete**	**72.86**	**113**	LR	LR	00 06 53.4	
	comp=Z,192nm,18.1s,baz=294,slow=31						
PPT2	**Papeete2**	**72.87**	**113**	*eS*	**S**	**23 49 57.0**	**-2.1**
	comp=Z,106nm,25.0s						
PPT2	**Papeete2**	**72.87**	**113**	*e*LR	LR	00 02 47.0	
	comp=Z,181nm,21.5s						
CTG	**Chitna Glacier**	**73.06**	**30**	P	**P**	**23 40 33.7**	**+0.5**
	baz=264						
L27K	**Beaver Creek,**	**73.10**	**27**	P	**P**	**23 40 33.5**	**+0.1**
	baz=262						
K27K	**Chicken**	**73.12**	**26**	P	**P**	**23 40 34.2**	**+0.8**
	baz=262						
EGAK	**Eagle**	**73.62**	**26**	P	**P**	**23 40 36.4**	**+0.1**
	baz=263						
DAWY	**Dawson**	**74.30**	**27**	IAmb	IAmb	23 40 42.1	
	comp=Z,13nm,0.8s						
HYT	**Haines Junctio**	**74.92**	**30**	IAmb	IAmb	23 40 46.3	
	comp=Z,15nm,0.9s						
EPYK	**Eagle Plains**	**75.61**	**24**	P	**P**	**23 40 47.9**	**0.0**
	baz=266						
EPYK	**Eagle Plains**	**75.61**	**24**	P	**P**	**23 40 48.6**	**+0.6**
EPYK				IAmb	IAmb	23 40 48.9	
	comp=Z,10nm,0.7s						
HRA	**Herat**	**75.73**	**303**	IAmb	IAmb	23 40 49.4	
	comp=Z,7.6nm,0.7s						
BESE	**Bessie Mountai**	**76.19**	**32**	IAmb	IAmb	23 40 53.5	
	comp=Z,22nm,1.1s						
ABKAR	**Akbulak array**	**76.58**	**318**	IAmb	IAmb	23 40 53.5	
	comp=Z,9.0nm,0.6s						
INK	**Inuvik**	**76.94**	**22**	P	**P**	**23 40 55.1**	**-0.3**
	baz=269						
INK	**Inuvik**	**76.94**	**22**	IAmb	IAmb	23 40 56.2	
	comp=Z,12nm,0.8s						
ARU	**Arti**	**77.17**	**325**	P	**P**	**23 40 55.9**	**-1.0**
ARU				IAmb	IAmb	23 40 56.5	
	comp=Z,8.3nm,0.6s						
GEYT	**Alibeck**	**78.73**	**307**	P	**P**	**23 41 05.7**	**-0.3**
	comp=Z,328nm,1.0s,baz=45,slow=11,SNR=7.4						
GEYT				LR	LR	00 20 36.2	
	comp=Z,212nm,19.2s,baz=75,slow=39						
GYA0B	**ALIBECK ARRAY**	**78.73**	**307**	IAmb	IAmb	23 41 10.4	
	comp=Z,11nm,0.8s						
C36M	**Paulatuk**	**80.32**	**21**	P	**P**	**23 41 13.5**	**-0.4**
	baz=277						
C36M	**Paulatuk**	**80.32**	**21**	IAmb	IAmb	23 41 14.6	
	comp=Z,12nm,0.7s						
UOSS	**Minazif**	**82.07**	**294**	P	**P**	**23 41 22.8**	**-1.5**
UOSS				IAmb	IAmb	23 41 27.2	
	comp=Z,9.5nm,0.7s						
D03D	**Eldon**	**84.31**	**43**	P	**P**	**23 41 34.6**	**-0.7**
	baz=281						
YKA	**Yellowknife Ar**	**85.53**	**27**	P	**P**	**23 41 40.9**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=288,slow=4.4,SNR=13						
YKA				LR	LR	00 17 34.5	
	comp=Z,200nm,21.8s,baz=0.0,slow=34						
SPA0	**Spitsbergen Ar**	**85.61**	**350**	*eP*	**P**	**23 41 40.3**	**-1.0**
LTY	**Liberty**	**85.97**	**43**	IAmb	IAmb	23 42 13.3	
	comp=Z,13nm,1.2s						
KLMR	**Klimovskoe**	**86.26**	**331**	*eP*	**P**	**23 41 42.2**	**-2.5**
KLMR				AMP		23 41 45.3	
	comp=Z,11nm,1.0s						
M04C	**Macdoel**	**86.34**	**48**	P	**P**	**23 41 46.0**	**+0.3**
	baz=282						
J05D	**Fort Rock, OR**	**86.45**	**47**	P	**P**	**23 41 46.1**	**-0.2**
	baz=283						
PINE	**Pine Mountain**	**86.55**	**46**	P	**P**	**23 41 48.4**	**+1.5**
PINE				IAmb	IAmb	23 41 52.6	
	comp=Z,9.6nm,0.8s						
B08A	**Colville Reser**	**86.60**	**41**	P	**P**	**23 41 47.5**	**+0.7**
B08A				IAmb	IAmb	23 42 04.9	
	comp=Z,14nm,0.9s						
O03E	**Paynes Creek**	**86.68**	**50**	P	**P**	**23 41 47.3**	**-0.1**
	baz=282						
HAWA	**Hanford**	**86.93**	**43**	IAmb	IAmb	23 41 55.4	
	comp=Z,6.6nm,0.8s						
D08A	**Wollman Farm,**	**87.18**	**43**	IAmb	IAmb	23 41 51.5	
	comp=Z,18nm,1.4s						
G08A	**Pilot Rock**	**87.58**	**44**	P	**P**	**23 41 52.5**	**+0.7**
BEKR	**Beckworth**	**87.85**	**50**	IAmb	IAmb	23 42 08.8	
	comp=Z,6.7nm,0.9s						
NEW	**Newport**	**88.05**	**41**	P	**P**	**23 41 53.7**	**-0.1**
	baz=285						
HAMF	**Hammerfest**	**88.25**	**343**	*eP*	**P**	**23 41 53.0**	**-1.2**
ARA0	**ARCESS Array S**	**88.28**	**342**	*eP*	**P**	**23 41 53.3**	**-1.0**
ARCES	**ARCESS Array B**	**88.28**	**342**	P	**P**	**23 41 52.9**	**-1.5**
	comp=Z,7.8nm,0.6s,baz=64,slow=6.3,SNR=68						
ARCES				LR	LR	00 24 52.5	
	comp=Z,193nm,19.7s,baz=70,slow=38						
J08A	**Circle Bar Ran**	**88.39**	**46**	IAmb	IAmb	23 42 12.6	
	comp=Z,5.3nm,0.8s						
F10A	**Beach Ranch, E**	**88.58**	**43**	P	**P**	**23 41 57.3**	**+0.8**
F10A				IAmb	IAmb	23 42 11.9	
	comp=Z,7.4nm,1.1s						
PNTR	**Pine Nut**	**88.61**	**50**	IAmb	IAmb	23 42 02.8	
	comp=Z,7.0nm,0.7s						
PAHR	**Pah Rah Range**	**88.62**	**50**	IAmb	IAmb	23 42 10.4	
	comp=Z,8.2nm,1.3s						
BMO	**Blue Mountains**	**88.83**	**44**	IAmb	IAmb	23 42 12.6	
	comp=Z,9.0nm,1.2s						
MIB	**Mutribah**	**88.91**	**300**	*eP*	**P**	**23 41 55.9**	**-2.2**
KBZ	**Khabaz**	**89.04**	**314**	P	**P**	**23 41 56.3**	**-2.2**
	comp=Z,1.7nm,0.6s,baz=168,slow=3.7,SNR=5.7						
KBZ				LR	LR	00 25 36.0	
	comp=Z,164nm,19.6s,baz=58,slow=38						
KTK1	**Kautokeino**	**89.24**	**342**	*eP*	**P**	**23 41 57.1**	**-1.8**
RST	**Umm Al-Ruwaisa**	**89.27**	**300**	*eP*	**P**	**23 41 57.2**	**-2.6**
PKM	**Mcpherson Peak**	**89.44**	**55**	P	**P**	**23 42 01.3**	**+0.5**
	baz=284						
LHV	**Little Huntoon**	**89.64**	**51**	IAmb	IAmb	23 42 27.0	
	comp=Z,16nm,1.4s						
VNDA	**Vanda**	**89.68**	**176**	P	**P**	**23 42 00.1**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=324,slow=7.4,SNR=5.0						
VNDA				LR	LR	00 22 29.7	
	comp=Z,150nm,18.7s,baz=349,slow=36						
KVN	**Kaiserville**	**89.75**	**50**	IAmb	IAmb	23 42 20.3	
	comp=Z,10nm,1.2s						
NVAR	**Mina Array Bea**	**89.75**	**51**	P	**P**	**23 42 02.6**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=265,slow=5.5,SNR=28						
JETT	**Jettan, Norway**	**89.79**	**343**	*eP*	**P**	**23 42 00.6**	**-0.9**
TRO	**Tromso**	**90.17**	**343**	*eP*	**P**	**23 42 01.6**	**-1.6**
MFID	**Camas Ranch**	**90.24**	**46**	IAmb	IAmb	23 42 09.7	
	comp=Z,8.9nm,1.1s						
CWC	**Cottonwood Cre**	**90.43**	**53**	P	**P**	**23 42 05.4**	**+0.1**
	baz=285						
EDW2	**Edwards Air Fo**	**90.89**	**54**	P	**P**	**23 42 07.8**	**+0.4**
	baz=285						
SCI2	**San Clemente I**	**90.92**	**56**	P	**P**	**23 42 07.9**	**+0.4**
	baz=285						
CIS	**Catalina Islan**	**90.92**	**56**	P	**P**	**23 42 07.8**	**+0.2**
	baz=285						
GURO	**Guroymak-BITLI**	**91.04**	**310**	IAmb	IAmb	23 42 08.9	
	comp=Z,5.8nm,0.7s						
FURC	**Furnace Creek,**	**91.37**	**52**	P	**P**	**23 42 10.2**	**+0.8**
	baz=286						
TPNV	**Topopah Spring**	**91.71**	**52**	P	**P**	**23 42 11.3**	**-0.1**
	baz=286						
TPNV	**Topopah Spring**	**91.71**	**52**	IAmb	IAmb	23 42 23.1	
	comp=Z,4.5nm,0.8s						
GSC	**Goldstone, Bar**	**91.72**	**54**	P	**P**	**23 42 11.6**	**+0.3**
	baz=286						
GSC	**Goldstone, Bar**	**91.72**	**54**	IAmb	IAmb	23 42 29.7	
	comp=Z,8.8nm,1.1s						
MURC	**Murrieta**	**91.86**	**55**	P	**P**	**23 42 12.0**	**+0.1**
	baz=285						
SHOC	**Shoshone, Teco**	**91.98**	**53**	P	**P**	**23 42 12.2**	**-0.2**
	baz=286						
FINES	**FINESS Array B**	**92.03**	**335**	P	**P**	**23 42 09.3**	**-2.6**
	comp=Z,10nm,0.6s,baz=70,slow=5.5,SNR=58						
FINES				LR	LR	00 26 52.1	
	comp=Z,226nm,18.8s,baz=64,slow=38						
HEC	**Hector,Ludlow**	**92.22**	**54**	P	**P**	**23 42 13.3**	**-0.3**
	baz=286						
STEI	**Steigen**	**92.27**	**343**	*eP*	**P**	**23 42 11.4**	**-1.6**
TUQ	**Turquoise Moun**	**92.38**	**53**	P	**P**	**23 42 14.0**	**-0.4**
	baz=286						
BOZ	**Bozeman (W)**	**92.44**	**43**	P	**P**	**23 42 13.8**	**-0.7**
	baz=289						
TPFO	**Pinon Flats**	**92.45**	**55**	P	**P**	**23 42 14.2**	**-0.6**
	baz=286						
FAUS	**Fauske**	**92.61**	**342**	*eP*	**P**	**23 42 13.0**	**-1.5**
LOF	**Lofoten**	**92.64**	**343**	*eP*	**P**	**23 42 13.9**	**-0.7**
MONP2	**Monument Peak**	**92.67**	**56**	P	**P**	**23 42 15.6**	**-0.3**
	baz=286						
BELC	**Belle Mtn. Jos**	**92.71**	**55**	P	**P**	**23 42 15.6**	**-0.4**
	baz=286						
GMRC	**Granite Mounta**	**92.77**	**54**	P	**P**	**23 42 16.0**	**-0.2**
	baz=286						
SWSC	**Sam W. Stewart**	**93.16**	**56**	P	**P**	**23 42 18.1**	**+0.2**
	baz=286						
IRM	**Iron Mountain**	**93.35**	**54**	P	**P**	**23 42 18.7**	**-0.1**
	baz=286						
H17A	**Grant Village**	**93.54**	**43**	P	**P**	**23 42 19.8**	**0.0**
	baz=290						
MOR8	**Moi Rana**	**93.64**	**341**	*eP*	**P**	**23 42 16.7**	**-2.7**
GLA	**Glamis**	**93.92**	**55**	P	**P**	**23 42 21.9**	**+0.5**
	baz=287						
GLA	**Glamis**	**93.92**	**55**	P	**P**	**23 42 22.3**	**+0.9**
GLA				IAmb	IAmb	23 42 41.7	
	comp=Z,6.1nm,0.7s						
MNK	**Minsk**	**94.43**	**328**	*i* P	**P**	**23 42 24.9**	**+1.6**
	comp=E,1.0nm,1.0s						
MNK				*i* P	**P**	**23 42 24.9**	**+1.6**
	comp=N,7.0nm,1.0s						
MNK				*i* P	**P**	**23 42 24.9**	**+1.6**
	comp=Z,1.0nm,1.0s,baz=243						
MNK				*i* PP	PP	23 46 25.7	+16
MNK				*i* PPP	PPP	23 49 05.4	
MNK				*i* S	**SKSac**	**23 52 56.7**	**-1.3**
MNK				*i* PS	**PS**	**23 55 04.5**	**+13**
MNK				*i* SSS	SSS	00 03 50.2	
MNK				*i* LQ	LQ	00 16 37.5	
MNK				*i* L

CROK	Carrier	0.61	314		Pg	23 31 41.4	+0.7
CROK				Sg	Sg	23 31 49.6	+0.9
OKCFA	Oklahoma City	0.67	181		Pg	23 31 41.5	-0.2
OKCFA				IAmb_Lg		23 31 50.4	
	comp=Z,44nm,0.9s						
OKCFA				Sg	Sg	23 31 50.4	0.0
OKCSW	OKLAHOMA CITY	0.68	180		Pg	23 31 41.8	-0.1
OKCSW				Sg	Sg	23 31 51.2	+0.5
BLOK	Blackwell	0.70	15		Pg	23 31 42.7	+0.3
BLOK				Sg	Sg	23 31 52.3	+0.7
FNO	Franklin	0.82	178		Pg	23 31 44.7	-0.1
FNO				Sg	Sg	23 31 54.5	-1.0
GC02	Grant County #	0.84	336		Pg	23 31 45.0	-0.1
KAN13	South Haven SW	0.93	358	Pg	Pg	23 31 46.4	-0.5
OK032	Salt Plains WL	0.95	319	Pg	Pg	23 31 46.5	-0.8
KAN09	Caldwell North	1.06	352	Pg	Pg	23 31 49.2	-0.2
KAN05	Bluff City Nor	1.08	341	Pg	Pg	23 31 49.5	-0.2
T35A	Sooner Cattle	1.12	42		Pg	23 31 50.1	-0.3
KS20	Mayfield South	1.15	355	Pg	Pg	23 31 50.6	-0.4
KS20				IAmb_Lg		23 32 05.5	
	comp=Z,37nm,0.9s						
KAN10	Anthony SW Sta	1.17	333	Pg	Pg	23 31 51.2	-0.2
KAN08	Anthony NE Sta	1.22	340		Pg	23 31 51.9	-0.5
KAN12	Harper NE Stat	1.29	340	Pn	Pg	23 31 53.2	-0.6
U32A	Winter Ranch,	1.30	284	Pn	Pg	23 31 53.3	-0.6
X34A	Smith Ranch, M	1.51	192		Pn	23 31 57.2	+0.3
WMOK	Wichita Mounta	1.73	220		Pn	23 32 00.1	+0.2
LOOK	Love County	2.10	174	Pn	Pn	23 32 06.0	+1.2
X37A	Clayton	2.25	131	Pn	Pn	23 32 07.5	+0.5
X37A				IAmb_Lg		23 32 46.4	
	comp=Z,15nm,0.8s						
U38A	Gravette	2.49	81		Pn	23 32 10.6	+0.3
R32A	Long Quarter,	2.55	337	Pn	Pn	23 32 12.5	+1.4
Z35A	Perchaven, San	2.75	177	Pn	Pn	23 32 14.0	+0.1
HHAR	Hobbs	2.84	85		Pn	23 32 14.8	-0.3
W39A	Magazine	3.10	105		Pn	23 32 18.3	-0.4
AMTX	Amarillo	3.66	252	IAmb_Lg		23 33 31.9	
	comp=Z,6.7nm,0.9s						
U40A	Yellville	3.72	84	Pn	Pn	23 32 27.2	0.0
U40A				IAmb_Lg		23 33 27.1	
	comp=Z,8.2nm,0.7s						
ABTX	Abilene, Hawle	3.90	208	IAmb_Lg		23 33 35.6	
	comp=Z,6.5nm,0.8s						
X40A	Basin Creek Fa	4.09	112	Pn	Pn	23 32 32.8	+0.5
X40A				IAmb_Lg		23 33 42.0	
	comp=Z,11nm,0.9s						
WHAR	Wooly Hollow	4.26	99	Pn	Pn	23 32 33.9	-0.8
WLAR	White Oak Lake	4.28	123	IAmb_Lg		23 33 56.4	
	comp=Z,6.9nm,0.7s						
MGMO	Mountain Grove	4.29	74	IAmb_Lg		23 33 51.0	
	comp=Z,8.0nm,0.8s						
R40A	Maddies Statio	4.68	60	IAmb_Lg		23 33 58.8	
	comp=Z,8.6nm,0.8s						
P38A	Dawn	4.70	40	IAmb_Lg		23 34 11.8	
	comp=Z,12nm,1.2s						
P40A	Paris	5.48	50	IAmb_Lg		23 34 27.6	
	comp=Z,9.7nm,0.8s						

*TRN **16** 23:38:02.7, 13.°64N×58.°86W, h152km, MD4.0*
ISC 16 23:38:04.2±2.9, **14.°05N**±0.°06×**58.°7W**±0.°2, **h10**km, **n13**, σ**1**§**02**/17, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.21	219	eP	Pg	23 38 27.6	+0.1
BBSP				eS	Sb	23 38 43.6	+0.7
BBGH	Gun Hill	1.25	224	eP	Pn	23 38 26.8	-1.0
BBGH				eS	Sg	23 38 45.9	+1.5
MPOM	Morne Pois Mar	2.16	281	eP	Pn	23 38 39.2	-1.1
MPOM				eS	Sn	23 39 07.6	+0.4
SLBI	Saint Lucia, B	2.24	270	eP	Pn	23 38 39.9	-1.4
BIM	Bigot	2.38	282	eP	Pn	23 38 42.5	-0.8
SVB	Belmont	2.63	253	e	Pn	23 38 45.8	-1.0
DSLB	Salisbury	3.00	298	eP	Pn	23 38 51.8	-0.1
DSLB				eS	Sn	23 39 27.9	0.0
MAGL	Barre de l'ile	3.16	307	e	Pn	23 38 39.8	-14
CBE	Ff, Capester	3.48	306	eP	Pn	23 38 58.1	-0.4
CBE				eS	Sn	23 39 39.0	-0.7
ANBD	Bethesda, Anti	4.22	315	eP	Pn	23 39 10.0	+1.3
ANBD	Bethesda, Anti	4.22	315	eS	Sn	23 39 58.4	+0.4
BPA	Boggy Peak	4.28	315	eP	Pn	23 39 09.3	-0.2
BPA	Boggy Peak	4.28	315	eS	Sn	23 39 57.8	-1.8

*IDC **16** 23:38:28.5±3.1, 9.°07N×126.°55E, h81km±28km, mb3.9/12, mb1 4.0/13, mb1mx3.7/43, mbtmp4.2/13, MS3.6/1, Ms1 3.6/1, ms1mx2.9/37, Error ellipse: s-maj=34.5km s-min=13.5km az=74.0*
*NEIC **16** 23:38:30.3±1.3, 9.°2N±0.°1×126.°8E±0.°2, h90km±11km, mb4.5/14, Error ellipse: s-maj=22.1km s-min=14.5km az=92.0*
ISC 16 23:38:30.6±0.6, **9.°11N**±0.°05×**126.°68E**±0.°08, **h100**km, **n46**, σ**1**§**85**/49, **mb4.4**/20, **2C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	2.01	233	⇓eP	Pn	23 39 00.3	-3.0
BUKP				eS	Sn	23 39 29.6	+1.2
MSLP	Maasin	2.06	300	⇓eP	Pn	23 38 59.6	-4.3
MSLP				eS	Sn	23 39 30.6	+1.2
CGP	Cagayan de Oro	2.06	252	⇑eP	Pn	23 38 58.6	-5.4
CGP				iS	Sn	23 39 30.4	+0.8
DAV	Davao City (W)	2.30	208	P	Pn	23 39 04.2	-2.9
	51nm,0.3s,baz=59,slow=7.5,SNR=4.6						
DAV				S	Sn	23 39 30.6	-4.5
	82nm,0.3s,baz=259,slow=21,SNR=4.8						
DAV	Davao City (W)	2.30	208		Pn	23 39 07.8	+0.7
KCP	Kidapawan	2.61	217	⇑eP	Pn	23 39 07.7	-3.6
KCP				iS	Sn	23 39 46.2	+3.6
LLP	Lapu-Lapu	2.93	294	⇓iP	Pn	23 39 11.7	-3.6
LLP				iS	Sn	23 39 52.1	+2.2
DCPH	Dipolog City	3.33	261	⇓eP	Pn	23 39 17.9	-2.8
SNPH	Sibulan	3.41	274	eP	Pn	23 39 16.8	-5.1
RCP	Roxas	4.57	303	⇓eP	Pn	23 39 33.9	-3.6
TNTI	Ternate	8.31	175	Pn	Pn	23 40 28.7	+0.3
TOLI2	Tolitoli	9.88	217	Pn	Pn	23 40 51.0	+1.2
LUWI	Luwuk	10.81	201	Pn	Pn	23 41 03.8	+1.4
GUMO	Guam	18.38	74	LR	LR	23 50 06.1	
	comp=Z,179nm,18.2s,baz=304,slow=38						
KS19	Wonju Array Si	28.29	2	P	P	23 44 14.4	-0.2
RPSI	Rantau Prapat	28.32	259	P	P	23 44 16.8	+1.7
RPSI				IAmb	IAmb	23 44 18.8	
	comp=Z,8.0nm,0.8s						
CMAR	Chiang Mai Arr	28.45	292	P	P	23 44 14.5	-1.8
	comp=Z,0.7nm,0.3s,baz=106,slow=6.7,SNR=1.6						
CMAR	Chiang Mai Arr	28.45	292	P	P	23 44 17.7	+1.4
CHTO	Chiang Mai	28.55	293	P	P	23 44 17.6	+0.4
WB0	Warramunga Arr	29.69	165	P	P	23 44 26.0	-1.2
WB0				IAmb	IAmb	23 44 39.0	
	comp=Z,18nm,1.4s						
WRAB	Tennant Creek	29.84	165	P	P	23 44 29.1	+0.6
WRA	Warramunga Arr	29.84	165	P	P	23 44 27.4	-1.2
	comp=Z,1.7nm,0.6s,baz=348,slow=9.3,SNR=15						
WRA	Warramunga Arr	29.84	165	IAmb	IAmb	23 44 28.7	
	comp=Z,0.4nm,1.2s						
WB2	Warramunga Arr	29.84	165	P	P	23 44 28.1	-0.5
WB2				IAmb	IAmb	23 44 41.6	
	comp=Z,7.2nm,0.8s						
WR0	Warramunga Arr	29.91	165	P	P	23 44 27.5	-1.6
WR0				IAmb	IAmb	23 44 30.3	
	comp=Z,15nm,1.4s						
PSA00	Pilbara Seismi	31.22	192	P	P	23 44 40.4	-0.3
PSA00				IAmb	IAmb	23 44 52.3	
	comp=Z,15nm,0.9s						
ASAR	Alice Springs	33.34	168	P	P	23 44 58.2	-1.0
	comp=Z,1.7nm,0.6s,baz=357,slow=7.1,SNR=19						
ASAR				PcP	PcP	23 47 40.3	+1.2
	comp=Z,0.5nm,0.5s,baz=349,slow=1.9,SNR=2.2						
ASAR	Alice Springs	33.34	168	P	P	23 44 59.2	0.0
USA0B	Ussuriysk Arra	35.26	7	P	P	23 45 15.2	-0.4
USA0B				IAmb	IAmb	23 45 18.4	
	comp=Z,5.5nm,0.9s						
USRK	Ussuriysk Ar.	35.26	7	P	P	23 45 16.6	+1.1
	comp=Z,3.9nm,0.8s,baz=182,slow=7.8,SNR=9.6						
USRK	Ussuriysk Ar.	35.26	7	P	P	23 45 16.2	+0.7
SONM	Songino Array	42.24	340	P	P	23 46 12.0	-2.0
	comp=Z,0.5nm,0.6s,baz=160,slow=9.2,SNR=4.5						
SONM	Songino Array	42.24	340	P	P	23 46 14.0	0.0
NWAO	Narrogin (SRO)	42.76	192	P	P	23 46 19.7	+1.5
STKA	Stephens Creek	43.18	161	P	P	23 46 21.2	-0.4
	comp=Z,1.3nm,0.4s,baz=353,slow=8.1,SNR=2.7						
MK31	Makanchi Array	53.19	323	P	P	23 47 38.7	+0.2
MK31				IAmb	IAmb	23 47 39.3	
	comp=Z,3.3nm,0.8s						
MKAR	Makanchi Array	53.19	323	P	P	23 47 38.7	+0.2
	comp=Z,4.1nm,0.7s,baz=122,slow=8.5,SNR=36						
MKAR	Makanchi Array	53.19	323	P	P	23 47 38.5	+0.1
KDJ	Kajisay	54.39	316	P	P	23 47 47.6	+0.1
KDJ				IAmb	IAmb	23 47 48.7	
	comp=Z,2.8nm,0.8s						
ZALV	Zalesovo Beam	55.83	332	P	P	23 47 56.6	-0.8
	comp=Z,1.1nm,0.7s,baz=115,slow=6.7,SNR=4.9						
TIXI	Tiksi	62.50	1	P	P	23 48 44.5	+1.4
	comp=Z,4.9nm,0.8s,baz=272,slow=13,SNR=2.6						
INK	Inuvik	85.21	22	P	P	23 50 56.4	+0.8
	comp=Z,0.7nm,0.3s,baz=322,slow=2.8,SNR=3.4						
ARCES	ARCESS Array B	85.41	340	P	P	23 50 56.3	-0.3
	comp=Z,2.3nm,0.8s,baz=35,slow=3.0,SNR=6.4						
FINES	FINESS Array B	87.09	332	P	P	23 51 04.5	-0.5
	comp=Z,1.1nm,0.9s,baz=108,slow=0.6,SNR=3.8						
TORD	Torodi Ar. Bea	121.06	291	PKP	PKiKP	23 57 12.7	0.0
	comp=Z,0.9nm,0.8s,baz=85,slow=0.4,SNR=3.8						
PLCA	Paso Flores	144.99	157	PKPbc	PKPab	23 57 56.0	-0.1
	comp=Z,2.5nm,1.0s,baz=45,slow=23,SNR=1.9						

IDC 16 23:46:29.1±3.2, **9.°42S**×**158.°78E**, **h0**km, **mb3.7**/3, **mb1 3.8**/3, **mb1mx3.5**/24, **mbtmp3.7**/3, **Error ellipse: s-maj=115.1km s-min=21.1km az=166.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.15	91	Pn	Pn	23 46 52.5	0.0
	112nm,0.3s,baz=217,slow=6.3,SNR=15						
HNR				Sn	Sg	23 47 04.1	-2.1
	549nm,0.3s,baz=184,slow=22,SNR=19						
WRA	Warramunga Arr	25.81	243	P	P	23 52 01.4	-0.9
	0.5nm,0.6s,baz=71,slow=9.7,SNR=1.5						
STKA	Stephens Creek	27.45	213	P	P	23 52 17.1	+0.2
	0.8nm,0.4s,baz=47,slow=18,SNR=3.1						
ASAR	Alice Springs	27.67	236	P	P	23 52 19.5	+0.5
	0.4nm,0.6s,baz=66,slow=10.0,SNR=4.2						

*IDC **16** 23:53:36.5±1.1, 5.°73S×152.°35E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/32, mbtmp4.0/11, ML2.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=41.0km s-min=17.8km az=121.0*
*NEIC **16** 23:53:41.0±1.5, 5.°77S±0.°07×152.°53E±0.°08, h22km±4km, mb4.3/14, Error ellipse: s-maj=11.5km s-min=9.6km az=110.0*
ISC 16 23:53:42.3±0.6, **5.°82S**±0.°07×**152.°47E**±0.°09, **h38**km, **n32**, σ**1**§**41**/31, **mb4.1**/17, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.65	349	Pn	Pn	23 54 08.4	-0.4
MANU	Manus Island	6.32	306	Pn	Pn	23 55 14.4	+1.4
PMG	Port Moresby	6.35	236	Pn	Pn	23 55 11.5	-1.9
	3.8nm,0.3s,baz=57,slow=11,SNR=3.2						
PMG				Sn	Sn	23 56 23.2	-1.5
	2.2nm,0.3s,baz=110,slow=20,SNR=2.5						
PMG	Port Moresby	6.35	236		Pn	23 55 14.5	+1.1
HNR	Honiara	8.23	116	Pn	Pn	23 55 38.8	-0.5
DZM	Mont Dzumac	21.06	141	LR	LR	00 04 46.2	
	comp=Z,175nm,20.7s,baz=314,slow=32						
SAUI	Saumlaki	21.12	263	P	P	23 58 23.9	-0.2
MTN	Manton Dam	22.16	250	P	P	23 58 37.8	+2.6
MTN				IAmb	IAmb	23 58 48.8	
	comp=Z,15nm,0.9s						
WB0	Warramunga Arr	22.38	230	P	P	23 58 36.9	-0.7
WB0				IAmb	IAmb	23 58 55.3	
	comp=Z,9.0nm,1.1s						
WR0	Warramunga Arr	22.39	229	P	P	23 58 37.4	-0.1
WR0				IAmb	IAmb	23 58 40.1	
	comp=Z,6.9nm,0.9s						
WB2	Warramunga Arr	22.52	230	P	P	23 58 39.1	+0.2
WB2				IAmb	IAmb	23 58 58.6	
	comp=Z,4.4nm,0.8s						
WRA	Warramunga Arr	22.53	230	P	P	23 58 38.3	-0.8
	comp=Z,1.9nm,0.7s,baz=54,slow=9.5,SNR=10						
AS31	Alice Springs	25.18	223	P	P	23 59 05.0	+0.6
ASAR	Alice Springs	25.18	223	P	P	23 59 03.8	-0.7
	comp=Z,4.2nm,0.8s,baz=58,slow=8.9,SNR=37						
STKA	Stephens Creek	27.84	200	P	P	23 59 28.4	+0.1
	comp=Z,0.7nm,0.3s,baz=351,slow=11,SNR=3.2						
BBOO	Buckleboo	30.90	208	P	P	23 59 60.0	+4.5
CMAR	Chiang Mai Arr	58.02	296	P	P	00 03 31.0	-0.8
	comp=Z,0.8nm,0.3s,baz=124,slow=7.7,SNR=2.2						
PEA0B	Petropavlovsk-	58.88	4	P	P	00 03 37.1	0.0
PETK	Petropavlovsk-	58.88	4	P	P	00 03 37.0	-0.1
	comp=Z,1.1nm,0.5s,baz=171,slow=8.6,SNR=2.3						
AMKA	Amchitka	61.45	19	P	P	00 03 54.5	-0.4
ADK	Adak	63.24	21	P	P	00 04 07.8	+1.0
SONM	Songino Array	67.01	328	P	P	00 04 30.5	-1.0
	comp=Z,0.6nm,0.6s,baz=153,slow=4.7,SNR=4.9						
SONM				LR	LR	00 33 28.4	
	comp=Z,26nm,18.8s,baz=356,slow=36						
SONM	Songino Array	67.01	328	P	P	00 04 31.0	-0.5
SONM				IAmb	IAmb	00 04 32.0	
	comp=Z,3.2nm,1.4s						
MKAR	Makanchi Array	80.88	319	P	P	00 05 50.1	-2.4
	comp=Z,0.4nm,0.8s,baz=102,slow=7.4,SNR=2.3						
IMAR	Indian Mountai	81.45	20	P	P	00 05 56.5	+1.3
ZALV	Zalesovo Beam	81.82	326	P	P	00 05 57.4	+0.1
	comp=Z,0.5nm,0.4s,baz=109,slow=9.6,SNR=1.7						
MLY	Manley	81.95	21	P	P	00 05 59.5	+1.6
MLY				IAmb	IAmb	00 06 00.1	
	comp=Z,4.2nm,0.9s						
NEA2	Nenana	82.33	22	P	P	00 06 00.6	+0.9
NEA2				IAmb	IAmb	00 06 01.6	
	comp=Z,4.5nm,0.9s						
ILAR	Eielson Array	83.23	22	P	P	00 06 04.8	+0.3
	comp=Z,2.6nm,0.9s,baz=254,slow=5.0,SNR=15						
DOT	Dot Lake	83.79	24	IAmb	IAmb	00 06 11.0	
	comp=Z,10nm,1.3s						
NVAR	Mina Array Bea	92.97	52	P	P	00 06 51.7	-0.6
	comp=Z,0.4nm,0.7s,baz=246,slow=6.8,SNR=2.8						
TORD	Torodi Ar. Bea	150.29	286	PKPbc	PKPbc	00 13 29.1	-1.5
	comp=Z,0.8nm,0.7s,baz=66,slow=2.8,SNR=4.1						

*NOU **16** 23:56:24.8, 22.°69S×167.°82E, h0km, ML4.4, New Caledonia*
*IDC **16** 23:56:25.1±1.6, 22.°60S×167.°72E, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/25, mbtmp4.0/2, Error ellipse: s-maj=57.0km s-min=18.9km az=22.0*
ISC 16 23:56:26.4±1.6, **22.°6S**±0.°1×**167.°7E**±0.°1, **h10**km, **n13**, σ**1**§**06**/13, **New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	0.25	271	P	Pg	23 56 31.3	-0.2
OUENC	Ouen Island, N	0.83	284	P	Pg	23 56 42.5	0.0
YATNC	Mamie plateau,	0.95	306	P	Pg	23 56 45.4	+0.8
MARNC	Mare, Loyalty	1.17	14	P	Pb	23 56 47.8	-0.9
ONTNC	Ouen Toro	1.21	285	P	Pn	23 56 48.8	-0.6
DZM	Mont Dzumac	1.30	295	Pg	Pn	23 56 49.7	-1.0
	122nm,0.3s,baz=109,slow=17,SNR=783						
DZM				Lg	Lg	23 57 07.2	
	428nm,0.3s,baz=343,slow=19,SNR=20						
DZM	Mont Dzumac	1.30	295	P	Pn	23 56 51.3	+0.6
NOUC	Port Laguerre	1.41	291	P	Pn	23 56 52.7	+0.6
LIFNC	LIFOU	1.89	346	P	Pn	23 56 58.6	-0.1
ASAR	Alice Springs	31.07	261	P	P	00 02 45.5	+0.6
	2.4nm,0.9s,baz=86,slow=9.1,SNR=8.0						
WRA	Warramunga Arr	31.18	269	P	P	00 02 44.7	-1.2
	0.7nm,0.9s,baz=95,slow=7.6,SNR=1.9						
ARCES	ARCESS Array B	127.94	344	PKP	PKPdf	00 15 31.3	-0.5
	1.9nm,1.0s,baz=58,slow=2.6,SNR=4.3						
GERES	GERESS Array B	146.70	328	PKPbc	PKPdf	00 16 09.2	+2.4
	0.3nm,0.5s,baz=22,slow=3.2,SNR=7.5						

*TRN **17** 00:21:07.5, 13.°82N×58.°44W, h48km, MD3.8*
ISC 17 00:21:06.4±3.5, **13.°83N**±0.°07×**58.°5W**±0.°2, **h10**km, **n17**, σ**1**§**22**/20, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	Gun Hill	1.24	236	eP	Pn	00 21 29.3	-0.5
MPOM	Morne Pois Mar	2.37	285	eP	Pn	00 21 46.0	+0.7
SLBI	Saint Lucia, B	2.41	275	eP	Pn	00 21 46.3	+0.4
LPMF	Morne Lapointe	2.50	287	eP	Pn	00 21 48.1	+0.8
ZAM	Aeronautique	2.56	287	eP	Pn	00 21 49.0	+1.0
SVV	Soufriere Volc	2.69	259	eS	Sn	00 22 21.7	-0.8
SVB	Belmont	2.74	259	eS	Sn	00 22 23.5	-0.1
BAMF	Morne Balai	2.75	291	eP	Pn	00 21 52.7	+2.1
PCM	Pelee Case Pet	2.80	291	eP	Pn	00 21 53.4	+2.0
GCMP	Grenada, Carri	3.15	245	eP	Pn	00 21 57.5	+1.3
GCMP				eS	Sn	00 22 32.9	-0.9
DSLB	Salisbury	3.25	300	eP	Pn	00 21 58.3	+0.9
DSLB				eS	Sn	00 22 35.2	-1.1
MAGL	Barre de l'ile	3.42	308	eP	Pn	00 22 00.4	+0.7
MAGL				eS	Sn	00 22 40.3	-0.1
ANBD	Bethesda, Anti	4.49	316	eP	Pn	00 22 15.6	+1.1
ANBD	Bethesda, Anti	4.49	316	eS	Sn	00 23 05.4	-1.4
BPA	Boggy Peak	4.55	315	eP	Pn	00 22 15.7	+0.3
BPA	Boggy Peak	4.55	315	eS	Sn	00 23 06.1	-2.3
ANWB	Willy Bob	4.96	321	eP	Pn	00 22 21.2	+0.3

*NEIC **17** 00:21:16.5±2.2, 18.°89N±0.°04×67.°64W±0.°03, h24km±12km, Error ellipse: s-maj=7.2km s-min=2.7km az=208.0*
*RSPR **17** 00:21:16.6, 19.°04N×67.°64W, h25km±18km, MD3.1/6*
ISC 17 00:21:15.2±1.3, **18.°97N**±0.°08×**67.°59W**±0.°03, **h27**km, **n34**, σ**0**§**80**/39, **6C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	Isla Desecheo	0.59	169	⇑eP	Pb	00 21 26.7	-0.3
IDE	Isla Desecheo	0.59	169		Pb	00 21 26.7	-0.3
AGPR	Aguadilla, PR	0.67	138	⇑eP	Pn	00 21 29.1	+0.1
AGPR	Aguadilla, PR	0.67	138	eS	Sn	00 21 38.9	+0.3
AGPR	Aguadilla, PR	0.67	138		Pn	00 21 28.5	-0.4
AGPR					Sn	00 21 38.0	-0.6
AGPR				IAML		00 21 39.0	
	comp=N,281nm,0.2s						
PCDR	Punta Cana, DR	0.88	239	⇓eP	Pb	00 21 31.2	-0.5
PCDR	Punta Cana, DR	0.88	239	eS	Sb	00 21 41.8	-1.3
PCDR	Punta Cana, DR	0.88	239		Pb	00 21 31.2	-0.5
PCDR	Punta Cana, DR	0.88	239		Sb	00 21 43.0	-0.1
PCDR				IAML		00 21 45.6	
	comp=E,163nm,1.1s						
PCDR				IAML		00 21 50.9	
	comp=N,248nm,0.9s						
AOPR	Arecibo Observ	1.00	128	⇑eP	Pb	00 21 33.6	-0.4
AOPR	Arecibo Observ	1.00	128	eS	Sb	00 21 47.6	+0.7
AOPR	Arecibo Observ	1.00	128		Pb	00 21 33.9	-0.1
AOPR					Sb	00 21 47.3	+0.5
AOPR				IAML		00 22 02.4	
	comp=N,103nm,0.3s						
EMPR	Esperanza - Ma	1.12	116	Pn	Pb	00 21 38.3	+2.5
EMPR				IAML		00 21 53.4	
	comp=N,142nm,1.6s						
MLPR	Magueyes Islan	1.12	152	⇑eP	Pb	00 21 36.0	+0.1
MLPR	Magueyes Islan	1.12	152	eS	Sb	00 21 50.7	+0.6
MLPR	Magueyes Islan	1.12	152		Pb	00 21 36.2	+0.3
MLPR					Sn	00 21 50.3	+0.7
MLPR				IAML		00 21 54.1	
	comp=N,74nm,0.6s						
MLPR				IAML		00 21 54.2	
	comp=E,92nm,0.5s						
CELP	Cerrillos	1.31	133	⇑eP	Pb	00 21 38.4	-0.7
CELP	Cerrillos	1.31	133	eS	Sb	00 21 55.2	-0.3
CELP	Cerrillos	1.31	133		Pb	00 21 38.4	-0.7
CELP					Sb	00 21 55.2	-0.3
OBIP	Obispado Ponce	1.31	134	⇑eP	Pb	00 21 38.5	-0.6
OBIP	Obispado Ponce	1.31	134	eS	Sb	00 21 55.5	0.0
OBIP	Obispado Ponce	1.31	134		Sb	00 21 57.2	+1.7
OBIP				IAML		00 22 00.4	
	comp=N,54nm,0.3s						
OBIP	Obispado Ponce	1.31	134		Pb	00 21 38.5	-0.6
ICMP	Isla Caja de M	1.48	137	Pn	Pb	00 21 42.1	+0.2
ICMP				IAML		00 22 04.7	
	comp=N,58nm,0.5s						
ICMP				IAML		00 22 09.0	
	comp=E,82nm,2.3s						
GCPR	Guaynabo City	1.57	114	Pn	Pb	00 21 43.0	-0.5
SJG	San Juan	1.61	122	Pn	Pb	00 21 43.1	-1.1
SJG				Sn	Sb	00 22 04.2	0.0
SJG				IAML		00 22 09.0	
	comp=E,51nm,0.3s						
SJG				IAML		00 22 10.1	
	comp=E,43nm,0.4s						
DR12	Loma Pena Alta	1.71	264	Pn	Pb	00 21 46.3	+0.4
PDPR	Patillas Dam,	1.76	122	Pn	Pb	00 21 46.1	-0.7
CBYP	Canovanas	1.78	113	Pn	Pb	00 21 46.1	-1.1
HUMP	Col San Antoni	1.84	116	Pn	Pb	00 21 47.9	-0.3
MTP	Monte Pirata	2.12	114	Pn	Pn	00 21 48.5	-0.3
MTP				IAML		00 22 28.2	
	comp=N,25nm,2.2s						
CUPR	Culebra, Puert	2.28	106	Pn	Pb	00 21 54.0	-1.7
STVI	Saint Thomas	2.57	103	Pn	Pn	00 21 55.4	+0.3
STVI				IAML		00 22 30.9	
	comp=N,25nm,1.5s						
STVI				IAML		00 22 40.1	
	comp=E,22nm,1.6s						
SDDR	Presa de Saban	3.50	271	Pn	Pn	00 22 08.

IDC 17 01:09:01.0±2.0, 4°.58S×151°.63E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/29, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=133.0km s-min=27.3km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.53**	**222**	Sn	Sn	01 11 53.5	-0.2
	3.7nm,0.3s,baz=150,slow=22,SNR=2.3						
HNR	**Honiara**	**9.56**	**121**	LR	LR	01 14 17.2	
	comp=Z,91nm,19.2s,baz=276,slow=33						
WRA	**Warramunga Arr**	**22.73**	**226**	P	P	01 14 05.0	+0.1
	0.8nm,0.4s,baz=52,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**25.54**	**220**	P	P	01 14 31.6	-0.2
	0.6nm,0.4s,baz=56,slow=8.9,SNR=9.5						
ILAR	**Eielson Array**	**82.40**	**22**	P	P	01 21 24.6	-0.1
	0.9nm,0.6s,baz=251,slow=5.6,SNR=7.1						
H03S2	**Juan Fernandez**	**118.90**	**133**	T	T	03 39 13.3	
	baz=250,slow=73,SNR=8.1						
H03S1	**Juan Fernandez**	**118.91**	**133**	T	T	03 39 11.3	
	baz=250,slow=73,SNR=9.0						
H03S3	**Juan Fernandez**	**118.92**	**133**	T	T	03 39 13.3	
	baz=250,slow=73,SNR=16						
H03N3	**Juan Fernandez**	**119.08**	**132**	T	T	03 39 22.0	
	baz=249,slow=71,SNR=8.4						
H03N2	**Juan Fernandez**	**119.08**	**132**	T	T	03 39 13.3	
	baz=249,slow=71,SNR=9.4						
H03N1	**Juan Fernandez**	**119.10**	**132**	T	T	03 39 13.1	
	baz=249,slow=71,SNR=7.0						
TORD	**Torodi Ar. Bea**	**149.12**	**288**	PKPbc	PKPbc	01 28 52.2	-0.3
	0.7nm,0.8s,baz=74,slow=3.1,SNR=4.6						

TEH 17 01:30:30.8, 30°.56N×51°.76E, h5km, ML3.2
THR 17 01:30:34.9±0.6, 30°.54N×51°.93E, h33km±5km, ML3.5
ISC 17 01:30:32.0±1.1, 30°.57N±0°.04×51°.84E±0°.05, h10km, n26, σ1°84/27, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.49**	**334**	*e*Pg	**Pg**	**01 30 40.4**	**-1.2**
KLNJ				*e*		01 30 50.2	
	comp=Z,68μm,0.3s						
KAZ1	**Kazerun**	**0.96**	**191**	*e*Pg	**Pn**	**01 30 51.6**	**0.0**
KAZ1				*e*		01 31 13.4	
	comp=Z,23μm,0.3s						
SHI	**Shiraz**	**1.09**	**148**	*e*Pg	**Pn**	**01 30 53.9**	**+0.3**
IRAM	**Ramesheh**	**1.32**	**20**	*e*Pg	**Pn**	**01 30 55.9**	**-0.8**
IRAM				*e*		01 31 17.2	
	comp=Z,4μm,0.3s						
ABEH	**Behbahan**	**1.37**	**272**	*e*Pg	**Pg**	**01 30 58.4**	**+0.1**
ABEH				*e*		01 31 38.6	
	comp=Z,13μm,0.6s						
IGAR	**Gharneh**	**1.84**	**5**	*e*		01 31 10.8	
	comp=Z,3μm,0.2s						
IGAR				*e*Pn	**Pg**	**01 31 06.1**	**-1.2**
SHK1	**Shahrekord**	**1.93**	**335**	*e*		01 31 51.9	
	comp=Z,1μm,0.7s						
SHK1				*e*Pn	**Pg**	**01 31 07.3**	**-1.8**
ISAD	**Sadrabad**	**2.07**	**49**	*e*Pn	**Pb**	**01 31 10.1**	**+0.2**
ISAD				*e*		01 31 18.6	
	comp=Z,1μm,0.4s						
IPIR	**Pirpir**	**2.26**	**339**	*e*Pn	**Pb**	**01 31 12.1**	**-1.0**
IPIR				*e*		01 31 18.8	
	comp=Z,972nm,0.2s						
IZEF	**Zefreh**	**2.35**	**10**	*e*Pn	**Pb**	**01 31 13.8**	**-0.9**
IZEF				*e*		01 31 26.2	
	comp=Z,628nm,0.4s						
NASN	**Na'in**	**2.37**	**20**	*e*Pn	**Pb**	**01 31 14.3**	**-0.7**
NASN				*e*Sg	**Sg**	**01 31 48.0**	**-0.2**
NASN	**Na'in**	**2.37**	**20**	*e*Pn	**Pb**	**01 31 14.3**	**-0.7**
IMEH	**Mehriz**	**2.52**	**70**	*e*Pn	**Pb**	**01 31 17.6**	**+0.2**
IMEH				*e*		01 31 21.7	
	comp=Z,570nm,0.2s						
IKLH	**Kolahrood**	**2.75**	**355**	*e*Pn	**Pb**	**01 31 18.5**	**-2.9**
IKLH				*e*		01 31 29.6	
	comp=Z,696nm,0.6s						
KRSH	**Karshahi**	**3.40**	**4**	*e*Pn	**Pn**	**01 31 27.6**	**+2.3**
ISFB	**Sefidab**	**3.79**	**5**	*e*Pn	**Pn**	**01 31 33.3**	**+2.8**
ASAO	**Ashtian**	**4.25**	**339**	*e*Pn	**Pn**	**01 31 40.3**	**+3.2**
ASAO	**Ashtian**	**4.25**	**339**	*e*Pn	**Pn**	**01 31 40.3**	**+3.2**
IQOM	**Qom**	**4.31**	**352**	*e*Pn	**Pn**	**01 31 39.5**	**+1.6**
IVRN	**Varamin**	**4.41**	**359**	*e*Pn	**Pn**	**01 31 41.9**	**+2.8**
IDOB	**Doab**	**4.47**	**317**	*e*Pn	**Pn**	**01 31 41.7**	**+1.7**
HSAM	**Samen**	**4.55**	**324**	*e*Pn	**Pn**	**01 31 42.9**	**+1.7**
HSAM				*e*		01 32 40.8	
	comp=Z,174nm,0.5s						
HAGD	**Aghdareh**	**4.81**	**332**	*e*Pn	**Pn**	**01 31 47.2**	**+2.4**
HAGD				*e*		01 33 02.5	
	comp=Z,199nm,0.4s						
BNDS	**Bandar-Abbas**	**4.94**	**129**	*e*Pn	**Pn**	**01 31 47.9**	**+1.5**
BNDS	**Bandar-Abbas**	**4.94**	**129**	*e*Pn	**Pn**	**01 31 47.9**	**+1.5**
IRAZ	**Razeghan**	**5.08**	**342**	*e*Pn	**Pn**	**01 31 50.1**	**+1.6**

JMA 17 01:39:37.5±0.2, 24°.57N×122°.23E, h77km±3km, M2.3
TAP 17 01:39:37.9, 24°.59N×122°.25E, h72km, ML3.2, B
ISC 17 01:39:38.6±1.3, 24°.56N±0°.04×122°.26E±0°.02, h69km±8km, n73, σ0°76/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.38**	**277**	*i* P	**Pn**	**01 39 50.0**	**-0.2**
TWC				*i* S	**Sn**	**01 39 58.6**	**0.0**
	baz=272						
EGS		**0.41**	**313**	P	**Pn**	**01 39 50.3**	**-0.2**
EGS				S	**Sn**	**01 39 58.7**	**-0.4**
	baz=311						
EWUT	**Wuta**	**0.46**	**255**	P	**Pn**	**01 39 51.1**	**+0.3**
EWUT				S	**Sn**	**01 40 00.6**	**+0.7**
	baz=251						
NTC	**Toucheng**	**0.49**	**306**	*e*P	**Pn**	**01 39 51.0**	**-0.2**
NTC				*e*S	**Sn**	**01 40 00.4**	**0.0**
	baz=304						
ENA	**Nanau**	**0.49**	**254**	P	**Pn**	**01 39 51.7**	**+0.5**
ENA				S	**Sn**	**01 40 01.7**	**+1.2**
	baz=249						
NDS	**Dongshan**	**0.50**	**278**	P	**Pn**	**01 39 51.3**	**0.0**
NDS				S	**Sn**	**01 40 00.9**	**+0.3**
	baz=274						
TWB1	**Santiao Chiao**	**0.51**	**331**	P	**Pn**	**01 39 51.1**	**-0.3**
TWB1				S	**Sn**	**01 40 00.4**	**-0.4**
	baz=331						
ILA	**Ilan**	**0.51**	**293**	*e*S	**Sn**	**01 40 01.3**	**+0.5**
	baz=290						
TWE	**Neicheng**	**0.56**	**286**	P	**Pn**	**01 39 52.1**	**+0.2**
TWE				S	**Sn**	**01 40 01.8**	**+0.1**
	baz=283						
TIPB	**Shuangxi**	**0.57**	**316**	P	**Pn**	**01 39 51.6**	**-0.4**
TIPB				S	**Sn**	**01 40 01.4**	**-0.4**
	baz=314						
JYNG	**Yonaguni jima**	**0.63**	**100**	P	**Pn**	**01 39 52.8**	**+0.2**
JYNG				S	**Sn**	**01 40 03.8**	**+0.8**
ENTT	**Nioudou**	**0.64**	**277**	P	**Pn**	**01 39 53.1**	**+0.3**
ENTT				S	**Sn**	**01 40 04.1**	**+0.9**
	baz=274						
NWF	**Wu-fen Shan**	**0.67**	**319**	*e*P	**Pn**	**01 39 52.7**	**-0.4**
NWF				*e*S	**Sn**	**01 40 03.6**	**-0.3**
	baz=318						
WFSB	**Wu-fen Shan**	**0.67**	**319**	P	**Pn**	**01 39 52.9**	**-0.2**
WFSB				S	**Sn**	**01 40 03.4**	**-0.3**
	baz=318						
NDT	**Datong Townshi**	**0.68**	**273**	P	**Pn**	**01 39 53.5**	**+0.3**
NDT				S	**Sn**	**01 40 04.8**	**+0.8**
	baz=270						
YOJ	**Yonaguni jima**	**0.69**	**98**	P	**Pn**	**01 39 53.3**	**0.0**
YOJ				S	**Sn**	**01 40 04.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.69**	**98**	*e*P	**Pn**	**01 39 53.6**	**+0.3**
YOJ				*e*S	**Sn**	**01 40 05.0**	**+0.9**
	baz=100						
ETL	**Fush Village**	**0.71**	**235**	P	**Pn**	**01 39 52.8**	**-0.7**
ETL				S	**Sn**	**01 40 04.7**	**+0.1**
	baz=232						
NACB	**Ninganchiao**	**0.72**	**238**	*e*P	**Pn**	**01 39 53.0**	**-0.7**
NACB				*e*S	**Sn**	**01 40 04.4**	**-0.4**
	baz=234						
NWLT	**Wulai**	**0.72**	**287**	*e*P	**Pn**	**01 39 53.8**	**+0.1**
NWLT				*e*S	**Sn**	**01 40 05.6**	**+0.7**
	baz=285						
TNOU	**National Taiwa**	**0.73**	**323**	*e*P	**Pn**	**01 39 53.2**	**-0.5**
TNOU				*e*S	**Sn**	**01 40 04.3**	**-0.6**
	baz=321						
TWA	**Mucha**	**0.74**	**304**	*e*S	**Sn**	**01 40 04.5**	**-0.7**
	baz=302						
TWD	**Chiawan**	**0.78**	**232**	*e*P	**Pn**	**01 39 53.7**	**-0.6**
TWD				*e*S	**Sn**	**01 40 05.7**	**-0.2**
	baz=229						
NHDH	**Xindian Distri**	**0.78**	**301**	*e*S	**Sn**	**01 40 05.8**	**-0.1**
	baz=299						
ETLH	**Xiulin Townshi**	**0.80**	**244**	*e*P	**Pn**	**01 39 54.2**	**-0.4**
ETLH				*e*S	**Sn**	**01 40 06.0**	**-0.4**
	baz=241						
NNSB	**Datong**	**0.81**	**261**	*e*P	**Pn**	**01 39 54.7**	**-0.1**
NNSB				*e*S	**Sn**	**01 40 07.0**	**+0.1**
	baz=258						
NNSH	**Datong**	**0.81**	**261**	*e*P	**Pn**	**01 39 54.6**	**-0.3**
NNSH				*e*S	**Sn**	**01 40 07.1**	**+0.2**
	baz=258						
YHNB	**Yeheng**	**0.81**	**278**	*e*P	**Pn**	**01 39 54.8**	**0.0**
YHNB				*e*S	**Sn**	**01 40 06.7**	**-0.1**
	baz=275						
NNS	**Nan Shan**	**0.82**	**261**	*e*P	**Pn**	**01 39 54.7**	**-0.2**
NNS				*e*S	**Sn**	**01 40 07.0**	**0.0**
	baz=258						
NSK	**Sanguang**	**0.83**	**278**	*e*P	**Pn**	**01 39 55.0**	**0.0**
NSK				*e*S	**Sn**	**01 40 07.1**	**-0.1**
	baz=275						
HWA	**Hwalien**	**0.84**	**226**	*e*S	**Sn**	**01 40 08.3**	**+1.1**
	baz=223						
YM01	**YM01**	**0.85**	**313**	*e*P	**Pn**	**01 39 54.6**	**-0.7**
	baz=311						
YM01				*e*S	**Sn**	**01 40 06.8**	**-0.8**
	baz=311						
YM08	**YM08**	**0.87**	**316**	*e*S	**Sn**	**01 40 06.4**	**-1.5**
	baz=314						
ETM	**Tongmen**	**0.92**	**230**	*e*P	**Pn**	**01 39 55.4**	**-0.7**
ETM				*e*S	**Sn**	**01 40 08.4**	**-0.6**
	baz=227						
TEYL	**Yanliau Villag**	**0.92**	**221**	*e*P	**Pn**	**01 39 55.3**	**-0.8**
TEYL				*e*S	**Sn**	**01 40 08.3**	**-0.6**
	baz=220						
FUSS	**Fushou**	**0.98**	**251**	*e*P	**Pn**	**01 39 56.9**	**-0.1**
FUSS				*e*S	**Sn**	**01 40 10.3**	**-0.3**
	baz=249						
WHF	**Hehuan Shan**	**1.00**	**246**	*e*P	**Pn**	**01 39 57.1**	**-0.4**
WHF				*e*S	**Sn**	**01 40 10.9**	**-0.5**
	baz=243						
TWT	**Tachien**	**1.04**	**253**	*e*S	**Sn**	**01 40 12.4**	**+0.5**
	baz=250						
TDCB	**Techi**	**1.05**	**253**	*e*P	**Pn**	**01 39 57.9**	**+0.1**
TDCB				*e*S	**Sn**	**01 40 11.7**	**-0.5**
	baz=251						
ESL	**Shilin**	**1.06**	**226**	*e*P	**Pn**	**01 39 57.9**	**+0.1**
ESL				*e*S	**Sn**	**01 40 10.9**	**-1.2**
	baz=223						
CHGB	**Renai**	**1.11**	**243**	*e*P	**Pn**	**01 39 58.5**	**-0.1**
CHGB				*e*S	**Sn**	**01 40 13.3**	**-0.3**
	baz=241						
LIOB	**Emei**	**1.14**	**274**	*e*P	**Pn**	**01 39 58.7**	**-0.1**
LIOB				*e*S	**Sn**	**01 40 14.0**	**+0.1**
	baz=272						
NSTT	**Nanjuang**	**1.15**	**274**	*e*P	**Pn**	**01 39 58.7**	**-0.2**
NSTT				*e*S	**Sn**	**01 40 13.8**	**-0.3**
	baz=271						
OWD	**Renai**	**1.16**	**239**	*e*P	**Pn**	**01 39 58.7**	**-0.6**
OWD				*e*S	**Sn**	**01 40 14.5**	**-0.2**
	baz=236						
EGFH	**Guangfu**	**1.17**	**221**	*e*S	**Sn**	**01 40 14.3**	**-0.4**
	baz=219						
WHP	**Taichung City**	**1.23**	**257**	*e*P	**Pn**	**01 40 00.7**	**+0.6**
WHP				*e*S	**Sn**	**01 40 16.8**	**+0.6**
	baz=255						
HGSD	**Ruisui**	**1.31**	**216**	*e*P	**Pn**	**01 40 00.1**	**-1.0**
HGSD				*e*S	**Sn**	**01 40 18.8**	**+0.8**
	baz=214						
WCS	**Beigang Elemen**	**1.33**	**248**	*e*P	**Pn**	**01 40 02.0**	**+0.7**
WCS				*e*S	**Sn**	**01 40 19.6**	**+1.2**
	baz=246						
IRIF	**Iriomote-Funau**	**1.36**	**99**	P	**Pn**	**01 40 01.1**	**-0.5**
IRIF				S	**Sn**	**01 40 18.4**	**-0.5**
EHY	**Hungye**	**1.36**	**219**	*e*P	**Pn**	**01 40 01.8**	**+0.1**
EHY				*e*S	**Sn**	**01 40 17.1**	**-1.9**
	baz=217						
SMLT	**Sun Moon Lake**	**1.42**	**242**	*e*P	**Pn**	**01 40 03.2**	**+0.7**
SMLT				*e*S	**Sn**	**01 40 20.6**	**+0.1**
	baz=239						
SSLB	**Suanglung**	**1.42**	**237**	*e*P	**Pn**	**01 40 03.4**	**+0.8**
SSLB				*e*S	**Sn**	**01 40 21.4**	**+0.9**
	baz=235						
TYC	**Yuchr**	**1.44**	**243**	*e*P	**Pn**	**01 40 03.7**	**+0.9**
TYC				*e*S	**Sn**	**01 40 21.3**	**+0.4**
	baz=241						
YULB	**Yu-li**	**1.46**	**217**	*e*P	**Pn**	**01 40 01.6**	**-1.5**
YULB				*e*S	**Sn**	**01 40 19.2**	**-2.3**
	baz=216						
EYUL	**Yuli**	**1.49**	**216**	*e*S	**Sn**	**01 40 22.9**	**+0.9**
	baz=214						
HATJ	**Hateruma jima**	**1.50**	**109**	P	**Pn**	**01 40 03.8**	**+0.4**
HATJ				S	**Sn**	**01 40 23.6**	**+1.4**
TWF1	**Yuli**	**1.50**	**216**	*e*P	**Pn**	**01 40 03.6**	**+0.2**
TWF1				*e*S	**Sn**	**01 40 21.0**	**-1.2**
	baz=214						
WJS	**Zhushan**	**1.58**	**243**	*e*S	**Sn**	**01 40 25.3**	**+0.9**
	baz=241						
FULB	**Fuli**	**1.62**	**213**	*e*S	**Sn**	**01 40 25.0**	**-0.3**
	baz=212						
JKRS	**Kuro-shima**	**1.63**	**101**	P	**Pn**	**01 40 05.3**	**+0.1**
JKRS				S	**Sn**	**01 40 25.3**	**0.0**
CHKT	**Chengkung**	**1.67**	**210**	*e*S	**Sn**	**01 40 24.3**	**-2.2**
	baz=208						
ALS	**Alishan**	**1.70**	**232**	*e*P	**Pn**	**01 40 07.2**	**+0.7**
ALS				*e*S	**Sn**	**01 40 28.1**	**+0.6**
	baz=230						
JIJ	**Ishigaki jima**	**1.73**	**96**	P	**Pn**	**01 40 06.1**	**-0.4**
JIJ				S	**Sn**	**01 40 27.1**	**-0.6**
CHN5	**Tsauling**	**1.74**	**237**	*e*P	**Pn**	**01 40 07.2**	**+0.4**
CHN5				*e*S	**Sn**	**01 40 29.0**	**+0.8**
	baz=235						
WDLH	**Douliu**	**1.80**	**241**	*e*S	**Sn**	**01 40 30.6**	**+1.1**
	baz=240						
EDH	**Donghe**	**1.81**	**209**	*e*P	**Pn**	**01 40 06.2**	**-1.5**
EDH				*e*S	**Sn**	**01 40 27.8**	**-1.9**
	baz=208						
WRL	**Guolierlin Hig**	**1.84**	**249**	*e*S	**Sn**	**01 40 29.5**	**-1.0**
	baz=248						
JISG	**Ishigakijimahi**	**1.86**	**89**	P	**Pn**	**01 40 08.2**	**-0.2**
JISG				*e*S	**Sn**	**01 40 31.5**	**+0.5**
CHN4	**Tsaushan**	**1.95**	**232**	*e*P	**Pn**	**01 40 10.6**	**+1.1**
CHN4				*e*S	**Sn**	**01 40 35.2**	**+2.2**
	baz=230						
WTP	**Ta-pu**	**2.00**	**229**	*e*P	**Pn**	**01 40 11.4**	**+1.2**
WTP				*e*S	**Sn**	**01 40 34.4**	**0.0**
	baz=227						
LDUT	**Ludao**	**2.02**	**201**	*e*S	**Sn**	**01 40 33.5**	**-1.2**
	baz=200						
TWK	**Hsinying**	**2.08**	**232**	*e*P	**Pn**	**01 40 12.2**	**+1.0**
TWK				*e*S	**Sn**	**01 40 36.9**	**+0.7**
	baz=230						
CHN1	**Nanshi**	**2.10**	**229**	*e*P	**Pn**	**01 40 12.6**	**+1.0**
CHN1				*e*S	**Sn**	**01 40 37.9**	**+1.2**
	baz=228						

SOME 17 01:58:36.7, 44°.12N×84°.02E, h5km
NNC 17 01:58:39.9±1.0, 44°.03N×83°.92E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=9.1km s-min=3.7km az=132.0
ISC 17 01:58:34.4±1.9, 44°.01N±0°.07×84°.06E±0°.07, h10km, n47, σ1°57/65, 6C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.75**	**259**	*e*P	**Pg**	**01 59 28.5**	**+1.4**
	49nm,0.2s						
KTMS				*e*S	**Sg**	**02 00 06.1**	**+3.4**
	148nm,0.3s						
KTMS	**Ketmen**	**2.75**	**259**	Pg	**Pg**	**01 59 28.5**	**+1.4**
	49nm,0.2s						
KTMS				Lg	Lg	02 00 06.1	
	148nm,0.3s						
MK31	**Makanchi Array**	**3.05**	**336**	Pn	**Pb**	**01 59 29.0**	**+0.2**
	0.1nm,0.1s,baz=151,slow=15,SNR=224						
MK31				Pg	**Pg**	**01 59 35.9**	**+3.0**
	1.6nm,0.2s,baz=147,slow=17,SNR=35						
MK31				⇑Lg	Lg	02 00 16.1	
	10nm,0.2s,baz=152,slow=30,SNR=11						
DJR	**Jarkent**	**3.09**	**277**	*e*P	**Pg**	**01 59 33.9**	**+0.3**
	25nm,0.2s						
DJR				*e*S	**Sg**	**02 00 15.1**	**+1.4**
	100nm,0.2s						
DJR	**Jarkent**	**3.09**	**277**	Pg	**Pg**	**01 59 33.9**	**+0.3**
	25nm,0.2s						
DJR				Lg	Lg	02 00 15.1	
	100nm,0.2s						
MAKZ	**Makanchi**	**3.16**	**333**	⇑Pn	**Pb**	**01 59 30.8**	**+0.1**
	1.2nm,0.5s						
MAKZ				⇓Pg	**Pg**	**01 59 37.4**	**+2.5**
	4.9nm,0.3s						
MAKZ				⇑Lg	Lg	02 00 18.2	
	37nm,0.6s						
PDGK	**Podgornoye**	**3.39**	**260**	Pg	**Pg**	**01 59 38.7**	**-0.6**
	4.0nm,0.2s						
PDGK				Lg	Lg	02 00 23.6	
	21nm,0.6s						
PDGK	**Podgornoye**	**3.39**	**260**	⇓Pg	**Pg**	**01 59 39.7**	**+0.4**
	6.8nm,0.3s						
PDGK				⇑Lg	Lg	02 00 27.3	
	58nm,0.7s						
SHLS	**Shalkode**	**3.45**	**257**	*e*P	**Pb**	**01 59 36.4**	**+0.7**
	16nm,0.2s						
SHLS				*e*S	**Sb**	**02 00 19.3**	**+1.6**
	210nm,0.3s						
SHLS	**Shalkode**	**3.45**	**257**	Pg	**Pb**	**01 59 36.4**	**+0.7**
	16nm,0.2s						
SHLS				Lg	Lg	02 00 19.3	
	210nm,0.3s						
ZSN	**Zaisan**	**3.49**	**9**	*e*P	**Pg**	**01 59 40.0**	**-1.2**
	8.5nm,0.1s						
ZSN				*e*S	**Sg**	**02 00 25.4**	**-0.9**
	75nm,0.3s						
ZSN	**Zaisan**	**3.49**	**9**	Pg	**Pg**	**01 59 40.0**	**-1.2**
	8.5nm,0.1s						
ZSN				Lg	Lg	02 00 25.4	
	75nm,0.3s						
KAPS	**Kapalarasan**	**3.59**	**292**	*e*P	**Pg**	**01 59 42.4**	**-0.9**
	18nm,0.2s						
KAPS				*e*S	**Sg**	**02 00 29.7**	**-0.1**
	50nm,0.2s						
KAPS	**Kapalarasan**	**3.59**	**292**	Pg	**Pg**	**01 59 42.4**	**-0.9**
	18nm,0.2s						
KAPS				Lg	Lg	02 00 29.7	
	50nm,0.2s						
UZB	**Uzynbulak**	**3.76**	**258**	*e*P	**Pg**	**01 59 46.7**	**+0.2**
	8.0nm,0.2s						
UZB				*e*S	**Sg**	**02 00 37.0**	**+1.7**
	27nm,0.2s						
UZB	**Uzynbulak**	**3.76**	**258**	Pg	**Pg**	**01 59 46.7**	**+0.2**
	8.0nm,0.2s						
UZB				Lg	Lg	02 00 37.0	
	27nm,0.2s						
KPKS	**Kokpek**	**3.94**	**264**	*e*P	**Pg**	**01 59 50.0**	**+0.1**
	22nm,0.1s						
KPKS				*e*S	**Sg**	**02 00 42.6**	**+1.8**
	124nm,0.4s						
TDK	**Taldyqorghan**	**4.17**	**286**	*e*P	**Pg**	**01 59 52.7**	**-1.6**
	70nm,0.4s						
TDK				*e*S	**Sg**	**02 00 47.5**	**-0.7**
	198nm,1.0s						
TDK	**Taldyqorghan**	**4.17**	**286**	Pg	**Pg**	**01 59 52.7**	**-1.6**
	70nm,0.4s						
TDK				Lg	Lg	02 00 47.5	
	198nm,1.0s						
SATY	**Saty**	**4.22**	**259**	*e*P	**Pg**	**01 59 53.7**	**-1.6**
	4.6nm,0.1s						
SATY				*e*S	**Sg**	**02 00 49.3**	**-0.7**
	24nm,0.1s						
SATY	**Saty**	**4.22**	**259**	Pg	**Pg**	**01 59 53.7**	**-1.6**
	4.6nm,0.1s						
SATY				Lg	Lg	02 00 49.3	
	24nm,0.1s						
KURS	**Kuram**	**4.30**	**265**	*e*P	**Pg**	**01 59 55.9**	**-0.9**
	3.7nm,0.4s						
KURS				*e*S	**Sg**	**02 00 52.7**	**+0.2**
	28nm,0.3s						
KURS	**Kuram**	**4.30**	**265**	Pg	**Pg**	**01 59 55.9**	**-0.9**
	3.7nm,0.4s						
KURS				Lg	Lg	02 00 52.7	
	28nm,0.3s						
ARXS	**Arharly**	**4.50**	**275**	*e*P	**Pg**	**01 59 59.4**	**-1.1**
	27nm,0.2s						
ARXS				*e*S	**Sg**	**02 00 59.1**	**+0.3**
	31nm,0.2s						
ARXS	**Arharly**	**4.50**	**275**	Pg	**Pg**	**01 59 59.4**	**-1.1**
	27nm,0.2s						
ARXS				Lg	Lg	02 00 59.1	
	31nm,0.2s						
CHKK	**Chushkaly**	**5.11**	**271**	*e*P	**Pg**	**02 00 10.1**	**-2.3**
	4.4nm,0.2s						
CHKK				*e*S	**Sg**	**02 01 17.3**	**-1.2**
	90nm,0.4s						
CHKK	**Chushkaly**	**5.11**	**271**	Pg	**Pg**	**02 00 10.1**	**-2.3**
	4.4nm,0.2s						
CHKK				Lg	Lg	02 01 17.3	
	90nm,0.4s						
MDOK	**Medeo**	**5.17**	**263**	*e*P	**Pg**	**02 00 11.7**	**-1.6**
	4.6nm,0.3s						
MDOK				*e*S	**Sg**	**02 01 19.9**	**-0.4**
	15nm,0.4s						
MDOK	**Medeo**	**5.17**	**263**	Pg	**Pg**	**02 00 11.3**	**-2.0**
	4.7nm,0.7s						
MDOK				⇓Lg	Lg	02 01 23.2	
	17nm,0.6s						
MDOK	**Medeo**	**5.17**	**263**	Pg	**Pg**	**02 00 11.7**	**-1.6**
	4.6nm,0.3s						
MDOK				Lg	Lg	02 01 19.9	
	15nm,0.4s						
TNSS	**Tian-Shan**	**5.27**	**262**	Pg	**Pg**	**02 00 14.1**	**-1.1**
	2.8nm,0.2s						
TNSS				Lg	Lg	02 01 24.2	
	25nm,0.3s						
KTBS	**Karatobe**	**5.35**	**269**	*e*P	**Pg**	**02 00 15.1**	**-1.7**
	2.5nm,0.3s						
KTBS				*e*S	**Sg**	**02 01 25.8**	**-0.2**
	41nm,0.3s						
KTBS	**Karatobe**	**5.35**	**269**	Pg	**Pg**	**02 00 15.1**	**-1.7**
	2.5nm,0.3s						
KTBS				Lg	Lg	02 01 25.8	
	41nm,0.3s						
IZV	**Izvestkoviy**	**5.50**	**262**	*e*P	**Pg**	**02 00 18.1**	**-1.7**
	6.7nm,0.5s						
IZV				*e*S	**Sg**	**02 01 31.1**	**0.0**

22nm,0.4s
IZV Izvestkoviy 5.50 262 Pg **Pg 02 00 18.1 -1.7**
6.7nm,0.5s
IZV Lg Lg 02 01 31.1
22nm,0.4s
KUU Kurty 5.58 271 ⇓*iP* **Pg 02 00 20.0 -1.3**
2.5nm,0.3s
KUU *eS* **Sg 02 01 33.9 +0.4**
22nm,0.3s
KUU Kurty 5.58 271 Pg **Pg 02 00 20.0 -1.3**
2.5nm,0.3s
KUU Lg Lg 02 01 33.9
22nm,0.3s
DGS Degeres 6.07 266 *eP* **Pg 02 00 28.1 -2.5**
2.2nm,0.3s
DGS *eS* **Sg 02 01 48.2 -1.0**
14nm,0.7s
DGS Degeres 6.07 266 Pg **Pg 02 00 28.1 -2.5**
2.2nm,0.3s
DGS Lg Lg 02 01 48.2
14nm,0.7s
KRBS Karabastau 6.07 270 *eP* **Pg 02 00 28.4 -2.3**
2.3nm,0.2s
KRBS *eS* **Sg 02 01 49.2 -0.2**
7.9nm,0.2s
KRBS Karabastau 6.07 270 Pg **Pg 02 00 28.4 -2.3**
2.3nm,0.2s
KRBS Lg Lg 02 01 49.2
7.9nm,0.2s
TKM2 Tokmak 2 6.26 263 ⇓Pn Pn 02 00 15.0 +8.0
2.8nm,0.7s
TKM2 ⇓Lg Lg 02 01 57.7
15nm,0.9s
SGDS Sogindy 6.86 269 Pg **Pg 02 00 43.2 -2.5**
1.7nm,0.3s
SGDS Lg Lg 02 02 14.3
7.0nm,0.3s
BTLS Baital 7.24 282 *eP* **Pg 02 00 49.7 -3.2**
3.2nm,0.6s
BTLS *eS* **Sg 02 02 25.3 -1.2**
3.0nm,0.5s
BTLS Baital 7.24 282 Pg **Pg 02 00 49.7 -3.2**
3.2nm,0.6s
BTLS Lg Lg 02 02 25.3
3.0nm,0.5s
KURBB Kurchatov Arra 7.61 332 ⇑Lg Lg 02 02 39.6
23nm,0.6s
KK31 Karatay Array 9.88 269 ⇑Lg Lg 02 03 52.0
2.9nm,0.7s,baz=74,slow=26,SNR=5.5

IDC 17 02:02:54.6±1.7, 10°.93N×124°.35E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.7/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/46, Error ellipse: s-maj=207.8km s-min=25.5km az=70.0
MAN 17 02:02:54.3, 11°.17N×124°.72E, h6km, mb4.3, ML3.2, MS2.9
ISC 17 02:02:56.0±1.1, 11°.06N±0°.08×124°.7E±0°.1, h11km, n13, σ0§68/10, mb3.8/5, MS3.2/5, 3C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.02**	**224**	⇑*iP*	**Pg**	**02 03 15.7**	**-0.1**
LLP				*i* S	**Sn**	**02 03 31.0**	**+0.3**
RCP	**Roxas**	**1.96**	**285**	⇑*eP*	**Pn**	**02 03 29.2**	**-0.1**
SNPH	**Sibulan**	**2.23**	**220**	⇑*iP*	**Pn**	**02 03 33.1**	**+0.1**
SNPH				*i* S	**Sg**	**02 04 07.6**	**0.0**
KSRS	**Korea Array**	**26.44**	**6**	LR	LR	02 18 47.5	
	comp=Z,25nm,21.6s,baz=175,slow=36						
ASAR	**Alice Springs**	**35.68**	**165**	P	**P**	**02 09 54.4**	**-0.1**
	1.1nm,0.8s,baz=347,slow=8.4,SNR=8.9						
KLR	**Kul'dur**	**38.50**	**7**	LR	LR	02 26 01.5	
	comp=Z,19nm,19.6s,baz=302,slow=36						
SONM	**Songino Array**	**39.75**	**341**	P	**P**	**02 10 29.1**	**+0.3**
	0.5nm,0.5s,baz=152,slow=9.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**53.19**	**332**	LR	LR	02 37 08.0	
	comp=Z,21nm,18.0s,baz=204,slow=39						
KURBB	**Kurchatov Arra**	**54.54**	**326**	P	**P**	**02 12 24.7**	**+0.6**
	0.2nm,0.3s,baz=123,slow=6.8,SNR=1.9						
ARCES	**ARCESS Array B**	**82.91**	**340**	P	**P**	**02 15 21.3**	**+0.7**
	1.1nm,0.9s,baz=66,slow=9.0,SNR=4.0						
AKASG	**Malin Array Be**	**84.97**	**321**	P	**P**	**02 15 29.9**	**-1.5**
	0.3nm,0.4s,baz=67,slow=3.9,SNR=2.1						
NOA	**NORSAR Array B**	**91.36**	**333**	LR	LR	03 00 54.2	
	comp=Z,24nm,18.4s,baz=250,slow=38						
VRAC	**Vranov**	**93.17**	**321**	LR	LR	03 02 14.3	
	comp=Z,11nm,18.2s,baz=19,slow=38						

DJA 17 02:39:51.8±0.3, 0°.S±3°.×12°.4E±°, h10km, M4.5/16, mb4.8/7, mB5.1/3, MLv4.4/16, Mw(mB)4.4/3
IDC 17 02:39:55.0±4.3, 0°.00S×124°.36E, h81km±44km, mb3.5/6, mb1 3.6/7, mb1mx3.4/37, mbtmp3.8/7, ML4.0/1, MS2.9/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=34.1km s-min=17.2km az=77.0
NEIC 17 02:39:55.7±2.5, 0°.00N±0°.07×124°.34E±0°.08, h91km±10km, mb4.1/5, Error ellipse: s-maj=11.9km s-min=10.4km az=73.0
ISC 17 02:39:53.5±0.6, 0°.03N±0°.07×124°.47E±0°.05, h73km, n34, σ1§23/35, mb4.0/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.00**	**238**	Pn	**Pn**	**02 40 25.7**	**+0.4**
LUWI				Sn	**Sn**	**02 40 50.7**	**+1.1**
LUWI	**Luwuk**	**2.00**	**238**	P	**Pn**	**02 40 24.8**	**-0.5**
SANI	**Sanana**	**2.56**	**144**	P	**Pn**	**02 40 31.2**	**-1.7**
MRSI	**Marisa**	**2.57**	**280**	P	**Pn**	**02 40 31.0**	**-1.9**
APSI	**Ampana**	**2.97**	**252**	P	**Pn**	**02 40 39.9**	**+1.5**
TNTI	**Ternate**	**2.99**	**76**		**Pn**	**02 40 40.2**	**+1.6**
TNTI	**Ternate**	**2.99**	**76**	P	**Pn**	**02 40 40.1**	**+1.5**
LBMI	**Labuha**	**3.10**	**102**	P	**Pn**	**02 40 40.7**	**+0.5**
TOLI2	**Tolitoli**	**3.84**	**286**		**Pn**	**02 40 50.2**	**-0.1**
MPSI	**Mapaga**	**4.58**	**274**	P	**Pn**	**02 41 00.8**	**+0.4**
TTSI	**Tana Toraja**	**5.56**	**237**	P	**Pn**	**02 41 14.4**	**+0.6**
	0.5nm2μm115nm,0.5s						
BNSI	**Bone**	**6.20**	**225**	P	**Pn**	**02 41 22.4**	**0.0**
	0.2nm813nm68nm,0.7s						
BKSI	**Bulukumba**	**6.86**	**219**	P	**Pn**	**02 41 31.7**	**+0.1**
	0.1nm34nm,0.9s						
KAPI	**Kappang**	**6.88**	**223**	P	**Pn**	**02 41 32.4**	**+0.6**
	3.2nm,0.3s,baz=87,slow=5.3,SNR=23						
KAPI				S	**Sn**	**02 42 48.7**	**0.0**
	0.6nm,0.3s,baz=45,slow=23,SNR=2.3						
KAPI				LR	LR	02 44 35.5	
	comp=Z,68nm,21.4s,baz=40,slow=41						
KAPI	**Kappang**	**6.88**	**223**		**Pn**	**02 41 33.2**	**+1.4**
BSSI	**Bau Bau, Buton**	**7.31**	**213**	P	**Pn**	**02 41 38.8**	**+1.2**
SOEI	**Soe**	**9.72**	**181**	Pn	**Pn**	**02 42 09.6**	**-1.2**
WB0	**Warramunga Arr**	**21.95**	**154**	P	**P**	**02 44 41.5**	**+0.2**
WB0				IAmb	IAmb	02 44 49.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**22.08**	**155**	P	**P**	**02 44 43.0**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=330,slow=11,SNR=5.0						
WB2	**Warramunga Arr**	**22.08**	**155**	P	**P**	**02 44 43.5**	**+0.7**
TWG	**Pinlang**	**22.89**	**352**	P	**P**	**02 44 51.9**	**+0.5**
ASAR	**Alice Springs**	**25.27**	**159**	P	**P**	**02 45 14.0**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=339,slow=7.3,SNR=8.3						
ASAR				PcP	**PcP**	**02 48 46.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=339,slow=1.6,SNR=1.9						
CMAR	**Chiang Mai Arr**	**31.05**	**308**	LR	LR	02 59 52.7	
	comp=Z,20nm,18.4s,baz=75,slow=39						
MJAR	**Matsushiro Arr**	**38.50**	**18**	P	**P**	**02 47 09.4**	**+0.6**
	comp=Z,36nm,0.6s,baz=185,slow=9.1,SNR=4.6						
PALK	**Pallekele**	**44.24**	**280**	LR	LR	03 06 59.3	
	comp=Z,22nm,19.1s,baz=236,slow=37						
USRK	**Ussuriysk Ar.**	**44.49**	**8**	P	**P**	**02 47 59.2**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=196,slow=5.0,SNR=6.2						
USRK	**Ussuriysk Ar.**	**44.49**	**8**	P	**P**	**02 47 57.7**	**+0.1**
SONM	**Songino Array**	**50.14**	**344**	P	**P**	**02 48 42.0**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=168,slow=8.8,SNR=2.7						
NIL	**Nilore**	**58.48**	**310**	P	**P**	**02 49 38.9**	**-3.5**
MK31	**Makanchi Array**	**59.37**	**328**	P	**P**	**02 49 47.1**	**-1.2**
MK31				IAmb	IAmb	02 49 50.3	
	comp=Z,2.6nm,1.4s						
MKAR	**Makanchi Array**	**59.37**	**328**	P	**P**	**02 49 47.9**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=120,slow=8.7,SNR=7.9						
PETK	**Petropavlovsk-**	**59.59**	**22**	P	**P**	**02 49 52.2**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=206,slow=6.3,SNR=2.4						
BSWZ	**Blackbirch Sta**	**60.87**	**139**	P	**P**	**02 49 56.7**	**-1.9**
LPAZ	**La Paz**	**159.62**	**143**	PKPab	**PKPab**	**03 00 24.1**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=218,slow=5.1,SNR=2.2						

IDC 17 02:59:10.2±1.1, 9°.18N×127°.02E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.8/47, mbtmp4.1/10, Error ellipse: s-maj=98.0km s-min=15.1km az=71.0
MAN 17 02:59:13.9, 9°.24N×127°.05E, h52km, mb5.1, ML4.0, MS4.1
NEIC 17 02:59:16.0±1.1, 9°.32N±0°.09×127°.3E±0°.2, h41km±11km, mb4.2/7, Error ellipse: s-maj=29.4km s-min=7.6km az=66.0
ISC 17 02:59:15.7±0.8, 9°.25N±0°.07×127°.14E±0°.10, h38km, n23, σ1§54/24, mb4.2/12, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.54**	**252**	⇑*iP*	**Pn**	**02 59 52.3**	**-2.0**
CGP				*i* S	**Sn**	**03 00 21.7**	**-2.3**
DAV	**Davao City (W)**	**2.65**	**216**	Lg	Lg	03 00 34.2	
	baz=306,slow=22,SNR=1.7						
DAV	**Davao City (W)**	**2.65**	**216**		**Pn**	**02 59 58.4**	**+2.5**
KCP	**Kidapawan**	**3.01**	**222**	⇓*eP*	**Pn**	**03 00 01.6**	**+0.8**
KCP				*i* S	Sn	03 00 50.2	+14
LLP	**Lapu-Lapu**	**3.30**	**289**	*eP*	**Pn**	**03 00 04.3**	**-0.6**
LLP				*eS*	**Sn**	**03 00 47.8**	**+5.0**
RCP	**Roxas**	**4.89**	**298**	⇑*eP*	**Pn**	**03 00 26.6**	**-0.1**
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**03 05 18.7**	**-1.0**
	1.4nm,0.5s,baz=349,slow=9.2,SNR=15						
AS31	**Alice Springs**	**33.37**	**169**	P	**P**	**03 05 49.7**	**-0.9**
ASAR	**Alice Springs**	**33.37**	**169**	P	**P**	**03 05 50.0**	**-0.6**
	1.0nm,0.4s,baz=354,slow=6.5,SNR=36						
SONM	**Songino Array**	**42.27**	**339**	P	**P**	**03 07 06.0**	**+0.4**
	0.5nm,0.5s,baz=146,slow=10,SNR=4.4						
SONM	**Songino Array**	**42.27**	**339**	P	**P**	**03 07 04.2**	**-1.3**
SONM				IAmb	IAmb	03 07 22.1	
	comp=Z,7.0nm,1.8s						
NWAO	**Narrogin (SRO)**	**42.99**	**192**	P	**P**	**03 07 11.2**	**-0.1**
	comp=Z,9.7nm,0.9s,baz=6.4,slow=6.5,SNR=1.4						
STKA	**Stephens Creek**	**43.17**	**162**	P	**P**	**03 07 12.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=336,slow=10.0,SNR=4.0						
STKA	**Stephens Creek**	**43.17**	**162**	IAmb	IAmb	03 07 24.2	
	comp=Z,8.5nm,1.9s						
MK31	**Makanchi Array**	**53.35**	**323**	P	**P**	**03 08 30.6**	**-0.7**
MK31				IAmb	IAmb	03 08 42.9	
	comp=Z,2.8nm,1.1s						
MKAR	**Makanchi Array**	**53.35**	**323**	P	**P**	**03 08 31.2**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=120,slow=8.0,SNR=22						
MKAR				PcP	**PcP**	**03 09 39.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=102,slow=5.6,SNR=1.4						
ZAA0	**Zalesovo Array**	**55.93**	**331**	P	**P**	**03 08 49.8**	**0.0**
ZAA0				IAmb	IAmb	03 09 18.4	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**55.93**	**331**	P	**P**	**03 08 48.7**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=141,slow=9.3,SNR=1.9						
KURK	**Kurchatov**	**57.39**	**326**	P	**P**	**03 09 00.2**	**0.0**
KURBB	**Kurchatov Arra**	**57.40**	**325**	P	**P**	**03 09 00.2**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=123,slow=6.7,SNR=19						
ARCES	**ARCESS Array B**	**85.44**	**340**	P	**P**	**03 11 50.4**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=82,slow=6.5,SNR=8.5						
FINES	**FINESS Array B**	**87.19**	**332**	P	**P**	**03 11 57.9**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=84,slow=7.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**121.44**	**292**	PKP	**PKPdf**	**03 18 05.5**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=58,slow=2.4,SNR=1.9						

KMA 17 03:11:10.0±0.9, 36°.79N×127°.53E, h8km±21km, Error ellipse: s-maj=3.9km s-min=2.9km az=166.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSCEA	**Cheonan**	**0.22**	**280**	P	Pg	03 11 14.4	0.0
	SNR=13						
KSCEA	**Cheonan**	**0.22**	**280**	P	Pg	03 11 14.4	0.0
	SNR=13						
KSBON	**Boeun**	**0.36**	**142**	P	Pg	03 11 16.4	-0.6
	SNR=16						
KSBON	**Boeun**	**0.36**	**142**	P	Pg	03 11 16.4	-0.6
	SNR=16						
KSBON				S	Sg	03 11 20.9	-0.9
KSCHJ	**Chungju**	**0.37**	**76**	P	Pg	03 11 17.2	0.0
	SNR=7.8						
KSCHJ	**Chungju**	**0.37**	**76**	P	Pg	03 11 17.2	0.0
	SNR=6.3						
KSCHJ	**Chungju**	**0.37**	**76**	P	Pg	03 11 17.2	0.0
	SNR=7.8						
KSCHJ	**Chungju**	**0.37**	**76**	P	Pg	03 11 17.2	0.0
	SNR=6.3						
KSCHJ				S	Sg	03 11 22.2	+0.1
KSCHC	**Chuncheon**	**1.01**	**13**	P	Pb	03 11 30.0	+0.2
	SNR=10.0						

IDC 17 03:12:56.8±2.8, 17°.06S×179°.34W, h563km±19km, mb3.4/3, mb1 3.5/4, mb1mx2.9/42, mbtmp4.2/4, Error ellipse: s-maj=107.2km s-min=34.0km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.59**	**255**	P	P	03 14 10.6	-0.1
	1.1nm,0.3s,baz=128,slow=1.9,SNR=6.5						
MSVF				S	S	03 15 14.5	+3.7
	baz=351,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**38.28**	**240**	P	P	03 19 29.8	0.0
	1.5nm,0.5s,baz=83,slow=9.8,SNR=7.1						
WRA	**Warramunga Arr**	**43.92**	**259**	P	P	03 20 14.2	-0.5
	0.7nm,0.2s,baz=94,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**44.18**	**253**	P	P	03 20 16.8	+0.2
	6.8nm,0.3s,baz=89,slow=8.0,SNR=118						
ASAR				PcP	PcP	03 21 48.4	-0.7
	0.5nm,0.5s,baz=111,slow=3.5,SNR=2.7						
BRTR	**Keskin Array B**	**143.56**	**315**	PKP	PKPbc	03 31 27.4	+0.2
	0.5nm,0.9s,baz=65,slow=2.2,SNR=3.7						
GERES	**GERESS Array B**	**146.56**	**344**	PKPbc	PKPbc	03 31 35.2	-0.5
	0.2nm,0.3s,baz=50,slow=1.5,SNR=2.6						

TRN 17 03:17:18.9, 13°.89N×58°.44W, h98km, MD4.1
ISC 17 03:17:18.8±2.1, 13°.95N±0°.04×58°.5W±0°.1, h10km, n40, σ1§25/53, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.27**	**229**	*eP*	**Pg**	**03 17 43.9**	**+0.8**
BBSP				*eS*	**Sn**	**03 18 01.7**	**+2.1**
BBGH	**Gun Hill**	**1.32**	**233**	*eP*	**Pb**	**03 17 43.8**	**+0.1**
BBGH				*eS*	**Sg**	**03 18 03.4**	**+2.2**
BCHC	**Barbados, Cave**	**1.38**	**234**	*e*	**Pb**	**03 17 44.9**	**+0.2**
MPOM	**Morne Pois Mar**	**2.35**	**282**	*eP*	**Pn**	**03 17 57.4**	**-0.2**
MPOM				*eS*	**Sn**	**03 18 25.9**	**-0.6**
SLW	**Petit Monier**	**2.38**	**272**	*eP*	**Pn**	**03 17 57.6**	**-0.4**
MCLT	**Moule a Chique**	**2.40**	**265**	*eP*	**Pn**	**03 18 00.3**	**+2.1**
MVM	**Montagne Vaucl**	**2.41**	**285**	*eP*	**Pn**	**03 17 58.1**	**-0.3**
SLBI	**Saint Lucia, B**	**2.42**	**272**	*eP*	**Pn**	**03 17 57.6**	**-0.8**
SLBI				*eS*	**Sn**	**03 18 27.6**	**-0.5**
SLCP	**Castries, St.**	**2.43**	**272**	*eP*	**Pn**	**03 17 59.1**	**+0.5**
LPMF	**Morne Lapointe**	**2.48**	**285**	*eP*	**Pn**	**03 17 58.6**	**-0.8**
ZAM	**Aeronautique**	**2.54**	**284**	*eP*	**Pn**	**03 17 59.6**	**-0.6**
TRMF	**Trois Ilets**	**2.56**	**284**	*eP*	**Pn**	**03 17 59.6**	**-0.8**
BIM	**Bigot**	**2.57**	**283**	*eP*	**Pn**	**03 18 00.1**	**-0.5**
BIM				*eS*	**Sn**	**03 18 28.7**	**-3.2**
FDF	**Fort de France**	**2.70**	**287**	*e*	**Pn**	**03 18 02.2**	**-0.2**
SSV	**Crater Summit**	**2.70**	**257**	*eP*	**Pn**	**03 18 01.6**	**-0.9**
BAMF	**Morne Balai**	**2.72**	**289**	*eP*	**Pn**	**03 18 03.1**	**+0.4**
SVV	**Soufriere Volc**	**2.73**	**257**	*eP*	**Pn**	**03 18 02.8**	**+0.1**
SVV				*eS*	**Sn**	**03 18 34.9**	**-0.9**
GBMF	**Grand Be**	**2.73**	**288**	*eP*	**Pn**	**03 18 03.1**	**+0.2**
PML	**Morne Lenard**	**2.74**	**288**	*eP*	**Pn**	**03 18 03.2**	**+0.3**
SVB	**Belmont**	**2.77**	**256**	*eP*	**Pn**	**03 18 02.7**	**-0.6**
SVB				*eS*	**Sn**	**03 18 35.1**	**-1.8**
SVOC	**Richmond Hill,**	**2.78**	**254**	*eP*	**Pn**	**03 18 04.2**	**+0.9**
PCM	**Pelee Case Pet**	**2.78**	**288**	*eP*	**Pn**	**03 18 03.8**	**+0.4**
DSLB	**Salisbury**	**3.20**	**298**	*eP*	**Pn**	**03 18 09.9**	**+0.6**
DSLB				*eS*	**Sn**	**03 18 46.5**	**-1.1**
GCMP	**Grenada, Carri**	**3.21**	**243**	*eP*	**Pn**	**03 18 08.9**	**-0.5**
GCMP				*eS*	**Sn**	**03 18 45.2**	**-2.5**
TOSP	**Speyside**	**3.31**	**217**	*eP*	**Pn**	**03 18 09.7**	**-0.9**
TOSP	**Speyside**	**3.31**	**217**	*e*	**Pb**	**03 18 17.9**	**+0.2**
MAGL	**Barre de l'ile**	**3.36**	**307**	*eP*	**Pn**	**03 18 11.8**	**+0.5**
MAGL				*eS*	**Sn**	**03 18 50.6**	**-0.7**
GRGR	**Grenville**	**3.58**	**240**	*eP*	**Pn**	**03 18 13.8**	**-0.7**
TDBA	**Terre de Bas,**	**3.58**	**302**	*eP*	**Pn**	**03 18 15.4**	**+0.9**
TDBA				*eS*	**Sn**	**03 18 55.2**	**-1.7**
TBG	**Guadaloupe-3**	**3.59**	**302**	*eP*	**Pn**	**03 18 15.4**	**+0.8**
CBE	**Ff, Capester**	**3.68**	**305**	*eP*	**Pn**	**03 18 16.3**	**+0.4**
CBE				*eS*	**Sn**	**03 18 58.2**	**-1.2**
ABD	**La Joyeuse, An**	**3.83**	**311**	*eP*	**Pn**	**03 18 18.5**	**+0.6**
ABD				*eS*	**Sn**	**03 19 02.8**	**-0.3**
TRN	**Trinidad (W)**	**4.35**	**221**	*eP*	**Pn**	**03 18 24.7**	**-0.3**
TRN	**Trinidad (W)**	**4.35**	**221**	*eS*	**Sn**	**03 19 12.3**	**-3.5**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eP*	**Pn**	**03 18 25.8**	**-0.1**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eS*	**Sn**	**03 19 16.2**	**-1.2**
BPA	**Boggy Peak**	**4.48**	**314**	*eP*	**Pn**	**03 18 27.2**	**+0.4**
BPA	**Boggy Peak**	**4.48**	**314**	*eS*	**Sn**	**03 19 17.4**	**-1.7**
SKI	**Saint Kitts**	**5.30**	**310**	*e*	**Pn**	**03 18 39.1**	**+0.9**
SKI	**Saint Kitts**	**5.30**	**310**	*eS*	**Sn**	**03 19 36.4**	**-3.0**

IDC 17 03:24:36.0±1.5, 11°.04N×126°.14E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/35, mbtmp3.9/8, MS3.0/3, Ms1 3.0/3, ms1mx2.6/35, Error ellipse: s-maj=169.5km s-min=16.9km az=67.0
MAN 17 03:24:41.9, 10°.83N×125°.65E, h26km, mb4.7, ML3.6, MS3.5
ISC 17 03:24:41.8±0.9, 10°.89N±0°.08×125°.8E±0°.1, h35km, n21, σ1§14/14, mb3.9/8, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**1.88**	**252**	*eP*	**Pn**	**03 25 12.9**	**+1.4**
LLP				*eS*	**Sn**	**03 25 32.3**	**-1.8**
CGP	**Cagayan de Oro**	**2.65**	**204**	⇓*eP*	**Pn**	**03 25 22.5**	**+0.4**
CGP				*eS*	**Sn**	**03 25 53.0**	**0.0**
RCP	**Roxas**	**3.06**	**283**	⇑*eP*	**Pn**	**03 25 29.2**	**+1.5**
DAV	**Davao City (W)**	**3.80**	**183**	Lg	Lg	03 26 38.3	
	56nm,0.3s,baz=226,slow=12,SNR=1.4						
KCP	**Kidapawan**	**3.92**	**190**	⇓*eP*	**Pn**	**03 25 41.1**	**+1.5**
SIJI	**Sorong**	**12.89**	**155**	LR	LR	03 33 28.2	
	comp=Z,51nm,19.8s,baz=260,slow=41						
KSRS	**Korea Array**	**26.52**	**4**	LR	LR	03 39 55.8	
	comp=Z,24nm,21.9s,baz=230,slow=35						
WRA	**Warramunga Arr**	**31.78**	**165**	P	**P**	**03 31 02.0**	**-1.0**
	1.0nm,0.5s,baz=346,slow=9.5,SNR=9.4						
ASAR	**Alice Springs**	**35.25**	**167**	P	**P**	**03 31 32.8**	**-0.4**
	0.9nm,0.3s,baz=347,slow=6.7,SNR=14						
H11S3	**WAKE ISLAND Hy 40.20**	**74**		T	T	04 15 22.8	
	baz=265,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 40.21**	**74**		T	T	04 15 10.3	
	baz=265,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy 40.22**	**74**		T	T	04 15 08.2	
	baz=265,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 40.51**	**72**		T	T	04 15 36.8	
	baz=265,slow=74,SNR=50						
H11N2	**WAKE ISLAND Hy 40.52**	**72**		T	T	04 15 48.4	
	baz=265,slow=74,SNR=43						
H11N3	**WAKE ISLAND Hy 40.53**	**72**		T	T	04 15 38.2	
	baz=265,slow=74,SNR=44						
STKA	**Stephens Creek**	**45.14**	**161**	P	**P**	**03 32 55.6**	**+0.6**
	1.3nm,0.3s,baz=352,slow=7.1,SNR=7.3						
MKAR	**Makanchi Array**	**51.25**	**323**	P	**P**	**03 33 43.0**	**+0.9**
	0.9nm,0.6s,baz=119,slow=7.2,SNR=14						
KURBB	**Kurchatov Arra**	**55.30**	**325**	P	**P**	**03 34 12.0**	**+0.3**
	0.6nm,0.5s,baz=126,slow=6.7,SNR=6.9						
ARCES	**ARCESS Array B**	**83.45**	**340**	P	**P**	**03 37 05.3**	**-0.1**
	0.3nm,0.4s,baz=82,slow=6.5,SNR=7.9						
ARCES				LR	LR	04 16 50.7	
	comp=Z,16nm,20.6s,baz=60,slow=38						
FINES	**FINESS Array B**	**85.12**	**332**	P	**P**	**03 37 13.4**	**-0.6**
	0.5nm,0.4s,baz=84,slow=4.8,SNR=13						
AKASG	**Malin Array Be**	**85.79**	**321**	P	**P**	**03 37 16.3**	**-1.2**
	0.3nm,0.3s,baz=67,slow=5.1,SNR=2.3						

UPA 17 03:32:01.0±0.5, 6°.13N×76°.82W, h0km±8km, MW4.3
RSNC 17 03:32:04.5±1.4, 6°.21N×76°.81W, h5km±5km, ML3.4, Mw3.9, Fault plane solution: NP1:φs49.00000°, δ90.00000°, λ-169.00000°.
VAO 17 03:32:07.5±3.7, 5°.80N×76°.46W, h10km, mb4.0
IDC 17 03:32:13.4±3.3, 5°.97N×76°.86W, h104km±27km, mb3.3/6, mb1 3.6/7, mb1mx3.4/29, mbtmp3.7/7, Error ellipse: s-maj=30.9km s-min=25.2km az=64.0
ISC 17 03:32:02.0±1.2, 6°.23N±0°.02×76°.86W±0°.02, h2km±8km, n62, σ1§86/96, mb3.7/6, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.55**	**270**	⇓*eP*	**Pg**	**03 32 14.3**	**+1.8**
SOLC				*eS*	**Sg**	**03 32 23.8**	**+4.3**
SOLC				*i*		03 32 24.4	
	comp=Z,2μm,0.4s						
CBOC	**Ciudad Bolivar**	**0.92**	**113**	⇓*iP*g	**Pg**	**03 32 18.4**	**-1.2**
CBOC				*i*		03 32 32.0	
	comp=Z,683nm,0.5s						
DBBC	**Dabeiba**	**1.02**	**39**	*eP*	**Pg**	**03 32 21.3**	**-0.2**
DBBC				*eS*	**Sg**	**03 32 36.2**	**+1.5**
PTAC	**Punta Ardita,**	**1.31**	**314**	*eP*	**Pn**	**03 32 27.2**	**-0.2**
PTAC				*i*		03 32 49.7	
	comp=Z,578nm,0.4s						
HELC	**Santa Helena**	**1.32**	**92**	⇓*iP*	**Pg**	**03 32 25.8**	**-1.6**
HELC				*eS*	**Sg**	**03 32 44.2**	**-0.3**
HELC	**Santa Helena**	**1.32**	**92**	⇓*iP*	**Pg**	**03 32 25.7**	**-1.6**
HELC				*eS*	**Sg**	**03

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	Chepo, Panama	3.68	323	eP	Pn	03 33 00.1	+0.2
AZU	Azuero	3.73	295	eP	Pn	03 33 00.1	-0.4
AZU				eS	Sn	03 33 45.6	+0.5
AZU	Azuero	3.73	295	eP	Pn	03 33 00.2	-0.4
AZU				eS	Sn	03 33 40.9	-4.3
AZU				i		03 33 45.8	
	comp=Z,119nm,0.4s						
SMLC	San Martn de	3.77	47	eP	Pn	03 33 02.3	+1.2
SMLC				eS	Sn	03 33 45.8	-0.2
SMLC				i		03 34 02.0	
	comp=Z,72nm,0.5s						
RUSC	La Rusia	3.77	95	eP	Pn	03 33 04.2	+2.5
RUSC				eS	Sn	03 33 48.6	+1.8
RUSC				i		03 34 06.2	
	comp=Z,50nm,0.6s						
VILC	Villavicencio,	3.79	124	eP	Pn	03 33 06.0	+4.4
VILC				eS	Sn	03 33 49.5	+2.7
VILC				i		03 34 00.7	
	comp=Z,51nm,0.6s						
BETC	Betania	3.80	158	eP	Pn	03 33 02.4	+0.9
BETC				eS	Sn	03 33 47.3	+0.4
BETC				i		03 34 08.0	
	comp=Z,54nm,0.6s						
UPA	Univ. de Panam	3.81	316	eP	Pn	03 33 03.5	+1.8
PCON	Cinco Dias	3.90	173	eP	Pn	03 33 05.1	+1.6
PCON				eS	Sn	03 33 51.7	+1.6
PCON				i		03 33 59.7	
	comp=Z,30nm,0.5s						
SJCC	San Jacinto, C	4.01	24	eP	Pn	03 33 05.3	+0.8
SJCC				eS	Sn	03 33 46.9	-5.3
SJCC				i		03 34 12.6	
	comp=Z,20nm,0.5s						
ZANG	Zanguenga, Cho	4.03	312	eP	Pn	03 33 04.3	-0.5
OCAC	Ocana	4.04	60	eP	Pn	03 33 06.4	+1.4
OCAC				eS	Sn	03 33 53.4	+0.4
OCAC				i		03 33 59.0	
	comp=Z,206nm,0.5s						
SOTA	Rioblanco	4.07	176	eP	Pn	03 33 07.1	+1.3
SOTA				eS	Sn	03 33 55.4	+1.1
SOTA				i		03 34 07.1	
	comp=Z,45nm,0.6s						
CACAO	El Cacao, Vera	4.13	286	eP	Pn	03 33 04.8	-1.2
CACAO				eS	Sn	03 33 56.1	+1.2
BCIP	Isla Barro Col	4.15	315	eP	Pn	03 33 06.9	+0.5
BCIP	Isla Barro Col	4.15	315	eP	Pn	03 33 06.7	+0.3
BCIP				i		03 33 33.8	
	comp=Z,65nm,0.9s						
BCIP				eS	Sn	03 33 56.5	+0.9
BBAC	Balboa, Cauca	4.20	185	eP	Pn	03 33 11.2	+3.9
BBAC				eS	Sn	03 33 58.1	+1.1
BBAC				i		03 34 13.4	
	comp=Z,24nm,0.4s						
GARC	Garzon, Huila	4.24	161	eP	Pn	03 33 08.9	+1.0
GARC				eS	Sn	03 33 55.8	-2.3
GARC				i		03 34 10.7	
	comp=Z,29nm,0.6s						
PAMC	Pamplona, Colo	4.28	75	eP	Pn	03 33 10.8	+2.3
PAMC				eS	Sn	03 33 59.1	-0.2
PAMC				i		03 34 06.9	
	comp=Z,148nm,0.8s						
GMAL	Guarumal, Vera	4.60	290	eP	Pn	03 33 12.8	+0.2
GCUF	Volcan Galeras	4.99	186	eP	Pn	03 33 24.2	+5.8
GCUF				eS	Sn	03 34 19.5	+2.4
GCUF				i		03 34 44.1	
	comp=Z,12nm,0.5s						
MACC	Macarena, Meta	5.05	143	eP	Pn	03 33 19.8	+1.0
MACC				eS	Sn	03 34 12.8	-4.9
MACC				i		03 34 25.3	
	comp=Z,26nm,0.6s						
MACA	Manacapuru-AM	18.65	120	eP	P	03 36 18.9	-2.4
ETMB	Extrema	19.14	146	eP	P	03 36 24.8	-1.9
ITTB	Itaituba	23.57	116	eP	P	03 37 13.0	-1.2
MALB	Monte Alegre	23.95	109	eP	P	03 37 17.9	+0.1
LPAZ	La Paz	23.98	159	P	P	03 37 16.1	-2.7
	comp=Z,1.4nm,0.9s,baz=326,slow=3.6,SNR=3.5						
NPGB	Novo Progresso	25.18	121	eP	P	03 37 27.6	-1.5
VILB	Vilhena	25.24	139	eP	P	03 37 28.7	-1.0
MCPB	Macapa, AP	25.61	104	eP	P	03 37 32.8	-0.3
SIV	San Ignacio	27.05	145	P	P	03 37 43.6	-2.4
	comp=Z,1.3nm,0.6s,baz=329,slow=9.9,SNR=10						
NVAR	Mina Array Bea	49.31	317	P	P	03 40 53.1	+0.1
	comp=Z,0.5nm,0.8s,baz=125,slow=7.8,SNR=3.3						
ESDC	Sonseca Array	72.89	51	P	P	03 43 32.5	-0.4
	comp=Z,0.3nm,0.4s,baz=281,slow=6.2,SNR=4.6						
TORD	Torodi Ar. Bea	77.49	78	P	P	03 43 58.2	-1.6
	comp=Z,0.6nm,1.1s,baz=286,slow=6.0,SNR=1.8						
GERES	GERESS Array B	85.73	41	P	P	03 44 42.0	-0.9
	comp=Z,0.4nm,0.7s,baz=275,slow=4.3,SNR=3.0						
ASAR	Alice Springs	145.72	236	PKPbc	PKPdf	03 51 41.6	-1.5
	comp=Z,1.3nm,0.6s,baz=127,slow=4.0,SNR=9.8						
WRA	Warramunga Arr	146.78	243	PKPbc	PKPdf	03 51 43.9	-1.1
	comp=Z,0.7nm,0.9s,baz=108,slow=3.3,SNR=2.3						

IDC 17 03:35:23.0±0.5, 18°.76N×67°.62W, h0km, mb4.0/18, mb1 4.2/18, mb1mx4.1/29, mbtmp4.0/18, MS3.4/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=15.4km s-min=12.2km az=62.0
OSPL 17 03:35:25.9±0.6, 19°.08N×67°.62W, h22km±13km, ML4.4
NEIC 17 03:35:26.9±2.3, 18°.90N±0°.03×67°.62W±0°.04, h18km±3km, Error ellipse: s-maj=5.8km s-min=3.3km az=63.0
ISC 17 03:35:27.2±0.8, 18°.90N±0°.04×67°.64W±0°.03, h26km±6km, n193, σ1§77/175, mb4.4/52, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.66	130		Pb	03 35 39.7	-0.4
AGPR					Sn	03 35 49.3	-1.0
AGPR				IAML		03 35 50.3	
	comp=N,15μm,1.0s						
AGPR	Aguadilla, PR	0.66	130	i P	Pb	03 35 39.8	-0.3
AGPR				eS	Sn	03 35 49.7	-0.6
AGPR				IAML		03 35 50.5	
	comp=Z,9μm,1.1s						
PCDR	Punta Cana, DR	0.80	242	Pg	Pb	03 35 41.6	-0.8
PCDR					Sn	03 35 53.6	-0.2
PCDR				IAML		03 35 54.6	
	comp=N,27μm,0.9s						
PCDR				IAML		03 35 59.8	
	comp=E,12μm,0.8s						
PCDR	Punta Cana, DR	0.80	242	i P	Pb	03 35 42.0	-0.5
PCDR				eS	Sb	03 35 53.5	+0.6
PCDR				IAML		03 35 56.3	
	comp=Z,16μm,0.6s						
MPR	Mayaguez	0.83	145		Pb	03 35 42.6	-0.4
MPR	Mayaguez	0.83	145	i P	Pb	03 35 42.3	-0.6
MPR				eS	Sn	03 35 55.3	+0.7
AOPR	Arecibo Observ	1.00	123		Pn	03 35 44.6	-1.0
AOPR				IAML		03 36 08.3	
	comp=E,13μm,0.4s						
AOPR				IAML		03 36 14.2	
	comp=N,7μm,0.4s						
MLPR	Magueyes Islan	1.08	148		Pn	03 35 45.3	-1.4
MLPR				IAML		03 36 04.7	
	comp=E,8μm,0.8s						
EMPR	Esperanza - Ma	1.13	111		Pn	03 35 46.9	-0.5
EMPR				IAML		03 36 08.4	
	comp=E,13μm,0.4s						
EMPR				IAML		03 36 08.6	
	comp=N,8μm,0.6s						
OBIP	Obispado Ponce	1.30	131		Pn	03 35 49.5	-0.1
OBIP				IAML		03 36 13.3	
	comp=N,6μm,0.6s						
OBIP				IAML		03 36 14.1	
	comp=E,5μm,0.6s						
ICMP	Isla Caja de M	1.46	133		Pn	03 35 51.9	+0.1
ICMP				IAML		03 36 20.2	
	comp=E,7μm,0.8s						
ICMP				IAML		03 36 21.0	
	comp=N,4μm,1.1s						
GCPR	Guaynabo City	1.59	111		Pn	03 35 52.9	-0.8
SJG	San Juan	1.61	119	Pn	Pn	03 35 53.6	-0.4
	comp=N,188nm,0.3s,baz=307,slow=11,SNR=157						
SJG				Sn	Sb	03 36 14.9	-1.4
	comp=N,276nm,0.3s,baz=30,slow=4.2,SNR=16						
SJG	San Juan	1.61	119	eP	Pn	03 35 54.3	+0.3
SJG	San Juan	1.61	119		Pn	03 35 53.7	-0.4
SJG				IAML		03 36 19.9	
	comp=N,4μm,0.4s						
SJG				IAML		03 36 19.9	
	comp=N,3μm,0.4s						
DR12	Loma Pena Alta	1.65	267		Pn	03 35 54.6	0.0
PDPR	Patillas Dam,	1.77	119		Pn	03 35 55.3	-0.8
CBYP	Canovanas	1.80	110		Pn	03 35 55.7	-0.9
CBYP				IAML		03 36 27.6	
	comp=E,5μm,0.2s						
CBYP				IAML		03 36 30.1	
	comp=N,5μm,0.2s						
HUMP	Col San Antoni	1.86	114		Pn	03 35 57.2	-0.1
MTP	Monte Pirata	2.13	112	Pn	Pn	03 36 00.8	-0.3
SDD	Santo Domingo	2.20	259		Pn	03 36 04.5	+2.5
SDD				IAML		03 36 39.9	
	comp=N,5μm,1.0s						
SDD				IAML		03 36 43.5	
	comp=E,5μm,1.0s						
CUPR	Culebra, Puert	2.31	104	Pn	Pn	03 36 03.6	+0.1
STVI	Saint Thomas	2.60	102	Pn	Pn	03 36 07.8	+0.2
BANI	BANI	2.63	259		Pn	03 36 09.9	+1.8
CDVI	St. Croix	2.96	112	eP	Pn	03 36 14.8	+2.3
CDVI	St. Croix	2.96	112	Pn	Pn	03 36 13.2	+0.7
CDVI				IAML		03 36 57.7	
	comp=E,2μm,0.8s						
SC01	Santiago de lo	2.97	281		Pn	03 36 12.9	+0.2
ABVI	Anegada Island	3.14	92		Pn	03 36 15.5	+0.5
SDDR	Presa de Saban	3.46	272	eP	Pn	03 36 21.7	+2.3
SDDR	Presa de Saban	3.46	272	Pn	Pn	03 36 21.3	+1.9
GRTK	Grand Turk	4.19	309	Pn	Pn	03 36 27.1	-2.3
GRTK				IAML		03 37 19.1	
	comp=E,646nm,0.6s						
GRTK				IAML		03 37 20.6	
	comp=E,586nm,0.4s						
SABA	Saba	4.37	106		Pn	03 36 30.1	-1.8
SABA				IAML		03 37 36.9	
	comp=N,468nm,1.2s						
SMRT	St. Maarten	4.41	100		Pn	03 36 32.8	+0.2
SMRT				IAML		03 37 33.3	
	comp=E,388nm,0.6s						
SMRT				IAML		03 37 35.3	
	comp=N,289nm,0.8s						
JAKH	Jacmel	4.67	263	Pn	Pn	03 36 36.9	+0.8
LGNH	Logne	4.72	266	Pn	Pn	03 36 37.1	+0.3
LGNH				IAML		03 37 58.5	
	comp=N,610nm,1.3s						
SKI	Saint Kitts	4.91	108		Pn	03 36 38.4	-1.0
ANWB	Willy Bob	5.69	101	eP	Pn	03 36 51.2	+1.1
ANWB	Willy Bob	5.69	101	eS	Sn	03 37 54.8	+0.2
ANWB	Willy Bob	5.69	101		Pn	03 36 49.1	-1.1
ANOC	Antigua Open C	5.80	107	eP	Pn	03 36 53.0	+1.4
ANOC	Antigua Open C	5.80	107	eS	Sn	03 38 03.6	+6.2
BPA	Boggy Peak	5.80	108	eP	Pn	03 36 53.2	+1.5
BPA	Boggy Peak	5.80	108	eS	Sn	03 37 54.7	-2.7
ANBD	Bethesda, Anti	5.88	107	eP	Pn	03 36 55.5	+2.7
ANBD	Bethesda, Anti	5.88	107	eS	Sn	03 38 00.5	+1.1
ABD	La Joyeuse, An	6.34	111	eP	Pn	03 37 02.2	+3.2
CBE	Ff, Capester	6.41	115	eP	Pn	03 37 04.5	+4.6
TDBA	Terre de Bas,	6.48	117	eP	Pn	03 37 04.5	+3.5
MAGL	Barre de l'ile	6.74	115	eP	Pn	03 37 07.5	+3.0
HATO	Hato, Curacao	6.80	191	Pn	Pn	03 37 05.5	+0.1
GTBY	Guantanamo Bay	7.13	279	Pn	Pn	03 37 08.9	-0.9
BIM	Bigot	7.65	124	eP	Pn	03 37 20.4	+3.3
BIM	Bigot	7.65	124	eS	Sn	03 38 43.3	+0.3
BIM	Bigot	7.65	124	Pn	Pn	03 37 16.6	-0.4
MPOM	Morne Pois Mar	7.86	123	eP	Pn	03 37 23.7	+3.8
SLCP	Castries, St.	8.02	126	eP	Pn	03 37 25.4	+3.3
SLBI	Saint Lucia, B	8.02	126	eP	Pn	03 37 26.1	+4.0
URIC	Uribia, Colomb	8.29	211	Pn	Pn	03 37 26.0	+0.1
SVB	Belmont	8.30	131	eP	Pn	03 37 29.8	+3.8
SSV	Crater Summit	8.31	131	eP	Pn	03 37 29.4	+3.3
PCRV	Puerto La Cruz	9.14	161	Pn	Pn	03 37 41.5	+3.9
	comp=N,1.7nm,0.3s,baz=348,slow=3.8,SNR=12						
PCRV				Sn	Sn	03 39 17.9	-1.8
	comp=N,0.9nm,0.3s,baz=256,slow=21,SNR=1.8						
PLCV	Puerto La Cruz	9.17	161		Sn	03 39 17.9	-2.4
SDV	Santo Domingo	10.37	197	LR	LR	03 42 08.7	
	comp=N,167nm,20.7s,baz=280,slow=40						
SJCC	San Jacinto, C	11.55	220	Pn	Pn	03 38 07.9	-2.6
ZARC	Zaragoza, Cauc	13.33	213	eP	Pn	03 38 33.9	-1.0
UREC	San Jos de Ur	13.47	216	eP	Pn	03 38 37.8	+0.9
BBSR	BB Station	13.68	11	Pn	Pn	03 38 36.8	-2.6
RUSC	La Rusia	13.97	203		Pn	03 38 43.6	-0.5
RUSC	La Rusia	13.97	203	eP	Pn	03 38 46.4	+2.3
HELC	Santa Helena	14.78	212	eP	Pn	03 38 55.0	0.0
NORC	Norcasia	15.01	209	eP	P	03 39 00.8	-2.2
BCIP	Isla Barro Col	15.27	232	Pn	Pn	03 39 01.4	+0.2
CBOC	Ciudad Bolivar	15.31	213	eP	Pn	03 39 01.8	-0.1
CHIC	Chingaza	15.38	204	eP	Pn	03 39 04.6	+1.7
ROSC	El Rosal	15.42	206	Pn	P	03 39 07.6	-0.3
	baz=298,slow=17,SNR=4.0						
ROSC	El Rosal	15.42	206	Pn	Pn	03 39 01.2	-2.3
ROSC				IAmb	IAmb	03 39 17.7	
	comp=Z,37nm,0.8s						
ROSC	El Rosal	15.42	206	eP	P	03 39 08.5	+0.6
GUY2C	Guyana, Caldas	15.54	210	eP	Pn	03 39 05.6	+0.5
DWPF	Disney Wildern	15.62	309		Pn	03 39 07.1	+1.5
PLMC	San Jos del P	16.27	212	eP	P	03 39 18.1	+1.1
ORTC	Ortega, Tolima	16.65	207	eP	P	03 39 21.9	+0.8
YOTC	Yotoco, Valle	17.09	211	eP	P	03 39 27.7	+1.6
656A	Willston	17.11	310	Pn	Pn	03 39 22.8	-1.9
656A				IAmb	IAmb	03 39 42.0	
	comp=Z,71nm,1.1s						
MACC	Macarena, Meta	17.72	201	eP	Pn	03 39 29.6	-2.7
RGRS	Roger Stewart	17.93	324	Pn	Pn	03 39 34.0	-0.6
GARC	Garzon, Huila	18.30	206	eP	P	03 39 40.2	+0.5
Y58A	Scranton	18.40	327	P	P	03 39 40.1	-0.3
POPC	Popayan, Colom	18.51	210	eP	P	03 39 33.5	-8.5
X58A	Rowland	18.75	329	P	Pn	03 39 45.7	+1.0
JTS	Las Juntas de	18.80	245	P	Pn	03 39 48.4	+2.9
	comp=Z,0.4nm,0.3s,baz=103,slow=9.1,SNR=5.1						
Y57A	Sumter	18.87	325	P	P	03 39 44.7	-0.8
BBAC	Balboa, Cauca	19.23	210	eP	P	03 39 49.8	-0.1
BIRD	Birdtown, Kers	19.39	327	P	P	03 39 51.1	0.0
JSC	Jenkinsville	19.54	324	P	Pn	03 39 56.0	+1.7
W57A	Gilead	19.55	328	IAmb	IAmb	03 39 59.7	
	comp=Z,22nm,0.5s						
V58A	Windy Hill, Pi	19.65	331	P	Pn	03 39 55.9	+0.4
HODGE	Hodges	20.07	322	IAmb	IAmb	03 40 06.5	
	comp=Z,9.3nm,0.5s						
KMSC	Kings Mountain	20.23	326	IAmb	IAmb	03 40 08.7	
	comp=Z,12nm,0.5s						
T57A	Hurt	20.72	333	P	P	03 40 07.4	+1.8
T57A				IAmb	IAmb	03 40 17.6	
	comp=Z,27nm,1.4s						
JSRW	J. Sargeant Re	20.76	337	P	P	03 40 04.8	-1.3
R58B	Mineral	21.00	337	IAmb	IAmb	03 40 19.4	
	comp=Z,11nm,0.7s						
BG3	Lake Jocassee	21.00	323	P	P	03 40 08.9	+0.1
250A	Grady	21.23	311	P	P	03 40 12.1	+0.8
250A				IAmb	IAmb	03 40 17.1	
	comp=Z,26nm,1.0s						
S57A	Dark Hollow, R	21.24	335	IAmb	IAmb	03 40 23.4	
	comp=Z,19nm,0.5s						
MTO3	Montecristo	21.28	261	P	P	03 40 10.4	-1.7
OTAV	Otavalo	21.36	211	P	P	03 40 13.9	+0.7
OTAV				IAmb	IAmb	03 40 22.4	
	comp=Z,39nm,1.0s						
OTAV	Otavalo	21.36	211	eP	P	03 40 17.6	+4.4
BLA	Blacksburg	21.41	331	P	P	03 40 13.9	+0.7
V53A	Saluda	21.42	324	P	P	03 40 13.8	+0.5
V53A				IAmb	IAmb	03 40 34.0	
	comp=Z,11nm,0.8s						
TKL	Tuckaleechee C	21.96	323	P	P	03 40 19.3	+0.3
	comp=Z,3.4nm,0.7s,baz=156,slow=9.7,SNR=1.9						
TKL				S	S	03 44 11.3	-8.9
	comp=Z,3.5nm,0.5s,baz=118,slow=17,SNR=3.3						
TKL	Tuckaleechee C	21.96	323	P	P	03 40 19.2	+0.2
TKL				IAmb	IAmb	03 40 42.4	
	comp=Z,22nm,1.3s						
V52A	Sevierville	21.99	323	P	P	03 40 19.8	+0.4
R55A	Marlinton	22.17	333	P	P	03 40 23.7	+2.4
CPCT	Cooper Cave	22.25	321	P	P	03 40 22.9	+0.8
FPAL	Fort Paine	22.32	318	P	P	03 40 23.4	+0.5
FPAL				IAmb	IAmb	03 40 24.5	
	comp=Z,13nm,0.9s						
LRAL	Lakeview Retre	22.33	313	P	P	03 40 22.5	-0.5
Y49A	Blount Mountai	22.41	315	IAmb	IAmb	03 40 24.9	
	comp=Z,10nm,0.8s						
TZTN	Tazewell	22.47	325	P	P	03 40 25.1	+0.6
W50A	Signal Mountai	22.56	320	IAmb	IAmb	03 40 49.6	
	comp=Z,16nm,1.2s						
Z47A	Carrollton	23.17	312	IAmb	IAmb	03 40 38.1	
	comp=Z,12nm,0.9s						
CCIG	Comitan	23.49	267	P	P	03 40 36.5	+1.2
CCIG				IAmb	IAmb	03 40 51.3	
	comp=Z,11nm,0.7s						
V48A	Smith Brothers	23.84	319	IAmb	IAmb	03 40 54.1	
	comp=Z,15nm,1.4s						
R50A	Paris	24.17	326	IAmb	IAmb	03 41 02.9	
	comp=Z,10.0nm,0.6s						
PLAL	Pickwick Lake	24.19	316	P	P	03 40 42.3	+0.8
PLAL				IAmb	IAmb	03 40 44.2	
	comp=Z,14nm,0.8s						
WVT	Waverly	24.72	318	P	P	03 40 47.0	+0.5
CCAR	Cane Creek	26.20	310	P	P	03 41 00.9	+1.1
CCAR				IAmb	IAmb	03 41 09.6	
	comp=Z,13nm,0.8s						
SIUC	Southern Illin	26.58	319	IAmb	IAmb	03 41 10.0	
	comp=Z,12nm,0.8s						
S44A	Carbondale	26.59	319	IAmb	IAmb	03 41 05.1	
	comp=Z,14nm,0.8s						
LCAR	Lake Charles	26.87	314	IAmb	IAmb	03 41 14.6	
	comp=Z,13nm,1.5s						
WHAR	Wooly Hollow	27.24	312	IAmb	IAmb	03 41 18.3	
	comp=Z,6.7nm,0.8s						
MGMO	Mountain Grove	28.21	315	IAmb	IAmb	03 41 30.1	
	comp=Z,6.8nm,0.8s						
P40A	Paris	29.44	319	IAmb	IAmb	03 41 35.2	
	comp=Z,7.6nm,1.0s						
WMOK	Wichita Mounta	31.79	306	IAmb	IAmb	03 42 08.9	
	comp=Z,4.0nm,0.8s						
R32A	Long Quarter,	33.26	312	P	P	03 42 03.7	+1.2
R32A				IAmb	IAmb	03 42 12.0	
	comp=Z,7.1nm,0.8s						
TX31	Lajitas Ar. Si	34.36	295	IAmb	IAmb	03 42 36.1	
	comp=Z,11nm,0.8s						
TX32	Lajitas Array	34.36	295	IAmb	IAmb	03 42 36.1	
	comp=Z,3.6nm,0.8s						
TXAR	Lajitas Array	34.36	295	P	P	03 42 12.9	+0.6
	comp=Z,0.4nm,0.5s,baz=113,slow=8.0,SNR=8.2						
TXAR				PcP	PcP	03 44 48.3	+0.4
	comp=Z,1.3nm,0.7s,baz=128,slow=5.8,SNR=7.9						
ECSD	EROS Data Cent	34.70	322	IAmb	IAmb	03 42 21.0	
	comp=Z,6.0nm,0.8s						
LPAZ	La Paz	34.97	181	P	P	03 42 17.2	-0.8
	comp=Z,1.6nm,0.8s,baz=345,slow=8.6,SNR=7.7						
LPAZ	La Paz	34.97	181	eP	P	03 42 16.7	-1.3
SIV	San Ignacio	35.27	169	P	P	03 42 18.9	-1.1
	comp=Z,3.9nm,0.7s,baz=21,slow=9.9,SNR=22						
B35A	Bob, Littlefor	36.20	330	IAmb	IAmb	03 42 32.7	
	comp=Z,6.7nm,0.8s						
MNTX	Cornudas Mount	36.25	298	IAmb	IAmb	03 42 40.4	
	comp=Z,12nm,1.4s						
H07S1	FLORES T-PHASE	37.46	49	T	T	04 21 52.9	
	SNR=6.8						
H07N1	FLORES T-PHASE	37.64	49	T	T	04 22 06.1	
	SNR=11						
SDCO	Great Sand Dun	37.93	308	IAmb	IAmb	03 42 57.9	
	comp=Z,5.0nm,0.8s						
ULM	Lac du Bonnet	38.53	331	P	P	03 42 49.4	+2.0
	comp=Z,2.1nm,0.6s,baz=116,slow=12,SNR=3.9						
ISCO	Idaho Springs	38.72	311	P	P	03 42 51.0	+1.4
PB01	IPOC Station P	39.73	183	IAmb	IAmb	03 42 57.0	
	comp=Z,15nm,0.7s						
PV07	Paradox Valley	40.50	307	P	P	03 43 06.1	+1.7
PV17	East Wray Mesa	40.69	307	P	P	03 43 08.4	+2.5
LVC	Limon Verde	41.27	182	P	P	03 43 09.1	-1.8
	baz=342,slow=19						
LVC	Limon Verde	41.27	182	IAmb	IAmb	03 43 09.8	
	comp=Z,9.1nm,0.7s						
PDAR	Pinedale Array	42.56	313	P	P	03 43 23.2	+2.1
	comp=Z,0.3nm,0.5s,baz=112,slow=12,SNR=2.8						
PDAR				PcP	PcP	03 45 13.4	0.0
	comp=Z,0.5nm,0.6s,baz=120,slow=6.0,SNR=4.7						
BOZ	Bozeman (W)	44.97	316	P	P	03 43 41.8	+1.4
TPNV	Topopah Spring	46.04	303	P	P	03 43 50.2	+1.2
TPNV				IAmb	IAmb	03 44 06.2	
	comp=Z,3.3nm,0.8s						
CPUP	Villa Florida	46.06	167	P	P	03 43 46.2	-2.7
	comp=Z,3.7nm,0.8s,baz=345,slow=8.0,SNR=7.5						
CPUP	Villa Florida	46.06	167	IAmb	IAmb	03 43 47.5	
	comp=Z,3.9nm,0.8s						
NV11	Mina Array Sit	47.77	305	P	P	03 44 02.7	+0.1
NV11				IAmb	IAmb	03 44 22.2	
	comp=Z,4.0nm,0.9s						
NVAR	Mina Array Bea	47.89	305	P	P	03 44 04.6	+1.1
	comp=Z,1.0nm,0.8s,baz=102,slow=4.9,SNR=6.9						
NVAR				ScP	ScP	03 49 27.1	+2.4
	comp=Z,0.1nm,0.5s,baz=132,slow=1.3,SNR=1.9						
ZON	Zonda	50.16	181	P	P	03 44 19.6	-1.0
ZON				IAmb	IAmb	03 44 20.1	
	comp=Z,7.9nm,1.0s						
SUMG	Summit	56.22	10	i P	P	03 45 06.0	+0.9
SUMG				IAmb	IAmb	03 45 11.2	
	comp=Z,7.4nm,0.8s						
SUMG	Summit	56.22	10	P	P	03 45 06.1	+0.9
SUMG				IAmb	IAmb	03 45 10.9	
	comp=Z,7.6nm,0.9s						
ESDC	Sonseca Array	58.08	55	P	P	03 45 18.7	+0.2
	comp=Z,1.9nm,0.8s,baz=273,slow=6.2,SNR=13						
ESDC	Sonseca Array	58.08	55	P	P	03 45 19.4	+0.9
PLCA	Paso Flores	59.38	183	P	P	03 45 26.1	-1.3
	comp=Z,5.5nm,1.1s,baz=328,slow=3.3,SNR=4.5						
DAG	Danmarks Havn	62.85	11	i P	P	03 45 54.6	+4.3
EGAK	Eagle	66.05	333	P	P	03 46 12.4	+0.9
BCAR	Beaver Creek A	66.15	331	P	P	03 46 12.5	+0.3
TORD	Torodi Ar. Bea	66.53	84	P	P	03 46 15.2	-0.1
	comp=Z,0.7nm,0.6s,baz=278,slow=6.4,SNR=6.9						
TORD				LR	LR	04 10 36.7	
	comp=

ISC 17 04:01:05.9±2.2, 13°.93N±0°.04×58°.3W±0°.1, h10km, n43, σ1§47/57, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.36**	**233**	*eP*	**Pb**	**04 01 32.6**	**+1.0**
BBSP				*eS*	**Sg**	**04 01 50.8**	**+0.9**
BBGH	**Gun Hill**	**1.42**	**237**	*eP*	**Pn**	**04 01 33.0**	**+1.1**
BBGH				*eS*	**Sg**	**04 01 52.4**	**+0.6**
BCHC	**Barbados, Cave**	**1.49**	**238**	*eP*	**Pb**	**04 01 34.2**	**+0.6**
BCHC				*eS*	**Sg**	**04 01 54.3**	**+0.5**
MPOM	**Morne Pois Mar**	**2.50**	**282**	*eP*	**Pn**	**04 01 47.1**	**+0.4**
MPOM				*eS*	**Sn**	**04 02 15.9**	**-1.4**
SLW	**Petit Monier**	**2.53**	**272**	*eP*	**Pn**	**04 01 47.9**	**+0.8**
SLW				*eS*	**Sn**	**04 02 17.0**	**-1.0**
MCLT	**Moule a Chique**	**2.54**	**265**	*eP*	**Pn**	**04 01 48.0**	**+0.7**
MCLT				*eS*	**Sn**	**04 02 17.9**	**-0.4**
MVM	**Montagne Vaucl**	**2.56**	**284**	*eP*	**Pn**	**04 01 47.4**	**-0.1**
SLBI	**Saint Lucia, B**	**2.56**	**272**	*eP*	**Pn**	**04 01 47.5**	**0.0**
SLBI				*eS*	**Sn**	**04 02 18.1**	**-0.7**
SLCP	**Castries, St.**	**2.58**	**272**	*eP*	**Pn**	**04 01 48.1**	**+0.4**
SLCP				*eS*	**Sn**	**04 02 17.7**	**-1.5**
LPMF	**Morne Lapointe**	**2.63**	**284**	*eP*	**Pn**	**04 01 48.4**	**-0.1**
ZAM	**Aeronautique**	**2.69**	**284**	*eP*	**Pn**	**04 01 49.2**	**-0.1**
TRMF	**Trois Ilets**	**2.70**	**283**	*eP*	**Pn**	**04 01 49.4**	**-0.1**
BIM	**Bigot**	**2.72**	**283**	*eP*	**Pn**	**04 01 49.8**	**0.0**
BIM				*eS*	**Sn**	**04 02 20.7**	**-2.0**
SSV	**Crater Summit**	**2.84**	**258**	*eP*	**Pn**	**04 01 52.6**	**+1.1**
FDF	**Fort de France**	**2.84**	**287**	*eP*	**Pn**	**04 01 51.9**	**+0.4**
FDF				*eS*	**Sn**	**04 02 25.4**	**-0.4**
BAMF	**Morne Balai**	**2.87**	**288**	*eP*	Pn	04 01 48.3	-3.5
SVV	**Soufriere Volc**	**2.87**	**258**	*eP*	**Pn**	**04 01 52.8**	**+1.0**
GBMF	**Grand Be**	**2.88**	**288**	*eP*	**Pn**	**04 01 53.0**	**+1.0**
PML	**Morne Lenard**	**2.89**	**287**	*eP*	**Pn**	**04 01 53.0**	**+0.9**
SVN	**Savane Anatole**	**2.89**	**289**	*eP*	**Pn**	**04 01 53.7**	**+1.5**
SVB	**Belmont**	**2.91**	**257**	*eP*	**Pn**	**04 01 52.1**	**-0.2**
SVB				*eS*	**Sn**	**04 02 27.0**	**-0.4**
PCM	**Pelee Case Pet**	**2.92**	**288**	*eP*	**Pn**	**04 01 53.5**	**+1.0**
DLPL	**La Plaine**	**3.15**	**297**	*eP*	**Pn**	**04 01 57.7**	**+2.1**
GCMP	**Grenada, Carri**	**3.33**	**245**	*eP*	**Pn**	**04 01 58.4**	**+0.2**
GCMP				*eS*	**Sn**	**04 02 36.0**	**-1.9**
DSLB	**Salisbury**	**3.34**	**297**	*eP*	**Pn**	**04 01 59.2**	**+0.9**
DSLB				*eS*	**Sn**	**04 02 36.7**	**-1.4**
TOSP	**Speyside**	**3.38**	**220**	*eP*	**Pn**	**04 01 59.1**	**+0.3**
MAGL	**Barre de l'ile**	**3.49**	**306**	*eP*	**Pn**	**04 02 01.7**	**+1.4**
MAGL				*eS*	**Sn**	**04 02 41.4**	**-0.2**
GRGR	**Grenville**	**3.69**	**242**	*eP*	**Pn**	**04 02 03.1**	**0.0**
TDBA	**Terre de Bas,**	**3.72**	**301**	*eP*	**Pn**	**04 02 04.7**	**+1.2**
TBG	**Guadaloupe-3**	**3.73**	**301**	*eP*	**Pn**	**04 02 05.4**	**+1.8**
CBE	**Ff, Capester**	**3.81**	**304**	*eP*	**Pn**	**04 02 06.6**	**+1.8**
ABD	**La Joyeuse, An**	**3.96**	**310**	*eP*	**Pn**	**04 02 08.3**	**+1.6**
ABD				*eS*	**Sn**	**04 02 52.2**	**-1.1**
TRN	**Trinidad (W)**	**4.43**	**223**	*eP*	**Pn**	**04 02 14.1**	**+0.8**
TRN	**Trinidad (W)**	**4.43**	**223**	*eS*	**Sn**	**04 03 00.9**	**-4.0**
ANBD	**Bethesda, Anti**	**4.54**	**314**	*eP*	**Pn**	**04 02 15.8**	**+1.1**
ANBD	**Bethesda, Anti**	**4.54**	**314**	*eS*	**Sn**	**04 03 04.9**	**-2.6**
BPA	**Boggy Peak**	**4.60**	**313**	*eP*	**Pn**	**04 02 17.2**	**+1.6**
BPA	**Boggy Peak**	**4.60**	**313**	*eS*	**Sn**	**04 03 06.0**	**-3.1**
ANOC	**Antigua Open C**	**4.63**	**314**	*eP*	**Pn**	**04 02 17.0**	**+1.0**
ANOC	**Antigua Open C**	**4.63**	**314**	*eS*	**Sn**	**04 03 07.6**	**-2.2**
ANWB	**Willy Bob**	**4.99**	**319**	*eP*	**Pn**	**04 02 21.5**	**+0.6**
ANWB	**Willy Bob**	**4.99**	**319**	*eS*	**Sn**	**04 03 15.4**	**-3.2**
SKI	**Saint Kitts**	**5.43**	**309**	*eS*	**Sn**	**04 03 25.7**	**-3.9**

TRN 17 04:10:38.0, 13°.85N×58°.51W, h98km, MD3.5

ISC 17 04:10:37.4±2.1, 13°.90N±0°.05×58°.5W±0°.1, h10km, n39, σ1§67/47, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.19**	**228**	*eP*	**Pb**	**04 11 01.7**	**+1.6**
BBGH	**Gun Hill**	**1.24**	**233**	*eP*	**Pn**	**04 11 02.3**	**+1.4**
BCHC	**Barbados, Cave**	**1.31**	**234**	*eP*	**Pn**	**04 11 02.9**	**+1.2**
MPOM	**Morne Pois Mar**	**2.31**	**284**	*eP*	**Pn**	**04 11 15.8**	**+0.2**
MPOM				*eS*	**Sn**	**04 11 45.3**	**+1.3**
SLBI	**Saint Lucia, B**	**2.36**	**273**	*eP*	**Pn**	**04 11 16.5**	**+0.2**
SLBI				*eS*	**Sn**	**04 11 44.7**	**-0.6**
MVM	**Montagne Vaucl**	**2.37**	**286**	*eP*	**Pn**	**04 11 17.0**	**+0.6**
LPMF	**Morne Lapointe**	**2.44**	**286**	*eP*	**Pn**	**04 11 17.4**	**+0.1**
ZAM	**Aeronautique**	**2.50**	**286**	*eP*	**Pn**	**04 11 18.4**	**+0.3**
TRMF	**Trois Ilets**	**2.51**	**285**	*eP*	**Pn**	**04 11 18.6**	**+0.3**
BIM	**Bigot**	**2.53**	**284**	*eP*	**Pn**	**04 11 18.8**	**+0.2**
BIM				*eS*	**Sn**	**04 11 49.9**	**+0.4**
SSV	**Crater Summit**	**2.64**	**258**	*eP*	**Pn**	**04 11 20.7**	**+0.5**
FDF	**Fort de France**	**2.66**	**288**	*eP*	**Pn**	**04 11 20.7**	**+0.3**
FDF				*eS*	**Sn**	**04 11 52.8**	**0.0**
SVV	**Soufriere Volc**	**2.66**	**258**	*eP*	**Pn**	**04 11 20.7**	**+0.3**
BAMF	**Morne Balai**	**2.68**	**290**	*eP*	**Pn**	**04 11 22.1**	**+1.3**
GBMF	**Grand Be**	**2.69**	**290**	*eP*	**Pn**	**04 11 22.4**	**+1.5**
PML	**Morne Lenard**	**2.70**	**289**	*eP*	**Pn**	**04 11 22.6**	**+1.7**
SVB	**Belmont**	**2.71**	**257**	*eP*	**Pn**	**04 11 21.2**	**+0.2**
SVB				*eS*	**Sn**	**04 11 52.8**	**-1.1**
PCM	**Pelee Case Pet**	**2.74**	**290**	*eP*	**Pn**	**04 11 22.4**	**+0.9**
GCMP	**Grenada, Carri**	**3.14**	**244**	*eP*	**Pn**	**04 11 27.3**	**+0.4**
GCMP				*eS*	**Sn**	**04 12 02.9**	**-1.6**
DSLB	**Salisbury**	**3.18**	**299**	*eP*	**Pn**	**04 11 28.3**	**+0.8**
DSLB				*eS*	**Sn**	**04 12 05.1**	**-0.3**
TOSP	**Speyside**	**3.24**	**217**	*eP*	**Pn**	**04 11 27.3**	**-1.0**
MAGL	**Barre de l'ile**	**3.34**	**308**	*eP*	**Pn**	**04 11 31.0**	**+1.3**
MAGL				*eS*	**Sn**	**04 12 08.7**	**-0.8**
GRGR	**Grenville**	**3.51**	**240**	*eP*	**Pn**	**04 11 32.5**	**+0.5**
TDBA	**Terre de Bas,**	**3.56**	**303**	*eP*	**Pn**	**04 11 34.1**	**+1.4**
CBE	**Ff, Capester**	**3.66**	**306**	*eP*	**Pn**	**04 11 35.6**	**+1.5**
ABD	**La Joyeuse, An**	**3.82**	**312**	*eS*	**Sn**	**04 12 20.8**	**-0.6**
ANBD	**Bethesda, Anti**	**4.41**	**316**	*eP*	**Pn**	**04 11 44.8**	**+0.4**
ANBD	**Bethesda, Anti**	**4.41**	**316**	*eS*	**Sn**	**04 12 33.9**	**-1.9**
BPA	**Boggy Peak**	**4.47**	**315**	*eP*	**Pn**	**04 11 46.2**	**+0.9**
BPA	**Boggy Peak**	**4.47**	**315**	*eS*	**Sn**	**04 12 35.0**	**-2.4**
ANDO	**Antigua, Disas**	**4.50**	**316**	*e*	**Pn**	**04 11 46.8**	**+1.2**
ANOC	**Antigua Open C**	**4.50**	**316**	*eP*	**Pn**	**04 11 46.3**	**+0.6**
ANOC	**Antigua Open C**	**4.50**	**316**	*eS*	**Sn**	**04 12 35.7**	**-2.5**
SMRC	**Santa Marta, M**	**15.55**	**262**	*eP*	**Pn**	**04 14 14.6**	**-2.3**
SMLC	**San Martn de**	**16.04**	**253**	*eP*	**Pn**	**04 14 18.4**	**-4.9**
BARC	**Barichara**	**16.13**	**245**	*eP*	**P**	**04 14 29.9**	**+2.0**
RUSC	**La Rusia**	**16.38**	**242**	*eP*	**P**	**04 14 36.6**	**+5.6**
ZARC	**Zaragoza, Cauc**	**17.25**	**250**	*eP*	**Pn**	**04 14 35.6**	**-2.9**
GUY2C	**Guyana, Caldas**	**18.68**	**244**	*eP*	**P**	**04 14 55.7**	**-0.7**

TRN 17 04:16:56.6, 13°.82N×58°.42W, h109km, MD4.1

ISC 17 04:16:55.9±2.6, 13°.92N±0°.06×58°.4W±0°.1, h10km, n24, σ1§19/31, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.35**	**235**	*eP*	**Pg**	**04 17 22.0**	**+0.2**
BBGH				*eS*	**Sg**	**04 17 41.4**	**+2.1**
MPOM	**Morne Pois Mar**	**2.42**	**283**	*eP*	**Pn**	**04 17 35.4**	**-0.2**
MPOM				*eS*	**Sn**	**04 18 04.7**	**-0.6**
SLBI	**Saint Lucia, B**	**2.48**	**273**	*eP*	**Pn**	**04 17 35.5**	**-0.9**
SLBI				*eS*	**Sn**	**04 18 05.8**	**-0.9**
LPMF	**Morne Lapointe**	**2.55**	**285**	*eP*	**Pn**	**04 17 37.1**	**-0.3**
ZAM	**Aeronautique**	**2.61**	**285**	*eP*	**Pn**	**04 17 37.9**	**-0.2**
BIM	**Bigot**	**2.64**	**283**	*eP*	**Pn**	**04 17 38.4**	**-0.2**
BIM				*eS*	**Sn**	**04 18 09.2**	**-1.5**
FDF	**Fort de France**	**2.77**	**287**	*eP*	**Pn**	**04 17 40.8**	**+0.4**
GBMF	**Grand Be**	**2.80**	**289**	*eP*	**Pn**	**04 17 41.5**	**+0.6**
PML	**Morne Lenard**	**2.81**	**288**	*eP*	**Pn**	**04 17 43.7**	**+2.7**
SVB	**Belmont**	**2.83**	**257**	*eP*	**Pn**	**04 17 41.0**	**-0.2**
SVB				*eS*	**Sn**	**04 18 13.4**	**-1.9**
PCM	**Pelee Case Pet**	**2.85**	**289**	*eP*	**Pn**	**04 17 42.4**	**+1.0**
GCMP	**Grenada, Carri**	**3.25**	**244**	*eP*	**Pn**	**04 17 46.9**	**-0.1**
DSLB	**Salisbury**	**3.27**	**298**	*eP*	**Pn**	**04 17 48.3**	**+1.0**
DSLB				*eS*	**Sn**	**04 18 26.7**	**+0.3**
TOSP	**Speyside**	**3.32**	**219**	*eP*	**Pn**	**04 17 48.0**	**+0.1**
MAGL	**Barre de l'ile**	**3.42**	**307**	*eP*	**Pn**	**04 17 50.6**	**+1.2**
GRGR	**Grenville**	**3.62**	**241**	*eP*	**Pn**	**04 17 51.9**	**-0.2**
CBE	**Ff, Capester**	**3.75**	**305**	*eP*	**Pn**	**04 17 54.8**	**+0.9**
CBE				*eS*	**Sn**	**04 18 37.6**	**-0.5**
ANBD	**Bethesda, Anti**	**4.48**	**314**	*eP*	**Pn**	**04 18 04.4**	**+0.5**
ANBD	**Bethesda, Anti**	**4.48**	**314**	*eS*	**Sn**	**04 18 53.5**	**-2.7**
BPA	**Boggy Peak**	**4.54**	**314**	*eP*	**Pn**	**04 18 05.9**	**+1.1**
BPA	**Boggy Peak**	**4.54**	**314**	*eS*	**Sn**	**04 18 55.7**	**-2.1**
ANWB	**Willy Bob**	**4.94**	**319**	*eP*	**Pn**	**04 18 10.3**	**+0.1**
ANWB	**Willy Bob**	**4.94**	**319**	*eS*	**Sn**	**04 19 06.2**	**-1.2**
SKI	**Saint Kitts**	**5.37**	**310**	*eP*	**Pn**	**04 18 16.2**	**0.0**

IDC 17 04:21:38.2±0.8, 32°.64N×83°.23E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.8/38, mbtmp3.8/19, ML3.1/1, MS2.9/4, Ms1 3.0/4, ms1mx2.7/37, Error ellipse: s-maj=25.3km s-min=15.1km az=44.0

NEIC 17 04:21:39.9±1.6, 32°.72N±0°.07×83°.30E±0°.04, h10km±1km, mb4.2/4, Error ellipse: s-maj=13.7km s-min=3.2km az=155.0

ISC 17 04:21:40.0±0.6, 32°.79N±0°.09×83°.40E±0°.07, h10km, n38, σ1§11/36, mb3.9/17, MS3.0/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**5.55**	**254**	*eP*	**Pn**	**04 23 05.0**	**+2.3**
SMLA				*eS*	**Sn**	**04 24 08.7**	**+2.1**
LSA	**Lhasa**	**7.31**	**113**	Pn	**Pn**	**04 23 27.0**	**-0.4**
NIL	**Nilore**	**8.55**	**279**	Pn	**Pn**	**04 23 41.4**	**-2.5**
TARG	**Taragay, Kyrgy**	**9.97**	**335**		**Pn**	**04 24 03.7**	**-0.1**
BOOM	**Boomskoye usch**	**11.34**	**331**		**Pn**	**04 24 21.5**	**-0.8**
KBL	**Kabul**	**12.09**	**282**	Pn	**Pn**	**04 24 31.6**	**-1.0**
BTK	**Batken**	**12.46**	**309**		**Pn**	**04 24 36.4**	**-1.1**
MK31	**Makanchi Array**	**14.01**	**357**	Pn	**Pn**	**04 24 59.1**	**+0.5**
MKAR	**Makanchi Array**	**14.01**	**357**	Pn	**Pn**	**04 24 59.1**	**+0.5**
	baz=173,slow=10.0,SNR=2.2						
MKAR	**Makanchi Array**	**14.01**	**357**	Pn	**Pn**	**04 24 58.8**	**+0.2**
MAKZ	**Makanchi**	**14.04**	**356**	Pn	**Pn**	**04 24 59.4**	**+0.4**
KK31	**Karatay Array**	**14.46**	**319**	Pn	**Pn**	**04 25 03.0**	**-1.7**
KKAR	**Karatay Array**	**14.46**	**319**	Pn	**Pn**	**04 25 04.1**	**-0.6**
KURBB	**Kurchatov Arra**	**18.18**	**350**	P	**Pn**	**04 25 52.7**	**+0.3**
	0.1nm,0.3s,baz=173,slow=11,SNR=23						
KURK	**Kurchatov**	**18.26**	**350**	P	**Pn**	**04 25 52.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.96**	**132**	P	**Pn**	**04 26 13.5**	**-0.6**
	baz=306,slow=9.5,SNR=6.5						
CMAR				LR	LR	04 35 51.2	
	comp=Z,34nm,19.0s,baz=346,slow=43						
ZAA0	**Zalesovo Array**	**21.18**	**2**	P	**P**	**04 26 26.2**	**+0.9**
ZAA0				IAmb	IAmb	04 26 36.5	
	comp=Z,8.8nm,1.4s						
ZALV	**Zalesovo Beam**	**21.18**	**2**	P	**P**	**04 26 27.1**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=169,slow=8.6,SNR=5.9						
GEYT	**Allbeck**	**21.22**	**291**	LR	LR	04 35 37.5	
	comp=Z,23nm,21.6s,baz=195,slow=40						
SONM	**Songino Array**	**22.97**	**42**	P	**P**	**04 26 47.0**	**+2.3**
	comp=Z,0.8nm,0.6s,baz=224,slow=6.2,SNR=8.0						
ABKAR	**Akbulak array**	**24.02**	**320**	P	**P**	**04 26 53.5**	**-1.3**
AKTO	**Aktyubinsk**	**25.71**	**321**	P	**P**	**04 27 10.4**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=115,slow=10,SNR=9.7						
ARU	**Arti**	**29.21**	**331**	P	**P**	**04 27 41.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=108,slow=19,SNR=1.8						
ARU				LR	LR	04 38 56.6	
	comp=Z,31nm,18.4s,baz=256,slow=36						
KBZ	**Khabaz**	**33.33**	**301**	P	**P**	**04 28 18.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=105,slow=12,SNR=2.5						
KSRS	**Korea Array**	**36.46**	**70**	LR	LR	04 45 13.7	
	comp=Z,26nm,18.4s,baz=40,slow=39						
BRTR	**Keskin Array B**	**40.30**	**294**	P	**P**	**04 29 17.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=128,slow=10.0,SNR=4.1						
AKASG	**Malin Array Be**	**43.16**	**311**	P	**P**	**04 29 40.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=81,slow=7.0,SNR=3.0						
FINES	**FINESS Array B**	**46.28**	**326**	P	**P**	**04 30 05.8**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=100,slow=8.6,SNR=13						
ARCES	**ARCESS Array B**	**48.55**	**337**	P	**P**	**04 30 23.8**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=88,slow=7.4,SNR=12						
GERES	**GERESS Array B**	**53.30**	**309**	P	**P**	**04 30 59.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=54,slow=6.8,SNR=8.7						
NB2	**NORSAR Subarra**	**53.40**	**325**	P	**P**	**04 30 59.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**53.40**	**325**	P	**P**	**04 30 59.4**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=87,slow=7.3,SNR=7.2						
WRA	**Warramunga Arr**	**71.54**	**130**	P	**P**	**04 33 01.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=323,slow=6.2,SNR=7.1						
ASAR	**Alice Springs**	**73.97**	**133**	P	**P**	**04 33 15.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=315,slow=5.6,SNR=5.9						
ILAR	**Eielson Array**	**75.15**	**20**	P	**P**	**04 33 22.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=309,slow=5.8,SNR=7.9						
TORD	**Torodi Ar. Bea**	**76.10**	**277**	P	**P**	**04 33 26.5**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=55,slow=5.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**76.10**	**277**	IAmb	IAmb	04 33 43.2	
	comp=Z,4.8nm,1.4s						
YKA	**Yellowknife Ar**	**83.95**	**8**	P	**P**	**04 34 09.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=337,slow=5.8,SNR=3.0						

IDC 17 04:56:37.8±5.8, 2°.56S×139°.70E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/39, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=227.4km s-min=32.4km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.05**	**196**	P	Pn	05 00 48.9	-1.4
	0.0nm,0.3s,baz=17,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**21.72**	**194**	P	P	05 01 31.3	+0.5
	0.2nm,0.4s,baz=17,slow=9.9,SNR=2.3						
MKAR	**Makanchi Array**	**70.27**	**322**	P	P	05 07 53.3	+0.2
	0.4nm,0.6s,baz=107,slow=6.5,SNR=4.0						

IDC 17 05:02:43.1±0.9, 32°.57N×83°.24E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/51, mbtmp3.8/16, ML3.1/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/45, Error ellipse: s-maj=25.8km s-min=17.0km az=37.0

ISC 17 05:02:45.1±1.1, 32°.7N±0°.2×83°.2E±0°.1, h10km, n20, σ0§78/16, mb3.9/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**11.67**	**16**	*eP*	Pn	05 05 43.3	+12
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,95nm,3.7s						
WMQ				smax	smax		
	comp=N,17nm,0.5s						
WMQ				smax	smax		
	comp=E,8.0nm,0.7s						
MKAR	**Makanchi Array**	**14.13**	**357**	Pn	**Pn**	**05 06 04.5**	**-0.8**
	comp=E,0.1nm,0.3s,baz=180,slow=13,SNR=7.6						
KURBB	**Kurchatov Arra**	**18.27**	**350**	P	**Pn**	**05 06 57.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=172,slow=11,SNR=23						
SONM	**Songino Array**	**23.16**	**42**	P	**P**	**05 07 53.3**	**+1.6**
	comp=E,1.0nm,0.8s,baz=236,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**25.71**	**321**	P	**P**	**05 08 16.2**	**+0.8**
	comp=E,1.7nm,0.6s,baz=100,slow=11,SNR=6.2						
ARU	**Arti**	**29.25**	**332**	LR	LR	05 21 40.9	
	comp=E,20nm,18.5s,baz=248,slow=39						
KSRS	**Korea Array**	**36.63**	**70**	LR	LR	05 26 55.4	
	comp=E,27nm,19.8s,baz=185,slow=40						
KLR	**Kul'dur**	**39.47**	**51**	P	**P**	**05 10 15.4**	**-0.1**
	comp=E,0.5nm,0.4s,baz=272,slow=11,SNR=5.3						
BRTR	**Keskin Array B**	**40.22**	**295**	P	**P**	**05 10 23.0**	**+1.0**
	comp=E,0.4nm,0.8s,baz=123,slow=9.1,SNR=2.2						
AKASG	**Malin Array Be**	**43.13**	**311**	P	**P**	**05 10 45.3**	**-0.2**
	comp=E,0.4nm,0.4s,baz=83,slow=7.5,SNR=4.8						
FINES	**FINESS Array B**	**46.30**	**326**	P	**P**	**05 11 10.8**	**+0.2**
	comp=E,0.7nm,0.4s,baz=94,slow=7.8,SNR=7.0						
ARCES	**ARCESS Array B**	**48.60**	**337**	P	**P**	**05 11 29.0**	**+0.5**
	comp=E,1.3nm,0.8s,baz=72,slow=4.0,SNR=9.9						
GERES	**GERESS Array B**	**53.26**	**309**	P	**P**	**05 12 04.3**	**+0.3**
	comp=E,0.6nm,0.7s,baz=64,slow=6.2,SNR=5.0						
NB2	**NORSAR Subarra**	**53.42**	**325**	P	**P**	**05 12 04.4**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**53.42**	**325**	P	**P**	**05 12 04.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=88,slow=7.2,SNR=5.4						
WRA	**Warramunga Arr**	**71.57**	**129**	P	**P**	**05 14 06.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=322,slow=6.4,SNR=7.5						
ASAR	**Alice Springs**	**74.00**	**132**	P	P	05 14 19.9	-1.2
	comp=Z,0.7nm,0.7s,baz=320,slow=5.5,SNR=7.2						
ILAR	**Eielson Array**	**75.31**	**20**	P	**P**	**05 14 28.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=306,slow=5.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**75.98**	**277**	P	**P**	**05 14 32.0**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=56,slow=4.8,SNR=1.9						
YKA	**Yellowknife Ar**	**84.09**	**8**	P	**P**	**05 15 14.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=336,slow=4.8,SNR=3.0						

ROM 17 05:11:33.2±0.1, 43°.794N±0°.004×12°.129E±0°.005, h9km, ML2.3/30, Error ellipse: s-maj=0.6km s-min=0.3km az=214.0

LDG 17 05:11:34.5±0.2, 43°.71N×12°.28E, h10km, Ml2.5/4, Error ellipse: s-maj=7.4km s-min=4.5km az=23.0

ISC 17 05:11:34.2±0.7, 43°.76N±0°.02×12°.14E±0°.02, h15km±5km, n67, σ1§22/99, 13C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.13**	**148**	⇑P	**Pg**	**05 11 37.3**	**-0.6**
PARC				S	**Sg**	**05 11 40.4**	**+0.1**
PARC				AML	AML		
	comp=E,3250μm,0.2s						
PARC				AML	AML		
	comp=N,1895μm,0.9s						
CPGN	**Carpegna, Ital**	**0.14**	**73**	⇑P	**Pg**	**05 11 37.2**	**-0.8**
CPGN				S	**Sg**	**05 11 40.3**	**-0.2**
CPGN				AML	AML		
	comp=E,5140μm,0.3s						
CPGN				AML	AML		
	comp=N,3250μm,0.8s						
CPGN				AML	AML		
	comp=E,4655μm,0.4s						
CPGN				AML	AML		
	comp=E,5140μm,0.3s						
CPGN				AML	AML		
	comp=N,3250μm,0.8s						
CPGN				AML	AML		
	comp=E,4650μm,0.4s						
CPGN				AML	AML		
	comp=N,3710μm,0.3s						
CPGN				AML	AML		
	comp=N,3255μm,0.8s						
CPGN				AML	AML		
	comp=E,4660μm,0.4s						
SSP9	**Sansepolcro**	**0.19**	**182**	⇑P	**Pg**	**05 11 38.3**	**-0.3**
SSP9				S	**Sg**	**05 11 42.4**	**+0.8**
SSP9				AML	AML		
	comp=E,914μm,1.5s						
SSP9				AML	AML		
	comp=N,1205μm,0.4s						
SSP9				AML	AML		
	comp=E,915μm,1.5s						
SSP9				AML	AML		
	comp=N,1200μm,0.4s						
SSP9				AML	AML		
	comp=N,1206μm,0.4s						
SSP9				AML	AML		
	comp=E,910μm,1.5s						
CRE	**Caprese Michel**	**0.20**	**224**	⇑P	**Pg**	**05 11 38.4**	**-0.5**
CRE				S	**Sg**	**05 11 42.8**	**+0.8**
CRE				AML	AML		
	comp=N,2660μm,0.2s						
CRE				AML	AML		
	comp=E,1355μm,0.7s						
SFI	**Santa Sofia**	**0.26**	**304**	⇑P	**Pg**	**05 11 38.4**	**-1.3**
SFI				S	**Sg**	**05 11 42.5**	**-1.0**
SFI				AML	AML		
	comp=E,1045μm,0.4s						
SFI				AML	AML		
	comp=N,970μm,0.2s						
SFI				AML	AML		
	comp=N,969μm,0.2s						
ASQU	**Asqua**	**0.26**	**278**	⇑P	**Pg**	**05 11 38.8**	**-1.0**
ASQU				S	**Sg**	**05 11 43.0**	**-0.6**
ASQU				AML	AML		
	comp=E,2570μm,1.2s						
ASQU				AML	AML		
	comp=N,2165μm,0.4s						
BADI	**Badiali**	**0.26**	**163**	⇑P	**Pg**	**05 11 39.5**	**-0.3**
BADI				S	**Sg**	**05 11 44.6**	**+0.9**
BADI				AML	AML		
	comp=E,1735μm,0.3s						
BADI				AML	AML		
	comp=N,1395μm,1.2s						
BADI				AML	AML		
	comp=E,1730μm,0

ATFO				AML	AML		
	comp=N,253μm,0.6s						
PESA	**Pesaro**	**0.54**	**70**	P	**Pb**	**05 11 44.2**	**-1.1**
PESA				AML	AML		
	comp=N,728μm,1.3s						
PESA				AML	AML		
	comp=E,890μm,0.2s						
SSFR	**Montelago di S**	**0.57**	**125**	P	**Pg**	**05 11 44.6**	**-0.8**
SSFR				S	**Sb**	**05 11 54.3**	**+0.5**
MURB	**Monte Urbino**	**0.57**	**151**	P	**Pb**	**05 11 45.2**	**-0.7**
COR1	**Corinaldo**	**0.64**	**102**	P	**Pb**	**05 11 46.8**	**-0.2**
ARVD	**Arcevia**	**0.64**	**114**	P	**Pg**	**05 11 45.8**	**-0.9**
ARVD				S	**Sb**	**05 11 56.3**	**+0.5**
ARVD				AML	AML		
	comp=N,150μm,0.2s						
ARVD				AML	AML		
	comp=E,170μm,0.3s						
SEI	**Scarperia**	**0.64**	**297**	P	**Pg**	**05 11 45.5**	**-1.2**
SEI				S	**Sg**	**05 11 55.4**	**+0.3**
SEI				AML	AML		
	comp=N,908μm,0.3s						
SEI				AML	AML		
	comp=E,576μm,0.4s						
ATCC	**AVT- Casa Cast**	**0.68**	**148**	P	**Pb**	**05 11 47.0**	**-0.8**
ATCC				AML	AML		
	comp=E,339μm,1.0s						
ATCC				AML	AML		
	comp=N,262μm,0.3s						
ATCC				AML	AML		
	comp=E,340μm,1.0s						
SNTG	**Esanatoglia**	**0.77**	**131**	P	**Pb**	**05 11 49.0**	**-0.4**
SNTG				AML	AML		
	comp=E,125μm,0.7s						
SNTG				AML	AML		
	comp=E,125μm,0.7s						
SNTG				AML	AML		
	comp=N,130μm,1.2s						
ASSB	**Assisi San Ben**	**0.81**	**152**	P	**Pb**	**05 11 49.3**	**-0.7**
EL6	**Elcito**	**0.82**	**121**	P	**Pb**	**05 11 49.9**	**-0.4**
EL6				AML	AML		
	comp=E,257μm,0.6s						
EL6				AML	AML		
	comp=N,380μm,0.6s						
FNVD	**Fontana Vidola**	**0.84**	**299**	P	**Pg**	**05 11 49.5**	**-1.0**
FNVD				AML	AML		
	comp=N,173μm,0.6s						
FNVD				AML	AML		
	comp=E,178μm,1.1s						
MGAB	**Montegabbione**	**0.85**	**181**	P	**Pg**	**05 11 50.2**	**-0.5**
MGAB				AML	AML		
	comp=E,247μm,1.6s						
MGAB				AML	AML		
	comp=N,257μm,0.4s						
SACS	**San Casciano d**	**0.93**	**191**	P	**Pb**	**05 11 52.1**	**0.0**
SACS				AML	AML		
	comp=N,142μm,1.2s						
SACS				AML	AML		
	comp=E,128μm,0.8s						
MOMA	**Monte Martano**	**1.01**	**162**	P	**Pn**	**05 11 53.7**	**-0.2**
ARCI	**Arcidosso**	**1.03**	**208**	P	**Pg**	**05 11 53.8**	**-0.3**
ARCI				AML	AML		
	comp=N,95μm,0.4s						
ARCI				AML	AML		
	comp=E,63μm,0.8s						
TRIF	**Trifonti**	**1.11**	**235**	‖P	**Pn**	**05 11 56.1**	**+0.9**
PII	**Pisa**	**1.17**	**269**	‖P	**Pn**	**05 11 54.9**	**-1.1**
PII				AML	AML		
	comp=N,176μm,0.4s						
PII				AML	AML		
	comp=E,204μm,1.2s						
DUGI	**Dugi Otok**	**2.12**	**83**	*e*Pn	**Pn**	**05 12 09.2**	**+0.1**
DUGI				Sn	**Sn**	**05 12 35.2**	**-0.1**
NVLJ	**Novalja**	**2.12**	**67**	*e*Pn	**Pn**	**05 12 08.1**	**-1.0**
NVLJ				Sn	**Sn**	**05 12 35.5**	**+0.3**
RABC	**Rab**	**2.14**	**62**	*e*Pn	**Pn**	**05 12 08.8**	**-0.5**
RABC				Sn	**Sn**	**05 12 36.3**	**+0.7**
ZIRJ	**Zirje**	**2.54**	**91**	*e*Pn	**Pn**	**05 12 15.4**	**+0.6**
ZIRJ				Sn	**Sn**	**05 12 45.2**	**-0.3**
MORI	**Morici**	**2.58**	**86**	*e*Pn	**Pn**	**05 12 16.1**	**+0.7**
MORI				Sn	**Sn**	**05 12 46.7**	**+0.1**
PGF	**Pioggiola**	**2.60**	**243**	*e*Pn	**Pn**	**05 12 18.6**	**+2.8**
PGF				*e*Sn	**Sn**	**05 12 48.0**	**+0.8**
	comp=E,1.7nm,0.4s						
ABTA	**Abfaltersbach**	**3.00**	**5**	*e*Pn	**Pb**	**05 12 29.0**	**+1.7**
	comp=E,4.0nm,0.7s						
KIJV	**Kijevo**	**3.09**	**84**	*e*Pn	**Pn**	**05 12 23.2**	**+0.7**
KIJV				Sn	**Sn**	**05 12 59.5**	**+0.3**
OBKA	**Obir**	**3.23**	**31**	*e*Pn	**Pb**	**05 12 33.1**	**+1.8**
	comp=E,1.4nm,0.4s						
SBF	**Sospel**	**3.41**	**273**	*e*Pn	**Pn**	**05 12 28.7**	**+1.8**
SBF	**Sospel**	**3.41**	**273**	*e*P	**Pn**	**05 12 30.8**	**+3.9**
SBF				*e*Sn	**Sn**	**05 13 06.1**	**-1.0**
	comp=E,12nm,0.5s						
KBA	**Koelnbreinsper**	**3.42**	**14**	*e*Pn	**Pn**	**05 12 27.4**	**+0.2**
	comp=E,0.4nm,0.3s						
SQTA	**Sankt Quirin**	**3.52**	**350**	*e*Pn	**Pn**	**05 12 30.8**	**+2.3**
	comp=E,3.1nm,0.3s						
WTTA	**Wattenberg**	**3.52**	**354**	*e*Pn	**Pb**	**05 12 35.0**	**-1.3**
	comp=E,3.6nm,0.8s						
SOKA	**Soboth**	**3.56**	**34**	*e*Pn	**Pb**	**05 12 36.5**	**-0.4**
	comp=E,0.9nm,0.4s						
WATA	**Walderalm**	**3.59**	**354**	*e*Pn	**Pb**	**05 12 40.1**	**+2.5**
	comp=E,3.1nm,0.4s						
MOTA	**Moosalm**	**3.66**	**349**	*e*Pn	**Pn**	**05 12 31.4**	**+1.0**
	comp=E,0.8nm,0.4s						
DAVA	**Damuels**	**3.87**	**337**	*e*Pn	**Pn**	**05 12 35.9**	**+2.6**
	comp=E,1.8nm,0.5s						
MBDF	**Montbardon**	**3.98**	**286**	*e*Pn	**Pn**	**05 12 35.9**	**+1.1**
FRF	**La Foret Royal**	**3.99**	**269**	*e*Pn	**Pn**	**05 12 34.7**	**-0.1**
FRF	**La Foret Royal**	**3.99**	**269**	*e*P	**Pn**	**05 12 38.6**	**+3.8**
FRF				*e*Sn	**Sn**	**05 13 18.7**	**-2.7**
	comp=E,1.1nm,0.2s						
LMR	**La Mourre**	**4.12**	**266**	*e*Pn	**Pn**	**05 12 35.8**	**-0.7**
LMR	**La Mourre**	**4.12**	**266**	*e*P	Pn	05 12 41.9	+5.4
LMR				*e*Sn	**Sn**	**05 13 21.2**	**-3.2**
	comp=E,1.2nm,0.3s						
STON	**Ston**	**4.15**	**100**	*e*Pn	**Pn**	**05 12 36.1**	**-0.9**
STON				Sn	**Sn**	**05 13 25.1**	**-0.2**
LPG	**La Plagne**	**4.22**	**296**	*e*Pn	**Pn**	**05 12 38.2**	**0.0**
LPG	**La Plagne**	**4.22**	**296**	*e*P	Pn	05 12 43.2	+5.0
LPL	**La Plagne**	**4.24**	**296**	*e*Pn	**Pn**	**05 12 41.9**	**+3.4**
ORIF	**Oris-en-Rattie**	**4.64**	**287**	*e*Pn	**Pn**	**05 12 43.6**	**-0.2**
SMRF	**Simiane la Rot**	**4.75**	**275**	*e*Pn	**Pn**	**05 12 47.6**	**+2.3**

*IDC **17** 05:30:21.1±4.0,30.°84N×143.°40E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/30,mbtmp3.6/6,ML3.1/2,Error ellipse: s-maj=148.2km s-min=23.5km az=68.0*

ISC 17 05:30:27.6±1.7,30.°5N±0.°1×141.°8E±0.°4,h10km,n16, σ1°68/11,mb3.7/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.10**	**327**	Pn	**Pn**	**05 31 15.2**	**-1.4**
	12nm,0.3s,baz=45,slow=10,SNR=1.5						
JHJ				Sn	**Sb**	**05 31 59.0**	**-1.7**
	9.7nm,0.3s,baz=56,slow=21,SNR=1.0						
JCJ	**Chichijima**	**3.43**	**174**	Sn	**Sn**	**05 32 01.2**	**-0.6**
	29nm,0.3s,baz=289,slow=20,SNR=5.4						
MJAR	**Matsushiro Arr**	**6.70**	**335**	Pn	**Pn**	**05 32 04.5**	**-1.7**
	0.2nm,0.3s,baz=148,slow=12,SNR=4.9						
KSRS	**Korea Array**	**13.40**	**305**	Pn	**P**	**05 33 47.2**	**-0.3**
	0.1nm,0.3s,baz=111,slow=13,SNR=2.5						
KLR	**Kul'dur**	**20.18**	**341**	P	**P**	**05 35 03.0**	**+0.8**
	1.3nm,0.6s,baz=143,slow=6.1,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**25.10**	**109**	T	T	06 00 38.6	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**25.11**	**110**	T	T	06 00 38.2	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**25.12**	**109**	T	T	06 00 46.6	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**25.57**	**112**	T	T	06 01 17.4	
	baz=305						
H11S1	**WAKE ISLAND Hy**	**25.58**	**112**	T	T	06 01 25.6	
	baz=305						
H11S2	**WAKE ISLAND Hy**	**25.59**	**112**	T	T	06 01 18.4	
	baz=305						
SONM	**Songino Array**	**32.06**	**313**	P	**P**	**05 36 57.6**	**+2.9**
	1.4nm,0.8s,baz=102,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**48.07**	**307**	P	**P**	**05 39 09.1**	**+1.8**
	0.5nm,0.7s,baz=79,slow=7.5,SNR=4.4						
WRA	**Warramunga Arr**	**50.68**	**189**	P	**P**	**05 39 26.4**	**-1.0**
	0.6nm,0.7s,baz=7.3,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**54.40**	**189**	P	**P**	**05 39 53.9**	**-1.1**
	0.2nm,0.5s,baz=12,slow=6.3,SNR=1.5						
BRTR	**Keskin Array B**	**83.42**	**312**	P	**P**	**05 42 55.4**	**-0.3**
	0.5nm,0.9s,baz=92,slow=4.3,SNR=2.1						

*TRN **17** 05:42:32.3,13.°83N×58.°52W,h96km,MD3.8*

ISC 17 05:42:33.1±2.4,13.°93N±0.°04×58.°6W±0.°1,h10km,n38, σ0°94/53,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.14**	**224**	*e*P	**Pg**	**05 42 55.5**	**+0.4**
BBSP				*e*S	**Sn**	**05 43 13.8**	**+2.9**
BBGH	**Gun Hill**	**1.18**	**229**	*e*P	**Pg**	**05 42 55.6**	**-0.3**
BBGH				*e*S	**Sn**	**05 43 13.5**	**+1.6**
BCHC	**Barbados, Cave**	**1.24**	**231**	*e*P	**Pg**	**05 42 56.9**	**-0.1**
MPOM	**Morne Pois Mar**	**2.21**	**284**	*e*P	**Pn**	**05 43 10.0**	**+0.1**
MPOM				*e*S	**Sn**	**05 43 39.1**	**+1.9**
SLW	**Petit Monier**	**2.23**	**273**	*e*P	**Pn**	**05 43 10.3**	**+0.1**
MCLT	**Moule a Chique**	**2.24**	**265**	*e*P	**Pn**	**05 43 10.8**	**+0.5**
MCLT				*e*S	**Sn**	**05 43 37.8**	**-0.3**
SLBI	**Saint Lucia, B**	**2.26**	**273**	*e*P	**Pn**	**05 43 10.6**	**-0.1**
SLBI				*e*S	**Sn**	**05 43 39.9**	**+1.3**
MVM	**Montagne Vaucl**	**2.27**	**286**	*e*P	**Pn**	**05 43 10.5**	**-0.3**
SLCP	**Castries, St.**	**2.28**	**272**	*e*	**Pn**	**05 43 10.8**	**0.0**
LPMF	**Morne Lapointe**	**2.34**	**286**	*e*P	**Pn**	**05 43 11.2**	**-0.5**
ZAM	**Aeronautique**	**2.40**	**286**	*e*P	**Pn**	**05 43 12.0**	**-0.5**
TRMF	**Trois Ilets**	**2.41**	**285**	*e*P	**Pn**	**05 43 12.3**	**-0.4**
BIM	**Bigot**	**2.42**	**284**	*e*P	**Pn**	**05 43 12.5**	**-0.4**
BIM				*e*S	**Sn**	**05 43 42.2**	**-0.5**
SSV	**Crater Summit**	**2.55**	**257**	*e*P	**Pn**	**05 43 15.4**	**+0.8**
SSV				*e*S	**Sn**	**05 43 45.4**	**-0.4**
FDF	**Fort de France**	**2.56**	**289**	*e*P	**Pn**	**05 43 15.0**	**+0.3**
FDF				*e*S	**Sn**	**05 43 45.3**	**-0.6**
SVV	**Soufriere Volc**	**2.57**	**257**	*e*P	**Pn**	**05 43 14.3**	**-0.6**
BAMF	**Morne Balai**	**2.58**	**290**	*e*P	**Pn**	**05 43 15.5**	**+0.4**
SVB	**Belmont**	**2.62**	**256**	*e*P	**Pn**	**05 43 14.9**	**-0.7**
SVB				*e*S	**Sn**	**05 43 47.0**	**-0.4**
SVOC	**Richmond Hill,**	**2.62**	**253**	*e*P	**Pn**	**05 43 15.4**	**-0.1**
PCM	**Pelee Case Pet**	**2.64**	**290**	*e*P	**Pn**	**05 43 16.1**	**+0.3**
DLPL	**La Plaine**	**2.88**	**299**	*e*P	**Pn**	**05 43 20.6**	**+1.4**
GCMP	**Grenada, Carri**	**3.06**	**242**	*e*P	**Pn**	**05 43 20.9**	**-0.7**
GCMP				*e*S	**Sn**	**05 43 57.2**	**-1.2**
DSLB	**Salisbury**	**3.08**	**300**	*e*P	**Pn**	**05 43 22.0**	**+0.2**
DSLB				*e*S	**Sn**	**05 43 59.9**	**+1.1**
MAGL	**Barre de l'ile**	**3.25**	**309**	*e*P	**Pn**	**05 43 25.3**	**+1.2**
MAGL				*e*S	**Sn**	**05 44 03.4**	**+0.5**
GRGR	**Grenville**	**3.43**	**239**	*e*P	**Pn**	**05 43 25.3**	**-1.4**
TDBA	**Terre de Bas,**	**3.46**	**304**	*e*P	**Pn**	**05 43 28.1**	**+1.0**
TDBA				*e*S	**Sn**	**05 44 07.6**	**-0.7**
TBG	**Guadaloupe-3**	**3.48**	**304**	*e*P	**Pn**	**05 43 27.8**	**+0.4**
CBE	**Ff, Capester**	**3.57**	**307**	*e*P	**Pn**	**05 43 29.6**	**+0.9**
CBE				*e*S	**Sn**	**05 44 11.3**	**+0.4**
ABD	**La Joyeuse, An**	**3.73**	**313**	*e*P	**Pn**	**05 43 31.7**	**+0.8**
ABD				*e*S	**Sn**	**05 44 14.8**	**-0.2**
TRN	**Trinidad (W)**	**4.23**	**220**	*e*P	**Pn**	**05 43 36.8**	**-0.9**
ANBD	**Bethesda, Anti**	**4.32**	**316**	*e*P	**Pn**	**05 43 38.5**	**-0.4**
ANBD	**Bethesda, Anti**	**4.32**	**316**	*e*S	**Sn**	**05 44 27.9**	**-1.5**
BPA	**Boggy Peak**	**4.38**	**315**	*e*P	**Pn**	**05 43 39.3**	**-0.5**
BPA	**Boggy Peak**	**4.38**	**315**	*e*S	**Sn**	**05 44 29.2**	**-1.7**
ANOC	**Antigua Open C**	**4.42**	**316**	*e*P	**Pn**	**05 43 40.1**	**-0.1**
ANWB	**Willy Bob**	**4.79**	**321**	*e*P	**Pn**	**05 43 45.9**	**+0.4**
SKI	**Saint Kitts**	**5.20**	**311**	*e*P	**Pn**	**05 43 52.2**	**+1.1**
SKI	**Saint Kitts**	**5.20**	**311**	*e*S	**Sn**	**05 44 49.4**	**-1.7**

*IDC **17** 05:48:25.3±1.7,32.°51S×177.°64W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.0/28,mbtmp4.1/6,ML3.4/1,Error ellipse: s-maj=37.5km s-min=29.7km az=78.0*

ISC 17 05:48:28.2±1.7,32.°6S±0.°1×177.°6W±0.°2,h21km,n7, σ1°25/9,mb4.0/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.14**	**216**	Pn	**Pn**	**05 50 10.0**	**-1.4**
	0.7nm,0.3s,baz=39,slow=15,SNR=1.9						
URZ				Sn	**Sn**	**05 51 32.8**	**+0.8**
	3.1nm,0.3s,baz=89,slow=23,SNR=13						
STKA	**Stephens Creek**	**34.42**	**260**	P	**P**	**05 55 15.5**	**+1.3**
	0.9nm,0.5s,baz=109,slow=14,SNR=3.0						
CTA	**Charters Tower**	**34.58**	**282**	P	**P**	**05 55 16.6**	**+0.9**
	3.6nm,0.5s,baz=102,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**43.41**	**269**	P	**P**	**05 56 28.5**	**-1.2**
	0.8nm,0.3s,baz=104,slow=7.8,SNR=17						
ASAR				PcP	**PcP**	**05 58 18.2**	**+0.3**
	0.3nm,0.5s,baz=117,slow=3.8,SNR=1.2						
WRA	**Warramunga Arr**	**44.60**	**274**	P	**P**	**05 56 37.8**	**-1.4**
	2.5nm,0.3s,baz=112,slow=7.9,SNR=80						
VNDA	**Vanda**	**45.97**	**186**	P	**P**	**05 56 50.0**	**+0.7**
	0.9nm,0.7s,baz=13,slow=5.5,SNR=8.4						
FINES	**FINESS Array B**	**147.32**	**339**	PKPbc	**PKPbc**	**06 08 09.0**	**-0.4**
	1.0nm,0.4s,baz=29,slow=4.4,SNR=13						

*TRN **17** 05:56:19.7,13.°81N×58.°47W,h99km,MD3.7*

ISC 17 05:56:18.5±2.3,13.°88N±0.°04×58.°5W±0.°1,h10km,n43, σ1°46/57,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**232**	*e*P	**Pg**	**05 56 43.4**	**+1.1**
BBGH	**Gun Hill**	**1.29**	**236**	*e*P	**Pg**	**05 56 44.0**	**+0.6**
BBGH				*e*S	**Sn**	**05 57 03.3**	**+3.3**
MPOM	**Morne Pois Mar**	**2.39**	**284**	*e*P	**Pn**	**05 56 58.8**	**+0.9**
MPOM				*e*S	**Sn**	**05 57 27.6**	**+0.4**
SLW	**Petit Monier**	**2.41**	**274**	*e*P	**Pn**	**05 56 59.1**	**+1.0**
SLW				*e*S	**Sn**	**05 57 27.3**	**-0.4**
MCLT	**Moule a Chique**	**2.42**	**266**	*e*P	**Pn**	**05 56 59.9**	**+1.8**
MCLT				*e*S	**Sn**	**05 57 27.7**	**-0.1**
SLBI	**Saint Lucia, B**	**2.44**	**274**	*e*P	**Pn**	**05 56 58.8**	**+0.3**
SLBI				*e*S	**Sn**	**05 57 27.6**	**-0.9**
MVM	**Montagne Vaucl**	**2.46**	**286**	*e*P	**Pn**	**05 56 58.8**	**+0.1**
SLCP	**Castries, St.**	**2.46**	**273**	*e*P	**Pn**	**05 57 00.1**	**+1.4**
SLCP				*e*S	**Sn**	**05 57 27.9**	**-0.9**
LPMF	**Morne Lapointe**	**2.53**	**286**	*e*P	**Pn**	**05 56 59.5**	**-0.2**
ZAM	**Aeronautique**	**2.58**	**286**	*e*P	**Pn**	**05 57 00.3**	**-0.1**
TRMF	**Trois Ilets**	**2.60**	**285**	*e*P	**Pn**	**05 57 00.6**	**0.0**
BIM	**Bigot**	**2.61**	**284**	*e*P	**Pn**	**05 57 01.3**	**+0.4**
BIM				*e*S	**Sn**	**05 57 30.4**	**-2.3**
BHS	**Barnard House**	**2.66**	**258**	*e*	Pn	05 56 57.4	-4.0
SSV	**Crater Summit**	**2.71**	**259**	*e*P	**Pn**	**05 57 03.2**	**+1.0**
SVV	**Soufriere Volc**	**2.74**	**259**	*e*P	**Pn**	**05 57 04.4**	**+1.9**
FDF	**Fort de France**	**2.74**	**288**	*e*P	**Pn**	**05 57 03.1**	**+0.5**
FDF				*e*S	**Sn**	**05 57 35.7**	**-0.2**
BAMF	**Morne Balai**	**2.77**	**290**	*e*P	**Pn**	**05 57 03.5**	**+0.5**
GBMF	**Grand Be**	**2.78**	**290**	*e*P	**Pn**	**05 57 03.9**	**+0.7**
SVOC	**Richmond Hill,**	**2.78**	**255**	*e*P	**Pn**	**05 57 03.1**	**0.0**
SVB	**Belmont**	**2.78**	**258**	*e*P	**Pn**	**05 57 03.3**	**+0.2**
SVB				*e*S	**Sn**	**05 57 35.8**	**-1.0**
PML	**Morne Lenard**	**2.79**	**289**	*e*P	**Pn**	**05 57 05.4**	**+2.1**
SVN	**Savane Anatole**	**2.79**	**290**	*e*P	**Pn**	**05 57 05.0**	**+1.7**
PCM	**Pelee Case Pet**	**2.82**	**290**	*e*P	**Pn**	**05 57 04.8**	**+1.0**
DLPL	**La Plaine**	**3.06**	**299**	*e*P	**Pn**	**05 57 07.0**	**0.0**
DLPL				*e*S	**Sn**	**05 57 43.2**	**-0.6**
GCMP	**Grenada, Carri**	**3.20**	**245**	*e*P	**Pn**	**05 57 08.7**	**-0.2**
GCMP				*e*S	**Sn**	**05 57 44.6**	**-2.6**
DSLB	**Salisbury**	**3.26**	**299**	*e*P	**Pn**	**05 57 08.9**	**-0.8**
DSLB				*e*S	**Sn**	**05 57 47.1**	**-1.5**
TOSP	**Speyside**	**3.27**	**219**	*e*P	**Pn**	**05 57 10.3**	**+0.5**
MAGL	**Barre de l'ile**	**3.42**	**307**	*e*P	**Pn**	**05 57 13.9**	**+2.0**
MAGL				*e*S	**Sn**	**05 57 52.1**	**-0.5**
GRGR	**Grenville**	**3.56**	**241**	*e*P	**Pn**	**05 57 13.2**	**-0.7**
GRGR				*e*S	**Sn**	**05 57 53.3**	**-2.8**
TDBA	**Terre de Bas,**	**3.64**	**303**	*e*P	**Pn**	**05 57 16.3**	**+1.3**
ABD	**La Joyeuse, An**	**3.90**	**312**	*e*P	**Pn**	**05 57 17.8**	**-0.8**
ABD	**La Joyeuse, An**	**3.90**	**312**	*e*S	**Sn**	**05 58 04.3**	**-0.1**
TRN	**Trinidad (W)**	**4.31**	**222**	*e*P	**Pn**	**05 57 25.1**	**+0.9**
TRN				*e*S	**Sn**	**05 58 10.1**	**-4.4**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*e*P	**Pn**	**05 57 27.1**	**+0.5**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*e*S	**Sn**	**05 58 17.8**	**-1.0**
BPA	**Boggy Peak**	**4.54**	**314**	*e*P	**Pn**	**05 57 28.5**	**+1.1**
BPA	**Boggy Peak**	**4.54**	**314**	*e*S	**Sn**	**05 58 18.4**	**-2.0**
ANOC	**Antigua Open C**	**4.58**	**315**	*e*P	**Pn**	**05 57 28.8**	**+0.9**
ANOC	**Antigua Open C**	**4.58**	**315**	*e*S	**Sn**	**05 58 18.4**	**-2.8**
ANWB	**Willy Bob**	**4.95**	**320**	*e*P	**Pn**	**05 57 34.5**	**+1.6**
ANWB	**Willy Bob**	**4.95**	**320**	*e*S	**Sn**	**05 58 28.2**	**-2.0**
SKI	**Saint Kitts**	**5.37**	**310**	*e*P	**Pn**	**05 57 39.2**	**+0.5**
SKI	**Saint Kitts**	**5.37**	**310**	*e*S	**Sn**	**05 58 38.2**	**-2.5**

TRN 17 05:56:26.3,17.°05N×61.°82W,h16km,MD1.9,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.04**	**271**	*e*P	Pg	05 56 30.1	+0.9
BPA				*e*S	Sg	05 56 32.9	+1.7
ANBD	**Bethesda, Anti**	**0.05**	**86**	*e*P	Pg	05 56 30.1	+0.8
ANBD				*e*S	Sg	05 56 32.9	+1.7
ANDO	**Antigua, Disas**	**0.07**	**348**	*e*P	Pg	05 56 30.3	+0.9
ANOC	**Antigua Open C**	**0.07**	**348**	*e*P	Pg	05 56 30.3	+0.8
ANOC				*e*S	Sg	05 56 33.3	+1.8

*ECGS **17** 06:00:25.5,1.°10S±0.°03×29.°37E±0.°04,h0km±4km,ML2.5, Error ellipse: s-maj=8.1km s-min=4.1km az=118.6, smi:local/ac8b9065-7b47-4c68-88e0-f7696c61a87b Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 41.1736 Y 47.877 Z 6.36219 CovXX 23.9203 XY -8.99129 XZ -8.98638 YY 12.2914 YZ 4.92957 ZZ 20.7346 EllAz1 28.4432 Dip1 -0.233772 Len1 5.11033 Az2 298.1 Dip2 -55.7537 Len2 6.96872 Len3 1.124018e+01*

ISC 17 06:00:24.5±1.2,1.°07S±0.°08×29.°40E±0.°06,h10km,n10, σ0°36/11,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGB	**Rumangabo**	**0.28**	**187**	*e*P	**Pg**	**06 00 30.6**	**+0.4**
RGB	**Rumangabo**	**0.28**	**187**	*e*S	**Sg**	**06 00 34.2**	**+0.3**
LBGA	**Luboga**	**0.34**	**235**	*e*S	**Sg**	**06 00 36.3**	**+0.3**
LBGA	**Luboga**	**0.34**	**235**	*e*P	**Pg**	**06 00 31.7**	**+0.3**
KTSH	**Kitshanga**	**0.39**	**244**	*i* P	**Pg**	**06 00 32.5**	**+0.2**
BOBN	**Bobandana**	**0.74**	**211**	*e*P	**Pg**	**06 00 39.0**	**+0.2**
BOBN	**Bobandana**	**0.74**	**211**	*i* S	**Sg**	**06 00 48.8**	**+0.2**
LWI	**Lwiro**	**1.31**	**207**	*i* P	**Pn**	**06 00 48.4**	**-0.6**
LWI	**Lwiro**	**1.31**	**207**	*i* S	**Sg**	**06 01 06.2**	**-0.4**
MBAR	**Mbarara**	**1.42**	**71**	*e*P	**Pb**	**06 00 51.2**	**0.0**
MBAR				*e*S	**Sb**	**06 01 09.5**	**+0.1**

IDC 17 06:11:07.2±2.5,37.°98N×77.°13E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/33,mbtmp3.5/4,ML3.4/1,MS2.9/2, Ms1 2.9/2,ms1mx2.4/26,Error ellipse: s-maj=58.8km s-min=24.7km az=144.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**9.60**	**22**	Pn	Pn	06 13 28.1	+1.5
	0.4nm,0.3s,baz=202,slow=13,SNR=19						
MKAR				Sn	Sn	06 15 14.1	-1.1
	0.1nm,0.3s,baz=200,slow=24,SNR=2.3						
GEYT	**Alibeck**	**15.01**	**276**	LR	LR	06 21 39.2	
	comp=Z,16nm,18.3s,baz=25,slow=42						
SONM	**Songino Array**	**23.46**	**56**	P	P	06 16 18.5	+0.1
	0.3nm,0.5s,baz=263,slow=10,0,SNR=2.2						
KBZ	**Khabaz**	**26.40**	**293**	P	P	06 16 45.2	0.0
	0.8nm,0.5s,baz=106,slow=7.4,SNR=1.5						
HFS	**Hagfors**	**44.98**	**321**	LR	LR	06 39 03.7	
	comp=Z,36nm,18.4s,baz=268,slow=37						
TORD	**Torodi Ar. Bea**	**70.61**	**272**	P	P	06 22 24.7	+0.1
	0.5nm,0.9s,baz=53,slow=6.1,SNR=2.0						

*IDC **17** 06:16:10.8±1.0,7.°01S×155.°33E,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.8/29,mbtmp3.8/8,ML2.2/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/26,Error ellipse: s-maj=37.0km s-min=22.8km az=125.0*

ISC 17 06:16:17.4±0.7,6.°9S±0.°1×155.°14E±0.°07,h35km,n14, σ1°40/14,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.41**	**119**	Pn	**Pn**	**06 17 36.3**	**+0.7**
	14nm,0.3s,baz=225,slow=7.1,SNR=1.6						
HNR				Sn	**Sn**	**06 18 37.6**	**+1.0**
	19nm,0.3s,baz=218,

HAZ	Te Kaha	6.51 213	P	Pn	06 23 59.7	-0.2
HAZ			S	Sn	06 25 12.8	-1.5
PUZ	Puketiti	6.58 208	P	Pn	06 23 59.2	-1.6
PUZ			S	Sn	06 25 15.1	-0.8
RUGZ	Raukumara Rang	6.73 212	P	Pn	06 24 01.7	-1.4
TWGZ	Tauwhareparae	6.78 209	P	Pn	06 24 03.6	-0.1
TWGZ			S	Sn	06 25 18.8	-2.1
KUZ	Kuaotunu	6.93 229	P	Pn	06 24 07.2	+1.6
CNGZ	Carnagh Statio	6.95 207	P	Pn	06 24 03.5	-2.5
WHRZ	Whale Island	6.98 216	P	Pn	06 24 08.0	+1.6
TKGZ	Te Karaka	7.06 209	P	Pn	06 24 05.7	-1.7
MWZ	Matawai	7.10 211	P	Pn	06 24 05.7	-2.4
MWZ			S	Sn	06 25 28.0	-0.9
URZ	Urewera	7.23 214	Pn	Pn	06 24 07.9	-1.9
	5.3nm,0.3s,baz=14,slow=8.3,SNR=30					
URZ			Sn	Sn	06 25 29.1	-2.8
	27nm,0.3s,baz=173,slow=22,SNR=18					
URZ	Urewera	7.23 214	Pn	Pn	06 24 08.4	-1.4
URZ	Urewera	7.23 214	P	Pn	06 24 08.0	-1.9
WCZ	Waipu Caves	7.44 239	P	Pn	06 24 17.2	+4.5
OUZ	Omahuta	7.72 246	Pn	Pn	06 24 18.5	+1.9
NMHZ	Naumai	8.05 212	P	Pn	06 24 20.6	-0.5
NMHZ			S	Sn	06 25 50.2	-2.1
ARHZ	Aropaoanui	8.11 210	P	Pn	06 24 19.7	-2.1
ARHZ			S	Sn	06 25 51.3	-2.2
BKZ	Black Stump Fm	8.25 213	P	Pn	06 24 21.3	-2.5
BKZ	Black Stump Fm	8.25 213	P	Pn	06 24 21.2	-2.5
BKZ			S	Sn	06 25 54.0	-3.1
MCHZ	McNeill Hill	8.39 211	P	Pn	06 24 23.5	-2.2
MCHZ			S	Sn	06 25 58.3	-2.1
KWHZ	Kaweka Forest	8.49 212	P	Pn	06 24 26.1	-1.0
KWHZ			S	Sn	06 25 59.7	-3.4
TMVZ	Te Maari	8.59 216	P	Pn	06 24 27.7	-0.8
ETVZ	East Tongariro	8.60 216	P	Pn	06 24 27.4	-1.3
HIZ	Hauiti	8.60 222	Pn	Pn	06 24 29.3	+0.7
NNVZ	North Ngauruho	8.64 216	P	Pn	06 24 29.0	-0.3
NGZ	Ngauruhoe	8.68 216	P	Pn	06 24 29.9	0.0
NGZ			S	Sn	06 26 05.8	-2.1
KRHZ	Kereru	8.69 211	P	Pn	06 24 28.1	-1.8
KRHZ			S	Sn	06 26 01.8	-6.2
BHHZ	Black Hill Sta	8.71 213	P	Pn	06 24 29.1	-1.0
BHHZ			S	Sn	06 26 04.4	-3.9
TUVZ	Tukino	8.73 216	P	Pn	06 24 30.4	0.0
TUVZ			S	Sn	06 26 05.8	-3.2
FWVZ	Far West T-bar	8.77 216	P	Pn	06 24 29.9	-1.2
FWVZ			S	Sn	06 26 06.8	-3.4
MOVZ	Moawhango	8.79 215	P	Pn	06 24 29.9	-1.4
MOVZ			S	Sn	06 26 04.9	-5.4
WNVZ	Wahianoa	8.80 216	P	Pn	06 24 30.7	-0.8
PNHZ	Pukenui	8.99 211	P	Pn	06 24 30.7	-3.3
PNHZ			S	Sn	06 26 09.2	-6.0
PKE	Pukeiti	9.56 222	P	Pn	06 24 47.9	+6.1
BFZ	Birch Farm	9.61 208	P	Pn	06 24 37.3	-5.2
BFZ			S	Sn	06 26 24.8	-5.7
MRZ	Mangatainoka R	9.87 211	P	Pn	06 24 41.2	-4.8
MRZ			S	Sn	06 26 29.2	-7.7
TMWZ	Te Maipa	10.12 208	P	Pn	06 24 45.0	-4.4
TMWZ			S	Sn	06 26 33.2	-10
OGWZ	Otaki Gorge	10.18 212	P	Pn	06 24 46.8	-3.4
OGWZ			S	Sn	06 26 37.1	-7.3
KIW	Kapiti Island	10.33 212	P	Pn	06 24 47.9	-4.5
KIW			S	Sn	06 26 39.8	-8.4
MSWZ	Moikau Station	10.64 210	P	Pn	06 24 52.7	-3.8
MSWZ			S	Sn	06 26 46.1	-10
DUWZ	D'Urville Isla	10.76 216	P	Pn	06 24 55.2	-2.9
TUWZ	Tuamarina	11.23 214	P	Pn	06 25 01.4	-3.2
TUWZ			S	Sn	06 26 59.8	-10
NNZ	Nelson	11.34 216	P	Pn	06 25 01.8	-4.3
NNZ			S	Sn	06 27 03.7	-9.2
QRZ	Quartz Range	11.50 220	P	Pn	06 25 04.5	-3.8
QRZ			S	Sn	06 27 06.9	-10
THZ	Tophouse	11.98 216		Pn	06 25 13.4	-1.6
THZ	Tophouse	11.98 216	P	Pn	06 25 13.1	-1.8
THZ			S	Sn	06 27 18.7	-10
KHZ	Kahutara	12.19 212	P	Pn	06 25 12.9	-4.9
DSZ	Denniston Nort	12.53 219	P	Pn	06 25 20.5	-1.9
DSZ			S	Sn	06 27 30.0	-12
GVZ	Greta Valley S	12.86 212	P	Pn	06 25 24.6	-2.3
INZ	Inchbonnie	13.43 216	P	Pn	06 25 31.1	-3.5
MQZ	McQueen's Vall	13.61 211	P	Pn	06 25 32.3	-4.8
RACZ	Rakaia	13.86 212	P	Pn	06 25 37.9	-2.6
MHCZ	Mount Hutt	13.97 214	P	Pn	06 25 38.4	-3.7
WVZ	Waitaha Valley	14.04 217	P	Pn	06 25 41.0	-1.9
WACZ	Wakanui South	14.16 212	P	Pn	06 25 42.1	-2.5
RPZ	Rata Peaks	14.35 214	P	Pn	06 25 43.2	-4.0
GCSZ	Gaunt Creek Bo	14.42 217	P	Pn	06 25 44.8	-3.3
ARCZ	Arundel	14.47 214	P	Pn	06 25 45.0	-3.9
FOZ	Fox Glacier	14.83 218	P	Pn	06 25 49.4	-4.4
MSVF	Nonsavu	15.01 345	Pn	Pn	06 25 54.9	-1.5
	0.8nm,0.3s,baz=134,slow=12,SNR=14					
MSVF			LR	LR	06 31 02.7	
	comp=Z,926nm,19.5s,baz=153,slow=35					
MSVF	Nonsavu	15.01 345	Pn	Pn	06 25 55.0	-1.5
MSVF	Nonsavu	15.01 345	P	Pn	06 25 55.3	-1.1
LBZ	Lake Benmore	15.27 215	P	Pn	06 25 55.3	-4.3
ODZ	Otahua Downs	15.55 212	P	Pn	06 25 59.2	-4.1
PINNC	Pines Island,	16.27 303		P	06 26 17.1	+1.4
MSZ	Milford Sound	16.61 218	P	Pn	06 26 14.0	-2.9
OUENC	Ouen Island, N	16.82 302	P	P	06 26 25.9	+4.0
MLZ	Mavora Lakes	16.99 216	P	Pn	06 26 20.4	-1.4
YATNC	Mamie plateau,	17.02 303	P	P	06 26 28.7	+4.6
ONTNC	Ouen Toro	17.17 302	P	Pn	06 26 25.6	+1.4
ONTNC	Ouen Toro	17.17 302	P	P	06 26 30.6	+4.8
DZM	Mont Dzumac	17.33 302	eP	P	06 26 31.0	+3.4
	164nm,1.3s					
DZM			eLR	LR	06 30 32.6	
	comp=Z,1μm,23.4s					
DZM	Mont Dzumac	17.33 302	P	P	06 26 29.4	+1.7
	1.2nm,0.3s,baz=116,slow=16,SNR=11					
DZM			LR	LR	06 32 26.5	
	comp=Z,1μm,18.2s,baz=142,slow=35					
DZM	Mont Dzumac	17.33 302	P	P	06 26 31.4	+3.8
SYZ	Scrubby Hill	17.38 212	P	Pn	06 26 27.2	+0.7
NOUC	Port Laguerre	17.41 302	P	P	06 26 33.0	+4.6
LIFNC	LIFOU	17.63 307	P	P	06 26 32.4	+1.6
LIFNC			IAmb	IAmb	06 26 56.1	
	comp=Z,167nm,1.2s					
APZ	The Paps	18.12 213	P	Pn	06 26 34.4	-1.4
AFI	Afiamalu	19.14 18	P	P	06 26 48.0	+0.4
	comp=Z,3.3nm,0.3s,baz=34,slow=22,SNR=6.0					
RAR	Rarotonga	19.50 60	P	P	06 26 51.5	+0.1
	comp=Z,1.4nm,0.3s,baz=185,slow=17,SNR=2.8					
RAR			LR	LR	06 33 37.8	
	comp=Z,641nm,19.0s,baz=270,slow=35					
KOUNC	Koumac, New Ca	19.84 302	P	Pn	06 26 58.1	+1.4
ARMA	Armidale	26.14 266	P	P	06 27 59.6	+1.1
	baz=26,SNR=4.0					
TBI	Tubuai	26.54 77	eLR	LR	06 34 26.7	
	comp=Z,760nm,27.8s,baz=243					
TBI	Tubuai	26.54 77	eT	T	06 55 11.2	
	comp=Z,4.3nm,0.3s					
EIDS	Eidsvold	28.06 276	P	P	06 28 17.1	+1.3
	baz=28,SNR=8.6					
EIDS	Eidsvold	28.06 276	P	P	06 28 17.2	+1.5
EIDS			IAmb	IAmb	06 28 19.8	
	comp=Z,21nm,0.7s					
PAE	Paea	29.33 67	eT	T	06 58 42.7	
	comp=Z,2.1nm,0.3s					
PPT2	Papeete2	29.38 67	eLR	LR	06 35 40.4	
	comp=Z,648nm,25.8s,baz=233					
PPT2	Papeete2	29.38 67	eT	T	06 58 46.3	
	comp=Z,2.3nm,0.3s					
PPT	Papeete	29.39 67	LR	LR	06 38 53.5	
	comp=Z,571nm,18.4s,baz=242,slow=34					
RMQ	Roma	29.64 273	P	P	06 28 31.1	+1.3
	baz=30,SNR=10					
CMSA	Cobar Meteorol	30.91 262	P	P	06 28 42.7	+1.8
	baz=31,SNR=81					
ARPS	Mount Arapiles	33.37 251	P	P	06 29 03.9	+1.4
	baz=33,SNR=9.7					
STKA	Stephens Creek	34.26 260	P	P	06 29 11.4	+1.1
	comp=Z,19nm,0.7s,baz=96,slow=9.9,SNR=40					
STKA			PcP	PcP	06 31 47.3	+0.5
	comp=Z,5.0nm,0.7s,baz=90,slow=3.0,SNR=3.2					
STKA			LR	LR	06 42 47.7	
	comp=Z,326nm,18.4s,baz=73,slow=36					
STKA	Stephens Creek	34.26 260	P	P	06 29 11.6	+1.3
CTA	Charters Tower	34.32 282	P	P	06 29 12.6	+1.6
	comp=Z,67nm,0.6s,baz=111,slow=11,SNR=92					
CTAO	Charters Tower	34.32 282	P	P	06 29 12.9	+1.9
BBOO	Buckleboo	38.65 256	P	P	06 29 47.8	0.0
BBOO			IAmb	IAmb	06 29 48.4	
	comp=Z,30nm,0.8s					
QIS	Mount Isa	39.67 276	P	P	06 29 56.6	+0.2
	baz=40,SNR=6.5					
AS31	Alice Springs	43.21 269	P	P	06 30 25.1	-0.4
ASAR	Alice Springs	43.21 269	P	P	06 30 25.0	-0.6
	comp=Z,21nm,0.7s,baz=105,slow=7.6,SNR=293					
ASAR			PcP	PcP	06 32 14.5	-0.5
	comp=Z,3.1nm,0.6s,baz=117,slow=4.3,SNR=3.2					
ASAR			ScP	ScP	06 36 05.8	-0.5
	comp=Z,0.9nm,0.9s,baz=111,slow=5.1,SNR=2.6					
ASAR			S	S	06 36 47.5	-5.1
	comp=Z,2.6nm,1.0s,baz=106,slow=16,SNR=6.6					
ASAR			LR	LR	06 48 33.3	
	comp=Z,163nm,18.6s,baz=138,slow=36					
ASAR	Alice Springs	43.21 269	P	P	06 30 25.1	-0.5
WR0	Warramunga Arr	44.20 274	P	P	06 30 32.7	-0.8
WR0			IAmb	IAmb	06 30 36.2	
	comp=Z,31nm,0.9s					
WB2	Warramunga Arr	44.37 274	P	P	06 30 34.0	-0.9
WB2			IAmb	IAmb	06 30 34.8	
	comp=Z,32nm,0.5s					
WRAB	Tennant Creek	44.37 274	P	P	06 30 33.5	-1.4
WRAB			IAmb	IAmb	06 30 38.0	
	comp=Z,49nm,1.2s					
WRA	Warramunga Arr	44.38 274	P	P	06 30 34.3	-0.7
	comp=Z,16nm,0.3s,baz=113,slow=7.8,SNR=355					
WRA			PcP	PP	06 32 19.0	+0.6
	comp=Z,3.7nm,1.0s,baz=117,slow=3.7,SNR=2.1					
WRA			ScP	ScP	06 36 11.2	+0.2
	comp=Z,2.6nm,0.9s,baz=117,slow=3.7,SNR=5.1					
WRA			S	S	06 37 01.3	-8.3
	comp=Z,0.8nm,0.9s,baz=126,slow=16,SNR=2.1					
WRA			LR	LR	06 48 44.8	
	comp=Z,233nm,18.0s,baz=110,slow=36					
WB0	Warramunga Arr	44.41 274	P	P	06 30 34.4	-0.7
PATS	Pohnpei	45.12 325	P	P	06 30 39.1	-1.6
FORT	Forrest	45.75 257	P	P	06 30 45.0	-0.8
	baz=46,SNR=65					
FORT	Forrest	45.75 257	P	P	06 30 44.3	-1.4
VNDA	Vanda	46.20 186	P	P	06 30 50.5	+1.8
	comp=Z,1.8nm,0.9s,baz=22,slow=7.2,SNR=7.2					
VNDA			LR	LR	06 47 28.0	
	comp=Z,119nm,19.5s,baz=23,slow=32					
WRKA	Warakurna	47.44 264	P	P	06 30 57.7	-1.4
	baz=47,SNR=65					
KDU	Kakadu	49.45 281	P	P	06 31 13.3	-1.2
	baz=49,SNR=4.4					
MTN	Manton Dam	50.48 280	P	P	06 31 21.6	-0.8
MTN			IAmb	IAmb	06 32 37.3	
	comp=Z,84nm,1.8s					
KNRA	Kununurra	51.05 276	P	P	06 31 26.5	-0.2
	baz=51,SNR=3.9					
CASY	Casey	53.53 209	P	P	06 31 44.7	+0.2
KLBR	Kellerberrin	53.91 252	P	P	06 31 46.6	-1.3
	baz=54,SNR=9.2					
MEEK	Meekatharra	54.94 258	P	P	06 31 54.1	-1.4
	baz=55,SNR=5.8					
MORW	Morawa	56.17 255	P	P	06 32 05.6	+1.4
	baz=56,SNR=3.3					
QSPA	South Pole Qui	57.78 180	P	P	06 32 17.3	+2.1
	comp=Z,15nm,0.8s,baz=36,slow=1.9,SNR=60					
QSPA	South Pole Qui	57.78 180	P	P	06 32 16.1	+0.8
TOLI2	Tolitoli	66.76 287	P	P	06 33 16.3	+0.4
TOLI2			IAmb	IAmb	06 33 23.4	
	comp=Z,16nm,1.4s					
MPSI	Mapaga	67.03 286	P	P	06 33 16.4	-1.3
	comp=Z,3μmcomp=Z,10nm,0.8s					
MAW	Mawson	70.57 201	P	P	06 33 40.4	+1.5
	comp=Z,9.7nm,0.9s,baz=121,slow=7.7,SNR=14					
MAW	Mawson	70.57 201	P	P	06 33 40.6	+1.7
	baz=70,SNR=6.8					
MAW	Mawson	70.57 201	P	P	06 33 40.7	+1.8
SPMM	Sapulut	72.34 288	P	P	06 33 51.0	+0.5
SBUM	Sibu	74.52 283	P	P	06 34 04.0	+0.7
SYO	Syowa Base	75.28 193	eP	P	06 34 06.9	+0.1
SYO	Syowa Base	75.28 193	epP	pP	06 34 09.4	+1.5
KSM	Kuching	75.56 281	P	P	06 34 09.0	-0.3
SNAA	Sanae	76.23 178	P	P	06 34 12.4	+0.1
SNAA	Sanae	76.23 178	PcP	PcP	06 34 24.9	+0.6
SNAA	Sanae	76.23 178	P	P	06 34 12.7	+0.4
VNA3	Neumayer Olymp	76.37 176	P	P	06 34 13.1	+0.1
VNA3	Neumayer Olymp	76.37 176	PcP	PcP	06 34 25.3	+0.5
VNA2	Neumayer--Watz	76.81 177	P	P	06 34 16.0	+0.4
	baz=170,slow=5.2					
VNA2	Neumayer--Watz	76.81 177	PcP	PcP	06 34 27.9	+1.1
VNA1	Neumayer--Stat	77.04 176	P	P	06 34 17.3	+0.6
VNA1	Neumayer--Stat	77.04 176	PcP	PcP	06 34 28.7	+1.0
MDSI	Maura Dua	77.50 273	P	P	06 34 18.1	-2.2
MJAR	Matsushiro Arr	79.92 325	P	P	06 34 32.0	-1.1
	comp=Z,8.5nm,1.1s,baz=156,slow=7.2,SNR=6.3					
MJAR			LR	LR	07 06 16.1	
	comp=Z,35nm,20.2s,baz=165,slow=33					
MJAR	Matsushiro Arr	79.92 325	P	P	06 34 32.0	-1.1
MAT	Matsushiro	79.93 325	P	P	06 34 31.7	-1.4
PLCA	Paso Flores	81.07 133	P	P	06 34 40.7	+1.1
	comp=Z,6.3nm,1.0s,baz=227,slow=9.3,SNR=5.6					
PLCA			LR	LR	07 03 56.3	
	comp=Z,224nm,18.2s,baz=192,slow=31					
PLCA	Paso Flores	81.07 133	P	P	06 34 40.7	+1.1
PLCA	Paso Flores	81.07 133	IAmb	IAmb	06 35 23.6	
	comp=Z,44nm,1.9s					
JRMM	Jerantut	83.41 279	P	P	06 34 54.0	+1.9
BO02	Sierra Bellavi	84.35 128	P	P	06 34 57.5	+0.7
BO02			IAmb	IAmb	06 34 57.8	
	comp=Z,13nm,0.8s					
MT01	Popeta	84.57 127	P	P	06 34 57.7	-0.1
MT01			IAmb	IAmb	06 34 58.7	
	comp=Z,20nm,0.9s					
KSRS	Korea Array	85.93 320	P	P	06 35 04.7	+0.5
	comp=Z,0.9nm,0.4s,baz=136,slow=5.4,SNR=6.7					
KSRS			LR	LR	07 10 18.5	
	comp=Z,34nm,18.3s,baz=128,slow=34					
KSRS	Korea Array	85.93 320	P	P	06 35 04.7	+0.5
PKM	Mcpherson Peak	86.22 44	P	P	06 35 07.2	+1.2
	baz=226					
PAGB	Antelope Grade	86.55 43	P	P	06 35 08.2	+0.8
PAGB			IAmb	IAmb	06 35 09.6	
	comp=Z,45nm,1.7s					
MURC	Murrieta	86.92 47	P	P	06 35 10.0	+0.8
	baz=228					
MONP2	Monument Peak	86.93 48	P	P	06 35 10.0	+0.5
	baz=228					
IKP	In-Ko-Pah, Jac	86.96 48	P	P	06 35 10.1	+0.5
	baz=228					
ARVC	Arvin	86.97 45	P	P	06 35 10.0	+0.7
	baz=226					
BFSC	Mount Baldy Ra	87.07 46	P	P	06 35 10.4	+0.3
	baz=227,SNR=5.6					
EDW2	Edwards Air Fo	87.30 45	P	P	06 35 11.1	0.0
	baz=227,SNR=8.7					
VES	Vestal, Richgr	87.31 44	P	P	06 35 11.4	+0.4
	baz=226,SNR=5.4					
SWSC	Sam W. Stewart	87.35 48	P	P	06 35 11.7	+0.4
	baz=228					
TPFO	Pinon Flats	87.38 47	P	P	06 35 12.0	+0.4
	baz=228					
PFO	Pinyon Flats O	87.38 47	P	P	06 35 12.1	+0.5
	baz=228,SNR=5.1					
ISA	Isabella, Lake	87.55 45	P	P	06 35 12.7	+0.4
	baz=227,SNR=16					
ISA	Isabella, Lake	87.55 45	P	P	06 35 12.6	+0.3
ISA			IAmb	IAmb	06 35 14.2	
	comp=Z,18nm,1.1s					
NJ2	Nanjing	87.63 311	eP	P	06 35 14.6	+2.0
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
PETK	Petropavlovsk-	87.72 346	P	P	06 35 12.8	+0.2
	comp=Z,8.1nm,0.7s,baz=107,slow=7.9,SNR=13					
PETK	Petropavlovsk-	87.72 346	P	P	06 35 13.4	+0.9
BELC	Belle Mtn. Jos	87.93 47	P	P	06 35 14.7	+0.5
	baz=228,SNR=5.6					
GLA	Glamis	88.04 48	P	P	06 35 15.4	+0.7
	baz=229					
HEC	Hector,Ludlow	88.27 46	P	P	06 35 15.9	+0.1
	baz=228					
O02D	Mt. Diablo Mer	88.28 39	P	P	06 35 16.3	+0.6
	baz=224,SNR=6.3					
GSC	Goldstone, Bar	88.30 46	P	P	06 35 16.3	+0.3
	baz=228,SNR=6.9					
CWC	Cottonwood Cre	88.31 44	P	P	06 35 16.5	+0.5
	baz=227					
MDPB	Devils Postpil	88.54 43	P	P	06 35 17.8	+0.5
IRM	Iron Mountain	88.56 47	P	P	06 35 18.1	+1.0
	baz=229,SNR=7.1					
GMRC	Granite Mounta	88.66 47	P	P	06 35 18.1	+0.5
	baz=228					
MLAC	Mammoth, Mammo	88.68 43	P	P	06 35 18.1	+0.3
	baz=226					
USRK	Ussuriysk Ar.	88.86 326	P	P	06 35 18.7	+0.5
	comp=Z,12nm,1.1s,baz=132,slow=2.8,SNR=18					
O03E	Paynes Creek	88.89 39	P	P	06 35 19.3	+0.7
	baz=224					
N02D	Trinity Center	88.90 38	P	P	06 35 19.3	+0.8
	baz=224					
TUQ	Turquoise Moun	88.93 46	P	P	06 35 19.1	+0.2
	baz=228,SNR=6.6					
WAKR	Walker	88.94 42	P	P	06 35 19.5	+0.5
WAKR			IAmb	IAmb	06 35 21.6	
	comp=Z,22nm,1.2s					
SHOC	Shoshone, Teco	89.02 46	P	P	06 35 19.2	0.0
	baz=228,SNR=10					
FURC	Furnace Creek,	89.05 45	P	P	06 35 20.0	+0.8
	baz=228					
GRAC	Grapevine Rang	89.11 44	P	P	06 35 20.2	+0.6
	baz=227,SNR=14					
PDMCI	Parker Dam,Lak	89.29 48	P	P	06 35 21.3	+0.8
	baz=229					
LHV	Little Huntoon	89.30 43	P	P	06 35 21.3	+0.9
LHV			IAmb	IAmb	06 35 26.5	
	comp=Z,21nm,1.4s					
NVAR	Mina Array Bea	89.53 43	P	P	06 35 22.6	+0.7
	comp=Z,6.4nm,1.0s,baz=213,slow=6.7,SNR=14					
NVAR			LR	LR	07 12 44.6	
	comp=Z,127nm,18.1s,baz=232,slow=34					
NVAR	Mina Array Bea	89.53 43	P	P	06 35 21.6	-0.2
TPNV	Topopah Spring	89.74 45	P	P	06 35 23.2	+0.5
	baz=228,SNR=7.7					
TPNV	Topopah Spring	89.74 45	P	P	06 35 22.1	-0.7
PAHR	Pah Rah Range	89.80 41	P	P	06 35 23.2	+0.3
PAHR			IAmb	IAmb	06 35 24.2	
	comp=Z,14nm,1.3s					
TPH	Tonopah	89.92 43	P	P	06 35 23.4	-0.1
M04C	Macdoel	89.93 38	P	P	06 35 24.5	+1.0
	baz=224					
W13A	Hualapai Mount	89.96 47	P	P	06 35 24.1	+0.2
L04D	Klamath Falls	90.00 38	P	P	06 35 24.5	+0.7
	baz=224					
TUC	Tucson	90.18 51	P	P	06 35 25.2	+0.5
	baz=231					
I03D	Drain, OR	90.54 36	P	P	06 35 27.1	+1.1
	baz=223					
J04D	Umpqua Nationa	90.83 37	P	P	06 35 28.6	+0.9
	baz=224					
I04A	Tendick Farm,	91.08 37	P	P	06 35 29.1	+0.5
	baz=224					
J05D	Fort Rock, OR	91.31 38	P	P	06 35 30.6	+0.7
	baz=225					
H04D	Lebanon	91.44 36	P	P	06 35 30.9	+0.7
	baz=224					
LCMT	Little Creek M	91.59 46	P	P	06 35 31.5	+0.1
G03D	McMinnville, O	91.67 35	P	P	06 35 32.3	+1.0
	baz=224					
CN2	Changchun	91.78 323	eP	P	06 35 30.5	-1.3
CN2			epP	sP	06 35 35.1	+1.6
CN2			pmax	pmax		
	comp=Z,20nm,0.8s					
WUAZ	Wupatki	91.81 48	P	P	06 35 32.6	+0.2
	baz=231					
WUAZ	Wupatki	91.81 48	P	P	06 35 32.2	-0.2
WUAZ			IAmb	IAmb	06 35 34.5	
	comp=Z,8.4nm,1.0s					
PINE	Pine Mountain	91.82 37	P	P	06 35 32.2	-0.1
PINE			IAmb	IAmb	06 35 34.0	
	comp=Z,13nm,0.8s					
I05D	Terrebonne, OR	92.01 37	P	P	06 35 33.5	+0.6
	baz=225					
W18A	Petrified Fore	92.61 50	P	P	06 35 36.5	+0.4
	baz=232					
GYA	Guiyang	92.66 300	‖P	P	06 35 37.8	+1.3
LVC	Limon Verde	92.85 119	LR	LR	07 08 57.9	
	comp=Z,139nm,22.0s,baz=214,slow=30					
MTPU	Mount Pierson	92.90 46	P	P	06 35 37.7	0.0
MTPU			IAmb	IAmb	06 35 40.1	
	comp=Z,15nm,1.4s					
TXAR	Lajitas Array	93.28 57	P	P	06 35 39.4	+0.2
	comp=Z,1.0nm,0.8s,baz=210,slow=5.2,SNR=9.0					
TXAR			LR	LR	07 12 36.9	
	comp=Z,120nm,18.1s,baz=0.0,slow=32					
TXAR	Lajitas Array	93.28 57	P	P	06 35 39.4	+0.2
MNTX	Cornudas Mount	93.45 54	P	P	06 35 39.4	-0.5
	baz=234					
G08A	Pilot Rock	93.88 37	P	P	06 35 41.4	-0.3
G08A			IAmb	IAmb	06 35 42.9	
	comp=Z,8.4nm,1.0s					
ATAH	Atahualpa	94.10 101	LR	LR	07 12 53.1	
	comp=Z,89nm,18.1s,baz=289,slow=32					
CMAR	Chiang Mai Arr	94.20 289	PP	PP	06 39 33.0	+2.3
	comp=Z,0.8nm,0.3s,baz=128,slow=5.8,SNR=4.2					
B05A	Bryant	94.43 34	P	P	06 35 45.0	+1.1
	baz=224					
A04D	Lummi Island	94.47 33	P	P	06 35 45.0	+0.9
	baz=224					
ANMO	Albuquerque	94.64 51	P	P	06 35 45.8	+0.3
	baz=234					
M19K	Big River Lodg	95.80 11	P	P	06 35 52.0	+2.1
	baz=200					
BGLC	Bering Glacier	96.40 17	P	P	06 35 53.9	+1.3
	baz=209					
LPAZ	La Paz	97.19 114	P	P	06 35 58.6	+0.4
	comp=Z,1.0nm,0.9s,baz=204,slow=5.0,SNR=4.5					
LPAZ			LR	LR	07 12 52.7	
	comp=Z,60nm,19.3s,baz=218,slow=31					
LPAZ	La Paz	97.19 114	P	P	06 35 58.6	+0.4
LPAZ	La Paz	97.19 114	IAmb	IAmb	06 38 44.7	
	comp=Z,12nm,1.7s					
PDAR	Pinedale Array	97.41 44	P	P	06 35 57.9	-0.1
	comp=Z,0.8nm,0.9s,baz=212,slow=2.9,SNR=3.1					
PDAR			PKKPbc	PKKPbc	06 52 36.2	-0.3
	comp=Z,0.2nm,0.7s,baz=114,slow=3.7,SNR=3.6					
PDAR			LR	LR	07 19 33.1	
	comp=Z,89nm,18.0s,baz=244,slow=35					
PDAR	Pinedale Array	97.41 44		PKKPdf	06 52 36.2	-3.2
HHC	Hu-ho-hao-te	97.69 314	eP	Pdif	06 35 59.8	+0.6
HHC			pmax	pmax		
	comp=Z,23nm,1.3s					
HHC			pmax	pmax

H64A	Troy	124.42	55	P	PKPdf	06 41 23.2	+0.1
	baz=257						
PKME	Peaks-Kenny Pk	124.51	54	P	PKPdf	06 41 23.1	-0.2
	baz=257						
E62A	Clayton Lake	124.65	53	P	PKPdf	06 41 23.5	-0.1
	baz=258						
G64A	Maxfield	124.88	54	P	PKPdf	06 41 23.8	-0.2
	baz=257						
D62A	Allapoint, All	125.06	52	P	PKPdf	06 41 23.7	-0.6
	baz=258						
H65A	Eastbrook	125.11	55	P	PKPdf	06 41 24.0	-0.4
	baz=257						
ARCES	ARCESS Array B	140.51 347		PKP	PKPdf	06 41 49.9	-2.7
	comp=Z,2.4nm,0.8s,baz=28,slow=2.1,SNR=4.4						
ARCES	ARCESS Array B	140.51 347			PKPdf	06 41 49.9	-2.7
KLMR	Klimovskoe	142.53 331		*e*PKPdf	PKPdf	06 41 50.5	-6.0
KLMR				AMP		06 42 00.6	
	comp=Z,9.0nm,1.0s						
KBZ	Khabaz	146.30 302		PKPbc	PKPdf	06 42 04.3	+0.8
	comp=Z,33nm,1.1s,baz=180,slow=3.0,SNR=34						
KBZ	Khabaz	146.30 302			PKPdf	06 42 04.3	+0.8
OBN	Obninsk	146.84 324		PKPbc	PKPdf	06 42 05.5	+1.4
	comp=Z,6.6nm,0.4s,baz=236,slow=3.6,SNR=11						
OBN	Obninsk	146.84 324			PKPdf	06 42 05.5	+1.4
FINES	FINESS Array B	147.01 339		PKPbc	PKPdf	06 42 05.2	+1.0
	comp=Z,9.9nm,0.4s,baz=44,slow=2.2,SNR=62						
MEF	Metsahovi	148.49 339		*e*P	PKPbc	06 42 09.5	-0.8
RAF	Rauma	148.58 342		*e*P	PKPdf	06 42 08.6	+1.8
VSU	Vasula	149.05 335		*e*P	PKPbc	06 42 11.9	+0.2
NB2	NORSAR Subarra	150.68 351		PKP	PKPbc	06 42 14.9	-0.8
	comp=Z,2.6nm,0.7s,baz=18,slow=2.6						
NOA	NORSAR Array B	150.68 351		PKPbc	PKPbc	06 42 15.2	-0.5
	comp=Z,4.1nm,0.8s,baz=14,slow=4.2,SNR=16						
IDID	Didziasalis	151.28 330		*e*P	PKPbc	06 42 17.7	+0.5
MNK	Minsk	151.32 328		*i* PKP	PKPdf	06 42 10.8	-0.5
	comp=E,3.0nm,1.5s						
MNK				*i* PKP	PKPdf	06 42 10.8	-0.5
	comp=N,29nm,1.0s						
MNK				*i* PKP	PKPdf	06 42 10.8	-0.5
	comp=Z,8.0nm,0.6s,baz=229						
MNK				*i* PP	PP	06 45 54.1	-2.1
MNK				*i* SKS	SKSdf	06 49 18.6	-0.2
MNK				*i* SKKP		06 54 30.2	
MNK				*i* PKKS		06 54 31.5	
MNK				*i* SKKS	SKKSdf	06 58 13.1	+4.5
MNK				*i* SPP	SPP	07 02 54.4	
MNK				*i* PPS	PPS	07 02 54.4	
MNK				*i* SS	SS	07 05 22.1	+2.5
MNK				*i* LQ	LQ	07 42 33.4	
MNK				*i* LR	LR	07 46 37.3	
ISAL	Salakas	151.35 331		*e*P	PKPbc	06 42 17.7	+0.3
IIGN	Ignalina	151.47 331		*e*P	PKPbc	06 42 17.7	0.0
PABE	Paberze	152.25 333		*e*P	PKPbc	06 42 19.4	0.0
AKASG	Malin Array Be	152.92 321		PKPbc	PKPbc	06 42 20.6	-0.5
	comp=Z,7.1nm,0.6s,baz=53,slow=2.6,SNR=12						
LIC	Lamto	153.16 164		*e*PKP2	PKPbc	06 42 22.9	+0.1
	comp=Z,20nm,0.8s						
KIC	Kosan Boka	153.36 164		*e*PKP2	PKiKP	06 42 23.9	+0.5
	comp=Z,41nm,1.2s						
TIC	Toumodi	153.57 164		*e*PKP2	PKiKP	06 42 24.5	+0.7
BRTR	Keskin Array B	153.62 295		PKP	PKPdf	06 42 14.1	-1.4
	comp=Z,0.7nm,0.9s,baz=64,slow=2.9,SNR=4.4						
BRTR				PKPbc	PKPbc	06 42 22.8	-0.5
	comp=Z,2.1nm,0.5s,baz=133,slow=3.7,SNR=13						
BRTR				PKPab	PKPab	06 42 37.4	+1.5
	comp=Z,3.1nm,0.8s,baz=116,slow=4.0,SNR=6.8						
BRTR	Keskin Array B	153.62 295			PKPdf	06 42 14.1	-1.4
SUW	Suwalki	153.66 332		*e*P	PKiKP	06 42 23.3	+0.6
OSTC	Ostas	159.04 334		*e*PKPAB	PKPab	06 43 01.1	+2.6
CHVC	Chvalec	159.08 335		*e*PKPAB	PKPab	06 42 58.7	0.0
DPC	Dobruska-Polom	159.17 334		*e*PKPAB	PKPab	06 42 59.1	-0.1
KRLC	Kraliky	159.22 333		*e*PKPAB	PKPab	06 42 59.1	-0.3
CLL	Collm	159.44 340		*i* PKPab	PKPab	06 42 59.1	-1.1
	comp=Z,12nm,0.9s						
CLL				*e*		06 43 13.0	
CLL				LmV		08 13 00.0	
	comp=Z,100nm,18.6s						
VYHS	Vyhne	159.55 327		*e*PKP	PKPdf	06 42 28.0	+5.3
VYHS				*e*		06 42 59.8	
VRAC	Vranov	159.91 332		PKPab	PKPab	06 43 02.4	0.0
	comp=Z,5.1nm,0.9s,baz=70,slow=6.2,SNR=5.2						
VRAC	Vranov	159.91 332			PKPab	06 43 02.4	0.0
PRU	Pruhonice	160.11 336		AMS	AMS	08 01 50.0	
	comp=Z,100nm,19.8s						
TORD	Torodi Ar. Bea	160.90 178		PKP	PKPdf	06 42 25.1	-0.1
	comp=Z,0.9nm,0.7s,baz=186,slow=1.4,SNR=3.7						
TORD				PKPab	PKPab	06 43 08.1	+0.7
	comp=Z,5.3nm,0.7s,baz=185,slow=3.2,SNR=14						
TORD	Torodi Ar. Bea	160.90 178			PKPdf	06 42 25.1	-0.1
KHC	Kasperske Hory	161.17 336		*e*PKPAB	PKPab	06 43 06.4	-1.5
KHC				AMS	AMS	08 03 00.0	
	comp=Z,100nm,16.8s						
CONA	Conrad Observa	161.29 330		*e*P	PKPab	06 43 08.5	-0.1
	comp=Z,4.1nm,0.7s						
ARSA	Arzberg	161.96 330		*e*P	PKPab	06 43 10.9	-0.5
	comp=Z,3.9nm,1.1s						
MOA	Molln	162.00 333		*e*P	PKPab	06 43 12.3	+0.8
	comp=Z,9.4nm,1.3s						
SOKA	Soboth	162.62 329		*e*P	PKPab	06 43 13.4	-1.0
	comp=Z,13nm,1.4s						
KBA	Koelnbreinsper	162.99 333		*e*P	PKPab	06 43 15.0	-1.1
	comp=Z,2.9nm,1.0s						
MYKA	Terra Mystica	163.24 332		*e*P	PKPab	06 43 15.8	-1.3
	comp=Z,7.8nm,1.1s						
WATA	Walderalm	163.40 337		*e*P	PKPab	06 43 17.0	-0.8
	comp=Z,11nm,1.0s						
WTTA	Wattenberg	163.44 337		*e*P	PKPab	06 43 17.7	-0.3
	comp=Z,15nm,1.1s						
GBAS	Gorenja Brezov	163.46 329		*i* PKPab	PKPab	06 43 16.6	-1.3
RETA	Reutte	163.52 339		*e*P	PKPab	06 43 18.1	-0.2
	comp=Z,15nm,1.1s						
MOTA	Moosalm	163.54 338		*e*P	PKPab	06 43 18.5	0.0
	comp=Z,15nm,1.0s						
ABTA	Abfaltersbach	163.58 334		*e*P	PKPab	06 43 17.7	-0.8
	comp=Z,9.1nm,1.0s						
SQTA	Sankt Quirin	163.62 338		*e*P	PKPab	06 43 18.6	-0.2
	comp=Z,10nm,1.0s						
JAVS	Javornik	163.65 329		*i* PKPab	PKPab	06 43 17.4	-1.5
FETA	Feichten	163.94 338		*e*P	PKPab	06 43 20.6	+0.3
	comp=Z,4.5nm,0.8s						
DAVA	Damuels	163.95 341		*e*P	PKPab	06 43 20.2	0.0
	comp=Z,14nm,1.4s						
ESDC	Sonseca Array	171.13 33		PKPab	PKPab	06 43 51.3	-0.8
	comp=Z,0.8nm,0.7s,baz=314,slow=5.2,SNR=5.6						
ESDC	Sonseca Array	171.13 33			PKPab	06 43 51.3	-0.8

*IDC **17** 06:25:23.2±0.9, 47°.27N×27°.39W, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.6/48, mbtmp3.8/9, ML4.5/1, MS3.1/7, Ms1 3.1/7, ms1mx2.7/50, Error ellipse: s-maj=58.5km s-min=15.8km az=23.0*

ISC 17 06:25:24.1±0.8, 47°.3N±0°.3×27°.4W±0°.2, h6km, n20, σ0§45/9, mb3.7/8, MS2.9/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.57	106	P	Pn	06 29 42.2	+0.4
	0.3nm,0.3s,baz=297,slow=13,SNR=8.3						
ESDC				LR	LR	06 35 39.5	
	comp=Z,65nm,18.4s,baz=270,slow=33						
MDT	Midelt	22.53	122	P	P	06 30 24.2	-0.4
	1.6nm,0.9s,baz=308,slow=5.7,SNR=4.0						
DAVOX	Davos/Dischmat	25.25	77	LR	LR	06 39 31.0	
	comp=Z,35nm,19.6s,baz=263,slow=34						
SCHQ	Schefferville	25.64	302	P	P	06 30 53.4	-0.8
	2.0nm,0.6s,baz=89,slow=19,SNR=4.3						
NOA	NORSAR Array B	26.01	44	LR	LR	06 39 11.8	
	comp=Z,21nm,21.5s,baz=245,slow=32						
VRAC	Vranov	29.03	69	LR	LR	06 42 50.8	
	comp=Z,32nm,18.0s,baz=294,slow=36						
KEST	Kesra	29.56	100	P	P	06 31 29.7	+0.2
	1.7nm,1.0s,baz=307,slow=5.1,SNR=2.1						
FINES	FINESS Array B	33.17	45	LR	LR	06 44 31.8	
	comp=Z,23nm,18.8s,baz=206,slow=35						
TORD	Torodi Ar. Bea	41.82	135	P	P	06 33 14.5	-0.1
	1.2nm,1.0s,baz=331,slow=8.2,SNR=4.7						
ULM	Lac du Bonnet	43.80	300	P	P	06 33 30.6	+0.2
	0.9nm,0.4s,baz=67,slow=6.5,SNR=4.1						
BRTR	Keskin Array B	43.90	77	P	P	06 33 31.4	-0.1
	1.0nm,1.0s,baz=316,slow=6.9,SNR=4.0						
AKTO	Aktyubinsk	53.28	53	LR	LR	06 56 56.5	
	comp=Z,27nm,19.9s,baz=321,slow=36						
PDAR	Pinedale Array	55.69	298	P	P	06 35 01.3	0.0
	1.6nm,0.8s,baz=67,slow=6.9,SNR=13						
H10N2	ASCENSION HYDR	56.04	165	T	T	07 35 21.2	
	baz=350,slow=75,SNR=8.3						
H10N3	ASCENSION HYDR	56.05	165	T	T	07 35 18.3	
	baz=350,slow=75,SNR=7.9						
H10N1	ASCENSION HYDR	56.05	165	T	T	07 35 14.5	
	baz=350,slow=75,SNR=8.4						
H10S3	ASCENSION HYDR	57.10	165	T	T	07 36 35.3	
	baz=231						
H10S2	ASCENSION HYDR	57.11	165	T	T	07 36 38.7	
	baz=349						
TXAR	Lajitas Array	60.14	282	P	P	06 35 32.9	+0.4
	0.4nm,0.8s,baz=53,slow=6.0,SNR=4.5						
GEYT	Alibeck	60.63	65	LR	LR	07 02 47.0	
	comp=Z,28nm,19.1s,baz=70,slow=37						

*NOU **17** 06:52:40.7, 36°.54S×177°.92E, h301km, ML3.9, Off E. Coast of N. Island, N.Z.*

WEL 17 06:53:11.0, 38°S±26°×177°E±2°1, h123km±23km, M2.8/55, ML2.3/7, MLv2.8/55, Error ellipse: s-maj=0.0km s-min=0.0km az=143.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.24	106	P	Pn	06 53 26.3	-1.8
MUGZ	Murupara	0.29	186	P	Pn	06 53 28.3	0.0
RTZ	Ruatahuna	0.44	163	P	Pn	06 53 29.5	+0.4
MWZ	Matawai	0.58	104	P	Pn	06 53 28.3	-1.6
MTHZ	Maungataniwha	0.66	178	P	Pn	06 53 31.8	+1.3
MRHZ	Matea Rd	0.71	206	P	Pn	06 53 32.0	+1.2
RUGZ	Raukumara Rang	0.72	72	P	Pn	06 53 24.8	-6.2
SNGZ	Shannon Statio	0.72	145	P	Pn	06 53 31.5	+0.6
RAHZ	Arahi	0.76	164	P	Pn	06 53 32.6	+1.5
HAZ	Te Kaha	0.88	61	P	Pn	06 53 24.1	-8.1
NMHZ	Naumai	0.91	180	P	Pn	06 53 34.9	+2.4
RIGZ	Rimuhau	0.91	125	P	Pn	06 53 31.8	-0.7
BKZ	Black Stump Fm	1.00	194	P	Pn	06 53 34.6	+1.2
TLZ	Tolley Road	1.01	269	P	Pn	06 53 32.3	-1.2
KNZ	Kokohu	1.07	141	P	Pn	06 53 33.8	-0.1
ARHZ	Aropaoanui	1.08	172	P	Pn	06 53 36.0	+1.9
CNGZ	Carnagh Statio	1.14	105	P	Pn	06 53 31.7	-2.9
PUZ	Puketiti	1.15	84	P	Pn	06 53 28.2	-6.6
MCHZ	McNeill Hill	1.25	184	P	Pn	06 53 37.8	+1.8
TMVZ	Te Maari	1.27	223	P	Pn	06 53 37.0	+0.8
KWHZ	Kaweka Forest	1.27	194	P	Pn	06 53 38.0	+1.9
ETVZ	East Tongariro	1.28	222	P	Pn	06 53 37.2	+0.9
MHGZ	Mahia Peninsul	1.29	139	P	Pn	06 53 36.6	+0.3
WMGZ	Waiomatatini S	1.32	74	P	Pn	06 53 27.7	-8.9
WTVZ	West Tongariro	1.33	226	P	Pn	06 53 37.5	+0.6
MXZ	Matakaoa Point	1.34	63	P	Pn	06 53 25.8	-11
SNVZ	South Ngauruho	1.35	222	P	Pn	06 53 38.2	+1.0
NGZ	Ngauruhoe	1.36	224	P	Pn	06 53 38.5	+1.2
TWVZ	Taurewa	1.39	230	P	Pn	06 53 38.0	+0.5
TUVZ	Tukino	1.41	220	P	Pn	06 53 38.5	+0.8
BHHZ	Black Hill Sta	1.42	204	P	Pn	06 53 38.7	+0.9
FWVZ	Far West T-bar	1.45	222	P	Pn	06 53 39.0	+0.7
WHVZ	Whangaehu Hut	1.45	221	P	Pn	06 53 38.9	+0.6
MOVZ	Moawhango	1.47	214	P	Pn	06 53 38.7	+0.4
CKHZ	Cape Kidnapper	1.48	172	P	Pn	06 53 40.1	+1.7
WNVZ	Wahianoa	1.48	220	P	Pn	06 53 39.1	+0.5
TRVZ	Turoa	1.48	221	P	Pn	06 53 39.3	+0.6
KRHZ	Kereru	1.49	193	P	Pn	06 53 39.7	+1.1
HIZ	Hauiti	1.57	258	P	Pn	06 53 37.0	-2.4
KAHZ	Kahuranaki	1.60	178	P	Pn	06 53 41.2	+1.4
KUZ	Kuaotunu	1.68	329	P	Pn	06 53 24.8	-16
PNHZ	Pukenui	1.79	195	P	Pn	06 53 42.7	+0.6
PXZ	Pawanui	1.84	179	P	Pn	06 53 43.3	+0.7
WPHZ	Waipukurau	1.89	189	P	Pn	06 53 44.1	+0.8
WIAZ	Waiheke Island	1.93	316	P	Pn	06 53 28.6	-15
TSZ	Takapari Road	1.98	199	P	Pn	06 53 44.1	-0.3
PRHZ	Porangahau	2.08	184	P	Pn	06 53 44.3	-1.3
WAZ	Wanganui	2.11	222	P	Pn	06 53 45.8	-0.3
DVHZ	Dannevirke	2.16	193	P	Pn	06 53 46.5	-0.2
ANWZ	Angora Road	2.28	186	P	Pn	06 53 48.5	+0.4
POWZ	Post Office Ro	2.34	200	P	Pn	06 53 49.0	+0.1
PRWZ	Pori Road	2.45	195	P	Pn	06 53 50.4	+0.2
BFZ	Birch Farm	2.52	190	P	Pn	06 53 50.8	-0.5
MRZ	Mangatainoka R	2.64	201	P	Pn	06 53 51.7	-1.1
TIWZ	Tintock	2.68	195	P	Pn	06 53 53.0	-0.2
CPWZ	Castlepoint	2.76	190	P	Pn	06 53 52.7	-1.4
OGWZ	Otaki Gorge	2.91	205	P	Pn	06 53 54.7	-1.6
TMWZ	Te Maipa	3.00	193	P	Pn	06 53 56.1	-1.3
KIW	Kapiti Island	3.04	208	P	Pn	06 53 55.9	-2.1
MTW	Mount Morrison	3.13	198	P	Pn	06 53 57.3	-1.8
CAW	Cannon Point	3.21	204	P	Pn	06 53 57.9	-2.2
TRWZ	Traveller	3.32	195	P	Pn	06 53 59.6	-2.0
PAWZ	Paruwai Farm	3.36	198	P	Pn	06 54 00.1	-2.0
DUWZ	D'Urville Isla	3.43	220	P	Pn	06 53 59.9	-3.2
MSWZ	Moikau Station	3.44	200	P	Pn	06 54 00.8	-2.4
BHW	Baring Head	3.54	204	P	Pn	06 54 01.5	-3.0
PLWZ	Palliser	3.58	199	P	Pn	06 54 02.6	-2.4
TCW	Tory Channel	3.59	212	P	Pn	06 54 02.2	-3.0
TUWZ	Tuamarina	3.92	213	P	Pn	06 54 05.9	-3.6
QRZ	Quartz Range	4.23	230	P	Pn	06 54 08.4	-5.3
THZ	Tophouse	4.66	219	P	Pn	06 54 15.9	-3.5
KHZ	Kahutara	4.91	210	P	Pn	06 54 18.4	-4.3
GVZ	Greta Valley S	5.57	210	P	Pn	06 54 27.1	-4.6
LTZ	Lake Taylor	5.74	216	P	Pn	06 54 28.9	-5.1
INZ	Inchbonnie	6.10	220	P	Pn	06 54 32.5	-6.3
TMZ	Timaru	7.57	213	P	Pn	06 54 51.7	-6.9

IDC 17 07:10:54.0±2.6, 18°.64S×173°.96W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/34, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=113.5km s-min=28.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.15	24	Pn	Pn	07 12 13.2	+0.7
	2.8nm,0.3s,baz=210,slow=21,SNR=1.5						
AFI				Sn	Sn	07 12 57.5	-15
	4.7nm,0.3s,baz=106,slow=22,SNR=1.6						
WRA	Warramunga Arr	48.66	260	P	P	07 19 40.4	+0.1
	0.5nm,1.1s,baz=96,slow=8.2,SNR=1.2						
ASAR	Alice Springs	48.67	255	P	P	07 19 40.3	-0.1
	0.5nm,0.7s,baz=89,slow=8.4,SNR=8.5						
NVAR	Mina Array Bea	77.08	42	P	P	07 22 49.2	-0.3
	0.2nm,0.7s,baz=206,slow=5.9,SNR=1.9						
H03S2	Juan Fernandez	83.86	123	T	T	08 56 14.3	
	baz=253						
H03S1	Juan Fernandez	83.88	124	T	T	08 56 27.2	
	baz=253						
H03S3	Juan Fernandez	83.88	123	T	T	08 56 15.8	
	baz=253						

*IDC **17** 07:17:48.4±0.8, 55°.30S×26°.79W, h0km, mb4.2/8, mb1 4.2/9, mb1mx4.0/29, mbtmp4.1/9, ML3.6/1, MS3.6/4, Ms1 3.5/4, ms1mx3.3/17, Error ellipse: s-maj=35.2km s-min=17.2km az=64.0*

*NEIC **17** 07:17:52.6±1.4, 55°.5S±0°.1×27°.2W±0°.2, h19km±3km, mb4.5/16, Error ellipse: s-maj=20.0km s-min=13.8km az=210.0*

ISC 17 07:17:52.4±0.7, 55°.4S±0°.1×27°.12W±0°.09, h25km, n37, σ0§90/30, mb4.4/9, MS3.5/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.53	278	Pn	Pn	07 19 13.0	0.0
HOPE				Sn	Sn	07 20 14.3	-1.4
EFI	East Falkland	18.68	269	P	P	07 22 08.4	0.0
SNAA	Sanae	19.32	157	P	P	07 22 14.5	-1.0
	0.2nm,0.3s,baz=316,slow=9.9,SNR=16						
SNAA	Sanae	19.32	157	P	P	07 22 14.8	-0.6
PMSA	Palmer Station	20.36	228	LR	LR	07 29 38.4	
	comp=Z,173nm,19.7s,baz=66,slow=34						
PMSA	Palmer Station	20.36	228	P	P	07 22 27.0	+0.4
PMSA				IAmb	IAmb	07 22 28.7	
	comp=Z,40nm,1.4s						
TRQA	Tornquist	29.11	292	P	P	07 23 50.9	-0.1
QSPA	South Pole Qui	34.85	180	P	P	07 24 41.3	+0.1
	comp=Z,3.0nm,0.7s,baz=189,slow=3.6,SNR=22						
QSPA	South Pole Qui	34.85	180	IAmb	IAmb	07 24 45.3	
	comp=Z,3.7nm,1.0s						
CPUP	Villa Florida	36.41	310	LR	LR	07 40 21.9	
	comp=Z,55nm,18.0s,baz=186,slow=37						
MT09	Talagante	37.15	287	P	P	07 25 01.0	-0.2
MT09				IAmb	IAmb	07 25 02.1	
	comp=Z,9.3nm,0.9s						
MT02	Curacav	37.62	288	P	P	07 25 05.4	+0.4
VA03	San Esteban	37.68	289	P	P	07 25 07.3	+1.6
CO02	Combarbal	39.13	290	P	P	07 25 18.7	+0.9
MAW	Mawson	40.65	144	P	P	07 25 29.5	-0.4
	comp=Z,0.9nm,0.5s,baz=230,slow=11,SNR=2.0						
MAW				LR	LR	07 40 59.9	
	comp=Z,71nm,19.4s,baz=248,slow=34						
GO02	Mina Guanaco	43.23	297	P	P	07 25 52.8	+0.9
GO02				IAmb	IAmb	07 26 02.4	
	comp=Z,15nm,1.1s						
LVC	Limon Verde	45.01	299	P	P	07 26 07.2	+1.1
	comp=Z,3.9nm,0.6s,baz=170,slow=1.9,SNR=4.2						
LVC	Limon Verde	45.01	299	IAmb	IAmb	07 26 08.9	
	comp=Z,4.4nm,0.7s						
BOSA	Boshof	45.78	76	LR	LR	07 41 59.0	
	comp=Z,111nm,20.8s,baz=186,slow=32						
SIV	San Ignacio	47.16	313	P	P	07 26 21.9	-0.8
	comp=Z,1.0nm,0.9s,baz=147,slow=11,SNR=3.8						
VNDA	Vanda	47.22	183	P	P	07 26 22.9	+0.4
	comp=Z,2.5nm,0.7s,baz=184,slow=6.6,SNR=14						
VNDA	Vanda	47.22	183	P	P	07 26 23.5	+1.0
VNDA				IAmb	IAmb	07 26 31.6	
	comp=Z,4.1nm,1.0s						
H10N1	ASCENSION HYDR	48.49	17	T	T	08 18 58.7	
	baz=191						
H10N3	ASCENSION HYDR	48.49	17	T	T	08 19 03.7	
	baz=191						
H10N2	ASCENSION HYDR	48.50	17	T	T	08 19 04.1	
	baz=191						
LPAZ	La Paz	50.03	305	P	P	07 26 46.2	+0.6
	comp=Z,1.9nm,0.6s,baz=168,slow=6.7,SNR=14						
LPAZ	La Paz	50.03	305	P	P	07 26 46.5	+1.0
LPAZ				IAmb	IAmb	07 26 46.9	
	comp=Z,3.0nm,0.8s						
TORD	Torodi Ar. Bea	72.47	30	P	P	07 29 15.0	-1.6
	comp=Z,1.7nm,0.8s,baz=200,slow=6.8,SNR=5.5						
TORD	Torodi Ar. Bea	72.47	30	P	P	07 29 18.2	+1.6
TORD				IAmb	IAmb	07 29 34.0	
	comp=Z,4.2nm,1.2s						
ASAR	Alice Springs	99.60	162	P	Pdif	07 31 35.1	+1.5
	comp=Z,0.3nm,0.8s,baz=187,slow=4.7,SNR=2.4						
INK	Inuvik	145.32	321	PKPbc	PKPbc	07 37 25.9	-0.3
	comp=Z,5.4nm,0.9s,baz=111,slow=4.8,SNR=11						
INK	Inuvik	145.32	321		PKPab	07 37 27.0	+0.6
EPYK	Eagle Plains	145.98	317	PKPdf	PKPab	07 37 28.9	-0.1
BCAR	Beaver Creek A	147.10	310	PKPbc	PKPbc	07 37 32.3	+0.6
K27K	Chicken	147.50	312		PKiKP	07 37 33.8	-1.1
ILAR	Eielson Array	149.71	312	PKPbc	PKPbc	07 37 38.2	-0.2
	comp=Z,2.9nm,0.8s,baz=127,slow=2.2,SNR=20						
SONM	Songino Array	150.64	85	PKPbc	PKiKP	07 37 41.3	-0.7
	comp=Z,0.6nm,0.6s,baz=304,slow=3.3,SNR=4.1						

*KRNET **17** 07:25:52.4±0.1, 41°.17N×69°.64E, h11km, mb2.6*

ISC 17 07:25:52.1±1.5, 41°.06N±0°.06×69°.5E±0°.1, h12km±15km, n6, σ1§42/12, 8C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.31	328	⇑*i*P	Pg	07 25 58.1	-0.5
	baz=3.0						
TAS				⇑*i*S	Sg	07 26 03.0	+0.2
	baz=3.0						
TRKS	Terek-Say	1.31	68	⇑*i*P	Pn	07 26 15.0	-1.4
	baz=75						
TRKS				⇑*i*S	Sb	07 26 31.2	-2.4
	baz=75						
BTK	Batken	1.41	135	⇑*i*P	Pg	07 26 18.9	-0.3
	baz=41						
BTK				⇑*i*S	Sg	07 26 38.5	+1.0
	baz=41						
KK31	Karatay Array	2.17	20	Pn	Pg	07 26 33.4	-0.4
	1.3nm,0.4s,baz=199,slow=16,SNR=20						
KK31				Sn	Sg	07 27 03.5	+1.5
	2.4nm,0.3s,baz=203,slow=28,SNR=21						
MNAS	Manas	2.65	56	⇑*i*P	Pn	07 26 36.3	+1.5
	baz=57						
MNAS				⇑*i*S	Sn	07 27 08.1	+1.1
	baz=57						
AML	Almayashu	3.31	70	⇓*e*P	Pn	07 26 45.1	+1.0
	baz=71						
AML				⇓*i*S	Sn	07 27 23.5	-0.1
	baz=71						

IDC 17 07:35:36.2±3.7, 53°.85N×88°.14E, h0km, mb1 2.9/2, mb1mx2.9/57, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=33.7km s-min=20.2km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.97	274	*i*		07 47 40.0	
	baz=92,slow=309,SNR=1.8						
ZALV	Zalesovo Beam	1.97	274	Pg	Pn	07 36 11.8	+0.9
	1.3nm,0.3s,baz=92,slow=13,SNR=15						
ZALV				L

az=112.0
JMA 17 07:43:30.6±0.2,34°.61N×141°.84E,h60km,a3km,M4.3
NIED 17 07:43:30.7,34°.61N×141°.84E,h60km,MW4.3,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=0.65; Mθθ=1.33; Mφφ=-0.67; Mrθ=0.42; Mθφ=-2.02; Mrφ=2.69; Fault plane solution: Mo3.58000×10^15 NP1: φs=163.00000°,δ=83.00000°,λ=-51.00000°. NP2: φs=262.00000°,δ=40.00000°,λ=-169.00000°.
IDC 17 07:43:32.2±1.8,34°.53N×141°.76E,h50km±17km,mb3.8/18, mb1 4.0/23,mb1mx3.7/62,mbtmp4.0/23,ML3.0/4,MS3.1/10, Ms1 3.2/10,ms1mx2.9/38 Error ellipse: s-maj=16.7km s-min=9.2km az=92.0

ISC 17 07:43:29.7±1.9,34°.53N±0°.05×141°.92E±0°.07,h32km±13km, n96,σ1§15/97,mb4.3/29,MS3.3/6,1C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.78**	**280**	⇓P	**Pb**	**07 43 45.1**	**+0.6**
BSO3	**Boso 3**	**1.19**	**284**	⇓P	**Pb**	**07 43 51.0**	**-0.5**
BSO4	**Boso 4**	**1.38**	**290**	⇓P	**Pn**	**07 43 53.7**	**+1.1**
BSO4				S	**Sn**	**07 44 10.5**	**+0.8**
KTR	**Katsuura**	**1.45**	**296**	P	**Pn**	**07 43 54.3**	**+0.5**
KTR				S	**Sn**	**07 44 11.3**	**-0.4**
CHOJ	**Chosi**	**1.46**	**324**	P	**Pn**	**07 43 53.7**	**-0.1**
CHOJ				S	**Sn**	**07 44 10.7**	**-1.1**
JKUC	**kamogawauchiur**	**1.55**	**295**	⇓P	**Pn**	**07 43 55.4**	**+0.4**
JKUC				S	**Sn**	**07 44 13.3**	**-0.7**
JSMT	**Sammumatsuo**	**1.64**	**313**	P	**Pn**	**07 43 57.3**	**+1.0**
JSMT				S	**Sn**	**07 44 16.2**	**-0.1**
JMKN	**Mikurajimanish**	**2.03**	**252**	P	**Pn**	**07 44 02.4**	**+0.7**
JMKN				S	**Sn**	**07 44 26.0**	**+0.1**
JIM2	**Oshima 3**	**2.06**	**276**	P	**Pn**	**07 44 02.1**	**0.0**
JIM2				S	**Sn**	**07 44 25.4**	**-1.3**
JYT	**Yasato**	**2.20**	**321**	Pn	**Pn**	**07 44 04.3**	**+0.2**
JHJ2	**Mitsune**	**2.25**	**232**	⇑P	**Pn**	**07 44 06.1**	**+1.4**
JHJ2				S	**Sn**	**07 44 32.3**	**+1.0**
JHJ2	**Mitsune**	**2.25**	**232**		**Pn**	**07 44 06.1**	**+1.4**
JHJ	**Hachijo jima 2**	**2.26**	**232**	P	**Pn**	**07 44 06.1**	**+1.2**
	243nm,0.3s,baz=120,slow=22,SNR=96						
JHJ				S	**Sn**	**07 44 31.7**	**0.0**
	1μm,0.3s,baz=242,slow=22,SNR=23						
JOD2	**Odawara 2**	**2.44**	**288**	P	**Pn**	**07 44 07.2**	**-0.1**
JOD2				S	**Sn**	**07 44 35.3**	**-0.7**
JIZS	**Izushimoda**	**2.51**	**275**	P	**Pn**	**07 44 08.5**	**+0.2**
JIZS				S	**Sn**	**07 44 37.5**	**-0.3**
JMM	**Marumori**	**3.45**	**345**	Pn	**Pn**	**07 44 20.9**	**-0.4**
MJAR	**Matsushiro Arr**	**3.63**	**305**	P	**Pn**	**07 44 23.4**	**-0.4**
	3.6nm,0.3s,baz=104,slow=15,SNR=86						
MJAR				S	**Sn**	**07 45 04.7**	**-0.7**
	4.9nm,0.3s,baz=127,slow=24,SNR=8.2						
MJAR				LR	LR	07 46 16.1	
	comp=Z,454nm,19.5s,baz=115,slow=47						
MAJO	**Matsushiro**	**3.63**	**305**	Pn	**Pn**	**07 44 24.7**	**+1.0**
MAT	**Matsushiro**	**3.63**	**305**	P	**Pn**	**07 44 23.9**	**+0.2**
MAT				S	**Sn**	**07 45 05.0**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.63**	**305**		**Pn**	**07 44 24.4**	**+0.6**
JGF	**Kuroka**	**3.89**	**287**		**Pn**	**07 44 28.5**	**+1.2**
INU	**Inuyama**	**4.11**	**283**		**Pn**	**07 44 29.4**	**-0.8**
JSD	**Sado**	**4.58**	**321**	Pn	**Pn**	**07 44 36.1**	**-0.7**
JTM	**Tenmabayashi**	**6.29**	**354**	Pn	**Pn**	**07 44 59.2**	**-0.9**
JHS	**Saijyo**	**7.26**	**276**	Pn	**Pn**	**07 45 16.1**	**+2.5**
JCJ	**Chichijima**	**7.41**	**178**	S	**Sn**	**07 46 32.9**	**-5.7**
	46nm,0.3s,baz=289,slow=23,SNR=6.7						
ERM	**Erimo**	**7.54**	**7**	Pn	**Pn**	**07 45 15.7**	**-1.6**
JNU	**Nakatsue**	**9.29**	**264**	P	**Pn**	**07 45 44.1**	**+2.7**
	1.6nm,0.3s,baz=75,slow=3.0,SNR=9.1						
ASAJ	**Asahikawa**	**9.59**	**3**	P	**Pn**	**07 45 43.9**	**-1.6**
	4.1nm,0.3s,baz=206,slow=11,SNR=12						
ASAJ				S	Sn	07 47 22.6	-9.5
	1.7nm,0.3s,baz=252,slow=30,SNR=2.1						
ASAJ				LR	LR	07 50 01.7	
	comp=Z,126nm,21.4s,baz=173,slow=41						
JKA	**Kamikawa-asahi**	**9.59**	**3**	Pn	**Pn**	**07 45 44.9**	**-0.6**
KSRS	**Korea Array**	**11.71**	**288**	P	**Pn**	**07 46 16.6**	**+2.2**
	0.2nm,0.3s,baz=99,slow=15,SNR=2.0						
KSRS				LR	LR	07 50 55.1	
	comp=Z,65nm,20.0s,baz=112,slow=38						
USRK	**Ussuriysk Ar.**	**12.33**	**325**	P	**Pn**	**07 46 22.4**	**-0.5**
	baz=131,slow=12,SNR=2.7						
JOW	**Kunigami**	**14.01**	**240**	LR	LR	07 51 32.4	
	comp=Z,114nm,21.9s,baz=112,slow=34						
KLR	**Kul'dur**	**16.50**	**336**	P	**Pn**	**07 47 18.2**	**-0.5**
	0.1nm,0.3s,baz=138,slow=12,SNR=1.8						
MA2	**Magadan**	**25.73**	**10**	LR	LR	07 58 50.1	
	comp=Z,16nm,19.5s,baz=266,slow=36						
H11N2	**WAKE ISLAND Hy**	**26.58**	**117**	T	T	08 18 38.3	
	baz=308,slow=74,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**26.58**	**117**	T	T	08 18 37.8	
	baz=308,slow=74,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**26.59**	**117**	T	T	08 18 38.9	
	baz=308,slow=74,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**27.21**	**120**	T	T	08 19 24.1	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.21**	**120**	T	T	08 19 23.4	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.23**	**120**	T	T	08 19 20.9	
	baz=312,slow=74						
ENH	**Enshi**	**27.64**	**270**	P	**P**	**07 49 12.2**	**-2.3**
SONM	**Songino Array**	**29.58**	**308**	P	**P**	**07 49 31.6**	**-0.1**
	1.2nm,0.6s,baz=110,slow=8.9,SNR=5.7						
NONG	**Nongkai**	**38.16**	**255**	P	**P**	**07 50 46.8**	**+0.5**
	23nm,0.8s						
NONG	**Nongkai**	**38.16**	**255**	P	**P**	**07 50 46.8**	**+0.5**
LOEI	**Loei**	**39.96**	**255**	P	**P**	**07 50 58.0**	**-3.4**
CM34	**Chiang Mai Arr**	**40.95**	**259**	P	**P**	**07 51 09.0**	**-0.6**
CM35	**Chiang Mai Arr**	**41.04**	**259**	P	**P**	**07 51 09.0**	**-1.3**
CM33	**Chiang Mai Arr**	**41.14**	**259**	P	**P**	**07 51 10.0**	**-1.1**
CHTO	**Chiang Mai**	**41.14**	**259**	P	**P**	**07 51 10.4**	**-0.7**
	17nm,0.8s						
CHTO	**Chiang Mai**	**41.14**	**259**	P	**P**	**07 51 09.8**	**-1.3**
CHTO				IAmb	IAmb	07 51 11.1	
	comp=Z,10nm,0.8s						
CM36	**Chiang Mai Arr**	**41.17**	**258**	P	**P**	**07 51 11.0**	**-0.4**
CM31	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 12.8**	**+0.1**
	comp=Z,1.7nmcomp=Z,381nm,0.7s						
CM31	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 11.1**	**-1.5**
CM31				IAmb	IAmb	07 51 12.7	
	comp=Z,9.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 11.8**	**-0.9**
	comp=Z,6.6nm,0.7s,baz=47,slow=7.8,SNR=26						
CMAR				LR	LR	08 08 19.7	
	comp=Z,15nm,20.3s,baz=65,slow=36						
CMAR	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 11.6**	**-1.1**
CM04	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 12.5**	**-0.2**
	comp=Z,12nm,0.8s						
CM04	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 12.0**	**-0.7**
	comp=Z,0.1nmcomp=Z,12nm,0.8s						
CM01	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 13.1**	**+0.4**
	comp=Z,9.8nm,0.7s						
CM01	**Chiang Mai Arr**	**41.33**	**258**	P	**P**	**07 51 13.2**	**+0.5**
	comp=Z,0.1nmcomp=Z,9.8nm,0.7s						
CM02	**Chiang Mai Arr**	**41.34**	**258**	P	**P**	**07 51 12.5**	**-0.2**
	comp=Z,13nm,0.8s						
CM02	**Chiang Mai Arr**	**41.34**	**258**	P	**P**	**07 51 12.6**	**-0.2**
	comp=Z,0.0nmcomp=Z,13nm,0.8s						
CM15	**Chiang Mai Arr**	**41.34**	**258**	P	**P**	**07 51 12.8**	**0.0**
	comp=Z,12nm,0.7s						
CM15	**Chiang Mai Arr**	**41.34**	**258**	P	**P**	**07 51 12.0**	**-0.8**
	comp=Z,0.1nmcomp=Z,12nm,0.7s						
CM05	**Chiang Mai Arr**	**41.35**	**258**	P	**P**	**07 51 13.0**	**+0.1**
	comp=Z,8.7nm,0.7s						
CM05	**Chiang Mai Arr**	**41.35**	**258**	P	**P**	**07 51 13.0**	**+0.1**
	comp=Z,0.1nmcomp=Z,8.7nm,0.7s						
CM13	**Chiang Mai Arr**	**41.37**	**258**	P	**P**	**07 51 12.8**	**-0.2**
CM13	**Chiang Mai Arr**	**41.37**	**258**	P	**P**	**07 51 12.8**	**-0.2**
	comp=Z,0.1nmcomp=Z,12nm,0.7s						
ZALV	**Zalesovo Beam**	**43.93**	**314**	P	**P**	**07 51 32.8**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=84,slow=7.6,SNR=3.6						
KAPI	**Kappang**	**44.54**	**212**	P	**P**	**07 51 37.7**	**-0.9**
	comp=Z,8.7nm,1.0s,baz=39,slow=6.5,SNR=2.0						
MK31	**Makanchi Array**	**45.83**	**304**	P	**P**	**07 51 47.9**	**-0.7**
MK31				IAmb	IAmb	07 52 10.0	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**45.83**	**304**	P	**P**	**07 51 47.7**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=94,slow=9.7,SNR=7.5						
MKAR				LR	LR	08 11 52.1	
	comp=Z,34nm,18.8s,baz=89,slow=37						
MKAR	**Makanchi Array**	**45.83**	**304**	P	**P**	**07 51 47.6**	**-1.0**
KURK	**Kurchatov**	**47.83**	**310**	P	**P**	**07 52 03.7**	**-0.4**
KURBB	**Kurchatov Arra**	**47.89**	**310**	P	**P**	**07 52 03.7**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=85,slow=7.7,SNR=7.6						
ILAR	**Eielson Array**	**51.41**	**31**	P	**P**	**07 52 31.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=266,slow=6.4,SNR=8.9						
WB2	**Warramunga Arr**	**54.64**	**189**	P	**P**	**07 52 55.7**	**+0.2**
WRA	**Warramunga Arr**	**54.65**	**189**	P	**P**	**07 52 55.5**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=1.5,slow=7.6,SNR=27						
WRA	**Warramunga Arr**	**54.65**	**189**	P	**P**	**07 52 55.7**	**+0.2**
KK31	**Karatay Array**	**54.76**	**302**	P	**P**	**07 52 56.3**	**0.0**
KK31				IAmb	IAmb	07 53 24.7	
	comp=Z,6.0nm,1.4s						
KKAR	**Karatay Array**	**54.76**	**302**	P	**P**	**07 52 55.4**	**-0.9**
INK	**Inuvik**	**56.44**	**26**	P	**P**	**07 53 08.7**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=322,slow=3.9,SNR=5.8						
INK	**Inuvik**	**56.44**	**26**	IAmb	IAmb	07 53 09.0	
	comp=Z,6.4nm,1.4s						
ASAR	**Alice Springs**	**58.37**	**189**	P	**P**	**07 53 22.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=5.4,slow=5.9,SNR=16						
DLBC	**Dease Lake**	**60.36**	**37**	P	**P**	**07 53 36.8**	**+1.3**
	comp=Z,3.8nm,1.2s,baz=320,slow=16,SNR=2.9						
AKTO	**Aktyubinsk**	**60.67**	**313**	P	**P**	**07 53 38.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=89,slow=9.1,SNR=5.3						
KBZ	**Khabaz**	**72.85**	**311**	P	**P**	**07 54 56.5**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=117,slow=2.3,SNR=2.4						
NVAR	**Mina Array Bea**	**76.17**	**53**	P	**P**	**07 55 16.6**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=287,slow=6.1,SNR=17						
AKASG	**Malin Array Be**	**76.53**	**323**	P	**P**	**07 55 16.1**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=50,slow=5.6,SNR=1.1						
NOA	**NORSAR Array B**	**76.65**	**338**	LR	LR	08 33 09.4	
	comp=Z,18nm,19.2s,baz=35,slow=39						
ELK	**Elko**	**76.86**	**50**	P	**P**	**07 55 18.7**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=126,slow=21,SNR=4.2						
ELK	**Elko**	**76.86**	**50**	IAmb	IAmb	07 55 20.7	
	comp=Z,1.9nm,1.0s						
PDAR	**Pinedale Array**	**79.13**	**45**	P	**P**	**07 55 32.7**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=253,slow=1.5,SNR=6.0						
ULM	**Lac du Bonnet**	**81.37**	**33**	LR	LR	08 35 30.3	
	comp=Z,15nm,19.6s,baz=220,slow=38						
TXAR	**Lajitas Array**	**91.32**	**53**	P	**P**	**07 56 33.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=292,slow=4.1,SNR=5.3						
TXAR				LR	LR	08 38 10.7	
	comp=Z,11nm,18.1s,baz=0.0,slow=36						
LPAZ	**La Paz**	**147.53**	**64**	PKPbc	**PKPbc**	**08 03 12.4**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=236,slow=3.6,SNR=2.0						

TRN 17 07:44:51.2,13°.90N×58°.43W,h89km,MD4.2

ISC 17 07:44:50.4±2.1,13°.94N±0°.04×58°.4W±0°.1,h10km,n47, σ1§42/62,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.29**	**230**	*eP*	**Pg**	**07 45 15.9**	**+0.7**
BBSP				*eS*	**Sg**	**07 45 33.9**	**+1.9**
BBGH	**Gun Hill**	**1.34**	**234**	*eP*	**Pb**	**07 45 16.1**	**+0.5**
BBGH				*eS*	**Sg**	**07 45 35.0**	**+1.4**
BCHC	**Barbados, Cave**	**1.41**	**235**	*eP*	**Pb**	**07 45 17.7**	**+1.0**
BCHC				*eS*	**Sg**	**07 45 36.1**	**+0.4**
MPOM	**Morne Pois Mar**	**2.40**	**282**	*eP*	**Pn**	**07 45 29.2**	**-0.5**
MPOM				*eS*	**Sn**	**07 45 59.6**	**+0.4**
SLW	**Petit Monier**	**2.42**	**272**	*eP*	**Pn**	**07 45 30.7**	**+0.6**
MCLT	**Moule a Chique**	**2.44**	**265**	*eP*	**Pn**	**07 45 30.4**	**+0.1**
MCLT				*eS*	**Sn**	**07 45 54.6**	**-5.6**
MVM	**Montagne Vaucl**	**2.46**	**285**	*eP*	**Pn**	**07 45 30.3**	**-0.2**
SLBI	**Saint Lucia, B**	**2.46**	**272**	*eP*	**Pn**	**07 45 29.7**	**-0.8**
SLBI				*eS*	**Sn**	**07 45 59.4**	**-1.3**
SLCP	**Castries, St.**	**2.47**	**272**	*eP*	**Pn**	**07 45 31.8**	**+1.0**
ILAM	**Ilet Lapin Mar**	**2.50**	**290**	*eP*	**Pn**	**07 45 30.9**	**-0.2**
LPMF	**Morne Lapointe**	**2.53**	**285**	*eP*	**Pn**	**07 45 31.0**	**-0.5**
ZAM	**Aeronautique**	**2.58**	**284**	*eP*	**Pn**	**07 45 31.8**	**-0.5**
TRMF	**Trois Ilets**	**2.60**	**284**	*eP*	**Pn**	**07 45 32.4**	**-0.1**
BIM	**Bigot**	**2.61**	**283**	*eP*	**Pn**	**07 45 32.4**	**-0.4**
BIM				*eS*	**Sn**	**07 46 03.4**	**-1.1**
FDF	**Fort de France**	**2.74**	**287**	*eP*	**Pn**	**07 45 34.8**	**+0.3**
FDF				*eS*	**Sn**	**07 46 06.2**	**-1.5**
BAMF	**Morne Balai**	**2.76**	**289**	*eP*	**Pn**	**07 45 35.4**	**+0.6**
GBMF	**Grand Be**	**2.77**	**288**	*eP*	**Pn**	**07 45 35.3**	**+0.3**
PML	**Morne Lenard**	**2.79**	**288**	*eP*	**Pn**	**07 45 35.4**	**+0.3**
SVN	**Savane Anatole**	**2.79**	**289**	*eP*	**Pn**	**07 45 35.5**	**+0.3**
SVB	**Belmont**	**2.81**	**257**	*eP*	**Pn**	**07 45 35.0**	**-0.5**
SVB				*eS*	**Sn**	**07 46 08.3**	**-1.1**
PCM	**Pelee Case Pet**	**2.82**	**288**	*eP*	**Pn**	**07 45 36.1**	**+0.5**
DLPL	**La Plaine**	**3.05**	**297**	*eS*	**Sn**	**07 46 13.4**	**-1.9**
DSLB	**Salisbury**	**3.25**	**298**	*eP*	**Pn**	**07 45 41.8**	**+0.4**
DSLB				*eS*	**Sn**	**07 46 19.0**	**-1.1**
GCMP	**Grenada, Carri**	**3.25**	**244**	*eP*	**Pn**	**07 45 41.1**	**-0.2**
GCMP				*eS*	**Sn**	**07 46 19.3**	**-0.8**
TOSP	**Speyside**	**3.33**	**218**	*eP*	**Pn**	**07 45 42.1**	**-0.4**
TOSP	**Speyside**	**3.33**	**218**	*e*	**Pb**	**07 45 49.7**	**+0.3**
MAGL	**Barre de l'ile**	**3.40**	**306**	*eP*	**Pn**	**07 45 43.8**	**+0.4**
MAGL				*eS*	**Sn**	**07 46 22.9**	**-0.9**
TPR	**Prospect**	**3.56**	**220**	*eP*	**Pn**	**07 45 46.4**	**+0.6**
GRGR	**Grenville**	**3.61**	**241**	*eP*	**Pn**	**07 45 46.3**	**-0.1**
GRGR				*eS*	**Sn**	**07 46 27.1**	**-2.0**
TDBA	**Terre de Bas,**	**3.62**	**302**	*eP*	**Pn**	**07 45 47.2**	**+0.6**
TDBA				*eS*	**Sn**	**07 46 26.7**	**-2.8**
TBG	**Guadaloupe-3**	**3.63**	**302**	*eP*	**Pn**	**07 45 46.8**	**+0.1**
CBE	**Ff, Capester**	**3.72**	**305**	*eP*	**Pn**	**07 45 48.6**	**+0.7**
CBE				*eS*	**Sn**	**07 46 31.5**	**-0.4**
ABD	**La Joyeuse, An**	**3.87**	**311**	*eP*	**Pn**	**07 45 50.5**	**+0.6**
ABD				*eS*	**Sn**	**07 46 34.4**	**-1.2**
TRN	**Trinidad (W)**	**4.37**	**222**	*eP*	**Pn**	**07 45 57.0**	**+0.2**
TRN	**Trinidad (W)**	**4.37**	**222**	*eS*	**Sn**	**07 46 44.4**	**-3.4**
ANBD	**Bethesda, Anti**	**4.45**	**314**	*eP*	**Pn**	**07 45 58.5**	**+0.6**
ANBD	**Bethesda, Anti**	**4.45**	**314**	*eS*	**Sn**	**07 46 48.2**	**-1.7**
BPA	**Boggy Peak**	**4.51**	**314**	*eP*	**Pn**	**07 45 59.2**	**+0.3**
BPA	**Boggy Peak**	**4.51**	**314**	*eS*	**Sn**	**07 46 48.6**	**-2.9**
ANDO	**Antigua, Disas**	**4.54**	**314**	*e*	Pn	07 45 55.3	-3.9
ANOC	**Antigua Open C**	**4.55**	**314**	*eP*	**Pn**	**07 46 00.1**	**+0.9**
ANOC	**Antigua Open C**	**4.55**	**314**	*eS*	**Sn**	**07 46 50.3**	**-1.9**
ANWB	**Willy Bob**	**4.91**	**319**	*eP*	**Pn**	**07 46 04.4**	**+0.1**
ANWB	**Willy Bob**	**4.91**	**319**	*eS*	**Sn**	**07 46 58.2**	**-3.0**
SKI	**Saint Kitts**	**5.34**	**310**	*eP*	**Pn**	**07 46 10.6**	**+0.4**
SKI	**Saint Kitts**	**5.34**	**310**	*eS*	**Sn**	**07 47 09.2**	**-2.6**
AOPR	**Arecibo Observ**	**9.11**	**300**	*e*	**Pn**	**07 47 04.2**	**+2.2**

IDC 17 07:51:43.6±2.2,59°.79N×153°.04W,h104km±39km,mb3.3/2, mb1 3.5/5,mb1mx3.1/42,mbtmp3.7/5,Error ellipse: s-maj=50.1km s-min=19.0km az=112.0
ANF 17 07:51:44.7±0.2,59°.80N×152°.75W,h104km±2km,ML3.3/33, Error ellipse: s-maj=2.4km s-min=1.9km az=9.0
NEIC 17 07:51:45.6±0.7,59°.84N±0°.03×152°.76W±0°.08,h99km±5km, Error ellipse: s-maj=5.6km s-min=4.5km az=99.0
AEIC 17 07:51:46±1.4,59°.82N±0°.03×152°.81W±0°.07,h94km±4km, ML2.9,ML3.3/52(NEIC),Error ellipse: s-maj=5.3km s-min=4.8km az=102.0

ISC 17 07:51:44.0±0.9,59°.81N±0°.03×152°.73W±0°.03, h110km±5km,n124,σ1§11/140,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.23**	**311**		**Pn**	**07 51 59.6**	**+0.1**
IVE	**Iliamna Volcan**	**0.25**	**325**		**Pn**	**07 51 59.5**	**-0.1**
IVE					**Sn**	**07 52 10.5**	**-1.0**
O20K	**Slope Mountain**	**0.28**	**11**	P	**Pn**	**07 52 00.0**	**+0.3**
	baz=194,SNR=12						
O20K				S	**Sn**	**07 52 11.0**	**-0.5**
	baz=194						
O20K	**Slope Mountain**	**0.28**	**11**		**Pn**	**07 52 00.0**	**+0.3**
OPT	**Oil Point**	**0.30**	**238**		**Pn**	**07 52 00.1**	**+0.3**
P19K	**Oil Pt**	**0.30**	**238**	P	**Pn**	**07 52 00.1**	**+0.3**
	baz=53,SNR=11						
P19K				S	**Sn**	**07 52 11.1**	**-0.5**
	baz=53						
P19K	**Oil Pt**	**0.30**	**238**		**Pn**	**07 52 00.1**	**+0.3**
AUL	**Augustine Lava**	**0.56**	**220**		**Pn**	**07 52 01.9**	**+0.7**
HOM	**Homer**	**0.57**	**105**	P	**Pn**	**07 52 02.0**	**+0.8**
	baz=289,SNR=7.1						
HOM				S	**Sn**	**07 52 14.9**	**+0.6**
	baz=289						
HOM	**Homer**	**0.57**	**105**		**Pn**	**07 52 01.8**	**+0.5**
AUQ	**Augustine Qik'**	**0.58**	**218**		**Pn**	**07 52 02.1**	**+0.7**
AGU	**Augustine-Summ**	**0.58**	**219**		**Pn**	**07 52 02.1**	**+0.7**
AGU					**Sn**	**07 52 14.4**	**-0.2**
AUW	**Augustine West**	**0.58**	**221**		**Pn**	**07 52 02.2**	**+0.9**
RED	**Redoubt Volcan**	**0.61**	**358**		**Pn**	**07 52 01.9**	**+0.2**
RED					**Sn**	**07 52 13.9**	**-1.1**
RSO	**Redoubt South**	**0.65**	**359**		**Pn**	**07 52 02.6**	**+0.5**
RDWB	**Redoubt West**	**0.68**	**355**		**Pn**	**07 52 02.5**	**+0.2**
NCT	**North Crescent**	**0.76**	**352**		**Pn**	**07 52 03.2**	**+0.3**
NCT					**Sn**	**07 52 16.2**	**-1.0**
CNPM	**China Poot**	**0.81**	**110**		**Pn**	**07 52 04.0**	**+0.8**
CNPM					**Sn**	**07 52 17.9**	**+0.1**
O19K	**Port Alsworth**	**0.89**	**296**	P	**Pn**	**07 52 04.3**	**+0.4**
	baz=114						
O19K				S	**Sn**	**07 52 18.5**	**-0.6**
	baz=114						
CAPN	**Captain Cook N**	**1.24**	**39**	P	**Pn**	**07 52 10.2**	**+2.6**
	baz=221						
O18K	**Koktuh Hills**	**1.25**	**273**	P	**Pn**	**07 52 08.5**	**+0.7**
	baz=90						
O18K				S	**Sn**	**07 52 25.7**	**-0.3**
	baz=90						
O18K	**Koktuh Hills**	**1.25**	**273**		**Pn**	**07 52 08.6**	**+0.7**
N19K	**Bonanza Creek**	**1.33**	**320**	P	**Pn**	**07 52 09.4**	**+0.6**
	baz=138,SNR=50						
N19K				S	**Sn**	**07 52 27.3**	**-0.4**
	baz=138						
N19K	**Bonanza Creek**	**1.33**	**320**		**Pn**	**07 52 09.4**	**+0.6**
N19K					**Sn**	**07 52 27.1**	**-0.7**
SPCR	**Spurr Chakacha**	**1.42**	**10**	P	**Pn**	**07 52 10.5**	**+0.7**
	baz=191,SNR=11						
SPCR	**Spurr Chakacha**	**1.42**	**10**		**Pn**	**07 52 10.5**	**+0.7**
SLKM	**Skilak Lake**	**1.44**	**60**		**Pn**	**07 52 10.8**	**+0.8**
SPBG	**Spurr Blockage**	**1.46**	**7**		**Pn**	**07 52 11.3**	**+0.9**
SPCP	**Crater Peak Br**	**1.49**	**11**		**Pn**	**07 52 11.7**	**+0.9**
SPCG	**Spurr Capps Gl**	**1.53**	**13**		**Pn**	**07 52 12.0**	**+0.9**
SPNN	**North Nagishla**	**1.56**	**0**		**Pn**	**07 52 12.5**	**+0.9**
O22K	**Cooper Landing**	**1.65**	**65**	P	**Pn**	**07 52 13.4**	**+1.0**
	baz=248						
O22K	**Cooper Landing**	**1.65**	**65**		**Pn**	**07 52 13.4**	**+1.0**
SEW	**Seward**	**1.67**	**78**	P	**Pn**	**07 52 13.4**	**+0.7**
	baz=262						
SEW	**Seward**	**1.67**	**78**		**Pn**	**07 52 13.5**	**+0.7**
STLK	**Strandline Lak**	**1.75**	**14**		**Pn**	**07 52 15.0**	**+1.2**
KAWH	**Katmai**	**1.79**	**218**		**Pn**	**07 52 15.8**	**+1.5**
N18K	**Kilae Creek**	**1.80**	**300**	P	**Pn**	**07 52 15.0**	**+0.6**
	baz=117,SNR=18						
N18K				S	**Sn**	**07 52 36.9**	**-0.7**
	baz=117						
N18K	**Kilae Creek**	**1.80**	**300**		**Pn**	**07 52 15.0**	**+0.6**
SVW2	**Sparrevohn**	**1.91**	**314**		**Pn**	**07 52 16.2**	**+0.4**
SUA	**Susitna One**	**1.92**	**30**	Pn	**Pn**	**07 52 17.4**	**+1.3**
RC01	**Rabbit Creek A**	**1.96**	**48**	P	**Pn**	**07 52 17.0**	**+0.7**
	baz=231						
RC01				S	**Sn**	**07 52 40.6**	**-0.5**
	baz=231						
RC01	**Rabbit Creek A**	**1.96**	**48**	Pn	**Pn**	**07 52 17.0**	**+0.7**
RC01				IAML		07 52 42.1	
	comp=E,257nm,0.4s						
RC01				IAML		07 52 43.4	
	comp=N,195nm,0.4s						
KDAK	**Kodiak Island**	**2.04**	**178**	P	**Pn**	**07 52 17.5**	**+0.1**
	comp=N,7.6nm,0.3s,baz=40,slow=8.4,SNR=124						
KDAK				S	**Sn**	**07 52 42.1**	**-0.7**
	comp=N,33nm,0.3s,baz=317,slow=22,SNR=29

GLB				IAML			07 53 47.6
	comp=N,25nm,1.0s						
GLB				IAML			07 53 54.4
	comp=E,32nm,3.1s						
PAX	**Paxson**	**4.71**	**45**	P	**Pn**	**07 52 53.7**	**+0.9**
	baz=231						
PAX	**Paxson**	**4.71**	**45**		**Pn**	**07 52 55.6**	**+2.8**
NEA2	**Nenana**	**5.09**	**18**	P	**Pn**	**07 52 58.4**	**+0.5**
	baz=201,SNR=9.3						
NEA2	**Nenana**	**5.09**	**18**		**Pn**	**07 52 58.4**	**+0.5**
NEA2	**Nenana**	**5.09**	**18**	IAML			07 54 22.4
	comp=N,11nm,3.7s						
WRH	**Wood River Hil**	**5.16**	**23**		**Pn**	**07 52 59.5**	**+0.7**
WRH	**Wood River Hil**	**5.16**	**23**	IAML			07 53 50.2
	comp=E,14nm,4.0s						
WRH				IAML			07 54 45.1
	comp=N,17nm,3.4s						
MLY	**Manley**	**5.32**	**9**	P	**Pn**	**07 53 01.6**	**+0.6**
	baz=191,SNR=10.0						
MLY	**Manley**	**5.32**	**9**		**Pn**	**07 53 02.5**	**+1.6**
HDA	**Harding Lake**	**5.35**	**28**	P	**Pn**	**07 53 02.1**	**+0.8**
	baz=213,SNR=5.0						
HDA	**Harding Lake**	**5.35**	**28**		**Pn**	**07 53 02.2**	**+0.9**
CCB	**Clear Creek Bu**	**5.37**	**23**		**Pn**	**07 53 01.7**	**+0.1**
I21K	**Tanana**	**5.40**	**3**	P	**Pn**	**07 53 02.8**	**+0.8**
	baz=184,SNR=5.3						
RIDG	**Independent Ri**	**5.43**	**40**		**Pn**	**07 53 04.2**	**+1.6**
TCOL	**CIGÖ, UAF Yank**	**5.56**	**22**	P	**Pn**	**07 53 04.4**	**+0.2**
	baz=206						
COLA	**College**	**5.56**	**22**	P	**Pn**	**07 53 04.4**	**+0.2**
	baz=206						
MDM	**Murphy Dome**	**5.57**	**20**		**Pn**	**07 53 05.2**	**+0.8**
I23K	**Minto, Yukon-K**	**5.58**	**15**	P	**Pn**	**07 53 05.4**	**+1.0**
	baz=198						
I23K	**Minto, Yukon-K**	**5.58**	**15**		**Pn**	**07 53 05.7**	**+1.3**
ILAR	**Eielson Array**	**5.67**	**26**	P	**Pn**	**07 53 06.2**	**+0.5**
	comp=N,1.0nm,0.3s,baz=214,slow=14,SNR=31						
ILAR				S	**Sn**	**07 54 06.5**	**-3.0**
	comp=N,0.7nm,0.3s,baz=208,slow=17,SNR=4.2						
CTG	**Chitna Glacier**	**5.76**	**74**	P	**Pn**	**07 53 08.6**	**+1.5**
	baz=264						
SCRK	**Sand Creek**	**5.87**	**41**	P	**Pn**	**07 53 09.1**	**+0.6**
	baz=229						
H23K	**Yukon River**	**6.21**	**12**	P	**Pn**	**07 53 13.9**	**+0.9**
	baz=195,SNR=12						
H23K	**Yukon River**	**6.21**	**12**		**Pn**	**07 53 14.2**	**+1.2**
PCA	**Pinnacle**	**6.27**	**82**	Pn	**Pn**	**07 53 16.4**	**+2.5**
H24K	**Noodor Dome**	**6.44**	**18**	P	**Pn**	**07 53 16.8**	**+0.6**
	baz=202						
EGAK	**Eagle**	**7.33**	**42**	Pn	**Pn**	**07 53 29.4**	**+1.2**
DAWY	**Dawson**	**7.59**	**50**	Pn	**Pn**	**07 53 33.4**	**+1.7**
DLBC	**Dease Lake**	**11.73**	**87**	P	**Pn**	**07 54 30.3**	**+2.7**
	comp=N,0.4nm,0.3s,baz=282,slow=7.9,SNR=8.5						
DLBC				S	**Sn**	**07 56 35.7**	**-0.8**
	comp=N,0.1nm,0.3s,baz=225,slow=21,SNR=1.5						
SONM	**Songino Array**	**55.01**	**306**	P	**P**	**08 01 05.0**	**+1.3**
	comp=N,0.7nm,0.5s,baz=46,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**64.67**	**321**	P	**P**	**08 02 07.8**	**-1.8**
	comp=N,0.2nm,0.5s,baz=13,slow=6.5,SNR=4.3						

*IDC **17** 07:58:44.6±5.5, 29°.50S×178°.52W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/20, mbtmp3.3/2, Error ellipse: s-maj=304.1km s-min=80.1km az=166.0*

ISC 17 07:58:43.8±2.7, 29°.1S±0°.2×178°.3W±0°.4, h10km, n21, σ1§62/20, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**9.09**	**197**	P	**Pn**	**08 00 56.9**	**+1.9**
HAZ	**Te Kaha**	**9.20**	**200**	P	**Pn**	**08 00 56.4**	**-0.2**
PKGZ	**Pakihiroa**	**9.24**	**198**	P	**Pn**	**08 01 00.5**	**+3.3**
PUZ	**Puketiti**	**9.36**	**197**	P	**Pn**	**08 00 59.1**	**+0.3**
RUGZ	**Raukumara Rang**	**9.42**	**200**	P	**Pn**	**08 01 01.0**	**+1.3**
CNGZ	**Carnagh Statio**	**9.77**	**196**	P	**Pn**	**08 01 04.4**	**0.0**
MWZ	**Matawai**	**9.81**	**200**	P	**Pn**	**08 01 04.7**	**-0.2**
TKGZ	**Te Karaka**	**9.82**	**198**	P	**Pn**	**08 01 04.5**	**-0.6**
URZ	**Urewera**	**9.87**	**201**	P	**Pn**	**08 01 06.8**	**+1.1**
RAGZ	**Rawiri**	**9.99**	**200**	P	**Pn**	**08 01 08.8**	**+1.3**
RIGZ	**Rimuhau**	**10.09**	**198**	P	**Pn**	**08 01 09.4**	**+0.6**
MUGZ	**Murupara**	**10.18**	**202**	P	**Pn**	**08 01 09.7**	**-0.2**
SNGZ	**Shannon Statio**	**10.28**	**199**	P	**Pn**	**08 01 12.6**	**+1.2**
BKZ	**Black Stump Fm**	**10.89**	**202**	P	**Pn**	**08 01 18.5**	**-1.3**
HIZ	**Hauiti**	**10.94**	**209**	P	Pn	08 01 27.6	+7.2
BHHZ	**Black Hill Sta**	**11.33**	**203**	P	**Pn**	**08 01 25.2**	**-0.6**
KAHZ	**Kahuranaki**	**11.35**	**199**	P	**Pn**	**08 01 23.1**	**-3.0**
TSZ	**Takapari Road**	**11.87**	**202**	P	**Pn**	**08 01 30.0**	**-3.2**
ASAR	**Alice Springs**	**42.91**	**266**	P	**P**	**08 06 43.6**	**+0.7**
	0.1nm,0.3s,baz=101,slow=7.9,SNR=1.7						
WRA	**Warramunga Ar**	**43.78**	**271**	P	**P**	**08 06 50.7**	**+0.7**
	0.3nm,0.3s,baz=110,slow=8.1,SNR=8.1						
FINES	**FINESS Array B**	**143.86**	**340**	PKP	**PKiKP**	**08 18 21.1**	**-1.0**
	3.2nm,0.7s,baz=29,slow=3.2,SNR=12						

*IDC **17** 08:07:55.4±1.0, 44°.31S×15°.76W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/22, mbtmp4.0/6, MS3.5/3, Ms1 3.6/3, ms1mx3.2/13, Error ellipse: s-maj=34.0km s-min=29.9km az=25.0*

*NEIC **17** 08:07:57.9±0.6, 44°.28S±0°.09×15°.7W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=22.8km s-min=13.0km az=109.0*

ISC 17 08:07:57.5±0.7, 44°3S±0°.1×15°.7W±0°.1, h10km, n32, σ0§80/18, mb4.2/8, MS3.5/3, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**28.20**	**171**	LR	LR	08 23 17.5	
	comp=Z,59nm,18.0s,baz=35,slow=33						
H10S2	**ASCENSION HYDR**	**35.17**	**2**	T	T	08 52 07.5	
	baz=39,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**35.17**	**2**	T	T	08 52 05.9	
	baz=181,slow=74,SNR=28						
H10N1	**ASCENSION HYDR**	**36.28**	**2**	T	T	08 53 33.7	
	baz=174						
H10N3	**ASCENSION HYDR**	**36.28**	**2**	T	T	08 53 35.3	
	baz=174,slow=74						
H10N2	**ASCENSION HYDR**	**36.30**	**2**	T	T	08 53 37.7	
	baz=174,slow=74						
CPUP	**Villa Florida**	**37.92**	**284**	P	**P**	**08 15 12.9**	**-2.0**
	2.0nm,0.8s,baz=117,slow=3.1,SNR=4.7						
CPUP	**Villa Florida**	**37.92**	**284**	P	**P**	**08 15 15.0**	**+0.1**
CPUP				IAmb	IAmb	08 15 37.4	
	comp=Z,7.5nm,1.4s						
BDFB	**Brasília**	**39.51**	**306**	P	**P**	**08 15 29.0**	**+0.5**
BDFB				IAmb	IAmb	08 15 54.4	
	comp=Z,14nm,1.4s						
LL02	**Futaleuf**	**39.91**	**251**	P	**P**	**08 15 31.5**	**+0.1**
MAW	**Mawson**	**45.83**	**148**	P	**P**	**08 16 18.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=286,slow=10,SNR=4.7						
MAW	**Mawson**	**45.83**	**148**	P	**P**	**08 16 18.7**	**-0.3**
QSPA	**South Pole Qui**	**46.01**	**180**	P	**P**	**08 16 20.9**	**+0.1**
QSPA				IAmb	IAmb	08 16 33.2	
	comp=Z,9.7nm,1.5s						
PB06	**IPOC Station P**	**48.84**	**278**	P	**P**	**08 16 43.4**	**+0.1**
LPAZ	**La Paz**	**52.07**	**285**	P	**P**	**08 17 09.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=115,slow=4.4,SNR=2.2						
LPAZ	**La Paz**	**52.07**	**285**	IAmb	IAmb	08 17 12.3	
	comp=Z,4.0nm,1.4s						
VNDA	**Vanda**	**58.50**	**179**	LR	LR	08 41 34.9	
	comp=Z,62nm,18.2s,baz=320,slow=35						
VNDA	**Vanda**	**58.50**	**179**	P	**P**	**08 17 53.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**59.28**	**20**	P	**P**	**08 17 58.9**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=195,slow=6.5,SNR=8.1						
TORD				LR	LR	08 37 34.7	
	comp=Z,41nm,20.1s,baz=230,slow=30						
TORD	**Torodi Ar. Bea**	**59.28**	**20**	P	**P**	**08 17 58.9**	**-0.3**
TORD				IAmb	IAmb	08 17 59.9	
	comp=Z,4.6nm,1.1s						
CASY	**Casey**	**62.35**	**158**	P	**P**	**08 18 20.7**	**+1.1**
KEST	**Kesra**	**82.79**	**20**	P	**P**	**08 20 22.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=239,slow=5.1,SNR=5.9						
H08S1	**Diego Carcia H**	**83.42**	**94**	T	T	09 52 21.4	
	baz=230,slow=74						
H08S2	**Diego Garcia H**	**83.44**	**94**	T	T	09 52 20.8	
	baz=230,slow=74						
H08S3	**Diego Garcia H**	**83.44**	**94**	T	T	09 52 27.3	
	baz=230						
ESDC	**Sonseca Array**	**84.21**	**9**	P	**P**	**08 20 28.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=244,slow=5.6,SNR=2.2						
H01W2	**Cape Leeuwin H**	**88.99**	**141**	T	T	10 00 33.2	
	baz=214,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**89.01**	**141**	T	T	10 00 32.3	
	baz=214,slow=75,SNR=5.0						
H01W3	**Cape Leeuwin H**	**89.01**	**141**	T	T	10 00 29.9	
	baz=214,slow=75,SNR=5.6						
MKAR	**Makanchi Array**	**125.02**	**56**	PKP	**PKPdf**	**08 26 55.9**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=197,slow=4.4,SNR=2.0						
TOLK	**Toolik Lake Re**	**146.04**	**332**	PKPdf	**PKPdf**	**08 27 35.2**	**-0.2**
ILAR	**Eielson Array**	**146.21**	**325**	PKPbc	**PKPdf**	**08 27 36.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=85,slow=1.1,SNR=12						

*NNC **17** 08:14:34.1±1.8, 54°.08N×86°.44E, h0km, mb3.4, mpv2.5, Error ellipse: s-maj=19.2km s-min=9.5km az=13.0, Suspected Mining explosion.*

IDC 17 08:14:35.5±2.6, 54°.10N×86°.43E, h0km, mb1 2.9/2, mb1mx2.9/38, mbtmp2.9/2, ML2.6/2, 6C-1D, Error ellipse: s-maj=20.2km s-min=12.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**262**	*i*		08 20 50.0	
	baz=80,slow=308,SNR=1.7						
ZAA0	**Zalesovo Array**	**0.96**	**262**	⇑P	Pg	08 14 52.5	-1.4
	0.2nm,0.3s						
ZAA0				⇑S	Sg	08 15 06.1	-0.2
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**0.96**	**262**	Pg	Pg	08 14 52.8	-1.1
	0.6nm,0.3s,baz=81,slow=17,SNR=5.1						
ZALV				Lg	Lg	08 15 07.3	
	1.6nm,0.3s,baz=82,slow=26,SNR=11						
ZALV				Rg	Rg	08 15 14.3	
	17nm,1.1s,baz=79,slow=31,SNR=6.9						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	08 16 05.7	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=3.6						
KURBB				Lg	Lg	08 17 45.2	
	0.0nm,0.3s,baz=56,slow=38,SNR=5.1						
KURBB	**Kurchatov Arra**	**5.96**	**237**	⇑Pn	Pn	08 16 04.8	0.0
	1.0nm,0.6s						
KURBB				⇑Lg	Lg	08 17 43.8	
	5.1nm,0.9s						
MK31	**Makanchi Array**	**7.77**	**201**	⇑Pn	Pn	08 16 27.8	-2.0
	0.8nm,0.8s,baz=27,slow=14,SNR=12						
MK31				⇓Sn	Sn	08 17 57.1	-1.3
	1.2nm,1.0s,baz=62,slow=5.6,SNR=2.5						
MK31				⇑Lg	Lg	08 18 40.8	
	1.1nm,0.8s,baz=29,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**7.77**	**201**	Pn	Pn	08 16 31.0	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=8.4						
MKAR				Sn	Sn	08 17 58.0	-0.5
	0.0nm,0.3s,baz=25,slow=24,SNR=4.7						
MKAR				Lg	Lg	08 18 43.0	
	0.0nm,0.3s,baz=19,slow=27,SNR=5.1						

*TRN **17** 08:32:14.6, 13°.79N×58°.47W, h118km, MD4.2*

ISC 17 08:32:13.2±2.7, 13°.90N±0°.05×58°.4W±0°.2, h10km, n29, σ1§49/38, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**232**	*eP*	**Pg**	**08 32 39.0**	**+1.1**
BBGH	**Gun Hill**	**1.34**	**236**	*eP*	**Pg**	**08 32 39.3**	**+0.4**
BBGH				*eS*	**Sn**	**08 32 59.2**	**+3.4**
MPOM	**Morne Pois Mar**	**2.42**	**283**	*eP*	**Pn**	**08 32 53.9**	**+1.0**
MPOM				*eS*	**Sn**	**08 33 23.4**	**+0.7**
SLW	**Petit Monier**	**2.45**	**273**	*eS*	**Sn**	**08 33 21.9**	**-1.4**
MCLT	**Moule a Chique**	**2.46**	**266**	*eP*	**Pb**	**08 32 56.1**	**-1.3**
SLBI	**Saint Lucia, B**	**2.48**	**273**	*eP*	**Pn**	**08 32 54.0**	**+0.3**
SLBI				*eS*	**Sn**	**08 33 23.5**	**-0.6**
SLCP	**Castries, St.**	**2.50**	**273**	*eP*	**Pn**	**08 32 55.5**	**+1.6**
LPMF	**Morne Lapointe**	**2.56**	**286**	*eP*	**Pn**	**08 32 55.0**	**+0.2**
ZAM	**Aeronautique**	**2.61**	**285**	*eP*	**Pn**	**08 32 56.9**	**+1.4**
BIM	**Bigot**	**2.64**	**284**	*eP*	**Pn**	**08 32 57.2**	**+1.3**
BIM				*eS*	**Sn**	**08 33 26.3**	**-1.8**
FDF	**Fort de France**	**2.77**	**288**	*eP*	**Pn**	**08 32 59.5**	**+1.8**
FDF				*eS*	**Sn**	**08 33 31.1**	**-0.3**
BAMF	**Morne Balai**	**2.79**	**289**	*eP*	**Pn**	**08 33 00.4**	**+2.3**
SVB	**Belmont**	**2.82**	**258**	*eP*	**Pn**	**08 32 59.2**	**+0.8**
SVB				*eS*	**Sn**	**08 33 30.7**	**-1.9**
PCM	**Pelee Case Pet**	**2.85**	**289**	*eP*	**Pn**	**08 32 60.0**	**+1.1**
GCMP	**Grenada, Carri**	**3.25**	**245**	*eP*	**Pn**	**08 33 04.3**	**+0.1**
DSLB	**Salisbury**	**3.28**	**298**	*eP*	**Pn**	**08 33 06.3**	**+1.5**
DSLB				*eS*	**Sn**	**08 33 43.7**	**-0.1**
MAGL	**Barre de l'ile**	**3.43**	**307**	*eS*	**Sn**	**08 33 48.1**	**+0.5**
GRGR	**Grenville**	**3.61**	**241**	*eP*	**Pn**	**08 33 08.2**	**-1.0**
TDBA	**Terre de Bas,**	**3.66**	**302**	*eP*	**Pn**	**08 33 13.1**	**+3.1**
TBG	**Guadaloupe-3**	**3.67**	**302**	*eP*	**Pn**	**08 33 11.7**	**+1.6**
CBE	**Ff, Capester**	**3.76**	**305**	*eP*	**Pn**	**08 33 13.0**	**+1.7**
CBE				*eS*	**Sn**	**08 33 55.4**	**-0.3**
ABD	**La Joyeuse, An**	**3.91**	**311**	*eP*	**Pn**	**08 33 14.7**	**+1.3**
ABD				*eS*	**Sn**	**08 33 58.2**	**-1.2**
TRN	**Trinidad (W)**	**4.35**	**222**	*eP*	**Pn**	**08 33 18.9**	**-0.5**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*eP*	**Pn**	**08 33 22.3**	**+0.9**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*eS*	**Sn**	**08 34 11.4**	**-2.4**
BPA	**Boggy Peak**	**4.55**	**314**	*eP*	**Pn**	**08 33 23.4**	**+1.1**
BPA	**Boggy Peak**	**4.55**	**314**	*eS*	**Sn**	**08 34 12.9**	**-2.5**
ANWB	**Willy Bob**	**4.95**	**320**	*eP*	**Pn**	**08 33 28.0**	**+0.3**
SKI	**Saint Kitts**	**5.38**	**310**	*eP*	**Pn**	**08 33 33.7**	**+0.1**

*TRN **17** 08:55:04.6, 13°.91N×58°.66W, h105km, MD3.9*

ISC 17 08:55:03.1±2.3, 13°.99N±0°.04×58°.7W±0°.1, h10km, n42, σ1§71/55, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.17**	**221**	*eP*	**Pn**	**08 55 27.5**	**+1.9**
BBSP	**Saint Philip**	**1.17**	**221**	*e*	**Sb**	**08 55 38.3**	**-2.4**
BBSP				*eS*	**Sn**	**08 55 44.7**	**+3.1**
BBGH	**Gun Hill**	**1.21**	**226**	*eP*	**Pn**	**08 55 27.6**	**+1.5**
BBGH	**Gun Hill**	**1.21**	**226**	*e*	**Sb**	**08 55 40.5**	**-1.3**
BBGH				*eS*	**Sn**	**08 55 46.2**	**+3.6**
MPOM	**Morne Pois Mar**	**2.17**	**282**	*eP*	**Pn**	**08 55 40.4**	**+1.0**
MPOM				*eS*	**Sn**	**08 56 09.2**	**+2.8**
SLW	**Petit Monier**	**2.21**	**271**	*eS*	**Sn**	**08 56 08.7**	**+1.5**
MCLT	**Moule a Chique**	**2.23**	**263**	*eP*	**Pn**	**08 55 41.8**	**+1.7**
MVM	**Montagne Vaucl**	**2.23**	**285**	*eP*	**Pn**	**08 55 41.1**	**+0.9**
SLBI	**Saint Lucia, B**	**2.24**	**271**	*eP*	**Pn**	**08 55 41.2**	**+1.0**
SLBI				*eS*	**Sn**	**08 56 08.9**	**+0.9**
SLCP	**Castries, St.**	**2.26**	**271**	*eP*	**Pn**	**08 55 41.2**	**+0.7**
LPMF	**Morne Lapointe**	**2.31**	**285**	*eP*	**Pn**	**08 55 41.9**	**+0.7**
ZAM	**Aeronautique**	**2.36**	**284**	*eP*	**Pn**	**08 55 42.9**	**+0.9**
TRMF	**Trois Ilets**	**2.38**	**283**	*eP*	**Pn**	**08 55 43.5**	**+1.3**
BIM	**Bigot**	**2.39**	**283**	*eP*	**Pn**	**08 55 43.3**	**+0.9**
BIM				*eS*	**Sn**	**08 56 10.9**	**-0.8**
FDF	**Fort de France**	**2.52**	**287**	*eP*	**Pn**	**08 55 45.6**	**+1.4**
FDF				*eS*	**Sn**	**08 56 14.6**	**-0.4**
BAMF	**Morne Balai**	**2.54**	**289**	*eP*	**Pn**	**08 55 46.0**	**+1.6**
SSV	**Crater Summit**	**2.54**	**255**	*eP*	**Pn**	**08 55 46.7**	**+2.2**
GBMF	**Grand Be**	**2.55**	**289**	*eP*	**Pn**	**08 55 46.1**	**+1.5**
PML	**Morne Lenard**	**2.56**	**288**	*eP*	**Pn**	**08 55 46.7**	**+1.9**
SVN	**Savane Anatole**	**2.57**	**290**	*eP*	**Pn**	**08 55 47.0**	**+2.1**
SVV	**Soufriere Volc**	**2.57**	**255**	*eP*	**Pn**	**08 55 46.0**	**+1.2**
PCM	**Pelee Case Pet**	**2.60**	**289**	*eP*	**Pn**	**08 55 46.8**	**+1.5**
SVB	**Belmont**	**2.61**	**254**	*eP*	**Pn**	**08 55 46.4**	**+1.0**
SVB				*eS*	**Sn**	**08 56 17.6**	**+0.3**
DSLB	**Salisbury**	**3.03**	**299**	*eP*	**Pn**	**08 55 52.8**	**+1.6**
DSLB				*eS*	**Sn**	**08 56 27.6**	**+0.1**
GCMP	**Grenada, Carri**	**3.08**	**241**	*eP*	**Pn**	**08 55 52.8**	**+1.1**
GCMP				*eS*	**Sn**	**08 56 27.2**	**-1.5**
TDBA	**Terre de Bas,**	**3.41**	**303**	*eP*	**Pn**	**08 55 59.3**	**+2.8**
TDBA				*eS*	**Sn**	**08 56 36.0**	**-1.0**
GRGR	**Grenville**	**3.45**	**238**	*eP*	**Pn**	**08 55 57.2**	**+0.3**
GRGR				*eS*	**Sn**	**08 56 35.0**	**-2.9**
CBE	**Ff, Capester**	**3.51**	**306**	*eP*	**Pn**	**08 55 59.5**	**+1.7**
CBE				*eS*	**Sn**	**08 56 39.4**	**-0.1**
ABD	**La Joyeuse, An**	**3.68**	**313**	*eP*	**Pn**	**08 56 01.3**	**+1.3**
ABD				*eS*	**Sn**	**08 56 43.7**	**+0.3**
ANBD	**Bethesda, Anti**	**4.26**	**316**	*eP*	**Pn**	**08 56 09.2**	**+1.2**
ANBD	**Bethesda, Anti**	**4.26**	**316**	*eS*	**Sn**	**08 56 57.0**	**-0.9**
TRN	**Trinidad (W)**	**4.27**	**219**	*eP*	**Pn**	**08 56 08.6**	**+0.4**
TRN	**Trinidad (W)**	**4.27**	**219**	*eS*	**Sn**	**08 56 53.8**	**-4.3**
BPA	**Boggy Peak**	**4.32**	**315**	*eP*	**Pn**	**08 56 10.0**	**+1.0**
BPA	**Boggy Peak**	**4.32**	**315**	*eS*	**Sn**	**08 56 57.4**	**-2.1**
ANDO	**Antigua, Disas**	**4.35**	**316**	*eP*	**Pn**	**08 56 11.2**	**+1.9**
ANOC	**Antigua Open C**	**4.36**	**316**	*eP*	**Pn**	**08 56 10.4**	**+1.0**
ANOC	**Antigua Open C**	**4.36**	**316**	*eS*	**Sn**	**08 56 59.9**	**-0.4**
ANWB	**Willy Bob**	**4.73**	**321**	*eP*	**Pn**	**08 56 16.1**	**+1.6**
ANWB	**Willy Bob**	**4.73**	**321**	*eS*	**Sn**	**08 57 07.8**	**-1.7**
SKI	**Saint Kitts**	**5.14**	**311**	*eP*	**Pn**	**08 56 19.9**	**-0.3**
SKI	**Saint Kitts**	**5.14**	**311**	*eS*	**Sn**	**08 57 17.4**	**-2.2**

IDC 17 08:57:06.0±2.2, 2°.50N×126°.20E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/35, mbtmp3.6/3, Error ellipse: s-maj=198.4km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**161**	P	P	09 02 19.6	-0.1
	0.7nm,0.4s,baz=340,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**27.07**	**164**	P	P	09 02 50.6	+0.1
	0.5nm,0.5s,baz=342,slow=7.8,SNR=13						
MKAR	**Makanchi Array**	**58.26**	**326**	P	P	09 07 02.4	-0.1
	0.3nm,0.4s,baz=127,slow=8.7,SNR=4.7						

*NEIC **17** 09:09:25.9±2.2, 19°.04N±0°.07×67°.69W±0°.03, h20km±7km, Error ellipse: s-maj=9.8km s-min=3.7km az=183.0*

*RSPR **17** 09:09:26.9, 19°.13N×67°.68W, h38km±8km, MD3.3/12*

*OSPL **17** 09:09:26.9±0.3, 19°.09N×67°.60W, h24km±3km, ML2.5*

ISC 17 09:09:23.2±1.5, 19°.16N±0°.06×67°.61W±0°.03, h10km±10km, n49, σ0§67/64, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.78**	**171**	⇓*eP*	**Pb**	**09 09 39.2**	**+0.3**
IDE	**Isla Desecheo**	**0.78**	**171**	*eS*	**Sg**	**09 09 47.9**	**-0.6**
IDE	**Isla Desecheo**	**0.78**	**171**		**Pb**	**09 09 39.2**	**+0.3**
IDE					**Sg**	**09 09 47.9**	**-0.6**
AGPR	**Aguadilla, PR**	**0.83**	**146**	⇑*eP*	**Pn**	**09 09 40.9**	**-0.2**
AGPR	**Aguadilla, PR**	**0.83**	**146**	*eS*	**Sb**	**09 09 51.2**	**+0.1**
AGPR	**Aguadilla, PR**	**0.83**	**146**	Pn	**Pn**	**09 09 40.6**	**-0.4**
AGPR				IAML		09 09 51.8	
	comp=N,260nm,0.4s						
AGPR	**Aguadilla, PR**	**0.83**	**146**	*i* P	**Pn**	**09 09 40.6**	**-0.4**
AGPR				*eS*	**Sg**	**09 09 50.6**	**+0.4**
AGPR				IAML		09 09 51.0	
	comp=Z,186nm,0.2s						
PCDR	**Punta Cana, DR**	**0.98**	**229**	⇑*eP*	**Pg**	**09 09 42.1**	**+0.1**
PCDR	**Punta Cana, DR**	**0.98**	**229**	Pn	**Pn**	**09 09 43.1**	**+0.1**
PCDR				Sn	**Sg**	**09 09 54.8**	**+0.1**
PCDR				IAML		09 09 54.8	
	comp=N,318nm,0.7s						
PCDR	**Punta Cana, DR**	**0.98**	**229**	*i* P	**Pn**	**09 09 42.9**	**-0.1**
PCDR				*eS*	**Sg**	**09 09 54.9**	**+0.1**
PCDR				IAML		09 10 00.4	
	comp=Z,183nm,0.2s						
MPR	**Mayaguez**	**1.04**	**155**	*i* P	**Pb**	**09 09 43.5**	**+0.1**
MPR				*eS*	**Sg**	**09 09 55.9**	**-0.9**
MPR				IAML		09 10 03.6	
	comp=Z,74nm,0.1s						
LSP	**Las Mesas**	**1.10**	**153**	⇑*eP*	**Pb**	**09 09 44.4**	**+0.1**
LSP	**Las Mesas**	**1.10**	**153**	*eS*	**Sg**	**09 09 58.6**	**0.0**
LSP	**Las Mesas**	**1.10**	**153**		**Pb**	**09 09 44.4**	**+0.1**
LSP					**Sg**	**09 09 58.6**	**0.0**
AOPR	**Arecibo Observ**	**1.14**	**135**	⇓*eP*	**Pn**	**09 09 46.0**	**+0.6**
AOPR	**Arecibo Observ**	**1.14**	**135**	*eS*	**Sg**	**09 10 00.2**	**+0.2**
AOPR	**Arecibo Observ**	**1.14**	**135**	Pn	**Pn**	**09 09 46.0**	**+0.6**
AOPR					**Sg**	**09 10 00.3**	**+0.2**
AOPR				IAML		09 10 13.1	
	comp=N,150nm,0.4s						
EMPR	**Esperanza - Ma**	**1.23**	**124**	⇑*eP*	**Pg**	**09 09 47.1**	**+0.4**
EMPR				*eS*	**Sg**	**09 10 02.8**	**+0.1**
EMPR	**Esperanza - Ma**	**1.23**	**124**	Pn	**Pg**	**09 09 47.9**	**+1.2**
EMPR				Sn	**

JTSN	**Tsuno**	**0.78**	**242**	⇑P		**Pn**	**09 32 56.0**	**+0.2**
JTSN				*e*S		**Sn**	**09 33 06.7**	**+0.4**
JKU	**Kubokawa**	**0.93**	**42**	P		**Pn**	**09 32 58.4**	**+0.5**
JKU				*e*S		**Sn**	**09 33 09.6**	**-0.5**
JNA	**Nagahama**	**0.95**	**8**	⇓P		**Pn**	**09 32 58.4**	**+0.2**
JNA				*e*S		**Sn**	**09 33 10.6**	**+0.1**
JNU	**Nakatsue**	**1.31**	**293**	P		**Pn**	**09 33 05.4**	**+2.3**
	308nm,0.3s,baz=58,slow=3.2,SNR=1728							
JNU				S		**Sn**	**09 33 22.5**	**+3.0**
	160nm,0.3s,baz=287,slow=18,SNR=19							
KSRS	**Korea Array**	**6.03**	**324**	P		**Pn**	**09 34 09.5**	**+1.6**
	0.4nm,0.3s,baz=147,slow=15,SNR=2.2							
KSRS				LR		LR	09 35 45.1	
	comp=Z,37nm,21.2s,baz=131,slow=31							
MJAR	**Matsushiro Arr**	**6.24**	**49**	P		**Pn**	**09 34 13.3**	**+2.4**
	0.2nm,0.3s,baz=234,slow=11,SNR=7.7							
KLR	**Kul'dur**	**16.61**	**359**	P		**P**	**09 36 35.5**	**+2.3**
	0.3nm,0.3s,baz=178,slow=5.9,SNR=5.5							
SONM	**Songino Array**	**24.80**	**315**	P		**P**	**09 37 59.2**	**-0.6**
	0.5nm,0.5s,baz=114,slow=6.5,SNR=2.4							
SONM				LR		LR	09 48 57.5	
	comp=Z,73nm,18.2s,baz=146,slow=40							
YAK	**Yakutsk**	**29.48**	**357**	LR		LR	09 49 49.6	
	comp=Z,29nm,18.8s,baz=296,slow=35							
CMAR	**Chiang Mai Arr**	**33.10**	**253**	LR		LR	09 54 40.3	
	comp=Z,19nm,18.5s,baz=175,slow=40							
H11N2	**WAKE ISLAND Hy**	**33.42**	**104**	T		T	10 14 16.0	
	baz=295							
H11N1	**WAKE ISLAND Hy**	**33.43**	**104**	T		T	10 14 15.3	
	baz=295							
H11N3	**WAKE ISLAND Hy**	**33.44**	**104**	T		T	10 14 17.1	
	baz=295							
H11S3	**WAKE ISLAND Hy**	**33.88**	**106**	T		T	10 14 43.0	
	baz=310							
H11S1	**WAKE ISLAND Hy**	**33.88**	**106**	T		T	10 14 55.0	
	baz=310							
H11S2	**WAKE ISLAND Hy**	**33.90**	**106**	T		T	10 14 50.9	
	baz=310							
ZALV	**Zalesovo Beam**	**39.67**	**317**	LR		LR	09 57 40.6	
	comp=Z,40nm,19.0s,baz=74,slow=38							
MKAR	**Makanchi Array**	**40.34**	**306**	P		**P**	**09 40 13.9**	**-1.2**
	0.2nm,0.5s,baz=96,slow=8.5,SNR=2.8							
KURBB	**Kurchatov Arra**	**43.02**	**311**	P		**P**	**09 40 35.3**	**-1.7**
	0.3nm,0.5s,baz=95,slow=9.4,SNR=2.1							
WRA	**Warramunga Arr**	**52.30**	**178**	P		**P**	**09 41 50.2**	**+1.1**
	0.6nm,0.8s,baz=353,slow=8.0,SNR=4.6							
ASAR	**Alice Springs**	**55.98**	**178**	P		**P**	**09 42 17.9**	**+1.8**
	0.3nm,0.6s,baz=11,slow=14,SNR=4.2							
ARCES	**ARCESS Array B**	**65.40**	**338**	P		**P**	**09 43 17.0**	**-2.6**
	1.5nm,1.0s,baz=62,slow=7.6,SNR=1.6							
ARCES				LR		LR	10 18 19.3	
	comp=Z,16nm,18.1s,baz=65,slow=42							

NNC 17 10:13:18.4±0.9, 53°.42N×90°.51E, h0km, mb3.6, mpv3.3, 5C-5D, Error ellipse: s-maj=7.7km s-min=5.3km az=80.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.43**	**281**	⇑Pn	Pn	10 14 13.2	+0.2
	1.9nm,0.6s						
ZAA0				⇓Lg	Lg	10 15 06.8	
	5.4nm,0.7s						
KURBB	**Kurchatov Arra**	**7.90**	**254**	⇑Pn	Pn	10 15 14.4	0.0
	5.8nm,0.7s						
KURBB				⇓Sn	Sn	10 16 45.8	+1.3
	21nm,0.7s						
KURBB				⇑Lg	Lg	10 17 28.1	
	18nm,0.8s						
MK31	**Makanchi Array**	**8.47**	**222**	Pn	Pn	10 15 22.4	+0.1
	0.8nm,0.6s,baz=36,slow=12,SNR=20						
MK31				⇓Sn	Sn	10 17 00.2	+1.6
	1.1nm,0.7s						
MK31				⇓Lg	Lg	10 17 48.4	
	8.2nm,1.2s						
MAKZ	**Makanchi**	**8.59**	**223**	⇑Pn	Pn	10 15 23.0	-0.9
	0.7nm,0.7s						
MAKZ				⇓Sn	Sn	10 17 03.0	+1.6
	1.6nm,0.7s						
MAKZ				⇑Lg	Lg	10 17 51.1	
	3.9nm,1.1s						

*IDC **17** 10:29:52.1±1.0, 12°.88S×166°.78E, h92km±7km, mb4.2/17, mb1 4.3/19, mb1mx4.2/33, mbtmp4.5/19, MS3.6/5, Ms1 3.6/5, ms1mx3.1/45, Error ellipse: s-maj=18.0km s-min=12.8km az=96.0*

*NEIC **17** 10:29:53.4±2.0, 12°.84S±0°.08×166°.9E±0°.1, h99km±6km, mb4.8/37, Error ellipse: s-maj=16.3km s-min=11.8km az=75.0*

*NOU **17** 10:30:02.3, 13°.51S×166°.79E, h80km, ML4.8, Vanuatu Islands*

ISC 17 10:29:52.7±0.4, 12°.88S±0°.06×166°.82E±0°.07, h100km, n132, σ1§18/136, mb4.7/41, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.58**	**172**	Pn	**Pn**	**10 30 33.4**	**+0.5**
SANVU	**Saraoutou**	**2.58**	**172**	P	**Pn**	**10 30 34.0**	**+1.1**
HNR	**Honiara**	**7.56**	**296**	P	**Pn**	**10 31 40.0**	**-0.3**
	12nm,0.3s,baz=317,slow=3.9,SNR=4.8						
HNR				S	**Sn**	**10 33 01.5**	**-3.0**
	30nm,0.3s,baz=351,slow=23,SNR=8.9						
HNR	**Honiara**	**7.56**	**296**	Pn	**Pn**	**10 31 41.0**	**+0.6**
LIFNC	**LIFOU**	**7.87**	**177**	Pn	**Pn**	**10 31 43.9**	**-0.5**
LIFNC	**LIFOU**	**7.87**	**177**	P	**Pn**	**10 31 44.3**	**-0.1**
KOUNC	**Koumac, New Ca**	**8.01**	**197**	P	**Pn**	**10 31 47.5**	**+1.2**
MARNC	**Mare, Loyalty**	**8.63**	**172**	Pn	**Pn**	**10 31 55.1**	**+0.3**
MARNC	**Mare, Loyalty**	**8.63**	**172**	P	**Pn**	**10 31 55.6**	**+0.8**
YATNC	**Mamie plateau,**	**9.13**	**180**	P	**Pn**	**10 32 01.7**	**+0.1**
YATNC	**Mamie plateau,**	**9.13**	**180**	P	**Pn**	**10 32 01.6**	**0.0**
DZM	**Mont Dzumac**	**9.15**	**182**	P	**Pn**	**10 32 03.2**	**+1.2**
	7.1nm,0.3s,baz=348,slow=4.7,SNR=327						
DZM				S	**Sn**	**10 33 40.5**	**-2.7**
	0.9nm,0.3s,baz=329,slow=23,SNR=1.4						
DZM	**Mont Dzumac**	**9.15**	**182**		**Pn**	**10 32 03.3**	**+1.4**
DZM	**Mont Dzumac**	**9.15**	**182**	P	**Pn**	**10 32 02.9**	**+1.0**
DZM	**Mont Dzumac**	**9.15**	**182**	P	**Pn**	**10 32 03.1**	**+1.2**
NOUC	**Port Laguerre**	**9.19**	**183**	P	**Pn**	**10 32 03.8**	**+1.5**
NOUC	**Port Laguerre**	**9.19**	**183**	P	**Pn**	**10 32 04.1**	**+1.8**
ONTNC	**Ouen Toro**	**9.38**	**182**	Pn	**Pn**	**10 32 06.7**	**+1.7**
ONTNC	**Ouen Toro**	**9.38**	**182**	P	**Pn**	**10 32 06.8**	**+1.7**
ONTNC	**Ouen Toro**	**9.38**	**182**	P	**Pn**	**10 32 06.8**	**+1.7**
OUENC	**Ouen Island, N**	**9.49**	**180**	Pn	**Pn**	**10 32 08.2**	**+1.8**
OUENC	**Ouen Island, N**	**9.49**	**180**	P	**Pn**	**10 32 08.0**	**+1.6**
PINNC	**Pines Island,**	**9.70**	**177**	Pn	**Pn**	**10 32 12.1**	**+2.8**
PINNC	**Pines Island,**	**9.70**	**177**	P	**Pn**	**10 32 11.8**	**+2.5**
MSVF	**Nonsavu**	**11.86**	**115**	P	Pn	10 32 51.7	+13
	0.8nm,0.3s,baz=264,slow=12,SNR=7.9						
MSVF				LR	LR	10 36 16.7	
	comp=Z,238nm,18.0s,baz=163,slow=32						
MSVF	**Nonsavu**	**11.86**	**115**	Pn	**Pn**	**10 32 37.1**	**-1.5**
EIDS	**Eidsvold**	**19.35**	**228**	P	**P**	**10 34 08.3**	**-2.1**
AFI	**Afiamalu**	**20.85**	**95**	LR	LR	10 41 42.1	
	comp=Z,60nm,19.4s,baz=351,slow=34						
CTA	**Charters Tower**	**20.97**	**247**	P	**P**	**10 34 27.7**	**-0.3**
	9.0nm,0.8s,baz=73,slow=12,SNR=10						
CTA				PcP	**PcP**	**10 38 30.4**	**-1.4**
	2.4nm,0.8s,baz=130,slow=2.9,SNR=3.5						
CTAO	**Charters Tower**	**20.97**	**247**	P	**P**	**10 34 27.8**	**-0.1**
PATS	**Pohnpei**	**21.33**	**336**	P	**P**	**10 34 31.8**	**-0.1**
PATS				IAmb	IAmb	10 34 34.8	
	comp=Z,71nm,1.0s						
ARMA	**Armidale**	**22.40**	**216**	P	**P**	**10 34 43.4**	**+0.2**
URZ	**Urewera**	**26.89**	**162**	P	**P**	**10 35 25.5**	**+1.3**
STKA	**Stephens Creek**	**29.90**	**227**	P	**P**	**10 35 51.2**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=31,slow=11,SNR=5.7						
STKA				PcP	**PcP**	**10 38 51.9**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=335,slow=7.2,SNR=5.1						
STKA				LR	LR	10 47 37.2	
	comp=Z,142nm,18.1s,baz=46,slow=36						
STKA	**Stephens Creek**	**29.90**	**227**	P	**P**	**10 35 50.5**	**-0.6**
WR0	**Warramunga Arr**	**31.71**	**253**	P	**P**	**10 36 07.3**	**0.0**
WB0	**Warramunga Arr**	**31.82**	**253**	P	**P**	**10 36 07.4**	**-0.9**
WB2	**Warramunga Arr**	**31.89**	**253**	P	**P**	**10 36 07.6**	**-1.1**
WB2				IAmb	IAmb	10 36 28.1	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**31.90**	**253**	P	**P**	**10 36 07.0**	**-1.9**
	comp=Z,1.8nm,0.9s,baz=86,slow=9.3,SNR=8.3						
WRA				pP	**pP**	**10 36 30.8**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=85,slow=8.1,SNR=3.4						
WRA	**Warramunga Arr**	**31.90**	**253**	P	**P**	**10 36 07.7**	**-1.2**
AS31	**Alice Springs**	**32.97**	**246**	P	**P**	**10 36 17.1**	**-1.1**
ASAR	**Alice Springs**	**32.97**	**246**	P	**P**	**10 36 17.0**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=69,slow=9.9,SNR=35						
ASAR				pP	**pP**	**10 36 39.7**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=70,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**32.97**	**246**	P	**P**	**10 36 17.1**	**-1.1**
GUMO	**Guam**	**34.13**	**320**	LR	LR	10 51 10.8	
	comp=Z,65nm,19.9s,baz=146,slow=38						
BBOO	**Buckleboo**	**34.40**	**230**	P	**P**	**10 36 30.7**	**+0.2**
BBOO				IAmb	IAmb	10 36 44.9	
	comp=Z,30nm,1.5s						
FORT	**Forrest**	**39.90**	**237**	P	**P**	**10 37 17.3**	**+0.3**
FORT				IAmb	IAmb	10 37 40.4	
	comp=Z,34nm,1.3s						
NWAO	**Narrogin (SRO)**	**49.34**	**238**	P	**P**	**10 38 32.1**	**0.0**
NWAO				IAmb	IAmb	10 38 32.4	
	comp=Z,11nm,0.7s						
MORW	**Morawa**	**49.70**	**243**	P	**P**	**10 38 35.4**	**+0.5**
MJAR	**Matsushiro Arr**	**56.07**	**332**	P	**P**	**10 39 20.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=163,slow=8.1,SNR=7.3						
MJAR	**Matsushiro Arr**	**56.07**	**332**	IAmb	IAmb	10 39 28.5	
	comp=Z,37nm,0.9s						
JNU	**Nakatsue**	**57.17**	**324**	P	**P**	**10 39 29.4**	**0.0**
JSD	**Sado**	**57.29**	**333**	P	**P**	**10 39 29.8**	**-0.3**
JHS	**Saijyo**	**57.35**	**327**	P	**P**	**10 39 31.2**	**+0.6**
JTM	**Tenmabayashi**	**58.48**	**337**	P	**P**	**10 39 38.7**	**+0.4**
KSRS	**Korea Array**	**61.97**	**326**	P	**P**	**10 40 02.7**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=139,slow=7.5,SNR=11						
VNDA	**Vanda**	**64.69**	**181**	P	**P**	**10 40 20.6**	**+1.0**
	comp=Z,2.1nm,0.9s,baz=356,slow=6.3,SNR=13						
VNDA	**Vanda**	**64.69**	**181**	P	**P**	**10 40 20.5**	**+1.0**
SBA	**Scott Base**	**64.98**	**180**	P	**P**	**10 40 23.2**	**+1.8**
SBA				IAmb	IAmb	10 40 24.3	
	comp=Z,8.4nm,0.9s						
USA0B	**Ussuriysk Arra**	**65.05**	**333**	P	**P**	**10 40 23.0**	**+0.7**
USA0B				IAmb	IAmb	10 40 24.6	
	comp=Z,25nm,1.1s						
USRK	**Ussuriysk Ar.**	**65.05**	**333**	P	**P**	**10 40 23.7**	**+1.4**
	comp=Z,12nm,0.9s,baz=138,slow=6.0,SNR=25						
USRK	**Ussuriysk Ar.**	**65.05**	**333**	P	**P**	**10 40 23.5**	**+1.2**
MDJ	**Mudanjiang**	**66.45**	**332**	P	**P**	**10 40 32.6**	**+1.2**
MDJ				IAmb	IAmb	10 40 33.4	
	comp=Z,16nm,0.9s						
ENH	**Enshi**	**69.86**	**309**	P	**P**	**10 40 53.1**	**+0.1**
ENH				IAmb	IAmb	10 40 53.8	
	comp=Z,11nm,0.7s						
XAN	**Xi'an**	**72.13**	**312**	P	**P**	**10 41 07.5**	**+0.8**
LAMP	**Lampang**	**73.21**	**294**	P	**P**	**10 41 14.8**	**+1.5**
	comp=Z,7.3nm,0.8s						
CM36	**Chiang Mai Arr**	**73.69**	**294**	P	**P**	**10 41 18.0**	**+1.8**
CM35	**Chiang Mai Arr**	**73.69**	**294**	P	**P**	**10 41 17.0**	**+0.8**
CM04	**Chiang Mai Arr**	**73.75**	**294**	P	**P**	**10 41 18.6**	**+2.0**
	comp=Z,9.2nm,0.8s						
CM04	**Chiang Mai Arr**	**73.75**	**294**	P	**P**	**10 41 18.7**	**+2.1**
	comp=Z,9.2nm,0.8s						
CM05	**Chiang Mai Arr**	**73.78**	**294**	P	**P**	**10 41 18.7**	**+2.0**
	comp=Z,86nmcomp=Z,9.6nm,1.2s						
CM05	**Chiang Mai Arr**	**73.78**	**294**	P	**P**	**10 41 18.8**	**+2.0**
	comp=Z,86nmcomp=Z,9.6nm,1.2s						
CM02	**Chiang Mai Arr**	**73.80**	**294**	P	**P**	**10 41 18.3**	**+1.5**
	comp=Z,10nm,0.8s						
CM02	**Chiang Mai Arr**	**73.80**	**294**	P	**P**	**10 41 18.0**	**+1.2**
	comp=Z,10nm,0.8s						
CM31	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**10 41 17.4**	**+0.5**
CM31				IAmb	IAmb	10 41 18.8	
	comp=Z,8.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**10 41 17.9**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=122,slow=4.6,SNR=23						
CMAR	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**10 41 17.6**	**+0.7**
CM15	**Chiang Mai Arr**	**73.82**	**294**	P	**P**	**10 41 18.5**	**+1.6**
	comp=Z,257nmcomp=Z,11nm,0.4s						
CM15	**Chiang Mai Arr**	**73.82**	**294**	P	**P**	**10 41 18.0**	**+1.1**
	comp=Z,257nmcomp=Z,11nm,0.4s						
CM13	**Chiang Mai Arr**	**73.83**	**294**	P	**P**	**10 41 18.8**	**+1.9**
	comp=Z,8.3nm,0.9s						
CM13	**Chiang Mai Arr**	**73.83**	**294**	P	**P**	**10 41 18.9**	**+1.9**
	comp=Z,8.3nm,0.9s						
CM33	**Chiang Mai Arr**	**73.92**	**294**	P	**P**	**10 41 19.0**	**+1.5**
CHTO	**Chiang Mai**	**73.93**	**294**	P	**P**	**10 41 19.3**	**+1.8**
	comp=Z,8.5nm,1.3s						
CHTO	**Chiang Mai**	**73.93**	**294**	P	**P**	**10 41 18.0**	**+0.4**
CHTO				IAmb	IAmb	10 41 19.2	
	comp=Z,19nm,1.5s						
HIA	**Hailar**	**74.47**	**330**	P	**P**	**10 41 20.5**	**+0.4**
HIA				IAmb	IAmb	10 41 21.6	
	comp=Z,16nm,1.0s						
QSPA	**South Pole Qui**	**77.14**	**180**	P	**P**	**10 41 35.8**	**+0.6**
	comp=Z,18nm,0.9s,baz=345,slow=0.9,SNR=51						
QSPA	**South Pole Qui**	**77.14**	**180**	P	**P**	**10 41 35.4**	**+0.2**
ULN	**Ulaanbaatar**	**80.39**	**324**	P	**P**	**10 41 53.7**	**+0.4**
ULN				IAmb	IAmb	10 41 55.1	
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**80.76**	**324**	P	**P**	**10 41 56.0**	**+0.8**
	comp=Z,4.8nm,1.0s,baz=138,slow=5.5,SNR=13						
SONM	**Songino Array**	**80.76**	**324**	P	**P**	**10 41 55.6**	**+0.4**
SONM				IAmb	IAmb	10 41 56.9	
	comp=Z,8.4nm,1.2s						
MAW	**Mawson**	**83.43**	**202**	P	**P**	**10 42 08.8**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=115,slow=6.9,SNR=12						
TLY	**Talaya**	**84.22**	**326**	P	**P**	**10 42 13.4**	**+0.4**
TLY				IAmb	IAmb	10 42 14.3	
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	**84.91**	**18**	P	**P**	**10 42 15.9**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=245,slow=4.9,SNR=13						
RYN	**Ryan**	**86.31**	**49**	P	**P**	**10 42 23.1**	**-0.8**
RYN				IAmb	IAmb	10 42 46.5	
	comp=Z,5.9nm,1.2s						
NVAR	**Mina Array Bea**	**86.40**	**49**	P	**P**	**10 42 25.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=219,slow=6.5,SNR=5.2						
NVAR	**Mina Array Bea**	**86.40**	**49**	P	**P**	**10 42 24.5**	**0.0**
TAPN	**Taplejung**	**86.41**	**299**	*e*P	**P**	**10 42 25.0**	**+0.2**
ODAN	**Odare**	**86.55**	**298**	*e*P	**P**	**10 42 25.8**	**+0.4**
JIRN	**Jiri**	**87.79**	**299**	*e*P	**P**	**10 42 31.6**	**0.0**
GUN	**Gumba**	**88.12**	**299**	*e*P	**P**	**10 42 33.0**	**-0.1**
PKI	**Pulchoki**	**88.44**	**299**	*e*P	**P**	**10 42 34.3**	**-0.3**
PKIN	**Phulchoki**	**88.45**	**299**	*e*P	**P**	**10 42 34.2**	**-0.3**
	comp=Z,46nm,1.0s						
KKN	**Kakani**	**88.60**	**299**	*e*P	**P**	**10 42 35.1**	**-0.1**
LPIG	**La Paz**	**88.82**	**65**	LR	LR	11 12 50.1	
	comp=Z,175nm,21.6s,baz=128,slow=29						
GKN	**Gorkha**	**89.21**	**299**	*e*P	**P**	**10 42 37.3**	**-0.7**
	comp=Z,50nm,0.9s						
SPR3	**Spring Creek 3**	**89.53**	**50**	P	**P**	**10 42 39.2**	**-0.2**
SPR3				IAmb	IAmb	10 43 02.0	
	comp=Z,4.5nm,1.2s						
KOLN	**Koldanda**	**90.04**	**298**	*e*P	**P**	**10 42 41.4**	**-0.5**
DANN	**Dangsing**	**90.04**	**299**	*e*P	**P**	**10 42 41.3**	**-0.7**
	comp=Z,32nm,0.8s						
SYO	**Syowa Base**	**90.34**	**197**	⇓*e*P	**P**	**10 42 41.5**	**-0.7**
PYUN	**Piuthan**	**90.64**	**299**	*e*P	**P**	**10 42 43.9**	**-0.8**
RDMU	**Red Mountain**	**93.49**	**49**	P	**P**	**10 42 57.3**	**-0.3**
SNAA	**Sanae**	**95.36**	**183**	P	**P**	**10 43 06.1**	**+0.6**
MKAR	**Makanchi Array**	**95.57**	**317**	P	**P**	**10 43 06.3**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=101,slow=6.4,SNR=14						
ZALV	**Zalesovo Beam**	**95.65**	**324**	P	**P**	**10 43 06.3**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=113,slow=3.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**95.65**	**324**	P	**P**	**10 43 04.3**	**-2.5**
TXAR	**Lajitas Array**	**95.78**	**61**	P	**P**	**10 43 08.8**	**+0.6**
	comp=Z,0.1nm,0.6s,baz=224,slow=3.8,SNR=2.2						
TXAR	**Lajitas Array**	**95.78**	**61**	P	**P**	**10 43 07.8**	**-0.4**
MAKZ	**Makanchi**	**95.78**	**317**	P	**P**	**10 43 07.9**	**+0.2**
VNA3	**Neumayer Olymp**	**96.05**	**181**	P	**P**	**10 43 07.5**	**-1.0**
ISCO	**Idaho Springs**	**96.28**	**51**	P	**P**	**10 43 08.9**	**-1.6**
ARCES	**ARCESS Array B**	**118.36**	**346**	PKP	**PKPdf**	**10 48 27.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=48,slow=1.8,SNR=5.5						
ARCES	**ARCESS Array B**	**118.36**	**346**		**PKPdf**	**10 48 27.1**	**-0.8**
FINES	**FINESS Array B**	**123.85**	**339**	PKP	**PKPdf**	**10 48 37.7**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=96,slow=3.8,SNR=3.7						
BOSA	**Boshof**	**124.48**	**222**	PKP	**PKPdf**	**10 48 40.1**	**-1.0**
	comp=Z,6.3nm,1.1s,baz=172,slow=7.1,SNR=4.3						
CLL	**Collm**	**136.19**	**336**	*e*pPKPdf	pPKPdf	10 49 28.0	-1.4
GERES	**GERESS Array B**	**137.80**	**334**	PKP	**PKPdf**	**10 49 06.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=119,slow=4.7,SNR=4.0						
GERES	**GERESS Array B**	**137.80**	**334**		**PKPdf**	**10 49 05.2**	**-0.4**
KEST	**Kesra**	**149.50**	**322**	PKPbc	**PKPbc**	**10 49 31.3**	**+0.4**
	comp=Z,7.0nm,0.7s,baz=215,slow=0.9,SNR=20						
KEST	**Kesra**	**149.50**	**322**		**PKPbc**	**10 49 31.8**	**+0.9**
ESDC	**Sonseca Array**	**152.10**	**345**	PKPbc	**PKPbc**	**10 49 36.8**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=13,slow=2.3,SNR=6.4						
ESDC				PKPab	**PKPab**	**10 49 47.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=12,slow=4.0,SNR=9.9						
ESDC				pPKPbc	**pPKPdf**	**10 50 00.9**	**+3.6**
	comp=Z,0.6nm,0.6s,baz=35,slow=3.1,SNR=2.3						
ESDC	**Sonseca Array**	**152.10**	**345**	PKPdf	**PKPdf**	**10 49 27.4**	**-2.8**
ESDC					**PKPbc**	**10 49 37.0**	**+0.1**
ESDC				PKPab	**PKPab**	**10 49 46.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**165.50**	**273**	PKPab	**PKPab**	**10 50 45.0**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=84,slow=5.1,SNR=7.5						
KOWA	**Kowa**	**170.95**	**281**	PKPab	**PKPab**	**10 51 10.0**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=49,slow=5.1,SNR=1.9						

*IDC **17** 10:30:20.3±0.6, 21°.40N×144°.15E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/37, mbtmp4.4/19, ML3.0/1, MS3.8/18, Ms1 3.8/18, ms1mx3.5/48, Error ellipse: s-maj=22.0km s-min=15.5km az=79.0*

*GCMT **17** 10:30:25.8±0.3, 21°.25N±0°.03×144°.25E±0°.03, h13km±1km, MW4.9/78, Moment Tensor Solution. s12,c15; s78,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.92±.21; Mθθ1.03±.12; Mφφ0.89±.13; Mrθ-1.06±.34; Mrφ-1.53±.07; Mθφ0.79±.34; Best double couple: M0=2.57600×10^16 NP1:φs320.00000°, δ30.00000°, λ-81.00000°. NP2: φs129.00000°, δ61.00000°, λ-95.00000°. Principal axes: T 2.8560, Plg15.0000°, Azm223.0000°; N -0.5560, Plg5.0000°, Azm132.0000°; P -2.2960, Plg74.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **17** 10:30:26.8±1.5, 21°.44N±0°.06×144°.10E±0°.08, h34km±4km, mb4.8/109 Error ellipse: s-maj=12.5km s-min=5.9km az=125.0*

ISC 17 10:30:25.9±0.4, 21°.38N±0°.06×144°.19E±0°.09, h33km, n177, σ1§04/160, mb4.7/71, MS3.7/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.97**	**343**	LR	LR	10 33 50.3	
	comp=Z,370nm,21.6s,baz=110,slow=35						
JCJ	**Chichijima**	**5.97**	**343**	Pn	**Pn**	**10 31 51.0**	**-1.0**
GUMO	**Guam**	**7.78**	**175**	LR	LR	10 34 47.4	
	comp=Z,802nm,20.0s,baz=19,slow=34						
GUMO	**Guam**	**7.78**	**175**	Pn	**Pn**	**10 32 17.8**	**+1.0**
JYT	**Yasato**	**15.20**	**348**		**P**	**10 34 00.6**	**-2.1**
JYT				IAmb	IAmb	10 34 17.2	
	comp=Z,37nm,1.0s						
JGF	**Kuroka**	**15.38**	**339**		**P**	**10 34 03.6**	**-1.2**
MJAR	**Matsushiro Arr**	**15.98**	**342**	Pn	**Pn**	**10 34 06.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=159,slow=12,SNR=5.3						
MJAR				LR	LR	10 39 57.2	
	comp=Z,238nm,19.8s,baz=115,slow=36						
MJAR	**Matsushiro Arr**	**15.98**	**342**	P	**P**	**10 34 11.3**	**-0.1**
MJAR				IAmb	IAmb	10 34 35.0	
	comp=Z,72nm,1.0s						
MAJO	**Matsushiro**	**15.98**	**342**	P	**P**	**10 34 10.6**	**-0.9**
MAT	**Matsushiro**	**15.98**	**342**	P	**Pn**	**10 34 08.8**	**+0.5**
MAT				*e*S	**Sn**	**10 37 06.6**	**+2.2**
MJB9	**Matsu-Tunnel**	**15.98**	**342**		**P**	**10 34 10.7**	**-0.8**
MJB9				IAmb	IAmb	10 34 25.0	
	comp=Z,66nm,1.4s						
JMM	**Marumori**	**16.69**	**351**		**P**	**10 34 18.5**	**-0.8**
JMM				IAmb	IAmb	10 34 23.6	
	comp=Z,65nm,0.9s						
JSD	**Sado**	**17.37**	**344**	P	**P**	**10 34 27.6**	**+0.7**
JTM	**Tenmabayashi**	**19.53**	**353**	P	**Pn**	**10 34 51.8**	**-0.1**
JTM				IAmb	IAmb	10 35 13.3	
	comp=

AS31 Alice Springs 45.88 193 P **P** **10 38 45.5 +0.2**
AS31 IAmb IAmb 10 38 53.8
comp=Z,6.0nm,0.7s
ASAR Alice Springs 45.88 193 P **P** **10 38 44.8 -0.6**
comp=Z,5.8nm,0.6s,baz=17,slow=9.8,SNR=73
ASAR LR LR 10 58 31.7
comp=Z,184nm,18.7s,baz=35,slow=37
ASAR Alice Springs 45.88 193 P **P** **10 38 45.2 -0.2**
WMQ Urumqi 51.50 310 *e*P **P** **10 39 31.1 +2.6**
WMQ pmax pmax
comp=Z,36nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.5s
FORT Forrest 54.13 197 P **P** **10 39 47.9 +0.1**
BBOO Buckleboo 54.44 188 P **P** **10 39 49.6 -0.4**
ZAA0 Zalesovo Array 55.04 322 P **P** **10 39 53.4 -0.8**
ZALV Zalesovo Beam 55.04 322 P **P** **10 39 53.0 -1.2**
comp=Z,2.4nm,0.5s,baz=105,slow=6.9,SNR=8.0
ZALV LR LR 11 04 16.3
comp=Z,96nm,19.0s,baz=113,slow=37
ZALV Zalesovo Beam 55.04 322 P **P** **10 39 53.4 -0.8**
MK31 Makanchi Array 55.60 313 P **P** **10 39 58.6 +0.2**
MKAR Makanchi Array 55.60 313 P **P** **10 39 58.0 -0.4**
comp=Z,2.4nm,0.7s,baz=93,slow=9.7,SNR=16
MKAR Makanchi Array 55.60 313 P **P** **10 39 58.7 +0.3**
MAKZ Makanchi 55.81 313 P **P** **10 40 00.0 +0.1**
MAKZ IAmb IAmb 10 40 01.0
comp=Z,9.5nm,1.1s
TARG Taragay, Kyrgy 58.68 307 P **P** **10 40 20.6 -0.2**
TARG IAmb IAmb 10 40 22.6
comp=Z,7.7nm,1.1s
KDJ Kajisay 59.13 307 P **P** **10 40 23.8 +0.2**
KDJ IAmb IAmb 10 40 25.3
comp=Z,14nm,1.4s
IMAR Indian Mountai 59.37 25 P **P** **10 40 25.5 +0.9**
RC01 Rabbit Creek A 59.97 31 P **P** **10 40 29.1 +0.3**
BPAW Bear Paw Mtn. 60.02 27 P **P** **10 40 30.0 +0.9**
BPAW IAmb IAmb 10 40 39.4
comp=Z,8.7nm,0.9s
BOOM Boomskoye usch 60.04 308 P **P** **10 40 30.3 +0.4**
BOOM IAmb IAmb 10 40 40.5
comp=Z,7.2nm,1.1s
MLY Manley 60.33 26 P **P** **10 40 32.3 +1.0**
MLY IAmb IAmb 10 40 41.2
comp=Z,6.3nm,0.9s
I23K Minto, Yukon-K 60.93 26 P **P** **10 40 36.4 +1.1**
I23K IAmb IAmb 10 40 45.2
comp=Z,5.7nm,0.9s
SCM Sheep Creek Mo 61.23 30 P **P** **10 40 38.3 +0.8**
MDM Murphy Dome 61.36 27 P **P** **10 40 38.7 +0.4**
TOLK Toolik Lake Re 61.65 22 P **P** **10 40 41.2 +1.0**
TOLK IAmb IAmb 10 40 51.1
comp=Z,7.7nm,0.9s
IL31 61.89 27 P **P** **10 40 40.9 -0.9**
IL31 IAmb IAmb 10 40 50.9
comp=Z,5.7nm,0.8s
ILAR Eielson Array 61.89 27 P **P** **10 40 41.0 -0.8**
comp=Z,1.8nm,0.8s,baz=252,slow=6.1,SNR=15
ILAR LR LR 11 04 43.2
comp=Z,101nm,21.9s,baz=268,slow=33
ILAR Eielson Array 61.89 27 P **P** **10 40 41.0 -0.8**
RIDG Independent Ri 62.62 28 P **P** **10 40 47.1 +0.3**
SCRK Sand Creek 63.03 28 P **P** **10 40 49.6 0.0**
SCRK IAmb IAmb 10 41 05.6
comp=Z,6.7nm,0.8s
BMAR Burnt Mountain 63.25 24 P **P** **10 40 52.4 +1.5**
BVAR Borovoye Array 63.52 320 P **P** **10 40 52.7 -0.1**
comp=Z,2.0nm,0.4s,baz=178,slow=16,SNR=25
BRVK Borovoye 63.58 320 P **P** **10 40 53.1 -0.2**
BRVK IAmb IAmb 10 40 54.1
comp=Z,9.5nm,0.9s
BCAR Beaver Creek A 63.93 29 P **P** **10 40 56.8 +1.3**
KK31 Karatay Array 63.98 309 P **P** **10 40 55.2 -1.0**
KK31 IAmb IAmb 10 41 03.4
comp=Z,9.4nm,1.0s
KKAR Karatay Array 63.98 309 P **P** **10 40 56.0 -0.2**
GAR Garm 64.60 304 P **P** **10 40 59.9 -0.5**
DAWY Dawson 65.05 28 P **P** **10 41 03.7 +0.9**
CHGR Chuyangaron 65.55 304 P **P** **10 41 05.0 -1.5**
HYT Haines Junctio 65.89 32 P **P** **10 41 09.2 +0.9**
EPYK Eagle Plains 66.25 26 P **P** **10 41 11.3 +0.9**
EPYK IAmb IAmb 10 41 24.5
comp=Z,12nm,1.2s
KBL Kabul 66.31 299 P **P** **10 41 11.6 0.0**
KBL IAmb IAmb 10 41 20.0
comp=Z,8.6nm,0.9s
INK Inuvik 67.48 24 P **P** **10 41 18.3 +0.2**
INK IAmb IAmb 10 41 28.0
comp=Z,5.8nm,0.8s
H02S1 DAWSON INLET T 69.23 40 T T 11 57 21.5
SNR=12
DLBC Dease Lake 69.86 34 P **P** **10 41 34.9 +1.6**
DLBC IAmb IAmb 10 41 45.2
comp=Z,8.6nm,1.3s
ABKAR Akbulak array 70.43 316 P **P** **10 41 36.3 -0.6**
ABKAR IAmb IAmb 10 41 37.1
comp=Z,8.5nm,0.8s
C36M Paulatuk 70.80 22 P **P** **10 41 39.0 +0.3**
C36M IAmb IAmb 10 41 57.9
comp=Z,13nm,1.4s
GEYT Alibeck 74.20 305 P **P** **10 41 59.5 -0.2**
comp=Z,7.3nm,0.5s,baz=188,slow=9.9,SNR=4.0
YKA Yellowknife Ar 76.29 28 P **P** **10 42 11.3 +0.2**
comp=Z,1.1nm,0.6s,baz=291,slow=5.3,SNR=5.8
B08A Colville Reser 78.47 43 P **P** **10 42 24.3 +0.7**
PINE Pine Mountain 78.89 47 P **P** **10 42 27.5 +1.2**
ARCES ARCESS Array B 79.52 342 P **P** **10 42 27.9 -1.1**
comp=Z,4.4nm,1.1s,baz=54,slow=6.3,SNR=10.0
ARCES LR LR 11 22 06.7
comp=Z,70nm,18.9s,baz=75,slow=39
ARCES ARCESS Array B 79.52 342 P **P** **10 42 28.0 -0.9**
ARCES IAmb IAmb 10 42 40.0
comp=Z,15nm,1.4s
G08A Pilot Rock 79.73 45 P **P** **10 42 29.9 -0.9**
NEW Newport 79.89 42 P **P** **10 42 31.6 +0.2**
BEKR Beckworth 80.60 51 P **P** **10 42 36.0 +0.4**
BEKR IAmb IAmb 10 42 44.5
comp=Z,6.6nm,0.8s
F10A Beach Ranch, E 80.63 44 P **P** **10 42 37.3 +1.7**
J08A Circle Bar Ran 80.72 47 P **P** **10 42 36.2 0.0**
NEEM North Greenlan 80.97 3 *i* P **P** **10 42 36.9 -0.1**
NEEM IAmb IAmb 10 42 38.8
comp=Z,3.0nm,0.6s
BMO Blue Mountains 80.98 45 P **P** **10 42 37.2 -0.2**
BMO IAmb IAmb 10 42 47.1
comp=Z,6.5nm,0.9s
CMB Columbia Colle 81.21 53 P **P** **10 42 38.6 -0.1**
CMB IAmb IAmb 10 42 48.3
comp=Z,7.2nm,0.9s
VCNR Virginia City 81.31 51 P **P** **10 42 40.0 +0.5**
PNTR Pine Nut 81.42 51 P **P** **10 42 41.0 +0.9**
PNTR IAmb IAmb 10 42 49.8
comp=Z,7.9nm,0.8s
WALA Waterton Lakes 81.57 41 P **P** **10 42 41.5 +1.0**
WALA IAmb IAmb 10 42 42.4
comp=Z,7.9nm,1.2s
YERR Yerington 81.72 51 P **P** **10 42 41.2 -0.4**
MDPB Devils Postpil 82.32 53 P **P** **10 42 44.5 -0.4**
MFID Camas Ranch 82.50 46 P **P** **10 42 45.0 -0.6**
MFID IAmb IAmb 10 42 55.2
comp=Z,7.0nm,1.0s
LHV Little Huntoon 82.52 52 P **P** **10 42 46.2 +0.7**
KVN Kaiserville 82.53 51 P **P** **10 42 45.3 -0.6**
NVAR Mina Array Bea 82.60 52 P **P** **10 42 46.9 +0.6**
comp=Z,3.2nm,0.8s,baz=272,slow=5.2,SNR=20
NV11 Mina Array Sit 82.71 52 P **P** **10 42 47.5 +0.7**
KBZ Khabaz 83.26 314 P **P** **10 42 49.2 -0.1**
comp=Z,9.5nm,0.9s,baz=159,slow=2.3,SNR=18
ONI Oni 83.33 313 P **P** **10 42 50.1 +0.3**
TPH Tonopah 83.53 52 P **P** **10 42 51.2 +0.1**
BCYI Bear Canyon 83.77 45 P **P** **10 42 52.2 0.0**
HRY Holter Researc 83.80 42 P **P** **10 42 52.5 +0.4**
FINES FINESS Array B 83.87 335 P **P** **10 42 50.4 -1.7**
comp=Z,2.7nm,0.4s,baz=66,slow=4.8,SNR=33
ELK Elko 83.93 49 P **P** **10 42 53.4 +0.2**
QLMT Earthquake Lak 84.84 44 P **P** **10 42 58.1 +0.4**
YHB Horse Butte 85.02 44 P **P** **10 42 58.6 0.0**
YMR Madison River 85.21 44 P **P** **10 42 59.9 +0.4**
YHH Holmes Hill 85.23 44 P **P** **10 43 00.4 +0.7**
YHH IAmb IAmb 10 43 08.0
comp=Z,6.7nm,1.4s
FFC Flin Flon 85.59 32 P **P** **10 43 01.4 +0.5**
FFC IAmb IAmb 10 43 10.4
comp=Z,8.9nm,1.1s
FLWY Flagg Ranch 85.63 44 P **P** **10 43 03.0 +1.4**
SHPR Sheep Range 85.64 53 P **P** **10 43 01.9 +0.1**
SHPR IAmb IAmb 10 43 11.8
comp=Z,4.9nm,1.1s
YMP Mirror Lake Pl 85.70 43 P **P** **10 43 03.1 +1.1**
DUG Dugway, Tooele 85.84 48 P **P** **10 43 03.1 +0.4**
DUG IAmb IAmb 10 43 03.9
comp=Z,8.1nm,1.1s
RLMT Red Lodge 86.09 43 P **P** **10 43 05.0 +1.1**
RLMT IAmb IAmb 10 43 14.1
comp=Z,7.3nm,0.8s
HWUT Hardware Ranch 86.11 47 P **P** **10 43 04.5 +0.5**
HWUT IAmb IAmb 10 43 05.2
comp=Z,8.5nm,1.1s
SUMG Summit 86.27 1 *i* P **P** **10 43 03.9 -0.5**
SUMG IAmb IAmb 10 43 05.4
comp=Z,4.0nm,0.6s
SUMG Summit 86.27 1 P **P** **10 43 04.5 +0.1**
SUMG IAmb IAmb 10 43 13.4
comp=Z,9.5nm,1.1s
CCUT Cedar City 86.54 51 P **P** **10 43 06.7 +0.4**
CCUT IAmb IAmb 10 43 07.8
comp=Z,6.0nm,1.2s
JLU Jordanelle 86.62 48 P **P** **10 43 06.5 -0.1**
JLU IAmb IAmb 10 43 14.1
comp=Z,5.4nm,0.8s
LCMT Little Creek M 86.85 51 P **P** **10 43 07.9 +0.3**
LCMT IAmb IAmb 10 43 09.2
comp=Z,4.1nm,1.0s
PDAR Pinedale Array 86.95 45 P **P** **10 43 07.0 -1.2**
comp=Z,0.4nm,0.5s,baz=251,slow=2.6,SNR=6.1
KNB Kanab 87.16 51 P **P** **10 43 09.2 +0.1**
LAO LASA Array 87.26 40 P **P** **10 43 09.5 +0.2**
P17A Butcher Ranch, 87.60 48 P **P** **10 43 11.1 -0.2**
P17A IAmb IAmb 10 43 12.4
comp=Z,5.2nm,1.1s
U15A North Rim 87.79 52 P **P** **10 43 12.9 +0.6**
U15A IAmb IAmb 10 43 20.3
comp=Z,3.7nm,0.8s
SRU San Rafael Swe 87.90 49 P **P** **10 43 12.8 0.0**
RDMU Red Mountain 87.92 47 P **P** **10 43 12.6 -0.3**
AKASG Malin Array Be 88.31 325 P **P** **10 43 12.1 -2.1**
comp=Z,0.3nm,0.3s,baz=54,slow=4.7,SNR=1.4
AKASG Malin Array Be 88.31 325 P **P** **10 43 11.4 -2.7**
WUAZ Wupatki 88.85 52 P **P** **10 43 15.8 -1.5**
WUAZ IAmb IAmb 10 43 25.3
comp=Z,4.4nm,0.8s
PV17 East Wray Mesa 89.37 49 P **P** **10 43 18.9 -0.8**
PV11 David Mesa, Pa 89.42 49 P **P** **10 43 19.4 -0.6**
PV12 Saucer Basin, 89.46 49 P **P** **10 43 19.4 -0.7**
PV13 Radium Mtn., P 89.52 49 P **P** **10 43 20.3 -0.2**
PV13 IAmb IAmb 10 43 29.5
comp=Z,4.1nm,0.8s
NOA NORSAR Array B 89.58 339 LR LR 11 26 16.0
comp=Z,46nm,21.7s,baz=280,slow=38
PV01 Paradox Valley 89.71 49 P **P** **10 43 20.7 -0.6**
PV01 IAmb IAmb 10 43 29.9
comp=Z,3.6nm,0.8s
SMCO Snowmass 90.33 47 P **P** **10 43 24.8 +0.3**
SMCO IAmb IAmb 10 43 34.1
comp=Z,4.1nm,0.8s
ISCO Idaho Springs 90.96 46 P **P** **10 43 27.4 +0.1**
BRTR Keskin Array B 91.24 314 P **P** **10 43 27.1 -1.2**
comp=Z,1.2nm,0.9s,baz=151,slow=2.8,SNR=4.0
TXAR Lajitas Array 97.47 55 P Pdif 10 43 57.2 +0.1
comp=Z,0.1nm,0.4s,baz=242,slow=1.9,SNR=2.4
LSZ Lusaka 119.29 264 PKP **PKPdf** **10 49 12.1 -0.7**
comp=Z,1.9nm,0.6s,baz=69,slow=2.5,SNR=3.7
TORD Torodi Ar. Bea 129.67 310 PKP **PKPdf** **10 49 30.9 -1.7**
comp=Z,0.4nm,0.4s,baz=28,slow=1.9,SNR=6.8
H03N2 Juan Fernandez 140.14 117 T T 13 25 41.7
baz=267,slow=73,SNR=4.2
H03N3 Juan Fernandez 140.15 117 T T 13 25 42.2
baz=267,slow=73,SNR=3.7
H03N1 Juan Fernandez 140.16 117 T T 13 25 42.7
baz=267,slow=73,SNR=4.8
PLCA Paso Flores 144.84 131 PKP **PKPab** **10 49 58.6 -0.2**
comp=Z,15nm,1.0s,baz=218,slow=3.8,SNR=11
LPAZ La Paz 149.03 86 PKP **PKPdf** **10 50 08.6 +0.5**
comp=Z,1.7nm,0.5s,baz=326,slow=2.0,SNR=9.3
LPAZ PKPbc **PKPbc** **10 50 12.2 0.0**
comp=Z,1.8nm,0.5s,baz=324,slow=1.7,SNR=17
LPAZ La Paz 149.03 86 PKPdf **PKPdf** **10 50 06.4 -1.7**
LPAZ **PKPbc** **10 50 12.0 -0.2**
LPAZ PKPab **PKPab** **10 50 16.8 +0.3**

*IDC **17** 10:32:37.9±2.9, 32°.43S×178°.15W, h42km±23km, mb4.1/7, mb1 4.3/9, mb1mx3.9/38, mbtmp4.3/9, ML4.3/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/36, Error ellipse: s-maj=31.4km s-min=18.6km az=120.0*
*NEIC **17** 10:32:39.5±2.2, 31°.3S±0°.1×178°.3W±0°.2, h35km±2km, mb4.5/12, Error ellipse: s-maj=27.6km s-min=13.4km az=123.0*
ISC 17 10:32:33.7±0.8, 32°.38S±0°.07×177°.9W±0°.1, h20km, n80, σ1§81/77, mb4.5/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.12**	**360**	P	**Pb**	**10 33 26.1**	**-2.4**
	133nm,0.3s,baz=49,slow=23,SNR=4.2						
RAO				S	**Sn**	**10 33 54.5**	**-3.9**
	213nm,0.3s,baz=86,slow=20,SNR=5.6						
RAO	**Raoul Island**	**3.12**	**360**	Pn	Pn	10 33 11.2	-11
PKGZ	**Pakihiroa**	**6.40**	**210**	P	**Pn**	**10 34 05.7**	**-1.2**
HAZ	**Te Kaha**	**6.42**	**212**	P	**Pn**	**10 34 06.7**	**-0.4**
PUZ	**Puketiti**	**6.49**	**208**	P	**Pn**	**10 34 06.9**	**-1.1**
RUGZ	**Raukumara Rang**	**6.64**	**212**	P	**Pn**	**10 34 09.2**	**-1.0**
TWGZ	**Tauwhareparae**	**6.69**	**209**	P	**Pn**	**10 34 09.8**	**-1.0**
CNGZ	**Carnagh Statio**	**6.86**	**206**	P	**Pn**	**10 34 11.5**	**-1.6**
TKGZ	**Te Karaka**	**6.97**	**209**	P	**Pn**	**10 34 12.8**	**-1.7**
MWZ	**Matawai**	**7.01**	**211**	P	**Pn**	**10 34 13.1**	**-2.1**
OPRZ	**Ohinepanea**	**7.09**	**218**	P	**Pn**	**10 34 17.0**	**+0.7**
URZ	**Urewera**	**7.14**	**213**	P	**Pn**	**10 34 16.0**	**-0.9**
	1.5nm,0.3s,baz=271,slow=3.9,SNR=15						
URZ				S	**Sn**	**10 35 36.1**	**-1.3**
	7.0nm,0.3s,baz=305,slow=20,SNR=10.0						
URZ	**Urewera**	**7.14**	**213**	P	**Pn**	**10 34 16.0**	**-0.9**
RIGZ	**Rimuhau**	**7.23**	**208**	P	**Pn**	**10 34 16.5**	**-1.7**
PRGZ	**Paritu Road**	**7.37**	**207**	P	**Pn**	**10 34 17.6**	**-2.5**
SNGZ	**Shannon Statio**	**7.47**	**210**	P	**Pn**	**10 34 21.3**	**-0.2**
MUGZ	**Murupara**	**7.47**	**214**	P	**Pn**	**10 34 22.0**	**+0.5**
KNZ	**Kokohu**	**7.54**	**207**	P	**Pn**	**10 34 20.6**	**-1.8**
MHGZ	**Mahia Peninsul**	**7.56**	**206**	P	**Pn**	**10 34 20.5**	**-2.2**
OUZ	**Omahuta**	**7.62**	**246**	Pn	Pn	10 34 29.5	+6.0
RAHZ	**Arahi**	**7.69**	**211**	P	**Pn**	**10 34 26.0**	**+1.5**
RAHZ	**Arahi**	**7.69**	**211**	P	**Sn**	**10 35 51.8**	**+0.8**
MTHZ	**Maungataniwha**	**7.74**	**212**	P	**Pn**	**10 34 25.4**	**+0.1**
MTHZ	**Maungataniwha**	**7.74**	**212**	P	**Sn**	**10 35 51.3**	**-1.0**
WHHZ	**Waihua**	**7.76**	**209**	P	**Sn**	**10 35 52.4**	**-0.3**
NMHZ	**Naumai**	**7.96**	**211**	P	**Sn**	**10 35 57.9**	**+0.2**
ARHZ	**Aropaoanui**	**8.02**	**210**	P	**Pn**	**10 34 29.4**	**+0.4**
ARHZ	**Aropaoanui**	**8.02**	**210**	P	**Sn**	**10 35 58.6**	**-0.4**
BKZ	**Black Stump Fm**	**8.16**	**212**	P	**Pn**	**10 34 31.8**	**+0.9**
MCHZ	**McNeill Hill**	**8.29**	**210**	P	**Pn**	**10 34 32.5**	**-0.3**
MCHZ	**McNeill Hill**	**8.29**	**210**	P	**Sn**	**10 36 06.3**	**+0.4**
CKHZ	**Cape Kidnapper**	**8.32**	**208**	P	**Sn**	**10 36 05.2**	**-1.2**
KWHZ	**Kaweka Forest**	**8.40**	**212**	P	**Pn**	**10 34 33.4**	**-0.9**
KWHZ	**Kaweka Forest**	**8.40**	**212**	P	**Sn**	**10 36 06.3**	**-2.2**
KAHZ	**Kahuranaki**	**8.52**	**208**	P	**Sn**	**10 36 11.3**	**0.0**
KRHZ	**Kereru**	**8.60**	**211**	P	**Sn**	**10 36 11.1**	**-2.4**
BHHZ	**Black Hill Sta**	**8.61**	**213**	P	**Pn**	**10 34 38.7**	**+1.5**
MOVZ	**Moawhango**	**8.69**	**215**	P	**Sn**	**10 36 13.1**	**-2.6**
WNVZ	**Wahianoa**	**8.71**	**215**	P	**Sn**	**10 36 17.8**	**+1.6**
PXZ	**Pawanui**	**8.72**	**208**	P	**Sn**	**10 36 10.5**	**-5.9**
PNHZ	**Pukenui**	**8.90**	**211**	P	**Sn**	**10 36 17.5**	**-3.2**
WPHZ	**Waipukurau**	**8.92**	**209**	P	**Sn**	**10 36 18.9**	**-2.4**
DVHZ	**Dannevirke**	**9.23**	**210**	P	**Sn**	**10 36 24.2**	**-4.8**
ANWZ	**Angora Road**	**9.24**	**208**	P	**Sn**	**10 36 24.7**	**-4.4**
PKE	**Pukeiti**	**9.46**	**222**	P	Pn	10 35 02.0	+13
PRWZ	**Pori Road**	**9.53**	**209**	P	**Sn**	**10 36 31.1**	**-5.1**
THZ	**Tophouse**	**11.89**	**215**	P	**Pn**	**10 35 22.2**	**+0.2**
DZM	**Mont Dzumac**	**17.28**	**303**	LR	LR	10 41 47.8	
	comp=Z,374nm,18.9s,baz=186,slow=32						
EIDS	**Eidsvold**	**27.98**	**276**	P	**P**	**10 38 22.0**	**-1.1**
EIDS				IAmb	IAmb	10 38 29.9	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**34.16**	**260**	P	**P**	**10 39 18.9**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=59,slow=7.6,SNR=5.1						
STKA	**Stephens Creek**	**34.16**	**260**	P	**P**	**10 39 19.6**	**+2.0**
CTA	**Charters Tower**	**34.25**	**282**	P	**P**	**10 39 18.6**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=104,slow=11,SNR=5.0						
CTAO	**Charters Tower**	**34.25**	**282**	P	**P**	**10 39 19.3**	**+0.9**
CTAO				IAmb	IAmb	10 39 20.1	
	comp=Z,7.8nm,0.9s						
BBOO	**Buckleboo**	**38.55**	**257**	P	**P**	**10 39 56.0**	**+1.0**
BBOO				IAmb	IAmb	10 40 05.2	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**43.12**	**269**	P	**P**	**10 40 32.6**	**-0.2**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**10 40 32.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=114,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**10 40 33.5**	**+0.6**
WR0	**Warramunga Arr**	**44.11**	**274**	P	**P**	**10 40 39.9**	**-1.0**
WR0				IAmb	IAmb	10 41 03.5	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**44.28**	**274**	P	**P**	**10 40 41.5**	**-0.7**
WB2				IAmb	IAmb	10 40 44.1	
	comp=Z,6.6nm,0.6s						
WRAB	**Tennant Creek**	**44.28**	**274**	P	**P**	**10 40 42.7**	**+0.4**
WRA	**Warramunga Arr**	**44.29**	**274**	P	**P**	**10 40 41.4**	**-0.9**
	comp=Z,4.0nm,0.4s,baz=112,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**44.29**	**274**	P	**P**	**10 40 41.7**	**-0.6**
WB0	**Warramunga Arr**	**44.32**	**274**	P	**P**	**10 40 42.1**	**-0.5**
WB0				IAmb	IAmb	10 40 43.2	
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**45.65**	**257**	P	**P**	**10 40 52.7**	**-0.3**
PSA00	**Pilbara Seismi**	**55.84**	**265**	P	**P**	**10 42 11.5**	**+1.5**
PSA00				IAmb	IAmb	10 42 18.4	
	comp=Z,3.3nm,1.1s						
SNAA	**Sanae**	**76.18**	**178**	P	P	10 44 32.0	+12
VNA3	**Neumayer Olymp**	**76.33**	**176**	P	P	10 44 33.7	+13
VNA1	**Neumayer--Stat**	**76.99**	**176**	P	P	10 44 37.0	+13
PETK	**Petropavlovsk-**	**87.75**	**346**	P	**P**	**10 45 20.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=185,slow=14,SNR=2.2						
NVAR	**Mina Array Bea**	**89.64**	**43**	P	**P**	**10 45 33.1**	**+2.9**
	comp=Z,0.4nm,0.8s,baz=253,slow=9.2,SNR=2.7						
KLR	**Kul'dur**	**92.78**	**330**	P	**P**	**10 45 44.7**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=50,slow=2.5,SNR=3.5						
KBZ	**Khabaz**	**146.25**	**302**	PKPbc	**PKPbc**	**10 52 12.0**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=217,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**147.03**	**339**	PKPbc	**PKPbc**	**10 52 14.5**	**+0.3**
	comp=Z,4.0nm,0.7s,baz=23,slow=2.3,SNR=12						
NB2	**NORSAR Subarra**	**150.72**	**351**	PKP	**PKPbc**	**10 52 23.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=20,slow=2.7						
NOA	**NORSAR Array B**	**150.72**	**351**	PKPbc	**PKPbc**	**10 52 23.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=14,slow=4.2,SNR=4.5						
EIL	**Elat**	**151.78**	**273**	PKP	**PKPdf**	**10 52 21.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=218,slow=17,SNR=2.7						
EIL				PKPbc	**PKiKP**	**10 52 28.4**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=243,slow=6.9,SNR=6.3						
AKASG	**Malin Array Be**	**152.90**	**320**		**PKiKP**	**10 52 30.9**	**+1.7**
BRTR	**Keskin Array B**	**153.56**	**295**	PKP	**PKPdf**	**10 52 21.5**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=0.0,slow=1.4,SNR=2.4						
BRTR				PKPbc	**PKiKP**	**10 52 31.3**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=123,slow=6.1,SNR=6.7						
BRTR	**Keskin Array B**	**153.56**	**295**		**PKiKP**	**10 52 31.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**160.85**	**179**	PKPab	**PKPab**	**10 53 17.1**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=171,slow=1.6,SNR=2.6						

*RSPR **17** 10:37:34.9, 19°.04N×68°.02W, h27km±17km, MD3.4/12*
*NEIC **17** 10:37:35.0±2.2, 18°.94N±0°.08×67°.93W±0°.04, h28km±12km, Error ellipse: s-maj=11.4km s-min=5.1km az=197.0*
ISC 17 10:37:32.6±2.1, 19°.00N±0°.08×67°.95W±0°.04, h16km±13km, n51, σ1§75/60, 13C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.76**	**143**	‖ *i*P	**Pb**	**10 37 48.6**	**+1.1**
IDE	**Isla Desecheo**	**0.76**	**143**	*e*S	**Sg**	**10 37 57.5**	**-0.1**
IDE	**Isla Desecheo**	**0.76**	**143**		**Pb**	**10 37 48.6**	**+1.1**
IDE					**Sg**	**10 37 57.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.96**	**124**	⇑ *e*P	**Pb**	**10 37 50.4**	**-0.5**
AGPR	**Aguadilla, PR**	**0.96**	**124**	*e*S	**Sb**	**10 38 01.4**	**-2.0**
AGPR	**Aguadilla, PR**	**0.96**	**124**		**Pb**	**10 37 50.4**	**-0.5**
AGPR					**Sb**	**10 38 01.4**	**-2.0**
AGPR	**Aguadilla, PR**	**0.96**	**124**	IAML		10 38 03.4	
	comp=E,349nm,0.3s						
AGPR				IAML		10 38 03.6	
	comp=N,247nm,0.2s						
LSP	**Las Mesas**	**1.16**	**135**	⇑ *e*P	**Pn**	**10 37 54.4**	**0.0**
LSP	**Las Mesas**	**1.16**	**135**	*e*S	**Sb**	**10 38 09.5**	**+0.2**
LSP	**Las Mesas**	**1.16**	**135**		**Pn**	**10 37 54.4**	**0.0**
LSP					**Sb**	**10 38 09.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.31**	**120**	⇑ *e*P	**Pn**	**10 37 55.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.31**	**120**	*e*S	**Sb**	**10 38 12.7**	**-0.8**
AOPR	**Arecibo Observ**	**1.31**	**120**		**Pn**	**10 37 55.0**	**-1.4**
AOPR					**Sb**	**10 38 12.5**	**-1.1**
AOPR				IAML		10 38 18.7	
	comp=N,224nm,0.3s						
MLPR	**Magueyes Islan**	**1.34**	**140**	⇑ *e*P	**Pn**	**10 37 56.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.34**	**140**	*e*S	**Sn**	**10 38 13.8**	**-0.5**
MLPR	**Magueyes Islan**	**1.34**	**140**		**Pn**	**10 37 56.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.34**	**140**		**Sn**	**10 38 14.4**	**+0.2**
MLPR				IAML		10 38 15.4	
	comp=N,159nm,0.5s						
MLPR				IAML		10 38 15.7	
	comp=E,194nm,0.4s						
DR12	**Loma Pena Alta**	**1.37**	**261**	Pn	**Pb**	**10 37 58.2**	**+0.3**
EMPR	**Esperanza - Ma**	**1.45**	**111**	⇑ *e*P	**Pn**	**10 37 57.9**	**-0.3**
EMPR	**Esperanza - Ma**	**1.45**	**111**	*e*S	**Sn**	**10 38 16.8**	**-0.1**
EMPR	**Esperanza - Ma**	**1.45**	**111**		**Pn**	**10 37 58.1**	**-0.1**
EMPR					**Sn**	**10 38 17.4**	**+0.6**
EMPR				IAML		10 38 19.4	
	comp=N,220nm,0.3s						
OBIP	**Obispado Ponce**	**1.59**	**127**	⇑ *e*P	**Pn**	**10 38 00.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.59**	**127**	*e*S	**Sn**	**10 38 20.3**	**-0.2**
OBIP	**Obispado Ponce**	**1.59**	**127**		**Pn**	**10 38 00.8**	**+0.5**
OBIP					**Sn**	**10 38 20.9**	**+0.3**
OBIP				IAML		10 38 23.4	
	comp=E,156nm,0.4s						
CELP	**Cerrillos**	**1.60**	**125**	⇑ *e*P	**Pn**	**10 38 00.8**	**+0.5**
CELP	**Cerrillos**	**1.60**	**125**	*e*S	**Sn**	**10 38 20.8**	**+0.2**
CELP	**Cerrillos**	**1.60**	**125**		**Pn**	**10 38 00.8**	**+0.5**
CELP					**Sn**	**10 38 20.8**	**+0.2**
GCPR	**Guaynabo City**	**1.90**	**111**	Pn	**Pn**	**10 38 03.8**	**-0.7**
SJG	**San Juan**	**1.93**	**117**	Pn	**Pn**	**10 38 06.6**	**+1.8**
SJG				IAML		10 38 30.4	
	comp=E,103nm,0.3s						
SJG				IAML		10 38 33.4	
	comp=E,75nm,0.2s						
IGPR	**InterUniversit**	**2.03**	**120**	⇑ *e

H01W3	Cape Leeuwin H	14.44	25	T	T	11 03 33.1	
	baz=199,slow=74,SNR=17						
ASAR	Alice Springs	32.59	51	P	P	10 51 39.1	0.0
	0.7nm,0.7s,baz=212,slow=7.5,SNR=10						
WRA	Warramunga Arr	35.92	48	P	P	10 52 07.9	-0.1
	1.2nm,0.7s,baz=210,slow=7.9,SNR=7.5						
NVAR	Mina Array Bea	146.16	90	PKPbc	PKPbc	11 04 47.5	-0.5
	0.3nm,0.7s,baz=236,slow=6.4,SNR=2.0						
TXAR	Lajitas Array	149.90	118	PKPbc	PKPbc	11 04 57.3	-0.7
	0.4nm,0.8s,baz=202,slow=5.4,SNR=4.0						

*JMA **17** 10:46:36.1±0.2,24.°70N×122.°53E,h118km±2km,M2.1*
*TAP **17** 10:46:36.0,24.°76N×122.°57E,h119km,ML3.2,C*
ISC 17 10:46:36.9±1.5,**24.72N**±0.°05×**122.°57E**±0.°03,**h113**km±9km,
n88,σ0.°70/124,**6C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.43	128	P	Pn	10 46 53.8	+0.2
JYNG				S	Sn	10 47 06.8	+0.7
YOJ	Yonaguni jima	0.47	123	P	Pn	10 46 54.1	+0.2
YOJ				S	Sn	10 47 07.2	+0.6
YOJ	Yonaguni jima	0.47	123	eP	Pn	10 46 54.0	+0.1
	baz=133						
YOJ				S	Sn	10 47 07.3	+0.7
	baz=133						
EGS		0.59	282	eP	Pn	10 46 54.1	-0.5
	baz=271						
TWB1	Santiao Chiao	0.60	299	P	Pn	10 46 54.9	+0.1
	baz=286						
TWB1				S	Sn	10 47 08.3	+0.2
	baz=286						
TWC	Suao	0.67	261	i P	Pn	10 46 54.9	-0.3
	baz=253						
TWC				S	Sn	10 47 08.2	-0.9
	baz=253						
NTC	Toucheng	0.69	281	eP	Pn	10 46 55.3	-0.1
	baz=278						
TIPB	Shuangxi	0.72	291⇑	i P	Pn	10 46 55.8	0.0
	baz=283						
TIPB				i S	Sn	10 47 09.7	-0.3
	baz=283						
EWUT	Wuta	0.77	250	eP	Pn	10 46 56.4	+0.3
	baz=244						
NDS	Dongshan	0.78	264	eP	Pn	10 46 56.5	+0.2
	baz=259						
NDS				S	Sn	10 47 10.7	-0.1
	baz=259						
NWF	Wu-fen Shan	0.80	296	eP	Pn	10 46 56.4	-0.1
	baz=287						
WFSB	Wu-fen Shan	0.80	296	eP	Pn	10 46 56.4	0.0
	baz=286						
ENA	Nanau	0.81	249	eP	Pn	10 46 56.8	+0.4
	baz=242						
TWE	Neicheng	0.82	270	i P	Pn	10 46 56.6	0.0
	baz=267						
ENTT	Nioudou	0.92	265	P	Pn	10 46 57.8	+0.3
	baz=268						
TWA	Mucha	0.94	286	P	Pn	10 46 57.4	-0.3
	baz=276						
TWA				S	Sn	10 47 12.4	-0.9
	baz=276						
NDT	Datong Townshi	0.97	263	P	Pn	10 46 58.5	+0.5
	baz=255						
NWLT	Wulai	0.97	274	eP	Pn	10 46 57.7	-0.4
	baz=271						
NHDH	Xindian Distri	0.98	285	P	Pn	10 46 57.9	-0.3
	baz=282						
YM01	YM01	1.00	295⇑	i P	Pn	10 46 58.3	-0.1
	baz=285						
YM01				i S	Sn	10 47 14.1	-0.5
	baz=285						
PCYT	Pengchaiyu	1.01	334	eP	Pn	10 46 58.6	+0.1
	baz=334						
TATO	Taipei	1.02	285	eP	Pn	10 46 57.8	-0.7
	baz=275						
ETL	Fush Village	1.03	237	P	Pn	10 46 58.1	-0.5
	baz=230						
NACB	Ninganchiao	1.04	239	i P	Pn	10 46 58.1	-0.6
	baz=237						
NACB				i S	Sn	10 47 14.9	-0.4
	baz=237						
ANP	Anpu	1.06	296	eP	Pn	10 46 58.6	-0.4
	baz=286						
YHNB	Yeheng	1.09	268	i P	Pn	10 46 59.5	+0.1
	baz=270						
YHNB				i S	Sn	10 47 16.0	-0.2
	baz=270						
TWD	Chiawan	1.09	235	P	Pn	10 46 58.8	-0.5
	baz=228						
NSK	Sanguang	1.10	268⇑	i P	Pn	10 46 59.6	+0.1
	baz=270						
NSK				i S	Sn	10 47 16.2	-0.3
	baz=270						
NTST	Danshui	1.11	294	eP	Pn	10 46 59.4	-0.1
	baz=285						
TWS1	Kuangyinshan	1.11	290	eP	Pn	10 46 59.5	0.0
	baz=282						
ETLH	Xiulin Townshi	1.12	243	P	Pn	10 46 59.4	-0.3
	baz=237						
ETLH				S	Sn	10 47 16.3	-0.5
	baz=237						
NNSB	Datong	1.12	255⇑	i P	Pn	10 46 59.7	0.0
	baz=249						
NNSB				i S	Sn	10 47 17.2	+0.2
	baz=249						
NNSH	Datong	1.12	255	P	Pn	10 46 59.8	0.0
	baz=249						
NNSH				S	Sn	10 47 17.2	+0.3
	baz=249						
IRIF	Iriomote-Funau	1.12	110	P	Pn	10 46 59.7	+0.1
IRIF				S	Sn	10 47 16.8	+0.1
NNS	Nan Shan	1.13	256⇑	i P	Pn	10 46 59.9	+0.1
	baz=250						
NNS				i S	Sn	10 47 17.2	+0.2
	baz=250						
HWA	Hwalien	1.15	230	eP	Pn	10 46 59.9	0.0
	baz=223						
TEYL	Yanliau Villag	1.23	227	P	Pn	10 47 00.3	-0.4
	baz=221						
ETM	Tongmen	1.24	233	P	Pn	10 47 00.4	-0.4
	baz=231						
FUSS	Fushou	1.30	249	P	Pn	10 47 02.1	+0.3
	baz=243						
FUSS				eS	Sn	10 47 21.4	+0.8
	baz=243						
HATJ	Hateruma jima	1.30	120	eS	Sn	10 47 21.4	+1.1
WHF	Hehuan Shan	1.32	245⇑	i P	Pn	10 47 02.2	0.0
	baz=243						
WHF				i S	Sn	10 47 21.1	-0.3
	baz=243						
TWT	Tachien	1.35	250	i P	Pn	10 47 03.1	+0.7
	baz=242						
TWT				S	Sn	10 47 22.0	+0.4
	baz=242						
TDCB	Techi	1.37	251	i P	Pn	10 47 03.0	+0.5
	baz=243						
TDCB				i S	Sn	10 47 21.8	-0.1
	baz=243						
ESL	Shilin	1.38	229	i P	Pn	10 47 01.8	-0.7
	baz=224						
TEGC	Jichi Village	1.38	223	eP	Pn	10 47 02.4	0.0
	baz=222						
JKRS	Kuro-shima	1.39	110	P	Pn	10 47 03.2	+0.6
JKRS				S	Sn	10 47 22.9	+0.8
HSN1	Hsinchu	1.41	273	eP	Pn	10 47 02.6	-0.2
	baz=270						
LIOB	Emei	1.42	267	eP	Pn	10 47 02.9	-0.1
	baz=265						
NSTT	Nanjuang	1.43	267	P	Pn	10 47 02.9	-0.2
	baz=265						
NSTT				i S	Sn	10 47 22.2	-0.7
	baz=265						
CHGB	Renai	1.43	243	i P	Pn	10 47 03.5	+0.2
	baz=235						
SBCB	Hsinchu	1.44	273	eP	Pn	10 47 02.9	-0.3
	baz=271						
JIJ	Ishigaki jima	1.47	104	P	Pn	10 47 03.6	+0.1
JIJ				S	Sn	10 47 22.9	-0.9
EGFH	Guangfu	1.48	225	eP	Pn	10 47 03.1	-0.5
	baz=220						
OWD	Renai	1.48	239	P	Pn	10 47 03.7	-0.1
	baz=233						
WHP	Taichung City	1.54	254	P	Pn	10 47 05.2	+0.7
	baz=252						
WHP				S	Sn	10 47 26.1	+0.7
	baz=252						
JISG	Ishigakijimahi	1.59	94	P	Pn	10 47 04.9	0.0
JISG				S	Sn	10 47 25.4	-0.8
HGSD	Ruisui	1.61	221	P	Pn	10 47 04.8	-0.4
	baz=220						
HGSD				S	Sn	10 47 26.5	-0.2
	baz=220						
NMLH	Miaoli	1.63	264	P	Pn	10 47 05.6	+0.2
	baz=262						
NMLH				S	Sn	10 47 27.1	-0.1
	baz=262						
WCS	Beigang Elemen	1.65	247	eP	Pn	10 47 06.9	+1.3
	baz=245						
EHY	Hungye	1.66	224	eP	Pn	10 47 04.5	-1.3
	baz=229						
NSY	Sanyi	1.68	260	P	Pn	10 47 06.2	+0.2
	baz=258						
SMLT	Sun Moon Lake	1.74	242	P	Pn	10 47 07.4	+0.6
	baz=237						
SMLT				eS	Sn	10 47 31.2	+1.5
	baz=237						
SSLB	Suanglung	1.74	238	eP	Pn	10 47 07.6	+0.8
	baz=232						
YULB	Yu-li	1.76	222	eP	Pn	10 47 06.0	-1.1
	baz=227						
YULB				S	Sn	10 47 27.9	-2.1
	baz=227						
TYC	Yuchr	1.76	243	P	Pn	10 47 08.0	+0.9
	baz=244						
TYC				S	Sn	10 47 31.4	+1.4
	baz=244						
WWF	Wufeng	1.84	249	eP	Pn	10 47 08.3	+0.3
	baz=255						
WHYT	Xinyi Township	1.87	237	eP	Pn	10 47 09.4	+0.9
	baz=231						
WHYT				S	Sn	10 47 34.4	+1.9
	baz=231						
WJS	Zhushan	1.91	242	eP	Pn	10 47 09.5	+0.6
	baz=250						
FULB	Fuli	1.91	218	eP	Pn	10 47 08.2	-0.8
	baz=212						
WNT	Mingjian	1.92	244	eP	Pn	10 47 10.0	+1.1
	baz=250						
JTJ	Tarama	1.94	92	P	Pn	10 47 09.6	+0.4
JTJ				S	Sn	10 47 33.1	-0.8
CHKT	Chengkung	1.95	215	P	Pn	10 47 08.8	-0.7
	baz=209						
CHKT				S	Sn	10 47 32.5	-1.8
	baz=209						
ALS	Alishan	2.01	234	P	Pn	10 47 11.3	+0.8
	baz=227						
ALS				S	Sn	10 47 37.0	+0.9
	baz=227						
CHN5	Tsauling	2.06	238	P	Pn	10 47 11.3	+0.5
	baz=246						
CHN5				eS	Sn	10 47 38.3	+1.5
	baz=246						
EDH	Donghe	2.09	214	eP	Pn	10 47 10.3	-0.8
	baz=209						
WDLH	Douliu	2.12	242	eP	Pn	10 47 11.6	+0.1
	baz=249						
CHN4	Tsaushan	2.26	233	P	Pn	10 47 13.9	+0.5
	baz=232						
TPUB	Ta-pu	2.27	232	P	Pn	10 47 14.2	+0.7
	baz=231						
STYT	Tauyuan	2.27	227	eP	Pn	10 47 14.3	+0.8
	baz=226						
LDUT	Ludao	2.27	207	eP	Pn	10 47 11.1	-2.5
	baz=210						
WTP	Ta-pu	2.31	231	eP	Pn	10 47 14.5	+0.4
	baz=230						
JIRB	Irabujima	2.37	87	S	Sn	10 47 43.3	-0.4
CHN1	Nanshi	2.41	231	eP	Pn	10 47 16.1	+0.7
	baz=230						
SGST	Jiashian	2.44	229	eP	Pn	10 47 15.3	-0.4
	baz=236						
SLGT	Liugui	2.46	226	eP	Pn	10 47 17.0	+1.0
	baz=225						
SSD	Sandimen	2.65	223	eP	Pn	10 47 19.9	+1.5
	baz=222						
MASBT	Mashibuluo	2.75	221	eP	Pn	10 47 19.8	+0.1
	baz=220						
PTMZ	Houxiangcun	3.15	277	eP	Pn	10 47 24.1	-0.9
	baz=282						

*TUL **17** 10:47:54.2±2.1,34.°478N±0.°007×97.°76W±0.°03,h5km±2km,*
ML2.7,mb_Lg2.6/46(NEIC),Error ellipse: s-maj=3.9km
s-min=3.0km az=270.0
NEIC 17 10:47:54.2±1.9,**34.48N**±0.°01×**97.73W**±0.°02,**h5**km±2km,
Error ellipse: s-maj=3.7km s-min=3.0km az=243.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
X34A	Smith Ranch, M	0.15	327	Pg	Pg	10 47 57.6	+0.3
X34A				Sg	Sg	10 47 59.7	+0.4
LOOK	Love County	0.66	136		Pg	10 48 07.0	+0.1
LOOK				Sg	Sb	10 48 17.9	0.0
FNO	Franklin	0.83	19	Pg	Pg	10 48 10.0	-0.1
FNO				Sg	Sb	10 48 21.9	-0.7
WMOK	Wichita Mounta	0.90	287	Pg	Pg	10 48 10.4	-1.1
WMOK				Sg	Sg	10 48 23.6	+0.3
OKCSW	OKLAHOMA CITY	0.96	15	Pg	Pg	10 48 12.1	-0.6
OKCSW				Sg	Sb	10 48 25.9	-0.5
OKCFA	Oklahoma City	0.97	14	Sg	Sg	10 48 25.9	+0.6
OK025	Westminster Rd	1.15	16		Pg	10 48 15.4	-0.9
OK025				Sg	Sb	10 48 31.7	-0.2
BCOK	Bluff Creek, N	1.18	5	Pg	Pg	10 48 16.4	-0.6
BCOK				IAmb_Lg		10 48 32.6	
	comp=Z,33nm,0.7s						
BCOK				Sg	Sb	10 48 32.7	-0.1
Z35A	Perchaven, San	1.21	161		Pg	10 48 16.4	-1.0
Z35A				Sg	Sg	10 48 32.9	-0.2
OK029	Liberty Lake	1.34	10		Pn	10 48 18.2	-1.4
OK031	S. Brethren Rd	1.65	26	Pn	Pn	10 48 23.3	-0.5
QUOK	Quay	1.89	26		Pn	10 48 26.1	-1.0
QUOK				IAmb_Lg		10 48 58.6	
	comp=Z,24nm,0.8s						
X37A	Clayton	1.95	86		Pn	10 48 28.5	+0.4
X37A				IAmb_Lg		10 49 01.7	
	comp=Z,18nm,0.7s						
CROK	Carrier	2.04	354		Pn	10 48 28.3	-0.9
U32A	Winter Ranch,	2.17	332	Pn	Pn	10 48 29.4	-1.6
U32A				IAmb_Lg		10 49 04.2	
	comp=Z,25nm,0.8s						
BLOK	Blackwell	2.32	10	Pn	Pn	10 48 32.5	-0.6
OK032	Salt Plains WL	2.36	351	Pn	Pn	10 48 32.9	-0.7
GC02	Grant County #	2.37	358	Pn	Pn	10 48 32.5	-1.3
ABTX	Abilene, Hawle	2.44	221	Pn	Pn	10 48 35.6	+0.9
WHTX	Lake Whitney,	2.49	175	Pn	Pn	10 48 37.0	+1.6
KAN13	South Haven SW	2.54	5	Pn	Pn	10 48 36.8	+0.6
KAN13				IAmb_Lg		10 49 15.9	
	comp=Z,20nm,0.7s						
Z38A	Mt. Pleasant	2.59	117	Pn	Pn	10 48 36.6	-0.1
KAN05	Bluff City Nor	2.63	358	Pn	Pn	10 48 37.7	+0.3
T35A	Sooner Cattle	2.63	22	Pn	Pn	10 48 37.5	+0.1
KAN09	Caldwell North	2.66	2	Pn	Pn	10 48 36.5	-1.3
KS20	Mayfield South	2.75	3	Pn	Pn	10 48 38.6	-0.5
KS20				IAmb_Lg		10 49 24.1	
	comp=Z,19nm,0.8s						
KS21	Milan North St	2.81	1	IAmb_Lg		10 49 26.5	
	comp=Z,16nm,0.8s						
237A	Washetta, Mont	2.95	146	Pn	Pn	10 48 41.0	-0.8
237A				IAmb_Lg		10 49 28.9	
	comp=Z,22nm,0.9s						
AMTX	Amarillo	3.28	278		Pn	10 48 46.9	+0.5
AMTX				IAmb_Lg		10 49 43.9	
	comp=Z,23nm,0.7s						
W39A	Magazine	3.33	76	IAmb_Lg		10 49 48.0	
	comp=Z,12nm,0.8s						
U38A	Gravette	3.36	53		Pn	10 48 47.1	-0.4
U38A				IAmb_Lg		10 49 43.4	
	comp=Z,14nm,1.0s						
MIAR	Mount Ida	3.43	88		Pn	10 48 48.8	+0.4
HHAR	Hobbs	3.58	59		Pn	10 48 49.6	-0.9
HHAR				IAmb_Lg		10 49 53.1	
	comp=Z,11nm,0.8s						
R32A	Long Quarter,	4.02	349	IAmb_Lg		10 50 04.5	
	comp=Z,12nm,0.7s						
X40A	Basin Creek Fa	4.05	88	IAmb_Lg		10 50 12.2	
	comp=Z,11nm,0.9s						
MSTX	Muleshoe	4.21	265		Pn	10 49 00.2	+1.1
U40A	Yellville	4.41	63		Pn	10 49 02.7	+0.9
U40A				IAmb_Lg		10 50 25.4	
	comp=Z,10nm,0.8s						
WHAR	Wooly Hollow	4.55	78	Pn	Pn	10 49 04.5	+0.8
CBKS	Cedar Bluff	4.62	340	Pn	Pn	10 49 03.3	-1.4
CBKS				IAmb_Lg		10 50 24.7	
	comp=Z,14nm,1.0s						
KSU1	Kansas State U	4.71	11	IAmb_Lg		10 50 32.1	
	comp=Z,9.7nm,0.8s						
FCAR	Ozark Folk Cen	4.80	71	Pn	Pn	10 49 07.4	+0.1
FCAR				IAmb_Lg		10 50 34.4	
	comp=Z,11nm,1.2s						
R40A	Maddies Statio	5.83	48	IAmb_Lg		10 51 05.5	
	comp=Z,10nm,0.9s						
T25A	Trinidad	6.04	298	IAmb_Lg		10 51 09.6	
	comp=Z,8.3nm,0.8s						
P38A	Dawn	6.14	32	IAmb_Lg		10 51 14.8	
	comp=Z,10nm,0.8s						
PBMO	Poplar Bluff	6.38	67	IAmb_Lg		10 51 26.2	
	comp=Z,10nm,1.1s						
S44A	Carbondale	7.58	62	IAmb_Lg		10 52 01.2	
	comp=Z,7.1nm,1.0s						

*INET **17** 11:00:52.2,12.°69N×92.°71W,h12km,ML4.9,MW4.1*
*GCMT **17** 11:01:10.7±0.2,13.°40N±0.°01×92.°41W±0.°01,h12km,*
MW5.1/119,Moment Tensor Solution. s68,c89;
s119,c193; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}-5.90±.10; $M_{\theta\theta}$3.01±.10; $M_{\phi\phi}$2.89±.10; $M_{r\theta}$0.52±.31;
$M_{\theta\phi}$-2.97±.08; $M_{r\phi}$2.03±.31; Best double couple:
$M_0$6.25700×10^{16} NP1:ϕ_s300.00000°,δ42.00000°,
λ-113.00000°. NP2:ϕ_s150.00000°,δ52.00000°,
λ-70.00000°. Principal axes: T 6.0180, Plg5.0000°,
Azm226.0000°; N 0.4780, Plg15.0000°, Azm317.0000°; P
-6.4960, Plg74.0000°, Azm118.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*GCG **17** 11:01:10.6±0.4,13.°52N×92.°37W,h50km,MD4.4*
*SNET **17** 11:01:11.6±1.9,13.°42N×92.°02W,h15km±78km,ML4.5*
*UCR **17** 11:01:11.7±1.9,13.°41N×92.°03W,h18km±80km,ML4.2,*
mb5.1(NEIC)
*MEX **17** 11:01:11.9±0.7,13.°32N×92.°27W,h20km±129km,MD5.1*
*NEIC **17** 11:01:12.7±2.6,13.°44N±0.°05×92.°05W±0.°05,h24km±3km,*
mb5.1/506,Md5.1/46(MEX),Error ellipse: s-maj=8.0km
s-min=6.6km az=220.0
*IDC **17** 11:01:12.7±0.7,13.°41N×91.°87W,h31km±3km,mb4.6/26,*
mb1 4.8/27,mb1mx4.7/36,mbtmp4.8/27,ML4.5/1,MS4.2/20,
Ms1 4.2/20,ms1mx3.9/47,Error ellipse: s-maj=20.6km
s-min=9.6km az=56.0
ISC 17 11:01:10.6±0.6,**13.40N**±0.°04×**92.12W**±0.°03,**h18**km±2km,
n1037,σ1.933/1036,**mb5.2**/256,**MS4.2**/25,**2C,Off coast of**
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	1.20	20		Pb	11 01 32.6	-0.1
RTAL				Sn	Sg	11 01 49.6	+0.2
THIG		1.51	355	i P	Pn	11 01 35.6	-1.1
THIG				i S	Sn	11 01 55.5	-0.3
THIG		1.51	355		Pn	11 01 35.6	-1.1
THIG					Sn	11 01 55.5	-0.3
FUG	Fuego 3	1.62	50	eP	Pn	11 01 39.0	+0.6
PCG	Pacaya	1.77	56	eP	Pn	11 01 41.6	+1.1
HUEH	Huehuetenango	2.00	17	eP	Pn	11 01 44.7	+1.0
HUEH	Huehuetenango	2.00	17	Pn	Pn	11 01 44.5	+0.8
HUEH				Sn	Sn	11 02 06.6	-1.8
NBG	Las Nubes	2.09	55	eP	Pn	11 01 46.5	+1.6
NBG				eS	Sb	11 02 14.0	+0.1
SLOZ	Alcaldia de Sa	2.36	74	eP	Pn	11 01 48.0	-0.4
SLOZ				eS	Sn	11 02 18.6	+1.7
SLOZ				IAML		11 02 22.4	
	comp=Z,1μm,0.6s						
CEVE	Cerro Verde	2.47	80	eP	Pn	11 01 49.0	-1.1
CEVE				eS	Sn	11 02 19.8	-0.2
CEVE				IAML		11 02 34.1	
	comp=Z,5μm,0.5s						
CEVE	Cerro Verde	2.47	80	eP	Pn	11 01 49.0	-1.1
CEVE				eS	Sn	11 02 19.8	-0.2
CEVE				IAML		11 02 34.1	
	comp=Z,5μm,0.5s						
SBLS	San Blas	2.47	79	eP	Pn	11 01 50.1	0.0
SBLS	San Blas	2.47	79	eP	Pn	11 01 50.1	0.0
JAYA	Jayaque - finc	2.61	84	eP	Pn	11 01 51.4	-0.6
JAYA				eS	Sn	11 02 23.7	+0.2
JAYA	Jayaque - finc	2.61	84	eP	Pn	11 01 51.4	-0.6
JAYA				eS	Sn	11 02 23.7	+0.2
CEDA	San Andres	2.68	81	eP	Pn	11 01 51.7	-1.2
CEDA				IAML		11 02 34.7	
	comp=Z,3μm,0.6s						
CEDA	San Andres	2.68	81	eP	Pn	11 01 51.7	-1.2
CEDA				IAML		11 02 34.7	
	comp=Z,3μm,0.6s						
LALI	Alcalda de L	2.73	88	eP	Pn	11 01 53.6	+0.1
LALI	Alcalda de L	2.73	88	eP	Pn	11 01 53.6	+0.1
BOQS	Boqueron	2.79	83	eP	Pn	11 01 54.7	+0.2
BOQS	Boqueron	2.79	83	eP	Pn	11 01 54.7	+0.2
SNET	Serv Nac Est T	2.83	84	eP	Pn	11 01 55.1	+0.2
SNET				eS	Sn	11 02 28.1	-0.5
SNET				IAML		11 02 36.9	
	comp=Z,1μm,0.3s						
SNET	Serv Nac Est T	2.83	84	eP	Pn	11 01 55.1	+0.2
SNET				eS	Sn	11 02 28.1	-0.5
SNET				IAML		11 02 36.9	
	comp=Z,1μm,0.3s						
SNET	Serv Nac Est T	2.83	84	Pn	Pn	11 01 54.5	-0.5
MTO3	Montecristo	2.86	69	Pn	Pn	11 01 55.5	-0.1
CCIG	Comitan	2.87	360	i P	Pn	11 01 58.3	+2.8
CCIG				i S	Sn	11 02 33.0	+3.3
CCIG	Comitan	2.87	360	Pn	Pn	11 01 58.0	+2.4
ESQI	Esquipulas	2.94	67	Pn	Pn	11 01 56.7	+0.3
LFU	La Fuente	2.95	83	eP	Pn	11 01 57.4	+0.8
LFU	La Fuente	2.95	83	eP	Pn	11 01 57.4	+0.8
LFRS	El Faro	2.99	85	eP	Pn	11 01 57.6	+0.4
LFRS	El Faro	2.99	85	eP	Pn	11 01 57.6	+0.4
LBRS	Las Brisas	3.01	83	eP	Pn	11 01 58.1	+0.6
LBRS	Las Brisas	3.01	83	eP	Pn	11 01 58.1	+0.6
SJTE	Alcalda de S	3.04	86	eP	Pn	11 01 58.2	+0.4
SJTE	Alcalda de S	3.04	86	eP	Pn	11 01 58.2	+0.4
PAVA	Las Pavas	3.11	84	eP	Pn	11 01 59.1	+0.2
PAVA	Las Pavas	3.11	84	eP	Pn	11 01 59.1	+0.2
ALJI	Alcalda de J	3.46	91	eP	Pn	11 02 04.1	+0.6
ALJI				eS	Sn	11 02 43.3	-0.8
ALJI	Alcalda de J	3.46	91	eP	Pn	11 02 04.1	+0.6
ALJI				eS	Sn	11 02 43.3	-0.8
PQSS	Presa 15 de Se	3.47	86	eP	Pn	11 02 04.0	+0.3
PQSS				eS	Sn	11 02 45.3	+0.9
COEB	Comit de Eme	3.50	88	eP	Pn	11 02 04.6	+0.4
COEB				eS	Sn	11 02 44.6	-0.6
COEB				IAML		11 02 50.3	
	comp=Z,909nm,0.4s						
COEB	Comit de Eme	3.50	88	eP	Pn	11 02 04.6	+0.4
COEB				eS	Sn	11 02 44.6	-0.6
COEB				IAML		11 02 50.3	
	comp=Z,909nm,0.4s						
TGIG		3.50	344	eP	Pn	11 02 04.6	+0.5
TGIG				i S	Sn	11 02 45.0	-0.1
TGIG		3.50	344		Pn	11 02 04.6	+0.5
TGIG					Sn	11 02 45.0	-0.1
LCND	La Caada	4.12	91	eP	Pn	11 02 12.6	0.0
LCND				eS	Sn	11 02 59.6	-0.9
LCND				IAML		11 03 05.3	
	comp=Z,1μm,0.6s						
LCND	La Caada	4.12	91	eP	Pn	11 02 12.6	0.0
LCND				eS	Sn	11 02 59.6	-0.9
LCND				IAML		11 03 05.3	
	comp=Z,1μm,0.6s						
PETF	Flores	4.12	32	Pn	Pn	11 02 14.2	+1.6
HUIG	Huatulco	4.52	302	eP	Pn	11 02 16.0	-2.2
HUIG	Huatulco	4.52	302		Pn	11 02 16.0	-2.2
TGUH	Tegucigalpa,Un	4.76	82	Pn	Pn	11 02 21.3	-0.2
TGUH

TOIG Toxpalan 6.67 315 *eP* **Pn 11 02 48.7 +0.9**
TOIG *eS* **Sn 11 03 57.9 -5.5**
HZTE Horizontes, Gu 6.92 112 Pn **Pn 11 02 51.9 +0.8**
ACON Acoyapa 6.93 101 Pn **Pn 11 02 49.4 -1.9**
HLIG Huajuapan de L 7.03 310 *i P* **Pn 11 02 54.8 +2.0**
HLIG *i* S **Sn 11 04 11.0 -1.3**
HLIG *eS* **Sn 11 04 11.0 -1.3**
TPIG Tehuac#an 7.09 315 *i P* **Pn 11 02 52.5 -1.2**
TPIG Tehuac#an 7.09 315 Pn 11 02 52.5 -1.2
DUNO Dulce Nombre, 7.28 116 Pn **Pn 11 02 57.2 +1.1**
MGIG Malinaltepec 7.35 302 *i P* **Pn 11 02 58.5 +1.3**
TLIG Tlapa 7.46 305 *i P* **Pn 11 03 00.3 +1.6**
TLIG *eS* **Sn 11 04 21.8 -1.2**
TLIG Tlapa 7.46 305 Pn **Pn 11 03 00.3 +1.6**
TLIG Tlapa 7.46 305 Sn 11 04 21.8 -1.2
CRIG Cruz Grande 7.54 297 *i P* **Pn 11 02 59.9 +0.3**
CRIG *eS* Sn 11 04 13.9 -11
CRIG Cruz Grande 7.54 297 Pn 11 02 59.9 +0.3
JTS Las Juntas de 7.67 113 Pn **Pn 11 03 02.8 +1.4**
comp=Z,3.9nm,0.3s,baz=114,slow=4.7,SNR=30
JTS Sn **Sn 11 04 27.1 -0.8**
comp=Z,4.1nm,0.3s,baz=186,slow=22,SNR=6.3
JTS Las Juntas de 7.67 113 Pn **Pn 11 03 02.4 +0.9**
JTS Las Juntas de 7.67 113 *eP* **Pn 11 03 03.2 +1.7**
ESPN Las Esperanzas 7.72 98 Pn **Pn 11 03 02.6 +0.5**
CAO2 Cobano, Puntar 7.80 117 Pn **Pn 11 03 04.8 +1.6**
DAIG Los Arroyos 8.11 297 *i P* **Pn 11 03 08.7 +1.2**
DAIG Los Arroyos 8.11 297 Pn 11 03 08.7 +1.2
JACO JACO, Garabito 8.20 116 Pn 11 03 09.3 +0.5
PPM Popocatepetl 8.41 313 *i P* **Pn 11 03 16.3 +4.2**
MEIG Mezcala 8.51 303 *i P* **Pn 11 03 15.7 +2.6**
MEIG Mezcala 8.51 303 Pn 11 03 15.7 +2.6
HDC Heredia 8.54 112 Pn 11 03 13.8 +0.3
PLIG Platanillo 8.66 306 *i P* **Pn 11 03 17.6 +2.4**
PLIG Platanillo 8.66 306 Pn 11 03 17.6 +2.4
CVTR Volcan Turrial 8.85 111 Pn **Pn 11 03 19.1 +1.0**
RIMA Rio Macho 8.86 113 Pn **Pn 11 03 20.5 +2.5**
MAVM Malinalco, Edo 8.98 309 *i P* **Pn 11 03 22.7 +3.1**
MAVM Malinalco, Edo 8.98 309 Pn 11 03 22.7 +3.1
PEZE Perez Zeledon, 9.19 115 Pn 11 03 25.3 +2.9
ARIG Puente Sto Nin 9.28 303 *i P* **Pn 11 03 26.8 +3.2**
ARIG Puente Sto Nin 9.28 303 Pn 11 03 26.8 +3.2
SRBA San Rafael, Bu 9.54 115 Pn 11 03 29.3 +2.1
DRK0 Durika 9.63 114 Pn **Pn 11 03 29.2 +0.8**
ZIIG Zihuatanejo 9.93 296 *i P* **Pn 11 03 33.9 +1.5**
ZIIG Zihuatanejo 9.93 296 Pn 11 03 33.9 +1.5
CDITO Canoas 10.27 117 Pn **Pn 11 03 39.6 +2.5**
PRVC Isla de Provid 10.47 89 Pn **Pn 11 03 40.6 +0.8**
MOIG Morelia 10.70 307 Pn 11 03 46.7 +3.5
SOR Soroa 12.74 42 Pn 11 04 10.4 -0.5
BCIP Isla Barro Col 12.76 108 Pn **Pn 11 04 09.8 -1.4**
BCIP Isla Barro Col 12.76 108 *eP* **Pn 11 04 13.5 +2.3**
ZAIG Zacatecas 13.61 315 Pn **Pn 11 04 25.4 +2.3**
MTDJ Mount Denham 14.83 69 P **P 11 04 44.0 -1.4**
MTDJ Mount Denham 14.83 69 *eP* **P 11 04 43.9 -1.4**
SOLC Bahia Solano 16.15 115 *eP* **Pn 11 04 57.9 +1.1**
061Z Ochoppi 16.28 39 Pn **Pn 11 04 58.1 -0.3**
833A Chaparral WMA, 16.32 337 P **Pn 11 04 59.2 +0.3**
baz=153,SNR=26
MOTC Monteria, Cord 16.79 104 *eP* **Pn 11 05 03.1 -1.8**
PIZC Pizarro, Choco 16.80 119 *eP* **P 11 05 08.6 +1.4**
DBBC Dabeiba 16.89 110 *eP* **P 11 05 08.2 0.0**
SJCC San Jacinto, C 16.95 100 Pn **Pn 11 05 07.2 +0.2**
SJCC San Jacinto, C 16.95 100 *eP* **Pn 11 05 07.2 +0.2**
UREC San Jos de Ur 17.24 107 *eP* **P 11 05 14.3 +2.3**
441A DeRidder 17.30 357 Pn **Pn 11 05 10.6 -0.6**
060A Indiantown 17.47 37 Pn **Pn 11 05 11.2 -2.2**
060A IAmb IAmb 11 05 26.5
comp=Z,92nm,0.8s
CBOC Ciudad Bolivar 17.55 114 *eP* **P 11 05 17.8 +2.2**
DWPF Disney Wildern 17.71 33 P **Pn 11 05 15.1 -1.2**
baz=216
PLMC San Jos del P 17.76 117 *eP* **P 11 05 19.0 +1.1**
HELC Santa Helena 17.84 112 *eP* **P 11 05 19.5 +0.4**
342A Flagon Creek P 17.89 359 P **P 11 05 19.9 +0.7**
ZARC Zaragoza, Cauc 17.96 107 *eP* **Pn 11 05 19.0 -0.5**
344A Westbrook Farm 18.02 4 P **P 11 05 22.2 +1.7**
435B Jarrell 18.02 345 P **P 11 05 21.6 +1.0**
baz=162
435B Jarrell 18.02 345 P 11 05 21.3 +0.8
YOTC Yotoco, Valle 18.17 120 *eP* **P 11 05 23.7 +1.2**
SMLC San Martn de 18.29 103 *eP* **P 11 05 23.8 +0.2**
BRAL Brewton 18.29 14 P **P 11 05 24.9 +1.4**
baz=195
BRAL Brewton 18.29 14 P 11 05 23.7 +0.2
GUY2C Guyana, Caldas 18.41 115 *eP* **Pn 11 05 27.9 +2.4**
JCT Junction City 18.42 339 P **Pn 11 05 26.7 +1.6**
baz=155,SNR=15
JCT Junction City 18.42 339 Pn 11 05 26.6 +1.6
NATX Nacogdoches 18.43 353 P **Pn 11 05 25.4 +0.3**
baz=172
NATX Nacogdoches 18.43 353 P 11 05 25.0 0.0
HPIG 18.50 319 P Pn 11 05 28.4 +2.2
BBAC Balboa, Cauca 18.56 126 *eP* **Pn 11 05 28.1 +1.1**
PAC1 Pacto, Paraso 18.57 134 *eP* **Pn 11 05 28.1 +1.1**
LL1C La Loma 1 Cana 18.59 100 *eP* **Pn 11 05 27.8 +0.5**
POPC Popayan, Colom 18.70 124 *eP* P 11 05 21.0 -7.4
NORC Norcasia 18.70 113 *eP* **Pn 11 05 30.4 +1.8**
ANIL Santa Ana 18.72 117 *eP* **Pn 11 05 30.6 +1.4**
TOLC Tolima 18.75 116 *eP* **Pn 11 05 31.2 +1.7**
VBMS Vicksburg 18.79 4 P **Pn 11 05 29.4 -0.1**
baz=184
VBMS Vicksburg 18.79 4 P Pn 11 05 29.4 -0.1
VBMS IAmb IAmb 11 05 32.7
comp=Z,86nm,0.8s
237A Washetta, Mont 18.82 350 P P 11 05 29.7 +0.3
OTAV Otavalo 18.83 133 P Pn 11 05 31.4 +0.8
OTAV Otavalo 18.83 133 *eP* **Pn 11 05 31.9 +1.4**
GCUF Volcan Galeras 18.98 128 *eP* **Pn 11 05 35.1 +2.6**
TULM Tulcn-Chalpat 18.98 130 *eP* **Pn 11 05 34.3 +1.8**
SOTA Rioblanco 19.00 125 *eP* **Pn 11 05 34.7 +2.0**
PCON Cinco Dias 19.05 124 *eP* **Pn 11 05 34.8 +1.4**
TXAR Lajitas Array 19.13 328 P **Pn 11 05 35.4 +1.6**
comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=104
TXAR PcP **PcP 11 09 57.2 +0.4**
comp=Z,0.0nm,0.3s,baz=164,slow=4.9,SNR=3.7
TXAR LR LR 11 12 48.8
comp=Z,237nm,19.6s,baz=0.0,slow=36
TXAR pScP 11 13 46.1
comp=Z,0.0nm,0.3s,baz=145,slow=4.6,SNR=7.5
TXAR Lajitas Array 19.13 328 P Pn 11 05 34.9 +1.1
TX31 Lajitas Ar. Si 19.14 328 P **Pn 11 05 35.3 +1.5**
TX31 IAmb IAmb 11 06 17.6
comp=Z,127nm,1.2s
TX32 Lajitas Array 19.14 328 P **Pn 11 05 34.5 +0.7**
WHTX Lake Whitney, 19.14 346 P **Pn 11 05 33.4 -0.3**
baz=164,SNR=8.4
WHTX Lake Whitney, 19.14 346 P Pn 11 05 33.6 -0.2
ORTC Ortega, Tolima 19.15 118 *eP* **Pn 11 05 35.3 +1.2**
OCAC Ocana 19.16 104 *eP* **P 11 05 32.9 -0.5**
352A Blakely 19.17 19 P **P 11 05 32.5 -0.7**
143A Socs Landing, 19.23 2 P **P 11 05 33.6 -0.2**
250A Grady 19.26 15 P **P 11 05 34.6 +0.5**
146A Union 19.36 8 P **P 11 05 34.9 -0.3**
146A IAmb IAmb 11 06 03.5
comp=Z,72nm,0.8s
ROSC El Rosal 19.51 114 P **Pn 11 05 42.0 +3.2**
comp=Z,1.4nm,0.3s,baz=198,slow=5.2,SNR=13
ROSC El Rosal 19.51 114 *eP* **Pn 11 05 40.8 +2.1**
TIGA Tifton 19.60 22 P **P 11 05 37.5 -0.4**
baz=205,SNR=5.6
TIGA Tifton 19.60 22 P P 11 05 37.7 -0.1
TIGA IAmb IAmb 11 05 48.7
comp=Z,121nm,1.1s
Z41A Richland Creek 19.78 358 P P 11 05 39.8 0.0
baz=178
BARC Barichara 19.83 108 *eP* **Pn 11 05 43.1 +0.7**
GARC Garzon, Huila 19.87 123 *eP* **Pn 11 05 42.9 +0.1**
Z38A Mt. Pleasant 19.94 353 P **P 11 05 42.4 +0.8**
PAMC Pamplona, Colo 20.02 106 *eP* Pn 11 05 45.5 +0.6
Z47A Carrollton 20.06 10 P Pn 11 05 44.1 -0.6
LRAL Lakeview Retre 20.10 13 P **P 11 05 43.4 +0.1**
baz=194,SNR=16
LRAL Lakeview Retre 20.10 13 P P 11 05 43.8 +0.4
CHIC Chingaza 20.13 114 *eP* Pn 11 05 47.0 +0.9
RUSC La Rusia 20.19 110 Pn 11 05 47.0 +0.2
RUSC IAmb IAmb 11 05 54.7
comp=Z,186nm,1.4s
RUSC La Rusia 20.19 110 *eP* Pn 11 05 46.0 -0.9
WLAR White Oak Lake 20.22 358 P **P 11 05 45.2 +0.6**
WLAR IAmb IAmb 11 05 57.4
comp=Z,57nm,0.7s
LPIG La Paz 20.22 304 P Pn 11 05 47.3 +0.6
comp=Z,68nm,1.0s,baz=152,slow=6.4,SNR=4.6
ABTX Abilene, Hawle 20.34 341 P **P 11 05 46.6 +0.6**
baz=158,SNR=32
ABTX Abilene, Hawle 20.34 341 P P 11 05 46.5 +0.5
ABTX IAmb IAmb 11 05 48.4
comp=Z,109nm,1.0s
152A Waverly Hall 20.34 18 P **P 11 05 46.2 +0.2**
152A IAmb IAmb 11 05 52.6
comp=Z,87nm,0.8s
Z35A Perchaven, San 20.39 348 P **P 11 05 46.9 +0.4**
Z35A IAmb IAmb 11 05 51.9
comp=Z,63nm,0.8s
CCAR Cane Creek 20.43 1 P **P 11 05 46.2 -0.7**
CCAR IAmb IAmb 11 05 58.8
comp=Z,98nm,0.7s
255A Hazlehurst 20.46 24 P **P 11 05 47.5 +0.3**
Y45A Yeager Farm, C 20.51 6 P **P 11 05 47.8 0.0**
SDDR Presa de Saban 20.76 72 P **P 11 05 50.3 -0.3**
154A Montrose 20.83 22 P **P 11 05 51.3 0.0**
X40A Basin Creek Fa 21.01 358 P **P 11 05 53.0 -0.1**
baz=178
X40A Basin Creek Fa 21.01 358 P P 11 05 52.8 -0.3
X40A IAmb IAmb 11 06 27.8
comp=Z,139nm,2.0s
LOOK Love County 21.01 348 P **P 11 05 52.9 -0.3**
LOOK IAmb IAmb 11 06 13.8
comp=Z,59nm,0.9s
Y49A Blount Mountai 21.02 13 P **P 11 05 53.7 +0.4**
MIAR Mount Ida 21.10 357 P **P 11 05 52.2 -1.9**
baz=176,SNR=18
MIAR Mount Ida 21.10 357 P P 11 05 53.4 -0.7
OXF Oxford 21.16 6 P **P 11 05 52.8 -2.0**
baz=187,SNR=17
OXF Oxford 21.16 6 P P 11 05 53.4 -1.5
OXF IAmb IAmb 11 05 57.1
comp=Z,95nm,0.8s
MACC Macarena, Meta 21.26 120 *eP* **P 11 05 57.5 +1.5**
X37A Clayton 21.30 353 P **P 11 05 56.3 0.0**
X37A IAmb IAmb 11 06 28.8
comp=Z,104nm,1.3s
GOGA Godfrey 21.43 20 P **P 11 05 55.7 -2.0**
baz=203,SNR=30
GOGA Godfrey 21.43 20 P P 11 05 57.5 -0.2
GOGA IAmb IAmb 11 05 60.0
comp=Z,50nm,0.8s
X48A Hartselle 21.46 12 P **P 11 05 57.8 -0.2**
X48A IAmb IAmb 11 06 02.0
comp=Z,64nm,0.8s
SOCV Socops 21.49 102 *eP* **P 11 05 56.7 -1.8**
SDV Santo Domingo 21.55 100 P **P 11 05 58.4 -1.0**
comp=Z,46nm,0.5s,baz=260,slow=5.4,SNR=7.4
SDV LR LR 11 15 21.4
comp=Z,401nm,18.0s,baz=299,slow=40
SDV Santo Domingo 21.55 100 *eP* **P 11 06 00.8 +1.4**
SDV Santo Domingo 21.55 100 *eP* **P 11 05 59.0 -0.4**
PTLC Puerto Leguiza 21.62 126 *eP* **P 11 06 03.1 +3.2**
Y52A Lilburn 21.65 18 P **P 11 06 00.0 -0.1**
Y52A IAmb IAmb 11 06 04.4
comp=Z,76nm,0.9s
W41B Gary Mavity, V 21.68 360 P **P 11 05 59.4 -1.0**
baz=179,SNR=11
X34A Smith Ranch, M 21.73 347 P **P 11 06 01.7 +0.7**
X34A IAmb IAmb 11 06 05.3
comp=Z,56nm,0.9s
PTGC Puerto Gaitan, 21.75 113 *eP* **P 11 06 02.2 +1.0**
W39A Magazine 21.76 356 P **P 11 06 00.6 -0.6**
baz=175,SNR=7.8
W39A Magazine 21.76 356 P P 11 06 01.1 0.0
WHAR Wooly Hollow 21.80 360 P P 11 06 01.8 +0.2
PLAL Pickwick Lake 21.80 9 P P 11 06 00.6 -1.0
GDL2 Guadalupe Moun 21.82 331 P P 11 06 02.8 +0.8
W45A Hickory Valley 21.83 6 P **P 11 06 00.6 -1.4**
W45A IAmb IAmb 11 06 39.1
comp=Z,102nm,1.1s
FPAL Fort Paine 21.86 15 P **P 11 06 02.2 -0.2**
FPAL IAmb IAmb 11 06 13.9
comp=Z,60nm,0.7s
MNTX Cornudas Mount 21.91 328 P **P 11 06 03.8 +0.9**
baz=143,SNR=57
MNTX Cornudas Mount 21.91 328 P P 11 06 04.0 +1.1
X51A Calhoun 22.08 16 P **P 11 06 04.8 +0.1**
WMOK Wichita Mounta 22.09 345 P **P 11 06 03.5 -1.3**
baz=162,SNR=51
WMOK Wichita Mounta 22.09 345 P P 11 06 04.1 -0.7
WMOK IAmb IAmb 11 06 07.9
comp=Z,74nm,1.3s
HBAR Harrisburg 22.10 3 P **P 11 06 05.2 +0.4**
LPAR Lepanto 22.17 4 P **P 11 06 04.6 -1.0**
FNO Franklin 22.28 349 P **P 11 06 05.8 -1.1**
FCAR Ozark Folk Cen 22.40 360 P **P 11 06 07.5 -0.6**
SWET Sewanee 22.43 13 P **P 11 06 07.8 -0.7**
SWET IAmb IAmb 11 06 19.2
comp=Z,56nm,0.7s
OKCFA Oklahoma City 22.44 349 P **P 11 06 09.2 +0.7**
OKCFA IAmb IAmb 11 06 11.0
comp=Z,80nm,0.7s
GNAR Gosnell 22.55 4 P **P 11 06 09.1 -0.6**
HALT Halls 22.56 6 P **P 11 06 09.7 0.0**
W50A Signal Mountai 22.56 15 P **P 11 06 09.1 -0.8**
W50A **PcP 11 10 03.4 +0.2**
OK025 Westminster Rd 22.58 349 P **P 11 06 08.8 -1.3**
HODGE Hodges 22.59 22 P **P 11 06 08.9 -1.3**
HODGE IAmb IAmb 11 06 22.6
comp=Z,49nm,0.8s
LCAR Lake Charles 22.59 2 P **P 11 06 08.3 -1.8**
MSTX Muleshoe 22.65 336 P **P 11 06 10.5 -0.4**
baz=152,SNR=35
MSTX Muleshoe 22.65 336 P P 11 06 10.6 -0.4
MSTX IAmb IAmb 11 06 14.8
comp=Z,72nm,0.9s
TUL1 Leonard 22.66 352 P **P 11 06 10.0 -0.9**
baz=170,SNR=6.1
BCOK Bluff Creek, N 22.71 348 P **P 11 06 10.5 -0.9**
PEBM Pemiscott Bayo 22.71 5 P **P 11 06 10.8 -0.5**
LNXT Lenox 22.73 6 P **P 11 06 11.0 -0.6**
V48A Smith Brothers 22.75 11 P **P 11 06 11.2 -0.7**
OK029 Liberty Lake 22.81 349 P **P 11 06 10.9 -1.6**
OK029 IAmb IAmb 11 06 14.2
comp=Z,99nm,1.0s
W52A Murphy 22.84 18 P **P 11 06 12.9 +0.1**
W52A IAmb IAmb 11 06 24.5
comp=Z,50nm,0.7s
HHAR Hobbs 22.84 356 P **P 11 06 10.8 -2.0**
OK031 S. Brethren Rd 22.86 350 P **P 11 06 11.0 -2.0**
OK031 IAmb IAmb 11 06 49.3
comp=Z,65nm,1.2s
U40A Yellville 22.87 358 P **P 11 06 10.7 -2.4**
baz=178,SNR=12
U40A Yellville 22.87 358 P P 11 06 11.7 -1.4
GLAT Glass 22.92 6 P **P 11 06 12.5 -1.0**
WVT Waverly 22.96 9 P **P 11 06 11.9 -2.1**
baz=190
WVT Waverly 22.96 9 P P 11 06 12.2 -1.9
CPCT Cooper Cave 23.00 16 P **P 11 06 14.4 -0.1**
CPCT IAmb IAmb 11 06 26.5
comp=Z,35nm,0.7s
JSC Jenkinsville 23.01 24 P **P 11 06 14.5 0.0**
U38A Gravette 23.03 355 P **P 11 06 13.4 -1.3**
UTMT University of 23.03 7 P **P 11 06 13.2 -1.5**
QUOK Quay 23.05 350 IAmb IAmb 11 06 47.3
comp=Z,61nm,1.2s
BG3 Lake Jocassee 23.05 20 P **P 11 06 15.0 0.0**
BG3 IAmb IAmb 11 06 25.9
comp=Z,51nm,0.7s
AMTX Amarillo 23.07 340 P **P 11 06 15.5 +0.1**
baz=155
AMTX Amarillo 23.07 340 P P 11 06 15.3 0.0
AMTX IAmb IAmb 11 06 20.7
comp=Z,81nm,0.8s
ELOV Elorza 23.16 104 *eP* **P 11 06 18.3 +2.0**
CLTN Cedars of Leba 23.19 12 P **P 11 06 15.2 -1.2**
CLTN IAmb IAmb 11 06 28.7
comp=Z,57nm,0.8s
PAULI Pauline 23.28 22 P **P 11 06 16.4 -0.8**
PAULI IAmb IAmb 11 06 19.8
comp=Z,107nm,1.4s
HENM Henderson Moun 23.34 5 P **P 11 06 17.1 -0.8**
V51A Loudon 23.38 16 P **P 11 06 17.5 -0.8**
HSIG 23.39 315 IAmb IAmb 11 06 22.7
comp=Z,85nm,1.6s
TKL Tuckaleechee C 23.41 17 P **P 11 06 18.3 -0.3**
comp=Z,66nm,0.9s,baz=194,slow=8.9,SNR=36
TKL LR LR 11 16 14.2
comp=Z,863nm,21.1s,baz=205,slow=39
TKL Tuckaleechee C 23.41 17 P **P 11 06 18.3 -0.3**
CROK Carrier 23.60 348 IAmb IAmb 11 06 23.0
comp=Z,73nm,0.8s
V52A Sevierville 23.63 17 IAmb IAmb 11 06 22.9
comp=Z,99nm,1.1s
BIRD Birdtown, Kers 23.64 25 P **P 11 06 20.3 -0.6**
BIRD IAmb IAmb 11 06 22.8
comp=Z,175nm,1.9s
MGMO Mountain Grove 23.66 360 P **P 11 06 19.5 -1.5**
MGMO IAmb IAmb 11 06 32.2
comp=Z,51nm,0.9s
MGMO **PcP 11 10 01.4 -4.0**
BLOK Blackwell 23.71 350 P **P 11 06 19.9 -1.6**
BLOK IAmb IAmb 11 06 32.5
comp=Z,51nm,0.8s
V53A Saluda 23.71 19 IAmb IAmb 11 06 23.4
comp=Z,41nm,0.8s
KMSC Kings Mountain 23.74 22 P **P 11 06 19.4 -2.4**
baz=206,SNR=24
KMSC Kings Mountain 23.74 22 P **P 11 06 21.1 -0.7**
KMSC IAmb IAmb 11 06 23.9
comp=Z,71nm,0.9s
Y59A Loris 23.77 28 IAmb IAmb 11 06 33.8
comp=Z,77nm,0.8s
121A Cookes Peak, D 23.83 326 P **P 11 06 25.1 +2.2**
baz=139,SNR=18
121A Cookes Peak, D 23.83 326 IAmb IAmb 11 06 50.9
comp=Z,64nm,1.1s
T47A Sharon Grove 23.92 10 P **P 11 06 21.9 -1.6**
OK032 Salt Plains WL 23.94 348 IAmb IAmb 11 06 41.6
comp=Z,124nm,1.7s
KAN05 Bluff City Nor 24.17 349 P **P 11 06 24.9 -1.0**
KAN05 IAmb IAmb 11 06 28.6
comp=Z,50nm,0.9s
KAN10 Anthony SW Sta 24.22 348 P **P 11 06 25.5 -0.8**
KAN10 IAmb IAmb 11 06 26.1
comp=Z,90nm,1.9s
KS20 Mayfield South 24.23 349 IAmb IAmb 11 06 43.2
comp=Z,30nm,0.6s
W57A Gilead 24.27 25 P **P 11 06 25.5 -1.3**
W57A IAmb IAmb 11 06 28.6
comp=Z,103nm,1.8s
KAN08 Anthony NE Sta 24.30 349 IAmb IAmb 11 06 30.4
comp=Z,44nm,0.8s
TZTN Tazewell 24.30 17 P **P 11 06 25.9 -1.1**
baz=200,SNR=12
TZTN Tazewell 24.30 17 IAmb IAmb 11 06 37.7
comp=Z,47nm,0.8s
SIUC Southern Illin 24.36 6 P **P 11 06 26.3 -1.2**
KAN12 Harper NE Stat 24.37 349 P **P 11 06 27.5 -0.3**
KAN12 IAmb IAmb 11 06 28.8
comp=Z,53nm,0.6s
T50A Nancy 24.41 14 P **P 11 06 26.7 -1.3**
V55A Taylorsville 24.42 22 IAmb IAmb 11 06 38.9
comp=Z,74nm,0.8s
BNM Barren Site 24.50 330 P **P 11 06 31.0 +1.8**
ATAH Atahualpa 24.54 145 P **P 11 06 30.8 +1.0**
comp=Z,31nm,1.1s,baz=319,slow=8.8,SNR=10.0
CCM Cathedral Cave 24.57 2 P **P 11 06 28.2 -1.3**
baz=182
CCM Cathedral Cave 24.57 2 P **P 11 06 27.9 -1.5**
CCM IAmb IAmb 11 06 31.9
comp=Z,40nm,0.9s
Y22D IRIS PASSCAL I 24.58 329 P **P 11 06 32.0 +2.2**
baz=143
LENM Lemitar 24.68 329 P **P 11 06 32.9 +2.1**
USIN University of 24.79 8 P **P 11 06 30.5 -0.9**
R40A Maddies Statio 24.79 360 IAmb IAmb 11 06 42.9
comp=Z,38nm,0.8s
ANMO Albuquerque 25.07 331 P **P 11 06 36.1 +1.9**
comp=Z,10nm,0.7s,baz=143,slow=11,SNR=39
ANMO PcP **PcP 11 10 08.8 0.0**
comp=Z,2.9nm,1.1s,baz=129,slow=6.5,SNR=2.9
ANMO pScP 11 14 00.5
comp=Z,0.3nm,0.6s,baz=122,slow=7.8,SNR=3.8
ANMO Albuquerque 25.07 331 P **P 11 06 35.8 +1.6**
baz=145
ANMO Albuquerque 25.07 331 P **P 11 06 35.8 +1.6**
U56A King 25.17 23 IAmb IAmb 11 06 45.0
comp=Z,52nm,0.8s
V58A Windy Hill, Pi 25.19 25 P **P 11 06 33.9 -1.2**
V58A IAmb IAmb 11 06 45.2
comp=Z,57nm,0.8s
WCI Wyandotte Cave 25.27 11 P **P 11 06 34.1 -1.7**
baz=193
WCI Wyandotte Cave 25.27 11 P **P 11 06 34.5 -1.3**
S51A Beattyville 25.31 16 IAmb IAmb 11 06 48.9
comp=Z,40nm,0.7s
TUC Tucson 25.42 321 P **P 11 06 38.8 +1.5**
baz=133
TUC Tucson 25.42 321 P **P 11 06 38.8 +1.5**
SJG San Juan 25.42 76 LR LR 11 17 52.1
comp=Z,649nm,18.6s,baz=280,slow=40
R49A Shelbyville 25.55 13 IAmb IAmb 11 06 40.2
comp=Z,23nm,0.7s
Q44A Meyer Farm, Va 25.55 6 IAmb IAmb 11 06 49.3
comp=Z,55nm,0.7s
R32A Long Quarter, 25.60 348 IAmb IAmb 11 06 41.2
comp=Z,34nm,0.8s
R50A Paris 25.73 14 P **P 11 06 38.8 -1.2**
R50A IAmb IAmb 11 06 50.3
comp=Z,40nm,0.8s
KSU1 Kansas State U 25.91 352 P **P 11 06 40.7 -0.9**
baz=170
KSU1 Kansas State U 25.91 352 P **P 11 06 40.9 -0.7**
KSU1 IAmb IAmb 11 06 53.0
comp=Z,49nm,0.7s
BLA Blacksburg 25.92 22 P **P 11 06 40.0 -1.8**
baz=206,SNR=6.6
BLA Blacksburg 25.92 22 P **P 11 06 41.2 -0.6**
BLA IAmb IAmb 11 06 51.9
comp=Z,26nm,0.7s
P40A Paris 26.03 0 P **P 11 06 42.1 -0.5**
P40A IAmb IAmb 11 06 53.7
comp=Z,33nm,0.8s
T25A Trinidad 26.07 337 P **P 11 06 45.3 +1.9**
baz=152,SNR=50
T25A Trinidad 26.07 337 P **P 11 06 45.2 +1.8**
T25A IAmb IAmb 11 06 49.8
comp=Z,60nm,1.0s
S54A Dingess, Beckl 26.14 20 IAmb IAmb 11 06 53.3
comp=Z,29nm,0.8s
BLO Bloomington 26.15 10 IAmb IAmb 11 06 54.7
comp=Z,36nm,0.7s
T57A Hurt 26.17 24 P **P 11 06 43.2 -0.8**
CBKS Cedar Bluff 26.20 346 P **P 11 06 43.5 -0.8**
baz=163
CBKS Cedar Bluff 26.20 346 P **P 11 06 44.3 0.0**
U59A Littleton 26.23 27 P **P 11 06 44.6 +0.1**
214A Organ Pipe Nat 26.47 318 P **P 11 06 47.7 +0.9**
baz=129,SNR=8.3
P48A Milroy 26.63 12 P **P 11 06 46.1 -2.0**
P48A IAmb IAmb 11 06 57.3
comp=Z,39nm,0.7s
Q51A Peebles 26.68 15 IAmb IAmb 11 07 00.9
comp=Z,49nm,0.7s
P49A Miami Univ. Ec 26.84 13 P **P 11 06 48.5 -1.6**
baz=196
W18A Petrified Fore 26.85 327 P **P 11 06 52.6 +2.2**
baz=139
T59A Double "B" Far 26.85 26 P **P 11 06 49.3 -0.9**
T59A IAmb IAmb 11 06 51.8
comp=Z,71nm,0.9s
Q52A Bidwell 26.92 17 IAmb IAmb 11 06 52.4
comp=Z,58nm,1.1s
S57A Dark Hollow, R 26.95 23 P **P 11 06 50.1 -1.0**
R55A Marlinton 26.98 21 IAmb IAmb 11 06 53.3
comp=Z,48nm,0.9s
SDCO Great Sand Dun 27.02 336 P **P 11 06 53.7 +1.6**
baz=150,SNR=52
SDCO Great Sand Dun 27.02 336 P **P 11 06 53.4 +1.4**
SDCO IAmb IAmb 11 06 55.5
comp=Z,74nm,1.5s
PCRV Puerto La Cruz 27.09 94 P **P 11 06 55.4 +2.8**
comp=Z,11nm,0.8s,baz=273,slow=1.7,SNR=5.0
PCRV LR LR 11 17 53.9
comp=Z,301nm,18.2s,slow=37
PLCV Puerto La Cruz 27.14 94 P **P 11 06 55.4 +2.5**
KSCO Kaye Shedlock' 27.15 342 P **P 11 06 52.6 -0.4**
baz=157,SNR=6.7
KSCO Kaye Shedlock' 27.15 342 P **P 11 06 53.8 +0.8**
KSCO IAmb IAmb 11 06 55.8
comp=Z,45nm,1.1s
HDIL Hopedale 27.17 5 P **P 11 06 50.8 -2.1**
baz=186

HDIL	**Hopedale**	**27.17**	**5**	P	**P**	**11 06 51.5**	**-1.5**
HDIL				IAmb	IAmb	11 07 05.0	
	comp=Z,36nm,0.7s						
P51A	**Williamsport**	**27.19**	**15**	P	**P**	**11 06 51.9**	**-1.2**
P51A				IAmb	IAmb	11 07 03.5	
	comp=Z,27nm,0.7s						
SFIN	**Lafayette**	**27.24**	**8**	P	**P**	**11 06 51.8**	**-1.7**
	baz=190,SNR=19						
SFIN	**Lafayette**	**27.24**	**8**	P	**P**	**11 06 52.6**	**-1.0**
T60A	**Surry**	**27.36**	**27**	P	**P**	**11 06 55.3**	**+0.7**
Q54A	**Coxs Mills**	**27.37**	**19**	P	**P**	**11 06 54.0**	**-0.8**
Q54A				IAmb	IAmb	11 06 56.6	
	comp=Z,47nm,0.9s						
N35A	**Tabor**	**27.53**	**354**	IAmb	IAmb	11 07 08.1	
	comp=Z,21nm,0.6s						
O49A	**Covington**	**27.55**	**13**	IAmb	IAmb	11 06 58.3	
	comp=Z,38nm,1.1s						
S22A	**4UR Ranch, Cre**	**27.56**	**334**	P	**P**	**11 06 57.8**	**+0.9**
	baz=147,SNR=35						
P52A	**Corning**	**27.58**	**17**	P	**P**	**11 06 54.8**	**-1.8**
	baz=201						
P53A	**Whipple**	**27.66**	**18**	P	**P**	**11 06 56.7**	**-0.7**
P53A				IAmb	IAmb	11 06 59.3	
	comp=Z,137nm,1.9s						
MVCO	**Mesa Verde**	**27.86**	**331**	P	**P**	**11 07 00.8**	**+1.3**
	baz=144,SNR=34						
MVCO	**Mesa Verde**	**27.86**	**331**	P	**P**	**11 07 01.7**	**+2.2**
MVCO				IAmb	IAmb	11 07 03.0	
	comp=Z,96nm,1.4s						
ACSO	**Alum Creek Sta**	**27.91**	**15**	P	**P**	**11 06 58.0**	**-1.6**
	baz=199						
ACSO	**Alum Creek Sta**	**27.91**	**15**	IAmb	IAmb	11 07 09.5	
	comp=Z,23nm,0.8s						
N47A	**Urbana**	**27.95**	**10**	IAmb	IAmb	11 07 09.4	
	comp=Z,34nm,0.8s						
Q24A	**Divide**	**27.95**	**338**	P	**P**	**11 07 01.9**	**+1.5**
	baz=152						
CBN	**Corbin Frederi**	**27.97**	**25**	P	**P**	**11 06 59.1**	**-1.0**
	baz=212						
CBN	**Corbin Frederi**	**27.97**	**25**	IAmb	IAmb	11 07 02.2	
	comp=Z,69nm,1.0s						
Q56A	**Snyder Ridge,**	**27.99**	**22**	P	**P**	**11 06 59.7**	**-0.7**
Q56A				IAmb	IAmb	11 07 13.1	
	comp=Z,28nm,0.8s						
WUAZ	**Wupatki**	**28.04**	**325**	P	**P**	**11 07 03.2**	**+2.2**
	baz=137,SNR=14						
WUAZ	**Wupatki**	**28.04**	**325**	P	**P**	**11 07 02.8**	**+1.8**
WUAZ					**PcP**	**11 10 16.6**	**+1.0**
O52A	**Adamsville**	**28.11**	**17**	P	**P**	**11 06 59.4**	**-2.1**
O52A				IAmb	IAmb	11 07 12.5	
	comp=Z,35nm,0.9s						
M44A	**Midewin, Midew**	**28.11**	**7**	IAmb	IAmb	11 07 02.8	
	comp=Z,37nm,0.8s						
MCWV	**Mont Chateau**	**28.31**	**20**	P	**P**	**11 07 01.5**	**-1.7**
	baz=206						
O53A	**New Philadelph**	**28.41**	**18**	P	**P**	**11 07 02.3**	**-1.8**
	baz=202						
O53A	**New Philadelph**	**28.41**	**18**	P	**P**	**11 07 03.0**	**-1.2**
O53A				IAmb	IAmb	11 07 05.6	
	comp=Z,35nm,1.2s						
SCIA	**State Center**	**28.42**	**358**	P	**P**	**11 07 03.5**	**-0.7**
	baz=177						
GLA	**Glamis**	**28.49**	**317**	P	**P**	**11 07 06.8**	**+1.9**
	baz=128						
GLA	**Glamis**	**28.49**	**317**	P	**P**	**11 07 06.3**	**+1.4**
GLA				IAmb	IAmb	11 07 08.3	
	comp=Z,82nm,1.5s						
HQIL	**Hanson Quary C**	**28.54**	**7**	P	**P**	**11 07 02.4**	**-2.8**
HQIL				IAmb	IAmb	11 07 06.3	
	comp=Z,52nm,0.8s						
L42A	**Oliver, Polo**	**28.58**	**4**	P	**P**	**11 07 04.8**	**-0.8**
L42A				IAmb	IAmb	11 07 15.4	
	comp=Z,27nm,0.9s						
O54A	**Avella**	**28.61**	**19**	IAmb	IAmb	11 07 14.7	
	comp=Z,24nm,0.8s						
PV01	**Paradox Valley**	**28.65**	**332**	P	**P**	**11 07 08.8**	**+2.3**
PV01				IAmb	IAmb	11 07 10.4	
	comp=Z,45nm,1.0s						
PV15	**Paradox Valley**	**28.78**	**333**	IAmb	IAmb	11 07 11.7	
	comp=Z,53nm,1.0s						
OGNE	**Ogallala**	**28.78**	**344**	P	**P**	**11 07 07.1**	**-0.4**
	baz=159						
PV13	**Radium Mtn., P**	**28.78**	**332**	IAmb	IAmb	11 07 11.3	
	comp=Z,66nm,1.0s						
PV02	**Paradox Valley**	**28.78**	**332**	IAmb	IAmb	11 07 11.6	
	comp=Z,72nm,1.1s						
PDMCI	**Parker Dam,Lak**	**28.84**	**320**	P	**P**	**11 07 09.6**	**+1.7**
	baz=131,SNR=13						
SMCO	**Snowmass**	**28.84**	**336**	P	**P**	**11 07 10.6**	**+2.2**
PV05	**Paradox Valley**	**28.85**	**331**	P	**P**	**11 07 10.0**	**+1.8**
PV05				IAmb	IAmb	11 07 11.6	
	comp=Z,48nm,0.9s						
ISCO	**Idaho Springs**	**28.86**	**338**	P	**P**	**11 07 09.8**	**+1.4**
	baz=152,SNR=8.9						
ISCO	**Idaho Springs**	**28.86**	**338**	P	**P**	**11 07 10.9**	**+2.5**
ISCO				PcP	**PcP**	**11 10 19.1**	**+1.3**
PV03	**Paradox Valley**	**28.87**	**332**	IAmb	IAmb	11 07 12.1	
	comp=Z,66nm,1.0s						
PV18	**Skein Mesa, Pa**	**28.89**	**332**	IAmb	IAmb	11 07 12.1	
	comp=Z,74nm,1.1s						
L44A	**Lake County Fo**	**28.91**	**6**	P	**P**	**11 07 07.9**	**-0.5**
	baz=188						
PV07	**Paradox Valley**	**28.93**	**333**	IAmb	IAmb	11 07 13.5	
	comp=Z,59nm,0.9s						
PV17	**East Wray Mesa**	**28.95**	**332**	IAmb	IAmb	11 07 12.6	
	comp=Z,65nm,1.0s						
PV16	**Nyswonger Mesa**	**28.95**	**332**	IAmb	IAmb	11 07 12.7	
	comp=Z,67nm,1.1s						
PV19	**Morning Glory**	**28.98**	**332**	IAmb	IAmb	11 07 12.8	
	comp=Z,38nm,0.9s						
PV20	**West Nyswonger**	**29.00**	**332**	IAmb	IAmb	11 07 13.0	
	comp=Z,55nm,1.1s						
N53A	**Lisbon**	**29.04**	**18**	P	**P**	**11 07 09.8**	**+0.1**
PV10	**Paradox Valley**	**29.06**	**332**	IAmb	IAmb	11 07 12.9	
	comp=Z,59nm,1.0s						
RMX	**La Rumorosa**	**29.06**	**315**	IAmb	IAmb	11 07 13.2	
	comp=Z,80nm,1.8s						
SWSC	**Sam W. Stewart**	**29.07**	**316**	P	**P**	**11 07 11.9**	**+1.8**
	baz=126,SNR=8.5						
PV22	**Blue Mesa, Par**	**29.07**	**332**	P	**P**	**11 07 13.7**	**+3.5**
PV22				IAmb	IAmb	11 07 14.8	
	comp=Z,45nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**29.11**	**315**	P	**P**	**11 07 12.4**	**+1.9**
	baz=125,SNR=15						
W13A	**Hualapai Mount**	**29.21**	**321**	P	**P**	**11 07 12.9**	**+1.4**
W13A				PcP	**PcP**	**11 10 19.8**	**+1.1**
U15A	**North Rim**	**29.21**	**325**	P	**P**	**11 07 13.5**	**+1.9**
SDMD	**Soldier's Deli**	**29.21**	**25**	P	**P**	**11 07 08.8**	**-2.4**
O56A	**Blue Knob Stat**	**29.30**	**22**	P	**P**	**11 07 09.9**	**-2.1**
	baz=207,SNR=14						
O56A	**Blue Knob Stat**	**29.30**	**22**	IAmb	IAmb	11 07 23.3	
	comp=Z,32nm,0.8s						
IRM	**Iron Mountain**	**29.38**	**319**	P	**P**	**11 07 12.6**	**-0.2**
	baz=129,SNR=10						
TKX	**Tecate**	**29.41**	**315**	IAmb	IAmb	11 07 16.4	
	comp=Z,37nm,1.2s						
Q61A	**Milford**	**29.42**	**27**	P	**P**	**11 07 10.8**	**-2.2**
	baz=215						
NEE2	**Needles Airpor**	**29.44**	**320**	P	**P**	**11 07 13.7**	**+0.4**
	baz=130						
N54A	**Moraine State**	**29.44**	**19**	P	**P**	**11 07 09.7**	**-3.6**
	baz=204,SNR=7.1						
N54A	**Moraine State**	**29.44**	**19**	P	**P**	**11 07 12.2**	**-1.0**
N54A				IAmb	IAmb	11 07 14.6	
	comp=Z,54nm,1.1s						
JFWS	**Jewell Farm**	**29.46**	**3**	P	**P**	**11 07 11.1**	**-2.3**
	baz=183,SNR=5.6						
JFWS	**Jewell Farm**	**29.46**	**3**	P	**P**	**11 07 12.6**	**-0.7**
MONP2	**Monument Peak**	**29.46**	**315**	P	**P**	**11 07 15.6**	**+1.8**
	baz=125,SNR=8.0						
BAR	**Barrett**	**29.52**	**315**	P	**P**	**11 07 15.1**	**+1.0**
M52A	**Chesterland**	**29.57**	**17**	IAmb	IAmb	11 07 15.5	
	comp=Z,55nm,1.1s						
M53A	**WI Miller and**	**29.67**	**18**	P	**P**	**11 07 14.8**	**-0.5**
	baz=203						
AAM	**Ann Arbor**	**29.72**	**13**	P	**P**	**11 07 14.6**	**-1.1**
	baz=196						
BELC	**Belle Mtn. Jos**	**29.84**	**317**	P	**P**	**11 07 18.7**	**+1.7**
	baz=127,SNR=12						
SSPA	**Standing Stone**	**29.86**	**22**	P	**P**	**11 07 15.7**	**-1.3**
	baz=208						
SSPA	**Standing Stone**	**29.86**	**22**	P	**P**	**11 07 15.8**	**-1.3**
SSPA				IAmb	IAmb	11 07 18.5	
	comp=Z,33nm,0.8s						
TPFO	**Pinon Flats**	**29.91**	**316**	P	**P**	**11 07 19.0**	**+1.4**
	baz=126,SNR=7.8						
MVL	**Millersville**	**29.91**	**25**	P	**P**	**11 07 16.7**	**-0.7**
MVL				IAmb	IAmb	11 07 27.3	
	comp=Z,26nm,0.8s						
PFO	**Pinyon Flats O**	**29.91**	**316**	P	**P**	**11 07 19.5**	**+1.8**
	comp=Z,7.6nm,0.9s,baz=116,slow=5.3,SNR=12						
PFO	**Pinyon Flats O**	**29.91**	**316**	P	**P**	**11 07 19.3**	**+1.6**
	baz=126,SNR=7.9						
PFO	**Pinyon Flats O**	**29.91**	**316**	P	**P**	**11 07 18.9**	**+1.2**
KNB	**Kanab**	**29.93**	**325**	P	**P**	**11 07 18.9**	**+1.1**
KNB					**PcP**	**11 10 21.2**	**+0.8**
109C	**Camp Elliot, M**	**29.93**	**315**	P	**P**	**11 07 19.6**	**+1.9**
	baz=124						
109C	**Camp Elliot, M**	**29.93**	**315**	IAmb	IAmb	11 07 21.0	
	comp=Z,67nm,1.6s						
N23A	**Red Feather La**	**29.94**	**339**	P	**P**	**11 07 18.5**	**+0.5**
	baz=152						
PKCU	**Pink Cliffs**	**29.96**	**327**	P	**P**	**11 07 20.6**	**+2.3**
PKCU				IAmb	IAmb	11 07 22.6	
	comp=Z,83nm,1.6s						
M54A	**Oil Creek Stat**	**30.04**	**19**	P	**P**	**11 07 18.4**	**-0.2**
	baz=204						
M54A	**Oil Creek Stat**	**30.04**	**19**	P	**P**	**11 07 18.3**	**-0.2**
M54A				IAmb	IAmb	11 07 20.5	
	comp=Z,28nm,1.1s						
P60A	**Greenville**	**30.05**	**26**	P	**P**	**11 07 16.9**	**-1.7**
	baz=213,SNR=5.5						
P60A	**Greenville**	**30.05**	**26**	IAmb	IAmb	11 07 20.1	
	comp=Z,36nm,0.9s						
GMRC	**Granite Mounta**	**30.11**	**319**	P	**P**	**11 07 20.9**	**+1.5**
	baz=129,SNR=14						
PHWY	**Pilot Hill**	**30.14**	**340**	P	**P**	**11 07 20.9**	**+1.2**
PHWY					**PcP**	**11 10 20.9**	**-0.2**
LCMT	**Little Creek M**	**30.16**	**325**	P	**P**	**11 07 21.2**	**+1.4**
WUPA	**West Chester U**	**30.16**	**26**	P	**P**	**11 07 18.7**	**-0.9**
O20A	**White River Ci**	**30.17**	**335**	P	**P**	**11 07 21.8**	**+1.9**
	baz=147,SNR=11						
O20A	**White River Ci**	**30.17**	**335**	IAmb	IAmb	11 07 25.5	
	comp=Z,83nm,1.8s						
M55A	**Ridgway**	**30.30**	**20**	IAmb	IAmb	11 07 33.2	
	comp=Z,17nm,0.8s						
MTPU	**Mount Pierson**	**30.34**	**328**	P	**P**	**11 07 23.9**	**+2.2**
MURC	**Murrieta**	**30.40**	**316**	P	**P**	**11 07 23.3**	**+1.4**
	baz=125,SNR=6.0						
ECSD	**EROS Data Cent**	**30.48**	**354**	P	**P**	**11 07 22.1**	**-0.2**
	baz=171,SNR=5.8						
ECSD	**EROS Data Cent**	**30.48**	**354**	P	**P**	**11 07 21.6**	**-0.8**
ECSD					**PcP**	**11 10 21.8**	**+0.4**
N58A	**Sunbury**	**30.48**	**23**	P	**P**	**11 07 21.2**	**-1.2**
N58A				IAmb	IAmb	11 07 25.0	
	comp=Z,41nm,1.4s						
ERPA	**Erie**	**30.49**	**18**	P	**P**	**11 07 21.5**	**-1.0**
	baz=203						
SZCU	**Shurtz Canyon**	**30.49**	**326**	P	**P**	**11 07 25.3**	**+2.4**
SZCU				IAmb	IAmb	11 07 26.9	
	comp=Z,59nm,1.5s						
SZCU				PcP	**PcP**	**11 10 23.1**	**+1.2**
I37A	**Lemond, Waseca**	**30.53**	**358**	P	**P**	**11 07 23.6**	**+0.8**
I37A				IAmb	IAmb	11 07 25.6	
	comp=Z,61nm,1.9s						
I37A				PcP	**PcP**	**11 10 22.6**	**+1.0**
HEC	**Hector,Ludlow**	**30.57**	**318**	P	**P**	**11 07 24.6**	**+1.2**
	baz=128,SNR=8.2						
BBRC	**Big Bear Solar**	**30.61**	**317**	P	**P**	**11 07 26.0**	**+2.1**
	baz=126,SNR=9.7						
CCUT	**Cedar City**	**30.61**	**326**	P	**P**	**11 07 26.3**	**+2.4**
CCUT				IAmb	IAmb	11 07 28.2	
	comp=Z,28nm,1.1s						
CCUT				PcP	**PcP**	**11 10 23.8**	**+1.6**
TUQ	**Turquoise Moun**	**30.69**	**320**	P	**P**	**11 07 25.5**	**+1.0**
	baz=129,SNR=7.7						
MVU	**Marysvale**	**30.70**	**328**	P	**P**	**11 07 26.4**	**+1.6**
MVU				IAmb	IAmb	11 07 31.7	
	comp=Z,56nm,1.2s						
MVU				PcP	**PcP**	**11 10 24.5**	**+2.0**
P17A	**Butcher Ranch,**	**30.73**	**331**	P	**P**	**11 07 26.2**	**+1.4**
P17A				IAmb	IAmb	11 07 28.2	
	comp=Z,33nm,0.9s						
M57A	**Sunshine Farm,**	**30.76**	**22**	P	**P**	**11 07 23.6**	**-1.2**
TMUT	**Trail Mountain**	**30.81**	**330**	P	**P**	**11 07 27.1**	**+1.3**
TMUT				PcP	**PcP**	**11 10 23.6**	**+0.7**
LUPA	**Lehigh Univers**	**30.82**	**25**	P	**P**	**11 07 23.2**	**-2.2**
TCRU	**Three Creeks R**	**30.90**	**328**	P	**P**	**11 07 28.8**	**+2.3**
TCRU				PcP	**PcP**	**11 10 24.8**	**+1.7**
SHPR	**Sheep Range**	**30.92**	**322**	P	**P**	**11 07 28.3**	**+1.7**
SHPR				PcP	**PcP**	**11 10 23.5**	**+0.5**
N59A	**State Game Lan**	**30.92**	**25**	P	**P**	**11 07 25.5**	**-0.8**
	baz=212,SNR=6.0						
N59A	**State Game Lan**	**30.92**	**25**	P	**P**	**11 07 25.6**	**-0.8**
RRX	**Edison Barstow**	**31.02**	**318**	P	**P**	**11 07 29.1**	**+1.7**
	baz=127						
BFSC	**Mount Baldy Ra**	**31.09**	**316**	P	**P**	**11 07 29.1**	**+1.0**
	baz=125,SNR=7.8						
RDMU	**Red Mountain**	**31.09**	**334**	P	**P**	**11 07 29.5**	**+1.4**
RDMU				IAmb	IAmb	11 07 31.1	
	comp=Z,24nm,1.0s						
RWWY	**Rawlins**	**31.10**	**338**	P	**P**	**11 07 30.1**	**+1.9**
CIS	**Catalina Islan**	**31.13**	**314**	P	**P**	**11 07 28.7**	**+0.4**
	baz=123,SNR=5.9						
GSC	**Goldstone, Bar**	**31.16**	**319**	P	**P**	**11 07 29.9**	**+1.3**
	baz=128,SNR=7.2						
GSC	**Goldstone, Bar**	**31.16**	**319**	P	**P**	**11 07 30.4**	**+1.8**
GSC				PcP	**PcP**	**11 10 23.9**	**+0.3**
SHOC	**Shoshone, Teco**	**31.20**	**320**	P	**P**	**11 07 30.5**	**+1.6**
	baz=130,SNR=6.9						
L56A	**Greenwood**	**31.30**	**21**	P	**P**	**11 07 28.0**	**-1.7**
L56A				IAmb	IAmb	11 07 30.4	
	comp=Z,23nm,0.9s						
MWC	**Mount Wilson**	**31.35**	**316**	P	**P**	**11 07 30.7**	**+0.3**
MWC				IAmb	IAmb	11 07 33.9	
	comp=Z,52nm,1.4s						
PASC	**Pasadena Art C**	**31.40**	**316**	P	**P**	**11 07 32.4**	**+1.7**
PASC				IAmb	IAmb	11 07 34.3	
	comp=Z,40nm,1.4s						
PRN	**Pahroc Range**	**31.46**	**324**	P	**P**	**11 07 33.4**	**+2.1**
PRN				PcP	**PcP**	**11 10 23.8**	**-0.6**
KSPA	**Keystone Colle**	**31.47**	**24**	P	**P**	**11 07 30.0**	**-1.1**
KSPA				IAmb	IAmb	11 07 31.9	
	comp=Z,24nm,1.1s						
ODNJ	**Ogdensburg**	**31.54**	**26**	P	**P**	**11 07 31.0**	**-0.8**
ODNJ				IAmb	IAmb	11 07 33.2	
	comp=Z,44nm,1.1s						
DECC	**Green Verdugo**	**31.55**	**316**	P	**P**	**11 07 33.6**	**+1.6**
	baz=124						
MPU	**Maple Canyon**	**31.58**	**331**	P	**P**	**11 07 34.3**	**+1.9**
MPU				IAmb	IAmb	11 07 35.8	
	comp=Z,29nm,1.1s						
CPNY	**Central Park**	**31.58**	**27**	P	**P**	**11 07 30.4**	**-1.7**
CPNY				IAmb	IAmb	11 07 41.4	
	comp=Z,35nm,1.1s						
PSUT	**Pine Spring**	**31.59**	**326**	P	**P**	**11 07 33.8**	**+1.3**
EDW2	**Edwards Air Fo**	**31.69**	**317**	P	**P**	**11 07 34.3**	**+1.1**
	baz=126,SNR=8.6						
K22A	**Casper**	**31.70**	**340**	P	**P**	**11 07 33.6**	**+0.2**
	baz=152,SNR=9.4						
K22A	**Casper**	**31.70**	**340**	P	**P**	**11 07 34.5**	**+1.1**
MMNY	**Mt. Morris Dam**	**31.71**	**20**	P	**P**	**11 07 32.9**	**-0.3**
MMNY				IAmb	IAmb	11 07 34.5	
	comp=Z,51nm,1.2s						
SPMN	**Marine on St.**	**31.73**	**359**	P	**P**	**11 07 32.9**	**-0.5**
NLU	**North Lily Min**	**31.75**	**330**	P	**P**	**11 07 36.1**	**+2.3**
NLU				PcP	**PcP**	**11 10 26.1**	**+0.9**
TRNY	**Table Rock, Ra**	**31.76**	**26**	P	**P**	**11 07 32.6**	**-1.0**
TRNY				IAmb	IAmb	11 07 35.0	
	comp=Z,32nm,0.9s						
PAL	**Palisades**	**31.78**	**27**	P	**P**	**11 07 32.3**	**-1.6**
	baz=215,SNR=6.8						
PAL	**Palisades**	**31.78**	**27**	P	**P**	**11 07 32.6**	**-1.2**
SNCC	**San Nicolas Is**	**31.83**	**313**	P	**P**	**11 07 34.7**	**+0.3**
	baz=122						
SNCC	**San Nicolas Is**	**31.83**	**313**	P	**P**	**11 07 36.9**	**+2.5**
SNCC				IAmb	IAmb	11 07 37.6	
	comp=Z,35nm,1.1s						
LRMC	**Laurel Mtn Rad**	**31.84**	**318**	P	**P**	**11 07 35.5**	**+0.9**
	baz=127						
L58A	**Harry Jones Me**	**31.85**	**23**	P	**P**	**11 07 33.0**	**-1.5**
	baz=211,SNR=10						
TPNV	**Topopah Spring**	**31.87**	**322**	P	**P**	**11 07 37.1**	**+2.2**
	baz=131,SNR=14						
TPNV	**Topopah Spring**	**31.87**	**322**	P	**P**	**11 07 37.2**	**+2.2**
TPNV				PcP	**PcP**	**11 10 26.3**	**+0.8**
K56A	**Middlesex**	**31.88**	**21**	P	**P**	**11 07 33.0**	**-1.8**
	baz=208,SNR=9.7						
N62A	**Caumsett State**	**31.91**	**27**	P	**P**	**11 07 33.6**	**-1.4**
MEDO	**Medina**	**31.92**	**19**	P	**P**	**11 07 32.2**	**-2.9**
MEDO				IAmb	IAmb	11 07 42.7	
	comp=Z,18nm,0.9s						
FURC	**Furnace Creek,**	**31.93**	**320**	P	**P**	**11 07 36.7**	**+1.4**
	baz=129,SNR=15						
BINY	**Binghamton**	**31.93**	**23**	P	**P**	**11 07 33.5**	**-1.7**
	baz=210,SNR=12						
BINY	**Binghamton**	**31.93**	**23**	P	**P**	**11 07 33.5**	**-1.7**
JLU	**Jordanelle**	**31.96**	**332**	P	**P**	**11 07 37.8**	**+2.0**
JLU				IAmb	IAmb	11 07 39.4	
	comp=Z,54nm,1.9s						
OSI	**Osito Audit: C**	**32.02**	**316**	P	**P**	**11 07 38.2**	**+2.0**
	baz=124						
OSI	**Osito Audit: C**	**32.02**	**316**	P	**P**	**11 07 38.8**	**+2.7**
OSI				IAmb	IAmb	11 07 39.4	
	comp=Z,42nm,1.4s						
CTU	**Camp Tracy**	**32.17**	**331**	P	**P**	**11 07 39.6**	**+2.1**
CTU				IAmb	IAmb	11 07 40.9	
	comp=Z,24nm,1.0s						
WSPT	**Westport, CT**	**32.17**	**27**	P	**P**	**11 07 36.0**	**-1.2**
SPR3	**Spring Creek 3**	**32.19**	**326**	P	**P**	**11 07 39.4**	**+1.5**
SPR3				IAmb	IAmb	11 07 41.2	
	comp=Z,57nm,1.5s						
SPR3				PcP	**PcP**	**11 10 27.2**	**+0.6**
K57A	**Scipio Center**	**32.20**	**22**	P	**P**	**11 07 35.5**	**-2.0**
J55A	**Hilton**	**32.22**	**20**	P	**P**	**11 07 36.9**	**-0.8**
J55A				IAmb	IAmb	11 07 38.7	
	comp=Z,25nm,1.1s						
RSSD	**Black Hills**	**32.27**	**344**	P	**P**	**11 07 38.9**	**+0.5**
	baz=158						
RSSD	**Black Hills**	**32.27**	**344**	P	**P**	**11 07 38.5**	**+0.1**
RSSD				IAmb	IAmb	11 07 41.4	
	comp=Z,33nm,1.8s						
L59A	**Walton**	**32.29**	**24**	P	**P**	**11 07 37.4**	**-1.0**
DUG	**Dugway, Tooele**	**32.29**	**330**	P	**P**	**11 07 40.7**	**+2.2**
	baz=140,SNR=7.9						
DUG	**Dugway, Tooele**	**32.29**	**330**	P	**P**	**11 07 40.8**	**+2.2**
DUG				IAmb	IAmb	11 07 42.5	
	comp=Z,40nm,1.8s						
DUG				PcP	**PcP**	**11 10 27.3**	**+0.8**
SCZ2	**Santa Cruz Isl**	**32.31**	**314**	P	**P**	**11 07 39.4**	**+0.8**
	baz=122						
ARVC	**Arvin**	**32.39**	**317**	P	**P**	**11 07 40.8**	**+1.5**
	baz=125						
R11A	**Troy Canyon, C**	**32.42**	**324**	P	**P**	**11 07 41.5**	**+1.7**
	baz=134,SNR=9.3						
R11A	**Troy Canyon, C**	**32.42**	**324**	P	**P**	**11 07 42.2**	**+2.5**
ISA	**Isabella, Lake**	**32.46**	**318**	P	**P**	**11 07 42.0**	**+2.0**
	baz=126,SNR=11						
ISA	**Isabella, Lake**	**32.46**	**318**	P	**P**	**11 07 42.4**	**+2.4**
ISA				PcP	**PcP**	**11 10 28.1**	**+1.1**
F33A	**5 Mile Ranch,**	**32.53**	**355**	P	**P**	**11 07 38.6**	**-1.8**
F33A				PcP	**PcP**	**11 10 27.4**	**+0.5**
J56A	**Wolcott**	**32.55**	**21**	P	**P**	**11 07 39.0**	**-1.6**
KSCT	**Kent School, K**	**32.55**	**26**	P	**P**	**11 07 39.6**	**-1.0**
GRAC	**Grapevine Rang**	**32.58**	**321**	P	**P**	**11 07 42.9**	**+1.9**
	baz=129,SNR=29						
SBC	**Santa Barbara**	**32.60**	**315**	P	**P**	**11 07 42.1**	**+0.9**
	baz=123						
CWC	**Cottonwood Cre**	**32.68**	**319**	P	**P**	**11 07 44.0**	**+1.9**
	baz=128						
HWUT	**Hardware Ranch**	**32.81**	**333**	P	**P**	**11 07 44.4**	**+1.3**
HWUT				IAmb	IAmb	11 07 46.5	
	comp=Z,28nm,1.1s						
HWUT					**PcP**	**11 10 28.0**	**0.0**
BW06	**Boulder Array**	**32.92**	**336**	P	**P**	**11 07 44.5**	**+0.4**
	baz=147,SNR=16						
BW06	**Boulder Array**	**32.92**	**336**	P	**P**	**11 07 45.0**	**+0.9**
BW06					**PcP**	**11 10 28.6**	**+0.3**
PDAR	**Pinedale Array**	**32.92**	**336**	P	**P**	**11 07 45.5**	**+1.4**
	comp=Z,8.9nm,0.9s,baz=140,slow=9.4,SNR=51						
PDAR				PcP	**PcP**	**11 10 28.2**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=127,slow=3.9,SNR=4.5						
PDAR				pScP		11 14 22.7	
	comp=Z,1.1nm,1.0s,baz=145,slow=5.4,SNR=4.6						
PKM	**Mcpherson Peak**	**32.92**	**315**	P	**P**	**11 07 45.4**	**+1.2**
	baz=124,SNR=10						
M63A	**Gales Ferry**	**32.94**	**28**	P	**P**	**11 07 42.7**	**-1.3**
BGU	**Big Grassy Mou**	**32.96**	**330**	P	**P**	**11 07 44.7**	**+0.3**
BGU				PcP	**PcP**	**11 10 29.4**	**+1.0**
VES	**Vestal, Richgr**	**32.97**	**317**	P	**P**	**11 07 46.2**	**+1.8**
	baz=126,SNR=18						
J57A	**Williamstown**	**32.97**	**22**	IAmb	IAmb	11 07 45.1	
	comp=Z,34nm,0.9s						
PECO	**Prince Edward**	**33.08**	**20**	IAmb	IAmb	11 07 54.1	
	comp=Z,21nm,0.7s						
BOAV	**Boa Vista**	**33.10**	**107**	*e*P	**P**	**11 07 46.0**	**+0.2**
UCCT	**U. Connecticut**	**33.16**	**28**	P	**P**	**11 07 44.7**	**-1.3**
SADO	**Sadowa**	**33.17**	**17**	P	**P**	**11 07 43.5**	**-2.5**
SADO				IAmb	IAmb	11 07 46.7	
	comp=Z,17nm,0.9s						
TPH	**Tonopah**	**33.19**	**322**	P	**P**	**11 07 47.9**	**+1.3**
TPH				PcP	**PcP**	**11 10 29.8**	**+0.6**
J58A	**Remsen**	**33.19**	**23**	P	**P**	**11 07 43.7**	**-2.5**
	baz=211,SNR=13						
J58A	**Remsen**	**33.19**	**23**	IAmb	IAmb	11 07 55.4	
	comp=Z

NVAR LR LR 11 22 25.3
comp=Z,288nm,18.9s,baz=140,slow=37
NVAR Mina Array Bea 34.06 322 P P 11 07 56.8 +2.6
NVAR PcP 11 10 32.4 +0.8
LHV Little Huntoon 34.07 321 P P 11 07 57.2 +3.2
LHV IAmb IAmb 11 07 57.8
comp=Z,26nm,1.0s
BCX Boston College 34.07 28 P P 11 07 52.9 -1.0
H57A Richville 34.10 22 P P 11 07 52.9 -1.2
baz=210
I59A Olmsteadville 34.10 24 P P 11 07 52.3 -1.9
baz=213
NCB Newcomb 34.12 23 IAmb IAmb 11 08 03.3
comp=Z,20nm,0.7s
K63A Dunstable 34.19 27 P P 11 07 52.8 -2.1
baz=217,SNR=8.7
K63A Dunstable 34.19 27 P P 11 07 53.7 -1.2
J61A Chester 34.27 26 P P 11 07 54.1 -1.5
baz=215
PMPB Monarch Peak 34.32 317 P P 11 07 56.9 +0.7
RYN Ryan 34.32 322 P P 11 07 58.4 +2.1
KVN Kaiserville 34.35 323 IAmb IAmb 11 08 00.3
comp=Z,34nm,1.2s
I60A Shoreham 34.38 24 P P 11 07 54.5 -2.0
baz=214,SNR=20
EYMN Ely 34.45 1 P P 11 07 54.7 -2.4
baz=181
J62A Henniker 34.49 27 P P 11 07 55.7 -1.9
baz=216
H58A Gabriels 34.51 23 P P 11 07 55.5 -2.2
baz=212,SNR=11
LONY Lake Ozonia 34.53 22 P P 11 07 55.4 -2.5
baz=211,SNR=15
LONY Lake Ozonia 34.53 22 P P 11 07 56.2 -1.6
LONY IAmb IAmb 11 08 07.1
comp=Z,27nm,0.8s
ETMB Extrema 34.55 131 eP P 11 07 57.1 -1.2
ALGO Algonquin Park 34.57 17 P P 11 07 56.5 -1.6
baz=204
YPP Pitchstone Pla 34.67 336 P P 11 08 01.2 +1.7
H17A Grant Village 34.69 337 P P 11 08 00.6 +1.1
baz=147
H17A Grant Village 34.69 337 IAmb IAmb 11 08 04.9
comp=Z,74nm,1.8s
LKWY Lake 34.76 337 IAmb IAmb 11 08 27.6
comp=Z,66nm,1.6s
WAKR Walker 34.80 321 P P 11 08 02.4 +1.8
WAKR IAmb IAmb 11 08 04.7
comp=Z,49nm,1.5s
YMP Mirror Lake Pl 34.82 337 P P 11 08 02.0 +1.2
YMP IAmb IAmb 11 08 24.4
comp=Z,29nm,1.1s
RLMT Red Lodge 34.82 339 P P 11 08 01.3 +0.7
baz=150,SNR=8.7
RLMT Red Lodge 34.82 339 P P 11 08 02.0 +1.4
RLMT IAmb IAmb 11 08 04.9
comp=Z,77nm,1.9s
J63A Strafford 34.86 27 P P 11 07 59.3 -1.4
baz=217,SNR=14
H59A Cadyville 34.89 23 P P 11 07 58.1 -2.9
baz=212,SNR=7.8
I61A Oroboro, Fairl 34.89 25 P P 11 08 00.1 -0.9
baz=215
MDND Maddock 34.91 351 P P 11 08 00.0 -1.1
baz=167,SNR=8.2
MDND Maddock 34.91 351 IAmb IAmb 11 08 03.4
comp=Z,31nm,0.8s
AGMN Agassiz Nation 34.93 356 P P 11 08 00.6 -0.7
baz=173,SNR=7.7
AGMN Agassiz Nation 34.93 356 P P 11 08 00.8 -0.5
AGMN PcP 11 10 33.6 0.0
YERR Yerington 34.98 322 P P 11 08 03.7 +1.6
YERR IAmb IAmb 11 08 06.0
comp=Z,55nm,1.4s
YNE Yellowstone No 34.99 338 P P 11 08 03.0 +0.8
YNE IAmb IAmb 11 08 07.5
comp=Z,26nm,1.1s
YNR Norris Junctio 35.00 337 IAmb IAmb 11 08 27.9
comp=Z,50nm,1.5s
SAO San Andreas Ge 35.06 317 P P 11 08 04.0 +1.4
YMR Madison River 35.07 336 P P 11 08 04.6 +1.8
FRNY Flat Rock 35.09 23 IAmb IAmb 11 08 03.2
comp=Z,17nm,0.9s
CMB Columbia Colle 35.11 319 P P 11 08 04.1 +1.1
YHH Holmes Hill 35.12 337 P P 11 08 05.6 +2.2
YHH IAmb IAmb 11 08 06.8
comp=Z,27nm,1.3s
YHH PcP PcP 11 10 36.0 +1.2
H60A Morristown 35.21 24 P P 11 08 01.1 -2.6
baz=214,SNR=13
I62A Tamworth 35.22 26 P P 11 08 02.4 -1.4
baz=216,SNR=13
I62A Tamworth 35.22 26 P P 11 08 02.8 -1.0
LAO LASA Array 35.24 343 P P 11 08 04.5 +0.5
baz=156,SNR=8.0
LAO LASA Array 35.24 343 P P 11 08 04.5 +0.5
LAO IAmb IAmb 11 08 06.6
comp=Z,23nm,1.1s
LBNH Lisbon 35.26 25 P P 11 08 02.2 -2.0
baz=215
LBNH Lisbon 35.26 25 IAmb IAmb 11 08 05.6
comp=Z,35nm,1.4s
PNTR Pine Nut 35.27 322 P P 11 08 07.0 +2.5
MACA Manacapuru-AM 35.27 116 eP P 11 08 04.4 -0.2
QLMT Earthquake Lak 35.39 336 P P 11 08 07.3 +1.8
VCNR Virginia City 35.43 322 P P 11 08 07.5 +1.6
VCNR IAmb IAmb 11 08 09.8
comp=Z,26nm,1.2s
H61A Lyndonville 35.50 25 P P 11 08 04.3 -2.0
baz=215,SNR=8.6
PAHR Pah Rah Range 35.53 323 P P 11 08 08.6 +1.9
PAHR IAmb IAmb 11 08 10.5
comp=Z,31nm,1.3s
GCMT Greycliff 35.54 339 P P 11 08 07.5 +0.7
RUBR Rubicon Trail 35.58 321 P P 11 08 09.7 +2.5
I63A Otisfield 35.69 27 P P 11 08 05.9 -1.9
baz=218,SNR=15
I63A Otisfield 35.69 27 P P 11 08 07.1 -0.8
BCYI Bear Canyon 35.78 334 P P 11 08 10.5 +1.6
H62A Milan 35.86 26 P P 11 08 07.3 -2.0
baz=216
MCMT McKenzie Canyo 35.96 335 P P 11 08 13.2 +2.8
I64A Boothbay 36.01 28 P P 11 08 09.0 -1.6
baz=219,SNR=6.5
BOZ Bozeman (W) 36.10 337 P P 11 08 12.5 +1.0
baz=146,SNR=17
BOZ Bozeman (W) 36.10 337 P P 11 08 13.4 +1.8
BOZ IAmb IAmb 11 08 14.8
comp=Z,73nm,1.9s
MFID Camas Ranch 36.20 330 P P 11 08 13.9 +1.6
MFID IAmb IAmb 11 08 17.7
comp=Z,69nm,1.6s
BEKR Beckworth 36.21 322 P P 11 08 13.5 +0.9
BEKR IAmb IAmb 11 08 16.2
comp=Z,29nm,1.1s
G61A St-Isidore-de- 36.28 25 P P 11 08 11.5 -1.4
baz=215,SNR=6.8
DLMT Dillon 36.29 335 P P 11 08 15.3 +2.1
H63A New Sharon 36.41 27 P P 11 08 12.1 -1.9
baz=218
WVL Waterville 36.50 27 P P 11 08 13.6 -1.2
LRM Limekiln Ridge 36.61 336 P P 11 08 17.6 +1.6
LRM PcP PcP 11 10 40.2 +1.2
G62A West of Eustis 36.64 26 P P 11 08 14.1 -1.9
baz=217,SNR=15
G62A West of Eustis 36.64 26 P P 11 08 14.5 -1.5
ORV Oroville 36.71 321 P P 11 08 19.0 +2.3
ORV IAmb IAmb 11 08 20.5
comp=Z,26nm,1.1s
H64A Troy 36.76 28 P P 11 08 15.2 -1.8
baz=219,SNR=11
ULM Lac du Bonnet 36.88 356 P P 11 08 16.9 -1.0
comp=Z,8.1nm,0.9s,baz=176,slow=9.6,SNR=8.9
ULM PcP PcP 11 10 39.8 +0.4
comp=Z,6.9nm,0.9s,baz=192,slow=5.2,SNR=5.6
ULM pScP 11 14 33.7
comp=Z,3.1nm,0.9s,baz=220,slow=6.1,SNR=3.6
ULM LR LR 11 26 47.1
comp=Z,264nm,18.8s,baz=178,slow=42
ULM Lac du Bonnet 36.88 356 P P 11 08 16.3 -1.6
ULM PcP PcP 11 10 39.1 -0.2
WVOR Wild Horse Val 36.92 327 P P 11 08 19.5 +0.9
WVOR IAmb IAmb 11 08 21.9
comp=Z,76nm,1.6s
G63A Kingsbury 36.95 27 P P 11 08 17.0 -1.6
baz=218,SNR=11

F61A St Evariste 37.06 25 P P 11 08 18.0 -1.5
baz=215
HRY Holter Researc 37.11 337 P P 11 08 21.6 +1.5
E60A Ste Agathe de 37.20 24 P P 11 08 18.3 -2.4
baz=214,SNR=9.4
PKME Peaks-Kenny Pk 37.21 27 P P 11 08 19.1 -1.7
baz=218,SNR=12
PKME Peaks-Kenny Pk 37.21 27 P P 11 08 19.6 -1.2
H65A Eastbrook 37.25 28 P P 11 08 19.4 -1.7
baz=220,SNR=13
D58A Chemin du LacG 37.26 22 P P 11 08 19.4 -1.9
baz=212,SNR=11
O03E Paynes Creek 37.34 321 P P 11 08 22.7 +0.5
baz=127,SNR=5.6
F62A Pittston Farm, 37.42 26 P P 11 08 20.6 -2.0
baz=217
F62A Pittston Farm, 37.42 26 P P 11 08 21.4 -1.2
F62A IAmb IAmb 11 08 23.6
comp=Z,26nm,1.1s
G64A Maxfield 37.44 27 P P 11 08 20.6 -2.2
baz=219,SNR=18
MOD Modoc Plateau 37.48 325 P P 11 08 24.5 +1.1
MOD IAmb IAmb 11 08 26.2
comp=Z,32nm,1.3s
J08A Circle Bar Ran 37.48 328 P P 11 08 24.4 +1.1
J08A IAmb IAmb 11 08 29.7
comp=Z,37nm,0.8s
EGMT Eagleton 37.51 340 P P 11 08 24.0 +0.5
baz=151,SNR=9.0
EGMT Eagleton 37.51 340 P P 11 08 24.7 +1.2
LATQ La Tuque 37.55 22 P P 11 08 22.1 -1.5
baz=212
LATQ La Tuque 37.55 22 P P 11 08 22.0 -1.6
EMMW East Machias 37.63 29 P P 11 08 22.6 -1.7
EMMW IAmb IAmb 11 08 25.8
comp=Z,67nm,1.3s
F63A Nahmakanta, Br 37.64 27 P P 11 08 22.5 -1.9
baz=218,SNR=14
LSQQ Lebel-sur-Quev 37.69 16 P P 11 08 23.3 -1.5
baz=204
H66A Whiting 37.75 29 P P 11 08 24.1 -1.3
baz=222,SNR=10
LPAZ La Paz 37.85 140 P P 11 08 25.9 -1.3
comp=Z,4.2nm,0.8s,baz=320,slow=7.8,SNR=11
LPAZ La Paz 37.85 140 P P 11 08 26.8 -0.5
LPAZ La Paz 37.85 140 eP P 11 08 26.3 -0.9
D60A Saint Jean D'O 37.85 24 P P 11 08 24.5 -1.7
baz=215,SNR=5.9
O02D Mt. Diablo Mer 37.88 320 P P 11 08 26.1 -0.6
baz=126
G65A Princeton 37.95 29 P P 11 08 25.6 -1.4
baz=221,SNR=25
G65A Princeton 37.95 29 P P 11 08 25.9 -1.1
BMO Blue Mountains 37.98 331 P P 11 08 28.2 +0.7
MSO Missoula 38.03 336 P P 11 08 27.5 -0.4
baz=144,SNR=17
MSO Missoula 38.03 336 P P 11 08 28.2 +0.4
MSO IAmb IAmb 11 08 30.4
comp=Z,86nm,1.6s
F64A Sherman 38.09 27 P P 11 08 26.6 -1.7
baz=219
F64A Sherman 38.09 27 P P 11 08 26.9 -1.4
F64A IAmb IAmb 11 08 29.4
comp=Z,42nm,0.9s
MATQ Matagami 38.16 15 P P 11 08 26.4 -2.4
baz=203,SNR=9.4
E62A Clayton Lake 38.18 25 P P 11 08 27.0 -2.0
baz=217,SNR=8.2
E62A Clayton Lake 38.18 25 P P 11 08 27.8 -1.2
E62A IAmb IAmb 11 08 30.5
comp=Z,54nm,1.4s
GGN Saint George 38.22 29 P P 11 08 27.7 -1.7
GGN IAmb IAmb 11 08 30.8
comp=Z,60nm,1.3s
M04C Macdoel 38.29 323 P P 11 08 30.2 +0.1
baz=129
K05A Summer Lake 38.35 325 P P 11 08 31.6 +0.8
D61A St Aubert, Com 38.38 24 P P 11 08 28.3 -2.4
baz=216,SNR=17
E63A Oxbow 38.49 27 P P 11 08 29.2 -2.5
baz=219,SNR=19
E63A Oxbow 38.49 27 P P 11 08 30.4 -1.3
I07A Izee 38.52 328 P P 11 08 32.6 +0.5
LMQ La Malbaie 38.60 24 P P 11 08 30.7 -1.8
LMQ IAmb IAmb 11 08 33.5
comp=Z,32nm,0.9s
D62A Allapoint, All 38.75 25 P P 11 08 32.1 -1.6
baz=217,SNR=24
D62A Allapoint, All 38.75 25 P P 11 08 31.7 -2.1
E64A Bridgewater 38.75 27 P P 11 08 31.6 -2.2
baz=220,SNR=18
YBH Yreka Blue Hor 38.77 323 LR LR 11 25 54.5
comp=Z,283nm,18.2s,baz=153,slow=38
F10A Beach Ranch, E 38.78 332 P P 11 08 34.9 +0.7
F10A IAmb IAmb 11 08 38.1
comp=Z,23nm,0.8s
L04D Klamath Falls 38.83 323 P P 11 08 34.9 +0.2
baz=128
PQI Presque Isle 38.87 27 P P 11 08 33.3 -1.4
PQI IAmb IAmb 11 08 43.5
comp=Z,29nm,0.8s
KHMM Horse Mountain 38.87 321 P P 11 08 37.2 +2.1
KHMM IAmb IAmb 11 08 38.2
comp=Z,57nm,1.0s
J05D Fort Rock, OR 38.91 326 P P 11 08 36.1 +0.7
baz=131,SNR=8.2
JTMT Jette 38.91 336 P P 11 08 36.1 +0.8
JTMT IAmb IAmb 11 08 37.8
comp=Z,41nm,1.1s
JTMT PcP PcP 11 10 46.9 +0.9
PINE Pine Mountain 39.08 326 P P 11 08 38.4 +1.5
G08A Pilot Rock 39.10 330 P P 11 08 38.2 +1.3
G08A PcP PcP 11 10 47.9 +1.4
D63A Stockholm 39.11 26 P P 11 08 35.2 -1.6
baz=219,SNR=15
MNMC Minye Minye 39.21 145 P P 11 08 38.7 +0.5
MNMC IAmb IAmb 11 08 41.3
comp=Z,43nm,1.0s
J04D Umpqua Nationa 39.37 325 P P 11 08 40.4 +1.1
baz=130,SNR=14
L02E Cave Junction 39.55 322 P P 11 08 41.2 +0.5
baz=127
E09A Wood Farm, Sta 39.61 332 P P 11 08 42.2 +1.2
PB11 IPOC Station P 39.68 146 P P 11 08 41.6 -0.5
LMN Caledonia Moun 39.74 30 P P 11 08 40.8 -1.3
LMN IAmb IAmb 11 08 43.0
comp=Z,42nm,1.0s
WALA Waterton Lakes 39.84 338 P P 11 08 44.5 +1.5
I04A Tendick Farm, 39.89 325 P P 11 08 43.9 +0.5
baz=130,SNR=8.8
KBO Bosley Butte 39.96 322 P P 11 08 46.7 +2.6
E08A Dider Farm, El 40.02 331 P P 11 08 45.0 +0.6
HAWA Hanford 40.17 330 P P 11 08 45.8 +0.1
ITTB Itaituba 40.21 114 eP P 11 08 45.3 -1.1
G05D Wamic, OR 40.26 328 P P 11 08 47.9 +1.4
baz=132
H04A Detroit Lake 40.34 326 P P 11 08 48.2 +1.0
H04A IAmb IAmb 11 08 49.7
comp=Z,58nm,1.0s
I03D Drain, OR 40.35 324 P P 11 08 48.2 +1.0
baz=129,SNR=8.8
J01E Myrtle Point 40.35 323 P P 11 08 48.2 +1.0
baz=127,SNR=6.4
D08A Wollman Farm, 40.37 332 P P 11 08 48.3 +1.0
KEBM Edson Butte 40.41 323 P P 11 08 48.9 +1.0
BUCK Buck Mountain 40.47 325 P P 11 08 48.8 +0.5
NEW Newport 40.48 334 LR LR 11 27 02.8
comp=Z,135nm,18.1s,baz=135,slow=38
NEW Newport 40.48 334 P P 11 08 48.4 +0.1
baz=140,SNR=9.2
NEW Newport 40.48 334 P P 11 08 49.0 +0.8
MALB Monte Alegre 40.49 109 eP P 11 08 49.0 +0.3
H04D Lebanon 40.54 326 P P 11 08 48.2 -0.5
baz=130,SNR=5.2
C09A Chrisman Ranch 40.63 333 P P 11 08 50.8 +1.4
F05D White Salmon 40.77 328 P P 11 08 52.9 +2.2
baz=133
I02D Swisshome 40.89 325 P P 11 08 52.8 +1.2
baz=128
VILB Vilhena 41.07 128 eP P 11 08 53.1 -0.3
G03D McMinnville, O 41.27 326 P P 11 08 56.2 +1.4
baz=130
LTY Liberty 41.34 330 P P 11 08 56.7 +1.4
LTY IAmb IAmb 11 08 58.2
comp=Z,81nm,1.9s
B08A Colville Reser 41.52 333 P P 11 08 57.6 +0.8

LON Longmire 41.54 329 P P 11 08 58.0 +1.0
F04D Rainier, OR 41.70 328 P P 11 08 59.8 +1.5
baz=131
NPGB Novo Progresso 41.78 117 eP P 11 08 57.5 -1.9
E04D Cinebar 41.79 328 P P 11 08 60.0 +1.0
baz=132
C06D Leavenworth 41.92 331 P P 11 09 01.4 +1.4
baz=135
D05A Enumclaw 41.93 329 P P 11 09 01.9 +1.8
D05A IAmb IAmb 11 09 23.4
comp=Z,62nm,1.4s
FFC Flin Flon 41.95 351 P P 11 09 00.6 +0.4
E03A Lebam 42.30 328 P P 11 09 04.7 +1.6
E03A IAmb IAmb 11 09 06.1
comp=Z,49nm,1.1s
D04E Lakebay 42.31 329 P P 11 09 04.0 +0.7
baz=132
SIV San Ignacio 42.37 133 PcP PcP 11 10 56.5 -0.9
comp=Z,5.4nm,0.8s,baz=305,slow=3.1,SNR=5.1
LVC Limon Verde 42.40 147 P P 11 09 04.2 -0.5
comp=Z,1nm,1.1s,baz=303,slow=11
LVC Limon Verde 42.40 147 P P 11 09 05.0 +0.3
LVC Limon Verde 42.40 147 eP P 11 09 02.4 -2.3
B06A Marblemount 42.62 331 P P 11 09 06.8 +1.1
B06A IAmb IAmb 11 09 07.7
comp=Z,27nm,0.9s
D03D Eldon 42.71 329 P P 11 09 07.1 +0.6
baz=132
B05A Bryant 42.73 331 P P 11 09 06.6 0.0
baz=134,SNR=5.2
NLWA Neilton Lookou 43.01 328 P P 11 09 10.7 +1.7
NLWA IAmb IAmb 11 09 12.1
comp=Z,64nm,1.2s
EDM Edmonton 43.16 341 P P 11 09 10.8 +0.6
A05A Maple Falls 43.24 331 P P 11 09 12.0 +1.3
A05A IAmb IAmb 11 09 15.5
comp=Z,53nm,1.2s
A04D Lummi Island 43.34 331 P P 11 09 11.1 -0.4
baz=134
CLDB Colider 43.37 122 eP P 11 09 12.2 -0.1
PTLB Pontes e Lacer 43.43 130 eP P 11 09 10.6 -2.1
RPN Rapa Nui 43.61 202 LR LR 11 21 24.4
comp=Z,68nm,20.9s,baz=29,slow=28
PGC Sidney 43.65 330 P P 11 09 15.5 +1.5
PGC IAmb IAmb 11 09 16.6
comp=Z,38nm,0.9s
LLLB Lillooet 44.30 333 P P 11 09 21.4 +2.1
LLLB IAmb IAmb 11 09 23.8
comp=Z,48nm,1.4s
DRLN Deer Lake 45.68 31 P P 11 09 29.9 -0.4
DRLN IAmb IAmb 11 09 30.4
comp=Z,40nm,1.1s
AC02 Maricunga 45.81 151 P P 11 09 32.5 +0.3
SCHQ Schefferville 45.83 20 P P 11 09 29.7 -1.6
comp=Z,26nm,0.9s,baz=177,slow=19,SNR=19
SCHQ LR LR 11 29 07.7
comp=Z,753nm,21.3s,baz=80,slow=37
SCHQ Schefferville 45.83 20 P P 11 09 29.6 -1.8
SCHQ IAmb IAmb 11 09 32.0
comp=Z,36nm,0.9s
PRPB Parauapebas 46.29 112 eP P 11 09 36.3 +0.7
SALV Santo Antonio 46.31 128 eP P 11 09 34.5 -1.1
SNDB Serra Nova Dou 47.70 120 eP P 11 09 46.7 +0.2
PP1B Ponte de Pedra 47.96 129 eP P 11 09 47.7 -0.8
AQDB Aquidauana 49.15 133 P P 11 09 56.2 -1.4
AQDB IAmb IAmb 11 09 56.5
comp=Z,16nm,0.9s
AQDB Aquidauana 49.15 133 eP P 11 09 56.1 -1.5
ARAG Araguaiana, MT 49.25 125 eP P 11 09 57.7 -0.8
SMTB Santa Maria do 49.44 114 eP P 11 09 59.4 -0.6
PEXB Peixe 50.30 118 eP P 11 10 06.1 -0.4
RUBB Prince Rupert 50.58 332 P P 11 10 08.9 +0.9
RUBB IAmb IAmb 11 10 11.5
comp=Z,19nm,1.1s
YKA Yellowknife Ar 51.58 347 P P 11 10 15.7 +0.3
comp=Z,12nm,0.7s,baz=146,slow=8.0,SNR=35
YKA pP pwP 11 10 25.4 +0.2
comp=Z,14nm,0.7s,baz=146,slow=8.0,SNR=17
YKA PcP PcP 11 11 29.0 -0.1
comp=Z,2.8nm,0.9s,baz=149,slow=3.8,SNR=2.6
YKA LR LR 11 34 57.2
comp=Z,270nm,21.7s,baz=0.0,slow=39
CPUP Villa Florida 52.00 139 P P 11 10 17.3 -1.8
comp=Z,7.9nm,1.1s,baz=320,slow=9.3,SNR=6.7
CPUP PcP PcP 11 11 30.8 -0.6
comp=Z,2.8nm,0.8s,baz=309,slow=4.2,SNR=4.0
CPUP Villa Florida 52.00 139 P P 11 10 17.3 -1.8
CPUP IAmb IAmb 11 10 18.1
comp=Z,33nm,1.6s
CPUP Villa Florida 52.00 139 eP P 11 10 17.7 -1.4
BDFB Brasilia 52.30 122 P P 11 10 19.6 -2.1
comp=Z,9.6nm,0.7s,baz=304,slow=3.9,SNR=9.7
BDFB Brasilia 52.30 122 P P 11 10 20.3 -1.4
BDFB IAmb IAmb 11 10 22.3
comp=Z,42nm,1.6s
TAOE Nuku Hiva Isla 52.56 248 eS S 11 17 50.7 +0.6
comp=Z,314nm,24.9s
TAOE eLR LR 11 25 18.5
comp=Z,728nm,27.0s
CRAG Craig 52.59 332 P P 11 10 22.4 -0.7
baz=126
FRB Frobisher Bay 52.92 13 LR LR 11 34 47.8
comp=Z,455nm,18.4s,baz=207,slow=38
DLBC Dease Lake 53.15 336 P P 11 10 29.1 +1.9
DLBC IAmb IAmb 11 10 31.0
comp=Z,37nm,1.0s
NBPS Pedro II - PI 53.32 106 eP P 11 10 29.5 +0.3
SDBA SAO DESIDERIO 53.38 117 eP P 11 10 30.2 +0.7
BB19B Bebedouro 54.83 128 eP P 11 10 38.7 -1.4
JANB Januaria 55.12 119 eP P 11 10 41.4 -0.8
BESE Bessie Mountai 55.21 334 P P 11 10 43.7 +1.4
BESE IAmb IAmb 11 11 24.8
comp=Z,19nm,0.9s
FRTB Fartura 55.38 131 eP P 11 10 42.6 -1.4
NBPB Pedra_Branca-C 55.45 106 eP P 11 10 43.2 -1.5
SKAG Skagway 55.93 335 P P 11 10 48.9 +1.6
MC01 Montes Claros 56.22 121 eP P 11 10 49.9 -0.3
NBCL Cascavel-CE 56.23 104 eP P 11 10 49.7 -0.5
SPB Sao Paulo 57.11 130 eP P 11 10 55.1 -1.1
VAO Valinhos 57.12 129 eP P 11 10 55.0 -1.4
DIAM Diamantina, MG 57.22 122 eP P 11 10 56.9 -0.4
CPSB Cacapava Do Su 57.29 140 eP P 11 10 55.6 -1.9
PLCA Paso Flores 57.45 161 P P 11 10 58.2 -0.2
comp=Z,6.6nm,1.1s,baz=348,slow=14,SNR=3.3
PLCA LR LR 11 30 49.2
comp=Z,398nm,18.6s,baz=160,slow=31
PET01 Itanhaem-SP 57.63 130 eP P 11 10 58.4 -1.5
BSCB Bom Sucesso 57.72 126 eP P 11 10 59.7 -1.1
PLTB Pedras Altas 58.13 141 P P 11 11 01.7 -1.6
PLTB IAmb IAmb 11 11 04.3
comp=Z,29nm,1.3s
PLTB Pedras Altas 58.13 141 eP P 11 11 01.7 -1.6
PINM Pinnacle 58.35 334 P P 11 11 04.7 +0.2
baz=122
GDU01 Guandu, BA 58.61 115 eP P 11 11 07.4 +0.4
ESAR Angra dos Reis 59.06 127 eP P 11 11 09.1 -0.9
NBIT Itapeh - BA 59.25 117 eP P 11 11 07.7 -3.7
CTG Chitna Glacier 59.26 335 P P 11 11 11.7 +0.8
baz=121
CMC01 Camacan, BA 59.37 117 eP P 11 11 11.0 -1.1
C36M Paulatuk 59.45 347 P P 11 11 13.0 +1.0
baz=143
C36M Paulatuk 59.45 347 P P 11 11 12.5 +0.6
GUA01 Guaratinga, BA 59.66 118 eP P 11 11 13.9 -0.3
BSFB Barra de Sao F 59.82 121 eP P 11 11 15.0 -0.3
NAN01 Guarapari, ES 59.96 120 eP P 11 11 15.8 -0.5
NBAN Anadia - AL 59.98 110 eP P 11 11 15.9 -0.6
SFJD Kangerlussuaq 60.12 17 LR LR 11 37 17.9
comp=Z,462nm,21.4s,baz=237,slow=36
MCARA McCarthy VSAT 60.18 334 P P 11 11 18.0 +0.9
baz=119
DAWY Dawson 60.19 338 P P 11 11 17.7 +0.5
DAWY IAmb IAmb 11 11 18.6
comp=Z,31nm,1.9s
M27K Edge Creek, AK 60.21 336 P P 11 11 18.6 +1.2
baz=121
RIB01 Linhares ES 60.43 122 eP P 11 11 18.6 -0.8
BCAR Beaver Creek A 60.54 337 P P 11 11 20.7 +1.1
GLB Gilahina Butte 60.54 334 P P 11 11 21.5 +1.9
L27K Beaver Creek, 60.55 336 P P 11 11 19.3 -0.4
baz=121,SNR=14
L27K Beaver Creek, 60.55 336 P P 11 11 20.9 +1.3
L27K IAmb IAmb 11 11 22.1
comp=Z,19nm,1.0s
CAM01 Campos-RJ 60.63 125 eP P 11 11 20.0 -0.8

BMRM	Bremner River	60.65	334	P	P	11 11 21.6 +1.2
	baz=118					
BMRM	Bremner River	60.65	334	P	P	11 11 21.9 +1.5
EPYK	Eagle Plains	60.66	341	P	P	11 11 20.4 0.0
	baz=128,SNR=5.2					
EPYK	Eagle Plains	60.66	341	P	P	11 11 20.9 +0.6
EPYK				IAmb	IAmb	11 11 21.7
	comp=Z,22nm,1.4s					
M26K	Nabesna, AK	60.68	336	P	P	11 11 21.1 +0.6
	baz=120,SNR=6.4					
ALF01	Guarapari-ES	60.78	123	eP	P	11 11 21.3 -0.5
N25K	Chitina, Valde	60.95	334	P	P	11 11 23.7 +1.2
	baz=118					
N25K	Chitina, Valde	60.95	334	P	P	11 11 24.3 +1.8
EYAK	Cordova Ski Ar	60.96	333	P	P	11 11 22.3 -0.1
	baz=116					
INK	Inuvik	60.98	344	P	P	11 11 23.1 +0.7
	comp=Z,23nm,0.9s,baz=129,slow=7.7,SNR=52					
INK	Inuvik	60.98	344	P	P	11 11 22.5 +0.1
	baz=132,SNR=33					
INK	Inuvik	60.98	344	P	P	11 11 23.6 +1.3
L26K	Log Cabin Wild	61.13	336	P	P	11 11 24.0 +0.4
	baz=120,SNR=8.7					
K27K	Chicken	61.16	337	P	P	11 11 24.8 +1.1
	baz=122					
K27K	Chicken	61.16	337	P	P	11 11 25.1 +1.4
K27K				IAmb	IAmb	11 11 26.5
	comp=Z,36nm,1.4s					
EGAK	Eagle	61.22	338	P	P	11 11 24.2 +0.1
	baz=123,SNR=11					
EGAK	Eagle	61.22	338	P	P	11 11 24.4 +0.3
EGAK				IAmb	IAmb	11 11 25.6
	comp=Z,17nm,1.0s					
MENT	Mentasta	61.23	336	P	P	11 11 25.3 +1.0
MENT				IAmb	IAmb	11 11 43.2
	comp=Z,18nm,1.2s					
RES	Resolute Bay	61.30	359	LR	LR	11 41 06.3
	comp=Z,173nm,19.1s,baz=100,slow=39					
KLU	Klutina	61.46	334	P	P	11 11 26.8 +0.9
	baz=116,SNR=5.7					
KLU	Klutina	61.46	334	P	P	11 11 27.1 +1.2
HARP	HAARP	61.56	335	P	P	11 11 28.2 +1.8
	baz=118					
GLI	Glacier Island	61.70	333	P	P	11 11 29.5 +2.0
	baz=115					
DOT	Dot Lake	61.72	336	P	P	11 11 27.7 +0.1
DOT				IAmb	IAmb	11 11 29.4
	comp=Z,18nm,1.0s					
M24K	Tolsona, Glenn	61.84	334	P	P	11 11 30.4 +1.9
	baz=116					
M24K	Tolsona, Glenn	61.84	334	P	P	11 11 30.6 +2.1
SCRK	Sand Creek	61.85	337	P	P	11 11 28.7 +0.1
	baz=120,SNR=5.6					
SCRK	Sand Creek	61.85	337	P	P	11 11 29.5 +0.9
SCRK				IAmb	IAmb	11 11 31.1
	comp=Z,16nm,1.1s					
RIDG	Independent Ri	62.07	336	P	P	11 11 30.7 +0.8
	baz=119,SNR=7.9					
RIDG	Independent Ri	62.07	336	P	P	11 11 31.5 +1.5
SEW	Seward	62.46	332	P	P	11 11 33.4 +0.9
	baz=112					
KNK	Knik Glacier	62.53	333	P	P	11 11 33.7 +0.7
	baz=114					
KNK	Knik Glacier	62.53	333	P	P	11 11 34.3 +1.3
SML	Sawmill	62.63	334	P	P	11 11 34.8 +1.0
	baz=114					
SML	Sawmill	62.63	334	P	P	11 11 35.0 +1.2
WAT6	Susitna Watana	62.71	335	P	P	11 11 34.2 -0.2
	baz=115,SNR=14					
RC01	Rabbit Creek A	62.97	333	P	P	11 11 36.1 +0.2
	baz=112,SNR=5.6					
RC01	Rabbit Creek A	62.97	333	P	P	11 11 36.3 +0.4
WAT1	Susitna Watana	63.15	335	P	P	11 11 37.5 +0.3
	baz=114					
KDAK	Kodiak Island	63.16	329	LR	LR	11 37 44.2
	comp=Z,122nm,20.9s,baz=111,slow=35					
PRP	Porcupine Dome	63.19	338	P	P	11 11 37.9 +0.4
	baz=119					
PRP	Porcupine Dome	63.19	338	P	P	11 11 38.6 +1.1
PRP				IAmb	IAmb	11 11 39.4
	comp=Z,24nm,0.9s					
HDA	Harding Lake	63.20	337	P	P	11 11 36.9 -0.5
	baz=117,SNR=10					
HDA	Harding Lake	63.20	337	P	P	11 11 38.2 +0.7
IL31		63.34	337	P	P	11 11 38.8 +0.5
ILAR	Eielson Array	63.34	337	P	P	11 11 38.8 +0.4
	comp=Z,25nm,1.1s,baz=134,slow=4.2,SNR=84					
ILAR				LR	LR	11 42 30.0
	comp=Z,135nm,18.2s,baz=115,slow=39					
RND	Reindeer	63.52	335	P	P	11 11 40.2 +0.5
SUA	Susitna One	63.56	333	P	P	11 11 40.7 +0.7
	baz=112					
SUA	Susitna One	63.56	333	P	P	11 11 39.8 -0.2
FYU	Fort Yukon	63.60	339	P	P	11 11 41.1 +1.1
CCB	Clear Creek Bu	63.64	337	P	P	11 11 40.2 0.0
MCK	McKinley	63.69	335	P	P	11 11 40.8 +0.1
	baz=114,SNR=9.8					
MCK	McKinley	63.69	335	P	P	11 11 41.7 +1.0
POKR	Poker Plat Res	63.71	337	P	P	11 11 41.2 +0.5
	baz=117					
POKR	Poker Plat Res	63.71	337	P	P	11 11 41.8 +1.0
POKR				IAmb	IAmb	11 11 43.7
	comp=Z,17nm,0.9s					
CUT	Chulitna	63.71	334	P	P	11 11 41.7 +1.0
	baz=113					
CUT	Chulitna	63.71	334	P	P	11 11 41.9 +1.1
COLA	College	63.76	337	P	P	11 11 41.5 +0.4
	baz=116					
COLA	College	63.76	337	P	P	11 11 41.6 +0.6
COLA				IAmb	IAmb	11 11 42.4
	comp=Z,18nm,0.9s					
TCOL	CIGO, UAF Yank	63.76	337	P	P	11 11 41.4 +0.3
	baz=116					
TCOL	CIGO, UAF Yank	63.76	337	P	P	11 11 41.4 +0.3
TCOL				IAmb	IAmb	11 11 42.4
	comp=Z,18nm,0.9s					
BMAR	Burnt Mountain	63.81	340	P	P	11 11 42.6 +1.1
MDM	Murphy Dome	63.94	337	P	P	11 11 42.0 -0.3
BWN	Browne	64.09	336	P	P	11 11 44.1 +0.9
SKT	Skwentna	64.10	333	P	P	11 11 43.1 -0.4
	baz=111,SNR=7.7					
SKT	Skwentna	64.10	333	P	P	11 11 43.5 +0.1
NEA2	Nenana	64.11	336	P	P	11 11 42.8 -0.6
	baz=115,SNR=9.2					
NEA2	Nenana	64.11	336	P	P	11 11 44.0 +0.6
RSO	Reoubut South	64.12	331	P	P	11 11 44.8 +1.0
SPCR	Spurr Chakacha	64.12	332	P	P	11 11 44.0 +0.4
	baz=110					
TRF	Thorofare Moun	64.13	335	P	P	11 11 44.0 +0.3
	baz=113					
TRF	Thorofare Moun	64.13	335	P	P	11 11 44.7 +0.9
H24K	Noodor Dome	64.20	338	P	P	11 11 44.4 +0.4
	baz=116,SNR=22					
KTH	Kantishna Hill	64.43	335	P	P	11 11 45.9 +0.2
I23K	Minto, Yukon-K	64.45	337	P	P	11 11 45.8 +0.2
	baz=115,SNR=28					
I23K	Minto, Yukon-K	64.45	337	P	P	11 11 46.7 +1.1
PPT2	Papeete2	64.52	243	eS	S	11 20 26.4 +0.6
	comp=Z,447nm,31.0s					
PPT2	Papeete2	64.52	243	eLR	LR	11 31 15.9
	comp=Z,586nm,22.2s					
BPAW	Bear Paw Mtn.	64.67	335	P	P	11 11 47.3 +0.2
	baz=113,SNR=11					
BPAW	Bear Paw Mtn.	64.67	335	P	P	11 11 47.5 +0.4
BPAW				IAmb	IAmb	11 11 48.5
	comp=Z,18nm,0.8s					
PPLA	Purkeypile	64.72	334	P	P	11 11 47.6 0.0
	baz=111					
PPLA	Purkeypile	64.72	334	P	P	11 11 48.2 +0.6
H23K	Yukon River	64.81	337	P	P	11 11 48.2 +0.2
	baz=115,SNR=6.2					
MLY	Manley	64.94	336	P	P	11 11 49.1 +0.2
	baz=113,SNR=27					
MLY	Manley	64.94	336	P	P	11 11 49.4 +0.5
N19K	Bonanza Creek	65.04	331	P	P	11 11 49.7 0.0
	baz=108,SNR=5.5					
CHUM	Lake Minchumin	65.13	335	P	P	11 11 50.1 0.0
	baz=111					
I21K	Tanana	65.48	336	P	P	11 11 52.2 -0.1
	baz=112,SNR=6.6					
L19K	White Mountain	65.64	333	P	P	11 11 53.5 +0.1
	baz=108					
N18K	Kilae Creek	65.66	331	P	P	11 11 53.2 -0.4
	baz=106					
K20K	Telida	65.68	334	P	P	11 11 53.3 -0.4
	baz=109,SNR=12					
J20K	Nowinta River	65.99	335	P	P	11 11 55.0 -0.6
	baz=110,SNR=8.9					
TOLK	Toolik Lake Re	66.04	340	P	P	11 11 56.1 +0.1
	baz=116,SNR=9.0					
TOLK	Toolik Lake Re	66.04	340	P	P	11 11 57.0 +1.0
TOLK				IAmb	IAmb	11 11 57.6
	comp=Z,13nm,0.9s					
IMAR	Indian Mountai	66.46	337	P	P	11 11 58.2 -0.4
EUNU	Eureka	66.73	1	P	P	11 12 00.2 0.0
EUNU				IAmb	IAmb	11 12 02.3
	comp=Z,21nm,1.1s					
SUMG	Summit	66.84	15	P	P	11 12 00.6 -0.8
SUMG				IAmb	IAmb	11 12 03.4
	comp=Z,26nm,1.5s					
TBI	Tubuai	66.92	237	eS	S	11 20 56.5 +1.7
	comp=Z,274nm,33.5s					
TBI	Tubuai	66.92	237	eLR	LR	11 32 00.6
	comp=Z,799nm,30.0s					
FALS	False Pass	68.39	324	P	P	11 12 11.2 +0.2
	baz=97					
UNV	Unalaska Valle	70.08	323	P	P	11 12 22.0 +0.5
	baz=94					
RDOG	Red Dog Mine	70.50	338	P	P	11 12 26.2 +2.4
RDOG				IAmb	IAmb	11 13 36.1
	comp=Z,11nm,0.6s					
NIKH	Nikolski High	71.43	322	P	P	11 12 29.6 -0.1
	baz=92					
TNA	Tin City	72.02	335	P	P	11 12 33.5 +0.4
	baz=97					
JMIC	Jan Mayen	75.35	20	LR	LR	11 45 34.3
	comp=Z,166nm,21.8s,baz=250,slow=35					
ESDC	Sonseca Array	80.18	52	P	P	11 13 18.4 -1.7
	comp=Z,3.7nm,0.9s,baz=297,slow=5.7,SNR=21					
ESDC				pP	PcP	11 13 28.0 +0.5
	comp=Z,2.9nm,0.7s,baz=289,slow=5.3,SNR=8.7					
ESDC	Sonseca Array	80.18	52	P	P	11 13 18.9 -1.3
ESBB	Sonseca Array	80.18	52	P	P	11 13 20.0 -0.2
BILL	Bilibino	81.97	338	P	P	11 13 29.6 +0.5
BILL				IAmb	IAmb	11 13 31.2
	comp=Z,28nm,0.9s					
NAO01	NORSAR Array S	84.64	29	P	P	11 13 43.4 +0.4
NB2	NORSAR Subarra	84.73	28	P	P	11 13 44.7 +1.3
	comp=Z,12nm,0.8s,baz=290,slow=4.8					
NB2	NORSAR Subarra	84.73	28	P	P	11 13 44.7 +1.3
	baz=290,slow=4.8					
NOA	NORSAR Array B	84.73	28	P	P	11 13 44.7 +1.3
	comp=Z,6.2nm,0.8s,baz=291,slow=4.8,SNR=19					
NOA				pP	pwP	11 13 54.6 +1.3
	comp=Z,6.5nm,0.8s,baz=291,slow=4.8,SNR=13					
NB201	NORSAR Array S	84.76	28	P	P	11 13 43.5 0.0
KOWA	Kowa	84.93	76	P	P	11 13 45.2 0.0
NC602	NORSAR Array S	84.98	29	P	P	11 13 45.1 +0.5
TIC	Toumodi	85.68	84	eP	P	11 13 50.2 +1.1
LIC	Lamto	85.77	85	eP	P	11 13 48.4 -1.1
	comp=Z,39nm,1.2s					
KIC	Kosan Boka	86.01	84	eP	P	11 13 51.9 +1.2
	comp=Z,11nm,0.7s					
ECH	Echery	86.20	41	P	P	11 13 51.1 +0.1
ECH				IAmb	IAmb	11 13 54.5
	comp=Z,12nm,1.3s					
ARCES	ARCESS Array B	86.74	18	P	P	11 13 53.6 +0.3
	comp=Z,1.8nm,0.7s,baz=304,slow=2.6,SNR=4.1					
SENIN	Lac Senin/Sane	86.80	43	P	P	11 13 53.5 -0.7
SENIN				IAmb	IAmb	11 14 06.2
	comp=Z,9.7nm,0.8s					
TUE	Stuetta	88.13	43	P	P	11 13 60.0 -0.7
TUE				IAmb	IAmb	11 14 02.6
	comp=Z,11nm,0.9s					
CLL	Collm	88.86	37	eP	P	11 14 05.0 +1.3
CLL				LmV		11 30 00.0
	comp=Z,100nm,19.9s					
ZCCA	Zocca	89.88	44	P	P	11 14 09.4 +0.7
KHC	Kasperske Hory	89.96	39	eP	P	11 14 10.0 +1.0
KHC				ex	x	11 15 12.0
GERES	GERESS Array B	90.14	39	P	P	11 14 10.1 +0.2
	comp=Z,1.2nm,0.9s,baz=291,slow=3.7,SNR=8.5					
GERES	GERESS Array B	90.14	39	P	P	11 14 10.4 +0.5
STAL	STALIGIAL	90.40	42	P	P	11 14 11.5 +0.3
STAL				IAmb	IAmb	11 14 12.3
	comp=Z,10nm,1.1s					
TORD	Torodi Ar. Bea	90.64	76	P	P	11 14 12.1 -0.6
	comp=Z,0.6nm,0.6s,baz=295,slow=5.9,SNR=4.1					
TORD				pP	pwP	11 14 21.7 -2.2
	comp=Z,0.9nm,0.7s,baz=294,slow=5.5,SNR=3.5					
TIXI	Tiksi	90.82	348	P	P	11 14 11.6 -0.9
	comp=Z,10nm,0.8s,baz=22,slow=5.1,SNR=16					
TIXI				pP	pwP	11 14 22.4 +0.1
	comp=Z,9.5nm,0.8s,baz=9.3,slow=4.8,SNR=8.4					
TIXI	Tiksi	90.82	348	P	P	11 14 12.1 -0.3
TIXI				IAmb	IAmb	11 14 13.3
	comp=Z,13nm,0.9s					
CADS	Cadrg	91.08	42	eP	P	11 14 15.1 +0.8
FINES	FINESS Array B	91.09	25	P	P	11 14 13.6 -0.3
	comp=Z,5.8nm,1.1s,baz=339,slow=4.7,SNR=5.2					
FINES				pP	pwP	11 14 23.7 0.0
	comp=Z,3.5nm,0.8s,baz=28,slow=4.5,SNR=3.9					
KEST	Kesra	91.35	53	P	P	11 14 16.1 +0.3
	comp=Z,8.2nm,0.9s,baz=238,slow=2.8,SNR=15					
KEST	Kesra	91.35	53	P	P	11 14 16.8 +1.0
JAVS	Javornik	91.42	42	iP	P	11 14 17.0 +1.1
LJU	Ljubljana	91.66	42	iP	P	11 14 18.0 +1.1
YAK	Yakutsk	97.99	341	LR	LR	12 03 32.0
	comp=Z,77nm,21.8s,baz=87,slow=38					
SYO	Syowa Base	116.62	162	epPdiff	pPdif	11 16 16.4 +3.8
SONM	Songino Array	116.84	346	PKP	PKPdf	11 19 53.5 -0.8
	comp=Z,0.9nm,0.8s,baz=14,slow=0.6,SNR=4.4					
KSRS	Korea Array	116.96	325	PKP	PKPdf	11 19 54.1 -0.6
	comp=Z,1.5nm,0.8s,baz=45,slow=1.9,SNR=4.4					
MAKZ	Makanchi	119.84	5	PKPdf	PKPdf	11 19 59.0 -1.0
MK31	Makanchi Array	119.88	4		PKPdf	11 19 59.4 -0.8
MKAR	Makanchi Array	119.88	4	PKP	PKPdf	11 19 59.6 -0.5
	comp=Z,1.3nm,0.7s,baz=13,slow=2.8,SNR=16					
BOSA	Boshof	120.21	115	PKP	PKPdf	11 20 00.5 -0.8
	comp=Z,3.8nm,0.7s,baz=225,slow=4.5,SNR=5.5					
BOSA	Boshof	120.21	115		PKPdf	11 19 59.7 -1.6
HHC	Hu-ho-hao-te	121.74	339	ePKP	PKiKP	11 20 04.8 +0.7
HHC				LR	LR	
	comp=Z,210nm,20.2s					
HHC				LR	LR	
	comp=Z,200nm,20.1s					
WMQ	Urumqi	123.06	0	ePKP	PKiKP	11 20 06.6 0.0
MAW	Mawson	123.41	169	PKP	PKPdf	11 20 05.2 -0.9
	comp=Z,1.4nm,0.7s,baz=268,slow=10,SNR=4.9					
KDJ	Kajisay	123.88	10	PKPdf	PKPdf	11 20 08.1 0.0
TARG	Taragay, Kyrgy	124.37	9		PKiKP	11 20 09.9 +0.3
NJ2	Nanjing	125.94	327	ePKP	PKPdf	11 20 11.9 -0.2
KSH	Kashi	126.20	11	PKP	PKiKP	11 20 13.8 +0.8
GTA	Gaotai	126.30	349	ePKP	PKPdf	11 20 12.6 -0.2
GTA				sPKP		11 20 28.8
GTA				LR	LR	
	comp=Z,63nm,19.3s					
GTA				LR	LR	
	comp=Z,89nm,19.6s					
STKA	Stephens Creek	127.66	240	PKP	PKPdf	11 20 15.1 -0.3
	comp=Z,6.5nm,0.8s,baz=78,slow=1.7,SNR=11					
STKA	Stephens Creek	127.66	240	PKPdf	PKPdf	11 20 15.3 -0.1
LZH	Lanzhou	128.52	343	ePKP	PKiKP	11 20 18.3 +0.5
LZH				sPKP		11 20 33.5
XAN	Xi'an	128.75	338	PKP	PKPdf	11 20 17.8 +0.3
XAN				sPKP		11 20 33.3
ENH	Enshi	131.85	335		PKPdf	11 20 23.8 +0.3
WRA	Warramunga Arr	135.13	255	PKP	PKPdf	11 20 28.9 -0.9
	comp=Z,2.6nm,0.8s,baz=80,slow=1.9,SNR=14					
WRA	Warramunga Arr	135.13	255		PKPdf	11 20 29.4 -0.4
ASAR	Alice Springs	135.35	250	PKhKP	PKPpre	11 20 20.5
	comp=Z,0.7nm,0.9s,baz=102,slow=3.6,SNR=4.9					
ASAR				PKP	PKPdf	11 20 29.5 -0.7
	comp=Z,2.5nm,0.8s,baz=102,slow=1.4,SNR=18					
ASAR	Alice Springs	135.35	250	PKPdf	PKPdf	11 20 29.7 -0.5
KMI	Kunming	139.06	339	⇑PKP	PKPdf	11 20 35.9 -1.4
KMI				sPKP		11 20 53.6
KMI				LR	LR	
	comp=Z,170nm,24.2s					
KMI				LR	LR	
	comp=Z,210nm,22.0s					
TOLI2	Tolitoli	144.33	291	PKPdf	PKPab	11 20 44.4 -0.3
NONG	Nongkai	145.30	334	PKP	PKPbc	11 20 47.9 0.0
CM34	Chiang Mai Arr	146.08	341	P	PKPdf	11 20 50.0 +0.4
CM33	Chiang Mai Arr	146.18	341	P	PKPdf	11 20 50.0 +0.2
CHTO	Chiang Mai	146.18	341	PKPbc	PKPbc	11 20 50.7 0.0
CMMT	Chiang Mai	146.18	341	P	PKPdf	11 20 50.0 +0.2
	comp=Z,789nmcomp=Z,36nm,1.3s					
LAMP	Lampang	146.23	340	PKP	PKPbc	11 20 51.2 +0.4
LAMP	Lampang	146.23	340	P	PKPbc	11 20 51.3 +0.4
	comp=Z,107nmcomp=Z,12nm,0.7s					
CM35	Chiang Mai Arr	146.24	341	P	PKPdf	11 20 50.0 +0.1
CM32	Chiang Mai Arr	146.37	341	P	PKPbc	11 20 51.0 -0.2
CM09	Chiang Mai Arr	146.52	341	P	PKPab	11 20 52.3 -0.3
CM31	Chiang Mai Arr	146.52	341	P	PKPab	11 20 52.3 -0.3
CMAR	Chiang Mai Arr	146.52	341	PKPbc	PKPbc	11 20 51.1 -0.5
	comp=Z,17nm,0.7s,baz=340,slow=3.2,SNR=68					
CM15	Chiang Mai Arr	146.53	341	PKP	PKPbc	11 20 52.2 +0.5
CM15	Chiang Mai Arr	146.53	341	P	PKPbc	11 20 52.2 +0.5
CM02	Chiang Mai Arr	146.54	341	PKP	PKPab	11 20 52.3 -0.4
CM02	Chiang Mai Arr	146.54	341	P	PKPbc	11 20 52.0 +0.2
CM01	Chiang Mai Arr	146.55	341	PKP	PKPab	11 20 52.3 -0.4
CM01	Chiang Mai Arr	146.55	341	P	PKPab	11 20 52.4 -0.3
CM04	Chiang Mai Arr	146.56	341	PKP	PKPab	11 20 52.4 -0.3
CM04	Chiang Mai Arr	146.56	341	P	PKPab	11 20 52.5 -0.3
CM13	Chiang Mai Arr	146.56	341	PKP	PKPbc	11 20 52.2 +0.4
CM13	Chiang Mai Arr	146.56	341	P	PKPbc	11 20 52.3 +0.4
CM05	Chiang Mai Arr	146.57	341	P	PKPbc	11 20 52.0 +0.1
UTTA	Uttaradit	146.62	338	PKP	PKPbc	11 20 52.2 +0.3
UTTA	Uttaradit	146.62	338	P	PKPbc	11 20 52.3 +0.3
	comp=Z,112nmcomp=Z,13nm,0.9s					
NWAO	Narrogin (SRO)	146.92	229		PKPbc	11 20 52.1 -0.4
KHON	Khomkaen	146.97	333	P	PKPab	11 20 54.3 0.0
PHIT	Phitsanulok	147.18	337	P	PKPab	11 20 54.5 -0.7
CHAI	Chaiyaphum	147.72	334	PKP	PKPbc	11 20 56.1 +1.0
CHAI	Chaiyaphum	147.72	334	P	PKPbc	11 20 56.2 +1.0
HYB	Hyderabad	148.03	17	iPKP	PKiKP	11 20 57.0 -0.8
HYB				esPKP		11 21 06.0
PSA00	Pilbara Seismi	148.49	251		PKPbc	11 20 56.3 -0.7
PSA00	Pilbara Seismi	148.49	251		PKPbc	11 20 56.4 -0.7
KHLT	Khaolaem Dam	150.05	339	PKP	PKiKP	11 21 03.1 +1.1
RPSI	Rantau Prapat	160.61	325	PKPdf	PKPdf	11 21 08.0 -2.5
RPSI					PKPab	11 21 51.2 -0.6

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*SJA **17** 11:11:18.1±0.6, 35°.48S×73°.47W, h14km±8km, ML5.7, MW5.4*

*IDC **17** 11:11:20.9±0.4, 35°.52S×73°.04W, h0km, mb5.0/21, mb1 5.0/23, mb1mx5.0/26, mbtmp5.0/23, ML4.7/2, MS4.8/13, Ms1 4.8/13, ms1mx4.7/18, Error ellipse: s-maj=18.5km s-min=11.3km az=81.0*

*GUC **17** 11:11:22.0±0.7, 35°.51S×73°.33W, h32km±3km, ML5.3, MW5.4*

*NEIC **17** 11:11:22.4, 35°.52S×73°.21W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}6.95; $M_{\theta\theta}$-1.61; $M_{\phi\phi}$-5.35; $M_{r\theta}$0.28; $M_{\theta\phi}$-1.11; $M_{\phi r}$-4.11; Fault plane solution: $M_0$7.62000×10^16^ NP1:ϕ_s185.82000°, δ61.46000°, λ82.70000°. NP2:ϕ_s20.83000°, δ29.38000°, λ103.16000°. Principal axes: T 8.2399, Plg73.0000°, Azm78.0000°; N -1.4562, Plg6.0000°, Azm189.0000°; P -6.7837, Plg16.0000°, Azm281.0000°;*

*NEIC **17** 11:11:22.8±1.7, 35°.50S±0°.05×73°.22W±0°.07, h10km±1km, mb5.4/455, Ms_20 5.1/102, Mwr5.2/35, Mww5.2, ML5.3(GUC) Error ellipse: s-maj=9.5km s-min=7.9km az=279.0*

*VAO **17** 11:11:23.9±0.2, 35°.47S×72°.81W, h10km, mb5.5*

*MOS **17** 11:11:25.1±1.1, 35°.42S×72°.87W, h33km, mb5.6/30, MS5.1/9, Error ellipse: s-maj=12.4km s-min=6.0km az=91.4*

*GCMT **17** 11:11:25.8±0.2, 35°.57S±0°.01×73°.42W±0°.02, h22km, MW5.3/118, Moment Tensor Solution. s73,c107; s118,c183; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; M_{rr}0.68±.03; $M_{\theta\theta}$0.04±.01; $M_{\phi\phi}$-0.71±.02; $M_{r\theta}$-0.04±.02; $M_{\theta\phi}$-0.19±.01; $M_{\phi r}$-0.95±.05; Best double couple: $M_0$1.19400×10^17^ NP1:ϕ_s24.00000°, δ19.00000°, λ109.00000°. NP2:ϕ_s184.00000°, δ72.00000°, λ83.00000°. Principal axes: T 1.1620, Plg63.0000°, Azm84.0000°; N 0.0630, Plg6.0000°, Azm186.0000°; P -1.2260, Plg26.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **17** 11:11:27, 35°.41S×73°.31W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}3.25; $M_{\theta\theta}$1.33; $M_{\phi\phi}$-4.59; $M_{r\theta}$-1.75; $M_{\theta\phi}$-0.70; $M_{\phi r}$-8.71; Fault plane solution: $M_0$9.18000×10^16^ NP1:ϕ_s356.00000°, δ13.00000°, λ74.00000°. NP2:ϕ_s192.00000°, δ77.00000°, λ94.00000°. Principal axes: T 8.4267, Plg58.0000°, Azm107.0000°; N 1.3619, Plg4.0000°, Azm11.0000°; P -9.7886, Plg32.0000°, Azm279.0000°;*

ISC 17 11:11:23.1±0.7, 35°.53S±0°.03×73°.18W±0°.04, h17km±4km, n998, σ1§17/900, mb5.4/247, MS5.0/73, 147C-27D, Fault plane solution: NP1:ϕ_s156.86038°, δ65.57030°, λ70.67128°. NP2:ϕ_s17.16196°, δ30.77862°, λ126.07909°. Principal axes: T Plg64.1520°, Azm34.3932°; N Plg17.5389°, Azm165.1144°; P Plg18.3650°, Azm261.1370°; **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	1.14	64	⇑eP	Pn	11 11 43.5	-0.8
GO05				eS	Sb	11 11 58.7	-0.2
GO05	Huala	1.14	64		Pn	11 11 43.6	-0.7
GO05				Sn	Sg	11 12 01.1	+1.0
GO05	Huala	1.14	64	eP	Pn	11 11 43.5	-0.8
GO05				eS	Sg	11 12 02.2	+2.1
CCSP	San Pedro de C	1.32	178	eP	Pn	11 11 44.5	-2.2
CCSP				eS	Sn	11 12 01.3	-2.5
CCSP				IAML		11 12 09.2	
	comp=E,99μm,0.5s						
BO03	Pichilemu	1.43	44	⇑eP	Pn	11 11 47.6	-0.6
BO03				eS	Sn	11 12 06.2	-0.4
ML02	Panimavida	1.45	100		Pn	11 11 48.7	+0.2
ML02				Sn	Sb	11 12 08.4	+0.6
BO01	Tunca	2.06	57	⇑eP	Pn	11 11 56.5	-0.3
BO01				eS	Sn	11 12 23.2	+1.1
BO01				IAML		11 12 37.3	
	comp=N,25μm,0.6s						
BO01	Tunca	2.06	57		Pn	11 11 56.6	-0.2
BO02	Sierra Bellavi	2.09	70	eP	Pn	11 11 57.3	-0.2
BO02				eS	Sn	11 12 24.1	+1.0
BO02	Sierra

CO02	**Combarbal**	**4.68**	**24**⇑	*eP*		**Pn**	**11 12 32.2**	**-0.8**
CO02				*eS*		**Sn**	**11 13 25.6**	**-1.4**
CO02	**Combarbal**	**4.68**	**24**			**Pn**	**11 12 32.7**	**-0.4**
CO06	**Fray Jorge**	**5.01**	**15**⇑	*eP*		**Pn**	**11 12 36.0**	**-1.4**
H03S1	**Juan Fernandez**	**5.01**	**288**	Pn		**Pn**	**11 12 36.7**	**-0.5**
	baz=75,slow=14,SNR=201							
H03S1				T		T	11 17 32.3	
	baz=110,slow=74,SNR=1857							
H03S3	**Juan Fernandez**	**5.02**	**288**	Pn		**Pn**	**11 12 36.8**	**-0.5**
	baz=75,slow=14,SNR=226							
H03S3				T		T	11 17 55.9	
	baz=110,slow=74,SNR=1870							
H03S2	**Juan Fernandez**	**5.03**	**288**	Pn		**Pn**	**11 12 36.6**	**-0.8**
	baz=75,slow=14,SNR=348							
H03S2				T		T	11 17 32.6	
	baz=110,slow=74,SNR=3444							
CO03	**El Pedregal**	**5.12**	**25**			**Pn**	**11 12 38.6**	**-0.5**
H03N1	**Juan Fernandez**	**5.17**	**292**	Pn		**Pn**	**11 12 38.5**	**-1.0**
	baz=136,slow=24,SNR=684							
H03N1				T		T	11 18 01.9	
	baz=110							
H03N3	**Juan Fernandez**	**5.18**	**292**	Pn		**Pn**	**11 12 39.4**	**-0.2**
	baz=136,slow=24,SNR=523							
H03N3				T		T	11 18 01.6	
	baz=110							
H03N2	**Juan Fernandez**	**5.19**	**292**	Pn		**Pn**	**11 12 39.5**	**-0.1**
	baz=136,slow=24,SNR=285							
H03N2				T		T	11 18 01.9	
	baz=110							
ZON	**Zonda**	**5.46**	**45**	P		**Pn**	**11 12 45.2**	**+1.5**
ZON	**Zonda**	**5.46**	**45**	Pn		**Pn**	**11 12 45.2**	**+1.5**
ZON	**Zonda**	**5.46**	**45**	*eP*		**Pn**	**11 12 45.3**	**+1.5**
PLCA	**Paso Flores**	**5.59**	**159**	Pn		**Pn**	**11 12 46.0**	**+0.4**
	comp=E,10nm,0.3s,baz=327,slow=11,SNR=128							
PLCA				Pg		**Pb**	**11 13 01.9**	**+1.6**
	comp=E,18nm,0.3s,baz=338,slow=13,SNR=18							
PLCA				Lg		Lg	11 14 12.2	
	comp=E,9.0nm,0.3s,baz=66,slow=14,SNR=3.8							
PLCA	**Paso Flores**	**5.59**	**159**	P		**Pn**	**11 12 46.0**	**+0.4**
PLCA	**Paso Flores**	**5.59**	**159**	Pn		**Pn**	**11 12 46.0**	**+0.4**
PLCA	**Paso Flores**	**5.59**	**159**	*eP*		**Pn**	**11 12 46.0**	**+0.4**
PLCA	**Paso Flores**	**5.59**	**159**	*eP*		**Pn**	**11 12 45.9**	**+0.4**
LL03	**Petrohue**	**5.64**	**174**			**Pn**	**11 12 45.0**	**-1.1**
GO04	**Tololo Observa**	**5.70**	**21**	Pn		**Pn**	**11 12 46.5**	**-0.7**
RTLL	**Cerro Villicun**	**5.74**	**45**	*eP*		**Pn**	**11 12 48.1**	**+0.6**
LL05	**Los Muermos**	**5.88**	**182**	Pn		**Pn**	**11 12 48.0**	**-1.4**
AROD	**Rodeo**	**6.18**	**31**	*eP*		**Pn**	**11 12 55.3**	**+1.4**
ACDV	**Cuesta del Vie**	**6.34**	**34**	*eP*		**Pn**	**11 12 56.9**	**+1.0**
AVFE	**Valle Fertil**	**6.82**	**46**	*eP*		**Pn**	**11 13 01.9**	**-0.6**
LCO	**Las Campanas**	**6.83**	**19**	P		**Pn**	**11 13 01.6**	**-1.1**
LCO	**Las Campanas**	**6.83**	**19**	Pn		**Pn**	**11 13 01.6**	**-1.1**
LL01	**San Ignacio de**	**6.87**	**175**			**Pn**	**11 13 02.1**	**-0.9**
MRA	**San Martin**	**6.93**	**66**	*eP*		**Pn**	**11 13 04.8**	**+0.9**
LL07	**Hotel Espejo d**	**7.30**	**182**	Pn		**Pn**	**11 13 07.2**	**-1.6**
AC04	**Llanos de Chal**	**7.51**	**14**	Pn		**Pn**	**11 13 10.0**	**-1.9**
APLL	**PUNTA DE LOS L**	**7.57**	**49**	*eP*		**Pn**	**11 13 11.5**	**-1.3**
GO07	**Milladeo Hill,**	**7.59**	**183**	Pn		**Pn**	**11 13 11.0**	**-1.9**
GO07	**Milladeo Hill,**	**7.59**	**183**	*eP*		**Pn**	**11 13 10.9**	**-1.9**
LL02	**Futaleuf**	**7.72**	**173**			**Pn**	**11 13 13.9**	**-0.8**
VCA	**Vinchina**	**7.97**	**33**	*eP*		**Pn**	**11 13 18.3**	**0.0**
GO03	**Copiap**	**8.30**	**18**			**Pn**	**11 13 21.5**	**-1.2**
GO03	**Copiap**	**8.30**	**18**	*eP*		**Pn**	**11 13 21.6**	**-1.2**
AC02	**Maricunga**	**9.33**	**23**			**Pn**	**11 13 36.1**	**-1.1**
TRQA	**Tornquist**	**9.33**	**109**	P		**Pn**	**11 13 37.4**	**+0.6**
TRQA	**Tornquist**	**9.33**	**109**	Pn		**Pn**	**11 13 37.4**	**+0.6**
TRQA	**Tornquist**	**9.33**	**109**	*eP*		**Pn**	**11 13 37.8**	**+1.0**
CYA	**Choya**	**9.44**	**44**	*eP*		**Pn**	**11 13 34.7**	**-3.6**
COYC	**Coyhaique**	**10.07**	**176**			**Pn**	**11 13 48.1**	**+1.2**
GO02	**Mina Guanaco**	**10.78**	**18**			**Pn**	**11 13 54.2**	**-2.8**
PB14	**IPOC Station P**	**11.12**	**13**			**Pn**	**11 13 58.9**	**-2.8**
FSA	**Cafayete**	**11.23**	**35**	*eP*		**Pn**	**11 13 59.7**	**-3.3**
PB10	**IPOC Station P**	**12.19**	**11**			**Pn**	**11 14 14.5**	**-1.5**
LPA	**La Plata**	**12.48**	**92**	*ceP*		Pn	11 14 12.6	-7.3
LPA				PPP		PPP	11 14 43.8	
LPA				PPP(2)			11 15 11.7	
LPA				S		**Sn**	**11 16 39.6**	**+1.0**
LPA				SSS		SSS	11 17 01.6	
LPA				SS		SgSg	11 18 14.6	+11
LPA				PCP		**PcP**	**11 19 52.8**	**-6.4**
PB15	**IPOC Station P**	**12.69**	**16**			**Pn**	**11 14 22.1**	**-0.9**
PB05	**IPOC Station P**	**12.89**	**12**	*eP*		**Pn**	**11 14 21.0**	**-4.7**
PB06	**IPOC Station P**	**13.15**	**15**			**Pn**	**11 14 29.4**	**+0.1**
LVC	**Limon Verde**	**13.40**	**17**	Pn		**Pn**	**11 14 28.3**	**-4.4**
	comp=E,0.6nm,0.3s,baz=166,slow=9.5,SNR=3.1							
LVC				Lg		Lg	11 18 19.8	
	comp=E,1.7nm,0.3s,baz=164,slow=19,SNR=4.3							
LVC				LR		LR	11 20 09.0	
	comp=E,7μm,18.3s,baz=209,slow=40							
LVC	**Limon Verde**	**13.40**	**17**	P		**Pn**	**11 14 31.2**	**-1.6**
LVC	**Limon Verde**	**13.40**	**17**			**Pn**	**11 14 31.2**	**-1.6**
LVC	**Limon Verde**	**13.40**	**17**	*eP*		**Pn**	**11 14 33.6**	**+0.8**
LVC	**Limon Verde**	**13.40**	**17**	*eP*		**Pn**	**11 14 28.2**	**-4.6**
PB04	**IPOC Station P**	**13.41**	**12**			**Pn**	**11 14 32.4**	**-0.4**
PB07	**IPOC Station P**	**14.05**	**13**			**Pn**	**11 14 39.8**	**-1.7**
PB09	**IPOC Station P**	**14.11**	**15**			**Pn**	**11 14 41.4**	**-1.0**
PB01	**IPOC Station P**	**14.79**	**14**			**Pn**	**11 14 50.8**	**-0.8**
TA01	**Diego Aracena**	**15.13**	**11**	Pn		**Pn**	**11 14 56.8**	**+0.7**
TA02	**Huaiquique**	**15.43**	**11**	Pn		**Pn**	**11 15 00.9**	**+0.9**
PB08	**IPOC Station P**	**15.73**	**14**			**Pn**	**11 15 03.1**	**-1.1**
GO09	**Cerro Castillo**	**15.75**	**178**			**Pn**	**11 15 05.5**	**+1.5**
GO09				IAmb		IAmb	11 15 35.5	
	comp=Z,286nm,1.5s							
PB11	**IPOC Station P**	**16.01**	**12**	Pn		**Pn**	**11 15 07.7**	**+0.1**
PB11				IAmb		IAmb	11 15 22.9	
	comp=Z,597nm,1.1s							
PSGCX	**Pisagua**	**16.09**	**10**			**Pn**	**11 15 07.4**	**-1.3**
PSGCX				IAmb		IAmb	11 15 21.9	
	comp=Z,334nm,0.9s							
CPUP	**Villa Florida**	**16.38**	**60**	Pn		**Pn**	**11 15 08.1**	**-4.2**
	comp=Z,0.5nm,0.3s,baz=230,slow=13,SNR=7.2							
CPUP				Lg		Lg	11 19 56.6	
	comp=Z,0.3nm,0.3s,baz=331,slow=19,SNR=2.2							
CPUP	**Villa Florida**	**16.38**	**60**	P		**Pn**	**11 15 08.7**	**-3.5**
CPUP				pmax		pmax		
	comp=Z,34nm,1.0s							
CPUP	**Villa Florida**	**16.38**	**60**	Pn		**Pn**	**11 15 08.7**	**-3.5**
CPUP	**Villa Florida**	**16.38**	**60**	*eP*		**Pn**	**11 15 07.9**	**-4.3**
MNMC	**Minye Minye**	**16.64**	**12**			**Pn**	**11 15 15.1**	**-0.7**
MNMC				IAmb		IAmb	11 15 28.4	
	comp=Z,518nm,1.0s							
PLTB	**Pedras Altas**	**16.72**	**83**			**Pn**	**11 15 14.2**	**-2.3**
PLTB	**Pedras Altas**	**16.72**	**83**	*eP*		**Pn**	**11 15 13.6**	**-3.0**
CPSB	**Cacapava Do Su**	**17.32**	**78**	*eP*		**Pn**	**11 15 19.6**	**-4.6**
EFI	**East Falkland**	**19.44**	**151**	*i P*		**P**	**11 15 48.6**	**+0.1**
EFI				pmax		pmax		
	comp=Z,105nm,0.9s							
EFI	**East Falkland**	**19.44**	**151**	P		**P**	**11 15 47.2**	**-1.3**
USHA	**Ushuaia**	**19.59**	**172**	P		**Pn**	**11 15 51.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=0.6,slow=6.2,SNR=6.5							
LPAZ	**La Paz**	**19.68**	**15**	P		**Pn**	**11 15 54.6**	**+1.1**
	comp=Z,3.0nm,0.3s,baz=187,slow=8.5,SNR=33							
LPAZ				PcP		**PcP**	**11 20 10.9**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=58,slow=1.5,SNR=6.0							
LPAZ	**La Paz**	**19.68**	**15**	P		**Pn**	**11 15 54.0**	**+0.5**
LPAZ				pmax		pmax		
	comp=Z,278nm,1.1s							
LPAZ	**La Paz**	**19.68**	**15**	P		**Pn**	**11 15 54.0**	**+0.5**
LPAZ				IAmb		IAmb	11 16 08.6	
	comp=Z,278nm,1.1s							
LPAZ	**La Paz**	**19.68**	**15**	*eP*		**P**	**11 15 51.3**	**-0.8**
MG01	**Puerto William**	**19.78**	**171**	P		**P**	**11 15 50.5**	**-1.7**
MG01				IAmb		IAmb	11 16 12.0	
	comp=Z,305nm,1.1s							
AQDB	**Aquidauana**	**21.46**	**50**	P		**P**	**11 16 10.3**	**-0.3**
AQDB				IAMs_20		IAMs_20	11 25 05.8	
	comp=Z,6μm,18.0s							
AQDB	**Aquidauana**	**21.46**	**50**	*eP*		**P**	**11 16 10.5**	**-0.2**
TER01	**Tubaro-SC**	**21.52**	**78**	*eP*		**P**	**11 16 10.1**	**-1.2**
TRCB	**Terra Rica**	**21.92**	**60**	P		**P**	**11 16 14.6**	**-1.0**
TRCB	**Terra Rica**	**21.92**	**60**	*eP*		**P**	**11 16 14.7**	**-0.9**
SIV	**San Ignacio**	**22.26**	**32**	P		**P**	**11 16 19.0**	**-0.3**
	comp=Z,220nm,1.1s,baz=229,slow=10,SNR=165							
PTLB	**Pontes e Lacer**	**23.62**	**36**	*eP*		**P**	**11 16 33.2**	**-0.1**
PCMB	**Pacaembu**	**23.65**	**60**	*eP*		**P**	**11 16 31.6**	**-2.1**
NNA	**Nana**	**23.67**	**351**	P		**P**	**11 16 34.1**	**+0.2**
	comp=Z,15nm,0.9s,baz=186,slow=14,SNR=2.8							
NNA				LR		LR	11 23 59.4	
	comp=Z,1μm,19.9s,baz=184,slow=32							
NNA	**Nana**	**23.67**	**351**	*ceP*		**P**	**11 16 35.5**	**+1.7**
NNA				pmax		pmax		
	comp=Z,73nm,1.3s							
FRTB	**Fartura**	**23.81**	**66**	*eP*		**P**	**11 16 34.4**	**-0.8**
PP1B	**Ponte de Pedra**	**24.15**	**47**	*eP*		**P**	**11 16 37.5**	**-0.8**
PET01	**Itanhaem-SP**	**25.02**	**70**	*eP*		**P**	**11 16 45.6**	**-0.6**
SALV	**Santo Antonio**	**25.02**	**43**	*eP*		**P**	**11 16 46.0**	**-0.2**
SPB	**Sao Paulo**	**25.28**	**69**	P		**P**	**11 16 48.0**	**-0.5**
SPB	**Sao Paulo**	**25.28**	**69**	*eP*		**P**	**11 16 48.3**	**-0.2**
VILB	**Vilhena**	**25.35**	**31**	*eP*		**P**	**11 16 49.3**	**0.0**
ITRB	**Iturama**	**25.54**	**58**	*eP*		**P**	**11 16 50.4**	**-0.6**
RCLB	**Rio Claro- Sao**	**25.87**	**67**	*eP*		**P**	**11 16 53.5**	**-0.6**
BB19B	**Bebedouro**	**25.95**	**63**	*eP*		**P**	**11 16 53.9**	**-0.8**
VAO	**Valinhos**	**25.96**	**68**	*eP*		**P**	**11 16 54.6**	**-0.3**
ETMB	**Extrema**	**26.37**	**16**	*eP*		**P**	**11 16 59.6**	**+1.1**
PARB	**Paraibuna**	**26.80**	**71**	*eP*		**P**	**11 17 01.3**	**-1.1**
ARAG	**Araguaiana, MT**	**27.47**	**50**	*eP*		**P**	**11 17 07.7**	**-0.7**
CZSB	**Cruzeiro do Su**	**27.67**	**1**	*eP*		**P**	**11 17 11.3**	**+1.1**
ESAR	**Angra dos Reis**	**27.88**	**71**	*eP*		**P**	**11 17 11.3**	**-0.8**
SAML	**Samuel**	**27.99**	**21**	P		**P**	**11 17 11.5**	**-1.5**
SAML				MLR		MLR		
	comp=Z,2μm,20.0s							
SAML	**Samuel**	**27.99**	**21**	P		**P**	**11 17 11.5**	**-1.5**
IPMB	**Ipameri, GO**	**28.20**	**58**	*eP*		**P**	**11 17 13.5**	**-1.5**
ATAH	**Átahualpa**	**28.66**	**349**	P		**P**	**11 17 22.4**	**+2.9**
	comp=Z,8.3nm,0.9s,baz=174,slow=18,SNR=2.7							
ATAH				PcP		**PcP**	**11 20 31.8**	**+1.6**
	comp=Z,8.6nm,0.7s,baz=136,slow=1.4,SNR=4.3							
ATAH				LR		LR	11 26 22.2	
	comp=Z,1μm,21.7s,baz=189,slow=31							
BSCB	**Bom Sucesso**	**28.77**	**67**	*eP*		**P**	**11 17 19.5**	**-0.6**
VAS01	**Vassouras-RJ**	**29.06**	**71**	*eP*		**P**	**11 17 22.5**	**-0.1**
CLDB	**Colider**	**29.18**	**37**	*eP*		**P**	**11 17 23.4**	**-0.3**
PMSA	**Palmer Station**	**29.80**	**172**	P		**P**	**11 17 29.3**	**+0.7**
	comp=Z,21nm,0.9s,baz=331,slow=6.1,SNR=6.1							
PMSA				LR		LR	11 29 26.2	
	comp=Z,2μm,18.0s,baz=343,slow=36							
PMSA	**Palmer Station**	**29.80**	**172**	P		**P**	**11 17 29.6**	**+1.0**
PMSA				IAmb		IAmb	11 17 39.5	
	comp=Z,117nm,1.6s							
PMSA	**Palmer Station**	**29.80**	**172**	*eP*		**P**	**11 17 29.4**	**+0.7**
BDFB	**Brasilia**	**29.97**	**55**	P		**P**	**11 17 30.0**	**-0.8**
	comp=Z,58nm,1.0s,baz=225,slow=7.7,SNR=39							
BDFB	**Brasilia**	**29.97**	**55**	P		**P**	**11 17 30.0**	**-0.8**
BDFB	**Brasilia**	**29.97**	**55**	P		**P**	**11 17 29.9**	**-0.8**
DUB01	**Friburgo-RJ**	**30.00**	**72**	*eP*		**P**	**11 17 29.3**	**-1.7**
CAM01	**Campos-RJ**	**30.69**	**72**	*eP*		**P**	**11 17 37.0**	**+0.1**
SNDB	**Serra Nova Dou**	**30.69**	**46**	*eP*		**P**	**11 17 36.1**	**-1.0**
DIAM	**Diamantina, MG**	**31.24**	**64**	*eP*		**P**	**11 17 41.4**	**-0.7**
TBTG	**Tabatinga, AM**	**31.33**	**6**	*eP*		**P**	**11 17 43.3**	**+0.7**
HOPE	**Hope Point**	**31.55**	**138**	P		**P**	**11 17 45.5**	**+1.2**
HOPE				pmax		pmax		
	comp=Z,141nm,1.4s							
HOPE	**Hope Point**	**31.55**	**138**	P		**P**	**11 17 45.5**	**+1.2**
MC01	**Montes Claros**	**32.07**	**62**	*eP*		**P**	**11 17 48.3**	**-0.9**
ALF01	**Guarapari-ES**	**32.08**	**71**	*eP*		**P**	**11 17 48.4**	**-0.8**
PEXB	**Peixe**	**32.40**	**50**	*eP*		**P**	**11 17 51.6**	**-0.5**
NPGB	**Novo Progresso**	**32.73**	**34**	*eP*		**P**	**11 17 54.0**	**-1.0**
JANB	**Januaria**	**32.91**	**59**	*eP*		**P**	**11 17 56.2**	**-0.5**
BSFB	**Barra de Sao F**	**33.03**	**68**	*eP*		**P**	**11 17 56.8**	**-0.8**
RIB01	**Linhares ES**	**33.09**	**70**	*eP*		**P**	**11 17 57.3**	**-0.8**
NAN01	**Guarapari, ES**	**34.17**	**68**	*eP*		**P**	**11 18 06.5**	**-1.0**
MACA	**Manacapuru-AM**	**34.22**	**23**	*eP*		**P**	**11 18 08.2**	**+0.2**
SDBA	**SAO DESIDERIO**	**34.38**	**55**	*eP*		**P**	**11 18 08.9**	**-0.5**
ITTB	**Itaituba**	**34.94**	**31**	*eP*		**P**	**11 18 13.6**	**-0.6**
GUA01	**Guaratinga, BA**	**35.18**	**66**	*eP*		**P**	**11 18 15.8**	**-0.5**
SMTB	**Santa Maria do**	**35.36**	**48**	*eP*		**P**	**11 18 17.4**	**-0.4**
PTLC	**Puerto Leguiza**	**35.55**	**357**	*eP*		**P**	**11 18 18.0**	**-1.4**
OTAV	**Otavalo**	**35.92**	**351**	P		**P**	**11 18 24.2**	**+1.1**
OTAV				pmax		pmax		
	comp=Z,61nm,1.4s							
OTAV	**Otavalo**	**35.92**	**351**	P		**P**	**11 18 24.2**	**+1.1**
OTAV				IAmb		IAmb	11 18 38.2	
	comp=Z,61nm,1.4s							
OTAV	**Otavalo**	**35.92**	**351**	*eP*		**P**	**11 18 24.9**	**+1.8**
OTAV	**Otavalo**	**35.92**	**351**	*eP*		**P**	**11 18 25.4**	**+2.3**
CMC01	**Camacan, BA**	**36.17**	**65**	*eP*		**P**	**11 18 24.3**	**-0.5**
PRPB	**Parauapebas**	**36.26**	**42**	*eP*		**P**	**11 18 24.5**	**-1.1**
TULM	**Tulcn-Chalpat**	**36.31**	**352**	*eP*		**P**	**11 18 29.1**	**+2.6**
NBIT	**Itapeh - BA**	**36.51**	**64**	*eP*		**P**	**11 18 27.5**	**-0.1**
PTGA	**Pitinga**	**36.74**	**22**	IAMs_20		IAMs_20	11 36 12.8	
	comp=Z,2μm,19.0s							
FLOC	**Florencia**	**36.99**	**356**	P		**P**	**11 18 31.6**	**-0.1**
GDU01	**Guandu, BA**	**37.19**	**63**	*eP*		**P**	**11 18 32.9**	**-0.6**
MACC	**Macarena, Meta**	**37.48**	**359**	*eP*		**P**	**11 18 37.5**	**+1.6**
BBAC	**Balboa, Cauca**	**37.55**	**353**	*eP*		**P**	**11 18 38.0**	**+1.3**
SOTA	**Rioblanco**	**37.60**	**354**	*eP*		**P**	**11 18 39.6**	**+2.1**
MALB	**Monte Alegre**	**37.83**	**32**	*eP*		**P**	**11 18 38.4**	**-0.4**
POPC	**Popayan, Colom**	**38.01**	**354**	*eP*		P	11 18 33.5	-7.1
PAYG	**Puerto Ayora**	**38.16**	**332**	IAMs_20		IAMs_20	11 31 39.4	
	comp=Z,2μm,18.0s							
ORTC	**Ortega, Tolima**	**39.27**	**357**	*eP*		**P**	**11 18 53.3**	**+2.3**
YOTC	**Yotoco, Valle**	**39.41**	**355**	*eP*		**P**	**11 18 52.6**	**+0.3**
BOAV	**Boa Vista**	**39.54**	**20**	*eP*		**P**	**11 18 53.4**	**+0.2**
ANIL	**Santa Ana**	**39.86**	**357**	*eP*		**P**	**11 18 58.8**	**+2.6**
CHIC	**Chingaza**	**39.95**	**359**	*eP*		**P**	**11 18 57.8**	**+0.8**
TOLC	**Tolima**	**39.95**	**357**	*eP*		**P**	**11 18 58.9**	**+1.9**
MCPB	**Macapa, AP**	**40.14**	**34**	*eP*		**P**	**11 18 57.7**	**-0.5**
ROSC	**El Rosal**	**40.17**	**358**	P		**P**	**11 19 02.4**	**+3.5**
	comp=Z,19nm,0.6s,baz=198,slow=20,SNR=2.2							
ROSC				LR		LR	11 35 20.3	
	comp=Z,1μm,20.3s,baz=226,slow=36							
ROSC	**El Rosal**	**40.17**	**358**	P		**P**	**11 18 58.0**	**-0.8**
ROSC				pmax		pmax		
	comp=Z,25nm,0.6s							
ROSC	**El Rosal**	**40.17**	**358**	P		**P**	**11 18 58.0**	**-0.8**
PLMC	**San Jos del P**	**40.32**	**355**	*eP*		**P**	**11 19 00.8**	**+1.0**
TMAB	**Tom-Au,PA,Br**	**40.37**	**41**	*eP*		**P**	**11 19 00.0**	**-0.1**
GUY2C	**Guyana, Caldas**	**40.59**	**357**	*eP*		**P**	**11 19 04.2**	**+1.8**
NORC	**Norcasia**	**40.90**	**357**	*eP*		**P**	**11 19 06.2**	**+1.7**
RUSC	**La Rusia**	**41.20**	**0**	P		**P**	**11 19 08.6**	**+1.1**
RUSC				IAmb		IAmb	11 19 19.2	
	comp=Z,68nm,0.9s							
RUSC	**La Rusia**	**41.20**	**0**	*eP*		**P**	**11 19 08.8**	**+1.3**
CBOC	**Ciudad Bolivar**	**41.26**	**356**	*eP*		**P**	**11 19 08.9**	**+1.3**
HELC	**Santa Helena**	**41.55**	**356**	*eP*		**P**	**11 19 11.4**	**+1.2**
BARC	**Barichara**	**41.89**	**360**	*eP*		**P**	**11 19 09.4**	**-3.5**
ROSB	**Rosrio**	**42.17**	**46**	*eP*		**P**	**11 19 14.8**	**-0.1**
NBAN	**Anadia - AL**	**42.30**	**62**	*eP*		**P**	**11 19 15.5**	**-0.5**
DBBC	**Dabeiba**	**42.41**	**356**	*eP*		**P**	**11 19 19.3**	**+2.4**
ELOV	**Elorza**	**42.44**	**5**	*eP*		**P**	**11 19 17.2**	**+0.2**
NBPS	**Pedro II - PI**	**42.63**	**51**	*eP*		**P**	**11 19 18.3**	**-0.5**
ZARC	**Zaragoza, Cauc**	**42.82**	**358**	*eP*		**P**	**11 19 20.5**	**+0.4**
NBPB	**Pedra_Branca-C**	**42.96**	**54**	*eP*		**P**	**11 19 21.5**	**+0.1**
UREC	**San Jos de Ur**	**43.10**	**357**	*eP*		**P**	**11 19 23.0**	**+0.5**
NBLV	**Livramento - P**	**43.45**	**59**	*eP*		**P**	**11 19 25.3**	**-0.1**
NBRF	**Rio Formoso -**	**43.80**	**62**	*eP*		**P**	**11 19 28.2**	**+0.1**
SMLC	**San Martn de**	**44.09**	**359**	*eP*		**P**	**11 19 29.6**	**-0.8**
SDV	**Santo Domingo**	**44.24**	**4**	P		**P**	**11 19 32.5**	**+0.8**
SDV				IAmb		IAmb	11 19 33.0	
	comp=Z,51nm,0.6s							
SDV	**Santo Domingo**	**44.24**	**4**	*eP*		**P**	**11 19 32.7**	**+0.9**
NBMO	**Morrinhos-CE**	**44.35**	**51**	*eP*		**P**	**11 19 32.0**	**-0.5**
NBPA	**Parau_RN**	**44.47**	**57**	*eP*		**P**	**11 19 32.9**	**-0.6**
NBCL	**Cascavel-CE**	**44.79**	**54**	*eP*		**P**	**11 19 36.5**	**+0.4**
CDITO	**Canoas**	**44.81**	**346**	P		**P**	**11 19 38.0**	**+1.9**
SJCC	**San Jacinto, C**	**45.22**	**357**	P		**P**	**11 19 38.7**	**-0.8**
SJCC	**San Jacinto, C**	**45.22**	**357**	*eP*		**P**	**11 19 40.9**	**+1.4**
RCBR	**Riachuelo**	**45.24**	**58**	P		**P**	**11 19 40.0**	**+0.3**
	comp=Z,30nm,0.6s,baz=122,slow=3.4,SNR=20							
RCBR	**Riachuelo**	**45.24**	**58**	P		**P**	**11 19 40.2**	**+0.5**
RCBR				pmax		pmax		
	comp=Z,165nm,1.3s							
RCBR				MLR		MLR		
	comp=Z,7μm,18.0s							
RCBR	**Riachuelo**	**45.24**	**58**	P		**P**	**11 19 40.2**	**+0.5**
RCBR	**Riachuelo**	**45.24**	**58**	*eP*		**P**	**11 19 39.1**	**-0.6**
NBPV	**Pedro Velho**	**45.25**	**59**	*eP*		**P**	**11 19 39.0**	**-0.7**
SRBA	**San Rafael, Bu**	**45.54**	**346**	P		**P**	**11 19 43.0**	**+0.9**
DRK0	**Durika**	**45.55**	**346**	P		**P**	**11 19 42.7**	**+0.4**
DRK0				IAmb		IAmb	11 21 22.6	
	comp=Z,42nm,0.6s							
PCRV	**Puerto La Cruz**	**46.16**	**12**	P		**P**	**11 19 47.3**	**+0.3**
	comp=Z,29nm,0.9s,baz=186,slow=4.0,SNR=9.2							
RIMA	**Rio Macho**	**46.16**	**345**	P		**P**	**11 19 47.4**	**+0.3**
RIMA				IAmb		IAmb	11 20 00.1	
	comp=Z,61nm,1.6s							
SMRC	**Santa Marta, M**	**46.45**	**359**	*eP*		**P**	**11 19 49.8**	**+0.8**
JTS	**Las Juntas de**	**46.91**	**344**	P		**P**	**11 19 54.8**	**+2.1**
	comp=Z,9.4nm,0.9s,baz=262,slow=6.2,SNR=3.5							
JTS	**Las Juntas de**	**46.91**	**344**	P		**P**	**11 19 53.8**	**+1.0**
JTS				IAmb		IAmb	11 20 10.3	
	comp=Z,107nm,1.8s							
URIC	**Uribia, Colomb**	**46.98**	**2**	P		**P**	**11 19 51.8**	**-1.4**
URIC				IAmb		IAmb	11 20 01.5	
	comp=Z,28nm,0.7s							
TOSP	**Speyside**	**48.08**	**17**	P		**P**	**11 20 01.8**	**0.0**
VNA3	**Neumayer Olymp**	**48.31**	**157**	P		**P**	**11 20 03.7**	**+0.6**
VNA3	**Neumayer Olymp**	**48.31**	**157**	PcP		**PcP**	**11 21 29.3**	**-0.3**
VNA3	**Neumayer Olymp**	**48.31**	**157**	ScP		**ScP**	**11 25 22.6**	**-0.8**
VNA3	**Neumayer Olymp**	**48.31**	**157**	sP		sP	11 20 09.8	-0.5
ESPN	**Las Esperanzas**	**48.61**	**345**	P		**P**	**11 20 06.5**	**+0.6**
GRGR	**Grenville**	**48.64**	**15**	P		**P**	**11 20 06.7**	**+0.6**
VNA1	**Neumayer--Stat**	**48.65**	**156**	P		**P**	**11 20 06.4**	**+0.8**
VNA1	**Neumayer--Stat**	**48.65**	**156**	PcP		**PcP**	**11 21 31.4**	**+0.7**
VNA1	**Neumayer--Stat**	**48.65**	**156**	ScP		**ScP**	**11 25 25.2**	**+0.4**
VNA1	**Neumayer--Stat**	**48.65**	**156**	sP		sP	11 20 12.0	-0.8
SVB	**Belmont**	**49.83**	**15**	P		**P**	**11 20 15.5**	**+0.2**
MCLT	**Moule a Chique**	**50.32**	**16**	P		**P**	**11 20 18.6**	**-0.3**
SNAA	**Sanae**	**50.53**	**157**	P		**P**	**11 20 20.6**	**+0.5**
SNAA	**Sanae**	**50.53**	**157**	ScP		**ScP**	**11 25 32.2**	**-0.8**
SNAA	**Sanae**	**50.53**	**157**	sP		sP	11 20 26.8	-0.6
SNAA	**Sanae**	**50.53**	**157**	P

X58A IAmb IAmb 11 22 34.6
comp=Z,33nm,0.7s
143A Socs Landing, 69.99 344 P **P** **11 22 34.6 +1.2**
BIRD Birdtown, Kers 70.14 354 P **P** **11 22 34.8 +0.4**
JCT Junction City 70.27 336 P **P** **11 22 35.0 -0.4**
baz=157,SNR=6.1
PAULI Pauline 70.45 352 P **P** **11 22 36.8 +0.5**
PAULI IAmb IAmb 11 22 47.8
comp=Z,36nm,1.0s
237A Washetta, Mont 70.45 340 P **P** **11 22 37.1 +0.7**
CNNC Cliffs of the 70.54 356 P **P** **11 22 37.3 +0.5**
baz=176
CNNC Cliffs of the 70.54 356 P **P** **11 22 37.8 +1.0**
W57A Gilead 70.60 354 IAmb IAmb 11 22 38.4
comp=Z,28nm,0.9s
TXAR Lajitas Array 70.62 332 P **P** **11 22 39.0 +1.4**
comp=Z,4.1nm,0.6s,baz=152,slow=8.6,SNR=58
TXAR LR LR 11 49 03.5
comp=Z,558nm,18.1s,baz=0.0,slow=32
TXAR Lajitas Array 70.62 332 P **P** **11 22 39.0 +1.4**
TX31 Lajitas Ar. Si 70.62 332 P **P** **11 22 39.1 +1.5**
TX32 Lajitas Array 70.62 332 P **P** **11 22 39.1 +1.5**
TX32 IAmb IAmb 11 22 47.7
comp=Z,84nm,2.0s
FPAL Fort Paine 70.67 349 IAmb IAmb 11 22 50.3
comp=Z,30nm,1.0s
KMSC Kings Mountain 70.72 353 P **P** **11 22 37.1 -0.8**
baz=173,SNR=9.6
KMSC Kings Mountain 70.72 353 P **P** **11 22 38.6 +0.7**
KMSC IAmb IAmb 11 22 49.1
comp=Z,24nm,0.8s
BG3 Lake Jocassee 70.75 352 IAmb IAmb 11 22 39.7
comp=Z,17nm,0.7s
X48A Hartselle 70.81 348 P **P** **11 22 38.7 +0.2**
Z41A Richland Creek 70.85 343 P **P** **11 22 37.9 -0.8**
baz=163
WHTX Lake Whitney, 70.92 338 P **P** **11 22 38.8 -0.5**
baz=159,SNR=5.4
WHTX Lake Whitney, 70.92 338 P **P** **11 22 40.4 +1.1**
W52A Murphy 70.97 351 IAmb IAmb 11 22 49.8
comp=Z,23nm,0.9s
V58A Windy Hill, Pi 71.17 355 P **P** **11 22 40.8 +0.2**
V58A IAmb IAmb 11 22 51.7
comp=Z,24nm,0.8s
OXF Oxford 71.31 346 P **P** **11 22 40.7 -0.7**
baz=166,SNR=6.9
SWET Sewanee 71.38 349 P **P** **11 22 42.7 +0.7**
V53A Saluda 71.40 352 IAmb IAmb 11 22 53.4
comp=Z,31nm,0.8s
CPCT Cooper Cave 71.40 350 IAmb IAmb 11 22 53.5
comp=Z,41nm,1.0s
V55A Taylorsville 71.41 353 IAmb IAmb 11 22 50.4
comp=Z,38nm,0.7s
Z38A Mt. Pleasant 71.41 341 P **P** **11 22 42.8 +0.6**
TKL Tuckaleechee C 71.51 351 P **P** **11 22 42.8 +0.1**
TKL pmax pmax
comp=Z,21nm,0.8s
TKL Tuckaleechee C 71.51 351 P **P** **11 22 42.8 +0.1**
TKL IAmb IAmb 11 22 52.5
comp=Z,21nm,0.8s
PLAL Pickwick Lake 71.51 347 P **P** **11 22 43.1 +0.4**
PLAL IAmb IAmb 11 22 55.9
comp=Z,31nm,0.8s
U59A Littleton 71.64 356 IAmb IAmb 11 22 57.3
comp=Z,93nm,1.6s
V52A Sevierville 71.66 351 P **P** **11 22 43.6 0.0**
V52A IAmb IAmb 11 22 46.4
comp=Z,24nm,0.8s
V51A Loudon 71.72 350 IAmb IAmb 11 22 55.7
comp=Z,31nm,0.9s
U56A King 71.82 354 P **P** **11 22 45.1 +0.5**
U56A IAmb IAmb 11 22 53.0
comp=Z,29nm,0.7s
W45A Hickory Valley 71.89 346 P **P** **11 22 45.5 +0.5**
MAW Mawson 71.98 164 P **P** **11 22 45.7 +0.5**
comp=Z,28nm,0.7s,baz=207,slow=7.3,SNR=65
MAW LR LR 11 55 50.5
comp=Z,690nm,18.4s,baz=229,slow=37
MAW Mawson 71.98 164 P **P** **11 22 45.9 +0.6**
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW Mawson 71.98 164 P **P** **11 22 45.9 +0.6**
V48A Smith Brothers 72.03 348 P **P** **11 22 46.4 +0.6**
X40A Basin Creek Fa 72.03 343 P **P** **11 22 46.1 +0.2**
baz=163
X40A Basin Creek Fa 72.03 343 P **P** **11 22 46.1 +0.2**
U54A Nelsons Funny 72.13 353 P **P** **11 22 46.5 0.0**
U54A IAmb IAmb 11 22 47.6
comp=Z,44nm,0.7s
ABTX Abilene, Hawle 72.19 337 P **P** **11 22 47.1 +0.1**
baz=158,SNR=6.8
T59A Double "B" Far 72.25 356 P **P** **11 22 48.0 +1.0**
MIAR Mount Ida 72.27 342 P **P** **11 22 47.3 0.0**
baz=163,SNR=6.2
CLTN Cedars of Leba 72.30 349 P **P** **11 22 48.0 +0.6**
CLTN IAmb IAmb 11 22 59.1
comp=Z,56nm,1.0s
TZTN Tazewell 72.35 351 P **P** **11 22 47.4 -0.3**
baz=171,SNR=10
TZTN Tazewell 72.35 351 P **P** **11 22 48.3 +0.5**
TZTN IAmb IAmb 11 23 14.4
comp=Z,66nm,1.3s
T57A Hurt 72.38 355 P **P** **11 22 48.4 +0.5**
T57A IAmb IAmb 11 22 56.1
comp=Z,19nm,0.7s
W41B Gary Mavity, V 72.55 344 P **P** **11 22 49.2 +0.3**
baz=164,SNR=13
WVT Waverly 72.58 348 P **P** **11 22 49.5 +0.4**
WVT pmax pmax
comp=Z,83nm,1.0s
WVT Waverly 72.58 348 P **P** **11 22 49.4 +0.4**
baz=168
WVT Waverly 72.58 348 P **P** **11 22 49.5 +0.4**
U49A Red Boiling Sp 72.63 349 P **P** **11 22 49.6 +0.2**
U49A IAmb IAmb 11 22 59.3
comp=Z,91nm,1.6s
WHAR Wooly Hollow 72.67 344 P **P** **11 22 49.6 0.0**
BLA Blacksburg 72.68 354 P **P** **11 22 50.4 +0.6**
BLA pmax pmax
comp=Z,16nm,0.8s
BLA Blacksburg 72.68 354 P **P** **11 22 49.7 0.0**
baz=174
BLA Blacksburg 72.68 354 P **P** **11 22 50.4 +0.6**
LOOK Love County 72.71 339 P **P** **11 22 49.9 -0.1**
LOOK IAmb IAmb 11 23 03.3
comp=Z,85nm,1.3s
GNAR Gonnell 72.84 346 P **P** **11 22 50.9 +0.3**
LNXT Lenox 72.86 346 P **P** **11 22 51.2 +0.4**
W39A Magazine 72.94 342 P **P** **11 22 52.0 +0.8**
baz=163,SNR=23
W39A Magazine 72.94 342 P **P** **11 22 52.5 +1.3**
UTMT University of 72.98 347 P **P** **11 22 52.3 +0.9**
T50A Nancy 72.99 350 P **P** **11 22 51.7 +0.2**
S57A Dark Hollow, R 73.11 355 P **P** **11 22 52.8 +0.6**
S57A IAmb IAmb 11 23 00.7
comp=Z,30nm,0.8s
LCAR Lake Charles 73.17 345 P **P** **11 22 52.9 +0.3**
LCAR IAmb IAmb 11 23 06.3
comp=Z,84nm,1.3s
FCAR Ozark Folk Cen 73.21 344 P **P** **11 22 53.2 +0.4**
FCAR IAmb IAmb 11 23 06.0
comp=Z,24nm,1.0s
PENMO Penman 73.23 346 P **P** **11 22 54.3 +1.4**
R58B Mineral 73.25 356 P **P** **11 22 53.6 +0.6**
R58B IAmb IAmb 11 23 07.0
comp=Z,38nm,1.1s
T47A Sharon Grove 73.30 348 IAmb IAmb 11 23 03.1
comp=Z,43nm,0.9s
S54A Dingess, Beckl 73.35 353 P **P** **11 22 54.1 +0.5**
S54A IAmb IAmb 11 23 04.2
comp=Z,34nm,0.8s
MNTX Cornudas Mount 73.39 332 P **P** **11 22 54.4 +0.3**
baz=153,SNR=9.1
MNTX Cornudas Mount 73.39 332 IAMs_20 IAMs_20 11 51 50.7
comp=Z,661nm,19.0s
S51A Beattyville 73.44 351 P **P** **11 22 54.3 +0.2**
S51A IAmb IAmb 11 22 55.4
comp=Z,45nm,0.7s
HENM Henderson Moun 73.46 346 P **P** **11 22 54.8 +0.6**
PARMO Parma 73.46 346 P **P** **11 22 54.9 +0.6**
CBN Corbin Frederi 73.47 357 P **P** **11 22 53.6 -0.7**
baz=176
X34A Smith Ranch, M 73.47 339 P **P** **11 22 55.0 +0.6**
X34A IAmb IAmb 11 23 08.4
comp=Z,76nm,1.4s

T45A Paducah 73.60 347 P **P** **11 22 55.6 +0.5**
PBMO Poplar Bluff 73.71 346 P **P** **11 22 56.1 +0.4**
PBMO IAmb IAmb 11 23 09.6
comp=Z,38nm,1.1s
R55A Marlinton 73.72 354 P **P** **11 22 56.5 +0.7**
R55A IAmb IAmb 11 22 57.8
comp=Z,41nm,0.8s
U40A Yellville 73.83 344 P **P** **11 22 55.8 -0.7**
baz=163,SNR=19
U40A Yellville 73.83 344 IAmb IAmb 11 23 09.9
comp=Z,58nm,1.1s
WMOK Wichita Mounta 73.88 338 P **P** **11 22 56.9 +0.1**
baz=159,SNR=6.8
EPT El Paso 73.90 331 IAMs_20 IAMs_20 11 51 07.4
comp=Z,632nm,18.0s
R53A Hurricane 73.94 353 P **P** **11 22 57.4 +0.4**
R53A IAmb IAmb 11 22 58.2
comp=Z,23nm,0.7s
FNO Franklin 73.96 340 P **P** **11 22 58.0 +0.8**
HHAR Hobbs 74.01 343 P **P** **11 22 58.1 +0.5**
HHAR IAmb IAmb 11 23 10.2
comp=Z,55nm,1.5s
Q61A Milford 74.06 358 P **P** **11 22 57.8 0.0**
baz=178
TUL1 Leonard 74.13 341 P **P** **11 22 58.3 +0.1**
baz=161,SNR=7.6
R50A Paris 74.16 351 P **P** **11 22 58.6 +0.2**
R50A IAmb IAmb 11 23 09.5
comp=Z,22nm,0.8s
OK025 Westminster Rd 74.24 340 IAmb IAmb 11 23 11.6
comp=Z,63nm,1.0s
R49A Shelbyville 74.28 350 IAmb IAmb 11 23 06.9
comp=Z,33nm,1.1s
USIN University of 74.35 348 IAmb IAmb 11 23 07.6
comp=Z,53nm,0.8s
S44A Carbondale 74.36 347 IAmb IAmb 11 23 11.3
comp=Z,38nm,1.0s
SIUC Southern Illin 74.38 347 P **P** **11 22 59.9 +0.3**
SIUC IAmb IAmb 11 23 08.2
comp=Z,40nm,0.9s
WCI Wyandotte Cave 74.39 349 P **P** **11 22 59.4 -0.3**
WCI pmax pmax
comp=Z,14nm,0.7s
WCI Wyandotte Cave 74.39 349 P **P** **11 22 59.2 -0.4**
baz=169
WCI Wyandotte Cave 74.39 349 P **P** **11 22 59.4 -0.3**
Q56A Snyder Ridge, 74.41 355 P **P** **11 23 00.8 +1.0**
OK031 S. Brethren Rd 74.45 340 P **P** **11 23 00.5 +0.3**
MGMO Mountain Grove 74.46 344 IAmb IAmb 11 23 13.6
comp=Z,68nm,1.4s
MSTX Muleshoe 74.47 335 P **P** **11 22 59.8 -0.7**
baz=155
MSTX Muleshoe 74.47 335 IAmb IAmb 11 23 15.9
comp=Z,32nm,0.9s
Q52A Bidwell 74.59 353 IAmb IAmb 11 23 12.7
comp=Z,63nm,0.9s
P57A Homestead Farm 74.77 356 P **P** **11 23 02.4 +0.5**
P57A IAmb IAmb 11 23 05.9
comp=Z,50nm,1.1s
Q51A Peebles 74.78 352 P **P** **11 23 02.0 +0.1**
Q51A IAmb IAmb 11 23 10.0
comp=Z,36nm,0.7s
AMTX Amarillo 74.93 336 P **P** **11 23 03.9 +0.9**
baz=156
AMTX Amarillo 74.93 336 P **P** **11 23 04.2 +1.2**
AMTX IAmb IAmb 11 23 17.2
comp=Z,60nm,1.1s
P60A Greenville 75.00 358 P **P** **11 23 03.8 +0.6**
baz=178,SNR=6.2
P60A Greenville 75.00 358 IAmb IAmb 11 23 17.0
comp=Z,46nm,1.0s
P53A Whipple 75.03 353 IAmb IAmb 11 23 13.4
comp=Z,92nm,1.6s
MCWV Mont Chateau 75.07 355 P **P** **11 23 03.8 +0.2**
baz=174
MCWV Mont Chateau 75.07 355 IAmb IAmb 11 23 05.1
comp=Z,23nm,0.8s
121A Cookes Peak, D 75.08 330 P **P** **11 23 04.6 +0.6**
baz=152
CCM Cathedral Cave 75.10 345 P **P** **11 23 04.2 +0.4**
CCM pmax pmax
comp=Z,73nm,1.0s
CCM Cathedral Cave 75.10 345 P **P** **11 23 04.5 +0.6**
baz=165
CCM Cathedral Cave 75.10 345 P **P** **11 23 04.2 +0.4**
WUPA West Chester U 75.12 358 IAmb IAmb 11 23 06.2
comp=Z,25nm,0.8s
OLIL Olney 75.17 348 P **P** **11 23 04.3 +0.1**
OLIL IAmb IAmb 11 23 16.9
comp=Z,30nm,1.1s
MVL Millersville 75.21 357 IAmb IAmb 11 23 18.5
comp=Z,39nm,1.1s
P52A Corning 75.24 353 P **P** **11 23 04.5 -0.2**
baz=172,SNR=17
P52A Corning 75.24 353 IAmb IAmb 11 23 05.8
comp=Z,63nm,0.9s
T35A Sooner Cattle 75.27 341 P **P** **11 23 05.9 +1.0**
T35A IAmb IAmb 11 23 18.7
comp=Z,75nm,1.2s
CROK Carrier 75.29 340 IAmb IAmb 11 23 14.1
comp=Z,79nm,1.2s
BLOK Blackwell 75.31 340 IAmb IAmb 11 23 19.0
comp=Z,104nm,1.6s
BLO Bloomington 75.34 349 IAmb IAmb 11 23 13.3
comp=Z,30nm,0.9s
P49A Miami Univ. Ec 75.45 351 P **P** **11 23 05.1 -0.6**
baz=170,SNR=6.2
P49A Miami Univ. Ec 75.45 351 P **P** **11 23 05.8 0.0**
P49A IAmb IAmb 11 23 06.6
comp=Z,65nm,1.3s
PAGS Pennsylvania G 75.45 357 IAmb IAmb 11 23 07.7
comp=Z,38nm,1.0s
P48A Milroy 75.47 350 P **P** **11 23 05.8 -0.2**
Q44A Meyer Farm, Va 75.50 347 IAmb IAmb 11 23 14.2
comp=Z,28nm,0.9s
R40A Maddies Statio 75.55 345 P **P** **11 23 06.7 +0.3**
R40A IAmb IAmb 11 23 19.8
comp=Z,60nm,1.1s
O56A Blue Knob Stat 75.59 356 P **P** **11 23 06.7 0.0**
baz=176,SNR=6.5
O56A Blue Knob Stat 75.59 356 P **P** **11 23 07.5 +0.9**
O56A IAmb IAmb 11 23 08.5
comp=Z,81nm,1.6s
O52A Adamsville 75.69 353 IAmb IAmb 11 23 08.3
comp=Z,35nm,0.8s
O53A New Philadelph 75.77 354 P **P** **11 23 07.2 -0.4**
baz=173,SNR=7.4
O53A New Philadelph 75.77 354 P **P** **11 23 07.8 +0.2**
O53A IAmb IAmb 11 23 25.4
comp=Z,51nm,1.2s
LUPA Lehigh Univers 75.78 358 IAmb IAmb 11 23 16.8
comp=Z,41nm,1.2s
P46A Rosedale 75.89 349 IAmb IAmb 11 23 09.5
comp=Z,30nm,0.9s
KAN10 Anthony SW Sta 75.90 340 IAmb IAmb 11 23 22.6
comp=Z,94nm,1.5s
SSPA Standing Stone 75.91 356 P **P** **11 23 08.5 +0.1**
baz=176
SSPA Standing Stone 75.91 356 P **P** **11 23 09.2 +0.8**
SSPA IAmb IAmb 11 23 27.8
comp=Z,25nm,0.8s
ACSO Alum Creek Sta 75.93 352 P **P** **11 23 08.7 +0.2**
baz=172,SNR=17
ACSO Alum Creek Sta 75.93 352 P **P** **11 23 09.0 +0.5**
O49A Covington 76.04 351 IAmb IAmb 11 23 17.0
comp=Z,38nm,0.7s
BNM Barren Site 76.05 332 P **P** **11 23 09.1 -0.6**
N58A Sunbury 76.06 357 IAmb IAmb 11 23 20.8
comp=Z,32nm,0.9s
Y22D IRIS PASSCAL I 76.09 332 IAMs_20 IAMs_20 11 52 57.2
comp=Z,868nm,18.0s
N59A State Game Lan 76.11 358 P **P** **11 23 10.1 +0.5**
baz=178,SNR=10
N59A State Game Lan 76.11 358 IAmb IAmb 11 23 21.5
comp=Z,32nm,0.8s
LIC Lamto 76.14 72 *eP* **P** **11 23 10.6 +0.2**
comp=Z,324nm,1.2s
TUC Tucson 76.14 328 P **P** **11 23 10.0 -0.1**
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 76.14 328 P **P** **11 23 10.6 +0.5**
baz=149
TUC Tucson 76.14 328 P **P** **11 23 10.0 -0.1**
PAL Palisades 76.16 359 P **P** **11 23 10.1 +0.3**
baz=179
ODNJ Ogdensburg 76.25 359 IAmb IAmb 11 23 12.0
comp=Z,21nm,0.7s

N53A Lisbon 76.29 354 IAmb IAmb 11 23 22.1
comp=Z,37nm,1.1s
TRNY Table Rock, Ra 76.30 359 P **P** **11 23 11.4 +0.8**
WSPT Westport, CT 76.32 360 IAmb IAmb 11 23 12.9
comp=Z,39nm,1.1s
N54A Moraine State 76.37 355 P **P** **11 23 10.9 -0.2**
baz=174,SNR=8.3
N54A Moraine State 76.37 355 IAmb IAmb 11 23 13.6
comp=Z,41nm,1.1s
TIC Toumodi 76.41 72 *eP* **P** **11 23 13.2 +1.3**
KIC Kosan Boka 76.45 72 *eP* **P** **11 23 13.5 +1.4**
comp=Z,175nm,1.0s
M57A Sunshine Farm, 76.58 357 IAmb IAmb 11 23 15.2
comp=Z,35nm,1.1s
O44A Mansfield 76.61 348 IAmb IAmb 11 23 13.1
comp=Z,32nm,0.6s
SFIN Lafayette 76.61 349 P **P** **11 23 12.6 +0.2**
baz=168
SFIN Lafayette 76.61 349 IAmb IAmb 11 23 19.6
comp=Z,16nm,0.7s
ANMO Albuquerque 76.68 332 *ceP* **P** **11 23 15.4 +2.2**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 76.68 332 P **P** **11 23 13.4 +0.2**
baz=153
ANMO Albuquerque 76.68 332 P **P** **11 23 14.5 +1.3**
ANMO Albuquerque 76.68 332 IAMs_20 IAMs_20 11 53 13.9
comp=Z,527nm,18.0s
M64A Tiverton 76.72 2 P **P** **11 23 14.3 +1.3**
baz=182
M64A Tiverton 76.72 2 IAmb IAmb 11 23 15.3
comp=Z,27nm,0.9s
214A Organ Pipe Nat 76.75 326 P **P** **11 23 14.0 +0.6**
baz=148
N49A Columbus Grove 76.75 351 P **P** **11 23 13.3 +0.2**
N49A IAmb IAmb 11 23 14.2
comp=Z,39nm,0.8s
M55A Ridgway 76.79 356 P **P** **11 23 13.6 +0.1**
M55A IAmb IAmb 11 23 24.5
comp=Z,38nm,0.8s
KSCT Kent School, K 76.88 360 IAmb IAmb 11 23 41.0
comp=Z,91nm,2.0s
M54A Oil Creek Stat 76.89 355 P **P** **11 23 13.7 -0.3**
baz=175,SNR=7.3
M54A Oil Creek Stat 76.89 355 P **P** **11 23 14.1 +0.1**
M54A IAmb IAmb 11 23 16.7
comp=Z,34nm,1.1s
N47A Urbana 76.90 350 IAmb IAmb 11 23 15.7
comp=Z,65nm,1.1s
M53A WI Miller and 76.90 354 P **P** **11 23 14.1 +0.1**
baz=174
M53A WI Miller and 76.90 354 P **P** **11 23 14.2 +0.1**
M53A IAmb IAmb 11 23 24.8
comp=Z,41nm,0.9s
UCCT U. Connecticut 76.95 1 IAmb IAmb 11 23 28.0
comp=Z,32nm,1.2s
L63A North Scituate 77.03 1 P **P** **11 23 15.4 +0.7**
baz=181,SNR=9.8
M52A Chesterland 77.06 354 IAmb IAmb 11 23 17.3
comp=Z,63nm,1.1s
ALLY Alegheny Colle 77.07 355 P **P** **11 23 15.0 0.0**
ALLY IAmb IAmb 11 23 25.8
comp=Z,38nm,0.9s
BRYW Bryant College 77.08 1 IAmb IAmb 11 23 27.3
comp=Z,50nm,1.1s
P38A Dawn 77.10 344 IAmb IAmb 11 23 28.4
comp=Z,46nm,0.8s
L64A Middleborough 77.12 2 P **P** **11 23 16.4 +1.2**
baz=182,SNR=5.3
L64A Middleborough 77.12 2 IAmb IAmb 11 23 17.2
comp=Z,34nm,0.7s
HDIL Hopedale 77.15 347 P **P** **11 23 15.3 -0.1**
baz=167,SNR=8.9
HDIL Hopedale 77.15 347 P **P** **11 23 15.6 +0.2**
L58A Harry Jones Me 77.24 358 P **P** **11 23 16.1 +0.2**
baz=178,SNR=7.2
KSU1 Kansas State U 77.35 342 P **P** **11 23 16.9 +0.3**
baz=161
L59A Walton 77.36 359 IAmb IAmb 11 23 28.4
comp=Z,28nm,0.8s
L56A Greenwood 77.39 357 P **P** **11 23 17.5 +0.7**
BINY Binghamton 77.39 358 P **P** **11 23 17.2 +0.4**
baz=178
ERPA Erie 77.52 355 P **P** **11 23 17.7 +0.2**
baz=174
ERPA Erie 77.52 355 P **P** **11 23 17.9 +0.4**
ERPA IAmb IAmb 11 23 18.7
comp=Z,47nm,0.8s
WES Weston 77.56 1 P **P** **11 23 18.8 +1.2**
WES pmax pmax
comp=Z,49nm,1.3s
WES Weston 77.56 1 P **P** **11 23 18.8 +1.2**
WES IAmb IAmb 11 23 20.1
comp=Z,49nm,1.3s
L61B Northampton 77.60 0 P **P** **11 23 18.5 +0.6**
baz=180,SNR=8.6
HRV Adam Dziewonsk 77.67 1 P **P** **11 23 19.2 +0.9**
HRV pmax pmax
comp=Z,36nm,0.9s
HRV Adam Dziewonsk 77.67 1 P **P** **11 23 19.6 +1.3**
baz=181
HRV Adam Dziewonsk 77.67 1 P **P** **11 23 19.2 +0.9**
HRV IAmb IAmb 11 23 30.5
comp=Z,36nm,0.9s
L48A N Adams 77.78 351 IAmb IAmb 11 23 27.1
comp=Z,51nm,1.2s
K61A Williamstown 77.82 360 P **P** **11 23 19.8 +0.7**
baz=180
K62A Royalston 77.82 1 P **P** **11 23 20.2 +1.0**
baz=181,SNR=6.9
K62A Royalston 77.82 1 P **P** **11 23 20.8 +1.6**
K62A IAmb IAmb 11 23 33.6
comp=Z,43nm,1.1s
K63A Dunstable 77.86 1 P **P** **11 23 19.9 +0.6**
baz=181
TRY Troy 77.89 360 P **P** **11 23 20.9 +1.4**
T25A Trinidad 77.90 335 P **P** **11 23 21.5 +1.5**
baz=154,SNR=20
T25A Trinidad 77.90 335 IAmb IAmb 11 23 35.1
comp=Z,83nm,1.3s
CBKS Cedar Bluff 77.94 339 P **P** **11 23 20.3 +0.3**
baz=158,SNR=5.9
CBKS Cedar Bluff 77.94 339 IAmb IAmb 11 23 30.9
comp=Z,41nm,0.7s
K56A Middlesex 77.94 357 P **P** **11 23 19.9 +0.1**
baz=177,SNR=6.9
K57A Scipio Center 77.94 357 P **P** **11 23 20.4 +0.6**
MMNY Mt. Morris Dam 78.00 356 IAmb IAmb 11 23 31.3
comp=Z,48nm,0.9s
AAM Ann Arbor 78.05 352 P **P** **11 23 21.1 +0.8**
baz=171
W18A Petrified Fore 78.12 330 P **P** **11 23 21.5 +0.2**
baz=150
J62A Henniker 78.39 1 P **P** **11 23 22.9 +0.7**
baz=181,SNR=8.7
J60A Lant Hill Farm 78.40 360 P **P** **11 23 23.4 +1.1**
baz=180
K50A Casco 78.40 353 P **P** **11 23 22.3 0.0**
J63A Strafford 78.45 2 P **P** **11 23 23.8 +1.2**
baz=182
MEDO Medina 78.47 356 P **P** **11 23 22.6 -0.1**
MEDO IAmb IAmb 11 23 32.7
comp=Z,39nm,0.8s
CASY Casey 78.48 182 P **P** **11 23 23.4 +0.7**
CASY IAmb IAmb 11 23 31.8
comp=Z,46nm,1.1s
L44A Lake County Fo 78.50 349 P **P** **11 23 23.2 +0.3**
baz=168
J56A Wolcott 78.50 357 P **P** **11 23 23.5 +0.6**
J56A IAmb IAmb 11 23 33.8
comp=Z,29nm,0.8s
J61A Chester 78.50 0 P **P** **11 23 24.0 +1.1**
baz=180
J55A Hilton 78.53 357 IAmb IAmb 11 23 34.1
comp=Z,28nm,1.0s
J58A Remsen 78.54 358 P **P** **11 23 23.9 +0.8**
baz=178
ACCN Adirondack Com 78.54 360 P **P** **11 23 24.3 +1.2**
ACCN IAmb IAmb 11 23 34.9
comp=Z,33nm,0.9s
J54A Appleton 78.58 356 IAmb IAmb 11 23 34.3
comp=Z,47nm,0.8s
GLA Glamis 78.59 325 P **P** **11 23 23.9 +0.2**
baz=147
J57A Williamstown 78.60 358 IAmb IAmb 11 23 25.1
comp=Z,28nm,0.8s
L42A Oliver, Polo 78.62 348 P **P** **11 23 23.7 +0.1**

L42A				IAmb	IAmb	11 23 32.0	
	comp=Z,47nm,0.8s						
J59A	**Piesco**	**78.63**	**359**	P	**P**	**11 23 24.4**	**+0.7**
FFD	**Franklin Falls**	**78.63**	**1**	IAmb	IAmb	11 23 26.0	
	comp=Z,43nm,0.7s						
SDCO	**Great Sand Dun**	**78.83**	**334**	P	**P**	**11 23 26.4**	**+1.1**
	baz=154,SNR=12						
SDCO	**Great Sand Dun**	**78.83**	**334**	P	**P**	**11 23 25.9**	**+0.7**
SDCO				IAMs_20	IAMs_20	11 55 22.6	
	comp=Z,512nm,18.0s						
I58A	**Old Forge**	**78.86**	**359**	P	**P**	**11 23 25.4**	**+0.5**
	baz=178,SNR=16						
IKP	**In-Ko-Pah, Jac**	**78.86**	**324**	P	**P**	**11 23 25.3**	**0.0**
	baz=146						
HNH	**Hanover**	**78.86**	**1**	P	**P**	**11 23 26.1**	**+1.3**
HNH				IAmb	IAmb	11 23 27.0	
	comp=Z,24nm,0.7s						
I59A	**Olmsteadville**	**78.95**	**359**	P	**P**	**11 23 25.1**	**-0.3**
	baz=179,SNR=7.5						
L40A	**Anamosa**	**78.97**	**346**	P	**P**	**11 23 25.7**	**+0.2**
L40A				IAmb	IAmb	11 23 33.9	
	comp=Z,41nm,0.9s						
I60A	**Shoreham**	**79.00**	**360**	P	**P**	**11 23 25.8**	**+0.2**
	baz=180,SNR=12						
KSCO	**Kaye Shedlock'**	**79.01**	**337**	P	**P**	**11 23 26.6**	**+0.6**
	baz=156						
KSCO	**Kaye Shedlock'**	**79.01**	**337**	IAmb	IAmb	11 23 36.9	
	comp=Z,34nm,0.9s						
I62A	**Tamworth**	**79.04**	**1**	P	**P**	**11 23 26.2**	**+0.3**
	baz=182						
I62A	**Tamworth**	**79.04**	**1**	P	**P**	**11 23 27.4**	**+1.6**
K43A	**Burlington**	**79.08**	**349**	IAmb	IAmb	11 23 51.0	
	comp=Z,43nm,0.9s						
I61A	**Oroboro, Fairl**	**79.09**	**1**	P	**P**	**11 23 26.9**	**+0.8**
	baz=181,SNR=7.3						
J47A	**Sunmer**	**79.11**	**351**	P	**P**	**11 23 26.1**	**-0.1**
J47A				IAmb	IAmb	11 23 36.5	
	comp=Z,39nm,0.9s						
I57A	**Carthage**	**79.12**	**358**	P	**P**	**11 23 26.6**	**+0.3**
	baz=178,SNR=12						
NCB	**Newcomb**	**79.13**	**359**	P	**P**	**11 23 27.1**	**+0.7**
I64A	**Boothbay**	**79.14**	**3**	P	**P**	**11 23 27.4**	**+1.1**
	baz=183,SNR=5.5						
WUAZ	**Wupatki**	**79.14**	**329**	P	**P**	**11 23 27.3**	**+0.4**
	baz=149						
WUAZ	**Wupatki**	**79.14**	**329**	P	**P**	**11 23 27.1**	**+0.3**
PECO	**Prince Edward**	**79.16**	**357**	P	**P**	**11 23 26.7**	**+0.2**
PECO				IAmb	IAmb	11 23 37.6	
	comp=Z,24nm,0.8s						
MONP2	**Monument Peak**	**79.21**	**324**	P	**P**	**11 23 27.2**	**-0.1**
	baz=145						
SCIA	**State Center**	**79.22**	**345**	P	**P**	**11 23 27.1**	**+0.2**
	baz=164						
SCIA	**State Center**	**79.22**	**345**	P	**P**	**11 23 27.7**	**+0.8**
SCIA				IAmb	IAmb	11 23 40.4	
	comp=Z,69nm,1.2s						
I63A	**Otisfield**	**79.24**	**2**	P	**P**	**11 23 27.5**	**+0.6**
	baz=182,SNR=8.0						
I63A	**Otisfield**	**79.24**	**2**	IAmb	IAmb	11 23 39.5	
	comp=Z,64nm,1.1s						
S22A	**4UR Ranch, Cre**	**79.30**	**333**	P	**P**	**11 23 28.1**	**+0.3**
	baz=153,SNR=7.2						
LBNH	**Lisbon**	**79.40**	**1**	P	**P**	**11 23 29.2**	**+1.4**
LBNH				pmax	pmax		
	comp=Z,31nm,0.9s						
LBNH	**Lisbon**	**79.40**	**1**	P	**P**	**11 23 28.6**	**+0.8**
	baz=181,SNR=9.3						
LBNH	**Lisbon**	**79.40**	**1**	P	**P**	**11 23 29.2**	**+1.4**
LBNH				IAmb	IAmb	11 23 39.9	
	comp=Z,31nm,0.9s						
MVCO	**Mesa Verde**	**79.46**	**332**	P	**P**	**11 23 29.2**	**+0.6**
	baz=151,SNR=6.7						
MVCO	**Mesa Verde**	**79.46**	**332**	P	**P**	**11 23 29.8**	**+1.2**
MVCO				IAMs_20	IAMs_20	11 54 38.3	
	comp=Z,983nm,18.0s						
H58A	**Gabriels**	**79.57**	**359**	P	**P**	**11 23 29.2**	**+0.4**
	baz=179,SNR=14						
JFWS	**Jewell Farm**	**79.61**	**347**	P	**P**	**11 23 29.7**	**+0.7**
JFWS				pmax	pmax		
	comp=Z,116nm,1.5s						
JFWS	**Jewell Farm**	**79.61**	**347**	P	**P**	**11 23 29.1**	**+0.1**
	baz=166,SNR=10						
JFWS	**Jewell Farm**	**79.61**	**347**	P	**P**	**11 23 29.7**	**+0.7**
JFWS				IAmb	IAmb	11 23 39.9	
	comp=Z,116nm,1.5s						
H57A	**Richville**	**79.64**	**358**	P	**P**	**11 23 29.2**	**+0.1**
	baz=178,SNR=10						
H61A	**Lyndonville**	**79.69**	**1**	P	**P**	**11 23 29.8**	**+0.4**
	baz=181,SNR=17						
TSUM	**Tsumeb**	**79.69**	**106**	P	**P**	**11 23 30.0**	**-0.3**
TSUM	**Tsumeb**	**79.69**	**106**	IAMs_20	IAMs_20	11 56 02.0	
	comp=Z,1µm,19.0s						
H60A	**Morristown**	**79.71**	**0**	P	**P**	**11 23 30.4**	**+0.9**
	baz=180,SNR=7.8						
H62A	**Milan**	**79.75**	**1**	P	**P**	**11 23 31.0**	**+1.3**
	baz=182						
H62A	**Milan**	**79.75**	**1**	P	**P**	**11 23 31.0**	**+1.3**
LONY	**Lake Ozonia**	**79.78**	**359**	P	**P**	**11 23 30.3**	**+0.4**
	baz=179,SNR=16						
LONY	**Lake Ozonia**	**79.78**	**359**	IAmb	IAmb	11 23 41.4	
	comp=Z,27nm,0.8s						
Q24A	**Divide**	**79.80**	**335**	P	**P**	**11 23 30.6**	**+0.1**
	baz=154						
H59A	**Cadyville**	**79.80**	**360**	P	**P**	**11 23 30.4**	**+0.4**
	baz=180,SNR=9.1						
TPFO	**Pinon Flats**	**79.81**	**324**	P	**P**	**11 23 31.2**	**+0.7**
	baz=146,SNR=12						
PFO	**Pinyon Flats O**	**79.82**	**324**	P	**P**	**11 23 32.1**	**+1.6**
PFO				pmax	pmax		
	comp=Z,13nm,0.9s						
PFO	**Pinyon Flats O**	**79.82**	**324**	P	**P**	**11 23 30.6**	**+0.1**
	baz=146,SNR=13						
PFO	**Pinyon Flats O**	**79.82**	**324**	P	**P**	**11 23 32.1**	**+1.6**
PFO				IAMs_20	IAMs_20	11 52 45.0	
	comp=Z,560nm,18.0s						
H63A	**New Sharon**	**79.86**	**2**	P	**P**	**11 23 30.9**	**+0.6**
	baz=183,SNR=10						
H64A	**Troy**	**79.87**	**3**	P	**P**	**11 23 30.3**	**0.0**
	baz=183						
H65A	**Eastbrook**	**79.97**	**4**	P	**P**	**11 23 31.3**	**+0.5**
	baz=184,SNR=8.3						
FRNY	**Flat Rock**	**79.99**	**360**	P	**P**	**11 23 32.0**	**+1.1**
FRNY				IAmb	IAmb	11 23 32.9	
	comp=Z,31nm,0.7s						
EMMW	**East Machias**	**80.03**	**4**	P	**P**	**11 23 32.6**	**+1.5**
EMMW				IAmb	IAmb	11 23 33.4	
	comp=Z,25nm,0.8s						
H66A	**Whiting**	**80.11**	**4**	P	**P**	**11 23 31.5**	**-0.1**
	baz=185						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**11 23 32.9**	**+0.1**
	comp=Z,41nm,0.9s,baz=238,slow=4.1,SNR=52						
BOSA				LR	LR	11 56 10.1	
	comp=Z,588nm,19.0s,baz=228,slow=34						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**11 23 33.0**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,41nm,0.8s						
BOSA	**Boshof**	**80.19**	**118**	P	**P**	**11 23 33.0**	**+0.1**
BOSA				IAmb	IAmb	11 23 33.5	
	comp=Z,41nm,0.8s						
HAL	**Halifax**	**80.26**	**7**	IAmb	IAmb	11 23 44.9	
	comp=Z,34nm,1.0s						
U15A	**North Rim**	**80.31**	**329**	IAmb	IAmb	11 23 44.0	
	comp=Z,69nm,1.9s						
I42A	**Draeger Farm,**	**80.33**	**349**	P	**P**	**11 23 33.3**	**+0.5**
I42A				IAmb	IAmb	11 23 41.5	
	comp=Z,46nm,1.1s						
G63A	**Kingsbury**	**80.33**	**3**	P	**P**	**11 23 33.7**	**+0.9**
	baz=183,SNR=7.7						
G62A	**West of Eustis**	**80.41**	**2**	P	**P**	**11 23 34.5**	**+1.3**
	baz=182,SNR=14						
G62A	**West of Eustis**	**80.41**	**2**	P	**P**	**11 23 34.5**	**+1.3**
PV13	**Radium Mtn., P**	**80.41**	**332**	IAmb	IAmb	11 24 01.7	
	comp=Z,39nm,1.2s						
PV02	**Paradox Valley**	**80.42**	**332**	IAmb	IAmb	11 23 55.8	
	comp=Z,48nm,1.6s						
G61A	**St-Isidore-de-**	**80.45**	**1**	P	**P**	**11 23 34.5**	**+1.0**
	baz=181,SNR=9.4						
GGN	**Saint George**	**80.47**	**5**	P	**P**	**11 23 34.9**	**+1.4**
PKME	**Peaks-Kenny Pk**	**80.49**	**3**	P	**P**	**11 23 34.6**	**+0.9**
	baz=183,SNR=6.2						
G64A	**Maxfield**	**80.50**	**3**	P	**P**	**11 23 34.6**	**+0.9**
	baz=184,SNR=12						
G65A	**Princeton**	**80.51**	**4**	P	**P**	**11 23 34.7**	**+0.9**
	baz=185,SNR=7.2						
PV18	**Skein Mesa, Pa**	**80.52**	**332**	P	**P**	**11 23 35.7**	**+1.4**
PV16	**Nyswonger Mesa**	**80.58**	**332**	IAmb	IAmb	11 23 44.7	
	comp=Z,58nm,1.8s						
SMCO	**Snowmass**	**80.62**	**334**	P	**P**	**11 23 36.9**	**+1.8**
SMCO				IAmb	IAmb	11 23 50.2	
	comp=Z,76nm,1.6s						
ISCO	**Idaho Springs**	**80.70**	**335**	P	**P**	**11 23 35.5**	**+0.1**
	baz=154,SNR=14						
H43A	**Windswept, Lux**	**80.72**	**349**	P	**P**	**11 23 35.5**	**+0.6**
H43A				IAmb	IAmb	11 23 36.2	
	comp=Z,42nm,1.1s						
F63A	**Nahmakanta, Br**	**80.94**	**3**	P	**P**	**11 23 36.6**	**+0.5**
	baz=183,SNR=9.7						
F63A	**Nahmakanta, Br**	**80.94**	**3**	IAmb	IAmb	11 23 48.2	
	comp=Z,33nm,1.1s						
KNB	**Kanab**	**81.03**	**329**	IAmb	IAmb	11 24 05.8	
	comp=Z,37nm,1.2s						
F62A	**Pittston Farm,**	**81.10**	**2**	P	**P**	**11 23 38.0**	**+1.1**
	baz=183,SNR=14						
F62A	**Pittston Farm,**	**81.10**	**2**	IAmb	IAmb	11 23 49.1	
	comp=Z,39nm,0.8s						
F64A	**Sherman**	**81.13**	**3**	P	**P**	**11 23 37.6**	**+0.6**
	baz=184,SNR=9.4						
F64A	**Sherman**	**81.13**	**3**	IAmb	IAmb	11 23 46.5	
	comp=Z,35nm,1.2s						
LCMT	**Little Creek M**	**81.20**	**329**	P	**P**	**11 23 38.6**	**+0.8**
ALGO	**Algonquin Park**	**81.22**	**357**	P	**P**	**11 23 37.7**	**+0.1**
	baz=176,SNR=18						
GBN	**Guysborough**	**81.25**	**8**	IAmb	IAmb	11 23 54.7	
	comp=Z,118nm,1.7s						
LMN	**Caledonia Moun**	**81.36**	**6**	P	**P**	**11 23 39.4**	**+1.1**
LMN				IAmb	IAmb	11 23 42.2	
	comp=Z,42nm,1.0s						
GSC	**Goldstone, Bar**	**81.37**	**325**	P	**P**	**11 23 38.8**	**+0.1**
	baz=145						
E60A	**Ste Agathe de**	**81.54**	**1**	P	**P**	**11 23 39.2**	**0.0**
	baz=181,SNR=12						
EDW2	**Edwards Air Fo**	**81.58**	**324**	P	**P**	**11 23 40.1**	**+0.3**
	baz=145						
SHPR	**Sheep Range**	**81.61**	**327**	P	**P**	**11 23 41.8**	**+1.7**
E61A	**Lac Etchemin**	**81.62**	**2**	P	**P**	**11 23 41.0**	**+1.3**
	baz=182						
E63A	**Oxbow**	**81.69**	**3**	P	**P**	**11 23 40.7**	**+0.7**
	baz=184,SNR=7.5						
E63A	**Oxbow**	**81.69**	**3**	P	**P**	**11 23 40.8**	**+0.8**
E63A				IAmb	IAmb	11 23 42.5	
	comp=Z,75nm,1.6s						
CCUT	**Cedar City**	**81.71**	**329**	P	**P**	**11 23 42.0**	**+1.3**
E64A	**Bridgewater**	**81.71**	**4**	P	**P**	**11 23 41.1**	**+1.0**
	baz=184,SNR=7.9						
ECSD	**EROS Data Cent**	**81.72**	**343**	P	**P**	**11 23 40.6**	**+0.4**
	baz=161,SNR=39						
ECSD	**EROS Data Cent**	**81.72**	**343**	P	**P**	**11 23 40.7**	**+0.4**
N23A	**Red Feather La**	**81.80**	**336**	P	**P**	**11 23 41.8**	**+0.7**
	baz=154,SNR=7.1						
E62A	**Clayton Lake**	**81.84**	**3**	P	**P**	**11 23 41.7**	**+0.9**
	baz=183,SNR=14						
E62A	**Clayton Lake**	**81.84**	**3**	P	**P**	**11 23 41.8**	**+0.9**
E62A				IAmb	IAmb	11 23 44.5	
	comp=Z,52nm,1.2s						
O20A	**White River Ci**	**81.93**	**334**	P	**P**	**11 23 42.1**	**+0.4**
	baz=152						
O20A	**White River Ci**	**81.93**	**334**	IAmb	IAmb	11 23 51.6	
	comp=Z,65nm,1.8s						
PQI	**Presque Isle**	**81.95**	**4**	IAmb	IAmb	11 23 43.7	
	comp=Z,59nm,1.5s						
PHWY	**Pilot Hill**	**82.00**	**336**	IAmb	IAmb	11 23 51.9	
	comp=Z,38nm,1.6s						
F42A	**Maple Grove Fa**	**82.03**	**349**	IAmb	IAmb	11 23 43.4	
	comp=Z,45nm,1.3s						
MSU	**Marysvale**	**82.03**	**330**	P	**P**	**11 23 43.5**	**+1.1**
MSU	**Marysvale**	**82.03**	**330**	P	**P**	**11 23 43.5**	**+1.1**
D60A	**Saint Jean D'O**	**82.09**	**2**	P	**P**	**11 23 42.2**	**+0.1**
	baz=182,SNR=5.4						
KOWA	**Kowa**	**82.11**	**66**	P	**P**	**11 23 43.4**	**+0.4**
E46A	**Sault Ste Mari**	**82.13**	**352**	P	**P**	**11 23 42.6**	**+0.2**
D58A	**Chemin du LacG**	**82.25**	**0**	P	**P**	**11 23 42.9**	**-0.1**
	baz=180,SNR=11						
P17A	**Butcher Ranch,**	**82.29**	**332**	IAmb	IAmb	11 24 11.6	
	comp=Z,33nm,1.3s						
D63A	**Stockholm**	**82.31**	**3**	P	**P**	**11 23 43.7**	**+0.4**
	baz=184,SNR=14						
PRN	**Pahroc Range**	**82.31**	**328**	IAmb	IAmb	11 24 12.9	
	comp=Z,49nm,1.2s						
D62A	**Allapoint, All**	**82.32**	**3**	P	**P**	**11 23 44.0**	**+0.7**
	baz=183,SNR=15						
D62A	**Allapoint, All**	**82.32**	**3**	P	**P**	**11 23 44.3**	**+1.0**
D62A				IAmb	IAmb	11 23 55.1	
	comp=Z,37nm,0.9s						
SPMN	**Marine on St.**	**82.32**	**346**	P	**P**	**11 23 42.7**	**-0.6**
	baz=164,SNR=6.3						
SPMN	**Marine on St.**	**82.32**	**346**	IAmb	IAmb	11 23 44.3	
	comp=Z,30nm,1.1s						
TMUT	**Trail Mountain**	**82.32**	**331**	P	**P**	**11 23 45.5**	**+1.5**
D61A	**St Aubert, Com**	**82.40**	**2**	P	**P**	**11 23 44.1**	**+0.4**
	baz=182						
TPNV	**Topopah Spring**	**82.47**	**327**	P	**P**	**11 23 44.7**	**+0.1**
	baz=146						
TPNV	**Topopah Spring**	**82.47**	**327**	IAMs_20	IAMs_20	11 54 16.2	
	comp=Z,528nm,18.0s						
PKM	**Mcpherson Peak**	**82.47**	**323**	P	**P**	**11 23 43.7**	**-0.9**
	baz=143						
E43A	**Lone Tree Farm**	**82.47**	**350**	P	**P**	**11 23 44.4**	**+0.2**
E43A				IAmb	IAmb	11 23 55.3	
	comp=Z,35nm,0.8s						
LBTB	**Lobatse**	**82.51**	**115**	P	**P**	**11 23 45.3**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,51nm,1.2s						
LBTB	**Lobatse**	**82.51**	**115**	P	**P**	**11 23 45.3**	**+0.1**
LBTB				IAmb	IAmb	11 23 56.6	
	comp=Z,51nm,1.2s						
COWI	**Conover**	**82.52**	**349**	IAmb	IAmb	11 23 53.2	
	comp=Z,29nm,1.2s						
LATQ	**La Tuque**	**82.54**	**0**	P	**P**	**11 23 44.9**	**+0.4**
	baz=180						
RDMU	**Red Mountain**	**82.80**	**333**	P	**P**	**11 23 47.3**	**+1.0**
RDMU				IAmb	IAmb	11 24 14.7	
	comp=Z,44nm,1.3s						
CWC	**Cottonwood Cre**	**82.89**	**325**	P	**P**	**11 23 46.8**	**-0.1**
	baz=145						
RWWY	**Rawlins**	**82.94**	**335**	IAmb	IAmb	11 24 01.5	
	comp=Z,26nm,1.1s						
SUSD	**Miller**	**82.97**	**342**	P	**P**	**11 23 47.4**	**+0.6**
	baz=159						
F36A	**Milaca**	**83.07**	**346**	P	**P**	**11 23 47.1**	**-0.2**
F36A				IAmb	IAmb	11 23 55.8	
	comp=Z,32nm,1.1s						
NLU	**North Lily Min**	**83.23**	**331**	IAmb	IAmb	11 24 17.0	
	comp=Z,62nm,1.6s						
R11A	**Troy Canyon, C**	**83.33**	**328**	P	**P**	**11 23 49.5**	**+0.5**
R11A				IAmb	IAmb	11 23 60.0	
	comp=Z,36nm,1.7s						
SPR3	**Spring Creek 3**	**83.34**	**329**	IAmb	IAmb	11 24 17.5	
	comp=Z,35nm,1.2s						
VLDQ	**Val d'Or**	**83.35**	**357**	IAmb	IAmb	11 24 00.5	
	comp=Z,26nm,0.9s						
D41A	**Chassel**	**83.37**	**349**	P	**P**	**11 23 48.8**	**0.0**
E38A	**The Farm, Brul**	**83.42**	**347**	P	**P**	**11 23 49.3**	**+0.2**
E38A				IAmb	IAmb	11 23 59.7	
	comp=Z,23nm,0.8s						
JLU	**Jordanelle**	**83.54**	**332**	P	**P**	**11 23 50.9**	**+0.7**
K22A	**Casper**	**83.56**	**336**	P	**P**	**11 23 50.4**	**+0.3**
	baz=153,SNR=8.7						
F33A	**5 Mile Ranch,**	**83.64**	**344**	P	**P**	**11 23 50.3**	**+0.1**
F33A				IAmb	IAmb	11 23 58.7	
	comp=Z,20nm,1.0s						
DUG	**Dugway, Tooele**	**83.73**	**331**	P	**P**	**11 23 52.1**	**+1.1**
DUG				pmax	pmax		
	comp=Z,37nm,1.2s						
DUG	**Dugway, Tooele**	**83.73**	**331**	P	**P**	**11 23 51.9**	**+0.9**
	baz=148,SNR=9.7						
DUG	**Dugway, Tooele**	**83.73**	**331**	P	**P**	**11 23 52.1**	**+1.1**
DUG				IAmb	IAmb	11 24 12.6	
	comp=Z,37nm,1.1s						
TPH	**Tonopah**	**83.83**	**327**	P	**P**	**11 23 52.9**	**+1.2**
TPH				pmax	pmax		
	comp=Z,93nm,1.1s						
TPH	**Tonopah**	**83.83**	**327**	P	**P**	**11 23 52.9**	**+1.2**
RSSD	**Black Hills**	**84.09**	**338**	P	**P**	**11 23 53.6**	**+0.7**
RSSD	**Black Hills**	**84.09**	**338**	P	**P**	**11 23 53.6**	**+0.7**
	baz=155						
RSSD	**Black Hills**	**84.09**	**338**	P	**P**	**11 23 53.6**	**+0.7**
LSQQ	**Lebel-sur-Quev**	**84.28**	**357**	P	**P**	**11 23 54.0**	**+0.6**
	baz=177						
MDPB	**Devils Postpil**	**84.32**	**325**	P	**P**	**11 23 55.0**	**+0.7**
NV11	**Mina Array Sit**	**84.55**	**326**	P	**P**	**11 23 55.7**	**+0.5**
LHV	**Little Huntoon**	**84.56**	**326**	IAmb	IAmb	11 24 31.8	
	comp=Z,48nm,1.4s						
NVAR	**Mina Array Bea**	**84.61**	**326**	P	**P**	**11 23 57.8**	**+2.2**
	comp=Z,1.3nm,0.6s,baz=150,slow=5.7,SNR=12						
NVAR				PKKPbc	**PKKPbc**	**11 42 06.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=323,slow=3.1,SNR=4.8						
NVAR				LR	LR	11 58 14.5	
	comp=Z,155nm,18.2s,baz=138,slow=33						
EYMN	**Ely**	**84.70**	**348**	P	**P**	**11 23 55.6**	**0.0**
	baz=165,SNR=9.8						
EYMN	**Ely**	**84.70**	**348**	P	**P**	**11 23 55.8**	**+0.2**
EYMN				IAmb	IAmb	11 24 06.3	
	comp=Z,45nm,1.2s						
BW06	**Boulder Array**	**84.71**	**334**	P	**P**	**11 23 56.6**	**+0.6**
	baz=151,SNR=7.2						
BW06	**Boulder Array**	**84.71**	**334**	IAmb	IAmb	11 24 04.6	
	comp=Z,35nm,1.7s						
BW06				IAMs_20	IAMs_20	11 58 09.3	
	comp=Z,524nm,19.0s						
PD31	**Pinedale Array**	**84.71**	**334**	P	**P**	**11 23 55.5**	**-0.6**
PD31				IAmb	IAmb	11 24 04.6	
	comp=Z,31nm,1.7s						
PDAR	**Pinedale Array**	**84.71**	**334**	P	**P**	**11 23 56.5**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=142,slow=5.3,SNR=14						
PDAR				PKKPbc	**PKKPbc**	**11 42 04.7**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=79,slow=2.1,SNR=6.5						
PDAR				LR	LR	11 58 20.1	
	comp=Z,420nm,18.4s,baz=156,slow=33						
PDAR	**Pinedale Array**	**84.71**	**334**	P	**P**	**11 23 55.3**	**-0.7**
RYN	**Ryan**	**84.87**	**326**	IAmb	IAmb	11 24 07.5	
	comp=Z,57nm,1.9s						
MATQ	**Matagami**	**85.00**	**357**	P	**P**	**11 23 57.6**	**+0.6**
	baz=176						
CHGQ	**Chibougamau**	**85.07**	**359**	P	**P**	**11 23 57.6**	**+0.2**
	baz=179,SNR=12						
ELK	**Elko**	**85.18**	**329**	P	**P**	**11 23 59.6**	**+1.1**
	comp=Z,2.8nm,1.0s,baz=152,slow=5.3,SNR=7.0						
ELK	**Elko**	**85.18**	**329**	P	**P**	**11 23 59.7**	**+1.2**
ELK				pmax	pmax		
	comp=Z,35nm,1.8s						
ELK	**Elko**	**85.18**	**329**	P	**P**	**11 23 59.7**	**+1.2**
ELK				IAmb	IAmb	11 24 25.8	
	comp=Z,35nm,1.8s						
WAKR	**Walker**	**85.19**	**325**	IAmb	IAmb	11 24 10.5	
	comp=Z,49nm,1.7s						
AHID	**Auburn Hatcher**	**85.27**	**333**	P	**P**	**11 23 59.2**	**+0.4**
AHID				IAmb	IAmb	11 24 08.4	
	comp=Z,26nm,1.2s						
E28A	**Huff**	**85.40**	**341**	P	**P**	**11 23 59.6**	**+0.5**
YERR	**Yerington**	**85.49**	**326**	IAmb	IAmb	11 24 11.8	
	comp=Z,48nm,1.6s						
B35A	**Bob, Littlefor**	**85.51**	**346**	P	**P**	**11 23 59.8**	**+0.2**
DRLN	**Deer Lake**	**85.55**	**10**	P	**P**	**11 23 59.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P	**P**	**11 24 00.8**	**-0.1**
	comp=Z,20nm,1.0s,baz=236,slow=4.3,SNR=53						
TORD	**Torodi Ar. Bea**	**85.61**	**71**	P	**P**	**11 24 00.7**	**-0.1**
TORD				IAmb	IAmb	11 24 09.0	
	comp=Z,51nm,1.2s						
REDW	**Red Top Meadow**	**85.69**	**333**	IAmb	IAmb	11 24 24.4	
	comp=Z,46nm,1.6s						
REDW				IAMs_20	IAMs_20	11 58 46.4	
	comp=Z,551nm,18.0s						
PNTR	**Pine Nut**	**85.74**	**326**	IAmb	IAmb	11 24 12.8	
	comp=Z,22nm,0.7s						
SNOW	**Snow King Moun**	**85.75**	**334**	P	**P**	**11 24 01.7**	**+0.5**
SNOW				IAmb	IAmb	11 24 14.7	
	comp=Z,23nm,1.1s						
SNOW				IAMs_20	IAMs_20	11 58 39.7	
	comp=Z,635nm,18.0s						
LOHW	**Long Hollow**	**85.82**	**334**	P	**P**	**11 24 02.8**	**+1.3**
LOHW				IAMs_20	IAMs_20	11 59 02.7	
	comp=Z,757nm,18.0s						
TPAW	**Teton Pass**	**85.84**	**333**	P	**P**	**11 24 02.6**	**+0.9**
PMOZ	**Porto Moniz, M**	**85.86**	**44**	*e*LR	LR	11 58 31.4	
	comp=Z,572nm,20.0s						
AGMN	**Agassiz Nation**	**85.88**	**345**	P	**P**	**11 24 01.6**	**+0.3**
	baz=162,SNR=10						
AGMN	**Agassiz Nation**	**85.88**	**345**	P	**P**	**11 24 01.7**	**+0.3**
AGMN				IAmb	IAmb	11 24 09.7	
	comp=Z,23nm,0.6s						
FLWY	**Flagg Ranch**	**86.26**	**334**	IAMs_20	IAMs_20	11 59 08.4	
	comp=Z,621nm,18.0s						
AFDM	**Forest Hills D**	**86.27**	**325**	P	**P**	**11 24 05.1**	**+1.5**
MDND	**Maddock**	**86.31**	**343**	P	**P**	**11 24 03.6**	**0.0**
	baz=159,SNR=16						
MDND	**Maddock**	**86.31**	**343**	P	**P**	**11 24 04.6**	**+1.0**
H17A	**Grant Village**	**86.49**	**334**	P	**P**	**11 24 05.1**	**+0.2**
	baz=150						
LKWY	**Lake**	**86.58**	**334**	IAMs_20	IAMs_20	11 58 55.7	
	comp=Z,572nm,19.0s						
YMP	**Mirror Lake Pl**	**86.64**	**335**	P	**P**	**11 24 05.5**	**-0.2**
RLMT	**Red Lodge**	**86.67**	**335**	P	**P**	**11 24 05.9**	**+0.2**
	baz=151,SNR=10						
RLMT	**Red Lodge**	**86.67**	**335**	P	**P**	**11 24 05.9**	**+0.2**
RLMT				IAmb	IAmb	11 24 15.2	
	comp=Z,32nm,1.5s						
YNE	**Yellowstone No**	**86.82**	**335**	P	**P**	**11 24 06.8**	**+0.3**
YHH	**Holmes Hill**	**86.93**	**334**	IAmb	IAmb	11 24 17.7	
	comp=Z,27nm,1.2s						
ORV	**Oroville**	**87.00**	**325**	P	**P**	**11 24 09.0**	**+1.8**
ORV				pmax	pmax		
	comp=Z,60nm,1.7s						
ORV	**Oroville**	**87.00**	**325**	P	**P**	**11 24 09.0**	**+1.8**
ORV				IAmb	IAmb	11 24 17.9

comp=Z,677nm,20.0s
PBEJ Beja 94.92 46 *e*P **P 11 24 44.8 +0.6**
PMTG Montargil 95.41 45 *e*P **P 11 24 46.9 +0.5**
PCAS Casmilo, Conde 95.91 44 *e*P **P 11 24 48.7 0.0**
PMRV Marv??o 96.13 45 *e*P **P 11 24 49.5 -0.2**
PMRV Marv??o 96.13 45 *e*LR LR 11 59 41.0
comp=Z,359nm,20.0s
PCBR Castelo Branco 96.35 45 *e*P **P 11 24 50.6 -0.1**
MTE Manteigas 96.69 44 *e*P **P 11 24 52.7 +0.4**
MTE Manteigas 96.69 44 *e*LR LR 12 02 52.2
comp=Z,476nm,18.0s
MTE Manteigas 96.69 44 IAmb IAmb 11 24 53.1
comp=Z,18nm,1.3s
MTE IAMs_20 IAMs_20 12 10 24.1
comp=Z,545nm,19.0s
POLO Lamas de Olo 97.19 44 *e*P **P 11 24 54.5 -0.1**
PGAV Gavieira, Arco 97.32 43 *e*LR LR 12 00 02.2
comp=Z,766nm,20.0s
MVO Moncorvo 97.48 44 *e*P Pdif 11 24 56.2 +0.3
MVO Moncorvo 97.48 44 *e*LR LR 12 01 00.9
comp=Z,685nm,18.0s
PAB San Pablo 97.99 47 IAMs_20 IAMs_20 12 07 40.7
comp=Z,653nm,20.0s
PBRG Braganca 98.07 44 *e*P **P 11 24 58.4 -0.1**
ESDC Sonseca Array 98.30 47 P Pdif 11 24 59.8 +0.2
comp=Z,1.7nm,0.7s,baz=254,slow=4.5,SNR=9.1
ESDC PP **PP 11 29 02.6 +2.7**
comp=Z,0.5nm,0.5s,baz=239,slow=8.8,SNR=4.2
ESDC LR LR 12 08 12.2
comp=Z,668nm,19.8s,baz=240,slow=35
FRB Frobisher Bay 99.01 2 PP **PP 11 29 09.4 +4.7**
comp=Z,14nm,0.9s,baz=226,slow=1.5,SNR=3.6
MBAR Mbarara 100.96 99 IAMs_20 IAMs_20 12 07 46.0
comp=Z,576nm,21.0s
YKA Yellowknife Ar 103.20 342 Pdiff **Pdif 11 25 20.5 -0.2**
comp=Z,1.8nm,0.9s,baz=141,slow=4.7,SNR=6.1
ANGG Ammassalik, Gr 104.52 14 IAMs_20 IAMs_20 12 12 04.2
comp=Z,631nm,20.0s
SSB Saint Sauveur 106.69 46 IAMs_20 IAMs_20 12 13 32.8
comp=Z,472nm,20.0s
LODK Lodwar 107.05 98 IAMs_20 IAMs_20 12 12 41.4
comp=Z,551nm,20.0s
VLC Villacollemand 109.62 49 IAMs_20 IAMs_20 12 18 36.5
comp=Z,411nm,18.0s
WLF Walferdange 109.97 43 IAMs_20 IAMs_20 12 13 27.6
comp=Z,600nm,21.0s
TUE Stuetta 110.17 47 IAMs_20 IAMs_20 12 14 52.8
comp=Z,691nm,20.0s
SCO Scoresbysund 111.91 16 IAMs_20 IAMs_20 12 15 55.6
comp=Z,317nm,20.0s
EPYK Eagle Plains 112.52 337 IAMs_20 IAMs_20 12 28 05.6
comp=Z,414nm,19.0s
GERES GERESS Array B 113.89 46 PKiKP **PKiKP 11 30 00.7 +0.1**
comp=Z,1.4nm,0.6s,baz=219,slow=1.7,SNR=8.0
CLL Collm 114.59 44 *e*PKiKP **PKiKP 11 30 02.0 +0.3**
CLL *e*PS **PS 11 40 39.0 +1.3**
CLL *e*PPS PPS 11 41 51.0
CLL LmH 12 16 00.0
comp=N,100nm,20.6s
CLL LmH 12 16 00.0
comp=E,400nm,20.7s
CLL LmV 12 17 00.0
comp=Z,500nm,20.3s
CLL Collm 114.59 44 *e*PKIKP **PKiKP 11 30 02.0 +0.3**
CLL MLR MLR
comp=Z,500nm,20.3s
CLL Collm 114.59 44 IAMs_20 IAMs_20 12 17 51.9
comp=Z,496nm,20.0s
PRP Porcupine Dome 115.01 334 IAMs_20 IAMs_20 12 29 52.7
comp=Z,314nm,18.0s
ILAR Eielson Array 115.13 333 PKP **PKiKP 11 30 02.4 0.0**
comp=Z,0.9nm,0.7s,baz=170,slow=1.9,SNR=9.9
HYA Hoyanger 115.66 32 *e*PKPdf **PKiKP 11 30 03.7 +0.3**
DIVS Divibare 115.70 53 **PKPdf 11 30 03.5 -0.7**
DIVS IAMs_20 IAMs_20 12 20 55.5
comp=Z,516nm,20.0s
ASAR Alice Springs 115.79 208 PKP **PKiKP 11 30 04.2 -0.9**
comp=Z,1.1nm,0.5s,baz=128,slow=1.8,SNR=16
ASAR PKKPbc **PKKPbc 11 40 36.8 +0.6**
comp=Z,1.6nm,0.5s,baz=339,slow=3.1,SNR=34
ASAR Alice Springs 115.79 208 **PKiKP 11 30 04.0 -1.1**
SANT Santorini 116.13 63 IAMs_20 IAMs_20 12 19 56.3
comp=Z,460nm,21.0s
RGN Rugen 116.18 40 IAMs_20 IAMs_20 12 17 03.5
comp=Z,499nm,21.0s
SKAR Skarslia 116.36 33 *e*PKPdf **PKiKP 11 30 05.2 +0.2**
AKN Aaknes 116.46 31 *e*PKPdf **PKiKP 11 30 05.5 +0.5**
KONO Kongsberg 116.50 34 *e*PKPdf **PKiKP 11 30 05.8 +0.7**
KONO Kongsberg 116.50 34 IAMs_20 IAMs_20 12 21 54.8
comp=Z,340nm,20.0s
KARP Karpathos 117.01 64 IAMs_20 IAMs_20 12 21 40.8
comp=Z,493nm,21.0s
OSL Oslo 117.14 34 *e*PKPdf **PKiKP 11 30 06.9 +0.6**
PSZ Piszkesteto 117.22 49 IAMs_20 IAMs_20 12 25 21.7
comp=Z,365nm,18.0s
DOMB Dombas 117.28 32 *e*PKPdf **PKiKP 11 30 06.9 +0.3**
NB2 NORSAR Subarra117.81 33 PKPdf **PKPdf 11 30 07.3 -0.4**
comp=Z,0.7nm,0.6s,baz=234,slow=1.9
NOA NORSAR Array B117.81 33 PKP **PKPdf 11 30 07.7 0.0**
comp=Z,1.3nm,0.7s,baz=250,slow=2.2,SNR=4.9
TOLK Toolik Lake Re 117.90 336 P **PKiKP 11 30 08.4 +0.8**
baz=116
TOLK Toolik Lake Re 117.90 336 PKPdf **PKiKP 11 30 08.8 +1.1**
OJC Ojcow 118.07 47 IAMs_20 IAMs_20 12 18 07.9
comp=Z,429nm,22.0s
IMAR Indian Mountai 118.24 333 **PKiKP 11 30 08.6 +0.3**
WRA Warramunga Arr 118.98 210 PKP **PKPdf 11 30 10.7 -0.6**
comp=Z,2.8nm,0.5s,baz=161,slow=1.7,SNR=70
WRA PKKPbc **PKKPbc 11 40 24.7 -0.1**
comp=Z,1.8nm,0.9s,baz=342,slow=4.1,SNR=9.9
WRA Warramunga Arr 118.98 210 **PKPdf 11 30 10.4 -0.9**
WRAB Tennant Creek 118.98 210 *i* PKIKP **PKPdf 11 30 11.2 -0.1**
NSS Namsos 119.45 30 *e*PKPdf **PKiKP 11 30 11.4 +0.7**
MLR Muntele Rosu 120.14 53 PKIKP **PKPdf 11 30 12.0 -0.8**
MLR MLR MLR
comp=Z,800nm,20.0s
MLR Muntele Rosu 120.14 53 PKPdf **PKPdf 11 30 12.0 -0.8**
ISP Isparta 120.41 63 IAMs_20 IAMs_20 12 23 04.7
comp=Z,451nm,20.0s
BUR08 Bucovina Ar. S 120.43 51 **PKPdf 11 30 13.2 -0.1**
BURAR Bucovina Array 120.43 51 PKPdf **PKPdf 11 30 13.2 0.0**
NIKH Nikolski High 120.63 316 P **PKiKP 11 30 14.3 +0.9**
baz=109
N2SV S rvWgen 120.99 26 *e*PKPdf **PKiKP 11 30 13.7 0.0**
LOF Lofoten 121.26 26 *e*PKPdf **PKiKP 11 30 14.3 +0.2**
PMG Port Moresby 121.31 228 *i* PKIKP **PKPdf 11 30 14.9 -0.9**
SUW Suwalki 121.35 43 PKIKP **PKPdf 11 30 13.9 -0.7**
SUW Suwalki 121.35 43 **PKPdf 11 30 13.8 -0.7**
GHAJ Ghor Haditha 121.56 72 IAMs_20 IAMs_20 12 22 04.5
comp=Z,537nm,20.0s
FAUS Fauske 121.67 27 *e*PKPdf **PKiKP 11 30 15.3 +0.3**
BR131 Keskin Array S 123.38 62 *i* PKIKP **PKPdf 11 30 18.9 -0.3**
BR131 Keskin Array S 123.38 62 **PKPdf 11 30 19.1 -0.1**
BRTR Keskin Array B 123.38 62 PKP **PKPdf 11 30 19.1 -0.1**
comp=Z,1.8nm,0.7s,baz=190,slow=3.5,SNR=11
TRO Tromso 123.53 25 *e*PKPdf **PKiKP 11 30 18.9 +0.3**
AKASG Malin Array Be 123.91 48 PKP **PKPdf 11 30 18.8 -0.9**
comp=Z,3.9nm,0.7s,baz=258,slow=2.5,SNR=13
AKASG PP **PP 11 31 59.1 -4.7**
comp=Z,0.8nm,0.5s,baz=251,slow=8.3,SNR=2.4
AKASG Malin Array Be 123.91 48 PKIKP **PKPdf 11 30 18.9 -0.7**
AKASG Malin Array Be 123.91 48 PKPdf **PKPdf 11 30 18.9 -0.7**
AKBB Malin Array Si 123.91 48 PKIKP **PKPdf 11 30 19.0 -0.6**
AKBB Malin Array Si 123.91 48 PKPdf **PKPdf 11 30 19.0 -0.6**
JETT Jettan, Norway 124.02 25 *e*PKPdf **PKiKP 11 30 20.2 +0.6**
MNK Minsk 124.14 44 *i* PKIKP **PKPdf 11 30 18.5 -1.4**
MNK *i* 11 32 07.3
MNK *i* PPP PPP 11 34 46.6
MNK *i* 11 37 14.1
MNK *i* PS **PS 11 42 06.9 +3.4**
MNK pmax pmax
comp=N,29nm,0.8s
MNK pmax pmax
comp=Z,38nm,1.1s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,19nm,18.0s
MNK MLR MLR
comp=Z,324nm,20.0s
MNK MLR MLR
comp=N,205nm,18.0s
MNK Minsk 124.14 44 *i* PKP **PKPdf 11 30 18.5 -1.4**
comp=E,5.0nm,0.9s
MNK *i* PKP **PKPdf 11 30 18.5 -1.4**
comp=Z,38nm,1.1s,baz=78
MNK *i* PP **PP 11 32 07.3 +2.0**
MNK *i* PPP PPP 11 34 46.6
MNK *i* SKS SKSdf 11 37 14.1 -17
MNK *i* PS **PS 11 42 07.0 +3.5**
MNK *i* SS SS 11 49 48.9 +54
MNK *i* SSS SSS 11 53 18.8
MNK *i* LQ LQ 12 17 27.6
MNK *i* LR LR 12 20 51.7
MNK *i* LRM MLR 12 24 25.2
comp=E,19nm,18.1s
MNK *i* LRM MLR 12 24 25.9
comp=Z,324nm,20.0s
MNK *i* LRM MLR 12 25 10.7
comp=N,205nm,17.7s
SPA0 Spitsbergen Ar 124.38 14 *e*PKPdf **PKiKP 11 30 20.5 +0.3**
VSU Vasula 124.47 39 *i* PKIKP **PKPdf 11 30 20.2 -0.2**
BNN Bunyan 124.68 64 PKPdf **PKPdf 11 30 21.9 +0.2**
FINES FINESS Array B 124.78 35 PKP **PKPdf 11 30 20.9 0.0**
comp=N,6.2nm,1.0s,baz=354,slow=1.9,SNR=7.9
FINES FINESS Array B 124.78 35 PKIKP **PKPdf 11 30 21.0 0.0**
H11S2 WAKE ISLAND Hyl24.81 269 T T 13 47 48.5
baz=118,slow=74,SNR=60
H11S1 WAKE ISLAND Hyl24.82 269 T T 13 47 46.4
baz=118,slow=74,SNR=31
H11S3 WAKE ISLAND Hyl24.82 269 T T 13 47 52.2
baz=118,slow=74,SNR=35
KTK1 Kautokeino 124.92 26 *e*PKPdf **PKPdf 11 30 21.1 +0.1**
H11N3 WAKE ISLAND Hyl25.26 270 T T 13 48 17.6
baz=117,slow=77,SNR=15
H11N1 WAKE ISLAND Hyl25.27 270 T T 13 48 34.5
baz=117,slow=77,SNR=181
H11N2 WAKE ISLAND Hyl25.27 270 T T 13 48 35.5
baz=117,slow=77,SNR=24
HAMF Hammerfest 125.30 24 *e*PKPdf **PKPdf 11 30 21.9 +0.2**
ARA0 ARCESS Array S 125.79 25 *e*PKPdf **PKPdf 11 30 22.8 +0.1**
ARCES ARCESS Array B 125.79 25 PKP **PKiKP 11 30 23.1 -0.1**
comp=N,4.2nm,0.6s,baz=268,slow=3.6,SNR=23
ARCES ARCESS Array B 125.79 25 PKPdf **PKPdf 11 30 22.6 -0.1**
HOPEN Hopen 126.13 17 *e*PKPdf **PKiKP 11 30 24.2 +0.6**
KEV Kevo 126.33 25 IAMs_20 IAMs_20 12 21 44.2
comp=Z,338nm,20.0s
LVZ Lovozero 129.05 28 *d i* PKIKP **PKiKP 11 30 29.4 -0.3**
LVZ Lovozero 129.05 28 **PKiKP 11 30 29.7 -0.1**
OBN Obninsk 129.18 44 ⇓*i* PKIKP **PKiKP 11 30 31.2 +0.9**
OBN *i* 11 30 37.8
OBN *e* 11 30 45.4
OBN *e* 11 32 43.2
OBN SS SS 11 50 14.0 +16
OBN SSS SSS 11 54 44.0
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,398nm,19.0s
OBN Obninsk 129.18 44 IAMs_20 IAMs_20 12 28 04.7
comp=Z,446nm,20.0s
RST Umm Al-Ruwaisa 129.85 79 *e*P **PKPdf 11 30 30.5 -1.2**
MOS Moscow 129.86 44 *i* PKIKP **PKPdf 11 30 30.2 -0.6**
MOS *e* 11 30 37.6
MOS *e* 11 32 47.9
MOS MLR MLR
comp=Z,800nm,22.0s
MIB Mutribah 130.25 79 *e*P **PKPdf 11 30 31.8 -0.6**
KIV Kislovodsk 131.08 60 *i* PKIKP **PKPdf 11 30 33.5 -0.2**
KIV *e* 11 32 48.6
KIV *e*PS **PS 11 43 02.6 -2.2**
KIV *e*SS SS 11 50 19.5 -3.0
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 131.08 60 IAMs_20 IAMs_20 12 11 23.9
comp=Z,422nm,21.0s
KBZ Khabaz 131.18 60 PKP **PKiKP 11 30 34.6 0.0**
comp=Z,2.3nm,0.9s,baz=34,slow=5.4,SNR=4.7
KLMR Klimovskoe 131.19 37 *e*PKIKP **PKPdf 11 30 31.2 -2.0**
KLMR pmax pmax
comp=Z,113nm,1.4s
KLMR Klimovskoe 131.19 37 *e*PKPdf **PKPdf 11 30 31.2 -2.0**
KLMR AMP 11 30 44.1
comp=Z,113nm,1.4s
KLMR *e*PP **PP 11 32 43.8 -7.7**
KLMR *e*SKPbc **SKPbc 11 33 54.7 -2.3**
KLMR *e*SKP 11 34 05.8
KLMR LR LR 12 24 47.8
ONI Oni 131.30 61 PKIKP **PKiKP 11 30 35.5 +0.4**
ONI Oni 131.30 61 PKPdf **PKiKP 11 30 35.5 +0.4**
GNI Garni 131.63 65 IAMs_20 IAMs_20 12 28 17.6
comp=Z,289nm,21.0s
BILL Biiibino 133.79 333⇑*e*PKIKP **PKiKP 11 30 39.4 +0.2**
BILL *e* 11 30 46.6
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,104nm,18.0s
PRGR Permogore 134.10 36 *e*PKIKP **PKPdf 11 30 38.6 -0.1**
PRGR pmax pmax
comp=Z,13nm,0.4s
MAK Makhachkala 134.29 62 *i* P **Pdif 11 27 33.3 -6.2**
MAK *i* 11 30 36.3
MAK *e* 11 37 45.5
MAK *e*SS SS 11 50 50.4 -11
MAK pmax pmax
comp=Z,130nm,1.2s
PETK Petropavlovsk- 140.52 313 PKP **PKPdf 11 30 50.1 -0.8**
comp=Z,2.7nm,0.7s,baz=302,slow=6.9,SNR=4.3
SEY Seymchan 140.87 329 PKhKP PKPpre 11 30 49.6
comp=Z,6.2nm,0.8s,baz=48,slow=1.7,SNR=6.5
ARU Arti 141.51 42 *i* PKIKP **PKPdf 11 30 52.8 +0.3**
ARU 11 33 52.6
ARU SS SS 11 52 22.6 -3.2
ARU MLR MLR
comp=Z,430nm,21.0s
ARU Arti 141.51 42 PKPdf **PKPdf 11 30 52.3 -0.2**
ARU IAMs_20 IAMs_20 12 32 16.4
comp=Z,480nm,22.0s
TIXI Tiksi 142.02 349 PKhKP PKPpre 11 30 46.2
comp=Z,4.6nm,0.7s,baz=15,slow=2.2,SNR=7.6
TIXI PKP **PKPdf 11 30 52.3 -0.7**
comp=Z,9.8nm,1.0s,baz=75,slow=4.7,SNR=7.7
MA2 Magadan 142.83 324 *i* PKIKP **PKPdf 11 30 56.1 +1.3**
BRVK Borovoye 148.96 44 *i* PKIKP **PKPdf 11 31 05.7 +0.3**
BRVK Borovoye 148.96 44 PKPbc **PKiKP 11 31 10.4 -0.3**
HYB Hyderabad 149.09 118 *i* PKP **PKPbc 11 31 11.0 +0.1**
KBL Kabul 149.17 81 PKP2 **PKiKP 11 31 11.9 -0.2**
KBL Kabul 149.17 81 **PKiKP 11 31 11.8 -0.2**
YAK Yakutsk 149.83 339 PKP **PKPdf 11 31 06.2 -0.2**
comp=Z,9.8nm,0.4s,baz=342,slow=1.8,SNR=2.6
YAK PKPbc **pPKPdf 11 31 11.9 -0.1**
comp=Z,32nm,0.6s,baz=194,slow=0.2,SNR=15
YAK Yakutsk 149.83 339*c i* PKP2 **PKPbc 11 31 11.3 0.0**
YAK *e* 11 34 50.9
YAK pmax pmax
comp=Z,129nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=Z,29nm,1.5s
YAK pmax pmax
comp=N,26nm,2.1s
YAK pmax pmax
comp=E,16nm,1.8s
CHGR Chuyangaron 149.93 73 **PKPbc 11 31 12.7 +0.2**
GAR Garm 150.86 72 PKPbc **PKiKP 11 31 15.1 -0.3**
GAR PKPab **PKPab 11 31 22.4 +0.4**
YSS Yuzh-Sakhalins 150.91 304 *i* PKIKP **PKPdf 11 31 10.7 +2.1**
YSS *e*PPS PPS 11 47 43.9
YSS pmax pmax
comp=Z,300nm,4.4s
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 150.91 304 **PKiKP 11 31 14.8 -0.1**
YSS PKPab **PKPab 11 31 22.6 +0.8**
KK31 Karatay Array 151.08 64 PKIKP **PKPbc 11 31 14.8 -0.1**
KK31 11 31 22.4
KK31 Karatay Array 151.08 64 **PKPbc 11 31 14.8 -0.1**
KK31 PKPab **PKPab 11 31 22.4 -0.3**
KKAR Karatay Array 151.08 64 PKIKP **PKPbc 11 31 15.0 +0.1**
KKAR 11 31 22.2
KKAR Karatay Array 151.08 64 PKPbc **PKPbc 11 31 15.0 +0.1**
KKAR PKPab **sPKPbc 11 31 22.2 -0.4**
KKAR Karatay Array 151.08 64 **PKPbc 11 31 15.1 +0.1**
KKAR PKPab **sPKPbc 11 31 22.2 -0.4**
SKLT Songkhla 151.21 167 PKP **PKPbc 11 31 15.9 -0.1**
BTK Batken 151.32 70 PKIKP **PKPbc 11 31 15.8 +0.1**
BTK 11 31 23.3
BTK Batken 151.32 70 **PKPbc 11 31 15.8 +0.1**
BTK PKPab **PKPab 11 31 23.3 -0.6**
JKA Kamikawa-asahi 151.40 298 **PKiKP 11 31 16.1 +0.1**
ASAJ Asahikawa 151.40 298 PKP **PKPdf 11 31 09.5 0.0**
comp=Z,4.1nm,0.9s,baz=188,slow=14,SNR=3.7
ASAJ PKPbc **PKPbc 11 31 15.6 0.0**
comp=Z,16nm,1.1s,baz=228,slow=10,SNR=6.0
KRAB Krabi 151.94 164 PKP **PKPbc 11 31 17.8 +0.1**
NIL Nilore 152.37 84 PKIKP **PKPbc 11 31 18.0 -0.2**
NIL 11 31 27.2
NIL Nilore 152.37 84 **PKPbc 11 31 18.0 -0.2**
NIL PKPab **PKPab 11 31 27.2 -1.2**
AAK Ala-Archa 154.03 64 PKIKP **PKiKP 11 31 21.9 +0.1**
AAK 11 31 32.8
AAK Ala-Archa 154.03 64 **PKiKP 11 31 21.9 +0.1**
AAK PKPab **PKPab 11 31 32.8 -2.4**
AAK IAMs_20 IAMs_20 12 42 27.6
comp=Z,318nm,21.0s
MJAR Matsushiro Arr 154.65 282 PKP **PKPdf 11 31 15.3 +0.8**
comp=Z,0.9nm,0.4s,baz=125,slow=1.7,SNR=5.1
MJAR PKPab **PKPab 11 31 37.8 -0.2**
comp=Z,1.6nm,0.7s,baz=97,slow=5.8,SNR=4.6
KSH Kashi 155.27 71 PKPbc **PKPdf 11 31 15.8 +0.4**
KSH PP **PP 11 35 14.6 -2.9**
KSH SKS **SKSdf 11 38 21.4 +0.2**
KSH SKKS **SKKSac 11 42 03.4 -2.8**
KSH AMB AMB
comp=Z,330nm,5.0s
KSH LR LR
comp=Z,520nm,18.5s
KSH LR LR
comp=Z,390nm,14.7s
KSH LR LR
comp=Z,440nm,11.6s
ZAA0 Zalesovo Array 156.01 33 PKPdf **PKPdf 11 31 15.2 -0.5**
ZAA0 PKPab **PKPab 11 31 43.3 +0.2**
ZALV Zalesovo Beam 156.01 33 PKP **PKPdf 11 31 15.8 0.0**
comp=Z,10nm,1.0s,baz=286,slow=2.8,SNR=22
ZALV PKPab **PKPab 11 31 44.0 +1.0**
comp=Z,22nm,0.7s,baz=300,slow=4.6,SNR=11
ZALV Zalesovo Beam 156.01 33 PKPdf **PKPdf 11 31 15.1 -0.6**
ZALV PKPab **PKPab 11 31 43.5 +0.4**
KDJ Kajisay 156.06 65 PKIKP **PKPdf 11 31 16.9 +0.4**
KDJ Kajisay 156.06 65 **PKPdf 11 31 16.9 +0.4**
KDJ PKPab **PKPab 11 31 44.1 +0.1**
TARG Taragay, Kyrgy 156.56 66 PKPdf **PKPdf 11 31 18.0 +0.5**
TARG **PKPab 11 31 46.5 0.0**
ZEA Zeya 156.85 328 *e*PKIKP PKPdf 11 31 25.4 +8.6
ZEA pmax pmax
comp=Z,10.0nm,1.2s
KLR Kul'dur 157.19 315 PKP **PKPdf 11 31 17.4 0.0**
comp=Z,1.1nm,0.8s,baz=318,slow=8.1,SNR=3.8
BOD Bodaibo 157.19 350 *e*PKIKP **PKPdf 11 31 15.0 -2.1**
BOD pmax pmax
comp=Z,53nm,1.4s
SRDT SRDT 157.81 160 PKP **PKPdf 11 31 17.0 -2.2**
MAKZ Makanchi 158.26 51 PKIKP **PKPdf 11 31 18.9 0.0**
MAKZ 11 31 52.9
MAKZ Makanchi 158.26 51 PKPdf **PKPdf 11 31 18.9 0.0**
MAKZ PKPab **PKPab 11 31 52.9 -0.2**
MK31 Makanchi Array 158.46 51 PKIKP **PKPdf 11 31 19.1 0.0**
MK31 11 31 54.1
MK31 Makanchi Array 158.46 51 **PKPdf 11 31 19.1 0.0**
MK31 PKPab **PKPab 11 31 54.1 +0.1**
MKAR Makanchi Array 158.46 51 PKP **PKPdf 11 31 19.4 +0.2**
comp=Z,7.8nm,1.1s,baz=321,slow=1.7,SNR=24
MKAR PKPab **PKPab 11 31 54.1 +0.1**
comp=Z,7.0nm,0.6s,baz=285,slow=4.0,SNR=15
MKAR PP **PP 11 35 35.3 +0.8**
comp=Z,1.6nm,0.9s,baz=282,slow=1.1,SNR=3.6
MKAR Makanchi Array 158.46 51 PKPdf **PKPdf 11 31 19.0 -0.2**
CM05 Chiang Mai Arr 161.57 156 PKP PKPdf 11 31 33.2 +10
CM13 Chiang Mai Arr 161.57 156 PKP PKPdf 11 31 31.5 +8.0
CM04 Chiang Mai Arr 161.58 156 PKP PKPdf 11 31 32.9 +9.4
CMAR Chiang Mai Arr 161.62 156 PKP **PKPdf 11 31 23.9 +0.4**
comp=Z,1.0nm,0.3s,baz=246,slow=2.8,SNR=13
CMAR PKPab **PKPab 11 32 08.1 -0.2**
comp=Z,4.7nm,1.0s,baz=225,slow=4.4,SNR=7.2
CMAR Chiang Mai Arr 161.62 156 PKPdf **PKPdf 11 31 23.4 -0.2**
CMAR **PKPab 11 32 07.0 -1.2**
KSRS Korea Array 162.92 283 PKP **PKPdf 11 31 24.5 +0.3**
comp=Z,1.9nm,1.0s,baz=180,slow=2.5,SNR=5.3
KSRS PKPab **PKPab 11 32 15.2 +1.5**
comp=Z,1.8nm,0.8s,baz=77,slow=4.7,SNR=5.6
WMQ Urumqi 163.13 55 *e*PKP **PKPdf 11 31 24.3 -0.1**
QIZ Qiongzhong 163.35 190 PKP **PKPdf 11 31 24.6 -0.6**
QIZ PP **PP 11 35 59.8 +0.1**
QIZ SS SS 11 56 27.9 +3.4
QIZ LR LR
comp=Z,180nm,8.8s
QIZ LR LR
comp=Z,210nm,3.9s
QIZ LR LR
comp=Z,300nm,14.1s
ZAK Zakamensk 164.93 9 *e*PKIKP **PKPdf 11 31 28.4 +2.6**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
ULN Ulaanbaatar 167.67 359 PKIKP **PKPdf 11 31 28.2 +0.1**
ULN 11 32 35.0
ULN Ulaanbaatar 167.67 359 PKPdf **PKPdf 11 31 28.2 +0.1**
ULN **PKPab 11 32 35.0 +0.6**
SONM Songino Array 167.70 1 PKP **PKPdf 11 31 27.8 -0.3**
comp=Z,1.2nm,0.8s,baz=318,slow=2.0,SNR=8.3
SONM PKPab **PKPab 11 32 35.3 +0.9**
comp=Z,8.3nm,1.0s,baz=340,slow=4.2,SNR=15
SONM PP **PP 11 36 23.0 +0.6**
comp=Z,1.3nm,0.9s,baz=20,slow=4.6,SNR=2.8
KMI Kunming 169.05 160 ⇑PKP **PKPdf 11 31 29.3 -0.5**
KMI pPKP pPKPdf 11 31 34.5 -0.8
NJ2 Nanjing 169.41 254 *e*PKP **PKPdf 11 31 28.8 -0.7**
GYA Guiyang 170.96 179 PKP **PKPdf 11 31 31.4 +0.6**
GTA Gaotai 173.21 53 *e*PKP **PKPdf 11 31 31.9 +0.5**
GTA pPKP sPKPdf 11 31 38.5 -0.3
GTA PKPab **PKPab 11 33 00.0 +0.7**
GTA PP **PP 11 36 50.0 -1.2**
GTA SS SS 11 58 05.8 +0.2
GTA AMB AMB
comp=Z,230nm,7.3s
GTA LR LR
comp=Z,180nm,18.2s
GTA LR LR
comp=Z,190nm,20.0s
GTA LR LR
comp=Z,270nm,19.3s
HHC Hu-ho-hao-te 173.51 326 *e*PKP **PKPdf 11 31 26.8 -4.6**
HHC LR LR
comp=Z,270nm,22.0s
HHC LR LR
comp=Z,300nm,22.0s
HHC LR LR
comp=Z,430nm,21.8s
CD2 Chengdu 174.73 150 PKP **PKPdf 11 31 31.5 -0.6**
LZH Lanzhou 177.51 76 *e*PKP **PKPdf 11 31 27.0 -5.7**
LZH pPKP pPKPdf 11 31 36.8 -1.4
LZH sPKP 11 31 41.0
LZH PP **PP 11 37 08.5 -3.9**
LZH SKKS 11 43 56.8
LZH AMB AMB
comp=Z,380nm,6.2s
LZH LR LR
comp=Z,310nm,14.9s
LZH LR LR
comp=Z,250nm,15.2s
LZH LR LR
comp=Z,280nm,16.0s

JMA 17 11:18:00.8±0.2, 24°.97N×123°.58E, h30km, M1.7,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.65**	**168**	P	P	Pb	11 18 13.3	-0.3
IRIF				S	S	Sb	11 18 21.2	-1.2
YOJ	**Yonaguni jima**	**0.72**	**226**	P	P	Pb	11 18 14.3	-0.6
YOJ				*e*S	S	Sb	11 18 23.9	-0.6
JISG	**Ishigakijimahi**	**0.77**	**120**	P	P	Pn	11 18 15.0	-0.6
JYNG	**Yonagunijimaku**	**0.78**	**228**	P	P	Pn	11 18 15.2	-0.5
JYNG				*e*S	S	Sb	11 18 25.7	-0.3
JIJ	**Ishigaki jima**	**0.79**	**140**	P	P	Pn	11 18 15.0	-0.9
JIJ				S	S	Sb	11 18 25.4	-1.1

JKRS	**Kuro-shima**	**0.83 152**	P	Pn	11 18 16.4	0.0
JKRS			S	Sb	11 18 26.8	-0.7

TAP 17 11:18:41.1, 24°.41N×121°.93E, h26km, ML2.7, 4D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14 284**		*i* P	Pb	11 18 46.3	+0.1
EWUT	baz=285			S	Sb	11 18 49.8	+0.2
TWC	**Suao**	**0.21 340**		⇓*i* P	Pb	11 18 47.1	+0.1
TWC	baz=343			*i* S	Sb	11 18 50.9	-0.1
NDS	**Dongshan**	**0.29 319**		⇓*i* P	Pb	11 18 48.5	+0.4
NDS	baz=319			S	Sb	11 18 53.4	+0.5
ETL	**Fush Village**	**0.37 228**		P	Pb	11 18 49.7	+0.4
ETL	baz=231			*e*S	Sn	11 18 56.2	-1.1
NACB	**Ninganchiao**	**0.38 232**		⇓P	Pb	11 18 49.6	+0.1
NACB	baz=236			*i* S	Sb	11 18 56.1	+1.0
ILA	**Ilan**	**0.39 335**		*e*P	Pb	11 18 49.3	-0.2
TWE	**Neicheng**	**0.39 323**		⇓*i* P	Pb	11 18 50.0	+0.4
TWE	baz=324			S	Sb	11 18 55.5	+0.2
ENTT	**Nioudou**	**0.40 305**		*i* P	Pb	11 18 50.1	+0.4
ENTT	baz=305			*i* S	Sb	11 18 56.2	+0.6
NDT	**Datong Townshi**	**0.42 297**		P	Pb	11 18 50.6	+0.5
NDT	baz=303			S	Sb	11 18 56.9	+0.7
TWD	**Chiawan**	**0.45 223**		*i* P	Pb	11 18 50.6	+0.2
TWD	baz=225			*i* S	Sn	11 18 58.5	-0.6
NTC	**Toucheng**	**0.45 349**		*e*P	Pb	11 18 50.8	+0.3
NTC	baz=349			*e*S	Sn	11 18 58.7	-0.5
ETLH	**Xiulin Townshi**	**0.45 244**		P	Pb	11 18 51.1	+0.5
ETLH	baz=247			S	Sb	11 18 58.3	+1.1
NNSB	**Datong**	**0.50 272**		P	Pb	11 18 51.6	+0.3
NNSB	baz=278			S	Sb	11 18 59.0	+0.6
NNSH	**Datong**	**0.50 272**		*e*P	Pb	11 18 51.7	+0.3
NNSH	baz=276			*e*S	Sb	11 18 59.4	+1.1
NNS	**Nan Shan**	**0.51 273**		P	Pb	11 18 51.8	+0.2
NNS	baz=277			*e*S	Sb	11 18 58.5	-0.2
HWA	**Hwalien**	**0.52 214**		*e*P	Pb	11 18 51.9	+0.1
NWLT	**Wulai**	**0.53 313**		*e*P	Pb	11 18 52.3	+0.4
NWLT	baz=313			*e*S	Sb	11 19 00.2	+0.9
YHNB	**Yeheng**	**0.56 297**		*i* P	Pb	11 18 52.8	+0.3
YHNB	baz=297			S	Sb	11 19 00.8	+0.6
TIPB	**Shuangxi**	**0.57 351**		P	Pb	11 18 53.0	+0.5
TIPB	baz=356			*e*S	Sb	11 19 00.9	+0.7
NSK	**Sanguang**	**0.58 297**		*i* P	Pb	11 18 53.1	+0.4
NSK	baz=297			*i* S	Sb	11 19 01.2	+0.5
ETM	**Tongmen**	**0.59 222**		P	Pb	11 18 52.8	-0.1
ETM	baz=233			S	Sn	11 19 02.6	-0.2
TWB1	**Santiao Chiao**	**0.60 5**		P	Pn	11 18 53.7	-0.3
TWB1	baz=2.0			S	Sb	11 19 01.6	+0.5
TEYL	**Yanliau Villag**	**0.62 209**		*e*P	Pb	11 18 53.3	-0.1
FUSS	**Fushou**	**0.64 256**		P	Pb	11 18 54.4	+0.4
FUSS	baz=260			S	Sn	11 19 04.1	-0.3
TWA	**Mucha**	**0.65 331**		*e*P	Pn	11 18 54.7	0.0
TWA	baz=325			S	Sn	11 19 04.0	-0.1
NHDH	**Xindian Distri**	**0.66 326**		*e*P	Pn	11 18 54.6	-0.2
NHDH	baz=320			*e*S	Sn	11 19 03.9	-0.5
WHF	**Hehuan Shan**	**0.66 246**		*i* P	Pb	11 18 54.5	+0.2
WHF	baz=253			*i* S	Sn	11 19 04.2	-0.8
NWF	**Wu-fen Shan**	**0.67 349**		P	Pn	11 18 55.2	+0.2
NWF	baz=342			S	Sn	11 19 04.6	-0.2
WFSB	**Wu-fen Shan**	**0.67 349**		P	Pn	11 18 55.1	+0.1
WFSB	baz=342			S	Sn	11 19 04.5	-0.2
TATO	**Taipei**	**0.69 325**		P	Pn	11 18 55.5	+0.3
TATO	baz=320			S	Sn	11 19 04.8	-0.4
TWT	**Tachien**	**0.70 257**		*e*P	Pn	11 18 56.1	+0.5
TWT	baz=257			S	Sn	11 19 06.4	+0.7
TDCB	**Techi**	**0.72 258**		*e*P	Pn	11 18 55.7	-0.1
TDCB	baz=258			S	Sn	11 19 05.7	-0.4
ESL	**Shilin**	**0.75 217**		P	Pb	11 18 55.3	-0.2
TNOU	**National Taiwa**	**0.75 349**		P	Pn	11 18 56.8	+0.8
TNOU	baz=346			S	Sn	11 19 06.3	-0.3
CHGB	**Renai**	**0.77 243**		P	Pn	11 18 56.4	-0.2
CHGB	baz=243			S	Sn	11 19 07.1	-0.3
YM01	**YM01**	**0.80 336**		P	Pn	11 18 57.5	+0.7
YM01	baz=348			S	Sn	11 19 08.5	+0.5
OWD	**Renai**	**0.82 237**		P	Pb	11 18 56.5	-0.4
OWD	baz=236			S	Sn	11 19 08.7	+0.1
TWS1	**Kuangyinshan**	**0.83 326**		P	Pn	11 18 58.1	+0.9
TWS1	baz=337			S	Sn	11 19 10.3	+1.7
YM08	**YM08**	**0.83 338**		*e*P	Pn	11 18 58.1	+0.8
ANP	**Anpu**	**0.86 334**		*e*P	Pn	11 18 58.2	+0.6
LIOB	**Emei**	**0.86 286**		*e*P	Pn	11 18 59.2	+1.6
EGFH	**Guangfu**	**0.87 212**		*e*P	Pb	11 18 57.5	-0.1
NSTT	**Nanjuang**	**0.87 285**		*e*P	Pn	11 18 57.7	0.0
NSTT	baz=285			*e*S	Sn	11 19 10.0	+0.4
WHP	**Taichung City**	**0.91 262**		*e*P	Pn	11 18 59.5	+1.3
HGSD	**Ruisui**	**1.02 207**		*e*P	Pb	11 19 00.5	+0.3
EHY	**Hungye**	**1.06 212**		*e*P	Pn	11 18 59.6	-0.7
SMLT	**Sun Moon Lake**	**1.07 241**		*e*P	Pb	11 19 01.5	+0.4
SSLB	**Suanglung**	**1.08 235**		*e*P	Pb	11 19 01.0	-0.2
YULB	**Yu-li**	**1.17 210**		*e*P	Pn	11 19 00.2	-1.6
FULB	**Fuli**	**1.34 206**		*e*P	Pn	11 19 04.7	+0.5
ALS	**Alishan**	**1.36 229**		*e*P	Pb	11 19 05.8	-0.3
CHN5	**Tsauling**	**1.40 235**		P	Pb	11 19 06.7	0.0
CHN5	baz=235			*e*S	Sb	11 19 26.5	+2.4
CHN4	**Tsaushan**	**1.61 229**		P	Pb	11 19 10.2	0.0
CHN4	baz=229			S	Sb	11 19 33.1	+3.0
TPUB	**Ta-pu**	**1.62 227**		P	Pb	11 19 09.7	-0.7
TPUB	baz=227			*e*S	Sb	11 19 31.8	+1.4
WTP	**Ta-pu**	**1.67 226**		*e*P	Pb	11 19 10.5	-0.7
TWK	**Hsinying**	**1.74 229**		*e*P	Pb	11 19 11.5	-1.0
TWGBT	**Beinan**	**1.77 206**		*e*P	Pn	11 19 10.3	+0.2
CHN1	**Nanshi**	**1.77 227**		P	Pb	11 19 12.6	-0.4
CHN1	baz=226			*e*S	Sb	11 19 37.0	+2.3
SGST	**Jiashian**	**1.81 223**		*e*P	Pb	11 19 12.1	-1.4
SLGT	**Liugui**	**1.84 220**		*e*P	Pb	11 19 13.2	-0.8
MASBT	**Mashibuluo**	**2.15 214**		*e*P	Pb	11 19 17.5	-1.9

*IDC **17** 11:35:05.9±0.9, 3°.02N×93°.83E, h0km, mb4.2/13, mb1 4.3/14, mb1mx3.9/61, mbtmp4.2/14, ML3.7/1, Error ellipse: s-maj=38.7km s-min=16.4km az=51.0*
*NEIC **17** 11:35:11.4±1.5, 3°.2N±0°.1×93°.9E±0°.1, h29km±6km, mb4.3/15, Error ellipse: s-maj=20.5km s-min=15.3km az=216.0*
ISC 17 11:35:09.0±0.8, 3°.1N±0°.1×93°.9E±0°.1, h18km, n39, σ0§55/30, mb4.3/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.73**	**55**	Pn	**Pn**	**11 36 06.1**	**+0.3**
RPSI	**Rantau Prapat**	**5.07**	**94**		**Pn**	**11 36 25.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.05**	**18**	Pn	**P**	**11 38 56.2**	**-1.1**
	0.1nm,0.3s,baz=212,slow=12,SNR=10.0						
H08S2	**Diego Garcia H**	**23.84**	**243**	T	T	12 05 12.0	
	baz=63,slow=76,SNR=194						
H08S3	**Diego Garcia H**	**23.84**	**243**	T	T	12 05 12.1	
	baz=63,slow=76,SNR=294						
H08S1	**Diego Carcia H**	**23.86**	**243**	T	T	12 05 13.3	
	baz=63,slow=76,SNR=191						
TOLI2	**Tolitoli**	**26.97**	**94**	P	**P**	**11 40 50.4**	**+0.4**
NIL	**Nilore**	**35.98**	**330**	P	**P**	**11 42 09.2**	**+0.2**
KDJ	**Kajisay**	**41.63**	**341**	P	**P**	**11 42 56.9**	**+0.5**
KDJ				IAmb	IAmb	11 42 58.2	
	comp=Z,3.6nm,0.7s						
H01W3	**Cape Leeuwin H**	**42.31**	**155**	T	T	12 28 04.6	
	baz=331,slow=76,SNR=51						
H01W2	**Cape Leeuwin H**	**42.32**	**155**	T	T	12 28 20.0	
	baz=331,slow=76,SNR=48						
H01W1	**Cape Leeuwin H**	**42.33**	**155**	T	T	12 28 05.2	
	baz=331,slow=76,SNR=45						
MK31	**Makanchi Array**	**44.67**	**349**	P	**P**	**11 43 21.4**	**+0.6**
MK31				IAmb	IAmb	11 43 22.0	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**44.67**	**349**	P	**P**	**11 43 21.4**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=168,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**44.67**	**349**	P	**P**	**11 43 20.7**	**-0.1**
MAKZ	**Makanchi**	**44.75**	**348**	P	**P**	**11 43 21.9**	**+0.5**
MAKZ				IAmb	IAmb	11 43 22.6	
	comp=Z,2.7nm,0.7s						
KK31	**Karatay Array**	**44.93**	**336**	P	**P**	**11 43 23.6**	**+0.7**
KK31				IAmb	IAmb	11 43 23.7	
	comp=Z,2.5nm,0.7s						
KKAR	**Karatay Array**	**44.93**	**336**	P	**P**	**11 43 23.7**	**+0.8**
KKAR				IAmb	IAmb	11 43 23.7	
	comp=Z,2.5nm,0.7s						
SONM	**Songino Array**	**45.86**	**12**	P	**P**	**11 43 30.5**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=201,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**45.86**	**12**	P	**P**	**11 43 30.4**	**+0.1**
WRA	**Warramunga Arr**	**45.86**	**122**	P	**P**	**11 43 30.3**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=300,slow=8.8,SNR=26						
WRA	**Warramunga Arr**	**45.86**	**122**	IAmb	IAmb	11 43 39.0	
	comp=Z,0.5nm,1.2s						
ASAR	**Alice Springs**	**47.20**	**126**	P	**P**	**11 43 40.6**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=295,slow=7.7,SNR=20						
AS31	**Alice Springs**	**47.20**	**126**	P	**P**	**11 43 40.5**	**-0.6**
ZAA0	**Zalesovo Array**	**51.23**	**353**	P	**P**	**11 44 10.9**	**-0.5**
ZAA0				IAmb	IAmb	11 44 12.2	
	comp=Z,3.0nm,0.6s						
ZALV	**Zalesovo Beam**	**51.23**	**353**	P	**P**	**11 44 11.8**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=184,slow=7.0,SNR=9.1						
ZALV	**Zalesovo Beam**	**51.23**	**353**	P	**P**	**11 44 11.7**	**+0.3**
ABKAR	**Akbulak array**	**54.30**	**333**	P	**P**	**11 44 33.7**	**-0.5**
ABKAR				IAmb	IAmb	11 44 34.7	
	comp=Z,1.9nm,0.9s						
STKA	**Stephens Creek**	**57.10**	**131**	P	**P**	**11 44 54.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=292,slow=12,SNR=4.5						
BR131	**Keskin Array S**	**65.38**	**313**	P	**P**	**11 45 50.4**	**-0.4**
BR131				IAmb	IAmb	11 45 51.8	
	comp=Z,4.1nm,1.1s						
BRTR	**Keskin Array B**	**65.38**	**313**	P	**P**	**11 45 50.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=125,slow=6.6,SNR=5.0						
TIXI	**Tiksi**	**71.94**	**11**	P	**P**	**11 46 30.4**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=206,slow=3.5,SNR=4.8						
TIXI	**Tiksi**	**71.94**	**11**	IAmb	IAmb	11 46 31.1	
	comp=Z,3.1nm,0.6s						
FINES	**FINESS Array B**	**76.79**	**333**	P	**P**	**11 46 58.8**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=174,slow=18,SNR=3.8						
ARCES	**ARCESS Array B**	**79.64**	**341**	P	**P**	**11 47 14.8**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=72,slow=5.8,SNR=2.6						
GERES	**GERESS Array B**	**81.20**	**319**	P	**P**	**11 47 24.5**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=90,slow=4.0,SNR=9.3						
DAVOX	**Davos/Dischmat**	**83.63**	**317**	P	**P**	**11 47 37.1**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=81,slow=4.5,SNR=4.4						
KEST	**Kesra**	**83.75**	**305**	P	**P**	**11 47 38.3**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=37,slow=2.8,SNR=4.4						
KEST	**Kesra**	**83.75**	**305**	IAmb	IAmb	11 47 39.1	
	comp=Z,3.5nm,0.9s						

*IDC **17** 11:38:46.6±1.1, 31°.26N×141°.80E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/46, mbtmp3.7/9, ML2.9/2, MS4.4/2, Ms1 4.4/2, ms1mx3.0/39, Error ellipse: s-maj=38.4km s-min=18.0km az=73.0*
*NEIC **17** 11:38:49.8±1.3, 31°.48N±0°.08×141°.9E±0°.1, h10km±2km, mb4.1/11, Error ellipse: s-maj=15.1km s-min=12.7km az=110.0*
ISC 17 11:38:48.6±0.8, 31°.46N±0°.09×142°.0E±0°.1, h10km, n32, σ1§11/31, mb3.9/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.50**	**312**	Pn	**Pn**	**11 39 29.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.53**	**311**	Pn	**Pn**	**11 39 27.8**	**-1.9**
	7.2nm,0.3s,baz=255,slow=24,SNR=1.5						
JHJ				Sn	**Sn**	**11 40 00.2**	**-0.4**
	12nm,0.3s,baz=87,slow=17,SNR=1.9						
JSG	**Sagara**	**4.55**	**316**	Pn	**Pn**	**11 39 56.8**	**-0.7**
INU	**Inuyama**	**5.71**	**314**	Pn	**Pn**	**11 40 12.1**	**-1.4**
MJAR	**Matsushiro Arr**	**5.98**	**329**	Pn	**Pn**	**11 40 18.7**	**+1.5**
	0.2nm,0.3s,baz=152,slow=11,SNR=6.5						
MJAR	**Matsushiro Arr**	**5.98**	**329**		**Pn**	**11 40 17.5**	**+0.3**
JMM	**Marumori**	**6.47**	**351**	Pn	**Pn**	**11 40 23.8**	**-0.1**
ASAJ	**Asahikawa**	**12.64**	**2**	Pn	**Pn**	**11 41 46.6**	**-1.8**
	0.2nm,0.3s,baz=217,slow=5.1,SNR=1.9						
KSRS	**Korea Array**	**13.09**	**301**	LR	LR	11 46 21.7	
	comp=Z,30nm,18.5s,baz=200,slow=35						
NACB	**Ninganchiao**	**19.47**	**253**	P	**P**	**11 43 16.6**	**+0.9**
NACB				IAmb	IAmb	11 43 31.6	
	comp=Z,12nm,0.7s						
YULB	**Yu-li**	**20.07**	**251**	P	**P**	**11 43 22.2**	**0.0**
YULB				IAmb	IAmb	11 43 33.7	
	comp=Z,20nm,1.3s						
SSLB	**Suanglung**	**20.17**	**253**	P	**P**	**11 43 23.3**	**0.0**
SSLB				IAmb	IAmb	11 43 42.4	
	comp=Z,7.1nm,0.8s						
HIA	**Hailar**	**24.45**	**323**	P	**P**	**11 44 07.5**	**0.0**
HIA				IAmb	IAmb	11 44 08.1	
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**31.61**	**311**	P	**P**	**11 45 11.4**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=111,slow=7.9,SNR=2.9						
SONM	**Songino Array**	**31.61**	**311**	P	**P**	**11 45 13.3**	**+1.7**
SEY	**Seymchan**	**32.18**	**9**	P	**P**	**11 45 17.4**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=232,slow=2.2,SNR=3.6						
MK31	**Makanchi Array**	**47.69**	**307**	P	**P**	**11 47 23.6**	**-1.7**
MK31				IAmb	IAmb	11 47 49.3	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**11 47 25.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=91,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**47.69**	**307**	P	**P**	**11 47 25.5**	**+0.2**
WRA	**Warramunga Arr**	**51.64**	**189**	P	**P**	**11 47 53.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=6.6,slow=7.7,SNR=19						
AS31	**Alice Springs**	**55.37**	**189**	P	**P**	**11 48 22.8**	**-0.1**
ASAR	**Alice Springs**	**55.37**	**189**	P	**P**	**11 48 20.6**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=2.8,slow=5.8,SNR=7.7						
ASAR				LR	LR	12 12 54.4	
	comp=Z,259nm,18.0s,baz=148,slow=37						
ASAR	**Alice Springs**	**55.37**	**189**	P	**P**	**11 48 23.0**	**+0.1**
KK31	**Karatay Array**	**56.50**	**304**	P	**P**	**11 48 31.2**	**+0.2**
KK31				IAmb	IAmb	11 48 31.2	
	comp=Z,1.9nm,1.1s						
KKAR	**Karatay Array**	**56.50**	**304**	P	**P**	**11 48 31.0**	**+0.1**
PSA00	**Pilbara Seismi**	**56.87**	**205**	P	**P**	**11 48 34.9**	**+1.3**
ABKAR	**Akbulak array**	**62.01**	**313**	P	**P**	**11 49 08.9**	**0.0**
ABKAR				IAmb	IAmb	11 49 14.1	
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**69.39**	**340**	LR	LR	12 25 04.2	
	comp=Z,258nm,19.1s,baz=270,slow=40						
FINES	**FINESS Array B**	**73.99**	**333**	P	**P**	**11 50 23.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=23,slow=7.5,SNR=1.1						
TXAR	**Lajitas Array**	**93.09**	**53**	P	**P**	**11 52 04.7**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=328,slow=1.6,SNR=4.3						
TXAR	**Lajitas Array**	**93.09**	**53**	P	**P**	**11 52 03.4**	**+0.2**
ZAIG	**Zacatecas**	**97.95**	**57**	P	**P**	**11 52 25.4**	**-0.3**

*IDC **17** 11:46:35.6±1.9, 36°.26N×142°.27E, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/39, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=44.3km s-min=23.1km az=77.0*
*JMA **17** 11:46:40.5±0.4, 36°.35N×142°.06E, h50km, M3.0*
ISC 17 11:46:38.2±1.3, 36°.33N±0°.06×142°.2E±0°.1, h19km, n20, σ1§24/20, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.23**	**240**	P	**Pn**	**11 47 00.9**	**+0.5**
JHYU	**Hitachinakayam**	**1.27**	**271**	P	**Pn**	**11 47 01.2**	**+0.2**
JHO	**Hitachi**	**1.31**	**283**	P	**Pn**	**11 47 01.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.34**	**305**	P	**Pn**	**11 47 02.2**	**+0.3**
JFK	**Kawauchi**	**1.46**	**315**	P	**Pn**	**11 47 03.7**	**+0.1**
JFT	**Otama**	**1.88**	**310**	P	**Pb**	**11 47 10.8**	**-1.2**
JMM	**Marumori**	**1.88**	**325**	P	**Pn**	**11 47 09.4**	**0.0**
BSO3	**Boso 3**	**2.04**	**222**	P	**Pn**	**11 47 12.1**	**+0.9**
JAG	**Ashikaga**	**2.19**	**273**	P	**Pn**	**11 47 14.2**	**+0.6**
MJAR	**Matsushiro Arr**	**3.19**	**275**	Pn	**Pn**	**11 47 26.6**	**-0.8**
	0.7nm,0.3s,baz=91,slow=15,SNR=24						
MAT	**Matsushiro**	**3.19**	**275**	P	**Pn**	**11 47 29.3**	**+1.8**
MAT				*e*S	**Sn**	**11 48 04.3**	**-0.7**
JHJ	**Hachijo jima 2**	**3.76**	**212**	Pn	**Pn**	**11 47 34.3**	**-0.8**
	15nm,0.3s,baz=321,slow=22,SNR=6.3						
JHJ				Sn	**Sn**	**11 48 16.1**	**-2.8**
	28nm,0.3s,baz=253,slow=23,SNR=7.1						
ASAJ	**Asahikawa**	**7.78**	**2**	Pn	**Pn**	**11 48 29.7**	**-0.7**
	0.5nm,0.3s,baz=238,slow=6.1,SNR=6.6						
ASAJ				Sn	**Sn**	**11 49 56.3**	**-1.7**
	0.2nm,0.3s,baz=23,slow=32,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	12 21 43.6	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	12 21 44.1	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	12 21 49.3	
	baz=314						
SONM	**Songino Array**	**28.68**	**305**	P	**P**	**11 52 36.0**	**+2.1**
	0.9nm,0.5s,baz=106,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**45.00**	**303**	P	**P**	**11 54 53.9**	**+1.5**
	0.7nm,0.6s,baz=92,slow=9.6,SNR=6.3						
WRA	**Warramunga Arr**	**56.46**	**189**	P	**P**	**11 56 18.4**	**-0.5**
	0.6nm,1.0s,baz=5.3,slow=7.4,SNR=1.7						
ASAR	**Alice Springs**	**60.18**	**189**	P	**P**	**11 56 45.1**	**+0.3**
	0.4nm,0.8s,baz=22,slow=12,SNR=2.8						

*NEIC **17** 11:52:11.9±2.0, 13°.3N±0°.1×145°.5E±0°.1, h23km±7km, mb4.4/11, Error ellipse: s-maj=20.7km s-min=12.4km az=204.0*
*IDC **17** 11:52:14.1±1.9, 13°.42N×145°.20E, h49km±18km, mb3.5/7, mb1 3.8/7, mb1mx3.4/42, mbtmp3.8/7, MS3.7/3, Ms1 3.7/3, ms1mx3.1/33, Error ellipse: s-maj=39.9km s-min=18.8km az=96.0*
ISC 17 11:52:13.4±0.7, 13°.3N±0°.1×145°.4E±0°.1, h45km, n33, σ1§16/25, mb4.1/13, MS3.7/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.59**	**296**	P	**Pn**	**11 52 25.2**	**-0.4**
	3μm,0.3s,baz=124,slow=6.1,SNR=1128						
GUMO				S	**Sn**	**11 52 33.3**	**-0.9**
	3μm,0.3s,baz=166,slow=19,SNR=15						
PATS	**Pohnpei**	**14.24**	**116**	Pn	**Pn**	**11 55 30.4**	**-2.0**
H11S3	**WAKE ISLAND Hy**	**21.09**	**73**	T	T	12 19 04.9	
	baz=260,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**21.10**	**73**	T	T	12 19 22.5	
	baz=260,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**21.10**	**73**	T	T	12 19 25.5	
	baz=260,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**21.54**	**70**	T	T	12 20 06.1	
	baz=257,slow=74,SNR=33						
H11N2	**WAKE ISLAND Hy**	**21.55**	**70**	T	T	12 19 58.1	
	baz=257,slow=74,SNR=17						
H11N3	**WAKE ISLAND Hy**	**21.55**	**70**	T	T	12 19 59.9	
	baz=257,slow=74,SNR=22						
MJAR	**Matsushiro Arr**	**24.01**	**346**	LR	LR	12 05 05.1	
	comp=Z,68nm,21.9s,baz=10.0,slow=32						
SSLB	**Suanglung**	**25.38**	**298**	P	**P**	**11 57 37.0**	**+0.3**
SSLB				IAmb	IAmb	11 57 51.5	
	comp=Z,7.1nm,0.8s						
HNR	**Honiara**	**26.82**	**147**	LR	LR	12 08 20.7	
	comp=Z,207nm,19.1s,baz=176,slow=36						
WB0	**Warramunga Arr**	**34.63**	**198**	P	**P**	**11 58 59.4**	**+0.8**
WB0				IAmb	IAmb	11 59 27.5	
	comp=Z,8.7nm,1.3s						
WR0	**Warramunga Arr**	**34.76**	**198**	P	**P**	**11 59 00.5**	**+0.8**
WR0				IAmb	IAmb	11 59 19.7	
	comp=Z,6.4nm,1.2s						
WB2	**Warramunga Arr**	**34.80**	**198**	P	**P**	**11 59 00.8**	**+0.7**
WB2				IAmb	IAmb	11 59 19.7	
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**34.81**	**198**	P	**P**	**11 59 00.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=20,slow=8.9,SNR=6.7						
WRA				LR	LR	12 12 40.7	
	comp=Z,264nm,19.9s,baz=165,slow=35						
AS31	**Alice Springs**	**38.45**	**197**	P	**P**	**11 59 29.5**	**-1.6**
ASAR	**Alice Springs**	**38.45**	**197**	P	**P**	**11 59 31.6**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=22,slow=10,SNR=11						
ASAR	**Alice Springs**	**38.45**	**197**	P	**P**	**11 59 30.8**	**-0.3**
STKA	**Stephens Creek**	**45.09**	**185**	P	**P**	**12 00 25.7**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=348,slow=6.4,SNR=4.3						
STKA	**Stephens Creek**	**45.09**	**185**	IAmb	IAmb	12 00 44.2	
	comp=Z,1.6nm,1.4s						
BBOO	**Buckleboo**	**46.74**	**191**	P	**P**	**12 00 39.4**	**+1.2**
MKAR	**Makanchi Array**	**62.05**	**316**	P	**P**	**12 02 29.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=86,slow=11,SNR=1.8						
PPLA	**Purkeypile**	**65.78**	**26**	P	**P**	**12 02 53.6**	**-0.2**
IMAR	**Indian Mountai**	**66.23**	**23**	P	**P**	**12 02 56.7**	**+0.3**
I23K	**Minto, Yukon-K**	**67.67**	**25**	P	**P**	**12 03 07.3**	**+1.7**
I23K				IAmb	IAmb	12 03 16.3	
	comp=Z,4.6nm,1.3s						
MDM	**Murphy Dome**	**68.08**	**25**	P	**P**	**12 03 10.4**	**+2.2**
MDM				IAmb	IAmb	12 03 17.1	
	comp=Z,2.1n

comp=Z,1.6nm,0.8s,baz=70,slow=1.6,SNR=1.7
KIC Kosan Boka 144.49 302 *e*PKP1 **PKPab 12 11 44.6 +0.3**
comp=Z,18nm,1.1s
TIC Toumodi 144.56 302 *e*PKP1 **PKPab 12 11 44.0 -0.6**
LIC Lamto 144.80 302 *e*PKP1 **PKPab 12 11 45.3 -0.2**
comp=Z,16nm,0.5s

*VAO **17** 11:56:19.6±0.4, 14.′94S×72.′02W, h126km, mb4.5*
*NEIC **17** 11:56:20.4±2.7, 14.′98S±0.′07×71.′83W±0.′09, h117km±9km, mb4.3/19, Error ellipse: s-maj=13.6km s-min=8.2km az=55.0*
*IDC **17** 11:56:20.4±1.8, 15.′04S×71.′59W, h110km±18km, mb3.9/6, mb1 4.0/10, mb1mx3.8/28, mbtmp4.3/10, Error ellipse: s-maj=22.2km s-min=14.1km az=57.0*
ISC 17 11:56:21.2±0.4, 15.′00S±0.′05×71.′83W±0.′06, h124km, n108, σ1§51/113, mb3.9/9, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.64**	**157**	Pn	**Pn**	**11 57 16.7**	**+0.6**
AP01				Sn	**Sn**	**11 57 57.3**	**-1.2**
LPAZ	**La Paz**	**3.79**	**110**	P	**Pn**	**11 57 20.3**	**+1.7**
	11nm,0.3s,baz=320,slow=9.4,SNR=97						
LPAZ				S	**Sn**	**11 58 04.0**	**+1.1**
	baz=220,slow=25,SNR=1.5						
LPAZ	**La Paz**	**3.79**	**110**	*e*P	**Pn**	**11 57 20.5**	**+2.0**
MNMC	**Minye Minye**	**4.63**	**153**		**Pn**	**11 57 29.9**	**+0.4**
MNMC				Sn	**Sn**	**11 58 22.5**	**-0.1**
PSGCX	**Pisagua**	**4.85**	**161**	Pn	**Pn**	**11 57 31.6**	**-0.8**
PSGCX				Sn	**Sn**	**11 58 25.1**	**-2.5**
PB11	**IPOC Station P**	**5.17**	**157**	Pn	**Pn**	**11 57 35.8**	**-0.9**
PB11				Sn	**Sn**	**11 58 32.8**	**-2.6**
TA02	**Huaiquique**	**5.49**	**163**		**Pn**	**11 57 39.5**	**-1.2**
TA02				Sn	**Sn**	**11 58 39.7**	**-3.1**
PB08	**IPOC Station P**	**5.71**	**154**		**Pn**	**11 57 44.0**	**-0.1**
NNA	**Nana**	**5.72**	**301**	P	**Pn**	**11 57 44.8**	**+0.8**
	15nm,0.3s,baz=126,slow=13,SNR=18						
NNA				S	**Sn**	**11 58 47.5**	**-1.1**
	28nm,0.3s,baz=26,slow=11,SNR=12						
NNA	**Nana**	**5.72**	**301**	Pn	**Pn**	**11 57 42.2**	**-1.8**
NNA				Sn	**Sn**	**11 58 47.5**	**-1.1**
TA01	**Diego Aracena**	**5.75**	**164**	Pn	**Pn**	**11 57 42.9**	**-1.5**
PB01	**IPOC Station P**	**6.41**	**160**		**Pn**	**11 57 51.6**	**-1.7**
PB07	**IPOC Station P**	**6.94**	**165**		**Pn**	**11 57 59.1**	**-1.5**
PB09	**IPOC Station P**	**7.19**	**160**		**Pn**	**11 58 02.9**	**-1.1**
CZSB	**Cruzeiro do Su**	**7.28**	**353**	*e*P	**Pn**	**11 58 02.6**	**-2.4**
CZSB				*e*S	**Sn**	**11 59 22.2**	**-4.0**
PB04	**IPOC Station P**	**7.46**	**168**		**Pn**	**11 58 05.9**	**-1.7**
ETMB	**Extrema**	**7.53**	**47**	*e*P	**Pn**	**11 58 07.2**	**-1.1**
PB06	**IPOC Station P**	**7.96**	**165**		**Pn**	**11 58 11.7**	**-2.5**
LVC	**Limon Verde**	**8.06**	**160**	P	**Pn**	**11 58 14.9**	**-0.9**
	13nm,0.3s,baz=334,slow=9.0,SNR=100						
LVC				S	**Sn**	**11 59 41.8**	**-3.6**
	5.3nm,0.3s,baz=122,slow=20,SNR=11						
LVC	**Limon Verde**	**8.06**	**160**	Pn	**Pn**	**11 58 14.3**	**-1.5**
LVC	**Limon Verde**	**8.06**	**160**	*e*P	**Pn**	**11 58 14.9**	**-0.9**
PB15	**IPOC Station P**	**8.46**	**165**		**Pn**	**11 58 18.9**	**-2.2**
PB10	**IPOC Station P**	**8.55**	**172**	Pn	**Pn**	**11 58 20.1**	**-2.1**
PB14	**IPOC Station P**	**9.67**	**172**		**Pn**	**11 58 35.2**	**-2.3**
ATAH	**Atahualpa**	**10.13**	**320**	P	**Pn**	**11 58 45.2**	**+1.4**
	0.4nm,0.3s,baz=228,slow=15,SNR=1.6						
GO02	**Mina Guanaco**	**10.32**	**169**	Pn	**Pn**	**11 58 44.6**	**-1.7**
SIV	**San Ignacio**	**10.42**	**97**	P	**Pn**	**11 58 45.4**	**-1.9**
	1.6nm,0.3s,baz=282,slow=16,SNR=57						
VILB	**Vilhena**	**11.47**	**81**	*e*P	**Pn**	**11 59 02.8**	**+1.3**
AC02	**Maricunga**	**12.04**	**168**	Pn	**Pn**	**11 59 08.6**	**-0.7**
GO04	**Tololo Observa**	**15.13**	**177**	Pn	**Pn**	**11 59 48.4**	**-0.3**
SALV	**Santo Antonio**	**15.58**	**95**	*e*P	**P**	**11 59 55.1**	**-0.7**
CO03	**El Pedregal**	**15.80**	**176**	Pn	**Pn**	**11 59 55.3**	**-1.6**
MACA	**Manacapuru-AM**	**16.10**	**44**	*e*P	**Pn**	**12 00 00.7**	**+0.1**
CO02	**Combarbal**	**16.15**	**177**		**Pn**	**12 00 01.2**	**0.0**
CO02				IAmb	IAmb	12 00 05.8	
	comp=Z,28nm,1.1s						
CLDB	**Colider**	**16.16**	**77**	*e*P	**P**	**12 00 02.4**	**+0.2**
AQDB	**Aquidauana**	**16.30**	**112**		**Pn**	**12 00 02.9**	**-0.1**
AQDB	**Aquidauana**	**16.30**	**112**	*e*P	**P**	**12 00 03.6**	**-0.1**
PP1B	**Ponte de Pedra**	**16.48**	**101**	*e*P	**Pn**	**12 00 05.3**	**+0.1**
OTAV	**Otavalo**	**16.50**	**336**	*e*P	**Pn**	**12 00 02.1**	**-3.8**
ZON	**Zonda**	**16.72**	**171**		**Pn**	**12 00 08.4**	**+0.2**
ZON				IAmb	IAmb	12 00 12.4	
	comp=Z,15nm,0.9s						
MACC	**Macarena, Meta**	**17.15**	**353**	*e*P	**P**	**12 00 11.0**	**-2.2**
CPUP	**Villa Florida**	**17.62**	**132**	P	**Pn**	**12 00 19.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=322,slow=9.8,SNR=10.0						
CPUP	**Villa Florida**	**17.62**	**132**		**Pn**	**12 00 20.3**	**+1.3**
CPUP	**Villa Florida**	**17.62**	**132**	*e*P	**P**	**12 00 18.1**	**-0.2**
SOTA	**Rioblanco**	**17.67**	**344**	*e*P	**Pn**	**12 00 24.0**	**+3.8**
NPGB	**Novo Progresso**	**17.99**	**66**	*e*P	**P**	**12 00 21.7**	**-0.6**
POPC	**Popayan, Colom**	**18.08**	**344**	*e*P	**P**	**12 00 19.0**	**-4.6**
MT09	**Talagante**	**18.71**	**178**	P	**Pn**	**12 00 32.2**	**+0.2**
MT09				IAmb	IAmb	12 00 38.2	
	comp=Z,17nm,0.9s						
MT01	**Popeta**	**18.79**	**179**	P	**Pn**	**12 00 32.5**	**-0.3**
MT01				IAmb	IAmb	12 00 37.2	
	comp=Z,14nm,0.9s						
ITTB	**Itaituba**	**19.04**	**58**	*e*P	**P**	**12 00 33.2**	**-0.7**
ARAG	**Araguaiana, MT**	**19.32**	**95**	*e*P	**P**	**12 00 37.5**	**+0.7**
BO01	**Tunca**	**19.32**	**178**	P	**Pn**	**12 00 38.2**	**-0.9**
BO01				IAmb	IAmb	12 00 45.5	
	comp=Z,15nm,0.9s						
H03N1	**Juan Fernandez**	**19.45**	**198**	T	T	12 19 38.9	
	baz=17,slow=74,SNR=4.0						
H03N2	**Juan Fernandez**	**19.45**	**198**	T	T	12 19 24.4	
	baz=17,slow=74,SNR=3.1						
H03N3	**Juan Fernandez**	**19.47**	**198**	T	T	12 19 37.8	
	baz=17,slow=74,SNR=3.2						
BO02	**Sierra Bellavi**	**19.73**	**177**	P	**Pn**	**12 00 43.7**	**-0.2**
BO02				IAmb	IAmb	12 00 45.3	
	comp=Z,24nm,0.9s						
TRCB	**Terra Rica**	**19.73**	**116**	*e*P	**P**	**12 00 41.6**	**+0.3**
GO05	**Huala**	**19.92**	**180**	P	**Pn**	**12 00 45.1**	**-1.0**
GO05				IAmb	IAmb	12 01 02.1	
	comp=Z,16nm,1.1s						
SNDB	**Serra Nova Dou**	**20.19**	**84**	*e*P	**P**	**12 00 46.5**	**+0.1**
ITQB	**Itaqui**	**20.24**	**139**	*e*P	**P**	**12 00 47.3**	**+0.6**
PLMC	**San Jos del P**	**20.26**	**347**	*e*P	Pn	12 00 50.9	+0.6
GUY2C	**Guyana, Caldas**	**20.40**	**350**	*e*P	Pn	12 00 53.0	+0.7
PCMB	**Pacaembu**	**20.59**	**112**	*e*P	**P**	**12 00 50.8**	**+0.2**
BOAV	**Boa Vista**	**20.59**	**34**	*e*P	**P**	**12 00 50.4**	**-0.2**
ML02	**Panimavida**	**20.68**	**179**	P	Pn	12 00 53.4	-1.5
ITRB	**Iturama**	**21.02**	**106**	*e*P	**P**	**12 00 54.0**	**-1.2**
CBOC	**Ciudad Bolivar**	**21.14**	**348**	*e*P	**P**	**12 00 57.9**	**+1.3**
MALB	**Monte Alegre**	**21.71**	**55**	*e*P	**P**	**12 01 01.7**	**-0.9**
DBBC	**Dabeiba**	**22.30**	**348**	*e*P	**P**	**12 01 11.1**	**+2.3**
FRTB	**Fartura**	**22.59**	**115**	*e*P	**P**	**12 01 10.8**	**-0.7**
CPSB	**Cacapava Do Su**	**22.81**	**135**	*e*P	**P**	**12 01 15.2**	**+1.6**
BDFB	**Brasília**	**22.98**	**95**	P	**P**	**12 01 14.2**	**-1.2**
	comp=Z,11nm,0.7s,baz=265,slow=11,SNR=6.0						
BDFB	**Brasília**	**22.98**	**95**	P	**P**	**12 01 14.5**	**-0.9**
BDFB				IAmb	IAmb	12 01 14.8	
	comp=Z,11nm,0.7s						
PEXB	**Peixe**	**23.05**	**86**	*e*P	**P**	**12 01 15.5**	**-0.5**
PRPB	**Parauapebas**	**23.33**	**70**	*e*P	**P**	**12 01 18.1**	**-0.5**
TIJ01	**Guaruva-PR**	**23.72**	**119**	*e*P	**P**	**12 01 21.8**	**-0.4**
MCPB	**Macapa, AP**	**24.36**	**55**	*e*P	**P**	**12 01 27.3**	**-0.6**
SMTB	**Santa Maria do**	**24.48**	**78**	*e*P	**P**	**12 01 29.5**	**+0.5**
SPB	**Sao Paulo**	**24.53**	**114**	*e*P	**P**	**12 01 29.9**	**+0.5**
TRQA	**Tornquist**	**24.56**	**161**	P	**P**	**12 01 31.1**	**+1.5**
TRQA				IAmb	IAmb	12 01 34.9	
	comp=Z,7.8nm,1.0s						
PLCA	**Paso Flores**	**25.66**	**178**	P	**P**	**12 01 38.3**	**-1.2**
	comp=Z,3.7nm,1.0s,baz=357,slow=12,SNR=7.8						
PLCA	**Paso Flores**	**25.66**	**178**	P	**P**	**12 01 41.8**	**+2.2**
PLCA				IAmb	IAmb	12 01 41.8	
	comp=Z,6.5nm,0.8s						
TMAB	**Tom-Au,PA,Br**	**26.56**	**64**	*e*P	**P**	**12 01 47.9**	**0.0**
JANB	**Januaria**	**26.57**	**94**	*e*P	**P**	**12 01 46.9**	**-1.1**
DRK0	**Durika**	**26.63**	**334**	P	**P**	**12 01 48.8**	**+0.1**
DRK0				IAmb	IAmb	12 01 57.9	
	comp=Z,16nm,0.9s						
DIAM	**Diamantina, MG**	**27.16**	**101**	*e*P	**P**	**12 01 53.1**	**-0.3**
ROSB	**Rosrio**	**29.84**	**69**	*e*P	**P**	**12 02 16.9**	**-0.1**
BSFB	**Barra de Sao F**	**29.86**	**102**	*e*P	**P**	**12 02 17.3**	**+0.1**
NAN01	**Guarapari, ES**	**30.52**	**100**	*e*P	**P**	**12 02 22.2**	**-0.8**
GUA01	**Guaratinga, BA**	**30.84**	**97**	*e*P	**P**	**12 02 24.8**	**-1.0**
CMC01	**Camacan, BA**	**31.17**	**95**	*e*P	**P**	**12 02 28.3**	**-0.4**
GDU01	**Guandu, BA**	**31.26**	**92**	*e*P	**P**	**12 02 28.7**	**-0.8**
NBIT	**Itapeh - BA**	**31.28**	**94**	*e*P	**P**	**12 02 30.1**	**+0.4**
NBAN	**Anadia - AL**	**35.11**	**86**	*e*P	**P**	**12 03 02.1**	**-0.9**
TXAR	**Lajitas Array**	**53.74**	**325**	P	**P**	**12 05 32.4**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=168,slow=4.6,SNR=1.4						
TXAR				pP	**pP**	**12 06 03.1**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=134,slow=5.4,SNR=3.7						
TXAR	**Lajitas Array**	**53.74**	**325**	P	**P**	**12 05 30.6**	**-0.2**
VNA3	**Neumayer Olymp**	**67.08**	**162**	P	**P**	**12 07 03.1**	**+2.2**
VNA1	**Neumayer--Stat**	**67.30**	**161**	P	**P**	**12 07 04.4**	**+2.2**
ULM	**Lac du Bonnet**	**68.33**	**344**	P	**P**	**12 07 11.6**	**+2.7**
	comp=Z,0.9nm,0.5s,baz=153,slow=2.3,SNR=1.7						
SNAA	**Sanae**	**69.29**	**162**	P	**P**	**12 07 16.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**77.95**	**73**	P	**P**	**12 08 04.3**	**-2.0**
	comp=Z,1.0nm,0.4s,baz=268,slow=4.9,SNR=14						
TORD	**Torodi Ar. Bea**	**77.95**	**73**	IAmb	IAmb	12 08 04.7	
	comp=Z,2.0nm,1.1s						
VNDA	**Vanda**	**82.73**	**190**	P	**P**	**12 08 32.4**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=134,slow=3.7,SNR=9.1						
YKA	**Yellowknife Ar**	**84.17**	**342**	P	**P**	**12 08 39.3**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=132,slow=5.4,SNR=2.4						
ASAR	**Alice Springs**	**134.07**	**214**	PKP	**PKiKP**	**12 15 26.1**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=113,slow=1.3,SNR=2.2						
WRA	**Warramunga Arr**	**136.78**	**217**	PKP	**PKiKP**	**12 15 31.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=134,slow=1.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**137.05**	**20**	PKP	**PKiKP**	**12 15 30.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=48,slow=2.1,SNR=1.6						
SONM	**Songino Array**	**147.23**	**2**	PKPbc	**PKPab**	**12 15 51.3**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=327,slow=1.9,SNR=3.5						
SONM				pPKPbc	**pPKPab**	**12 16 27.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=270,slow=0.3,SNR=5.9						

*IDC **17** 12:04:47.0±3.1, 0.′18N×123.′60E, h161km±27km, mb3.3/7, mb1 3.5/8, mb1mx3.2/42, mbtmp3.8/8, MS3.9/2, Ms1 3.9/2, ms1mx3.1/20, Error ellipse: s-maj=50.0km s-min=13.0km az=62.0*
*DJA **17** 12:04:47.5±0.5, 0.°S±5.°×12.°3E±.°, h150km±6km, M4.2/8, MLv4.2/8*
ISC 17 12:04:46.6±0.8, 0.′06N±0.′08×123.′51E±0.′07, h157km, n16, σ1§14/19, mb3.7/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.32**	**214**	P	**Pn**	**12 05 14.8**	**-0.1**
LUWI				S	**Sn**	**12 05 34.4**	**-2.2**
MRSI	**Marisa**	**1.62**	**285**	P	**Pn**	**12 05 17.7**	**-0.2**
APSI	**Ampana**	**2.09**	**243**	P	**Pn**	**12 05 23.4**	**+0.2**
SANI	**Sanana**	**3.25**	**130**	P	**Pn**	**12 05 36.8**	**-0.5**
MPSI	**Mapaga**	**3.62**	**274**	P	**Pn**	**12 05 42.0**	**-0.1**
TNTI	**Ternate**	**3.92**	**80**	P	**Pn**	**12 05 47.2**	**+1.2**
TTSI	**Tana Toraja**	**4.81**	**230**	P	**Pn**	**12 05 56.5**	**-1.1**
KAPI	**Kappang**	**6.28**	**217**	P	**Pn**	**12 06 19.3**	**+2.2**
	0.8nm,0.3s,baz=60,slow=5.9,SNR=5.8						
WRA	**Warramunga Arr**	**22.53**	**153**	P	**P**	**12 09 33.8**	**+0.3**
	1.3nm,0.4s,baz=337,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**25.66**	**158**	P	**P**	**12 10 02.6**	**+0.6**
	0.2nm,0.4s,baz=337,slow=9.8,SNR=9.4						
ASAR				PcP	**PcP**	**12 13 28.9**	**+0.3**
	0.3nm,0.4s,baz=350,slow=2.1,SNR=8.1						
ASAR				ScP	**ScP**	**12 16 52.7**	**-0.8**
	0.2nm,0.4s,baz=344,slow=2.8,SNR=7.4						
CMAR	**Chiang Mai Arr**	**30.28**	**308**	P	**P**	**12 10 44.4**	**+1.3**
	0.7nm,0.7s,baz=134,slow=7.8,SNR=4.5						
STKA	**Stephens Creek**	**36.08**	**153**	P	**P**	**12 11 34.4**	**+1.1**
	1.4nm,0.4s,baz=332,slow=10,SNR=3.7						
MJAR	**Matsushiro Arr**	**38.78**	**19**	LR	LR	12 27 49.5	
	comp=Z,79nm,21.8s,baz=115,slow=36						
SONM	**Songino Array**	**49.86**	**345**	P	**P**	**12 13 24.2**	**+0.4**
	1.2nm,0.8s,baz=165,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**12 14 27.9**	**-0.7**
	0.8nm,0.4s,baz=120,slow=8.9,SNR=12						
MKAR				PcP	**PcP**	**12 15 15.0**	**-1.4**
	0.1nm,0.5s,baz=112,slow=6.4,SNR=4.1						
MKAR				LR	LR	12 42 52.8	
	comp=Z,272nm,21.8s,baz=280,slow=39						
KURBB	**Kurchatov Arra**	**63.17**	**330**	P	**P**	**12 14 56.6**	**-1.1**
	0.6nm,0.5s,baz=139,slow=6.3,SNR=10						

*SJA **17** 12:04:51.2±0.6, 34.′99S×73.′48W, h17km±3km, ML4.4, MW4.5*
*IDC **17** 12:04:53.2±0.9, 35.′53S×72.′92W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/25, mbtmp4.1/9, ML4.0/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/29, Error ellipse: s-maj=40.2km s-min=20.3km az=76.0*
*GUC **17** 12:04:53.3±0.6, 35.′53S×73.′38W, h34km±3km, ML4.5*
*NEIC **17** 12:04:54.3, 35.′53S×73.′16W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.30; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-2.11; $M_{r\theta}$0.30; $M_{\theta\phi}$-1.24; $M_{\phi r}$-1.92; Fault plane solution: $M_0$3.19000×10^{15} NP1:ϕ_s185.31000°, δ64.60000°, λ68.91000°. NP2:ϕ_p47.28000°, δ32.56000°, λ127.16000°. Principal axes: T 3.1781, Plg64.0000°, Azm60.0000°; N 0.0317, Plg19.0000°, Azm195.0000°; P -3.2098, Plg17.0000°, Azm291.0000°;*
*NEIC **17** 12:04:54.8±1.9, 35.′50S±0.′06×73.′04W±0.′07, h11km±1km, mb4.7/13, Mwr4.3/20, ML4.5(GUC) Error ellipse: s-maj=8.9km s-min=7.9km az=223.0*
*VAO **17** 12:05:07.3±0.3, 34.′83S×71.′76W, h10km, mb4.6*
ISC 17 12:04:53.7±0.5, 35.′57S±0.′03×73.′16W±0.′04, h10km, n133, σ1§84/139, mb4.4/10, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.15**	**62**	↑*i*P	**Pg**	**12 05 15.1**	**-0.7**
GO05				*i*S	**Sn**	**12 05 31.9**	**+0.1**
GO05	**Huala**	**1.15**	**62**		**Pg**	**12 05 15.1**	**-0.7**
GO05	**Huala**	**1.15**	**62**	*e*P	**Pg**	**12 05 15.2**	**-0.6**
GO05				*e*S	**Sn**	**12 05 33.2**	**+1.5**
CCSP	**San Pedro de C**	**1.28**	**178**	*e*P	**Pn**	**12 05 16.3**	**-1.3**
CCSP				*i*S	**Sb**	**12 05 32.5**	**-1.8**
CCSP				IAML		12 05 39.3	
	comp=E,22μm,0.5s						
ML02	**Panimavida**	**1.44**	**98**		**Pg**	**12 05 20.2**	**-1.0**
ML02				Sn	**Sn**	**12 05 34.4**	**-4.3**
BO03	**Pichilemu**	**1.45**	**43**	↑*i*P	**Pn**	**12 05 19.2**	**-0.8**
BO03				*i*S	**Sg**	**12 05 40.7**	**+0.3**
BO03				IAML		12 05 46.7	
	comp=N,5μm,0.6s						
BO01	**Tunca**	**2.07**	**56**	↓*i*P	**Pn**	**12 05 28.6**	**+0.1**
BO01				*i*S	**Sn**	**12 05 54.8**	**+0.5**
BO01	**Tunca**	**2.07**	**56**		**Pn**	**12 05 28.3**	**-0.2**
BO02	**Sierra Bellavi**	**2.10**	**69**	↑*i*P	**Pn**	**12 05 29.0**	**+0.1**
BO02				*i*S	**Sb**	**12 05 58.2**	**+0.2**
BO02				IAML		12 06 07.7	
	comp=N,5μm,0.5s						
BO02	**Sierra Bellavi**	**2.10**	**69**		**Pn**	**12 05 29.1**	**+0.1**
BO02	**Sierra Bellavi**	**2.10**	**69**	*e*P	**Pb**	**12 05 29.6**	**-2.3**
BO02				*e*S	**Sb**	**12 05 58.5**	**+0.5**
BO02				IAML		12 06 08.7	
	comp=Z,4μm,0.9s						
VA05	**Santo Domingo**	**2.29**	**34**	*e*P	**Pn**	**12 05 30.7**	**-0.8**
VA05				*i*S	**Sn**	**12 05 58.5**	**-1.4**
VA05				IAML		12 06 14.1	
	comp=N,2μm,0.4s						
VA05	**Santo Domingo**	**2.29**	**34**		**Pn**	**12 05 31.1**	**-0.5**
MT01	**Popeta**	**2.31**	**43**	*e*P	**Pn**	**12 05 31.2**	**-0.7**
MT01				IAML		12 06 18.3	
	comp=E,4μm,0.9s						
MT01	**Popeta**	**2.31**	**43**		**Pn**	**12 05 31.4**	**-0.5**
MT09	**Talagante**	**2.53**	**46**	*e*P	**Pn**	**12 05 34.6**	**-0.4**
MT09				IAML		12 06 21.2	
	comp=E,3μm,0.7s						
MT09	**Talagante**	**2.53**	**46**		**Pn**	**12 05 34.8**	**-0.2**
VA01	**Torpederas**	**2.83**	**27**	*e*P	**Pn**	**12 05 37.2**	**-1.8**
VA01				IAML		12 06 35.2	
	comp=N,563nm,0.8s						
VA01	**Torpederas**	**2.83**	**27**		**Pn**	**12 05 38.1**	**-0.8**
MT02	**Curacav**	**2.84**	**37**	*e*P	**Pn**	**12 05 38.3**	**-0.9**
MT02				IAML		12 06 33.5	
	comp=E,667nm,0.5s						
MT02	**Curacav**	**2.84**	**37**	Pn	**Pn**	**12 05 38.4**	**-0.8**
MT05	**Renca**	**2.95**	**43**	*e*P	**Pn**	**12 05 40.8**	**+0.1**
MT05				*i*S	**Sn**	**12 06 16.2**	**-0.1**
MT05				IAML		12 06 37.7	
	comp=E,2μm,0.7s						
MT05	**Renca**	**2.95**	**43**	Pn	**Pn**	**12 05 40.8**	**+0.1**
COIS	**El Sosneado**	**2.95**	**82**	*e*P	**Pb**	**12 05 43.8**	**-2.6**
COIS				*e*S	**Sg**	**12 06 33.2**	**+4.6**
MT03	**Universidad Ad**	**3.01**	**47**	*e*P	**Pn**	**12 05 41.3**	**-0.3**
MT03				*i*S	**Sn**	**12 06 18.1**	**+0.4**
MT03				IAML		12 06 38.6	
	comp=N,2μm,0.7s						
MT03	**Universidad Ad**	**3.01**	**47**		**Pn**	**12 05 42.0**	**+0.4**
MT03	**Universidad Ad**	**3.01**	**47**	*e*P	**Pn**	**12 05 39.5**	**-2.1**
MT03				*e*S	**Sg**	**12 06 30.5**	**+0.1**
MT03				IAML		12 06 35.2	
	comp=Z,1μm,1.2s						
PUMA	**Malargue**	**3.03**	**90**	*e*P	**Pb**	**12 05 45.5**	**-2.2**
EDS3	**Malargue**	**3.07**	**95**	*e*P	**Pn**	**12 05 41.0**	**-1.4**
EDS3				*e*P	**Pb**	**12 05 48.5**	**0.0**
EDS3				*e*S	**Sb**	**12 06 28.0**	**+1.8**
ROC1	**El Roble**	**3.14**	**35**	*e*P	**Pn**	**12 05 39.0**	**-4.4**
ROC1				*e*S	**Sg**	**12 06 32.0**	**-2.5**
ROCH	**El Roble**	**3.14**	**35**	*e*P	**Pn**	**12 05 43.6**	**+0.2**
LAMA	**Las Malvinas**	**3.29**	**80**	*e*P	**Pb**	**12 05 48.1**	**-4.2**
LAMA				*e*S	**Sg**	**12 06 41.0**	**+1.5**
VA03	**San Esteban**	**3.54**	**39**	*e*P	**Pn**	**12 05 48.8**	**0.0**
VA03	**San Esteban**	**3.54**	**39**		**Pn**	**12 05 49.0**	**+0.2**
CO02	**Combarbal**	**4.71**	**23**		**Pn**	**12 06 04.3**	**-0.6**
H03S1	**Juan Fernandez**	**5.03**	**288**	Pn	**Pn**	**12 06 09.3**	**+0.3**
	baz=308,slow=74,SNR=22						
H03S1				T	T	12 11 02.8	
	baz=110,slow=74,SNR=2184						
H03S3	**Juan Fernandez**	**5.04**	**288**	Pn	**Pn**	**12 06 09.4**	**+0.3**
H03S3				T	T	12 11 05.0	
	baz=110,slow=74,SNR=2196						
H03S2	**Juan Fernandez**	**5.05**	**288**	Pn	**Pn**	**12 06 09.4**	**+0.2**
	baz=113,slow=74,SNR=35						
H03S2				T	T	12 11 03.0	
	baz=110,slow=74,SNR=3250						
CO03	**El Pedregal**	**5.15**	**24**		**Pn**	**12 06 10.7**	**-0.3**
H03N1	**Juan Fernandez**	**5.20**	**292**	Pn	**Pn**	**12 06 11.7**	**+0.4**
	baz=135,slow=24,SNR=57						
H03N1				T	T	12 11 20.5	
	baz=121,slow=71,SNR=62						
H03N3	**Juan Fernandez**	**5.20**	**292**	Pn	**Pn**	**12 06 11.8**	**+0.5**
	baz=135,slow=24,SNR=28						
H03N3				T	T	12 11 36.0	
	baz=121,slow=71,SNR=107						
H03N2	**Juan Fernandez**	**5.21**	**292**	Pn	**Pn**	**12 06 12.2**	**+0.7**
	baz=135,slow=24,SNR=32						
H03N2				T	T	12 11 21.5	
	baz=121,slow=71,SNR=55						
ZON	**Zonda**	**5.48**	**44**	Pn	**Pn**	**12 06 14.3**	**-1.3**
PLCA	**Paso Flores**	**5.55**	**159**	Pn	**Pn**	**12 06 18.2**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=331,slow=11,SNR=21						
PLCA				Lg	Lg	12 07 44.1	
	comp=Z,3.1nm,0.3s,baz=245,slow=16,SNR=3.4						
PLCA	**Paso Flores**	**5.55**	**159**		**Pn**	**12 06 17.4**	**+0.9**
PLCA	**Paso Flores**	**5.55**	**159**	*e*P	**Pn**	**12 06 13.0**	**-3.5**
PLCA				*e*S	**Sg**	**12 07 51.5**	**-0.5**
LL03	**Petrohue**	**5.60**	**174**		**Pn**	**12 06 17.4**	**+0.4**
GO04	**Tololo Observa**	**5.73**	**21**	Pn	**Pn**	**12 06 18.1**	**-1.1**
GO04	**Tololo Observa**	**5.73**	**21**	*e*P	**Pn**	**12 06 18.0**	**-1.1**
GO04				*e*S	**Sn**	**12 07 22.0**	**-3.1**
LL05	**Los Muermos**	**5.84**	**182**	Pn	**Pn**	**12 06 20.1**	**-0.2**
ACCO	**Cerro Coronel**	**6.04**	**36**	*e*P	**Pn**	**12 06 24.1**	**+0.7**
ACCO				IAML		12 08 15.5	
	comp=Z,104nm,0.9s						
AROD	**Rodeo**	**6.21**	**31**	*e*P	**Pn**	**12 06 22.0**	**-3.8**
ACDV	**Cuesta del Vie**	**6.36**	**33**	*e*P	**

WRA	**Warramunga Arr**	**118.95**	**210**	PKP	**PKiKP**	**12 23 42.7 -0.4**
	comp=Z,0.3nm,0.5s,baz=164,slow=1.8,SNR=7.5					
H11S2	**WAKE ISLAND Hyl**	**24.81**	**269**	T	T	14 41 17.2
	baz=125,slow=74					
H11S1	**WAKE ISLAND Hyl**	**24.83**	**269**	T	T	14 41 16.9
	baz=125,slow=74,SNR=8.9					
H11S3	**WAKE ISLAND Hyl**	**24.83**	**269**	T	T	14 41 17.4
	baz=125,slow=74,SNR=5.0					
H11N3	**WAKE ISLAND Hyl**	**25.27**	**270**	T	T	14 41 42.6
	baz=130					
H11N1	**WAKE ISLAND Hyl**	**25.28**	**270**	T	T	14 41 41.3
	baz=130,slow=74					
H11N2	**WAKE ISLAND Hyl**	**25.28**	**270**	T	T	14 41 48.1
	baz=130,slow=74					

*TUL **17** 12:13:36.9±0.7, 36°.286N±0°.009×97°.52W±0°.02, h7km±7km, ML2.6, mb_Lg2.5/39(NEIC), Error ellipse: s-maj=2.1km s-min=0.6km az=57.0*

NEIC 17 12:13:36.9±0.7, 36°.28N±0°.01×97°.52W±0°.01, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=265.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**301**		Pg	12 13 45.5	+0.3
CROK				Sg	Sg	12 13 51.7	+0.9
OK029	**Liberty Lake**	**0.49**	**173**		Pg	12 13 46.5	+0.2
OK029				Sg	Sg	12 13 53.3	+0.7
BLOK	**Blackwell**	**0.54**	**28**		Pg	12 13 47.3	+0.1
BLOK				Sg	Sg	12 13 54.8	+0.5
GC02	**Grant County #**	**0.63**	**335**		Pg	12 13 48.9	-0.1
GC02				Sg	Sg	12 13 57.5	+0.3
BCOK	**Bluff Creek, N**	**0.63**	**186**		Pg	12 13 49.0	+0.1
BCOK				Sg	Sg	12 13 57.8	+0.6
OK031	**S. Brethren Rd**	**0.65**	**120**		Pg	12 13 49.3	0.0
OK031				Sg	Sg	12 13 57.9	+0.3
QUOK	**Quay**	**0.67**	**99**		Pg	12 13 49.7	0.0
QUOK				Sg	Sg	12 13 58.8	+0.4
OK025	**Westminster Rd**	**0.72**	**168**		Pg	12 13 50.7	+0.1
OK025				Sg	Sg	12 14 00.6	+0.7
KAN13	**South Haven SW**	**0.73**	**3**		Pg	12 13 50.9	0.0
OK032	**Salt Plains WL**	**0.76**	**313**	Pg	Pg	12 13 51.3	-0.1
KAN09	**Caldwell North**	**0.85**	**355**	Pg	Pg	12 13 53.1	-0.2
OKCFA	**Oklahoma City**	**0.87**	**176**	Pg	Pg	12 13 53.3	-0.2
KAN05	**Bluff City Nor**	**0.87**	**341**	Pg	Pg	12 13 53.4	-0.2
OKCSW	**OKLAHOMA CITY**	**0.88**	**175**		Pg	12 13 53.5	-0.2
KS20	**Mayfield South**	**0.94**	**359**	Pg	Pg	12 13 54.7	-0.3
KAN10	**Anthony SW Sta**	**0.96**	**331**	Pg	Pg	12 13 55.0	-0.3
FNO	**Franklin**	**1.03**	**174**		Pg	12 13 56.2	-0.4
T35A	**Sooner Cattle**	**1.03**	**52**		Pg	12 13 56.3	-0.3
KAN12	**Harper NE Stat**	**1.08**	**340**	Pg	Pg	12 13 57.5	-0.1
U32A	**Winter Ranch,**	**1.20**	**275**		Pg	12 13 59.5	-0.3
WMOK	**Wichita Mounta**	**1.85**	**214**		Pn	12 14 09.0	-0.3
LOOK	**Love County**	**2.30**	**173**	IAmb_Lg		12 14 56.0	
	comp=Z,14nm,1.0s						
X37A	**Clayton**	**2.44**	**133**	IAmb_Lg		12 14 58.7	
	comp=Z,17nm,0.7s						
KSU1	**Kansas State U**	**2.91**	**14**	IAmb_Lg		12 15 09.0	
	comp=Z,23nm,1.2s						
W39A	**Magazine**	**3.23**	**109**	IAmb_Lg		12 15 25.2	
	comp=Z,23nm,1.1s						
MIAR	**Mount Ida**	**3.66**	**117**		Pn	12 14 33.5	-0.7
MIAR				IAmb_Lg		12 15 41.6	
	comp=Z,9.0nm,0.9s						
AMTX	**Amarillo**	**3.66**	**249**	IAmb_Lg		12 15 37.0	
	comp=Z,8.2nm,0.7s						
U40A	**Yellville**	**3.77**	**88**	IAmb_Lg		12 15 38.1	
	comp=Z,18nm,0.8s						
ABTX	**Abilene, Hawle**	**4.05**	**206**	IAmb_Lg		12 15 45.8	
	comp=Z,8.8nm,1.0s						
X40A	**Basin Creek Fa**	**4.23**	**114**	Pn	Pn	12 14 41.1	-0.9
X40A				IAmb_Lg		12 15 56.2	
	comp=Z,7.3nm,0.7s						
MGMO	**Mountain Grove**	**4.31**	**77**	IAmb_Lg		12 15 56.1	
	comp=Z,12nm,0.7s						
N33A	**J Bar K, Exete**	**4.45**	**1**	IAmb_Lg		12 16 03.3	
	comp=Z,16nm,0.8s						
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		12 16 04.6	
	comp=Z,9.2nm,0.8s						
R40A	**Maddies Statio**	**4.64**	**63**	Pn	Pn	12 14 48.1	+0.4
KSCO	**Kaye Shedlock'**	**4.88**	**305**	IAmb_Lg		12 16 21.8	
	comp=Z,8.0nm,0.8s						
CCM	**Cathedral Cave**	**5.32**	**69**	IAmb_Lg		12 16 23.1	
	comp=Z,8.7nm,0.8s						
N38A	**Joes South For**	**5.62**	**35**	IAmb_Lg		12 16 45.6	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	**5.73**	**83**	IAmb_Lg		12 16 42.3	
	comp=Z,13nm,0.8s						
L34A	**Svendsen Farm,**	**5.75**	**9**	IAmb_Lg		12 16 49.6	
	comp=Z,9.0nm,0.7s						
JCT	**Junction City**	**6.09**	**199**	IAmb_Lg		12 17 04.6	
	comp=Z,9.5nm,0.9s						
S44A	**Carbondale**	**6.77**	**76**	IAmb_Lg		12 17 13.3	
	comp=Z,8.4nm,0.7s						
MNTX	**Cornudas Mount**	**7.97**	**237**	IAmb_Lg		12 17 52.8	
	comp=Z,3.2nm,1.1s						
PHWY	**Pilot Hill**	**7.97**	**311**	IAmb_Lg		12 18 02.1	
	comp=Z,3.8nm,1.0s						

*TRN **17** 12:22:34.1, 13°.85N×58°.62W, h111km, MD4.0*

ISC 17 12:22:35.6±2.4, 13°.96N±0°.04×58°.8W±0°.1, h10km, n34, σ1§18/52, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.10**	**219**	*e*P	**Pn**	**12 22 57.2**	**+0.1**
BBSP				*e*S	**Sn**	**12 23 14.6**	**+2.3**
BBGH	**Gun Hill**	**1.14**	**224**	*e*P	**Pn**	**12 22 57.7**	**+0.1**
BBGH				*e*S	**Sn**	**12 23 17.3**	**+4.1**
MPOM	**Morne Pois Mar**	**2.10**	**283**	*e*P	**Pn**	**12 23 11.5**	**+0.6**
MPOM				*e*S	**Sn**	**12 23 38.3**	**+1.1**
SLPA	**Patience**	**2.11**	**267**	*e*P	**Pn**	**12 23 12.1**	**+1.1**
MCLT	**Moule a Chique**	**2.15**	**263**	*e*P	**Pn**	**12 23 11.3**	**-0.2**
MCLT				*e*S	**Sn**	**12 23 39.4**	**+1.1**
SLBI	**Saint Lucia, B**	**2.16**	**272**	*e*P	**Pn**	**12 23 12.0**	**+0.2**
SLBI				*e*S	**Sn**	**12 23 39.0**	**+0.4**
MVM	**Montagne Vaucl**	**2.17**	**286**	*e*P	**Pn**	**12 23 11.6**	**-0.2**
SLCP	**Castries, St.**	**2.18**	**271**	*e*P	**Pn**	**12 23 13.3**	**+1.4**
ILAM	**Ilet Lapin Mar**	**2.21**	**292**	*e*P	**Pn**	**12 23 12.4**	**0.0**
ILAM				*e*S	**Sn**	**12 23 42.7**	**+2.8**
SLB	**Belfond**	**2.23**	**267**	*e*P	**Pn**	**12 23 13.7**	**+1.0**
SLB				*e*S	**Sn**	**12 23 41.1**	**+0.7**
LPMF	**Morne Lapointe**	**2.24**	**286**	*e*P	**Pn**	**12 23 12.4**	**-0.3**
ZAM	**Aeronautique**	**2.29**	**286**	*e*P	**Pn**	**12 23 13.4**	**-0.1**
TRMF	**Trois Ilets**	**2.31**	**285**	*e*P	**Pn**	**12 23 13.6**	**-0.1**
BIM	**Bigot**	**2.32**	**284**	*e*P	**Pn**	**12 23 13.8**	**-0.1**
BIM				*e*S	**Sn**	**12 23 42.1**	**-0.5**
FDF	**Fort de France**	**2.45**	**288**	*e*P	**Pn**	**12 23 16.1**	**+0.3**
SSV	**Crater Summit**	**2.46**	**255**	*e*P	**Pn**	**12 23 15.3**	**-0.7**
SSV				*e*S	**Sn**	**12 23 45.0**	**-1.2**
BAMF	**Morne Balai**	**2.48**	**290**	*e*P	**Pn**	**12 23 16.8**	**+0.7**
GBMF	**Grand Be**	**2.49**	**290**	*e*P	**Pn**	**12 23 16.7**	**+0.4**
SVV	**Soufriere Volc**	**2.49**	**255**	*e*P	**Pn**	**12 23 16.0**	**-0.1**
SVV				*e*S	**Sn**	**12 23 46.4**	**-0.3**
SVN	**Savane Anatole**	**2.50**	**291**	*e*P	**Pb**	**12 23 20.2**	**-0.6**
PCM	**Pelee Case Pet**	**2.53**	**290**	*e*P	**Pn**	**12 23 17.8**	**+1.0**
SVOC	**Richmond Hill,**	**2.54**	**252**	*e*P	**Pn**	**12 23 16.7**	**-0.2**
DSLB	**Salisbury**	**2.97**	**300**	*e*P	**Pn**	**12 23 23.2**	**+0.3**
DSLB				*e*S	**Sn**	**12 24 00.5**	**+1.8**
GCMP	**Grenada, Carri**	**3.00**	**241**	*e*P	**Pn**	**12 23 22.1**	**-1.1**
GCMP				*e*S	**Sn**	**12 23 57.2**	**-1.9**
MAGL	**Barre de l'ile**	**3.15**	**309**	*e*P	**Pn**	**12 23 25.1**	**-0.1**
MAGL				*e*S	**Sn**	**12 24 04.0**	**+1.1**
TDBA	**Terre de Bas,**	**3.36**	**304**	*e*P	**Pn**	**12 23 29.9**	**+1.6**
TDBA				*e*S	**Sn**	**12 24 08.1**	**-0.2**
GRGR	**Grenville**	**3.37**	**238**	*e*P	**Pn**	**12 23 27.7**	**-0.6**
GRGR				*e*S	**Sn**	**12 24 05.8**	**-2.7**
TBG	**Guadaloupe-3**	**3.37**	**304**	*e*P	**Pn**	**12 23 27.2**	**-1.2**
TBG				*e*S	**Sn**	**12 24 09.6**	**+1.1**
CBE	**Ff, Capester**	**3.47**	**307**	*e*P	**Pn**	**12 23 30.4**	**+0.7**
CBE				*e*S	**Sn**	**12 24 10.2**	**-0.6**
ABD	**La Joyeuse, An**	**3.64**	**314**	*e*P	**Pn**	**12 23 32.5**	**+0.5**
ABD				*e*S	**Sn**	**12 24 13.8**	**-1.2**
ANBD	**Bethesda, Anti**	**4.23**	**317**	*e*P	**Pn**	**12 23 40.2**	**+0.1**
ANBD	**Bethesda, Anti**	**4.23**	**317**	*e*S	**Sn**	**12 24 29.5**	**0.0**
BPA	**Boggy Peak**	**4.29**	**316**	*e*P	**Pn**	**12 23 40.8**	**-0.2**
BPA	**Boggy Peak**	**4.29**	**316**	*e*S	**Sn**	**12 24 29.9**	**-1.2**

*OSPL **17** 12:22:55.4±0.5, 17°.82N×74°.24W, h0km, ML4.5*

*NEIC **17** 12:23:06.7±2.8, 19°.42N±0°.05×73°.73W±0°.03, h10km±1km, mb4.3/46, Error ellipse: s-maj=9.0km s-min=5.4km az=349.0*

*IDC **17** 12:23:07.4±0.6, 19°.25N×73°.65W, h16km±2km, mb3.8/17, mb1 4.0/17, mb1mx3.9/43, mbtmp3.9/17, MS3.7/9, Ms1 3.7/9, ms1mx3.4/33, Error ellipse: s-maj=19.3km s-min=14.6km az=23.0*

*JSN **17** 12:23:09.8±1.0, 19°.48N×73°.68W, h50km±999km, MD5.0*

*SSNC **17** 12:23:09.1±1.6, 19°.37N×73°.75W, h10km±7km, MD4.2, ML3.8, MW4.0*

ISC 17 12:23:07.7±0.4, 19°.40N±0°.04×73°.79W±0°.04, h20km±1km, h20km:pP-P, n152, σ1§51/166, mb4.3/40, MS3.7/6, 2C-1D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.88**	**332**	*i* Pg	**Pn**	**12 23 25.0**	**0.0**
MASC				*i* Sg	**Sb**	**12 23 35.8**	**+0.2**
MASC				Sn	**Sg**	**12 23 36.7**	**+0.1**
MASC				IAML		12 23 38.2	
	comp=E,3μm,0.3s						
MASC				IAML		12 23 38.8	
	comp=N,3μm,0.5s						
GTBY	**Guantanamo Bay**	**1.35**	**293**		**Pb**	**12 23 32.0**	**-0.3**
GTBY	**Guantanamo Bay**	**1.35**	**293**	*e*P	**Pb**	**12 23 32.1**	**-0.2**
GTBY	**Guantanamo Bay**	**1.35**	**293**	*i* P	**Pb**	**12 23 32.1**	**-0.3**
GTBY				IAML		12 24 00.7	
	comp=Z,2μm,0.8s						
LGNH	**Logne**	**1.42**	**128**	Pn	**Pg**	**12 23 36.0**	**+0.8**
LGNH	**Logne**	**1.42**	**128**	*i* P	Pn	12 23 24.0	-8.4
GTMO	**Guantanamo**	**1.44**	**298**	*i* P	**Pn**	**12 23 31.6**	**-1.1**
GTMO				*e*S	**Sn**	**12 23 48.7**	**-2.4**
JAKH	**Jacmel**	**1.67**	**133**	Pn	**Pn**	**12 23 36.0**	**+0.2**
JAKH	**Jacmel**	**1.67**	**133**	*i* P	Pn	12 23 24.3	-11
JAKH				IAML		12 24 09.7	
	comp=Z,2μm,0.6s						
MOAC	**Moa**	**1.67**	**319**	*i* P	**Pb**	**12 23 38.0**	**+0.2**
MOAC				*i* S	**Sg**	**12 24 00.7**	**-1.0**
MOAC				IAML		12 24 03.2	
	comp=E,986nm,0.5s						
MOAC				IAML		12 24 04.0	
	comp=N,2μm,0.4s						
NQUSE	**US Embassy, Po**	**1.68**	**119**		**Pn**	**12 23 34.2**	**-1.8**
SDDR	**Presa de Saban**	**2.40**	**99**		**Pn**	**12 23 43.4**	**-2.6**
SDDR	**Presa de Saban**	**2.40**	**99**	*e*P	**Pn**	**12 23 42.9**	**-3.1**
SDDR	**Presa de Saban**	**2.40**	**99**	*i* P	**Pn**	**12 23 42.9**	**-3.1**
SDDR				IAML		12 24 24.8	
	comp=Z,2μm,0.6s						
SC01	**Santiago de Io**	**2.89**	**89**		**Pn**	**12 23 51.9**	**-0.8**
SC01	**Santiago de Io**	**2.89**	**89**	*i* P	**Pn**	**12 23 52.3**	**-0.4**
SC01				IAML		12 24 54.6	
	comp=Z,1μm,0.8s						
HOJ	**Hope**	**3.13**	**244**	*i* P	**Pn**	**12 23 57.6**	**+1.7**
STH	**Stony Hill**	**3.15**	**246**	⇑*i*P	**Pn**	**12 23 57.7**	**+1.5**
GRTK	**Grand Turk**	**3.26**	**49**		**Pn**	**12 23 56.7**	**-1.1**
BANI	**BANI**	**3.40**	**106**		**Pn**	**12 23 59.1**	**-0.7**
MTDJ	**Mount Denham**	**3.73**	**252**		**Pn**	**12 24 05.3**	**+0.9**
MTDJ	**Mount Denham**	**3.73**	**252**	*e*P	**Pn**	**12 24 05.5**	**+1.2**
CVJ	**Coleyville**	**3.73**	**252**	*i* P	**Pn**	**12 24 05.5**	**+1.2**
SDD	**Santo Domingo**	**3.79**	**104**		**Pn**	**12 24 03.6**	**-1.3**
MCJ	**Malvern**	**3.97**	**249**	⇓*i*P	**Pn**	**12 24 10.0**	**+2.3**
MCJ				*i* S	**Sn**	**12 24 53.7**	**0.0**
CCCC	**Cccc**	**4.14**	**296**	⇑*i*P	**Pn**	**12 24 07.1**	**-2.7**
CCCC				*i* S	**Sn**	**12 24 51.6**	**-6.1**
CCCC				IAML		12 25 01.3	
	comp=N,75nm,0.5s						
CCCC				IAML		12 25 07.0	
	comp=E,73nm,0.3s						
DR12	**Loma Pena Alta**	**4.21**	**98**		**Pn**	**12 24 09.4**	**-1.5**
PCDR	**Punta Cana, DR**	**5.19**	**99**	Pn	**Pn**	**12 24 23.7**	**-0.6**
AGPR	**Aguadilla, PR**	**6.39**	**97**	Pn	**Pn**	**12 24 38.8**	**-1.9**
MGV	**Manicaragua**	**6.39**	**296**	*e*P	**Pn**	**12 24 40.5**	**-0.3**
MGV				*e*S	**Sn**	**12 25 49.7**	**-3.5**
MGV				IAML		12 25 55.8	
	comp=N,13nm,0.4s						
MGV				IAML		12 25 57.8	
	comp=E,13nm,0.4s						
MPR	**Mayaguez**	**6.41**	**100**	Pn	**Pn**	**12 24 39.4**	**-1.7**
MLPR	**Magueyes Islan**	**6.55**	**101**	Pn	**Pn**	**12 24 38.5**	**-4.4**
AOPR	**Arecibo Observ**	**6.74**	**98**		**Pn**	**12 24 44.5**	**-1.1**
EMPR	**Esperanza - Ma**	**6.93**	**96**	Pn	**Pn**	**12 24 46.7**	**-1.5**
OBIP	**Obispado Ponce**	**6.94**	**100**	Pn	**Pn**	**12 24 46.5**	**-1.8**
ICMP	**Isla Caja de M**	**7.05**	**101**	Pn	**Pn**	**12 24 47.5**	**-2.3**
SJG	**San Juan**	**7.35**	**99**	Pn	**Pn**	**12 24 52.4**	**-1.5**
PDPR	**Patillas Dam,**	**7.49**	**99**		**Pn**	**12 24 55.9**	**0.0**
CBYP	**Canovanas**	**7.60**	**97**	Pn	**Pn**	**12 24 55.0**	**-2.4**
HUMP	**Col San Antoni**	**7.62**	**98**		**Pn**	**12 24 55.9**	**-1.8**
URIC	**Uribia, Colomb**	**7.84**	**167**	Pn	**Pn**	**12 24 58.9**	**-1.8**
MTP	**Monte Pirata**	**7.91**	**98**	Pn	**Pn**	**12 24 59.0**	**-2.6**
CUPR	**Culebra, Puert**	**8.13**	**96**	Pn	**Pn**	**12 25 02.2**	**-2.5**
SMRC	**Santa Marta, M**	**8.19**	**183**	*e*P	**Pn**	**12 25 03.2**	**-2.4**
STVI	**Saint Thomas**	**8.43**	**96**	Pn	**Pn**	**12 25 05.9**	**-2.8**
ABVI	**Anegada Island**	**8.97**	**93**	Pn	**Pn**	**12 25 13.4**	**-2.8**
061Z	**Ochoppi**	**9.20**	**316**	Pn	**Pn**	**12 25 17.0**	**-2.3**
PRVC	**Isla de Provid**	**9.41**	**232**	Pn	**Pn**	**12 25 22.5**	**+0.2**
SJCC	**San Jacinto, C**	**9.54**	**188**	Pn	**Pn**	**12 25 22.9**	**-1.2**
SJCC	**San Jacinto, C**	**9.54**	**188**	*e*P	**Pn**	**12 25 24.1**	**0.0**
SMLC	**San Martn de**	**10.54**	**182**	*e*P	**Pn**	**12 25 37.6**	**0.0**
MOTC	**Monteria, Cord**	**10.71**	**190**	*e*P	**Pn**	**12 25 39.3**	**-0.7**
SDV	**Santo Domingo**	**10.88**	**163**	LR	LR	12 30 02.8	
	comp=E,214nm,18.3s,baz=281,slow=39						
BCIP	**Isla Barro Col**	**11.73**	**211**	Pn	**Pn**	**12 25 54.0**	**-0.1**
BCIP	**Isla Barro Col**	**11.73**	**211**	*e*P	**Pn**	**12 25 53.8**	**-0.3**
UPA	**Univ. de Panam**	**11.75**	**209**	*e*P	**Pn**	**12 25 54.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**11.88**	**185**	*e*P	**Pn**	**12 25 57.3**	**+1.3**
PAMC	**Pamplona, Colo**	**12.03**	**175**	*e*P	**Pn**	**12 25 57.7**	**-0.9**
DBBC	**Dabeiba**	**12.53**	**191**	*e*P	**Pn**	**12 26 06.1**	**+1.1**
656A	**Willston**	**12.72**	**323**	Pn	**Pn**	**12 26 06.9**	**-0.7**
BARC	**Barichara**	**12.74**	**177**	*e*P	**Pn**	**12 26 08.1**	**0.0**
HELC	**Santa Helena**	**13.23**	**188**	*e*P	**Pn**	**12 26 15.6**	**+0.7**
CBOC	**Ciudad Bolivar**	**13.62**	**189**	*e*P	**Pn**	**12 26 22.2**	**+2.2**
NORC	**Norcasia**	**13.79**	**185**	*e*P	**Pn**	**12 26 22.0**	**-0.3**
JTS	**Las Juntas de**	**14.08**	**232**	LR	LR	12 31 59.3	
	comp=E,448nm,19.5s,baz=101,slow=38						
GUY2C	**Guyana, Caldas**	**14.17**	**186**	*e*P	**Pn**	**12 26 28.5**	**+0.7**
PLMC	**San Jos del P**	**14.61**	**190**	*e*P	**Pn**	**12 26 35.3**	**+1.9**
CHIC	**Chingaza**	**14.68**	**180**	*e*P	**Pn**	**12 26 36.5**	**+1.8**
TOLC	**Tolima**	**14.79**	**186**	*e*P	**P**	**12 26 39.9**	**-2.2**
ANIL	**Santa Ana**	**14.90**	**186**	*e*P	**P**	**12 26 44.1**	**+0.9**
Y60A	**Bolivia**	**15.08**	**346**	Pn	**Pn**	**12 26 38.5**	**-1.0**
BBSR	**BB Station**	**15.28**	**30**		**Pn**	**12 26 39.0**	**-3.4**
ORTC	**Ortega, Tolima**	**15.46**	**185**	*e*P	**Pn**	**12 26 46.8**	**+2.1**
YOTC	**Yotoco, Valle**	**15.52**	**190**	*e*P	**P**	**12 26 48.3**	**-1.7**
MACC	**Macarena, Meta**	**17.14**	**180**	*e*P	**Pn**	**12 27 05.8**	**-0.5**
CCIG	**Comitan**	**17.74**	**263**	Pn	**Pn**	**12 27 12.9**	**-0.9**
X51A	**Calhoun**	**18.02**	**329**	Pn	**Pn**	**12 27 15.2**	**-1.9**
TKL	**Tuckaleechee C**	**18.44**	**333**	LR	LR	12 35 06.8	
	comp=E,143nm,18.9s,baz=146,slow=39						
R58B	**Mineral**	**18.84**	**350**	P	**Pn**	**12 27 27.0**	**0.0**
S57A	**Dark Hollow, R**	**18.85**	**347**	P	**P**	**12 27 26.4**	**-0.1**
PLAL	**Pickwick Lake**	**20.03**	**324**	P	Pn	12 27 40.8	-0.4
N59A	**State Game Lan**	**21.52**	**356**	P	**P**	**12 27 55.2**	**-0.3**
N59A				IAmb	IAmb	12 28 08.1	
	comp=Z,19nm,0.9s						
TRNY	**Table Rock, Ra**	**21.68**	**359**	P	**P**	**12 27 58.1**	**+0.9**
TRNY				IAmb	IAmb	12 28 23.4	
	comp=Z,14nm,1.1s						
O53A	**New Philadelph**	**21.74**	**345**	P	**P**	**12 27 58.7**	**+0.8**
O53A				IAmb	IAmb	12 28 10.7	
	comp=Z,23nm,1.1s						
UCCT	**U. Connecticut**	**22.37**	**3**	P	**P**	**12 28 05.5**	**+0.9**
S44A	**Carbondale**	**22.68**	**327**	P	**P**	**12 28 08.1**	**+0.2**
S44A				IAmb	IAmb	12 28 12.0	
	comp=Z,9.1nm,0.8s						
BINY	**Binghamton**	**22.81**	**356**	P	**P**	**12 28 07.6**	**-1.7**
BINY				IAmb	IAmb	12 28 20.7	
	comp=Z,18nm,1.1s						
FCAR	**Ozark Folk Cen**	**23.04**	**319**	P	**P**	**12 28 13.2**	**+1.5**
FCAR				IAmb	IAmb	12 28 14.9	
	comp=Z,5.3nm,0.7s						
U40A	**Yellville**	**23.79**	**319**	P	**P**	**12 28 19.5**	**+0.3**
U40A				IAmb	IAmb	12 28 30.4	
	comp=Z,11nm,1.4s						
MGMO	**Mountain Grove**	**23.96**	**321**	P	**P**	**12 28 22.3**	**+1.5**
MGMO				IAmb	IAmb	12 28 24.7	
	comp=Z,8.4nm,0.7s						
CCM	**Cathedral Cave**	**24.01**	**324**	P	**P**	**12 28 20.3**	**-0.9**
CCM				IAmb	IAmb	12 28 24.7	
	comp=Z,7.6nm,0.8s						
X37A	**Clayton**	**24.39**	**313**	P	**P**	**12 28 26.6**	**+1.8**
X37A				IAmb	IAmb	12 28 29.5	
	comp=Z,9.5nm,0.8s						
HHAR	**Hobbs**	**24.42**	**318**	P	**P**	**12 28 25.9**	**+0.8**
WHTX	**Lake Whitney,**	**24.68**	**305**	P	**P**	**12 28 26.7**	**-0.7**
R40A	**Maddies Statio**	**24.74**	**323**	P	**P**	**12 28 29.3**	**+1.3**
P40A	**Paris**	**25.51**	**326**	P	**P**	**12 28 35.9**	**+1.1**
JCT	**Junction City**	**25.98**	**300**	P	**P**	**12 28 39.5**	**+0.3**
ATAH	**Atahualpa**	**26.75**	**190**	LR	LR	12 40 40.7	
	comp=Z,105nm,18.1s,baz=27,slow=40						
TXAR	**Lajitas Array**	**28.89**	**296**	P	**P**	**12 29 07.6**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=115,slow=8.7,SNR=11						
TXAR				PcP	**PcP**	**12 32 15.8**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=123,slow=4.6,SNR=5.5						
TXAR	**Lajitas Array**	**28.89**	**296**	P	**P**	**12 29 04.3**	**-1.1**
TX31	**Lajitas Ar. Si**	**28.89**	**296**	P	**P**	**12 29 04.8**	**-0.7**
TX31				IAmb	IAmb	12 29 13.2	
	comp=Z,10nm,1.4s						
TX32	**Lajitas Array**	**28.89**	**296**	P	**P**	**12 29 04.9**	**-0.6**
MNTX	**Cornudas Mount**	**30.91**	**300**	P	**P**	**12 29 23.3**	**+0.1**
MNTX				IAmb	IAmb	12 29 26.0	
	comp=Z,2.6nm,0.8s						
T25A	**Trinidad**	**32.05**	**310**	P	**P**	**12 29 35.6**	**+2.2**
T25A				IAmb	IAmb	12 29 37.2	
	comp=Z,7.2nm,1.0s						
ANMO	**Albuquerque**	**32.75**	**305**	P	**P**	**12 29 42.1**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=156,slow=11,SNR=3.4						
ANMO	**Albuquerque**	**32.75**	**305**	P	**P**	**12 29 40.2**	**+0.6**
SDCO	**Great Sand Dun**	**33.09**	**310**	P	**P**	**12 29 41.9**	**-0.8**
SDCO				IAmb	IAmb	12 29 46.0	
	comp=Z,3.9nm,1.1s						
ISCO	**Idaho Springs**	**34.07**	**314**	P	**P**	**12 29 52.6**	**+1.4**
ISCO				IAmb	IAmb	12 29 54.5	
	comp=Z,2.8nm,0.8s						
SCHQ	**Schefferville**	**35.77**	**7**	P	**P**	**12 30 06.5**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=184,slow=18,SNR=4.7						
SCHQ				sP	**sP**	**12 30 13.8**	**+0.5**
	comp=Z,6.4nm,0.7s,baz=0.8,slow=19,SNR=5.2						
SCHQ				LR	LR	12 45 35.9	
	comp=Z,122nm,18.8s,baz=215,slow=38						
LPAZ	**La Paz**	**35.89**	**171**	LR	LR	12 44 52.1	
	comp=Z,126nm,19.1s,baz=355,slow=36						
K22A	**Casper**	**36.04**	**317**	P	**P**	**12 30 09.4**	**+1.5**
K22A				IAmb	IAmb	12 30 10.8	
	comp=Z,6.1nm,0.8s						
PDAR	**Pinedale Array**	**38.06**	**316**	P	**P**	**12 30 26.6**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=121,slow=9.1,SNR=6.8						
PDAR				sP	**sP**	**12 30 34.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=121,slow=10,SNR=4.9						
PDAR	**Pinedale Array**	**38.06**	**316**	P	**P**	**12 30 25.6**	**+0.4**
LOHW	**Long Hollow**	**39.12**	**316**	P	**P**	**12 30 35.1**	**+1.0**
LOHW				IAmb	IAmb	12 30 37.1	
	comp=Z,6.3nm,0.8s						
TPAW	**Teton Pass**	**39.30**	**316**	P	**P**	**12 30 35.8**	**+0.1**
TPAW				IAmb	IAmb	12 30 53.2	
	comp=Z,4.3nm,0.8s						
YMP	**Mirror Lake Pl**	**39.35**	**318**	P	**P**	**12 30 36.0**	**-0.2**
YMP				IAmb	IAmb	12 30 51.0	
	comp=Z,13nm,1.3s						
SPR3	**Spring Creek 3**	**40.02**	**308**	P	**P**	**12 30 41.9**	**+0.1**

ML3.9,mb4.1/1(NEIC),mb_Lg3.8/137(NEIC), Mwr3.6/45(NEIC) Error ellipse: s-maj=5.6km s-min=2.7km az=100.0
NEIC ***17*** *12:30:38.6±1.4,36°.51N±0°.02×98°.39W±0°.05,h5km±6km, Error ellipse: s-maj=5.7km s-min=2.7km az=99.0*
IDC ***17*** *12:30:38.1±1.0,36°.60N×98°.50W,h0km,mb1 4.0/5, mb1mx3.6/45,mbtmp3.7/5,ML4.0/4,Error ellipse: s-maj=13.0km s-min=10.0km az=123.0*
ANF ***17*** *12:30:38.6±0.2,36°.51N×98°.42W,h10km,ML4.8/17,Error ellipse: s-maj=2.2km s-min=1.9km az=6.0*
ISC 17 12:30:38.2±1.0,36°.51N±0°.03×98°.42W±0°.03,h11km±8km, n178,σ1$05/174,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.34**	**30**		**Pg**	**12 30 45.0**	**0.0**
OK032				Sg	**Sg**	**12 30 50.1**	**+0.7**
CROK	**Carrier**	**0.35**	**91**		**Pg**	**12 30 45.8**	**+0.6**
CROK				Sg	**Sb**	**12 30 51.5**	**-0.4**
U32A	**Winter Ranch,**	**0.49**	**254**		**Pg**	**12 30 47.0**	**-0.8**
U32A				Sg	**Sg**	**12 30 53.9**	**-0.4**
U32A	**Winter Ranch,**	**0.49**	**254**	P		12 30 47.0	
	baz=74,SNR=470						
U32A				S		12 30 53.8	
	baz=74						
GC02	**Grant County #**	**0.56**	**53**		**Pg**	**12 30 49.3**	**+0.2**
GC02				Sg	**Sg**	**12 30 57.5**	**+0.9**
KAN10	**Anthony SW Sta**	**0.66**	**23**		**Pg**	**12 30 50.8**	**-0.2**
KAN10				Sg	**Sg**	**12 31 00.1**	**+0.3**
KAN05	**Bluff City Nor**	**0.74**	**36**		**Pg**	**12 30 52.4**	**-0.1**
KAN05				Sg	**Sg**	**12 31 02.6**	**+0.4**
KAN08	**Anthony NE Sta**	**0.80**	**27**		**Pg**	**12 30 53.4**	**-0.3**
KAN08				Sg	**Sg**	**12 31 04.3**	**+0.2**
KAN12	**Harper NE Stat**	**0.85**	**23**		**Pg**	**12 30 54.3**	**-0.4**
KAN12				Sg	**Sg**	**12 31 06.3**	**+0.5**
KAN09	**Caldwell North**	**0.89**	**46**		**Pg**	**12 30 55.2**	**-0.3**
KAN09				Sg	**Sg**	**12 31 07.5**	**+0.4**
KAN13	**South Haven SW**	**0.90**	**56**		**Pg**	**12 30 55.4**	**-0.2**
KAN13				Sg	**Sg**	**12 31 08.0**	**+0.5**
KS20	**Mayfield South**	**0.99**	**44**		**Pg**	**12 30 57.0**	**-0.4**
BLOK	**Blackwell**	**1.00**	**75**		**Pg**	**12 30 57.3**	**-0.1**
OK029	**Liberty Lake**	**1.06**	**132**		**Pg**	**12 30 58.4**	**-0.1**
BCOK	**Bluff Creek, N**	**1.08**	**142**		**Pg**	**12 30 58.6**	**-0.3**
OK009	**Oakdale Elemen**	**1.23**	**139**	Pg	**Pg**	**12 31 01.4**	**-0.5**
OK025	**Westminster Rd**	**1.28**	**136**		**Pg**	**12 31 02.1**	**-0.6**
OK005	**Luther M Schoo**	**1.31**	**130**	Pn	**Pg**	**12 31 02.8**	**-0.5**
OK001	**Jones High Sch**	**1.32**	**136**	Pn	**Pg**	**12 31 03.1**	**-0.4**
OKCFA	**Oklahoma City**	**1.35**	**144**		**Pg**	**12 31 03.2**	**-0.8**
OKCFA	**Oklahoma City**	**1.35**	**144**	P		12 31 03.2	
	baz=324,SNR=19						
OKCFA				S		12 31 21.9	
	baz=324						
OKCSW	**OKLAHOMA CITY**	**1.36**	**144**		**Pn**	**12 31 03.4**	**+0.3**
OK031	**S. Brethren Rd**	**1.39**	**113**		**Pn**	**12 31 04.1**	**+0.6**
QUOK	**Quay**	**1.42**	**103**		**Pn**	**12 31 04.8**	**+0.9**
FNO	**Franklin**	**1.50**	**146**		**Pn**	**12 31 05.8**	**+0.8**
T35A	**Sooner Cattle**	**1.58**	**75**		**Pn**	**12 31 07.4**	**+1.3**
T35B	**Sooner Cattle**	**1.58**	**75**	P		12 31 07.4	
	baz=256,SNR=386						
T35B				S		12 31 28.8	
	baz=256						
OK011	**Prague**	**1.74**	**126**	Pn	**Pn**	**12 31 09.4**	**+1.1**
WMOK	**Wichita Mounta**	**1.80**	**190**	P	**Pn**	**12 31 09.7**	**+0.6**
	baz=8.8,SNR=305						
WMOK				S	**Sn**	**12 31 33.1**	**+1.2**
	baz=8.8						
WMOK	**Wichita Mounta**	**1.80**	**190**		**Pn**	**12 31 09.7**	**+0.6**
WMOK	**Wichita Mounta**	**1.80**	**190**	P		12 31 09.8	
	baz=8.8,SNR=998						
WMOK				S		12 31 33.9	
	baz=8.8						
R32A	**Long Quarter,**	**1.92**	**353**		**Pn**	**12 31 12.1**	**+1.2**
R32A				IAmb_Lg		12 31 43.1	
	comp=Z,409nm,0.8s						
R32A	**Long Quarter,**	**1.92**	**353**	P		12 31 12.2	
	baz=174,SNR=642						
R32A				S		12 31 37.7	
	baz=174						
X34A	**Smith Ranch, M**	**1.97**	**166**		**Pb**	**12 31 13.3**	**-0.7**
X34A				IAmb_Lg		12 31 44.3	
	comp=Z,717nm,0.7s						
TUL1	**Leonard**	**2.21**	**105**	P	**Pn**	**12 31 15.9**	**+1.2**
	baz=286,SNR=88						
TUL1				Sb	**Sb**	**12 31 47.4**	**+2.0**
	baz=286						
TUL1	**Leonard**	**2.21**	**105**	P		12 31 16.1	
	baz=286,SNR=179						
TUL1				S		12 31 44.8	
	baz=286						
CBKS	**Cedar Bluff**	**2.52**	**336**	P	**Pn**	**12 31 20.0**	**+0.9**
	baz=156,SNR=100						
CBKS	**Cedar Bluff**	**2.52**	**336**		**Pn**	**12 31 20.0**	**+0.9**
CBKS	**Cedar Bluff**	**2.52**	**336**	P		12 31 20.0	
	baz=156						
CBKS				S		12 31 55.2	
	baz=156						
LOOK	**Love County**	**2.71**	**158**	Pn	**Pn**	**12 31 23.2**	**+1.5**
LOOK				IAmb_Lg		12 32 10.9	
	comp=Z,333nm,1.0s						
KSU1	**Kansas State U**	**2.95**	**28**	P	**Pn**	**12 31 26.3**	**+1.3**
	baz=210,SNR=17						
KSU1				Sb	**Sg**	**12 32 10.7**	**-2.4**
	baz=210						
KSU1	**Kansas State U**	**2.95**	**28**	Pn	**Pn**	**12 31 26.6**	**+1.6**
KSU1	**Kansas State U**	**2.95**	**28**	IAmb_Lg		12 32 14.5	
	comp=Z,276nm,0.8s						
KSU1	**Kansas State U**	**2.95**	**28**	P		12 31 26.3	
	baz=210						
KSU1				Sb		12 32 10.8	
	baz=210						
AMTX	**Amarillo**	**3.11**	**239**	Pb	**Pb**	**12 31 34.2**	**+0.6**
	baz=57						
AMTX	**Amarillo**	**3.11**	**239**		**Pn**	**12 31 29.0**	**+1.7**
AMTX				IAmb_Lg		12 32 19.9	
	comp=Z,359nm,0.9s						
X37A	**Clayton**	**3.14**	**127**	Pn	**Pn**	**12 31 29.2**	**+1.7**
X37A				IAmb_Lg		12 32 25.6	
	comp=Z,400nm,0.8s						
X37A	**Clayton**	**3.14**	**127**	P		12 31 29.0	
	baz=308,SNR=16						
U38A	**Gravette**	**3.25**	**90**		**Pn**	**12 31 30.5**	**+1.4**
U38A				IAmb_Lg		12 32 26.1	
	comp=Z,214nm,1.0s						
U38A	**Gravette**	**3.25**	**90**	P		12 31 30.6	
	baz=272,SNR=25						
Z35A	**Perchaven, San**	**3.32**	**163**		**Pn**	**12 31 31.2**	**+1.2**
Z35A	**Perchaven, San**	**3.32**	**163**	P		12 31 31.3	
	baz=343,SNR=18						
HHAR	**Hobbs**	**3.62**	**92**		**Pn**	**12 31 35.3**	**+1.1**
HHAR				IAmb_Lg		12 32 39.2	
	comp=Z,280nm,0.7s						
W39A	**Magazine**	**3.99**	**108**	P	**Pn**	**12 31 40.1**	**+0.9**
	baz=290,SNR=9.3						
W39A				S	**Sn**	**12 32 27.0**	**+1.1**
	baz=290						
W39A	**Magazine**	**3.99**	**108**		**Pn**	**12 31 40.3**	**+1.2**
W39A				IAmb_Lg		12 32 46.5	
	comp=Z,344nm,0.8s						
W39A	**Magazine**	**3.99**	**108**	P		12 31 40.1	
	baz=290,SNR=33						
W39A				S		12 32 28.3	
	baz=290						
ABTX	**Abilene, Hawle**	**4.01**	**195**	P	**Pn**	**12 31 39.9**	**+0.4**
	baz=14,SNR=11						
ABTX	**Abilene, Hawle**	**4.01**	**195**		**Pn**	**12 31 40.0**	**+0.5**
ABTX				IAmb_Lg		12 32 48.9	
	comp=Z,130nm,0.8s						
ABTX	**Abilene, Hawle**	**4.01**	**195**	P		12 31 40.0	
	baz=14,SNR=8.8						
KSCO	**Kaye Shedlock'**	**4.17**	**308**	P	**Pn**	**12 31 42.5**	**+0.7**
	baz=126,SNR=18						
N33B	**J Bar K, Exete**	**4.29**	**10**	P		12 31 43.1	
	baz=191						
N33A	**J Bar K, Exete**	**4.29**	**10**		**Pn**	**12 31 43.2**	**-0.2**
Z38A	**Mt. Pleasant**	**4.30**	**138**	Pn	**Pn**	**12 31 44.2**	**+0.8**
Z38A				IAmb_Lg		12 33 05.6	
	comp=Z,214nm,0.8s						
MSTX	**Muleshoe**	**4.38**	**236**	Pb	**Pb**	**12 31 55.2**	**+0.1**
	baz=53,SNR=23						
MSTX				Sb	**Sb**	**12 32 52.3**	**+4.3**
	baz=53						
MSTX	**Muleshoe**	**4.38**	**236**	IAmb_Lg		12 33 00.8	
	comp=Z,212nm,0.8s						
MIAR	**Mount Ida**	**4.41**	**115**	P	**Pn**	**12 31 46.2**	**+1.2**
	baz=298,SNR=8.1						
MIAR				S	**Sn**	**12 32 37.5**	**+1.3**
	baz=298						
MIAR	**Mount Ida**	**4.41**	**115**	Pn	**Pn**	**12 31 46.2**	**+1.2**
MIAR				IAmb_Lg		12 33 11.6	
	comp=Z,242nm,1.0s						
MIAR	**Mount Ida**	**4.41**	**115**	P		12 31 46.7	
	baz=298,SNR=24						
U40A	**Yellville**	**4.49**	**90**	P	**Pn**	**12 31 46.7**	**+0.6**
	baz=274,SNR=17						
U40A	**Yellville**	**4.49**	**90**	Pn	**Pn**	**12 31 46.9**	**+0.8**
U40A				IAmb_Lg		12 33 13.5	
	comp=Z,146nm,0.7s						
U40A	**Yellville**	**4.49**	**90**	P		12 31 46.6	
	baz=274,SNR=34						
U40A				P		12 31 46.6	
	baz=274,SNR=34						
WHTX	**Lake Whitney,**	**4.58**	**170**	P	**Pn**	**12 31 48.2**	**+0.9**
	baz=350,SNR=18						
WHTX				S	**Sn**	**12 32 41.4**	**+0.8**
	baz=350						
WHTX	**Lake Whitney,**	**4.58**	**170**		**Pn**	**12 31 48.3**	**+0.9**
WHTX	**Lake Whitney,**	**4.58**	**170**	P		12 31 48.3	
	baz=350,SNR=23						
T25A	**Trinidad**	**4.85**	**279**	P	**Pn**	**12 31 51.6**	**+0.4**
	baz=96,SNR=7.6						
T25A	**Trinidad**	**4.85**	**279**	Pn	**Pn**	**12 31 51.9**	**+0.6**
N35A	**Tabor**	**4.85**	**26**	Pn	**Pn**	**12 31 52.7**	**+1.6**
BGNE	**Belgrade**	**4.89**	**2**	P	**Pn**	**12 31 52.2**	**+0.6**
	baz=183						
BGNE	**Belgrade**	**4.89**	**2**		**Pn**	**12 31 52.2**	**+0.6**
BGNE				IAmb_Lg		12 33 20.7	
	comp=Z,280nm,0.8s						
P38A	**Dawn**	**4.95**	**50**	Pn	**Pn**	**12 31 53.9**	**+1.5**
P38A				IAmb_Lg		12 33 17.7	
	comp=Z,187nm,0.8s						
P38A	**Dawn**	**4.95**	**50**	P		12 31 53.8	
	baz=233,SNR=7.1						
MGMO	**Mountain Grove**	**4.97**	**81**	IAmb_Lg		12 33 30.6	
	comp=Z,97nm,0.9s						
X40A	**Basin Creek Fa**	**4.98**	**112**	P	**Pn**	**12 31 54.5**	**+1.7**
	baz=295,SNR=7.1						
X40A				S	**Sn**	**12 32 50.9**	**+0.5**
	baz=295						
X40A	**Basin Creek Fa**	**4.98**	**112**	Pn	**Pn**	**12 31 54.6**	**+1.7**
X40A				IAmb_Lg		12 33 24.8	
	comp=Z,241nm,0.7s						
X40A	**Basin Creek Fa**	**4.98**	**112**	P		12 31 54.6	
	baz=295,SNR=20						
X40A				P		12 31 54.6	
	baz=295,SNR=20						
237A	**Washetta, Mont**	**4.99**	**154**	Pn	**Pn**	**12 31 53.8**	**+0.8**
237A				IAmb_Lg		12 33 27.5	
	comp=Z,116nm,0.8s						
237A	**Washetta, Mont**	**4.99**	**154**	P		12 31 53.8	
	baz=335						
WHAR	**Wooly Hollow**	**5.12**	**102**	Pn	**Pn**	**12 31 55.3**	**+0.5**
WHAR				IAmb_Lg		12 33 27.0	
	comp=Z,218nm,1.2s						
FCAR	**Ozark Folk Cen**	**5.13**	**95**		**Pn**	**12 31 55.7**	**+0.9**
FCAR				IAmb_Lg		12 33 23.7	
	comp=Z,151nm,0.8s						
WLAR	**White Oak Lake**	**5.18**	**121**	Pn	**Pn**	**12 31 56.9**	**+1.3**
WLAR				IAmb_Lg		12 33 33.8	
	comp=Z,250nm,0.8s						
W41B	**Gary Mavity, V**	**5.19**	**103**	P	**Pn**	**12 31 56.6**	**+0.9**
	baz=287						
W41B				S	**Sn**	**12 32 56.0**	**+0.5**
	baz=287						
R40A	**Maddies Statio**	**5.21**	**68**	Pn	**Pn**	**12 31 56.5**	**+0.6**
R40A				IAmb_Lg		12 33 26.1	
	comp=Z,117nm,0.8s						
R40A	**Maddies Statio**	**5.21**	**68**	P		12 31 56.5	
	baz=252,SNR=8.1						
OGNE	**Ogallala**	**5.25**	**329**	P	**Pn**	**12 31 58.1**	**+1.5**
	baz=147,SNR=11						
OGNE	**Ogallala**	**5.25**	**329**	Pn	**Pn**	**12 31 58.4**	**+1.7**
OGNE	**Ogallala**	**5.25**	**329**	P		12 31 58.5	
	baz=147,SNR=15						
Z41A	**Richland Creek**	**5.64**	**124**	P	**Pn**	**12 32 03.5**	**+1.6**
	baz=307						
Z41A				S	**Sn**	**12 33 05.9**	**-0.8**
	baz=307						
L34A	**Svendsen Farm,**	**5.67**	**16**	Pn	**Pn**	**12 32 02.0**	**-0.3**
L34A	**Svendsen Farm,**	**5.67**	**16**	P		12 32 02.0	
	baz=197,SNR=17						
NATX	**Nacogdoches**	**5.67**	**146**	Pn	**Pn**	**12 32 03.0**	**+0.6**
435B	**Jarrell**	**5.76**	**173**	Pn	**Pn**	**12 32 04.0**	**+0.5**
435B				IAmb_Lg		12 33 46.9	
	comp=Z,159nm,0.9s						
SDCO	**Great Sand Dun**	**5.79**	**284**	P	**Pn**	**12 32 05.1**	**+0.9**
	baz=100,SNR=15						
SDCO				S	**Sn**	**12 33 11.0**	**+0.2**
	baz=100						
SDCO	**Great Sand Dun**	**5.79**	**284**		**Pn**	**12 32 05.8**	**+1.5**
SDCO				IAmb_Lg		12 33 44.7	
	comp=Z,121nm,1.1s						
SDCO	**Great Sand Dun**	**5.79**	**284**	P		12 32 06.0	
	baz=100,SNR=12						
P40A	**Paris**	**5.86**	**57**	Pn	**Pn**	**12 32 06.1**	**+1.2**
Q24A	**Divide**	**5.87**	**297**	P	**Pn**	**12 32 05.3**	**-0.1**
	baz=113						
LCAR	**Lake Charles**	**5.88**	**92**	Pn	**Pn**	**12 32 06.9**	**+1.7**
LCAR				IAmb_Lg		12 33 46.9	
	comp=Z,125nm,1.2s						
CCM	**Cathedral Cave**	**5.92**	**73**	P	**Pn**	**12 32 05.9**	**+0.2**
	baz=257						
CCM				S	**Sn**	**12 33 13.9**	**+0.3**
	baz=257						
CCM	**Cathedral Cave**	**5.92**	**73**	IAmb_Lg		12 33 60.0	
	comp=Z,123nm,0.7s						
CCAR	**Cane Creek**	**6.02**	**114**	IAmb_Lg		12 34 01.6	
	comp=Z,190nm,0.9s						
K31A	**O'Neill**	**6.11**	**358**	Pn	**Pn**	**12 32 09.3**	**+1.0**
JCT	**Junction City**	**6.13**	**191**	P	**Pn**	**12 32 08.6**	**-0.1**
	baz=10						
JCT	**Junction City**	**6.13**	**191**		**Pn**	**12 32 08.8**	**+0.1**
PBMO	**Poplar Bluff**	**6.43**	**85**	Pn	**Pn**	**12 32 13.9**	**+1.2**
PBMO				IAmb_Lg		12 34 13.8	
	comp=Z,140nm,0.8s						
GDL2	**Guadalupe Moun**	**6.53**	**231**	Pn	**Pn**	**12 32 13.6**	**-0.8**
ISCO	**Idaho Springs**	**6.55**	**302**	P	**Pn**	**12 32 15.3**	**+0.6**
	baz=118						
ISCO	**Idaho Springs**	**6.55**	**302**	Pn	**Pn**	**12 32 13.9**	**-0.8**
ISCO				IAmb_Lg		12 34 14.2	
	comp=Z,120nm,0.8s						
LPAR	**Lepanto**	**6.64**	**95**	Pn	**Pn**	**12 32 17.0**	**+1.4**
ANMO	**Albuquerque**	**6.72**	**259**	Pn	**Pn**	**12 32 18.7**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=79,slow=13,SNR=8.8						
ANMO				Pg	Pg	12 32 40.9	-6.1
	comp=Z,3.2nm,0.3s,baz=77,slow=18,SNR=19						
ANMO				Lg	Lg	12 34 07.8	
	comp=Z,5.2nm,0.3s,baz=336,slow=23,SNR=9.4						
ANMO	**Albuquerque**	**6.72**	**259**	P	**Pn**	**12 32 18.0**	**+1.0**
	baz=74						
ANMO	**Albuquerque**	**6.72**	**259**	Pn	**Pn**	**12 32 17.4**	**+0.5**
143A	**Socs Landing,**	**6.92**	**121**	IAmb_Lg		12 34 27.7	
	comp=Z,102nm,0.9s						
PEBM	**Pemiscott Bayo**	**6.92**	**91**	IAmb_Lg		12 34 26.9	
	comp=Z,186nm,0.8s						
PARMO	**Parma**	**6.97**	**86**	Pn	**Pn**	**12 32 22.0**	**+1.8**
BNM	**Barren Site**	**7.11**	**253**	Pn	**Pn**	**12 32 21.6**	**-0.8**
HENM	**Henderson Moun**	**7.20**	**86**	IAmb_Lg		12 34 33.6	
	comp=Z,175nm,0.9s						
N41A	**Harden Midland**	**7.25**	**52**	Pn	**Pn**	**12 32 24.6**	**+0.6**
PHWY	**Pilot Hill**	**7.28**	**313**		**Pn**	**12 32 25.3**	**+0.6**
PHWY				IAmb_Lg		12 34 48.1	
	comp=Z,98nm,0.8s						
N23A	**Red Feather La**	**7.33**	**309**	P	**Pn**	**12 32 25.9**	**+0.5**
	baz=124						
ECSD	**EROS Data Cent**	**7.34**	**10**	P	**Pn**	**12 32 24.5**	**-0.8**
	baz=192,SNR=11						
ECSD	**EROS Data Cent**	**7.34**	**10**	Pn	**Pn**	**12 32 24.6**	**-0.7**
ECSD				IAmb_Lg		12 34 33.3	
	comp=Z,81nm,0.9s						
ECSD	**EROS Data Cent**	**7.34**	**10**	P		12 32 24.7	
	baz=192,SNR=13						
HALT	**Halls**	**7.36**	**92**	IAmb_Lg		12 34 46.8	
	comp=Z,117nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.37**	**253**	IAmb_Lg		12 34 45.6	
	comp=Z,133nm,0.8s						
GLAT	**Glass**	**7.37**	**89**	Pn	**Pn**	**12 32 27.4**	**+1.8**
GLAT				IAmb_Lg		12 34 51.4	
	comp=Z,120nm,0.9s						
HICK	**Hickman**	**7.40**	**87**	Pn	**Pn**	**12 32 27.6**	**+1.6**
S44A	**Carbondale**	**7.42**	**78**	Pn	**Pn**	**12 32 27.0**	**+0.7**
S44A				IAmb_Lg		12 34 36.6	
	comp=Z,152nm,0.7s						
S44A	**Carbondale**	**7.42**	**78**	P		12 32 27.5	
	baz=264,SNR=6.3						
SIUC	**Southern Illin**	**7.45**	**78**	Pn	**Pn**	**12 32 27.8**	**+1.0**
SIUC				IAmb_Lg		12 34 39.2	
	comp=Z,146nm,0.8s						
MNTX	**Cornudas Mount**	**7.51**	**232**	P	**Pn**	**12 32 27.7**	**+0.1**
	baz=48,SNR=5.2						
MNTX	**Cornudas Mount**	**7.51**	**232**	Pn	**Pn**	**12 32 28.4**	**+0.8**
MNTX				IAmb_Lg		12 34 44.8	
	comp=Z,73nm,0.8s						
MNTX	**Cornudas Mount**	**7.51**	**232**	P		12 32 28.3	
	baz=48,SNR=9.7						
OXF	**Oxford**	**7.61**	**103**	P	**Pn**	**12 32 28.5**	**-0.5**
	baz=288,SNR=11						
OXF	**Oxford**	**7.61**	**103**		**Pn**	**12 32 29.6**	**+0.6**
OXF				IAmb_Lg		12 34 48.6	
	comp=Z,134nm,1.2s						
OXF	**Oxford**	**7.61**	**103**	P		12 32 29.9	
	baz=288,SNR=11						
W45A	**Hickory Valley**	**7.62**	**98**	Pn	**Pn**	**12 32 29.7**	**+0.7**
W45A				IAmb_Lg		12 34 43.8	
	comp=Z,112nm,0.8s						
735A	**Kenedy**	**7.65**	**176**	IAmb_Lg		12 34 54.2	
	comp=Z,65nm,0.7s						
Y45A	**Yeager Farm, C**	**7.73**	**107**	IAmb_Lg		12 34 45.8	
	comp=Z,82nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.82**	**69**	Pn	**Pn**	**12 32 32.5**	**+0.7**
L40A	**Anamosa**	**7.86**	**43**	Pn	**Pn**	**12 32 33.7**	**+1.3**
L40A				IAmb_Lg		12 34 48.7	
	comp=Z,149nm,1.0s						
SUSD	**Miller**	**7.93**	**357**	P	**Pn**	**12 32 34.6**	**+1.3**
	baz=177						
SUSD	**Miller**	**7.93**	**357**	IAmb_Lg		12 35 07.0	
	comp=Z,74nm,0.7s						
833A	**Chaparral WMA,**	**8.21**	**186**	P	**Pn**	**12 32 37.8**	**+0.7**
	baz=5.4						
HDIL	**Hopedale**	**8.21**	**58**	P	**Pn**	**12 32 37.2**	**+0.1**
	baz=243						
HDIL	**Hopedale**	**8.21**	**58**	Pn	**Pn**	**12 32 37.6**	**+0.5**
PV02	**Paradox Valley**	**8.39**	**285**	IAmb_Lg		12 35 14.7	
	comp=Z,71nm,1.2s						
TX31	**Lajitas Ar. Si**	**8.41**	**213**		**Pn**	**12 32 39.6**	**-0.4**
TX31	**Lajitas Ar. Si**	**8.41**	**213**	P		12 32 40.2	
	baz=30,SNR=15						
TX32	**Lajitas Array**	**8.41**	**213**		**Pn**	**12 32 40.4**	**+0.4**
TXAR	**Lajitas Array**	**8.41**	**213**	Pn	**Pn**	**12 32 39.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=34,slow=11,SNR=39						
TXAR				Sn	**Sn**	**12 34 15.7**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=33,slow=14,SNR=4.0						
TXAR				Lg	Lg	12 34 59.3	
	comp=Z,5.6nm,0.3s,baz=31,slow=25,SNR=11						
TXAR	**Lajitas Array**	**8.41**	**213**		**Pn**	**12 32 40.5**	**+0.5**
PV13	**Radium Mtn., P**	**8.45**	**284**	Pn	**Pn**	**12 32 41.6**	**+0.9**
PV11	**David Mesa, Pa**	**8.51**	**285**	IAmb_Lg		12 35 23.0	
	comp=Z,66nm,1.0s						
PV04	**Paradox Valley**	**8.55**	**286**	IAmb_Lg		12 35 21.9	
	comp=Z,50nm,1.1s						
WVT	**Waverly**	**8.55**	**89**	P	**Pn**	**12 32 41.9**	**0.0**
	baz=276						
WVT	**Waverly**	**8.55**	**89**	Pn	**Pn**	**12 32 42.6**	**+0.7**
RWWY	**Rawlins**	**8.57**	**310**	IAmb_Lg		12 35 17.5	
	comp=Z,132nm,1.3s						
PV19	**Morning Glory**	**8.60**	**285**	IAmb_Lg		12 35 20.3	
	comp=Z,48nm,1.1s						
146A	**Union**	**8.63**	**114**	IAmb_Lg		12 35 29.9	
	comp=Z,58nm,0.9s						
PV10	**Paradox Valley**	**8.65**	**286**	IAmb_Lg		12 35 24.1	
	comp=Z,47nm,1.1s						
121A	**Cookes Peak, D**	**8.69**	**246**	IAmb_Lg		12 35 32.5	
	comp=Z,47nm,1.1s						
USIN	**University of**	**8.70**	**77**	IAmb_Lg		12 35 37.8	
	comp=Z,83nm,0.9s						
L42A	**Oliver, Polo**	**8.72**	**48**	Pn	**Pn**	**12 32 45.8**	**+1.6**
L42A				IAmb_Lg		12 35 14.1	
	comp=Z,133nm,0.8s						
RSSD	**Black Hills**	**8.72**	**332**	P	**Pn**	**12 32 45.3**	**+0.9**
	baz=149						
RSSD	**Black Hills**	**8.72**	**332**	Pn	**Pn**	**12 32 45.1**	**+0.7**
RSSD				IAmb_Lg		12 35 27.0	
	comp=Z,72nm,1.0s						
K22A	**Casper**	**8.76**	**317**		**Pn**	**12 32 44.8**	**0.0**
K22A				IAmb_Lg		12 35 33.4	
	comp=Z,74nm,0.8s						
JFWS	**Jewell Farm**	**8.97**	**42**	P	**Pn**	**12 32 48.5**	**+1.0**
	baz=227						
JFWS	**Jewell Farm**	**8.97**	**42**	Pn	**Pn**	**12 32 50.2**	**+2.7**
JFWS				IAmb_Lg		12 35 25.1	
	comp=Z,119nm,0.7s						
T47A	**Sharon Grove**	**9.09**	**84**	Pn	**Pn**	**12 32 50.6**	**+1.3**
T47A				IAmb_Lg		12 35 38.9	
	comp=Z,81nm,1.0s						
T47A	**Sharon Grove**	**9.09**	**84**	P		12 32 49.8	
	baz=270,SNR=5.8						
Z47A	**Carrollton**	**9.12**	**108**	IAmb_Lg		12 35 37.6	
	comp=Z,43nm,0.9s						
P46A	**Rosedale**	**9.37**	**67**	Pn	**Pn**	**12 32 52.9**	**-0.2**
F33A	**5 Mile Ranch,**	**9.45**	**9**	Pn	**Pn**	**12 32 53.2**	**-1.0**
I40A	**Norwalk**	**9.48**	**37**	IAmb_Lg		12 35 43.0	
	comp=Z,56nm,0.9s						
SFIN	**Lafayette**	**9.68**	**63**	P	**Pn**	**12 32 58.0**	**+0.7**
	baz=250						
SFIN	**Lafayette**	**9.68**	**63**	Pn	**Pn**	**12 32 55.5**	**-1.8**
SFIN				IAmb_Lg		12 35 49.1	
	comp=Z,76nm,0.8s						
SPMN	**Marine on St.**	**9.68**	**24**	Pn	**Pn**	**12 32 56.5**	**-0.8**
SPMN				IAmb_Lg		12 35 50.4	
	comp=Z,61nm,0.9s						
CLTN	**Cedars of Leba**	**9.77**	**89

DRK				⇑*i*S		Sg	12 33 15.6	-1.8
	baz=48							
BTK	**Batken**	**1.12**	5	⇑*e*P		**Pg**	12 33 05.5	-0.5
	baz=0.0							
BTK				⇑*i*S		**Sn**	12 33 23.2	+1.3
	baz=0.0							
CHGR	**Chuyangaron**	**1.23**	257	⇑*e*P		**Pb**	12 33 06.1	-1.7
	baz=65							
CHGR				⇑*i*S		**Sn**	12 33 24.3	-0.1
	baz=65							
TRKS	**Terek-Say**	**2.61**	7	⇓*i*P		**Pn**	12 33 27.8	+0.9
	baz=6.0							
TRKS				⇓*i*S		**Sb**	12 34 02.1	-1.6
	baz=6.0							
AML	**Almayashu**	**3.93**	35	P		**Pn**	12 33 49.1	+3.9
	SNR=10							
KK31	**Karatay Array**	**4.16**	**358**	P		**Pn**	12 33 52.0	+3.9
	2.7nm,0.3s,baz=188,slow=19,SNR=41							
KK31				⇑S		**Sb**	12 34 46.3	-1.8
	3.2nm,0.5s,baz=177,slow=23,SNR=4.1							
EKS2	**Erkin-Say**	**4.40**	31	P		**Pn**	12 33 55.6	+4.3
	SNR=7.8							
AAK	**Ala-Archa**	**4.69**	37	P		**Pn**	12 33 60.0	+4.6
	SNR=6.1							
AAK	**Ala-Archa**	**4.69**	37	⇑P		**Pn**	12 33 59.4	+4.0
	13nm,0.7s							
KBK	**Karagaybulak**	**4.92**	40	P		**Pn**	12 34 03.4	+4.8
	SNR=13							
CHMS	**Chumysh**	**5.09**	36	P		**Pn**	12 34 03.7	+2.9
	SNR=12							
USP	**Ospenovka**	**5.20**	32	P		**Pn**	12 34 05.9	+3.6
	SNR=5.7							
TKM2	**Tokmak 2**	**5.45**	41	P		**Pn**	12 34 09.7	+3.9
	SNR=14							
TKM2	**Tokmak 2**	**5.45**	41	⇑P		**Pn**	12 34 08.5	+2.7
	4.3nm,0.5s							
AB31	**Akbulak array**	**12.87**	**327**	P		**Pn**	12 35 47.9	+0.6
	0.5nm,0.3s,baz=261,slow=36,SNR=21							
AB31				S		**Sn**	12 38 08.4	-2.1
	0.9nm,0.6s,baz=142,slow=23,SNR=3.5							

BER ***17*** *12:36:26.6±3.4, 79°.94N×21°.23E, h15km±13km, ML2.8, ML3.5(NAO), Confirmed Earthquake*
NAO ***17*** *12:36:26.7±3.9, 79°.85N×20°.84E, h9km±19km, ML3.5*
IEPN ***17*** *12:36:27.0, 79°.87N×20°.68E, h10km*
ISC 17 12:36:25.3±1.2, 79°.75N±0°.06×21°.50E±0°.04, h10km, n25, σ2°68/57, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.86**	**215**	Pn	**Pn**	**12 36 58.1**	**+1.0**
	baz=29,slow=12						
SPA0				Pg	**Pg**	**12 37 01.7**	**+0.8**
	baz=37,slow=18						
SPA0				Lg	Lg	12 37 26.0	
	baz=22,slow=37						
SPA0	**Spitsbergen Ar**	**1.86**	**215**	Pn	**Pn**	**12 36 58.1**	**+1.0**
	baz=29,slow=12						
SPA0				Pg	**Pg**	**12 37 01.7**	**+0.8**
	baz=37,slow=18						
SPA0				Sg	**Sg**	**12 37 26.0**	**+1.0**
	baz=22,slow=37						
SPA0	**Spitsbergen Ar**	**1.86**	**215**	*i*P	**Pn**	**12 36 58.0**	**+0.9**
SPA0				*i*S	**Sn**	**12 37 21.8**	**+1.1**
KBS	**Kingsbay**	**1.96**	**250**	Pn	**Pn**	**12 36 58.3**	**-0.2**
KBS				Pg	**Pb**	**12 37 01.6**	**+0.7**
KBS				Lg	Lg	12 37 25.7	
KBS	**Kingsbay**	**1.96**	**250**	*e*P	**Pn**	**12 36 57.8**	**-0.7**
KBS				*e*Pg	**Pb**	**12 37 01.7**	**+0.7**
KBS				*e*S	**Sn**	**12 37 19.5**	**-3.5**
KBS				*e*Sg	**Sb**	**12 37 25.4**	**0.0**
KBS				IAML		12 37 29.9	
	comp=Z,201nm,0.5s						
KBS	**Kingsbay**	**1.96**	**250**	*e*P	**Pn**	**12 36 58.1**	**-0.4**
KBS				*e*S	**Sn**	**12 37 21.6**	**-1.5**
BRBA	**Barentsburg A**	**2.20**	**223**	Pn	**Pn**	**12 37 03.2**	**+1.4**
BRBA				Lg	Lg	12 37 37.4	
BRBA	**Barentsburg A**	**2.20**	**223**	*e*P	**Pn**	**12 37 02.3**	**+0.4**
BRBA				*e*Pg	**Pg**	**12 37 07.1**	**-0.4**
BRBA				*e*S	**Sn**	**12 37 28.6**	**-0.5**
BRBA				*e*Sg	**Sg**	**12 37 36.6**	**+0.7**
BRBA				IAML		12 37 42.4	
	comp=Z,216nm,0.5s						
HSPB	**Hornsund (broa**	**3.01**	**207**	Pn	**Pn**	**12 37 15.4**	**+2.5**
HSPB				Lg	Lg	12 38 03.4	
HSPB	**Hornsund (broa**	**3.01**	**207**	*e*P	**Pn**	**12 37 15.2**	**+2.3**
HSPB				*e*Pg	**Pb**	**12 37 21.6**	**+2.8**
HSPB				*e*S	**Sn**	**12 37 49.7**	**+0.7**
HSPB				*e*Sg	**Sg**	**12 38 01.8**	**-0.1**
HSPB				IAML		12 38 04.4	
	comp=Z,66nm,0.6s						
HOPEN	**Hopen**	**3.33**	**166**	Pn	**Pn**	**12 37 19.3**	**+1.9**
HOPEN				Sn	**Sn**	**12 38 00.8**	**+3.8**
HOPEN				Lg	Lg	12 38 16.1	
HOPEN	**Hopen**	**3.33**	**166**	*e*P	**Pn**	**12 37 20.2**	**+2.8**
HOPEN				*e*Pg	**Pg**	**12 37 28.6**	**-0.5**
HOPEN				*e*S	**Sn**	**12 37 59.5**	**+2.5**
HOPEN				*e*Sg	**Sg**	**12 38 13.5**	**+1.3**
HOPEN				IAML		12 38 23.0	
	comp=Z,69nm,0.3s						
ZFI2	**Zemlya Franca-**	**4.53**	**64**	*e*P	**Pn**	**12 37 35.5**	**+1.7**
ZFI2				*e*S	**Sn**	**12 38 25.5**	**-0.9**
	comp=Z,29nm,0.8s						
BJO1	**Bjornoya**	**5.30**	**187**	Pn	**Pn**	**12 37 45.1**	**+0.7**
BJO1				Sn	**Sn**	**12 38 43.0**	**-2.4**
BJO1				Lg	Lg	12 39 14.7	
BJO1	**Bjornoya**	**5.30**	**187**	*e*P	**Pn**	**12 37 44.8**	**+0.4**
BJO1				*e*S	**Sn**	**12 38 43.2**	**-2.2**
BJO1				IAML		12 38 58.5	
	comp=Z,12nm,0.7s						
HAMF	**Hammerfest**	**9.17**	**175**	Pn	**Pn**	**12 38 38.9**	**+1.4**
HAMF				Sn	**Sn**	**12 40 15.0**	**-5.4**
HAMF	**Hammerfest**	**9.17**	**175**	Pn	**Pn**	**12 38 38.9**	**+1.4**
HAMF				Sn	**Sn**	**12 40 15.0**	**-5.4**
KEV	**Kevo**	**10.14**	**169**	Pn	**Pn**	**12 38 53.1**	**+2.5**
KEV				Sn	**Sn**	**12 40 41.2**	**-3.1**
KEV	**Kevo**	**10.14**	**169**	Pn	**Pn**	**12 38 53.1**	**+2.5**
KEV				Sn	**Sn**	**12 40 41.2**	**-3.1**
ARA0	**ARCESS Array S**	**10.32**	**172**	Pn	**Pn**	**12 38 55.2**	**+2.0**
	baz=5.2,slow=12						
ARA0				Sn	**Sn**	**12 40 43.6**	**-5.1**
	baz=360,slow=22						
ARA0	**ARCESS Array S**	**10.32**	**172**	Pn	**Pn**	**12 38 55.2**	**+2.0**
	baz=5.2,slow=12						
ARA0				Sn	**Sn**	**12 40 43.6**	**-5.1**
	baz=360,slow=22						
KIF	**Kilpisjarvi**	**10.80**	**181**	Pn	**Pn**	**12 39 01.4**	**+1.7**
KIF				Sn	**Sn**	**12 40 53.8**	**-6.7**
KIF	**Kilpisjarvi**	**10.80**	**181**	Pn	**Pn**	**12 39 01.4**	**+1.7**
KIF				Sn	**Sn**	**12 40 53.8**	**-6.7**
APA0	**Apatity Array**	**12.57**	**159**	Pn	**Pn**	**12 39 25.3**	**+1.4**
	baz=0.7,slow=12						
APA0				Sn	**Sn**	**12 41 39.2**	**-4.6**
	baz=346,slow=28						
APA0	**Apatity Array**	**12.57**	**159**	Pn	**Pn**	**12 39 25.3**	**+1.4**
	baz=0.7,slow=12						
APA0				Sn	**Sn**	**12 41 39.2**	**-4.6**
	baz=346,slow=28						

NEIC ***17*** *12:39:54.8±2.3, 24°.4S±0°.1×180°.0E±0°.1, h506km±8km, mb4.4/29, Error ellipse: s-maj=19.4km s-min=15.7km az=153.0*
IDC ***17*** *12:39:54.4±1.8, 24°.40S×179°.88E, h504km±17km, mb3.5/7, mb1 3.8/9, mb1mx3.5/21, mbtmp4.3/9, Error ellipse: s-maj=35.7km s-min=15.3km az=150.0*
ISC 17 12:39:55.1±0.6, 24°.26S±0°.09×179°.95E±0°.08, h517km, n102, σ1°51/99, mb4.2/22, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.33**	**159**	P	P	12 41 02.7	-23
MSVF	**Nonsavu**	**6.73**	**344**	P	**P**	**12 41 40.4**	**+1.0**
	2.6nm,0.3s,baz=137,slow=22,SNR=13						
MSVF	**Nonsavu**	**6.73**	**344**	P	**P**	**12 41 40.2**	**+0.8**
NIUE	**Niue**	**10.73**	**63**	P	**P**	**12 42 19.8**	**-0.6**
MARNC	**Mare, Loyalty**	**11.33**	**282**	P	**P**	**12 42 27.4**	**+0.9**
PINNC	**Pines Island,**	**11.59**	**276**	P	**P**	**12 42 29.8**	**+0.5**
OUENC	**Ouen Island, N**	**12.18**	**276**	P	**P**	**12 42 37.8**	**+2.2**
OUENC	**Ouen Island, N**	**12.18**	**276**	P	P	12 42 40.6	+5.1
LIFNC	**LIFOU**	**12.24**	**284**	P	**P**	**12 42 37.5**	**+1.4**
NOUC	**Port Laguerre**	**12.73**	**277**	P	**P**	**12 42 43.9**	**+2.6**
AFI	**Afiamalu**	**12.93**	**39**	P	**P**	**12 42 40.3**	**-3.2**
KUZ	**Kuaotunu**	**12.96**	**195**	P	**P**	**12 42 42.5**	**-1.0**
WIAZ	**Waiheke Island**	**13.16**	**197**	P	P	12 42 51.6	+6.1
MXZ	**Matakaoa Point**	**13.33**	**186**	P	**P**	**12 42 47.3**	**-0.1**
ETAZ	**East Tamaki Re**	**13.37**	**198**	P	P	12 42 53.9	+6.2
WMGZ	**Waiomatatini S**	**13.58**	**185**	P	**P**	**12 42 50.3**	**+0.4**
HAZ	**Te Kaha**	**13.58**	**187**	P	**P**	**12 42 49.4**	**-0.5**
RUGZ	**Raukumara Rang**	**13.80**	**188**	P	**P**	**12 42 52.5**	**+0.1**
PUZ	**Puketiti**	**13.84**	**186**	P	**P**	**12 42 52.5**	**-0.3**
OPRZ	**Ohinepanea**	**13.85**	**191**	P	P	12 42 44.2	-8.5
TOZ	**Tahuroa Road**	**13.96**	**195**	P	**P**	**12 42 56.4**	**+2.5**
KMRZ	**Kaimai**	**13.97**	**193**	P	**P**	**12 42 55.7**	**+1.6**
TWGZ	**Tauwhareparae**	**13.97**	**186**	P	**P**	**12 42 54.1**	**-0.1**
KARZ	**Kaharoa**	**14.08**	**192**	P	**P**	**12 42 55.6**	**+0.4**
URZ	**Urewera**	**14.16**	**189**	P	**P**	**12 42 53.5**	**-2.6**
	2.8nm,0.3s,baz=263,slow=3.0,SNR=24						
URZ	**Urewera**	**14.16**	**189**	P	**P**	**12 42 53.2**	**-2.8**
MWZ	**Matawai**	**14.18**	**188**	P	**P**	**12 42 54.7**	**-1.6**
CNGZ	**Carnagh Statio**	**14.26**	**186**	P	**P**	**12 42 56.8**	**-0.2**
MUGZ	**Murupara**	**14.43**	**190**	P	**P**	**12 42 57.9**	**-1.0**
TLZ	**Tolley Road**	**14.52**	**194**	P	**P**	**12 43 00.8**	**+1.0**
RIGZ	**Rimuhau**	**14.52**	**187**	P	**P**	**12 42 59.6**	**-0.2**
PRGZ	**Paritu Road**	**14.72**	**186**	P	**P**	**12 43 01.4**	**-0.5**
MTHZ	**Maungataniwha**	**14.79**	**190**	P	**P**	**12 43 01.5**	**-1.1**
SANVU	**Saraoutou**	**14.84**	**304**	P	**P**	**12 43 03.1**	**-0.3**
HIZ	**Hauiti**	**14.85**	**196**	P	**P**	**12 43 02.0**	**-1.3**
BKZ	**Black Stump Fm**	**15.15**	**190**	P	**P**	**12 43 04.0**	**-2.4**
NTVZ	**North Tongarir**	**15.23**	**193**	P	P	12 42 58.5	-8.9
TMVZ	**Te Maari**	**15.24**	**193**	P	**P**	**12 43 05.8**	**-1.6**
ETVZ	**East Tongariro**	**15.26**	**193**	P	**P**	**12 43 05.9**	**-1.8**
OTVZ	**Oturere**	**15.29**	**193**	P	**P**	**12 43 05.4**	**-2.7**
MCHZ	**McNeill Hill**	**15.39**	**190**	P	**P**	**12 43 06.4**	**-2.4**
FWVZ	**Far West T-bar**	**15.41**	**193**	P	**P**	**12 43 08.3**	**-1.0**
KWHZ	**Kaweka Forest**	**15.41**	**190**	P	**P**	**12 43 06.7**	**-2.5**
WHVZ	**Whangaehu Hut**	**15.43**	**193**	P	**P**	**12 43 07.4**	**-2.1**
WNVZ	**Wahianoa**	**15.47**	**193**	P	**P**	**12 43 06.8**	**-3.1**
BHHZ	**Black Hill Sta**	**15.54**	**191**	P	**P**	**12 43 06.9**	**-3.5**
NEZ	**North Egmont**	**15.76**	**197**	P	**P**	**12 43 14.9**	**+2.1**
DUWZ	**D'Urville Isla**	**17.25**	**196**	P	**P**	**12 43 25.8**	**-1.7**
TCW	**Tory Channel**	**17.55**	**194**	P	**P**	**12 43 28.4**	**-1.9**
QRZ	**Quartz Range**	**17.65**	**199**	P	**P**	**12 43 29.1**	**-2.1**
NNZ	**Nelson**	**17.78**	**196**	P	**P**	**12 43 30.8**	**-1.6**
TUWZ	**Tuamarina**	**17.84**	**195**	P	**P**	**12 43 30.9**	**-1.9**
THZ	**Tophouse**	**18.41**	**197**	P	**P**	**12 43 36.0**	**-2.2**
DSZ	**Denniston Nort**	**18.71**	**199**	P	**P**	**12 43 39.3**	**-1.6**
KHZ	**Kahutara**	**18.87**	**195**	P	**P**	**12 43 39.9**	**-2.4**
GVZ	**Greta Valley S**	**19.51**	**195**	P	**P**	**12 43 47.5**	**-0.6**
LTZ	**Lake Taylor**	**19.53**	**197**	P	**P**	**12 43 47.3**	**-1.1**
INZ	**Inchbonnie**	**19.71**	**199**	P	**P**	**12 43 48.4**	**-1.5**
OXZ	**Oxford**	**20.10**	**197**	P	**P**	**12 43 52.7**	**-0.8**
OKCZ	**Okains Bay**	**20.22**	**195**	P	**P**	**12 43 55.8**	**+1.2**
MHCZ	**Mount Hutt**	**20.42**	**198**	P	**P**	**12 43 54.6**	**-1.9**
RACZ	**Rakaia**	**20.45**	**196**	P	**P**	**12 43 57.8**	**+1.2**
EIDS	**Eidsvold**	**26.20**	**262**	P	**P**	**12 44 48.9**	**+0.6**
EIDS				IAmb	IAmb	12 44 57.8	
	comp=Z,17nm,1.3s						
CTAO	**Charters Tower**	**31.43**	**271**	P	**P**	**12 45 34.4**	**+0.5**
TOO	**Toolangi**	**32.21**	**237**	P	**P**	**12 45 40.4**	**0.0**
TOO				IAmb	IAmb	12 46 05.5	
	comp=Z,24nm,1.4s						
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**12 45 59.8**	**-0.3**
	comp=Z,4.0nm,0.5s,baz=94,slow=10,SNR=20						
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**12 45 59.9**	**-0.3**
PMG	**Port Moresby**	**34.57**	**290**	P	**P**	**12 46 00.4**	**-0.1**
PMG				IAmb	IAmb	12 46 02.2	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**41.93**	**261**	P	**P**	**12 46 59.5**	**-0.9**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**12 46 59.7**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=91,slow=6.8,SNR=97						
ASAR				ScP	**ScP**	**12 51 46.1**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=114,slow=4.3,SNR=5.3						
WR0	**Warramunga Arr**	**42.15**	**267**	P	**P**	**12 47 01.4**	**-0.7**
WR0				IAmb	IAmb	12 47 01.8	
	comp=Z,5.9nm,0.8s						
WB2	**Warramunga Arr**	**42.32**	**267**	P	**P**	**12 47 02.4**	**-1.1**
WRAB	**Tennant Creek**	**42.33**	**267**	P	**P**	**12 47 02.1**	**-1.4**
WB0	**Warramunga Arr**	**42.33**	**267**	P	**P**	**12 47 02.9**	**-0.7**
WB0				IAmb	IAmb	12 47 03.3	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**12 47 02.6**	**-1.0**
	comp=Z,8.8nm,0.5s,baz=101,slow=8.3,SNR=114						
WRA				ScP	**ScP**	**12 51 49.3**	**+2.6**
	comp=Z,4.0nm,0.9s,baz=105,slow=4.0,SNR=13						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**12 47 02.6**	**-1.0**
WRA					**ScP**	**12 51 49.8**	**+3.1**
FORT	**Forrest**	**46.14**	**250**	P	**P**	**12 47 31.4**	**-1.5**
KNRA	**Kununurra**	**48.64**	**270**	P	**P**	**12 47 51.8**	**0.0**
FAKI	**Fak Fak**	**50.64**	**287**	P	**P**	**12 48 06.4**	**-0.2**
PSA00	**Pilbara Seismi**	**55.05**	**260**	P	**P**	**12 48 36.9**	**-1.2**
MORW	**Morawa**	**56.71**	**250**	P	**P**	**12 48 48.5**	**-1.0**
MORW				IAmb	IAmb	12 49 01.5	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**65.82**	**180**	P	**P**	**12 49 49.0**	**+0.2**
UGM	**Wanagama**	**68.06**	**271**	P	**P**	**12 50 02.5**	**-0.8**
ISA	**Isabella, Lake**	**83.31**	**46**	P	**P**	**12 51 28.8**	**+1.3**
CMB	**Columbia Colle**	**83.50**	**43**	P	**P**	**12 51 29.6**	**+1.3**
NVAR	**Mina Array Bea**	**85.05**	**44**	P	**P**	**12 51 37.4**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=225,slow=6.8,SNR=6.8						
TPH	**Tonopah**	**85.53**	**45**	P	**P**	**12 51 39.4**	**+0.9**
TPH				IAmb	IAmb	12 51 40.4	
	comp=Z,11nm,0.7s						
PINE	**Pine Mountain**	**86.70**	**38**	P	**P**	**12 51 44.9**	**+1.0**
PINE				IAmb	IAmb	12 51 46.7	
	comp=Z,13nm,1.3s						
TUC	**Tucson**	**86.78**	**52**	P	**P**	**12 51 46.1**	**+1.6**
TUC				IAmb	IAmb	12 51 47.5	
	comp=Z,4.4nm,0.8s						
I07A	**Izee**	**87.70**	**39**	P	**P**	**12 51 48.9**	**+0.4**
I07A				IAmb	IAmb	12 51 51.0	
	comp=Z,5.1nm,1.0s						
U15A	**North Rim**	**87.88**	**48**	P	**P**	**12 51 51.0**	**+1.3**
U15A				IAmb	IAmb	12 51 52.4	
	comp=Z,5.3nm,1.3s						
G08A	**Pilot Rock**	**88.74**	**38**	P	**P**	**12 51 55.0**	**+1.6**
G08A				IAmb	IAmb	12 51 56.2	
	comp=Z,3.2nm,1.0s						
TMUT	**Trail Mountain**	**90.12**	**46**	P	**P**	**12 52 01.6**	**+1.5**
TMUT				IAmb	IAmb	12 52 02.7	
	comp=Z,6.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**90.66**	**58**	P	**P**	**12 52 03.9**	**+1.3**
TX31				IAmb	IAmb	12 52 04.9	
	comp=Z,6.3nm,0.8s						
TX32	**Lajitas Array**	**90.66**	**58**	P	**P**	**12 52 04.0**	**+1.4**
TX32				IAmb	IAmb	12 52 04.9	
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**90.66**	**58**	P	**P**	**12 52 04.0**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=215,slow=6.4,SNR=24						
ILAR	**Eielson Array**	**92.39**	**14**	P	**P**	**12 52 09.3**	**-0.3**
	comp=Z,0.7nm,1.0s,baz=211,slow=6.3,SNR=3.0						
PDAR	**Pinedale Array**	**92.98**	**44**	P	**P**	**12 52 14.7**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=5.8						
PDAR	**Pinedale Array**	**92.98**	**44**	P	**P**	**12 52 13.6**	**+0.4**
ARCES	**ARCESS Array B**	**132.23**	**348**	PKP	**PKPdf**	**12 58 08.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=72,slow=4.0,SNR=4.3						
BRTR	**Keskin Array B**	**147.75**	**307**	PKPbc	**PKPbc**	**12 58 42.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=359,slow=6.5,SNR=2.0						
CLL	**Collm**	**151.18**	**343**	*e*PKPbc	**PKPbc**	**12 58 49.0**	**-0.4**

NNC 17 12:54:04.5±2.2, 38°.20N×68°.46E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=23.3km s-min=18.6km az=123.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.14**	**17**	⇑Pn	Pn	12 55 23.0	+0.3
	0.3nm,0.3s,baz=174,slow=8.0,SNR=6.1						
KK31				⇓Pg	Pb	12 55 38.1	+2.8
	1.1nm,0.3s,baz=207,slow=17,SNR=7.1						
KK31				⇑Lg	Lg	12 56 47.8	
	4.9nm,0.4s,baz=200,slow=28,SNR=9.2						
AAK	**Ala-Archa**	**6.39**	**44**	⇑Lg	Lg	12 57 28.3	
	6.1nm,0.7s						
TKM2	**Tokmak 2**	**7.19**	**47**	⇓Pn	Pn	12 55 50.8	-0.3
	2.5nm,0.4s						
TKM2				⇑Lg	Lg	12 57 52.6	
	4.6nm,0.8s						

IDC 17 13:06:26.6±1.2, 20°.85N×144°.48E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/48, mbtmp3.8/5, Error ellipse: s-maj=55.5km s-min=22.0km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 21.04**		**93**	T	T	13 33 12.2	
	baz=281,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy 21.05**		**93**	T	T	13 33 12.9	
	baz=281,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy 21.05**		**93**	T	T	13 33 07.6	
	baz=278,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy 21.05**		**89**	T	T	13 33 07.8	
	baz=278,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy 21.06**		**93**	T	T	13 33 13.9	
	baz=281,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy 21.07**		**89**	T	T	13 33 08.9	
	baz=278,slow=75,SNR=26						
KSRS	**Korea Array**	**21.92**	**323**	P	P	13 11 21.9	+0.4
	0.3nm,0.4s,baz=150,slow=7.6,SNR=4.4						
WRA	**Warramunga Arr**	**41.74**	**194**	P	P	13 14 17.5	-0.1
	1.1nm,0.5s,baz=14,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**45.43**	**194**	P	P	13 14 47.3	-0.1
	0.6nm,0.6s,baz=18,slow=10,SNR=20						
ILAR	**Eielson Array**	**62.24**	**27**	P	P	13 16 49.8	-0.1
	1.1nm,0.9s,baz=270,slow=5.7,SNR=5.8						
FINES	**FINESS Array B**	**84.46**	**335**	P	P	13 19 01.0	0.0
	3.4nm,1.1s,baz=91,slow=5.8,SNR=4.1						

IDC 17 13:23:08.7±1.2, 20°.85N×144°.25E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/31, mbtmp3.7/4, MS3.5/2, Ms1 3.5/2, ms1mx2.6/35, Error ellipse: s-maj=56.3km s-min=22.9km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.50**	**344**	LR	LR	13 27 11.3	
	comp=Z,98nm,19.4s,baz=194,slow=37						
JNU	**Nakatsue**	**17.05**	**319**	LR	LR	13 32 32.5	
	comp=Z,717nm,21.9s,baz=280,slow=33						
H11S3	**WAKE ISLAND Hy 21.26**		**92**	T	T	13 49 37.5	
	baz=281,slow=75,SNR=5.3						
H11S1	**WAKE ISLAND Hy 21.27**		**92**	T	T	13 49 36.1	
	baz=281,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy 21.27**		**89**	T	T	13 49 44.6	
	baz=280,slow=74,SNR=7.4						
H11N2	**WAKE ISLAND Hy 21.27**		**89**	T	T	13 49 47.0	
	baz=280						
H11S2	**WAKE ISLAND Hy 21.28**		**92**	T	T	13 49 38.4	
	baz=281,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy 21.29**		**89**	T	T	13 49 37.3	
	baz=280,slow=74,SNR=4.2						
KSRS	**Korea Array**	**21.79**	**323**	P	P	13 28 02.5	+0.3
	0.5nm,0.6s,baz=148,slow=9.6,SNR=4.5						
WRA	**Warramunga Arr**	**41.68**	**194**	P	P	13 30 59.1	-0.2
	2.0nm,0.6s,baz=14,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**45.38**	**193**	P	P	13 31 29.0	-0.1
	0.8nm,0.6s,baz=18,slow=10,SNR=22						
ILAR	**Eielson Array**	**62.34**	**27**	P	P	13 33 32.6	-0.1
	0.9nm,0.8s,baz=249,slow=6.0,SNR=7.3						

TUL ***17*** *14:04:38.5±1.1, 36°.13N±0°.01×97°.46W±0°.02, h6km±7km, ML2.8, mb_Lg2.6/36(NEIC), Error ellipse: s-maj=2.1km s-min=1.9km az=87.0*
NEIC 17 14:04:38.5±0.7, 36°.142N±0°.004×97°.47W±0°.02, h6km±7km, Error ellipse: s-maj=2.1km s-min=0.5km az=77.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.34**	**178**		Pg	14 04 45.3	+0.1
OK029				Sg	Sg	14 04 50.5	+0.7
BCOK	**Bluff Creek, N**	**0.50**	**194**		Pg	14 04 48.2	+0.1
BCOK				Sg	Sg	14 04 55.1	+0.6
OK031	**S. Brethren Rd**	**0.54**	**110**		Pg	14 04 49.1	+0.1
OK031				Sg	Sg	14 04 56.7	+0.7
CROK	**Carrier**	**0.55**	**311**		Pg	14 04 49.4	+0.2
OK025	**Westminster Rd**	**0.57**	**169**		Pg	14 04 49.5	+0.1
QUOK	**Quay**	**0.61**	**87**		Pg	14 04 50.4	+0.1
BLOK	**Blackwell**	**0.65**	**18**		Pg	14 04 51.3	+0.3
OKCFA	**Oklahoma City**	**0.72**	**179**	Pg	Pg	14 04 52.4	-0.1
OKCSW	**OKLAHOMA CITY**	**0.73**	**178**	Pg	Pg	14 04 52.5	-0.1
GC02	**Grant County #**	**0.78**	**336**		Pg	14 04 53.5	+0.1
KAN13	**South Haven SW**	**0.87**	**359

ISR	**Istrita**	**0.58 187**	⇓P	**Pn**	**14 09 57.5**	**+0.6**
ISR			⇓S	**Sn**	**14 10 13.8**	**+0.2**
ISR	**Istrita**	**0.58 187**	⇓P	**Pn**	**14 09 57.5**	**+0.6**
GHRR		**0.65 55**	⇑S	**Sn**	**14 10 14.5**	**+0.3**
GHRR		**0.65 55**	⇑S	**Sn**	**14 10 14.5**	**+0.3**
OZUR		**0.72 304**	⇓P	**Pn**	**14 09 57.2**	**-0.5**
OZUR			⇑S	**Sn**	**14 10 15.2**	**+0.1**
OZUR		**0.72 304**	⇓P	**Pn**	**14 09 57.2**	**-0.5**
SECR		**0.78 212**	⇑P	**Pn**	**14 09 58.6**	**+0.5**
SECR			⇓S	**Sn**	**14 10 16.2**	**+0.5**
SECR		**0.78 212**	⇑P	**Pn**	**14 09 58.6**	**+0.5**
TESR	**Tescani**	**0.82 0**	⇑P	**Pn**	**14 09 58.4**	**+0.1**
TESR			⇓S	**Sn**	**14 10 14.7**	**-1.6**
TESR	**Tescani**	**0.82 0**	⇑P	**Pn**	**14 09 58.4**	**+0.1**
BIR	**Birlad**	**0.89 50**	⇑P	**Pn**	**14 09 58.6**	**-0.3**
BIR			⇑S	**Sn**	**14 10 17.1**	**-0.2**
BIR	**Birlad**	**0.89 50**	⇑P	**Pn**	**14 09 58.6**	**-0.3**
PLAR	**PLOIESTI**	**0.89 209**	⇓P	**Pn**	**14 09 59.0**	**0.0**
PLAR			⇓S	**Sn**	**14 10 17.8**	**+0.6**
PLAR	**PLOIESTI**	**0.89 209**	⇓P	**Pn**	**14 09 59.0**	**0.0**
DOPR	**Dopca**	**0.92 288**	⇓P	**Pn**	**14 09 58.9**	**-0.2**
DOPR	**Dopca**	**0.92 288**	⇓P	**Pn**	**14 09 58.9**	**-0.2**
SULR		**1.05 195**	⇓P	**Pn**	**14 10 00.7**	**+0.4**
SULR			⇑S	**Sn**	**14 10 20.0**	**+0.5**
SULR		**1.05 195**	⇓P	**Pn**	**14 10 00.7**	**+0.4**
VOIR		**1.15 258**	⇑P	**Pn**	**14 10 00.7**	**-0.5**
VOIR			⇑S	**Sn**	**14 10 20.4**	**-0.9**
VOIR		**1.15 258**	⇑P	**Pn**	**14 10 00.7**	**-0.5**
CFR	**Carcaliu**	**1.17 116**	⇑P	**Pn**	**14 10 01.7**	**+0.4**
CFR			⇓S	**Sn**	**14 10 21.1**	**-0.3**
CFR	**Carcaliu**	**1.17 116**	⇑P	**Pn**	**14 10 01.7**	**+0.4**
AMRR	**Amara**	**1.19 155**	⇑S	**Sn**	**14 10 22.0**	**+0.3**
AMRR	**Amara**	**1.19 155**	⇑S	**Sn**	**14 10 22.0**	**+0.3**
MTUR	**Matau**	**1.21 248**	⇓P	**Pn**	**14 10 01.9**	**+0.1**
MTUR	**Matau**	**1.21 248**	⇓P	**Pn**	**14 10 01.9**	**+0.1**
VASR	**Vaslui**	**1.24 40**	⇓P	**Pn**	**14 10 02.6**	**+0.6**
VASR			⇓S	**Sn**	**14 10 22.1**	**-0.5**
VASR	**Vaslui**	**1.24 40**	⇓P	**Pn**	**14 10 02.6**	**+0.6**
HARR	**Harsova**	**1.36 137**	⇑P	**Pn**	**14 10 03.5**	**+0.4**
HARR	**Harsova**	**1.36 137**	⇑P	**Pn**	**14 10 03.5**	**+0.4**
BUC1	**Bucharest**	**1.42 198**	⇑S	**Sn**	**14 10 25.0**	**-0.7**
BUC1	**Bucharest**	**1.42 198**	⇑S	**Sn**	**14 10 25.0**	**-0.7**
STFAR	**Stefanesti-Arg**	**1.45 236**	⇓P	**Pn**	**14 10 04.7**	**+0.6**
STFAR			⇑S	**Sn**	**14 10 26.2**	**-0.2**
STFAR	**Stefanesti-Arg**	**1.45 236**	⇓P	**Pn**	**14 10 04.7**	**+0.6**
TPGR	**Topolog**	**1.51 123**	⇓P	**Pn**	**14 10 04.9**	**+0.2**
TPGR			⇑S	**Sn**	**14 10 26.4**	**-1.1**
TPGR	**Topolog**	**1.51 123**	⇓P	**Pn**	**14 10 04.9**	**+0.2**
TLBR	**Topalu**	**1.52 139**	⇓P	**Pn**	**14 10 05.4**	**+0.6**
TLBR			⇑S	**Sn**	**14 10 26.8**	**-0.8**
TLBR	**Topalu**	**1.52 139**	⇓P	**Pn**	**14 10 05.4**	**+0.6**
RASA	**Rasa**	**1.52 166**	⇑P	**Pn**	**14 10 05.2**	**+0.3**
RASA			⇑S	**Sn**	**14 10 27.4**	**-0.3**
RASA	**Rasa**	**1.52 166**	⇑P	**Pn**	**14 10 05.2**	**+0.3**
SGRR	**Singureni**	**1.55 198**	⇓P	**Pn**	**14 10 05.2**	**+0.1**
SGRR			⇑S	**Sn**	**14 10 27.7**	**-0.4**
SGRR	**Singureni**	**1.55 198**	⇓P	**Pn**	**14 10 05.2**	**+0.1**
TLCR		**1.61 108**	⇓P	**Pn**	**14 10 06.4**	**+0.7**
TLCR			⇑S	**Sn**	**14 10 29.9**	**+0.6**
TLCR		**1.61 108**	⇓P	**Pn**	**14 10 06.4**	**+0.7**
HUMR	**Humele**	**1.66 226**	⇑P	**Pn**	**14 10 05.9**	**-0.4**
HUMR			⇑S	**Sn**	**14 10 29.2**	**-1.0**
HUMR	**Humele**	**1.66 226**	⇑P	**Pn**	**14 10 05.9**	**-0.4**
CVDA	**Cernavoda**	**1.68 143**	⇓P	**Pn**	**14 10 07.2**	**+0.6**
CVDA			⇑S	**Sn**	**14 10 30.8**	**0.0**
CVDA	**Cernavoda**	**1.68 143**	⇓P	**Pn**	**14 10 07.2**	**+0.6**
TIRR	**Tirgusor**	**1.76 134**	⇑P	**Pn**	**14 10 08.0**	**+0.5**
TIRR			⇑S	**Sn**	**14 10 31.3**	**-1.0**
TIRR	**Tirgusor**	**1.76 134**	⇑P	**Pn**	**14 10 08.0**	**+0.5**
ICOR	**Ion Corvin**	**1.78 152**	⇑P	**Pn**	**14 10 08.4**	**+0.7**
ICOR			⇑S	**Sn**	**14 10 32.0**	**-0.7**
ICOR	**Ion Corvin**	**1.78 152**	⇑P	**Pn**	**14 10 08.4**	**+0.7**
COPA	**Copaceanca**	**1.86 213**	⇑P	**Pn**	**14 10 08.3**	**-0.3**
COPA			⇑S	**Sn**	**14 10 32.8**	**-1.5**
COPA	**Copaceanca**	**1.86 213**	⇑P	**Pn**	**14 10 08.3**	**-0.3**
MILM	**Milestii Mici**	**1.94 50**	⇑P	**Pn**	**14 10 10.1**	**+0.8**
MILM			⇑S	**Sn**	**14 10 35.0**	**-0.9**
MILM	**Milestii Mici**	**1.94 50**	⇑P	**Pn**	**14 10 10.1**	**+0.8**
MFTR	**Murfatlar**	**1.98 140**	⇑P	**Pn**	**14 10 10.4**	**+0.6**
MFTR			⇓S	**Sn**	**14 10 35.9**	**-0.7**
MFTR	**Murfatlar**	**1.98 140**	⇑P	**Pn**	**14 10 10.4**	**+0.6**
KIS	**Kishinev**	**1.99 48**	*e*P	**Pn**	**14 10 09.5**	**-0.5**
	20nm,0.1s					
KIS			*e*S	**Sn**	**14 10 34.0**	**-3.0**
	100nm,0.2s					
LOT	**Lotru**	**2.03 264**	⇓P	**Pn**	**14 10 11.8**	**+1.2**
LOT			⇓S	**Sn**	**14 10 39.0**	**+1.0**
LOT	**Lotru**	**2.03 264**	⇓P	**Pn**	**14 10 11.8**	**+1.2**
BURAR	**Bucovina Array**	**2.16 333**	⇓P	**Pn**	**14 10 13.1**	**+1.1**
BURAR			⇑S	**Sn**	**14 10 42.2**	**+1.5**
BURAR	**Bucovina Array**	**2.16 333**	⇓P	**Pn**	**14 10 13.1**	**+1.1**
SORM	**Soroca**	**2.71 25**	⇑P	**Pn**	**14 10 18.8**	**+0.3**
SORM	**Soroca**	**2.71 25**	⇑P	**Pn**	**14 10 18.8**	**+0.3**
GZR	**Gura Zlata**	**2.73 265**	⇑S	**Sn**	**14 10 53.3**	**+0.3**
GZR	**Gura Zlata**	**2.73 265**	⇑S	**Sn**	**14 10 53.3**	**+0.3**
HERR	**Herculane**	**3.09 256**	⇓P	**Pn**	**14 10 23.5**	**0.0**
HERR	**Herculane**	**3.09 256**	⇓P	**Pn**	**14 10 23.5**	**0.0**
BZS	**Buzias**	**3.52 271**	⇑P	**Pn**	**14 10 28.6**	**-0.4**
BZS	**Buzias**	**3.52 271**	⇑P	**Pn**	**14 10 28.6**	**-0.4**
MDVR	**Moldovita**	**3.60 257**	⇑P	**Pn**	**14 10 29.9**	**-0.2**
MDVR	**Moldovita**	**3.60 257**	⇑P	**Pn**	**14 10 29.9**	**-0.2**

IDC ***17*** *14:19:58.1±2.2, 9°.04N×126°.75E, h12km±13km, mb4.5/26, mb1 4.6/27, mb1mx4.6/32, mbtmp4.5/27, ML4.5/1, MS3.9/17, Ms1 3.9/17, ms1mx3.6/38, Error ellipse: s-maj=18.9km s-min=10.7km az=77.0*

MAN ***17*** *14:19:59.6, 9°.16N×126°.96E, h19km, mb5.6, ML4.6, MS5.0*

BJI ***17*** *14:20:04.0±0.0, 9°.05N×126°.76E, h77km, mB4.9/39, mb4.8/57, Ms4.4/35, Ms7 4.1/35*

NEIC ***17*** *14:20:05.0±2.7, 9°.12N±0°.07×126°.7E±0°.1, h69km±7km, mb4.9/53, Error ellipse: s-maj=15.7km s-min=9.8km az=86.0*

DJA ***17*** *14:20:05.2±0.5, 9°N±3°×12°7E±°, h67km±5km, M5.0/33, mb5.0/33, mB5.4/12, MLv5.3/3, Mw(mB)4.8/12, MwMwp5.5/1, Mwp5.7/1*

KLM ***17*** *14:20:06, 9°.01N×127°.18E, h95km, mb5.0*

ISC 17 14:20:05.3±0.5, 9°.08N±0°.04×126°.90E±0°.05, h69km±4km, n214, σ1$94/225, mb4.7/79, 7C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.27 254**		⇓*e*P	**Pn**	**14 20 38.1**	**-2.4**
CGP				*i* S	**Sn**	**14 21 09.9**	**+2.5**
DAV	**Davao City (W)**	**2.38 213**		Pg	**Pn**	**14 20 41.1**	**-1.0**
	119nm,0.3s,baz=344,slow=8.4,SNR=11						
DAV				Lg	Lg	14 21 08.5	
	121nm,0.3s,baz=232,slow=19,SNR=9.5						
DAV	**Davao City (W)**	**2.38 213**			**Pn**	**14 20 42.6**	**+0.4**
KCP	**Kidapawan**	**2.73 221**		⇑*i*P	**Pn**	**14 20 44.0**	**-2.9**
KCP				*i* S	**Sn**	**14 21 18.8**	**+0.1**
DCPH	**Dipolog City**	**3.54 262**		⇑*e*P	**Pn**	**14 20 56.6**	**-1.3**
SNPH	**Sibulan**	**3.63 274**		⇑*i*P	**Pn**	**14 20 56.6**	**-2.5**
SNPH				*i* S	**Sn**	**14 21 47.9**	**+7.1**
RCP	**Roxas**	**4.78 301**		⇓*e*P	**Pn**	**14 21 12.3**	**-2.5**
JAP	**San Jose, Anti**	**5.16 289**		⇓*e*P	**Pn**	**14 21 20.1**	**+0.2**
SGSI	**Sangihe**	**5.53 194**	P		**Pn**	**14 21 27.4**	**+2.4**
	3.0nm4μm321nm,0.6s						
LQP	**Lukban**	**7.25 314**		⇑*e*P	Pn	14 21 53.9	+5.1
TNTI	**Ternate**	**8.26 177**			**Pn**	**14 22 01.8**	**-0.7**
TNTI	**Ternate**	**8.26 177**	P		**Pn**	**14 22 02.3**	**-0.2**
	1μm86nm,0.9s						
GTOI	**Gorontalo**	**9.23 205**	P		**Pn**	**14 22 12.6**	**-3.2**
	451nm50nm,0.8s						
MRSI	**Marisa**	**9.87 210**	P		**Pn**	**14 22 25.6**	**+1.2**
	731nm74nm,1.1s						
TOLI2	**Tolitoli**	**9.98 218**	Pn		**Pn**	**14 22 23.4**	**-2.6**
SWI	**Sorong**	**10.79 156**	P		**Pn**	**14 22 34.2**	**-2.8**
	36nm,1.0s						
SIJI	**Sorong**	**10.79 156**	Pn		**Pn**	**14 22 34.4**	**-2.7**
	3.4nm,0.3s,baz=338,slow=15,SNR=6.5						
LUWI	**Luwuk**	**10.86 202**	P		**Pn**	**14 22 40.1**	**+2.1**
	2μm163nm,1.2s						
APSI	**Ampana**	**11.21 208**	P		**Pn**	**14 22 44.3**	**+1.5**
	494nm35nm,1.2s						
SPMM	**Sapulut**	**11.23 248**	P		Pn	14 22 48.0	+4.9
TTSI	**Tana Toraja**	**13.96 211**	P		**Pn**	**14 23 22.1**	**+2.2**
	784nm36nm,1.0s						
TWG	**Pinlang**	**14.77 338**			**Pn**	**14 23 28.4**	**-2.0**
BNSI	**Bone**	**15.00 207**	P		**Pn**	**14 23 33.9**	**+0.4**
	56nm,1.4s						
YULB	**Yu-li**	**15.21 340**	P		**Pn**	**14 23 37.2**	**+1.1**
YULB			P		IAmb	IAmb	14 23 47.6
	comp=Z,128nm,2.0s						
TPUB	**Ta-pu**	**15.37 338**	P		**Pn**	**14 23 38.0**	**-0.1**
TPUB			P		IAmb	IAmb	14 24 08.9
	comp=Z,50nm,1.0s						
KAPI	**Kappang**	**15.71 207**	Pn		**P**	**14 23 44.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=38,slow=18,SNR=3.0						
KAPI	**Kappang**	**15.71 207**	P		**Pn**	**14 23 42.4**	**-0.1**
KBKI	**Kotabaru**	**16.30 221**	P		P	14 24 05.8	+14
YHNB	**Yeheng**	**16.38 342**	P		**P**	**14 23 52.8**	**+0.1**
YHNB			P		IAmb	IAmb	14 24 11.1
	comp=Z,54nm,0.9s						
BBKI	**Banjar Baru**	**17.31 224**	P		**P**	**14 24 03.7**	**+0.7**
	comp=Z,27nm,0.9s						
JOW	**Kunigami**	**17.71 4**	P		**P**	**14 24 08.4**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=245,slow=16,SNR=1.9						
STKI	**Sintang**	**17.78 241**	P		**Pn**	**14 24 09.7**	**+1.5**
	comp=Z,16nm,1.0s						
KSM	**Kuching**	**18.16 246**	P		**Pn**	**14 24 14.0**	**+1.2**
GUMO	**Guam**	**18.18 74**	LR		LR	14 30 34.6	
	comp=Z,426nm,18.8s,baz=244,slow=35						
MMRI	**Maumere**	**18.20 195**	P		Pn	14 24 23.2	+10
EDFI	**Ende, Flores**	**18.45 196**	P		**Pn**	**14 24 16.9**	**+0.4**
	comp=Z,32nm,0.8s						
SOEI	**Soe**	**18.89 188**	P		**P**	**14 24 17.3**	**-3.1**
SOEI			P		IAmb	IAmb	14 24 38.1
	comp=Z,59nm,0.7s						
SOEI	**Soe**	**18.89 188**	P		**Pn**	**14 24 22.1**	**+0.4**
	comp=Z,82nm,0.7s						
QIZ	**Qiongzhong**	**19.26 303**	P		**P**	**14 24 23.8**	**-0.6**
QIZ			pP		**pP**	**14 24 38.4**	**+0.6**
QIZ			sP		**sP**	**14 24 48.0**	**+1.8**
QIZ			S		**S**	**14 27 56.8**	**-2.2**
QIZ			LR		LR		
	comp=Z,310nm,10.0s						
QIZ			LR		LR		
	comp=Z,450nm,13.7s						
QIZ			LR		LR		
	comp=Z,560nm,15.1s						
BATI	**Baumata**	**19.42 190**	P		**Pn**	**14 24 27.7**	**-0.3**
	comp=Z,90nm,0.9s						
PLAI	**Plampang**	**19.97 207**	P		**P**	**14 24 33.8**	**+1.7**
	comp=Z,84nm,0.7s						
TWSI	**Taliwang, Sumb**	**20.32 210**	P		**P**	**14 24 35.3**	**-0.5**
	comp=Z,28nm,0.8s						
MTN	**Manton Dam**	**22.18 169**	P		**P**	**14 24 54.8**	**-1.0**
	baz=22,SNR=18						
MTN	**Manton Dam**	**22.18 169**	P		**P**	**14 24 55.5**	**-0.3**
MTN			P		IAmb	IAmb	14 25 28.9
	comp=Z,59nm,1.1s						
KDU	**Kakadu**	**22.32 166**	P		**P**	**14 24 56.6**	**-0.7**
	baz=22,SNR=9.5						
SSE	**Sheshan**	**22.55 347**	P		**P**	**14 25 01.4**	**+1.7**
SSE			pmax		pmax		
	comp=Z,23nm,0.9s						
SSE			pmax		pmax		
	comp=Z,160nm,4.0s						
SSE			LR		LR		
	comp=Z,330nm,17.5s						
SSE			LR		LR		
	comp=Z,310nm,19.1s						
JSU	**Suzuyama**	**22.56 8**	P		**P**	**14 24 59.0**	**-0.9**
MANU	**Manus Island**	**23.20 117**	P		**P**	**14 25 06.2**	**-0.3**
MANU			P		IAmb	IAmb	14 25 08.6
	comp=Z,36nm,1.3s						
SKNT	**Sakolnakorn**	**23.65 292**	P		**P**	**14 25 09.3**	**-1.3**
	comp=Z,20nm,1.2s						
MYKOM	**Kota Tinggi**	**24.05 254**	P		**P**	**14 25 14.0**	**-0.2**
NJ2	**Nanjing**	**24.05 343**	⇑P		**P**	**14 25 13.5**	**-0.5**
NJ2			pP		**sP**	**14 25 35.6**	**+0.6**
NJ2			sP		**pwP**	**14 25 43.4**	**+6.2**
NJ2			PP		**PnPn**	**14 25 50.5**	**+3.8**
NJ2			S		**S**	**14 29 25.1**	**-1.4**
NJ2			SS		**SnSn**	**14 30 19.4**	**+5.3**
NJ2			pmax		pmax		
	comp=Z,62nm,0.9s						
NJ2			pmax		pmax		
	comp=Z,480nm,5.6s						
JNU	**Nakatsue**	**24.21 8**	P		**P**	**14 25 15.7**	**+0.2**
	comp=Z,23nm,0.9s,baz=126,slow=5.1,SNR=5.1						
JNU	**Nakatsue**	**24.21 8**	IAmb		IAmb	14 25 18.4	
	comp=Z,46nm,1.1s						
KPJI	**Karang Pucung**	**24.21 228**	P		P	14 25 31.4	+16
KHON	**Khomkaen**	**24.55 290**	P		**P**	**14 25 19.6**	**+0.8**
	comp=Z,47nm,1.1s						
KNRA	**Kununurra**	**24.66 176**	P		**P**	**14 25 18.8**	**-0.9**
	baz=25,SNR=12						
KNRA	**Kununurra**	**24.66 176**	P		**P**	**14 25 18.8**	**-0.9**
KNRA			IAmb		IAmb	14 25 33.4	
	comp=Z,43nm,0.7s						
JRMM	**Jerantut**	**24.80 260**	P		**P**	**14 25 22.0**	**+0.9**
PMBI	**Palembang**	**25.07 243**	P		**P**	**14 25 25.3**	**+1.8**
	comp=Z,8μmcomp=Z,200nm,0.9s						
CBJI	**Citeko**	**25.23 233**	P		**P**	**14 25 27.3**	**+2.4**
	comp=Z,60nm,0.5s						
CHAI	**Chaiyaphum**	**25.23 288**	P		**P**	**14 25 23.9**	**-1.1**
	comp=Z,305nmcomp=Z,32nm,0.8s						
DBJI	**Dramaga**	**25.39 233**	P		**P**	**14 25 28.3**	**+1.9**
	comp=Z,5μmcomp=Z,27nm,1.1s						
SKLT	**Songkhla**	**26.08 268**	P		**P**	**14 25 34.8**	**+2.1**
	comp=Z,44nm,1.0s						
KULM	**Kulim**	**26.31 264**	P		**P**	**14 25 36.0**	**+1.3**
MDSI	**Maura Dua**	**26.35 240**	P		**P**	**14 25 35.2**	**+0.1**
LHSI	**Lahat**	**26.59 242**	P		**P**	**14 25 37.5**	**+0.2**
	comp=Z,1μmcomp=Z,32nm,0.8s						
JHJ	**Hachijo jima 2**	**26.72 25**	LR		LR	14 35 30.2	
	comp=Z,467nm,21.4s,baz=80,slow=35						
LWLI	**Liwa**	**26.73 239**	P		**P**	**14 25 38.8**	**+0.2**
	comp=Z,163nm,0.8s						
PHIT	**Phitsanulok**	**27.00 290**	P		**P**	**14 25 42.3**	**+1.4**
	comp=Z,58nm,0.8s						
KMI	**Kunming**	**27.99 308**	⇑P		**P**	**14 25 52.1**	**+2.1**
KMI			pmax		pmax		
	comp=Z,6.0nm,1.0s						
KSRS	**Korea Array**	**28.27 2**	P		**P**	**14 25 51.5**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=178,slow=10,SNR=12						
KSRS			PcP		**PcP**	**14 29 05.6**	**+1.8**
	comp=Z,2.0nm,0.9s,baz=132,slow=1.9,SNR=4.7						
KSRS			LR		LR	14 38 00.2	
	comp=Z,256nm,19.3s,baz=164,slow=38						
MNSI	**Mandailing Nat**	**28.41 255**	P		**P**	**14 25 53.5**	**-0.1**
	comp=Z,6μmcomp=Z,15nm,0.7s						
RPSI	**Rantau Prapat**	**28.53 259**	P		**P**	**14 25 53.3**	**-1.3**
RPSI			IAmb		IAmb	14 25 57.1	
	comp=Z,28nm,0.9s						
CM36	**Chiang Mai Arr**	**28.55 292**	P		**P**	**14 25 53.0**	**-1.8**
CM34	**Chiang Mai Arr**	**28.59 293**	P		**P**	**14 25 54.0**	**-1.1**
CM04	**Chiang Mai Arr**	**28.62 292**	P		**P**	**14 25 55.8**	**+0.3**
	comp=Z,96nmcomp=Z,11nm,0.9s						
CM04	**Chiang Mai Arr**	**28.62 292**	P		**P**	**14 25 55.9**	**+0.5**
CM09	**Chiang Mai Arr**	**28.62 292**	P		**P**	**14 25 55.3**	**-0.1**
	comp=Z,13nm,0.9s						
CM09	**Chiang Mai Arr**	**28.62 292**	P		**P**	**14 25 55.4**	**-0.1**
CM01	**Chiang Mai Arr**	**28.65 292**	P		**P**	**14 25 56.3**	**+0.6**
	comp=Z,10nm,1.0s						
CM01	**Chiang Mai Arr**	**28.65 292**	P		**P**	**14 25 56.3**	**+0.6**
CM05	**Chiang Mai Arr**	**28.66 292**	P		**P**	**14 25 56.0**	**+0.3**
	comp=Z,6.8nm,1.0s						
CM05	**Chiang Mai Arr**	**28.66 292**	P		**P**	**14 25 56.0**	**+0.3**
CM02	**Chiang Mai Arr**	**28.66 292**	P		**P**	**14 25 55.6**	**-0.2**
	comp=Z,76nmcomp=Z,11nm,0.9s						
CM02	**Chiang Mai Arr**	**28.66 292**	P		**P**	**14 25 55.6**	**-0.2**
CM31	**Chiang Mai Arr**	**28.67 292**	P		**P**	**14 25 55.7**	**-0.2**
CM31	**Chiang Mai Arr**	**28.67 292**	P		**P**	**14 25 51.9**	**-4.0**
CMAR	**Chiang Mai Arr**	**28.67 292**	P		**P**	**14 25 54.7**	**-1.2**
	comp=Z,6.2nm,0.8s,baz=104,slow=6.8,SNR=35						
CMAR			PcP		**PcP**	**14 29 06.6**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=87,slow=1.2,SNR=5.6						
CMAR			LR		LR	14 37 42.6	
	comp=Z,186nm,19.1s,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**28.67 292**	P		**P**	**14 25 52.0**	**-3.9**
CM15	**Chiang Mai Arr**	**28.69 292**	P		**P**	**14 25 55.3**	**-0.7**
	comp=Z,101nmcomp=Z,19nm,0.9s						
CM15	**Chiang Mai Arr**	**28.69 292**	P		**P**	**14 25 55.4**	**-0.6**
CM13	**Chiang Mai Arr**	**28.70 292**	P		**P**	**14 25 55.8**	**-0.3**
	comp=Z,9.5nm,0.9s						
CM13	**Chiang Mai Arr**	**28.70 292**	P		**P**	**14 25 55.9**	**-0.3**
CMMT	**Chiang Mai**	**28.76 293**	P		**P**	**14 25 56.0**	**-0.7**
	comp=Z,8.5nm,1.1s						
CMMT	**Chiang Mai**	**28.76 293**	P		**P**	**14 25 56.0**	**-0.7**
CM33	**Chiang Mai Arr**	**28.77 293**	P		**P**	**14 25 55.0**	**-1.7**
CHTO	**Chiang Mai**	**28.77 293**	P		**P**	**14 25 56.0**	**-0.7**
	comp=Z,8.6nm,1.1s						
CM32	**Chiang Mai Arr**	**28.81 292**	P		**P**	**14 25 56.0**	**-1.1**
MJAR	**Matsushiro Arr**	**29.21 19**	P		**P**	**14 26 01.0**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=191,slow=10.0,SNR=4.8						
MJAR			LR		LR	14 36 57.9	
	comp=Z,380nm,19.4s,baz=215,slow=35						
WB0	**Warramunga Arr**	**29.60 166**	P		**P**	**14 26 01.9**	**-2.1**
WRA	**Warramunga Arr**	**29.75 166**	P		**P**	**14 26 03.4**	**-2.0**
	comp=Z,5.4nm,0.8s,baz=347,slow=9.6,SNR=26						
WRA			PcP		**PcP**	**14 29 08.6**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=356,slow=3.1,SNR=2.7						
WRA			ScP		**ScP**	**14 32 51.6**	**+7.6**
	comp=Z,1.2nm,1.0s,baz=339,slow=2.4,SNR=3.3						
WRA	**Warramunga Arr**	**29.75 166**	P		**P**	**14 26 02.6**	**-2.7**
WB2	**Warramunga Arr**	**29.75 166**	P		**P**	**14 26 03.7**	**-1.6**
WB2			IAmb		IAmb	14 26 46.4	
	comp=Z,17nm,0.9s						
WR0	**Warramunga Arr**	**29.82 165**	P		**P**	**14 26 04.4**	**-1.5**
XAN	**Xi'an**	**29.84 329**	P		**P**	**14 26 02.5**	**-3.6**
XAN			pmax		pmax		
	comp=Z,6.0nm,0.8s						
XAN			LR		LR		
	comp=Z,300nm,12.8s						
XAN			LR		LR		
	comp=Z,270nm,13.6s						
XAN			LR		LR		
	comp=Z,500nm,14.2s						
CD2	**Chengdu**	**30.61 318**	*e*P		**P**	**14 26 12.3**	**-0.6**
CD2			LR		LR		
	comp=Z,610nm,16.1s						
CD2			LR		LR		
	comp=Z,560nm,21.4s						
CD2			LR		LR		
	comp=Z,680nm,16.3s						
PSA00	**Pilbara Seismi**	**31.23 193**	P		**P**	**14 26 17.3**	**-1.1**
PSA00			IAmb		IAmb	14 26 18.5	
	comp=Z,19nm,0.8s						
PSA00	**Pilbara Seismi**	**31.23 193**	P		**P**	**14 26 16.4**	**-2.1**
PSA00			IAmb		IAmb	14 26 18.4	
	comp=Z,9.9nm,0.8s						
QIS	**Mount Isa**	**31.99 157**	P		**P**	**14 26 24.8**	**-0.3**
	baz=32,SNR=65						
BJT	**Baijiatuau**	**32.27 344**	P		P	14 26 22.1	-5.2
BJT			IAmb		IAmb	14 26 28.1	
	comp=Z,42nm,1.3s						
BJI	**Beijing**	**32.28 344**	P		**P**	**14 26 27.3**	**-0.1**
BJI			pP		**sP**	**14 26 44.3**	**-4.9**
BJI			S		**S**	**14 31 41.1**	**+5.1**
BJI			pmax		pmax		
	comp=Z,28nm,1.2s						
BJI			LR		LR		
	comp=Z,190nm,14.8s						
BJI			LR		LR		
	comp=Z,230nm,15.5s						
BJI			LR		LR		
	comp=Z,270nm,21.8s						
SNY	**Shenyang**	**32.75 355**	⇓P		**P**	**14 26 31.8**	**+0.3**
SNY			pmax		pmax		
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**33.25 168**	P		**P**	**14 26 34.3**	**-1.8**
ASAR	**Alice Springs**	**33.25 168**	P		**P**	**14 26 34.7**	**-1.4**
	comp=Z,2.1nm,0.4s,baz=354,slow=6.6,SNR=91						
ASAR			PcP		**PcP**	**14 29 17.9**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=341,slow=2.9,SNR=5.2						
ASAR			LR		LR	14 42 53.2	
	comp=Z,95nm,18.6s,baz=328,slow=41						
ASAR	**Alice Springs**	**33.25 168**	P		**P**	**14 26 34.5**	**-1.6**
GIRL	**Giralia**	**33.88 201**	P		**P**	**14 26 42.0**	**+0.5**
	baz=34,SNR=3.2						
GIRL	**Giralia**	**33.88 201**	P		**P**	**14 26 42.2**	**+0.7**
WRKA	**Warakurna**	**33.93 178**	P		**P**	**14 26 41.2**	**-0.8**
	baz=34,SNR=26						
LZH	**Lanzhou**	**34.11 326**	*e*P

baz=44,SNR=9.7
ARMA Armidale 45.90 150 P **P 14 28 21.8 +0.6**
HYB Hyderabad 47.68 285 *i* P **P 14 28 34.0 -1.3**
ARPS Mount Arapiles 47.71 164 P **P 14 28 35.3 +0.2**
baz=48,SNR=5.5
WMQ Urumqi 48.54 322 *e*P **P 14 28 41.8 +0.2**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,88nm,3.7s
WMQ LR LR
comp=Z,350nm,18.7s
WMQ LR LR
comp=Z,460nm,14.3s
WMQ LR LR
comp=Z,820nm,28.9s
LIFNC LIFOU 49.52 127 P **P 14 28 50.8 +1.5**
TOO Toolangi 49.56 161 P **P 14 28 49.2 -0.1**
PETK Petropavlovsk- 50.47 24 P **P 14 28 56.8 +0.8**
comp=Z,3.4nm,0.6s,baz=153,slow=1.2,SNR=4.0
PETK Petropavlovsk- 50.47 24 P **P 14 28 53.9 -2.1**
YAK Yakutsk 52.90 2 LR LR 14 50 57.8
comp=Z,110nm,20.1s,baz=230,slow=35
MK31 Makanchi Array 53.35 323 P **P 14 29 16.8 -0.8**
MK31 IAmb IAmb 14 29 17.7
comp=Z,16nm,0.8s
MKAR Makanchi Array 53.35 323 P **P 14 29 16.7 -0.9**
comp=Z,19nm,0.7s,baz=122,slow=8.2,SNR=208
MKAR PcP **PcP 14 30 24.6 +0.3**
comp=Z,3.5nm,0.8s,baz=107,slow=4.7,SNR=1.2
MKAR ScP **ScP 14 34 22.7 +6.6**
comp=Z,0.4nm,0.7s,baz=115,slow=5.4,SNR=3.2
MAKZ Makanchi 53.54 323 P **P 14 29 17.6 -1.4**
MAKZ IAmb IAmb 14 29 19.0
comp=Z,16nm,0.8s
NIL Nilore 54.92 305 P **P 14 29 28.1 -1.1**
ULHL Ulahol 55.26 316 P **P 14 29 31.2 -0.6**
SNR=17
BOOM Boomskoye usch 55.56 316 P **P 14 29 31.3 -2.6**
BOOM IAmb IAmb 14 29 33.8
comp=Z,10nm,1.2s
TKM2 Tokmak 2 55.95 316 P **P 14 29 35.8 -0.9**
SNR=15
ZALV Zalesovo Beam 55.97 331 P **P 14 29 35.0 -1.4**
comp=Z,4.3nm,0.7s,baz=116,slow=6.9,SNR=16
ZALV PcP **PcP 14 30 33.2 -0.9**
comp=Z,4.2nm,0.8s,baz=119,slow=1.5,SNR=2.5
ZALV LR LR 14 55 48.1
comp=Z,92nm,18.1s,baz=124,slow=38
ZALV Zalesovo Beam 55.97 331 P **P 14 29 33.6 -2.7**
CHMS Chumysh 56.56 316 P **P 14 29 40.1 -0.8**
SNR=8.1
USP Ospenovka 56.83 316 P **P 14 29 42.1 -0.6**
SNR=6.2
AML Almayashu 56.99 315 P **P 14 29 44.3 -0.1**
SNR=14
MSVF Nonsavu 57.11 118 P **P 14 29 45.9 +0.8**
comp=Z,10nm,1.0s,baz=22,slow=5.4
EKS2 Erkin-Say 57.11 315 P **P 14 29 44.3 -0.6**
SNR=13
KBL Kabul 58.52 305 P **P 14 29 52.4 -2.6**
GAR Garm 58.53 310 P **P 14 29 52.5 -2.4**
KK31 Karatay Array 59.53 315 P **P 14 30 00.4 -1.2**
KK31 IAmb IAmb 14 30 13.8
comp=Z,6.5nm,0.8s
KKAR Karatay Array 59.53 315 P **P 14 30 00.4 -1.2**
KKAR IAmb IAmb 14 30 13.8
comp=Z,6.5nm,0.8s
KKAR Karatay Array 59.53 315 P **P 14 30 00.1 -1.5**
TIXI Tiksi 62.53 1 P **P 14 30 21.3 -0.1**
TIXI IAmb IAmb 14 30 42.8
comp=Z,12nm,1.0s
BRVK Borovoye 63.07 326 P **P 14 30 24.0 -1.3**
BKZ Black Stump Fm 66.48 140 P **P 14 30 48.5 +0.8**
GEYT Alibeck 67.75 307 P **P 14 30 56.2 +0.3**
comp=Z,12nm,0.8s,baz=190,slow=5.0,SNR=8.4
GEYT Alibeck 67.75 307 P **P 14 30 53.0 -2.9**
ABKAR Akbulak array 68.18 320 P **P 14 30 57.1 -1.2**
ABKAR Akbulak array 68.18 320 P **P 14 30 56.6 -1.7**
ABKAR IAmb IAmb 14 30 59.8
comp=Z,10nm,1.1s
ARU Arti 70.56 327 P **P 14 31 11.1 -1.7**
ARU IAmb IAmb 14 31 13.7
comp=Z,14nm,0.8s
CASY Casey 76.11 187 P **P 14 31 45.4 +0.3**
KBZ Khabaz 79.47 313 P **P 14 32 03.6 -0.8**
comp=Z,3.7nm,1.0s,baz=104,slow=4.4,SNR=5.4
KBZ LR LR 15 14 32.7
comp=Z,53nm,18.2s,baz=68,slow=41
ILAR Eielson Array 80.24 26 P **P 14 32 08.1 -0.1**
comp=Z,0.9nm,0.6s,baz=238,slow=5.4,SNR=17
ILAR LR LR 15 08 01.2
comp=Z,44nm,20.8s,baz=288,slow=36
KLMR Klimovskoe 80.87 330 *e*P **P 14 32 10.0 -1.6**
KLMR AMP 14 32 12.0
comp=Z,14nm,0.7s
HYT Haines Junctio 84.87 29 P **P 14 32 31.3 -1.2**
INK Inuvik 85.16 22 P **P 14 32 34.3 +0.7**
INK IAmb IAmb 14 33 24.7
comp=Z,17nm,1.6s
ARCES ARCESS Array B 85.52 340 P **P 14 32 35.1 -0.3**
comp=Z,7.7nm,0.7s,baz=77,slow=4.5,SNR=22
ARCES LR LR 15 15 23.5
comp=Z,53nm,20.1s,baz=45,slow=39
ARCES ARCESS Array B 85.52 340 P **P 14 32 35.4 0.0**
ARCES IAmb IAmb 14 32 36.8
comp=Z,11nm,0.9s
PPT Papeete 86.60 108 LR LR 15 05 12.3
comp=Z,41nm,19.0s,baz=312,slow=31
PPT2 Papeete2 86.61 108 *e*LR LR 15 00 15.3
comp=Z,93nm,25.2s
BRTR Keskin Array B 86.77 310 P **P 14 32 41.2 -1.1**
comp=Z,0.9nm,0.8s,baz=95,slow=4.4,SNR=5.0
BRTR LR LR 15 16 45.7
comp=Z,40nm,19.8s,baz=110,slow=39
FINES FINESS Array B 87.23 332 P **P 14 32 43.5 -0.4**
comp=Z,2.4nm,0.6s,baz=76,slow=5.1,SNR=18
FINES FINESS Array B 87.23 332 P **P 14 32 43.3 -0.6**
TBI Tubuai 87.78 114 *e*S **S 14 43 23.1 -1.6**
comp=Z,37nm,26.2s
TBI Tubuai 87.78 114 *e*LR LR 15 00 38.0
comp=Z,93nm,32.2s
AKASG Malin Array Be 87.88 321 P **P 14 32 46.1 -1.1**
comp=Z,0.2nm,0.3s,baz=60,slow=5.7,SNR=4.2
MNK Minsk 87.88 325 *i* P **P 14 32 42.7 -4.4**
comp=E,5.0nm,1.0s
MNK *i* P **P 14 32 42.7 -4.4**
comp=N,40nm,1.1s
MNK *i* P **P 14 32 42.7 -4.4**
comp=Z,17nm,0.8s,baz=259
MNK *i* PP **PP 14 36 08.6 -5.1**
MNK *i* PPP PPP 14 38 04.0
MNK *i* SKS SKiKP 14 41 35.3 +17
MNK *i* S **SKSac 14 43 07.2 -2.1**
MNK *i* SS **SS 14 49 11.8 -0.8**
MNK *i* SSS SSS 14 52 45.8
MNK *i* LQ LQ 15 05 49.3
MNK *i* LR LR 15 09 17.6
MNK *i* LRM MLR 15 13 36.3
comp=N,1μm,22.5s
MNK *i* LRM MLR 15 13 40.8
comp=E,40nm,16.0s
MNK *i* LRM MLR 15 13 45.9
comp=Z,646nm,22.6s
VNDA Vanda 88.67 173 P **P 14 32 50.6 +0.2**
comp=Z,1.0nm,0.4s,baz=303,slow=7.2,SNR=3.5
VNDA LR LR 15 13 51.8
comp=Z,56nm,19.1s,baz=3.0,slow=36
VNDA Vanda 88.67 173 P **P 14 32 50.8 +0.4**
MAW Mawson 88.80 200 P **P 14 32 51.1 0.0**
comp=Z,2.5nm,0.8s,baz=29,slow=7.2,SNR=4.0
MAW Mawson 88.80 200 P **P 14 32 51.1 0.0**
KMBO Kilima Mbogo 89.83 269 P **P 14 32 57.8 +0.3**
comp=Z,1.3nm,0.4s,baz=48,slow=11,SNR=3.7
NB2 NORSAR Subarra 94.10 334 P **P 14 33 14.9 -1.1**
comp=Z,1.6nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 94.10 334 P **P 14 33 14.9 -1.1**
comp=Z,0.8nm,0.7s,baz=66,slow=4.6,SNR=5.8
NOA LR LR 15 18 25.9
comp=Z,54nm,20.2s,baz=70,slow=37
YKA Yellowknife Ar 94.59 24 P **P 14 33 19.2 +1.1**
comp=Z,2.5nm,0.8s,baz=299,slow=4.0,SNR=4.7
CLL Collm 97.42 325 *e*(pP) pP 14 33 46.0 -2.4
GERES GERESS Array B 98.01 322 P **P 14 33 33.9 -0.3**
comp=Z,0.4nm,0.5s,baz=64,slow=6.8,SNR=1.3
PDAR Pinedale Array 107.21 40 PKKP 14 49 57.2
comp=Z,0.1nm,0.4s,baz=116,slow=4.1,SNR=2.3
TXAR Lajitas Array 118.12 50 PKP **PKiKP 14 38 47.2 +2.0**
comp=Z,0.3nm,0.6s,baz=40,slow=1.0,SNR=4.5
TORD Torodi Ar. Bea 121.28 291 PKP **PKPdf 14 38 51.1 -0.4**
comp=Z,2.1nm,0.8s,baz=48,slow=2.2,SNR=11
PLCA Paso Flores 144.87 157 PKP **PKPdf 14 39 35.1 +0.2**
comp=Z,4.5nm,0.9s,baz=187,slow=8.1,SNR=3.5

IDC 17 14:32:01.6±7.7, 17°.41S×178°.92W, h538km±20km, mb2.8/3, mb1 3.0/4, mb1mx2.7/37, mbtmp3.6/4, Error ellipse: s-maj=317.4km s-min=34.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.91**	**263**	P	P	14 33 15.2	+0.1
	0.6nm,0.3s,baz=142,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**44.24**	**259**	P	P	14 39 23.1	-0.6
	0.7nm,0.9s,baz=95,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**44.46**	**254**	P	P	14 39 25.4	+0.1
	1.3nm,0.4s,baz=90,slow=8.0,SNR=38						
ILAR	**Eielson Array**	**85.51**	**13**	P	P	14 43 42.2	-0.1
	0.2nm,0.4s,baz=226,slow=5.3,SNR=1.9						

*IDC **17** 14:40:40.8±4.1, 10°.61S×113°.30E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.2/43, mbtmp3.1/3, Error ellipse: s-maj=229.1km s-min=29.0km az=45.0*
*DJA **17** 14:40:41.1±0.7, 10°.5±16°×11°.4E±°, h121km±23km, M3.6/9, mb3.6/1, MLv3.5/9*
ISC 17 14:40:39.2±1.6, 9°.7S±0°.1×113°.54E±0°.09, h10km, n16, σ0.66/12, mb3.0/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.36**	**26**	P	**Pg**	**14 41 05.9**	**+0.5**
ABJI	**Asem Bagus**	**2.01**	**20**	P	**Pn**	**14 41 13.9**	**+0.7**
SRBI	**Singaraja**	**2.30**	**46**	P	**Pn**	**14 41 16.9**	**-0.3**
PWJI	**Pagerwojo**	**2.39**	**314**	P	**Pn**	**14 41 17.5**	**-1.0**
KMMI	**Kalianget**	**2.67**	**9**	P	**Pn**	**14 41 21.2**	**-1.0**
PCJI	**Pacitan**	**2.77**	**302**	P	**Pn**	**14 41 23.4**	**-0.3**
TWSI	**Taliwang, Sumb**	**3.43**	**74**	P	**Pn**	**14 41 32.2**	**-0.6**
UGM	**Wanagama**	**3.47**	**301**	P	**Pn**	**14 41 33.5**	**+0.2**
PLAI	**Plampang**	**4.27**	**79**	P	**Pn**	**14 41 44.6**	**+0.3**
EDFI	**Ende, Flores**	**8.10**	**84**	P	**Pn**	**14 42 36.3**	**-0.7**
WRA	**Warramunga Arr**	**22.51**	**119**	P	**P**	**14 45 39.3**	**+0.1**
	0.5nm,0.8s,baz=294,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**23.90**	**128**	P	**P**	**14 45 53.2**	**-0.1**
	0.2nm,0.6s,baz=301,slow=9.4,SNR=9.2						
H08S2	**Diego Garcia H**	**40.61**	**270**	T	T	15 31 18.1	
	baz=95						
H08S3	**Diego Garcia H**	**40.62**	**270**	T	T	15 31 47.7	
	baz=95						
H08S1	**Diego Carcia H**	**40.63**	**270**	T	T	15 31 29.1	
	baz=95						
MKAR	**Makanchi Array**	**62.78**	**336**	P	P	14 51 12.9	+8.1
	0.2nm,0.5s,baz=144,slow=8.5,SNR=2.1						

*MAN **17** 14:45:18.4, 9°.16N×126°.98E, h3km, mb5.1, ML4.1, MS4.1*
*IDC **17** 14:45:22.7±3.5, 9°.10N±126°.83E, h35km±28km, mb3.8/17, mb1 3.9/17, mb1mx3.8/43, mbtmp4.0/17, MS3.5/5, Ms1 3.5/5, ms1mx3.1/34, Error ellipse: s-maj=28.4km s-min=12.1km az=83.0*
*NEIC **17** 14:45:27.0±0.9, 9°.08N±0°.08×126°.9E±0°.2, h79km±5km, mb4.4/10, Error ellipse: s-maj=24.1km s-min=10.7km az=77.0*
ISC 17 14:45:23.0±0.5, 9°.23N±0°.06×126°.96E±0°.07, h38km, n48, σ1.79/46, mb4.1/22, MS3.4/3, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.37**	**251**	∥ *i*P	**Pn**	**14 45 57.9**	**-1.4**
CGP				*i* S	**Sn**	**14 46 27.9**	**+0.8**
DAV	**Davao City (W)**	**2.54**	**213**	Pg	**Pn**	**14 46 06.2**	**+4.5**
	65nm,0.3s,baz=306,slow=6.6,SNR=3.9						
DAV				Lg	Lg	14 46 40.2	
	56nm,0.3s,baz=324,slow=23,SNR=8.3						
DAV	**Davao City (W)**	**2.54**	**213**		**Pn**	**14 46 03.8**	**+2.0**
KCP	**Kidapawan**	**2.88**	**220**	∥ *e*P	**Pn**	**14 46 07.2**	**+0.7**
KCP				*i* S	**Sn**	**14 46 44.6**	**+4.7**
DCPH	**Dipolog City**	**3.62**	**260**	∥ *e*P	**Pn**	**14 46 17.9**	**+1.3**
SNPH	**Sibulan**	**3.68**	**272**	∥ *i*P	**Pn**	**14 46 17.6**	**+0.2**
SNPH				*i* S	**Sn**	**14 47 02.6**	**+3.0**
RCP	**Roxas**	**4.75**	**300**	∥ *e*P	**Pn**	**14 46 33.1**	**+1.0**
LQP	**Lukban**	**7.19**	**313**	*e*P	Pn	14 47 13.8	+7.9
TNTI	**Ternate**	**8.41**	**177**	Pn	**Pn**	**14 47 21.8**	**-0.6**
TOLI2	**Tolitoli**	**10.14**	**218**	Pn	**Pn**	**14 47 45.1**	**-1.0**
SIJI	**Sorong**	**10.91**	**157**	Pn	**Pn**	**14 47 58.8**	**+2.1**
	1.4nm,0.3s,baz=319,slow=17,SNR=1.8						
TPUB	**Ta-pu**	**15.25**	**337**	Pn	**P**	**14 48 58.9**	**-1.2**
TPUB				IAmb	IAmb	14 49 00.7	
	comp=Z,40nm,1.4s						
KAPI	**Kappang**	**15.87**	**207**	LR	LR	14 55 30.3	
	comp=Z,141nm,19.1s,baz=36,slow=39						
GUMO	**Guam**	**18.08**	**74**	LR	LR	14 57 15.9	
	comp=Z,107nm,18.9s,baz=252,slow=39						
KNRA	**Kununurra**	**24.81**	**176**	P	**P**	**14 50 39.9**	**-1.8**
KNRA				IAmb	IAmb	14 50 59.3	
	comp=Z,20nm,1.1s						
KSRS	**Korea Array**	**28.11**	**2**	P	**P**	**14 51 13.0**	**+1.7**
	comp=Z,1.0nm,1.0s,baz=240,slow=25,SNR=3.6						
KSRS				LR	LR	15 03 28.4	
	comp=Z,84nm,19.1s,baz=174,slow=38						
RPSI	**Rantau Prapat**	**28.61**	**259**	P	**P**	**14 51 14.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**28.67**	**292**	P	**P**	**14 51 15.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=111,slow=6.2,SNR=3.3						
CMAR				LR	LR	15 04 27.8	
	comp=Z,85nm,18.3s,baz=167,slow=40						
MJAR	**Matsushiro Arr**	**29.05**	**19**	LR	LR	15 02 28.4	
	comp=Z,115nm,19.4s,baz=190,slow=35						
WB0	**Warramunga Arr**	**29.73**	**166**	P	**P**	**14 51 23.6**	**-2.3**
WB0				IAmb	IAmb	14 51 34.3	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**29.89**	**166**	P	**P**	**14 51 25.3**	**-2.0**
	comp=Z,1.8nm,0.6s,baz=348,slow=9.4,SNR=18						
WRA				PcP	**PcP**	**14 54 30.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=338,slow=2.7,SNR=1.6						
WB2	**Warramunga Arr**	**29.89**	**166**	P	**P**	**14 51 25.1**	**-2.2**
WB2				IAmb	IAmb	14 51 35.9	
	comp=Z,7.0nm,0.8s						
WR0	**Warramunga Arr**	**29.95**	**166**	P	**P**	**14 51 25.8**	**-2.1**
WR0				IAmb	IAmb	14 51 44.5	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**33.39**	**168**	P	**P**	**14 51 56.3**	**-1.8**
ASAR	**Alice Springs**	**33.39**	**168**	P	**P**	**14 51 56.4**	**-1.7**
	comp=Z,2.0nm,0.4s,baz=353,slow=6.7,SNR=50						
ASAR				PcP	**PcP**	**14 54 39.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=336,slow=3.0,SNR=3.9						
ASAR	**Alice Springs**	**33.39**	**168**	P	**P**	**14 51 56.3**	**-1.8**
USRK	**Ussuriysk Ar.**	**35.11**	**6**	P	**P**	**14 52 14.5**	**+1.8**
	comp=Z,2.1nm,0.8s,baz=200,slow=5.1,SNR=6.7						
ASAJ	**Asahikawa**	**37.32**	**19**	P	**P**	**14 52 33.5**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=254,slow=17,SNR=2.4						
H11S3	**WAKE ISLAND Hy**	**39.58**	**72**	T	T	15 35 56.1	
	baz=262,slow=74,SNR=29						
H11S1	**WAKE ISLAND Hy**	**39.59**	**72**	T	T	15 36 02.2	
	baz=262,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**39.59**	**72**	T	T	15 35 58.1	
	baz=262,slow=74,SNR=11						
KLR	**Kul'dur**	**40.07**	**5**	P	**P**	**14 52 56.2**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=260,slow=8.3,SNR=2.4						
SONM	**Songino Array**	**42.23**	**339**	P	**P**	**14 53 13.3**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=145,slow=11,SNR=3.3						
NWAO	**Narrogin (SRO)**	**42.93**	**192**	P	**P**	**14 53 17.9**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=30,slow=7.7,SNR=6.4						
STKA	**Stephens Creek**	**43.20**	**162**	P	**P**	**14 53 19.5**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=330,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**43.20**	**162**	P	**P**	**14 53 17.6**	**-2.9**
MK31	**Makanchi Array**	**53.26**	**323**	P	**P**	**14 54 37.9**	**-0.1**
MK31				IAmb	IAmb	14 54 48.9	
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**53.26**	**323**	P	**P**	**14 54 37.6**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=123,slow=7.8,SNR=23						
MKAR	**Makanchi Array**	**53.26**	**323**	P	**P**	**14 54 37.9**	**-0.1**
ZALV	**Zalesovo Beam**	**55.86**	**331**	P	**P**	**14 54 56.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.2,SNR=3.7						
KKAR	**Karatay Array**	**59.46**	**315**	P	**P**	**14 55 21.8**	**-0.5**
ILAR	**Eielson Array**	**80.08**	**26**	P	**P**	**14 57 30.0**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=264,slow=5.2,SNR=4.7						
INK	**Inuvik**	**85.00**	**22**	P	**P**	**14 57 56.3**	**+2.2**
	comp=Z,2.4nm,1.1s,baz=335,slow=7.3,SNR=2.5						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**14 57 56.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=80,slow=6.1,SNR=16						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**14 57 56.2**	**0.0**
FINES	**FINESS Array B**	**87.12**	**332**	P	**P**	**14 58 04.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=103,slow=4.1,SNR=8.9						
FINES	**FINESS Array B**	**87.12**	**332**	P	**P**	**14 58 02.9**	**-1.9**
VNDA	**Vanda**	**88.82**	**173**	P	**P**	**14 58 11.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=321,slow=8.7,SNR=2.6						

IDC 17 14:51:56.8±2.1, 3°.69S×145°.18E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/33, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=313.1km s-min=31.3km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**161**	P	P	14 56 37.5	+0.8
	1.0nm,0.3s,baz=202,slow=16,SNR=2.3			Sn	Sn		
WRA	**Warramunga Arr**	**19.30**	**212**	P	P	14 56 23.4	-0.2
	0.5nm,0.3s,baz=40,slow=9.9,SNR=16						
ASAR	**Alice Springs**	**22.65**	**208**	P	P	14 56 59.8	-0.1
	1.0nm,0.5s,baz=35,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**84.09**	**24**	P	P	15 04 29.5	+0.2
	0.2nm,0.7s,baz=255,slow=5.1,SNR=2.5						

*IDC **17** 15:59:10.3±3.8, 5°.61S×104°.98E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/42, mbtmp3.7/4, Error ellipse: s-maj=217.1km s-min=28.3km az=51.0*
*DJA **17** 15:59:21.4±0.6, 6°.5±4°×10°.5E±°, h23km±6km, M4.2/17, mb4.5/6, mB4.9/1, MLv4.0/17, Mw(mB)4.2/1*
ISC 17 15:59:19.3±1.3, 6°.15S±0°.09×104°.70E±0°.09, h35km, n27, σ2.71/21, mb3.6/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.65**	**342**	P	**Pn**	**15 59 34.4**	**+2.3**
KASI				S	**Sn**	**15 59 42.5**	**+1.3**
BLSI	**Bandar Lampung**	**0.94**	**35**	P	**Pn**	**15 59 37.2**	**+1.1**
BLSI				S	**Sn**	**15 59 48.5**	**+0.1**
CGJI	**Cibinong**	**1.09**	**115**	S	**Sn**	**15 59 55.0**	**+3.1**
LWLI	**Liwa**	**1.29**	**330**	P	**Pn**	**15 59 44.1**	**+3.1**
MDSI	**Maura Dua**	**1.73**	**342**	P	**Pn**	**15 59 49.1**	**+2.1**
TNG	**Tangerang**	**1.93**	**91**	P	**Pn**	**15 59 50.9**	**+1.2**
TNG				P	**Pn**	**15 59 52.1**	**+2.4**
DBJI	**Dramaga**	**2.07**	**101**	P	**Pn**	**15 59 53.4**	**+1.7**
CBJI	**Citeko**	**2.15**	**97**	P	**Pn**	**15 59 56.9**	**+4.2**
LHSI	**Lahat**	**2.59**	**333**	P	**Pn**	**16 00 01.9**	**+3.2**
CNJI	**Cibinong**	**2.67**	**116**	P	**Pn**	**16 00 01.4**	**+1.5**
LEM	**Lembang**	**2.97**	**103**	P	**Pn**	**16 00 06.9**	**+2.7**
KPJI	**Karang Pucung**	**4.36**	**106**	P	**Pn**	**16 00 25.7**	**+2.6**
SMRI	**Semarang**	**5.77**	**99**	P	**Pn**	**16 00 43.6**	**+1.1**
	0.5nm117nm,1.7s						
UGM	**Wanagama**	**6.04**	**107**	P	**Pn**	**16 00 48.7**	**+2.5**
	0.8nm106nm,2.4s						
PCJI	**Pacitan**	**6.74**	**108**	P	**Pn**	**16 00 57.8**	**+2.0**
	0.4nm82nm,2.0s						
PWJI	**Pagerwojo**	**7.29**	**105**	P	**Pn**	**16 01 05.7**	**+2.3**
	0.2nm22nm,1.6s						
H01W3	**Cape Leeuwin H**	**29.89**	**164**	T	T	16 36 01.5	
	baz=345,slow=76,SNR=7.6						
H01W1	**Cape Leeuwin H**	**29.91**	**164**	T	T	16 36 01.8	
	baz=345,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**29.91**	**164**	T	T	16 36 02.1	
	baz=345,slow=76,SNR=7.2						
WRA	**Warramunga Arr**	**31.88**	**118**	P	P	16 05 37.7	-4.0
	0.2nm,0.3s,baz=292,slow=9.7,SNR=11						
H08S2	**Diego Garcia H**	**32.01**	**265**	T	T	16 39 27.2	
	baz=89,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**32.02**	**265**	T	T	16 39 27.6	
	baz=89,slow=75,SNR=14						
H08S1	**Diego Carcia H**	**32.03**	**265**	T	T	16 39 28.2	
	baz=89,slow=75,SNR=12						
ASAR	**Alice Springs**	**33.04**	**125**	P	P	16 05 48.6	-3.2
	0.8nm,0.6s,baz=296,slow=7.9,SNR=23						
STKA	**Stephens Creek**	**42.91**	**131**	P	**P**	**16 07 12.3**	**-2.5**
	1.2nm,0.6s,baz=313,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**56.34**	**342**	P	P	16 08 50.4	-6.5
	0.2nm,0.4s,baz=153,slow=8.4,SNR=2.3						
TXAR	**Lajitas Array**	**144.66**	**46**	PKP	**PKPab**	**16 18 46.9**	**-5.0**
	0.2nm,0.6s,baz=288,slow=1.1,SNR=4.0						

*INET **17** 16:02:48.4, 10°.57N×86°.56W, h15km, MW4.4*
*IDC **17** 16:02:54.8±2.0, 10°.71N×86°.62W, h0km, mb3.4/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.4/3, MS3.5/7, Ms1 3.5/7, ms1mx3.3/18, Error ellipse: s-maj=91.9km s-min=19.6km az=28.0*
*UCR **17** 16:02:59.3±1.7, 10°.97N×86°.44W, h20km, MW4.7*
ISC 17 16:02:57.6±2.4, 10°.92N±0°.06×86°.51W±0°.06, h16km±15km, n45, σ1.09/50, mb3.3/3, MS3.5/6, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.92**	**103**	*e*P	**Pb**	**16 03 15.1**	**-0.1**
HZTE				*e*S	**Sg**	**16 03 28.0**	**+0.5**
GBS3	**Finca Las Img**	**1.04**	**98**	*i* P	**Pb**	**16 03 16.6**	**-0.7**
GBS3				*i* S	**Sb**	**16 03 31.1**	**+0.4**
LAPC	**Finca la Perla**	**1.07**	**98**	*i* P	**Pb**	**16 03 16.8**	**-0.9**
LAPC				*i* S	**Sb**	**16 03 30.3**	**-1.1**
BUEV	**Buena Vista**	**1.09**	**97**	*e*P	**Pb**	**16 03 17.8**	**-0.2**
BUEV				*i* S	**Sb**	**16 03 32.5**	**+0.4**
GB1A	**Borinquen Arri**	**1.09**	**95**	*i* P	**Pb**	**16 03 18.0**	**-0.2**
MASN	**Masaya**	**1.11**	**18**	*e*P	**Pb**	**16 03 17.9**	**-0.6**
VRLE	**La Escondida,**	**1.13**	**97**	*e*P	**Pb**	**16 03 18.4**	**-0.4**
GPS2	**Hotel Rincn d**	**1.15**	**98**	*e*P	**Pn**	**16 03 18.7**	**-0.3**
GPS2				*i* S	**Sb**	**16 03 33.7**	**-0.1**
BUAI	**Buenos Aires**	**1.16**	**92**	*i* P	**Pn**	**16 03 18.9**	**-0.3**
BUAI				*i* S	**Sn**	**16 03 34.8**	**+0.2**
SAJU	**San Juanillo,**	**1.16**	**137**	*e*P	**Pn**	**16 03 18.0**	**-1.1**
LIM1	**Limonal**	**1.25**	**100**	*i* P	**Pn**	**16 03 19.9**	**-0.6**
LIM1				*i* S	**Sb**	**16 03 36.3**	**-0.6**
GUAB	**Guayabo de Bag**	**1.27**	**100**	*i* P	**Pn**	**16 03 20.3**	**-0.4**
GRZA	**Playa Garza**	**1.32**	**139**	*e*P	**Pn**	**16 03 20.4**	**-0.9**
HORNC	**Hornillas**	**1.32**	**99**	*i* P	**Pn**	**16 03 21.2**	**-0.2**
HORNC				*i* S	**Sb**	**16 03 38.6**	**-0.2**
CUI	**Cuipilapa**	**1.34**	**101**	*i* P	**Pn**	**16 03 21.7**	**0.0**
ACAL	**Aguas Claras**	**1.47**	**101**	*i* P	**Pn**	**16 03 24.0**	**+0.4**
JTS	**Las Juntas de**	**1.65**	**112**	Pn	**Pn**	**16 03 26.3**	**+0.4**
	89nm,0.3s,baz=18,slow=6.0,SNR=143						
JTS				Sn	**Sb**	**16 03 48.7**	**+0.4**
	253nm,0.3s,baz=5.7,slow=18,SNR=9.2						
JTS	**Las Juntas de**	**1.65**

WRA	**Warramunga Arr**	**139.71 252**	PKP	**PKPdf**	**16 22 24.5**	**-1.2**
	0.6nm,0.8s,baz=91,slow=2.4,SNR=2.0					
CMAR	**Chiang Mai Arr**	**150.31 350**	PKPbc	**PKPbc**	**16 22 47.7**	**-1.4**
	0.8nm,0.7s,baz=350,slow=3.7,SNR=5.4					

*IDC **17** 16:12:57.3±1.5,23°.56S×179°.91E,h516km±15km,mb3.0/7, mb1 3.1/8,mb1mx3.0/20,mbtmp3.9/8,Error ellipse: s-maj=23.0km s-min=16.8km az=80.0*

ISC 17 16:12:58.0±0.8,23°.63S±0°.08×180°.0E±0°.2,h535km,n41, σ1$45/42,mb3.4/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.90**	**162**	P	**P**	**16 14 35.0**	**+0.1**
	101nm,0.3s,baz=63,slow=24,SNR=5.5						
MSVF	**Nonsavu**	**6.14**	**342**	P	**P**	**16 14 35.6**	**-1.9**
	3.1nm,0.3s,baz=184,slow=16,SNR=18						
MXZ	**Matakaoa Point**	**13.96**	**186**	P	**P**	**16 15 57.2**	**+0.5**
HAZ	**Te Kaha**	**14.21**	**187**	P	**P**	**16 15 58.1**	**-1.2**
WMGZ	**Waiomatatini S**	**14.21**	**185**	P	**P**	**16 16 00.1**	**+0.7**
PKGZ	**Pakihiroa**	**14.31**	**186**	P	**P**	**16 16 00.4**	**0.0**
RUGZ	**Raukumara Rang**	**14.43**	**187**	P	**P**	**16 16 01.6**	**-0.1**
OPRZ	**Ohinepanea**	**14.47**	**191**	P	**P**	**16 16 04.1**	**+2.0**
PUZ	**Puketiti**	**14.47**	**186**	P	**P**	**16 16 02.4**	**+0.3**
TWGZ	**Tauwhareparae**	**14.61**	**186**	P	**P**	**16 16 02.3**	**-1.2**
KARZ	**Kaharoa**	**14.70**	**192**	P	**P**	**16 16 04.5**	**+0.1**
URZ	**Urewera**	**14.79**	**189**	P	**P**	**16 16 02.4**	**-3.0**
	4.9nm,0.3s,baz=0.4,slow=1.3,SNR=41						
URZ				S	**S**	**16 18 35.7**	**-4.1**
	0.9nm,0.3s,baz=48,slow=23,SNR=14						
URZ	**Urewera**	**14.79**	**189**	P	**P**	**16 16 03.2**	**-2.2**
MUGZ	**Murupara**	**15.06**	**190**	P	**P**	**16 16 07.4**	**-0.7**
RAHZ	**Arahi**	**15.44**	**189**	P	**S**	**16 18 51.9**	**+0.1**
BKZ	**Black Stump Fm**	**15.77**	**190**	P	**S**	**16 18 57.6**	**0.0**
MCHZ	**McNeill Hill**	**16.02**	**189**	P	**S**	**16 19 02.2**	**+0.5**
KWHZ	**Kaweka Forest**	**16.04**	**190**	P	**S**	**16 18 59.6**	**-2.5**
BHHZ	**Black Hill Sta**	**16.16**	**191**	P	**S**	**16 19 04.1**	**-0.1**
KAHZ	**Kahuranaki**	**16.33**	**189**	P	**S**	**16 19 04.7**	**-2.4**
PXZ	**Pawanui**	**16.57**	**188**	P	**S**	**16 19 10.5**	**-0.3**
WPHZ	**Waipukurau**	**16.66**	**190**	P	**S**	**16 19 11.3**	**-1.2**
TSZ	**Takapari Road**	**16.73**	**191**	P	**S**	**16 19 12.6**	**-1.2**
PRHZ	**Porangahau**	**16.83**	**189**	P	**S**	**16 19 13.5**	**-1.8**
ANWZ	**Angora Road**	**17.04**	**189**	P	**S**	**16 19 18.7**	**-0.1**
BFZ	**Birch Farm**	**17.30**	**190**	P	**S**	**16 19 22.2**	**-0.7**
MRZ	**Mangatainoka R**	**17.39**	**191**	P	**S**	**16 19 24.4**	**+0.1**
STKA	**Stephens Creek**	**34.82**	**248**	P	**P**	**16 19 04.5**	**+0.2**
	0.7nm,0.5s,baz=101,slow=15,SNR=5.7						
ASAR	**Alice Springs**	**42.08**	**260**	P	**P**	**16 20 03.3**	**0.0**
	0.5nm,0.7s,baz=96,slow=6.5,SNR=16						
ASAR				ScP	**ScP**	**16 24 49.3**	**+3.9**
	0.6nm,0.8s,baz=111,slow=4.6,SNR=6.1						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**16 20 05.5**	**-0.6**
	0.4nm,0.4s,baz=93,slow=8.3,SNR=20						
VNDA	**Vanda**	**54.65**	**185**	P	**P**	**16 21 37.2**	**+1.3**
	0.9nm,0.7s,baz=6.7,slow=8.3,SNR=7.5						
MAW	**Mawson**	**78.00**	**200**	P	**P**	**16 24 01.6**	**+0.9**
	1.7nm,0.6s,baz=137,slow=7.1,SNR=8.5						
PETK	**Petropavlovsk-**	**78.84**	**347**	P	**P**	**16 24 04.9**	**-0.4**
	2.0nm,0.6s,baz=131,slow=7.9,SNR=7.1						
USRK	**Ussuriysk Ar.**	**80.54**	**327**	P	**P**	**16 24 15.1**	**+0.7**
	0.7nm,0.5s,baz=129,slow=3.9,SNR=3.3						
SNAA	**Sanae**	**84.94**	**179**	P	**P**	**16 24 35.8**	**-0.5**
VNA3	**Neumayer Olymp**	**85.14**	**177**	P	**P**	**16 24 36.8**	**-0.5**
FINES	**FINESS Array B**	**138.19**	**342**	PKP	**PKPdf**	**16 31 22.1**	**+0.4**
	0.7nm,0.6s,baz=116,slow=3.2,SNR=3.7						
NOA	**NORSAR Array B**	**141.81**	**351**	PKhKP	PKPpre	16 31 22.9	
	0.4nm,0.6s,baz=15,slow=4.6,SNR=3.5						
AKASG	**Malin Array Be**	**144.74**	**327**	PKP	**PKPdf**	**16 31 33.1**	**-0.5**
	0.7nm,0.3s,baz=46,slow=4.6,SNR=4.6						
BRTR	**Keskin Array B**	**147.41**	**308**	PKPbc	**PKiKP**	**16 31 44.6**	**+0.9**
	0.7nm,0.6s,baz=71,slow=2.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.45**	**189**	PKPab	**PKPab**	**16 33 21.2**	**-0.1**
	0.9nm,0.7s,baz=167,slow=5.3,SNR=4.0						

*IDC **17** 16:31:49.9±2.5, 19°.37S×69°.21W,h118km±19km,mb3.5/2, mb1 3.5/6,mb1mx3.3/32,mbtmp3.8/6,Error ellipse: s-maj=49.5km s-min=14.7km az=99.0*

*GUC **17** 16:31:49.8±0.7, 19°.29S×69°.36W,h99km±3km,ML3.9*

ISC 17 16:31:48.4±1.0,19°.31S±0°.04×69°.45W±0°.08,h107km±8km, n25,σ1$06/32,7C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.23**	**322**	⇑*iP*	**Pn**	**16 32 04.0**	**+0.1**
MNMC				*i* S	**Sn**	**16 32 15.2**	**-0.3**
MNMC				IAML		16 32 18.4	
	comp=E,16μm,0.2s						
PB11	**IPOC Station P**	**0.49**	**204**	⇓*iP*	**Pn**	**16 32 05.5**	**+0.4**
PB11				*i* S	**Sn**	**16 32 17.4**	**-0.1**
PB11				IAML		16 32 18.7	
	comp=N,5μm,0.2s						
PSGC	**Pisagua**	**0.70**	**246**	⇓*iP*	**Pn**	**16 32 07.0**	**+0.5**
PSGC				*i* S	**Sn**	**16 32 20.4**	**+0.2**
PSGC				IAML		16 32 24.4	
	comp=N,3μm,0.3s						
PB08	**IPOC Station P**	**0.87**	**162**	⇓*iP*	**Pn**	**16 32 09.2**	**+0.8**
PB08				*i* S	**Sn**	**16 32 24.0**	**+0.5**
PB08				IAML		16 32 25.9	
	comp=E,3μm,0.2s						
TA02	**Huaiquique**	**1.15**	**214**	⇑*iP*	**Pn**	**16 32 11.9**	**+0.9**
TA02				*i* S	**Sn**	**16 32 29.2**	**+1.2**
TA02				IAML		16 32 32.5	
	comp=E,4μm,0.1s						
AP01	**Chacalluta**	**1.27**	**318**	⇑*iP*	**Pn**	**16 32 12.9**	**+0.6**
AP01				*e*S	**Sn**	**16 32 31.2**	**+0.9**
AP01				IAML		16 32 32.9	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**1.43**	**209**	⇑*iP*	**Pn**	**16 32 14.5**	**+0.4**
TA01				*i* S	**Sn**	**16 32 34.2**	**+0.5**
TA01				IAML		16 32 40.0	
	comp=N,868nm,0.3s						
PB01	**IPOC Station P**	**1.72**	**181**	⇓*iP*	**Pn**	**16 32 18.7**	**+0.8**
PB01				*i* S	**Sn**	**16 32 40.9**	**+0.6**
PB01				IAML		16 32 42.9	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**2.04**	**192**	⇓*iP*	**Pn**	**16 32 22.9**	**+1.0**
PB02				*e*S	**Sn**	**16 32 48.2**	**+0.7**
PB02				IAML		16 32 56.8	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**2.44**	**190**	⇑*iP*	**Pn**	**16 32 28.3**	**+1.2**
PB07				*i* S	**Sn**	**16 32 56.7**	**-0.1**
PB07				IAML		16 33 06.6	
	comp=E,632nm,0.6s						
PB09	**IPOC Station P**	**2.48**	**176**	⇓*iP*	**Pn**	**16 32 29.1**	**+1.5**
PB09				*i* S	**Sn**	**16 32 58.8**	**+1.1**
PB09				IAML		16 33 08.5	
	comp=E,412nm,0.4s						
PB03	**IPOC Station P**	**2.74**	**186**	⇑*iP*	**Pn**	**16 32 32.6**	**+1.6**
PB03				*e*S	**Sn**	**16 33 01.4**	**-2.4**
PB03				IAML		16 33 11.4	
	comp=E,290nm,0.2s						
LPAZ	**La Paz**	**3.26**	**23**	P	**Pn**	**16 32 40.2**	**+1.9**
	comp=E,2.4nm,0.3s,baz=188,slow=9.4,SNR=60						
LVC	**Limon Verde**	**3.32**	**171**	P	**Pn**	**16 32 40.5**	**+1.6**
	comp=E,8.6nm,0.3s,baz=356,slow=9.4,SNR=35						
LVC				S	**Sn**	**16 33 18.1**	**+0.2**
	comp=E,48nm,0.3s,baz=22,slow=19,SNR=30						
PB05	**IPOC Station P**	**3.59**	**191**	⇑*iP*	**Pn**	**16 32 42.9**	**+0.6**
PB05				*e*S	**Sn**	**16 33 25.0**	**+0.9**
PB05				IAML		16 33 38.4	
	comp=N,157nm,0.5s						
SIV	**San Ignacio**	**8.64**	**69**	P	Pn	16 33 47.7	-2.9
	comp=N,1.0nm,0.3s,baz=267,slow=12,SNR=13						
SIV				S	Sn	16 35 19.3	-7.1
	comp=N,0.1nm,0.3s,baz=320,slow=19,SNR=2.0						
CPUP	**Villa Florida**	**13.17**	**124**	P	**Pn**	**16 34 49.9**	**-1.4**
	comp=N,0.2nm,0.3s,baz=305,slow=15,SNR=4.7						
BDFB	**Brasilia**	**20.76**	**83**	P	**P**	**16 36 21.4**	**+0.4**
	comp=N,2.7nm,0.6s,baz=249,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P	**P**	**16 43 29.5**	**-1.2**
	comp=N,0.8nm,0.5s,baz=254,slow=5.5,SNR=6.9						
H11S2	**WAKE ISLAND Hyl27.08 279**			T	T	19 10 09.4	
	baz=101,slow=74,SNR=7.5						
H11S1	**WAKE ISLAND Hyl27.08 279**			T	T	19 10 13.2	
	baz=101,slow=74,SNR=9.0						
H11S3	**WAKE ISLAND Hyl27.09 279**			T	T	19 10 13.1	
	baz=101,slow=74,SNR=9.1						
H11N3	**WAKE ISLAND Hyl27.10 280**			T	T	19 10 15.1	
	baz=100,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hyl27.11 280**			T	T	19 10 15.8	
	baz=100,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hyl27.12 280**			T	T	19 10 18.2	
	baz=100,slow=74,SNR=4.8						

*IDC **17** 16:41:25.0±1.3,33°.95N×34°.17E,h0km,mb3.7/3, mb1 3.9/8,mb1mx3.5/48,mbtmp3.8/8,ML3.3/5,MS2.7/2, Ms1 2.7/2,ms1mx2.1/51,Error ellipse: s-maj=29.3km s-min=15.2km az=57.0*

*ISK **17** 16:41:25.9,33°.92N×34°.05E,h11km,ML3.7/34*

*HLW **17** 16:41:27.4,33°.85N×33°.85E,h10km±12km,Ml4.2*

*NIC **17** 16:41:28.9±0.0,33°.88N×33°.94E,h35km±46km,Ml3.7/11*

*JSO **17** 16:41:29.4±0.5,34°.N±5°×3°.4E±°,h0km,Mjma3.6/13, MLv3.7/13,Ms3.9/6*

*GRAL **17** 16:41:29.9±0.4,34°.02N×34°.14E,h11km±8km,MD3.9*

*GII **17** 16:41:32.0±0.2,33°.83N×33°.98E,h31km,MD3.5/11, Mm3.2/7*

ISC 17 16:41:27.3±0.8,33°.87N±0°.02×33°.97E±0°.02,h20km±5km, n119,σ1$12/160,mb3.6/3,1C-2D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**1.09**	**327**	⇓*iP*	**Pn**	**16 41 47.1**	**-0.3**
ASGA				S	**Sb**	**16 42 00.9**	**-0.4**
ASGA				AML	AML	16 42 03.1	
	2.8nm,0.3s						
ASGA				AML	AML	16 42 03.1	
	2.8nm,0.3s						
ASGA				AML	AML	16 42 04.1	
	3.6nm,0.3s						
ASGA				AML	AML	16 42 04.1	
	3.6nm,0.3s						
PARAL	**Paralimni**	**1.12**	**3**	⇓*iP*	**Pn**	**16 41 47.6**	**-0.2**
PARAL				AML	AML	16 42 02.1	
	3.8nm,1.0s						
PARAL				AML	AML	16 42 02.1	
	3.8nm,1.0s						
PARAL				S	**Sn**	**16 42 02.3**	**-0.3**
PARAL				AML	AML	16 42 05.0	
	3.3nm,0.4s						
PARAL				AML	AML	16 42 05.0	
	3.3nm,0.4s						
MVOU	**Mavrovouni**	**1.17**	**346**	P	**Pn**	**16 41 47.8**	**-0.7**
MVOU				S	**Sb**	**16 42 02.9**	**-0.7**
MVOU				AML	AML	16 42 04.9	
	2.0nm,0.4s						
MVOU				AML	AML	16 42 04.9	
	2.0nm,0.4s						
CSS	**Mathiatis**	**1.21**	**334**	PN	**Pn**	**16 41 49.0**	**-0.1**
CSS	**Mathiatis**	**1.21**	**334**	⇑*iP*	**Pn**	**16 41 49.0**	**-0.1**
CSS				S	**Sb**	**16 42 04.7**	**0.0**
CSS	**Mathiatis**	**1.21**	**334**	Pg	**Pn**	**16 41 49.0**	**-0.1**
AKIN	**Akıncılar- Kıb**	**1.21**	**340**	PN	**Pb**	**16 41 49.5**	**-0.1**
SZAC	**Souni**	**1.26**	**315**	P	**Pn**	**16 41 50.0**	**+0.3**
SZAC				S	**Sb**	**16 42 07.1**	**+1.0**
SZAC				AML	AML	16 42 08.5	
	12nm,0.4s						
SZAC				AML	AML	16 42 08.5	
	12nm,0.4s						
SZAC				AML	AML	16 42 08.5	
	10nm,0.3s						
SZAC				AML	AML	16 42 08.5	
	10nm,0.3s						
BEYL	**Beirut**	**1.27**	**90**	*e*P	**Pn**	**16 41 49.2**	**-0.5**
HNTI	**Hanita**	**1.28**	**128**	Pg	**Pb**	**16 41 51.0**	**+0.4**
HNTI				Sg	**Sn**	**16 42 05.9**	**-0.6**
HNTI	**Hanita**	**1.28**	**128**	Pg	**Pb**	**16 41 51.2**	**+0.6**
DQRL	**Deir Qamar**	**1.34**	**97**	*e*P	**Pn**	**16 41 51.1**	**+0.2**
DQRL				*e*S	**Sn**	**16 42 07.0**	**-1.1**
ATHAL	**Athalassa**	**1.35**	**340**	P	**Pb**	**16 41 52.1**	**+0.2**
ATHAL				S	**Sb**	**16 42 09.3**	**+0.6**
ATHAL				AML	AML	16 42 10.1	
	4.7nm,0.9s						
ATHAL				AML	AML	16 42 10.1	
	4.7nm,0.9s						
ATHAL				AML	AML	16 42 17.9	
	5.7nm,0.9s						
ATHAL				AML	AML	16 42 17.9	
	5.7nm,0.9s						
BHL	**Bhannes**	**1.40**	**88**	*e*P	**Pn**	**16 41 51.7**	**0.0**
BHL				*e*S	**Sn**	**16 42 07.7**	**-2.0**
LFK	**Lefkose**	**1.45**	**346**	PN	**Pn**	**16 41 52.8**	**+0.4**
LFK				SN	**Sb**	**16 42 12.0**	**+0.4**
QRWL	**Qaraoun**	**1.46**	**102**	*e*P	**Pb**	**16 41 53.6**	**-0.2**
MMA0B	**Mount Meron ar**	**1.47**	**125**	Pn	**Pb**	**16 41 53.4**	**-0.5**
MMA0B				Sn	**Sn**	**16 42 10.9**	**-0.4**
MMAI	**Mount Meron Ar**	**1.47**	**125**	Pn	**Pn**	**16 41 52.2**	**-0.4**
	19nm,0.3s,baz=308,slow=12,SNR=110						
MMAI				Sn	**Sn**	**16 42 11.0**	**-0.4**
	98nm,0.3s,baz=306,slow=20,SNR=8.9						
NATA	**Nata**	**1.47**	**308**	P	**Pb**	**16 41 53.6**	**-0.4**
NATA				S	**Sn**	**16 42 11.4**	**+0.1**
NATA				AML	AML	16 42 15.1	
	5.5nm,0.4s						
NATA				AML	AML	16 42 15.1	
	5.5nm,0.4s						
NATA				AML	AML	16 42 16.4	
	7.2nm,0.3s						
NATA				AML	AML	16 42 16.4	
	7.2nm,0.3s						
OFRI	**`Ofer**	**1.51**	**146**	Pn	**Pn**	**16 41 53.9**	**+0.7**
OFRI				Sn	**Sn**	**16 42 11.0**	**-1.3**
OFRI	**`Ofer**	**1.51**	**146**	Pn	**Pb**	**16 41 54.1**	**-0.5**
BLGI	**Bet Lehem HaGe**	**1.53**	**138**	Pn	**Pb**	**16 41 54.3**	**-0.6**
BLGI				Sn	**Sn**	**16 42 11.9**	**-0.7**
BLGI	**Bet Lehem HaGe**	**1.53**	**138**	Pn	**Pb**	**16 41 55.7**	**+0.8**
LEF	**Lefka**	**1.53**	**325**	PN	**Pn**	**16 41 54.3**	**+0.9**
GEM	**Giv'at Ha'Em**	**1.56**	**115**	Pn	**Pb**	**16 41 55.0**	**-0.4**
GEM				Sn	**Sn**	**16 42 13.3**	**-0.1**
GEM	**Giv'at Ha'Em**	**1.56**	**115**	Pn	**Pb**	**16 41 55.3**	**-0.1**
NATI	**Neve Ativ**	**1.59**	**112**	Pn	**Pb**	**16 41 55.6**	**-0.4**
NATI				Sn	**Sn**	**16 42 13.6**	**-0.6**
NATI	**Neve Ativ**	**1.59**	**112**	Pg	**Pb**	**16 41 55.8**	**-0.2**
RCY	**Rachaya**	**1.60**	**103**	*e*P	**Pb**	**16 41 55.7**	**-0.5**
RCY				*e*S	**Sn**	**16 42 14.7**	**+0.1**
OSC2	**CSNet OBS 4**	**1.63**	**241**	P	**Pn**	**16 41 52.4**	**-2.4**
OSC2				S	**Sn**	**16 42 14.6**	**-0.7**
OSC2				AML	AML	16 42 16.6	
	73μm,0.1s						
OSC2				AML	AML	16 42 16.6	
	73μm,0.1s						
OSC2				AML	AML	16 42 20.2	
	68μm,0.2s						
OSC2				AML	AML	16 42 20.2	
	68μm,0.2s						
AKDN	**Akdeniz- Kıbrı**	**1.65**	**330**	PN	**Pn**	**16 41 55.7**	**+0.7**
EREN	**Erenkoy**	**1.66**	**6**	PN	**Pn**	**16 41 55.4**	**+0.2**
HWQ	**Hawqa**	**1.69**	**76**	*e*P	**Pn**	**16 41 55.8**	**+0.1**
HWQ				*e*S	**Sn**	**16 42 15.4**	**-1.4**
ALFC	**Alefka**	**1.71**	**319**	P	**Pn**	**16 41 56.8**	**+0.8**
ALFC				S	**Sn**	**16 42 17.4**	**+0.2**
ALFC				AML	AML	16 42 19.1	
	7.0nm,0.3s						
ALFC				AML	AML	16 42 19.1	
	7.0nm,0.3s						
ALFC				AML	AML	16 42 21.1	
	4.6nm,0.4s						
ALFC				AML	AML	16 42 21.1	
	4.6nm,0.4s						
AKMS	**Akamas**	**1.77**	**311**	P	**Pn**	**16 41 57.5**	**+0.7**
AKMS				S	**Sn**	**16 42 18.2**	**-0.5**
AKMS				AML	AML	16 42 27.7	
	1.9nm,0.2s						
AKMS				AML	AML	16 42 27.7	
	1.9nm,0.2s						
AKMS				AML	AML	16 42 32.0	
	2.0nm,0.2s						
AKMS				AML	AML	16 42 32.0	
	2.0nm,0.2s						
SLTI	**Sal'it**	**1.86**	**151**	Pn	**Pn**	**16 41 58.5**	**+0.6**
SLTI				Sn	**Sn**	**16 42 20.1**	**-0.7**
MMLI	**Mount Malkishu**	**1.88**	**139**	Pn	**Pn**	**16 41 59.4**	**+1.2**
MMLI				Sn	**Sn**	**16 42 21.5**	**+0.2**
MMLI	**Mount Malkishu**	**1.88**	**139**	PN	**Pn**	**16 41 59.4**	**+1.2**
MMLI				SN	**Sn**	**16 42 22.4**	**+1.1**
MMLI	**Mount Malkishu**	**1.88**	**139**	P	**Pn**	**16 41 59.6**	**+1.4**
MMLI				S	**Sn**	**16 42 22.1**	**+0.7**
HMDT	**Nahal Hemdat**	**2.08**	**141**	Pn	**Pb**	**16 42 02.8**	**-1.4**
HMDT				Sn	**Sn**	**16 42 26.7**	**+0.5**
HMDT	**Nahal Hemdat**	**2.08**	**141**	Pn	**Pb**	**16 42 03.1**	**-1.1**
OSC1	**CSNet OBS 1**	**2.28**	**261**	P	**Pn**	**16 42 03.8**	**+0.1**
OSC1				S	**Sn**	**16 42 30.6**	**-0.5**
AKK2	**Akkuyu-Mersin**	**2.29**	**351**	PN	**Pn**	**16 42 04.2**	**+0.4**
AKK1	**Akkuyu-Mersin**	**2.29**	**351**	PN	**Pn**	**16 42 03.7**	**-0.2**
TISA	**Tisan-Mersin**	**2.30**	**354**	PN	**Pn**	**16 42 04.3**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.31**	**351**	PN	**Pn**	**16 42 04.5**	**+0.4**
YORU	**Yoruktepe-Mers**	**2.32**	**349**	PN	**Pn**	**16 42 04.8**	**+0.4**
YESI	**Yesilovacik-Me**	**2.33**	**353**	PN	**Pn**	**16 42 04.4**	**-0.1**
IKL	**Isikli**	**2.37**	**354**	PN	**Pn**	**16 42 05.2**	**+0.2**
TEKE	**Tekeli-Mersin**	**2.37**	**343**	PN	**Pn**	**16 42 05.4**	**+0.4**
TEPK	**Tepekoy-MERSIN**	**2.37**	**352**	PN	**Pn**	**16 42 05.3**	**+0.3**
AMAZ	**Amatzia**	**2.46**	**161**	Pn	**Pn**	**16 42 07.8**	**+1.5**
AMAZ				Sn	**Sn**	**16 42 35.6**	**-0.3**
AMAZ	**Amatzia**	**2.46**	**161**	P	**Pn**	**16 42 07.8**	**+1.5**
AMAZ				AML	AML	16 42 35.3	
	1.5nm,0.3s						
AMAZ				AML	AML	16 42 35.3	
	1.5nm,0.3s						
AMAZ				S	**Sn**	**16 42 35.6**	**-0.3**
AMAZ				AML	AML	16 42 35.9	
	2.7nm,0.4s						
AMAZ				AML	AML	16 42 35.9	
	2.7nm,0.4s						
SILI	**Silifke-Mersin**	**2.49**	**359**	PN	**Pn**	**16 42 06.9**	**+0.3**
SLFK	**Silifke-Mersin**	**2.51**	**360**	PN	**Pn**	**16 42 07.3**	**+0.4**
KEBE	**Keben-Mersin**	**2.58**	**355**	PN	**Pn**	**16 42 08.2**	**+0.3**
DSI	**Dead Sea**	**2.58**	**152**	Pn	**Pn**	**16 42 09.8**	**+1.9**
DSI				Sn	**Sn**	**16 42 38.9**	**+0.2**
DSI	**Dead Sea**	**2.58**	**152**	Pn	**Pn**	**16 42 10.0**	**+2.1**
TEVE	**Tevekalti-Mers**	**2.59**	**351**	PN	**Pn**	**16 42 08.6**	**+0.5**
KIZK	**Mersin**	**2.60**	**3**	PN	**Pn**	**16 42 08.2**	**0.0**
YTIR	**Yattir**	**2.68**	**159**	Pn	**Pn**	**16 42 10.9**	**+1.5**
YTIR				Sn	**Sn**	**16 42 41.3**	**0.0**
YTIR	**Yattir**	**2.68**	**159**	Pn	**Pn**	**16 42 11.2**	**+1.8**
GAZI	**Gazipasa**	**2.72**	**330**	PN	**Pn**	**16 42 10.8**	**+1.0**
YAYL	**Yayladag**	**2.78**	**39**	PN	**Pn**	**16 42 10.9**	**+0.2**
MDBI	**Mazsada**	**2.81**	**155**	Pn	**Pn**	**16 42 12.9**	**+1.9**
	11nm0.0nm,0.1s						
GHAJ	**Ghor Haditha**	**2.89**	**152**	Pn	**Pn**	**16 42 14.3**	**+2.1**
GHAJ	**Ghor Haditha**	**2.89**	**152**	Pn	**Pn**	**16 42 14.8**	**+2.6**
KRTS	**Karatas**	**2.93**	**23**	PN	**Pn**	**16 42 12.8**	**+0.2**
KZIT	**Kziot**	**2.98**	**173**	Pn	**Pn**	**16 42 14.6**	**+1.3**
KZIT				Sn	**Sn**	**16 42 47.6**	**-0.9**
KZIT	**Kziot**	**2.98**	**173**	P	**Pn**	**16 42 14.7**	**+1.3**
KZIT				S	**Sn**	**16 42 46.5**	**-2.0**
KZIT				AML	AML	16 42 49.0	
	1.1nm,0.3s						
KZIT				AML	AML	16 42 49.0	
	1.1nm,0.3s						
KZIT				AML	AML	16 42 49.8	
	0.7nm,0.5s						
KZIT				AML	AML	16 42 49.8	
	0.7nm,0.5s						
MERS	**Mersin**	**3.02**	**8**	PN	**Pn**	**16 42 14.2**	**+0.2**
TAHT	**Tahtakopru-Hat**	**3.09**	**35**	PN	**Pn**	**16 42 15.3**	**+0.5**
RMNI	**Mount Ramon**	**3.33**	**168**	Pn	**Pn**	**16 42 19.9**	**+1.6**
KRMN	**Karaman**	**3.34**	**350**	PN	**Pn**	**16 42 19.4**	**+0.9**
CEYT	**Ceyhan**	**3.45**	**24**	PN	**Pn**	**16 42 20.0**	**+0.2**
ZFRI	**Zfri**	**3.46**	**163**	Pn	**Pn**	**16 42 21.0**	**+1.0**
ZFRI				Sn	**Sn**	**16 42 59.9**	**-0.5**
ZFRI	**Zfri**	**3.46**	**163**	Pn	**Pn**	**16 42 21.5**	**+1.5**
PRNI	**Paran**	**3.62**	**166**	Pn	**Pn**	**16 42 23.3**	**+1.1**
PRNI				Sn	**Sn**	**16 43 03.8**	**-0.5**
PRNI	**Paran**	**3.62**	**166**	Pn	**Pn**	**16 42 23.7**	**+1.5**
KRMI	**Paran Flat**	**3.80**	**170**	Pn	**Pn**	**16 42 25.6**	**+0.9**
CMRD	**Camardi-Nigde**	**3.87**	**12**	PN	**Pn**	**16 42 26.5**	**+0.8**
KOZT	**Kozan**	**3.90**	**22**	PN	**Pn**	**16 42 26.3**	**+0.2**
YESY	**Yesilyurt**	**3.91**	**357**	PN	**Pn**	**16 42 27.5**	**+1.3**
SEYD	**Seydisehir-KON**	**3.93**	**334**	PN	**Pn**	**16 42 27.9**	**+1.4**
HRFI	**Mount Harif**	**3.93**	**166**	Pn	**Pn**	**16 42 27.7**	**+1.2**
HRFI				Sn	**Sn**	**16 43 11.1**	**-0.9**
SUZ	**Suez**	**4.14**	**194**	P	**Pn**	**16 42 29.8**	**+0.5**
	baz=193						
GAZ	**Gaziantep**	**4.22**	**38**	PN	**Pn**	**16 42 30.8**	**+0.3**
GAZ	**Gaziantep**	**4.22**	**38**	P	**Pn**	**16 42 31.0**	**+0.5**
HHAG	**Hagoal**	**4.22**	**203**	P	**Pn**	**16 42 30.8**	**+0.3**
	baz=202						
HHAG				AMP		16 43 00.0	
	baz=202						
HHAG				S	**Sn**	**16 43 17.0**	**-2.2**
	baz=202						
KONT	**Konya--Tatoy**	**4.27**	**343**	PN	**Pn**	**16 42 32.9**	**+1.8**
EIL	**Elat**	**4.27**	**168**	Pn	**Pn**	**16 42 32.5**	**+1.3**
	4.6nm,0.3s,baz=183,slow=3.4,S

WRA	**Warramunga Arr**	**32.01 256**	P		**P**	**16 50 46.9**	**-2.0**
	0.4nm,0.5s,baz=84,slow=8.4,SNR=1.7						
WRA			PcP		**PcP**	**16 53 35.5**	**-0.3**
	0.5nm,0.8s,baz=87,slow=3.5,SNR=2.3						
ASAR	**Alice Springs**	**32.82 250**	P		**P**	**16 50 54.1**	**-1.7**
	0.9nm,0.4s,baz=77,slow=8.9,SNR=27						
ASAR			PcP		**PcP**	**16 53 38.6**	**+0.6**
	0.4nm,0.8s,baz=85,slow=1.9,SNR=6.2						
SONM	**Songino Array**	**82.88 324**	P		**P**	**16 56 44.8**	**+0.1**
	0.2nm,0.4s,baz=139,slow=7.1,SNR=2.9						
TXAR	**Lajitas Array**	**96.18 61**	P		**P**	**16 57 49.2**	**+0.8**
	0.3nm,0.9s,baz=214,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**97.59 316**	P		Pdif	16 57 54.6	+0.4
	0.3nm,0.7s,baz=119,slow=5.1,SNR=3.6						
ARCES	**ARCESS Array B**	**120.59 345**	PKP		**PKPdf**	**17 03 09.9**	**-0.4**
	0.6nm,0.3s,baz=70,slow=1.1,SNR=22						
FINES	**FINESS Array B**	**126.08 338**	PKP		**PKiKP**	**17 03 21.1**	**-0.4**
	0.8nm,0.7s,baz=78,slow=2.0,SNR=5.9						
KEST	**Kesra**	**151.59 321**	PKPbc		**PKiKP**	**17 04 14.3**	**-0.1**
	0.8nm,0.3s,baz=130,slow=2.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**166.15 264**	PKP		**PKPdf**	**17 04 24.9**	**-0.3**
	0.4nm,0.9s,baz=15,slow=1.5,SNR=1.6						

JMA 17 16:54:03.1±0.2, 36°.79N×138°.54E, h1km±3km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.36**	**227**	S	Sg	16 54 14.9	+0.1
MAT	**Matsushiro**	**0.36**	**227**	P	Pg	16 54 10.3	+0.2
MAT				S	Sg	16 54 15.0	+0.2
MAT	**Matsushiro**	**0.36**	**227**	P	Pg	16 54 10.3	+0.2
JNG	**Nsakai**	**0.52**	**223**	P	Pg	16 54 13.2	+0.1
JNG				S	Sg	16 54 20.0	+0.2

*IDC **17** 16:57:41.0±1.1, 12°.15N×46°.43E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.7/45, mbtmp3.8/14, MS3.1/6, Ms1 3.1/6, ms1mx2.8/39, Error ellipse: s-maj=29.1km s-min=20.8km az=15.0*
*NEIC **17** 16:57:41.1±2.0, 12°.1N±0°.1×46°.4E±0°.1, h10km±2km, mb4.2/6, Error ellipse: s-maj=25.7km s-min=17.8km az=147.0*
ISC 17 16:57:41.8±0.7, 12°.2N±0°.1×46°.3E±0°.1, h10km, n35, σ1§23/30, mb4.0/17, MS3.1/5, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.47**	**260**	LR	LR	16 59 16.5	
	comp=Z,72nm,19.3s,baz=18,slow=27						
ATD	**Arta Tunnel**	**3.47**	**260**	Pn	**Pn**	**16 58 36.6**	**+0.6**
FURI	**Furi**	**8.20**	**248**	Pn	**Pn**	**16 59 40.4**	**-0.8**
UOSS	**Minazif**	**15.78**	**35**	P	**P**	**17 01 27.7**	**-0.5**
UOSS				IAmb	IAmb	17 01 40.4	
	comp=Z,21nm,1.0s						
KIBK	**Kibwezi**	**16.59**	**210**	P	**Pn**	**17 01 34.3**	**-0.4**
MBAR	**Mbarara**	**20.01**	**232**	LR	LR	17 09 17.4	
	comp=Z,55nm,18.0s,baz=36,slow=35						
HRA	**Herat**	**26.45**	**31**	P	**P**	**17 03 15.3**	**-4.0**
HRA				IAmb	IAmb	17 03 27.3	
	comp=Z,4.5nm,1.1s						
GEYT	**Alibeck**	**27.75**	**20**	LR	LR	17 16 22.9	
	comp=Z,64nm,19.4s,baz=350,slow=40						
GNI	**Garni**	**27.93**	**357**	LR	LR	17 16 01.3	
	comp=Z,52nm,19.4s,baz=196,slow=39						
ELL	**Elmali**	**28.61**	**332**	P	**P**	**17 03 37.4**	**-1.1**
ISP	**Isparta**	**29.22**	**334**	P	**P**	**17 03 42.5**	**-1.4**
ISP				IAmb	IAmb	17 03 46.0	
	comp=Z,20nm,1.5s						
BRTR	**Keskin Array B**	**29.68**	**340**	P	**P**	**17 03 50.1**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=160,slow=9.2,SNR=4.2						
BRTR				LR	LR	17 16 54.4	
	comp=Z,37nm,18.8s,baz=156,slow=39						
BRTR	**Keskin Array B**	**29.68**	**340**	P	**P**	**17 03 46.3**	**-1.7**
ABKAR	**Akbulak array**	**38.67**	**14**	P	**P**	**17 05 05.6**	**0.0**
AKTO	**Aktyubinsk**	**39.36**	**12**	P	**P**	**17 05 12.9**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=202,slow=12,SNR=2.8						
AKASG	**Malin Array Be**	**40.91**	**343**	P	**P**	**17 05 24.9**	**+0.7**
	comp=Z,0.1nm,0.2s,baz=151,slow=7.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**43.53**	**276**	P	**P**	**17 05 47.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=95,slow=6.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**43.53**	**276**	P	**P**	**17 05 44.5**	**-1.7**
TORD				IAmb	IAmb	17 05 48.6	
	comp=Z,4.3nm,1.4s						
BOSA	**Boshof**	**45.36**	**206**	LR	LR	17 24 48.7	
	comp=Z,49nm,20.5s,baz=3.0,slow=36						
GERES	**GERESS Array B**	**45.49**	**330**	P	**P**	**17 06 02.3**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=138,slow=6.8,SNR=16						
GERES	**GERESS Array B**	**45.49**	**330**	P	**P**	**17 06 01.0**	**-0.4**
MKAR	**Makanchi Array**	**45.91**	**34**	P	**P**	**17 06 04.9**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=223,slow=8.3,SNR=10						
KURBB	**Kurchatov Arra**	**46.50**	**28**	P	**P**	**17 06 10.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=228,slow=8.3,SNR=5.9						
KURK	**Kurchatov**	**46.61**	**28**	P	**P**	**17 06 10.0**	**0.0**
CLL	**Collm**	**47.50**	**332**	*e*P	**P**	**17 06 18.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**50.98**	**76**	P	**P**	**17 06 44.3**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=273,slow=8.8,SNR=16						
ZALV	**Zalesovo Beam**	**51.60**	**28**	P	**P**	**17 06 47.4**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=225,slow=8.0,SNR=1.9						
NOA	**NORSAR Array B**	**55.12**	**340**	P	**P**	**17 07 13.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=135,slow=7.6,SNR=2.8						
SONM	**Songino Array**	**61.09**	**42**	P	**P**	**17 07 56.6**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=250,slow=7.7,SNR=8.7						
TIXI	**Tiksi**	**76.19**	**19**	P	**P**	**17 09 30.6**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=270,slow=1.0,SNR=3.3						
MJAR	**Matsushiro Arr**	**84.36**	**54**	P	**P**	**17 10 15.3**	**+0.7**
	comp=Z,12nm,0.6s,baz=281,slow=5.3,SNR=2.6						
WRA	**Warramunga Arr**	**92.22**	**110**	P	**P**	**17 10 53.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=293,slow=4.3,SNR=3.0						
ASAR	**Alice Springs**	**92.60**	**114**	P	**P**	**17 10 54.3**	**0.0**
	comp=Z,0.3nm,0.8s,baz=293,slow=4.9,SNR=1.8						
NVAR	**Mina Array Bea**	**127.67**	**345**	PKP	**PKiKP**	**17 16 50.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=21,slow=1.3,SNR=5.0						
TXAR	**Lajitas Array**	**129.61**	**325**	PKP	**PKiKP**	**17 16 52.9**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=129,slow=1.3,SNR=2.9						

*FUNV **17** 17:06:34.7, 10°.83N×62°.24W, h28km, MW3.7*
*TRN **17** 17:06:35.5, 10°.82N×62°.18W, h72km, MD3.6*
ISC 17 17:06:33.6±1.5, 10°.83N±0°.04×62°.32W±0°.03, h28km±15km, n20, σ1§72/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.91**	**261**	*e*P	**Pn**	**17 06 52.6**	**+2.1**
CRUV				*e*S	**Sn**	**17 07 05.2**	**+2.5**
TRN	**Trinidad (W)**	**0.92**	**101**	*e*P	**Pn**	**17 06 51.4**	**+0.8**
TRN				*e*S	**Sn**	**17 07 02.7**	**-0.2**
TRN	**Trinidad (W)**	**0.92**	**101**	*e*P	**Pn**	**17 06 50.4**	**-0.2**
TRN				*e*S	**Sb**	**17 07 02.2**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.99**	**121**	*e*P	**Pn**	**17 06 52.9**	**+1.3**
TPP				*e*S	**Sn**	**17 07 06.0**	**+1.3**
TBH	**Brigand Hill**	**1.28**	**105**	*e*P	**Pb**	**17 06 56.9**	**-0.2**
GRGR	**Grenville**	**1.45**	**27**	*e*P	**Pn**	**17 06 58.7**	**+0.7**
GRGR				*e*S	**Sb**	**17 07 17.7**	**-0.4**
GRGR	**Grenville**	**1.45**	**27**	*e*P	**Pn**	**17 06 58.2**	**+0.2**
GRGR				*e*S	**Sn**	**17 07 15.9**	**-0.2**
TOSP	**Speyside**	**1.81**	**75**	*e*P	**Pn**	**17 07 02.7**	**-0.3**
TOSP				*e*S	**Sn**	**17 07 23.5**	**-1.5**
GCMP	**Grenada, Carri**	**1.87**	**28**	*e*P	**Pn**	**17 07 04.5**	**+0.8**
GCMP				*e*S	**Sn**	**17 07 26.5**	**+0.2**
PCRV	**Puerto La Cruz**	**2.37**	**254**	*e*S	**Sn**	**17 07 39.3**	**+0.5**
SVB	**Belmont**	**2.65**	**23**	*e*P	**Pn**	**17 07 15.4**	**+1.0**
SVB				*e*S	**Sn**	**17 07 45.3**	**-0.3**
SVV	**Soufriere Volc**	**2.70**	**23**	*e*	**Pn**	**17 07 17.2**	**+2.0**
PRGV	**PARIAGUAN**	**3.08**	**228**	*e*P	**Pn**	**17 07 21.8**	**+1.4**
PRGV				*e*S	**Sn**	**17 07 56.3**	**+0.1**
SLBI	**Saint Lucia, B**	**3.44**	**22**	*e*P	**Pn**	**17 07 27.1**	**+1.8**
SLBI				*e*S	**Sn**	**17 08 03.8**	**-1.3**
BIRV	**Birongo**	**3.90**	**265**	*e*P	**Pn**	**17 07 33.1**	**+1.4**
BIRV				*e*S	**Sn**	**17 08 15.9**	**-0.6**
TACV	**Tcata**	**4.68**	**262**	*e*P	**Pn**	**17 07 43.2**	**+0.8**
TACV				*e*S	**Sn**	**17 08 33.1**	**-2.8**
MAGL	**Barre de l'ile**	**5.19**	**11**	*e*	**Pn**	**17 07 52.7**	**+3.3**
CACV	**CAICARA DEL OR**	**5.28**	**232**	*e*P	Pn	17 07 45.5	-5.2
CACV				*e*S	Sn	17 08 38.2	-12
BAUV	**El Baul**	**5.94**	**252**	*e*P	**Pn**	**17 08 00.1**	**+0.4**
BAUV				*e*S	**Sn**	**17 09 03.3**	**-3.6**
JACV	**Jacura**	**6.40**	**273**	*e*P	**Pn**	**17 08 06.3**	**+0.3**
JACV				*e*S	**Sn**	**17 09 13.4**	**-4.8**

*NEIC **17** 17:11:10.9±1.8, 18°.99N±0°.04×67°.72W±0°.03, h32km±9km,*
Error ellipse: s-maj=6.0km s-min=2.5km az=214.0
*RSPR **17** 17:11:11.0, 19°.00N×67°.77W, h72km±3km, MD3.0/8*
ISC 17 17:11:09.7±3.4, 18°.97N±0°.09×67°.70W±0°.03, h13km±25km, n37, σ0§96/46, 8C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.75**	**131**	Pn	**Pb**	**17 11 24.1**	**-0.6**
AGPR				Sn	**Sb**	**17 11 34.2**	**-0.6**
AGPR				IAML		17 11 34.5	
	comp=E,255nm,0.3s						
AGPR				IAML		17 11 36.7	
	comp=N,224nm,0.2s						
PCDR	**Punta Cana, DR**	**0.79**	**235**	⇑*e*P	**Pb**	**17 11 26.0**	**+0.7**
PCDR	**Punta Cana, DR**	**0.79**	**235**	*e*S	**Sb**	**17 11 37.8**	**+2.0**
PCDR	**Punta Cana, DR**	**0.79**	**235**		**Pb**	**17 11 25.8**	**+0.6**
PCDR					**Sb**	**17 11 36.3**	**+0.5**
MPR	**Mayaguez**	**0.92**	**145**	Pn	**Pb**	**17 11 27.0**	**-0.6**
MPR				Sn	**Sb**	**17 11 39.0**	**-0.7**
AOPR	**Arecibo Observ**	**1.09**	**124**	⇓*e*P	**Pn**	**17 11 29.4**	**-1.3**
AOPR	**Arecibo Observ**	**1.09**	**124**	*e*S	**Sb**	**17 11 46.6**	**+2.0**
AOPR	**Arecibo Observ**	**1.09**	**124**		**Pn**	**17 11 29.4**	**-1.3**
AOPR					**Sb**	**17 11 46.6**	**+2.0**
AOPR	**Arecibo Observ**	**1.09**	**124**	IAML		17 11 52.1	
	comp=N,162nm,0.3s						
MLPR	**Magueyes Islan**	**1.17**	**148**	⇑*e*P	**Pn**	**17 11 31.5**	**-0.4**
MLPR	**Magueyes Islan**	**1.17**	**148**	*e*S	**Sb**	**17 11 48.4**	**+1.5**
MLPR	**Magueyes Islan**	**1.17**	**148**		**Pn**	**17 11 30.1**	**-1.7**
MLPR					**Sb**	**17 11 47.8**	**+0.9**
MLPR				IAML		17 11 49.2	
	comp=E,141nm,0.6s						
MLPR				IAML		17 11 49.4	
	comp=N,128nm,0.4s						
EMPR	**Esperanza - Ma**	**1.21**	**113**	⇑*e*P	**Pn**	**17 11 32.2**	**-0.2**
EMPR	**Esperanza - Ma**	**1.21**	**113**	*e*S	**Sb**	**17 11 49.4**	**+1.3**
EMPR	**Esperanza - Ma**	**1.21**	**113**		**Pn**	**17 11 31.6**	**-0.8**
EMPR					**Sb**	**17 11 48.3**	**+0.1**
EMPR				IAML		17 11 53.9	
	comp=N,160nm,0.6s						
CELP	**Cerrillos**	**1.39**	**130**	⇑*e*P	**Pn**	**17 11 34.7**	**-0.1**
CELP	**Cerrillos**	**1.39**	**130**	*e*S	**Sn**	**17 11 53.7**	**+0.6**
CELP	**Cerrillos**	**1.39**	**130**		**Pn**	**17 11 34.7**	**-0.1**
CELP					**Sn**	**17 11 53.7**	**+0.6**
OBIP	**Obispado Ponce**	**1.39**	**131**	Pn	**Pn**	**17 11 34.5**	**-0.3**
OBIP					**Sn**	**17 11 52.5**	**-0.5**
OBIP				IAML		17 11 56.9	
	comp=E,125nm,0.4s						
OBIP				IAML		17 11 57.3	
	comp=N,83nm,0.3s						
DR12	**Loma Pena Alta**	**1.60**	**264**		**Pn**	**17 11 35.8**	**-2.0**
GCPR	**Guaynabo City**	**1.67**	**113**	Pn	**Pn**	**17 11 38.1**	**-0.6**
SJG	**San Juan**	**1.70**	**120**	Pn	**Pn**	**17 11 38.4**	**-0.7**
SJG				Sn	**Sn**	**17 12 00.1**	**-0.7**
SJG				IAML		17 12 03.6	
	comp=N,61nm,0.2s						
SJG				IAML		17 12 04.0	
	comp=N,80nm,0.3s						
IGPR	**InterUniversit**	**1.81**	**123**	⇑*e*P	**Pn**	**17 11 40.6**	**0.0**
IGPR	**InterUniversit**	**1.81**	**123**	*e*S	**Sn**	**17 12 03.4**	**-0.2**
PDPR	**Patillas Dam,**	**1.85**	**120**	Pn	**Pn**	**17 11 39.1**	**-2.1**
CBYP	**Canovanas**	**1.88**	**111**	⇑*e*P	**Pn**	**17 11 41.9**	**+0.3**
CBYP	**Canovanas**	**1.88**	**111**		**Pn**	**17 11 41.4**	**-0.3**
HUMP	**Col San Antoni**	**1.94**	**115**	⇓*e*P	**Pn**	**17 11 42.4**	**0.0**
HUMP	**Col San Antoni**	**1.94**	**115**	*e*S	**Sn**	**17 12 06.3**	**-0.4**
HUMP	**Col San Antoni**	**1.94**	**115**		**Pn**	**17 11 42.4**	**0.0**
HUMP					**Sn**	**17 12 06.3**	**-0.4**
HUMP	**Col San Antoni**	**1.94**	**115**	IAML		17 12 09.1	
	comp=N,48nm,0.2s						
HUMP				IAML		17 12 10.3	
	comp=E,70nm,0.2s						
MTP	**Monte Pirata**	**2.21**	**113**	⇑*e*P	**Pn**	**17 11 46.8**	**+0.6**
MTP	**Monte Pirata**	**2.21**	**113**		**Pn**	**17 11 46.8**	**+0.6**
CUPR	**Culebra, Puert**	**2.39**	**106**	⇑*e*P	**Pn**	**17 11 48.4**	**-0.2**
CUPR	**Culebra, Puert**	**2.39**	**106**	*e*S	**Sn**	**17 12 17.7**	**0.0**
CUPR	**Culebra, Puert**	**2.39**	**106**		**Pn**	**17 11 48.4**	**-0.2**
CUPR					**Sn**	**17 12 17.7**	**0.0**
SDDR	**Presa de Saban**	**3.39**	**271**	Pn	**Pn**	**17 12 01.9**	**-0.6**
SDDR				IAML		17 13 01.0	
	comp=E,20nm,0.8s						
SDDR				IAML		17 13 03.9	
	comp=E,24nm,0.7s						

*NEIC **17** 17:15:35.1±1.3, 11°.6N±0°.1×142°.61E±0°.06, h12km±5km, mb4.5/7, Error ellipse: s-maj=15.6km s-min=8.9km az=187.0*
*IDC **17** 17:15:39.1±2.5, 11°.63N×142°.67E, h47km±25km, mb3.5/10, mb1 3.8/11, mb1mx3.6/32, mbtmp3.8/11, ML4.1/1, Error ellipse: s-maj=25.8km s-min=17.2km az=116.0*
ISC 17 17:15:36.5±0.7, 11°.6N±0°.1×142°.62E±0°.10, h25km, n24, σ0§80/26, mb3.9/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.96**	**48**	P	**Pn**	**17 16 22.7**	**+0.7**
	26nm,0.3s,baz=234,slow=19,SNR=19						
GUMO				S	**Sn**	**17 16 57.0**	**+0.2**
	32nm,0.3s,baz=233,slow=20,SNR=8.3						
GUMO	**Guam**	**2.96**	**48**		**Pn**	**17 16 22.3**	**+0.3**
GUMO				Sn	**Sn**	**17 16 56.6**	**-0.2**
PATS	**Pohnpei**	**16.19**	**106**	Pn	**Pn**	**17 19 22.3**	**-0.2**
PATS				IAmb	IAmb	17 19 23.5	
	comp=Z,86nm,1.6s						
WB2	**Warramunga Arr**	**32.37**	**195**	P	**P**	**17 22 04.3**	**+0.1**
WB2				IAmb	IAmb	17 22 40.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**32.37**	**195**	P	**P**	**17 22 04.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=17,slow=9.1,SNR=4.2						
AS31	**Alice Springs**	**36.06**	**194**	P	**P**	**17 22 35.3**	**-0.9**
ASAR	**Alice Springs**	**36.06**	**194**	P	**P**	**17 22 36.2**	**0.0**
	comp=Z,0.5nm,0.8s,baz=17,slow=12,SNR=6.5						
ASAR				PcP	**PcP**	**17 25 03.1**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=31,slow=2.4,SNR=1.9						
CMAR	**Chiang Mai Arr**	**42.65**	**285**	P	**P**	**17 23 32.8**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=70,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**47.15**	**327**	P	**P**	**17 24 06.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=153,slow=9.7,SNR=2.0						
MKAR	**Makanchi Array**	**61.43**	**317**	P	**P**	**17 25 51.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=96,slow=7.5,SNR=7.3						
MKAR	**Makanchi Array**	**61.43**	**317**	P	**P**	**17 25 50.9**	**0.0**
IMAR	**Indian Mountai**	**68.89**	**23**	P	**P**	**17 26 39.0**	**+0.2**
MLY	**Manley**	**69.78**	**25**	P	**P**	**17 26 44.5**	**0.0**
MLY				IAmb	IAmb	17 27 25.6	
	comp=Z,6.4nm,1.5s						
BRVK	**Borovoye**	**70.21**	**322**	P	**P**	**17 26 47.5**	**+0.2**
BRVK				IAmb	IAmb	17 27 12.6	
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**71.31**	**25**	P	**P**	**17 26 51.9**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=261,slow=5.2,SNR=5.9						
BMAR	**Burnt Mountain**	**72.79**	**23**	P	**P**	**17 27 03.7**	**+1.1**
ABKAR	**Akbulak array**	**76.55**	**318**	P	**P**	**17 27 24.1**	**-0.6**
ABKAR	**Akbulak array**	**76.55**	**318**	P	**P**	**17 27 24.7**	**0.0**
ABKAR				IAmb	IAmb	17 27 29.6	
	comp=Z,4.6nm,1.4s						
YKA	**Yellowknife Ar**	**85.64**	**27**	P	**P**	**17 28 12.7**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=279,slow=4.1,SNR=1.8						
ARCES	**ARCESS Array B**	**88.30**	**342**	P	**P**	**17 28 24.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=64,slow=5.5,SNR=8.4						
ARCES	**ARCESS Array B**	**88.30**	**342**	IAmb	IAmb	17 28 24.6	
	comp=Z,4.9nm,1.2s						
NVAR	**Mina Array Bea**	**89.88**	**51**	P	**P**	**17 28 34.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=268,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**92.03**	**335**	P	**P**	**17 28 41.1**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=2.9,slow=2.8,SNR=3.5						
LPAZ	**La Paz**	**149.81**	**102**	PKPbc	**PKPbc**	**17 35 26.4**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=252,slow=3.2,SNR=2.5						

*TUL **17** 17:38:09.4±1.3, 36°.80N±0°.01×98°.27W±0°.03, h5km±5km, ML2.5, mb_Lg2.2/5(NEIC), Error ellipse: s-maj=3.9km s-min=1.8km az=89.0*
NEIC 17 17:38:08.8±0.7, 36°.81N±0°.02×98°.33W±0°.02, h7km±3km, Error ellipse: s-maj=2.4km s-min=2.0km az=187.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.10**	**91**		Pg	17 38 10.9	-0.1
OK032				Sg	Sg	17 38 12.2	-0.4
KAN10	**Anthony SW Sta**	**0.37**	**30**	Pg	Pg	17 38 15.8	-0.3
KAN10				Sg	Sg	17 38 22.1	+1.2
GC02	**Grant County #**	**0.38**	**83**		Pg	17 38 16.0	-0.2
GC02				Sg	Sg	17 38 21.2	-0.1
CROK	**Carrier**	**0.41**	**137**		Pg	17 38 16.7	0.0
CROK				Sg	Sg	17 38 22.2	+0.1
KAN05	**Bluff City Nor**	**0.47**	**50**	Pg	Pg	17 38 18.5	+0.5
KAN05				Sg	Sg	17 38 24.9	+0.7
KAN08	**Anthony NE Sta**	**0.51**	**34**	Pg	Pg	17 38 18.6	0.0
KAN08				Sg	Sg	17 38 26.2	+0.8
KAN12	**Harper NE Stat**	**0.56**	**28**	Pg	Pg	17 38 19.1	-0.5
KAN12				Sg	Sg	17 38 23.3	-3.6
KAN09	**Caldwell North**	**0.66**	**60**	Pg	Pg	17 38 21.5	0.0
KAN09				Sg	Sg	17 38 30.0	-0.1
U32A	**Winter Ranch,**	**0.69**	**232**	Pg	Pb	17 38 23.0	-0.1
KAN13	**South Haven SW**	**0.71**	**73**	Pg	Pg	17 38 22.4	-0.2
KAN13					Sg	17 38 31.8	0.0
KS20	**Mayfield South**	**0.75**	**55**	Pg	Pg	17 38 22.7	-0.6
KS20				Sg	Sg	17 38 33.1	+0.1
BLOK	**Blackwell**	**0.90**	**92**	Pg	Pg	17 38 25.7	-0.3
BLOK				Sg	Sg	17 38 37.4	-0.2
BCOK	**Bluff Creek, N**	**1.28**	**153**	Pg	Pn	17 38 31.8	-1.4
BCOK				Sg	Sb	17 38 49.9	-0.1
QUOK	**Quay**	**1.45**	**115**	Pn	Pn	17 38 35.3	-0.1
QUOK					Sn	17 38 54.4	-0.4
OK025	**Westminster Rd**	**1.46**	**146**	Pn	Pn	17 38 35.6	0.0
OK025				Sn	Sb	17 38 55.2	+0.1
T35A	**Sooner Cattle**	**1.46**	**85**	Pn	Pn	17 38 35.6	0.0
T35A				Sn	Sn	17 38 54.7	-0.3
OK031	**S. Brethren Rd**	**1.47**	**125**	Pn	Pn	17 38 35.2	-0.5
OK031				Sn	Sn	17 38 55.0	-0.3
R32A	**Long Quarter,**	**1.64**	**349**	Pn	Pb	17 38 39.9	+0.4
FNO	**Franklin**	**1.72**	**154**	Pn	Pn	17 38 39.3	+0.2
WMOK	**Wichita Mounta**	**2.10**	**190**	Pn	Pn	17 38 45.6	+1.3
WMOK				IAmb_Lg		17 39 19.3	
	comp=Z,4.1nm,0.8s						
X34A	**Smith Ranch, M**	**2.24**	**169**	Pn	Pb	17 38 48.4	-1.1
CBKS	**Cedar Bluff**	**2.29**	**331**	Pn	Pn	17 38 48.3	+1.2
W39A	**Magazine**	**4.02**	**112**	IAmb_Lg		17 40 25.8	
	comp=Z,6.7nm,0.9s						
P38A	**Dawn**	**4.71**	**52**	IAmb_Lg		17 40 39.2	
	comp=Z,8.4nm,1.0s						

*IGIL **17** 17:45:45.3, 36°.57N×12°.16W, h4km, ML1.6*
*MDD **17** 17:45:45.5±1.8, 36°.60N×12°.05W, h0km, mb4.0/5, Error ellipse: s-maj=15.5km s-min=12.3km az=93.0, PRXIMO*
*CNRM **17** 17:45:46.5, 36°.07N×11°.96W, h78km, ml3.2, Hypocentre not reviewed by the ISC*
*INMG **17** 17:45:46.5±1.4, 36°.56N×12°.14W, h10km, ML2.2, Error ellipse: s-maj=7.9km s-min=5.1km az=89.0*
ISC 17 17:45:43.5±3.0, 36°.68N±0°.10×12°.0W±0°.1, h10km, n62, σ2§20/93, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.60**	**79**	⇑P	**Pn**	**17 46 27.6**	**+2.0**
	12nm,0.1s,SNR=18						
PFVI				S	**Sn**	**17 46 58.0**	**+0.8**
	8.4nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.60**	**79**	*e*Pn	**Pn**	**17 46 27.6**	**+2.0**
PFVI				*e*Sn	**Sb**	**17 46 59.1**	**-3.1**
PFVI				A	A	17 47 08.3	
	6.5nm,0.4s						
MORF	**Marmelete**	**2.77**	**76**	*e*P	**Pn**	**17 46 30.4**	**+2.4**
MORF	**Marmelete**	**2.77**	**76**	P	**Pn**	**17 46 30.4**	**+2.4**
MORF	**Marmelete**	**2.77**	**76**	*e*Pn	**Pb**	**17 46 30.6**	**-2.5**
MORF				A	A	17 47 16.3	
	3.6nm,0.5s						
PTEO	**Sao Teotonio**	**2.77**	**71**	P	**Pb**	**17 46 31.1**	**-2.1**
PTEO				S	**Sb**	**17 47 04.6**	**-2.6**
	3.5nm,0.8s						
PTEO	**Sao Teotonio**	**2.77**	**71**	*e*Pn	**Pb**	**17 46 31.1**	**-2

comp=N,0.5nm,0.2s,SNR=5.7
EBAD S **Sn** **17 47 44.6 +1.0**
comp=N,3.2nm,0.2s,SNR=5.9
PMRV Marv??o 4.57 52 P **Pn** **17 46 55.3 +2.6**
PMRV S **Sn** **17 47 46.8 +0.9**
comp=N,3.3nm,0.2s
PMRV Marv??o 4.57 52 *e*Pn **Pn** **17 46 55.3 +2.6**
PMRV *e*Sn **Sn** **17 47 46.8 +0.9**
PMRV A A 17 47 50.0
comp=N,3.3nm,0.2s
PCBR Castelo Branco 4.77 47 S **Sn** **17 47 52.1 +1.4**
PCBR Castelo Branco 4.77 47 *e*Sn **Sn** **17 47 52.1 +1.4**
ESPR Espera 4.95 86 P **Pn** **17 46 58.9 +1.0**
comp=N,1.9nm,0.2s,SNR=7.9
ESPR S **Sn** **17 47 54.3 -1.0**
comp=N,4.7nm,0.2s,SNR=7.9
PVIS Viseu 5.16 37 S **Sn** **17 48 01.7 +1.2**
PVIS Viseu 5.16 37 *e*Sn **Sn** **17 48 01.7 +1.2**
EJIF Jimena Fronter 5.28 91 P **Pn** **17 47 04.0 +1.6**
comp=N,2μm,0.1s,SNR=7.9
SRHM Skhour des Reh 5.40 140 P 17 46 57.6
SRHM S 17 47 56.1
ECAB El Cabril 5.44 73 P **Pn** **17 47 07.1 +2.4**
comp=N,0.2nm,0.2s,SNR=7.9
ECAB S **Sn** **17 48 07.7 +0.4**
comp=N,0.2nm,0.1s,SNR=7.9
ZHG ZHG 5.46 125 P 17 47 01.4
ZHG S 17 48 00.2
POLO Lamas de Olo 5.73 34 S **Sn** **17 48 14.1 -0.4**
comp=N,1.3nm,0.3s
POLO Lamas de Olo 5.73 34 *e*Sn **Sn** **17 48 14.1 -0.4**
POLO A A 17 48 16.9
comp=N,1.3nm,0.3s
EPLA Plasencia 5.76 52 S **Sn** **17 48 16.0 +0.8**
comp=N,1.2nm,0.1s,SNR=7.9
PCAB Cabril 5.90 30 S **Sn** **17 48 19.3 +0.5**
PCAB Cabril 5.90 30 *e*Sn **Sn** **17 48 19.3 +0.5**
MVO Moncorvo 5.93 39 S **Sn** **17 48 19.2 -0.4**
comp=N,1.2nm,0.1s,SNR=7.9
MVO Moncorvo 5.93 39 *e*Sn **Sn** **17 48 19.8 +0.3**
MVO A A 17 48 21.9
comp=N,3.2nm,0.3s
ELOB Lobios 6.02 29 S **Sn** **17 48 21.5 -0.2**
comp=N,0.9nm,0.1s,SNR=6.0
PGAV Gavieira, Arco 6.03 28 S **Sn** **17 48 21.5 -0.4**
comp=N,3.5nm,0.8s
PGAV Gavieira, Arco 6.03 28 *e*Sn **Sn** **17 48 21.5 -0.4**
PGAV A A 17 48 24.4
comp=N,3.5nm,0.8s
EZAM Zamans 6.04 24 S **Sn** **17 48 20.9 -1.1**
comp=N,0.6nm,0.1s,SNR=7.9
EADA Adamuz 6.11 74 P **Pn** **17 47 16.1 +2.3**
comp=N,0.5nm,0.1s,SNR=7.9
EADA S **Sn** **17 48 24.2 +0.4**
comp=N,0.2nm,0.1s,SNR=7.9
OUK Oukaimeden 6.46 147 P 17 47 14.6
OUK S 17 48 19.8
PBRG Braganca 6.55 37 S **Sn** **17 48 34.3 -0.5**
comp=N,0.7nm,0.2s
PBRG Braganca 6.55 37 *e*Sn **Sn** **17 48 34.3 -0.5**
PBRG A A 17 48 37.8
comp=N,1.4nm,0.2s
ECAL Calabor 6.66 36 S **Sn** **17 48 37.4 -0.1**
comp=N,0.7nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.69 20 S **Sn** **17 48 35.0 -2.9**
comp=N,3.0nm,0.1s,SNR=7.9
CZD Col de Zad 6.79 120 P 17 47 17.4
CZD S 17 48 32.3
TTIG Tnine Tigouga, 6.80 153 P 17 47 16.7
TTIG S 17 48 23.9
MD31 MD31 7.08 120 P 17 47 23.0
MD31 S 17 48 38.2
MDT Midelt 7.22 120 P 17 47 26.5
MDT S 17 48 42.4
GUD Guadarrama 7.32 55 S **Sn** **17 48 54.0 +0.3**
SNR=7.9
EPON Pontenova 7.62 28 S **Sn** **17 48 58.5 -2.4**
comp=N,0.0nm,0.1s,SNR=7.9
TZRR Tazzarine 7.96 136 P 17 47 34.8
TZRR S 17 48 58.1

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*DJA **17** 17:47:05.4±0.7,10°N±6°×12°7E±°,h10km,M5.0/15, mB5.2/7,mb4.9/15,MLv5.4/3,Mw(mB)4.6/7*
*MAN **17** 17:47:06.6,9°19N×126°81E,h15km,mb5.5,ML4.5,MS4.8*
*KLM **17** 17:47:07,9°41N×126°73E,h10km,mb5.1*
*IDC **17** 17:47:07.7±2.6,9°07N×126°66E,h28km±17km,mb4.1/24, mb1 4.3/25,mb1mx4.2/31,mbtmp4.3/25,ML4.1/1,MS3.9/14, Ms1 3.9/14,ms1mx3.7/32,Error ellipse: s-maj=19.3km s-min=10.8km az=79.0*
*GCMT **17** 17:47:08.9±0.4,9°16N±0°03×127°01E±0°03,h22km±1km, MW4.9/76,Moment Tensor Solution. s26,c28; s76,c95; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.22±.15; Mθθ-0.12±.08; Mφφ-2.10±.10; Mrθ-0.14±.14; Mθφ-0.05±.06; Mφr1.40±.14; Best double couple: M0 2.57800×10^16^ NP1:φs185.00000°,δ29.00000°,λ96.00000°. NP2: φs358.00000°,δ62.00000°,λ87.00000°. Principal axes: T 2.6420, Plg73.0000°, Azm259.0000°; N -0.1330, Plg3.0000°, Azm359.0000°; P -2.5140, Plg16.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **17** 17:47:09.9±1.4,9°13N±0°07×126°55E±0°10,h38km±1km, mb4.8/80 Error ellipse: s-maj=14.0km s-min=9.5km az=76.0*
*BJI **17** 17:47:11.5±0.0,9°16N×126°59E,h74km,mB4.9/38, mb4.6/55,Ms4.4/40,Ms7 4.3/40*
ISC 17 17:47:11.2±0.3,**9°16N**±0°04×**126°78E**±0°05,**h54**km,**n197,** σ1**90**/187,**mb4.7**/75,**MS4.0**/19,**7C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.17**	**251⇑**	*e*P	**Pn**	**17 47 43.7**	**-1.3**
CGP				*i* S	**Sn**	**17 48 14.8**	**+4.0**
DAV	**Davao City (W)**	**2.39**	**210**	Pg	**Pn**	**17 47 49.0**	**+1.0**
	122nm,0.3s,baz=81,slow=5.2,SNR=14						
DAV				Lg	Lg	17 48 21.5	
	126nm,0.3s,baz=76,slow=17,SNR=7.4						
DAV				LR	LR	17 48 54.3	
	comp=Z,41nm,21.6s,baz=210,slow=47						
DAV	**Davao City (W)**	**2.39**	**210**		**Pn**	**17 47 48.0**	**0.0**
KCP	**Kidapawan**	**2.71**	**218⇑**	*e*P	**Pn**	**17 47 52.2**	**-0.2**
KCP				*i* S	**Sn**	**17 48 23.8**	**-0.2**
DCPH	**Dipolog City**	**3.43**	**261⇑**	*e*P	**Pn**	**17 48 02.5**	**+0.3**
SNPH	**Sibulan**	**3.50**	**273⇑**	*i*P	**Pn**	**17 48 02.8**	**-0.4**
SNPH				*i* S	**Sn**	**17 48 50.9**	**+7.4**
RCP	**Roxas**	**4.63**	**301⇓**	*e*P	**Pn**	**17 48 18.7**	**+0.1**
SGSI	**Sangihe**	**5.58**	**193**	P	**Pn**	**17 48 34.3**	**+2.6**
	2.2nm2μm213nm,0.6s						
LQP	**Lukban**	**7.11**	**314⇑**	*e*P	**Pn**	**17 48 54.2**	**+1.3**
TNTI	**Ternate**	**8.35**	**176**	Pn	**Pn**	**17 49 10.4**	**+0.7**
TNTI	**Ternate**	**8.35**	**176**	P	**Pn**	**17 49 11.7**	**+2.0**
	1μm94nm,1.3s						
GTOI	**Gorontalo**	**9.26**	**204**	P	**Pn**	**17 49 20.8**	**-1.3**
	300nm36nm,1.1s						
MRSI	**Marisa**	**9.88**	**209**	P	**Pn**	**17 49 31.4**	**+0.8**
	582nm66nm,1.4s						
TOLI2	**Tolitoli**	**9.98**	**217**	Pn	**Pn**	**17 49 28.6**	**-3.4**
SZP	**Santa**	**10.36**	**324**	Pn	**Pn**	**17 49 36.8**	**-0.4**
SIJI	**Sorong**	**10.92**	**156**	Pn	**Pn**	**17 49 41.4**	**-3.5**
	1.5nm,0.3s,baz=294,slow=12,SNR=1.7						
SIJI				LR	LR	17 53 49.2	
	comp=Z,464nm,19.8s,baz=325,slow=37						
APSI	**Ampana**	**11.23**	**207**	P	Pn	17 50 01.9	+13
FAKI	**Fak Fak**	**13.18**	**155**	Pn	**Pn**	**17 50 17.5**	**+1.8**
TTSI	**Tana Toraja**	**13.97**	**210**	P	**Pn**	**17 50 23.8**	**-2.6**
	1μm44nm,1.1s						
TWG	**Pinlang**	**14.64**	**339**		**P**	**17 50 37.8**	**-2.6**
BNSI	**Bone**	**15.02**	**207**	P	**P**	**17 50 43.3**	**-1.3**
	871nm43nm,1.5s						
YULB	**Yu-li**	**15.10**	**340**		**P**	**17 50 44.3**	**-1.1**
TPUB	**Ta-pu**	**15.24**	**338**	P	**P**	**17 50 45.1**	**-2.0**
TPUB				IAmb	IAmb	17 51 20.4	
	comp=Z,45nm,1.1s						
SSLB	**Suanglung**	**15.58**	**340**		**P**	**17 50 49.8**	**-0.9**
KAPI	**Kappang**	**15.72**	**207**	Pn	**Pn**	**17 50 50.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=47,slow=9.9,SNR=3.9						
KAPI				LR	LR	17 57 13.5	
	comp=Z,243nm,19.8s,baz=32,slow=39						
KAPI	**Kappang**	**15.72**	**207**		**P**	**17 50 50.9**	**-1.5**
NACB	**Ninganchiao**	**15.73**	**342**	P	**P**	**17 50 51.5**	**-0.9**
YHNB	**Yeheng**	**16.26**	**342**	P	**Pn**	**17 50 57.1**	**+0.9**
KBKI	**Kotabaru**	**16.28**	**221**	P	P	17 51 09.0	+10
BBKI	**Banjar Baru**	**17.29**	**224**	P	P	17 51 21.2	+11
STKI	**Sintang**	**17.71**	**240**	P	P	17 51 29.1	+15
GENI	**Genyem**	**17.73**	**131**	P	**P**	**17 51 18.0**	**+3.3**
	comp=Z,3μmcomp=Z,217nm,0.8s						
MMRI	**Maumere**	**18.25**	**194**	P	**Pn**	**17 51 20.5**	**-0.2**
MMRI				IAmb	IAmb	17 51 43.3	
	comp=Z,100nm,1.2s						
GUMO	**Guam**	**18.27**	**74**	LR	LR	17 59 03.3	
	comp=Z,533nm,18.1s,baz=258,slow=39						
EDFI	**Ende, Flores**	**18.50**	**196**	P	**Pn**	**17 51 25.8**	**+2.0**
	comp=Z,13nm,1.2s						
SOEI	**Soe**	**18.95**	**188**		**P**	**17 51 28.4**	**+0.2**
SOEI				IAmb	IAmb	17 52 06.7	
	comp=Z,104nm,1.1s						
SOEI	**Soe**	**18.95**	**188**	P	**Pn**	**17 51 31.3**	**+1.9**
	comp=Z,83nm,1.0s						
QIZ	**Qiongzhong**	**19.11**	**303**	P	**P**	**17 51 27.6**	**-2.2**
QIZ				S	**S**	**17 54 59.1**	**-4.8**
QIZ				sS	**sS**	**17 55 22.8**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,22nm,1.6s						
QIZ				LR	LR		
	comp=Z,360nm,8.6s						
QIZ				LR	LR		
	comp=Z,470nm,10.2s						
QIZ				LR	LR		
	comp=Z,670nm,14.9s						
PBKI	**Pangkalan Bun**	**19.12**	**233**	P	**Pn**	**17 51 36.1**	**+4.9**
BATI	**Baumata**	**19.49**	**189**	P	**Pn**	**17 51 35.4**	**-0.2**
	comp=Z,73nm,1.1s						
PLAI	**Plampang**	**19.99**	**207**	P	**Pn**	**17 51 43.3**	**+1.8**
	comp=Z,77nm,1.1s						
TWSI	**Taliwang, Sumb**	**20.33**	**209**	P	Pn	17 51 44.1	-1.4
	comp=Z,25nm,0.8s						
JCJ	**Chichijima**	**23.03**	**37**	LR	LR	18 01 44.3	
	comp=Z,230nm,19.1s,baz=208,slow=38						
NJ2	**Nanjing**	**23.94**	**343⇑**	*i*P	**P**	**17 52 20.1**	**-0.2**
NJ2				pP	**pP**	**17 52 34.6**	**+2.8**
NJ2				sP	**pwP**	**17 52 44.3**	**+4.0**
NJ2				sS	Sn	17 56 59.0	-1.0
NJ2				pmax	pmax		
	comp=Z,49nm,0.9s						
MYKOM	**Kota Tinggi**	**23.95**	**254**	P	**P**	**17 52 21.0**	**+0.3**
JNU	**Nakatsue**	**24.15**	**8**	P	**P**	**17 52 22.2**	**0.0**
	comp=Z,11nm,0.9s,baz=177,slow=17,SNR=4.2						
JNU	**Nakatsue**	**24.15**	**8**	P	**P**	**17 52 21.8**	**-0.5**
JNU				IAmb	IAmb	17 52 28.6	
	comp=Z,22nm,1.1s						
KPJI	**Karang Pucung**	**24.18**	**228**	P	P	17 52 37.4	+15
NONG	**Nongkai**	**24.59**	**294**	P	**P**	**17 52 32.7**	**+6.3**
NONG	**Nongkai**	**24.59**	**294**	P	**P**	**17 52 32.7**	**+6.3**
	comp=Z,19μmcomp=Z,17nm,1.1s						
JRMM	**Jerantut**	**24.70**	**259**	P	**P**	**17 52 28.0**	**+0.5**
LEM	**Lembang**	**24.84**	**231**	P	**P**	**17 52 28.4**	**-0.5**
	comp=Z,36nm,1.0s						
PMBI	**Palembang**	**25.00**	**242**	P	**P**	**17 52 29.4**	**-0.9**
PMBI	**Palembang**	**25.00**	**242**	P	**P**	**17 52 32.6**	**+2.3**
CHAI	**Chaiyaphum**	**25.09**	**288**	P	**P**	**17 52 31.2**	**+0.1**
	comp=Z,305nmcomp=Z,34nm,0.8s						
CHAI	**Chaiyaphum**	**25.09**	**288**	P	**P**	**17 52 31.3**	**+0.1**
	comp=Z,76nmcomp=Z,8.4nm,0.8s						
SLVN	**Son La**	**25.12**	**301**	P	**P**	**17 52 29.4**	**-2.0**
CBJI	**Citeko**	**25.18**	**233**	P	P	17 52 44.7	+13
DBJI	**Dramaga**	**25.34**	**233**	P	P	17 52 40.5	+7.2
BLSI	**Bandar Lampung**	**25.86**	**237**	P	P	17 52 45.4	+7.3
IPM	**Ipoh**	**25.98**	**261**	P	**P**	**17 52 39.0**	**-0.2**
MDSI	**Maura Dua**	**26.29**	**240**	P	**P**	**17 52 42.3**	**+0.4**
ENH	**Enshi**	**26.50**	**325**	P	**P**	**17 52 40.8**	**-2.9**
LWLI	**Liwa**	**26.67**	**239**	P	**P**	**17 52 45.2**	**-0.3**
	comp=Z,88nm,0.9s						
PHIT	**Phitsanulok**	**26.85**	**290**	P	P	17 52 54.7	+7.7
PHIT	**Phitsanulok**	**26.85**	**290**	P	P	17 52 54.8	+7.8
UTTA	**Uttaradit**	**26.86**	**291**	P	P	17 52 56.7	+10
UTTA	**Uttaradit**	**26.86**	**291**	P	P	17 52 56.8	+10
	comp=Z,2.0nm,0.9s						
BKNI	**Bangkinang**	**27.08**	**253**	P	**P**	**17 52 45.6**	**-3.5**
BKNI				IAmb	IAmb	17 53 13.1	
	comp=Z,24nm,1.0s						
KRAB	**Krabi**	**27.28**	**270**	P	P	17 53 00.0	+9.2
KRAB	**Krabi**	**27.28**	**270**	P	P	17 53 00.1	+9.3
	comp=Z,28μmcomp=Z,299nm,0.6s						
PMG	**Port Moresby**	**27.42**	**132**	P	**P**	**17 52 51.7**	**-0.4**
	comp=Z,22nm,1.0s,baz=265,slow=11,SNR=3.4						
PMG	**Port Moresby**	**27.42**	**132**	IAmb	IAmb	17 52 59.7	
	comp=Z,29nm,1.0s						
KMI	**Kunming**	**27.84**	**308**	*i*P	**P**	**17 52 56.8**	**+0.8**
KMI				pP	pwP	17 53 13.3	-1.2
KMI				PP	**PnPn**	**17 53 50.8**	**+6.0**
KMI				S	**S**	**17 57 31.3**	**-4.5**
KMI				sS	sS	17 58 02.8	+6.7
KMI				SS	**SnSn**	**17 58 53.5**	**+0.2**
KMI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,150nm,5.0s						
KMI				LR	LR		
	comp=Z,140nm,19.0s						
KMI				LR	LR		
	comp=Z,360nm,14.9s						
KMI				LR	LR		
	comp=Z,420nm,14.9s						
KSAR	**Wonju Array Be**	**28.18**	**2**		**P**	**17 52 59.2**	**+0.6**
KSRS	**Korea Array**	**28.19**	**2**	P	**P**	**17 52 58.5**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=180,slow=10,SNR=7.3						
KSRS				LR	LR	18 05 26.7	
	comp=Z,257nm,19.3s,baz=172,slow=39						
MNSI	**Mandailing Nat**	**28.32**	**254**	P	P	17 53 06.1	+6.0
CM35	**Chiang Mai Arr**	**28.39**	**292**	P	P	17 53 11.0	+10
CM02	**Chiang Mai Arr**	**28.52**	**292**	P	P	17 53 13.4	+12
CM02	**Chiang Mai Arr**	**28.52**	**292**	P	P	17 53 13.5	+12
	comp=Z,7.8nm,0.9s						
CM31	**Chiang Mai Arr**	**28.53**	**292**	P	**P**	**17 53 01.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**28.53**	**292**	P	**P**	**17 53 01.4**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=106,slow=7.1,SNR=18						
CMAR				PcP	**PcP**	**17 56 13.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=76,slow=1.7,SNR=7.9						
CMAR				LR	LR	18 04 44.9	
	comp=Z,212nm,18.2s,baz=110,slow=37						
CMAR	**Chiang Mai Arr**	**28.53**	**292**	P	**P**	**17 53 00.0**	**-1.9**
CM15	**Chiang Mai Arr**	**28.55**	**292**	P	**P**	**17 53 03.4**	**+1.3**
	comp=Z,78nmcomp=Z,9.6nm,0.9s						
CM13	**Chiang Mai Arr**	**28.55**	**292**	P	P	17 53 14.3	+12
CM13	**Chiang Mai Arr**	**28.55**	**292**	P	P	17 53 14.3	+12
WB0	**Warramunga Arr**	**29.71**	**165**	P	**P**	**17 53 13.6**	**+1.2**
WRAB	**Tennant Creek**	**29.86**	**166**	P	**P**	**17 53 13.5**	**-0.1**
WRAB				IAmb	IAmb	17 53 26.9	
	comp=Z,25nm,1.1s						
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**17 53 11.2**	**-2.6**
	comp=Z,2.0nm,0.5s,baz=347,slow=9.1,SNR=18						
WRA	**Warramunga Arr**	**29.86**	**166**	P	**P**	**17 53 11.9**	**-1.8**
WB2	**Warramunga Arr**	**29.86**	**166**	P	**P**	**17 53 12.8**	**-1.0**
WB2				IAmb	IAmb	17 53 27.1	
	comp=Z,8.1nm,0.8s						
WR0	**Warramunga Arr**	**29.93**	**165**	P	**P**	**17 53 13.6**	**-0.7**
WR0				IAmb	IAmb	17 53 25.7	
	comp=Z,14nm,1.1s						
CD2	**Chengdu**	**30.47**	**318**	*e*P	**P**	**17 53 17.6**	**-1.5**
CD2				LR	LR		
	comp=Z,630nm,23.3s						
CD2				LR	LR		
	comp=Z,770nm,22.5s						
CD2				LR	LR		
	comp=Z,920nm,17.3s						
BJT	**Baijiatuau**	**32.15**	**345**	P	**P**	**17 53 32.6**	**-1.1**
BJT				IAmb	IAmb	17 53 47.0	
	comp=Z,9.7nm,0.9s						
BJI	**Beijing**	**32.17**	**345**	P	**P**	**17 53 33.9**	**+0.1**
BJI				pP	**sP**	**17 53 49.9**	**-1.3**
BJI				S	**S**	**17 58 42.3**	**-0.6**
BJI				pmax	pmax		
	comp=Z,14nm,1.0s						
BJI				LR	LR		
	comp=Z,220nm,12.6s						
BJI				LR	LR		
	comp=Z,140nm,12.4s						
BJI				LR	LR		
	comp=Z,230nm,21.3s						
SNY	**Shenyang**	**32.66**	**356**	⇓P	**P**	**17 53 39.0**	**+0.9**
SNY				pmax	pmax		
	comp=Z,13nm,0.5s						
AS31	**Alice Springs**	**33.36**	**168**	P	**P**	**17 53 42.3**	**-2.2**
ASAR	**Alice Springs**	**33.36**	**168**	P	**P**	**17 53 42.3**	**-2.2**
	comp=Z,2.0nm,0.5s,baz=352,slow=6.6,SNR=55						
ASAR				PcP	**PcP**	**17 56 25.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=349,slow=2.5,SNR=1.6						
ASAR	**Alice Springs**	**33.36**	**168**	P	**P**	**17 53 42.4**	**-2.0**
LZH	**Lanzhou**	**33.97**	**326**	*e*P	**P**	**17 53 47.9**	**-1.9**
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				LR	LR		
	comp=Z,310nm,14.4s						
LZH				LR	LR		
	comp=Z,290nm,16.3s						
LZH				LR	LR		
	comp=Z,230nm,17.4s						
HHC	**Hu-ho-hao-te**	**34.33**	**339**	*e*P	**P**	**17 53 54.5**	**+1.7**
HHC				S	**S**	**17 59 20.3**	**+3.7**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,64nm,4.5s						
HHC				LR	LR		
	comp=Z,250nm,14.1s						
HHC				LR	LR		
	comp=Z,200nm,13.3s						
HHC				LR	LR		
	comp=Z,280nm,11.8s						
CTAO	**Charters Tower**	**34.82**	**147**	P	**P**	**17 53 56.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**35.20**	**7**	P	**P**	**17 54 00.4**	**+0.3**
USA0B				IAmb	IAmb	17 54 16.4	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	**35.20**	**7**	P	**P**	**17 54 00.9**	**+0.8**
	comp=Z,5.1nm,0.8s,baz=197,slow=8.1,SNR=15						
USRK	**Ussuriysk Ar.**	**35.20**	**7**	P	**P**	**17 54 00.1**	**0.0**
USRK				pP		17 54 00.6	-11
MDJ	**Mudanjiang**	**35.41**	**3**	P	**P**	**17 54 02.8**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.3s						
MDJ	**Mudanjiang**	**35.41**	**3**		**P**	**17 54 00.5**	**-1.4**
SHL	**Shillong**	**36.93**	**301**	P	**P**	**17 54 13.0**	**-2.4**
SHL				IAmb	IAmb	17 54 14.1	
	comp=Z,14nm,0.9s						
GTA	**Gaotai**	**38.58**	**326**	*e*P	**P**	**17 54 27.6**	**-1.5**
GTA				PcP	**PcP**	**17 56 41.8**	**+1.0**
GTA				S	**S**	**18 00 26.1**	**+4.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,44nm,5.5s						
GTA				LR	LR		
	comp=Z,290nm,17.1s						
GTA				LR	LR		
	comp=Z,320nm,17.4s						
GTA				LR	LR		
	comp=Z,470nm,17.1s						
LSA	**Lhasa**	**39.08**	**306**	P	**P**	**17 54 31.2**	**-2.6**
H11S3	**WAKE ISLAND Hy**	**39.77**	**72**	T	T	18 37 40.1	
	baz=262,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**39.78**	**72**	T	T	18 37 41.2	
	baz=262,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**39.79**	**72**	T	T	18 37 43.1	
	baz=262,slow=75,SNR=20						
YSS	**Yuzh-Sakhalins**	**40.05**	**17**	P	**P**	**17 54 42.4**	**+1.4**
YSS				IAmb	IAmb	17 54 59.6	
	comp=Z,28nm,1.6s						
HIA	**Hailar**	**40.41**	**353**	P	**P**	**17 54 43.9**	**-0.2**
HIA				IAmb	IAmb	17 54 57.1	
	comp=Z,16nm,1.2s						
ULN	**Ulaanbaatar**	**42.03**	**340**	P	**P**	**17 54 57.0**	**-0.6**
SONM	**Songino Array**	**42.23**	**340**	P	**P**	**17 54 58.6**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=156,slow=9.3,SNR=7.6						
SONM				ScP	**ScP**	**18 00 42.6**	**+4.0**
	comp=Z,0.3nm,0.4s,baz=122,slow=1.9,SNR=2.2						
SONM				LR	LR	18 14 16.5	
	comp=Z,143nm,18.3s,baz=154,slow=38						
SONM	**Songino Array**	**42.23**	**340**	P	**P**	**17 54 58.3**	**-0.9**
NWAO	**Narrogin (SRO)**	**42.83**	**192**	P	**P**	**17 55 03.3**	**-0.7**
	comp=Z,7.7nm,0.7s,baz=10,slow=9.8,SNR=7.2						
STKA	**Stephens Creek**	**43.20**	**161**	P	**P**	**17 55 05.2**	**-1.8**
	comp=Z,6.7nm,0.8s,baz=338,slow=7.1,SNR=10.0						
STKA				LR	LR	18 17 44.5	
	comp=Z,84nm,18.0s,baz=217,slow=43						
STKA	**Stephens Creek**	**43.20**	**161**	P	**P**	**17 55 07.2**	**+0.3**
WMQ	**Urumqi**	**48.40**	**322**	*e*P	**P**	**17 55 49.5**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,5.1s						
WMQ				LR	LR		
	comp=Z,350nm,21.3s						
WMQ				LR	LR		
	comp=Z,230nm,15.1s						
WMQ				LR	LR		
	comp=Z,130nm,15.1s						
LIFNC	**LIFOU**	**49.67**	**127**	P	**P**	**17 55 58.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**50.44**	**24**	P	**P**	**17 56 05.1**	**+1.8**
PETK	**Petropavlovsk-**	**50.44**	**24**	P	**P**	**17 56 04.6**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=210,slow=4.6,SNR=9.3						
PETK				LR	LR	18 17 10.3	
	comp=Z,138nm,19.6s,baz=218,slow=36						
PETK	**Petropavlovsk-**	**50.44**	**24**	P	**P**	**17 56 05.0**	**+1.6**
YAK	**Yakutsk**	**52.82**	**2**	P	**P**	**17 56 21.2**	**+0.3**
YAK				IAmb	IAmb	17 56 38.6	
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**53.21**	**323**	P	**P**	**17 56 23.1**	**-1.0**
MK31				IAmb	IAmb	17 56 24.1	
	comp=Z,8.7nm,0.8s						
MKAR	**Makanchi Array**	**53.21**	**323**	P	**P**	**17 56 23.3**	**-0.8**
	comp=Z,10nm,0.8s,baz=122,slow=8.4,SNR=100						
MKAR				LR	LR	18 18 29.1	
	comp=Z,120nm,19.4s,baz=126,slow=35						
MKAR	**Makanchi Array**	**53.21**	**323**	P	**P**	**17 56 22.7**	**-1.4**
MAKZ	**Makanchi**	**53.40**	**323**	P	**P**	**17 56 24.3**	**-1.2**
MAKZ				IAmb	IAmb	17 56 25.6	
	comp=Z,10nm,0.8s						
MA2	**Magadan**	**53.47**	**15**	P	**P**	**17 56 26.9**	**+1.2**
PRZ	**Przheval'sk**	**53.73**	**317**	P	**P**	**17 56 27.2**	**-1.0**
PRZ				IAmb	IAmb	17 56 29.1	
	comp=Z,12nm,0.8s						
KSH	**Kashi**	**54.34**	**312**	P	**P**	**17 56 33.0**	**+0.3**
KSH				pP	sP	17 56 53.5	+2.4
KSH				S	**S**	**18 04 06.1**	**-0.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KSH				pmax	pmax		
	comp=Z,100nm,4.1s						
KSH				LR	LR		
	comp=Z,180nm,7.1s						
KSH				LR	LR		
	comp=Z,350nm,13.5s						
KSH				LR	LR		
	comp=Z,220nm,9.5s						
KDJ	**Kajisay**	**54.43**	**316**	P	**P**	**17 56 30.9**	**-2.3**
KDJ				IAmb	IAmb	17 56 33.5	
	comp=Z,7.6nm,0.8s						
NIL	**Nilore**	**54.77**	**305**	P	**P**	**17 56 34.0**	**-1.7**
BOOM	**

HRA	**Herat**	**63.89**	**304**	P	**P**	**17 57 36.9**	**-2.1**
THZ	**Tophouse**	**65.98**	**144**	P	**P**	**17 57 53.9**	**+1.8**
LBZ	**Lake Benmore**	**66.17**	**147**	P	**P**	**17 57 53.8**	**+0.6**
RPZ	**Rata Peaks**	**66.19**	**146**	P	**P**	**17 57 53.8**	**+0.5**
LTZ	**Lake Taylor**	**66.26**	**145**	P	**P**	**17 57 54.7**	**+0.9**
BKZ	**Black Stump Fm**	**66.62**	**140**	P	**P**	**17 57 56.4**	**+0.2**
GEYT	**Alibeck**	**67.61**	**307**	P	**P**	**17 58 02.5**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=180,slow=4.4,SNR=4.2						
GEYT				LR	LR	18 32 20.8	
	comp=Z,82nm,18.4s,baz=180,slow=40						
ABKAR	**Akbulak array**	**68.04**	**319**	P	**P**	**17 58 03.9**	**-1.1**
ABKAR	**Akbulak array**	**68.04**	**319**	P	**P**	**17 58 03.8**	**-1.1**
UOSS	**Minazif**	**68.63**	**293**	P	**P**	**17 58 07.5**	**-1.7**
UOSS				IAmb	IAmb	17 58 47.5	
	comp=Z,12nm,1.2s						
ARU	**Arti**	**70.42**	**327**	P	**P**	**17 58 18.4**	**-1.2**
ARU				IAmb	IAmb	17 58 19.3	
	comp=Z,22nm,1.4s						
KDAK	**Kodiak Island**	**77.32**	**33**	P	**P**	**17 59 01.4**	**+1.5**
BPAW	**Bear Paw Mtn.**	**78.42**	**26**	P	**P**	**17 59 08.2**	**+2.1**
BPAW				IAmb	IAmb	17 59 21.6	
	comp=Z,22nm,1.4s						
MLY	**Manley**	**78.58**	**25**	P	**P**	**17 59 08.7**	**+1.9**
MLY				IAmb	IAmb	17 59 27.6	
	comp=Z,5.8nm,0.9s						
I23K	**Minto, Yukon-K**	**79.17**	**25**	P	**P**	**17 59 11.4**	**+1.4**
I23K				IAmb	IAmb	17 59 28.8	
	comp=Z,18nm,1.5s						
KBZ	**Khabaz**	**79.33**	**313**	P	**P**	**17 59 10.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=109,slow=4.7,SNR=3.8						
KBZ				LR	LR	18 41 30.4	
	comp=Z,51nm,18.6s,baz=88,slow=41						
PWL	**Port Wells**	**79.57**	**30**	P	**P**	**17 59 13.8**	**+1.4**
CCB	**Clear Creek Bu**	**79.82**	**26**	P	**P**	**17 59 15.1**	**+1.5**
CCB				IAmb	IAmb	17 59 34.5	
	comp=Z,15nm,1.6s						
GLI	**Glacier Island**	**80.18**	**30**	P	**P**	**17 59 17.5**	**+1.9**
ILAR	**Eielson Array**	**80.22**	**26**	P	**P**	**17 59 17.3**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=231,slow=5.1,SNR=5.2						
KLMR	**Klimovskoe**	**80.73**	**330**	*eP*	**P**	**17 59 16.5**	**-2.0**
KLMR				AMP		17 59 29.2	
	comp=Z,21nm,1.1s						
PAX	**Paxson**	**80.89**	**28**	P	**P**	**17 59 20.7**	**+1.2**
BMAR	**Burnt Mountain**	**81.09**	**23**	P	**P**	**17 59 21.4**	**+1.0**
RIDG	**Independent Ri**	**81.14**	**27**	P	**P**	**17 59 20.6**	**-0.1**
RIDG				IAmb	IAmb	17 59 36.4	
	comp=Z,13nm,1.0s						
TGL	**Tana Glacier**	**82.27**	**30**	P	**P**	**17 59 26.3**	**-0.5**
K27K	**Chicken**	**82.34**	**26**	P	**P**	**17 59 28.5**	**+1.5**
DAWY	**Dawson**	**83.51**	**26**	P	**P**	**17 59 33.7**	**+0.6**
DAWY				IAmb	IAmb	17 59 49.7	
	comp=Z,9.9nm,1.1s						
GAZ	**Gaziantep**	**84.20**	**307**	P	**P**	**17 59 36.4**	**-0.8**
GAZ				IAmb	IAmb	17 59 49.6	
	comp=Z,9.3nm,0.9s						
EPYK	**Eagle Plains**	**84.28**	**24**	P	**P**	**17 59 38.1**	**+1.1**
EPYK				IAmb	IAmb	17 59 57.6	
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**85.13**	**22**	P	**P**	**17 59 42.4**	**+1.3**
INK				IAmb	IAmb	17 59 59.5	
	comp=Z,7.3nm,1.1s						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**17 59 42.2**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=80,slow=6.7,SNR=9.7						
ARCES	**ARCESS Array B**	**85.40**	**340**	P	**P**	**17 59 42.5**	**0.0**
ARCES				IAmb	IAmb	17 59 56.9	
	comp=Z,6.0nm,0.8s						
BRTR	**Keskin Array B**	**86.62**	**310**	P	**P**	**17 59 48.1**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=90,slow=3.2,SNR=2.9						
FINES	**FINESS Array B**	**87.10**	**332**	P	**P**	**17 59 50.2**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=70,slow=5.1,SNR=7.8						
FINES				LR	LR	18 42 58.0	
	comp=Z,135nm,18.4s,baz=86,slow=38						
AKASG	**Malin Array Be**	**87.74**	**321**	P	**P**	**17 59 53.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=62,slow=5.1,SNR=4.2						
AKASG	**Malin Array Be**	**87.74**	**321**	IAmb	IAmb	18 00 08.8	
	comp=Z,5.3nm,1.4s						
VNDA	**Vanda**	**88.77**	**173**	P	**P**	**17 59 58.3**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=274,slow=6.2,SNR=3.8						
KMBO	**Kilima Mbogo**	**89.71**	**269**	P	**P**	**18 00 03.2**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=34,slow=9.5,SNR=5.0						
CRVS	**Cervenica-Dubn**	**93.05**	**320**	*eP*	**P**	**18 00 20.9**	**+1.7**
NOA	**NORSAR Array B**	**93.97**	**334**	P	**P**	**18 00 21.5**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=68,slow=4.8,SNR=3.2						
YKA	**Yellowknife Ar**	**94.56**	**24**	P	**P**	**18 00 26.3**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=326,slow=3.9,SNR=3.5						
CLL	**Collm**	**97.28**	**325**	*eP*S	PS	18 13 25.0	-1.6
CLL				*eS*S	SS	18 18 48.0	+12
CLL				LmV		18 55 00.0	
	comp=Z,100nm,18.9s						
GERES	**GERESS Array B**	**97.87**	**322**	P	**P**	**18 00 41.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.3,SNR=3.6						
TXAR	**Lajitas Array**	**118.16**	**50**	PKP	**PKiKP**	**18 05 54.0**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=14,slow=0.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**121.14**	**291**	PKP	**PKPdf**	**18 05 57.8**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=50,slow=2.2,SNR=4.8						
PLCA	**Paso Flores**	**144.99**	**157**	PKP	**PKPab**	**18 06 42.4**	**+0.2**
	comp=Z,4.4nm,1.0s,baz=199,slow=2.9,SNR=3.5						
LPAZ	**La Paz**	**163.83**	**117**	PKP	**PKPdf**	**18 07 11.5**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=209,slow=11,SNR=2.1						

IDC 17 18:06:09.3±1.6, 29°.65N×143°.49E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/29, mbtmp3.7/5, ML2.8/2, Error ellipse: s-maj=43.4km s-min=31.3km az=78.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.17**	**329**	Pn	Pn	18 08 09.4	+0.2
	0.1nm,0.3s,baz=150,slow=12,SNR=6.8						
MJAR				Sn	Sn	18 09 37.2	-5.1
	0.1nm,0.3s,baz=219,slow=11,SNR=1.5						
KSRS	**Korea Array**	**15.12**	**305**	Pn	Pn	18 09 45.4	+1.3
	0.1nm,0.3s,baz=110,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**49.78**	**308**	P	P	18 15 03.2	-0.5
	0.5nm,0.7s,baz=96,slow=9.3,SNR=7.3						
WRA	**Warramunga Arr**	**50.09**	**191**	P	P	18 15 06.2	0.0
	0.6nm,0.8s,baz=8.0,slow=7.6,SNR=2.3						
ILAR	**Eielson Array**	**54.93**	**29**	P	P	18 15 41.5	-0.1
	0.7nm,0.8s,baz=272,slow=7.1,SNR=4.6						

*IDC **17** 18:06:26.5±0.8, 13°.88N×58°.40W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.9/42, mbtmp3.9/13, ML4.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=19.9km s-min=18.2km az=125.0*

*TRN **17** 18:06:27.5, 13°.82N×58°.46W, h113km, MD4.2*

*NEIC **17** 18:06:34.1±3.0, 13°.97N±0°.05×59°.02W±0°.07, h5km±4km, mb4.6/21, Error ellipse: s-maj=10.7km s-min=7.2km az=111.0*

ISC 17 18:06:29.8±1.3, 13°.89N±0°.04×58°.48W±0°.06, h24km±8km, n132, σ1§60/132, mb4.1/15, MS3.2/4, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.23**	**231**	*eP*	**Pb**	**18 06 52.1**	**-0.3**
BBSP				*eS*	**Sb**	**18 07 10.0**	**+2.1**
BBGH	**Gun Hill**	**1.28**	**235**	*eP*	**Pn**	**18 06 52.3**	**0.0**
BBGH				*eS*	**Sb**	**18 07 11.8**	**+2.4**
BBGH	**Gun Hill**	**1.28**	**235**		**Pn**	**18 06 52.3**	**0.0**
BCHC	**Barbados, Cave**	**1.35**	**236**	*eP*	**Pn**	**18 06 53.7**	**+0.5**
BCHC				*eS*	**Sb**	**18 07 13.7**	**+2.5**
H05S1	**Guadeloupe/Mar**	**2.35**	**283**	Pn	**Pn**	**18 07 05.3**	**-1.7**
H05S1				Sn	**Sn**	**18 07 32.4**	**-2.7**
H05S1				T	T	18 09 52.7	
	SNR=4.8						
MPOM	**Morne Pois Mar**	**2.37**	**284**	*eP*	**Pn**	**18 07 06.4**	**-0.9**
MPOM				*eS*	**Sn**	**18 07 35.8**	**+0.1**
SLW	**Petit Monier**	**2.39**	**273**	*eP*	**Pn**	**18 07 07.0**	**-0.5**
SLW				*eS*	**Sn**	**18 07 35.7**	**-0.5**
MCLT	**Moule a Chique**	**2.40**	**266**	*eP*	**Pn**	**18 07 06.9**	**-0.8**
MCLT				*eS*	**Sn**	**18 07 35.5**	**-0.9**
SLBI	**Saint Lucia, B**	**2.43**	**273**	*eP*	**Pn**	**18 07 06.4**	**-1.6**
MVM	**Montagne Vaucl**	**2.44**	**286**	*eP*	**Pn**	**18 07 07.3**	**-0.9**
ILAM	**Ilet Lapin Mar**	**2.48**	**291**	*eP*	**Pn**	**18 07 07.9**	**-0.9**
SLB	**Belfond**	**2.49**	**269**	*eP*	**Pn**	**18 07 07.9**	**-1.0**
ZAM	**Aeronautique**	**2.56**	**286**	*eP*	**Pn**	**18 07 08.6**	**-1.3**
TRMF	**Trois Ilets**	**2.58**	**285**	*eP*	**Pn**	**18 07 08.7**	**-1.4**
BIM	**Bigot**	**2.59**	**284**	*eP*	**Pn**	**18 07 09.1**	**-1.3**
BIM				*eS*	**Sn**	**18 07 40.5**	**-0.6**
BIM	**Bigot**	**2.59**	**284**		**Sn**	**18 07 39.6**	**-1.6**
SSV	**Crater Summit**	**2.70**	**258**	*eP*	**Pn**	**18 07 10.7**	**-1.2**
SVV	**Soufriere Volc**	**2.72**	**258**	*eP*	**Pn**	**18 07 10.9**	**-1.2**
FDF	**Fort de France**	**2.72**	**288**	*eP*	**Pn**	**18 07 11.5**	**-0.7**
FDF				*eS*	**Sn**	**18 07 43.3**	**-1.1**
FDF	**Fort de France**	**2.72**	**288**		**Pn**	**18 07 08.9**	**-3.3**
FDF					**Sn**	**18 07 42.2**	**-2.2**
BAMF	**Morne Balai**	**2.75**	**290**	*eP*	**Pn**	**18 07 11.9**	**-0.6**
GBMF	**Grand Be**	**2.76**	**290**	*eP*	**Pn**	**18 07 12.0**	**-0.6**
SVB	**Belmont**	**2.77**	**258**	*eP*	**Pn**	**18 07 11.5**	**-1.2**
SVB				*eS*	**Sn**	**18 07 44.4**	**-1.0**
SVB	**Belmont**	**2.77**	**258**	Pn	**Pn**	**18 07 11.3**	**-1.4**
SVOC	**Richmond Hill,**	**2.77**	**255**	*e*	Pb	18 07 40.1	+22
PML	**Morne Lenard**	**2.77**	**289**	*eP*	**Pn**	**18 07 12.4**	**-0.4**
SVN	**Savane Anatole**	**2.77**	**290**	*eP*	**Pn**	**18 07 12.8**	**0.0**
SVN	**Savane Anatole**	**2.77**	**290**		**Pn**	**18 07 12.1**	**-0.7**
SVN				LR	LR	18 07 43.5	
PCM	**Pelee Case Pet**	**2.80**	**290**	*eP*	**Pn**	**18 07 12.8**	**-0.4**
DLPL	**La Plaine**	**3.04**	**299**	*eP*	**Pn**	**18 07 16.1**	**-0.4**
DLPL				*eS*	**Sn**	**18 07 51.4**	**-0.8**
GCMP	**Grenada, Carri**	**3.19**	**244**	*eP*	**Pn**	**18 07 17.4**	**-1.1**
GCMP				*eS*	**Sn**	**18 07 53.4**	**-2.4**
DSLB	**Salisbury**	**3.24**	**299**	*eP*	**Pn**	**18 07 18.5**	**-0.7**
DSLB				*eS*	**Sn**	**18 07 56.0**	**-1.1**
TOSP	**Speyside**	**3.26**	**218**	*eP*	**Pn**	**18 07 18.5**	**-1.1**
TOSP				*eS*	**Sn**	**18 07 54.5**	**-3.1**
MAGL	**Barre de l'ile**	**3.40**	**307**	*eP*	**Pn**	**18 07 20.9**	**-0.5**
MAGL				*eS*	**Sn**	**18 08 01.2**	**+0.2**
H05N1	**Guadeloupe/Mar**	**3.47**	**314**	Pn	**Pn**	**18 07 20.7**	**-1.7**
H05N1				Sn	**Sn**	**18 07 58.8**	**-4.0**
H05N1				T	T	18 11 26.3	
GRGR	**Grenville**	**3.55**	**241**	*eP*	**Pn**	**18 07 22.4**	**-1.1**
GRGR	**Grenville**	**3.55**	**241**		**Pn**	**18 07 22.1**	**-1.4**
CBE	**Ff, Capester**	**3.72**	**306**	*eP*	**Pn**	**18 07 25.7**	**-0.2**
CBE				*eS*	**Sn**	**18 08 07.6**	**-1.5**
ABD	**La Joyeuse, An**	**3.88**	**312**	*eP*	**Pn**	**18 07 27.3**	**-0.7**
ABD				*eS*	**Sn**	**18 08 11.4**	**-1.5**
ANBD	**Bethesda, Anti**	**4.46**	**315**	*eP*	**Pn**	**18 07 35.4**	**-0.7**
ANBD	**Bethesda, Anti**	**4.46**	**315**	*eS*	**Sn**	**18 08 24.4**	**-2.8**
BPA	**Boggy Peak**	**4.52**	**314**	*eP*	**Pn**	**18 07 36.3**	**-0.7**
BPA	**Boggy Peak**	**4.52**	**314**	*eS*	**Sn**	**18 08 26.1**	**-2.8**
ANOC	**Antigua Open C**	**4.56**	**315**	*eP*	**Pn**	**18 07 36.9**	**-0.5**
ANOC	**Antigua Open C**	**4.56**	**315**	*eS*	**Sn**	**18 08 27.8**	**-1.8**
ANWB	**Willy Bob**	**4.93**	**320**	*eP*	**Pn**	**18 07 40.5**	**-1.9**
ANWB	**Willy Bob**	**4.93**	**320**	*eS*	**Sn**	**18 08 35.7**	**-3.0**
ANWB	**Willy Bob**	**4.93**	**320**	Pn	**Pn**	**18 07 40.7**	**-1.7**
SKI	**Saint Kitts**	**5.35**	**310**	*eP*	**Pn**	**18 07 46.5**	**-1.8**
SKI	**Saint Kitts**	**5.35**	**310**	Pn	**Pn**	**18 07 47.4**	**-0.9**
SABA	**Saba**	**5.90**	**310**	Pn	**Pn**	**18 07 55.0**	**-0.8**
SMRT	**St. Maarten**	**6.05**	**314**	Pn	**Pn**	**18 07 56.3**	**-1.7**
PLCV	**Puerto La Cruz**	**7.03**	**239**		**Pn**	**18 08 12.0**	**+0.6**
PCRV	**Puerto La Cruz**	**7.06**	**239**	Pn	**Pn**	**18 08 12.0**	**+0.1**
	18nm,0.3s,baz=59,slow=2.7,SNR=44						
PCRV				Sn	**Sn**	**18 09 27.7**	**-3.8**
	baz=245,slow=17,SNR=1.1						
ABVI	**Anegada Island**	**7.40**	**311**	Pn	**Pn**	**18 08 15.6**	**-0.8**
STVI	**Saint Thomas**	**7.64**	**306**	Pn	**Pn**	**18 08 18.6**	**-1.1**
CUPR	**Culebra, Puert**	**7.88**	**305**		**Pn**	**18 08 21.7**	**-1.3**
MTP	**Monte Pirata**	**7.99**	**303**	Pn	**Pn**	**18 08 25.1**	**+0.6**
HUMP	**Col San Antoni**	**8.25**	**302**	Pn	**Pn**	**18 08 28.4**	**+0.2**
CBYP	**Canovanas**	**8.32**	**303**	Pn	**Pn**	**18 08 28.8**	**-0.3**
PDPR	**Patillas Dam,**	**8.34**	**301**	Pn	**Pn**	**18 08 28.7**	**-0.6**
SJG	**San Juan**	**8.49**	**301**	Pn	**Pn**	**18 08 32.8**	**+1.5**
	1.7nm,0.3s,baz=129,slow=18,SNR=1.5						
GCPR	**Guaynabo City**	**8.53**	**302**	Pn	**Pn**	**18 08 31.9**	**0.0**
ICMP	**Isla Caja de M**	**8.70**	**298**	Pn	**Pn**	**18 08 35.0**	**+0.7**
OBIP	**Obispado Ponce**	**8.84**	**299**	Pn	**Pn**	**18 08 36.5**	**+0.3**
EMPR	**Esperanza - Ma**	**8.98**	**302**	Pn	**Pn**	**18 08 39.0**	**+0.9**
AOPR	**Arecibo Observ**	**9.10**	**300**		**Pn**	**18 08 39.7**	**-0.2**
MLPR	**Magueyes Islan**	**9.18**	**297**	Pn	**Pn**	**18 08 39.3**	**-1.6**
AGPR	**Aguadilla, PR**	**9.46**	**300**	Pn	**Pn**	**18 08 44.0**	**-0.7**
MDP	**Montagnes des**	**10.46**	**146**	Pn	Pn	18 08 50.8	-7.6
	3.9nm,0.3s,baz=338,slow=14,SNR=32						
MDP				Sn	Sn	18 10 38.1	-17
	5.5nm,0.3s,baz=337,slow=19,SNR=4.4						
PCDR	**Punta Cana, DR**	**10.56**	**297**	Pn	**Pn**	**18 08 59.7**	**-0.1**
DR12	**Loma Pena Alta**	**11.54**	**296**	Pn	**Pn**	**18 09 14.2**	**+0.9**
SDV	**Santo Domingo**	**12.91**	**249**	LR	LR	18 17 05.9	
	comp=Z,144nm,18.9s,baz=74,slow=49						
SDDR	**Presa de Saban**	**13.29**	**294**	Pn	**Pn**	**18 09 37.0**	**-0.2**
SDDR	**Presa de Saban**	**13.29**	**294**	*eP*	**Pn**	**18 09 37.2**	**0.0**
PAMC	**Pamplona, Colo**	**15.41**	**246**	*eP*	**Pn**	**18 10 02.5**	**-3.9**
OCAC	**Ocana**	**15.60**	**250**	*eP*	**Pn**	**18 10 07.7**	**-0.9**
SMLC	**San Martn de**	**16.10**	**253**	*eP*	**Pn**	**18 10 12.1**	**-2.7**
BARC	**Barichara**	**16.18**	**245**	*eP*	**P**	**18 10 21.6**	**+2.6**
RUSC	**La Rusia**	**16.43**	**243**	P	**P**	**18 10 21.4**	**-0.7**
RUSC				IAmb	IAmb	18 10 37.8	
	comp=Z,28nm,0.9s						
RUSC	**La Rusia**	**16.43**	**243**	*eP*	**P**	**18 10 23.6**	**+1.6**
SJCC	**San Jacinto, C**	**16.82**	**258**	P	**Pn**	**18 10 22.6**	**-1.4**
SJCC	**San Jacinto, C**	**16.82**	**258**	*eP*	**Pn**	**18 10 22.8**	**-1.1**
GTBY	**Guantanamo Bay**	**17.00**	**293**	P	**P**	**18 10 30.8**	**+2.9**
GTBY				IAmb	IAmb	18 10 48.0	
	comp=Z,75nm,1.3s						
ZARC	**Zaragoza, Cauc**	**17.30**	**250**	*eP*	**Pn**	**18 10 27.4**	**-2.6**
CHIC	**Chingaza**	**17.63**	**240**	*eP*	**Pn**	**18 10 31.8**	**-2.6**
UREC	**San Jos de Ur**	**17.82**	**252**	*eP*	**Pn**	**18 10 34.4**	**-2.1**
NORC	**Norcasia**	**18.14**	**244**	*eP*	**Pn**	**18 10 38.9**	**-1.5**
HELC	**Santa Helena**	**18.44**	**247**	*eP*	**P**	**18 10 41.6**	**-2.6**
DBBC	**Dabeiba**	**18.72**	**250**	*eP*	**P**	**18 10 44.3**	**-2.7**
GUY2C	**Guyana, Caldas**	**18.73**	**244**	*eP*	**P**	**18 10 46.3**	**-1.2**
TOLC	**Tolima**	**19.00**	**242**	*eP*	**P**	**18 10 49.4**	**-1.0**
CBOC	**Ciudad Bolivar**	**19.01**	**247**	*eP*	**P**	**18 10 47.8**	**-2.5**
MACC	**Macarena, Meta**	**19.15**	**234**	*eP*	**P**	**18 10 51.2**	**-0.6**
ORTC	**Ortega, Tolima**	**19.29**	**241**	*eP*	**P**	**18 10 51.8**	**-1.4**
PLMC	**San Jos del P**	**19.69**	**245**	*eP*	**P**	**18 10 55.6**	**-2.0**
YOTC	**Yotoco, Valle**	**20.19**	**242**	*eP*	**P**	**18 11 00.2**	**-3.0**
BBAC	**Balboa, Cauca**	**21.98**	**239**	*eP*	**P**	**18 11 21.0**	**-1.6**
OTAV	**Otavalo**	**23.98**	**237**	P	**P**	**18 11 45.1**	**+1.9**
SRBA	**San Rafael, Bu**	**24.80**	**262**	P	**P**	**18 11 52.5**	**+2.0**
SRBA				IAmb	IAmb	18 11 54.0	
	comp=Z,25nm,1.3s						
JTS	**Las Juntas de**	**26.12**	**265**	LR	LR	18 23 39.6	
	comp=Z,38nm,18.9s,baz=114,slow=39						
ATAH	**Atahualpa**	**28.76**	**225**	P	**P**	**18 12 27.4**	**+1.1**
	comp=Z,6.5nm,0.8s,baz=0.0,slow=10,SNR=3.2						
SIV	**San Ignacio**	**29.80**	**185**	LR	LR	18 24 36.4	
	comp=Z,60nm,21.9s,baz=305,slow=37						
LPAZ	**La Paz**	**31.46**	**198**	P	**P**	**18 12 50.6**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=47,slow=13,SNR=2.4						
LPAZ	**La Paz**	**31.46**	**198**		**pP**	**18 12 56.0**	**-0.6**
LPAZ				IAmb	IAmb	18 13 02.1	
	comp=Z,5.7nm,1.0s						
LPAZ	**La Paz**	**31.46**	**198**	*eP*	P	18 13 00.2	+10
PB01	**IPOC Station P**	**36.36**	**198**	P	P	18 13 38.5	+6.1
PB01				IAmb	IAmb	18 13 42.4	
	comp=Z,20nm,1.1s						
LVC	**Limon Verde**	**37.68**	**196**	P	**P**	**18 13 43.2**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=49,slow=9.3,SNR=2.4						
LVC	**Limon Verde**	**37.68**	**196**	P	P	18 13 51.1	+7.2
LVC				IAmb	IAmb	18 13 54.4	
	comp=Z,20nm,1.2s						
CPUP	**Villa Florida**	**39.99**	**178**	LR	LR	18 32 54.5	
	comp=Z,37nm,18.1s,baz=7.0,slow=40						
GO02	**Mina Guanaco**	**40.30**	**196**	P	P	18 14 13.6	+7.8
AC02	**Maricunga**	**41.78**	**194**	P	P	18 14 24.1	+5.9
AC02				IAmb	IAmb	18 14 28.3	
	comp=Z,10nm,0.9s						
TXAR	**Lajitas Array**	**44.45**	**298**	P	**P**	**18 14 40.6**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=118,slow=9.5,SNR=6.3						
TXAR				LR	LR	18 39 12.9	
	comp=Z,23nm,18.4s,baz=0.0,slow=44						
MNTX	**Cornudas Mount**	**46.35**	**301**	P	**P**	**18 14 55.0**	**+0.6**
H10N3	**ASCENSION HYDR**	**48.69**	**114**	T	T	19 07 14.9	
	baz=296,slow=75,SNR=3.3						
H10N2	**ASCENSION HYDR**	**48.70**	**114**	T	T	19 07 10.4	
	baz=296,slow=75,SNR=3.9						
H10N1	**ASCENSION HYDR**	**48.72**	**114**	T	T	19 07 16.3	
	baz=296,slow=75,SNR=4.5						
SMCO	**Snowmass**	**49.44**	**310**	P	**P**	**18 15 19.0**	**+0.4**
BO01	**Tunca**	**49.48**	**194**	P	P	18 15 26.1	+7.7
BO02	**Sierra Bellavi**	**49.80**	**193**	P	P	18 15 28.2	+7.3
PV14	**Lion Creek, Pa**	**50.76**	**308**	P	**P**	**18 15 32.5**	**+4.0**
ESDC	**Sonseca Array**	**54.08**	**51**	P	**P**	**18 15 52.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=281,slow=9.0,SNR=2.8						
PLCA	**Paso Flores**	**55.48**	**191**	P	**P**	**18 16 03.4**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=0.0,slow=9.1,SNR=1.9						
PLCA	**Paso Flores**	**55.48**	**191**	P	P	18 16 10.4	+7.6
NVAR	**Mina Array Bea**	**57.93**	**307**	P	**P**	**18 16 22.9**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=95,slow=10.0,SNR=2.4						
TORD	**Torodi Ar. Bea**	**58.37**	**83**	P	**P**	**18 16 23.4**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=272,slow=6.9,SNR=1.7						
YKA	**Yellowknife Ar**	**62.45**	**334**	P	**P**	**18 16 51.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=108,slow=8.1,SNR=1.5						
GERES	**GERESS Array B**	**67.95**	**43**	P	P	18 17 35.7	+8.7
ARCES	**ARCESS Array B**	**74.99**	**21**	P	**P**	**18 18 09.8**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=270,slow=7.2,SNR=2.1						
FINES	**FINESS Array B**	**75.32**	**30**	P	**P**	**18 18 10.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=290,slow=4.1,SNR=1.6						
BUR08	**Bucovina Ar. S**	**75.64**	**44**	P	P	18 18 21.9	+8.7
BUR08				IAmb	IAmb	18 18 24.5	
	comp=Z,4.0nm,1.0s						
BURAR	**Bucovina Array**	**75.66**	**44**	P	P	18 18 21.6	+8.3

*IDC **17** 18:14:37.9±2.5, 24°.22S×67°.17W, h168km±39km, mb3.2/2, mb1 3.3/6, mb1mx3.1/27, mbtmp3.7/6, Error ellipse: s-maj=45.2km s-min=24.3km az=125.0*

*GUC **17** 18:14:38.8±0.6, 24°.28S×67°.63W, h207km±8km, ML3.9*

ISC 17 18:14:37.8±1.1, 24°.27S±0°.06×67°.4W±0°.1, h183km±16km, n20, σ1§11/33, 7C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.17**	**319**	P	**Pn**	**18 15 18.3**	**+1.1**
	12nm,0.3s,baz=143,slow=7.2,SNR=80						
LVC				S	**Sn**	**18 15 48.2**	**+0.3**
	62nm,0.3s,baz=299,slow=21,SNR=106						
LVC	**Limon Verde**	**2.17**	**319**	*eP*	**Pn**	**18 15 18.3**	**+1.1**
LVC				*eS*	**Sn**	**18 15 48.0**	**+0.2**
PB15	**IPOC Station P**	**2.18**	**299**	*eP*	**Pn**	**18 15 18.4**	**+1.1**
PB15				*i* S	**Sn**	**18 15 48.1**	**+0.2**
GO02	**Mina Guanaco**	**2.19**	**246**	⇑*iP*	**Pn**	**18 15 17.9**	**+0.4**
GO02				*i* S	**Sn**	**18 15 48.5**	**+0.2**
PB06	**IPOC Station P**	**2.54**	**307**	⇓*iP*	**Pn**	**18 15 22.3**	**+1.0**
PB06				*i* S	**Sn**	**18 15 54.7**	**-0.4**
PB06				IAML		18 15 57.0	
	comp=E,611nm,0.1s						
PB14	**IPOC Station P**	**2.77**	**262**	⇑*iP*	**Pn**	**18 15 24.2**	**+0.1**
PB14				*i* S	**Sn**	**18 15 58.7**	**-1.5**
PB05	**IPOC Station P**	**2.94**	**298**	⇑*iP*	**Pn**	**18 15 26.8**	**+0.7**
PB05				*i* S	**Sn**	**18 16 01.9**	**-1.7**
PB05				IAML		18 16 05.6	
	comp=N,131nm,0.5s						
PB10	**IPOC Station P**	**3.00

BOBN *i* S **Sn** **18 34 18.8 -2.4**
BOBN IAML 18 34 36.1
comp=Z,1μm,1.2s
LWI Lwiro 3.69 204 *i* P **Pn** **18 33 50.6 -0.4**
LWI *i* S **Sn** **18 34 33.3 -2.0**
LWI IAML 18 34 51.9
comp=Z,640nm,0.4s
GETA Geita 4.95 144 *i* P **Pn** **18 34 05.8 -2.3**
GETA IAML 18 35 15.8
comp=Z,703nm,2.0s
GETA Geita 4.95 144 *i* P Pn 18 34 03.1 -5.0
LODK Lodwar 5.52 66 **18 34 16.3 +0.3**
LODK Sn **Sn** **18 35 17.7 -2.6**
LODK LR LR 18 35 43.7
KMBO Kilima Mbogo 7.29 108 Pn **Pn** **18 34 42.4 +1.8**
comp=Z,1.0nm,0.3s,baz=269,slow=15,SNR=30
KMBO Sn **Sn** **18 36 04.7 +0.5**
comp=Z,3.4nm,0.3s,baz=249,slow=13,SNR=4.2
KMBO Lg Lg 18 36 38.0
comp=Z,3.8nm,0.3s,baz=349,slow=23,SNR=9.9
SINGT Singida 7.39 143 *i* P **Pn** **18 34 40.6 -1.1**
SINGT Singida 7.39 143 *i* S **Sb** **18 36 38.9 +8.4**
BBAT Babati 7.61 134 *i* P **Pn** **18 34 44.0 -0.8**
BBAT *i* S **Sn** **18 36 06.3 -5.5**
KIBK Kibwezi 8.47 114 **18 34 56.9 +0.4**
KIBK Sn **Sn** **18 36 27.3 -5.6**
DODT Dodoma, Tanzan 9.09 143 *i* P **Pn** **18 35 02.4 -2.6**
LOSI Makongolosi 9.89 163 *i* P **Pn** **18 35 14.3 -1.8**
LOSI IAML 18 38 10.0
comp=Z,106nm,1.3s
JILO Lwanjilo 10.33 162 *i* P **Pn** **18 35 20.2 -2.0**
JILO IAML 18 38 31.5
comp=Z,88nm,1.0s
PDHT Panda Hill 10.48 164 *i* P **Pn** **18 35 23.4 -0.8**
CHML Chimala 10.58 160 *i* P **Pn** **18 35 23.4 -2.1**
GAWA Igawa 10.65 158 *i* P **Pn** **18 35 24.6 -1.9**
ITUM Tunduma 10.87 165 *i* P **Pn** **18 35 28.1 -1.4**
ITUM IAML 18 38 40.3
comp=Z,108nm,0.8s
KAPK Kapoka 11.30 164 *i* P **Pn** **18 35 34.6 -0.8**
LM103 Lake Malawi, 1 11.44 161 *i* P **Pn** **18 35 34.7 -2.3**
LM103 IAML 18 39 35.3
comp=Z,845nm,1.1s
MFRI Mfriga 11.51 154 *i* P **Pn** **18 35 34.6 -3.7**
WENY Wenya 11.69 164 *i* P **Pn** **18 35 40.4 -0.4**
LM206 Lake Malawi, 2 11.69 160 *i* P **Pn** **18 35 40.7 +0.2**
LM206 IAML 18 39 29.3
comp=Z,830nm,1.1s
LM203 Lake Malawi, 2 11.75 161 *i* P **Pn** **18 35 41.8 +0.5**
LM203 IAML 18 39 17.7
comp=Z,143nm,1.5s
SCHM Mlare 11.85 162 *i* P **Pn** **18 35 41.7 -1.1**
LM110 Lake Malawi, 1 12.10 160 *i* P **Pn** **18 35 46.7 +0.6**
LM110 IAML 18 39 25.9
comp=Z,230nm,0.6s
LIVA Livingstonia 12.28 162 *i* P **Pn** **18 35 48.5 -0.4**
THAZ Thazima 12.34 165 *i* P **Pn** **18 35 48.9 -0.8**
LM302 Lake Malawi, 3 12.57 162 *i* P **Pn** **18 35 54.8 +2.2**
LM118 Lake Malawi, 1 12.95 162 *i* P **Pn** **18 36 01.6 +3.9**
LM118 IAML 18 39 50.7
comp=Z,110nm,0.7s
LBTB Lobatse 26.41 190 P **P** **18 38 31.4 +0.5**
LBTB IAmb IAmb 18 38 33.8
comp=Z,4.1nm,0.8s
BOSA Boshof 29.99 189 LR LR 18 51 08.8
comp=Z,150nm,18.5s,baz=12,slow=37
BOSA Boshof 29.99 189 P **P** **18 39 02.5 -0.5**
BOSA IAmb IAmb 18 39 31.6
comp=Z,28nm,1.6s
TORD Torodi Ar. Bea 30.75 294 P **P** **18 39 08.4 -1.3**
comp=Z,0.3nm,0.6s,baz=100,slow=7.1,SNR=2.4
TORD Torodi Ar. Bea 30.75 294 IAmb IAmb 18 39 26.6
comp=Z,3.8nm,1.4s
BRTR Keskin Array B 38.51 4 P **P** **18 40 17.0 +0.4**
comp=Z,0.3nm,0.5s,baz=169,slow=7.7,SNR=2.6
ESDC Sonseca Array 49.44 325 P **P** **18 41 43.6 -0.7**
comp=Z,0.3nm,0.6s,baz=120,slow=7.6,SNR=2.4
ARSB Arslanbob 55.47 38 P **P** **18 42 26.6 -2.6**
NOA NORSAR Array B 61.49 350 P **P** **18 43 12.9 +2.1**
comp=Z,0.8nm,1.1s,baz=172,slow=9.7,SNR=2.9
MKAR Makanchi Array 64.05 37 P **P** **18 43 30.4 +2.3**
comp=Z,0.4nm,0.8s,baz=242,slow=5.9,SNR=3.6
MKAR Makanchi Array 64.05 37 P **P** **18 43 28.0 0.0**
ARCES ARCESS Array B 68.34 358 P **P** **18 43 58.5 +3.3**
comp=Z,1.0nm,1.0s,baz=160,slow=5.6,SNR=1.4
ARCES ARCESS Array B 68.34 358 P **P** **18 43 54.4 -0.7**
ARCES IAmb IAmb 18 44 14.8
comp=Z,5.9nm,1.6s

BGR ***17*** *18:49:49.1±0.0, 19°.59S×177°.32W, h530km*
BJI ***17*** *18:49:50.7±0.0, 18°.10S×178°.19W, h530km, mB5.7/55, mb5.7/77*
NEIC ***17*** *18:49:53, 18°.06S×178°.22W, h540km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=4.60; Mθθ=0.36; Mφφ=4.24; Mrθ=2.43; Mθφ=1.07; Mφr=-3.78; Fault plane solution: M0=6.40000×10^17^ NP1:φs=184.00000°, δ=24.00000°, λ=-111.00000°. NP2:φs=27.00000°, δ=67.00000°, λ=-80.00000°. Principal axes: T 6.2444, Plg=22.0000°, Azm=110.0000°; N 0.2987, Plg=9.0000°, Azm=203.0000°; P -6.5432, Plg=66.0000°, Azm=313.0000°;*
NEIC ***17*** *18:49:53.7±2.7, 18°.12S±0°.07×178°.19W±0°.07, h536km±3km, mb5.6/444, Mwb=5.9/40, Mwc=5.9/24, Mww=5.8, Mwc=5.8(GCMT) Error ellipse: s-maj=10.6km s-min=10.2km az=149.0*
IDC ***17*** *18:49:53.3±0.5, 18°.06S×178°.22W, h534km±5km, mb5.1/35, mb1 5.1/38, mb1mx=5.1/39, mbtmp=6.0/38, Error ellipse: s-maj=8.7km s-min=6.6km az=0.0*
MOS ***17*** *18:49:53.0±1.0, 18°.00S×178°.27W, h538km, mb=6.0/25, Error ellipse: s-maj=8.0km s-min=6.7km az=115.2*
NEIC ***17*** *18:49:53.8, 18°.09S×178°.17W, h537km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=6.24; Mθθ=2.27; Mφφ=3.96; Mrθ=2.62; Mθφ=2.17; Mφr=4.81; Fault plane solution: M0=8.04000×10^17^ NP1:φs=30.58000°, δ=66.58000°, λ=-92.57000°. NP2:φs=217.02000°, δ=23.56000°, λ=-84.09000°. Principal axes: T 7.6015, Plg=22.0000°, Azm=123.0000°; N 0.8072, Plg=2.0000°, Azm=32.0000°; P -8.4087, Plg=68.0000°, Azm=296.0000°;*
NEIC ***17*** *18:49:55, 18°.11S×178°.12W, h555km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=5.22; Mθθ=0.53; Mφφ=4.69; Mrθ=1.97; Mθφ=2.07; Mφr=4.65; Fault plane solution: M0=7.39000×10^17^ NP1:φs=202.00000°, δ=23.00000°, λ=-91.00000°. NP2:φs=23.00000°, δ=67.00000°, λ=-90.00000°. Principal axes: T 7.5418, Plg=22.0000°, Azm=113.0000°; N -0.3222, Plg=0.0000°, Azm=203.0000°; P -7.2196, Plg=68.0000°, Azm=293.0000°;*
GCMT ***17*** *18:49:55.7±0.1, 18°.05S±0°.01×178°.18W±0°.01, h549km, MW=5.8/152, Moment Tensor Solution. s=152, c=314; s=101, c=108; Duration: 2s=0 Moment tensor: Scale 10^17^Nm; Mrr=4.97±.05; Mθθ=0.30±.09; Mφφ=4.67±.09; Mrθ=2.30±.09; Mθφ=1.64±.08; Mφr=-4.37±.08; Best double couple: M0=7.09600×10^17^ NP1:φs=191.00000°, δ=23.00000°, λ=-103.00000°. NP2:φs=25.00000°, δ=67.00000°, λ=-85.00000°. Principal axes: T 7.1850, Plg=22.0000°, Azm=111.0000°; N -0.1760, Plg=5.0000°, Azm=203.0000°; P -7.0070, Plg=67.0000°, Azm=305.0000°; nsta=1 refers to body waves, cutoff=40s. nsta=2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
NEIC ***17*** *18:50:02.6, 17°.62S×177°.99W, h589km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=6.11; Mθθ=0.02; Mφφ=6.09; Mrθ=-3.05; Mθφ=2.71; Mφr=-4.59; Fault plane solution: M0=8.62000×10^17^ NP1:φs=190.15000°, δ=26.21000°, λ=-107.70000°. NP2:φs=29.73000°, δ=65.12000°, λ=-81.49000°. Principal axes: T 9.0507, Plg=20.0000°, Azm=113.0000°; N -0.8524, Plg=8.0000°, Azm=206.0000°; P -8.1983, Plg=69.0000°, Azm=317.0000°;*
ISC 17 18:49:53.0±0.2, 18°.14S±0°.03×178°.18W±0°.03, h540km±1km, h541km:pP-P, n1983, σ1959/2241, mb5.7/363, 157C-379D, Fault plane solution: NP1:φs=201.45064°, δ=35.01138°, λ=-90.24461°. NP2:φs=21.74929°, δ=54.98899°, λ=-89.82865°. Principal axes: T Plg=9.9888°, Azm=111.6263°; N Plg=0.1403°, Azm=201.6510°; P Plg=80.0102°, Azm=292.4478°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
MSVF	**Nonsavu**	**3.61 276**		P	**P**	**18 51 12.5 +1.1**
	354nm,0.3s,baz=130,slow=12,SNR=2653					
MSVF				S	**S**	**18 52 19.8 +4.5**
	baz=320,slow=23,SNR=9.8					
MSVF	**Nonsavu**	**3.61 276**		P	**P**	**18 51 12.3 +0.9**
MSVF				S	**S**	**18 52 19.4 +4.1**
AFI	**Afiamalu**	**7.46 57**		P	**P**	**18 51 41.4 -3.9**
	50nm,0.3s,baz=87,slow=0.8,SNR=42					
AFI				S	S	18 53 07.2 -10
	20nm,0.3s,baz=36,slow=22,SNR=1.9					
AFI	**Afiamalu**	**7.46 57**		P	**P**	**18 51 42.0 -3.3**
AFI				pmax	pmax	
	comp=Z,628nm,0.9s					
AFI	**Afiamalu**	**7.46 57**		P	**P**	**18 51 41.1 -4.2**
AFI				S	S	18 53 06.0 -11
AFI	**Afiamalu**	**7.46 57**		P	**P**	**18 51 41.7 -3.6**
NIUE	**Niue**	**7.88 98**		P	**P**	**18 51 48.6 -0.7**
NIUE				S	**S**	**18 53 22.0 -2.7**
FUNA	**Funafuti**	**9.89 345**		P	**P**	**18 52 08.6 -1.3**
FUNA				S	**S**	**18 54 02.1 -0.1**
FUNA	**Funafuti**	**9.89 345**		P	**P**	**18 52 09.5 -0.3**
RIZ	**Raoul Island**	**11.05 179**		P	**P**	**18 52 21.1 -0.5**
RIZ				S	**S**	**18 54 24.7 +0.8**
RAO	**Raoul Island**	**11.06 179**		P	**P**	**18 52 22.0 +0.4**
	comp=Z,123nm,0.3s,baz=95,slow=19,SNR=5.8					
RAO				S	**S**	**18 54 24.0 0.0**
	comp=Z,292nm,0.3s,baz=84,slow=23,SNR=9.3					
RAO	**Raoul Island**	**11.06 179**		P	**P**	**18 52 21.0 -0.6**
RAO				S	**S**	**18 54 22.5 -1.5**
RAO	**Raoul Island**	**11.06 179**		P	**P**	**18 52 19.6 -2.0**
GLKZ	**Green Lake**	**11.07 179**		P	**P**	**18 52 22.0 +0.2**
GLKZ				S	**S**	**18 54 24.5 +0.4**
MARNC	**Mare, Loyalty**	**13.39 253**		P	**P**	**18 52 44.3 -1.7**
MARNC				S	**S**	**18 55 06.2 -2.2**
MARNC	**Mare, Loyalty**	**13.39 253**		P	**P**	**18 52 45.3 -0.7**
LIFNC	**LIFOU**	**14.00 257**		P	**P**	**18 52 50.3 -2.0**
LIFNC				S	**S**	**18 55 16.1 -3.8**
LIFNC	**LIFOU**	**14.00 257**		P	**P**	**18 52 51.1 -1.2**
PINNC	**Pines Island,**	**14.19 249**		P	**P**	**18 52 53.8 -0.4**
PINNC	**Pines Island,**	**14.19 249**		P	**P**	**18 52 54.6 +0.4**
SANVU	**Saraoutou**	**14.25 279**		P	**P**	**18 52 53.4 -1.5**
SANVU	**Saraoutou**	**14.25 279**		P	**P**	**18 52 54.4 -0.5**
YATNC	**Mamie plateau,**	**14.55 252**		P	**P**	**18 52 57.1 -0.9**
OUENC	**Ouen Island, N**	**14.68 251**		P	**P**	**18 52 58.8 -0.6**
OUENC	**Ouen Island, N**	**14.68 251**		P	**P**	**18 52 59.1 -0.2**
ONTNC	**Ouen Toro**	**15.00 251**		P	**P**	**18 53 01.6 -1.1**
ONTNC				IAmb	IAmb	18 53 28.9
	comp=Z,281nm,1.2s					
ONTNC	**Ouen Toro**	**15.00 251**		P	**P**	**18 53 01.6 -1.1**
NOUC	**Port Laguerre**	**15.09 252**		P	**P**	**18 53 03.9 +0.3**
KNTN	**Kanton**	**16.54 23**		P	**P**	**18 53 16.4 -1.7**
KNTN				IAmb	IAmb	18 53 16.9
	comp=Z,177nm,0.7s					
KNTN	**Kanton**	**16.54 23**		P	**P**	**18 53 16.4 -1.7**
KOUNC	**Koumac, New Ca**	**16.72 259**		P	**P**	**18 53 20.4 +0.8**
RAR	**Rarotonga**	**17.60 103**		P	**P**	**18 53 27.9 +0.2**
	comp=Z,22nm,0.3s,baz=252,slow=6.6,SNR=261					
RAR	**Rarotonga**	**17.60 103**		P	**P**	**18 53 28.0 +0.2**
RAR				pmax	pmax	
	comp=Z,1μm,0.9s					
RAR	**Rarotonga**	**17.60 103**		P	**P**	**18 53 28.0 +0.3**
RAR	**Rarotonga**	**17.60 103**		P	**P**	**18 53 27.6 -0.2**
OUZ	**Omahuta**	**18.51 202**		P	**P**	**18 53 38.0 +2.2**
OUZ				IAmb	IAmb	18 53 40.0
	comp=Z,288nm,1.1s					
OUZ	**Omahuta**	**18.51 202**		P	**P**	**18 53 38.6 +2.8**
GRZ	**Great Barrier**	**18.89 196**		P	**P**	**18 53 41.8 +2.4**
WCZ	**Waipu Caves**	**18.92 199**		P	**P**	**18 53 42.3 +2.7**
KUZ	**Kuaotunu**	**19.29 195**		P	**P**	**18 53 44.9 +2.0**
MXZ	**Matakaoa Point**	**19.59 188**		P	**P**	**18 53 46.0 +0.4**
MXZ	**Matakaoa Point**	**19.59 188**		P	**P**	**18 53 45.6 -0.1**
MXZ				S	**S**	**18 56 50.9 -3.7**
RVAZ	**Riverhead Bore**	**19.62 198**		P	**P**	**18 53 47.3 +1.3**
WMGZ	**Waiomatatini S**	**19.83 188**		P	**P**	**18 53 47.9 +0.1**
WMGZ				S	**S**	**18 56 57.5 -0.9**
HAZ	**Te Kaha**	**19.86 189**		P	**P**	**18 53 47.1 -1.0**
HAZ				S	**S**	**18 56 54.2 -4.6**
AWAZ	**Awhitu Peninsu**	**19.88 197**		P	**P**	**18 53 50.6 +2.3**
RUGZ	**Raukumara Rang**	**20.08 190**		P	**P**	**18 53 50.1 -0.1**
PUZ	**Puketiti**	**20.10 188**		P	**P**	**18 53 49.9 -0.4**
PUZ				S	**S**	**18 57 01.4 -1.3**
TGRZ	**Tauranga**	**20.11 193**		P	**P**	**18 53 52.7 +2.3**
TWGZ	**Tauwhareparae**	**20.24 189**		P	**P**	**18 53 52.7 +1.0**
MARZ	**Manawahe**	**20.27 192**		P	**P**	**18 53 54.2 +2.3**
TOZ	**Tahuroa Road**	**20.28 195**		P	**P**	**18 53 54.2 +2.2**
KMRZ	**Kaimai**	**20.29 194**		P	**P**	**18 53 54.4 +2.3**
EDRZ	**Edgecumbe**	**20.38 192**		P	**P**	**18 53 54.2 +1.3**
KARZ	**Kaharoa**	**20.39 193**		P	**P**	**18 53 56.0 +2.9**
OMRZ	**Omania**	**20.45 192**		P	**P**	**18 53 55.2 +1.6**
URZ	**Urewera**	**20.46 191**		P	**P**	**18 53 51.8 -1.8**
	comp=Z,55nm,0.8s,baz=270,slow=2.5,SNR=53					
URZ				S	**S**	**18 57 03.0 -5.4**
	comp=Z,39nm,0.8s,baz=228,slow=19,SNR=2.5					
URZ	**Urewera**	**20.46 191**		P	**P**	**18 53 51.3 -2.2**
URZ	**Urewera**	**20.46 191**		P	**P**	**18 53 50.9 -2.7**
MWZ	**Matawai**	**20.46 190**		P	**P**	**18 53 51.9 -1.7**
CNGZ	**Carnagh Statio**	**20.51 188**		P	**P**	**18 53 53.9 -0.1**
TKGZ	**Te Karaka**	**20.52 189**		P	**P**	**18 53 53.9 -0.1**
UTU	**Utuhina**	**20.56 193**		P	**P**	**18 54 00.2 +5.8**
HIZ	**Hauiti**	**21.18 195**		P	**P**	**18 54 02.6 +2.5**
HIZ				IAmb	IAmb	18 54 19.5
	comp=Z,292nm,1.5s					
TARA	**Tarawa**	**21.26 335**		P	**P**	**18 54 00.6 -0.5**
TARA	**Tarawa**	**21.26 335**		P	**P**	**18 54 01.5 +0.4**
RATZ	**Rangitukua**	**21.31 193**		P	**P**	**18 54 02.0 +0.8**
NMHZ	**Naumai**	**21.33 191**		P	**P**	**18 54 02.7 +1.2**
BKZ	**Black Stump Fm**	**21.45 191**		P	**P**	**18 54 00.5 -2.1**
TMVZ	**Te Maari**	**21.56 193**		P	**P**	**18 54 04.4 +0.8**
ETVZ	**East Tongariro**	**21.58 193**		P	**P**	**18 54 04.5 +0.7**
SNVZ	**South Ngauruho**	**21.64 193**		P	**P**	**18 54 05.0 +0.6**
MCHZ	**McNeill Hill**	**21.68 191**		P	**P**	**18 54 03.7 -0.9**
KWHZ	**Kaweka Forest**	**21.71 191**		P	**P**	**18 54 04.7 -0.2**
FWVZ	**Far West T-bar**	**21.73 193**		P	**P**	**18 54 04.9 -0.4**
WHVZ	**Whangaehu Hut**	**21.75 193**		P	**P**	**18 54 05.0 -0.4**
VRZ	**Vera Road**	**21.79 195**		P	**P**	**18 54 08.5 +2.9**
MOVZ	**Moawhango**	**21.83 193**		P	**P**	**18 54 05.7 -0.4**
BHHZ	**Black Hill Sta**	**21.85 192**		P	**P**	**18 54 04.3 -1.9**
KAHZ	**Kahuranaki**	**21.99 190**		P	**P**	**18 54 07.1 -0.3**
NEZ	**North Egmont**	**22.09 196**		P	**P**	**18 54 12.9 +4.5**
PXZ	**Pawanui**	**22.23 190**		P	**P**	**18 54 08.7 -0.7**
PNHZ	**Pukenui**	**22.23 191**		P	**P**	**18 54 08.5 -1.1**
TSZ	**Takapari Road**	**22.42 192**		P	**P**	**18 54 10.5 -0.7**
DVHZ	**Dannevirke**	**22.61 191**		P	**P**	**18 54 13.6 +0.7**
ANWZ	**Angora Road**	**22.71 191**		P	**P**	**18 54 14.1 +0.3**
PRWZ	**Pori Road**	**22.89 192**		P	**P**	**18 54 16.7 +1.2**
HNR	**Honiara**	**22.92 289**		P	**P**	**18 54 17.1 +1.1**
	comp=Z,114nm,0.6s,baz=145,slow=2.7,SNR=22					
HNR				S	**S**	**18 57 51.6 +3.8**
	comp=Z,50nm,0.7s,baz=286,slow=22,SNR=1.3					
HNR	**Honiara**	**22.92 289**		P	**P**	**18 54 16.0 +0.1**
HNR				IAmb	IAmb	18 54 27.8
	comp=Z,128nm,0.7s					
HNR	**Honiara**	**22.92 289**		P	**P**	**18 54 16.5 +0.5**
BFZ	**Birch Farm**	**22.97 191**		P	**P**	**18 54 14.9 -1.2**
BFZ	**Birch Farm**	**22.97 191**		P	**P**	**18 54 15.2 -0.9**
OGWZ	**Otaki Gorge**	**23.31 193**		P	**P**	**18 54 18.1 -0.9**
KIW	**Kapiti Island**	**23.41 193**		P	**P**	**18 54 20.1 +0.1**
MTW	**Mount Morrison**	**23.57 192**		P	**P**	**18 54 22.1 +0.7**
DUWZ	**D'Urville Isla**	**23.58 195**		P	**P**	**18 54 20.6 -1.0**
CAW	**Cannon Point**	**23.61 193**		P	**P**	**18 54 20.5 -1.3**
TRWZ	**Traveller**	**23.77 191**		P	**P**	**18 54 23.2 0.0**
PAWZ	**Paruwai Farm**	**23.80 192**		P	**P**	**18 54 23.2 -0.3**
MSWZ	**Moikau Station**	**23.87 192**		P	**P**	**18 54 23.4 -0.6**
MSWZ	**Moikau Station**	**23.87 192**		P	**P**	**18 54 24.0 0.0**
SNZO	**South Karori**	**23.88 193**		P	**P**	**18 54 23.4 -0.8**
SNZO				IAmb	IAmb	18 54 27.5
	comp=Z,129nm,0.7s					
BHW	**Baring Head**	**23.94 193**		P	**P**	**18 54 23.8 -0.9**
BHW	**Baring Head**	**23.94 193**		P	**P**	**18 54 24.3 -0.4**
QRZ	**Quartz Range**	**23.98 198**		P	**P**	**18 54 25.6 +0.6**
QRZ				IAmb	IAmb	18 54 27.0
	comp=Z,78nm,0.8s					
PLWZ	**Palliser**	**24.01 192**		P	**P**	**18 54 24.2 -1.2**
PLWZ	**Palliser**	**24.01 192**		P	**P**	**18 54 24.8 -0.6**
NNZ	**Nelson**	**24.11 196**		P	**P**	**18 54 25.6 -0.5**
TUWZ	**Tuamarina**	**24.17 195**		P	**P**	**18 54 25.2 -1.5**
TUWZ	**Tuamarina**	**24.17 195**		P	**P**	**18 54 25.7 -1.0**
CMWZ	**Cape Campbell**	**24.41 194**		P	**P**	**18 54 28.0 -0.8**
BSWZ	**Blackbirch Sta**	**24.46 194**		P	**P**	**18 54 28.4 -0.9**
THZ	**Tophouse**	**24.74 196**		P	**P**	**18 54 31.6 -0.3**
THZ				IAmb	IAmb	18 54 34.1
	comp=Z,50nm,0.5s					
KHZ	**Kahutara**	**25.20 195**		IAmb	IAmb	18 54 37.3
	comp=Z,96nm,0.8s					
LTZ	**Lake Taylor**	**25.86 196**		IAmb	IAmb	18 54 44.3
	comp=Z,82nm,0.6s					
LTZ	**Lake Taylor**	**25.86 196**		P	**P**	**18 54 41.0 -0.8**
LTZ				S	**S**	**18 58 30.1 -3.5**
INZ	**Inchbonnie**	**26.04 198**		P	**P**	**18 54 42.9 -0.3**
INZ				S	**S**	**18 58 33.6 -2.5**
AMCZ	**Amberley**	**26.13 195**		P	**P**	**18 54 44.2 +0.1**
OXZ	**Oxford**	**26.43 196**		IAmb	IAmb	18 54 49.7
	comp=Z,89nm,0.5s					
OXZ	**Oxford**	**26.43 196**		P	**P**	**18 54 46.6 -0.1**
OXZ				S	**S**	**18 58 39.2 -3.1**
OKCZ	**Okains Bay**	**26.55 194**		P	**P**	**18 54 48.0 +0.3**
OKCZ				S	**S**	**18 58 45.8 +1.5**
WVZ	**Waitaha Valley**	**26.57 198**		P	**P**	**18 54 47.8 0.0**
WVZ				S	**S**	**18 58 42.5 -1.9**
MQZ	**McQueen's Vall**	**26.63 195**			**PcP**	**18 57 56.3 +1.9**
MQZ	**McQueen's Vall**	**26.63 195**		P	**P**	**18 54 47.8 -0.6**
MQZ				S	**S**	**18 58 43.4 -2.0**
MHCZ	**Mount Hutt**	**26.75 197**		P	**P**	**18 54 49.7 +0.1**
GCSZ	**Gaunt Creek Bo**	**26.91 199**		P	**P**	**18 54 51.4 +0.5**
WACZ	**Wakanui South**	**27.06 196**		P	**P**	**18 54 52.8 +0.6**
RPZ	**Rata Peaks**	**27.06 197**		P	**P**	**18 54 51.4 -0.8**
RPZ				S	**S**	**18 58 48.7 -3.5**
PAE	**Paea**	**27.21 93⇑**	*iP*	P	**P**	**18 54 53.8 -0.1**
	comp=Z,402nm,1.2s					
PPT2	**Papeete2**	**27.22 93⇑**	*iP*	P	**P**	**18 54 54.2 +0.1**
	comp=Z,2μm,1.2s					
PPT2			*e*	ScP	**ScP**	**19 00 44.3 -1.6**
	comp=Z,267nm,1.1s					
PPT	**Papeete**	**27.23 93**		P	**P**	**18 54 54.4 +0.4**
	comp=Z,908nm,0.9s,baz=200,slow=3.0,SNR=70					
PPTF	**Pamatai, Papee**	**27.23 93**		P	**P**	**18 54 54.3 +0.1**
ARCZ	**Arundel**	**27.24 197**		P	**P**	**18 54 52.9 -0.9**
FOZ	**Fox Glacier**	**27.27 199**		P	**P**	**18 54 53.7 -0.3**
FOZ				IAmb	IAmb	18 54 56.0
	comp=Z,341nm,1.1s					
FOZ	**Fox Glacier**	**27.27 199**		P	**P**	**18 54 53.7 -0.3**
FOZ				S	**S**	**18 58 52.0 -3.3**
TBI	**Tubuai**	**27.33 106**	*eP*		**P**	**18 54 55.5 +0.6**
	comp=Z,1μm,0.8s					
TBI			*e*	ScP	**ScP**	**19 00 44.7 -1.3**
	comp=Z,265nm,1.1s					
TIAR	**Tiarei**	**27.45 93⇑**	*iP*		**P**	**18 54 55.9 -0.1**
	comp=Z,141nm,1.0s					
TIAR			*e*	ScP	**ScP**	**19 00 44.9 -1.6**
	comp=Z,25nm,0.9s					
TMZ	**Timaru**	**27.69 197**		P	**P**	**18 54 57.0 -0.7**
LBZ	**Lake Benmore**	**27.93 198**		IAmb	IAmb	18 55 03.0
	comp=Z,116nm,1.0s					
LBZ	**Lake Benmore**	**27.93 198**		P	**P**	**18 54 58.4 -1.4**
LBZ				S	**S**	**18 58 59.9 -5.7**
JCZ	**Jackson Bay**	**28.08 200**		P	**P**	**18 55 00.8 -0.5**
JCZ				S	**S**	**18 59 05.0 -3.3**
ODZ	**Otahua Downs**	**28.40 197**		P	**P**	**18 55 03.5 -0.5**
XMAS	**Kiritimati**	**28.63 48**		P	**P**	**18 55 06.1 -0.2**
XMAS				IAmb	IAmb	18 55 07.1
	comp=Z,232nm,0.9s					
XMAS	**Kiritimati**	**28.63 48**		P	**P**	**18 55 03.9 -2.4**
MEH	**Mehetia**	**28.63 94⇑**	*iP*		**P**	**18 55 06.0 -0.3**
	comp=Z,148nm,1.1s					
MEH			*e*	ScP	**ScP**	**19 00 48.4 -1.8**
	comp=Z,54nm,1.0s					
WKZ	**Wanaka**	**28.68 199**		IAmb	IAmb	18 55 07.0
	comp=Z,109nm,0.7s					
WKZ	**Wanaka**	**28.68 199**		P	**P**	**18 55 06.0 -0.4**
WKZ				S	**S**	**18 59 14.7 -2.7**
MSZ	**Milford Sound**	**28.90 201**		P	**P**	**18 55 09.1 +0.9**
MSZ				S	**S**	**18 59 20.4 -0.3**
EAZ	**Earnscleugh**	**28.96 198**		P	**P**	**18 55 08.7 -0.1**
EAZ				S	**S**	**18 59 19.2 -2.4**
EIDS	**Eidsvold**	**29.39 250**		IAmb	IAmb	18 55 14.3
	comp=Z,124nm,0.8s					
VAH	**Vaihoa**	**29.39 89⇑**	*iP*		**P**	**18 55 12.5 -0.4**
	comp=Z,1μm,1.0s					
VAH			*e*	ScP	**ScP**	**19 00 50.9 -1.8**
	comp=Z,385nm,1.3s					
MLZ	**Mavora Lakes**	**29.45 200**		IAmb	IAmb	18 55 15.3
	comp=Z,237nm,0.7s					
MLZ	**Mavora Lakes**	**29.45 200**		P	**P**	**18 55 13.8 +0.8**
TUZ	**Tuapeka**	**29.52 197**		P	**P**	**18 55 14.9 +1.3**
WHZ	**Wether Hill Ro**	**29.97 200**		P	**P**	**18 55 18.1 +0.6**
ARMA	**Armidale**	**30.01 240**		P	**P**	**18 55 19.3 +1.1**
ARMA				IAmb	IAmb	18 55 20.8
	comp=Z,133nm,0.8s					
SYZ	**Scrubby Hill**	**30.19 198**		P	**P**	**18 55 20.6 +1.2**
KWAJ	**Kwajalein Atol**	**30.23 331**		P	**P**	**18 55 20.3 +0.2**
KWAJ				pmax	pmax	
	comp=Z,3μm,0.9s					
KWAJ	**Kwajalein Atol**	**30.23 331**		P	**P**	**18 55 20.3 +0.2**
KWAJ	**Kwajalein Atol**	**30.23 331**		P	**P**	**18 55 21.0 +0.9**
RABL	**Rabaul**	**32.15 292**		P	**P**	**18 55 36.5 -0.2**
CTA	**Charters Tower**	**33.62 261**		P	**P**	**18 55 48.5 -0.5**
	comp=Z,185nm,0.8s,baz=83,slow=9.8,SNR=138					
CTA				PcP	**PcP**	**18 58 14.5 +0.9**
	comp=Z,60nm,1.0s,baz=18,slow=1.1,SNR=4.3					
CTA				S	**S**	**19 00 32.5 -1.2**
	comp=Z,10nm,0.8s,baz=276,slow=18,SNR=6.6					
CTAO	**Charters Tower**	**33.62 261**		P	**P**	**18 55 48.5 -0.5**
CTAO				pmax	pmax	
	comp=Z,286nm,0.9s					
CTAO	**Charters Tower**	**33.62 261**		P	**P**	**18 55 48.5 -0.5**
CTAO				IAmb	IAmb	18 55 50.6
	comp=Z,276nm,0.9s					
CTAO

comp=Z,272nm,1.3s
KHU Kahuku 43.27 32 P P 18 57 06.9 -0.5
KHU IAmb IAmb 18 58 47.0
comp=Z,272nm,1.3s
KHLU Kahalu`u 43.42 31 P P 18 57 08.1 -0.4
KHLU IAmb IAmb 18 57 09.6
comp=Z,264nm,1.0s
HLP Hilina Pali 43.46 32 P P 18 57 08.6 -0.2
HLP IAmb IAmb 18 57 38.0
comp=Z,426nm,1.5s
MWH Moku'aweowe 43.48 32 P P 18 57 08.7 -0.7
MWH IAmb IAmb 18 57 20.1
comp=Z,251nm,1.4s
HUH Hualalai 43.53 31 P P 18 57 09.0 -0.5
HUH IAmb IAmb 18 57 11.8
comp=Z,198nm,1.0s
MLOA Mauna Loa Obse 43.53 32 P P 18 57 08.9 -0.8
MLOA PcP **pP** 18 58 47.5 +1.6
MLOA IAmb IAmb 18 58 48.2
comp=Z,199nm,1.1s
MLH Mauna Loa 43.59 32 P P 18 57 10.9 +1.0
MLH IAmb IAmb 18 57 12.9
comp=Z,357nm,1.5s
HMH Humu'ula Sheep 43.63 32 P P 18 57 10.9 +0.5
HMH **pP** 18 58 47.9 +1.2
GENI Genyem 43.64 286 P P 18 57 10.9 +0.7
comp=Z,4μmcomp=Z,11μmcomp=Z,892nm,1.5s
HPAH Hawaii Prepara 43.89 31 P P 18 57 11.7 -0.4
HPAH IAmb IAmb 18 57 13.9
comp=Z,226nm,0.8s
DHH Diamond Head 43.96 28 P P 18 57 12.7 +0.2
DHH Diamond Head 43.96 28 P P 18 57 12.7 +0.2
KIP Kipapa 44.01 28 *ce*P **P 18 57 12.9 0.0**
KIP pmax pmax
comp=Z,244nm,0.8s
KIP Kipapa 44.01 28 P P 18 57 13.1 +0.2
KIP IAmb IAmb 18 57 14.8
comp=Z,379nm,1.2s
HLK Haleakala 44.24 30 P P 18 57 14.7 -0.3
HLK IAmb IAmb 18 57 16.2
comp=Z,311nm,0.9s
WR0 Warramunga Arr 44.61 260 P P 18 57 16.2 -1.4
WR0 IAmb IAmb 18 57 18.7
comp=Z,326nm,1.3s
WR0 PcP **PcP** 18 58 49.9 +1.0
WB0 Warramunga Arr 44.77 260 P P 18 57 18.2 -0.7
WB0 IAmb IAmb 18 57 19.8
comp=Z,352nm,0.9s
WB0 PcP **PcP** 18 58 50.6 +1.1
WB2 Warramunga Arr 44.79 260 IAmb IAmb 18 57 20.0
comp=Z,360nm,0.9s
WRAB Tennant Creek 44.79 260 *ce*P **P 18 57 18.7 -0.4**
WRAB pmax pmax
comp=Z,516nm,1.3s
WRAB Tennant Creek 44.79 260 P P 18 57 18.2 -0.9
WRAB IAmb IAmb 18 57 19.9
comp=Z,396nm,1.1s
WRA Warramunga Arr 44.80 260 P P 18 57 19.0 -0.1
comp=Z,198nm,0.8s,baz=97,slow=6.9,SNR=688
WRA PcP **PcP** 18 58 50.2 +0.6
comp=Z,99nm,1.0s,baz=90,slow=3.6,SNR=11
WRA S **S** 19 03 15.5 -1.9
comp=Z,37nm,1.0s,baz=91,slow=14,SNR=9.7
WRA PKiKP **PKiKP** 19 05 45.4 -1.3
comp=Z,4.0nm,0.8s,baz=68,slow=0.3,SNR=5.5
WRA PKP2bc 19 29 12.1
comp=Z,9.5nm,1.2s,baz=308,slow=3.4,SNR=9.1
WRA P4KPbc 19 35 03.0
comp=Z,1.0nm,1.0s,baz=92,slow=3.9,SNR=4.8
WRA Warramunga Arr 44.80 260 P P 18 57 18.2 -0.9
WRA PcP **PcP** 18 58 50.7 +1.1
AS31 Alice Springs 44.93 254 P P 18 57 19.7 -0.5
AS31 PcP **PcP** 18 58 51.3 +1.2
AS31 Alice Springs 44.93 254 P PKPPKPbd 19 29 13.3
ASAR Alice Springs 44.93 254 P P 18 57 20.7 +0.6
comp=Z,1μm,0.7s,baz=89,slow=8.3,SNR=3962
ASAR PcP **PcP** 18 58 50.5 +0.5
comp=Z,96nm,0.7s,baz=94,slow=4.0,SNR=10
ASAR ScP **ScP** 19 01 54.8 +3.7
comp=Z,6.2nm,0.8s,baz=89,slow=5.7,SNR=1.9
ASAR S **S** 19 03 17.9 -1.3
comp=Z,159nm,1.1s,baz=88,slow=15,SNR=55
ASAR PKiKP **PKiKP** 19 05 45.8 -1.0
comp=Z,2.1nm,0.7s,baz=105,slow=1.6,SNR=4.4
ASAR P3KPbc 19 25 58.5
comp=Z,0.7nm,1.1s,baz=291,slow=2.8,SNR=5.3
ASAR PKP2bc 19 29 12.8
comp=Z,8.8nm,1.1s,baz=272,slow=4.1,SNR=14
ASAR P4KPbc 19 35 04.8
comp=Z,1.3nm,0.8s,baz=92,slow=5.3,SNR=11
ASAR Alice Springs 44.93 254 P PKPPKPbd 19 29 12.7
PTCN Pitcairn Islan 45.05 108 P P 18 57 20.9 -0.1
MIDW Midway 46.09 1 P P 18 57 28.0 -0.7
MIDW IAmb IAmb 18 57 28.5
comp=Z,108nm,0.8s
SRPI Serui, Papua 47.53 285 P P 18 57 40.5 +0.6
comp=Z,6μmcomp=Z,570nm,1.1s
GUMO Guam 48.19 308 P P 18 57 44.2 -0.5
GUMO 18 59 03.2
GUMO pmax pmax
comp=Z,1μm,1.1s
GUMO Guam 48.19 308 P P 18 57 44.2 -0.5
GUMO PcP **PcP** 18 59 03.2 +1.5
GUMO Guam 48.19 308 P P 18 57 45.7 +0.9
KMPI Kaimana, Papua 49.21 281 P P 18 57 52.9 +0.5
comp=Z,8μmcomp=Z,934nm,0.9s
SAUI Saumlaki 50.09 275 P P 18 57 59.1 +0.2
FORT Forrest 50.10 245 P P 18 57 58.3 -0.5
FORT PcP **PcP** 18 59 09.3 +0.7
FAKI Fak Fak 50.83 281 P P 18 58 04.0 -0.4
FAKI PcP **PcP** 18 59 12.5 +0.9
FAKI Fak Fak 50.83 281 P P 18 58 04.6 +0.3
comp=Z,2μmcomp=Z,4μmcomp=Z,253nm,1.6s
SIJI Sorong 52.50 283 P P 18 58 15.8 -0.5
comp=Z,1μm,0.9s,baz=86,slow=5.9,SNR=151
SIJI S **S** 19 05 03.6 +0.7
comp=Z,7.9nm,0.8s,baz=197,slow=23,SNR=1.4
SWI Sorong 52.51 283 P P 18 58 16.7 +0.3
comp=Z,13μmcomp=Z,2μm,0.9s
MSAI Masohi 53.79 279 P P 18 58 25.9 +0.4
comp=Z,592nmcomp=Z,64nm,0.7s
NLAI Namlea 55.55 279 P P 18 58 38.4 +0.6
comp=Z,4μmcomp=Z,534nm,1.2s
SOEI Soe 56.29 270 P P 18 58 44.6 +1.5
SOEI Soe 56.29 270 P P 18 58 44.6 +1.5
comp=Z,12μmcomp=Z,2μm,1.0s
TNTI Ternate 56.72 283 P P 18 58 46.0 +0.1
TNTI IAmb IAmb 18 58 47.7
comp=Z,551nm,0.9s
TNTI Ternate 56.72 283 P P 18 58 46.5 +0.5
comp=Z,6μmcomp=Z,680nm,1.1s
BATI Baumata 56.74 270 P P 18 58 46.0 -0.1
comp=Z,3μmcomp=Z,302nm,1.0s
SANI Sanana 56.99 280 P P 18 58 48.1 +0.3
comp=Z,7μmcomp=Z,827nm,1.1s
PSA00 Pilbara Seismi 58.06 256 P P 18 58 54.9 0.0
PSA00 IAmb IAmb 18 58 56.1
comp=Z,447nm,0.8s
PSA00 PcP **PcP** 18 59 40.0 +0.4
MMRI Maumere 58.52 271 P P 18 58 57.7 -0.4
MMRI IAmb IAmb 18 58 59.2
comp=Z,397nm,0.9s
MMRI PcP **PcP** 18 59 42.9 +1.4
MMRI Maumere 58.52 271 P P 18 58 58.0 -0.1
comp=Z,2μmcomp=Z,6μmcomp=Z,590nm,0.9s
EDFI Ende, Flores 59.01 271 P P 18 59 01.4 -0.2
comp=Z,3μmcomp=Z,320nm,1.2s
JCJ Chichijima 59.16 319 P P 18 59 01.6 -0.6
comp=Z,404nm,0.8s,baz=155,slow=4.0,SNR=14
JCJ Chichijima 59.16 319 P P 18 59 01.2 -1.0
JCJ IAmb IAmb 18 59 03.1
comp=Z,492nm,0.9s
JCJ PcP **PcP** 18 59 42.5 -1.3
NWAO Narrogin (SRO) 59.29 242 P P 18 59 03.4 +0.3
NWAO pmax pmax
comp=Z,200nm,1.0s
NWAO Narrogin (SRO) 59.29 242 P P 18 59 03.4 +0.3
NWAO IAmb IAmb 18 59 04.5
comp=Z,200nm,0.9s
NWAO Narrogin (SRO) 59.29 242 P P 18 59 03.6 +0.5
SGSI Sangihe 59.54 286 P P 18 59 05.1 +0.1
comp=Z,4μmcomp=Z,510nm,0.8s
SBA Scott Base 60.20 184 P P 18 59 10.9 +2.6
SBA pmax pmax
comp=Z,143nm,1.2s
SBA Scott Base 60.20 184 P P 18 59 10.9 +2.6
VNDA Vanda 60.23 185 P P 18 59 10.5 +2.0
comp=Z,24nm,0.8s,baz=1.8,slow=7.0,SNR=92
VNDA pP **pP** 19 00 59.0 +3.7
comp=Z,21nm,1.2s,baz=13,slow=6.5,SNR=2.2
VNDA PKPPKP **P'P'df** 19 28 21.9 -1.9
comp=Z,3.1nm,1.0s,baz=183,slow=1.5,SNR=5.5
VNDA PKP2bc 19 28 31.3
comp=Z,7.5nm,1.0s,baz=262,slow=4.2,SNR=16
VNDA Vanda 60.23 185 P P 18 59 10.2 +1.8
VNDA PcP **PcP** 18 59 47.5 +0.3
LUWI Luwuk 60.36 279 P P 18 59 10.8 +0.3
LUWI Luwuk 60.36 279 P P 18 59 11.8 +1.4
comp=Z,10μmcomp=Z,1μm,1.2s
MORW Morawa 60.58 246 IAmb IAmb 18 59 12.8
comp=Z,166nm,0.8s
DAV Davao City (W) 60.88 289 P P 18 59 14.3 +0.5
comp=Z,288nm,0.7s,baz=103,slow=3.2,SNR=7.2
BSSI Bau Bau, Buton 60.88 273 P P 18 59 13.9 0.0
comp=Z,2μmcomp=Z,210nm,1.1s
WBSI Waikabubak, Su 60.95 269 P P 18 59 14.9 +0.5
comp=Z,5μmcomp=Z,476nm,1.3s
APSI Ampana 61.45 279 P P 18 59 19.3 +1.6
comp=Z,7μmcomp=Z,810nm,1.1s
BKSI Bulukumba 61.48 274 P P 18 59 17.7 -0.1
comp=Z,2μmcomp=Z,148nm,1.7s
MRSI Marisa 61.66 281 P P 18 59 18.9 -0.1
comp=Z,3μmcomp=Z,412nm,0.9s
H01W1 Cape Leeuwin H 61.75 240 P P 18 59 21.1 +2.1
baz=111,slow=6.9,SNR=18
H01W3 Cape Leeuwin H 61.76 240 P P 18 59 21.3 +2.2
baz=111,slow=6.9,SNR=12
H01W2 Cape Leeuwin H 61.77 240 P P 18 59 21.3 +2.2
baz=111,slow=6.9,SNR=13
BNSI Bone 61.77 275 P P 18 59 20.2 +0.5
comp=Z,5μmcomp=Z,509nm,1.1s
KAPI Kappang 61.92 274 P P 18 59 20.9 +0.2
comp=Z,91nm,0.7s,baz=130,slow=4.1,SNR=34
KAPI PcP **PcP** 18 59 56.4 +1.1
comp=Z,31nm,0.9s,baz=27,slow=4.8,SNR=3.9
KAPI Kappang 61.92 274 P P 18 59 20.7 0.0
KAPI IAmb IAmb 18 59 22.2
comp=Z,491nm,1.6s
KAPI PcP **PcP** 18 59 56.5 +1.2
TTSI Tana Toraja 62.47 276 P P 18 59 24.7 +0.4
comp=Z,2μmcomp=Z,136nm,1.1s
PLAI Plampang 62.70 269 P P 18 59 26.0 +0.2
comp=Z,2μmcomp=Z,9μmcomp=Z,1μm,1.1s
TOLI2 Tolitoli 62.97 281 P P 18 59 27.1 -0.4
TOLI2 IAmb IAmb 18 59 28.8
comp=Z,218nm,0.9s
TOLI2 PcP **PcP** 18 59 56.7 -2.9
GIRL Giralia 63.03 253 P P 18 59 28.9 +1.1
RPN Rapa Nui 63.50 112 P P 18 59 32.0 +1.3
comp=Z,198nm,0.7s,baz=281,slow=3.2,SNR=11
RPN Rapa Nui 63.50 112 P P 18 59 32.0 +1.3
RPN Rapa Nui 63.50 112 P P 18 59 31.8 +1.1
RPN IAmb IAmb 18 59 33.7
comp=Z,257nm,0.8s
MPSI Mapaga 63.53 280 P P 18 59 31.5 +0.5
comp=Z,5μmcomp=Z,481nm,0.9s
TWSI Taliwang, Sumb 63.58 269 P P 18 59 31.7 +0.3
comp=Z,6μmcomp=Z,624nm,1.0s
JHJ2 Mitsune 64.86 322 P P 18 59 39.0 0.0
JHJ Hachijo jima 2 64.89 322 P P 18 59 39.6 +0.4
comp=Z,2μm,0.8s,baz=190,slow=8.0,SNR=40
DNP Denpasar 65.19 269 P P 18 59 41.1 -0.5
comp=Z,12μmcomp=Z,1μm,0.9s
SRBI Singaraja 65.35 269 P P 18 59 42.8 +0.2
comp=Z,7μmcomp=Z,650nm,1.1s
JMZ Minamidaito 2 65.80 310 P P 18 59 45.2 +0.1
JMZ pP **pP** 19 01 31.1 -3.2
BKB Balikpapan 65.81 277 P P 18 59 47.9 +2.4
BKB IAmb IAmb 18 59 49.1
comp=Z,294nm,0.9s
BKB Balikpapan 65.81 277 P P 18 59 48.4 +2.9
comp=Z,6μmcomp=Z,481nm,1.0s
KBKI Kotabaru 65.85 275 P P 18 59 46.2 +0.5
comp=Z,2μmcomp=Z,250nm,1.1s
CASY Casey 66.01 205 P P 18 59 46.4 +0.6
CASY IAmb IAmb 18 59 47.8
comp=Z,230nm,1.1s
JAGI Jajag, Banyuwa 66.25 269 P P 18 59 47.5 -0.7
JAGI Jajag, Banyuwa 66.25 269 P P 18 59 47.7 -0.5
comp=Z,8μmcomp=Z,1μm,0.9s
ABJI Asem Bagus 66.36 269 P P 18 59 49.5 +0.6
comp=Z,7μmcomp=Z,693nm,1.1s
KMMI Kalianget 66.82 270 P P 18 59 51.0 -0.8
comp=Z,5μmcomp=Z,457nm,1.1s
JYT Yasato 66.88 324 P P 18 59 51.8 +0.2
JSG Sagara 66.92 322 P P 18 59 52.4 +0.4
BBKI Banjar Baru 67.06 274 P P 18 59 54.1 +0.9
comp=Z,5μmcomp=Z,428nm,1.4s
JMM Marumori 67.75 326 P P 18 59 56.7 -0.2
MTKI Muara Teweh, K 67.81 277 P P 18 59 58.2 +0.4
comp=Z,1μmcomp=Z,2μmcomp=Z,160nm,1.2s
JGF Kuroka 68.06 322 IAmb IAmb 19 00 00.2
comp=Z,167nm,0.8s
INU Inuyama 68.08 322 P P 18 59 58.8 -0.2
INU IAmb IAmb 19 00 00.6
comp=Z,343nm,1.2s
MJAR Matsushiro Arr 68.22 323 P P 18 59 58.9 -1.0
comp=Z,324nm,0.8s,baz=159,slow=5.7,SNR=317
MJAR PKP2bc 19 28 13.0
comp=Z,1.2nm,0.6s,baz=308,slow=1.8,SNR=4.3
MAJO Matsushiro 68.22 323 P P 18 59 59.6 -0.3
MAJO pmax pmax
comp=Z,494nm,1.0s
MAJO Matsushiro 68.22 323 P P 18 59 59.5 -0.3
MAT Matsushiro 68.22 323 P P 18 59 59.7 -0.2
MAT S **S** 19 08 18.8 +1.0
SPMM Sapulut 68.28 283 P P 19 00 02.0 +1.3
JOW Kunigami 68.53 309 P P 19 00 02.7 +0.8
comp=Z,204nm,1.0s,baz=117,slow=9.0,SNR=22
JOW Kunigami 68.53 309 P P 19 00 02.6 +0.6
JOW IAmb IAmb 19 00 04.5
comp=Z,342nm,1.1s
PWJI Pagerwojo 68.61 268 P P 19 00 02.4 -0.2
comp=Z,5μmcomp=Z,513nm,1.0s
TBJI Tambak Boyo 68.90 270 P P 19 00 05.7 +1.3
comp=Z,2μmcomp=Z,7μmcomp=Z,766nm,1.2s
JMN Monobe 68.91 318 P P 19 00 04.7 +0.6
PCJI Pacitan 69.15 268 P P 19 00 06.8 +0.9
comp=Z,19μmcomp=Z,2μm,1.1s
ERM Erimo 69.70 330 *ce*P **P 19 00 09.5 +1.0**
ERM pmax pmax
comp=Z,384nm,1.3s
ERM Erimo 69.70 330 P P 19 00 09.6 +1.0
ERM IAmb IAmb 19 00 13.2
comp=Z,264nm,1.0s
ADK Adak 69.74 1 P P 19 00 08.1 -0.5
ADK pmax pmax
comp=Z,469nm,0.9s
ADK Adak 69.74 1 P P 19 00 08.1 -0.5
JSU Suzuyama 69.75 315 IAmb IAmb 19 00 11.0
comp=Z,407nm,1.2s
UGM Wanagama 69.85 268 P P 19 00 10.7 +0.5
comp=Z,10μmcomp=Z,1μm,1.1s
GSTR Great Sitkin T 69.96 1 P P 19 00 09.6 -0.4
SZP Santa 70.00 297 P P 19 00 12.3 +1.5
SZP IAmb IAmb 19 00 54.5
comp=Z,334nm,1.1s
YUK Yuzh-Kuril'sk 70.08 333 *e*P **P 19 00 10.9 +0.2**
YUK *e* 19 00 28.5
YUK *e* 19 02 54.9
YUK *e**SP **sP 19 02 57.8 +0.1**
YUK *e*PPP PPP 19 04 41.9
YUK *e*S **S 19 08 39.2 +0.6**
YUK *e* 19 09 21.4
YUK *e*SS **SS 19 13 23.7 +0.5**
YUK pmax pmax
comp=Z,578nm,0.9s
YUK pmax pmax
comp=E,700nm,0.8s
YUK pmax pmax
comp=N,446nm,1.2s
YUK pmax pmax
comp=Z,848nm,1.4s
YOGI Yogyakarta 70.10 268 P P 19 00 12.1 +0.5
comp=Z,7μmcomp=Z,822nm,0.9s
ATKA Atka Island 70.13 3 P P 19 00 10.1 -0.7
SMRI Semarang 70.17 269 P P 19 00 13.0 +0.9
SMRI Semarang 70.17 269 P P 19 00 13.3 +1.2
comp=Z,9μmcomp=Z,971nm,1.0s
JHS Saijyo 70.22 319 P P 19 00 13.0 +1.1
KUR Kuril'sk 70.22 335 *d*i*P* **P 19 00 12.1 +0.5**
KUR *e* 19 00 31.4
KUR *e* 19 02 58.3
KUR *e*S **S 19 08 44.0 +3.7**
KUR pmax pmax
comp=Z,2μm,1.5s
KUR pmax pmax
comp=E,407nm,1.0s
KUR pmax pmax
comp=N,291nm,1.2s
PBKI Pangkalan Bun 70.30 274 P **P 19 00 13.6 +0.8**
comp=N,13μmcomp=N,2μm,1.1s
JNU Nakatsue 70.46 316 P P 19 00 14.4 +1.1
comp=N,149nm,0.9s,baz=83,slow=3.9,SNR=53
JNU Nakatsue 70.46 316 IAmb IAmb 19 00 14.9
comp=Z,342nm,1.1s
NIKH Nikolski High 71.28 6 P P 19 00 16.9 -0.7
baz=189
NIKH S **S 19 08 50.7 -1.2**
baz=189
NIKH Nikolski High 71.28 6 P P 19 00 17.1 -0.5
STKI Sintang 71.36 276 P P 19 00 20.7 +1.6
comp=Z,4μmcomp=Z,447nm,1.0s
SBUM Sibu 71.45 279 P P 19 00 21.0 +1.4
KPJI Karang Pucung 71.53 268 P P 19 00 20.5 +0.5
comp=Z,6μmcomp=Z,586nm,0.8s
QSPA South Pole Qui 71.91 180 P P 19 00 22.7 +1.3
QSPA IAmb IAmb 19 00 24.0
comp=Z,219nm,1.1s
TWG Pinlang 71.98 302 IAmb IAmb 19 00 22.1
comp=Z,111nm,0.7s
YULB Yu-li 72.08 303 P P 19 00 22.2 -0.8
YULB IAmb IAmb 19 00 26.0
comp=Z,96nm,0.8s
SKR Severo-Kuril's 72.17 343 *ce*P **P 19 00 22.8 0.0**
UNV Unalaska Valle 72.39 7 P P 19 00 23.0 -1.1
baz=192
UNV S **SKiKP 19 09 00.8 -0.9**
baz=192
JCJI Jatiwangi 72.40 269 P P 19 00 25.4 +0.3
comp=Z,11μmcomp=Z,1μm,1.1s
SSLB Suanglung 72.54 303 P P 19 00 24.8 -1.0
SSLB IAmb IAmb 19 00 26.1
comp=Z,182nm,0.8s
YHNB Yeheng 72.64 304 IAmb IAmb 19 00 27.7
comp=Z,440nm,1.1s
TATO Taipei 72.71 304 P P 19 00 26.5 -0.1
TATO Taipei 72.71 304 P P 19 00 26.9 +0.3
LEM Lembang 72.92 268 P P 19 00 29.0 +0.7
comp=Z,2μmcomp=Z,7μmcomp=Z,829nm,1.2s
KSM Kuching 72.93 277 P P 19 00 29.0 +0.9
CNJI Cibinong 73.25 268 P P 19 00 29.9 0.0
comp=Z,8μmcomp=Z,1μm,1.0s
PET Petropavlovsk 73.66 346κ *i*P **P 19 00 30.8 -0.5**
PET *e**SP **sP 19 03 19.9 +0.6**
PET *i* S **S 19 09 18.6 +0.4**
PET *e* 19 09 49.0
PET pmax pmax
comp=Z,379nm,0.8s
PET pmax pmax
comp=Z,2μm,2.2s
PET pmax pmax
comp=Z,700nm,14.6s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 73.66 346 P P 19 00 31.1 -0.2
PET IAmb IAmb 19 00 31.6
comp=Z,216nm,0.9s
YSS Yuzh-Sakhalins 73.72 333κ *i*P **P 19 00 33.2 +1.3**
YSS *e* 19 03 19.3
YSS *e*S **S 19 09 19.8 +0.6**
YSS *e* 19 09 49.4
YSS *e*SS **SS 19 14 16.6 -1.7**
YSS pmax pmax
comp=Z,2μm,3.1s
YSS pmax pmax
comp=Z,610nm,0.9s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 73.72 333 P P 19 00 33.0 +1.1
XMIS Christmas Isla 73.77 264 P P 19 00 33.2 +0.3
XMIS IAmb IAmb 19 00 34.6
comp=Z,216nm,0.8s
CBJI Citeko 73.77 268 P P 19 00 32.2 -0.7
comp=Z,9μmcomp=Z,1μm,0.9s
FALS False Pass 73.79 9 P P 19 00 31.0 -1.0
baz=195
FALS False Pass 73.79 9 P P 19 00 31.1 -1.0
FALS IAmb IAmb 19 00 32.0
comp=Z,330nm,1.2s
DBJI Dramaga 73.83 268 P P 19 00 33.9 +0.6
comp=Z,6μmcomp=Z,677nm,1.1s
PEA0B Petropavlovsk- 73.96 345 *ce*P **P 19 00 33.3 +0.2**
PETK Petropavlovsk- 73.96 345 *P* **P 19 00 32.4 -0.7**
comp=Z,391nm,0.8s,baz=128,slow=7.3,SNR=309
PETK PKiKP **PKiKP** 19 06 21.5 -0.1
comp=Z,7.1nm,0.7s,baz=158,slow=4.7,SNR=5.6
PETK Petropavlovsk- 73.96 345 P P 19 00 32.6 -0.5
PETK Petropavlovsk- 73.96 345 P P 19 00 32.6 -0.5
TNG Tangerang 74.04 269 P P 19 00 36.4 +2.0
comp=Z,8μmcomp=Z,920nm,1.1s
TNG P **P 19 00 34.9 +0.5**
CNBA Chernabura Isl 74.39 11 IAmb IAmb 19 00 35.9
comp=Z,306nm,1.2s
CHNA Chernabura Isl 74.40 11 P P 19 00 34.6 -0.9
baz=198
TJN Taejon 74.73 317 *ce*P **P 19 00 37.8 0.0**
QZH Quanzhou 74.99 303‖ *i*P **P 19 00 40.4 +0.9**
QZH S **S 19 09 35.8 +1.9**
QZH sS **sS 19 12 56.0 -0.3**
QZH pmax pmax
comp=Z,230nm,1.3s
QZH pmax pmax
comp=Z,770nm,7.3s
KSRS Korea Array 75.02 318 P P 19 00 40.7 +1.3
comp=Z,61nm,0.7s,baz=132,slow=6.4,SNR=200
KSAR Wonju Array Be 75.04 318 P P 19 00 40.4 +0.9
KSAR Wonju Array Be 75.04 318 P P 19 00 40.4 +0.9
SPIA Saint Paul Isl 75.33 4 P P 19 00 40.3 -0.3
baz=188,SNR=9.2
SPIA S **S 19 09 39.6 +3.4**
baz=188
SPIA Saint Paul Isl 75.33 4 P P 19 00 40.7 +0.1
H06S1 SOCORRO T 75.52 64 P P 19 00 43.5 +0.9
UGL Uglegorsk 75.67 334 *e*P **P 19 00 43.3 +0.6**
UGL *e*S **S 19 09 41.3 +1.0**
UGL pmax pmax
comp=Z,700nm,0.9s
UGL smax smax
comp=E,900nm,5.0s
SNCC San Nicolas Is 75.78 48 P P 19 00 45.3 +1.5
baz=237
INCN Inchon 75.86 318 P P 19 00 45.0 +0.9
INCN pmax pmax
comp=Z,460nm,1.4s
INCN Inchon 75.86 318 P P 19 00 45.0 +0.9
INCN IAmb IAmb 19 00 46.7
comp=Z,460nm,1.4s
INCN Inchon 75.86 318 P P 19 00 45.8 +1.7
SSE Sheshan 76.06 310 P P 19 00 45.8 +0.5
SSE S **S 19 09 47.9 +2.7**
SSE pmax pmax
comp=Z,64nm,1.1s
SSE pmax pmax
comp=Z,360nm,4.6s
CHIR Chirikof Islan 76.11 13 P P 19 00 44.9 -0.1
baz=202
SCZ2 Santa Cruz Isl 76.12 47 P P 19 00 47.0 +1.3
baz=237,SNR=8.7
SCZ2 S **S 19 09 48.8 +3.0**
baz=237
VLA Vladivostok 76.27 325 *d*i*P* **P 19 00 47.3 +1.1**
VLA pmax pmax
comp=Z,481nm,1.4s
SBC Santa Barbara 76.31 46 P P 19 00 48.0 +1.4
baz=236
SCI2 San Clemente I 76.33 48 P P 19 00 47.8 +1.0
baz=238,SNR=8.0
SAO San Andreas Ge 76.45 44 P P 19 00 48.6 +1.2
SAO pmax pmax
comp=Z,65nm,0.8s
SAO San Andreas Ge 76.45 44 P P 19 00 48.6 +1.2
PKM Mcpherson Peak 76.48 46 P P 19 00 49.3 +1.4
baz=236,SNR=16
PKM S **S 19 09 53.5 +3.4**
baz=236
PMPB Monarch Peak 76.56 44 IAmb IAmb 19 00 51.0

comp=Z,305nm,1.7s
SMMC Simmler 76.60 46 P P 19 00 49.6 +1.4
baz=236,SNR=15
CIS Catalina Islan 76.65 48 P P 19 00 49.5 +0.9
baz=238
CIS S **S 19 09 55.9 +4.4**
baz=238
PAGB Antelope Grade 76.66 45 P P 19 00 49.9 +1.3
PAGB IAmb IAmb 19 00 52.5
comp=Z,295nm,1.8s
TYV Tymovskoe 76.83 336 *e*P **P 19 00 49.8 +0.7**
TYV pmax pmax
comp=Z,680nm,1.2s
FMP Fort Macarthur 76.90 48 P P 19 00 51.2 +1.3
baz=238
USRK Ussuriysk Ar. 76.93 326 P P 19 00 50.8 +1.0
comp=Z,95nm,0.8s,baz=128,slow=4.0,SNR=209
OSI Osito Audit: C 77.09 47 P P 19 00 52.3 +1.3
baz=237
CCX Cicese 77.10 50 P P 19 00 52.5 +1.5
DECC Green Verdugo 77.16 47 P P 19 00 52.1 +0.7
baz=237
PASC Pasadena Art C 77.22 47 IAmb IAmb 19 00 54.0
comp=Z,263nm,1.9s
ARVC Arvin 77.29 46 P P 19 00 53.0 +1.0
baz=237
109C Camp Elliot, M 77.31 49 P P 19 00 53.2 +1.0
baz=238
CBX Cerro Bola 77.33 50 P P 19 00 53.3 +0.9
TKX Tecate 77.50 50 P P 19 00 54.1 +0.8
VES Vestal, Richgr 77.51 46 P P 19 00 53.8 +0.7
baz=237,SNR=13
VES S **S 19 10 04.3 +3.8**
baz=237
VOG Valley Oaks Go 77.57 45 P P 19 00 53.9 +0.4
baz=236
O02D Mt. Diablo Mer 77.59 40 P P 19 00 55.3 +1.6
baz=233,SNR=20
O02D S **S 19 10 05.4 +4.0**
baz=233
MURC Murrieta 77.62 48 P P 19 00 54.9 +1.0
baz=238,SNR=9.7
MURC S **S 19 10 04.6 +2.8**
baz=238
BFSC Mount Baldy Ra 77.63 48 P P 19 00 54.8 +0.8
baz=238,SNR=19
BFSC S **S 19 10 05.3 +3.2**
baz=238
KRMB Red Mountain 77.73 39 IAmb IAmb 19 00 57.5
comp=Z,403nm,1.9s
EDW2 Edwards Air Fo 77.73 47 P P 19 00 55.7 +1.2
baz=238,SNR=55
EDW2 S **S 19 10 06.2 +3.2**
baz=238
MONP2 Monument Peak 77.81 49 P P 19 00 56.6 +1.5
baz=239,SNR=50
MONP2 S **S 19 10 07.5 +3.4**
baz=239
ISA Isabella, Lake 77.83 46 P P 19 00 56.2 +1.2
baz=237,SNR=46
ISA S **S 19 10 07.3 +3.3**
baz=237
ISA Isabella, Lake 77.83 46 IAmb IAmb 19 00 57.5
comp=Z,332nm,1.9s
RMX La Rumorosa 77.91 50 IAmb IAmb 19 00 58.6
comp=Z,232nm,1.7s
IKP In-Ko-Pah, Jac 77.91 50 P P 19 00 57.0 +1.5
baz=239,SNR=28
IKP S **S 19 10 09.8 +4.8**
baz=239
WDC Whiskeytown Da 77.98 40 P P 19 00 57.0 +1.4
WDC pmax pmax
comp=Z,167nm,1.6s
WDC Whiskeytown Da 77.98 40 P P 19 00 57.0 +1.4
AFDM Forest Hills D 78.01 42 P P 19 00 56.5 +0.7
N02D Trinity Center 78.12 40 P P 19 00 57.9 +1.4
baz=233,SNR=12
N02D S **S 19 10 10.1 +3.3**
baz=233
PFO Pinyon Flats O 78.15 49 P P 19 00 58.0 +1.1
comp=Z,12nm,0.9s,baz=242,slow=4.6,SNR=26
PFO pP **pP 19 02 50.8 0.0**
comp=Z,4.2nm,0.9s,baz=216,slow=9.9,SNR=2.5
PFO Pinyon Flats O 78.15 49 P P 19 00 57.9 +1.1
baz=239,SNR=16
PFO S **S 19 10 11.3 +3.8**
baz=239
PFO Pinyon Flats O 78.15 49 P P 19 00 58.0 +1.1
TPFO Pinon Flats 78.15 49 P P 19 00 58.0 +1.1
baz=239,SNR=18
TPFO S **S 19 10 11.3 +3.8**
baz=239
BBRC Big Bear Solar 78.16 48 S S 19 10 11.0 +3.1
baz=238
NJ2 Nanjing 78.25 309 ⇓*i*P **P 19 00 58.5 +1.3**
NJ2 pmax pmax
comp=Z,280nm,1.0s
NJ2 pmax pmax
comp=Z,2μm,4.1s
LRMC Laurel Mtn Rad 78.27 47 P P 19 00 58.4 +1.0
baz=238,SNR=29
LRMC S **S 19 10 11.6 +2.8**
baz=238
O03E Paynes Creek 78.27 41 P P 19 00 58.0 +0.7
baz=234,SNR=18
O03E S **S 19 10 10.3 +1.9**
baz=234
M02C Callahan 78.28 39 P P 19 00 58.7 +1.4
baz=233,SNR=24
M02C S **S 19 10 12.9 +4.4**
baz=233
SWSC Sam W. Stewart 78.28 50 P P 19 00 58.7 +1.3
baz=239,SNR=19
SWSC S **S 19 10 13.4 +4.7**
baz=239
L02E Cave Junction 78.30 38 P P 19 00 58.5 +1.2
baz=232,SNR=5.4
LPIG La Paz 78.37 60 P P 19 01 00.2 +2.2
comp=Z,79nm,0.8s,baz=275,slow=4.6,SNR=5.5
GZH Guangzhou 78.43 299 P P 19 00 59.6 +1.2
RRX Edison Barstow 78.43 47 P P 19 00 59.2 +1.0
baz=238
RRX S **S 19 10 13.0 +2.8**
baz=238
SLBS Sierra La Lagu 78.49 60 P P 19 01 00.5 +1.7
MDJ Mudanjiang 78.50 325 P P 19 00 59.8 +1.5
MDJ S **S 19 10 15.4 +4.9**
MDJ pmax pmax
comp=Z,720nm,0.9s
MDJ pmax pmax
comp=Z,3μm,3.8s
CWC Cottonwood Cre 78.51 46 P P 19 00 59.9 +1.2
baz=237
CWC S **S 19 10 14.5 +3.1**
baz=237
YBH Yreka Blue Hor 78.57 39 P P 19 01 00.2 +1.3
comp=Z,35nm,0.7s,baz=173,slow=2.2,SNR=65
YBH pP **pwP 19 02 55.1 -0.9**
comp=Z,5.5nm,0.9s,baz=200,slow=7.1,SNR=2.1
YBH PKPPKP **P'P'df 19 27 54.4 +2.5**
comp=Z,2.8nm,0.8s,baz=85,slow=2.0,SNR=3.6
KDAK Kodiak Island 78.58 14 P P 19 00 58.7 +0.3
comp=Z,226nm,0.7s,baz=249,slow=3.0,SNR=88
KDAK PKiKP **PKiKP 19 06 28.6 +0.3**
comp=Z,7.3nm,0.7s,baz=255,slow=5.1,SNR=4.5
KDAK Kodiak Island 78.58 14 P P 19 00 58.7 +0.3
baz=205
KDAK S **S 19 10 16.4 +5.8**
baz=205
KDAK Kodiak Island 78.58 14 P P 19 00 58.7 +0.3
K02D Willamette Mer 78.59 38 P P 19 00 60.0 +1.0
baz=232,SNR=7.8
K02D S **S 19 10 15.9 +4.2**
baz=232
MLAC Mammoth, Mammo 78.66 44 P P 19 01 01.1 +1.5
baz=236,SNR=5.9
MLAC S **S 19 10 18.5 +5.6**
baz=236
BELC Belle Mtn. Jos 78.68 49 P P 19 01 00.9 +1.2
baz=239,SNR=30
BELC S **S 19 10 17.4 +4.3**
baz=239
J01E Myrtle Point 78.72 37 P P 19 01 00.4 +0.9
baz=232,SNR=7.2
J01E S **S 19 10 15.9 +3.0**
baz=232
TIN Tinemaha, Big 78.75 45 P P 19 01 01.2 +1.3
baz=237,SNR=8.6
TIN S **S 19 10 17.8 +4.2**
baz=237
WAKR Walker 78.75 43 IAmb IAmb 19 01 02.6
comp=Z,551nm,2.0s
GSC Goldstone, Bar 78.78 47 P P 19 01 01.2 +1.0
baz=238,SNR=25
GSC S **S 19 10 16.4 +2.4**
baz=238
HEC Hector,Ludlow 78.87 48 P P 19 01 01.5 +0.9
baz=239,SNR=14
HEC S **S 19 10 17.3 +2.4**
baz=239
GLA Glamis 79.04 50 P P 19 01 03.2 +1.7
baz=240,SNR=14
GLA S **S 19 10 21.6 +4.9**
baz=240
VCNR Virginia City 79.05 42 P P 19 01 02.6 +0.9
L04D Klamath Falls 79.11 39 P P 19 01 02.8 +1.0
baz=233,SNR=24
L04D S **S 19 10 20.2 +3.0**
baz=233
M04C Macdoel 79.12 39 P P 19 01 03.0 +1.1
baz=234,SNR=8.0
M04C S **S 19 10 21.0 +3.7**
baz=234
MYKOM Kota Tinggi 79.13 275 P P 19 01 03.0 +0.6
LHV Little Huntoon 79.22 44 IAmb IAmb 19 01 05.0
comp=Z,430nm,1.9s
GRAC Grapevine Rang 79.30 45 P P 19 01 04.0 +1.2
baz=238,SNR=5.4
GMRC Granite Mounta 79.32 48 P P 19 01 04.0 +1.0
baz=239,SNR=33
GMRC S **S 19 10 23.5 +3.8**
baz=239
GRNR Gornyy 79.34 333 ⇓*i*P **P 19 01 03.9 +1.3**
GRNR *e*S **S 19 10 15.7 -3.3**
GRNR pmax pmax
comp=N,150nm,1.0s
GRNR pmax pmax
comp=E,130nm,1.0s
GRNR pmax pmax
comp=Z,610nm,1.0s
GRNR smax smax
comp=E,1.0nm,1.1s
I02D Swisshome 79.36 37 P P 19 01 04.2 +1.4
baz=232
I02D S **S 19 10 23.6 +4.3**
baz=232
FURC Furnace Creek, 79.36 46 P P 19 01 04.1 +1.1
baz=238,SNR=20
IRM Iron Mountain 79.37 49 P P 19 01 04.5 +1.3
baz=240,SNR=34
IRM S **S 19 10 23.7 +3.7**
baz=240
I03D Drain, OR 79.39 37 P P 19 01 04.2 +1.2
baz=232,SNR=13
RYN Ryan 79.41 43 IAmb IAmb 19 01 06.0
comp=Z,337nm,2.0s
NVAR Mina Array Bea 79.44 44 P P 19 01 04.8 +1.0
comp=Z,31nm,0.7s,baz=224,slow=8.6,SNR=216
NVAR pP **pP 19 02 59.0 +0.5**
comp=Z,15nm,1.1s,baz=233,slow=9.1,SNR=4.7
NVAR PKiKP **PKiKP 19 06 31.8 +1.1**
comp=Z,2.0nm,0.8s,baz=205,slow=3.3,SNR=3.9
NVAR PKKPbc **PKKPbc 19 19 50.6 +1.2**
comp=Z,0.7nm,0.5s,baz=62,slow=5.0,SNR=7.4
NVAR PKPPKP **P'P'df 19 27 49.8 -1.2**
comp=Z,1.0nm,0.8s,baz=110,slow=2.8,SNR=4.9
SHOC Shoshone, Teco 79.46 47 P P 19 01 04.5 +0.9
baz=238,SNR=8.6
SHOC S **S 19 10 25.2 +4.3**
baz=238
TUQ Turquoise Moun 79.47 47 P P 19 01 04.8 +1.0
baz=239,SNR=15
TUQ S **S 19 10 25.2 +4.0**
baz=239
NV11 Mina Array Sit 79.54 44 IAmb IAmb 19 01 06.7
comp=Z,366nm,1.9s
K04D Chiloquin, OR 79.67 39 P P 19 01 05.7 +1.0
baz=234,SNR=5.8
K04D S **S 19 10 26.6 +3.6**
baz=234
QIZ Qiongzhong 79.74 294 P P 19 01 06.4 +1.0
QIZ pP **pP 19 03 00.8 +0.4**
QIZ sP **sP 19 03 56.3 +0.4**
QIZ S **S 19 10 26.6 +2.3**
QIZ pmax pmax
comp=Z,72nm,1.5s
QIZ pmax pmax
comp=Z,530nm,5.8s
QIZ Qiongzhong 79.74 294 IAmb IAmb 19 01 08.1
comp=Z,394nm,1.9s
J04D Umpqua Nationa 79.83 38 P P 19 01 06.7 +1.1
baz=233,SNR=54
DL2 Dalian 79.91 317 P P 19 01 06.8 +1.0
DL2 sP **sP 19 03 56.0 -0.5**
DL2 S **S 19 10 28.3 +3.1**
DL2 sS **sS 19 13 49.6 -0.8**
DL2 SS **SS 19 15 56.3 +5.4**
DL2 pmax pmax
comp=Z,250nm,0.9s
DL2 pmax pmax
comp=Z,690nm,5.0s
KVN Kaiserville 79.92 43 IAmb IAmb 19 01 08.6
comp=Z,353nm,1.9s
COR Corvallis 79.96 36 P P 19 01 07.3 +1.3
COR pmax pmax
comp=Z,57nm,0.8s
COR Corvallis 79.96 36 P P 19 01 07.3 +1.3
I04A Tendick Farm, 79.99 37 P P 19 01 06.8 +0.6
baz=233,SNR=27
214A Organ Pipe Nat 79.99 52 P P 19 01 08.3 +1.8
baz=241,SNR=16
214A S **S 19 10 31.2 +4.7**
baz=241
TPNV Topopah Spring 80.03 46 P P 19 01 07.9 +1.2
baz=238,SNR=30
TPNV S **S 19 10 30.7 +3.7**
baz=238
TPNV Topopah Spring 80.03 46 IAmb IAmb 19 01 09.5
comp=Z,267nm,1.9s
NEE2 Needles Airpor 80.05 48 P P 19 01 08.0 +1.2
baz=240,SNR=7.1
NEE2 S **S 19 10 30.8 +3.9**
baz=240
P19K Oil Pt 80.15 13 P P 19 01 06.5 -0.2
baz=204,SNR=20
P19K S **S 19 10 26.2 -0.7**
baz=204
PDMCI Parker Dam,Lak 80.16 49 P P 19 01 08.6 +1.3
baz=240,SNR=12
PDMCI S **S 19 10 32.1 +4.1**
baz=240
H04D Lebanon 80.24 37 P P 19 01 08.4 +1.0
baz=233,SNR=13
K05A Summer Lake 80.25 39 IAmb IAmb 19 01 10.4
comp=Z,956nm,2.0s
SNY Shenyang 80.30 320 ⇓P **P 19 01 08.3 +0.5**
SNY sP **sP 19 03 59.1 +0.5**
SNY S **S 19 10 28.4 -0.7**
SNY SKS **SKSac 19 10 34.1 +0.1**
SNY SS **SS 19 15 56.9 +0.3**
SNY pmax pmax
comp=Z,140nm,1.6s
SNY pmax pmax
comp=Z,1μm,3.5s
CN2 Changchun 80.34 322 *e*P **P 19 01 08.6 +0.6**
CN2 *e*pP pP 19 03 05.5 +1.9
CN2 *e*sP sP 19 03 59.1 +0.2
CN2 *e*S **S 19 10 30.1 +0.7**
CN2 *e*sS sS 19 13 55.3 +0.9
CN2 *e*SS **SS 19 16 00.3 +3.2**
CN2 pmax pmax
comp=Z,640nm,1.1s
G03D McMinnville, O 80.36 36 P P 19 01 09.1 +1.0
baz=232,SNR=11
G03D S **S 19 10 32.4 +2.7**
baz=232
J05D Fort Rock, OR 80.37 38 P P 19 01 09.8 +1.4
baz=234,SNR=145
J05D S **S 19 10 33.7 +3.6**
baz=234
KLR Kul'dur 80.42 329 *d*i P **P 19 01 08.8 +0.5**
KLR pmax pmax
comp=Z,339nm,1.5s
CNPM China Poot 80.46 14 P P 19 01 08.2 -0.1
CNPM IAmb IAmb 19 01 09.5
comp=Z,404nm,1.1s
HOM Homer 80.49 13 P P 19 01 08.5 +0.1
baz=206,SNR=6.6
HOM S **S 19 10 30.8 +0.6**
baz=206
HOM Homer 80.49 13 P P 19 01 08.7 +0.3
N18K Kilae Creek 80.58 11 P P 19 01 08.7 -0.2
baz=201,SNR=30
N18K S **S 19 10 30.4 -0.9**
baz=201
H04A Detroit Lake 80.65 37 IAmb IAmb 19 01 10.8
comp=Z,89nm,0.7s
O20K Slope Mountain 80.67 13 P P 19 01 09.1 -0.3
baz=205,SNR=11
O20K S **S 19 10 32.1 -0.1**
baz=205
BRLK Bradley Lake 80.75 14 IAmb IAmb 19 01 10.8
comp=Z,357nm,1.0s
BRSE Bradley Lake S 80.77 14 P P 19 01 10.0 +0.1
baz=206,SNR=38
PINE Pine Mountain 80.84 38 IAmb IAmb 19 01 13.5
comp=Z,783nm,1.9s
WHN Wuhan 80.92 306 ⇓P **P 19 01 12.3 +1.0**
WHN sP **sP 19 04 01.8 -0.7**
WHN S **S 19 10 38.3 +2.5**
WHN pmax pmax
comp=Z,740nm,1.3s
I05D Terrebonne, OR 80.93 37 P P 19 01 12.2 +1.1
baz=234,SNR=8.1
I05D S **S 19 10 36.8 +1.2**
baz=234
N19K Bonanza Creek 80.97 12 P P 19 01 10.4 -0.6
baz=203,SNR=41
N19K S **S 19 10 34.1 -1.2**
baz=203
E03A Lebam 81.02 35 IAmb IAmb 19 01 13.7
comp=Z,226nm,1.1s
F04D Rainier, OR 81.04 35 P P 19 01 12.8 +1.2
baz=232,SNR=6.4
F04D S **S 19 10 39.7 +3.2**
baz=232
PRN Pahroc Range 81.08 46 IAmb IAmb 19 01 15.2
comp=Z,428nm,1.8s
JRMM Jerantut 81.10 277 P P 19 01 14.0 +1.3
R11A Troy Canyon, C 81.21 45 P P 19 01 13.5 +0.6
baz=239,SNR=15
R11A S **S 19 10 41.2 +2.3**
baz=239
H02S1 DAWSON INLET T 81.25 26 P P 19 01 12.8 +0.4
BKNI Bangkinang 81.33 273 P P 19 01 13.8 0.0
SEW Seward 81.38 14 P P 19 01 12.6 -0.4
baz=208,SNR=17
SEW Seward 81.38 14 P P 19 01 12.5 -0.4
MA2 Magadan 81.48 345 *ce*P **P 19 01 12.9 -0.6**
MA2 pmax pmax
comp=Z,386nm,1.0s
MA2 Magadan 81.48 345 P P 19 01 12.9 -0.6
MA2 IAmb IAmb 19 01 14.2
comp=Z,412nm,1.0s
G05D Wamic, OR 81.48 37 P P 19 01 14.7 +0.8
baz=234,SNR=20
TIA Tai'an 81.57 312 P P 19 01 15.3 +0.8
TIA S **S 19 10 46.5 +4.3**
TIA pmax pmax
comp=Z,120nm,0.9s
TIA pmax pmax
comp=Z,880nm,3.5s
E04D Cinebar 81.57 35 P P 19 01 15.5 +1.2
baz=232,SNR=25
E04D S **S 19 10 43.5 +1.8**
baz=232
COCO West Island 81.59 260 P P 19 01 14.9 -0.2
COCO pmax pmax
comp=Z,659nm,1.5s
COCO West Island 81.59 260 P P 19 01 14.9 -0.2
TUC Tucson 81.67 52 P P 19 01 17.1 +1.8
TUC pmax pmax
comp=Z,167nm,1.3s
TUC Tucson 81.67 52 P P 19 01 17.5 +2.2
baz=242
TUC S **S 19 10 48.9 +5.3**
baz=242
TUC Tucson 81.67 52 P P 19 01 17.1 +1.8
TUC IAmb IAmb 19 01 18.9
comp=Z,167nm,1.3s
SPCR Spurr Chakacha 81.77 12 P P 19 01 14.1 -1.0
baz=205,SNR=32
SPCR S **S 19 10 43.1 -0.2**
baz=205
F05D White Salmon 81.78 36 P P 19 01 16.3 +0.8
baz=233,SNR=32
F05D S **S 19 10 46.1 +2.2**
baz=233
D04E Lakebay 81.84 35 P P 19 01 17.3 +1.7
baz=232,SNR=13
I07A Izee 81.86 38 IAmb IAmb 19 01 18.4
comp=Z,784nm,2.0s
D03D Eldon 81.89 34 P P 19 01 17.0 +1.1
baz=232,SNR=32
D03D S **S 19 10 47.9 +2.9**
baz=232
M19K Big River Lodg 81.99 11 P P 19 01 16.0 -0.2
baz=203,SNR=35
J08A Circle Bar Ran 82.06 39 IAmb IAmb 19 01 19.4
comp=Z,326nm,1.5s
LCMT Little Creek M 82.13 47 IAmb IAmb 19 01 20.3
comp=Z,236nm,1.7s
L19K White Mountain 82.17 11 P P 19 01 17.2 +0.2
baz=202,SNR=67
L19K S **S 19 10 48.2 +1.1**
baz=202
RC01 Rabbit Creek A 82.20 14 P P 19 01 16.9 -0.3
baz=207,SNR=16
RC01 Rabbit Creek A 82.20 14 P P 19 01 16.9 -0.3
RC01 IAmb IAmb 19 01 18.2
comp=Z,448nm,1.2s
M20K Styx River 82.21 12 P P 19 01 16.3 -1.0
baz=204,SNR=22
M20K S **S 19 10 45.6 -2.2**
baz=204
D05A Enumclaw 82.27 35 IAmb IAmb 19 01 21.3
comp=Z,562nm,1.4s
PWL Port Wells 82.31 14 IAmb IAmb 19 01 18.5
comp=Z,413nm,1.0s
SUA Susitna One 82.31 13 P P 19 01 17.4 -0.5
baz=206,SNR=18
SUA Susitna One 82.31 13 IAmb IAmb 19 01 18.5
comp=Z,287nm,0.8s
CCUT Cedar City 82.32 47 IAmb IAmb 19 01 21.6
comp=Z,267nm,1.7s
HIN Hinchinbrook I 82.35 15 IAmb IAmb 19 01 19.0
comp=Z,373nm,1.3s
PGC Sidney 82.39 33 IAmb IAmb 19 01 20.4
comp=Z,370nm,1.6s
BBB Bella Bella 82.42 28 IAmb IAmb 19 01 20.4
comp=Z,312nm,1.5s
KNB Kanab 82.43 47 IAmb IAmb 19 01 22.2
comp=Z,389nm,1.8s
PSUT Pine Spring 82.47 45 IAmb IAmb 19 01 21.9
comp=Z,234nm,1.7s
U15A North Rim 82.52 48 IAmb IAmb 19 01 23.5
comp=Z,145nm,1.0s
SZCU Shurtz Canyon 82.53 47 IAmb IAmb 19 01 22.6
comp=Z,247nm,1.6s
SKT Skwentna 82.62 12 P P 19 01 17.7 -1.6
baz=206,SNR=16
SKT Skwentna 82.62 12 IAmb IAmb 19 01 19.2
comp=Z,153nm,1.0s
GLI Glacier Island 82.62 15 P P 19 01 18.9 -0.4
baz=210,SNR=30
GLI S **S 19 10 51.1 -0.6**
baz=210
CRAG Craig 82.64 24 P P 19 01 20.3 +0.9
baz=223
IPM Ipoh 82.66 277 P P 19 01 22.0 +1.4
FID Port Fidalgo 82.66 15 IAmb IAmb 19 01 20.2
comp=Z,309nm,1.2s
TTA Tatalina 82.67 10 S S 19 10 54.2 +2.0
baz=201
EYAK Cordova Ski Ar 82.67 15 P P 19 01 19.4 -0.2
baz=211,SNR=13
EYAK S **S 19 10 55.0 +2.9**
baz=211
EYAK Cordova Ski Ar 82.67 15 P P 19 01 19.2 -0.3
ELK Elko 82.68 43 IAmb IAmb 19 01 22.7
comp=Z,218nm,1.6s
WUAZ Wupatki 82.73 49 P P 19 01 22.2 +1.5

	baz=242,SNR=54						
WUAZ				S	S	19 10 56.4	+2.1
	baz=242						
KNK	**Knik Glacier**	82.77	14	P	P	19 01 20.0	0.0
	baz=208,SNR=32						
A04D	**Lummi Island**	82.82	33	P	P	19 01 21.7	+1.2
	baz=232,SNR=9.7						
A04D				S	S	19 10 55.2	+1.2
	baz=232						
G08A	**Pilot Rock**	82.86	38	IAmb	IAmb	19 01 23.3	
	comp=Z,369nm,1.5s						
B05A	**Bryant**	82.86	34	P	P	19 01 21.6	+0.8
	baz=233,SNR=21						
B05A				S	S	19 10 52.8	-1.8
	baz=233						
HMT	**Hamilton**	82.88	16	IAmb	IAmb	19 01 21.3	
	comp=Z,177nm,0.9s						
PKCU	**Pink Cliffs**	82.99	47	P	P	19 01 23.9	+1.7
PKCU				IAmb	IAmb	19 01 25.8	
	comp=Z,434nm,1.5s						
SIT	**Sitka**	83.02	22	P	P	19 01 21.7	+0.4
	baz=221						
LTY	**Liberty**	83.03	35	IAmb	IAmb	19 01 23.6	
	comp=Z,230nm,1.6s						
ANM	**Nome**	83.04	6	P	P	19 01 21.8	+0.5
	baz=192,SNR=6.0						
ANM				S	S	19 10 57.5	+2.0
	baz=192						
ANM	**Nome**	83.04	6	IAmb	IAmb	19 01 23.3	
	comp=Z,376nm,1.6s						
E07A	**Sunnyside**	83.08	36	IAmb	IAmb	19 01 24.2	
	comp=Z,407nm,1.5s						
SML	**Sawmill**	83.15	14	P	P	19 01 21.7	-0.3
	baz=208,SNR=23						
SML				S	S	19 10 56.0	-1.0
	baz=208						
HAWA	**Hanford**	83.17	37	IAmb	IAmb	19 01 24.6	
	comp=Z,545nm,1.7s						
CUT	**Chulitna**	83.26	13	P	P	19 01 22.1	-0.4
	baz=207,SNR=38						
CUT				S	S	19 10 56.7	-1.1
	baz=207						
KULM	**Kulim**	83.28	278	P	P	19 01 25.0	+1.3
C06D	**Leavenworth**	83.31	35	P	P	19 01 23.5	+0.4
	baz=234,SNR=7.3						
X18A	**Snowflake**	83.31	51	P	P	19 01 25.2	+1.6
A05A	**Maple Falls**	83.32	33	P	P	19 01 23.1	+0.1
A05A				IAmb	IAmb	19 01 24.8	
	comp=Z,225nm,1.7s						
PPLA	**Purkeypile**	83.32	12	P	P	19 01 21.2	-1.8
	baz=205,SNR=18						
PPLA	**Purkeypile**	83.32	12	IAmb	IAmb	19 01 22.5	
	comp=Z,239nm,1.4s						
BMRM	**Bremner River**	83.33	16	P	P	19 01 22.7	-0.2
	baz=212,SNR=35						
BMRM				S	S	19 10 57.2	-1.5
	baz=212						
MTPU	**Mount Pierson**	83.37	47	IAmb	IAmb	19 01 27.5	
	comp=Z,270nm,1.6s						
MESA	**MESA**	83.38	17	P	P	19 01 23.9	+0.6
	baz=214,SNR=27						
K20K	**Telida**	83.40	11	P	P	19 01 23.3	+0.1
	baz=203,SNR=192						
K20K				S	S	19 10 57.6	-1.6
	baz=203						
KLU	**Klutina**	83.44	15	P	P	19 01 23.3	-0.2
	baz=211,SNR=29						
KLU				S	S	19 10 59.6	-0.3
	baz=211						
KLU	**Klutina**	83.44	15	IAmb	IAmb	19 01 24.7	
	comp=Z,333nm,1.4s						
TCRU	**Three Creeks R**	83.47	46	IAmb	IAmb	19 01 27.4	
	comp=Z,153nm,1.5s						
E08A	**Dider Farm, El**	83.49	37	P	P	19 01 24.7	+0.7
E08A				IAmb	IAmb	19 01 26.4	
	comp=Z,89nm,0.7s						
PMSA	**Palmer Station**	83.51	157	P	P	19 01 25.5	+1.8
	comp=Z,70nm,1.0s,baz=231,slow=5.0,SNR=33						
PMSA				pP	pP	19 03 21.4	+1.8
	comp=Z,14nm,1.0s,baz=228,slow=5.2,SNR=3.6						
PMSA				S	S	19 10 54.2	-6.3
	comp=Z,3.5nm,0.9s,baz=78,slow=22,SNR=1.6						
PMSA				PKKPbc	PKKPbc	19 19 37.9	-2.5
	comp=Z,7.2nm,0.9s,baz=4.4,slow=3.9,SNR=3.8						
PMSA	**Palmer Station**	83.51	157	P	P	19 01 25.3	+1.5
PMSA				IAmb	IAmb	19 01 27.2	
	comp=Z,101nm,1.0s						
PMSA	**Palmer Station**	83.51	157	*e*P	P	19 01 25.6	+1.8
CRQE	**Cirque**	83.54	17	P	P	19 01 24.2	+0.1
	baz=213,SNR=52						
MVU	**Marysvale**	83.58	46	IAmb	IAmb	19 01 28.0	
	comp=Z,398nm,1.3s						
BMO	**Blue Mountains**	83.59	39	IAmb	IAmb	19 01 26.9	
	comp=Z,372nm,1.9s						
TGL	**Tana Glacier**	83.62	17	P	P	19 01 24.4	0.0
WRAK	**Wrangell Islan**	83.64	24	P	P	19 01 25.1	+0.7
	baz=223,SNR=24						
WRAK				S	S	19 11 01.6	-0.1
	baz=223						
WRAK	**Wrangell Islan**	83.64	24	IAmb	IAmb	19 01 26.5	
	comp=Z,262nm,1.3s						
MAW	**Mawson**	83.71	200	P	P	19 01 25.5	+0.8
	comp=Z,76nm,0.9s,baz=121,slow=6.0,SNR=85						
MAW				pP	pwP	19 03 24.2	+0.7
	comp=Z,13nm,1.1s,baz=50,slow=7.9,SNR=2.5						
MAW				S	S	19 10 56.2	-6.2
	comp=Z,3.0nm,1.0s,baz=278,slow=20,SNR=2.4						
MAW				PKKPbc	PKKPbc	19 19 36.8	-3.1
	comp=Z,3.1nm,0.8s,baz=235,slow=1.0,SNR=6.9						
MAW				PKPPKP	P'P'df	19 27 41.9	-1.6
	comp=Z,6.8nm,1.2s,baz=298,slow=6.1,SNR=5.7						
MFID	**Camas Ranch**	83.71	40	IAmb	IAmb	19 01 27.6	
	comp=Z,230nm,1.4s						
W18A	**Petrified Fore**	83.74	50	P	P	19 01 27.0	+1.3
	baz=243						
W18A				S	S	19 11 01.7	-2.4
	baz=243						
PINM	**Pinnacle**	83.80	18	P	P	19 01 25.4	+0.1
	baz=216,SNR=13						
TNA	**Tin City**	83.81	4	P	P	19 01 25.6	+0.5
	baz=190,SNR=35						
TNA				S	S	19 11 04.6	+1.5
	baz=190						
TNA	**Tin City**	83.81	4	P	P	19 01 25.4	+0.3
N25K	**Chitina, Valde**	83.87	15	P	P	19 01 25.8	+0.1
	baz=212,SNR=107						
N25K				S	S	19 11 03.4	-0.7
	baz=212						
BCPM	**Bancas Point**	83.87	18	IAmb	IAmb	19 01 27.1	
	comp=Z,247nm,1.2s						
D08A	**Wollman Farm,**	83.89	36	IAmb	IAmb	19 01 27.6	
	comp=Z,90nm,0.8s						
M24K	**Tolsona, Glenn**	83.91	15	P	P	19 01 26.3	+0.5
	baz=210,SNR=56						
M24K				S	S	19 11 05.1	+0.7
	baz=210						
SKLT	**Songkhla**	83.91	280	P	P	19 01 28.5	+1.7
	comp=Z,6μmcomp=Z,543nm,1.0s						
WAT6	**Susitna Watana**	83.96	14	P	P	19 01 25.9	-0.2
	baz=209,SNR=179						
WAT6				S	S	19 11 03.3	-1.9
	baz=209						
DUG	**Dugway, Tooele**	84.00	44	P	P	19 01 27.5	+0.6
	baz=240,SNR=18						
DUG				S	S	19 11 05.9	-0.5
	baz=240						
WAT1	**Susitna Watana**	84.00	13	P	P	19 01 26.0	-0.2
	baz=208						
WAT1				S	S	19 11 03.3	-2.0
	baz=208						
E09A	**Wood Farm, Sta**	84.02	37	IAmb	IAmb	19 01 28.6	
	comp=Z,382nm,1.8s						
121A	**Cookes Peak, D**	84.04	53	P	P	19 01 29.2	+1.9
	baz=244						
121A				S	S	19 11 03.8	-3.5
	baz=244						
MCARA	**McCarthy VSAT**	84.09	16	P	P	19 01 26.7	+0.1
	baz=213,SNR=37						
BJI	**Beijing**	84.10	315	P	P	19 01 28.3	+1.2
BJI				S	S	19 11 11.8	+4.8
BJI				SS	SS	19 16 52.5	+0.1
BJI				pmax	pmax		
	comp=Z,330nm,1.2s						
J20K	**Nowinta River**	84.14	10	P	P	19 01 26.9	+0.1
	baz=203,SNR=117						
J20K				S	S	19 11 07.0	+0.6
	baz=203						
SKNT	**Sakolnakorn**	84.15	290	P	P	19 01 28.5	+0.6
	comp=Z,462nm,1.1s						
TRF	**Thorofare Moun**	84.19	12	P	P	19 01 26.5	-0.8
	baz=207,SNR=129						
TRF				S	S	19 11 05.6	-1.8
	baz=207						
CHUM	**Lake Minchumin**	84.20	11	P	P	19 01 26.4	-0.7
	baz=205						
CHUM				S	S	19 11 05.0	-1.9
	baz=205						
CTG	**Chitna Glacier**	84.20	17	P	P	19 01 27.5	+0.2
	baz=215,SNR=20						
CTGM	**Chitina Glacie**	84.20	17	IAmb	IAmb	19 01 28.7	
	comp=Z,358nm,1.1s						
F10A	**Beach Ranch, E**	84.25	38	IAmb	IAmb	19 01 29.6	
	comp=Z,209nm,1.1s						
JIS	**Juneau Island**	84.27	22	P	P	19 01 28.0	+0.5
JIS				IAmb	IAmb	19 01 29.4	
	comp=Z,175nm,1.2s						
ZAIG	**Zacatecas**	84.32	64	P	P	19 01 30.9	+1.9
MOIG	**Morelia**	84.37	67	P	P	19 01 30.0	+0.7
MOIG				IAmb	IAmb	19 01 31.4	
	comp=Z,92nm,1.0s						
B08A	**Colville Reser**	84.41	35	IAmb	IAmb	19 01 29.9	
	comp=Z,457nm,1.8s						
HARP	**HAARP**	84.41	15	P	P	19 01 28.3	+0.1
	baz=211,SNR=39						
BPAW	**Bear Paw Mtn.**	84.64	12	P	P	19 01 27.9	-1.4
	baz=206,SNR=39						
BPAW				S	S	19 11 09.1	-2.3
	baz=206						
BPAW	**Bear Paw Mtn.**	84.64	12	IAmb	IAmb	19 01 30.3	
	comp=Z,311nm,1.6s						
C09A	**Chrisman Ranch**	84.67	36	IAmb	IAmb	19 01 31.8	
	comp=Z,442nm,1.8s						
MCK	**McKinley**	84.72	13	P	P	19 01 29.2	-0.5
	baz=208,SNR=79						
MCK				S	S	19 11 10.0	-2.1
	baz=208						
PAX	**Paxson**	84.83	14	P	P	19 01 29.7	-0.6
	baz=211,SNR=7.7						
SKAG	**Skagway**	84.84	20	P	P	19 01 31.5	+1.2
	baz=220,SNR=20						
M26K	**Nabesna, AK**	84.95	16	S	S	19 11 14.4	-0.1
	baz=213						
KHON	**Khomkaen**	84.97	289	P	P	19 01 33.2	+1.3
	comp=Z,4μmcomp=Z,315nm,1.2s						
KHON	**Khomkaen**	84.97	289	P	P	19 01 33.0	+1.1
	comp=Z,879nmcomp=Z,79nm,1.2s						
SRU	**San Rafael Swe**	85.02	46	IAmb	IAmb	19 01 34.3	
	comp=Z,164nm,1.6s						
P17A	**Butcher Ranch,**	85.05	46	P	P	19 01 32.9	+0.8
NONG	**Nongkai**	85.28	291	P	P	19 01 34.1	+0.7
	comp=Z,329nm,1.2s						
GYA	**Guiyang**	85.34	300	⇓P	P	19 01 34.6	+0.9
GYA				pP	pP	19 03 34.0	+3.3
GYA				SKS	SKSac	19 11 02.3	-5.3
GYA				S	S	19 11 20.8	+0.9
GYA				pmax	pmax		
	comp=Z,29nm,1.1s						
GYA				pmax	pmax		
	comp=Z,190nm,4.0s						
Y22D	**IRIS PASSCAL I**	85.36	52	P	P	19 01 35.2	+1.5
	baz=245						
Y22D	**IRIS PASSCAL I**	85.36	52	IAmb	IAmb	19 01 36.7	
	comp=Z,109nm,1.1s						
L26K	**Log Cabin Wild**	85.39	15	P	P	19 01 33.2	+0.3
	baz=213,SNR=34						
L26K				S	S	19 11 18.2	-0.3
	baz=213						
I21K	**Tanana**	85.44	11	P	P	19 01 32.7	-0.4
	baz=205,SNR=48						
I21K				S	S	19 11 17.7	-1.2
	baz=205						
NEA2	**Nenana**	85.46	12	P	P	19 01 32.1	-1.1
	baz=208,SNR=42						
NEA2				S	S	19 11 17.0	-2.1
	baz=208						
NEA2	**Nenana**	85.46	12	IAmb	IAmb	19 01 32.8	
	comp=Z,90nm,1.0s						
ZEA	**Zeya**	85.50	331	*d i*P	P	19 01 34.8	+1.2
ZEA				*e**PP	pP	19 03 33.5	+2.3
ZEA				*e**SP	sP	19 04 25.9	+0.1
ZEA				*e*		19 04 57.7	
ZEA				*i* S	S	19 11 22.4	+2.5
ZEA				*e*SS	SS	19 17 08.9	-3.2
ZEA				*e*		19 20 53.0	
ZEA				pmax	pmax		
	comp=N,280nm,0.9s						
ZEA				pmax	pmax		
	comp=E,90nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,520nm,0.8s						
ZEA				pmax	pmax		
	comp=N,300nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,300nm,1.6s						
ZEA				pmax	pmax		
	comp=Z,100nm,10.3s						
ZEA				smax	smax		
	comp=E,200nm,8.5s						
ZEA				smax	smax		
	comp=N,200nm,9.8s						
MLY	**Manley**	85.53	11	P	P	19 01 32.6	-1.0
	baz=206,SNR=113						
MLY				S	S	19 11 17.6	-2.4
	baz=206						
MLY	**Manley**	85.53	11	IAmb	IAmb	19 01 34.0	
	comp=Z,244nm,1.2s						
MNTX	**Cornudas Mount**	85.54	55	P	P	19 01 36.0	+1.6
	baz=246						
MNTX				S	S	19 11 26.2	+4.8
	baz=246						
MNTX	**Cornudas Mount**	85.54	55	P	P	19 01 35.4	+1.1
CHAI	**Chaiyaphum**	85.57	288	P	P	19 01 35.5	+0.7
	comp=Z,1μmcomp=Z,157nm,0.9s						
CHAI	**Chaiyaphum**	85.57	288	P	P	19 01 35.6	+0.7
	comp=Z,370nmcomp=Z,39nm,0.9s						
MVCO	**Mesa Verde**	85.57	49	P	P	19 01 35.4	+0.7
	baz=243						
MVCO				S	S	19 11 26.0	+4.1
	baz=243						
NEW	**Newport**	85.58	36	P	P	19 01 34.3	+0.1
	baz=236,SNR=33						
NEW				S	S	19 11 21.7	+0.7
	baz=236						
NEW	**Newport**	85.58	36	IAmb	IAmb	19 01 35.8	
	comp=Z,193nm,1.6s						
PATY	**Pattaya**	85.58	285	P	P	19 01 37.1	+2.2
	comp=Z,3μmcomp=Z,366nm,0.9s						
TIY	**Taiyuan**	85.58	312	*e*P	P	19 01 35.9	+1.4
TIY				SKS	SKSac	19 11 08.6	+0.1
TIY				S	S	19 11 22.4	+0.8
TIY				sS	sS	19 14 50.3	+1.5
TIY				pmax	pmax		
	comp=Z,430nm,0.9s						
KRAB	**Krabi**	85.59	280	P	P	19 01 36.8	+1.8
	comp=Z,32μmcomp=Z,3μm,0.9s						
RIDG	**Independent Ri**	85.63	14	P	P	19 01 34.0	-0.1
	baz=212,SNR=90						
RIDG				S	S	19 11 19.8	-1.2
	baz=212						
HDA	**Harding Lake**	85.74	13	P	P	19 01 34.1	-0.4
	baz=210,SNR=113						
HDA				S	S	19 11 20.1	-1.7
	baz=210						
HDA				S	S	19 11 20.1	-1.7
	baz=210						
HDA	**Harding Lake**	85.74	13	IAmb	IAmb	19 01 35.3	
	comp=Z,246nm,0.9s						
SLVN	**Son La**	85.77	294	P	P	19 01 36.2	+0.4
SLVN				IAmb	IAmb	19 01 38.7	
	comp=Z,112nm,1.1s						
L27K	**Beaver Creek,**	85.80	16	P	P	19 01 35.1	+0.1
	baz=214,SNR=52						
L27K				S	S	19 11 22.5	-0.1
	baz=214						
L27K	**Beaver Creek,**	85.80	16	IAmb	IAmb	19 01 36.4	
	comp=Z,146nm,1.1s						
PV12	**Saucer Basin,**	85.86	48	IAmb	IAmb	19 01 40.1	
	comp=Z,96nm,1.3s						
I23K	**Minto, Yukon-K**	85.90	12	P	P	19 01 34.3	-0.9
	baz=207,SNR=86						
I23K				S	S	19 11 22.0	-1.2
	baz=207						
I23K	**Minto, Yukon-K**	85.90	12	IAmb	IAmb	19 01 35.9	
	comp=Z,360nm,1.4s						
TX32	**Lajitas Array**	85.94	58	IAmb	IAmb	19 01 40.1	
	comp=Z,227nm,1.1s						
TXAR	**Lajitas Array**	85.94	58	P	P	19 01 38.7	+2.2
	comp=Z,118nm,0.9s,baz=224,slow=5.2,SNR=438						
TXAR				pP	pP	19 03 33.7	+0.2
	comp=Z,11nm,1.1s,baz=224,slow=8.8,SNR=4.8						
TXAR				PKiKP	PKiKP	19 06 41.2	+0.1
	comp=Z,1.6nm,0.8s,baz=204,slow=4.2,SNR=3.6						
TXAR				S	SKSac	19 11 12.6	+1.5
	comp=Z,0.7nm,0.8s,baz=258,slow=3.3,SNR=2.6						
TXAR				PKKPbc	PKKPbc	19 19 33.8	+0.1
	comp=Z,0.6nm,0.6s,baz=104,slow=4.0,SNR=5.4						
TXAR				PKPPKP	P'P'df	19 27 35.2	-4.7
	comp=Z,0.9nm,0.9s,baz=130,slow=3.9,SNR=5.6						
TXAR	**Lajitas Array**	85.94	58	P	P	19 01 38.0	+1.5
TXAR					pP	19 03 33.0	-0.5
TLIG	**Tlapa**	85.95	70	P	P	19 01 37.6	+0.9
TCOL	**CIGO, UAF Yank**	85.95	12	P	P	19 01 34.7	-0.8
	baz=209,SNR=26						
TCOL				S	S	19 11 21.5	-2.3
	baz=209						
COLA	**College**	85.96	12	*d i*P	P	19 01 34.5	-1.0
COLA				pmax	pmax		
	comp=Z,584nm,1.2s						
COLA	**College**	85.96	12	P	P	19 01 34.8	-0.7
	baz=209						
COLA				S	S	19 11 21.5	-2.3
	baz=209						
COLA	**College**	85.96	12	P	P	19 01 34.8	-0.7
DLBC	**Dease Lake**	85.96	23	IAmb	IAmb	19 01 38.0	
	comp=Z,430nm,1.7s						
SCRK	**Sand Creek**	86.03	14	P	P	19 01 36.1	0.0
	baz=212,SNR=61						
SCRK				S	S	19 11 24.5	-0.4
	baz=212						
SCRK	**Sand Creek**	86.03	14	IAmb	IAmb	19 01 37.5	
	comp=Z,162nm,1.0s						
ILAR	**Eielson Array**	86.07	13	P	P	19 01 35.4	-0.7
	comp=Z,151nm,0.9s,baz=228,slow=5.5,SNR=226						
ILAR				pP	pwP	19 03 35.0	-1.5
	comp=Z,34nm,1.3s,baz=214,slow=5.8,SNR=2.5						
ILAR				PP	PP	19 05 07.2	+0.5
	comp=Z,18nm,1.1s,baz=222,slow=7.1,SNR=5.0						
ILAR				PKiKP	PKiKP	19 06 39.5	-0.6
	comp=Z,3.4nm,0.7s,baz=247,slow=3.7,SNR=13						
ILAR				S	SKSac	19 11 08.6	-1.5
	comp=Z,2.6nm,0.9s,baz=208,slow=8.3,SNR=6.2						
ILAR				PKKP	PKKPdf	19 19 28.4	+0.4
	comp=Z,2.4nm,0.7s,baz=352,slow=2.9,SNR=12						
ILAR				PKPPKP	P'P'df	19 27 30.6	-6.1
	comp=Z,1.2nm,0.8s,baz=334,slow=2.3,SNR=7.2						
ILAR	**Eielson Array**	86.07	13		pP	19 03 34.2	+1.1
ANMO	**Albuquerque**	86.08	51	*ce*P	P	19 01 36.1	-1.0
ANMO				pmax	pmax		
	comp=Z,78nm,1.3s						
ANMO	**Albuquerque**	86.08	51	P	P	19 01 38.1	+1.0
	baz=245						
ANMO				S	S	19 11 32.0	+5.3
	baz=245						
ANMO	**Albuquerque**	86.08	51	P	P	19 01 37.8	+0.6
ANMO					pP	19 03 34.1	0.0
SURT	**Suratani**	86.20	281	P	P	19 01 40.9	+3.0
	comp=Z,72nmcomp=Z,9.7nm,1.1s						
POKR	**Poker Plat Res**	86.26	13	P	P	19 01 36.3	-0.7
	baz=209,SNR=22						
POKR				S	S	19 11 25.0	-1.7
	baz=209						
POKR	**Poker Plat Res**	86.26	13	IAmb	IAmb	19 01 36.9	
	comp=Z,130nm,0.7s						
PKDT	**Phuket**	86.29	279	P	P	19 01 40.1	+1.8
	comp=Z,284nm,1.3s						
RDMU	**Red Mountain**	86.35	45	IAmb	IAmb	19 01 41.8	
	comp=Z,133nm,1.8s						
AHID	**Auburn Hatcher**	86.37	43	IAmb	IAmb	19 01 40.7	
	comp=Z,167nm,1.4s						
H23K	**Yukon River**	86.47	11	P	P	19 01 36.9	-1.1
	baz=207,SNR=19						
H23K				S	S	19 11 27.2	-1.6
	baz=207						
K27K	**Chicken**	86.54	15	P	P	19 01 38.9	+0.5
	baz=214,SNR=43						
K27K	**Chicken**	86.54	15	IAmb	IAmb	19 01 40.4	
	comp=Z,287nm,1.2s						
MG01	**Puerto William**	86.55	147	P	P	19 01 40.5	+1.7
MG01				IAmb	IAmb	19 01 42.3	
	comp=Z,228nm,1.1s						
XAN	**Xi'an**	86.57	307	P	P	19 01 40.6	+1.3
XAN				S	S	19 11 36.4	+5.3
XAN				pmax	pmax		
	comp=Z,320nm,0.8s						
XAN				pmax	pmax		
	comp=Z,2μm,4.0s						
MSO	**Missoula**	86.64	38	P	P	19 01 39.3	0.0
	baz=239,SNR=17						
MSO				S	S	19 11 31.5	+0.2
	baz=239						
MG02	**Cerro Sombrero**	86.66	145	P	P	19 01 40.9	+1.6
RDOG	**Red Dog Mine**	86.68	6	P	P	19 01 40.4	+1.5
	baz=194,SNR=16						
RDOG	**Red Dog Mine**	86.68	6	IAmb	IAmb	19 01 42.4	
	comp=Z,87nm,0.9s						
HIA	**Hailar**	86.69	325	IAmb	IAmb	19 01 41.5	
	comp=Z,356nm,1.4s						
BILL	**Bilibino**	86.69	354	*c i*P	P	19 01 38.8	-0.2
BILL				*e*S	S	19 11 29.4	-1.2
BILL				SSS	SSS	19 21 13.0	
BILL				pmax	pmax		
	comp=Z,369nm,1.2s						
BILL	**Bilibino**	86.69	354	P	P	19 01 38.9	0.0
BILL				IAmb	IAmb	19 01 41.1	
	comp=Z,235nm,0.9s						
DLMT	**Dillon**	86.70	40	IAmb	IAmb	19 01 42.2	
	comp=Z,261nm,1.5s						
PHET	**Kaeng Krachan**	86.71	285	P	P	19 01 42.4	+2.1
	comp=Z,6μmcomp=Z,738nm,0.9s						
H24K	**Noodor Dome**	86.80	12	P	P	19 01 37.9	-1.7
	baz=209,SNR=21						
H24K				S	S	19 11 29.7	-2.2
	baz=209						
TPAW	**Teton Pass**	86.81	42	IAmb	IAmb	19 01 43.1	
	comp=Z,204nm,1.5s						
REDW	**Red Top Meadow**	86.82	42	IAmb	IAmb	19 01 43.0	
	comp=Z,247nm,1.4s						
SNOW	**Snow King Moun**	86.93	42	IAmb	IAmb	19 01 43.6	
	comp=Z,200nm,1.4s						
S22A	**4UR Ranch, Cre**	87.00	49	P	P	19 01 42.7	+1.2
	baz=244,SNR=46						
S22A				S	S	19 11 41.4	+5.8
	baz=244						
PRP	**Porcupine Dome**	87.00	13	P	P	19 01 40.4	-0.3
	baz=211						
PRP	**Porcupine Dome**	87.00	13	IAmb	IAmb	19 01 41.5	
	comp=Z,206nm,1.3s						
O20A	**White River Ci**	87.06	46	P	P	19 01 42.6	+0.9
	baz=243,SNR=15						
O20A				S	S	19 11 39.4	+3.6
	baz=243						
O20A	**White River Ci**	87.06	46	IAmb	IAmb	19 01 44.0	
	comp=Z,120nm,1.5s						
LOHW	**Long Hollow**	87.10	42	IAmb	IAmb	19 01 44.2	
	comp=Z,139nm,1.4s						
DAWY	**Dawson**	87.25	16	IAmb	IAmb	19 01 43.4	
	comp=Z,241nm,1.1s						
FLWY	**Flagg Ranch**	87.26	42	IAmb	IAmb	19 01 45.4	
	comp=Z,333nm,1.5s						
YHB	**Horse Butte**	87.27	41	IAmb	IAmb	19 01 47.5	
	comp=Z,268nm,1.4s						
BW06	**Boulder Array**	87.38	43	P	P	19 01 43.6	+0.5
	baz=242,SNR=78						
BW06				S	S	19 11 40.5	+1.8
	baz=242						
BW06	**Boulder Array**	87.38

BOZ	**Bozeman (W)**	**87.41**	**40**	P	**P**	**19 01 44.1**	**+1.0**
	baz=241,SNR=38						
BOZ				S	**S**	**19 11 41.8**	**+3.1**
	baz=241						
PHIT	**Phitsanulok**	**87.42**	**289**	P	**P**	**19 01 45.0**	**+1.5**
	comp=Z,4μmcomp=Z,429nm,0.8s						
PHIT	**Phitsanulok**	**87.42**	**289**	P	**P**	**19 01 45.1**	**+1.5**
	comp=Z,1μmcomp=Z,106nm,0.8s						
UTTA	**Uttaradit**	**87.48**	**289**	P	**P**	**19 01 45.1**	**+1.3**
	comp=Z,997nmcomp=Z,114nm,1.1s						
UTTA	**Uttaradit**	**87.48**	**289**	P	**P**	**19 01 45.2**	**+1.3**
	comp=Z,249nmcomp=Z,28nm,1.1s						
YHH	**Holmes Hill**	**87.50**	**41**	IAmb	IAmb	19 01 47.7	
	comp=Z,247nm,1.6s						
SMCO	**Snowmass**	**87.52**	**47**	P	**P**	**19 01 44.4**	**+0.3**
YNR	**Norris Junctio**	**87.57**	**41**	IAmb	IAmb	19 01 48.4	
	comp=Z,338nm,1.8s						
HHC	**Hu-ho-hao-te**	**87.59**	**314**	*e*P	**P**	**19 01 45.4**	**+1.4**
HHC				sP	sP	19 04 36.0	-0.8
HHC				SS	SS	19 17 49.3	+6.1
HHC				pmax	pmax		
	comp=Z,250nm,1.1s						
HHC				pmax	pmax		
	comp=Z,1μm,7.1s						
SRDT	**SRDT**	**87.65**	**286**	P	**P**	**19 01 46.7**	**+2.0**
	comp=Z,257nm,1.5s						
LKWY	**Lake**	**87.68**	**41**	IAmb	IAmb	19 01 48.3	
	comp=Z,220nm,1.4s						
WALA	**Waterton Lakes**	**87.80**	**36**	IAmb	IAmb	19 01 46.7	
	comp=Z,239nm,1.6s						
SDCO	**Great Sand Dun**	**87.95**	**49**	P	**P**	**19 01 46.5**	**+0.5**
	baz=245,SNR=27						
SDCO				S	**S**	**19 11 50.0**	**+5.7**
	baz=245						
SDCO	**Great Sand Dun**	**87.95**	**49**	P	**P**	**19 01 45.5**	**-0.5**
SDCO				pP	**pP**	**19 03 41.2**	**-2.5**
FYU	**Fort Yukon**	**87.97**	**13**	IAmb	IAmb	19 01 46.4	
	comp=Z,81nm,1.0s						
COYC	**Coyhaique**	**87.99**	**138**	P	**P**	**19 01 47.3**	**+1.6**
COYC				IAmb	IAmb	19 01 49.8	
	comp=Z,138nm,1.0s						
COYC				pP	**pP**	**19 03 42.8**	**-0.6**
KMI	**Kunming**	**88.13**	**297**	⇓P	**P**	**19 01 48.8**	**+1.8**
KMI				sP	sP	19 04 39.3	+0.1
KMI				S	**S**	**19 11 50.8**	**+4.4**
KMI				sS	sS	19 15 15.4	-0.6
KMI				pmax	pmax		
	comp=Z,190nm,1.4s						
KMI				pmax	pmax		
	comp=Z,990nm,3.5s						
YNE	**Yellowstone No**	**88.13**	**41**	IAmb	IAmb	19 01 49.4	
	comp=Z,188nm,1.3s						
KHLT	**Khaolaem Dam**	**88.29**	**286**	P	**P**	**19 01 49.8**	**+2.2**
	comp=Z,732nmcomp=Z,70nm,1.2s						
RWWY	**Rawlins**	**88.45**	**45**	IAmb	IAmb	19 01 50.2	
	comp=Z,181nm,1.3s						
MSTX	**Muleshoe**	**88.46**	**54**	P	**P**	**19 01 49.0**	**+0.7**
	baz=247,SNR=25						
MSTX				S	**S**	**19 11 53.1**	**+4.3**
	baz=247						
MSTX	**Muleshoe**	**88.46**	**54**	IAmb	IAmb	19 01 50.4	
	comp=Z,97nm,1.0s						
T25A	**Trinidad**	**88.50**	**50**	P	**P**	**19 01 48.7**	**+0.3**
	baz=246,SNR=15						
UMPA	**Umpang Tak**	**88.50**	**287**	P	**P**	**19 01 50.5**	**+1.9**
	comp=Z,2μmcomp=Z,236nm,1.1s						
BTO	**Baotou**	**88.54**	**314**	*e*P	**P**	**19 01 50.0**	**+1.6**
LAMP	**Lampang**	**88.57**	**290**	P	**P**	**19 01 50.5**	**+1.6**
	comp=Z,3μmcomp=Z,333nm,0.9s						
LAMP	**Lampang**	**88.57**	**290**	P	**P**	**19 01 50.5**	**+1.6**
	comp=Z,655nmcomp=Z,83nm,0.9s						
RLMT	**Red Lodge**	**88.65**	**41**	P	**P**	**19 01 50.3**	**+1.3**
	baz=242						
RLMT				S	**S**	**19 11 53.5**	**+3.2**
	baz=242						
RLMT	**Red Lodge**	**88.65**	**41**	IAmb	IAmb	19 01 51.6	
	comp=Z,165nm,1.4s						
Q24A	**Divide**	**88.71**	**48**	P	**P**	**19 01 50.5**	**+1.0**
	baz=245,SNR=18						
Q24A				S	**S**	**19 11 54.5**	**+3.2**
	baz=245						
ISCO	**Idaho Springs**	**88.73**	**47**	P	**P**	**19 01 50.6**	**+1.0**
	baz=245,SNR=18						
ISCO				S	**S**	**19 11 55.6**	**+4.1**
	baz=245						
N23A	**Red Feather La**	**88.97**	**46**	P	**P**	**19 01 51.7**	**+1.1**
	baz=245,SNR=44						
N23A				S	**S**	**19 11 57.8**	**+4.3**
	baz=245						
SYO	**Syowa Base**	**88.97**	**193**	⇓*i*P	**P**	**19 01 49.9**	**+0.1**
SYO	**Syowa Base**	**88.97**	**193**	⇓*e*PcP	**PcP**	**19 01 51.0**	**+0.2**
SYO	**Syowa Base**	**88.97**	**193**	⇓*e*pP	pP	19 03 48.8	+0.8
TOLK	**Toolik Lake Re**	**88.98**	**10**	P	**P**	**19 01 49.9**	**+0.2**
	baz=207,SNR=50						
TOLK				S	**S**	**19 11 53.8**	**+1.9**
	baz=207						
TOLK	**Toolik Lake Re**	**88.98**	**10**	P	**P**	**19 01 49.5**	**-0.2**
TOLK				IAmb	IAmb	19 01 51.1	
	comp=Z,183nm,1.1s						
833A	**Chaparral WMA,**	**89.03**	**60**	P	**P**	**19 01 52.5**	**+1.6**
	baz=249,SNR=14						
833A				S	**S**	**19 11 56.9**	**+2.9**
	baz=249						
CM36	**Chiang Mai Arr**	**89.05**	**290**	P	**P**	**19 01 52.0**	**+0.8**
CM35	**Chiang Mai Arr**	**89.05**	**290**	P	**P**	**19 01 52.7**	**+1.6**
LL01	**San Ignacio de**	**89.06**	**135**	P	**P**	**19 01 51.6**	**+0.8**
CM34	**Chiang Mai Arr**	**89.11**	**290**	P	**P**	**19 01 52.0**	**+0.6**
LL02	**Futaleuf**	**89.11**	**135**	P	**P**	**19 01 52.8**	**+1.7**
LL02				pP	**pP**	**19 03 46.1**	**-3.0**
CM04	**Chiang Mai Arr**	**89.11**	**290**	P	**P**	**19 01 53.2**	**+1.7**
	comp=Z,2μmcomp=Z,219nm,1.0s						
CM04	**Chiang Mai Arr**	**89.11**	**290**	P	**P**	**19 01 53.0**	**+1.5**
	comp=Z,2μmcomp=Z,219nm,1.0s						
CM09	**Chiang Mai Arr**	**89.12**	**290**	P	**P**	**19 01 53.2**	**+1.7**
	comp=Z,1μmcomp=Z,180nm,1.0s						
CM09	**Chiang Mai Arr**	**89.12**	**290**	P	**P**	**19 01 53.2**	**+1.7**
	comp=Z,1μmcomp=Z,180nm,1.0s						
CM01	**Chiang Mai Arr**	**89.14**	**290**	P	**P**	**19 01 53.3**	**+1.8**
	comp=Z,1μmcomp=Z,188nm,1.0s						
CM01	**Chiang Mai Arr**	**89.14**	**290**	P	**P**	**19 01 53.4**	**+1.8**
	comp=Z,1μmcomp=Z,188nm,1.0s						
CM05	**Chiang Mai Arr**	**89.14**	**290**	P	**P**	**19 01 53.2**	**+1.6**
	comp=Z,1μmcomp=Z,152nm,1.0s						
CM05	**Chiang Mai Arr**	**89.14**	**290**	P	**P**	**19 01 53.3**	**+1.6**
	comp=Z,1μmcomp=Z,152nm,1.0s						
CM02	**Chiang Mai Arr**	**89.16**	**290**	P	**P**	**19 01 53.3**	**+1.7**
	comp=Z,1μmcomp=Z,172nm,1.0s						
CM02	**Chiang Mai Arr**	**89.16**	**290**	P	**P**	**19 01 53.0**	**+1.4**
	comp=Z,1μmcomp=Z,172nm,1.0s						
CM31	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**19 01 53.3**	**+1.6**
	comp=Z,33μmcomp=Z,4μm,1.0s						
CM31	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**19 01 52.4**	**+0.7**
CM31	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**19 01 53.6**	**+1.9**
	SNR=47						
CMAR	**Chiang Mai Arr**	**89.17**	**290**	P	**P**	**19 01 53.4**	**+1.7**
	comp=Z,118nm,0.9s,baz=110,slow=2.8,SNR=336						
CMAR				PP	**PP**	**19 05 29.9**	**-2.2**
	comp=Z,2.2nm,0.9s,baz=99,slow=5.6,SNR=1.3						
CMAR				PKKP	**PKiKP**	**19 06 47.4**	**+0.8**
	comp=Z,4.1nm,0.9s,baz=170,slow=0.6,SNR=4.0						
CMAR				PKKPbc	**PKKPbc**	**19 19 26.6**	**+1.2**
	comp=Z,6.2nm,0.8s,baz=289,slow=4.9,SNR=21						
CM15	**Chiang Mai Arr**	**89.18**	**290**	P	**P**	**19 01 53.3**	**+1.5**
	comp=Z,1μmcomp=Z,147nm,1.0s						
CM15	**Chiang Mai Arr**	**89.18**	**290**	P	**P**	**19 01 53.0**	**+1.2**
	comp=Z,1μmcomp=Z,147nm,1.0s						
CM13	**Chiang Mai Arr**	**89.19**	**290**	P	**P**	**19 01 53.4**	**+1.6**
	comp=Z,1μmcomp=Z,157nm,1.0s						
CM13	**Chiang Mai Arr**	**89.19**	**290**	P	**P**	**19 01 53.5**	**+1.6**
	comp=Z,1μmcomp=Z,157nm,1.0s						
CMMT	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 53.2**	**+1.0**
	comp=Z,3μmcomp=Z,227nm,1.6s						
CMMT	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 53.3**	**+1.0**
	comp=Z,3μmcomp=Z,227nm,1.6s						
CM33	**Chiang Mai Arr**	**89.28**	**290**	P	**P**	**19 01 53.0**	**+0.8**
CHTO	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 52.8**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,153nm,0.9s						
CHTO	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 53.2**	**+1.0**
	comp=Z,3μmcomp=Z,229nm,1.6s						
CHTO	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 52.8**	**+0.6**
CHTO				IAmb	IAmb	19 01 54.8	
	comp=Z,153nm,0.9s						
CHTO	**Chiang Mai**	**89.28**	**290**	P	**P**	**19 01 53.9**	**+1.6**
CM32	**Chiang Mai Arr**	**89.32**	**290**	P	**P**	**19 01 54.0**	**+1.6**
K22A	**Casper**	**89.32**	**44**	P	**P**	**19 01 52.9**	**+0.8**
	baz=244,SNR=26						
K22A				S	**S**	**19 12 00.1**	**+3.6**
	baz=244						
K22A	**Casper**	**89.32**	**44**	IAmb	IAmb	19 01 54.2	
	comp=Z,136nm,1.3s						
CD2	**Chengdu**	**89.38**	**303**	⇓*i*P	**P**	**19 01 53.8**	**+1.3**
CD2				sP	sP	19 04 46.3	+0.5
CD2				S	**S**	**19 11 58.1**	**+0.9**
CD2				SS	**SS**	**19 18 10.5**	**+1.4**
CD2				pmax	pmax		
	comp=Z,130nm,1.2s						
CD2				pmax	pmax		
	comp=Z,750nm,5.5s						
PHWY	**Pilot Hill**	**89.47**	**46**	IAmb	IAmb	19 01 55.0	
	comp=Z,62nm,1.2s						
JCT	**Junction City**	**89.48**	**58**	P	**P**	**19 01 53.9**	**+0.9**
	baz=249,SNR=20						
JCT				S	**S**	**19 12 02.0**	**+3.9**
	baz=249						
JCT	**Junction City**	**89.48**	**58**	IAmb	IAmb	19 01 55.1	
	comp=Z,67nm,1.0s						
AMTX	**Amarillo**	**89.64**	**53**	P	**P**	**19 01 54.3**	**+0.6**
	baz=248						
AMTX				S	**S**	**19 12 03.0**	**+3.5**
	baz=248						
AMTX	**Amarillo**	**89.64**	**53**	IAmb	IAmb	19 01 55.6	
	comp=Z,79nm,1.1s						
EGMT	**Eagleton**	**89.70**	**39**	P	**P**	**19 01 54.1**	**+0.5**
	baz=242						
EPYK	**Eagle Plains**	**89.77**	**15**	P	**P**	**19 01 53.5**	**0.0**
	baz=219,SNR=170						
YAK	**Yakutsk**	**89.87**	**338**	*d i*P	**P**	**19 01 53.2**	**-0.7**
YAK				*e**PP	**pP**	**19 03 50.6**	**-1.9**
YAK				*e*S	**SKSac**	**19 11 31.6**	**-0.9**
YAK				*e*		19 11 56.6	
YAK				*e*SS	**SS**	**19 18 13.7**	**-1.0**
YAK				pmax	pmax		
	comp=Z,200nm,0.8s						
YAK				pmax	pmax		
	comp=N,24nm,1.0s						
YAK				pmax	pmax		
	comp=E,71nm,1.3s						
YAK				smax	smax		
	comp=E,54nm,2.5s						
YAK				smax	smax		
	comp=N,32nm,2.0s						
YAK	**Yakutsk**	**89.87**	**338**	P	**P**	**19 01 52.9**	**-1.0**
MHMT	**Maesarieng**	**89.98**	**289**	P	**P**	**19 01 57.1**	**+1.6**
	comp=N,2μmcomp=N,139nm,0.8s						
MHMT	**Maesarieng**	**89.98**	**289**	P	**P**	**19 01 57.0**	**+1.6**
SNAA	**Sanae**	**90.36**	**179**	P	**P**	**19 01 56.8**	**+0.5**
SNAA	**Sanae**	**90.36**	**179**	pP	pP	19 03 56.7	+2.0
SNAA	**Sanae**	**90.36**	**179**	*d i*P	**P**	**19 01 56.2**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,135nm,1.4s						
SNAA	**Sanae**	**90.36**	**179**	P	**P**	**19 01 56.1**	**-0.1**
SNAA				IAmb	IAmb	19 01 57.7	
	comp=Z,174nm,1.4s						
SNAA				pP	**pP**	**19 03 55.6**	**+1.0**
ABTX	**Abilene, Hawle**	**90.38**	**56**	P	**P**	**19 01 58.0**	**+0.9**
	baz=249,SNR=37						
ABTX				S	**S**	**19 12 08.9**	**+2.8**
	baz=249						
A21K	**Barrow**	**90.47**	**7**	P	**P**	**19 01 56.2**	**-0.3**
	baz=200						
VNA3	**Neumayer Olymp**	**90.49**	**176**	P	**P**	**19 01 57.4**	**+0.6**
VNA3				S	**S**	**19 12 03.2**	**-2.5**
VNA3	**Neumayer Olymp**	**90.49**	**176**	pP	pP	19 03 57.0	+1.8
KSCO	**Kaye Shedlock'**	**90.53**	**49**	P	**P**	**19 01 58.4**	**+0.7**
	baz=247,SNR=9.0						
KSCO	**Kaye Shedlock'**	**90.53**	**49**	IAmb	IAmb	19 02 01.1	
	comp=Z,136nm,1.2s						
PLCA	**Paso Flores**	**91.01**	**134**	P	**P**	**19 02 01.7**	**+1.7**
	comp=Z,20nm,0.8s,baz=229,slow=4.8,SNR=31						
PLCA				pP	**pP**	**19 03 59.4**	**+1.1**
	comp=Z,5.5nm,0.9s,baz=228,slow=8.0,SNR=3.9						
PLCA				PP	**PP**	**19 05 47.0**	**+1.4**
	comp=Z,9.4nm,1.1s,baz=234,slow=8.1,SNR=3.3						
PLCA				PKKPbc	**PKKPbc**	**19 19 21.4**	**-0.3**
	comp=Z,12nm,1.0s,baz=80,slow=4.1,SNR=7.9						
PLCA				PKPPKP	**P'P'df**	**19 27 30.9**	**-0.3**
	comp=Z,7.4nm,1.1s,baz=356,slow=3.2,SNR=3.2						
PLCA	**Paso Flores**	**91.01**	**134**	*e*P	**P**	**19 02 02.1**	**+2.1**
VNA1	**Neumayer--Stat**	**91.16**	**177**	P	**P**	**19 02 00.7**	**+0.8**
VNA1	**Neumayer--Stat**	**91.16**	**177**	pP	pP	19 04 00.1	+1.9
LZH	**Lanzhou**	**91.20**	**308**	⇓*i*P	**P**	**19 02 02.8**	**+1.8**
LZH				PP	**PP**	**19 05 43.5**	**-4.4**
LZH				SKS	**SKSac**	**19 11 38.0**	**-3.7**
LZH				*e*S	**ScS**	**19 12 20.6**	**+5.4**
LZH				SS	**SS**	**19 18 35.3**	**+0.1**
LZH				pmax	pmax		
	comp=Z,390nm,1.1s						
LZH				pmax	pmax		
	comp=Z,970nm,4.1s						
LAO	**LASA Array**	**91.25**	**41**	P	**P**	**19 02 02.4**	**+1.6**
	baz=245						
LAO				S	**S**	**19 12 17.8**	**+4.5**
	baz=245						
CCIG	**Comitan**	**91.33**	**73**	P	**P**	**19 02 03.0**	**+1.1**
CCIG				IAmb	IAmb	19 02 05.0	
	comp=Z,37nm,1.0s						
CCIG				pP	**pP**	**19 03 58.5**	**-1.7**
435B	**Jarrell**	**91.37**	**58**	P	**P**	**19 02 02.9**	**+1.3**
	baz=250						
435B				S	**S**	**19 12 21.1**	**+6.2**
	baz=250						
435B	**Jarrell**	**91.37**	**58**	IAmb	IAmb	19 02 04.1	
	comp=Z,50nm,0.8s						
CIT	**Chita**	**91.48**	**325**	*e*P	**P**	**19 02 02.7**	**+1.0**
CIT				pmax	pmax		
	comp=Z,522nm,1.9s						
RSSD	**Black Hills**	**91.58**	**44**	P	**P**	**19 02 03.1**	**+0.5**
	baz=246						
RSSD				S	**S**	**19 12 19.1**	**+2.5**
	baz=246						
RSSD	**Black Hills**	**91.58**	**44**	P	**P**	**19 02 02.7**	**+0.1**
RSSD				IAmb	IAmb	19 02 04.3	
	comp=Z,123nm,1.2s						
RSSD				pP	**pP**	**19 04 00.0**	**-0.8**
OGNE	**Ogallala**	**91.70**	**47**	P	**P**	**19 02 03.6**	**+0.5**
	baz=247						
OGNE	**Ogallala**	**91.70**	**47**	IAmb	IAmb	19 02 05.0	
	comp=Z,88nm,1.3s						
WMOK	**Wichita Mounta**	**91.81**	**54**	P	**P**	**19 02 03.6**	**0.0**
	baz=249,SNR=19						
WMOK				S	**S**	**19 12 21.6**	**+3.0**
	baz=249						
WHTX	**Lake Whitney,**	**91.89**	**57**	P	**P**	**19 02 04.9**	**+0.9**
	baz=250						
WHTX				S	**S**	**19 12 23.5**	**+4.1**
	baz=250						
WHTX	**Lake Whitney,**	**91.89**	**57**	P	**P**	**19 02 04.4**	**+0.4**
WHTX				IAmb	IAmb	19 02 06.1	
	comp=Z,43nm,1.0s						
INK	**Inuvik**	**92.06**	**15**	P	**P**	**19 02 03.6**	**-0.3**
	comp=Z,187nm,0.9s,baz=218,slow=4.2,SNR=178						
INK				PKiKP	**PKiKP**	**19 06 50.0**	**+0.1**
	comp=Z,9.3nm,0.9s,baz=286,slow=0.5,SNR=3.7						
INK				S	**SKSac**	**19 11 45.2**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=323,slow=31,SNR=5.8						
INK				PKKP	**PKKPdf**	**19 19 18.1**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=57,slow=8.8,SNR=4.2						
INK	**Inuvik**	**92.06**	**15**	P	**P**	**19 02 03.6**	**-0.3**
	baz=222						
U32A	**Winter Ranch,**	**92.22**	**52**	IAmb	IAmb	19 02 07.8	
	comp=Z,64nm,1.2s						
GO05	**Huala**	**92.39**	**128**	P	**P**	**19 02 09.2**	**+2.8**
X34A	**Smith Ranch, M**	**92.49**	**54**	IAmb	IAmb	19 02 09.4	
	comp=Z,77nm,1.1s						
Z35A	**Perchaven, San**	**92.51**	**56**	IAmb	IAmb	19 02 09.4	
	comp=Z,65nm,0.9s						
CBKS	**Cedar Bluff**	**92.55**	**50**	P	**P**	**19 02 07.6**	**+0.7**
	baz=249						
CBKS				S	**S**	**19 12 27.1**	**+2.2**
	baz=249						
CBKS	**Cedar Bluff**	**92.55**	**50**	IAmb	IAmb	19 02 09.6	
	comp=Z,129nm,1.1s						
PBA	**Port Blair**	**92.70**	**281**	P	P	19 02 09.0	+1.0
LOOK	**Love County**	**92.79**	**55**	IAmb	IAmb	19 02 10.2	
	comp=Z,56nm,1.3s						
DGPR	**DIGLIPUR**	**92.99**	**283**	*e*P	**P**	**19 02 10.3**	**+0.9**
EFI	**East Falkland**	**93.15**	**147**	*i* P	**P**	**19 02 08.5**	**-0.9**
EFI				pmax	pmax		
	comp=Z,124nm,1.2s						
237A	**Washetta, Mont**	**93.21**	**58**	IAmb	IAmb	19 02 12.7	
	comp=Z,88nm,1.1s						
KAN08	**Anthony NE Sta**	**93.29**	**52**	P	**P**	**19 02 10.7**	**+0.4**
KAN08				IAmb	IAmb	19 02 12.4	
	comp=Z,100nm,1.2s						
KAN08					**pP**	**19 04 06.8**	**-1.9**
KAN12	**Harper NE Stat**	**93.30**	**52**	IAmb	IAmb	19 02 12.4	
	comp=Z,138nm,1.4s						
MTO3	**Montecristo**	**93.30**	**76**	P	**P**	**19 02 11.7**	**+0.7**
MTO3				pP	**pP**	**19 04 10.0**	**+0.5**
MT01	**Popeta**	**93.37**	**127**	P	**P**	**19 02 12.0**	**+1.1**
MT01				pP	**pP**	**19 04 08.9**	**-0.4**
MT01				IAmb	IAmb	19 04 13.5	
	comp=Z,40nm,1.1s						
ULN	**Ulaanbaatar**	**93.47**	**319**	P	**P**	**19 02 11.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,155nm,1.1s						
ULN	**Ulaanbaatar**	**93.47**	**319**	P	**P**	**19 02 11.0**	**-0.1**
ULN	**Ulaanbaatar**	**93.47**	**319**	P	**P**	**19 02 11.5**	**+0.4**
BLOK	**Blackwell**	**93.70**	**53**	P	**P**	**19 02 12.7**	**+0.5**
BLOK				IAmb	IAmb	19 02 15.1	
	comp=Z,119nm,1.2s						
BLOK				pP	**pP**	**19 04 10.7**	**+0.1**
SONM	**Songino Array**	**93.87**	**319**	P	**P**	**19 02 12.8**	**0.0**
	comp=Z,38nm,1.0s,baz=116,slow=3.6,SNR=169						
SONM				pP	**pP**	**19 04 15.0**	**+2.9**
	comp=Z,14nm,1.2s,baz=116,slow=3.4,SNR=3.9						
SONM				PP	**PP**	**19 06 02.9**	**-5.3**
	comp=Z,5.8nm,0.9s,baz=135,slow=7.4,SNR=4.0						
SONM				PKiKP	**PKiKP**	**19 06 54.3**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=102,slow=1.9,SNR=4.2						
SONM				PKKP	**PKKPdf**	**19 19 13.9**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=232,slow=2.5,SNR=8.5						
SONM				PKKPbc	**PKKPbc**	**19 19 15.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=219,slow=1.8,SNR=2.5						
SONM				PKPPKP	**P'P'df**	**19 27 20.8**	**-3.1**
	comp=Z,1.3nm,1.0s,baz=256,slow=2.4,SNR=6.2						
SONM	**Songino Array**	**93.87**	**319**	P	**P**	**19 02 12.6**	**-0.3**
SONM				IAmb	IAmb	19 02 14.3	
	comp=Z,98nm,1.2s						
QUOK	**Quay**	**93.89**	**53**	IAmb	IAmb	19 02 14.9	
	comp=Z,44nm,1.3s						
BOD	**Bodaibo**	**93.97**	**330**	*e*P	**P**	**19 02 11.9**	**-1.0**
BOD				pmax	pmax		
	comp=Z,97nm,1.6s						
NATX	**Nacogdoches**	**94.06**	**58**	P	**P**	**19 02 14.9**	**+1.0**
	baz=251						
NATX				S	**S**	**19 12 44.1**	**+5.9**
	baz=251						
T35A	**Sooner Cattle**	**94.28**	**53**	IAmb	IAmb	19 02 17.7	
	comp=Z,56nm,1.2s						
X37A	**Clayton**	**94.40**	**55**	IAmb	IAmb	19 02 17.2	
	comp=Z,36nm,1.4s						
YKA	**Yellowknife Ar**	**94.46**	**25**	P	**P**	**19 02 14.8**	**-0.1**
	comp=Z,47nm,0.9s,baz=238,slow=4.2,SNR=120						
YKA				PP	**PP**	**19 06 07.6**	**-4.5**
	comp=Z,3.5nm,1.0s,baz=238,slow=7.4,SNR=5.0						
YKA				PKiKP	**PKiKP**	**19 06 54.2**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=243,slow=1.1,SNR=12						
YKA				PKKPbc	**PKKPdf**	**19 19 12.2**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=49,slow=2.6,SNR=1.8						
YKA				PKPPKP	**P'P'df**	**19 27 22.4**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=65,slow=3.5,SNR=7.1						
TUL1	**Leonard**	**94.50**	**54**	P	**P**	**19 02 16.5**	**+0.6**
	baz=251						
TUL1				S	**S**	**19 12 44.4**	**+2.5**
	baz=251						
BGNE	**Belgrade**	**94.60**	**48**	P	**P**	**19 02 17.2**	**+1.0**
	baz=250						
BGNE				S	**S**	**19 12 45.4**	**+2.9**
	baz=250						
E28A	**Huff**	**94.70**	**43**	IAmb	IAmb	19 02 17.9	
	comp=Z,54nm,1.2s						
KSU1	**Kansas State U**	**94.93**	**51**	P	**P**	**19 02 18.8**	**+1.1**
	baz=251						
KSU1				S	**S**	**19 12 48.2**	**+2.8**
	baz=251						
SUSD	**Miller**	**95.09**	**45**	P	**P**	**19 02 18.5**	**+0.1**
	baz=250						
SUSD				S	**S**	**19 12 50.3**	**+3.7**
	baz=250						
C36M	**Paulatuk**	**95.26**	**17**	P	**P**	**19 02 17.9**	**-0.5**
	baz=231						
C36M				S	**S**	**19 12 47.3**	**+0.4**
	baz=231						
GTA	**Gaotai**	**95.35**	**310**	⇓P	**P**	**19 02 20.3**	**+0.5**
GTA				sP	sP	19 05 10.9	-2.5
GTA				PP	**PP**	**19 06 22.8**	**+3.1**
GTA				SKS	**SKSac**	**19 12 07.0**	**+3.2**
GTA				S	**ScS**	**19 12 51.8**	**+2.2**
GTA				pmax	pmax		
	comp=Z,67nm,1.2s						
GTA				pmax	pmax		
	comp=Z,310nm,5.1s						
MIAR	**Mount Ida**	**95.79**	**56**	P	**P**	**19 02 22.5**	**+0.8**
	baz=252						
MIAR				S	**S**	**19 12 59.2**	**+6.1**
	baz=252						
W39A	**Magazine**	**95.83**	**55**	P	**P**	**19 02 22.9**	**+1.1**
	baz=252						
W39A				S	**S**	**19 12 58.9**	**+5.6**
	baz=252						
W39A	**Magazine**	**95.83**	**55**		**pP**	**19 04 20.1**	**-0.3**
W39A				IAmb	IAmb	19 04 23.8	
	comp=Z,32nm,1.4s						
MDND	**Maddock**	**95.85**	**42**	P	**P**	**19 02 21.5**	**-0.1**
	baz=250						
Z41A	**Richland Creek**	**96.01**	**57**	S	**S**	**19 12 59.6**	**+4.6**
	baz=252						
L34A	**Svendsen Farm,**	**96.04**	**48**	P	**P**	**19 02 21.9**	**-0.8**
L34A				IAmb	IAmb	19 02 24.0	
	comp=Z,59nm,1.4s						
L34A				pP	**pP**	**19 04 20.7**

LCAR Lake Charles 98.14 55 P 19 02 32.3 +0.1
LCAR pP 19 04 29.1 -1.9
AGMN Agassiz Nation 98.37 42 Pdiff Pdif 19 02 32.0 -0.9
baz=252
MOY Mondy 98.50 322 *e*P Pdif 19 02 33.1 -0.4
MOY pmax pmax
comp=Z,40nm,1.8s
CCM Cathedral Cave 98.62 53 Pdiff **P 19 02 35.0 +0.7**
baz=254
ULM Lac du Bonnet 98.95 40 P Pdif 19 02 35.2 -0.2
comp=Z,14nm,1.3s,baz=244,slow=5.7,SNR=6.1
ULM PKiKP **PKiKP 19 07 04.0 +1.4**
comp=Z,3.5nm,0.7s,baz=262,slow=2.0,SNR=5.3
ULM Lac du Bonnet 98.95 40 IAmb IAmb 19 02 36.2
comp=Z,23nm,1.4s
F36A Milaca 99.18 45 Pdif **Pdif 19 02 36.3 -0.3**
F36A IAmb IAmb 19 02 38.1
comp=Z,21nm,1.1s
F36A **pP 19 04 35.2 -0.3**
LSA Lhasa 99.33 298 IAmb IAmb 19 02 41.9
comp=Z,24nm,1.5s
SPMN Marine on St. 99.49 46 Pdiff **Pdif 19 02 38.3 +0.4**
baz=254
L40A Anamosa 99.73 49 **Pdif 19 02 40.3 +1.2**
L40A IAmb IAmb 19 02 42.2
comp=Z,17nm,0.9s
L40A **pP 19 04 38.3 +0.3**
LVC Limon Verde 99.89 118 pP **pP 19 04 44.0 +4.4**
comp=Z,2.6nm,0.9s,baz=223,slow=2.8,SNR=2.0
LVC PP **PP 19 06 49.5 -4.5**
comp=Z,6.7nm,0.9s,baz=248,slow=11,SNR=3.2
LVC PKKPbc **PKKPbc 19 18 58.1 0.0**
comp=Z,7.6nm,0.6s,baz=39,slow=2.1,SNR=7.7
BRAL Brewton 100.11 61 Pdiff **Pdif 19 02 41.5 +0.5**
baz=255
JFWS Jewell Farm 100.65 48 Pdiff **Pdif 19 02 42.8 -0.4**
baz=255
EYMN Ely 101.08 43 Pdiff **Pdif 19 02 44.8 -0.2**
baz=255
LPAZ La Paz 103.11 112 Pdiff **Pdif 19 02 58.4 +2.9**
comp=Z,4.1nm,0.7s,baz=222,slow=3.7,SNR=17
LPAZ PKiKP **PKiKP 19 07 11.0 -1.0**
comp=Z,4.1nm,1.0s,baz=203,slow=3.0,SNR=3.7
LPAZ PP **PP 19 07 18.1 -0.4**
comp=Z,7.1nm,1.0s,baz=266,slow=5.6,SNR=5.1
LPAZ S **SKSac 19 12 44.9 +1.0**
comp=Z,1.0nm,0.6s,baz=340,slow=25,SNR=7.5
LPAZ PKKPbc **PKKPbc 19 18 48.6 -0.5**
comp=Z,4.6nm,0.8s,baz=56,slow=1.4,SNR=11
LPAZ PKKP **PKKPdf 19 18 55.7 0.0**
comp=Z,2.1nm,1.1s,baz=208,slow=11,SNR=3.9
LPAZ La Paz 103.11 112 *e*P **Pdif 19 02 55.4 -0.1**
GOGA Godfrey 103.59 59 Pdiff **Pdif 19 02 55.6 -0.9**
baz=257
P49A Miami Univ. Ec 103.93 53 Pdiff **Pdif 19 02 57.1 -0.8**
baz=258
ROSC El Rosal 104.65 90 S **SKSac 19 12 51.6 +1.2**
comp=Z,9.8nm,0.5s,baz=52,slow=23,SNR=1.0
KMSC Kings Mountain 105.68 58 PKiKP **PKiKP 19 07 15.2 -0.2**
baz=259
P52A Corning 105.91 53 PKiKP **PKiKP 19 07 15.1 -0.5**
baz=260
ITQB Itaqui 106.30 129 *e*P **PP 19 07 41.2 +0.8**
O53A New Philadelph 106.71 52 PKiKP **PKiKP 19 07 16.6 -0.5**
baz=260
BLA Blacksburg 106.79 56 PKiKP **PKiKP 19 07 17.2 -0.2**
baz=260
PLTB Pedras Altas 107.31 133 *e*P **PP 19 07 47.8 +0.2**
CPUP Villa Florida 107.52 126 PKiKP **PKiKP 19 07 18.9 -0.2**
comp=Z,2.8nm,0.8s,baz=261,slow=2.1,SNR=3.4
CPUP PP **PP 19 07 49.1 -0.3**
comp=Z,6.9nm,1.0s,baz=295,slow=12,SNR=4.7
CPUP PKKPbc **PKKPbc 19 18 34.3 -1.2**
comp=Z,3.9nm,1.1s,baz=34,slow=7.0,SNR=3.4
CPUP PKKP **PKKPdf 19 18 48.9 +2.1**
comp=Z,7.6nm,1.0s,baz=42,slow=6.3,SNR=5.9
CPUP Villa Florida 107.52 126 *e*P **PP 19 07 49.0 -0.3**
N54A Moraine State 107.74 52 PKiKP **PKiKP 19 07 18.4 -0.6**
baz=261
ZSN Zaisan 107.78 315 ⇓*i*PKiKP **PKiKP 19 07 18.2 -0.7**
baz=315
ERPA Erie 107.92 51 PKiKP **PKiKP 19 07 18.8 -0.5**
baz=262
M54A Oil Creek Stat 108.07 51 PKiKP **PKiKP 19 07 18.8 -0.9**
baz=262
ZALV Zalesovo Beam 108.55 322 Pdiff **Pdif 19 03 18.0 0.0**
comp=Z,8.6nm,1.0s,baz=92,slow=4.5,SNR=26
ZALV PKiKP **PKiKP 19 07 19.3 -0.8**
comp=Z,18nm,0.7s,baz=139,slow=0.8,SNR=39
ZALV PP **PP 19 07 52.4 -4.3**
comp=Z,4.4nm,0.6s,baz=90,slow=7.4,SNR=4.4
ZALV PKKPbc **PKKPbc 19 18 31.7 -1.1**
comp=Z,1.7nm,0.6s,baz=249,slow=3.3,SNR=4.8
ZALV PKKP **PKKPdf 19 18 47.3 +0.8**
comp=Z,1.8nm,0.8s,baz=242,slow=3.1,SNR=3.0
ZALV Zalesovo Beam 108.55 322 P **Pdif 19 03 17.4 -0.6**
ZALV Zalesovo Beam 108.55 322 Pdif **Pdif 19 03 17.4 -0.6**
O56A Blue Knob Stat 108.71 53 PKiKP **PKiKP 19 07 20.3 -0.7**
baz=262
SSPA Standing Stone 109.28 52 PKiKP **PKiKP 19 07 21.4 -0.6**
baz=262
SDV Santo Domingo 109.32 87 S **SKSac 19 13 11.1 +1.0**
comp=Z,16nm,0.4s,baz=344,slow=22,SNR=20
SIV San Ignacio 109.39 115 Pdiff **Pdif 19 03 23.7 +1.0**
comp=Z,0.3nm,0.3s,baz=212,slow=15,SNR=1.3
SIV PKiKP **PKiKP 19 07 22.7 -0.2**
comp=Z,0.6nm,0.3s,baz=165,slow=2.0,SNR=4.1
SIV PP **PP 19 08 02.9 -0.3**
comp=Z,17nm,1.0s,baz=255,slow=9.3,SNR=15
SIV S **SKSac 19 13 12.1 +2.0**
comp=Z,0.4nm,0.4s,baz=347,slow=21,SNR=10.0
SIV PKKPbc **PKKPbc 19 18 29.8 +0.3**
comp=Z,12nm,0.8s,baz=96,slow=4.7,SNR=29
SIV PKKP **PKKPdf 19 18 43.9 +0.5**
comp=Z,9.1nm,0.9s,baz=94,slow=6.1,SNR=8.8
MKAR Makanchi Array 109.45 314 Pdiff **Pdif 19 03 22.8 +0.5**
comp=Z,4.1nm,0.9s,baz=79,slow=6.3,SNR=19
MKAR PKiKP **PKiKP 19 07 21.4 -0.7**
comp=Z,17nm,0.6s,baz=82,slow=0.7,SNR=91
MKAR PP **PP 19 08 00.4 -3.0**
comp=Z,14nm,1.1s,baz=96,slow=8.7,SNR=5.9
MKAR PKKPbc **PKKPbc 19 18 29.4 -0.4**
comp=Z,6.0nm,0.8s,baz=273,slow=3.6,SNR=16
MKAR PKKP **PKKPab 19 18 42.6 +0.8**
comp=Z,1.0nm,0.8s,baz=286,slow=3.0,SNR=2.3
MKAR SKKPbc SKKPbc 19 21 22.3 -0.7
comp=Z,2.0nm,0.9s,baz=300,slow=2.7,SNR=5.1
MKAR PKPPKP **P'P'df 19 26 54.2 -0.3**
comp=Z,0.9nm,1.1s,baz=341,slow=2.6,SNR=3.7
MKAR Makanchi Array 109.45 314 P **Pdif 19 03 22.6 +0.3**
MKAR Makanchi Array 109.45 314 Pdif **Pdif 19 03 22.6 +0.3**
K56A Middlesex 109.95 50 PKiKP **PKiKP 19 07 22.5 -0.7**
baz=264
MATQ Matagami 110.39 43 PKiKP **PKiKP 19 07 22.4 -1.3**
baz=266
LSQQ Lebel-sur-Quev 110.77 44 PKiKP **PKiKP 19 07 23.8 -0.7**
baz=266
BINY Binghamton 110.88 51 PKiKP **PKiKP 19 07 24.3 -0.6**
baz=264
P60A Greenville 110.89 54 PKiKP **PKiKP 19 07 24.1 -0.9**
baz=263
N59A State Game Lan 110.91 52 PKiKP **PKiKP 19 07 24.8 -0.3**
baz=264
L58A Harry Jones Me 110.97 51 PKiKP **PKiKP 19 07 24.9 -0.2**
baz=264
SHLS Shalkode 111.09 310 ⇓*i*PKiKP **PKiKP 19 07 24.4 -1.2**
baz=310
SHLS Shalkode 111.09 310 *d i*PKiKP **PKiKP 19 07 24.3 -1.2**
SEM Semipalatinsk 111.09 318 ⇓*i*PKiKP **PKiKP 19 07 24.1 -1.3**
baz=318
SEM Semipalatinsk 111.09 318 *d i*PKiKP **PKiKP 19 07 24.1 -1.3**
I57A Carthage 111.28 49 PKiKP **PKiKP 19 07 25.2 -0.5**
baz=265
PTLB Pontes e Lacer 111.30 115 *e*P **PKiKP 19 07 26.5 0.0**
UZB Uzynbulak 111.41 310 ⇓*i*PKiKP **PKiKP 19 07 25.5 -0.6**
baz=310
UZB Uzynbulak 111.41 310 *d i*PKiKP **PKiKP 19 07 25.5 -0.6**
J58A Remsen 111.50 50 PKiKP **PKiKP 19 07 25.8 -0.3**
baz=265
H57A Richville 111.52 49 PKiKP **PKiKP 19 07 25.3 -0.7**
baz=265
KPKS Kokpek 111.68 310 ⇓*i*PKiKP **PKiKP 19 07 25.5 -1.0**
baz=310
KPKS Kokpek 111.68 310 *d i*PKiKP **PKiKP 19 07 25.5 -1.0**
I58A Old Forge 111.76 49 PKiKP **PKiKP 19 07 26.1 -0.5**
baz=265
AQDB Aquidauana 111.79 122 *e*P **PP 19 08 19.5 -0.4**

SATY Saty 111.85 310 ⇓*i*PKiKP **PKiKP 19 07 26.2 -0.7**
baz=310
SATY *i* PP **PP 19 08 19.3 -1.3**
baz=310
SATY Saty 111.85 310 *d i*PKiKP **PKiKP 19 07 26.2 -0.7**
SATY *i* 19 08 19.3
TDK Taldyqorghan 112.00 312 *e*PKiKP **PKiKP 19 07 26.1 -0.9**
baz=312
TDK *e*PP **PP 19 08 19.9 -1.5**
baz=312
TDK Taldyqorghan 112.00 312 *i*PKiKP **PKiKP 19 07 26.1 -0.9**
TDK *e* 19 08 19.9
LONY Lake Ozonia 112.11 49 PKiKP **PKiKP 19 07 26.8 -0.4**
baz=266
KURBB Kurchatov Arra 112.20 318 PKKPbc PKKPbc 19 18 20.8 -0.2
comp=Z,1.3nm,0.8s,baz=274,slow=4.1,SNR=4.5
KURBB PKKPab **PKKPab 19 18 30.6 +1.1**
comp=Z,2.5nm,0.9s,baz=274,slow=4.7,SNR=4.3
KURBB SKKPbc SKKPbc 19 21 14.5 -0.6
comp=Z,3.4nm,0.9s,baz=269,slow=3.8,SNR=11
PAL Palisades 112.32 52 PKiKP **PKiKP 19 07 27.4 -0.3**
baz=265
H58A Gabriels 112.38 49 PKiKP **PKiKP 19 07 27.2 -0.6**
baz=266
CHGQ Chibougamau 112.51 43 PKiKP **PKiKP 19 07 26.6 -1.2**
baz=268
I59A Olmsteadville 112.56 49 PKiKP **PKiKP 19 07 27.7 -0.4**
baz=266
H59A Cadyville 112.75 49 PKiKP **PKiKP 19 07 28.2 -0.2**
baz=267
J60A Lant Hill Farm 112.85 50 PKiKP **PKiKP 19 07 28.4 -0.2**
baz=266
MDOK Medeo 112.85 310 *e*PKiKP **PKiKP 19 07 28.0 -0.9**
baz=310
MDOK *e*PP **PP 19 08 26.1 -1.6**
baz=310
MDOK Medeo 112.85 310 *i*PKiKP **PKiKP 19 07 28.0 -0.9**
MDOK *e* 19 08 26.0
K61A Williamstown 112.93 51 PKiKP **PKiKP 19 07 28.6 -0.2**
baz=266
CHKK Chushkaly 112.94 311 *e*PKiKP **PKiKP 19 07 27.8 -1.1**
baz=311
CHKK Chushkaly 112.94 311 *i*PKiKP **PKiKP 19 07 27.7 -1.1**
AAA Alma-Ata 112.95 310 *e*PKiKP **PKiKP 19 07 28.0 -0.9**
baz=310
AAA Alma-Ata 112.95 310 *i*PKiKP **PKiKP 19 07 28.0 -0.9**
I60A Shoreham 112.98 49 PKiKP **PKiKP 19 07 28.5 -0.3**
baz=267
TRCB Terra Rica 113.01 125 *e*P **PKiKP 19 07 30.0 +0.3**
L61B Northampton 113.34 51 PKiKP **PKiKP 19 07 29.6 0.0**
baz=266
ULHL Ulahol 113.39 309 P **PKiKP 19 07 30.4 +0.4**
SNR=17
KUU Kurty 113.41 311 ⇓*i*PKiKP **PKiKP 19 07 28.5 -1.2**
baz=311
KUU *i* PP **PP 19 08 29.6 -1.8**
baz=311
KUU Kurty 113.41 311 *d i*PKiKP **PKiKP 19 07 28.5 -1.2**
KUU *i* 19 08 29.6
D58A Chemin du LacG 113.42 46 PKiKP **PKiKP 19 07 29.0 -0.6**
baz=268
H60A Morristown 113.45 49 PKiKP **PKiKP 19 07 29.5 -0.3**
baz=267
J61A Chester 113.49 50 PKiKP **PKiKP 19 07 29.7 -0.2**
baz=267
K62A Royalston 113.69 51 PKiKP **PKiKP 19 07 30.0 -0.2**
baz=267
PP1B Ponte de Pedra 113.89 119 *e*P **PP 19 08 34.5 -0.2**
TKM2 Tokmak 2 113.90 310 P **PKiKP 19 07 30.6 -0.4**
SNR=46
LBNH Lisbon 113.99 49 PKiKP **PKiKP 19 07 30.8 0.0**
baz=268
H61A Lyndonville 114.00 49 PKiKP **PKiKP 19 07 30.6 -0.2**
baz=268
J62A Henniker 114.03 50 PKiKP **PKiKP 19 07 31.1 +0.2**
baz=267
SALV Santo Antonio 114.03 117 *e*P **PKiKP 19 07 32.2 +0.5**
L63A North Scituate 114.10 52 PKiKP PKPdf 19 07 31.0 -0.1
baz=267
HRV Adam Dziewonsk 114.18 51 PKiKP PKPdf 19 07 31.0 -0.2
baz=267
K63A Dunstable 114.21 51 PKiKP PKPdf 19 07 31.1 -0.1
baz=267
G61A St-Isidore-de- 114.31 48 PKiKP PKPdf 19 07 31.0 -0.4
baz=268
KBK Karagaybulak 114.36 309 P PKPdf 19 07 31.8 -0.1
SNR=22
M64A Tiverton 114.39 52 PKiKP PKPdf 19 07 31.4 -0.2
baz=267
E60A Ste Agathe de 114.39 47 PKiKP PKPdf 19 07 31.3 -0.2
baz=269
I62A Tamworth 114.40 49 PKiKP PKPdf 19 07 31.5 -0.1
baz=268
CHMS Chumysh 114.52 310 P PKPdf 19 07 31.3 -0.6
SNR=47
H62A Milan 114.55 49 PKiKP **PKiKP 19 07 32.1 +0.2**
baz=268
J63A Strafford 114.56 50 PKiKP PKPdf 19 07 31.8 -0.1
baz=268
FRU1 Bishkek 114.60 309 PKiKP PKPdf 19 07 32.1 0.0
FRU1 Bishkek 114.60 309 PKPdf 19 07 32.1 0.0
SGDS Sogindy 114.63 310 ⇓*i*PKiKP PKPdf 19 07 31.1 -1.1
baz=310
SGDS *e*PP **PP 19 08 38.5 -1.4**
baz=310
SGDS Sogindy 114.63 310 *d i*PKiKP PKPdf 19 07 31.0 -1.2
SGDS *e* 19 08 38.5
L64A Middleborough 114.68 52 PKiKP PKPdf 19 07 32.0 -0.2
baz=267
AAK Ala-Archa 114.70 309 P PKPdf 19 07 31.9 -0.5
SNR=11
AAK Ala-Archa 114.70 309 PKPdf PKPdf 19 07 32.2 -0.2
F61A St Evariste 114.70 47 PKiKP PKPdf 19 07 32.1 -0.1
baz=269
USP Ospenovka 114.72 310 P PKPdf 19 07 32.1 -0.2
SNR=21
PCMB Pacaembu 114.72 125 *e*P PKPdf 19 07 33.0 0.0
D60A Saint Jean D'O 114.76 46 PKiKP PKPdf 19 07 31.4 -0.7
baz=270
I63A Otisfield 114.95 49 PKiKP **PKiKP 19 07 32.9 +0.2**
baz=268
I63A Otisfield 114.95 49 **PKiKP 19 07 32.9 +0.2**
G62A West of Eustis 115.01 48 PKiKP **PKPdf 19 07 32.6 -0.1**
baz=269
E61A Lac Etchemin 115.05 47 PKiKP **PKiKP 19 07 32.9 +0.1**
baz=270
BTLS Baital 115.09 312 ⇓*i*PKiKP **PKPdf 19 07 32.4 -0.6**
baz=312
BTLS *i* PP **PP 19 08 39.9 -3.1**
baz=312
BTLS Baital 115.09 312 *d i*PKiKP **PKPdf 19 07 32.3 -0.6**
BTLS *i* 19 08 39.8
EKS2 Erkin-Say 115.23 309 P **PKiKP 19 07 33.4 0.0**
SNR=43
D61A St Aubert, Com 115.26 46 PKiKP **PKPdf 19 07 32.7 -0.4**
baz=270
AML Almayashu 115.27 309 P **PKiKP 19 07 34.0 +0.2**
SNR=43
AML Almayashu 115.27 309 *i*PKPdf **PKiKP 19 07 34.0 +0.2**
SNR=44
AML Almayashu 115.27 309 P **PKiKP 19 07 34.1 +0.2**
NEEM North Greenlan 115.31 11 ⇓*i*P **PKPdf 19 07 32.6 -0.2**
NEEM IAmb IAmb 19 07 33.4
comp=Z,88nm,0.7s
NEEM North Greenlan 115.31 11 IAmb IAmb 19 18 10.8
comp=Z,14nm,1.0s
NEEM North Greenlan 115.31 11 *i*P **PKKPbc 19 18 08.7 -2.8**
OBIP Obispado Ponce 115.34 78 **PKPdf 19 07 32.9 -1.2**
PCRV Puerto La Cruz 115.36 87 PKKPbc PKKPbc 19 18 07.0 -2.6
comp=Z,12nm,0.9s,baz=193,slow=1.9,SNR=2.3
F62A Pittston Farm, 115.41 47 PKiKP **PKPdf 19 07 33.5 0.0**
baz=270
WVL Waterville 115.62 49 **PKPdf 19 07 32.9 -1.0**
I64A Boothbay 115.63 49 PKiKP **PKiKP 19 07 33.9 0.0**
baz=269
G63A Kingsbury 115.65 48 PKiKP **PKPdf 19 07 33.8 -0.2**
baz=270
E62A Clayton Lake 115.72 46 PKiKP **PKPdf 19 07 33.7 -0.4**
baz=270
SJG San Juan 115.78 78 PKIKP **PKPdf 19 07 34.3 -0.7**
SJG 19 08 45.6
SJG San Juan 115.78 78 **PKPdf 19 07 34.3 -0.7**
SJG PP **PP 19 08 45.6 -2.8**
GCPR Guaynabo City 115.88 78 **PKPdf 19 07 34.2 -0.9**
PKME Peaks-Kenny Pk 115.89 48 PKiKP **PKPdf 19 07 34.3 0.0**
baz=270
H64A Troy 115.93 49 PKiKP **PKPdf 19 07 34.2 -0.3**

baz=270
BRZS Berezniki 115.95 317 ⇓*i*PKiKP **PKPdf 19 07 33.4 -1.1**
baz=317
BRZS Berezniki 115.95 317 *d i*PKiKP **PKPdf 19 07 33.3 -1.1**
F63A Nahmakanta, Br 116.02 47 PKiKP **PKPdf 19 07 34.6 -0.1**
baz=270
F63A Nahmakanta, Br 116.02 47 **PKPdf 19 07 34.0 -0.7**
NOR Nord 116.03 3 *i*P **PKPdf 19 07 33.0 -0.7**
NOR IAmb IAmb 19 07 33.7
comp=Z,16nm,0.9s
NOR Nord 116.03 3 *i*PKiKP **PKPdf 19 07 33.0 -0.7**
NOR pmax pmax
comp=Z,16nm,0.9s
D62A Allapoint, All 116.04 46 PKiKP **PKPdf 19 07 34.1 -0.5**
baz=271
HUMP Col San Antoni 116.06 78 **PKPdf 19 07 35.1 -0.4**
G64A Maxfield 116.26 48 PKiKP **PKiKP 19 07 35.1 0.0**
baz=270
ITRB Iturama 116.47 124 *e*P **PKPdf 19 07 35.7 -0.7**
UPNV Upernavik 116.47 16 ⇓*i*P **PKPdf 19 07 34.4 -0.3**
UPNV IAmb IAmb 19 07 35.2
comp=Z,73nm,0.8s
E63A Oxbow 116.48 47 PKiKP **PKPdf 19 07 35.1 -0.5**
baz=271
F64A Sherman 116.54 47 PKiKP **PKPdf 19 07 35.4 -0.2**
baz=271
DRK Karamyk 116.61 306 **PKPdf 19 07 35.9 -0.5**
H65A Eastbrook 116.63 49 PKiKP **PKPdf 19 07 35.6 -0.2**
baz=270
D63A Stockholm 116.68 46 PKiKP **PKPdf 19 07 35.2 -0.7**
baz=272
E64A Bridgewater 116.89 47 PKiKP **PKPdf 19 07 35.9 -0.4**
baz=272
SCHQ Schefferville 116.92 37 PKP **PKPdf 19 07 35.6 -0.5**
comp=Z,27nm,0.9s,baz=270,slow=3.2
G65A Princeton 117.11 48 PKiKP **PKPdf 19 07 36.6 -0.1**
baz=271
BB19B Bebedouro 117.14 126 *e*P **PKiKP 19 07 38.2 +0.5**
BVAR Borovoye Array 117.16 321 PKKPbc PKKPbc 19 18 04.2 -0.1
comp=Z,2.0nm,0.8s,baz=193,slow=29,SNR=3.7
BRVK Borovoye 117.22 321 *d i*PKiKP **PKPdf 19 07 36.1 -0.6**
BRVK Borovoye 117.22 321 PKPdf **PKPdf 19 07 36.2 -0.6**
BRVK PP **PP 19 08 51.0 -6.4**
BRVK Borovoye 117.22 321 P **PKPdf 19 07 36.6 -0.1**
H66A Whiting 117.29 48 PKiKP **PKPdf 19 07 36.9 -0.2**
baz=271
ARAG Araguaiana, MT 117.38 119 *e*P **PKPdf 19 07 38.0 -0.1**
KKAR Karatay Array 117.63 310 PKIKP **PKPdf 19 07 36.8 -1.1**
KKAR Karatay Array 117.63 310 **PKPdf 19 07 36.8 -1.1**
KBL Kabul 118.59 300 PKIKP **PKPdf 19 07 40.0 -0.2**
KBL Kabul 118.59 300 PKPdf **PKPdf 19 07 40.0 -0.2**
KBL Kabul 118.59 300 P **PKiKP 19 07 40.8 +0.5**
SNR=38
SKI Saint Kitts 118.81 80 PKIKP **PKPdf 19 07 40.0 -0.9**
SKI Saint Kitts 118.81 80 PKPdf **PKPdf 19 07 40.0 -0.9**
KBS Kingsbay 118.99 358 *i*P **PKiKP 19 07 39.9 +0.3**
KBS IAmb IAmb 19 07 40.6
comp=Z,233nm,1.0s
KBS Kingsbay 118.99 358 *e*PKPdf **PKiKP 19 07 39.7 +0.2**
IPMB Ipameri, GO 119.10 123 *e*P **PKPdf 19 07 41.2 -0.4**
SPA0 Spitsbergen Ar 119.52 357 *e*PKPdf **PKPdf 19 07 40.2 -0.3**
SPITS Spitsbergen Ar 119.52 357 PP PP 19 09 08.7 -3.5
comp=Z,25nm,1.0s,baz=64,slow=3.4,SNR=3.8
SPITS PKKPbc **PKKPbc 19 17 54.7 -1.7**
comp=Z,13nm,0.9s,baz=149,slow=6.7,SNR=2.9
ILULI Ilulissat 119.59 19 ⇓*i*P **PKPdf 19 07 40.4 -0.4**
ILULI IAmb IAmb 19 07 41.1
comp=Z,110nm,0.8s
ILULI Ilulissat 119.59 19 ⇓*i*PKiKP **PKPdf 19 07 40.4 -0.4**
ILULI pmax pmax
comp=Z,110nm,0.8s
SNDB Serra Nova Dou 119.65 116 *e*P **PKPdf 19 07 42.1 -0.4**
SNDB Serra Nova Dou 119.65 116 *e*P **PKPdf 19 07 42.5 -0.1**
FDF Fort de France 119.76 83 PKIKP **PKPdf 19 07 42.2 -0.5**
FDF Fort de France 119.76 83 **PKPdf 19 07 42.2 -0.5**
SVN Savane Anatole 119.77 83 **PKPdf 19 07 42.7 -0.1**
BSCB Bom Sucesso 120.02 128 *e*P **PKPdf 19 07 42.9 -0.3**
BSCB Bom Sucesso 120.02 128 *e*P **PKiKP 19 07 43.7 +0.4**
SAM Samarkand 120.33 306 PKIKP **PKPdf 19 07 42.7 -0.5**
HOPEN Hopen 120.40 354 *e*PKPdf **PKPdf 19 07 42.0 -0.2**
DAG Danmarks Havn 120.42 5 ⇓*i*P **PKPdf 19 07 41.1 -1.1**
DAG IAmb IAmb 19 07 42.1
comp=Z,71nm,0.9s
DAG Danmarks Havn 120.42 5 ⇓*i*PKiKP **PKPdf 19 07 41.1 -1.1**
DAG pmax pmax
comp=Z,71nm,0.9s
BDFB Brasilia 120.53 121 PKP **PKPdf 19 07 44.1 -0.3**
comp=Z,17nm,0.9s,baz=190,slow=2.7,SNR=13
BDFB PKKPbc **PKKPbc 19 17 53.1 +1.1**
comp=Z,14nm,0.9s,baz=102,slow=4.7,SNR=9.1
BDFB Brasilia 120.53 121 PKIKP **PKPdf 19 07 44.0 -0.4**
BDFB 19 09 20.2
BDFB Brasilia 120.53 121 PKPdf **PKPdf 19 07 44.0 -0.4**
BDFB PP **PP 19 09 20.2 -0.1**
VOI Vohitsoka 120.65 230 PKPdf **PKiKP 19 07 45.0 +0.3**
VOI Vohitsoka 120.65 230 P **PKiKP 19 07 45.2 +0.6**
HSPB Hornsund (broa 120.70 356 *e*PKPdf **PKPdf 19 07 42.7 -0.1**
SFJD Kangerlussuaq 120.83 21 PKP **PKPdf 19 07 42.7 -0.5**
comp=Z,40nm,0.6s,baz=228,slow=1.2,SNR=7.8
SFJD PKKPbc **PKKPab 19 17 50.1 -1.0**
comp=Z,6.9nm,0.7s,baz=162,slow=4.6,SNR=2.5
SFJD Kangerlussuaq 120.83 21 *i*P **PKPdf 19 07 42.2 -1.0**
SFJD IAmb IAmb 19 07 43.3
comp=Z,27nm,0.7s
SUMG Summit 120.91 13 ⇓*i*P **PKPdf 19 07 43.8 0.0**
SUMG IAmb IAmb 19 07 45.0
comp=Z,120nm,1.1s
SUMG Summit 120.91 13 IAmb IAmb 19 17 52.9
comp=Z,16nm,1.0s
SUMG Summit 120.91 13 ⇓*i*PKiKP **PKPdf 19 07 43.8 0.0**
SUMG pmax pmax
comp=Z,120nm,1.1s
SUMG Summit 120.91 13 *i*P **PKKPbc 19 17 50.0 -1.8**
DUB01 Friburgo-RJ 121.11 131 *e*P **PKPdf 19 07 45.4 +0.1**
MALB Monte Alegre 121.36 104 *e*P **PKiKP 19 07 46.5 +0.5**
MALB Monte Alegre 121.36 104 *e*P **PKiKP 19 07 46.8 +0.7**
NUUK Nuuk 121.72 24 ⇓*i*P **PKPdf 19 07 45.0 0.0**
NUUK IAmb IAmb 19 07 45.9
comp=Z,122nm,0.9s
CAM01 Campos-RJ 121.79 131 *e*P **PKiKP 19 07 47.2 +0.5**
CAM01 Campos-RJ 121.79 131 *e*P **PKiKP 19 07 47.0 +0.3**
SVE Sverdlovsk 121.95 326 *e*PKIKP **PKPdf 19 07 45.7 0.0**
SVE pmax pmax
comp=Z,219nm,1.0s
ABPO Ambohimpanom 122.09 233 PKIKP **PKiKP 19 07 48.0 +0.4**
ABPO Ambohimpanom 122.09 233 PKPdf **PKiKP 19 07 48.0 +0.4**
ABPO pPKPdf **pPKPdf 19 09 50.9 -2.8**
PEXB Peixe 122.13 118 *e*P **PKiKP 19 07 47.6 0.0**
PEXB Peixe 122.13 118 *e*P **PKiKP 19 07 48.0 +0.4**
MSEY Mahe Island 122.45 252 PKPpre 19 07 38.6
DIAM Diamantina, MG 122.46 127 *e*P **PKiKP 19 07 48.6 +0.3**
DIAM Diamantina, MG 122.46 127 *e*P **PKiKP 19 07 48.6 +0.3**
DBG Daneborg 122.53 7 ⇓*i*P **PKPdf 19 07 46.1 -0.3**
DBG IAmb IAmb 19 07 46.8
comp=Z,92nm,0.8s
DY2G Dye2 122.58 21 ⇓*i*P **PKPdf 19 07 46.2 -0.7**
DY2G IAmb IAmb 19 07 47.5
comp=Z,246nm,0.8s
BJO1 Bjornoya 122.85 355 *e*PKPdf **PKPdf 19 07 44.8 -2.1**
ICESG Greenland Ices 123.00 16 ⇓*i*P **PKPdf 19 07 47.2 -0.6**
ICESG IAmb IAmb 19 07 48.1
comp=Z,174nm,1.0s
ARU Arti 123.17 326 PP PP 19 09 35.2 -2.0
comp=Z,7.2nm,0.9s,baz=62,slow=7.8,SNR=3.8
ARU PKKPbc **PKKPab 19 17 41.8 +0.6**
comp=Z,2.0nm,0.7s,baz=216,slow=7.8,SNR=5.6
ARU Arti 123.17 326 *i*PKIKP **PKPdf 19 07 47.6 -0.5**
ARU 19 14 08.6
ARU SP SP 19 18 36.4 -3.1
MC01 Montes Claros 123.18 125 *e*P **PKPdf 19 07 49.4 0.0**
MC01 Montes Claros 123.18 125 *e*P **PKiKP 19 07 50.1 +0.4**
MC01 Montes Claros 123.18 125 *e*P **PKPdf 19 07 49.4 0.0**
ALF01 Guarapari-ES 123.22 131 *e*P **PKPdf 19 07 49.4 +0.1**
ALF01 Guarapari-ES 123.22 131 *e*P **PKiKP 19 07 50.2 +0.6**
PRPB Paraúapebas 123.63 111 *e*P **PKiKP 19 07 50.9 +0.3**
PRPB Paraúapebas 123.63 111 *e*P **PKiKP 19 07 51.1 +0.5**
JANB Januaria 123.83 123 *e*P **PKPdf 19 07 50.5 -0.1**
JANB Januaria 123.83 123 *e*P **PKiKP 19 07 50.9 -0.1**
JANB Januaria 123.83 123 *e*P **PKiKP 19 07 52.0 +1.0**
MCPB Macapa, AP 123.96 103 *e*P **PKiKP 19 07 51.2 0.0**
MCPB Macapa, AP 123.96 103 *e*P **PKiKP 19 07 51.5 +0.2**
HRA Herat 124.20 300 PKPpre 19 07 39.3
HRA PKPdf **PKPdf 19 07 50.5 -0.5**
HRA PP **PP 19 09 42.2 -3.0**

BSFB	Barra de Sao F	124.26	129	eP		PKPdf	19 07 51.1	-0.2
BSFB	Barra de Sao F	124.26	129	eP		PKiKP	19 07 52.3	+0.6
BSFB	Barra de Sao F	124.26	129	eP		PKPdf	19 07 51.1	-0.2
RIB01	Linhares ES	124.29	130	eP		PKiKP	19 07 51.7	0.0
RIB01	Linhares ES	124.29	130	eP		PKiKP	19 07 52.0	+0.3
RIB01	Linhares ES	124.29	130	eP		PKPdf	19 07 50.4	-1.0
SMTB	Santa Maria do	124.34	115	eP		PKiKP	19 07 51.9	-0.1
SMTB	Santa Maria do	124.34	115	eP		PKiKP	19 07 52.3	+0.3
SMTB	Santa Maria do	124.34	115	eP		PKiKP	19 07 52.6	+0.6
SDBA	SAO DESIDERIO	124.81	120	eP		PKiKP	19 07 52.9	0.0
SDBA	SAO DESIDERIO	124.81	120	eP		PKPdf	19 07 52.7	+0.1
SDBA	SAO DESIDERIO	124.81	120	eP		PKiKP	19 07 53.9	+1.0
AKTO	Aktyubinsk	125.19	319		PKKPbc	PKKPbc	19 17 34.3	-0.2
	comp=Z,3.0nm,0.7s,baz=225,slow=4.3,SNR=3.8							
MDP	Montagnes des	125.31	97		PKP	PKiKP	19 07 53.8	-0.1
	comp=Z,48nm,0.8s,baz=220,slow=3.7,SNR=23							
MDP					PKKPbc	PKKPab	19 17 35.4	+1.5
	comp=Z,15nm,1.1s,baz=36,slow=5.8,SNR=5.1							
ISOG	Isortoq, Green	125.53	20	⇓	iP	PKPdf	19 07 51.7	-0.6
ISOG					IAmb	IAmb	19 07 52.5	
	comp=Z,196nm,0.9s							
NRS	Narsarsuaq	125.72	26	⇓	iP	PKPdf	19 07 52.1	-0.7
NRS					IAmb	IAmb	19 07 53.0	
	comp=Z,199nm,0.9s							
NRS	Narsarsuaq	125.72	26	⇓	iPKIKP	PKPdf	19 07 52.0	-0.7
NRS					pmax	pmax		
	comp=Z,200nm,0.9s							
NRS	Narsarsuaq	125.72	26			PKPpre	19 07 42.3	
NRS					PKPdf	PKPdf	19 07 52.0	-0.7
SCO	Scoresbysund	125.73	10	⇓	iP	PKiKP	19 07 53.1	+0.1
SCO					IAmb	IAmb	19 07 54.0	
	comp=Z,148nm,0.9s							
SCO	Scoresbysund	125.73	10	⇓	iPKIKP	PKiKP	19 07 53.1	+0.1
SCO					pmax	pmax		
	comp=Z,150nm,0.9s							
HAMF	Hammerfest	125.88	351	e	PKPdf	PKPdf	19 07 51.8	-1.1
ANGG	Ammassalik, Gr	125.90	19	⇓	iP	PKPdf	19 07 51.8	-1.2
ANGG					IAmb	IAmb	19 07 52.9	
	comp=Z,95nm,0.9s							
JLN	Jalan Bani Buh	126.05	285		P	PKiKP	19 07 55.3	+0.2
	SNR=5.0							
LVZ	Lovozero	126.08	345	d	iPKIKP	PKPdf	19 07 52.7	-0.7
KEV	Kevo	126.13	349		PKIKP	PKPdf	19 07 53.3	-0.1
KEV	Kevo	126.13	349			PKPpre	19 07 45.8	
KEV					PKPdf	PKPdf	19 07 53.3	-0.1
GUA01	Guaratinga, BA	126.43	128	eP		PKPdf	19 07 55.6	+0.1
GUA01	Guaratinga, BA	126.43	128	eP		PKiKP	19 07 56.2	+0.1
GUA01	Guaratinga, BA	126.43	128	eP		PKiKP	19 07 56.2	+0.1
WBK	Wadi Bani Khal	126.51	285		P	PKiKP	19 07 56.4	+0.3
SUR	Sutherland	126.57	200		PKKPbc	PKKPbc	19 17 28.6	-1.1
	comp=Z,10nm,0.8s,baz=340,slow=4.8,SNR=4.3							
SUR	Sutherland	126.57	200		PKPdf	PKiKP	19 07 56.0	-0.2
SUR	Sutherland	126.57	200		P	PKiKP	19 07 56.0	-0.2
ARA0	ARCESS Array S	126.58	350	e	PKPdf	PKPdf	19 07 54.3	0.0
ARCES	ARCESS Array B	126.58	350		PKhKP	PKPpre	19 07 47.2	
	comp=Z,9.2nm,0.9s,baz=236,slow=1.0,SNR=11							
ARCES					PKP	PKiKP	19 07 54.7	-0.1
	comp=Z,180nm,0.8s,baz=14,slow=1.1,SNR=128							
ARCES					PKKPbc	PKKPab	19 17 27.6	+1.2
	comp=Z,1.5nm,0.8s,baz=212,slow=3.2,SNR=8.7							
ARCES					SKKPbc	SKKPbc	19 20 26.8	-3.5
	comp=Z,2.1nm,0.8s,baz=198,slow=3.6,SNR=3.5							
APA	Apatity	126.63	345	⇑	iPKIKP	PKPdf	19 07 52.8	-1.6
APA				i	*PP	PP	19 09 55.5	-3.9
APA				i	PPP	PPP	19 12 50.0	
APA					pmax	pmax		
	comp=Z,13nm,0.9s							
JMIC	Jan Mayen	126.80	4		PKP	PKiKP	19 07 55.9	+0.8
	comp=Z,144nm,0.8s,baz=61,slow=3.4,SNR=6.5							
JMIC	Jan Mayen	126.80	4	e	PKPdf	PKiKP	19 07 56.0	+0.8
TMAB	Tom-Au,PA,Br	126.81	107	eP		PKiKP	19 07 57.1	+0.2
TMAB	Tom-Au,PA,Br	126.81	107	eP		PKiKP	19 07 57.7	+0.8
PRGR	Permogore	126.84	336	e	PKIKP	PKPdf	19 07 53.4	-1.5
PRGR				e			19 09 56.5	
PRGR					pmax	pmax		
	comp=Z,96nm,0.8s							
WSAR	Wadi Sarin	126.88	286		P	PKiKP	19 07 56.9	+0.2
MHTO	MHTO	127.24	283		P	PKiKP	19 07 57.2	-0.3
	SNR=7.9							
JMDO	Jabal Madar	127.28	285		P	PKiKP	19 07 57.5	-0.1
JETT	Jettan, Norway	127.33	352	e	PKPdf	PKiKP	19 07 56.4	+0.1
GEYT	Alibeck	127.35	304		PKhKP	PKPpre	19 07 41.6	
	comp=Z,6.0nm,0.8s,baz=284,slow=5.4,SNR=7.3							
GEYT					PKP	PKPdf	19 07 57.0	+0.2
	comp=Z,121nm,1.1s,baz=29,slow=7.9,SNR=66							
GEYT					PP	pPKPdf	19 10 03.4	+0.1
	comp=Z,20nm,1.1s,baz=48,slow=2.1,SNR=4.8							
GEYT	Alibeck	127.35	304			PKPpre	19 07 41.9	
GEYT						PKPdf	19 07 56.7	0.0
GEYT						pPKPdf	19 10 01.1	-2.2
BIDO	Bidbid	127.37	286		P	PKiKP	19 07 58.0	+0.3
	SNR=5.2							
CMC01	Camacan, BA	127.40	127	eP		PKPdf	19 07 57.4	0.0
CMC01	Camacan, BA	127.40	127	eP		PKPdf	19 07 57.2	-0.2
CMC01	Camacan, BA	127.40	127	eP		PKiKP	19 07 58.0	+0.1
SMDO	Samad	127.40	285		P	PKiKP	19 07 58.3	+0.3
	SNR=7.2							
KTK1	Kautokeino	127.42	350	e	PKPdf	PKiKP	19 07 56.2	-0.2
TRO	Tromso	127.45	353	e	PKPdf	PKPdf	19 07 55.3	-0.5
DQM	DQM	127.50	282		P	PKiKP	19 07 58.7	+0.7
NBIT	Itapeh - BA	127.72	126	eP		PKPdf	19 07 58.2	+0.2
NBIT	Itapeh - BA	127.72	126	eP		PKiKP	19 07 58.5	-0.2
NBIT	Itapeh - BA	127.72	126	eP		PKiKP	19 07 58.4	-0.2
HOQ	Hoqain	128.12	286		P	PKiKP	19 07 59.2	0.0
	SNR=7.8							
BSY	Bisya	128.15	285		P	PKPdf	19 07 58.9	+0.2
	SNR=6.0							
BOSA	Boshof	128.29	206		PKP	PKiKP	19 07 60.0	+0.3
	comp=Z,43nm,0.9s,baz=165,slow=2.0,SNR=35							
BOSA					PP	PP	19 10 13.2	+3.0
	comp=Z,16nm,1.1s,baz=165,slow=8.5,SNR=3.5							
BOSA					SKPbc	SKPbc	19 10 30.0	
	comp=Z,8.4nm,0.7s,baz=135,slow=5.1,SNR=5.5							
BOSA					PKKPbc	PKKPbc	19 17 22.2	
	comp=Z,3.6nm,0.8s,baz=6.1,slow=5.6,SNR=4.2							
BOSA	Boshof	128.29	206		PKiKP	PKiKP	19 08 00.0	+0.3
BOSA	Boshof	128.29	206			PKiKP	19 07 59.4	-0.3
GDU01	Guandu, BA	128.34	125	eP		PKPdf	19 07 59.1	-0.1
GDU01	Guandu, BA	128.34	125	eP		PKiKP	19 07 59.8	-0.1
GDU01	Guandu, BA	128.34	125	eP		PKiKP	19 08 00.2	+0.3
ARQ	Araqi	128.82	286		P	PKPdf	19 08 00.2	+0.3
	SNR=7.8							
SOHO	SOHO	128.88	287	i	PKPdf	PKPdf	19 07 60.0	0.0
	SNR=69							
SOHO	SOHO	128.88	287		P	PKiKP	19 08 00.4	-0.3
SHAO	Shalim	129.01	279		PKPdf	PKiKP	19 08 00.8	-0.3
MDH	Madha	129.17	288	i	PKPdf	PKPdf	19 07 60.0	-0.5
	SNR=12							
MDH	Madha	129.17	288		P	PKPdf	19 08 00.5	0.0
	SNR=13							
BANOM	Banah	129.20	289		PKPdf	PKiKP	19 08 01.0	-0.4
BANOM	Banah	129.20	289		P	PKiKP	19 08 01.3	-0.1
UOSS	Minazif	129.23	288			PKPpre	19 07 48.0	
UOSS					PKPdf	PKPdf	19 08 00.0	-0.6
UOSS	Minazif	129.23	288		P	PKPdf	19 08 00.6	-0.1
HATD	Hatta, Dubai	129.29	288	i	PKPdf	PKPdf	19 08 00.7	0.0
	SNR=30							
HATD	Hatta, Dubai	129.29	288		P	PKPdf	19 08 01.0	+0.2
	SNR=20							
MSFE	Esma-Masafi	129.30	288	i	PKPdf	PKPdf	19 08 00.8	0.0
	SNR=22							
MASF	Masafi	129.30	288		P	PKPdf	19 08 00.8	0.0
	SNR=15							
ASHO	Ashiyiah	129.35	287	i	PKPdf	PKPdf	19 08 00.7	-0.2
	SNR=31							
ASHO	Ashiyiah	129.35	287		P	PKPdf	19 08 00.8	-0.2
	SNR=19							
SHME	Shamm	129.35	289	i	PKPdf	PKiKP	19 08 01.4	-0.2
	SNR=6.0							
SHME	Shamm	129.35	289		P	PKiKP	19 08 01.3	-0.3
SOCY	Socotra	129.43	271		P	PKiKP	19 08 02.1	-0.1
LOF	Lofoten	129.48	354	e	PKPdf	PKiKP	19 08 01.1	+0.6
STEI	Steigen	129.50	353	e	PKPdf	PKPdf	19 07 59.2	-0.6
NBPN	Ponto Novo - B	129.50	122	eP		PKPdf	19 08 01.9	+0.4
NBPN	Ponto Novo - B	129.50	122	eP		PKiKP	19 08 02.0	-0.3
NBPN	Ponto Novo - B	129.50	122	eP		PKPdf	19 08 01.3	-0.2
ALNE	Al Ain	129.59	286	i	PKPdf	PKPdf	19 08 01.1	-0.2
	SNR=33							
ALNE	Al Ain	129.59	286		P	PKPdf	19 08 01.6	+0.3
	SNR=15							
DMTO	DMTO	129.60	278		P	PKPdf	19 08 01.6	+0.1
KLMR	Klimovskoe	129.66	337	e	PKIKP	PKPdf	19 07 55.8	-4.5
KLMR					pmax	pmax		
	comp=Z,407nm,1.3s							
KLMR	Klimovskoe	129.66	337	e	PKPdf	PKPdf	19 07 55.8	-4.5
KLMR					AMP		19 08 02.0	
	comp=Z,407nm,1.3s							
KLMR				i	PP	pPKPdf	19 10 10.2	+3.3
KLMR				e	SKP		19 10 33.0	
KLMR				e	SP	SP	19 19 26.2	-9.2
KLMR				e	SKKPbc	SKKPbc	19 20 14.9	-4.2
NAZ	Nazwa, Dubai	129.73	288	i	PKPdf	PKPdf	19 08 01.2	-0.3
	SNR=19							
NAZ	Nazwa, Dubai	129.73	288		P	PKPdf	19 08 02.0	+0.4
	SNR=14							
FAQ	Al Faqa, Dubai	129.78	287	i	PKPdf	PKPdf	19 08 01.1	-0.5
	SNR=11							
FAQ	Al Faqa, Dubai	129.78	287		P	PKPdf	19 08 02.0	+0.3
	SNR=7.8							
UMZA	Um Al Zommool	130.02	285		P	PKiKP	19 08 02.9	-0.1
FAUS	Fauske	130.02	353	e	PKPdf	PKPdf	19 08 00.0	-0.8
ROSB	Rosrio	130.16	110	eP		PKiKP	19 08 03.6	-0.1
ROSB	Rosrio	130.16	110	eP		PKiKP	19 08 03.5	-0.1
RBK	Rabkut	130.27	278		P	PKiKP	19 08 03.5	-0.3
AJN	Ajban	130.31	287	i	PKPdf	PKiKP	19 08 03.2	-0.3
	SNR=10.0							
AJN	Ajban	130.31	287		P	PKiKP	19 08 03.4	-0.2
	SNR=5.6							
DOK	Doka	130.50	279		P	PKPdf	19 08 03.4	+0.2
BELG	Belogornoye	130.60	325		PP	PP	19 10 27.1	+1.6
	comp=Z,28nm,0.9s,baz=348,slow=7.3,SNR=4.4							
BELG					SKPbc	SKPab	19 10 36.4	0.0
	comp=Z,76nm,0.9s,baz=72,slow=4.0,SNR=7.9							
WHFO	Wadi Hawf	130.74	278		P	PKPdf	19 08 03.6	-0.1
BORG	Borgarnes	130.90	13		PKP	PKiKP	19 08 03.9	+0.4
	comp=Z,40nm,0.9s,baz=357,slow=0.9,SNR=13							
BORG					SKPab	SKPab	19 10 40.8	+3.5
	comp=Z,57nm,1.0s,baz=319,slow=2.5,SNR=6.9							
BORG	Borgarnes	130.90	13		PKPdf	PKiKP	19 08 03.3	-0.2
BORG						SKPab	19 10 41.7	+4.4
ABTO	Aybut	131.10	277		P	PKiKP	19 08 05.2	-0.3
KONS	Konsvik	131.11	354	e	PKPdf	PKPdf	19 08 02.9	+0.1
LBTB	Lobatse	131.25	209		PKIKP	PKPdf	19 08 04.6	-0.1
LBTB	Lobatse	131.25	209			PKPdf	19 08 04.6	-0.1
STOK	Stokkvaagen	131.28	354	e	PKPdf	PKiKP	19 08 03.9	-0.4
NBPS	Pedro II - PI	131.83	113	eP		PKiKP	19 08 06.6	-0.5
NBPS	Pedro II - PI	131.83	113	eP		PKPdf	19 08 05.0	-1.0
GHWR	Ruwais	132.20	286		P	PKiKP	19 08 07.2	-0.2
JRN	Qarnain Island	132.27	287		P	PKiKP	19 08 07.2	-0.3
NBPB	Pedra_Branca-C	132.87	116	eP		PKiKP	19 08 09.3	+0.1
NBPB	Pedra_Branca-C	132.87	116	eP		PKiKP	19 08 08.7	-0.4
NSS	Namsos	133.14	354	e	PKPdf	PKPdf	19 08 06.6	-0.2
SLWR	Sila	133.29	286		P	PKPdf	19 08 08.7	+0.4
NBAN	Anadia - AL	133.33	123	eP		PKPdf	19 08 08.4	-0.3
NBAN	Anadia - AL	133.33	123	eP		PKiKP	19 08 10.3	+0.2
FIA1	FINESS Array S	133.47	344			PKPpre	19 07 52.7	
FIA1					PKPdf	PKPdf	19 08 07.6	+0.1
FINES	FINESS Array B	133.47	344		PKhKP	PKPpre	19 07 53.1	
	comp=Z,3.3nm,0.5s,baz=28,slow=2.1,SNR=22							
FINES					PKP	PKPdf	19 08 08.0	+0.5
	comp=Z,117nm,0.9s,baz=84,slow=4.3,SNR=33							
FINES					PP	PP	19 10 40.2	-2.9
	comp=Z,9.9nm,0.9s,baz=29,slow=4.4,SNR=4.1							
FINES					SKPab	SKPab	19 10 48.8	+0.3
	comp=Z,42nm,0.9s,baz=34,slow=3.5,SNR=8.5							
FINES					PKKPbc	PKKPbc	19 17 08.2	
	comp=Z,3.4nm,1.0s,baz=145,slow=7.0,SNR=3.5							
FINES					SKKPbc	SKKPbc	19 20 02.6	-2.9
	comp=Z,1.4nm,0.7s,baz=174,slow=5.6,SNR=6.3							
FINES	FINESS Array B	133.47	344		PKIKP	PKPdf	19 08 08.0	+0.5
NBMO	Morrinhos-CE	133.57	113	eP		PKPdf	19 08 09.7	+0.6
PUL	Pulkovo	133.61	341	i	PKIKP	PKPdf	19 08 07.3	-0.5
MOS	Moscow	133.74	333	e	PKIKP	PKPdf	19 08 05.8	-2.4
MOS				e			19 10 42.1	
MOS					pmax	pmax		
	comp=Z,400nm,1.3s							
MOS					pmax	pmax		
	comp=Z,235nm,0.9s							
TRNA	Turayna	133.75	287		P	PKPdf	19 08 08.1	-1.0
SHMA	Al-Shehemyia	134.00	289		P	PKiKP	19 08 10.3	-0.7
MAK	Makhachkala	134.25	313	i	P	Pdif	19 05 11.5	-1.1
MAK				i			19 08 10.1	
MAK				e			19 10 13.6	
MAK				e			19 10 45.1	
MAK				e	PPP	PPP	19 13 58.7	
MAK				e			19 14 31.5	
MAK				e	SS	SS	19 27 52.3	-4.1
MAK				e	SSS	SSS	19 33 03.0	
MAK					pmax	pmax		
	comp=Z,178nm,0.9s							
VRH	Novokhopyorsk	134.39	326	e	PKIKP	PKPdf	19 08 09.2	-0.3
VRH					pmax	pmax		
	comp=Z,150nm,0.7s							
SAKB	Bahrain	134.39	289		P	PKPdf	19 08 11.0	+0.7
AKT	Akhty	134.53	311	e	PKIKP	PKPdf	19 08 10.4	+0.1
AKT				e			19 10 15.0	
AKT				e			19 10 54.0	
AKT					pmax	pmax		
	comp=Z,202nm,1.2s							
OBN	Obninsk	134.60	333		PKP	PKPdf	19 08 10.5	+0.7
	comp=Z,37nm,0.8s,baz=136,slow=4.2,SNR=11							
OBN					PP	PP	19 10 47.1	-3.4
	comp=Z,1.7nm,0.3s,baz=51,slow=9.0,SNR=5.1							
OBN	Obninsk	134.60	333	⇓	P	PKPdf	19 08 07.3	-2.5
OBN	Obninsk	134.60	333	d	iPKIKP	PKPdf	19 08 09.3	-0.5
OBN							19 10 52.0	
OBN					SS	SS	19 28 08.0	+8.8
OBN					pmax	pmax		
	comp=Z,153nm,0.8s							
NBCL	Cascavel-CE	134.64	115	eP		PKiKP	19 08 12.0	-0.7
NBRF	Rio Formoso -	134.83	123	eP		PKiKP	19 08 13.3	+0.3
NBPA	Parau_RN	134.85	118	eP		PKiKP	19 08 12.6	-0.6
RAF	Rauma	134.88	346	eP		PKPpre	19 08 05.8	
MEF	Metsahovi	134.95	344	eP		PKPpre	19 07 58.9	
LPSR	Galich'ya Gora	135.06	329	e	PKIKP	PKPdf	19 08 10.1	-0.6
LPSR					pmax	pmax		
	comp=Z,200nm,1.1s							
GROC	Groznyy	135.36	314	e	PKIKP	PKPdf	19 08 09.5	-2.1
GROC				e			19 10 14.1	
GROC				e			19 10 55.1	
GROC				e			19 11 07.8	
GROC					pmax	pmax		
	comp=Z,198nm,1.1s							
VORR	Voronezh	135.45	327	e	PKIKP	PKPdf	19 08 10.0	-1.5
VORR					pmax	pmax		
	comp=Z,500nm,1.2s							
VSU	Vasula	135.78	341	eP		PKPpre	19 08 01.5	
RCBR	Riachuelo	135.82	119		PKP	PKiKP	19 08 14.8	-0.3
	comp=Z,24nm,0.9s,baz=192,slow=3.1,SNR=3.1							
RCBR					SKPbc	SKPbc	19 10 56.1	+1.5
	comp=Z,57nm,1.0s,baz=350,slow=0.5,SNR=6.7							
DOMB	Dombas	135.85	355	e	PKPdf	PKPdf	19 08 12.1	+0.1
AKN	Aaknes	135.86	357	e	PKPdf	PKiKP	19 08 13.2	-0.6
AAL	Aland	136.03	347	eP		PKPpre	19 08 01.4	
MTSE	Matsula	136.40	344	eP		PKPpre	19 08 05.5	
GOF	Gofitskoye	136.49	317	⇑	ePKHKP	PKPpre	19 08 07.2	
FOO	Floro	136.53	358	e	PKPdf	PKPdf	19 08 13.4	+0.3
NB2	NORSAR Subarra	136.63	353		PKP	PKPpre	19 08 01.7	
	comp=Z,51nm,0.8s,baz=15,slow=4.0							
NB2	NORSAR Subarra	136.63	353	e		PKPpre	19 08 01.7	
	baz=15,slow=4.0							
NOA	NORSAR Array B	136.63	353		PKhKP	PKPpre	19 08 01.6	
	comp=Z,15nm,0.7s,baz=14,slow=4.2,SNR=49							
NOA					PKP	PKPdf	19 08 13.8	+0.3
	comp=Z,26nm,0.8s,baz=15,slow=3.7,SNR=20							
NOA					SKP		19 10 58.4	
	comp=Z,19nm,0.9s,baz=16,slow=4.6,SNR=13							
QRN	Al-Qurain	136.64	293	eP		PKPpre	19 08 03.5	
NCK	Nalchik	136.75	315	i	PKIKP	PKPdf	19 08 13.9	-0.3
UPP	Uppsala	136.80	348	eP		PKPpre	19 08 02.3	
ZEI	Tsey	136.80	314	i	PKIKP	PKiKP	19 08 16.4	-0.1
ZEI					pmax	pmax		
	comp=Z,58nm,1.2s							
NC602	NORSAR Array S	136.89	353	e	PKPdf	PKiKP	19 08 15.5	-0.3
HYA	Hoyanger	136.91	357	e	PKPdf	PKPdf	19 08 13.9	0.0
MIB	Mutribah	137.06	294	eP		PKPpre	19 08 04.2	
SUE	Sulen	137.09	358	e	PKPdf	PKPdf	19 08 14.1	-0.1
GNI	Garni	137.10	310		PP	PP	19 11 08.1	+1.2
	comp=Z,26nm,1.1s,baz=202,slow=9.1,SNR=4.8							
GNI					SKKPbc	SKKPbc	19 19 52.3	+1.2
	comp=Z,2.4nm,0.5s,baz=247,slow=3.7,SNR=5.6							
GNI	Garni	137.10	310		PKPdf	PKPdf	19 08 16.1	+0.9
GNI	Garni	137.10	310	d	iPKIKP	PKPdf	19 08 14.8	-0.4
GNI	Garni	137.10	310			PKPpre	19 08 05.3	
GNI					PKPdf	PKPdf	19 08 15.3	+0.1
GNI	Garni	137.10	310		P	PKiKP	19 08 16.6	-0.6
KBZ	Khabaz	137.12	316		PKhKP	PKPpre	19 08 03.9	
	comp=Z,6.3nm,0.9s,baz=82,slow=0.9,SNR=6.7							
KBZ					PKP	PKPdf	19 08 15.6	+0.8
	comp=Z,32nm,0.9s,baz=48,slow=0.6,SNR=24							
KBZ					PP	PP	19 11 01.2	-5.4
	comp=Z,7.3nm,0.9s,baz=71,slow=7.2,SNR=4.6							
KBZ					SKKPbc	SKKPbc	19 19 54.2	+3.3
	comp=Z,2.3nm,0.9s,baz=257,slow=8.3,SNR=4.2							
KIV	Kislovodsk	137.17	316	⇑	P	PKPdf	19 08 14.9	-0.1
KIV	Kislovodsk	137.17	316	i	PKPdf	PKPdf	19 08 14.9	-0.1
	SNR=12							
KIV	Kislovodsk	137.17	316	e	PKIKP	PKPdf	19 08 11.7	-3.4
KIV				e			19 11 03.1	
KIV				e	SS	SS	19 28 25.0	-5.9
KIV				e	SSS	SSS	19 33 46.3	
KIV					pmax	pmax		
	comp=Z,80nm,1.1s							
KIV	Kislovodsk	137.17	316			PKPpre	19 08 04.0	
KIV					PKPdf	PKPdf	19 08 15.2	+0.1
KIV	Kislovodsk	137.17	316		P	PKPdf	19 08 15.9	+0.9
HFS	Hagfors	137.20	351		PKhKP	PKPpre	19 08 02.7	
	comp=Z,49nm,0.6s,baz=72,slow=4.8,SNR=75							
HFS					PKP	PKPdf	19 08 14.2	-0.2
	comp=Z,85nm,0.7s,baz=100,slow=1.6,SNR=19							
HFS					SKP		19 10 59.0	
	comp=Z,23nm,0.8s,baz=82,slow=3.1,SNR=6.6							
SKAR	Skarslia	137.26	355	e	PKPdf	PKPdf	19 08 14.8	+0.1
SHA1	Shidzhatmaz	137.28	316	i	PKIKP	PKPdf	19 08 14.3	-1.2
RST	Umm Al-Ruwaisa	137.39	294	eP		PKPpre	19 08 05.5	
NEY	Neytrino	137.43	315	i	PKIKP	PKPdf	19 08 15.8	+0.1
AKH	Akhalkalaki	137.58	312	⇓	P	PKPpre	19 08 06.5	
ASK	Askoy	137.64	358	e	PKPdf	PKPdf	19 08 15.6	+0.4
BER	Bergen	137.74	357	e	PKPdf	PKPdf	19 08 15.9	+0.4
OSL	Oslo	137.77	353	e	PKPdf	PKPdf	19 08 15.2	-0.2
CHVG	Ch'k'valeri	138.07	315	⇑	P	PKPpre	19 08 08.9	
CHVG	Ch'k'valeri	138.07	315	⇑	PKHKP	PKPpre	19 08 08.9	
ODD1	Odda	138.14	356	e	PKPdf	PKPdf	19 08 16.5	+0.3
KONO	Kongsberg	138.17	354		PKHKP	PKPpre	19 08 05.5	
KONO	Kongsberg	138.17	354	e	PKPdf	PKPdf	19 08 16.5	+0.2
KONO	Kongsberg	138.17	354			PKPpre	19 08 05.5	
IDID	Didziasalis	138.32	339	eP		PKPpre	19 08 08.8	
ISAL	Salakas	138.33	339	eP		PKPpre	19 08 09.8	
IIGN	Ignalina	138.47	339	eP		PKPpre	19 08 09.3	
MNK	Minsk	138.56	337	i	PKHKP	PKPpre	19 08 08.6	
MNK				i	SSS	SSS	19 33 58.8	
MNK					pmax	pmax		
	comp=Z,172nm,0.9s							
MNK					pmax	pmax		
	comp=N,69nm,0.9s							
MNK					pmax	pmax		
	comp=E,15nm,1.5s							
MNK					MLR	MLR		
	comp=E,31nm,31.0s							
MNK					MLR	MLR		
	comp=Z,77nm,19.0s							
MNK					MLR	MLR		
	comp=N,402nm,26.0s							
MNK	Minsk	138.56	337	i	PKP	PKPpre	19 08 08.7	
	comp=E,15nm,1.5s							
MNK				i	PKP	PKPpre	19 08 08.7	
	comp=N,69nm,0.9s							
MNK				i	PKP	PKPpre	19 08 08.7	
	comp=Z,172nm,0.9s,baz=220							
MNK				i	p

DARE	Darende-Malaty	142.92	311	eP	PKPdf	19 08 24.1	-1.5
SNOP	Sinop	142.94	317	eP	PKPdf	19 08 23.6	-1.8
GKP	Gorka Klasztor	142.94	345	ePKP	PKPdf	19 08 22.8	-2.2
GKP	Gorka Klasztor	142.94	345	eP	PKPdf	19 08 21.4	-3.7
GAL1	Galloway	143.00	6	eP	PKPab	19 08 21.7	-0.9
AAE	Adis Abeba	143.02	261	eP	PKPab	19 08 24.3	0.0
SKMB	Sankelmark Bun	143.03	353	ePKPbc	PKPbc	19 08 23.7	+0.5
	baz=15,slow=2.9						
FURI	Furi	143.06	261		PKPdf	19 08 27.0	+0.2
FURI	Furi	143.06	261	eP	PKPdf	19 08 26.8	0.0
DIKM	Dikmen	143.09	317	⇓P	PKPdf	19 08 24.8	-0.9
DIKM	Dikmen	143.09	317	eP	PKPbc	19 08 24.1	+0.3
SORM	Soroca	143.10	330	⇑P	PKPbc	19 08 23.6	0.0
SORM	Soroca	143.10	330	⇑PKIKP	PKPbc	19 08 23.6	0.0
BEL	Belsk	143.20	340	ePKP	PKPbc	19 08 24.6	+0.8
EDMD	Edmundbyers	143.27	4	eP	PKPab	19 08 22.6	-1.0
KESW	Keswick, Cumbr	143.43	5	eP	PKPab	19 08 22.2	-2.0
LNIZ	Loecknitz	143.43	348	ePKPbc	PKPbc	19 08 24.7	+0.3
	baz=15,slow=2.9						
PURM	Purcari	143.44	327	⇓P	PKPbc	19 08 24.9	+0.2
GMM	Mts of Mourne	143.48	8	eP	PKPab	19 08 23.8	-0.5
GAZ	Gaziantep	143.65	309	eP	PKPbc	19 08 25.9	+0.1
KIS	Kishinev	143.66	328	⇓iPKP	PKPab	19 08 25.3	0.0
	comp=Z,1μm,0.5s						
KIS	Kishinev	143.66	328	⇑P	PKPbc	19 08 25.8	+0.4
KIS	Kishinev	143.66	328	dPKIKP	PKPab	19 08 25.3	0.0
KIS				pmax	pmax		
	comp=Z,1μm,0.5s						
BSEG	Bad Segeberg	143.68	352	ePKPbc	PKPbc	19 08 25.5	+0.3
	baz=15,slow=2.9						
LVV	L'vov	143.71	336	ePKIKP	PKPab	19 08 25.3	-0.1
WIM	Isle of Man	143.72	6	eP	PKPab	19 08 25.1	-0.2
MILM	Milestii Mici	143.72	328	⇑P	PKPab	19 08 25.4	-0.1
HLG	Helgoland	143.72	354	ePKPbc	PKPdf	19 08 26.0	-0.3
	baz=15,slow=2.9						
BZK	Bozkurt	143.75	318	⇓P	PKPdf	19 08 26.8	0.0
BZK	Bozkurt	143.75	318	eP	PKPdf	19 08 26.6	-0.2
SARI	SarD1z-Kayseri	143.75	311	eP	PKPdf	19 08 27.0	-0.2
KMRS	Kahramanmaras	143.75	309	eP	PKPab	19 08 26.3	+0.2
BNN	Bunyan	143.97	312	eP	PKPdf	19 08 27.4	0.0
BNN	Bunyan	143.97	312	PKPdf	PKPdf	19 08 27.5	0.0
YOZ	Yozgat	143.99	314	eP	PKPab	19 08 27.2	+0.2
LODK	Lodwar	144.04	250	P	PKPdf	19 08 29.1	+0.8
	SNR=156						
IAS	Iasi	144.15	330	⇑P	PKPbc	19 08 26.8	-0.1
IAS	Iasi	144.15	330	⇑PKIKP	PKPbc	19 08 26.8	-0.1
HPK	Haverah Park	144.16	3	eP	PKPbc	19 08 26.5	-0.2
H07N1	FLORES T-PHASE	144.36	46	PKP	PKPab	19 08 28.8	+0.6
	SNR=25						
KWP	Kalwaria Pacla	144.37	337	ePKP	PKPab	19 08 28.2	+0.3
VASR	Vaslui	144.42	329	⇓P	PKPab	19 08 28.8	+0.5
H07S1	FLORES T-PHASE	144.44	47	PKP	PKPab	19 08 28.8	+0.2
	SNR=9.0						
H07S1	FLORES T-PHASE	144.44	47	ePKP	PKPbc	19 08 28.1	0.0
RUE	Ruedersdorf	144.47	347	ePKPbc	PKPab	19 08 28.2	+0.1
	baz=15,slow=2.9						
WPS	Cemaes, Angles	144.47	7	eP	PKPdf	19 08 26.4	-1.3
WME	Myndd Eilian	144.50	6	eP	PKPdf	19 08 27.6	-0.1
KOZT	Kozan	144.55	310	eP	PKPdf	19 08 27.7	-0.7
WLF1	Llynfaes	144.59	6	eP	PKPbc	19 08 28.0	-0.1
KURC	Kurucasile-Bar	144.61	318	eP	PKPdf	19 08 27.2	-1.1
YRC	Rhoscolyn	144.61	7	eP	PKPdf	19 08 27.8	-0.1
PRAR	RASCA	144.65	331	⇓P	PKPbc	19 08 28.8	+0.3
CANT	Cankiri	144.68	316	eP	PKPdf	19 08 28.4	-0.2
LBWR	Ladybower, Pea	144.71	4	eP	PKPdf	19 08 27.9	-0.2
TAHT	Tahtakopru-Hat	144.71	308	eP	PKPdf	19 08 28.5	-0.2
LMK	Market Rasen	144.72	2	eP	PKPdf	19 08 27.8	-0.3
YLL	Llanberis	144.76	6	eP	PKPbc	19 08 28.4	-0.2
BIR	Birlad	144.76	328	⇑P	PKPab	19 08 30.4	+0.9
BIR	Birlad	144.76	328	⇑PKIKP	PKPab	19 08 30.4	+0.9
CEYT	Ceyhan	144.79	309	eP	PKPdf	19 08 28.5	-0.3
TLCR		144.89	326	⇓P	PKPbc	19 08 29.2	-0.1
TLCR		144.89	326	⇓PKIKP	PKPbc	19 08 29.2	0.0
YAYL	Yayladag	144.89	307	eP	PKPdf	19 08 28.9	-0.3
OJC	Ojcow	144.91	340	ePKP	PKPbc	19 08 29.0	-0.2
VARL	Varlezi	144.91	328	⇓P	PKPab	19 08 30.6	+0.5
BURAR	Bucovina Array	144.92	332	⇑P	PKPab	19 08 29.9	-0.4
BURAR	Bucovina Array	144.92	332	⇑PKIKP	PKPab	19 08 29.9	-0.4
GIUM	Giurgiulesti	145.00	327	⇑P	PKPab	19 08 30.1	-0.4
GHRR		145.02	328	⇑P	PKPab	19 08 30.9	+0.4
TESR	Tescani	145.07	330	⇑P	PKPbc	19 08 29.4	-0.4
FLTG	Flechtingen	145.09	350	ePKPdf	PKPbc	19 08 29.3	-0.3
	baz=15,slow=2.9						
BR131	Keskin Array S	145.10	315	P	PKPdf	19 08 29.1	-0.3
	SNR=384						
BRTR	Keskin Array B	145.10	315	PKPbc	PKPdf	19 08 29.6	+0.2
	comp=Z,406nm,1.0s,baz=138,slow=2.7,SNR=465						
BRTR				PP	PP	19 11 55.0	+0.3
	comp=Z,9.4nm,0.9s,baz=94,slow=5.4,SNR=3.0						
BRTR				PKKP	PKKPdf	19 17 32.7	-3.5
	comp=Z,1.5nm,0.8s,baz=186,slow=2.7,SNR=3.6						
BRTR				SKKPbc	SKKPbc	19 19 20.6	+1.1
	comp=Z,6.2nm,0.9s,baz=232,slow=4.4,SNR=12						
FOEL	Foel Wylfa	145.10	5	eP	PKPdf	19 08 29.2	+0.4
KOLS	Kolonicke sedl	145.10	336	ePKIKP	PKPbc	19 08 30.2	+0.4
KOLS	Kolonicke sedl	145.10	336	ePKP	PKPbc	19 08 30.2	+0.4
NRDL	Niedersach Rie	145.11	351	ePKPdf	PKPdf	19 08 29.1	+0.4
	baz=15,slow=2.9						
NRDL				ePKPbc	PKPab	19 08 30.2	-0.3
	baz=15,slow=2.9						
GISR	Galati	145.12	327	⇓P	PKPab	19 08 31.4	+0.5
JURR	Jurilovca	145.13	325	⇓P	PKPab	19 08 30.6	-0.4
SCHL	Schela	145.19	327	⇑P	PKPab	19 08 31.0	-0.1
TUDR		145.21	328	⇓P	PKPab	19 08 30.9	-0.3
CFR	Carcaliu	145.25	327	⇑P	PKPdf	19 08 29.6	+0.3
CFR	Carcaliu	145.25	327	⇑PKIKP	PKPdf	19 08 29.6	+0.3
SHEL	Horse Pasture	145.30	167	PKIKP	PKPab	19 08 32.0	-0.4
SHEL	Horse Pasture	145.30	167		PKPab	19 08 32.0	-0.4
TPGR	Topolog	145.31	326	⇓P	PKPbc	19 08 30.6	0.0
PETR	Petresti	145.34	328	⇓P	PKPbc	19 08 31.0	+0.4
UZH	Uzhgorod	145.34	336	ePKHKP	PKPdf	19 08 26.0	-3.3
UZH				i		19 08 31.5	
YAYX	Yaylak	145.35	313	eP	PKPdf	19 08 29.1	-0.7
ASSE	Asse, Remlinge	145.38	350	ePKPdf	PKPdf	19 08 29.7	+0.6
	baz=15,slow=2.9						
KSP	Ksiaz	145.40	344	ePKP	PKPbc	19 08 30.1	-0.4
ODBI	Odobesti	145.40	328	⇑P	PKPab	19 08 32.6	+0.6
CRVS	Cervenica-Dubn	145.44	337	ePKIKP	PKPbc	19 08 30.3	-0.5
CRVS				e		19 08 31.9	
CRVS	Cervenica-Dubn	145.44	337	ePKP	PKPbc	19 08 30.3	-0.5
CRVS				e		19 08 31.9	
WACR	West Acre	145.48	1	eP	PKPbc	19 08 30.7	0.0
VRI	Vrincioaia	145.49	329	⇑P	PKPdf	19 08 29.7	0.0
VRI	Vrincioaia	145.49	329	⇑PKIKP	PKPdf	19 08 29.7	0.0
HLM1	Long Mynd	145.50	5	eP	PKPdf	19 08 29.5	0.0
PLOR	Plostina	145.54	329	⇑P	PKPdf	19 08 30.5	+0.7
PLOR	Plostina	145.54	329	⇑P	PKPab	19 08 32.9	+0.3
PLOR	Plostina	145.54	329	⇑PKP2	PKPab	19 08 32.9	+0.3
TIRR	Tirgusor	145.58	325	⇑P	PKPdf	19 08 30.3	+0.5
TIRR	Tirgusor	145.58	325	⇑PKIKP	PKPdf	19 08 30.3	+0.5
IBBN	Ibbenburen	145.59	354	ePKPdf	PKPdf	19 08 29.9	+0.3
	baz=15,slow=2.9						
ANTO	Ankara	145.60	315	PKIKP	PKPdf	19 08 30.0	-0.2
ANTO	Ankara	145.60	315		PKPdf	19 08 30.0	-0.2
LOD	Lodumlu	145.61	316	eP	PKPdf	19 08 29.9	-0.3
BMR	Baia Mare	145.62	334	⇑P	PKPbc	19 08 30.8	-0.5
BMR	Baia Mare	145.62	334	⇑PKIKP	PKPbc	19 08 30.8	-0.5
HWQ	Hawqa	145.62	305	eP	PKPdf	19 08 30.5	0.0
TSCT	Constanta Port	145.64	325	⇑P	PKPab	19 08 32.8	-0.2
TRPA	Tarpa	145.65	335	⇓P	PKPbc	19 08 32.0	+0.6
TRPA	Tarpa	145.65	335	eP	PKPdf	19 08 29.9	+0.1
OSTC	Ostas	145.68	344	ePKPDF	PKPbc	19 08 30.9	-0.5
OSTC				⇑ePKP	PKPab	19 08 32.8	-0.2
OSTC				eSKKP		19 19 16.3	
HARR	Harsova	145.69	326	⇑P	PKPbc	19 08 31.4	-0.2
HARR	Harsova	145.69	326	⇑PKIKP	PKPbc	19 08 31.4	-0.2
CHVC	Chvalec	145.69	344	ePKPDF	PKPdf	19 08 30.7	+0.8
CHVC				⇑ePKP	PKPab	19 08 32.3	-0.7
CLZ	Clausthal	145.70	351	ePKPdf	PKPdf	19 08 30.5	+0.6
	baz=15,slow=2.9						
ARCR	ARCALIA	145.71	332	⇑P	PKPbc	19 08 30.9	-0.7
GRER		145.71	328	⇑P	PKPab	19 08 33.6	+0.4
EFOR	EFORIE	145.71	325	⇑P	PKPdf	19 08 30.7	+0.6
TLBR	Topalu	145.72	326	⇓P	PKPbc	19 08 31.4	-0.3
BISRR	Bisoca	145.72	328	⇓P	PKPbc	19 08 31.2	-0.6
CLL	Collm	145.74	348	ePKPdf	PKPbc	19 08 31.0	-0.5
CLL				⇓iPKPbc	PKPbc	19 08 32.3	+0.7
	comp=Z,2μm,0.9s						
CLL				ePKPlp		19 08 36.0	
	comp=Z,500nm,19.7s						
CLL				epPKPdf	pPKPbc	19 10 36.0	+0.2
CLL				epPKiKP	pPKiKP	19 10 43.0	+2.8
CLL				esPKPdf	sPKPdf	19 11 32.0	+3.4
CLL				ePP	PP	19 11 54.0	-3.3
CLL				ePKSdf	PKSdf	19 12 01.0	-4.1
CLL				ePKSbc	PKSbc	19 12 09.0	-2.3
CLL				e		19 12 31.0	
CLL				epPP		19 13 51.0	
CLL				esPP		19 14 41.0	
CLL				ePPP	PPP	19 15 18.0	
CLL				ePPPP		19 17 30.0	
CLL				e(SKKSac)		19 18 06.0	
CLL				⇑iSKKPab	SKKPab	19 19 16.0	+0.8
	comp=Z,11nm,1.1s						
CLL				e(SKSP)		19 21 06.0	
CLL				e		19 21 48.0	
CLL				eSKKSdf	SKKSdf	19 23 54.0	-2.7
CLL				ePPS	PPS	19 24 54.0	
CLL				e		19 26 08.0	
CLL				e		19 28 30.0	
CLL				eSS	SS	19 30 06.0	-1.1
CLL				eSSP	SSP	19 30 54.0	
CLL				esSS		19 33 30.0	
CLL				eSSS	SSS	19 35 36.0	
CLL				esSSS		19 38 46.0	
CLL				eSSSS		19 39 42.0	
CLL				e		19 43 22.0	
CLL	Collm	145.74	348	⇓ePKIKP	PKPbc	19 08 31.0	-0.5
CLL				i		19 08 32.3	
CLL				e		19 10 36.0	
CLL				e		19 12 01.0	
CLL				pmax	pmax		
	comp=Z,2μm,0.9s						
CLL	Collm	145.74	348	ePKPdf	PKPdf	19 08 30.3	+0.4
	baz=15,slow=2.9						
CLL				ePKPbc	PKPbc	19 08 32.2	+0.7
	baz=15,slow=2.9						
MERS	Mersin	145.75	310	eP	PKPdf	19 08 30.4	-0.1
MFTR	Murfatlar	145.76	325	⇑P	PKPbc	19 08 32.3	+0.5
OKC	Ostrava-Krasne	145.76	341	ePKIKP	PKPdf	19 08 30.7	+0.7
OKC				e		19 08 32.3	
OKC	Ostrava-Krasne	145.76	341	ePKPDF	PKPdf	19 08 30.7	+0.7
OKC				⇑ePKP	PKPbc	19 08 32.3	+0.6
UPC	Upice	145.78	344	ePKIKP	PKPdf	19 08 30.8	+0.8
UPC				e		19 08 32.8	
UPC	Upice	145.78	344	ePKPDF	PKPdf	19 08 30.8	+0.8
UPC				⇑ePKP	PKPab	19 08 32.8	-0.5
UPC				eSKKP		19 19 15.3	
OZUR		145.78	330	⇑P	PKPbc	19 08 31.9	0.0
DPC	Dobruska-Polom	145.84	343	ePKIKP	PKPdf	19 08 30.7	+0.5
DPC				e		19 08 33.2	
DPC				e		19 10 36.7	
DPC	Dobruska-Polom	145.84	343	ePKPDF	PKPdf	19 08 30.7	+0.5
DPC				⇑ePKP	PKPab	19 08 33.2	-0.4
DPC				epPKP	pPKPdf	19 10 36.7	+0.1
DPC				eSKKP		19 19 15.1	
CVDA	Cernavoda	145.87	326	⇑P	PKPab	19 08 33.2	-0.6
RSBS	Rosebush, Pemb	145.87	7	eP	PKPdf	19 08 29.6	-0.5
SULT	Sultanhani-AKS	145.90	312	eP	PKPdf	19 08 29.3	-1.5
MANR	Mangalia	145.90	324	⇓P	PKPdf	19 08 31.2	+0.8
YESY	Yesilyurt	145.92	312	eP	PKPdf	19 08 29.5	-1.3
LANS	Liptovska Anna	145.94	339	ePKIKP	PKPbc	19 08 31.9	-0.3
LANS				e		19 08 34.1	
LANS	Liptovska Anna	145.94	339	ePKP	PKPbc	19 08 31.9	-0.3
LANS				e		19 08 34.1	
BRG	Berggiesshubel	145.94	346	i PKP	PKPdf	19 08 31.0	+0.7
BRG				Amp		19 08 32.3	
	comp=Z,192nm,1.2s						
BRG	Berggiesshubel	145.94	346	P	PKPab	19 08 33.4	-0.6
BRG				Amp		19 08 34.1	
	comp=Z,1μm,1.1s						
BRG	Berggiesshubel	145.94	346	P	PKiKP	19 08 39.6	+4.8
BRG				Amp		19 08 40.3	
	comp=Z,282nm,1.1s						
BRG	Berggiesshubel	145.94	346	pPKP	pPKPdf	19 10 36.0	-0.7
BRG	Berggiesshubel	145.94	346	SKS	SKSdf	19 14 47.0	-1.0
BRG	Berggiesshubel	145.94	346	ePKPdf	PKPdf	19 08 30.8	+0.5
	baz=15,slow=2.9						
BRG				ePKPbc	PKPbc	19 08 32.9	+0.8
	baz=15,slow=2.9						
KRLC	Kraliky	145.96	343	ePKIKP	PKPdf	19 08 30.8	+0.4
KRLC				e		19 08 33.4	
KRLC	Kraliky	145.96	343	ePKPDF	PKPdf	19 08 30.8	+0.4
KRLC				⇑ePKP	PKPab	19 08 33.4	-0.7
KRLC				eSKKP		19 19 15.0	
RCY	Rachaya	145.96	303	eP	PKPdf	19 08 31.5	+0.4
BHL	Bhannes	145.97	304	eP	PKPdf	19 08 31.0	0.0
MBAR	Mbarara	146.00	240	SKKPbc	SKKPbc	19 19 19.9	+6.0
	comp=Z,0.9nm,0.2s,baz=298,slow=7.2,SNR=5.0						
MBAR	Mbarara	146.00	240	PKIKP	PKPdf	19 08 31.6	-0.2
MBAR	Mbarara	146.00	240		PKPdf	19 08 31.6	-0.2
MBAR				pPKPdf	pPKPdf	19 10 40.5	+1.8
MBAR	Mbarara	146.00	240	P	PKPbc	19 08 33.2	-0.4
MBAR	Mbarara	146.00	240	eP	PKPdf	19 08 32.4	+0.6
MORC	Moravsky Berou	146.00	342	⇑P	PKPbc	19 08 31.5	-0.9
MORC	Moravsky Berou	146.00	342	⇑PKIKP	PKPbc	19 08 31.5	-0.9
MORC	Moravsky Berou	146.00	342	ePKP	PKPdf	19 08 30.9	+0.4
MORC				e		19 19 14.5	
MCH1	Michaelchurch	146.01	5	eP	PKPdf	19 08 30.2	-0.1
NEHR	Nehoiu	146.02	329	⇑P	PKPbc	19 08 33.4	+0.8
FBE	Freiberg	146.03	347	ePKPdf	PKPdf	19 08 31.2	+0.8
	baz=15,slow=2.9						
FBE				ePKPbc	PKPab	19 08 33.6	-0.7
	baz=15,slow=2.9						
PGOR	Pogoanele	146.03	327	⇓P	PKPbc	19 08 32.9	+0.3
AMRR	Amara	146.05	327	⇓P	PKiKP	19 08 35.1	0.0
AMRR	Amara	146.05	327	⇓PKP2	PKiKP	19 08 35.1	0.0
GTTG	Gottingen	146.05	351	ePKPdf	PKPdf	19 08 31.1	+0.6
	baz=15,slow=2.9						
DOPR	Dopca	146.07	330	⇑P	PKPbc	19 08 31.9	-0.8
NEUB	Neuenburg	146.07	349	ePKPdf	PKPdf	19 08 30.9	+0.4
	baz=15,slow=2.9						
NEUB				ePKPbc	PKPbc	19 08 33.3	+0.8
	baz=15,slow=2.9						
ISR	Istrita	146.11	328	⇓P	PKPbc	19 08 32.9	+0.1
PVCC	Panska Ves	146.12	345	ePKIKP	PKPbc	19 08 31.8	-0.8
PVCC				e		19 08 33.8	
PVCC	Panska Ves	146.12	345	ePKPDF	PKPbc	19 08 31.8	-0.8
PVCC				⇑ePKP	PKPab	19 08 33.8	-0.9
ICOR	Ion Corvin	146.14	326	⇑P	PKPbc	19 08 33.5	+0.7
MLR	Muntele Rosu	146.14	329	PKPbc	PKPbc	19 08 33.1	+0.1
	comp=Z,347nm,0.9s,baz=342,slow=4.4,SNR=98						
MLR				SKKPbc	SKKPbc	19 19 14.5	-0.9
	comp=Z,4.0nm,0.8s,baz=342,slow=1.9,SNR=3.5						
MLR	Muntele Rosu	146.14	329	⇑P	PKPdf	19 08 31.2	+0.2
KECS	Kecovo	146.15	338	ePKP2	PKPbc	19 08 33.7	+0.9
KECS	Kecovo	146.15	338	ePKP	PKPbc	19 08 33.7	+0.9
KIZK	Mersin	146.18	309	eP	PKPdf	19 08 30.3	-0.8
MESR	Meseseni	146.26	334	⇑P	PKPbc	19 08 32.4	-0.8
STRD	Stroud	146.29	4	eP	PKPbc	19 08 32.9	-0.1
CBBR	Cluj-Babes-Bol	146.30	333	⇑P	PKPbc	19 08 34.4	+1.1
CJR	Cluj-Napoca	146.32	333	⇑P	PKPbc	19 08 32.8	-0.6
CJR	Cluj-Napoca	146.32	333	⇑PKIKP	PKPbc	19 08 32.8	-0.6
MDUB	Mudurnu	146.33	318	eP	PKPdf	19 08 30.4	-1.0
SILI	Silifke-Mersin	146.39	309	eP	PKPdf	19 08 30.9	-0.6
SECR		146.41	328	⇑P	PKPdf	19 08 32.3	+1.0
MDB	Medias	146.41	331	⇓P	PKPbc	19 08 32.8	-0.8
MDB	Medias	146.41	331	⇓PKIKP	PKPbc	19 08 32.8	-0.8
LEHL	Lehliu	146.42	327	⇑P	PKiKP	19 08 35.9	+0.1
RASA	Rasa	146.42	326	⇑P	PKiKP	19 08 34.9	-0.9
MMAI	Mount Meron Ar	146.45	303	PKPbc	PKPbc	19 08 33.3	-0.9
	comp=Z,170nm,0.6s,baz=52,slow=4.6,SNR=146						
MMAI				pPKP	pPKPbc	19 10 41.6	+2.8
	comp=Z,20nm,0.9s,baz=45,slow=2.7,SNR=4.0						
BUG	Bochum--Univer	146.50	354	ePKPdf	PKPdf	19 08 31.4	+0.2
	baz=15,slow=2.9						
LTVH	Ltavrtes, Hu	146.51	335	⇑P	PKPbc	19 08 33.5	-0.2
PLAR	PLOIESTI	146.51	328	⇑P	PKiKP	19 08 35.0	-1.0
KEBE	Keben-Mersin	146.51	309	eP	PKPdf	19 08 31.4	-0.4
PCED	Cedros	146.52	46	ePKP	PKPbc	19 08 34.1	0.0
CALA	Caldeira	146.54	46	ePKP	PKPbc	19 08 33.1	-1.2
SULR		146.56	328	⇑P	PKPbc	19 08 32.9	-1.1
PRA	Prague	146.58	345	ePKIKP	PKPdf	19 08 32.3	+0.9
PRA				e		19 08 34.9	
PRA	Prague	146.58	345	ePKPDF	PKPdf	19 08 32.3	+0.9
PRA				⇑ePKP	PKPbc	19 08 34.9	+1.0
KASTN	Kahler Asten	146.60	352	ePKPdf	PKPdf	19 08 31.8	+0.3
	baz=15,slow=2.9						
KASTN				ePKPbc	PKPbc	19 08 34.6	+0.6
	baz=15,slow=2.9						
VOIR		146.62	330	⇓P	PKPbc	19 08 33.1	-1.2
VOIR		146.62	330	⇓PKIKP	PKPbc	19 08 33.1	-1.2
IKL	Isikli	146.62	309	eP	PKPdf	19 08 30.9	-1.0
PRU	Pruhonice	146.63	345	ePKIKP	PKPdf	19 08 31.9	+0.4
PRU				e		19 08 34.9	
PRU				e		19 10 36.7	
PRU				e		19 14 45.0	
PRU	Pruhonice	146.63	345	ePKPDF	PKPdf	19 08 31.9	+0.4
PRU				⇑ePKP	PKPbc	19 08 34.9	+0.8
PRU				epPKP	pPKPdf	19 10 36.7	-1.2
PRU				eSKS	SKSdf	19 14 45.0	-4.0
PRU				eSKKP		19 19 11.5	
MOX	Moxa	146.64	349	ePKPdf	PKPdf	19 08 31.8	+0.3
	baz=15,slow=2.9						
MOX				ePKPbc	PKPbc	19 08 34.8	+0.7
	baz=15,slow=2.9						
DRGR		146.65	334	⇑P	PKPdf	19 08 32.3	+0.6
DRGR		146.65	334	⇑PKIKP	PKPdf	19 08 32.3	+0.6
SVRH	Sivrihisar-ESK	146.66	316	eP	PKPdf	19 08 29.9	-2.1
PLN	Plauen	146.69	348	ePKPdf	PKPdf	19 08 31.9	+0.3
	baz=15,slow=2.9						
PLN				ePKPbc	PKPbc	19 08 35.0	+0.8
	baz=15,slow=2.9						
WERD	Werda	146.70	348	ePKPdf	PKPdf	19 08 32.1	+0.5
	baz=15,slow=2.9						
WERD				ePKPbc	PKPbc	19 08 35.1	+0.8
	baz=15,slow=2.9						
VRAC	Vranov	146.70	342	PKPbc	PKPbc	19 08 35.2	+0.9
	comp=Z,495nm,1.0s,baz=34,slow=2.3,SNR=65						
VRAC	Vranov	146.70	342	⇓P	PKiKP	19 08 35.3	-1.0
VRAC	Vranov	146.70	342	ePKP	PKPdf	19 08 31.9	+0.3
VRAC				e		19 08 35.0	
VRAC				e		19 19 10.2	
LADK	Ladik-KONYA	146.70	313	eP	PKPdf	19 08 30.9	-1.2
KIZT	Kizilcal	146.70	315	eP	PKPdf	19 08 31.6	-0.5
VYHS	Vyhne	146.71	339	ePKIKP	PKPdf	19 08 31.9	+0.2
VYHS				e		19 08 35.3	
VYHS	Vyhne	146.71	339	ePKP	PKPdf	19 08 31.9	+0.2
VYHS				e		19 08 35.3	
TEVE	Tevekalti-Mers	146.72	310	eP	PKPdf	19 08 31.2	-1.0
SAUV	Serdivan-Sakar	146.73	319	eP	PKPdf	19 08 31.0	-0.9
PCAN	Candelaria	146.74	46	ePKP	PKPbc	19 08 34.0	-0.8
UBBA	Unterbreizbach	146.75	351	ePKPdf	PKPdf	19 08 31.7	+0.2
	baz=15,slow=2.9						
SRBC	Serra Branca	146.76	45	ePKP	PKPbc	19 08 34.7	-0.1
MTUR	Matau	146.76	329	⇓P	PKPbc	19 08 35.4	+0.7
MTUR	Matau	146.76	329	⇓PKP2	PKPbc	19 08 35.4	+0.7
PICO	Pico	146.77	46	ePKP	PKPbc	19 08 34.3	-0.6
GUNZ	Gunzen	146.77	348	ePKPdf	PKPdf	19 08 32.3	+0.6
	baz=15,slow=2.9						
GUNZ				ePKPbc	PKPbc	19 08 35.4	+0.9
	baz=15,slow=2.9						
JAVC	Velka Javorina	146.78	341	ePKP	PKPbc	19 08 33.3	-1.3
JAVC				e		19 08 36.4	
GULT	Gulveren	146.79	318	eP	PKPdf	19 08 31.4	-0.8
ROSA	Rosais	146.79	46	ePKP	PKPbc	19 08 35.0	+0.1
ROSA	Rosais	146.79	46		PKPbc	19 08 33.7	-1.1

KHC Kasperske Hory 147.66 346 *e*PKIKP **PKPdf 19 08 33.6 +0.3**
KHC *e* 19 10 38.2
KHC *e* 19 11 33.5
KHC *e* 19 14 49.4
KHC Kasperske Hory 147.66 346 *e*PKPDF **PKPdf 19 08 33.6 +0.3**
KHC ⇑*e*PKP **PKiKP 19 08 37.7 -0.7**
KHC *e*pPKP **pPKPdf 19 10 38.2 -1.6**
KHC *e*x x 19 11 33.5
KHC *e*SKS **SKSdf 19 14 49.4 -1.2**
LEF Lefka 147.66 308 ⇑P **PKPdf 19 08 33.6 0.0**
LEF Lefka 147.66 308 *e*P **PKPdf 19 08 32.7 -0.9**
BCLA Clavier 147.68 356 *d*PKiKP **PKPdf 19 08 33.1 -0.1**
BCLA *d*PKP **PKPbc 19 08 37.1 +0.3**
BHOU Houvegnez 147.69 355 *d*PKiKP **PKPdf 19 08 33.9 +0.6**
BHOU *d*PKP **PKPbc 19 08 37.1 +0.3**
BHOU *d*pPKiKP **pPKPab 19 10 42.9 +0.8**
GZR Gura Zlata 147.71 332 ⇑P **PKPdf 19 08 33.6 +0.1**
GZR Gura Zlata 147.71 332 ⇑PKIKP **PKPdf 19 08 33.6 +0.1**
EIL Elat 147.72 297 PKP **PKPdf 19 08 34.5 +0.6**
comp=Z,174nm,1.0s,baz=142,slow=2.5,SNR=80
EIL PKPbc **PKPbc 19 08 37.5 0.0**
comp=Z,174nm,1.0s,baz=130,slow=2.8,SNR=81
BGES Gesves 147.73 356 *d*PKiKP **PKPdf 19 08 33.2 0.0**
BGES *d*PKP **PKPbc 19 08 36.7 -0.2**
BGES *d*x x 19 08 40.1
ZIMR 147.74 327 ⇑P **PKiKP 19 08 37.9 -0.7**
ZIMR 147.74 327 ⇑PKP2 **PKiKP 19 08 37.9 -0.7**
SLVT Silivri 147.75 321 *e*P **PKPdf 19 08 33.1 -0.5**
SHUT Suhut-Afyon 147.76 315 *e*P **PKPdf 19 08 33.3 -0.6**
CKRC Cesky Krumlov 147.77 344 *e*x x 19 11 31.8
CKRC *e*SKS **SKSdf 19 14 51.9 +1.2**
WET Wettzell 147.81 346 *e*PKPdf **PKPdf 19 08 33.8 +0.3**
baz=15,slow=2.9
WET *e*PKPbc **PKPbc 19 08 37.8 +0.6**
baz=15,slow=2.9
AMBH Ambrzfalva 147.82 335 ⇓P **PKiKP 19 08 38.7 0.0**
MILB Miltenberg 147.82 351 *e*PKPdf **PKPdf 19 08 33.8 +0.3**
baz=15,slow=2.9
MILB *e*PKPbc **PKiKP 19 08 38.1 -0.5**
baz=15,slow=2.9
BMRD Maredsous 147.83 356 *d*PKiKP **PKPdf 19 08 33.8 +0.4**
BMRD *d*PKP **PKPbc 19 08 37.7 +0.5**
GEC2 GERESS Array S 147.89 345 *e*PKPdf **PKPdf 19 08 33.8 +0.1**
baz=15,slow=2.9
GEC2 *e*PKPbc **PKPbc 19 08 38.1 +0.6**
baz=15,slow=2.9
GERES GERESS Array B 147.89 345 PKP **PKPdf 19 08 33.7 0.0**
comp=Z,359nm,0.7s,baz=48,slow=1.1,SNR=289
GERES PKPbc **PKiKP 19 08 38.4 -0.5**
comp=Z,362nm,0.7s,baz=35,slow=3.6,SNR=303
GERES SKKPbc 19 19 07.3
comp=Z,1.3nm,0.8s,baz=202,slow=2.9,SNR=4.7
RCHB Rochefort 147.95 356 *d*PKiKP **PKPdf 19 08 33.2 -0.4**
RCHB *d*PKP **PKPbc 19 08 37.0 -0.5**
VLAD Vladila 147.98 328 ⇑P **PKPbc 19 08 35.9 -1.9**
TVSB Tavsanli 148.00 317 *e*P **PKPdf 19 08 33.5 -0.7**
GIVF Givet 148.03 356 *e*PKHKP **PKPdf 19 08 34.0 +0.2**
GIVF pmax pmax
comp=Z,1μm,0.9s
BZS Buzias 148.04 333 ⇑P **PKPdf 19 08 34.3 +0.4**
BZS Buzias 148.04 333 ⇑PKHKP **PKPdf 19 08 34.3 +0.4**
DOU Dourbes 148.05 357 *d*PKiKP **PKPdf 19 08 34.1 +0.4**
DOU *d*x x 19 08 38.4
DOU *d*pPKP **pPKPbc 19 10 42.6 +0.2**
DOU *d*pPKiKP **pPKPab 19 10 43.6 +0.2**
SRE Strehaia 148.07 331 ⇑P **PKiKP 19 08 38.7 -0.6**
SRE Strehaia 148.07 331 ⇑PKP2 **PKiKP 19 08 38.7 -0.6**
TIM Timisoara 148.11 334 ⇑P **PKiKP 19 08 39.2 -0.1**
TIM Timisoara 148.11 334 ⇑PKP2 **PKiKP 19 08 39.2 -0.1**
CONA Conrad Observa 148.15 342 *i* P **PKPdf 19 08 34.1 -0.1**
comp=Z,101nm,1.7s,SNR=636
EDRB Edirne 148.21 323 P **PKPbc 19 08 38.2 -0.2**
EDRB Edirne 148.21 323 *e*P **PKPdf 19 08 33.3 -1.0**
HERR Herculane 148.26 332 ⇑P **PKPdf 19 08 34.6 +0.2**
WLF Walferdange 148.36 355 *d*PKiKP **PKPdf 19 08 35.0 +0.6**
WLF *d*x x 19 08 39.6
WLF Walferdange 148.36 355 *e*PKPdf **PKPdf 19 08 35.1 +0.7**
baz=15,slow=2.9
WLF *e*PKPbc **PKiKP 19 08 39.8 +0.1**
baz=15,slow=2.9
BANR Banloc 148.43 334 ⇑P **PKPbc 19 08 38.9 +0.1**
PUNG Punghina 148.49 330 ⇑P **PKPdf 19 08 34.9 +0.3**
MRMT Marmara Adasi 148.50 321 *e*P **PKPdf 19 08 33.3 -1.6**
MDVR Moldovita 148.66 332 ⇑P **PKPdf 19 08 35.3 +0.3**
MOA Molln 148.67 344 *i* P **PKPdf 19 08 34.4 -0.5**
SNR=173
KORT Korkueli 148.68 313 *e*P **PKPdf 19 08 34.7 -0.7**
MORH Mrgy, Hungar 148.73 337 ⇑P **PKPdf 19 08 35.4 +0.3**
MORH Mrgy, Hungar 148.73 337 ⇓*i*P **PKPdf 19 08 34.8 -0.2**
ARSA Arzberg 148.86 342 *i* P **PKPdf 19 08 35.0 -0.3**
comp=Z,47nm,1.7s,SNR=160
JSA Saint Aubin 148.87 5 *e*P **PKPdf 19 08 34.9 -0.2**
STU Stuttgart 148.87 351 PKHKP **PKPdf 19 08 35.4 +0.2**
STU Stuttgart 148.87 351 PKPdf **PKPdf 19 08 35.4 +0.2**
STU Stuttgart 148.87 351 *e*PKPdf **PKPdf 19 08 35.7 +0.5**
baz=15,slow=2.9
STU *e*PKPbc **PKiKP 19 08 40.7 -0.2**
baz=15,slow=2.9
BALB Balikesir 148.90 319 *e*P **PKPdf 19 08 34.4 -1.1**
KULA Kula-Manisa 149.04 316 P **PKPbc 19 08 40.4 -0.3**
FUR Furstenfeldbru 149.08 348 *e*PKPdf **PKPdf 19 08 35.8 +0.2**
baz=15,slow=2.9
FUR *e*PKPbc **PKiKP 19 08 41.1 -0.2**
baz=15,slow=2.9
CMLA Cha da Macela 149.11 45 *e*PKP **PKPdf 19 08 36.2 +0.3**
RJOB Jochberg 149.15 345 *e*PKPdf **PKPdf 19 08 35.3 -0.4**
baz=15,slow=2.9
RJOB *e*PKPbc **PKiKP 19 08 41.1 -0.4**
baz=15,slow=2.9
FRGS Fruska Gora 149.16 335 ⇑P **PKPdf 19 08 36.2 +0.4**
FRGS Fruska Gora 149.16 335 ⇓*i*P **PKPdf 19 08 35.6 -0.2**
ALN Alexandroupoli 149.23 323 P **PKPbc 19 08 39.8 -1.1**
ENEZ Enez 149.27 322 P **PKPbc 19 08 40.6 -0.4**
KOGS Kog 149.35 340 *i* PKPdf **PKPdf 19 08 35.6 -0.4**
KOGS *i* PKPbc **PKPbc 19 08 41.2 +0.1**
KOGS *i* PKPab **PKPab 19 08 48.1 +0.1**
KOGS *e* 19 12 13.9
RDO Rodhopi 149.36 323 P **PKPbc 19 08 40.6 -0.6**
FLN La Foliniere 149.40 3 *e*PKIKP **PKPdf 19 08 35.8 -0.2**
FLN pmax pmax
comp=Z,1μm,0.9s
BFO Black Forest 149.43 351 PKIKP **PKPdf 19 08 35.9 -0.2**
BFO 19 08 48.5
BFO Black Forest 149.43 351 PKPdf **PKPdf 19 08 35.9 -0.2**
BFO PKPbc **PKiKP 19 08 41.8 -0.2**
BFO PKPab **PKPab 19 08 48.5 +0.2**
BFO Black Forest 149.43 351 *e*PKPdf **PKPdf 19 08 36.1 0.0**
baz=15,slow=2.9
BFO *e*PKPbc **PKiKP 19 08 41.8 -0.2**
baz=15,slow=2.9
CDF Champ du Feu 149.48 353 *e*PKIKP **PKPdf 19 08 36.0 -0.3**
CDF pmax pmax
comp=Z,563nm,0.8s
SOKA Soboth 149.53 342 *i* P **PKPdf 19 08 35.8 -0.6**
comp=Z,81nm,1.2s,SNR=216
ASCN Ascension 149.56 147 **PKiKP 19 08 43.4 +0.1**
H10N3 ASCENSION HYDR 149.57 147 PKPbc **PKiKP 19 08 44.3 +1.3**
VTS Vitosha 149.57 328 ⇑P **PKPdf 19 08 37.1 +0.4**
VTS Vitosha 149.57 328 ⇑PKHKP **PKPdf 19 08 37.1 +0.4**
LDF La Druitiere 149.59 3 *e*PKIKP **PKPdf 19 08 36.0 -0.3**
LDF pmax pmax
comp=Z,1μm,1.2s
ROSF Rostrenen 149.60 7 *e*PKIKP **PKPdf 19 08 35.9 -0.4**
ROSF pmax pmax
comp=Z,614nm,1.2s
KBA Koelnbreinsper 149.62 344 *i* P **PKPdf 19 08 35.8 -0.8**
comp=Z,52nm,1.2s,SNR=169
KSL Kastellorizon 149.63 312 P **PKPbc 19 08 41.5 -0.6**
ECH Echery 149.69 353 PKIKP **PKPdf 19 08 36.6 +0.1**
ECH Echery 149.69 353 PKPdf **PKPdf 19 08 36.6 +0.1**
ECH PKPbc **PKPbc 19 08 41.8 -0.1**
EZN Ezine 149.74 321 P **PKPbc 19 08 42.1 -0.1**
FETY Fethiye 149.74 313 P **PKPbc 19 08 42.1 -0.3**
GADA Gvkgeada 149.77 322 P **PKPbc 19 08 41.4 -0.8**
UBR Ueberruh 149.77 349 *e*PKPdf **PKPdf 19 08 36.7 0.0**
baz=15,slow=2.9
UBR *e*PKPbc **PKiKP 19 08 42.6 -0.2**
baz=15,slow=2.9
PSMA Santa Maria 149.78 46 *e*PKP **PKPdf 19 08 36.0 -1.0**
SMTH Samothraki Isl 149.80 322 P **PKPbc 19 08 40.7 -1.7**
WATA Walderalm 149.80 347 *i* P **PKPdf 19 08 36.7 -0.2**
comp=Z,128nm,1.4s,SNR=109
OBKA Obir 149.82 342 *i* P **PKPdf 19 08 36.1 -0.8**
comp=Z,46nm,1.6s,SNR=118
PSMN Pico do Norte, 149.82 46 *e*PKP **PKPdf 19 08 35.5 -1.6**
RETA Reutte 149.83 348 *i* P **PKPdf 19 08 36.8 0.0**
comp=Z,55nm,1.3s,SNR=82
WTTA Wattenberg 149.86 347 *i* P **PKPdf 19 08 36.9 -0.1**
comp=Z,104nm,1.0s,SNR=69
MOTA Moosalm 149.90 347 *i* P **PKPdf 19 08 36.7 -0.4**
comp=Z,177nm,1.2s,SNR=62
DIVS Divibare 149.95 333 ⇓*i*P **PKPdf 19 08 37.0 -0.1**
MYKA Terra Mystica 149.96 344 *i* P **PKPdf 19 08 36.4 -0.7**
comp=Z,86nm,1.6s,SNR=182
HAU Haudompre 149.99 354 *e*PKIKP **PKPdf 19 08 36.9 -0.1**
HAU pmax pmax
comp=Z,470nm,0.8s
SQTA Sankt Quirin 149.99 347 *i* P **PKPdf 19 08 37.1 0.0**
comp=Z,100nm,0.9s,SNR=50
KAVA Kavala 150.03 324 P **PKPbc 19 08 42.5 -0.3**
YER Yerkesik 150.04 315 P **PKPbc 19 08 41.9 -1.2**
PRK Paraskevi 150.13 320 P **PKiKP 19 08 44.2 +0.5**
ABTA Abfaltersbach 150.14 345 *i* P **PKPdf 19 08 36.8 -0.6**
comp=Z,237nm,1.0s,SNR=157
NVR Nevrokopi 150.15 325 P **PKPbc 19 08 42.4 -0.8**
CRES Cresnjev 150.16 341 ⇓*i*P **PKPdf 19 08 37.2 -0.1**
THAS Thassos island 150.18 323 P **PKPbc 19 08 42.4 -0.8**
DAVA Damuels 150.19 349 *i* P **PKPdf 19 08 37.7 +0.2**
comp=Z,66nm,0.9s,SNR=27
LJU Ljubljana 150.25 342 ⇓*i*P **PKPdf 19 08 37.2 -0.2**
LJU Ljubljana 150.25 342 *i* PKPdf **PKPdf 19 08 37.6 +0.2**
LJU *i* PKPbc **PKiKP 19 08 43.5 -0.2**
LJU *i* PKPab **PKPab 19 08 51.9 +0.1**
LJU *e* 19 10 48.6
FETA Feichten 150.28 348 *i* P **PKPdf 19 08 37.4 -0.2**
comp=Z,67nm,0.9s,SNR=124
LIA Limnos Island 150.38 322 P **PKPbc 19 08 42.2 -1.5**
BBLS Lazići 150.38 334 ⇓*i*P **PKPdf 19 08 37.7 -0.1**
HAPS Han Pijesak,Bl 150.39 335 *e*P **PKPbc 19 08 41.4 -2.4**
SIGR SIGRI 150.41 320 P **PKPbc 19 08 42.6 -1.2**
SRS Serrai 150.45 325 P **PKPbc 19 08 42.6 -1.3**
PRIJ Prijedor 150.49 338 ⇓*i*P **PKiKP 19 08 44.6 +0.3**
BOJS Bojanci 150.51 341 ⇓*i*P **PKPdf 19 08 37.9 +0.1**
BLY Banja Luka 150.52 337 ⇓*i*P **PKPdf 19 08 37.9 0.0**
CEY Cerknica 150.55 342 ⇓*i*P **PKPdf 19 08 37.7 -0.2**
CEY Cerknica 150.55 342 *i* PKPdf **PKPdf 19 08 37.8 -0.2**
CEY *i* PKPbc **PKiKP 19 08 44.3 -0.2**
CEY *i* PKPab **PKPab 19 08 53.2 +0.1**
ARG Arkhangelos 150.62 313 P **PKiKP 19 08 44.8 0.0**
DAVOX Davos/Dischmat 150.68 349 PKP **PKPdf 19 08 38.6 +0.3**
comp=Z,108nm,0.8s,baz=355,slow=0.3,SNR=129
DAVOX PKPbc **PKiKP 19 08 45.0 +0.1**
comp=Z,980nm,0.7s,baz=0.0,slow=7.1,SNR=149
SMG Samos 150.68 317 P **PKPbc 19 08 43.7 -0.8**
BODT Bodrum 150.73 315 P **PKPbc 19 08 44.1 -0.5**
DAT Datca 150.73 314 P **PKPbc 19 08 44.3 -0.5**
OUR Ouranopolis 150.78 324 P **PKPbc 19 08 43.7 -0.9**
CHOS Chios island 150.79 319 P **PKPbc 19 08 44.8 0.0**
SOH Sokhos 150.79 325 P **PKPbc 19 08 43.7 -1.0**
KNT Kendrikon 150.79 326 P **PKPbc 19 08 42.4 -2.2**
PLE Pljevlja 150.82 333 *e*PKP **PKPdf 19 08 37.8 -0.8**
MGRS Mrkonjic Grad 150.84 337 ⇓*i*P **PKiKP 19 08 45.2 +0.1**
SKDS Skadanscina 150.85 342 ⇓*i*P **PKPdf 19 08 37.9 -0.5**
SKO Skopje 150.94 329 *i* P **PKiKP 19 08 45.2 -0.1**
IVA Berane 150.97 332 *e*PKP **PKPdf 19 08 38.1 -0.7**
PLG Polygyros 151.05 324 P **PKPbc 19 08 44.4 -0.9**
NIS1 Nisyros Isl. 151.07 315 P **PKPbc 19 08 45.0 -0.4**
HORT Hortiatis 151.08 325 P **PKPbc 19 08 44.3 -1.1**
NISR Nisiros 151.10 315 P **PKPbc 19 08 44.9 -0.5**
THE Thessaloniki 151.13 325 P **PKPbc 19 08 44.2 -1.2**
UPM Unac-Piva 151.13 334 ⇓*i*P **PKPdf 19 08 38.1 -1.0**
UPM Unac-Piva 151.13 334 *e*PKP **PKPdf 19 08 38.5 -0.6**
KOME Kolasin 151.16 332 *e*PKP **PKPdf 19 08 37.7 -1.3**
PVY Plav 151.16 332 *e*PKP **PKPdf 19 08 38.6 -0.5**
GRG Griva 151.20 326 P **PKPbc 19 08 44.8 -0.8**
PAIG Paliouri 151.22 323 P **PKPbc 19 08 44.6 -1.0**
AVF Avril sur Loir 151.40 358 *e*PKIKP **PKPdf 19 08 39.0 -0.1**
AVF pmax pmax
comp=Z,222nm,0.9s
NKY Niksic 151.41 333 *e*PKP **PKPdf 19 08 39.7 +0.2**
NKME Niksic 151.47 333 *e*PKP **PKPdf 19 08 39.2 -0.3**
BRY Bratogost 151.54 334 ⇓*i*P **PKPdf 19 08 38.9 -0.8**
BRY Bratogost 151.54 334 *e*PKP **PKPdf 19 08 39.9 +0.2**
PDG Podgorica 151.61 332 ⇓P **PKPdf 19 08 39.4 -0.2**
PDG Podgorica 151.61 332 ⇓*i*P **PKPdf 19 08 38.9 -0.7**
TTG Podgorica 151.61 332 *e*PKP **PKPdf 19 08 39.6 0.0**
KARP Karpathos 151.64 313 P **PKiKP 19 08 47.0 0.0**
KARP Karpathos 151.64 313 PKPdf **PKPdf 19 08 39.3 -0.7**
PHP Peshkopia 151.65 330 P **PKPbc 19 08 46.3 -0.3**
CEME Cevo 151.66 333 *e*PKP **PKPdf 19 08 39.3 -0.5**
LIT Litokhoron 151.76 325 P **PKPbc 19 08 45.9 -1.0**
TREB Trebinje 151.77 334 *e*P **PKPbc 19 08 46.2 -0.6**
DRME Dracevica, Mon 151.83 332 ⇓*i*P **PKPdf 19 08 39.5 -0.5**
DRME Dracevica, Mon 151.83 332 *e*PKP **PKPdf 19 08 39.4 -0.5**
KYMI Kymi, Euboea I 151.83 321 P **PKPbc 19 08 46.1 -0.9**
FNA Florina 151.86 327 P **PKPbc 19 08 46.9 -0.2**
XOR Xorichti 151.88 323 P **PKPbc 19 08 45.9 -1.3**
NEO Neokhori 151.90 323 P **PKPbc 19 08 46.5 -0.7**
OHR Ohrid 151.91 329 *i* P **PKPbc 19 08 47.2 0.0**
STON Ston 151.91 335 ⇓*i*P **PKPdf 19 08 39.0 -1.0**
HCY Herceg Novi 151.93 333 ⇓*i*P **PKPdf 19 08 39.0 -1.1**
HCY Herceg Novi 151.93 333 *e*PKP **PKPdf 19 08 39.5 -0.6**
ULC Ulcinj 151.98 332 *e*PKP **PKPdf 19 08 39.7 -0.5**
KZN Kozani 152.00 326 P **PKPbc 19 08 46.7 -0.8**
EREA Eretria 152.07 321 P **PKPbc 19 08 46.9 -0.7**
LRSO Larissa Observ 152.12 325 P **PKPbc 19 08 46.8 -0.8**
TIR Tirane 152.18 330 ⇑P **PKPdf 19 08 41.0 +0.5**
TIR Tirane 152.18 330 P **PKiKP 19 08 47.9 0.0**
TIR Tirane 152.18 330 ⇑PKIKP **PKPdf 19 08 41.0 +0.5**
SMIA Simia 152.20 322 P **PKPbc 19 08 47.3 -0.6**
KBN Korca 152.28 328 P **PKPbc 19 08 47.6 -0.5**
KBN Korca 152.28 328 PKIKP **PKPdf 19 08 40.1 -0.7**
KBN Korca 152.28 328 **PKPdf 19 08 40.1 -0.7**
KBN PKPbc **PKPbc 19 08 47.9 -0.2**
DION Dionisos Attik 152.29 320 P **PKPbc 19 08 47.2 -0.9**
NEST Nestorio 152.30 327 P **PKPbc 19 08 48.2 +0.1**
SANT Santorini 152.35 316 ⇑P **PKPdf 19 08 39.9 -1.1**
SNT5 Nea Kammeni, S 152.37 316 P **PKPbc 19 08 47.5 -0.8**
THL Klokotos Trika 152.40 325 P **PKPbc 19 08 46.6 -1.6**
LPL La Plagne 152.40 353 *e*PKIKP **PKPdf 19 08 41.6 +0.6**
LPL pmax pmax
comp=Z,260nm,1.0s
LPG La Plagne 152.42 352 *e*PKIKP **PKPdf 19 08 41.7 +0.6**
LPG pmax pmax
comp=Z,230nm,0.9s
ATHU Athens Univers 152.45 320 P **PKPbc 19 08 47.4 -1.0**
LKR Lokris 152.47 322 P **PKPbc 19 08 47.2 -1.2**
KPRO Kipourio 152.47 326 P **PKPdf 19 08 40.2 -0.9**
ATH Athens Observa 152.49 320 P **PKPbc 19 08 47.6 -0.9**
VLY Voula,Athens 152.52 320 P **PKPbc 19 08 47.3 -1.3**
ZKR Zakros 152.52 313 P **PKPbc 19 08 48.5 -0.2**
STIA Sitia Lasithi 152.56 313 P **PKiKP 19 08 48.9 0.0**
AGG Agios Georgios 152.60 324 P **PKPbc 19 08 47.1 -1.7**
VILL Villia 152.61 321 P **PKPbc 19 08 47.7 -1.1**
MAKR Makrakomi, Fth 152.72 324 P **PKPdf 19 08 40.8 -0.6**
LSK Leskovik 152.73 327 P **PKPdf 19 08 41.3 -0.1**
SSB Saint Sauveur 152.85 356 PKIKP **PKPdf 19 08 41.5 +0.1**
SSB 19 09 03.0
SSB Saint Sauveur 152.85 356 **PKPdf 19 08 41.5 +0.1**
SSB PKPbc **PKiKP 19 08 49.4 +0.2**
SSB PKPab **PKPab 19 09 03.0 +0.3**
SSB pPKPab **pPKPbc 19 10 57.0 +2.3**
NPS Neapolis 152.86 314 P **PKiKP 19 08 49.8 +0.3**
LTK Loutraki 152.91 321 P **PKPbc 19 08 48.2 -1.2**
FRMA Ierapetra Chan 152.91 313 P **PKPbc 19 08 49.3 -0.2**
RJF Les Rejaudoux 152.92 0 *e*PKIKP **PKPdf 19 08 41.4 0.0**
RJF pmax pmax
comp=Z,195nm,0.8s
LOUT Loutraki 152.93 321 P **PKPbc 19 08 48.5 -1.0**
JAN Janina 152.96 326 P **PKiKP 19 08 49.9 +0.3**
EVR Evrytania 152.97 324 P **PKPdf 19 08 41.4 -0.4**
LAST Lasithi 153.01 314 P **PKPbc 19 08 49.4 -0.4**
THAL Thalero 153.08 322 P **PKPbc 19 08 49.1 -0.7**
ANX Ano Chora 153.13 323 P **PKPdf 19 08 42.0 -0.1**
SERG Sergoula 153.18 323 P **PKPdf 19 08 41.8 -0.3**
TRIZ Trizonia 153.20 323 P **PKPbc 19 08 49.9 -0.1**
KRND KRANIDI 153.21 320 P **PKPbc 19 08 48.0 -2.1**
SRN Sarande 153.23 328 P **PKPdf 19 08 41.6 -0.4**
EFP Efpalio 153.25 323 P **PKPdf 19 08 42.1 0.0**
VIVF Saint-Julien-I 153.26 355 *e*PKIKP **PKPdf 19 08 41.3 -0.7**
VIVF pmax pmax
comp=Z,162nm,1.6s
IGT Igoumenitsa 153.32 327 P **PKPdf 19 08 41.5 -0.7**
PVO Paravola 153.34 324 P **PKPdf 19 08 42.5 +0.3**
LAKA Lakka 153.34 323 P **PKPdf 19 08 41.8 -0.5**
IDI Anoyia 153.34 314 PKP **PKPdf 19 08 42.6 +0.2**
comp=Z,31nm,1.0s,baz=60,slow=8.5,SNR=5.4
IDI PKPbc **PKiKP 19 08 50.8 +0.2**
comp=Z,56nm,0.6s,baz=4.6,slow=6.4,SNR=33
IDI Anoyia 153.34 314 ⇑P **PKPdf 19 08 43.1 +0.7**
KLV Kalavryta, Ach 153.37 322 P **PKPdf 19 08 41.3 -1.1**
KEK Kerkira 153.46 328 P **PKPdf 19 08 41.6 -0.8**
TSLK Tsoukalades, L 153.67 325 P **PKPbc 19 08 50.7 -0.3**
LKD2 Lefkada island 153.69 325 P **PKPdf 19 08 42.4 -0.4**
NYDR Nydri-Lefkada 153.72 325 P **PKPbc 19 08 51.0 -0.1**
VAM Vamos 153.74 315 P **PKiKP 19 08 51.3 0.0**
VLI Velias 153.76 319 P **PKPbc 19 08 50.2 -1.1**
EVGI Lefkada island 153.81 325 P **PKiKP 19 08 51.4 0.0**
SCTE Santa Cesarea 153.84 330 PKPdf **PKPdf 19 08 42.7 -0.2**
SCTE PKPbc **PKPbc 19 08 50.6 -0.7**
SCTE PKPab **PKPab 19 09 06.9 -0.3**
IMMV Iera Moni Meta 153.85 316 P **PKPbc 19 08 50.9 -0.6**
AQU L'Aquila 153.93 340 ⇓*i*P **PKPdf 19 08 42.4 -0.6**
AMT Artemida-Makis 153.97 322 P **PKPbc 19 08 50.5 -1.2**
MATE Matera 154.17 333 ⇑P **PKPdf 19 08 43.3 0.0**
PGAV Gavieira, Arco 154.74 18 *e*PKPdf **PKPdf 19 08 44.7 +0.5**
PGAV *i* LQ LQ 19 08 53.4
PGAV Gavieira, Arco 154.74 18 *e*PKPab **PKPab 19 09 10.8 -0.3**
MTLF Montolieu 154.88 359 *e*PKIKP **PKPdf 19 08 44.4 +0.2**
MTLF pmax pmax
comp=Z,131nm,1.2s
PCAB Cabril 155.05 18 *e*PKPdf **PKPdf 19 08 45.3 +0.7**
PCAB *i* LQ LQ 19 08 54.6
PCAB Cabril 155.05 18 *e*PKPab **PKPab 19 09 12.3 0.0**
EPF Esparros 155.16 3 *e*PKIKP **PKPdf 19 08 46.0 +1.3**
EPF pmax pmax
comp=Z,87nm,1.2s
ETSF Etsaut 155.24 4 *e*PKIKP **PKPdf 19 08 45.4 +0.6**
ETSF pmax pmax
comp=Z,62nm,0.9s
PBRG Braganca 155.31 15 *e*PKPdf **PKPdf 19 08 45.2 +0.3**
PBRG Braganca 155.31 15 *e*PKPab **PKPab 19 09 13.3 -0.1**
POLO Lamas de Olo 155.43 18 *e*PKPdf **PKPdf 19 08 45.7 +0.5**
POLO Lamas de Olo 155.43 18 *e*PKPab **PKPab 19 09 14.3 +0.3**
PVRL Vila Real 155.54 18 *e*PKPdf **PKPdf 19 08 45.7 +0.5**
PVRL Vila Real 155.54 18 *e*PKPab **PKPab 19 09 14.8 +0.4**
MVO Moncorvo 155.83 16 *e*PKPdf **PKPdf 19 08 46.1 +0.4**
MVO *i* LQ LQ 19 08 56.2
MVO Moncorvo 155.83 16 *e*PKPab **PKPab 19 09 15.7 0.0**
PVIS Viseu 156.00 18 *e*PKPdf **PKPdf 19 08 46.2 +0.3**
PVIS Viseu 156.00 18 *e*PKPab **PKPab 19 09 16.5 0.0**
COI Coimbra 156.30 20 *e*PKPdf **PKPdf 19 08 46.4 +0.2**
COI Coimbra 156.30 20 *e*PKPab **PKPab 19 09 18.4 +0.7**
MTE Manteigas 156.40 18 *e*PKPdf **PKPdf 19 08 47.1 +0.7**
MTE *i* LQ LQ 19 08 56.8
MTE Manteigas 156.40 18 PKPdf **PKPdf 19 08 46.5 +0.1**
MTE PKPab **PKPab 19 09 18.2 +0.1**
PCAS Casmilo, Conde 156.42 20 *e*PKPdf **PKPdf 19 08 46.8 +0.4**
PCAS Casmilo, Conde 156.42 20 *e*PKPab **PKPab 19 09 17.6 -0.6**
PSBE So Bento 156.80 21 *e*PKPdf **PKPdf 19 08 47.9 +1.0**
PSBE *i* LQ LQ 19 08 58.2
PSBE So Bento 156.80 21 *e*PKPab **PKPab 19 09 20.0 +0.1**
PCBR Castelo Branco 156.93 19 *e*PKPdf **PKPdf 19 08 47.8 +0.8**
PCBR Castelo Branco 156.93 19 *e*PKPab **PKPab 19 09 20.1 -0.3**
PMAFR Mafra 157.12 23 *e*PKPdf **PKPdf 19 08 47.8 +0.5**
PMAFR Mafra 157.12 23 *e*PKPab **PKPab 19 09 21.3 0.0**
PMRV Marv??o 157.34 19 *e*PKPdf **PKPdf 19 08 47.8 +0.2**
PMRV Marv??o 157.34 19 *e*PKPab **PKPab 19 09 22.0 -0.2**
PMST Lisbon--Monsan 157.35 23 *e*PKPdf **PKPdf 19 08 48.6 +1.0**
PMST Lisbon--Monsan 157.35 23 *e*PKPab **PKPab 19 09 22.7 +0.4**
LIS Lisbon 157.38 23 *e*PKPdf **PKPdf 19 08 48.1 +0.5**
LIS Lisbon 157.38 23 *e*PKPdf **PKPdf 19 08 48.6 +1.0**
LIS Lisbon 157.38 23 *e*PKPab **PKPab 19 09 22.8 +0.4**
PMTG Montargil 157.40 21 *e*PKPdf **PKPdf 19 08 47.4 -0.2**
PMTG Montargil 157.40 21 *e*PKPab **PKPab 19 09 22.0 -0.5**
PMOZ Porto Moniz, M 157.51 46 *e*PKPdf **PKPdf 19 08 48.9 +0.8**
PMAR Madeira 157.76 46 *e*PKPdf **PKPdf 19 08 49.8 +1.3**
PMAR Madeira 157.76 46 *e*PKPab **PKPab 19 09 24.2 -0.4**
PESTR Estremoz 157.79 20 *e*PKPdf **PKPdf 19 08 48.6 +0.5**
PESTR Estremoz 157.79 20 *e*PKPab **PKPab 19 09 23.4 -0.8**
VAE Valguarnera 157.79 333 PKP **PKPdf 19 08 49.4 +1.1**
comp=Z,7.9nm,0.6s,baz=352,slow=7.2,SNR=4.8
PMPST Porto Santo, M 157.94 44 *e*PKPdf **PKPdf 19 08 49.3 +0.8**
PMPST Porto Santo, M 157.94 44 *e*PKPab **PKPab 19 09 25.3 +0.2**
EVO Evora 157.95 21 *e*PKPdf **PKPdf 19 08 49.2 +0.9**
EVO Evora 157.95 21 *e*PKPab **PKPab 19 09 24.7 -0.2**
EVO *i* LQ LQ 19 10 54.7
PMPS Porto Santo 157.95 44 *e*PKPdf **PKPdf 19 08 50.4 +2.0**
PMPS Porto Santo 157.95 44 *e*PKPab **PKPab 19 09 25.2 +0.1**
ESBB Sonseca Array 157.97 12 PKPdf **PKPdf 19 08 48.0 -0.4**
ESBB PKPab **PKPab 19 09 25.1 +0.1**
ESDC Sonseca Array 157.97 12 PKP **PKPdf 19 08 48.8 +0.4**
comp=Z,24nm,1.0s,baz=349,slow=3.0,SNR=112
ESDC PKPab **PKPab 19 09 25.2 +0.2**
comp=Z,63nm,0.9s,baz=342,slow=4.2,SNR=31
ESDC PP **PP 19 13 04.0 -2.0**
comp=Z,3.4nm,0.9s,baz=327,slow=5.2,SNR=4.0
PAB San Pablo 158.01 13 PKIKP **PKPdf 19 08 48.2 -0.3**
PAB 19 09 25.4
PAB San Pablo 158.01 13 PKPdf **PKPdf 19 08 48.2 -0.3**
PAB PKPab **PKPab 19 09 25.4 +0.2**
PNCL Nicolau / Gran 158.15 22 *e*PKPdf **PKPdf 19 08 49.4 +0.9**
PNCL Nicolau / Gran 158.15 22 *e*PKPab **PKPab 19 09 25.7 0.0**
PNCL *i* LQ LQ 19 10 55.3
PBEJ Beja 158.46 21 *e*PKPdf **PKPdf 19 08 49.9 +1.0**
PBEJ Beja 158.46 21 *e*PKPab **PKPab 19 09 26.9 -0.2**
MESJ Messejana 158.50 22 *e*PKPdf **PKPdf 19 08 49.3 +0.4**
MESJ Messejana 158.50 22 *e*PKPdf **PKPdf 19 08 50.1 +1.1**
MESJ Messejana 158.50 22 *e*PKPab **PKPab 19 09 27.1 -0.2**
MESJ *i* LQ LQ 19 10 55.7
PTEO Sao Teotonio 158.57 23 *e*PKPdf **PKPdf 19 08 50.2 +1.1**
PTEO Sao Teotonio 158.57 23 *e*PKPab **PKPab 19 09 28.0 +0.4**
PBAR Barrancos 158.59 19 *e*PKPdf **PKPdf 19 08 49.7 +0.6**
PBAR Barrancos 158.59 19 *e*PKPab **PKPab 19 09 27.6 -0.1**
PCVE Castro Verde 158.75 22 *e*PKPdf **PKPdf 19 08 50.0 +0.7**
PCVE Castro Verde 158.75 22 *e*PKPab **PKPab 19 09 27.9 -0.5**
MORF Marmelete 158.81 24 *e*PKPdf **PKPdf 19 08 49.9 +0.4**
MORF Marmelete 158.81 24 *e*PKPdf **PKPdf 19 08 50.6 +1.2**
MORF Marmelete 158.81 24 *e*PKPab **PKPab 19 09 28.9 +0.1**
MORF *i* LQ LQ 19 10 57.2
PFVI Vila Bisbo 158.89 24 *e*PKPdf **PKPdf 19 08 50.7 +1.2**
PFVI Vila Bisbo 158.89 24 *e*PKPab **PKPab 19 09 28.9 -0.1**
**PVAQ Vaque

```
      comp=Z,7.3nm,0.9s,baz=163,slow=4.8,SNR=6.6
TORD                                  S     SKSdf   19 15 15.8 +1.4
      comp=Z,11nm,1.0s,baz=35,slow=1.5,SNR=5.6
TORD                                  P4KPbc        19 41 49.7
      comp=Z,0.6nm,1.0s,baz=190,slow=2.5,SNR=2.3
TORD  Torodi Ar. Bea      175.03 179          PKPdf   19 09 00.6 -1.2
TORD                                          PKPab   19 10 40.1 -0.6
TORD                                  pPKPdf  pPKPdf  19 11 11.9 +1.9
```

IDC 17 19:18:33.7±0.6, 11°.83S×65°.95E, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.0/47, mbtmp4.1/19, ML3.9/1 Error ellipse: s-maj=19.2km s-min=15.3km az=146.0
NEIC 17 19:18:35.4±2.0, 11°.87S±0°.09×66°.12E±0°.10, h11km±4km, mb4.8/27, Error ellipse: s-maj=14.3km s-min=12.5km az=121.0

ISC 17 19:18:35.7±0.5, 11°.88S±0°.09×66°.00E±0°.08, h16km, n60, σ0 75/54, mb4.5/28, 1C-1D, Mid-Indian Ridge

```
Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC          h m s     ISC
H08S1 Diego Carcia H      7.64  57   Pn    Pn           19 20 25.2 -1.0
H08S1                                Sn    Sn           19 21 37.8  -15
H08S1                                T     T            19 28 27.8
      baz=237,slow=76,SNR=79
H08S2 Diego Garcia H      7.65  57   Pn    Pn           19 20 25.4 -1.0
H08S2                                Sn    Sn           19 21 38.2  -15
H08S2                                T     T            19 28 31.1
      baz=237,slow=76,SNR=64
H08S3 Diego Garcia H      7.66  57   Pn    Pn           19 20 25.4 -1.0
H08S3                                Sn    Sn           19 21 38.3  -15
H08S3                                T     T            19 28 34.9
      baz=237,slow=76,SNR=80
MSEY  Mahe Island        12.63 304   Pn    Pn           19 21 35.1 +0.2
OPO   Ambohidratompo     19.33 248   P     Pn           19 23 02.1 +0.4
      0.3nm,0.3s,baz=76,slow=17,SNR=3.1
ABPO  Ambohimpanom       19.43 246   Pn    Pn           19 23 04.1 +1.2
VOI   Vohitsoka          20.89 239   P     Pn           19 23 20.4 +0.2
KMBO  Kijima Mbogo       30.46 288   P     P            19 24 48.6 +0.4
      2.7nm,0.8s,baz=74,slow=7.2,SNR=7.2
PBA   Port Blair         35.38  50   P     P            19 25 31.0 +0.1
LSZ   Lusaka             36.88 260   P     P            19 25 43.4 -0.7
LSZ                                  IAmb  IAmb         19 25 45.0
      comp=Z,21nm,1.0s
PAF   Port-aux-Franc     37.52 175   P     P            19 25 48.7 -0.1
UOSS  Minazif            37.83 345   P     P            19 25 50.8 -0.9
UOSS                                 IAmb  IAmb         19 27 13.4
      comp=Z,38nm,1.6s
LBTB  Lobatse            40.34 245   P     P            19 26 13.6 +0.7
      comp=Z,2.1nm,0.8s,baz=63,slow=9.0,SNR=1.5
BOSA  Boshof             41.46 240   P     P            19 26 21.6 -0.7
      comp=Z,2.4nm,0.7s,baz=69,slow=7.9,SNR=5.4
BOSA  Boshof             41.46 240   IAmb  IAmb         19 27 55.8
      comp=Z,42nm,1.6s
CMAR  Chiang Mai Arr     44.32  48   P     P            19 26 47.1 +1.8
      comp=Z,0.9nm,0.6s,baz=243,slow=9.5,SNR=9.2
LSA   Lhasa              47.92  30   P     P            19 27 14.5 +0.4
LSA                                  IAmb  IAmb         19 27 17.9
      comp=Z,7.8nm,1.0s
H01W3 Cape Leeuwin H     49.19 126   T     T            20 20 24.1
      baz=286,slow=75,SNR=62
H01W2 Cape Leeuwin H     49.20 126   T     T            20 20 24.2
      baz=286,slow=75,SNR=80
H01W1 Cape Leeuwin H     49.21 126   T     T            20 20 25.3
      baz=286,slow=75,SNR=78
SLVN  Son La             49.75  49   P     P            19 27 26.7 -1.1
SLVN                                 IAmb  IAmb         19 27 30.6
      comp=Z,10nm,1.3s
CHGR  Chuyangaron        50.35   3   P     P            19 27 32.3 +0.2
TARG  Taragay, Kyrgy     54.44  11   P     P            19 28 02.9 +0.2
TARG                                 IAmb  IAmb         19 29 03.0
      comp=Z,7.1nm,1.5s
KDJ   Kajisay            54.71  10   P     P            19 28 04.3 -0.2
KDJ                                  IAmb  IAmb         19 29 17.8
      comp=Z,16nm,1.9s
MAW   Mawson             55.71 181   P     P            19 28 11.4 +0.4
      comp=Z,1.4nm,0.8s,baz=7.8,slow=10,SNR=3.5
TOLI2 Tolitoli           55.91  80   P     P            19 28 14.1 +0.6
TOLI2                                IAmb  IAmb         19 28 26.0
      comp=Z,13nm,1.1s
SYO   Syowa Base         59.56 191⇑eP       P            19 28 36.5 -1.7
SYO   Syowa Base         59.56 191⇓eX       P            19 28 50.8 +13
MAKZ  Makanchi           60.15  13   P     P            19 28 41.8 -0.7
MK31  Makanchi Array     60.20  13   P     P            19 28 42.2 -0.7
MKAR  Makanchi Array     60.20  13   P     P            19 28 42.6 -0.3
      comp=Z,2.0nm,0.6s,baz=205,slow=7.8,SNR=22
MKAR                                 PcP   PcP          19 29 28.2 -0.1
      comp=Z,0.8nm,0.8s,baz=216,slow=5.6,SNR=2.6
MKAR  Makanchi Array     60.20  13   P     P            19 28 42.2 -0.7
ABKAR Akbulak array      61.10 355   P     P            19 28 49.2 +0.3
ABKAR                                IAmb  IAmb         19 28 50.1
      comp=Z,6.3nm,0.8s
ABKAR Akbulak array      61.10 355   P     P            19 28 48.6 -0.3
KURBB Kurchatov Arra     63.19   9   P     P            19 29 03.0 +0.1
      comp=Z,2.4nm,0.8s,baz=208,slow=7.1,SNR=21
KURBB                                PcP   PcP          19 29 41.1 +0.9
      comp=Z,0.3nm,0.6s,baz=206,slow=4.8,SNR=4.4
BVAR  Borovoye Array     64.75   3   P     P            19 29 13.4 +0.2
      comp=Z,1.2nm,0.7s,baz=178,slow=22,SNR=9.1
ASAR  Alice Springs      65.21 111   P     P            19 29 17.6 +0.7
      comp=Z,3.8nm,0.9s,baz=274,slow=5.8,SNR=5.6
WRA   Warramunga Arr     65.84 107   P     P            19 29 22.1 +1.1
      comp=Z,1.3nm,0.6s,baz=274,slow=5.7,SNR=8.3
FNA   Florina            66.67 324   P     P            19 29 24.9 -1.0
ZAA0  Zalesovo Array     67.50  12   P     P            19 29 30.0 -0.7
ZAA0                                 IAmb  IAmb         19 29 33.4
      comp=Z,4.5nm,1.0s
ZALV  Zalesovo Beam      67.50  12   P     P            19 29 30.4 -0.3
      comp=Z,1.8nm,0.4s,baz=215,slow=7.3,SNR=12
ZALV  Zalesovo Beam      67.50  12   P     P            19 29 30.0 -0.7
ARU   Arti               68.33 356   P     P            19 29 36.2 +0.2
      comp=Z,0.3nm,0.3s,baz=106,slow=8.3,SNR=3.8
ARU   Arti               68.33 356   P     P            19 29 35.3 -0.6
ARU                                  IAmb  IAmb         19 29 39.9
      comp=Z,10nm,1.5s
TORD  Torodi Ar. Bea     68.46 289   P     P            19 29 37.6  0.0
      comp=Z,0.5nm,0.8s,baz=110,slow=8.3,SNR=2.6
TORD  Torodi Ar. Bea     68.46 289   IAmb  IAmb         19 31 17.8
      comp=Z,14nm,1.9s
SONM  Songino Array      69.44  28   P     P            19 29 44.5 +1.2
      comp=Z,2.5nm,0.7s,baz=210,slow=7.4,SNR=17
SONM  Songino Array      69.44  28   P     P            19 29 43.5 +0.2
AKASG Malin Array Be     70.08 336   P     P            19 29 46.7  -0.2
      comp=Z,0.6nm,0.5s,baz=145,slow=5.1,SNR=4.3
SNAA  Sanae              72.19 198   P     P            19 29 58.7  -0.9
SNAA                                 IAmb  IAmb         19 30 39.6
      comp=Z,18nm,1.8s
KHC   Kasperske Hory     76.24 328   eP    P            19 30 24.0 +0.5
FINES FINESS Array B     79.55 342   P     P            19 30 41.9 +0.3
      comp=Z,1.7nm,0.8s,baz=222,slow=5.1,SNR=3.8
ESDC  Sonseca Array      82.60 313   P     P            19 30 58.7 +0.3
      comp=Z,1.1nm,0.9s,baz=108,slow=3.1,SNR=6.3
ESDC  Sonseca Array      82.60 313   P     P            19 30 58.7 +0.3
ARCES ARCESS Array B     85.97 347   P     P            19 31 14.7  -0.1
      comp=Z,0.8nm,0.6s,baz=95,slow=5.4,SNR=5.7
TIXI  Tiksi              93.01  16   P     P            19 31 47.5  -0.4
PDAR  Pinedale Array     148.98 354  PKPbc PKiKP        19 38 24.1  -0.8
      comp=Z,1.1nm,0.7s,baz=89,slow=1.6,SNR=9.7
ELK   Elko               151.22   2  PKPbc PKPbc        19 38 28.9  -0.1
      comp=Z,1.7nm,1.0s,baz=248,slow=1.3,SNR=4.9
NVAR  Mina Array Bea     153.28   8  PKPbc PKiKP        19 38 35.5 +1.6
      comp=Z,1.0nm,0.7s,baz=303,slow=2.4,SNR=7.7
TXAR  Lajitas Array      160.14 333  PKPab PKPab        19 39 16.1 +1.0
      comp=Z,0.1nm,0.5s,baz=46,slow=2.6,SNR=2.3
```

IDC 17 19:22:13.2±3.7, 5°.90S×149°.23E, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.6/38, mbtmp4.2/3, ML2.7/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/36, Error ellipse: s-maj=121.3km s-min=42.0km az=110.0
NEIC 17 19:22:23.2±1.8, 6°.3S±0°.1×149°.1E±0°.2, h49km±6km, mb4.3/13, Error ellipse: s-maj=25.6km s-min=16.7km az=128.0

ISC 17 19:22:23.5±1.3, 6°.2S±0°.2×149°.0E±0°.1, h60km, n19, σ0 92/19, mb4.3/4, New Britain region

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Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC          h m s     ISC
PMG   Port Moresby       3.63 210   Pn    Pn           19 23 18.1 +0.8
      33nm,0.3s,baz=222,slow=18,SNR=40
PMG                                  Sn    Sn           19 23 59.1 +0.3
      6.8nm,0.3s,baz=334,slow=21,SNR=1.3
PMG   Port Moresby       3.63 210   P     Pn           19 23 17.2  0.0
MTN   Manton Dam         18.78 248   P     Pn           19 26 38.3  -0.8
MTN                                  IAmb  IAmb         19 26 47.6
      comp=Z,56nm,1.5s
WB0   Warramunga Arr     19.54 225   P     P            19 26 46.1  -0.3
WB0                                  IAmb  IAmb         19 27 24.9
      comp=Z,12nm,1.2s
WR0   Warramunga Arr     19.57 224   P     P            19 26 46.3  -0.3
WB2   Warramunga Arr     19.69 225   P     P            19 26 47.6  -0.4
WB2                                  IAmb  IAmb         19 26 49.0
      comp=Z,7.9nm,0.6s
WRA   Warramunga Arr     19.70 225   P     P            19 26 48.6 +0.5
      comp=Z,5.5nm,0.5s,baz=51,slow=11,SNR=46
WRA   Warramunga Arr     19.70 225   P     P            19 26 46.3  -1.8
KNRA  Kununurra          21.93 243   P     P            19 27 11.8  -0.3
KNRA                                 IAmb  IAmb         19 27 48.4
      comp=Z,35nm,1.4s
AS31  Alice Springs      22.59 218   P     P            19 27 18.8  -0.5
ASAR  Alice Springs      22.59 218   P     P            19 27 19.4  0.0
      comp=Z,1.3nm,0.4s,baz=52,slow=9.6,SNR=62
LIFNC LIFOU              22.85 131   P     P            19 27 21.9  -0.1
SOEI  Soe                24.72 260   P     P            19 27 41.8 +2.2
OUZ   Omahuta            36.68 145   P     P            19 29 25.8 +1.1
JHJ   Hachijo jima 2     40.10 348   LR    LR           19 43 42.4
      comp=Z,170nm,21.9s,baz=94,slow=32
CASY  Casey              65.56 196   P     P            19 32 59.7  -0.9
VNDA  Vanda              71.57 177   P     P            19 33 37.5  -0.4
VNDA                                 IAmb  IAmb         19 34 05.5
      comp=Z,4.0nm,1.6s
QSPA  South Pole Qui     83.73 180   P     P            19 34 45.0  -0.9
QSPA                                 IAmb  IAmb         19 34 51.9
      comp=Z,7.5nm,1.6s
TORD  Torodi Ar. Bea     147.06 285  PKPbc PKPdf        19 41 58.9 +0.3
      comp=Z,0.3nm,0.3s,baz=70,slow=3.1,SNR=5.5
```

TUL 17 19:30:42.3±1.4, 36°.74N±0°.01×97°.57W±0°.01, h1km±6km, ML2.8, mb_Lg2.7/32(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=60.0

NEIC 17 19:30:42.5±0.9, 36.75N±0°.01×97°.57W±0°.02, h6km±6km, Error ellipse: s-maj=1.8km s-min=1.7km az=101.0, Oklahoma

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Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC          h m s     ISC
GC02  Grant County #     0.26 294                Pg    19 30 47.7 +0.1
GC02                                 Sg    Sg           19 30 51.4 +0.4
KAN13 South Haven SW     0.28  15   Pg    Pg           19 30 47.6  -0.4
KAN13                                Sg    Sg           19 30 52.0 +0.4
BLOK  Blackwell          0.28  87                Pg    19 30 48.4 +0.3
BLOK                                 Sg    Sg           19 30 52.5 +0.7
KAN09 Caldwell North     0.39 354   Pg    Pg           19 30 50.3 +0.1
KAN09                                Sg    Sg           19 30 55.8 +0.5
CROK  Carrier            0.41 234                Pg    19 30 50.8 +0.2
CROK                                 Sg    Sg           19 30 56.7 +0.7
KAN05 Bluff City Nor     0.44 326                Pg    19 30 51.0  0.0
KS20  Mayfield South     0.48   1   Pg    Pg           19 30 52.0 +0.1
KS20                                 Sg    Sg           19 30 58.5 +0.4
OK032 Salt Plains WL     0.52 276                Pg    19 30 50.0 -2.6
OK032                                Sg    Sg           19 30 59.6 +0.3
KAN10 Anthony SW Sta     0.57 312   Pg    Pg           19 30 53.5  0.0
KAN10                                Sg    Sg           19 31 01.3 +0.4
KAN08 Anthony NE Sta     0.58 326                Pg    19 30 53.8 +0.1
KAN12 Harper NE Stat     0.65 328                Pg    19 30 55.0  -0.1
T35A  Sooner Cattle      0.86  78                Pg    19 30 59.0  -0.1
T35A                                 Sg    Sg           19 31 10.5 +0.2
QUOK  Quay               0.90 129                Pg    19 30 59.8  0.0
QUOK                                 Sg    Sg           19 31 11.8 +0.3
OK029 Liberty Lake       0.95 175                Pg    19 31 00.7  -0.2
OK029                                Sg    Sb           19 31 13.8  -0.5
OK031 S. Brethren Rd     0.99 143                Pg    19 31 01.5  0.0
BCOK  Bluff Creek, N     1.09 182   Pg    Pg           19 31 03.1  -0.3
BCOK                                 Sg    Sb           19 31 18.1  -0.2
OK025 Westminster Rd     1.18 171                Pg    19 31 04.8  -0.3
OK025                                Sg    Sb           19 31 21.2 +0.4
U32A  Winter Ranch,      1.21 253   Pg    Pg           19 31 04.9  -0.9
OKCFA Oklahoma City      1.33 176                Pn    19 31 07.5  -0.2
OKCSW OKLAHOMA CITY      1.34 176   Pn    Pn           19 31 07.8  -0.1
FNO   Franklin           1.49 175                Pn    19 31 10.2 +0.3
R32A  Long Quarter,      1.90 332                Pn    19 31 15.9 +0.3
X34A  Smith Ranch, M     2.15 186                Pn    19 31 19.1 +0.1
WMOK  Wichita Mounta     2.23 207                Pn    19 31 20.1  -0.1
KSU1  Kansas State U     2.47  18   Pn    Pn           19 31 23.5 +0.2
U38A  Gravette           2.58  96                Pn    19 31 25.9 +1.1
CBKS  Cedar Bluff        2.69 321                Pn    19 31 26.6 +0.3
LOOK  Love County        2.77 173   Pn    Pn           19 31 27.5 +0.1
X37A  Clayton            2.80 140                Pn    19 31 28.0 +0.2
HHAR  Hobbs              2.96  98   Pn    Pn           19 31 31.4 +1.4
W39A  Magazine           3.44 116                Pn    19 31 36.3  -0.3
U40A  Yellville          3.81  94                Pn    19 31 41.2  -0.7
AMTX  Amarillo           3.83 242   IAmb  Lg           19 32 50.2
      comp=Z,20nm,1.0s
MIAR  Mount Ida          3.92 123                Pn    19 31 41.7  -1.6
MIAR                                 IAmb  Lg           19 32 49.7
      comp=Z,18nm,0.9s
MGMO  Mountain Grove     4.26  83   Pn    Pn           19 31 46.1  -1.9
MGMO                                 IAmb  Lg           19 32 55.8
      comp=Z,18nm,0.7s
P38A  Dawn               4.28  47                Pn    19 31 48.2  -0.1
P38A                                 IAmb  Lg           19 33 00.8
      comp=Z,25nm,0.8s
N35A  Tabor              4.37  20   Pn    Pn           19 31 48.9  -0.6
X40A  Basin Creek Fa     4.47 119   Pn    Pn           19 31 51.2 +0.4
X40A                                 IAmb  Lg           19 33 12.4
      comp=Z,11nm,0.8s
FCAR  Ozark Folk Cen     4.48  99   Pn    Pn           19 31 49.2  -1.7
FCAR                                 IAmb  Lg           19 33 04.7
      comp=Z,16nm,0.7s
R40A  Maddies Statio     4.49  68   Pn    Pn           19 31 51.1  0.0
WHAR  Wooly Hollow       4.52 107   Pn    Pn           19 31 50.9  -0.6
KSCO  Kaye Shedlock'     4.60 301   IAmb  Lg           19 33 18.9
      comp=Z,12nm,0.8s
LCAR  Lake Charles       5.22  96   IAmb  Lg           19 33 31.5
      comp=Z,8.9nm,0.8s
N38A  Joes South For     5.27  39   IAmb  Lg           19 33 35.2
      comp=Z,12nm,0.7s
T25A  Trinidad           5.50 276   IAmb  Lg           19 33 37.5
      comp=Z,12nm,0.9s
PBMO  Poplar Bluff       5.73  88   IAmb  Lg           19 33 54.1
      comp=Z,14nm,0.9s
SCIA  State Center       6.16  32   IAmb  Lg           19 33 59.1
      comp=Z,11nm,0.7s
JCT   Junction City      6.52 197   IAmb  Lg           19 34 26.3
      comp=Z,7.6nm,0.7s
S44A  Carbondale         6.70  79   IAmb  Lg           19 34 16.2
      comp=Z,13nm,0.8s
PHWY  Pilot Hill         7.64 309   IAmb  Lg           19 34 58.4
      comp=Z,8.4nm,1.1s
```

OSPL 17 19:35:52.7±0.9, 19°.87N×68°.78W, h70km±101km, ML3.1
NEIC 17 19:35:52.1±1.2, 18°.0N±0°.2×68°.72W±0°.07, h159km±11km, Error ellipse: s-maj=22.9km s-min=6.6km az=197.0
RSPR 17 19:35:53.3, 17°.90N×68°.69W, h148km±2km, MD3.4/12

ISC 17 19:35:52.3±1.6, 18°.1N±0°.1×68°.70W±0°.04, h162km±10km, n66, σ0 78/68, 16C, Mona Passage

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Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC          h m s     ISC
PCDR  Punta Cana, DR     0.48  39⇑eP              Pn    19 36 15.1 +0.2
PCDR  Punta Cana, DR     0.48  39                  Pn    19 36 15.1 +0.2
PCDR                                                Sn    19 36 32.7 +0.3
PCDR  Punta Cana, DR     0.48  39   IAmb
      comp=N,230nm,0.4s                                   19 36 33.7
PCDR  Punta Cana, DR     0.48  39   i P            Pn    19 36 15.3 +0.3
PCDR                                 eS            Sn    19 36 32.4 +0.1
PCDR                                 IAmb                19 36 33.8
      comp=Z,229nm,1.2s
DR12  Loma Pena Alta     0.91 315                  Pn    19 36 17.4  -0.3
IDE   Isla Desecheo      1.19  78⇑eP              Pn    19 36 20.1 +0.2
IDE   Isla Desecheo      1.19  78                  Pn    19 36 20.1 +0.2
SDD   Santo Domingo      1.20 286   Pn            Pn    19 36 19.6  -0.3
SDD                                 Sn            Sn    19 36 39.6  -1.5
SDD                                 IAmb                19 36 42.9
      comp=E,210nm,2.5s
SDD   Santo Domingo      1.20 286   eS            Sn    19 36 39.7  -1.4
MPR   Mayaguez           1.48  87   Pn            Pn    19 36 22.0  -0.6
LSP   Las Mesas          1.53  88⇑eP              Pn    19 36 23.5 +0.2
LSP   Las Mesas          1.53  88                  Pn    19 36 23.5 +0.2
AGPR  Aguadilla, PR      1.54  78⇑eP              Pn    19 36 24.4 +1.1
AGPR  Aguadilla, PR      1.54  78                  Pn    19 36 24.4 +1.1
AGPR  Aguadilla, PR      1.54  78   Sn            Sn    19 36 48.5 +1.4
AGPR                                 IAmb                19 36 49.4
      comp=N,255nm,0.5s
AGPR                                 IAmb                19 36 51.6
      comp=E,211nm,0.3s
AGPR  Aguadilla, PR      1.54  78   i P            Pn    19 36 24.7 +1.4
AGPR                                 eS            Sn    19 36 48.2 +1.1
AGPR                                 IAML                19 36 49.6
      comp=Z,146nm,0.2s
MLPR  Magueyes Islan     1.58  96⇑eP              Pn    19 36 23.4  -0.3
MLPR  Magueyes Islan     1.58  96   eS            Sn    19 36 46.4  -1.3
MLPR  Magueyes Islan     1.58  96                  Sn    19 36 46.4  -1.3
MLPR  Magueyes Islan     1.58  96                  Pn    19 36 22.8  -0.9
MLPR  Magueyes Islan     1.58  96   IAML                19 36 48.1
      comp=E,61nm,0.4s
MLPR                                 IAML                19 36 51.2
      comp=N,48nm,0.8s
BANI  BANI               1.60 279                  Pn    19 36 24.6 +0.7
BANI                                                Sn    19 36 48.0  -0.3
BANI  BANI               1.60 279   i P            Pn    19 36 24.7 +0.7
BANI                                 eS            Sn    19 36 48.7 +0.4
BANI                                 IAML                19 36 50.3
      comp=Z,63nm,0.8s
AOPR  Arecibo Observ     1.86  83⇑eP              Pn    19 36 27.1 +0.5
AOPR  Arecibo Observ     1.86  83   eS            Sn    19 36 53.7 +0.6
AOPR  Arecibo Observ     1.86  83                  Sn    19 36 27.1 +0.5
AOPR  Arecibo Observ     1.86  83                  Sn    19 36 52.6  -0.6
OBIP  Obispado Ponce     1.99  92   Pn            Pn    19 36 27.2  -0.9
OBIP                                 IAML                19 37 01.1
      comp=N,58nm,0.6s
CELP  Cerrillos          2.02  91⇑eP              Pn    19 36 28.9 +0.5
CELP  Cerrillos          2.02  91   eS            Sn    19 36 55.6  -0.7
CELP  Cerrillos          2.02  91                  Pn    19 36 28.9 +0.5
CELP                                                Sn    19 36 55.6  -0.7
ICMP  Isla Caja de M     2.08  97   Pn            Pn    19 36 28.2  -1.0
ICMP                                 Sn            Sn    19 36 56.9  -0.7
ICMP                                 IAML                19 36 58.4
      comp=N,74nm,0.7s
ICMP                                 IAML                19 37 00.3
      comp=E,57nm,1.0s
EMPR  Esperanza - Ma     2.09  80⇑eP              Pn    19 36 29.6 +0.4
EMPR  Esperanza - Ma     2.09  80   eS            Sn    19 36 58.2 +0.5
EMPR  Esperanza - Ma     2.09  80                  Pn    19 36 29.6 +0.4
EMPR  Esperanza - Ma     2.09  80   IAML                19 37 01.0
      comp=E,155nm,1.1s
SJG   San Juan           2.42  90   Pn            Pn    19 36 33.2 +0.1
SJG                                 IAML                19 37 08.7
      comp=E,72nm,0.3s
SJG                                 IAML                19 37 08.8
      comp=E,71nm,0.4s
IGPR  InterUniversit     2.47  94⇑eP              Pn    19 36 34.2 +0.4
IGPR  InterUniversit     2.47  94   eS            Sn    19 37 05.6  -0.1
GCPR  Guaynabo City      2.49  86   Pn            Pn    19 36 33.1  -0.9
GCPR                                 IAML                19 37 09.9
      comp=E,41nm,0.8s
PDPR  Patillas Dam,      2.55  92   Pn            Pn    19 36 34.6  -0.1
PDPR                                 IAML                19 37 07.8
      comp=E,81nm,1.0s
SDDR  Presa de Saban     2.59 289⇑eP              Pn    19 36 36.6 +1.4
SDDR  Presa de Saban     2.59 289   eS            Sn    19 37 10.3 +1.8
SDDR  Presa de Saban     2.59 289                  Pn    19 36 35.7 +0.4
CBYP  Canovanas          2.71  87⇑eP              Pn    19 36 37.3 +0.7
CBYP  Canovanas          2.71  87   eS            Sn    19 37 11.1 +0.2
CBYP  Canovanas          2.71  87                  Sn    19 37 11.1 +0.2
CBYP  Canovanas          2.71  87                  Pn    19 36 36.4  -0.2
CBYP  Canovanas          2.71  87   IAML                19 37 15.6
      comp=E,283nm,0.2s
CBYP                                 IAML                19 37 16.6
      comp=N,259nm,0.2s
HUMP  Col San Antoni     2.71  90⇑eP              Pn    19 36 37.6 +1.0
HUMP  Col San Antoni     2.71  90   eS            Sn    19 37 10.6  -0.3
HUMP  Col San Antoni     2.71  90                  Sn    19 37 10.6  -0.3
HUMP  Col San Antoni     2.71  90                  Pn    19 36 36.8 +0.2
HUMP  Col San Antoni     2.71  90   IAML                19 37 11.8
      comp=E,85nm,0.4s
HUMP                                 IAML                19 37 12.3
      comp=N,76nm,0.5s
MTP   Monte Pirata       2.99  90⇑eP              Pn    19 36 40.6 +0.5
MTP   Monte Pirata       2.99  90   eS            Sn    19 37 18.2 +1.1
MTP   Monte Pirata       2.99  90                  Pn    19 36 40.6 +0.5
MTP                                                 Sn    19 37 18.2 +1.1
MTP   Monte Pirata       2.99  90   IAML                19 37 19.4
      comp=N,26nm,0.5s
MTP                                 IAML                19 37 20.3
      comp=E,32nm,0.2s
CUPR  Culebra, Puert     3.25  87⇑eP              Pn    19 36 44.0 +0.6
CUPR  Culebra, Puert     3.25  87                  Pn    19 36 43.0  -0.3
STVI  Saint Thomas       3.56  86⇑eP              Pn    19 36 47.0  -0.4
STVI  Saint Thomas       3.56  86                  Pn    19 36 46.7  -0.6
STVI                                 IAML                19 37 32.0
      comp=E,23nm,0.4s
STVI                                 IAML                19 37 34.1
      comp=N,30nm,1.0s
GRTK  Grand Turk         4.06 326   Pn            Pn    19 36 51.8  -1.9
VGBI  Virgin Gorda,      4.10  84⇑eP              Pn    19 36 53.9  -0.3
VGBI  Virgin Gorda,      4.10  84                  Pn    19 36 53.9  -0.3
ANWB  Willy Bob          6.60  93   Pn            Pn    19 37 23.0  -4.1
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NNC 17 19:36:12.1±5.5, 33°.99N×68°.24E, h0km, mb4.2, Error ellipse: s-maj=74.9km s-min=47.6km az=79.0
IDC 17 19:36:49.4±1.0, 36°.76N×69°.32E, h0km, mb3.8/18, mb1 3.9/23, mb1mx3.8/63, mbtmp3.8/23, ML3.5/5, Error ellipse: s-maj=19.1km s-min=12.5km az=173.0
NEIC 17 19:36:51.7, 36°.92N×69°.27E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.39; $M_{\theta\theta}$1.56; $M_{\phi\phi}$-0.17; $M_{r\theta}$-0.59; $M_{r\phi}$0.66; $M_{\theta\phi}$0.81; Fault plane solution: $M_0$1.90000×10^{15} NP1:ϕ_s224.66000°, δ47.09000°, λ-133.70000°. NP2:ϕ_s99.19000°, δ58.03000°, λ-53.38000°. Principal axes: T 1.8112, Plg6.0000°, Azm164.0000°; N 0.1720, Plg30.0000°, Azm258.0000°; P -1.9831, Plg59.0000°, Azm64.0000°;
BJI 17 19:36:52.8±0.0, 37°.00N×69°.45E, h17km, mB4.8/12, mb4.4/16, Ms3.8/5, Ms7 3.8/4
NEIC 17 19:36:53.9±2.6, 36°.92N±0°.05×69°.30E±0°.06, h24km±5km, mb4.3/27, Mwr4.1/19, Error ellipse: s-maj=6.9km s-min=6.8km az=212.0

ISC 17 19:36:50.7±0.4, 36°.85N±0°.04×69°.22E±0°.05, h10km, n105, σ1 93/110, mb4.0/26, 5C-1D, Hindu Kush region

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Code  Station Name        Δ°   AZ°   Phase ID                Time      Res
                                     Op    ISC          h m s     ISC
CHGR  Chuyangaron        1.81 359                  Pn    19 37 23.6 +1.6
KBL   Kabul              2.31 184                  Pb    19 37 32.1  -0.4
GAR   Garm               2.32  22                  Pn    19 37 30.7 +1.6
DRK   Karamyk            3.32  37                  Pn    19 37 44.9 +1.8
BTK   Batken             3.44  21                  Pn    19 37 47.1 +2.6
CEP   Cherat             3.73 143   P             Pn    19 37 51.8 +3.2
TAS   Tashkent           4.47   1   Pn            Pn    19 38 00.4 +1.8
THW   Thamme Wali       4.54 152   P             Pn    19 38 01.3 +1.7
NIL   Nilore            4.59 133                  Pn    19 38 03.2 +3.0
CHCP  Chirah Chowk       4.59 133   P             Pn    19 38 02.3 +2.0
KSH   Kashi              5.95  61   P             Pn    19 38 16.3  -2.7
KSH                                 S             Sn    19 39 15.3  -12
KSH                                 sS            Sb    19 39 21.9  -24
KSH                                 pmax  pmax
      comp=Z,9.0nm,0.8s
KSH                                 pmax  pmax
      comp=Z,120nm,2.7s
KSH                                 LR    LR
      comp=N,710nm,4.3s
KSH                                 LR    LR
      comp=E,1μm,5.7s
KSH                                 LR    LR
      comp=Z,1μm,10.4s
HRA   Herat              6.19 249                  Pn    19 38 24.1 +1.7
AML   Almayashu          6.31  32   P             Pn    19 38 25.7 +1.5
      SNR=53
KK31  Karatay Array      6.33   9   P             Pn    19 38 25.9 +1.8
      comp=Z,3.6nm,0.4s,baz=202,slow=17,SNR=68
KK31                                ⇑S            Sg    19 40 13.6  -0.2
      comp=Z,39nm,0.7s,baz=192,slow=25,SNR=7.2
KK31  Karatay Array      6.33   9                  Pn    19 38 25.6 +1.5
KKAR  Karatay Array      6.33   9                  Pn    19 38 25.6 +1.6
KKAR  Karatay Array      6.33   9                  Pn    19 38 25.5 +1.4
EKS2  Erkin-Say          6.79  30   P             Pn    19 38 32.7 +2.3
      SNR=11
AAK   Ala-Archa          7.07  33   Pn            Pn    19 38 36.4 +2.1
      comp=Z,14nm,0.3s,baz=209,slow=6.7,SNR=27
AAK                                 Sn            Sn    19 39 51.7  -3.1
      comp=Z,0.4nm,0.3s,baz=29,slow=10,SNR=1.0
AAK                                 Lg            Lg    19 40 30.9
      comp=Z,0.7nm,0.3s,baz=211,slow=19,SNR=1.7
AAK   Ala-Archa          7.07  33   P             Pn    19 38 36.6 +2.3
      SNR=25
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AAK	Ala-Archa	7.07	33			Pn	19 38 36.2 +1.9
FRU1	Bishkek	7.26	33			Pn	19 38 39.4 +2.4
KBK	Karagaybulak	7.29	35	P		Pn	19 38 39.9 +2.5
	SNR=16						
CHMS	Chumysh	7.47	33	P		Pn	19 38 41.6 +1.8
	SNR=100						
USP	Ospenovka	7.58	31	P		Pn	19 38 42.5 +1.2
	SNR=16						
ULHL	Ulahol	7.65	43	P		Pn	19 38 44.0 +1.6
	SNR=9.4						
BOOM	Boomskoye usch	7.66	41	Pn		Pn	19 38 43.5 +1.1
TKM2	Tokmak 2	7.80	37	P		Pn	19 38 46.0 +1.5
	SNR=48						
KDJ	Kajisay	8.11	47	Pn		Pn	19 38 48.7 0.0
TARG	Taragay, Kyrgy	8.25	51			Pn	19 38 50.7 -0.1
MDOK	Medeo	8.71	41	P		Pn	19 38 57.5 +0.7
	comp=Z,15nm,0.7s						
SMLA	Simla	8.72	129	*e*P		Pn	19 39 00.7 +3.8
SMLA				IAML			19 41 50.2
	comp=E,60nm,1.1s						
SMLA				IAML			19 41 59.5
	comp=N,96nm,0.5s						
GEYT	Alibeck	8.90	280	Pn		Pn	19 38 59.1 -0.4
	comp=N,1.1nm,0.3s,baz=113,slow=11,SNR=5.9						
GEYT				Sn		Sn	19 40 35.6 -4.2
	comp=N,1.6nm,0.3s,baz=152,slow=16,SNR=1.6						
GEYT				Lg		Lg	19 41 44.2
	baz=72,slow=42,SNR=1.6						
GEYT	Alibeck	8.90	280			Pn	19 38 58.3 -1.1
GYA0B	ALIBECK ARRAY	8.90	280	Pn		Pn	19 38 58.5 -1.0
PRZ	Przheval'sk	9.04	49	Pn		Pn	19 39 00.8 -0.7
DDI	Dehra Dun	9.83	129	*e*P		Pn	19 39 15.6 +3.4
DDI				*e*S		Sn	19 41 01.8 -0.8
PDGK	Podgornoye	10.19	47	⇑P		Pn	19 39 16.9 -0.2
	comp=N,4.4nm,0.9s						
KUDL	Kundal	10.62	143	*e*P		Pn	19 39 22.9 -0.1
KUDL				*e*S		Sn	19 41 18.4 -3.7
MAKZ	Makanchi	13.75	40	⇑P		Pn	19 40 04.5 -1.2
	comp=N,3.1nm,0.8s						
MAKZ	Makanchi	13.75	40	Pn		Pn	19 40 04.4 -1.3
MK31	Makanchi Array	13.90	40	P		Pn	19 40 07.0 -0.8
	comp=N,3.1nm,0.7s,baz=227,slow=13,SNR=29						
MK31	Makanchi Array	13.90	40	Pn		Pn	19 40 07.0 -0.8
MKAR	Makanchi Array	13.90	40	Pn		Pn	19 40 07.5 -0.3
	comp=N,0.3nm,0.3s,baz=230,slow=14,SNR=37						
MKAR				Lg		Lg	19 44 18.4
	comp=N,0.0nm,0.3s,baz=272,slow=31,SNR=1.7						
MKAR	Makanchi Array	13.90	40	Pn		Pn	19 40 06.5 -1.3
ABKAR	Akbulak array	14.12	334	Pn		Pn	19 40 08.4 -2.3
BHPL	Bhopal	15.30	150	*e*P		Pn	19 40 28.7 +1.9
BHPL				*e*S		Sn	19 43 08.9 -7.5
KURBB	Kurchatov Arra	15.31	23	Pn		Pn	19 40 24.0 -2.8
	comp=N,0.0nm,0.3s,baz=211,slow=11,SNR=8.5						
KURBB				Lg		Lg	19 44 54.5
	comp=N,0.1nm,0.3s,baz=225,slow=24,SNR=2.1						
KURBB	Kurchatov Arra	15.31	23	⇑P		Pn	19 40 23.1 -3.6
	comp=N,5.1nm,0.7s						
KURK	Kurchatov	15.42	23			Pn	19 40 24.0 -4.2
WMQ	Urumqi	15.70	58	*e*P		Pn	19 40 33.8 +1.8
AKTO	Aktyubinsk	15.79	333	Pn		Pn	19 40 32.5 -0.6
	comp=N,0.3nm,0.3s,baz=140,slow=15,SNR=11						
AKTO				Sn		Sn	19 43 21.0 -7.1
	comp=N,0.2nm,0.3s,baz=35,slow=23,SNR=1.8						
AKTO				Lg		Lg	19 45 08.2
	baz=80,slow=16,SNR=1.1						
BVAR	Borovoye Array	16.20	3	Pn		Pn	19 40 36.1 -2.3
	comp=N,0.2nm,0.3s,baz=189,slow=16,SNR=3.2						
BRVK	Borovoye	16.23	2	⇓P		Pn	19 40 38.5 -0.1
	comp=N,4.0nm,0.7s						
BRVK	Borovoye	16.23	2	P		Pn	19 40 40.5 +1.8
LSA	Lhasa	19.65	105			P	19 41 20.9 +0.7
LSA				IAmb		IAmb	19 41 23.5
	comp=Z,9.2nm,0.7s						
ZAA0	Zalesovo Array	20.23	27	P		P	19 41 24.6 -1.2
ZALV	Zalesovo Beam	20.23	27	P		P	19 41 25.0 -0.8
	comp=Z,3.2nm,0.5s,baz=220,slow=11,SNR=19						
ZALV	Zalesovo Beam	20.23	27	P		P	19 41 24.6 -1.2
ARU	Arti	20.86	343	P		P	19 41 33.6 +1.0
	comp=Z,0.6nm,0.4s,baz=190,slow=8.9,SNR=4.5						
ARU	Arti	20.86	343	P		P	19 41 33.5 +0.9
KBZ	Khabaz	21.17	297	P		P	19 41 38.6 +2.6
	comp=Z,1.5nm,0.7s,baz=141,slow=6.5,SNR=2.9						
KVAR	Kislovodsk Arr	21.35	298	P		P	19 41 39.5 +1.3
	comp=Z,2.9nm,0.6s,baz=268,slow=9.3,SNR=2.4						
KIV	Kislovodsk	21.36	298	P		P	19 41 39.6 +1.4
KIV				IAmb		IAmb	19 41 52.0
	comp=Z,5.7nm,0.9s						
BELG	Belogornoye	21.73	322	P		P	19 41 43.5 +1.5
	comp=Z,12nm,0.8s,baz=188,slow=7.9,SNR=3.9						
SHL	Shillong	22.35	114	P		P	19 41 47.9 -1.3
SHL				IAmb		IAmb	19 41 50.7
	comp=Z,11nm,0.6s						
GTA	Gaotai	24.15	75	⇑P		P	19 42 07.8 +0.7
GTA				pP		sP	19 42 13.4 +1.6
GTA				sP		pP	19 42 16.3 +5.9
GTA				pmax		pmax	
	comp=Z,120nm,4.7s						
GTA				LR		LR	
	comp=Z,130nm,13.8s						
GTA				LR		LR	
	comp=Z,100nm,14.9s						
GAZ	Gaziantep	25.50	280	P		P	19 42 19.2 -0.1
GAZ				IAmb		IAmb	19 42 29.4
	comp=Z,14nm,1.5s						
BR131	Keskin Array S	27.96	287	P		P	19 42 42.7 +1.1
BRTR	Keskin Array B	27.96	287	P		P	19 42 42.9 +1.3
	comp=Z,1.3nm,0.8s,baz=93,slow=7.0,SNR=8.8						
SOCY	Socotra	28.11	213	P		P	19 42 42.7 -0.3
CSS	Mathiatis	29.03	277	P		P	19 42 53.0 +2.1
CSS				IAmb		IAmb	19 42 58.1
	comp=Z,7.3nm,1.1s						
SONM	Songino Array	29.32	56	P		P	19 42 54.3 +0.7
	comp=Z,0.8nm,0.5s,baz=262,slow=8.7,SNR=10						
SONM	Songino Array	29.32	56	P		P	19 42 52.3 -1.3
ULN	Ulaanbaatar	29.77	56	P		P	19 42 56.5 -1.0
ULN				IAmb		IAmb	19 42 58.9
	comp=Z,2.2nm,0.7s						
AKASG	Malin Array Be	31.61	309	P		P	19 43 15.1 +1.5
	comp=Z,1.0nm,0.6s,baz=84,slow=6.7,SNR=5.5						
AKASG	Malin Array Be	31.61	309	P		P	19 43 14.2 +0.6
CMAR	Chiang Mai Arr	31.88	117	P		P	19 43 15.7 -0.6
	comp=Z,0.7nm,0.8s,baz=293,slow=7.8,SNR=4.5						
CMAR	Chiang Mai Arr	31.88	117	P		P	19 43 16.4 +0.1
HHC	Hu-ho-hao-te	32.99	70	*e*P		P	19 43 27.5 +1.6
HHC				pmax		pmax	
	comp=Z,11nm,0.9s						
HHC				pmax		pmax	
	comp=Z,76nm,4.7s						
MLR	Muntele Rosu	33.36	299	P		P	19 43 30.4 +1.2
MLR				IAmb		IAmb	19 43 37.5
	comp=Z,5.0nm,0.8s						
BURAR	Bucovina Array	33.89	303	P		P	19 43 34.5 +0.8
BURAR				IAmb		IAmb	19 44 09.5
	comp=Z,3.4nm,1.6s						
FIA1	FINESS Array S	36.40	326	P		P	19 43 55.5 +0.5
FIA1				IAmb		IAmb	19 44 00.6
	comp=Z,7.3nm,0.9s						
FINES	FINESS Array B	36.40	326	P		P	19 43 56.1 +1.1
KEV	Kevo	39.95	339	P		P	19 44 25.4 +0.6
KEV				IAmb		IAmb	19 44 30.0
	comp=Z,9.8nm,1.2s						
ARCES	ARCESS Array B	40.28	338	P		P	19 44 28.8 +1.2
	comp=Z,2.3nm,1.0s,baz=93,slow=6.1,SNR=4.1						
ARCES	ARCESS Array B	40.28	338	P		P	19 44 28.1 +0.5
ARCES				IAmb		IAmb	19 44 51.0
	comp=Z,12nm,1.6s						
NC405	NORSAR Array S	43.01	323	P		P	19 44 50.2 +0.1
NC602	NORSAR Array S	43.05	323	P		P	19 44 50.8 +0.5
NC303	NORSAR Array S	43.19	323	P		P	19 44 51.6 +0.1
NB201	NORSAR Array S	43.20	323	P		P	19 44 51.8 +0.1
NB2	NORSAR Subarra	43.24	323	P		P	19 44 51.9 -0.1
	comp=Z,0.5nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	43.24	323	P		P	19 44 52.5 +0.5
	comp=Z,0.3nm,0.4s,baz=99,slow=7.9,SNR=3.0						
NBO00	NORSAR Array S	43.45	323	P		P	19 44 53.7 +0.1
YAK	Yakutsk	44.52	36	P		P	19 45 01.8 -0.3
	comp=Z,3.4nm,0.6s,baz=80,slow=3.4,SNR=4.2						
YAK	Yakutsk	44.52	36	IAmb		IAmb	19 45 02.7
	comp=Z,7.2nm,0.6s						
TIXI	Tiksi	45.99	22	P		P	19 45 14.1 +0.4
	comp=Z,2.5nm,0.8s,baz=248,slow=1.8,SNR=7.4						
TIXI	Tiksi	45.99	22	P		P	19 45 12.8 -0.9
TIXI				IAmb		IAmb	19 45 15.2
	comp=Z,3.0nm,0.8s						
KLR	Kul'dur	46.09	54	P		P	19 45 14.9 +0.1
	comp=Z,0.8nm,0.4s,baz=259,slow=7.3,SNR=2.7						
KSRS	Korea Array	46.12	71	P		P	19 45 14.8 -0.3
	comp=Z,0.6nm,0.5s,baz=273,slow=7.4,SNR=2.1						
ESDC	Sonseca Array	56.03	297	P		P	19 46 30.8 +1.1
	comp=Z,0.7nm,0.9s,baz=64,slow=8.0,SNR=4.2						
ESDC	Sonseca Array	56.03	297	IAmb		IAmb	19 46 47.5
	comp=Z,3.5nm,1.6s						
TORD	Torodi Ar. Bea	64.30	267	P		P	19 47 26.8 +0.1
	comp=Z,0.7nm,0.8s,baz=35,slow=6.6,SNR=3.5						
DBIC	Dimbokro	73.29	266	P		P	19 48 23.9 +1.2
YKA	Yellowknife Ar	80.95	2	P		P	19 49 05.5 +0.5
	comp=Z,0.5nm,0.7s,baz=343,slow=6.1,SNR=2.9						

BJI ***17*** *19:39:41.3±0.0,5˚.46S×152˚.31E,h50km,mB5.1/38, mb4.9/61,Ms4.8/39,Ms7 4.5/40*
MOS ***17*** *19:39:41.9±1.1,5˚.41S×151˚.99E,h38km,mb5.1/12,Error ellipse: s-maj=10.7km s-min=7.5km az=102.0*
IDC ***17*** *19:39:42.0±3.1,5˚.42S×151˚.96E,h26km±20km,mb4.6/28, mb1 4.7/30,mb1mx4.6/45,mbtmp4.7/30,ML3.8/2,MS4.3/20, Ms1 4.3/20,ms1mx4.2/29,Error ellipse: s-maj=17.4km s-min=11.4km az=101.0*
NEIC ***17*** *19:39:44.2±1.8,5˚.53S±0˚.05×152˚.06E±0˚.06,h38km±4km, mb5.2/141,Error ellipse: s-maj=9.1km s-min=7.1km az=110.0*
DJA ***17*** *19:39:45.9±0.4,5˚S±3˚×15˚2E±˚,h63km±5km,M5.3/31, mb5.2/31,mB5.7/12,MLv5.5/3,Mw(mB)5.2/12, MwMwp4.7/2,Mwp5.1/2*
GCMT ***17*** *19:39:46.2±0.2,5˚.69S±0˚.01×152˚.11E±0˚.02,h30km, MW5.1/94,Moment Tensor Solution. s60,c94; s94,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.57±.23; Mθθ-5.20±.14; Mφφ-0.37±.14; Mrθ3.31±.19; Mφθ-0.95±.11; Mφr0.68±.24; Best double couple: M0 6.43500×10^16 NP1:φs 260.00000°,δ29.00000°,λ91.00000°. NP2: φs 79.00000°,δ61.00000°,λ90.00000°. Principal axes: T 6.5290, Plg74.0000°, Azm348.0000°; N -0.1940, Plg0.0000°, Azm79.0000°; P -6.3410, Plg16.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 19:39:44.8±0.5,5˚51S±0˚.04×152˚.00E±0˚.04,h49km±4km, n526,σ1§06/480,mb5.2/149,MS4.5/49,17C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	Rabaul	1.32	7	Pn	Pn	19 40 06.1	-0.7
RABL				Sn	Sn	19 40 26.1	+2.8
MANU	Manus Island	5.76	306		Pn	19 41 12.0	+4.3
PMG	Port Moresby	6.17	231	Pn	Pn	19 41 13.7	+0.4
	49nm,0.3s,baz=52,slow=6.8,SNR=82						
PMG				Sn	Sn	19 42 23.2	+0.6
	60nm,0.3s,baz=167,slow=20,SNR=8.3						
PMG	Port Moresby	6.17	231	*i* P	Pn	19 41 14.1	+0.8
PMG	Port Moresby	6.17	231	Pn	Pn	19 41 13.5	+0.2
PMG				Sn	Sn	19 42 23.5	+1.0
HNR	Honiara	8.79	117	Pn	Pn	19 41 50.0	+0.7
	4.7nm,0.3s,baz=258,slow=3.9,SNR=5.3						
HNR				LR	LR	19 44 46.4	
	comp=Z,2μm,21.6s,baz=288,slow=34						
HNR	Honiara	8.79	117	P	Pn	19 41 48.5	-0.9
HNR	Honiara	8.79	117	Pn	Pn	19 41 48.5	-0.9
GENI	Genyem	12.15	283	P	P	19 42 43.5	-3.1
PATS	Pohnpei	13.79	27	Pn	Pn	19 42 55.9	-1.7
CTA	Charters Tower	15.53	201	Pn	P	19 43 25.8	+1.6
	0.9nm,0.3s,baz=27,slow=14,SNR=14						
CTA				LR	LR	19 48 58.1	
	comp=Z,2μm,19.2s,baz=21,slow=36						
CTAO	Charters Tower	15.53	201	P	Pn	19 43 22.2	+1.5
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	Charters Tower	15.53	201	P	Pn	19 43 22.1	+1.5
SRPI	Serui, Papua	16.13	282	P	Pn	19 43 27.9	-0.4
	comp=Z,44nm,1.2s						
SANVU	Saraoutou	17.91	125	P	Pn	19 43 49.4	-1.1
EIDS	Eidsvold	19.77	182	P	P	19 44 11.0	+0.1
FAKI	Fak Fak	19.86	277	P	P	19 44 12.6	+0.6
GUMO	Guam	20.25	340	P	P	19 44 17.6	+1.5
	comp=Z,164nm,1.0s,baz=173,slow=12,SNR=3.9						
GUMO				LR	LR	19 52 19.1	
	comp=Z,215nm,19.4s,baz=155,slow=38						
GUMO	Guam	20.25	340	P	P	19 44 17.2	+1.1
GUMO				pmax	pmax		
	comp=Z,1μm,1.6s						
GUMO	Guam	20.25	340	P	P	19 44 17.2	+1.1
LIFNC	LIFOU	21.20	137	P	P	19 44 26.2	-0.1
LIFNC				IAmb	IAmb	19 45 17.8	
	comp=Z,99nm,1.1s						
SIJI	Sorong	21.20	282	P	P	19 44 25.6	-0.9
	comp=Z,26nm,0.8s,baz=82,slow=2.7,SNR=5.5						
SWI	Sorong	21.21	282	P	P	19 44 24.9	-1.6
	comp=Z,769nmcomp=Z,71nm,1.0s						
MTN	Manton Dam	21.84	249	P	P	19 44 32.8	-0.4
TARA	Tarawa	21.98	73	P	P	19 44 33.8	-1.0
TARA				IAmb	IAmb	19 44 37.2	
	comp=Z,128nm,0.9s						
WB0	Warramunga Arr	22.23	229	P	P	19 44 36.8	-0.7
WR0	Warramunga Arr	22.24	228	P	P	19 44 38.4	+0.8
WRAB	Tennant Creek	22.37	229	*i* P	P	19 44 38.8	-0.2
WRAB				pmax	pmax		
	comp=Z,107nm,1.6s						
WRAB	Tennant Creek	22.37	229	P	P	19 44 38.1	-0.8
WRAB				IAmb	IAmb	19 44 54.8	
	comp=Z,164nm,1.4s						
WB2	Warramunga Arr	22.37	229	P	P	19 44 38.8	-0.2
WB2				IAmb	IAmb	19 44 54.9	
	comp=Z,198nm,1.6s						
WRA	Warramunga Arr	22.38	229	P	P	19 44 39.1	0.0
	comp=Z,20nm,0.6s,baz=52,slow=9.9,SNR=54						
WRA				PcP	PcP	19 48 33.9	+0.9
	comp=Z,3.9nm,0.5s,baz=48,slow=2.0,SNR=5.4						
WRA				S	S	19 48 40.8	-1.4
	comp=Z,22nm,1.1s,baz=53,slow=18,SNR=9.2						
WRA				ScP	ScP	19 52 09.8	+3.2
	comp=Z,2.3nm,1.0s,baz=32,slow=4.5,SNR=4.0						
WRA	Warramunga Arr	22.38	229	*i* P	P	19 44 38.7	-0.4
WRA				pmax	pmax		
	comp=Z,23nm,0.8s						
WRA	Warramunga Arr	22.38	229	P	P	19 44 37.8	-1.3
WRA					ScP	19 52 09.1	+2.4
ARMA	Armidale	24.78	181	P	P	19 45 02.0	-0.2
KNRA	Kununurra	24.94	244	P	P	19 45 03.7	0.0
AS31	Alice Springs	25.09	222	P	P	19 45 05.0	0.0
ASAR	Alice Springs	25.09	222	P	P	19 45 05.0	0.0
	comp=Z,66nm,0.8s,baz=55,slow=8.7,SNR=116						
ASAR				S	S	19 49 26.6	+0.1
	comp=Z,3.9nm,0.9s,baz=44,slow=19,SNR=4.2						
ASAR				ScP	ScP	19 52 17.7	+3.7
	comp=Z,0.5nm,0.5s,baz=49,slow=2.8,SNR=2.3						
ASAR				LR	LR	19 54 43.3	
	comp=Z,776nm,21.1s,baz=68,slow=36						
ASAR	Alice Springs	25.09	222	P	P	19 45 04.6	-0.5
ASAR				S	S	19 49 26.6	+0.1
ASAR	Alice Springs	25.09	222	P	P	19 45 04.6	-0.5
FUNA	Funafuti	27.16	98	P	P	19 45 22.3	-1.5
SOEI	Soe	27.80	260	P	P	19 45 29.5	-0.2
SOEI	Soe	27.80	260	P	P	19 45 30.2	+0.5
	comp=Z,1μmcomp=Z,101nm,0.8s						
STKA	Stephens Creek	27.98	199	P	P	19 45 31.2	+0.2
	comp=Z,4.4nm,0.8s,baz=10,slow=9.5,SNR=8.3						
STKA	Stephens Creek	27.98	199	P	P	19 45 30.6	-0.4
STKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	Stephens Creek	27.98	199	P	P	19 45 30.6	-0.4
BATI	Baumata	28.44	259	P	P	19 45 36.5	+1.2
	comp=Z,50nm,0.8s						
DAV	Davao City (W)	29.17	295	LR	LR	19 56 44.9	
	comp=Z,5.2nm,18.2s,baz=57,slow=35						
GTOI	Gorontalo	29.58	281	P	P	19 45 46.1	+0.7
	comp=Z,9.7nm,1.0s						
MMRI	Maumere	29.69	262	P	P	19 45 45.7	-0.7
EDFI	Ende, Flores	30.24	262	P	P	19 45 49.7	-1.6
TOLI2	Tolitoli	31.86	281	P	P	19 46 05.1	-0.4
WBSI	Waikabubak, Su	32.57	261	P	P	19 46 10.8	-1.0
	comp=Z,1μmcomp=Z,188nm,0.8s						
MPSI	Mapaga	32.57	279	P	P	19 46 10.3	-1.5
	comp=Z,14nm,0.9s						
FORT	Forrest	33.74	219	P	P	19 46 21.1	-0.7
FORT				IAmb	IAmb	19 46 29.3	
	comp=Z,49nm,0.9s						
JCJ	Chichijima	33.77	344	P	P	19 46 21.2	-0.8
PLAI	Plampang	34.10	262	P	P	19 46 22.6	-2.5
	comp=Z,64nm,0.9s						
PSA00	Pilbara Seismi	34.98	240	P	P	19 46 31.9	-0.8
PSA00				IAmb	IAmb	19 46 47.8	
	comp=Z,67nm,1.4s						
JOW	Kunigami	39.51	326	P	P	19 47 10.8	-0.1
	comp=Z,16nm,0.8s,baz=124,slow=11,SNR=4.6						
JOW	Kunigami	39.51	326	P	P	19 47 11.2	+0.3
JOW				IAmb	IAmb	19 47 46.1	
	comp=Z,61nm,1.2s						
PWJI	Pagerwojo	39.98	264	P	P	19 47 14.3	-0.7
	comp=Z,34nm,0.8s						
GIRL	Giralia	40.23	241	P	P	19 47 17.6	+0.6
PCJI	Pacitan	40.60	264	P	P	19 47 19.2	-1.0
	comp=Z,109nm,1.3s						
TUWZ	Tuamarina	40.79	155	P	P	19 47 21.2	-0.1
UGM	Wanagama	41.25	264	P	P	19 47 26.2	+0.7
MORW	Morawa	41.28	231	P	P	19 47 25.4	-0.2
MORW				IAmb	IAmb	19 47 33.1	
	comp=Z,48nm,1.2s						
YULB	Yu-li	41.51	315	P	P	19 47 27.6	0.0
NACB	Ninganchiao	41.81	316	P	P	19 47 29.5	-0.4
NACB				IAmb	IAmb	19 48 04.2	
	comp=Z,32nm,0.9s						
WKZ	Wanaka	41.90	162	P	P	19 47 29.4	-1.1
TPUB	Ta-pu	41.93	314	P	P	19 47 30.2	-0.7
SSLB	Suanglung	42.01	315	P	P	19 47 32.2	+0.6
YHNB	Yeheng	42.28	316	P	P	19 47 33.9	0.0
YHNB				IAmb	IAmb	19 47 43.5	
	comp=Z,42nm,1.0s						
WHZ	Wether Hill Ro	42.55	164	P	P	19 47 35.5	-0.2
JNU	Nakatsue	43.33	334	P	P	19 47 41.6	-0.5
	comp=Z,17nm,0.9s,baz=69,slow=4.2,SNR=6.1						
JNU	Nakatsue	43.33	334	P	P	19 47 42.6	+0.4
JNU				IAmb	IAmb	19 47 54.0	
	comp=Z,48nm,1.2s						
MJAR	Matsushiro Arr	43.77	344	P	P	19 47 44.6	-1.1
	comp=Z,2.7nm,0.9s,baz=183,slow=7.5,SNR=3.2						
MJAR				PcP	PcP	19 49 31.4	-0.4
	comp=Z,3.3nm,0.9s,baz=175,slow=3.7,SNR=4.6						
MJAR	Matsushiro Arr	43.77	344	P	P	19 47 44.6	-1.1
MJAR				pmax	pmax		
	comp=Z,149nm,0.8s						
SSE	Sheshan	46.81	323	P	P	19 48 10.3	+0.5
SSE				S	S	19 54 59.4	+2.6
SSE				sS	sS	19 55 23.8	+5.4
SSE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SSE				pmax	pmax		
	comp=Z,84nm,4.8s						
SSE				LR	LR		
	comp=Z,300nm,18.0s						
QIZ	Qiongzhong	48.14	302	P	P	19 48 20.8	+0.4
QIZ				S	S	19 55 19.3	+3.1
QIZ				sS	sS	19 55 38.4	+0.5
QIZ				LR	LR		
	comp=Z,250nm,13.7s						
QIZ				LR	LR		
	comp=Z,380nm,12.4s						
QIZ				LR	LR		
	comp=Z,480nm,20.4s						
KSRS	Korea Array	48.27	334	P	P	19 48 19.8	-1.2
	comp=Z,3.1nm,1.0s,baz=148,slow=8.6,SNR=8.8						
KSRS				PcP	PcP	19 49 47.9	+0.5
	comp=Z,2.6nm,1.0s,baz=166,slow=2.6,SNR=5.2						
KSRS				LR	LR	20 09 22.0	
	comp=Z,129nm,18.2s,baz=212,slow=37						
NJ2	Nanjing	48.89	322	*e*P	P	19 48 28.6	+2.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,780nm,18.9s						
NJ2				LR	LR		
	comp=Z,400nm,16.2s						
NJ2				LR	LR		
	comp=Z,700nm,15.2s						
YUK	Yuzh-Kuril'sk	49.62	354	*e*P	P	19 48 30.6	-0.6
YUK				*e*		19 49 51.1	
YUK				*e*		19 50 25.5	
YUK				*e*PPP	PPP	19 51 19.4	
YUK				*e*S	S	19 55 36.3	+0.2
YUK				*e*		19 58 18.1	
YUK				*e*SS	SS	19 59 10.4	+1.3
YUK				*e*SSS	SSS	20 00 33.6	
YUK				pmax	pmax		
	comp=Z,96nm,1.1s						
YUK				pmax	pmax		
	comp=Z,71nm,0.6s						
JKA	Kamikawa-asahi	50.12	351	P	P	19 48 35.9	+0.9
ASAJ	Asahikawa	50.12	351	P	P	19 48 35.9	+0.9
	comp=Z,2.8nm,0.7s,baz=231,slow=21,SNR=5.1						
ASAJ	Asahikawa	50.12	351	P	P	19 48 35.9	+0.9
ASAJ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WHN	Wuhan	50.82	317	⇓P	P	19 48 41.6	+1.1
WHN				LR	LR		
	comp=Z,2μm,23.0s						
VLA	Vladivostok	51.72	341	*i* P	P	19 48 45.8	-1.3
VLA				pmax	pmax		
	comp=Z,14nm,1.4s						
USRK	Ussuriysk Ar.	52.66	342	P	P	19 48 52.8	-1.3
	comp=Z,2.7nm,0.8s,baz=182,slow=8.1,SNR=7.2						
USRK				LR	LR	20 09 44.7	
	comp=Z,120nm,20.1s,baz=146,slow=34						
USRK	Ussuriysk Ar.	52.66	342	P	P	19 48 53.0	-1.0
USRK	Ussuriysk Ar.	52.66	342	P	P	19 48 53.0	-1.0
MNSI	Mandailing Nat	52.72	275	P	P	19 48 53.5	-1.5
	comp=Z,17nm,0.7s						
YSS	Yuzh-Sakhalins	52.87	352	*e*P	P	19 49 03.7	+8.2
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						

comp=Z,190nm,21.8s
LAMP Lampang 56.86 296 P **P 19 49 26.0 +1.0**
comp=Z,29nm,0.8s
KLR Kul'dur 57.30 344 P **P 19 49 26.3 -1.2**
comp=Z,3.2nm,0.7s,baz=169,slow=2.9,SNR=12
KLR LR LR 20 11 20.3
comp=Z,195nm,21.8s,baz=183,slow=33
KLR Kul'dur 57.30 344 *i* P **P 19 49 26.7 -0.8**
KLR pmax pmax
comp=Z,3.0nm,0.7s
CM04 Chiang Mai Arr 57.41 296 P **P 19 49 30.0 +1.2**
comp=Z,128nmcomp=Z,13nm,1.0s
CM09 Chiang Mai Arr 57.41 296 P **P 19 49 30.0 +1.1**
comp=Z,167nmcomp=Z,21nm,1.0s
CM01 Chiang Mai Arr 57.43 296 P **P 19 49 30.9 +1.9**
comp=Z,120nmcomp=Z,15nm,1.1s
CM05 Chiang Mai Arr 57.44 296 P **P 19 49 31.0 +1.9**
comp=Z,92nmcomp=Z,8.3nm,1.2s
CM02 Chiang Mai Arr 57.45 296 P **P 19 49 30.3 +1.2**
comp=Z,116nmcomp=Z,15nm,1.2s
CM31 Chiang Mai Arr 57.46 296 P **P 19 49 29.4 +0.2**
CM31 IAmb IAmb 19 49 32.3
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 57.46 296 P **P 19 49 29.5 +0.3**
comp=Z,12nm,1.1s,baz=125,slow=5.2,SNR=35
CMAR LR LR 20 14 34.2
comp=Z,128nm,18.2s,baz=80,slow=36
CMAR Chiang Mai Arr 57.46 296 P **P 19 49 28.9 -0.3**
CM15 Chiang Mai Arr 57.47 296 P **P 19 49 30.3 +1.0**
comp=Z,16nm,1.0s
CM13 Chiang Mai Arr 57.48 296 P **P 19 49 30.3 +1.0**
comp=Z,123nmcomp=Z,14nm,1.1s
CMMT Chiang Mai 57.57 296 P **P 19 49 30.5 +0.5**
comp=Z,19nm,1.3s
CHTO Chiang Mai 57.57 296 P **P 19 49 30.3 +0.3**
CHTO pmax pmax
comp=Z,31nm,1.3s
CHTO Chiang Mai 57.57 296 P **P 19 49 30.5 +0.5**
comp=Z,20nm,1.3s
CHTO Chiang Mai 57.57 296 P **P 19 49 30.3 +0.3**
CHTO IAmb IAmb 19 49 32.0
comp=Z,31nm,1.3s
PPT Papeete 58.28 107 LR LR 20 09 38.0
comp=Z,105nm,21.2s,baz=322,slow=31
PPT2 Papeete2 58.28 107 *e*S **S 19 57 38.3 +4.1**
comp=Z,169nm,26.0s
PPT2 *e*LR LR 20 06 41.2
comp=Z,200nm,22.5s
CD2 Chengdu 58.59 311 P **P 19 49 37.0 0.0**
CD2 LR LR
comp=Z,480nm,20.2s
CD2 LR LR
comp=Z,670nm,22.5s
CD2 LR LR
comp=Z,750nm,18.3s
PETK Petropavlovsk- 58.59 4 P **P 19 49 36.5 0.0**
comp=Z,2.9nm,0.6s,baz=167,slow=7.4,SNR=15
PETK LR LR 20 10 49.9
comp=Z,299nm,20.8s,baz=193,slow=32
TBI Tubuai 59.00 114 *e*LR LR 20 07 05.3
comp=Z,312nm,29.0s
HHC Hu-ho-hao-te 59.16 325 *e*P **P 19 49 40.3 -0.5**
HHC S S 19 57 34.1 -11
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,94nm,6.3s
HHC LR LR
comp=Z,370nm,19.1s
HHC LR LR
comp=Z,290nm,17.0s
HHC LR LR
comp=Z,550nm,16.8s
LZH Lanzhou 61.18 316 *e*P **P 19 49 55.8 +1.0**
LZH pP pP 19 50 05.6 -3.2
LZH sP sP 19 50 09.3 -5.2
LZH pmax pmax
comp=Z,29nm,1.0s
LZH LR LR
comp=Z,310nm,14.4s
LZH LR LR
comp=Z,290nm,16.3s
LZH LR LR
comp=Z,230nm,17.4s
ZEA Zeya 62.59 344 *e*P **P 19 50 04.7 +1.0**
ZEA *e*S **S 19 58 32.5 +4.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 65.63 318 ⇑P **P 19 50 24.3 +0.2**
GTA pP pP 19 50 35.1 -3.2
GTA sP sP 19 50 38.6 -5.3
GTA sS sS 19 59 27.9 -2.4
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,68nm,5.6s
GTA LR LR
comp=Z,120nm,19.3s
GTA LR LR
comp=Z,190nm,20.7s
GTA LR LR
comp=Z,250nm,20.4s
SHL Shillong 65.98 301 P **P 19 50 25.2 -1.5**
SHL pmax pmax
comp=Z,42nm,1.1s
SHL Shillong 65.98 301 P **P 19 50 25.2 -1.5**
ULN Ulaanbaatar 66.17 329 P **P 19 50 27.3 -0.2**
ULN pmax pmax
comp=Z,18nm,1.1s
ULN Ulaanbaatar 66.17 329 P **P 19 50 27.3 -0.2**
ULN IAmb IAmb 19 50 28.8
comp=Z,18nm,1.1s
SONM Songino Array 66.50 328 P **P 19 50 29.5 0.0**
comp=Z,11nm,0.6s,baz=148,slow=4.9,SNR=72
SONM LR LR 20 18 11.9
comp=Z,301nm,21.5s,baz=140,slow=35
SONM Songino Array 66.50 328 P **P 19 50 29.4 -0.1**
SONM pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 66.50 328 P **P 19 50 29.4 -0.1**
SONM IAmb IAmb 19 50 31.2
comp=Z,14nm,0.8s
LSA Lhasa 67.98 305 P **P 19 50 39.8 +0.1**
LSA pmax pmax
comp=Z,90nm,0.9s
LSA Lhasa 67.98 305 P **P 19 50 39.4 -0.3**
LSA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 67.98 305 P **P 19 50 39.4 -0.3**
LSA IAmb IAmb 19 50 40.9
comp=Z,22nm,1.0s
SEY Seymchan 68.25 0 P **P 19 50 41.0 +0.9**
comp=Z,0.9nm,0.4s,baz=107,slow=22,SNR=4.1
YAK Yakutsk 69.51 349 *i* P **P 19 50 47.5 -0.4**
YAK pmax pmax
comp=Z,16nm,2.1s
YAK Yakutsk 69.51 349 P **P 19 50 46.1 -1.8**
ZAK Zakamensk 69.68 329 *e*P **P 19 50 48.6 -0.8**
ZAK pmax pmax
comp=Z,23nm,1.1s
TAPN Taplejung 70.09 302 *e*P **P 19 50 52.3 -0.3**
ODAN Odare 70.21 301 *e*P **P 19 50 52.8 -0.5**
comp=Z,53nm,0.8s
JIRN Jiri 71.47 301 *e*P **P 19 51 00.4 -0.7**
MOY Mondy 71.61 329 *e*P **P 19 51 00.8 -0.3**
MOY pmax pmax
comp=Z,29nm,2.3s
PKI Pulchoki 72.11 301 *e*P **P 19 51 03.8 -1.1**
PKIN Phulchoki 72.12 301 *e*P **P 19 51 03.9 -1.0**
comp=Z,19nm,0.7s
VNDA Vanda 72.16 178 P **P 19 51 04.4 +0.6**
comp=Z,1.5nm,0.9s,baz=334,slow=7.4,SNR=7.8
VNDA LR LR 20 21 04.5
comp=Z,143nm,19.0s,baz=330,slow=34
VNDA Vanda 72.16 178 P **P 19 51 03.9 0.0**
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 72.16 178 P **P 19 51 03.9 0.0**
SDPT Sand Point 72.20 26 P **P 19 51 04.5 +0.1**
baz=230
CHNA Chernabura Isl 72.27 27 P **P 19 51 05.5 +0.7**
baz=231
KKN Kakani 72.28 301 *e*P **P 19 51 05.0 -0.8**
comp=Z,38nm,0.7s
GKN Gorkha 72.88 301 *e*P **P 19 51 08.5 -0.8**
comp=Z,98nm,1.1s
KOLN Koldanda 73.70 301 *e*P **P 19 51 13.2 -1.0**
comp=Z,67nm,0.9s
DANN Dangsing 73.72 301 *e*P **P 19 51 13.5 -0.9**
BILL Bilibino 74.06 6 ⇓*i*P **P 19 51 15.9 +0.7**
BILL *e* 19 51 30.1
BILL *i* *SP **sP 19 51 35.6 +0.8**
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,58nm,17.0s
PYUN Piuthan 74.31 301 *e*P **P 19 51 16.6 -1.2**
comp=Z,90nm,0.9s
CHIR Chirikof Islan 74.68 28 P **P 19 51 19.6 +0.6**
baz=235
WMQ Urumqi 75.72 318 *e*P **P 19 51 25.8 +0.4**
WMQ PcP **PcP 19 51 39.3 +1.4**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,110nm,3.9s
OHAK Old Harbor 76.54 27 P **P 19 51 30.0 +0.4**
baz=237
OHAK Old Harbor 76.54 27 P **P 19 51 29.8 +0.2**
ANM Nome 76.68 17 P **P 19 51 31.0 +0.7**
baz=224
KDAK Kodiak Island 77.16 27 P **P 19 51 33.2 +0.1**
comp=Z,32nm,1.0s,baz=154,slow=7.0,SNR=9.2
KDAK Kodiak Island 77.16 27 P **P 19 51 33.7 +0.6**
baz=237
N18K Kilae Creek 77.41 23 P **P 19 51 35.5 +0.9**
baz=234,SNR=9.4
SVW2 Sparrevohn 77.78 23 P **P 19 51 36.2 -0.3**
SVW2 IAmb IAmb 19 51 39.5
comp=Z,29nm,0.9s
P19K Oil Pt 77.91 25 P **P 19 51 37.2 -0.1**
baz=236,SNR=5.4
N19K Bonanza Creek 78.05 24 P **P 19 51 38.4 +0.3**
baz=235
DGZ Jazzator, Alta 78.16 323 *c i*P **P 19 51 38.3 -0.8**
DGZ pmax pmax
comp=Z,15nm,0.9s
O20K Slope Mountain 78.40 25 P **P 19 51 40.0 -0.1**
baz=237
TIXI Tiksi 78.49 353 P **P 19 51 39.5 -0.7**
comp=Z,1.7nm,0.6s,baz=135,slow=8.6,SNR=6.9
TIXI Tiksi 78.49 353 *i* P **P 19 51 39.7 -0.5**
HOM Homer 78.59 26 P **P 19 51 41.8 +0.8**
baz=238
L19K White Mountain 78.70 23 P **P 19 51 42.3 +0.7**
baz=234,SNR=23
BRSE Bradley Lake S 79.02 26 P **P 19 51 43.8 +0.4**
baz=238
SPCR Spurr Chakacha 79.19 24 P **P 19 51 44.2 -0.2**
baz=237
M20K Styx River 79.20 23 P **P 19 51 44.6 +0.1**
baz=236
K20K Telida 79.68 22 P **P 19 51 47.8 +0.9**
baz=235,SNR=12
SEW Seward 79.77 26 P **P 19 51 47.8 +0.4**
baz=240
J20K Nowinta River 80.13 21 P **P 19 51 50.1 +0.8**
baz=235,SNR=16
RC01 Rabbit Creek A 80.15 25 P **P 19 51 49.7 +0.2**
baz=239
MK31 Makanchi Array 80.33 319 P **P 19 51 50.1 -0.7**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 80.33 319 P **P 19 51 50.1 -0.7**
MKAR Makanchi Array 80.33 319 P **P 19 51 50.3 -0.6**
comp=Z,9.5nm,1.0s,baz=104,slow=5.7,SNR=47
MKAR LR LR 20 27 35.4
comp=Z,192nm,19.6s,baz=83,slow=36
MKAR Makanchi Array 80.33 319 P **P 19 51 50.1 -0.8**
MKAR Makanchi Array 80.33 319 P **P 19 51 50.0 -0.8**
MAKZ Makanchi 80.54 319 P **P 19 51 51.3 -0.6**
MAKZ pmax pmax
comp=Z,16nm,1.0s
MAKZ Makanchi 80.54 319 P **P 19 51 51.3 -0.6**
CHUM Lake Minchumin 80.63 22 P **P 19 51 52.2 +0.2**
baz=236,SNR=5.5
GHO Glory Hole Cre 80.83 24 IAmb IAmb 19 51 54.1
comp=Z,26nm,0.9s
KNK Knik Glacier 80.84 25 P **P 19 51 53.5 +0.3**
baz=240
KNK Knik Glacier 80.84 25 IAmb IAmb 19 51 54.7
comp=Z,38nm,1.1s
SML Sawmill 81.09 25 P **P 19 51 54.9 +0.3**
baz=240
GLI Glacier Island 81.16 26 P **P 19 51 55.1 +0.2**
baz=242
BPAW Bear Paw Mtn. 81.23 22 P **P 19 51 54.4 -0.9**
baz=238,SNR=6.0
ZALV Zalesovo Beam 81.30 327 P **P 19 51 54.1 -1.6**
comp=Z,6.4nm,0.5s,baz=111,slow=4.8,SNR=34
ZALV LR LR 20 27 32.2
comp=Z,212nm,20.2s,baz=122,slow=35
ZALV Zalesovo Beam 81.30 327 P **P 19 51 54.3 -1.4**
ZALV Zalesovo Beam 81.30 327 P **P 19 51 54.3 -1.4**
IMAR Indian Mountai 81.31 20 P **P 19 51 55.7 +0.1**
I21K Tanana 81.47 21 P **P 19 51 56.7 +0.3**
baz=236,SNR=5.2
WAT1 Susitna Watana 81.51 24 P **P 19 51 56.7 -0.1**
baz=240
SCM Sheep Creek Mo 81.52 25 IAmb IAmb 19 51 58.7
comp=Z,34nm,0.9s
EYAK Cordova Ski Ar 81.59 26 P **P 19 51 57.7 +0.5**
baz=243
RND Reindeer 81.69 23 IAmb IAmb 19 51 58.1
comp=Z,30nm,0.9s
WAT6 Susitna Watana 81.72 24 P **P 19 51 57.9 -0.1**
baz=241
PRZ Przheval'sk 81.73 314 IAmb IAmb 19 52 01.1
comp=Z,48nm,1.1s
MCK McKinley 81.82 23 P **P 19 51 57.9 -0.5**
MCK pmax pmax
comp=Z,37nm,0.8s
MCK McKinley 81.82 23 P **P 19 51 57.6 -0.8**
baz=240,SNR=12
MCK McKinley 81.82 23 P **P 19 51 57.9 -0.5**
MLY Manley 81.83 21 P **P 19 51 58.3 -0.2**
baz=238,SNR=21
MLY Manley 81.83 21 IAmb IAmb 19 51 59.4
comp=Z,16nm,0.7s
KLU Klutina 81.95 25 P **P 19 51 59.7 +0.5**
baz=243
KLU Klutina 81.95 25 P **P 19 51 59.9 +0.7**
KLU IAmb IAmb 19 52 00.9
comp=Z,35nm,1.0s
M24K Tolsona, Glenn 82.13 25 P **P 19 52 00.7 +0.6**
baz=242
M24K Tolsona, Glenn 82.13 25 P **P 19 52 00.8 +0.8**
NEA2 Nenana 82.21 22 P **P 19 51 59.3 -1.0**
baz=239,SNR=12
NEA2 Nenana 82.21 22 IAmb IAmb 19 52 00.6
comp=Z,19nm,0.9s
BMRM Bremner River 82.29 26 P **P 19 52 01.0 +0.1**
baz=244
I23K Minto, Yukon-K 82.39 21 P **P 19 52 00.6 -0.6**
baz=239,SNR=6.0
WRH Wood River Hil 82.51 22 IAmb IAmb 19 52 02.2
comp=Z,18nm,1.0s
KDJ Kajisay 82.52 314 IAmb IAmb 19 52 04.5
comp=Z,40nm,1.1s
N25K Chitina, Valde 82.57 26 P **P 19 52 02.7 +0.3**
baz=244
H23K Yukon River 82.67 21 P **P 19 52 03.1 +0.3**
baz=239,SNR=5.3
HARP HAARP 82.69 25 P **P 19 52 03.5 +0.5**
baz=243
TCOL CIGO, UAF Yank 82.80 22 P **P 19 52 02.5 -0.9**
baz=240
TCOL CIGO, UAF Yank 82.80 22 IAmb IAmb 19 52 03.5
comp=Z,28nm,0.9s
COLA College 82.80 22 *c i*P **P 19 52 01.4 -2.0**
COLA pmax pmax
comp=Z,25nm,0.9s
COLA College 82.80 22 P **P 19 52 02.5 -0.9**
baz=240
COLA College 82.80 22 P **P 19 52 02.4 -0.9**
COLA IAmb IAmb 19 52 03.5
comp=Z,23nm,0.8s
GLB Gilahina Butte 82.84 26 IAmb IAmb 19 52 05.3
comp=Z,30nm,1.0s
CRQE Cirque 82.86 27 P **P 19 52 04.3 +0.3**
baz=245
HDA Harding Lake 82.91 23 P **P 19 52 03.5 -0.5**
baz=241
POKR Poker Plat Res 83.07 22 P **P 19 52 03.7 -1.2**
baz=241
IL31 83.11 22 IAmb IAmb 19 52 04.8
comp=Z,13nm,0.8s
ILAR Eielson Array 83.11 22 P **P 19 52 04.0 -1.0**
comp=Z,11nm,0.7s,baz=249,slow=5.4,SNR=79
ILAR LR LR 20 27 00.4
comp=Z,250nm,19.0s,baz=272,slow=34
H24K Noodor Dome 83.27 21 P **P 19 52 06.2 +0.3**
baz=240
RIDG Independent Ri 83.42 24 P **P 19 52 06.6 -0.1**
baz=243,SNR=7.4
RIDG Independent Ri 83.42 24 IAmb IAmb 19 52 07.9
comp=Z,33nm,1.3s
BOOM Boomskoye usch 83.50 314 IAmb IAmb 19 53 58.7
comp=Z,38nm,1.4s
DOT Dot Lake 83.69 24 P **P 19 52 07.8 -0.3**
DOT IAmb IAmb 19 52 09.3
comp=Z,26nm,1.0s
L26K Log Cabin Wild 83.71 24 P **P 19 52 08.5 +0.2**
baz=245
KURK Kurchatov 83.83 322 P **P 19 52 08.1 -0.9**
KURK Kurchatov 83.83 322 P **P 19 52 08.1 -0.9**
LOGN Logan Glacier 83.83 27 IAmb IAmb 19 52 49.2
comp=Z,55nm,1.6s
KURBB Kurchatov Arra 83.86 322 P **P 19 52 08.1 -1.1**
comp=Z,7.2nm,0.9s,baz=110,slow=4.2,SNR=47
SCRK Sand Creek 83.87 24 P **P 19 52 08.9 -0.2**
baz=244,SNR=8.1
SCRK Sand Creek 83.87 24 P **P 19 52 09.4 +0.2**
PINM Pinnacle 83.89 28 P **P 19 52 09.2 -0.1**
baz=248
M27K Edge Creek, AK 84.05 25 P **P 19 52 11.0 +0.8**
baz=246,SNR=9.2
TOLK Toolik Lake Re 84.13 18 P **P 19 52 10.6 +0.3**
baz=238
L27K Beaver Creek, 84.36 25 P **P 19 52 12.1 +0.6**
baz=246,SNR=8.4
QSPA South Pole Qui 84.46 180 P **P 19 52 12.1 0.0**
QSPA IAmb IAmb 19 52 20.5
comp=Z,17nm,1.0s
FYU Fort Yukon 84.56 21 IAmb IAmb 19 52 13.9
comp=Z,16nm,0.8s
AAK Ala-Archa 84.57 314 P **P 19 52 13.3 +0.1**
AAK pmax pmax
comp=Z,81nm,0.5s
AAK Ala-Archa 84.57 314 P **P 19 52 13.3 +0.1**
MAW Mawson 84.61 203 P **P 19 52 12.9 +0.2**
comp=Z,2.6nm,0.7s,baz=111,slow=8.6,SNR=13
MAW LR LR 20 27 26.7
comp=Z,253nm,20.8s,baz=63,slow=34
MAW Mawson 84.61 203 P **P 19 52 12.9 +0.2**
K27K Chicken 84.65 24 IAmb IAmb 19 52 15.2
comp=Z,21nm,1.1s
EGAK Eagle 85.32 23 P **P 19 52 16.8 +0.6**
baz=247
EGAK Eagle 85.32 23 IAmb IAmb 19 52 17.9
comp=Z,18nm,1.0s
HYT Haines Junctio 85.43 28 P **P 19 52 18.0 +1.0**
HYT IAmb IAmb 19 52 18.9
comp=Z,21nm,0.9s
DAWY Dawson 85.75 24 IAmb IAmb 19 52 20.6
comp=Z,36nm,1.4s
CRAG Craig 86.02 33 P **P 19 52 20.9 +1.0**
baz=254
SKAG Skagway 86.02 29 P **P 19 52 20.2 +0.4**
baz=252
WRAK Wrangell Islan 86.69 33 P **P 19 52 24.2 +1.0**
baz=255
KK31 Karatay Array 87.53 314 P **P 19 52 27.1 -0.5**
KK31 pmax pmax
comp=Z,72nm,0.8s
KK31 Karatay Array 87.53 314 P **P 19 52 27.1 -0.5**
EPYK Eagle Plains 87.62 22 P **P 19 52 28.0 +0.4**
baz=251
EPYK Eagle Plains 87.62 22 P **P 19 52 27.9 +0.4**
DLBC Dease Lake 88.39 31 LR LR 20 25 58.6
comp=Z,441nm,20.6s,baz=322,slow=31
BVAR Borovoye Array 89.32 323 P **P 19 52 33.7 -2.1**
comp=Z,2.6nm,0.7s,baz=198,slow=14,SNR=21
BRVK Borovoye 89.39 323 *d i*P **P 19 52 34.5 -1.6**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 89.39 323 P **P 19 52 34.7 -1.5**
BRVK IAmb IAmb 19 52 35.7
comp=Z,13nm,1.3s
INK Inuvik 89.39 21 P **P 19 52 35.6 -0.1**
comp=Z,3.1nm,0.5s,baz=268,slow=4.5,SNR=7.1
INK Inuvik 89.39 21 P **P 19 52 35.4 -0.4**
baz=254
INK Inuvik 89.39 21 IAmb IAmb 19 52 36.9
comp=Z,17nm,1.3s
J01E Myrtle Point 89.41 47 P **P 19 52 36.8 +0.3**
baz=262
L02E Cave Junction 89.51 48 P **P 19 52 37.7 +0.7**
baz=262
K02D Willamette Mer 89.54 47 P **P 19 52 37.5 +0.3**
baz=262
I02D Swisshome 89.61 46 P **P 19 52 37.5 +0.2**
baz=262
O02D Mt. Diablo Mer 89.86 50 P **P 19 52 38.7 -0.1**
baz=263
I03D Drain, OR 89.91 46 P **P 19 52 38.9 +0.2**
baz=262
M02C Callahan 89.97 49 P **P 19 52 39.4 +0.1**
baz=263
NLWA Neilton Lookou 90.05 43 P **P 19 52 40.5 +1.1**
HUMO Hull Mountain 90.05 47 IAmb IAmb 19 52 42.7
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 90.12 48 IAmb IAmb 19 52 42.6
comp=Z,22nm,1.4s
G03D McMinnville, O 90.17 45 P **P 19 52 39.8 -0.1**
baz=262
H04D Lebanon 90.45 45 P **P 19 52 41.0 -0.3**
baz=263
L04D Klamath Falls 90.48 48 P **P 19 52 41.3 -0.4**
baz=263
D03D Eldon 90.59 42 P **P 19 52 42.1 +0.3**
baz=262
I04A Tendick Farm, 90.59 46 P **P 19 52 41.8 -0.2**
baz=263
O03E Paynes Creek 90.63 50 P **P 19 52 42.1 -0.2**
baz=263
J04D Umpqua Nationa 90.74 47 P **P 19 52 43.0 0.0**
baz=263
D04E Lakebay 90.76 43 P **P 19 52 43.4 +0.7**
baz=263
M04C Macdoel 90.77 48 P **P 19 52 44.0 +0.9**
baz=263
ORV Oroville 90.78 51 IAmb IAmb 19 54 03.7
comp=Z,16nm,1.6s
E04D Cinebar 90.82 43 P **P 19 52 43.6 +0.7**
baz=263
H04A Detroit Lake 90.86 45 P **P 19 52 43.0 -0.3**
H04A IAmb IAmb 19 52 45.5
comp=Z,18nm,1.2s
K04D Chiloquin, OR 90.93 47 P **P 19 52 44.3 +0.5**
baz=263
A04D Lummi Island 91.00 41 P **P 19 52 44.9 +1.2**
baz=263
AFDM Forest Hills D 91.12 51 IAmb IAmb 19 52 48.7
comp=Z,11nm,1.3s
B05A Bryant 91.34 42 P **P 19 52 46.1 +0.7**
baz=263
J05D Fort Rock, OR 91.38 47 P **P 19 52 47.0 +1.1**
baz=264
I05D Terrebonne, OR 91.42 46 P **P 19 52 46.7 +0.8**
baz=264
K05A Summer Lake 91.57 47 P **P 19 52 48.0 +1.2**
PKM Mcpherson Peak 91.63 55 P **P 19 52 48.2 +0.9**
baz=264
SNCC San Nicolas Is 91.71 57 P **P 19 52 48.3 +0.8**
baz=264
PAHR Pah Rah Range 92.42 51 IAmb IAmb 19 53 15.8
comp=Z,14nm,1.4s
YERR Yerington 92.46 51 P **P 19 52 51.5 +0.5**
YERR IAmb IAmb 19 52 53.3
comp=Z,21nm,1.5s
MDPB Devils Postpil 92.47 53 IAmb IAmb 19 54 24.2
comp=Z,11nm,0.9s
ISA Isabella, Lake 92.79 55 P **P 19 52 52.8 +0.3**
baz=265
C36M Paulatuk 92.97 21 P **P 19 52 52.1 -0.2**
baz=262
LHV Little Huntoon 92.98 52 P **P 19 52 53.9 +0.8**
LHV IAmb IAmb 19 52 58.9
comp=Z,12nm,1.0s

RYN	Ryan	92.99	52	IAmb	IAmb	19 52 55.8
	comp=Z,8.6nm,1.1s					
EDW2	Edwards Air Fo	93.12	55	P	P	19 52 54.3 +0.3
	baz=265					
NVAR	Mina Array Bea	93.15	52	P	P	19 52 55.4 +1.2
	comp=Z,7.3nm,1.1s,baz=257,slow=4.9,SNR=10.0					
NVAR				LR	LR	20 30 55.9
	comp=Z,347nm,18.6s,baz=270,slow=33					
CWC	Cottonwood Cre	93.17	54	P	P	19 52 55.3 +1.0
	baz=266					
B08A	Colville Reser	93.19	42	IAmb	IAmb	19 52 55.3
	comp=Z,9.3nm,1.2s					
G08A	Pilot Rock	93.20	45	P	P	19 52 54.0 -0.2
G08A				IAmb	IAmb	19 52 56.1
	comp=Z,13nm,1.1s					
NV11	Mina Array Sit	93.26	52	IAmb	IAmb	19 52 57.0
	comp=Z,15nm,1.2s					
BFSC	Mount Baldy Ra	93.34	56	P	P	19 52 55.8 +0.6
	baz=266					
KVN	Kaiserville	93.35	51	IAmb	IAmb	19 52 59.1
	comp=Z,10nm,1.1s					
J08A	Circle Bar Ran	93.40	47	IAmb	IAmb	19 52 57.1
	comp=Z,10nm,1.0s					
LRMC	Laurel Mtn Rad	93.42	55	P	P	19 52 56.4 +1.0
	baz=266					
E09A	Wood Farm, Sta	93.86	44	P	P	19 52 56.2 -0.8
E09A				IAmb	IAmb	19 52 58.9
	comp=Z,15nm,1.1s					
FURC	Furnace Creek,	94.15	54	P	P	19 53 00.1 +1.5
	baz=266					
MONP2	Monument Peak	94.28	57	P	P	19 52 59.9 +0.3
	baz=266					
PFO	Pinyon Flats O	94.30	57	P	P	19 53 00.3 +0.7
	baz=266					
TPFO	Pinon Flats	94.30	57	P	P	19 52 59.8 +0.3
	baz=266					
BMO	Blue Mountains	94.34	46	IAmb	IAmb	19 53 01.1
	comp=Z,14nm,1.2s					
F10A	Beach Ranch, E	94.46	44	IAmb	IAmb	19 53 01.4
	comp=Z,10nm,1.0s					
HEC	Hector,Ludlow	94.48	56	P	P	19 53 01.2 +1.0
	baz=266					
IKP	In-Ko-Pah, Jac	94.53	58	P	P	19 53 01.5 +0.9
	baz=266					
NEW	Newport	94.65	42	P	P	19 53 01.5 +0.8
	baz=267					
NEW	Newport	94.65	42	IAmb	IAmb	19 53 02.3
	comp=Z,12nm,1.1s					
TPNV	Topopah Spring	94.67	53	P	P	19 53 01.4 +0.2
TPNV				pmax	pmax	
	comp=Z,12nm,1.2s					
TPNV	Topopah Spring	94.67	53	P	P	19 53 02.3 +1.1
	baz=267					
TPNV	Topopah Spring	94.67	53	P	P	19 53 01.4 +0.2
TPNV				IAmb	IAmb	19 53 03.7
	comp=Z,12nm,1.2s					
BELC	Belle Mtn. Jos	94.70	56	P	P	19 53 02.4 +1.0
	baz=266					
TUQ	Turquoise Moun	94.85	55	P	P	19 53 02.8 +0.8
	baz=267					
GMRC	Granite Mounta	95.03	56	P	P	19 53 04.3 +1.5
	baz=267					
R11A	Troy Canyon, C	95.27	52	P	P	19 53 04.7 +0.8
	baz=267					
R11A	Troy Canyon, C	95.27	52	IAmb	IAmb	19 53 06.3
	comp=Z,15nm,1.5s					
MFID	Camas Ranch	95.33	47	IAmb	IAmb	19 53 06.1
	comp=Z,16nm,1.6s					
IRM	Iron Mountain	95.42	56	P	P	19 53 05.8 +1.3
	baz=267					
SHPR	Sheep Range	95.52	54	IAmb	IAmb	19 53 15.2
	comp=Z,12nm,1.3s					
PRN	Pahroc Range	95.65	53	IAmb	IAmb	19 53 09.0
	comp=Z,12nm,1.1s					
SPR3	Spring Creek 3	96.28	51	IAmb	IAmb	19 53 12.9
	comp=Z,15nm,1.2s					
GEYT	Alibeck	96.41	307	LR	LR	20 39 16.1
	comp=Z,144nm,19.9s,baz=195,slow=37					
GEYT	Alibeck	96.41	307	P	P	19 53 08.4 -0.5
YKA	Yellowknife Ar	96.42	28	P	P	19 53 07.7 -0.6
	comp=Z,2.9nm,0.8s,baz=268,slow=4.2,SNR=14					
ARU	Arti	96.45	326	P	P	19 53 05.6 -3.1
	comp=Z,0.5nm,0.5s,baz=124,slow=8.0,SNR=4.0					
ARU	Arti	96.45	326	*e iP*	P	19 53 06.3 -2.3
ARU						19 57 00.6
ARU				S	SKSac	20 03 38.5 -2.7
ARU				SP	SP	20 05 44.1 -0.8
ARU				SS	SS	20 11 13.7 +14
ARU				pmax	pmax	
	comp=Z,5.0nm,1.1s					
ARU				MLR	MLR	
	comp=Z,463nm,22.0s					
AKTO	Aktyubinsk	96.75	320	P	P	19 53 07.5 -2.6
	comp=Z,0.7nm,0.4s,baz=90,slow=8.0,SNR=3.6					
WALA	Waterton Lakes	96.81	41	IAmb	IAmb	19 53 12.3
	comp=Z,15nm,1.1s					
214A	Organ Pipe Nat	97.28	59	P	Pdif	19 53 13.6 +0.5
	baz=268					
MTPU	Mount Pierson	97.94	52	IAmb	IAmb	19 53 20.4
	comp=Z,13nm,1.4s					
TUC	Tucson	99.01	58	P	Pdif	19 53 21.1 +0.2
	baz=269					
BW06	Boulder Array	99.91	48	P	Pdif	19 53 25.3 +0.4
	baz=272					
PDAR	Pinedale Array	99.91	48	P	Pdif	19 53 24.9 +0.1
	comp=Z,2.6nm,1.0s,baz=250,slow=3.0,SNR=9.6					
PDAR				LR	LR	20 37 04.5
	comp=Z,200nm,18.0s,baz=277,slow=34					
RLMT	Red Lodge	100.04	45	P	Pdif	19 53 26.2 +0.8
	baz=272					
S22A	4UR Ranch, Cre	102.18	53	P	Pdif	19 53 35.5 +0.3
	baz=272					
TXAR	Lajitas Array	105.17	61	PKKP		20 09 40.1
	comp=Z,0.5nm,0.9s,baz=124,slow=4.8,SNR=2.7					
ARCES	ARCESS Array B	107.30	343	PKiKP	PKiKP	19 58 04.5 -0.8
	comp=Z,0.8nm,0.7s,baz=75,slow=1.0,SNR=1.9					
FINES	FINESS Array B	111.36	335	PKiKP	PKiKP	19 58 12.9 -0.2
	comp=Z,1.7nm,0.9s,baz=0.0,slow=2.7,SNR=4.7					
MNK	Minsk	113.77	328	*i* PKIKP	PKiKP	19 58 08.9 -9.0
MNK				*i*		19 58 24.1
MNK				*i* PS	PS	20 08 40.9 -7.6
MNK				*i* SS	SS	20 14 56.0 +0.4
MNK				pmax	pmax	
	comp=E,2.0nm,0.9s					
MNK				pmax	pmax	
	comp=Z,18nm,0.7s					
MNK				MLR	MLR	
	comp=Z,222nm,19.0s					
MNK				MLR	MLR	
	comp=E,18nm,21.0s					
MNK				MLR	MLR	
	comp=N,16nm,1.0s					
MNK	Minsk	113.77	328	*i* LRM	MLR	20 47 30.9
	comp=N,16nm,0.7s					
MNK	Minsk	113.77	328	*i* PKP	PKiKP	19 58 08.9 -8.9
	comp=E,2.0nm,0.9s					
MNK	Minsk	113.77	328	*i* PKP	PKiKP	19 58 08.9 -8.9
MNK	Minsk	113.77	328	*i* PKP	PKiKP	19 58 08.9 -8.9
	comp=Z,18nm,0.7s,baz=244					
MNK	Minsk	113.77	328	*i* pPKP	PKiKP	19 58 24.1 +6.2
MNK	Minsk	113.77	328	*i* PP	PP	19 59 03.6 -7.4
MNK	Minsk	113.77	328	*i* PPP	PPP	20 01 27.6
MNK	Minsk	113.77	328	*i* SKS	SKSac	20 04 35.1 -25
MNK	Minsk	113.77	328	*i* PS	PS	20 08 41.0 -7.5
MNK	Minsk	113.77	328	*i* SS	SS	20 14 56.1 +0.4
MNK	Minsk	113.77	328	*i* SSS	SSS	20 19 02.9
MNK	Minsk	113.77	328	*i* LQ	LQ	20 39 21.7
MNK	Minsk	113.77	328	*i* LR	LR	20 42 00.9
MNK	Minsk	113.77	328	*i* LRM	MLR	20 46 43.2
	comp=Z,222nm,19.5s					
MNK	Minsk	113.77	328	*i* LRM	MLR	20 46 58.7
	comp=E,18nm,20.8s					
X40A	Basin Creek Fa	113.79	55	P	PKiKP	19 58 18.4 -0.2
	baz=280					
AKASG	Malin Array Be	114.59	324	PKP	PKiKP	19 58 19.1 -0.5
	comp=E,0.7nm,0.4s,baz=59,slow=2.5,SNR=4.1					
BRTR	Keskin Array B	115.17	311	PKP	PKiKP	19 58 21.1 -0.2
	comp=E,1.0nm,0.8s,baz=132,slow=3.7,SNR=5.1					
NB2	NORSAR Subarra	117.30	340	PKPdf	PKPdf	19 58 24.2 -0.4
	comp=Z,1.2nm,0.8s,baz=43,slow=1.8					
NOA	NORSAR Array B	117.30	340	PKP	PKPdf	19 58 23.8 -0.8
	comp=Z,0.9nm,0.7s,baz=47,slow=1.9,SNR=4.9					
BURAR	Bucovina Array	118.26	322	⇑P	PKPdf	19 58 24.9 -2.0
BURAR	Bucovina Array	118.26	322	⇑PKIKP	PKPdf	19 58 24.9 -2.0
MLR	Muntele Rosu	118.67	320	⇑P	PKPdf	19 58 28.6 +0.8
MLR	Muntele Rosu	118.67	320	⇑PKIKP	PKPdf	19 58 28.6 +0.8
KOLS	Kolonicke sedl	119.42	324	*e*PKIKP	PKPdf	19 58 29.7 +0.7
KOLS	Kolonicke sedl	119.42	324	*e*PKP	PKPdf	19 58 29.7 +0.7
CRVS	Cervenica-Dubn	119.90	325	*e*PKIKP	PKPdf	19 58 30.7 +0.8
CRVS	Cervenica-Dubn	119.90	325	*e*PKP	PKPdf	19 58 30.7 +0.8
P52A	Corning	120.73	47	P	PKPdf	19 58 31.2 -0.6
	baz=290					
GZR	Gura Zlata	120.74	321	⇑P	PKPdf	19 58 31.0 -0.7
GZR	Gura Zlata	120.74	321	⇑PKIKP	PKPdf	19 58 31.0 -0.7
ALGO	Algonquin Park	120.95	39	P	PKPdf	19 58 30.8 -1.2
	baz=297					
M53A	Wt Miller and	121.11	44	P	PKPdf	19 58 32.6 +0.2
	baz=292					
CHGQ	Chibougamau	121.12	33	P	PKPdf	19 58 31.4 -0.8
	baz=303					
O53A	New Philadelph	121.17	46	P	PKPdf	19 58 32.3 -0.3
	baz=291					
N53A	Lisbon	121.23	45		PKPdf	19 58 32.8 +0.1
OKC	Ostrava-Krasne	121.28	327	AMS	AMS	20 51 30.0
	comp=Z,200nm,20.9s					
BZS	Buzias	121.37	321	⇑P	PKPdf	19 58 32.5 -0.3
BZS	Buzias	121.37	321	⇑PKIKP	PKPdf	19 58 32.5 -0.3
VTS	Vitosha	121.62	317	⇑P	PKPdf	19 58 33.1 -0.5
VTS	Vitosha	121.62	317	⇑PKIKP	PKPdf	19 58 33.1 -0.5
VTS	Vitosha	121.62	317		PKPdf	19 58 33.0 -0.5
MDVR	Moldovita	121.69	320	⇑P	PKPdf	19 58 31.9 -1.7
N54A	Moraine State	121.77	45	P	PKPdf	19 58 33.9 +0.1
	baz=293					
M54A	Oil Creek Stat	121.78	44	P	PKPdf	19 58 34.4 +0.6
	baz=293					
KRLC	Kraliky	121.88	328	AMS	AMS	20 51 50.0
	comp=Z,200nm,18.6s					
OSTC	Ostas	121.90	328	*e*PKPDF	PKPdf	19 58 34.2 +0.5
DPC	Dobruska-Polom	121.96	328	AMS	AMS	20 50 30.0
	comp=Z,200nm,24.0s					
CHVC	Chvalec	121.97	328	AMS	AMS	20 51 10.0
	comp=Z,300nm,22.8s					
UPC	Upice	122.04	328	AMS	AMS	20 51 40.0
	comp=Z,200nm,23.1s					
JAVC	Velka Javorina	122.07	326	*e*PKP	PKiKP	19 58 35.9 +1.6
VRAC	Vranov	122.41	327	*e*PKP	PKPdf	19 58 35.5 +0.8
KRUC	Moravsky	122.66	327	*e*PKP	PKPdf	19 58 35.7 +0.5
PVCC	Panska Ves	122.77	329	AMS	AMS	20 54 30.0
	comp=Z,200nm,22.6s					
KMSC	Kings Mountain	122.81	51	P	PKPdf	19 58 36.7 +0.7
	baz=288					
K56A	Middlesex	122.87	42	P	PKPdf	19 58 36.3 +0.4
	baz=296					
TREC	Trest	123.01	327	AMS	AMS	20 51 30.0
	comp=Z,300nm,22.5s					
O56A	Blue Knob Stat	123.04	45	P	PKPdf	19 58 36.6 +0.4
	baz=294					
CLL	Collm	123.07	331	*e*PKPdf	PKPdf	19 58 36.0 +0.1
CLL				Lm	MLR	20 54 00.0
	comp=Z,200nm,20.4s					
CLL	Collm	123.07	331	*e*PKIKP	PKPdf	19 58 36.0 +0.1
DIVS	Divibare	123.10	320		PKPdf	19 58 34.2 -2.1
PRU	Pruhonice	123.11	329	AMS	AMS	20 52 10.0
	comp=Z,200nm,22.8s					
H57A	Richville	123.31	39	P	PKPdf	19 58 36.4 -0.2
	baz=299					
SSPA	Standing Stone	123.36	44	P	PKPdf	19 58 36.6 -0.1
	baz=294					
SSPA	Standing Stone	123.36	44		PKPdf	19 58 36.7 -0.1
I57A	Carthage	123.39	40	P	PKPdf	19 58 36.4 -0.4
	baz=298					
D58A	Chemin du LacG	123.47	35	P	PKPdf	19 58 36.7 -0.2
	baz=303					
CONA	Conrad Observa	123.59	326	*e*P	PKPdf	19 58 36.8 -0.4
	comp=Z,2.1nm,0.8s					
FNA	Florina	123.65	316	PKIKP	PKPdf	19 58 36.1 -1.3
FNA	Florina	123.65	316		PKPdf	19 58 36.1 -1.3
LONY	Lake Ozonia	123.73	39	P	PKPdf	19 58 37.2 -0.2
	baz=300					
J58A	Remsen	123.90	40	P	PKPdf	19 58 37.8 0.0
	baz=298					
CKRC	Cesky Krumlov	123.92	328	*e*PKPDF	PKPdf	19 58 38.0 +0.3
CKRC				*ex*	x	19 58 45.8
CKRC				AMS	AMS	20 52 30.0
	comp=Z,300nm,18.6s					
I58A	Old Forge	123.94	40	P	PKPdf	19 58 37.1 -0.8
	baz=299					
BINY	Binghamton	123.98	42	P	PKPdf	19 58 37.5 -0.5
	baz=297					
NKC	Novy Kostel	124.02	330	AMS	AMS	20 52 30.0
	comp=Z,200nm,21.5s					
H58A	Gabriels	124.08	39	P	PKPdf	19 58 38.0 -0.1
	baz=300					
KHC	Kasperske Hory	124.12	328	*e*PKIKP	PKPdf	19 58 38.0 -0.1
KHC				*e*		19 58 46.5
KHC				MLR	MLR	
	comp=Z,200nm,16.7s					
KHC	Kasperske Hory	124.12	328	*e*PKPDF	PKPdf	19 58 38.0 -0.1
KHC				*ex*	x	19 58 46.5
KHC				AMS	AMS	20 52 40.0
	comp=Z,200nm,16.7s					
KHC	Kasperske Hory	124.12	328		PKPdf	19 58 37.8 -0.3
ARSA	Arzberg	124.16	325	*e*P	PKiKP	19 58 39.7 +1.2
	comp=Z,1.7nm,0.6s					
GERES	GERESS Array B	124.23	328	PKP	PKPdf	19 58 38.4 0.0
	comp=Z,1.9nm,0.5s,baz=72,slow=2.1,SNR=22					
MOA	Molln	124.51	327	*e*P	PKiKP	19 58 40.4 +1.3
	comp=Z,7.1nm,0.8s					
I59A	Olmsteadville	124.59	39	P	PKPdf	19 58 38.9 -0.1
	baz=300					
D60A	Saint Jean D'O	124.69	35	P	PKPdf	19 58 38.8 -0.3
	baz=304					
E60A	Ste Agathe de	124.70	35	P	PKPdf	19 58 38.4 -0.8
	baz=304					
MVL	Millersville	124.70	44		PKPdf	19 58 38.7 -0.6
N59A	State Game Lan	124.70	43	P	PKPdf	19 58 39.3 -0.1
	baz=296					
SOKA	Soboth	124.76	325	*e*P	PKPdf	19 58 39.1 -0.3
	comp=Z,4.8nm,1.4s					
H60A	Morristown	124.92	38	P	PKPdf	19 58 39.6 -0.1
	baz=301					
I60A	Shoreham	124.93	39	P	PKPdf	19 58 40.3 +0.7
	baz=300					
D61A	St Aubert, Com	124.94	34	P	PKPdf	19 58 39.6 0.0
	baz=305					
OBKA	Obir	125.13	325	*e*P	PKPdf	19 58 39.8 -0.3
	comp=Z,4.9nm,1.0s					
J60A	Lant Hill Farm	125.15	40	P	PKPdf	19 58 40.2 0.0
	baz=300					
F61A	St Evariste	125.18	36	P	PKPdf	19 58 40.2 +0.1
	baz=304					
E61A	Lac Etchemin	125.21	35	P	PKPdf	19 58 40.9 +0.7
	baz=305					
P60A	Greenville	125.28	44	P	PKPdf	19 58 40.4 -0.1
	baz=296					
H61A	Lyndonville	125.41	37	P	PKPdf	19 58 41.3 +0.6
	baz=302					
KBA	Koelnbreinsper	125.47	326	*e*P	PKPdf	19 58 40.3 -0.5
	comp=Z,6.3nm,1.4s					
K61A	Williamstown	125.53	40	P	PKPdf	19 58 41.2 +0.3
	baz=300					
LBNH	Lisbon	125.56	38	P	PKPdf	19 58 41.2 +0.3
	baz=302					
MYKA	Terra Mystica	125.57	326	*e*P	PKPdf	19 58 41.0 +0.1
	comp=Z,2.5nm,0.9s					
D62A	Allapoint, All	125.64	34	P	PKPdf	19 58 40.6 -0.3
	baz=306					
E62A	Clayton Lake	125.65	34	P	PKPdf	19 58 40.5 -0.5
	baz=306					
H62A	Milan	125.85	37	P	PKPdf	19 58 40.7 -0.7
	baz=303					
G62A	West of Eustis	125.87	36	P	PKPdf	19 58 41.1 -0.4
	baz=304					
PAL	Palisades	125.91	42	P	PKPdf	19 58 42.1 +0.4
	baz=298					
I62A	Tamworth	126.12	38	P	PKPdf	19 58 42.0 0.0
	baz=302					
ABTA	Abfaltersbach	126.13	326	*e*P	PKPdf	19 58 41.4 -0.6
	comp=Z,7.6nm,1.3s					
J62A	Henniker	126.17	39	P	PKPdf	19 58 42.4 +0.3
	baz=301					
K62A	Royalston	126.19	40	P	PKPdf	19 58 42.1 0.0
	baz=301					
WATA	Walderalm	126.28	327	*e*P	PKPdf	19 58 42.7 +0.3
	comp=Z,3.3nm,0.6s					
WTTA	Wattenberg	126.29	327	*e*P	PKPdf	19 58 42.4 0.0
	comp=Z,8.6nm,1.0s					
E63A	Oxbow	126.38	34	P	PKPdf	19 58 42.2 -0.2
	baz=307					
F63A	Nahmakanta, Br	126.42	35	P	PKPdf	19 58 42.3 -0.3
	baz=306					
PQI	Presque Isle	126.45	33		PKPdf	19 58 41.8 -0.7
G63A	Kingsbury	126.46	36	P	PKPdf	19 58 42.0 -0.6
	baz=305					
MOTA	Moosalm	126.52	328	*e*P	PKPdf	19 58 41.8 -1.1
	comp=Z,8.3nm,1.2s					
SQTA	Sankt Quirin	126.55	328	*e*P	PKPdf	19 58 42.9 0.0
PKME	Peaks-Kenny Pk	126.56	35	P	PKPdf	19 58 40.9 -1.9
	baz=305					
J63A	Strafford	126.59	38	P	PKPdf	19 58 42.9 0.0
	baz=302					
RETA	Reutte	126.62	328	*e*P	PKPdf	19 58 43.3 +0.4
	comp=Z,4.0nm,1.0s					
K63A	Dunstable	126.62	39	P	PKPdf	19 58 43.7 +0.8
	baz=301					
HRV	Adam Dziewonsk	126.70	39	P	PKPdf	19 58 43.6 +0.4
	baz=301					
E64A	Bridgewater	126.71	34	P	PKPdf	19 58 43.1 +0.1
	baz=307					
F64A	Sherman	126.75	34	P	PKPdf	19 58 43.2 +0.1
	baz=306					
G64A	Maxfield	126.88	35	P	PKPdf	19 58 43.7 +0.4
	baz=306					
MATE	Matera	126.88	318	⇑P	PKPdf	19 58 42.4 -1.1
FETA	Feichten	126.93	328	*e*P	PKPdf	19 58 42.6 -1.1
	comp=Z,3.4nm,0.8s					
SGRT	San Giovanni R	126.96	320	PKPdf	PKPdf	19 58 43.2 -0.5
H64A	Troy	126.96	36	P	PKPdf	19 58 43.9 +0.3
	baz=305					
L63A	North Scituate	127.00	40	P	PKPdf	19 58 44.0 +0.3
	baz=301					
I64A	Boothbay	127.12	37	P	PKPdf	19 58 44.7 +0.8
	baz=304					
DAVA	Damuels	127.21	328	*e*P	PKPdf	19 58 44.5 +0.4
	comp=Z,3.9nm,0.8s					
L64A	Middleborough	127.45	40	P	PKPdf	19 58 45.0 +0.4
	baz=302					
H65A	Eastbrook	127.50	36	P	PKPdf	19 58 45.5 +0.9
	baz=306					
G65A	Princeton	127.59	35	P	PKPdf	19 58 45.1 +0.3
	baz=307					
H66A	Whiting	127.98	35	P	PKPdf	19 58 46.3 +0.8
	baz=307					
TUE	Stuetta	128.01	328		PKPdf	19 58 44.7 -1.1
BNI	Bardonecchia	130.35	328	PKIKP	PKPdf	19 58 50.4 +0.2
BNI	Bardonecchia	130.35	328		PKPdf	19 58 50.4 +0.2
KEST	Kesra	134.37	316	PKP	PKPdf	19 58 59.2 +1.2
	comp=Z,4.8nm,0.9s,baz=291,slow=3.2,SNR=7.7					
KEST	Kesra	134.37	316	PKPdf	PKPdf	19 58 58.0 0.0
LPAZ	La Paz	134.78	119	PKP	PKPdf	19 58 58.9 -1.1
	comp=Z,1.8nm,0.8s,baz=5.7,slow=3.4,SNR=5.7					
ESDC	Sonseca Array	139.66	331	PKnKP	PKPpre	19 59 01.3
	comp=Z,0.9nm,1.0s,baz=37,slow=2.2,SNR=4.9					
ESDC				PP	PP	20 02 02.4 0.0
	comp=Z,0.4nm,0.5s,baz=29,slow=5.8,SNR=4.7					
SPB	Sao Paulo	145.42	147		PKPbc	19 59 18.4 +0.2
TOSP	Speyside	147.33	78		PKPdf	19 59 23.1 +1.5
TORD	Torodi Ar. Bea	149.75	287	PKPbc	PKPbc	19 59 30.0 -0.3
	comp=Z,47nm,0.9s,baz=253,slow=1.6,SNR=3.6					
TORD	Torodi Ar. Bea	149.75	287	PKPdf	PKPdf	19 59 25.0 -0.6
TORD				PKPbc	PKPbc	19 59 29.8 -0.6
BDFB	Brasilia	151.12	137	PKPbc	PKPbc	19 59 33.8 +0.1
	comp=Z,9.9nm,0.9s,baz=40,slow=2.6,SNR=7.1					
BDFB	Brasilia	151.12	137	PKIKP	PKPbc	19 59 33.6 -0.1
BDFB	Brasilia	151.12	137		PKPbc	19 59 33.6 -0.1
KOWA	Kowa	154.77	293		PKPbc	19 59 40.8 -0.9
KIC	Kosan Boka	156.85	273	*e*PKP2	PKPab	20 00 06.4 +0.6
	comp=Z,19nm,0.8s					
TIC	Toumodi	157.12	274	*e*PKP2	PKPab	20 00 07.5 +0.5
LIC	Lamto	157.13	273	*e*PKP2	PKPab	20 00 05.9 -1.1
	comp=Z,49nm,1.2s					

IDC ***17*** *19:51:14.2±1.0, 36°.62N×69°.34E, h0km, mb3.7/14, mb1 3.9/19, mb1mx3.7/43, mbtmp3.8/19, ML3.8/4, MS3.5/1, Ms1 3.4/1, ms1mx2.6/55, Error ellipse: s-maj=18.4km s-min=14.5km az=11.0*

BJI ***17*** *19:51:15.0±0.0, 36°.80N×69°.30E, h14km, mB4.7/6, mb4.3/14, Ms3.8/3, Ms7 3.6/3*

NEIC ***17*** *19:51:18.3±2.4, 36°.83N±0°.02×69°.26E±0°.06, h14km±4km, mb4.1/16, Mwr4.1/28, Error ellipse: s-maj=6.7km s-min=3.4km az=90.0*

NEIC ***17*** *19:51:18.1, 36°.85N×69°.27E, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.20; $M_{\theta\theta}$=0.04; $M_{\phi\phi}$=1.23; $M_{r\theta}$=0.10; $M_{\theta\phi}$=0.44; $M_{\phi r}$=0.85; Fault plane solution: M_0=1.55000×10^{15} NP1:ϕ_s=190.83000°, δ=62.01000°, λ=-96.81000°. NP2:ϕ_s=25.10000°, δ=28.74000°, λ=-77.43000°. Principal axes: T 1.6254, Plg17.0000°, Azm286.0000°; N -0.1581, Plg6.0000°, Azm194.0000°; P -1.4673, Plg72.0000°, Azm85.0000°;*

ISC 17 19:51:17.2±0.5, 36°.92N±0°.06×69°.14E±0°.05, h10km, n83, σ2.92, 85, mb4.0/18, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	Chuyangaron	1.73	0		Pn	19 51 49.9	+2.4
CHGR					Sb	19 52 14.4	+3.3
GAR	Garm	2.27	24		Pn	19 51 57.2	+2.2
KBL	Kabul	2.38	182		Pn	19 51 57.9	+1.5
DRK	Karamyk	3.30	38		Pn	19 52 11.0	+1.8
BTK	Batken	3.40	22	Pn	Pn	19 52 13.0	+2.6
TAS	Tashkent	4.40	1	P	Pn	19 52 25.8	+1.7
TAS	Tashkent	4.40	1	Pn	Pn	19 52 25.8	+1.7
ARSB	Arslanbob	5.31	33	Pn	Pn	19 52 37.5	+0.8
KSH	Kashi	5.97	62	P	Pn	19 52 42.4	-3.3
HRA	Herat	6.16	248		Pn	19 52 50.4	+1.9
KK31	Karatay Array	6.26	9	Pn	Pn	19 52 51.2	+1.6
KKAR	Karatay Array	6.26	9	Pn	Pn	19 52 51.2	+1.6
KKAR	Karatay Array	6.26	9	Pn	Pn	19 52 51.4	+1.7
AML	Almayashu	6.28	33	P	Pn	19 52 52.5	+2.3
	SNR=26						
EKS2	Erkin-Say	6.75	30	P	Pn	19 53 00.2	+3.7
	SNR=13						
AAK	Ala-Archa	7.04	34	P	Pn	19 53 02.6	+2.2
	SNR=24						
AAK	Ala-Archa	7.04	34		Pn	19 53 02.6	+2.2
FRU1	Bishkek	7.24	34		Pn	19 53 04.4	+1.4
KBK	Karagaybulak	7.26	36	P	Pn	19 53 06.1	+2.5
	SNR=9.7						
CHMS	Chumysh	7.44	34	P	Pn	19 53 07.7	+1.8
	SNR=36						
USP	Ospenovka	7.55	31	P	Pn	19 53 08.9	+1.6
	SNR=5.9						
ULHL

WMQ	Urumqi	15.71	58	eP		Pn	19 55 00.1	+1.5
WMQ				pmax	pmax			
comp=N,20nm,0.6s								
BVAR	Borovoye Array	16.13	3	Pn		Pn	19 55 03.5	-0.4
comp=N,0.4nm,0.3s,baz=202,slow=22,SNR=7.1								
BRVK	Borovoye	16.16	2	Pn		Pn	19 55 02.4	-1.8
LSA	Lhasa	19.73	105			P	19 55 45.2	-2.3
LSA				IAmb		IAmb	19 55 49.4	
comp=Z,8.2nm,0.7s								
ZAA0	Zalesovo Array	20.19	28	P		P	19 55 50.2	-1.6
ZAA0				IAmb		IAmb	19 55 57.8	
comp=Z,5.5nm,0.6s								
ZALV	Zalesovo Beam	20.19	28	P		P	19 55 51.1	-0.7
comp=Z,4.2nm,0.5s,baz=219,slow=11,SNR=18								
ZALV	Zalesovo Beam	20.19	28	P		P	19 55 50.8	-1.0
ARU	Arti	20.78	343	P		P	19 55 59.6	+1.5
comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=2.0								
ARU				S		S	19 59 44.2	-5.6
comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=1.3								
ARU				Lg		Lg	20 02 28.5	
comp=Z,0.2nm,0.3s,baz=293,slow=21,SNR=1.6								
ARU	Arti	20.78	343	P		P	19 55 59.6	+1.5
ARU				IAmb		IAmb	19 56 19.3	
comp=Z,5.4nm,0.8s								
KBZ	Khabaz	21.08	297	P		P	19 56 04.2	+2.7
comp=Z,1.9nm,0.8s,baz=158,slow=7.5,SNR=4.0								
KBZ				LR		LR	20 06 13.7	
comp=Z,127nm,21.0s,baz=38,slow=42								
KVAR	Kislovodsk Arr	21.27	298	P		P	19 56 06.6	+3.0
comp=Z,2.7nm,0.7s,baz=149,slow=12,SNR=1.3								
GURO	Guroymak-BITLI	21.48	283	P		P	19 56 06.6	+0.5
GURO				IAmb		IAmb	19 56 22.7	
comp=Z,12nm,1.5s								
BELG	Belogornoye	21.64	322	P		P	19 56 08.4	+1.0
comp=Z,9.6nm,0.9s,baz=234,slow=7.4,SNR=3.7								
SHL	Shillong	22.44	114	P		P	19 56 13.9	-2.5
GTA	Gaotai	24.19	75	⇓P		P	19 56 33.5	-0.4
GTA				pmax	pmax			
comp=Z,67nm,4.4s								
GTA				LR	LR			
comp=Z,88nm,14.2s								
GTA				LR	LR			
comp=Z,86nm,13.5s								
GTA				LR	LR			
comp=Z,110nm,13.1s								
GAZ	Gaziantep	25.43	280	P		P	19 56 46.6	+1.5
GAZ				IAmb		IAmb	19 57 14.3	
comp=Z,4.7nm,1.0s								
BR131	Keskin Array S	27.89	287	P		P	19 57 09.0	+1.7
BR131				IAmb		IAmb	19 57 18.8	
comp=Z,4.4nm,1.2s								
BRTR	Keskin Array B	27.89	287	P		P	19 57 08.3	+1.0
comp=Z,0.6nm,0.8s,baz=117,slow=8.8,SNR=3.1								
BRTR	Keskin Array B	27.89	287	P		P	19 57 08.6	+1.3
SONM	Songino Array	29.33	56	P		P	19 57 18.9	-1.2
comp=Z,1.5nm,0.8s,baz=260,slow=8.7,SNR=10								
SONM	Songino Array	29.33	56	P		P	19 57 20.2	+0.1
ULN	Ulaanbaatar	29.78	56	P		P	19 57 24.0	0.0
ULN				IAmb		IAmb	19 57 25.3	
comp=Z,2.2nm,0.6s								
AKASG	Malin Array Be	31.52	309	P		P	19 57 40.1	+0.9
comp=Z,0.2nm,0.3s,baz=84,slow=6.5,SNR=2.1								
CMAR	Chiang Mai Arr	31.97	117	P		P	19 57 41.2	-2.2
comp=Z,0.3nm,0.4s,baz=294,slow=8.8,SNR=2.2								
HHC	Hu-ho-hao-te	33.02	70	eP		P	19 57 51.4	-1.2
HHC				pmax	pmax			
comp=Z,9.0nm,0.8s								
HHC				pmax	pmax			
comp=Z,130nm,5.0s								
FRGS	Fruska Gora	37.61	298	⇑P		P	19 58 33.3	+1.3
PUK	Puka	37.93	293	P		P	19 58 36.3	+1.5
VYHS	Vyhne	38.09	304	ePP		PP	20 00 07.1	+4.2
MORH	Mrgy, Hungar	38.34	300	⇑P		P	19 58 34.5	-3.5
PDG	Podgorica	38.34	294	⇑P		P	19 58 36.8	-1.3
PDG	Podgorica	38.34	294	P		P	19 58 38.1	0.0
PDG				IAmb		IAmb	19 58 39.5	
comp=Z,4.0nm,0.7s								
KRAB	Krabi	39.50	129	P		P	19 58 52.4	+4.3
comp=Z,138μmcomp=Z,2μm,0.9s								
NC303	NORSAR Array S	43.10	323	P		P	19 59 19.1	+1.9
NB201	NORSAR Array S	43.11	323	P		P	19 59 18.2	+0.9
NB2	NORSAR Subarra	43.15	323	P		P	19 59 18.4	+0.8
comp=Z,0.5nm,0.5s,baz=97,slow=8.6								
NOA	NORSAR Array B	43.15	323	P		P	19 59 18.0	+0.3
comp=Z,0.2nm,0.3s,baz=98,slow=7.9,SNR=2.6								
TIXI	Tiksi	45.95	22	P		P	19 59 40.1	+0.3
comp=Z,3.5nm,0.8s,baz=286,slow=5.7,SNR=7.1								
TIXI	Tiksi	45.95	22	P		P	19 59 39.1	-0.7
TIXI				IAmb		IAmb	19 59 41.6	
comp=Z,3.0nm,0.8s								
USRK	Ussuriysk Ar.	47.26	61	P		P	19 59 49.8	-0.7
comp=Z,1.2nm,0.5s,baz=265,slow=7.7,SNR=4.4								
WRA	Warramunga Arr	83.48	121	P		P	20 03 41.4	-3.9
comp=Z,0.5nm,0.8s,baz=314,slow=5.0,SNR=1.8								
ASAR	Alice Springs	85.72	124	P		P	20 03 53.1	-3.4
comp=Z,0.4nm,0.8s,baz=316,slow=4.5,SNR=5.0								

IDC 17 19:59:30.3±9.6, 36°.72N×69°.30E, h0km, mb3.3/2, mb1 3.5/5, mb1mx3.2/39, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=149.5km s-min=73.4km az=82.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	7.14	33	Pn	Pn	20 01 17.9	+1.9
3.8nm,0.3s,baz=228,slow=3.2,SNR=7.4							
MKAR	Makanchi Array	13.96	40	Pn	Pn	20 02 49.4	+0.1
0.1nm,0.3s,baz=236,slow=16,SNR=4.3							
KURBB	Kurchatov Arra	15.40	23	Pn	Pn	20 03 05.8	-2.9
0.0nm,0.3s,baz=216,slow=11,SNR=1.8							
ZALV	Zalesovo Beam	20.31	27	P	P	20 04 07.0	-0.6
0.7nm,0.4s,baz=225,slow=11,SNR=2.7							
SONM	Songino Array	29.34	56	P	P	20 05 34.9	+0.1
0.2nm,0.4s,baz=245,slow=9.4,SNR=2.6							

NOU 17 20:16:55.8, 38°.74S×175°.10E, h234km, ML3.4, North Island, New Zealand

WEL 17 20:17:01.6±0.9, 39°.5S±10°.×17°.5E±°, h186km±7km, M3.2/77, mB4.3/3, ML2.4/7, MLv3.2/77, Mw(mB)3.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=4.1, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.33	155	P	Pn	20 17 27.1	+0.6
WATZ	Wairara	0.37	80	P	Pn	20 17 27.7	+1.0
KATZ	Kakaramea	0.39	121	P	Pn	20 17 27.7	+0.9
RATZ	Rangitukua	0.41	103	P	Pn	20 17 27.7	+1.0
HIZ	Hauiti	0.41	309	P	Pn	20 17 27.3	+0.6
HIZ				S	Sn	20 17 48.7	+2.6
WTVZ	West Tongariro	0.42	143	P	Pn	20 17 27.6	+0.7
WTVZ				S	Sn	20 17 48.3	+1.8
KRVZ	Karewarewa	0.43	137	P	Pn	20 17 27.6	+0.7
KRVZ				S	Sn	20 17 48.1	+1.5
NNVZ	North Ngauruho	0.45	142	P	Pn	20 17 27.8	+0.8
NTVZ	North Tongarir	0.46	135	P	Pn	20 17 27.8	+0.8
TMVZ	Te Maari	0.48	135	P	Pn	20 17 28.0	+0.9
TLZ	Tolley Road	0.49	26	P	Pn	20 17 27.8	+0.7
OTVZ	Oturere	0.50	141	P	Pn	20 17 28.2	+1.0
ETVZ	East Tongariro	0.50	136	P	Pn	20 17 28.0	+0.8
SNVZ	South Ngauruho	0.51	144	P	Pn	20 17 28.1	+0.9
RITZ	Rihia Road	0.51	114	P	Pn	20 17 28.0	+0.9
VRZ	Vera Road	0.53	228	P	Pn	20 17 27.2	+0.1
FWVZ	Far West T-bar	0.53	155	P	Pn	20 17 27.9	+0.5
FWVZ				S	Sn	20 17 48.9	+1.3
WHVZ	Whangaehu Hut	0.57	153	P	Pn	20 17 28.2	+0.6
WHVZ				S	Sn	20 17 49.0	+1.2
WNVZ	Wahianoa	0.61	155	P	Pn	20 17 28.4	+0.7
WNVZ				S	Sn	20 17 49.0	+0.9
MTVZ	Mangateitei	0.63	165	P	Pn	20 17 28.1	+0.4
MOVZ	Moawhango	0.74	149	P	Pn	20 17 28.3	+0.1
MOVZ				S	Sn	20 17 48.8	-0.2
MRHZ	Matea Rd	0.90	94	P	Pn	20 17 29.4	+0.1
DREZ	Durham Road	0.92	243	P	Pn	20 17 29.3	0.0
BHHZ	Black Hill Sta	0.95	139	P	Pn	20 17 29.6	0.0
LREZ	Lake Rotokare	0.96	224	P	Pn	20 17 29.7	+0.2
WAZ	Wanganui	1.00	192	P	Pn	20 17 30.0	+0.1
WAZ				S	Sn	20 17 52.6	+0.7
PREZ	Palmer Road	1.03	236	P	Pn	20 17 30.2	+0.1
NEZ	North Egmont	1.03	241	P	Pn	20 17 30.1	-0.1
BKZ	Black Stump Fm	1.03	112	P	Pn	20 17 30.4	+0.2
KWHZ	Kaweka Forest	1.11	126	P	Pn	20 17 31.2	+0.5
KRHZ	Kereru	1.22	136	P	Pn	20 17 31.8	+0.2
MTHZ	Maungataniwha	1.24	94	P	Pn	20 17 31.9	+0.2
NMHZ	Naumai	1.25	105	P	Pn	20 17 32.9	+1.1
MCHZ	McNeill Hill	1.30	121	P	Pn	20 17 33.1	+0.9
PNHZ	Pukenui	1.35	148	P	Pn	20 17 32.7	0.0
RTZ	Ruatahuna	1.35	84	P	Pn	20 17 32.8	0.0
TSZ	Takapari Road	1.39	157	P	Pn	20 17 32.8	-0.2
OHWZ	Ohakea	1.43	178	P	Pn	20 17 32.7	-0.6
RAHZ	Arahi	1.43	96	P	Pn	20 17 33.9	+0.5
ARHZ	Aropaoanui	1.44	110	P	Pn	20 17 34.0	+0.6
URZ	Urewera	1.54	71	P	Pn	20 17 33.8	-0.6
WHHZ	Waihua	1.57	102	P	Pn	20 17 34.9	+0.3
WPHZ	Waipukurau	1.58	145	P	Pn	20 17 34.6	-0.2
KAHZ	Kahuranaki	1.61	130	P	Pn	20 17 35.4	+0.3
SNGZ	Shannon Statio	1.62	91	P	Pn	20 17 35.3	+0.1
CKHZ	Cape Kidnapper	1.66	123	P	Pn	20 17 35.8	+0.3
DVHZ	Dannevirke	1.67	156	P	Pn	20 17 34.9	-0.8
PXZ	Pawanui	1.76	136	P	Pn	20 17 36.1	-0.4
PRHZ	Porangahau	1.83	145	P	Pn	20 17 36.7	-0.5
MWZ	Matawai	1.83	77	P	Pn	20 17 36.8	-0.5
PRWZ	Pori Road	1.86	163	P	Pn	20 17 36.7	-0.8
MRZ	Mangatainoka R	1.90	173	P	Pn	20 17 36.5	-1.4
ANWZ	Angora Road	1.93	151	P	Pn	20 17 37.5	-0.7
RIGZ	Rimuhau	1.96	89	P	Pn	20 17 38.4	-0.2
OGWZ	Otaki Gorge	2.04	182	P	Pn	20 17 38.0	-1.4
BFZ	Birch Farm	2.05	159	P	Pn	20 17 38.1	-1.4
PRGZ	Paritu Road	2.05	95	P	Pn	20 17 39.4	-0.2
TKGZ	Te Karaka	2.05	81	P	Pn	20 17 39.6	0.0
TIWZ	Tintock	2.06	167	P	Pn	20 17 38.1	-1.5
RUGZ	Raukumara Rang	2.06	68	P	Pn	20 17 38.3	-1.6
MHGZ	Mahia Peninsul	2.10	101	P	Pn	20 17 40.0	0.0
KIWZ	Kapiti Island	2.10	187	P	Pn	20 17 38.1	-2.0
TWGZ	Tauwhareparae	2.21	75	P	Pn	20 17 42.0	+0.6
HAZ	Te Kaha	2.23	64	P	Pn	20 17 40.1	-1.4
DUWZ	D'Urville Isla	2.27	207	P	Pn	20 17 39.6	-2.4
CNGZ	Carnagh Statio	2.33	84	P	Pn	20 17 42.4	-0.2
CAWZ	Cannon Point	2.33	184	P	Pn	20 17 40.5	-2.1
PKGZ	Pakihiroa	2.38	69	P	Pn	20 17 42.3	-1.1
MTWZ	Mount Morrison	2.39	176	P	Pn	20 17 40.8	-2.4
PUZ	Puketiti	2.46	74	P	Pn	20 17 43.9	-0.2
WELZ	Wellington	2.53	188	P	Pn	20 17 42.4	-2.5
TCWZ	Tory Channel	2.55	197	P	Pn	20 17 42.7	-2.4
PAWZ	Paruwai Farm	2.61	177	P	Pn	20 17 43.1	-2.7
MSWZ	Moikau Station	2.64	180	P	Pn	20 17 43.4	-2.8
TRWZ	Traveller	2.64	173	P	Pn	20 17 43.8	-2.3
BHWZ	Baring Head	2.65	186	P	Pn	20 17 43.4	-2.8
PLWZ	Palliser	2.79	180	P	Pn	20 17 44.9	-3.1
NNZ	Nelson	2.83	210	P	Pn	20 17 45.2	-3.2
TUWZ	Tuamarina	2.84	200	P	Pn	20 17 45.5	-3.0
QRZ	Quartz Range	2.94	225	P	Pn	20 17 45.6	-4.0
CMWZ	Cape Campbell	3.08	195	P	Pn	20 17 49.0	-2.4
BSWZ	Blackbirch Sta	3.12	199	P	Pn	20 17 49.0	-2.9
THZ	Tophouse	3.49	210	P	Pn	20 17 52.2	-4.2
KHZ	Kahutara	3.87	199	P	Pn	20 17 57.4	-3.7
DSZ	Denniston Nort	3.97	221	P	Pn	20 17 57.4	-5.1
GVZ	Greta Valley S	4.51	201	P	Pn	20 18 04.9	-4.5
LTZ	Lake Taylor	4.60	209	P	Pn	20 18 05.6	-4.9
AMCZ	Amberley	4.82	203	P	Pn	20 18 08.4	-4.9
INZ	Inchbonnie	4.90	215	P	Pn	20 18 08.7	-5.5
MQZ	McQueen's Vall	5.30	201	P	Pn	20 18 13.4	-6.0
MHCZ	Mount Hutt	5.51	209	P	Pn	20 18 15.9	-6.3
WACZ	Wakanui South	5.77	205	P	Pn	20 18 19.7	-5.8
RPZ	Rata Peaks	5.87	211	P	Pn	20 18 20.8	-6.0
GCSZ	Gaunt Creek Bo	5.87	218	P	Pn	20 18 20.9	-6.0
ARCZ	Arundel	6.01	209	P	Pn	20 18 22.8	-5.9
FOZ	Fox Glacier	6.28	219	P	Pn	20 18 25.8	-6.4
TMZ	Timaru	6.45	208	P	Pn	20 18 28.5	-5.9
LBZ	Lake Benmore	6.77	213	P	Pn	20 18 31.7	-7.0
ODZ	Otahua Downs	7.15	207	P	Pn	20 18 37.4	-6.1
JCZ	Jackson Bay	7.19	221	P	Pn	20 18 37.2	-7.0

IDC 17 20:17:11.6±5.5, 17°.38N×145°.72E, h318km±114km, mb2.8/3, mb1 3.0/4, mb1mx2.7/42, mbtmp3.6/4, Error ellipse: s-maj=136.6km s-min=40.3km az=2.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.86	192	P	Pn	20 18 16.9	-0.4
3.5nm,0.3s,baz=0.0,slow=20,SNR=1.6							
GUMO				S	S	20 19 10.7	+0.7
3.6nm,0.3s,baz=197,slow=21,SNR=1.3							
SONM	Songino Array	44.18	322	P	P	20 24 50.0	+0.1
0.4nm,0.5s,baz=128,slow=8.8,SNR=4.6							
MKAR	Makanchi Array	59.39	314	P	P	20 26 41.1	-0.2
0.2nm,0.5s,baz=85,slow=8.7,SNR=4.2							
ILAR	Eielson Array	64.82	26	P	P	20 27 16.8	0.0
0.4nm,0.5s,baz=248,slow=6.1,SNR=6.3							

INET 17 20:19:49.1, 10°.91N×86°.91W, h15km, MW3.3

UCR 17 20:19:55.5±2.4, 10°.92N×86°.78W, h8km±36km, MW3.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	Horizontes, Gu	1.18	100	eP	Pg	20 20 17.2	-0.4
HZTE				eS	Sg	20 20 33.8	+0.2
SAJU	San Juanillo,	1.35	129	eP	Pn	20 20 19.0	-1.7
PLVR	Palo Verde	1.51	112	eP	Pn	20 20 21.9	-1.2
CNGN	Cerro Negro	1.57	3	eP	Pn	20 20 22.5	-1.3
ACAL	Aguas Claras	1.73	99	i P	Pn	20 20 25.9	-0.1
ACON	Acoyapa	1.89	56	eP	Pn	20 20 27.3	-0.7
JTS	Las Juntas de	1.90	109	eP	Pb	20 20 29.6	-0.9
LAFE	Finca La Fe, P	2.14	121	eP	Pn	20 20 29.9	-1.7
MRVA	Moravia de Chi	3.46	108	eP	Pn	20 20 51.5	+1.7

IDC 17 21:37:40.1±2.3, 21°.56S×178°.18W, h469km±21km, mb3.2/8, mb1 3.4/10, mb1mx3.2/26, mbtmp4.1/10, Error ellipse: s-maj=28.7km s-min=17.1km az=117.0

NEIC 17 21:37:43.0±1.6, 21°.5S±0°.1×178°.55W±0°.07, h464km±14km, mb4.1/25, Error ellipse: s-maj=19.8km s-min=8.2km az=191.0

ISC 17 21:37:41.5±0.6, 21°.51S±0°.08×178°.6W±0°.1, h450km, n71, σ19 92/69, mb4.0/21, 12C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.92	319	P	P	21 39 07.2	+1.9
12nm,0.3s,baz=140,slow=7.6,SNR=66							
MSVF	Nonsavu	4.92	319	P	P	21 39 07.5	+2.1
RAO	Raoul Island	7.73	176	P	P	21 39 35.4	+1.4
AFI	Afiamalu	9.95	42	P	P	21 39 59.3	+1.0
MARNC	Mare, Loyalty	12.47	268	P	P	21 40 26.1	+0.5
PINNC	Pines Island,	13.01	263	P	P	21 40 32.4	+1.0
OUZ	Omahuta	15.29	205	P	P	21 40 57.0	+1.4
URZ	Urewera	17.10	192	P	P	21 41 14.0	-0.8
0.8nm,0.3s,baz=218,slow=14,SNR=1.6							
URZ				S	S	21 44 07.7	-3.0
0.3nm,0.3s,baz=107,slow=22,SNR=1.4							
BKZ	Black Stump Fm	18.10	192	P	P	21 41 25.2	+0.1
BKZ				IAmb	IAmb	21 41 31.5	
comp=Z,2.9nm,0.9s							
BFZ	Birch Farm	19.61	192	P	P	21 41 39.0	-0.2
QRZ	Quartz Range	20.68	199	P	P	21 41 49.9	+0.9
TUWZ	Tuamarina	20.84	196	P	P	21 41 50.5	+0.1
KHZ	Kahutara	21.87	196	P	P	21 41 58.0	-1.7
KHZ				IAmb	IAmb	21 42 10.0	
comp=Z,19nm,1.2s							
LTZ	Lake Taylor	22.55	198	P	P	21 42 06.6	+0.6
LTZ				IAmb	IAmb	21 42 19.8	
comp=Z,6.0nm,0.9s							
MQZ	McQueen's Vall	23.31	196	P	P	21 42 13.7	+1.1
RPZ	Rata Peaks	23.77	199	P	P	21 42 18.1	+1.3
ODZ	Otahua Downs	25.10	198	P	P	21 42 26.0	-2.6
WHZ	Wether Hill Ro	26.71	201	P	P	21 42 44.6	+1.7
ARMA	Armidale	28.16	245	P	P	21 42 57.5	+1.5
ARMA				IAmb	IAmb	21 43 10.0	
comp=Z,7.4nm,1.1s							
CTAO	Charters Tower	32.87	266	P	P	21 43 36.0	-0.9
CTAO				IAmb	IAmb	21 43 38.5	
comp=Z,5.4nm,0.8s							
PATS	Pohnpei	36.16	319	P	P	21 44 06.4	+1.7
PATS				IAmb	IAmb	21 44 23.0	
comp=Z,8.6nm,0.9s							
STKA	Stephens Creek	36.88	245	P	P	21 44 10.6	+0.2
comp=Z,1.4nm,0.5s,baz=91,slow=12,SNR=8.9							
STKA	Stephens Creek	36.88	245	P	P	21 44 11.6	+1.2
BBOO	Buckleboo	41.63	244	P	P	21 44 49.6	+0.6
BBOO				IAmb	IAmb	21 44 50.1	
comp=Z,3.7nm,0.6s							
WR0	Warramunga Arr	43.75	263	P	P	21 45 05.4	-0.5
WR0				IAmb	IAmb	21 45 09.7	
comp=Z,4.6nm,1.1s							
AS31	Alice Springs	43.77	258	P	P	21 45 05.9	-0.2
ASAR	Alice Springs	43.77	258	P	P	21 45 05.8	-0.4
comp=Z,1.2nm,0.6s,baz=100,slow=8.0,SNR=13							
ASAR				PcP	PcP	21 46 41.5	-1.8
comp=Z,0.3nm,0.5s,baz=106,slow=3.9,SNR=2.7							
WB0	Warramunga Arr	43.92	263	P	P	21 45 07.0	-0.2
WB0				IAmb	IAmb	21 45 08.0	
comp=Z,3.1nm,0.8s							
WB2	Warramunga Arr	43.93	263	P	P	21 45 06.7	-0.6
WRA	Warramunga Arr	43.94	263	P	P	21 45 06.7	-0.7
comp=Z,1.3nm,0.7s,baz=95,slow=7.7,SNR=25							
WRA	Warramunga Arr	43.94	263	IAmb	IAmb	21 45 07.2	
comp=Z,0.2nm,0.9s							
FORT	Forrest	48.41	247	P	P	21 45 41.6	+0.1
FORT				IAmb	IAmb	21 45 43.1	
comp=Z,11nm,0.9s							
KNRA	Kununurra	50.07	267	P	P	21 45 52.9	-1.0
SBA	Scott Base	56.83	184	P	P	21 46 42.2	+0.9
PSA00	Pilbara Seismi	56.92	258	P	P	21 46 42.0	-0.9
PSA00				IAmb	IAmb	21 46 46.1	
comp=Z,10nm,1.1s							
NWAO	Narrogin (SRO)	57.44	244	P	P	21 46 45.3	-1.0
NWAO				IAmb	IAmb	21 46 53.0	
comp=Z,6.8nm,1.1s							
MORW	Morawa	58.95	248	P	P	21 46 56.1	-0.5
MORW				IAmb	IAmb	21 46 57.5	
comp=Z,8.0nm,1.1s							
GIRL	Giralia	61.77	255	P	P	21 47 15.6	+0.1
MJAR	Matsushiro Arr	70.71	324	P	P	21 48 08.1	-2.8
comp=Z,30nm,0.7s,baz=136,slow=6.4,SNR=2.2							
PETK	Petropavlovsk-	77.11	346	P	P	21 48 44.8	-2.2
comp=Z,1.2nm,0.6s,baz=177,slow=10,SNR=1.5							
KSRS	Korea Array	77.29	319	P	P	21 48 48.1	-0.4
comp=Z,0.4nm,0.4s,baz=121,slow=6.8,SNR=2.5							
USRK	Ussuriysk Ar.	79.50	326	P	P	21 48 59.7	-0.5
comp=Z,2.1nm,0.7s,baz=85,slow=1.6,SNR=4.6							
ILAR	Eielson Array	89.41	13	P	P	21 49 44.4	-4.3
comp=Z,0.4nm,0.3s,baz=220,slow=5.6,SNR=5.9							
PDAR	Pinedale Array	90.06	43	P	P	21 49 48.6	-3.9
comp=Z,0.3nm,0.6s,baz=222,slow=1.2,SNR=2.7							
MKAR	Makanchi Array	111.50	313	PKiKP	PKiKP	21 55 20.0	-3.6
comp=Z,0.2nm,0.3s,baz=96,slow=2.2,SNR=5.6							
ARCES	ARCESS Array B	129.81	349	PKP	PKPdf	21 55 54.9	-3.2
comp=Z,0.7nm,0.5s,baz=354,slow=0.9,SNR=9.1							
FINES	FINESS Array B	136.58	343	PKP	PKPdf	21 56 07.3	-3.6
comp=Z,0.5nm,0.4s,baz=12,slow=3.3,SNR=7.9							
AKASG	Malin Array Be	143.62	330	PKP	PKPab	21 56 19.2	-3.1
comp=Z,1.8nm,0.5s,baz=42,slow=4.3,SNR=25							
DIKM	Dikmen	145.19	313	⇑P	PKiKP	21 56 33.4	+2.3
SORM	Soroca	145.77	327	⇓P	PKPdf	21 56 26.4	-1.4
BRTR	Keskin Array B	147.10	311	PKPbc	PKPdf	21 56 30.9	+0.3
comp=Z,0.8nm,0.6s,baz=134,slow=3.2,SNR=7.5							
GHRR		147.62	325	⇑P	PKPdf	21 56 32.8	+1.9
BURAR	Bucovina Array	147.66	329	⇑P	PKPdf	21 56 33.6	+2.5
TESR	Tescani	147.72	327	⇑P	PKPdf	21 56 29.3	-1.8
CFR	Carcaliu	147.78	323	⇓P	PKPdf	21 56 32.2	+1.0
TPGR	Topolog	147.82	323	⇓P	PKPdf	21 56 29.2	-2.2
VRI	Vrincioaia	148.10	326	⇓P	PKPdf	21 56 29.7	-2.1
MANR	Mangalia	148.35	321	⇑P	PKPdf	21 56 35.0	+2.8
MLR	Muntele Rosu	148.76	326	⇑P	PKPdf	21 56 34.6	+1.6
CLL	Collm	148.91	346	i PKPab	PKiKP	21 56 41.1	+2.6
CLL	Collm	148.91	346	⇑i PKPbc	PKPdf	21 56 34.8	+1.9
comp=Z,7.0nm,1.2s							
VOIR		149.27	326	⇓P	PKPdf	21 56 37.2	+3.5
DRGR		149.43	331	⇑P	PKPdf	21 56 37.3	+3.4
SIRR	Siria	150.31	331	⇑P	PKPdf	21 56 37.7	+2.5
GZR	Gura Zlata	150.43	329	⇑P	PKPdf	21 56 37.6	+2.0
BZS	Buzias	150.82	330	⇓P	PKPdf	21 56 39.4	+3.4
HERR	Herculane	150.98	328	⇓P	PKPdf	21 56 39.5	+3.2
GERES	GERESS Array B	151.01	343	PKPbc	PKPdf	21 56 38.9	+2.5
comp=Z,0.8nm,0.6s,baz=

CO02	**Combarbal**	16.45	58		Pn	22 21 10.8	+0.1
CO02				IAmb	IAmb	22 21 19.0	
comp=Z,44nm,0.9s							
MG02	**Cerro Sombrero**	16.81	140	Pn	Pn	22 21 13.5	-1.4
CO03	**El Pedregal**	16.89	57	P	P	22 21 17.7	-0.6
GO04	**Tololo Observa**	17.28	56		Pn	22 21 22.1	+0.8
GO04				IAmb	IAmb	22 21 33.9	
comp=Z,32nm,1.1s							
ZON	**Zonda**	17.75	63		P	22 21 27.7	-0.1
AC04	**Llanos de Chal**	18.53	51	P	P	22 21 35.0	-1.4
MG01	**Puerto William**	18.87	143	P	P	22 21 40.1	+0.3
GO03	**Copiap**	19.48	51	P	P	22 21 46.9	+0.1
TRQA	**Tornquist**	19.68	89	P	Pn	22 21 49.9	-0.4
TRQA				IAmb	IAmb	22 22 09.5	
comp=Z,28nm,1.1s							
AC02	**Maricunga**	20.70	52	P	P	22 22 00.9	+0.3
AC02				IAmb	IAmb	22 22 05.2	
comp=Z,31nm,1.1s							
PB14	**IPOC Station P**	21.69	45	P	P	22 22 11.3	+0.3
GO02	**Mina Guanaco**	21.71	48	P	P	22 22 11.4	+0.2
GO02				IAmb	IAmb	22 22 24.4	
comp=Z,24nm,1.1s							
RPN	**Rapa Nui**	22.98	301	LR	LR	22 28 42.7	
comp=Z,335nm,21.3s,baz=326,slow=30							
LVC	**Limon Verde**	24.12	45	P	P	22 22 36.2	+0.2
comp=Z,7.3nm,0.8s,baz=228,slow=8.1,SNR=4.7							
LVC				LR	LR	22 29 49.9	
comp=Z,326nm,19.2s,baz=230,slow=31							
LVC	**Limon Verde**	24.12	45	P	P	22 22 35.8	-0.3
LVC				IAmb	IAmb	22 22 39.8	
comp=Z,16nm,1.1s							
PB01	**IPOC Station P**	25.11	42	P	P	22 22 45.8	+1.0
PB01				IAmb	IAmb	22 22 48.7	
comp=Z,8.0nm,0.9s							
PSGCX	**Pisagua**	26.02	39	P	P	22 22 53.1	+0.1
PSGCX				IAmb	IAmb	22 23 05.2	
comp=Z,16nm,1.1s							
PB08	**IPOC Station P**	26.03	42	P	P	22 22 53.6	+0.1
PB11	**IPOC Station P**	26.11	40	P	P	22 22 54.2	+0.3
PB11				IAmb	IAmb	22 22 56.0	
comp=Z,11nm,1.0s							
MNMC	**Minye Minye**	26.68	40	P	P	22 22 60.0	+0.8
MNMC				IAmb	IAmb	22 23 24.8	
comp=Z,13nm,1.2s							
PMSA	**Palmer Station**	27.09	158	P	P	22 23 01.9	-0.2
ITQB	**Itaqui**	27.33	75	P	P	22 23 04.3	-0.4
PLTB	**Pedras Altas**	28.48	82	P	P	22 23 14.8	-0.3
PLTB				IAmb	IAmb	22 23 23.6	
comp=Z,9.2nm,1.1s							
CPUP	**Villa Florida**	28.78	68	LR	LR	22 34 05.2	
comp=Z,293nm,18.6s,baz=240,slow=35							
LPAZ	**La Paz**	29.82	39	P	P	22 23 29.8	+2.2
comp=Z,1.3nm,0.7s,baz=235,slow=5.5,SNR=5.6							
LPAZ				LR	LR	22 33 10.5	
comp=Z,161nm,18.4s,baz=185,slow=32							
LPAZ	**La Paz**	29.82	39	P	P	22 23 27.1	-0.5
NNA	**Nana**	30.51	20	LR	LR	22 32 30.6	
comp=Z,176nm,19.9s,baz=198,slow=30							
AQDB	**Aquidauana**	33.78	62	P	P	22 24 01.7	-0.1
SIV	**San Ignacio**	33.80	50	P	P	22 24 02.4	+0.5
comp=Z,1.0nm,0.5s,baz=232,slow=12,SNR=6.3							
SIV				LR	LR	22 36 45.7	
comp=Z,202nm,20.6s,baz=256,slow=34							
TRCB	**Terra Rica**	34.31	68	P	P	22 24 06.7	+0.3
ATAH	**Atahualpa**	34.84	15	P	P	22 24 13.2	+1.7
comp=Z,13nm,0.9s,baz=186,slow=9.2,SNR=6.6							
ATAH				LR	LR	22 35 07.8	
comp=Z,194nm,20.2s,baz=208,slow=30							
OTAV	**Otavalo**	42.03	13	P	P	22 25 10.5	-1.3
BDFB	**Brasilia**	42.35	65	LR	LR	22 42 10.2	
comp=Z,243nm,20.9s,baz=191,slow=35							
ROSC	**El Rosal**	47.34	18	LR	LR	22 44 33.5	
comp=Z,140nm,18.1s,baz=232,slow=34							
ROSC	**El Rosal**	47.34	18	P	P	22 25 52.2	-2.0
VNA3	**Neumayer Olymp**	47.64	155	P	P	22 25 56.6	+1.1
VNA1	**Neumayer--Stat**	48.16	154	P	P	22 26 00.6	+1.1
SNAA	**Sanae**	49.75	156	P	P	22 26 12.2	+0.4
SNAA	**Sanae**	49.75	156	P	P	22 26 11.8	0.0
SNAA				IAmb	IAmb	22 26 14.1	
comp=Z,7.4nm,1.0s							
VNDA	**Vanda**	54.40	194	LR	LR	22 45 32.6	
comp=Z,71nm,20.0s,baz=112,slow=31							
SJG	**San Juan**	62.18	23	LR	LR	22 53 22.3	
comp=Z,70nm,19.1s,baz=256,slow=35							
TXAR	**Lajitas Array**	71.83	345	P	P	22 28 42.9	+0.4
comp=Z,0.5nm,0.6s,baz=173,slow=8.6,SNR=7.0							
PDAR	**Pinedale Array**	86.00	344	P	P	22 30 00.1	0.0
comp=Z,0.3nm,0.7s,baz=169,slow=5.1,SNR=1.3							
BOSA	**Boshof**	86.61	126	LR	LR	23 00 46.3	
comp=Z,56nm,21.9s,baz=200,slow=30							

*ATH **17** 22:20:37.3, 36°.52N×27°.15E, h12km±2km, ML2.6/2, Error ellipse: s-maj=7.2km s-min=2.3km az=43.0*
*THE **17** 22:20:37.7, 36°.54N×27°.09E, h6km±1km, ML2.0/3, Error ellipse: s-maj=2.4km s-min=0.7km az=19.0*

ISC 17 22:20:36.0±1.8, 36°.45N±0°.09×27°.12E±0°.05, h10km±9km, n10, σ0s58/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	0.16	18	P	Pg	22 20 40.1	+0.6
NIS1				S	Sg	22 20 42.0	0.0
1μm,0.2s							
NIS1	**Nisyros Isl.**	0.16	18	P	Pg	22 20 40.1	+0.6
NIS1				S	Sg	22 20 41.8	-0.2
NIS1				AML	AML	22 20 47.2	
comp=N,3268μm,0.2s							
NIS1				AML	AML	22 20 47.7	
comp=E,3442μm,0.2s							
NISR	**Nisiros**	0.16	4	P	Pg	22 20 39.8	+0.3
NISR				S	Sg	22 20 41.4	-0.6
comp=E,13μm,0.2s							
NISR	**Nisiros**	0.16	4	P	Pg	22 20 39.8	+0.3
NISR				S	Sg	22 20 41.7	-0.2
NISR				AML	AML	22 20 41.9	
comp=E,33568μm,0.2s							
NISR				AML	AML	22 20 41.9	
comp=N,19260μm,0.2s							
KOSK	**Kos Island**	0.32	340	P	Pg	22 20 42.6	+0.2
KOSK				S	Sg	22 20 46.0	-0.7
comp=N,115nm,0.1s							
DAT	**Datca**	0.46	53	P	Pg	22 20 46.1	+1.0
DAT				S	Sb	22 20 53.2	0.0
BODT	**Bodrum**	0.63	14	P	Pb	22 20 49.0	0.0
ARG	**Arkhangelos**	0.85	106	P	Pg	22 20 52.3	0.0
SMG	**Samos**	1.27	350	P	Pb	22 20 59.4	-0.6
APE	**Apeiranthos**	1.41	296	P	Pg	22 21 04.1	+0.9

*IDC **17** 22:25:53.5±2.4, 19°.07S×175°.24W, h108km±21km, mb4.2/14, mb1 4.4/16, mb1mx4.3/31, mbtmp4.6/16, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=19.2km s-min=13.3km az=128.0*
*NEIC **17** 22:25:57.0±2.1, 18°.95S±0°.09×174°.93W±0°.07, h137km±7km, mb4.9/44, Error ellipse: s-maj=12.7km s-min=9.7km az=173.0*
*NOU **17** 22:25:58.9, 19°.01S×174°.68W, h174km, MLv5.0, Tonga Islands*

ISC 17 22:25:56.7±0.3, 19°.02S±0°.06×174°.96W±0°.04, h147km, n117, σ2s00/118, mb4.7/35, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	4.76	92	Pn	Pn	22 27 07.7	+0.8
NIUE				Sn	Sn	22 27 59.3	-2.2
AFI	**Afiamalu**	5.92	31	P	Pn	22 27 19.5	-3.0
7.5nm,0.3s,baz=71,slow=20,SNR=4.3							
AFI				S	Sn	22 28 22.9	-6.6
10.0nm,0.3s,baz=212,slow=24,SNR=4.0							
AFI	**Afiamalu**	5.92	31		Sn	22 28 26.6	-2.9
AFI	**Afiamalu**	5.92	31	Pn	Pn	22 27 21.7	-0.8
MSVF	**Nonsavu**	6.76	280	P	Pn	22 27 37.8	+4.1
4.2nm,0.3s,baz=123,slow=13,SNR=69							
MSVF	**Nonsavu**	6.76	280	Pn	Pn	22 27 35.7	+2.0
MSVF	**Nonsavu**	6.76	280	P	Pn	22 27 38.0	+4.3
RAR	**Rarotonga**	14.43	101	P	Pn	22 29 15.4	+1.3
2.5nm,0.3s,baz=262,slow=7.8,SNR=11							
RAR				S	Sn	22 31 52.5	-1.7
2.4nm,0.3s,baz=104,slow=16,SNR=2.1							
RAR	**Rarotonga**	14.43	101	P	P	22 29 17.0	+0.2
RAR	**Rarotonga**	14.43	101	P	Pn	22 29 13.6	-0.6
MARNC	**Mare, Loyalty**	16.15	258	P	P	22 29 36.6	+0.6
MARNC	**Mare, Loyalty**	16.15	258	P	P	22 29 38.4	+2.4
PINNC	**Pines Island,**	16.84	255	P	Pn	22 29 45.6	+1.8
PINNC	**Pines Island,**	16.84	255	P	Pn	22 29 47.8	+4.0
LIFNC	**LIFOU**	16.84	261		Pn	22 29 44.8	+1.0
LIFNC				IAmb	IAmb	22 30 11.9	
comp=Z,137nm,1.3s							
LIFNC	**LIFOU**	16.84	261	P	Pn	22 29 46.4	+2.5
YATNC	**Mamie plateau,**	17.27	257	P	Pn	22 29 52.2	+3.1
OUENC	**Ouen Island, N**	17.36	256		Pn	22 29 50.3	+0.1
OUENC				IAmb	IAmb	22 29 55.6	
comp=Z,146nm,1.3s							
OUENC	**Ouen Island, N**	17.36	256	P	Pn	22 29 53.8	+3.6
SANVU	**Saraoutou**	17.41	279		Pn	22 29 50.8	+0.1
SANVU				IAmb	IAmb	22 29 59.9	
comp=Z,77nm,1.2s							
SANVU	**Saraoutou**	17.41	279	P	Pn	22 29 53.0	+2.2
ONTNC	**Ouen Toro**	17.70	256	P	Pn	22 29 54.7	+0.5
ONTNC				IAmb	IAmb	22 30 13.3	
comp=Z,50nm,0.9s							
NOUC	**Port Laguerre**	17.82	257	P	Pn	22 29 58.2	+2.6
MXZ	**Matakaoa Point**	19.39	196	P	Pn	22 30 13.6	-0.4
KOUNC	**Koumac, New Ca**	19.59	262	P	Pn	22 30 18.0	+1.5
URZ	**Urewera**	20.38	198	P	P	22 30 19.5	-2.4
comp=Z,12nm,0.3s,baz=269,slow=3.9,SNR=22							
URZ				S	S	22 33 54.6	-7.6
comp=Z,4.9nm,0.4s,baz=268,slow=22,SNR=6.4							
URZ	**Urewera**	20.38	198	P	P	22 30 20.9	-1.0
URZ				IAmb	IAmb	22 30 29.1	
comp=Z,44nm,1.1s							
BKZ	**Black Stump Fm**	21.40	198	P	P	22 30 31.6	-1.3
BKZ				IAmb	IAmb	22 30 32.8	
comp=Z,46nm,1.5s							
TARA	**Tarawa**	23.49	328	P	P	22 30 52.9	-0.5
PPT	**Papeete**	24.14	91	LR	LR	22 38 56.1	
comp=Z,54nm,18.8s,baz=280,slow=32							
TUWZ	**Tuamarina**	24.27	201	P	P	22 31 01.6	+1.4
PYZ	**Puysegur Point**	31.03	205	P	P	22 32 01.8	+1.4
EIDS	**Eidsvold**	32.02	252	P	P	22 32 09.2	-0.2
EIDS				IAmb	IAmb	22 32 16.2	
comp=Z,28nm,1.4s							
CTAO	**Charters Tower**	36.52	262	P	P	22 32 47.6	-0.7
PMG	**Port Moresby**	37.87	279	P	P	22 32 59.2	-0.5
PMG				IAmb	IAmb	22 33 02.9	
comp=Z,28nm,0.9s							
STKA	**Stephens Creek**	41.01	243	P	P	22 33 24.1	-1.5
comp=Z,4.6nm,0.8s,baz=80,slow=10,SNR=9.4							
STKA	**Stephens Creek**	41.01	243	P	P	22 33 24.6	-0.9
WR0	**Warramunga Arr**	47.47	260	P	P	22 34 15.5	-1.6
WR0				IAmb	IAmb	22 34 16.1	
comp=Z,31nm,1.6s							
WB0	**Warramunga Arr**	47.64	260	P	P	22 34 16.5	-1.9
WB0				IAmb	IAmb	22 34 18.2	
comp=Z,15nm,0.6s							
WB2	**Warramunga Arr**	47.65	260	IAmb	IAmb	22 34 18.3	
comp=Z,14nm,0.6s							
AS31	**Alice Springs**	47.66	255	P	P	22 34 17.0	-1.5
AS31				IAmb	IAmb	22 34 18.8	
comp=Z,12nm,0.8s							
ASAR	**Alice Springs**	47.66	255	P	P	22 34 16.9	-1.7
comp=Z,42nm,0.8s,baz=86,slow=8.4,SNR=202							
ASAR				PcP	PcP	22 35 46.3	+0.4
comp=Z,1.5nm,0.7s,baz=105,slow=3.9,SNR=2.4							
ASAR				ScP	ScP	22 39 27.2	+0.8
comp=Z,0.5nm,0.8s,baz=114,slow=2.3,SNR=2.8							
ASAR				S	S	22 40 56.0	-7.4
comp=Z,3.5nm,0.9s,baz=92,slow=15,SNR=15							
WRA	**Warramunga Arr**	47.66	260	P	P	22 34 16.5	-2.1
comp=Z,10nm,0.6s,baz=97,slow=5.9,SNR=108							
WRA				PcP	PcP	22 35 45.6	-0.2
comp=Z,1.5nm,0.7s,baz=99,slow=4.1,SNR=2.6							
WRA				S	S	22 40 56.7	-6.8
comp=Z,0.9nm,0.9s,baz=99,slow=14,SNR=2.2							
FORT	**Forrest**	52.51	245	P	P	22 34 54.5	-0.5
SOEI	**Soe**	59.35	270	P	P	22 35 43.6	-0.4
SBA	**Scott Base**	59.55	184	P	P	22 35 46.1	+1.9
SBA				IAmb	IAmb	22 35 47.9	
comp=Z,7.8nm,0.8s							
VNDA	**Vanda**	59.65	186	P	P	22 35 46.2	+1.3
comp=Z,2.6nm,0.8s,baz=10,slow=7.1,SNR=18							
VNDA	**Vanda**	59.65	186	P	P	22 35 46.6	+1.7
TNTI	**Ternate**	59.90	282	P	P	22 35 46.9	-0.7
TNTI				IAmb	IAmb	22 35 47.8	
comp=Z,18nm,0.9s							
PSA00	**Pilbara Seismi**	60.80	255	P	P	22 35 51.9	-1.8
TOLI2	**Tolitoli**	66.14	280	P	P	22 36 28.0	-0.8
TOLI2				IAmb	IAmb	22 36 31.4	
comp=Z,7.3nm,0.6s							
MJAR	**Matsushiro Arr**	70.78	322	P	P	22 36 57.2	0.0
comp=Z,33nm,0.8s,baz=154,slow=6.5,SNR=18							
MAJO	**Matsushiro**	70.78	322	P	P	22 36 57.6	+0.4
MAJO				IAmb	IAmb	22 36 58.8	
comp=Z,13nm,0.8s							
MAT	**Matsushiro**	70.78	322	P	P	22 36 57.7	+0.5
MJB9	**Matsu-Tunnel**	70.78	322	P	P	22 36 57.8	+0.6
MJB9				IAmb	IAmb	22 36 58.8	
comp=Z,15nm,0.8s							
QSPA	**South Pole Qui**	71.05	180	P	P	22 36 59.7	+1.1
QSPA				IAmb	IAmb	22 37 00.5	
comp=Z,9.0nm,0.7s							
UGM	**Wanagama**	72.88	267	P	P	22 37 09.4	-0.8
JHS	**Saijyo**	72.90	317	P	P	22 37 11.2	+1.3
TPUB	**Ta-pu**	75.63	301	P	P	22 37 25.3	-0.6
TPUB				IAmb	IAmb	22 37 26.3	
comp=Z,24nm,0.7s							
KSRS	**Korea Array**	77.73	317	P	P	22 37 39.2	+1.8
comp=Z,8.7nm,0.9s,baz=136,slow=6.2,SNR=22							
KSAR	**Wonju Array Be**	77.74	317	P	P	22 37 38.4	+0.9
NVAR	**Mina Array Bea**	78.00	42	P	P	22 37 42.0	+2.9
comp=Z,0.7nm,0.6s,baz=226,slow=8.7,SNR=6.7							
KVN	**Kaiserville**	78.49	42	P	P	22 37 41.9	+0.1
USRK	**Ussuriysk Ar.**	79.40	324	P	P	22 37 47.5	+1.1
comp=Z,2.3nm,1.0s,baz=124,slow=3.4,SNR=5.2							
PINE	**Pine Mountain**	79.68	37	P	P	22 37 49.0	+0.8
PINE				IAmb	IAmb	22 38 01.7	
comp=Z,20nm,1.6s							
I07A	**Izee**	80.67	37	P	P	22 37 54.8	+1.4
NJ2	**Nanjing**	81.18	308	*e*P	P	22 37 58.3	+2.1
NJ2				pmax	pmax		
comp=Z,10.0nm,0.6s							
TMUT	**Trail Mountain**	83.08	45	P	P	22 38 07.5	+1.1
F10A	**Beach Ranch, E**	83.10	36	P	P	22 38 06.8	+0.8
SRU	**San Rafael Swe**	83.44	45	P	P	22 38 09.3	+1.2
MNTX	**Cornudas Mount**	83.56	54	P	P	22 38 09.7	+1.1
TX31	**Lajitas Ar. Si**	83.85	56	P	P	22 38 11.1	+0.8
TX31				IAmb	IAmb	22 38 14.8	
comp=Z,27nm,1.4s							
TXAR	**Lajitas Array**	83.85	56	P	P	22 38 13.2	+2.9
comp=Z,1.9nm,0.9s,baz=222,slow=7.1,SNR=14							
TXAR	**Lajitas Array**	83.85	56	P	P	22 38 12.4	+2.2
MAW	**Mawson**	83.91	199	P	P	22 38 09.9	+0.2
comp=Z,2.6nm,0.6s,baz=124,slow=5.7,SNR=9.9							
ANMO	**Albuquerque**	84.25	50	P	P	22 38 12.9	+0.6
H03S2	**Juan Fernandez**	84.44	124	T	T	00 11 20.4	
baz=249,slow=75,SNR=80							
H03S1	**Juan Fernandez**	84.46	124	T	T	00 11 21.4	
baz=249,slow=75,SNR=123							
H03S3	**Juan Fernandez**	84.46	124	T	T	00 11 20.2	
baz=249,slow=75,SNR=104							
PDAR	**Pinedale Array**	85.93	42	P	P	22 38 22.3	+1.8
comp=Z,1.1nm,0.9s,baz=197,slow=4.6,SNR=6.3							
CCB	**Clear Creek Bu**	85.98	11	P	P	22 38 21.3	+1.4
ILAR	**Eielson Array**	86.27	12	P	P	22 38 22.3	+1.0
comp=Z,1.3nm,0.9s,baz=220,slow=6.3,SNR=8.2							
ENH	**Enshi**	87.61	303	P	P	22 38 29.2	+0.5
ENH				IAmb	IAmb	22 38 31.0	
comp=Z,14nm,0.8s							
SYO	**Syowa Base**	88.78	192	*e*P	P	22 38 32.0	-1.4
SYO	**Syowa Base**	88.78	192	*e*pP	pP	22 39 07.8	-2.5
SNAA	**Sanae**	89.38	178	P	P	22 38 36.3	-0.1
VNA3	**Neumayer Olymp**	89.40	175	P	P	22 38 36.4	0.0
XAN	**Xi'an**	89.55	306	P	P	22 38 39.6	+1.9
XAN				pmax	pmax		
comp=Z,14nm,1.2s							
VNA1	**Neumayer--Stat**	90.09	176	P	P	22 38 40.1	+0.5
VNA1	**Neumayer--Stat**	90.09	176	pP	pP	22 39 23.4	+6.9
HHC	**Hu-ho-hao-te**	90.40	313	*e*P	P	22 38 43.3	+1.7
HHC				pmax	pmax		
comp=Z,15nm,1.3s							
HHC				pmax	pmax		
comp=Z,88nm,6.9s							
KMI	**Kunming**	91.26	296	⇑P	P	22 38 47.5	+1.4
KMI				pmax	pmax		
comp=Z,7.0nm,0.7s							
CMAR	**Chiang Mai Arr**	92.34	289	P	P	22 38 51.4	+0.4
comp=Z,4.4nm,1.0s,baz=109,slow=2.9,SNR=16							
CMAR	**Chiang Mai Arr**	92.34	289	P	P	22 38 51.9	+0.9
LZH	**Lanzhou**	94.17	307	*e*P	P	22 39 04.1	+4.9
LZH				pmax	pmax		
comp=Z,19nm,1.1s							
MKAR	**Makanchi Array**	112.26	314	PKiKP	PKiKP	22 44 14.6	-0.4
comp=Z,0.3nm,0.6s,baz=104,slow=0.5,SNR=2.3							
KOLS	**Kolonicke sedl**	147.08	339	*e*PKP	PKiKP	22 45 24.7	+0.1
OSTC	**Ostas**	147.30	347	*e*PKP	PKiKP	22 45 25.1	+0.1
DPC	**Dobruska-Polom**	147.47	347	*e*PKP	PKPbc	22 45 22.6	-0.8
BRTR	**Keskin Array B**	147.87	316	PKPbc	PKPbc	22 45 25.2	+0.3
comp=Z,0.8nm,0.5s,baz=144,slow=4.7,SNR=12							
KHC	**Kasperske Hory**	149.18	349	*e*PKP	PKPbc	22 45 26.8	-1.0
KHC				*ex*	x	22 46 19.9	
CKRC	**Cesky Krumlov**	149.34	348	*e*PKP	PKPdf	22 45 25.1	+1.4
CKRC				*ex*	x	22 45 30.5	
GERES	**GERESS Array B**	149.43	349	PKPbc	PKiKP	22 45 30.2	+0.6
comp=Z,0.8nm,0.8s,baz=112,slow=0.7,SNR=6.1							
CONA	**Conrad Observa**	149.85	345	*e*P	PKiKP	22 45 31.7	+1.3
comp=Z,2.9nm,1.1s							
MOA	**Molln**	150.28	347	*e*P	PKiKP	22 45 32.4	+1.1
comp=Z,4.4nm,1.4s							
ARSA	**Arzberg**	150.56	345	*e*P	PKiKP	22 45 33.1	+1.2
comp=Z,1.7nm,0.6s							
SOKA	**Soboth**	151.22	346	*e*P	PKiKP	22 45 33.6	+0.3
comp=Z,3.0nm,1.1s							
RETA	**Reutte**	151.22	352	*e*P	PKiKP	22 45 34.3	+1.0
comp=Z,4.1nm,1.4s							
WATA	**Walderalm**	151.25	351	*e*P	PKiKP	22 45 34.3	+0.8
comp=Z,1.6nm,0.6s							
MOTA	**Moosalm**	151.31	351	*e*P	PKiKP	22 45 33.9	+0.3
comp=Z,3.7nm,0.9s							
WTTA	**Wattenberg**	151.31	351	*e*P	PKiKP	22 45 33.7	+0.1
comp=Z,2.2nm,0.5s							
SQTA	**Sankt Quirin**	151.42	351	*e*P	PKiKP	22 45 34.7	+0.9
comp=Z,4.6nm,1.4s							
OBKA	**Obir**	151.49	346	*e*P	PKiKP	22 45 35.0	+1.1
comp=Z,3.3nm,1.2s							
DAVA	**Damuels**	151.53	353	*e*P	PKiKP	22 45 34.6	+0.6
comp=Z,5.8nm,1.1s							
ABTA	**Abfaltersbach**	151.67	349	*e*P	PKiKP	22 45 34.6	+0.3
comp=Z,3.6nm,0.7s							
FETA	**Feichten**	151.68	352	*e*P	PKiKP	22 45 34.3	0.0
comp=Z,3.0nm,0.9s							
DAVOX	**Davos/Dischmat**	152.03	353	PKPbc	PKiKP	22 45 36.1	+1.0
comp=Z,2.4nm,0.5s,baz=287,slow=5.8,SNR=7.5							

*NEIC **17** 22:26:10.8±0.7, 19°.63N±0°.09×65°.51W±0°.06, h39km±45km, Error ellipse: s-maj=12.8km s-min=7.6km az=196.0*
*RSPR **17** 22:26:11.0, 19°.66N×65°.50W, h54km±9km, MD3.4/10*

ISC 17 22:26:11.0±1.8, 19°.63N±0°.08×65°.51W±0°.05, h35km, n43, σ0s50/46, 12C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUPR	**Culebra, Puert**	1.33	171	⇑*e*P	Pn	22 26 32.7	-0.4
CUPR	**Culebra, Puert**	1.33	171	*e*S	Sn	22 26 49.9	+0.3
CUPR	**Culebra, Puert**	1.33	171		Pn	22 26 32.6	-0.4
CUPR					Sn	22 26 49.5	-0.1
CUPR				IAML		22 26 50.4	
comp=N,83nm,0.7s							
STVI	**Saint Thomas**	1.38	157	⇑*e*P	Pn	22 26 33.2	-0.5
STVI	**Saint Thomas**	1.38	157	*e*S	Sn	22 26 50.9	+0.2
STVI	**Saint Thomas**	1.38	157		Pn	22 26 33.1	-0.5
STVI					Sn	22 26 52.3	+1.7
CBYP	**Canovanas**	1.39	194	⇑*e*P	Pn	22 26 33.3	-0.6
CBYP	**Canovanas**	1.39	194	*e*S	Sn	22 26 51.4	+0.2
CBYP	**Canovanas**	1.39	194		Pn	22 26 33.0	-0.9
CBYP					Sn	22 26 51.3	+0.2
GCPR	**Guaynabo City**	1.42	202	⇑*e*P	Pn	22 26 33.8	-0.5
GCPR	**Guaynabo City**	1.42	202		Pn	22 26 33.6	-0.7
TBVI	**Tortola**	1.47	145	⇑*e*P	Pn	22 26 34.8	-0.2
TBVI	**Tortola**	1.47	145	*e*S	Sn	22 26 53.0	-0.1
TBVI	**Tortola**	1.47	145		Pn	22 26 34.8	-0.2
TBVI					Sn	22 26 53.0	-0.1
EMPR	**Esperanza - Ma**	1.50	220	⇑*e*P	Pn	22 26 35.2	-0.1
EMPR	**Esperanza - Ma**	1.50	220		Pn	22 26 35.2	-0.1
EMPR	**Esperanza - Ma**	1.50	220	IAML		22 27 01.8	
comp=N,150nm,0.8s							
EMPR				IAML		22 27 03.3	
comp=E,198nm,0.8s							
HUMP	**Col San Antoni**	1.51	192	⇑*e*P	Pn	22 26 35.1	-0.5
HUMP	**Col San Antoni**	1.51	192	*e*S	Sn	22 26 54.5	+0.5
HUMP	**Col San Antoni**	1.51	192		Pn	22 26 35.1	-0.5
HUMP					Sn	22 26 54.5	+0.5
HUMP	**Col San Antoni**	1.51	192	IAML		22 26 57.9	
comp=N,78nm,0.3s		

SOLC *i* 22 32 14.4
comp=Z,275nm,0.5s
CDITO Canoas 3.45 296 Pn **Pn 22 31 60.0 0.0**
DBBC Dabeiba 3.50 91 *eP* **Pn 22 32 01.1 +0.3**
DBBC *eS* **Sn 22 32 39.9 -1.2**
MAPC Malpelo 3.57 212 *eP* **Pn 22 32 00.5 -1.2**
MAPC *eS* **Sn 22 32 38.8 -3.8**
MAPC *i* 22 32 40.5
comp=Z,132nm,0.2s
CBOC Ciudad Bolivar 3.89 108 *eP* **Pn 22 32 05.7 -0.5**
CBOC *eS* **Sn 22 32 49.5 -1.3**
CBOC *i* 22 32 51.8
comp=Z,71nm,0.4s
PLMC San Jos del P 4.05 122 *eP* **Pn 22 32 06.5 -1.9**
PLMC *eS* **Sn 22 32 52.5 -2.2**
PLMC *i* 22 32 55.5
comp=Z,75nm,0.2s
DRK0 Durika 4.10 302 Pn **Pn 22 32 09.2 +0.1**
SRBA San Rafael, Bu 4.18 301 **Pn 22 32 10.9 +0.7**
UREC San Jos de Ur 4.23 80 *eP* **Pn 22 32 12.2 +1.5**
UREC *eS* **Sn 22 32 58.2 -0.7**
UREC *i* 22 33 00.3
comp=Z,50nm,0.7s
HELC Santa Helena 4.27 102 *eP* **Pn 22 32 12.3 +0.7**
HELC *eS* **Sn 22 32 59.2 -1.3**
HELC *i* 22 33 04.4
comp=Z,76nm,0.5s
PEZE Perez Zeledon, 4.53 301 **Pn 22 32 15.7 +0.8**
YOTC Yotoco, Valle 4.56 132 *eP* **Pn 22 32 14.0 -1.4**
YOTC *eS* **Sn 22 33 05.2 -2.1**
BATAN Batan 4.69 310 Pn **Pn 22 32 18.3 +1.2**
GUY2C Guyana, Caldas 4.72 113 *eP* **Pn 22 32 19.1 +1.2**
GUY2C *eS* **Sn 22 33 14.7 +3.0**
ZARC Zaragoza, Cauc 4.86 85 *eP* **Pn 22 32 20.8 +1.4**
ZARC *eS* **Sn 22 33 12.3 -2.2**
ZARC *i* 22 33 14.2
comp=Z,48nm,0.5s
RIMA Rio Macho 4.88 304 **Pn 22 32 21.3 +1.4**
CVTR Volcan Turrial 4.94 307 Pn **Pn 22 32 21.7 +0.8**
ANIL Santa Ana 5.02 120 *eS* **Sn 22 33 17.8 -1.0**
ANIL *i* 22 33 23.1
comp=Z,149nm,0.3s
TOLC Tolima 5.04 119 *eP* **Pn 22 32 22.1 -0.1**
TOLC *eS* **Sn 22 33 18.0 -1.4**
TOLC *i* 22 33 26.3
comp=Z,28nm,0.6s
NORC Norcasia 5.07 107 *eP* **Pn 22 32 24.2 +1.9**
NORC *eS* **Sn 22 33 18.7 -1.0**
NORC *i* 22 33 27.7
comp=Z,20nm,0.5s
HDC Heredia 5.22 304 Pn **Pn 22 32 25.1 +0.6**
SJCC San Jacinto, C 5.31 58 **Pn 22 32 27.0 +1.3**
SJCC San Jacinto, C 5.31 58 *eP* **Pn 22 32 28.5 +2.8**
JACO JACO, Garabito 5.51 298 **Pn 22 32 29.8 +1.4**
SOTA Rioblanco 5.81 147 *eP* **Pn 22 32 34.2 +1.3**
SOTA *eS* **Sn 22 33 40.1 +1.5**
SOTA *i* 22 33 48.2
comp=Z,16nm,0.6s
ROSC El Rosal 5.83 112 Sn **Sn 22 33 40.3 +1.5**
comp=Z,3.1nm,0.3s,baz=147,slow=21,SNR=1.3
SMLC San Martn de 5.87 73 *eP* **Pn 22 32 34.9 +1.6**
JTS Las Juntas de 6.07 302 Pn **Pn 22 32 38.4 +2.3**
comp=Z,3.6nm,0.3s,baz=176,slow=12,SNR=13
JTS LR LR 22 35 07.7
comp=Z,171nm,21.3s,baz=186,slow=38
JTS Las Juntas de 6.07 302 **Pn 22 32 37.9 +1.9**
DUNO Dulce Nombre, 6.43 298 Pn **Pn 22 32 42.5 +1.5**
GARC Garzon, Huila 6.43 139 *eP* **Pn 22 32 43.2 +1.9**
GARC *i* 22 33 58.9
comp=Z,19nm,0.3s
OCAC Ocana 6.47 79 *eP* **Pn 22 32 43.0 +1.4**
OCAC *eS* **Sn 22 33 52.1 -2.3**
OCAC *i* 22 33 58.4
comp=Z,65nm,0.5s
PRVC Isla de Provid 6.47 346 Pn **Pn 22 32 41.8 +0.2**
BARC Barichara 6.53 94 *eP* **Pn 22 32 44.5 +2.0**
BARC *eS* **Sn 22 33 54.4 -1.6**
BARC *i* 22 33 58.8
comp=Z,14nm,0.6s
RUSC La Rusia 6.71 100 Pn **Pn 22 32 47.3 +1.9**
ESPN Las Esperanzas 6.79 319 Pn **Pn 22 32 47.2 +1.2**
OTAV Otavalo 6.91 169 Pn **Pn 22 32 49.1 +1.1**
ACON Acoyapa 7.24 313 Pn **Pn 22 32 53.0 +0.9**
URIC Uribia, Colomb 8.92 58 Pn **Pn 22 33 16.8 +1.6**
SDV Santo Domingo 9.20 78 Pn **Pn 22 33 19.3 +0.1**
comp=Z,8.8nm,0.3s,baz=316,slow=2.1,SNR=2.2
SDV Santo Domingo 9.20 78 Pn **Pn 22 33 19.6 +0.4**
MTO3 Montecristo 11.93 308 **Pn 22 33 59.0 +2.4**
GRTK Grand Turk 16.59 29 Pn **Pn 22 34 58.2 -0.6**
PDPR Patillas Dam, 17.24 50 Pn **Pn 22 35 05.8 -1.1**
CBYP Canovanas 17.52 49 **Pn 22 35 11.2 +0.7**
CBYP IAmb IAmb 22 35 16.6
comp=Z,11nm,0.9s
NNA Nana 19.15 171 LR LR 22 42 40.1
comp=Z,50nm,19.6s,baz=148,slow=36
GOGA Godfrey 26.44 353 P **P 22 36 43.0 +0.7**
KVTX Kingsville 26.67 322 P **P 22 36 44.5 0.0**
LRAL Lakeview Retre 26.70 346 P **P 22 36 44.7 0.0**
LRAL IAmb IAmb 22 36 54.7
comp=Z,4.1nm,1.1s
V48A Smith Brothers 29.27 348 IAmb IAmb 22 37 09.3
comp=Z,5.9nm,0.7s
MIAR Mount Ida 30.18 337 P **P 22 37 15.4 -0.3**
MIAR IAmb IAmb 22 37 16.0
comp=Z,1.6nm,0.6s
WHAR Wooly Hollow 30.36 339 P **P 22 37 17.1 -0.2**
WHAR IAmb IAmb 22 37 25.5
comp=Z,2.3nm,0.8s
LCAR Lake Charles 30.70 342 P **P 22 37 20.3 0.0**
LCAR IAmb IAmb 22 37 21.4
comp=Z,2.1nm,0.7s
U40A Yellville 31.52 339 P **P 22 37 28.0 +0.4**
U40A IAmb IAmb 22 37 28.7
comp=Z,5.3nm,0.7s
TX32 Lajitas Array 31.60 317 P **P 22 37 27.8 -0.7**
TXAR Lajitas Array 31.60 317 P **P 22 37 27.7 -0.8**
comp=Z,0.2nm,0.7s,baz=126,slow=10,SNR=2.5
TXAR LR LR 22 52 43.8
comp=Z,28nm,19.6s,baz=0.0,slow=41
TXAR Lajitas Array 31.60 317 P **P 22 37 29.0 +0.6**
TX31 Lajitas Ar. Si 31.60 317 P **P 22 37 28.0 -0.5**
Q52A Bidwell 31.83 356 P **P 22 37 30.9 +0.6**
Q52A IAmb IAmb 22 37 48.9
comp=Z,5.4nm,1.1s
Q56A Snyder Ridge, 31.84 1 P **P 22 37 30.1 -0.2**
Q56A IAmb IAmb 22 37 44.3
comp=Z,5.2nm,1.1s
CCM Cathedral Cave 32.56 343 P **P 22 37 36.8 +0.1**
N54A Moraine State 33.75 360 P **P 22 37 47.2 +0.2**
N59A State Game Lan 33.89 5 P **P 22 37 47.6 -0.6**
N59A IAmb IAmb 22 38 07.1
comp=Z,4.3nm,1.1s
PDAR Pinedale Array 44.21 328 P **P 22 39 15.1 +0.3**
comp=Z,0.8nm,0.6s,baz=127,slow=11,SNR=8.5
ULM Lac du Bonnet 45.11 345 P **P 22 39 19.9 -1.7**
comp=Z,1.4nm,0.5s,baz=135,slow=8.6,SNR=2.0
ULM Lac du Bonnet 45.11 345 IAmb IAmb 22 39 36.2
comp=Z,4.2nm,1.1s
NVAR Mina Array Bea 46.75 318 P **P 22 39 35.9 +0.9**
comp=Z,0.9nm,0.7s,baz=133,slow=6.2,SNR=5.0
YKA Yellowknife Ar 60.90 342 P **P 22 41 17.1 -0.6**
comp=Z,0.7nm,0.7s,baz=138,slow=6.6,SNR=5.1
WRA Warramunga Arr 144.57 245 PKPbc PKPbc 22 50 41.6 +0.3
comp=Z,0.9nm,0.9s,baz=104,slow=3.0,SNR=5.7

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*DNK **17** 22:39:03.1±0.3, 76°.63N×3°.66E, h15km, ML2.4*
*BER **17** 22:39:13.9±2.9, 80°.01N×21°.22E, h15km±11km, ML3.4, ML4.2(NAO), Confirmed Earthquake*
*IDC **17** 22:39:14.2±2.3, 79°.84N×21°.08E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.3/49, mbtmp3.7/7, ML3.3/4, MS2.9/7, Ms1 2.9/7, ms1mx2.5/48, Error ellipse: s-maj=40.4km s-min=10.7km az=137.0*
*IEPN **17** 22:39:15.0, 79°.81N×21°.09E, h10km*
*NAO **17** 22:39:15.0±3.2, 79°.84N×20°.98E, h14km±16km, ML4.2*
ISC 17 22:39:15.7±2.3, 79°.68N±0°.06×21°.45E±0°.05, h15km±14km, n62, σ1§77/72, mb3.2/3, MS2.8/3, 2C-2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.80**	**215**	Pn	**Pn**	**22 39 46.6**	**+0.4**
	baz=36,slow=18						
SPA0				Pg	Pg	22 39 50.1	-0.2
	baz=34,slow=16						
SPA0				Lg	Lg	22 40 14.5	
	baz=16,slow=22						
SPA0	**Spitsbergen Ar**	**1.80**	**215**	Pn	**Pn**	**22 39 46.6**	**+0.4**
	baz=36,slow=18						
SPA0				Pg	Pg	22 39 50.1	-0.2
	baz=34,slow=16						
SPA0				Sg	**Sg**	**22 40 14.5**	**+0.8**
	baz=16,slow=22						
SPA0	**Spitsbergen Ar**	**1.80**	**215**	⇑*i*P	**Pn**	**22 39 46.5**	**+0.4**
SPA0				*i*S	**Sn**	**22 40 10.4**	**+1.6**
SPITS	**Spitsbergen Ar**	**1.80**	**215**	Pn	**Pn**	**22 39 46.5**	**+0.4**
	baz=43,slow=12,SNR=380						
SPITS				Pg	Pg	22 39 49.8	-0.5
	baz=48,slow=14,SNR=91						
SPITS				Lg	Lg	22 40 13.5	
	baz=15,slow=35,SNR=9.9						
KBS	**Kingsbay**	**1.93**	**251**	*i*P	**Pn**	**22 39 49.1**	**+1.2**
KBS	**Kingsbay**	**1.93**	**251**	Pn	**Pn**	**22 39 46.3**	**-1.6**
KBS				Pg	Pg	22 39 50.1	-2.6
KBS				Lg	Lg	22 40 13.8	
KBS	**Kingsbay**	**1.93**	**251**	⇓*e*P	**Pn**	**22 39 46.2**	**-1.6**
KBS				*e*Pg	Pg	22 39 50.0	-2.6
KBS				*e*Sg	**Sn**	**22 40 13.4**	**+1.6**
KBS				IAML		22 40 17.8	
	comp=Z,1μm,0.3s						
KBS	**Kingsbay**	**1.93**	**251**	⇓*i*P	**Pn**	**22 39 46.2**	**-1.6**
KBS				*e*S	**Sn**	**22 40 10.1**	**-1.7**
BRBA	**Barentsburg A**	**2.15**	**224**	Pn	**Pn**	**22 39 51.2**	**+0.3**
BRBA				Lg	Lg	22 40 25.2	
BRBA	**Barentsburg A**	**2.15**	**224**	⇑*e*P	**Pn**	**22 39 51.1**	**+0.1**
BRBA				*e*Pg	Pg	22 39 54.2	-2.7
BRBA				*e*S	**Sn**	**22 40 17.1**	**-0.2**
BRBA				*e*Sg	Sg	22 40 24.5	-0.3
BRBA				IAML		22 40 30.6	
	comp=Z,702nm,0.5s						
HSPB	**Hornsund (broa**	**2.95**	**207**	Pn	**Pn**	**22 40 02.7**	**+0.8**
HSPB				Pg	Pg	22 40 11.3	-0.8
HSPB				Lg	Lg	22 40 50.7	
HSPB	**Hornsund (broa**	**2.95**	**207**	Pn	**Pn**	**22 40 02.7**	**+0.8**
HSPB				Pg	Pg	22 40 11.3	-0.8
HSPB				Sg	**Sg**	**22 40 50.7**	**+0.3**
HSPB	**Hornsund (broa**	**2.95**	**207**	*e*P	**Pn**	**22 40 02.9**	**+1.0**
HSPB				*e*S	**Sn**	**22 40 38.2**	**+1.2**
HOPEN	**Hopen**	**3.28**	**165**	Pn	**Pn**	**22 40 08.1**	**+1.8**
HOPEN				Sn	**Sn**	**22 40 47.2**	**+2.2**
HOPEN				Lg	Lg	22 41 04.2	
HOPEN	**Hopen**	**3.28**	**165**	*e*P	**Pn**	**22 40 08.2**	**+1.8**
HOPEN				*e*Pg	Pg	22 40 16.1	-2.2
HOPEN				*e*		22 40 19.5	
HOPEN				*e*S	**Sn**	**22 40 48.0**	**+3.0**
HOPEN				*e*Sg	Sg	22 41 02.6	+1.9
HOPEN				IAML		22 41 13.5	
	comp=Z,293nm,0.5s						
HOPEN	**Hopen**	**3.28**	**165**	*e*P	**Pn**	**22 40 08.1**	**+1.8**
HOPEN				*e*S	**Sn**	**22 40 47.1**	**+2.2**
ZFI2	**Zemlya Franca-**	**4.57**	**63**	*e*P	**Pn**	**22 40 23.7**	**-0.3**
ZFI2				*e*S	**Sn**	**22 41 13.8**	**-3.0**
	comp=Z,69nm,0.2s						
BJO1	**Bjornoya**	**5.24**	**187**	Pn	**Pn**	**22 40 33.1**	**-0.2**
BJO1				Sn	**Sn**	**22 41 31.1**	**-2.2**
BJO1				Lg	Lg	22 42 03.0	
BJO1	**Bjornoya**	**5.24**	**187**	*e*P	**Pn**	**22 40 33.3**	**0.0**
BJO1				*e*S	**Sn**	**22 41 31.2**	**-2.2**
BJO1				*e*Sg	Sg	22 42 03.5	-0.2
BJO1				IAML		22 42 08.3	
	comp=Z,66nm,0.5s						
BJO1	**Bjornoya**	**5.24**	**187**	*e*P	**Pn**	**22 40 32.9**	**-0.4**
BJO1				*e*S	**Sn**	**22 41 30.7**	**-2.6**
NOR	**Nord**	**6.39**	**305**	*i*	Pn	22 40 47.7	-1.5
NOR	**Nord**	**6.39**	**305**	Pn	**Pn**	**22 40 47.0**	**-2.1**
NOR	**Nord**	**6.39**	**305**	*e*P	Pn	22 40 42.0	-7.2
DAG	**Danmarks Havn**	**8.53**	**271**	*i*S	**Pn**	**22 41 15.9**	**-2.5**
DAG				IAML		22 41 23.5	
	comp=N,2.4nm,0.5s						
DAG	**Danmarks Havn**	**8.53**	**271**	*e*P	Pn	22 41 11.8	-6.6
DAG				*e*S	Sn	22 42 38.0	-16
HAMF	**Hammerfest**	**9.11**	**175**	Pn	**Pn**	**22 41 26.7**	**+0.4**
HAMF				Sn	Sn	22 43 01.6	-6.8
HAMF	**Hammerfest**	**9.11**	**175**	*e*P	**Pn**	**22 41 25.2**	**-1.1**
HAMF				*e*S	Sn	22 43 01.0	-7.4
HAMF				IAML		22 43 08.6	
	comp=Z,14nm,0.2s						
KEV	**Kevo**	**10.08**	**169**	Pn	**Pn**	**22 41 40.2**	**+0.6**
KEV				Sn	**Sn**	**22 43 29.2**	**-3.0**
KEV	**Kevo**	**10.08**	**169**	Pn	**Pn**	**22 41 40.2**	**+0.6**
KEV				Sn	**Sn**	**22 43 29.2**	**-3.0**
TRO	**Tromso**	**10.13**	**185**	*e*P	**Pn**	**22 41 37.5**	**-2.8**
JETT	**Jettan, Norway**	**10.19**	**182**	Pn	**Pn**	**22 41 41.5**	**+0.4**
ARA0	**ARCESS Array S**	**10.26**	**172**	Pn	**Pn**	**22 41 42.5**	**+0.4**
	baz=359,slow=14						
ARA0				Sn	**Sn**	**22 43 31.7**	**-4.9**
	baz=2.6,slow=22						
ARA0	**ARCESS Array S**	**10.26**	**172**	Pn	**Pn**	**22 41 42.5**	**+0.4**
	baz=359,slow=14						
ARA0				Sn	**Sn**	**22 43 31.7**	**-4.9**
	baz=2.6,slow=22						
ARCES	**ARCESS Array B**	**10.26**	**172**	Pn	**Pn**	**22 41 42.0**	**-0.1**
	baz=360,slow=9.6,SNR=63						
ARCES				Sn	Sn	22 43 27.0	-10
	baz=355,slow=21,SNR=2.0						
ARCES				LR	LR	22 46 08.5	
	comp=Z,50nm,20.4s,baz=30,slow=40						
DBG	**Daneborg**	**10.54**	**262**	*i*S	**Pn**	**22 41 44.6**	**-1.2**
DBG	**Daneborg**	**10.54**	**262**	Pn	**Pn**	**22 41 42.5**	**-3.3**
DBG	**Daneborg**	**10.54**	**262**	*e*P	Pn	22 41 38.2	-7.7
DBG				*e*S	Sn	22 43 25.9	-17
KIF	**Kilpisjarvi**	**10.74**	**181**	Pn	**Pn**	**22 41 49.2**	**+0.5**
KIF				Sn	Sn	22 43 41.6	-6.7
KIF	**Kilpisjarvi**	**10.74**	**181**	Pn	**Pn**	**22 41 49.2**	**+0.5**
KIF				Sn	Sn	22 43 41.6	-6.7
KTK1	**Kautokeino**	**10.74**	**177**	*e*P	**Pn**	**22 41 46.9**	**-1.8**
HEF	**Hetta**	**11.36**	**176**	*e*P	**Pn**	**22 41 55.5**	**-1.6**
LOF	**Lofoten**	**11.80**	**195**	*e*P	Pn	22 41 58.1	-5.0
APA0	**Apatity Array**	**12.52**	**159**	Pn	**Pn**	**22 42 12.1**	**-0.9**
	baz=326,slow=9.3						
APA0				Sn	Sn	22 44 23.8	-8.1
	baz=346,slow=22						
APA0	**Apatity Array**	**12.52**	**159**	Pn	**Pn**	**22 42 12.1**	**-0.9**
	baz=326,slow=9.3						
APA0				Sn	Sn	22 44 23.8	-8.1
	baz=346,slow=22						
AMDE	**Amderma**	**14.06**	**112**	*e*P	**Pn**	**22 42 33.3**	**-0.7**
	comp=Z,5.8nm,0.9s						
AMDE				*e*S	Sn	22 44 59.4	-10
LSH	**Leshukonskoye**	**16.34**	**141**	*e*P	**Pn**	**22 43 02.4**	**-1.7**
	comp=Z,12nm,1.4s						
LSH				*e*S	Sn	22 45 50.2	-14
FIA0	**FINESS Array S**	**18.39**	**173**	P	**P**	**22 43 28.7**	**-0.8**
	baz=9.5,slow=14						
FIA0	**FINESS Array S**	**18.39**	**173**	P	**P**	**22 43 28.7**	**-0.8**
	baz=9.5,slow=14						
FINES	**FINESS Array B**	**18.39**	**173**	Pn	**P**	**22 43 28.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=358,slow=12,SNR=9.7						
FINES				Sn	Sn	22 46 41.2	-13
	comp=Z,0.0nm,0.3s,baz=12,slow=21,SNR=1.4						
FINES				LR	LR	22 50 48.9	
	comp=Z,32nm,21.2s,baz=331,slow=38						
NB2	**NORSAR Subarra**	**18.99**	**195**	P	**P**	**22 43 36.5**	**+0.2**
NB2	**NORSAR Subarra**	**18.99**	**195**	P	**P**	**22 43 36.5**	**+0.2**
NOA	**NORSAR Array B**	**18.99**	**195**	P	**P**	**22 43 37.5**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=5.8,slow=12,SNR=2.8						
NOA				LR	LR	22 50 26.3	
	comp=Z,16nm,20.0s,baz=355,slow=35						
KLMR	**Klimovskoe**	**19.68**	**153**	*e*P	**P**	**22 43 42.8**	**-0.9**
	comp=Z,13nm,1.7s						
KLMR				*e*S	S	22 47 02.4	-22
HFS	**Hagfors**	**19.79**	**192**	P	**P**	**22 43 46.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=13,slow=8.9,SNR=31						
HFS				LR	LR	22 51 06.6	
	comp=Z,40nm,21.2s,baz=334,slow=36						
HFS	**Hagfors**	**19.79**	**192**	P	**P**	**22 43 46.6**	**+1.6**
	baz=7.4,slow=9.3						
HFS	**Hagfors**	**19.79**	**192**	P	**P**	**22 43 46.6**	**+1.6**
	baz=7.4,slow=9.3						
AKASG	**Malin Array Be**	**29.23**	**170**	P	**P**	**22 45 16.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=355,slow=9.4,SNR=5.3						
VRAC	**Vranov**	**30.55**	**186**	LR	LR	22 58 28.7	
	comp=Z,22nm,18.2s,baz=342,slow=38						
DAVOX	**Davos/Dischmat**	**33.29**	**195**	LR	LR	22 58 45.7	
	comp=Z,17nm,20.6s,baz=292,slow=35						
MKAR	**Makanchi Array**	**39.19**	**108**	P	**P**	**22 46 45.2**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=104,slow=24,SNR=2.6						
BRTR	**Keskin Array B**	**40.36**	**165**	P	**P**	**22 46 54.9**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=355,slow=7.5,SNR=1.0						
ULM	**Lac du Bonnet**	**45.49**	**307**	LR	LR	23 06 32.7	
	comp=Z,26nm,21.6s,baz=192,slow=36						

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*IDC **17** 22:53:19.6±1.1, 35°.79N×67°.81E, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.7/52, mbtmp3.8/18, ML3.4/5, MS3.2/4, Ms1 3.2/4, ms1mx2.9/26, Error ellipse: s-maj=21.6km s-min=15.4km az=16.0*
*NEIC **17** 22:53:20.6±2.2, 35°.63N±0°.06×67°.60E±0°.07, h6km±6km, mb4.1/18, Error ellipse: s-maj=8.8km s-min=7.9km az=225.0*
*NNC **17** 22:53:25.4±3.0, 35°.99N×67°.40E, h47km±48km, mb4.1, mpv4.2, Error ellipse: s-maj=26.8km s-min=17.2km az=41.0*
ISC 17 22:53:20.6±0.5, 35°.76N±0°.06×67°.57E±0°.05, h10km, n80, σ1§95/82, mb4.0/20, MS3.1/4, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.72**	**135**	Pn	**Pb**	**22 53 50.3**	**-2.0**
CHGR	**Chuyangaron**	**3.15**	**23**	Pn	**Pn**	**22 54 12.4**	**+2.0**
GAR	**Garm**	**3.90**	**33**		**Pn**	**22 54 22.7**	**+2.0**
HRA	**Herat**	**4.58**	**254**		**Pn**	**22 54 31.6**	**+1.6**
BTK	**Batken**	**5.00**	**30**	Pn	**Pn**	**22 54 38.5**	**+2.8**
BTK					**Sn**	**22 55 38.2**	**+4.6**
DRK	**Karamyk**	**5.00**	**41**		**Pn**	**22 54 39.1**	**+3.1**
NIL	**Nilore**	**5.14**	**113**	Pn	**Pn**	**22 54 38.3**	**+0.8**
TAS	**Tashkent**	**5.72**	**13**	Pn	**Pn**	**22 54 48.1**	**+2.6**
KK31	**Karatay Array**	**7.67**	**16**	Pn	**Pn**	**22 55 12.9**	**+0.5**
	6.5nm,0.5s,baz=205,slow=16,SNR=60						
KK31				⇑Sn	**Sn**	**22 56 36.5**	**-2.9**
	10nm,0.5s,baz=206,slow=24,SNR=6.8						
KK31	**Karatay Array**	**7.67**	**16**		**Pn**	**22 55 13.5**	**+1.1**
KKAR	**Karatay Array**	**7.67**	**16**		**Pn**	**22 55 13.5**	**+1.1**
KKAR	**Karatay Array**	**7.67**	**16**		**Pn**	**22 55 13.3**	**+0.9**
GEYT	**Alibeck**	**7.88**	**289**	Pn	**Pn**	**22 55 16.4**	**+1.2**
	2.3nm,0.3s,baz=105,slow=16,SNR=14						
GEYT				Sn	**Sn**	**22 56 45.0**	**+0.6**
	0.7nm,0.3s,baz=84,slow=29,SNR=1.1						
GEYT				Lg	Lg	22 57 36.9	
	0.5nm,0.3s,baz=112,slow=30,SNR=1.8						
GYA0B	**ALIBECK ARRAY**	**7.88**	**289**	Pn	**Pn**	**22 55 16.5**	**+1.3**
AML	**Almayashu**	**7.95**	**35**	P	**Pn**	**22 55 17.8**	**+1.3**
	SNR=20						
AAK	**Ala-Archa**	**8.72**	**36**	P	**Pn**	**22 55 29.9**	**+3.1**
	SNR=5.6						
AAK	**Ala-Archa**	**8.72**	**36**		**Pn**	**22 55 28.2**	**+1.4**
FRU1	**Bishkek**	**8.91**	**36**		**Pn**	**22 55 31.2**	**+1.8**
KBK	**Karagaybulak**	**8.95**	**38**	P	**Pn**	**22 55 32.9**	**+2.9**
	SNR=14						
CHMS	**Chumysh**	**9.11**	**35**	P	**Pn**	**22 55 33.2**	**+1.0**
	SNR=17						
USP	**Ospenovka**	**9.21**	**33**	P	**Pn**	**22 55 33.8**	**+0.3**
	SNR=13						
BOOM	**Boomskoye usch**	**9.35**	**42**	Pn	**Pn**	**22 55 36.9**	**+1.4**
ULHL	**Ulahol**	**9.35**	**44**	P	**Pn**	**22 55 39.1**	**+3.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**9.47**	**39**	P	**Pn**	**22 55 37.1**	**-0.1**
	SNR=11						
KDJ	**Kajisay**	**9.82**	**47**	Pn	**Pn**	**22 55 43.0**	**+1.0**
MDOK	**Medeo**	**10.40**	**42**	⇓Pn	**Pn**	**22 55 51.8**	**+1.9**
	14nm,0.8s						
PRZ	**Przheval'sk**	**10.76**	**48**		**Pn**	**22 55 55.5**	**+0.7**
PDGK	**Podgornoye**	**11.90**	**47**	⇑Pn	**Pn**	**22 56 10.2**	**-0.2**
	3.8nm,0.8s						
UOSS	**Minazif**	**14.56**	**225**	Pn	**Pn**	**22 56 44.9**	**-1.9**
AB31	**Akbulak array**	**14.60**	**340**	Pn	Pn	22 56 44.1	-2.9
	1.2nm,0.5s,baz=263,slow=35,SNR=44						
AB31				Sn	Sn	22 59 22.6	-6.2
	1.2nm,0.5s,baz=155,slow=24,SNR=3.4						
ABKAR	**Akbulak array**	**14.60**	**340**	Pn	**Pn**	**22 56 45.5**	**-1.6**
ABKAR	**Akbulak array**	**14.60**	**340**	Pn	**Pn**	**22 56 45.7**	**-1.4**
MAKZ	**Makanchi**	**15.43**	**40**	Pn	**Pn**	**22 56 58.7**	**+0.3**
MK31	**Makanchi Array**	**15.59**	**41**	⇑Pn	**Pn**	**22 56 58.9**	**-1.5**
	4.5nm,0.8s,baz=236,slow=14,SNR=12						
MK31	**Makanchi Array**	**15.59**	**41**	Pn	**Pn**	**22 57 00.1**	**-0.3**
MKAR	**Makanchi Array**	**15.59**	**41**	Pn	**Pn**	**22 56 56.7**	**-3.7**
	0.1nm,0.3s,baz=233,slow=12,SNR=14						
MKAR				Lg	Lg	23 01 27.2	
	0.0nm,0.3s,baz=252,slow=27,SNR=1.6						
MKAR	**Makanchi Array**	**15.59**	**41**		**Pn**	**22 56 59.5**	**-0.9**
AKTO	**Aktyubinsk**	**16.22**	**338**	Pn	**Pn**	**22 57 06.5**	**-1.9**
	0.2nm,0.3s,baz=122,slow=14,SNR=3.8						
AKTO				Sn	Sn	22 59 58.3	-10
	baz=165,slow=15,SNR=1.7						
AKTO	**Aktyubinsk**	**16.22**	**338**	⇑Pn	**Pn**	**22 57 07.5**	**-0.9**
	3.2nm,0.8s						
AKTO				⇑Sn	**Sn**	**23 00 02.6**	**-5.6**
	3.6nm,0.8s						
KURBB	**Kurchatov Arra**	**16.84**	**25**	Pn	Pn	22 57 10.2	-6.1
	0.1nm,0.3s,baz=213,slow=11,SNR=2.7						
KURBB	**Kurchatov Arra**	**16.84**	**25**	⇓Pn	**Pn**	**22 57 16.1**	**-0.1**
	3.5nm,0.8s						
BVAR	**Borovoye Array**	**17.37**	**6**	Pn	**Pn**	**22 57 19.3**	**-3.7**
	0.2nm,0.3s,baz=276,slow=27,SNR=3.3						
BRVK	**Borovoye**	**17.40**	**5**	⇑Pn	**Pn**	**22 57 23.6**	**+0.3**
	4.9nm,0.7s						
BRVK	**Borovoye**	**17.40**	**5**		**Pn**	**22 57 24.7**	**+1.4**
KBZ	**Khabaz**	**20.52**	**300**	P	**P**	**22 57 54.4**	**-4.5**
	0.8nm,0.8s,baz=117,slow=9.0,SNR=1.3						
KBZ				LR	LR	23 07 37.8	
	comp=Z,28nm,18.4s,baz=114,slow=42						
KVAR	**Kislovodsk Arr**	**20.72**	**301**	P	**P**	**22 58 02.7**	**+1.6**
	3.2nm,0.8s,baz=198,slow=20,SNR=1.7						
LSA	**Lhasa**	**20.72**	**100**	P	**P**	**22 58 01.0**	**-0.6**
LSA				IAmb	IAmb	22 58 15.4	
	comp=Z,7.2nm,1.1s						
KIV	**Kislovodsk**	**20.72**	**301**	P	**P**	**22 58 02.2**	**+1.0**
KIV				IAmb	IAmb	22 58 07.5	
	comp=Z,3.9nm,0.7s						
ARU	**Arti**	**21.56**	**346**	P	**P**	**22 58 11.0**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=216,slow=8.5,SNR=4.1						
ARU				S	**S**	**23 02 03.6**	**-5

comp=Z,7.2nm,1.1s
NB2 NORSAR Subarra 43.31 324 P P 23 01 23.0 +0.6
comp=Z,0.7nm,0.6s,baz=97,slow=8.6
NOA NORSAR Array B 43.31 324 P P 23 01 22.5 +0.2
comp=Z,0.8nm,0.9s,baz=101,slow=8.0,SNR=3.3
NOA LR LR 23 22 34.6
comp=Z,20nm,19.5s,baz=250,slow=40
TATO Taipei 47.23 88 P P 23 01 54.5 +0.6
ILAR Eielson Array 76.21 14 P P 23 05 09.7 +1.0
comp=Z,0.4nm,0.9s,baz=329,slow=3.4,SNR=3.4
YKA Yellowknife Ar 82.07 1 P P 23 05 41.0 +0.3
comp=Z,0.8nm,0.8s,baz=351,slow=5.2,SNR=5.3
WRA Warramunga Arr 84.00 120 P P 23 05 51.2 -0.2
comp=Z,0.6nm,0.9s,baz=322,slow=5.1,SNR=1.9
ASAR Alice Springs 86.16 123 P P 23 06 02.0 -0.1
comp=Z,0.6nm,0.6s,baz=309,slow=4.9,SNR=7.3

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*JMA **17** 22:54:12.1±0.1, 40.°25N×142.°48E, h34km±1km, M3.8*
*NIED **17** 22:54:12.2, 40.°25N×142.°48E, h34km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr2.22; Mθθ0.14; Mϕϕ-2.37; Mrθ1.77; Mϕθ-0.65; Mϕr3.77; Fault plane solution: M0 4.80000×1014 NP1:ϕ0=24.00000°, δ75.00000°, λ96.00000°. NP2:ϕ0=181.00000°, δ16.00000°, λ68.00000°.*
*IDC **17** 22:54:15.2±3.0, 40.°16N×142.°52E, h80km±19km, mb3.4/7, mb1 3.5/11, mb1mx3.3/40, mbtmp3.7/11, MS2.8/5, Ms1 2.8/5, ms1mx2.5/26 Error ellipse: s-maj=38.3km s-min=16.8km az=120.0*
ISC 17 22:54:06.9±1.8, 40.°34N±0.°04×142.°68E±0.°07, h5km±10km, n30, σ1§38/32, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.74**	**238**	P	**Pn**	**22 54 23.6**	**-0.3**
JTH				S	**Sb**	**22 54 32.0**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.75**	**260**	P	**Pn**	**22 54 23.8**	**-0.3**
JKEN				*e*S	**Sb**	**22 54 32.0**	**-0.9**
JANG	**Nango**	**0.89**	**273**	P	**Pn**	**22 54 26.1**	**+0.1**
JANG				S	**Sb**	**22 54 36.1**	**-0.8**
MIYJ	**Miyakonagasawa**	**1.00**	**221**	P	**Pn**	**22 54 27.4**	**-0.2**
MIYJ				*e*S	**Sg**	**22 54 38.6**	**-0.6**
JKZ	**Kuzumaki**	**1.09**	**252**	P	**Pn**	**22 54 29.0**	**+0.2**
JKZ				S	**Sg**	**22 54 40.9**	**-1.0**
JARK	**Aomorirokkasho**	**1.20**	**304**	P	**Pn**	**22 54 31.5**	**+1.2**
JTM	**Tenmabayashi**	**1.30**	**291**	P	**Pn**	**22 54 32.9**	**+1.2**
JTM				*e*S	**Sg**	**22 54 48.1**	**-0.7**
JOM	**Ohasama**	**1.37**	**231**	P	**Pg**	**22 54 33.3**	**+0.2**
JAH	**Hinai**	**1.57**	**265**	P	**Pg**	**22 54 36.6**	**-0.3**
JAH				*e*S	**Sn**	**22 54 54.7**	**-1.3**
JOT	**Ohata**	**1.62**	**311**	P	**Pg**	**22 54 37.8**	**-0.1**
JOT				S	**Sb**	**22 54 57.9**	**0.0**
JMK	**Ichinoseki**	**1.78**	**220**	P	**Pb**	**22 54 40.1**	**+0.1**
JRG	**Rokugo**	**1.83**	**240**	P	**Pb**	**22 54 41.2**	**+0.4**
ASAJ	**Asahikawa**	**3.78**	**359**	P	**Pb**	**22 55 13.0**	**-1.0**
	3.6nm,0.3s,baz=195,slow=7.5,SNR=16						
ASAJ				S	**Sb**	**22 55 59.7**	**-0.4**
	1.5nm,0.3s,baz=229,slow=27,SNR=1.9						
ASAJ				LR	LR	22 57 07.3	
	comp=Z,114nm,19.4s,baz=174,slow=44						
MJAR	**Matsushiro Arr**	**5.16**	**224**	P	**Pn**	**22 55 27.9**	**+3.1**
	0.2nm,0.3s,baz=30,slow=14,SNR=9.9						
USRK	**Ussuriysk Ar.**	**8.81**	**299**	P	**Pn**	**22 56 18.7**	**+3.8**
	baz=93,slow=15,SNR=6.6						
USRK				LR	LR	22 59 26.3	
	comp=Z,49nm,20.5s,baz=160,slow=35						
KLR	**Kul'dur**	**11.79**	**323**	LR	LR	23 01 44.4	
	comp=Z,32nm,19.1s,baz=158,slow=38						
KSRS	**Korea Array**	**11.85**	**261**	P	**Pn**	**22 56 59.9**	**+3.4**
	0.4nm,0.3s,baz=72,slow=14,SNR=1.7						
KSRS				LR	LR	23 01 13.3	
	comp=Z,33nm,18.3s,baz=180,slow=36						
SONM	**Songino Array**	**26.92**	**298**	P	**P**	**22 59 47.5**	**-1.5**
	0.5nm,0.5s,baz=76,slow=7.6,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**29.18**	**128**	T	T	23 30 56.2	
	baz=319,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**29.19**	**128**	T	T	23 31 00.4	
	baz=319,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.20**	**128**	T	T	23 31 08.1	
	baz=319,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**30.01**	**129**	T	T	23 32 55.8	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**30.01**	**129**	T	T	23 32 56.4	
	baz=322,slow=74						
H11S2	**WAKE ISLAND Hy**	**30.03**	**129**	T	T	23 32 57.3	
	baz=322,slow=74						
ZALV	**Zalesovo Beam**	**40.50**	**310**	P	**P**	**23 01 46.4**	**0.0**
	0.8nm,0.4s,baz=89,slow=8.9,SNR=3.4						
ZALV				LR	LR	23 19 29.6	
	comp=Z,30nm,18.2s,baz=200,slow=37						
MKAR	**Makanchi Array**	**43.28**	**299**	P	**P**	**23 02 07.2**	**-2.1**
	0.9nm,0.5s,baz=82,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**46.19**	**34**	P	**P**	**23 02 31.8**	**-0.4**
	0.2nm,0.5s,baz=273,slow=5.3,SNR=2.1						
FINES	**FINESS Array B**	**66.36**	**332**	P	**P**	**23 04 56.2**	**0.0**
	0.9nm,0.6s,baz=38,slow=7.0,SNR=5.5						
NOA	**NORSAR Array B**	**71.52**	**337**	P	**P**	**23 05 29.0**	**+0.6**
	0.5nm,0.6s,baz=39,slow=6.2,SNR=2.8						
AKASG	**Malin Array Be**	**72.29**	**322**	P	**P**	**23 05 33.2**	**+0.1**
	0.2nm,0.2s,baz=47,slow=6.8,SNR=1.6						

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*TAP **17** 22:55:52.1,25.°00N×122.°79E, h47km±1km, ML3.4, D*
*JMA **17** 22:55:53.3±0.2, 24.°88N×122.°60E, h0km, M2.6*
ISC 17 22:55:54.3±1.4, 24.°92N±0.°04×122.°66E±0.°03, h21km±4km, n44, σ0§63/76, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**151**	P	**Pb**	**22 56 04.1**	**-1.0**
JYNG				*e*S	**Sb**	**22 56 12.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.56**	**145**	P	**Pb**	**22 56 04.4**	**-1.1**
YOJ				*e*S	**Sb**	**22 56 12.0**	**-1.1**
YOJ	**Yonaguni jima**	**0.56**	**145**	*i* P	**Pb**	**22 56 04.4**	**-1.1**
	baz=159						
YOJ				S	**Sb**	**22 56 12.9**	**-0.2**
	baz=159						
TWB1	**Santiao Chiao**	**0.61**	**278**	P	**Pb**	**22 56 06.2**	**-0.3**
	baz=270						
TWB1				S	**Sn**	**22 56 16.4**	**-0.6**
	baz=270						
NTC	**Toucheng**	**0.76**	**265**	P	**Pb**	**22 56 08.7**	**0.0**
	baz=267						
NTC				S	**Sn**	**22 56 20.8**	**+0.3**
	baz=267						
TIPB	**Shuangxi**	**0.76**	**274**	P	**Pb**	**22 56 08.3**	**-0.5**
	baz=268						
TIPB				*e*S	**Sn**	**22 56 20.0**	**-0.6**
	baz=268						
TWC	**Suao**	**0.80**	**247**	P	**Pb**	**22 56 09.2**	**-0.3**
	baz=245						
TWC				*e*S	**Sb**	**22 56 21.1**	**+1.2**
	baz=245						
NWF	**Wu-fen Shan**	**0.81**	**281**	P	**Pb**	**22 56 09.2**	**-0.6**
	baz=274						
NWF				S	**Sb**	**22 56 20.5**	**+0.2**
	baz=274						
WFSB	**Wu-fen Shan**	**0.81**	**281**	P	**Pb**	**22 56 09.2**	**-0.5**
	baz=274						
WFSB				*e*S	**Sb**	**22 56 20.5**	**+0.3**
	baz=274						
TNOU	**National Taiwa**	**0.84**	**286**	P	**Pb**	**22 56 09.3**	**-0.9**
	baz=274						
TNOU				*e*S	**Sb**	**22 56 21.8**	**+0.9**
	baz=274						
PCYT	**Pengchaiyu**	**0.88**	**323**	P	**Pb**	**22 56 10.3**	**-0.6**
	baz=322						
PCYT				S	**Sb**	**22 56 21.5**	**-0.8**
	baz=322						
NDS	**Dongshan**	**0.91**	**252**	*i* P	**Pb**	**22 56 10.5**	**-0.8**
	baz=250						
NDS				S	**Sb**	**22 56 23.6**	**+0.7**
	baz=250						
TWE	**Neicheng**	**0.92**	**258**	P	**Pb**	**22 56 11.0**	**-0.6**
	baz=254						
TWE				*e*S	**Sb**	**22 56 24.0**	**+0.6**
	baz=254						
EWUT	**Wuta**	**0.93**	**240**	*i* P	**Pb**	**22 56 10.8**	**-1.0**
	baz=239						
EWUT				*i* S	**Sb**	**22 56 24.2**	**+0.6**
	baz=239						
YM08	**YM08**	**1.01**	**285**	P	**Pb**	**22 56 12.4**	**-0.6**
	baz=280						
YM08				*e*S	**Sb**	**22 56 26.1**	**+0.3**
	baz=280						
YM01	**YM01**	**1.01**	**283**	P	**Pb**	**22 56 12.7**	**-0.5**
	baz=278						
YM01				*e*S	**Sb**	**22 56 26.2**	**+0.1**
	baz=278						
ENTT	**Nioudou**	**1.03**	**254**	P	**Pn**	**22 56 13.8**	**+0.2**
	baz=242						
ENTT				*e*S	**Sn**	**22 56 28.2**	**+0.8**
	baz=242						
NWLT	**Wulai**	**1.06**	**262**	P	**Pn**	**22 56 13.6**	**-0.4**
	baz=260						
NDT	**Datong Townshi**	**1.09**	**253**	P	**Pb**	**22 56 14.5**	**+0.1**
	baz=251						
NDT				*e*S	**Sn**	**22 56 29.3**	**+0.5**
	baz=251						
IRIF	**Iriomote-Funau**	**1.14**	**121**	P	**Pb**	**22 56 16.0**	**+0.8**
IRIF				*e*S	**Sn**	**22 56 31.5**	**+1.6**
YHNB	**Yeheng**	**1.19**	**258**	P	**Pn**	**22 56 15.9**	**+0.1**
	baz=248						
YHNB				*e*S	**Sb**	**22 56 31.1**	**-0.2**
	baz=248						
NSK	**Sanguang**	**1.21**	**259**	P	**Pn**	**22 56 16.3**	**+0.3**
	baz=248						
NSK				*e*S	**Sb**	**22 56 31.7**	**0.0**
	baz=248						
NACB	**Ninganchiao**	**1.22**	**233**	P	**Pn**	**22 56 15.4**	**-0.7**
	baz=219						
NACB				*e*S	**Sb**	**22 56 32.5**	**+0.4**
	baz=219						
NNSB	**Datong**	**1.26**	**247**	P	**Pn**	**22 56 16.8**	**0.0**
	baz=246						
NNSB				*e*S	**Sb**	**22 56 34.0**	**+0.7**
	baz=246						
NNSH	**Datong**	**1.26**	**247**	P	**Pn**	**22 56 17.1**	**+0.3**
	baz=253						
NNSH				*e*S	**Sn**	**22 56 33.5**	**+0.4**
	baz=253						
NNS	**Nan Shan**	**1.27**	**248**	P	**Pb**	**22 56 17.8**	**+0.3**
	baz=246						
NNS				*e*S	**Sb**	**22 56 33.9**	**+0.5**
	baz=246						
ETLH	**Xiulin Townshi**	**1.29**	**237**	P	**Pb**	**22 56 17.9**	**0.0**
	baz=224						
FUSS	**Fushou**	**1.45**	**243**	P	**Pb**	**22 56 20.9**	**+0.1**
	baz=231						
JIJ	**Ishigaki jima**	**1.46**	**112**	P	**Pb**	**22 56 21.6**	**+0.8**
WHF	**Hehuan Shan**	**1.49**	**239**	*e*P	**Pn**	**22 56 20.8**	**+0.6**
	baz=227						
TWT	**Tachien**	**1.51**	**244**	*e*P	**Pb**	**22 56 21.8**	**+0.1**
	baz=233						
LIOB	**Emei**	**1.52**	**260**	*e*P	**Pn**	**22 56 20.2**	**-0.1**
	baz=258						
LIOB				*e*S	**Sn**	**22 56 39.4**	**0.0**
	baz=258						
TDCB	**Techi**	**1.52**	**244**	*e*P	**Pb**	**22 56 21.3**	**-0.6**
	baz=233						
TDCB				*e*S	**Sb**	**22 56 41.3**	**+0.5**
	baz=233						
NSTT	**Nanjuang**	**1.54**	**259**	*e*P	**Pb**	**22 56 22.2**	**+0.1**
	baz=258						
CHGB	**Renai**	**1.60**	**238**	*e*P	**Pn**	**22 56 22.5**	**+0.9**
	baz=226						
CHGB				*e*S	**Sb**	**22 56 43.1**	**-0.1**
	baz=226						
OWD	**Renai**	**1.66**	**235**	*e*P	**Pn**	**22 56 22.5**	**+0.2**
	baz=223						
OWD				*e*S	**Sn**	**22 56 43.7**	**+0.6**
	baz=223						
WHP	**Taichung City**	**1.69**	**248**	*e*P	**Pb**	**22 56 24.3**	**-0.4**
	baz=238						
WCS	**Beigang Elemen**	**1.81**	**242**	*e*P	**Pb**	**22 56 26.6**	**-0.2**
	baz=232						
HGSD	**Ruisui**	**1.82**	**219**	*e*P	**Pn**	**22 56 24.4**	**+0.1**
	baz=211						
EHY	**Hungye**	**1.86**	**221**	*e*P	**Pn**	**22 56 24.4**	**-0.6**
	baz=222						
SSLB	**Suanglung**	**1.92**	**234**	*e*P	**Pn**	**22 56 26.4**	**+0.6**
	baz=225						
SSLB				*e*S	**Sn**	**22 56 49.8**	**+0.4**
	baz=225						
TYC	**Yuchr**	**1.93**	**239**	*e*P	**Pb**	**22 56 28.0**	**-0.8**
	baz=228						
TYC				*e*S	**Sn**	**22 56 49.7**	**+0.2**
	baz=228						
YULB	**Yu-li**	**1.97**	**220**	*e*P	**Pn**	**22 56 25.2**	**-1.2**
	baz=221						
YULB				*e*S	**Sn**	**22 56 49.4**	**-1.0**
	baz=221						
TWF1	**Yuli**	**2.00**	**219**	*e*P	**Pn**	**22 56 26.6**	**-0.2**
	baz=231						

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*IDC **17** 23:02:31.5±3.3, 14.°04N×58.°97W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.3/3, Error ellipse: s-maj=64.5km s-min=42.1km az=13.0*
*TRN **17** 23:02:31.5, 13.°91N×58.°55W, h86km, MD4.7*
ISC 17 23:02:31.8±2.0, 14.°01N±0.°03×58.°78W±0.°09, h11km±11km, n57, σ2§11/75, mb3.3/3, 1C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.12**	**216**	*e*P	**Pn**	**23 02 55.3**	**+1.9**
BBSP				*e*S	**Sn**	**23 03 12.2**	**+3.5**
BBGH	**Gun Hill**	**1.15**	**221**	*e*P	**Pg**	**23 02 55.5**	**+1.6**
BBGH				*e*S	**Sn**	**23 03 12.2**	**+2.7**
BCHC	**Barbados, Cave**	**1.20**	**223**	*e*P	**Pg**	**23 02 56.3**	**+1.4**
BCHC				*e*S	**Sn**	**23 03 14.2**	**+3.4**
H05S1	**Guadeloupe/Mar**	**2.03**	**282**	Pn	**Pn**	**23 03 04.1**	**-1.9**
	SNR=808						
H05S1				Sn	**Sn**	**23 03 30.4**	**-1.0**
MPOM	**Morne Pois Mar**	**2.06**	**282**	*e*P	**Pb**	**23 03 07.8**	**-1.4**
SLW	**Petit Monier**	**2.09**	**270**	*e*P	**Pb**	**23 03 09.2**	**-0.6**
SLW				*e*S	**Sb**	**23 03 36.6**	**+0.8**
MCLT	**Moule a Chique**	**2.12**	**262**	*e*P	**Pb**	**23 03 08.7**	**-1.5**
MCLT				*e*S	**Sb**	**23 03 36.4**	**-0.2**
MVM	**Montagne Vaucl**	**2.12**	**285**	*e*P	**Pb**	**23 03 09.1**	**-1.2**
SLBI	**Saint Lucia, B**	**2.13**	**271**	*e*P	**Pb**	**23 03 09.1**	**-1.3**
SLBI				*e*S	**Sb**	**23 03 37.4**	**+0.6**
ILAM	**Ilet Lapin Mar**	**2.16**	**291**	*e*P	**Pb**	**23 03 09.8**	**-1.2**
LPMF	**Morne Lapointe**	**2.19**	**285**	*e*P	**Pb**	**23 03 10.0**	**-1.5**
SLB	**Belfond**	**2.20**	**265**	*e*P	**Pb**	**23 03 09.7**	**-2.0**
SLB				*e*S	**Sb**	**23 03 38.7**	**-0.3**
SLDE	**Delcer**	**2.22**	**265**	*e*P	**Pb**	**23 03 09.9**	**-2.1**
SLDE	**Delcer**	**2.22**	**265**	*e*	Pg	23 03 23.1	+8.7
SLDE				*e*S	**Sb**	**23 03 39.6**	**+0.1**
ZAM	**Aeronautique**	**2.25**	**285**	*e*P	**Pb**	**23 03 10.7**	**-1.7**
TRMF	**Trois Ilets**	**2.26**	**284**	*e*P	**Pb**	**23 03 10.9**	**-1.7**
BIM	**Bigot**	**2.27**	**283**	*e*P	**Pb**	**23 03 11.2**	**-1.7**
FDF	**Fort de France**	**2.40**	**288**	*e*P	**Pb**	**23 03 13.2**	**-1.9**
BAMF	**Morne Balai**	**2.43**	**289**	*e*P	**Pb**	**23 03 13.9**	**-1.6**
GBMF	**Grand Be**	**2.44**	**289**	*e*P	**Pb**	**23 03 13.9**	**-1.8**
SSV	**Crater Summit**	**2.44**	**254**	*e*P	**Pb**	**23 03 13.3**	**-2.5**
PML	**Morne Lenard**	**2.45**	**288**	*e*P	**Pb**	**23 03 14.1**	**-1.8**
SVN	**Savane Anatole**	**2.45**	**290**	*e*P	**Pb**	**23 03 14.1**	**-1.9**
SVV	**Soufriere Volc**	**2.46**	**254**	*e*P	**Pb**	**23 03 14.1**	**-2.0**
PCM	**Pelee Case Pet**	**2.48**	**289**	*e*P	**Pb**	**23 03 14.5**	**-1.9**
SVB	**Belmont**	**2.51**	**253**	*e*P	**Pb**	**23 03 14.2**	**-2.8**
SVB				*e*S	**Sb**	**23 03 45.7**	**-2.2**
SVOC	**Richmond Hill,**	**2.52**	**250**	*e*P	**Pb**	**23 03 14.7**	**-2.4**
SVOC				*e*S	**Sb**	**23 03 45.7**	**-2.4**
DLPL	**La Plaine**	**2.72**	**299**	*e*P	**Pb**	**23 03 17.9**	**-2.6**
DSLB	**Salisbury**	**2.92**	**299**	*e*P	**Pb**	**23 03 20.7**	**-3.2**
DSLB				*e*S	**Sb**	**23 03 56.9**	**-2.8**
GCMP	**Grenada, Carri**	**2.99**	**240**	*e*P	**Pn**	**23 03 20.4**	**+1.3**
GCMP				*e*S	**Sn**	**23 03 55.4**	**+0.5**
MAGL	**Barre de l'ile**	**3.09**	**309**	*e*P	**Pb**	**23 03 22.9**	**-3.8**
MAGL				*e*S	**Sn**	**23 04 00.5**	**+3.1**
H05N1	**Guadeloupe/Mar**	**3.17**	**316**	Pn	**Pn**	**23 03 21.0**	**-0.7**
	SNR=223						
H05N1				Sn	**Sn**	**23 03 58.3**	**-1.3**
TOSP	**Speyside**	**3.19**	**213**	*e*P	**Pn**	**23 03 22.2**	**+0.3**
TOSP				*e*S	**Sn**	**23 03 57.6**	**-2.5**
TDBA	**Terre de Bas,**	**3.31**	**304**	*e*P	**Pb**	**23 03 26.2**	**-4.3**
TDBA				*e*S	**Sb**	**23 04 06.8**	**-4.0**
TBG	**Guadaloupe-3**	**3.32**	**304**	*e*P	**Pn**	**23 03 25.7**	**+2.1**
GRGR	**Grenville**	**3.37**	**237**	*e*P	**Pn**	**23 03 25.7**	**+1.3**
GRGR				*e*S	**Sn**	**23 04 05.6**	**+1.3**
CBE	**Ff, Capester**	**3.41**	**307**	*e*P	**Pn**	**23 03 27.4**	**+2.4**
CBE				*e*S	**Sn**	**23 04 08.0**	**+2.5**
ABD	**La Joyeuse, An**	**3.58**	**313**	*e*P	**Pn**	**23 03 29.6**	**+2.3**
ABD				*e*S	**Sn**	**23 04 12.1**	**+2.6**
ANBD	**Bethesda, Anti**	**4.17**	**317**	*e*P	**Pn**	**23 03 37.2**	**+1.9**
ANBD	**Bethesda, Anti**	**4.17**	**317**	*e*S	**Sn**	**23 04 26.3**	**+2.2**
TRN	**Trinidad (W)**	**4.21**	**218**	*e*P	**Pn**	**23 03 36.8**	**+0.9**
TRN	**Trinidad (W)**	**4.21**	**218**	*e*S	**Sn**	**23 04 22.7**	**-2.5**
BPA	**Boggy Peak**	**4.23**	**316**	*e*P	**Pn**	**23 03 37.8**	**+1.6**
BPA	**Boggy Peak**	**4.23**	**316**	*e*S	**Sn**	**23 04 26.3**	**+0.6**
ANOC	**Antigua Open C**	**4.26**	**317**	*e*P	**Pn**	**23 03 39.0**	**+2.3**
ANOC	**Antigua Open C**	**4.26**	**317**	*e*S	**Sn**	**23 04 27.6**	**+1.2**
TPP	**Pointe-a-Pierr**	**4.51**	**216**	*e*	Pb	23 03 43.8	-7.1
TPP	**Pointe-a-Pierr**	**4.51**	**216**	*e*S	**Sn**	**23 04 29.0**	**-3.5**
ANWB	**Willy Bob**	**4.64**	**322**	*e*P	**Pn**	**23 03 42.7**	**+0.8**
ANWB	**Willy Bob**	**4.64**	**322**	*e*S	**Sn**	**23 04 36.9**	**+1.1**
NVDO	**Nevis, Disaste**	**4.82**	**310**	*e*P	**Pn**	**23 03 47.6**	**+3.3**
NVDO	**Nevis, Disaste**	**4.82**	**310**	*e*S	**Sn**	**23 04 42.4**	**+2.2**
SKI	**Saint Kitts**	**5.04**	**311**	*e*P	**Pn**	**23 03 50.2**	**+2.8**
SKI	**Saint Kitts**	**5.04**	**311**	*e*S	**Sn**	**23 04 46.4**	**+0.6**
TXAR	**Lajitas Array**	**44.13**	**298**	P	**P**	**23 10 40.7**	**0.0**
	0.2nm,0.7s,baz=108,slow=8.6,SNR=4.2						
PDAR	**Pinedale Array**	**52.06**	**314**	P	**P**	**23 11 42.2**	**+0.1**
	0.3nm,0.8s,baz=114,slow=10.0,SNR=1.9						
NVAR	**Mina Array Bea**	**57.62**	**307**	P	**P**	**23 12 22.8**	**+0.5**
	0.2nm,0.6s,baz=104,slow=7.5,SNR=1.5						

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*IDC **17** 23:48:57.7±2.1, 13.°54S×167.°02E, h38km±15km, mb4.7/18, mb1 4.8/20, mb1mx4.7/27, mbtmp4.9/20, ML3.0/1, MS3.9/25, Ms1 3.9/25, ms1mx3.8/34, Error ellipse: s-maj=20.8km s-min=14.4km az=107.0*
*NOU **17** 23:49:00.9, 13.°41S×167.°02E, h65km, MLv5.6, Vanuatu Islands*
*GCMT **17** 23:49:00.6±0.3, 13.°54S±0.°02×166.°64E±0.°02, h52km±1km, MW4.9/79, Moment Tensor Solution. s52,c61; s79,c96; Duration: 0 Moment tensor: Scale 1016Nm; Mrr2.91±.14; Mθθ-0.04±.12; Mϕϕ-2.87±.11; Mrθ-0.34±.07; Mϕθ0.63±.11; Mϕr1.34±.09; Best double couple: M0 3.26400×1016 NP1:ϕs=169.00000°, δ32.00000°, λ92.00000°. NP2: ϕs=347.00000°, δ58.00000°, λ89.00000°. Principal axes: T 3.2180, Plg77.0000°, Azm253.0000°; N 0.0970, Plg1.0000°, Azm348.0000°; P -3.3110, Plg13.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **17** 23:49:01.5±0.0, 12.°95S×166.°95E, h60km, mB5.1/29, mb5.1/58, Ms4.9/13, Ms7 4.5/10*
*NEIC **17** 23:49:02.6±1.7, 13.°59S±0.°08×166.°77E±0.°09, h63km±5km, mb5.1/64, Error ellipse: s-maj=12.9km s-min=10.0km az=57.0*
ISC 17 23:49:01.5±0.8, 13.°53S±0.°06×166.°84E±0.°06, h65km±6km, n270, σ1§14/253, mb5.1/79, 15C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.94**	**170**	Pn	**Pn**	**23 49 31.3**	**-1.0**
SANVU	**Saraoutou**	**1.94**	**170**	P	**Pn**	**23 49 33.1**	**+0.8**
LIFNC	**LIFOU**	**7.22**	**177**	Pn	**Pn**	**23 50 43.9**	**-0.5**
LIFNC	**LIFOU**	**7.22**	**177**	P	**Pn**	**23 50 45.5**	**+1.0**
KOUNC	**Koumac, New Ca**	**7.40**	**199**	P	**Pn**	**23 50 47.9**	**+1.0**
HNR	**Honiara**	**7.89**	**300**	Pn	**Pn**	**23 50 53.4**	**-0.2**
	223nm,0.3s,baz=170,slow=47						
HNR				Sn	**Sn**	**23 52 17.6**	**-3.8**
	66nm,0.3s,baz=178,slow=21,SNR=2.3						
HNR				LR	LR	23 54 02.6	
	comp=Z,476nm,19.9s,baz=138,slow=38						
HNR	**Honiara**	**7.89**	**300**	Pn	**Pn**	**23 50 54.1**	**+0.6**
HNR	**Honiara**	**7.89**	**300**	P	**Pn**	**23 50 54.2**	**+0.6**
MARNC	**Mare, Loyalty**	**7.99**	**172**		**Pn**	**23 50 54.1**	**-0.9**
MARNC	**Mare, Loyalty**	**7.99**	**172**	P	**Pn**	**23 50 56.2**	**+1.2**
YATNC	**Mamie plateau,**	**8.49**	**180**	P	**Pn**	**23 51 01.2**	**-0.6**
YATNC	**Mamie plateau,**	**8.49**	**180**	P	**Pn**	**23 51 01.6**	**-0.2**
NOUC	**Port Laguerre**	**8.54**	**183**	P	**Pn**	**23 51 04.1**	**+1.5**
NOUC	**Port Laguerre**	**8.54**	**183**	P	**Pn**	**23 51 04.6**	**+2.0**
ONTNC	**Ouen Toro**	**8.74**	**182**	Pn	**Pn**	**23 51 06.1**	**+0.8**
ONTNC	**Ouen Toro**	**8.74**	**182**	P	**Pn**	**23 51 06.2**	**+0.9**
ONTNC	**Ouen Toro**	**8.74**	**182**	P	**Pn**	**23 51 06.1**	**+0.8**
OUENC	**Ouen Island, N**	**8.84**	**180**	Pn	**Pn**	**23 51 08.0**	**+1.4**
OUENC	**Ouen Island, N**	**8.84**	**180**	P	**Pn**	**23 51 08.2**	**+1.6**
OUENC	**Ouen Island, N**	**8.84**	**180**	P	**Pn**	**23 51 08.3**	**+1.6**
PINNC	**Pines Island,**	**9.06**	**176**		**Pn**	**23 51 11.0**	**+1.4**
PINNC	**Pines Island,**	**9.06**	**176**	P	**Pn**	**23 51 12.5**	**+2.9**
MSVF	**Nonsavu**	**11.58**	**113**	Pn	**Pn**	**23 51 46.8**	**+2.7**
	0.1nm,0.3s,baz=233,slow=5.0,SNR=5.7						
MSVF				LR	LR	23 55 29.0	
	comp=Z,1μm,18.5s,baz=287,slow=34						
TARA	**Tarawa**	**15.97**	**23**		**P**	**23 52 44.9**	**+0.2**
TARA				IAmb	IAmb	23 52 49.0	
	comp=Z,110nm,0.8s						
EIDS	**Eidsvold**	**18.94**	**229**	P	**Pn**	**23 53 18.6**	**-0.1**
EIDS				IAmb	IAmb	23 53 21.2	
	comp=Z,77nm,1.1s						
PMG	**Port Moresby**	**19.71**	**280**	P	**P**	**23 53 26.1**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=336,slow=23,SNR=2.0						
PMG				LR	LR	23 59 56.1	
	comp=Z,362nm,21.0s,baz=137,slow=33						
PMG	**Port Moresby**	**19.71**	**280**	Pn	**Pn**	**23 53 27.7**	**-0.2**
CTA	**Charters Tower**	**20.75**	**249**	P	**P**	**23 53 37.5**	**+0.3**
	comp=Z,35n

H11N3	WAKE ISLAND Hy	33.03	0	T	T	00 31 26.5
	baz=184,slow=76,SNR=11					
H11N2	WAKE ISLAND Hy	33.05	0	T	T	00 31 25.5
	baz=184,slow=76,SNR=12					
GUMO	Guam	34.63 320		LR	LR	00 08 36.8
	comp=Z,318nm,18.4s,baz=90,slow=34					
FAKI	Fak Fak	35.77 284		P	P	23 55 54.6 -0.1
FORT	Forrest	39.57 238		P	P	23 56 26.5 -0.1
LBMI	Labuha	41.00 285		P	P	23 56 41.1 +2.5
	comp=Z,88µmcomp=Z,2µmcomp=Z,170nm,0.9s					
TNTI	Ternate	41.62 287		P	P	23 56 44.0 +0.2
TNTI				IAmb	IAmb	23 56 46.5
	comp=Z,31nm,1.0s					
PPT	Papeete	42.12 101		LR	LR	00 12 04.4
	comp=Z,74nm,18.2s,baz=285,slow=33					
LUWI	Luwuk	45.34 282		P	P	23 57 13.9 +0.2
GTOI	Gorontalo	45.65 284		P	P	23 57 18.5 +2.4
	comp=Z,22nm,1.5s					
KAPI	Kappang	47.16 276		LR	LR	00 16 10.1
	comp=Z,114nm,22.0s,baz=94,slow=34					
KAPI	Kappang	47.16 276		P	P	23 57 28.7 +0.7
TOLI2	Tolitoli	47.91 284		P	P	23 57 33.5 -0.3
NWAO	Narrogin (SRO)	49.02 238		P	P	23 57 41.4 -0.7
TWSI	Taliwang, Sumb	49.18 270		P	P	23 57 44.4 +0.8
	comp=Z,61nm,1.0s					
SPMM	Sapulut	53.18 286		P	P	23 58 15.0 +1.4
JOW	Kunigami	54.89 317		P	P	23 58 27.0 +1.2
SBUM	Sibu	56.44 282		P	P	23 58 39.0 +1.8
JMN	Monobe	56.52 327		P	P	23 58 38.7 +1.4
MJAR	Matsushiro Arr	56.65 332		P	P	23 58 37.0 -1.2
	comp=Z,9.7nm,0.7s,baz=170,slow=8.2,SNR=16					
MJAR				LR	LR	00 23 20.2
	comp=Z,17nm,19.1s,baz=205,slow=36					
MAJO	Matsushiro	56.65 332		P	P	23 58 37.9 -0.3
MAJO				IAmb	IAmb	23 58 40.2
	comp=Z,12nm,0.6s					
MAT	Matsushiro	56.65 332		P	P	23 58 37.1 -1.1
MJB9	Matsu-Tunnel	56.66 332		P	P	23 58 38.0 -0.3
MJB9				IAmb	IAmb	23 58 38.4
	comp=Z,13nm,0.7s					
JSU	Suzuyama	56.77 323		P	P	23 58 39.8 +0.7
JNU	Nakatsue	57.71 324		P	P	23 58 46.2 +0.4
JSD	Sado	57.87 334		P	P	23 58 47.0 +0.2
KSM	Kuching	57.98 280		P	P	23 58 49.0 +1.0
TPUB	Ta-pu	58.17 309		P	P	23 58 48.8 -0.4
KSRS	Korea Array	62.52 326		P	P	23 59 18.8 +0.3
	comp=Z,6.0nm,0.8s,baz=141,slow=6.8,SNR=23					
KSAR	Wonju Array Be	62.53 326		P	P	23 59 19.0 +0.4
VNDA	Vanda	64.05 181		P	P	23 59 27.7 -0.4
	comp=Z,3.1nm,0.7s,baz=4.0,slow=7.0,SNR=18					
VNDA				LR	LR	00 24 42.7
	comp=Z,51nm,18.6s,baz=18,slow=34					
VNDA	Vanda	64.05 181		P	P	23 59 28.5 +0.4
SBA	Scott Base	64.33 180		P	P	23 59 31.0 +1.1
SBA				IAmb	IAmb	23 59 57.5
	comp=Z,14nm,1.0s					
CASY	Casey	64.48 202		P	P	23 59 30.9 -0.1
NJ2	Nanjing	64.53 316	⇓P		P	23 59 33.1 +1.2
NJ2				pmax	pmax	
	comp=Z,26nm,1.0s					
USRK	Ussuriysk Ar.	65.63 333		P	P	23 59 39.5 +0.7
	comp=Z,13nm,0.9s,baz=140,slow=5.9,SNR=29					
USRK				LR	LR	00 25 48.8
	comp=Z,30nm,20.2s,baz=115,slow=34					
USRK	Ussuriysk Ar.	65.63 333		P	P	23 59 39.8 +1.0
USA0B	Ussuriysk Arra	65.63 333		P	P	23 59 39.8 +1.0
USA0B				IAmb	IAmb	23 59 41.1
	comp=Z,22nm,1.1s					
JRMM	Jerantut	66.16 280		P	P	23 59 44.0 +1.1
PETK	Petropavlovsk-	66.83 354		P	P	23 59 45.2 -1.1
	comp=Z,7.1nm,0.9s,baz=155,slow=8.7,SNR=6.9					
PETK				LR	LR	00 24 08.3
	comp=Z,50nm,20.2s,baz=163,slow=32					
PETK	Petropavlovsk-	66.83 354		P	P	23 59 46.2 -0.1
WHN	Wuhan	66.83 312	⇑P		P	23 59 47.3 +0.5
MDJ	Mudanjiang	67.03 332		IAmb	IAmb	23 59 49.9
	comp=Z,16nm,0.9s					
DL2	Dalian	67.09 323		P	P	23 59 49.1 +0.8
DL2				pmax	pmax	
	comp=Z,66nm,0.6s					
TIA	Tai'an	68.17 318		P	P	23 59 55.3 +0.2
TIA				pmax	pmax	
	comp=Z,17nm,0.8s					
KULM	Kulim	68.30 281		P	P	23 59 57.0 +0.6
CN2	Changchun	68.41 329	*e*P		P	23 59 56.5 +0.1
CN2				pmax	pmax	
	comp=Z,30nm,0.8s					
PANO	Nakornpanom	68.58 295		P	P	00 00 03.0 +4.9
	comp=Z,5µmcomp=Z,136nmcomp=Z,2.2nm,1.1s					
RPSI	Rantau Prapat	69.24 278		P	P	00 00 02.3 0.0
RPSI				IAmb	IAmb	00 00 03.4
	comp=Z,27nm,0.9s					
ENH	Enshi	70.28 309		IAmb	IAmb	00 00 09.6
	comp=Z,31nm,1.0s					
GYA	Guiyang	70.69 305	⇓P		P	00 00 12.1 +1.0
SLVN	Son La	70.82 298		P	P	00 00 13.2 +1.3
BJT	Baijiatuau	71.06 321		IAmb	IAmb	00 00 14.6
	comp=Z,16nm,0.8s					
BJI	Beijing	71.07 321		P	P	00 00 13.8 +0.9
BJI				PP	PP	00 02 54.3 +2.9
BJI				S	S	00 09 27.0 +2.6
BJI				pmax	pmax	
	comp=Z,25nm,0.8s					
BJI				LR	LR	
	comp=Z,310nm,29.4s					
TIY	Taiyuan	72.10 317	*e*P		P	00 00 20.9 +1.6
TIY				pmax	pmax	
	comp=Z,50nm,0.8s					
TIY				LR	LR	
	comp=Z,120nm,4.5s					
TIY				LR	LR	
	comp=Z,130nm,5.3s					
TIY				LR	LR	
	comp=Z,100nm,7.0s					
XAN	Xi'an	72.57 312		P	P	00 00 23.0 +0.9
XAN				pmax	pmax	
	comp=Z,26nm,0.8s					
KMI	Kunming	73.32 302	⇑P		P	00 00 28.8 +1.8
KMI			PcP	PcP	PcP	00 00 43.1 0.0
KMI			pP	pP	pP	00 00 46.9 +2.5
KMI			sP	sP	sP	00 00 55.9 +4.4
KMI				pmax	pmax	
	comp=Z,30nm,1.0s					
LAMP	Lampang	73.49 294		P	P	00 00 29.5 +1.7
	comp=Z,712nmcomp=Z,82nm,0.8s					
CM04	Chiang Mai Arr	74.03 294		P	P	00 00 32.8 +1.8
	comp=Z,248nmcomp=Z,34nm,0.9s					
CM09	Chiang Mai Arr	74.04 294		P	P	00 00 32.9 +1.9
	comp=Z,254nmcomp=Z,37nm,0.8s					
CM01	Chiang Mai Arr	74.06 294		P	P	00 00 33.0 +1.9
	comp=Z,261nmcomp=Z,35nm,0.9s					
CM05	Chiang Mai Arr	74.06 294		P	P	00 00 32.9 +1.7
	comp=Z,180nmcomp=Z,24nm,0.9s					
CM02	Chiang Mai Arr	74.07 294		P	P	00 00 33.1 +1.9
	comp=Z,232nmcomp=Z,32nm,0.9s					
CM31	Chiang Mai Arr	74.08 294		P	P	00 00 32.5 +1.2
CMAR	Chiang Mai Arr	74.08 294		P	P	00 00 32.7 +1.4
	comp=Z,21nm,0.8s,baz=126,slow=4.6,SNR=73					
CMAR				LR	LR	00 35 06.7
	comp=Z,26nm,18.9s,baz=192,slow=37					
CMAR	Chiang Mai Arr	74.08 294		P	P	00 00 32.5 +1.2
CM15	Chiang Mai Arr	74.10 294		P	P	00 00 33.4 +2.0
	comp=Z,37nm,0.9s					
CM13	Chiang Mai Arr	74.10 294		P	P	00 00 33.1 +1.7
	comp=Z,213nmcomp=Z,28nm,0.9s					
CHTO	Chiang Mai	74.21 294		P	P	00 00 33.2 +1.2
	comp=Z,27nm,1.0s					
CHTO	Chiang Mai	74.21 294		P	P	00 00 32.8 +0.8
CHTO				IAmb	IAmb	00 00 34.3
	comp=Z,20nm,0.9s					
HHC	Hu-ho-hao-te	74.40 320	*e*P		P	00 00 33.9 +1.1
HHC				pmax	pmax	
	comp=Z,29nm,1.2s					
HHC				pmax	pmax	
	comp=Z,150nm,6.1s					
HHC				LR	LR	
	comp=Z,100nm,17.5s					
HHC				LR	LR	
	comp=Z,130nm,18.0s					
HHC				LR	LR	
	comp=Z,130nm,17.6s					
CD2	Chengdu	74.95 307		P	P	00 00 37.0 +0.9
CD2				pmax	pmax	
	comp=Z,30nm,0.7s					
QSPA	South Pole Qui	76.49 180		P	P	00 00 44.5 0.0
QSPA				IAmb	IAmb	00 00 45.8
	comp=Z,14nm,0.9s					
LZH	Lanzhou	77.21 312	*e*P		P	00 00 50.9 +1.9
LZH			PcP	pP	pP	00 01 04.8 -1.6
LZH			pP	sP	sP	00 01 11.5 -2.0
LZH				pmax	pmax	
	comp=Z,23nm,1.1s					
CNPM	China Poot	80.28 20		P	P	00 01 06.7 +1.5
YAK	Yakutsk	80.77 343		LR	LR	00 37 17.9
	comp=Z,44nm,18.4s,baz=89,slow=36					
ULN	Ulaanbaatar	80.92 324		P	P	00 01 09.8 +0.8
ULN				IAmb	IAmb	00 01 10.8
	comp=Z,16nm,0.8s					
SONM	Songino Array	81.29 324		P	P	00 01 10.9 -0.1
	comp=Z,5.3nm,0.8s,baz=142,slow=6.3,SNR=23					
GTA	Gaotai	81.54 314	⇑P		P	00 01 13.8 +1.3
GTA				pmax	pmax	
	comp=Z,22nm,1.1s					
GTA				pmax	pmax	
	comp=Z,85nm,4.7s					
GTA				LR	LR	
	comp=Z,47nm,16.7s					
GTA				LR	LR	
	comp=Z,44nm,16.7s					
MAW	Mawson	82.84 202		P	P	00 01 18.0 -0.6
	comp=Z,3.8nm,0.6s,baz=126,slow=8.0,SNR=15					
MAW				LR	LR	00 31 13.0
	comp=Z,100nm,21.2s,baz=65,slow=31					
MAW	Mawson	82.84 202		P	P	00 01 18.5 -0.1
J20K	Nowinta River	82.99 16		P	P	00 01 20.8 +1.5
	baz=218					
WAT1	Susitna Watana	83.60 19		P	P	00 01 23.0 +0.4
	baz=223					
WAT6	Susitna Watana	83.68 19		P	P	00 01 23.3 +0.2
	baz=224					
BPAW	Bear Paw Mtn.	83.81 17		P	P	00 01 23.6 0.0
	baz=221					
RND	Reindeer	83.93 18		IAmb	IAmb	00 01 25.3
	comp=Z,28nm,1.3s					
N25K	Chitina, Valde	84.06 21		P	P	00 01 25.5 +0.6
	baz=227					
I21K	Tanana	84.36 16		P	P	00 01 27.4 +1.2
	baz=220					
LSA	Lhasa	84.57 302		IAmb	IAmb	00 01 31.0
	comp=Z,15nm,0.8s					
MLY	Manley	84.59 17		P	P	00 01 27.0 -0.5
	baz=221					
NEA2	Nenana	84.74 18		P	P	00 01 27.8 -0.4
	baz=223					
WRH	Wood River Hil	84.94 18		IAmb	IAmb	00 01 30.0
	comp=Z,22nm,1.2s					
CMB	Columbia Colle	85.13 49		P	P	00 01 31.6 +0.7
HDA	Harding Lake	85.24 18		P	P	00 01 31.1 +0.4
	baz=225					
HDA	Harding Lake	85.24 18		IAmb	IAmb	00 01 32.0
	comp=Z,22nm,1.0s					
MDM	Murphy Dome	85.25 18		IAmb	IAmb	00 01 31.2
	comp=Z,8.2nm,0.9s					
RIDG	Independent Ri	85.43 19		P	P	00 01 32.2 +0.4
	baz=227					
H23K	Yukon River	85.52 17		P	P	00 01 32.5 +0.4
	baz=222					
ILAR	Eielson Array	85.52 18		P	P	00 01 30.6 -1.5
	comp=Z,5.5nm,0.6s,baz=237,slow=5.0,SNR=47					
ILAR				LR	LR	00 34 53.2
	comp=Z,131nm,19.2s,baz=235,slow=32					
SCRK	Sand Creek	85.88 20		P	P	00 01 33.9 -0.2
	baz=226					
PRP	Porcupine Dome	86.45 18		P	P	00 01 40.0 +3.1
	baz=226					
TAPN	Taplejung	86.74 299	*e*P		P	00 01 39.7 +0.3
	comp=Z,25nm,0.7s					
NVAR	Mina Array Bea	86.81 49		P	P	00 01 39.6 +0.3
	comp=Z,0.8nm,0.7s,baz=230,slow=11,SNR=3.7					
NVAR				LR	LR	00 33 21.6
	comp=Z,169nm,19.4s,baz=272,slow=31					
ODAN	Odare	86.87 298	*e*P		P	00 01 40.3 +0.4
	comp=Z,81nm,0.8s					
EGAK	Eagle	87.33 20		P	P	00 01 42.2 +1.3
	baz=230					
EGAK	Eagle	87.33 20		P	P	00 01 42.2 +1.3
RAMN	Ramite	87.57 298	*e*P		P	00 01 43.3 0.0
	comp=Z,16nm,0.5s					
TOLK	Toolik Lake Re	87.60 15		P	P	00 01 43.9 +1.6
	baz=222					
TOLK	Toolik Lake Re	87.60 15		P	P	00 01 43.9 +1.6
TOLK				IAmb	IAmb	00 02 12.9
	comp=Z,11nm,1.3s					
PALK	Pallekele	87.95 278		P	P	00 01 45.1 0.0
	comp=Z,26nm,1.1s,baz=125,slow=6.1,SNR=3.6					
JIRN	Jiri	88.12 299	*e*P		P	00 01 46.3 +0.2
	comp=Z,44nm,0.8s					
TIXI	Tiksi	88.72 349	LR		LR	00 36 46.1
	comp=Z,38nm,21.1s,baz=192,slow=32					
PKI	Pulchoki	88.76 299	*e*P		P	00 01 48.9 -0.2
	comp=Z,63nm,0.7s					
PKIN	Phulchoki	88.77 299	*e*P		P	00 01 49.0 0.0
	comp=Z,60nm,0.7s					
KKN	Kakani	88.93 299	*e*P		P	00 01 49.9 +0.2
	comp=Z,50nm,0.7s					
DMN	Daman	89.03 299	*e*P		P	00 01 50.7 +0.5
	comp=Z,76nm,0.6s					
GKN	Gorkha	89.53 299	*e*P		P	00 01 52.2 -0.3
	comp=Z,60nm,0.6s					
SYO	Syowa Base	89.73 197	⇑*e*P		P	00 01 51.8 -0.6
SYO	Syowa Base	89.73 197	⇓*e*X		pP	00 02 07.8 -2.0
KOLN	Koldanda	90.36 298	*e*P		P	00 01 55.7 -0.7
DANN	Dangsing	90.37 299	*e*P		P	00 01 55.8 -0.8
PYUN	Piuthan	90.97 299	*e*P		P	00 01 58.5 -0.7
WMQ	Urumqi	91.59 315	*e*P		P	00 02 01.9 +0.3
PDAR	Pinedale Array	94.44 47	LR		LR	00 41 20.1
	comp=Z,35nm,18.1s,baz=262,slow=33					
SNAA	Sanae	94.72 183	P		P	00 02 14.5 -1.1
SNAA	Sanae	94.72 183	P		P	00 02 14.4 -1.1
SNAA				IAmb	IAmb	00 02 18.8
	comp=Z,11nm,1.1s					
VNA3	Neumayer Olymp	95.40 181	P		P	00 02 17.1 -1.4
VNA1	Neumayer--Stat	95.96 182	P		P	00 02 20.8 -0.3
MK31	Makanchi Array	96.05 317	P		P	00 02 22.0 0.0
MK31				IAmb	IAmb	00 02 23.0
	comp=Z,7.8nm,0.9s					
MKAR	Makanchi Array	96.05 317	P		P	00 02 21.5 -0.4
	comp=Z,6.4nm,0.8s,baz=102,slow=6.1,SNR=62					
MKAR				PP	PP	00 06 14.5 -1.0
	comp=Z,0.7nm,1.0s,baz=90,slow=9.7,SNR=4.3					
MKAR				PKKPbc	PKKPbc	00 19 08.4 -2.8
	comp=Z,0.3nm,0.6s,baz=302,slow=2.7,SNR=3.8					
MKAR	Makanchi Array	96.05 317	P		P	00 02 21.8 -0.2
TXAR	Lajitas Array	96.07 61	PKKPbc		PKKPbc	00 19 09.9 -0.6
	comp=Z,0.2nm,0.7s,baz=116,slow=4.2,SNR=3.5					
TXAR				LR	LR	00 36 53.9
	comp=Z,62nm,21.5s,baz=0.0,slow=30					
ZAA0	Zalesovo Array	96.18 324	P		P	00 02 21.2 -1.1
ZAA0				IAmb	IAmb	00 02 22.2
	comp=Z,5.7nm,0.9s					
ZALV	Zalesovo Beam	96.18 324	P		P	00 02 21.4 -0.9
	comp=Z,3.8nm,0.8s,baz=108,slow=4.8,SNR=13					
ZALV				LR	LR	00 45 12.4
	comp=Z,36nm,20.7s,baz=110,slow=35					
ZALV	Zalesovo Beam	96.18 324	P		P	00 02 21.1 -1.2
MAKZ	Makanchi	96.26 317	P		P	00 02 23.0 +0.1
MAKZ				IAmb	IAmb	00 02 24.5
	comp=Z,7.8nm,1.1s					
YKA	Yellowknife Ar	96.67 27	P		P	00 02 22.3 -2.0
	comp=Z,0.8nm,0.5s,baz=286,slow=7.0,SNR=9.7					
KURBB	Kurchatov Arra	99.26 320	PP		PKiKP	00 06 40.6 -25
	comp=Z,1.1nm,0.8s,baz=98,slow=9.0,SNR=4.1					
SPA0	Spitsbergen Ar	113.70 354	*e*PKPdf		PKiKP	00 07 32.7 +0.7
HSPB	Hornsund (broa	114.80 353	*e*PKPdf		PKPdf	00 07 35.0 +0.9
LPAZ	La Paz	118.12 117	PKKPbc		PKKPbc	00 18 00.9 -1.0
	comp=Z,1.2nm,0.7s,baz=27,slow=2.3,SNR=3.9					
HAMF	Hammerfest	118.60 347	*e*PKPdf		PKPdf	00 07 40.1 -1.4
ARA0	ARCESS Array S	118.99 345	*e*PKPdf		PKPdf	00 07 41.4 -0.9
ARCES	ARCESS Array B	118.99 345	PKP		PKPdf	00 07 41.3 -1.0
	comp=Z,5.1nm,0.6s,baz=77,slow=1.8,SNR=40					
ARCES				PKKPbc	PKKPab	00 17 55.1 -3.4
	comp=Z,0.7nm,0.6s,baz=186,slow=2.4,SNR=6.3					
ARCES	ARCESS Array B	118.99 345	PKPdf		PKPdf	00 07 41.6 -0.7
KTK1	Kautokeino	119.92 346	*e*PKPdf		PKPdf	00 07 42.8 -1.3
JETT	Jettan, Norway	120.15 347	*e*PKPdf		PKPdf	00 07 43.5 -1.0
TRO	Tromso	120.41 348	*e*PKPdf		PKPdf	00 07 43.6 -1.3
STEI	Steigen	122.58 348	*e*PKPdf		PKPdf	00 07 48.3 -0.9
LOF	Lofoten	122.75 348	*e*PKPdf		PKPdf	00 07 49.3 -0.2
KBZ	Khabaz	123.63 314	PKP		PKPdf	00 07 50.9 -1.1
	comp=Z,1.1nm,0.8s,baz=173,slow=5.2,SNR=3.6					
AKH	Akhalkalaki	123.73 311	⇑P		PKPdf	00 07 52.4 -0.1
BOSA	Boshof	124.01 221	PKP		PKPdf	00 07 52.7 -0.7
	comp=Z,5.1nm,0.8s,baz=284,slow=1.2,SNR=8.7					
MOR8	Moi Rana	124.23 347	*e*PKPdf		PKPdf	00 07 52.5 0.0
KONS	Konsvik	124.24 348	*e*PKPdf		PKPdf	00 07 51.3 -1.1
FINES	FINESS Array B	124.46 338	PKP		PKPdf	00 07 51.8 -1.2
	comp=Z,2.3nm,0.8s,baz=11,slow=1.9,SNR=16					
NSS	Namsos	126.18 347	*e*PKPdf		PKPdf	00 07 56.2 0.0
TRCB	Terra Rica	127.11 133			PKiKP	00 07 59.8 -0.1
KMBO	Kilima Mbogo	127.96 258	PKP		PKPdf	00 08 00.6 -0.9
	comp=Z,1.6nm,0.9s,baz=103,slow=8.1,SNR=3.8					
DOMB	Dombas	129.00 347	*e*PKPdf		PKiKP	00 08 02.1 -0.3
FURI	Furi	129.02 271			PKPpre	00 07 49.9
NB2	NORSAR Subarra	129.36 345	PKPdf		PKPdf	00 08 01.9 -0.6
	comp=Z,1.0nm,0.6s,baz=31,slow=1.9					
NOA	NORSAR Array B	129.36 345	PKP		PKPdf	00 08 02.0 -0.4
	comp=Z,1.4nm,0.6s,baz=30,slow=2.0,SNR=10					
AKASG	Malin Array Be	129.51 326	PKP		PKPdf	00 08 02.0 -0.9
	comp=Z,0.3nm,0.3s,baz=52,slow=2.4,SNR=5.0					
NC602	NORSAR Array S	129.54 345	*e*PKPdf		PKPdf	00 08 02.3 -0.4
FOO	Floro	130.23 349	*e*PKPdf		PKiKP	00 08 04.5 -0.3
SKAR	Skarslia	130.38 346	*e*PKPdf		PKPdf	00 08 03.9 -0.5
OSL	Oslo	130.43 344	*e*PKPdf		PKPdf	00 08 04.3 -0.1
KONO	Kongsberg	130.97 345	*e*pPKPdf		pPKPdf	00 08 25.6 +1.8
BRTR	Keskin Array B	131.41 311	PKP		PKPdf	00 08 06.3 -0.8
	comp=Z,0.9nm,0.8s,baz=64,slow=2.9,SNR=6.9					
BRTR				SKPbc	SKPab	00 11 28.2 +0.9
	comp=Z,0.6nm,0.8s,baz=75,slow=3.3,SNR=4.0					
CFR	Carcaliu	132.93 320	⇑P		PKPdf	00 08 08.5 -1.1
HARR	Harsova	133.29 320	⇓P		PKiKP	00 08 11.1 -0.5
BURAR	Bucovina Array	133.39 325	⇓P		PKiKP	00 08 11.9 +0.1
MLR	Muntele Rosu	134.11 322	⇑P		PKPdf	00 08 11.8 -0.2
DOPR	Dopca	134.19 323	⇑P		PKPdf	00 08 12.6 +0.6
VOIR		134.68 322	⇑P		PKiKP	00 08 14.5 +0.1
OSTC	Ostas	136.02 333	*e*PKPDF		PKiKP	00 08 17.4 +0.4
GZR	Gura Zlata	136.04 323	⇑P		PKPdf	00 08 15.1 -0.5
CHVC	Chvalec	136.07 333	*e*PKPDF		PKiKP	00 08 17.3 +0.2
SIRR	Siria	136.16 325	⇑P		PKPdf	00 08 15.3 -0.4
BZS	Buzias	136.57 324	⇑P		PKPdf	00 08 15.6 -0.8
CLL	Collm	136.79 336	*i* PKPdf		PKiKP	00 08 17.9 -0.5
	comp=Z,6.0nm,1.2s					
VTS	Vitosha	137.28 320	⇑P		PKPdf	00 08 18.1 0.0
CONA	Conrad Observa	138.07 331	*e*P		PKiKP	00 08 20.4 -0.9
	comp=Z,4.2nm,1.0s					
CKRC	Cesky Krumlov	138.14 333	*e*PKPDF		PKPdf	00 08 20.1 +0.8
CKRC			*e*SKP			00 11 51.1
KHC	Kasperske Hory	138.23 334	*e*PKPDF		PKPdf	00 08 19.7 +0.2
KHC			*e*SKP			00 11 51.7
GERES	GERESS Array B	138.39 333	PKP		PKPdf	00 08 19.3 -0.5
	comp=Z,1.0nm,0.8s,baz=122,slow=1.7,SNR=7.0					
GERES				SKPbc	SKiKP	00 11 50.8 -1.8
	comp=Z,1.1nm,0.7s,baz=31,slow=2.6,SNR=7.9					
DIVS	Divibare	138.41 324	PKPdf		PKPdf	00 08 19.8 -0.2
MOA	Molln	138.87 332	*e*P		PKPdf	00 08 19.3 -1.4
	comp=Z,2.7nm,1.1s					
FNA	Florina	139.43 319	PKPdf		PKPdf	00 08 21.4 -0.5
PDG	Podgorica	139.83 322	⇑P		PKiKP	00 08 24.4 -0.5
WATA	Walderalm	140.46 333	*e*P		PKPdf	00 08 23.2 -0.5
	comp=Z,0.5nm,0.4s					
WTTA	Wattenberg	140.49 333	*e*P		PKPdf	00 08 22.9 -0.9
	comp=Z,3.6nm,1.1s					
ABTA	Abfaltersbach	140.49 332	*e*P		PKPdf	00 08 21.8 -1.9
	comp=Z,2.2nm,0.8s					
MOTA	Moosalm	140.66 334	*e*P		PKPdf	00 08 23.7 -0.4
	comp=Z,2.4nm,0.7s					
SQTA	Sankt Quirin	140.71 334	*e*P		PKPdf	00 08 23.4 -0.8
	comp=Z,1.0nm,0.5s					
FETA	Feichten	141.07 334	*e*P		PKPdf	00 08 22.2 -2.7
	comp=Z,2.4nm,0.8s					
MATE	Matera	142.43 322	⇑P		PKPdf	00 08 21.9 -5.3
BNI	Bardonecchia	144.34 336	PKPdf		PKPbc	00 08 29.5 +0.4
CEL	Celeste	144.35 319	PKPdf		PKPab	00 08 28.6 -0.4
KEST	Kesra	150.02 321	PKPbc		PKPbc	00 08 45.0 -0.3
	comp=Z,13nm,0.7s,baz=78,slow=0.3,SNR=39					
KEST	Kesra	150.02 321			PKPbc	00 08 45.5 +0.1
PBRG	Braganca	151.28 350	*e*PKPbc		PKPbc	00 08 47.8 -0.3
PGAV	Gavieira, Arco	151.35 352	*e*PKPbc		PKPbc	00 08 48.2 -0.1
PCAB	Cabril	151.57 352	*e*PKPbc		PKPbc	00 08 48.7 0.0
POLO	Lamas de Olo	151.86 351	*e*PKPbc		PKPbc	00 08 49.5 0.0
PVRL	Vila Real	151.95 351	*e*PKPbc		PKPbc	00 08 49.7 +0.1
MVO	Moncorvo	151.95 350	*e*PKPbc		PKiKP	00 08 49.9 -0.1
PVIS	Viseu	152.52 351	*e*PKPbc		PKiKP	00 08 51.1 -0.1
ESDC	Sonseca Array	152.72 344	PKPbc		PKPbc	00 08 51.0 -0.4
	comp=Z,2.8nm,0.7s,baz=13,slow=3.1,SNR=24					
MTE	Manteigas	152.78 351	*e*PKPbc		PKPbc	00 08 51.2 -0.3
PAB	San Pablo	152.94 345			PKiKP	00 08 52.2 0.0
PCAS	Casmilo, Conde	153.26 352	*e*PKPbc		PKPbc	00 08 51.1 -1.4
PCBR	Castelo Branco	153.31 350	*e*PKPbc		PKiKP	00 08 52.9 +0.1
PMRV	Marv??o	153.70 350	*e*PKPbc		PKPbc	00 08 53.4 -0.1
PMTG	Montargil	154.19 351	*e*PKPbc		PKiKP	00 08 56.1 +1.5
KOWA	Kowa	171.07 277	PKPab		PKPab	00 10 21.1 -2.0

*IDC **17** 23:58:16.3±9.8, 14°.75N×147°.26E, h0km, mb4.1/6, mb1 4.1/6, mb1mx3.7/39, mbtmp4.1/6, Error ellipse: s-maj=224.9km s-min=107.3km az=110.0*
*NEIC **17** 23:58:21.8±1.7, 14°.68N±0°.10×147°.2E±0°.1, h35km±6km, mb4.5/10, Error ellipse: s-maj=15.3km s-min=13.7km az=88.0*

ISC 17 23:58:21.0±0.7, 14°.70N±0°.09×147°.3E±0°.1, h35km, n27, σ0:93/21, mb4.4/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID ISC	Time h m s	Res ISC
GUMO	Guam	2.56	245	Pn	Pn

σ3°20/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.54**	**30**	P	**Pn**	**23 59 34.6**	**-1.5**
KMPI	**Kaimana, Papua**	**4.90**	**50**	P	**Pn**	**23 59 41.5**	**+0.8**
SWI	**Sorong**	**6.11**	**12**	P	**Pn**	**23 59 54.2**	**-2.0**
	0.2nm2μm24nm,0.9s						
EDFI	**Ende, Flores**	**8.41**	**257**	P	**Pn**	**00 00 26.8**	**+0.5**
	5.6nm,1.6s						
PLAI	**Plampang**	**12.23**	**260**	P	**Pn**	**00 01 13.9**	**-1.6**
WRA	**Warramunga Arr**	**13.67**	**162**	Pn	**Pn**	**00 01 33.1**	**-0.3**
	1.1nm,0.3s,baz=334,slow=12,SNR=10						
WRA				Sn	**S**	**00 04 00.4**	**-5.3**
	0.5nm,0.3s,baz=325,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**17.12**	**168**	P	**Pn**	**00 02 18.1**	**+2.7**
	0.5nm,0.3s,baz=347,slow=11,SNR=28						
ASAR				S	**S**	**00 05 26.6**	**+4.7**
	0.2nm,0.3s,baz=352,slow=20,SNR=2.4						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**00 09 07.8**	**+2.0**
	0.9nm,0.4s,baz=116,slow=7.8,SNR=9.0						

*IDC **18** 00:24:35.3±1.7, 24°.47N×121°.44E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/34, mbtmp3.5/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/35, Error ellipse: s-maj=72.4km s-min=28.1km az=69.0*
*TAP **18** 00:24:37.8, 25°.06N×122°.62E, h62km, ML3.2, C*
ISC 18 00:24:39.6±1.2, **25°.04N**±0°.04×**122°.63E**±0°.05, **h41**km±13km, **n55**, σ0s**87**/85, **mb3.5**/4, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.58**	**267**	P	**Pn**	**00 24 50.8**	**-0.7**
	baz=264						
TWB1				S	**Sn**	**00 25 00.3**	**+0.3**
	baz=264						
EGS		**0.66**	**253**	*eP*	**Pn**	**00 24 52.1**	**-0.5**
	baz=250						
EGS				*eS*	**Sn**	**00 25 02.8**	**+0.9**
	baz=250						
YOJ	**Yonaguni jima**	**0.67**	**149**	*eP*	**Pn**	**00 24 52.2**	**-0.4**
	baz=147						
YOJ				*eS*	**Sn**	**00 25 03.6**	**+1.6**
	baz=147						
TIPB	**Shuangxi**	**0.73**	**265**	*eP*	**Pn**	**00 24 52.7**	**-0.9**
	baz=263						
TIPB				*eS*	**Sn**	**00 25 03.7**	**+0.1**
	baz=263						
NTC	**Toucheng**	**0.75**	**256**	*eP*	**Pn**	**00 24 53.7**	**-0.1**
	baz=254						
NWF	**Wu-fen Shan**	**0.77**	**273**	*eP*	**Pn**	**00 24 54.0**	**-0.1**
	baz=279						
NWF				*eS*	**Sn**	**00 25 05.3**	**+0.7**
	baz=279						
WFSB	**Wu-fen Shan**	**0.77**	**273**	*eP*	**Pn**	**00 24 53.8**	**-0.2**
	baz=279						
WFSB				*eS*	**Sn**	**00 25 05.2**	**+0.7**
	baz=279						
PCYT	**Pengchaiyu**	**0.78**	**320**	*eP*	**Pn**	**00 24 53.7**	**-0.5**
	baz=319						
PCYT				*eS*	**Sn**	**00 25 05.6**	**+0.9**
	baz=319						
TWC	**Suao**	**0.83**	**239**	*eP*	**Pn**	**00 24 53.9**	**-0.9**
	baz=237						
TWC				*eS*	**Sn**	**00 25 05.4**	**-0.4**
	baz=237						
NDS	**Dongshan**	**0.92**	**244**	*eP*	**Pn**	**00 24 55.2**	**-0.9**
	baz=234						
NDS				*eS*	**Sn**	**00 25 08.0**	**-0.2**
	baz=234						
TWE	**Neicheng**	**0.93**	**251**	P	**Pn**	**00 24 55.6**	**-0.6**
	baz=242						
TWE				S	**Sn**	**00 25 08.6**	**+0.2**
	baz=242						
TWA	**Mucha**	**0.95**	**267**	*eP*	**Pn**	**00 24 56.2**	**-0.4**
	baz=265						
TWA				S	**Sn**	**00 25 09.2**	**+0.2**
	baz=265						
YM01	**YM01**	**0.97**	**277**	*eP*	**Pn**	**00 24 56.5**	**-0.3**
	baz=275						
YM01				*eS*	**Sn**	**00 25 09.0**	**-0.4**
	baz=275						
EWUT	**Wuta**	**0.97**	**233**	*eP*	**Pn**	**00 24 56.1**	**-0.7**
	baz=237						
EWUT				*eS*	**Sn**	**00 25 08.7**	**-0.7**
	baz=237						
NHDH	**Xindian Distri**	**1.01**	**266**	*eS*	**Sn**	**00 25 10.4**	**+0.2**
	baz=264						
ENTT	**Nioudou**	**1.04**	**248**	*eP*	**Pn**	**00 24 57.8**	**0.0**
	baz=237						
ENTT				*eS*	**Sn**	**00 25 11.4**	**+0.2**
	baz=237						
NWLT	**Wulai**	**1.06**	**256**	*eP*	**Pn**	**00 24 57.2**	**-0.7**
	baz=255						
NDT	**Datong Townshi**	**1.10**	**247**	*eP*	**Pn**	**00 24 58.7**	**+0.1**
	baz=238						
NDT				*eS*	**Sn**	**00 25 12.2**	**-0.5**
	baz=238						
YHNB	**Yeheng**	**1.20**	**253**	*eP*	**Pn**	**00 24 59.4**	**-0.6**
	baz=261						
YHNB				*eS*	**Sn**	**00 25 14.1**	**-1.0**
	baz=261						
NSK	**Sanguang**	**1.21**	**253**	*eP*	**Pn**	**00 24 59.8**	**-0.4**
	baz=260						
NSK				*eS*	**Sn**	**00 25 14.5**	**-0.9**
	baz=260						
NACB	**Ninganchiao**	**1.27**	**228**	*eP*	**Pn**	**00 25 00.2**	**-0.7**
	baz=215						
NACB				*eS*	**Sn**	**00 25 17.3**	**+0.4**
	baz=215						
NNSB	**Datong**	**1.29**	**242**	*eP*	**Pn**	**00 25 01.2**	**0.0**
	baz=237						
NNSB				*eS*	**Sn**	**00 25 17.3**	**-0.1**
	baz=237						
NNSH	**Datong**	**1.29**	**242**	*eP*	**Pn**	**00 25 01.5**	**+0.2**
	baz=239						
NNSH				*eS*	**Sn**	**00 25 17.3**	**-0.1**
	baz=239						
NNS	**Nan Shan**	**1.29**	**243**	*eP*	**Pn**	**00 25 01.6**	**+0.4**
	baz=250						
ETLH	**Xiulin Townshi**	**1.33**	**232**	*eP*	**Pn**	**00 25 02.1**	**+0.3**
	baz=241						
ETLH				*eS*	**Sn**	**00 25 20.2**	**+1.8**
	baz=241						
FUSS	**Fushou**	**1.49**	**238**	*eP*	**Pn**	**00 25 04.2**	**+0.1**
	baz=229						
LIOB	**Emei**	**1.52**	**256**	*eP*	**Pn**	**00 25 03.9**	**-0.4**
	baz=264						
WHF	**Hehuan Shan**	**1.53**	**235**	*eP*	**Pn**	**00 25 05.0**	**+0.1**
	baz=233						
WHF				*eS*	**Sn**	**00 25 23.4**	**-0.3**
	baz=233						
NSTT	**Nanjuang**	**1.54**	**255**	*eP*	**Pn**	**00 25 04.4**	**-0.1**
	baz=263						
NSTT				*eS*	**Sn**	**00 25 23.1**	**-0.2**
	baz=263						
TDCB	**Techi**	**1.55**	**240**	*eP*	**Pn**	**00 25 05.5**	**+0.7**
	baz=239						
TDCB				*eS*	**Sn**	**00 25 25.0**	**+1.2**
	baz=239						
CHGB	**Renai**	**1.64**	**234**	*eP*	**Pn**	**00 25 06.0**	**-0.3**
	baz=224						
OWD	**Renai**	**1.71**	**231**	*eP*	**Pn**	**00 25 06.6**	**-0.5**
	baz=221						
WHP	**Taichung City**	**1.71**	**244**	*eP*	**Pn**	**00 25 08.6**	**+1.6**
	baz=255						
EGFH	**Guangfu**	**1.75**	**219**	*eS*	**Sn**	**00 25 27.7**	**-0.9**
	baz=208						
NSY	**Sanyi**	**1.81**	**250**	*eP*	**Pn**	**00 25 08.8**	**+0.4**
	baz=257						
WCS	**Beigang Elemen**	**1.84**	**238**	*eP*	**Pn**	**00 25 08.9**	**+0.1**
	baz=231						
HGSD	**Ruisui**	**1.89**	**216**	*eP*	**Pn**	**00 25 08.6**	**-0.8**
	baz=208						
SMLT	**Sun Moon Lake**	**1.95**	**234**	*eP*	**Pn**	**00 25 11.0**	**+0.6**
	baz=224						
SMLT				*eS*	**Sn**	**00 25 35.3**	**+1.6**
	baz=224						
SSLB	**Suanglung**	**1.97**	**231**	*eP*	**Pn**	**00 25 10.8**	**+0.3**
	baz=223						
SSLB				*eS*	**Sn**	**00 25 33.6**	**-0.4**
	baz=223						
TYC	**Yuchr**	**1.97**	**235**	*eP*	**Pn**	**00 25 11.4**	**+0.9**
	baz=225						
TYC				*eS*	**Sn**	**00 25 35.4**	**+1.4**
	baz=225						
YULB	**Yu-li**	**2.04**	**217**	*eP*	**Pn**	**00 25 09.7**	**-1.8**
	baz=226						
TWF1	**Yuli**	**2.07**	**216**	*eP*	**Pn**	**00 25 10.1**	**-1.8**
	baz=226						
TWF1				*eS*	**Sn**	**00 25 35.0**	**-1.6**
	baz=226						
FULB	**Fuli**	**2.20**	**214**	*eS*	**Sn**	**00 25 39.5**	**-0.2**
	baz=203						
ALS	**Alishan**	**2.25**	**228**	*eP*	**Pn**	**00 25 15.7**	**+1.0**
	baz=218						
CHN5	**Tsauling**	**2.29**	**232**	*eP*	**Pn**	**00 25 16.2**	**+1.3**
	baz=230						
CHN5				*eS*	**Sn**	**00 25 43.6**	**+1.7**
	baz=230						
CHN4	**Tsaushan**	**2.50**	**228**	*eP*	**Pn**	**00 25 19.0**	**+1.1**
	baz=218						
CHN4				*eS*	**Sn**	**00 25 49.3**	**+2.1**
	baz=218						
TPUB	**Ta-pu**	**2.52**	**227**	*eP*	**Pn**	**00 25 19.2**	**+1.1**
	baz=239						
STYT	**Tauyuan**	**2.53**	**223**	*eP*	**Pn**	**00 25 18.5**	**+0.2**
	baz=222						
TWK	**Hsinying**	**2.63**	**228**	*eP*	**Pn**	**00 25 21.2**	**+1.5**
	baz=218						
TWK				*eS*	**Sn**	**00 25 52.1**	**+1.7**
	baz=218						
CHN1	**Nanshi**	**2.66**	**227**	*eP*	**Pn**	**00 25 20.8**	**+0.7**
	baz=238						
KSRS	**Korea Array**	**13.18**	**19**	Pn	P	00 27 56.5	+3.2
	0.2nm,0.3s,baz=199,slow=10.0,SNR=1.8						
KSRS				LR	LR	00 33 33.5	
	comp=Z,67nm,18.1s,baz=186,slow=38						
SONM	**Songino Array**	**26.13**	**335**	P	**P**	**00 30 10.9**	**+1.0**
	0.3nm,0.6s,baz=155,slow=7.2,SNR=1.6						
MKAR	**Makanchi Array**	**38.66**	**315**	P	**P**	**00 31 57.8**	**-1.4**
	0.5nm,0.8s,baz=107,slow=9.8,SNR=1.3						
ZALV	**Zalesovo Beam**	**40.26**	**326**	P	**P**	**00 32 12.8**	**+0.4**
	0.4nm,0.3s,baz=116,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**46.14**	**165**	P	**P**	**00 32 59.6**	**-0.5**
	0.5nm,0.8s,baz=344,slow=8.8,SNR=2.1						

*IDC **18** 00:28:32.9±2.3, 48°.96N×155°.76E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.6/31, mbtmp3.7/8, ML2.9/1, Error ellipse: s-maj=61.4km s-min=32.6km az=179.0*
*KRSC **18** 00:28:41.6±2.7, 49°.30N×157°.09E, h39km±26km, ML4.4*
*MOS **18** 00:28:41.0±1.3, 49°.23N×156°.23E, h35km, mb4.0/1, Error ellipse: s-maj=25.2km s-min=4.6km az=78.8*
ISC 18 00:28:37.6±1.1, **49°.05N**±0°.08×**156°.46E**±0°.09, **h34**km, **n63**, σ2s**67**/91, **mb3.7**/7, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.65**	**352**	PN	**Pb**	**00 29 06.6**	**-0.7**
SKR				S	**Sn**	**00 29 24.1**	**+0.1**
SKR	**Severo-Kuril's**	**1.65**	**352**	*eP*	**Pb**	**00 29 06.6**	**-0.7**
SKR				*eS*	**Sn**	**00 29 24.1**	**+0.1**
ALID	**Alaid**	**1.91**	**342**	PN	**Pb**	**00 29 10.3**	**-1.6**
ALID				S	**Sb**	**00 29 33.1**	**-2.3**
ALID	**Alaid**	**1.91**	**342**	*eP*	**Pb**	**00 29 10.3**	**-1.6**
ALID				*eS*	**Sb**	**00 29 33.1**	**-2.3**
PAU	**Pauzhetka**	**2.43**	**5**	PN	**Pb**	**00 29 18.0**	**-2.5**
PAU				S	**Sn**	**00 29 44.0**	**+0.7**
PAU	**Pauzhetka**	**2.43**	**5**	*eP*	**Pb**	**00 29 18.0**	**-2.5**
PAU				*eS*	**Sn**	**00 29 44.0**	**+0.7**
KDTR	**Khodutka, Kamc**	**2.95**	**20**	PN	**Pn**	**00 29 24.5**	**+2.6**
KDTR				S	**Sn**	**00 29 55.6**	**-0.5**
KDTR	**Khodutka, Kamc**	**2.95**	**20**	*eP*	**Pn**	**00 29 24.5**	**+2.6**
KDTR				*eS*	**Sn**	**00 29 55.6**	**-0.5**
MTVR	**Mutnovka**	**3.60**	**17**	PN	**Pn**	**00 29 34.3**	**+3.2**
MTVR				S	**Sn**	**00 30 12.7**	**+0.2**
MTVR	**Mutnovka**	**3.60**	**17**	*eP*	**Pn**	**00 29 34.3**	**+3.2**
MTVR				*eS*	**Sn**	**00 30 12.7**	**+0.2**
RUS	**Russkaya**	**3.63**	**20**	PN	**Pn**	**00 29 33.6**	**+2.3**
RUS				S	**Sn**	**00 30 11.9**	**-0.9**
RUS	**Russkaya**	**3.63**	**20**	*eP*	**Pn**	**00 29 33.6**	**+2.3**
RUS				*eS*	**Sn**	**00 30 11.9**	**-0.9**
GRL	**Gorelyy**	**3.65**	**16**	PN	**Pn**	**00 29 35.2**	**+3.5**
GRL				S	**Sn**	**00 30 14.2**	**+0.6**
GRL	**Gorelyy**	**3.65**	**16**	*eP*	**Pn**	**00 29 35.2**	**+3.5**
GRL				*eS*	**Sn**	**00 30 14.2**	**+0.6**
APC	**Apacha**	**3.90**	**6**	PN	**Pn**	**00 29 39.4**	**+4.4**
APC	**Apacha**	**3.90**	**6**	*eP*	**Pn**	**00 29 39.4**	**+4.4**
PETK	**Petropavlovsk-**	**4.13**	**10**	Pn	**Pn**	**00 29 41.3**	**+3.0**
	3.4nm,0.3s,baz=198,slow=11,SNR=23						
PETK				Sn	**Sn**	**00 30 27.5**	**+2.1**
	0.6nm,0.3s,baz=185,slow=14,SNR=1.1						
PET	**Petropavlovsk**	**4.21**	**18**	*e*PN	**Pn**	**00 29 42.2**	**+2.9**
PET				*eS*	**Sn**	**00 30 27.6**	**+0.4**
PET				pmax	pmax		
	comp=Z,49nm,0.5s						
PET				smax	smax		
	comp=E,122nm,0.7s						
PET				smax	smax		
	comp=N,64nm,0.4s						
PET	**Petropavlovsk**	**4.21**	**18**	*eP*	**Pn**	**00 29 42.5**	**+3.2**
PET				*eS*	**Sn**	**00 30 27.3**	**+0.1**
DALK	**Dalny**	**4.24**	**19**	PN	**Pn**	**00 29 42.7**	**+3.0**
DALK				S	**Sn**	**00 30 28.4**	**+0.5**
DALK	**Dalny**	**4.24**	**19**	*eP*	**Pn**	**00 29 42.7**	**+3.0**
DALK				*eS*	**Sn**	**00 30 28.4**	**+0.5**
UGLR	**Uglovaya**	**4.42**	**19**	PN	**Pn**	**00 29 45.8**	**+3.5**
UGLR				S	**Sn**	**00 30 34.3**	**+1.8**
UGLR	**Uglovaya**	**4.42**	**19**	*eP*	**Pn**	**00 29 45.8**	**+3.5**
UGLR				*eS*	**Sn**	**00 30 34.3**	**+1.8**
AVH	**Avacha**	**4.45**	**18**	PN	**Pn**	**00 29 46.8**	**+4.1**
AVH				S	**Sn**	**00 30 36.9**	**+3.5**
AVH	**Avacha**	**4.45**	**18**	*eP*	**Pn**	**00 29 46.8**	**+4.1**
AVH				*eS*	**Sn**	**00 30 36.9**	**+3.5**
KOK	**Koryaka**	**4.46**	**17**	PN	**Pn**	**00 29 47.1**	**+4.3**
KOK	**Koryaka**	**4.46**	**17**	*eP*	**Pn**	**00 29 47.1**	**+4.3**
SMAR	**Somma**	**4.46**	**18**	PN	**Pn**	**00 29 46.8**	**+3.8**
SMAR	**Somma**	**4.46**	**18**	*eP*	**Pn**	**00 29 46.8**	**+3.8**
KRER	**Koryakskii**	**4.49**	**18**	PN	**Pn**	**00 29 47.5**	**+4.1**
KRER	**Koryakskii**	**4.49**	**18**	*eP*	**Pn**	**00 29 47.5**	**+4.1**
SDLR	**Sedlovina**	**4.50**	**19**	PN	**Pn**	**00 29 46.4**	**+3.0**
SDLR				S	**Sn**	**00 30 34.2**	**-0.3**
SDLR	**Sedlovina**	**4.50**	**19**	*eP*	**Pn**	**00 29 46.4**	**+3.0**
SDLR				*eS*	**Sn**	**00 30 34.2**	**-0.3**
NLC	**Nalytchevo**	**4.51**	**23**	PN	**Pn**	**00 29 45.6**	**+2.3**
NLC				S	**Sn**	**00 30 32.4**	**-2.1**
NLC	**Nalytchevo**	**4.51**	**23**	*eP*	**Pn**	**00 29 45.6**	**+2.3**
NLC				*eS*	**Sn**	**00 30 32.4**	**-2.1**
KRX	**Arik**	**4.53**	**17**	PN	**Pn**	**00 29 47.6**	**+3.8**
KRX				S	**Sn**	**00 30 37.3**	**+2.1**
KRX	**Arik**	**4.53**	**17**	*eP*	**Pn**	**00 29 47.6**	**+3.8**
KRX				*eS*	**Sn**	**00 30 37.3**	**+2.1**
SPN	**Mys Shipunski**	**4.63**	**28**	PN	**Pn**	**00 29 47.6**	**+2.5**
SPN				S	**Sn**	**00 30 37.2**	**-0.4**
SPN	**Mys Shipunski**	**4.63**	**28**	*eP*	**Pn**	**00 29 47.6**	**+2.5**
SPN				*eS*	**Sn**	**00 30 37.2**	**-0.4**
GNL	**Ganaly**	**4.74**	**11**	PN	**Pn**	**00 29 51.1**	**+4.4**
GNL	**Ganaly**	**4.74**	**11**	*eP*	**Pn**	**00 29 51.1**	**+4.4**
MKZ	**Mys Kozlova**	**6.41**	**29**	PN	**Pn**	**00 30 10.5**	**+1.1**
MKZ	**Mys Kozlova**	**6.41**	**29**	*eP*	**Pn**	**00 30 10.5**	**+1.1**
MKZ				*eS*	**Sn**	**00 31 16.5**	**-4.7**
KZV	**Kizimen**	**6.51**	**20**	PN	**Pn**	**00 30 15.1**	**+4.1**
KZV				S	**Sn**	**00 31 24.9**	**+0.8**
KZV	**Kizimen**	**6.51**	**20**	*eP*	**Pn**	**00 30 15.1**	**+4.1**
KZV				*eS*	**Sn**	**00 31 24.9**	**+0.8**
TUMD	**Tumrok D**	**6.62**	**20**	*eS*	**Sn**	**00 31 27.7**	**+1.1**
TUMR	**Tumrok**	**6.64**	**19**	PN	**Pn**	**00 30 16.6**	**+3.9**
TUMR	**Tumrok**	**6.64**	**19**	*eP*	**Pn**	**00 30 16.6**	**+3.9**
KBTR	**Krutoberegovo**	**8.14**	**26**	PN	**Pn**	**00 30 35.0**	**+1.8**
KBTR	**Krutoberegovo**	**8.14**	**26**	*eP*	**Pn**	**00 30 35.0**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**30.43**	**160**	T	T	01 06 56.9	
	baz=342,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.45**	**160**	T	T	01 06 58.6	
	baz=342,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.45**	**160**	T	T	01 06 56.9	
	baz=342						
H11S1	**WAKE ISLAND Hy**	**31.58**	**161**	T	T	01 08 48.8	
	baz=347,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**31.59**	**161**	T	T	01 08 46.6	
	baz=347,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**31.59**	**161**	T	T	01 08 49.4	
	baz=347,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**43.12**	**305**	P	**P**	**00 36 32.2**	**-2.0**
	comp=N,0.4nm,0.3s,baz=85,slow=6.1,SNR=1.6						
MKAR	**Makanchi Array**	**47.89**	**297**	P	**P**	**00 37 10.2**	**-1.9**
	comp=N,0.3nm,0.5s,baz=48,slow=8.6,SNR=4.0						
FINES	**FINESS Array B**	**62.89**	**336**	P	**P**	**00 38 58.7**	**-1.0**
	comp=N,0.4nm,0.3s,baz=26,slow=6.6,SNR=10						
AKASG	**Malin Array Be**	**70.84**	**328**	P	**P**	**00 39 49.4**	**-1.1**
	comp=N,0.3nm,0.3s,baz=34,slow=6.9,SNR=1.5						
TXAR	**Lajitas Array**	**74.42**	**63**	P	**P**	**00 40 15.7**	**+3.4**
	comp=N,0.2nm,0.5s,baz=307,slow=6.4,SNR=5.4						
GERES	**GERESS Array B**	**77.32**	**336**	P	**P**	**00 40 28.4**	**0.0**
	comp=N,0.4nm,0.5s,baz=38,slow=6.8,SNR=4.1						
BRTR	**Keskin Array B**	**78.20**	**319**	P	**P**	**00 40 33.7**	**+0.1**
	comp=N,0.6nm,0.8s,baz=92,slow=3.3,SNR=3.7						

NNC 18 00:34:29.4±1.9, **37°.61N**×**78°.13E**, **h0**km, **mb3.9**, **mpv3.6**, **Error ellipse: s-maj=30.9km s-min=12.7km az=78.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.50**	**351**	Pg	Pb	00 36 10.7	+4.1
	3.5nm,0.4s						
TNSS				Lg	Lg	00 37 26.8	
	6.0nm,0.7s						
MDOK	**Medeo**	**5.61**	**352**	Pg	Pb	00 36 10.7	+2.4
	4.8nm,0.7s						
MDOK				Lg	Lg	00 37 27.7	
	5.8nm,0.8s						
MDOK	**Medeo**	**5.61**	**352**	Pg	Pb	00 36 12.6	+4.2
	3.0nm,0.5s						
MDOK				Lg	Lg	00 37 29.4	
	3.9nm,0.4s						
KST	**Kastek**	**5.68**	**344**	Pg	Pb	00 36 13.1	+3.7
	4.3nm,0.6s						
KST				Lg	Lg	00 37 30.0	
	7.4nm,0.3s						
DGS	**Degeres**	**5.91**	**343**	Pg	Pb	00 36 16.9	+3.5
	2.9nm,0.6s						
DGS				Lg	Lg	00 37 36.2	
	3.0nm,0.4s						
KTBS	**Karatobe**	**6.20**	**350**	Pg	Pb	00 36 22.3	+4.0
	1.3nm,0.3s						
KTBS				Lg	Lg	00 37 45.7	
	2.9nm,0.7s						
KRBS	**Karabastau**	**6.36**	**344**	Pg	Pb	00 36 26.1	+5.0
	1.5nm,0.5s						
KRBS				Lg	Lg	00 37 51.3	
	1.7nm,0.6s						

*JMA **18** 00:49:46.6±0.1, 24°.71N×122°.30E, h12km±3km, M2.7*
*TAP **18** 00:49:46.6, 24°.75N×122°.27E, h13km, ML3.4, C*
ISC 18 00:49:46.4±1.0, **24°.74N**±0°.02×**122°.30E**±0°.02, **h10**km±8km, **n102**, σ0s**58**/190, **1C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**314**	*i* P	**Pg**	**00 49 54.2**	**+0.1**
	baz=315						
TWB1				*eS*	**Sg**	**00 49 58.3**	**-0.9**
	baz=315						
TWC	**Suao**	**0.42**	**253**	P	**Pg**	**00 49 54.8**	**+0.1**
	baz=248						
TWC				*eS*	**Sb**	**00 50 01.3**	**-1.1**
	baz=248						
NTC	**Toucheng**	**0.44**	**286**	P	**Pb**	**00 49 56.0**	**-0.2**
	baz=284						
NTC				S	**Sb**	**00 50 02.7**	**-0.1**
	baz=284						
TIPB	**Shuangxi**	**0.49**	**299**	P	**Pb**	**00 49 56.7**	**-0.3**
	baz=298						
TIPB				S	**Sb**	**00 50 03.9**	**-0.4**
	baz=298						
ILA	**Ilan**	**0.50**	**274**	*eP*	**Pb**	**00 49 56.7**	**-0.5**
	baz=271						
ILA				*eS*	**Sb**	**00 50 04.1**	**-0.4**
	baz=271						
NDS	**Dongshan**	**0.54**	**259**	*eP*	**Pb**	**00 49 57.6**	**-0.3**
	baz=256						
NDS				*eS*	**Sb**	**00 50 05.5**	**-0.1**
	baz=256						
EWUT	**Wuta**	**0.55**	**239**	*eP*	**Pb**	**00 49 57.9**	**-0.2**
	baz=235						
EWUT				*eS*	**Sb**	**00 50 06.0**	**-0.1**
	baz=235						
TWE	**Neicheng**	**0.57**	**269**	P	**Pb**	**00 49 58.3**	**-0.1**
	baz=266						
TWE				*eS*	**Sb**	**00 50 06.0**	**-0.7**
	baz=266						
NWF	**Wu-fen Shan**	**0.57**	**306**	⇓P	**Pg**	**00 49 58.0**	**+0.5**
	baz=305						
NWF				S	**Sg**	**00 50 05.9**	**+0.8**
	baz=305						
WFSB	**Wu-fen Shan**	**0.57**	**306**	P	**Pg**	**00 49 58.1**	**+0.5**
	baz=305						
WFSB				S	**Sb**	**00 50 05.9**	**-0.8**
	baz=305						
TNOU	**National Taiwa**	**0.63**	**311**	P	**Pg**	**00 49 58.6**	**+0.1**
	baz=311						
TNOU				S	**Sg**	**00 50 07.4**	**+0.6**
	baz=311						
JYNG	**Yonagunijimaku**	**0.66**	**115**	P	**Pg**	**00 49 58.8**	**-0.3**
JYNG				S	**Sg**	**00 50 08.2**	**+0.5**
ENTT	**Nioudou**	**0.67**	**262**	*eP*	**Pn**	**00 50 01.2**	**-0.8**
	baz=259						
ENTT				*eS*	**Sb**	**00 50 09.7**	**+0.2**
	baz=259						
TWA	**Mucha**	**0.69**	**291**	P	**Pb**	**00 50 00.5**	**0.0**
	baz=289						
TWA				S	**Sb**	**00 50 10.0**	**-0.1**
	baz=289						
YOJ	**Yonaguni jima**	**0.71**	**113**	P	**Pg**	**00 49 59.6**	**-0.4**
YOJ				S	**Sg**	**00 50 09.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.71**	**113**	*eP*	**Pb**	**00 50 01.4**	**+0.6**
	baz=112						
YOJ				*eS*	**Sb**	**00 50 11.9**	**+1.3**
	baz=112						
NWLT	**Wulai**	**0.72**	**274**	P	**Pn**	**00 50 01.8**	**-0.8**
	baz=271						
NWLT				*eS*	**Sb**	**00 50 10.5**	**-0.6**
	baz=271						
NDT	**Datong Townshi**	**0.72**	**260**	P	**Pb**	**00 50 00.8**	**-0.3**
	baz=257						
NDT				S	**Sb**	**00 50 11.2**	**+0.1**
	baz=257						
NHDH	**Xindian Distri**	**0.73**	**288**	P	**Pb**	**00 50 01.6**	**+0.3**
	baz=287						
NHDH				S	**Sb**	**00 50 11.8**	**+0.4**
	baz=287						
NWRT	**Kuosheng**	**0.74**	**309**	*eP*	**Pg**	**00 50 00.9**	**+0.2**
	baz=309	

NNSB	**Datong**	**0.89 250**	*e*P	**Pg**	**00 50 03.3**	**-0.2**
	baz=248					
NNSB			*e*S	**Sb**	**00 50 15.8**	**0.0**
	baz=248					
NNSH	**Datong**	**0.89 250**	*e*P	**Pb**	**00 50 03.9**	**0.0**
	baz=248					
NNSH			*e*S	**Sb**	**00 50 16.0**	**+0.2**
	baz=248					
NNS	**Nan Shan**	**0.89 251**	P	**Pg**	**00 50 03.7**	**+0.2**
	baz=248					
NNS			*e*S	**Sb**	**00 50 15.6**	**-0.3**
	baz=248					
ETLH	**Xiulin Townshi**	**0.91 235**	*e*P	**Pb**	**00 50 04.2**	**-0.1**
	baz=232					
ETLH			*e*S	**Sb**	**00 50 16.8**	**+0.3**
	baz=232					
TWD	**Chiawan**	**0.91 224**	*e*P	**Pg**	**00 50 04.1**	**+0.2**
	baz=221					
TWD			*e*S	**Sb**	**00 50 16.2**	**-0.2**
	baz=221					
PCYT	**Pengchaiyu**	**0.91 347**	*e*P	**Pg**	**00 50 03.6**	**-0.3**
	baz=349					
PCYT			*e*S	**Sg**	**00 50 15.9**	**0.0**
	baz=349					
ETM	**Tongmen**	**1.06 224**	*e*P	**Pb**	**00 50 06.6**	**-0.2**
	baz=221					
ETM			*e*S	**Sn**	**00 50 21.4**	**-0.7**
	baz=221					
FUSS	**Fushou**	**1.07 243**	*e*P	**Pb**	**00 50 06.7**	**-0.5**
	baz=241					
FUSS			*e*S	**Sg**	**00 50 21.5**	**+0.4**
	baz=241					
WHF	**Hehuan Shan**	**1.11 238**	⇑*e*P	**Pg**	**00 50 07.8**	**+0.1**
	baz=236					
WHF			*e*S	**Sg**	**00 50 22.3**	**+0.2**
	baz=236					
TDCB	**Techi**	**1.14 245**	*e*P	**Pb**	**00 50 08.1**	**-0.1**
	baz=243					
TDCB			*e*S	**Sg**	**00 50 23.3**	**+0.1**
	baz=243					
LIOB	**Emei**	**1.17 266**	*e*P	**Pb**	**00 50 08.3**	**-0.4**
	baz=264					
LIOB			*e*S	**Sb**	**00 50 23.3**	**-0.6**
	baz=264					
NSTT	**Nanjuang**	**1.18 265**	*e*P	**Pb**	**00 50 08.7**	**-0.2**
	baz=263					
NSTT			*e*S	**Sb**	**00 50 24.0**	**-0.2**
	baz=263					
SBCB	**Hsinchu**	**1.19 273**	*e*P	**Pn**	**00 50 08.1**	**-1.0**
	baz=271					
SBCB			*e*S	**Sb**	**00 50 24.4**	**-0.2**
	baz=271					
ESL	**Shilin**	**1.21 221**	*e*P	**Pb**	**00 50 09.4**	**+0.1**
	baz=218					
ESL			*e*S	**Sn**	**00 50 25.4**	**-0.3**
	baz=218					
CHGB	**Renai**	**1.22 237**	⇓*e*P	**Pg**	**00 50 09.9**	**+0.1**
	baz=235					
CHGB			*e*S	**Sg**	**00 50 25.8**	**0.0**
	baz=235					
OWD	**Renai**	**1.28 233**	*e*P	**Pg**	**00 50 11.0**	**0.0**
	baz=231					
OWD			*e*S	**Sn**	**00 50 27.4**	**-0.4**
	baz=231					
WHP	**Taichung City**	**1.31 250**	*e*P	**Pg**	**00 50 11.6**	**+0.1**
	baz=248					
WHP			*e*S	**Sn**	**00 50 27.9**	**-0.5**
	baz=248					
EGFH	**Guangfu**	**1.32 217**	*e*P	**Pg**	**00 50 11.6**	**-0.2**
	baz=215					
EGFH			*e*S	**Sg**	**00 50 29.6**	**+0.6**
	baz=215					
IRIF	**Iriomote-Funau**	**1.37 107**	P	**Pn**	**00 50 11.4**	**-0.1**
IRIF			S	**Sn**	**00 50 28.7**	**-0.9**
NMLH	**Miaoli**	**1.38 262**	*e*P	**Pb**	**00 50 12.2**	**-0.1**
	baz=260					
NMLH			*e*S	**Sg**	**00 50 30.6**	**-0.3**
	baz=260					
DPDB	**Guoxing**	**1.43 241**	*e*P	**Pg**	**00 50 13.8**	**0.0**
	baz=239					
DPDB			*e*S	**Sg**	**00 50 32.3**	**-0.1**
	baz=239					
WCS	**Beigang Elemen**	**1.43 242**	*e*P	**Pb**	**00 50 13.2**	**0.0**
	baz=240					
WCS			*e*S	**Sg**	**00 50 31.9**	**-0.5**
	baz=240					
NSY	**Sanyi**	**1.43 258**	*e*P	**Pb**	**00 50 13.2**	**0.0**
	baz=256					
NSY			*e*S	**Sb**	**00 50 31.2**	**-0.3**
	baz=256					
TWQ1	**Liyutan**	**1.44 255**	*e*P	**Pb**	**00 50 13.5**	**+0.3**
	baz=253					
TWQ1			*e*S	**Sb**	**00 50 31.9**	**+0.3**
	baz=253					
HGSD	**Ruisui**	**1.47 213**	*e*P	**Pb**	**00 50 13.3**	**-0.5**
	baz=211					
HGSD			*e*S	**Sg**	**00 50 33.7**	**0.0**
	baz=211					
EHY	**Hungye**	**1.51 216**	*e*P	**Pn**	**00 50 13.7**	**+0.2**
	baz=214					
SMLT	**Sun Moon Lake**	**1.53 237**	*e*P	**Pb**	**00 50 15.1**	**+0.2**
	baz=234					
HATJ	**Hateruma jima**	**1.53 116**	P	**Pb**	**00 50 14.5**	**-0.4**
HATJ			*e*S	**Sb**	**00 50 34.2**	**-0.2**
SSLB	**Suanglung**	**1.54 233**	⇓*e*P	**Pg**	**00 50 15.7**	**-0.4**
	baz=231					
TYC	**Yuchr**	**1.55 238**	*e*P	**Pg**	**00 50 16.2**	**+0.1**
	baz=236					
TYC			*e*S	**Sb**	**00 50 34.9**	**+0.1**
	baz=236					
WDJ	**Dajia District**	**1.56 256**	*e*S	**Sb**	**00 50 34.6**	**-0.4**
	baz=254					
WWF	**Wufeng**	**1.61 245**	*e*P	**Pn**	**00 50 14.7**	**-0.1**
	baz=243					
WWF			*e*S	**Sb**	**00 50 36.6**	**0.0**
	baz=243					
YULB	**Yu-li**	**1.62 215**	*e*P	**Pb**	**00 50 15.7**	**-0.6**
	baz=213					
YULB			*e*S	**Sb**	**00 50 36.6**	**-0.3**
	baz=213					
JKRS	**Kuro-shima**	**1.64 107**	P	**Pn**	**00 50 14.9**	**-0.3**
TWF1	**Yuli**	**1.65 214**	*e*P	**Pn**	**00 50 15.3**	**-0.2**
	baz=212					
TWF1			*e*S	**Sb**	**00 50 37.2**	**-0.6**
	baz=212					
WNT1	**Nantou City**	**1.69 241**	*e*P	**Pb**	**00 50 17.2**	**-0.3**
	baz=239					
WNT1			*e*S	**Sb**	**00 50 38.5**	**-0.3**
	baz=239					
WJS	**Zhushan**	**1.69 238**	*e*S	**Sb**	**00 50 38.3**	**-0.7**
	baz=236					
WNT	**Mingjian**	**1.70 240**	*e*P	**Pn**	**00 50 16.6**	**+0.6**
	baz=238					
WNT			*e*S	**Sn**	**00 50 37.9**	**0.0**
	baz=238					
JIJ	**Ishigaki jima**	**1.72 102**	P	**Pn**	**00 50 16.5**	**+0.1**
JIJ			*e*S	**Sn**	**00 50 38.6**	**+0.1**
FULB	**Fuli**	**1.78 211**	*e*P	**Pb**	**00 50 18.4**	**-0.8**
	baz=209					
FULB			*e*S	**Sb**	**00 50 41.0**	**-0.6**
	baz=209					
ALS	**Alishan**	**1.83 228**	*e*P	**Pn**	**00 50 18.8**	**+0.7**
	baz=226					
ALS			*e*S	**Sn**	**00 50 41.4**	**-0.1**
	baz=226					
CHKT	**Chengkung**	**1.84 208**	*e*P	**Pb**	**00 50 19.0**	**-1.1**
	baz=206					
CHKT			*e*S	**Sb**	**00 50 42.2**	**-0.9**
	baz=206					
JISG	**Ishigakijimahi**	**1.84 94**	P	**Pn**	**00 50 17.1**	**-0.9**
CHN5	**Tsauling**	**1.86 233**	*e*P	**Pb**	**00 50 20.8**	**+0.3**
	baz=231					
CHN5			*e*S	**Sn**	**00 50 42.1**	**+0.1**
	baz=231					
ELDTW	**Lidau**	**1.93 217**	*e*P	**Pn**	**00 50 20.1**	**+0.7**
	baz=216					
ELDTW			*e*S	**Sn**	**00 50 44.5**	**+0.7**
	baz=216					
WRL	**Guolierlin Hig**	**1.94 245**	*e*P	**Pn**	**00 50 19.7**	**+0.4**
	baz=243					
WRL			*e*S	**Sn**	**00 50 44.1**	**+0.4**
	baz=243					
EDH	**Donghe**	**1.98 208**	*e*P	**Pb**	**00 50 21.1**	**-1.3**
	baz=206					
EDH			*e*S	**Sn**	**00 50 45.1**	**+0.4**
	baz=206					
WTK	**Tuku**	**2.03 239**	*e*S	**Sn**	**00 50 46.8**	**+0.8**
	baz=238					
CHN4	**Tsaushan**	**2.08 229**	*e*P	**Pb**	**00 50 24.3**	**+0.1**
	baz=227					
CHN4			*e*S	**Sn**	**00 50 48.0**	**+0.7**
	baz=227					
STYH	**Taoyuan**	**2.09 222**	*e*P	**Pn**	**00 50 22.6**	**+1.2**
	baz=220					
STYH			*e*S	**Sb**	**00 50 49.0**	**-1.4**
	baz=220					
TPUB	**Ta-pu**	**2.09 227**	*e*P	**Pb**	**00 50 22.9**	**-1.5**
	baz=225					
TPUB			*e*S	**Sn**	**00 50 48.0**	**+0.5**
	baz=225					
STYT	**Tauyuan**	**2.10 222**	*e*P	**Pn**	**00 50 22.6**	**+0.9**
	baz=220					
STYT			*e*S	**Sn**	**00 50 48.6**	**+0.6**
	baz=220					
LDUT	**Ludao**	**2.19 200**	*e*P	**Pn**	**00 50 23.6**	**+0.8**
	baz=199					
LDUT			*e*S	**Sn**	**00 50 50.7**	**+0.8**
	baz=199					
TWK	**Hsinying**	**2.21 229**	*e*P	**Pb**	**00 50 25.6**	**-0.8**
	baz=227					
TWK			*e*S	**Sn**	**00 50 51.3**	**+0.8**
	baz=227					
CHN1	**Nanshi**	**2.23 227**	*e*P	**Pb**	**00 50 25.6**	**-1.3**
	baz=225					
CHN1			*e*S	**Sn**	**00 50 51.9**	**+0.7**
	baz=225					
ICHU	**Yijhu**	**2.29 234**	*e*P	**Pn**	**00 50 25.4**	**+1.1**
	baz=232					
ICHU			*e*S	**Sn**	**00 50 52.8**	**+0.2**
	baz=232					
SLGT	**Liugui**	**2.30 221**	*e*P	**Pb**	**00 50 26.5**	**-1.4**
	baz=220					
SLGT			*e*S	**Sn**	**00 50 53.0**	**+0.3**
	baz=220					
SSD	**Sandimen**	**2.50 218**	*e*P	**Pn**	**00 50 28.1**	**+1.0**
	baz=216					
SSD			*e*S	**Sn**	**00 50 58.8**	**+1.2**
	baz=216					
TSMG	**Majia**	**2.52 217**	*e*P	**Pn**	**00 50 28.6**	**+1.2**
	baz=216					
TSMG			*e*S	**Sn**	**00 50 58.8**	**+0.6**
	baz=216					
MSUT	**Lienchiang**	**2.58 304**	*e*P	**Pn**	**00 50 28.4**	**+0.3**
	baz=303					
VWUC	**VWUC**	**2.60 276**	*e*P	**Pn**	**00 50 27.9**	**-0.6**
	baz=275					
VWUC			*e*S	**Sn**	**00 50 60.0**	**-0.1**
	baz=275					
MASBT	**Mashibuluo**	**2.60 216**	P	**Pn**	**00 50 30.2**	**+1.6**
	baz=215					
MASBT			*e*S	**Sn**	**00 51 01.2**	**+0.9**
	baz=215					
EAST	**Anshuo**	**2.69 210**	*e*P	**Pn**	**00 50 30.0**	**+0.2**
	baz=208					
EAST			*e*S	**Sn**	**00 51 03.9**	**+1.4**
	baz=208					
PHUB	**P'eng-hu**	**2.77 245**	*e*S	**Sn**	**00 51 04.8**	**+0.5**
	baz=243					
SCZT	**Fangliau**	**2.81 214**	*e*P	**Pn**	**00 50 32.3**	**+1.0**
	baz=212					
SCZT			*e*S	**Sn**	**00 51 06.6**	**+1.3**
	baz=212					
WDGT	**Dungji**	**2.82 239**	*e*P	**Pn**	**00 50 32.1**	**+0.6**
	baz=237					
SLIU	**Shizi**	**2.86 209**	*e*P	**Pn**	**00 50 32.9**	**+0.9**
	baz=208					
SLIU			*e*S	**Sn**	**00 51 06.4**	**-0.2**
	baz=208					
XPSS	**Dashiqiu**	**2.89 319**	*e*P	**Pn**	**00 50 33.7**	**+1.2**
	baz=319					
PTMZ	**Houxiangcun**	**2.90 277**	*e*P	**Pn**	**00 50 33.1**	**+0.5**
	baz=275					
PTMZ			*e*S	**Sn**	**00 51 07.5**	**0.0**
	baz=275					
LYJJ	**Jianjiangzhen**	**2.92 309**	*e*P	**Pn**	**00 50 33.3**	**+0.5**
	baz=308					
LYJJ			*e*S	**Sn**	**00 51 07.7**	**-0.2**
	baz=308					
MHZQ	**Yeshan**	**3.25 295**	*e*P	**Pn**	**00 50 38.3**	**+0.9**
	baz=294					
AXDP	**Jialang**	**3.93 273**	*e*P	**Pn**	**00 50 45.9**	**-0.9**

NNC 18 00:55:12.0±9.1, 36.86N×78.49E, h0km, mb3.9, mpv3.8, 2C-7D, Error ellipse: s-maj=68.5km s-min=54.1km az=27.0, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**6.40**	**350**	Pg	Pb	00 57 07.9	+3.7
	7.4nm,0.6s						
MDOK				⇓Lg	Lg	00 58 39.6	
	22nm,0.7s						
TKM2	**Tokmak 2**	**6.46**	**341**	⇑Pg	Pg	00 57 11.1	-4.5
	1.1nm,0.3s						
TKM2				⇓Lg	Lg	00 58 39.7	
	6.0nm,0.6s						
PDGK	**Podgornoye**	**6.51**	**6**	⇓Pg	Pb	00 57 10.2	+4.1
	4.4nm,0.5s						
PDGK				⇑Lg	Lg	00 58 41.7	
	18nm,0.6s						
AAK	**Ala-Archa**	**6.54**	**333**	⇓Pg	Pb	00 57 09.7	+2.9
	4.8nm,0.7s						
AAK				⇓Lg	Lg	00 58 42.2	
	20nm,0.8s						
MK31	**Makanchi Array**	**10.32**	**15**	⇓Pn	Pn	00 57 43.8	+2.4
	0.4nm,0.5s,baz=203,slow=12,SNR=9.5						
MK31				Pg		00 58 00.6	
	0.4nm,0.3s,baz=190,slow=11,SNR=4.2						
MK31				⇓Sn	Sn	00 59 32.3	-5.4
	2.0nm,0.7s,baz=200,slow=24,SNR=6.0						

*TUL **18** 01:53:47.5±1.1, 36.76N±0.02×97.57W±0.03, h7km±7km, ML2.6, mb_Lg2.4/13(NEIC), Error ellipse: s-maj=3.3km s-min=2.5km az=56.0*

NEIC 18 01:53:47.4±1.4, 36.74N±0.02×97.59W±0.02, h5km±7km, Error ellipse: s-maj=3.3km s-min=1.4km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.24**	**297**		Pg	01 53 52.0	-0.2
KAN13	**South Haven SW**	**0.28**	**19**	Pg	Pg	01 53 52.5	-0.5
BLOK	**Blackwell**	**0.30**	**86**		Pg	01 53 53.4	+0.1
CROK	**Carrier**	**0.39**	**233**		Pg	01 53 55.8	+0.8
KAN09	**Caldwell North**	**0.39**	**357**	Pg	Pg	01 53 54.9	-0.1
KS20	**Mayfield South**	**0.49**	**4**	Pg	Pg	01 53 56.6	-0.2
OK032	**Salt Plains WL**	**0.50**	**277**		Pg	01 53 57.6	+0.6
KAN10	**Anthony SW Sta**	**0.55**	**313**	Pg	Pg	01 53 57.5	-0.6
KAN08	**Anthony NE Sta**	**0.57**	**328**		Pg	01 53 58.5	+0.1
T35A	**Sooner Cattle**	**0.88**	**78**		Pg	01 54 04.1	-0.3
QUOK	**Quay**	**0.91**	**128**		Pg	01 54 05.0	0.0
OK029	**Liberty Lake**	**0.95**	**173**		Pg	01 54 06.0	+0.3
OK031	**S. Brethren Rd**	**0.99**	**142**		Pg	01 54 06.4	-0.1
OK025	**Westminster Rd**	**1.18**	**170**		Pg	01 54 09.4	-0.6
U32A	**Winter Ranch,**	**1.19**	**253**	Pg	Pg	01 54 09.8	-0.5
OKCSW	**OKLAHOMA CITY**	**1.34**	**175**		Pn	01 54 12.8	0.0
FNO	**Franklin**	**1.49**	**174**		Pb	01 54 15.4	-0.2
X34A	**Smith Ranch, M**	**2.15**	**185**	Pn	Pn	01 54 23.8	-0.1
WMOK	**Wichita Mounta**	**2.22**	**206**		Pn	01 54 25.5	+0.5
U38A	**Gravette**	**2.60**	**96**	Pn	Pn	01 54 29.3	-0.8
X37A	**Clayton**	**2.81**	**139**	Pn	Pn	01 54 32.2	-0.8
HHAR	**Hobbs**	**2.98**	**98**	Pn	Pn	01 54 35.1	-0.3
W39A	**Magazine**	**3.45**	**115**	Pn	Pn	01 54 41.7	-0.2
AMTX	**Amarillo**	**3.81**	**242**	IAmb_Lg		01 55 55.6	
	comp=Z,7.8nm,0.8s						
U40A	**Yellville**	**3.83**	**94**	Pn	Pn	01 54 46.0	-1.1
U40A				IAmb_Lg		01 55 53.3	
	comp=Z,8.7nm,0.8s						
MIAR	**Mount Ida**	**3.94**	**123**	Pn	Pn	01 54 48.6	+0.1
MIAR				IAmb_Lg		01 55 55.5	
	comp=Z,7.0nm,0.8s						
MGMO	**Mountain Grove**	**4.28**	**83**	Pn	Pn	01 54 53.0	-0.4
P38A	**Dawn**	**4.30**	**47**	Pn	Pn	01 54 53.7	+0.1
X40A	**Basin Creek Fa**	**4.48**	**119**	Pn	Pn	01 54 56.4	+0.4
FCAR	**Ozark Folk Cen**	**4.50**	**99**	Pn	Pn	01 54 56.7	+0.5
FCAR				IAmb_Lg		01 56 07.7	
	comp=Z,6.3nm,0.7s						
R40A	**Maddies Statio**	**4.50**	**68**	Pn	Pn	01 54 56.5	+0.1
WHAR	**Wooly Hollow**	**4.54**	**107**	Pn	Pn	01 54 57.3	+0.6
WHAR				IAmb_Lg		01 56 13.7	
	comp=Z,9.3nm,1.2s						
CCM	**Cathedral Cave**	**5.22**	**74**	Pn	Pn	01 55 05.0	-1.2
CCM				IAmb_Lg		01 56 37.3	
	comp=Z,6.8nm,1.1s						
LCAR	**Lake Charles**	**5.24**	**95**	Pn	Pn	01 55 07.2	+0.8
T25A	**Trinidad**	**5.48**	**276**	Pn	Pn	01 55 08.5	-1.4
T25A				IAmb_Lg		01 56 54.0	
	comp=Z,5.7nm,1.0s						

IDC 18 01:54:27.7±2.5, 15.74N×122.23E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/33, mbtmp3.8/3, Error ellipse: s-maj=342.2km s-min=29.8km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.40**	**161**	P	P	02 01 41.9	-0.7
	0.8nm,0.9s,baz=341,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**40.79**	**164**	P	P	02 02 11.3	+0.3
	0.9nm,0.8s,baz=342,slow=7.1,SNR=7.2						
ZALV	**Zalesovo Beam**	**47.97**	**331**	P	P	02 03 08.0	-0.1
	0.6nm,0.3s,baz=116,slow=6.6,SNR=1.9						

*IDC **18** 02:27:31.1±0.3, 10.45S×165.15E, h0km, mb5.6/33, mb1 5.7/35, mb1mx5.7/37, mbtmp5.6/35, ML3.3/1, MS6.9/32, Ms1 6.9/32, ms1mx6.9/34, Error ellipse: s-maj=12.6km s-min=11.5km az=148.0*

*BJI **18** 02:27:32.4±0.0, 10.41S×165.17E, h20km, mB7.1/83, mb6.1/70, Ms7.2/97, Ms7 6.9/90*

*MOS **18** 02:27:32.5±1.8, 10.30S×165.04E, h17km, mb6.4/62, MS7.0/45, Error ellipse: s-maj=7.7km s-min=5.5km az=125.5*

*NEIC **18** 02:27:33.8±2.2, 10.40S±0.07×165.14E±0.06, h11km±1km, mb6.4/378, Ms_20 7.2/985, Mwc6.9/144, Mww7.0, Mwc6.9(GCMT), Error ellipse: s-maj=11.5km s-min=10.4km az=24.0*

*NEIC **18** 02:27:38, 10.35S×165.14E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}-2.62; $M_{\theta\theta}$3.29; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.43; $M_{\theta\phi}$-0.69; $M_{\phi r}$-0.87; Fault plane solution: $M_0$3.24000×10^{19} NP1:ϕ_s80.00000°, δ43.00000°, λ-120.00000°. NP2:ϕ_s298.00000°, δ54.00000°, λ-65.00000°. Principal axes: T 3.4616, Plg5.0000°, Azm11.0000°; N -0.5046, Plg20.0000°, Azm103.0000°; P -2.9570, Plg69.0000°, Azm266.0000°;*

*GCMT **18** 02:27:39.8±0.0, 10.35S×165.10E, h12km, MW6.9/171, Moment Tensor Solution. s170,c469; s171,c889; Duration: 7?1 Moment tensor: Scale 10^{19}Nm; M_{rr}-2.64±.01; $M_{\theta\theta}$3.29±.01; $M_{\phi\phi}$-0.64±.01; $M_{r\theta}$0.21±.02; $M_{\theta\phi}$-0.68±.01; $M_{\phi r}$-0.46±.02; Best double couple: $M_0$3.08100×10^{19} NP1:ϕ_s88.00000°, δ44.00000°, λ-108.00000°. NP2:ϕ_s291.00000°, δ49.00000°, λ-74.00000°. Principal axes: T 3.4180, Plg3.0000°, Azm10.0000°; N -0.6700, Plg12.0000°, Azm100.0000°; P -2.7430, Plg78.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **18** 02:27:40, 10.21S×165.01E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}-2.91; $M_{\theta\theta}$3.47; $M_{\phi\phi}$-0.56; $M_{r\theta}$-0.83; $M_{\theta\phi}$-0.86; $M_{\phi r}$0.82; Fault plane solution: $M_0$3.54000×10^{19} NP1:ϕ_s267.00000°, δ39.00000°, λ-112.00000°. NP2:ϕ_s115.00000°, δ55.00000°, λ-72.00000°. Principal axes: T 3.7923, Plg8.0000°, Azm193.0000°; N -0.5761, Plg14.0000°, Azm285.0000°; P -3.2162, Plg74.0000°, Azm73.0000°;*

*NEIC **18** 02:27:55, 9.94S×164.68E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}-2.53; $M_{\theta\theta}$3.18; $M_{\phi\phi}$-0.65; $M_{r\theta}$0.58; $M_{\theta\phi}$-0.82; $M_{\phi r}$-0.27; Fault plane solution: $M_0$3.01000×10^{19} NP1:ϕ_s286.02000°, δ51.11000°, λ-84.08000°. NP2:ϕ_s96.64000°, δ39.26000°, λ-97.29000°. Principal axes: T 3.4122, Plg6.0000°, Azm12.0000°; N -0.8059, Plg5.0000°, Azm102.0000°; P -2.6064, Plg82.0000°, Azm230.0000°;*

ISC 18 02:27:32.8±0.3, 10.46S±0.03×165.10E±0.03, h12km±1km, h12km: pP-P, n2060, $_c$2^{s}22/1826, mb6.3/355, MS7.2/606, 111C-184D, Fault plane solution: NP1:ϕ_s292.87320°, δ52.94510°, λ-90.48874°. NP2:ϕ_s113.68424°, δ37.05767°, λ-89.35275°. Principal axes: T Plg7.9439°, Azm23.2221°; N Plg0.3900°, Azm293.1677°; P Plg82.0464°, Azm200.3749°; Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**281**	Pn	**Pn**	**02 28 50.6**	**+0.4**
	206nm,0.3s,baz=218,slow=5.1,SNR=54						
HNR				Sn	**Sn**	**02 29 48.9**	**-1.0**
	1μm,0.3s,baz=167,slow=4.3,SNR=4.2						
HNR				LR	LR	02 30 56.1	
	comp=Z,1546μm,18.6s,baz=124,slow=39						
HNR	**Honiara**	**5.18**	**281**	P	**Pn**	**02 28 51.7**	**+1.5**
HNR						02 29 48.9	
HNR	**Honiara**	**5.18**	**281**		**Pn**	**02 28 51.7**	**+1.5**
HNR	**Honiara**	**5.18**	**281**	⇓P	**Pn**	**02 28 50.6**	**+0.4**
HNR	**Honiara**	**5.18**	**281**	P	**Pn**	**02 28 51.1**	**+0.9**
SANVU	**Saraoutou**	**5.37**	**158**	Pn	**Pn**	**02 28 53.2**	**+0.4**
SANVU	**Saraoutou**	**5.37**	**158**	⇑P	**Pn**	**02 28 52.4**	**-0.3**
SANVU	**Saraoutou**	**5.37**	**158**	P	**Pn**	**02 28 54.8**	**+2.1**
KOUNC	**Koumac, New Ca**	**10.07**	**184**	⇑P	**Pn**	**02 29 58.1**	**+0.9**
KOUNC	**Koumac, New Ca**	**10.07**	**184**	P	**Pn**	**02 29 59.2**	**+1.9**
LIFNC	**LIFOU**	**10.46**	**169**	Pn	**Pn**	**02 30 04.2**	**+1.5**
LIFNC	**LIFOU**	**10.46**	**169**	P	**Pn**	**02 30 05.5**	**+2.8**
MARNC	**Mare, Loyalty**	**11.32**	**166**		**Pn**	**02 30 14.6**	**+0.2**
MARNC	**Mare, Loyalty**	**11.32**	**166**	⇑P	**Pn**	**02 30 15.3**	**+0.9**
MARNC	**Mare, Loyalty**	**11.32**	**166**	P	**Pn**	**02 30 16.6**	**+2.2**
NOUC	**Port Laguerre**	**11.64**	**174**	P	**Pn**	**02 30 21.9**	**+3.1**
YATNC	**Mamie plateau,**	**11.66**	**172**	P	**Pn**	**02 30 21.4**	**+2.2**
ONTNC	**Ouen Toro**	**11.86**	**174**	Pn	**Pn**	**02 30 22.3**	**+0.6**
ONTNC	**Ouen Toro**	**11.86**	**174**	P	**Pn**	**02 30 24.8**	**+3.0**
OUENC	**Ouen Island, N**	**12.01**	**172**	Pn	**Pn**	**02 30 24.4**	**+0.5**
OUENC	**Ouen Island, N**	**12.01**	**172**	P	Pn	02 30 28.9	+5.0
PINNC	**Pines Island,**	**12.29**	**170**		**Pn**	**02 30 29.3**	**+1.5**
PINNC	**Pines Island,**	**12.29**	**170**	P	**Pn**	**02 30 31.5**	**+3.7**
FUNA	**Funafuti**	**14.04**	**83**		**Pn**	**02 30 48.2**	**-3.4**
FUNA	**Funafuti**	**14.04**	**83**	P	**P**	**02 30 55.5**	**-4.0**
TARA	**Tarawa**	**14.08**	**34**	Pn	**Pn**	**02 30 49.6**	**-2.7**
TARA	**Tarawa**	**14.08**	**34**	⇑P	Pn	02 30 47.1	-5.1
TARA	**Tarawa**	**14.08**	**34**	P	**Pn**	**02 30 54.2**	**+1.9**
RABL	**Rabaul**	**14.26**	**295**	Pn	**Pn**	**02 30 53.5**	**-1.2**
MSVF	**Nonsavu**	**14.49**	**121**	Pn	**P**	**02 31 01.7**	**-3.0**
	2.8nm,0.3s,baz=276,slow=10,SNR=20						
MSVF				LR	LR	02 35 04.4	
	comp=Z,319μm,19.4s,baz=304,slow=31						
MSVF	**Nonsavu**	**14.49**	**121**	P	**Pn**	**02 30 57.8**	**-0.1**
MSVF	**Nonsavu**	**14.49**	**121**	Pn	**Pn**	**02 30 57.8**	**-0.1**
MSVF	**Nonsavu**	**14.49**	**121**	⇑P	**Pn**	**02 31 00.9**	**+3.0**
MSVF	**Nonsavu**	**14.49**	**121**	P	**P**	**02 31 02.4**	**-2.2**
DGTI	**Dogotuki**	**15.37**	**114**	P	**P**	**02 31 14.1**	**-0.3**
TAVE	**Taveuni**	**15.84**	**115**	P	**P**	**02 31 21.9**	**+2.3**
LKBA	**Tubou, Lakemba**	**17.39**	**118**	P	**P**	**02 31 39.7**	**+3.0**
PMG	**Port Moresby**	**17.70**	**272

baz=20
EIDS Eidsvold 19.92 220 P Pn 02 32 06.4 +0.2
CTA Charters Tower 20.53 240 P P 02 32 12.3 +1.1
comp=Z,82nm,0.9s,baz=61,slow=12,SNR=32
CTA LR LR 02 39 12.3
comp=Z,309μm,19.1s,baz=60,slow=34
CTA Charters Tower 20.53 240 P P 02 32 12.1 +0.9
baz=21
CTAO Charters Tower 20.53 240 P Pn 02 32 12.4 -1.0
CTAO pmax pmax
comp=Z,903nm,1.1s
CTAO MLR MLR
comp=Z,328μm,19.0s
CTAO Charters Tower 20.53 240 Pn 02 32 12.4 -1.1
CTAO Charters Tower 20.53 240 ⇓P **P 02 32 11.5 +0.3**
LHI Lord Howe Isla 21.69 194 P **P 02 32 26.5 +2.8**
baz=22
LHI Lord Howe Isla 21.69 194 IAmb IAmb 02 32 56.6
comp=Z,2μm,1.2s
LHI IAMs_20 IAMs_20 02 38 56.0
comp=Z,716μm,22.0s
RMQ Roma 22.19 222 P **P 02 32 31.1 +2.0**
baz=22
AFI Afiamalu 22.86 101 P **P 02 32 36.0 -0.3**
comp=Z,102nm,1.0s,baz=260,slow=5.1,SNR=17
AFI LR LR 02 40 01.9
comp=Z,215μm,19.8s,baz=272,slow=33
AFI Afiamalu 22.86 101 P **P 02 32 36.7 +0.3**
AFI pmax pmax
comp=Z,3μm,1.5s
AFI Afiamalu 22.86 101 P **P 02 32 36.7 +0.3**
AFI IAmb IAmb 02 32 52.5
comp=Z,3μm,1.5s
AFI Afiamalu 22.86 101 ⇓P **P 02 32 37.6 +1.2**
AFI Afiamalu 22.86 101 P **P 02 32 40.3 +4.0**
ARMA Armidale 23.49 210 P **P 02 32 43.0 +0.3**
baz=24
ARMA Armidale 23.49 210 IAmb IAmb 02 32 53.1
comp=Z,2μm,1.5s
ARMA IAMs_20 IAMs_20 02 40 26.8
comp=Z,669μm,18.0s
KNTN Kanton 24.24 73 P **P 02 32 48.6 -1.3**
KNTN IAmb IAmb 02 33 22.4
comp=Z,2μm,1.6s
KNTN Kanton 24.24 73 ⇑P **P 02 32 50.1 +0.2**
KNTN Kanton 24.24 73 P **P 02 32 55.1 +5.2**
MMPI Merauke 24.46 273 P P 02 33 06.1 +14
RAO Raoul Island 24.53 142 LR LR 02 41 05.3
comp=Z,557μm,21.0s,baz=300,slow=33
RAO Raoul Island 24.53 142 IAMs_20 IAMs_20 02 40 43.8
comp=Z,560μm,21.0s
QLP Quilpie 25.40 228 P **P 02 33 01.5 +1.2**
baz=26
NIUE Niue 25.59 112 P **P 02 33 01.0 -1.2**
baz=26
GENI Genyem 25.95 286 ⇑P **P 02 33 03.9 -1.6**
GENI Genyem 25.95 286 P **P 02 33 05.0 -0.5**
comp=Z,225μmcomp=Z,99μmcomp=Z,2μm,1.8s
QIS Mount Isa 26.50 245 P **P 02 33 09.6 -0.8**
baz=27
RIV Riverview 26.55 207 P **P 02 33 12.0 +1.4**
baz=27
CMSA Cobar Meteorol 27.63 218 P **P 02 33 20.0 -0.3**
baz=28
YNG Young 28.23 210 P **P 02 33 25.4 -0.4**
baz=28
CNB Canberra Magne 28.59 208 P **P 02 33 28.7 -0.3**
baz=29
H11S2 WAKE ISLAND Hy 28.81 3 T T 03 03 34.6
baz=181,slow=76,SNR=84
H11S3 WAKE ISLAND Hy 28.81 3 T T 03 03 32.3
baz=181,slow=76,SNR=322
H11S1 WAKE ISLAND Hy 28.82 3 T T 03 03 30.6
baz=181,slow=76,SNR=244
HIZ Hauiti 29.27 164 P **P 02 33 35.6 +0.7**
HIZ IAMs_20 IAMs_20 02 44 22.7
comp=Z,576μm,19.0s
HAZ Te Kaha 29.48 159 P **P 02 33 37.3 +0.6**
HAZ S **S 02 38 33.0 +2.1**
MXZ Matakaoa Point 29.49 158 P **P 02 33 36.5 -0.3**
MXZ IAmb IAmb 02 33 50.3
comp=Z,663nm,1.0s
MXZ IAMs_20 IAMs_20 02 43 17.9
comp=Z,610μm,21.0s
WAKE Wake Island 29.59 3 IAMs_20 IAMs_20 02 42 30.7
comp=Z,429μm,21.0s
PKGZ Pakihiroa 29.70 159 P **P 02 33 40.7 +1.9**
PRRZ Plateau Road 29.70 162 P **P 02 33 41.3 +2.6**
URZ Urewera 29.71 161 P **P 02 33 39.4 +0.7**
comp=Z,253nm,1.0s,baz=272,slow=1.5,SNR=30
URZ S **S 02 38 33.8 -0.8**
comp=Z,44nm,1.2s,baz=46,slow=21,SNR=1.6
URZ LR LR 02 44 50.4
comp=Z,671μm,18.9s,baz=343,slow=35
URZ Urewera 29.71 161 P **P 02 33 39.5 +0.7**
URZ IAMs_20 IAMs_20 02 44 29.7
comp=Z,646μm,19.0s
URZ Urewera 29.71 161 P **P 02 33 41.4 +2.7**
URZ Urewera 29.71 161 ⇓P **P 02 33 39.5 +0.7**
ALRZ Allen Road 29.74 162 P **P 02 33 41.5 +2.4**
MWZ Matawai 29.91 160 P **P 02 33 43.9 +3.2**
MWZ S **S 02 38 39.6 +1.7**
TWGZ Tauwhareparae 29.92 159 P **P 02 33 43.7 +2.9**
TWGZ S **S 02 38 41.1 +3.0**
TWVZ Taurewa 29.95 164 P **P 02 33 41.2 +0.1**
RTZ Ruatahuna 29.99 161 P **P 02 33 40.3 -1.1**
KRVZ Karewarewa 30.03 163 P **P 02 33 43.8 +2.0**
MILA Mila 30.14 206 P **P 02 33 43.2 +0.4**
baz=30
FWVZ Far West T-bar 30.16 164 P **P 02 33 46.5 +3.5**
MTHZ Maungataniwha 30.16 162 P **P 02 33 42.0 -0.8**
WHVZ Whangaehu Hut 30.19 164 P **P 02 33 46.3 +2.9**
TRVZ Turoa 30.20 164 P **P 02 33 46.2 +2.8**
SNGZ Shannon Statio 30.25 161 P **P 02 33 42.8 -0.9**
SNGZ S **S 02 38 47.0 +3.7**
CNGZ Carnagh Statio 30.28 159 P **P 02 33 44.5 +0.6**
RAHZ Arahi 30.30 161 P **P 02 33 47.5 +3.5**
RIGZ Rimuhau 30.32 160 P **P 02 33 46.5 +2.2**
RIGZ S **S 02 38 46.5 +2.1**
BKZ Black Stump Fm 30.34 162 IAMs_20 IAMs_20 02 44 23.0
comp=Z,372μm,20.0s
BKZ Black Stump Fm 30.34 162 P **P 02 33 46.0 +1.5**
BKZ S **S 02 38 45.9 +1.3**
MOVZ Moawhango 30.35 164 P **P 02 33 49.3 +4.7**
MOVZ S **S 02 38 51.8 +6.9**
NMHZ Naumai 30.38 162 P **P 02 33 46.6 +1.9**
NMHZ S **S 02 38 51.7 +6.5**
STKA Stephens Creek 30.44 222 P **P 02 33 45.5 +0.1**
comp=Z,118nm,1.2s,baz=42,slow=9.9,SNR=42
STKA LR LR 02 45 15.8
comp=Z,525μm,19.1s,baz=46,slow=35
STKA Stephens Creek 30.44 222 P **P 02 33 45.8 +0.4**
STKA pmax pmax
comp=Z,66nm,1.1s
STKA MLR MLR
comp=Z,113μm,19.0s
STKA Stephens Creek 30.44 222 P **P 02 33 45.8 +0.4**
KWHZ Kaweka Forest 30.56 163 P **P 02 33 48.3 +1.9**
KWHZ S **S 02 38 51.6 +3.5**
KNZ Kokohu 30.58 161 P **P 02 33 49.2 +2.7**
KNZ S **S 02 38 50.8 +2.6**
ARHZ Aropaoanui 30.59 162 P **P 02 33 49.5 +3.0**
MCHZ McNeill Hill 30.66 162 P **P 02 33 50.4 +3.2**
MCHZ S **S 02 38 53.8 +4.2**
KRHZ Kereru 30.75 163 P **P 02 33 49.6 +1.6**
KRHZ S **S 02 38 54.7 +3.7**
WR0 Warramunga Arr 30.92 249 P **P 02 33 48.4 -1.4**
WR0 IAMs_20 IAMs_20 02 44 52.5
comp=Z,363μm,20.0s
WR9 Warramunga Arr 30.94 249 IAMs_20 IAMs_20 02 44 54.1
comp=Z,364μm,20.0s
PNHZ Pukenui 30.95 163 P **P 02 33 50.6 +0.7**
PNHZ S **S 02 38 57.3 +3.1**
WR8 Warramunga Arr 30.95 249 IAMs_20 IAMs_20 02 44 53.5
comp=Z,375μm,20.0s
CKHZ Cape Kidnapper 30.97 162 P **P 02 33 53.2 +3.2**
WR7 Warramunga Arr 30.98 249 IAMs_20 IAMs_20 02 44 55.1
comp=Z,366μm,20.0s
OHWZ Ohakea 30.98 165 P **P 02 33 50.6 +0.6**
OHWZ S S 02 39 04.9 +10
WR6 Warramunga Arr 31.00 249 IAMs_20 IAMs_20 02 44 54.6
comp=Z,370μm,20.0s
WB0 Warramunga Arr 31.01 249 IAmb IAmb 02 34 41.6
comp=Z,635nm,1.6s
WB0 IAMs_20 IAMs_20 02 44 45.0
comp=Z,388μm,21.0s
WB9 Warramunga Arr 31.02 249 IAMs_20 IAMs_20 02 44 45.3
comp=Z,389μm,21.0s
WB8 Warramunga Arr 31.03 249 IAMs_20 IAMs_20 02 44 45.6
comp=Z,388μm,21.0s
KAHZ Kahuranaki 31.04 162 P **P 02 33 52.5 +1.9**
KAHZ S **S 02 38 55.0 -0.5**
WB6 Warramunga Arr 31.05 249 IAMs_20 IAMs_20 02 44 57.1
comp=Z,364μm,20.0s
WR3 Warramunga Arr 31.05 249 IAMs_20 IAMs_20 02 44 47.2
comp=Z,373μm,21.0s
WC2 Warramunga Arr 31.07 249 IAMs_20 IAMs_20 02 44 56.6
comp=Z,368μm,20.0s
WB4 Warramunga Arr 31.07 249 IAMs_20 IAMs_20 02 44 56.6
comp=Z,367μm,20.0s
WC3 Warramunga Arr 31.07 249 P **P 02 33 50.2 -0.9**
baz=31
WC3 Warramunga Arr 31.07 249 IAMs_20 IAMs_20 02 44 57.6
comp=Z,372μm,20.0s
WB3 Warramunga Arr 31.08 249 IAMs_20 IAMs_20 02 44 57.8
comp=Z,372μm,20.0s
WRAB Tennant Creek 31.09 249 *ce*P **P 02 33 49.0 -2.2**
WRAB pmax pmax
comp=Z,218nm,2.5s
WRAB MLR MLR
comp=Z,340μm,16.0s
WRAB Tennant Creek 31.09 249 P **P 02 33 51.1 -0.2**
WRAB Tennant Creek 31.09 249 IAMs_20 IAMs_20 02 44 56.8
comp=Z,359μm,19.0s
WRAB Tennant Creek 31.09 249 ⇑P **P 02 33 50.0 -1.2**
WB2 Warramunga Arr 31.09 249 P **P 02 33 50.9 -0.4**
WB2 IAMs_20 IAMs_20 02 44 58.0
comp=Z,378μm,20.0s
WC1 Warramunga Arr 31.09 249 IAMs_20 IAMs_20 02 44 57.2
comp=Z,360μm,20.0s
WB1 Warramunga Ar. 31.09 249 IAMs_20 IAMs_20 02 44 48.2
comp=Z,379μm,21.0s
WRA Warramunga Arr 31.10 249 P **P 02 33 50.0 -1.4**
comp=Z,34nm,1.0s,baz=81,slow=8.9,SNR=39
WRA PcP **PcP 02 36 46.7 -0.2**
comp=Z,6.9nm,0.8s,baz=75,slow=3.0,SNR=1.4
WRA LR LR 02 45 09.5
comp=Z,349μm,20.8s,baz=75,slow=34
WRA Warramunga Arr 31.10 249 P **P 02 33 50.3 -1.0**
WRA 02 36 46.7
WRA pmax pmax
comp=Z,51nm,1.5s
WRA Warramunga Arr 31.10 249 P **P 02 33 50.3 -1.0**
WC4 Warramunga Arr 31.10 249 IAMs_20 IAMs_20 02 44 57.4
comp=Z,395μm,19.0s
WPHZ Waipukurau 31.16 163 P **P 02 33 54.9 +3.3**
GUMO Guam 31.21 320 LR LR 02 47 17.5
comp=Z,218μm,18.1s,baz=132,slow=38
GUMO Guam 31.21 320 P **P 02 33 52.3 0.0**
GUMO pmax pmax
comp=Z,1μm,1.6s
GUMO Guam 31.21 320 P **P 02 33 52.3 0.0**
GUMO IAmb IAmb 02 34 45.1
comp=Z,1μm,1.6s
GUMO Guam 31.21 320 P **P 02 33 55.3 +3.1**
POWZ Post Office Ro 31.28 164 P **P 02 33 50.7 -1.9**
PRHZ Porangahau 31.40 163 P **P 02 33 55.5 +1.8**
PRHZ S **S 02 39 04.0 +2.8**
MRZ Mangatainoka R 31.48 165 P **P 02 33 55.5 +1.1**
MRZ S **S 02 39 05.7 +3.3**
PRWZ Pori Road 31.48 164 P **P 02 33 53.3 -1.2**
PRWZ S **S 02 39 07.6 +5.2**
OGWZ Otaki Gorge 31.52 165 P **P 02 33 56.0 +1.3**
OGWZ S **S 02 39 08.7 +5.7**
ANWZ Angora Road 31.54 163 P **P 02 33 57.5 +2.6**
ANWZ S **S 02 39 05.1 +1.9**
TIWZ Tintock 31.67 164 P **P 02 33 59.3 +3.2**
TIWZ S **S 02 39 11.1 +5.8**
BFZ Birch Farm 31.68 164 IAMs_20 IAMs_20 02 45 51.3
comp=Z,565μm,20.0s
BFZ Birch Farm 31.68 164 P **P 02 33 56.0 -0.1**
BFZ S **S 02 39 08.7 +3.3**
KMPI Kaimana, Papua 31.86 280 P P 02 34 08.0 +10
SNZO South Karori 31.88 166 IAMs_20 IAMs_20 02 45 25.7
comp=Z,428μm,21.0s
SNZO South Karori 31.88 166 ⇓P **P 02 33 59.8 +1.9**
RKPI Ransiki, Papua 31.98 284 P **P 02 34 02.4 +3.2**
comp=Z,35μmcomp=Z,606nm,1.4s
TOO Toolangi 32.25 210 IAmb IAmb 02 34 14.4
comp=Z,457nm,1.5s
TOO IAMs_20 IAMs_20 02 45 43.6
comp=Z,336μm,18.0s
AS31 Alice Springs 32.50 242 P **P 02 34 02.5 -1.2**
ASAR Alice Springs 32.50 242 P **P 02 34 02.4 -1.3**
comp=Z,29nm,0.8s,baz=65,slow=9.9,SNR=108
ASAR PcP **PcP 02 36 49.4 -1.2**
comp=Z,4.8nm,0.6s,baz=91,slow=2.4,SNR=1.2
ASAR LR LR 02 46 37.1
comp=Z,283μm,18.0s,baz=70,slow=35
ASAR P3KPbc 03 05 29.1
comp=Z,3.0nm,1.1s,baz=236,slow=3.9,SNR=7.0
ASAR Alice Springs 32.50 242 P **P 02 34 00.6 -3.1**
ASAR Alice Springs 32.50 242 P **P 02 34 00.6 -3.1**
KHZ Kahutara 32.68 168 ⇑P **P 02 34 06.4 +1.5**
LTZ Lake Taylor 32.80 170 IAMs_20 IAMs_20 02 45 01.4
comp=Z,382μm,22.0s
FOZ Fox Glacier 33.20 174 IAMs_20 IAMs_20 02 45 50.1
comp=Z,435μm,21.0s
OXZ Oxford 33.30 171 IAMs_20 IAMs_20 02 46 16.5
comp=Z,384μm,20.0s
FAKI Fak Fak 33.45 281 P **P 02 34 13.5 +1.5**
FAKI IAmb IAmb 02 34 19.0
comp=Z,1μm,1.9s
FAKI Fak Fak 33.45 281 ⇓P **P 02 34 10.1 -1.9**
FAKI Fak Fak 33.45 281 P **P 02 34 12.3 +0.2**
comp=Z,83μmcomp=Z,25μmcomp=Z,310nm,2.0s
RPZ Rata Peaks 33.53 172 IAMs_20 IAMs_20 02 46 22.8
comp=Z,529μm,20.0s
LBZ Lake Benmore 34.09 173 IAMs_20 IAMs_20 02 46 27.5
comp=Z,488μm,20.0s
BBOO Buckleboo 34.77 226 IAmb IAmb 02 34 38.7
comp=Z,607nm,1.2s
ODZ Otahua Downs 34.79 173 IAMs_20 IAMs_20 02 47 03.1
comp=Z,352μm,21.0s
ODZ Otahua Downs 34.79 173 ⇑P **P 02 34 26.8 +3.5**
MLZ Mavora Lakes 34.88 176 P **P 02 34 25.0 +0.9**
MLZ IAMs_20 IAMs_20 02 48 36.5
comp=Z,479μm,18.0s
SWI Sorong 34.96 284 P **P 02 34 26.5 +1.4**
SWI pmax pmax
comp=Z,464nm,1.7s
SWI Sorong 34.96 284 P **P 02 34 22.5 -2.6**
comp=Z,94μmcomp=Z,31μmcomp=Z,469nm,1.7s
RAR Rarotonga 35.36 112 LR LR 02 46 10.3
comp=Z,117μm,21.0s,baz=274,slow=32
RAR Rarotonga 35.36 112 P **P 02 34 32.7 +4.2**
BNDI Bandanaira 35.37 277 ⇓P **P 02 34 27.4 -1.3**
BNDI Bandanaira 35.37 277 P **P 02 34 31.3 +2.6**
comp=Z,164μmcomp=Z,77μmcomp=Z,4μm,1.9s
WHZ Wether Hill Ro 35.40 177 IAMs_20 IAMs_20 02 48 43.1
comp=Z,416μm,19.0s
PYZ Puysegur Point 35.61 178 IAMs_20 IAMs_20 02 46 35.9
comp=Z,342μm,22.0s
KNRA Kununurra 35.74 258 IAmb IAmb 02 34 49.9
comp=Z,994nm,1.7s
TAU Tasmania Unive 35.86 203 P **P 02 34 32.6 +0.1**
TAU pmax pmax
comp=Z,361nm,1.3s
TAU MLR MLR
comp=Z,173μm,19.0s
TAU Tasmania Unive 35.86 203 P **P 02 34 32.6 +0.1**
TAU Tasmania Unive 35.86 203 ⇓P **P 02 34 35.0 +2.5**
MSAI Masohi 36.57 279 P **P 02 34 39.3 +0.3**
comp=Z,1μmcomp=Z,926nmcomp=Z,45nm,1.0s
JOHN Johnston Islan 36.87 43 P **P 02 34 41.1 -0.3**
JOHN IAmb IAmb 02 34 49.5
comp=Z,753nm,1.1s
JOHN Johnston Islan 36.87 43 ⇑P **P 02 34 42.8 +1.4**
NLAI Namlea 38.37 278 P **P 02 34 54.6 +0.3**
comp=Z,43μmcomp=Z,1μm,2.1s
LBMI Labuha 38.62 282 P **P 02 34 56.0 -0.4**
comp=Z,96μmcomp=Z,88μmcomp=Z,2μm,1.5s
TNTI Ternate 39.16 284 P **P 02 35 01.3 +0.5**
TNTI IAmb IAmb 02 35 14.8
comp=Z,1μm,1.6s
TNTI Ternate 39.16 284 P **P 02 35 00.6 -0.3**
comp=Z,60μmcomp=Z,25μmcomp=Z,495nm,1.6s
XMAS Kiritimati 39.29 74 P **P 02 35 01.3 -0.6**
XMAS Kiritimati 39.29 74 P P 02 35 07.2 +5.2
SANI Sanana 39.73 279 ⇓P **P 02 35 04.5 -1.1**
SANI Sanana 39.73 279 P **P 02 35 05.5 -0.1**
comp=Z,127μmcomp=Z,57μmcomp=Z,1μm,2.0s
FORT Forrest 39.87 234 IAMs_20 IAMs_20 02 52 35.8
comp=Z,336μm,20.0s
SOEI Soe 40.19 267 IAmb IAmb 02 36 23.3
comp=Z,855nm,1.6s
SOEI Soe 40.19 267 ⇓P **P 02 35 08.9 -0.7**
SOEI Soe 40.19 267 P **P 02 35 13.3 +3.7**
comp=Z,100μmcomp=Z,29μmcomp=Z,208nm,1.5s
BATI Baumata 40.74 266 P **P 02 35 16.8 +2.7**
SGSI Sangihe 41.83 288 P **P 02 35 23.2 +0.2**
comp=Z,6μmcomp=Z,11μmcomp=Z,457nm,0.8s
MIDW Midway 42.02 23 P **P 02 35 24.4 +0.2**
MMRI Maumere 42.29 269 P **P 02 35 26.1 -0.6**
MMRI Maumere 42.29 269 ⇑P **P 02 35 24.6 -2.2**
MMRI Maumere 42.29 269 P **P 02 35 27.3 +0.6**
comp=Z,84μmcomp=Z,40μmcomp=Z,697nm,1.4s
EDFI Ende, Flores 42.81 268 P **P 02 35 31.4 +0.3**
comp=Z,49μmcomp=Z,18μmcomp=Z,206nm,2.2s
DAV Davao City (W) 43.03 292 P **P 02 35 33.3 +0.6**
DAV IAmb IAmb 02 36 36.8
comp=Z,780nm,1.1s
LUWI Luwuk 43.09 280 P **P 02 35 34.9 +1.7**
GTOI Gorontalo 43.29 282 P **P 02 35 35.9 +1.0**
comp=Z,39μmcomp=Z,19μmcomp=Z,482nm,1.9s
JCJ Chichijima 43.45 330 LR LR 02 51 03.0
comp=Z,121μm,21.3s,baz=146,slow=32
JCJ Chichijima 43.45 330 P **P 02 35 35.6 -0.3**
JCJ IAmb IAmb 02 35 54.4
comp=Z,752nm,1.2s
KCP Kidapawan 43.45 292⇑ *e*P **P 02 35 37.4 +1.2**
APSI Ampana 44.21 280 P **P 02 35 42.5 +0.2**
comp=Z,59μmcomp=Z,29μmcomp=Z,1μm,1.9s
MRSI Marisa 44.28 282 P **P 02 35 41.5 -1.3**
comp=Z,74μmcomp=Z,25μmcomp=Z,246nm,0.9s
BSSI Bau Bau, Buton 44.32 272 P **P 02 35 45.1 +1.9**
comp=Z,66μmcomp=Z,30μmcomp=Z,532nm,1.9s
CGP Cagayan de Oro 44.39 294⇓ *e*P **P 02 35 46.7 +3.1**
PPT Papeete 44.45 104 P **P 02 35 43.2 -1.0**
comp=Z,49nm,1.1s,baz=112,slow=21,SNR=2.5
PPT LR LR 02 49 58.9
comp=Z,115μm,20.7s,baz=274,slow=30
PAE Paea 44.45 105 *e*P **P 02 35 45.6 +1.4**
comp=Z,13nm,0.8s
PPT2 Papeete2 44.45 104 *e*P **P 02 35 45.4 +1.1**
comp=Z,136nm,1.4s
PPT2 *e*S **S 02 42 21.4 +1.9**
comp=Z,28μm,33.0s
PPT2 *e*LQ LQ 02 46 19.0
comp=Z,409μm,26.5s
PPT2 *e*LR LR 02 48 07.5
comp=Z,266μm,23.0s,baz=274
PPTF Pamatai, Papee 44.46 104 P **P 02 35 45.0 +0.6**
PPTF IAmb IAmb 02 37 01.9
comp=Z,646nm,1.8s
TIAR Tiarei 44.67 104 *e*P **P 02 35 47.0 +1.1**
comp=Z,44nm,1.5s
PSAA3 Pilbara Seismi 44.72 250 IAMs_20 IAMs_20 02 54 19.5
comp=Z,306μm,18.0s
PSA00 Pilbara Seismi 44.73 250 IAmb IAmb 02 36 19.5
comp=Z,637nm,1.7s
MBWA Marble Bar 44.79 251 IAMs_20 IAMs_20 02 54 36.1
comp=Z,258μm,19.0s
BKSI Bulukumba 44.81 273 P **P 02 35 46.9 -0.2**
comp=Z,100μmcomp=Z,32μmcomp=Z,281nm,1.5s
BNSI Bone 44.98 274 P **P 02 35 49.6 +1.1**
comp=Z,94μmcomp=Z,42μmcomp=Z,1μm,1.2s
WBSI Waikabubak, Su 44.99 267 P **P 02 35 47.3 -1.2**
comp=Z,95μmcomp=Z,29μmcomp=Z,454nm,1.7s
TBI Tubuai 45.14 113 *e*P **P 02 35 51.3 +1.7**
comp=Z,546nm,1.1s
TBI *e*S **S 02 42 30.0 +0.9**
comp=Z,21μm,33.8s
TBI *e*LQ LQ 02 46 33.5
comp=Z,230μm,29.2s
TBI *e*LR LR 02 48 26.0
comp=Z,327μm,25.5s,baz=279
KAPI Kappang 45.23 273 P **P 02 35 50.4 0.0**
KAPI pmax pmax
comp=Z,1μm,1.3s
KAPI MLR MLR
comp=Z,66μm,22.0s
KAPI Kappang 45.23 273 P **P 02 35 50.4 0.0**
KAPI Kappang 45.23 273 ⇓P **P 02 35 49.5 -0.9**
TTSI Tana Toraja 45.52 276 P **P 02 35 53.6 +0.9**
comp=Z,88μmcomp=Z,31μmcomp=Z,413nm,1.9s
TOLI2 Tolitoli 45.56 282 IAmb IAmb 02 36 04.1
comp=Z,378nm,0.9s
DCPH Dipolog City 45.65 293⇑ *i*P P 02 36 00.9 +7.1
LLP Lapu-Lapu 45.82 295 *e*P **P 02 35 57.4 +2.4**
MEH Mehetia 45.91 105 *e*P **P 02 35 56.9 +1.2**
comp=Z,78nm,1.2s
PMOR Pomariorio Ree 46.01 101 *e*P **P 02 35 57.6 +1.1**
comp=Z,376nm,1.4s
SNPH Sibulan 46.06 294 *e*P **P 02 35 59.4 +2.3**
MPSI Mapaga 46.21 281 P **P 02 35 57.8 -0.4**
comp=Z,76μmcomp=Z,29μmcomp=Z,599nm,1.8s
VAH Vaihoa 46.27 101 *e*P **P 02 35 59.4 +0.8**
comp=Z,211nm,1.4s
PLAI Plampang 46.65 268 P **P 02 36 01.6 -0.1**
comp=Z,37μmcomp=Z,768nm,1.7s
RCP Roxas 47.44 296⇑ *e*P **P 02 36 09.7 +2.0**
TWSI Taliwang, Sumb 47.54 268 P **P 02 36 09.0 +0.4**
comp=Z,52μmcomp=Z,21μmcomp=Z,291nm,2.1s
KIP Kipapa 48.12 49 *ce*P **P 02 36 11.0 -1.9**
KIP pmax pmax
comp=Z,589nm,2.5s
KIP Kipapa 48.12 49 P **P 02 36 12.9 -0.1**
SMKI Samarinda 48.63 279 P **P 02 36 19.4 +2.3**
comp=Z,187μmcomp=Z,55μmcomp=Z,1μm,1.0s
KHLU Kahalu`u 48.66 52 P **P 02 36 17.1 -0.1**
JCNP Jose Panganiba 48.71 300⇓ *i*P **P 02 36 17.7 +0.2**
BKB Balikpapan 48.75 278 ⇓P **P 02 36 19.5 +1.6**
BKB Balikpapan 48.75 278 P **P 02 36 22.5 +4.5**
comp=Z,195μmcomp=Z,54μmcomp=Z,1μm,1.2s
JMZ Minamidaito 2 48.86 318 P **P 02 36 17.7 -0.8**
JMZ IAMs_20 IAMs_20 02 56 31.5
comp=Z,153μm,18.0s
JMZ Minamidaito 2 48.86 318 ⇓P **P 02 36 18.4 -0.1**
MLOA Mauna Loa Obse 48.88 53 P **P 02 36 19.0 -0.3**
POHA Pohakuloa 49.03 52 P **P 02 36 20.4 +0.1**
KKO Keanakako`i 49.04 53 P **P 02 36 20.6 +0.3**
KKO IAmb IAmb 02 36 28.6
comp=Z,350nm,1.0s
KBKI Kotabaru 49.05 275 P **P 02 36 19.9 -0.4**
comp=Z,5μmcomp=Z,5μmcomp=Z,388nm,0.9s
HLK Haleakala 49.05 51 P **P 02 36 19.1 -1.3**
DNP Denpasar 49.19 268 P **P 02 36 23.1 +1.8**
comp=Z,116μmcomp=Z,58μmcomp=Z,698nm,2.9s
SRBI Singaraja 49.26 268 P **P 02 36 23.5 +1.7**
comp=Z,96μmcomp=Z,45μmcomp=Z,752nm,1.7s
NWAO Narrogin (SRO) 49.27 235 LR LR 02 57 25.1
comp=Z,269μm,19.2s,baz=92,slow=36
PGP Puerto Galera 49.86 298⇓ *e*P **P 02 36 23.9 -2.5**
GIRL Giralia 50.02 249 IAMs_20 IAMs_20 02 57 36.9
comp=Z,187μm,20.0s
ABJI Asem Bagus 50.25 269 P **P 02 36 30.6 +1.2**
comp=Z,98μmcomp=Z,48μmcomp=Z,621nm,1.6s
JAGI Jajag, Banyuwa 50.25 268 IAmb IAmb 02 36 36.5
comp=Z,464nm,0.9s
JAGI Jajag, Banyuwa 50.25 268 P **P 02 36 29.7 +0.2**
comp=Z,77μmcomp=Z,31μmcomp=Z,772nm,1.5s
BBKI Banjar Baru 50.32 274 P **P 02 36 30.3 +0.3**
comp=Z,61μmcomp=Z,33μmcomp=Z,384nm,1.4s
KMMI Kalianget 50.61 269 P **P 02 36 33.5 +1.4**
comp=Z,101μmcomp=Z,37μmcomp=Z,374nm,2.7s
SPMM Sapulut 50.72 285 P **P 02 36 33.0 0.0**
MTKI Muara Teweh, K 50.77 277 P **P 02 36 32.9 -0.5**
comp=Z,54μmcomp=Z,19μmcomp=Z,275nm,1.7s
CVP Callao Caves 51.09 303 *e*P **P 02 36 36.0 +0.4**
JOW Kunigami 51.50 317 P **P 02 36 38.9 +0.3**
JOW IAmb IAmb 02 36 50.4
comp=Z,962nm,1.3s
JOW Kunigami 51.50 317 ⇓P **P 02 36 39.6 +1.1**
JYT Yasato 52.03 334 IAmb IAmb 02 36 53.0
comp=Z,656nm,1.2s
JYT Yasato 52.03 334 ⇓P **P 02 36 41.9 -0.4**
PWJI Pagerwojo 52.61 268 P **P 02 36 48.1 +1.0**
comp=Z,30μmcomp=Z,440nm,2.2s
TBJI Tambak Boyo 52.73 269 P **P 02 36 46.5 -1.5**
comp=Z,46μmcomp=Z,20μmcomp=Z,269nm,1.4s
INU Inuyama 52.73 331 IAmb IAmb 02 36 58.5
comp=Z,835nm,1.4s
INU Inuyama 52.73 331 ⇓P **P 02 36 47.2 -0.4**
JGF Kuroka 52.78 332 IAmb IAmb 02 36 58.6
comp=Z,499nm,1.7s
JGF Kuroka 52.78 332 ⇓P **P 02 36 47.0 -0.9**

JMN	**Monobe**	**53.03 327**	IAMs_20	IAMs_20	02 57 30.8	
	comp=Z,169μm,18.0s					
JMN	**Monobe**	**53.03 327**	⇓P	**P**	**02 36 49.2**	**-0.7**
MJAR	**Matsushiro Arr**	**53.16 333**	P	**P**	**02 36 50.7**	**-0.1**
	comp=Z,133nm,0.6s,baz=158,slow=7.9,SNR=46					
MJAR			LR	LR	02 58 17.9	
	comp=Z,29μm,19.8s,baz=145,slow=35					
MJAR	**Matsushiro Arr**	**53.16 333**	IAmb	IAmb	02 37 31.3	
	comp=Z,439nm,1.2s					
MAJO	**Matsushiro**	**53.16 333**	*d iP*	**P**	**02 36 48.5**	**-2.3**
MAJO			pmax	pmax		
	comp=Z,664nm,1.6s					
MAJO			MLR	MLR		
	comp=Z,45μm,16.0s					
MAJO	**Matsushiro**	**53.16 333**	P	**P**	**02 36 50.9**	**+0.1**
MAJO			IAmb	IAmb	02 37 00.8	
	comp=Z,1μm,1.6s					
MAJO	**Matsushiro**	**53.16 333**	⇓P	**P**	**02 36 49.7**	**-1.1**
MAT	**Matsushiro**	**53.16 333**	P	**P**	**02 36 48.5**	**-2.3**
MAT			S	**S**	**02 44 20.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**53.17 333**	IAmb	IAmb	02 37 00.8	
	comp=Z,1μm,1.6s					
JMM	**Marumori**	**53.19 336**	⇓P	**P**	**02 36 51.0**	**+0.1**
PCJI	**Pacitan**	**53.21 268**	P	**P**	**02 36 51.2**	**-0.3**
	comp=Z,84μmcomp=Z,39μmcomp=Z,1μm,1.2s					
JSU	**Suzuyama**	**53.32 323**	IAMs_20	IAMs_20	02 55 36.5	
	comp=Z,169μm,21.0s					
JSU	**Suzuyama**	**53.32 323**	⇓P	**P**	**02 36 51.4**	**-0.6**
JWT	**Wachi**	**53.46 330**	⇓P	**P**	**02 36 52.7**	**-0.3**
PBKI	**Pangkalan Bun**	**53.57 274**	P	**P**	**02 36 55.9**	**+1.7**
	comp=Z,86μmcomp=Z,30μmcomp=Z,970nm,1.1s					
YOJ	**Yonaguni jima**	**53.78 311**	IAmb	IAmb	02 37 10.8	
	comp=Z,536nm,1.3s					
YOJ	**Yonaguni jima**	**53.78 311**	⇓P	**P**	**02 36 56.2**	**+0.8**
UGM	**Wanagama**	**53.89 268**	P	**P**	**02 36 56.8**	**+0.3**
UGM	**Wanagama**	**53.89 268**	P	**P**	**02 36 58.1**	**+1.5**
	comp=Z,98μmcomp=Z,42μmcomp=Z,877nm,1.1s					
TAOE	**Nuku Hiva Isla**	**53.94 93**	*e*S	**S**	**02 44 33.5**	**+0.5**
	comp=Z,25μm,29.1s					
TAOE			*e*LR	LR	02 52 29.5	
	comp=Z,133μm,25.0s,baz=272					
SMRI	**Semarang**	**54.08 269**	⇓P	**P**	**02 36 58.0**	**+0.1**
SMRI	**Semarang**	**54.08 269**	P	**P**	**02 36 59.0**	**+1.1**
	comp=Z,132μmcomp=Z,59μmcomp=Z,990nm,2.0s					
YOGI	**Yogyakarta**	**54.12 268**	P	**P**	**02 36 59.7**	**+1.4**
	comp=Z,51μmcomp=Z,29μmcomp=Z,944nm,1.8s					
SBUM	**Sibu**	**54.17 281**	P	**P**	**02 36 59.0**	**+0.4**
JNU	**Nakatsue**	**54.24 324**	LR	LR	02 56 40.4	
	comp=Z,78μm,22.0s,baz=132,slow=32					
JNU	**Nakatsue**	**54.24 324**	⇓P	**P**	**02 36 57.8**	**-0.9**
STKI	**Sintang**	**54.33 278**	P	**P**	**02 37 00.5**	**+0.8**
	comp=Z,57μmcomp=Z,27μmcomp=Z,404nm,1.6s					
TWG	**Pinlang**	**54.34 308**	IAmb	IAmb	02 37 12.3	
	comp=Z,340nm,1.3s					
JSD	**Sado**	**54.38 334**	⇓P	**P**	**02 36 58.8**	**-0.9**
JHS	**Saijyo**	**54.41 328**	IAmb	IAmb	02 37 10.1	
	comp=Z,498nm,1.4s					
JHS	**Saijyo**	**54.41 328**	⇓P	**P**	**02 36 59.5**	**-0.5**
YULB	**Yu-li**	**54.48 309**	P	**P**	**02 37 00.9**	**+0.3**
TATO	**Taipei**	**55.21 310**	P	**P**	**02 37 06.9**	**+1.0**
TATO			IAmb	IAmb	02 37 17.4	
	comp=Z,582nm,1.3s					
KPJI	**Karang Pucung**	**55.52 268**	P	**P**	**02 37 08.2**	**-0.2**
	comp=Z,118μmcomp=Z,33μmcomp=Z,601nm,1.1s					
JTM	**Tenmabayashi**	**55.61 338**	IAMs_20	IAMs_20	02 56 28.5	
	comp=Z,157μm,21.0s					
JTM	**Tenmabayashi**	**55.61 338**	⇓P	**P**	**02 37 06.8**	**-1.7**
KSM	**Kuching**	**55.78 279**	P	**P**	**02 37 10.0**	**-0.3**
ERM	**Erimo**	**55.97 340**	*i* P	**P**	**02 37 09.9**	**-1.1**
ERM			pmax	pmax		
	comp=Z,303nm,1.3s					
ERM	**Erimo**	**55.97 340**	P	**P**	**02 37 11.2**	**+0.2**
ERM			IAmb	IAmb	02 37 22.4	
	comp=Z,819nm,1.9s					
ERM	**Erimo**	**55.97 340**	IAMs_20	IAMs_20	02 56 00.9	
	comp=Z,252μm,21.0s					
ERM	**Erimo**	**55.97 340**	⇓P	**P**	**02 37 11.5**	**+0.5**
JTU	**Tsushima**	**56.10 325**	⇓P	**P**	**02 37 11.6**	**-0.5**
JCJI	**Jatiwangi**	**56.29 269**	P	**P**	**02 37 13.9**	**0.0**
	comp=Z,89μmcomp=Z,61μmcomp=Z,2μm,0.9s					
LEM	**Lembang**	**56.88 269**	P	**P**	**02 37 18.5**	**+0.2**
	comp=Z,56μmcomp=Z,26μmcomp=Z,801nm,1.6s					
YUK	**Yuzh-Kuril'sk**	**56.98 344**	*e*P	**P**	**02 37 18.6**	**+0.4**
YUK			*e*		02 38 13.6	
YUK			*e*		02 39 25.7	
YUK			*e*PPP	PPP	02 40 40.8	
YUK			*e*S	**S**	**02 45 13.3**	**+1.0**
YUK			*e*		02 47 07.8	
YUK			*e*SS	**SS**	**02 49 03.2**	**+2.0**
YUK			pmax	pmax		
	comp=Z,235nm,1.1s					
YUK			pmax	pmax		
	comp=E,157nm,1.0s					
YUK			pmax	pmax		
	comp=N,224nm,1.8s					
YUK			pmax	pmax		
	comp=Z,854nm,6.4s					
KSJJU	**Jeju**	**57.02 322**	P	**P**	**02 37 23.4**	**+4.6**
	SNR=15					
JEW	**Eniwo**	**57.28 339**	IAMs_20	IAMs_20	02 57 21.7	
	comp=Z,139μm,21.0s					
KNMB	**Chin-men Tao**	**57.30 308**	IAmb	IAmb	02 37 32.3	
	comp=Z,924nm,2.0s					
CNJI	**Cibinong**	**57.30 268**	P	**P**	**02 37 21.0**	**-0.1**
	comp=Z,84μmcomp=Z,32μmcomp=Z,836nm,1.1s					
KSPHA	**Pohang**	**57.33 326**	P	**P**	**02 37 24.2**	**+3.4**
	SNR=14					
QZH	**Quanzhou**	**57.39 309**	⇓*i P*	**P**	**02 37 22.0**	**+0.5**
QZH			S	**S**	**02 45 21.9**	**+3.5**
QZH			pmax	pmax		
	comp=Z,31μm,11.5s					
QZH			LR	LR		
	comp=Z,28μm,16.1s					
QZH			LR	LR		
	comp=Z,51μm,19.4s					
QZH			LR	LR		
	comp=Z,71μm,19.9s					
KSYOC	**YEONGCHEON**	**57.40 325**	P	**P**	**02 37 23.3**	**+2.0**
	SNR=19					
KOHB	**KOHEUNG**	**57.40 323**	P	**P**	**02 37 23.1**	**+1.8**
	SNR=16					
BOSB	**Boseong-gun**	**57.54 323**	P	**P**	**02 37 25.0**	**+2.7**
	SNR=13					
KUR	**Kuril'sk**	**57.57 346**	*c iP*	**P**	**02 37 25.3**	**+3.0**
KUR			*e*		02 38 18.0	
KUR			*e*		02 39 32.6	
KUR			*e*PPP	PPP	02 40 46.5	
KUR			pmax	pmax		
	comp=Z,790nm,1.4s					
KUR			pmax	pmax		
	comp=E,141nm,1.3s					
KUR			pmax	pmax		
	comp=N,329nm,1.4s					
KUR			pmax	pmax		
	comp=Z,18μm,11.5s					
CBJI	**Citeko**	**57.70 269**	P	**P**	**02 37 22.0**	**-1.9**
	comp=Z,79μmcomp=Z,45μmcomp=Z,655nm,1.2s					
KSADO	**Andong**	**57.72 326**	P	**P**	**02 37 28.0**	**+4.5**
	SNR=26					
KSKCH	**Geochang**	**57.73 324**	P	**P**	**02 37 26.8**	**+3.2**
	SNR=19					
KSSCH	**SUNCHEON**	**57.73 323**	P	**P**	**02 37 26.8**	**+3.2**
	SNR=9.5					
HAMB	**Hamyang**	**57.75 324**	P	**P**	**02 37 26.0**	**+2.2**
	SNR=43					
DBJI	**Dramaga**	**57.78 269**	P	**P**	**02 37 25.6**	**+1.1**
	comp=Z,40μmcomp=Z,678nm,2.1s					
KSEUS	**ULSEONG**	**57.82 326**	P	P	02 37 29.5	+5.3
	SNR=13					
NAWB	**Namwon**	**57.89 324**	P	**P**	**02 37 29.0**	**+4.2**
	SNR=24					
TNG	**Tangerang**	**57.93 269**	P	**pP**	**02 37 27.4**	**-1.2**
	comp=Z,45μmcomp=Z,23μmcomp=Z,474nm,1.6s					
TNG			P	**P**	**02 37 25.9**	**+0.4**
	comp=Z,73μmcomp=Z,35μmcomp=Z,710nm,1.6s					
KSKWJ	**Gwangju**	**57.94 323**	P	**P**	**02 37 29.1**	**+3.9**
	SNR=13					
KSGIC	**Gimchen**	**57.95 325**	P	P	02 37 30.0	+4.8
	SNR=9.8					
SUCA	**Sunchang**	**58.01 324**	P	**P**	**02 37 30.0**	**+4.4**
	SNR=6.5					
JKA	**Kamikawa-asahi**	**58.03 341**	P	**P**	**02 37 26.3**	**+0.7**
JKA			IAmb	IAmb	02 37 44.5	
	comp=Z,370nm,1.0s					
JKA			IAMs_20	IAMs_20	02 56 52.6	
	comp=Z,232μm,22.0s					
ASAJ	**Asahikawa**	**58.03 341**	LR	LR	02 57 49.9	
	comp=Z,209μm,21.7s,baz=164,slow=31					
ASAJ			PKPPKP		03 07 01.0	
	comp=Z,9.4nm,1.0s,baz=294,slow=10,SNR=5.7					
ASAJ	**Asahikawa**	**58.03 341**	P	**P**	**02 37 26.3**	**+0.7**
ASAJ			pmax	pmax		
	comp=Z,370nm,1.0s					
XMIS	**Christmas Isla**	**58.38 264**	IAmb	IAmb	02 37 55.2	
	comp=Z,310nm,1.2s					
TJN	**Taejon**	**58.58 325**	*ce*P	**P**	**02 37 29.4**	**-0.2**
EMSB	**Eumseong**	**58.86 325**	P	**P**	**02 37 34.0**	**+2.4**
	SNR=11					
SSE	**Sheshan**	**58.99 316**	P	**P**	**02 37 33.1**	**+0.5**
SSE			S	**S**	**02 45 42.3**	**+3.2**
SSE			pmax	pmax		
	comp=Z,28nm,0.7s					
KSRS	**Korea Array**	**59.04 326**	P	**P**	**02 37 34.0**	**+1.3**
	comp=Z,45nm,1.0s,baz=142,slow=6.5,SNR=48					
KSRS			PKPPKP	**P'P'df**	**03 07 02.9**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=315,slow=3.4,SNR=4.8					
KSAR	**Wonju Array Be**	**59.05 326**	P	**P**	**02 37 31.3**	**-1.5**
KSAR	**Wonju Array Be**	**59.05 326**	P	**P**	**02 37 31.3**	**-1.5**
PPBI	**Pangkal Pinang**	**59.10 274**	P	**P**	**02 37 35.6**	**+1.9**
	comp=Z,85μmcomp=Z,28μmcomp=Z,528nm,1.5s					
BLSI	**Bandar Lampung**	**59.43 270**	P	**P**	**02 37 36.2**	**+0.2**
	comp=Z,63μmcomp=Z,17μmcomp=Z,160nm,1.3s					
HKC	**Hong Kong Obse**	**59.59 304**	⇑P	**P**	**02 37 38.0**	**+1.1**
INCN	**Inchon**	**59.78 325**	P	**P**	**02 37 38.5**	**+0.6**
INCN			pmax	pmax		
	comp=Z,1μm,1.7s					
INCN	**Inchon**	**59.78 325**	P	**P**	**02 37 38.5**	**+0.6**
MCO	**Taipa Grande**	**60.02 303**	P	**P**	**02 37 40.0**	**+0.2**
KASI	**Kota Agung**	**60.14 270**	P	**P**	**02 37 39.4**	**-1.5**
	comp=Z,60μmcomp=Z,20μmcomp=Z,240nm,1.2s					
PMBI	**Palembang**	**60.30 273**	P	**P**	**02 37 42.7**	**+0.7**
PMBI	**Palembang**	**60.30 273**	P	**P**	**02 37 44.4**	**+2.4**
	comp=Z,82μmcomp=Z,34μmcomp=Z,476nm,1.2s					
YSS	**Yuzh-Sakhalins**	**60.54 343**	*d iP*	**P**	**02 37 44.5**	**+1.6**
YSS			*e**SP	**pwP**	**02 37 55.9**	**+5.7**
YSS			*e*		02 41 21.7	
YSS			*i* S	**S**	**02 46 00.4**	**+2.0**
YSS			*e*PS		02 46 15.6	
YSS			pmax	pmax		
	comp=Z,19μm,7.6s					
YSS			pmax	pmax		
	comp=N,6μm,7.3s					
YSS			pmax	pmax		
	comp=Z,340nm,1.3s					
YSS			smax	smax		
	comp=E,21μm,10.8s					
YSS	**Yuzh-Sakhalins**	**60.54 343**	P	**P**	**02 37 44.2**	**+1.3**
YSS			IAmb	IAmb	02 37 53.3	
	comp=Z,593nm,1.3s					
YSS			IAMs_20	IAMs_20	03 02 08.8	
	comp=Z,180μm,20.0s					
YSS	**Yuzh-Sakhalins**	**60.54 343**	⇓P	**P**	**02 37 42.8**	**-0.1**
MDSI	**Maura Dua**	**60.62 271**	P	**P**	**02 37 44.7**	**+0.5**
	comp=Z,43μmcomp=Z,12μmcomp=Z,184nm,2.4s					
GZH	**Guangzhou**	**60.64 304**	P	**P**	**02 37 44.3**	**+0.3**
GZH			S	**S**	**02 46 02.3**	**+1.7**
GZH			pmax	pmax		
	comp=Z,35μm,8.2s					
GZH			LR	LR		
	comp=Z,44μm,19.0s					
GZH			LR	LR		
	comp=Z,31μm,18.2s					
LWLI	**Liwa**	**60.65 270**	P	**P**	**02 37 45.1**	**+0.6**
	comp=Z,17μmcomp=Z,433nm,1.4s					
DSRI	**Dabo**	**60.96 275**	P	**P**	**02 37 48.7**	**+2.2**
	comp=Z,48μmcomp=Z,16μmcomp=Z,158nm,1.2s					
NJ2	**Nanjing**	**61.16 316**	⇓P	**P**	**02 37 47.3**	**-0.1**
NJ2			pP	**sP**	**02 37 51.8**	**+0.5**
NJ2			sP	**pwP**	**02 37 56.9**	**+3.5**
NJ2			PP	**PP**	**02 40 00.6**	**-1.7**
NJ2			S	**S**	**02 46 11.9**	**+5.0**
NJ2			pmax	pmax		
	comp=Z,180nm,1.1s					
NJ2			pmax	pmax		
	comp=Z,33μm,10.9s					
NJ2			LR	LR		
	comp=Z,85μm,17.1s					
NJ2			LR	LR		
	comp=Z,40μm,20.8s					
NJ2			LR	LR		
	comp=Z,93μm,20.8s					
VLA	**Vladivostok**	**61.33 333**	*d iP*	**P**	**02 37 47.8**	**-0.6**
VLA			pmax	pmax		
	comp=Z,852nm,1.8s					
VLA			MLR	MLR		
	comp=Z,42μm,17.0s					
LHSI	**Lahat**	**61.37 271**	P	**P**	**02 37 50.1**	**+0.8**
	comp=Z,70μmcomp=Z,23μmcomp=Z,450nm,1.9s					
SKR	**Severo-Kuril's**	**61.38 354**	*e*P	**P**	**02 37 49.6**	**+1.1**
SKR			*e*PPP	PPP	02 40 01.4	
SKR			*e*S	**S**	**02 46 12.0**	**+2.9**
SKR			pmax	pmax		
	comp=Z,92nm,1.1s					
SKR			pmax	pmax		
	comp=Z,10μm,7.0s					
SKR			MLR	MLR		
	comp=Z,48μm,17.0s					
JMBI	**JAMBI**	**61.65 274**	P	**P**	**02 37 52.6**	**+1.5**
	comp=Z,98μmcomp=Z,29μmcomp=Z,431nm,1.6s					
QIZ	**Qiongzhong**	**61.85 298**	P	**P**	**02 37 53.6**	**+1.3**
QIZ			PP	**PP**	**02 40 09.1**	**+0.5**
QIZ			S	**S**	**02 46 19.6**	**+3.5**
QIZ			pmax	pmax		
	comp=Z,42nm,1.1s					
QIZ			pmax	pmax		
	comp=Z,30μm,10.4s					
QIZ			LR	LR		
	comp=Z,25μm,18.6s					
QIZ			LR	LR		
	comp=Z,37μm,21.6s					
QIZ			LR	LR		
	comp=Z,48μm,20.8s					
QIZ	**Qiongzhong**	**61.85 298**	IAmb	IAmb	02 38 07.8	
	comp=Z,818nm,2.0s					
USRK	**Ussuriysk Ar.**	**62.14 334**	P	**P**	**02 37 54.1**	**+0.3**
	comp=Z,111nm,1.0s,baz=136,slow=5.9,SNR=51					
USRK			PKPPKP		03 06 56.8	
	comp=Z,2.4nm,0.8s,baz=291,slow=1.1,SNR=5.3					
USRK	**Ussuriysk Ar.**	**62.14 334**	P	**P**	**02 37 53.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**62.14 334**	P	**P**	**02 37 53.0**	**-0.8**
MYKOM	**Kota Tinggi**	**62.14 278**	P	**P**	**02 37 57.0**	**+2.5**
KSI	**Kapahiang**	**62.32 271**	P	**P**	**02 37 56.3**	**+0.6**
	comp=Z,23μmcomp=Z,361nm,1.5s					
UGL	**Uglegorsk**	**62.66 343**	*d iP*	**P**	**02 37 56.6**	**-0.5**
UGL			*e*		02 40 12.5	
UGL			*e*S	**S**	**02 46 28.2**	**+3.0**
UGL			*e*SS	**SS**	**02 50 30.5**	**+0.4**
UGL			pmax	pmax		
	comp=Z,220nm,0.9s					
UGL			pmax	pmax		
	comp=Z,24μm,6.6s					
UGL			smax	smax		
	comp=E,25μm,10.0s					
UGL			smax	smax		
	comp=N,29μm,16.0s					
PTCN	**Pitcairn Islan**	**62.89 113**	P	**P**	**02 37 59.5**	**+0.2**
RGRI	**Rengat**	**63.18 275**	P	**P**	**02 38 01.9**	**+0.5**
	comp=N,3μmcomp=N,294nm,1.1s					
SMY	**Shemya**	**63.41 6**	⇓P	**P**	**02 38 02.8**	**+0.7**
PET	**Petropavlovsk**	**63.47 356**	*de*P	**P**	**02 38 01.2**	**-1.2**
PET			*e*		02 38 38.1	
PET			*e*S	**S**	**02 46 32.0**	**-3.2**
PET			*e*PPS	PPS	02 46 58.8	
PET			*e*		02 47 47.5	
PET			*e*SS	**SS**	**02 50 41.1**	**-1.6**
PET			*e*SSS	SSS	02 53 28.6	
PET			pmax	pmax		
	comp=Z,22μm,15.9s					
PET			pmax	pmax		
	comp=Z,282nm,1.3s					
PET			pmax	pmax		
	comp=Z,28μm,14.4s					
PET			smax	smax		
	comp=E,30μm,11.0s					
PET			smax	smax		
	comp=E,32μm,11.7s					
PET			smax	smax		
	comp=N,20μm,15.3s					
PET			MLR	MLR		
	comp=Z,94μm,18.0s					
PET	**Petropavlovsk**	**63.47 356**	P	**P**	**02 38 02.6**	**+0.2**
PET			IAmb	IAmb	02 38 11.9	
	comp=Z,344nm,1.3s					
PET			IAMs_20	IAMs_20	02 59 34.7	
	comp=Z,173μm,22.0s					
PET	**Petropavlovsk**	**63.47 356**	⇓P	**P**	**02 38 01.9**	**-0.5**
WHN	**Wuhan**	**63.53 312**	⇓*i P*	**P**	**02 38 02.4**	**-1.0**
WHN			PcP	**PcP**	**02 38 39.3**	**-0.6**
WHN			S	**S**	**02 46 41.1**	**+4.2**
WHN			sS	sS	02 46 49.9	+7.9
WHN			pmax	pmax		
	comp=Z,18μm,7.4s					
WHN			LR	LR		
	comp=Z,150μm,17.3s					
WHN			LR	LR		
	comp=Z,80μm,16.9s					
WHN			LR	LR		
	comp=Z,188μm,19.1s					
MDJ	**Mudanjiang**	**63.54 332**	P	**P**	**02 38 05.3**	**+2.2**
MDJ			pP	pwP	02 38 08.6	-1.8
MDJ			S	**S**	**02 46 39.0**	**+2.5**
MDJ			sS	sS	02 46 44.5	+2.9
MDJ			pmax	pmax		
	comp=Z,35nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,30μm,9.4s					
MDJ			LR	LR		
	comp=Z,84μm,21.0s					
MDJ			LR	LR		
	comp=Z,50μm,22.0s					
MDJ			LR	LR		
	comp=Z,142μm,24.4s					
MDJ	**Mudanjiang**	**63.54 332**	P	**P**	**02 38 03.1**	**0.0**
PEA0B	**Petropavlovsk-**	**63.63 355**	P	**P**	**02 38 03.7**	**+0.2**
PEA0B			pmax	pmax		
	comp=Z,674nm,1.5s					
PEA0B	**Petropavlovsk-**	**63.63 355**	P	**P**	**02 38 03.7**	**+0.2**
PEA0B			IAMs_20	IAMs_20	02 59 44.9	
	comp=Z,208μm,22.0s					
PETK	**Petropavlovsk-**	**63.63 355**	P	**P**	**02 38 03.8**	**+0.2**
	comp=Z,66nm,0.9s,baz=152,slow=7.1,SNR=35					
PETK			LR	LR	03 00 18.0	
	comp=Z,174μm,21.6s,baz=182,slow=31					
PETK	**Petropavlovsk-**	**63.63 355**	P	**P**	**02 38 02.2**	**-1.3**
PETK	**Petropavlovsk-**	**63.63 355**	P	**P**	**02 38 02.2**	**-1.3**
DL2	**Dalian**	**63.63 323**	⇓*i P*	**P**	**02 38 03.3**	**-0.5**
DL2			S	**S**	**02 46 37.0**	**-0.8**
DL2			pmax	pmax		
	comp=Z,390nm,1.5s					
DL2			pmax	pmax		
	comp=Z,23μm,7.8s					
DL2			LR	LR		
	comp=Z,35μm,14.7s					
DL2			LR	LR		
	comp=Z,62μm,23.3s					
DL2			LR	LR		
	comp=Z,100μm,28.8s					
KRJI	**Kerinci**	**63.70 273**	P	**P**	**02 38 05.6**	**+0.6**
	comp=Z,70μmcomp=Z,27μmcomp=Z,538nm,1.2s					
KIWB	**Kanaga Island**	**63.92 12**	P	**P**	**02 38 05.3**	**-0.2**
JRMM	**Jerantut**	**63.95 280**	P	**P**	**02 38 07.0**	**+0.5**
ADK	**Adak**	**64.05 12**	P	**P**	**02 38 06.3**	**0.0**
ADK			pmax	pmax		
	comp=Z,547nm,1.4s					
ADK	**Adak**	**64.05 12**	P	**P**	**02 38 06.3**	**0.0**
ADK			IAmb	IAmb	02 38 10.9	
	comp=Z,547nm,1.4s					
ADK	**Adak**	**64.05 12**	⇓P	**P**	**02 38 06.8**	**+0.5**
TYV	**Tymovskoe**	**64.11 344**	*e*P	**P**	**02 38 08.9**	**+2.2**
TYV			*e*S	**S**	**02 46 50.2**	**+6.9**
TYV			pmax	pmax		
	comp=Z,114nm,1.5s					
TYV			smax	smax		
	comp=E,14μm,6.1s					
SNY	**Shenyang**	**64.50 327**	⇓P	**P**	**02 38 08.5**	**-1.0**
SNY			S	**S**	**02 46 51.1**	**+2.7**
SNY			pmax	pmax		
	comp=E,240nm,2.2s					
SNY			pmax	pmax		
	comp=E,23μm,11.4s					
SNY			LR	LR		
	comp=E,69μm,16.6s					
SNY			LR	LR		
	comp=E,74μm,20.4s					
SNY			LR	LR		
	comp=E,79μm,24.6s					
TIA	**Tai'an**	**64.76 318**	⇓P	**P**	**02 38 10.1**	**-1.2**
TIA			S	**S**	**02 46 53.0**	**+1.0**
TIA			LR	LR		
	comp=E,61μm,17.7s					
TIA			LR	LR		
	comp=E,99μm,20.1s					
TIA			LR	LR		
	comp=E,146μm,21.4s					
ATKA	**Atka Island**	**64.91 14**	IAmb	IAmb	02 38 33.5	
	comp=Z,629nm,1.6s					
ATKA	**Atka Island**	**64.91 14**	⇓P	**P**	**02 38 11.7**	**-0.2**
PDSI	**Padang**	**64.91 274**	P	**P**	**02 38 10.7**	**-2.1**
	comp=Z,14μmcomp=Z,137nm,1.5s					
CN2	**Changchun**	**64.92 329**	*e*P	**P**	**02 38 11.3**	**-0.9**
CN2			S	**S**	**02 46 54.0**	**+0.4**
CN2			SS	**SS**	**02 51 08.5**	**+2.8**
CN2			pmax	pmax		
	comp=Z,15μm,9.0s					
CN2			LR	LR		
	comp=Z,75μm,19.0s					
CN2			LR	LR		
	comp=Z,75μm,19.0s					
CN2			LR	LR		
	comp=Z,94μm,21.5s					
GRNR	**Gornyy**	**65.88 340**	⇓*i P*	**P**	**02 38 20.2**	**+1.9**
GRNR			*e*S	**S**	**02 47 10.3**	**+5.1**
GRNR			pmax	pmax		
	comp=Z,30nm,1.2s					
GRNR			smax	smax		
	comp=N,4.0nm,0.8s					
KULM	**Kulim**	**66.05 281**	P	**P**	**02 38 20.0**	**-0.2**
MNSI	**Mandailing Nat**	**66.11 276**	P	**P**	**02 38 19.4**	**-1.1**
	comp=N,67μmcomp=N,25μmcomp=N,432nm,1.2s					
KLR	**Kul'dur**	**66.27 337**	LR	LR	03 03 50.0	
	comp=N,69μm,19.9s,baz=152,slow=33					
KLR			PKPPKP		03 06 54.3	
	comp=N,9.2nm,1.0s,baz=311,slow=5.5,SNR=7.9					
SKNT	**Sakolnakorn**	**66.28 294**	P	**P**	**02 38 21.5**	**0.0**
	comp=N,22μmcomp=N,439nm,1.2s					
SKNT	**Sakolnakorn**	**66.28 294**	P	**P**	**02 38 21.5**	**0.0**
	comp=N,22μmcomp=N,439nm,1.2s					
CASY	**Casey**	**66.69 201**	P	**P**	**02 38 23.9**	**+0.6**
CASY	**Casey**	**66.69 201**	IAMs_20	IAMs_20	03 03 18.7	
	comp=Z,150μm,20.0s					
CASY	**Casey**	**66.69 201**	⇑P	**P**	**02 38 23.2**	**-0.2**
NKL	**Nikolayevsk**	**66.70 344**	*e*P	**P**	**02 38 21.8**	**-1.7**
NKL			*e*		02 38 49.9	
NKL			*i*		02 40 47.4	
NKL			*e*S	**S**	**02 47 10.5**	**-4.5**
NKL			pmax	pmax		
	comp=N,310nm,0.8s					
NKL			pmax	pmax		
	comp=Z,267nm,1.3s					
NKL			pmax	pmax		
	comp=Z,2μm,5.0s					
NKL			smax	smax		
	comp=E,6.0nm,4.0s					
NKL			smax	smax		
	comp=N,1μm,4.9s					
NKL			MLR	MLR		
	comp=N,6μm,14.0s					
NKL			MLR	MLR		
	comp=Z,27μm,15.0s					
COCO	**West Island**	**66.80 261**	P	**P**	**02 38 26.9**	**+2.0**
COCO			pmax	pmax		
	comp=Z,1μm,1.9s					
COCO	**West Island**	**66.80 261**	P	**P**	**02 38 26.9**	**+2.0**
NIKH	**Nikolski High**	**66.99 17**	P	**P**	**02 38 25.3**	**-0.1**
	baz=208					
NIKH			S	**S**	**02 47 22.9**	**+4.3**
	baz=208					
NIKH	**Nikolski High**	**66.99 17**	P	**P**	**02 38 24.9**	**-0.5**
NIKH			IAMs_20	IAMs_20	03 00 38.9	
	comp=Z,193μm,22.0s					
ENH	**Enshi**	**67.04 309**	P	**P**	**02 38 25.3**	**-0.9**
VNDA	**Vanda**	**67.07 181**	P	**P**	**02 38 26.6**	**+1.0**
	comp=Z,72nm,1.1s,baz=352,slow=7.2,SNR=42					
VNDA			LR	LR	03 04 42.7	
	comp=Z,65μm,18.1s,baz=38,slow=33					
VNDA			PKPPKP		03 06 52.5	
	comp=Z,0.8nm,0.9s,baz=239,slow=2.0,SNR=4.5					
VNDA	**Vanda**	**67.07 181**	P	**P**	**02 38 25.8**	**+0.2**

VNDA			pmax	pmax		
	comp=Z,633nm,1.5s					
VNDA	**Vanda**	**67.07 181**	P	**P**	**02 38 25.8**	**+0.2**
KHON	**Khomkaen**	**67.11 293**	P	**P**	**02 38 29.7**	**+2.8**
	comp=Z,4μmcomp=Z,310nm,1.1s					
RPSI	**Rantau Prapat**	**67.14 277**	IAmb	IAmb	02 38 35.4	
	comp=Z,414nm,1.2s					
SBA	**Scott Base**	**67.39 180**	P	**P**	**02 38 28.7**	**+1.1**
SBA			pmax	pmax		
	comp=Z,1μm,1.6s					
SBA	**Scott Base**	**67.39 180**	P	**P**	**02 38 28.7**	**+1.1**
NONG	**Nongkai**	**67.40 295**	P	**P**	**02 38 28.5**	**-0.1**
	comp=Z,29μmcomp=Z,430nm,1.5s					
NONG	**Nongkai**	**67.40 295**	P	**P**	**02 38 28.6**	**-0.1**
	comp=Z,29μmcomp=Z,435nm,1.5s					
GYA	**Guiyang**	**67.57 304**	⇑P	**P**	**02 38 32.9**	**+3.2**
GYA			PP	**PP**	**02 41 00.4**	**+1.5**
GYA			S	**S**	**02 47 33.1**	**+6.4**
GYA			SS	**SS**	**02 51 51.6**	**+3.9**
GYA			pmax	pmax		
	comp=Z,26nm,1.1s					
GYA			pmax	pmax		
	comp=Z,5μm,10.0s					
GYA			LR	LR		
	comp=Z,13μm,19.3s					
BJT	**Baijiatuau**	**67.62 321**	P	**P**	**02 38 29.9**	**+0.3**
BJT			pmax	pmax		
	comp=Z,653nm,1.5s					
BJT	**Baijiatuau**	**67.62 321**	P	**P**	**02 38 29.9**	**+0.3**
BJT	**Baijiatuau**	**67.62 321**	IAMs_20	IAMs_20	03 04 48.2	
	comp=Z,117μm,22.0s					
BJI	**Beijing**	**67.63 321**	P	**P**	**02 38 28.8**	**-0.9**
BJI			pP	**sP**	**02 38 33.6**	**0.0**
BJI			PP	**PP**	**02 41 00.6**	**+1.6**
BJI			S	**S**	**02 47 26.6**	**-0.1**
BJI			sS	**sS**	**02 47 34.3**	**+2.5**
BJI			SS	**SS**	**02 51 51.0**	**+3.1**
BJI			pmax	pmax		
	comp=Z,62nm,0.9s					
BJI			pmax	pmax		
	comp=Z,20μm,8.6s					
BJI			LR	LR		
	comp=Z,50μm,22.6s					
BJI			LR	LR		
	comp=Z,93μm,22.0s					
TSI	**Tuntungan**	**67.67 278**	P	**P**	**02 38 30.9**	**+0.4**
	comp=Z,81μmcomp=Z,30μmcomp=Z,997nm,1.1s					
CHAI	**Chaiyaphum**	**67.73 292**	P	**P**	**02 38 31.0**	**+0.2**
	comp=Z,2μmcomp=Z,177nm,1.1s					
CHAI	**Chaiyaphum**	**67.73 292**	P	**P**	**02 38 31.1**	**+0.2**
	comp=Z,558nmcomp=Z,44nm,1.1s					
PATY	**Pattaya**	**67.86 289**	P	**P**	**02 38 35.1**	**+3.4**
	comp=Z,384nm,1.1s					
PATY	**Pattaya**	**67.86 289**	P	**P**	**02 38 35.0**	**+3.4**
	comp=Z,100nm,1.1s					
SLVN	**Son La**	**67.88 298**	P	**P**	**02 38 31.6**	**-0.1**
SLVN			IAmb	IAmb	02 38 51.8	
	comp=Z,347nm,1.4s					
KRAB	**Krabi**	**68.17 283**	P	P	02 38 38.6	+5.0
	comp=Z,1μm,1.0s					
KRAB	**Krabi**	**68.17 283**	P	P	02 38 38.7	+5.1
	comp=Z,337nm,1.0s					
UNV	**Unalaska Valle**	**68.44 18**	P	**P**	**02 38 36.1**	**+1.6**
	baz=210,SNR=10					
UNV			S	**S**	**02 47 40.3**	**+4.5**
	baz=210					
TIY	**Taiyuan**	**68.70 317**	*e*P	**P**	**02 38 40.0**	**+3.4**
TIY			S	**S**	**02 47 46.8**	**+7.0**
TIY			pmax	pmax		
	comp=Z,80nm,1.0s					
TIY			pmax	pmax		
	comp=Z,20μm,8.2s					
TIY			LR	LR		
	comp=Z,40μm,16.0s					
TIY			LR	LR		
	comp=Z,48μm,19.6s					
TIY			LR	LR		
	comp=Z,123μm,23.8s					
SURT	**Suratani**	**68.74 284**	P	P	02 38 42.3	+5.1
	comp=Z,77nmcomp=Z,9.6nm,1.0s					
SURT	**Suratani**	**68.74 284**	P	P	02 38 42.3	+5.1
	comp=Z,77nmcomp=Z,9.6nm,1.0s					
PBKT	**Sadao Pong**	**68.87 292**	P	**P**	**02 38 42.0**	**+4.1**
	comp=Z,79nm,0.8s					
PBKT	**Sadao Pong**	**68.87 292**	P	**P**	**02 38 42.0**	**+4.1**
	comp=Z,79nm,0.8s					
AKUT	**Akutan**	**68.91 18**	IAMs_20	IAMs_20	03 01 57.6	
	comp=Z,171μm,22.0s					
AKUT	**Akutan**	**68.91 18**	⇓P	**P**	**02 38 36.6**	**-0.8**
PKDT	**Phuket**	**68.91 283**	P	**P**	**02 38 42.3**	**+4.1**
	comp=Z,75μmcomp=Z,23μmcomp=Z,324nm,1.9s					
PKDT	**Phuket**	**68.91 283**	P	**P**	**02 38 42.4**	**+4.1**
	comp=Z,75μmcomp=Z,23μmcomp=Z,324nm,1.9s					
PHET	**Kaeng Krachan**	**69.02 288**	P	**P**	**02 38 42.3**	**+3.5**
	comp=Z,3μmcomp=Z,200nm,1.3s					
PHET	**Kaeng Krachan**	**69.02 288**	P	**P**	**02 38 42.4**	**+3.5**
	comp=Z,801nmcomp=Z,51nm,1.3s					
XAN	**Xi'an**	**69.26 312**	P	**P**	**02 38 38.8**	**-1.3**
XAN			pP	pwP	02 38 49.8	+3.6
XAN			sP	PcP	02 38 53.8	-10
XAN			PP	**PP**	**02 41 14.5**	**+1.1**
XAN			S	**S**	**02 47 52.8**	**+6.3**
XAN			pmax	pmax		
	comp=Z,240nm,2.2s					
XAN			LR	LR		
	comp=Z,54μm,19.1s					
XAN			LR	LR		
	comp=Z,42μm,20.1s					
XAN			LR	LR		
	comp=Z,72μm,17.2s					
PHIT	**Phitsanulok**	**69.57 293**	P	**P**	**02 38 44.5**	**+2.3**
	comp=Z,4μmcomp=Z,535nm,1.0s					
PHIT	**Phitsanulok**	**69.57 293**	P	**P**	**02 38 44.6**	**+2.3**
	comp=Z,1μmcomp=Z,133nm,1.0s					
LHMI	**Lhok Sumawe**	**69.62 280**	P	**P**	**02 38 44.0**	**+1.3**
	comp=Z,85μmcomp=Z,35μmcomp=Z,482nm,1.8s					
SRDT	**SRDT**	**69.90 289**	P	**P**	**02 38 47.9**	**+3.6**
	comp=Z,31μmcomp=Z,220nm,1.8s					
SRDT	**SRDT**	**69.90 289**	P	**P**	**02 38 47.9**	**+3.6**
	comp=Z,31μmcomp=Z,220nm,1.8s					
MLSI	**Meulaboh, Aceh**	**69.94 278**	P	**P**	**02 38 45.9**	**+1.3**
	comp=Z,23μmcomp=Z,436nm,1.1s					
UTHA	**Uthaitani**	**69.96 291**	P	**P**	**02 38 47.1**	**+2.5**
	comp=Z,693nmcomp=Z,45nm,1.0s					
FALS	**False Pass**	**70.25 19**	P	**P**	**02 38 46.1**	**+0.4**
	baz=213,SNR=8.2					
FALS			S	**S**	**02 47 56.6**	**-0.6**
	baz=213					
KMI	**Kunming**	**70.28 301**	⇓P	**P**	**02 38 47.0**	**+0.2**
KMI			PcP	**PcP**	**02 39 09.9**	**+1.4**
KMI			S	S	02 47 47.8	-11
KMI			SS	**SS**	**02 52 28.1**	**-1.8**
KMI			pmax	pmax		
	comp=Z,220nm,1.2s					
KMI			pmax	pmax		
	comp=Z,27μm,8.4s					
KMI			LR	LR		
	comp=Z,34μm,20.2s					
KMI			LR	LR		
	comp=Z,58μm,20.2s					
KMI			LR	LR		
	comp=Z,68μm,18.5s					
SPIA	**Saint Paul Isl**	**70.39 14**	P	**P**	**02 38 48.3**	**+1.8**
	baz=206					
SPIA			S	**S**	**02 48 05.4**	**+6.7**
	baz=206					
SPIA	**Saint Paul Isl**	**70.39 14**	IAmb	IAmb	02 39 09.1	
	comp=Z,368nm,1.0s					
KHLT	**Khaolaem Dam**	**70.52 290**	P	**P**	**02 38 52.4**	**+4.3**
	comp=Z,1μmcomp=Z,54nm,1.3s					
KHLT	**Khaolaem Dam**	**70.52 290**	P	**P**	**02 38 52.5**	**+4.3**
	comp=Z,1μmcomp=Z,54nm,1.3s					
UMPA	**Umpang Tak**	**70.69 291**	P	**P**	**02 38 52.1**	**+3.0**
	comp=Z,3μmcomp=Z,143nm,1.1s					
UMPA	**Umpang Tak**	**70.69 291**	P	**P**	**02 38 52.1**	**+3.0**
	comp=Z,686nmcomp=Z,35nm,1.1s					
LAMP	**Lampang**	**70.70 294**	P	**P**	**02 38 51.4**	**+2.2**
	comp=Z,3μmcomp=Z,298nm,1.1s					
LAMP	**Lampang**	**70.70 294**	P	**P**	**02 38 51.4**	**+2.2**
	comp=Z,681nmcomp=Z,74nm,1.1s					
MA2	**Magadan**	**70.74 352**	LR	LR	03 04 36.6	
	comp=Z,252μm,21.9s,baz=176,slow=32					
MA2	**Magadan**	**70.74 352**	*ce*P	**P**	**02 38 47.0**	**-1.6**
MA2			pmax	pmax		
	comp=Z,266nm,2.5s					
MA2			MLR	MLR		
	comp=Z,86μm,18.0s					
MA2	**Magadan**	**70.74 352**	P	**P**	**02 38 47.5**	**-1.1**
MA2			IAmb	IAmb	02 39 02.7	
	comp=Z,754nm,2.0s					
MA2	**Magadan**	**70.74 352**	⇓P	**P**	**02 38 47.3**	**-1.3**
HHC	**Hu-ho-hao-te**	**70.98 320**	*e*P	**P**	**02 38 50.3**	**-0.3**
HHC			S	**S**	**02 48 12.6**	**+6.1**
HHC			SS	**SS**	**02 52 37.1**	**-2.8**
HHC			pmax	pmax		
	comp=Z,37nm,1.4s					
HHC			pmax	pmax		
	comp=Z,29μm,10.3s					
HHC			LR	LR		
	comp=Z,84μm,19.0s					
HHC			LR	LR		
	comp=Z,86μm,21.9s					
HHC			LR	LR		
	comp=Z,157μm,22.9s					
CM35	**Chiang Mai Arr**	**71.18 294**	P	**P**	**02 38 52.0**	**-0.1**
CM36	**Chiang Mai Arr**	**71.18 294**	P	**P**	**02 38 52.0**	**-0.1**
CM34	**Chiang Mai Arr**	**71.23 294**	P	**P**	**02 38 54.5**	**+2.0**
CM04	**Chiang Mai Arr**	**71.25 294**	P	**P**	**02 38 53.3**	**+0.8**
	comp=Z,2μmcomp=Z,152nm,1.1s					
CM04	**Chiang Mai Arr**	**71.25 294**	P	**P**	**02 38 53.4**	**+0.9**
	comp=Z,2μmcomp=Z,152nm,1.1s					
CM09	**Chiang Mai Arr**	**71.25 294**	P	**P**	**02 38 53.9**	**+1.4**
	comp=Z,2μmcomp=Z,149nm,1.1s					
CM09	**Chiang Mai Arr**	**71.25 294**	P	**P**	**02 38 54.0**	**+1.4**
	comp=Z,2μmcomp=Z,149nm,1.1s					
CM01	**Chiang Mai Arr**	**71.27 294**	P	**P**	**02 38 54.0**	**+1.3**
	comp=Z,2μmcomp=Z,143nm,1.3s					
CM01	**Chiang Mai Arr**	**71.27 294**	P	**P**	**02 38 54.0**	**+1.3**
	comp=Z,2μmcomp=Z,143nm,1.3s					
CM05	**Chiang Mai Arr**	**71.28 294**	P	**P**	**02 38 53.4**	**+0.7**
	comp=Z,1μmcomp=Z,119nm,1.2s					
CM05	**Chiang Mai Arr**	**71.28 294**	P	**P**	**02 38 53.5**	**+0.7**
	comp=Z,1μmcomp=Z,119nm,1.2s					
CM02	**Chiang Mai Arr**	**71.29 294**	P	**P**	**02 38 53.6**	**+0.8**
	comp=Z,548nmcomp=Z,1μmcomp=Z,135nm,1.1s					
CM02	**Chiang Mai Arr**	**71.29 294**	P	**P**	**02 38 53.7**	**+0.9**
	comp=Z,548nmcomp=Z,1μmcomp=Z,135nm,1.1s					
CM31	**Chiang Mai Arr**	**71.30 294**	P	**P**	**02 38 56.0**	**+3.2**
	comp=Z,98μmcomp=Z,69μmcomp=Z,3μm,1.1s					
CM31	**Chiang Mai Arr**	**71.30 294**	P	**P**	**02 38 52.9**	**+0.1**
CM31			IAmb	IAmb	02 39 19.1	
	comp=Z,358nm,1.3s					
CMAR	**Chiang Mai Arr**	**71.30 294**	P	**P**	**02 38 53.4**	**+0.6**
	comp=Z,106nm,1.0s,baz=116,slow=4.1,SNR=66					
CMAR			PKKP	**PKKPdf**	**02 58 32.9**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=251,slow=3.9,SNR=6.2					
CMAR			PKPPKP	**P'P'df**	**03 06 45.3**	**-2.2**
	comp=Z,5.6nm,1.0s,baz=282,slow=4.5,SNR=11					
CMAR			LR	LR	03 11 34.5	
	comp=Z,17μm,18.6s,baz=138,slow=37					
CMAR	**Chiang Mai Arr**	**71.30 294**	P	**P**	**02 38 52.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**71.30 294**	P	**P**	**02 38 52.6**	**-0.3**
CM15	**Chiang Mai Arr**	**71.31 294**	P	**P**	**02 38 55.5**	**+2.6**
	comp=Z,1μmcomp=Z,142nm,1.0s					
CM15	**Chiang Mai Arr**	**71.31 294**	P	**P**	**02 38 55.5**	**+2.6**
	comp=Z,1μmcomp=Z,142nm,1.0s					
CM13	**Chiang Mai Arr**	**71.32 294**	P	**P**	**02 38 53.8**	**+0.8**
	comp=Z,537nmcomp=Z,1μmcomp=Z,125nm,1.1s					
CM13	**Chiang Mai Arr**	**71.32 294**	P	**P**	**02 38 53.0**	**0.0**
	comp=Z,537nmcomp=Z,1μmcomp=Z,125nm,1.1s					
CMMT	**Chiang Mai**	**71.41 294**	P	**P**	**02 38 53.7**	**+0.2**
	comp=Z,70μmcomp=Z,21μmcomp=Z,252nm,1.6s					
CMMT	**Chiang Mai**	**71.41 294**	P	**P**	**02 38 53.0**	**-0.5**
	comp=Z,70μmcomp=Z,21μmcomp=Z,252nm,1.6s					
CM33	**Chiang Mai Arr**	**71.41 294**	P	**P**	**02 38 53.0**	**-0.5**
CHTO	**Chiang Mai**	**71.41 294**	P	**P**	**02 38 53.7**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,747nm,1.8s					
CHTO			MLR	MLR		
	comp=Z,38μm,19.0s					
CHTO	**Chiang Mai**	**71.41 294**	P	**P**	**02 38 53.7**	**+0.2**
	comp=Z,69μmcomp=Z,21μmcomp=Z,255nm,1.7s					
CHTO	**Chiang Mai**	**71.41 294**	P	**P**	**02 38 53.7**	**+0.2**
CHTO			IAmb	IAmb	02 38 58.9	
	comp=Z,747nm,1.8s					
CHTO	**Chiang Mai**	**71.41 294**	⇑P	**P**	**02 38 52.9**	**-0.6**
CM32	**Chiang Mai Arr**	**71.45 294**	P	**P**	**02 38 56.0**	**+2.3**
CNBA	**Chernabura Isl**	**71.49 21**	IAmb	IAmb	02 39 04.9	
	comp=Z,626nm,1.7s					
CNBA			IAMs_20	IAMs_20	03 02 58.0	
	comp=Z,138μm,21.0s					
CHNA	**Chernabura Isl**	**71.50 21**	P	**P**	**02 38 53.0**	**-0.2**
	baz=217,SNR=7.8					
CHNA			S	**S**	**02 48 12.9**	**+1.3**
	baz=217					
HIA	**Hailar**	**71.55 331**	P	**P**	**02 38 53.7**	**-0.1**
HIA			pmax	pmax		
	comp=Z,336nm,1.2s					
HIA			MLR	MLR		
	comp=Z,71μm,19.0s					
HIA	**Hailar**	**71.55 331**	P	**P**	**02 38 53.7**	**-0.1**
HIA			IAmb	IAmb	02 39 04.8	
	comp=Z,336nm,1.2s					
ZEA	**Zeya**	**71.56 337**	*de*P	**P**	**02 38 53.6**	**0.0**
ZEA			*e*		02 38 56.2	
ZEA			*e*		02 38 56.2	
ZEA			*e*		02 39 10.9	
ZEA			*e*S	**S**	**02 48 14.7**	**+2.2**
ZEA			*e*		02 48 45.5	
ZEA			*e*SS	**SS**	**02 52 40.1**	**-7.9**
SDPT	**Sand Point**	**71.61 20**	P	**P**	**02 38 53.5**	**-0.4**
	baz=216,SNR=9.6					
SDPT			S	**S**	**02 48 09.0**	**-4.0**
	baz=216					
SDPT	**Sand Point**	**71.61 20**	IAmb	IAmb	02 38 59.6	
	comp=Z,381nm,1.2s					
SDPT			IAMs_20	IAMs_20	03 02 53.1	
	comp=Z,172μm,22.0s					
CD2	**Chengdu**	**71.75 307**	⇓*i*P	**P**	**02 38 54.8**	**-0.6**
CD2			pP	pwP	02 39 00.1	-1.3
CD2			S	**S**	**02 48 17.5**	**+1.8**
CD2			sS	sS	02 48 23.3	+2.5
CD2			SS	**SS**	**02 52 55.8**	**+3.9**
CD2			pmax	pmax		
	comp=Z,330nm,0.9s					
CD2			pmax	pmax		
	comp=Z,45μm,11.6s					
CD2			LR	LR		
	comp=Z,80μm,18.0s					
CD2			LR	LR		
	comp=Z,64μm,19.8s					
CD2			LR	LR		
	comp=Z,50μm,23.5s					
BTO	**Baotou**	**71.83 319**	*e*P	**P**	**02 38 57.1**	**+1.4**
BTO			S	**S**	**02 48 23.3**	**+6.9**
BTO			pmax	pmax		
	comp=Z,660nm,2.1s					
BTO			LR	LR		
	comp=Z,149μm,19.6s					
BTO			LR	LR		
	comp=Z,304μm,18.6s					
MHMT	**Maesarieng**	**72.13 293**	P	**P**	**02 39 00.9**	**+3.1**
	comp=Z,71μmcomp=Z,18μmcomp=Z,206nm,2.1s					
MHMT	**Maesarieng**	**72.13 293**	P	**P**	**02 39 00.0**	**+2.2**
	comp=Z,71μmcomp=Z,18μmcomp=Z,206nm,2.1s					
CHIR	**Chirikof Islan**	**73.69 22**	P	**P**	**02 39 07.2**	**+1.0**
	baz=220					
CHIR			S	**S**	**02 48 39.4**	**+2.7**
	baz=220					
CHIR	**Chirikof Islan**	**73.69 22**	IAMs_20	IAMs_20	03 06 28.9	
	comp=Z,126μm,20.0s					
LZH	**Lanzhou**	**73.90 312**	*e*P	**P**	**02 39 08.6**	**+0.4**
LZH			pP	sP	02 39 11.4	-0.7
LZH			sP	pwP	02 39 15.5	+1.2
LZH			*e*S	**S**	**02 48 39.0**	**-1.2**
LZH			sS	sS	02 48 49.8	+4.4
LZH			SS	**SS**	**02 53 21.4**	**-3.4**
LZH			pmax	pmax		
	comp=Z,350nm,1.3s					
LZH			pmax	pmax		
	comp=Z,25μm,5.1s					
LZH			LR	LR		
	comp=Z,20μm,16.0s					
LZH			LR	LR		
	comp=Z,54μm,14.6s					
LZH			LR	LR		
	comp=Z,46μm,18.4s					
SII	**Sitkinak Islan**	**74.78 22**	P	**P**	**02 39 11.8**	**-0.8**
	baz=222					
SII			S	**S**	**02 48 53.1**	**+4.2**
	baz=222					
SII	**Sitkinak Islan**	**74.78 22**	IAmb	IAmb	02 39 16.9	
	comp=Z,677nm,1.2s					
SII			IAMs_20	IAMs_20	03 08 29.5	
	comp=Z,107μm,20.0s					
PBA	**Port Blair**	**75.18 285**	P	P	02 39 16.9	+1.1
PBA			IAmb	IAmb	02 39 51.8	
	comp=Z,549nm,1.4s					
DGPR	**DIGLIPUR**	**75.38 287**	*e*P	**P**	**02 39 19.5**	**+2.6**
OHAK	**Old Harbor**	**75.60 22**	P	**P**	**02 39 17.8**	**+0.5**
	baz=222,SNR=36					
OHAK			S	**S**	**02 48 59.7**	**+1.8**
	baz=222					
OHAK	**Old Harbor**	**75.60 22**	IAmb	IAmb	02 39 21.3	
	comp=Z,740nm,1.4s					
OHAK			IAMs_20	IAMs_20	03 07 19.4	
	comp=Z,86μm,20.0s					
GAMB	**Gambell**	**76.11 10**	P	**P**	**02 39 20.2**	**+0.1**
	baz=204,SNR=20					
GAMB			S	**S**	**02 49 11.1**	**+7.8**
	baz=204					
GAMB	**Gambell**	**76.11 10**	IAmb	IAmb	02 39 37.5	
	comp=Z,514nm,1.2s					
GAMB			IAMs_20	IAMs_20	03 06 44.9	
	comp=Z,162μm,21.0s					
GAMB	**Gambell**	**76.11 10**	⇓P	**P**	**02 39 19.8**	**-0.3**
KDAK	**Kodiak Island**	**76.27 22**	P	**P**	**02 39 23.0**	**+1.9**
	comp=Z,188nm,1.1s,baz=212,slow=1.9,SNR=23					
KDAK			LR	LR	03 08 01.9	
	comp=Z,85μm,19.8s,baz=241,slow=32					
KDAK	**Kodiak Island**	**76.27 22**	P	**P**	**02 39 21.9**	**+0.8**
KDAK			pmax	pmax		
	comp=Z,225nm,1.2s					
KDAK	**Kodiak Island**	**76.27 22**	P	**P**	**02 39 20.6**	**-0.5**
	baz=223					
KDAK			S	**S**	**02 49 05.8**	**+0.5**
	baz=223					
KDAK	**Kodiak Island**	**76.27 22**	P	**P**	**02 39 21.9**	**+0.8**
KDAK	**Kodiak Island**	**76.27 22**	IAMs_20	IAMs_20	03 07 50.2	
	comp=Z,100μm,20.0s					
KDAK	**Kodiak Island**	**76.27 22**	⇓P	**P**	**02 39 21.5**	**+0.3**
CIT	**Chita**	**76.34 330**	*e*P	**P**	**02 39 24.2**	**+2.4**
CIT			*e*		02 39 35.7	
CIT			*e*		02 42 08.2	
CIT			pmax	pmax		
	comp=Z,2μm,2.9s					
LKP	**Lekhapani**	**76.84 301**	*e*P	**P**	**02 39 27.2**	**+2.2**
O18K	**Koktuh Hills**	**76.92 19**	P	**P**	**02 39 24.1**	**-0.8**
	baz=220					
O18K			S	**S**	**02 49 17.0**	**+4.5**
	baz=220					
N18K	**Kilae Creek**	**77.34 19**	P	**P**	**02 39 26.4**	**-0.8**
	baz=219,SNR=40					
N18K			S	**S**	**02 49 21.7**	**+4.6**
	baz=219					
YAK	**Yakutsk**	**77.36 344**	*e*P	**P**	**02 39 25.8**	**-1.4**
YAK			*e*S	**S**	**02 49 16.8**	**-0.3**
YAK			*e*SSS	SSS	02 57 28.1	
YAK			pmax	pmax		
	comp=Z,248nm,0.9s					
YAK			pmax	pmax		
	comp=N,59nm,1.0s					
YAK			pmax	pmax		
	comp=E,32nm,1.1s					
YAK			smax	smax		
	comp=E,9μm,8.1s					
YAK			smax	smax		
	comp=N,11μm,8.7s					
YAK			MLR	MLR		
	comp=Z,106μm,17.0s					
YAK			MLR	MLR		
	comp=N,51μm,18.0s					
YAK			MLR	MLR		
	comp=E,33μm,18.0s					
YAK	**Yakutsk**	**77.36 344**	P	**P**	**02 39 28.1**	**+1.0**
YAK			IAmb	IAmb	02 39 36.5	
	comp=Z,538nm,1.3s					
YAK			IAMs_20	IAMs_20	03 13 57.4	
	comp=Z,112μm,19.0s					
P19K	**Oil Pt**	**77.42 20**	P	**P**	**02 39 26.9**	**-0.8**
	baz=222,SNR=36					
P19K			S	**S**	**02 49 23.5**	**+5.5**
	baz=222					
ULN	**Ulaanbaatar**	**77.46 324**	P	**P**	**02 39 28.0**	**-0.3**
ULN			pmax	pmax		
	comp=Z,584nm,1.3s					
ULN	**Ulaanbaatar**	**77.46 324**	P	**P**	**02 39 28.0**	**-0.3**
ULN			IAmb	IAmb	02 39 38.8	
	comp=Z,584nm,1.2s					
ULN	**Ulaanbaatar**	**77.46 324**	⇓P	**P**	**02 39 28.0**	**-0.3**
O19K	**Port Alsworth**	**77.47 19**	P	**P**	**02 39 26.7**	**-1.2**
	baz=221					
O19K			S	**S**	**02 49 22.4**	**+4.0**
	baz=221					
DIBR	**DIBRUGARH**	**77.67 301**	*e*P	**P**	**02 39 31.8**	**+2.1**
DIBR			IAmb	IAmb	02 39 35.4	
	comp=Z,661nm,0.5s					
SVW2	**Sparrevohn**	**77.76 18**	IAMs_20	IAMs_20	03 07 13.4	
	comp=Z,157μm,22.0s					
SONM	**Songino Array**	**77.82 324**	P	**P**	**02 39 32.4**	**+2.1**
	comp=Z,91nm,1.1s,baz=139,slow=6.1,SNR=94					
SONM			PKKP	**PKKPdf**	**02 58 24.3**	**+1.6**
	comp=Z,1.0nm,1.0s,baz=292,slow=4.0,SNR=4.4					
SONM			PKPPKP		03 06 31.2	
	comp=Z,1.0nm,0.9s,baz=208,slow=2.9,SNR=5.3					
SONM			LR	LR	03 13 29.1	
	comp=Z,35μm,19.1s,baz=112,slow=35					
SONM	**Songino Array**	**77.82 324**	P	**P**	**02 39 29.5**	**-0.8**
SONM			pmax	pmax		
	comp=Z,398nm,1.3s					
SONM	**Songino Array**	**77.82 324**	P	**P**	**02 39 29.5**	**-0.8**
SONM			IAmb	IAmb	02 39 40.7	
	comp=Z,398nm,1.3s					
N19K	**Bonanza Creek**	**77.88 19**	P	**P**	**02 39 30.0**	**-0.3**
	baz=221,SNR=23					
N19K			S	**S**	**02 49 26.5**	**+3.4**
	baz=221					
O20K	**Slope Mountain**	**77.95 20**	P	**P**	**02 39 29.4**	**-1.2**
	baz=222,SNR=12					
O20K			S	**S**	**02 49 28.7**	**+5.0**
	baz=222					
HOM	**Homer**	**77.98 21**	P	**P**	**02 39 30.1**	**-0.6**
	baz=224,SNR=13					
HOM			S	**S**	**02 49 26.1**	**+2.2**
	baz=224					
JORH	**JORHAT**	**78.00 300**	*e*P	**P**	**02 39 33.6**	**+2.0**
CNPM	**China Poot**	**78.02 21**	IAMs_20	IAMs_20	03 11 08.5	
	comp=Z,120μm,20.0s					
ANM	**Nome**	**78.06 13**	P	**P**	**02 39 30.7**	**-0.3**
	baz=210,SNR=9.3					
ANM			S	**S**	**02 49 32.2**	**+7.6**
	baz=210					
GTA	**Gaotai**	**78.20 314**	⇓P	**P**	**02 39 32.4**	**-0.2**
GTA			pP	sP	02 39 36.0	-0.5
GTA			sP	pwP	02 39 40.0	+1.3
GTA			PP	**PP**	**02 42 29.8**	**+0.3**
GTA			S	**S**	**02 49 26.4**	**-1.0**
GTA			sS	sS	02 49 34.8	+2.2
GTA			SS	**SS**	**02 54 31.1**	**+1.3**
GTA			pmax	pmax		
	comp=Z,17μm,8.0s					
GTA			LR	LR		
	comp=Z,50μm,19.6s					
GTA			LR	LR		
	comp=Z,64μm,21.1s					
GTA			LR	LR		
	comp=Z,86μm,22.2s					
BILL	**Bilibino**	**78.30 0**	*c i*P	**P**	**02 39 31.2**	**-1.1**
BILL			*i*		02 39 40.8	
BILL			*e*		02 42 28.4	
BILL			*e*PPP	PPP	02 44 16.1	
BILL			*i* S	**S**	**02 49 27.3**	**+0.2**
BILL			*e*SS	**SS**	**02 54 29.9**	**0.0**
BILL			*e*SSS	SSS	02 57 54.5	
BILL			pmax	pmax		
	comp=Z,4μm,4.5s					
BILL			MLR	MLR		
	comp=Z,44μm,18.0s					
BILL	**Bilibino**	**78.30 0**	P	**P**	**02 39 33.4**	**+1.1**
BILL			IAmb	IAmb	02 39 54.5	
	comp=Z,571nm,1.3s					
BRLK	**Bradley L

TNA					S	S	02 49 35.2	+6.8
	baz=207							
TNA	Tin City	78.42	11		IAmb	IAmb	02 39 46.2	
	comp=Z,600nm,1.7s							
TNA	Tin City	78.42	11	⇓P	P	P	02 39 32.7	-0.3
ITAN	ITANAGAR	78.58	301	eP	P	P	02 39 36.8	+2.0
ITAN					IAmb	IAmb	02 39 40.5	
	comp=Z,2μm,1.5s							
SILR	SILCHAR	78.66	298	eP	P	P	02 39 37.4	+2.2
M19K	Big River Lodg	78.74	18		P	P	02 39 34.6	-0.3
	baz=221,SNR=160							
M19K					S	S	02 49 37.3	+5.2
	baz=221							
L19K	White Mountain	78.81	18		P	P	02 39 35.0	-0.3
	baz=220,SNR=146							
L19K					S	S	02 49 39.6	+6.7
	baz=220							
SPCR	Spurr Chakacha	78.91	20		P	P	02 39 35.6	-0.3
	baz=223,SNR=11							
SPCR					S	S	02 49 37.8	+3.7
	baz=223							
CAPN	Captain Cook N	78.95	20		P	P	02 39 39.7	+3.7
	baz=224							
CAPN					S	S	02 49 37.5	+3.3
	baz=224							
CAPN	Captain Cook N	78.95	20		IAms_20	IAms_20	03 08 42.0	
	comp=Z,119μm,20.0s							
TTA	Tatalina	79.05	17		P	P	02 39 39.2	+2.5
	baz=219							
TTA					S	S	02 49 38.7	+3.2
	baz=219							
TTA	Tatalina	79.05	17		IAmb	IAmb	02 39 42.5	
	comp=Z,383nm,1.1s							
SEW	Seward	79.07	21		P	P	02 39 37.5	+0.8
	baz=226,SNR=17							
SEW					S	S	02 49 36.0	+0.5
	baz=226							
SEW	Seward	79.07	21		IAmb	IAmb	02 39 47.4	
	comp=Z,310nm,1.0s							
BRDH	Bariadhala	79.08	296		P	P	02 39 39.5	+2.0
	comp=Z,279nm,1.1s,baz=68,slow=6.1,SNR=18							
M20K	Styx River	79.12	19		P	P	02 39 35.8	-1.3
	baz=222							
M20K					S	S	02 49 36.0	-0.3
	baz=222							
O22K	Cooper Landing	79.24	21		P	P	02 39 38.0	+0.3
	baz=225							
O22K					S	S	02 49 37.6	+0.2
	baz=225							
O22K	Cooper Landing	79.24	21		IAms_20	IAms_20	03 10 10.6	
	comp=Z,115μm,20.0s							
FIS	Fire Island	79.54	20		IAms_20	IAms_20	03 09 00.2	
	comp=Z,96μm,20.0s							
QSPA	South Pole Qui	79.54	180		P	P	02 39 39.5	-0.1
QSPA	South Pole Qui	79.54	180		IAms_20	IAms_20	03 12 42.0	
	comp=Z,113μm,19.0s							
QSPA	South Pole Qui	79.54	180	⇓P	P	P	02 39 39.1	-0.5
SUA	Susitna One	79.59	20		P	P	02 39 38.3	-1.4
	baz=224							
SUA	Susitna One	79.59	20		IAms_20	IAms_20	03 07 35.1	
	comp=Z,116μm,22.0s							
RC01	Rabbit Creek A	79.67	21		P	P	02 39 38.6	-1.4
	baz=225,SNR=17							
RC01					S	S	02 49 41.7	-0.2
	baz=225							
RC01	Rabbit Creek A	79.67	21		IAmb	IAmb	02 39 46.7	
	comp=Z,329nm,1.2s							
RC01					IAms_20	IAms_20	03 08 00.9	
	comp=Z,94μm,21.0s							
SHL	Shillong	79.68	298		P	P	02 39 41.0	-0.1
SHL					pmax	pmax		
	comp=Z,964nm,1.5s							
SHL	Shillong	79.68	298	eP	P	P	02 39 41.4	+0.3
SHL					IAmb	IAmb	02 39 45.8	
	comp=Z,198nm,1.5s							
SHL	Shillong	79.68	298		P	P	02 39 41.0	-0.1
SHL					IAmb	IAmb	02 39 51.2	
	comp=Z,964nm,1.5s							
SKT	Skwentna	79.70	19		P	P	02 39 38.0	-2.2
	baz=223,SNR=12							
SKT					S	S	02 49 45.3	+2.9
	baz=223							
SKT	Skwentna	79.70	19		IAms_20	IAms_20	03 08 23.2	
	comp=Z,146μm,22.0s							
BOD	Bodaibo	79.73	335	eP	P	P	02 39 41.8	+1.4
BOD					pmax	pmax		
	comp=Z,362nm,1.8s							
AGT	Agartala	79.76	297	eP	P	P	02 39 45.0	+3.7
MID	Middleton Isla	79.76	23		IAmb	IAmb	02 39 44.2	
	comp=Z,579nm,1.2s							
MID					IAms_20	IAms_20	03 05 53.5	
	comp=Z,83μm,22.0s							
K20K	Telida	79.95	17		P	P	02 39 40.8	-0.7
	baz=221,SNR=90							
K20K					S	S	02 49 48.4	+3.6
	baz=221							
PWL	Port Wells	79.99	21		IAms_20	IAms_20	03 10 43.6	
	comp=Z,71μm,19.0s							
PPLA	Purkeypile	80.17	18		P	P	02 39 41.1	-1.8
	baz=223,SNR=16							
PPLA					S	S	02 49 51.5	+4.0
	baz=223							
KNK	Knik Glacier	80.33	21		P	P	02 39 43.2	-0.4
	baz=226,SNR=20							
KNK					S	S	02 49 53.5	+4.5
	baz=226							
KNK	Knik Glacier	80.33	21		IAmb	IAmb	02 39 58.0	
	comp=Z,758nm,1.5s							
KNK					IAms_20	IAms_20	03 11 45.4	
	comp=Z,106μm,20.0s							
HIN	Hinchinbrook I	80.34	22		IAmb	IAmb	02 39 47.7	
	comp=Z,723nm,1.3s							
HIN					IAms_20	IAms_20	03 08 20.1	
	comp=Z,110μm,21.0s							
CUT	Chulitna	80.42	19		P	P	02 39 42.9	-1.1
	baz=224,SNR=20							
CUT					S	S	02 49 47.3	-2.5
	baz=224							
CUT	Chulitna	80.42	19		IAmb	IAmb	02 39 54.0	
	comp=Z,592nm,1.3s							
CUT					IAms_20	IAms_20	03 08 11.3	
	comp=Z,120μm,22.0s							
GHO	Glory Hole Cre	80.42	20		IAmb	IAmb	02 40 03.8	
	comp=Z,385nm,1.3s							
GHO					IAms_20	IAms_20	03 09 27.7	
	comp=Z,115μm,21.0s							
GLI	Glacier Island	80.45	22		P	P	02 39 43.1	-1.2
	baz=228,SNR=19							
GLI					S	S	02 49 54.5	+4.2
	baz=228							
GLI	Glacier Island	80.45	22		IAmb	IAmb	02 39 48.1	
	comp=Z,541nm,1.3s							
GLI					IAms_20	IAms_20	03 13 06.9	
	comp=Z,88μm,20.0s							
J20K	Nowinta River	80.55	17		P	P	02 39 44.6	-0.1
	baz=221,SNR=135							
J20K					S	S	02 49 55.0	+3.9
	baz=221							
FID	Port Fidalgo	80.59	22		IAmb	IAmb	02 39 48.7	
	comp=Z,769nm,1.4s							
FID					IAms_20	IAms_20	03 09 01.0	
	comp=Z,117μm,21.0s							
SML	Sawmill	80.65	20		P	P	02 39 44.1	-1.3
	baz=226,SNR=31							
SML					S	S	02 49 56.4	+4.1
	baz=226							
SML	Sawmill	80.65	20		P	P	02 39 46.8	+1.4
SML					IAmb	IAmb	02 40 08.0	
	comp=Z,331nm,1.2s							
SML					IAms_20	IAms_20	03 08 19.6	
	comp=Z,107μm,22.0s							
EYAK	Cordova Ski Ar	80.72	22		P	P	02 39 45.3	-0.4
	baz=229							
EYAK					S	S	02 49 55.3	+2.3
	baz=229							
EYAK	Cordova Ski Ar	80.72	22		IAmb	IAmb	02 39 49.8	
	comp=Z,508nm,1.4s							
ZAK	Zakamensk	80.86	325	eP	P	P	02 39 45.7	-1.1
ZAK					pmax	pmax		
	comp=Z,197nm,1.4s							
CHUM	Lake Minchumin	80.86	18		P	P	02 39 45.1	-1.2
	baz=222,SNR=24							
CHUM					S	S	02 50 00.3	+6.0
	baz=222							
SCM	Sheep Creek Mo	81.02	21		IAmb	IAmb	02 40 11.6	
	comp=Z,563nm,1.4s							
SCM					IAms_20	IAms_20	03 11 18.2	
	comp=Z,89μm,21.0s							
HMT	Hamilton	81.15	23		IAmb	IAmb	02 39 52.9	
	comp=Z,392nm,1.0s							
HMT					IAms_20	IAms_20	03 12 14.7	
	comp=Z,76μm,19.0s							
TRF	Thorofare Moun	81.17	19		P	P	02 39 45.9	-2.3
	baz=224,SNR=33							
TRF					S	S	02 50 01.3	+3.4
	baz=224							
SUCK	Suckling Hills	81.17	23		IAms_20	IAms_20	03 08 43.2	
	comp=Z,97μm,20.0s							
IRK	Irkutsk	81.22	327	eP	P	P	02 39 49.0	+0.4
IRK				e			02 50 09.2	
IRK					pmax	pmax		
	comp=Z,426nm,2.8s							
KLU	Klutina	81.28	21		P	P	02 39 47.3	-1.5
	baz=229,SNR=102							
KLU					S	S	02 50 01.0	+1.9
	baz=229							
KLU	Klutina	81.28	21		IAmb	IAmb	02 39 54.2	
	comp=Z,402nm,1.2s							
KLU					IAms_20	IAms_20	03 13 32.4	
	comp=Z,87μm,19.0s							
TLY	Talaya	81.29	326		P	P	02 39 47.9	-1.0
	comp=Z,54nm,0.8s,baz=160,slow=3.4,SNR=12							
WAT1	Susitna Watana	81.29	20		P	P	02 39 46.9	-1.8
	baz=226							
WAT1					S	S	02 49 58.6	-0.4
	baz=226							
WAT6	Susitna Watana	81.39	20		P	P	02 39 48.1	-1.3
	baz=227,SNR=65							
WAT6					S	S	02 50 03.7	+3.4
	baz=227							
RPN	Rapa Nui	81.40	116		P	P	02 39 49.3	-0.8
RPN					pmax	pmax		
	comp=Z,702nm,1.5s							
RPN	Rapa Nui	81.40	116		P	P	02 39 49.3	-0.8
RPN					IAmb	IAmb	02 40 01.8	
	comp=Z,702nm,1.5s							
BPAW	Bear Paw Mtn.	81.42	18		P	P	02 39 47.7	-1.6
	baz=224,SNR=50							
BPAW					S	S	02 49 59.0	-1.2
	baz=224							
BPAW	Bear Paw Mtn.	81.42	18		IAms_20	IAms_20	03 09 26.5	
	comp=Z,126μm,22.0s							
BMRM	Bremner River	81.42	22		P	P	02 39 47.1	-2.4
	baz=230,SNR=53							
BMRM					S	S	02 50 01.1	+0.6
	baz=230							
BMRM	Bremner River	81.42	22		IAmb	IAmb	02 40 00.3	
	comp=Z,666nm,1.3s							
BMRM					IAms_20	IAms_20	03 08 33.1	
	comp=Z,96μm,21.0s							
LSA	Lhasa	81.51	302		P	P	02 39 53.9	+2.7
LSA					S	S	02 50 00.3	-3.2
LSA					LR	LR		
	comp=Z,52μm,17.8s							
LSA					LR	LR		
	comp=Z,96μm,18.1s							
LSA					LR	LR		
	comp=Z,159μm,21.0s							
LSA	Lhasa	81.51	302		IAmb	IAmb	02 40 02.1	
	comp=Z,328nm,1.4s							
RDOG	Red Dog Mine	81.58	12		P	P	02 39 51.1	+1.0
	baz=212							
RDOG					S	S	02 50 06.3	+4.6
	baz=212							
RDOG	Red Dog Mine	81.58	12		IAmb	IAmb	02 40 00.5	
	comp=Z,324nm,1.0s							
RDOG					IAms_20	IAms_20	03 09 36.0	
	comp=Z,130μm,21.0s							
RND	Reindeer	81.59	19		IAmb	IAmb	02 39 56.9	
	comp=Z,532nm,1.5s							
RND					IAms_20	IAms_20	03 10 58.4	
	comp=Z,88μm,20.0s							
M24K	Tolsona, Glenn	81.60	21		P	P	02 39 50.8	+0.4
	baz=228,SNR=67							
M24K					S	S	02 50 06.1	+3.7
	baz=228							
AIS	Amsterdam Isla	81.74	233		IAms_20	IAms_20	03 12 02.5	
	comp=Z,92μm,20.0s							
WAX	Waxell Ridge	81.76	23		IAms_20	IAms_20	03 09 13.0	
	comp=Z,101μm,20.0s							
MCK	McKinley	81.79	19		P	P	02 39 50.3	-1.0
	baz=226,SNR=81							
MCK					S	S	02 50 03.1	-1.0
	baz=226							
MCK	McKinley	81.79	19		IAmb	IAmb	02 39 58.4	
	comp=Z,347nm,1.1s							
MCK					IAms_20	IAms_20	03 09 51.8	
	comp=Z,153μm,22.0s							
N25K	Chitina, Valde	81.84	22		P	P	02 39 50.9	-0.9
	baz=230,SNR=222							
N25K					S	S	02 50 05.8	+0.9
	baz=230							
N25K	Chitina, Valde	81.84	22		IAms_20	IAms_20	03 08 57.0	
	comp=Z,105μm,22.0s							
CRQE	Cirque	81.86	23		P	P	02 39 50.9	-1.0
	baz=231,SNR=63							
CRQE					S	S	02 50 06.2	+1.0
	baz=231							
I21K	Tanana	81.92	17		P	P	02 39 51.2	-0.8
	baz=222,SNR=140							
I21K					S	S	02 50 07.5	+2.2
	baz=222							
BWN	Browne	81.94	18		IAms_20	IAms_20	03 09 45.1	
	comp=Z,155μm,22.0s							
MESA	MESA	81.95	24		P	P	02 39 50.7	-1.7
	baz=232,SNR=31							
MESA					S	S	02 50 07.7	+1.5
	baz=232							
MESA	MESA	81.95	24		P	P	02 39 52.9	+0.4
TGL	Tana Glacier	81.96	23		IAmb	IAmb	02 40 00.3	
	comp=Z,608nm,1.2s							
VRDI	Verde Repeater	82.02	22		IAmb	IAmb	02 39 56.9	
	comp=Z,683nm,1.5s							
VRDI					IAms_20	IAms_20	03 13 24.9	
	comp=Z,85μm,19.0s							
GLB	Gilahina Butte	82.03	22		IAmb	IAmb	02 39 57.8	
	comp=Z,488nm,1.0s							
GLB					IAms_20	IAms_20	03 09 02.9	
	comp=Z,90μm,22.0s							
IMAR	Indian Mountai	82.03	16		P	P	02 39 51.7	-0.8
ISLE	Juniper Island	82.06	23		IAmb	IAmb	02 39 58.2	
	comp=Z,464nm,0.9s							
ISLE					IAms_20	IAms_20	03 09 21.8	
	comp=Z,98μm,21.0s							
YAH	Yahtse	82.14	24		IAmb	IAmb	02 40 01.0	
	comp=Z,296nm,0.9s							
HARP	HAARP	82.16	21		P	P	02 39 52.5	-0.8
	baz=229,SNR=32							
HARP					S	S	02 50 08.8	+0.9
	baz=229							
MLY	Manley	82.17	17		P	P	02 39 51.8	-1.5
	baz=224,SNR=90							
MLY					S	S	02 50 08.7	+0.6
	baz=224							
MLY	Manley	82.17	17		IAmb	IAmb	02 40 05.9	
	comp=Z,430nm,1.6s							
MCARA	McCarthy VSAT	82.28	22		P	P	02 39 53.6	-0.3
	baz=231,SNR=59							
MCARA					S	S	02 50 09.7	+0.5
	baz=231							
MCARA	McCarthy VSAT	82.28	22		IAms_20	IAms_20	03 13 41.7	
	comp=Z,72μm,19.0s							
NEA2	Nenana	82.36	18		P	P	02 39 52.1	-2.2
	baz=225,SNR=69							
NEA2					S	S	02 50 08.0	-1.9
	baz=225							
NEA2	Nenana	82.36	18		P	P	02 39 54.8	+0.5
NEA2					IAmb	IAmb	02 40 06.1	
	comp=Z,290nm,1.4s							
NEA2					IAms_20	IAms_20	03 11 20.7	
	comp=Z,90μm,20.0s							
PAX	Paxson	82.42	20		P	P	02 39 53.6	-1.2
	baz=229,SNR=58							
PAX					S	S	02 50 11.0	+0.3
	baz=229							
PAX	Paxson	82.42	20		IAmb	IAmb	02 40 11.9	
	comp=Z,265nm,1.4s							
TABL	Table Mountain	82.43	24		IAms_20	IAms_20	03 09 10.6	
	comp=Z,154μm,22.0s							
DIB	Dawson Inlet,	82.54	33		IAms_20	IAms_20	03 07 51.7	
	comp=Z,82μm,22.0s							
WRH	Wood River Hil	82.58	19		IAmb	IAmb	02 40 19.4	
	comp=Z,307nm,1.4s							
PINM	Pinnacle	82.58	24		P	P	02 39 55.7	0.0
	baz=234,SNR=43							
PINM					S	S	02 50 15.1	+2.6
	baz=234							
BARN	Barnard Glacie	82.60	23		IAms_20	IAms_20	03 09 41.2	
	comp=Z,87μm,20.0s							
KCPM	Cahto Peak	82.62	47		IAmb	IAmb	02 40 05.3	
	comp=Z,265nm,1.3s							
KCPM					IAms_20	IAms_20	03 09 35.4	
	comp=Z,87μm,21.0s							
I23K	Minto, Yukon-K	82.66	18		P	P	02 39 54.9	-1.0
	baz=225,SNR=44							
I23K					S	S	02 50 13.9	+1.1
	baz=225							
I23K	Minto, Yukon-K	82.66	18		IAms_20	IAms_20	03 10 28.7	
	comp=Z,120μm,22.0s							
CTG	Chitna Glacier	82.67	23		P	P	02 39 55.3	-0.8
	baz=233,SNR=65							
CTG					S	S	02 50 15.5	+2.1
	baz=233							
CTGM	Chitina Glacie	82.67	23		IAms_20	IAms_20	03 09 41.0	
	comp=Z,100μm,21.0s							
JCC	Jacoby Creek,	82.69	46		IAms_20	IAms_20	03 09 46.2	
	comp=Z,79μm,20.0s							
KMRM	Mail Ridge	82.71	47		P	P	02 39 57.4	+0.7
KMRM					IAmb	IAmb	02 40 06.0	
	comp=Z,303nm,1.2s							
LOGN	Logan Glacier	82.72	24		IAms_20	IAms_20	03 09 31.2	
	comp=Z,101μm,21.0s							
MOY	Mondy	82.74	326	eP	P	P	02 40 00.2	+3.5
HOPS	Hopland Field	82.76	48		IAmb	IAmb	02 40 15.9	
HOPS					IAms_20	IAms_20	03 11 41.1	
	comp=Z,811nm,1.9s							
	comp=Z,89μm,19.0s							
CCB	Clear Creek Bu	82.79	19		IAmb	IAmb	02 40 02.1	
	comp=Z,415nm,1.9s							
MDM	Murphy Dome	82.87	18		IAmb	IAmb	02 40 01.4	
	comp=Z,470nm,1.3s							
MDM					IAms_20	IAms_20	03 10 24.3	
	comp=Z,88μm,21.0s							
HDA	Harding Lake	82.89	19		P	P	02 39 55.9	-1.2
	baz=227,SNR=231							
HDA					S	S	02 50 14.6	-0.8
	baz=227							
HDA					S	S	02 50 14.6	-0.8
	baz=227							
GDXM	Geysers	82.90	49		IAms_20	IAms_20	03 13 36.9	
	comp=Z,122μm,19.0s							
KHMM	Horse Mountain	82.92	46		IAms_20	IAms_20	03 10 14.4	
	comp=Z,90μm,20.0s							
TCOL	CIGO, UAF Yank	82.93	18		P	P	02 39 55.5	-1.6
	baz=226,SNR=25							
TCOL					S	S	02 50 14.2	-1.4
	baz=226							
TCOL	CIGO, UAF Yank	82.93	18		IAmb	IAmb	02 40 04.6	
	comp=Z,248nm,0.8s							
TCOL					IAms_20	IAms_20	03 10 13.7	
	comp=Z,119μm,22.0s							
COLA	College	82.93	18		P	P	02 39 56.7	-0.5
COLA					pmax	pmax		
	comp=Z,245nm,0.9s							
COLA	College	82.93	18		S	S	02 50 15.0	-0.6
	baz=226							
COLA	College	82.93	18		P	P	02 39 56.7	-0.5
COLA					IAmb	IAmb	02 40 04.6	
	comp=Z,245nm,0.8s							
COLA	College	82.93	18		IAms_20	IAms_20	03 10 13.7	
	comp=Z,112μm,22.0s							
COLA	College	82.93	18	⇓P	P	P	02 39 55.2	-2.0
M26K	Nabesna, AK	82.93	22		P	P	02 39 56.5	-0.9
	baz=231,SNR=238							
M26K					S	S	02 50 15.3	-0.6
	baz=231							
MENT	Mentasta	83.01	21		IAmb	IAmb	02 40 05.3	
	comp=Z,315nm,1.2s							
KBO	Bosley Butte	83.04	45		P	P	02 39 59.0	+0.5
KBO					IAmb	IAmb	02 40 34.0	
	comp=Z,664nm,1.9s							
KBO					IAms_20	IAms_20	03 10 59.5	
	comp=Z,101μm,20.0s							
SIT	Sitka	83.04	28		P	P	02 39 58.3	+0.4
	baz=239,SNR=6.0							
SIT					S	S	02 50 20.6	+3.6
	baz=239							
SIT	Sitka	83.04	28		IAmb	IAmb	02 40 13.8	
	comp=Z,304nm,1.5s							
H23K	Yukon River	83.09	17		P	P	02 39 57.1	-1.0
	baz=225,SNR=76							
H23K					S	S	02 50 18.3	+1.0
	baz=225							
RIDG	Independent Ri	83.14	20		P	P	02 39 57.6	-0.8
	baz=229,SNR=147							
RIDG					S	S	02 50 18.3	+0.3
	baz=229							
RIDG	Independent Ri	83.14	20		IAms_20	IAms_20	03 11 01.6	
	comp=Z,114μm,21.0s							
IL31		83.16	19		IAmb	IAmb	02 40 02.9	
	comp=Z,295nm,1.1s							
ILAR	Eielson Array	83.16	19		P	P	02 39 56.9	-1.5
	comp=Z,108nm,1.0s,baz=230,slow=4.6,SNR=68							
ILAR					PKKPbc	PKKPbc	02 58 21.4	-1.5
	comp=Z,1.0nm,0.8s,baz=216,slow=1.9,SNR=4.6							
ILAR					PKPPKP	P'P'df	03 06 22.6	+0.2
	comp=Z,0.9nm,1.0s,baz=29,slow=3.3,SNR=4.1							
ILAR					LR	LR	03 11 58.0	
	comp=Z,110μm,20.9s,baz=260,slow=32							
ILAR					P4KPbc		03 16 00.4	
	comp=Z,1.0nm,0.8s,baz=230,slow=5.8,SNR=12							
ILAR	Eielson Array	83.16	19		P	P	02 39 56.6	-1.8
ILAR	Eielson Array	83.16	19		P	P	02 39 56.6	-1.8
L26K	Log Cabin Wild	83.20	21		P	P	02 39 58.6	-0.1
	baz=231,SNR=92							
L26K					S	S	02 50 21.6	+3.0
	baz=231							
KEBM	Edson Butte	83.20	44		IAms_20	IAms_20	03 09 46.7	
	comp=Z,111μm,20.0s							
POKR	Poker Plat Res	83.23	18		P	P	02 39 57.2	-1.5
	baz=227,SNR=50							
POKR					S	S	02 50 22.9	+4.2
	baz=227							
POKR	Poker Plat Res	83.23	18		IAmb	IAmb	02 40 02.9	
	comp=Z,208nm,1.1s							
POKR					IAms_20	IAms_20	03 10 12.6	
	comp=Z,106μm,22.0s							
SAO	San Andreas Ge	83.25	51		IAms_20	IAms_20	03 10 08.3	
	comp=Z,137μm,20.0s							
CRAG	Craig	83.30	30		P	P	02 40 01.3	+2.0
	baz=241,SNR=8.7							
CRAG					S	S	02 50 23.1	+3.4
	baz=241							
CRAG	Craig	83.30	30		IAmb	IAmb	02 40 24.1	
	comp=Z,324nm,1.4s							
CRAG					IAms_20	IAms_20	03 09 14.8	
	comp=Z,136μm,21.0s							
CRAG	Craig	83.30	30	⇓P	P	P	02 39 58.4	-0.9
CRAG				⇑P	P	P	02 40 02.3	+3.0
M27K	Edge Creek, AK	83.31	22		P	P	02 39 59.5	0.0
	baz=232,SNR=467							
M27K					S	S	02 50 23.2	+3.3
	baz=232							
DOT	Dot Lake	83.35	20		IAmb	IAmb	02 40 06.7	
	comp=Z,226nm,1.0s							
O02D	Mt. Diablo Mer	83.36	47		P	P	02 39 59.6	-0.5
	baz=250,SNR=25							
O02D					S	S	02 50 23.7	+2.4
	baz=250							
L02E	Cave Junction	83.46	45		P	P	02 40 00.7	+0.2
	baz=250,SNR=11							
L02E					S	S	02 50 26.4	+4.4
	baz=250							
PMPB	Monarch Peak	83.58	52		IAmb	IAmb	02 40 20.6	
	comp=Z,486nm,1.5s							
J01E	Myrtle Point	83.58	44		P	P	02 40 00.5	-0.6
	baz=249,SNR=6.8							
J01E					S	S	02 50 27.3	+4.2
	baz=249							
SCRK	Sand Creek	83.58	20		P	P	02 39 59.7	-1.1
	baz=230,SNR=170							
SCRK					S	S	02 50 23.6	+0.9
	baz=230							
SCRK	Sand Creek	83.58	20		IAmb	IAmb	02 40 14.7	
	comp=Z,322nm,1.2s							
SCRK					IAms_20	IAms_20	03 14 52.1	
	comp=Z,77μm,19.0s							
H24K	Noodor Dome	83.59	18		P	P	02 39 58.6	-2.1
	baz=226,SNR=55							
H24K					S	S	02 50 27.2	+4.7
	baz=226							
K02D	Willamette Mer	83.60	45		P	P	02 40 00.6	-0.7
	baz=250,SNR=23							
K02D					S	S	02 50 26.6

baz=250
WDC Whiskeytown Da 83.67 47 P P 02 40 02.9 +1.3
WDC pmax pmax
comp=Z,255nm,1.6s
WDC Whiskeytown Da 83.67 47 P P 02 40 02.9 +1.3
WDC IAmb IAmb 02 40 07.7
comp=Z,255nm,1.6s
WDC IAMs_20 IAMs_20 03 08 03.3
comp=Z,118μm,22.0s
N02D Trinity Center 83.69 46 P P 02 40 01.2 -0.6
baz=250,SNR=29
N02D S S 02 50 26.4 +1.9
baz=250
SNCC San Nicolas Is 83.70 55 P P 02 40 04.4 +2.5
baz=253,SNR=13
SNCC S S 02 50 23.0 -1.8
baz=253
SNCC San Nicolas Is 83.70 55 IAmb IAmb 02 40 20.8
comp=Z,702nm,1.9s
SNCC IAMs_20 IAMs_20 03 13 36.3
comp=Z,68μm,18.0s
M02C Callahan 83.72 46 P P 02 40 01.2 -0.8
baz=250,SNR=22
M02C S S 02 50 28.8 +3.9
baz=250
L27K Beaver Creek, 83.76 21 P P 02 40 01.0 -0.6
baz=232,SNR=270
L27K S S 02 50 26.9 +2.6
baz=232
L27K Beaver Creek, 83.76 21 IAMs_20 IAMs_20 03 09 38.9
comp=Z,102μm,22.0s
BCAR Beaver Creek A 83.78 21 P P 02 40 01.0 -0.7
SCZ2 Santa Cruz Isl 83.83 54 P P 02 40 00.4 -2.2
baz=253
SCZ2 S S 02 50 27.3 +1.2
baz=253
SBC Santa Barbara 83.90 53 P P 02 40 02.7 -0.2
baz=253
SBC S S 02 50 28.5 +1.8
baz=253
SMMC Simmler 83.93 53 S S 02 50 29.5 +2.4
baz=253
YBH Yreka Blue Hor 83.94 46 P P 02 40 03.1 0.0
comp=Z,86nm,1.0s,baz=256,slow=2.3,SNR=41
PKM Mcpherson Peak 83.95 53 P P 02 40 01.9 -1.5
baz=253,SNR=52
PKM S S 02 50 29.3 +1.7
baz=253
I02D Swisshome 83.97 43 P P 02 40 03.9 +0.8
baz=249,SNR=5.5
I02D S S 02 50 29.0 +2.0
baz=249
HUMO Hull Mountain 84.06 45 IAMs_20 IAMs_20 03 08 29.5
comp=Z,125μm,22.0s
HUMO Hull Mountain 84.06 45 ⇓P P 02 40 03.5 -0.2
HUMO ⇑P P 02 40 03.7 +0.1
PRP Porcupine Dome 84.09 19 P P 02 40 01.2 -2.1
baz=229
PRP S S 02 50 32.1 +4.4
baz=229
PRP Porcupine Dome 84.09 19 P P 02 40 04.0 +0.6
PRP IAmb IAmb 02 40 48.1
comp=Z,72nm,0.5s
PRP IAMs_20 IAMs_20 03 14 52.5
comp=Z,80μm,20.0s
JIS Juneau Island 84.11 28 IAmb IAmb 02 40 07.7
comp=Z,336nm,1.5s
O03E Paynes Creek 84.11 47 P P 02 40 02.4 -1.6
baz=251,SNR=63
O03E S S 02 50 30.5 +1.7
baz=251
HYT Haines Junctio 84.12 25 IAmb IAmb 02 40 08.9
comp=Z,200nm,1.0s
WRAK Wrangell Islan 84.14 30 P P 02 40 03.4 -0.2
baz=241,SNR=30
WRAK S S 02 50 34.2 +6.0
baz=241
WRAK Wrangell Islan 84.14 30 P P 02 40 04.3 +0.7
WRAK IAmb IAmb 02 40 07.6
comp=Z,359nm,1.4s
WRAK Wrangell Islan 84.14 30 IAMs_20 IAMs_20 03 11 48.1
comp=Z,129μm,20.0s
I03D Drain, OR 84.17 44 P P 02 40 03.5 -0.6
baz=250,SNR=19
I03D S S 02 50 31.9 +2.9
baz=250
K27K Chicken 84.27 21 P P 02 40 04.4 +0.2
baz=232
K27K S S 02 50 35.2 +6.0
baz=232
K27K Chicken 84.27 21 IAMs_20 IAMs_20 03 12 24.6
comp=Z,100μm,21.0s
SKAG Skagway 84.30 26 P P 02 40 04.4 +0.1
baz=238,SNR=29
SKAG S S 02 50 34.2 +4.6
baz=238
SKAG Skagway 84.30 26 ⇓P P 02 40 04.2 -0.1
SKAG ⇓P P 02 40 07.4 +3.1
L04D Klamath Falls 84.39 45 P P 02 40 05.0 -0.4
baz=250,SNR=22
L04D S S 02 50 33.3 +1.7
baz=250
SCI2 San Clemente I 84.41 55 P P 02 40 05.9 +0.4
baz=254
SCI2 S S 02 50 32.6 +0.7
baz=254
CMB Columbia Colle 84.45 50 IAMs_20 IAMs_20 03 13 14.9
comp=Z,104μm,19.0s
BBB Bella Bella 84.46 35 P P 02 40 06.0 +0.7
comp=Z,87nm,1.1s,baz=242,slow=7.1,SNR=5.7
BBB Bella Bella 84.46 35 IAmb IAmb 02 40 38.2
comp=Z,225nm,1.3s
BBB IAMs_20 IAMs_20 03 09 47.5
comp=Z,98μm,20.0s
BOK Bokaro 84.48 295 *e*P P 02 40 08.3 +2.2
BOK IAmb IAmb 02 40 11.2
comp=Z,116nm,2.0s
COR Corvallis 84.51 43 IAMs_20 IAMs_20 03 11 23.5
comp=Z,107μm,20.0s
COR Corvallis 84.51 43 ⇓P P 02 40 06.4 +0.6
M04C Macdoel 84.57 46 P P 02 40 05.9 -0.4
baz=251,SNR=30
M04C S S 02 50 34.5 +1.0
baz=251
BUCK Buck Mountain 84.58 43 IAmb IAmb 02 40 30.9
comp=Z,204nm,1.1s
BUCK IAMs_20 IAMs_20 03 11 19.3
comp=Z,114μm,20.0s
CIS Catalina Islan 84.64 55 P P 02 40 05.5 -1.2
baz=254
CIS S S 02 50 34.1 -0.1
baz=254
VOG Valley Oaks Go 84.70 52 P P 02 40 08.4 +1.4
baz=253
VOG S S 02 50 34.8 +0.1
baz=253
OSI Osito Audit: C 84.73 54 P P 02 40 06.9 -0.3
baz=254
OSI S S 02 50 36.8 +1.6
baz=254
OSI Osito Audit: C 84.73 54 IAMs_20 IAMs_20 03 10 36.5
comp=Z,106μm,20.0s
G03D McMinnville, O 84.75 42 P P 02 40 07.7 +0.7
baz=250,SNR=11
G03D S S 02 50 35.7 +0.9
baz=250
ARVC Arvin 84.79 53 P P 02 40 06.0 -1.4
baz=253,SNR=11
ARVC S S 02 50 37.4 +1.7
baz=253
VES Vestal, Richgr 84.79 52 P P 02 40 06.0 -1.4
baz=253,SNR=20
VES S S 02 50 34.6 -1.0
baz=253
FMP Fort Macarthur 84.82 55 P P 02 40 06.6 -1.0
baz=254
FMP S S 02 50 37.1 +1.2
baz=254
I04A Tendick Farm, 84.84 44 P P 02 40 06.7 -0.8
baz=250,SNR=24
I04A S S 02 50 35.6 -0.3
baz=250
J04D Umpqua Nationa 84.86 44 P P 02 40 07.1 -0.8
baz=251,SNR=22
J04D S S 02 50 36.8 +0.3
baz=251
H04D Lebanon 84.86 43 P P 02 40 08.1 +0.5
baz=250,SNR=16
H04D S S 02 50 35.7 -0.3
baz=250
FYU Fort Yukon 84.88 18 P P 02 40 08.8 +1.7
FYU IAmb IAmb 02 40 18.7
comp=Z,641nm,2.0s
FYU IAMs_20 IAMs_20 03 11 14.2
comp=Z,145μm,22.0s
K04D Chiloquin, OR 84.91 45 P P 02 40 07.0 -1.0
baz=251,SNR=7.4
K04D S S 02 50 37.2 +0.5
baz=251
RUBR Rubicon Trail 84.93 49 IAmb IAmb 02 40 18.0
comp=Z,516nm,1.5s
DECC Green Verdugo 84.94 54 P P 02 40 06.7 -1.5
baz=254
DECC S S 02 50 35.9 -1.3
baz=254
E03A Lebam 85.02 41 IAmb IAmb 02 40 13.4
comp=Z,285nm,1.0s
E03A IAMs_20 IAMs_20 03 11 32.7
comp=Z,108μm,20.0s
MAW Mawson 85.03 202 P P 02 40 07.1 -0.9
comp=Z,16nm,0.8s,baz=108,slow=7.2,SNR=40
MAW LR LR 03 15 02.1
comp=Z,62μm,18.3s,baz=106,slow=34
MAW Mawson 85.03 202 P P 02 40 09.1 +1.1
MAW pmax pmax
comp=Z,87nm,1.2s
MAW Mawson 85.03 202 P P 02 40 09.1 +1.1
BEKR Beckworth 85.03 48 IAmb IAmb 02 40 17.1
comp=Z,429nm,1.7s
BEKR IAMs_20 IAMs_20 03 10 52.6
comp=Z,71μm,21.0s
PASC Pasadena Art C 85.03 54 IAmb IAmb 02 40 27.1
comp=Z,278nm,1.8s
PASC Pasadena Art C 85.03 54 IAMs_20 IAMs_20 03 08 58.6
comp=Z,84μm,22.0s
EGAK Eagle 85.05 20 P P 02 40 07.6 -0.4
baz=233,SNR=432
EGAK S S 02 50 40.5 +3.5
baz=233
TOLK Toolik Lake Re 85.09 15 P P 02 40 08.2 0.0
baz=224,SNR=50
TOLK S S 02 50 39.4 +2.0
baz=224
TOLK Toolik Lake Re 85.09 15 IAmb IAmb 02 40 21.9
comp=Z,566nm,1.7s
NLWA Neilton Lookou 85.13 40 IAmb IAmb 02 40 19.1
comp=Z,236nm,1.6s
NLWA IAMs_20 IAMs_20 03 09 17.5
comp=Z,120μm,22.0s
NLWA Neilton Lookou 85.13 40 ⇓P P 02 40 07.3 -1.6
MWC Mount Wilson 85.15 54 IAmb IAmb 02 40 28.0
comp=Z,392nm,1.5s
MWC IAMs_20 IAMs_20 03 09 03.6
comp=Z,84μm,22.0s
F04D Rainier, OR 85.22 42 P P 02 40 10.3 +1.0
baz=250
ISA Isabella, Lake 85.22 53 P P 02 40 08.6 -1.1
baz=254,SNR=42
ISA Isabella, Lake 85.22 53 IAMs_20 IAMs_20 03 09 19.5
comp=Z,139μm,22.0s
H04A Detroit Lake 85.29 43 IAMs_20 IAMs_20 03 12 09.9
comp=Z,85μm,20.0s
WAKR Walker 85.30 50 P P 02 40 10.6 +0.4
WAKR IAmb IAmb 02 40 29.3
comp=Z,598nm,1.8s
WAKR IAMs_20 IAMs_20 03 08 56.5
comp=Z,131μm,22.0s
MDPB Devils Postpil 85.32 51 IAMs_20 IAMs_20 03 12 10.9
comp=Z,118μm,20.0s
PAF Port-aux-Franc 85.32 221 IAMs_20 IAMs_20 03 15 43.2
comp=Z,73μm,18.0s
PNTR Pine Nut 85.35 49 IAmb IAmb 02 40 29.4
comp=Z,209nm,1.3s
VCNR Virginia City 85.38 49 IAMs_20 IAMs_20 03 15 11.5
comp=Z,67μm,18.0s
EDW2 Edwards Air Fo 85.38 53 P P 02 40 09.3 -1.2
baz=254,SNR=69
TIXI Tiksi 85.40 349 *d* P P 02 40 07.1 -2.5
TIXI Tiksi 85.40 349 P P 02 40 09.9 +0.3
TIXI IAmb IAmb 02 40 18.8
comp=Z,318nm,1.2s
TIXI IAMs_20 IAMs_20 03 14 43.3
comp=Z,94μm,21.0s
TIXI Tiksi 85.40 349 ⇑P P 02 40 08.1 -1.5
BFSC Mount Baldy Ra 85.47 54 P P 02 40 08.3 -2.7
baz=254,SNR=35
J05D Fort Rock, OR 85.48 45 P P 02 40 10.0 -0.9
baz=251,SNR=87
J05D S S 02 50 43.7 +1.2
baz=251
TJX Tijuana 85.50 56 P P 02 40 11.4 +0.4
TJX IAmb IAmb 02 40 28.2
comp=Z,233nm,1.2s
TJX IAMs_20 IAMs_20 03 13 21.9
comp=Z,75μm,19.0s
MLAC Mammoth, Mammo 85.50 51 P P 02 40 10.5 -0.7
baz=253
A21K Barrow 85.52 12 P P 02 40 10.6 +0.3
baz=218
A21K Barrow 85.52 12 P P 02 40 12.0 +1.8
A21K IAMs_20 IAMs_20 03 13 09.3
comp=Z,136μm,21.0s
K05A Summer Lake 85.54 45 IAmb IAmb 02 40 30.3
comp=Z,581nm,1.6s
K05A IAMs_20 IAMs_20 03 13 08.6
comp=Z,73μm,19.0s
109C Camp Elliot, M 85.55 56 P P 02 40 11.5 +0.2
baz=255,SNR=7.2
109C Camp Elliot, M 85.55 56 IAmb IAmb 02 40 30.0
comp=Z,269nm,1.5s
109C IAMs_20 IAMs_20 03 14 10.5
comp=Z,70μm,19.0s
YERR Yerington 85.59 49 IAmb IAmb 02 40 30.4
comp=Z,386nm,1.8s
YERR IAMs_20 IAMs_20 03 08 55.1
comp=Z,75μm,21.0s
HALK Hakmana 85.64 277 ⇓P P 02 40 12.9 +0.8
BMAR Burnt Mountain 85.64 17 P P 02 40 11.1 +0.1
CCX Cicese 85.65 57 P P 02 40 12.5 +0.7
E04D Cinebar 85.67 41 P P 02 40 10.1 -1.4
baz=250,SNR=30
E04D S S 02 50 45.5 +1.6
baz=250
MURC Murrieta 85.67 55 P P 02 40 11.1 -0.8
baz=254,SNR=13
D03D Eldon 85.67 40 P P 02 40 10.5 -1.1
baz=250,SNR=26
D03D S S 02 50 45.8 +2.0
baz=250
PAHR Pah Rah Range 85.70 49 IAmb IAmb 02 40 30.9
comp=Z,315nm,1.5s
PAHR IAMs_20 IAMs_20 03 16 15.9
comp=Z,77μm,18.0s
CWC Cottonwood Cre 85.74 52 P P 02 40 11.2 -1.2
baz=254
I05D Terrebonne, OR 85.75 44 P P 02 40 10.8 -1.3
baz=251,SNR=26
D04E Lakebay 85.75 41 P P 02 40 11.0 -0.9
baz=250,SNR=6.2
LRMC Laurel Mtn Rad 85.79 53 P P 02 40 12.2 -0.4
baz=254,SNR=11
PALK Pallekele 85.84 278 P P 02 40 13.8 +0.6
PALK pmax pmax
comp=Z,483nm,1.4s
PALK MLR MLR
comp=Z,45μm,20.0s
PALK Pallekele 85.84 278 P P 02 40 13.8 +0.6
PALK IAmb IAmb 02 40 23.9
comp=Z,484nm,1.4s
PGC Sidney 85.84 39 IAmb IAmb 02 40 17.2
comp=Z,164nm,1.0s
BAR Barrett 85.85 56 IAmb IAmb 02 40 33.3
comp=Z,386nm,2.0s
BAR IAMs_20 IAMs_20 03 13 42.3
comp=Z,82μm,19.0s
TKX Tecate 85.88 56 IAMs_20 IAMs_20 03 14 01.0
comp=Z,81μm,19.0s
LHV Little Huntoon 85.93 50 IAmb IAmb 02 40 21.1
comp=Z,209nm,1.2s
LHV IAMs_20 IAMs_20 03 09 07.1
comp=Z,122μm,22.0s
RYN Ryan 86.02 50 IAMs_20 IAMs_20 03 10 45.6
comp=Z,85μm,20.0s
G05D Wamic, OR 86.06 43 P P 02 40 13.2 -0.3
baz=251,SNR=16
BBRC Big Bear Solar 86.06 54 P P 02 40 14.2 +0.1
baz=255
MONP2 Monument Peak 86.11 56 P P 02 40 14.2 -0.1
baz=255,SNR=47
NVAR Mina Array Bea 86.13 50 P P 02 40 13.2 -1.1
comp=Z,70nm,1.0s,baz=236,slow=7.2,SNR=80
NVAR PP PP 02 43 34.6 -0.3
comp=Z,4.5nm,1.0s,baz=244,slow=5.9,SNR=3.4
NVAR PKPPKP P'P'df 03 06 18.1 -1.6
comp=Z,1.1nm,0.9s,baz=75,slow=2.5,SNR=4.4
NVAR LR LR 03 13 30.4
comp=Z,95μm,18.8s,baz=261,slow=32
NVAR Mina Array Bea 86.13 50 P P 02 40 12.5 -1.8
RRX Edison Barstow 86.17 54 P P 02 40 13.8 -0.6
baz=254
F05D White Salmon 86.17 42 P P 02 40 13.3 -0.8
baz=251,SNR=24
DLBC Dease Lake 86.20 29 P P 02 40 13.2 -0.8
comp=Z,52nm,1.1s,baz=242,slow=6.5,SNR=34
MALK Mahakanadarawa 86.21 279 ⇓P P 02 40 16.3 +1.4
LON Longmire 86.23 41 IAmb IAmb 02 40 22.5
comp=Z,358nm,2.0s
LON IAMs_20 IAMs_20 03 12 20.6
comp=Z,76μm,21.0s
NV11 Mina Array Sit 86.24 50 IAmb IAmb 02 40 33.4
comp=Z,299nm,1.4s
NV11 IAMs_20 IAMs_20 03 12 59.5
comp=Z,109μm,19.0s
D05A Enumclaw 86.26 41 IAmb IAmb 02 40 36.1
comp=Z,399nm,1.3s
D05A IAMs_20 IAMs_20 03 13 01.4
comp=Z,62μm,19.0s
PFO Pinyon Flats O 86.27 55 P P 02 40 13.8 -1.2
comp=Z,42nm,1.1s,baz=267,slow=4.7,SNR=24
PFO Pinyon Flats O 86.27 55 P P 02 40 14.7 -0.3
PFO pmax pmax
comp=Z,89nm,1.2s
PFO Pinyon Flats O 86.27 55 P P 02 40 13.6 -1.4
baz=255,SNR=27
PFO Pinyon Flats O 86.27 55 P P 02 40 14.7 -0.3
PFO Pinyon Flats O 86.27 55 IAMs_20 IAMs_20 03 16 30.3
comp=Z,78μm,18.0s
IKP In-Ko-Pah, Jac 86.30 56 P P 02 40 15.0 -0.1
baz=255,SNR=18
IKP S S 02 50 54.1 +3.3
baz=255
RMX La Rumorosa 86.31 56 P P 02 40 16.7 +1.4
RMX IAmb IAmb 02 40 34.3
comp=Z,404nm,1.8s
RMX IAMs_20 IAMs_20 03 14 14.4
comp=Z,99μm,19.0s
A04D Lummi Island 86.33 39 P P 02 40 13.8 -0.9
baz=250,SNR=39
A04D S S 02 50 53.6 +3.5
baz=250
GSC Goldstone, Bar 86.43 53 P P 02 40 14.8 -1.0
baz=255,SNR=26
GSC S S 02 50 55.6 +3.6
baz=255
GSC Goldstone, Bar 86.43 53 IAMs_20 IAMs_20 03 12 19.9
comp=Z,112μm,20.0s
GRAC Grapevine Rang 86.45 52 P P 02 40 14.4 -1.3
baz=254,SNR=10.0
KVN Kaiserville 86.46 49 IAMs_20 IAMs_20 03 09 33.1
comp=Z,72μm,22.0s
B05A Bryant 86.55 40 P P 02 40 14.3 -1.5
baz=250,SNR=39
B05A S S 02 50 54.7 +2.4
baz=250
SWSC Sam W. Stewart 86.63 56 P P 02 40 16.3 -0.3
baz=255,SNR=14
HEC Hector,Ludlow 86.68 54 P P 02 40 15.8 -1.1
baz=255,SNR=30
HEC S S 02 50 56.0 +1.6
baz=255
FURC Furnace Creek, 86.69 52 P P 02 40 15.9 -0.9
baz=254,SNR=55
FURC S S 02 50 55.0 +0.8
baz=254
BELC Belle Mtn. Jos 86.74 55 P P 02 40 16.5 -0.8
baz=255,SNR=52
BELC S S 02 50 56.2 +1.1
baz=255
A05A Maple Falls 86.81 39 IAmb IAmb 02 40 48.6
comp=Z,392nm,2.0s
A05A IAMs_20 IAMs_20 03 13 20.9
comp=Z,120μm,19.0s
UABX UABC, Campus M 86.84 56 IAMs_20 IAMs_20 03 13 52.5
comp=Z,64μm,19.0s
I07A Izee 86.92 44 IAmb IAmb 02 40 36.9
comp=Z,335nm,1.6s
SFX San Felipe 86.94 58 P P 02 40 19.1 +0.9
SFX IAMs_20 IAMs_20 03 10 22.2
comp=Z,76μm,22.0s
SHOC Shoshone, Teco 87.00 53 P P 02 40 15.6 -2.9
baz=255
SHOC S S 02 50 58.9 +1.6
baz=255
B06A Marblemount 87.02 40 IAmb IAmb 02 40 37.5
comp=Z,232nm,1.6s
B06A IAMs_20 IAMs_20 03 13 02.6
comp=Z,102μm,20.0s
WVOR Wild Horse Val 87.04 46 IAMs_20 IAMs_20 03 12 50.5
comp=Z,85μm,20.0s
LTY Liberty 87.13 41 IAmb IAmb 02 40 29.9
comp=Z,296nm,1.8s
LTY IAMs_20 IAMs_20 03 13 10.5
comp=Z,73μm,20.0s
TUQ Turquoise Moun 87.16 53 P P 02 40 18.9 -0.4
baz=255,SNR=14
F07A Phinny Hill Vi 87.19 42 IAMs_20 IAMs_20 03 14 05.1
comp=Z,72μm,20.0s
C06D Leavenworth 87.20 40 P P 02 40 18.2 -0.9
baz=251
GMRC Granite Mounta 87.21 54 P P 02 40 18.4 -1.2
baz=255,SNR=33
GMRC S S 02 51 01.0 +1.4
baz=255
TPNV Topopah Spring 87.30 52 P P 02 40 19.0 -1.0
baz=255,SNR=25
TPNV S S 02 51 02.0 +1.5
baz=255
TPNV Topopah Spring 87.30 52 IAmb IAmb 02 40 52.2
comp=Z,277nm,1.7s
TPNV IAMs_20 IAMs_20 03 10 14.4
comp=Z,123μm,22.0s
TPNV Topopah Spring 87.30 52 ⇓P P 02 40 19.7 -0.3
MDRS Chennai 87.39 284 *e*P P 02 40 23.2 +2.5
MDRS IAmb IAmb 02 40 26.0
comp=Z,996nm,2.5s
J08A Circle Bar Ran 87.42 45 IAmb IAmb 02 40 25.2
comp=Z,152nm,1.1s
J08A IAMs_20 IAMs_20 03 14 30.3
comp=Z,96μm,20.0s
GLA Glamis 87.45 56 P P 02 40 19.5 -1.2
baz=256,SNR=23
GLA S S 02 51 05.7 +3.9
baz=256
GLA Glamis 87.45 56 IAmb IAmb 02 40 39.9
comp=Z,404nm,1.4s
GLA IAMs_20 IAMs_20 03 15 26.6
comp=Z,84μm,19.0s
IRM Iron Mountain 87.46 55 P P 02 40 19.6 -1.1
baz=256,SNR=28
EPYK Eagle Plains 87.48 20 P P 02 40 19.0 -1.0
baz=237,SNR=107
EPYK S S 02 51 02.2 +1.4
baz=237
EPYK Eagle Plains 87.48 20 IAMs_20 IAMs_20 03 14 24.0
comp=Z,95μm,21.0s
HAWA Hanford 87.60 42 IAmb IAmb 02 40 40.0
comp=Z,332nm,1.8s
HAWA IAMs_20 IAMs_20 03 15 04.0
comp=Z,87μm,20.0s
HAWA Hanford 87.60 42 ⇓P P 02 40 20.9 -0.1
G08A Pilot Rock 87.65 43 IAMs_20 IAMs_20 03 14 13.4
comp=Z,101μm,20.0s
E08A Dider Farm, El 87.94 42 IAmb IAmb 02 40 41.7
comp=Z,376nm,1.5s
SHPR Sheep Range 88.03 52 IAmb IAmb 02 40 42.8
comp=Z,352nm,1.7s
NEE2 Needles Airpor 88.03 54 P P 02 40 20.2 -3.2
baz=256
NEE2 S S 02 51 09.3 +2.0
baz=256
R11A Troy Canyon, C 88.17 51 P P 02 40 23.6 -0.6
baz=255,SNR=26
R11A S S 02 51 08.3 -0.5
baz=255

R11A	Troy Canyon, C	88.17	51	IAMs_20	IAMs_20	03 10 52.4		
	comp=Z,137μm,22.0s							
D08A	Wollman Farm,	88.20	42	IAmb	IAmb	02 40 42.7		
	comp=Z,397nm,1.8s							
D08A				IAMs_20	IAMs_20	03 16 36.9		
	comp=Z,76μm,19.0s							
WMQ	Urumqi	88.23	315	P	P	02 40 25.8	+1.6	
WMQ				sP	pwP	02 40 31.4	0.0	
WMQ				PP	PP	02 43 52.9	+1.3	
WMQ				SKS	SKSac	02 50 51.8	-1.2	
WMQ				S	SKKSac	02 51 03.8	+0.3	
WMQ				sS	ScS	02 51 20.5	+5.5	
WMQ				SS	SS	02 56 58.0	-0.3	
WMQ				pmax	pmax			
	comp=Z,240nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,17μm,6.1s							
WMQ				LR	LR			
	comp=Z,37μm,15.7s							
WMQ				LR	LR			
	comp=Z,50μm,20.9s							
WMQ				LR	LR			
	comp=Z,72μm,24.7s							
PDMCI	Parker Dam,Lak	88.30	55	P	P	02 40 24.2	-0.5	
	baz=256,SNR=46							
SRIG	Santa Rosalia	88.31	62	P	P	02 40 25.7	+0.8	
SRIG				IAmb	IAmb	02 40 43.3		
	comp=Z,267nm,1.6s							
B08A	Colville Reser	88.33	40	IAmb	IAmb	02 40 34.0		
	comp=Z,165nm,1.4s							
B08A				IAMs_20	IAMs_20	03 11 30.2		
	comp=Z,81μm,22.0s							
PRN	Pahroc Range	88.34	52	IAmb	IAmb	02 40 44.0		
	comp=Z,322nm,1.4s							
PRN				IAMs_20	IAMs_20	03 14 30.0		
	comp=Z,117μm,19.0s							
E09A	Wood Farm, Sta	88.55	42	IAmb	IAmb	02 40 45.6		
	comp=Z,396nm,1.9s							
BMO	Blue Mountains	88.65	44	IAMs_20	IAMs_20	03 14 29.9		
	comp=Z,117μm,20.0s							
W13A	Hualapai Mount	88.70	54	IAmb	IAmb	02 40 45.8		
	comp=Z,341nm,1.6s							
W13A				IAMs_20	IAMs_20	03 16 56.6		
	comp=Z,63μm,18.0s							
214A	Organ Pipe Nat	88.85	57	P	P	02 40 26.7	-0.7	
	baz=257,SNR=30							
214A				S	S	02 51 17.2	+2.0	
	baz=257							
214A	Organ Pipe Nat	88.85	57	IAmb	IAmb	02 40 46.7		
	comp=Z,365nm,1.4s							
214A				IAMs_20	IAMs_20	03 18 48.7		
	comp=Z,90μm,18.0s							
F10A	Beach Ranch, E	89.01	43	IAmb	IAmb	02 40 46.6		
	comp=Z,324nm,1.5s							
F10A				IAMs_20	IAMs_20	03 15 04.4		
	comp=Z,91μm,20.0s							
ELK	Elko	89.03	48	IAmb	IAmb	02 40 47.3		
	comp=Z,311nm,1.8s							
ELK				IAMs_20	IAMs_20	03 18 48.2		
	comp=Z,61μm,18.0s							
SPR3	Spring Creek 3	89.28	50	IAmb	IAmb	02 40 48.4		
	comp=Z,312nm,1.6s							
SPR3				IAMs_20	IAMs_20	03 13 02.8		
	comp=Z,124μm,21.0s							
MFID	Camas Ranch	89.29	46	P	P	02 40 29.4	+0.2	
MFID				IAmb	IAmb	02 40 48.2		
	comp=Z,290nm,1.6s							
MFID				IAMs_20	IAMs_20	03 15 39.9		
	comp=Z,70μm,20.0s							
PSUT	Pine Spring	89.53	51	IAmb	IAmb	02 40 49.6		
	comp=Z,274nm,1.5s							
INK	Inuvik	89.55	19	PKKPbc	PKKPbc	02 58 07.0	-0.3	
	comp=Z,2.9nm,0.9s,baz=71,slow=10.0,SNR=3.7							
INK	Inuvik	89.55	19	P	P	02 40 28.7	-1.0	
	baz=240							
INK				S	S	02 51 20.6	+0.5	
	baz=240							
SLBS	Sierra La Lagu	89.58	66	⇑P	P	02 40 33.9	+2.8	
LCMT	Little Creek M	89.65	52	IAmb	IAmb	02 40 50.1		
	comp=Z,219nm,1.4s							
CCUT	Cedar City	89.68	52	IAmb	IAmb	02 40 50.7		
	comp=Z,261nm,1.5s							
TRD	Trivandrum	89.71	279	*e*P	P	02 40 32.2	+0.5	
NEW	Newport	89.71	41	P	P	02 40 30.7	-0.4	
	comp=Z,39nm,1.1s,baz=241,slow=3.6,SNR=44							
NEW	Newport	89.71	41	P	P	02 40 29.2	-1.8	
	baz=254,SNR=38							
NEW				S	S	02 51 25.5	+2.9	
	baz=254							
HSIG		89.78	61	IAmb	IAmb	02 41 06.4		
	comp=Z,532nm,1.9s							
HSIG				IAMs_20	IAMs_20	03 15 41.7		
	comp=Z,90μm,19.0s							
HYB	Hyderabad	89.83	288	*i* P	P	02 40 32.0	-0.2	
	comp=Z,71nm,1.2s							
HYB				*es*P	pwP	02 40 38.0	-0.5	
HYB				*e*PP	PP	02 44 06.0	+1.1	
HYB				*e*SKS	SKSac	02 51 00.0	-3.5	
HYB				*e*SP	SPn	02 52 34.0	+4.1	
HYB				*e*SSP	SSP	02 57 32.0		
HYB	Hyderabad	89.83	288	*e*P	P	02 40 32.8	+0.5	
HYB				IAmb	IAmb	02 40 40.2		
	comp=Z,203nm,1.5s							
SZCU	Shurtz Canyon	89.90	52	IAmb	IAmb	02 40 51.6		
	comp=Z,205nm,1.4s							
KNB	Kanab	89.98	52	IAmb	IAmb	02 40 52.0		
	comp=Z,259nm,1.3s							
DGZ	Jazzator, Alta	90.04	321	*d i*P	P	02 40 30.8	-1.9	
DGZ				pmax	pmax			
	comp=Z,191nm,1.3s							
DGZ				MLR	MLR			
	comp=Z,67μm,20.0s							
U15A	North Rim	90.26	53	IAMs_20	IAMs_20	03 11 55.9		
	comp=Z,78μm,22.0s							
TUC	Tucson	90.60	57	P	P	02 40 36.2	+0.6	
TUC				pmax	pmax			
	comp=Z,128nm,1.3s							
TUC	Tucson	90.60	57	P	P	02 40 35.3	-0.3	
	baz=258							
TUC				S	S	02 51 36.8	+5.2	
	baz=258							
TUC	Tucson	90.60	57	P	P	02 40 36.2	+0.6	
TUC	Tucson	90.60	57	IAMs_20	IAMs_20	03 13 27.2		
	comp=Z,76μm,20.0s							
TUC	Tucson	90.60	57	⇓P	P	02 40 36.0	+0.4	
TUC				⇑P	P	02 40 37.3	+1.7	
DUG	Dugway, Tooele	90.70	49	P	P	02 40 35.0	-1.0	
	baz=257,SNR=14							
DUG				S	S	02 51 33.8	+1.5	
	baz=257							
DUG	Dugway, Tooele	90.70	49	IAMs_20	IAMs_20	03 11 48.3		
	comp=Z,70μm,22.0s							
MTPU	Mount Pierson	90.70	52	IAmb	IAmb	02 40 56.0		
	comp=Z,259nm,1.4s							
WUAZ	Wupatki	90.79	54	P	P	02 40 35.8	-0.8	
	baz=258,SNR=38							
WUAZ				S	S	02 51 42.1	+8.7	
	baz=258							
WUAZ	Wupatki	90.79	54	P	P	02 40 36.7	+0.2	
WUAZ				IAMs_20	IAMs_20	03 12 09.1		
	comp=Z,71μm,22.0s							
WUAZ	Wupatki	90.79	54	⇓P	P	02 40 36.7	+0.2	
WUAZ				⇓P	P	02 40 38.5	+2.0	
ZSN	Zaisan	91.10	318	⇓*i*P	P	02 40 35.5	-2.0	
	comp=Z,2μm,5.3s,baz=318							
ZSN				*e*PP	PP	02 44 14.1	-0.2	
	baz=318							
ZSN				*e*S	SKSac	02 51 24.8	+15	
	baz=318							
ZSN	Zaisan	91.10	318	*d i*P	P	02 40 35.4	-2.0	
ZSN				*e*		02 44 14.0		
ZSN				*e*S	SKSac	02 51 24.8	+15	
SPUT	South Promonto	91.22	48	IAmb	IAmb	02 41 20.7		
	comp=Z,172nm,1.5s							
DGAR	Diego Garcia	91.26	262	IAMs_20	IAMs_20	03 21 54.9		
	comp=Z,73μm,19.0s							
JTMT	Jette	91.42	42	IAMs_20	IAMs_20	03 15 22.1		
	comp=Z,64μm,20.0s							
MSO	Missoula	91.43	43	P	P	02 40 37.6	-1.6	
	baz=256,SNR=17							
MSO				S	S	02 51 38.4	-0.2	
	baz=256							
MSO	Missoula	91.43	43	IAMs_20	IAMs_20	03 17 34.4		
	comp=Z,77μm,20.0s							
MPU	Maple Canyon	91.54	50	IAmb	IAmb	02 40 48.9		
	comp=Z,218nm,1.6s							
MCMT	McKenzie Canyo	91.71	45	P	P	02 40 40.6	-0.1	
X18A	Snowflake	91.73	55	IAMs_20	IAMs_20	03 19 36.1		
	comp=Z,68μm,18.0s							
JLU	Jordanelle	91.80	49	IAmb	IAmb	02 40 50.0		
	comp=Z,164nm,1.5s							
BHPL	Bhopal	91.95	293	*e*P	P	02 40 42.3	+0.3	
WALA	Waterton Lakes	91.97	41	IAmb	IAmb	02 40 47.5		
	comp=Z,240nm,1.4s							
DLMT	Dillon	92.01	44	IAmb	IAmb	02 40 47.0		
	comp=Z,172nm,1.0s							
DLMT				IAMs_20	IAMs_20	03 16 57.7		
	comp=Z,93μm,20.0s							
W18A	Petrified Fore	92.02	55	P	P	02 40 41.9	-0.4	
	baz=259,SNR=8.9							
W18A				S	S	02 51 48.6	+4.0	
	baz=259							
W18A	Petrified Fore	92.02	55	IAMs_20	IAMs_20	03 21 06.7		
	comp=Z,68μm,18.0s							
P17A	Butcher Ranch,	92.10	50	IAmb	IAmb	02 41 01.6		
	comp=Z,188nm,1.6s							
SYO	Syowa Base	92.16	197	⇓*i*X	P	02 40 40.6	-1.4	
SYO	Syowa Base	92.16	197	⇑*i*pP	pP	02 40 45.2	+0.1	
SYO	Syowa Base	92.16	197	⇓*i*sP	sP	02 40 48.8	+2.7	
SYO	Syowa Base	92.16	197	⇓*i*PP	PP	02 44 23.8	+2.3	
AHID	Auburn Hatcher	92.51	47	IAMs_20	IAMs_20	03 15 34.1		
	comp=Z,65μm,20.0s							
MKAR	Makanchi Array	92.66	317	P	P	02 40 43.5	-1.3	
	comp=Z,65nm,0.8s,baz=97,slow=6.0,SNR=39							
MKAR				PKKPbc	PKKPdf	02 57 57.1	+0.2	
	comp=Z,13nm,0.9s,baz=298,slow=2.6,SNR=27							
MKAR				PKPPKP		03 06 06.6		
	comp=Z,1.5nm,0.9s,baz=261,slow=4.8,SNR=4.8							
MKAR				LR	LR	03 20 46.9		
	comp=Z,43μm,22.0s,baz=90,slow=34							
MKAR	Makanchi Array	92.66	317	P	P	02 40 43.3	-1.4	
DDI	Dehra Dun	92.68	300	*e*P	P	02 40 46.5	+1.3	
QLMT	Earthquake Lak	92.70	45	P	P	02 40 45.6	+0.4	
ZAA0	Zalesovo Array	92.71	324	IAmb	IAmb	02 40 53.1		
	comp=Z,331nm,1.4s							
ZALV	Zalesovo Beam	92.71	324	P	P	02 40 43.3	-1.5	
	comp=Z,72nm,1.0s,baz=113,slow=3.1,SNR=41							
ZALV				LR	LR	03 20 15.4		
	comp=Z,38μm,21.8s,baz=93,slow=34							
ZALV	Zalesovo Beam	92.71	324	*i* P	P	02 40 45.5	+0.8	
ZALV				pmax	pmax			
	comp=Z,79nm,1.1s							
ZALV	Zalesovo Beam	92.71	324	P	P	02 40 42.0	-2.8	
BOZ	Bozeman (W)	92.72	44	P	P	02 40 44.3	-0.9	
	baz=258,SNR=165							
BOZ				S	S	02 51 48.9	-1.4	
	baz=258							
BOZ	Bozeman (W)	92.72	44	IAmb	IAmb	02 41 04.2		
	comp=Z,218nm,1.4s							
BOZ				IAMs_20	IAMs_20	03 17 39.6		
	comp=Z,111μm,20.0s							
TPAW	Teton Pass	92.76	46	IAmb	IAmb	02 41 25.7		
	comp=Z,223nm,1.9s							
TPAW				IAMs_20	IAMs_20	03 23 39.8		
	comp=Z,56μm,18.0s							
REDW	Red Top Meadow	92.81	47	IAmb	IAmb	02 41 04.6		
	comp=Z,292nm,1.9s							
REDW				IAMs_20	IAMs_20	03 23 33.0		
	comp=Z,69μm,18.0s							
MAKZ	Makanchi	92.88	317	P	P	02 40 45.0	-0.7	
MAKZ				pmax	pmax			
	comp=Z,539nm,1.4s							
MAKZ				MLR	MLR			
	comp=Z,55μm,21.0s							
MAKZ	Makanchi	92.88	317	P	P	02 40 45.0	-0.7	
MAKZ	Makanchi	92.88	317	⇓P	P	02 40 44.4	-1.3	
MAKZ				⇓P	P	02 40 44.4	-1.3	
MAKZ				⇑P	P	02 40 47.1	+1.4	
SNOW	Snow King Moun	92.90	46	IAmb	IAmb	02 40 57.8		
	comp=Z,282nm,1.9s							
SNOW				IAMs_20	IAMs_20	03 23 36.4		
	comp=Z,56μm,18.0s							
YMR	Madison River	92.99	45	IAmb	IAmb	02 40 55.8		
	comp=Z,159nm,1.4s							
FLWY	Flagg Ranch	93.06	46	IAmb	IAmb	02 41 22.5		
	comp=Z,224nm,1.6s							
FLWY				IAMs_20	IAMs_20	03 15 50.7		
	comp=Z,89μm,20.0s							
C36M	Paulatuk	93.10	20	P	P	02 40 44.2	-2.0	
	baz=248							
C36M				S	S	02 51 54.7	+2.4	
	baz=248							
C36M	Paulatuk	93.10	20	IAMs_20	IAMs_20	03 19 57.5		
	comp=Z,63μm,20.0s							
121A	Cookes Peak, D	93.14	58	P	P	02 40 47.0	-0.5	
	baz=260,SNR=15							
121A				S	S	02 51 58.6	+4.0	
	baz=260							
121A	Cookes Peak, D	93.14	58	IAMs_20	IAMs_20	03 15 06.3		
	comp=Z,80μm,20.0s							
H17A	Grant Village	93.21	46	P	P	02 40 48.3	+0.6	
	baz=259,SNR=11							
H17A				S	S	02 52 10.4	+15	
	baz=259							
PV13	Radium Mtn., P	93.32	52	P	P	02 40 48.4	+0.2	
MVCO	Mesa Verde	93.40	53	P	P	02 40 48.6	0.0	
	baz=260							
MVCO				S	S	02 51 59.9	+3.0	
	baz=260							
MVCO	Mesa Verde	93.40	53	IAMs_20	IAMs_20	03 14 20.0		
	comp=Z,77μm,22.0s							
PV01	Paradox Valley	93.51	52	IAMs_20	IAMs_20	03 13 53.9		
	comp=Z,119μm,22.0s							
SMLA	Simla	93.58	301	*e*P	P	02 40 50.1	+0.9	
BW06	Boulder Array	93.62	47	P	P	02 40 47.6	-2.0	
	baz=259,SNR=36							
BW06				S	S	02 51 56.1	-2.5	
	baz=259							
BW06	Boulder Array	93.62	47	P	P	02 40 48.8	-0.8	
BW06				IAMs_20	IAMs_20	03 16 31.6		
	comp=Z,75μm,21.0s							
PDAR	Pinedale Array	93.62	47	P	P	02 40 48.4	-1.2	
	comp=Z,19nm,1.0s,baz=222,slow=2.0,SNR=48							
PDAR				PP	PP	02 44 33.7	-0.9	
	comp=Z,6.4nm,1.1s,baz=264,slow=7.0,SNR=4.0							
PDAR				PKKPbc	PKKPdf	02 57 51.2	-4.1	
	comp=Z,0.5nm,0.4s,baz=98,slow=11,SNR=5.0							
PDAR				PKPPKP		03 06 07.6		
	comp=Z,0.2nm,0.5s,baz=88,slow=4.6,SNR=2.2							
PDAR				LR	LR	03 16 43.1		
	comp=Z,57μm,21.0s,baz=268,slow=32							
PDAR	Pinedale Array	93.62	47	P	P	02 40 47.7	-1.9	
SHLS	Shalkode	93.91	313	⇓*i*P	P	02 40 47.4	-3.4	
	comp=Z,515nm,3.4s,baz=313							
SHLS				*e*PP	PP	02 44 29.4	-7.2	
	baz=313							
SHLS				*e*S	S	02 51 46.5	-14	
	baz=313							
SHLS	Shalkode	93.91	313	*d i*P	P	02 40 47.3	-3.4	
SHLS				*e*		02 44 29.4		
SHLS				*e*S	S	02 51 46.4	-14	
SHLS				pmax	pmax			
	comp=Z,515nm,3.4s							
GOA	Goa	93.96	285	*ex*	P	02 40 45.6	-5.7	
HPIG		93.99	63	P	P	02 40 49.9	-1.6	
HPIG				IAMs_20	IAMs_20	03 16 27.2		
	comp=Z,70μm,20.0s							
EPT	El Paso	94.07	59	IAMs_20	IAMs_20	03 14 54.3		
	comp=Z,76μm,20.0s							
Y22D	IRIS PASSCAL I	94.11	56	P	P	02 40 51.0	-0.9	
	baz=260							
Y22D				S	S	02 52 08.8	+5.7	
	baz=260							
Y22D	IRIS PASSCAL I	94.11	56	IAMs_20	IAMs_20	03 18 41.2		
	comp=Z,82μm,19.0s							
O20A	White River Ci	94.12	50	P	P	02 40 50.7	-1.2	
	baz=260,SNR=11							
O20A	White River Ci	94.12	50	IAMs_20	IAMs_20	03 17 36.9		
	comp=Z,67μm,20.0s							
UZB	Uzynbulak	94.22	313	⇓*i*P	P	02 40 49.9	-2.3	
	comp=Z,195nm,2.0s,baz=313							
UZB				*e*PP	PP	02 44 34.9	-4.3	
	baz=313							
UZB				*e*S	SKSac	02 51 30.1	+2.6	
	baz=313							
UZB	Uzynbulak	94.22	313	*d i*P	P	02 40 49.9	-2.3	
UZB				*e*		02 44 34.8		
UZB				*e*S	SKSac	02 51 30.0	+2.6	
UZB				pmax	pmax			
	comp=Z,195nm,2.0s							
RLMT	Red Lodge	94.26	45	P	P	02 40 52.7	+0.3	
	baz=260,SNR=14							
RLMT				S	S	02 52 07.1	+3.1	
	baz=260							
POO	Poona	94.44	288	*e*P	P	02 40 53.5	-0.1	
EGMT	Eagleton	94.46	42	P	P	02 40 51.5	-1.6	
	baz=259,SNR=8.5							
KPKS	Kokpek	94.52	313	⇓*i*P	P	02 40 51.6	-1.9	
	comp=Z,671nm,3.2s,baz=313							
KPKS				*e*PP	PP	02 44 34.0	-7.5	
	baz=313							
KPKS				*i* S	SKSac	02 51 31.2	+2.3	
	baz=313							
KPKS	Kokpek	94.52	313	*d i*P	P	02 40 51.5	-1.9	
KPKS				*i* S	SKSac	02 51 31.2	+2.3	
KPKS				pmax	pmax			
	comp=Z,671nm,3.2s							
ANMO	Albuquerque	94.64	55	P	P	02 40 55.2	+0.9	
	comp=Z,21nm,1.1s,baz=229,slow=4.7,SNR=35							
ANMO				PP	PP	02 44 41.6	-1.0	
	comp=Z,5.2nm,1.1s,baz=210,slow=13,SNR=5.5							
ANMO	Albuquerque	94.64	55	*e*P	P	02 40 54.7	+0.4	
ANMO				pmax	pmax			
	comp=Z,25nm,1.0s							
ANMO				MLR	MLR			
	comp=Z,59μm,18.0s							
ANMO	Albuquerque	94.64	55	P	P	02 40 53.9	-0.5	
	baz=261							
ANMO				S	S	02 52 10.9	+3.2	
	baz=261							
ANMO	Albuquerque	94.64	55	P	P	02 40 54.0	-0.4	
ANMO	Albuquerque	94.64	55	IAMs_20	IAMs_20	03 21 39.0		
	comp=Z,59μm,18.0s							
SATY	Saty	94.65	313	⇓*i*P	P	02 40 51.1	-3.1	
	baz=313							
SATY				*e*PP	PP	02 44 46.1	+3.6	
	baz=313							
SATY				*i* S	SKSac	02 51 32.7	+3.0	
	baz=313							
SATY	Saty	94.65	313	*d i*P	P	02 40 51.0	-3.1	
SATY				*e*		02 44 46.0		
SATY				*i* S	SKSac	02 51 32.7	+3.0	
SEM	Semipalatinsk	94.71	320	⇓*i*P	P	02 40 50.9	-3.4	
	comp=Z,376nm,2.2s,baz=320							
SEM				*e*PP	PP	02 44 35.4	-7.4	
	baz=320							
SEM				*e*S	SKSac	02 51 27.6	-2.3	
	baz=320							
SEM				*e*LR	LR	03 19 36.6		
	comp=Z,40μm,21.2s,baz=320							
SEM	Semipalatinsk	94.71	320	*d i*P	P	02 40 50.9	-3.4	
SEM				*e*S	SKSac	02 51 27.6	-2.3	
SEM				pmax	pmax			
	comp=Z,376nm,2.2s							
YKA	Yellowknife Ar	94.75	27	P	P	02 40 53.4	-0.5	
	comp=Z,14nm,0.9s,baz=250,slow=4.3,SNR=63							
YKA				PP	PP	02 44 38.7	-3.7	
	comp=Z,0.8nm,0.7s,baz=287,slow=11,SNR=2.7							
YKA				PKKPbc	PKKPdf	02 57 52.7	-0.9	
	comp=Z,1.2nm,0.9s,baz=66,slow=3.2,SNR=3.7							
YKA				LR	LR	03 16 14.4		
	comp=Z,116μm,21.9s,baz=0.0,slow=31							
S22A	4UR Ranch, Cre	94.80	53	P	P	02 40 55.0	-0.1	
	baz=261,SNR=7.1							
S22A				S	S	02 52 12.5	+3.3	
	baz=261							
SMCO	Snowmass	94.92	51	P	P	02 40 56.1	+0.3	
TDK	Taldyqorghan	94.98	315	*i* P	P	02 40 53.1	-2.4	
	baz=315							
TDK				*e*PP	PP	02 44 43.5	-1.4	
	baz=315							
TDK				*e*S	SKSac	02 51 30.7	-0.5	
	baz=315							
TDK				*e*LR	LR	03 19 30.2		
	comp=Z,50μm,24.1s,baz=315							
TDK	Taldyqorghan	94.98	315	*i* P	P	02 40 53.0	-2.4	
TDK				*e*		02 44 43.4		
TDK				*e*S	SKSac	02 51 30.6	-0.5	
MNTX	Cornudas Mount	95.00	59	P	P	02 40 54.6	-1.2	
	baz=261,SNR=25							
MNTX				S	S	02 52 14.8	+4.1	
	baz=261							
MNTX	Cornudas Mount	95.00	59	IAMs_20	IAMs_20	03 18 08.8		
	comp=Z,64μm,19.0s							
RWWY	Rawlins	95.15	49	IAMs_20	IAMs_20	03 23 00.1		
	comp=Z,57μm,18.0s							
KDJ	Kajisay	95.39	312	IAmb	IAmb	02 41 07.3		
	comp=Z,420nm,1.9s							
MDOK	Medeo	95.65	313	*e*P	P	02 40 55.5	-3.3	
	baz=313							
MDOK				*e*PP	PP	02 44 49.1	-1.2	
	baz=313							
MDOK				*e*S	SKSac	02 51 33.4	-1.7	
	baz=313							
MDOK				*e*LR	LR	03 20 48.5		
	comp=Z,20μm,23.1s,baz=313							
MDOK	Medeo	95.65	313	*e*P	P	02 40 55.4	-3.3	
MDOK				*e*		02 44 49.1		
MDOK				*e*S	SKSac	02 51 33.4	-1.7	
AAA	Alma-Ata	95.75	313	*e*P	P	02 40 56.5	-2.6	
	baz=313							
AAA				*e*PP	PP	02 44 50.2	-0.7	
	baz=313							
AAA				*i* S	SKSac	02 51 34.6	-0.9	
	baz=313							
AAA				*e*LR	LR	03 20 57.0		
	comp=Z,27μm,19.0s,baz=313							
AAA	Alma-Ata	95.75	313	*e*P	P	02 40 56.5	-2.6	
AAA				*e*		02 44 50.2		
AAA				*i* S	SKSac	02 51 34.5	-0.9	
AAA				MLR	MLR			
	comp=Z,27μm,19.0s							
CHKK	Chushkaly	95.80	313	*e*P	P	02 40 57.0	-2.2	
	baz=313							
CHKK	Chushkaly	95.80	313	*e*P	P	02 40 57.0	-2.2	
K22A	Casper	95.81	48	P	P	02 40 57.1	-2.4	
	baz=261							
K22A				S	S	02 52 17.7	+0.1	
	baz=261							
KURBB	Kurchatov Arra	95.83	320	P	P	02 40 58.3	-0.8	
	comp=Z,9.5nm,0.8s,baz=106,slow=3.0,SNR=43							
KURBB				PP	PP	02 44 47.2	-4.0	
	comp=Z,11nm,1.1s,baz=103,slow=4.9,SNR=5.3							
SDCO	Great Sand Dun	95.84	53	P	P	02 40 58.9	-1.0	
	baz=261							
SDCO				S	S	02 52 19.1	+0.9	
	baz=261							
SDCO	Great Sand Dun	95.84	53	IAMs_20	IAMs_20	03 19 47.6		
	comp=Z,61μm,19.0s							
KSH	Kashi	95.89	309	⇓*i*P	P	02 41 00.6	+0.7	
KSH				pP	pwP	02 41 09.3	+3.2	
KSH				PP	PP	02 44 53.9	+1.7	
KSH				S	S	02 52 15.4	-2.9	
KSH				SS	SS	02 58 52.1	+3.3	
KSH				pmax	pmax			
	comp=Z,60nm,2.3s							
KSH				LR	LR			
	comp=Z,33μm,14.7s							
KSH				LR	LR			
	comp=Z,41μm,16.3s							
KSH				LR	LR			
	comp=Z,70μm,19.9s							
N23A	Red Feather La	95.97	50	P	P	02 41 00.8	+0.4	
	baz=261,SNR=8.6							
N23A				S	S	02 52 22.5	+3.3	
	baz=261							
ISCO

KUU Kurty 96.27 313 *d iP* **P 02 40 58.5 -2.9**
KUU *e* 02 44 56.0
KUU *i S* **SKSac 02 51 36.5 -1.5**
Q24A Divide 96.29 52 P **P 02 41 01.4 -0.6**
baz=262
Q24A S **S 02 52 25.6 +3.4**
baz=262
BOOM Boomskoye usch 96.36 312 P **P 02 41 02.0 0.0**
BOOM pmax pmax
comp=Z,238nm,1.7s
BOOM MLR MLR
comp=Z,34μm,21.0s
BOOM Boomskoye usch 96.36 312 P **P 02 41 02.0 0.0**
BOOM IAmb IAmb 02 41 11.6
comp=Z,238nm,1.6s
PHWY Pilot Hill 96.39 49 IAMs_20 IAMs_20 03 16 54.1
comp=Z,66μm,22.0s
PMSA Palmer Station 96.47 161 P **P 02 41 01.4 -0.4**
PMSA IAmb IAmb 02 41 10.1
comp=Z,143nm,1.3s
T25A Trinidad 96.61 54 P **P 02 41 03.2 -0.1**
baz=262
T25A S **S 02 52 30.2 +5.4**
baz=262
T25A Trinidad 96.61 54 IAMs_20 IAMs_20 03 16 01.4
comp=Z,75μm,22.0s
LAO LASA Array 96.61 44 P **P 02 41 02.9 0.0**
baz=262,SNR=5.9
LAO LASA Array 96.61 44 IAMs_20 IAMs_20 03 17 13.5
comp=Z,80μm,22.0s
NIL Nilore 97.23 303 P Pdif 02 41 07.5 +1.4
NIL pmax pmax
comp=Z,122nm,1.5s
NIL MLR MLR
comp=Z,27μm,21.0s
NIL Nilore 97.23 303 P Pdif 02 41 07.5 +1.4
NIL IAmb IAmb 02 41 14.9
comp=Z,122nm,1.4s
AAK Ala-Archa 97.43 312 P **P 02 41 06.7 -0.1**
comp=Z,5.6nm,0.6s,baz=82,slow=5.3,SNR=3.1
AAK Ala-Archa 97.43 312 P **P 02 41 06.7 -0.1**
AAK pmax pmax
comp=Z,43nm,1.3s
AAK MLR MLR
comp=Z,41μm,22.0s
AAK Ala-Archa 97.43 312 IAmb IAmb 02 41 15.2
comp=Z,43nm,1.3s
SGDS Sogindy 97.44 313 ⇓ *iP* **P 02 41 03.6 -3.1**
SGDS baz=313
SGDS *e*PP **PP 02 45 03.1 -0.8**
baz=313
SGDS *e*S **SKSac 02 51 46.8 +2.5**
baz=313
SGDS Sogindy 97.44 313 *d iP* **P 02 41 03.6 -3.1**
SGDS *e* 02 45 03.1
SGDS *e*S **SKSac 02 51 46.7 +2.5**
MSTX Muleshoe 97.51 57 P **P 02 41 05.1 -2.2**
baz=262
MSTX S **S 02 52 34.2 +1.8**
baz=262
MSTX Muleshoe 97.51 57 IAMs_20 IAMs_20 03 20 40.0
comp=Z,63μm,19.0s
SNAA Sanae 97.66 184 P Pdif 02 41 08.4 +1.1
SNAA Sanae 97.66 184 *ce*P **P 02 41 06.7 -0.5**
SNAA pmax pmax
comp=Z,38nm,1.0s
SNAA MLR MLR
comp=Z,177μm,19.0s
SNAA Sanae 97.66 184 P **P 02 41 07.2 0.0**
SNAA IAmb IAmb 02 41 25.1
comp=Z,179nm,1.2s
RSSD Black Hills 97.80 47 P Pdif 02 41 08.7 +0.1
RSSD pmax pmax
comp=Z,97nm,1.8s
RSSD MLR MLR
comp=Z,61μm,18.0s
RSSD Black Hills 97.80 47 P **P 02 41 07.3 -1.2**
baz=263
RSSD S **S 02 52 35.1 +0.4**
baz=263
RSSD Black Hills 97.80 47 P Pdif 02 41 08.7 +0.1
RSSD Black Hills 97.80 47 IAMs_20 IAMs_20 03 23 47.2
comp=Z,61μm,18.0s
CRZF Crozet Islands 97.94 220 IAMs_20 IAMs_20 03 19 24.1
comp=Z,66μm,20.0s
BTLS Baital 98.05 314 ⇓ *iP* **P 02 41 06.0 -3.3**
BTLS baz=314
BTLS *e*PP **PP 02 45 07.5 -1.0**
baz=314
BTLS Baital 98.05 314 *d iP* **P 02 41 06.0 -3.3**
BTLS *e* 02 45 07.5
KSCO Kaye Shedlock' 98.25 52 P **P 02 41 09.7 -0.9**
baz=263
KSCO S **S 02 52 39.7 +1.2**
baz=263
VNA3 Neumayer Olymp 98.41 182 P Pdif 02 41 12.3 +1.8
AMTX Amarillo 98.52 56 P **P 02 41 11.3 -0.5**
baz=263
AMTX S **S 02 52 39.8 -1.1**
baz=263
AMTX Amarillo 98.52 56 IAMs_20 IAMs_20 03 18 51.6
comp=Z,67μm,20.0s
UNM Universidad Na 98.74 72 IAMs_20 IAMs_20 03 23 12.4
comp=Z,59μm,18.0s
OGNE Ogallala 98.92 50 P **P 02 41 10.1 -3.4**
baz=264
OGNE S **S 02 52 42.7 -1.3**
baz=264
OGNE Ogallala 98.92 50 IAMs_20 IAMs_20 03 23 41.9
comp=Z,54μm,19.0s
VNA1 Neumayer--Stat 98.95 182 Pdiff Pdif 02 41 13.8 +0.9
TLIG Tlapa 99.07 74 IAMs_20 IAMs_20 03 18 27.2
comp=Z,55μm,19.0s
BRZS Berezniki 99.47 319 ⇓ *iP* **Pdif 02 41 12.5 -3.1**
BRZS baz=319
BRZS *e*PP **PP 02 45 18.1 -1.1**
baz=319
BRZS *e*S **SKSac 02 51 53.7 -0.4**
baz=319
BRZS Berezniki 99.47 319 *d iP* **Pdif 02 41 12.5 -3.1**
BRZS *e* 02 45 18.1
BRZS *e*S **SKSac 02 51 53.6 -0.4**
JCT Junction City 99.58 61 P **Pdif 02 41 13.0 -3.6**
baz=264
JCT Junction City 99.58 61 IAMs_20 IAMs_20 03 18 26.2
comp=Z,87μm,22.0s
833A Chaparral WMA, 99.69 63 P **Pdif 02 41 15.5 -1.6**
baz=263
ABTX Abilene, Hawle 99.95 59 P **Pdif 02 41 16.2 -2.0**
baz=264
ABTX Abilene, Hawle 99.95 59 IAMs_20 IAMs_20 03 18 42.8
comp=Z,73μm,20.0s
FFC Flin Flon 100.14 36 P **Pdif 02 41 18.6 +0.2**
FFC Flin Flon 100.14 36 Pdif **Pdif 02 41 18.6 +0.2**
GAR Garm 100.19 308 IAMs_20 IAMs_20 03 27 38.4
comp=Z,103μm,22.0s
KK31 Karatay Array 100.39 312 P **Pdif 02 41 19.1 -0.8**
KK31 Karatay Array 100.39 312 Pdif **Pdif 02 41 19.1 -0.8**
KKAR Karatay Array 100.39 312 P **Pdif 02 41 20.1 +0.2**
KKAR Karatay Array 100.39 312 Pdif **Pdif 02 41 20.1 +0.2**
CBKS Cedar Bluff 100.47 52 P **Pdif 02 41 18.8 -1.6**
baz=265
CBKS Cedar Bluff 100.47 52 IAMs_20 IAMs_20 03 18 20.1
comp=Z,69μm,22.0s
KBL Kabul 100.81 303 P **Pdif 02 41 23.3 +1.1**
KBL MLR MLR
comp=Z,19μm,21.0s
KBL Kabul 100.81 303 Pdif **Pdif 02 41 23.3 +1.1**
WMOK Wichita Mounta 100.87 56 P **Pdif 02 41 23.9 +1.7**
WMOK Wichita Mounta 100.87 56 P **Pdif 02 41 20.0 -2.2**
baz=265
WMOK Wichita Mounta 100.87 56 Pdif **Pdif 02 41 23.9 +1.7**
WMOK Wichita Mounta 100.87 56 IAMs_20 IAMs_20 03 22 47.1
comp=Z,76μm,19.0s
KVTX Kingsville 100.92 64 IAMs_20 IAMs_20 03 21 13.9
comp=Z,49μm,18.0s
CHGR Chuyangaron 101.06 307 Pdif **Pdif 02 41 23.9 +0.8**
CHGR IAMs_20 IAMs_20 03 28 20.5
comp=Z,74μm,20.0s
BVAR Borovoye Array 101.10 322 P **Pdif 02 41 23.3 +0.5**
comp=Z,16nm,0.9s,baz=183,slow=18,SNR=21
BVAR PP **PP 02 45 28.0 -3.4**
comp=Z,8.3nm,1.0s,baz=184,slow=8.9,SNR=3.9
BVAR PKKPbc **PKKPbc 02 57 35.8 +0.1**
comp=Z,2.7nm,0.9s,baz=231,slow=16,SNR=6.1
735A Kenedy 101.13 63 IAMs_20 IAMs_20 03 23 55.4
comp=Z,63μm,19.0s
BRVK Borovoye 101.17 322 *d iP* **Pdif 02 41 20.4 -2.6**
BRVK pmax pmax
comp=Z,163nm,2.2s
BRVK Borovoye 101.17 322 IAMs_20 IAMs_20 03 25 31.6
comp=Z,93μm,21.0s
MDND Maddock 101.21 43 P **Pdif 02 41 22.1 -1.3**
baz=267
MG01 Puerto William 101.33 152 IAMs_20 IAMs_20 03 17 41.0
comp=Z,85μm,22.0s
SUSD Miller 101.47 47 P **Pdif 02 41 22.5 -2.1**
baz=267
SUSD Miller 101.47 47 IAMs_20 IAMs_20 03 19 31.1
comp=Z,108μm,22.0s
K31A O'Neill 101.50 48 IAMs_20 IAMs_20 03 22 17.2
comp=Z,97μm,20.0s
OK032 Salt Plains WL 101.51 54 IAMs_20 IAMs_20 03 28 18.8
comp=Z,82μm,18.0s
435B Jarrell 101.51 61 P **Pdif 02 41 25.0 -0.1**
baz=265
435B Jarrell 101.51 61 Pdif **Pdif 02 41 25.2 +0.1**
X34A Smith Ranch, M 101.64 57 IAMs_20 IAMs_20 03 23 11.4
comp=Z,92μm,19.0s
WHTX Lake Whitney, 101.73 59 P **Pdif 02 41 25.1 -1.0**
baz=265
WHTX Lake Whitney, 101.73 59 IAMs_20 IAMs_20 03 22 31.1
comp=Z,63μm,19.0s
MG02 Cerro Sombrero 101.84 150 IAMs_20 IAMs_20 03 26 16.6
comp=Z,60μm,18.0s
BGNE Belgrade 101.88 50 P **Pdif 02 41 25.3 -1.2**
baz=266
BGNE Belgrade 101.88 50 IAMs_20 IAMs_20 03 23 27.2
comp=Z,75μm,20.0s
KS21 Milan North St 101.98 54 IAMs_20 IAMs_20 03 27 00.4
comp=Z,76μm,18.0s
OKCFA Oklahoma City 102.02 56 IAMs_20 IAMs_20 03 20 55.3
comp=Z,61μm,20.0s
Z35A Perchaven, San 102.02 58 IAMs_20 IAMs_20 03 21 55.8
comp=Z,77μm,20.0s
KS20 Mayfield South 102.06 54 IAMs_20 IAMs_20 03 27 02.5
comp=Z,83μm,18.0s
OK025 Westminster Rd 102.12 56 IAMs_20 IAMs_20 03 24 06.1
comp=Z,65μm,19.0s
LOOK Love County 102.13 57 IAMs_20 IAMs_20 03 20 43.4
comp=Z,74μm,21.0s
OK031 S. Brethren Rd 102.55 55 IAMs_20 IAMs_20 03 22 58.5
comp=Z,60μm,19.0s
RES Resolute Bay 102.66 16 P **Pdif 02 41 31.3 +2.1**
RES Resolute Bay 102.66 16 Pdif **Pdif 02 41 31.3 +2.1**
QUOK Quay 102.67 55 IAMs_20 IAMs_20 03 23 12.6
comp=Z,72μm,20.0s
T35A Sooner Cattle 102.88 54 IAMs_20 IAMs_20 03 27 36.0
comp=Z,81μm,18.0s
KSU1 Kansas State U 102.92 52 P **Pdif 02 41 30.4 -0.8**
baz=267
KSU1 Kansas State U 102.92 52 IAMs_20 IAMs_20 03 19 36.0
comp=Z,77μm,22.0s
D32A Dogwood Acres, 102.94 44 IAMs_20 IAMs_20 03 22 19.8
comp=Z,78μm,20.0s
ECSD EROS Data Cent 103.12 47 P **Pdif 02 41 29.6 -2.4**
baz=268
ECSD EROS Data Cent 103.12 47 IAMs_20 IAMs_20 03 21 13.9
comp=Z,86μm,21.0s
237A Washetta, Mont 103.13 59 IAMs_20 IAMs_20 03 23 06.0
comp=Z,60μm,19.0s
L34A Svendsen Farm, 103.23 49 IAMs_20 IAMs_20 03 23 44.0
comp=Z,68μm,19.0s
TUL1 Leonard 103.40 55 P **Pdif 02 41 32.5 -0.9**
baz=267
EUNU Eureka 103.40 10 IAMs_20 IAMs_20 03 23 23.7
comp=Z,56μm,21.0s
F33A 5 Mile Ranch, 103.41 45 IAMs_20 IAMs_20 03 26 32.4
comp=Z,59μm,19.0s
X37A Clayton 103.66 57 IAMs_20 IAMs_20 03 21 55.0
comp=Z,73μm,20.0s
ULM Lac du Bonnet 103.73 41 Pdiff **Pdif 02 41 35.0 +0.5**
comp=Z,15nm,1.2s,baz=289,slow=4.8,SNR=7.3
ULM PP **PP 02 45 49.1 -2.1**
comp=Z,4.8nm,1.0s,baz=281,slow=4.8,SNR=3.6
ULM Lac du Bonnet 103.73 41 P **Pdif 02 41 34.8 +0.3**
ULM Lac du Bonnet 103.73 41 Pdif **Pdif 02 41 34.8 +0.3**
ULM IAMs_20 IAMs_20 03 21 44.6
comp=Z,55μm,22.0s
Z38A Mt. Pleasant 103.91 58 IAMs_20 IAMs_20 03 24 01.5
comp=Z,62μm,20.0s
NATX Nacogdoches 104.09 60 IAMs_20 IAMs_20 03 19 20.4
comp=Z,70μm,22.0s
FCC Fort Churchill 104.48 32 IAMs_20 IAMs_20 03 22 30.9
comp=Z,98μm,21.0s
U38A Gravette 104.56 55 IAMs_20 IAMs_20 03 28 28.6
comp=Z,62μm,18.0s
LL07 Hotel Espejo d 104.78 140 IAMs_20 IAMs_20 03 24 13.8
comp=Z,68μm,18.0s
HHAR Hobbs 104.91 55 IAMs_20 IAMs_20 03 24 40.0
comp=Z,77μm,19.0s
W39A Magazine 105.00 56 IAMs_20 IAMs_20 03 20 53.3
comp=Z,58μm,22.0s
MIAR Mount Ida 105.14 57 P **Pdif 02 41 40.8 -0.4**
baz=268
MIAR Mount Ida 105.14 57 IAMs_20 IAMs_20 03 22 41.1
comp=Z,80μm,20.0s
B35A Bob, Littlefor 105.16 43 IAMs_20 IAMs_20 03 23 57.9
comp=Z,61μm,20.0s
RTAL Retalhuleu 105.22 78 IAMs_20 IAMs_20 03 23 29.4
comp=Z,82μm,18.0s
441A DeRidder 105.28 61 IAMs_20 IAMs_20 03 22 37.2
comp=Z,57μm,20.0s
F36A Milaca 105.34 45 IAMs_20 IAMs_20 03 24 00.6
comp=Z,74μm,20.0s
I37A Lemond, Waseca 105.45 47 IAMs_20 IAMs_20 03 27 02.5
comp=Z,56μm,20.0s
LL05 Los Muermos 105.48 138 IAMs_20 IAMs_20 03 20 03.6
comp=Z,50μm,21.0s
WLAR White Oak Lake 105.49 58 IAMs_20 IAMs_20 03 31 57.5
comp=Z,65μm,19.0s
HUEH Huehuetenango 105.50 77 IAMs_20 IAMs_20 03 24 18.8
comp=Z,64μm,18.0s
SCIA State Center 105.59 49 P **Pdif 02 41 43.4 +0.4**
baz=270
SCIA State Center 105.59 49 IAMs_20 IAMs_20 03 28 44.4
comp=Z,64μm,18.0s
LL01 San Ignacio de 105.69 140 IAMs_20 IAMs_20 03 24 52.9
comp=Z,66μm,18.0s
Z41A Richland Creek 105.73 58 P **Pdif 02 41 42.6 -1.2**
baz=268
X40A Basin Creek Fa 105.75 57 P **Pdif 02 41 39.4 -4.5**
baz=268
X40A Basin Creek Fa 105.75 57 IAMs_20 IAMs_20 03 22 59.3
comp=Z,67μm,20.0s
U40A Yellville 105.79 55 P **Pdif 02 41 44.5 +0.5**
baz=269
U40A Yellville 105.79 55 IAMs_20 IAMs_20 03 23 52.2
comp=Z,64μm,20.0s
SPMN Marine on St. 105.86 46 P **Pdif 02 41 40.4 -3.7**
baz=271
SPMN Marine on St. 105.86 46 IAMs_20 IAMs_20 03 22 13.3
comp=Z,98μm,22.0s
K38A Parkersburg 105.91 49 IAMs_20 IAMs_20 03 31 05.0
comp=Z,67μm,19.0s
342A Flagon Creek P 106.06 60 IAMs_20 IAMs_20 03 28 31.6
comp=Z,50μm,19.0s
WHAR Wooly Hollow 106.22 56 IAMs_20 IAMs_20 03 24 45.7
comp=Z,82μm,20.0s
W41B Gary Mavity, V 106.25 56 P **Pdif 02 41 45.0 -1.1**
baz=269
MGMO Mountain Grove 106.28 54 IAMs_20 IAMs_20 03 31 22.0
comp=Z,79μm,18.0s
R40A Maddies Statio 106.29 53 IAMs_20 IAMs_20 03 23 53.3
comp=Z,56μm,21.0s
LL03 Petrohue 106.32 138 IAMs_20 IAMs_20 03 20 49.6
comp=Z,51μm,22.0s
FCAR Ozark Folk Cen 106.37 56 IAMs_20 IAMs_20 03 23 47.6
comp=Z,68μm,21.0s
CCAR Cane Creek 106.61 58 IAMs_20 IAMs_20 03 23 04.2
comp=Z,59μm,20.0s
EYMN Ely 106.67 43 P **Pdif 02 41 44.3 -3.3**
baz=273
EYMN Ely 106.67 43 IAMs_20 IAMs_20 03 24 56.5
comp=Z,47μm,20.0s
E38A The Farm, Brul 106.69 44 IAMs_20 IAMs_20 03 23 27.1
comp=Z,55μm,22.0s
143A Socs Landing, 106.89 59 IAMs_20 IAMs_20 03 24 30.5
comp=Z,66μm,20.0s
CCM Cathedral Cave 107.10 53 P **Pdif 02 41 50.2 +0.4**
baz=270
CCM Cathedral Cave 107.10 53 IAMs_20 IAMs_20 03 33 21.7
comp=Z,46μm,18.0s
LCAR Lake Charles 107.16 55 IAMs_20 IAMs_20 03 27 20.5
comp=Z,66μm,19.0s
344A Westbrook Farm 107.42 60 IAMs_20 IAMs_20 03 27 15.7
comp=Z,49μm,19.0s
MTO3 Montecristo 107.45 78 IAMs_20 IAMs_20 03 21 38.5
comp=Z,49μm,20.0s
ESQI Esquipulas 107.49 78 IAMs_20 IAMs_20 03 20 34.5
comp=Z,57μm,21.0s
SNET Serv Nac Est T 107.49 79 IAMs_20 IAMs_20 03 22 10.7
comp=Z,51μm,19.0s
VBMS Vicksburg 107.62 59 P **Pdif 02 41 51.0 -1.2**
baz=269
VBMS Vicksburg 107.62 59 IAMs_20 IAMs_20 03 23 20.1
comp=Z,58μm,22.0s
PLCA Paso Flores 107.73 139 PP **PP 02 46 17.4 -3.2**
comp=Z,3.7nm,0.9s,baz=272,slow=19,SNR=3.1
PLCA PKKPbc **PKKPbc 02 57 15.1 -0.2**
comp=Z,3.4nm,0.9s,baz=208,slow=6.8,SNR=3.9
ABKAR Akbulak array 107.74 318 Pdif **Pdif 02 41 53.0 +0.6**
JFWS Jewell Farm 107.77 48 P **Pdif 02 41 50.5 -2.1**
baz=272
JFWS Jewell Farm 107.77 48 IAMs_20 IAMs_20 03 25 45.9
comp=Z,48μm,20.0s
ARU Arti 107.79 326 Pdiff **Pdif 02 41 52.5 +0.1**
comp=Z,0.8nm,0.4s,baz=63,slow=7.7,SNR=5.2
ARU PP **PP 02 46 16.1 -4.9**
comp=Z,2.1nm,0.7s,baz=71,slow=2.3,SNR=2.8
ARU PKKPbc **PKKPbc 02 57 15.0 -0.5**
comp=Z,1.2nm,0.5s,baz=271,slow=2.7,SNR=7.3
ARU PKKP **PKKPdf 02 57 28.6 -0.7**
comp=Z,5.7nm,0.8s,baz=255,slow=4.4,SNR=5.2
ARU Arti 107.79 326 P **Pdif 02 41 53.7 +1.3**
ARU 02 46 22.6
ARU 02 52 29.0
ARU SP SP 02 55 42.5 +0.9
ARU SS **SS 03 01 27.6 -4.6**
ARU SSS SSS 03 05 31.2
ARU MLR MLR
comp=Z,71μm,21.0s
ARU Arti 107.79 326 IAMs_20 IAMs_20 03 31 43.3
comp=Z,75μm,21.0s
EFI East Falkland 107.80 153 IAMs_20 IAMs_20 03 21 54.9
comp=Z,64μm,21.0s
LPAR Lepanto 107.85 56 IAMs_20 IAMs_20 03 24 25.8
comp=Z,80μm,20.0s
HDBT Hernando Brdge 108.05 56 IAMs_20 IAMs_20 03 24 31.1
comp=Z,58μm,20.0s
TULEG Thule 108.12 11 IAMs_20 IAMs_20 03 27 36.4
comp=Z,69μm,22.0s
MET Memphis--Engin 108.15 56 IAMs_20 IAMs_20 03 24 43.8
comp=Z,72μm,20.0s
PEBM Pemiscott Bayo 108.21 55 IAMs_20 IAMs_20 03 29 56.2
comp=Z,47μm,19.0s
MSEY Mahe Island 108.34 262 IAMs_20 IAMs_20 03 29 38.5
comp=Z,81μm,19.0s
COWI Conover 108.39 45 IAMs_20 IAMs_20 03 26 02.1
comp=Z,59μm,20.0s
PENMO Penman 108.39 55 IAMs_20 IAMs_20 03 26 45.5
comp=Z,86μm,20.0s
Y45A Yeager Farm, C 108.47 58 IAMs_20 IAMs_20 03 26 27.4
comp=Z,57μm,20.0s
LNXT Lenox 108.51 55 IAMs_20 IAMs_20 03 29 30.2
comp=Z,47μm,19.0s
OXF Oxford 108.58 57 IAMs_20 IAMs_20 03 29 13.3
comp=Z,60μm,19.0s
HALT Halls 108.63 56 IAMs_20 IAMs_20 03 26 46.5
comp=Z,69μm,20.0s
GLAT Glass 108.67 55 IAMs_20 IAMs_20 03 30 53.6
comp=Z,65μm,18.0s
S44A Carbondale 108.67 54 IAMs_20 IAMs_20 03 31 06.6
comp=Z,76μm,18.0s
I42A Draeger Farm, 108.69 47 IAMs_20 IAMs_20 03 28 01.4
comp=Z,68μm,19.0s
SIUC Southern Illin 108.70 54 IAMs_20 IAMs_20 03 31 06.9
comp=Z,78μm,18.0s
D41A Chassel 108.71 44 IAMs_20 IAMs_20 03 26 12.6
comp=Z,80μm,20.0s
HICK Hickman 108.72 55 IAMs_20 IAMs_20 03 27 14.7
comp=Z,82μm,19.0s
W45A Hickory Valley 108.76 56 IAMs_20 IAMs_20 03 24 52.1
comp=Z,71μm,20.0s
Q44A Meyer Farm, Va 108.83 52 IAMs_20 IAMs_20 03 31 26.7
comp=Z,77μm,19.0s
146A Union 108.86 59 IAMs_20 IAMs_20 03 33 03.0
comp=Z,69μm,18.0s
AKTO Aktyubinsk 108.87 320 Pdiff **Pdif 02 41 57.7 +0.3**
comp=Z,1.6nm,0.8s,baz=86,slow=5.5,SNR=8.1
AKTO PP **PP 02 46 25.7 -3.4**
comp=Z,3.6nm,0.9s,baz=87,slow=6.9,SNR=3.6
AKTO PKKPbc **PKKPbc 02 57 11.2 -0.7**
comp=Z,6.9nm,1.1s,baz=234,slow=2.1,SNR=8.7
WSAR Wadi Sarin 109.10 291 PKKPbc PKKPbc 02 57 09.8 -0.5
comp=Z,6.5nm,0.9s,baz=100,slow=18,SNR=2.3
F42A Maple Grove Fa 109.11 45 IAMs_20 IAMs_20 03 25 07.4
comp=Z,79μm,21.0s
TGUH Tegucigalpa,Un 109.42 79 IAMs_20 IAMs_20 03 22 36.0
comp=Z,49μm,20.0s
H43A Windswept, Lux 109.47 47 IAMs_20 IAMs_20 03 26 31.0
comp=Z,82μm,20.0s
L44A Lake County Fo 109.53 49 P **Pdif 02 41 58.8 -1.7**
baz=274
L44A Lake County Fo 109.53 49 IAMs_20 IAMs_20 03 26 56.7
comp=Z,86μm,20.0s
OLIL Olney 109.56 53 IAMs_20 IAMs_20 03 31 57.8
comp=Z,77μm,18.0s
HQIL Hanson Quary C 109.59 49 IAMs_20 IAMs_20 03 24 55.5
comp=Z,93μm,21.0s
PLAL Pickwick Lake 109.67 57 IAMs_20 IAMs_20 03 25 20.3
comp=Z,69μm,20.0s
Z47A Carrollton 109.70 58 IAMs_20 IAMs_20 03 25 00.0
comp=Z,85μm,21.0s
GEYT Alibeck 109.73 307 Pdiff **Pdif 02 42 05.6 +4.1**
comp=Z,1.8nm,0.7s,baz=249,slow=19,SNR=3.8
GEYT PP **PP 02 46 28.8 -7.0**
comp=Z,7.2nm,1.0s,baz=132,slow=2.2,SNR=4.6
GYA0B ALIBECK ARRAY 109.73 307 Pdif **Pdif 02 42 01.1 -0.4**
E43A Lone Tree Farm 109.84 44 IAMs_20 IAMs_20 03 26 50.8
comp=Z,62μm,20.0s
WVT Waverly 109.85 55 P **Pdif 02 42 00.6 -1.4**
baz=272
WVT Waverly 109.85 55 IAMs_20 IAMs_20 03 28 00.9
comp=Z,67μm,19.0s
USIN University of 109.92 53 IAMs_20 IAMs_20 03 28 39.6
comp=Z,86μm,20.0s
SFIN Lafayette 110.25 51 P **Pdif 02 42 02.2 -1.6**
baz=274
KBS Kingsbay 110.28 355 IAMs_20 IAMs_20 03 26 47.9
comp=Z,58μm,22.0s
X48A Hartselle 110.53 57 IAMs_20 IAMs_20 03 25 47.1
comp=Z,54μm,20.0s
BRAL Brewton 110.57 61 P **Pdif 02 42 07.0 +1.6**
baz=270
LRAL Lakeview Retre 110.60 59 P **Pdif 02 42 04.6 -0.9**
baz=271
I45A Fountain 110.61 47 IAMs_20 IAMs_20 03 29 08.1
comp=Z,61μm,19.0s
V48A Smith Brothers 110.68 56 IAMs_20 IAMs_20 03 27 47.9
comp=Z,65μm,20.0s
WCI Wyandotte Cave 110.99 53 P **Pdif 02 42 06.1 -1.0**
baz=273
CAO2 Cobano, Puntar 111.01 84 IAMs_20 IAMs_20 03 23 47.2
comp=Z,46μm,19.0s
CLTN Cedars of Leba 111.07 55 IAMs_20 IAMs_20 03 28 38.0
comp=Z,79μm,20.0s
Y49A Blount Mountai 111.07 58 IAMs_20 IAMs_20 03 25 44.4
comp=Z,59μm,21.0s
MT02 Curacav 111.07 132 IAMs_20 IAMs_20 03 22 17.2
comp=Z,55μm,22.0s
JTS Las Juntas de 111.24 83 IAMs_20 IAMs_20 03 25 22.2
comp=Z,40μm,18.0s
SWET Sewanee 111.42 56 IAMs_20 IAMs_20 03 28 00.6
comp=Z,69μm,20.0s
JACO JACO, Garabito 111.44 84 IAMs_20 IAMs_20 03 24 01.7
comp=Z,51μm,19.0s
VOI Vohitsoka 111.48 241 IAMs_20 IAMs_20 03 29 45.5
comp=Z,59μm,19.0s
U49A Red Boiling Sp 111.49 55 IAMs_20 IAMs_20 03 29 10.3
comp=Z,79μm,20.0s
HSPB Hornsund (broa 111.57 353 *e*PP **PP 02 46 49.1 +1.4**
HSPB *e*L L 03 20 47.7
comp=Z,110μm,44.0s
GLMI Grayling 111.67 46 P **Pdif 02 42 14.8 +4.8**
baz=277
E46A Sault Ste Mari 111.69 44 IAMs_20 IAMs_20 03 28 14.7
comp=Z,72μm,21.0s
J47A Sunmer 111.71 48 IAMs_20 IAMs_20 03 28 12.3
comp=Z,83μm,20.0s
FPAL Fort Paine 111.71 57 IAMs_20 IAMs_20 03 26 34.3
comp=Z,59μm,20.0s

W50A	Signal Mountai	111.93	56	IAMs_20	IAMs_20	03 26 50.1		
	comp=Z,67µm,20.0s							
Z51A	Franklin	112.12	58	IAMs_20	IAMs_20	03 27 45.2		
	comp=Z,54µm,20.0s							
ABPO	Ambohimpanom	112.13	245	IAMs_20	IAMs_20	03 29 53.9		
	comp=Z,60µm,19.0s							
ABPO	Ambohimpanom	112.13	245	PP	PP	02 46 46.1	-7.4	
ABPO				PS	PKKPbc	02 56 28.7	-32	
P49A	Miami Univ. Ec	112.13	52	P	Pdif	02 42 11.6	-0.6	
	baz=275							
RIMA	Rio Macho	112.23	84	IAMs_20	IAMs_20	03 24 44.7		
	comp=Z,42µm,19.0s							
OPO	Ambohidratompo	112.31	245	PKiKP	PKiKP	02 46 09.0	-0.8	
	comp=Z,4.7nm,1.2s,baz=102,slow=20,SNR=1.5							
X51A	Calhoun	112.33	57	IAMs_20	IAMs_20	03 28 32.7		
	comp=Z,65µm,20.0s							
CVTR	Volcan Turrial	112.37	83	IAMs_20	IAMs_20	03 25 09.2		
	comp=Z,40µm,19.0s							
152A	Waverly Hall	112.52	59	IAMs_20	IAMs_20	03 26 56.9		
	comp=Z,59µm,20.0s							
CPCT	Cooper Cave	112.57	56	IAMs_20	IAMs_20	03 27 19.8		
	comp=Z,63µm,21.0s							
AAM	Ann Arbor	112.66	49	IAMs_20	IAMs_20	03 29 02.7		
	comp=Z,60µm,20.0s							
V51A	Loudon	112.69	56	IAMs_20	IAMs_20	03 28 32.9		
	comp=Z,71µm,20.0s							
GO04	Tololo Observa	112.79	129	IAMs_20	IAMs_20	03 31 53.9		
	comp=Z,42µm,18.0s							
PRGR	Permogore	112.93	333	*i* PKIKP	PKiKP	02 46 13.5	+4.1	
PRGR				pmax	pmax			
	comp=Z,12nm,0.9s							
HOPE	Hope Point	112.97	166	IAMs_20	IAMs_20	03 29 55.1		
	comp=Z,65µm,19.0s							
Y52A	Lilburn	113.03	58	IAMs_20	IAMs_20	03 28 15.1		
	comp=Z,71µm,21.0s							
I49A	Point Hope	113.06	47	IAMs_20	IAMs_20	03 33 04.1		
	comp=Z,58µm,19.0s							
W52A	Murphy	113.07	56	IAMs_20	IAMs_20	03 27 35.2		
	comp=Z,66µm,21.0s							
TKL	Tuckaleechee C	113.16	56	IAMs_20	IAMs_20	03 28 57.6		
	comp=Z,66µm,20.0s							
S51A	Beattyville	113.16	54	IAMs_20	IAMs_20	03 27 26.7		
	comp=Z,74µm,21.0s							
V52A	Sevierville	113.30	56	IAMs_20	IAMs_20	03 29 39.0		
	comp=Z,83µm,20.0s							
GOGA	Godfrey	113.54	58	IAMs_20	IAMs_20	03 29 45.9		
	comp=Z,56µm,20.0s							
154A	Montrose	113.89	59	IAMs_20	IAMs_20	03 35 33.0		
	comp=Z,61µm,19.0s							
BG3	Lake Jocassee	113.89	56	IAMs_20	IAMs_20	03 28 13.0		
	comp=Z,49µm,21.0s							
P52A	Corning	114.11	51	P	Pdif	02 42 21.8	+0.8	
	baz=276							
O52A	Adamsville	114.28	51	IAMs_20	IAMs_20	03 32 23.7		
	comp=Z,76µm,19.0s							
255A	Hazlehurst	114.45	60	IAMs_20	IAMs_20	03 34 35.0		
	comp=Z,45µm,19.0s							
HODGE	Hodges	114.50	57	IAMs_20	IAMs_20	03 28 10.1		
	comp=Z,78µm,21.0s							
APA	Apatity	114.68	342⇑	*i* PKIKP	PKPdf	02 46 13.9	+1.2	
APA				*i*		02 47 07.0		
APA				*i*		02 53 22.0		
APA				*i* PPS	PPS	02 57 55.0		
APA				*i* SS	SS	03 02 57.0	-6.4	
APA				pmax	pmax			
	comp=Z,12nm,1.0s							
TRQA	Tornquist	114.71	140	IAMs_20	IAMs_20	03 31 50.9		
	comp=Z,62µm,18.0s							
O53A	New Philadelph	114.74	51	IAMs_20	IAMs_20	03 32 44.8		
	comp=Z,74µm,19.0s							
PAULI	Pauline	114.82	57	IAMs_20	IAMs_20	03 28 51.6		
	comp=Z,75µm,21.0s							
S54A	Dingess, Beckl	114.95	53	IAMs_20	IAMs_20	03 37 15.7		
	comp=Z,72µm,18.0s							
KMSC	Kings Mountain	115.19	56	IAMs_20	IAMs_20	03 29 33.2		
	comp=Z,80µm,21.0s							
ERPA	Erie	115.39	48	IAMs_20	IAMs_20	03 33 54.8		
	comp=Z,44µm,20.0s							
SADO	Sadowa	115.53	45	PKKPbc	PKKPbc	02 56 48.0	-1.5	
	comp=Z,4.9nm,1.0s,baz=138,slow=19,SNR=3.3							
SADO	Sadowa	115.53	45	PKPdf	PKiKP	02 46 14.0	-1.0	
SADO				IAMs_20	IAMs_20	03 31 43.4		
	comp=Z,77µm,20.0s							
ARCES	ARCESS Array B	115.61	345	PKP	PKiKP	02 46 13.5	-0.9	
	comp=Z,3.1nm,0.5s,baz=64,slow=0.9,SNR=19							
ARCES				PKKPbc	PKKPbc	02 56 44.1	-5.7	
	comp=Z,9.3nm,0.9s,baz=221,slow=1.8,SNR=12							
ARCES	ARCESS Array B	115.61	345		PKiKP	02 46 13.4	-1.1	
257A	Skidaway Islan	115.68	60	IAMs_20	IAMs_20	03 30 34.5		
	comp=Z,48µm,21.0s							
BLA	Blacksburg	115.72	54	IAMs_20	IAMs_20	03 27 22.1		
	comp=Z,87µm,22.0s							
KLMR	Klimovskoe	115.94	334	*e* PKIKP	PKiKP	02 46 11.5	-3.8	
KLMR				*e*		02 47 16.9		
KLMR				*e*SS	SS	03 03 16.7	-3.5	
KLMR				*e*SSS	SSS	03 07 39.5		
KLMR				pmax	pmax			
	comp=Z,46nm,1.7s							
KLMR				MLR	MLR			
	comp=Z,72µm,20.0s							
KLMR	Klimovskoe	115.94	334	*e*PKPdf	PKiKP	02 46 11.5	-3.8	
KLMR				AMP		02 46 21.8		
	comp=Z,46nm,1.7s							
KLMR				*e*PP	PP	02 47 16.9	-2.2	
KLMR				*e*PS	PKKPbc	02 56 29.2	-19	
KLMR				*e*PS	PKKPbc	02 56 29.2	-19	
KLMR				*e*PKKP	PKKPab	02 56 47.5	-3.4	
KLMR				*e*SKKPbc	SKKPbc	03 00 13.1	-23	
KLMR				*e*SS	SS	03 03 16.7	-3.5	
KLMR				*e*SS	SS	03 03 16.7	-3.5	
KLMR				*e*SS	SS	03 03 16.7	-3.5	
KLMR				*e*SSS	SSS	03 07 39.5		
KLMR				*e*SSS	SSS	03 07 39.5		
KLMR				LQ	LQ	03 22 46.9		
KLMR				LQ	LQ	03 22 46.9		
KLMR				LR	LR	03 30 10.1		
KLMR				AMP		03 37 59.1		
	comp=Z,72µm,19.5s							
061Z	Ochoppi	116.01	66	IAMs_20	IAMs_20	03 36 35.9		
	comp=Z,44µm,19.0s							
GO02	Mina Guanaco	116.03	125	IAMs_20	IAMs_20	03 27 34.2		
	comp=Z,43µm,20.0s							
W57A	Gilead	116.28	56	PKPdf	PKiKP	02 46 16.8	+0.1	
NHSC	New Hope	116.31	58	IAMs_20	IAMs_20	03 29 04.2		
	comp=Z,69µm,21.0s							
SUMG	Summit	116.33	8	*e*P	PKiKP	02 46 07.8	-8.5	
SUMG				IAMs_20	IAMs_20	03 29 04.1		
	comp=Z,115µm,24.1s							
SUMG	Summit	116.33	8	*e*PKIKP	PKiKP	02 46 07.7	-8.6	
SUMG				MLR	MLR			
	comp=Z,120µm,24.0s							
SUMG	Summit	116.33	8	IAMs_20	IAMs_20	03 33 26.4		
	comp=Z,61µm,21.0s							
J55A	Hilton	116.76	47	IAMs_20	IAMs_20	03 30 15.0		
	comp=Z,78µm,20.0s							
S57A	Dark Hollow, R	116.81	53	PKPdf	PKPdf	02 46 17.6	-0.1	
S57A				IAMs_20	IAMs_20	03 29 51.9		
	comp=Z,78µm,20.0s							
ILULI	Ilulissat	116.86	14	IAMs_20	IAMs_20	03 35 10.3		
	comp=Z,71µm,20.0s							
PLVO	Plevna	116.92	45	IAMs_20	IAMs_20	03 29 26.9		
	comp=Z,58µm,22.0s							
V58A	Windy Hill, Pi	116.93	55	IAMs_20	IAMs_20	03 30 14.1		
	comp=Z,80µm,21.0s							
MAK	Makhachkala	117.19	313	*i* P	Pdif	02 42 28.6	-5.9	
MAK				*i*		02 46 13.4		
MAK				*e*		02 47 24.4		
MAK				*e*PS	PS	02 57 15.7	+2.9	
MAK				*e*SS	SS	03 03 35.6	-2.2	
MAK				pmax	pmax			
	comp=Z,191nm,1.6s							
SSPA	Standing Stone	117.19	50	PKPdf	PKPdf	02 46 18.0	-0.3	
PB07	IPOC Station P	117.28	121	IAMs_20	IAMs_20	03 27 06.5		
	comp=Z,43µm,21.0s							
AKT	Akhty	117.31	311	*e*PKIKP	PKiKP	02 46 22.9	+4.2	
AKT				*e*		02 47 30.9		
AKT				*e*		02 49 54.2		
AKT				pmax	pmax			
	comp=Z,36nm,1.0s							
TA01	Diego Aracena	117.51	120	IAMs_20	IAMs_20	03 24 55.7		
	comp=Z,53µm,22.0s							
M57A	Sunshine Farm,	117.63	49	PKPdf	PKiKP	02 46 20.2	+1.0	
TA02	Huaiquique	117.68	119	IAMs_20	IAMs_20	03 24 48.0		
	comp=Z,50µm,22.0s							
LVC	Limon Verde	117.72	122	PKIKP	PKPdf	02 46 18.6	-1.8	
LVC	Limon Verde	117.72	122	PKPdf	PKPdf	02 46 18.6	-1.8	
PB01	IPOC Station P	117.91	121	PKPdf	PKiKP	02 46 20.8	+0.4	
PSGCX	Pisagua	117.96	119	IAMs_20	IAMs_20	03 24 42.5		
	comp=Z,46µm,22.0s							
N58A	Sunbury	118.03	49	PKPdf	PKiKP	02 46 20.2	+0.2	
SDMD	Soldier's Deli	118.19	51	IAMs_20	IAMs_20	03 39 12.3		
	comp=Z,38µm,19.0s							
AP01	Chacalluta	118.25	117	IAMs_20	IAMs_20	03 26 00.4		
	comp=Z,42µm,21.0s							
GROC	Groznyy	118.36	314	*i* PKIKP	PKPdf	02 46 18.9	-1.6	
GROC				*e*		02 47 33.2		
GROC				pmax	pmax			
	comp=Z,62nm,1.2s							
J58A	Remsen	118.55	46		PKPdf	02 46 19.6	-1.3	
PB08	IPOC Station P	118.57	120	PKPdf	PKPdf	02 46 21.8	-0.2	
PB08				IAMs_20	IAMs_20	03 25 27.6		
	comp=Z,53µm,22.0s							
KSPA	Keystone Colle	118.59	48	IAMs_20	IAMs_20	03 33 04.5		
	comp=Z,48µm,20.0s							
MNMC	Minye Minye	118.60	119	PKPdf	PKiKP	02 46 22.4	+0.4	
SFJD	Kangerlussuaq	118.66	15	*e*P	PKPdf	02 46 07.3	-13	
SFJD				IAMs_20	IAMs_20	03 36 54.0		
	comp=Z,43µm,18.8s							
SFJD	Kangerlussuaq	118.66	15	PKIKP	PKiKP	02 46 22.5	+2.1	
SFJD				MLR	MLR			
	comp=Z,70µm,19.0s							
SFJD	Kangerlussuaq	118.66	15	PKPdf	PKiKP	02 46 22.5	+2.1	
SFJD	Kangerlussuaq	118.66	15	IAMs_20	IAMs_20	03 37 00.0		
	comp=Z,70µm,19.0s							
VRH	Novokhopyorsk	118.73	323	*i* PKIKP	PKPdf	02 46 18.1	-2.8	
VRH				*e*		02 47 35.4		
VRH				*e*		02 53 17.3		
VRH				*e*PS	PS	02 57 21.8	-4.5	
VRH				*e*SSS	SSS	03 08 15.3		
VRH				pmax	pmax			
	comp=Z,60nm,1.3s							
LONY	Lake Ozonia	118.74	45	IAMs_20	IAMs_20	03 30 29.1		
	comp=Z,67µm,22.0s							
V61A	Roper	118.97	55	IAMs_20	IAMs_20	03 33 30.3		
	comp=Z,72µm,20.0s							
WUPA	West Chester U	119.03	50	IAMs_20	IAMs_20	03 30 22.5		
	comp=Z,73µm,22.0s							
LUPA	Lehigh Univers	119.08	49	IAMs_20	IAMs_20	03 31 30.6		
	comp=Z,79µm,21.0s							
NCB	Newcomb	119.15	45	PKPdf	PKPdf	02 46 21.5	-0.5	
NCB				IAMs_20	IAMs_20	03 36 46.0		
	comp=Z,44µm,19.0s							
MOS	Moscow	119.16	329	*i* PKIKP	PKPdf	02 46 18.2	-3.4	
MOS				*e*		02 47 41.4		
MOS				pmax	pmax			
	comp=Z,200nm,2.5s							
MOS				pmax	pmax			
	comp=Z,52nm,1.0s							
LPA	La Plata	119.22	140	*ce*PDIFF	Pdif	02 42 43.2	-0.6	
LPA				pPP		02 47 52.9		
LPA				PPP	PPP	02 50 10.4		
LPA				SKIKS		02 53 34.3		
LPA				SDIFF	Sdif	02 55 32.4	-1.2	
LPA				PPP	PPP	03 04 09.9		
ICESG	Greenland Ices	119.27	10⇑	*i* P	PKiKP	02 46 23.6	+1.6	
ICESG				IAMs_20	IAMs_20	03 33 06.0		
	comp=Z,57µm,20.5s							
ICESG	Greenland Ices	119.27	10	*i* PKP	PKKPbc	02 56 41.6	+4.4	
FRNY	Flat Rock	119.37	44	IAMs_20	IAMs_20	03 37 16.7		
	comp=Z,67µm,19.0s							
ACCN	Adirondack Com	119.69	46	PKPdf	PKiKP	02 46 23.6	+0.5	
ACCN				IAMs_20	IAMs_20	03 34 09.3		
	comp=Z,76µm,20.0s							
GNI	Garni	119.79	310	*i* PKIKP	PKPdf	02 46 23.5	-0.1	
GNI	Garni	119.79	310	PKPdf	PKiKP	02 46 24.9	+1.3	
LPSR	Galich'ya Gora	119.80	325	*i* PKIKP	PKPdf	02 46 19.7	-3.2	
LPSR				*e*		02 53 16.3		
LPSR				*e*PS	PS	02 57 24.6	-11	
LPSR				*e*SS	SS	03 04 14.7	+3.9	
LPSR				pmax	pmax			
	comp=Z,50nm,1.1s							
ZEI	Tsey	119.81	313	*i* PKIKP	PKiKP	02 46 24.6	+0.9	
ZEI				pmax	pmax			
	comp=Z,20nm,1.0s							
TRNY	Table Rock, Ra	119.81	48	IAMs_20	IAMs_20	03 35 36.9		
	comp=Z,75µm,20.0s							
GOF	Gofitskoye	119.82	316⇑	*e*PKIKP	PKPdf	02 46 17.2	-6.0	
NCK	Nalchik	119.85	314	*i* PKIKP	PKPdf	02 46 23.0	-0.4	
SCO	Scoresbysund	119.86	3	*e*P	PKPdf	02 46 18.6	-4.0	
SCO				IAMs_20	IAMs_20	03 32 57.3		
	comp=Z,71µm,21.7s							
SCO	Scoresbysund	119.86	3	*e*PKIKP	PKPdf	02 46 18.6	-4.0	
SCO				MLR	MLR			
	comp=Z,71µm,22.0s							
SCO	Scoresbysund	119.86	3	IAMs_20	IAMs_20	03 35 08.6		
	comp=Z,71µm,21.0s							
SCHQ	Schefferville	119.86	32	PKP	PKiKP	02 46 24.3	+1.1	
	comp=Z,4.3nm,0.9s,baz=296,slow=0.1,SNR=3.3							
SCHQ				PKKPbc	PKKPbc	02 56 35.0	+0.7	
	comp=Z,6.8nm,0.8s,baz=28,slow=19,SNR=3.6							
SCHQ	Schefferville	119.86	32	PKPdf	PKiKP	02 46 24.5	+1.4	
OBN	Obninsk	119.98	329	*d i* P	Pdif	02 42 43.8	-2.8	
OBN				*i*		02 46 23.6		
OBN				*i*		02 47 45.6		
OBN				*e*		02 53 23.4		
OBN				*e*SS	SS	03 04 13.3	+0.5	
OBN				pmax	pmax			
	comp=Z,57nm,1.5s							
OBN	Obninsk	119.98	329	IAMs_20	IAMs_20	03 37 53.2		
	comp=Z,58µm,22.0s							
VORR	Voronezh	120.01	324	*e*PKIKP	PKPdf	02 46 19.0	-4.4	
VORR				pmax	pmax			
	comp=Z,300nm,1.6s							
CPNY	Central Park	120.09	49	IAMs_20	IAMs_20	03 35 44.2		
	comp=Z,68µm,20.0s							
DY2G	Dye2	120.15	14	*e*P	PKPdf	02 46 22.3	-1.3	
ONI	Oni	120.18	313	PKIKP	PKiKP	02 46 24.9	+0.7	
ONI	Oni	120.18	313	PKPdf	PKiKP	02 46 24.9	+0.7	
ONI				IAMs_20	IAMs_20	03 47 18.6		
	comp=Z,65µm,20.0s							
KBZ	Khabaz	120.28	315	PKP	PKiKP	02 46 25.1	+0.9	
	comp=Z,3.5nm,0.9s,baz=88,slow=7.0,SNR=4.8							
KBZ				PP	PP	02 47 49.1	-0.7	
	comp=Z,9.1nm,1.1s,baz=67,slow=4.7,SNR=4.1							
KBZ				PKKPbc	PKKPbc	02 56 34.6	+2.3	
	comp=Z,7.6nm,1.0s,baz=255,slow=1.2,SNR=7.8							
KIV	Kislovodsk	120.37	315	⇑P	PKiKP	02 46 26.9	+2.3	
KIV	Kislovodsk	120.37	315	*i* P	Pdif	02 42 49.6	+0.8	
KIV				*i*		02 46 25.0		
KIV				*e*		02 47 50.1		
KIV				*e*		02 53 19.0		
KIV				*e*PS	PS	02 57 41.6	0.0	
KIV				*e*SS	SS	03 04 20.5	+1.5	
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KIV	Kislovodsk	120.37	315	PKPdf	PKiKP	02 46 25.5	+0.9	
PUL	Pulkovo	120.40	335	*i* PKIKP	PKiKP	02 46 24.5	+0.5	
AKH	Akhalkalaki	120.44	312	⇑P	PKiKP	02 46 28.0	+3.1	
SHA1	Shidzhatmaz	120.44	315	*c i* PKIKP	PKPdf	02 46 24.0	-0.8	
NUUK	Nuuk	120.46	18	*e*P	PKPdf	02 46 21.9	-2.0	
NUUK				IAMs_20	IAMs_20	03 33 15.4		
	comp=Z,109µm,20.3s							
WSPT	Westport, CT	120.47	48	IAMs_20	IAMs_20	03 30 54.2		
	comp=Z,68µm,22.0s							
NEY	Neytrino	120.53	314	*i* PKIKP	PKPdf	02 46 24.4	-0.5	
HNH	Hanover	120.57	45	IAMs_20	IAMs_20	03 37 54.7		
	comp=Z,54µm,19.0s							
YLE	Yale	120.72	48	IAMs_20	IAMs_20	03 32 34.9		
	comp=Z,65µm,22.0s							
SJCC	San Jacinto, C	120.75	85	PKPdf	PKPdf	02 46 24.6	-1.4	
K62A	Royalston	120.89	46	IAMs_20	IAMs_20	03 40 14.1		
	comp=Z,65µm,18.0s							
ROSC	El Rosal	120.91	91	PKP	PKPdf	02 46 26.2	-0.5	
	comp=Z,13nm,0.7s,baz=214,slow=22,SNR=2.4							
KARS	Kars	120.93	311	PKIKP	PKiKP	02 46 27.1	+1.3	
KARS	Kars	120.93	311	PKPdf	PKiKP	02 46 27.1	+1.3	
FINES	FINESS Array B	121.00	338	PKP	PKiKP	02 46 25.5	+0.4	
	comp=Z,4.0nm,0.6s,baz=34,slow=0.7,SNR=19							
FINES				PKKPbc	PKKPbc	02 56 30.7	+0.5	
	comp=Z,3.0nm,0.8s,baz=112,slow=2.1,SNR=6.8							
LPAZ	La Paz	121.01	116	PKP	PKiKP	02 46 27.5	+0.3	
	comp=Z,21nm,1.1s,baz=0.4,slow=2.1,SNR=23							
LPAZ				PKKPbc	PKKPbc	02 56 29.3	-0.6	
	comp=Z,4.7nm,1.0s,baz=39,slow=6.1,SNR=5.9							
LPAZ	La Paz	121.01	116	PKIKP	PKPdf	02 46 26.8	-0.3	
LPAZ	La Paz	121.01	116	PKPdf	PKPdf	02 46 26.8	-0.3	
LPAZ	La Paz	121.01	116	*e*P	PKiKP	02 46 28.2	+0.9	
FFD	Franklin Falls	121.08	45	IAMs_20	IAMs_20	03 33 54.1		
	comp=Z,55µm,21.0s							
H62A	Milan	121.11	44	IAMs_20	IAMs_20	03 39 27.7		
	comp=Z,75µm,20.0s							
G62A	West of Eustis	121.33	43	IAMs_20	IAMs_20	03 30 56.6		
	comp=Z,74µm,22.0s							
K63A	Dunstable	121.38	46	IAMs_20	IAMs_20	03 44 47.2		
	comp=Z,60µm,19.0s							
HRV	Adam Dziewonsk	121.41	46	IAMs_20	IAMs_20	03 36 27.0		
	comp=Z,68µm,19.0s							
F62A	Pittston Farm,	121.49	42	PKPdf	PKiKP	02 46 26.8	+0.2	
F62A				IAMs_20	IAMs_20	03 31 58.8		
	comp=Z,71µm,22.0s							
WES	Weston	121.61	46	IAMs_20	IAMs_20	03 36 51.3		
	comp=Z,69µm,19.0s							
I63A	Otisfield	121.66	44	IAMs_20	IAMs_20	03 38 53.3		
	comp=Z,71µm,19.0s							
D62A	Allapoint, All	121.69	41	PKPdf	PKiKP	02 46 26.8	-0.1	
BCX	Boston College	121.73	46	IAMs_20	IAMs_20	03 36 54.5		
	comp=Z,60µm,20.0s							
F63A	Nahmakanta, Br	122.13	42	IAMs_20	IAMs_20	03 32 17.6		
	comp=Z,79µm,22.0s							
WVL	Waterville	122.13	44	IAMs_20	IAMs_20	03 32 57.6		
	comp=Z,77µm,21.0s							
PKME	Peaks-Kenny Pk	122.15	43	IAMs_20	IAMs_20	03 39 23.1		
	comp=Z,68µm,20.0s							
GURO	Guroymak-BITLI	122.19	309	PKPdf	PKiKP	02 46 29.6	+1.2	
RUSC	La Rusia	122.29	90	PKPdf	PKPdf	02 46 29.0	-0.5	
MEF	Metsahovi	122.43	338	*e*P	PKiKP	02 46 29.0	+1.1	
ISOG	Isortoq, Green	122.53	12	*e*P	PKPdf	02 46 27.0	-0.8	
ISOG				IAMs_20	IAMs_20	03 38 00.6		
	comp=Z,54µm,19.5s							
SOC	Sochi	122.53	315	*i* PKIKP	PKPdf	02 46 26.2	-2.3	
SOC				*e*		02 48 00.8		
SOC				*e*		02 53 27.0		
SOC				*e*PS	PKKPdf	02 57 50.2	+49	
SOC				*e*SS	SS	03 04 42.6	-3.8	
SOC				*e*SSS	SSS	03 09 14.0		
SOC				pmax	pmax			
	comp=Z,67nm,1.2s							
SOC				MLR	MLR			
	comp=Z,36µm,21.0s							
VSU	Vasula	122.67	335	*e*P	PKiKP	02 46 28.5	0.0	
ANGG	Ammassalik, Gr	122.73	11	*i* P	PKiKP	02 46 29.8	+1.5	
ANGG				*i*		02 48 03.3		
ANGG				IAMs_20	IAMs_20	03 42 01.7		
	comp=Z,41µm,19.3s							
ANGG	Ammassalik, Gr	122.73	11	IAMs_20	IAMs_20	03 42 19.4		
	comp=Z,39µm,20.0s							
HARA	HARA	122.74	274	*e*P	PKiKP	02 46 35.3	+5.1	
HARA	HARA	122.74	274	*e*P	PKiKP	02 46 35.3	+5.1	
RAF	Rauma	122.80	340	*e*P	PKiKP	02 46 29.5	+0.9	
G65A	Princeton	123.32	42	IAMs_20	IAMs_20	03 33 35.1		
	comp=Z,68µm,21.0s							
ITQB	Itaqui	123.37	136	PKPdf	PKiKP	02 46 31.2	+0.3	
ITQB				IAMs_20	IAMs_20	03 31 30.6		
	comp=Z,51µm,21.0s							
ITQB	Itaqui	123.37	136	*e*P	PKiKP	02 46 32.2	+1.4	
ATD	Arta Tunnel	123.39	277	IAMs_20	IAMs_20	03 40 42.2		
	comp=Z,59µm,19.0s							
ATD	Arta Tunnel	123.39	277	*e*P	PKiKP	02 46 37.3	+6.1	
ATD	Arta Tunnel	123.39	277	*e*P	PKiKP	02 46 37.3	+6.1	
ATD	Arta Tunnel	123.39	277	*i* P	PKiKP	02 46 34.7	+3.5	
EMMW	East Machias	123.56	43	IAMs_20	IAMs_20	03 32 33.6		
	comp=Z,71µm,22.0s							
MTSE	Matsula	123.67	337	*e*P	PKiKP	02 46 30.6	+0.2	
ANN	Anapa	123.68	317	*i* P	Pdif	02 43 00.0	-3.3	
ANN				*i*		02 46 27.0		
ANN				*e*		02 48 08.7		
ANN				*e*SS	SS	03 04 54.8	-6.0	
ANN				pmax	pmax			
	comp=Z,33nm,0.8s							
ANN				pmax	pmax			
	comp=Z,55nm,1.1s							
ZOMB	Zomba	124.00	243	*i* P	PKPdf	02 46 25.8	-6.5	
ZOMB				PP	PP	02 48 08.0	-7.8	
PLTB	Pedras Altas	124.01	140	IAMs_20	IAMs_20	03 40 26.1		
	comp=Z,45µm,18.0s							
PLTB	Pedras Altas	124.01	140	*e*P	PKiKP	02 46 33.7	+1.6	
AAL	Aland	124.02	340	*e*P	PKiKP	02 46 31.9	+0.9	
MNK	Minsk	124.58	331	*i* PKIKP	PKiKP	02 46 33.1	+0.7	
MNK				*i*		02 48 21.3		
MNK				*i* SS	SS	03 05 26.5	+15	
MNK				*i* SSS	SSS	03 09 50.6		
MNK				pmax	pmax			
	comp=E,3.0nm,1.5s							
MNK				pmax	pmax			
	comp=Z,79nm,1.5s							
MNK				pmax	pmax			
	comp=N,27nm,1.8s							
MNK				MLR	MLR			
	comp=Z,49µm,21.0s							
MNK

NB2	NORSAR Subarra	125.97	345	PKPdf	PKiKP	02 46 37.4 +2.4
	baz=32,slow=1.9					
NOA	NORSAR Array B	125.97	345	PKP	PKiKP	02 46 35.3 +0.3
	comp=Z,6.2nm,1.0s,baz=34,slow=2.0,SNR=9.6					
NOA				PKKPbc	PKKPab	02 56 08.6 +1.1
	comp=Z,5.1nm,1.1s,baz=212,slow=4.1,SNR=4.0					
NOA				SKKPbc	SKKPbc	02 59 43.9 -20
	comp=Z,2.7nm,1.0s,baz=170,slow=3.6,SNR=3.6					
AKASG	Malin Array Be	126.03	327	PKP	PKiKP	02 46 35.4 +0.1
	comp=Z,6.2nm,0.8s,baz=52,slow=2.1,SNR=20					
AKASG				PP	PP	02 48 23.9 -4.2
	comp=Z,0.7nm,0.4s,baz=49,slow=9.0,SNR=4.0					
AKASG	Malin Array Be	126.03	327	PKIKP	PKiKP	02 46 35.3 -0.1
AKASG	Malin Array Be	126.03	327	PKPdf	PKiKP	02 46 35.2 -0.1
MBAM	Mbamba Bay	126.11	248	*i* P	PKPdf	02 46 34.5 -1.8
WINO	Wino	126.18	250	*i* P	PKPdf	02 46 35.8 -0.8
TIRI	Matiri	126.20	248	*i* P	PKPdf	02 46 36.0 -0.6
GAZ	Gaziantep	126.23	309	PKPdf	PKiKP	02 46 36.6 +0.2
PBUR	Paburge	126.25	335	*e*P	PKiKP	02 46 37.4 +1.8
MFRI	Mfriga	126.33	250	*i* P	PKPdf	02 46 32.7 -4.2
MKIL	Mkili	126.34	248	*i* P	PKPdf	02 46 35.6 -1.1
BUMI	Ibumi	126.38	249	*i* P	PKPdf	02 46 33.6 -3.4
MUDIN	Mudindi	126.47	249	*i* P	PKPdf	02 46 37.1 0.0
MANDA	Manda	126.56	249	*i* P	PKPdf	02 46 36.1 -1.0
KIDE	Kidegembe	126.60	250	*i* P	PKPdf	02 46 33.4 -4.1
NIND	Nindi	126.70	249	*i* P	PKPdf	02 46 36.6 -1.0
UWEM	Njombe	126.75	250	*i* P	PKPdf	02 46 36.8 -1.0
KMBO	Kilima Mbogo	126.86	261	PKP	PKiKP	02 46 39.8 +1.3
	comp=Z,7.5nm,1.1s,baz=111,slow=4.6,SNR=3.8					
UNDA	Madunda	126.90	249	*i* P	PKPdf	02 46 35.2 -2.8
BAKO	Makambako	126.95	251	*i* P	PKPdf	02 46 37.2 -0.9
BAKO				PP	PP	02 48 28.8 -7.0
SUW	Suwalki	127.05	333	*e*PKPdf	PKiKP	02 46 39.5 +2.2
SUW				*e*PP	PP	02 48 36.7 +1.9
SUW				*e*SS	SS	03 05 53.1 +11
SUW				*e*L	L	03 38 48.5
	comp=Z,75μm,24.5s					
SUW	Suwalki	127.05	333	*e*P	PKiKP	02 46 38.7 +1.4
SUW	Suwalki	127.05	333	IAMs_20	IAMs_20	03 40 39.8
	comp=Z,60μm,21.0s					
LBTB	Lobatse	127.07	228	PKP	PKiKP	02 46 38.3 -0.1
	comp=Z,6.8nm,0.9s,baz=158,slow=3.9,SNR=6.0					
LBTB	Lobatse	127.07	228	PKIKP	PKiKP	02 46 38.8 +0.4
LBTB	Lobatse	127.07	228	PKPdf	PKiKP	02 46 38.8 +0.4
KIPE	Kipengere	127.14	250	*i* P	PKPdf	02 46 31.2 -7.3
AAE	Adis Abeba	127.14	273	*e*P	PKPdf	02 46 38.4 -0.2
AAE				*e*S	PP	02 48 36.9 -0.6
AAE	Adis Abeba	127.14	273	*e*P	PKPdf	02 46 38.4 -0.2
AAE				*e*S	PP	02 48 36.9 -0.6
FURI	Furi	127.21	273	PKPdf	PKiKP	02 46 40.1 +0.9
FURI	Furi	127.21	273	IAMs_20	IAMs_20	03 42 04.7
	comp=Z,38μm,20.0s					
FURI	Furi	127.21	273	*e*P	PKiKP	02 46 42.4 +3.2
FURI				*e*S	PP	02 48 39.7 +1.7
FURI	Furi	127.21	273	*e*P	PKiKP	02 46 42.4 +3.2
FURI				*e*S	PP	02 48 39.7 +1.7
FURI	Furi	127.21	273	*i* P	PKPdf	02 46 38.5 -0.3
UKWA	Ukwama	127.28	250	*i* P	PKPdf	02 46 35.5 -3.3
GAWA	Igawa	127.37	251	*i* P	PKPdf	02 46 33.7 -5.1
MATP	Matopo	127.42	234	PKP	PKiKP	02 46 39.3 0.0
	comp=Z,14nm,1.1s,baz=146,slow=4.8,SNR=7.1					
MAKE	Makete	127.46	250	*i* P	PKPdf	02 46 36.4 -2.8
KONO	Kongsberg	127.58	345	IAMs_20	IAMs_20	03 44 47.6
	comp=Z,37μm,21.0s					
CHML	Chimala	127.68	250	*i* P	PKPdf	02 46 38.1 -1.3
MATAM	Matamba	127.69	250	*i* P	PKPdf	02 46 37.0 -2.6
PURM	Purcari	127.78	322	⇓P	PKiKP	02 46 41.0 +2.0
NKAL	Nkalisi	127.78	250	*i* P	PKPdf	02 46 38.3 -1.4
SORM	Soroca	127.86	324	⇓P	PKiKP	02 46 39.7 +0.6
SORM	Soroca	127.86	324	⇓PKIKP	PKiKP	02 46 39.7 +0.6
ISOK	Kyela	127.93	249	*i* P	PKPdf	02 46 36.5 -3.4
IGOM	Igoma	127.96	250	*i* P	PKPdf	02 46 39.0 -1.2
MZUN	Kiwira	128.03	250	*i* P	PKPdf	02 46 38.9 -1.3
BR131	Keskin Array S	128.10	313	PKIKP	PKPdf	02 46 37.7 -1.8
BR131	Keskin Array S	128.10	313		PKPdf	02 46 37.7 -1.8
BRTR	Keskin Array B	128.10	313	PKP	PKPdf	02 46 39.0 -0.5
	comp=Z,8.1nm,1.1s,baz=139,slow=4.7,SNR=18					
BRTR				PP	PP	02 48 43.1 +0.5
	comp=Z,17nm,1.2s,baz=90,slow=4.9,SNR=5.5					
BRTR				PKKPbc	PKKPbc	02 56 05.2
	comp=Z,1.6nm,1.0s,baz=221,slow=3.1,SNR=4.1					
BRTR	Keskin Array B	128.10	313	PKIKP	PKPdf	02 46 38.3 -1.2
BRTR	Keskin Array B	128.10	313	PKPdf	PKPdf	02 46 38.3 -1.2
JILO	Lwanjilo	128.14	250	*i* P	PKPdf	02 46 38.6 -1.8
KIS	Kishinev	128.18	323	*e*PKP	PKiKP	02 46 41.0 +1.2
	comp=Z,750nm,11.5s					
KIS	Kishinev	128.18	323	*e*PP	PP	02 48 34.0 -8.5
	comp=Z,5μm,9.5s					
KIS				*e*SKP		02 49 17.0
KIS	Kishinev	128.18	323	*e*PKIKP	PKiKP	02 46 41.0 +1.2
KIS				pmax	pmax	
	comp=Z,750nm,11.5s					
MILM	Milestii Mici	128.22	323	⇓P	PKiKP	02 46 40.7 +0.8
SAML	Samuel	128.23	110	*e*P	PKiKP	02 46 40.6 -0.3
ILIND	Ilindi	128.23	250	*i* P	PKiKP	02 46 42.3 +1.1
ITUM	Tunduma	128.25	249	*i* P	PKPdf	02 46 38.5 -2.0
LOSI	Makongolosi	128.63	250	*i* P	PKPdf	02 46 40.2 -1.0
ANTO	Ankara	128.66	313	IAMs_20	IAMs_20	03 52 29.1
	comp=Z,44μm,21.0s					
MMAI	Mount Meron Ar	128.73	304	PKP	PKiKP	02 46 41.9 +0.4
	comp=Z,8.9nm,1.1s,baz=39,slow=9.3,SNR=6.3					
ONAU	Onsala	128.82	342	*e*P	PKPdf	02 46 36.4 -3.6
ONAU				*i*		02 48 47.5
TER01	Tubaro-SC	129.04	140	*e*P	PKiKP	02 46 43.3 +1.1
PTLB	Pontes e Lacer	129.19	120	*e*P	PKiKP	02 46 43.7 +1.0
LVV	L'vov	129.27	328	*e*PKIKP	PKPdf	02 46 38.0 -3.2
LVV				*i*		02 48 52.0
LVV				*i*		02 58 55.0
LVV				MLR	MLR	
	comp=Z,28μm,23.0s					
BBSR	BB Station	129.30	57	IAMs_20	IAMs_20	03 36 19.9
	comp=Z,65μm,22.0s					
VILB	Vilhena	129.37	116	*e*P	PKiKP	02 46 44.3 +1.1
AQDB	Aquidauana	129.45	127	*e*P	PKiKP	02 46 44.4 +1.3
TPGR	Topolog	129.47	321	⇓P	PKiKP	02 46 44.7 +2.2
CFR	Carcaliu	129.49	321	⇓P	PKiKP	02 46 42.7 +0.2
CFR	Carcaliu	129.49	321	⇓PKIKP	PKiKP	02 46 42.7 +0.2
BEL	Belsk	129.58	332	*e*PKPdf	PKiKP	02 46 45.3 +2.8
BEL				*e*PP	PP	02 48 48.8 -2.5
BEL				*e*SS	SS	03 06 21.5 +8.0
BEL				*e*L	L	03 38 34.9
	comp=Z,79μm,27.0s					
BSD	Bornholm Skovb	129.64	338	*i* P	PKiKP	02 46 44.4 +1.9
BSD				*i*		02 48 46.0
BSD				IAMs_20	IAMs_20	03 43 51.1
	comp=Z,92μm,21.7s					
BSD	Bornholm Skovb	129.64	338	*i* PKIKP	PKiKP	02 46 44.3 +1.9
BSD				MLR	MLR	
	comp=Z,92μm,22.0s					
TIRR	Tirgusor	129.67	320	⇑P	PKiKP	02 46 43.6 +0.8
TIRR	Tirgusor	129.67	320	⇑PKIKP	PKiKP	02 46 43.6 +0.8
TIRR	Tirgusor	129.67	320	PKPdf	PKiKP	02 46 43.9 +1.0
LODK	Lodwar	129.67	266	IAMs_20	IAMs_20	03 41 06.0
	comp=Z,50μm,21.0s					
TESR	Tescani	129.70	323	⇑P	PKiKP	02 46 44.1 +1.2
EIL	Elat	129.85	300	PKP	PKiKP	02 46 44.2 +0.6
	comp=Z,20nm,1.3s,baz=147,slow=4.7,SNR=11					
EIL				PP	PP	02 48 56.7 +2.3
	comp=Z,9.2nm,1.1s,baz=193,slow=7.7,SNR=3.1					
HARR	Harsova	129.86	321	⇑P	PKiKP	02 46 44.2 +1.0
HARR	Harsova	129.86	321	⇑PKIKP	PKiKP	02 46 44.2 +1.0
CSS	Mathiatis	129.87	307	IAMs_20	IAMs_20	03 53 53.0
	comp=Z,46μm,21.0s					
SJG	San Juan	129.88	75	PKP	PKiKP	02 46 44.1 +0.1
	comp=Z,87nm,1.1s,baz=304,slow=2.5,SNR=5.4					
BURAR	Bucovina Array	129.92	325	⇑P	PKiKP	02 46 45.0 +1.6
BURAR	Bucovina Array	129.92	325	⇑PKIKP	PKiKP	02 46 45.0 +1.6
BURAR	Bucovina Array	129.92	325	PKPdf	PKiKP	02 46 43.4 -0.1
GOET	G??ttrup	129.92	343	*e*P	PKiKP	02 46 45.3 +2.4
GOET				*i*		02 48 51.7
GOET				IAMs_20	IAMs_20	03 40 10.1
	comp=Z,93μm,23.2s					
VRI	Vrincioaia	130.00	323	⇓P	PKiKP	02 46 46.3 +2.8
VRI	Vrincioaia	130.00	323	⇓PKIKP	PKiKP	02 46 46.3 +2.8
KWP	Kalwaria Pacla	130.07	329	*e*PKPdf	PKiKP	02 46 45.9 +2.3
KWP				*e*PP	PP	02 48 52.6 -2.1
KWP				*e*L	L	03 43 55.7
	comp=Z,74μm,23.1s					
GKP	Gorka Klasztor	130.12	335	*e*PKPdf	PKiKP	02 46 46.1 +2.6
GKP				*e*PP	PP	02 48 48.8 -6.0
GKP				*e*SS	SS	03 06 43.7 +24
GKP				*e*L	L	03 37 13.4
	comp=Z,94μm,28.1s					
LEF	Lefka	130.17	307	⇑P	PKiKP	02 46 45.9 +1.8
ICOR	Ion Corvin	130.22	320	⇑P	PKiKP	02 46 46.9 +2.9
LSZ	Lusaka	130.25	240	PKP	PKiKP	02 46 46.2 +1.2
	comp=Z,2.6nm,0.3s,baz=120,slow=1.2,SNR=7.9					
LSZ	Lusaka	130.25	240	PKIKP	PKiKP	02 46 45.4 +0.4
LSZ	Lusaka	130.25	240	PKPdf	PKiKP	02 46 45.4 +0.4
LSZ	Lusaka	130.25	240	*i* P	PKPdf	02 46 36.0 -8.2
LSZ				PP	PP	02 48 46.5 -11
GETA	Geita	130.29	257	*i* P	PKiKP	02 46 45.9 +0.7
GETA				PP	PP	02 48 56.2 -1.6
TRCB	Terra Rica	130.42	132	*e*P	PKiKP	02 46 45.7 +0.6
MUD	Monsted U'grnd	130.43	343	*e*P	PKPdf	02 46 43.3 +0.2
MUD				IAMs_20	IAMs_20	03 40 26.1
	comp=Z,99μm,23.4s					
MUD	Monsted U'grnd	130.43	343	*e*PKIKP	PKPdf	02 46 43.3 +0.2
MUD				MLR	MLR	
	comp=Z,99μm,23.0s					
MLR	Muntele Rosu	130.66	323	⇑P	PKiKP	02 46 47.7 +2.7
MLR	Muntele Rosu	130.66	323	⇑PKIKP	PKiKP	02 46 47.7 +2.7
MLR	Muntele Rosu	130.66	323	IAMs_20	IAMs_20	03 51 00.7
	comp=Z,57μm,20.0s					
ARCR	ARCALIA	130.70	325	⇓P	PKiKP	02 46 46.7 +1.8
KOLS	Kolonicke sedl	130.72	328	*e*PKIKP	PKiKP	02 46 48.2 +3.3
KOLS				*e*		02 48 59.3
KOLS	Kolonicke sedl	130.72	328	*e*PKP	PKiKP	02 46 48.2 +3.3
KOLS				*e*PP	PP	02 48 59.3 +0.3
DOPR	Dopca	130.73	323	⇑P	PKiKP	02 46 46.9 +1.9
ISK	Istanbul-Kandi	130.80	316	P	PKiKP	02 46 46.0 +0.8
UZH	Uzhgorod	130.90	328	*e*PKIKP	PKiKP	02 46 46.6 +1.4
UZH				*i*		02 49 03.0
UZH				*e*SS	SS	03 06 33.4 +3.4
ISP	Isparta	131.06	312	IAMs_20	IAMs_20	03 51 57.1
	comp=Z,42μm,22.0s					
OJC	Ojcow	131.12	331	*e*PKPdf	PKiKP	02 46 48.0 +2.4
OJC				*e*PP	PP	02 48 53.5 -8.0
OJC				*e*SS	SS	03 06 38.8 +6.3
OJC				*e*L	L	03 43 18.4
	comp=Z,87μm,23.4s					
OJC	Ojcow	131.12	331	PKIKP	PKiKP	02 46 46.1 +0.5
OJC	Ojcow	131.12	331	PKPdf	PKiKP	02 46 46.1 +0.5
CRVS	Cervenica-Dubn	131.16	329	*e*PKIKP	PKiKP	02 46 47.6 +1.8
CRVS				*e*SS	SS	03 06 38.8 +5.6
CRVS				MLR	MLR	
	comp=Z,78μm,25.8s					
CRVS	Cervenica-Dubn	131.16	329	*e*PKP	PKiKP	02 46 47.6 +1.8
CRVS				*e*PP	PP	02 48 56.9 -4.9
CRVS				*e*SS	SS	03 06 38.8 +5.6
CRVS				*e*L	L	03 42 40.1
CDVI	St. Croix	131.21	76	*e*P	PKPdf	02 46 39.5 -6.3
CDVI	St. Croix	131.21	76	PKPdf	PKPdf	02 46 46.0 +0.2
VOIR		131.22	323	⇑P	PKiKP	02 46 47.7 +1.6
VOIR		131.22	323	⇑PKIKP	PKiKP	02 46 47.7 +1.6
TIJ01	Guaruva-PR	131.33	137	*e*P	PKiKP	02 46 47.5 +0.5
BIGH	Upper Bighouse	131.34	352	*e*P	PKPdf	02 46 41.6 -3.3
BIGH				IAMs_20	IAMs_20	03 34 44.2
	comp=Z,91μm,25.0s					
PP1B	Ponte de Pedra	131.66	125	*e*P	PKiKP	02 46 48.7 +1.0
DRGR		131.79	326	⇓P	PKiKP	02 46 48.2 +1.0
DRGR		131.79	326	⇓PKIKP	PKiKP	02 46 48.2 +1.0
ITZ	Itezhi-Tezhi	131.84	238	*e*P	Pdif	02 43 41.2 +0.7
ITZ	Itezhi-Tezhi	131.84	238	*e*P	Pdif	02 43 41.2 +0.7
LTVH	Ltavrtes, Hu	131.87	327	⇑P	PKiKP	02 46 49.6 +2.4
EDRB	Edirne	131.99	318	P	PKPdf	02 46 43.6 -3.0
LANS	Liptovska Anna	132.00	330	*e*PKIKP	PKiKP	02 46 49.3 +1.8
LANS				*e*		02 49 12.0
LANS	Liptovska Anna	132.00	330	*e*PKP	PKiKP	02 46 49.3 +1.8
LANS				*e*PP	PP	02 49 12.0 +4.8
PCMB	Pacaembu	132.15	132	*e*P	PKPdf	02 46 47.4 -0.2
OKC	Ostrava-Krasne	132.16	332	*i* P	Pdif	02 43 37.1 -3.9
OKC				*e*		02 49 05.6
OKC				MLR	MLR	
	comp=Z,98μm,25.1s					
OKC	Ostrava-Krasne	132.16	332	*e*PDIFF	Pdif	02 43 37.1 -3.9
OKC				*e*PKPpre	PKPpre	02 46 39.9
OKC				*e*PP	PP	02 49 05.6 -2.5
OKC				AMS	AMS	03 40 30.0
	comp=Z,98μm,25.1s					
BALB	Balikesir	132.22	315	IAMs_20	IAMs_20	03 48 29.5
	comp=Z,36μm,22.0s					
KSP	Ksiaz	132.29	334	*e*PKPdf	PKiKP	02 46 50.2 +2.2
KSP				*e*PP	PP	02 49 06.6 -2.3
KSP				*e*SS	SS	03 07 03.9 +17
KSP				*e*L	L	03 45 32.3
	comp=Z,91μm,22.1s					
KSL	Kastellorizon	132.37	310	P	PKPdf	02 46 45.4 -2.1
MACA	Manacapuru-AM	132.46	104	*e*P	PKiKP	02 46 50.1 +0.7
MORC	Moravsky Berou	132.49	332	⇑P	PKiKP	02 46 50.2 +1.7
MORC	Moravsky Berou	132.49	332	⇑PKIKP	PKiKP	02 46 50.2 +1.7
MORC	Moravsky Berou	132.49	332	IAMs_20	IAMs_20	03 45 56.1
	comp=Z,52μm,21.0s					
MORC	Moravsky Berou	132.49	332	*e*PDIFF	Pdif	02 43 42.2 -0.3
MORC	Moravsky Berou	132.49	332	*e*PKP	PKPdf	02 46 46.8 -0.6
MORC				*e*PP	PP	02 49 10.5 +0.2
MORC				*e*SS	SS	03 06 48.7 -0.6
OSTC	Ostas	132.53	333	*e*PKPDF	PKPdf	02 46 42.1 -5.3
OSTC				*ex*	x	02 46 52.0
OSTC				*e*PP	PP	02 49 05.6 -4.9
OSTC				AMS	AMS	03 44 50.0
	comp=Z,80μm,20.5s					
FETY	Fethiye	132.56	311	P	PKPdf	02 46 46.7 -1.2
GZR	Gura Zlata	132.57	324	⇑P	PKiKP	02 46 49.4 +0.6
GZR	Gura Zlata	132.57	324	⇑PKIKP	PKiKP	02 46 49.4 +0.6
CHVC	Chvalec	132.58	334	*e*PDIFF	Pdif	02 43 43.9 +1.0
CHVC				AMS	AMS	03 45 10.0
	comp=Z,77μm,21.3s					
PSZ	Piszkesteto	132.59	329	⇑P	PKiKP	02 46 49.0 +0.2
PSZ	Piszkesteto	132.59	329	⇑PKIKP	PKiKP	02 46 49.0 +0.2
KRLC	Kraliky	132.63	333	*i* P	Pdif	02 43 40.1 -3.0
KRLC				*e*		02 46 50.2
KRLC				MLR	MLR	
	comp=Z,61μm,18.8s					
KRLC	Kraliky	132.63	333	*e*PDIFF	Pdif	02 43 40.1 -3.0
KRLC				*e*PKPpre	PKPpre	02 46 42.1
KRLC				*e*PKPDF	pPKPdf	02 46 50.2 -0.5
KRLC				*e*PP	PP	02 49 05.9 -5.2
KRLC				AMS	AMS	03 50 00.0
	comp=Z,61μm,18.8s					
DPC	Dobruska-Polom	132.64	333	*e*PKIKP	PKPdf	02 46 41.5 -6.1
DPC				*e*		02 46 52.0
DPC				MLR	MLR	
	comp=Z,80μm,22.3s					
DPC	Dobruska-Polom	132.64	333	*e*PKPpre	PKPpre	02 46 41.5
DPC				*e*PKPDF	sPKPdf	02 46 52.0 +0.2
DPC				AMS	AMS	03 45 00.0
	comp=Z,80μm,22.3s					
UPC	Upice	132.66	334	*i* P	Pdif	02 43 43.9 +0.7
UPC				MLR	MLR	
	comp=Z,85μm,20.3s					
UPC	Upice	132.66	334	*e*PDIFF	Pdif	02 43 43.9 +0.7
UPC				AMS	AMS	03 45 00.0
	comp=Z,85μm,20.3s					
SABA	Saba	132.67	76	*e*P	PKPdf	02 46 43.8 -4.8
SABA	Saba	132.67	76	IAMs_20	IAMs_20	03 37 49.9
	comp=Z,39μm,21.0s					
SIRR	Siria	132.69	326	⇑P	PKiKP	02 46 50.3 +1.4
VYHS	Vyhne	132.75	330	*e*PKIKP	PKiKP	02 46 51.0 +2.0
VYHS				MLR	MLR	
	comp=Z,74μm,26.1s					
VYHS	Vyhne	132.75	330	*e*PKP	PKiKP	02 46 51.0 +2.0
VYHS				*e*PP	PP	02 49 06.3 -5.7
SMRT	St. Maarten	132.81	75	*e*P	PKiKP	02 46 51.4 +1.5
SMRT	St. Maarten	132.81	75	IAMs_20	IAMs_20	03 41 11.7
	comp=Z,37μm,20.0s					
ALN	Alexandroupoli	132.91	317	P	PKPdf	02 46 46.3 -2.1
SEUS	St. Eustatius	132.92	76	*e*P	PKiKP	02 46 52.3 +2.2
SEUS	St. Eustatius	132.92	76	IAMs_20	IAMs_20	03 37 57.6
	comp=Z,35μm,21.0s					
YER	Yerkesik	132.97	312	P	PKiKP	02 46 51.1 +1.2
JAVC	Velka Javorina	133.07	331	*e*PDIFF	Pdif	02 43 45.9 +0.8
JAVC	Velka Javorina	133.07	331	*e*PKP	PKiKP	02 46 49.3 -0.4
JAVC				*e*PP	PP	02 49 14.8 +0.8
JAVC				*e*SS	SS	03 06 55.4 -0.9
HERR	Herculane	133.08	324	⇑P	PKPdf	02 46 49.0 +0.5
BZS	Buzias	133.10	325	⇑P	PKiKP	02 46 50.9 +1.1
BZS	Buzias	133.10	325	⇑PKIKP	PKiKP	02 46 50.9 +1.1
RDO	Rodhopi	133.12	318	P	PKPdf	02 46 45.8 -3.0
SKI	Saint Kitts	133.16	76	*e*P	PKPdf	02 46 47.7 -1.8
PET01	Itanhaem-SP	133.18	138	*e*P	PKiKP	02 46 51.4 +0.8
EZN	Ezine	133.22	316	P	PKPdf	02 46 48.0 -1.0
VRAC	Vranov	133.26	332	*e*PDIFF	Pdif	02 43 44.7 -1.2
VRAC	Vranov	133.26	332	*e*PKP	PKPdf	02 46 48.2 -0.6
VRAC				*e*PP	PP	02 49 15.7 +0.5
VRAC				*e*SS	SS	03 06 59.8 +1.3
PVCC	Panska Ves	133.27	334	*i* P	Pdif	02 43 45.4 -0.5
PVCC				MLR	MLR	
	comp=Z,112μm,23.2s					
PVCC	Panska Ves	133.27	334	*e*PDIFF	Pdif	02 43 45.4 -0.5
PVCC				*e*PKPDF	sPKPdf	02 46 52.8 -0.1
PVCC				AMS	AMS	03 44 00.0
	comp=Z,112μm,23.2s					
BRG	Berggiesshubel	133.27	335	⇓*e*Piff		02 43 47.0
BRG	Berggiesshubel	133.27	335	*e*PKP	PKPdf	02 46 38.4 -10
BRG				Amp		02 46 40.0
	comp=Z,7.1nm,1.3s					
BRG	Berggiesshubel	133.27	335	P	PKiKP	02 46 51.9 +1.9
BRG				Amp		02 46 59.7
	comp=Z,423nm,2.4s					
BRG	Berggiesshubel	133.27	335	P	PKiKP	02 47 05.8 +16
BRG				Amp		02 47 08.7
	comp=Z,334nm,2.4s					
BRG	Berggiesshubel	133.27	335	PP	PP	02 49 11.0 -4.1
BRG				Amp		02 49 20.2
	comp=Z,11nm,1.9s					
BRG				SKP		02 50 26.0
BRG				Amp		02 50 36.4
	comp=Z,243nm,2.3s					
BRG	Berggiesshubel	133.27	335	SS	SS	03 06 59.0 +0.6
MBAR	Mbarara	133.30	259	PKP	PKPdf	02 46 50.6 +0.4
	comp=Z,4.4nm,0.9s,baz=153,slow=14,SNR=2.9					
MBAR	Mbarara	133.30	259	IAMs_20	IAMs_20	03 44 18.0
	comp=Z,45μm,20.0s					
MBAR	Mbarara	133.30	259	*e*P	PKPdf	02 46 49.5 -0.7
MBAR				*e*S	PP	02 49 10.9 -6.4
MBAR	Mbarara	133.30	259	*e*P	PKPdf	02 46 49.5 -0.7
MBAR				*e*S	PP	02 49 10.9 -6.4
MBAR	Mbarara	133.30	259	*i* P	PKPdf	02 46 48.9 -1.2
CLL	Collm	133.31	336	*e*Pdif	Pdif	02 43 46.0 -0.1
CLL				*e*PKPdf	PKiKP	02 46 50.0 0.0
CLL				*i* sPKPdf	sPKPdf	02 46 56.5 +3.6
CLL				*e*PP	PP	02 49 16.0 +0.7
CLL				*e*PPIp		02 49 18.0
	comp=Z,6μm,20.4s					
CLL				*e*SKPdf	SKPdf	02 50 23.0 -1.0
CLL				*es*SKPdf		02 50 35.0
CLL				*e*PPP	PPP	02 52 11.0
CLL				*e*PPPP		02 54 12.0
CLL				*e*SKKSac	SKKSac	02 56 06.0 -5.7
CLL				*e*		02 56 30.0
CLL				*e*PSKS		02 59 24.0
CLL				*e*SKKPdf	SKKPbc	03 00 11.0 +34
CLL				*e*PPS	PPS	03 01 19.0
CLL				*e*		03 02 14.0
CLL				*e*SS	SS	03 07 03.0 +4.1
CLL				*e*		03 07 57.0
CLL				*e*SSS	SSS	03 11 55.0
CLL				LmV		03 46 00.0
	comp=Z,74μm,21.4s					
CLL	Collm	133.31	336	*e*PKIKP	PKiKP	02 46 50.0 0.0
CLL				*i*		02 46 56.5
CLL				*e*		02 49 16.0
CLL				pmax	pmax	
	comp=Z,438nm,3.1s					
CLL				pmax	pmax	
	comp=Z,606nm,3.1s					
CLL				MLR	MLR	
	comp=Z,74μm,21.4s					
GADA	Gvkgeada	133.34	317	P	PKiKP	02 46 51.2 +0.8
SMOL	Smolenice	133.42	331	*e*PKIKP	PKiKP	02 46 53.7 +3.4
SMOL				*e*		02 49 18.3
SMOL	Smolenice	133.42	331	*e*PKP	PKiKP	02 46 53.7 +3.4
SMOL				*e*PP	PP	02 49 18.3 +2.1
ARG	Arkhangelos	133.44	311	P	PKiKP	02 46 51.4 +0.7
SMTH	Samothraki Isl	133.45	317	P	PKPdf	02 46 46.9 -2.5
PRK	Paraskevi	133.52	315	P	PKPdf	02 46 47.5 -2.0
KRUC	Moravsky	133.53	332	*e*PDIFF	Pdif	02 43 46.8 -0.3
KRUC	Moravsky	133.53	332	*e*PKP	PKPdf	02 46 48.6 -0.7
KRUC				*e*PP	PP	02 49 18.1 +1.3
KRUC				*e*SS	SS	03 07 03.4 +1.7
MDVR	Mo

CONA *eP* **PP** **02 49 16.1 -7.5**
comp=Z,55nm,1.4s
CONA *eS* **SKKPbc** **02 59 22.1 -10**
comp=Z,9.2nm,1.7s
MAGL Barre de l'ile 134.59 78 *eP* **PKPdf** **02 46 49.9 -2.3**
SVB Belmont 134.60 82 *eP* **PKiKP** **02 46 55.4 +1.7**
DLPL La Plaine 134.63 79 *eP* **PKiKP** **02 46 54.8 +1.1**
DLPL La Plaine 134.63 79 IAMs_20 IAMs_20 03 39 29.0
comp=Z,40µm,21.0s
CKRC Cesky Krumlov 134.65 333 *eP*DIFF **Pdif** **02 43 53.7 +1.6**
CKRC *eP*KPpre PKPpre 02 46 33.6
CKRC *ex* x 02 46 52.9
CKRC AMS AMS 03 46 40.0
comp=Z,109µm,21.9s
KHC Kasperske Hory 134.74 334 *eP* **Pdif** **02 43 53.0 +0.5**
KHC *e* 02 46 35.6
KHC *e* 02 49 22.3
KHC *e* 03 01 24.1
KHC MLR MLR
comp=Z,124µm,22.5s
KHC Kasperske Hory 134.74 334 *eP*DIFF **Pdif** **02 43 53.0 +0.5**
KHC *eP*KPpre PKPpre 02 46 35.6
KHC *eP* **PP** **02 49 22.3 -2.2**
KHC *ex* x 03 01 24.1
KHC AMS AMS 03 45 30.0
comp=Z,124µm,22.5s
KNT Kendrikon 134.84 319 P **PKPdf** **02 46 50.2 -1.8**
SLBI Saint Lucia, B 134.88 81 *eP* **PKPdf** **02 46 47.4 -5.3**
PLG Polygyros 134.89 318 P PKPpre 02 46 40.7
GEC2 GERESS Array S 134.90 333 PKPdf **PKiKP** **02 46 54.0 +0.5**
GERES GERESS Array B 134.90 333 PKhKP PKPpre 02 46 44.9
comp=Z,1.3nm,0.7s,baz=38,slow=2.4,SNR=9.3
GERES PKP **PKiKP** **02 46 52.8 -0.7**
comp=Z,4.8nm,0.8s,baz=60,slow=3.2,SNR=14
MCLT Moule a Chique 134.91 81 *eP* PKPdf 02 46 43.5 -9.4
PARB Paraibuna 134.92 138 *eP* **PKiKP** **02 46 53.8 -0.5**
DIVS Divibare 134.94 324 IAMs_20 IAMs_20 03 51 38.9
comp=Z,42µm,21.0s
KESW Keswick, Cumbr 134.99 350 *eP* **PKiKP** **02 46 53.4 0.0**
KESW IAMs_20 IAMs_20 03 35 43.6
comp=Z,71µm,33.3s
HORT Hortiatis 135.00 318 P **PKPdf** **02 46 50.5 -1.9**
APE Apeiranthos 135.00 313 P **PKPdf** **02 46 45.9 -6.6**
BEHE Becsehely 135.15 329 *eP* **PKiKP** **02 46 55.5 +1.6**
ARAG Araguaiana, MT 135.15 125 *eP* **PKiKP** **02 46 54.9 +0.1**
TOSP Speyside 135.21 84 *eP* **PKPdf** **02 46 51.4 -2.0**
ARSA Arzberg 135.22 331 *eP* PKPpre 02 46 44.0
comp=Z,2.3nm,1.1s
ARSA *eP* PP 02 49 19.7 -8.0
comp=Z,27nm,1.5s
ARSA *eS* SKKPbc 02 59 17.2 -13
comp=Z,9.0nm,1.6s
GRG Griva 135.26 319 P **PKPdf** **02 46 49.3 -3.5**
ZKR Zakros 135.30 310 P **PKPdf** **02 46 53.0 0.0**
KYMI Kymi, Euboea I 135.30 316 P **PKPdf** **02 46 50.6 -2.3**
SKO Skopje 135.31 321 *eP* **PKiKP** **02 46 56.9 +2.5**
SANT Santorini 135.35 312 PKPdf **PKPdf** **02 46 52.0 -1.2**
MOA Molln 135.38 332 *eP* PKPpre 02 46 41.9
comp=Z,4.6nm,1.3s
MOA *eP* **PP** **02 49 21.4 -7.2**
comp=Z,37nm,1.9s
MOA *eS* SKKPbc 02 59 16.2 -13
comp=Z,15nm,1.4s
BBLS Lazići 135.41 324 *eP* **PKiKP** **02 46 56.2 +1.6**
EREA Eretria 135.52 315 P **PKPdf** **02 46 53.7 +0.3**
HAPS Han Pijesak,BI 135.54 325 *eP* **PKPdf** **02 46 51.6 -1.8**
XOR Xorichti 135.56 317 P **PKPdf** **02 46 51.6 -1.8**
RUDO Rudo 135.59 324 *eP* PKPpre 02 46 42.6
LIT Litokhoron 135.66 318 P **PKPdf** **02 46 51.4 -2.2**
DION Dionisos Attik 135.68 315 P **PKiKP** **02 46 55.6 +0.3**
NPS Neapolis 135.69 310 P **PKiKP** **02 46 57.1 +1.7**
FRMA Ierapetra Chan 135.70 310 P **PKiKP** **02 46 54.8 -0.5**
SMIA Simia 135.79 315 P **PKPdf** **02 46 54.4 +0.5**
ATHU Athens Univers 135.83 315 P **PKiKP** **02 46 55.5 -0.1**
LAST Lasithi 135.83 310 P **PKiKP** **02 46 55.6 -0.2**
SOKA Soboth 135.86 330 *i* P PKPpre 02 46 42.7
comp=Z,3.6nm,1.3s,SNR=9.5
SOKA *eP* PP 02 49 22.7 -9.1
comp=Z,40nm,1.4s
SOKA *eS* SKKPbc 02 59 14.6 -13
comp=Z,5.9nm,1.5s
ATH Athens Observa 135.88 315 P **PKiKP** **02 46 55.5 -0.1**
LBWR Ladybower, Pea 135.88 349 *eP* **PKiKP** **02 46 55.1 -0.1**
LBWR IAMs_20 IAMs_20 03 43 36.6
comp=Z,45µm,23.5s
VLY Voula,Athens 135.88 315 P **PKiKP** **02 46 55.1 -0.6**
ESAR Angra dos Reis 135.91 139 *eP* **PKiKP** **02 46 55.9 -0.2**
FNA Florina 136.01 320 P **PKPdf** **02 46 52.3 -2.0**
KZN Kozani 136.01 319 P PKPpre 02 46 42.0
WACR West Acre 136.02 346 *eP* **PKiKP** **02 46 55.9 +0.4**
WACR IAMs_20 IAMs_20 03 41 41.9
comp=Z,84µm,24.5s
VILL Villia 136.07 315 P **PKPdf** **02 46 55.1 +0.6**
BLY Banja Luka 136.08 327 *eP* **PKPdf** **02 46 53.5 -0.7**
NPGB Novo Progresso 136.12 112 *eP* **PKiKP** **02 46 56.2 -0.7**
OHR Ohrid 136.19 320 *eP* **PKiKP** **02 46 58.7 +2.5**
OBKA Obir 136.22 331 *i* P PKPpre 02 46 39.0
comp=Z,1.9nm,0.9s,SNR=6.4
OBKA *eP* PP 02 49 25.2 -8.8
comp=Z,20nm,1.2s
OBKA *eS* **SKKPbc** **02 59 15.8 -10**
comp=Z,11nm,1.5s
IDI Anoyia 136.22 311 PP PP 02 49 40.7 +5.9
comp=Z,29nm,1.2s,baz=48,slow=9.4,SNR=3.9
IDI Anoyia 136.22 311 ⇑P **PKPdf** **02 46 48.8 -6.0**
BBGH Gun Hill 136.24 82 *eP* **PKPdf** **02 46 55.4 +0.1**
BBGH Gun Hill 136.24 82 IAMs_20 IAMs_20 03 51 38.0
comp=Z,42µm,20.0s
CRES Cresnjev 136.25 329 *eP* PKPpre 02 46 38.7
BEBN Eben Emael 136.37 341 *dp*PKiKP **PKiKP** **02 46 56.9 +0.7**
PDG Podgorica 136.37 323 ⇓P **PKiKP** **02 46 57.6 +1.1**
PDG Podgorica 136.37 323 *eP* **PKPdf** **02 46 48.7 -6.1**
PDG Podgorica 136.37 323 IAMs_20 IAMs_20 03 52 48.0
comp=Z,55µm,20.0s
KBA Koelnbreinsper 136.37 332 *eP* PKPpre 02 46 42.9
comp=Z,1.4nm,0.5s
KBA *eS* SKKPbc 02 59 10.8 -15
comp=Z,14nm,1.6s
LTK Loutraki 136.38 315 P PKPpre 02 46 41.6
BTNL Ternell 136.40 341 *d*PKiKP **PKPdf** **02 46 54.1 -0.6**
BTNL *dp*PKiKP **sPKPdf** **02 46 57.8 -0.9**
MEM Membach 136.42 341 *dp*PKiKP **PKiKP** **02 46 59.1 +2.7**
CWF Charnwood Fore 136.43 348 *eP* **PKPdf** **02 46 49.0 -5.6**
CWF IAMs_20 IAMs_20 03 37 58.3
comp=Z,57µm,30.2s
MAKR Makrakomi, Fth 136.45 317 P **PKiKP** **02 46 56.0 -0.8**
WLF1 Llynfaes 136.46 351 *eP* **PKPdf** **02 46 52.2 -2.4**
WLF1 IAMs_20 IAMs_20 03 38 04.1
comp=Z,124µm,26.2s
KBN Korca 136.47 320 P PKPpre 02 46 46.5
TSUM Tsumeb 136.48 227 PKP **PKPdf** **02 46 54.7 -1.2**
comp=Z,11nm,1.0s,baz=101,slow=5.4,SNR=5.5
TSUM Tsumeb 136.48 227 *i* P PKPdf 02 46 46.3 -10
KRND KRANIDI 136.55 314 P PKPpre 02 46 45.4
DRME Dracevica, Mon 136.56 323 *eP* **PKiKP** **02 46 56.5 -0.4**
LJU Ljubljana 136.56 330 *eP* PKPpre 02 46 40.7
LJU Ljubljana 136.56 330 *e*PKPdf PKPpre 02 46 42.9
LJU *e* 02 46 55.2
LJU *eP* **PP** **02 49 30.2 -5.9**
LJU *e* 02 50 28.6
LJU *e* 03 07 23.4
MYKA Terra Mystica 136.56 331 *eP* PKPpre 02 46 42.5
comp=Z,1.0nm,0.5s
MYKA *eP* PP 02 49 28.0 -8.1
comp=Z,0.8nm,0.3s
MYKA *eS* SKKPbc 02 59 13.7 -11
comp=Z,1.9nm,0.8s
THAL Thalero 136.58 316 P PKPpre 02 46 44.8
BOJS Bojanci 136.58 329 *e*PKPdf PKPpre 02 46 41.5
BSTI Sart Tilman 136.59 341 *d*PKiKP **PKiKP** **02 46 56.5 -0.2**
BSTI *dp*PKiKP **pPKiKP** **02 46 58.7 -1.0**
IPMB Ipameri, GO 136.63 130 *eP* **PKiKP** **02 46 57.4 -0.4**
FOEL Foel Wylfa 136.64 350 IAMs_20 IAMs_20 03 36 45.8
comp=Z,71µm,31.3s
BHOU Houvegnez 136.64 341 *d*PKiKP **PKPdf** **02 46 54.8 -0.3**
BHOU *dp*PKiKP **pPKiKP** **02 47 00.0 +0.2**
VAM Vamos 136.68 311 P PKPpre 02 46 44.1
ITTB Itaituba 136.75 108 *eP* **PKiKP** **02 46 58.0 -0.1**
UCC Uccle 136.77 342 *d*PKiKP **PKiKP** **02 46 56.4 -0.6**
UCC *dp*PKiKP **pPKPdf** **02 46 58.1 -0.2**
UCC Uccle 136.77 342 IAMs_20 IAMs_20 03 51 39.2
comp=Z,57µm,20.0s
ANX Ano Chora 136.81 317 P PKPpre 02 46 44.2
BCLA Clavier 136.81 341 *dp*PKiKP **PKiKP** **02 46 59.0 +1.8**
STU Stuttgart 136.82 337 IAMs_20 IAMs_20 03 51 05.2
comp=Z,42µm,19.0s
CEY Cerknica 136.83 330 *eP* PKPpre 02 46 42.1
LSK Leskovik 136.85 319 P **PKiKP** **02 46 57.3 -0.4**
JAVS Javornik 136.90 330 *e*PKPdf PKPpre 02 46 43.4
JAVS *e* 02 46 56.0
JAVS *eP* **PP** **02 49 35.0 -3.3**
EFP Efpalio 136.90 316 P **PKPdf** **02 46 48.2 -7.7**
BGES Gesves 136.91 341 *dp*PKiKP **PKiKP** **02 46 59.9 +2.6**
KLV Kalavryta, Ach 136.93 316 P PKPpre 02 46 47.5
LAKA Lakka 136.95 316 P PKPpre 02 46 47.2
WATA Walderalm 136.97 334 *i* P PKPpre 02 46 46.2
comp=Z,2.4nm,0.7s,SNR=7.4
WATA *eP* **PP** **02 49 31.2 -7.6**
comp=Z,1.0nm,0.3s
WATA *eS* **SKKPbc** **02 59 13.2 -10**
comp=Z,9.8nm,1.2s
ABTA Abfaltersbach 137.00 332 *eP* PKPpre 02 46 45.3
comp=Z,1.6nm,0.7s
ABTA *eP* **PP** **02 49 32.2 -6.7**
comp=Z,25nm,1.8s
ABTA *eS* SKKPbc 02 59 11.6 -12
comp=Z,30nm,2.6s
WTTA Wattenberg 137.00 334 *i* P PKPpre 02 46 44.2
comp=Z,3.8nm,1.4s,SNR=8.4
WTTA *eP* **PP** **02 49 31.3 -7.7**
comp=Z,74nm,1.8s
WTTA *eS* SKKPbc 02 59 11.3 -12
comp=Z,21nm,1.3s
GVDS Gavdos 137.00 311 P **PKiKP** **02 46 58.2 +0.2**
STON Ston 137.01 324 *eP* **PKPdf** **02 46 56.5 +0.6**
GVD Gavdhos 137.01 311 P **PKiKP** **02 46 58.0 0.0**
VLI Veliai 137.01 314 P PKPpre 02 46 42.8
SNF Seneffe 137.05 342 *dp*PKiKP **PKiKP** **02 46 59.7 +2.1**
RCHB Rochefort 137.06 341 *dp*PKiKP **PKiKP** **02 47 00.0 +2.4**
BMRD Maredsous 137.08 342 *dp*PKiKP **PKiKP** **02 47 00.2 +2.5**
VAS01 Vassouras-RJ 137.08 139 *eP* **PKiKP** **02 46 58.6 0.0**
VLX Vlachokerasia 137.10 315 P PKPpre 02 46 47.2
BSCB Bom Sucesso 137.11 137 *eP* **PKiKP** **02 46 59.2 +0.4**
KTHA Kythira Island 137.14 313 P **PKiKP** **02 46 58.2 -0.1**
ANKY Antikythira Is 137.14 312 P **PKPdf** **02 46 50.3 -6.1**
SKDS Skadanscina 137.17 330 *eP* PKPpre 02 46 43.2
MOTA Moosalm 137.17 334 *eP* PKPpre 02 46 41.3
comp=Z,5.3nm,1.4s
MOTA *eP* **PP** **02 49 32.2 -7.8**
comp=Z,33nm,1.2s
MOTA *eS* SKKPbc 02 59 11.6 -11
comp=Z,13nm,1.2s
KTHR Kythira 137.18 313 P **PKiKP** **02 46 57.9 -0.5**
WLF Walferdange 137.18 340 *d*PKiKP **PKPdf** **02 46 56.1 +0.1**
WLF *dp*PKiKP **pPKiKP** **02 47 00.6 -0.3**
RETA Reutte 137.21 334 *eP* PKPpre 02 46 46.9
comp=Z,2.8nm,1.2s
RETA *eP* **PP** **02 49 32.7 -7.4**
comp=Z,19nm,1.5s
RETA *eS* SKKPbc 02 59 11.0 -11
comp=Z,20nm,1.6s
SQTA Sankt Quirin 137.22 334 *eP* PKPpre 02 46 46.0
comp=Z,1.2nm,0.4s
SQTA *eP* PP 02 49 32.2 -8.1
comp=Z,28nm,1.5s
SQTA *eS* SKKPbc 02 59 08.3 -14
comp=Z,22nm,1.6s
DOU Dourbes 137.32 342 *dp*PKiKP **PKiKP** **02 46 58.9 +0.8**
IGT Igoumenitsa 137.36 319 P PKPpre 02 46 43.5
SRN Sarande 137.39 319 P PKPpre 02 46 48.6
RLS Riolos of Patr 137.39 316 P PKPpre 02 46 43.8
MCH1 Michaelchurch 137.46 349 *eP* **PKPdf** **02 46 50.6 -5.9**
MCH1 IAMs_20 IAMs_20 03 37 10.5
comp=Z,68µm,28.8s
AMT Artemida-Makis 137.48 315 P **PKiKP** **02 46 58.9 -0.1**
BFO Black Forest 137.52 337 IAMs_20 IAMs_20 03 51 54.5
comp=Z,40µm,20.0s
SNDB Serra Nova Dou 137.53 121 *eP* **PKiKP** **02 46 59.2 -0.5**
FETA Feichten 137.58 334 *i* P PKPpre 02 46 46.2
comp=Z,2.2nm,0.8s,SNR=6.1
FETA *eP* **PP** **02 49 41.5 -1.1**
comp=Z,14nm,1.3s
FETA *eS* SKKPbc 02 59 07.7 -13
comp=Z,10nm,1.2s
KEK Kerkira 137.61 319 P PKPpre 02 46 43.9
DAVA Damuels 137.74 335 *eP* PKPpre 02 46 44.2
comp=Z,2.4nm,1.0s
DAVA *eP* **PP** **02 49 44.6 +1.1**
comp=Z,52nm,1.5s
DAVA *eS* SKKPbc 02 59 08.0 -13
comp=Z,24nm,2.1s
FSK Fiskardo 137.79 317 P PKPpre 02 46 45.8
HMNX Herstmonceux 137.81 346 *eP* **PKiKP** **02 46 58.6 -0.5**
HMNX IAMs_20 IAMs_20 03 43 13.3
comp=Z,75µm,24.7s
DUB01 Friburgo-RJ 137.90 140 *eP* **PKiKP** **02 46 59.5 -0.8**
VLS Valsamata 137.92 317 P PKPpre 02 46 45.5
CTI Castel Tesino 137.92 332 PKIKP **PKPdf** **02 46 55.4 -2.3**
CTI Castel Tesino 137.92 332 PKPdf **PKPdf** **02 46 55.4 -2.3**
KEF5 Kardakata, Kep 137.95 317 P PKPpre 02 46 45.4
PSDA Pessada-Kefalo 137.95 317 P PKPpre 02 46 45.8
KEF4 Livadi, Kephal 137.99 317 P PKPpre 02 46 45.8
LTHK Lithakia 137.99 316 P PKPpre 02 46 45.0
VLMS Volimes, Zakyn 138.03 317 P PKPpre 02 46 45.8
ECH Echery 138.05 338 IAMs_20 IAMs_20 03 49 01.5
comp=Z,56µm,21.0s
KEF3 Kipouria, Keph 138.07 317 P PKPpre 02 46 49.5
BDFB Brasilia 138.19 128 PKhKP PKPpre 02 46 50.0
comp=Z,4.0nm,0.8s,baz=179,slow=3.2,SNR=4.7
BDFB PKP **PKPdf** **02 46 57.7 -1.4**
comp=Z,43nm,1.0s,baz=170,slow=1.4,SNR=17
BDFB Brasilia 138.19 128 IAMs_20 IAMs_20 03 51 12.8
comp=Z,39µm,19.0s
CAM01 Campos-RJ 138.54 141 *eP* **PKPdf** **02 47 00.1 +0.7**
HTL Hartland 138.69 350 *eP* PKPdf 02 46 48.8 -10
HTL IAMs_20 IAMs_20 03 39 08.6
comp=Z,49µm,27.8s
MALB Monte Alegre 138.96 105 *eP* **PKPdf** **02 47 01.3 +0.9**
MATE Matera 138.97 323 ⇑P **PKPdf** **02 47 00.0 +0.4**
DYA Yadsworthy 139.13 349 *eP* PKPdf 02 46 48.2 -11
DYA IAMs_20 IAMs_20 03 45 20.3
comp=Z,57µm,24.4s
ZCCA Zocca 139.51 331 **PKPdf** **02 46 58.5 -2.1**
SENIN Lac Senin/Sane 139.53 336 IAMs_20 IAMs_20 03 53 34.9
comp=Z,43µm,19.0s
DIAM Diamantina, MG 139.72 135 *eP* **PKPdf** **02 47 02.2 +0.3**
AQU L'Aquila 139.73 327 *eP* PKPpre 02 46 52.6
AQU L'Aquila 139.73 327 IAMs_20 IAMs_20 03 54 52.2
comp=Z,50µm,19.0s
VLC Villacollemand 139.93 331 IAMs_20 IAMs_20 03 52 01.1
comp=Z,55µm,21.0s
PEXB Peixe 139.96 123 *eP* **PKiKP** **02 47 04.4 -0.3**
JSA Saint Aubin 139.96 347 *eP* PKPdf 02 46 51.5 -10
JSA IAMs_20 IAMs_20 03 47 42.3
comp=Z,56µm,22.2s
PAOL Paolisi 139.98 325 **PKPdf** **02 46 58.6 -2.9**
ALF01 Guarapari-ES 140.02 141 *eP* **PKPdf** **02 47 03.1 +1.0**
CASP Castiglione de 140.72 330 IAMs_20 IAMs_20 03 55 19.3
comp=Z,42µm,20.0s
BSFB Barra de Sao F 141.25 139 *eP* **PKiKP** **02 47 06.4 -0.8**
SSB Saint Sauveur 141.50 338 IAMs_20 IAMs_20 03 50 32.7
comp=Z,49µm,22.0s
PRPB Paraiapebas 141.51 114 *eP* **PKiKP** **02 47 06.7 -1.2**
MCPB Macapa, AP 141.51 104 *eP* **PKiKP** **02 47 07.1 -0.8**
MDP Montagnes des 142.25 95 PKP **PKPdf** **02 47 07.1 +0.8**
comp=Z,28nm,1.1s,baz=160,slow=4.3,SNR=5.9
RAFF Raffo Rosso 142.52 320 IAMs_20 IAMs_20 04 01 26.3
comp=Z,32µm,20.0s
CORL Corleone 142.76 322 IAMs_20 IAMs_20 03 56 44.2
comp=Z,33µm,20.0s
WDD Wied Dalam 143.25 318 PKPdf **PKPdf** **02 47 07.1 -0.4**
VSL Villasalto 143.90 327 IAMs_20 IAMs_20 03 53 22.7
comp=Z,50µm,21.0s
TMAB Tom-Au,PA,Br 144.59 109 *eP* PKPbc 02 47 09.4 +0.3
CMC01 Camacan, BA 144.60 136 *eP* PKPbc 02 47 09.6 +0.5
NBIT Itapeh - BA 144.96 136 *eP* **PKPdf** **02 47 10.9 -0.2**
GDU01 Guandu, BA 145.70 134 *eP* **PKPab** **02 47 13.0 0.0**
MAHO Mahon 146.10 333 PKP **PKPdf** **02 47 10.4 -1.9**
MAHO Mahon 146.10 333 PKS 02 50 48.7
KEST Kesra 146.57 323 PKPbc **PKPbc** **02 47 14.3 -0.5**
comp=Z,32nm,0.7s,baz=303,slow=1.6,SNR=70
KEST Kesra 146.57 323 **PKPdf** **02 47 13.9 +0.5**
CMAH Djebel Manchou 147.05 326 P **PKPbc** **02 47 16.2 0.0**
NBPN Ponto Novo - B 147.13 129 *eP* **PKPbc** **02 47 16.0 -0.9**
ABSA Djebel Ababsia 147.27 325 P **PKPab** **02 47 18.1 -0.5**
CKFL Kef-Lekhel 147.59 326 P **PKPbc** **02 47 18.6 +0.8**
H07S1 FLORES T-PHASB 47.74 24 *e*PKP **PKPbc** **02 47 17.3 -0.6**
H07S1 FLORES T-PHASB 47.74 24 *e*LQ LQ 03 36 12.1
CASM Ain Smara 147.82 326 P **PKPab** **02 47 20.9 +0.2**
DFRA Djebel Bou Aff 147.94 327 P **PKPbc** **02 47 19.2 +0.5**
PBRG Braganca 147.96 348 *e*PKPdf **PKPdf** **02 47 14.7 -0.8**
CTEI Djebel Teioual 148.01 326 P **PKPab** **02 47 21.3 -0.2**
ROSB Rosrio 148.02 113 *eP* **PKPbc** **02 47 18.4 -1.0**
PGAV Gavieira, Arco 148.08 351 *e*PKPdf **PKPdf** **02 47 14.7 -1.0**
PGAV Gavieira, Arco 148.08 351 *e*LR LR 03 36 50.7
comp=Z,51µm,22.0s
PCAB Cabril 148.29 350 *e*PKPdf **PKPdf** **02 47 17.5 +1.5**
SET Setif 148.45 328 P **PKPdf** **02 47 17.0 +0.5**
UCM Universidad Co 148.53 343 PKP **PKPdf** **02 47 15.2 -1.2**
POLO Lamas de Olo 148.58 350 *e*PKPdf **PKPdf** **02 47 15.2 -1.3**
MVO Moncorvo 148.64 349 *e*PKPdf **PKPdf** **02 47 16.2 -0.4**
MVO Moncorvo 148.64 349 *e*LR LR 03 37 19.5
comp=Z,49µm,22.0s
PVRL Vila Real 148.66 350 *e*PKPdf **PKPdf** **02 47 18.2 +1.6**
SRBC Serra Branca 149.22 20 *e*PKP **PKiKP** **02 47 22.9 -0.1**
PVIS Viseu 149.23 350 *e*PKPdf **PKPdf** **02 47 17.5 -0.1**
PGRA Graciosa 149.24 20 *e*PKP **PKiKP** **02 47 23.1 +0.1**
PGRA Graciosa 149.24 20 *e*LQ LQ 03 36 51.9
ESDC Sonseca Array 149.32 343 PKPbc **PKPbc** **02 47 22.3 +0.2**
comp=Z,31nm,1.2s,baz=9.8,slow=2.2,SNR=24
ESDC PP **PP** **02 50 51.5 -1.2**
comp=Z,6.1nm,1.0s,baz=26,slow=6.6,SNR=4.1
ESDC Sonseca Array 149.32 343 **PKPbc** **02 47 20.3 -1.8**
PCED Cedros 149.35 22 *e*PKP **PKiKP** **02 47 24.3 +1.1**
CALA Caldeira 149.39 22 *e*PKP **PKiKP** **02 47 24.6 +1.1**
ROSA Rosais 149.43 21 *e*PKP **PKPbc** **02 47 22.2 -0.1**
ROSA Rosais 149.43 21 *e*LQ LQ 03 37 03.3
ROSA Rosais 149.43 21 IAMs_20 IAMs_20 03 49 05.3
comp=Z,43µm,21.0s
MTE Manteigas 149.47 349 *e*PKPdf **PKPdf** **02 47 16.8 -1.2**
MTE Manteigas 149.47 349 *e*LR LR 03 37 33.9
comp=Z,53µm,22.0s
PAB San Pablo 149.54 344 PKP2 **PKPbc** **02 47 21.9 -0.7**
PAB San Pablo 149.54 344 **PKPbc** **02 47 21.9 -0.7**
PICO Pico 149.56 21 *e*PKP **PKPbc** **02 47 21.7 -1.0**
PICO Pico 149.56 21 *e*LQ LQ 03 35 55.0
PMAN Manadas 149.56 21 *e*PKP **PKPbc** **02 47 23.1 +0.5**
PCAN Candelaria 149.57 21 *e*PKP **PKiKP** **02 47 24.1 +0.4**
PPNO Prainha do Nor 149.64 21 *e*PKP **PKPbc** **02 47 22.7 -0.2**
PID Ribeirinha 149.72 21 *e*PKP **PKPbc** **02 47 21.0 -2.0**
NBPS Pedro II - PI 149.73 118 *eP* **PKPdf** **02 47 20.5 +1.3**
PAGU Agualva, Azore 149.74 19 *e*PKP **PKiKP** **02 47 23.6 -0.5**
PAGU Agualva, Azore 149.74 19 *e*LQ LQ 03 36 57.6
COI Coimbra 149.82 350 *e*PKPdf **PKPdf** **02 47 17.5 -0.9**
COI Coimbra 149.82 350 IAMs_20 IAMs_20 03 52 30.7
comp=Z,52µm,21.0s
PSCM Serra do Cume 149.82 19 *e*PKP **PKiKP** **02 47 24.3 0.0**
ADH Angra Heroismo 149.83 19 *e*PKP **PKPbc** **02 47 23.2 0.0**
PCAS Casmilo, Conde 149.98 350 *e*PKPdf **PKPdf** **02 47 17.1 -1.6**
PCBR Castelo Branco 150.00 349 *e*PKPdf **PKPdf** **02 47 17.6 -1.1**
CART Cartagena 150.23 337 PKP **PKPdf** **02 47 17.3 -1.8**
CART Cartagena 150.23 337 PKS 02 50 56.9
CART Cartagena 150.23 337 PKPbc **PKPbc** **02 47 23.3 -0.9**
CART IAMs_20 IAMs_20 03 57 17.9
comp=Z,33µm,20.0s
EBNR Beni Rached 150.28 333 P **PKPbc** **02 47 24.4 -0.1**
PMRV Marv??o 150.38 348 *e*PKPdf **PKPdf** **02 47 18.8 -0.6**
PMRV Marv??o 150.38 348 *e*LR LR 03 38 37.3
comp=Z,68µm,20.0s
ECHA Ech Chlef 150.47 333 P **PKPbc** **02 47 25.0 +0.1**
PSBE So Bento 150.56 350 *e*PKPdf **PKPdf** **02 47 18.6 -1.1**
NBPB Pedra_Branca-C 150.73 122 *eP* **PKPbc** **02 47 23.5 -2.7**
EANR `Ain N'Sour 150.76 333 P **PKPbc** **02 47 25.0 -0.7**
NBAN Anadia - AL 150.81 133 *eP* **PKPdf** **02 47 22.8 +2.0**
PMTG Montargil 150.89 349 *e*PKPdf **PKPdf** **02 47 19.5 -0.6**
PESTR Estremoz 150.96 348 *e*PKPdf **PKPdf** **02 47 19.1 -1.2**
PESTR Estremoz 150.96 348 IAMs_20 IAMs_20 04 01 02.2
comp=Z,39µm,19.0s
PSET Sete Cidades 151.07 18 *e*PKP **PKPbc** **02 47 25.8 -0.5**
PSET Sete Cidades 151.07 18 *e*LQ LQ 03 37 33.6
ETRT Tiaret 151.13 332 P **PKPbc** **02 47 26.7 +0.1**
PCALD Caldeiras da R 151.16 18 *e*PKP **PKPbc** **02 47 24.8 -1.7**
GRON Grota Negra 151.17 18 *e*PKP **PKPbc** **02 47 23.9 -2.7**
CMLA Cha da Macela 151.18 18 *e*PKP **PKPdf** **02 47 21.5 +0.8**
CMLA Cha da Macela 151.18 18 *e*LQ LQ 03 38 41.9
CMLA Cha da Macela 151.18 18 PKPbc **PKiKP** **02 47 29.5 +2.4**
CMLA Cha da Macela 151.18 18 IAMs_20 IAMs_20 03 49 42.6
comp=Z,52µm,21.0s
PMAFR Mafra 151.18 351 *e*PKPdf **PKPdf** **02 47 19.3 -1.3**
BART Pico Bartolome 151.27 17 *e*PKP **PKPdf** **02 47 22.7 +1.8**
OJGS Djebel Guires 151.29 333 P **PKiKP** **02 47 31.0 +3.5**
EVO Evora 151.37 349 *e*PKPdf **PKPdf** **02 47 19.9 -1.0**
PMST Lisbon--Monsan 151.38 351 *e*PKPdf **PKPdf** **02 47 19.9 -1.0**
LIS Lisbon 151.39 351 *e*PKPdf **PKPdf** **02 47 20.5 -0.4**
LIS *eP* **PP** **02 51 06.2 +1.7**
LIS IAMs_20 IAMs_20 03 48 51.0
comp=Z,72µm,26.1s
LIS Lisbon 151.39 351 *e*PKIKP **PKPdf** **02 47 20.5 -0.4**
LIS *e* 02 51 06.1
OJBR Djebel Berber 151.40 333 P **PKPab** **02 47 32.0 -3.3**
NBMO Morrinhos-CE 151.47 117 *eP* **PKPdf** **02 47 23.1 +1.3**
PBAR Barrancos 151.51 347 *e*PKPdf **PKPdf** **02 47 20.0 -1.1**
USTO Oran 151.66 335 P **PKPab** **02 47 33.0 -3.2**
PBEJ Beja 151.83 348 *e*PKPdf **PKPdf** **02 47 21.0 -0.6**
ODJA Bouhanifia 151.83 334 P **PKiKP** **02 47 32.0 +3.4**
PNCL Nicolau / Gran 151.88 349 *e*PKPdf **PKPdf** **02 47 20.6 -1.1**
PSMA Santa Maria 152.01 18 *e*PKP **PKPdf** **02 47 23.6 +1.7**
PSMN Pico do Norte, 152.02 18 *e*PKP **PKPdf** **02 47 22.2 +0.3**
PSMN Pico do Norte, 152.02 18 *e*LQ LQ 03 37 48.8
MESJ Messejana 152.08 349 *e*PKPdf **PKPdf** **02 47 21.6 -0.4**
MESJ *eP* **PP** **02 51 10.3 +1.8**
MESJ *e*SS SS 03 10 39.5 +4.1
MESJ IAMs_20 IAMs_20 04 03 06.2
comp=Z,62µm,21.3s
MESJ Messejana 152.08 349 *e*PKIKP **PKPdf** **02 47 21.5 -0.4**
MESJ *e* 02 51 10.2
MESJ *e*SS SS 03 10 39.5 +4.1
MESJ Messejana 152.08 349 *e*PKPdf **PKPdf** **02 47 20.8 -1.2**
OTSS Djebel Tessala 152.15 335 P **PKPab** **02 47 38.0 -0.4**
EMAL Malaga-Limoner 152.15 342 PKP **PKPdf** **02 47 19.6 -2.5**
SHEL Horse Pasture 152.23 199 PKIKP **PKiKP** **02 47 30.0 +0.1**
SHEL Horse Pasture 152.23 199 PKPbc **PKiKP** **02 47 30.0 +0.1**
SHEL Horse Pasture 152.23 199 IAMs_20 IAMs_20 03 47 32.9
comp=Z,47µm,22.0s
PCVE Castro Verde 152.25 348 *e*PKPdf **PKPdf** **02 47 21.4 -0.9**
NBRF Rio Formoso - 152.31 133 *eP* **PKPdf** **02 47 24.9 +1.8**
PVAQ Vaqueiros 152.40 348 *e*PKPdf **PKPdf** **02 47 21.6 -0.9**
PVAQ Vaqueiros 152.40 348 *e*LR LR 03 39 02.8
comp=Z,45µm,18.0s
PVAQ Vaqueiros 152.40 348 **PKPbc** **02 47 27.9 -1.4**
PTEO Sao Teotonio 152.46 349 *e*PKPdf **PKPdf** **02 47 24.5 +1.9**
NBCL Cascavel-CE 152.52 121 *eP* **PKPdf** **02 47 25.3 +2.0**
PBDV Barranco-do-Ve 152.60 348 *e*PKPdf **PKPdf** **02 47 21.7 -1.1**
NBPA Parau_RN 152.64 125 *eP* **PKPdf** **02 47 25.0 +1.5**
MORF Marmelete 152.68 349 *e*PKPdf **PKPdf** **02 47 22.5 -0.5**
MORF *eP* **PP** **02 51 13.8 +1.9**
MORF IAMs_20 IAMs_20 03 46 25.2
comp=E,62µm,25.8s
MORF Marmelete 152.68 349 *e*PKIKP **PKPdf** **02 47 22.5 -0.5**
MORF *e* 02 51 13.7
MORF Marmelete 152.68 349 *e*PKPdf **PKPdf** **02 47 21.6 -1.4**
PFVI Vila Bisbo 152.88 349 *e*PKPdf **PKPdf** **02 47 23.6 +0.4**
SFS San Fernando 152.94 344 PKP **PKPdf** **02 47 22.6 -0.6**
MELI Melilla 152.98 338 PKP **PKPdf** **02 47 22.6 -0.8**
MELI Melilla 152.98 338 PKS 02 51 04.0
CEU Ceuta 153.24 343 PKP **PKPdf** **02 47 21.1 -2.6**
CEU Ceuta 153.24 343 PKS 02 51 06.7
RCBR Riachuelo 153.56 127 PKIKP **PKPbc** **02 47 29.9 -2.7**
RCBR Riachuelo 153.56 127 **PKPbc** **02 47 29.9 -2.7**
RCBR Riachuelo 153.56 127 IAMs_20 IAMs_20 03 50 07.1
comp=Z,42µm,20.0s
RCBR Riachuelo 153.56 127 *eP* **PKPdf** **02 47 26.6 +1.7**
**PVLZ Peæn de 153.

comp=Z,41μm,26.0s
PMAR Madeira 157.76 4 *e*PKPdf PKPdf 02 47 28.6 -1.6
FUL Funchal 157.84 4 *e*PKPdf PKPdf 02 47 28.2 -1.8
KUKU Kukurantumi 165.01 255 *i* P PKPdf 02 47 35.7 -2.4
KOWA Kowa 168.64 292 PKP PKPdf 02 47 42.3 +1.5
comp=Z,17nm,1.1s,baz=309,slow=1.1,SNR=9.5
KOWA PKPab PKPab 02 48 51.8 +1.2
comp=Z,24nm,0.7s,baz=78,slow=1.9,SNR=11
KIC Kosan Boka 169.16 249 *e*PKIKP PKPdf 02 47 42.8 +1.6
comp=Z,72nm,1.0s
LIC Lamto 169.37 247 *e*PKIKP PKPdf 02 47 43.0 +1.7
comp=Z,74nm,0.9s
TIC Toumodi 169.52 250 *e*PKIKP PKPdf 02 47 42.9 +1.5

IDC 18 02:37:10.7±4.4, 10°.35S×165°.17E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/46, mbtmp3.9/4 Error ellipse: s-maj=191.0km s-min=34.4km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.20	249	P	P	02 43 31.6	-0.4
0.8nm,0.9s,baz=78,slow=8.4,SNR=1.0							
ASAR	Alice Springs	32.60	242	P	P	02 43 44.6	+0.2
0.7nm,0.6s,baz=64,slow=10,SNR=4.8							
ILAR	Eielson Array	83.04	19	P	P	02 49 37.8	+0.1
1.5nm,0.8s,baz=220,slow=4.9,SNR=4.1							
MKAR	Makanchi Array	92.63	317	P	P	02 50 24.5	-0.1
0.8nm,0.7s,baz=93,slow=5.1,SNR=2.2							

*IDC **18** 02:41:55.9±1.1, 10°.58S×165°.27E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/45, mbtmp4.2/8, Error ellipse: s-maj=38.5km s-min=27.7km az=112.0*
*NEIC **18** 02:41:59.3±1.5, 10°.29S±0°.05×165°.3E±0°.1, h10km±1km, mb4.4/8, Error ellipse: s-maj=19.8km s-min=7.5km az=98.0*
ISC 18 02:41:58.8±0.7, 10°.34S±0°.10×165°.3E±0°.1, h10km, n32, σ1§12/26, mb4.3/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.30	279	Pn	Pn	02 43 19.8	+1.7
SANVU	Saraoutou	5.42	160		Pn	02 43 20.3	+0.6
MARNC	Mare, Loyalty	11.39	167	Pn	Pn	02 44 41.7	0.0
ONTNC	Ouen Toro	11.95	175		Pn	02 44 51.1	+1.7
OUENC	Ouen Island, N	12.10	173	Pn	Pn	02 44 51.9	+0.5
EIDS	Eidsvold	20.10	220	P	P	02 46 32.9	+0.2
H11S2	WAKE ISLAND Hy	28.69	3	T	T	03 17 55.1	
baz=183,slow=76,SNR=7.5							
H11S3	WAKE ISLAND Hy	28.69	3	T	T	03 17 55.1	
baz=183,slow=76,SNR=6.1							
H11S1	WAKE ISLAND Hy	28.70	3	T	T	03 17 55.1	
baz=183,slow=76,SNR=7.3							
H11N1	WAKE ISLAND Hy	29.91	3	T	T	03 19 23.8	
baz=182,slow=76,SNR=4.7							
H11N3	WAKE ISLAND Hy	29.92	3	T	T	03 19 26.1	
baz=182,slow=76,SNR=6.3							
H11N2	WAKE ISLAND Hy	29.93	3	T	T	03 19 26.6	
baz=182,slow=76,SNR=5.0							
BKZ	Black Stump Fm	30.41	163	P	P	02 48 12.6	+1.3
WRA	Warramunga Arr	31.27	249	P	P	02 48 17.6	-1.5
1.2nm,0.8s,baz=76,slow=9.0,SNR=3.8							
ASAR	Alice Springs	32.68	242	P	P	02 48 29.1	-2.5
1.3nm,0.7s,baz=64,slow=10,SNR=7.8							
LTZ	Lake Taylor	32.89	170	P	P	02 48 33.3	+0.2
USA0B	Ussuriysk Arra	62.10	333	P	P	02 52 21.1	+1.2
USA0B				IAmb	IAmb	02 52 21.7	
comp=Z,2.7nm,0.8s							
USRK	Ussuriysk Ar.	62.10	333	P	P	02 52 20.3	+0.4
CMAR	Chiang Mai Arr	71.39	293	P	P	02 53 19.5	-0.1
comp=Z,1.1nm,0.5s,baz=109,slow=5.4,SNR=7.7							
CMAR	Chiang Mai Arr	71.39	293	P	P	02 53 19.8	+0.2
SONM	Songino Array	77.81	324	P	P	02 53 56.6	0.0
comp=Z,0.6nm,0.3s,baz=140,slow=6.4,SNR=4.5							
SONM	Songino Array	77.81	324	P	P	02 53 56.9	+0.4
SONM				IAmb	IAmb	02 54 06.8	
comp=Z,4.4nm,1.5s							
QSPA	South Pole Qui	79.66	180	P	P	02 54 04.0	-2.5
comp=Z,6.7nm,0.9s,baz=7.8,slow=1.5,SNR=11							
QSPA	South Pole Qui	79.66	180	P	P	02 54 06.6	+0.2
IL31		83.01	19	P	P	02 54 23.5	-0.3
IL31				IAmb	IAmb	02 54 33.4	
comp=Z,2.5nm,1.1s							
ILAR	Eielson Array	83.01	19	P	P	02 54 24.1	+0.2
comp=Z,3.2nm,1.0s,baz=231,slow=4.9,SNR=8.2							
BCAR	Beaver Creek A	83.62	21	P	P	02 54 27.5	+0.3
MK31	Makanchi Array	92.68	317	P	P	02 55 10.3	-0.8
MK31				IAmb	IAmb	02 55 15.9	
comp=Z,1.7nm,1.1s							
MKAR	Makanchi Array	92.68	317	P	P	02 55 10.2	-0.9
comp=Z,0.9nm,0.6s,baz=92,slow=7.0,SNR=5.2							
ZALV	Zalesovo Beam	92.70	324	P	P	02 55 09.7	-1.3
comp=Z,1.3nm,0.7s,baz=101,slow=7.7,SNR=3.7							
ZALV	Zalesovo Beam	92.70	324	P	P	02 55 10.6	-0.4
KEST	Kesra	146.56	323	PKPbc	PKPdf	03 01 39.9	+0.2
comp=Z,1.7nm,0.7s,baz=89,slow=5.7,SNR=4.3							

ROM 18 02:45:22.9±0.1, 42°.573N±0°.004×13°.068E±0°.009, h16km±1km, ML1.2/5, 1C-2D, Error ellipse: s-maj=0.7km s-min=0.2km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNSS	Leonessa	0.04	326	P	Pg	02 45 26.0	+0.1
LNSS				S	Sg	02 45 28.1	+0.2
LNSS				AML	AML		
comp=E,144μm,0.4s							
LNSS				AML	AML		
comp=N,196μm,0.2s							
LNSS				AML	AML		
comp=E,144μm,0.4s							
ARRO	Arrone	0.22	272	⇓P	Pg	02 45 28.3	+0.3
ARRO				S	Sg	02 45 31.8	+0.4
ARRO				AML	AML		
comp=E,97μm,0.2s							
ARRO				AML	AML		
comp=N,97μm,0.1s							
NRCA	Norcia	0.26	7	⇓P	Pg	02 45 28.8	+0.1
NRCA				S	Sg	02 45 33.1	+0.4
NRCA				AML	AML		
comp=E,168μm,0.1s							
NRCA				AML	AML		
comp=N,73μm,0.1s							
FIAM	Fiamignano	0.31	173	P	Pg	02 45 29.6	+0.2
FIAM				S	Sb	02 45 34.8	-0.2
CESX	Cesi	0.36	276	P	Pg	02 45 30.4	0.0
CESX				S	Sb	02 45 36.3	-0.2
CESX				AML	AML		
comp=N,44μm,0.2s							
CESX				AML	AML		
comp=E,28μm,1.2s							
ASSB	Assisi San Ben	0.56	327	P	Pg	02 45 33.9	-0.2
ASSB				S	Sb	02 45 42.4	+0.2
ASSB				AML	AML		
comp=E,22μm,1.3s							
ASSB				AML	AML		
comp=N,18μm,1.3s							
VAGA	Valle Agricola	1.45	143	P	Pn	02 45 25.9	-23
SEI	Scarperia	1.94	320	⇑P	Pn	02 45 54.2	-1.1
SEI				AML	AML		
comp=N,81μm,0.7s							
SEI				AML	AML		
comp=E,70μm,1.6s							

*IDC **18** 02:45:58.7±1.5, 46°.33N×138°.09E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.6/68, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=48.5km s-min=22.2km az=23.0*
*JMA **18** 02:46:10.0±0.3, 43°.69N×138°.85E, h24km, M3.0*
ISC 18 02:46:09.0±0.9, 43°.63N±0°.08×138°.92E±0°.08, h250km, n22, σ1§48/26, mb3.6/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	1.17	103	P	Pn	02 46 45.8	+0.8
JOSM	Okushiri--Mats	1.60	165	P	Pn	02 46 49.4	+1.3
JHR	Hokuryu	2.04	86	P	Pn	02 46 53.2	+1.4
JSS	Shosan	2.25	69	P	Pn	02 46 55.1	+1.4
JKB	Kayabe	2.33	138	P	Pn	02 46 55.8	+1.2
ASAJ	Asahikawa	2.70	78	Pn	Pn	02 46 59.2	+0.9
3.2nm,0.3s,baz=266,slow=9.4,SNR=14							
ASAJ				Sn	S	02 47 48.7	+11
4.7nm,0.3s,baz=244,slow=12,SNR=8.7							
JKK2	Kamakawa 2	2.78	84	P	Pn	02 47 00.5	+1.3
JNBK	Urakawa-nobuka	3.12	114	P	Pn	02 47 04.0	+1.2
JCH	Churui	3.41	106	P	Pn	02 47 06.1	+0.1
JCH				*e*S	S	02 47 50.0	-1.1
JAR	Ashorobuto	3.54	94	P	Pn	02 47 09.1	+1.6
JAR				*e*S	S	02 47 56.0	+2.1
JTKR	Abashiri--Toko	3.63	83	P	Pn	02 47 10.0	+1.6
JANG	Nango	3.79	148	P	Pn	02 47 11.3	+0.9
JANG				*e*S	S	02 47 57.7	-1.3
JAK	Akkeshi	4.26	97	P	Pn	02 47 16.3	+0.4
JRA	Rausu	4.50	84	P	Pn	02 47 21.0	+2.3
NEM2	Nemuro 2	4.97	91	P	Pn	02 47 23.9	-0.5
NEM2				*e*S	S	02 48 21.1	-3.3
JMK	Ichinoseki	4.99	159	P	Pn	02 47 26.2	+1.6
ZALV	Zalesovo Beam	36.27	306	P	P	02 52 47.3	-1.1
1.0nm,0.4s,baz=90,slow=10,SNR=2.9							
MKAR	Makanchi Array	39.29	295	P	P	02 53 13.5	-0.1
0.3nm,0.5s,baz=79,slow=9.3,SNR=2.2							
KURBB	Kurchatov Arra	40.66	302	P	P	02 53 25.2	+0.4
3.2nm,0.5s,baz=76,slow=8.9,SNR=23							
ILAR	Eielson Array	45.09	36	P	P	02 54 00.9	+0.9
0.5nm,0.8s,baz=289,slow=8.4,SNR=3.5							
ARCES	ARCESS Array B	57.17	337	P	P	02 55 27.2	-2.2
2.1nm,1.0s,baz=55,slow=7.8,SNR=2.3							
FINES	FINESS Array B	62.12	330	P	P	02 56 03.3	+0.1
1.0nm,0.9s,baz=66,slow=7.1,SNR=4.7							

*IDC **18** 02:49:15.7±1.2, 10°.58S×164°.85E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.1/41, mbtmp4.3/12, ML4.5/1, Error ellipse: s-maj=34.0km s-min=24.2km az=116.0*
*NEIC **18** 02:49:21.6±2.1, 9°.95S±0°.10×164°.55E±0°.07, h10km±1km, mb4.7/26, Error ellipse: s-maj=19.3km s-min=3.2km az=214.0*
ISC 18 02:49:20.8±0.5, 9°.99S±0°.08×164°.53E±0°.09, h10km, n58, σ1§10/47, mb4.7/24, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.55	277	Pn	Pn	02 50 32.1	+2.2
18nm,0.3s,baz=196,slow=20,SNR=1.5							
SANVU	Saraoutou	6.02	155	Pn	Pn	02 50 52.1	+2.1
MARNC	Mare, Loyalty	11.91	164	Pn	Pn	02 52 11.6	+0.7
ONTNC	Ouen Toro	12.39	172	Pn	Pn	02 52 18.3	+0.9
OUENC	Ouen Island, N	12.56	170	Pn	Pn	02 52 20.1	+0.4
MSVF	Nonsavu	15.21	122	Pn	Pn	02 52 56.6	+0.6
PMG	Port Moresby	17.13	270	Pn	Pn	02 53 21.1	+0.5
MANU	Manus Island	18.79	294	P	P	02 53 38.9	-1.7
EIDS	Eidsvold	19.93	218	P	P	02 53 51.7	-1.2
NIUE	Niue	26.29	113	P	P	02 54 56.9	+0.1
H11S2	WAKE ISLAND Hy	28.38	4	T	T	03 25 39.2	
baz=184,slow=76,SNR=55							
H11S3	WAKE ISLAND Hy	28.38	4	T	T	03 25 39.5	
baz=184,slow=76,SNR=123							
H11S1	WAKE ISLAND Hy	28.39	4	T	T	03 25 40.9	
baz=184,slow=76,SNR=89							
H11N1	WAKE ISLAND Hy	29.60	5	T	T	03 27 12.6	
baz=182,slow=76,SNR=38							
H11N3	WAKE ISLAND Hy	29.61	5	T	T	03 27 05.4	
baz=182,slow=76,SNR=35							
H11N2	WAKE ISLAND Hy	29.62	5	T	T	03 27 12.4	
baz=182,slow=76,SNR=34							
STKA	Stephens Creek	30.42	221	P	P	02 55 32.7	-0.9
WRA	Warramunga Arr	30.75	248	P	P	02 55 32.3	-4.4
1.0nm,0.7s,baz=71,slow=7.0,SNR=3.2							
AS31	Alice Springs	32.22	241	P	P	02 55 47.1	-2.6
ASAR	Alice Springs	32.23	241	P	P	02 55 45.1	-4.6
0.5nm,0.6s,baz=62,slow=10,SNR=5.3							
TOLI2	Tolitoli	44.92	282	P	P	02 57 37.0	+0.7
JNU	Nakatsue	53.53	325	P	P	02 58 43.4	+1.4
8.9nm,0.8s,baz=55,slow=2.4,SNR=4.1							
JKA	Kamikawa-asahi	57.41	341	P	P	02 59 10.4	+0.9
ASAJ	Asahikawa	57.41	341	P	P	02 59 10.4	+0.8
3.2nm,0.6s,baz=213,slow=11,SNR=4.7							
KSAR	Wonju Array Be	58.35	326	P	P	02 59 16.7	+0.3
USA0B	Ussuriysk Arra	61.47	334	P	P	02 59 38.4	+0.7
USA0B				IAmb	IAmb	02 59 39.2	
comp=Z,3.0nm,0.8s							
USRK	Ussuriysk Ar.	61.47	334	P	P	02 59 37.9	+0.2
comp=Z,2.0nm,0.8s,baz=152,slow=8.6,SNR=4.7							
MDJ	Mudanjiang	62.86	333	P	P	02 59 47.8	+0.7
MDJ				IAmb	IAmb	02 59 54.9	
comp=Z,12nm,1.3s							
PET	Petropavlovsk	62.96	356	P	P	02 59 46.8	-0.6
KLR	Kul'dur	65.62	337	P	P	03 00 05.2	+0.2
comp=Z,2.6nm,0.8s,baz=140,slow=7.2,SNR=5.6							
CMAR	Chiang Mai Arr	70.60	294	P	P	03 00 37.4	+0.5
comp=Z,2.0nm,0.3s,baz=120,slow=4.9,SNR=9.3							
CMAR	Chiang Mai Arr	70.60	294	P	P	03 00 38.0	+1.1
CHTO	Chiang Mai	70.71	294	P	P	03 00 38.7	+1.1
CHTO				IAmb	IAmb	03 00 41.3	
comp=Z,5.0nm,1.1s							
ULN	Ulaanbaatar	76.75	324	P	P	03 01 10.9	-1.8
ULN				IAmb	IAmb	03 01 14.8	
comp=Z,7.2nm,1.1s							
SONM	Songino Array	77.11	324	P	P	03 01 15.6	+0.9
comp=Z,2.6nm,1.0s,baz=139,slow=6.4,SNR=5.9							
SONM	Songino Array	77.11	324	IAmb	IAmb	03 01 17.3	
comp=Z,6.1nm,1.3s							
SVW2	Sparrevohn	77.49	19	P	P	03 01 17.3	+0.9
SHL	Shillong	78.97	299	P	P	03 01 25.3	-0.2
SHL				IAmb	IAmb	03 01 34.4	
comp=Z,16nm,1.4s							
QSPA	South Pole Qui	80.01	180	P	P	03 01 24.3	-6.2
comp=Z,4.1nm,1.1s,baz=217,slow=1.9,SNR=3.4							
QSPA	South Pole Qui	80.01	180	P	P	03 01 30.7	+0.3
WRH	Wood River Hil	82.31	19	P	P	03 01 42.1	-0.3
WRH				IAmb	IAmb	03 01 44.4	
comp=Z,5.6nm,0.8s							
H02S1	DAWSON INLET T	82.45	33	T	T	04 32 55.2	
SNR=10							
HDA	Harding Lake	82.64	19	P	P	03 01 43.8	-0.3
HDA				IAmb	IAmb	03 01 44.1	
comp=Z,5.8nm,0.8s							
IL31		82.90	19	P	P	03 01 45.2	-0.2
IL31				IAmb	IAmb	03 01 46.6	
comp=Z,4.5nm,1.1s							
ILAR	Eielson Array	82.90	19	P	P	03 01 43.5	-1.9
comp=Z,2.3nm,0.8s,baz=229,slow=5.9,SNR=13							
BCAR	Beaver Creek A	83.55	22	P	P	03 01 48.0	-0.9
K27K	Chicken	84.03	21	P	P	03 01 51.7	+0.4
K27K				IAmb	IAmb	03 02 05.8	
comp=Z,11nm,1.2s							
EGAK	Eagle	84.81	20	P	P	03 01 54.4	-0.8
MK31	Makanchi Array	91.94	317	P	P	03 02 29.4	-0.3
MK31				IAmb	IAmb	03 02 36.9	
comp=Z,4.9nm,1.4s							
MKAR	Makanchi Array	91.94	317	P	P	03 02 29.8	0.0
comp=Z,2.1nm,0.6s,baz=90,slow=5.9,SNR=13							
ZAA0	Zalesovo Array	92.00	324	P	P	03 02 30.8	+1.0
ZAA0				IAmb	IAmb	03 02 45.3	
comp=Z,4.1nm,1.3s							
ZALV	Zalesovo Beam	92.00	324	P	P	03 02 29.5	-0.3
DLMT	Dillon	92.06	44	P	P	03 02 28.8	-1.8
DLMT				IAmb	IAmb	03 02 47.4	
comp=Z,7.4nm,1.0s							
MAKZ	Makanchi	92.15	317	P	P	03 02 31.0	+0.2
MAKZ				IAmb	IAmb	03 02 43.6	
comp=Z,10nm,1.4s							
YNR	Norris Junctio	93.27	45	P	P	03 02 34.6	-1.7
KEST	Kesra	145.85	323	PKPbc	PKPdf	03 09 00.1	-0.4
comp=Z,7.4nm,0.8s,baz=292,slow=1.8,SNR=20							
KEST	Kesra	145.85	323		PKPdf	03 08 59.1	-1.4
ESDC	Sonseca Array	148.71	343	PKPbc	PKPdf	03 09 06.5	+1.3
comp=Z,1.8nm,1.2s,baz=352,slow=3.5,SNR=5.3							

IDC 18 02:58:07.5±4.7, 10°.95S×165°.46E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/37, mbtmp3.8/3, Error ellipse: s-maj=208.3km s-min=40.6km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	WAKE ISLAND Hy	29.28	2	T	T	03 35 20.0	
baz=182							
H11S3	WAKE ISLAND Hy	29.29	2	T	T	03 35 20.1	
baz=182							
H11S1	WAKE ISLAND Hy	29.30	2	T	T	03 35 23.4	
baz=182							
H11N1	WAKE ISLAND Hy	30.51	3	T	T	03 36 48.6	
baz=182							
H11N3	WAKE ISLAND Hy	30.51	3	T	T	03 36 49.1	
baz=182							
H11N2	WAKE ISLAND Hy	30.52	3	T	T	03 36 49.7	
baz=182							
WRA	Warramunga Arr	31.25	250	P	P	03 04 29.1	-0.1
0.6nm,1.1s,baz=82,slow=9.7,SNR=1.3							
ILAR	Eielson Array	83.52	19	P	P	03 10 36.8	-0.2
1.2nm,0.8s,baz=228,slow=6.0,SNR=12							
MKAR	Makanchi Array	93.26	317	P	P	03 11 23.4	-0.8
0.4nm,0.8s,baz=101,slow=6.0,SNR=3.2							
KEST	Kesra	147.17	323	PKPbc	PKPbc	03 17 53.5	+0.2
1.4nm,0.7s,baz=143,slow=20,SNR=6.5							

IDC 18 03:06:04.4±22.0, 6°.74S×127°.03E, h232km±253km, mb3.0/1, mb1 3.6/3, mb1mx3.0/28, mbtmp4.0/3, ML4.3/2, Error ellipse: s-maj=132.7km s-min=88.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.92	152	P	Pn	03 09 23.7	-0.7
1.3nm,0.3s,baz=330,slow=12,SNR=36							
ASAR	Alice Springs	18.08	159	P	P	03 09 59.3	+0.1
0.9nm,0.3s,baz=344,slow=12,SNR=81							
MKAR	Makanchi Array	66.42	328	P	P	03 16 28.9	0.0
0.2nm,0.4s,baz=116,slow=7.9,SNR=4.4							

IDC 18 03:17:32.2±1.7, 6°.68S×128°.86E, h0km, mb4.1/1, mb1 4.1/4, mb1mx3.6/33, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=59.4km s-min=28.5km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.25	23	Pn	Pn	03 19 04.8	-1.0
2.2nm,0.3s,baz=174,slow=23,SNR=12							
SIJI				Sn	Sn	03 20 12.9	-5.1
3.0nm,0.3s,baz=246,slow=23,SNR=1.6							
WRA	Warramunga Arr	14.21	159	Pn	Pn	03 20 53.9	-1.1
0.8nm,0.3s,baz=336,slow=13,SNR=26							
WRA				Sn	Sn	03 23 18.2	-15
0.2nm,0.3s,baz=342,slow=22,SNR=2.5							
ASAR	Alice Springs	17.57	165	P	Pn	03 21 39.2	+0.6
0.4nm,0.3s,baz=343,slow=9.3,SNR=18							
ASAR				S	Sn	03 24 45.3	-10
0.1nm,0.3s,baz=4.0,slow=29,SNR=1.8							
MKAR	Makanchi Array	67.35	327	P	P	03 28 29.4	+0.3
1.0nm,0.5s,baz=127,slow=7.4,SNR=8.2							

*IDC **18** 03:25:00.8±3.7, 10°.33S×164°.34E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/32, mbtmp3.8/5, Error ellipse: s-maj=117.6km s-min=31.9km az=116.0*
*NEIC **18** 03:25:01.3±0.9, 10°.54S±0°.05×164°.5E±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=18.6km s-min=8.2km az=97.0*
ISC 18 03:25:03.1±0.8, 10°.5S±0°.2×164°.5E±0°.1, h24km, n26, σ1§07/19, mb4.0/9, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.62	283	Pn	Pn	03 26 10.6	-0.8
MSVF	Nonsavu	14.97	120	Pn	Pn	03 28 32.5	-0.8
H11S2	WAKE ISLAND Hy	28.89	4	T	T	04 01 07.2	
baz=152,slow=74,SNR=19							
H11S3	WAKE ISLAND Hy	28.89	4	T	T	04 01 08.2	
SNR=14							
H11S1	WAKE ISLAND Hy	28.91	4	T	T	04 01 07.2	
baz=178,slow=74,SNR=15							
STKA	Stephens Creek	30.02	221	P	P	03 31 12.1	+1.9
1.4nm,0.4s,baz=70,slow=12,SNR=7.8							
STKA	Stephens Creek	30.02	221	P	P	03 31 09.5	-0.7
H11N1	WAKE ISLAND Hy	30.12	4	T	T	04 02 40.0	
baz=182,slow=76,SNR=12							
H11N3	WAKE ISLAND Hy	30.12	5	T	T	04 02 38.7	
baz=182,slow=76,SNR=15							
H11N2	WAKE ISLAND Hy	30.14	4	T	T	04 02 39.8	
baz=182,slow=76,SNR=13							
WB0	Warramunga Arr	30.45	249	P	P	03 31 13.2	-1.0
WB0				IAmb	IAmb	03 31 25.9	
comp=Z,17nm,1.5s							
WRAB	Tennant Creek	30.52	249	P	P	03 31 13.0	-1.9
WRA	Warramunga Arr	30.54	249	P	P	03 31 15.5	+0.6
comp=Z,0.4nm,0.4s,baz=77,slow=9.3,SNR=5.4							
AS31	Alice Springs	31.96	242	P	P	03 31 26.4	-1.1
ASAR	Alice Springs	31.96	242	P	P	03 31 27.6	+0.1
comp=Z,0.6nm,0.6s,baz=64,slow=10,SNR=8.3							
BBOO	Buckleboo	34.32	225	P	P	03 31 49.2	+1.2
KNRA	Kununurra	35.16	258	P	P	03 31 55.9	+0.6
SONM	Songino Array	77.52	324	P	P	03 36 58.3	+1.3
comp=Z,0.3nm,0.4s,baz=148,slow=8.6,SNR=3.7							
SONM	Songino Array	77.52	324	IAmb	IAmb	03 36 58.7	
comp=Z,2.6nm,1.4s							
QSPA	South Pole Qui	79.50	180	P	P	03 37 07.8	+0.2
QSPA				IAmb	IAmb	03 37 09.2	
comp=Z,7.2nm,1.1s							
MSO	Missoula	91.86	43	P	P	03 38 09.4	-0.1
MK31	Makanchi Array	92.30	317	P	P	03 38 09.8	-1.6
MK31				IAmb	IAmb	03 38 20.0	
comp=Z,0.4nm,0.6s							
MKAR	Makanchi Array	92.30	317	P	P	03 38 11.0	-0.4
comp=Z,0.3nm,0.6s,baz=99,slow=7.9,SNR=3.8							
ZAA0	Zalesovo Array	92.41	324	P	P	03 38 11.8	+0.2
MAKZ	Makanchi	92.51	317	P	P	03 38 13.2	+0.8
MAKZ				IAmb	IAmb	03 38 16.6	
comp=Z,3.1nm,1.4s							
KEST	Kesra	146.25	322	PKPbc	PKPbc	03 44 41.8	-0.4
comp=Z,1.3nm,0.8s,baz=241,slow=3.6,SNR=3.8							

*IDC **18** 03:32:33.3±0.6, 10°.36S×164°.99E, h0km, mb4.5/18, mb1 4.6/21, mb1mx4.5/36, mbtmp4.5/21, ML5.2/2, Error ellipse: s-maj=18.1km s-min=16.0km az=103.0*
*BJI **18** 03:32:33.1±0.0, 10°.10S×165°.28E, h8km, mb4.9/37*
*NEIC **18** 03:32:35.7±1.6, 10°.29S±0°.08×165°.05E±0°.09, h10km±1km, mb4.9/68, Error ellipse: s-maj=15.6km s-min=12.8km az=47.0*
ISC 18 03:32:39.6±0.4, 10°.34S±0°.06×165°.03E±0°.06, h46km, n158, σ1§44/137, mb4.8/65, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.09	280	Pn	Pn	03 33 51.6	-1.8
36nm,0.3s,baz=231,slow=14,SNR=2.0							
HNR				Sn	Sn	03 34 47.4	-3.5
baz=317,slow=22,SNR=1.1							
HNR	Honiara	5.09	280

URZ	Urewera	29.84	161	P	P	03 38 44.4	+1.9	
H11N1	WAKE ISLAND Hy	29.92	4	T	T	04 10 08.5		
	baz=183,slow=76,SNR=32							
H11N3	WAKE ISLAND Hy	29.92	4	T	T	04 10 09.8		
	baz=183,slow=76,SNR=29							
H11N2	WAKE ISLAND Hy	29.94	4	T	T	04 10 13.6		
	baz=183,slow=76,SNR=30							
MTHZ	Maungataniwha	30.30	162	P	P	03 38 49.2	+2.6	
SNGZ	Shannon Statio	30.39	161	P	P	03 38 48.2	+0.8	
CNGZ	Carnagh Statio	30.41	159	P	P	03 38 49.4	+1.8	
BKZ	Black Stump Fm	30.48	162	P	P	03 38 48.8	+0.5	
BKZ	Black Stump Fm	30.48	162	P	P	03 38 47.9	-0.3	
STKA	Stephens Creek	30.48	222	P	P	03 38 48.1	-0.2	
	2.6nm,0.7s,baz=16,slow=11,SNR=5.3							
STKA	Stephens Creek	30.48	222	P	P	03 38 48.3	-0.1	
BHHZ	Black Hill Sta	30.65	163	P	P	03 38 50.9	+1.1	
KWHZ	Kaweka Forest	30.70	163	P	P	03 38 52.7	+2.5	
KRHZ	Kereru	30.88	163	P	P	03 38 53.7	+1.9	
WR0	Warramunga Arr	30.89	248	P	P	03 38 52.6	+0.5	
WRA	Warramunga Arr	31.08	248	P	P	03 38 52.1	-1.6	
	4.2nm,0.9s,baz=77,slow=8.8,SNR=13							
WRA				PcP	PcP	03 41 48.2	-0.5	
	0.3nm,0.5s,baz=82,slow=6.8,SNR=1.2							
KAHZ	Kahuranaki	31.17	162	P	P	03 38 56.3	+2.0	
DVHZ	Dannevirke	31.43	164	P	P	03 38 59.2	+2.6	
BFZ	Birch Farm	31.81	164	P	P	03 39 01.1	+1.2	
MSWZ	Moikau Station	32.24	166	P	P	03 39 04.5	+0.9	
ASAR	Alice Springs	32.49	242	P	P	03 39 04.0	-2.2	
	1.0nm,0.7s,baz=64,slow=9.6,SNR=10							
BBOO	Buckleboo	34.81	226	P	P	03 39 26.8	+0.7	
BBOO				IAmb	IAmb	03 39 28.7		
	comp=Z,22nm,1.3s							
KAPI	Kappang	45.15	273	P	P	03 40 51.5	-0.7	
	comp=Z,13nm,0.7s,baz=63,slow=5.9,SNR=3.5							
KAPI	Kappang	45.15	273	IAmb	IAmb	03 40 54.1		
	comp=Z,37nm,1.2s							
TOLI2	Tolitoli	45.47	282	P	P	03 40 53.9	-0.9	
MJAR	Matsushiro Arr	53.02	333	P	P	03 41 50.7	-1.4	
	comp=Z,645nm,0.3s,baz=162,slow=9.1,SNR=5.2							
MAT	Matsushiro	53.02	333	P	P	03 41 50.8	-1.3	
JNU	Nakatsue	54.10	324	P	P	03 42 00.0	0.0	
	comp=Z,13nm,0.9s,baz=126,slow=1.9,SNR=6.7							
JNU	Nakatsue	54.10	324	P	P	03 41 59.2	-0.8	
JKA	Kamikawa-asahi	57.90	341	P	P	03 42 27.5	+0.6	
KSRS	Korea Array	58.90	326	P	P	03 42 34.6	+0.6	
	comp=Z,1.7nm,0.9s,baz=140,slow=7.5,SNR=8.5							
KSAR	Wonju Array Be	58.91	326	P	P	03 42 34.7	+0.6	
NJ2	Nanjing	61.02	316	*e*P	P	03 42 50.6	+1.9	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
USRK	Ussuriysk Ar.	62.00	334	P	P	03 42 56.4	+1.3	
	comp=Z,4.9nm,1.0s,baz=148,slow=6.9,SNR=13							
PETK	Petropavlovsk-	63.50	355	P	P	03 43 05.7	+0.8	
CN2	Changchun	64.78	329	*e*P	P	03 43 12.3	-1.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.3s							
VNDA	Vanda	67.19	181	P	P	03 43 29.8	+1.3	
	comp=Z,3.4nm,1.0s,baz=351,slow=5.6,SNR=7.5							
VNDA	Vanda	67.19	181	P	P	03 43 30.1	+1.7	
VNDA				IAmb	IAmb	03 43 31.5		
	comp=Z,8.8nm,1.3s							
NONG	Nongkai	67.28	295	P	P	03 43 31.9	+1.8	
BJI	Beijing	67.49	321	P	P	03 43 32.0	+1.1	
BJI				pmax	pmax			
	comp=Z,7.0nm,1.5s							
SBA	Scott Base	67.51	180	P	P	03 43 32.6	+2.1	
SBA				IAmb	IAmb	03 43 33.8		
	comp=Z,13nm,1.1s							
KMI	Kunming	70.16	301	⇑P	P	03 43 50.1	+2.0	
KMI				sP	pP	03 43 57.8	-2.7	
KMI				pmax	pmax			
	comp=Z,13nm,1.0s							
LAMP	Lampang	70.59	294	P	P	03 43 54.4	+3.8	
	comp=Z,12nm,0.6s							
HHC	Hu-ho-hao-te	70.84	320	*e*P	P	03 43 54.1	+2.2	
HHC				pmax	pmax			
	comp=Z,17nm,0.7s							
CM04	Chiang Mai Arr	71.14	294	P	P	03 43 56.7	+2.7	
	comp=Z,12nm,1.2s							
CM01	Chiang Mai Arr	71.16	294	P	P	03 43 56.9	+2.8	
	comp=Z,10nm,1.1s							
CM05	Chiang Mai Arr	71.17	293	P	P	03 43 57.2	+3.0	
	comp=Z,5.8nm,1.0s							
CM02	Chiang Mai Arr	71.18	294	P	P	03 43 56.9	+2.7	
	comp=Z,8.7nm,1.1s							
CMAR	Chiang Mai Arr	71.19	294	P	P	03 43 55.6	+1.4	
	comp=Z,7.9nm,1.0s,baz=110,slow=4.0,SNR=21							
CMAR	Chiang Mai Arr	71.19	294	P	P	03 43 55.0	+0.7	
CM15	Chiang Mai Arr	71.20	294	P	P	03 43 57.5	+3.1	
	comp=Z,7.3nm,0.7s							
CM13	Chiang Mai Arr	71.21	294	P	P	03 43 56.6	+2.2	
	comp=Z,9.0nm,1.1s							
CMMT	Chiang Mai	71.29	294	P	P	03 43 56.9	+2.0	
	comp=Z,12nm,1.3s							
CHTO	Chiang Mai	71.30	294	P	P	03 43 56.9	+2.0	
LZH	Lanzhou	73.76	312	*e*P	P	03 44 11.3	+1.8	
LZH				pP	pP	03 44 14.3	-7.6	
LZH				sP	PcP	03 44 15.8	-9.2	
LZH				pmax	pmax			
	comp=Z,19nm,1.1s							
SONM	Songino Array	77.68	324	P	P	03 44 32.2	+0.6	
	comp=Z,6.3nm,1.1s,baz=135,slow=5.3,SNR=22							
SONM	Songino Array	77.68	324	P	P	03 44 32.3	+0.7	
SONM				IAmb	IAmb	03 44 33.9		
	comp=Z,11nm,1.3s							
GTA	Gaotai	78.06	314	⇓P	P	03 44 35.5	+1.6	
GTA				pmax	pmax			
	comp=Z,11nm,1.2s							
BILL	Bilibino	78.18	0	P	P	03 44 33.7	0.0	
QSPA	South Pole Qui	79.66	180	P	P	03 44 43.4	+1.2	
QSPA				IAmb	IAmb	03 44 47.9		
	comp=Z,11nm,0.9s							
PPLA	Purkeypile	80.08	18	P	P	03 44 43.4	-1.1	
PPLA				IAmb	IAmb	03 44 44.5		
	comp=Z,29nm,1.4s							
RDOG	Red Dog Mine	81.47	12	P	P	03 44 52.7	+1.1	
RDOG				IAmb	IAmb	03 45 01.2		
	comp=Z,7.5nm,0.7s							
MLY	Manley	82.08	17	P	P	03 44 57.1	+2.2	
MLY				IAmb	IAmb	03 45 01.2		
	comp=Z,16nm,1.5s							
MDM	Murphy Dome	82.78	18	IAmb	IAmb	03 45 00.9		
	comp=Z,12nm,1.1s							
COLA	College	82.84	18	P	P	03 44 59.3	+0.6	
IL31		83.07	19	IAmb	IAmb	03 45 01.8		
	comp=Z,8.2nm,1.0s							
ILAR	Eielson Array	83.07	19	P	P	03 45 00.8	+0.9	
	comp=Z,5.7nm,0.8s,baz=229,slow=5.7,SNR=45							
ILAR	Eielson Array	83.07	19	P	P	03 44 60.0	0.0	
POKR	Poker Plat Res	83.14	18	IAmb	IAmb	03 45 02.4		
	comp=Z,6.6nm,0.9s							
DOT	Dot Lake	83.26	20	IAmb	IAmb	03 45 03.0		
	comp=Z,6.6nm,0.9s							
SCRK	Sand Creek	83.50	20	P	P	03 45 02.9	+0.5	
SCRK				IAmb	IAmb	03 45 12.1		
	comp=Z,7.9nm,1.0s							
L27K	Beaver Creek,	83.68	22	P	P	03 45 04.1	+0.9	
L27K				IAmb	IAmb	03 45 05.8		
	comp=Z,12nm,1.1s							
AFDM	Forest Hills D	84.27	49	P	P	03 45 07.6	+0.9	
AFDM				IAmb	IAmb	03 45 08.6		
	comp=Z,5.8nm,1.1s							
BEKR	Beckworth	85.00	48	P	P	03 45 11.3	+0.7	
BEKR				IAmb	IAmb	03 45 18.0		
	comp=Z,9.7nm,1.4s							
MAW	Mawson	85.11	202	P	P	03 45 10.9	+0.5	
	comp=Z,1.6nm,0.8s,baz=95,slow=6.3,SNR=3.3							
DAWY	Dawson	85.16	21	IAmb	IAmb	03 45 13.8		
	comp=Z,12nm,1.1s							
TIXI	Tiksi	85.27	349	P	P	03 45 11.5	+0.5	
TIXI				IAmb	IAmb	03 45 12.4		
	comp=Z,8.4nm,1.1s							
WAKR	Walker	85.28	50	IAmb	IAmb	03 45 14.3		
	comp=Z,14nm,1.4s							
BMAR	Burnt Mountain	85.54	17	P	P	03 45 14.1	+1.5	
PAHR	Pah Rah Range	85.67	49	IAmb	IAmb	03 45 22.2		
	comp=Z,7.8nm,1.2s							
RYN	Ryan	86.00	50	IAmb	IAmb	03 45 24.3		
	comp=Z,9.8nm,1.5s							
NVAR	Mina Array Bea	86.11	50	P	P	03 45 17.4	+1.2	
	comp=Z,2.2nm,1.0s,baz=236,slow=8.4,SNR=12							
NVAR	Mina Array Bea	86.11	50	P	P	03 45 15.8	-0.4	
NV11	Mina Array Sit	86.22	50	IAmb	IAmb	03 45 24.1		
	comp=Z,10nm,1.3s							
KVN	Kaiserville	86.44	49	IAmb	IAmb	03 45 25.9		
	comp=Z,8.8nm,1.3s							
I07A	Izee	86.88	44	IAmb	IAmb	03 45 27.4		
	comp=Z,12nm,1.4s							
HAWA	Hanford	87.56	42	P	P	03 45 23.4	+0.6	
HAWA				IAmb	IAmb	03 45 30.9		
	comp=Z,14nm,1.5s							
G08A	Pilot Rock	87.61	43	P	P	03 45 24.2	+0.9	
G08A				IAmb	IAmb	03 45 31.4		
	comp=Z,6.4nm,1.1s							
WMQ	Urumqi	88.10	315	*e*P	P	03 45 28.1	+2.5	
MFID	Camas Ranch	89.26	46	IAmb	IAmb	03 45 40.3		
	comp=Z,7.7nm,1.4s							
MTPU	Mount Pierson	90.68	52	IAmb	IAmb	03 45 47.3		
	comp=Z,5.9nm,1.1s							
NLU	North Lily Min	91.17	50	P	P	03 45 40.1	-0.1	
NLU				IAmb	IAmb	03 45 48.6		
	comp=Z,7.4nm,1.1s							
MK31	Makanchi Array	92.53	317	P	P	03 45 46.5	+0.4	
MK31				IAmb	IAmb	03 45 47.6		
	comp=Z,5.8nm,1.1s							
MKAR	Makanchi Array	92.53	317	P	P	03 45 46.5	+0.4	
	comp=Z,3.9nm,0.8s,baz=101,slow=6.3,SNR=29							
MKAR	Makanchi Array	92.53	317	P	P	03 45 44.9	-1.2	
ZAA0	Zalesovo Array	92.58	324	P	P	03 45 45.4	-0.7	
ZAA0				IAmb	IAmb	03 45 46.6		
	comp=Z,7.3nm,1.3s							
ZALV	Zalesovo Beam	92.58	324	P	P	03 45 45.6	-0.4	
	comp=Z,1.1nm,0.4s,baz=123,slow=5.5,SNR=5.3							
ZALV	Zalesovo Beam	92.58	324	P	P	03 45 45.1	-0.9	
BOZ	Bozeman (W)	92.69	44	IAmb	IAmb	03 45 55.6		
	comp=Z,7.0nm,1.2s							
MAKZ	Makanchi	92.74	317	P	P	03 45 47.2	+0.2	
MAKZ				IAmb	IAmb	03 45 48.6		
	comp=Z,7.6nm,1.1s							
PDAR	Pinedale Array	93.59	47	P	P	03 45 52.0	+0.6	
	comp=Z,0.9nm,0.9s,baz=323,slow=2.2,SNR=6.8							
PDAR	Pinedale Array	93.59	47	P	P	03 45 51.0	-0.4	
YKA	Yellowknife Ar	94.67	27	P	P	03 45 54.6	-0.9	
	comp=Z,0.8nm,0.8s,baz=248,slow=4.4,SNR=6.4							
BOOM	Boomskoye usch	96.22	312	P	P	03 46 03.6	+0.3	
BOOM				IAmb	IAmb	03 46 04.3		
	comp=Z,5.7nm,1.4s							
ARCES	ARCESS Array B	115.48	345	PKP	PKPdf	03 51 15.8	-0.2	
	comp=Z,0.9nm,0.8s,baz=76,slow=3.8,SNR=1.7							
FINES	FINESS Array B	120.86	338	PKP	PKiKP	03 51 25.6	-1.0	
	comp=Z,1.1nm,0.9s,baz=106,slow=4.5,SNR=2.1							
GURO	Guroymak-BITLI	122.06	309	PKPdf	PKiKP	03 51 29.7	-0.2	
AKASG	Malin Array Be	125.89	327	PKPdf	PKiKP	03 51 36.5	-0.4	
BRTR	Keskin Array B	127.97	313	PKP	PKiKP	03 51 40.6	-1.0	
	comp=Z,1.2nm,1.0s,baz=134,slow=3.6,SNR=4.8							
ANTO	Ankara	128.53	313	PKPdf	PKiKP	03 51 42.4	-0.3	
BUR08	Buncrana Ar. S	129.78	325	PKPdf	PKiKP	03 51 46.0	+1.1	
KHC	Kasperske Hory	134.60	334	*e*PKP	PKiKP	03 51 54.0	-0.6	
GERES	GERESS Array B	134.76	333	PKP	PKiKP	03 51 54.0	-1.0	
	comp=Z,0.9nm,0.8s,baz=102,slow=1.9,SNR=7.9							
GERES	GERESS Array B	134.76	333	PKPdf	PKiKP	03 51 53.9	-1.1	
DIVS	Divibare	134.80	324	PKPdf	PKiKP	03 51 53.9	-1.3	
UCC	Uccle	136.64	342	PKPdf	PKiKP	03 51 56.8	-1.7	
KEST	Kesra	146.43	323	PKPbc	PKiKP	03 52 17.4	-1.8	
	comp=Z,17nm,0.9s,baz=296,slow=2.4,SNR=41							
KEST	Kesra	146.43	323	PKPbc	PKPab	03 52 17.0	-0.2	
PGAV	Gavieira, Arco	147.95	351	*e*PKPbc	PKPab	03 52 23.8	+0.9	
POLO	Lamas de Olo	148.45	350	*e*PKPbc	PKiKP	03 52 22.7	-0.5	
MVO	Moncorvo	148.51	348	*e*PKPbc	PKiKP	03 52 23.1	-0.2	
PVRL	Vila Real	148.53	349	*e*PKPbc	PKPab	03 52 23.3	-1.9	
PVIS	Viseu	149.10	349	*e*PKPbc	PKiKP	03 52 24.2	-0.4	
ESDC	Sonseca Array	149.19	343	PKPbc	PKiKP	03 52 23.8	-1.0	
	comp=Z,2.1nm,1.0s,baz=27,slow=2.8,SNR=14							
ESDC	Sonseca Array	149.19	343	PKPbc	PKiKP	03 52 24.2	-0.6	
MTE	Manteigas	149.34	349	*e*PKPbc	PKiKP	03 52 25.2	+0.1	
MTE	Manteigas	149.34	349	PKPbc	PKiKP	03 52 24.7	-0.4	
PMRV	Marv??o	150.25	348	*e*PKPbc	PKiKP	03 52 26.1	-0.8	
PMTG	Montargil	150.76	349	*e*PKPbc	PKiKP	03 52 27.6	-0.3	
EVO	Evora	151.24	349	*e*PKPbc	PKiKP	03 52 29.8	+0.8	

*VIE **18** 03:39:06.3±0.4, 47°.20N×9°.32E, h1km, mb1.7/2, ml1.9/6, Error ellipse: s-maj=2.7km s-min=1.3km az=114.0 18 km WNW of Vaduz*

ZUR 18 03:39:06.1, 47°.19N×9°.35E, h-1km, MLh1.3/12, 4C-32D, Error ellipse: s-maj=0.9km s-min=0.5km az=209.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBUB	Buchserberg Ma	0.07	124	⇓Pg	Pg	03 39 08.1	+0.7
	0.8nm,SNR=51						
SBUB				⇓Pg	Pg	03 39 08.1	+0.7
SBUB	Buchserberg Ma	0.07	124	⇓Pg	Pg	03 39 08.1	+0.7
	0.8nm,SNR=51						
SBUB				⇓Pg	Pg	03 39 08.1	+0.7
SBUH	Buchs, Hochsch	0.09	99	⇓Pg	Pg	03 39 08.4	+0.6
	0.8nm,SNR=2.7						
SBUH				⇓Pg	Pg	03 39 08.4	+0.6
SBUH				Sg	Sg	03 39 10.2	+1.3
SBUH	Buchs, Hochsch	0.09	99	⇓Pg	Pg	03 39 08.4	+0.6
	0.8nm,SNR=2.7						
SBUH				⇓Pg	Pg	03 39 08.4	+0.6
SBUH				Sg	Sg	03 39 10.2	+1.3
SBUA2	Buchs, Altendo	0.09	107	⇓Pg	Pg	03 39 08.4	+0.6
SBUA2				⇓Pg	Pg	03 39 08.4	+0.6
	1.5nm,SNR=48						
SBUA2				Sg	Sg	03 39 09.9	+0.9
SBUA2	Buchs, Altendo	0.09	107	⇓Pg	Pg	03 39 08.4	+0.6
SBUA2				⇓Pg	Pg	03 39 08.4	+0.6
	1.5nm,SNR=48						
SBUA2				Sg	Sg	03 39 09.9	+0.9
PLONS	Plons/SG	0.14	170	⇓Pg	Pg	03 39 09.5	+0.8
	0.1nm,SNR=37						
PLONS				⇓Pg	Pg	03 39 09.5	+0.8
PLONS				Sg	Sg	03 39 11.8	+1.3
PLONS	Plons/SG	0.14	170	⇓Pg	Pg	03 39 09.5	+0.8
PLONS				⇓Pg	Pg	03 39 09.5	+0.8
	0.1nm,SNR=37						
PLONS				Sg	Sg	03 39 11.8	+1.3
LIENZ	Kamor/St.Gall	0.15	42	⇑Pg	Pg	03 39 09.3	+0.4
	0.1nm,SNR=75						
LIENZ				⇑Pg	Pg	03 39 09.3	+0.4
LIENZ	Kamor/St.Gall	0.15	42	⇑Pg	Pg	03 39 09.3	+0.4
	0.1nm,SNR=75						
LIENZ				⇑Pg	Pg	03 39 09.3	+0.4
SGT04	Schlatt-Haslen	0.16	1	⇓Pg	Pg	03 39 10.0	+0.7
SGT04				⇓Pg	Pg	03 39 10.0	+0.7
	0.1nm,SNR=31						
SGT04	Schlatt-Haslen	0.16	1	⇓Pg	Pg	03 39 10.0	+0.7
SGT04				⇓Pg	Pg	03 39 10.0	+0.7
	0.1nm,SNR=31						
SGT03	Degersheim	0.21	331	⇓Pg	Pg	03 39 11.2	+1.2
	0.1nm,SNR=20						
SGT03				⇓Pg	Pg	03 39 11.2	+1.2
SGT03	Degersheim	0.21	331	⇓Pg	Pg	03 39 11.2	+1.2
SGT03				⇓Pg	Pg	03 39 11.2	+1.2
	0.1nm,SNR=20						
EWATT	Kantonsschule	0.21	303	⇓Pg	Pg	03 39 11.6	+1.5
	0.4nm,SNR=2.8						
EWATT				⇓Pg	Pg	03 39 11.6	+1.5
EWATT	Kantonsschule	0.21	303	⇓Pg	Pg	03 39 11.6	+1.5
EWATT				⇓Pg	Pg	03 39 11.6	+1.5
	0.4nm,SNR=2.8						
SGT00	Sennhlsen	0.24	354	Pg	Pg	03 39 11.9	+1.2
	0.1nm,SNR=16						
SGT00				Pg	Pg	03 39 11.9	+1.2
SGT00				Sg	Sg	03 39 16.4	+2.6
SGT00	Sennhlsen	0.24	354	Pg	Pg	03 39 11.9	+1.2
SGT00				Pg	Pg	03 39 11.9	+1.2
	0.1nm,SNR=16						
SGT00				Sg	Sg	03 39 16.4	+2.6
SGT05	Eggersriet	0.27	16	Pg	Pb	03 39 12.5	-1.3
SGT05				Pg	Pb	03 39 12.5	-1.3
	0.2nm,SNR=37						
SGT05				Sg	Sb	03 39 17.4	-1.6
SGT05	Eggersriet	0.27	16	Pg	Pb	03 39 12.5	-1.3
SGT05				Pg	Pb	03 39 12.5	-1.3
	0.2nm,SNR=37						
SGT05				Sg	Sb	03 39 17.4	-1.6
WILA	Wila	0.38	308	⇓Pg	Pb	03 39 14.7	-1.0
WILA				⇓Pg	Pb	03 39 14.7	-1.0
	SNR=15						
WILA	Wila	0.38	308	⇓Pg	Pb	03 39 14.7	-1.0
	SNR=15						
WILA				⇓Pg	Pb	03 39 14.7	-1.0
DAVA	Damuels	0.38	74	Pg	Pg	03 39 14.1	+0.8
DAVA				Pg	Pg	03 39 14.1	+0.8
	SNR=26						
DAVA	Damuels	0.38	74	Pg	Pg	03 39 14.1	+0.8
DAVA				Pg	Pg	03 39 14.0	+0.7
	0.8nm,0.1s						
DAVA				*e*Sg	Sg	03 39 19.7	+1.5
	2.3nm,0.1s						
PANIX	Pigniu (Panix)	0.39	204	Sg	Sg	03 39 20.1	+1.4
PANIX				Sg	Sg	03 39 20.1	+1.4
	SNR=7.9						
PANIX	Pigniu (Panix)	0.39	204	Sg	Sg	03 39 20.1	+1.4
	SNR=7.9						
PANIX				Sg	Sg	03 39 20.1	+1.4
WEIN	Weingarten	0.42	325	Pg	Pb	03 39 15.5	-0.9
WEIN				Pg	Pb	03 39 15.5	-0.9
	SNR=3.2						
WEIN				Sg	Sb	03 39 22.5	-0.9
WEIN	Weingarten	0.42	325	Pg	Pb	03 39 15.5	-0.9
	SNR=3.2						
WEIN				Pg	Pb	03 39 15.5	-0.9
WEIN				Sg	Sb	03 39 22.5	-0.9
ZUR	Degenried	0.55	290	Sg	Sb	03 39 26.7	-0.5
	SNR=2.4						
ZUR				Sg	Sb	03 39 26.7	-0.5
ZUR	Degenried	0.55	290	Sg	Sb	03 39 26.7	-0.5
	SNR=2.4						
ZUR				Sg	Sb	03 39 26.7	-0.5
RETA	Reutte	1.01	72	*e*Pg	Pg	03 39 26.0	+0.5
	0.4nm,0.1s						
RETA				*e*Sg	Sb	03 39 40.6	+0.3
	0.6nm,0.1s						
MOTA	Moosalm	1.21	82	*e*Pg	Pb	03 39 30.0	+0.1
	1.6nm,0.1s						
MOTA				*e*Sg	Sn	03 39 47.4	-0.2
	7.5nm,0.3s						
SQTA	Sankt Quirin	1.27	88	*e*Pg	Pn	03 39 31.2	0.0
	1.8nm,0.2s						
SQTA				*e*Sg	Sn	03 39 49.3	+0.3
	8.0nm,0.3s						
WATA	Walderalm	1.53	84	*e*Pn	Pb	03 39 35.8	+0.5
	0.1nm,0.1s						
WATA				*e*Sn	Sn	03 39 56.5	+1.1
	1.3nm,0.2s						
WTTA	Wattenberg	1.56	86	*e*Pn	Pn	03 39 35.6	+0.3
	0.7nm,0.2s						
WTTA				*e*Sn	Sb	03 39 57.3	+0.9
	1.2nm,0.2s						

*IDC **18** 03:39:35.7±2.1, 10°.03S×165°.13E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.8/43, mbtmp4.0/6, Error ellipse: s-maj=81.6km s-min=32.7km az=154.0*
*NEIC **18** 03:39:36.2±2.4, 10°.28S±0°.08×165°.01E±0°.09, h10km±1km, mb4.5/10, Error ellipse: s-maj=16.0km s-min=13.4km az=125.0*

ISC 18 03:39:35.9±0.7, 10°.2S±0°.1×165°.0E±0°.1, h10km, n28, σ1§47/21, mb4.4/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.08	279	Pn	Pn	03 40 51.6	-0.6
SANVU	Saraoutou	5.60	158	Pn	Pn	03 40 58.8	-0.4
H11S2	WAKE ISLAND Hy	28.59	3	T	T	04 15 29.2	
	baz=184,slow=76,SNR=7.3						
H11S3	WAKE ISLAND Hy	28.59	3	T	T	04 15 28.7	
	baz=184,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	28.61	3	T	T	04 15 29.8	
	baz=184,slow=76,SNR=10						
H11N1	WAKE ISLAND Hy	29.81	4	T	T	04 17 02.9	
	baz=183						
H11N3	WAKE ISLAND Hy	29.82	4	T	T	04 17 02.9	
	baz=183						
H11N2	WAKE ISLAND Hy	29.83	4	T	T	04 17 04.2	
	baz=183						
WB0	Warramunga Arr	31.03	249	P	P	03 45 51.7	-2.5
WB2	Warramunga Arr	31.11	248	P	P	03 45 53.7	-1.1
WB2				IAmb	IAmb	03 46 01.6	
	comp=Z,5.1nm,0.8s						
WRA	Warramunga Arr	31.12	248	P	P	03 45 58.8	+3.8
	comp=Z,0.9nm,0.7s,baz=71,slow=8.9,SNR=2.9						
MQZ	McQueen's Vall	34.00	170	P	P	03 46 20.5	+0.7
MQZ				IAmb	IAmb	03 46 29.4	
	comp=Z,5.7nm,0.8s						
CMAR	Chiang Mai Arr	71.15	294	P	P	03 50 55.8	+0.4
	comp=Z,0.7nm,0.3s,baz=192,slow=30,SNR=1.2						
SONM	Songino Array	77.61	324	P	P	03 51 33.3	+0.8
	comp=Z,0.7nm,0.8s,baz=140,slow=7.7,SNR=4.3						
CRQM	Cirque	81.66	23	P	P	03 51 53.1	-1.2
WRH	Wood River Hil	82.38	19	P	P	03 51 56.3	-1.5
WRH				IAmb	IAmb	03 52 15.1	
	comp=Z,3.2nm,0.9s						
IL31		82.97	19	P	P	03 52 01.7	+0.9
IL31				IAmb	IAmb	03 52 04.0	
	comp=Z,3.3nm,0.8s						
ILAR	Eielson Array	82.97	19	P	P	03 52 02.8	+1.9
	comp=Z,2.3nm,0.8s,ba

SHLS	**Shalkode**	**0.49 317**	P		**Pg**	**03 57 16.3**	**-1.8**
	108nm,0.1s						
SHLS			S		**Sg**	**03 57 22.4**	**-2.1**
	324nm,0.2s						
PDGK	**Podgornoye**	**0.62 330**	P		**Pg**	**03 57 20.8**	**+0.3**
	7.8nm,0.1s						
PDGK			S		**Sg**	**03 57 30.0**	**+1.4**
	10nm,0.3s						
UZB	**Uzynbulak**	**0.75 298**	⇑	*eP*	**Pg**	**03 57 23.5**	**+0.6**
	baz=89						
UZB			⇑	*eS*	**Sb**	**03 57 34.6**	**0.0**
	baz=89						
UZB	**Uzynbulak**	**0.75 298**	⇑	*eP*	**Pg**	**03 57 23.5**	**+0.6**
	2.6nm,0.1s						
UZB				*eS*	**Sb**	**03 57 34.5**	**0.0**
	14nm,0.3s						
UZB	**Uzynbulak**	**0.75 298**	P		**Pg**	**03 57 23.5**	**+0.6**
	2.6nm,0.1s						
UZB			S		**Sb**	**03 57 34.5**	**0.0**
	14nm,0.3s						
KPKS	**Kokpek**	**1.12 307**	*eP*		**Pn**	**03 57 30.1**	**-0.9**
	baz=0.0						
KPKS			*eS*		**Sn**	**03 57 45.8**	**-1.0**
	baz=0.0						
KPKS	**Kokpek**	**1.12 307**	*eP*		**Pn**	**03 57 30.1**	**-0.9**
	36nm,0.1s						
KPKS			*eS*		**Sn**	**03 57 45.8**	**-1.0**
	71nm,0.2s						
SATY	**Saty**	**1.14 284**	*eP*		**Pg**	**03 57 31.9**	**+1.4**
	baz=78						
SATY			*eS*		**Sg**	**03 57 49.2**	**+3.8**
	baz=78						
SATY	**Saty**	**1.14 284**	*eP*		**Pg**	**03 57 31.9**	**+1.4**
	6.6nm,0.1s						
SATY			*eS*		**Sg**	**03 57 49.1**	**+3.8**
	22nm,0.2s						
SATY	**Saty**	**1.14 284**	P		**Pg**	**03 57 31.8**	**+1.4**
	6.6nm,0.1s						
SATY			S		**Sg**	**03 57 49.1**	**+3.8**
	22nm,0.2s						
PRZ	**Przheval'sk**	**1.16 255**	⇑	*iP*	**Pg**	**03 57 32.7**	**+1.8**
	baz=53						
PRZ			⇑	*iS*	**Sg**	**03 57 50.2**	**+4.2**
	baz=53						
DJR	**Jarkent**	**1.54 357**	*eP*		**Pb**	**03 57 37.0**	**-0.5**
	0.8nm,0.2s						
DJR			*eS*		**Sb**	**03 57 57.6**	**+0.3**
	3.5nm,0.3s						
DJR	**Jarkent**	**1.54 357**	P		**Pb**	**03 57 37.0**	**-0.5**
	0.8nm,0.2s						
DJR			S		**Sb**	**03 57 57.6**	**+0.3**
	3.5nm,0.3s						
ANVS	**Anan'yevo**	**1.66 270**	⇑	*iP*	**Pb**	**03 57 40.0**	**+0.4**
	baz=67						
ANVS			⇑	*iS*	**Sg**	**03 58 02.9**	**+1.0**
	baz=67						
TARG	**Taragay, Kyrgy**	**1.90 237**	⇑	*iP*	**Pb**	**03 57 43.9**	**0.0**
	baz=36						
TARG			⇑	*iS*	**Sg**	**03 58 08.7**	**-0.9**
	baz=36						
ARXS	**Arharly**	**2.08 314**	*eP*		**Pb**	**03 57 47.1**	**+0.4**
	12nm,0.4s						
ARXS			*eS*		**Sg**	**03 58 15.0**	**-0.4**
	30nm,0.3s						
ARXS	**Arharly**	**2.08 314**	Pg		**Pb**	**03 57 47.1**	**+0.4**
	12nm,0.4s						
ARXS			Lg		Lg	03 58 15.0	
	30nm,0.3s						
KDJ	**Kajisay**	**2.13 253**	⇑	*eP*	**Pb**	**03 57 46.6**	**-1.2**
	baz=51						
KDJ			⇑	*iS*	**Sb**	**03 58 14.0**	**-0.5**
	baz=51						
MDOK	**Medeo**	**2.14 281**	*eP*		**Pb**	**03 57 48.7**	**+0.9**
	7.8nm,0.3s						
MDOK			*eS*		**Sg**	**03 58 17.2**	**0.0**
	8.3nm,0.4s						
MDOK	**Medeo**	**2.14 281**	Pg		**Pb**	**03 57 48.7**	**+0.9**
	7.8nm,0.3s						
MDOK			Lg		Lg	03 58 17.2	
	8.3nm,0.4s						
TNSS	**Tian-Shan**	**2.20 277**	Pg		**Pg**	**03 57 50.1**	**-0.6**
	7.5nm,0.3s						
TNSS			Lg		Lg	03 58 20.4	
	12nm,0.4s						
IZV	**Izvestkoviy**	**2.44 277**	*eP*		**Pb**	**03 57 54.1**	**+1.1**
	15nm,0.2s						
IZV			*eS*		**Sg**	**03 58 27.3**	**+0.3**
	30nm,0.4s						
IZV	**Izvestkoviy**	**2.44 277**	Pg		**Pb**	**03 57 54.1**	**+1.1**
	15nm,0.2s						
IZV			Lg		Lg	03 58 28.2	
	30nm,0.4s						
KAPS	**Kapalarasan**	**2.52 351**	*eP*		**Pb**	**03 57 54.5**	**+0.2**
	0.2nm,0.2s						
KAPS			*eS*		**Sb**	**03 58 27.6**	**+2.1**
	0.8nm,0.2s						
KAPS	**Kapalarasan**	**2.52 351**	Pg		**Pb**	**03 57 55.0**	**+0.7**
	0.2nm,0.2s						
KAPS			Lg		Lg	03 58 27.6	
	0.8nm,0.2s						
KTBS	**Karatobe**	**2.54 292**	*eP*		**Pb**	**03 57 54.4**	**-0.1**
	1.5nm,0.2s						
KTBS			*eS*		**Sb**	**03 58 27.6**	**+1.6**
	12nm,0.2s						
KTBS	**Karatobe**	**2.54 292**	Pg		**Pb**	**03 57 54.4**	**-0.1**
	1.5nm,0.2s						
KTBS			Lg		Lg	03 58 28.3	
	12nm,0.2s						
ULHL	**Ulahol**	**2.77 260**	⇑	*iP*	**Pb**	**03 57 55.8**	**-2.9**
	baz=58						
ULHL			⇑	*iS*	**Sb**	**03 58 30.2**	**-2.8**
	baz=58						
KST	**Kastek**	**2.92 276**	*eP*		**Pb**	**03 58 03.1**	**-1.4**
	3.4nm,0.2s						
KST			*eS*		**Sg**	**03 58 42.4**	**+0.1**
	6.5nm,0.3s						
KST	**Kastek**	**2.92 276**	Pg		**Pg**	**03 58 03.1**	**-1.4**
	3.4nm,0.2s						
BOOM	**Boomskoye usch**	**2.95 265**	⇑	*eP*	**Pb**	**03 57 58.5**	**-3.2**
	baz=64						
BOOM			⇑	*iS*	**Sb**	**03 58 34.4**	**-3.7**
	baz=64						
DGS	**Degeres**	**3.07 280**	*eP*		**Pb**	**03 58 05.3**	**+1.6**
	3.0nm,0.3s						
DGS			*eS*		**Sg**	**03 58 46.1**	**-1.2**
	9.9nm,0.3s						
DGS	**Degeres**	**3.07 280**	Pg		**Pb**	**03 58 05.3**	**+1.6**
	3.0nm,0.3s						
KRBS	**Karabastau**	**3.23 288**	*eP*		**Pb**	**03 58 07.0**	**+0.7**
	0.6nm,0.2s						
KRBS			*eS*		**Sb**	**03 58 49.1**	**+3.2**
	2.7nm,0.2s						
KRBS	**Karabastau**	**3.23 288**	Pg		**Pb**	**03 58 07.0**	**+0.7**
	0.6nm,0.2s						
MK31	**Makanchi Array**	**4.34 22**	⇑	Pn	**Pn**	**03 58 16.9**	**+1.8**
	0.1nm,0.1s,baz=201,slow=12,SNR=6.9						
MK31			Lg		Lg	03 59 23.3	
	0.3nm,0.1s,baz=212,slow=26,SNR=4.8						

*SOME **18** 03:58:58.8,42.°77N×79.°97E,h15km*
*NNC **18** 03:58:59.4±1.2,42.°80N×79.°95E,h0km,mb3.3,mpv3.0,*
Error ellipse: s-maj=7.6km s-min=4.4km az=132.0
*KRNET **18** 03:59:00.8±0.1,43.°01N×80.°04E,mb2.3*
ISC 18 03:58:59.5±2.0,42.°84N±0.°05×79.°92E±0.°08,h6km±11km,
n23,σ1°52/41,10C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.46 314**		*eP*	**Pg**	**03 59 06.9**	**-1.5**
	31nm,0.1s						
SHLS				*eS*	**Sg**	**03 59 12.8**	**-1.6**
	128nm,0.2s						
SHLS	**Shalkode**	**0.46 314**		P	**Pg**	**03 59 06.9**	**-1.5**
	31nm,0.1s						
SHLS				S	**Sg**	**03 59 12.8**	**-1.6**
	128nm,0.2s						
PDGK	**Podgornoye**	**0.58 328**		P	**Pg**	**03 59 11.2**	**+0.5**
	2.1nm,0.1s						
PDGK				S	**Sg**	**03 59 20.3**	**+2.0**
	4.4nm,0.3s						
PDGK	**Podgornoye**	**0.58 328**		⇑P	**Pg**	**03 59 10.6**	**-0.1**
	2.3nm,0.5s						
PDGK				⇑S	**Sg**	**03 59 20.3**	**+2.0**
	3.2nm,0.3s						
KPKS	**Kokpek**	**1.10 305**		*eP*	**Pn**	**03 59 20.6**	**-0.9**
	7.8nm,0.1s						
KPKS				*eS*	**Sn**	**03 59 36.4**	**-0.6**
	20nm,0.3s						
SATY	**Saty**	**1.13 282**		*eP*	**Pg**	**03 59 21.6**	**+0.4**
	2.8nm,0.1s						
SATY				*eS*	**Sg**	**03 59 38.1**	**+2.3**
	7.9nm,0.2s						
SATY	**Saty**	**1.13 282**		P	**Pg**	**03 59 21.6**	**+0.4**
	2.8nm,0.1s						
SATY				S	**Sg**	**03 59 38.1**	**+2.3**
	7.9nm,0.2s						
PRZ	**Przheval'sk**	**1.17 253**	⇓	*iP*	**Pg**	**03 59 24.5**	**+2.5**
	baz=48						
PRZ			⇓	*iS*	**Sg**	**03 59 41.8**	**+4.6**
	baz=48						
DJR	**Jarkent**	**1.50 357**		*eP*	**Pb**	**03 59 27.6**	**-0.1**
	0.3nm,0.2s						
DJR				*eS*	**Sb**	**03 59 48.1**	**+1.1**
	1.5nm,0.4s						
DJR	**Jarkent**	**1.50 357**		P	**Pb**	**03 59 27.6**	**-0.1**
	0.3nm,0.2s						
DJR				S	**Sb**	**03 59 48.1**	**+1.1**
	1.5nm,0.4s						
ANVS	**Anan'yevo**	**1.66 269**	⇑	*iP*	**Pg**	**03 59 31.0**	**-0.2**
	baz=64						
ANVS			⇑	*iS*	**Sg**	**03 59 52.8**	**+0.1**
	baz=64						
TARG	**Taragay, Kyrgy**	**1.92 235**	⇑	*iP*	**Pg**	**03 59 35.2**	**-1.1**
	baz=33						
TARG			⇑	*iS*	**Sg**	**04 00 01.0**	**-0.2**
	baz=33						
ARXS	**Arharly**	**2.05 313**		*eP*	**Pb**	**03 59 37.7**	**+0.6**
	5.7nm,0.4s						
ARXS				*eS*	**Sg**	**04 00 05.3**	**0.0**
	9.5nm,0.3s						
ARXS	**Arharly**	**2.05 313**		Pg	**Pb**	**03 59 37.7**	**+0.6**
	5.7nm,0.4s						
ARXS				Lg	Lg	04 00 05.3	
	9.5nm,0.3s						
KDJ	**Kajisay**	**2.14 252**	⇑	*iP*	**Pb**	**03 59 38.1**	**-0.7**
	baz=48						
KDJ			⇑	*iS*	**Sb**	**04 00 05.1**	**-0.6**
	baz=48						
TNSS	**Tian-Shan**	**2.19 276**		Pg	**Pg**	**03 59 40.7**	**-0.8**
	2.8nm,0.3s						
TNSS				Lg	Lg	04 00 11.9	
	4.1nm,0.4s						
IZV	**Izvestkoviy**	**2.43 276**		*eP*	**Pb**	**03 59 44.4**	**+0.6**
	7.5nm,0.5s						
IZV				*eS*	**Sg**	**04 00 17.4**	**-0.2**
	11nm,0.4s						
IZV	**Izvestkoviy**	**2.43 276**		Pg	**Pb**	**03 59 44.4**	**+0.6**
	7.5nm,0.5s						
IZV				Lg	Lg	04 00 18.8	
	11nm,0.4s						
KTBS	**Karatobe**	**2.52 291**		*eP*	**Pb**	**03 59 45.8**	**+0.7**
	0.8nm,0.3s						
KTBS				*eS*	**Sg**	**04 00 19.6**	**-0.8**
	5.4nm,0.2s						
KTBS	**Karatobe**	**2.52 291**		Pg	**Pb**	**03 59 45.8**	**+0.7**
	0.8nm,0.3s						
KTBS				Lg	Lg	04 00 19.6	
	5.4nm,0.2s						
BOOM	**Boomskoye usch**	**2.95 265**	⇑	*iP*	**Pb**	**03 59 48.9**	**-3.7**
	baz=62						
BOOM			⇑	*iS*	**Sn**	**04 00 23.9**	**+1.0**
	baz=62						
DGS	**Degeres**	**3.06 279**		*eP*	**Pb**	**03 59 55.0**	**+0.5**
	1.2nm,0.3s						
DGS				*eS*	**Sg**	**04 00 35.6**	**-2.3**
	3.9nm,0.4s						
DGS	**Degeres**	**3.06 279**		Pg	**Pb**	**03 59 55.0**	**+0.5**
	1.2nm,0.3s						
DGS				Lg	Lg	04 00 35.6	
	3.9nm,0.4s						

*TRN **18** 04:17:22.0,13.°91N×58.°38W,h61km,MD4.4*
ISC 18 04:17:20.7±2.3,13.°94N±0.°04×58.°4W±0.°1,h10km,n49,
σ1°27/64,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.30 231**		*eP*	**Pn**	**04 17 46.3**	**+1.3**
BBGH	**Gun Hill**	**1.36 235**		*eP*	**Pn**	**04 17 47.2**	**+1.5**
BBGH				*eS*	**Sb**	**04 18 04.7**	**+1.0**
MPOM	**Morne Pois Mar**	**2.42 282**		*eP*	**Pn**	**04 18 00.1**	**-0.2**
SLW	**Petit Monier**	**2.44 272**		*eS*	**Sn**	**04 18 30.1**	**-0.6**
MCLT	**Moule a Chique**	**2.46 265**		*eP*	**Pn**	**04 17 59.9**	**-1.0**
MCLT				*eS*	**Sn**	**04 18 30.5**	**-0.5**
MVM	**Montagne Vaucl**	**2.48 285**		*eP*	**Pn**	**04 18 01.5**	**+0.3**
SLBI	**Saint Lucia, B**	**2.48 272**		*eP*	**Pn**	**04 18 01.5**	**+0.3**
SLBI				*eS*	**Sn**	**04 18 30.9**	**-0.6**
SLCP	**Castries, St.**	**2.49 272**		*eP*	**Pn**	**04 18 01.3**	**-0.1**
SLCP				*eS*	**Sn**	**04 18 30.8**	**-1.1**
SLB	**Belfond**	**2.55 268**		*eP*	**Pn**	**04 18 04.1**	**+1.9**
LPMF	**Morne Lapointe**	**2.55 285**		*eP*	**Pn**	**04 18 02.2**	**+0.1**
ZAM	**Aeronautique**	**2.60 284**		*eP*	**Pn**	**04 18 03.1**	**+0.2**
TRMF	**Trois Ilets**	**2.62 283**		*eP*	**Pn**	**04 18 03.2**	**+0.2**
BIM	**Bigot**	**2.63 283**		*eP*	**Pn**	**04 18 03.6**	**+0.3**
FDF	**Fort de France**	**2.76 287**		*eP*	**Pn**	**04 18 06.0**	**+0.9**
SSV	**Crater Summit**	**2.76 258**		*eP*	**Pn**	**04 18 06.2**	**+1.0**
SSV				*eS*	**Sn**	**04 18 39.3**	**+0.6**
BAMF	**Morne Balai**	**2.78 289**		*eP*	**Pn**	**04 18 06.5**	**+1.0**
SVV	**Soufriere Volc**	**2.79 258**		*eP*	**Pn**	**04 18 06.4**	**+1.0**
SVV				*eS*	**Sn**	**04 18 39.0**	**-0.1**
GBMF	**Grand Be**	**2.79 288**		*eP*	**Pn**	**04 18 06.5**	**+0.9**
PML	**Morne Lenard**	**2.81 288**		*eP*	**Pn**	**04 18 06.9**	**+1.2**
SVN	**Savane Anatole**	**2.81 289**		*eP*	**Pn**	**04 18 07.1**	**+1.3**
SVB	**Belmont**	**2.83 257**		*eP*	**Pn**	**04 18 06.2**	**+0.2**
SVB				*eS*	**Sn**	**04 18 39.0**	**-1.3**
SVOC	**Richmond Hill,**	**2.83 254**		*eS*	**Sn**	**04 18 38.6**	**-1.6**
PCM	**Pelee Case Pet**	**2.84 288**		*eP*	**Pn**	**04 18 07.3**	**+1.1**
GCMP	**Grenada, Carri**	**3.26 244**		*eP*	**Pn**	**04 18 12.7**	**+0.8**
GCMP				*eS*	**Sn**	**04 18 48.9**	**-2.0**
DSLB	**Salisbury**	**3.26 298**		*eP*	**Pn**	**04 18 13.8**	**+1.8**
TOSP	**Speyside**	**3.34 218**		*eP*	**Pn**	**04 18 13.5**	**+0.5**
TOSP				*eS*	**Sn**	**04 18 51.9**	**-0.8**
MAGL	**Barre de l'ile**	**3.41 306**		*eP*	**Pn**	**04 18 15.2**	**+1.1**
MAGL				*eS*	**Sn**	**04 18 54.2**	**-0.4**
TPR	**Prospect**	**3.57 220**		*eP*	**Pn**	**04 18 16.9**	**+0.6**
GRGR	**Grenville**	**3.62 241**		*eP*	**Pn**	**04 18 17.5**	**+0.6**
GRGR				*eS*	**Sn**	**04 18 58.8**	**-1.1**
TDBA	**Terre de Bas,**	**3.64 302**		*eP*	**Pn**	**04 18 19.2**	**+2.0**
TDBA				*eS*	**Sn**	**04 18 59.2**	**-1.1**
TBG	**Guadaloupe-3**	**3.65 302**		*eP*	**Pn**	**04 18 18.4**	**+1.1**
TBG				*eS*	**Sn**	**04 19 00.4**	**-0.1**
CBE	**Ff, Capester**	**3.74 305**		*eP*	**Pn**	**04 18 20.0**	**+1.4**
CBE				*eS*	**Sn**	**04 19 01.7**	**-1.0**
ABD	**La Joyeuse, An**	**3.89 311**		*eP*	**Pn**	**04 18 21.6**	**+1.1**
ABD				*eS*	**Sn**	**04 19 05.6**	**-0.7**
TBH	**Brigand Hill**	**4.30 217**		*eP*	**Pn**	**04 18 25.7**	**-0.5**
TRN	**Trinidad (W)**	**4.38 222**		*eP*	**Pn**	**04 18 28.3**	**+1.0**
TRN	**Trinidad (W)**	**4.38 222**		*eS*	**Sn**	**04 19 15.2**	**-3.2**
ANBD	**Bethesda, Anti**	**4.47 314**		*eP*	**Pn**	**04 18 29.9**	**+1.3**
ANBD	**Bethesda, Anti**	**4.47 314**		*eS*	**Sn**	**04 19 19.3**	**-1.3**
BPA	**Boggy Peak**	**4.53 313**		*eP*	**Pn**	**04 18 30.2**	**+0.8**
BPA	**Boggy Peak**	**4.53 313**		*eS*	**Sn**	**04 19 19.7**	**-2.5**
ANDO	**Antigua, Disas**	**4.55 314**		*eP*	**Pn**	**04 18 29.7**	**-0.1**
ANDO	**Antigua, Disas**	**4.55 314**		*eS*	**Sn**	**04 19 21.7**	**-1.1**
ANOC	**Antigua Open C**	**4.56 314**		*eP*	**Pn**	**04 18 31.6**	**+1.7**
ANOC	**Antigua Open C**	**4.56 314**		*eS*	**Sn**	**04 19 21.6**	**-1.4**
ANWB	**Willy Bob**	**4.92 319**		*eP*	**Pn**	**04 18 35.2**	**+0.3**
ANWB	**Willy Bob**	**4.92 319**		*eS*	**Sn**	**04 19 28.5**	**-3.4**
SKI	**Saint Kitts**	**5.36 310**		*eP*	**Pn**	**04 18 43.0**	**+2.1**
SKI	**Saint Kitts**	**5.36 310**		*eS*	**Sn**	**04 19 40.3**	**-2.3**
AOPR	**Arecibo Observ**	**9.13 300**		*eP*	**Pn**	**04 19 33.4**	**+0.8**

*IDC **18** 04:18:01.9±1.6,10.°66S×165.°15E,h0km,mb3.9/7,*
mb1 4.1/7,mb1mx3.9/36,mbtmp3.9/7,Error ellipse:
s-maj=72.6km s-min=27.2km az=147.0
*NEIC **18** 04:18:04.9±2.1,10.°40S±0.°09×164.°94E±0.°09,h10km±1km,*
mb4.6/16,Error ellipse: s-maj=16.9km s-min=12.1km
az=222.0
ISC 18 04:18:04.3±0.5,10.°34S±0.°07×164.°98E±0.°08,h10km,n50,
σ1°24/44,mb4.5/15,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.04 280**		Sn	**Sn**	**04 20 20.1**	**+1.8**
	44nm,0.3s,baz=266,slow=1.6,SNR=2.4						
HNR	**Honiara**	**5.04 280**		Pn	**Pn**	**04 19 20.4**	**+0.4**
HNR					**Sn**	**04 20 16.4**	**-1.9**
SANVU	**Saraoutou**	**5.52 157**			**Pn**	**04 19 26.2**	**-0.3**
SANVU				Sn	**Sn**	**04 20 28.6**	**-1.5**
LIFNC	**LIFOU**	**10.60 168**		P	**Pn**	**04 20 38.2**	**+1.9**
MARNC	**Mare, Loyalty**	**11.46 166**		Pn	**Pn**	**04 20 49.0**	**+0.9**
NOUC	**Port Laguerre**	**11.76 174**		P	**Pn**	**04 20 54.5**	**+2.3**
YATNC	**Mamie plateau,**	**11.79 171**		P	**Pn**	**04 20 53.3**	**+0.6**
ONTNC	**Ouen Toro**	**11.98 173**		P	**Pn**	**04 20 58.5**	**+3.3**
OUENC	**Ouen Island, N**	**12.14 172**		Pn	**Pn**	**04 20 57.0**	**-0.5**
OUENC	**Ouen Island, N**	**12.14 172**		P	**Pn**	**04 20 59.7**	**+2.3**
PINNC	**Pines Island,**	**12.43 169**		Pn	**Pn**	**04 21 02.3**	**+0.9**
TARA	**Tarawa**	**14.05 35**		Pn	**Pn**	**04 21 23.5**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**28.70 3**		T	T	04 54 06.3	
	baz=184,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**28.70 3**		T	T	04 54 07.5	
	baz=184,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**28.72 3**		T	T	04 54 08.5	
	baz=184,slow=76,SNR=57						
H11N1	**WAKE ISLAND Hy**	**29.93 4**		T	T	04 55 31.2	
	baz=183,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**29.93 4**		T	T	04 55 32.7	
	baz=183,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**29.94 4**		T	T	04 55 32.6	
	baz=183,slow=76,SNR=25						
WB2	**Warramunga Arr**	**31.02 248**		P	**P**	**04 24 21.5**	**-1.0**
WB2				IAmb	IAmb	04 24 38.8	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**31.03 248**		P	**P**	**04 24 21.9**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=78,slow=8.7,SNR=2.3						
ASAR	**Alice Springs**	**32.45 242**		P	**P**	**04 24 33.9**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=60,slow=10.0,SNR=1.9						
USA0B	**Ussuriysk Arra**	**61.99 334**		P	**P**	**04 28 24.1**	**-0.5**
USA0B				IAmb	IAmb	04 28 26.6	
	comp=Z,4.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**61.99 334**		P	**P**	**04 28 25.7**	**+1.1**
ULN	**Ulaanbaatar**	**77.29 324**		P	**P**	**04 29 58.6**	**-0.6**
ULN				IAmb	IAmb	04 30 01.8	
	comp=Z,7.7nm,1.4s						
SONM	**Songino Array**	**77.66 324**		P	**P**	**04 30 02.5**	**+1.3**
	comp=Z,1.3nm,1.1s,baz=134,slow=6.4,SNR=5.2						
SONM	**Songino Array**	**77.66 324**		IAmb	IAmb	04 30 04.3	
	comp=Z,2.3nm,1.2s						
QSPA	**South Pole Qui**	**79.66 180**		P	**P**	**04 30 12.0**	**+0.1**
QSPA				IAmb	IAmb	04 30 25.9	
	comp=Z,9.0nm,1.4s						
LSA	**Lhasa**	**81.34 302**		P	**P**	**04 30 20.6**	**-1.5**
LSA				IAmb	IAmb	04 30 32.2	
	comp=Z,4.6nm,0.5s						
IMAR	**Indian Mountai**	**81.96 16**		P	**P**	**04 30 24.5**	**+0.6**
H02S1	**DAWSON INLET T**	**82.51 33**		T	T	06 01 11.3	
	SNR=45						
IL31		**83.09 19**		P	**P**	**04 30 30.7**	**+0.9**
IL31				IAmb	IAmb	04 30 31.0	
	comp=Z,4.2nm,1.1s						
ILAR	**Eielson Array**	**83.09 19**		P	**P**	**04 30 29.9**	**0.0**
	comp=Z,2.5nm,0.8s,baz=227,slow=5.9,SNR=30						
SCRK	**Sand Creek**	**83.52 20**		P	**P**	**04 30 33.9**	**+1.7**
SCRK				IAmb	IAmb	04 30 37.3	
	comp=Z,5.5nm,1.1s						
BCAR	**Beaver Creek A**	**83.72 22**		P	**P**	**04 30 34.0**	**+0.7**
K27K	**Chicken**	**84.21 21**		P	**P**	**04 30 37.8**	**+2.1**
AFDM	**Forest Hills D**	**84.31 49**		P	**P**	**04 30 37.2**	**+0.5**
AFDM				IAmb	IAmb	04 30 38.1	
	comp=Z,3.0nm,1.0s						
EGAK	**Eagle**	**84.98 20**		P	**P**	**04 30 40.6**	**+1.1**
BMAR	**Burnt Mountain**	**85.56 17**		P	**P**	**04 30 43.2**	**+0.8**
NVAR	**Mina Array Bea**	**86.15 50**		P	**P**	**04 30 45.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=240,slow=7.7,SNR=4.3						
DLMT	**Dillon**	**92.01 44**		P	**P**	**04 31 14.5**	**+0.7**
MK31	**Makanchi Array**	**92.50 317**		P	**P**	**04 31 15.9**	**+0.1**
MKAR	**Makanchi Array**	**92.50 317**		P	**P**	**04 31 16.7**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=94,slow=6.2,SNR=16						
MKAR	**Makanchi Array**	**92.50 317**		P	**P**	**04 31 16.4**	**+0.6**
MAKZ	**Makanchi**	**92.71 317**		P	**P**	**04 31 15.1**	**-1.7**
PD31	**Pinedale Array**	**93.63 47**		P	**P**	**04 31 20.9**	**-0.5**
PDAR	**Pinedale Array**	**93.63 47**		P	**P**	**04 31 21.7**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=219,slow=7.6,SNR=2.3						
CLTB	**Caltabellotta**	**142.85 322**		PKPdf	**PKPdf**	**04 37 38.0**	**-0.7**
KEST	**Kesra**	**146.40 323**		PKPbc	**PKPbc**	**04 37 46.6**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=267,slow=2.6,SNR=17						
KEST	**Kesra**	**146.40 323**			**PKPbc**	**04 37 45.8**	**-0.4**
ESDC	**Sonseca Array**	**149.18 343**		PKPbc	**PKPbc**	**04 37 52.5**	**-1.0**
	comp=Z,1.0nm,1.1s,baz=332,slow=1.3,SNR=5.0						

IDC 18 04:19:24.4±14.0,17.°88S×179.°23W,h590km±46km,
mb3.2/4,mb1 3.3/5,mb1mx2.9/38,mbtmp4.1/5,Error
ellipse: s-maj=279.2km s-min=108.7km az=75.0,Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.59 273**		P	P	04 20 40.6	-0.1
	2.4nm,0.3s,baz=115,slow=4.4,SNR=25						
CTA	**Charters Tower**	**32.68 261**		P	P	04 25 10.4	+0.7
	2.2nm,0.6s,baz=78,slow=14,SNR=1.5						
STKA	**Stephens Creek**	**37.96 241**		P	P	04 25 53.0	-0.1
	1.5nm,0.5s,baz=97,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**43.87 260**		P	P	04 26 39.5	-0.5
	1.0nm,0.3s,baz=94,slow=7.1,SNR=37						
ASAR	**Alice Springs**	**44.05 254**		P	P	04 26 41.4	-0.1
	4.5nm,0.6s,baz=87,slow=8.9,SNR=47

comp=N,1541μm,0.2s
NIS1 Nisyros Isl. 0.99 296 PG **Pn 04 20 32.3 +0.3**
NISR Nisiros 1.03 295 P **Pn 04 20 33.2 +0.7**
NISR Nisiros 1.03 295 P **Pn 04 20 33.1 +0.7**
KSL Kastellorizon 1.05 91 P **Pn 04 20 33.1 +0.5**
KSL S **Sn 04 20 46.8 +0.5**
comp=N,210nm,0.5s
KSL Kastellorizon 1.05 91 P **Pn 04 20 33.0 +0.3**
KSL S **Sn 04 20 46.9 +0.6**
KSL AML AML 04 20 48.4
comp=E,447μm,0.4s
KSL AML AML 04 20 48.5
comp=N,389μm,0.3s
KSL Kastellorizon 1.05 91 ⇑P **Pn 04 20 32.9 +0.3**
KSL S **Sn 04 20 46.3 0.0**
AKAS Kas 1.06 87 *i* P **Pn 04 20 33.2 +0.2**
AKAS *i* S **Sn 04 20 47.2 +0.1**
AKAS Kas 1.06 87 PG **Pn 04 20 33.4 +0.4**
MULA Mugla, Merkez- 1.08 1 *i* P **Pn 04 20 34.5 +1.3**
KARP Karpathos 1.11 236 P **Pn 04 20 34.2 +0.6**
KARP S **Sn 04 20 48.1 +0.2**
comp=N,608nm,0.1s
KARP Karpathos 1.11 236 P **Pn 04 20 34.1 +0.6**
KARP Karpathos 1.11 236 PN **Pn 04 20 34.2 +0.6**
KARP Karpathos 1.11 236 P **Pn 04 20 34.1 +0.6**
KARP S **Sn 04 20 48.2 +0.2**
CAME Cameli-Denizli 1.12 46 PN **Pn 04 20 34.5 +0.7**
BDRM Kayabasi 1.12 323 *i* P **Pn 04 20 32.9 -0.7**
BDRM *i* S **Sn 04 20 47.5 -0.7**
BDRM IAML 04 20 48.0
comp=N,210nm,0.8s
BDRM IAML 04 20 49.0
comp=E,146nm,0.2s
BODT Bodrum 1.19 319 P **Pn 04 20 34.7 +0.2**
BODT S **Sn 04 20 50.0 +0.3**
BODT Bodrum 1.19 319 PN **Pn 04 20 34.8 +0.2**
MLSB Milas 1.19 340 PN **Pn 04 20 35.4 +0.8**
YKAV Yalikavak-Bodr 1.25 320 PN **Pn 04 20 35.4 +0.1**
CAEL Denizli, Camel 1.26 41 *i* P **Pn 04 20 36.0 +0.4**
CAEL *i* S **Sn 04 20 52.6 +1.0**
CAEL IAML 04 20 56.0
comp=N,161nm,0.4s
CAEL IAML 04 20 59.0
comp=E,255nm,0.5s
TAVA DENIZLI_Tavas 1.38 21 *i* P **Pn 04 20 38.1 +0.8**
TAVA *i* S **Sn 04 20 55.2 +0.7**
ELL Elmali 1.42 66 PN **Pn 04 20 38.9 +1.1**
ELL Elmali 1.42 66 P **Pn 04 20 39.1 +1.2**
ELL S **Sn 04 20 58.2 +2.6**
GOLH Golhisar 1.47 44 *i* P **Pn 04 20 41.2 +2.7**
AYDN Tasoluk 1.52 348 *i* P **Pn 04 20 40.1 +1.0**
AYDN *i* S **Sn 04 20 58.4 +0.6**
AKUM Antalya-Kumluc 1.67 84 *i* P **Pn 04 20 40.7 -0.2**
AKUM *i* S **Sn 04 20 59.7 -1.5**
GCAM G?zelcaml? 1.74 331 *i* P **Pn 04 20 43.6 +1.6**
GCAM G?zelcaml? 1.74 331 PN **Pn 04 20 43.2 +1.2**
AYDB Zeytinkoy-Aydi 1.80 350 PN **Pn 04 20 43.4 +0.5**
KORT Korkueli 1.85 63 *i* P **Pn 04 20 45.2 +1.6**
KORT *i* S **Sn 04 21 07.2 +1.2**
KORT IAML 04 21 12.0
comp=E,76nm,0.6s
KORT Korkueli 1.85 63 PN **Pn 04 20 44.9 +1.3**
SMG Samos 1.92 323 P **Pn 04 20 44.7 +0.2**
ZKR Zakros 1.99 239 P **Pn 04 20 46.4 +1.0**
ZKR Zakros 1.99 239 PN **Pn 04 20 46.6 +1.2**
ZKR Zakros 1.99 239 P **Pn 04 20 45.2 -0.2**
ZKR S **Sn 04 21 10.4 +1.2**
STIA Sitia Lasithi 2.04 242 P **Pn 04 20 47.3 +1.3**
BRDR BURDUR-Merkez 2.08 43 *i* P **Pn 04 20 47.1 +0.4**
BRDR IAML 04 21 11.0
comp=N,57nm,1.2s
BUCA Burdur, Bucak- 2.15 57 *i* P **Pn 04 20 49.2 +1.5**
DGB zmir 2.19 329 *i* P **Pn 04 20 47.8 -0.3**
DGB *i* S **Sn 04 21 10.5 -3.4**
DGB IAML 04 21 18.0
comp=E,57nm,0.5s
BASM Basmaki-Afyon 2.24 38 PN **Pn 04 20 49.4 +0.5**
BCK Bucak 2.25 54 PN **Pn 04 20 50.2 +1.2**
SANT Santorini 2.30 276 PN **Pn 04 20 49.9 +0.3**
MANT Manisa 2.32 5 *i* P **Pn 04 20 49.1 -1.1**
MANT *i* S **Sn 04 21 12.8 -4.8**
MANT IAML 04 21 18.0
comp=E,46nm,0.9s
KULA Kula-Manisa 2.35 7 PN **Pn 04 20 50.3 -0.1**
NPS Neapolis 2.36 248 P **Pn 04 20 50.8 +0.3**
PASA Karahalli, USA 2.37 23 *i* P **Pn 04 20 50.1 -0.6**
PASA IAML 04 21 23.0
comp=N,56nm,1.4s
FRMA Ierapetra Chan 2.38 242 P **Pn 04 20 50.3 -0.5**
APE Apeiranthos 2.39 293 PN **Pn 04 20 52.3 +1.4**
ISP Isparta 2.43 47 PN **Pn 04 20 51.8 +0.3**
USAK Uak-Merkez 2.60 13 *i* P **Pn 04 20 53.6 -0.2**
AKHS Akhisar 2.73 352 *i* P **Pn 04 20 55.1 -0.4**
AKHS *i* S **Sn 04 21 26.1 -1.1**
DEMI Demirci 2.88 7 *i* P **Pn 04 20 57.3 -0.4**
IDI Anoyia 2.91 253 P **Pn 04 20 58.1 +0.1**
AKMS Akamas 3.49 108 P **Pn 04 21 05.3 -0.7**
AKMS AML AML 04 21 44.7
comp=N,0.6nm,0.6s
AKMS AML AML 04 21 49.0
comp=N,0.4nm,0.2s
OSC1 CSNet OBS 1 3.63 137 P **Pn 04 21 07.0 -0.8**
ALFC Alefka 3.65 105 ⇓P **Pn 04 21 07.3 -0.9**
ALFC AML AML 04 21 46.6
comp=N,0.2nm,0.2s
ALFC AML AML 04 21 47.0
comp=N,0.1nm,0.2s
NATA Nata 3.76 110 P **Pn 04 21 09.3 -0.3**
SZAC Souni 4.01 109 ⇓P **Pn 04 21 12.5 -0.5**
SZAC AML AML 04 21 57.9
comp=N,0.3nm,0.2s
SZAC AML AML 04 21 57.9
comp=N,0.3nm,0.2s
SZAC S **Sn 04 21 58.2 -0.5**
SZAC AML AML 04 21 58.2
comp=N,0.4nm,0.5s
SZAC AML AML 04 21 58.2
comp=N,0.4nm,0.5s
ASGA Asgata 4.28 107 P **Pn 04 21 16.3 -0.3**
CSS Mathiatis 4.28 105 P **Pn 04 21 16.3 -0.5**

*IDC **18** 04:22:07.9±1.2,0.˚83S×130.˚88E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/47, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=23.8km s-min=8.9km az=4.0*
*NEIC **18** 04:22:12.5±1.1,0.˚9S±0.˚1×131.˚0E±0.˚1, h39km±8km, mb3.9/5, Error ellipse: s-maj=19.1km s-min=13.0km az=127.0*
*DJA **18** 04:22:13.9±0.4, 1˚S±4˚×13˚1E±˚, h10km, M4.3/7, mb4.3/2, MLv4.3/7*
ISC 18 04:22:11.5±0.9, 0.˚80S±0.˚09×131.˚1E±0.˚1, h35km, n24, σ1§54/21, mb4.1/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.21**	**106**	P	**Pn**	**04 22 16.1**	**-2.3**
SWI				S	**Sn**	**04 22 21.7**	**-1.5**
SIJI	**Sorong**	**0.22**	**108**	Pg	**Pn**	**04 22 15.6**	**-2.9**
	1μm,0.3s,baz=15,slow=20,SNR=1090						
SIJI				Lg	Lg	04 22 20.6	
	baz=343,slow=20						
FAKI	**Fak Fak**	**2.42**	**151**		**Pn**	**04 22 48.9**	**+0.3**
FAKI	**Fak Fak**	**2.42**	**151**	P	**Pn**	**04 22 49.3**	**+0.7**
RKPI	**Ransiki, Papua**	**3.20**	**103**	P	**Pn**	**04 23 01.0**	**+1.7**
MSAI	**Masohi**	**3.30**	**220**	P	Pn	04 23 06.8	+6.0
KMPI	**Kaimana, Papua**	**3.88**	**137**	P	**Pn**	**04 23 10.1**	**+1.4**
TNTI	**Ternate**	**4.01**	**293**	P	Pn	04 23 01.0	-10
GTOI	**Gorontalo**	**8.17**	**280**	P	Pn	04 24 19.5	+12
	8.0nm,0.8s						
APSI	**Ampana**	**9.41**	**269**	P	Pn	04 24 34.0	+9.3
MTN	**Manton Dam**	**11.96**	**180**	Pn	**Pn**	**04 24 59.4**	**-0.2**
KNRA	**Kununurra**	**14.95**	**189**	Pn	**Pn**	**04 25 37.6**	**-2.8**
WB0	**Warramunga Arr**	**19.13**	**170**	P	**P**	**04 26 31.1**	**-0.6**
WB0				IAmb	IAmb	04 26 52.6	
	comp=Z,8.8nm,1.1s						
WRA	**Warramunga Arr**	**19.29**	**171**	P	**Pn**	**04 26 33.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=352,slow=11,SNR=5.6						
WB2	**Warramunga Arr**	**19.29**	**171**	P	**P**	**04 26 33.0**	**-0.6**
WB2				IAmb	IAmb	04 26 54.7	
	comp=Z,6.4nm,1.0s						
AS31	**Alice Springs**	**22.89**	**173**	P	**P**	**04 27 11.2**	**-1.2**
ASAR	**Alice Springs**	**22.89**	**173**	P	**P**	**04 27 14.2**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=345,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**22.89**	**173**	P	**P**	**04 27 13.0**	**+0.6**
STKA	**Stephens Creek**	**32.47**	**163**	P	**P**	**04 28 39.5**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=344,slow=9.5,SNR=4.3						
MK31	**Makanchi Array**	**63.73**	**325**	P	**P**	**04 32 39.3**	**-0.4**
MKAR	**Makanchi Array**	**63.73**	**325**	P	**P**	**04 32 40.3**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=111,slow=7.9,SNR=2.9						
ZAA0	**Zalesovo Array**	**66.58**	**332**	P	**P**	**04 32 58.9**	**+0.9**
ZAA0				IAmb	IAmb	04 33 09.6	
	comp=Z,1.6nm,0.9s						
KURBB	**Kurchatov Arra**	**67.87**	**327**	P	**P**	**04 33 08.2**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=123,slow=5.8,SNR=2.1						
IMAR	**Indian Mountai**	**84.73**	**23**	P	**P**	**04 34 42.6**	**+0.9**

*IDC **18** 04:30:02.6±0.6, 10.˚34S×164.˚89E, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/38, mbtmp4.3/22, ML4.9/2, MS5.1/3, Ms1 5.1/3, ms1mx4.5/32, Error ellipse: s-maj=18.2km s-min=15.4km az=101.0*
*BJI **18** 04:30:04.2±0.0, 10.˚30S×165.˚00E, h10km, mb4.8/27*
*NEIC **18** 04:30:05.9±1.7, 10.˚33S±0.˚08×165.˚10E±0.˚09, h10km±1km, mb5.1/118, Error ellipse: s-maj=15.3km s-min=12.1km az=55.0*
*MOS **18** 04:30:06.4±1.3, 10.˚32S×164.˚89E, h19km, mb5.1/30, Error ellipse: s-maj=10.0km s-min=8.0km az=134.6*
ISC 18 04:30:05.4±0.3, 10.˚37S±0.˚05×165.˚00E±0.˚06, h10km, n277, σ1§63/232, mb5.0/108, MS5.6/3, 1C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.06**	**280**	Pn	**Pn**	**04 31 19.0**	**-2.4**
	49nm,0.3s,baz=3.4,slow=2.9,SNR=12						
HNR				Sn	**Sn**	**04 32 17.9**	**-2.1**
	22nm,0.3s,baz=142,slow=23,SNR=1.4						
HNR				LR	LR	04 33 14.0	
	comp=Z,9μm,19.6s,baz=56,slow=39						
HNR	**Honiara**	**5.06**	**280**	P	**Pn**	**04 31 20.7**	**-0.7**
HNR	**Honiara**	**5.06**	**280**		**Pn**	**04 31 20.7**	**-0.7**
SANVU	**Saraoutou**	**5.49**	**157**	Pn	**Pn**	**04 31 25.2**	**-2.0**
ONTNC	**Ouen Toro**	**11.95**	**173**	Pn	**Pn**	**04 32 56.8**	**+0.9**
OUENC	**Ouen Island, N**	**12.11**	**172**	Pn	**Pn**	**04 32 58.6**	**+0.5**
PINNC	**Pines Island,**	**12.40**	**169**		**Pn**	**04 33 02.7**	**+0.7**
TARA	**Tarawa**	**14.06**	**35**	Pn	**Pn**	**04 33 20.8**	**-4.0**
MSVF	**Nonsavu**	**14.62**	**121**	Pn	**Pn**	**04 33 34.1**	**+1.6**
	0.2nm,0.3s,baz=263,slow=24,SNR=1.8						
MSVF				LR	LR	04 37 57.0	
	comp=Z,5μm,20.5s,baz=288,slow=32						
MSVF	**Nonsavu**	**14.62**	**121**	Pn	**Pn**	**04 33 30.4**	**-2.1**
PMG	**Port Moresby**	**17.60**	**272**	*i* P	**Pn**	**04 34 12.3**	**+1.3**
PMG				pmax	pmax		
	comp=Z,58nm,1.1s						
PMG	**Port Moresby**	**17.60**	**272**	Pn	**Pn**	**04 34 11.2**	**+0.2**
PATS	**Pohnpei**	**18.34**	**338**		**Pn**	**04 34 18.6**	**-1.5**
MANU	**Manus Island**	**19.37**	**294**	P	**P**	**04 34 30.4**	**-1.0**
EIDS	**Eidsvold**	**19.92**	**220**	P	**P**	**04 34 37.0**	**-0.4**
CTA	**Charters Tower**	**20.49**	**240**	P	**P**	**04 34 41.7**	**-2.0**
	comp=Z,11nm,1.1s,baz=79,slow=18,SNR=2.6						
CTAO	**Charters Tower**	**20.49**	**240**	P	**P**	**04 34 44.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**20.49**	**240**	P	**P**	**04 34 44.0**	**+0.4**
GENI	**Genyem**	**25.84**	**286**	P	**P**	**04 35 34.3**	**-2.9**
	comp=Z,45nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**28.72**	**3**	T	T	05 05 59.2	
	baz=183,slow=76,SNR=344						
H11S3	**WAKE ISLAND Hy**	**28.73**	**3**	T	T	05 05 59.2	
	baz=183,slow=76,SNR=196						
H11S1	**WAKE ISLAND Hy**	**28.74**	**3**	T	T	05 05 58.1	
	baz=183,slow=76,SNR=202						
URZ	**Urewera**	**29.82**	**161**	P	**P**	**04 36 13.5**	**+0.9**
	comp=Z,21nm,0.9s,baz=176,slow=22,SNR=1.7						
H11N1	**WAKE ISLAND Hy**	**29.95**	**4**	T	T	05 07 32.8	
	baz=183,slow=76,SNR=390						
H11N3	**WAKE ISLAND Hy**	**29.95**	**4**	T	T	05 07 31.1	
	baz=183,slow=76,SNR=164						
H11N2	**WAKE ISLAND Hy**	**29.97**	**4**	T	T	05 07 34.0	
	baz=183,slow=76,SNR=179						
STKA	**Stephens Creek**	**30.44**	**222**	P	**P**	**04 36 17.0**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=50,slow=7.8,SNR=3.5						
STKA	**Stephens Creek**	**30.44**	**222**	P	**P**	**04 36 19.3**	**+1.0**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**30.44**	**222**	P	**P**	**04 36 19.3**	**+1.0**
BKZ	**Black Stump Fm**	**30.46**	**162**	P	**P**	**04 36 19.1**	**+0.7**
WB0	**Warramunga Arr**	**30.95**	**249**	P	**P**	**04 36 24.2**	**+1.3**
WRAB	**Tennant Creek**	**31.02**	**249**	*i* P	**P**	**04 36 23.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,37nm,2.8s						
WB2	**Warramunga Arr**	**31.03**	**249**	P	**P**	**04 36 24.1**	**+0.5**
WRA	**Warramunga Arr**	**31.04**	**249**	P	**P**	**04 36 20.6**	**-3.1**
	comp=Z,1.3nm,0.8s,baz=79,slow=8.8,SNR=4.3						
WRA				PcP	**PcP**	**04 39 18.2**	**-1.4**
	comp=Z,1.0nm,1.0s,baz=73,slow=3.5,SNR=2.2						
GUMO	**Guam**	**31.07**	**320**	P	**P**	**04 36 22.6**	**-1.3**
GUMO				pmax	pmax		
	comp=Z,211nm,1.3s						
GUMO	**Guam**	**31.07**	**320**	P	**P**	**04 36 22.6**	**-1.3**
ASAR	**Alice Springs**	**32.45**	**242**	P	P	04 36 32.4	-3.8
	comp=Z,0.7nm,0.7s,baz=63,slow=10,SNR=8.3						
ASAR				PcP	**PcP**	**04 39 21.3**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=64,slow=4.3,SNR=1.6						
APSI	**Ampana**	**44.09**	**279**	P	P	04 38 10.2	-4.0
	comp=Z,37nm,1.1s						
BNSI	**Bone**	**44.88**	**274**	P	**P**	**04 38 17.4**	**-3.1**
	comp=Z,52nm,1.3s						
TTSI	**Tana Toraja**	**45.41**	**276**	P	P	04 38 21.2	-3.6
	comp=Z,21nm,1.1s						
TOLI2	**Tolitoli**	**45.45**	**282**	P	**P**	**04 38 26.6**	**+1.6**
MPSI	**Mapaga**	**46.10**	**281**	P	**P**	**04 38 27.0**	**-3.2**
	comp=Z,27nm,0.8s						
INU	**Inuyama**	**52.61**	**331**	P	**P**	**04 39 20.0**	**+0.5**
INU				IAmb	IAmb	04 39 27.3	
	comp=Z,19nm,1.1s						
MJAR	**Matsushiro Arr**	**53.04**	**333**	P	**P**	**04 39 19.8**	**-2.9**
	comp=Z,78nm,0.8s,baz=148,slow=7.2,SNR=1.9						
MAJO	**Matsushiro**	**53.04**	**333**	*i* P	**P**	**04 39 23.1**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,23nm,1.2s						
MAT	**Matsushiro**	**53.04**	**333**	P	**P**	**04 39 24.5**	**+1.8**
MJB9	**Matsu-Tunnel**	**53.04**	**333**	P	**P**	**04 39 24.6**	**+1.8**
MJB9				IAmb	IAmb	04 39 27.2	
	comp=Z,16nm,0.9s						
JSU	**Suzuyama**	**53.19**	**323**	P	**P**	**04 39 24.9**	**+1.0**
JNU	**Nakatsue**	**54.11**	**324**	P	**P**	**04 39 29.4**	**-1.3**
	comp=Z,11nm,1.0s,baz=99,slow=4.3,SNR=4.8						
JNU	**Nakatsue**	**54.11**	**324**	P	**P**	**04 39 30.1**	**-0.6**
JNU				IAmb	IAmb	04 39 35.8	
	comp=Z,25nm,0.9s						
JKA	**Kamikawa-asahi**	**57.92**	**341**	P	**P**	**04 39 57.3**	**-0.4**
JKA				IAmb	IAmb	04 40 02.2	
	comp=Z,21nm,1.1s						
ASAJ	**Asahikawa**	**57.92**	**341**	P	**P**	**04 39 57.2**	**-0.5**
	comp=Z,13nm,0.9s,baz=225,slow=10,SNR=8.9						
ASAJ	**Asahikawa**	**57.92**	**341**	P	**P**	**04 39 57.3**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,21nm,1.1s						
KSRS	**Korea Array**	**58.91**	**326**	P	**P**	**04 40 04.1**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=148,slow=6.2,SNR=6.9						
KSAR	**Wonju Array Be**	**58.92**	**326**	P	**P**	**04 40 04.6**	**-0.2**
KSAR	**Wonju Array Be**	**58.92**	**326**	P	**P**	**04 40 04.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**60.42**	**343**	*i* P	**P**	**04 40 15.0**	**0.0**
YSS				pmax	pmax		
	comp=Z,36nm,1.2s						
YSS	**Yuzh-Sakhalins**	**60.42**	**343**	P	**P**	**04 40 14.8**	**-0.2**
NJ2	**Nanjing**	**61.02**	**316**	*e*P	**P**	**04 40 20.4**	**+1.0**
NJ2				sP	**pwP**	**04 40 25.3**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VLA	**Vladivostok**	**61.21**	**333**	*i* P	**P**	**04 40 21.9**	**+1.5**
VLA				pmax	pmax		
	comp=Z,22nm,1.1s						
USA0B	**Ussuriysk Arra**	**62.02**	**334**	P	**P**	**04 40 26.2**	**+0.3**
USA0B				pmax	pmax		
	comp=Z,39nm,1.4s						
USA0B	**Ussuriysk Arra**	**62.02**	**334**	P	**P**	**04 40 26.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**62.02**	**334**	P	**P**	**04 40 25.0**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=151,slow=8.5,SNR=10						
USRK	**Ussuriysk Ar.**	**62.02**	**334**	P	**P**	**04 40 25.0**	**-0.9**
USRK	**Ussuriysk Ar.**	**62.02**	**334**	P	**P**	**04 40 25.0**	**-0.9**
PET	**Petropavlovsk**	**63.37**	**356**	*e*P	P	04 40 42.2	+7.5
PET				*e*S	**S**	**04 49 12.5**	**+5.4**
PET				MLR	MLR		
	comp=Z,6μm,18.0s						
PET				MLR	MLR		
	comp=Z,5μm,15.0s						
MDJ	**Mudanjiang**	**63.41**	**332**	P	**P**	**04 40 38.8**	**+3.6**
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s						
PETK	**Petropavlovsk-**	**63.53**	**355**	P	**P**	**04 40 36.1**	**+0.3**
PETK	**Petropavlovsk-**	**63.53**	**355**	P	**P**	**04 40 36.1**	**+0.3**
CN2	**Changchun**	**64.79**	**329**	*e*P	P	04 40 52.6	+8.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MNSI	**Mandailing Nat**	**66.00**	**276**	P	P	04 40 46.7	-6.0
	comp=Z,23nm,0.8s						
KLR	**Kul'dur**	**66.15**	**337**	P	**P**	**04 40 51.0**	**-1.9**
	comp=Z,4.5nm,0.9s,baz=124,slow=5.7,SNR=12						
VNDA	**Vanda**	**67.16**	**181**	P	**P**	**04 40 58.5**	**-0.5**
	comp=Z,4.0nm,1.1s,baz=348,slow=7.3,SNR=7.4						
VNDA	**Vanda**	**67.16**	**181**	P	**P**	**04 40 58.9**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**67.16**	**181**	P	**P**	**04 40 58.9**	**-0.1**
VNDA				IAmb	IAmb	04 41 05.6	
	comp=Z,12nm,1.1s						
GYA	**Guiyang**	**67.43**	**304**	*e*P	P	04 41 07.3	+5.5
SBA	**Scott Base**	**67.48**	**180**	P	**P**	**04 41 01.9**	**+0.9**
SBA				pmax	pmax		
	comp=Z,15nm,1.0s						
SBA	**Scott Base**	**67.48**	**180**	P	**P**	**04 41 01.9**	**+0.9**
SBA				IAmb	IAmb	04 41 08.5	
	comp=Z,15nm,0.9s						
BJI	**Beijing**	**67.50**	**321**	P	**P**	**04 41 02.4**	**+0.7**
BJI				pP	**sP**	**04 41 06.6**	**+1.8**
BJI				sP	**pwP**	**04 41 08.4**	**+0.4**
BJI				S	**S**	**04 50 02.1**	**+3.9**
BJI				SS	**SS**	**04 54 21.1**	**+2.2**
XAN	**Xi'an**	**69.12**	**312**	P	P	04 41 18.3	+6.1
XAN				pP	pwP	04 41 24.1	+5.7
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI	**Kunming**	**70.14**	**301**	⇑P	**P**	**04 41 21.9**	**+3.1**
KMI				pP	sP	04 41 23.1	+1.1
KMI				sP	pwP	04 41 25.8	+0.7
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**70.84**	**320**	*e*P	**P**	**04 41 25.1**	**+2.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**71.17**	**294**	P	**P**	**04 41 23.7**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=118,slow=4.4,SNR=7.8						
CMAR	**Chiang Mai Arr**	**71.17**	**294**	*i* P	**P**	**04 41 24.7**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**71.17**	**294**	P	**P**	**04 41 24.6**	**-0.3**
CHTO	**Chiang Mai**	**71.28**	**294**	P	**P**	**04 41 26.6**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**71.28**	**294**	P	P	04 41 30.9	+5.3
	comp=Z,8.0nm,1.6s						
CHTO	**Chiang Mai**	**71.28**	**294**	P	**P**	**04 41 26.6**	**+1.0**
ZEA	**Zeya**	**71.44**	**337**	*e*P	**P**	**04 41 29.4**	**+3.6**
ZEA				pmax	pmax		
	comp=Z,20nm,1.3s						
CD2	**Chengdu**	**71.61**	**307**	P	**P**	**04 41 28.6**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SEY	**Seymchan**	**73.73**	**354**	P	**P**	**04 41 37.6**	**-1.6**
	comp=Z,2.5nm,0.7s,baz=141,slow=23,SNR=3.6						
LZH	**Lanzhou**	**73.76**	**312**	*e*P	**P**	**04 41 41.6**	**+1.3**
LZH				pP	sP	04 41 44.5	+1.1
LZH				sP	pwP	04 41 47.0	+0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
OHAK	**Old Harbor**	**75.55**	**22**	P	**P**	**04 41 51.2**	**+1.3**
	baz=222						
YAK	**Yakutsk**	**77.24**	**344**	*i* P	**P**	**04 42 00.6**	**+1.2**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s						
YAK	**Yakutsk**	**77.24**	**344**	P	**P**	**04 41 59.5**	**0.0**
ULN	**Ulaanbaatar**	**77.33**	**324**	P	**P**	**04 42 00.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,37nm,1.5s						
ULN	**Ulaanbaatar**	**77.33**	**324**	P	**P**	**04 42 00.7**	**+0.3**
SONM	**Songino Array**	**77.69**	**324**	P	**P**	**04 42 01.1**	**-1.4**
	comp=Z,2.8nm,1.1s,baz=137,slow=5.9,SNR=12						
GTA	**Gaotai**	**78.06**	**314**	*e*P	**P**	**04 42 05.8**	**+1.1**
GTA				pP	pwP	04 42 11.0	-0.1
GTA				sP	PcP	04 42 14.8	+0.4
BILL	**Bilibino**	**78.21**	**0**	*de*P	**P**	**04 42 04.0**	**-0.7**
BILL				*i*		04 42 11.8	
BILL				*e*		04 45 01.8	
BILL				*e*PPP	PPP	04 46 50.0	
BILL				pmax	pmax		
	comp=Z,26nm,1.1s						
BILL				MLR	MLR		
	comp=Z,1μm,17.0s						
BILL	**Bilibino**	**78.21**	**0**	P	**P**	**04 42 06.2**	**+1.4**
M19K	**Big River Lodg**	**78.69**	**18**	P	**P**	**04 42 08.8**	**+1.2**
	baz=221						
L19K	**White Mountain**	**78.76**	**18**	P	**P**	**04 42 08.6**	**+0.6**
	baz=220						
SHL	**Shillong**	**79.55**	**298**	P	**P**	**04 42 14.3**	**+1.0**
SHL				pmax	pmax		
	comp=Z,25nm,1.2s						
SHL	**Shillong**	**79.55**	**298**	P	**P**	**04 42 14.3**	**+1.0**
SHL				IAmb	IAmb	04 42 21.7	
	comp=Z,25nm,1.2s						
BOD	**Bodaibo**	**79.61**	**335**	*e*P	**P**	**04 42 14.4**	**+1.8**
BOD				pmax	pmax		
	comp=Z,13nm,1.6s						
QSPA	**South Pole Qui**	**79.63**	**180**	P	**P**	**04 42 13.2**	**+0.3**
QSPA				IAmb	IAmb	04 42 23.8	
	comp=Z,22nm,1.1s						
K20K	**Telida**	**79.89**	**17**	P	**P**	**04 42 15.5**	**+1.4**
	baz=221						
J20K	**Nowinta River**	**80.49**	**17**	P	**P**	**04 42 18.2**	**+0.9**
	baz=221						
ZAK	**Zakamensk**	**80.73**	**325**	*e*P	**P**	**04 42 15.6**	**-3.4**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
RND	**Reindeer**	**81.54**	**19**	P	**P**	**04 42 23.4**	**+0.4**
RND				pmax	pmax		
	comp=Z,13nm,0.9s						
RND	**Reindeer**	**81.54**	**19**	P	**P**	**04 42 23.4**	**+0.4**
RND				IAmb	IAmb	04 42 32.7	
	comp=Z,13nm,0.9s						
MCK	**McKinley**	**81.74**	**19**	P	**P**	**04 42 26.2**	**+2.2**

H23K	Yukon River	83.03	17	P	P	04 42 31.1	+0.4
	baz=225						
RIDG	Independent Ri	83.09	20	P	P	04 42 30.9	-0.1
	baz=229						
RIDG	Independent Ri	83.09	20	IAmb	IAmb	04 42 52.5	
	comp=Z,23nm,1.3s						
IL31		83.11	19	IAmb	IAmb	04 42 39.3	
	comp=Z,8.6nm,0.9s						
ILAR	Eielson Array	83.11	19	P	P	04 42 29.8	-1.3
	comp=Z,4.8nm,0.8s,baz=229,slow=5.6,SNR=39						
ILAR	Eielson Array	83.11	19	P	P	04 42 29.3	-1.8
POKR	Poker Plat Res	83.17	18	IAmb	IAmb	04 42 35.3	
	comp=Z,10nm,0.9s						
M27K	Edge Creek, AK	83.27	22	P	P	04 42 33.0	+0.8
	baz=232						
DOT	Dot Lake	83.30	20	IAmb	IAmb	04 42 41.8	
	comp=Z,14nm,1.0s						
SCRK	Sand Creek	83.54	20	P	P	04 42 33.6	+0.2
	baz=230						
SCRK	Sand Creek	83.54	20	IAmb	IAmb	04 42 43.1	
	comp=Z,12nm,0.9s						
L27K	Beaver Creek,	83.72	22	P	P	04 42 34.9	+0.6
	baz=232						
L27K	Beaver Creek,	83.72	22	P	P	04 42 35.0	+0.6
M02C	Callahan	83.73	46	P	P	04 42 35.7	+0.8
	baz=250						
BESE	Bessie Mountai	84.02	27	P	P	04 42 36.0	0.0
HUMO	Hull Mountain	84.07	45	P	P	04 42 34.3	-2.3
HYT	Haines Junctio	84.08	25	IAmb	IAmb	04 42 44.8	
	comp=Z,16nm,1.0s						
K27K	Chicken	84.22	21	P	P	04 42 38.6	+1.8
	baz=232						
AFDM	Forest Hills D	84.31	49	IAmb	IAmb	04 42 45.9	
	comp=Z,18nm,1.1s						
CMB	Columbia Colle	84.47	50	IAmb	IAmb	04 42 46.0	
	comp=Z,9.7nm,1.1s						
EGAK	Eagle	85.00	20	P	P	04 42 41.3	+0.6
	baz=233						
TOLK	Toolik Lake Re	85.03	15	P	P	04 42 41.2	+0.3
TOLK				IAmb	IAmb	04 43 04.7	
	comp=Z,12nm,1.4s						
BEKR	Beckworth	85.04	48	P	P	04 42 40.8	-0.9
BEKR				IAmb	IAmb	04 42 49.2	
	comp=Z,12nm,1.0s						
MAW	Mawson	85.07	202	P	P	04 42 44.5	+3.4
ISA	Isabella, Lake	85.25	53	P	P	04 42 41.5	-1.2
ISA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ISA	Isabella, Lake	85.25	53	P	P	04 42 43.8	+1.1
	baz=254						
ISA	Isabella, Lake	85.25	53	P	P	04 42 41.5	-1.2
TIXI	Tiksi	85.29	349	*i* P	P	04 42 40.7	-1.3
TIXI	Tiksi	85.29	349	P	P	04 42 41.5	-0.4
TIXI				IAmb	IAmb	04 42 51.8	
	comp=Z,14nm,1.4s						
WAKR	Walker	85.32	50	P	P	04 42 43.0	-0.2
WAKR				IAmb	IAmb	04 42 51.8	
	comp=Z,23nm,1.3s						
MDPB	Devils Postpil	85.34	51	IAmb	IAmb	04 42 51.5	
	comp=Z,13nm,1.1s						
EDW2	Edwards Air Fo	85.41	53	P	P	04 42 45.1	+1.5
	baz=254						
J05D	Fort Rock, OR	85.49	45	P	P	04 42 44.2	+0.4
	baz=251						
PINE	Pine Mountain	85.85	44	IAmb	IAmb	04 42 54.2	
	comp=Z,16nm,1.0s						
LHV	Little Huntoon	85.95	50	IAmb	IAmb	04 42 54.2	
	comp=Z,11nm,1.1s						
RYN	Ryan	86.04	50	IAmb	IAmb	04 42 54.2	
	comp=Z,11nm,1.2s						
MONP2	Monument Peak	86.14	56	P	P	04 42 48.3	+0.9
	baz=255						
NVAR	Mina Array Bea	86.15	50	P	P	04 42 45.0	-2.3
	comp=Z,1.1nm,0.7s,baz=231,slow=7.1,SNR=11						
NVAR				LR	LR	05 13 49.7	
	comp=Z,2μm,20.0s,baz=60,slow=30						
DLBC	Dease Lake	86.17	29	IAmb	IAmb	04 42 55.2	
	comp=Z,10nm,1.1s						
NV11	Mina Array Sit	86.26	50	P	P	04 42 46.6	-1.2
NV11				IAmb	IAmb	04 42 55.9	
	comp=Z,13nm,1.1s						
A04D	Lummi Island	86.32	39	P	P	04 42 48.4	+0.8
	baz=250						
KVN	Kaiserville	86.48	49	IAmb	IAmb	04 42 56.3	
	comp=Z,9.8nm,1.0s						
FURC	Furnace Creek,	86.72	52	P	P	04 42 50.9	+1.1
	baz=255						
TPNV	Topopah Spring	87.32	52	P	P	04 42 52.3	-0.7
TPNV				pmax	pmax		
	comp=Z,12nm,1.4s						
TPNV	Topopah Spring	87.32	52	P	P	04 42 52.3	-0.7
TPNV				IAmb	IAmb	04 43 04.5	
	comp=Z,12nm,1.4s						
J08A	Circle Bar Ran	87.43	45	IAmb	IAmb	04 43 01.5	
	comp=Z,13nm,1.0s						
EPYK	Eagle Plains	87.43	20	P	P	04 42 52.0	-0.7
	baz=237						
EPYK	Eagle Plains	87.43	20	IAmb	IAmb	04 43 01.6	
	comp=Z,17nm,1.1s						
HAWA	Hanford	87.60	42	P	P	04 42 53.2	-0.8
HAWA				IAmb	IAmb	04 43 02.2	
	comp=Z,9.3nm,1.0s						
G08A	Pilot Rock	87.66	43	IAmb	IAmb	04 43 02.5	
	comp=Z,16nm,1.0s						
WMQ	Urumqi	88.10	315	*e*P	P	04 42 58.1	+1.6
R11A	Troy Canyon, C	88.19	51	IAmb	IAmb	04 43 12.2	
	comp=Z,11nm,1.5s						
B08A	Colville Reser	88.33	40	IAmb	IAmb	04 43 04.6	
	comp=Z,9.2nm,1.1s						
PRN	Pahroc Range	88.36	52	IAmb	IAmb	04 43 06.0	
	comp=Z,9.7nm,1.1s						
F10A	Beach Ranch, E	89.02	43	IAmb	IAmb	04 43 09.2	
	comp=Z,10nm,0.9s						
ELK	Elko	89.05	48	P	P	04 43 00.3	-1.0
ELK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ELK	Elko	89.05	48	P	P	04 43 00.2	-1.0
CCUT	Cedar City	89.70	52	IAmb	IAmb	04 43 12.7	
	comp=Z,8.9nm,1.1s						
NEW	Newport	89.71	41	P	P	04 43 07.6	+3.7
NEW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DGZ	Jazzator, Alta	89.91	321	*i* P	P	04 43 03.3	-1.7
DGZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KNB	Kanab	90.00	52	IAmb	IAmb	04 43 14.6	
	comp=Z,16nm,1.2s						
U15A	North Rim	90.29	53	IAmb	IAmb	04 43 15.5	
	comp=Z,8.8nm,1.0s						
PKCU	Pink Cliffs	90.49	52	IAmb	IAmb	04 43 17.1	
	comp=Z,15nm,1.0s						
TCRU	Three Creeks R	90.64	51	P	P	04 43 08.8	0.0
TCRU				IAmb	IAmb	04 43 17.8	
	comp=Z,11nm,0.9s						
DUG	Dugway, Tooele	90.72	49	P	P	04 43 10.7	+1.8
DUG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
DUG	Dugway, Tooele	90.72	49	IAmb	IAmb	04 43 16.8	
	comp=Z,8.2nm,1.1s						
MTPU	Mount Pierson	90.72	52	IAmb	IAmb	04 43 18.6	
	comp=Z,13nm,1.1s						
NLU	North Lily Min	91.22	50	IAmb	IAmb	04 43 19.8	
	comp=Z,9.6nm,1.0s						
BCYI	Bear Canyon	91.22	45	P	P	04 43 11.4	+0.2
TMUT	Trail Mountain	91.73	51	P	P	04 43 14.6	+0.7
WALA	Waterton Lakes	91.97	41	IAmb	IAmb	04 43 23.5	
	comp=Z,15nm,1.2s						
MK31	Makanchi Array	92.53	317	P	P	04 43 16.1	-0.9
MK31				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MK31	Makanchi Array	92.53	317	P	P	04 43 16.1	-0.9
MKAR	Makanchi Array	92.53	317	P	P	04 43 14.3	-2.7
	comp=Z,1.9nm,0.8s,baz=90,slow=5.6,SNR=14						
MKAR	Makanchi Array	92.53	317	P	P	04 43 15.0	-2.0
MKAR	Makanchi Array	92.53	317	P	P	04 43 15.0	-2.0
ZAA0	Zalesovo Array	92.58	324	P	P	04 43 17.0	-0.1
ZAA0				IAmb	IAmb	04 43 23.8	
	comp=Z,8.0nm,1.3s						
ZALV	Zalesovo Beam	92.58	324	P	P	04 43 14.6	-2.5
	comp=Z,0.7nm,0.4s,baz=107,slow=7.9,SNR=4.1						
ZALV	Zalesovo Beam	92.58	324	*i* P	P	04 43 16.1	-0.9
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	Zalesovo Beam	92.58	324	P	P	04 43 15.9	-1.1
BOZ	Bozeman (W)	92.73	44	P	P	04 43 18.7	+0.6
	baz=258						
MAKZ	Makanchi	92.74	317	P	P	04 43 17.7	-0.3
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MAKZ	Makanchi	92.74	317	P	P	04 43 17.7	-0.3
MAKZ				IAmb	IAmb	04 43 25.8	
	comp=Z,9.2nm,1.1s						
SNOW	Snow King Moun	92.91	47	P	P	04 43 20.3	+1.2
SNOW				IAmb	IAmb	04 43 28.5	
	comp=Z,6.5nm,1.0s						
LOHW	Long Hollow	93.05	46	IAmb	IAmb	04 43 27.9	
	comp=Z,5.9nm,1.1s						
BW06	Boulder Array	93.64	47	P	P	04 43 22.5	0.0
	baz=259						
BW06	Boulder Array	93.64	47	P	P	04 43 21.3	-1.2
PD31	Pinedale Array	93.64	47	P	P	04 43 22.4	-0.2
PDAR	Pinedale Array	93.64	47	P	P	04 43 21.6	-0.9
	comp=Z,1.1nm,0.8s,baz=238,slow=2.8,SNR=7.6						
YNE	Yellowstone No	93.73	45	IAmb	IAmb	04 43 31.7	
	comp=Z,6.5nm,1.0s						
YKA	Yellowknife Ar	94.71	27	P	P	04 43 25.0	-1.6
	comp=Z,1.0nm,0.8s,baz=253,slow=4.3,SNR=6.7						
SMCO	Snowmass	94.94	51	P	P	04 43 28.4	-0.5
TLIG	Tlapa	99.14	74	P	Pdif	04 43 46.8	-1.1
TLIG				IAmb	IAmb	04 44 04.2	
	comp=Z,9.9nm,1.5s						
OBN	Obninsk	119.85	329	*e*PKIKP	PKPdf	04 48 55.0	-0.8
OBN				*e*		04 49 01.4	
OBN				*e*		04 50 19.2	
OBN				*e*PPP	PPP	04 52 51.7	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	Kislovodsk	120.23	315	*e*PKIKP	PKPdf	04 48 55.4	-1.7
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	FINESS Array B	120.88	338	PKP	PKPdf	04 48 57.1	-0.6
	comp=Z,3.5nm,1.1s,baz=70,slow=4.9,SNR=2.3						
NOA	NORSAR Array B	125.86	345	PKP	PKPdf	04 49 06.2	-1.1
	comp=Z,0.4nm,0.8s,baz=29,slow=1.9,SNR=1.6						
AKASG	Malin Array Be	125.90	327	PKP	PKPdf	04 49 05.0	-2.6
	comp=Z,0.2nm,0.2s,baz=61,slow=1.7,SNR=1.4						
AKASG	Malin Array Be	125.90	327	PKIKP	PKPdf	04 49 07.2	-0.4
AKASG	Malin Array Be	125.90	327	PKPdf	PKPdf	04 49 07.2	-0.4
BRTR	Keskin Array B	127.97	313	PKP	PKPdf	04 49 10.2	-1.9
	comp=Z,0.4nm,0.8s,baz=96,slow=2.9,SNR=2.7						
BRG	Berggiesshubel	133.15	335	*e*PKP	PKiKP	04 49 28.1	+5.5
BRG				Amp		04 49 32.0	
	comp=Z,12nm,1.6s						
CLL	Collm	133.19	336	*i* PKP	PKiKP	04 49 29.0	+6.3
	comp=Z,4.0nm,0.9s						
CLL	Collm	133.19	336	*i* PKIKP	PKiKP	04 49 29.0	+6.3
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CONA	Conrad Observa	134.45	331	*e*P	PKiKP	04 49 27.3	+1.9
	comp=Z,1.9nm,1.1s						
GERES	GERESS Array B	134.78	333	PKP	PKPdf	04 49 23.1	-1.5
	comp=Z,0.4nm,0.7s,baz=90,slow=2.7,SNR=4.0						
ARSA	Arzberg	135.09	331	*e*P	PKiKP	04 49 31.4	+4.7
	comp=Z,1.5nm,1.0s						
SOKA	Soboth	135.74	330	*e*P	PKPdf	04 49 24.7	-1.8
	comp=Z,1.0nm,1.1s						
FNA	Florina	135.88	320	PKIKP	PKPdf	04 49 25.7	-1.3
FNA	Florina	135.88	320	PKPdf	PKPdf	04 49 25.7	-1.3
MYKA	Terra Mystica	136.44	331	*e*P	PKPdf	04 49 28.9	+1.1
	comp=Z,1.8nm,0.9s						
WATA	Walderalm	136.85	334	*e*P	PKiKP	04 49 30.7	+0.3
	comp=Z,2.1nm,0.5s						
ABTA	Abfaltersbach	136.88	332	*e*P	PKPdf	04 49 28.5	-0.1
	comp=Z,1.8nm,1.0s						
WTTA	Wattenberg	136.88	333	*e*P	PKPdf	04 49 27.5	-1.2
	comp=Z,3.4nm,1.0s						
MOTA	Moosalm	137.05	334	*e*P	PKiKP	04 49 31.9	+1.0
	comp=Z,2.7nm,1.1s						
RETA	Reutte	137.08	334	*e*P	PKiKP	04 49 31.4	+0.6
	comp=Z,0.6nm,0.5s						
SQTA	Sankt Quirin	137.10	334	*e*P	PKiKP	04 49 30.8	-0.1
	comp=Z,1.2nm,0.5s						
FETA	Feichten	137.46	334	*e*P	PKPdf	04 49 31.0	+1.2
	comp=Z,1.6nm,0.8s						
DAVA	Damuels	137.61	335	*e*P	PKPdf	04 49 27.6	-2.4
	comp=Z,1.1nm,0.5s						
KEST	Kesra	146.44	323	PKPbc	PKPdf	04 49 45.7	-0.4
	comp=Z,11nm,0.9s,baz=295,slow=2.6,SNR=18						
KEST	Kesra	146.44	323	PKPbc	PKPdf	04 49 46.1	+0.1
PBRG	Braganca	147.85	348	*e*PKPbc	PKPbc	04 49 50.5	-0.6
POLO	Lamas de Olo	148.47	350	*e*PKPbc	PKPbc	04 49 52.6	-0.2
MVO	Moncorvo	148.53	348	*e*PKPdf	PKPdf	04 49 48.8	-0.5
PVRL	Vila Real	148.55	349	*e*PKPbc	PKPbc	04 49 53.1	+0.2
PVIS	Viseu	149.13	349	*e*PKPbc	PKPbc	04 49 54.3	-0.1
ESBB	Sonseca Array	149.20	343	PKPbc	PKPbc	04 49 54.6	0.0
ESDC	Sonseca Array	149.20	343	PKPbc	PKPdf	04 49 52.5	+2.1
	comp=Z,1.9nm,0.9s,baz=21,slow=3.0,SNR=7.7						
ESDC	Sonseca Array	149.20	343	PKPbc	PKPdf	04 49 52.8	+2.3
MTE	Manteigas	149.37	349	*e*PKPbc	PKPbc	04 49 54.9	-0.2
MTE	Manteigas	149.37	349		PKiKP	04 49 58.1	+1.9
PAB	San Pablo	149.43	344	PKP2	PKPab	04 50 01.7	+1.8
PAB	San Pablo	149.43	344	PKPab	PKPab	04 50 01.7	+1.8
PCAS	Casmilo, Conde	149.88	350	*e*PKPdf	PKPdf	04 49 52.0	+0.5
PCBR	Castelo Branco	149.90	348	*e*PKPdf	PKPdf	04 49 52.0	+0.5
PCBR	Castelo Branco	149.90	348	*e*PKPab	PKPab	04 50 01.9	+0.2
PMRV	Marv??o	150.28	348	*e*PKPbc	PKPbc	04 49 57.1	-0.2
PMRV	Marv??o	150.28	348	*e*PKPab	PKPab	04 50 04.3	+1.0
PMTG	Montargil	150.78	349	*e*PKPbc	PKPbc	04 49 57.8	-0.6
PMTG	Montargil	150.78	349	*e*PKPab	PKPab	04 50 05.4	0.0
PESTR	Estremoz	150.86	348	*e*PKPab	PKPab	04 50 05.7	0.0
EVO	Evora	151.26	349	*e*PKPab	PKPab	04 50 06.6	-0.8
PBAR	Barrancos	151.40	347	*e*PKPab	PKPab	04 50 07.6	-0.4
PBEJ	Beja	151.72	348	*e*PKPab	PKPab	04 50 09.0	-0.3
PVAQ	Vaqueiros	152.29	347	*e*PKPdf	PKPdf	04 49 53.9	-1.3

*IDC **18** 04:47:18.1±3.3, 10.°16S×164.°85E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, Error ellipse: s-maj=115.0km s-min=40.2km az=136.0*
*NEIC **18** 04:47:18.1±2.2, 10.°6S±0.°2×164.°8E±0.°2, h10km±1km, mb4.5/2, Error ellipse: s-maj=38.0km s-min=15.1km az=224.0*
ISC 18 04:47:17.7±0.9, 10.°6S±0.°1×164.°9E±0.°2, h10km, n17,
σ1§18/11, mb4.2/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.00	282	Pn	Pn	04 48 31.1	-1.7
SANVU	Saraoutou	5.37	155		Pn	04 48 37.3	-0.5
MARNC	Mare, Loyalty	11.28	165	Pn	Pn	04 49 58.5	-0.6
PINNC	Pines Island,	12.24	169	Pn	Pn	04 50 11.8	-0.4
H11S2	WAKE ISLAND Hy	28.91	4	T	T	05 23 14.9	
	baz=184,slow=76,SNR=33						
H11S3	WAKE ISLAND Hy	28.91	4	T	T	05 23 12.7	
	baz=184,slow=76,SNR=21						
H11S1	WAKE ISLAND Hy	28.93	4	T	T	05 23 14.9	
	baz=184,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	30.13	4	T	T	05 24 48.1	
	baz=183,slow=76,SNR=32						
H11N3	WAKE ISLAND Hy	30.14	4	T	T	05 24 47.9	
	baz=183,slow=76,SNR=24						
H11N2	WAKE ISLAND Hy	30.15	4	T	T	05 24 51.7	
	baz=183,slow=76,SNR=20						
WRA	Warramunga Arr	30.88	249	P	P	04 53 36.4	+1.8
	0.6nm,0.9s,baz=73,slow=8.1,SNR=2.0						
KLR	Kul'dur	66.27	337	P	P	04 58 05.8	-0.2
	0.7nm,0.5s,baz=231,slow=6.5,SNR=3.6						
ILAR	Eielson Array	83.31	19	P	P	04 59 43.8	-0.6
	0.7nm,0.7s,baz=241,slow=5.0,SNR=7.4						
MK31	Makanchi Array	92.59	317	P	P	05 00 29.4	-0.2
MK31				IAmb	IAmb	05 00 42.6	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	92.59	317	P	P	05 00 31.1	+1.5
	comp=Z,0.8nm,0.8s,baz=102,slow=5.3,SNR=5.1						
MAKZ	Makanchi	92.80	317	P	P	05 00 31.5	+0.9
MAKZ				IAmb	IAmb	05 00 38.4	
	comp=Z,1.8nm,0.5s						
KEST	Kesra	146.51	322	PKPbc	PKPab	05 07 01.5	+0.7
	comp=Z,1.6nm,0.9s,baz=223,slow=5.2,SNR=3.7						

*JMA **18** 04:48:58.5±0.1, 33.°61N×137.°31E, h384km, M3.0*
*IDC **18** 04:49:00.9±5.7, 33.°42N×137.°20E, h329km±226km, mb3.2/1, mb1 3.3/3, mb1mx2.7/34, mbtmp3.7/3, Error ellipse: s-maj=298.3km s-min=45.0km az=14.0*
ISC 18 04:48:57.7±1.6, 33.°7N±0.°2×137.°4E±0.°1, h400km, n17,
σ1§96/18, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.31	273	P	Pn	04 49 46.9	+0.1
TTO4	TONANKAI O.B.S	0.31	23	P	Pn	04 49 47.2	+0.4
JIE	Ise	0.88	320	P	Pn	04 49 47.9	-0.4
HMMJ	Hamamatsu 2	1.16	13	P	Pn	04 49 49.3	0.0
JTNC	Tanabenakahech	1.49	274	P	Pn	04 49 50.0	-0.8
JWY	Kouya	1.58	289	P	Pn	04 49 50.6	-0.7
JWT	Wachi	2.27	314	P	Pn	04 49 54.9	-0.4
JRY	Ryogami san	2.60	28	P	Pn	04 49 59.8	+2.1
JHU	Hanno	2.63	36	P	Pn	04 49 59.5	+1.6
BSO4	Boso 4	2.75	62	S	S	04 50 47.2	-0.9
MJAR	Matsushiro Arr	2.89	13	P	Pn	04 50 00.8	+0.8
	0.1nm,0.3s,baz=184,slow=9.9,SNR=6.2						
JAG	Ashikaga	3.18	31	P	Pn	04 50 02.8	+0.5
JYT	Yasato	3.40	42	P	Pn	04 50 05.1	+1.0
JHO	Hitachi	3.88	41	P	Pn	04 50 09.7	+1.1
JHO				S	S	04 51 01.8	-4.3
JFK	Kawauchi	4.61	37	P	Pn	04 50 17.4	+1.7
JFK				*e*S	S	04 51 14.8	-4.3
KSRS	Korea Array	8.56	298	P	P	04 51 01.6	+2.3
	0.3nm,0.3s,baz=113,slow=12,SNR=4.8						
WRA	Warramunga Arr	53.44	184	P	P	04 57 45.7	+7.2
	0.4nm,0.3s,baz=360,slow=7.5,SNR=13						

IDC 18 04:51:47.9±8.7, 16.°16S×173.°22W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/28, mbtmp3.6/3, Error ellipse: s-maj=385.2km s-min=38.7km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.84	257	P	P	05 00 43.5	+0.3
	0.5nm,0.8s,baz=94,slow=7.5,SNR=1.4						
ASAR	Alice Springs	50.04	252	P	P	05 00 44.5	-0.3
	1.4nm,0.6s,baz=87,slow=8.4,SNR=20						
ILAR	Eielson Array	83.15	11	P	P	05 04 15.3	-0.1
	0.2nm,0.8s,baz=222,slow=5.3,SNR=4.8						

*VAO **18** 05:07:20.8±0.5, 15.°81S×72.°90W, h111km, mb4.1*
*NEIC **18** 05:07:21.1±2.0, 15.°91S±0.°05×72.°8W±0.°1, h90km±15km, mb4.2/4, Error ellipse: s-maj=17.4km s-min=7.1km az=78.0*
ISC 18 05:07:20.7±0.8, 15.°97S±0.°07×72.°78W±0.°10, h100km, n48,
σ1§59/53, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	Minye Minye	4.37	136	*i* P	Pn	05 08 26.3	+1.2
MNMC				*e*S	Sn	05 09 13.1	-2.0
MNMC	Minye Minye	4.37	136	P	Pn	05 08 26.5	+1.3
PSGC	Pisagua	4.40	145	*e*P	Pn	05 08 26.0	+0.6
PSGC				*e*S	Sn	05 09 12.9	-2.8
PSGCX	Pisagua	4.40	145	Pn	Pn	05 08 26.5	+1.0
LPAZ	La Paz	4.48	95	Pn	Pn	05 08 31.4	+4.5
LPAZ	La Paz	4.48	95	*e*P	Pn	05 08 30.2	+3.2
PB11	IPOC Station P	4.80	142	⇓*i*P	Pn	05 08 31.6	+0.7
PB11				*e*S	Sn	05 09 22.6	-2.8
PB11	IPOC Station P	4.80	142	Pn	Pn	05 08 32.0	+1.1
TA02	Huaiquique	4.96	150	*e*P	Pn	05 08 33.8	+0.9
TA02				*e*S	Sn	05 09 27.0	-2.1
TA02	Huaiquique	4.96	150		Pn	05 08 33.7	+0.8
TA01	Diego Aracena	5.19	152	Pn	Pn	05 08 37.4	+1.4
PB08	IPOC Station P	5.39	141	*e*P	Pn	05 08 40.4	+1.3
PB08				*e*S	Sn	05 09 37.4	-2.7
PB08	IPOC Station P	5.39	141		Pn	05 08 40.8	+1.7
NNA	Nana	5.59	315	Pn	Pn	05 08 42.0	+0.5
PB01	IPOC Station P	5.93	149		Pn	05 08 47.1	+1.0
PB07	IPOC Station P	6.34	155		Pn	05 08 52.2	+0.3
PB04	IPOC Station P	6.80	159		Pn	05 08 58.3	+0.3
PB06	IPOC Station P	7.35	156		Pn	05 09 05.5	0.0
LVC	Limon Verde	7.54	152	Pn	Pn	05 09 09.9	+1.6
LVC	Limon Verde	7.54	152	*e*P	Pn	05 09 10.6	+2.3
PB10	IPOC Station P	7.79	165		Pn	05 09 10.9	-0.4
PB15	IPOC Station P	7.84	157		Pn	05 09 12.7	+0.4
CZSB	Cruzeiro do Su	8.19	1	*e*P	Pn	05 09 14.4	-2.4
ETMB	Extrema	8.85	47	*e*P	Pn	05 09 25.9	0.0
GO02	Mina Guanaco	9.62	162		Pn	05 09 37.1	+0.6
AC02	Maricunga	11.33	163	Pn	Pn	05 10 01.6	+1.7
VILB	Vilhena	12.54	78	*e*P	Pn	05 10 13.8	-2.0
PTLB	Pontes e Lacer	13.15	90	*e*P	Pn	05 10 24.8	+1.2
SALV	Santo Antonio	16.43	92	*e*P	Pn	05 11 05.9	+0.4
CLDB	Colider	17.27	75	*e*P	P	05 11 15.7	-0.1
MACA	Manacapuru-AM	17.43	44	*e*P	P	05 11 17.1	-0.3
CPUP	Villa Florida	17.70	128	*e*P	Pn	05 11 21.7	+0.9
MT09	Talagante	17.80	175		Pn	05 11 24.1	+2.0
MT09				IAmb	IAmb	05 12 09.9	
	comp=Z,35nm,1.6s						
NPGB	Novo Progresso	19.22	64	*e*P	P	05 11 37.0	-0.2
ITQB	Itaqui	20.16	135	*e*P	P	05 11 48.8	+1.7
TRCB	Terra Rica	20.17	113	*e*P	P	05 11 47.0	-0.4
ARAG	Araguaiana, MT	20.17	92	*e*P	P	05 11 49.4	+2.0
ITTB	Itaituba	20.33	57	*e*P	P	05 11 48.8	-0.4
SNDB	Serra Nova Dou	21.22	82	*e*P	P	05 11 59.6	+0.9
RUSC	La Rusia	21.73	359	P	P	05 12 05.3	+0.7
PLTB	Pedras Altas	23.49

SGDS Sogindy 1.19 321 P Pg 05 16 04.9 0.0
2.2nm,0.1s
SGDS S Sg 05 16 20.6 +0.3
2.8nm,0.1s
ARLS Aral 1.20 236⇑ *i*P Pg 05 16 05.2 0.0
baz=36
ARLS ⇑ *i*S Sb 05 16 21.7 -0.3
baz=36
KDJ Kajisay 1.20 109⇑ *e*P Pg 05 16 04.6 -0.6
baz=11
KDJ ⇑ *i*S Sg 05 16 20.6 -0.1
baz=11
EKS2 Erkin-Say 1.39 276⇓ *e*P Pg 05 16 08.2 -0.7
baz=75
EKS2 ⇓ *i*S Sg 05 16 27.2 +0.2
baz=75
KTBS Karatobe 1.39 32 P Pg 05 16 08.0 -0.9
3.1nm,0.1s
KTBS S Sg 05 16 26.0 -1.0
6.9nm,0.4s
AML Almayashu 1.51 255⇑ *e*P Pn 05 16 10.7 -0.2
baz=54
AML ⇑ *i*S Sb 05 16 31.1 -0.1
baz=54
TARG Taragay, Kyrgy 1.79 116⇑ *i*P Pn 05 16 14.5 -0.2
baz=17
TARG ⇑ *i*S Sn 05 16 38.2 -0.2
baz=17
MRKS Merke 1.81 277 P Pg 05 16 16.6 -0.2
2.1nm,0.3s
MRKS S Sg 05 16 40.7 +0.5
5.1nm,0.3s
SATY Saty 2.09 75 Pg Pg 05 16 21.9 -0.3
1.1nm,0.1s
SATY Lg Lg 05 16 49.8
5.9nm,0.1s

BJI **18** *05:23:02.0±0.0, 72°.50N×2°.90E, h8km, mB5.4/6, mb4.7/28, Ms5.1/3, Ms7 5.0/3*
NAO **18** *05:23:02.1±1.2, 72°.49N×3°.06E, ML4.7*
MOS **18** *05:23:03.7±1.1, 72°.54N×3°.12E, h10km, mb5.1/86, MS4.6/10, Error ellipse: s-maj=16.1km s-min=2.8km az=95.5*
IDC **18** *05:23:04.1±0.4, 72°.52N×3°.07E, h0km, mb4.5/23, mb1 4.7/28, mb1mx4.6/38, mbtmp4.5/28, ML4.5/5, MS4.7/21, Ms1 4.7/21, ms1mx4.5/53, Error ellipse: s-maj=12.8km s-min=9.2km az=42.0*
NEIC **18** *05:23:05.5±1.3, 72°.51N±0°.07×3°.1E±0°.2, h10km±1km, mb4.9/125, Error ellipse: s-maj=11.9km s-min=10.2km az=183.0*
BER **18** *05:23:05.1±2.4, 72°.52N×3°.03E, h10km, ML3.0, MW4.2, ML3.5(DNK), Confirmed Earthquake*
DNK **18** *05:23:06.2±5.3, 72°.61N×3°.40E, h35km±39km, ML3.5*
UPP **18** *05:23:10.0±3.3, 72°.48N×4°.36E, h0km, ML3.2, Suspected explosion*
ISC 18 05:23:05.0±0.3, 72°.45N±0°.03×3°.28E±0°.03, h10km, n789, σ1**977**/806, **mb4.9**/201, **MS4.7**/28, **38C-27D, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**3.93**	**254**	*e*P		**Pn**	**05 24 03.4**	**-1.8**
JNW	**Jan Mayen West**	**3.95**	**254**	*e*P		**Pn**	**05 24 03.6**	**-1.8**
JMIC	**Jan Mayen**	**3.99**	**254**	Pn		**Pn**	**05 24 03.7**	**-2.4**
	baz=33,slow=3.9,SNR=23							
JMIC				LR		LR	05 25 24.6	
	comp=Z,3μm,19.6s,baz=50,slow=36							
JMIC	**Jan Mayen**	**3.99**	**254**	Pn		**Pn**	**05 24 03.8**	**-2.2**
JMIC				Sn		**Sn**	**05 24 52.3**	**-0.5**
JMIC	**Jan Mayen**	**3.99**	**254**	*e*P		**Pn**	**05 24 03.7**	**-2.4**
JMIC				*e*S		**Sn**	**05 24 45.9**	**-6.9**
JMIC				IAML			05 25 13.2	
	comp=Z,52nm,0.4s							
JMIC				IAMs_20		IAMs_20	05 25 18.5	
	comp=Z,9μm,8.5s							
JMI	**Jan Mayen**	**4.08**	**254**	*e*P		**Pn**	**05 24 05.4**	**-1.9**
BJO1	**Bjornoya**	**4.93**	**58**	Pn		**Pn**	**05 24 16.6**	**-2.4**
BJO1				Sn		**Sn**	**05 25 11.6**	**-4.3**
BJO1	**Bjornoya**	**4.93**	**58**	*e*P		**Pn**	**05 24 16.5**	**-2.4**
BJO1				*e*S		**Sn**	**05 25 11.0**	**-4.9**
BJO1				IAML			05 25 15.7	
	comp=Z,33nm,0.7s							
N2VI	**Vinje**	**5.53**	**133**	*e*P		**Pn**	**05 24 27.4**	**+0.1**
N2VI				IAMs_20		IAMs_20	05 26 06.1	
	comp=Z,8μm,17.1s							
N2VI				IAML			05 26 21.4	
	comp=Z,8.5nm,0.4s							
LOF	**Lofoten**	**5.55**	**136**	*e*P		**Pn**	**05 24 27.4**	**-0.1**
LOF				*e*S		**Sn**	**05 25 25.5**	**-5.7**
LOF				IAML			05 25 31.6	
	comp=Z,24nm,0.5s							
LOF				IAMs_20		IAMs_20	05 26 05.6	
	comp=Z,6μm,17.9s							
HSPB	**Hornsund (broa**	**5.59**	**30**	Pn		**Pn**	**05 24 26.2**	**-1.8**
HSPB	**Hornsund (broa**	**5.59**	**30**	*e*P		**Pn**	**05 24 25.6**	**-2.4**
N2SV	**S¸rv¥gen**	**5.64**	**139**	*e*P		**Pn**	**05 24 27.8**	**-0.9**
N2SV				*e*S		**Sn**	**05 25 28.9**	**-4.5**
N2SV				IAML			05 25 33.8	
	comp=Z,22nm,0.5s							
N2SV				IAMs_20		IAMs_20	05 25 57.9	
	comp=Z,7μm,20.0s							
N2VA	**Vr¸y**	**5.78**	**142**	*e*P		**Pn**	**05 24 30.1**	**-0.4**
N2VA				IAMs_20		IAMs_20	05 26 16.0	
	comp=Z,5μm,17.9s							
N2RO	**R¸st**	**5.80**	**144**	*e*P		**Pn**	**05 24 30.7**	**-0.2**
N2RO				*e*S		**Sn**	**05 25 31.3**	**-6.1**
N2RO				IAML			05 25 37.2	
	comp=Z,36nm,0.7s							
N2RO				IAMs_20		IAMs_20	05 26 02.5	
	comp=Z,7μm,20.2s							
TRO	**Tromso**	**5.82**	**111**	*e*P		**Pn**	**05 24 30.4**	**-0.7**
TRO				*e*S		**Sn**	**05 25 31.8**	**-6.1**
TRO				IAML			05 25 37.3	
	comp=Z,104nm,1.0s							
TRO				IAMs_20		IAMs_20	05 26 15.5	
	comp=Z,5μm,20.2s							
STEI	**Steigen**	**6.08**	**132**	*e*P		**Pn**	**05 24 34.8**	**0.0**
STEI				*e*S		**Sn**	**05 25 37.5**	**-6.7**
STEI				IAML			05 25 46.7	
	comp=Z,20nm,0.6s							
STEI				IAMs_20		IAMs_20	05 26 22.9	
	comp=Z,7μm,18.9s							
N2IH	**Innhavet**	**6.21**	**130**	*e*P		**Pn**	**05 24 36.8**	**+0.3**
N2IH				*e*S		**Sn**	**05 25 42.4**	**-5.0**
N2IH				IAML			05 25 50.1	
	comp=Z,52nm,0.5s							
N2IH				IAMs_20		IAMs_20	05 26 26.9	
	comp=Z,7μm,19.6s							
N2NF	**Nordfold**	**6.22**	**133**	*e*P		**Pn**	**05 24 36.8**	**+0.2**
N2NF				IAMs_20		IAMs_20	05 26 27.0	
	comp=Z,8μm,19.4s							
N2NF				IAML			05 26 28.0	
	comp=Z,15nm,0.8s							
BRBA	**Barentsburg A**	**6.28**	**21**	*e*P		**Pn**	**05 24 34.2**	**-3.2**
JETT	**Jettan, Norway**	**6.29**	**109**	Pn		**Pn**	**05 24 37.0**	**-0.7**
JETT				Sn		**Sn**	**05 25 46.1**	**-3.3**
JETT				IAML			05 25 51.5	
	comp=Z,50nm,0.4s							
N2TV	**T¥rnvik**	**6.35**	**135**	*e*P		**Pn**	**05 24 37.5**	**-1.0**
N2TV				IAMs_20		IAMs_20	05 26 31.4	
	comp=Z,7μm,19.3s							
N2TV				IAML			05 26 36.6	
	comp=Z,11nm,0.4s							
NBB08	**Skaug oppvekst**	**6.40**	**137**	*e*P		**Pn**	**05 24 38.7**	**-0.4**
NBB08	**Skaug oppvekst**	**6.40**	**137**	IAMs_20		IAMs_20	05 26 32.3	
	comp=Z,7μm,19.3s							
NBB08	**Skaug oppvekst**	**6.40**	**137**	IAML			05 26 53.3	
	comp=Z,16nm,0.1s							
FAUS	**Fauske**	**6.54**	**135**	*e*P		**Pn**	**05 24 40.5**	**-0.6**
FAUS				*e*S		**Sn**	**05 25 48.1**	**-7.5**
FAUS				IAML			05 26 13.0	
	comp=Z,26nm,0.5s							
FAUS				IAMs_20		IAMs_20	05 26 37.1	
	comp=Z,7μm,18.8s							
NBB30	**Finnes**	**6.58**	**141**	*e*P		**Pn**	**05 24 41.1**	**-0.5**
NBB30				*e*S		**Sn**	**05 25 49.3**	**-7.2**
NBB30				IAML			05 25 56.3	
	comp=Z,39nm,0.6s							
NBB30				IAMs_20		IAMs_20	05 26 38.3	
	comp=Z,7μm,17.9s							
NBB05	**Inndyr**	**6.58**	**140**	*e*P		**Pn**	**05 24 41.4**	**-0.2**
NBB05	**Inndyr**	**6.58**	**140**	IAMs_20		IAMs_20	05 26 37.0	
	comp=Z,6μm,20.2s							
NBB05				IAML			05 26 40.1	
	comp=Z,14nm,0.7s							
SPA0	**Spitsbergen Ar**	**6.63**	**24**	*e*P		**Pn**	**05 24 40.1**	**-2.1**
SPA0				Pn		**Pn**	**05 24 41.2**	**-1.0**
	baz=214,slow=16							
SPITS	**Spitsbergen Ar**	**6.63**	**24**	Pn		**Pn**	**05 24 40.9**	**-1.3**
	baz=210,slow=14,SNR=100							
N2ST	**Straumen**	**6.64**	**134**	*e*P		**Pn**	**05 24 42.7**	**+0.3**
N2ST				*e*S		**Sn**	**05 25 50.8**	**-7.1**
N2ST				IAML			05 25 59.7	
	comp=Z,35nm,0.3s							
N2ST				IAMs_20		IAMs_20	05 26 40.5	
	comp=Z,7μm,19.3s							
HAMF	**Hammerfest**	**6.71**	**96**	Pn		**Pn**	**05 24 41.6**	**-1.8**
HAMF	**Hammerfest**	**6.71**	**96**	*e*P		**Pn**	**05 24 41.5**	**-1.8**
HAMF				*e*S		Sn	05 25 51.3	-8.4
HAMF				IAML			05 25 55.1	
	comp=Z,11nm,0.5s							
KIF	**Kilpisjarvi**	**6.73**	**112**	Pn		**Pn**	**05 24 43.5**	**-0.2**
KIF				Sn		**Sn**	**05 25 58.0**	**-2.3**
KIF	**Kilpisjarvi**	**6.73**	**112**	*e*P		**Pn**	**05 24 43.1**	**-0.5**
NBB15	**Halsa Church**	**6.76**	**143**	*e*P		**Pn**	**05 24 44.4**	**+0.4**
NBB15	**Halsa Church**	**6.76**	**143**	*e*S		**Sn**	**05 25 54.2**	**-6.6**
NBB15	**Halsa Church**	**6.76**	**143**	IAML			05 26 03.6	
	comp=Z,43nm,0.3s							
NBB15	**Halsa Church**	**6.76**	**143**	IAMs_20		IAMs_20	05 26 44.0	
	comp=Z,6μm,18.9s							
NBB17	**Glomfjord B¥r**	**6.76**	**141**	*e*P		**Pn**	**05 24 44.2**	**+0.1**
NBB17	**Glomfjord B¥r**	**6.76**	**141**	*e*S		**Sn**	**05 25 54.0**	**-7.0**
NBB17	**Glomfjord B¥r**	**6.76**	**141**	IAML			05 25 58.8	
	comp=Z,92nm,0.4s							
NBB17	**Glomfjord B¥r**	**6.76**	**141**	IAMs_20		IAMs_20	05 26 43.4	
	comp=Z,5μm,17.1s							
NBB13	**Alf Garage**	**6.81**	**144**	*e*P		**Pn**	**05 24 45.2**	**+0.4**
NBB13	**Alf Garage**	**6.81**	**144**	IAMs_20		IAMs_20	05 26 44.7	
	comp=Z,6μm,20.2s							
NBB13				IAML			05 26 48.0	
	comp=Z,14nm,0.5s							
KBS	**Kingsbay**	**6.84**	**14**	*i* P		**Pn**	**05 24 42.9**	**-2.2**
KBS	**Kingsbay**	**6.84**	**14**	*c e*P		**Pn**	**05 24 43.4**	**-1.8**
KBS				pmax		pmax		
	comp=Z,42nm,0.6s							
KBS	**Kingsbay**	**6.84**	**14**	Pn		**Pn**	**05 24 43.1**	**-2.1**
KBS	**Kingsbay**	**6.84**	**14**	*e*P		**Pn**	**05 24 42.9**	**-2.2**
KBS				IAMs_20		IAMs_20	05 26 41.8	
	comp=Z,4μm,11.1s							
KBS				IAML			05 26 54.5	
	comp=Z,8.4nm,0.9s							
KBS	**Kingsbay**	**6.84**	**14**			**Pn**	**05 24 42.9**	**-2.2**
NBB40	**Tonnes**	**6.86**	**145**	*e*P		**Pn**	**05 24 45.1**	**-0.3**
NBB40				IAMs_20		IAMs_20	05 26 46.3	
	comp=Z,6μm,20.7s							
NBB40				IAML			05 26 51.9	
	comp=Z,7.9nm,0.5s							
KONS	**Konsvik**	**6.89**	**145**	Pn		**Pn**	**05 24 45.6**	**-0.3**
KONS				Sn		**Sn**	**05 25 58.9**	**-5.3**
KONS	**Konsvik**	**6.89**	**145**	*e*P		**Pn**	**05 24 45.4**	**-0.5**
KONS				*e*S		**Sn**	**05 25 57.2**	**-7.0**
KONS				IAML			05 26 01.1	
	comp=Z,30nm,0.3s							
DBG	**Daneborg**	**6.97**	**297**	*i* P		Pn	05 24 42.1	-4.8
DBG				IAML			05 24 58.6	
	comp=Z,24nm,0.3s							
DBG	**Daneborg**	**6.97**	**297**	Pn		Pn	05 24 41.5	-5.3
DBG				Sn		Sn	05 25 55.5	-10
DBG	**Daneborg**	**6.97**	**297**	*i* P		Pn	05 24 42.1	-4.8
STOK	**Stokkvaagen**	**7.03**	**146**	Pn		**Pn**	**05 24 48.7**	**+1.0**
STOK				Sn		**Sn**	**05 26 01.1**	**-6.4**
STOK	**Stokkvaagen**	**7.03**	**146**	*e*P		**Pn**	**05 24 47.7**	**0.0**
STOK				*e*S		**Sn**	**05 25 59.8**	**-7.7**
NIKU	**Nikkaluokta**	**7.04**	**123**	P		**Pn**	**05 24 48.5**	**+0.6**
NIKU				S		**Sn**	**05 26 04.7**	**-3.2**
NIKU	**Nikkaluokta**	**7.04**	**123**	P		**Pn**	**05 24 48.5**	**+0.6**
NIKU				S		**Sn**	**05 26 04.7**	**-3.2**
RATU	**Laukkuluspa**	**7.22**	**122**	P		**Pn**	**05 24 50.6**	**+0.3**
RATU				S		**Sn**	**05 26 09.3**	**-3.0**
RATU	**Laukkuluspa**	**7.22**	**122**	P		**Pn**	**05 24 50.6**	**+0.3**
RATU				S		**Sn**	**05 26 09.3**	**-3.0**
DAG	**Danmarks Havn**	**7.22**	**317**	*e*		Pn	05 24 43.0	-7.3
	baz=120,slow=16							
DAG				*i* P		Pn	05 24 45.0	-5.4
DAG				*i* P		Pn	05 24 45.0	-5.4
DAG				*i* S		Sn	05 25 57.7	-15
DAG				IAML			05 25 59.9	
	comp=Z,76nm,0.4s							
DAG	**Danmarks Havn**	**7.22**	**317**	*e*		Pn	05 24 43.0	-7.3
	baz=120,slow=16							
DAG				*i* P		Pn	05 24 45.0	-5.4
DAG				*i* P		Pn	05 24 45.0	-5.4
DAG				*i* S		Sn	05 25 57.7	-15
KUA	**Kurravaara**	**7.32**	**120**	P		**Pn**	**05 24 51.3**	**-0.4**
KTK1	**Kautokeino**	**7.42**	**108**	*e*P		**Pn**	**05 24 53.0**	**-0.1**
MOR8	**Moi Rana**	**7.43**	**143**	*e*P		**Pn**	**05 24 52.7**	**-0.5**
MOR8				*e*S		Sn	05 26 07.0	-10
MOR8				IAML			05 26 17.2	
	comp=Z,39nm,0.3s							
MOR8				IAMs_20		IAMs_20	05 27 00.9	
	comp=Z,5μm,21.7s							
LANU	**Lannavaara**	**7.69**	**116**	P		**Pn**	**05 24 56.8**	**-0.1**
LANU	**Lannavaara**	**7.69**	**116**	P		**Pn**	**05 24 56.8**	**-0.1**
ARCES	**ARCESS Array B**	**7.79**	**101**	Pn		**Pn**	**05 24 57.3**	**-0.9**
	baz=298,slow=12,SNR=158							
ARCES	**ARCESS Array B**	**7.79**	**101**	P		**Pn**	**05 24 57.9**	**-0.3**
ARCES	**ARCESS Array B**	**7.79**	**101**	Pn		**Pn**	**05 24 57.9**	**-0.3**
ARA0	**ARCESS Array S**	**7.79**	**101**	Pn		**Pn**	**05 24 57.0**	**-1.2**
	baz=307,slow=14							
ARA0	**ARCESS Array S**	**7.79**	**101**	Pn		**Pn**	**05 24 57.0**	**-1.2**
	baz=307,slow=14							
HEF	**Hetta**	**7.92**	**111**	*e*P		**Pn**	**05 24 59.2**	**-0.7**
HEF				*e*S		Sn	05 26 19.5	-10
DUNU	**Dundret**	**8.00**	**123**	P		**Pn**	**05 25 01.6**	**+0.5**
DUNU	**Dundret**	**8.00**	**123**	P		**Pn**	**05 25 01.6**	**+0.5**
KEV	**Kevo**	**8.13**	**98**	P		**Pn**	**05 25 01.6**	**-1.1**
KEV	**Kevo**	**8.13**	**98**	Pn		**Pn**	**05 25 01.4**	**-1.3**
KEV	**Kevo**	**8.13**	**98**	*e*P		**Pn**	**05 25 01.1**	**-1.7**
KEV	**Kevo**	**8.13**	**98**	Pn		**Pn**	**05 25 01.6**	**-1.1**
SCO	**Scoresbysund**	**8.24**	**268**	*i* P		**Pn**	**05 25 01.8**	**-2.5**
SCO				IAML			05 25 04.3	
	comp=Z,25nm,0.3s							
SCO	**Scoresbysund**	**8.24**	**268**	P		**Pn**	**05 25 02.2**	**-2.1**
SCO	**Scoresbysund**	**8.24**	**268**	*i* P		**Pn**	**05 25 01.8**	**-2.5**
SCO	**Scoresbysund**	**8.24**	**268**	Pn		**Pn**	**05 25 02.2**	**-2.1**
NSS	**Namsos**	**8.56**	**154**	*e*P		**Pn**	**05 25 08.2**	**-0.5**
NSS				*e*S		Sn	05 26 34.6	-11
NSS				IAML			05 26 45.6	
	comp=Z,69nm,0.4s							
PAJU	**Pajala**	**8.73**	**119**	P		**Pn**	**05 25 11.0**	**-0.1**
PAJU	**Pajala**	**8.73**	**119**	P		**Pn**	**05 25 11.0**	**-0.1**
ERTU	**Ertsjaerv**	**8.85**	**123**	P		**Pn**	**05 25 12.4**	**-0.2**
ERTU	**Ertsjaerv**	**8.85**	**123**	P		**Pn**	**05 25 12.4**	**-0.2**
HARU	**Harads**	**8.85**	**127**	P		**Pn**	**05 25 12.1**	**-0.5**
HARU	**Harads**	**8.85**	**127**	P		**Pn**	**05 25 12.1**	**-0.5**
SGF	**Sodankyl**	**9.38**	**111**	P		**Pn**	**05 25 20.2**	**+0.3**
SGF				pmax		pmax		
	comp=Z,33nm,1.7s							
NOD	**Norderasen**	**10.01**	**149**	*e*P		**Pn**	**05 25 28.1**	**-0.5**
MOL	**Molde**	**10.05**	**169**	*e*P		**Pn**	**05 25 26.9**	**-2.2**
MOL				*e*			05 25 29.2	
NOR	**Nord**	**10.12**	**343**	*e*P		**Pn**	**05 25 27.3**	**-2.8**
NOR				*e*S		Sn	05 27 06.0	-17
NOR				IAML			05 27 14.1	
	comp=Z,2.1nm,0.3s							
NOR	**Nord**	**10.12**	**343**	*e*P		**Pn**	**05 25 27.2**	**-2.8**
NOR	**Nord**	**10.12**	**343**	*e*P		**Pn**	**05 25 27.3**	**-2.8**
NOR				*e*S		Sn	05 27 06.0	-17
AKN	**Aaknes**	**10.41**	**170**	Pn		**Pn**	**05 25 34.0**	**-0.1**
AKN				Sn		Sn	05 27 21.1	-10
AKN	**Aaknes**	**10.41**	**170**	Pn		**Pn**	**05 25 34.0**	**-0.1**
AKN				Sn		Sn	05 27 21.1	-10
DOMB	**Dombas**	**10.68**	**165**	*e*		**Pn**	**05 25 38.1**	**+0.3**
DOMB				*e*S		Sn	05 27 24.8	-12
FOO	**Floro**	**10.92**	**176**	*e*P		**Pn**	**05 25 38.5**	**-2.5**
OUL	**Oulu**	**10.95**	**121**	P		**Pn**	**05 25 43.2**	**+1.8**
OUL				pmax		pmax		
	comp=Z,69nm,1.1s							
SOFL	**Sornfelli, Far**	**11.13**	**206**	*e*P		**Pn**	**05 25 41.1**	**-2.7**
SOFL				*e*S		Sn	05 27 30.4	-18
APA0	**Apatity Array**	**11.15**	**101**	Pn		**Pn**	**05 25 42.2**	**-2.0**
	baz=313,slow=12							
APA0	**Apatity Array**	**11.15**	**101**	Pn		**Pn**	**05 25 42.2**	**-2.0**
	baz=313,slow=12							
MSF	**Maaselka**	**11.17**	**113**	P		**Pn**	**05 25 44.1**	**-0.3**
MSF				pmax		pmax		
	comp=Z,63nm,1.4s							
APA	**Apatity**	**11.30**	**101⇑**	*i* P		**Pn**	**05 25 45.7**	**-0.5**
APA				*i* S		**Sn**	**05 27 50.0**	**-2.3**
APA				pmax		pmax		
	comp=Z,20nm,1.0s							
HYA	**Hoyanger**	**11.39**	**173**	*e*P		**Pn**	**05 25 45.2**	**-2.2**
LVZ	**Lovozero**	**11.47**	**98**	*c e*P		**Pn**	**05 25 46.6**	**-1.9**
LVZ				pmax		pmax		
	comp=Z,113nm,1.7s							
LVZ	**Lovozero**	**11.47**	**98**	Pn		**Pn**	**05 25 47.3**	**-1.3**
NC204	**NORSAR Array S**	**11.59**	**162**	*e*P		**Pn**	**05 25 48.8**	**-1.4**
NC204	**NORSAR Array S**	**11.59**	**162**			**Pn**	**05 25 51.2**	**+1.0**
NC303	**NORSAR Array S**	**11.70**	**160**	Pn		**Pn**	**05 25 52.1**	**+0.5**
BORG	**Borgarnes**	**11.74**	**241**	Pn		Pn	05 25 57.9	+5.6
	comp=Z,0.6nm,0.3s,baz=55,slow=10.0,SNR=3.0							
BORG				LR		LR	05 29 13.5	
	comp=Z,1μm,20.8s,baz=13,slow=32							
NBO00	**NORSAR Array S**	**11.83**	**162**			**Pn**	**05 25 53.2**	**-0.2**
NC405	**NORSAR Array S**	**11.84**	**160**			**Pn**	**05 25 53.3**	**-0.3**
NB2	**NORSAR Subarra**	**11.86**	**161**	Pn		**Pn**	**05 25 54.0**	**+0.1**
	baz=349,slow=14							
NB2	**NORSAR Subarra**	**11.86**	**161**	Pn		**Pn**	**05 25 54.0**	**+0.1**
	baz=349,slow=14							
NOA	**NORSAR Array B**	**11.86**	**161**	Pn		**Pn**	**05 25 52.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=311,slow=5.2,SNR=19							
NOA				Sn		Sn	05 27 57.2	-8.9
	comp=Z,0.2nm,0.3s,baz=300,slow=16,SNR=4.4							
NOA				LR		LR	05 30 07.9	
	comp=Z,2μm,21.4s,baz=350,slow=36							
VAF	**Ylistaro**	**11.88**	**133**	P		**Pn**	**05 25 53.0**	**-1.1**
VAF				pmax		pmax		
	comp=Z,54nm,1.0s							
SKAR	**Skarslia**	**11.98**	**168**	*e*P		**Pn**	**05 25 52.6**	**-2.9**
ASK	**Askoy**	**12.04**	**175**	*e*P		**Pn**	**05 25 53.6**	**-2.7**
BER	**Bergen**	**12.15**	**175**	P		**Pn**	**05 25 57.6**	**-0.1**
BER				pmax		pmax		
	comp=Z,52nm,0.9s							
BER	**Bergen**	**12.15**	**175**	*e*P		**Pn**	**05 25 53.4**	**-4.3**
NRA0	**NORESS Array S**	**12.19**	**160**	Pn		**Pn**	**05 25 58.2**	**-0.2**
	baz=345,slow=12							
NRA0	**NORESS Array S**	**12.19**	**160**	Pn		**Pn**	**05 25 58.2**	**-0.2**
	baz=345,slow=12							
SUMG	**Summit**	**12.37**	**291**	*i* P		**Pn**	**05 25 58.9**	**-2.2**
SUMG	**Summit**	**12.37**	**291**	P		**Pn**	**05 25 59.2**	**-1.9**
SUMG	**Summit**	**12.37**	**291**	*i* P		**Pn**	**05 25 58.9**	**-2.2**
SUMG	**Summit**	**12.37**	**291**	Pn		**Pn**	**05 25 59.1**	**-1.9**
LRW	**Lerwick**	**12.49**	**190**	*e*P		Pn	05 25 57.1	-5.4
LRW				*e*			05 26 03.0	
ODD1	**Odda**	**12.66**	**172**	*e*P		**Pn**	**05 26 00.6**	**-4.3**
HFS	**Hagfors**	**13.02**	**156**	Pn		**Pn**	**05 26 08.9**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=357,slow=13,SNR=112							
HFS				Sn		Sn	05 28 25.6	-8.8
	comp=Z,2.5nm,0.3s,baz=351,slow=24,SNR=7.7							
HFS				LR		LR	05 30 54.3	
	comp=Z,2μm,19.1s,baz=332,slow=36							
HFS	**Hagfors**	**13.02**	**156**	Pn		**Pn**	**05 26 08.8**	**-0.9**
	baz=348,slow=11							
HFS	**Hagfors**	**13.02**	**156**	Pn		**Pn**	**05 26 08.8**	**-0.9**
	baz=348,slow=11							
KONO	**Kongsberg**	**13.10**	**166**	*c e*P		**Pn**	**05 26 12.0**	**+1.3**
KONO				pmax		pmax		
	comp=Z,23nm,0.8s							
KONO	**Kongsberg**	**13.10**	**166**	*e*P		**Pn**	**05 26 06.3**	**-4.5**
KONO	**Kongsberg**	**13.10**	**166**	Pn		**Pn**	**05 26 11.7**	**+1.0**
STRU	**Stroemstad**	**13.84**	**163**	*i* P		**Pn**	**05 26 19.8**	**-0.9**
STRU	**Stroemstad**	**13.84**	**163**	*i* P		**Pn**	**05 26 19.8**	**-0.9**
FIA1	**FINESS Array S**	**14.06**	**130**	Pn		**Pn**	**05 26 22.9**	**-0.9**
FIA0	**FINESS Array S**	**14.06**	**130**	Pn		**Pn**	**05 26 22.4**	**-1.4**
	baz=342,slow=7.9							
FIA0	**FINESS Array S**	**14.06**	**130**	Pn		**Pn**	**05 26 22.4**	**-1.4**
	baz=342,slow=7.9							
FINES	**FINESS Array B**	**14.06**	**130**	Pn		**Pn**	**05 26 22.5**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=343,slow=11,SNR=154							
FINES				LR		LR	05 31 27.0	
	comp=Z,4μm,18.4s,baz=348,slow=36							
FINES	**FINESS Array B**	**14.06**	**130**	Pn		**Pn**	**05 26 22.4**	**-1.4**
SNART	**Snartemo**	**14.26**	**172**	*i* P		**Pn**	**05 26 25.8**	**-0.8**
SNART	**Snartemo**	**14.26**	**172**	*i* P		**Pn**	**05 26 25.8**	**-0.8**
NEEM	**North Greenlan**	**14.43**	**314**	*e*P		**Pn**	**05 26 25.6**	**-3.4**
NEEM				*e*			05 28 47.8	
NEEM				IAML			05 28 52.1	
	comp=Z,1.9nm,0.4s							
MEF	**Metsahovi**	**14.78**	**135**	*e*P		**Pn**	**05 26 32.4**	**-1.2**
ONAU	**Onsala**	**15.52**	**162**	*i* P		**P**	**05 26 49.1**	**+1.2**
ANGG	**Ammassalik, Gr**	**15.84**	**265**	Pn		**Pn**	**05 26 44.7**	**-2.8**
ANGG				IAmb		IAmb	05 27 00.2	
	comp=Z,111nm,1.7s							
MTSE	**Matsula**	**16.03**	**138**	*e*P		**Pn**	**05 26 51.2**	**+1.0**
MUD	**Monsted U'grnd**	**16.24**	**168**	*i* P		**Pn**	**05 26 53.6**	**+0.7**
MUD	**Monsted U'grnd**	**16.24**	**168**

IDID	**Didziasalis**	**19.79 138**	*e*P	**Pn**	**05 27 36.4**	**-0.1**
IDID			IAmb	IAmb	05 27 42.6	
comp=Z,28nm,0.9s						
GKP	**Gorka Klasztor**	**20.17 155**	*e*P	Pn	05 27 40.9	-0.1
GKP	**Gorka Klasztor**	**20.17 155**	P	Pn	05 27 40.9	0.0
GKP			pmax	pmax		
comp=Z,183nm,1.1s						
EUNU	**Eureka**	**20.18 330**	P	**P**	**05 27 37.7**	**-1.4**
EUNU			IAmb	IAmb	05 27 42.7	
comp=Z,181nm,1.7s						
SUW	**Suwalki**	**20.35 145**	*e*P	**P**	**05 27 41.7**	**+0.6**
SUW	**Suwalki**	**20.35 145**	*e*P	**P**	**05 27 41.8**	**+0.7**
SUW	**Suwalki**	**20.35 145**	P	**P**	**05 27 42.1**	**+1.0**
SUW			pmax	pmax		
comp=Z,445nm,1.2s						
SUW	**Suwalki**	**20.35 145**	P	**P**	**05 27 42.1**	**+1.0**
MNK	**Minsk**	**20.79 137**	*i* P	Pn	05 27 47.9	-0.3
MNK			*i* PPP	PPP	05 28 14.2	
MNK			*i* S	Sn	05 31 41.7	-0.8
MNK			*i*		05 31 55.6	
MNK			*i* SS	**SnSn**	**05 32 03.4**	**+6.5**
MNK			*i* SSS	SSS	05 32 16.6	
MNK			pmax	pmax		
comp=Z,235nm,0.9s						
MNK			pmax	pmax		
comp=N,168nm,0.8s						
MNK			pmax	pmax		
comp=E,22nm,1.2s						
MNK			MLR	MLR		
comp=Z,557nm,17.0s						
MNK			MLR	MLR		
comp=N,450nm,18.0s						
MNK			MLR	MLR		
comp=E,46nm,14.0s						
MNK	**Minsk**	**20.79 137**	*i* P	Pn	05 27 47.9	-0.3
comp=E,22nm,1.2s						
MNK			*i* P	Pn	05 27 47.9	-0.3
comp=N,168nm,0.8s						
MNK			*i* P	Pn	05 27 47.9	-0.3
comp=Z,235nm,0.9s,baz=159						
MNK			*i* PP	**PnPn**	**05 28 06.3**	**+2.6**
MNK			*i* PPP	PPP	05 28 14.2	
MNK			*i* S	Sn	05 31 41.7	-0.8
MNK			*i* PcP	**PcP**	**05 31 55.7**	**+1.5**
MNK			*i* SS	**SnSn**	**05 32 03.5**	**+6.6**
MNK			*i* SSS	SSS	05 32 16.6	
MNK			*i* LQ	LQ	05 34 09.0	
MNK			*i* LR	LR	05 35 57.4	
MNK			*i* LRM	MLR	05 37 12.4	
comp=Z,557nm,16.5s						
MNK			*i* LRM	MLR	05 37 18.8	
comp=N,450nm,17.8s						
MNK			*i* LRM	MLR	05 37 21.4	
comp=E,46nm,14.0s						
BUG	**Bochum--Univer**	**21.16 173**	P	**P**	**05 27 51.4**	**+1.6**
BUG			pmax	pmax		
comp=Z,126nm,1.1s						
CLL	**Collm**	**21.65 163**	*i* P	**P**	**05 27 55.6**	**+0.5**
CLL			*i* sP	**pwP**	**05 27 59.8**	**-0.6**
comp=Z,164nm,1.8s						
CLL			*i* PP	**PnPn**	**05 28 18.4**	**+2.9**
CLL			*e*PPP	PPP	05 28 25.0	
CLL			*e*		05 28 43.0	
CLL			*e*		05 29 59.0	
CLL			*e*S	Sn	05 32 00.0	-3.2
CLL	**Collm**	**21.65 163**	*i* P	**P**	**05 27 55.6**	**+0.5**
CLL			*i*		05 27 59.8	
CLL			*e*S	Sn	05 32 00.0	-3.2
CLL			pmax	pmax		
comp=Z,164nm,1.8s						
CLL	**Collm**	**21.65 163**	P	**P**	**05 27 56.1**	**+1.1**
CLL			IAmb	IAmb	05 28 00.8	
comp=Z,52nm,1.0s						
UCC	**Uccle**	**21.73 178**	*d*P	**P**	**05 27 56.9**	**+1.0**
comp=Z,64nm,1.3s						
UCC			*d*PP	**PnPn**	**05 28 16.7**	**0.0**
UCC	**Uccle**	**21.73 178**	P	**P**	**05 27 56.7**	**+0.7**
UCC			pmax	pmax		
comp=Z,79nm,1.0s						
UCC	**Uccle**	**21.73 178**	P	**P**	**05 27 56.7**	**+0.7**
UCC			IAmb	IAmb	05 27 58.1	
comp=Z,79nm,1.0s						
BEBN	**Eben Emael**	**21.76 176**	*b*P	**P**	**05 27 57.6**	**+1.4**
comp=Z,91nm,1.1s						
MOS	**Moscow**	**21.95 121**	*e*P	**P**	**05 27 56.2**	**-2.1**
MOS			*e*		05 28 34.7	
MOS			*e*S	**S**	**05 32 00.7**	**+0.5**
MOS			pmax	pmax		
comp=Z,500nm,1.7s						
MOS			pmax	pmax		
comp=Z,270nm,1.2s						
MOS			MLR	MLR		
comp=Z,3μm,19.0s						
MEM	**Membach**	**21.95 175**	*b*P	**P**	**05 27 58.7**	**+0.4**
comp=Z,46nm,1.1s						
MEM	**Membach**	**21.95 175**	P	**P**	**05 27 59.9**	**+1.6**
MEM			pmax	pmax		
comp=Z,64nm,1.1s						
BSTI	**Sart Tilman**	**21.97 176**	*d*P	**P**	**05 27 59.8**	**+1.3**
comp=Z,16nm,0.0s						
BTNL	**Ternell**	**21.98 175**	*d*P	**P**	**05 27 59.7**	**+1.0**
comp=Z,54nm,1.0s						
SNF	**Seneffe**	**22.02 178**	*d*P	**P**	**05 28 00.8**	**+1.7**
BEL	**Belsk**	**22.06 150**	*e*P	**P**	**05 28 01.1**	**+1.6**
BEL	**Belsk**	**22.06 150**	P	**P**	**05 28 01.5**	**+2.0**
BEL			pmax	pmax		
comp=Z,601nm,1.1s						
BCLA	**Clavier**	**22.13 177**	*d*P	**P**	**05 28 01.0**	**+0.8**
comp=Z,48nm,1.3s						
BCLA			*d*PP	**PnPn**	**05 28 22.6**	**+0.5**
BGES	**Gesves**	**22.16 177**	*b*P	**P**	**05 28 01.5**	**+1.0**
comp=Z,49nm,1.4s						
BRG	**Berggiesshubel**	**22.16 162**	P	**P**	**05 28 01.2**	**+0.6**
BRG			pmax	pmax		
comp=Z,59nm,1.2s						
BRG	**Berggiesshubel**	**22.16 162**	*e*P	**P**	**05 28 00.8**	**+0.2**
BRG			Amp		05 28 04.4	
comp=Z,46nm,1.4s						
BRG	**Berggiesshubel**	**22.16 162**	P	**P**	**05 28 07.0**	**+6.4**
BRG			Amp		05 28 07.9	
comp=Z,57nm,1.1s						
BRG	**Berggiesshubel**	**22.16 162**	P	P	05 28 15.3	+15
BRG			Amp		05 28 16.1	
comp=Z,37nm,1.0s						
MOX	**Moxa**	**22.19 166**	P	**P**	**05 28 02.1**	**+1.1**
MOX			pmax	pmax		
comp=Z,63nm,1.3s						
BHOU	**Houvegnez**	**22.21 175**	*d*P	**P**	**05 28 02.2**	**+1.1**
comp=Z,66nm,1.5s						
BMRD	**Maredsous**	**22.23 177**	*d*P	**P**	**05 28 02.4**	**+1.0**
comp=Z,49nm,1.3s						
OBN	**Obninsk**	**22.24 124**	P	**P**	**05 28 01.9**	**+0.6**
comp=Z,12nm,0.4s,baz=7.0,slow=1.8,SNR=28						
OBN			LR	LR	05 36 32.5	
comp=Z,768nm,18.5s,baz=324,slow=36						
OBN	**Obninsk**	**22.24 124**	*c*eP	**P**	**05 28 01.4**	**0.0**
OBN			*e*		05 28 23.7	
OBN			*e*		05 31 57.7	
OBN			pmax	pmax		
comp=Z,251nm,1.7s						
OBN			MLR	MLR		
comp=Z,3μm,18.0s						
OBN	**Obninsk**	**22.24 124**	P	**P**	**05 28 01.8**	**+0.4**
RCHB	**Rochefort**	**22.39 177**	*d*P	**P**	**05 28 04.1**	**+1.1**
comp=Z,44nm,1.6s						
TNS	**Taunus Mts**	**22.42 171**	P	**P**	**05 28 05.0**	**+1.5**
TNS			pmax	pmax		
comp=Z,54nm,1.1s						
GIVF	**Givet**	**22.44 177**	*e*P	**P**	**05 28 03.7**	**+0.2**
GIVF			pmax	pmax		
comp=Z,114nm,1.3s						
KSP	**Ksiaz**	**22.44 158**	*e*P	**P**	**05 28 04.2**	**+0.7**
KSP	**Ksiaz**	**22.44 158**	P	**P**	**05 28 04.6**	**+1.0**
KSP			pmax	pmax		
comp=Z,52nm,1.1s						
DOU	**Dourbes**	**22.44 178**	*d*P	**P**	**05 28 04.2**	**+0.6**
comp=Z,42nm,1.8s						
DOU	**Dourbes**	**22.44 178**	P	**P**	**05 28 05.0**	**+1.4**
DOU			pmax	pmax		
comp=Z,45nm,1.5s						
BAIF	**Baives**	**22.47 178**	*e*P	**P**	**05 28 04.0**	**+0.1**
BAIF			pmax	pmax		
comp=Z,127nm,1.3s						
PVCC	**Panska Ves**	**22.57 161**	*e*P	**P**	**05 28 07.0**	**+2.1**
PVCC			MLR	MLR		
comp=Z,1μm,14.6s						
PVCC	**Panska Ves**	**22.57 161**	*e*P	**P**	**05 28 07.0**	**+2.1**
PVCC			AMS	AMS	05 37 10.0	
comp=Z,1μm,14.6s						
CHVC	**Chvalec**	**22.66 159**	*e*P	**P**	**05 28 07.0**	**+1.0**
NKC	**Novy Kostel**	**22.67 165**	*e*P	**P**	**05 28 07.8**	**+1.8**
NKC	**Novy Kostel**	**22.67 165**	*e*P	**P**	**05 28 07.8**	**+1.8**
OSTC	**Ostas**	**22.71 158**	*e*P	**P**	**05 28 07.4**	**+0.9**
UPC	**Upice**	**22.74 159**	*e*P	**P**	**05 28 07.6**	**+0.9**
UPC			MLR	MLR		
comp=Z,2μm,15.4s						
UPC	**Upice**	**22.74 159**	*e*P	**P**	**05 28 07.6**	**+0.9**
UPC			AMS	AMS	05 37 10.0	
comp=Z,2μm,15.4s						
WLF	**Walferdange**	**22.90 175**	*d*P	**P**	**05 28 09.7**	**+1.2**
WLF			*d*PP	**PnPn**	**05 28 32.1**	**-0.5**
WLF	**Walferdange**	**22.90 175**	P	**P**	**05 28 09.5**	**+1.1**
WLF			pmax	pmax		
comp=Z,47nm,1.1s						
WLF	**Walferdange**	**22.90 175**	P	**P**	**05 28 09.5**	**+1.1**
WLF			IAmb	IAmb	05 28 12.9	
comp=Z,47nm,1.1s						
DPC	**Dobruska-Polom**	**22.93 158**	*e*P	**P**	**05 28 09.6**	**+0.8**
DPC	**Dobruska-Polom**	**22.93 158**	*e*P	**P**	**05 28 09.6**	**+0.8**
TOD	**Tromm**	**23.06 171**	P	**P**	**05 28 11.9**	**+1.8**
PRU	**Pruhonice**	**23.10 161**	*e*P	**P**	**05 28 11.4**	**+0.9**
PRU	**Pruhonice**	**23.10 161**	*e*P	**P**	**05 28 11.4**	**+0.9**
GRA1	**Grafenberg Arr**	**23.11 167**	P	**P**	**05 28 12.0**	**+1.3**
GRA1			IAmb	IAmb	05 28 21.0	
comp=Z,52nm,1.0s						
GRF	**Grafenberg Arr**	**23.11 167**	P	**P**	**05 28 12.0**	**+1.3**
GRF			pmax	pmax		
comp=Z,52nm,1.0s						
GRFO	**Grafenberg**	**23.11 167**	P	**P**	**05 28 11.6**	**+0.9**
GRFO			pmax	pmax		
comp=Z,47nm,1.0s						
GRFO	**Grafenberg**	**23.11 167**	P	**P**	**05 28 11.6**	**+0.9**
GRFO			IAmb	IAmb	05 28 21.0	
comp=Z,47nm,1.0s						
KRLC	**Kraliky**	**23.25 158**	*e*P	**P**	**05 28 12.7**	**+0.6**
KRLC	**Kraliky**	**23.25 158**	*e*P	**P**	**05 28 12.7**	**+0.6**
KTD	**Kalmit**	**23.31 172**	P	**P**	**05 28 14.7**	**+2.0**
PBCC	**Pribram**	**23.34 162**	*e*P	**P**	**05 28 14.6**	**+1.6**
GRB1	**Grafenberg Arr**	**23.44 166**	P	**P**	**05 28 15.7**	**+1.7**
GRB1			pmax	pmax		
comp=Z,68nm,1.2s						
OJC	**Ojcow**	**23.49 153**	*e*P	**P**	**05 28 15.2**	**+0.8**
OJC	**Ojcow**	**23.49 153**	P	**P**	**05 28 15.2**	**+0.8**
OJC			pmax	pmax		
comp=Z,83nm,1.2s						
OJC	**Ojcow**	**23.49 153**	P	**P**	**05 28 15.2**	**+0.8**
MORC	**Moravsky Berou**	**23.63 157**	⇑P	**P**	**05 28 17.2**	**+1.3**
MORC	**Moravsky Berou**	**23.63 157**	P	**P**	**05 28 16.4**	**+0.5**
MORC			pmax	pmax		
comp=Z,47nm,1.2s						
MORC	**Moravsky Berou**	**23.63 157**	P	**P**	**05 28 16.4**	**+0.5**
MORC			IAmb	IAmb	05 28 26.8	
comp=Z,47nm,1.1s						
MORC	**Moravsky Berou**	**23.63 157**	*e*P	**P**	**05 28 16.2**	**+0.3**
OKC	**Ostrava-Krasne**	**23.65 156**	AMS	AMS	05 37 30.0	
comp=Z,2μm,16.9s						
GRC1	**Grafenberg Arr**	**23.83 166**	P	**P**	**05 28 19.3**	**+1.5**
FLN	**La Foliniere**	**23.83 186**	*e*P	**P**	**05 28 17.4**	**-0.3**
FLN			pmax	pmax		
comp=Z,37nm,1.1s						
KHC	**Kasperske Hory**	**23.86 163**	P	**P**	**05 28 19.9**	**+1.8**
KHC			pmax	pmax		
comp=Z,121nm,1.9s						
KHC	**Kasperske Hory**	**23.86 163**	*e*P	**P**	**05 28 19.4**	**+1.3**
KHC			*e*pP	**pwP**	**05 28 23.0**	**-0.5**
KHC	**Kasperske Hory**	**23.86 163**	P	**P**	**05 28 19.9**	**+1.8**
STU	**Stuttgart**	**23.91 170**	P	**P**	**05 28 19.4**	**+0.9**
STU			pmax	pmax		
comp=Z,36nm,0.9s						
STU	**Stuttgart**	**23.91 170**	P	**P**	**05 28 19.4**	**+0.9**
STU			IAmb	IAmb	05 28 21.2	
comp=Z,36nm,0.9s						
VRAC	**Vranov**	**23.98 158**	P	**P**	**05 28 20.6**	**+1.4**
comp=Z,12nm,0.8s,baz=346,slow=10.0,SNR=22						
VRAC			LR	LR	05 38 03.1	
comp=Z,949nm,18.4s,baz=1.0,slow=37						
VRAC	**Vranov**	**23.98 158**	⇓P	**P**	**05 28 21.3**	**+2.1**
VRAC	**Vranov**	**23.98 158**	*e*P	**P**	**05 28 20.6**	**+1.4**
GEC2	**GERESS Array S**	**24.15 163**	P	**P**	**05 28 22.8**	**+1.9**
GEC2			IAmb	IAmb	05 28 24.1	
comp=Z,32nm,0.8s						
GERES	**GERESS Array B**	**24.15 163**	P	**P**	**05 28 22.8**	**+1.9**
comp=Z,21nm,0.8s,baz=0.8,slow=9.3,SNR=153						
KRUC	**Moravsky**	**24.20 159**	*e*P	**P**	**05 28 22.4**	**+1.1**
GRR	**Gorron**	**24.21 187**	*e*P	**P**	**05 28 20.6**	**-0.8**
GRR			pmax	pmax		
comp=Z,48nm,0.8s						
CKRC	**Cesky Krumlov**	**24.23 162**	*e*P	**P**	**05 28 23.0**	**+1.4**
CKRC			AMS	AMS	05 38 40.0	
comp=Z,2μm,15.7s						
BFO	**Black Forest**	**24.31 172**	P	**P**	**05 28 23.7**	**+1.4**
BFO			pmax	pmax		
comp=Z,92nm,1.1s						
BFO	**Black Forest**	**24.31 172**	P	**P**	**05 28 23.7**	**+1.4**
ECH	**Echery**	**24.38 174**	P	**P**	**05 28 23.8**	**+0.9**
ECH			pmax	pmax		
comp=Z,46nm,0.9s						
ECH	**Echery**	**24.38 174**	P	**P**	**05 28 23.8**	**+0.9**
ECH			IAmb	IAmb	05 28 26.3	
comp=Z,46nm,0.9s						
SGMF	**Saint Gilles**	**24.42 189**	*e*P	**P**	**05 28 22.9**	**-0.3**
SGMF			pmax	pmax		
comp=Z,48nm,1.0s						
LANS	**Liptovska Anna**	**24.49 154**	*e*P	**P**	**05 28 26.3**	**+2.3**
LANS			pmax	pmax		
comp=Z,24nm,1.2s						
LANS	**Liptovska Anna**	**24.49 154**	*e*P	**P**	**05 28 26.3**	**+2.3**
KWP	**Kalwaria Pacla**	**24.50 149**	*e*P	**P**	**05 28 25.7**	**+1.7**
KWP	**Kalwaria Pacla**	**24.50 149**	P	**P**	**05 28 25.4**	**+1.4**
KWP	**Kalwaria Pacla**	**24.50 149**	P	**P**	**05 28 25.4**	**+1.4**
LVV	**L'vov**	**24.53 146**	*e*P	**P**	**05 28 24.4**	**+0.1**
LVV			*e*S	**S**	**05 32 43.4**	**-1.0**
LVV			MLR	MLR		
comp=Z,1μm,12.0s						
JAVC	**Velka Javorina**	**24.55 157**	*e*P	**P**	**05 28 26.4**	**+1.9**
HAU	**Haudompre**	**24.56 175**	*e*P	**P**	**05 28 25.3**	**+0.7**
HAU			pmax	pmax		
comp=Z,54nm,1.1s						
AKASG	**Malin Array Be**	**24.65 138**	P	**P**	**05 28 25.5**	**+0.2**
comp=Z,58nm,0.9s,baz=343,slow=9.7,SNR=111						
AKASG			LR	LR	05 37 50.1	
comp=Z,3μm,19.1s,baz=315,slow=36						
AKASG	**Malin Array Be**	**24.65 138**	P	**P**	**05 28 25.7**	**+0.4**
AKASG			pmax	pmax		
comp=Z,106nm,1.1s						
AKASG	**Malin Array Be**	**24.65 138**	P	**P**	**05 28 25.7**	**+0.4**
HINF	**Hinteralfeld**	**24.77 174**	*e*P	**P**	**05 28 28.1**	**+1.7**
HINF			pmax	pmax		
comp=Z,36nm,1.2s						
SMOL	**Smolenice**	**24.86 157**	*e*P	**P**	**05 28 29.7**	**+2.4**
SMOL			pmax	pmax		
comp=Z,19nm,0.9s						
SMOL	**Smolenice**	**24.86 157**	*e*P	**P**	**05 28 29.7**	**+2.4**
SLE	**Schleitheim**	**24.88 172**	P	**P**	**05 28 29.1**	**+1.6**
RES	**Resolute Bay**	**24.89 321**	LR	LR	05 38 04.6	
comp=Z,2μm,18.1s,baz=352,slow=36						
MODS	**Modra-Piesok**	**24.98 158**	*e*P	**P**	**05 28 31.5**	**+3.1**
MODS			pmax	pmax		
comp=Z,86nm,1.3s						
MODS	**Modra-Piesok**	**24.98 158**	*e*P	**P**	**05 28 31.5**	**+3.1**
CRVS	**Cervenica-Dubn**	**25.02 151**	*e*P	**P**	**05 28 30.8**	**+2.1**
CRVS			pmax	pmax		
comp=Z,124nm,1.3s						
CRVS	**Cervenica-Dubn**	**25.02 151**	*e*P	**P**	**05 28 30.8**	**+2.1**
VYHS	**Vyhne**	**25.05 155**	*e*P	**P**	**05 28 30.6**	**+1.6**
VYHS			pmax	pmax		
comp=Z,59nm,1.4s						
VYHS	**Vyhne**	**25.05 155**	*e*P	**P**	**05 28 30.6**	**+1.6**
KOLS	**Kolonicke sedl**	**25.11 150**	*e*P	**P**	**05 28 31.2**	**+1.7**
KOLS	**Kolonicke sedl**	**25.11 150**	*e*P	**P**	**05 28 31.2**	**+1.7**
LPSR	**Galich'ya Gora**	**25.11 123**	*e*P	**P**	**05 28 30.3**	**+0.9**
LPSR			pmax	pmax		
comp=Z,230nm,1.0s						
LPSR			MLR	MLR		
comp=Z,3μm,18.0s						
ZST	**Bratislava**	**25.14 158**	*e*P	**P**	**05 28 31.9**	**+2.2**
ZST			pmax	pmax		
comp=Z,117nm,1.1s						
ZST	**Bratislava**	**25.14 158**	*e*P	**P**	**05 28 31.9**	**+2.2**
MOA	**Molln**	**25.19 162**	*i* P	**P**	**05 28 31.7**	**+1.5**
comp=Z,5.8nm,0.8s,SNR=18						
CONA	**Conrad Observa**	**25.27 160**	*i* P	**P**	**05 28 32.6**	**+1.6**
comp=Z,17nm,0.9s,SNR=48						
RETA	**Reutte**	**25.28 168**	*i* P	**P**	**05 28 32.9**	**+1.8**
comp=Z,7.0nm,0.8s,SNR=13						
KECS	**Kecovo**	**25.29 153**	*e*P	**P**	**05 28 32.8**	**+1.7**
KECS			pmax	pmax		
comp=Z,22nm,1.0s						
KECS	**Kecovo**	**25.29 153**	*e*P	**P**	**05 28 32.8**	**+1.7**
UZH	**Uzhgorod**	**25.41 150**	*e*P	**P**	**05 28 33.4**	**+1.3**
UZH			*e*		05 29 07.8	
UZH			*e*		05 29 31.0	
UZH			*e*		05 31 59.0	
UZH			*e*S	**S**	**05 32 58.4**	**0.0**
DAVA	**Damuels**	**25.43 170**	*i* P	**P**	**05 28 34.2**	**+1.7**
comp=Z,13nm,0.7s,SNR=33						
MOTA	**Moosalm**	**25.44 168**	*i* P	**P**	**05 28 34.4**	**+1.7**
comp=Z,16nm,0.9s,SNR=30						
WATA	**Walderalm**	**25.48 167**	*i* P	**P**	**05 28 35.2**	**+2.1**
comp=Z,18nm,0.9s,SNR=26						
WTTA	**Wattenberg**	**25.56 167**	*i* P	**P**	**05 28 36.2**	**+2.5**
comp=Z,12nm,0.8s,SNR=21						
WTTA	**Wattenberg**	**25.56 167**	P	**P**	**05 28 36.2**	**+2.5**
SQTA	**Sankt Quirin**	**25.57 167**	*i* P	**P**	**05 28 35.8**	**+2.0**
comp=Z,5.8nm,0.5s,SNR=18						
SOP	**Sopron**	**25.58 159**	*e*P	**P**	**05 28 35.4**	**+1.6**
SRO2	**Moca**	**25.72 156**	*e*P	**P**	**05 28 36.5**	**+1.5**
SRO2			pmax	pmax		
comp=Z,43nm,0.9s						
SRO2	**Moca**	**25.72 156**	*e*P	**P**	**05 28 36.5**	**+1.5**
AVF	**Avril sur Loir**	**25.74 180**	*e*P	**P**	**05 28 35.2**	**0.0**
AVF			pmax	pmax		
comp=Z,80nm,1.2s						
FETA	**Feichten**	**25.74 168**	*i* P	**P**	**05 28 37.7**	**+2.3**
comp=Z,4.7nm,0.9s,SNR=13						
PSZ	**Piszkesteto**	**25.76 154**	⇓P	**P**	**05 28 36.2**	**+0.7**
PSZ	**Piszkesteto**	**25.76 154**	*e*P	**P**	**05 28 36.6**	**+1.1**
PSZ	**Piszkesteto**	**25.76 154**	P	**P**	**05 28 37.0**	**+1.6**
PSZ			pmax	pmax		
comp=Z,33nm,1.1s						
PSZ	**Piszkesteto**	**25.76 154**	P	**P**	**05 28 37.0**	**+1.6**
PSZ			IAmb	IAmb	05 28 38.5	
comp=Z,33nm,1.1s						
KBA	**Koelnbreinsper**	**25.87 164**	*i* P	**P**	**05 28 38.8**	**+2.1**
comp=Z,9.3nm,0.8s,SNR=13						
KBA	**Koelnbreinsper**	**25.87 164**	P	**P**	**05 28 38.7**	**+2.1**
ARSA	**Arzberg**	**25.90 161**	*i* P	**P**	**05 28 38.6**	**+1.9**
comp=Z,11nm,1.0s,SNR=11						
DAVOX	**Davos/Dischmat**	**25.93 170**	P	**P**	**05 28 38.6**	**+1.4**
comp=Z,5.4nm,0.8s,baz=316,slow=11,SNR=12						
DAVOX			LR	LR	05 38 45.5	
comp=Z,2μm,21.6s,baz=331,slow=36						
TRPA	**Tarpa**	**25.93 150**	⇑P	**P**	**05 28 38.3**	**+1.4**
EGYH	**Egyhazaskeszo**	**25.93 158**	*e*P	**P**	**05 28 35.7**	**-1.3**
CABF	**La Chapelle**	**25.95 176**	*e*P	**P**	**05 28 38.3**	**+1.1**
CABF			pmax	pmax		
comp=Z,64nm,1.1s						
BGF	**Bois d'Agland**	**25.97 181**	*e*P	**P**	**05 28 37.3**	**0.0**
BGF			pmax	pmax		
comp=Z,68nm,1.2s						
VORR	**Voronezh**	**26.03 124**	*e*P	**P**	**05 28 36.0**	**-1.8**
VORR			pmax	pmax		
comp=Z,300nm,2.0s						
CSKK	**Cskako**	**26.09 156**	*e*P	**P**	**05 28 40.1**	**+1.7**
ABTA	**Abfaltersbach**	**26.14 165**	*i* P	**P**	**05 28 41.2**	**+2.3**
comp=Z,3.8nm,0.6s,SNR=18						
MPLH	**Magyarpolny**	**26.20 158**	*e*P	**P**	**05 28 40.9**	**+1.6**
TUE	**Stuetta**	**26.21 170**	P	**P**	**05 28 41.2**	**+1.5**
SENIN	**Lac Senin/Sane**	**26.23 174**	P	**P**	**05 28 40.7**	**+0.8**
SENIN			IAmb	IAmb	05 28 46.8	
comp=Z,42nm,0.9s						
MYKA	**Terra Mystica**	**26.34 164**	*i* P	**P**	**05 28 42.6**	**+1.9**
comp=Z,6.1nm,0.7s,SNR=11						
ZOU	**Zoufplan**	**26.36 165**	P	**P**	**05 28 42.4**	**+1.4**
ZOU			IAmb	IAmb	05 28 44.3	
comp=Z,55nm,1.3s						
SOKA	**Soboth**	**26.42 162**	*i* P	**P**	**05 28 43.3**	**+1.8**
comp=Z,6.7nm,0.9s,SNR=22						
FRB	**Frobisher Bay**	**26.42 288**	P	**P**	**05 28 43.0**	**+1.8**
comp=Z,14nm,1.0s,baz=332,slow=7.3,SNR=3.9						
FRB			LR	LR	05 38 25.6	
comp=Z,2μm,18.7s,baz=28,slow=35						
FRB	**Frobisher Bay**	**26.42 288**	P	**P**	**05 28 43.0**	**+1.8**
PERS	**Pernice**	**26.47 162**	*e*P	**P**	**05 28 43.7**	**+1.8**
BMR	**Baia Mare**	**26.52 148**	P	**P**	**05 28 45.2**	**+2.9**
OBKA	**Obir**	**26.54 162**	*i* P	**P**	**05 28 44.7**	**+2.1**
comp=Z,8.9nm,0.8s,SNR=12						
LTVH	**Ltavrtes, Hu**	**26.56 151**	*e*P	**P**	**05 28 47.3**	**+4.7**
STAL	**STALIGIAL**	**26.64 165**	P	**P**	**05 28 44.7**	**+1.3**
STAL			IAmb	IAmb	05 28 45.8	
comp=Z,30nm,1.0s						
CTI	**Castel Tesino**	**26.77 167**	P	**P**	**05 28 46.2**	**+1.5**
CTI			pmax	pmax		
comp=Z,53nm,1.2s						
CTI	**Castel Tesino**	**26.77 167**	P	**P**	**05 28 46.2**	**+1.5**
CTI			IAmb	IAmb	05 28 48.2	
comp=Z,52nm,1.2s						
BEHE	**Becsehely**	**26.80 159**	*e*P	**P**	**05 28 47.3**	**+2.5**
BURAR	**Bucovina Array**	**26.86 146**	⇑P	**P**	**05 28 46.8**	**+1.2**
BURAR	**Bucovina Array**	**26.86 146**	P	**P**	**05 28 46.7**	**+1.2**
BURAR	**Bucovina Array**	**26.86 146**	P	**P**	**05 28 47.1**	**+1.6**
BURAR			IAmb	IAmb	05 28 50.5	
comp=Z,37nm,0.9s						
SORM	**Soroca**	**26.93 141**	⇓P	**P**	**05 28 46.8**	**+0.9**
SORM	**Soroca**	**26.93 141**	P	**P**	**05 28 46.8**	**+0.9**
LJU	**Ljubljana**	**27.00 163**	*e*P	**P**	**05 28 47.8**	**+1.2**
LJU	**Ljubljana**	**27.00 163**	*e*P	**P**	**05 28 48.2**	**+1.6**
LPL	**La Plagne**	**27.06 175**	*e*P	**P**	**05 28 48.3**	**+0.9**
LPL			pmax	pmax		
comp=Z,20nm,1.3s						
LPG	**La Plagne**	**27.08 175**	*e*P	**P**	**05 28 48.6**	**+0.9**
LPG			pmax	pmax		
comp=Z,12nm,1.0s						
VRH	**Novokhopyorsk**	**27.11 121**	*e*P	**P**	**05 28 47.5**	**0.0**
VRH			pmax	pmax		
comp=Z,50nm,1.0s						
VRH			MLR	MLR		
comp=Z,3μm,18.0s						
RJF	**Les Rejaudoux**	**27.24 183**	*e*P	**P**	**05 28 48.6**	**-0.1**
RJF			pmax	pmax		
comp=Z,18nm,1.0s						
DRGR		**27.26 150**	⇑P	**P**	**05 28 50.8**	**+1.8**
DRGR	

TESR Tescani 28.18 145 ⇓P P 05 28 58.5 +1.4
BZS Buzias 28.25 152 ⇑P P 05 28 59.8 +2.0
MSSA Maissana 28.37 171 P P 05 29 00.3 +1.3
MSSA IAmb IAmb 05 29 10.2
comp=Z,29nm,1.1s
ISO Isola 28.40 174 P P 05 29 01.8 +2.6
ISO pmax pmax
comp=Z,14nm,1.5s
ZCCA Zocca 28.42 168 P P 05 29 00.6 +1.3
ZCCA IAmb IAmb 05 29 15.1
comp=Z,24nm,1.0s
FRGS Fruska Gora 28.46 155 ⇓P P 05 29 01.9 +2.3
FRGS Fruska Gora 28.46 155 eP P 05 29 01.3 +1.6
BLY Banja Luka 28.55 159 eP P 05 29 01.6 +1.2
VLC Villacollemand 28.57 169 P P 05 29 02.2 +1.5
VLC IAmb IAmb 05 29 10.7
comp=Z,29nm,1.0s
GZR Gura Zlata 28.64 151 ⇓P P 05 29 03.3 +2.0
VRI Vrincioaia 28.82 145 ⇓P P 05 29 04.9 +2.1
VRI Vrincioaia 28.82 145 P P 05 29 04.9 +2.1
PLOR Plostina 28.82 145 ⇑P P 05 29 04.9 +2.0
PLOR Plostina 28.82 145 P P 05 29 04.9 +2.0
MGRS Mrkonjic Grad 28.87 159 eP P 05 29 05.9 +2.6
VOIR 28.95 147 ⇑P P 05 29 05.8 +1.7
VOIR 28.95 147 P P 05 29 05.8 +1.7
FRF La Foret Royal 29.01 175 eP P 05 29 04.8 +0.2
FRF pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 29.05 146 P P 05 29 07.7 +2.7
comp=Z,22nm,1.1s,baz=346,slow=7.3,SNR=12
MLR LR LR 05 40 57.4
comp=Z,2µm,18.7s,baz=14,slow=37
MLR Muntele Rosu 29.05 146 ⇓P P 05 29 06.9 +1.9
MLR Muntele Rosu 29.05 146 P P 05 29 05.2 +0.1
MLR IAmb IAmb 05 29 17.9
comp=Z,26nm,1.1s
MDVR Moldovita 29.08 152 ⇑P P 05 29 07.3 +2.0
HERR Herculane 29.09 151 ⇑P P 05 29 06.9 +1.7
BISRR Bisoca 29.12 145 ⇓P P 05 29 08.1 +2.4
NEHR Nehoiu 29.17 146 ⇑P P 05 29 07.6 +1.6
LMR La Mourre 29.24 175 eP P 05 29 06.8 +0.3
LMR pmax pmax
comp=Z,6.0nm,0.9s
SJPF Ste Jean 29.50 187 eP P 05 29 08.7 -0.2
SJPF pmax pmax
comp=Z,8.0nm,1.1s
SECR 29.51 146 ⇑P P 05 29 10.9 +2.0
DIVS Divibare 29.52 155 eP P 05 29 10.6 +1.4
DIVS Divibare 29.52 155 P P 05 29 10.3 +1.1
DIVS IAmb IAmb 05 29 12.0
comp=Z,22nm,1.1s
EPF Esparros 29.53 184 eP P 05 29 09.2 -0.1
EPF pmax pmax
comp=Z,35nm,1.4s
MURB Monte Urbino 29.60 166 P P 05 29 10.9 +1.0
BBLS Lazići 29.68 156 eP P 05 29 11.9 +1.3
ETSF Etsaut 29.69 186 eP P 05 29 11.9 +1.2
ETSF pmax pmax
comp=Z,29nm,1.3s
CFR Carcaliu 29.74 143 ⇑P P 05 29 12.1 +1.2
CFR Carcaliu 29.74 143 P P 05 29 12.1 +1.2
TLCR 29.85 142 ⇑P P 05 29 13.5 +1.5
TLCR 29.85 142 P P 05 29 13.4 +1.5
RUDO Rudo 29.92 156 eP P 05 29 14.2 +1.6
TPGR Topolog 30.10 143 ⇑P P 05 29 15.5 +1.3
HARR Harsova 30.17 144 ⇓P P 05 29 16.1 +1.3
HARR Harsova 30.17 144 P P 05 29 16.0 +1.3
UPM Unac-Piva 30.27 157 eP P 05 29 17.6 +1.7
TLBR Topalu 30.33 144 ⇑P P 05 29 17.8 +1.6
TIRR Tirgusor 30.48 143 ⇑P P 05 29 18.9 +1.4
TIRR Tirgusor 30.48 143 P P 05 29 18.6 +1.1
TIRR pmax pmax
comp=Z,123nm,1.1s
TIRR Tirgusor 30.48 143 P P 05 29 18.6 +1.1
BRY Bratogost 30.53 158 eP P 05 29 19.3 +1.2
AQU L'Aquila 30.57 165 P P 05 29 20.0 +1.6
AQU pmax pmax
comp=Z,43nm,1.0s
AQU L'Aquila 30.57 165 eP P 05 29 21.3 +2.9
AQU L'Aquila 30.57 165 P P 05 29 20.0 +1.6
HCY Herceg Novi 30.97 158 eP P 05 29 21.3 -0.6
PDG Podgorica 31.08 157 ⇓P P 05 29 24.2 +1.4
PDG Podgorica 31.08 157 eP P 05 29 22.8 0.0
PDG Podgorica 31.08 157 P P 05 29 24.0 +1.2
PGAV Gavieira, Arco 31.08 197 eP P 05 29 23.9 +1.0
comp=Z,33nm,1.7s
PBRG Braganca 31.11 195 eP P 05 29 24.8 +1.6
comp=Z,33nm,1.5s
DRME Dracevica, Mon 31.31 157 eP P 05 29 25.5 +0.6
PCAB Cabril 31.31 196 eP P 05 29 26.2 +1.3
comp=Z,27nm,1.7s
SGRT San Giovanni R 31.37 162 P P 05 29 25.7 +0.2
SGRT IAmb IAmb 05 29 27.0
comp=Z,29nm,1.1s
VTS Vitosha 31.42 151 ⇑P P 05 29 27.1 +1.0
VTS Vitosha 31.42 151 P P 05 29 27.0 +1.0
POLO Lamas de Olo 31.62 196 eP P 05 29 29.4 +1.6
comp=Z,25nm,1.3s
PVRL Vila Real 31.71 196 eP P 05 29 29.9 +1.4
comp=Z,53nm,1.4s
MVO Moncorvo 31.77 195 eP P 05 29 30.5 +1.5
comp=Z,52nm,1.4s
SKO Skopje 31.80 154 iP P 05 29 30.5 +1.3
PAOL Paolisi 31.98 164 P P 05 29 32.3 +1.4
TIXI Tiksi 32.02 29ceP P 05 29 31.8 +1.0
TIR Tirane 32.22 156 P P 05 29 31.9 -1.0
PVIS Viseu 32.28 196 eP P 05 29 34.7 +1.2
comp=Z,35nm,1.3s
OHR Ohrid 32.57 155 iP P 05 29 34.4 -1.6
MTE Manteigas 32.57 195 eP P 05 29 37.8 +1.8
comp=Z,44nm,1.8s
MTE Manteigas 32.57 195 P P 05 29 36.9 +0.9
NVR Nevrokopi 32.76 151 P P 05 29 38.7 +1.1
KNT Kendrikon 32.80 152 P P 05 29 39.6 +1.6
SRS Serrai 32.95 151 P P 05 29 40.2 +1.0
FNA Florina 32.96 154 P P 05 29 40.4 +0.9
FNA Florina 32.96 154 P P 05 29 40.3 +0.8
PCAS Casmilo, Conde 32.99 197 eP P 05 29 42.4 +2.7
comp=Z,36nm,1.5s
KBN Korca 33.05 155 P P 05 29 41.0 +0.8
KBN pmax pmax
comp=Z,68nm,1.5s
KBN Korca 33.05 155 P P 05 29 41.0 +0.8
ESBB Sonseca Array 33.05 190 P P 05 29 41.0 +0.7
ESBB IAmb IAmb 05 29 42.4
comp=Z,14nm,0.9s
ESDC Sonseca Array 33.05 190 P P 05 29 41.2 +1.0
comp=Z,9.6nm,0.9s,baz=4.5,slow=8.6,SNR=63
ESDC Sonseca Array 33.05 190 P P 05 29 40.7 +0.5
PCBR Castelo Branco 33.12 195 eP P 05 29 42.5 +1.7
comp=Z,31nm,1.4s
GOF Gofitskoye 33.12 124⇑eP P 05 29 48.6 +7.8
SCHQ Schefferville 33.19 276 LR LR 05 41 48.3
comp=Z,2µm,18.6s,baz=46,slow=34
PAB San Pablo 33.20 191 P P 05 29 42.9 +1.3
PAB pmax pmax
comp=Z,22nm,1.0s
PAB San Pablo 33.20 191 P P 05 29 42.9 +1.3
PAB IAmb IAmb 05 29 43.9
comp=Z,22nm,0.9s
KAVA Kavala 33.20 150 P P 05 29 42.5 +1.1
RDO Rodhopi 33.21 149 P P 05 29 42.5 +1.0
PMRV Marv??o 33.52 195 eP P 05 29 45.3 +1.0
comp=Z,63nm,1.4s
PSBE So Bento 33.55 197 eP P 05 29 46.8 +2.2
comp=Z,37nm,1.7s
PLG Polygyros 33.65 152 P P 05 29 46.9 +1.4
BRVK Borovoye 33.77 88ceP P 05 29 47.8 +1.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 33.77 88 P P 05 29 47.6 +1.3
LIT Litokhoron 33.79 153 P P 05 29 47.4 +0.8
ISK Istanbul-Kandi 33.89 144 P P 05 29 48.6 +1.2
PMTG Montargil 33.95 196 eP P 05 29 49.4 +1.4
comp=Z,32nm,1.3s
BZK Bozkurt 33.98 137 P P 05 29 49.9 +1.7
ABKAR Akbulak array 33.99 102 P P 05 29 49.0 +0.7
IGT Igoumenitsa 34.06 156 P P 05 29 49.8 +0.8
KIV Kislovodsk 34.07 125 eP P 05 29 50.2 +1.1
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,1µm,16.0s

PESTR Estremoz 34.09 195 eP P 05 29 50.6 +1.3
comp=Z,45nm,1.4s
PESTR Estremoz 34.09 195 P P 05 29 50.5 +1.2
PESTR IAmb IAmb 05 29 52.5
comp=Z,23nm,1.3s
PAIG Paliouri 34.12 151 P P 05 29 51.7 +2.2
SHA1 Shidzhatmaz 34.26 125 iP P 05 29 50.3 -0.7
KBZ Khabaz 34.33 125 P P 05 29 54.3 +3.0
comp=Z,13nm,0.9s,baz=340,slow=3.9,SNR=18
KBZ PP PP 05 31 08.3 -0.4
comp=Z,11nm,0.9s,baz=326,slow=13,SNR=4.1
KBZ LR LR 05 44 02.9
comp=Z,2µm,18.0s,baz=336,slow=37
PMST Lisbon--Monsan 34.36 197 eP P 05 29 51.8 +0.2
comp=Z,55nm,1.2s
XOR Xorichti 34.60 152 P P 05 29 55.2 +1.5
NCK Nalchik 34.73 124 iP P 05 29 56.3 +1.6
NCK pmax pmax
comp=Z,54nm,1.1s
NEY Neytrino 34.74 125 iP P 05 29 55.1 +0.1
NEY pmax pmax
comp=Z,5.0nm,1.0s
PBAR Barrancos 34.74 194 eP P 05 29 56.3 +1.5
comp=Z,34nm,1.6s
MAKR Makrakomi, Fth 34.81 154 P P 05 29 56.3 +0.8
AGG Agios Georgios 34.82 154 P P 05 29 57.1 +1.5
LKD2 Lefkada island 34.84 156 P P 05 29 56.6 +0.9
CEL Celeste 34.85 162 P P 05 29 55.4 -0.5
EVR Evrytania 34.86 154 P P 05 29 57.8 +1.8
NYDR Nydri-Lefkada 34.92 156 P P 05 29 57.3 +1.0
PNCL Nicolau / Gran 34.92 196 eP P 05 29 54.6 -1.8
PBEJ Beja 34.95 195 eP P 05 29 58.4 +1.7
comp=Z,37nm,1.4s
CORL Corleone 35.00 166 P P 05 29 58.1 +1.0
EVGI Lefkada island 35.00 156 P P 05 29 58.0 +0.9
BALB Balikesir 35.07 146 P P 05 29 59.1 +1.5
SMIA Simia 35.09 152 P P 05 29 59.7 +1.8
FSK Fiskardo 35.15 156 P P 05 29 59.2 +0.8
ANX Ano Chora 35.19 154 P P 05 30 02.0 +3.1
KVT Kavak 35.25 135 P P 05 30 02.4 +3.1
CLTB Caltabellotta 35.30 166 P P 05 30 00.3 +0.5
CLTB IAmb IAmb 05 30 09.3
comp=Z,16nm,1.0s
EFP Efpalio 35.35 154 P P 05 30 02.5 +2.4
PCVE Castro Verde 35.36 196 eP P 05 30 01.9 +1.7
comp=Z,41nm,1.8s
VLS Valsamata 35.43 156 P P 05 30 01.2 +0.4
ZEI Tsey 35.47 124 eP P 05 30 02.9 +1.6
ZEI pmax pmax
comp=Z,12nm,1.1s
PSDA Pessada-Kefalo 35.49 156 P P 05 30 02.3 +1.0
GROC Groznyy 35.56 122 eP P 05 30 00.0 -1.9
GROC e 05 31 21.6
GROC e 05 32 29.4
GROC eS S 05 35 32.6 -4.6
GROC pmax pmax
comp=Z,118nm,1.2s
KLV Kalavryta, Ach 35.76 154 P P 05 29 59.9 -3.8
GUDG Gudauri 35.91 124 P P 05 30 08.5 +3.3
BRTR Keskin Array B 36.05 139 P P 05 30 08.7 +2.3
comp=Z,8.4nm,0.8s,baz=347,slow=6.4,SNR=40
BRTR PP PP 05 31 28.8 +0.8
comp=Z,2.3nm,0.9s,baz=3.6,slow=9.9,SNR=3.5
BRTR LR LR 05 45 48.7
comp=Z,2µm,20.3s,baz=4.5,slow=38
BRTR Keskin Array B 36.05 139 P P 05 30 08.5 +2.2
BRTR Keskin Array B 36.05 139 P P 05 30 08.5 +2.2
KULA Kula-Manisa 36.30 145 P P 05 30 10.3 +2.0
INK Inuvik 36.65 335 P P 05 30 10.5 -0.4
baz=20
KEST Kesra 36.92 172 P P 05 30 14.2 +0.6
comp=Z,2.3nm,0.7s,baz=289,slow=2.8,SNR=7.5
LGD Lagodekhi 36.96 122 P P 05 30 16.6 +2.8
DDFL Dedoflistskaro 37.29 122 P P 05 30 21.7 +5.0
ISP Isparta 37.30 143 P P 05 30 19.2 +2.3
KARS Kars 37.30 126 P P 05 30 21.5 +4.6
ZALV Zalesovo Beam 37.35 75 P P 05 30 19.6 +2.6
comp=Z,0.6nm,0.3s,baz=349,slow=19,SNR=1.4
YER Yerkesik 37.58 146 P P 05 30 22.2 +3.0
BCK Bucak 37.66 143 P P 05 30 22.9 +3.0
AKT Akhty 37.67 121 eP P 05 30 21.4 +1.4
AKT e 05 31 44.5
AKT pmax pmax
comp=Z,44nm,1.3s
TOLK Toolik Lake Re 38.03 344 P P 05 30 23.7 +1.0
baz=13
GNI Garni 38.16 125ceP P 05 30 26.4 +2.2
GNI pmax pmax
comp=Z,58nm,1.7s
FETY Fethiye 38.20 146 P P 05 30 19.7 -4.7
ELL Elmali 38.23 144 P P 05 30 28.3 +3.5
MALT Malatya 38.42 133 P P 05 30 29.6 +3.2
BMAR Burnt Mountain 38.76 341 P P 05 30 29.0 +0.2
EPYK Eagle Plains 38.89 336 P P 05 30 29.3 -0.6
baz=18,SNR=9.1
EPYK Eagle Plains 38.89 336 P P 05 30 29.5 -0.5
YKA Yellowknife Ar 38.92 319 P P 05 30 29.6 -0.5
comp=Z,3.0nm,1.0s,baz=26,slow=8.9,SNR=12
YKA PcP PcP 05 32 40.6 +0.2
comp=Z,2.7nm,0.8s,baz=25,slow=2.8,SNR=16
YKA LR LR 05 46 04.1
comp=Z,1µm,19.9s,baz=0.0,slow=36
YKA Yellowknife Ar 38.92 319 iP P 05 30 31.0 +0.9
YKA pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 39.31 10ceP P 05 30 33.7 +0.4
BILL e 05 32 01.8
BILL e 05 32 41.8
BILL pmax pmax
comp=Z,33nm,1.3s
BILL MLR MLR
comp=Z,580nm,16.0s
BILL Bilibino 39.31 10 P P 05 30 33.5 +0.2
BILL IAmb IAmb 05 30 35.0
comp=Z,37nm,1.3s
D63A Stockholm 40.42 271 P P 05 30 45.1 +2.3
baz=26
CSS Mathiatis 40.60 141 P P 05 30 45.9 +1.5
CSS IAmb IAmb 05 30 49.9
comp=Z,34nm,1.0s
H24K Noodor Dome 40.62 342 P P 05 30 45.4 +1.0
baz=13,SNR=5.1
D62A Allapoint, All 40.66 272 P P 05 30 46.9 +2.2
baz=26
H23K Yukon River 40.79 343 P P 05 30 47.1 +1.5
baz=12,SNR=6.8
MATQ Matagami 40.85 282 P P 05 30 46.9 +0.5
baz=27
YAK Yakutsk 40.94 35ceP P 05 30 46.1 -0.8
YAK pmax pmax
comp=Z,39nm,1.7s
EGAK Eagle 40.96 338 P P 05 30 46.5 -0.5
baz=16
EGAK Eagle 40.96 338 P P 05 30 46.8 -0.3
IMAR Indian Mountai 40.97 346 PcP 05 32 47.6 +0.6
E62A Clayton Lake 41.22 272 P P 05 30 51.6 +2.2
baz=26
LSQQ Lebel-sur-Quev 41.28 281 P P 05 30 51.4 +1.5
baz=27
I23K Minto, Yukon-K 41.43 343 P P 05 30 52.0 +1.1
baz=12,SNR=7.7
I23K Minto, Yukon-K 41.43 343 P P 05 30 52.0 +1.1
DAWY Dawson 41.44 336 P P 05 30 51.4 +0.4
LATQ La Tuque 41.52 276 P P 05 30 54.6 +2.8
baz=26
COLA College 41.56 342 iP P 05 30 53.0 +1.0
COLA pmax pmax
comp=Z,8.0nm,1.2s
IL31 41.57 341 P P 05 30 52.9 +0.8
ILAR Eielson Array 41.57 341 P P 05 30 53.0 +0.8
comp=Z,4.5nm,1.0s,baz=5.2,slow=6.1,SNR=20
ILAR PcP PcP 05 32 48.6 -0.3
comp=Z,2.4nm,0.9s,baz=326,slow=3.4,SNR=9.3
ILAR Eielson Array 41.57 341 P P 05 30 52.6 +0.5
ILAR Eielson Array 41.57 341 P P 05 30 52.6 +0.5
BOD Bodaibo 41.63 49 eP P 05 30 51.2 -1.4
BOD pmax pmax
comp=Z,38nm,1.5s
MLY Manley 41.67 344 P P 05 30 53.6 +0.7
baz=12,SNR=5.8
E61A Lac Etchemin 41.68 273 P P 05 30 52.9 -0.3
baz=26
K27K Chicken 41.79 338 P P 05 30 53.9 0.0
baz=15
DGZ Jazzator, Alta 41.86 75 iP P 05 30 55.0 +0.2

DGZ pmax pmax
comp=Z,7.0nm,1.5s
G65A Princeton 41.91 269 P P 05 30 56.4 +1.4
baz=25
F63A Nahmakanta, Br 41.92 271 P P 05 30 57.5 +2.4
baz=26
F63A Nahmakanta, Br 41.92 271 P P 05 30 55.9 +0.7
HDA Harding Lake 41.93 341 P P 05 30 55.4 +0.4
baz=13
NEA2 Nenana 41.95 343 P P 05 30 56.6 +1.3
baz=12
F62A Pittston Farm, 42.01 272 P P 05 30 57.5 +1.6
baz=26
F62A Pittston Farm, 42.01 272 P P 05 30 56.6 +0.7
E60A Ste Agathe de 42.03 274 P P 05 30 58.2 +2.2
baz=26
SCRK Sand Creek 42.05 339 P P 05 30 57.7 +1.5
baz=14,SNR=5.4
H66A Whiting 42.20 269 P P 05 31 00.4 +2.9
baz=25
G64A Maxfield 42.22 271 P P 05 30 58.8 +1.2
baz=25,SNR=5.1
F61A St Evariste 42.25 273 P P 05 30 59.4 +1.6
baz=26
PKME Peaks-Kenny Pk 42.37 271 P P 05 30 60.0 +1.2
baz=25
PKME Peaks-Kenny Pk 42.37 271 P P 05 30 59.4 +0.6
PKME IAmb IAmb 05 31 06.1
comp=Z,24nm,1.1s
DOT Dot Lake 42.38 339 P P 05 30 59.0 +0.3
BPAW Bear Paw Mtn. 42.61 344 P P 05 31 01.8 +1.3
baz=11
BCAR Beaver Creek A 42.69 337 P P 05 31 02.4 +1.1
L27K Beaver Creek, 42.70 337 P P 05 31 03.1 +1.8
baz=15,SNR=9.4
L27K Beaver Creek, 42.70 337 P P 05 31 01.6 +0.2
KK31 Karatay Array 42.71 95 P P 05 31 03.3 +1.6
KK31 pmax pmax
comp=Z,11nm,1.2s
KK31 Karatay Array 42.71 95 P P 05 31 03.3 +1.6
KKAR Karatay Array 42.71 95 P P 05 31 03.2 +1.5
KKAR pmax pmax
comp=Z,11nm,1.2s
KKAR Karatay Array 42.71 95 P P 05 31 03.2 +1.5
J20K Nowinta River 42.78 346 P P 05 31 03.4 +1.5
baz=9.9,SNR=7.3
MCK McKinley 42.79 342 P P 05 31 03.7 +1.6
baz=12
H64A Troy 42.91 271 P P 05 31 05.4 +2.2
baz=25
MK31 Makanchi Array 42.94 82 P P 05 31 04.1 +0.6
MK31 pmax pmax
comp=Z,9.0nm,1.6s
MK31 Makanchi Array 42.94 82 P P 05 31 04.0 +0.6
MKAR Makanchi Array 42.94 82 P P 05 31 04.7 +1.2
comp=Z,1.9nm,0.9s,baz=337,slow=5.8,SNR=11
MKAR PP PP 05 32 40.8 -2.0
comp=Z,0.9nm,1.0s,baz=343,slow=12,SNR=2.2
MKAR PcP PcP 05 32 55.2 +1.4
comp=Z,1.8nm,0.9s,baz=334,slow=7.4,SNR=5.3
MKAR Makanchi Array 42.94 82 P P 05 31 04.5 +1.0
MKAR Makanchi Array 42.94 82 P P 05 31 04.5 +1.0
FFC Flin Flon 43.13 305 P P 05 31 05.3 +0.4
FFC pmax pmax
comp=Z,10.0nm,1.0s
FFC Flin Flon 43.13 305 P P 05 31 05.2 +0.4
PAX Paxson 43.19 340 P P 05 31 06.3 +0.9
baz=13,SNR=6.4
M27K Edge Creek, AK 43.39 337 P P 05 31 08.5 +1.5
baz=15
M26K Nabesna, AK 43.47 338 P P 05 31 09.3 +1.7
baz=14
K20K Telida 43.59 345 P P 05 31 07.1 -1.4
baz=9.8,SNR=7.2
WAT6 Susitna Watana 43.80 341 P P 05 31 10.6 +0.2
baz=12,SNR=7.3
GEYT Alibeck 43.83 111 P P 05 31 12.4 +1.7
comp=Z,6.3nm,1.0s,baz=281,slow=8.9,SNR=11
GEYT PP PP 05 32 50.4 -2.1
comp=Z,4.8nm,0.9s,baz=286,slow=11,SNR=3.7
GEYT LR LR 05 51 03.8
comp=Z,2µm,19.6s,baz=190,slow=38
MOY Mondy 43.93 63 eP P 05 31 13.7 +2.2
MOY pmax pmax
comp=Z,20nm,1.9s
N25K Chitina, Valde 44.43 339 P P 05 31 14.9 -0.5
baz=13
SKT Skwentna 44.74 343 P P 05 31 16.7 -1.1
baz=11,SNR=6.5
L19K White Mountain 44.81 346 P P 05 31 19.5 +1.2
baz=9.3,SNR=8.9
BOOM Boomskoye usch 44.91 90 P P 05 31 21.1 +1.5
BOOM pmax pmax
comp=Z,9.0nm,1.1s
BOOM Boomskoye usch 44.91 90 P P 05 31 21.1 +1.5
CRQE Cirque 45.09 337 P P 05 31 21.5 +0.8
baz=14
ULM Lac du Bonnet 45.61 298 PcP PcP 05 33 01.9 -0.9
comp=Z,2.7nm,0.6s,baz=359,slow=2.8,SNR=3.1
ULM LR LR 05 50 02.8
comp=Z,1µm,18.6s,baz=7.0,slow=36
J58A Remsen 45.91 276 P P 05 31 30.4 +3.1
baz=24
SVW2 Sparrevohn 45.94 346 P P 05 31 27.5 +0.3
SVW2 IAmb IAmb 05 31 29.9
comp=Z,19nm,1.0s
N19K Bonanza Creek 46.14 345 P P 05 31 29.9 +1.0
baz=9.2
MA2 Magadan 46.37 22 iP P 05 31 29.6 -1.0
MA2 pmax pmax
comp=Z,13nm,1.3s
N18K Kilae Creek 46.38 346 P P 05 31 31.4 +0.7
baz=8.6
DRK Karamyk 46.42 96 P P 05 31 32.8 +1.1
EYMN Ely 46.50 293 P P 05 31 33.8 +2.0
baz=24
BINY Binghamton 47.18 276 P P 05 31 37.6 +0.4
baz=24
WMQ Urumqi 47.25 79 eP P 05 31 41.6 +3.8
WMQ pmax pmax
comp=Z,11nm,1.3s
WMQ pmax pmax
comp=Z,720nm,11.9s
L58A Harry Jones Me 47.28 275 P P 05 31 38.1 +0.1
baz=24
AGMN Agassiz Nation 47.38 296 P P 05 31 38.6 -0.1
baz=24
ZEA Zeya 48.26 41 eP P 05 31 45.7 +0.3
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HRA Herat 48.31 108 P P 05 31 47.8 +1.5
G40A Rib Lake 48.57 290 P P 05 31 47.7 -0.2
G40A IAmb IAmb 05 31 51.0
comp=Z,12nm,1.1s
MDND Maddock 48.80 299 P P 05 31 49.2 -0.5
MDND IAmb IAmb 05 31 51.9
comp=Z,24nm,1.2s
SONM Songino Array 48.87 61 P P 05 31 50.2 -0.1
comp=Z,0.6nm,0.8s,baz=345,slow=5.2,SNR=7.1
SONM PcP PcP 05 33 14.9 +0.3
comp=Z,0.5nm,0.5s,baz=343,slow=4.5,SNR=2.2
SONM Songino Array 48.87 61 P P 05 31 50.4 0.0
M54A Oil Creek Stat 48.92 279 P P 05 31 49.9 -0.8
baz=23
SSPA Standing Stone 49.19 276 P P 05 31 53.7 +1.0
baz=23
SPMN Marine on St. 49.35 292 P P 05 31 53.8 -0.1
I42A Draeger Farm, 49.47 288 P P 05 31 54.8 0.0
I42A IAmb IAmb 05 31 58.2
comp=Z,15nm,1.1s
N54A Moraine State 49.52 279 P P 05 31 57.3 +2.1
baz=23
N54A Moraine State 49.52 279 P P 05 31 55.4 +0.1
N54A IAmb IAmb 05 32 03.3
comp=Z,21nm,1.4s
F33A 5 Mile Ranch, 49.75 295 P P 05 31 57.0 0.0
F33A IAmb IAmb 05 32 00.8
comp=Z,18nm,1.2s
O53A New Philadelph 50.54 279 P P 05 32 03.3 +0.3
baz=23
I37A Lemond, Waseca 50.63 292 P P 05 32 03.9 +0.2
ACSO Alum Creek Sta 51.09 281 P P 05 32 07.9 +0.9
baz=23
WALA Waterton Lakes 51.21 311 P P 05 32 08.4 +0.3
ECSD EROS Data Cent 51.78 295 P P 05 32 11.8 -0.5
baz=22

L40A	**Anamosa**	**51.81 289**	P	**P**	**05 32 12.5**	**0.0**
L40A			IAmb	IAmb	05 32 14.3	
	comp=Z,20nm,1.3s					
P49A	**Miami Univ. Ec**	**52.24 282**	P	**P**	**05 32 16.0**	**+0.3**
	baz=22					
NEW	**Newport**	**52.68 314**	P	**P**	**05 32 19.9**	**+1.0**
	baz=19,SNR=6.6					
B08A	**Colville Reser**	**53.06 315**	P	**P**	**05 32 21.5**	**-0.3**
GCMT	**Greycliff**	**53.27 306**	P	**P**	**05 32 23.3**	**-0.2**
MSO	**Missoula**	**53.31 310**	P	**P**	**05 32 24.3**	**+0.6**
	baz=20,SNR=7.1					
RLMT	**Red Lodge**	**53.80 306**	P	**P**	**05 32 28.4**	**+0.9**
	baz=20					
WCI	**Wyandotte Cave**	**53.92 283**	P	**P**	**05 32 29.6**	**+1.5**
WCI	**Wyandotte Cave**	**53.92 283**	P	**P**	**05 32 28.2**	**+0.1**
	baz=22					
BOZ	**Bozeman (W)**	**53.93 308**	P	**P**	**05 32 28.4**	**+0.1**
	baz=20					
YNE	**Yellowstone No**	**54.09 306**	P	**P**	**05 32 30.0**	**+0.4**
YNE			IAmb	IAmb	05 32 38.3	
	comp=Z,13nm,1.3s					
E08A	**Dider Farm, El**	**54.78 314**	P	**P**	**05 32 34.5**	**+0.3**
H17A	**Grant Village**	**54.80 307**	P	**P**	**05 32 36.8**	**+2.0**
	baz=20					
H17A	**Grant Village**	**54.80 307**	P	**P**	**05 32 35.9**	**+1.1**
H17A			IAmb	IAmb	05 32 45.4	
	comp=Z,19nm,1.4s					
GTA	**Gaotai**	**54.85 70**	*e*P	P	05 32 40.3	+5.3
GTA			pP	pwP	05 32 45.9	+5.3
GTA			sP	sP	05 32 49.8	+11
GTA			LR	LR		
	comp=Z,490nm,18.2s					
GTA			LR	LR		
	comp=Z,940nm,18.2s					
GTA			LR	LR		
	comp=Z,1μm,16.7s					
MCMT	**McKenzie Canyo**	**54.94 309**	P	**P**	**05 32 36.0**	**+0.2**
KMSC	**Kings Mountain**	**55.30 277**	P	**P**	**05 32 38.1**	**0.0**
	baz=21					
K22A	**Casper**	**55.43 303**	P	**P**	**05 32 39.9**	**+0.6**
	baz=20					
K22A	**Casper**	**55.43 303**	P	**P**	**05 32 39.1**	**-0.1**
K22A			IAmb	IAmb	05 32 46.6	
	comp=Z,12nm,1.2s					
CCM	**Cathedral Cave**	**55.53 287**	P	**P**	**05 32 38.9**	**-0.8**
	baz=21					
UOSS	**Minazif**	**55.55 119**	P	**P**	**05 32 40.8**	**+0.7**
UOSS			IAmb	IAmb	05 32 41.9	
	comp=Z,29nm,1.4s					
TPAW	**Teton Pass**	**55.75 307**	P	**P**	**05 32 41.1**	**-0.5**
TPAW			IAmb	IAmb	05 32 49.8	
	comp=Z,31nm,1.9s					
REDW	**Red Top Meadow**	**55.84 306**	P	**P**	**05 32 42.5**	**+0.3**
REDW			IAmb	IAmb	05 32 47.6	
	comp=Z,14nm,1.4s					
G08A	**Pilot Rock**	**55.90 314**	P	**P**	**05 32 42.7**	**+0.2**
G08A			IAmb	IAmb	05 32 55.0	
	comp=Z,18nm,1.3s					
BMO	**Blue Mountains**	**55.95 312**	P	**P**	**05 32 42.3**	**-0.5**
BMO			pmax	pmax		
	comp=Z,10.0nm,1.3s					
BMO	**Blue Mountains**	**55.95 312**	P	**P**	**05 32 42.3**	**-0.5**
BW06	**Boulder Array**	**56.09 305**	P	**P**	**05 32 44.1**	**0.0**
	baz=20,SNR=11					
BW06	**Boulder Array**	**56.09 305**	P	**P**	**05 32 43.3**	**-0.7**
PD31	**Pinedale Array**	**56.09 305**	P	**P**	**05 32 43.1**	**-0.9**
PDAR	**Pinedale Array**	**56.09 305**	P	**P**	**05 32 43.4**	**-0.7**
	comp=Z,8.3nm,1.2s,baz=51,slow=5.9,SNR=16					
PDAR	**Pinedale Array**	**56.09 305**	P	**P**	**05 32 43.8**	**-0.2**
PBMO	**Poplar Bluff**	**56.48 286**	P	**P**	**05 32 46.0**	**-0.6**
PBMO			IAmb	IAmb	05 32 49.5	
	comp=Z,19nm,1.3s					
HHC	**Hu-ho-hao-te**	**56.73 59**	*e*P	**P**	**05 32 48.3**	**-0.1**
HHC			pmax	pmax		
	comp=Z,28nm,0.7s					
HHC			pmax	pmax		
	comp=Z,550nm,6.6s					
N23A	**Red Feather La**	**56.93 301**	P	**P**	**05 32 49.6**	**-0.4**
	baz=20					
I07A	**Izee**	**57.17 314**	P	**P**	**05 32 51.2**	**-0.3**
I07A			IAmb	IAmb	05 32 53.5	
	comp=Z,12nm,1.1s					
CBKS	**Cedar Bluff**	**57.22 295**	P	**P**	**05 32 51.7**	**-0.2**
CBKS			pmax	pmax		
	comp=Z,22nm,1.0s					
CBKS	**Cedar Bluff**	**57.22 295**	P	**P**	**05 32 50.9**	**-0.9**
	baz=20					
CBKS	**Cedar Bluff**	**57.22 295**	P	**P**	**05 32 51.7**	**-0.2**
U40A	**Yellville**	**57.57 288**	P	**P**	**05 32 53.3**	**-1.0**
	baz=21					
YSS	**Yuzh-Sakhalins**	**57.58 32**	*ce*P	**P**	**05 32 54.3**	**+0.1**
YSS			pmax	pmax		
	comp=Z,19nm,1.3s					
YSS	**Yuzh-Sakhalins**	**57.58 32**	P	**P**	**05 32 54.2**	**0.0**
HWUT	**Hardware Ranch**	**57.67 306**	P	**P**	**05 32 55.3**	**+0.1**
KSCO	**Kaye Shedlock'**	**57.82 298**	P	**P**	**05 32 56.2**	**0.0**
	baz=20					
KSCO	**Kaye Shedlock'**	**57.82 298**	P	**P**	**05 32 55.7**	**-0.6**
KSCO			IAmb	IAmb	05 33 00.6	
	comp=Z,16nm,1.2s					
ISCO	**Idaho Springs**	**57.87 301**	P	**P**	**05 32 56.5**	**-0.3**
ISCO			pmax	pmax		
	comp=Z,10.0nm,1.6s					
ISCO	**Idaho Springs**	**57.87 301**	P	**P**	**05 32 57.3**	**+0.5**
	baz=20					
ISCO	**Idaho Springs**	**57.87 301**	P	**P**	**05 32 56.5**	**-0.3**
O20A	**White River Ci**	**58.23 303**	P	**P**	**05 33 00.1**	**+0.9**
	baz=19,SNR=11					
O20A	**White River Ci**	**58.23 303**	P	**P**	**05 32 59.2**	**+0.1**
O20A			IAmb	IAmb	05 33 03.0	
	comp=Z,16nm,1.1s					
USRK	**Ussuriysk Ar.**	**58.30 41**	P	**P**	**05 32 59.2**	**0.0**
	comp=Z,3.5nm,0.8s,baz=307,slow=4.8,SNR=8.6					
J05D	**Fort Rock, OR**	**58.30 315**	P	**P**	**05 33 01.7**	**+2.1**
	baz=17					
K05A	**Summer Lake**	**58.76 315**	P	**P**	**05 33 03.6**	**+0.8**
LZH	**Lanzhou**	**59.09 68**	*e*P	**P**	**05 33 01.3**	**-3.8**
LZH			pP	pP	05 33 05.3	-2.3
LZH			sP	sP	05 33 06.8	-1.7
LZH			pmax	pmax		
	comp=Z,18nm,1.1s					
DUG	**Dugway, Tooele**	**59.31 307**	P	**P**	**05 33 06.7**	**0.0**
	baz=18					
OK029	**Liberty Lake**	**59.41 292**	P	**P**	**05 33 07.0**	**-0.2**
MIAR	**Mount Ida**	**59.47 288**	P	**P**	**05 33 07.5**	**-0.1**
MIAR			pmax	pmax		
	comp=Z,12nm,1.4s					
MIAR	**Mount Ida**	**59.47 288**	P	**P**	**05 33 07.6**	**0.0**
	baz=20					
MIAR	**Mount Ida**	**59.47 288**	P	**P**	**05 33 07.5**	**-0.1**
MIAR			IAmb	IAmb	05 33 14.3	
	comp=Z,12nm,1.4s					
T25A	**Trinidad**	**60.06 299**	P	**P**	**05 33 11.7**	**-0.2**
	baz=19					
S22A	**4UR Ranch, Cre**	**60.12 301**	P	**P**	**05 33 13.1**	**+0.7**
	baz=19,SNR=7.5					
PV01	**Paradox Valley**	**60.20 302**	P	**P**	**05 33 11.8**	**-1.1**
PV01			IAmb	IAmb	05 33 16.6	
	comp=Z,12nm,1.1s					
WMOK	**Wichita Mounta**	**60.77 293**	P	**P**	**05 33 16.6**	**+0.1**
	baz=20,SNR=8.7					
MVCO	**Mesa Verde**	**61.06 302**	P	**P**	**05 33 19.7**	**+1.0**
	baz=19,SNR=17					
MVCO	**Mesa Verde**	**61.06 302**	P	**P**	**05 33 18.8**	**0.0**
PSUT	**Pine Spring**	**61.14 307**	P	**P**	**05 33 19.8**	**+0.5**
PSUT			IAmb	IAmb	05 33 24.1	
	comp=Z,11nm,1.0s					
MTPU	**Mount Pierson**	**61.20 306**	P	**P**	**05 33 20.7**	**+0.8**
MTPU			IAmb	IAmb	05 33 39.6	
	comp=Z,16nm,1.5s					
O03E	**Paynes Creek**	**61.29 314**	P	**P**	**05 33 20.5**	**+0.4**
	baz=16					
R11A	**Troy Canyon, C**	**61.73 309**	P	**P**	**05 33 24.0**	**+0.8**
	baz=18					
RYN	**Ryan**	**62.15 311**	P	**P**	**05 33 26.3**	**+0.3**
RYN			IAmb	IAmb	05 33 27.2	
	comp=Z,8.5nm,1.2s					
NVAR	**Mina Array Bea**	**62.29 311**	P	**P**	**05 33 27.7**	**+0.7**
	comp=Z,4.6nm,1.1s,baz=29,slow=5.1,SNR=13					
NVAR	**Mina Array Bea**	**62.29 311**	P	**P**	**05 33 26.8**	**-0.2**
LCMT	**Little Creek M**	**62.44 306**	P	**P**	**05 33 28.5**	**+0.6**
PRN	**Pahroc Range**	**62.50 308**	P	**P**	**05 33 28.7**	**+0.4**
PRN			IAmb	IAmb	05 33 30.4	
	comp=Z,13nm,1.2s					
MSTX	**Muleshoe**	**62.60 296**	P	**P**	**05 33 29.0**	**0.0**
	baz=19					
ANMO	**Albuquerque**	**62.67 299**	*ce*P	**P**	**05 33 28.7**	**-0.8**
ANMO			pmax	pmax		
	comp=Z,6.0nm,1.3s					
ANMO	**Albuquerque**	**62.67 299**	P	**P**	**05 33 30.0**	**+0.5**
	baz=19					
ABTX	**Abilene, Hawle**	**63.00 293**	P	**P**	**05 33 31.8**	**+0.3**
	baz=19					
TPNV	**Topopah Spring**	**63.22 309**	P	**P**	**05 33 33.2**	**0.0**
	baz=17					
MDPB	**Devils Postpil**	**63.23 311**	P	**P**	**05 33 33.8**	**+0.5**
MDPB			IAmb	IAmb	05 33 35.5	
	comp=Z,10.0nm,1.2s					
SHPR	**Sheep Range**	**63.39 308**	P	**P**	**05 33 34.1**	**-0.1**
SHPR			IAmb	IAmb	05 33 36.3	
	comp=Z,9.4nm,1.3s					
WUAZ	**Wupatki**	**63.39 304**	P	**P**	**05 33 34.6**	**+0.3**
	baz=18					
CWC	**Cottonwood Cre**	**64.14 310**	P	**P**	**05 33 39.6**	**+0.4**
	baz=17					
W13A	**Hualapai Mount**	**64.42 306**	P	**P**	**05 33 41.4**	**+0.3**
W13A			IAmb	IAmb	05 36 01.7	
	comp=Z,14nm,1.8s					
GSC	**Goldstone, Bar**	**64.93 309**	P	**P**	**05 33 44.7**	**+0.4**
GSC			pmax	pmax		
	comp=Z,11nm,1.5s					
GSC	**Goldstone, Bar**	**64.93 309**	P	**P**	**05 33 45.7**	**+1.4**
	baz=17					
GSC	**Goldstone, Bar**	**64.93 309**	P	**P**	**05 33 44.7**	**+0.4**
GSC			IAmb	IAmb	05 33 48.9	
	comp=Z,11nm,1.4s					
ISA	**Isabella, Lake**	**64.97 310**	P	**P**	**05 33 45.6**	**+1.0**
	baz=16,SNR=9.3					
JCT	**Junction City**	**65.06 292**	P	**P**	**05 33 45.8**	**+0.6**
	baz=19					
GMRC	**Granite Mounta**	**65.15 307**	P	**P**	**05 33 46.9**	**+1.1**
	baz=17,SNR=8.0					
PDMCI	**Parker Dam,Lak**	**65.24 306**	P	**P**	**05 33 47.7**	**+1.5**
	baz=17					
HEC	**Hector,Ludlow**	**65.27 308**	P	**P**	**05 33 47.4**	**+0.9**
	baz=17					
121A	**Cookes Peak, D**	**65.30 300**	P	**P**	**05 33 47.1**	**+0.3**
	baz=18					
EDW2	**Edwards Air Fo**	**65.61 310**	P	**P**	**05 33 49.4**	**+0.7**
	baz=16					
BELC	**Belle Mtn. Jos**	**65.98 308**	P	**P**	**05 33 52.0**	**+0.8**
	baz=17					
PKM	**Mcpherson Peak**	**66.02 311**	P	**P**	**05 33 52.9**	**+1.4**
	baz=16					
TUC	**Tucson**	**66.29 302**	P	**P**	**05 33 54.0**	**+0.9**
TUC			pmax	pmax		
	comp=Z,11nm,1.4s					
TUC	**Tucson**	**66.29 302**	P	**P**	**05 33 53.7**	**+0.6**
	baz=18					
TPFO	**Pinon Flats**	**66.46 308**	P	**P**	**05 33 54.7**	**+0.4**
	baz=17					
MJAR	**Matsushiro Arr**	**66.90 38**	P	**P**	**05 33 57.0**	**+0.1**
	comp=Z,26nm,0.3s,baz=13,slow=5.8,SNR=6.0					
MJAR	**Matsushiro Arr**	**66.90 38**	P	**P**	**05 33 57.0**	**+0.1**
NJ2	**Nanjing**	**66.92 56**	*e*P	**P**	**05 33 57.1**	**+0.1**
NJ2			pmax	pmax		
	comp=Z,12nm,0.5s					
833A	**Chaparral WMA,**	**66.98 291**	P	**P**	**05 33 58.7**	**+1.3**
	baz=19					
TX32	**Lajitas Array**	**67.22 295**	P	**P**	**05 33 58.5**	**-0.6**
TXAR	**Lajitas Array**	**67.22 295**	P	**P**	**05 33 58.7**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=67,slow=4.2,SNR=17					
TXAR	**Lajitas Array**	**67.22 295**	P	**P**	**05 33 58.8**	**-0.3**
TXAR	**Lajitas Array**	**67.22 295**	P	**P**	**05 33 58.8**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**67.29 307**	P	**P**	**05 34 00.7**	**+1.2**
	baz=17					
ZAIG	**Zacatecas**	**73.13 292**	P	**P**	**05 34 36.2**	**+0.6**
ZAIG			IAmb	IAmb	05 34 38.0	
	comp=Z,10nm,1.2s					
CM15	**Chiang Mai Arr**	**74.25 79**	P	P	05 34 50.4	+8.5
CMAR	**Chiang Mai Arr**	**74.25 79**	P	**P**	**05 34 43.4**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=333,slow=7.0,SNR=4.7					
MBAR	**Mbarara**	**74.97 151**	P	**P**	**05 34 46.9**	**+0.7**
MBAR			pmax	pmax		
	comp=Z,16nm,0.3s					
MBAR	**Mbarara**	**74.97 151**	P	**P**	**05 34 46.9**	**+0.7**
NONG	**Nongkai**	**75.86 75**	P	P	05 34 59.0	+7.8
SKNT	**Sakolnakorn**	**77.14 75**	P	P	05 35 05.2	+6.8
RUSC	**La Rusia**	**80.31 259**	P	**P**	**05 35 16.6**	**+0.1**
RUSC			IAmb	IAmb	05 35 20.8	
	comp=Z,31nm,1.5s					
OTAV	**Otavalo**	**87.27 262**	P	**P**	**05 35 53.0**	**+0.9**
OTAV			pmax	pmax		
	comp=Z,27nm,1.5s					
OTAV	**Otavalo**	**87.27 262**	P	**P**	**05 35 53.0**	**+0.9**
ASAR	**Alice Springs**	**124.16 57**	PKP	**PKPdf**	**05 42 02.3**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=355,slow=2.5,SNR=9.8					
SNAA	**Sanae**	**143.95 183**	PKPdf	PKPbc	05 42 36.5	+0.1
	baz=73,slow=3.2					
MAW	**Mawson**	**145.21 145**	PKPbc	**PKPdf**	**05 42 41.7**	**+1.2**
	comp=Z,5.7nm,0.8s,baz=300,slow=4.7,SNR=10					
MAW	**Mawson**	**145.21 145**		**PKPdf**	**05 42 41.3**	**+0.7**

TRN ***18*** *05:30:56.8, 13.85N×58.45W, h86km, MD4.1*

ISC 18 05:30:55.6±2.3, 13.89N±0.04×58.5W±0.1, h10km, n37, σ1§33/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**232**	*e*P	**Pn**	**05 31 20.0**	**+0.8**
BBGH	**Gun Hill**	**1.31**	**236**	*e*P	**Pb**	**05 31 21.1**	**+0.8**
BBGH				*e*S	**Sg**	**05 31 39.2**	**+1.3**
BCHC	**Barbados, Cave**	**1.38**	**237**	*e*P	**Pb**	**05 31 22.1**	**+0.7**
BCHC				*e*S	**Sb**	**05 31 39.6**	**+0.5**
MPOM	**Morne Pois Mar**	**2.40**	**284**	*e*P	**Pn**	**05 31 34.3**	**-0.7**
SLW	**Petit Monier**	**2.42**	**273**	*e*P	**Pn**	**05 31 36.4**	**+1.1**
MCLT	**Moule a Chique**	**2.43**	**266**	*e*S	**Sn**	**05 32 03.8**	**-1.4**
SLBI	**Saint Lucia, B**	**2.46**	**273**	*e*P	**Pn**	**05 31 35.5**	**-0.2**
MVM	**Montagne Vauci**	**2.46**	**286**	*e*P	**Pn**	**05 31 35.9**	**+0.1**
SLB	**Belfond**	**2.52**	**269**	*e*P	**Pn**	**05 31 38.3**	**+1.7**
SLB				*e*S	**Sn**	**05 32 08.5**	**+1.0**
LPMF	**Morne Lapointe**	**2.54**	**286**	*e*P	**Pn**	**05 31 36.5**	**-0.3**
ZAM	**Aeronautique**	**2.59**	**285**	*e*P	**Pn**	**05 31 37.4**	**-0.2**
TRMF	**Trois Ilets**	**2.60**	**285**	*e*P	**Pn**	**05 31 37.4**	**-0.4**
BIM	**Bigot**	**2.62**	**284**	*e*P	**Pn**	**05 31 38.6**	**+0.6**
SSV	**Crater Summit**	**2.73**	**258**	*e*P	**Pn**	**05 31 39.1**	**-0.5**
SVV	**Soufriere Volc**	**2.75**	**258**	*e*P	**Pn**	**05 31 40.0**	**+0.2**
SVV				*e*S	**Sn**	**05 32 11.6**	**-1.5**
BAMF	**Morne Balai**	**2.77**	**290**	*e*P	**Pn**	**05 31 41.0**	**+0.8**
GBMF	**Grand Be**	**2.78**	**289**	*e*P	**Pn**	**05 31 41.2**	**+0.9**
SVB	**Belmont**	**2.80**	**258**	*e*P	**Pn**	**05 31 41.5**	**+1.1**
SVB				*e*S	**Sn**	**05 32 12.4**	**-1.9**
SVN	**Savane Anatole**	**2.80**	**290**	*e*P	**Pn**	**05 31 42.3**	**+1.8**
PCM	**Pelee Case Pet**	**2.83**	**289**	*e*P	**Pn**	**05 31 42.2**	**+1.3**
DLPL	**La Plaine**	**3.06**	**298**	*e*S	**Sn**	**05 32 19.1**	**-1.8**
GCMP	**Grenada, Carri**	**3.22**	**245**	*e*P	**Pn**	**05 31 46.2**	**0.0**
GCMP				*e*S	**Sn**	**05 32 23.1**	**-1.6**
DSLB	**Salisbury**	**3.26**	**298**	*e*P	**Pn**	**05 31 46.9**	**+0.1**
DSLB				*e*S	**Sn**	**05 32 23.8**	**-2.0**
TOSP	**Speyside**	**3.29**	**219**	*e*P	**Pn**	**05 31 47.6**	**+0.5**
TOSP				*e*S	**Sn**	**05 32 22.7**	**-3.6**
MAGL	**Barre de l'ile**	**3.42**	**307**	*e*P	**Pn**	**05 31 49.9**	**+0.9**
MAGL				*e*S	**Sn**	**05 32 29.1**	**-0.5**
TPR	**Prospect**	**3.52**	**220**	*e*	**Pn**	**05 31 51.0**	**+0.6**
GRGR	**Grenville**	**3.58**	**241**	*e*P	**Pn**	**05 31 51.4**	**+0.1**
GRGR				*e*S	**Sn**	**05 32 31.0**	**-2.6**
TDBA	**Terre de Bas,**	**3.65**	**303**	*e*P	**Pn**	**05 31 52.1**	**0.0**
TBG	**Guadaloupe-3**	**3.66**	**303**	*e*P	**Pn**	**05 31 52.5**	**+0.2**
CBE	**Ff, Capester**	**3.74**	**306**	*e*P	**Pn**	**05 31 54.7**	**+1.3**
CBE				*e*S	**Sn**	**05 32 35.9**	**-1.8**
ABD	**La Joyeuse, An**	**3.90**	**312**	*e*P	**Pn**	**05 31 56.4**	**+0.8**
ABD				*e*S	**Sn**	**05 32 40.0**	**-1.5**
TRN	**Trinidad (W)**	**4.33**	**222**	*e*P	**Pn**	**05 32 02.0**	**+0.5**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*e*P	**Pn**	**05 32 03.9**	**+0.3**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*e*S	**Sn**	**05 32 54.5**	**-1.3**
BPA	**Boggy Peak**	**4.54**	**314**	*e*P	**Pn**	**05 32 04.9**	**+0.5**
BPA	**Boggy Peak**	**4.54**	**314**	*e*S	**Sn**	**05 32 53.9**	**-3.6**
SKI	**Saint Kitts**	**5.37**	**310**	*e*P	**Pn**	**05 32 17.0**	**+1.2**

IDC ***18*** *05:33:52.6±0.8, 10.33S×164.95E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.2/40, mbtmp4.2/16, MS4.8/1, Ms1 4.8/1, ms1mx4.1/35, Error ellipse: s-maj=23.9km s-min=18.4km az=130.0*

NEIC ***18*** *05:33:54.5±1.9, 10.27S±0.04×165.03E±0.09, h10km±1km, mb4.7/11, Error ellipse: s-maj=15.6km s-min=4.8km az=73.0*

ISC 18 05:33:54.1±0.5, 10.25S±0.07×165.02E±0.07, h10km, n51, σ1§00/48, mb4.5/22, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.07**	**279**	Pn	**Pn**	**05 35 10.5**	**+0.2**
	baz=189,slow=14,SNR=1.3						
HNR				Sn	**Sn**	**05 36 08.7**	**-0.2**
	35nm,0.3s,baz=194,slow=22,SNR=1.7						
HNR	**Honiara**	**5.07**	**279**		**Pn**	**05 35 09.6**	**-0.6**
SANVU	**Saraoutou**	**5.59**	**158**		**Pn**	**05 35 16.8**	**-0.6**
LIFNC	**LIFOU**	**10.68**	**169**	Pn	**Pn**	**05 36 26.5**	**-0.8**
MARNC	**Mare, Loyalty**	**11.54**	**166**	Pn	**Pn**	**05 36 38.6**	**-0.4**
NOUC	**Port Laguerre**	**11.85**	**174**	P	**Pn**	**05 36 44.0**	**+0.7**
YATNC	**Mamie plateau,**	**11.88**	**172**	P	**Pn**	**05 36 42.3**	**-1.4**
ONTNC	**Ouen Toro**	**12.07**	**174**		**Pn**	**05 36 46.5**	**+0.2**
ONTNC	**Ouen Toro**	**12.07**	**174**	P	**Pn**	**05 36 47.6**	**+1.3**
OUENC	**Ouen Island, N**	**12.23**	**172**		**Pn**	**05 36 48.6**	**+0.2**
OUENC	**Ouen Island, N**	**12.23**	**172**	P	**Pn**	**05 36 48.7**	**+0.2**
PINNC	**Pines Island,**	**12.51**	**170**		**Pn**	**05 36 52.5**	**+0.1**
TARA	**Tarawa**	**13.95**	**35**	Pn	**Pn**	**05 37 11.3**	**-0.8**
MSVF	**Nonsavu**	**14.66**	**122**	Pn	**P**	**05 37 29.0**	**+0.8**
	0.3nm,0.3s,baz=277,slow=14,SNR=3.1						
PMG	**Port Moresby**	**17.62**	**271**	P	**P**	**05 38 03.6**	**+2.6**
	1.9nm,0.3s,baz=146,slow=20,SNR=9.4						
PMG	**Port Moresby**	**17.62**	**271**	P	**P**	**05 38 03.0**	**+2.0**
PMG				IAmb	IAmb	05 38 05.9	
	comp=Z,38nm,0.9s						
EIDS	**Eidsvold**	**20.03**	**220**	P	Pn	05 38 28.4	-0.7
CTA	**Charters Tower**	**20.57**	**239**	P	Pn	05 38 37.1	+1.6
	comp=Z,6.8nm,1.0s,baz=56,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**30.55**	**222**	P	**P**	**05 40 08.0**	**0.0**
	comp=Z,2.0nm,0.9s,baz=15,slow=23,SNR=3.3						
BKZ	**Black Stump Fm**	**30.57**	**162**	P	**P**	**05 40 08.9**	**+0.8**
BKZ				IAmb	IAmb	05 40 14.2	
	comp=Z,28nm,1.2s						
WB0	**Warramunga Arr**	**31.01**	**249**	P	**P**	**05 40 10.8**	**-1.5**
WB0				IAmb	IAmb	05 40 12.7	
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**31.10**	**248**	P	**P**	**05 40 10.9**	**-2.1**
	comp=Z,2.7nm,0.9s,baz=77,slow=9.1,SNR=7.1						
WRA	**Warramunga Arr**	**31.10**	**248**	IAmb	IAmb	05 40 18.5	
	comp=Z,0.2nm,1.2s						
ASAR	**Alice Springs**	**32.53**	**242**	P	**P**	**05 40 23.4**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=63,slow=9.9,SNR=5.9						
BBOO	**Buckleboo**	**34.86**	**226**	P	**P**	**05 40 45.3**	**-0.5**
BBOO				IAmb	IAmb	05 40 51.8	
	comp=Z,11nm,1.3s						
KNRA	**Kununurra**	**35.71**	**257**	P	**P**	**05 40 51.9**	**-1.4**
MJAR	**Matsushiro Arr**	**52.94**	**333**	P	**P**	**05 43 10.1**	**-0.7**
	comp=Z,137nm,0.9s,baz=155,slow=11,SNR=6.1						
MJAR	**Matsushiro Arr**	**52.94**	**333**	IAmb	IAmb	05 43 10.8	
	comp=Z,115nm,1.0s						
JNU	**Nakatsue**	**54.02**	**324**	P	**P**	**05 43 20.0**	**+1.1**
	comp=Z,7.6nm,0.8s,baz=134,slow=7.5,SNR=5.5						
ASAJ	**Asahikawa**	**57.81**	**341**	P	**P**	**05 43 46.8**	**+1.1**
	comp=Z,9.6nm,0.9s,baz=217,slow=16,SNR=11						
ASAJ				LR	LR	06 04 51.0	
	comp=Z,960nm,21.7s,baz=158,slow=32						
KSRS	**Korea Array**	**58.82**	**326**	P	**P**	**05 43 53.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=134,slow=8.9,SNR=6.0						
VNDA	**Vanda**	**67.28**	**181**	P	**P**	**05 44 49.2**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=305,slow=6.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**71.14**	**294**	P	**P**	**05 45 14.3**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=110,slow=4.9,SNR=5.1						
CHTO	**Chiang Mai**	**71.25**	**294**	P	**P**	**05 45 14.0**	**-0.2**
CHTO				IAmb	IAmb	05 45 16.2	
	comp=Z,21nm,1.5s						
SEY	**Seymchan**	**73.61**	**354**	P	**P**	**05 45 26.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=180,slow=20,SNR=2.3						
SONM	**Songino Array**	**77.61**	**324**	P	**P**	**05 45 51.5**	**+0.7**
	comp=Z,5.1nm,1.2s,baz=129,slow=5.6,SNR=6.3						
SONM	**Songino Array**	**77.61**	**324**	P	**P**	**05 45 51.8**	**+1.0**
QSPA	**South Pole Qui**	**79.75**	**180**	P	**P**	**05 46 01.7**	**-0.6**
QSPA				IAmb	IAmb	05 46 09.2	
	comp=Z,15nm,1.2s						
ILAR	**Eielson Array**	**82.99**	**19**	P	**P**	**05 46 20.1**	**+0.9**
	comp=Z,3.8nm,0.8s,baz=231,slow=5.8,SNR=26						
ILAR	**Eielson Array**	**82.99**	**19**	P	**P**	**05 46 19.6**	**+0.3**
DOT	**Dot Lake**	**83.18**	**20**	P	**P**	**05 46 20.5**	**+0.2**
DOT				IAmb	IAmb	05 46 22.6	
	comp=Z,3.7nm,0.7s						
BCAR	**Beaver Creek A**	**83.62**	**22**	P	**P**	**05 46 23.3**	**+0.7**
NVAR	**Mina Array Bea**	**86.06**	**50**	P	**P**	**05 46 36.7**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=230,slow=7.7,SNR=6.7						
MKAR	**Makanchi Array**	**92.46**	**317**	P	**P**	**05 47 05.2**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=88,slow=7.9,SNR=4.9						
PDAR	**Pinedale Array**

PKI	Pulchoki	8.64	253	eP	Pn	05 43 33.0 +1.4
	22nm,0.4s					
PKIN	Phulchoki	8.65	253	eP	Pn	05 43 32.8 +1.2
	24nm,0.4s					
KKN	Kakani	8.67	255	eP	Pn	05 43 33.0 +1.1
	46nm,0.6s					
KMI	Kunming	8.84	125	⇓P	Pn	05 43 33.6 -0.6
KMI				smax	smax	
	comp=N,100nm,1.9s					
KMI				smax	smax	
	comp=E,55nm,1.7s					
GKN	Gorkha	9.14	257	eP	Pn	05 43 38.5 +0.2
	22nm,0.4s					
LZH	Lanzhou	9.49	51	eP	Pn	05 43 46.0 +2.9
LZH				pP		05 43 48.1
LZH				sP		05 43 50.1
LZH				pmax	pmax	
	comp=Z,31nm,1.0s					
DANN	Dangsing	9.79	261	eP	Pn	05 43 46.4 -0.9
	36nm,0.4s					
GTA	Gaotai	9.89	24	eP	Pn	05 43 50.1 +1.6
GTA				S	Sn	05 45 42.5 +2.4
GTA				LR	LR	
	comp=N,710nm,12.0s					
GTA				LR	LR	
	comp=E,550nm,12.0s					
GTA				LR	LR	
	comp=Z,510nm,10.9s					
KOLN	Koldanda	10.09	258	eP	Pn	05 43 50.7 -0.6
	143nm,0.8s					
BOK	Bokaro	10.27	232	eP	Pn	05 43 54.4 +0.8
BOK				IAmb	IAmb	05 43 57.0
	comp=Z,12nm,0.6s					
PYUN	Piuthan	10.51	260	eP	Pn	05 43 56.5 -0.6
	comp=Z,40nm,0.4s					
GYA	Guiyang	11.22	108	⇓P	Pn	05 44 05.9 -0.8
GYA				pmax	pmax	
	comp=Z,7.0nm,1.3s					
CM33	Chiang Mai Arr	12.17	161	P	Pn	05 44 20.0 +0.4
CHTO	Chiang Mai	12.17	161	P	Pn	05 44 18.8 -0.8
CHTO	Chiang Mai	12.17	161	P	Pn	05 44 20.9 +1.3
	comp=Z,16nm,1.6s					
CHTO	Chiang Mai	12.17	161	Pn	Pn	05 44 18.8 -0.8
CMMT	Chiang Mai	12.17	161	P	Pn	05 44 20.9 +1.2
	comp=Z,16nm,1.6s					
CMMT	Chiang Mai	12.17	161	P	Pn	05 44 20.9 +1.2
CM34	Chiang Mai Arr	12.19	160	P	Pn	05 44 21.0 +1.0
SLVN	Son La	12.24	135	Pn	Pn	05 44 19.3 -1.4
CM32	Chiang Mai Arr	12.29	161	P	Pn	05 44 24.0 +2.7
CM36	Chiang Mai Arr	12.49	161	P	Pn	05 44 25.0 +0.9
CM15	Chiang Mai Arr	12.51	161	P	Pn	05 44 33.7 +9.4
CM15	Chiang Mai Arr	12.51	161	P	Pn	05 44 33.0 +8.7
CM31	Chiang Mai Arr	12.51	161	Pn	Pn	05 44 23.9 -0.4
CMAR	Chiang Mai Arr	12.51	161	Pn	Pn	05 44 22.9 -1.4
	comp=Z,0.6nm,0.3s,baz=333,slow=12,SNR=21					
CMAR	Chiang Mai Arr	12.51	161	i P	Pn	05 44 24.2 -0.1
CMAR				pmax	pmax	
	comp=Z,4.0nm,0.8s					
CM02	Chiang Mai Arr	12.53	161	P	Pn	05 44 27.0 +2.4
	comp=Z,116nmcomp=Z,13nm,1.1s					
CM02	Chiang Mai Arr	12.53	161	P	Pn	05 44 27.1 +2.4
CM13	Chiang Mai Arr	12.53	161	P	Pn	05 44 27.4 +2.8
	comp=Z,12nm,1.2s					
CM13	Chiang Mai Arr	12.53	161	P	Pn	05 44 27.4 +2.8
CM09	Chiang Mai Arr	12.53	161	P	Pn	05 44 30.9 +6.3
	comp=Z,7.8nm,1.1s					
CM09	Chiang Mai Arr	12.53	161	P	Pn	05 44 30.0 +5.4
XAN	Xi'an	12.54	70	P	Pn	05 44 27.6 +2.9
XAN				sP		05 44 37.8
XAN				pmax	pmax	
	comp=Z,5.0nm,0.4s					
CM01	Chiang Mai Arr	12.55	161	P	Pn	05 44 27.6 +2.8
	comp=Z,9.4nm,1.2s					
CM01	Chiang Mai Arr	12.55	161	P	Pn	05 44 27.6 +2.8
CM05	Chiang Mai Arr	12.56	161	P	Pn	05 44 27.2 +2.2
	comp=Z,11nm,1.1s					
CM05	Chiang Mai Arr	12.56	161	P	Pn	05 44 27.3 +2.2
CM04	Chiang Mai Arr	12.57	161	P	Pn	05 44 27.6 +2.4
	comp=Z,8.1nm,1.0s					
CM04	Chiang Mai Arr	12.57	161	P	Pn	05 44 27.6 +2.4
ENH	Enshi	12.75	87		Pn	05 44 25.1 -2.4
PHIT	Phitsanulok	14.15	157	P	P	05 44 57.0 +2.5
PHIT	Phitsanulok	14.15	157	P	P	05 44 57.0 +2.5
NONG	Nongkai	14.49	146	P	P	05 44 58.6 +0.4
	comp=Z,5μmcomp=Z,51nm,1.6s					
NONG	Nongkai	14.49	146	P	P	05 44 58.0 -0.2
	comp=Z,0.2nmcomp=Z,5μmcomp=Z,51nm,1.6s					
WMQ	Urumqi	14.50	339	eP	P	05 44 55.4 -2.9
WMQ				sP	Pn	05 44 59.5 +8.1
WMQ				pmax	pmax	
	comp=Z,45nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,200nm,4.5s					
WMQ				LR	LR	
	comp=Z,2μm,20.9s					
WMQ				LR	LR	
	comp=Z,1μm,18.5s					
WMQ				LR	LR	
	comp=Z,750nm,21.9s					
UMPA	Umpang Tak	14.64	164	P	P	05 45 04.6 +4.6
UTHA	Uthaitani	15.41	163	P	P	05 45 08.0 -0.4
	comp=Z,0.0nmcomp=Z,101nmcomp=Z,9.2nm,1.0s					
KHON	Khomkaen	15.85	150	P	P	05 45 14.6 +1.2
KHON	Khomkaen	15.85	150	P	P	05 45 14.0 +0.6
DHRM	DHARAMSHALA	15.86	281	eP	Pn	05 45 07.6 -2.2
DHRM				IAmb	IAmb	05 45 18.0
	comp=Z,89nm,1.0s					
CHAI	Chaiyaphum	15.90	154	P	Pn	05 45 10.9 +0.7
	comp=Z,28nm,1.1s					
CHAI	Chaiyaphum	15.90	154	P	Pn	05 45 11.0 +0.7
	comp=Z,0.0nmcomp=Z,7.1nm,1.1s					
KHLT	Khaolaem Dam	15.95	166	P	P	05 45 15.6 +1.2
	comp=Z,45nm,1.2s					
KHLT	Khaolaem Dam	15.95	166	P	P	05 45 15.7 +1.3
	comp=Z,0.1nmcomp=Z,45nm,1.2s					
BTO	Baotou	16.05	47	eP	Pn	05 45 09.8 -2.2
TIY	Taiyuan	16.36	59	eP	Pn	05 45 17.3 +1.3
TIY				S	Sn	05 48 18.0 0.0
TIY				pmax	pmax	
	comp=Z,24nm,0.5s					
TIY				LR	LR	
	comp=Z,230nm,4.3s					
TIY				LR	LR	
	comp=Z,400nm,7.3s					
TIY				LR	LR	
	comp=Z,1μm,21.2s					
SRDT	SRDT	16.50	165	P	P	05 45 21.1 +0.6
	comp=Z,20μmcomp=Z,31nm,1.3s					
SRDT	SRDT	16.50	165	P	P	05 45 21.2 +0.6
WHN	Wuhan	16.91	85	⇑P	Pn	05 45 21.3 -1.7
WHN				pmax	pmax	
	comp=Z,170nm,1.4s					
BHPL	Bhopal	17.01	249	eP	Pn	05 45 21.5 -2.8
HHC	Hu-ho-hao-te	17.16	48	eP	P	05 45 28.3 +0.4
HHC				pmax	pmax	
	comp=Z,37nm,1.3s					
HHC				pmax	pmax	
	comp=Z,500nm,6.6s					
SHLS	Shalkode	17.61	320	eP	Pn	05 45 28.1 -3.6
	baz=321					
SHLS	Shalkode	17.61	320	eP	Pn	05 45 28.3 -3.4
SHLS				pmax	pmax	
	comp=Z,90nm,1.6s					
QIZ	Qiongzhong	17.78	126	P	Pn	05 45 32.4 -1.5
QIZ				S	Sn	05 48 51.5 -1.1
PRZ	Przheval'sk	17.79	317	P	P	05 45 36.4 +1.5
PRZ				pmax	pmax	
	comp=Z,191nm,1.1s					
PRZ	Przheval'sk	17.79	317	P	P	05 45 36.4 +1.5
PRZ				IAmb	IAmb	05 45 41.4
	comp=Z,191nm,1.1s					
KSH	Kashi	17.83	306	P	P	05 45 37.4 +2.1
KSH				pmax	pmax	
	comp=Z,16nm,1.6s					
KSH				pmax	pmax	
	comp=Z,570nm,7.1s					
UZB	Uzynbulak	17.84	320	eP	Pn	05 45 34.1 -0.6
	baz=320					
UZB				eS	S	05 49 00.6 -0.5
	baz=320					
UZB	Uzynbulak	17.84	320	eP	Pn	05 45 34.1 -0.6
UZB				eS	S	05 49 00.6 -0.5
SATY	Saty	18.14	319	eP	Pn	05 45 38.1 -0.2
	baz=318					
SATY	Saty	18.14	319	eP	Pn	05 45 38.1 -0.2
KPKS	Kokpek	18.24	320	eP	Pn	05 45 39.1 -0.4
	baz=320					
KPKS	Kokpek	18.24	320	eP	P	05 45 40.2 +0.4
KPKS				pmax	pmax	
	comp=Z,14nm,0.7s					
KDJ	Kajisay	18.31	314	P	P	05 45 42.2 +1.5
KDJ				pmax	pmax	
	comp=Z,146nm,1.6s					
KDJ	Kajisay	18.31	314	P	P	05 45 42.2 +1.5
KDJ				IAmb	IAmb	05 45 47.9
	comp=Z,146nm,1.6s					
NIL	Nilore	18.49	286	P	P	05 45 41.8 -0.8
NIL				pmax	pmax	
	comp=Z,283nm,1.9s					
NIL	Nilore	18.49	286	P	P	05 45 41.8 -0.8
NIL				IAmb	IAmb	05 45 48.4
	comp=Z,283nm,1.9s					
ZSN	Zaisan	18.63	339	eP	Pn	05 45 44.8 +0.6
	baz=338					
ZSN				eS	S	05 49 16.3 -0.6
	baz=338					
ZSN	Zaisan	18.63	339	eP	Pn	05 45 44.8 +0.6
ZSN				eS	S	05 49 16.2 -0.6
ULHL	Ulahol	18.96	314	P	Pn	05 45 50.4 +1.9
	SNR=19					
MK31	Makanchi Array	18.98	333	P	P	05 45 47.8 -0.1
MK31				pmax	pmax	
	comp=Z,13nm,0.9s					
MK31	Makanchi Array	18.98	333	P	P	05 45 47.8 -0.1
MKAR	Makanchi Array	18.98	333	P	P	05 45 47.3 -0.6
	comp=Z,0.8nm,0.3s,baz=141,slow=14,SNR=49					
MKAR				PcP	PcP	05 50 13.0 -0.3
	comp=Z,0.1nm,0.3s,baz=171,slow=1.9,SNR=4.6					
MKAR	Makanchi Array	18.98	333	P	P	05 45 47.5 -0.3
MKAR	Makanchi Array	18.98	333	P	P	05 45 47.5 -0.3
MDOK	Medeo	18.99	317	eP	P	05 45 48.1 0.0
	baz=317					
MDOK	Medeo	18.99	317	eP	P	05 45 48.1 0.0
AAA	Alma-Ata	19.09	317	eP	Pn	05 45 51.1 +1.2
MAKZ	Makanchi	19.12	332	P	P	05 45 49.3 -0.1
MAKZ				pmax	pmax	
	comp=Z,40nm,1.1s					
MAKZ	Makanchi	19.12	332	P	P	05 45 49.2 -0.1
ARXS	Arharly	19.19	321	eP	P	05 45 49.5 -0.7
BOOM	Boomskoye usch	19.28	314	P	Pn	05 45 52.9 +0.6
BOOM				pmax	pmax	
	comp=Z,92nm,1.3s					
BOOM	Boomskoye usch	19.28	314	P	Pn	05 45 52.9 +0.6
TDK	Taldyqorghan	19.41	323	eP	P	05 45 52.7 +0.1
	baz=323					
TDK	Taldyqorghan	19.41	323	eP	P	05 45 52.6 +0.1
CHKK	Chushkaly	19.44	319	eP	Pn	05 45 53.4 -0.6
	baz=318					
CHKK	Chushkaly	19.44	319	eP	Pn	05 45 53.4 -0.6
SONM	Songino Array	19.57	24	P	P	05 45 54.6 +0.2
	comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=29					
HYB	Hyderabad	19.62	232	i P	P	05 45 55.0 0.0
TKM2	Tokmak 2	19.73	314	P	Pn	05 45 58.7 +1.1
	SNR=17					
ULN	Ulaanbaatar	19.83	25	P	P	05 45 56.7 -0.5
ULN				pmax	pmax	
	comp=Z,15nm,1.1s					
ULN	Ulaanbaatar	19.83	25	P	P	05 45 56.7 -0.5
KUU	Kurty	19.84	318	eP	P	05 45 57.3 0.0
	baz=318					
KUU	Kurty	19.84	318	eP	P	05 45 57.2 0.0
BJT	Baijiatuau	19.92	55	P	P	05 45 57.7 -0.4
BJT				pmax	pmax	
	comp=Z,13nm,1.1s					
BJT	Baijiatuau	19.92	55	P	P	05 45 57.7 -0.4
BJI	Beijing	19.93	55	P	Pn	05 45 59.6 -0.3
BJI				pmax	pmax	
	comp=Z,14nm,1.3s					
KBK	Karagaybulak	19.99	313	P	Pn	05 46 03.6 +2.8
	SNR=7.2					
DGZ	Jazzator, Alta	20.04	346	i P	Pn	05 46 00.8 -0.4
DGZ				pmax	pmax	
	comp=Z,58nm,1.3s					
AAK	Ala-Archa	20.27	313	P	Pn	05 46 03.2 -0.8
	comp=Z,65nm,1.2s,baz=125,slow=9.0,SNR=47					
AAK	Ala-Archa	20.27	313	P	Pn	05 46 06.3 +2.3
	SNR=27					
AAK	Ala-Archa	20.27	313	P	Pn	05 46 04.5 +0.5
AAK				pmax	pmax	
	comp=Z,138nm,1.2s					
AAK	Ala-Archa	20.27	313	P	Pn	05 46 04.5 +0.5
AAK				IAmb	IAmb	05 46 09.9
	comp=Z,138nm,1.2s					
FRU1	Bishkek	20.27	313	P	Pn	05 46 03.9 0.0
FRU1				pmax	pmax	
	comp=Z,86nm,1.1s					
FRU1	Bishkek	20.27	313	P	Pn	05 46 03.9 0.0
FRU1				IAmb	IAmb	05 46 06.9
	comp=Z,86nm,1.1s					
CHMS	Chumysh	20.29	314	P	Pn	05 46 05.7 +1.5
	SNR=20					
AML	Almayashu	20.54	310	P	Pn	05 46 09.1 +1.6
	SNR=9.1					
USP	Ospenovka	20.59	314	P	Pn	05 46 08.8 +1.2
	SNR=22					
SGDS	Sogindy	20.61	315	eP	P	05 46 05.0 -0.7
	baz=314					
SGDS	Sogindy	20.61	315	eP	P	05 46 06.1 +0.4
SGDS				pmax	pmax	
	comp=Z,13nm,1.1s					
NJ2	Nanjing	20.68	79	eP	P	05 46 06.6 +0.1
NJ2				pmax	pmax	
	comp=Z,23nm,1.0s					
EKS2	Erkin-Say	20.74	312	P	Pn	05 46 11.1 +1.6
	SNR=22					
DRK	Karamyk	20.81	302	P	Pn	05 46 09.7 -0.9
DRK				IAmb	IAmb	05 46 12.6
	comp=Z,202nm,1.6s					
ZAK	Zakamensk	20.95	15	eP	P	05 46 06.7 -2.6
ZAK				pmax	pmax	
	comp=Z,38nm,1.3s					
BTK	Batken	21.72	303	P	P	05 46 19.2 +1.5
BTK				pmax	pmax	
	comp=Z,165nm,1.4s					
BTK	Batken	21.72	303	P	P	05 46 19.2 +1.5
BTK				IAmb	IAmb	05 46 22.6
	comp=Z,165nm,1.4s					
MOY	Mondy	21.73	11	eP	P	05 46 18.7 +1.0
MOY				pmax	pmax	
	comp=Z,68nm,2.0s					
GAR	Garm	21.77	300	P	P	05 46 19.1 +0.8
GAR				IAmb	IAmb	05 46 21.6
	comp=Z,134nm,1.1s					
BTLS	Baital	21.84	318	eP	P	05 46 18.6 -0.2
	baz=318					
BTLS	Baital	21.84	318	eP	P	05 46 18.6 -0.2
KBL	Kabul	22.04	287	P	P	05 46 21.7 +0.4
KBL				pmax	pmax	
	comp=Z,195nm,1.3s					
KBL	Kabul	22.04	287	P	P	05 46 21.7 +0.4
CHGR	Chuyangaron	22.56	298	P	P	05 46 26.5 -0.2
SEM	Semipalatinsk	22.73	336	eP	P	05 46 28.1 -0.5
	baz=335					
SEM	Semipalatinsk	22.73	336	eP	P	05 46 28.1 -0.5
IRK	Irkutsk	22.91	15	eP	P	05 46 30.2 0.0
IRK				pmax	pmax	
	comp=Z,55nm,1.6s					
KK31	Karatay Array	23.08	310	P	P	05 46 32.2 +0.2
KK31				pmax	pmax	
	comp=Z,51nm,1.4s					
KK31	Karatay Array	23.08	310	P	P	05 46 32.2 +0.2
KKAR	Karatay Array	23.08	310	P	P	05 46 32.7 +0.7
KKAR				pmax	pmax	
	comp=Z,51nm,1.4s					
KKAR	Karatay Array	23.08	310	P	P	05 46 32.7 +0.7
KURBB	Kurchatov Arra	23.55	334	P	P	05 46 36.8 +0.1
	comp=Z,25nm,1.1s,baz=144,slow=10,SNR=63					
KURBB				PcP	PcP	05 50 21.3 -0.7
	comp=Z,1.7nm,0.8s,baz=162,slow=1.8,SNR=4.7					
KURK	Kurchatov	23.59	334	P	P	05 46 36.8 -0.3
KURK						05 50 21.3
KURK	Kurchatov	23.59	334	P	P	05 46 36.8 -0.3
ZAA0	Zalesovo Array	24.59	346	P	P	05 46 45.9 -0.5
ZAA0				IAmb	IAmb	05 46 49.0
	comp=Z,51nm,1.5s					
ZALV	Zalesovo Beam	24.59	346	P	P	05 46 46.1 -0.3
	comp=Z,7.4nm,0.7s,baz=164,slow=9.3,SNR=21					
ZALV	Zalesovo Beam	24.59	346	i P	P	05 46 46.0 -0.4
ZALV				pmax	pmax	
	comp=Z,7.0nm,0.7s					
ZALV	Zalesovo Beam	24.59	346	P	P	05 46 45.9 -0.4
YULB	Yu-li	24.66	100	P	P	05 46 46.5 -0.9
YULB				IAmb	IAmb	05 47 07.3
	comp=Z,80nm,1.8s					
BRZS	Berezniki	25.63	326	eP	P	05 46 56.5 +0.6
	comp=Z,35nm,1.1s,baz=326					
BRZS	Berezniki	25.63	326	eP	P	05 46 55.4 -0.5
BRZS				pmax	pmax	
	comp=Z,42nm,1.2s					
HIA	Hailar	26.69	38	P	P	05 47 04.8 -0.8
HIA				pmax	pmax	
	comp=Z,27nm,1.3s					
HIA	Hailar	26.69	38	P	P	05 47 04.8 -0.8
HRA	Herat	27.65	287	P	P	05 47 14.6 +0.1
BVAR	Borovoye Array	28.73	329	P	P	05 47 23.4 -0.3
	comp=Z,5.0nm,0.8s,baz=99,slow=12,SNR=16					
BVAR				PcP	PcP	05 50 34.1 +0.2
	comp=Z,1.4nm,0.8s,baz=202,slow=11,SNR=4.5					
BRVK	Borovoye	28.80	329	eP	P	05 47 24.9 +0.5
BRVK				pmax	pmax	
	comp=Z,40nm,1.3s					
BRVK	Borovoye	28.80	329	P	P	05 47 24.5 +0.1
BRVK				IAmb	IAmb	05 47 28.4
	comp=Z,27nm,1.0s					
BOD	Bodaibo	30.46	20	eP	P	05 47 38.2 -0.8
BOD				pmax	pmax	
	comp=Z,13nm,1.5s					
GEYT	Alibeck	31.06	294	P	P	05 47 45.7 +1.2
	comp=Z,30nm,0.8s,baz=129,slow=5.9,SNR=16					
GYA0B	ALIBECK ARRAY	31.06	294	P	P	05 47 45.4 +0.8
GYA0B				IAmb	IAmb	05 47 50.3
	comp=Z,28nm,1.2s					
VLA	Vladivostok	32.09	56	i P	P	05 47 53.5 0.0
VLA				pmax	pmax	
	comp=Z,15nm,1.1s					
ABKAR	Akbulak array	32.28	316	P	P	05 47 55.6 +0.4
ABKAR	Akbulak array	32.28	316	P	P	05 47 55.4 +0.2
ABKAR				IAmb	IAmb	05 47 59.0
	comp=Z,11nm,1.1s					
USRK	Ussuriysk Ar.	32.38	54	P	P	05 47 55.1 -1.0
	comp=Z,1.7nm,0.9s,baz=247,slow=9.9,SNR=4.3					
ZEA	Zeya	33.07	36	eP	P	05 48 02.6 +0.6
ZEA				pmax	pmax	
	comp=E,10.0nm,0.8s					
ZEA				pmax	pmax	
	comp=N,20nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,20nm,1.1s					
SVE	Sverdlovsk	35.50	328	eP	P	05 48 24.3 +1.3
SVE				pmax	pmax	
	comp=Z,55nm,1.2s					
ARU	Arti	36.27	326	c i P	P	05 48 29.5 -0.1
ARU						05 49 47.4
ARU						05 50 54.4
ARU				S	S	05 54 11.5 +0.9
ARU				SS	SnSn	05 56 34.5 -2.0
ARU				pmax	pmax	
	comp=Z,40nm,1.4s					
ARU	Arti	36.27	326	P	P	05 48 29.5 -0.1
ARU				IAmb	IAmb	05 48 32.9
	comp=Z,41nm,1.3s					
MJAR	Matsushiro Arr	36.54	69	P	P	05 48 30.6 -1.6
	comp=Z,1.6nm,0.8s,baz=278,slow=8.4,SNR=2.5					
YAK	Yakutsk	38.91	25	ce P	P	05 48 52.3 +0.4
YAK				pmax	pmax	
	comp=Z,36nm,1.7s					
AKT	Akhty	39.19	300	eP	P	05 48 56.3 +1.6
AKT				e		05 50 28.0
AKT				pmax	pmax	
	comp=Z,40nm,1.3s					
ASAJ	Asahikawa	39.92	56	P	P	05 49 00.2 -0.4
ASAJ				pmax	pmax	
	comp=Z,80nm,1.8s					
JKA	Kamikawa-asahi	39.93	56	P	P	05 49 00.2 -0.5
JKA				IAmb	IAmb	05 49 02.2
	comp=Z,80nm,1.8s					
YSS	Yuzh-Sakhalins	40.29	52	eP	P	05 49 02.7 -0.9
YSS				pmax	pmax	
	comp=Z,30nm,1.5s					
YSS	Yuzh-Sakhalins	40.29	52	P	P	05 49 02.6 -1.0
YSS				IAmb	IAmb	05 49 05.2
	comp=Z,80nm,1.4s					
LGD	Lagodekhi	40.31	300	P	P	05 49 06.6 +2.7
DDFL	Dedoflistskaro	40.40	300	P	P	05 49 10.1 +5.4
GROC	Groznyy	40.66	302	eP	P	05 49 06.0 -0.7
GROC				e		05 50 39.9
GROC				e		05 51 03.8
GROC				pmax	pmax	
	comp=Z,114nm,1.3s					
MIB	Mutribah	40.77	282	eP	P	05 49 06.4 -1.3
RST	Umm Al-Ruwaisa	41.12	281	eP	P	05 49 07.5 -3.2
GNI	Garni	41.48	298	ce P	P	05 49 16.1 +2.4
GNI				pmax	pmax	
	comp=Z,56nm,1.3s					
GNI	Garni	41.48	298	P	P	05 49 15.2 +1.4
GNI				IAmb	IAmb	05 49 19.1
	comp=Z,64nm,1.4s					
GUDG	Gudauri	41.62	301	P	P	05 49 18.1 +3.2
KZRT	Kazreti	41.69	299	P	P	05 49 18.3 +3.0
ZEI	Tsey	42.05	302	eP	P	05 49 19.6 +1.2
ZEI				pmax	pmax	
	comp=Z,20nm,1.3s					
NCK	Nalchik	42.27	303	i P	P	05 49 19.5 -0.5
NCK				pmax	pmax	
	comp=Z,35nm,1.3s					
BGD	Bogdanovka	42.30	299	P	P	05 49 24.3 +3.8
AKH	Akhalkalaki	42.37	300	P	P	05 49 24.4 +3.4
ONI	Oni	42.38	301	P	P	05 49 23.9 +3.0
ONI				pmax	pmax	
	comp=Z,65nm,1.1s					
ONI	Oni	42.38	301	P	P	05 49 23.9 +3.0
ONI				IAmb	IAmb	05 49 26.9
	comp=Z,65nm,1.1s					
GOF	Gofitskoye	42.70	305	⇑eP	P	05 49 28.1 +4.7
KARS	Kars	42.72	298	P	P	05 49 24.8 +0.9
KARS				pmax	pmax	
	comp=Z,308nm,1.9s					
KARS	Kars	42.72	298	P	P	05 49 24.8 +0.9
KBZ	Khabaz	42.78	303	P	P	05 49 25.0 +1.0
	comp=Z,2.4nm,0.9s,baz=80,slow=16,SNR=4.9					
NEY	Neytrino	42.91	302	i P	P	05 49 26.4 +1.0
NEY				pmax	pmax	
	comp=Z,10.0nm,1.4s					
KIV	Kislovodsk	42.93	303	eP	P	05 49 27.3 +1.8
KIV				pmax	pmax	
	comp=Z,28nm,1.0s					
KIV	Kislovodsk	42.93	303	P	P	05 49 26.7 +1.3
KIV				IAmb	IAmb	05 49 30.1
	comp=Z,46nm,1.3s					
SHA1	Shidzhatmaz	42.95	303	i P	P	05 49 26.1 +0.3
GURO	Guroymak-BITLI	43.69	295	P	P	05 49 33.5 +1.8
GURO				IAmb	IAmb	05 49 37.1
	comp=Z,36nm,1.5s					
BATM	Batumi	43.72	300	P	P	05 49 35.8 +4.1
PRGR	Permogore	44.55	329	eP	P	05 49 35.8 -2.2
PRGR				pmax	pmax	
	comp=Z,23nm,1.5s					
TIXI	Tiksi	45.23	14	ce P	P	05 49 42.2 -1.1
TIXI	Tiksi	45.23	14	P	P	05 49 42.7 -0.6
TIXI				IAmb	IAmb	05 49 45.5
	comp=Z,25nm,1.6s					
MALT	Malatya	46.53	296	P	P	05 49 57.4 +3.2
ANN	Anapa	46.68	305	eP	P	05 49 53.7 -1.5
ANN				e*PP	pP	05 49 57.3 -0.6
ANN				eS	S	05 56 44.9 -0.4
ANN				pmax	pmax	
	comp=Z,49nm,0.9s					
MOS	Moscow	47.09	320	eP	P	05 49 57.9 -0.3
MOS				e		05 50 07.0
MOS				e		05 56 58.9
MOS				pmax	pmax	
	comp=Z,200nm,1.6s					
MOS				pmax	pmax	
	comp=Z,91nm,1.3s					
KLMR	Klimovskoe	47.11	327	eP	P	05 49 56.8 -1.5
KLMR				e		05 51 47.8
KLMR				pmax	pmax	
	comp=Z,82nm,1.4s					
KLMR	Klimovskoe	47.11	327	eP	P	05 49 56.9 -1.4
KLMR				AMP		05 50 01.2
	comp=Z,82nm,1.4s					
KLMR				ePP	PP	05 51 47.9 -0.9
OBN	Obninsk	47.61	319	ce P	P	05 50 03.2 +0.9
OBN				e		05 51 30.7

OBN *e*PPP PPP 05 52 38.5
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,386nm,16.0s
GAZ Gaziantep 47.65 294 P **P 05 50 03.0 0.0**
GAZ IAmb IAmb 05 50 04.9
comp=Z,30nm,1.6s
BNN Bunyan 48.45 297 P **P 05 50 09.9 +0.6**
BR131 Keskin Array S 50.01 298 P **P 05 50 21.3 +0.2**
BR131 pmax pmax
comp=Z,23nm,1.7s
BR131 Keskin Array S 50.01 298 P **P 05 50 21.3 +0.2**
BRTR Keskin Array B 50.01 298 P **P 05 50 22.1 +1.0**
comp=Z,4.3nm,1.0s,baz=116,slow=4.5,SNR=17
BRTR PP **PP 05 52 18.1 +2.2**
comp=Z,0.3nm,0.3s,baz=90,slow=6.1,SNR=2.5
BRTR Keskin Array B 50.01 298 P **P 05 50 21.3 +0.2**
PETK Petropavlovsk- 50.31 44 P **P 05 50 23.1 0.0**
comp=Z,3.2nm,0.8s,baz=238,slow=14,SNR=3.7
ANTO Ankara 50.62 299 P **P 05 50 26.7 +1.0**
ANTO pmax pmax
comp=Z,58nm,1.2s
ANTO Ankara 50.62 299 P **P 05 50 26.7 +1.0**
BR231 Keskin MP Arra 50.64 298 P **P 05 50 26.3 +0.4**
JOF Joensuu 51.33 328 P **P 05 50 30.1 -0.5**
JOF pmax pmax
comp=Z,20nm,1.6s
APA Apatity 51.37 334⇓ *i*P P 05 50 39.8 +9.0
APA *i* 05 52 29.0
APA *i* S S 05 58 02.0 +11
APA *i* 06 00 14.0
APA pmax pmax
comp=Z,3.0nm,1.0s
MDUB Mudurnu 51.73 300 P **P 05 50 34.2 +0.2**
AKASG Malin Array Be 51.94 313 P **P 05 50 35.7 +0.4**
comp=Z,2.3nm,0.4s,baz=75,slow=6.3,SNR=4.5
AKASG Malin Array Be 51.94 313 P **P 05 50 35.3 0.0**
AKBB Malin Array Si 51.94 313 P **P 05 50 35.1 -0.2**
AKBB pmax pmax
comp=Z,29nm,1.1s
AKBB Malin Array Si 51.94 313 P **P 05 50 35.1 -0.2**
AKBB IAmb IAmb 05 50 38.2
comp=Z,29nm,1.1s
KIS Kishinev 52.51 308 *e*P **P 05 50 40.0 +0.4**
KIS *e*LR LR 06 18 30.0
comp=Z,150nm,15.0s
KIS Kishinev 52.51 308 *e*P **P 05 50 40.0 +0.4**
MNK Minsk 52.61 318 *i* P **P 05 50 38.3 -1.9**
MNK *i* 05 51 48.9
MNK *i* 05 52 37.6
MNK *i* PPP PPP 05 53 40.4
MNK *i* S **S 05 58 04.6 -3.3**
MNK *i* SS **SS 06 01 45.3 -0.4**
MNK *i* SSS SSS 06 03 32.6
MNK pmax pmax
comp=Z,15nm,0.5s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=N,62nm,0.7s
MNK MLR MLR
comp=E,66nm,23.0s
MNK MLR MLR
comp=N,488nm,20.0s
MNK MLR MLR
comp=Z,188nm,15.0s
MNK Minsk 52.61 318 *i* P **P 05 50 38.4 -1.8**
comp=E,8.0nm,0.8s
MNK *i* P **P 05 50 38.4 -1.8**
comp=N,62nm,0.7s
MNK *i* P **P 05 50 38.4 -1.8**
comp=Z,15nm,0.5s,baz=269
MNK *i* PcP **PcP 05 51 48.9 -1.4**
MNK *i* PP **PP 05 52 37.7 -1.3**
MNK *i* PPP PPP 05 53 40.5
MNK *i* S **S 05 58 04.6 -3.3**
MNK *i* SS **SS 06 01 45.3 -0.4**
MNK *i* SSS SSS 06 03 32.7
MNK *i* LQ LQ 06 09 18.2
MNK *i* LR LR 06 13 18.9
MNK *i* LRM MLR 06 15 56.2
comp=E,66nm,22.9s
MNK *i* LRM MLR 06 16 06.4
comp=N,488nm,20.4s
MNK *i* LRM MLR 06 16 24.2
comp=Z,188nm,15.3s
ISP Isparta 52.75 296 P **P 05 50 41.7 0.0**
ISP pmax pmax
comp=Z,26nm,1.4s
TPGR Topolog 53.06 305⇑P **P 05 50 41.6 -2.1**
TIRR Tirgusor 53.12 305⇓P **P 05 50 42.6 -1.6**
TIRR Tirgusor 53.12 305 P **P 05 50 44.6 +0.4**
TIRR pmax pmax
comp=Z,51nm,1.4s
TIRR Tirgusor 53.12 305 P **P 05 50 44.6 +0.4**
CFR Carcaliu 53.22 306⇑P **P 05 50 43.7 -1.1**
VSU Vasula 53.23 323 *e*P **P 05 50 46.1 +1.4**
VSU Vasula 53.23 323 *e*P **P 05 50 45.8 +1.1**
VSU pmax pmax
comp=Z,84nm,1.2s
IDID Didziasalis 53.25 319 *e*P **P 05 50 46.7 +1.8**
IIGN Ignalina 53.54 319 *e*P **P 05 50 48.9 +1.8**
ISAL Salakas 53.59 319 *e*P **P 05 50 49.2 +1.8**
FINES FINESS Array B 53.64 326 P **P 05 50 48.1 +0.5**
comp=Z,2.4nm,0.5s,baz=83,slow=8.1,SNR=25
FINES FINESS Array B 53.64 326 *i* P **P 05 50 46.0 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 53.64 326 P **P 05 50 48.5 +0.9**
OUL Oulu 53.95 331 P **P 05 50 50.3 +0.4**
OUL pmax pmax
comp=Z,11nm,1.2s
VRI Vrincioaia 54.09 307⇑P **P 05 50 49.7 -1.7**
VRI Vrincioaia 54.09 307 P **P 05 50 52.7 +1.4**
VRI pmax pmax
comp=Z,33nm,1.4s
PLOR Plostina 54.15 307⇓P **P 05 50 50.6 -1.2**
ISR Istrita 54.34 306⇓P **P 05 50 51.3 -1.9**
MEF Metsahovi 54.44 325 *e*P **P 05 50 54.4 +0.9**
ARCES ARCESS Array B 54.60 336 P **P 05 50 55.9 +1.3**
comp=Z,2.6nm,0.9s,baz=134,slow=5.2,SNR=8.0
ARCES PcP **PcP 05 51 57.9 +0.3**
comp=Z,2.2nm,0.9s,baz=77,slow=5.5,SNR=5.7
MLR Muntele Rosu 54.70 307⇑P **P 05 50 53.7 -2.2**
MLR Muntele Rosu 54.70 307 P **P 05 50 56.3 +0.4**
MLR pmax pmax
comp=Z,85nm,1.4s
MLR Muntele Rosu 54.70 307 P **P 05 50 56.3 +0.4**
OZUR 54.71 307⇓P **P 05 50 55.0 -0.8**
MTSE Matsula 54.75 323 *e*P **P 05 50 54.9 -0.9**
PABE Paberze 54.81 319 *e*P **P 05 50 57.8 +1.5**
BURAR Bucovina Array 54.87 309⇓P **P 05 50 56.4 -0.6**
BURAR Bucovina Array 54.87 309 P **P 05 50 57.3 +0.3**
BUR08 Bucovina Ar. S 54.87 309 P **P 05 50 57.1 0.0**
DOPR Dopca 55.00 307⇑P **P 05 50 57.2 -0.8**
BILL Bilibino 55.27 26⇓ *i*P **P 05 50 59.7 +0.2**
BILL *e* 05 51 58.0
BILL *e* 05 53 03.4
BILL *e*PPP PPP 05 54 13.9
BILL pmax pmax
comp=Z,24nm,1.3s
BILL MLR MLR
comp=Z,1μm,22.0s
VOIR 55.33 307⇑P **P 05 50 58.5 -1.8**
LVV L'vov 55.34 312 *e*P **P 05 50 59.2 -1.1**
ALN Alexandroupoli 55.49 301 P **P 05 51 04.0 +2.5**
ARCR ARCALIA 55.53 309⇓P **P 05 51 00.3 -1.4**
KOLS Kolonicke sedl 56.61 311 *e*P **P 05 51 11.0 +1.6**
KOLS Kolonicke sedl 56.61 311 *e*P **P 05 51 11.0 +1.6**
UZH Uzhgorod 56.64 311 *e*P **P 05 51 10.4 +0.8**
UZH *e* 05 51 17.8
DRGR 56.69 309⇑P **P 05 51 09.0 -1.0**
DRGR 56.69 309 P **P 05 51 11.2 +1.1**
GZR Gura Zlata 56.91 307⇑P **P 05 51 09.6 -2.0**
CRVS Cervenica-Dubn 57.14 311 *e*P **P 05 51 14.8 +1.6**
CRVS pmax pmax
comp=Z,21nm,1.3s
CRVS Cervenica-Dubn 57.14 311 *e*P **P 05 51 14.8 +1.6**
VTS Vitosha 57.16 304⇑P **P 05 51 12.5 -1.1**
VTS Vitosha 57.16 304 P **P 05 51 15.3 +1.7**
SIRR Siria 57.50 308⇓P **P 05 51 14.5 -1.2**
BZS Buzias 57.66 307 P **P 05 51 20.4 +3.5**

MDVR Moldovita 57.77 306⇑P **P 05 51 15.5 -2.2**
UPP Uppsala 57.85 324 *e*P **P 05 51 20.3 +2.4**
OJC Ojcow 57.97 313 P **P 05 51 19.2 +0.2**
OJC pmax pmax
comp=Z,35nm,1.6s
OJC Ojcow 57.97 313 P **P 05 51 19.2 +0.2**
OJC IAmb IAmb 05 51 22.7
comp=Z,34nm,1.6s
LIT Litokhoron 58.31 301 P **P 05 51 21.1 -0.5**
LIT Litokhoron 58.31 301 P **P 05 51 21.1 -0.5**
PSZ Piszkesteto 58.35 310⇑P **P 05 51 21.2 -0.6**
PSZ Piszkesteto 58.35 310 *e*P **P 05 51 22.5 +0.7**
PSZ Piszkesteto 58.35 310 P **P 05 51 23.3 +1.5**
VYHS Vyhne 58.92 311 *e*P **P 05 51 27.7 +2.0**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 58.92 311 *e*P **P 05 51 27.7 +2.0**
SRO2 Moca 59.37 310 *e*P **P 05 51 30.0 +1.3**
SRO2 Moca 59.37 310 *e*P **P 05 51 30.0 +1.3**
MORC Moravsky Berou 59.49 313⇓P **P 05 51 28.8 -0.8**
MORC Moravsky Berou 59.49 313 P **P 05 51 29.7 +0.1**
MORC pmax pmax
comp=Z,11nm,1.2s
MORC Moravsky Berou 59.49 313 P **P 05 51 29.7 +0.1**
MORC Moravsky Berou 59.49 313 *e*P **P 05 51 30.4 +0.8**
MORH Mrgy, Hungar 59.55 309⇓P **P 05 51 29.3 -0.7**
MORH Mrgy, Hungar 59.55 309 *e*P **P 05 51 29.7 -0.3**
JAVC Velka Javorina 59.60 312 *e*P **P 05 51 32.1 +1.7**
SMOL Smolenice 59.83 311 *e*P **P 05 51 33.2 +1.2**
SMOL Smolenice 59.83 311 *e*P **P 05 51 33.2 +1.2**
KRLC Kraliky 59.90 313 *e*P **P 05 51 34.0 +1.5**
KRLC Kraliky 59.90 313 *e*P **P 05 51 34.0 +1.5**
KOVH Kovagotottos 59.95 309 *e*P **P 05 51 33.3 +0.5**
MODS Modra-Piesok 59.96 311 *e*P **P 05 51 36.0 +3.1**
MODS pmax pmax
comp=Z,17nm,1.5s
MODS Modra-Piesok 59.96 311 *e*P **P 05 51 36.0 +3.1**
KSP Ksiaz 60.04 314 P **P 05 51 35.3 +1.9**
MPLH Magyarpolny 60.07 310 *e*P **P 05 51 34.3 +0.7**
DPC Dobruska-Polom 60.13 314 *e*P **P 05 51 35.4 +1.4**
DPC Dobruska-Polom 60.13 314 *e*P **P 05 51 35.4 +1.4**
OSTC Ostas 60.15 314 *e*P **P 05 51 36.2 +2.0**
VRAC Vranov 60.19 312⇓P **P 05 51 34.0 -0.4**
VRAC Vranov 60.19 312 *e*P **P 05 51 35.5 +1.1**
CHVC Chvalec 60.25 314 *e*P **P 05 51 37.4 +2.6**
KRUC Moravsky 60.38 312 *e*P **P 05 51 36.6 +0.9**
NC405 NORSAR Array S 60.57 326 P **P 05 51 37.3 +0.5**
NC602 NORSAR Array S 60.72 326 P **P 05 51 38.6 +0.8**
NB2 NORSAR Subarra 60.82 326 P **P 05 51 38.2 -0.4**
comp=Z,12nm,1.1s,baz=79,slow=6.9
NOA NORSAR Array B 60.82 326 P **P 05 51 38.1 -0.5**
comp=Z,4.1nm,0.8s,baz=80,slow=6.8,SNR=11
CONA Conrad Observa 60.99 311 *i* P **P 05 51 40.0 0.0**
SNR=20
PRU Pruhonice 61.33 314 *e*P **P 05 51 44.0 +1.9**
PRU Pruhonice 61.33 314 *e*P **P 05 51 44.0 +1.9**
BRG Berggiesshubel 61.49 315 *e*P **P 05 51 44.0 +0.8**
BRG Amp 05 51 46.3
comp=Z,14nm,1.5s
BRG Berggiesshubel 61.49 315 P P 05 51 53.1 +10
BRG Amp 05 51 55.0
comp=Z,10nm,1.5s
GROS Grobnik 61.60 309 *i* P **P 05 51 44.6 +0.5**
CKRC Cesky Krumlov 61.77 312 *e*P **P 05 51 47.0 +1.8**
PERS Pernice 61.81 310 *e*P **P 05 51 45.9 +0.4**
SOKA Soboth 61.86 310 *i* P **P 05 51 46.3 +0.5**
SNR=12
CLL Collm 61.95 315⇑ *i*P **P 05 51 46.6 +0.3**
comp=Z,12nm,1.4s
CLL Collm 61.95 315⇑ *i*P **P 05 51 46.6 +0.3**
CLL pmax pmax
comp=Z,12nm,1.4s
MOA Molln 62.05 311 *i* P **P 05 51 48.3 +1.2**
SNR=5.5
GEC2 GERESS Array S 62.15 312 P **P 05 51 48.3 +0.4**
GEC2 IAmb IAmb 05 51 50.4
comp=Z,15nm,1.3s
GERES GERESS Array B 62.15 312 P **P 05 51 48.2 +0.4**
comp=Z,2.8nm,1.0s,baz=69,slow=5.5,SNR=22
GERES GERESS Array B 62.15 312 P **P 05 51 48.0 +0.2**
KHC Kasperske Hory 62.15 313 *e*P **P 05 51 48.1 +0.3**
KHC Kasperske Hory 62.15 313 *e*P **P 05 51 48.1 +0.3**
KHC *ex* x 05 55 06.0
KHC Kasperske Hory 62.15 313 P **P 05 51 48.3 +0.5**
GBRS Gornja Briga 62.32 309 *i* P **P 05 51 49.7 +0.8**
WRAB Tennant Creek 62.91 138 *i* P **P 05 51 54.7 +1.6**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRA Warramunga Arr 62.92 138 P **P 05 51 52.0 -1.1**
comp=Z,2.3nm,0.9s,baz=324,slow=8.2,SNR=12
WRA Warramunga Arr 62.92 138 IAmb IAmb 05 51 53.5
comp=Z,1.9nm,1.9s
KMBO Kilima Mbogo 62.97 251 P **P 05 51 52.8 -1.1**
comp=Z,0.9nm,0.3s,baz=46,slow=16,SNR=3.2
KMBO Kilima Mbogo 62.97 251 *i* P **P 05 51 54.2 +0.3**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
ZOU Zoufplan 63.25 310 P **P 05 51 55.6 +0.3**
ZOU IAmb IAmb 05 52 07.2
comp=Z,13nm,1.3s
STAL STALIGIAL 63.51 310 P **P 05 51 56.9 0.0**
STAL IAmb IAmb 05 51 58.5
comp=Z,17nm,1.1s
CEL Celeste 63.75 301 P **P 05 51 58.9 +0.3**
SQTA Sankt Quirin 64.21 311 *i* P **P 05 52 02.2 +0.6**
SNR=6.0
MOTA Moosalm 64.24 311 *i* P **P 05 52 02.3 +0.5**
SNR=7.0
CTI Castel Tesino 64.28 310 P **P 05 52 02.4 +0.4**
CTI pmax pmax
comp=Z,11nm,1.2s
CTI Castel Tesino 64.28 310 P **P 05 52 02.4 +0.4**
CTI IAmb IAmb 05 52 03.2
comp=Z,11nm,1.2s
RETA Reutte 64.42 312 *i* P **P 05 52 03.8 +0.9**
SNR=5.8
MURB Monte Urbino 64.56 307 P **P 05 52 04.9 +1.1**
FETA Feichten 64.59 311 *i* P **P 05 52 04.6 +0.6**
SNR=9.9
ZCCA Zocca 65.27 308 P **P 05 52 08.9 +0.5**
OSSC Osservatorio P 65.36 307 P **P 05 52 08.2 -0.8**
OSSC IAmb IAmb 05 52 25.6
comp=Z,15nm,1.3s
ASAR Alice Springs 65.61 141 P **P 05 52 07.9 -2.9**
comp=Z,2.1nm,0.8s,baz=327,slow=6.5,SNR=17
ASAR Alice Springs 65.61 141 P **P 05 52 09.3 -1.5**
ASAR Alice Springs 65.61 141 P **P 05 52 09.3 -1.5**
TUE Stuetta 65.66 311 P **P 05 52 11.3 +0.2**
TUE IAmb IAmb 05 52 24.3
comp=Z,13nm,1.2s
LPG La Plagne 67.70 311 *e*P **P 05 52 25.4 +1.2**
LPG pmax pmax
comp=Z,19nm,1.2s
LPL La Plagne 67.70 311 *e*P **P 05 52 25.4 +1.2**
LPL pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 67.91 310 P **P 05 52 27.0 +1.6**
MBDF Montbardon 67.96 310 *e*P **P 05 52 28.4 +2.6**
MBDF pmax pmax
comp=Z,11nm,1.1s
VIVF Saint-Julien-l 69.30 311 *e*P **P 05 52 34.7 +0.7**
VIVF pmax pmax
comp=Z,21nm,1.2s
KEST Kesra 69.55 300 P **P 05 52 36.1 +0.4**
comp=Z,16nm,1.2s,baz=28,slow=1.0,SNR=12
KEST Kesra 69.55 300 P **P 05 52 35.9 +0.2**
KEST IAmb IAmb 05 52 37.8
comp=Z,31nm,1.4s
EUNU Eureka 69.76 0 P **P 05 52 36.6 +0.3**
EUNU IAmb IAmb 05 52 39.4
comp=Z,22nm,1.3s
TOLK Toolik Lake Re 70.64 20 P **P 05 52 42.9 +1.1**
baz=304
TOLK Toolik Lake Re 70.64 20 P **P 05 52 42.0 +0.2**
TOLK IAmb IAmb 05 52 43.4
comp=Z,16nm,1.2s
CAF Calviac 70.97 311 *e*P **P 05 52 45.4 +1.2**
CAF pmax pmax
comp=Z,12nm,1.1s
RJF Les Rejaudoux 71.17 312 *e*P **P 05 52 46.8 +1.4**
RJF pmax pmax
comp=Z,22nm,1.1s
GRR Gorron 71.37 316 *e*P **P 05 52 47.2 +0.7**
GRR pmax pmax
comp=Z,54nm,1.7s
MTLF Montolieu 71.53 310 *e*P **P 05 52 48.5 +0.9**
MTLF pmax pmax
comp=Z,19nm,1.2s
J20K Nowinta River 71.55 26 P **P 05 52 48.7 +1.4**
baz=302
K20K Telida 72.01 26 P **P 05 52 51.9 +1.7**
baz=302
MLY Manley 72.31 24 P **P 05 52 52.0 +0.1**
baz=304
MLY Manley 72.31 24 P **P 05 52 51.3 -0.7**
MLY IAmb IAmb 05 52 54.3
comp=Z,16nm,1.4s
SGMF Saint Gilles 72.45 316 *e*P **P 05 52 54.1 +1.1**
SGMF pmax pmax
comp=Z,67nm,1.6s
BPAW Bear Paw Mtn. 72.75 25 P **P 05 52 55.4 +0.9**
baz=304
BPAW Bear Paw Mtn. 72.75 25 P **P 05 52 54.4 -0.2**
BPAW IAmb IAmb 05 52 57.2
comp=Z,23nm,1.3s
BMAR Burnt Mountain 72.87 20 P **P 05 52 56.1 +0.9**
PPLA Purkeypile 72.98 26 P **P 05 52 56.7 +0.6**
KTH Kantishna Hill 73.08 25 P **P 05 52 57.3 +0.7**
NEA2 Nenana 73.14 24 P **P 05 52 57.0 +0.1**
baz=306
FYU Fort Yukon 73.21 21 P **P 05 52 57.0 -0.1**
POKR Poker Plat Res 73.39 23 P **P 05 52 58.0 -0.3**
POKR IAmb IAmb 05 53 00.5
comp=Z,12nm,1.0s
TCOL CIGO, UAF Yank 73.39 23 P **P 05 52 58.2 -0.1**
TCOL IAmb IAmb 05 53 00.1
comp=Z,31nm,1.4s
COLA College 73.40 23 P **P 05 52 58.2 -0.1**
COLA pmax pmax
comp=Z,27nm,1.4s
COLA College 73.40 23 P **P 05 52 58.2 -0.1**
COLA IAmb IAmb 05 53 00.1
comp=Z,27nm,1.4s
ETSF Etsaut 73.55 310 *e*P **P 05 53 00.4 +0.7**
ETSF pmax pmax
comp=Z,4.0nm,0.7s
SKT Skwentna 73.75 27 P **P 05 53 00.2 -0.3**
baz=304
ILAR Eielson Array 73.79 23 P **P 05 52 59.1 -1.5**
comp=Z,3.4nm,1.0s,baz=298,slow=4.4,SNR=22
SJPF Ste Jean 73.89 311 *e*P **P 05 53 02.8 +1.1**
SJPF pmax pmax
comp=Z,9.0nm,1.2s
RIDG Independent Ri 75.13 23 P **P 05 53 07.8 -0.7**
baz=310
SCRK Sand Creek 75.27 23 P **P 05 53 09.1 -0.3**
baz=310
SCRK Sand Creek 75.27 23 P **P 05 53 08.9 -0.5**
SCRK IAmb IAmb 05 53 11.0
comp=Z,21nm,1.4s
INK Inuvik 75.30 17 P **P 05 53 09.6 +0.3**
INK pmax pmax
comp=Z,17nm,1.3s
INK Inuvik 75.30 17 P **P 05 53 09.2 0.0**
baz=318
INK Inuvik 75.30 17 P **P 05 53 09.6 +0.3**
INK IAmb IAmb 05 53 11.2
comp=Z,18nm,1.3s
EGAK Eagle 75.66 21 P **P 05 53 12.4 +1.0**
baz=312
EGAK Eagle 75.66 21 P **P 05 53 11.2 -0.3**
K27K Chicken 75.87 22 P **P 05 53 13.8 +1.1**
baz=312
K27K Chicken 75.87 22 P **P 05 53 13.1 +0.4**
K27K IAmb IAmb 05 53 14.7
comp=Z,20nm,1.5s
STKA Stephens Creek 76.25 140 P **P 05 53 14.5 -0.7**
comp=Z,2.2nm,0.8s,baz=289,slow=7.3,SNR=3.9
L27K Beaver Creek, 76.60 23 P **P 05 53 17.7 +0.8**
baz=312
L27K Beaver Creek, 76.60 23 P **P 05 53 17.0 0.0**
L27K IAmb IAmb 05 53 19.7
comp=Z,26nm,1.4s
BCAR Beaver Creek A 76.62 23 P **P 05 53 17.1 0.0**
M26K Nabesna, AK 76.64 24 P **P 05 53 18.2 +1.0**
baz=311
M27K Edge Creek, AK 77.06 24 P **P 05 53 21.2 +1.6**
baz=312
ESDC Sonseca Array 77.32 309 P **P 05 53 22.0 +0.6**
comp=Z,6.1nm,1.2s,baz=58,slow=5.4,SNR=21
ESDC Sonseca Array 77.32 309 P **P 05 53 20.9 -0.6**
MVO Moncorvo 78.62 311 *e*P **P 05 53 26.1 -2.5**
comp=Z,20nm,1.4s
POLO Lamas de Olo 79.01 312 *e*P **P 05 53 33.7 +2.9**
PGAV Gavieira, Arco 79.01 312 *e*P **P 05 53 34.2 +3.4**
PVIS Viseu 79.41 311 *e*P **P 05 53 34.7 +1.7**
PCBR Castelo Branco 79.58 310 *e*P **P 05 53 35.2 +1.4**
PMRV Marv??o 79.74 310 *e*P **P 05 53 35.8 +1.1**
PBAR Barrancos 80.14 308 *e*P **P 05 53 39.1 +2.2**
comp=Z,28nm,1.9s
PMTG Montargil 80.48 310 *e*P **P 05 53 40.9 +2.2**
comp=Z,19nm,1.6s
EVO Evora 80.61 309 *e*P **P 05 53 39.9 +0.4**
PSBE So Bento 80.62 310 *e*P **P 05 53 41.8 +2.3**
comp=Z,35nm,1.3s
PBDV Barranco-do-Ve 81.23 308 *e*P **P 05 53 45.1 +2.3**
YKA Yellowknife Ar 84.46 13 P **P 05 53 57.1 -1.9**
comp=Z,1.9nm,1.1s,baz=332,slow=4.1,SNR=9.6
SYO Syowa Base 106.98 198⇑ *e*PP **PP 06 00 10.8 +2.1**
TXAR Lajitas Array 118.05 18 PKP **PKPdf 06 00 13.1 -1.1**
comp=Z,0.4nm,0.9s,baz=128,slow=5.3,SNR=4.3
BPA Boggy Peak 127.70 331 *e*P **Pdif 05 57 23.1 +7.4**
SVV Soufriere Volc 130.74 328 *e* **Pdif 05 57 29.9 +0.7**
OTAV Otavalo 148.83 347 PKP2 **PKPdf 06 01 13.3 +1.5**
OTAV Otavalo 148.83 347 **PKPdf 06 01 13.2 +1.5**

*IDC **18** 05:53:40.5±1.7, 10°.76S×165°.22E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/32, mbtmp3.9/7, ML4.6/1, Error ellipse: s-maj=45.0km s-min=28.6km az=134.0*
*NEIC **18** 05:53:42.3±1.4, 10°.6S±0°.1×165°.4E±0°.2, h10km±2km, mb4.4/6, Error ellipse: s-maj=33.1km s-min=8.3km az=48.0*
ISC 18 05:53:42.4±1.0, **10°.6S**±0°.1×**165°.3E**±0°.1, **h10**km, **n16**, σ**1**§**25/17**, **mb4.0/8**, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	5.14	159		Pn	05 54 59.9	+0.4
HNR	Honiara	5.39	282	Pn	Pn	05 55 02.4	-0.5
	21nm,0.3s,baz=330,slow=0.9,SNR=6.1						
HNR				Sn	Sn	05 56 06.6	+1.5
	24nm,0.3s,baz=122,slow=21,SNR=1.7						
HNR	Honiara	5.39	282		Pn	05 55 04.3	+1.4
ONTNC	Ouen Toro	11.67	175	Pn	Pn	05 56 30.8	+1.8
PINNC	Pines Island,	12.09	170	Pn	Pn	05 56 34.3	-0.6
MANU	Manus Island	19.73	294	P	P	05 58 12.3	-0.2
MANU				IAmb	IAmb	05 58 16.2	
	comp=Z,16nm,0.9s						
EIDS	Eidsvold	19.91	221	P	P	05 58 14.7	+0.4
EIDS				IAmb	IAmb	05 58 17.8	
	comp=Z,20nm,1.1s						
STKA	Stephens Creek	30.44	222	P	P	05 59 54.8	-0.4
	comp=Z,2.3nm,0.8s,baz=36,slow=14,SNR=4.1						
WRA	Warramunga Arr	31.21	249	P	P	05 59 59.8	-2.4
	comp=Z,0.9nm,0.9s,baz=74,slow=8.6,SNR=3.1						
ASAR	Alice Springs	32.58	242	P	P	06 00 12.2	-2.0
	comp=Z,0.4nm,0.6s,baz=65,slow=9.6,SNR=4.5						
BBOO	Buckleboo	34.78	226	P	P	06 00 33.2	-0.1
BBOO				IAmb	IAmb	06 00 38.1	
	comp=Z,9.0nm,1.1s						
SONM	Songino Array	78.07	324	P	P	06 05 42.0	+0.4
	comp=Z,0.6nm,0.6s,baz=133,slow=6.1,SNR=2.9						
QSPA	South Pole Qui	79.37	180	P	P	06 05 49.4	+0.9
ILAR	Eielson Array	83.27	19	P	P	06 06 09.6	+0.7
	comp=Z,0.4nm,0.6s,baz=234,slow=4.1,SNR=1.8						
MK31	Makanchi Array	92.91	317	P	P	06 06 54.3	-1.4
MK31				IAmb	IAmb	06 07 09.0	
	comp=Z,1.8nm,1.1s						
MKAR	Makanchi Array	92.91	317	P	P	06 06 55.3	-0.5
	comp=Z,0.7nm,0.8s,baz=99,slow=5.5,SNR=7.0						

*RSPR **18** 06:08:58.6, 18°.99N×67°.73W, h20km±7km, MD3.1/9*
*NEIC **18** 06:08:58.4±1.4, 18°.91N±0°.04×67°.61W±0°.03, h21km±10km, Error ellipse: s-maj=6.8km s-min=3.4km az=206.0*
*OSPL **18** 06:09:00.1±1.6, 18°.87N×67°.69W, h0km±999km, ML2.2*
ISC 18 06:08:58.1±1.4, **18°.94N**±0°.08×**67°.67W**±0°.04, **h27**km, **n40**,

σ0°53/44, **6C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.58**	**162⇑**	*e*P	**Pb**	**06 09 09.8**	**+0.1**
IDE	**Isla Desecheo**	**0.58**	**162**	*e*S	**Sb**	**06 09 18.4**	**+0.9**
IDE	**Isla Desecheo**	**0.58**	**162**		**Pb**	**06 09 09.8**	**+0.1**
IDE					**Sb**	**06 09 18.4**	**+0.9**
AGPR	**Aguadilla, PR**	**0.70**	**131⇓**	*e*P	**Pb**	**06 09 11.7**	**-0.1**
AGPR	**Aguadilla, PR**	**0.70**	**131**		**Pb**	**06 09 11.7**	**-0.1**
AGPR					**Sb**	**06 09 21.8**	**+0.7**
AGPR	**Aguadilla, PR**	**0.70**	**131**	IAML		06 09 23.0	
	comp=E,89nm,0.6s						
AGPR				IAML		06 09 27.8	
	comp=N,96nm,1.3s						
AGPR	**Aguadilla, PR**	**0.70**	**131**	*i* P	**Pb**	**06 09 11.6**	**-0.1**
AGPR				*e*S	**Sb**	**06 09 21.3**	**+0.3**
AGPR				IAML		06 09 25.4	
	comp=Z,93nm,1.4s						
PCDR	**Punta Cana, DR**	**0.80**	**238**	*i* P	**Pn**	**06 09 14.4**	**+0.8**
PCDR				*e*S	**Sb**	**06 09 22.5**	**-1.3**
PCDR				IAML		06 09 24.0	
	comp=Z,122nnm,2.1s						
MPR	**Mayaguez**	**0.88**	**145**	*e*S	**Sb**	**06 09 26.6**	**+0.5**
LSP	**Las Mesas**	**0.94**	**144⇑**	*e*P	**Pn**	**06 09 14.9**	**-0.6**
LSP	**Las Mesas**	**0.94**	**144**	*e*S	**Sb**	**06 09 27.6**	**-0.1**
LSP	**Las Mesas**	**0.94**	**144**		**Pn**	**06 09 14.9**	**-0.6**
LSP					**Sb**	**06 09 27.6**	**-0.1**
AOPR	**Arecibo Observ**	**1.04**	**124⇓**	*e*P	**Pn**	**06 09 16.5**	**-0.5**
AOPR	**Arecibo Observ**	**1.04**	**124**	*e*S	**Sn**	**06 09 30.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.04**	**124**		**Pn**	**06 09 16.5**	**-0.5**
AOPR					**Sn**	**06 09 30.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.04**	**124**	IAML		06 09 41.3	
	comp=E,68nm,0.3s						
AOPR				IAML		06 09 44.2	
	comp=N,50nm,0.5s						
MLPR	**Magueyes Islan**	**1.13**	**148⇑**	*e*P	**Pn**	**06 09 17.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.13**	**148**	*e*S	**Sn**	**06 09 32.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.13**	**148**		**Pn**	**06 09 17.6**	**-0.5**
MLPR					**Sn**	**06 09 32.6**	**-0.2**
MLPR	**Magueyes Islan**	**1.13**	**148**	IAML		06 09 36.8	
	comp=E,48nm,0.6s						
EMPR	**Esperanza - Ma**	**1.17**	**113⇑**	*e*P	**Pn**	**06 09 18.2**	**-0.5**
EMPR	**Esperanza - Ma**	**1.17**	**113**	*e*S	**Sn**	**06 09 33.4**	**-0.4**
EMPR	**Esperanza - Ma**	**1.17**	**113**		**Pn**	**06 09 18.2**	**-0.5**
EMPR	**Esperanza - Ma**	**1.17**	**113**		**Sn**	**06 09 33.4**	**-0.4**
EMPR	**Esperanza - Ma**	**1.17**	**113**	IAML		06 09 27.0	
	comp=N,85nm,1.0s						
CELP	**Cerrillos**	**1.34**	**130⇓**	*e*P	**Pn**	**06 09 20.7**	**-0.3**
CELP	**Cerrillos**	**1.34**	**130**	*e*S	**Sn**	**06 09 38.3**	**+0.3**
CELP	**Cerrillos**	**1.34**	**130**		**Pn**	**06 09 20.7**	**-0.3**
CELP					**Sn**	**06 09 38.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.34**	**131⇑**	*e*P	**Pn**	**06 09 20.6**	**-0.4**
OBIP	**Obispado Ponce**	**1.34**	**131**	*e*S	**Sn**	**06 09 38.1**	**0.0**
OBIP	**Obispado Ponce**	**1.34**	**131**		**Pn**	**06 09 20.6**	**-0.4**
OBIP					**Sn**	**06 09 38.1**	**0.0**
OBIP	**Obispado Ponce**	**1.34**	**131**	IAML		06 09 44.5	
	comp=E,38nm,0.4s						
OBIP				IAML		06 09 44.9	
	comp=N,30nm,0.3s						
GCPR	**Guaynabo City**	**1.62**	**112**	Pn	**Pn**	**06 09 25.1**	**+0.2**
DR12	**Loma Pena Alta**	**1.63**	**265**		**Pb**	**06 09 27.5**	**0.0**
SJG	**San Juan**	**1.66**	**119**	Pn	**Pb**	**06 09 28.0**	**+0.1**
SJG				IAML		06 09 52.7	
	comp=N,20nm,0.3s						
CBYP	**Canovanas**	**1.84**	**111⇑**	*e*P	**Pn**	**06 09 27.9**	**-0.1**
CBYP	**Canovanas**	**1.84**	**111**	*e*S	**Sn**	**06 09 50.3**	**-0.1**
CBYP	**Canovanas**	**1.84**	**111**		**Pn**	**06 09 27.9**	**-0.1**
CBYP	**Canovanas**	**1.84**	**111**		**Sn**	**06 09 50.3**	**-0.1**
CBYP	**Canovanas**	**1.84**	**111**		**Pn**	**06 09 29.8**	**+1.8**

*IDC **18** 06:09:50.3±1.6, 6°.57S×129°.14E, h0km, mb4.2/2, mb1 4.6/5, mbtmx4.0/27, mbtmp4.4/5, ML4.7/3, Error ellipse: s-maj=49.8km s-min=27.1km az=72.0*
*DJA **18** 06:09:59.2±0.3, 6°.5±2°×13°.0E±°, h197km±7km, M4.6/12, mb4.4/7, mB5.2/7, MLv4.6/12, Mw(mB)4.6/7, MwMwp6.4/1, Mwp6.3/1*

ISC 18 06:09:59.5±1.0, 6°.38S±0°.05×130°.33E±0°.08, h200km, n16,
σ2°.68/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**149**	P	**Pn**	**06 10 35.6**	**-1.0**
SAUI				S	**Sn**	**06 11 04.8**	**-0.8**
MSAI	**Masohi**	**3.32**	**335**	P	**Pn**	**06 10 53.4**	**+0.4**
FAKI	**Fak Fak**	**3.93**	**29**	P	**Pn**	**06 11 00.6**	**+0.1**
KMPI	**Kaimana, Papua**	**4.31**	**51**	P	**Pn**	**06 11 05.4**	**+0.2**
KMPI				S	**Sn**	**06 11 57.8**	**+1.0**
NLAI	**Namlea**	**4.48**	**314**	P	**Pn**	**06 11 08.0**	**+0.6**
SIJI	**Sorong**	**5.55**	**10**	Pn	**Pn**	**06 11 21.9**	**+0.8**
	15nm,0.3s,baz=202,slow=24,SNR=14						
SIJI				Sn	**Sn**	**06 12 21.4**	**-4.2**
	32nm,0.3s,baz=170,slow=22,SNR=13						
SWI	**Sorong**	**5.56**	**10**	P	**Pn**	**06 11 21.9**	**+0.8**
	1.1nm2μm39nm,0.7s						
SANI	**Sanana**	**6.10**	**315**	P	**Pn**	**06 11 26.7**	**-1.5**
	0.2nm49nm,0.7s						
RKPI	**Ransiki, Papua**	**6.17**	**39**	P	**Pn**	**06 11 28.0**	**-1.1**
	4.9nm285μm12μm661nm,1.2s						
LBMI	**Labuha**	**6.36**	**334**	P	**Pn**	**06 11 32.1**	**+0.5**
	0.3nm88nm,0.9s						
SOEI	**Soe**	**6.88**	**240**	P	**Pn**	**06 11 37.4**	**-0.9**
	0.2nm32nm,0.6s						
BATI	**Baumata**	**7.62**	**240**	P	**Pn**	**06 11 45.2**	**-2.7**
	0.2nm45nm,1.4s						
WRA	**Warramunga Arr**	**14.03**	**164**	Pn	**P**	**06 13 12.0**	**+0.2**
	4.4nm,0.3s,baz=338,slow=14,SNR=101						
WRA				Sn	**S**	**06 15 40.3**	**-5.9**
	3.6nm,0.3s,baz=333,slow=23,SNR=7.2						
ASAR	**Alice Springs**	**17.53**	**169**	P	**Pn**	**06 13 58.5**	**+6.4**
	1.8nm,0.3s,baz=342,slow=9.0,SNR=63						
ASAR				S	**S**	**06 17 04.3**	**+2.2**
	1.1nm,0.3s,baz=355,slow=28,SNR=6.0						
CMAR	**Chiang Mai Arr**	**39.59**	**309**	P	P	06 17 18.9	+7.1
	1.0nm,0.3s,baz=134,slow=6.4,SNR=4.4						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	06 20 46.6	+10
	1.8nm,0.6s,baz=124,slow=8.0,SNR=25						

*IDC **18** 06:35:30.7±0.8, 30°.29N×94°.75E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.8/38, mbtmp3.7/14, ML2.6/2, Error ellipse: s-maj=35.0km s-min=16.5km az=56.0*

ISC 18 06:35:34.3±0.8, 30°.4N±0°.1×94°.8E±0°.2, h23km, n15,
σ0°.64/14, mb3.7/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.42**	**161**	Pn	**Pn**	**06 38 30.2**	**+0.4**
	baz=339,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**19.07**	**333**	P	**P**	**06 39 54.7**	**-0.4**
	0.1nm,0.3s,baz=148,slow=14,SNR=9.7						
SONM	**Songino Array**	**19.60**	**24**	P	**Pn**	**06 40 02.7**	**+0.3**
	0.0nm,0.3s,baz=212,slow=13,SNR=7.9						
AAK	**Ala-Archa**	**20.36**	**313**	P	Pn	06 40 12.4	+0.9
	2.1nm,0.4s,baz=118,slow=9.9,SNR=7.3						
KURBB	**Kurchatov Arra**	**23.64**	**334**	P	**P**	**06 40 43.3**	**-0.4**
	1.0nm,0.6s,baz=142,slow=10,SNR=8.7						
ZALV	**Zalesovo Beam**	**24.67**	**346**	P	**P**	**06 40 53.7**	**+0.5**
	1.3nm,0.6s,baz=158,slow=9.3,SNR=6.7						
BVAR	**Borovoye Array**	**28.82**	**329**	P	**P**	**06 41 32.0**	**+1.4**
	0.3nm,0.4s,baz=114,slow=25,SNR=2.2						
BRTR	**Keskin Array B**	**50.09**	**298**	P	**P**	**06 44 27.6**	**-0.1**
	0.8nm,0.8s,baz=134,slow=5.3,SNR=5.4						
AKASG	**Malin Array Be**	**52.03**	**313**	P	**P**	**06 44 41.7**	**-0.2**
	0.5nm,0.4s,baz=75,slow=7.0,SNR=8.8						
NOA	**NORSAR Array B**	**60.91**	**326**	P	**P**	**06 45 44.3**	**-0.8**
	1.3nm,0.9s,baz=81,slow=6.8,SNR=3.6						
GERES	**GERESS Array B**	**62.24**	**312**	P	**P**	**06 45 54.0**	**-0.4**
	0.4nm,0.7s,baz=114,slow=2.5,SNR=2.6						
WRA	**Warramunga Arr**	**62.82**	**138**	P	**P**	**06 45 57.6**	**-0.8**
	0.9nm,0.9s,baz=336,slow=6.5,SNR=3.9						
ASAR	**Alice Springs**	**65.52**	**141**	P	**P**	**06 46 16.1**	**+0.1**
	1.0nm,0.9s,baz=331,slow=7.0,SNR=7.0						
ILAR	**Eielson Array**	**73.82**	**23**	P	**P**	**06 47 06.6**	**-0.1**
	0.4nm,0.5s,baz=308,slow=5.5,SNR=5.0						
ESDC	**Sonseca Array**	**77.41**	**309**	P	**P**	**06 47 28.4**	**+0.6**
	0.5nm,0.8s,baz=73,slow=4.4,SNR=2.3						

*IDC **18** 06:53:25.6±0.8, 10°.42S×165°.11E, h0km, mb4.1/13, mb1 4.3/14, mb1mx4.1/34, mbtmp4.1/14, ML4.5/1, MS4.0/5, Ms1 4.0/5, ms1mx3.5/26, Error ellipse: s-maj=27.4km s-min=21.8km az=140.0*

*NEIC **18** 06:53:28.1±1.7, 10°.5S±0°.1×165°.2E±0°.1, h10km±1km, mb4.7/14, Error ellipse: s-maj=21.5km s-min=17.7km az=167.0*

ISC 18 06:53:27.6±0.5, 10°.4S±0°.1×165°.03E±0°.08, h10km, n46,
σ1°.19/43, mb4.4/22, MS3.8/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.10**	**280**	Pn	**Pn**	**06 54 46.4**	**+2.2**
	15nm,0.3s,baz=90,slow=3.7,SNR=1.9						
HNR				Sn	**Sn**	**06 55 40.6**	**-2.6**
	24nm,0.3s,baz=334,slow=23,SNR=1.5						
HNR				LR	LR	06 56 46.8	
	comp=Z,2μm,19.2s,baz=104,slow=39						
TARA	**Tarawa**	**14.08**	**34**	Pn	**Pn**	**06 56 46.6**	**-0.6**
MSVF	**Nonsavu**	**14.57**	**121**	Pn	**P**	**06 57 01.8**	**+1.1**
	0.3nm,0.3s,baz=323,slow=13,SNR=4.6						
MSVF	**Nonsavu**	**14.57**	**121**		**P**	**06 56 58.8**	**-1.8**
PMG	**Port Moresby**	**17.63**	**272**	LR	LR	07 03 49.4	
	comp=Z,584nm,20.6s,baz=143,slow=35						
CTAO	**Charters Tower**	**20.50**	**240**	P	**P**	**06 58 05.0**	**-1.0**
AFI	**Afiamalu**	**22.93**	**101**	LR	LR	07 05 48.2	
	comp=Z,315nm,18.6s,baz=250,slow=32						
URZ	**Urewera**	**29.78**	**161**	LR	LR	07 10 35.0	
	comp=Z,351nm,19.1s,baz=273,slow=35						
WRA	**Warramunga Arr**	**31.05**	**249**	P	**P**	**06 59 45.4**	**-0.7**
	2.2nm,1.0s,baz=77,slow=8.4,SNR=4.9						
WRA				LR	LR	07 12 11.9	
	comp=Z,201nm,19.5s,baz=110,slow=36						
WRA	**Warramunga Arr**	**31.05**	**249**	IAmb	IAmb	06 59 46.7	
	comp=Z,0.4nm,1.4s						
ASAR	**Alice Springs**	**32.46**	**242**	P	**P**	**06 59 57.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=63,slow=10,SNR=4.4						
MJAR	**Matsushiro Arr**	**53.08**	**333**	P	**P**	**07 02 45.0**	**-0.3**
	comp=Z,150nm,0.8s,baz=141,slow=7.9,SNR=3.2						
KSRS	**Korea Array**	**58.95**	**326**	P	**P**	**07 03 27.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=148,slow=7.4,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**60.47**	**343**	P	**P**	**07 03 39.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**62.06**	**334**	P	**P**	**07 03 48.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=88,slow=14,SNR=2.6						
USRK	**Ussuriysk Ar.**	**62.06**	**334**	P	**P**	**07 03 49.6**	**+1.2**
VNDA	**Vanda**	**67.12**	**181**	P	**P**	**07 04 21.6**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=2.0,slow=5.3,SNR=4.3						
SBA	**Scott Base**	**67.44**	**180**	P	**P**	**07 04 24.1**	**+1.1**
SBA				IAmb	IAmb	07 04 25.7	
	comp=Z,4.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.21**	**294**	P	**P**	**07 04 48.0**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=117,slow=3.0,SNR=4.1						
ULN	**Ulaanbaatar**	**77.37**	**324**	P	**P**	**07 05 23.3**	**+0.3**
ULN				IAmb	IAmb	07 05 28.8	
	comp=Z,7.6nm,1.1s						
SONM	**Songino Array**	**77.74**	**324**	P	**P**	**07 05 25.2**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=119,slow=5.1,SNR=1.6						
SONM	**Songino Array**	**77.74**	**324**	P	**P**	**07 05 24.8**	**-0.1**
QSPA	**South Pole Qui**	**79.60**	**180**	P	**P**	**07 05 35.6**	**+0.7**
QSPA				IAmb	IAmb	07 05 44.8	
	comp=Z,6.1nm,1.0s						
IMAR	**Indian Mountai**	**82.00**	**16**	P	**P**	**07 05 50.9**	**+3.5**
IL31		**83.13**	**19**	P	**P**	**07 05 53.7**	**+0.4**
ILAR	**Eielson Array**	**83.13**	**19**	P	**P**	**07 05 53.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=227,slow=6.1,SNR=18						
ILAR	**Eielson Array**	**83.13**	**19**	P	**P**	**07 05 53.7**	**+0.3**
DOT	**Dot Lake**	**83.32**	**20**	P	**P**	**07 05 55.4**	**+1.0**
SCRK	**Sand Creek**	**83.56**	**20**	P	**P**	**07 05 56.9**	**+1.1**
SCRK				IAmb	IAmb	07 06 02.2	
	comp=Z,5.5nm,0.8s						
BCAR	**Beaver Creek A**	**83.76**	**22**	P	**P**	**07 05 57.2**	**+0.5**
NVAR	**Mina Array Bea**	**86.15**	**50**	P	**P**	**07 06 09.0**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=229,slow=7.5,SNR=9.6						
J08A	**Circle Bar Ran**	**87.43**	**45**	P	**P**	**07 06 14.9**	**-0.6**
J08A				IAmb	IAmb	07 06 16.7	
	comp=Z,4.1nm,1.0s						
DLMT	**Dillon**	**92.02**	**44**	P	**P**	**07 06 36.9**	**-0.1**
DLMT				IAmb	IAmb	07 06 38.5	
	comp=Z,5.0nm,1.1s						
MK31	**Makanchi Array**	**92.58**	**317**	P	**P**	**07 06 38.7**	**-0.8**
MK31				IAmb	IAmb	07 06 45.0	
	comp=Z,2.8nm,1.1s						
MKAR	**Makanchi Array**	**92.58**	**317**	P	**P**	**07 06 38.6**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=123,slow=4.5,SNR=6.0						
MKAR	**Makanchi Array**	**92.58**	**317**	P	**P**	**07 06 38.4**	**-1.1**
ZAA0	**Zalesovo Array**	**92.63**	**324**	P	**P**	**07 06 38.4**	**-1.1**
ZAA0				IAmb	IAmb	07 06 44.6	
	comp=Z,3.6nm,1.1s						
ZALV	**Zalesovo Beam**	**92.63**	**324**	P	**P**	**07 06 38.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=64,slow=6.7,SNR=1.2						
ZALV	**Zalesovo Beam**	**92.63**	**324**	P	**P**	**07 06 38.6**	**-0.9**
PDAR	**Pinedale Array**	**93.64**	**47**	P	**P**	**07 06 43.4**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=246,slow=6.6,SNR=2.9						
YKA	**Yellowknife Ar**	**94.73**	**27**	P	**P**	**07 06 47.0**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=246,slow=4.1,SNR=4.1						
ARCES	**ARCESS Array B**	**115.54**	**345**	PKP	**PKiKP**	**07 12 10.1**	**+0.7**
	comp=Z,1.6nm,0.9s,baz=108,slow=1.5,SNR=4.0						
BRTR	**Keskin Array B**	**128.01**	**313**	PKP	**PKPdf**	**07 12 33.8**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=96,slow=1.4,SNR=2.4						
GERES	**GERESS Array B**	**134.82**	**333**	PKP	**PKPdf**	**07 12 46.9**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=83,slow=3.1,SNR=2.9						
KEST	**Kesra**	**146.48**	**323**	PKPbc	**PKPdf**	**07 13 09.3**	**+1.0**
	comp=Z,4.8nm,0.9s,baz=355,slow=2.3,SNR=11						
ESDC	**Sonseca Array**	**149.25**	**343**	PKPbc	**PKPbc**	**07 13 15.9**	**-1.0**
	comp=Z,1.3nm,1.0s,baz=14,slow=2.7,SNR=6.3						

*TUL **18** 06:56:35.7±1.1, 35°.443N±0°.010×97°.10W±0°.02, h6km±6km, ML2.8, mb_Lg2.6/39(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=118.0*

NEIC 18 06:56:35.9±0.9, 35°.44N±0°.01×97°.10W±0°.01, h8km±5km,
Error ellipse: s-maj=1.8km s-min=1.7km az=186.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.20**	**308**	Pg	Pg	06 56 40.1	+0.1
OK001				Sg	Sg	06 56 43.2	+0.4
OK005	**Luther M Schoo**	**0.23**	**340**	Pg	Pg	06 56 40.7	+0.1
OK005				Sg	Sg	06 56 44.2	+0.5
OK025	**Westminster Rd**	**0.24**	**306**		Pg	06 56 40.8	0.0
OK025				Sg	Sg	06 56 44.5	+0.4
OKCSW	**OKLAHOMA CITY**	**0.28**	**264**		Pg	06 56 41.5	0.0
OKCSW				Sg	Sg	06 56 45.8	+0.5
OKCFA	**Oklahoma City**	**0.29**	**266**		Pg	06 56 41.7	0.0
OKCFA				Sg	Sg	06 56 46.1	+0.5
OKCFA	**Oklahoma City**	**0.29**	**266**	P		06 56 41.7	
	baz=84,SNR=40						
OKCFA				S		06 56 46.2	
	baz=84						
FNO	**Franklin**	**0.31**	**234**		Pg	06 56 42.1	+0.1
FNO				Sg	Sg	06 56 46.7	+0.6
OK029	**Liberty Lake**	**0.46**	**321**		Pg	06 56 44.8	-0.1
OK029				Sg	Sg	06 56 51.4	+0.3
BCOK	**Bluff Creek, N**	**0.47**	**298**		Pg	06 56 45.0	-0.2
BCOK				Sg	Sg	06 56 51.7	+0.4
OK031	**S. Brethren Rd**	**0.56**	**22**		Pg	06 56 46.4	-0.3
QUOK	**Quay**	**0.80**	**23**	Pg	Pg	06 56 50.5	-0.9
X34A	**Smith Ranch, M**	**1.03**	**216**		Pg	06 56 55.0	-0.7
TUL1	**Leonard**	**1.16**	**66**	P		06 56 56.8	
	baz=247						
TUL1				S		06 57 12.8	
	baz=247						
CROK	**Carrier**	**1.29**	**326**		Pn	06 56 59.4	-0.8
BLOK	**Blackwell**	**1.32**	**356**		Pn	06 56 59.6	-1.1
LOOK	**Love County**	**1.44**	**183**		Pn	06 57 02.5	+0.2
GC02	**Grant County #**	**1.54**	**337**		Pn	06 57 03.6	-0.1
WMOK	**Wichita Mounta**	**1.55**	**244**		Pn	06 57 03.5	-0.3
WMOK	**Wichita Mounta**	**1.55**	**244**	P		06 57 03.6	
	baz=62,SNR=69						
WMOK				S		06 57 24.6	
	baz=62						
T35A	**Sooner Cattle**	**1.55**	**18**	Pn	Pn	06 57 03.4	-0.5
T35B	**Sooner Cattle**	**1.55**	**18**	P		06 57 03.4	
	baz=198,SNR=61						
T35B				S		06 57 24.7	
	baz=198						
KAN13	**South Haven SW**	**1.60**	**349**		Pn	06 57 04.5	0.0
OK032	**Salt Plains WL**	**1.64**	**327**		Pn	06 57 05.2	+0.2
X37A	**Clayton**	**1.65**	**120**	P		06 57 06.0	
	baz=302,SNR=128						
X37A				Sb		06 57 28.9	
	baz=302						
KAN09	**Caldwell North**	**1.75**	**346**	Pn	Pn	06 57 06.9	+0.4
U32A	**Winter Ranch,**	**1.81**	**302**	Sb		06 57 33.3	
	baz=121						
KS20	**Mayfield South**	**1.83**	**348**		Pn	06 57 08.2	+0.5
KS20				IAmb_Lg		06 57 35.8	
	comp=Z,18nm,0.7s						
KAN08	**Anthony NE Sta**	**1.92**	**339**	IAmb_Lg		06 57 40.4	
	comp=Z,33nm,0.9s						
KAN12	**Harper NE Stat**	**1.99**	**339**	Pn	Pn	06 57 10.3	+0.4
Z35A	**Perchaven, San**	**2.10**	**184**	S		06 57 40.9	
	baz=3.5						
HHAR	**Hobbs**	**2.70**	**71**		Pn	06 57 20.5	+0.9
W39A	**Magazine**	**2.72**	**94**		Pn	06 57 20.6	+0.8
W39A	**Magazine**	**2.72**	**94**	P		06 57 20.4	
	baz=276,SNR=13						
Z38A	**Mt. Pleasant**	**2.79**	**141**	IAmb_Lg		06 58 04.1	
	comp=Z,17nm,1.0s						
MIAR	**Mount Ida**	**3.02**	**106**	P		06 57 25.5	
	baz=288,SNR=25						
R32A	**Long Quarter,**	**3.25**	**337**	IAmb_Lg		06 58 22.2	
	comp=Z,10nm,0.8s						
237A	**Washetta, Mont**	**3.59**	**162**	S		06 58 16.0	
	baz=343						
X40A	**Basin Creek Fa**	**3.63**	**104**	IAmb_Lg		06 58 33.5	
	comp=Z,8.6nm,0.8s						
WLAR	**White Oak Lake**	**3.72**	**117**	IAmb_Lg		06 58 40.6	
	comp=Z,10nm,0.7s						
AMTX	**Amarillo**	**3.80**	**263**	IAmb_Lg		06 58 38.8	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**3.93**	**91**	Pn	Pn	06 57 37.0	+0.5
WHAR				IAmb_Lg		06 58 42.9	
	comp=Z,23nm,1.3s						
W41B	**Gary Mavity, V**	**3.97**	**92**	P		06 57 38.2	
	baz=275,SNR=11						
CBKS	**Cedar Bluff**	**3.98**	**329**	IAmb_Lg		06 58 50.1	
	comp=Z,21nm,1.1s						
CBKS	**Cedar Bluff**	**3.98**	**329**	S		06 58 25.0	
	baz=147						
MGMO	**Mountain Grove**	**4.26**	**65**	IAmb_Lg		06 58 58.4	
	comp=Z,14nm,0.9s						
435B	**Jarrell**	**4.66**	**185**	IAmb_Lg		06 59 14.1	
	comp=Z,10nm,0.9s						
P38A	**Dawn**	**5.05**	**33**	IAmb_Lg		06 59 24.1	
	comp=Z,8.8nm,0.7s						
CCM	**Cathedral Cave**	**5.38**	**59**	IAmb_Lg		06 59 29.1	
	comp=Z,8.4nm,0.8s						
N35A	**Tabor**	**5.54**	**12**	IAmb_Lg		06 59 40.0	
	comp=Z,15nm,0.8s						
PBMO	**Poplar Bluff**	**5.56**	**74**	IAmb_Lg		06 59 36.6	
	comp=Z,12nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.67**	**311**	IAmb_Lg		06 59 41.3	
	comp=Z,9.5nm,0.7s						
T25A	**Trinidad**	**6.15**	**288**	IAmb_Lg		06 59 55.2	
	comp=Z,10nm,1.0s						
S44A	**Carbondale**	**6.70**	**68**	IAmb_Lg		07 00 21.0	
	comp=Z,11nm,0.8s						
SIUC	**Southern Illin**	**6.74**	**68**	IAmb_Lg		07 00 10.4	
	comp=Z,8.2nm,0.7s						
L40A	**Anamosa**	**8.05**	**33**	IAmb_Lg		07 00 56.7	
	comp=Z,5.9nm,0.9s						
BLO	**Bloomington**	**9.21**	**63**	IAmb_Lg		07 01 33.2	
	comp=Z,7.1nm,0.7s						

*PRU **18** 07:23:14.9±0.0, 51°.51N×16°.10E, h0km*
*VIE **18** 07:23:14.9±1.3, 51°.43N×16°.04E, h0km, mb2.2/3, ml2.5/3, Error ellipse: s-maj=8.9km s-min=7.3km az=43.0 77 km WNW of Wroclaw Suspected Mining induced.*

ISC 18 07:23:14.6±1.3, 51°.47N±0°.06×16°.12E±0°.03, h0km, n19,
σ0°.57/36, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**170**	*e*Pg	**Pg**	**07 23 27.7**	**+0.9**
KSP				*e*Sg	**Sb**	**07 23 36.9**	**-1.1**
CHVC	**Chvalec**	**0.88**	**183**	*e*PG	**Pb**	**07 23 32.4**	**-0.4**
CHVC				*e*SG	**Sb**	**07 23 45.0**	**-0.2**
	comp=Z,14nm,0.3s						
OSTC	**Ostas**	**0.92**	**176**	*e*PG	**Pb**	**07 23 33.5**	**+0.1**
OSTC				*e*SG	**Sb**	**07 23 45.8**	**-0.3**
	comp=Z,18nm,0.2s						
UPC	**Upice**	**0.97**	**184**	*e*PG	**Pb**	**07 23 33.7**	**-0.5**
UPC				*e*SG	**Sb**	**07 23 47.5**	**0.0**
	comp=Z,26nm,0.5s						
DPC	**Dobruska-

mb1 4.2/6, mb1mx3.8/37, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=71.1km s-min=26.3km az=149.0

ISC 18 07:41:13.3±1.5, 10.7S±0.3×165.4E±0.2, h10km, n6, σ1§57/6, mb3.9/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.56**	**283**	Pn	**Pn**	**07 42 35.9**	**-0.3**
	11nm,0.3s,baz=107,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**31.32**	**249**	P	**P**	**07 47 33.5**	**-0.6**
	1.9nm,0.9s,baz=76,slow=9.2,SNR=4.8						
ASAR	**Alice Springs**	**32.68**	**243**	P	**P**	**07 47 47.0**	**+1.0**
	0.5nm,0.7s,baz=83,slow=8.7,SNR=4.2						
ILAR	**Eielson Array**	**83.30**	**19**	P	**P**	**07 53 41.8**	**+1.9**
	2.4nm,0.8s,baz=229,slow=5.8,SNR=18						
NVAR	**Mina Array Bea**	**86.04**	**50**	P	**P**	**07 53 53.1**	**-1.6**
	0.1nm,0.4s,baz=240,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**93.08**	**317**	P	**P**	**07 54 27.2**	**-0.2**
	0.4nm,0.8s,baz=104,slow=5.9,SNR=2.5						

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*IDC **18** 07:44:06.8±1.2, 10.6S×165.5E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/38, mbtmp4.0/10, ML4.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=40.7km s-min=23.1km az=147.0*

*NEIC **18** 07:44:09.9±0.9, 10.5S±0.1×165.5E±0.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=24.4km s-min=19.1km az=183.0*

ISC 18 07:44:09.1±0.8, 10.6S±0.2×165.5E±0.1, h10km, n21, σ1§02/20, mb4.1/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.55**	**281**	Pn	**Pn**	**07 45 32.7**	**+1.0**
	35nm,0.3s,baz=120,slow=3.3,SNR=5.1						
HNR				Sn	**Sn**	**07 46 36.2**	**+0.6**
	29nm,0.3s,baz=360,slow=20,SNR=2.0						
HNR				LR	LR	07 47 40.7	
	comp=Z,502nm,21.7s,baz=112,slow=38						
PMG	**Port Moresby**	**18.06**	**272**	LR	LR	07 53 52.9	
	comp=Z,199nm,19.6s,baz=140,slow=32						
STKA	**Stephens Creek**	**30.59**	**223**	P	**P**	**07 50 22.6**	**-0.6**
	1.5nm,0.7s,baz=44,slow=8.4,SNR=3.8						
STKA	**Stephens Creek**	**30.59**	**223**	P	**P**	**07 50 24.4**	**+1.2**
WB0	**Warramunga Arr**	**31.29**	**249**	P	**P**	**07 50 29.2**	**-0.5**
WB0				IAmb	IAmb	07 50 43.8	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**31.38**	**249**	P	**P**	**07 50 29.2**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=78,slow=8.6,SNR=1.8						
ASAR	**Alice Springs**	**32.75**	**242**	P	**P**	**07 50 40.0**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=66,slow=9.4,SNR=2.2						
BBOO	**Buckleboo**	**34.94**	**226**	P	**P**	**07 51 01.9**	**+0.5**
BBOO				IAmb	IAmb	07 51 04.9	
	comp=Z,9.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**71.67**	**293**	P	**P**	**07 55 31.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=119,slow=5.6,SNR=1.6						
SONM	**Songino Array**	**78.13**	**324**	P	**P**	**07 56 08.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=141,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**78.13**	**324**	IAmb	IAmb	07 56 26.6	
	comp=Z,4.0nm,1.5s						
QSPA	**South Pole Qui**	**79.42**	**180**	P	**P**	**07 56 16.9**	**+1.5**
IMAR	**Indian Mountai**	**82.06**	**16**	P	**P**	**07 56 29.9**	**+0.6**
ILAR	**Eielson Array**	**83.17**	**19**	P	**P**	**07 56 35.1**	**0.0**
	comp=Z,1.1nm,0.8s,baz=225,slow=5.8,SNR=9.0						
BCAR	**Beaver Creek A**	**83.77**	**21**	P	**P**	**07 56 38.6**	**+0.3**
EGAK	**Eagle**	**85.04**	**20**	P	**P**	**07 56 44.8**	**+0.2**
NVAR	**Mina Array Bea**	**85.94**	**50**	P	**P**	**07 56 50.6**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=258,slow=7.4,SNR=3.6						
MK31	**Makanchi Array**	**92.99**	**317**	P	**P**	**07 57 22.0**	**-0.9**
MK31				IAmb	IAmb	07 57 31.8	
	comp=Z,3.5nm,1.4s						
MKAR	**Makanchi Array**	**92.99**	**317**	P	**P**	**07 57 22.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.3,SNR=11						
ZALV	**Zalesovo Beam**	**93.02**	**324**	P	**P**	**07 57 21.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=139,slow=2.9,SNR=2.2						
ARCES	**ARCESS Array B**	**115.82**	**345**	PKP	**PKiKP**	**08 02 50.2**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=356,slow=3.6,SNR=3.6						

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*GCG **18** 07:53:18.5±0.7, 12.75N×91.73W, h0km±999km, MD4.4*

*UCR **18** 07:53:28.1±0.7, 13.14N×91.10W, h16km±4km, ML3.8, mb4.6(NEIC)*

*SNET **18** 07:53:28.0±0.7, 13.13N×91.10W, h16km±4km, ML3.9*

*NEIC **18** 07:53:34.4±2.0, 13.39N±0.10×90.88W±0.09, h49km±8km, mb4.6/70, Error ellipse: s-maj=16.8km s-min=8.7km az=218.0*

*IDC **18** 07:53:36.0±2.7, 13.54N×90.55W, h71km±24km, mb4.0/17, mb1 4.2/20, mb1mx4.1/34, mbtmp4.3/20, MS4.0/20, Ms1 4.0/20, ms1mx3.9/34, Error ellipse: s-maj=27.3km s-min=10.5km az=52.0*

*INET **18** 07:53:36.2, 12.95N×90.06W, h20km, MW4.3*

ISC 18 07:53:31.4±0.4, 13.30N±0.05×90.97W±0.05, h29km, n275, σ1§21/273, mb4.6/39, MS4.2/21, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.14**	**18**	‖eP	**Pb**	**07 53 53.1**	**+0.5**
FUG	**Fuego 3**	**1.15**	**6**	‖eP	**Pb**	**07 53 52.9**	**+0.2**
FUG				eS	Sb	07 54 19.0	+12
SLOZ	**Alcaldia de Sa**	**1.35**	**58**	eP	**Pn**	**07 53 54.8**	**+0.4**
SLOZ				eS	**Sb**	**07 54 16.1**	**+3.0**
SLOZ				IAML		07 54 28.1	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**1.41**	**68**	eS	**Sb**	**07 54 18.1**	**+3.4**
CEVE	**Cerro Verde**	**1.41**	**68**	eS	**Sb**	**07 54 18.1**	**+3.4**
SBLS	**San Blas**	**1.41**	**68**	eP	**Pn**	**07 53 55.8**	**+0.5**
SBLS	**San Blas**	**1.41**	**68**	eP	**Pn**	**07 53 55.8**	**+0.5**
NBG	**Las Nubes**	**1.41**	**25**	‖eP	**Pb**	**07 53 58.1**	**+0.9**
NBG				eS	Sb	07 54 29.1	+14
SNJE	**San Jose**	**1.44**	**67**	eP	**Pn**	**07 53 56.2**	**+0.5**
SNJE	**San Jose**	**1.44**	**67**	eP	**Pn**	**07 53 56.2**	**+0.5**
JAYA	**Jayaque - finc**	**1.52**	**76**	eP	**Pn**	**07 53 56.4**	**-0.3**
JAYA				eS	**Sb**	**07 54 18.6**	**+0.8**
JAYA	**Jayaque - finc**	**1.52**	**76**	eP	**Pn**	**07 53 56.4**	**-0.3**
JAYA				eS	**Sb**	**07 54 18.6**	**+0.8**
CEDA	**San Andres**	**1.61**	**72**	eP	**Pn**	**07 53 58.1**	**+0.3**
CEDA	**San Andres**	**1.61**	**72**	eP	**Pn**	**07 53 58.1**	**+0.3**
LALI	**Alcalda de L**	**1.61**	**83**	eP	**Pn**	**07 53 57.4**	**-0.4**
LALI				IAML		07 54 37.0	
	comp=Z,1μm,0.6s						
LALI	**Alcalda de L**	**1.61**	**83**	eP	**Pn**	**07 53 57.4**	**-0.4**
LALI				IAML		07 54 37.0	
	comp=Z,1μm,0.6s						
BOQS	**Boqueron**	**1.69**	**75**	eP	**Pn**	**07 54 00.1**	**+0.9**
BOQS	**Boqueron**	**1.69**	**75**	eP	**Pn**	**07 54 00.1**	**+0.9**
TACO	**Tacachico**	**1.70**	**67**	eP	**Pn**	**07 53 59.7**	**+0.5**
TACO				eS	**Sb**	**07 54 23.3**	**+0.2**
TACO	**Tacachico**	**1.70**	**67**	eP	**Pn**	**07 53 59.7**	**+0.5**
TACO				eS	**Sb**	**07 54 23.3**	**+0.2**
UEES	**Universidad Ev**	**1.73**	**76**	eP	**Pn**	**07 53 59.9**	**+0.3**
UEES	**Universidad Ev**	**1.73**	**76**	eP	**Pn**	**07 53 59.9**	**+0.3**
SNET	**Serv Nac Est T**	**1.73**	**77**	eP	**Pn**	**07 53 59.5**	**-0.1**
SNET				IAML		07 54 38.0	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**1.73**	**77**	eP	**Pn**	**07 53 59.5**	**-0.1**
SNET				IAML		07 54 38.0	
	comp=Z,1μm,0.4s						
LFRS	**El Faro**	**1.88**	**80**	eP	**Pn**	**07 54 01.9**	**+0.2**
LFRS	**El Faro**	**1.88**	**80**	eP	**Pn**	**07 54 01.9**	**+0.2**
MTO3	**Montecristo**	**1.90**	**55**	eP	**Pn**	**07 54 03.3**	**+1.2**
MTO3	**Montecristo**	**1.90**	**55**	eP	**Pn**	**07 54 03.3**	**+1.2**
SJTE	**Alcalda de S**	**1.93**	**80**	eP	**Pn**	**07 54 02.6**	**+0.3**
SJTE				eS	**Sb**	**07 54 29.5**	**-0.1**
SJTE				eS	**Sb**	**07 54 29.5**	**-0.1**
SJTE				IAML		07 54 42.1	
	comp=Z,652nm,0.4s						
SJTE	**Alcalda de S**	**1.93**	**80**	eP	**Pn**	**07 54 02.6**	**+0.3**
SJTE				eS	**Sb**	**07 54 29.5**	**-0.1**
SJTE				eS	**Sb**	**07 54 29.5**	**-0.1**
SJTE				IAML		07 54 42.1	
	comp=Z,652nm,0.4s						
PAVA	**Las Pavas**	**2.01**	**78**	eP	**Pn**	**07 54 04.1**	**+0.6**
PAVA	**Las Pavas**	**2.01**	**78**	eP	**Pn**	**07 54 04.1**	**+0.6**
COEG	**Centro de Oper**	**2.05**	**81**	eP	**Pn**	**07 54 04.4**	**+0.4**
COEG				IAML		07 54 50.5	
	comp=Z,2μm,0.5s						
COEG	**Centro de Oper**	**2.05**	**81**	eP	**Pn**	**07 54 04.4**	**+0.4**
COEG				IAML		07 54 50.5	
	comp=Z,2μm,0.5s						
TECO	**Alcaldia de Te**	**2.14**	**83**	eP	**Pn**	**07 54 05.0**	**-0.1**
TECO				IAML		07 54 49.1	
	comp=Z,464nm,0.5s						
PQSS	**Presa 15 de Se**	**2.36**	**82**	eP	**Pn**	**07 54 08.5**	**+0.3**
PQSS				IAML		07 54 10.4	
	comp=Z,290nm,0.2s						
COEB	**Comit de Eme**	**2.38**	**85**	eP	**Pn**	**07 54 08.5**	**0.0**
COEB				IAML		07 54 50.9	
	comp=Z,1μm,0.5s						
COEB	**Comit de Eme**	**2.38**	**85**	eP	**Pn**	**07 54 08.5**	**0.0**
COEB				IAML		07 54 50.9	
	comp=Z,1μm,0.5s						
TECA	**Tecapa**	**2.40**	**85**	eP	**Pn**	**07 54 08.7**	**-0.2**
TECA	**Tecapa**	**2.40**	**85**	eP	**Pn**	**07 54 08.7**	**-0.2**
PACA	**Pacayal**	**2.58**	**86**	eP	**Pn**	**07 54 11.2**	**0.0**
PACA				IAML		07 55 01.5	
	comp=Z,394nm,0.4s						
PACA	**Pacayal**	**2.58**	**86**	eP	**Pn**	**07 54 11.2**	**0.0**
PACA				IAML		07 55 01.5	
	comp=Z,394nm,0.4s						
CCIG	**Comitan**	**3.17**	**339**		**Pn**	**07 54 20.3**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.67**	**78**	Pn	**Pn**	**07 54 27.1**	**+0.8**
JTS	**Las Juntas de**	**6.60**	**116**	P	**Pn**	**07 55 06.9**	**+0.4**
	comp=Z,4.2nm,0.3s,baz=2.1,slow=19,SNR=46						
JTS				S	**Sn**	**07 56 18.6**	**-2.3**
	comp=Z,1.9nm,0.3s,baz=351,slow=21,SNR=1.2						
JTS	**Las Juntas de**	**6.60**	**116**	Pn	**Pn**	**07 55 07.2**	**+0.7**
TLIG	**Tlapa**	**8.46**	**301**	Pn	**Pn**	**07 55 33.0**	**+0.8**
BCIP	**Isla Barro Col**	**11.66**	**109**	Pn	**Pn**	**07 56 17.5**	**+1.6**
MTDJ	**Mount Denham**	**13.82**	**68**	Pn	**Pn**	**07 56 45.8**	**+0.2**
PAYG	**Puerto Ayora**	**13.90**	**177**	Pn	**Pn**	**07 56 48.4**	**+1.8**
ZAIG	**Zacatecas**	**14.50**	**312**	Pn	**Pn**	**07 56 57.1**	**+2.2**
SJCC	**San Jacinto, C**	**15.83**	**101**	Pn	**Pn**	**07 57 12.8**	**+0.4**
SJCC				IAmb	IAmb	07 57 23.2	
	comp=Z,48nm,1.0s						
833A	**Chaparral WMA,**	**16.89**	**334**	P	**Pn**	**07 57 27.6**	**+2.0**
	baz=151						
DWPF	**Disney Wildern**	**17.21**	**30**	P	**P**	**07 57 32.2**	**+1.1**
	baz=213						
441A	**DeRidder**	**17.49**	**354**		**Pn**	**07 57 34.5**	**+1.4**
656A	**Willston**	**17.80**	**25**		**P**	**07 57 38.6**	**+1.0**
656A				IAmb	IAmb	07 57 51.9	
	comp=Z,83nm,1.2s						
553A	**Crawfordville**	**17.86**	**19**	P	**P**	**07 57 39.6**	**+1.4**
OTAV	**Otavalo**	**17.95**	**135**	P	**Pn**	**07 57 40.1**	**+0.7**
OTAV	**Otavalo**	**17.95**	**135**	eP	**Pn**	**07 57 40.1**	**+0.7**
342A	**Flagon Creek P**	**18.03**	**356**	P	**P**	**07 57 41.9**	**+1.8**
342A				IAmb	IAmb	07 57 48.4	
	comp=Z,120nm,1.4s						
346A	**Big Creek Wild**	**18.05**	**4**		**P**	**07 57 41.4**	**+1.0**
346A				IAmb	IAmb	07 58 00.8	
	comp=Z,62nm,0.9s						
435B	**Jarrell**	**18.44**	**342**	P	**P**	**07 57 45.0**	**+0.3**
ROSC	**El Rosal**	**18.45**	**116**	P	**P**	**07 57 44.9**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=68,slow=3.0,SNR=18						
ROSC	**El Rosal**	**18.45**	**116**	Pn	**P**	**07 57 46.9**	**+1.6**
ROSC				IAmb	IAmb	07 57 50.8	
	comp=Z,61nm,1.1s						
NATX	**Nacogdoches**	**18.68**	**350**	P	**P**	**07 57 48.5**	**+1.2**
NATX				IAmb	IAmb	07 57 55.6	
	comp=Z,69nm,1.6s						
VBMS	**Vicksburg**	**18.83**	**1**	P	**Pn**	**07 57 52.6**	**+3.1**
	baz=181,SNR=5.1						
VBMS	**Vicksburg**	**18.83**	**1**	P	**Pn**	**07 57 50.5**	**+0.9**
352A	**Blakely**	**18.93**	**16**	P	**P**	**07 57 51.1**	**+1.1**
352A				IAmb	IAmb	07 57 57.3	
	comp=Z,38nm,0.9s						
JCT	**Junction City**	**18.94**	**336**	P	**P**	**07 57 51.9**	**+1.7**
	baz=153						
JCT	**Junction City**	**18.94**	**336**		**P**	**07 57 51.5**	**+1.3**
RUSC	**La Rusia**	**19.10**	**111**	P	**P**	**07 57 53.3**	**+0.8**
TIGA	**Tifton**	**19.29**	**19**	P	**Pn**	**07 57 59.7**	**+4.7**
	baz=202						
143A	**Socs Landing,**	**19.32**	**359**	P	**P**	**07 57 55.1**	**+0.9**
143A				IAmb	IAmb	07 58 08.2	
	comp=Z,33nm,0.8s						
HPIG		**19.32**	**317**	P	**P**	**07 57 55.4**	**+0.8**
TX31	**Lajitas Ar. Si**	**19.84**	**326**	P	**P**	**07 58 01.1**	**+1.0**
TX31				IAmb	IAmb	07 58 10.7	
	comp=Z,33nm,0.8s						
TX32	**Lajitas Array**	**19.84**	**326**	P	**P**	**07 58 00.8**	**+0.8**
TXAR	**Lajitas Array**	**19.84**	**326**	P	**P**	**07 58 01.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=151,slow=13,SNR=63						
TXAR				PcP	**PcP**	**08 02 18.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=134,slow=3.7,SNR=3.6						
TXAR				LR	LR	08 06 47.1	
	comp=Z,123nm,19.5s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**19.84**	**326**	P	**P**	**07 58 00.6**	**+0.6**
LRAL	**Lakeview Retre**	**19.98**	**10**	P	**Pn**	**07 58 05.7**	**+2.5**
	baz=191,SNR=6.8						
Z47A	**Carrollton**	**19.98**	**7**	P	**P**	**07 58 01.6**	**+0.1**
152A	**Waverly Hall**	**20.11**	**15**	P	**P**	**07 58 01.4**	**-1.5**
152A				IAmb	IAmb	07 58 09.3	
	comp=Z,34nm,0.9s						
Z38A	**Mt. Pleasant**	**20.20**	**350**	P	**P**	**07 58 03.0**	**-0.9**
Z38A				IAmb	IAmb	07 58 16.3	
	comp=Z,78nm,1.6s						
WLAR	**White Oak Lake**	**20.39**	**355**		**P**	**07 58 06.4**	**+0.5**
WLAR				IAmb	IAmb	07 58 11.6	
	comp=Z,42nm,1.0s						
SDV	**Santo Domingo**	**20.42**	**100**	P	**P**	**07 58 04.5**	**-2.2**
	comp=Z,18nm,0.3s,baz=342,slow=7.0,SNR=1.9						
Y45A	**Yeager Farm, C**	**20.51**	**3**	P	**P**	**07 58 06.4**	**-0.8**
Y45A				IAmb	IAmb	07 58 17.8	
	comp=Z,34nm,0.8s						
154A	**Montrose**	**20.52**	**19**	P	**P**	**07 58 06.4**	**-1.0**
CCAR	**Cane Creek**	**20.54**	**358**	P	**P**	**07 58 06.7**	**-0.8**
CCAR				IAmb	IAmb	07 58 25.4	
	comp=Z,46nm,0.9s						
Z51A	**Franklin**	**20.61**	**14**	P	**P**	**07 58 09.0**	**+0.7**
Z51A				IAmb	IAmb	07 58 18.1	
	comp=Z,22nm,0.8s						
ABTX	**Abilene, Hawle**	**20.81**	**339**	P	**P**	**07 58 10.7**	**+0.2**
	baz=156						
ABTX	**Abilene, Hawle**	**20.81**	**339**	P	**P**	**07 58 09.7**	**-0.8**
ABTX				IAmb	IAmb	07 58 15.7	
	comp=Z,57nm,1.4s						
Y49A	**Blount Mountai**	**20.88**	**11**	P	**P**	**07 58 11.0**	**-0.3**
GOGA	**Godfrey**	**21.15**	**18**	P	**P**	**07 58 14.7**	**+0.6**
	baz=200,SNR=5.2						
GOGA	**Godfrey**	**21.15**	**18**	P	**P**	**07 58 14.6**	**+0.4**
X40A	**Basin Creek Fa**	**21.16**	**356**	P	**P**	**07 58 14.7**	**+0.4**
	baz=175						
OXF	**Oxford**	**21.16**	**4**	P	**P**	**07 58 15.9**	**+1.7**
	baz=184						
OXF	**Oxford**	**21.16**	**4**	P	**P**	**07 58 13.5**	**-0.8**
LPIG	**La Paz**	**21.21**	**303**	LR	LR	08 06 34.5	
	comp=Z,180nm,19.3s,baz=116,slow=36						
MIAR	**Mount Ida**	**21.28**	**354**	P	**P**	**07 58 16.0**	**+0.5**
	baz=173,SNR=7.3						
MIAR	**Mount Ida**	**21.28**	**354**	P	**P**	**07 58 14.8**	**-0.7**
X48A	**Hartselle**	**21.36**	**9**	P	**P**	**07 58 16.6**	**+0.3**
PLAL	**Pickwick Lake**	**21.74**	**6**	P	**P**	**07 58 20.8**	**+0.3**
W41B	**Gary Mavity, V**	**21.81**	**357**	P	**P**	**07 58 21.2**	**+0.1**
	baz=177,SNR=6.5						
W45A	**Hickory Valley**	**21.82**	**4**	P	**P**	**07 58 21.5**	**+0.2**
WHAR	**Wooly Hollow**	**21.93**	**357**	P	**P**	**07 58 21.7**	**-0.8**
WHAR				IAmb	IAmb	07 58 26.5	
	comp=Z,31nm,1.3s						
W39A	**Magazine**	**21.95**	**354**	P	**P**	**07 58 22.7**	**+0.1**
	baz=173,SNR=7.8						
W39A	**Magazine**	**21.95**	**354**	P	**P**	**07 58 22.2**	**-0.5**
W39A				IAmb	IAmb	07 58 25.1	
	comp=Z,28nm,1.4s						
SWET	**Sewanee**	**22.29**	**11**	P	**P**	**07 58 26.1**	**-0.3**
GDL2	**Guadalupe Moun**	**22.46**	**329**	P	**P**	**07 58 28.3**	**-0.1**
WMOK	**Wichita Mounta**	**22.49**	**343**	P	**P**	**07 58 26.9**	**-1.6**
	baz=160						
FCAR	**Ozark Folk Cen**	**22.52**	**358**	P	**P**	**07 58 28.0**	**-0.8**
MNTX	**Cornudas Mount**	**22.60**	**326**	P	**P**	**07 58 29.6**	**-0.1**
	baz=141,SNR=48						
MNTX	**Cornudas Mount**	**22.60**	**326**	P	**P**	**07 58 29.3**	**-0.4**
MNTX				IAmb	IAmb	07 58 36.7	
	comp=Z,25nm,0.8s						
W52A	**Murphy**	**22.61**	**15**	P	**P**	**07 58 29.2**	**-0.6**
W52A				IAmb	IAmb	07 58 56.3	
	comp=Z,13nm,0.8s						
FNO	**Franklin**	**22.62**	**346**	P	**P**	**07 58 28.8**	**-1.2**
V48A	**Smith Brothers**	**22.65**	**9**	P	**P**	**07 58 30.0**	**-0.3**
V48A				IAmb	IAmb	07 58 31.3	
	comp=Z,16nm,0.9s						
LCAR	**Lake Charles**	**22.67**	**360**	P	**P**	**07 58 29.3**	**-1.1**
LCAR				IAmb	IAmb	07 58 59.0	
	comp=Z,27nm,1.2s						
BG3	**Lake Jocassee**	**22.79**	**17**	P	**P**	**07 58 31.1**	**-0.6**
BG3				IAmb	IAmb	07 59 16.2	
	comp=Z,24nm,1.4s						
CPCT	**Cooper Cave**	**22.81**	**14**	P	**P**	**07 58 30.8**	**-1.1**
WVT	**Waverly**	**22.91**	**7**	P	**P**	**07 58 31.9**	**-0.9**
	baz=188						
WVT	**Waverly**	**22.91**	**7**	P	**P**	**07 58 31.9**	**-0.9**
WVT				IAmb	IAmb	07 58 44.8	
	comp=Z,18nm,1.0s						
TUL1	**Leonard**	**22.93**	**350**	P	**P**	**07 58 32.2**	**-0.9**
	baz=168						
U40A	**Yellville**	**23.02**	**356**	P	**P**	**07 58 32.7**	**-1.4**
	baz=175,SNR=11						
TKL	**Tuckaleechee C**	**23.18**	**15**	P	**P**	**07 58 35.2**	**-0.6**
	comp=Z,11nm,0.6s,baz=183,slow=11,SNR=32						
TKL				LR	LR	08 08 25.5	
	comp=Z,1μm,20.2s,baz=202,slow=39						
MSTX	**Muleshoe**	**23.21**	**334**	P	**P**	**07 58 36.1**	**0.0**
	baz=150						
KMSC	**Kings Mountain**	**23.42**	**20**	P	**P**	**07 58 37.7**	**-0.4**
	baz=204						
AMTX	**Amarillo**	**23.57**	**338**	P	**P**	**07 58 38.8**	**-0.9**
	baz=153						
T45A	**Paducah**	**23.71**	**5**	P	**P**	**07 58 39.7**	**-1.2**
ATAH	**Atahualpa**	**23.84**	**148**	P	**P**	**07 58 44.0**	**+1.3**
	comp=Z,11nm,1.0s,baz=14,slow=2.5,SNR=4.6						
T47A	**Sharon Grove**	**23.84**	**8**	P	**P**	**07 58 41.1**	**-1.0**
TZTN	**Tazewell**	**24.08**	**15**	P	**P**	**07 58 43.8**	**-0.6**
	baz=198						
SJG	**San Juan**	**24.35**	**75**	PcP	**PcP**	**08 02 23.6**	**-2.7**
	comp=Z,11nm,0.9s,baz=297,slow=2.3,SNR=3.1						
U54A	**Nelsons Funny**	**24.54**	**18**	P	**P**	**07 58 46.9**	**-1.8**
U54A				IAmb	IAmb	07 58 54.9	
	comp=Z,20nm,0.7s						
121A	**Cookes Peak, D**	**24.56**	**324**	P	**P**	**07 58 51.1**	**+2.1**
	baz=137,SNR=21						
121A	**Cookes Peak, D**	**24.56**	**324**	P	**P**	**07 58 49.4**	**+0.4**
CCM	**Cathedral Cave**	**24.66**	**359**	P	**P**	**07 58 48.4**	**-1.2**
	baz=179						
BNM	**Barren Site**	**25.16**	**328**	P	**P**	**07 58 54.4**	**-0.1**
WCI	**Wyandotte Cave**	**25.17**	**9**	P	**P**	**07 58 53.7**	**-0.5**
	baz=191						
LENM	**Lemitar**	**25.35**	**328**	P	**P**	**07 58 56.8**	**+0.7**
R50A	**Paris**	**25.57**	**12**	P	**P**	**07 58 56.8**	**-1.1**
ANMO	**Albuquerque**	**25.70**	**330**	P	**P**	**07 58 59.2**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=144,slow=11,SNR=14						
ANMO	**Albuquerque**	**25.70**	**330**	P	**P**	**07 59 00.3**	**+0.9**
	baz=143						
P40A	**Paris**	**26.14**	**358**	P	**P**	**07 59 01.4**	**-1.6**
KSU1	**Kansas State U**	**26.18**	**350**	P	**P**	**07 59 03.3**	**0.0**
	baz=168						
TUC	**Tucson**	**26.22**	**319**	P	**P**	**07 59 05.5**	**+1.6**
	baz=132						
Q51A	**Peebles**	**26.50**	**13**	P	**P**	**07 59 04.8**	**-1.5**
Q51A				IAmb	IAmb	07 59 11.8	
	comp=Z,22nm,1.0s						
SFIN	**Lafayette**	**27.19**	**6**	P	**P**	**07 59 11.1**	**-1.3**
	baz=188						
HDIL	**Hopedale**	**27.19**	**3**	P	**P**	**07 59 11.2**	**-1.3**
	baz=184						
P53A	**Whipple**	**27.42**	**16**	P	**P**	**07 59 13.8**	**-0.8**
P53A				IAmb	IAmb	07 59 14.9	
	comp=Z,31nm,1.4s						
W18A	**Petrified Fore**	**27.56**	**325**	P	**P**	**07 59 18.5**	**+2.4**
	baz=137,SNR=7.1						
W18A	**Petrified Fore**	**27.56**	**325**	P	**P**	**07 59 15.8**	**-0.3**
W18A				IAmb	IAmb	07 59 27.3	
	comp=Z,23nm,1.2s						
SDCO	**Great Sand Dun**	**27.58**	**335**	P	**P**	**07 59 17.2**	**+0.8**
	baz=148						
CZSB	**Cruzeiro do Su**	**27.67**	**138**	eP	**P**	**07 59 18.2**	**+1.2**
ACSO	**Alum Creek Sta**	**27.73**	**13**	P	**P**	**07 59 16.4**	**-0.9**
	baz=197						
O52A	**Adamsville**	**27.89**	**15**	P	**P**	**07 59 17.8**	**-1.0**
O52A				IAmb	IAmb	07 59 18.7	
	comp=Z,34nm,1.5s						
S22A	**4UR Ranch, Cre**	**28.15**	**333**	P	**P**	**07 59 22.4**	**+0.9**
	baz=146						
O53A	**New Philadelph**	**28.18**	**16**	P	**P**	**07 59 20.3**	**-1.1**
	baz=200						
MVCO	**Mesa Verde**	**28.50**	**330**	P	**P**	**07 59 25.4**	**+0.9**
	baz=142						
WUAZ	**Wupatki**	**28.77**	**324**	P	**P**	**07 59 29.3**	**+2.4**
	baz=135,SNR=11						
O56A	**Blue Knob Stat**	**28.99**	**20**	P	**P**	**07 59 27.5**	**-1.1**
	baz=206						
N54A	**Moraine State**	**29.18**	**17**	P	**P**	**07 59 29.4**	**-

LPAZ LR LR 08 16 53.0
comp=Z,66nm,19.7s,baz=322,slow=38
LPAZ La Paz 37.07 142 P **P 08 00 41.1 +1.2**
LPAZ IAmb IAmb 08 00 54.3
comp=Z,13nm,1.7s
LRM Limekiln Ridge 37.17 335 P **P 08 00 40.1 0.0**
LSQQ Lebel-sur-Quev 37.48 15 P **P 08 00 40.3 -2.0**
baz=203
ORV Oroville 37.51 320 P **P 08 00 42.5 -0.2**
ORV IAmb IAmb 08 00 45.6
comp=Z,4.6nm,0.8s
MATQ Matagami 37.97 14 P **P 08 00 44.6 -1.9**
baz=201,SNR=7.9
O03E Paynes Creek 38.13 321 P **P 08 00 48.8 +0.7**
baz=126
MSO Missoula 38.59 335 P **P 08 00 52.0 +0.1**
baz=142,SNR=5.1
CHGQ Chibougamau 38.96 17 P **P 08 00 52.9 -1.9**
baz=206
MALB Monte Alegre 39.39 110 *eP* **P 08 01 00.2 +1.3**
MCPB Macapa, AP 40.88 106 *eP* **P 08 01 10.0 -1.2**
NEW Newport 41.07 333 P **P 08 01 11.4 -1.0**
baz=139
F05D White Salmon 41.45 328 P **P 08 01 17.4 +1.8**
baz=132
SIV San Ignacio 41.48 134 P **P 08 01 15.1 -1.0**
comp=Z,6.2nm,0.8s,baz=310,slow=8.6,SNR=33
LVC Limon Verde 41.72 149 *eP* **P 08 01 19.8 +1.4**
CLDB Colider 42.37 123 *eP* **P 08 01 24.9 +1.5**
PTLB Pontes e Lacer 42.51 131 *eP* **P 08 01 23.9 -0.6**
D03D Eldon 43.38 328 P **P 08 01 30.9 -0.3**
baz=131
SCHQ Schefferville 45.53 19 P **P 08 01 45.7 -2.6**
comp=Z,17nm,0.8s,baz=89,slow=19,SNR=17
SCHQ LR LR 08 22 05.2
comp=Z,598nm,18.5s,baz=38,slow=38
ARAG Araguaiana, MT 48.27 125 *eP* **P 08 02 11.7 +1.5**
SMTB Santa Maria do 48.37 115 *eP* **P 08 02 11.6 +0.6**
ROSB Rosrio 49.19 106 *eP* **P 08 02 17.1 -0.2**
PEXB Peixe 49.27 119 *eP* **P 08 02 19.2 +1.3**
CPUP Villa Florida 51.20 140 LR LR 08 25 46.0
comp=Z,118nm,19.6s,baz=352,slow=38
CPUP Villa Florida 51.20 140 *eP* **P 08 02 33.9 +1.5**
BDFB Brasilia 51.30 123 P P 08 02 30.8 -2.6
comp=Z,3.4nm,0.9s,baz=288,slow=20,SNR=2.5
ITRB Iturama 51.70 129 *eP* **P 08 02 37.8 +1.6**
TRCB Terra Rica 51.93 133 *eP* **P 08 02 39.2 +1.3**
YKA Yellowknife Ar 51.94 346 P **P 08 02 36.0 -1.4**
comp=Z,2.9nm,0.9s,baz=143,slow=8.5,SNR=21
YKA LR LR 08 27 41.9
comp=Z,150nm,20.1s,baz=0.0,slow=40
SDBA SAO DESIDERIO 52.33 117 *eP* **P 08 02 39.9 -1.1**
NBPN Ponto Novo - B 55.80 113 *eP* **P 08 03 06.8 +0.4**
NBPA Parau_RN 56.73 106 *eP* **P 08 03 13.4 +0.4**
PLCA Paso Flores 56.99 162 LR LR 08 23 36.8
comp=Z,142nm,18.5s,baz=335,slow=32
GDU01 Guandu, BA 57.55 116 *eP* **P 08 03 20.1 +1.3**
RCBR Riachuelo 57.89 106 *eP* **P 08 03 22.0 +0.8**
NBIT Itapeh - BA 58.20 117 *eP* **P 08 03 25.4 +2.0**
CMC01 Camacan, BA 58.32 118 *eP* **P 08 03 26.1 +2.0**
RIB01 Linhares ES 59.42 122 *eP* **P 08 03 34.2 +2.5**
L27K Beaver Creek, 61.09 336 P **P 08 03 42.9 +0.4**
baz=120
INK Inuvik 61.39 343 P **P 08 03 43.1 -1.3**
baz=131
N25K Chitina, Valde 61.53 334 P **P 08 03 46.5 +0.9**
baz=117
KLU Klutina 62.05 334 P **P 08 03 49.6 +0.6**
baz=116
SCRK Sand Creek 62.39 337 P **P 08 03 51.2 -0.2**
baz=119
PMOR Pomariorio Ree 62.97 245 *eT* T 09 11 56.3
comp=Z,1.8nm,0.2s
ILAR Eielson Array 63.88 337 P **P 08 04 00.3 -0.8**
comp=Z,4.2nm,1.0s,baz=129,slow=4.7,SNR=20
ILAR LR LR 08 35 16.6
comp=Z,106nm,19.4s,baz=108,slow=39
ICESG Greenland Ices 64.42 18 *i P* P 08 04 01.5 -3.5
ICESG IAmb IAmb 08 04 03.1
comp=Z,8.3nm,0.8s
NEA2 Nenana 64.65 336 P **P 08 04 06.2 +0.1**
baz=114
SKT Skwentna 64.69 333 P **P 08 04 06.2 -0.3**
baz=110
TRF Thorofare Moun 64.70 335 P **P 08 04 06.3 -0.4**
baz=112
H24K Noodor Dome 64.72 338 P **P 08 04 06.4 -0.3**
baz=116
I23K Minto, Yukon-K 64.99 337 P **P 08 04 08.1 -0.3**
baz=114
M20K Styx River 65.38 333 P **P 08 04 10.8 -0.2**
baz=109
PPT Papeete 65.47 244 LR LR 08 25 01.4
comp=Z,141nm,19.1s,baz=126,slow=29
MLY Manley 65.48 336 P **P 08 04 11.2 -0.4**
baz=112,SNR=9.5
PPT2 Papeete2 65.48 244 *e*LR LR 08 23 40.5
comp=Z,227nm,26.5s
N19K Bonanza Creek 65.67 331 P **P 08 04 12.7 -0.3**
baz=107
O18K Koktuh Hills 65.74 330 P **P 08 04 13.0 -0.3**
baz=106
M19K Big River Lodg 65.95 332 P **P 08 04 14.1 -0.5**
baz=108
K20K Telida 66.26 334 P **P 08 04 15.9 -0.7**
baz=108
TOLK Toolik Lake Re 66.52 340 P **P 08 04 17.8 -0.4**
baz=115
J20K Nowinta River 66.55 335 P **P 08 04 17.6 -0.8**
baz=109
SUMG Summit 66.64 15 *i P* **P 08 04 16.9 -2.5**
SUMG IAmb IAmb 08 04 19.4
comp=Z,6.2nm,0.7s
NEEM North Greenlan 67.27 9 *i P* **P 08 04 21.2 -1.9**
TBI Tubuai 67.82 238 *e*LR LR 08 24 50.4
comp=Z,171nm,26.8s
ESDC Sonseca Array 79.36 52 P P 08 05 31.4 -3.5
comp=Z,1.7nm,0.9s,baz=292,slow=6.1,SNR=9.0
ESDC LR LR 08 35 36.2
comp=Z,80nm,20.7s,baz=275,slow=32
NOA NORSAR Array B 84.28 29 LR LR 08 41 05.6
comp=Z,77nm,21.6s,baz=285,slow=34
TIC Toumodi 84.57 84 *eP* **P 08 06 02.1 -0.6**
LIC Lamto 84.65 85 *eP* **P 08 06 01.9 -1.2**
comp=Z,36nm,0.8s
KIC Kosan Boka 84.90 85 *eP* **P 08 06 03.8 -0.5**
comp=Z,30nm,0.9s
ARCES ARCESS Array B 86.48 18 P **P 08 06 08.8 -2.3**
comp=Z,1.5nm,0.8s,baz=291,slow=5.1,SNR=6.1
ARCES LR LR 08 45 22.6
comp=Z,121nm,18.8s,baz=285,slow=36
GERES GERESS Array B 89.50 40 P **P 08 06 24.2 -1.8**
comp=Z,0.3nm,0.5s,baz=318,slow=1.8,SNR=3.6
GERES LR LR 08 42 48.9
comp=Z,82nm,19.3s,baz=297,slow=33
TORD Torodi Ar. Bea 89.56 77 P **P 08 06 24.1 -2.8**
comp=Z,0.7nm,0.7s,baz=291,slow=5.8,SNR=3.6
TORD LR LR 08 44 12.7
comp=Z,96nm,19.6s,baz=295,slow=34
FINES FINESS Array B 90.70 25 LR LR 08 47 49.1
comp=Z,125nm,19.2s,baz=308,slow=36
AKASG Malin Array Be 97.75 34 LR LR 08 54 17.4
comp=Z,69nm,18.1s,baz=255,slow=37
YAK Yakutsk 98.43 342 LR LR 08 59 18.2
comp=Z,91nm,18.1s,baz=89,slow=40
MKAR Makanchi Array 119.88 5 PKP **PKPdf 08 12 17.0 -2.2**
comp=Z,0.3nm,0.7s,baz=35,slow=5.3,SNR=2.7
ASAR Alice Springs 136.37 250 PKP **PKPdf 08 12 49.4 -1.8**
comp=Z,0.3nm,0.7s,baz=104,slow=3.3,SNR=2.0
CMAR Chiang Mai Arr 146.97 343 PKPbc **PKPdf 08 13 11.1 +0.9**
comp=Z,2.7nm,0.4s,baz=336,slow=4.0,SNR=16

*RSPR **18** 07:55:07.6, 18°.98N×67°.75W, h36km±4km, MD3.1/9*
*OSPL **18** 07:55:08.9±0.8, 18°.95N×67°.65W, h27km±10km, ML2.1*
*NEIC **18** 07:55:08.6±1.3, 18°.88N±0°.08×67°.65W±0°.06, h35km±73km,*
Error ellipse: s-maj=12.2km s-min=8.6km az=178.0
ISC 18 07:55:07.6±1.5, 18°.93N±0°.08×67°.64W±0°.04, h27km, n42,
σ0s41/51, 9C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.57**	**164**↑	*eP*	**Pb**	**07 55 19.0**	**0.0**
IDE	**Isla Desecheo**	**0.57**	**164**	*eS*	**Sb**	**07 55 27.6**	**+0.7**
IDE	**Isla Desecheo**	**0.57**	**164**		**Pb**	**07 55 19.0**	**0.0**
IDE					**Sb**	**07 55 27.6**	**+0.7**
AGPR	**Aguadilla, PR**	**0.68**	**133**↓	*eP*	**Pb**	**07 55 21.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.68**	**133**	*eS*	**Sn**	**07 55 31.2**	**-0.1**
AGPR	**Aguadilla, PR**	**0.68**	**133**		**Pb**	**07 55 21.0**	**0.0**
AGPR					**Sn**	**07 55 31.2**	**-0.1**
AGPR	**Aguadilla, PR**	**0.68**	**133**	*i* P	**Pb**	**07 55 21.0**	**0.0**
AGPR				IAML		07 55 29.5	
	comp=Z,64nm,1.0s						
AGPR				*eS*	**Sb**	**07 55 31.0**	**+0.9**
PCDR	**Punta Cana, DR**	**0.82**	**239**	Pn	**Pb**	**07 55 23.1**	**-0.1**
PCDR	**Punta Cana, DR**	**0.82**	**239**	*i* P	**Pn**	**07 55 23.6**	**+0.3**
PCDR				*eS*	**Sb**	**07 55 33.6**	**-0.3**
PCDR				IAML		07 55 37.9	
	comp=Z,76nm,0.8s						
MPR	**Mayaguez**	**0.86**	**146**	*eS*	**Sb**	**07 55 35.2**	**+0.1**
LSP	**Las Mesas**	**0.92**	**145**↑	*eP*	**Pn**	**07 55 24.1**	**-0.7**
LSP	**Las Mesas**	**0.92**	**145**	*eS*	**Sb**	**07 55 37.0**	**+0.2**
LSP	**Las Mesas**	**0.92**	**145**		**Pn**	**07 55 24.1**	**-0.7**
LSP					**Sb**	**07 55 37.0**	**+0.2**
AOPR	**Arecibo Observ**	**1.02**	**125**↑	*eP*	**Pn**	**07 55 25.7**	**-0.6**
AOPR	**Arecibo Observ**	**1.02**	**125**	*eS*	**Sn**	**07 55 40.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.02**	**125**		**Pn**	**07 55 25.7**	**-0.6**
AOPR					**Sn**	**07 55 40.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.02**	**125**	IAML		07 55 54.8	
	comp=E,64nm,0.2s						
MLPR	**Magueyes Islan**	**1.11**	**149**↑	*eP*	**Pn**	**07 55 26.9**	**-0.6**
MLPR	**Magueyes Islan**	**1.11**	**149**	*eS*	**Sn**	**07 55 41.6**	**-0.3**
MLPR	**Magueyes Islan**	**1.11**	**149**		**Pn**	**07 55 26.9**	**-0.6**
MLPR					**Sn**	**07 55 41.6**	**-0.3**
EMPR	**Esperanza - Ma**	**1.15**	**113**↑	*eP*	**Pn**	**07 55 27.5**	**-0.5**
EMPR	**Esperanza - Ma**	**1.15**	**113**	*eS*	**Sb**	**07 55 43.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.15**	**113**		**Pn**	**07 55 27.5**	**-0.5**
EMPR					**Sb**	**07 55 43.3**	**-0.1**
CELP	**Cerrillos**	**1.32**	**130**↑	*eP*	**Pn**	**07 55 29.9**	**-0.4**
CELP	**Cerrillos**	**1.32**	**130**	*eS*	**Sn**	**07 55 47.4**	**+0.3**
CELP	**Cerrillos**	**1.32**	**130**		**Pn**	**07 55 29.9**	**-0.4**
CELP					**Sn**	**07 55 47.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.32**	**132**↑	*eP*	**Pn**	**07 55 30.0**	**-0.4**
OBIP	**Obispado Ponce**	**1.32**	**132**	*eS*	**Sn**	**07 55 47.3**	**+0.2**
OBIP	**Obispado Ponce**	**1.32**	**132**		**Pn**	**07 55 30.0**	**-0.4**
OBIP					**Sn**	**07 55 47.3**	**+0.2**
OBIP	**Obispado Ponce**	**1.32**	**132**	IAML		07 55 53.6	
	comp=E,29nm,0.6s						
OBIP				IAML		07 55 55.0	
	comp=N,28nm,1.1s						
GCPR	**Guaynabo City**	**1.60**	**113**↑	*eP*	**Pn**	**07 55 33.9**	**-0.3**
GCPR	**Guaynabo City**	**1.60**	**113**	*eS*	**Sn**	**07 55 54.3**	**+0.3**
GCPR	**Guaynabo City**	**1.60**	**113**		**Pn**	**07 55 33.9**	**-0.3**
GCPR					**Sn**	**07 55 54.3**	**+0.3**
IGPR	**InterUniversit**	**1.75**	**123**↓	*eP*	**Pn**	**07 55 36.0**	**-0.1**
IGPR	**InterUniversit**	**1.75**	**123**	*eS*	**Sn**	**07 55 58.1**	**+0.6**
IGPR	**InterUniversit**	**1.75**	**123**		**Sn**	**07 55 58.1**	**+0.6**
CBYP	**Canovanas**	**1.82**	**111**↑	*eP*	**Pn**	**07 55 36.8**	**-0.4**
CBYP	**Canovanas**	**1.82**	**111**	*eS*	**Sn**	**07 55 59.8**	**+0.4**
CBYP	**Canovanas**	**1.82**	**111**		**Pn**	**07 55 36.8**	**-0.4**
CBYP					**Sn**	**07 55 59.8**	**+0.4**
MTP	**Monte Pirata**	**2.15**	**112**↓	*eP*	**Pn**	**07 55 41.5**	**-0.2**
MTP	**Monte Pirata**	**2.15**	**112**		**Pn**	**07 55 41.5**	**-0.2**
MTP	**Monte Pirata**	**2.15**	**112**	IAML		07 56 02.9	
	comp=N,12nm,2.7s						
MTP				IAML		07 56 10.4	
	comp=E,11nm,1.6s						

IDC 18 07:56:13.8±9.2, 5°.57S×151°.52E, h98km±63km, mb3.4/3,
mb1 3.6/4, mb1mx3.2/24, mbtmp3.8/4, ML1.8/1, Error
ellipse: s-maj=104.7km s-min=37.1km az=104.0, New
Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.76**	**228**	P	Pn	07 57 35.6	-1.3
	1.9nm,0.3s,baz=48,slow=14,SNR=2.8						
PMG				S	Sn	07 58 43.1	+1.3
	1.6nm,0.3s,baz=79,slow=24,SNR=2.3						
WRA	**Warramunga Arr**	**21.99**	**228**	P	P	08 00 59.8	-0.3
	1.6nm,0.7s,baz=53,slow=10.0,SNR=8.5						
ASAR	**Alice Springs**	**24.73**	**222**	P	P	08 01 26.5	+0.2
	2.9nm,0.8s,baz=53,slow=9.5,SNR=23						
SONM	**Songino Array**	**66.30**	**329**	P	P	08 06 52.1	+0.1
	0.3nm,0.4s,baz=132,slow=6.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.32**	**286**	PKPbc	PKPbc	08 15 51.8	-0.6
	1.1nm,0.7s,baz=81,slow=2.4,SNR=5.0						

IDC 18 08:08:33.5±4.8, 2°.49S×140°.05E, h0km, mb3.5/2,
mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, ML3.6/1, Error
ellipse: s-maj=187.1km s-min=28.4km az=89.0, Near
north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.22**	**197**	P	Pn	08 12 46.7	-1.3
	0.2nm,0.3s,baz=18,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**21.87**	**195**	P	P	08 13 28.6	+0.5
	0.7nm,0.6s,baz=16,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**70.44**	**322**	P	P	08 19 49.9	+0.1
	1.0nm,0.6s,baz=110,slow=7.6,SNR=10						

*IDC **18** 08:55:04.6±1.1, 14°.00N×58°.44W, h0km, mb3.6/5,*
mb1 3.9/6, mb1mx3.6/29, mbtmp3.7/6, ML4.5/1, MS3.4/1,
Ms1 3.4/1, ms1mx2.5/29, Error ellipse: s-maj=28.7km
s-min=23.0km az=9.0
*TRN **18** 08:55:07.2, 13°.88N×58°.51W, h100km, MD4.0*
*NEIC **18** 08:55:08.1±1.7, 13°.81N±0°.07×58°.53W±0°.07, h21km±6km,*
mb4.2/2, Error ellipse: s-maj=11.7km s-min=7.7km
az=221.0
ISC 18 08:55:08.7±1.8, 13°.91N±0°.04×58°.50W±0°.08, h30km±12km,
n73, σ1s23/85, mb3.5/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.23**	**229**	*eP*	**Pb**	**08 55 31.0**	**-0.3**
BBGH	**Gun Hill**	**1.28**	**234**	*eP*	**Pb**	**08 55 31.3**	**-0.9**
BBGH				*eS*	**Sb**	**08 55 50.6**	**+2.2**
BBGH	**Gun Hill**	**1.28**	**234**		**Pb**	**08 55 29.9**	**-2.4**
BCHC	**Barbados, Cave**	**1.34**	**235**	*eP*	**Pb**	**08 55 32.5**	**-0.8**
BCHC				*eS*	**Sb**	**08 55 51.6**	**+1.5**
H05S1	**Guadeloupe/Mar**	**2.33**	**283**	Pn	**Pn**	**08 55 43.8**	**-1.2**
H05S1				Sn	**Sn**	**08 56 10.5**	**-2.1**
	SNR=111						
MPOM	**Morne Pois Mar**	**2.35**	**283**	*eP*	**Pn**	**08 55 44.0**	**-1.3**
MCLT	**Moule a Chique**	**2.38**	**265**	*eP*	**Pn**	**08 55 45.7**	**0.0**
MCLT				*eS*	**Sn**	**08 56 13.6**	**-0.3**
MCLT	**Moule a Chique**	**2.38**	**265**	Pn	**Pn**	**08 55 41.5**	**-4.2**
SLBI	**Saint Lucia, B**	**2.41**	**273**	*eP*	**Pn**	**08 55 46.0**	**0.0**
SLBI				*eS*	**Sn**	**08 56 13.4**	**-1.1**
MVM	**Montagne Vaucl**	**2.41**	**286**	*eP*	**Pn**	**08 55 45.5**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.46**	**291**	*eP*	**Pn**	**08 55 46.4**	**-0.4**
SLB	**Belfond**	**2.47**	**268**	*eP*	**Pn**	**08 55 46.2**	**-0.8**
SLB				*eS*	**Sn**	**08 56 17.1**	**+0.8**
LPMF	**Morne Lapointe**	**2.48**	**286**	*eP*	**Pn**	**08 55 46.5**	**-0.6**
ZAM	**Aeronautique**	**2.54**	**285**	*eP*	**Pn**	**08 55 47.2**	**-0.7**
TRMF	**Trois Ilets**	**2.55**	**284**	*eP*	**Pn**	**08 55 47.6**	**-0.4**
BIM	**Bigot**	**2.57**	**284**	*eP*	**Pn**	**08 55 47.6**	**-0.7**
SSV	**Crater Summit**	**2.68**	**258**	*eP*	**Pn**	**08 55 49.3**	**-0.7**
FDF	**Fort de France**	**2.70**	**288**	*eP*	**Pn**	**08 55 49.9**	**-0.2**
SVV	**Soufriere Volc**	**2.71**	**258**	*eP*	**Pn**	**08 55 50.5**	**+0.2**
BAMF	**Morne Balai**	**2.72**	**290**	*eP*	**Pn**	**08 55 50.8**	**+0.3**
GBMF	**Grand Be**	**2.73**	**289**	*eP*	**Pn**	**08 55 50.4**	**-0.2**
PML	**Morne Lenard**	**2.74**	**289**	*eP*	**Pn**	**08 55 50.6**	**-0.2**
SVN	**Savane Anatole**	**2.75**	**290**	*eP*	**Pn**	**08 55 50.8**	**0.0**
SVB	**Belmont**	**2.75**	**257**	*eP*	**Pn**	**08 55 50.3**	**-0.5**
SVB				*eS*	**Sn**	**08 56 23.3**	**+0.2**
SVB	**Belmont**	**2.75**	**257**		**Pn**	**08 55 50.1**	**-0.7**
PCM	**Pelee Case Pet**	**2.78**	**289**	*eP*	**Pn**	**08 55 51.4**	**+0.2**
DLPL	**La Plaine**	**3.01**	**298**	*eP*	**Pn**	**08 55 54.5**	**+0.1**
DLPL	**La Plaine**	**3.01**	**298**	Pn	**Pn**	**08 55 54.8**	**+0.3**
GCMP	**Grenada, Carri**	**3.18**	**244**	*eP*	**Pn**	**08 55 56.2**	**-0.5**
GCMP				*eS*	**Sn**	**08 56 32.5**	**-1.3**
DSLB	**Salisbury**	**3.21**	**299**	*eP*	**Pn**	**08 55 57.2**	**0.0**
TOSP	**Speyside**	**3.27**	**218**	*eP*	**Pn**	**08 55 58.0**	**0.0**
TOSP				*eS*	**Sn**	**08 56 33.3**	**-2.6**
TOSP	**Speyside**	**3.27**	**218**	Pn	**Pn**	**08 55 57.0**	**-0.9**
MAGL	**Barre de l'ile**	**3.37**	**307**	*eP*	**Pn**	**08 55 59.7**	**+0.4**
MAGL				*eS*	**Sn**	**08 56 38.0**	**-0.3**
H05N1	**Guadeloupe/Mar**	**3.44**	**314**	Pn	**Pn**	**08 55 59.2**	**-1.1**
H05N1				Sn	**Sn**	**08 56 38.0**	**-2.1**
	SNR=57						
GRGR	**Grenville**	**3.55**	**240**	*eP*	**Pn**	**08 56 01.2**	**-0.6**
GRGR	**Grenville**	**3.55**	**240**	Pn	**Pn**	**08 56 01.4**	**-0.3**
TDBA	**Terre de Bas,**	**3.59**	**303**	*eP*	**Pn**	**08 56 03.7**	**+1.3**
TDBA				*eS*	**Sn**	**08 56 43.9**	**+0.1**
TBG	**Guadaloupe-3**	**3.60**	**303**	*eP*	**Pn**	**08 56 02.6**	**+0.1**
CBE	**Ff, Capester**	**3.69**	**306**	*eP*	**Pn**	**08 56 04.3**	**+0.6**
ABD	**La Joyeuse, An**	**3.85**	**312**	*eP*	**Pn**	**08 56 05.9**	**0.0**
ABD				*eS*	**Sn**	**08 56 48.1**	**-2.1**
TRN	**Trinidad (W)**	**4.31**	**222**	*eP*	**Pn**	**08 56 12.3**	**+0.1**
TRN	**Trinidad (W)**	**4.31**	**222**	*eS*	**Sn**	**08 56 59.0**	**-2.6**
ANBD	**Bethesda, Anti**	**4.43**	**315**	*eP*	**Pn**	**08 56 13.7**	**-0.2**
ANBD	**Bethesda, Anti**	**4.43**	**315**	*eS*	**Sn**	**08 57 02.9**	**-1.7**
BPA	**Boggy Peak**	**4.49**	**314**	*eP*	**Pn**	**08 56 14.3**	**-0.5**
BPA	**Boggy Peak**	**4.49**	**314**	*eS*	**Sn**	**08 57 04.0**	**-2.1**
ANDO	**Antigua, Disas**	**4.52**	**315**	*eP*	**Pn**	**08 56 16.0**	**+0.9**
ANOC	**Antigua Open C**	**4.53**	**315**	*eP*	**Pn**	**08 56 15.1**	**-0.1**
ANOC	**Antigua Open C**	**4.53**	**315**	*eS*	**Sn**	**08 57 05.8**	**-1.1**
ANWB	**Willy Bob**	**4.90**	**320**	*eP*	**Pn**	**08 56 19.4**	**-0.9**
ANWB	**Willy Bob**	**4.90**	**320**	*eS*	**Sn**	**08 57 13.7**	**-2.3**
SKI	**Saint Kitts**	**5.32**	**310**	*eP*	**Pn**	**08 56 26.5**	**+0.4**
SKI	**Saint Kitts**	**5.32**	**310**	*eS*	**Sn**	**08 57 22.5**	**-3.9**
SKI	**Saint Kitts**	**5.32**	**310**	Pn	**Pn**	**08 56 26.4**	**+0.2**
SMRT	**St. Maarten**	**6.03**	**314**	Pn	**Pn**	**08 56 34.8**	**-1.1**
PLCV	**Puerto La Cruz**	**7.03**	**239**		**Pn**	**08 56 49.6**	**-0.1**
PCRV	**Puerto La Cruz**	**7.06**	**239**	Pn	**Pn**	**08 56 49.6**	**-0.5**
	7.5nm,0.3s,baz=47,slow=5.4,SNR=34						
PCRV				Sn	**Sn**	**08 58 08.4**	**-1.0**
	baz=60,slow=13,SNR=1.1						
STVI	**Saint Thomas**	**7.61**	**306**	Pn	**Pn**	**08 56 58.3**	**+0.6**
CUPR	**Culebra, Puert**	**7.85**	**305**		**Pn**	**08 57 00.9**	**0.0**
MTP	**Monte Pirata**	**7.96**	**302**	Pn	**Pn**	**08 57 02.5**	**+0.1**
CBYP	**Canovanas**	**8.29**	**302**	Pn	**Pn**	**08 57 07.6**	**+0.5**
GCPR	**Guaynabo City**	**8.50**	**302**		**Pn**	**08 57 10.4**	**+0.5**
AOPR	**Arecibo Observ**	**9.08**	**300**		**Pn**	**08 57 19.6**	**+1.9**
MLPR	**Magueyes Islan**	**9.16**	**297**	Pn	**Pn**	**08 57 17.7**	**-1.1**
AGPR	**Aguadilla, PR**	**9.43**	**300**	Pn	**Pn**	**08 57 24.7**	**+2.1**
MDP	**Montagnes des**	**10.48**	**146**	Pn	Pn	08 57 30.3	-6.8
	2.2nm,0.3s,baz=333,slow=18,SNR=21						
MDP				Sn	Sn	08 59 16.6	-17
	1.3nm,0.3s,baz=62,slow=10,SNR=2.0						
SDDR	**Presa de Saban**	**13.26**	**294**	Pn	**Pn**	**08 58 15.6**	**+0.5**
ROSC	**El Rosal**	**18.01**	**241**	LR	LR	09 08 09.5	
	comp=Z,113nm,20.1s,baz=40,slow=43						
TXAR	**Lajitas Array**	**44.42**	**298**	P	**P**	**09 03 19.1**	**+1.9**
	0.2nm,0.7s,baz=127,slow=8.3,SNR=4.3						
PDAR	**Pinedale Array**	**52.33**	**314**	P	**P**	**09 04 17.9**	**-0.3**
	0.3nm,0.7s,baz=105,slow=9.8,SNR=4.5						
PLCA	**Paso Flores**	**55.50**	**191**	P	**P**	**09 04 42.2**	**+1.2**
	1.0nm,0.7s,baz=32,slow=15,SNR=5.4						
TORD	**Torodi Ar. Bea**	**58.39**	**83**	P	**P**	**09 05 01.8**	**-0.1**
	0.3nm,0.7s,baz=298,slow=7.6,SNR=1.6						
FINES	**FINESS Array B**	**75.31**	**30**	P	**P**	**09 06 48.8**	**0.0**
	0.6nm,0.5s,baz=251,slow=5.8,SNR=4.6						

*IDC **18** 08:57:05.8±0.8, 30°.31N×94°.77E, h0km, mb3.8/12,*
mb1 3.9/15, mb1mx3.8/45, mbtmp3.8/15, ML4.0/2, Error
ellipse: s-maj=30.1km s-min=17.1km az=60.0
ISC 18 08:57:09.4±0.7, 30°.3N±0°.1×94°.8E±0°.2, h23km, n15,
σ0s81/15, mb3.7/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.40**	**162**	Pn	**Pn**	**09 00 04.6**	**0.0**
	0.7nm,0.3s,baz=331,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**19.09**	**333**	P	**P**	**09 01 29.3**	**-1.1**
	0.1nm,0.3s,baz=138,slow=13,SNR=9.6						
SONM	**Songino Array**	**19.59**	**24**	P	**Pn**	**09 01 36.7**	**-0.7**
	baz=213,slow=13,SNR=12						
TLY	**Talaya**	**22.30**	**15**	P	**P**	**09 02 06.3**	**+1.3**
	1.1nm,0.4s,baz=311,slow=20,SNR=1.7						
KURBB	**Kurchatov Arra**	**23.66**	**334**	P	**P**	**09 02 18.0**	**-0.9**
	3.7nm,1.0s,baz=143,slow=9.8,SNR=13						
ZALV	**Zalesovo Beam**	**24.68**	**346**	P	**P**	**09 02 27.7**	**-0.7**
	1.1nm,0.6s,baz=145,slow=5.4,SNR=4.7						
BVAR	**Borovoye Array**	**28.85**	**329**	P	**P**	**09 03 07.0**	**+1.1**
	0.5nm,0.4s,baz=179,slow=19,SNR=3.8						
BRTR	**Keskin Array B**	**50.13**	**298**	P	**P**	**09 06 04.0**	**+1.0**
	0.4nm,0.5s,baz=64,slow=3.4,SNR=3.1						
AKASG	**Malin Array Be**	**52.06**	**313**	P	**P**	**09 06 16.6**	**-0.6**
	3.0nm,1.0s,baz=78,slow=6.9,SNR=7.2						
FINES	**FINESS Array B**	**53.76**	**326**	P	**P**	**09 06 28.9**	**-0.6**
	0.7nm,0.5s,baz=99,slow=6.2,SNR=5.4						
WRA	**Warramunga Arr**	**62.79**	**138**	P	**P**	**09 07 33.4**	**+0.2**
	0.6nm,0.8s,baz=335,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**65.49**	**141**	P	**P**	**09 07 50.7**	**-0.2**
	0.2nm,0.6s,baz=327,slow=9.1,SNR=5.1						
ILAR	**Eielson Array**	**73.82**	**23**	P	**P**	**09 08 42.0**	**+0.3**
	0.4nm,0.9s,baz=311,slow=5.2,SNR=4.2						
ESDC	**Sonseca Array**	**77.44**	**309**	P	**P**	**09 09 03.1**	**+0.1**
	0.2nm,0.5s,baz=48,slow=6.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**86.14**	**283**	P	**P**	**09 09 48.6**	**-0.5**
	1.4nm,1.1s,baz=48,slow=2.2,SNR=4.4						

*IDC **18** 09:07:43.2±0.8, 36°.47S×79°.13E, h0km, mb4.0/8,*
mb1 4.1/8, mb1mx3.8/37, mbtmp4.0/8, MS4.1/5, Ms1 4.0/5,
ms1mx3.5/31, Error ellipse: s-maj=31.3km s-min=23.1km
az=19.0
*NEIC **18** 09:07:44.2±2.0, 36

QSPA	South Pole Qui	53.58	180	P	P	09 17 03.9	-0.9
CAN	Canberra	55.40	111	P	P	09 17 19.6	+1.2
EIDS	Eidsvold	61.43	102	P	P	09 18 00.1	-0.5
QIZ	Qiongzhong	62.46	33	P	P	09 18 06.1	-1.4
PYZ	Puysegur Point	63.23	129	P	P	09 18 12.5	+0.2
WKZ	Wanaka	65.30	128	P	P	09 18 26.1	+0.1
MANU	Manus Island	71.39	78	P	P	09 19 04.5	0.0
LIFNC	LIFOU	76.47	106	P	P	09 19 33.7	-0.5
KK31	Karatay Array	79.69	354	P	P	09 19 51.9	+0.5
KK31				IAmb	IAmb	09 19 52.8	
	comp=Z,12nm,1.6s						
KKAR	Karatay Array	79.69	354	P	P	09 19 51.2	-0.2
KKAR				IAmb	IAmb	09 19 52.8	
	comp=Z,12nm,1.6s						
KKAR	Karatay Array	79.69	354	P	P	09 19 50.9	-0.5
MK31	Makanchi Array	83.04	2	P	P	09 20 08.4	-0.6
MK31				IAmb	IAmb	09 20 09.2	
	comp=Z,4.4nm,1.6s						
MKAR	Makanchi Array	83.04	2	P	P	09 20 08.4	-0.7
	comp=Z,0.8nm,0.8s,baz=190,slow=6.2,SNR=6.0						
MKAR	Makanchi Array	83.04	2	P	P	09 20 08.6	-0.5
MAKZ	Makanchi	83.05	2	P	P	09 20 09.0	-0.1
BRTR	Keskin Array B	86.70	327	P	P	09 20 29.3	+1.5
	comp=Z,1.5nm,1.2s,baz=150,slow=3.2,SNR=1.7						
KURBB	Kurchatov Arra	86.83	360	P	P	09 20 29.1	+1.1
	comp=Z,0.9nm,0.7s,baz=192,slow=5.0,SNR=6.2						
KURK	Kurchatov	86.92	360	P	P	09 20 29.1	+0.7
TORD	Torodi Ar. Bea	87.90	288	LR	LR	09 59 04.6	
	comp=Z,177nm,18.1s,baz=135,slow=35						
ASAJ	Asahikawa	98.78	41	LR	LR	10 01 52.5	
	comp=Z,76nm,19.9s,baz=338,slow=33						
YKA	Yellowknife Ar	152.69	14	PKPbc	PKiKP	09 27 40.4	+0.3
	comp=Z,0.3nm,0.6s,baz=339,slow=3.2,SNR=3.3						

*IDC **18** 09:10:34.6±1.1, 30°.23N×94°.72E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.5/37, mbtmp3.5/9, ML3.6/2, MS4.5/1, Ms1 4.5/1, ms1mx2.8/39, Error ellipse: s-maj=39.8km s-min=20.3km az=56.0*

*NEIC **18** 09:10:40.0±1.2, 30°.38N±0°.09×94°.9E±0°.1, h36km±7km, mb4.1/29, Error ellipse: s-maj=17.9km s-min=7.6km az=49.0*

ISC 18 09:10:38.0±0.8, 30°.36N±0°.09×94°.75E±0°.09, h23km, n44, σ1§14/42, **mb3.9**/15, **Xizang**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LSA	Lhasa	3.19	259		Pb	09 11 32.1	-2.3
SHL	Shillong	5.40	209	Pn	Pn	09 11 58.5	+1.1
TARG	Taragay, Kyrgy	17.76	314	P	Pn	09 14 42.1	-2.1
TARG				IAmb	IAmb	09 15 01.3	
	comp=Z,13nm,1.2s						
PRZ	Przheval'sk	17.84	317	P	P	09 14 47.0	+1.6
KDJ	Kajisay	18.37	315		P	09 14 50.0	-1.3
KDJ				IAmb	IAmb	09 14 58.7	
	comp=Z,13nm,1.4s						
NIL	Nilore	18.52	286	P	Pn	09 14 54.0	+0.8
MK31	Makanchi Array	19.05	333	P	P	09 14 58.6	+0.1
MKAR	Makanchi Array	19.05	333	P	P	09 14 59.4	+0.9
	comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=6.4						
MKAR	Makanchi Array	19.05	333	P	P	09 14 59.2	+0.6
MAKZ	Makanchi	19.18	332	P	P	09 15 00.9	+0.9
BOOM	Boomskoye usch	19.34	314	P	P	09 15 02.9	+1.0
SONM	Songino Array	19.61	24	P	Pn	09 15 06.5	+0.2
	comp=Z,0.2nm,0.3s,baz=207,slow=13,SNR=10						
SONM	Songino Array	19.61	24	P	P	09 15 03.9	-0.9
ULN	Ulaanbaatar	19.88	25	P	P	09 15 06.0	-1.8
AAK	Ala-Archa	20.32	313	P	P	09 15 13.4	+0.8
AAK				IAmb	IAmb	09 15 19.3	
	comp=Z,15nm,1.1s						
FRU1	Bishkek	20.32	313	P	P	09 15 14.2	+1.6
DRK	Karamyk	20.86	302	P	P	09 15 18.0	-0.7
BTK	Batken	21.76	303	P	P	09 15 29.2	+1.0
BTK				IAmb	IAmb	09 15 32.8	
	comp=Z,17nm,1.2s						
GAR	Garm	21.82	300	P	P	09 15 30.3	+1.5
GAR				IAmb	IAmb	09 15 32.4	
	comp=Z,11nm,0.9s						
KBL	Kabul	22.07	288	P	P	09 15 33.1	+1.5
KBL				IAmb	IAmb	09 15 39.5	
	comp=Z,15nm,1.1s						
CHGR	Chuyangaron	22.61	298	P	P	09 15 37.5	+0.3
KK31	Karatay Array	23.13	310	P	P	09 15 44.1	+1.6
KK31				IAmb	IAmb	09 15 48.2	
	comp=Z,6.0nm,1.4s						
KKAR	Karatay Array	23.13	310	P	P	09 15 44.5	+2.0
KKAR	Karatay Array	23.13	310	P	P	09 15 44.3	+1.8
KKAR				IAmb	IAmb	09 15 48.2	
	comp=Z,6.0nm,1.4s						
KURBB	Kurchatov Arra	23.61	334	P	P	09 15 47.5	+0.4
	comp=Z,1.6nm,0.8s,baz=144,slow=10,SNR=12						
KURK	Kurchatov	23.65	334	P	P	09 15 47.5	0.0
ZAA0	Zalesovo Array	24.65	346	P	P	09 15 57.1	+0.3
ZALV	Zalesovo Beam	24.65	346	P	P	09 15 58.4	+1.7
	comp=Z,0.7nm,0.6s,baz=142,slow=7.3,SNR=1.7						
ZALV	Zalesovo Beam	24.65	346	P	P	09 15 57.6	+0.9
BRVK	Borovoye	28.86	329	P	P	09 16 34.4	-0.2
BRVK				IAmb	IAmb	09 16 47.7	
	comp=Z,3.6nm,1.1s						
ABKAR	Akbulak array	32.34	316	P	P	09 17 05.1	-0.3
GUMO	Guam	48.98	99	LR	LR	09 40 52.5	
	comp=Z,446nm,18.4s,baz=136,slow=37						
BR131	Keskin Array S	50.05	298	P	P	09 19 32.0	+0.9
BR131				IAmb	IAmb	09 19 35.3	
	comp=Z,2.4nm,0.9s						
BRTR	Keskin Array B	50.05	298	P	P	09 19 31.5	+0.4
	comp=Z,0.4nm,0.6s,baz=45,slow=4.3,SNR=3.8						
AKASG	Malin Array Be	51.99	313	P	P	09 19 46.0	+0.7
	comp=Z,1.4nm,0.8s,baz=81,slow=6.1,SNR=5.1						
AKASG	Malin Array Be	51.99	313	IAmb	IAmb	09 20 10.1	
	comp=Z,1.8nm,1.3s						
BURAR	Bucovina Array	54.92	309	P	P	09 20 07.1	0.0
BURAR				IAmb	IAmb	09 20 07.5	
	comp=Z,1.7nm,1.4s						
WRA	Warramunga Arr	62.86	138	P	P	09 21 02.1	-0.2
	comp=Z,0.4nm,0.8s,baz=328,slow=7.8,SNR=1.8						
ZCCA	Zocca	65.32	308	P	P	09 21 18.7	+0.3
AS31	Alice Springs	65.55	141	P	P	09 21 18.6	-1.4
AS31				IAmb	IAmb	09 21 36.6	
	comp=Z,1.3nm,1.1s						
ASAR	Alice Springs	65.55	141	P	P	09 21 19.6	-0.3
	comp=Z,0.4nm,0.7s,baz=321,slow=6.7,SNR=4.3						
ASAR	Alice Springs	65.55	141	P	P	09 21 18.9	-1.0
ILAR	Eielson Array	73.84	23	P	P	09 22 11.1	+0.6
	comp=Z,0.4nm,1.0s,baz=305,slow=3.2,SNR=4.6						
DLBC	Dease Lake	83.98	22	P	P	09 23 05.9	-0.4

*IDC **18** 09:22:25.5±0.8, 10°.79S×165°.02E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.2/43, mbtmp4.3/16, ML4.7/1, MS4.4/23, Ms1 4.4/23, ms1mx4.3/29, Error ellipse: s-maj=25.3km s-min=19.7km az=133.0*

*GCMT **18** 09:22:27.5±0.3, 10°.37S±0°.02×164°.85E±0°.02, h12km, MW5.0/78, Moment Tensor Solution. s6,c8; s78,c112; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.61±.19; Mθθ-1.02±.19; Mφφ0.41±.19; Mrθ-0.08±.50; Mφθ-3.95±.12; Mφr1.88±.62; Best double couple: M0=4.46000×1016 NP1:φs=274.00000°, δ64.00000°, λ173.00000°. NP2: φs=7.00000°, δ84.00000°, λ26.00000°. Principal axes: T 4.3340, Plg23.0000°, Azm233.0000°; N 0.2540, Plg63.0000°, Azm20.0000°; P -4.5850, Plg13.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **18** 09:22:28.7±0.0, 10°.51S×165°.12E, h7km, mB5.2/25, mb4.7/37, Ms4.8/18, Ms7 4.4/19*

*MOS **18** 09:22:29.6±1.5, 10°.60S×164°.64E, h18km, mb5.1/35, Error ellipse: s-maj=9.3km s-min=8.6km az=35.3*

*NEIC **18** 09:22:31.5±1.6, 10°.65S±0°.08×164°.78E±0°.04, h10km±1km, mb5.1/77, Error ellipse: s-maj=14.3km s-min=5.9km az=8.0*

ISC 18 09:22:31.6±0.3, 10°.66S±0°.06×164°.67E±0°.06, h10km, n295, σ1§41/262, **mb4.9**/79, **MS4.5**/30, **5C-8D, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	Honiara	4.81	284	Pn	Pn	09 23 43.7	-0.5
	27nm,0.3s,baz=128,slow=0.8,SNR=7.3						
HNR				Lg	Lg	09 25 07.4	
	47nm,0.3s,baz=169,slow=14,SNR=1.8						
HNR				LR	LR	09 25 45.8	
	comp=Z,5μm,18.3s,baz=114,slow=39						
HNR	Honiara	4.81	284	P	Pn	09 23 45.0	+0.9
HNR	Honiara	4.81	284	Pn	Pn	09 23 45.0	+0.9
SANVU	Saraoutou	5.36	153		Pn	09 23 49.7	-2.0
LIFNC	LIFOU	10.36	166	Pn	Pn	09 24 59.3	-1.1
ONTNC	Ouen Toro	11.71	172	Pn	Pn	09 25 18.0	-0.8
OUENC	Ouen Island, N	11.88	170		Pn	09 25 20.3	-0.8
PINNC	Pines Island,	12.18	168	Pn	Pn	09 25 23.9	-1.3
MSVF	Nonsavu	14.75	120	LR	LR	09 30 32.2	
	comp=Z,3μm,18.9s,baz=310,slow=34						
MSVF	Nonsavu	14.75	120	P	Pn	09 26 03.8	+3.2
MSVF	Nonsavu	14.75	120	P	Pn	09 26 03.8	+3.2
PMG	Port Moresby	17.29	273	LR	LR	09 32 51.2	
	comp=Z,1μm,19.1s,baz=116,slow=36						
PMG	Port Moresby	17.29	273	P	Pn	09 26 35.3	+2.0
PMG				pmax	pmax		
	comp=Z,86nm,1.2s						
PMG	Port Moresby	17.29	273	P	Pn	09 26 35.3	+2.0
PATS	Pohnpei	18.50	340		P	09 26 48.9	+0.8
MANU	Manus Island	19.20	295	P	P	09 26 54.4	-1.4
EIDS	Eidsvold	19.49	220		P	09 26 59.0	0.0
CTA	Charters Tower	20.06	240	LR	LR	09 34 38.7	
	comp=Z,1μm,19.2s,baz=70,slow=36						
CTAO	Charters Tower	20.06	240	P	P	09 27 05.5	+0.3
CTAO				pmax	pmax		
	comp=Z,19nm,1.2s						
CTAO	Charters Tower	20.06	240	P	P	09 27 05.5	+0.3
ARMA	Armidale	23.10	210	P	P	09 27 38.7	+0.8
ARMA				IAmb	IAmb	09 28 07.3	
	comp=Z,63nm,1.4s						
GENI	Genyem	25.60	287	P	P	09 27 58.9	-2.5
	comp=Z,40nm,0.5s						
KMRZ	Kaimai	28.90	161	P	P	09 28 46.5	+16
URZ	Urewera	29.66	160	P	P	09 28 30.6	-6.9
	comp=Z,22nm,1.0s,baz=282,slow=19,SNR=2.9						
URZ	Urewera	29.66	160	IAmb	IAmb	09 28 33.1	
	comp=Z,87nm,1.5s						
STKA	Stephens Creek	30.01	222	P	P	09 28 36.7	-3.9
	comp=Z,1.5nm,0.9s,baz=347,slow=11,SNR=1.4						
STKA				LR	LR	09 39 55.2	
	comp=Z,1μm,20.3s,baz=37,slow=35						
STKA	Stephens Creek	30.01	222	P	P	09 28 36.7	-4.0
RAHZ	Arahi	30.24	161	P	P	09 28 44.0	+1.3
BKZ	Black Stump Fm	30.28	162	P	P	09 28 40.5	-2.5
BKZ	Black Stump Fm	30.28	162	P	P	09 28 43.3	+0.2
NMHZ	Naumai	30.32	161	P	P	09 28 45.4	+2.0
WR0	Warramunga Arr	30.45	249	P	P	09 28 45.0	+0.3
BHHZ	Black Hill Sta	30.45	162	P	P	09 28 45.2	+0.6
KWHZ	Kaweka Forest	30.50	162	P	P	09 28 46.9	+1.9
WB0	Warramunga Arr	30.54	249	P	P	09 28 45.7	+0.1
WRAB	Tennant Creek	30.62	249	⇓eP	P	09 28 47.0	+0.8
WRAB				pmax	pmax		
	comp=Z,20nm,2.6s						
WB2	Warramunga Arr	30.62	249	P	P	09 28 46.9	+0.6
WRA	Warramunga Arr	30.63	249	P	P	09 28 44.0	-2.3
	comp=Z,0.6nm,0.5s,baz=79,slow=8.9,SNR=2.8						
WRA				LR	LR	09 40 59.4	
	comp=Z,996nm,18.3s,baz=75,slow=36						
WRA	Warramunga Arr	30.63	249	P	P	09 28 47.1	+0.8
WRA	Warramunga Arr	30.63	249	P	P	09 28 47.1	+0.8
KRHZ	Kereru	30.68	162	P	P	09 28 46.2	-0.4
PNHZ	Pukenui	30.88	163	P	P	09 28 50.9	+2.6
KAHZ	Kahuranaki	30.98	162	P	P	09 28 51.8	+2.7
WPHZ	Waipukurau	31.09	162	P	P	09 28 51.7	+1.6
DVHZ	Dannevirke	31.23	163	P	P	09 28 53.6	+2.3
MRZ	Mangatainoka R	31.40	164	P	P	09 28 55.3	+2.4
BFZ	Birch Farm	31.60	163	P	P	09 28 53.5	-1.2
BFZ	Birch Farm	31.60	163	P	P	09 28 55.2	+0.5
TOO	Toolangi	31.86	210	P	P	09 28 57.8	+0.7
TOO				pmax	pmax		
	comp=Z,14nm,1.2s						
TOO	Toolangi	31.86	210	P	P	09 28 57.8	+0.7
ASAR	Alice Springs	32.03	242	P	P	09 28 56.0	-2.6
	comp=Z,0.8nm,0.7s,baz=60,slow=10,SNR=2.0						
ASAR				LR	LR	09 41 45.2	
	comp=Z,760nm,18.3s,baz=71,slow=36						
ASAR	Alice Springs	32.03	242	P	P	09 28 56.0	-2.6
LTZ	Lake Taylor	32.68	170	P	P	09 29 02.7	-1.4
LTZ				IAmb	IAmb	09 29 19.1	
	comp=Z,26nm,1.2s						
RPZ	Rata Peaks	33.39	172	P	P	09 29 09.7	-0.6
SIJI	Sorong	34.59	284	LR	LR	09 42 51.7	
	comp=Z,333nm,20.8s,baz=334,slow=35						
KNRA	Kununurra	35.28	258	P	P	09 29 26.0	-1.0
KNRA				IAmb	IAmb	09 29 54.3	
	comp=Z,23nm,0.8s						
TAU	Tasmania Unive	35.51	202	P	P	09 29 28.8	+0.2
TAU				pmax	pmax		
	comp=Z,66nm,1.5s						
TAU	Tasmania Unive	35.51	202	P	P	09 29 28.8	+0.2
TAU				IAmb	IAmb	09 29 46.6	
	comp=Z,66nm,1.4s						
PPT	Papeete	44.81	104	LR	LR	09 46 20.0	
	comp=Z,386nm,18.8s,baz=286,slow=32						
PPT2	Papeete2	44.82	104	eLQ	LQ	09 41 19.9	
	comp=Z,981nm,26.2s						
PPT2				eLR	LR	09 43 15.4	
	comp=Z,508nm,26.0s,baz=268						
TBI	Tubuai	45.45	112	eLQ	LQ	09 41 38.0	
	comp=Z,1μm,33.5s						
TBI				eLR	LR	09 43 34.0	
	comp=Z,722nm,30.8s,baz=273						
NWAO	Narrogin (SRO)	48.80	235	LR	LR	09 51 29.2	
	comp=Z,954nm,20.2s,baz=94,slow=36						
MJAR	Matsushiro Arr	53.15	333	LR	LR	09 57 43.0	
	comp=Z,91nm,18.1s,baz=185,slow=40						
MAJO	Matsushiro	53.15	333	ceP	P	09 31 51.6	+1.8
MAJO				pmax	pmax		
	comp=Z,17nm,1.4s						
MAT	Matsushiro	53.15	333	P	P	09 31 50.2	+0.4
MAT				S	S	09 39 21.4	+0.8
JKA	Kamikawa-asahi	58.09	341	P	P	09 32 25.9	+0.8
JKA				IAmb	IAmb	09 32 49.3	
	comp=Z,30nm,0.9s						
ASAJ	Asahikawa	58.09	341	P	P	09 32 21.6	-3.6
	comp=Z,4.4nm,0.8s,baz=200,slow=16,SNR=5.5						
ASAJ	Asahikawa	58.09	341	P	P	09 32 25.9	+0.8
ASAJ				pmax	pmax		
	comp=Z,30nm,0.9s						
KSAR	Wonju Array Be	58.98	326	P	P	09 32 32.4	+0.9
KSAR	Wonju Array Be	58.98	326	P	P	09 32 32.4	+0.9
YSS	Yuzh-Sakhalins	60.61	343	eP	P	09 32 42.5	0.0
YSS				eS	S	09 40 54.7	-3.9
YSS				e		09 41 08.9	
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YSS	Yuzh-Sakhalins	60.61	343	P	P	09 32 42.8	+0.4
NJ2	Nanjing	61.01	316	eP	P	09 32 48.0	+2.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VLA	Vladivostok	61.32	333	⇑eP	P	09 32 49.2	+1.8
VLA				pmax	pmax		
	comp=Z,13nm,0.8s						
QIZ	Qiongzhong	61.57	298	P	P	09 32 51.3	+1.7
QIZ				S	S	09 41 15.4	+3.5
QIZ				pmax	pmax		
	comp=Z,310nm,3.2s						
QIZ				LR	LR		
	comp=Z,210nm,6.1s						
QIZ				LR	LR		
	comp=Z,330nm,21.4s						
USA0B	Ussuriysk Arra	62.14	334	P	P	09 32 49.6	-3.3
USA0B				pmax	pmax		
	comp=Z,50nm,1.4s						
USA0B	Ussuriysk Arra	62.14	334	P	P	09 32 49.6	-3.3
USRK	Ussuriysk Ar.	62.14	334	P	P	09 32 49.3	-3.6
	comp=Z,1.1nm,0.6s,baz=151,slow=4.5,SNR=2.6						
USRK	Ussuriysk Ar.	62.14	334	P	P	09 32 49.6	-3.3
USRK	Ussuriysk Ar.	62.14	334	P	P	09 32 49.6	-3.3
PTCN	Pitcairn Islan	63.20	113	P	P	09 32 58.8	-1.8
MDJ	Mudanjiang	63.52	333	P	P	09 33 00.1	-2.1
MDJ				IAmb	IAmb	09 33 27.5	
	comp=Z,21nm,1.2s						
PEA0B	Petropavlovsk-	63.80	355	P	P	09 33 02.0	-1.8
PEA0B				pmax	pmax		
	comp=Z,32nm,1.3s						
PEA0B	Petropavlovsk-	63.80	355	P	P	09 33 02.0	-1.8
PETK	Petropavlovsk-	63.80	355	LR	LR	09 55 28.2	
	comp=Z,359nm,21.7s,baz=168,slow=31						
PETK	Petropavlovsk-	63.80	355	P	P	09 33 04.0	+0.2
PETK	Petropavlovsk-	63.80	355	P	P	09 33 04.0	+0.2
RPSI	Rantau Prapat	66.75	278	P	P	09 33 22.6	-1.1
RPSI				IAmb	IAmb	09 33 50.3	
	comp=Z,14nm,1.0s						
PSI	Prapat	66.77	278	P	P	09 33 22.6	-1.5
PSI				pmax	pmax		
	comp=Z,14nm,1.0s						
ENH	Enshi	66.84	309	P	P	09 33 22.4	-1.6
ENH				IAmb	IAmb	09 33 50.3	
	comp=Z,29nm,1.3s						
VNDA	Vanda	66.86	181	LR	LR	10 00 05.6	
	comp=Z,320nm,18.2s,baz=12,slow=34						
VNDA	Vanda	66.86	181	P	P	09 33 23.1	-0.3
VNDA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
VNDA	Vanda	66.86	181	P	P	09 33 23.1	-0.3
VNDA				IAmb	IAmb	09 33 27.8	
	comp=Z,9.1nm,1.1s						
SBA	Scott Base	67.19	180	P	P	09 33 26.1	+0.7
SBA				pmax	pmax		
	comp=Z,11nm,1.0s						
SBA	Scott Base	67.19	180	P	P	09 33 26.1	+0.7
SBA				IAmb	IAmb	09 33 32.5	
	comp=Z,11nm,0.9s						
GYA	Guiyang	67.33	305	⇑P	P	09 33 30.4	+3.0
BJT	Baijiatuau	67.51	322	P	P	09 33 27.2	-0.9
BJT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJT	Baijiatuau	67.51	322	P	P	09 33 27.2	-0.9
BJI	Beijing	67.52	322	P	P	09 33 30.1	+2.0
BJI				pP	sP	09 33 32.5	+1.8
BJI				sP	pP	09 33 33.8	+3.8
BJI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMI	Kunming	70.02	302	⇓P	P	09 33 44.3	0.0
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI				LR	LR		
	comp=Z,160nm,17.2s						
KMI				LR	LR		
	comp=Z,220nm,19.4s						
KMI				LR	LR		
	comp=Z,210nm,19.4s						
HHC	Hu-ho-hao-te	70.86	320	eP	P	09 33 52.3	+3.3
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,81nm,6.6s						
CM04	Chiang Mai Arr	70.94	294	P	P	09 33 54.8	+5.0
	comp=Z,10.0nm,1.1s						
CM05	Chiang Mai Arr	70.97	294	P	P	09 34 00.1	+10
	comp=Z,5.5nm,0.7s						
CM02	Chiang Mai Arr	70.98	294	P	P	09 33 54.9	+4.9
	comp=Z,7.8nm,0.9s						
CMAR	Chiang Mai Arr	70.99	294	P	P	09 33 49.0	-1.1
	comp=Z,1.0nm,0.3s,baz=113,slow=4.8,SNR=6.2						
CMAR				LR	LR	10 06 12.0	
	comp=Z,74nm,18.2s,baz=156,slow=37						
CMAR	Chiang Mai Arr	70.99	294	ceP	P	09 33 49.5	-0.6
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	71.10	294	P	P	09 33 50.8	0.0
CHTO				pmax	pmax		
	comp=Z,12nm,1.3s						
CHTO	Chiang Mai	71.10	294	P	P	09 33 50.8	0.0
CHTO				IAmb	IAmb	09 33 55.4	
	comp=Z,12nm,1.2s						
CD2	Chengdu	71.53	308	eP	P	09 33 54.6	+1.4
CD2				LR	LR		
	comp=Z,390nm,16.3s						
CD2				LR	LR		
	comp=Z,340nm,19.6s						
CD2				LR	LR		
	comp=Z,440nm,24.9s						
LZH	Lanzhou	73.72	313	eP	P	09 34 08.0	+1.7
LZH				pP	sP	09 34 11.6	+2.7
LZH				sP	pwP	09 34 14.6	+0.9
LZH				PP	PP	09 36 48.4	-2.5
LZH				SS	SS	09 48 25.8	+4.4
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
LZH				pmax	pmax		
	comp=Z,94nm,4.9s						
LZH				LR	LR		
	comp=Z,130nm,11.9s						
LZH				LR	LR		
	comp=Z,170nm,12.7s						
LZH				LR	LR		
	comp=Z,1μm,15.5s						
SEY	Seymchan	73.98	354	P	P	09 34 05.3	-1.6
	comp=Z,2.0nm,0.9s,baz=199,slow=7.1,SNR=7.7						
SEY	Seymchan	73.98	354	P	P	09 34 05.3	-1.6
ULN	Ulaanbaatar	77.37	324	P	P	09 34 25.4	-1.6
ULN				pmax	pmax		
	comp=Z,13nm,1.1s						
ULN	Ulaanbaatar	77.37	324	P	P	09 34 25.4	-1.6
ULN				IAmb	IAmb	09 34 52.2	
	comp=Z,13nm,1.1s						
YAK	Yakutsk	77.43	344	⇓eP	P	09 34 29.0	+2.3
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK	Yakutsk	77.43	344	P	P	09 34 27.0	+0.3
YAK				IAmb	IAmb	09 34 46.7	
	comp=Z,22nm,1.0s						
SONM	Songino Array	77.73	324	P	P	09 34 26.2	-2.7
	comp=Z,1.7nm,1.0s,baz=114,slow=6.5,SNR=1.3						
SONM				LR	LR	10 06 39.8	
	comp=Z,102nm,21.0s,baz=116,slow=34						
SONM	Songino Array	77.73	324	P	P	09 34 27.6	-1.3
SONM				pmax	pmax		
	comp=Z,11nm,1.2s						
SONM	Songino Array	77.73	324	P	P	09 34 27.6	-1.3
GTA	Gaotai	78.03	314	eP	P	09 34 29.1	-1.7
GTA				pP	sP	09 34 37.5	+4.0
GTA				sP	PcP	09 34 41.8	+1.3
GTA				S	S	09 44 23.5	-1.5
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,94nm,5.3s						
GTA				LR	LR		
	comp=Z,140nm,19.6s						
GTA				LR	LR		
	comp=Z,180nm,18.2s						
GTA				LR	LR		
	comp=Z,240nm,19.3s						
SVW2	Sparrevohn	78.08	19	P	P	09 34 29.6	-0.8
BILL	Bilibino	78.50	1d	iP	P	09 34 32.7	+0.1
BILL				e		09 34 41.5	
BILL				e		09 37 26.0	
BILL				pmax	pmax		
	comp=Z,25nm,1.3s						
BILL				MLR	MLR		
	comp=Z,310nm,18.0s						
BILL	Bilibino	78.50	1	P	P	09 34 33.0	+0.4
BILL				IAmb	IAmb	09 34 56.8	
	comp=Z,30nm,1.2s						

LSA pmax pmax
comp=Z,7.0nm,0.5s
LSA Lhasa 81.26 302 P **P** **09 34 48.2 -0.7**
LSA IAmb IAmb 09 35 10.5
comp=Z,6.7nm,0.5s
KLU Klutina 81.63 22 P **P** **09 34 49.9 +0.2**
baz=229
KLU Klutina 81.63 22 P **P** **09 34 49.6 -0.1**
KLU IAmb IAmb 09 34 59.6
comp=Z,23nm,1.4s
RPN Rapa Nui 81.69 116 LR LR 10 05 29.2
comp=Z,119nm,19.8s,baz=252,slow=32
WAT6 Susitna Watana 81.72 20 P **P** **09 34 49.2 -1.1**
baz=227
BMRM Bremner River 81.77 22 P **P** **09 34 50.5 +0.1**
baz=230
BMRM Bremner River 81.77 22 P **P** **09 34 50.3 -0.2**
RDOG Red Dog Mine 81.86 12 P **P** **09 34 52.6 +1.9**
baz=212
RDOG Red Dog Mine 81.86 12 P **P** **09 34 51.6 +0.9**
RDOG IAmb IAmb 09 34 53.3
comp=Z,16nm,0.8s
RND Reindeer 81.92 19 P **P** **09 34 49.5 -1.7**
RND pmax pmax
comp=Z,21nm,1.2s
RND Reindeer 81.92 19 P **P** **09 34 49.5 -1.7**
RND IAmb IAmb 09 34 55.2
comp=Z,21nm,1.2s
WAX Waxell Ridge 82.12 23 P **P** **09 34 50.8 -1.5**
MCK McKinley 82.12 19 P **P** **09 34 50.3 -1.9**
MCK pmax pmax
comp=Z,27nm,1.3s
MCK McKinley 82.12 19 P **P** **09 34 51.9 -0.4**
baz=226,SNR=5.1
MCK McKinley 82.12 19 P **P** **09 34 50.3 -1.9**
MCK IAmb IAmb 09 34 52.6
comp=Z,27nm,1.3s
N25K Chitina, Valde 82.19 22 P **P** **09 34 52.5 -0.2**
baz=230,SNR=8.7
N25K Chitina, Valde 82.19 22 P **P** **09 34 52.8 +0.1**
N25K IAmb IAmb 09 34 54.5
comp=Z,29nm,1.1s
CRQM Cirque 82.20 23 P **P** **09 34 51.4 -1.5**
CRQE Cirque 82.21 23 P **P** **09 34 53.1 +0.3**
baz=232,SNR=9.0
I21K Tanana 82.24 17 P **P** **09 34 53.4 +0.7**
baz=223,SNR=5.1
MESA MESA 82.31 24 P **P** **09 34 53.3 -0.1**
baz=233
TGL Tana Glacier 82.32 23 P **P** **09 34 53.3 -0.1**
IMAR Indian Mountai 82.34 16 P **P** **09 34 53.0 -0.3**
GLB Gilahina Butte 82.37 22 P **P** **09 34 53.4 -0.3**
ISLE Juniper Island 82.41 23 P **P** **09 34 53.0 -0.9**
MLY Manley 82.49 17 P **P** **09 34 54.0 -0.2**
baz=224
MLY Manley 82.49 17 P **P** **09 34 53.8 -0.4**
MLY IAmb IAmb 09 34 54.9
comp=Z,11nm,1.2s
HARP HAARP 82.50 21 P **P** **09 34 55.0 +0.8**
baz=229
MCARA McCarthy VSAT 82.63 23 P **P** **09 34 55.3 +0.4**
baz=232
NEA2 Nenana 82.68 18 P **P** **09 34 54.2 -0.9**
baz=226,SNR=5.6
TABL Table Mountain 82.79 24 P **P** **09 34 55.8 -0.2**
WRH Wood River Hil 82.91 19 P **P** **09 34 54.8 -1.4**
PINM Pinnacle 82.94 24 P **P** **09 34 56.0 -0.6**
baz=234
BARN Barnard Glacie 82.96 23 P **P** **09 34 56.8 0.0**
CTG Chitna Glacier 83.02 23 P **P** **09 34 56.7 -0.4**
baz=233,SNR=6.5
LOGN Logan Glacier 83.07 24 P **P** **09 34 57.5 +0.1**
HDA Harding Lake 83.23 19 P **P** **09 34 57.3 -0.6**
baz=228,SNR=9.1
TCOL CIGO, UAF Yank 83.25 18 P **P** **09 34 57.7 -0.3**
baz=227
TCOL CIGO, UAF Yank 83.25 18 P **P** **09 34 57.0 -1.0**
TCOL IAmb IAmb 09 34 59.4
comp=Z,14nm,0.8s
COLA College 83.26 18*d iP* **P** **09 34 55.8 -2.2**
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 83.26 18 P **P** **09 34 56.9 -1.1**
COLA IAmb IAmb 09 34 59.4
comp=Z,13nm,0.7s
M26K Nabesna, AK 83.28 22 P **P** **09 34 58.3 0.0**
baz=231,SNR=9.0
MENT Mentasta 83.35 21 P **P** **09 34 58.3 -0.3**
MENT IAmb IAmb 09 34 59.5
comp=Z,8.8nm,1.0s
H23K Yukon River 83.41 17 P **P** **09 34 59.1 +0.2**
baz=225,SNR=11
RIDG Independent Ri 83.48 20 P **P** **09 34 59.4 +0.1**
baz=230,SNR=7.5
ILAR Eielson Array 83.49 19 P P 09 34 53.6 -5.6
comp=Z,2.3nm,0.8s,baz=232,slow=5.7,SNR=26
ILAR LR LR 10 06 04.8
comp=Z,327nm,21.5s,baz=262,slow=31
ILAR Eielson Array 83.49 19 P P 09 34 53.7 -5.6
L26K Log Cabin Wild 83.54 21 P **P** **09 34 59.9 +0.3**
baz=231
POKR Poker Plat Res 83.55 18 P **P** **09 34 59.6 0.0**
baz=227
POKR Poker Plat Res 83.55 18 P **P** **09 34 57.9 -1.7**
POKR IAmb IAmb 09 35 00.3
comp=Z,11nm,0.8s
M27K Edge Creek, AK 83.66 22 P **P** **09 35 01.2 +0.9**
baz=232,SNR=14
SCRK Sand Creek 83.92 20 P **P** **09 35 02.1 +0.4**
baz=230,SNR=10
L27K Beaver Creek, 84.11 22 P **P** **09 35 02.9 +0.3**
baz=232,SNR=12
L27K Beaver Creek, 84.11 22 IAmb IAmb 09 35 04.2
comp=Z,22nm,1.1s
WDC Whiskeytown Da 84.12 47 P **P** **09 35 01.1 -2.0**
WDC pmax pmax
comp=Z,19nm,1.4s
WDC Whiskeytown Da 84.12 47 P **P** **09 35 01.1 -2.0**
WDC IAmb IAmb 09 35 03.4
comp=Z,19nm,1.4s
HUMO Hull Mountain 84.50 45 P **P** **09 35 03.5 -1.5**
HUMO IAmb IAmb 09 35 06.7
comp=Z,18nm,1.2s
ORV Oroville 84.55 48 P **P** **09 35 04.0 -1.2**
ORV pmax pmax
comp=Z,8.0nm,1.2s
ORV Oroville 84.55 48 P **P** **09 35 04.0 -1.2**
O03E Paynes Creek 84.56 47 P **P** **09 35 04.6 -0.8**
baz=251
K27K Chicken 84.61 21 P **P** **09 35 06.9 +1.9**
baz=232
K27K Chicken 84.61 21 P **P** **09 35 02.3 -2.7**
MAW Mawson 84.68 202 LR LR 10 08 01.0
comp=Z,156nm,18.6s,baz=67,slow=32
AFDM Forest Hills D 84.75 49 IAmb IAmb 09 35 06.8
comp=Z,16nm,1.3s
M04C Macdoel 85.02 46 P **P** **09 35 07.4 -0.3**
baz=251
EGAK Eagle 85.39 20 P **P** **09 35 09.0 +0.2**
baz=233
TOLK Toolik Lake Re 85.40 15 P **P** **09 35 09.8 +0.8**
baz=225
TOLK Toolik Lake Re 85.40 15 P **P** **09 35 08.6 -0.3**
TIXI Tiksi 85.52 349*de*P **P** **09 35 09.9 +0.6**
TIXI Tiksi 85.52 349 P **P** **09 35 09.1 -0.2**
MWC Mount Wilson 85.61 54 P **P** **09 35 09.6 -1.3**
MWC pmax pmax
comp=Z,21nm,1.4s
MWC Mount Wilson 85.61 54 P **P** **09 35 09.6 -1.3**
MWC IAmb IAmb 09 35 11.5
comp=Z,21nm,1.4s
ISA Isabella, Lake 85.68 53 P **P** **09 35 10.0 -1.1**
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella, Lake 85.68 53 P **P** **09 35 10.3 -0.9**
baz=254
EDW2 Edwards Air Fo 85.84 54 P **P** **09 35 11.6 -0.3**
baz=254
J05D Fort Rock, OR 85.92 45 P **P** **09 35 12.1 -0.1**
baz=251
BFSC Mount Baldy Ra 85.93 54 P **P** **09 35 11.7 -0.8**
baz=254
I05D Terrebonne, OR 86.19 44 P **P** **09 35 12.8 -0.6**
baz=251
CWC Cottonwood Cre 86.20 52 P **P** **09 35 13.6 -0.2**
baz=254

MONP2 Monument Peak 86.58 56 P **P** **09 35 14.5 -1.3**
baz=255
NVAR Mina Array Bea 86.59 50 P P 09 35 10.4 -5.4
comp=Z,4.2nm,0.9s,baz=229,slow=7.9,SNR=20
NVAR LR LR 10 08 02.5
comp=Z,275nm,18.9s,baz=274,slow=32
NV11 Mina Array Sit 86.70 50 P **P** **09 35 15.6 -0.6**
NV11 IAmb IAmb 09 35 16.9
comp=Z,11nm,1.1s
B05A Bryant 86.98 40 P **P** **09 35 16.8 -0.2**
baz=250
FURC Furnace Creek, 87.16 52 P **P** **09 35 17.3 -0.9**
baz=254
BELC Belle Mtn. Jos 87.20 55 P **P** **09 35 18.1 -0.6**
baz=255
SHOC Shoshone, Teco 87.47 53 P **P** **09 35 19.8 0.0**
baz=255
GMRC Granite Mounta 87.67 54 P **P** **09 35 20.1 -0.9**
baz=255
EPYK Eagle Plains 87.81 20 P **P** **09 35 20.7 -0.1**
baz=237
IRM Iron Mountain 87.92 55 P **P** **09 35 21.6 -0.4**
baz=256
WMQ Urumqi 88.08 315 *eP* **P** **09 35 24.5 +1.9**
WMQ LR LR
comp=Z,450nm,19.7s
WMQ LR LR
comp=Z,320nm,22.3s
WMQ LR LR
comp=Z,150nm,22.9s
E08A Dider Farm, El 88.38 42 P **P** **09 35 23.3 -0.5**
E08A IAmb IAmb 09 35 47.4
comp=Z,11nm,1.0s
SHPR Sheep Range 88.49 53 P **P** **09 35 24.6 -0.3**
R11A Troy Canyon, C 88.62 51 P **P** **09 35 24.6 -0.9**
baz=255
B08A Colville Reser 88.76 40 P **P** **09 35 25.1 -0.6**
PRN Pahroc Range 88.80 52 P **P** **09 35 25.1 -1.2**
PRN IAmb IAmb 09 35 49.4
comp=Z,14nm,1.3s
BMO Blue Mountains 89.09 44 P **P** **09 35 26.5 -0.9**
BMO pmax pmax
comp=Z,6.0nm,1.0s
ELK Elko 89.48 48 P **P** **09 35 28.8 -0.7**
ELK pmax pmax
comp=Z,6.0nm,1.3s
DGZ Jazzator, Alta 89.93 321⇓*eP* **P** **09 35 32.1 +0.8**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 90.14 41 P **P** **09 35 31.9 -0.3**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 90.14 41 P **P** **09 35 31.7 -0.5**
baz=254
KNB Kanab 90.44 53 P **P** **09 35 35.3 +1.3**
KNB pmax pmax
comp=Z,18nm,1.4s
DUG Dugway, Tooele 91.15 49 P **P** **09 35 38.2 +1.0**
DUG pmax pmax
comp=Z,6.0nm,1.2s
MCMT McKenzie Canyo 92.16 45 P **P** **09 35 41.2 -0.7**
WALA Waterton Lakes 92.41 41 P **P** **09 35 42.2 -0.5**
WALA IAmb IAmb 09 36 06.5
comp=Z,9.6nm,1.1s
MKAR Makanchi Array 92.52 317 LR LR 10 17 04.3
comp=Z,73nm,21.8s,baz=94,slow=35
MKAR Makanchi Array 92.52 317*ceP* **P** **09 35 42.4 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
ZALV Zalesovo Beam 92.63 324 P P 09 35 39.3 -4.2
comp=Z,0.4nm,0.3s,baz=56,slow=5.4,SNR=2.0
ZALV LR LR 10 17 17.4
comp=Z,95nm,20.1s,baz=90,slow=35
ZALV Zalesovo Beam 92.63 324 *i P* **P** **09 35 46.0 +2.5**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 93.16 44 P **P** **09 35 46.3 -0.1**
baz=258
YHH Holmes Hill 93.54 45 P **P** **09 35 48.4 +0.1**
YHH IAmb IAmb 09 36 13.1
comp=Z,7.5nm,1.3s
BW06 Boulder Array 94.07 47 P **P** **09 35 50.1 -0.6**
baz=259
BW06 Boulder Array 94.07 47 P **P** **09 35 49.5 -1.3**
PD31 Pinedale Array 94.07 47 P **P** **09 35 49.7 -1.0**
PDAR Pinedale Array 94.07 47 P P 09 35 46.2 -4.6
comp=Z,2.8nm,1.1s,baz=261,slow=2.4,SNR=9.0
PDAR LR LR 10 11 11.2
comp=Z,138nm,21.0s,baz=272,slow=31
ANMO Albuquerque 95.10 56⇓*eP* **P** **09 35 54.5 -1.1**
ANMO pmax pmax
comp=Z,10.0nm,3.5s
YKA Yellowknife Ar 95.12 27 P P 09 35 49.0 -5.8
comp=Z,2.2nm,0.9s,baz=253,slow=4.1,SNR=4.4
YKA Yellowknife Ar 95.12 27 P P 09 35 49.0 -5.7
TXAR Lajitas Array 96.58 61 LR LR 10 13 20.8
comp=Z,135nm,19.4s,baz=0.0,slow=32
GROC Groznyy 118.19 313 *e*PKIKP PKPdf 09 41 12.0 -7.3
OBN Obninsk 119.93 329 *i* PKIKP **PKPdf** **09 41 22.2 0.0**
OBN *e* 09 41 24.6
OBN pmax pmax
comp=Z,4.0nm,0.6s
KIV Kislovodsk 120.21 315 *i* PKIKP **PKPdf** **09 41 24.5 +1.2**
KIV pmax pmax
comp=Z,5.0nm,0.9s
MNK Minsk 124.55 331 *i* PKIKP **PKPdf** **09 41 29.7 -1.5**
MNK *i* 09 43 14.0
MNK *i* PPP PPP 09 45 56.2
MNK *i* 09 48 41.6
MNK *i* PS **PS** **09 53 16.3 -0.7**
MNK *i* SS SS 10 00 12.4 +2.2
MNK *i* SSS SSS 10 04 48.4
MNK pmax pmax
comp=E,6.0nm,1.2s
MNK pmax pmax
comp=N,31nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK Minsk 124.55 331 *i* PKP **PKPdf** **09 41 29.8 -1.4**
comp=E,6.0nm,1.2s
MNK *i* PKP **PKPdf** **09 41 29.8 -1.4**
comp=N,31nm,0.8s
MNK *i* PKP **PKPdf** **09 41 29.8 -1.4**
comp=Z,7.0nm,0.6s,baz=235
MNK *i* PP **PP** **09 43 14.1 -3.2**
MNK *i* PPP PPP 09 45 56.2
MNK *i* SKS **SKSdf** **09 48 41.7 -1.4**
MNK *i* PS PS 09 53 16.4 -0.6
MNK *i* SKKS **SKKSdf** **09 59 04.3 -5.3**
MNK *i* SS **SS** **10 00 12.4 +2.2**
MNK *i* SSS SSS 10 04 48.5
MNK *i* LR LR 10 33 35.3
MNK *i* LRM MLR 10 39 18.8
comp=N,451nm,20.4s
MNK *i* LRM MLR 10 39 26.4
comp=E,29nm,22.9s
MNK *i* LRM MLR 10 39 59.5
comp=Z,181nm,22.9s
CKRC Cesky Krumlov 134.63 333 *e*PKP **PKiKP** **09 41 53.5 +1.5**
KHC Kasperske Hory 134.73 333 *e*PKIKP **PKPdf** **09 41 52.5 +1.8**
KHC Kasperske Hory 134.73 333 *e*PKP **PKPdf** **09 41 52.5 +1.8**
KHC *ex* x 09 42 15.5
KHC *ex* x 09 44 46.0
KHC *e*SKP 09 45 23.0
GERES GERESS Array B 134.89 333 PKP **PKPdf** **09 41 49.3 -1.8**
comp=Z,1.0nm,0.7s,baz=29,slow=4.6,SNR=8.4
GERES GERESS Array B 134.89 333 PKIKP **PKPdf** **09 41 50.1 -1.0**
GERES GERESS Array B 134.89 333 **PKPdf** **09 41 50.1 -1.0**
FNA Florina 135.89 319 PKIKP **PKPdf** **09 41 55.2 +2.0**
VSL Villasalto 143.84 327 PKPbc 09 42 07.2 +2.0
KEST Kesra 146.47 322 PKPbc **PKPdf** **09 42 10.5 -1.9**
comp=Z,4.4nm,0.8s,baz=145,slow=2.5,SNR=14
KEST Kesra 146.47 322 PKPdf **PKPdf** **09 42 10.2 -2.1**
PBRG Braganca 148.07 348 *e*PKPbc **PKPbc** **09 42 18.8 +0.9**
PGAV Gavieira, Arco 148.21 350 *e*PKPbc **PKPbc** **09 42 19.2 +0.9**
PGAV *i* LQ LQ 09 42 43.8
PGAV Gavieira, Arco 148.21 350 *e*LR LR 10 39 01.8
comp=Z,119nm,20.0s
POLO Lamas de Olo 148.70 349 *e*PKPbc **PKPbc** **09 42 21.2 +1.6**
MVO Moncorvo 148.75 348 *e*PKPbc **PKPbc** **09 42 21.4 +1.7**
MVO *i* LQ LQ 09 42 44.6
MVO Moncorvo 148.75 348 *e*LR LR 10 41 22.4
comp=Z,104nm,22.0s
PVRL Vila Real 148.78 349 *e*PKPbc **PKPbc** **09 42 21.6 +1.8**
PVIS Viseu 149.35 349 *e*PKPbc **PKPbc** **09 42 22.9 +1.7**

PVIS *i* LQ LQ 09 42 45.9
ESDC Sonseca Array 149.39 343 PKPbc **PKPdf** **09 42 16.9 -0.1**
comp=Z,3.1nm,0.9s,baz=327,slow=4.4,SNR=4.6
ESDC Sonseca Array 149.39 343 **PKPbc** **09 42 22.8 +1.4**
MTE Manteigas 149.59 348 *e*PKPbc **PKPbc** **09 42 21.7 -0.2**
MTE *i* LQ LQ 09 42 45.3
MTE Manteigas 149.59 348 *e*LR LR 10 41 29.1
comp=Z,124nm,22.0s
PCAS Casmilo, Conde 150.11 349 *e*PKPbc **PKPbc** **09 42 24.4 +1.3**
PCAS *i* LQ LQ 09 42 42.8
PCBR Castelo Branco 150.11 348 *e*PKPbc **PKPbc** **09 42 24.8 +1.7**
PCBR *i* LQ LQ 09 42 47.7
PMRV Marv??o 150.49 347 *e*PKPbc **PKPbc** **09 42 25.4 +1.4**
PMRV *i* LQ LQ 09 42 48.7
PMTG Montargil 151.01 349 *e*PKPbc **PKPbc** **09 42 26.2 +1.0**
PMTG *i* LQ LQ 09 42 49.4
PESTR Estremoz 151.07 347 *e*PKPbc **PKPbc** **09 42 26.9 +1.5**
PESTR *i* LQ LQ 09 42 44.6
PBAR Barrancos 151.61 346 *e*PKPbc **PKPbc** **09 42 28.0 +1.4**
PBEJ Beja 151.94 347 *e*PKPbc **PKPbc** **09 42 28.9 +1.5**
PNCL Nicolau / Gran 151.99 349 *e*PKPbc **PKiKP** **09 42 29.2 +1.4**
MESJ Messejana 152.19 348 *e*PKPbc **PKPbc** **09 42 29.3 +1.3**
PCVE Castro Verde 152.36 347 *e*PKPbc **PKiKP** **09 42 30.0 +1.4**
PVAQ Vaqueiros 152.50 347 *e*LR LR 10 39 26.2
comp=Z,99nm,20.0s
PMOZ Porto Moniz, M 157.88 4 *e*LR LR 10 41 01.0
comp=Z,109nm,22.0s
TORD Torodi Ar. Bea 163.16 280 PKPab **PKPab** **09 43 22.7 -2.9**
comp=Z,0.6nm,0.9s,baz=69,slow=5.4,SNR=1.9

IDC ***18*** *09:28:05.7±0.8, 32°.06N×131°.64E, h35km±5km, mb3.7/12, mb1 3.9/17, mb1mx3.8/44, mbtmp4.1/17, ML3.7/5, MS3.3/9, Ms1 3.3/9, ms1mx3.1/39, Error ellipse: s-maj=18.5km s-min=9.9km az=66.0*

JMA ***18*** *09:28:06.7±0.1, 32°.14N×131°.83E, h36km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s27.00000°, δ22.00000°, λ-121.00000°. NP2: ϕ_s240.00000°, δ71.00000°, λ-78.00000°. Principal axes: T Plg25.0000°, Azm321.0000°; N Plg11.0000°, Azm56.0000°; P Plg62.0000°, Azm168.0000°;*

JMA Felt II J1.

NIED ***18*** *09:28:06.7, 32°.15N×131°.83E, h36km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.74; $M_{\theta\theta}$0.22; $M_{\phi\phi}$0.53; $M_{r\theta}$1.77; $M_{\theta\phi}$0.17; $M_{\phi r}$1.38; Fault plane solution: $M_0$2.33000×10^{15} NP1: ϕ_s231.00000°, δ82.00000°, λ-85.00000°. NP2:ϕ_s19.00000°, δ9.00000°, λ-121.00000°.*

NEIC ***18*** *09:28:07.2±1.5, 32°.08N±0°.05×131°.79E±0°.06, h58km±4km, mb4.3/21 Error ellipse: s-maj=8.2km s-min=6.0km az=125.0*

ISC 18 09:28:05.6±0.5, 32°.09N±0°.03×131°.84E±0°.04, h38km±1km, n121, σ1°58/129, mb4.2/22, MS3.4/6, 7C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
					h m s	
JTSN	**Tsuno**	**0.32**	**298**	⇓P	**Pn**	**09 28 14.1 +0.2**
JTSN				*e*S	**Sn**	**09 28 19.8 -0.8**
JHHC	**Hyugahichiya**	**0.39**	**333**	⇓P	**Pn**	**09 28 14.9 +0.3**
JHHC				*e*S	**Sn**	**09 28 21.2 -0.1**
JKIT	**Kitakata**	**0.62**	**328**	⇑P	**Pn**	**09 28 18.5 +0.5**
JKIT				*e*S	**Sn**	**09 28 26.9 +0.1**
JTZ	**Takazaki**	**0.67**	**254**	⇑P	**Pn**	**09 28 19.4 +0.8**
JTZ				*e*S	**Sn**	**09 28 29.5 +1.7**
JNAR	**Kushima--Naru**	**0.75**	**221**	⇓P	**Pn**	**09 28 21.4 +1.8**
JNAR				*e*S	**Sn**	**09 28 32.9 +3.3**
JUS	**Usuki**	**0.97**	**355**	⇑P	**Pn**	**09 28 23.7 +1.0**
JUS				*e*S	**Sn**	**09 28 36.3 +1.0**
JIU3	**Izumi3**	**0.98**	**298**	⇑P	**Pn**	**09 28 23.9 +1.1**
JIU3				*e*S	**Sn**	**09 28 37.1 +1.6**
JZO	**Okuchi**	**1.06**	**273**	⇑P	**Pn**	**09 28 25.1 +1.2**
JZO				*e*S	**Sn**	**09 28 38.9 +1.5**
JTO	**Tosashimizu**	**1.11**	**46**	⇑P	**Pn**	**09 28 24.9 +0.3**
JTO				S	**Sn**	**09 28 38.0 -0.7**
UWA2	**Uwa jima 2**	**1.30**	**30**	⇑P	**Pn**	**09 28 27.5 +0.3**
JNU	**Nakatsue**	**1.31**	**322**	Pg	**Pn**	**09 28 29.8 +2.5**
	360nm,0.3s,baz=197,slow=4.7,SNR=3430					
JNU				Lg	Lg	09 28 48.1
	324nm,0.3s,baz=159,slow=15,SNR=13					
JNU	**Nakatsue**	**1.31**	**322**	Pn	**Pn**	**09 28 28.9 +1.5**
JNU				Sn	**Sn**	**09 28 46.9 +3.2**
JSU	**Suzuyama**	**1.32**	**244**		**Pn**	**09 28 28.8 +1.3**
JSU				Sn	**Sn**	**09 28 46.0 +2.2**
JMN	**Monobe**	**2.36**	**46**		**Pn**	**09 28 44.8 +3.0**
JHS	**Saijyo**	**3.09**	**20**	Pn	**Pn**	**09 28 53.8 +2.1**
JTU	**Tsushima**	**3.17**	**320**		**Pn**	**09 28 53.9 +1.0**
KSUSN	**Ulsan**	**4.25**	**329**	P	**Pn**	**09 29 08.7 +0.9**
	SNR=9.3					
KSUSN	**Ulsan**	**4.25**	**329**	P	**Pn**	**09 29 08.7 +0.9**
	SNR=9.3					
JWT	**Wachi**	**4.35**	**42**	Pn	**Pn**	**09 29 11.1 +2.0**
KSYOC	**YEONGCHEON**	**4.55**	**329**	P	**Pn**	**09 29 13.2 +1.3**
	SNR=9.4					
KSYOC	**YEONGCHEON**	**4.55**	**329**	P	**Pn**	**09 29 13.2 +1.3**
	SNR=9.4					
KOHB	**KOHEUNG**	**4.58**	**305**	P	**Pn**	**09 29 13.5 +1.3**
	SNR=8.8					
KOHB	**KOHEUNG**	**4.58**	**305**	P	**Pn**	**09 29 13.5 +1.3**
	SNR=8.8					
BOSB	**Boseong-gun**	**4.70**	**306**	P	**Pn**	**09 29 16.0 +2.2**
	SNR=6.0					
BOSB	**Boseong-gun**	**4.70**	**306**	P	**Pn**	**09 29 16.0 +2.2**
	SNR=6.0					
KSADO	**Andong**	**4.93**	**332**	P	**Pn**	**09 29 19.0 +1.9**
	SNR=20					
KSADO	**Andong**	**4.93**	**332**	P	**Pn**	**09 29 19.0 +1.9**
	SNR=20					
KSEUS	**ULSEONG**	**4.99**	**329**	P	**Pn**	**09 29 19.1 +1.2**
	SNR=18					
KSEUS	**ULSEONG**	**4.99**	**329**	P	**Pn**	**09 29 19.1 +1.2**
	SNR=18					
KSULJ	**Uljin**	**5.02**	**337**	P	**Pn**	**09 29 19.1 +0.9**
	SNR=6.7					
KSULJ	**Uljin**	**5.02**	**337**	P	**Pn**	**09 29 19.1 +0.9**
	SNR=6.7					
KSULJ	**Uljin**	**5.02**	**337**	P	**Pn**	**09 29 19.1 +0.9**
	SNR=6.7					
KSJEU	**Jeongeup**	**5.31**	**311**	P	**Pn**	**09 29 24.3 +2.0**
	SNR=7.6					
KSJEU	**Jeongeup**	**5.31**	**311**	P	**Pn**	**09 29 24.3 +2.0**
	SNR=7.6					
INU	**Inuyama**	**5.40**	**52**		**Pn**	**09 29 25.9 +2.4**
IMWB	**Imwonan-gil**	**5.53**	**339**	P	**Pn**	**09 29 26.3 +1.0**
	SNR=9.0					
IMWB	**Imwonan-gil**	**5.53**	**339**	P	**Pn**	**09 29 26.3 +1.0**
	SNR=9.0					
IMWB	**Imwonan-gil**	**5.53**	**339**	P	**Pn**	**09 29 26.3 +1.0**
	SNR=9.0					
KSTBA	**Taebaek**	**5.55**	**335**	P	**Pn**	**09 29 27.3 +1.6**
	SNR=9.0					
KSTBA	**Taebaek**	**5.55**	**335**	P	**Pn**	**09 29 27.3 +1.6**
	SNR=9.0					
JGF	**Kuroka**	**5.77**	**51**	Pn	**Pn**	**09 29 30.8 +2.2**
JSG	**Sagara**	**5.90**	**62**	Pn	**Pn**	**09 29 32.4 +2.0**
JOW	**Kunigami**	**6.10**	**212**	Pn	**Pn**	**09 29 33.7 +0.6**
	3.2nm,0.3s,baz=98,slow=14,SNR=7.9					
JOW				Sn	**Sn**	**09 30 39.5 -2.1**
	1.5nm,0.3s,baz=320,slow=30,SNR=1.1					
JOW	**Kunigami**	**6.10**	**212**	Pn	**Pn**	**09 29 34.0 +0.9**
KSWJU	**Wonju**	**6.15**	**331**	P	**Pn**	**09 29 36.0 +2.2**
	SNR=5.8					
KSWJU	**Wonju**	**6.15**	**331**	P	**Pn**	**09 29 36.0 +2.2**
	SNR=5.8					
KSRS	**Korea Array**	**6.24**	**330**	Pn	**Pn**	**09 29 36.6 +1.5**
	2.1nm,0.3s,baz=147,slow=14,SNR=26					
KSRS				Sn	**Sn**	**09 30 43.0 -2.1**
	0.3nm,0.3s,baz=153,slow=27,SNR=4.7					
KSRS				Lg	Lg	09 31 23.0
	0.6nm,0.3s,baz=157,slow=30,SNR=5.5					
KSRS				LR	LR	09 32 12.6
	comp=Z,362nm,20.4s,baz=147,slow=40					
KSAR	**Wonju Array Be**	**6.25**	**330**	Pn	**Pn**	**09 29 36.0 +0.8**
KSJMJ	**Jumunjin**	**6.30**	**337**	P	**Pn**	**09 29 37.6 +1.7**
	SNR=7.6					
KSJMJ	**Jumunjin**	**6.30**	**337**	P	**Pn**	**09 29 37.6 +1.7**
	SNR=7.6					
KSJMJ	**Jumunjin**	**6.30**	**337**	P	**Pn**	**09 29 37.6 +1.7**
	SNR=7.6					
KS19	**Wonju Array Si**	**6.31**	**330**		**Pn**	**09 29 36.5 +0.5**
KSSKC	**Sokcho**	**6.75**	**337**	P	**Pn**	**09 29 43.9 +1.8**
	SNR=9.5					
KSSKC	**Sokcho**	**6.75**	**337**	P	**Pn**	**09 29 43.9 +1.8**

SNR=9.5
KSSKC **Sokcho** 6.75 337 P Pn 09 29 43.9 +1.8
SNR=9.5
JHJ **Hachijo jima 2** 6.78 79 Pn Pn 09 29 45.3 +2.8
21nm,0.3s,baz=241,slow=20,SNR=5.6
JHJ Sn Sn 09 30 57.7 -0.7
4.3nm,0.3s,baz=64,slow=24,SNR=1.1
JHJ2 **Mitsune** 6.80 79 Pn Pn 09 29 44.7 +1.9
SEHB **SEOHWA** 6.83 335 P Pn 09 29 45.5 +2.4
SNR=13
SEHB **SEOHWA** 6.83 335 P Pn 09 29 45.5 +2.4
SNR=13
MAJO **Matsushiro** 6.88 48 Pn Pn 09 29 46.5 +2.6
MAT **Matsushiro** 6.88 48 P Pn 09 29 46.4 +2.5
MAT eS Sn 09 31 02.6 +1.6
MJB9 **Matsu-Tunnel** 6.88 48 Pn 09 29 46.0 +2.0
MJAR **Matsushiro Arr** 6.89 48 Pn Pn 09 29 46.1 +2.1
0.4nm,0.3s,baz=259,slow=32,SNR=18
MJAR LR LR 09 32 56.1
comp=Z,56nm,19.4s,baz=240,slow=41
MJAR **Matsushiro Arr** 6.89 48 Pn 09 29 44.5 +0.5
JYT **Yasato** 8.05 57 Pn Pn 09 29 60.0 0.0
JMM **Marumori** 9.33 49 Pn Pn 09 30 19.3 +1.9
TATO **Taipei** 11.54 235 Pn Pn 09 30 45.3 -2.4
YHNB **Yeheng** 11.81 234 Pn Pn 09 30 52.4 +0.9
CN2 **Changchun** 12.72 339 eP P 09 31 17.8 +3.4
CN2 eS S 09 33 39.8 -10
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,100nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
JEM **Erimo** 13.39 39 Pn P 09 31 31.7 +10
ASAJ **Asahikawa** 14.67 32 LR LR 09 37 10.7
comp=Z,88nm,18.4s,baz=256,slow=37
BJT **Baijiatuau** 14.93 306 Pn Pn 09 31 32.8 -1.0
YSS **Yuzh-Sakhalins** 17.04 26 P P 09 32 02.0 -0.2
KLR **Kul'dur** 17.12 360 P P 09 32 03.6 +0.5
comp=Z,0.4nm,0.3s,baz=181,slow=9.1,SNR=22
KLR LR LR 09 38 47.0
comp=Z,53nm,19.4s,baz=161,slow=37
HHC **Hu-ho-hao-te** 18.47 304 eP Pn 09 32 19.3 +0.7
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,100nm,6.6s
ENH **Enshi** 19.21 270 P P 09 32 25.6 -0.7
ENH IAmb IAmb 09 32 28.3
comp=Z,11nm,0.7s
HIA **Hailar** 19.41 336 P P 09 32 27.2 -1.2
HIA IAmb IAmb 09 32 30.5
comp=Z,22nm,1.2s
ULN **Ulaanbaatar** 24.52 317 P P 09 33 20.0 -1.5
ULN IAmb IAmb 09 33 22.7
comp=Z,5.1nm,0.7s
SONM **Songino Array** 24.89 317 P P 09 33 24.9 +0.1
comp=Z,6.6nm,0.7s,baz=128,slow=10,SNR=33
SONM LR LR 09 44 19.8
comp=Z,151nm,18.6s,baz=268,slow=39
SONM **Songino Array** 24.89 317 P P 09 33 23.8 -1.1
TLY **Talaya** 28.42 322 LR LR 09 45 49.5
comp=Z,49nm,21.5s,baz=108,slow=38
YAK **Yakutsk** 29.98 358 LR LR 09 45 31.2
comp=Z,39nm,18.6s,baz=300,slow=35
FAKI **Fak Fak** 34.82 179 P P 09 34 52.2 -0.7
WMQ **Urumqi** 36.33 302 eP P 09 35 07.1 +1.4
KAPI **Kappang** 38.66 200 P P 09 35 23.7 -1.8
AMKA **Amchitka** 39.49 47 P P 09 35 31.5 -0.7
TIXI **Tiksi** 39.65 359 P P 09 35 33.3 +0.1
TIXI IAmb IAmb 09 35 33.7
comp=Z,6.8nm,0.9s
ZAA0 **Zalesovo Array** 39.78 317 P P 09 35 33.3 -1.2
ZAA0 IAmb IAmb 09 35 46.3
comp=Z,3.4nm,1.0s
ZALV **Zalesovo Beam** 39.78 317 LR LR 09 53 03.9
comp=Z,57nm,20.9s,baz=125,slow=38
MK31 **Makanchi Array** 40.31 306 pmax pmax
comp=Z,4.0nm,0.9s
MK31 **Makanchi Array** 40.31 306 P P 09 35 37.8 -1.3
MK31 IAmb IAmb 09 36 07.9
comp=Z,4.2nm,0.8s
MK31 **Makanchi Array** 40.31 306 P P 09 35 37.8 -1.3
MKAR **Makanchi Array** 40.31 306 P P 09 35 38.1 -1.0
comp=Z,1.4nm,0.7s,baz=96,slow=8.0,SNR=11
MKAR LR LR 09 53 26.1
comp=Z,61nm,20.9s,baz=144,slow=38
MKAR **Makanchi Array** 40.31 306 P P 09 35 36.9 -2.3
MAKZ **Makanchi** 40.53 306 pmax pmax
comp=Z,6.0nm,1.0s
MAKZ **Makanchi** 40.53 306 P P 09 35 40.4 -0.5
MAKZ IAmb IAmb 09 36 08.8
comp=Z,5.7nm,1.0s
MAKZ **Makanchi** 40.53 306 P P 09 35 40.4 -0.5
BRVK **Borovoye** 48.27 315 P P 09 36 42.6 -0.1
BRVK IAmb IAmb 09 36 44.9
comp=Z,6.1nm,1.1s
KK31 **Karatay Array** 48.83 301 P P 09 36 47.1 -0.1
KK31 IAmb IAmb 09 36 48.3
comp=Z,1.9nm,0.8s
KKAR **Karatay Array** 48.83 301 P P 09 36 47.1 -0.1
KKAR IAmb IAmb 09 36 48.3
comp=Z,1.9nm,0.8s
ABKAR **Akbulak array** 55.09 311 P P 09 37 33.2 -0.5
ASAR **Alice Springs** 55.48 178 P P 09 37 37.5 +0.9
comp=Z,1.1nm,0.7s,baz=8.3,slow=6.7,SNR=9.8
ASAR sP sP 09 37 51.4 -0.5
comp=Z,0.6nm,0.6s,baz=12,slow=13,SNR=3.8
KDAK **Kodiak Island** 55.96 39 P P 09 37 41.4 +1.7
comp=Z,3.7nm,0.9s,baz=332,slow=16,SNR=1.3
KDAK **Kodiak Island** 55.96 39 IAmb IAmb 09 37 42.7
comp=Z,25nm,1.5s
ILAR **Eielson Array** 57.80 30 P P 09 37 54.6 +2.0
comp=Z,0.3nm,0.7s,baz=246,slow=6.8,SNR=2.0
INK **Inuvik** 62.27 25 pP pP 09 38 35.3 +0.9
comp=Z,2.1nm,0.7s,baz=279,slow=5.0,SNR=2.9
STKA **Stephens Creek** 64.29 171 P P 09 38 38.3 +1.4
comp=Z,2.5nm,0.7s,baz=356,slow=5.1,SNR=6.5
STKA **Stephens Creek** 64.29 171 P P 09 38 35.3 -1.7
ARCES **ARCESS Array B** 65.73 338 P P 09 38 44.4 -1.6
comp=Z,1.2nm,0.9s,baz=51,slow=7.1,SNR=5.3
ARCES **ARCESS Array B** 65.73 338 P P 09 38 45.2 -0.7
FIA1 **FINESS Array S** 69.33 330 P P 09 39 07.8 -1.0
FINES **FINESS Array B** 69.33 330 P P 09 39 07.7 -1.1
comp=Z,1.2nm,0.4s,baz=64,slow=5.5,SNR=20
FINES pP pP 09 39 19.1 -1.2
comp=Z,1.1nm,0.5s,baz=68,slow=7.2,SNR=2.7
YKA **Yellowknife Ar** 71.89 27 P P 09 39 26.0 +1.7
comp=Z,0.3nm,0.6s,baz=312,slow=5.5,SNR=2.9
AKASG **Malin Array Be** 73.13 320 P P 09 39 30.6 -1.3
comp=Z,1.2nm,0.5s,baz=54,slow=6.6,SNR=2.6
AKASG pP pP 09 39 42.0 -1.4
comp=Z,1.8nm,0.4s,baz=56,slow=6.6,SNR=3.0
NC405 **NORSAR Array S** 75.20 334 P P 09 39 42.1 -1.8
NOA **NORSAR Array B** 75.44 334 P P 09 39 42.7 -2.5
comp=Z,0.3nm,0.6s,baz=41,slow=5.1,SNR=2.3
BRTR **Keskin Array B** 75.93 308 P P 09 39 48.2 -0.4
comp=Z,0.3nm,0.4s,baz=86,slow=5.9,SNR=2.7
PAHR **Pah Rah Range** 82.78 47 P P 09 40 25.6 -0.3
NVAR **Mina Array Bea** 84.21 48 P P 09 40 35.4 +2.0
comp=Z,0.4nm,0.5s,baz=298,slow=4.9,SNR=6.3
MCQ **Macquarie Isla** 89.36 165 P P 09 40 56.5 -0.9
SCHQ **Schefferville** 91.95 11 LR LR 10 26 11.1
comp=Z,217nm,20.8s,baz=30,slow=38

*DJA **18** 09:31:14.8±2.0, 10°S±11°×12°4E±°, h15km±8km, M3.9/4, mb4.5/1, MLv3.6/4*
*IDC **18** 09:31:15.8±2.5, 10°.41S×123°.56E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=237.1km s-min=34.5km az=53.0*
ISC 18 09:31:17.3±0.9, 10°.31S±0°.08×124°.18E±0°.07, h27km, n8, σ1§83/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.52**	**282**	P	**Pb**	**09 31 26.9**	**-1.0**
BATI				S	**Sb**	**09 31 35.5**	**+0.4**
SOEI	**Soe**	**0.56**	**9**	P	**Pn**	**09 31 28.8**	**-0.9**
SOEI				S	**Sn**	**09 31 39.1**	**+1.0**
MMRI	**Maumere**	**2.54**	**311**	P	**Pn**	**09 31 56.8**	**+0.1**
EDFI	**Ende, Flores**	**2.90**	**302**	P	**Pn**	**09 32 01.8**	**-0.1**
PLAI	**Plampang**	**6.48**	**283**	P	**Pn**	**09 32 50.2**	**-0.8**
WRA	**Warramunga Arr**	**13.70**	**136**	Pn	**P**	**09 34 35.2**	**-3.3**
	0.1nm,0.3s,baz=310,slow=15,SNR=9.8						
WRA				Sn	**Sn**	**09 37 02.0**	**+0.5**
	0.4nm,0.3s,baz=310,slow=25,SNR=8.5						
ASAR	**Alice Springs**	**16.20**	**146**	Pn	**P**	**09 35 09.6**	**+3.3**
	0.2nm,0.3s,baz=319,slow=12,SNR=6.5						
ASAR				Sn	**Sn**	**09 38 04.0**	**+1.6**
	0.1nm,0.3s,baz=318,slow=24,SNR=7.0						
MKAR	**Makanchi Array**	**68.03**	**330**	P	**P**	**09 42 15.7**	**+1.4**
	0.2nm,0.5s,baz=133,slow=8.1,SNR=2.0						

*MAN **18** 09:45:07.5, 5°.92N×125°.83E, h137km, mb4.7, ML3.6, MS3.5*
*IDC **18** 09:45:07.3±2.2, 5°.84N×125°.54E, h160km±33km, mb3.3/4, mb1 3.5/4, mb1mx3.1/34, mbtmp3.8/4, Error ellipse: s-maj=151.9km s-min=18.8km az=66.0*
*NEIC **18** 09:45:08.3±1.5, 5°.90N±0°.05×125°.7E±0°.2, h166km±4km, mb4.5/12, Error ellipse: s-maj=23.6km s-min=7.1km az=80.0*
ISC 18 09:45:06.8±0.7, 5°.85N±0°.06×125°.8E±0°.1, h150km, n23, σ1§38/27, mb4.2/10, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.23**	**352**	P	**Pn**	**09 45 34.4**	**+0.8**
	29nm,0.3s,baz=225,slow=11,SNR=1.2						
DAV				S	**Sn**	**09 45 56.5**	**+2.4**
	130nm,0.3s,baz=71,slow=18,SNR=11						
DAV	**Davao City (W)**	**1.23**	**352**		**Pn**	**09 45 36.2**	**+2.6**
DAV				Sn	**Sn**	**09 45 56.5**	**+2.4**
KCP	**Kidapawan**	**1.33**	**330**	⇑eP	**Pn**	**09 45 36.7**	**+2.0**
KCP				*i* S	**Sn**	**09 45 56.2**	**+0.2**
TNTI	**Ternate**	**5.29**	**162**	Pn	**Pn**	**09 46 25.8**	**+1.7**
TOLI2	**Tolitoli**	**6.84**	**227**	Pn	**Pn**	**09 46 46.6**	**+1.9**
SOEI	**Soe**	**15.57**	**185**		**Pn**	**09 48 38.8**	**+0.3**
KNRA	**Kununurra**	**21.59**	**172**	P	**P**	**09 49 45.4**	**+0.5**
KNRA				IAmb	IAmb	09 50 09.2	
	comp=Z,38nm,1.4s						
WB0	**Warramunga Arr**	**26.84**	**162**	P	**P**	**09 50 32.8**	**-0.6**
WB0				IAmb	IAmb	09 50 35.4	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**26.99**	**162**	P	**P**	**09 50 34.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=343,slow=9.9,SNR=21						
WRA	**Warramunga Arr**	**26.99**	**162**	P	**P**	**09 50 33.1**	**-1.6**
WB2	**Warramunga Arr**	**26.99**	**162**	P	**P**	**09 50 34.5**	**-0.2**
WB2				IAmb	IAmb	09 50 50.4	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**27.06**	**162**	P	**P**	**09 50 35.4**	**-0.1**
WR0				IAmb	IAmb	09 50 41.1	
	comp=Z,9.9nm,1.4s						
PSA00	**Pilbara Seismi**	**27.86**	**192**	P	**P**	**09 50 42.3**	**-0.1**
JHS	**Saijyo**	**29.79**	**12**	P	**P**	**09 50 59.8**	**+0.3**
JHS				IAmb	IAmb	09 51 06.7	
	comp=Z,26nm,1.5s						
ASAR	**Alice Springs**	**30.40**	**165**	P	**P**	**09 51 05.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=339,slow=7.4,SNR=15						
ASAR				PcP	**PcP**	**09 54 00.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=353,slow=2.9,SNR=2.2						
BBOO	**Buckleboo**	**39.67**	**166**	P	**P**	**09 52 24.1**	**-0.1**
BBOO				IAmb	IAmb	09 52 42.8	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**40.44**	**159**	P	**P**	**09 52 31.1**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=325,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**40.44**	**159**	P	**P**	**09 52 29.6**	**-1.0**
PET	**Petropavlovsk**	**54.18**	**24**	P	**P**	**09 54 15.9**	**-0.6**
MK31	**Makanchi Array**	**55.27**	**325**	P	**P**	**09 54 23.0**	**-1.6**
MKAR	**Makanchi Array**	**55.27**	**325**	P	**P**	**09 54 23.0**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=126,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**55.27**	**325**	P	**P**	**09 54 22.8**	**-1.7**
KKAR	**Karatay Array**	**61.03**	**317**	P	**P**	**09 55 02.9**	**-1.8**

*IDC **18** 10:01:08.3±2.0, 20°.04S×71°.35W, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/25, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=46.0km s-min=19.6km az=58.0*
*GUC **18** 10:01:14.5±0.8, 19°.91S×71°.04W, h39km±3km, ML3.5*
ISC 18 10:01:14.5±1.3, 19°.92S±0°.06×71°.1W±0°.1, h35km±7km, n21, σ1§16/30, 9C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.95**	**111**	⇑*i*P	**Pn**	**10 01 30.6**	**-0.7**
TA02				*e*S	**Sn**	**10 01 42.5**	**-1.3**
TA02				IAML		10 01 46.9	
	comp=N,3μm,0.1s						
PSGC	**Pisagua**	**0.95**	**70**	⇓eP	**Pn**	**10 01 29.9**	**-1.6**
PSGC				*e*S	**Sn**	**10 01 41.9**	**-2.1**
PSGC				IAML		10 01 44.5	
	comp=E,1μm,0.6s						
TA01	**Diego Aracena**	**1.06**	**127**	⇑eP	**Pn**	**10 01 32.2**	**-0.6**
TA01				*e*S	**Sn**	**10 01 45.8**	**-0.4**
TA01				IAML		10 01 47.2	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**1.35**	**83**	⇑eP	**Pn**	**10 01 36.5**	**-0.5**
PB11				*e*S	**Sn**	**10 01 53.4**	**-0.3**
MNMC	**Minye Minye**	**1.60**	**61**	⇑eP	**Pn**	**10 01 40.3**	**-0.3**
MNMC				*e*S	**Sn**	**10 02 00.9**	**+0.7**
PB02	**IPOC Station P**	**1.77**	**142**	⇓eP	**Pn**	**10 01 42.7**	**-0.1**
PB02				*e*S	**Sn**	**10 02 04.3**	**+0.1**
PB08	**IPOC Station P**	**1.82**	**97**	⇑eP	**Pn**	**10 01 43.6**	**-0.1**
PB08				*e*S	**Sn**	**10 02 06.0**	**+0.3**
PB08				IAML		10 02 11.2	
	comp=N,695nm,0.5s						
PB01	**IPOC Station P**	**1.86**	**127**	⇑eP	**Pn**	**10 01 44.2**	**+0.3**
PB01				*e*S	**Sn**	**10 02 06.7**	**+0.4**
PB01				IAML		10 02 15.1	
	comp=E,820nm,0.2s						
PB07	**IPOC Station P**	**2.11**	**148**	⇑eP	**Pn**	**10 01 47.1**	**-0.3**
PB07				*e*S	**Sn**	**10 02 12.1**	**-0.4**
PB07				IAML		10 02 32.0	
	comp=N,373nm,0.4s						
PB04	**IPOC Station P**	**2.55**	**160**	⇑eP	**Pn**	**10 01 52.9**	**-0.6**
PB04				IAML		10 02 47.6	
	comp=N,340nm,0.4s						
PB05	**IPOC Station P**	**3.03**	**165**	*e*P	**Pn**	**10 01 59.0**	**-1.0**
PB05				*e*S	**Sn**	**10 02 33.0**	**-2.1**
PB05				IAML		10 03 08.9	
	comp=E,111nm,0.4s						
LVC	**Limon Verde**	**3.35**	**143**	Pn	**Pn**	**10 02 05.4**	**+0.7**
	comp=E,5.6nm,0.3s,baz=315,slow=11,SNR=86						
LVC				Sn	**Sn**	**10 02 45.0**	**+1.5**
	comp=E,13nm,0.3s,baz=339,slow=22,SNR=7.0						
LVC				Lg	Lg	10 02 56.5	
	comp=E,10nm,0.3s,baz=220,slow=21,SNR=14						
LVC	**Limon Verde**	**3.35**	**143**	⇑eP	**Pn**	**10 02 05.9**	**+1.2**
LVC				*e*S	**Sn**	**10 02 45.2**	**+1.8**
LPAZ	**La Paz**	**4.58**	**38**	Pn	**Pn**	**10 02 24.5**	**+2.7**
	comp=E,1.2nm,0.3s,baz=211,slow=9.0,SNR=26						
LPAZ				Lg	Lg	10 03 36.8	
	baz=256,slow=22,SNR=1.0						
SIV	**San Ignacio**	**10.29**	**69**	Pn	**Pn**	**10 03 40.5**	**+0.7**
	comp=E,0.6nm,0.3s,baz=254,slow=13,SNR=16						
H03N1	**Juan Fernandez**	**15.16**	**206**	T	T	10 20 29.3	
	baz=32,slow=72,SNR=19						
H03N2	**Juan Fernandez**	**15.17**	**206**	T	T	10 20 35.5	
	baz=32,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**15.18**	**206**	T	T	10 20 41.3	
	baz=32,slow=72,SNR=14						
TORD	**Torodi Ar. Bea**	**78.76**	**72**	P	**P**	**10 13 14.0**	**0.0**
	comp=E,1.3nm,0.6s,baz=243,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**89.04**	**341**	P	**P**	**10 14 04.0**	**-1.4**
	comp=E,0.3nm,0.7s,baz=139,slow=5.7,SNR=2.2						
MKAR	**Makanchi Array**	**145.49**	**33**	PKPbc	**PKPab**	**10 20 50.1**	**+0.9**
	comp=E,0.2nm,0.6s,baz=331,slow=1.8,SNR=2.7						

*KRNET **18** 10:11:27.6±0.1, 40°.98N×74°.08E, h16km, mb3.5*
*KNET **18** 10:11:28.1±0.5, 41°.04N×74°.10E, h0km, ml3.2, Error ellipse: s-maj=3.2km s-min=2.3km az=37.0*
*SOME **18** 10:11:30.8, 41°.08N×74°.07E, h15km*
*NNC **18** 10:11:31.5±1.1, 41°.07N×74°.07E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=8.2km s-min=4.9km az=0.0*
ISC 18 10:11:30.9±1.3, 41°.05N±0°.03×73°.95E±0°.02, h4km±11km, n73, σ1§53/120, 50C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.86**	**19**	⇓*i*P	**Pb**	**10 11 44.3**	**-4.2**
	baz=12						
ARLS				⇓*i*S	**Sg**	**10 11 57.4**	**-1.3**
	baz=12						
OHH	**Osh**	**1.02**	**240**	⇑*i*P	**Pb**	**10 11 49.2**	**-2.0**
	baz=46						
OHH				⇑*i*S	**Sb**	**10 12 04.1**	**-1.0**
	baz=46						
AML	**Almayashu**	**1.10**	**350**	⇑*i*P	**Pb**	**10 11 49.7**	**-3.1**
	baz=46						
AML				⇑*i*S	**Sb**	**10 12 07.3**	**-0.3**
	baz=46						
AML	**Almayashu**	**1.10**	**350**	⇓P	**Pb**	**10 11 49.6**	**-3.2**
	90nm,0.1s,SNR=48						
AML				⇓S	**Sg**	**10 12 07.6**	**+1.2**
	237nm,0.4s						
EKS2	**Erkin-Say**	**1.62**	**356**	⇑*i*P	**Pn**	**10 11 59.1**	**-1.3**
	baz=52						
EKS2				⇑*i*S	**Sb**	**10 12 22.6**	**+0.3**
	baz=52						
EKS2	**Erkin-Say**	**1.62**	**356**	⇓P	**Pn**	**10 11 58.8**	**-1.6**
	19nm,0.2s,SNR=7.6						
EKS2				⇓S	**Sg**	**10 12 23.5**	**+0.5**
	29nm,0.3s						
AAK	**Ala-Archa**	**1.64**	**14**	⇑*e*P	**Pn**	**10 11 59.3**	**-1.4**
	baz=10.0						
AAK				⇑*i*S	**Sb**	**10 12 22.6**	**-0.4**
	baz=10.0						
AAK	**Ala-Archa**	**1.64**	**14**	⇑P	**Pn**	**10 11 59.3**	**-1.4**
	36nm,0.1s,SNR=14						
AAK				⇑S	**Sb**	**10 12 23.3**	**+0.4**
	70nm,0.3s						
AAK	**Ala-Archa**	**1.64**	**14**	⇓P	**Pb**	**10 12 01.4**	**-0.5**
	19nm,0.4s						
AAK				⇑S	**Sb**	**10 12 22.3**	**-0.6**
	48nm,0.5s						
KBK	**Karagaybulak**	**1.77**	**25**	⇑*i*P	**Pn**	**10 12 01.4**	**-1.1**
	baz=21						
KBK				⇑*i*S	**Sb**	**10 12 25.5**	**-1.3**
	baz=21						
KBK	**Karagaybulak**	**1.77**	**25**	⇑P	**Pn**	**10 12 01.7**	**-0.8**
	28nm,0.1s,SNR=14						
KBK				⇑S	**Sg**	**10 12 27.5**	**-0.4**
	214nm,0.3s						
MRKS	**Merke**	**1.78**	**343**	*e*P	**Pb**	**10 12 04.7**	**+0.6**
	106nm,0.3s						
MRKS				*e*S	**Sg**	**10 12 28.2**	**0.0**
	135nm,0.2s						
MRKS	**Merke**	**1.78**	**343**	P	**Pb**	**10 12 04.9**	**+0.7**
	106nm,0.3s						
MRKS				S	**Sg**	**10 12 29.0**	**+0.8**
	135nm,0.2s						
MNAS	**Manas**	**1.80**	**324**	⇑*i*P	**Pn**	**10 12 03.0**	**+0.1**
	baz=22						
MNAS				⇑*i*S	**Sg**	**10 12 29.4**	**+0.7**
	baz=22						
FRU1	**Bishkek**	**1.84**	**16**	⇑*i*P	**Pn**	**10 12 02.9**	**-0.4**
	baz=12						
FRU1				⇑*i*S	**Sb**	**10 12 28.5**	**+0.1**
	baz=12						
CHMS	**Chumysh**	**2.04**	**17**	⇑*i*P	**Pn**	**10 12 05.4**	**-0.7**
	baz=14						
CHMS				⇑*i*S	**Sb**	**10 12 33.6**	**-0.7**
	baz=14						
CHMS	**Chumysh**	**2.04**	**17**	⇓P	**Pn**	**10 12 05.9**	**-0.2**
	14nm,0.2s,SNR=24						
CHMS				⇓S	**Sb**	**10 12 35.1**	**+0.8**
	112nm,0.5s						
BOOM	**Boomskoye usch**	**2.08**	**45**	⇓*i*P	**Pn**	**10 12 05.7**	**-0.9**
	baz=42						
BOOM				⇓*i*S	**Sn**	**10 12 33.1**	**+0.1**
	baz=42						
ULHL	**Ulahol**	**2.10**	**54**	⇑*i*P	**Pn**	**10 12 05.5**	**-1.5**
	baz=51						
ULHL				⇑*i*S	**Sn**	**10 12 33.0**	**-0.6**
	baz=51						
ULHL	**Ulahol**	**2.10**	**54**	⇓P	**Pn**	**10 12 06.1**	**-0.8**
	30nm,0.2s,SNR=13						
ULHL				⇓S	**Sb**	**10 12 34.6**	**-1.5**
	86nm,0.2s						
TRKS	**Terek-Say**	**2.17**	**284**	⇑*i*P	**Pn**	**10 12 08.6**	**+0.7**
	baz=83						
TRKS				⇑*i*S	**Sb**	**10 12 38.3**	**+0.2**
	baz=83						
TKM2	**Tokmak 2**	**2.24**	**33**	⇑*i*P	**Pn**	**10 12 08.4**	**-0.6**
	baz=30						
TKM2				⇑*i*S	**Sb**	**10 12 37.9**	**-2.3**
	baz=30						
TKM2	**Tokmak 2**	**2.24**	**33**	⇑P	**Pn**	**10 12 09.2**	**+0.2**
	23nm,0.3s,SNR=35						
TKM2				⇑S	**Sb**	**10 12 40.4**	**+0.1**
	72nm,0.2s						
TKM2	**Tokmak 2**	**2.24**	**33**	⇑Pg	**Pb**	**10 12 11.5**	**-0.6**
	14nm,0.4s						
TKM2				⇓Lg	Lg	10 12 40.2	
	85nm,0.6s						
USP	**Ospenovka**	**2.26**	**10**	⇑*i*P	**Pn**	**10 12 09.0**	**0.0**
	baz=8.0						
USP				⇑*i*S	**Sb**	**10 12 38.9**	**-1.7**
	baz=8.0						
USP	**Ospenovka**	**2.26**	**10**	⇓P	**Pn**	**10 12 09.5**	**+0.4**
	76nm,0.3s,SNR=10						
USP				⇓S	**Sg**	**10 12 42.4**	**-1.0**
	103nm,0.5s						
DRK	**Karamyk**	**2.27**	**227**	⇑*i*P	**Pn**	**10 12 09.2**	**-0.2**
	baz=30						
DRK				⇑*i*S	**Sn**	**10 12 38.9**	**+1.0**
	baz=30						
SGDS	**Sogindy**	**2.46**	**12**	Pg	**Pb**	**10 12 16.5**	**+0.8**
	40nm,0.5s						
SGDS				Lg	Lg	10 12 48.2	
	48nm,0.5s						
KST	**Kastek**	**2.50**	**36**	*e*P	**Pb**	**10 12 17.5**	**+1.1**
	23nm,0.4s						
KST				*e*S	**Sg**	**10 12 49.6**	**-1.5**
	205nm,0.3s						
KST	**Kastek**	**2.50**	**36**	Pg	**Pb**	**10 12 17.5**	**+1.1**
	23nm,0.4s						
KST				Lg	Lg	10 12 49.6	
	205nm,0.3s						
BTK	**Batken**	**2.58**	**249**	⇑*e*P	**Pn**	**10 12 13.8**	**+0.3**
	baz=51						
BTK				⇑*i*S	**Sb**	**10 12 47.4**	**-2.4**
	baz=51						
DGS	**Degeres**	**2.58**	**31**	*e*P	**Pb**	**10 12 18.7**	**+0.9**
	48nm,0.6s						
DGS				*e*S	**Sb**	**10 12 51.8**	**+1.9**
	165nm,0.7s						
DGS	**Degeres**	**2.58**	**31**	Pg	**Pb**	**10 12 18.7**	**+0.9**
	48nm,0.6s						
DGS				Lg	Lg	10 12 51.8	
	165nm,0.7s						
KDJ	**Kajisay**	**2.66**	**65**	⇑*e*P	**Pn**	**10 12 12.8**	**-1.8**
	baz=63						
KDJ				⇑*i*S	**Sn**	**10 12 46.6**	**-0.8**
	baz=63						
DZA	**Taraz**	**2.69**	**314**	*e*P	**Pg**	**10 12 22.6**	**+0.2**
	72nm,0.1s						
DZA				*e*S	**Sg**	**10 12 58.4**	**+1.2**
	226nm,0.2s						
DZA	**Taraz**	**2.69**	**314**	Pg	**Pg**	**10 12 22.6**	**+0.2**
	72nm,0.1s						
DZA				Lg	Lg	10 12 58.3	
	226nm,0.2s						
IZV	**Izvestkoviy**	**2.81**	**44**	*e*P	**Pb**	**10 12 21.7**	**0.0**
	25nm,0.4s						
IZV				*e*S	**Sb**	**10 12 56.9**	**+0.3**
	216nm,0.6s						
IZV	**Izvestkoviy**	**2.81**	**44**	Pg	**Pb**	**10 12 21.7**	**0.0**
	25nm,0.4s						
IZV				Lg	Lg	10 12 56.9	
	216nm,0.6s						
KRBS	**Karabastau**	**2.94**	**25**	*e*P	**Pb**	**10 12 24.3**	**+0.4**
	26nm,0.3s						
KRBS				*e*S	**Sb**	**10 13 01.4**	**+1.1**
	68nm,0.6s						
KRBS	**Karabastau**	**2.94**	**25**	Pg	**Pb**	**10 12 24.3**	**+0.4**

AAA	**Alma-Ata**	**3.09**	**45**	Pg	**Pb**	**10 12 27.5**	**+1.1**
	72nm,0.3s						
AAA				Lg	Lg	10 13 07.1	
	244nm,0.5s						
KNDC	**Almaty**	**3.12**	**45**	⇑Pg	**Pb**	**10 12 27.6**	**+0.6**
	27nm,0.4s						
KNDC				⇑Lg	Lg	10 13 08.4	
	193nm,0.5s						
MDOK	**Medeo**	**3.13**	**46**	*e*P	**Pb**	**10 12 27.7**	**+0.5**
	17nm,0.4s						
MDOK				*e*S	**Sb**	**10 13 07.1**	**+1.3**
	95nm,0.5s						
MDOK	**Medeo**	**3.13**	**46**	⇓Pg	**Pb**	**10 12 26.7**	**-0.5**
	17nm,0.6s						
MDOK				⇑Lg	Lg	10 13 07.4	
	84nm,0.6s						
MDOK	**Medeo**	**3.13**	**46**	Pg	**Pb**	**10 12 27.7**	**+0.5**
	17nm,0.4s						
MDOK				Lg	Lg	10 13 07.1	
	95nm,0.5s						
ANVS	**Anan'yevo**	**3.27**	**57**	⇑*i*P	**Pn**	**10 12 21.2**	**-1.9**
	baz=55						
ANVS				⇑*i*S	**Sn**	**10 13 01.6**	**-1.0**
	baz=55						
KK31	**Karatay Array**	**3.28**	**310**	⇑Pg	**Pb**	**10 12 31.2**	**+1.5**
	1.8nm,0.3s,baz=126,slow=15,SNR=22						
KK31				⇓Lg	Lg	10 13 15.2	
	31nm,0.6s,baz=115,slow=28,SNR=17						
KTBS	**Karatobe**	**3.35**	**36**	*e*P	**Pb**	**10 12 31.4**	**+0.6**
	7.5nm,0.2s						
KTBS				*e*S	**Sb**	**10 13 13.8**	**+1.9**
	250nm,0.7s						
KTBS	**Karatobe**	**3.35**	**36**	Pg	**Pb**	**10 12 31.4**	**+0.6**
	7.5nm,0.2s						
KTBS				Lg	Lg	10 13 14.0	
	250nm,0.7s						
GAR	**Garm**	**3.46**	**235**	⇑*i*P	**Pn**	**10 12 25.7**	**+0.1**
	baz=37						
GAR				⇑*e*S	**Sn**	**10 13 07.8**	**+0.8**
	baz=37						
CHKK	**Chushkaly**	**3.60**	**38**	*e*P	**Pb**	**10 12 35.9**	**+0.9**
	6.7nm,0.4s						
CHKK				*e*S	**Sb**	**10 13 21.5**	**+2.4**
	58nm,0.6s						
CHKK	**Chushkaly**	**3.60**	**38**	Pg	**Pb**	**10 12 35.9**	**+0.9**
	6.7nm,0.4s						
CHKK				Lg	Lg	10 13 21.5	
	58nm,0.6s						
SATY	**Saty**	**3.88**	**57**	*e*P	**Pb**	**10 12 40.5**	**+0.5**
	19nm,0.4s						
SATY				*e*S	**Sb**	**10 13 28.9**	**+1.5**
	47nm,0.3s						
SATY	**Saty**	**3.88**	**57**	Pg	**Pb**	**10 12 40.5**	**+0.5**
	19nm,0.4s						
SATY				Lg	Lg	10 13 28.9	
	47nm,0.3s						
KPKS	**Kokpek**	**4.27**	**54**	*e*P	**Pb**	**10 12 48.0**	**+1.5**
	14nm,0.3s						
KPKS				*e*S	**Sb**	**10 13 42.0**	**+3.5**
	84nm,0.6s						
ARXS	**Arharly**	**4.27**	**41**	*e*P	**Pb**	**10 12 47.9**	**+1.4**
	13nm,0.5s						
ARXS				*e*S	**Sb**	**10 13 42.0**	**+3.5**
	113nm,0.5s						
ARXS	**Arharly**	**4.27**	**41**	Pg	**Pb**	**10 12 47.9**	**+1.4**
	13nm,0.5s						
ARXS				Lg	Lg	10 13 42.0	
	113nm,0.5s						
UZB	**Uzynbulak**	**4.32**	**59**	*e*P	**Pb**	**10 12 48.9**	**+1.4**
	18nm,0.4s						
UZB				*e*S	**Sb**	**10 13 43.3**	**+3.3**
	20nm,0.4s						
UZB	**Uzynbulak**	**4.32**	**59**	Pg	**Pb**	**10 12 48.9**	**+1.4**
	18nm,0.4s						
UZB				Lg	Lg	10 13 43.3	
	20nm,0.4s						
CHGR	**Chuyangaron**	**4.39**	**239**	⇑*e*P	**Pn**	**10 12 38.4**	**0.0**
	baz=40						
CHGR				⇑*e*S	**Sn**	**10 13 30.3**	**+0.3**
	baz=40						
SHLS	**Shalkode**	**4.61**	**61**	*e*P	**Pg**	**10 12 59.0**	**-0.2**
	37nm,0.3s						
SHLS				*e*S	**Sg**	**10 14 00.7**	**+1.7**
	73nm,0.4s						
SHLS	**Shalkode**	**4.61**	**61**	Pg	**Pg**	**10 12 59.0**	**-0.2**
	37nm,0.3s						
SHLS				Lg	Lg	10 14 00.7	
	73nm,0.4s						
PDGK	**Podgornoye**	**4.71**	**59**	Pg	**Pb**	**10 12 55.0**	**+1.0**
	3.5nm,0.6s						
PDGK				Lg	Lg	10 13 55.5	
	15nm,0.7s						
PDGK	**Podgornoye**	**4.71**	**59**	⇑Pg	**Pb**	**10 12 53.6**	**-0.4**
	6.0nm,0.6s						
PDGK				⇓Lg	Lg	10 13 55.1	
	48nm,0.9s						
TDK	**Taldyqorghan**	**5.13**	**38**	*e*P	**Pb**	**10 13 04.6**	**+3.5**
	49nm,0.1s						
TDK				*e*S	**Sg**	**10 14 10.3**	**-5.3**
	63nm,0.4s						
TDK	**Taldyqorghan**	**5.13**	**38**	Pg	**Pb**	**10 13 04.6**	**+3.5**
	49nm,0.1s						
TDK				Lg	Lg	10 14 10.3	
	63nm,0.4s						
DJR	**Jarkent**	**5.42**	**51**	*e*P	**Pb**	**10 13 07.6**	**+1.5**
	0.3nm,0.4s						
DJR				*e*S	**Sb**	**10 14 15.5**	**+4.1**
	1.4nm,0.4s						
DJR	**Jarkent**	**5.42**	**51**	Pg	**Pb**	**10 13 07.6**	**+1.5**
	0.3nm,0.4s						
DJR				Lg	Lg	10 14 15.5	
	1.4nm,0.4s						
KAPS	**Kapalarasan**	**5.80**	**41**	Pg	**Pb**	**10 13 14.2**	**+1.7**
	0.3nm,0.6s						
KAPS				Lg	Lg	10 14 26.9	
	1.0nm,0.6s						
MK31	**Makanchi Array**	**8.32**	**44**	⇓Pn	Pb	10 13 48.0	-7.5
	0.7nm,0.6s,baz=220,slow=13,SNR=4.3						
MK31				⇑Lg	Lg	10 15 50.8	
	4.3nm,0.9s,baz=222,slow=30,SNR=4.2						

*IDC **18** 10:13:39.7±2.2,23°.28S×179°.32W,h521km±30km, mb2.8/3, mb1 3.2/6, mb1mx2.9/26, mbtmp4.1/6, Error ellipse: s-maj=41.7km s-min=29.4km az=134.0*

ISC 18 10:13:38.7±1.2,23°.4S±0°.2×179°.3W±0°.2,h500km,n7, σ19°30/7,mb3.3/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.14**	**336**	P	**P**	**10 15 17.8**	**+1.1**
	0.9nm,0.3s,baz=126,slow=19,SNR=6.4						
AFI	**Afiamalu**	**11.82**	**38**	P	**P**	**10 16 15.5**	**-0.1**
	1.4nm,0.3s,baz=230,slow=17,SNR=1.9						
URZ	**Urewera**	**15.14**	**191**	P	**P**	**10 16 51.2**	**+1.0**
	0.7nm,0.3s,baz=49,slow=3.0,SNR=2.0						
STKA	**Stephens Creek**	**35.51**	**247**	P	**P**	**10 19 53.4**	**+0.5**
	1.5nm,0.6s,baz=84,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**42.75**	**260**	P	**P**	**10 20 51.2**	**-0.4**
	0.8nm,0.8s,baz=91,slow=7.7,SNR=9.9						
WRA	**Warramunga Arr**	**43.08**	**265**	P	**P**	**10 20 53.0**	**-1.3**
	0.7nm,0.7s,baz=103,slow=8.2,SNR=15						
AKASG	**Malin Array Be**	**144.88**	**328**	PKP	**PKPdf**	**10 32 16.6**	**-1.6**
	0.4nm,0.3s,baz=42,slow=3.3,SNR=3.1						

*IDC **18** 10:39:51.8±1.0,24°.13S×69°.71E,h0km,mb4.0/10, mb1 4.1/10,mb1mx3.9/39,mbtmp4.0/10,MS3.6/10, Ms1 3.6/10,ms1mx3.4/36,Error ellipse: s-maj=31.4km s-min=23.2km az=55.0*

*NEIC **18** 10:39:53.3±1.6,24°.2S±0°.1×69°.7E±0°.2,h10km±1km, mb4.6/23,Error ellipse: s-maj=26.5km s-min=20.7km az=283.0*

ISC 18 10:39:53.1±0.7,24°.2S±0°.1×69°.7E±0°.1,h10km,n54, σ0s57/42,mb4.4/18,MS3.6/10,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.68**	**10**	T	T	11 00 44.9	
	baz=190,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**16.68**	**10**	T	T	11 00 44.6	
	baz=190,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**16.70**	**10**	T	T	11 00 50.2	
	baz=190,slow=76,SNR=16						
PALK	**Pallekele**	**33.07**	**20**	P	**P**	**10 46 28.9**	**-0.2**
H01W2	**Cape Leeuwin H**	**39.79**	**116**	T	T	11 29 48.1	
	baz=278						
H01W3	**Cape Leeuwin H**	**39.79**	**116**	T	T	11 29 46.1	
	baz=278						
H01W1	**Cape Leeuwin H**	**39.80**	**116**	T	T	11 29 47.6	
	baz=278						
BOSA	**Boshof**	**39.90**	**254**	LR	LR	11 00 48.6	
	comp=Z,154nm,18.6s,baz=74,slow=32						
CISI	**Cisompet, Garu**	**40.02**	**72**	P	**P**	**10 47 28.2**	**-0.4**
MAW	**Mawson**	**43.61**	**184**	LR	LR	11 02 49.4	
	comp=Z,51nm,19.8s,baz=46,slow=32						
CMAR	**Chiang Mai Arr**	**51.09**	**37**	P	**P**	**10 48 56.8**	**+0.7**
	0.9nm,0.5s,baz=225,slow=6.2,SNR=5.8						
CMAR				LR	LR	11 06 40.6	
	comp=Z,66nm,21.0s,baz=216,slow=32						
CMAR	**Chiang Mai Arr**	**51.09**	**37**	P	**P**	**10 48 56.6**	**+0.6**
SHL	**Shillong**	**53.93**	**25**	P	**P**	**10 49 17.7**	**+0.5**
ASAR	**Alice Springs**	**58.16**	**104**	P	**P**	**10 49 48.2**	**+0.6**
	2.0nm,0.8s,baz=253,slow=6.4,SNR=17						
KBL	**Kabul**	**58.43**	**359**	P	**P**	**10 49 49.6**	**+0.4**
KBL				IAmb	IAmb	10 49 51.7	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**59.56**	**100**	P	**P**	**10 49 57.6**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=255,slow=7.2,SNR=10.0						
WRA	**Warramunga Arr**	**59.56**	**100**	P	**P**	**10 49 56.4**	**-0.9**
WB2	**Warramunga Arr**	**59.57**	**100**	P	**P**	**10 49 56.3**	**-1.1**
WR0	**Warramunga Arr**	**59.74**	**100**	P	**P**	**10 49 57.5**	**-1.1**
WR0				IAmb	IAmb	10 50 25.6	
	comp=Z,4.7nm,0.7s						
SAUI	**Saumlaki**	**60.87**	**86**	P	**P**	**10 50 06.6**	**+0.3**
SNAA	**Sanae**	**61.75**	**200**	P	**P**	**10 50 11.1**	**-0.3**
SNAA				IAmb	IAmb	10 50 31.3	
	comp=Z,11nm,1.6s						
GEYT	**Alibeck**	**62.77**	**350**	LR	LR	11 14 43.3	
	comp=Z,47nm,19.8s,baz=125,slow=33						
STKA	**Stephens Creek**	**62.87**	**115**	LR	LR	11 13 54.8	
	comp=Z,45nm,19.7s,baz=195,slow=32						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**10 50 39.9**	**+0.8**
	comp=Z,2.8nm,1.2s,baz=271,slow=13,SNR=3.7						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**10 50 39.2**	**+0.1**
QSPA				IAmb	IAmb	10 51 03.5	
	comp=Z,6.1nm,1.2s						
KK31	**Karatay Array**	**66.98**	**1**	P	**P**	**10 50 46.3**	**+0.4**
KK31				IAmb	IAmb	10 50 47.6	
	comp=Z,5.3nm,1.1s						
KKAR	**Karatay Array**	**66.98**	**1**	P	**P**	**10 50 46.0**	**+0.1**
KKAR	**Karatay Array**	**66.98**	**1**	P	**P**	**10 50 46.1**	**+0.3**
KKAR				IAmb	IAmb	10 50 47.6	
	comp=Z,5.3nm,1.1s						
BNN	**Bunyan**	**70.30**	**332**	P	**P**	**10 51 06.6**	**-0.2**
MK31	**Makanchi Array**	**71.58**	**9**	P	**P**	**10 51 13.6**	**-0.7**
MKAR	**Makanchi Array**	**71.58**	**9**	P	**P**	**10 51 13.3**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=190,slow=6.2,SNR=19						
MKAR				LR	LR	11 21 19.0	
	comp=Z,33nm,18.5s,baz=227,slow=35						
MKAR	**Makanchi Array**	**71.58**	**9**	P	**P**	**10 51 13.6**	**-0.7**
BR131	**Keskin Array S**	**71.97**	**331**	P	**P**	**10 51 17.5**	**+0.5**
BR131				IAmb	IAmb	10 51 24.3	
	comp=Z,4.5nm,1.2s						
BRTR	**Keskin Array B**	**71.97**	**331**	P	**P**	**10 51 17.2**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=151,slow=6.6,SNR=4.1						
BRTR				LR	LR	11 22 20.6	
	comp=Z,30nm,18.7s,baz=208,slow=36						
BRTR	**Keskin Array B**	**71.97**	**331**	P	**P**	**10 51 17.1**	**0.0**
KIV	**Kislovodsk**	**72.22**	**340**	P	**P**	**10 51 18.9**	**+0.5**
KIV				IAmb	IAmb	10 51 25.5	
	comp=Z,4.1nm,0.6s						
ANTO	**Ankara**	**72.46**	**331**	P	**P**	**10 51 18.9**	**-1.0**
ABKAR	**Akbulak array**	**73.65**	**353**	P	**P**	**10 51 26.5**	**0.0**
ABKAR				IAmb	IAmb	10 51 27.7	
	comp=Z,4.0nm,1.1s						
ABKAR	**Akbulak array**	**73.65**	**353**	P	**P**	**10 51 25.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.08**	**291**	P	**P**	**10 51 41.8**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=124,slow=5.5,SNR=1.9						
BRVK	**Borovoye**	**76.94**	**0**	P	**P**	**10 51 45.4**	**0.0**
TIRR	**Tirgusor**	**78.08**	**331**	P	**P**	**10 51 51.4**	**-0.6**
ZALV	**Zalesovo Beam**	**78.92**	**9**	P	**P**	**10 51 56.1**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=208,slow=5.0,SNR=9.8						
ZALV	**Zalesovo Beam**	**78.92**	**9**	P	**P**	**10 51 56.0**	**-0.3**
SONM	**Songino Array**	**78.92**	**24**	P	**P**	**10 51 57.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=224,slow=4.0,SNR=6.8						
SONM	**Songino Array**	**78.92**	**24**	P	**P**	**10 51 56.2**	**-0.5**
ULN	**Ulaanbaatar**	**79.20**	**25**	P	**P**	**10 51 58.7**	**+0.4**
ULN				IAmb	IAmb	10 51 59.6	
	comp=Z,6.3nm,1.2s						
BURAR	**Bucovina Array**	**81.94**	**331**	P	**P**	**10 52 12.5**	**-0.4**
KSRS	**Korea Array**	**82.18**	**43**	P	**P**	**10 52 14.4**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=248,slow=6.4,SNR=4.2						
GUMO	**Guam**	**82.39**	**71**	LR	LR	11 28 04.7	
	comp=Z,89nm,18.4s,baz=184,slow=35						
MJAR	**Matsushiro Arr**	**88.39**	**49**	LR	LR	11 30 57.4	
	comp=Z,19nm,20.7s,baz=235,slow=35						
USRK	**Ussuriysk Ar.**	**88.72**	**40**	LR	LR	11 30 58.8	
	comp=Z,41nm,20.2s,baz=192,slow=35						
NVAR	**Mina Array Bea**	**164.26**	**24**	PKPab	**PKPab**	**11 00 51.3**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=303,slow=2.5,SNR=6.2						
NVAR	**Mina Array Bea**	**164.26**	**24**	PKPdf	**PKPdf**	**10 59 56.7**	**-0.6**
NVAR					**PKPab**	**11 00 51.7**	**+0.6**

*IDC **18** 10:42:04.7±0.6, 15°.10S×175°.47W,h300km±6km,mb4.0/27, mb1 4.2/29,mb1mx4.1/39,mbtmp4.7/29,Error ellipse: s-maj=12.6km s-min=8.7km az=136.0*

*NEIC **18** 10:42:04.8±1.7, 15°.02S±0°.10×175°.33W±0°.09, h295km±6km,mb4.7/122,Error ellipse: s-maj=14.8km s-min=11.7km az=157.0*

*NOU **18** 10:42:05.8, 14°.89S×175°.21W,h331km,MLv5.0,Samoa Islands Region*

ISC 18 10:42:04.9±0.3,15°.02S±0°.07×175°.38W±0°.05,h300km, h301km:pP-P,n395,σ0s95/378,mb4.7/101,31C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.66**	**73**	P	**Pn**	**10 43 07.3**	**-0.2**
	60nm,0.3s,baz=22,slow=1.5,SNR=74						
AFI				S	**S**	**10 43 54.9**	**-2.7**
	5.0nm,0.3s,baz=22,slow=22,SNR=1.1						
AFI	**Afiamalu**	**3.66**	**73**	P	**Pn**	**10 43 07.8**	**+0.3**
NIUE	**Niue**	**6.59**	**129**	P	**Pn**	**10 43 42.9**	**+1.6**
MSVF	**Nonsavu**	**6.86**	**246**	P	**Pn**	**10 43 47.4**	**+2.7**
	3.0nm,0.3s,baz=93,slow=11,SNR=55						
MSVF	**Nonsavu**	**6.86**	**246**	Pn	**Pn**	**10 43 47.7**	**+3.0**
MSVF	**Nonsavu**	**6.86**	**246**	P	**Pn**	**10 43 48.0**	**+3.3**
FUNA	**Funafuti**	**8.36**	**320**		**Pn**	**10 44 04.8**	**+1.9**
RAR	**Rarotonga**	**16.06**	**115**	P	**P**	**10 45 33.1**	**-0.4**
	0.7nm,0.3s,baz=250,slow=5.6,SNR=7.2						
RAR	**Rarotonga**	**16.06**	**115**	P	**P**	**10 45 33.7**	**+0.2**
RAR				IAmb	IAmb	10 45 40.4	
	comp=Z,43nm,1.0s						
SANVU	**Saraoutou**	**16.82**	**266**	P	**Pn**	**10 45 43.9**	**-0.7**
MARNC	**Mare, Loyalty**	**17.01**	**245**	P	**P**	**10 45 44.0**	**0.0**
MARNC	**Mare, Loyalty**	**17.01**	**245**	P	**P**	**10 45 45.3**	**+1.3**
LIFNC	**LIFOU**	**17.50**	**248**	P	**P**	**10 45 50.5**	**+1.2**
PINNC	**Pines Island,**	**17.92**	**242**	P	**Pn**	**10 45 56.3**	**-1.2**
OUENC	**Ouen Island, N**	**18.37**	**244**	P	**P**	**10 46 00.2**	**+1.6**
NOUC	**Port Laguerre**	**18.73**	**245**	P	**P**	**10 46 04.7**	**+2.2**
TARA	**Tarawa**	**19.96**	**324**	P	**P**	**10 46 15.6**	**0.0**
URZ	**Urewera**	**24.09**	**195**	P	**P**	**10 46 51.5**	**-2.2**
	comp=Z,11nm,0.6s,baz=5.3,slow=16,SNR=1.6						
TUWZ	**Tuamarina**	**27.90**	**197**	P	**P**	**10 47 27.8**	**+0.1**
EIDS	**Eidsvold**	**33.04**	**246**	P	**P**	**10 48 11.8**	**-1.2**
RABL	**Rabaul**	**33.71**	**285**	P	**P**	**10 48 17.7**	**-1.2**
RABL	**Rabaul**	**33.71**	**285**	P	**P**	**10 48 18.1**	**-0.7**
	comp=Z,164nm,0.4s						
ARMA	**Armidale**	**33.92**	**237**	P	**P**	**10 48 19.9**	**-0.7**
ARMA				IAmb	IAmb	10 48 24.8	
	comp=Z,58nm,1.6s						
CTAO	**Charters Tower**	**36.87**	**256**	P	**P**	**10 48 45.0**	**-0.5**
CTAO				IAmb	IAmb	10 48 46.5	
	comp=Z,37nm,1.1s						
PMG	**Port Moresby**	**37.00**	**274**	P	**P**	**10 48 48.3**	**+1.5**
PMG				IAmb	IAmb	10 48 56.5	
	comp=Z,35nm,1.0s						
MWH	**Moku'aweowe**	**39.42**	**30**	P	**P**	**10 49 06.5**	**-0.8**
TOO	**Toolangi**	**41.24**	**230**	P	**P**	**10 49 20.9**	**-0.5**
STKA	**Stephens Creek**	**42.58**	**239**	P	**P**	**10 49 30.6**	**-1.7**
	comp=Z,18nm,0.6s,baz=80,slow=8.8,SNR=54						
STKA	**Stephens Creek**	**42.58**	**239**	P	**P**	**10 49 32.0**	**-0.2**
GENI	**Genyem**	**45.52**	**281**	P	P	10 49 50.6	-5.0
	comp=Z,2μmcomp=Z,28nm,0.9s						
BBOO	**Buckleboo**	**47.36**	**239**	P	**P**	**10 50 08.6**	**-1.0**
WR0	**Warramunga Arr**	**47.88**	**257**	P	**P**	**10 50 12.3**	**-1.5**
WB0	**Warramunga Arr**	**48.03**	**257**	P	**P**	**10 50 13.4**	**-1.5**
WB2	**Warramunga Arr**	**48.06**	**257**	P	**P**	**10 50 14.1**	**-1.1**
WB2				IAmb	IAmb	10 50 15.3	
	comp=Z,25nm,1.2s						
WRAB	**Tennant Creek**	**48.06**	**257**	P	**P**	**10 50 14.3**	**-0.9**
WRA	**Warramunga Arr**	**48.07**	**257**	P	**P**	**10 50 13.3**	**-1.9**
	comp=Z,6.5nm,0.8s,baz=89,slow=8.6,SNR=90						
WRA				PcP	**PcP**	**10 51 37.9**	**0.0**
	comp=Z,2.2nm,0.7s,baz=92,slow=3.9,SNR=5.1						
WRA	**Warramunga Arr**	**48.07**	**257**	P	**P**	**10 50 13.3**	**-1.9**
AS31	**Alice Springs**	**48.41**	**252**	P	**P**	**10 50 16.9**	**-0.9**
AS31				IAmb	IAmb	10 50 18.7	
	comp=Z,26nm,0.9s						
ASAR	**Alice Springs**	**48.42**	**252**	P	**P**	**10 50 16.8**	**-1.0**
	comp=Z,76nm,0.7s,baz=88,slow=7.7,SNR=521						
ASAR				PcP	**PcP**	**10 51 39.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=101,slow=4.1,SNR=1.9						
ASAR				S	**S**	**10 56 53.0**	**-2.3**
	comp=Z,0.9nm,0.9s,baz=78,slow=15,SNR=5.4						
ASAR	**Alice Springs**	**48.42**	**252**	P	**P**	**10 50 17.0**	**-0.8**
MTN	**Manton Dam**	**51.86**	**265**	P	**P**	**10 50 43.0**	**-0.5**
MTN				IAmb	IAmb	10 50 44.2	
	comp=Z,34nm,0.9s						
KNRA	**Kununurra**	**53.73**	**261**	P	**P**	**10 50 56.2**	**-1.0**
KNRA				IAmb	IAmb	10 50 57.8	
	comp=Z,55nm,1.4s						
FORT	**Forrest**	**53.89**	**243**	P	**P**	**10 50 57.0**	**-1.1**
FORT				IAmb	IAmb	10 50 58.3	
	comp=Z,39nm,0.8s						
SWI	**Sorong**	**54.52**	**280**	P	P	10 50 57.4	-5.4
	comp=Z,118nm,0.8s						
SOEI	**Soe**	**59.04**	**268**	P	**P**	**10 51 34.8**	**+0.2**
SOEI	**Soe**	**59.04**	**268**	P	P	10 51 28.5	-6.1
	comp=Z,113nm,0.9s						
PSA00	**Pilbara Seismi**	**61.48**	**253**	P	**P**	**10 51 49.4**	**-1.4**
PSA00				IAmb	IAmb	10 51 51.4	
	comp=Z,23nm,1.4s						
PSA00	**Pilbara Seismi**	**61.48**	**253**	P	**P**	**10 51 49.8**	**-1.0**
PSA00				IAmb	IAmb	10 51 51.3	
	comp=Z,20nm,0.9s						
EDFI	**Ende, Flores**	**61.73**	**268**	P	P	10 51 47.1	-5.6
	comp=Z,436nmcomp=Z,50nm,0.8s						
SBA	**Scott Base**	**63.48**	**184**	P	**P**	**10 52 03.9**	**+0.9**
VNDA	**Vanda**	**63.57**	**185**	P	**P**	**10 52 02.5**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=27,slow=5.0,SNR=8.4						
VNDA	**Vanda**	**63.57**	**185**	P	**P**	**10 52 03.1**	**-0.4**
MORW	**Morawa**	**64.32**	**245**	P	**P**	**10 52 09.1**	**-0.1**
MORW				IAmb	IAmb	10 53 10.3	
	comp=Z,35nm,1.6s						
TOLI2	**Tolitoli**	**65.10**	**278**	P	**P**	**10 52 15.0**	**+0.4**
TOLI2				IAmb	IAmb	10 52 15.5	
	comp=Z,16nm,1.0s						
MPSI	**Mapaga**	**65.73**	**277**	P	P	10 52 13.1	-5.4
	comp=Z,31nm,0.8s						
TWSI	**Taliwang, Sumb**	**66.38**	**267**	P	P	10 52 17.2	-5.4
MJAR	**Matsushiro Arr**	**67.43**	**321**	P	**P**	**10 52 27.8**	**-1.0**
	comp=Z,91nm,1.0s,baz=153,slow=5.6,SNR=10						
MAJO	**Matsushiro**	**67.43**	**321**	P	**P**	**10 52 27.9**	**-0.9**
MAJO				IAmb	IAmb	10 52 30.6	
	comp=Z,7.9nm,0.8s						
MAT	**Matsushiro**	**67.43**	**321**	P	**P**	**10 52 27.7**	**-1.0**
MJB9	**Matsu-Tunnel**	**67.43**	**321**	P	**P**	**10 52 28.2**	**-0.6**
MJB9				IAmb	IAmb	10 54 52.8	
	comp=Z,30nm,1.5s						
JEM	**Erimo**	**68.41**	**328**	P	P	10 52 44.6	+10
UNV	**Unalaska Valle**	**69.00**	**6**	P	**P**	**10 52 37.5**	**-0.5**
	baz=189						
JHS	**Saijyo**	**69.71**	**317**	P	**P**	**10 52 43.3**	**+0.4**
JEW	**Eniwo**	**69.89**	**328**	P	**P**	**10 52 43.2**	**-0.4**
JNU	**Nakatsue**	**70.15**	**314**	P	**P**	**10 52 45.7**	**+0.1**
	comp=Z,16nm,0.7s,baz=186,slow=11,SNR=6.7						
JNU	**Nakatsue**	**70.15**	**314**	P	**P**	**10 52 44.0**	**-1.5**
JNU				IAmb	IAmb	10 52 46.8	
	comp=Z,17nm,0.7s						
JKA	**Kamikawa-asahi**	**70.22**	**329**	P	**P**	**10 52 46.2**	**+0.6**
JKA				IAmb	IAmb	10 52 47.8	
	comp=Z,15nm,0.9s						
ASAJ	**Asahikawa**	**70.22**	**329**	P	**P**	**10 52 46.0**	**+0.3**
	comp=Z,12nm,0.7s,baz=197,slow=6.2,SNR=22						
PETK	**Petropavlovsk-**	**71.70**	**343**	P	**P**	**10 52 54.1**	**-0.2**
	comp=Z,9.7nm,0.7s,baz=152,slow=9.9,SNR=17						
PETK	**Petropavlovsk-**	**71.70**	**343**	P	**P**	**10 52 53.6**	**-0.7**
YOJ	**Yonaguni jima**	**71.78**	**302**	P	**P**	**10 52 54.3**	**-1.1**
YSS	**Yuzh-Sakhalins**	**72.22**	**331**	P	**P**	**10 52 57.4**	**-0.1**
YSS				IAmb	IAmb	10 52 59.2	
	comp=Z,23nm,1.0s						
PKM	**Mcpherson Peak**	**72.39**	**45**	P	**P**	**10 53 00.4**	**+1.4**
	baz=237						
SMMC	**Simmler**	**72.50**	**45**	P	**P**	**10 53 01.2**	**+1.7**
	baz=236						
YULB	**Yu-li**	**72.73**	**301**	P	**P**	**10 53 01.0**	**-0.1**
VES	**Vestal, Richgr**	**73.41**	**45**	P	**P**	**10 53 05.3**	**+0.6**
	baz=237						
O02D	**Mt. Diablo Mer**	**73.48**	**39**	P	**P**	**10 53 06.6**	**+1.4**
	baz=233						
BFSC	**Mount Baldy Ra**

baz=240
IRM Iron Mountain 75.29 48 P P 10 53 16.9 +1.3
baz=240
NVAR Mina Array Bea 75.34 43 P P 10 53 16.6 +0.6
comp=Z,4.7nm,0.7s,baz=227,slow=9.5,SNR=52
NVAR pP pP 10 54 25.8 +2.3
comp=Z,2.6nm,1.0s,baz=225,slow=8.7,SNR=5.5
TUQ Turquoise Moun 75.38 47 P P 10 53 17.2 +1.0
baz=239
NV11 Mina Array Sit 75.44 43 P P 10 53 17.1 +0.6
NV11 IAmb IAmb 10 53 18.6
comp=Z,12nm,1.3s
TPNV Topopah Spring 75.93 45 P P 10 53 20.4 +1.1
baz=239
USA0B Ussuriysk Arra 75.94 324 P P 10 53 19.8 +0.8
USRK Ussuriysk Ar. 75.94 324 P P 10 53 19.6 +0.7
comp=Z,2.7nm,0.9s,baz=143,slow=5.4,SNR=7.5
USRK Ussuriysk Ar. 75.94 324 P P 10 53 19.2 +0.3
MOD Modoc Plateau 76.02 39 P P 10 53 20.4 +0.8
PDMCI Parker Dam,Lak 76.09 48 P P 10 53 21.4 +1.4
baz=241
K05A Summer Lake 76.14 38 P P 10 53 21.7 +1.3
K05A IAmb IAmb 10 54 32.1
comp=Z,17nm,1.1s
J05D Fort Rock, OR 76.27 38 P P 10 53 22.0 +1.0
baz=234
O18K Koktuh Hills 76.38 10 P P 10 53 21.5 +0.4
baz=200
SHPR Sheep Range 76.46 46 P P 10 53 22.3 +0.1
H04A Detroit Lake 76.55 36 P P 10 53 23.5 +1.0
H04A IAmb IAmb 10 54 32.3
comp=Z,43nm,1.8s
PINE Pine Mountain 76.74 37 P P 10 53 24.9 +1.2
PINE IAmb IAmb 10 53 26.1
comp=Z,11nm,0.8s
CNPM China Poot 76.83 12 P P 10 53 23.7 +0.1
O19K Port Alsworth 76.85 11 P P 10 53 23.6 -0.1
baz=201
E03A Lebam 76.94 34 P P 10 53 25.4 +0.9
N18K Kilae Creek 77.04 10 P P 10 53 24.8 0.0
baz=199
BRSE Bradley Lake S 77.13 13 P P 10 53 25.7 +0.4
baz=204
RSO Redoubt South 77.39 11 P P 10 53 27.5 +0.6
N19K Bonanza Creek 77.41 10 P P 10 53 26.7 -0.2
baz=201
SVW2 Sparrevohn 77.49 10 P P 10 53 27.4 +0.2
SVW2 IAmb IAmb 10 53 27.8
comp=Z,9.0nm,0.9s
TUC Tucson 77.64 52 P P 10 53 30.2 +1.4
baz=243
TUC Tucson 77.64 52 P P 10 53 29.1 +0.2
F05D White Salmon 77.69 35 P P 10 53 29.0 +0.3
baz=233
SEW Seward 77.73 13 P P 10 53 27.5 -1.1
baz=206
SEW Seward 77.73 13 P P 10 53 29.0 +0.5
D04E Lakebay 77.76 34 P P 10 53 30.9 +2.0
baz=232
D03D Eldon 77.81 33 P P 10 53 30.4 +1.1
baz=231
SPR3 Spring Creek 3 78.28 44 P P 10 53 31.9 -0.6
SPR3 IAmb IAmb 10 53 34.0
comp=Z,19nm,1.9s
PGC Sidney 78.32 32 P P 10 53 32.5 +0.5
PGC IAmb IAmb 10 54 20.9
comp=Z,24nm,1.4s
NJ2 Nanjing 78.42 308 eP P 10 53 34.8 +1.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
M19K Big River Lodg 78.44 10 P P 10 53 32.3 -0.2
baz=201
ELK Elko 78.57 42 P P 10 53 34.3 +0.4
GAMB Gambell 78.59 2 P P 10 53 33.3 +0.2
baz=184
L19K White Mountain 78.63 10 P P 10 53 33.9 +0.4
baz=200
PWL Port Wells 78.66 13 P P 10 53 34.2 +0.5
WUAZ Wupatki 78.66 48 P P 10 53 35.9 +1.5
baz=242
WUAZ Wupatki 78.66 48 P P 10 53 34.7 +0.2
G08A Pilot Rock 78.76 37 P P 10 53 35.0 +0.3
G08A IAmb IAmb 10 53 36.6
comp=Z,14nm,1.3s
B05A Bryant 78.79 33 P P 10 53 35.1 +0.5
baz=232
LTY Liberty 78.94 35 P P 10 53 35.9 +0.3
LTY IAmb IAmb 10 55 16.1
comp=Z,24nm,1.9s
GLI Glacier Island 78.95 14 P P 10 53 34.6 -0.6
baz=208
GLI Glacier Island 78.95 14 P P 10 53 34.6 -0.6
KNK Knik Glacier 79.13 13 P P 10 53 36.2 0.0
baz=206
KLR Kul'dur 79.17 328 P P 10 53 36.4 -0.2
comp=Z,2.1nm,0.7s,baz=53,slow=2.5,SNR=6.7
BMO Blue Mountains 79.48 38 P P 10 53 38.2 -0.4
CN2 Changchun 79.58 321 eP P 10 53 39.3 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
MFID Camas Ranch 79.60 40 P P 10 53 39.8 +0.5
MFID IAmb IAmb 10 53 41.0
comp=Z,11nm,1.6s
BMRM Bremner River 79.62 15 P P 10 53 39.0 +0.1
baz=210
BMRM Bremner River 79.62 15 P P 10 53 38.9 0.0
SCM Sheep Creek Mo 79.75 13 P P 10 53 39.7 +0.1
D08A Wollman Farm, 79.80 35 P P 10 53 40.5 +0.5
D08A IAmb IAmb 10 53 42.0
comp=Z,8.6nm,1.0s
CRQM Cirque 79.80 15 P P 10 53 39.9 -0.1
CRQM IAmb IAmb 10 53 41.3
comp=Z,14nm,0.8s
CRQE Cirque 79.81 15 P P 10 53 40.4 +0.4
baz=212
K20K Telida 79.86 10 P P 10 53 40.1 +0.1
baz=201,SNR=7.9
DUG Dugway, Tooele 79.89 44 P P 10 53 41.5 +0.6
baz=240
DUG Dugway, Tooele 79.89 44 P P 10 53 41.3 +0.4
DUG IAmb IAmb 10 53 43.1
comp=Z,17nm,1.8s
121A Cookes Peak, D 80.02 52 P P 10 53 43.6 +1.8
baz=245
F10A Beach Ranch, E 80.15 37 P P 10 53 42.0 -0.1
F10A IAmb IAmb 10 53 43.4
comp=Z,8.0nm,0.8s
N25K Chitina, Valde 80.17 14 P P 10 53 41.6 -0.2
baz=210,SNR=9.5
N25K Chitina, Valde 80.17 14 P P 10 53 41.8 -0.1
GLB Gilahina Butte 80.22 15 P P 10 53 41.9 -0.2
GLB IAmb IAmb 10 53 43.2
comp=Z,13nm,0.8s
M24K Tolsona, Glenn 80.25 13 P P 10 53 42.7 +0.5
baz=208
M24K Tolsona, Glenn 80.25 13 P P 10 53 43.3 +1.1
B08A Colville Reser 80.32 34 P P 10 53 42.6 -0.3
B08A IAmb IAmb 10 53 43.9
comp=Z,5.3nm,0.7s
WAT6 Susitna Watana 80.33 13 P P 10 53 42.7 -0.1
baz=207
WAT1 Susitna Watana 80.38 12 P P 10 53 42.6 -0.2
baz=206
CTG Chitna Glacier 80.45 16 P P 10 53 43.7 +0.3
baz=213
TNA Tin City 80.53 3 P P 10 53 44.3 +0.8
baz=187
TRF Thorofare Moun 80.61 11 P P 10 53 43.6 -0.6
baz=204,SNR=8.5
TRF Thorofare Moun 80.61 11 P P 10 53 43.3 -0.9
TRF IAmb IAmb 10 53 44.7
comp=Z,13nm,0.7s
J20K Nowinta River 80.62 9 P P 10 53 44.2 +0.2
baz=201,SNR=9.0
CHUM Lake Minchumin 80.64 10 P P 10 53 43.4 -0.8
baz=202
RND Reindeer 80.84 12 P P 10 53 45.9 +0.6
RND IAmb IAmb 10 53 46.6
comp=Z,16nm,0.8s
SRU San Rafael Swe 80.93 45 P P 10 53 47.0 +0.5
MCK McKinley 81.12 12 P P 10 53 46.4 -0.3
baz=206,SNR=12
MCK McKinley 81.12 12 P P 10 53 46.4 -0.3
M26K Nabesna, AK 81.25 15 P P 10 53 47.4 -0.1
baz=212,SNR=15
BWN Browne 81.42 11 P P 10 53 48.6 +0.3

NEW Newport 81.48 35 P P 10 53 48.8 -0.2
baz=236
NEW Newport 81.48 35 P P 10 53 49.3 +0.3
NEW IAmb IAmb 10 53 50.3
comp=Z,27nm,1.9s
M27K Edge Creek, AK 81.49 15 P P 10 53 49.2 +0.4
baz=212,SNR=11
MNTX Cornudas Mount 81.54 54 P P 10 53 50.2 +0.6
baz=246
MNTX Cornudas Mount 81.54 54 P P 10 53 49.7 0.0
MNTX IAmb IAmb 10 53 52.2
comp=Z,14nm,1.4s
BNM Barren Site 81.57 51 P P 10 53 50.5 +0.5
SEY Seymchan 81.67 346 P P 10 53 48.9 -0.6
comp=Z,7.2nm,0.7s,baz=148,slow=4.8,SNR=20
L26K Log Cabin Wild 81.70 14 P P 10 53 49.9 +0.1
baz=211
NEA2 Nenana 81.87 11 P P 10 53 50.4 -0.2
baz=206
I21K Tanana 81.90 10 P P 10 53 50.7 0.0
baz=203,SNR=7.3
MLY Manley 81.97 10 P P 10 53 50.5 -0.6
baz=204,SNR=5.5
RIDG Independent Ri 81.97 13 P P 10 53 51.2 0.0
baz=210
TXAR Lajitas Array 81.99 57 P P 10 53 53.2 +1.1
comp=Z,1.5nm,0.8s,baz=217,slow=8.1,SNR=19
TXAR pP pP 10 55 02.9 +2.2
comp=Z,0.5nm,1.0s,baz=247,slow=4.7,SNR=2.6
ANMO Albuquerque 82.03 51 P P 10 53 52.9 +0.5
comp=Z,2.6nm,1.0s,baz=226,slow=7.7,SNR=8.8
ANMO pP pP 10 55 03.4 +2.6
comp=Z,1.3nm,1.0s,baz=201,slow=6.3,SNR=2.5
ANMO Albuquerque 82.03 51 P P 10 53 53.3 +0.9
baz=245
ANMO Albuquerque 82.03 51 P P 10 53 53.2 +0.8
DLBC Dease Lake 82.06 22 P P 10 53 52.6 +0.8
comp=Z,1.5nm,0.6s,baz=228,slow=4.7,SNR=4.4
DOT Dot Lake 82.07 14 P P 10 53 51.5 -0.2
DOT IAmb IAmb 10 53 52.9
comp=Z,16nm,0.8s
L27K Beaver Creek, 82.09 15 P P 10 53 51.8 -0.1
baz=212,SNR=8.3
L27K Beaver Creek, 82.09 15 P P 10 53 51.9 0.0
BCAR Beaver Creek A 82.11 15 P P 10 53 51.8 -0.1
HDA Harding Lake 82.12 12 P P 10 53 51.4 -0.5
baz=208,SNR=12
HDA Harding Lake 82.12 12 P P 10 53 51.5 -0.4
HDA IAmb IAmb 10 53 52.8
comp=Z,15nm,0.7s
CCB Clear Creek Bu 82.16 12 P P 10 53 51.5 -0.6
MCMT McKenzie Canyo 82.17 40 P P 10 53 53.9 +1.0
I23K Minto, Yukon-K 82.32 11 P P 10 53 52.6 -0.2
baz=205,SNR=7.3
TCOL CIGO, UAF Yank 82.35 11 P P 10 53 52.9 -0.1
baz=207,SNR=12
TCOL CIGO, UAF Yank 82.35 11 P P 10 53 52.7 -0.3
COLA College 82.36 11 P P 10 53 52.9 -0.2
baz=207
COLA College 82.36 11 P P 10 53 52.7 -0.3
MDM Murphy Dome 82.36 11 P P 10 53 52.8 -0.3
SCRK Sand Creek 82.37 13 P P 10 53 53.2 -0.1
baz=210,SNR=11
SCRK Sand Creek 82.37 13 P P 10 53 53.2 -0.1
SCRK IAmb IAmb 10 53 54.6
comp=Z,11nm,0.8s
IMAR Indian Mountai 82.37 9 P P 10 53 52.9 -0.3
IL31 82.45 12 P P 10 53 53.2 -0.3
IL31 IAmb IAmb 10 53 54.6
comp=Z,9.6nm,0.8s
ILAR Eielson Array 82.45 12 P P 10 53 52.7 -0.9
comp=Z,5.8nm,0.6s,baz=227,slow=5.4,SNR=53
MSO Missoula 82.53 37 P P 10 53 55.8 +1.2
baz=239
POKR Poker Plat Res 82.65 12 P P 10 53 54.1 -0.5
baz=207,SNR=11
POKR Poker Plat Res 82.65 12 P P 10 53 54.2 -0.5
TPAW Teton Pass 82.70 41 P P 10 53 55.7 0.0
TPAW IAmb IAmb 10 53 57.7
comp=Z,7.4nm,0.7s
REDW Red Top Meadow 82.71 42 P P 10 53 56.2 +0.5
REDW IAmb IAmb 10 53 57.6
comp=Z,13nm,1.4s
SNOW Snow King Moun 82.82 42 P P 10 53 56.3 0.0
SNOW IAmb IAmb 10 53 58.3
comp=Z,8.9nm,0.8s
K27K Chicken 82.85 14 P P 10 53 56.5 +0.9
baz=212
K27K Chicken 82.85 14 P P 10 53 55.9 +0.3
K27K IAmb IAmb 10 53 57.8
comp=Z,17nm,1.4s
H23K Yukon River 82.90 10 P P 10 53 54.9 -1.0
baz=205
LRM Limekiln Ridge 82.91 39 P P 10 53 57.0 +0.4
S22A 4UR Ranch, Čre 82.92 48 P P 10 53 57.4 +0.4
baz=245
O20A White River Ci 82.96 45 P P 10 53 57.2 +0.2
baz=244
QLMT Earthquake Lak 83.05 40 P P 10 53 57.9 +0.5
H24K Noodor Dome 83.21 11 P P 10 53 56.3 -1.2
baz=207
BW06 Boulder Array 83.27 43 P P 10 53 58.4 -0.1
baz=242
BW06 Boulder Array 83.27 43 P P 10 53 58.0 -0.5
BW06 IAmb IAmb 10 53 59.8
comp=Z,5.0nm,0.8s
PD31 Pinedale Array 83.27 43 P P 10 53 58.5 -0.1
PDAR Pinedale Array 83.27 43 P P 10 53 58.4 -0.1
comp=Z,3.9nm,0.7s,baz=211,slow=3.3,SNR=50
PDAR pP pP 10 55 09.1 +1.6
comp=Z,1.5nm,1.0s,baz=197,slow=2.8,SNR=3.4
BOZ Bozeman (W) 83.30 39 P P 10 53 58.9 +0.4
baz=241
BOZ Bozeman (W) 83.30 39 P P 10 53 59.1 +0.5
YHH Holmes Hill 83.39 40 P P 10 54 00.2 +1.0
YHH IAmb IAmb 10 54 02.8
comp=Z,12nm,1.5s
DAWY Dawson 83.54 15 P P 10 53 59.4 +0.2
DAWY IAmb IAmb 10 54 00.8
comp=Z,14nm,0.8s
EGAK Eagle 83.70 14 P P 10 53 60.0 +0.1
baz=213,SNR=13
EGAK Eagle 83.70 14 P P 10 54 00.0 +0.1
EGAK IAmb IAmb 10 54 01.4
comp=Z,15nm,0.8s
HRY Holter Researc 83.72 38 P P 10 54 00.8 +0.2
BJT Baijiatuau 83.82 314 P P 10 54 01.6 +0.5
BJT IAmb IAmb 10 54 03.2
comp=Z,22nm,1.3s
BJI Beijing 83.83 314 P P 10 54 02.3 +1.2
BJI sP sP 10 55 39.4 -2.8
BJI pmax pmax
comp=Z,15nm,1.3s
SDCO Great Sand Dun 83.88 48 P P 10 54 02.4 +0.5
baz=246
YNE Yellowstone No 84.02 40 P P 10 54 02.8 +0.5
YNE IAmb IAmb 10 54 04.8
comp=Z,17nm,1.6s
RLMT Red Lodge 84.54 41 P P 10 54 05.9 +1.0
baz=242
BMAR Burnt Mountain 85.25 11 P P 10 54 08.6 +1.0
TOLK Toolik Lake Re 85.46 9 P P 10 54 10.0 +1.3
baz=205
TOLK Toolik Lake Re 85.46 9 P P 10 54 09.5 +0.9
TOLK IAmb IAmb 10 54 10.3
comp=Z,7.0nm,0.9s
EPYK Eagle Plains 86.07 15 P P 10 54 11.8 +0.1
baz=217
EPYK Eagle Plains 86.07 15 P P 10 54 11.8 +0.1
RPSI Rantau Prapat 86.54 274 P P 10 54 14.6 -0.5
RPSI IAmb IAmb 10 54 16.2
comp=Z,9.2nm,1.0s
XAN Xi'an 86.86 306 P P 10 54 17.2 +0.9
HHC Hu-ho-hao-te 87.37 313 eP P 10 54 21.9 +3.3
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,41nm,7.6s
MAW Mawson 87.54 199 P P 10 54 18.9 +0.1
comp=Z,11nm,1.1s,baz=100,slow=6.3,SNR=9.7
MAW Mawson 87.54 199 P P 10 54 19.3 +0.6
INK Inuvik 88.36 14 P P 10 54 22.1 -0.4
comp=Z,3.1nm,0.7s,baz=291,slow=4.2,SNR=8.8
KMI Kunming 89.14 296 ⇓P P 10 54 29.3 +1.9
KMI pP pwP 10 55 40.3 -0.4
KMI pmax pmax

comp=Z,10.0nm,0.7s
YKA Yellowknife Ar 90.52 24 P P 10 54 33.1 +0.5
comp=Z,2.1nm,0.8s,baz=237,slow=4.6,SNR=16
YKA pP pP 10 55 44.7 +1.9
comp=Z,0.2nm,0.4s,baz=232,slow=4.5,SNR=2.4
CM04 Chiang Mai Arr 90.64 289 P P 10 54 37.1 +2.9
comp=Z,10nm,1.0s
CM05 Chiang Mai Arr 90.67 289 P P 10 54 36.6 +2.2
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 90.68 289 P P 10 54 35.6 +1.2
comp=Z,5.4nm,0.8s,baz=91,slow=2.9,SNR=19
CM15 Chiang Mai Arr 90.70 289 P P 10 54 36.7 +2.2
comp=Z,11nm,1.1s
CHTO Chiang Mai 90.78 289 P P 10 54 36.4 +1.5
LZH Lanzhou 91.46 307 eP P 10 54 39.1 +1.2
LZH pP pP 10 55 53.8 +5.0
LZH sP sP 10 56 22.4 +2.6
LZH pmax pmax
comp=Z,20nm,1.0s
SONM Songino Array 93.29 319 P P 10 54 45.9 -0.1
comp=Z,0.8nm,0.6s,baz=142,slow=5.1,SNR=4.7
TIXI Tiksi 94.13 345 P P 10 54 48.5 -0.6
comp=Z,1.6nm,0.6s,baz=100,slow=7.7,SNR=4.5
TIXI Tiksi 94.13 345 P P 10 54 48.2 -0.9
TIXI IAmb IAmb 10 55 43.1
comp=Z,4.4nm,0.5s
JFWS Jewell Farm 96.57 47 P P 10 55 01.1 +0.2
baz=256
ZALV Zalesowo Beam 107.75 322 PKiKP PKiKP 10 59 56.0 -0.3
comp=Z,0.8nm,0.5s,baz=169,slow=3.8,SNR=3.6
MKAR Makanchi Array 109.20 315 PKiKP PKiKP 10 59 57.3 -2.0
comp=Z,0.8nm,0.6s,baz=72,slow=0.4,SNR=13
ARU Arti 122.01 328 PKPdf 11 00 22.8 -0.7
ABKAR Akbulak array 123.69 320 PKPdf 11 00 25.6 -1.3
ARCES ARCESS Array B 123.95 351 PKP PKPdf 11 00 26.3 -0.6
comp=Z,3.1nm,0.6s,baz=340,slow=0.9,SNR=14
KLMR Klimovskoe 127.77 339 ePKPdf PKPdf 11 00 31.9 -2.5
KLMR AMP 11 00 39.3
comp=Z,9.0nm,1.3s
FINES FINESS Array B 131.14 347 PKP PKPdf 11 00 40.6 -0.1
comp=Z,2.0nm,0.7s,baz=5.7,slow=3.8,SNR=8.1
AKASG Malin Array Be 139.24 336 PKP PKPdf 11 00 54.5 -1.7
comp=Z,0.5nm,0.4s,baz=34,slow=2.7,SNR=2.7
AKASG Malin Array Be 139.24 336 PKPdf 11 00 55.7 -0.5
BZK Bozkurt 143.08 322 ⇑P PKPbc 11 01 01.3 +0.1
CLL Collm 143.18 351 e(PKPdf) PKPbc 11 01 01.0 -0.1
KOLS Kolonicke sedl 143.20 340 ePKP PKPdf 11 01 02.4 -1.0
BURAR Bucovina Array 143.28 337 ⇑P PKPbc 11 01 01.7 0.0
CHVC Chvalec 143.33 348 ePKP PKPdf 11 01 03.9 +0.3
DPC Dobruska-Polom 143.50 347 ePKP PKPbc 11 01 02.1 0.0
KRLC Kraliky 143.66 347 ePKP PKPdf 11 01 05.6 +1.4
MORC Moravsky Berou 143.77 346 ⇓P PKPbc 11 01 03.3 +0.4
MORC Moravsky Berou 143.77 346 ePKP PKPbc 11 01 02.8 -0.1
KMBO Kilima Mbogo 143.96 246 PKP PKPbc 11 01 05.1 +0.3
comp=Z,11nm,0.8s,baz=56,slow=6.2,SNR=17
CFR Carcaliu 143.97 331 ⇑P PKPdf 11 01 04.5 -0.3
ARCR ARCALIA 144.05 337 ⇑P PKPab 11 01 02.4 -0.9
VRI Vrincioaia 144.07 333 ⇑P PKPbc 11 01 03.9 0.0
TPGR Topolog 144.08 331 ⇑P PKPbc 11 01 04.4 +0.5
PLOR Plostina 144.12 333 ⇑P PKPab 11 01 01.8 -1.8
PRU Pruhonice 144.20 349 ePKP PKPdf 11 01 04.9 -0.2
TIRR Tirgusor 144.38 330 ⇑P PKPab 11 01 03.8 -0.8
VRAC Vranov 144.43 347 ⇑P PKPab 11 01 03.5 -1.2
VRAC Vranov 144.43 347 ePKP PKPab 11 01 04.2 -0.4
HARR Harsova 144.43 331 ⇑P PKPdf 11 01 05.4 -0.2
MEM Membach 144.48 358 dPKP PKPab 11 01 04.4 -0.4
TLBR Topalu 144.49 331 ⇓P PKPbc 11 01 05.4 +0.3
BTNL Ternell 144.50 358 dPKP PKPab 11 01 04.1 -0.8
BSTI Sart Tilman 144.52 359 dPKP PKPab 11 01 04.8 -0.1
DOPR Dopca 144.56 335 ⇑P PKPbc 11 01 05.5 +0.2
MFTR Murfatlar 144.58 330 ⇑P PKPab 11 01 05.4 0.0
JAVC Velka Javorina 144.59 345 ePKP PKPdf 11 01 05.9 0.0
SNF Seneffe 144.60 0 dPKP PKPab 11 01 04.7 -0.5
VYHS Vyhne 144.62 344 ePKP PKPbc 11 01 04.9 -0.5
BRTR Keskin Array B 144.65 320 PKP PKPbc 11 01 05.3 -0.6
comp=Z,23nm,0.8s,baz=91,slow=2.4,SNR=126
BRTR Keskin Array B 144.65 320 PKPbc 11 01 05.8 -0.2
BCLA Clavier 144.69 359 dPKP PKPab 11 01 05.6 0.0
KRUC Moravsky 144.70 347 ePKP PKPbc 11 01 05.1 -0.5
MLR Muntele Rosu 144.70 334 ⇑P PKPbc 11 01 05.9 0.0
MLR Muntele Rosu 144.70 334 PKPdf 11 01 06.4 +0.1
BGES Gesves 144.72 359 dPKP PKPbc 11 01 05.3 -0.3
ISR Istrita 144.74 333 ⇑P PKPbc 11 01 05.7 -0.3
BHOU Houvegnez 144.74 358 dPKP PKPdf 11 01 06.1 +0.1
MANR Mangalia 144.77 329 ⇑P PKPab 11 01 06.1 +0.1
AMRR Amara 144.77 331 ⇑P PKPdf 11 01 06.3 +0.1
BMRD Maredsous 144.81 360 dPKP PKPdf 11 01 06.1 0.0
PSZ Piszkesteto 144.84 342 ⇑P PKPbc 11 01 05.2 -1.0
PSZ Piszkesteto 144.84 342 PKPbc 11 01 06.3 +0.1
DRGR 144.90 338 ⇑P PKPbc 11 01 05.7 -0.7
SECR 145.01 333 ⇓P PKPdf 11 01 05.1 -1.6
DOU Dourbes 145.01 0 dPKP PKPdf 11 01 06.3 -0.2
VOIR 145.12 335 ⇑P PKPbc 11 01 07.1 -0.1
MODS Modra-Piesok 145.14 345 ePKP PKiKP 11 01 09.1 -1.7
KHC Kasperske Hory 145.19 350 ePKP PKPab 11 01 07.5 -0.1
KHC ex x 11 02 28.0
CKRC Cesky Krumlov 145.36 349 ePKP PKPbc 11 01 07.8 +0.1
WLF Walferdange 145.42 358 dPKP PKPbc 11 01 07.7 -0.1
GERES GERESS Array B 145.45 349 PKPbc PKPdf 11 01 07.1 -0.3
comp=Z,1.4nm,0.6s,baz=42,slow=2.2,SNR=11
DEV Deva 145.60 337 ⇑P PKPbc 11 01 08.4 -0.1
LOT Lotru 145.63 336 ⇑P PKPdf 11 01 07.7 -0.2
SIRR Siria 145.73 339 ⇑P PKPbc 11 01 09.0 +0.1
CONA Conrad Observa 145.89 346 i P PKPbc 11 01 09.4 0.0
comp=Z,11nm,1.0s,SNR=9.6
GZR Gura Zlata 146.06 337 ⇑P PKPbc 11 01 09.4 -0.6
MOA Molln 146.30 348 eP PKPbc 11 01 10.2 -0.3
comp=Z,6.4nm,0.9s
BZS Buzias 146.30 338 ⇑P PKPdf 11 01 08.7 -0.1
ARSA Arzberg 146.60 346 eP PKPbc 11 01 12.1 +0.7
comp=Z,7.9nm,0.8s
HERR Herculane 146.63 337 ⇑P PKPbc 11 01 11.1 -0.4
MORH Mrgy, Hungar 146.75 342 ⇑P PKPdf 11 01 10.5 +1.0
MDVR Moldovita 146.98 337 ⇑P PKiKP 11 01 14.0 -0.8
RETA Reutte 147.22 352 eP PKPbc 11 01 12.9 -0.3
comp=Z,13nm,1.7s
SOKA Soboth 147.25 347 i P PKPbc 11 01 12.9 -0.4
comp=Z,12nm,1.6s,SNR=7.5
WATA Walderalm 147.26 351 eP PKPbc 11 01 13.6 +0.3
comp=Z,7.8nm,1.3s
MOTA Moosalm 147.32 352 i P PKPbc 11 01 13.3 -0.2
comp=Z,14nm,1.4s,SNR=5.5
WTTA Wattenberg 147.32 351 eP PKPbc 11 01 13.7 +0.1
comp=Z,9.0nm,0.8s
FRGS Fruska Gora 147.33 340 ⇑P PKPdf 11 01 11.5 +0.9
SQTA Sankt Quirin 147.43 352 eP PKPbc 11 01 12.9 -0.9
comp=Z,8.2nm,1.1s
OBKA Obir 147.52 347 eP PKPbc 11 01 14.0 0.0
comp=Z,6.9nm,1.1s
DAVA Damuels 147.53 353 eP PKPbc 11 01 14.0 0.0
comp=Z,12nm,0.8s
MYKA Terra Mystica 147.59 348 eP PKPbc 11 01 12.6 -1.6
comp=Z,2.6nm,0.9s
ABTA Abfaltersbach 147.68 350 eP PKPdf 11 01 12.4 +1.2
comp=Z,9.2nm,0.9s
LEF Lefka 147.68 313 ⇑P PKPbc 11 01 13.1 -1.6
FETA Feichten 147.69 352 eP PKPbc 11 01 13.2 -1.3
comp=Z,15nm,1.4s
VTS Vitosha 148.17 333 ⇑P PKPbc 11 01 16.0 +0.1
PDG Podgorica 149.91 338 ⇑P PKPbc 11 01 18.1 -1.9
PGAV Gavieira, Arco 150.93 20 ePKPbc PKPbc 11 01 22.6 +0.1
PCAB Cabril 151.24 20 ePKPbc PKiKP 11 01 23.8 +0.2
PBRG Braganca 151.55 18 ePKPbc PKPbc 11 01 23.4 -0.5
POLO Lamas de Olo 151.61 20 ePKPbc PKiKP 11 01 24.8 +0.3
PVRL Vila Real 151.73 20 ePKPbc PKiKP 11 01 25.0 +0.4
MVO Moncorvo 152.05 19 ePKPbc PKPbc 11 01 25.1 0.0
PVIS Viseu 152.17 21 ePKPbc PKiKP 11 01 25.5 -0.1
MATE Matera 152.38 340 ⇓P PKPbc 11 01 23.3 -2.4
COI Coimbra 152.44 22 ePKPbc PKPbc 11 01 24.8 -1.0
PCAS Casmilo, Conde 152.54 22 ePKPbc PKiKP 11 01 26.5 +0.2
MTE Manteigas 152.57 20 ePKPdf PKPdf 11 01 20.1 +1.1
MTE Manteigas 152.57 20 ePKPbc PKPbc 11 01 26.1 -0.1
PSBE So Bento 152.90 23 ePKPbc PKiKP 11 01 27.7 +0.6
PCBR Castelo Branco 153.09 21 ePKPbc PKiKP 11 01 27.6 +0.2
PMRV Marv??o 153.49 21 ePKPdf PKPdf 11 01 20.9 +0.6
PMRV Marv??o 153.49 21 ePKPbc PKiKP 11 01 28.6 +0.3
PMRV Marv??o 153.49 21 ePKPab PKPab 11 01 41.9 +0.1
ESDC Sonseca Array 154.31 15 PKPbc PKPbc 11 01 29.4 -0.6
comp=Z,0.8nm,0.6s,baz=329,slow=2.4,SNR=8.0
ESDC PKPab PKPab 11 01 45.5 +0.2
comp=Z,1.5nm,0.7s,baz=326,slow=3.3,SNR=12
ESDC Sonseca Array 154.31 15 PKiKP 11 01 30.3 +0.3
KEST Kesra 158.94 349 PKPab PKPab 11 02 05.3 0.0

comp=Z,2.4nm,0.8s,baz=90,slow=10,SNR=5.4
TORD Torodi Ar. Bea 176.61 123 PKP **PKPdf 11 01 39.1 -1.1**
comp=Z,1.3nm,1.0s,baz=334,slow=3.3,SNR=5.1

UCR 18 10:44:02.5±1.7,9°.94N×83°.86W,h5km,MW3.8,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFA	**San Farael, Vo**	**0.05**	**70**	*eP*	Pg	10 44 04.4	+0.3
RAFA				*eS*	Sg	10 44 05.5	+0.1
OCM	**Ochomogo**	**0.11**	**245**	*eP*	Pg	10 44 05.7	+0.8
OCM				*eS*	Sg	10 44 07.9	+1.5
CVTR	**Volcan Turrial**	**0.13**	**52**	*eP*	Pg	10 44 06.0	+0.6
CVTR				*eS*	Sg	10 44 08.3	+1.1
VTUC	**Crater, Volcan**	**0.13**	**50**	*eP*	Pg	10 44 05.9	+0.6
VTCV	**VTCV, Calle Va**	**0.14**	**72**	*eP*	Pg	10 44 06.4	+0.9
RIMA	**Rio Macho**	**0.17**	**180**	*eP*	Pg	10 44 07.2	+1.2
SJS	**Escuela Geolog**	**0.19**	**270**	*eP*	Pg	10 44 07.2	+0.9
LCR2	**La Lucha 2**	**0.24**	**215**	*eP*	Pg	10 44 08.3	+1.0
LCR2				*eS*	Sg	10 44 12.5	+2.0
HDC3	**Heredia 3**	**0.25**	**284**	*eP*	Pg	10 44 08.5	+1.0
HDC	**Heredia**	**0.26**	**284**	*eP*	Pg	10 44 08.4	+0.9
CDM	**Cerro de Muert**	**0.40**	**166**	*eP*	Pb	10 44 11.5	-0.8
MRVA	**Moravia de Chi**	**0.43**	**106**	*eP*	Pb	10 44 11.9	-0.7
CRPO	**Crater poas**	**0.44**	**305**	*eP*	Pg	10 44 11.8	+0.8
PEZE	**Perez Zeledon,**	**0.58**	**162**	*eP*	Pb	10 44 14.6	-0.7
SRA1	**San Ramn**	**0.62**	**283**	*eP*	Pg	10 44 15.0	+0.4
SRBA	**San Rafael, Bu**	**0.86**	**145**	*eP*	Pg	10 44 19.1	+0.1
DRK0	**Durika**	**0.91**	**138**	*eP*	Pg	10 44 20.1	+0.2
COVE	**Coope Vega, Sa**	**0.94**	**326**	*eP*	Pg	10 44 20.2	-0.3
ARE1	**Arenal 1**	**0.99**	**302**	*eP*	Pb	10 44 22.0	-0.2
CEDE	**Laguna Cedeo**	**0.99**	**303**	*eP*	Pb	10 44 22.0	-0.2
ACAL	**Aguas Claras**	**1.34**	**301**	*iP*	Pn	10 44 27.6	-0.4
CUI	**Cuipilapa**	**1.47**	**299**	*iP*	Pn	10 44 29.7	0.0
HORNC	**Hornillas**	**1.50**	**301**	*iP*	Pn	10 44 30.1	-0.1
GUAB	**Guayabo de Bag**	**1.55**	**300**	*iP*	Pn	10 44 30.1	-0.7
GPS2	**Hotel Rincn d**	**1.67**	**299**	*iP*	Pb	10 44 33.3	-0.5
BUEV	**Buena Vista**	**1.74**	**299**	*eP*	Pn	10 44 34.3	+0.8
LAPC	**Finca la Perla**	**1.75**	**298**	*iP*	Pn	10 44 33.9	+0.3
GBS3	**Finca Las Img**	**1.78**	**298**	*iP*	Pn	10 44 34.3	+0.4

IDC 18 10:58:36.3±2.1,5°.83S×151°.17E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.4/35,mbtmp3.6/3,Error ellipse: s-maj=126.5km s-min=30.6km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.34**	**228**	Sn	Sn	11 00 56.1	-3.4
	1.3nm,0.3s,baz=343,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**21.56**	**228**	P	P	11 03 27.4	-0.2
	1.2nm,0.7s,baz=54,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**24.31**	**221**	P	P	11 03 55.9	0.0
	2.1nm,0.7s,baz=55,slow=8.8,SNR=21						
ILAR	**Eielson Array**	**83.71**	**22**	P	P	11 11 06.7	-0.2
	0.3nm,0.7s,baz=246,slow=5.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc	PKPbc	11 18 27.3	-0.3
	0.4nm,0.5s,baz=95,slow=2.8,SNR=5.5						

*NEIC **18** 11:00:27.9±1.3,18°.94N±0°.06×67°.74W±0°.04,h27km±8km, Error ellipse: s-maj=9.7km s-min=5.5km az=197.0*
*RSPR **18** 11:00:28.6,19°.00N×67°.79W,h25km±10km,MD2.9/8*
ISC 18 11:00:26.6±1.6,19°.00N±0°.08×67°.74W±0°.05,h27km,n43, σ1º08/46,4C-4D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.66**	**158**	*eP*	**Pn**	**11 00 40.3**	**+0.1**
IDE	**Isla Desecheo**	**0.66**	**158**	*eS*	**Sb**	**11 00 49.1**	**+0.7**
IDE	**Isla Desecheo**	**0.66**	**158**		**Pn**	**11 00 40.3**	**+0.1**
IDE					**Sb**	**11 00 49.1**	**+0.7**
PCDR	**Punta Cana, DR**	**0.78**	**232**	Pn	**Pn**	**11 00 42.3**	**+0.5**
PCDR				IAML		11 01 04.5	
	comp=N,127nm,2.3s						
AGPR	**Aguadilla, PR**	**0.80**	**132**	*eP*	**Pn**	**11 00 42.2**	**+0.2**
AGPR	**Aguadilla, PR**	**0.80**	**132**	*eS*	**Sn**	**11 00 52.6**	**-0.5**
AGPR	**Aguadilla, PR**	**0.80**	**132**		**Pn**	**11 00 42.2**	**+0.2**
AGPR					**Sn**	**11 00 52.6**	**-0.5**
AGPR	**Aguadilla, PR**	**0.80**	**132**	IAML		11 01 00.5	
	comp=N,81nm,2.3s						
AGPR				IAML		11 01 13.0	
	comp=E,84nm,1.8s						
LSP	**Las Mesas**	**1.03**	**143**	*eP*	**Pb**	**11 00 45.4**	**-0.4**
LSP	**Las Mesas**	**1.03**	**143**	*eS*	**Sn**	**11 00 58.5**	**-0.3**
LSP	**Las Mesas**	**1.03**	**143**		**Pb**	**11 00 45.4**	**-0.4**
LSP					**Sn**	**11 00 58.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.14**	**125**	*eP*	**Pb**	**11 00 47.0**	**-0.6**
AOPR	**Arecibo Observ**	**1.14**	**125**	*eS*	**Sb**	**11 01 01.5**	**-0.5**
AOPR	**Arecibo Observ**	**1.14**	**125**		**Pb**	**11 00 47.0**	**-0.6**
AOPR					**Sb**	**11 01 01.5**	**-0.5**
AOPR	**Arecibo Observ**	**1.14**	**125**	IAML		11 01 17.5	
	comp=E,45nm,0.3s						
MLPR	**Magueyes Islan**	**1.22**	**147**	*eP*	**Pb**	**11 00 48.2**	**-0.8**
MLPR	**Magueyes Islan**	**1.22**	**147**	*eS*	**Sn**	**11 01 03.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.22**	**147**		**Pb**	**11 00 48.2**	**-0.8**
MLPR					**Sn**	**11 01 03.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.22**	**147**	IAML		11 01 07.0	
	comp=N,33nm,1.9s						
EMPR	**Esperanza - Ma**	**1.26**	**114**	*eP*	**Pb**	**11 00 48.9**	**-0.7**
EMPR	**Esperanza - Ma**	**1.26**	**114**	*eS*	**Sb**	**11 01 05.0**	**-0.4**
EMPR	**Esperanza - Ma**	**1.26**	**114**		**Pb**	**11 00 48.9**	**-0.7**
EMPR					**Sb**	**11 01 05.0**	**-0.4**
EMPR	**Esperanza - Ma**	**1.26**	**114**	IAML		11 01 20.3	
	comp=N,97nm,1.5s						
EMPR				IAML		11 01 20.6	
	comp=E,71nm,1.7s						
CELP	**Cerrillos**	**1.43**	**130**	*eP*	**Pb**	**11 00 51.4**	**-1.3**
CELP	**Cerrillos**	**1.43**	**130**	*eS*	**Sn**	**11 01 09.3**	**+0.5**
CELP	**Cerrillos**	**1.43**	**130**		**Pb**	**11 00 51.4**	**-1.3**
CELP					**Sn**	**11 01 09.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.44**	**131**	Pn	**Pb**	**11 00 51.8**	**-0.9**
GCPR	**Guaynabo City**	**1.71**	**113**	Pn	**Pb**	**11 00 59.4**	**+2.0**
GCPR				IAML		11 01 24.4	
	comp=N,23nm,4.0s						
SJG	**San Juan**	**1.75**	**120**	Pn	**Pb**	**11 00 57.3**	**-0.7**
SJG				IAML		11 01 20.5	
	comp=N,18nm,1.5s						
PDPR	**Patillas Dam,**	**1.90**	**121**	Pn	**Pb**	**11 00 58.5**	**-2.1**
CBYP	**Canovanas**	**1.93**	**112**	Pn	**Pb**	**11 00 59.3**	**-1.7**
CBYP				IAML		11 01 27.5	
	comp=N,21nm,0.2s						
CBYP				IAML		11 01 27.8	
	comp=E,24nm,0.2s						
HUMP	**Col San Antoni**	**1.98**	**115**	Pn	**Pn**	**11 00 59.1**	**+0.7**
HUMP				IAML		11 01 17.6	
	comp=E,18nm,2.0s						
MTP	**Monte Pirata**	**2.26**	**113**	*eP*	**Pn**	**11 01 03.1**	**+0.9**
MTP	**Monte Pirata**	**2.26**	**113**	*eS*	**Sn**	**11 01 29.8**	**+0.6**
MTP	**Monte Pirata**	**2.26**	**113**		**Pn**	**11 01 03.1**	**+0.9**
MTP					**Sn**	**11 01 29.8**	**+0.6**
MTP	**Monte Pirata**	**2.26**	**113**	IAML		11 01 37.0	
	comp=N,15nm,2.0s						
MTP				IAML		11 02 08.6	
	comp=E,12nm,1.3s						
STVI	**Saint Thomas**	**2.72**	**103**	Pn	**Pb**	**11 01 11.4**	**-3.1**
STVI				IAML		11 01 46.8	
	comp=N,15nm,1.6s						
STVI				IAML		11 02 16.0	
	comp=E,11nm,1.9s						
CDVI	**St. Croix**	**3.08**	**113**	Pn	**Pn**	**11 01 15.5**	**+2.0**
SDDR	**Presa de Saban**	**3.36**	**270**	Pn	**Pn**	**11 01 17.9**	**+0.5**
SABA	**Saba**	**4.49**	**107**	Pn	**Pn**	**11 01 33.0**	**+0.2**
SKI	**Saint Kitts**	**5.03**	**108**	Pn	**Pn**	**11 01 43.1**	**+2.8**
HATO	**Hato, Curacao**	**6.88**	**190**	Pn	**Pn**	**11 02 06.5**	**+0.7**
DLPL	**La Plaine**	**7.20**	**119**	Pn	**Pn**	**11 02 11.7**	**+1.6**

IDC 18 11:23:30.4±5.1,7°.22S×129°.99E,h145km±70km,mb2.8/1, mb1 3.4/4,mb1mx3.0/41,mbtmp3.8/4,Error ellipse: s-maj=137.9km s-min=23.9km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.44**	**11**	P	Pn	11 25 03.2	+0.2
	1.1nm,0.3s,baz=61,slow=23,SNR=6.5						
SIJI				S	Sn	11 26 13.2	-2.3
	1.0nm,0.3s,baz=122,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**13.33**	**162**	P	Pn	11 26 33.1	-1.0
	1.4nm,0.3s,baz=345,slow=13,SNR=63						
WRA				S	Sn	11 28 53.6	-8.0
	0.3nm,0.3s,baz=333,slow=24,SNR=4.0						
ASAR	**Alice Springs**	**16.78**	**167**	P	Pn	11 27 17.7	+0.7
	0.3nm,0.3s,baz=340,slow=11,SNR=12						
MKAR	**Makanchi Array**	**68.40**	**327**	P	P	11 34 16.4	-0.1
	0.1nm,0.5s,baz=121,slow=7.6,SNR=1.9						

*IDC **18** 11:38:01.4±2.1,10°.81S×164°.90E,h0km,mb4.0/6, mb1 4.2/7,mb1mx3.9/25,mbtmp4.0/7,ML4.6/1,MS3.6/6, Ms1 3.6/6,ms1mx3.2/22,Error ellipse: s-maj=66.8km s-min=30.0km az=144.0*
*NEIC **18** 11:38:03.3±1.5,10°.55S±0°.10×164°.86E±0°.10,h10km±1km, mb4.6/16,Error ellipse: s-maj=18.4km s-min=13.7km az=45.0*
ISC 18 11:38:02.8±0.6,10°.56S±0°.08×164°.86E±0°.08,h10km,n43, σ1º01/40,mb4.5/14,MS3.5/4,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.96**	**283**	Pn	**Pn**	**11 39 17.9**	**+0.4**
	24nm,0.3s,baz=105,slow=4.6,SNR=6.7						
HNR				Sn	**Sn**	**11 40 13.9**	**-1.2**
	baz=207,slow=14,SNR=1.1						
HNR				LR	LR	11 41 21.8	
	comp=Z,784nm,19.5s,baz=130,slow=40						
HNR	**Honiara**	**4.96**	**283**		**Pn**	**11 39 17.7**	**+0.2**
SANVU	**Saraoutou**	**5.37**	**155**	Pn	**Pn**	**11 39 23.5**	**+0.5**
MARNC	**Mare, Loyalty**	**11.28**	**165**	Pn	**Pn**	**11 40 43.6**	**-0.6**
ONTNC	**Ouen Toro**	**11.78**	**173**	Pn	**Pn**	**11 40 50.2**	**-0.8**
OUENC	**Ouen Island, N**	**11.94**	**171**	Pn	**Pn**	**11 40 52.6**	**-0.6**
PINNC	**Pines Island,**	**12.24**	**169**	Pn	**Pn**	**11 40 57.7**	**+0.4**
MSVF	**Nonsavu**	**14.64**	**121**	LR	LR	11 45 55.5	
	comp=Z,159nm,18.3s,baz=288,slow=33						
MSVF	**Nonsavu**	**14.64**	**121**	Pn	**Pn**	**11 41 30.0**	**-0.3**
EIDS	**Eidsvold**	**19.69**	**220**	P	**P**	**11 42 32.2**	**-0.1**
STKA	**Stephens Creek**	**30.20**	**222**	P	**P**	**11 44 14.2**	**+0.5**
BKZ	**Black Stump Fm**	**30.32**	**162**	P	**P**	**11 44 15.3**	**+0.7**
WB0	**Warramunga Arr**	**30.75**	**249**	P	**P**	**11 44 17.6**	**-1.0**
WB0				IAmb	IAmb	11 44 30.4	
	comp=Z,7.9nm,1.2s						
WB2	**Warramunga Arr**	**30.83**	**249**	P	**P**	**11 44 18.9**	**-0.4**
WB2				IAmb	IAmb	11 44 20.6	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**30.84**	**249**	P	**P**	**11 44 19.7**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=80,slow=9.3,SNR=2.2						
TOO	**Toolangi**	**32.04**	**210**	P	**P**	**11 44 30.6**	**+0.7**
TOO				IAmb	IAmb	11 44 53.4	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**32.24**	**242**	P	**P**	**11 44 30.0**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=63,slow=9.6,SNR=1.6						
ASAR				LR	LR	11 56 08.4	
	comp=Z,92nm,20.0s,baz=78,slow=34						
ASAR	**Alice Springs**	**32.24**	**242**	P	**P**	**11 44 30.9**	**-0.8**
MTN	**Manton Dam**	**33.09**	**263**	P	**P**	**11 44 39.7**	**+0.5**
BBOO	**Buckleboo**	**34.53**	**226**	P	**P**	**11 44 50.6**	**-1.0**
BBOO				IAmb	IAmb	11 45 07.7	
	comp=Z,8.9nm,1.2s						
KNRA	**Kununurra**	**35.49**	**258**	P	**P**	**11 44 59.7**	**-0.3**
JOHN	**Johnston Islan**	**37.11**	**43**	P	**P**	**11 45 12.2**	**-1.6**
FORT	**Forrest**	**39.61**	**234**	P	**P**	**11 45 34.2**	**-0.6**
FORT				IAmb	IAmb	11 46 02.7	
	comp=Z,32nm,1.4s						
YSS	**Yuzh-Sakhalins**	**60.57**	**343**	P	**P**	**11 48 13.5**	**+0.1**
YSS				IAmb	IAmb	11 48 30.9	
	comp=Z,10nm,1.2s						
USRK	**Ussuriysk Ar.**	**62.13**	**334**	P	**P**	**11 48 25.0**	**+1.0**
PETK	**Petropavlovsk-**	**63.71**	**355**	LR	LR	12 11 14.1	
	comp=Z,40nm,21.8s,baz=137,slow=31						
CMAR	**Chiang Mai Arr**	**71.12**	**294**	P	**P**	**11 49 24.9**	**+2.8**
	comp=Z,1.3nm,0.6s,baz=124,slow=4.8,SNR=6.5						
CMAR	**Chiang Mai Arr**	**71.12**	**294**	P	**P**	**11 49 22.6**	**+0.5**
SONM	**Songino Array**	**77.76**	**324**	P	**P**	**11 50 00.9**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=116,slow=6.6,SNR=4.0						
QSPA	**South Pole Qui**	**79.44**	**180**	P	**P**	**11 50 09.9**	**+0.6**
QSPA				IAmb	IAmb	11 50 16.2	
	comp=Z,5.7nm,1.1s						
RPN	**Rapa Nui**	**81.57**	**116**	LR	LR	12 17 00.1	
	comp=Z,52nm,21.5s,baz=134,slow=29						
IMAR	**Indian Mountai**	**82.20**	**16**	P	**P**	**11 50 25.1**	**+1.3**
ILAR	**Eielson Array**	**83.34**	**19**	P	**P**	**11 50 31.3**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=232,slow=5.6,SNR=12						
ILAR	**Eielson Array**	**83.34**	**19**	P	**P**	**11 50 30.8**	**+1.1**
SCRK	**Sand Creek**	**83.76**	**20**	P	**P**	**11 50 30.9**	**-1.1**
EGAK	**Eagle**	**85.23**	**20**	P	**P**	**11 50 39.5**	**+0.2**
EGAK				IAmb	IAmb	11 50 53.6	
	comp=Z,3.2nm,0.9s						
BMAR	**Burnt Mountain**	**85.81**	**17**	P	**P**	**11 50 42.2**	**0.0**
MK31	**Makanchi Array**	**92.57**	**317**	P	**P**	**11 51 14.1**	**-0.6**
MKAR	**Makanchi Array**	**92.57**	**317**	P	**P**	**11 51 14.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=112,slow=5.3,SNR=6.8						
MKAR	**Makanchi Array**	**92.57**	**317**	P	**P**	**11 51 13.8**	**-0.8**
TXAR	**Lajitas Array**	**96.36**	**61**	LR	LR	12 25 59.5	
	comp=Z,18nm,21.8s,baz=0.0,slow=30						
KEST	**Kesra**	**146.50**	**322**	PKPbc	**PKPbc**	**11 57 45.0**	**0.0**
	comp=Z,1.1nm,0.8s,baz=45,slow=2.9,SNR=2.0						
KEST	**Kesra**	**146.50**	**322**		**PKPdf**	**11 57 41.0**	**-2.6**

*MRB **18** 11:54:04.1±0.3,40°.65N×0°.22E,h2km±2km,ML1.9/20, Error ellipse: s-maj=1.1km s-min=0.6km az=281.0*
*MDD **18** 11:54:04.5±0.5,40°.64N×0°.25E,h0km±4km,mbLg2.0/21, Error ellipse: s-maj=5.2km s-min=2.5km az=137.0, PRXIMO*
*LDG **18** 11:54:04.3±0.2,40°.63N×0°.28E,h5km,Md2.5/2,Ml2.5/5, Error ellipse: s-maj=3.6km s-min=2.3km az=142.0*
ISC 18 11:54:03.9±0.8,40°.66N±0°.02×0°.26E±0°.02,h13km±5km, n57,σ1º02/91,1D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAS	**Mas de Barbera**	**0.08**	**30**	Pg	**Pg**	**11 54 06.1**	**-0.5**
CMAS				Lg	Lg	11 54 08.0	
	488nm,0.2s						
CMAS	**Mas de Barbera**	**0.08**	**30**	P	**Pg**	**11 54 06.1**	**-0.5**
CMAS				S	**Sg**	**11 54 08.0**	**-0.6**
	488nm,0.2s						
ALCN	**Alcanar**	**0.20**	**123**	P	**Pg**	**11 54 08.6**	**+0.4**
ALCN				S	**Sg**	**11 54 12.0**	**+0.8**
	173nm,0.2s						
ERTA	**Horta de San J**	**0.30**	**10**	Pg	**Pb**	**11 54 10.6**	**-0.7**
	2.0nm,0.1s,SNR=19						
ERTA				Lg	Lg	11 54 15.4	
	63nm,0.3s,SNR=5.0						
ERTA	**Horta de San J**	**0.30**	**10**	P	**Pb**	**11 54 10.6**	**-0.7**
ERTA				S	**Sb**	**11 54 15.4**	**-0.8**
	56nm,0.3s						
EMOS	**Mosqueruela**	**0.63**	**243**	Pg	**Pg**	**11 54 15.9**	**-0.3**
	2.0nm,0.2s,SNR=18						
EMOS				Lg	Lg	11 54 24.9	
	44nm,0.5s,SNR=7.8						
EMOS	**Mosqueruela**	**0.63**	**243**	P	**Pg**	**11 54 15.6**	**-0.6**
EMOS				S	**Sg**	**11 54 24.0**	**-0.5**
	24nm,0.7s						
ECOL	**Islas Columbre**	**0.82**	**157**	P	**Pb**	**11 54 19.5**	**-0.5**
ECOL				S	**Sb**	**11 54 31.7**	**+0.6**
	55nm,0.4s						
CGAR	**Garraf**	**0.92**	**46**	Pg	Pn	11 54 30.1	+7.5
CGAR				Lg	Lg	11 54 49.9	
	3.3nm,0.5s						
CGAR	**Garraf**	**0.92**	**46**	P	Pn	11 54 30.1	+7.5
CGAR				S	Sn	11 54 49.9	+14
	6.7nm,0.5s						
EPOB	**Poblet**	**0.93**	**41**	Pg	**Pb**	**11 54 22.4**	**+0.4**
	3.7nm,0.2s,SNR=50						
EPOB				Lg	Lg	11 54 34.8	
	20nm,0.2s,SNR=19						
EPOB	**Poblet**	**0.93**	**41**	P	**Pb**	**11 54 22.0**	**0.0**
EPOB				S	**Sb**	**11 54 35.6**	**+1.4**
	22nm,0.3s						
CAVN	**Les Avellanes**	**1.28**	**17**	Pg	**Pn**	**11 54 27.9**	**+0.4**
CAVN				Lg	Lg	11 54 46.1	
	33nm,0.4s						
CAVN	**Les Avellanes**	**1.28**	**17**	P	**Pn**	**11 54 27.9**	**+0.4**
CAVN				S	**Sn**	**11 54 46.2**	**+1.5**
	66nm,0.4s						
ECHE	**Chera**	**1.42**	**222**	Pn	**Pn**	**11 54 29.9**	**+0.4**
	3.3nm,0.3s,SNR=7.9						
ECHE				Sn	**Sb**	**11 54 48.2**	**-0.2**
	5.2nm,0.3s,SNR=7.9						
CTRE	**Tremp**	**1.71**	**13**	Pn	**Pn**	**11 54 34.7**	**+1.2**
CTRE				Sn	**Sb**	**11 54 57.4**	**+0.7**
	9.0nm,0.4s						
CTRE	**Tremp**	**1.71**	**13**	P	**Pn**	**11 54 34.7**	**+1.2**
CTRE				S	**Sb**	**11 54 57.4**	**+0.7**
	9.0nm,0.4s						
CORG	**Organya**	**1.76**	**26**	Pn	**Pb**	**11 54 35.5**	**-0.6**
CORG				Sn	**Sb**	**11 54 58.7**	**+0.6**
	2.7nm,0.3s						
CORG	**Organya**	**1.76**	**26**	P	**Pb**	**11 54 35.5**	**-0.6**
CORG				S	**Sb**	**11 54 58.8**	**+0.6**
	5.3nm,0.3s						
ETOR	**Torete**	**1.77**	**276**	Pg	**Pb**	**11 54 36.6**	**+0.3**
	8.2nm,0.2s,SNR=18						
ETOR				Lg	Lg	11 55 00.5	
	41nm,0.4s,SNR=8.4						
EIBI	**Ibiza**	**1.83**	**153**	Sn	**Sn**	**11 54 57.3**	**-0.8**
	1.7nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.84**	**21**	Pg	**Pg**	**11 54 38.8**	**-0.3**
	1.0nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	11 55 03.6	
	12nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.84**	**21**	P	**Pn**	**11 54 36.4**	**+1.1**
CSOR				S	**Sb**	**11 55 01.1**	**+0.7**
	10nm,0.3s						
CORI	**Orista**	**1.88**	**45**	Pg	**Pb**	**11 54 37.6**	**-0.5**
CORI				Sn	**Sb**	**11 55 02.7**	**+1.1**
	9.7nm,0.3s						
CORI	**Orista**	**1.88**	**45**	P	**Pb**	**11 54 37.6**	**-0.5**
CORI				S	**Sb**	**11 55 02.7**	**+1.1**
	9.7nm,0.3s						
CFON	**Fontmartina**	**1.98**	**55**	Pg	**Pg**	**11 54 40.8**	**-1.0**
	1.1nm,0.2s,SNR=7.9						
CFON				Lg	Lg	11 55 09.5	
	14nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**1.98**	**55**	P	**Pb**	**11 54 38.8**	**-1.0**
CFON				S	**Sb**	**11 55 04.6**	**+0.2**
	9.9nm,0.3s						
ECHI	**Chisagues Biel**	**2.01**	**359**	Pg	**Pg**	**11 54 41.4**	**-0.9**
	SNR=4.0						
ECHI				Lg	Lg	11 55 09.1	
	1.8nm,0.2s,SNR=7.9						
ARBS	**La Rabassa**	**2.03**	**28**	P	**Pn**	**11 54 39.2**	**+1.1**
ARBS				S	**Sb**	**11 55 05.7**	**-0.4**
	38nm,0.4s						
CEST	**Esterri de Car**	**2.08**	**21**	Pn	**Pn**	**11 54 39.6**	**+1.0**
CEST				Sn	**Sb**	**11 55 06.9**	**-0.5**
	4.8nm,0.4s						
CEST	**Esterri de Car**	**2.08**	**21**	P	**Pn**	**11 54 39.7**	**+1.0**
CEST				S	**Sb**	**11 55 06.9**	**-0.5**
	4.8nm,0.4s						
CARA	**Val d'Aran**	**2.09**	**11**	P	**Pn**	**11 54 39.8**	**+0.9**
CARA				S	**Sn**	**11 55 07.0**	**+2.2**
	16nm,0.3s						
CBRU	**Bruguera**	**2.17**	**41**	Pn	**Pn**	**11 54 41.1**	**+1.2**
CBRU				Sn	**Sb**	**11 55 09.3**	**-0.8**
	5.2nm,0.3s						
CBRU	**Bruguera**	**2.17**	**41**	P	**Pn**	**11 54 41.2**	**+1.2**
CBRU				S	**Sb**	**11 55 09.3**	**-0.8**
	10nm,0.3s						
CLLI	**Lliivia**	**2.23**	**35**	Lg	Lg	11 55 15.6	
	6.8nm,0.6s,SNR=7.9						
ETSF	**Etsaut**	**2.32**	**345**	Pg	**Pg**	**11 54 48.2**	**-0.2**
ETSF				Sn	**Sn**	**11 55 09.8**	**-0.6**
ETSF				Lg	Lg	11 55 18.8	
	3.8nm,0.4s						
ETSF	**Etsaut**	**2.32**	**345**	*e*Pg	**Pg**	**11 54 48.2**	**-0.2**
ETSF				*e*Sn	**Sn**	**11 55 09.8**	**-0.6**
ETSF				*e*Sg	**Sg**	**11 55 18.8**	**+0.3**
	7.5nm,0.4s						
CCAS	**Cassa de la Se**	**2.34**	**58**	Pn	**Pn**	**11 54 43.4**	**+1.3**
CCAS				Sn	**Sb**	**11 55 13.3**	**-1.4**
	2.8nm,0.5s						
CCAS	**Cassa de la Se**	**2.34**	**58**	P	**Pn**	**11 54 43.4**	**+1.3**
CCAS				S	**Sb**	**11 55 13.4**	**-1.4**
	2.8nm,0.5s						
EPF	**Esparros**	**2.37**	**1**	Pg	**Pg**	**11 54 48.1**	**-1.3**
EPF				Sn	**Sn**	**11 55 11.4**	**-0.2**
EPF				Lg	Lg	11 55 19.8	
	5.6nm,0.4s						
EPF	**Esparros**	**2.37**	**1**	*e*Pg	**Pg**	**11 54 48.1**	**-1.3**
EPF				*e*Sn	**Sn**	**11 55 11.4**	**-0.2**
EPF				*e*Sg	**Sg**	**11 55 19.8**	**-0.3**
	11nm,0.4s						
EORO	**Oroz-Betelu**	**2.52**	**333**	Pg	**Pg**	**11 54 50.9**	**-1.4**
	0.2nm,0.0s,SNR=6.1						
EORO				Lg	Lg	11 55 24.6	
	7.8nm,0.4s,SNR=7.9						
ATE	**Arette**	**2.53**	**344**	Pg	**Pb**	**11 54 50.9**	**+1.7**
	2.4nm,0.5s,SNR=7.9						
ATE				Sn	**Sn**	**11 55 17.6**	**+2.1**
	2.3nm,0.3s,SNR=7.9						
ATE				Lg	Lg	11 55 25.6	
	6.4nm,0.4s,SNR=7.9						
ATE	**Arette**	**2.53

KUZ	Kuaotunu	1.44 285	P	Pn	12 13 06.1	+0.5
MUGZ	Murupara	1.44 202	P	Pn	12 13 05.8	+0.2
MUGZ			S	Sn	12 13 26.2	+0.4
CNGZ	Carnagh Statio	1.47 156	P	Pn	12 13 06.2	+0.3
RTZ	Ruatahuna	1.52 194	P	Pn	12 13 06.5	-0.1
RIGZ	Rimuhau	1.59 171	P	Pn	12 13 07.1	-0.2
RIGZ			S	Sn	12 13 29.2	+0.4
SNGZ	Shannon Statio	1.65 183	P	Pn	12 13 07.7	-0.3
SNGZ			S	Sn	12 13 30.5	+0.5
TOZ	Tahuroa Road	1.66 248	P	Pn	12 13 09.3	+1.1
MTHZ	Maungataniwha	1.78 196	P	Pn	12 13 10.0	+0.3
MTHZ			S	Sn	12 13 33.8	+0.8
RAHZ	Arahi	1.80 189	P	Pn	12 13 09.9	0.0
PRGZ	Paritu Road	1.82 169	P	Pn	12 13 09.6	-0.5
GRZ	Great Barrier	1.83 298	P	Pn	12 13 10.8	+0.6
MRHZ	Matea Rd	1.88 205	P	Pn	12 13 10.7	-0.2
KNZ	Kokohu	1.89 175	P	Pn	12 13 10.4	-0.5
WHHZ	Waihua	1.94 185	P	Pn	12 13 11.5	-0.1
NMHZ	Naumai	2.02 194	P	Pn	12 13 13.0	+0.2
MHGZ	Mahia Peninsul	2.04 170	P	Pn	12 13 12.5	-0.4
ARHZ	Aropaoanui	2.15 189	P	Pn	12 13 13.9	-0.4
BKZ	Black Stump Fm	2.16 200	P	Pn	12 13 13.9	-0.5
MCHZ	McNeill Hill	2.38 194	P	Pn	12 13 16.7	-0.4
MCHZ			S	Sn	12 13 46.1	-0.3
KWHZ	Kaweka Forest	2.42 199	P	Pn	12 13 17.2	-0.6
KWHZ			S	Sn	12 13 46.7	-0.9
OTVZ	Oturere	2.47 214	P	Pn	12 13 18.7	+0.3
HIZ	Hauiti	2.47 235	P	Pn	12 13 19.6	+1.3
SNVZ	South Ngauruho	2.50 214	P	Pn	12 13 18.8	0.0
CKHZ	Cape Kidnapper	2.54 187	P	Pn	12 13 17.8	-1.4
CKHZ			S	Sn	12 13 48.6	-1.4
BHHZ	Black Hill Sta	2.59 205	P	Pn	12 13 18.6	-1.3
BHHZ			S	Sn	12 13 49.8	-1.6
FWVZ	Far West T-bar	2.59 215	P	Pn	12 13 20.0	-0.1
WHVZ	Whangaehu Hut	2.60 214	P	Pn	12 13 19.4	-0.8
WNVZ	Wahianoa	2.63 213	P	Pn	12 13 20.1	-0.5
MOVZ	Moawhango	2.63 210	P	Pn	12 13 19.4	-1.1
MOVZ			S	Sn	12 13 50.5	-1.9
KRHZ	Kereru	2.64 198	P	Pn	12 13 18.9	-1.7
KRHZ			S	Sn	12 13 50.7	-1.9
KAHZ	Kahuranaki	2.69 189	P	Pn	12 13 19.9	-1.4
MTVZ	Mangateitei	2.73 214	P	Pn	12 13 22.6	+0.8
WCZ	Waipu Caves	2.77 295	P	Pn	12 13 22.8	+0.5
PXZ	Pawanui	2.93 189	P	Pn	12 13 22.1	-2.2
PNHZ	Pukenui	2.94 199	P	Pn	12 13 22.3	-2.2
WPHZ	Waipukurau	3.03 195	P	Pn	12 13 23.5	-2.1
PRHZ	Porangahau	3.19 191	P	Pn	12 13 25.3	-2.4
DVHZ	Dannevirke	3.31 197	P	Pn	12 13 26.4	-3.0
ANWZ	Angora Road	3.41 193	P	Pn	12 13 28.2	-2.3
POWZ	Post Office Ro	3.51 202	P	Pn	12 13 29.8	-2.2
PRWZ	Pori Road	3.60 198	P	Pn	12 13 30.7	-2.6
BFZ	Birch Farm	3.66 195	P	Pn	12 13 30.6	-3.4
MRZ	Mangatainoka R	3.81 202	P	Pn	12 13 32.6	-3.4
TIWZ	Tintock	3.83 198	P	Pn	12 13 33.8	-2.5
OGWZ	Otaki Gorge	4.08 205	P	Pn	12 13 36.1	-3.5
MTW	Mount Morrison	4.29 200	P	Pn	12 13 37.9	-4.5
CAW	Cannon Point	4.38 204	P	Pn	12 13 39.4	-4.2
PAWZ	Paruwai Farm	4.52 200	P	Pn	12 13 40.8	-4.7
TUWZ	Tuamarina	5.08 211	P	Pn	12 13 48.0	-5.0
BSWZ	Blackbirch Sta	5.34 210	P	Pn	12 13 51.7	-4.9

MEX 18 12:13:28.5±0.5, 16°74N×95°02W, h67km±95km, MD3.8, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.42	227	*i* P	Pn	12 13 49.4	-2.9
HUIG				*i* S	Sn	12 14 07.5	-2.8
VHO	Vista Hermosa	1.67	282	*i* P	Pn	12 13 54.6	-1.3
VHO				*eS*	Sn	12 14 11.2	-5.4
TOIG	Toxpalan	2.37	305⇑	*eP*	Pn	12 14 04.2	-1.1
TOIG				*eS*	Sn	12 14 30.5	-2.9
YOIG	Yosondua	2.42	273	*eP*	Pn	12 14 03.9	-2.2
YOIG				*eS*	Sn	12 14 27.8	-7.0
HLIG	Huajuapan de L	2.87	293	*eP*	Pn	12 14 10.4	-1.8
HLIG				*eS*	Sn	12 14 38.9	-6.8

NEIC ***18*** *12:22:52.5±1.8, 8°46S±0°09×166°02E±0°10, h15km±4km, mb4.7/16, Error ellipse: s-maj=16.6km s-min=10.6km az=47.0*
IDC ***18*** *12:23:10.6±10.0, 10°42S×165°32E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/27, mbtmp3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=345.6km s-min=57.4km az=162.0*

ISC 18 12:22:51.2±0.7, 8°5S±0°1×166°00E±0°08, h10km, n33, σ0§85/28, mb4.5/12, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.06	260	Sn	Sn	12 25 30.9	+0.6
	25nm,0.3s,baz=17,slow=19,SNR=2.2						
HNR	Honiara	6.06	260	Pn	Pn	12 24 21.2	+0.3
SANVU	Saraoutou	7.06	170	Pn	Pn	12 24 33.1	-1.5
ONTNC	Ouen Toro	13.79	178	Pn	Pn	12 26 05.8	-1.0
OUENC	Ouen Island, N	13.92	177	Pn	Pn	12 26 07.0	-1.6
PINNC	Pines Island,	14.16	175	Pn	Pn	12 26 12.0	+0.1
MSVF	Nonsavu	14.93	129	Pn	Pn	12 26 23.7	+1.2
BKZ	Black Stump Fm	32.01	165	P	P	12 29 18.1	+0.3
BKZ				IAmb	IAmb	12 29 25.8	
	comp=Z,28nm,1.2s						
WB0	Warramunga Arr	32.59	246	P	P	12 29 23.1	0.0
WB0				IAmb	IAmb	12 29 27.4	
	comp=Z,7.4nm,1.1s						
WB2	Warramunga Arr	32.67	246	P	P	12 29 23.8	-0.1
WB2				IAmb	IAmb	12 29 51.2	
	comp=Z,15nm,1.4s						
WRA	Warramunga Arr	32.68	246	P	P	12 29 24.3	+0.3
QRZ	Quartz Range	32.77	171	P	P	12 29 26.4	+2.0
PLWZ	Palliser	33.99	168	P	P	12 29 34.8	-0.3
AS31	Alice Springs	34.24	240	P	P	12 29 37.3	-0.2
ASAR	Alice Springs	34.24	240	LR	LR	12 42 47.0	
	comp=Z,60nm,18.1s,baz=100,slow=36						
ASAR	Alice Springs	34.24	240	P	P	12 29 36.6	-0.9
KNRA	Kununurra	37.07	255	P	P	12 30 01.8	0.0
KNRA				IAmb	IAmb	12 30 07.6	
	comp=Z,34nm,1.4s						
WHZ	Wether Hill Ro	37.35	178	P	P	12 30 04.2	+0.4
FORT	Forrest	41.77	233	P	P	12 30 40.7	-0.3
CMAR	Chiang Mai Arr	71.33	293	P	P	12 34 34.0	+22
	comp=Z,0.8nm,0.7s,baz=102,slow=4.0,SNR=4.3						
CMAR	Chiang Mai Arr	71.33	293	P	P	12 34 11.0	-0.7
SONM	Songino Array	76.73	323	P	P	12 35 10.7	+28
	comp=Z,0.5nm,0.5s,baz=134,slow=6.2,SNR=2.3						
KTH	Kantishna Hill	78.87	18	P	P	12 34 54.4	0.0
KTH				IAmb	IAmb	12 34 57.8	
	comp=Z,9.6nm,1.3s						
BPAW	Bear Paw Mtn.	79.25	18	P	P	12 34 55.8	-0.6
BPAW				IAmb	IAmb	12 35 09.1	
	comp=Z,8.0nm,1.4s						
YAH	Yahtse	79.96	24	P	P	12 35 00.1	-0.5
ILAR	Eielson Array	80.98	19	P	P	12 35 37.8	+32
	comp=Z,0.5nm,0.5s,baz=237,slow=4.9,SNR=11						
ILAR	Eielson Array	80.98	19	P	P	12 35 04.5	-1.2
QSPA	South Pole Qui	81.54	180	P	P	12 35 08.9	0.0
QSPA				IAmb	IAmb	12 35 26.1	
	comp=Z,5.6nm,1.2s						
BCAR	Beaver Creek A	81.60	21	P	P	12 35 08.2	-0.9
HUMO	Hull Mountain	82.02	45	P	P	12 35 11.6	-0.1
HUMO				IAmb	IAmb	12 35 38.7	
	comp=Z,25nm,1.5s						
EGAK	Eagle	82.87	20	P	P	12 35 15.1	-0.6
MKAR	Makanchi Array	91.81	317	P	P	12 36 24.3	+25
	comp=Z,0.8nm,0.8s,baz=100,slow=5.2,SNR=6.0						
MKAR	Makanchi Array	91.81	317	P	P	12 36 00.7	+1.1

IDC ***18*** *12:26:13.5±1.8, 3°97S×142°42E, h0km, mb3.5/2, mb1 4.1/3, mb1mx3.6/25, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=309.9km s-min=31.0km az=114.0*
NEIC ***18*** *12:26:26.0±1.3, 4°1S±0°1×142°3E±0°1, h105km±6km, mb4.0/11, Error ellipse: s-maj=23.2km s-min=15.1km az=139.0*

ISC 18 12:26:25.4±1.0, 4°2S±0°1×142°2E±0°1, h100km, n20, σ1§59/21, mb4.1/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.11	137	Pn	Pn	12 28 06.8	0.0
MTN	Manton Dam	13.93	231		Pn	12 29 39.5	+1.0
MTN	Manton Dam	13.93	231	P	Pn	12 29 39.5	+1.0
WB0	Warramunga Arr	17.25	206	P	P	12 30 21.5	+1.3
WB0				IAmb	IAmb	12 30 24.6	
	comp=Z,6.8nm,0.9s						
WR0	Warramunga Arr	17.36	205	P	Pn	12 30 22.4	+0.9
WR0				IAmb	IAmb	12 30 26.0	
	comp=Z,8.9nm,0.8s						
WB2	Warramunga Arr	17.43	206	P	Pn	12 30 23.6	+1.3
WB2				IAmb	IAmb	12 30 29.6	
	comp=Z,9.7nm,1.2s						
WRA	Warramunga Arr	17.43	206	P	P	12 30 22.3	+0.2
	comp=Z,0.9nm,0.3s,baz=26,slow=12,SNR=41						
WRA				S	Sn	12 33 31.7	-4.8
	comp=Z,0.1nm,0.3s,baz=19,slow=23,SNR=1.4						
WRA	Warramunga Arr	17.43	206	P	Pn	12 30 23.4	+1.0
KNRA	Kununurra	17.47	228	P	Pn	12 30 23.9	+1.0
KNRA				IAmb	IAmb	12 30 41.1	
	comp=Z,10nm,1.0s						
ASAR	Alice Springs	20.95	202	P	P	12 31 01.1	+0.6
	comp=Z,0.8nm,0.7s,baz=32,slow=11,SNR=8.3						
EIDS	Eidsvold	22.69	159	P	P	12 31 19.7	+0.9
EIDS				IAmb	IAmb	12 31 25.1	
	comp=Z,7.3nm,1.1s						
SANVU	Saraoutou	26.98	116	P	P	12 31 57.8	-0.3
MORW	Morawa	35.05	222	P	P	12 33 08.4	-0.4
MORW				IAmb	IAmb	12 33 19.1	
	comp=Z,10nm,1.4s						
CASY	Casey	65.80	193	P	P	12 37 01.4	+1.8
VNDA	Vanda	74.01	176	P	P	12 37 49.7	0.0
IL31		85.75	24	P	P	12 38 51.5	-1.6
IL31				IAmb	IAmb	12 39 12.7	
	comp=Z,4.1nm,1.4s						
ILAR	Eielson Array	85.75	24	P	P	12 38 52.9	-0.2
	comp=Z,0.5nm,0.7s,baz=259,slow=5.4,SNR=5.4						
ILAR	Eielson Array	85.75	24	P	P	12 38 52.2	-1.0
BCAR	Beaver Creek A	87.41	26	P	P	12 39 01.5	+0.1
O53A	New Philadelph	126.95	41		PKPdf	12 45 15.7	-2.3

IDC ***18*** *12:34:42.6±1.3, 6°74N×73°00W, h165km±14km, mb3.0/4, mb1 3.5/7, mb1mx3.2/29, mbtmp3.7/7, MS3.4/2, Ms1 3.5/2, ms1mx2.7/12, Error ellipse: s-maj=25.1km s-min=17.8km az=109.0*
RSNC ***18*** *12:34:43.0±0.8, 6°82N×73°16W, h141km±4km, ML3.8, Mw4.0, Fault plane solution: NP1:φs37.00000°, δ46.00000°, λ-82.00000°.*

ISC 18 12:34:41.8±0.7, 6°82N±0°03×73°07W±0°04, h155km±5km, n48, σ1§88/88, mb3.3/4, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	205⇓	*iP*	Pn	12 35 02.3	-0.8
BARC				*eS*	Sn	12 35 16.7	-2.7
BARC				*i*		12 35 18.4	
	comp=Z,1μm,0.2s						
PAMC	Pamplona, Colo	0.63	36⇓	*iP*	Pn	12 35 05.2	+0.1
PAMC				*eS*	Sn	12 35 22.1	-0.7
PAMC				*i*		12 35 24.6	
	comp=Z,1μm,0.6s						
RUSC	La Rusia	0.92	181⇓	*eP*	Pn	12 35 06.2	-0.8
RUSC				*eS*	Sn	12 35 24.4	-1.9
RUSC				*i*		12 35 26.0	
	comp=Z,756nm,0.3s						
OCAC	Ocana	1.43	350⇓	*eP*	Pn	12 35 10.7	-0.5
OCAC				*eS*	Sn	12 35 32.1	-1.7
ZARC	Zaragoza, Cauc	1.89	291⇑	*eP*	Pn	12 35 15.1	-0.9
ZARC				*eS*	Sn	12 35 41.2	-1.1
ZARC				*i*		12 35 49.2	
	comp=Z,1μm,0.3s						
NORC	Norcasia	2.18	235	*eP*	Pn	12 35 18.3	-1.1
NORC				*eS*	Sn	12 35 46.1	-2.3
NORC				*i*		12 35 53.1	
	comp=Z,388nm,0.2s						
SMLC	San Martn de	2.20	333	*eP*	Pn	12 35 18.6	-1.0
SMLC				*eS*	Sn	12 35 46.6	-2.2
SMLC				*i*		12 35 49.8	
	comp=Z,592nm,0.4s						
CHIC	Chingaza	2.27	197⇓	*eP*	Pn	12 35 20.7	-0.2
CHIC				*eS*	Sn	12 35 50.3	-0.7
CHIC				*i*		12 35 55.7	
	comp=Z,171nm,0.7s						
ROSC	El Rosal	2.33	212	P	Pn	12 35 22.7	+1.2
	comp=Z,23nm,0.3s,baz=65,slow=17,SNR=26						
ROSC				S	Sn	12 35 51.3	-0.8
	comp=Z,98nm,0.3s,baz=49,slow=20,SNR=12						
ROSC	El Rosal	2.33	212	*eP*	Pn	12 35 22.2	+0.7
ROSC				*eS*	Sn	12 35 52.6	+0.5
ROSC				*i*		12 36 00.5	
	comp=Z,539nm,0.5s						
HELC	Santa Helena	2.52	256	*eP*	Pn	12 35 22.8	-0.9
HELC				*eS*	Sn	12 35 54.1	-2.0
HELC				*i*		12 36 03.2	
	comp=Z,340nm,0.3s						
UREC	San Jos de Ur	2.61	291⇑	*eP*	Pn	12 35 22.5	-2.0
UREC				*eS*	Sn	12 35 55.0	-2.6
UREC				*i*		12 36 04.1	
	comp=Z,527nm,0.2s						
LL2C	La Loma 2 Cana	2.74	352	*eP*	Pn	12 35 26.0	-0.1
LL2C				*eS*	Sn	12 36 00.2	-0.3
LL2C				*i*		12 36 09.3	
	comp=Z,430nm,0.3s						
LL1C	La Loma 1 Cana	2.74	350	*eP*	Pn	12 35 27.5	+1.3
LL1C				*eS*	Sn	12 36 02.2	+1.6
LL1C				*i*		12 36 11.6	
	comp=Z,833nm,0.5s						
VILC	Villavicencio,	2.76	193	*eP*	Pn	12 35 26.2	-0.3
VILC				*eS*	Sn	12 35 59.8	-1.4
VILC				*i*		12 36 09.8	
	comp=Z,270nm,0.3s						
PTGC	Puerto Gaitan,	2.77	160⇑	*iP*	Pn	12 35 25.4	-1.1
PTGC				*eS*	Sn	12 35 58.2	-2.9
PTGC				*i*		12 36 00.6	
	comp=Z,408nm,0.4s						
GUY2C	Guyana, Caldas	2.78	235	*eP*	Pn	12 35 27.1	0.0
GUY2C				*eS*	Sn	12 36 01.3	-0.7
GUY2C				*i*		12 36 10.0	
	comp=Z,226nm,0.5s						
CBOC	Ciudad Bolivar	3.07	252⇑	*eP*	Pn	12 35 30.5	+0.1
CBOC				*eS*	Sn	12 36 06.1	-2.0
CBOC				*i*		12 36 18.4	
	comp=Z,211nm,0.5s						
DBBC	Dabeiba	3.12	274⇑	*iP*	Pn	12 35 30.4	-0.6
DBBC				*eS*	Sn	12 36 06.3	-2.7
TOLC	Tolima	3.15	225	*eP*	Pn	12 35 31.9	+0.3
TOLC				*eS*	Sn	12 36 09.3	-0.9
TOLC				*i*		12 36 17.5	
	comp=Z,241nm,0.6s						
SDV	Santo Domingo	3.17	50	P	Pn	12 35 32.1	+0.4
	comp=Z,38nm,0.3s,baz=232,slow=11,SNR=25						
SDV				S	Sn	12 36 08.5	-1.8
	comp=Z,85nm,0.3s,baz=277,slow=17,SNR=23						
SDV	Santo Domingo	3.17	50	*eP*	Pn	12 35 31.9	+0.2
SDV				*eS*	Sn	12 36 08.8	-1.6
SDV				*i*		12 36 12.3	
	comp=Z,306nm,0.4s						
ARGC	Ariguani, Magd	3.23	339	*eP*	Pn	12 35 33.4	+1.1
ARGC				*eS*	Sn	12 36 09.7	-1.9
ARGC				*i*		12 36 25.6	
	comp=Z,150nm,0.5s						
ANIL	Santa Ana	3.28	225	*eP*	Pn	12 35 34.0	+0.8
ANIL				*eS*	Sn	12 36 11.8	-1.2
ANIL				*i*		12 36 27.1	
	comp=Z,397nm,0.3s						
ELOV	Elorza	3.57	87⇑	*eP*	Pn	12 35 36.6	0.0
ELOV				*eS*	Sn	12 36 17.6	-1.6
ORTC	Ortega, Tolima	3.61	217	*eP*	Pn	12 35 36.7	-0.6
ORTC				*eS*	Sn	12 36 20.3	0.0
ORTC				*i*		12 36 24.5	
	comp=Z,158nm,0.5s						
SJCC	San Jacinto, C	3.70	326	*eP*	Pn	12 35 36.7	-1.6
SJCC				*eS*	Sn	12 36 18.4	-3.9
SJCC				*i*		12 36 22.2	
	comp=Z,291nm,0.5s						
PLMC	San Jos del P	3.72	239	*eP*	Pn	12 35 38.4	-0.2
PLMC				*eS*	Sn	12 36 20.4	-2.3
PLMC				*i*		12 36 30.7	
	comp=Z,191nm,0.8s						
LCBC	Los crdobas,	3.84	302	*eP*	Pn	12 35 38.1	-2.0
LCBC				*eS*	Sn	12 36 23.8	-1.7
LCBC				*i*		12 36 33.9	
	comp=Z,109nm,0.5s						
GUVC	San Jose del G	4.27	174	*eP*	Pn	12 35 45.3	-0.5
GUVC				*eS*	Sn	12 36 33.4	-2.3
GUVC				*i*		12 36 38.0	
	comp=Z,272nm,0.3s						
YOTC	Yotoco, Valle	4.31	229⇓	*eP*	Pn	12 35 45.6	-0.7
YOTC				*eS*	Sn	12 36 32.7	-3.9
YOTC				*i*		12 36 44.7	
	comp=Z,34nm,0.4s						
SMRC	Santa Marta, M	4.46	345	*eP*	Pn	12 35 47.3	-0.9
SMRC				*eS*	Sn	12 36 35.9	-4.2
SMRC				*i*		12 36 40.4	
	comp=Z,62nm,0.2s						
PIZC	Pizarro, Choco	4.65	247	*eS*	Sn	12 36 43.4	-0.9
PIZC				*i*		12 36 54.9	
	comp=Z,78nm,0.5s						
MACC	Macarena, Meta	4.71	189	*eP*	Pn	12 35 49.7	-1.9
MACC				*eS*	Sn	12 36 39.9	-6.1
MACC				*i*		12 36 47.9	
	comp=Z,71nm,0.6s						
PTAC	Punta Ardita,	4.71	274	*eP*	Pn	12 35 49.9	-1.6
PTAC				*eS*	Sn	12 36 42.6	-3.3
PTAC				*i*		12 36 51.9	
	comp=Z,48nm,0.6s						
MALC	Bahia Malaga	5.08	237	*eP*	Pn	12 35 57.8	+1.4
MALC				*eS*	Sn	12 36 53.4	-1.2
MALC				*i*		12 37 02.5	
	comp=Z,36nm,0.6s						
GARC	Garzon, Huila	5.20	208	*eP*	Pn	12 35 56.5	-1.6
GARC				*eS*	Sn	12 36 52.5	-5.4
GARC				*i*		12 37 03.0	
	comp=Z,64nm,0.2s						
PCON	Cinco Dias	5.56	217	*eP*	Pn	12 36 03.8	+0.5
PCON				*eS*	Sn	12 37 06.7	-0.2
PCON				*i*		12 37 18.0	
	comp=Z,26nm,0.4s						
BBAC	Balboa, Cauca	6.33	221	*eP*	Pn	12 36 13.7	+0.6
BBAC				*eS*	Sn	12 37 22.3	-2.4
BBAC				*i*		12 37 26.6	
	comp=Z,35nm,0.5s						
PCRV	Puerto La Cruz	8.98	68	P	Pn	12 36 50.0	+1.6
	comp=Z,1.6nm,0.3s,baz=229,slow=7.6,SNR=8.8						
PCRV				S	Sn	12 38 24.9	-3.4
	comp=Z,0.9nm,0.3s,baz=164,slow=21,SNR=1.7						
MDP	Montagnes des	20.39	94	LR	LR	12 47 24.2	
	comp=Z,75nm,20.5s,baz=215,slow=38						
LPAZ	La Paz	23.48	168	P	P	12 39 37.2	-1.0
	comp=Z,1.1nm,0.6s,baz=353,slow=10,SNR=3.2						
LPAZ				pP	pP	12 40 09.6	+1.2
	comp=Z,1.2nm,0.8s,baz=351,slow=13,SNR=2.6						
CPUP	Villa Florida	36.33	156	LR	LR	12 57 04.8	
	comp=Z,93nm,19.0s,baz=212,slow=37						
TXAR	Lajitas Array	36.50	312	P	P	12 41 33.2	+0.8
	comp=Z,0.2nm,0.5s,baz=119,slow=9.7,SNR=3.9						
TXAR				PcP	PcP	12 43 54.1	+1.2
	comp=Z,0.3nm,0.6s,baz=152,slow=5.5,SNR=4.3						
PDAR	Pinedale Array	48.10	324	P	P	12 43 06.5	+0.3
	comp=Z,0.2nm,0.4s,baz=128,slow=10.0,SNR=3.6						
YKA	Yellowknife Ar	63.28	340	P	P	12 44 53.9	+0.3
	comp=Z,0.6nm,0.6s,baz=134,slow=7.0,SNR=8.9						
YKA				pP	pP	12 45 34.6	+3.9
	comp=Z,0.6nm,0.8s,baz=133,slow=7.7,SNR=3.4						
ASAR	Alice Springs	149.15	234	PKPbc	PKPbc	12 54 11.7	-1.1
	comp=Z,1.4nm,0.5s,baz=116,slow=3.5,SNR=23						
WRA	Warramunga Arr	150.38	241	PKPbc	PKPbc	12 54 14.8	-1.0
	comp=Z,1.2nm,0.4s,baz=110,slow=2.7,SNR=16						

MAN 18 12:47:28.7, 9°86N×126°17E, h40km, mb4.1, ML2.9, MS2.5, Mindanao

NEIC ***18*** *12:51:10.0±1.4, 10°4S±0°1×161°3E±0°1, h83km±8km, mb4.3/17, Error ellipse: s-maj=20.7km s-min=11.5km az=225.0*
IDC ***18*** *12:51:10.9±3.8, 10°40S×161°16E, h94km±26km, mb3.5/5, mb1 3.7/5, mb1mx3.4/28, mbtmp3.9/5, Error ellipse: s-maj=44.5km s-min=28.9km az=88.0*

ISC 18 12:51:10.4±0.7, 10°31S±0°09×161°34E±0°10, h100km, n38, σ1§20/39, mb4.1/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.62	302	P	Pn	12 51 36.7	-1.5
	124nm,0.3s,baz=170,slow=7.9,SNR=51						
HNR				S	Sn	12 51 57.4	-2.0
	231nm,0.3s,baz=184,slow=19,SNR=18						
HNR				LR	LR	12 52 05.7	
	comp=Z,99nm,19.2s,baz=311,slow=36						
HNR	Honiara	1.62	302	P	Pn	12 51 37.2	-1.0
SANVU	Saraoutou	7.67	132	Pn	Pn	12 52 57.7	-1.7
KOUNC	Koumac, New Ca	10.57	165	P	Pn	12 53 39.8	+0.9
LIFNC	LIFOU	11.86	152	Pn	Pn	12 53 54.8	-1.4
LIFNC	LIFOU	11.86	152	P	Pn	12 53 56.2	0.0
NOUC	Port Laguerre	12.66	159	P	Pn	12 54 07.5	+0.7
MARNC	Mare, Loyalty	12.83	151	Pn	Pn	12 54 07.2	-1.9
MARNC	Mare, Loyalty	12.83	151	P	Pn	12 54 10.0	+0.9
	0.8nm,1.1s						
ONTNC	Ouen Toro	12.90	158	Pn	Pn	12 54 10.2	+0.2
ONTNC	Ouen Toro	12.90	158	P	Pn	12 54 11.1	+1.1
OUENC	Ouen Island, N	13.14	157	Pn	Pn	12 54 12.8	-0.4
OUENC	Ouen Island, N	13.14	157	P	Pn	12 54 14.9	+1.7
CTA	Charters Tower	17.49	234	P	Pn	12 55 09.3	+1.2
	0.2nm,0.3s,baz=140,slow=7.9,SNR=2.3						
CTAO	Charters Tower	17.49	234	P	Pn	12 55 09.6	+1.5
CTAO				IAmb	IAmb	12 55 20.6	
	comp=Z,14nm,1.3s						
EIDS	Eidsvold	17.86	212		Pn	12 55 11.0	-1.5
KWAJ	Kwajalein Atol	19.98	18	P	P	12 55 36.4	+1.4
KWAJ	Kwajalein Atol	19.98	18	P	Pn	12 55 42.1	+4.5
	comp=Z,75nm,0.8s						
ARMA	Armidale	21.96	203	P	P	12 55 56.0	-0.2
ARMA				IAmb	IAmb	12 56 15.9	
	comp=Z,36nm,1.4s						
WR0	Warramunga Arr	27.55	246	P	P	12 56 48.3	+0.2
WR0				IAmb	IAmb	12 56 53.4	
	comp=Z,6.6nm,1.2s						
WB0	Warramunga Arr	27.63	247

1.0nm,0.3s,baz=220,slow=23,SNR=1.2
WRA Warramunga Arr 13.80 159 P Pn 13 03 06.8 -1.7
0.1nm,0.3s,baz=338,slow=13,SNR=2.4
WRA S Sn 13 05 32.3 -8.2
0.2nm,0.3s,baz=341,slow=26,SNR=6.3
ASAR Alice Springs 17.18 165 P P 13 03 52.1 +1.1
0.1nm,0.3s,baz=347,slow=11,SNR=13
ASAR S Sn 13 06 54.6 -7.5
0.1nm,0.3s,baz=322,slow=24,SNR=4.4
MKAR Makanchi Array 67.80 327 P P 13 10 44.1 -0.1
0.2nm,0.4s,baz=122,slow=8.2,SNR=2.9

MAN 18 13:13:59.7, 16.°60N×120.°91E, h25km, mb4.2, ML3.0, MS2.6, Luzon

*BJI **18** 13:20:27.0±0.0, 51.°61N×177.°01W, h49km, mB5.0/36, mb5.2/61, Ms4.5/26, Ms7 4.2/25*
*AEIC **18** 13:20:27.2±2.2, 51.°43N±0.°07×176.°66W±0.°07, h40km±2km, Error ellipse: s-maj=10.2km s-min=6.0km az=167.0*
*MOS **18** 13:20:27.4±1.2, 51.°70N×176.°77W, h53km, mb5.1/38, Error ellipse: s-maj=7.6km s-min=5.9km az=99.3*
*IDC **18** 13:20:28.0±1.6, 51.°71N×176.°86W, h44km±14km, mb4.4/34, mb1 4.5/34, mb1mx4.5/41, mbtmp4.7/34, MS3.7/24, Ms1 3.7/24, ms1mx3.6/46, Error ellipse: s-maj=13.6km s-min=7.9km az=163.0*
*NEIC **18** 13:20:28.7±2.2, 51.°57N±0.°08×176.°78W±0.°07, h50km±4km, mb5.1/277, ML4.8(AEIC), Error ellipse: s-maj=11.8km s-min=5.7km az=167.0*
ISC 18 13:20:28.3±0.5, 51.°45N±0.°06×176.°71W±0.°03, h51km±3km, h50km:pP-P, n718, σ1°33/669, mb5.0/222, MS3.8/35, 130C-103D, Fault plane solution: NP1:ϕ_s62.90625°, δ61.84756°, λ72.70201°. **NP2:**ϕ_s276.33328°, δ32.66747°, λ119.05858°. **Principal axes:** T Plg68.2611°, Azm298.3184°; N Plg15.1985°, Azm71.2653°; P Plg15.1667°, Azm165.4884°; **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.44**	**2**	P	**Pn**	**13 20 37.6**	**-1.2**
ADK	**Adak**	**0.44**	**2**		**Pn**	**13 20 37.6**	**-1.2**
ETKA	**Kagalaska Isla**	**0.45**	**24**		**Pn**	**13 20 37.7**	**-1.3**
KIMD	**Kanaga Island**	**0.46**	**314**		**Pn**	**13 20 37.8**	**-1.2**
KIWB	**Kanaga Island**	**0.49**	**326**		**Pn**	**13 20 38.6**	**-0.9**
KIKV	**Kanaga Island**	**0.52**	**326**		**Pn**	**13 20 39.0**	**-0.8**
KICM	**Kanaga Island**	**0.56**	**327**		**Pn**	**13 20 39.7**	**-0.6**
GSTD	**Great Sitkin T**	**0.70**	**30**		**Pn**	**13 20 41.4**	**-0.7**
GSMY	**Great Sitkin M**	**0.72**	**34**		**Pn**	**13 20 41.4**	**-0.9**
GSSP	**Great Sitkin S**	**0.72**	**27**		**Pn**	**13 20 41.8**	**-0.6**
GSTR	**Great Sitkin T**	**0.76**	**32**		**Pn**	**13 20 42.4**	**-0.5**
TAFP	**Tanaga Falls P**	**0.92**	**300**		**Pn**	**13 20 44.4**	**-0.5**
TASE	**Tanaga Southea**	**0.92**	**296**		**Pn**	**13 20 44.7**	**-0.2**
GAEA	**Gareloi East**	**1.32**	**286**		**Pn**	**13 20 50.3**	**0.0**
GALAA	**Gareloi Lava P**	**1.33**	**284**		**Pn**	**13 20 50.6**	**+0.2**
ATKA	**Atka Island**	**1.73**	**63**	Pn	**Pn**	**13 20 54.5**	**-1.3**
ATKA	**Atka Island**	**1.73**	**63**		**Sn**	**13 21 16.1**	**-0.7**
KOKL	**Mount Kliuchef**	**1.78**	**60**		**Pn**	**13 20 56.4**	**-0.2**
KOFP	**Korovin Flat P**	**1.82**	**62**		**Pn**	**13 20 56.7**	**-0.4**
CERAA	**Semis' Rag'd T**	**2.29**	**283**		**Pn**	**13 21 03.8**	**+0.2**
CESW	**Semis' Southwe**	**2.37**	**282**		**Pn**	**13 21 04.6**	**0.0**
CEAP	**Semis' Anvil P**	**2.38**	**285**		**Pn**	**13 21 05.1**	**+0.4**
AMKA	**Amchitka**	**2.50**	**270**		**Sn**	**13 21 36.7**	**+1.0**
AMKA	**Amchitka**	**2.50**	**270**	Pn	**Pn**	**13 21 06.0**	**-0.4**
LSSE	**Little Sitkin**	**2.98**	**281**		**Pn**	**13 21 13.7**	**+0.7**
LSPA	**Little Sitkin**	**2.98**	**282**		**Pn**	**13 21 13.8**	**+0.7**
LSSA	**Little Sitkin**	**3.02**	**281**		**Pn**	**13 21 14.1**	**+0.5**
LSNW	**Little Sitkin**	**3.02**	**282**		**Pn**	**13 21 13.7**	**+0.2**
NIKH	**Nikolski High**	**5.06**	**69**	P	**Pn**	**13 21 42.6**	**+1.1**
	baz=255,SNR=17						
NIKH	**Nikolski High**	**5.06**	**69**		**Sn**	**13 22 38.9**	**+0.3**
NIKH	**Nikolski High**	**5.06**	**69**	Pn	**Pn**	**13 21 42.6**	**+1.1**
OKSP	**Okmok Steeple**	**5.46**	**67**		**Pn**	**13 21 47.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**5.64**	**67**		**Pn**	**13 21 50.8**	**+1.3**
OKFG	**Magazine Ridge**	**5.73**	**67**		**Pn**	**13 21 51.3**	**+0.7**
SMY	**Shemya**	**5.81**	**286**	P	**Pn**	**13 21 51.2**	**-0.6**
SMY	**Shemya**	**5.81**	**286**		**Sn**	**13 22 59.6**	**+2.6**
SMY	**Shemya**	**5.81**	**286**	Pn	**Pn**	**13 21 51.2**	**-0.6**
MAPS	**Pakushin South**	**6.40**	**65**		**Pn**	**13 22 01.2**	**+1.4**
MGOD	**Makushin Gods**	**6.43**	**65**		**Pn**	**13 22 01.6**	**+1.3**
MSW	**Makushin Switc**	**6.52**	**64**		**Pn**	**13 22 02.9**	**+1.4**
MNAT	**Makushin Natee**	**6.57**	**64**		**Pn**	**13 22 03.7**	**+1.6**
UNV	**Unalaska Valle**	**6.66**	**65**	P	**Pn**	**13 22 05.0**	**+1.7**
	baz=253,SNR=18						
UNV	**Unalaska Valle**	**6.66**	**65**		**Pn**	**13 22 04.7**	**+1.4**
SPIA	**Saint Paul Isl**	**6.87**	**31**	P	**Pn**	**13 22 08.2**	**+2.0**
	baz=216,SNR=11						
SPIA	**Saint Paul Isl**	**6.87**	**31**	Pn	**Pn**	**13 22 08.5**	**+2.2**
AKMO	**Akutan Morgan**	**7.01**	**64**		**Pn**	**13 22 08.7**	**+0.5**
AKGG	**Akutan Green G**	**7.05**	**63**		**Pn**	**13 22 09.9**	**+1.1**
AKBBA	**Akutan Broad B**	**7.05**	**64**		**Pn**	**13 22 10.1**	**+1.3**
WECS	**Westdahl Cape**	**7.83**	**62**		**Pn**	**13 22 21.6**	**+2.1**
WESP	**Westdahl Peak**	**7.85**	**62**		**Pn**	**13 22 21.4**	**+1.7**
SSBA	**Shishaldin**	**8.27**	**61**		**Pn**	**13 22 26.8**	**+1.4**
ISLZ	**Isanotski Laza**	**8.48**	**62**		**Pn**	**13 22 29.7**	**+1.3**
FALS	**False Pass**	**8.68**	**62**	P	**Pn**	**13 22 34.0**	**+3.0**
	baz=252						
FALS	**False Pass**	**8.68**	**62**		**Pn**	**13 22 32.8**	**+1.7**
DT1	**Dutton Round H**	**9.38**	**61**		**Pn**	**13 22 41.9**	**+1.2**
SDPT	**Sand Point**	**10.44**	**62**	P	**Pn**	**13 22 55.5**	**+0.4**
	baz=254						
SDPT	**Sand Point**	**10.44**	**62**		**Pn**	**13 22 54.8**	**-0.3**
CNBA	**Chernabura Isl**	**10.82**	**65**		**Pn**	**13 22 58.9**	**-1.3**
CHNA	**Chernabura Isl**	**10.82**	**65**	P	**Pn**	**13 22 59.2**	**-1.1**
	baz=259						
CHIR	**Chirikof Islan**	**13.23**	**62**	P	**Pn**	**13 23 32.4**	**-0.8**
	baz=259						
SII	**Sitkinak Islan**	**14.17**	**60**	P	**Pn**	**13 23 44.1**	**-1.8**
	baz=258						
O18K	**Koktuh Hills**	**14.71**	**47**	P	**P**	**13 23 55.6**	**-2.4**
	baz=244						
N18K	**Kilae Creek**	**14.79**	**43**	P	**P**	**13 23 56.6**	**-2.3**
	baz=240,SNR=9.2						
OHAK	**Old Harbor**	**14.79**	**58**	P	**Pn**	**13 23 52.5**	**-1.5**
	baz=257,SNR=5.7						
OHAK	**Old Harbor**	**14.79**	**58**		**Pn**	**13 23 50.4**	**-3.7**
SVW2	**Sparrevohn**	**15.13**	**42**	P	**P**	**13 24 01.4**	**-1.3**
SVW2				IAmb	IAmb	13 24 08.2	
	comp=Z,73nm,0.8s						
PET	**Petropavlovsk**	**15.16**	**286**	*e*P	**P**	**13 24 01.5**	**-1.6**
PET				*e*S	**Sn**	**13 26 47.5**	**+2.0**
PET				MLR	MLR		
	comp=Z,400nm,17.0s						
PET				MLR	MLR		
	comp=Z,400nm,14.0s						
O19K	**Port Alsworth**	**15.26**	**46**	P	**P**	**13 24 03.0**	**-1.1**
	baz=245,SNR=10						
KDAK	**Kodiak Island**	**15.29**	**56**	P	**Pn**	**13 23 57.0**	**-3.5**
	comp=Z,2.8nm,0.3s,baz=266,slow=3.3,SNR=74						
KDAK				S	**Sn**	**13 26 44.9**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=212,slow=18,SNR=1.7						
KDAK	**Kodiak Island**	**15.29**	**56**	P	**Pn**	**13 23 57.5**	**-3.0**
KDAK				pmax	pmax		
	comp=Z,48nm,0.6s						
KDAK	**Kodiak Island**	**15.29**	**56**	P	**Pn**	**13 23 57.5**	**-3.0**
	baz=256						
KDAK	**Kodiak Island**	**15.29**	**56**		**Pn**	**13 23 57.5**	**-3.0**
KDAK				IAmb	IAmb	13 24 18.3	
	comp=Z,48nm,0.6s						
N19K	**Bonanza Creek**	**15.46**	**44**	P	**P**	**13 24 05.7**	**-0.7**
	baz=242,SNR=14						
P19K	**Oil Pt**	**15.54**	**49**	P	**P**	**13 24 06.4**	**-1.0**
	baz=248						
PETK	**Petropavlovsk-**	**15.73**	**286**	P	**Pn**	**13 24 06.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=108,slow=6.8,SNR=2.2						
PETK				LR	LR	13 29 48.5	
	comp=Z,412nm,21.2s,baz=88,slow=36						
PETK	**Petropavlovsk-**	**15.73**	**286**	P	**P**	**13 24 07.9**	**-1.5**
PETK	**Petropavlovsk-**	**15.73**	**286**	P	**P**	**13 24 07.9**	**-1.5**
L19K	**White Mountain**	**15.99**	**39**	P	**P**	**13 24 11.9**	**-0.3**
	baz=238,SNR=68						
O20K	**Slope Mountain**	**15.99**	**48**	P	**P**	**13 24 12.7**	**+0.3**
	baz=248						
M19K	**Big River Lodg**	**16.03**	**41**	P	**P**	**13 24 14.3**	**+1.6**
	baz=239						
RSO	**Redoubt South**	**16.08**	**47**		**Pn**	**13 24 10.2**	**-0.6**
CNPM	**China Poot**	**16.46**	**51**		**Pn**	**13 24 15.0**	**-0.4**
CNPM				IAmb	IAmb	13 24 32.6	
	comp=Z,53nm,0.6s						
M20K	**Styx River**	**16.54**	**42**	P	**P**	**13 24 20.8**	**+2.4**
	baz=241						
SPCR	**Spurr Chakacha**	**16.62**	**45**	P	**P**	**13 24 20.1**	**+0.8**
	baz=245						
BRLK	**Bradley Lake**	**16.70**	**50**		**Pn**	**13 24 17.3**	**-1.2**
BRSE	**Bradley Lake S**	**16.76**	**50**	P	**Pn**	**13 24 18.9**	**-0.3**
	baz=252						
K20K	**Telida**	**16.94**	**37**	P	**P**	**13 24 23.2**	**+0.5**
	baz=236,SNR=26						
SKT	**Skwentna**	**17.25**	**43**	P	**P**	**13 24 27.6**	**+1.3**
	baz=244,SNR=30						
SKT	**Skwentna**	**17.25**	**43**	P	**P**	**13 24 25.9**	**-0.3**
SKT				IAmb	IAmb	13 24 32.1	
	comp=Z,69nm,0.6s						
J20K	**Nowinta River**	**17.39**	**34**	P	**P**	**13 24 28.8**	**+1.1**
	baz=233,SNR=24						
PPLA	**Purkeypile**	**17.42**	**39**	P	**P**	**13 24 30.7**	**+2.5**
	baz=240,SNR=12						
O22K	**Cooper Landing**	**17.48**	**48**	P	**Pn**	**13 24 27.7**	**-0.4**
	baz=251,SNR=7.8						
O22K	**Cooper Landing**	**17.48**	**48**	P	**Pn**	**13 24 27.0**	**-1.1**
O22K				IAmb	IAmb	13 24 53.9	
	comp=Z,133nm,0.6s						
SEW	**Seward**	**17.49**	**50**	P	**Pn**	**13 24 26.6**	**-1.6**
	baz=252						
SEW	**Seward**	**17.49**	**50**		**Pn**	**13 24 26.2**	**-2.0**
RC01	**Rabbit Creek A**	**17.69**	**47**	P	**P**	**13 24 30.8**	**-0.1**
CHUM	**Lake Minchumin**	**17.88**	**37**	P	**P**	**13 24 34.6**	**+1.5**
	baz=237						
CUT	**Chulitna**	**17.97**	**42**	P	**Pn**	**13 24 34.8**	**+0.7**
	baz=244						
CUT	**Chulitna**	**17.97**	**42**	P	**P**	**13 24 33.2**	**-0.9**
CUT				IAmb	IAmb	13 24 38.7	
	comp=Z,55nm,0.6s						
KTH	**Kantishna Hill**	**18.24**	**38**	Pn	**Pn**	**13 24 38.5**	**+1.1**
KTH				IAmb	IAmb	13 24 44.5	
	comp=Z,98nm,0.8s						
PWL	**Port Wells**	**18.25**	**48**	P	**P**	**13 24 35.6**	**-1.6**
KNK	**Knik Glacier**	**18.38**	**46**	P	**P**	**13 24 38.4**	**-0.2**
	baz=250,SNR=8.5						
KNK	**Knik Glacier**	**18.38**	**46**	P	**P**	**13 24 37.6**	**-1.0**
TRF	**Thorofare Moun**	**18.44**	**39**	P	**Pn**	**13 24 40.2**	**+0.3**
	baz=242,SNR=15						
TRF	**Thorofare Moun**	**18.44**	**39**	P	**Pn**	**13 24 40.0**	**+0.1**
TRF				IAmb	IAmb	13 24 58.6	
	comp=Z,74nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.49**	**37**	P	**Pn**	**13 24 41.1**	**+0.6**
	baz=239,SNR=43						
BPAW	**Bear Paw Mtn.**	**18.49**	**37**		**Pn**	**13 24 40.9**	**+0.5**
BPAW				IAmb	IAmb	13 24 49.1	
	comp=Z,51nm,0.6s						
SML	**Sawmill**	**18.57**	**45**	P	**P**	**13 24 40.9**	**+0.1**
SML				pmax	pmax		
	comp=Z,23nm,0.8s						
SML	**Sawmill**	**18.57**	**45**	P	**Pn**	**13 24 41.5**	**0.0**
	baz=249						
SML	**Sawmill**	**18.57**	**45**	P	**P**	**13 24 40.9**	**+0.1**
BILL	**Bilibino**	**18.60**	**340**	*de*P	**Pn**	**13 24 41.9**	**+0.3**
BILL				pmax	pmax		
	comp=Z,28nm,0.7s						
IMAR	**Indian Mountai**	**18.64**	**30**	P	**P**	**13 24 38.9**	**-2.6**
I21K	**Tanana**	**18.73**	**33**	P	**Pn**	**13 24 44.2**	**+0.9**
	baz=234,SNR=45						
H21K	**Melozitna Rive**	**18.74**	**32**	P	**Pn**	**13 24 44.3**	**+0.9**
	baz=232						
GLI	**Glacier Island**	**18.84**	**48**	P	**P**	**13 24 42.5**	**-1.1**
	baz=253,SNR=7.0						
GLI	**Glacier Island**	**18.84**	**48**	P	**P**	**13 24 41.9**	**-1.7**
WAT1	**Susitna Watana**	**18.87**	**42**	P	**P**	**13 24 44.3**	**+0.3**
	baz=246						
HIN	**Hinchinbrook I**	**18.99**	**50**	P	**P**	**13 24 45.1**	**-0.2**
RND	**Reindeer**	**18.99**	**40**	IAmb	IAmb	13 24 50.0	
	comp=Z,107nm,0.7s						
SCM	**Sheep Creek Mo**	**19.03**	**46**	P	**P**	**13 24 45.2**	**-0.6**
SCM				pmax	pmax		
	comp=Z,28nm,0.8s						
SCM	**Sheep Creek Mo**	**19.03**	**46**	P	**P**	**13 24 45.2**	**-0.6**
MLY	**Manley**	**19.08**	**35**	P	**Pn**	**13 24 47.7**	**+0.1**
	baz=237,SNR=24						
MCK	**McKinley**	**19.11**	**39**	P	**P**	**13 24 46.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,63nm,0.6s						
MCK	**McKinley**	**19.11**	**39**	P	**P**	**13 24 46.7**	**+0.1**
	baz=243,SNR=33						
MCK	**McKinley**	**19.11**	**39**	P	**P**	**13 24 46.5**	**-0.1**
MCK				IAmb	IAmb	13 24 52.1	
	comp=Z,63nm,0.6s						
WAT6	**Susitna Watana**	**19.12**	**43**	P	**P**	**13 24 45.9**	**-1.0**
	baz=248,SNR=14						
NEA2	**Nenana**	**19.46**	**37**	P	**P**	**13 24 50.1**	**-0.3**
	baz=240,SNR=26						
KLU	**Klutina**	**19.56**	**47**	P	**Pn**	**13 24 52.6**	**-0.7**
	baz=253,SNR=20						
M24K	**Tolsona, Glnn**	**19.63**	**45**	P	**Pn**	**13 24 53.5**	**-0.7**
	baz=251,SNR=14						
I23K	**Minto, Yukon-K**	**19.64**	**35**	P	**P**	**13 24 53.1**	**+0.8**
	baz=239,SNR=56						
H23K	**Yukon River**	**19.94**	**33**	P	**Pn**	**13 24 56.7**	**-0.9**
	baz=237,SNR=28						
MA2	**Magadan**	**19.96**	**307**	P	**P**	**13 24 56.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=177,slow=19,SNR=2.1						
MA2	**Magadan**	**19.96**	**307**	*e*P	**Pn**	**13 24 57.3**	**-0.6**
MA2	**Magadan**	**19.96**	**307**		**P**	**13 24 55.0**	**-0.8**
MDM	**Murphy Dome**	**19.96**	**36**	P	**P**	**13 24 55.3**	**-0.5**
BMRM	**Bremner River**	**20.03**	**49**	P	**P**	**13 24 57.7**	**+1.0**
	baz=256,SNR=15						
BMRM	**Bremner River**	**20.03**	**49**	P	**P**	**13 24 56.5**	**-0.2**
TCOL	**CIGO, UAF Yank**	**20.05**	**37**	P	**P**	**13 24 57.1**	**+0.2**
	baz=242,SNR=8.6						
COLA	**College**	**20.06**	**37**	*e*P	**P**	**13 24 56.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,14nm,0.8s						
COLA	**College**	**20.06**	**37**	P	**P**	**13 24 56.6**	**-0.3**
	baz=242						
COLA	**College**	**20.06**	**37**	P	**P**	**13 24 55.8**	**-1.0**
HMT	**Hamilton**	**20.06**	**51**	P	**P**	**13 24 56.8**	**-0.2**
SEY	**Seymchan**	**20.08**	**317**	P	**P**	**13 24 57.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=112,slow=11,SNR=22						
SEY				PcP	**PcP**	**13 29 10.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=1.7,SNR=5.1						
HARP	**HAARP**	**20.18**	**45**	P	**P**	**13 24 58.7**	**+0.4**
	baz=252,SNR=13						
HDA	**Harding Lake**	**20.19**	**39**	P	**P**	**13 24 58.1**	**-0.2**
	baz=244,SNR=36						
HDA	**Harding Lake**	**20.19**	**39**	IAmb	IAmb	13 25 04.2	
	comp=Z,47nm,0.6s						
N25K	**Chitina, Valde**	**20.20**	**47**	P	**P**	**13 24 59.2**	**+0.7**
	baz=254,SNR=12						
PAX	**Paxson**	**20.23**	**43**	P	**P**	**13 24 59.7**	**+0.8**
	baz=250,SNR=19						
POKR	**Poker Plat Res**	**20.33**	**37**	P	Pn	13 25 01.3	-1.0
	baz=242						
ILAR	**Eielson Array**	**20.38**	**38**	P	**P**	**13 24 57.0**	**-3.4**
	comp=Z,11nm,0.5s,baz=234,slow=9.4,SNR=40						
ILAR				S	**S**	**13 28 44.0**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=216,slow=8.4,SNR=2.9						
ILAR				PcP	**PcP**	**13 29 10.8**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=273,slow=2.8,SNR=13						
ILAR				ScP	**ScP**	**13 32 42.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=268,slow=3.2,SNR=5.0						
ILAR				LR	LR	13 34 07.0	
	comp=Z,259nm,18.2s,baz=245,slow=40						
ILAR	**Eielson Array**	**20.38**	**38**	P	**P**	**13 24 58.8**	**-1.6**
ILAR						13 29 11.1	
ILAR	**Eielson Array**	**20.38**	**38**	P	**P**	**13 24 58.8**	**-1.6**
ILAR					**PcP**	**13 29 11.1**	**+0.1**
GLB	**Gilahina Butte**	**20.52**	**48**	P	**P**	**13 25 01.1**	**-0.9**
H24K	**Noodor Dome**	**20.52**	**34**	P	**P**	**13 25 02.5**	**+0.5**
	baz=239,SNR=39						
CRQE	**Cirque**	**20.71**	**50**	P	Pn	13 25 06.4	-0.5
	baz=258						
RIDG	**Independent Ri**	**20.77**	**41**	P	**P**	**13 25 03.9**	**-0.8**
	baz=248,SNR=39						
RIDG	**Independent Ri**	**20.77**	**41**	IAmb	IAmb	13 25 19.0	
	comp=Z,56nm,0.6s						
MCARA	**McCarthy VSAT**	**20.88**	**49**	P	**P**	**13 25 05.8**	**0.0**
	baz=257,SNR=8.0						
DOT	**Dot Lake**	**21.06**	**42**	IAmb	IAmb	13 25 23.6	
	comp=Z,41nm,0.8s						
M26K	**Nabesna, AK**	**21.14**	**46**	P	**P**	**13 25 10.4**	**+1.7**
	baz=254,SNR=14						
MESA	**MESA**	**21.16**	**52**	P	**P**	**13 25 11.9**	**+2.9**
	baz=261						
L26K	**Log Cabin Wild**	**21.17**	**44**	P	**P**	**13 25 08.8**	**-0.1**
	baz=252,SNR=45						
SCRK	**Sand Creek**	**21.21**	**41**	P	**P**	**13 25 08.7**	**-0.8**
	baz=249,SNR=94						
SCRK	**Sand Creek**	**21.21**	**41**	IAmb	IAmb	13 25 13.8	
	comp=Z,45nm,0.6s						
CTG	**Chitna Glacier**	**21.59**	**50**	P	**P**	**13 25 15.0**	**+1.4**
	baz=260						
TOLK	**Toolik Lake Re**	**21.60**	**27**	P	**P**	**13 25 14.1**	**+0.7**
	baz=231,SNR=35						
M27K	**Edge Creek, AK**	**21.64**	**46**	P	**P**	**13 25 15.8**	**+1.8**
	baz=256,SNR=9.1						
L27K	**Beaver Creek,**	**21.84**	**44**	P	**P**	**13 25 16.4**	**+0.2**
	baz=254,SNR=19						
K27K	**Chicken**	**22.02**	**42**	P	**P**	**13 25 17.3**	**-0.7**
	baz=251						
K27K	**Chicken**	**22.02**	**42**	P	**P**	**13 25 17.7**	**-0.3**
K27K				IAmb	IAmb	13 25 40.2	
	comp=Z,41nm,0.9s						
BMAR	**Burnt Mountain**	**22.46**	**32**	P	**P**	**13 25 22.5**	**-0.3**
EGAK	**Eagle**	**22.64**	**40**	P	**P**	**13 25 23.8**	**-0.8**
	baz=251,SNR=40						
EGAK	**Eagle**	**22.64**	**40**	IAmb	IAmb	13 25 26.4	
	comp=Z,32nm,0.8s						
KUR	**Kuril'sk**	**24.18**	**269**	*c i*P	**P**	**13 25 39.7**	**+0.1**
EPYK	**Eagle Plains**	**24.89**	**38**	P	**P**	**13 25 44.6**	**-1.3**
	baz=253,SNR=7.3						
EPYK	**Eagle Plains**	**24.89**	**38**	P	**P**	**13 25 44.6**	**-1.3**
EPYK					**PcP**	**13 29 21.1**	**+0.9**
UGL	**Uglegorsk**	**26.22**	**281**	*e*P	**P**	**13 25 58.5**	**+0.5**
UGL				*e*S	**S**	**13 30 24.3**	**-2.1**
UGL				pmax	pmax		
	comp=Z,130nm,1.0s						
UGL				MLR	MLR		
	comp=E,560nm,13.0s						
YSS	**Yuzh-Sakhalins**	**26.62**	**276**	*oe*P	**P**	**13 26 02.5**	**+0.8**
YSS				*e*		13 26 15.8	
YSS				*e*S	**S**	**13 30 32.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**26.62**	**276**	P	**P**	**13 26 01.8**	**+0.1**
YSS				IAmb	IAmb	13 26 03.7	
	comp=Z,37nm,0.9s						
INK	**Inuvik**	**26.65**	**35**	P	**P**	**13 26 00.5**	**-1.3**
	comp=Z,6.5nm,0.5s,baz=252,slow=7.3,SNR=53						
INK				PcP	**PcP**	**13 29 24.4**	**+0.3**
	comp=Z,5.0nm,0.4s,baz=294,slow=0.9,SNR=17						
INK	**Inuvik**	**26.65**	**35**	P	**P**	**13 26 01.2**	**-0.6**
INK						13 29 24.9	
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**26.65**	**35**	P	**P**	**13 26 01.2**	**-0.6**
	baz=253,SNR=7.2						
INK	**Inuvik**	**26.65**	**35**	P	**P**	**13 26 01.2**	**-0.6**
INK					**PcP**	**13 29 24.9**	**+0.8**
ASAJ	**Asahikawa**	**28.02**	**271**	P	**P**	**13 26 14.7**	**+0.4**
	comp=Z,18nm,0.9s,baz=90,slow=1.8,SNR=23						
BBB	**Bella Bella**	**29.60**	**69**	P	**P**	**13 26 29.9**	**+1.7**
	comp=Z,19nm,1.0s,baz=304,slow=11,SNR=5.6						
TIXI	**Tiksi**	**31.23**	**330**	P	**P**	**13 26 40.1**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=113,slow=11,SNR=2.2						
TIXI				PcP	**PcP**	**13 29 35.4**	**-0.2**
	comp=Z,19nm,0.7s,baz=107,slow=1.9,SNR=23						
TIXI	**Tiksi**	**31.23**	**330**	||*e*P	**P**	**13 26 44.5**	**+2.2**
JMM	**Marumori**	**32.66**	**262**	P	**P**	**13 26 55.0**	**-0.2**
ZEA	**Zeya**	**33.38**	**296**	*e*P	**P**	**13 27 01.0**	**-0.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LLLB	**Lilloet**	**33.81**	**69**	P	**P**	**13 27 06.3**	**+1.1**
LLLB				IAmb	IAmb	13 27 08.4	
	comp=Z,13nm,0.6s						
YKA	**Yellowknife Ar**	**34.23**	**47**	P	**P**	**13 27 07.4**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=294,slow=11,SNR=12						
YKA				PP	**PnPn**	**13 28 21.1**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=285,slow=7.3,SNR=2.0						
YKA				PcP	**PcP**	**13 29 44.8**	**+0.8**
	comp=Z,3.7nm,0.6s,baz=288,slow=3.0,SNR=23						
YKA				ScP	**ScP**	**13 33 24.4**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=284,slow=2.5,SNR=4.9						
YKA				LR	LR	13 42 33.0	
	comp=Z,127nm,19.0s,baz=0.0,slow=39						
A05A	**Maple Falls**	**34.35**	**72**	P	**P**	**13 27 10.7**	**+0.8**
A05A				IAmb	IAmb	13 27 14.6	
	comp=Z,14nm,0.7s						
D03D	**Eldon**	**34.40**	**75**	P	**P**	**13 27 13.0**	**+2.7**
	baz=297,SNR=12						
USA0B	**Ussuriysk Arra**	**34.59**	**279**	IAmb	IAmb	13 27 12.2	
	comp=Z,20nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.59**	**279**	P	**P**	**13 27 11.4**	**-0.5**
	comp=Z,18nm,0.5s,baz=56,slow=9.8,SNR=67						
USRK				PcP	**PcP**	**13 29 45.9**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=56,slow=4

comp=Z,12nm,0.7s
O02D Mt. Diablo Mer 38.41 85 P P 13 27 47.4 +2.7
baz=306
F10A Beach Ranch, E 38.68 74 IAmb IAmb 13 27 59.3
comp=Z,9.4nm,0.6s
CN2 Changchun 38.82 282 *e*P **P 13 27 47.3 -0.7**
CN2 S **S 13 33 42.8 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,21.0s
O03E Paynes Creek 38.95 85 P P 13 27 50.9 +1.6
baz=306
MOD Modoc Plateau 38.97 81 P P 13 27 51.1 +1.7
WALA Waterton Lakes 39.13 68 IAmb IAmb 13 27 52.7
comp=Z,29nm,1.0s
JHS Saijyo 39.25 265 IAmb IAmb 13 27 53.8
comp=Z,20nm,0.9s
JCJ Chichijima 39.31 248 P P 13 27 51.3 -1.0
JTMT Jette 39.55 70 P P 13 27 54.6 +0.4
MSO Missoula 40.21 71 P P 13 28 00.7 +1.0
baz=300,SNR=14
MSO Missoula 40.21 71 P P 13 27 60.0 +0.3
MSO IAmb IAmb 13 28 16.3
comp=Z,10nm,0.6s
MSO **PcP 13 30 03.4 +0.7**
KSRS Korea Array 40.95 272 P P 13 28 06.3 +0.7
comp=Z,9.4nm,0.8s,baz=58,slow=7.7,SNR=59
KSRS LR LR 13 46 32.3
comp=Z,18nm,19.1s,baz=40,slow=38
KSAR Wonju Array Be 40.98 272 P P 13 28 06.0 0.0
KSAR Wonju Array Be 40.98 272 P P 13 28 06.0 0.0
PNTR Pine Nut 41.03 84 IAmb IAmb 13 28 09.9
comp=Z,20nm,0.7s
JNU Nakatsue 41.88 265 P P 13 28 14.2 +0.7
JNU IAmb IAmb 13 28 15.4
comp=Z,44nm,0.9s
TJN Taejon 41.97 271 *c i*P **P 13 28 14.5 +0.5**
EGMT Eagleton 42.05 67 P P 13 28 15.2 +0.5
baz=301,SNR=12
EGMT Eagleton 42.05 67 IAmb IAmb 13 28 16.6
comp=Z,17nm,0.8s
BOZ Bozeman (W) 42.22 71 P P 13 28 17.1 +0.9
baz=302,SNR=34
NVAR Mina Array Bea 42.24 84 P P 13 28 17.7 +1.2
comp=Z,5.7nm,0.8s,baz=291,slow=8.0,SNR=36
NVAR PcP **PcP 13 30 10.4 +0.7**
comp=Z,2.9nm,0.8s,baz=287,slow=3.1,SNR=6.3
NVAR ScP **ScP 13 33 56.5 +0.8**
comp=Z,0.1nm,0.3s,baz=260,slow=5.4,SNR=2.6
NVAR LR LR 13 42 24.9
comp=Z,98nm,19.6s,baz=274,slow=31
NVAR Mina Array Bea 42.24 84 P P 13 28 17.6 +1.1
NVAR **PcP 13 30 11.0 +1.3**
ELK Elko 42.76 79 P P 13 28 22.0 +1.3
comp=Z,9.1nm,0.8s,baz=302,slow=8.7,SNR=48
ELK PcP **PcP 13 30 12.1 +0.7**
comp=Z,1.4nm,0.6s,baz=9.5,slow=2.4,SNR=2.1
ELK Elko 42.76 79 P P 13 28 22.2 +1.5
ELK pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 42.76 79 P P 13 28 22.2 +1.5
YHH Holmes Hill 43.12 72 IAmb IAmb 13 28 40.6
comp=Z,15nm,0.7s
H17A Grant Village 43.50 72 P P 13 28 29.3 +2.6
baz=304,SNR=8.3
PKM Mcpherson Peak 43.52 89 P P 13 28 28.8 +1.9
baz=310
CWC Cottonwood Cre 43.61 86 P P 13 28 29.1 +1.5
baz=309
GRAC Grapevine Rang 43.71 85 P P 13 28 30.0 +1.7
baz=309,SNR=5.7
ISA Isabella, Lake 43.86 88 P P 13 28 29.5 0.0
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA Isabella, Lake 43.86 88 P P 13 28 30.4 +0.9
baz=310,SNR=7.4
ISA Isabella, Lake 43.86 88 P P 13 28 29.5 0.0
RLMT Red Lodge 43.88 71 P P 13 28 31.0 +1.3
baz=304,SNR=21
RLMT Red Lodge 43.88 71 IAmb IAmb 13 28 32.0
comp=Z,22nm,1.1s
R11A Troy Canyon, C 43.98 83 P P 13 28 31.8 +1.3
baz=308,SNR=18
FURC Furnace Creek, 44.36 86 P P 13 28 35.1 +1.8
baz=309,SNR=9.4
TPNV Topopah Spring 44.44 85 P P 13 28 35.8 +1.6
baz=309,SNR=30
TPNV Topopah Spring 44.44 85 IAmb IAmb 13 28 36.5
comp=Z,20nm,0.7s
DUG Dugway, Tooele 44.57 79 P P 13 28 37.0 +1.8
DUG pmax pmax
comp=Z,18nm,1.1s
DUG Dugway, Tooele 44.57 79 P P 13 28 36.7 +1.5
baz=307,SNR=15
DUG Dugway, Tooele 44.57 79 IAmb IAmb 13 28 38.3
comp=Z,19nm,1.1s
EDW2 Edwards Air Fo 44.66 88 P P 13 28 37.1 +1.2
baz=311
PRN Pahroc Range 44.89 83 IAmb IAmb 13 28 40.4
comp=Z,24nm,0.8s
BW06 Boulder Array 45.03 74 P P 13 28 40.0 +1.0
baz=306,SNR=40
BW06 Boulder Array 45.03 74 IAmb IAmb 13 28 56.0
comp=Z,18nm,0.8s
PD31 Pinedale Array 45.03 74 IAmb IAmb 13 28 56.0
comp=Z,16nm,0.8s
PDAR Pinedale Array 45.03 74 P P 13 28 39.5 +0.6
comp=Z,9.5nm,0.5s,baz=304,slow=3.8,SNR=142
PDAR PcP **PcP 13 30 19.4 +0.3**
comp=Z,1.6nm,0.5s,baz=132,slow=0.7,SNR=4.2
PDAR LR LR 13 44 55.5
comp=Z,93nm,21.7s,baz=310,slow=33
SHOC Shoshone, Teco 45.08 86 P P 13 28 40.7 +1.5
baz=310,SNR=14
GSC Goldstone, Bar 45.13 87 P P 13 28 41.2 +1.5
baz=310,SNR=19
GSC Goldstone, Bar 45.13 87 IAmb IAmb 13 28 41.9
comp=Z,16nm,0.8s
BFSC Mount Baldy Ra 45.29 89 P P 13 28 42.6 +1.6
baz=311,SNR=9.3
TUQ Turquoise Moun 45.60 86 P P 13 28 44.7 +1.3
baz=310,SNR=7.0
HEC Hector,Ludlow 45.73 87 P P 13 28 45.8 +1.4
baz=311
TMUT Trail Mountain 46.10 78 IAmb IAmb 13 28 52.5
comp=Z,18nm,0.8s
GMRC Granite Mounta 46.19 86 P P 13 28 49.3 +1.3
baz=311,SNR=12
LCMT Little Creek M 46.26 82 IAmb IAmb 13 28 51.2
comp=Z,12nm,0.8s
P17A Butcher Ranch, 46.28 78 IAmb IAmb 13 28 51.0
comp=Z,9.4nm,0.7s
PFO Pinyon Flats O 46.45 88 *ce*P **P 13 28 51.8 +1.7**
PFO Pinyon Flats O 46.45 88 P P 13 28 51.2 +1.0
baz=312
PFO Pinyon Flats O 46.45 88 P P 13 28 50.4 +0.3
BELC Belle Mtn. Jos 46.49 88 P P 13 28 51.2 +0.8
baz=311,SNR=6.9
KNB Kanab 46.52 82 IAmb IAmb 13 28 53.4
comp=Z,12nm,0.8s
SRU San Rafael Swe 46.63 78 IAmb IAmb 13 28 54.6
comp=Z,17nm,1.0s
BJI Beijing 46.64 283 P P 13 28 51.8 +0.5
BJI pP **pP 13 29 02.6 -2.0**
BJI S **S 13 35 37.6 +0.9**
BJI pmax pmax
comp=Z,60nm,0.8s
BJI LR LR
comp=Z,190nm,17.1s
BJI LR LR
comp=Z,94nm,18.5s
BJT Baijiatuau 46.66 283 P P 13 28 52.0 +0.5
BJT pmax pmax
comp=Z,50nm,0.9s
K22A Casper 46.91 72 P P 13 28 54.3 +0.6
baz=306
IRM Iron Mountain 46.92 87 P P 13 28 54.7 +1.0
baz=311
MONP2 Monument Peak 46.95 89 P P 13 28 55.4 +1.2
baz=312

W13A Hualapai Mount 47.09 85 IAmb IAmb 13 28 57.0
comp=Z,8.6nm,0.6s
TLY Talaya 47.13 303 LR LR 13 49 50.2
comp=Z,104nm,20.3s,baz=44,slow=38
U15A North Rim 47.23 82 IAmb IAmb 13 28 58.8
comp=Z,20nm,0.8s
IKP In-Ko-Pah, Jac 47.31 89 P P 13 28 58.0 +1.2
baz=312
O20A White River Ci 47.40 76 P P 13 28 58.4 +0.9
baz=308,SNR=26
O20A White River Ci 47.40 76 IAmb IAmb 13 28 59.1
comp=Z,39nm,1.1s
ULN Ulaanbaatar 47.40 297 P P 13 28 56.1 -1.3
ULN 13 30 27.8
ULN Ulaanbaatar 47.40 297 P P 13 28 56.1 -1.3
ULN PcP **PcP 13 30 27.8 +0.6**
ULN IAmb IAmb 13 30 28.3
comp=Z,11nm,0.8s
PDMCI Parker Dam,Lak 47.45 86 P P 13 28 58.7 +1.0
baz=311
RSSD Black Hills 47.52 69 P P 13 28 58.6 +0.2
RSSD pmax pmax
comp=Z,15nm,0.5s
RSSD Black Hills 47.52 69 P P 13 28 58.6 +0.2
baz=306
RSSD Black Hills 47.52 69 P P 13 28 58.6 +0.2
RSSD IAmb IAmb 13 28 59.7
comp=Z,15nm,0.5s
SONM Songino Array 47.78 298 P P 13 28 59.2 -1.1
comp=Z,6.4nm,0.7s,baz=49,slow=6.8,SNR=31
SONM PcP **PcP 13 30 28.4 -0.2**
comp=Z,11nm,0.7s,baz=61,slow=2.6,SNR=21
SONM ScP **ScP 13 34 17.5 -0.9**
comp=Z,1.5nm,0.9s,baz=88,slow=3.6,SNR=5.7
SONM LR LR 13 50 21.2
comp=Z,126nm,18.9s,baz=66,slow=38
SONM Songino Array 47.78 298 P P 13 28 59.2 -1.1
SONM IAmb IAmb 13 30 29.6
comp=Z,12nm,0.8s
GLA Glamis 47.85 88 P P 13 29 01.8 +0.9
baz=312
JOW Kunigami 47.88 261 LR LR 13 45 36.7
comp=Z,42nm,21.8s,baz=131,slow=32
MDND Maddock 47.89 62 P P 13 29 01.4 +0.4
baz=305
PV14 Lion Creek, Pa 48.01 78 IAmb IAmb 13 29 08.3
comp=Z,15nm,0.6s
ZAK Zakamensk 48.04 302 *e*P **P 13 29 01.2 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PV22 Blue Mesa, Par 48.05 78 IAmb IAmb 13 29 07.8
comp=Z,33nm,1.0s
PV04 Paradox Valley 48.07 78 IAmb IAmb 13 29 04.5
comp=Z,24nm,0.8s
PV19 Morning Glory 48.08 78 IAmb IAmb 13 29 04.5
comp=Z,17nm,0.8s
PV16 Nyswonger Mesa 48.12 78 IAmb IAmb 13 29 04.8
comp=Z,16nm,0.8s
PV11 David Mesa, Pa 48.15 78 IAmb IAmb 13 29 06.2
comp=Z,28nm,0.9s
PV18 Skein Mesa, Pa 48.16 78 IAmb IAmb 13 29 06.1
comp=Z,20nm,0.7s
PV12 Saucer Basin, 48.18 78 IAmb IAmb 13 29 05.5
comp=Z,23nm,0.9s
PV03 Paradox Valley 48.19 78 IAmb IAmb 13 29 05.4
comp=Z,24nm,1.0s
PV07 Paradox Valley 48.20 78 IAmb IAmb 13 29 07.2
comp=Z,14nm,0.9s
N23A Red Feather La 48.32 73 P P 13 29 05.9 +1.2
baz=308,SNR=7.4
WUAZ Wupatki 48.38 83 P P 13 29 06.6 +1.5
baz=311,SNR=18
WUAZ Wupatki 48.38 83 IAmb IAmb 13 29 07.4
comp=Z,20nm,0.7s
PV01 Paradox Valley 48.44 78 IAmb IAmb 13 29 07.3
comp=Z,24nm,0.8s
TIA Tai'an 48.45 279 P P 13 29 05.4 -0.1
TIA pmax pmax
comp=Z,34nm,0.9s
ULM Lac du Bonnet 48.54 58 P P 13 29 04.6 -1.3
comp=Z,1.9nm,0.4s,baz=316,slow=3.9,SNR=4.0
ULM PcP **PcP 13 30 31.2 +0.2**
comp=Z,2.0nm,0.5s,baz=287,slow=4.8,SNR=3.0
ULM LR LR 13 52 08.9
comp=Z,51nm,18.8s,baz=314,slow=39
HHC Hu-ho-hao-te 48.93 287 *e*P **P 13 29 10.6 +1.4**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.6s
MVCO Mesa Verde 49.07 79 P P 13 29 11.3 +0.9
baz=310,SNR=11
MVCO Mesa Verde 49.07 79 IAmb IAmb 13 29 13.0
comp=Z,15nm,1.1s
ISCO Idaho Springs 49.19 74 P P 13 29 13.1 +1.6
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 49.19 74 P P 13 29 12.9 +1.4
baz=309,SNR=7.9
W18A Petrified Fore 49.66 82 P P 13 29 16.6 +1.7
baz=311
AGMN Agassiz Nation 49.67 60 P P 13 29 13.9 -0.7
baz=306
S22A 4UR Ranch, Cre 49.75 77 P P 13 29 17.4 +1.7
baz=310,SNR=17
214A Organ Pipe Nat 49.84 87 P P 13 29 17.2 +1.1
baz=313
SUSD Miller 50.25 66 P P 13 29 19.1 -0.1
baz=307
TIY Taiyuan 50.37 283 *e*P **P 13 29 21.4 +1.3**
TIY pmax pmax
comp=Z,64nm,0.9s
TIY LR LR
comp=Z,110nm,7.2s
TIY LR LR
comp=Z,81nm,5.0s
TIY LR LR
comp=Z,130nm,8.7s
SDCO Great Sand Dun 50.56 76 P P 13 29 23.1 +1.2
baz=310,SNR=18
OGNE Ogallala 50.62 71 P P 13 29 23.2 +1.2
baz=309,SNR=6.5
OGNE Ogallala 50.62 71 P P 13 29 22.2 +0.2
OGNE IAmb IAmb 13 29 24.9
comp=Z,20nm,0.8s
TUC Tucson 50.87 85 P P 13 29 24.8 +0.8
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC Tucson 50.87 85 P P 13 29 25.0 +1.1
baz=313
TUC Tucson 50.87 85 P P 13 29 24.8 +0.8
TUC IAmb IAmb 13 29 26.1
comp=Z,8.8nm,0.8s
KSCO Kaye Shedlock' 51.48 73 P P 13 29 29.9 +1.3
baz=310
HOPEN Hopen 51.56 354 *e*P **P 13 29 29.5 +1.0**
T25A Trinidad 51.61 76 P P 13 29 31.1 +1.4
baz=311,SNR=25
T25A Trinidad 51.61 76 IAmb IAmb 13 29 32.6
comp=Z,24nm,0.9s
ANMO Albuquerque 51.79 80 *de*P **P 13 29 32.5 +1.5**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 51.79 80 P P 13 29 32.2 +1.2
baz=312
ANMO Albuquerque 51.79 80 P P 13 29 29.8 -1.2
ECSD EROS Data Cent 52.02 65 P P 13 29 31.7 -0.7
baz=309,SNR=19
ECSD EROS Data Cent 52.02 65 IAmb IAmb 13 29 32.4
comp=Z,14nm,0.8s
EYMN Ely 52.23 58 P P 13 29 33.0 -0.8
baz=308
121A Cookes Peak, D 52.59 83 P P 13 29 38.5 +1.6
baz=313
BGNE Belgrade 52.60 68 P P 13 29 37.1 +0.4
baz=310
SUMG Summit 52.91 15 P P 13 29 37.3 -1.7
SUMG pmax pmax
comp=Z,10.0nm,1.2s
SUMG Summit 52.91 15 P P 13 29 37.3 -1.7
SPMN Marine on St. 53.21 61 P P 13 29 40.8 -0.3
baz=309
CBKS Cedar Bluff 53.33 72 P P 13 29 43.2 +1.0
baz=311
MNTX Cornudas Mount 54.64 82 P P 13 29 53.0 +1.2
baz=314,SNR=26
MNTX Cornudas Mount 54.64 82 IAmb IAmb 13 29 53.9

comp=Z,12nm,0.8s
MSTX Muleshoe 54.71 78 P P 13 29 53.0 +0.7
baz=313,SNR=9.5
MSTX Muleshoe 54.71 78 P P 13 29 52.3 0.0
MSTX IAmb IAmb 13 29 54.6
comp=Z,20nm,0.8s
AMTX Amarillo 54.76 77 P P 13 29 53.5 +0.8
baz=312
ZALV Zalesovo Beam 54.93 314 P P 13 29 51.4 -2.1
comp=Z,0.8nm,0.3s,baz=56,slow=8.8,SNR=3.5
ZALV PcP **PcP 13 30 54.4 -0.4**
comp=Z,15nm,0.7s,baz=35,slow=4.1,SNR=37
ZALV LR LR 13 55 24.2
comp=Z,122nm,19.2s,baz=45,slow=38
ZALV Zalesovo Beam 54.93 314 *i* P **P 13 29 52.2 -1.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
XAN Xi'an 54.93 282 P P 13 29 53.8 -0.1
XAN sP pP 13 30 07.4 +0.1
XAN pmax pmax
comp=Z,72nm,0.7s
KSU1 Kansas State U 54.99 69 P P 13 29 54.1 -0.1
baz=311
SCIA State Center 55.11 65 P P 13 29 55.3 +0.4
baz=311
I40A Norwalk 55.27 61 IAmb IAmb 13 29 56.4
comp=Z,22nm,1.1s
E43A Lone Tree Farm 55.60 57 IAmb IAmb 13 29 58.8
comp=Z,18nm,0.7s
JFWS Jewell Farm 56.11 62 P P 13 30 01.5 -0.7
baz=311,SNR=5.7
DGZ Jazzator, Alta 56.52 309‖ *e*P **P 13 30 05.2 +0.1**
WMOK Wichita Mounta 56.62 75 P P 13 30 06.6 +0.7
WMOK pmax pmax
comp=Z,12nm,1.0s
WMOK Wichita Mounta 56.62 75 P P 13 30 06.5 +0.7
baz=313,SNR=11
WMOK Wichita Mounta 56.62 75 IAmb IAmb 13 30 07.5
comp=Z,12nm,1.1s
LZH Lanzhou 56.62 288 *e*P **P 13 30 07.3 +1.2**
LZH pP pP 13 30 21.8 +2.1
LZH sP sP 13 30 26.6 +1.2
LZH pmax pmax
comp=Z,75nm,1.1s
LZH LR LR
comp=Z,190nm,12.7s
LZH LR LR
comp=Z,220nm,14.4s
LZH LR LR
comp=Z,200nm,16.5s
GTA Gaotai 56.75 293 ⇑P **P 13 30 06.9 0.0**
GTA pP pP 13 30 20.5 0.0
GTA sP sP 13 30 26.6 +0.4
GTA PcP **PcP 13 31 02.4 0.0**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,51nm,5.8s
GTA LR LR
comp=Z,120nm,17.8s
GTA LR LR
comp=Z,160nm,18.9s
GTA LR LR
comp=Z,170nm,19.6s
E46A Sault Ste Mari 57.00 56 P P 13 30 08.1 -0.4
E46A **PcP 13 31 04.3 +1.3**
E46A IAmb IAmb 13 31 05.4
comp=Z,24nm,0.8s
L42A Oliver, Polo 57.03 63 IAmb IAmb 13 30 08.5
comp=Z,29nm,1.1s
HAMF Hammerfest 57.33 352 *e*P **P 13 30 11.1 +0.7**
TX32 Lajitas Array 57.34 83 IAmb IAmb 13 30 12.8
comp=Z,14nm,1.0s
TXAR Lajitas Array 57.34 83 P P 13 30 11.3 +0.1
comp=Z,7.7nm,0.6s,baz=301,slow=5.3,SNR=107
TXAR PcP **PcP 13 31 05.5 +0.7**
comp=Z,2.6nm,0.7s,baz=258,slow=1.6,SNR=2.0
TXAR ScP **ScP 13 35 00.7 +0.7**
comp=Z,0.1nm,0.4s,baz=262,slow=2.7,SNR=2.0
TXAR LR LR 13 51 40.9
comp=Z,50nm,21.9s,baz=0.0,slow=33
ABTX Abilene, Hawle 57.54 77 P P 13 30 13.2 +0.8
baz=314,SNR=5.3
TUL1 Leonard 57.61 72 P P 13 30 13.3 +0.5
baz=313
MATQ Matagami 58.01 49 P P 13 30 14.2 -1.3
baz=313
HDIL Hopedale 58.22 64 P P 13 30 17.0 0.0
baz=313,SNR=7.1
ARA0 ARCESS Array S 58.24 351 *e*P **P 13 30 16.7 -0.1**
ARCES ARCESS Array B 58.24 351 P P 13 30 14.5 -2.3
comp=Z,2.0nm,0.9s,baz=32,slow=5.3,SNR=25
ARCES PcP **PcP 13 31 06.8 -0.8**
comp=Z,2.5nm,0.6s,baz=28,slow=5.5,SNR=4.8
ARCES LR LR 13 56 22.6
comp=Z,150nm,20.2s,baz=5.0,slow=37
ARCES ARCESS Array B 58.24 351 P P 13 30 14.9 -1.9
ARCES 13 31 04.4
ARCES ARCESS Array B 58.24 351 P P 13 30 14.9 -1.9
ARCES PcP **PcP 13 31 04.4 -3.1**
ARCES IAmb IAmb 13 31 36.9
comp=Z,37nm,1.9s
HHAR Hobbs 58.45 70 IAmb IAmb 13 30 18.9
comp=Z,9.5nm,1.0s
JETT Jettan, Norway 58.66 353 *e*P **P 13 30 19.6 -0.1**
LVZ Lovozero 58.68 347‖ *e*P **P 13 30 18.9 -1.0**
LVZ pmax pmax
comp=Z,36nm,2.2s
TRO Tromso 58.69 354 *e*P **P 13 30 20.3 +0.4**
X37A Clayton 58.76 73 P P 13 30 20.1 -0.8
X37A IAmb IAmb 13 30 23.4
comp=Z,14nm,0.8s
LSQQ Lebel-sur-Quev 58.80 49 P P 13 30 19.6 -1.4
baz=314
CCM Cathedral Cave 58.81 67 P P 13 30 20.1 -1.1
CCM pmax pmax
comp=Z,15nm,0.5s
CCM Cathedral Cave 58.81 67 P P 13 30 20.5 -0.7
baz=313
CCM Cathedral Cave 58.81 67 P P 13 30 20.1 -1.1
MGMO Mountain Grove 58.83 68 IAmb IAmb 13 30 21.1
comp=Z,14nm,0.8s
JCT Junction City 58.93 79 P P 13 30 21.7 -0.5
baz=315
KTK1 Kautokeino 58.96 352 *e*P **P 13 30 21.2 -0.5**
U40A Yellville 59.04 69 P P 13 30 22.1 -0.7
baz=314,SNR=14
SCHQ Schefferville 59.13 39 P P 13 30 21.9 -1.3
comp=Z,6.6nm,0.8s,baz=360,slow=12,SNR=9.5
APA Apatity 59.17 347⇑ *i*P **P 13 30 24.8 +1.6**
APA pmax pmax
comp=Z,3.0nm,0.8s
W39A Magazine 59.29 71 P P 13 30 24.6 +0.1
baz=314,SNR=6.7
W39A Magazine 59.29 71 IAmb IAmb 13 30 30.2
comp=Z,10nm,0.8s
WHTX Lake Whitney, 59.31 76 P P 13 30 25.9 +1.1
baz=314
CHGQ Chibougamau 59.42 47 P P 13 30 23.4 -1.8
baz=315
SFIN Lafayette 59.56 62 P P 13 30 26.5 +0.2
baz=314,SNR=20
FCAR Ozark Folk Cen 59.79 69 IAmb IAmb 13 30 28.1
comp=Z,21nm,0.9s
MIAR Mount Ida 59.86 71 P P 13 30 29.0 +0.5
MIAR pmax pmax
comp=Z,23nm,0.8s
MIAR Mount Ida 59.86 71 P P 13 30 29.1 +0.5
baz=314,SNR=19
MIAR Mount Ida 59.86 71 IAmb IAmb 13 30 29.9
comp=Z,29nm,1.2s
WHAR Wooly Hollow 60.10 70 IAmb IAmb 13 30 30.8
comp=Z,21nm,1.3s
W41B Gary Mavity, V 60.21 70 P P 13 30 30.6 -0.3
baz=314,SNR=8.9
CD2 Chengdu 60.24 283⇑ *i*P **P 13 30 31.5 +0.3**
CD2 pmax pmax
comp=Z,140nm,0.7s
X40A Basin Creek Fa 60.34 71 P P 13 30 32.2 +0.4
baz=314,SNR=6.0
WMQ Urumqi 60.40 304 *e*P **P 13 30 33.8 +1.7**
ALGO Algonquin Park 60.45 52 P P 13 30 32.0 -0.4
baz=315
LOF Lofoten 60.50 356 *e*P **P 13 30 32.5 +0.2**
STEI Steigen 60.61 355 *e*P **P 13 30 32.8 -0.3**
833A Chaparral WMA, 60.70 80 P P 13 30 35.2 +0.8
baz=316

SADO	Sadowa	60.74	54	IAmb	IAmb	13 31 19.3		
	comp=Z,16nm,0.8s							
MKAR	Makanchi Array	61.01	310	P	P	13 30 33.7	-2.5	
	comp=Z,1.6nm,0.3s,baz=43,slow=6.7,SNR=62							
MKAR				PcP	PcP	13 31 18.7	-0.3	
	comp=Z,2.1nm,0.5s,baz=47,slow=4.2,SNR=5.8							
MKAR				LR	LR	13 58 25.7		
	comp=Z,32nm,19.4s,baz=36,slow=38							
MKAR	Makanchi Array	61.01	310	*i* P	P	13 30 34.2	-2.0	
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MKAR	Makanchi Array	61.01	310	P	P	13 30 33.8	-2.5	
MKAR					PcP	13 31 16.1	-3.0	
FAUS	Fauske	61.15	355	*e*P	P	13 30 36.5	-0.3	
MAKZ	Makanchi	61.15	310	P	P	13 30 35.0	-2.1	
MAKZ				pmax	pmax			
	comp=Z,12nm,1.9s							
MAKZ	Makanchi	61.15	310	P	P	13 30 35.0	-2.1	
P49A	Miami Univ. Ec	61.46	62	P	P	13 30 39.1	-0.3	
	baz=315,SNR=11							
WCI	Wyandotte Cave	61.50	64	P	P	13 30 38.2	-1.4	
WCI				pmax	pmax			
	comp=Z,29nm,0.9s							
WCI	Wyandotte Cave	61.50	64	P	P	13 30 39.5	-0.1	
	baz=315							
WCI	Wyandotte Cave	61.50	64	P	P	13 30 38.2	-1.4	
PLVO	Plevna	61.59	53	IAmb	IAmb	13 31 22.7		
	comp=Z,8.4nm,0.8s							
GYA	Guiyang	61.62	278	⇑P	P	13 30 41.8	+1.1	
GYA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
DELO	Deloro Mine	61.69	53	IAmb	IAmb	13 30 41.3		
	comp=Z,14nm,1.1s							
BRVK	Borovoye	61.69	321	*de*P	P	13 30 40.3	-0.4	
BRVK				pmax	pmax			
	comp=Z,10.0nm,0.6s							
BRVK	Borovoye	61.69	321	P	P	13 30 40.5	-0.2	
BRVK				IAmb	IAmb	13 30 41.4		
	comp=Z,13nm,0.6s							
ACSO	Alum Creek Sta	61.92	60	P	P	13 30 42.5	+0.1	
	baz=315							
WVT	Waverly	62.11	66	P	P	13 30 43.7	0.0	
WVT				pmax	pmax			
	comp=Z,15nm,0.4s							
WVT	Waverly	62.11	66	P	P	13 30 43.8	0.0	
	baz=315							
WVT	Waverly	62.11	66	P	P	13 30 43.7	0.0	
D58A	Chemin du LacG	62.13	49	P	P	13 30 42.6	-1.2	
	baz=317							
ERPA	Erie	62.18	57	P	P	13 30 44.4	+0.3	
	baz=315							
SVE	Sverdlovsk	62.23	328	*e*P	P	13 30 45.1	+0.9	
M53A	WI Miller and	62.30	58	P	P	13 30 45.2	+0.3	
	baz=315,SNR=9.3							
OXF	Oxford	62.34	69	P	P	13 30 45.4	+0.2	
	baz=315,SNR=8.2							
J55A	Hilton	62.48	54	IAmb	IAmb	13 30 46.9		
	comp=Z,15nm,0.7s							
M54A	Oil Creek Stat	62.78	57	P	P	13 30 48.6	+0.5	
	baz=316,SNR=5.2							
P52A	Corning	62.80	60	P	P	13 30 48.2	-0.2	
	baz=316							
H57A	Richville	62.84	52	P	P	13 30 47.8	-0.7	
	baz=316							
O53A	New Philadelph	62.86	59	P	P	13 30 48.8	+0.1	
	baz=316,SNR=6.8							
J56A	Wolcott	62.96	54	IAmb	IAmb	13 30 50.1		
	comp=Z,14nm,0.7s							
N54A	Moraine State	63.00	58	P	P	13 30 49.8	+0.2	
	baz=316,SNR=7.9							
U49A	Red Boiling Sp	63.00	65	P	P	13 30 48.4	-1.3	
U49A				IAmb	IAmb	13 30 50.8		
	comp=Z,13nm,0.8s							
BRZS	Berezniki	63.03	317	*e*P	P	13 30 48.1	-1.7	
	baz=317							
BRZS	Berezniki	63.03	317	*e*P	P	13 30 48.0	-1.7	
I57A	Carthage	63.08	53	P	P	13 30 49.4	-0.7	
	baz=316							
LONY	Lake Ozonia	63.12	52	P	P	13 30 48.5	-1.9	
	baz=317							
LONY	Lake Ozonia	63.12	52	IAmb	IAmb	13 30 50.9		
	comp=Z,8.7nm,1.1s							
K56A	Middlesex	63.14	55	P	P	13 30 50.8	+0.3	
	baz=316,SNR=16							
D60A	Saint Jean D'O	63.18	48	P	P	13 30 49.9	-0.7	
	baz=318							
ARU	Arti	63.23	329	*c i* P	P	13 30 50.7	-0.1	
ARU				*PP	pP	13 31 04.9	0.0	
ARU						13 31 26.8		
ARU						13 33 05.9		
ARU				S	S	13 39 19.3	+1.0	
ARU				SS	SS	13 43 17.8	-6.4	
ARU				pmax	pmax			
	comp=Z,11nm,0.6s							
ARU				MLR	MLR			
	comp=Z,146nm,24.0s							
ARU	Arti	63.23	329	P	P	13 30 50.0	-0.9	
ARU				IAmb	IAmb	13 30 52.1		
	comp=Z,14nm,0.7s							
M55A	Ridgway	63.28	56	IAmb	IAmb	13 30 53.1		
	comp=Z,16nm,0.7s							
J57A	Williamstown	63.30	53	IAmb	IAmb	13 31 29.9		
	comp=Z,14nm,0.8s							
E60A	Ste Agathe de	63.34	48	P	P	13 30 50.2	-1.5	
	baz=318							
L56A	Greenwood	63.42	55	IAmb	IAmb	13 30 53.5		
	comp=Z,18nm,0.7s							
K57A	Scipio Center	63.53	54	IAmb	IAmb	13 30 54.3		
	comp=Z,12nm,0.6s							
H59A	Cadyville	63.53	51	P	P	13 30 52.1	-1.0	
	baz=317							
I58A	Old Forge	63.60	52	P	P	13 30 53.1	-0.5	
	baz=317							
J58A	Remsen	63.69	53	P	P	13 30 53.8	-0.3	
	baz=317							
SWET	Sewanee	63.84	66	IAmb	IAmb	13 30 55.8		
	comp=Z,23nm,1.3s							
F61A	St Evariste	63.84	48	P	P	13 30 54.1	-1.0	
	baz=318							
D62A	Allapoint, All	63.91	46	P	P	13 30 54.6	-0.9	
	baz=318,SNR=5.9							
D62A	Allapoint, All	63.91	46	IAmb	IAmb	13 30 55.9		
	comp=Z,11nm,0.8s							
J59A	Piesco	64.00	52	P	P	13 30 55.2	-1.0	
J59A					PcP	13 31 32.0	+0.8	
J59A				IAmb	IAmb	13 31 32.5		
	comp=Z,10nm,0.6s							
MCWV	Mont Chateau	64.02	58	P	P	13 30 57.1	+0.8	
	baz=316,SNR=7.8							
E62A	Clayton Lake	64.04	47	P	P	13 30 55.3	-1.1	
	baz=318							
E62A	Clayton Lake	64.04	47	IAmb	IAmb	13 32 07.2		
	comp=Z,14nm,1.4s							
I59A	Olmsteadville	64.07	52	P	P	13 30 56.2	-0.4	
	baz=317							
G61A	St-Isidore-de-	64.10	49	P	P	13 30 55.8	-1.0	
	baz=318							
NSS	Namsos	64.16	356	*e*P	P	13 30 56.6	-0.2	
BINY	Binghamton	64.18	54	P	P	13 30 57.5	+0.1	
	baz=317							
W50A	Signal Mountai	64.21	65	IAmb	IAmb	13 30 58.8		
	comp=Z,32nm,1.0s							
TZTN	Tazewell	64.23	63	P	P	13 30 58.5	+0.6	
	baz=316,SNR=7.8							
TZTN	Tazewell	64.23	63	IAmb	IAmb	13 30 59.4		
	comp=Z,20nm,0.8s							
O56A	Blue Knob Stat	64.25	57	P	P	13 30 57.8	-0.1	
	baz=317							
SSPA	Standing Stone	64.34	57	P	P	13 30 58.3	-0.1	
	baz=317							
SSPA	Standing Stone	64.34	57	P	P	13 30 58.3	-0.1	
SSPA				IAmb	IAmb	13 30 59.5		
	comp=Z,16nm,0.7s							
L58A	Harry Jones Me	64.36	54	P	P	13 30 58.7	+0.1	
	baz=317,SNR=7.5							
D63A	Stockholm	64.37	46	P	P	13 30 58.1	-0.4	
	baz=319							
F62A	Pittston Farm,	64.38	48	P	P	13 30 58.3	-0.3	
	baz=318							
G62A	West of Eustis	64.62	49	P	P	13 30 59.4	-0.8	
	baz=318,SNR=7.0							
G62A	West of Eustis	64.62	49	IAmb	IAmb	13 31 00.9		
	comp=Z,11nm,0.6s							
L59A	Walton	64.67	54	IAmb	IAmb	13 31 01.9		
	comp=Z,13nm,0.7s							
E63A	Oxbow	64.69	47	P	P	13 30 59.2	-1.5	
	baz=319							
E63A	Oxbow	64.69	47	IAmb	IAmb	13 31 00.4		
	comp=Z,12nm,0.8s							
J60A	Lant Hill Farm	64.70	52	P	P	13 31 00.1	-0.6	
	baz=318							
V52A	Sevierville	64.71	64	IAmb	IAmb	13 31 02.3		
	comp=Z,26nm,0.9s							
TKL	Tuckaleechee C	64.75	64	IAmb	IAmb	13 31 02.3		
	comp=Z,27nm,0.9s							
KSPA	Keystone Colle	64.76	55	IAmb	IAmb	13 31 02.4		
	comp=Z,8.8nm,0.5s							
LRAL	Lakeview Retre	64.79	68	P	P	13 31 01.0	-0.5	
	baz=316							
H62A	Milan	64.81	50	P	P	13 31 00.7	-0.8	
	baz=318,SNR=7.8							
R55A	Marlinton	64.86	60	IAmb	IAmb	13 31 03.5		
	comp=Z,29nm,0.9s							
F63A	Nahmakanta, Br	64.92	48	P	P	13 31 01.1	-1.0	
	baz=319							
E64A	Bridgewater	64.97	46	P	P	13 31 01.1	-1.3	
	baz=319,SNR=9.5							
KMI	Kunming	65.01	279	⇑P	P	13 31 03.8	+0.5	
KMI				pP	pP	13 31 18.5	+1.6	
KMI				sP	sP	13 31 25.0	+2.6	
KMI				pmax	pmax			
	comp=Z,24nm,1.0s							
SHLS	Shalkode	65.03	308	*e*P	P	13 31 00.7	-2.4	
	baz=308							
SHLS	Shalkode	65.03	308	*e*P	P	13 31 00.7	-2.4	
J61A	Chester	65.05	51	P	P	13 31 02.5	-0.5	
	baz=318							
F64A	Sherman	65.15	47	P	P	13 31 02.5	-1.1	
	baz=319,SNR=6.0							
F64A	Sherman	65.15	47	IAmb	IAmb	13 31 04.1		
	comp=Z,11nm,0.7s							
PKME	Peaks-Kenny Pk	65.17	48	P	P	13 31 03.5	-0.2	
	baz=319							
KPKS	Kokpek	65.18	309	*e*P	P	13 31 02.4	-1.6	
	baz=309							
KPKS	Kokpek	65.18	309	*e*P	P	13 31 02.4	-1.6	
N59A	State Game Lan	65.23	55	P	P	13 31 03.7	-0.6	
	baz=318,SNR=8.7							
N59A	State Game Lan	65.23	55	IAmb	IAmb	13 31 05.8		
	comp=Z,10nm,0.9s							
UZB	Uzynbulak	65.25	309	*e*P	P	13 31 03.5	-1.1	
	baz=309							
UZB	Uzynbulak	65.25	309	*e*P	P	13 31 03.4	-1.1	
G64A	Maxfield	65.42	48	P	P	13 31 04.2	-1.2	
	baz=319							
I63A	Otisfield	65.47	50	P	P	13 31 05.0	-0.7	
	baz=319							
BLA	Blacksburg	65.48	61	P	P	13 31 06.9	+0.9	
	baz=317,SNR=18							
J62A	Henniker	65.50	51	P	P	13 31 05.2	-0.7	
	baz=318							
SATY	Saty	65.62	309	*e*P	P	13 31 04.7	-2.3	
	baz=309							
SATY	Saty	65.62	309	*e*P	P	13 31 04.6	-2.3	
L61B	Northampton	65.65	52	P	P	13 31 06.7	-0.2	
	baz=318							
BG3	Lake Jocassee	65.70	64	IAmb	IAmb	13 31 09.4		
	comp=Z,19nm,0.7s							
KUU	Kurty	65.99	311	*e*P	P	13 31 07.2	-1.9	
	baz=311							
KUU	Kurty	65.99	311	*e*P	P	13 31 07.2	-1.9	
FINES	FINESS Array B	66.00	348	P	P	13 31 06.3	-2.5	
	comp=Z,1.4nm,0.5s,baz=18,slow=5.9,SNR=10							
FINES				PcP	PcP	13 31 38.4	-0.7	
	comp=Z,2.8nm,0.6s,baz=44,slow=4.2,SNR=6.7							
FINES				LR	LR	14 01 42.3		
	comp=Z,100nm,20.6s,baz=44,slow=38							
FINES	FINESS Array B	66.00	348	*i* P	P	13 31 08.1	-0.7	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	FINESS Array B	66.00	348	P	P	13 31 07.3	-1.5	
FINES					PcP	13 31 38.7	-0.4	
H65A	Eastbrook	66.08	48	P	P	13 31 09.3	-0.3	
	baz=320							
BTLS	Baital	66.18	313	*e*P	P	13 31 08.7	-1.6	
	baz=313							
BTLS	Baital	66.18	313	*e*P	P	13 31 08.7	-1.6	
MDOK	Medeo	66.20	310	*e*P	P	13 31 08.9	-1.7	
	baz=310							
MDOK	Medeo	66.20	310	*e*P	P	13 31 08.9	-1.7	
MOL	Molde	66.28	358	*e*P	P	13 31 10.4	-0.2	
R58B	Mineral	66.30	59	IAmb	IAmb	13 31 12.4		
	comp=Z,14nm,0.6s							
152A	Waverly Hall	66.38	67	IAmb	IAmb	13 31 11.9		
	comp=Z,9.4nm,0.7s							
H66A	Whiting	66.44	47	P	P	13 31 10.9	-1.0	
	baz=320							
KMSC	Kings Mountain	66.49	63	P	P	13 31 12.9	+0.5	
	baz=317,SNR=38							
GOGA	Godfrey	66.55	66	P	P	13 31 12.7	-0.2	
GOGA				pmax	pmax			
	comp=Z,31nm,1.0s							
GOGA	Godfrey	66.55	66	P	P	13 31 12.6	-0.2	
	baz=317,SNR=14							
GOGA	Godfrey	66.55	66	IAmb	IAmb	13 31 13.6		
	comp=Z,18nm,0.8s							
AKN	Aaknes	66.68	358	*e*P	P	13 31 14.2	+1.0	
DOMB	Dombas	66.76	357	*e*P	P	13 31 13.9	+0.1	
KDJ	Kajisay	66.92	309	IAmb	IAmb	13 31 18.2		
	comp=Z,6.3nm,0.6s							
SLVN	Son La	67.08	276	P	P	13 31 16.4	0.0	
SLVN				IAmb	IAmb	13 31 18.5		
	comp=Z,18nm,0.8s							
SGDS	Sogindy	67.13	312	*e*P	P	13 31 14.8	-1.6	
	baz=311							
SGDS	Sogindy	67.13	312	*e*P	P	13 31 14.8	-1.6	
T59A	Double "B" Far	67.21	59	IAmb	IAmb	13 31 18.3		
	comp=Z,23nm,0.7s							
BOOM	Boomskoye usch	67.24	310	IAmb	IAmb	13 31 18.2		
	comp=Z,6.4nm,0.6s							
NB2	NORSAR Subarra	67.68	356	P	P	13 31 19.0	-0.6	
	comp=Z,1.0nm,0.4s,baz=7.3,slow=6.9							
NB2	NORSAR Subarra	67.68	356	P	P	13 31 19.0	-0.6	
	baz=7.3,slow=6.9							
NOA	NORSAR Array B	67.68	356	P	P	13 31 18.8	-0.8	
	comp=Z,0.3nm,0.3s,baz=5.2,slow=6.4,SNR=15							
NOA				LR	LR	13 58 52.6		
	comp=Z,54nm,21.6s,baz=355,slow=34							
TAOE	Nuku Hiva Isla	67.82	141	*e*LR	LR	13 51 56.3		
	comp=Z,151nm,24.3s							
TAOE	Nuku Hiva Isla	67.82	141	*e*T	T	14 45 14.3		
	comp=Z,37nm,0.2s							
NC602	NORSAR Array S	67.97	356	*e*P	P	13 31 21.5	+0.1	
SWI	Sorong	68.08	238	P	P	13 31 23.3	+0.6	
SIJI	Sorong	68.09	238	P	P	13 31 21.8	-0.9	
	comp=Z,52nm,0.8s,baz=33,slow=8.8,SNR=14							
SKAR	Skarslia	68.15	357	*e*P	P	13 31 22.8	+0.2	
NHSC	New Hope	68.63	64	P	P	13 31 27.4	+1.5	
	baz=318,SNR=8.4							
LSA	Lhasa	68.65	291	P	P	13 31 28.4	+1.7	
LSA				pmax	pmax			
	comp=Z,25nm,0.6s							
ABKAR	Akbulak array	68.66	324	P	P	13 31 25.4	-0.5	
ABKAR	Akbulak array	68.66	324	IAmb	IAmb	13 31 27.3		
	comp=Z,7.8nm,0.6s							
KONO	Kongsberg	69.14	357	*e*P	P	13 31 28.9	+0.3	
KK31	Karatay Array	69.29	314	P	P	13 31 28.8	-1.1	
KK31				pmax	pmax			
	comp=Z,13nm,0.5s							
KK31	Karatay Array	69.29	314	P	P	13 31 28.8	-1.1	
KK31				IAmb	IAmb	13 31 30.2		
	comp=Z,13nm,0.5s							
KKAR	Karatay Array	69.29	314	P	P	13 31 29.0	-0.9	
KKAR	Karatay Array	69.29	314	P	P	13 31 29.0	-0.9	
KKAR	Karatay Array	69.29	314	IAmb	IAmb	13 31 30.2		
	comp=Z,13nm,0.5s							
KSH	Kashi	69.50	308	P	P	13 31 34.4	+3.0	
KSH				PcP	sP	13 31 50.6	-0.6	
KSH				S	S	13 40 33.8	-1.4	
KSH				sS	sS	13 40 58.8	-0.2	
KSH				pmax	pmax			
	comp=Z,13nm,0.8s							
KSH				pmax	pmax			
	comp=Z,75nm,3.5s							
KSH				LR	LR			
	comp=Z,160nm,4.1s							
KSH				LR	LR			
	comp=Z,120nm,4.3s							
KSH				LR	LR			
	comp=Z,100nm,3.6s							
NONG	Nongkai	69.99	274	P	P	13 31 34.8	+0.3	
	comp=Z,30nm,1.0s							
OBN	Obninsk	70.26	340	*e*P	P	13 31 36.8	+1.3	
OBN				*e*		13 31 55.8		
OBN				*e*		13 34 10.8		
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
SKNT	Sakolnakorn	70.28	273	P	P	13 31 36.6	+0.3	
	comp=Z,12nm,1.2s							
HOMB	Homborsund	70.56	357	*e*P	P	13 31 37.8	+0.5	
PMOR	Pomariorio Ree	70.78	150	*e*T	T	14 48 57.3		
	comp=Z,15nm,0.2s							
SHL	Shillong	71.28	288	P	P	13 31 42.4	-0.2	
SHL				pmax	pmax			
	comp=Z,84nm,1.0s							
KHON	Khomkaen	71.49	273	P	P	13 31 44.3	+0.7	
	comp=Z,2μmcomp=Z,73nm,1.0s							
LAMP	Lampang	71.83	277	P	P	13 31 47.2	+1.5	
	comp=Z,18nm,0.9s							
UTTA	Uttaradit	71.84	276	P	P	13 31 46.0	+0.3	
	comp=Z,651nmcomp=Z,93nm,0.7s							
CMMT	Chiang Mai	72.04	278	P	P	13 31 47.5	+0.6	
	comp=Z,7.7nm,0.9s							
CHTO	Chiang Mai	72.04	278	P	P	13 31 46.8	-0.1	
CHTO				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CHTO	Chiang Mai	72.04	278	P	P	13 31 47.6	+0.7	
	comp=Z,11nm,1.1s							
CM09	Chiang Mai Arr	72.29	277	P	P	13 31 49.2	+0.8	
	comp=Z,149nmcomp=Z,22nm,0.8s							
CMAR	Chiang Mai Arr	72.31	277	P	P	13 31 48.6	+0.1	
	comp=Z,14nm,0.7s,baz=27,slow=6.7,SNR=60							
CMAR				LR	LR	14 06 02.9		
	comp=Z,37nm,19.6s,baz=94,slow=38							
CMAR	Chiang Mai Arr	72.31	277	*i* P	P	13 31 48.9	+0.4	
CMAR				pmax	pmax			
	comp=Z,14nm,0.7s							
CMAR	Chiang Mai Arr	72.31	277	P	P	13 31 48.8	+0.2	
TOLI2	Tolitoli	72.31	249	P	P	13 31 47.8	-0.8	
TOLI2				IAmb	IAmb	13 31 49.3		
	comp=Z,19nm,0.8s							
CM02	Chiang Mai Arr	72.32	277	P	P	13 31 49.4	+0.8	
	comp=Z,179nmcomp=Z,24nm,0.8s							
CM15	Chiang Mai Arr	72.32	277	P	P	13 31 49.1	+0.5	
	comp=Z,147nmcomp=Z,19nm,0.8s							
CM01	Chiang Mai Arr	72.33	277	P	P	13 31 49.6	+0.9	
	comp=Z,25nm,0.8s							
CM04	Chiang Mai Arr	72.33	277	P	P	13 31 49.3	+0.6	
	comp=Z,190nmcomp=Z,28nm,0.8s							
CHAI	Chaiyaphum	72.34	273	P	P	13 31 49.2	+0.5	
	comp=Z,23nm,0.9s							
PHIT	Phitsanulok	72.35	276	P	P	13 31 49.7	+0.9	
	comp=Z,2μmcomp=Z,67nm,0.9s							
CM05	Chiang Mai Arr	72.35	277	P	P	13 31 49.4	+0.6	
	comp=Z,149nmcomp=Z,22nm,0.7s							
CM13	Chiang Mai Arr	72.36	277	P	P	13 31 49.5	+0.7	
	comp=Z,152nmcomp=Z,22nm,0.7s							
MNK	Minsk	72.44	345	*i* P	P	13 31 49.8	+1.0	
MNK				*i* *PP	pP	13 32 04.0	+0.9	
MNK				*i* *SP	sP	13 32 09.9	+1.1	
MNK				*i*		13 34 30.7		
MNK				*i* PPP	PPP	13 36 14.9		
MNK				*i* S	S	13 41 09.5	+1.1	
MNK				*i* *SS	sS	13 41 34.3	+1.8	
MNK				*i* SS	SS	13 45 49.5	+3.2	
MNK				pmax	pmax			
	comp=E,3.0nm,1.3s							
MNK				pmax	pmax			
	comp=N,24nm,1.3s							
MNK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
MNK				MLR	MLR			
	comp=Z,130nm,18.0s							
MNK				MLR	MLR			
	comp=N,463nm,23.0s							
MNK				MLR	MLR			
	comp=E,31nm,23.0s							
MNK	Minsk	72.44	345	*i* P	P	13 31 49.8	+1.1	
	comp=E,3.0nm,1.3s							
MNK				*i* P	P	13 31 49.8	+1.1	
	comp=N,24nm,1.3s							
MNK				*i* P	P	13 31 49.8	+1.1	
	comp=Z,9.0nm,0.6s,baz=196							
MNK				*i* pP	pP	13 32 04.1	+1.0	
MNK				*i* sP	sP	13 32 10.0	+1.2	
MNK				*i* PP	PP	13 34 30.8	+1.3	
MNK				*i* PPP	PPP	13 36 15.0		
MNK				*i* S	S	13 41 09.5	+1.1	
MNK				*i* sS	sS	13 41 34.3	+1.8	
MNK				*i* SS	SS	13 45 49.5	+3.2	
MNK				*i* SSS	SSS	13 49 09.8		
MNK				*i* LQ	LQ	13 58 47.0		
MNK				*i* LR	LR	14 03 10.0		
MNK				*i* LRM	MLR	14 06 00.4		
	comp=Z,130nm,17.8s							
MNK				*i* LRM	MLR	14 06 03.0		
	comp=N,463nm,22.9s							
MNK				*i* LRM	MLR	14 06 30.9		
	comp=E,31nm,22.9s							
GAR	Garm	72.63	311	IAmb	IAmb	13 31 50.8		
	comp=Z,28nm,0.7s							
PPT	Papeete	72.71	153	LR	LR	13 57 52.1		
	comp=Z,60nm,21.9s,baz=312,slow=31							
PPT2	Papeete2	72.73	153	*e*LR	LR	13 54 11.3		
	comp=Z,131nm,22.8s							
PPT2	Papeete2	72.73	153	*e*T	T	14 51 23.9		
	comp=Z,8.3nm,0.3s							
TIAR	Tiarei	72.76	153	*e*T	T	14 51 25.8		
	comp=Z,1.6nm,0.3s							
PAE	Paea	72.79	153	*e*T	T	14 51 29.0		
	comp=Z,3.2nm,0.4s							
MHMT	Maesarieng	73.15	278	P	P	13 31 54.5	+1.0	
	comp=Z,49nm,0.6s							
UMPA	Umpang Tak	74.06	276	P	P	13 32 00.8	+1.9	
	comp=Z,5μmcomp=Z,76nm,0.8s							
AKASG	Malin Array Be	75.87	343	P	P	13 32 06.6	-2.2	
	comp=Z,2.0nm,0.4s,baz=22,slow=5.9,SNR=9.6							
AKASG				LR	LR	14 08 54.8		
	comp=Z,63nm,20.0s,baz=350,slow=38							
AKASG	Malin Array Be	75.87	343	*i* P	P	13 32 07.8	-1.0	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
PHET	Kaeng Krachan	76.08	273	P	P	13 32 11.6	+1.0	
	comp=Z,37nm,0.8s							
KBL	Kabul	76.82	309	P	P	13 32 13.2	-1.6	
KBL				pmax	pmax			
	comp=Z,12nm,0.8s							
KBL	Kabul	76.82	309	P	P	13 32 13.2	-1.6	
KBL				IAmb	IAmb	13 32 14.1		
	comp=Z,12nm,0.8s							
CLL	Collm	77.29	354	*e*P	P	13 32 16.0	-0.8	
CLL	Collm	77.29	354	*e*P	P	13 32 16.0	-0.8	
CLL				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KAPI	Kappang	77.88	246	P	P	13 32 21.7	+1.1	
	comp=Z,25nm,1.1s,baz=59,slow=5.9,SNR=5.4							
TBI	Tubuai	78.23	155	*e*LR	LR	13 56 53.7		
	comp=Z,165nm,28.2s							
TBI	Tubuai	78.23	155	*e*T	T	14 58 16.5		
	comp=Z,6.2nm,0.3s							
MTN	Manton

SEKA	Sheki	80.11 328	P	P	13 32 31.9	-0.7
SOC	Sochi	80.22 334	eP	P	13 32 34.0	+1.0
SOC			e		13 35 36.5	
SOC			eS	S	13 42 36.2	+2.2
SOC			eSS	SS	13 47 50.9	+6.7
SOC			eSSS	SSS	13 51 12.5	
SOC			pmax	pmax		
	comp=Z,14nm,0.8s					
CONA	Conrad Observa	80.42 351	eP	P	13 32 34.1	-0.1
	comp=Z,2.5nm,0.9s					
MNGR	Mingechevir, A	80.54 328	P	P	13 32 34.2	-0.6
MOA	Molln	80.63 353	eP	P	13 32 35.4	+0.1
	comp=Z,5.0nm,1.6s					
DRGR		80.72 347	⇓P	P	13 32 31.8	-4.0
DRGR		80.72 347	⇓P	P	13 32 31.8	-4.0
GANJ	Ganja	80.91 328	P	P	13 32 36.1	-0.8
VRI	Vrincioaia	80.98 344	⇑P	P	13 32 35.6	-1.5
VRI	Vrincioaia	80.98 344	⇑P	P	13 32 35.6	-1.5
ARSA	Arzberg	81.12 352	eP	P	13 32 36.0	-1.8
	comp=Z,0.8nm,0.4s					
TLCR		81.25 342	⇑P	P	13 32 38.4	-0.1
TLCR		81.25 342	⇑P	P	13 32 38.4	-0.1
WATA	Walderalm	81.34 354	eP	P	13 32 39.1	-0.1
	comp=Z,2.8nm,1.0s					
MOTA	Moosalm	81.36 355	eP	P	13 32 35.4	-3.9
	comp=Z,2.2nm,0.8s					
WTTA	Wattenberg	81.41 354	eP	P	13 32 40.7	+1.1
	comp=Z,2.9nm,0.8s					
KBA	Koelnbreinsper	81.47 353	eP	P	13 32 39.5	-0.4
	comp=Z,4.3nm,0.5s					
KBA	Koelnbreinsper	81.47 353	P	P	13 32 39.7	-0.2
KBA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
MLR	Muntele Rosu	81.48 344	⇑P	P	13 32 36.1	-3.8
MLR	Muntele Rosu	81.48 344	⇑P	P	13 32 36.1	-3.8
DAVA	Damuels	81.48 355	eP	P	13 32 38.1	-1.9
	comp=Z,3.1nm,0.7s					
JURR	Jurilovca	81.64 342	⇓P	P	13 32 40.1	-0.5
TPGR	Topolog	81.64 342	⇑P	P	13 32 40.6	0.0
VOIR		81.68 345	⇑P	P	13 32 38.9	-2.0
VOIR		81.68 345	⇑P	P	13 32 38.9	-2.0
FETA	Feichten	81.70 355	eP	P	13 32 39.4	-1.7
	comp=Z,1.7nm,1.0s					
SOKA	Soboth	81.73 352	eP	P	13 32 38.2	-2.9
	comp=Z,2.7nm,0.7s					
LKRN	Lenkeran, Azer	81.81 326	P	P	13 32 41.1	-0.5
ABTA	Abfaltersbach	81.86 354	eP	P	13 32 37.9	-4.0
	comp=Z,0.6nm,0.4s					
OBKA	Obir	81.94 352	eP	P	13 32 41.8	-0.5
	comp=Z,2.7nm,0.6s					
BZS	Buzias	82.03 347	⇑P	P	13 32 38.1	-4.5
BZS	Buzias	82.03 347	⇑P	P	13 32 38.1	-4.5
TIRR	Tirgusor	82.03 342	⇓P	P	13 32 42.4	-0.2
TIRR	Tirgusor	82.03 342	⇓P	P	13 32 42.4	-0.2
GZR	Gura Zlata	82.08 346	⇓P	P	13 32 40.3	-2.7
GZR	Gura Zlata	82.08 346	⇓P	P	13 32 40.3	-2.7
NAX	Nakhchivan	82.51 328	P	P	13 32 44.7	-0.7
WRAB	Tennant Creek	82.97 226	⇑iP	P	13 32 47.6	-0.1
WRAB			pmax	pmax		
	comp=Z,9.0nm,0.9s					
WRA	Warramunga Arr	82.99 226	P	P	13 32 47.5	-0.4
	comp=Z,5.0nm,0.7s,baz=35,slow=6.0,SNR=54					
WRA			PKKPbc	PKKPbc	13 51 09.8	+1.1
	comp=Z,0.3nm,0.5s,baz=216,slow=2.1,SNR=4.5					
WRA	Warramunga Arr	82.99 226	iP	P	13 32 47.7	-0.1
WRA			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BR131	Keskin Array S	85.41 337	IAmb	IAmb	13 33 01.0	
	comp=Z,16nm,0.7s					
BRTR	Keskin Array B	85.41 337	P	P	13 32 59.5	-0.7
	comp=Z,9.8nm,0.6s,baz=38,slow=2.7,SNR=78					
BRTR			LR	LR	14 16 07.7	
	comp=Z,32nm,20.2s,baz=40,slow=39					
PDG	Podgorica	85.47 348	⇓P	P	13 32 58.3	-2.0
KNT	Kendrikon	86.20 345	P	P	13 33 03.7	-0.2
KNT			pmax	pmax		
	comp=Z,8.0nm,0.9s					
ASAR	Alice Springs	86.44 224	P	P	13 33 05.5	+0.3
	comp=Z,8.8nm,0.8s,baz=29,slow=4.6,SNR=64					
ASAR	Alice Springs	86.44 224	P	P	13 33 05.2	+0.1
AZU	Azuero	87.96 80	eP	P	13 33 13.3	+0.5
ESDC	Sonseca Array	89.03 6	P	P	13 33 16.1	-1.5
	comp=Z,1.3nm,0.8s,baz=352,slow=5.1,SNR=8.3					
STKA	Stephens Creek	90.71 214	P	P	13 33 25.2	0.0
	comp=Z,5.2nm,0.7s,baz=359,slow=7.5,SNR=14					
DBBC	Dabeiba	91.06 77	eP	P	13 33 33.4	+5.9
PSA00	Pilbara Seismi	91.42 236	P	P	13 33 27.7	-1.0
PSA00			IAmb	IAmb	13 33 29.1	
	comp=Z,5.5nm,0.8s					
CBOC	Ciudad Bolivar	92.08 78	eP	P	13 33 33.9	+1.6
PLMC	San Jos del P	92.67 79	eP	P	13 33 35.0	+0.1
PAMC	Pamplona, Colo	92.94 75	eP	P	13 33 37.2	+0.6
GUY2C	Guyana, Caldas	92.98 78	eP	P	13 33 37.8	+1.0
BARC	Barichara	93.23 75	eP	P	13 33 38.1	+0.5
YOTC	Yotoco, Valle	93.35 79	eP	P	13 33 39.5	+1.4
TOLC	Tolima	93.51 78	eP	P	13 33 41.0	+1.9
RUSC	La Rusia	93.84 76	eP	P	13 33 41.5	+0.7
ORTC	Ortega, Tolima	94.08 79	eP	P	13 33 41.7	+0.3
OTAV	Otavalo	94.97 83	ceP	P	13 33 48.0	+2.1
OTAV			pmax	pmax		
	comp=Z,2.0nm,0.8s					
TORD	Torodi Ar. Bea	115.66 2	PKP	PKiKP	13 39 04.2	-0.7
	comp=Z,2.9nm,0.6s,baz=346,slow=2.5,SNR=14					
TORD			PKKPbc	PKKPbc	13 49 36.4	+1.0
	comp=Z,0.9nm,0.9s,baz=157,slow=1.9,SNR=5.1					
H03N2	Juan Fernandez	119.91 107	T	T	15 50 51.8	
	baz=317,slow=77,SNR=99					
H03N1	Juan Fernandez	119.92 107	T	T	15 50 53.1	
	baz=317,slow=77,SNR=102					
H03N3	Juan Fernandez	119.92 107	T	T	15 50 53.2	
	baz=317,slow=77,SNR=104					
TIC	Toumodi	121.70 10	ePKP1	PKiKP	13 39 16.7	-0.1
KIC	Kosan Boka	122.01 9	ePKP1	PKiKP	13 39 17.6	+0.2
	comp=Z,13nm,0.6s					
LIC	Lamto	122.11 10	ePKP1	PKPdf	13 39 16.5	-0.9
	comp=Z,25nm,0.7s					
CPUP	Villa Florida	128.29 85	PKP	PKPdf	13 39 28.2	-0.5
	comp=Z,2.0nm,0.6s,baz=311,slow=1.8,SNR=3.9					
PLCA	Paso Flores	129.74 108	PKP	PKiKP	13 39 32.2	+0.2
	comp=Z,1.6nm,0.6s,baz=243,slow=4.5,SNR=4.5					
MATP	Matopo	143.29 318	PKhKP	PKPpre	13 39 53.4	
	comp=Z,3.7nm,0.4s,baz=0.8,slow=2.3,SNR=14					
TSUM	Tsumeb	145.91 335	PKPbc	PKPbc	13 40 01.8	-0.3
	comp=Z,12nm,0.9s,baz=347,slow=6.9,SNR=11					
TSUM	Tsumeb	145.91 335	PKPdf	PKPbc	13 40 02.1	-0.1
MAW	Mawson	147.34 218	PKPbc	PKPbc	13 40 05.5	+0.8
	comp=Z,21nm,0.9s,baz=90,slow=3.0,SNR=23					
LBTB	Lobatse	148.57 319	PKPbc	PKPbc	13 40 09.9	+0.4
	comp=Z,50nm,0.5s,baz=10,slow=1.6,SNR=102					
LBTB	Lobatse	148.57 319		PKPbc	13 40 10.1	+0.7
BOSA	Boshof	151.87 316	PKPbc	PKPbc	13 40 17.3	0.0
	comp=Z,14nm,0.4s,baz=26,slow=2.1,SNR=76					
BOSA			PKPab	PKPab	13 40 26.3	-0.3
	comp=Z,9.8nm,0.8s,baz=73,slow=4.7,SNR=5.6					
BOSA	Boshof	151.87 316		PKiKP	13 40 17.4	-0.2

JMA 18 13:28:20.8, 31°.56N×130°.61E, h9km, M0.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.14 248		P	Pg	13 28 24.1	+0.1
JSU				eS	Sg	13 28 26.4	+0.2
JSU	Suzuyama	0.14 248		P	Pg	13 28 23.8	-0.2
JZO	Okuchi	0.58 359		S	Sg	13 28 39.9	+0.3

*SLM **18** 13:30:28.8±1.8, 36°.265N±0°.010×89°.31W±0°.02, h4km±3km, Md2.6/22, mb_Lg2.3/16(NEIC), Error ellipse: s-maj=2.4km s-min=1.4km az=92.0*

NEIC 18 13:30:28.7±1.1, 36°.267N±0°.010×89°.29W±0°.02, h11km±2km, Error ellipse: s-maj=2.2km s-min=1.2km az=115.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLAT	Glass	0.01 69			Pg	13 30 29.8	-0.8
GLST	Glass	0.01 71			Pg	13 30 31.0	+0.4
FLPT	Flippin	0.14 351			Pg	13 30 32.1	0.0
FLPT					Sg	13 30 35.0	+0.5
WYBT	Wynnburg	0.18 296			Pg	13 30 32.6	-0.1
WYBT					Sg	13 30 35.8	+0.4
MIST	Miston	0.19 240			Pg	13 30 32.6	-0.2
MIST					Sg	13 30 36.1	+0.4
LNXT	Lenox	0.23 224			Pg	13 30 33.4	-0.1
LNXT					Sg	13 30 37.2	+0.4
RELT	Roellen	0.23 182			Pg	13 30 33.9	+0.3
PPLM	Point Pleasant	0.27 300			Pg	13 30 34.4	+0.2
PPLM					Sg	13 30 38.8	+0.8
HICK	Hickman	0.28 11			Sg	13 30 39.3	+1.1
HICK	Hickman	0.28 11		Pg	Pg	13 30 33.3	-1.1
FPST	Four Points	0.32 204			Pg	13 30 35.7	+0.6
FPST					Sg	13 30 40.3	+0.9
PENMO	Penman	0.33 304			Pg	13 30 35.3	0.0
PENMO					Sg	13 30 40.5	+0.9
POBM	Portage Bay	0.33 295			Pg	13 30 35.4	+0.1
POBM					Sg	13 30 40.6	+0.9
WALK	Watson Lake	0.34 324			Pg	13 30 35.6	+0.1
UTMT	University of	0.35 78			Pg	13 30 36.4	+0.6
HALT	Halls	0.36 186			Pg	13 30 35.9	+0.1
CWPT	Cottonwood Poi	0.37 226			Pg	13 30 36.2	+0.1
CWPT					Sg	13 30 41.8	+0.7
NMMO	New Madrid	0.38 327			Pg	13 30 36.5	+0.2
SJMO	Saint John's B	0.39 338			Pg	13 30 36.6	+0.2
SJMO					Sg	13 30 42.5	+0.9
MARMO	Marston	0.40 311			Pg	13 30 36.6	0.0
PGVM	Portageville	0.40 299			Pg	13 30 36.6	0.0
WADM	Wardell	0.42 284			Pg	13 30 36.9	0.0
CATM	Catron	0.45 321			Pg	13 30 37.6	0.0
EPRM	East Prairie	0.45 353			Pg	13 30 37.7	+0.1
EPRM					Sb	13 30 44.6	-0.9
EDIT	Edith	0.46 208			Pg	13 30 37.9	+0.2
BRGM	Braggadocio	0.46 262			Pg	13 30 37.7	0.0
HENM	Henderson Moun	0.47 342			Pg	13 30 38.0	+0.1
PEBM	Pemiscott Bayo	0.48 252			Pg	13 30 38.3	+0.1
PARMO	Parma	0.54 317			Pg	13 30 39.2	-0.1
TOPM	Tallapoosa	0.54 298			Pg	13 30 39.2	-0.1
CHNM	Channel	0.56 247			Pg	13 30 39.7	+0.1
COKM	Charter Oak	0.56 322			Pg	13 30 39.7	+0.1
GNAR	Gosnell	0.66 243			Pg	13 30 41.7	+0.2
GUAMO	Guam	0.76 325			Pg	13 30 43.1	-0.3
PBMO	Poplar Bluff	1.05 299		Pg	Pb	13 30 48.1	-0.7
LPAR	Lepanto	1.05 231			Pb	13 30 48.5	-0.4
CGM3	Cape Girardeau	1.07 344			Pb	13 30 48.5	-0.8
SFTN	Shelby Forest	1.08 213			Pb	13 30 48.9	-0.5
EBZ	Ebenezer Churc	1.12 182			Pn	13 30 51.1	+0.7
WVT	Waverly	1.19 96		Pg	Pb	13 30 50.5	-0.8
HBAR	Harrisburg	1.31 238			Pn	13 30 53.1	+0.1
S44A	Carbondale	1.42 1		IAmb_Lg		13 31 16.4	
	comp=Z,19nm,0.8s						
SIUC	Southern Illin	1.45 2			Sn	13 31 11.0	-2.8
SIUC				IAmb_Lg		13 31 18.1	
	comp=Z,17nm,0.8s						
LCAR	Lake Charles	1.52 263			Pn	13 30 55.8	-0.1
LCAR	Lake Charles	1.52 263		IAmb_Lg		13 31 18.6	
	comp=Z,7.1nm,0.8s						
PLAL	Pickwick Lake	1.62 142			Pn	13 30 57.2	0.0
OXF	Oxford	1.75 183		Pn	Pn	13 30 59.9	+0.8
T47A	Sharon Grove	1.90 67		Pn	Pn	13 31 02.0	+0.9
FCAR	Ozark Folk Cen	2.32 262			Pn	13 31 06.5	-0.5
Y45A	Yeager Farm, C	2.41 185		Pn	Pn	13 31 07.3	-0.7
MGMO	Mountain Grove	2.55 291		Pn	Pn	13 31 10.3	+0.2
MGMO				IAmb_Lg		13 31 51.2	
	comp=Z,7.1nm,0.7s						
X48A	Hartselle	2.58 134		IAmb_Lg		13 31 53.6	
	comp=Z,7.1nm,0.9s						
SWET	Sewanee	2.93 110			Pn	13 31 13.7	-1.6
SWET				IAmb_Lg		13 32 07.3	
	comp=Z,9.9nm,1.1s						
O44A	Mansfield	3.93 9		IAmb_Lg		13 32 40.4	
	comp=Z,11nm,0.8s						
N41A	Harden Midland	4.60 345		IAmb_Lg		13 33 02.6	
	comp=Z,9.5nm,0.8s						
R32A	Long Quarter,	7.80 289		IAmb_Lg		13 34 58.2	
	comp=Z,7.6nm,0.7s						

*NEIC **18** 13:40:19.4±1.3, 32°.29S±0°.08×177°.6W±0°.2, h10km±2km, mb4.6/11, Error ellipse: s-maj=28.6km s-min=5.3km az=115.0*

*IDC **18** 13:40:19.5±1.1, 32°.28S×177°.80W, h0km, mb4.2/6, mb1 4.4/8, mb1mx4.1/33, mbtmp4.2/8, ML4.2/2, Error ellipse: s-maj=34.4km s-min=24.4km az=142.0*

ISC 18 13:40:21.8±0.9, 32°.21S±0°.09×177°.9W±0°.2, h21km, n29, σ1°74/32, mb4.5/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.95 359		Pn	Pn	13 41 07.1	-0.3
	75nm,0.3s,baz=86,slow=22,SNR=1.6						
RAO				Sn	Sn	13 41 40.1	-2.1
	129nm,0.3s,baz=284,slow=23,SNR=2.2						
URZ	Urewera	7.29 213		Pn	Pn	13 42 04.9	-2.2
	1.4nm,0.3s,baz=351,slow=16,SNR=7.6						
URZ				Sn	Sn	13 43 27.1	-2.2
	2.6nm,0.3s,baz=80,slow=17,SNR=12						
BKZ	Black Stump Fm	8.31 212		Pn	Pn	13 42 20.4	-0.8
NIUE	Niue	14.91 31		Pn	Pn	13 43 48.6	-2.7
ARMA	Armidale	26.07 266		P	P	13 45 50.1	-4.0
CAN	Canberra	27.64 254		P	P	13 46 05.8	-2.3
STKA	Stephens Creek	34.21 260		P	P	13 47 08.6	+2.5
	3.5nm,1.0s,baz=93,slow=13,SNR=4.3						
STKA	Stephens Creek	34.21 260		P	P	13 47 08.2	+2.1
STKA				IAmb	IAmb	13 47 09.3	
	comp=Z,2.0nm,1.2s						
CTA	Charters Tower	34.23 282		P	P	13 47 09.2	+2.9
	comp=Z,8.4nm,1.0s,baz=107,slow=9.9,SNR=8.4						
CTAO	Charters Tower	34.23 282		P	P	13 47 06.9	+0.7
CTAO				IAmb	IAmb	13 47 10.1	
	comp=Z,12nm,1.0s						
BBOO	Buckleboo	38.61 256		P	P	13 47 43.6	0.0
BBOO				IAmb	IAmb	13 47 45.3	
	comp=Z,6.0nm,1.0s						
AS31	Alice Springs	43.15 269		P	P	13 48 20.2	-0.9
ASAR	Alice Springs	43.15 269		P	P	13 48 21.9	+0.8
	comp=Z,1.2nm,0.5s,baz=105,slow=7.6,SNR=11						
ASAR	Alice Springs	43.15 269		P	P	13 48 19.8	-1.3
WR0	Warramunga Arr	44.12 274		P	P	13 48 29.5	+0.6
WR0				IAmb	IAmb	13 48 34.6	
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	44.29 274		P	P	13 48 31.2	+0.9
WB2				IAmb	IAmb	13 48 35.4	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	44.30 274		P	P	13 48 30.8	+0.4
	comp=Z,2.3nm,0.3s,baz=111,slow=7.9,SNR=70						
WRA	Warramunga Arr	44.30 274		P	P	13 48 31.3	+0.9
WB0	Warramunga Arr	44.33 274		P	P	13 48 31.2	+0.6
WB0				IAmb	IAmb	13 48 32.7	
	comp=Z,13nm,1.2s						
FORT	Forrest	45.71 257		P	P	13 48 42.1	+0.7
FORT				IAmb	IAmb	13 48 42.6	
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	88.72 326		P	P	13 53 15.9	+2.4
	comp=Z,1.5nm,0.9s,baz=104,slow=6.3,SNR=4.4						
NVAR	Mina Array Bea	89.50 43		P	P	13 53 18.9	+1.4
	comp=Z,0.5nm,0.8s,baz=232,slow=6.8,SNR=2.4						
MKAR	Makanchi Array	119.00 309		PKP	PKiKP	13 59 09.7	+1.1
	comp=Z,0.4nm,0.8s,baz=95,slow=4.8,SNR=2.8						
KURBB	Kurchatov Arra	122.40 313		PKP	PKiKP	13 59 15.6	+0.4
	comp=Z,0.3nm,0.5s,baz=97,slow=1.8,SNR=2.4						
KBZ	Khabaz	146.18 302		PKPbc	PKPab	14 00 00.6	-0.4
	comp=Z,7.7nm,1.2s,baz=87,slow=4.7,SNR=5.2						
FINES	FINESS Array B	146.87 339		PKPbc	PKPab	14 00 02.1	-1.0
	comp=Z,0.8nm,0.4s,baz=54,slow=3.6,SNR=9.0						
AKASG	Malin Array Be	152.78 321		PKPbc	PKiKP	14 00 19.1	+2.2
	comp=Z,0.4nm,0.4s,baz=35,slow=2.3,SNR=6.4						
BRTR	Keskin Array B	153.51 295		PKPbc	PKiKP	14 00 19.8	+0.8
	comp=Z,0.5nm,0.7s,baz=132,slow=2.1,SNR=2.5						
BRTR				PKPab	PKPab	14 00 31.2	-0.1
	comp=Z,0.6nm,0.7s,baz=132,slow=1.8,SNR=3.6						
TORD	Torodi Ar. Bea	161.02 179		PKPab	PKPab	14 01 05.0	+1.1
	comp=Z,1.6nm,1.1s,baz=183,slow=3.1,SNR=4.0						

*IDC **18** 13:46:09.5±0.7, 10°.57S×165°.30E, h0km, mb4.1/19, mb1 4.3/20, mb1mx4.2/40, mbtmp4.2/20, ML4.7/1, MS3.6/21, Ms1 3.6/21, ms1mx3.6/31, Error ellipse: s-maj=20.9km s-min=15.5km az=105.0*

*NEIC **18** 13:46:11.7±2.4, 10°.54S±0°.09×165°.4E±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=18.1km s-min=14.7km az=63.0*

ISC 18 13:46:11.1±0.4, 10°.58S±0°.07×165°.35E±0°.07, h10km, n77, σ1°28/66, mb4.6/34, MS3.7/22, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	5.17 160		Pn	Pn	13 47 29.1	+0.5
HNR	Honiara	5.44 282		Pn	Pn	13 47 32.5	+0.1
	27nm,0.3s,baz=100,slow=19,SNR=19						
HNR				Sn	Sn	13 48 34.0	-1.1
	15nm,0.3s,baz=212,slow=6.7,SNR=1.1						
HNR				LR	LR	13 49 34.4	
	comp=Z,526nm,20.8s,baz=118,slow=38						
HNR	Honiara	5.44 282		Pn	Pn	13 47 34.1	+1.8
MARNC	Mare, Loyalty	11.14 167		Pn	Pn	13 48 52.3	+1.6
ONTNC	Ouen Toro	11.71 175		Pn	Pn	13 48 59.8	+1.3
OUENC	Ouen Island, N	11.86 173		Pn	Pn	13 49 01.2	+0.8
PINNC	Pines Island,	12.14 171			Pn	13 49 04.6	+0.4
TARA	Tarawa	14.04 33			Pn	13 49 29.6	-0.7
MSVF	Nonsavu	14.22 121		LR	LR	13 53 50.9	
	comp=Z,574nm,21.5s,baz=311,slow=32						
MSVF	Nonsavu	14.22 121		P	P	13 49 41.4	+1.2
EIDS	Eidsvold	19.99 221		P	Pn	13 50 46.2	+0.5
EIDS				IAmb	IAmb	13 50 47.5	
	comp=Z,85nm,1.2s						
CTA	Charters Tower	20.68 241		P	P	13 50 52.1	+0.6
	comp=Z,7.1nm,1.0s,baz=63,slow=11,SNR=3.2						
URZ	Urewera	29.51 161		P	P	13 52 16.2	+0.5
	comp=Z,15nm,0.8s,baz=325,slow=5.0,SNR=2.0						
STKA	Stephens Creek	30.52 222		P	P	13 52 24.4	-0.3
	comp=Z,7.4nm,0.8s,baz=37,slow=8.6,SNR=17						
STKA				LR	LR	14 03 54.7	
	comp=Z,312nm,18.3s,baz=27,slow=35						
STKA	Stephens Creek	30.52 222		P	P	13 52 23.7	-1.1
WRA	Warramunga Arr	31.28 249		P	P	13 52 29.5	-2.1
	comp=Z,0.8nm,0.8s,baz=82,slow=9.4,SNR=4.1						
GUMO	Guam	31.46 319		LR	LR	14 03 27.9	
	comp=Z,91nm,21.6s,baz=132,slow=33						
ASAR	Alice Springs	32.66 242		P	P	13 52 41.2	-2.5
	comp=Z,1.5nm,0.9s,baz=64,slow=10.0,SNR=8.4						
ASAR				PcP	PcP	13 55 29.4	-0.4
	comp=Z,0.2nm,0.3s,baz=64,slow=3.8,SNR=2.0						
ASAR	Alice Springs	32.66 242		P	P	13 52 42.0	-1.7
SIJI	Sorong	35.22 284		LR	LR	14 09 00.0	
	comp=Z,78nm,18.4s,baz=164,slow=39						
JCJ	Chichijima	43.68 329		LR	LR	14 09 02.4	
	comp=Z,78nm,21.3s,baz=111,slow=32						
PPT	Papeete	44.19 104		LR	LR	14 09 57.7	
	comp=Z,68nm,21.9s,baz=288,slow=32						
PPT2	Papeete2	44.19 104		eLQ	LQ	14 04 48.0	
	comp=Z,278nm,25.2s						
PPT2				eLR	LR	14 06 43.3	
	comp=Z,123nm,23.0s						
TBI	Tubuai	44.87 112		eLQ	LQ	14 05 04.9	
	comp=Z,304nm,32.2s						
TBI				eLR	LR	14 06 59.3	
	comp=Z,190nm,31.0s						
BNSI	Bone	45.24 274		P	P	13 54 31.0	+1.9
	comp=Z,43nm,1.1s						
KAPI	Kappang	45.48 273		LR	LR	14 14 21.5	
	comp=Z,58nm,18.5s,baz=97,slow=37						
MPSI	Mapaga	46.48 281		P	P	13 54 38.2	-0.7
	comp=Z,10nm,0.9s						
NWAO	Narrogin (SRO)	49.40 236		LR	LR	14 16 00.4	
	comp=Z,228nm,18.9s,baz=81,slow=36						
MJAR	Matsushiro Arr	53.38 333		P	P	13 55 30.4	-0.7
	comp=Z,0.9nm,0.6s,baz=166,slow=7.8,SNR=1.9						
MJAR				LR	LR	14 17 43.3	
	comp=Z,18nm,19.4s,baz=200,slow=36						
MAT	Matsushiro	53.38 333		P	P	13 55 30.0	-1.0
ASAJ	Asahikawa	58.23 341		P	P	13 56 06.3	+0.7
	comp=Z,3.8nm,0.9s,baz=179,slow=9.2,SNR=5.5						
KSRS	Korea Array	59.27 326		P	P	13 56 14.3	+1.2
	comp=Z,0.1nm,0.4s,baz=136,slow=6.3,SNR=1.4						
KSRS				LR	LR	14 20 42.6	
	comp=Z,20nm,18.6s,baz=126,slow=35						
NJ2	Nanjing	61.41 315		eP	P	13 56 29.4	+1.6
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
USRK	Ussuriysk Ar.	62.36 333		P	P	13 56 34.0	+0.1
	comp=Z,1.1nm,0.7s,baz=134,slow=8.2,SNR=6.4						
USRK				LR	LR	14 23 04.8	
	comp=Z,27nm,19.5s,baz=138,slow=36						
PETK	Petropavlovsk-	63.77 355		LR	LR	14 19 03.8	
	comp=Z,57nm,21.6s,baz=154,slow=31						
MNSI	Mandailing Nat	66.36 276		P	P	13 57 09.1	+8.3
KLR	Kul'dur	66.47 337		P	P	13 57 00.7	-0.1
	comp=Z,1.4nm,0.8s,baz=142,slow=7.1,SNR=2.8						
VNDA	Vanda	66.95 181		P	P	13 57 04.1	+0.6
	comp=Z,3.2nm,1.2s,baz=358,slow=9.0,SNR=4.5						
VNDA	Vanda	66.95 181		P	P	13 57 00.8	-2.7
BJI	Beijing	67.88 321		P	P	13 57 10.6	+0.7
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMI	Kunming	70.55 301		⇓P	P	13 57 29.4	+2.3
KMI				pP	sP	13 57 31.8	+1.7
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC	Hu-ho-hao-te	71.22 320		eP	P	13 57 32.5	+1.8
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,7.6s						
CMAR	Chiang Mai Arr	71.57 294		P	P	13 57 33.9	+0.7
	comp=Z,0.8nm,0.4s,baz=114,slow=5.1,SNR=8.5						
CMAR				LR	LR	14 29 59.5	
	comp=Z,17nm,19.0s,baz=105,slow=37						
SEY	Seymchan	73.97 354		P	P	13 57 45.1	-1.4
	com

ZALV			LR	LR	14 38 39.1
	comp=Z,26nm,22.0s,baz=68,slow=34				
MAKZ	**Makanchi**	**93.13 317**	P	**P**	**13 59 27.0 +1.4**
MAKZ			IAmb	IAmb	13 59 39.6
	comp=Z,5.8nm,1.4s				
PDAR	**Pinedale Array**	**93.52 47**	P	**P**	**13 59 26.5 -1.3**
	comp=Z,0.1nm,0.4s,baz=215,slow=5.5,SNR=2.4				
PDAR			LR	LR	14 34 30.7
	comp=Z,27nm,21.8s,baz=112,slow=31				
YKA	**Yellowknife Ar**	**94.74 27**	LR	LR	14 40 00.7
	comp=Z,46nm,18.1s,baz=0.0,slow=34				
TXAR	**Lajitas Array**	**95.95 61**	LR	LR	14 33 37.4
	comp=Z,33nm,21.7s,baz=0.0,slow=30				
SNAA	**Sanae**	**97.56 184**	P	**P**	**13 59 45.1 -0.3**
SNAA	**Sanae**	**97.56 184**	P	**P**	**13 59 43.5 -1.9**
VNA3	**Neumayer Olymp**	**98.30 182**	P	**P**	**13 59 47.4 -1.3**
ARCES	**ARCESS Array B**	**115.79 345**	PKP	**PKiKP**	**14 04 52.7 -0.8**
	comp=Z,1.0nm,0.8s,baz=46,slow=3.9,SNR=1.5				
KEST	**Kesra**	**146.81 323**	PKPbc	**PKPbc**	**14 05 54.5 +0.3**
	comp=Z,3.1nm,0.9s,baz=41,slow=2.1,SNR=8.2				
ESDC	**Sonseca Array**	**149.50 344**	PKPbc	**PKPbc**	**14 06 02.2 +1.0**
	comp=Z,0.3nm,0.6s,baz=4.3,slow=1.9,SNR=2.9				

MEX 18 13:49:59.7±0.3, 14°.49N×92°.47W, h67km±23km, MD3.7, Near coast of Chiapas

IDC ***18*** *13:56:12.8±0.8, 24°.13N×122°.50E, h0km, mb4.0/10, mb1 4.0/11, mb1mx3.7/47, mbtmp4.0/11, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/36, Error ellipse: s-maj=30.0km s-min=16.1km az=64.0*

JMA ***18*** *13:56:16.5±0.2, 23°.93N×122°.42E, h20km±4km, M3.6*

NIED ***18*** *13:56:16.5, 23°.93N×122°.42E, h20km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr5.09; Mθθ-5.39; Mφφ0.31; Mrθ3.89; Mθφ-0.65; Mφr2.19; Fault plane solution: M0 6.92000×1014 NP1:φs69.00000°, δ65.00000°, λ77.00000°. NP2:φs278.00000°, δ28.00000°, λ116.00000°.*

TAP ***18*** *13:56:17.0, 23°.99N×122°.42E, h25km, ML4.1, D*

ISC 18 13:56:15.1±1.0, 23°.93N±0°.02×122°.44E±0°.01, h14km±7km, n155, σ0°87/285, mb3.8/10, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.69**	**42**	P	**Pn**	**13 56 30.0**	**-0.5**
JYNG				S	**Sb**	**13 56 38.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.74**	**44**	P	**Pn**	**13 56 30.9**	**-0.3**
YOJ				eS	**Sb**	**13 56 40.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.74**	**44**	P	**Pn**	**13 56 30.8**	**-0.3**
	baz=57						
YOJ				S	**Sb**	**13 56 39.9**	**+0.2**
	baz=57						
EHP	**Heping Village**	**0.74**	**301**	eP	**Pn**	**13 56 31.0**	**-0.2**
	baz=297						
EHP				eS	**Sb**	**13 56 39.8**	**-0.1**
	baz=297						
HWA	**Hwalien**	**0.77**	**274**	eP	**Pn**	**13 56 31.1**	**-0.5**
	baz=256						
HWA				eS	**Sg**	**13 56 39.6**	**-0.5**
	baz=256						
TEYL	**Yanliau Villag**	**0.78**	**265**	eP	**Pb**	**13 56 30.9**	**+0.6**
	baz=250						
TEYL				eS	**Sb**	**13 56 41.1**	**+0.4**
	baz=250						
ETL	**Fush Village**	**0.78**	**287**	eP	**Pn**	**13 56 31.4**	**-0.4**
	baz=267						
ETL				eS	**Sb**	**13 56 41.7**	**+0.7**
	baz=267						
EWUT	**Wuta**	**0.79**	**310**	P	**Pn**	**13 56 31.3**	**-0.6**
	baz=307						
EWUT				S	**Sb**	**13 56 41.8**	**+0.5**
	baz=307						
NACB	**Ninganchiao**	**0.81**	**287**	P	**Pb**	**13 56 31.4**	**+0.4**
	baz=269						
NACB				eS	**Sg**	**13 56 41.4**	**-0.2**
	baz=269						
TEGC	**Jichi Village**	**0.85**	**255**	eP	**Pn**	**13 56 32.4**	**-0.4**
	baz=250						
TEGC				S	**Sb**	**13 56 44.2**	**+1.1**
	baz=250						
TWC	**Suao**	**0.86**	**321**	P	**Pb**	**13 56 32.0**	**+0.1**
	baz=311						
TWC				eS	**Sg**	**13 56 42.3**	**-0.9**
	baz=311						
ETM	**Tongmen**	**0.87**	**272**	eP	**Pg**	**13 56 32.0**	**0.0**
	baz=258						
ETM				eS	**Sb**	**13 56 43.9**	**+0.4**
	baz=258						
ETLH	**Xiulin Townshi**	**0.92**	**288**	eP	**Pb**	**13 56 33.2**	**+0.3**
	baz=271						
ETLH				eS	**Sg**	**13 56 44.7**	**-0.3**
	baz=271						
ESL	**Shilin**	**0.93**	**263**	eP	**Pg**	**13 56 33.1**	**0.0**
	baz=249						
ESL				eS	**Sg**	**13 56 45.3**	**0.0**
	baz=249						
NDS	**Dongshan**	**0.96**	**317**	P	**Pn**	**13 56 34.1**	**-0.1**
	baz=315						
NDS				S	**Sg**	**13 56 46.6**	**+0.3**
	baz=315						
EGFH	**Guangfu**	**0.96**	**254**	eP	**Pg**	**13 56 34.1**	**+0.3**
	baz=250						
EGFH				eS	**Sg**	**13 56 47.1**	**+0.6**
	baz=250						
HGSD	**Ruisui**	**1.03**	**245**	P	**Pg**	**13 56 35.0**	**0.0**
	baz=241						
HGSD				eS	**Sb**	**13 56 48.2**	**+0.1**
	baz=241						
ILA	**Ilan**	**1.04**	**323**	eP	**Pn**	**13 56 35.7**	**+0.4**
	baz=321						
ILA				eS	**Sn**	**13 56 49.7**	**0.0**
	baz=321						
TWE	**Neicheng**	**1.06**	**318**	eP	**Pn**	**13 56 35.8**	**+0.3**
	baz=317						
TWE				eS	**Sn**	**13 56 49.9**	**-0.2**
	baz=317						
ENTT	**Nioudou**	**1.07**	**312**	eP	**Pn**	**13 56 36.2**	**+0.5**
	baz=294						
ENTT				eS	**Sg**	**13 56 49.6**	**0.0**
	baz=294						
NTC	**Toucheng**	**1.07**	**329**	eP	**Pn**	**13 56 35.8**	**+0.1**
	baz=328						
NTC				eS	**Sn**	**13 56 50.1**	**-0.3**
	baz=328						
NDT	**Datong Townshi**	**1.08**	**308**	eP	**Pg**	**13 56 36.3**	**+0.3**
	baz=306						
NDT				eS	**Sg**	**13 56 49.6**	**-0.4**
	baz=306						
NNSB	**Datong**	**1.09**	**297**	*i* P	**Pn**	**13 56 36.2**	**+0.1**
	baz=282						
NNSB				S	**Sg**	**13 56 50.1**	**-0.2**
	baz=282						
NNSH	**Datong**	**1.09**	**297**	eP	**Pn**	**13 56 36.0**	**0.0**
	baz=282						
NNSH				eS	**Sn**	**13 56 50.6**	**-0.4**
	baz=282						
WHF	**Hehuan Shan**	**1.10**	**281**	P	**Pg**	**13 56 36.3**	**0.0**
	baz=264						
WHF				eS	**Sb**	**13 56 49.8**	**-0.7**
	baz=264						
NNS	**Nan Shan**	**1.10**	**298**	P	**Pg**	**13 56 36.3**	**-0.1**
	baz=282						
NNS				eS	**Sn**	**13 56 51.1**	**-0.2**
	baz=282						
EHY	**Hungye**	**1.11**	**248**	eP	**Pb**	**13 56 36.3**	**+0.2**
	baz=258						
EHY				eS	**Sb**	**13 56 50.5**	**0.0**
	baz=258						
FUSS	**Fushou**	**1.14**	**286**	P	**Pg**	**13 56 37.0**	**-0.1**
	baz=282						
FUSS				eS	**Sb**	**13 56 51.7**	**+0.1**
	baz=282						
TWB1	**Santiao Chiao**	**1.15**	**339**	eP	**Pg**	**13 56 36.9**	**-0.3**
	baz=357						
TWB1				eS	**Sn**	**13 56 52.8**	**+0.5**
	baz=357						
OWD	**Renai**	**1.16**	**271**	eP	**Pb**	**13 56 37.0**	**0.0**
	baz=267						
OWD				eS	**Sb**	**13 56 51.2**	**-0.8**
	baz=267						
CHGB	**Renai**	**1.17**	**277**	P	**Pg**	**13 56 37.4**	**-0.2**
	baz=261						
CHGB				eS	**Sb**	**13 56 51.3**	**-1.0**
	baz=261						
TIPB	**Shuangxi**	**1.18**	**332**	P	**Pg**	**13 56 37.6**	**-0.3**
	baz=331						
TIPB				eS	**Sn**	**13 56 52.8**	**-0.3**
	baz=331						
YULB	**Yu-li**	**1.18**	**243**	P	**Pb**	**13 56 37.6**	**+0.3**
	baz=239						
YULB				S	**Sb**	**13 56 52.4**	**0.0**
	baz=239						
TWF1	**Yuli**	**1.20**	**241**	eP	**Pb**	**13 56 38.0**	**+0.4**
	baz=237						
TWF1				eS	**Sb**	**13 56 53.5**	**+0.5**
	baz=237						
NWLT	**Wulai**	**1.20**	**315**	eP	**Pg**	**13 56 38.4**	**+0.1**
	baz=313						
NWLT				eS	**Sg**	**13 56 53.6**	**-0.4**
	baz=313						
TDCB	**Techi**	**1.22**	**286**	eP	**Pb**	**13 56 38.1**	**+0.1**
	baz=270						
TDCB				eS	**Sn**	**13 56 54.0**	**-0.2**
	baz=270						
YHNB	**Yeheng**	**1.22**	**307**	P	**Pg**	**13 56 38.2**	**-0.4**
	baz=305						
YHNB				S	**Sg**	**13 56 54.5**	**0.0**
	baz=305						
NSK	**Sanguang**	**1.24**	**307**	eP	**Pb**	**13 56 38.4**	**+0.1**
	baz=304						
NSK				eS	**Sb**	**13 56 54.1**	**0.0**
	baz=304						
IRIF	**Iriomote-Funau**	**1.24**	**71**	P	**Pg**	**13 56 39.2**	**+0.1**
IRIF				eS	**Sg**	**13 56 57.1**	**+1.8**
HATJ	**Hateruma jima**	**1.25**	**84**	P	**Pg**	**13 56 39.8**	**+0.6**
HATJ				S	**Sg**	**13 56 56.8**	**+1.2**
FULB	**Fuli**	**1.28**	**236**	eP	**Pn**	**13 56 38.9**	**+0.2**
	baz=220						
FULB				eS	**Sb**	**13 56 55.1**	**-0.3**
	baz=220						
NWF	**Wu-fen Shan**	**1.28**	**332**	eP	**Pb**	**13 56 39.1**	**0.0**
	baz=331						
NWF				eS	**Sg**	**13 56 56.3**	**-0.3**
	baz=331						
WFSB	**Wu-fen Shan**	**1.28**	**332**	eP	**Pb**	**13 56 39.1**	**0.0**
	baz=331						
WFSB				eS	**Sn**	**13 56 55.4**	**-0.2**
	baz=331						
CHKT	**Chengkung**	**1.29**	**230**	eP	**Pn**	**13 56 38.4**	**-0.3**
	baz=226						
CHKT				eS	**Sb**	**13 56 53.7**	**-1.9**
	baz=226						
TWA	**Mucha**	**1.30**	**323**	eP	**Pg**	**13 56 40.7**	**+0.5**
	baz=322						
TWA				eS	**Sg**	**13 56 57.6**	**+0.4**
	baz=322						
NHDH	**Xindian Distri**	**1.32**	**321**	eP	**Pg**	**13 56 40.0**	**-0.6**
	baz=319						
NHDH				eS	**Sg**	**13 56 58.3**	**+0.4**
	baz=319						
TATO	**Taipei**	**1.35**	**320**	P	**Pb**	**13 56 40.4**	**+0.1**
	baz=302						
TATO				S	**Sg**	**13 56 58.5**	**-0.3**
	baz=302						
TNOU	**National Taiwa**	**1.36**	**333**	eP	**Pb**	**13 56 40.0**	**-0.3**
	baz=333						
TNOU				eS	**Sg**	**13 56 58.1**	**-0.8**
	baz=333						
SSLB	**Suanglung**	**1.37**	**264**	eP	**Pb**	**13 56 40.5**	**0.0**
	baz=260						
SSLB				eS	**Sn**	**13 56 57.4**	**-0.4**
	baz=260						
TAP1	**Taipei**	**1.38**	**323**	eS	**Sg**	**13 56 59.6**	**-0.2**
	baz=321						
DPDB	**Guoxing**	**1.39**	**274**	eP	**Pb**	**13 56 41.0**	**+0.1**
	baz=262						
DPDB				eS	**Sb**	**13 56 59.2**	**+0.6**
	baz=262						
ECS	**Chishang**	**1.40**	**234**	eP	**Pb**	**13 56 41.2**	**+0.2**
	baz=220						
ECS				eS	**Sn**	**13 56 58.3**	**-0.2**
	baz=220						
WCS	**Beigang Elemen**	**1.41**	**275**	eP	**Pb**	**13 56 41.3**	**+0.2**
	baz=263						
WCS				eS	**Sb**	**13 56 58.9**	**0.0**
	baz=263						
WHP	**Taichung City**	**1.41**	**284**	eP	**Pg**	**13 56 41.7**	**-0.5**
	baz=269						
WHP				eS	**Sb**	**13 56 59.6**	**+0.5**
	baz=269						
SMLT	**Sun Moon Lake**	**1.41**	**268**	eP	**Pb**	**13 56 41.3**	**0.0**
	baz=254						
EDH	**Donghe**	**1.42**	**228**	eP	**Pn**	**13 56 40.9**	**+0.4**
	baz=215						
EDH				eS	**Sn**	**13 56 57.1**	**-1.8**
	baz=215						
YM01	**YM01**	**1.45**	**327**	eP	**Pb**	**13 56 41.4**	**-0.4**
	baz=326						
YM01				eS	**Sg**	**13 57 01.2**	**-0.5**
	baz=326						
TYC	**Yuchr**	**1.45**	**269**	eP	**Pb**	**13 56 41.7**	**-0.2**
	baz=265						
TYC				eS	**Sn**	**13 56 60.0**	**+0.2**
	baz=265						
JKRS	**Kuro-shima**	**1.46**	**78**	P	**Pg**	**13 56 42.8**	**-0.5**
JKRS				S	**Sg**	**13 57 02.2**	**-0.1**
YM08	**YM08**	**1.47**	**328**	eP	**Pb**	**13 56 42.1**	**-0.2**
	baz=327						
YM08				eS	**Sg**	**13 57 02.9**	**+0.3**
	baz=327						
LIOB	**Emei**	**1.48**	**299**	eP	**Pg**	**13 56 43.2**	**-0.4**
	baz=296						
LIOB				eS	**Sg**	**13 57 02.0**	**-0.9**
	baz=296						
NSTT	**Nanjuang**	**1.49**	**298**	eP	**Pg**	**13 56 43.2**	**-0.6**
	baz=283						
NSTT				eS	**Sg**	**13 57 02.4**	**-0.7**
	baz=283						
TWS1	**Kuangyinshan**	**1.49**	**321**	eP	**Pb**	**13 56 42.8**	**+0.2**
	baz=338						
TWS1				eS	**Sg**	**13 57 02.5**	**-0.7**
	baz=338						
ELDTW	**Lidau**	**1.50**	**241**	P	**Pn**	**13 56 42.0**	**+0.2**
	baz=237						
ELDTW				eS	**Sn**	**13 56 59.5**	**-1.7**
	baz=237						
NTST	**Danshui**	**1.52**	**324**	eP	**Pb**	**13 56 43.1**	**-0.1**
	baz=338						
LDUT	**Ludao**	**1.54**	**216**	eP	**Pn**	**13 56 42.0**	**-0.1**
	baz=213						
LDUT				S	**Sn**	**13 57 00.1**	**-1.8**
	baz=213						
NCU	**National Centr**	**1.54**	**312**	eS	**Sg**	**13 57 04.2**	**-0.6**
	baz=310						
NCUH	**Zhongli**	**1.54**	**312**	eP	**Pb**	**13 56 43.5**	**0.0**
	baz=310						
NCUH				eS	**Sg**	**13 57 03.9**	**-0.9**
	baz=310						
ALS	**Alishan**	**1.56**	**255**	P	**Pb**	**13 56 44.0**	**+0.1**
	baz=251						
ALS				eS	**Sn**	**13 57 02.6**	**-0.2**
	baz=251						
WJS	**Zhushan**	**1.57**	**266**	eP	**Pb**	**13 56 44.7**	**+0.7**
	baz=263						
WJS				eS	**Sg**	**13 57 05.3**	**-0.5**
	baz=263						
LONT	**Longtian**	**1.58**	**230**	eP	**Pn**	**13 56 43.2**	**+0.5**
	baz=240						
LONT				eS	**Sn**	**13 57 01.9**	**-1.0**
	baz=240						
TWQ1	**Liyutan**	**1.58**	**286**	P	**Pg**	**13 56 44.8**	**-0.7**
	baz=282						
TWQ1				eS	**Sg**	**13 57 05.3**	**-0.7**
	baz=282						
WWF	**Wufeng**	**1.60**	**274**	eP	**Pg**	**13 56 45.6**	**-0.2**
	baz=265						
WWF				eS	**Sg**	**13 57 06.6**	**0.0**
	baz=265						
NSY	**Sanyi**	**1.61**	**288**	eP	**Pb**	**13 56 45.1**	**+0.5**
	baz=284						
NSY				eS	**Sb**	**13 57 04.4**	**-0.4**
	baz=284						
WNT	**Mingjian**	**1.61**	**268**	eP	**Pb**	**13 56 45.2**	**+0.6**
	baz=265						
WNT				eS	**Sg**	**13 57 06.3**	**-0.7**
	baz=265						
JIJ	**Ishigaki jima**	**1.61**	**74**	P	**Pb**	**13 56 44.1**	**-0.6**
JIJ				eS	**Sb**	**13 57 04.5**	**-0.4**
WNT1	**Nantou City**	**1.61**	**269**	eP	**Pg**	**13 56 45.9**	**-0.2**
	baz=266						
WNT1				eS	**Sg**	**13 57 07.5**	**+0.4**
	baz=266						
NMLH	**Miaoli**	**1.62**	**292**	eP	**Pb**	**13 56 45.4**	**+0.5**
	baz=288						
NMLH				eS	**Sg**	**13 57 06.3**	**-1.1**
	baz=288						
TCU	**Taichung**	**1.63**	**278**	eP	**Pg**	**13 56 45.9**	**-0.6**
	baz=274						
TCU				eS	**Sb**	**13 57 06.3**	**+1.0**
	baz=274						
CHN5	**Tsauling**	**1.65**	**259**	eP	**Pb**	**13 56 45.7**	**+0.3**
	baz=244						
CHN5				eS	**Sb**	**13 57 06.5**	**+0.4**
	baz=244						
TWGBT	**Beinan**	**1.67**	**229**	eP	**Pn**	**13 56 44.3**	**+0.3**
	baz=238						
TWGBT				eS	**Sn**	**13 57 04.3**	**-1.0**
	baz=238						
TWG	**Pinlang**	**1.68**	**229**	eP	**Pn**	**13 56 44.5**	**+0.5**
	baz=238						
TWG				eS	**Sn**	**13 57 04.6**	**-0.8**
	baz=238						
WDJ	**Dajia District**	**1.70**	**284**	eP	**Pb**	**13 56 46.5**	**+0.4**
	baz=281						
WDJ				eS	**Sb**	**13 57 07.9**	**+0.6**
	baz=281						
WYL	**Yuanlin Townsh**	**1.70**	**271**	eS	**Sg**	**13 57 09.1**	**-0.9**
	baz=267						
STYH	**Taoyuan**	**1.71**	**244**	eP	**Pb**	**13 56 46.0**	**-0.3**
	baz=231						
STYH				eS	**Sn**	**13 57 06.5**	**+0.4**
	baz=231						
STYT	**Tauyuan**	**1.73**	**244**	eP	**Pb**	**13 56 46.2**	**-0.4**
	baz=231						
STYT				eS	**Sn**	**13 57 07.6**	**+0.9**
	baz=231						
WCHH	**Zhanghua**	**1.73**	**275**	eP	**Pb**	**13 56 46.8**	**+0.2**
	baz=271						
WCHH				eS	**Sb**	**13 57 09.5**	**+1.2**
	baz=271						
WGK	**Gukeng**	**1.74**	**262**	eP	**Pb**	**13 56 47.2**	**+0.4**
	baz=258						
WGK				eS	**Sb**	**13 57 09.7**	**+1.1**
	baz=258						
WDLH	**Douliu**	**1.76**	**262**	eP	**Pb**	**13 56 47.4**	**+0.2**
	baz=259						
WDLH				eS	**Sb**	**13 57 10.1**	**+0.9**
	baz=259						
TPUB	**Ta-pu**	**1.78**	**250**	eP	**Pb**	**13 56 47.5**	**0.0**
	baz=246						
TPUB				eS	**Sb**	**13 57 09.6**	**-0.1**
	baz=246						
CHN4	**Tsaushan**	**1.79**	**252**	eP	**Pb**	**13 56 48.3**	**+0.5**
	baz=248						
CHN4				eS	**Sb**	**13 57 11.0**	**+1.0**
	baz=248						
WTP	**Ta-pu**	**1.81**	**248**	eP	**Pb**	**13 56 48.0**	**-0.1**
	baz=234						
WTP				eS	**Sb**	**13 57 11.3**	**+0.7**
	baz=234						
JISG	**Ishigakijimahi**	**1.83**	**69**	P	**Pb**	**13 56 47.0**	**-1.3**
JISG				eS	**Sn**	**13 57 09.4**	**+0.4**
CHN2	**Minshiung**	**1.85**	**258**	eP	**Pb**	**13 56 49.0**	**+0.4**
	baz=254						
CHN2				eS	**Sg**	**13 57 13.6**	**-0.9**
	baz=254						
WRL	**Guolierlin Hig**	**1.89**	**269**	eP	**Pb**	**13 56 49.2**	**-0.2**
	baz=280						
WRL				eS	**Sb**	**13 57 13.4**	**+0.5**
	baz=280						
SLGT	**Liugui**	**1.90**	**241**	eP	**Pb**	**13 56 49.6**	**+0.1**
	baz=229						
SLGT				eS	**Sb**	**13 57 12.8**	**-0.2**
	baz=229						
WTK	**Tuku**	**1.90**	**263**	eP	**Pb**	**13 56 49.7**	**+0.2**
	baz=259						
WTK				eS	**Sb**	**13 57 13.7**	**+0.6**
	baz=259						
CHY	**Chiayi**	**1.90**	**257**	eP	**Pb**	**13 56 49.6**	**+0.1**
	baz=253						
CHY				eS	**Sb**	**13 57 13.4**	**+0.3**
	baz=253						
SGST	**Jiashian**	**1.91**	**244**	P	**Pb**	**13 56 49.0**	**-0.6**
	baz=231						
SGST				S	**Sn**	**13 57 12.4**	**+1.4**
	baz=231						
CHN1	**Nanshi**	**1.91**	**247**	eP	**Pb**	**13 56 50.0**	**+0.2**
	baz=244						
CHN1				eS	**Sb**	**13 57 14.5**	**+1.1**
	baz=244						
ECL	**Taimali**	**1.91**	**226**	eS	**Sn**	**13 57 09.0**	**-2.1**
	baz=223						
TWK	**Hsinying**	**1.91**	**250**	eP	**Pb**	**13 56 49.8**	**0.0**
	baz=246						
TWK				eS	**Sb**	**13 57 14.1**	**+0.5**
	baz=246						
SNST	**Tainan City**	**1.92**	**249**	eP	**Pb**	**13 56 50.2**	**+0.3**
	baz=245						
SNST				eS	**Sb**	**13 57 14.6**	**+0.9**
	baz=245						
SSD	**Sandimen**	**2.04**	**235**	eP	**Pb**	**13 56 51.6**	**-0.3**
	baz=226						
SSD				eS	**Sn**	**13 57 15.8**	**+1.5**
	baz=226						
TSMG	**Majia**	**2.05**	**234**	eP	**Pb**	**13 56 51.9**	**-0.3**
	baz=225						
TSMG				eS	**Sn**	**13 57 16.2**	**+1.5**
	baz=225						
WSF	**Szhu**	**2.05**	**262**	eP	**Pb**	**13 56 51.7**	**-0.5**
	baz=259						
WSF				eS	**Sb**	**13 57 17.8**	**+0.1**
	baz=259						
LAY	**Lan-yu**	**2.06**	**204**	eP	**Pn**	**13 56 49.1**	**-0.1**
	baz=202						
LAY				eS	**Sn**	**13 57 11.6**	**-3.2**
	baz=202						
ICHU	**Yijhu**	**2.06**	**254**	eP	**Pb**	**13 56 51.8**	**-0.6**
	baz=251						
ICHU				eS	**Sb**	**13 57 17.3**	**-0.6**
	baz=251						
SCST	**Cishan**	**2.07**	**240**	eP	**Pb**	**13 56 53.2**	**+0.7**
	baz=225						
SCST				eS	**Sb**	**13 57 19.1**	**+1.0**
	baz=225						
CHN3	**Shinhua**	**2.09**	**246**	eP	**Pb**	**13 56 53.3**	**+0.5**
	baz=243						
CHN3				eS	**Sg**	**13 57 20.9**	**-1.4**
	baz=243						
TAW	**Tawu**	**2.12**	**223**	eP	**Pb**	**13 56 53.2**	**-0.1**
	baz=230						
TAW				eS	**Sn**	**13 57 14.2**	**-2.0**
	baz=230						
MASBT	**Mashibuluo**	**2.12**	**232**	eP	**Pn**	**13 56 51.8**	**+1.7**
	baz=223						
MASBT				eS	**Sn**	**13 57 16.4**	**+0.1**
	baz=223						
CHN8	**Yiju**	**2.13**	**255**	eP	**Pb**	**13 56 52.5**	**-0.9**
	baz=251						
CHN8				eS	**Sb**	**13 57 19.3**	**-0.5**
	baz=251						
EAST	**Anshuo**	**2.13**	**224**	eP	**Pn**	**13 56 50.8**	**+0.5**
	baz=221						
EAST				eS	**Sn**	**13 57 13.5**	**-3.1**
	baz=221						
SGLT	**Jiouru**	**2.16**	**237**	eP	**Pb**	**13 56 55.0**	**+1.0**
	baz=233						
SGLT				eS	**Sg**	**13 57 23.0**	**-1.5**
	baz=233						
TWM1	**Shoushan**	**2.16**	**240**	eP	**Pb**	**13 56 55.1**	**+1.1**
	baz=237						
TWM1				eS	**Sg**	**13 57 23.9**	**-0.6**
	baz=237						
JTJ	**Tarama**	**2.18**	**71**	P	**Pb**	**13 56 52.5**	**-1.8**
JTJ				eS	**Sn**	**13 57 18.9**	**+1.1**
TSPT	**Pingtung City**	**2.18**	**235**	eS	**Sb**	**13 57 22.4**	**+1.1**
	baz=233						
SCLT	**Jiali**	**2.20**	**250**	eS	**Sb**	**13 57 21.5**	**-0.2**
	baz=247						
SSPT	**Xinbi**	**2.25**	**230**	eP	**Pb**	**13 56 55.6**	**+0.1**
	baz=222						
SSPT				eS	**Sb**	**13 57 23.1**	**0.0**
	baz=222						
SNJT	**Kaohsiung City**	**2.26**	**239**	eP	**Pb**	**13 56 55.8**	**0.0**
	baz=236						
SNJT				eS	**Sb**	**13 57 25.0**	**+1.4**
	baz=236						
SLIU	**Shizi**	**2.28**	**222**	eP	**Pn**	**13 56 52.6**	**+0.2**
	baz=228						
SLIU				eS	**Sn**	**13 57 19.3**	**-1.0**
	baz=228						

SCZT	**Fangliau**	**2.29 228**	*e*P	**Pb**	**13 56 54.8**	**-1.3**
	baz=217					
SCZT			*e*S	**Sb**	**13 57 23.3**	**-1.0**
	baz=217					
WLCH	**Liuqiu**	**2.47 231**	*e*P	**Pb**	**13 57 00.4**	**+1.2**
	baz=243					
WLCH			*e*S	**Sg**	**13 57 32.5**	**-2.0**
	baz=243					
HEN	**Hengchun**	**2.48 220**	*e*P	**Pb**	**13 56 58.3**	**-1.1**
	baz=217					
HEN			*e*S	**Sn**	**13 57 25.5**	**+0.4**
	baz=217					
TWKBT	**Hengchun**	**2.49 217**	*e*P	**Pn**	**13 56 56.2**	**+1.0**
	baz=215					
TWKBT			*e*S	**Sn**	**13 57 26.1**	**+0.7**
	baz=215					
TWK1	**Hengchun**	**2.49 218**	*e*S	**Sn**	**13 57 25.6**	**+0.2**
	baz=215					
WDGT	**Dungji**	**2.64 256**	P	**Pn**	**13 56 58.7**	**+1.5**
	baz=252					
WDGT			*e*S	**Sn**	**13 57 29.1**	**0.0**
	baz=252					
PHUB	**P'eng-hu**	**2.66 262**	*e*P	**Pn**	**13 56 59.3**	**+1.7**
	baz=258					
PHUB			*e*S	**Sn**	**13 57 30.0**	**+0.3**
	baz=258					
PNG	**Penghu**	**2.67 263**	*e*P	**Pn**	**13 56 59.1**	**+1.4**
	baz=259					
PNG			*e*S	**Sn**	**13 57 30.9**	**+1.0**
	baz=259					
JMJ	**Miyako jima 2**	**2.75 71**	*e*P	**Pn**	**13 56 59.0**	**+0.2**
	baz=73					
VCHM	**Qimei**	**2.86 256**	*e*P	**Pn**	**13 57 01.6**	**+1.4**
	baz=252					
VCHM			*e*S	**Sn**	**13 57 34.4**	**-0.1**
	baz=252					
VWUC	**VWUC**	**2.92 292**	*e*P	**Pn**	**13 57 01.2**	**0.0**
	baz=287					
VWUC			*e*S	**Sn**	**13 57 33.9**	**-2.2**
	baz=287					
MSUT	**Lienchiang**	**3.19 315**	*e*P	**Pn**	**13 57 04.2**	**-0.7**
	baz=312					
PTMZ	**Houxiangcun**	**3.22 291**	*e*P	**Pn**	**13 57 06.6**	**+1.3**
	baz=286					
PTMZ			*e*S	**Sn**	**13 57 42.7**	**-0.8**
	baz=286					
LYJJ	**Jianjiangzhen**	**3.56 318**	*e*P	**Pn**	**13 57 09.8**	**-0.2**
	baz=314					
LYJJ			*e*S	**Sn**	**13 57 51.4**	**-0.5**
	baz=314					
XPSS	**Dashiqiu**	**3.61 326**	*e*P	**Pn**	**13 57 10.7**	**0.0**
	baz=333					
KNM	**Kinmen**	**3.69 278**	*e*P	**Pn**	**13 57 13.7**	**+1.9**
	baz=273					
KNM			*e*S	**Sn**	**13 57 55.5**	**+0.4**
	baz=273					
KNMB	**Chin-men Tao**	**3.74 279**	*e*P	**Pn**	**13 57 12.8**	**+0.4**
	baz=274					
KNMB			*e*S	**Sn**	**13 57 53.4**	**-2.8**
	baz=274					
MHZQ	**Yeshan**	**3.77 306**	*e*P	**Pn**	**13 57 12.5**	**-0.4**
	baz=301					
MHZQ			*e*S	**Sn**	**13 57 54.7**	**-2.4**
	baz=301					
AXDP	**Jialang**	**4.19 284**	*e*P	**Pn**	**13 57 19.2**	**+0.6**
	baz=279					
AXDP			*e*S	**Sn**	**13 58 05.8**	**-1.6**
	baz=279					
ZPLA	**Ao Xicun**	**4.29 271**	*e*P	**Pn**	**13 57 20.6**	**+0.6**
	baz=267					
ZPLA			*e*S	**Sn**	**13 58 07.6**	**-2.4**
	baz=267					
JOW	**Kunigami**	**6.01 60**	Pn	**Pn**	**13 57 43.2**	**-0.5**
	1.4nm,0.3s,baz=154,slow=16,SNR=9.3					
KSRS	**Korea Array**	**14.27 18**	Pn	**Pn**	**13 59 38.7**	**+1.9**
	0.1nm,0.3s,baz=199,slow=14,SNR=6.5					
KSRS			LR	LR	14 05 16.2	
	comp=Z,34nm,19.2s,baz=230,slow=39					
ASAJ	**Asahikawa**	**26.04 34**	P	**P**	**14 01 44.9**	**-3.0**
	1.9nm,0.9s,baz=238,slow=8.3,SNR=4.9					
SIJI	**Sorong**	**26.10 160**	P	**P**	**14 01 49.5**	**+0.8**
	4.7nm,0.4s,baz=323,slow=20,SNR=1.6					
SONM	**Songino Array**	**27.06 336**	P	**P**	**14 01 55.8**	**-1.4**
	1.3nm,0.8s,baz=150,slow=10,SNR=5.7					
MKAR	**Makanchi Array**	**39.32 316**	P	**P**	**14 03 43.0**	**-0.7**
	1.3nm,0.5s,baz=101,slow=8.0,SNR=16					
ZALV	**Zalesovo Beam**	**41.08 327**	P	**P**	**14 03 56.4**	**-1.9**
	2.6nm,0.6s,baz=108,slow=9.1,SNR=6.8					
KURBB	**Kurchatov Arra**	**43.04 320**	P	**P**	**14 04 13.1**	**-1.2**
	0.6nm,0.4s,baz=110,slow=8.0,SNR=5.9					
WRA	**Warramunga Arr**	**45.12 164**	P	**P**	**14 04 32.0**	**+0.7**
	0.4nm,0.6s,baz=347,slow=9.2,SNR=5.6					
ASAR	**Alice Springs**	**48.61 166**	P	**P**	**14 05 00.2**	**+1.7**
	0.5nm,0.6s,baz=344,slow=7.1,SNR=10					
FINES	**FINESS Array B**	**72.24 330**	P	**P**	**14 07 38.9**	**-0.7**
	0.6nm,0.7s,baz=49,slow=5.8,SNR=3.8					
BRTR	**Keskin Array B**	**74.25 307**	P	**P**	**14 07 51.8**	**-0.3**
	1.1nm,0.8s,baz=111,slow=8.2,SNR=7.0					
OHR	**Ohrid**	**82.84 312**	*e*Pg	**P**	**14 08 42.9**	**+3.5**

*IDC **18** 14:12:16.5±5.4, 18°.80S×167°.87E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/25, mbtmp3.6/4, Error ellipse: s-maj=206.3km s-min=39.5km az=146.0*
*NOU **18** 14:12:46.4, 19°.73S×167°.19E, h0km, ML3.4, Vanuatu Islands Region*
ISC 18 14:12:19.1±1.5,**18°.7S**±0°.1×**167°.7E**±0°.2,**h10**km,**n11**, σ0**°74/9**,**mb3.6**/4,**Vanuatu Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.11 191**	P	Pg	14 13 06.2	+6.7
MARNC	**Mare, Loyalty**	**2.79 173**	P	Pg	14 13 19.8	+7.2
YATNC	**Mamie plateau,**	**3.42 192**	P	**Pg**	**14 13 25.1**	**+0.4**
NOUC	**Port Laguerre**	**3.62 201**	P	**Pg**	**14 13 27.9**	**-0.6**
ONTNC	**Ouen Toro**	**3.77 197**	P	**Pg**	**14 13 30.5**	**-0.8**
OUENC	**Ouen Island, N**	**3.78 192**	P	**Pg**	**14 13 31.5**	**-0.1**
PINNC	**Pines Island,**	**3.90 183**	P	**Pg**	**14 13 34.0**	**+0.1**
WRA	**Warramunga Arr**	**31.45 262**	P	**P**	**14 18 40.7**	**-0.3**
	0.8nm,0.9s,baz=83,slow=7.5,SNR=5.9					
ASAR	**Alice Springs**	**31.82 255**	P	**P**	**14 18 45.0**	**+0.7**
	0.5nm,0.6s,baz=81,slow=8.7,SNR=14					
CMAR	**Chiang Mai Arr**	**76.93 295**	P	**P**	**14 24 13.1**	**+0.9**
	0.4nm,0.5s,baz=126,slow=4.7,SNR=2.9					
ILAR	**Eielson Array**	**90.17 18**	P	**P**	**14 25 18.3**	**-0.9**
	0.3nm,0.8s,baz=224,slow=5.0,SNR=2.5					

*JMA **18** 14:38:06.3±0.1, 24°.81N×121°.79E, h107km±1km, M2.5*
*TAP **18** 14:38:06.4, 24°.89N×121°.76E, h110km, ML3.7, A*
ISC 18 14:38:06.6±1.5,**24°.86N**±0°.04×**121°.81E**±0°.03,**h108**km±7km, **n102**, σ0**°75**/193,**Taiwan**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.02 109**	P	**Pn**	**14 38 21.3**	**-0.1**
	baz=117					
NTC			*e*S	**Sn**	**14 38 32.1**	**-0.3**
	baz=117					
ILA	**Ilan**	**0.11 212**	P	**Pn**	**14 38 22.3**	**+0.8**
	baz=182					
ILA			*e*S	**Sn**	**14 38 33.6**	**+1.0**
	baz=182					
TIPB	**Shuangxi**	**0.11 6**	P	**Pn**	**14 38 21.6**	**0.0**
	baz=34					
TIPB			*e*S	**Sn**	**14 38 32.5**	**-0.3**
	baz=34					
TWE	**Neicheng**	**0.19 224**	*i* P	**Pn**	**14 38 22.0**	**+0.3**
	baz=202					
TWE			S	**Sn**	**14 38 34.0**	**+1.1**
	baz=202					
NWF	**Wu-fen Shan**	**0.21 352**	P	**Pn**	**14 38 21.9**	**0.0**
	baz=5.0					
NWF			*e*S	**Sn**	**14 38 32.7**	**-0.6**
	baz=5.0					
WFSB	**Wu-fen Shan**	**0.21 352**	P	**Pn**	**14 38 21.9**	**+0.1**
	baz=5.0					
WFSB			*e*S	**Sn**	**14 38 33.3**	**+0.2**
	baz=5.0					
TWB1	**Santiao Chiao**	**0.22 47**	*e*P	**Pn**	**14 38 21.8**	**0.0**
	baz=60					
TWB1			*e*S	**Sn**	**14 38 33.1**	**0.0**
	baz=60					
TWA	**Mucha**	**0.24 300**	*i* P	**Pn**	**14 38 21.5**	**-0.3**
	baz=300					
TWA			S	**Sn**	**14 38 33.4**	**+0.1**
	baz=300					
NDS	**Dongshan**	**0.24 201**	*i* P	**Pn**	**14 38 22.7**	**+0.9**
	baz=189					
NDS			*i* S	**Sn**	**14 38 34.2**	**+1.0**
	baz=189					
TWC	**Suao**	**0.25 172**	*i* P	**Pn**	**14 38 22.4**	**+0.5**
	baz=162					
TWC			S	**Sn**	**14 38 35.3**	**+2.0**
	baz=162					
NHDH	**Xindian Distri**	**0.28 292**	P	**Pn**	**14 38 22.0**	**0.0**
	baz=289					
NHDH			*e*S	**Sn**	**14 38 33.2**	**-0.3**
	baz=289					
TNOU	**National Taiwa**	**0.29 353**	P	**Pn**	**14 38 21.9**	**-0.1**
TNOU			*e*S	**Sn**	**14 38 33.1**	**-0.5**
NWLT	**Wulai**	**0.29 254**	*i* P	**Pn**	**14 38 21.8**	**-0.3**
	baz=245					
NWLT			S	**Sn**	**14 38 33.0**	**-0.6**
	baz=245					
ENTT	**Nioudou**	**0.31 226**	*i* P	**Pn**	**14 38 22.2**	**0.0**
	baz=214					
TATO	**Taipei**	**0.32 291**	*i* P	**Pn**	**14 38 21.8**	**-0.3**
	baz=289					
TATO			S	**Sn**	**14 38 33.4**	**-0.4**
	baz=289					
TAP1	**Taipei**	**0.32 304**	*e*S	**Sn**	**14 38 33.6**	**-0.2**
	baz=303					
TAP	**Taipei**	**0.33 303**	*e*S	**Sn**	**14 38 33.8**	**-0.1**
	baz=303					
YM01	**YM01**	**0.36 322**	P	**Pn**	**14 38 22.3**	**-0.1**
	baz=326					
YM01			*e*S	**Sn**	**14 38 34.1**	**-0.2**
	baz=326					
BACT	**New Taipei Cit**	**0.36 292**	P	**Pn**	**14 38 23.1**	**+0.8**
	baz=290					
BACT			*e*S	**Sn**	**14 38 32.7**	**-1.5**
	baz=290					
NDT	**Datong Townshi**	**0.37 227**	*i* P	**Pn**	**14 38 22.6**	**+0.1**
	baz=218					
NDT			S	**Sn**	**14 38 34.5**	**+0.2**
	baz=218					
YM08	**YM08**	**0.38 328**	P	**Pn**	**14 38 22.5**	**0.0**
	baz=332					
YM08			*e*S	**Sn**	**14 38 33.3**	**-1.2**
	baz=332					
EWUT	**Wuta**	**0.41 184**	*i* P	**Pn**	**14 38 23.5**	**+0.8**
	baz=178					
EWUT			S	**Sn**	**14 38 36.7**	**+2.1**
	baz=178					
TWS1	**Kuangyinshan**	**0.43 304**	P	**Pn**	**14 38 22.9**	**+0.1**
	baz=304					
TWS1			*e*S	**Sn**	**14 38 35.1**	**+0.2**
	baz=304					
YHNB	**Yeheng**	**0.44 245**	*i* P	**Pn**	**14 38 22.6**	**-0.3**
	baz=238					
YHNB			*i* S	**Sn**	**14 38 33.4**	**-1.8**
	baz=238					
NTST	**Danshui**	**0.45 313**	P	**Pn**	**14 38 22.3**	**-0.5**
	baz=314					
NTST			*e*S	**Sn**	**14 38 35.0**	**0.0**
	baz=314					
NSK	**Sanguang**	**0.45 246**	*i* P	**Pn**	**14 38 22.4**	**-0.5**
	baz=239					
NSK			*i* S	**Sn**	**14 38 34.3**	**-0.9**
	baz=239					
TWY	**Chenhua**	**0.46 335**	P	**Pn**	**14 38 23.0**	**+0.1**
	baz=340					
TWY			*e*S	**Sn**	**14 38 35.6**	**+0.4**
	baz=340					
NTY	**Taoyuan**	**0.49 287**	P	**Pn**	**14 38 22.8**	**-0.3**
	baz=284					
NTY			*e*S	**Sn**	**14 38 34.9**	**-0.6**
	baz=284					
NNS	**Nan Shan**	**0.58 224**	*i* P	**Pn**	**14 38 23.8**	**-0.1**
	baz=217					
NNS			*i* S	**Sn**	**14 38 36.7**	**-0.2**
	baz=217					
NCU	**National Centr**	**0.58 281**	P	**Pn**	**14 38 23.7**	**0.0**
	baz=278					
NCU			*e*S	**Sn**	**14 38 36.6**	**0.0**
	baz=278					
NCUH	**Zhongli**	**0.58 281**	P	**Pn**	**14 38 23.9**	**+0.1**
	baz=278					
NCUH			*e*S	**Sn**	**14 38 36.3**	**-0.4**
	baz=278					
NNSB	**Datong**	**0.58 222**	*i* P	**Pn**	**14 38 24.0**	**+0.1**
	baz=217					
NNSB			*i* S	**Sn**	**14 38 36.1**	**-0.8**
	baz=217					
NNSH	**Datong**	**0.58 222**	*i* P	**Pn**	**14 38 24.2**	**+0.2**
	baz=217					
NNSH			S	**Sn**	**14 38 36.7**	**-0.2**
	baz=217					
NJD	**Zhudong**	**0.67 260**	P	**Pn**	**14 38 24.7**	**+0.2**
	baz=256					
NJD			*e*S	**Sn**	**14 38 38.2**	**+0.3**
	baz=256					
NHW	**Xinwu Township**	**0.71 282**	P	**Pn**	**14 38 24.9**	**+0.1**
	baz=280					
NHW			*e*S	**Sn**	**14 38 38.9**	**+0.4**
	baz=280					
NACB	**Ninganchiao**	**0.71 196**	P	**Pn**	**14 38 23.9**	**-1.0**
	baz=192					
NACB			*e*S	**Sn**	**14 38 37.8**	**-0.7**
	baz=192					
ETLH	**Xiulin Townshi**	**0.72 205**	P	**Pn**	**14 38 24.4**	**-0.6**
	baz=200					
ETLH			*e*S	**Sn**	**14 38 38.7**	**-0.1**
	baz=200					
ETL	**Fush Village**	**0.72 194**	P	**Pn**	**14 38 24.7**	**-0.2**
	baz=189					
ETL			*e*S	**Sn**	**14 38 38.5**	**-0.2**
	baz=189					
HSN1	**Hsinchu**	**0.73 264**	*e*P	**Pn**	**14 38 24.6**	**-0.3**
	baz=260					
HSN1			*e*S	**Sn**	**14 38 39.0**	**+0.3**
	baz=260					
LIOB	**Emei**	**0.76 254**	*e*P	**Pn**	**14 38 25.2**	**0.0**
	baz=250					
LIOB			*e*S	**Sn**	**14 38 38.0**	**-1.3**
	baz=250					
SBCB	**Hsinchu**	**0.76 265**	P	**Pn**	**14 38 25.4**	**+0.2**
	baz=262					
SBCB			*e*S	**Sn**	**14 38 39.5**	**+0.3**
	baz=262					
HSN	**Hsinchu**	**0.77 266**	P	**Pn**	**14 38 25.1**	**-0.2**
	baz=265					
HSN			*e*S	**Sn**	**14 38 38.6**	**-0.8**
	baz=265					
NSTT	**Nanjuang**	**0.77 253**	*e*P	**Pn**	**14 38 25.3**	**0.0**
	baz=249					
NSTT			*e*S	**Sn**	**14 38 38.8**	**-0.7**
	baz=249					
FUSS	**Fushou**	**0.80 220**	P	**Pn**	**14 38 26.6**	**+0.7**
	baz=216					
FUSS			*e*S	**Sn**	**14 38 40.8**	**+0.4**
	baz=216					
PCYT	**Pengchaiyu**	**0.80 17**	*e*P	**Pn**	**14 38 25.6**	**-0.1**
	baz=21					
PCYT			*e*S	**Sn**	**14 38 40.7**	**+0.8**
	baz=21					
TWD	**Chiawan**	**0.80 194**	*e*P	**Pn**	**14 38 25.1**	**-0.6**
	baz=190					
TWD			*e*S	**Sn**	**14 38 39.0**	**-1.0**
	baz=190					
TDCB	**Techi**	**0.85 225**	P	**Pn**	**14 38 26.7**	**+0.4**
	baz=220					
TDCB			*e*S	**Sn**	**14 38 40.9**	**-0.2**
	baz=220					
WHF	**Hehuan Shan**	**0.87 215**	*e*P	**Pn**	**14 38 26.9**	**+0.1**
	baz=211					
WHF			*e*S	**Sn**	**14 38 42.2**	**+0.4**
	baz=211					
ETM	**Tongmen**	**0.94 198**	*e*P	**Pn**	**14 38 26.5**	**-0.5**
	baz=194					
ETM			*e*S	**Sn**	**14 38 41.5**	**-0.8**
	baz=194					
WHP	**Taichung City**	**0.98 234**	P	**Pn**	**14 38 27.9**	**+0.4**
	baz=230					
WHP			*e*S	**Sn**	**14 38 43.0**	**-0.3**
	baz=230					
NMLH	**Miaoli**	**0.98 251**	P	**Pn**	**14 38 27.5**	**0.0**
	baz=248					
NMLH			*e*S	**Sn**	**14 38 42.9**	**-0.2**
	baz=248					
CHGB	**Renai**	**0.99 216**	P	**Pn**	**14 38 28.5**	**+0.8**
	baz=213					
CHGB			*e*S	**Sn**	**14 38 44.3**	**+0.7**
	baz=213					
TEYL	**Yanliau Villag**	**1.01 191**	*e*S	**Sn**	**14 38 45.3**	**+1.7**
	baz=188					
NSY	**Sanyi**	**1.05 245**	*e*P	**Pn**	**14 38 28.6**	**+0.4**
	baz=242					
NSY			*e*S	**Sn**	**14 38 44.8**	**+0.3**
	baz=242					
OWD	**Renai**	**1.07 213**	*e*P	**Pn**	**14 38 28.9**	**+0.3**
	baz=209					
OWD			*e*S	**Sn**	**14 38 45.8**	**+0.7**
	baz=209					
TWQ1	**Liyutan**	**1.07 242**	*e*P	**Pn**	**14 38 28.3**	**-0.1**
	baz=239					
TWQ1			*e*S	**Sn**	**14 38 44.9**	**0.0**
	baz=239					
ESL	**Shilin**	**1.10 198**	*e*P	**Pn**	**14 38 27.4**	**-1.3**
	baz=195					
ESL			*e*S	**Sn**	**14 38 44.5**	**-0.8**
	baz=195					
JYNG	**Yonagunijimaku**	**1.11 111**	P	**Pn**	**14 38 28.8**	**+0.1**
JYNG			S	**Sn**	**14 38 45.2**	**-0.2**
WCS	**Beigang Elemen**	**1.15 226**	*e*P	**Pn**	**14 38 29.7**	**+0.5**
	baz=223					
WCS			*e*S	**Sn**	**14 38 46.3**	**0.0**
	baz=223					
YOJ	**Yonaguni jima**	**1.16 110**	P	**Pn**	**14 38 29.4**	**+0.1**
YOJ			*e*S	**Sn**	**14 38 45.9**	**-0.6**
YOJ	**Yonaguni jima**	**1.16 110**	*e*P	**Pn**	**14 38 28.3**	**-1.0**
	baz=110					
EGFH	**Guangfu**	**1.24 197**	*e*P	**Pn**	**14 38 29.6**	**-0.6**
	baz=194					
EGFH			*e*S	**Sn**	**14 38 46.0**	**-2.1**
	baz=194					
SMLT	**Sun Moon Lake**	**1.28 221**	*e*P	**Pn**	**14 38 31.4**	**+0.6**
	baz=217					
SMLT			*e*S	**Sn**	**14 38 49.6**	**+0.5**
	baz=217					
TYC	**Yuchr**	**1.29 223**	*e*P	**Pn**	**14 38 31.4**	**+0.6**
	baz=219					
TYC			*e*S	**Sn**	**14 38 49.2**	**+0.1**
	baz=219					
WWF	**Wufeng**	**1.30 232**	*e*S	**Sn**	**14 38 50.0**	**+0.7**
	baz=229					
SSLB	**Suanglung**	**1.32 216**	P	**Pn**	**14 38 31.7**	**+0.5**
	baz=213					
SSLB			*e*S	**Sn**	**14 38 50.0**	**+0.1**
	baz=213					
HGSD	**Ruisui**	**1.41 195**	*e*P	**Pn**	**14 38 32.7**	**+0.5**
	baz=192					
HGSD			*e*S	**Sn**	**14 38 53.0**	**+1.4**
	baz=192					
EHY	**Hungye**	**1.42 198**	*e*P	**Pn**	**14 38 32.6**	**+0.3**
	baz=195					
EHY			*e*S	**Sn**	**14 38 50.6**	**-1.3**
	baz=195					
WJS	**Zhushan**	**1.43 224**	*e*P	**Pn**	**14 38 32.9**	**+0.5**
	baz=221					
WJS			*e*S	**Sn**	**14 38 52.3**	**+0.2**
	baz=221					
YULB	**Yu-li**	**1.54 198**	*e*P	**Pn**	**14 38 33.3**	**-0.5**
	baz=195					
YULB			*e*S	**Sn**	**14 38 53.6**	**-0.7**
	baz=195					
TWF1	**Yuli**	**1.57 198**	*e*P	**Pn**	**14 38 33.9**	**-0.3**
	baz=195					
TWF1			*e*S	**Sn**	**14 38 54.1**	**-1.0**
	baz=195					
ALS	**Alishan**	**1.63 215**	*e*P	**Pn**	**14 38 35.7**	**+0.5**
	baz=212					
ALS			*e*S	**Sn**	**14 38 57.4**	**+0.7**
	baz=212					
CHN5	**Tsauling**	**1.63 220**	*e*P	**Pn**	**14 38 35.5**	**+0.5**
	baz=217					
CHN5			*e*S	**Sn**	**14 38 55.9**	**-0.6**
	baz=217					
WGK	**Gukeng**	**1.63 225**	*e*S	**Sn**	**14 38 57.0**	**+0.6**
	baz=222					
FULB	**Fuli**	**1.72 196**	*e*P	**Pn**	**14 38 36.3**	**+0.3**
	baz=194					
FULB			*e*S	**Sn**	**14 38 59.9**	**+1.5**
	baz=194					
CHKT	**Chengkung**	**1.80 193**	*e*S	**Sn**	**14 38 59.2**	**-0.9**
	baz=191					
ELDTW	**Lidau**	**1.81 204**	*e*P	**Pn**	**14 38 38.0**	**+0.7**
	baz=201					
ELDTW			*e*S	**Sn**	**14 39 01.0**	**+0.4**
	baz=201					
IRIF	**Iriomote-Funau**	**1.82 106**	P	**Pn**	**14 38 37.5**	**+0.3**
IRIF			*e*S	**Sn**	**14 39 00.1**	**-0.5**
CHN4	**Tsaushan**	**1.87 217**	*e*P	**Pn**	**14 38 38.1**	**+0.3**
	baz=214					
CHN4			*e*S	**Sn**	**14 39 03.3**	**+1.6**
	baz=214					
TPUB	**Ta-pu**	**1.89 215**	*e*P	**Pn**	**14 38 38.3**	**+0.1**
	baz=213					
TPUB			*e*S	**Sn**	**14 39 02.2**	**0.0**
	baz=213					
STYH	**Taoyuan**	**1.93 210**	*e*P	**Pn**	**14 38 38.9**	**+0.3**
	baz=207					
STYH			*e*S	**Sn**	**14 39 04.3**	**+1.3**
	baz=207					
EDH	**Donghe**	**1.94 194**	*e*P	**Pn**	**14 38 38.4**	**-0.3**
	baz=192					
EDH			*e*S	**Sn**	**14 39 02.9**	**-0.2**
	baz=192					
WTP	**Ta-pu**	**1.94 215**	*e*P	**Pn**	**14 38 38.6**	**-0.2**
	baz=212					
WTP			*e*S	**Sn**	**14 39 03.4**	**0.0**
	baz=212					
STYT	**Tauyuan**	**1.94 210**	*e*P	**Pn**	**14 38 39.1**	**+0.2**
	baz=207					
STYT			*e*S	**Sn**	**14 39 04.1**	**+0.6**
	baz=207					
HATJ	**Hateruma jima**	**1.98 113**	*e*S	**Sn**	**14 39 04.4**	**+0.2**
TWK	**Hsinying**	**2.00 218**	*e*P	**Pn**	**14 38 39.2**	**-0.3**
	baz=215					
TWK			*e*S	**Sn**	**14 39 04.9**	**+0.3**
	baz=215					
SNST	**Tainan City**	**2.03 217**	*e*S	**Sn**	**14 39 04.8**	**-0.5**
	baz=214					
CHN1	**Nanshi**	**2.04 215**	*e*P	**Pn**	**14 38 39.9**	**-0.1**
	baz=213					
CHN1			*e*S	**Sn**	**14 39 05.3**	**-0.3**
	baz=213					
LONT	**Longtian**	**2.04 198**	*e*P	**Pn**	**14 38 39.5**	**-0.6**
	baz=196					
LONT			*e*S	**Sn**	**14 39 04.9**	**-0.7**
	baz=196					
JKRS	**Kuro-shima**	**2.09 107**	P	**Pn**	**14 38 41.1**	**+0.4**
JKRS			S	**Sn**	**14 39 06.4**	**-0.3**
SGST	**Jiashian**	**2.10 213**	*e*P	**Pn**	**14 38 40.0**	**-0.7**
	baz=210					
SGST			*e*S	**Sn**	**14 39 06.0**	**-0.9**
	baz=210					
TWG	**Pinlang**	**2.14 199**	*e*P	**Pn**	**14 38 40.9**	**-0.4**
	baz=196					
TWG			*e*S	**Sn**	**14 39 06.5**	**-1.4**
	baz=196					
TWGBT	**Beinan**	**2.14 198**	*e*P	**Pn**	**14 38 40.6**	**-0.8**
	baz=196					
TWGBT			*e*S	**Sn**	**14 39 06.5**	**-1.3**
	baz=196					
SLGT	**Liugui**	**2.14 210**	*e*P	**Pn**	**14 38 41.7**	**+0.4**
	baz=208					
SLGT			*e*S	**Sn**	**14 39 08.3**	**+0.4**
	baz=208					
JIJ	**Ishigaki jima**	**2.18 103**	P	**Pn**	**14 38 41.7**	**0.0**
JIJ			S	**Sn**	**14 39 07.3**	**-1.4**
LDUT	**Ludao**	**2.20 188**	*e*P	**Pn**	**14 38 41.2**	**-0.8**
	baz=186					
LDUT			*e*S	**Sn**	**14 39 08.0**	**-1.2**
	baz=186					
JISG	**Ishigakijimahi**	**2.29 96**	P	**Pn**	**14 38 43.6**	**+0.4**
JISG			S	**Sn**	**14 39 10.8**	**-0.4**
ECL	**Taimali**	**2.39 199**	*e*P	**Pn**	**14 38 43.9**	**-0.5**
	baz=197					
ECL			*e*S	**Sn**	**14 39 12.9**	**-0.6**
	baz=197					
TSMG	**Majia**	**2.40 207**	*e*P	**Pn**	**14 38 44.8**	**+0.1**
	baz=205					
TSMG			*e*S	**Sn**	**14 39 18.1**	**+4.3**
	baz=205					
PHUB	**P'eng-hu**	**2.45 237**	*e*S	**Sn**	**14 39 12.8**	**-2.0**
	baz=235					
MASBT	**Mashibuluo**	**2.48 206**	*e*P	**Pn**	**14 38 46.0**	**+0.3**
	baz=204					
MASBT			*e*S	**Sn**	**14 39 17.0**	**+1.2**
	baz=204					
JTJ	**Tarama**	**2.64 94**	P	**Pn**	**14 38 48.5**	**+0.8**

JTJ S Sn 14 39 20.3 +1.0

*IDC **18** 15:02:36.6±3.1, 15°.16S×167°.91E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/29, mbtmp3.6/3, Error ellipse: s-maj=129.7km s-min=49.8km az=143.0*
*NOU **18** 15:03:46.2, 19°.70S×167°.78E, h0km, ML3.1, Vanuatu Islands Region*
ISC 18 15:02:41.5±2.5, 14°.7S±0°.2×167°.8E±0°.3, h35km, n10, σ1§64/10, mb3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	6.11	185	P	Pn	15 04 08.5	-0.8
MARNC	Mare, Loyalty	6.79	178	P	Pn	15 04 17.9	-0.8
YATNC	Mamie plateau,	7.41	186	P	Pn	15 04 27.4	+0.2
NOUC	Port Laguerre	7.53	190	P	Pn	15 04 31.4	+2.5
ONTNC	Ouen Toro	7.71	189	P	Pn	15 04 33.3	+1.9
OUENC	Ouen Island, N	7.77	186	P	Pn	15 04 33.7	+1.5
STKA	Stephens Creek	29.41	230	P	P	15 08 40.2	-1.6
	0.8nm,0.5s,baz=72,slow=9.6,SNR=3.7						
WRA	Warramunga Arr	32.32	256	P	P	15 09 07.7	0.0
	0.6nm,0.9s,baz=89,slow=8.3,SNR=4.6						
ASAR	Alice Springs	33.16	249	P	P	15 09 14.4	-0.5
	0.5nm,0.6s,baz=78,slow=8.7,SNR=17						
ARCES	ARCESS Array B	120.31	346	PKP	PKiKP	15 21 30.1	+1.5
	2.3nm,1.0s,baz=90,slow=0.9,SNR=2.0						

*SJA **18** 15:21:38.4±1.0, 32°.59S×71°.80W, h10km±15km, ML4.0, MW4.2*
*GUC **18** 15:21:40.4±0.9, 32°.69S×71°.73W, h32km±3km, ML3.9*
*IDC **18** 15:21:41.5±3.9, 32°.61S×71°.71W, h37km±30km, mb4.0/5, mb1 4.0/10, mb1mx3.8/32, mbtmp4.0/10, ML4.0/5, MS3.3/2, Ms1 3.3/2, ms1mx3.0/22, Error ellipse: s-maj=37.0km s-min=19.3km az=104.0*
ISC 18 15:21:37.8±1.6, 32°.56S±0°.03×71°.75W±0°.06, h11km±10km, n46, σ1§07/54, mb4.2/5, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.47	169	eP	Pb	15 21 48.9	+0.6
VA01				i S	Sb	15 21 55.0	-0.2
ROC1	El Roble	0.75	124	eS	Sn	15 22 04.8	-1.3
ROCH	El Roble	0.75	124	eP	Pn	15 21 54.5	-0.2
ROCH				i S	Sn	15 22 04.9	-1.2
ROCH				IAML		15 22 06.1	
	comp=N,10μm,0.6s						
MT02	Curacav	0.87	144	eP	Pb	15 21 55.5	+0.5
MT02				i S	Sb	15 22 06.6	-0.1
VA03	San Esteban	1.03	102⇓	eP	Pn	15 21 59.1	+0.7
VA03				i S	Sn	15 22 13.4	+0.5
VA03				IAML		15 22 14.4	
	comp=E,7μm,0.1s						
VA03	San Esteban	1.03	102	eP	Pn	15 21 58.9	+0.5
VA03				eS	Sn	15 22 13.7	+0.8
VA03				IAML		15 22 14.1	
	comp=Z,2μm,0.7s						
VA05	Santo Domingo	1.10	174⇑	eP	Pb	15 21 58.9	-0.1
VA05				eS	Sb	15 22 12.5	-0.9
VA05				IAML		15 22 18.3	
	comp=N,5μm,0.2s						
MT05	Renca	1.19	135	eP	Pg	15 22 01.2	+0.4
MT05				i S	Sn	15 22 16.8	0.0
MT05				IAML		15 22 19.8	
	comp=E,9μm,0.4s						
MT01	Popeta	1.37	162	eP	Pn	15 22 03.0	0.0
MT01				i S	Sb	15 22 20.4	-0.7
MT09	Talagante	1.38	152	eP	Pn	15 22 03.5	+0.4
MT09				i S	Sb	15 22 21.4	0.0
MT09				IAML		15 22 23.5	
	comp=N,3μm,0.5s						
MT03	Universidad Ad	1.40	132	eP	Pb	15 22 04.5	+0.4
MT03				i S	Sg	15 22 22.8	-0.2
MT03	Universidad Ad	1.40	132	eP	Pg	15 22 04.7	-0.1
MT03				IAML		15 22 30.0	
	comp=Z,3μm,0.8s						
LMEL	Las Melosas	1.83	135	eP	Pb	15 22 11.2	-0.3
LMEL				eS	Sb	15 22 34.6	+0.2
CO03	El Pedregal	1.94	28	i P	Pb	15 22 13.5	+0.3
CO03				IAML		15 22 42.8	
	comp=Z,1μm,0.6s						
AUSP	Uspallata	2.03	81	i P	Pg	15 22 16.8	0.0
BO02	Sierra Bellavi	2.37	160⇑	eP	Pn	15 22 17.5	+0.7
BO02				eS	Sn	15 22 46.8	+0.8
BO02				IAML		15 22 54.6	
	comp=E,2μm,0.4s						
BO02	Sierra Bellavi	2.37	160	i P	Pb	15 22 19.4	-1.2
BO02				i P	Pb	15 22 19.5	-1.2
BO02				IAML		15 22 56.3	
	comp=Z,1μm,0.7s						
ARCO	CERRO ARCO	2.39	98	i P	Pg	15 22 22.6	-1.2
ARCO				IAML		15 23 03.9	
	comp=Z,721nm,0.9s						
GO05	Huala	2.45	183	i P	Pn	15 22 16.9	-1.0
ASAL	Salagasta	2.46	92	i P	Pg	15 22 24.2	-0.9
ASAL				IAML		15 23 04.8	
	comp=Z,418nm,0.6s						
GO04	Tololo Observa	2.51	19	i P	Pn	15 22 21.0	+2.2
ZON	Zonda	2.80	70	eP	Pb	15 22 28.4	+0.5
ZON				IAML		15 23 25.0	
	comp=Z,396nm,0.9s						
AVIZ	Vizcacheras	2.87	109	i P	Pb	15 22 28.8	-0.3
AROD	Rodeo	3.08	40	i P	Pb	15 22 31.6	-1.2
LAMA	Las Malvinas	3.18	139	i P	Pn	15 22 29.1	+1.2
AVFE	Valle Fertil	4.12	64	i P	Pb	15 22 45.9	-4.6
AVFE				IAML		15 23 55.5	
	comp=Z,327nm,0.6s						
H03N1	Juan Fernandez	6.08	260	T	T	15 29 43.9	
	baz=87,slow=73,SNR=1056						
H03N3	Juan Fernandez	6.09	260	T	T	15 29 36.5	
	baz=87,slow=73,SNR=1215						
H03N2	Juan Fernandez	6.10	260	T	T	15 29 42.7	
	baz=87,slow=73,SNR=1424						
H03S1	Juan Fernandez	6.13	256	T	T	15 29 33.7	
	baz=82,slow=75,SNR=48						
H03S3	Juan Fernandez	6.13	256	T	T	15 29 32.6	
	baz=82,slow=75,SNR=51						
H03S2	Juan Fernandez	6.15	256	T	T	15 29 34.3	
	baz=82,slow=75,SNR=87						
PLCA	Paso Flores	8.22	174	Pn	Pn	15 23 37.6	+0.5
	comp=Z,0.6nm,0.3s,baz=332,slow=13,SNR=11						
LVC	Limon Verde	10.22	15	Pn	Pn	15 24 05.7	+0.8
	comp=Z,0.6nm,0.3s,baz=205,slow=7.2,SNR=2.4						
LVC				LR	LR	15 29 01.5	
	comp=Z,102nm,19.7s,baz=204,slow=43						
CPUP	Villa Florida	14.01	67	Pn	Pn	15 24 58.6	+2.3
	comp=Z,0.3nm,0.3s,baz=238,slow=14,SNR=3.3						
CPUP				LR	LR	15 30 48.5	
	comp=Z,174nm,20.2s,baz=226,slow=39						
LPAZ	La Paz	16.52	12	Pn	Pn	15 25 31.7	+1.4
	comp=Z,0.3nm,0.3s,baz=175,slow=6.9,SNR=8.7						
SIV	San Ignacio	19.13	33	P	P	15 26 01.3	+0.2
	comp=Z,0.4nm,0.3s,baz=228,slow=13,SNR=7.2						
BDFB	Brasilia	27.34	58	P	P	15 27 22.9	-0.2
	comp=Z,5.9nm,0.9s,baz=246,slow=9.9,SNR=4.7						
QSPA	South Pole Qui	57.68	180	P	P	15 31 27.8	-0.4
	comp=Z,2.4nm,0.9s,baz=185,slow=5.6,SNR=9.1						
BOSA	Boshof	80.53	118	P	P	15 33 50.0	-0.5
	comp=Z,1.6nm,0.6s,baz=243,slow=4.1,SNR=5.2						
NVAR	Mina Array Bea	82.84	325	P	P	15 34 03.2	+0.8
	comp=Z,0.5nm,0.8s,baz=148,slow=5.3,SNR=2.5						
TORD	Torodi Ar. Bea	83.49	70	P	P	15 34 05.7	-0.3
	comp=Z,2.7nm,0.7s,baz=227,slow=3.5,SNR=13						
ASAR	Alice Springs	118.96	207	PKP	PKPdf	15 40 25.5	-1.6
	comp=Z,0.3nm,0.8s,baz=120,slow=1.9,SNR=1.9						
WRA	Warramunga Arr	122.14	209	PKP	PKPdf	15 40 32.0	-1.3
	comp=Z,0.4nm,0.9s,baz=163,slow=1.6,SNR=5.4						
ZALV	Zalesovo Beam	152.87	31	PKPbc	PKPbc	15 41 34.2	-0.3
	comp=Z,3.2nm,0.7s,baz=302,slow=3.7,SNR=14						
ZALV				PKPab	PKPab	15 41 45.1	-0.5
	comp=Z,1.0nm,0.5s,baz=307,slow=3.0,SNR=5.0						
MKAR	Makanchi Array	155.62	47	PKPab	PKPab	15 41 57.5	-0.2
	comp=Z,1.1nm,0.7s,baz=288,slow=3.7,SNR=12						

*GEN **18** 15:26:38, 44°.28N×10°.97E, h10km±3km, Ml2.9*
*ROM **18** 15:26:39.2±0.1, 44°.276N±0°.005×10°.953E±0°.009, h9km, ML3.0/41, Error ellipse: s-maj=0.6km s-min=0.6km az=155.0*
*IASPEI **18** 15:26:39.6±0.8, 44°.28N±0°.02×10°.96E±0°.02, h9km±6km, Error ellipse: s-maj=3.3km s-min=2.9km az=33.3, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*LDG **18** 15:26:40.5±0.2, 44°.23N×11°.07E, h10km, Ml3.1/16, Error ellipse: s-maj=6.5km s-min=5.4km az=39.0*
*IDC **18** 15:26:40.4±1.6, 44°.51N×11°.06E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.1/35, mbtmp3.2/4, ML3.0/3, MS2.1/1, Ms1 2.1/1, ms1mx1.7/36, Error ellipse: s-maj=30.4km s-min=14.1km az=99.0*
*PRU **18** 15:26:41.4±0.0, 44°.48N×11°.06E, h0km*
ISC 18 15:26:39.5±0.8, 44°.28N±0°.02×10°.99E±0°.01, h11km±5km, n147, σ1§70/209, 13C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	Zocca	0.07	350	P	Pg	15 26 41.2	-0.8
ZCCA				S	Sg	15 26 43.9	+0.2
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
ZCCA				AML	AML		
FNVD	Fontana Vidola	0.15	140	⇑P	Pg	15 26 43.0	0.0
FNVD				S	Sg	15 26 47.0	+1.6
FNVD				AML	AML		
	comp=E,19050μm,0.5s						
FNVD				AML	AML		
	comp=N,9075μm,0.7s						
FNVD				AML	AML		
	comp=E,19050μm,0.5s						
MTCR	Monte La Croce	0.25	179	⇑P	Pg	15 26 45.0	+0.2
MTCR				S	Sg	15 26 49.5	+1.2
POPM	Popiglio	0.29	216	P	Pb	15 26 45.4	-1.3
POPM				S	Sb	15 26 50.7	-0.9
POPM	Popiglio	0.29	216	⇑P	Pb	15 26 45.5	-1.3
POPM				S	Sb	15 26 50.8	-0.7
POPM				AML	AML		
	comp=E,19550μm,0.7s						
POPM				AML	AML		
	comp=N,33350μm,0.3s						
POPM				AML	AML		
	comp=N,33350μm,0.3s						
POPM				AML	AML		
	comp=E,19550μm,0.7s						
MPPT	Montemurlo	0.33	168	P	Pb	15 26 46.2	-1.2
MPPT				S	Sb	15 26 52.0	-0.7
SEI	Scarperia	0.34	131	⇑P	Pb	15 26 46.5	-1.2
SEI				AML	AML		
	comp=N,5445μm,0.4s						
SEI				AML	AML		
	comp=E,4145μm,1.3s						
MODE	Modena	0.35	355	P	Pg	15 26 46.6	0.0
MODE				AML	AML		
	comp=E,22350μm,0.7s						
MODE				AML	AML		
	comp=N,27800μm,0.5s						
MODE				AML	AML		
	comp=E,22350μm,0.7s						
MODE				AML	AML		
	comp=N,27800μm,0.5s						
MTRZ	Monterenzio	0.35	74	P	Pb	15 26 46.9	-0.9
MTRZ				AML	AML		
	comp=E,4815μm,0.5s						
MTRZ				AML	AML		
	comp=N,4360μm,0.7s						
MTRZ				AML	AML		
	comp=N,4495μm,0.7s						
MTRZ				AML	AML		
	comp=E,5045μm,0.5s						
BDI	Bagni Di Lucca	0.36	233	⇑P	Pg	15 26 46.4	-0.2
BDI				S	Sb	15 26 52.5	-1.1
BDI				AML	AML		
	comp=E,10850μm,0.3s						
BDI				AML	AML		
	comp=N,9515μm,0.4s						
BDI				AML	AML		
	comp=E,10750μm,0.3s						
BDI				AML	AML		
	comp=N,11125μm,0.4s						
BDI				AML	AML		
	comp=N,9505μm,0.4s						
SARO	Sassorosso	0.44	258	P	Pg	15 26 47.5	-0.6
SARO				S	Sg	15 26 54.5	+0.6
SARO	Sassorosso	0.44	258	⇑P	Pg	15 26 47.6	-0.6
SARO				S	Sg	15 26 53.8	-0.1
SARO				AML	AML		
	comp=N,2595μm,0.5s						
SARO				AML	AML		
	comp=E,2635μm,0.6s						
CARD	Cardoso	0.45	236	P	Pg	15 26 47.7	-0.6
CARD				S	Sb	15 26 54.7	-1.4
CARD	Cardoso	0.45	236	⇑P	Pg	15 26 47.7	-0.6
CARD				S	Sb	15 26 55.0	-1.0
CARD				AML	AML		
	comp=E,8420μm,0.5s						
CARD				AML	AML		
	comp=N,7970μm,0.6s						
VLC	Villacollemand	0.45	255	⇑P	Pg	15 26 47.9	-0.5
VLC				S	Sb	15 26 55.3	-0.9
VLC				AML	AML		
	comp=E,3005μm,1.6s						
VLC				AML	AML		
	comp=E,3160μm,1.6s						
VLC				AML	AML		
	comp=E,3010μm,1.6s						
VLC				AML	AML		
	comp=N,3590μm,0.8s						
VLC				AML	AML		
	comp=N,3510μm,0.8s						
RAVA	Ravarino	0.48	11	P	Pb	15 26 49.9	-0.1
RAVA				AML	AML		
	comp=E,8965μm,0.6s						
RAVA				AML	AML		
	comp=N,11100μm,0.9s						
CRMI	Carmignano	0.49	182	P	Pb	15 26 48.6	-1.5
CRMI				S	Sb	15 26 56.8	-0.5
CRMI				AML	AML		
	comp=E,338μm,0.4s						
CRMI				AML	AML		
	comp=N,358μm,0.5s						
MAIM	Mastiano	0.51	225	P	Pg	15 26 48.8	-0.8
MAIM				S	Sb	15 26 57.1	-0.9
MAIM	Mastiano	0.51	225	P	Pg	15 26 48.7	-0.8
MAIM				S	Sb	15 26 56.9	-1.1
MAIM				AML	AML		
	comp=E,1645μm,0.4s						
MAIM				AML	AML		
	comp=N,1950μm,1.2s						
LMD	Lutirano	0.55	111	P	Pb	15 26 49.9	-1.4
RUFI	Rufina	0.58	140	P	Pb	15 26 50.8	-0.8
CAVE	Cavezzo	0.59	1	P	Pb	15 26 51.6	-0.2
CAVE				AML	AML		
	comp=N,10650μm,0.4s						
CAVE				AML	AML		
	comp=E,6155μm,0.9s						
EQUI	Equi	0.61	260	P	Pg	15 26 50.3	-1.2
EQUI				S	Sg	15 26 59.3	-0.3
EQUI	Equi	0.61	260	P	Pg	15 26 50.1	-1.3
EQUI				S	Sg	15 26 59.0	-0.6
EQUI				AML	AML		
	comp=E,534μm,0.7s						
EQUI				AML	AML		
	comp=N,782μm,0.2s						
EQUI				AML	AML		
	comp=N,782μm,0.2s						
FIVI	Fivizzano	0.62	267	P	Pg	15 26 51.0	-0.6
PII	Pisa	0.65	211	⇑P	Pg	15 26 51.4	-0.7
PII				S	Sb	15 27 00.8	-1.1
PII				AML	AML		
	comp=E,2605μm,1.1s						
PII				AML	AML		
	comp=N,2385μm,1.0s						
GRAM	Graiana	0.70	288	P	Pg	15 26 52.4	-0.6
GRAM				S	Sb	15 27 04.2	+0.8
GRAM	Graiana	0.70	288	P	Pg	15 26 52.4	-0.6
GRAM				AML	AML		
	comp=E,3110μm,0.3s						
GRAM				AML	AML		
	comp=N,2480μm,0.4s						
GRAM				AML	AML		
	comp=E,3105μm,0.3s						
SFI	Santa Sofia	0.72	121	P	Pb	15 26 53.5	-0.6
SFI				AML	AML		
	comp=N,500μm,0.7s						
SFI				AML	AML		
	comp=E,296μm,0.7s						
SFI				AML	AML		
	comp=N,502μm,0.7s						
ASQU	Asqua	0.75	130	P	Pb	15 26 53.9	-0.7
SERM	Sermide	0.76	16	P	Pn	15 26 56.2	0.0
OSSC	Osservatorio P	0.78	166	AML	AML		
	comp=N,1190μm,0.6s						
OSSC				AML	AML		
	comp=E,924μm,0.9s						
OSSC				AML	AML		
	comp=E,1225μm,0.6s						
OSSC				AML	AML		
	comp=N,955μm,0.9s						
GAZZ	Gazzo Veronese	0.84	5	ePg	Pn	15 26 57.4	+0.2
GAZZ				eSg	Sn	15 27 11.4	+1.9
PLMA	Palmaria, Port	0.85	255	P	Pg	15 26 54.8	-1.1
PLMA				S	Sg	15 27 06.6	-0.5
PLMA				AML	AML		
	comp=E,569μm,0.5s						
PLMA				AML	AML		
	comp=N,530μm,0.4s						
CRE	Caprese Michel	0.96	133	P	Pn	15 26 58.8	-0.2
CRE				AML	AML		
	comp=E,298μm,0.9s						
CRE				AML	AML		
	comp=E,298μm,0.9s						
CRE				AML	AML		
	comp=N,375μm,0.9s						
MSSA	Maissana	1.06	272	P	Pg	15 26 58.5	-1.4
MSSA				AML	AML		
	comp=E,372μm,0.8s						
MSSA				AML	AML		
	comp=N,418μm,0.7s						
PARC	Parchiule	1.10	125	P	Pn	15 27 01.3	+0.5
PARC				AML	AML		
	comp=N,264μm,0.7s						
PARC				AML	AML		
	comp=E,176μm,1.6s						
CAFI	Castiglion Fio	1.18	143	⇓P	Pn	15 27 02.0	-0.1
CAFI				AML	AML		
	comp=E,298μm,0.8s						
CAFI				AML	AML		
	comp=N,180μm,1.2s						
TEOL	Teolo	1.18	24	ePg	Pb	15 27 00.7	-1.2
TEOL				eSg	Sn	15 27 19.1	+1.0
BOB	Bobbio (Coli)	1.21	294	⇓P	Pg	15 27 03.1	+0.4
BOB				AML	AML		
	comp=E,372μm,0.6s						
BOB				AML	AML		
	comp=N,473μm,1.6s						
BOB				AML	AML		
	comp=E,357μm,0.6s						
BOB				AML	AML		
	comp=N,504μm,1.3s						
GORR	Gorreto	1.26	286	⇓P	Pg	15 27 06.2	+2.4
GORR				AML	AML		
	comp=E,427μm,0.4s						
GORR				AML	AML		
	comp=N,534μm,0.8s						
ATPI	Pietralunga -	1.31	129	P	Pg	15 27 07.1	+2.4
ATPI				AML	AML		
	comp=N,192μm,1.4s						
ATPI				AML	AML		
	comp=E,244μm,0.8s						
PIEI	Pieia	1.34	123	P	Pg	15 27 07.7	+2.5
PIEI				AML	AML		
	comp=E,144μm,0.7s						
PIEI				AML	AML		
	comp=N,103μm,1.0s						
MARN	Marana (Italy)	1.37	6	ePg	Pn	15 27 03.9	-0.7
ROVR	Rover Verones	1.37	2	⇑P	Pn	15 27 03.7	-1.0
ROVR				AML	AML		
	comp=N,326μm,0.3s						
ROVR				AML	AML		
	comp=E,208μm,0.3s						
BALD	Monte Baldo	1.41	355	ePg	Pn	15 27 04.9	-0.4
BALD				eSg	Sg	15 27 25.4	+0.5
FRON	Frontone	1.47	121	AML	AML		
	comp=N,194μm,0.7s						
FRON				AML	AML		
	comp=E,179μm,0.5s						
RNCA	Ronca, Sant'Ol	1.48	278	P	Pb	15 27 06.7	-0.2
MAGA	Magasa	1.52	350	⇑P	Pn	15 27 06.6	-0.1
MAGA				AML	AML		
	comp=E,1590μm,1.1s						
MAGA				AML	AML		
	comp=N,1105μm,0.3s						
MGAB	Montegabbione	1.59	149	P	Pb	15 27 07.6	-1.3
MGAB				AML	AML		
	comp=E,198μm,1.5s						
MGAB				AML	AML		
	comp=N,210μm,0.6s						
MGAB				AML	AML		
	comp=E,200μm,0.5s						
MGAB				AML	AML		
	comp=N,206μm,0.5s						
MGAB				AML	AML		
	comp=E,216μm,0.6s						
DOSS	Dosso del Somm	1.61	5	ePg	Pn	15 27 07.2	-0.8
CGRP	Cima Grappa	1.70	19	P	Pn	15 27 08.5	-0.8
CGRP				AML	AML		
	comp=E,325μm,1.1s						
CGRP				AML	AML		
	comp=N,310μm,0.6s						
MDI	Monti di Nese	1.75	329	P	Pb	15 27 11.1	-0.6
MDI				AML	AML		
	comp=E,289μm,0.4s						
MDI				AML	AML		
	comp=N,200μm,0.5s						
PCP	Piancastagn	1.77	279	P	Pb	15 27 11.0	-1.0
PCP	Piancastagn	1.77	279	⇑P	Pb	15 27 12.1	+0.1
PCP				AML	AML		
	comp=N,152μm,0.5s						
PCP				AML	AML		
	comp=E,144μm,0.8s						
PANI	Panarotta	1.79	8	ePg	Pn	15 27 10.4	-0.1
GAGG	Gaggia	1.80	359	ePg	Pn	15 27 10.6	-0.1
CTI	Castel Tesino	1.83	14	⇓P	Pn	15 27 09.9	-1.1
CTI				AML	AML		
	comp=E,352μm,0.8s						
CTI				AML	AML		
	comp=N,460μm,0.8s						
QLNO	Quiliano	1.90	272	⇓P	Pb	15 27 13.5	-0.7
QLNO				AML	AML		
	comp=N,130μm,0.6s						
QLNO				AML	AML		
	comp=E,84μm,0.7s						
CESX	Cesi	2.03	145	P	Pg	15 27 17.5	-0.9
CESX				AML	AML		
	comp=E,138μm,0.6s						
CESX				AML	AML		
	comp=N,136μm,0.9s						
PGF	Pioggiola	2.26	221	ePn	Pn	15 27 16.5	-0.4
PGF				eSn	Sn	15 27 42.2	-2.6
	comp=N,23nm,0.5s						
IMI	Imperia	2.26	262	P	Pg	15 27 22.1	-0.8
ABSI	Aberstueckl	2.46	5	⇓P	Pg	15 27 26.5	-0.2
CAMP	Campotosto	2.48	134	P	Pn	15 27 18.3	-1.6
CAMP				AML	AML		
	comp=E,67μm,0.9s						
CAMP				AML	AML		
	comp=N,65μm,1.0s						
SKDS	Skadanscina	2.49	58	i Pn	Pn	15 27 18.4	-1.7
SKDS				eSn	Sn	15 27 48.0	-2.5
SKDS				IAML		15 27 48.5	
	comp=Z,20nm,0.5s						
SAOF	Saorge	2.49	264	⇑P	Pn	15 27 21.6	+1.5
SAOF				AML	AML		
	comp=E,103μm,0.4s						
SAOF				AML	AML		
	comp=N,161μm,1.0s						
SBF	Sospel	2.60	262	ePn	Pn	15 27 21.7	+0.2
SBF	Sospel	2.60	262	eP	Pb	15 27 23.9	-2.2
SBF				eSn	Sn	15 27 53.0	-0.1
	comp=N,49nm,0.5s						
DAVOX	Davos/Dischmat	2.62	343	Pn	Pn	15 27 22.7	+0.8
	comp=N,1.7nm,0.3s,baz=171,slow=18,SNR=16						
DAVOX				Lg	Lg	15 27 57.0	
	comp=N,2.3nm,0.3s,baz=122,slow=21,SNR=3.1						
DAVOX				LR	LR	15 28 26.1	
	comp=N,41nm,19.1s,baz=281,slow=44						
ABTA	Abfaltersbach	2.69	23	ePn	Pn	15 27 23.7	+0.9

comp=N,3.4nm,0.3s
ABTA *e*Sg **Sg** **15 28 08.8 +2.9**
comp=N,12nm,0.5s
VOJS Vojsko 2.69 48 *i* Pn **Pn** **15 27 21.4 -1.4**
RIY Rijeka 2.69 66 *e*Pn **Pn** **15 27 21.5 -1.2**
RIY Sn **Sn** **15 27 52.8 -2.5**
FUSIO Fusio 2.73 324 P **Pn** **15 27 22.9 -0.5**
FUSIO AML AML
comp=N,46μm,0.5s
FUSIO AML AML
comp=E,81μm,0.6s
FETA Feichten 2.75 356 *e*Pn **Pb** **15 27 26.1 -2.6**
comp=E,0.9nm,0.3s
FETA *e*Sn **Sn** **15 27 59.0 +2.0**
comp=E,13nm,0.8s
RISI Rein 2.77 16 ⇓P **Pn** **15 27 25.0 +1.0**
RISI S **Sn** **15 27 57.0 -0.7**
RISI AML AML
comp=N,246μm,0.4s
RISI AML AML
comp=E,191μm,0.4s
NVLJ Novalja 2.79 83 *e*Pn **Pn** **15 27 24.0 -0.1**
NVLJ Sn **Sn** **15 27 55.6 -2.1**
VCEL Villa Celiera 2.81 131 S **Sg** **15 28 12.0 +2.4**
CRNS Crni Vrh 2.93 51 *i* Pn **Pn** **15 27 24.9 -1.2**
DUGI Dugi Otok 2.94 94 *e*Pn **Pn** **15 27 26.0 -0.2**
DUGI Sn **Sn** **15 27 59.8 -1.7**
SQTA Sankt Quirin 2.94 3 *e*Pn **Pn** **15 27 27.0 +0.6**
comp=E,5.5nm,0.4s
SQTA *e*Sn **Sn** **15 28 02.6 +0.8**
comp=E,11nm,0.2s
MYKA Terra Mystica 3.00 37 *e*Pn **Pn** **15 27 28.3 +1.3**
comp=E,1.3nm,0.3s
MYKA *e*Sn **Sn** **15 28 04.3 +1.3**
comp=E,12nm,0.6s
WTTA Wattenberg 3.02 8 *e*Pn **Pn** **15 27 25.8 -1.6**
comp=E,1.7nm,0.4s
WTTA *e*Sn **Sn** **15 28 04.6 +0.9**
comp=E,7.9nm,0.3s
MBDF Montbardon 3.05 280 *e*Pn **Pn** **15 27 29.6 +1.7**
MBDF Montbardon 3.05 280 *e*P **Pb** **15 27 30.8 -3.1**
MBDF *e*Sn **Sn** **15 28 05.4 +0.9**
comp=E,19nm,0.5s
MOTA Moosalm 3.07 1 *e*Pn **Pn** **15 27 25.9 -2.2**
comp=E,1.1nm,0.4s
MOTA *e*Sn **Sn** **15 28 06.4 +1.6**
comp=E,9.2nm,0.3s
WATA Walderalm 3.08 7 *e*Pn **Pn** **15 27 29.7 +1.4**
comp=E,1.9nm,0.2s
WATA *e*Sn **Sn** **15 28 07.4 +2.2**
comp=E,12nm,0.4s
DAVA Damuels 3.11 346 *e*Pn **Pn** **15 27 30.0 +1.4**
comp=E,1.2nm,0.2s
DAVA *e*Sn **Sn** **15 28 07.8 +2.0**
comp=E,6.1nm,0.3s
VISS Visnje 3.12 59 *i* Pn **Pn** **15 27 27.8 -0.9**
VISS *i* Sn **Sn** **15 28 04.5 -1.5**
VISS IAML 15 28 06.1
comp=Z,12nm,0.3s
RETA Reutte 3.21 357 *e*Pn **Pn** **15 27 28.9 -1.1**
comp=Z,1.5nm,0.3s
RETA *e*Sn **Sn** **15 28 10.5 +2.3**
comp=Z,2.1nm,0.3s
FRF La Foret Royal 3.22 259 *e*Pn **Pn** **15 27 30.0 0.0**
FRF La Foret Royal 3.22 259 *e*P **Pn** **15 27 31.9 +1.9**
FRF *e*Sn **Sn** **15 28 08.7 +0.3**
comp=Z,16nm,0.4s
KBA Koelnbreinsper 3.25 30 *e*Pn **Pn** **15 27 31.0 +0.5**
comp=Z,1.2nm,0.3s
KBA *e*Sn **Sn** **15 28 09.5 +0.2**
comp=Z,13nm,0.5s
LPG La Plagne 3.25 293 *e*Pn **Pn** **15 27 30.9 +0.2**
LPG La Plagne 3.25 293 *e*P **Pn** **15 27 33.8 +3.1**
LPG *e*Sn **Sn** **15 28 11.7 +2.2**
comp=Z,13nm,0.6s
LPL La Plagne 3.27 294 *e*Pn **Pn** **15 27 31.0 +0.1**
LPL La Plagne 3.27 294 *e*P **Pn** **15 27 34.1 +3.2**
LPL *e*Sn **Sn** **15 28 13.1 +3.2**
comp=Z,12nm,0.5s
OBKA Obir 3.35 47 *e*Pn **Pn** **15 27 31.1 -0.8**
comp=Z,1.1nm,0.3s
OBKA *e*Sn **Sn** **15 28 12.5 +0.7**
comp=Z,16nm,0.7s
LMR La Mourre 3.38 255 *e*Pn **Pn** **15 27 31.8 -0.4**
LMR La Mourre 3.38 255 *e*P **Pn** **15 27 33.5 +1.3**
LMR *e*Sn **Sn** **15 28 10.4 -1.9**
comp=Z,17nm,0.4s
ZIRJ Zirje 3.42 99 *e*Pn **Pn** **15 27 32.9 +0.3**
ZIRJ Sn **Sn** **15 28 11.8 -1.3**
MORI Morici 3.42 95 *e*Pn **Pn** **15 27 33.8 +1.0**
MORI Sn **Sn** **15 28 12.4 -0.9**
OZLJ Ozalj 3.45 66 *e*Pn **Pn** **15 27 32.2 -0.9**
OZLJ Sn **Sn** **15 28 10.5 -3.4**
ORIF Oris-en-Rattie 3.71 282 *e*Pn **Pn** **15 27 37.0 +0.2**
ORIF Oris-en-Rattie 3.71 282 *e*P **Pn** **15 27 40.3 +3.5**
ORIF *e*Sn **Sn** **15 28 21.4 +0.9**
comp=Z,16nm,0.6s
SOKA Soboth 3.72 48 *e*Pn **Pn** **15 27 35.9 -1.0**
comp=Z,0.4nm,0.3s
SOKA *e*Sn **Sn** **15 28 20.1 -0.6**
comp=Z,3.3nm,0.6s
KIJV Kijevo 3.91 92 *e*Pn **Pn** **15 27 39.3 -0.1**
PTRJ Pietraroja 3.91 137 P **Pn** **15 27 42.7 +3.2**
SMRF Simiane la Rot 3.91 267 *e*Pn **Pn** **15 27 39.7 +0.1**
SMRF Simiane la Rot 3.91 267 *e*P **Pn** **15 27 41.9 +2.3**
SMRF *e*Sn **Sn** **15 28 27.1 +1.6**
comp=Z,13nm,0.6s
GATE Gambatesa 3.99 133 ⇓P **Pg** **15 27 52.8 -3.2**
CABF La Chapelle 4.17 306 *e*Pn **Pn** **15 27 43.5 +0.4**
CABF La Chapelle 4.17 306 *e*P **Pn** **15 27 46.4 +3.3**
PAOL Paolisi 4.18 140 S **Sn** **15 28 29.0 -3.2**
MOA Molln 4.24 31 *e*Pn **Pn** **15 27 44.6 +0.6**
comp=Z,2.4nm,0.3s
MOA *e*Sn **Sn** **15 28 33.7 +0.3**
comp=Z,5.1nm,0.4s
ARSA Arzberg 4.34 45 *e*Pn **Pn** **15 27 43.9 -1.6**
comp=Z,1.2nm,0.3s
ARSA *e*Sn **Sn** **15 28 34.7 -1.4**
comp=Z,0.9nm,0.3s
RICI Ricice 4.51 98 *e*Pn **Pn** **15 27 49.0 +1.2**
RICI Sn **Sn** **15 28 39.5 -0.6**
VIVF Saint-Julien-l 4.55 279 *e*Pn **Pn** **15 27 48.8 +0.4**
HINF Hinteralfeld 4.56 322 *e*Pn **Pn** **15 27 47.4 -1.1**
HINF Hinteralfeld 4.56 322 *e*P **Pn** **15 27 52.1 +3.6**
HINF *e*Sn **Sn** **15 28 37.4 -4.1**
comp=Z,11nm,0.5s
CDF Champ du Feu 4.87 329 *e*Pn **Pn** **15 27 51.9 -0.8**
CDF Champ du Feu 4.87 329 *e*P **Pn** **15 27 56.1 +3.4**
CDF *e*Sn **Sn** **15 28 45.4 -3.7**
comp=Z,4.1nm,0.4s
HAU Haudompre 4.93 321 *e*Pn **Pn** **15 27 52.7 -0.8**
HAU Haudompre 4.93 321 *e*P **Pn** **15 27 57.3 +3.8**
HAU *e*Sn **Sn** **15 28 46.9 -3.6**
comp=Z,9.3nm,0.3s
GERES GERESS Array B 4.93 21 Pn **Pn** **15 27 52.7 -0.9**
comp=Z,0.6nm,0.3s,baz=199,slow=14,SNR=11
GERES Sn **Sn** **15 28 47.5 -3.2**
comp=Z,1.0nm,0.3s,baz=208,slow=25,SNR=7.2
CONA Conrad Observa 4.98 41 *e*Pn **Pn** **15 27 53.2 -1.0**
comp=Z,1.0nm,0.3s
CONA *e*Sn **Sn** **15 28 49.9 -1.9**
comp=Z,2.2nm,0.5s
ACER Acerenza 5.05 132 ⇓P **Pn** **15 27 56.5 +1.3**
CKRC Cesky Krumlov 5.08 26 *e*SN **Sn** **15 28 51.1 -3.2**
LASF Ste Croix 5.14 270 *e*Pn **Pn** **15 27 56.3 -0.1**
LASF Ste Croix 5.14 270 *e*P **Pn** **15 27 58.4 +2.0**
KHC Kasperske Hory 5.17 19 *e*PN **Pn** **15 27 56.6 -0.2**
KHC *ex* x 15 28 24.0
KHC *e*SN **Sn** **15 28 52.0 -4.4**
KHC *ex* x 15 29 23.5
SCHR S. Chirico Rap 5.55 135 ⇓P **Pb** **15 28 17.9 +1.4**
SMF Signal de Mont 5.56 298 *e*Pn **Pn** **15 28 00.9 -1.2**
SMF Signal de Mont 5.56 298 *e*P **Pn** **15 28 05.4 +3.3**
SMF *e*Sn **Sn** **15 29 03.0 -3.0**
comp=Z,4.9nm,0.5s
LOR Lormes 5.82 303 *e*Pn **Pn** **15 28 05.1 -0.6**
baz=119
LOR Lormes 5.82 303 *e*P **Pn** **15 28 09.5 +3.8**
baz=118
LOR *e*Sn **Sn** **15 29 10.6 -1.8**
comp=Z,6.7nm,0.3s
AVF Avril sur Loir 5.92 298 *e*Pn **Pn** **15 28 06.9 -0.2**
AVF Avril sur Loir 5.92 298 *e*P **Pn** **15 28 10.7 +3.6**
T0702 Acquaformosa (5.93 138 P **Pn** **15 28 11.0 +3.7**
MODS Modra-Piesok 5.97 45 *e*PN **Pn** **15 28 07.7 -0.1**

BGF Bois d'Agland 6.17 295 *e*Pn **Pn** **15 28 09.6 -0.9**
BGF Bois d'Agland 6.17 295 *e*P **Pn** **15 28 14.5 +4.0**
BGF *e*Sn **Sn** **15 29 19.5 -1.5**
comp=Z,6.1nm,0.4s
MTLF Montolieu 6.42 265 *e*Pn **Pn** **15 28 16.0 +2.0**
TCF Toulx Ste Croi 6.51 291 *e*Sn **Sn** **15 29 28.3 -1.2**
comp=Z,1.4nm,0.2s
BRG Berggiesshubel 6.89 16 *e*S **Sg** **15 30 21.7 +1.2**
BRG Amp 15 30 27.0
comp=Z,3.0nm,1.0s
CLL Collm 7.16 10 *e*Sg **Sg** **15 30 25.0 -4.2**
KEST Kesra 8.63 189 Pn **Pn** 15 28 52.0 +7.6
comp=Z,0.2nm,0.3s,baz=6.4,slow=4.7,SNR=4.3
TORD Torodi Ar. Bea 32.03 197 P **P** **15 33 09.5 +3.4**
comp=Z,0.5nm,0.9s,baz=0.6,slow=9.3,SNR=1.7

IDC 18 15:29:13.5±4.8, 3°.02S×139°.71E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/26, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=183.1km s-min=32.6km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.62**	**197**	P	Pn	15 33 18.7	-1.9
WRA	0.1nm,0.3s,baz=19,slow=13,SNR=2.1			S	Sn	15 36 24.5	-13
ASAR	0.1nm,0.3s,baz=3.7,slow=25,SNR=1.0 **Alice Springs**	**21.28**	**195**	P	P	15 34 02.5	+0.8
MKAR	1.4nm,0.9s,baz=25,slow=8.1,SNR=12 **Makarchi Array**	**70.64**	**322**	P	P	15 40 31.0	0.0
	0.2nm,0.6s,baz=126,slow=7.3,SNR=2.2						

*IDC **18** 15:41:43.3±0.7, 10°.33S×164°.88E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.3/39, mbtmp4.2/15, ML4.7/1, MS4.1/8, Ms1 4.1/8, ms1mx3.7/37, Error ellipse: s-maj=22.7km s-min=16.5km az=117.0*
*NEIC **18** 15:41:45.9±2.7, 10°.46S±0°.06×164°.9E±0°.1, h10km±1km, mb4.7/14, Error ellipse: s-maj=17.3km s-min=9.5km az=80.0*
ISC 18 15:41:49.3±0.5, 10°.46S±0°.08×164°.90E±0°.07, h46km, n65, σ1§43/58, mb4.5/21, MS4.0/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.99**	**281**	Pn	**Pn**	**15 43 00.8**	**-0.9**
HNR	27nm,0.3s,baz=2.0,slow=8.5,SNR=33			Sn	**Sn**	**15 43 58.7**	**+0.7**
HNR	35nm,0.3s,baz=152,slow=8.7,SNR=5.7			LR	LR	15 45 06.1	
HNR	comp=Z,3μm,18.9s,baz=106,slow=41 **Honiara**	**4.99**	**281**		**Pn**	**15 43 00.6**	**-1.1**
HNR	**Honiara**	**4.99**	**281**	P	**Pn**	**15 43 01.9**	**+0.2**
SANVU	**Saraoutou**	**5.44**	**156**	Pn	**Pn**	**15 43 07.0**	**-0.9**
SANVU	**Saraoutou**	**5.44**	**156**	P	**Pn**	**15 43 07.9**	**0.0**
KOUNC	**Koumac, New Ca**	**10.05**	**183**	P	**Pn**	**15 44 12.3**	**+1.2**
LIFNC	**LIFOU**	**10.50**	**168**	Pn	**Pn**	**15 44 16.4**	**-0.9**
MARNC	**Mare, Loyalty**	**11.36**	**165**	Pn	**Pn**	**15 44 28.4**	**-0.7**
NOUC	**Port Laguerre**	**11.65**	**174**	P	**Pn**	**15 44 34.2**	**+1.1**
YATNC	**Mamie plateau,**	**11.69**	**171**	P	**Pn**	**15 44 34.2**	**+0.6**
ONTNC	**Ouen Toro**	**11.87**	**173**	Pn	**Pn**	**15 44 36.9**	**+0.8**
ONTNC	**Ouen Toro**	**11.87**	**173**	P	**Pn**	**15 44 37.7**	**+1.6**
OUENC	**Ouen Island, N**	**12.04**	**171**	Pn	**Pn**	**15 44 38.4**	**+0.1**
OUENC	**Ouen Island, N**	**12.04**	**171**	P	**Pn**	**15 44 39.6**	**+1.3**
PINNC	**Pines Island,**	**12.33**	**169**	Pn	**Pn**	**15 44 42.4**	**+0.1**
RABL	**Rabaul**	**14.08**	**295**	Pn	**Pn**	**15 45 04.2**	**-2.1**
MSVF	**Nonsavu**	**14.66**	**121**	LR	LR	15 49 37.4	
MSVF	comp=Z,717nm,19.1s,baz=301,slow=32 **Nonsavu**	**14.66**	**121**	Pn	**Pn**	**15 45 09.8**	**-4.2**
CTA	**Charters Tower**	**20.36**	**240**	P	Pn	15 46 25.1	+0.6
CTAO	6.8nm,0.9s,baz=52,slow=12,SNR=3.2 **Charters Tower**	**20.36**	**240**	P	**P**	**15 46 19.9**	**-2.2**
CTAO	comp=Z,14nm,0.8s			IAmb	IAmb	15 46 34.6	
AFI	**Afiamalu**	**23.05**	**101**	LR	LR	15 54 05.1	
URZ	comp=Z,472nm,19.0s,baz=272,slow=32 **Urewera**	**29.77**	**160**	LR	LR	15 58 50.7	
STKA	comp=Z,424nm,19.4s,baz=326,slow=34 **Stephens Creek**	**30.31**	**222**	P	**P**	**15 47 57.9**	**+1.4**
STKA	comp=Z,1.6nm,0.7s,baz=32,slow=12,SNR=4.7			LR	LR	15 58 39.5	
STKA	comp=Z,340nm,20.5s,baz=35,slow=33 **Stephens Creek**	**30.31**	**222**	P	**P**	**15 47 57.0**	**+0.5**
WR0	**Warramunga Arr**	**30.73**	**248**	P	**P**	**15 48 01.0**	**+0.6**
WR0	comp=Z,11nm,1.4s			IAmb	IAmb	15 48 13.4	
WB0	**Warramunga Arr**	**30.82**	**249**	P	**P**	**15 48 00.7**	**-0.5**
WB0	comp=Z,12nm,1.0s			IAmb	IAmb	15 48 14.6	
WRA	**Warramunga Arr**	**30.91**	**249**	P	**P**	**15 48 01.2**	**-0.7**
WRA	comp=Z,2.4nm,0.8s,baz=76,slow=8.9,SNR=9.5 **Warramunga Arr**	**30.91**	**249**	P	**P**	**15 47 59.8**	**-2.2**
AS31	**Alice Springs**	**32.32**	**242**	P	**P**	**15 48 12.0**	**-2.4**
ASAR	**Alice Springs**	**32.32**	**242**	P	**P**	**15 48 12.9**	**-1.4**
ASAR	comp=Z,0.8nm,0.6s,baz=63,slow=9.8,SNR=17			PcP	**PcP**	**15 51 02.8**	**+1.2**
RAR	comp=Z,0.4nm,0.8s,baz=72,slow=3.0,SNR=2.7 **Rarotonga**	**35.55**	**112**	LR	LR	15 59 54.0	
KNRA	comp=Z,192nm,19.2s,baz=288,slow=31 **Kununurra**	**35.55**	**258**	P	**P**	**15 48 41.5**	**-0.9**
SOEI	**Soe**	**39.99**	**267**	P	**P**	**15 49 17.6**	**-2.5**
PPT	**Papeete**	**44.64**	**104**	LR	LR	16 04 04.0	
TBI	comp=Z,142nm,20.9s,baz=290,slow=30 **Tubuai**	**45.32**	**112**	eLR	LR	16 02 54.6	
MJAR	comp=Z,336nm,30.8s **Matsushiro Arr**	**53.07**	**333**	P	**P**	**15 51 00.3**	**-1.8**
MAT	comp=Z,21nm,0.4s,baz=179,slow=8.2,SNR=3.6 **Matsushiro**	**53.08**	**333**	P	**P**	**15 51 00.9**	**-1.2**
TAOE	**Nuku Hiva Isla**	**54.14**	**93**	*e*S	**S**	**15 58 46.2**	**+1.7**
TAOE	comp=Z,82nm,37.9s			*e*LR	LR	16 06 46.1	
ASAJ	comp=Z,180nm,26.6s **Asahikawa**	**57.97**	**341**	P	**P**	**15 51 37.0**	**-0.2**
USRK	comp=Z,5.6nm,0.8s,baz=186,slow=9.2,SNR=9.7 **Ussuriysk Ar.**	**62.06**	**334**	P	**P**	**15 52 05.2**	**+0.1**
PETK	comp=Z,1.4nm,0.7s,baz=126,slow=7.3,SNR=2.5 **Petropavlovsk-**	**63.61**	**355**	P	**P**	**15 52 15.2**	**-0.1**
KLR	comp=Z,1.9nm,0.8s,baz=191,slow=7.0,SNR=1.9 **Kul'dur**	**66.19**	**337**	P	**P**	**15 52 32.4**	**+0.2**
VNDA	comp=Z,2.4nm,0.7s,baz=215,slow=3.5,SNR=7.2 **Vanda**	**67.06**	**181**	P	**P**	**15 52 39.6**	**+2.3**
VNDA	comp=Z,4.4nm,1.1s,baz=340,slow=6.3,SNR=5.6 **Vanda**	**67.06**	**181**	P	**P**	**15 52 39.5**	**+2.1**
VNDA	comp=Z,8.2nm,1.2s			IAmb	IAmb	15 52 46.3	
HHC	**Hu-ho-hao-te**	**70.85**	**320**	*e*P	**P**	**15 53 04.1**	**+2.5**
HHC	comp=Z,26nm,0.8s			pmax	pmax		
HHC	comp=Z,140nm,6.6s			pmax	pmax		
SEY	**Seymchan**	**73.81**	**354**	LR	LR	16 23 04.0	
QSPA	comp=Z,149nm,18.6s,baz=307,slow=34 **South Pole Qui**	**79.54**	**180**	P	**P**	**15 53 53.1**	**+1.9**
QSPA	comp=Z,3.2nm,1.0s,baz=296,slow=2.2,SNR=5.8 **South Pole Qui**	**79.54**	**180**	P	**P**	**15 53 53.1**	**+1.9**
QSPA	comp=Z,11nm,1.1s			IAmb	IAmb	15 54 07.8	
H02S1	**DAWSON INLET T**	**82.65**	**33**	T	T	17 24 52.6	
MDM	**Murphy Dome**	**82.94**	**18**	P	**P**	**15 54 10.7**	**+1.6**
MDM	comp=Z,10nm,1.2s			IAmb	IAmb	15 54 14.8	
ILAR	**Eielson Array**	**83.23**	**19**	P	**P**	**15 54 10.1**	**-0.4**
SCRK	comp=Z,2.1nm,0.8s,baz=226,slow=5.7,SNR=18 **Sand Creek**	**83.66**	**20**	P	**P**	**15 54 13.0**	**+0.1**
SCRK	comp=Z,7.5nm,1.0s			IAmb	IAmb	15 54 19.6	
L27K	**Beaver Creek,**	**83.84**	**22**	P	**P**	**15 54 15.4**	**+1.6**
BCAR	**Beaver Creek A**	**83.86**	**22**	P	**P**	**15 54 15.9**	**+2.1**
K27K	**Chicken**	**84.35**	**21**	P	**P**	**15 54 16.1**	**-0.1**
K27K	comp=Z,7.0nm,1.1s			IAmb	IAmb	15 54 24.2	
PALK	**Pallekele**	**85.64**	**278**	P	**P**	**15 54 24.2**	**+0.3**
PALK	comp=Z,16nm,1.0s,baz=108,slow=7.4,SNR=2.6 **Pallekele**	**85.64**	**278**	P	**P**	**15 54 24.2**	**+0.3**
NVAR	**Mina Array Bea**	**86.28**	**50**	P	**P**	**15 54 26.4**	**-0.4**
WMQ	comp=Z,2.9nm,0.9s,baz=236,slow=6.4,SNR=7.2 **Urumqi**	**88.10**	**315**	*e*P	**P**	**15 54 37.6**	**+2.4**
PDAR	**Pinedale Array**	**93.77**	**47**	P	**P**	**15 55 02.1**	**+0.2**
YKA	comp=Z,0.7nm,0.9s,baz=261,slow=4.5,SNR=2.8 **Yellowknife Ar**	**94.84**	**27**	P	**P**	**15 55 05.7**	**-0.2**
KEST	comp=Z,0.7nm,0.9s,baz=241,slow=3.5,SNR=3.1 **Kesra**	**146.45**	**322**	PKPbc	**PKPab**	**16 01 26.8**	**-0.1**
KEST	comp=Z,5.6nm,0.8s,baz=297,slow=5.1,SNR=8.7 **Kesra**	**146.45**	**322**		**PKPab**	**16 01 26.2**	**-0.7**

ESDC Sonseca Array 149.26 343 PKPbc **PKiKP** **16 01 34.1 -0.5**
comp=Z,0.6nm,1.0s,baz=6.5,slow=1.8,SNR=3.2
TORD Torodi Ar. Bea 163.34 281 PKPab **PKPab** **16 02 40.0 +1.1**
comp=Z,0.4nm,0.7s,baz=99,slow=2.4,SNR=1.5

*IDC **18** 15:45:59.5±2.3, 0°.15N×98°.22E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/59, mbtmp3.5/4, ML4.0/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/44, Error ellipse: s-maj=100.0km s-min=28.3km az=55.0*
*DJA **18** 15:46:07.9±2.2, 1°.N±4°×9°.9E±°, h16km±21km, M4.1/5, MLv4.1/5*
ISC 18 15:46:06.5±1.4, 0°.4N±0°.1×98°.5E±0°.1, h43km, n12, σ0§50/8, mb3.1/3, MS4.0/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.19**	**68**	P	**Pn**	**15 46 27.0**	**+0.4**
MNSI				S	**Sn**	**15 46 40.9**	**-0.7**
TSI	**Tuntungan**	**3.13**	**2**	P	**Pn**	**15 46 53.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**18.00**	**1**	P	**P**	**15 50 13.8**	**+0.1**
APSI	0.2nm,0.3s,baz=194,slow=11,SNR=6.8 **Ampana**	**23.20**	**93**	P	**P**	**15 51 10.5**	**+0.7**
H08S2	2μm190nm,1.1s **Diego Garcia H**	**27.10**	**252**	T	T	16 19 19.5	
H08S3	baz=73,slow=75,SNR=12 **Diego Garcia H**	**27.11**	**252**	T	T	16 19 18.1	
H08S1	baz=73,slow=75,SNR=11 **Diego Carcia H**	**27.12**	**252**	T	T	16 19 24.8	
NWAO	baz=73,slow=75,SNR=11 **Narrogin (SRO)**	**37.52**	**154**	LR	LR	16 09 14.0	
WRA	comp=Z,248nm,18.3s,baz=178,slow=37 **Warramunga Arr**	**40.50**	**122**	P	**P**	**15 53 41.4**	**-0.2**
WRA	0.3nm,0.8s,baz=310,slow=9.8,SNR=0.8			LR	LR	16 14 35.6	
ASAR	comp=Z,260nm,18.1s,baz=335,slow=42 **Alice Springs**	**41.86**	**127**	P	**P**	**15 53 52.4**	**-0.4**
LSZ	0.2nm,0.7s,baz=300,slow=8.0,SNR=4.3 **Lusaka**	**71.10**	**254**	LR	LR	16 22 29.9	
FINES	comp=Z,42nm,21.6s,baz=100,slow=31 **FINESS Array B**	**81.34**	**332**	P	**P**	**15 58 18.1**	**-0.2**
	2.1nm,0.8s,baz=124,slow=7.2,SNR=5.0						

*MAN **18** 15:46:40.3, 18°.83N×121°.03E, h9km, mb5.9, ML4.9, MS5.3*
*NEIC **18** 15:46:40.9±2.7, 18°.80N±0°.05×120°.96E±0°.08, h10km±1km, mb5.4/151, Error ellipse: s-maj=13.3km s-min=8.0km az=101.0*
*BJI **18** 15:46:42.2±0.0, 18°.99N×121°.02E, h18km, mB5.1/57, mb5.0/73, ML4.9/4, Ms5.0/87, Ms7 4.8/80*
*MOS **18** 15:46:42.5±1.0, 18°.78N×121°.10E, h35km, mb5.5/68, MS4.6/20, Error ellipse: s-maj=6.9km s-min=3.8km az=115.7*
*GCMT **18** 15:46:42.8±0.1, 18°.92N±0°.01×120°.92E±0°.01, h28km, MW5.3/132, Moment Tensor Solution. s96,c159; s132,c213; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.75±.02; $M_{\theta\theta}$0.93±.01; $M_{\phi\phi}$-0.18±.02; $M_{r\theta}$0.15±.02; $M_{\theta\phi}$-0.59±.01; $M_{\phi r}$0.14±.03; Best double couple: $M_0$1.01400×10^{17} NP1:ϕ_s137.00000°, δ48.00000°, λ-55.00000°. NP2:ϕ_s271.00000°, δ53.00000°, λ-122.00000°. Principal axes: T 1.1850, Plg3.0000°, Azm23.0000°; N -0.3420, Plg25.0000°, Azm292.0000°; P -0.8430, Plg65.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **18** 15:46:43.3±1.7, 18°.75N×121°.04E, h27km±11km, mb4.9/47, mb1 5.0/50, mb1mx4.9/59, mbtmp5.1/50, ML4.7/3, MS4.5/36, Ms1 4.5/36, ms1mx4.3/57 Error ellipse: s-maj=10.9km s-min=7.5km az=69.0*
*KLM **18** 15:46:45, 18°.80N×121°.12E, h55km, mb5.3*
ISC 18 15:46:43.4±0.5, 18°.83N±0°.02×121°.14E±0°.03, h26km±3km, h26km:pP-P, n945, σ2§02/989, mb5.3/248, MS4.7/74, 127C-181D, Fault plane solution: NP1:ϕ_s155.13986°, δ60.59499°, λ-42.58672°. **NP2:**ϕ_s269.42804°, δ53.87663°, λ-142.56674°. **Principal axes:** T Plg3.9958°, Azm213.6815°; N Plg39.8965°, Azm307.0294°; P Plg49.8210°, Azm118.9365°; **Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.04**	**124**	⇓*e*P	**Pb**	**15 47 03.4**	**+0.5**
SIPP	**Brgy, Tapao**	**1.11**	**216**	⇑⇑*i*P	**Pn**	**15 47 00.2**	**-3.0**
SIPP				*i* S	**Sb**	**15 47 24.7**	**+6.8**
CVP	**Callao Caves**	**1.29**	**150**	⇓⇓*i*P	**Pb**	**15 47 07.0**	**-0.2**
CVP				*i* S	**Sb**	**15 47 25.8**	**+2.5**
SZP	**Santa**	**1.42**	**207**		**Pn**	**15 47 05.2**	**-2.5**
BBP	**Basco**	**1.79**	**26**	*i* P	**Pn**	**15 47 12.5**	**-0.2**
BBP				*i* S	**Sn**	**15 47 34.7**	**+0.2**
PCPH	**Palayan**	**3.25**	**181**	⇑⇑*e*P	**Pn**	**15 47 33.8**	**+1.1**
PCPH				*e*S	**Sb**	**15 48 19.8**	**+0.2**
TWG	**Pinlang**	**3.97**	**359**		**Pn**	**15 47 42.0**	**-0.7**
TWG				Sn	**Sn**	**15 48 27.1**	**-1.4**
TPUB	**Ta-pu**	**4.48**	**354**		**Pn**	**15 47 49.0**	**-0.7**
TPUB				Sn	**Sn**	**15 48 39.2**	**-1.7**
YULB	**Yu-li**	**4.54**	**2**	Pn	**Pn**	**15 47 49.4**	**-1.2**
LQP	**Lukban**	**4.71**	**175**	⇓⇓*e*P	**Pn**	**15 47 54.2**	**+1.3**
LQP				*i* S	**Pb**	**15 48 08.3**	**+2.9**
SSLB	**Suanglung**	**4.94**	**358**	Pn	**Pn**	**15 47 55.4**	**-0.6**
GQP	**Guinayangan**	**5.05**	**165**	⇓⇓*e*P	**Pn**	**15 47 57.3**	**-0.3**
GQP				*e*S	**Sn**	**15 48 54.0**	**-1.1**
PGP	**Puerto Galera**	**5.30**	**182**	⇑⇑*e*P	**Pn**	**15 48 01.1**	**+0.1**
NACB	**Ninganchiao**	**5.34**	**5**	Pn	**Pn**	**15 48 02.3**	**+0.8**
YHNB	**Yeheng**	**5.82**	**2**		**Pn**	**15 48 09.5**	**+1.3**
YOJ	**Yonaguni jima**	**5.87**	**17**	P	**Pn**	**15 48 10.0**	**+1.2**
YOJ	**Yonaguni jima**	**5.87**	**17**		**Pn**	**15 48 10.0**	**+1.2**
TATO	**Taipei**	**6.13**	**3**	Pn	**Pn**	**15 48 14.5**	**+2.2**
KNMB	**Chin-men Tao**	**6.16**	**336**	Pn	**Pn**	**15 48 10.9**	**-1.9**
QZH	**Quanzhou**	**6.53**	**339**	*e*Pn	**Pn**	**15 48 15.3**	**-2.5**
QZH				Sn	Sn	15 49 21.6	-10
QZH				smax	smax		
QZH	comp=N,310nm,0.9s			smax	smax		
QZH	comp=E,570nm,1.0s			LR	LR		
QZH	comp=N,5μm,14.1s			LR	LR		
QZH	comp=E,5μm,14.7s			LR	LR		
QZH	comp=Z,6μm,14.7s			LR	LR		
RCP	**Roxas**	**7.39**	**168**	⇓*e*P	Pn	15 48 36.0	+6.3
MCO	**Taipa Grande**	**7.82**	**296**	P	**Pn**	**15 48 33.0**	**-2.6**
SNPH	**Sibulan**	**9.65**	**168**	*e*P	Pn	15 49 06.0	+5.2
JOW	**Kunigami**	**10.33**	**38**	Pn	**Pn**	**15 49 11.4**	**+1.3**
JOW	17nm,0.3s,baz=214,slow=12,SNR=40			Sn	**Sn**	**15 51 01.0**	**-4.1**
JOW	1.6nm,0.3s,baz=24,slow=28,SNR=1.3 **Kunigami**	**10.33**	**38**	Pn	**Pn**	**15 49 10.9**	**+0.9**
QIZ	**Qiongzhong**	**10.69**	**273**	P	**Pn**	**15 49 11.5**	**-3.5**
QIZ				S	**Sn**	**15 51 12.6**	**-1.3**
QIZ				pmax	pmax		
QIZ	comp=Z,59nm,0.4s			LR	LR		
QIZ	comp=N,3μm,14.7s			LR	LR		
QIZ	comp=E,3μm,15

NJ2			sP		15 50 00.8	
NJ2			PP	PnPn	15 50 03.4	+4.3
NJ2			S	Sn	15 52 18.5	+0.2
NJ2			SS	SnSn	15 52 30.3	-0.8
NJ2			pmax	pmax		
	comp=Z,39nm,1.1s					
NJ2			LR	LR		
	comp=N,4μm,15.2s					
NJ2			LR	LR		
	comp=E,3μm,12.8s					
NJ2			LR	LR		
	comp=Z,5μm,16.1s					
SPMM	Sapulut	14.76	199	P	Pn	15 50 11.0	+0.4
JSU	Suzuyama	15.17	32		Pn	15 50 16.0	-0.1
JSU				IAmb	IAmb	15 50 24.3	
	comp=Z,271nm,1.2s					
KSJJU	Jeju	15.33	17	P	P	15 50 20.4	-2.2
	SNR=11					
GYA	Guiyang	15.36	302	⇓P	Pn	15 50 18.4	-0.2
GYA				pP	P	15 50 24.5	+1.4
GYA				S	Sn	15 53 11.5	+3.4
SGSI	Sangihe	15.65	164	P	Pn	15 50 24.0	+1.6
	comp=Z,8μmcomp=Z,106nm,0.7s					
SLVN	Son La	16.38	282	P	Pn	15 50 30.6	-1.1
KOHB	KOHEUNG	16.65	18	P	P	15 50 37.6	+0.4
	SNR=5.2					
JNU	Nakatsue	16.70	30	Pn	P	15 50 37.1	-0.7
	comp=Z,1.4nm,0.3s,baz=206,slow=8.0,SNR=33					
JNU				LR	LR	15 56 51.1	
	comp=Z,2μm,21.4s,baz=221,slow=36					
JNU	Nakatsue	16.70	30	P	P	15 50 37.7	-0.2
JNU				IAmb	IAmb	15 50 39.2	
	comp=Z,334nm,1.3s					
BOSB	Boseong-gun	16.77	18	P	P	15 50 39.0	+0.5
	SNR=14					
GWYB	Gwangyang	17.08	19	P	P	15 50 44.0	+2.0
	SNR=19					
NONG	Nongkai	17.09	270	P	P	15 50 43.2	+1.0
	comp=Z,11μmcomp=Z,98nm,1.2s					
NONG	Nongkai	17.09	270	P	P	15 50 43.3	+1.0
	comp=Z,11μmcomp=Z,99nm,1.2s					
NAWB	Namwon	17.43	17	P	P	15 50 47.0	+1.1
	SNR=15					
KSMAS	Masan	17.56	21	P	P	15 50 48.2	+0.8
	SNR=12					
KSMAS	Masan	17.56	21	P	P	15 50 48.2	+0.8
	SNR=12					
TOLI2	Tolitoli	17.61	181	P	Pn	15 50 45.8	-1.3
EURB	Uiryeong-eup	17.61	20	P	P	15 50 49.0	+1.1
	SNR=18					
EURB	Uiryeong-eup	17.61	20	P	P	15 50 49.0	+1.1
	SNR=18					
HAMB	Hamyang	17.62	18	P	P	15 50 50.0	+2.0
	SNR=13					
KHON	Khomkaen	17.63	265	P	P	15 50 49.5	+1.2
	comp=Z,2μmcomp=Z,87nm,1.0s					
KHON	Khomkaen	17.63	265	P	P	15 50 49.5	+1.2
	comp=Z,604nmcomp=Z,22nm,1.0s					
TIA	Tai'an	17.68	349	⇑P	P	15 50 49.5	+0.9
TIA				pmax	pmax		
	comp=Z,49nm,1.4s					
TIA				pmax	pmax		
	comp=Z,1μm,3.5s					
TIA				LR	LR		
	comp=Z,2μm,17.4s					
TIA				LR	LR		
	comp=Z,2μm,22.3s					
TIA				LR	LR		
	comp=Z,4μm,18.1s					
KSKCH	Geochang	17.77	18	P	P	15 50 52.0	+2.3
	SNR=14					
KSBUS	Busan	17.82	22	P	P	15 50 53.0	+2.8
	SNR=8.4					
KSBUS	Busan	17.82	22	P	P	15 50 53.0	+2.8
	SNR=8.4					
KSBUS	Busan	17.82	22	P	P	15 50 53.0	+2.8
	SNR=8.4					
KSBUS	Busan	17.82	22	P	P	15 50 53.0	+2.8
	SNR=8.4					
KSJEO	Jeonju	17.89	16	P	P	15 50 52.0	+1.0
	SNR=12					
MIYA	Miryang-si	17.91	21	P	P	15 50 54.0	+2.8
	SNR=7.2					
MIYA	Miryang-si	17.91	21	P	P	15 50 54.0	+2.8
	SNR=7.2					
KSGBI	Gyogryolbido	18.15	11	P	P	15 50 55.8	+2.0
	SNR=8.9					
KMI	Kunming	18.17	293	⇑P	P	15 50 55.8	+1.5
KMI				pP	pP	15 51 01.3	+0.5
KMI				sP	sP	15 51 04.3	+0.7
KMI				PP	PnPn	15 51 10.4	+4.8
KMI				S	Sn	15 54 14.9	-1.5
KMI				sS	S	15 54 24.3	+3.0
KMI				SS	SnSn	15 54 34.8	+4.6
KMI				pmax	pmax		
	comp=Z,240nm,5.6s					
KMI				LR	LR		
	comp=Z,3μm,12.7s					
KMI				LR	LR		
	comp=Z,3μm,16.3s					
KMI				LR	LR		
	comp=Z,2μm,17.9s					
GTOI	Gorontalo	18.17	174	P	P	15 50 54.3	+0.1
	comp=Z,780nmcomp=Z,64nm,1.1s					
KSDAG	Daegu	18.22	21	P	P	15 50 57.0	+2.4
	SNR=13					
KSDAG	Daegu	18.22	21	P	P	15 50 57.0	+2.4
	SNR=13					
KSUSN	Ulsan	18.23	21	P	P	15 50 58.0	+3.2
	SNR=7.1					
KSUSN	Ulsan	18.23	21	P	P	15 50 58.0	+3.2
	SNR=7.1					
KSGIC	Gimchen	18.25	18	P	P	15 50 59.5	+4.6
	SNR=6.1					
MRSI	Marisa	18.25	177	P	P	15 50 55.8	+0.7
	comp=Z,2μmcomp=Z,135nm,2.2s					
TJN	Taejon	18.32	16	*c i*P	P	15 50 55.7	0.0
KSCPR	CHUPUNGNYEONG	18.35	18	P	Pn	15 50 58.1	+2.0
	SNR=16					
KSCPR	CHUPUNGNYEONG	18.35	18	P	Pn	15 50 58.1	+2.0
	SNR=16					
KOJ2	Gongju-si	18.36	16	P	Pn	15 50 57.0	+0.8
	SNR=16					
KOJ2	Gongju-si	18.36	16	P	Pn	15 50 57.0	+0.8
	SNR=16					
OKCB	Cheongsan-myeo	18.41	17	P	Pn	15 50 58.0	+1.1
	SNR=22					
OKCB	Cheongsan-myeo	18.41	17	P	Pn	15 50 58.0	+1.1
	SNR=22					
OKCB	Cheongsan-myeo	18.41	17	P	Pn	15 51 00.2	+3.3
	SNR=6.2					
MPSI	Mapaga	18.41	184	P	Pn	15 50 57.6	+0.6
	comp=Z,2μmcomp=Z,813nmcomp=Z,77nm,1.0s					
KSYOC	YEONGCHEON	18.42	20	P	Pn	15 50 58.6	+1.6
	SNR=9.2					
KSYOC	YEONGCHEON	18.42	20	P	Pn	15 50 58.6	+1.6
	SNR=9.2					
SBUM	Sibu	18.47	209	P	P	15 50 57.0	-0.5
KSSES	Seosan	18.50	14	P	Pn	15 50 58.0	+0.1
	SNR=13					
KSSES	Seosan	18.50	14	P	Pn	15 50 58.0	+0.1
	SNR=13					
CHAI	Chaiyaphum	18.51	264	P	Pn	15 50 58.7	+0.6
	comp=Z,610nmcomp=Z,58nm,1.0s					
CHAI	Chaiyaphum	18.51	264	P	Pn	15 50 58.8	+0.6
	comp=Z,152nmcomp=Z,14nm,1.0s					
KSBON	Boeun	18.56	17	P	Pn	15 50 59.4	+0.7
	SNR=25					
KSBON	Boeun	18.56	17	P	Pn	15 50 59.4	+0.7
	SNR=25					
KSBON	Boeun	18.56	17	P	Pn	15 51 01.7	+3.0
	SNR=5.9					
KSSAJ	Sangju	18.57	18	P	Pn	15 50 59.9	+1.0
	SNR=9.3					
KSSAJ	Sangju	18.57	18	P	Pn	15 50 59.9	+1.0
	SNR=9.3					
XAN	Xi'an	18.66	327	P	Pn	15 51 00.4	+0.4
XAN				pP	pP	15 51 04.3	-1.8
XAN				S	S	15 54 29.8	-0.8
XAN				pmax	pmax		
	comp=Z,63nm,1.1s					
XAN				pmax	pmax		
	comp=Z,770nm,5.7s					
XAN				LR	LR		
	comp=Z,3μm,15.7s					
XAN				LR	LR		
	comp=Z,2μm,14.4s					
XAN				LR	LR		
	comp=Z,3μm,12.8s					
KSEUS	ULSEONG	18.68	19	P	Pn	15 51 06.2	+6.1
	SNR=5.5					
KSCEA	Cheonan	18.72	15	P	Pn	15 51 01.3	+0.7
	SNR=27					
KSCEA	Cheonan	18.72	15	P	Pn	15 51 00.9	+0.4
	SNR=10.0					
KSPHA	Pohang	18.76	21	P	Pn	15 51 04.0	+2.9
	SNR=5.6					
KSPHA	Pohang	18.76	21	P	Pn	15 51 04.0	+2.9
	SNR=5.6					
KSMGY	Mungyeong	18.78	18	P	Pn	15 51 02.0	+0.7
	SNR=33					
KSMGY	Mungyeong	18.78	18	P	Pn	15 51 02.0	+0.7
	SNR=33					
KSMGY	Mungyeong	18.78	18	P	Pn	15 51 03.7	+2.4
	SNR=9.7					
KSADO	Andong	18.82	20	P	Pn	15 51 04.0	+2.2
	SNR=13					
KSADO	Andong	18.82	20	P	Pn	15 51 04.0	+2.2
	SNR=13					
HAWB	Hwaseong-si	18.85	14	P	Pn	15 51 03.0	+0.8
	SNR=6.9					
HAWB	Hwaseong-si	18.85	14	P	Pn	15 51 03.0	+0.8
	SNR=6.9					
KSDEI	Deokjeokdo	18.87	12	P	Pn	15 51 02.7	+0.4
	SNR=25					
KSDEI	Deokjeokdo	18.87	12	P	Pn	15 51 02.7	+0.4
	SNR=25					
KSCHJ	Chungju	18.96	17	P	Pn	15 51 03.2	-0.3
	SNR=7.4					
KSCHJ	Chungju	18.96	17	P	Pn	15 51 04.0	+0.5
	SNR=6.9					
KSCHJ	Chungju	18.96	17	P	Pn	15 51 03.1	-0.3
	SNR=37					
KSCHJ	Chungju	18.96	17	P	Pn	15 51 04.0	+0.5
	SNR=6.9					
TNTI	Ternate	18.96	160	P	P	15 51 02.6	-0.2
	comp=Z,1μmcomp=Z,74nm,1.0s					
KSSWO	Suwon	19.07	14	P	Pn	15 51 05.3	+0.5
	SNR=28					
KSSWO	Suwon	19.07	14	P	Pn	15 51 05.3	+0.5
	SNR=28					
SHHB	Siheung-si	19.09	14	P	Pn	15 51 05.0	0.0
	SNR=24					
SHHB	Siheung-si	19.09	14	P	Pn	15 51 07.0	+2.0
	SNR=11					
KSICN	Icheon	19.20	15	P	Pn	15 51 06.6	+0.2
	SNR=22					
KSULJ	Uljin	19.24	21	P	Pn	15 51 09.0	+2.1
	SNR=14					
KSULJ	Uljin	19.24	21	P	Pn	15 51 09.0	+2.1
	SNR=14					
KSSEO	Seoul	19.27	14	P	Pn	15 51 07.0	-0.2
	SNR=28					
KSSEO	Seoul	19.27	14	P	Pn	15 51 08.9	+1.7
	SNR=5.8					
KSSEO	Seoul	19.27	14	P	Pn	15 51 09.0	+1.7
	SNR=5.9					
KSSEO	Seoul	19.27	14	P	P	15 51 06.7	+0.6
	SNR=28					
KSSEO	Seoul	19.27	14	P	Pn	15 51 07.0	-0.2
	SNR=28					
JHS	Saijyo	19.30	31	P	Pn	15 51 07.3	-0.3
KSSOD	Songwoldong	19.36	14	P	Pn	15 51 09.1	+0.8
	SNR=9.0					
KSYOW	Yeongwol	19.37	18	P	Pn	15 51 09.8	+1.3
	SNR=9.2					
KSGAH	Ganghwa	19.38	13	P	P	15 51 07.6	+0.3
	SNR=22					
KSAR	Wonju Array Be	19.46	16	P	P	15 51 08.6	+0.4
KSAR	Wonju Array Be	19.46	16	P	P	15 51 08.6	+0.4
KSWJU	Wonju	19.47	17	P	Pn	15 51 11.1	+1.4
	SNR=11					
KSTBA	Taebaek	19.48	19	P	Pn	15 51 12.7	+2.9
	SNR=9.5					
KSRS	Korea Array	19.49	16	P	P	15 51 08.4	-0.1
	comp=Z,5.9nm,0.3s,baz=199,slow=11,SNR=183					
KSRS				PcP	PcP	15 55 28.6	-0.2
	comp=Z,0.1nm,0.3s,baz=206,slow=1.7,SNR=7.4					
KSRS				ScP	ScP	15 59 02.8	-0.4
	comp=Z,0.0nm,0.3s,baz=180,slow=2.5,SNR=4.5					
KSRS				LR	LR	15 59 41.9	
	comp=Z,2μm,18.9s,baz=202,slow=40					
KS19	Wonju Array Si	19.52	16	P	P	15 51 08.6	-0.2
UTTA	Uttaradit	19.57	270	P	Pn	15 51 11.6	+0.6
	comp=Z,387nmcomp=Z,29nm,0.8s					
UTTA	Uttaradit	19.57	270	P	Pn	15 51 11.7	+0.7
	comp=Z,96nmcomp=Z,7.2nm,0.8s					
KSMUS	Musan	19.62	13	P	Pn	15 51 10.7	-0.6
	SNR=13					
PHIT	Phitsanulok	19.77	269	P	Pn	15 51 13.9	+0.5
	comp=Z,2μmcomp=Z,281nm,0.9s					
PHIT	Phitsanulok	19.77	269	P	Pn	15 51 13.9	+0.5
	comp=Z,510nmcomp=Z,70nm,0.9s					
YNCB	YEONCHEON	19.80	14	P	P	15 51 12.7	+0.8
	SNR=14					
CD2	Chengdu	19.80	311	⇑*i*P	P	15 51 12.4	+0.4
CD2				pP	pP	15 51 19.4	+1.2
CD2				PP	PnPn	15 51 32.6	+4.8
CD2				S	S	15 54 51.5	-2.4
CD2				SS	SnSn	15 55 18.8	+8.7
CD2				pmax	pmax		
	comp=Z,100nm,1.4s					
CD2				pmax	pmax		
	comp=Z,800nm,4.8s					
CD2				LR	LR		
	comp=Z,3μm,16.5s					
CD2				LR	LR		
	comp=Z,4μm,12.9s					
CD2				LR	LR		
	comp=Z,3μm,12.4s					
LUWI	Luwuk	19.81	175	P	P	15 51 11.0	-1.2
LUWI	Luwuk	19.81	175	P	P	15 51 12.5	+0.3
	comp=Z,5μmcomp=Z,497nm,1.1s					
DL2	Dalian	20.01	1	P	Pn	15 51 15.9	-0.1
DL2				pmax	pmax		
	comp=Z,200nm,1.0s					
DL2				pmax	pmax		
	comp=Z,550nm,5.9s					
DL2				LR	LR		
	comp=Z,18μm,25.0s					
DL2				LR	LR		
	comp=Z,3μm,16.1s					
DL2				LR	LR		
	comp=Z,2μm,19.2s					
KSM	Kuching	20.25	213	P	P	15 51 16.0	-1.0
TIY	Taiyuan	20.30	340	*e*P	Pn	15 51 19.4	-0.1
TIY				pP	pwP	15 51 26.4	0.0
TIY				sP	sP	15 51 30.1	+2.3
TIY				S	S	15 55 02.8	-1.0
TIY				sS	sS	15 55 11.5	-3.4
TIY				pmax	pmax		
	comp=Z,120nm,1.0s					
TIY				LR	LR		
	comp=Z,3μm,15.4s					
TIY				LR	LR		
	comp=Z,2μm,14.9s					
TIY				LR	LR		
	comp=Z,3μm,17.2s					
LAMP	Lampang	20.38	273	P	Pn	15 51 20.8	+0.3
	comp=Z,488nmcomp=Z,53nm,1.1s					
LAMP	Lampang	20.38	273	P	Pn	15 51 20.8	+0.3
	comp=Z,122nmcomp=Z,13nm,1.1s					
BKB	Balikpapan	20.39	192		P	15 51 17.4	-1.1
BKB	Balikpapan	20.39	192	P	P	15 51 17.8	-0.7
	comp=Z,3μmcomp=Z,6μmcomp=Z,381nm,0.9s					
MTKI	Muara Teweh, K	20.58	198	P	P	15 51 20.1	-0.5
	comp=Z,1μmcomp=Z,3μmcomp=Z,119nm,1.0s					
JWT	Wachi	20.70	35		Pn	15 51 23.9	-0.2
CM34	Chiang Mai Arr	20.81	274	P	P	15 51 24.0	+0.9
CM35	Chiang Mai Arr	20.82	273	P	P	15 51 24.0	+0.9
CM36	Chiang Mai Arr	20.88	273	P	P	15 51 25.0	+1.1
STKI	Sintang	20.92	208	P	P	15 51 23.3	-0.9
	comp=Z,84nm,1.3s					
UTHA	Uthitani	20.97	264	P	P	15 51 26.0	+1.2
	comp=Z,192nmcomp=Z,25nm,0.9s					
CM09	Chiang Mai Arr	20.99	273	P	Pn	15 51 26.7	-1.0
	comp=Z,505nmcomp=Z,62nm,1.3s					
CM09	Chiang Mai Arr	20.99	273	P	Pn	15 51 26.8	-0.9
	comp=Z,505nmcomp=Z,62nm,1.3s					
CMMT	Chiang Mai	21.00	274	P	P	15 51 25.6	+0.5
	comp=Z,889nmcomp=Z,86nm,1.1s					
CMMT	Chiang Mai	21.00	274	P	P	15 51 25.6	+0.5
	comp=Z,889nmcomp=Z,86nm,1.1s					
CM04	Chiang Mai Arr	21.00	272	P	P	15 51 26.9	+1.8
	comp=Z,689nmcomp=Z,92nm,1.0s					
CM04	Chiang Mai Arr	21.00	272	P	P	15 51 26.9	+1.8
	comp=Z,689nmcomp=Z,92nm,1.0s					
CM33	Chiang Mai Arr	21.00	274	P	P	15 51 25.0	-0.2
CHTO	Chiang Mai	21.01	274	P	P	15 51 25.8	+0.6
CHTO				pmax	pmax		
	comp=Z,49nm,1.1s					
CHTO	Chiang Mai	21.01	274	P	P	15 51 25.6	+0.4
	comp=Z,658nmcomp=Z,87nm,1.1s					
CM01	Chiang Mai Arr	21.02	272	P	P	15 51 27.0	+1.7
	comp=Z,580nmcomp=Z,69nm,1.2s					
CM01	Chiang Mai Arr	21.02	272	P	P	15 51 27.0	+1.7
	comp=Z,580nmcomp=Z,69nm,1.2s					
CM02	Chiang Mai Arr	21.03	273	P	P	15 51 27.0	+1.6
	comp=Z,601nmcomp=Z,79nm,1.1s					
CM02	Chiang Mai Arr	21.03	273	P	P	15 51 27.1	+1.6
	comp=Z,601nmcomp=Z,79nm,1.1s					
CM31	Chiang Mai Arr	21.03	273	P	P	15 51 27.1	+1.7
	comp=Z,13μmcomp=Z,1μm,1.3s					
CMAR	Chiang Mai Arr	21.03	273	P	P	15 51 25.7	+0.2
	comp=Z,43nm,0.9s,baz=80,slow=8.7,SNR=71					
CMAR				PcP	PcP	15 55 32.4	+0.4
	comp=Z,9.2nm,0.7s,baz=75,slow=0.4,SNR=26					
CMAR				ScP	ScP	15 59 06.6	-0.6
	comp=Z,3.9nm,0.9s,baz=27,slow=0.8,SNR=13					
CMAR				LR	LR	15 59 42.1	
	comp=Z,821nm,18.4s,baz=126,slow=37					
CMAR				PKiKP	PKiKP	16 03 18.3	-1.4
	comp=Z,1.0nm,0.8s,baz=270,slow=0.9,SNR=5.1					
CM05	Chiang Mai Arr	21.03	272	P	P	15 51 27.2	+1.7
	comp=Z,523nmcomp=Z,61nm,1.0s					
CM05	Chiang Mai Arr	21.03	272	P	P	15 51 27.0	+1.5
	comp=Z,523nmcomp=Z,61nm,1.0s					
JCJ	Chichijima	21.04	63	P	P	15 51 26.9	+1.5
	comp=Z,76nm,0.8s,baz=294,slow=20,SNR=4.9					
JCJ				LR	LR	15 58 05.9	
	comp=Z,501nm,20.2s,baz=248,slow=32					
JCJ	Chichijima	21.04	63	P	P	15 51 25.8	+0.4
JCJ				IAmb	IAmb	15 51 37.4	
	comp=Z,181nm,0.9s					
CM15	Chiang Mai Arr	21.05	273	P	P	15 51 27.2	+1.6
	comp=Z,555nmcomp=Z,73nm,1.1s					
CM15	Chiang Mai Arr	21.05	273	P	P	15 51 27.2	+1.6
	comp=Z,555nmcomp=Z,73nm,1.1s					
CM13	Chiang Mai Arr	21.07	272	P	P	15 51 27.5	+1.7
	comp=Z,597nmcomp=Z,76nm,1.0s					
CM13	Chiang Mai Arr	21.07	272	P	P	15 51 27.6	+1.7
	comp=Z,597nmcomp=Z,76nm,1.0s					
CM32	Chiang Mai Arr	21.11	273	P	P	15 51 27.0	+0.7
SANI	Sanana	21.29	167	P	P	15 51 27.3	-0.9
	comp=Z,2μmcomp=Z,120nm,1.0s					
UMPA	Umpang Tak	21.40	266	P	P	15 51 32.9	+3.5
	comp=Z,794nmcomp=Z,86nm,1.2s					
UMPA	Umpang Tak	21.40	266	P	P	15 51 33.0	+3.5
	comp=Z,197nmcomp=Z,21nm,1.2s					
PHET	Kaeng Krachan	21.50	257	P	P	15 51 32.3	+1.9
	comp=Z,814nmcomp=Z,102nm,0.9s					
PHET	Kaeng Krachan	21.50	257	P	P	15 51 32.3	+1.9
	comp=Z,210nmcomp=Z,26nm,0.9s					
SRDT	SRDT	21.56	261	P	P	15 51 33.4	+2.3
	comp=Z,15μmcomp=Z,72nm,1.5s					
SRDT	SRDT	21.56	261	P	P	15 51 33.4	+2.3
	comp=Z,15μmcomp=Z,72nm,1.5s					
BJI	Beijing	21.57	350	P	P	15 51 31.8	+0.8
BJI				pP	pP	15 51 37.1	-0.9
BJI				sP	sP	15 51 41.8	+0.5
BJI				S	S	15 55 25.3	-3.4
BJI				pmax	pmax		
	comp=Z,46nm,1.0s					
BJI				pmax	pmax		
	comp=Z,1.0nm,2.6s					
BJI				LR	LR		
	comp=Z,2μm,20.8s					
BJI				LR	LR		
	comp=Z,1μm,16.7s					
BJI				LR	LR		
	comp=Z,3μm,18.9s					
INU	Inuyama	21.65	37	P	P	15 51 34.3	+2.4
INU				IAmb	IAmb	15 51 38.9	
	comp=Z,148nm,0.8s					
TTSI	Tana Toraja	21.77	184	P	P	15 51 34.2	+0.8
	comp=Z,992nmcomp=Z,90nm,1.0s					
JHJ	Hachijo jima 2	21.94	46	P	P	15 51 37.8	+2.7
	comp=Z,108nm,0.7s,baz=234,slow=22,SNR=4.4					
JHJ				LR	LR	15 58 36.5	
	comp=Z,886nm,20.4s,baz=278,slow=32					
SWI	Sorong	21.95	152	P	P	15 51 36.5	+1.2
SWI				pmax	pmax		
	comp=Z,58nm,0.8s					
SWI	Sorong	21.95	152	P	P	15 51 36.3	+1.0
	comp=Z,1μmcomp=Z,59nm,0.7s					
SIJI	Sorong	21.96	152	P	P	15 51 34.9	-0.5
	comp=Z,30nm,0.7s,baz=340,slow=21,SNR=7.5					
SIJI				LR	LR	16 01 53.5	
	comp=Z,613nm,19.9s,baz=322,slow=42					
MHMT	Maesarieng	22.01	272	P	P	15 51 38.1	+2.0
	comp=Z,1μmcomp=Z,101nm,1.5s					
MHMT	Maesarieng	22.01	272	P	P	15 51 38.0	+2.0
	comp=Z,1μmcomp=Z,101nm,1.5s					
KBKI	Kotabaru	22.52	193	P	P	15 51 40.3	-1.1
	comp=Z,616nmcomp=Z,62nm,1.2s					
NLAI	Namlea	22.70	164	P	P	15 51 45.0	+1.7
	comp=Z,2μmcomp=Z,78nm,0.7s					
LZH	Lanzhou	22.98	322	*e*P	P	15 51 47.4	+1.1
LZH				pP	sP	15 51 56.3	+0.3
LZH				sP	pwP	15 51 59.3	+4.2
LZH				PP	PnPn	15 52 16.1	+4.7
LZH				S	S	15 55 54.3	-1.0
LZH				SS	SnSn	15 56 31.3	+3.1
LZH				pmax	pmax		
	comp=Z,100nm,1.0s					
LZH				pmax	pmax		
	comp=Z,440nm,4.6s					
LZH				LR	LR		
	comp=Z,2μm,16.5s					
LZH				LR	LR		
	comp=Z,1μm,15.5s					
LZH				LR	LR		
	comp=Z,2μm,15.7s					
BBKI	Banjar Baru	23.00	196	P	P	15 51 45.0	-1.4
	comp=Z,2μmcomp=Z,202nm,1.0s					
SNY	Shenyang	23.02	5	⇓P	P	15 51 46.1	-0.3
SNY				S	S	15 55 47.4	-8.1
SNY				pmax	pmax		
	comp=Z,120nm,1.1s					
SNY				pmax	pmax		
	comp=Z,620nm,4.1s					
SNY				LR	LR		
	comp=Z,2μm,18.9s					
SNY				LR	LR		
	comp=Z,3μm,15.5s					
SNY				LR	LR		
	comp=Z,2μm,17.1s					
SKLT	Songkhla	23.07	243	P	P	15 51 49.3	+2.1
	comp=Z,2μmcomp=Z,39nm,1.0s					
SKLT	Songkhla	23.07	243	P	P	15 51 49.0	+1.8
	comp=Z,2μmcomp=Z,39nm,1.0s					
BNSI	Bone	23.10	183	P	P	15 51 46.9	-0.6
	comp=Z,745nmcomp=Z,50nm,1.0s					
MAJO	Matsushiro	23.17	37	⇑*e*P	P	15 51 50.6	+2.5
MAJO				pmax	pmax		
	comp=Z,32nm,1.0s					
MAJO	Matsushiro	23.17	37	P	P	15 51 47.9	-0.2
MAT	Matsushiro	23.17	37	P	P	15 51 47.8	-0.3
MAT				S	S	15 55 59.6	+1.4
MJAR	Matsushiro Arr	23.17	37	P	P	15 51 49.8	+1.7
	comp=Z,28nm,0.5s,baz=210,slow=6.8,SNR=22					
HHC	Hu-ho-hao-te	23.43	342	*e*P	P	15 51 52.1	+1.4
HHC				S	S	15 56 03.6	+1.0
HHC				pmax	pmax		
	comp=Z,68nm,0.9s					
HHC				pmax	pmax		
	comp=Z,560nm,6.6s					
HHC				LR	LR		
	comp=Z,3μm,16.3s					
HHC				LR	LR		
	comp=Z,2μm,17.5s					
HHC				LR	LR		
	comp=Z,3μm,17.2s					
BTO	Baotou	23.71	339	*e*P	P	15 51 55.4	+2.0
BTO				S	S	15 56 09.8	+2.7
BTO				pmax	pmax		
	comp=Z,120nm,0.9s					
BTO				LR	LR		
	comp=Z,

KAPI Kappang 23.73 183 P **P 15 51 52.2 -1.5**
comp=Z,37nm,0.6s,baz=353,slow=8.5,SNR=9.4
KAPI LR LR 16 01 12.4
comp=Z,2μm,21.8s,baz=12,slow=37
KAPI Kappang 23.73 183 P **P 15 51 53.1 -0.5**
KAPI pmax pmax
comp=Z,74nm,1.0s
KAPI Kappang 23.73 183 P **P 15 51 53.1 -0.5**
KRAB Krabi 23.76 247 P **P 15 51 55.2 +1.2**
comp=Z,34μmcomp=Z,701nm,0.6s
KRAB Krabi 23.76 247 P **P 15 51 55.0 +1.0**
MYKOM Kota Tinggi 23.95 227 P **P 15 51 54.0 -1.8**
BKSI Bulukumba 24.02 182 P **P 15 51 55.7 -0.7**
comp=Z,35nm,0.8s
KULM Kulim 24.09 239 P **P 15 51 56.0 -1.1**
JYT Yasato 24.13 40 P **P 15 51 56.7 -0.6**
IPM Ipoh 24.27 237 P **P 15 51 57.0 -1.8**
CN2 Changchun 25.16 7 *e*P **P 15 52 06.3 -0.3**
CN2 S **S 15 56 34.5 +4.5**
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,3μm,16.0s
CN2 LR LR
comp=Z,1μm,21.0s
SRPI Serui, Papua 25.37 143 P **P 15 52 07.4 -1.3**
comp=Z,128nm,1.0s
PPBI Pangkal Pinang 25.55 217 P **P 15 52 09.9 -0.4**
comp=Z,50nm,1.3s
JMM Marumori 25.58 38 P **P 15 52 10.4 0.0**
VLA Vladivostok 25.86 18*de*P **P 15 52 14.0 +1.1**
VLA pmax pmax
comp=Z,90nm,1.5s
JMBI JAMBI 26.63 222 P **P 15 52 21.6 +1.5**
comp=Z,94nm,1.2s
MDJ Mudanjiang 26.67 14 P **P 15 52 20.5 +0.3**
MDJ pP pP 15 52 27.9 0.0
MDJ sP sP 15 52 30.8 +0.3
MDJ S **S 15 56 57.3 +3.4**
MDJ sS sS 15 57 08.3 +1.8
MDJ pmax pmax
comp=Z,30nm,1.3s
MDJ pmax pmax
comp=Z,140nm,3.6s
MDJ LR LR
comp=Z,1μm,19.1s
MDJ LR LR
comp=Z,1μm,14.3s
MDJ LR LR
comp=Z,2μm,18.4s
USRK Ussuriysk Ar. 26.89 17 P **P 15 52 23.2 +1.1**
comp=Z,21nm,0.9s,baz=207,slow=7.6,SNR=22
USRK PcP **PcP 15 55 43.4 -0.6**
comp=Z,2.5nm,0.8s,baz=142,slow=1.2,SNR=4.1
USRK LR LR 16 03 16.0
comp=Z,1μm,20.7s,baz=180,slow=37
PSI Prapat 26.95 236 P **P 15 52 21.4 -1.8**
PSI pmax pmax
comp=Z,27nm,1.0s
PMBI Palembang 26.96 218 P **P 15 52 22.7 -0.4**
comp=Z,15μmcomp=Z,83nm,0.9s
RPSI Rantau Prapat 27.01 236 P **P 15 52 21.4 -2.3**
EDFI Ende, Flores 27.41 179 P **P 15 52 26.4 -0.8**
comp=Z,436nmcomp=Z,32nm,0.9s
GTA Gaotai 27.58 323 ⇓P **P 15 52 28.8 +0.2**
GTA pP pP 15 52 32.6 -3.1
GTA sP pwP 15 52 35.8 -2.7
GTA PcP **PcP 15 55 46.3 +0.3**
GTA S **S 15 57 08.3 -0.3**
GTA sS sS 15 57 18.4 -1.4
GTA ScP **ScP 15 59 24.8 -0.3**
GTA pmax pmax
comp=Z,120nm,5.1s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,830nm,16.4s
GTA LR LR
comp=Z,1μm,16.0s
MNSI Mandailing Nat 27.72 232 P **P 15 52 28.3 -1.6**
comp=Z,72nm,0.8s
BRDH Bariadhala 27.82 283 LR LR 16 05 09.5
comp=Z,1μm,19.4s,baz=128,slow=40
PWJI Pagerwojo 28.22 200 P **P 15 52 35.2 +0.8**
comp=Z,89nm,1.2s
MDSI Maura Dua 28.56 217 P **P 15 52 39.3 +1.9**
comp=Z,14nm,1.0s
LWLI Liwa 29.06 217 P **P 15 52 41.5 -0.5**
comp=Z,96nm,0.7s
LSA Lhasa 29.32 297 P **P 15 52 44.9 +0.3**
LSA pmax pmax
comp=Z,39nm,0.8s
ASAJ Asahikawa 30.97 31 P **P 15 52 58.9 +0.3**
comp=Z,14nm,0.6s,baz=234,slow=9.5,SNR=19
ASAJ Asahikawa 30.97 31 P **P 15 52 59.4 +0.9**
ASAJ pmax pmax
comp=Z,29nm,0.7s
JKA Kamikawa-asahi 30.97 31 P **P 15 52 59.4 +0.9**
JKA IAmb IAmb 15 53 13.0
comp=Z,29nm,0.7s
SONM Songino Array 31.33 341 P **P 15 53 02.5 +0.7**
comp=Z,15nm,0.9s,baz=160,slow=9.2,SNR=70
SONM PcP **PcP 15 55 55.3 -0.1**
comp=Z,5.5nm,0.7s,baz=152,slow=2.9,SNR=6.7
SONM ScP **ScP 15 59 35.3 -1.6**
comp=Z,0.9nm,0.7s,baz=175,slow=2.9,SNR=3.8
SONM LR LR 16 07 38.5
comp=Z,2μm,18.6s,baz=152,slow=40
SONM Songino Array 31.33 341 P **P 15 53 02.1 +0.3**
KLR Kul'dur 31.51 13 P **P 15 53 04.1 +0.9**
comp=Z,50nm,0.8s,baz=229,slow=7.6,SNR=50
KLR PcP **PcP 15 55 55.4 -0.3**
comp=Z,6.4nm,0.8s,baz=204,slow=4.1,SNR=4.9
TAPN Taplejung 31.82 292 *e*P **P 15 53 06.5 -0.1**
comp=Z,52nm,0.9s
ODAN Odare 32.03 291 *e*P **P 15 53 08.2 -0.2**
comp=Z,86nm,0.7s
RAMN Ramite 32.75 291 *e*P **P 15 53 14.8 +0.2**
comp=Z,51nm,0.7s
MTN Manton Dam 32.98 162 P **P 15 53 13.9 -2.5**
YSS Yuzh-Sakhalins 33.19 27*de*P **P 15 53 18.7 +0.8**
YSS *e**SP **pP 15 53 24.8 -0.8**
YSS *e* 15 56 00.4
YSS *e*S **S 15 58 37.1 +1.1**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=E,200nm,12.0s
YSS Yuzh-Sakhalins 33.19 27 P **P 15 53 18.3 +0.4**
JIRN Jiri 33.20 292 *e*P **P 15 53 18.5 -0.2**
comp=E,231nm,1.2s
CIT Chita 33.66 352 *e*P **P 15 53 22.3 +0.3**
CIT *e* 15 54 34.3
CIT *e* 15 54 50.4
CIT *e* 15 56 02.9
CIT pmax pmax
comp=Z,50nm,1.6s
PKI Pulchoki 33.87 292 *e*P **P 15 53 23.5 -1.1**
comp=Z,103nm,1.2s
PKIN Phulchoki 33.89 292 *e*P **P 15 53 23.7 -0.9**
comp=Z,49nm,0.9s
KKN Kakani 34.02 292 *e*P **P 15 53 24.9 -0.8**
GRNR Gornyy 34.11 17⇑*i*P **P 15 53 27.3 +1.4**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
DMN Daman 34.15 292 *e*P **P 15 53 26.2 -0.7**
comp=Z,44nm,0.4s
KUR Kuril'sk 34.44 34⇓*i*P **P 15 53 29.2 +0.4**
KUR S **S 15 58 59.8 +4.4**
KUR pmax pmax
comp=Z,119nm,1.0s
KUR MLR MLR
comp=Z,719nm,16.0s
ZAK Zakamensk 34.55 340 *e*P **P 15 53 30.0 +0.1**
ZAK *e* 15 56 04.1
ZAK pmax pmax
comp=Z,15nm,1.1s
GKN Gorkha 34.61 292 *e*P **P 15 53 29.7 -1.0**
comp=Z,143nm,1.1s
KNRA Kununurra 35.10 167 P **P 15 53 32.3 -2.5**
DANN Dangsing 35.42 293 *e*P **P 15 53 37.1 -0.8**
comp=Z,96nm,0.9s
KOLN Koldanda 35.49 292 *e*P **P 15 53 37.6 -0.8**
comp=Z,93nm,0.9s
TLY Talaya 35.56 341 P **P 15 53 39.2 +0.7**
comp=Z,12nm,0.8s,baz=122,slow=6.9,SNR=3.9
IRK Irkutsk 35.87 342 *e*P **P 15 53 40.6 -0.5**
IRK pmax pmax
comp=Z,43nm,1.8s
PYUN Piuthan 36.06 292 *e*P **P 15 53 42.5 -0.8**
comp=Z,78nm,0.7s
TYV Tymovskoe 36.24 23 *e*P **P 15 53 46.5 +2.3**
TYV *e*S **S 15 59 30.2 +7.2**
TYV pmax pmax
comp=Z,14nm,1.8s
TYV smax smax
comp=E,8.0nm,1.5s
MOY Mondy 36.41 339 *e*P **P 15 53 46.2 +0.3**
MOY pmax pmax
comp=Z,55nm,1.7s
NKL Nikolayevsk 37.47 19 *e*P **P 15 53 55.1 +0.5**
NKL *e* 15 56 09.6
NKL *e*S **S 15 59 44.9 +3.3**
NKL pmax pmax
comp=E,10.0nm,0.9s
NKL pmax pmax
comp=Z,21nm,1.2s
NKL pmax pmax
comp=Z,34nm,3.0s
NKL smax smax
comp=E,14nm,1.3s
NKL smax smax
comp=N,1.0nm,1.5s
NKL MLR MLR
comp=E,271nm,15.0s
NKL MLR MLR
comp=Z,532nm,16.0s
WMQ Urumqi 37.49 319 *e*P **P 15 53 55.9 +0.8**
WMQ sP sP 15 54 06.3 +0.9
WMQ S **S 15 59 44.3 +1.8**
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,330nm,3.6s
WMQ LR LR
comp=Z,2μm,14.5s
WMQ LR LR
comp=Z,1μm,14.5s
WMQ LR LR
comp=Z,570nm,20.3s
PMG Port Moresby 38.02 135 P **P 15 53 58.3 -1.5**
comp=Z,15nm,0.8s,baz=354,slow=14,SNR=2.1
PATS Pohnpei 38.07 103 P **P 15 53 59.3 -0.9**
PATS IAmb IAmb 15 54 03.2
comp=Z,64nm,1.0s
BOD Bodaibo 39.29 354 *e*P **P 15 54 10.6 +0.7**
BOD pmax pmax
comp=Z,33nm,1.8s
PSA00 Pilbara Seismi 40.17 182 P **P 15 54 15.0 -2.6**
PSA00 IAmb IAmb 15 54 19.3
comp=Z,131nm,1.5s
PSA00 Pilbara Seismi 40.17 182 P **P 15 54 15.1 -2.6**
PSA00 IAmb IAmb 15 54 18.5
comp=Z,38nm,1.2s
WB0 Warramunga Arr 40.50 161 P **P 15 54 17.9 -2.5**
WRAB Tennant Creek 40.64 161⇓*e*P **P 15 54 19.1 -2.5**
WRAB pmax pmax
comp=Z,49nm,1.2s
WRAB Tennant Creek 40.64 161 P **P 15 54 18.7 -2.9**
WRA Warramunga Arr 40.65 161 P **P 15 54 19.0 -2.6**
comp=Z,22nm,0.8s,baz=342,slow=9.3,SNR=111
WRA PcP **PcP 15 56 22.9 -0.4**
comp=Z,6.8nm,0.5s,baz=341,slow=3.0,SNR=9.4
WRA ScP **ScP 16 00 10.2 -1.0**
comp=Z,1.8nm,0.9s,baz=345,slow=4.5,SNR=4.9
WRA S **S 16 00 21.4 -8.7**
comp=Z,7.2nm,1.0s,baz=344,slow=15,SNR=8.6
WRA Warramunga Arr 40.65 161 P **P 15 54 18.7 -2.9**
WB2 Warramunga Arr 40.65 161 P **P 15 54 18.9 -2.8**
WR0 Warramunga Arr 40.73 160 P **P 15 54 19.1 -3.2**
DGZ Jazzator, Alta 40.92 327*di*P **P 15 54 24.6 +0.8**
DGZ pmax pmax
comp=Z,16nm,0.6s
PALK Pallekele 40.93 259 LR LR 16 10 15.6
comp=Z,527nm,21.4s,baz=174,slow=35
ZSN Zaisan 41.07 322 *e*P **P 15 54 24.0 -0.9**
baz=322
ZSN Zaisan 41.07 322 *e*P **P 15 54 24.0 -0.9**
GIRL Giralia 41.77 190 P **P 15 54 28.4 -2.4**
MKAR Makanchi Array 42.28 320 P **P 15 54 35.6 +0.8**
comp=Z,32nm,0.9s,baz=115,slow=8.6,SNR=170
MKAR PcP **PcP 15 56 28.2 -0.1**
comp=Z,16nm,0.7s,baz=97,slow=4.7,SNR=9.2
MKAR LR LR 16 13 12.5
comp=Z,436nm,19.1s,baz=115,slow=38
MKAR Makanchi Array 42.28 320 *i*P **P 15 54 35.5 +0.7**
MKAR pmax pmax
comp=Z,32nm,0.9s
MKAR Makanchi Array 42.28 320 P **P 15 54 35.4 +0.7**
MAKZ Makanchi 42.47 320 P **P 15 54 36.2 -0.2**
MAKZ pmax pmax
comp=Z,19nm,0.9s
MAKZ Makanchi 42.47 320 P **P 15 54 36.2 -0.2**
SHLS Shalkode 42.58 314 *e*P **P 15 54 35.0 -2.5**
comp=Z,14nm,1.2s,baz=314
SHLS Shalkode 42.58 314 *e*P **P 15 54 34.9 -2.5**
SHLS pmax pmax
comp=Z,14nm,1.2s
UZB Uzynbulak 42.88 314 *e*P **P 15 54 40.0 +0.1**
comp=Z,16nm,1.0s,baz=314
UZB Uzynbulak 42.88 314 *e*P **P 15 54 39.9 +0.1**
UZB pmax pmax
comp=Z,17nm,1.0s
KPKS Kokpek 43.22 314 *e*P **P 15 54 42.0 -0.6**
comp=Z,44nm,2.0s,baz=314
KPKS Kokpek 43.22 314 *e*P **P 15 54 42.0 -0.6**
KPKS pmax pmax
comp=Z,44nm,2.0s
SATY Saty 43.27 313 *e*P **P 15 54 43.0 0.0**
comp=Z,13nm,1.1s,baz=314
SATY Saty 43.27 313 *e*P **P 15 54 43.0 0.0**
SATY pmax pmax
comp=Z,13nm,1.1s
YAK Yakutsk 43.58 6 P **P 15 54 44.9 -0.1**
comp=Z,34nm,0.7s,baz=175,slow=1.9
YAK PcP **PcP 15 56 31.7 -0.6**
comp=Z,8.3nm,0.6s,baz=259,slow=5.5,SNR=3.3
YAK LR LR 16 14 51.7
comp=Z,659nm,18.0s,baz=196,slow=39
YAK Yakutsk 43.58 6 *e*P **P 15 54 44.5 -0.5**
YAK *e**PP **sP 15 54 54.3 -1.3**
YAK *e* 15 56 25.5
YAK *e*S **S 16 01 10.3 -2.1**
YAK *e*SS **SS 16 04 23.9 -3.7**
YAK *e*SSS SSS 16 05 09.3
YAK pmax pmax
comp=Z,48nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,35nm,1.2s
YAK pmax pmax
comp=N,37nm,1.5s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK smax smax
comp=N,121nm,2.0s
YAK smax smax
comp=E,88nm,2.5s
YAK MLR MLR
comp=Z,960nm,18.0s
YAK MLR MLR
comp=N,562nm,17.0s
YAK Yakutsk 43.58 6 P **P 15 54 43.0 -2.0**
YAK IAmb IAmb 15 54 47.0
comp=Z,70nm,0.8s
KSH Kashi 43.95 308 P **P 15 54 50.9 +2.3**
KSH sP sP 15 55 01.8 +2.8
KSH S **S 16 01 25.0 +6.0**
KSH sS sS 16 01 33.5 +2.8
KSH SS **SS 16 04 31.8 -4.2**
KSH pmax pmax
comp=Z,43nm,1.0s
KSH pmax pmax
comp=Z,130nm,6.2s
KSH LR LR
comp=Z,1μm,14.9s
KSH LR LR
comp=Z,1μm,12.8s
KSH LR LR
comp=Z,1μm,9.5s
TDK Taldyqorghan 43.97 316 *e*P **P 15 54 48.6 +0.1**
baz=316
TDK Taldyqorghan 43.97 316 *e*P **P 15 54 48.6 +0.1**
AS31 Alice Springs 44.03 163 P **P 15 54 46.7 -2.5**
ASAR Alice Springs 44.03 163 P **P 15 54 47.0 -2.2**
comp=Z,8.4nm,0.6s,baz=343,slow=7.0,SNR=175
ASAR PcP **PcP 15 56 33.9 -0.7**
comp=Z,3.6nm,0.6s,baz=342,slow=3.1,SNR=5.5
ASAR ScP **ScP 16 00 23.4 -1.3**
comp=Z,1.9nm,1.0s,baz=335,slow=4.2,SNR=4.2
ASAR S **S 16 01 16.2 -3.9**
comp=Z,2.4nm,0.8s,baz=344,slow=11,SNR=9.4
ASAR LR LR 16 14 26.8
comp=Z,211nm,21.5s,baz=350,slow=38
MDOK Medeo 44.24 313 *e*P **P 15 54 50.9 0.0**
baz=313
MDOK *e*S **S 16 01 24.8 +1.8**
baz=313
MDOK Medeo 44.24 313 *e*P **P 15 54 50.8 0.0**
MDOK *e*S **S 16 01 24.8 +1.8**
AAA Alma-Ata 44.34 313 *e*P **P 15 54 51.7 0.0**
baz=313
AAA Alma-Ata 44.34 313 *e*P **P 15 54 51.6 0.0**
PEA0B Petropavlovsk- 44.39 31 IAmb IAmb 15 55 09.5
comp=Z,38nm,0.9s
PETK Petropavlovsk- 44.39 31 P **P 15 54 51.5 -0.2**
comp=Z,9.9nm,0.6s,baz=198,slow=4.1,SNR=35
PETK PcP **PP 15 56 36.4 +0.9**
comp=Z,5.1nm,0.8s,baz=221,slow=5.7,SNR=2.3
CHKK Chushkaly 44.51 314 *e*P **P 15 54 52.0 -0.8**
baz=314
CHKK Chushkaly 44.51 314 *e*P **P 15 54 52.0 -0.8**
ZALV Zalesovo Beam 44.78 330 P **P 15 54 54.7 -0.1**
comp=Z,7.3nm,0.7s,baz=116,slow=8.0,SNR=31
ZALV ScP **ScP 16 00 26.4 -0.9**
comp=Z,0.7nm,0.7s,baz=157,slow=7.8,SNR=3.6
ZALV LR LR 16 13 52.9
comp=Z,325nm,20.8s,baz=128,slow=36
PET Petropavlovsk 44.81 31 *e*P **P 15 54 54.0 -1.0**
PET *e* 15 56 43.0
PET *e*S **S 16 01 28.5 -2.2**
PET *e*SS **ScS 16 04 43.7 -7.0**
PET pmax pmax
comp=Z,300nm,10.5s
PET pmax pmax
comp=Z,500nm,12.4s
PET pmax pmax
comp=Z,65nm,0.9s
PET MLR MLR
comp=Z,500nm,20.0s
PET Petropavlovsk 44.81 31 P **P 15 54 54.8 -0.2**
PET IAmb IAmb 15 55 10.8
comp=Z,46nm,1.0s
KUU Kurty 44.97 314 *e*P **P 15 54 55.9 -0.7**
comp=Z,52nm,0.9s,baz=314
KUU Kurty 44.97 314 *e*P **P 15 54 55.8 -0.7**
KUU pmax pmax
comp=Z,52nm,0.9s
NIL Nilore 45.03 299 P **P 15 54 56.4 -0.7**
NIL pmax pmax
comp=Z,115nm,1.0s
NIL Nilore 45.03 299 P **P 15 54 56.4 -0.7**
TKM2 Tokmak 2 45.17 312 P **P 15 54 59.3 +0.9**
SNR=26
SEM Semipalatinsk 45.20 324 *e*P **P 15 54 56.3 -2.1**
baz=324
SEM Semipalatinsk 45.20 324 *e*P **P 15 54 56.3 -2.1**
KBK Karagaybulak 45.55 312 P **P 15 55 03.1 +1.8**
SNR=19
CHMS Chumysh 45.79 312 P **P 15 55 03.8 +0.8**
SNR=33
CTA Charters Tower 45.85 146 P **P 15 55 02.9 -0.8**
comp=Z,12nm,0.9s,baz=352,slow=4.8,SNR=6.2
CTA PcP **PcP 15 56 41.6 +0.8**
comp=Z,23nm,0.9s,baz=341,slow=5.0,SNR=9.2
CTAO Charters Tower 45.85 146 P **P 15 55 03.3 -0.4**
CTAO pmax pmax
comp=Z,19nm,1.1s
CTAO Charters Tower 45.85 146 P **P 15 55 03.3 -0.4**
AAK Ala-Archa 45.87 312 P **P 15 55 05.4 +1.6**
SNR=5.4
MA2 Magadan 45.96 20 PcP **PcP 15 56 40.8 +0.2**
comp=Z,8.2nm,0.7s,baz=204,slow=10.0,SNR=3.0
MA2 Magadan 45.96 20*de*P **P 15 55 04.7 +0.6**
MA2 pmax pmax
comp=Z,26nm,0.9s
MA2 Magadan 45.96 20 P **P 15 55 04.2 +0.1**
MA2 IAmb IAmb 15 55 08.2
comp=Z,29nm,0.9s
SGDS Sogindy 46.01 313 *e*P **P 15 55 04.0 -0.8**
baz=313
SGDS Sogindy 46.01 313 *e*P **P 15 55 04.0 -0.8**
USP Ospenovka 46.04 312 P **P 15 55 05.8 +0.8**
SNR=18
KURK Kurchatov 46.26 324 P **P 15 55 07.0 +0.5**
KURK Kurchatov 46.26 324 P **P 15 55 07.0 +0.5**
KURBB Kurchatov Arra 46.26 323 P **P 15 55 07.0 +0.4**
comp=Z,50nm,0.8s,baz=122,slow=7.7,SNR=99
AML Almayashu 46.30 311 P **P 15 55 08.8 +1.3**
SNR=60
EKS2 Erkin-Say 46.38 311 P **P 15 55 09.0 +1.2**
SNR=20
BTLS Baital 46.89 315 *e*P **P 15 55 10.8 -0.8**
comp=Z,11nm,0.9s,baz=315
BTLS Baital 46.89 315 *e*P **P 15 55 10.8 -0.8**
BTLS pmax pmax
comp=Z,11nm,0.9s
MORW Morawa 47.87 186 P **P 15 55 17.5 -1.8**
MORW IAmb IAmb 15 55 20.6
comp=Z,54nm,1.1s
KBL Kabul 48.59 300 P **P 15 55 24.6 -0.7**
KBL pmax pmax
comp=Z,46nm,1.1s
KBL Kabul 48.59 300 P **P 15 55 24.6 -0.7**
KBL IAmb IAmb 15 55 37.6
comp=Z,46nm,1.1s
KK31 Karatay Array 48.81 311 P **P 15 55 27.0 +0.4**
KK31 pmax pmax
comp=Z,55nm,1.1s
KK31 Karatay Array 48.81 311 P **P 15 55 27.0 +0.4**
KK31 IAmb IAmb 15 55 28.1
comp=Z,55nm,1.1s
KKAR Karatay Array 48.81 311 P **P 15 55 26.2 -0.4**
KKAR pmax pmax
comp=Z,55nm,1.1s
KKAR Karatay Array 48.81 311 P **P 15 55 26.2 -0.4**
KKAR IAmb IAmb 15 55 28.1
comp=Z,55nm,1.1s
KKAR Karatay Array 48.81 311 P **P 15 55 27.3 +0.7**
SEY Seymchan 49.03 18 PcP **PcP 15 56 51.6 +0.3**
comp=Z,15nm,0.7s,baz=221,slow=6.5,SNR=5.1
BRZS Berezniki 49.42 320⇓*e*P **P 15 55 30.8 -0.4**
comp=Z,22nm,1.2s,baz=321
BRZS Berezniki 49.42 320*de*P **P 15 55 30.7 -0.4**
BRZS pmax pmax
comp=Z,22nm,1.2s
FORT Forrest 49.77 172 P **P 15 55 32.4 -1.4**
FORT IAmb IAmb 15 55 51.7
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 51.60 184 P **P 15 55 45.5 -2.2**
comp=Z,22nm,0.6s,baz=13,slow=7.2,SNR=27
NWAO Narrogin (SRO) 51.60 184 P **P 15 55 46.5 -1.1**
NWAO pmax pmax
comp=Z,53nm,1.2s
NWAO Narrogin (SRO) 51.60 184 P **P 15 55 46.5 -1.1**
NWAO IAmb IAmb 15 55 49.1
comp=Z,53nm,1.2s
BVAR Borovoye Array 51.85 324 P **P 15 55 49.3 -0.1**
comp=Z,16nm,0.8s,baz=153,slow=23,SNR=51
BVAR PcP **PcP 15 57 01.5 -0.6**
comp=Z,17nm,0.7s,baz=213,slow=10,SNR=11
BVAR ScP **ScP 16 00 56.4 -1.0**
comp=Z,2.6nm,0.9s,baz=195,slow=17,SNR=3.5
BRVK Borovoye 51.93 324*di*P **P 15 55 49.6 -0.3**
BRVK pmax pmax
comp=Z,69nm,0.8s
BRVK Borovoye 51.93 324 P **P 15 55 50.3 +0.4**
TIXI Tiksi 53.02 3 P **P 15 55 56.8 -0.9**
comp=Z,42nm,0.7s,baz=161,slow=5.3,SNR=7.6

TIXI	Tiksi	53.02	3	*d* iP	P	15 55 56.5	-1.2
TIXI	Tiksi	53.02	3	P	P	15 55 57.4	-0.3
BBOO	Buckleboo	53.29	164	P	P	15 55 58.3	-1.9
BBOO				IAmb	IAmb	15 56 01.0	
	comp=Z,54nm,0.8s						
STKA	Stephens Creek	54.10	158	P	P	15 56 04.4	-1.8
	comp=Z,6.1nm,0.6s,baz=339,slow=8.3,SNR=29						
STKA	Stephens Creek	54.10	158	P	P	15 56 04.6	-1.5
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	Stephens Creek	54.10	158	P	P	15 56 04.6	-1.5
SANVU	Saraoutou	56.72	124	P	P	15 56 25.1	-0.2
BILL	Bilibino	56.73	19	*c* iP	P	15 56 24.4	-0.3
BILL				*e*		15 56 43.4	
BILL				*e*		15 57 19.8	
BILL				*e*		15 58 32.6	
BILL				pmax	pmax		
	comp=Z,30nm,0.8s						
BILL				MLR	MLR		
	comp=Z,312nm,17.0s						
BILL	Bilibino	56.73	19	P	P	15 56 24.2	-0.4
BILL				IAmb	IAmb	15 56 28.1	
	comp=Z,28nm,0.8s						
ABKAR	Akbulak array	57.22	317	IAmb	IAmb	15 56 29.5	
	comp=Z,36nm,1.0s						
GEYT	Alibeck	57.58	303	P	P	15 56 31.2	0.0
	comp=Z,9.5nm,0.9s,baz=164,slow=5.8,SNR=19						
GEYT				LR	LR	16 25 10.4	
	comp=Z,477nm,18.2s,baz=15,slow=40						
WSAR	Wadi Sarin	58.12	286	P	P	15 56 34.6	-0.6
	comp=Z,8.0nm,0.8s,baz=101,slow=5.2,SNR=5.1						
SVE	Sverdlovsk	58.37	326⇑	*e*P	P	15 56 36.3	-0.1
SVE				*e*S	S	16 04 41.9	+4.5
SVE				pmax	pmax		
	comp=Z,142nm,0.9s						
SVE				MLR	MLR		
	comp=Z,484nm,16.0s						
AKTO	Aktyubinsk	58.64	318	P	P	15 56 38.1	-0.3
	comp=Z,21nm,0.9s,baz=94,slow=7.9,SNR=67						
ARU	Arti	59.40	325	P	P	15 56 43.3	-0.2
	comp=Z,18nm,0.6s,baz=112,slow=4.6,SNR=98						
ARU				LR	LR	16 24 04.9	
	comp=Z,386nm,19.0s,baz=93,slow=38						
ARU	Arti	59.40	325	*d* iP	P	15 56 42.8	-0.7
ARU						15 57 28.0	
ARU						15 58 51.3	
ARU				S	S	16 04 52.3	+1.6
ARU				SS	SS	16 08 48.2	+2.6
ARU				pmax	pmax		
	comp=Z,77nm,0.8s						
ARU				MLR	MLR		
	comp=Z,551nm,16.0s						
ARU	Arti	59.40	325	P	P	15 56 42.7	-0.7
TOO	Toolangi	60.60	158	P	P	15 56 50.8	-1.2
TOO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TOO	Toolangi	60.60	158	P	P	15 56 50.8	-1.2
NIKH	Nikolski High	63.17	40	P	P	15 57 08.2	-0.9
	baz=266						
LKRN	Lenkeran, Azer	64.89	305	P	P	15 57 20.0	-0.6
BELG	Belogornoye	65.28	320	P	P	15 57 22.3	-0.6
	comp=Z,74nm,0.8s,baz=118,slow=2.3,SNR=21						
AKT	Akhty	65.48	308	*e*P	P	15 57 24.5	-0.2
AKT				*e*		15 57 55.5	
AKT				pmax	pmax		
	comp=Z,39nm,0.9s						
MAK	Makhachkala	65.56	309	*e*P	P	15 57 20.4	-4.5
MAK				*e*S	S	16 06 03.8	-4.8
MAK				pmax	pmax		
	comp=Z,66nm,0.8s						
MAK				MLR	MLR		
	comp=Z,428nm,17.0s						
SEKA	Sheki	65.91	307	P	P	15 57 26.5	-0.8
MNGR	Mingechevir, A	66.02	307	P	P	15 57 27.6	-0.4
ZKTA	Zakatala	66.30	308	P	P	15 57 29.4	-0.4
LGD	Lagodekhi	66.57	308	P	P	15 57 31.3	-0.2
GANJ	Ganja	66.61	307	P	P	15 57 31.4	-0.4
MSVF	Nonsavu	66.69	120	P	P	15 57 34.0	+1.4
	comp=Z,19nm,0.7s,baz=279,slow=9.7,SNR=29						
MSVF	Nonsavu	66.69	120	P	P	15 57 34.0	+1.4
MSVF				IAmb	IAmb	15 57 36.3	
	comp=Z,26nm,0.7s						
DDFL	Dedoflistskaro	66.70	308	P	P	15 57 35.2	+2.8
PRGR	Permogore	66.73	330	*e*P	P	15 57 28.7	-3.4
PRGR				*e*		15 59 57.3	
PRGR				pmax	pmax		
	comp=Z,17nm,0.6s						
GROC	Groznyy	66.79	310	*e*P	P	15 57 30.9	-1.9
GROC				*e*		15 57 58.3	
GROC				pmax	pmax		
	comp=Z,37nm,1.0s						
NAX	Nakhchivan	67.39	305	P	P	15 57 36.2	-0.7
RDOG	Red Dog Mine	67.44	23	P	P	15 57 38.8	+2.3
	baz=264						
GUDG	Gudauri	67.82	309	P	P	15 57 41.3	+1.6
GNI	Garni	67.86	306	LR	LR	16 30 32.4	
	comp=Z,225nm,21.2s,baz=83,slow=39						
GNI	Garni	67.86	306	*de*P	P	15 57 39.9	0.0
GNI				pmax	pmax		
	comp=Z,54nm,1.3s						
KZRT	Kazreti	67.99	308	P	P	15 57 40.5	-0.1
SDPT	Sand Point	68.15	37	P	P	15 57 39.7	-1.5
	baz=272						
SDPT	Sand Point	68.15	37	P	P	15 57 39.9	-1.2
ZEI	Tsey	68.21	309	*e*P	P	15 57 40.8	-1.3
ZEI				pmax	pmax		
	comp=Z,49nm,0.9s						
NCK	Nalchik	68.36	310⇑	*i* P	P	15 57 42.2	-0.6
NCK				pmax	pmax		
	comp=Z,27nm,1.1s						
ONI	Oni	68.56	309	P	P	15 57 45.8	+1.7
AKH	Akhalkalaki	68.66	308	⇓P	P	15 57 45.3	+0.3
AKH	Akhalkalaki	68.66	308	P	P	15 57 45.4	+0.5
CHNA	Chernabura Isl	68.68	38	P	P	15 57 43.7	-0.8
	baz=273						
CNBA	Chernabura Isl	68.68	38	IAmb	IAmb	15 57 48.5	
	comp=Z,33nm,0.9s						
KBZ	Khabaz	68.84	310	P	P	15 57 45.6	-0.1
	comp=Z,29nm,0.9s,baz=92,slow=4.8,SNR=59						
KBZ				LR	LR	16 31 49.8	
	comp=Z,407nm,18.2s,baz=72,slow=39						
KIV	Kislovodsk	68.97	311	⇑P	P	15 57 46.7	0.0
KIV	Kislovodsk	68.97	311	*e*P	P	15 57 46.2	-0.5
KIV				*e*S	S	16 06 50.4	+0.5
KIV				pmax	pmax		
	comp=Z,85nm,1.0s						
KIV				MLR	MLR		
	comp=Z,337nm,17.0s						
KIV	Kislovodsk	68.97	311	P	P	15 57 46.1	-0.6
VRH	Novokhopyorsk	68.97	319	*e*P	P	15 57 44.6	-1.8
VRH				pmax	pmax		
	comp=Z,100nm,0.7s						
NEY	Neytrino	69.02	310	*de*P	P	15 57 47.7	+0.6
NEY				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KARS	Kars	69.07	307	P	P	15 57 48.4	+1.0
CHVG	Ch'k'valeri	69.55	309	⇑P	P	15 57 50.3	+0.2
KLMR	Klimovskoe	69.68	329	*e*P	P	15 57 46.3	-4.3
KLMR				*e*		16 00 21.0	
KLMR				pmax	pmax		
	comp=Z,57nm,0.9s						
KLMR	Klimovskoe	69.68	329	*e*P	P	15 57 46.4	-4.2
KLMR				AMP		15 57 50.4	
	comp=Z,57nm,0.9s						
KLMR				*e*PP	PP	16 00 21.1	-3.4
KLMR				LQ	LQ	16 22 12.4	
KLMR				LQ	LQ	16 22 12.4	
KLMR				LR	LR	16 27 11.7	
N18K	Kilae Creek	70.35	31	P	P	15 57 55.8	+1.0
	baz=274						
SVW2	Sparrevohn	70.48	31	IAmb	IAmb	15 57 59.0	
	comp=Z,28nm,0.9s						
VSR	Storozhevoye	70.57	319	*e*P	P	15 57 54.3	-2.0
VSR				pmax	pmax		
	comp=Z,60nm,0.9s						
LPSR	Galich'ya Gora	70.58	320	*e*P	P	15 57 54.9	-1.4
LPSR				pmax	pmax		
	comp=Z,80nm,0.8s						
O18K	Koktuh Hills	70.75	32	P	P	15 57 58.2	+1.0
	baz=274						
L19K	White Mountain	70.75	30	P	P	15 57 58.2	+1.0
	baz=274,SNR=15						
J20K	Nowinta River	70.94	27	P	P	15 57 59.4	+1.2
	baz=274,SNR=34						
M19K	Big River Lodg	70.99	30	P	P	15 57 59.8	+1.2
	baz=274						
MOS	Moscow	71.03	324	*e*P	P	15 57 55.5	-3.4
MOS				*e*		15 58 12.2	
MOS				pmax	pmax		
	comp=Z,100nm,0.7s						
MOS				pmax	pmax		
	comp=Z,60nm,0.7s						
MOS				MLR	MLR		
	comp=Z,400nm,19.0s						
K20K	Telida	71.03	28	P	P	15 58 00.1	+1.2
	baz=274,SNR=28						
N19K	Bonanza Creek	71.03	31	P	P	15 57 59.9	+0.9
	baz=275,SNR=9.6						
SOC	Sochi	71.15	311	*e*P	P	15 57 57.8	-2.1
SOC				*e*		16 00 33.4	
SOC				*e*PPP	PPP	16 02 16.9	
SOC				*e*S	S	16 07 16.2	+0.9
SOC				*e*SS	SS	16 11 45.8	-3.0
SOC				pmax	pmax		
	comp=Z,36nm,0.8s						
SOC				MLR	MLR		
	comp=Z,231nm,18.0s						
O19K	Port Alsworth	71.16	32	P	P	15 58 00.4	+0.7
	baz=275,SNR=11						
LVZ	Lovozero	71.40	337⇑	*i* P	P	15 58 00.4	-0.7
LVZ				pmax	pmax		
	comp=Z,24nm,0.8s						
LVZ	Lovozero	71.40	337	P	P	15 57 59.7	-1.3
LVZ				IAmb	IAmb	15 58 02.8	
	comp=Z,20nm,0.8s						
KTUT	Trabzon	71.51	308	⇑P	P	15 58 01.3	-0.8
M20K	Styx River	71.59	30	P	P	15 58 03.2	+0.9
	baz=276						
SII	Sitkinak Islan	71.59	36	P	P	15 58 02.5	+0.1
	baz=276						
OBN	Obninsk	71.69	323	LR	LR	16 31 40.2	
	comp=Z,105nm,18.2s,baz=62,slow=38						
OBN	Obninsk	71.69	323	*de*P	P	15 58 01.8	-1.2
OBN				*i*		15 58 18.2	
OBN				*e*		16 00 41.6	
OBN				*e*PPP	PPP	16 02 21.7	
OBN				pmax	pmax		
	comp=Z,50nm,0.8s						
OBN				MLR	MLR		
	comp=Z,462nm,21.0s						
P19K	Oil Pt	71.76	32	P	P	15 58 02.8	-0.5
	baz=276						
CHUM	Lake Minchumin	71.77	28	P	P	15 58 04.4	+1.1
	baz=276,SNR=8.1						
I21K	Tanana	71.79	26	P	P	15 58 04.6	+1.3
	baz=275,SNR=48						
APA	Apatity	71.90	336⇓	*i* P	P	15 58 02.4	-1.6
APA				*i*		15 58 11.9	
APA				*i* S	S	16 07 20.0	-3.1
APA				*i* SS	SS	16 12 02.0	+2.8
APA				pmax	pmax		
	comp=Z,28nm,0.8s						
APA				MLR	MLR		
	comp=Z,600nm,14.0s						
PPLA	Purkeypile	71.92	29	P	P	15 58 04.8	+0.4
	baz=276,SNR=10						
PPLA	Purkeypile	71.92	29	IAmb	IAmb	15 58 12.2	
	comp=Z,35nm,0.9s						
OHAK	Old Harbor	72.01	35	P	P	15 58 04.8	0.0
	baz=277,SNR=7.8						
O20K	Slope Mountain	72.02	32	P	P	15 58 04.9	0.0
	baz=276						
KDAK	Kodiak Island	72.31	34	P	P	15 58 06.4	-0.2
	comp=Z,22nm,0.6s,baz=284,slow=4.4,SNR=34						
KDAK	Kodiak Island	72.31	34	P	P	15 58 06.7	0.0
KDAK				pmax	pmax		
	comp=Z,25nm,0.7s						
KDAK	Kodiak Island	72.31	34	P	P	15 58 06.5	-0.1
	baz=277						
KDAK	Kodiak Island	72.31	34	P	P	15 58 06.7	0.0
KDAK				IAmb	IAmb	15 58 10.2	
	comp=Z,24nm,0.7s						
BPAW	Bear Paw Mtn.	72.33	27	P	P	15 58 07.3	+0.6
	baz=277,SNR=30						
MLY	Manley	72.33	26	P	P	15 58 07.3	+0.7
	baz=276,SNR=67						
SKT	Skwentna	72.33	30	P	P	15 58 06.3	-0.4
	baz=277,SNR=12						
SKT	Skwentna	72.33	30	IAmb	IAmb	15 58 08.7	
	comp=Z,45nm,1.2s						
TOLK	Toolik Lake Re	72.38	23	P	P	15 58 07.5	+0.6
	baz=276,SNR=23						
TOLK	Toolik Lake Re	72.38	23	IAmb	IAmb	15 58 08.4	
	comp=Z,31nm,0.8s						
ANN	Anapa	72.59	312	*e*P	P	15 58 05.7	-2.8
ANN				*e*PP	pP	15 58 12.8	-3.5
ANN				*e*PPP	PPP	16 02 30.2	
ANN				*e*S	S	16 07 29.2	-2.5
ANN				pmax	pmax		
	comp=Z,73nm,1.0s						
TRF	Thorofare Moun	72.71	28	P	P	15 58 09.6	+0.4
	baz=277,SNR=8.1						
H23K	Yukon River	72.73	26	P	P	15 58 10.2	+1.2
	baz=277,SNR=48						
SUA	Susitna One	72.76	30	P	P	15 58 09.4	-0.1
	baz=278,SNR=5.7						
CNPM	China Poot	72.78	32	IAmb	IAmb	15 58 13.3	
	comp=Z,32nm,0.9s						
I23K	Minto, Yukon-K	72.89	26	P	P	15 58 10.6	+0.6
	baz=278,SNR=37						
I23K	Minto, Yukon-K	72.89	26	IAmb	IAmb	15 58 14.9	
	comp=Z,31nm,0.8s						
BRLK	Bradley Lake	72.93	32	P	P	15 58 08.6	-1.7
MALT	Malatya	72.98	305	P	P	15 58 11.5	+0.3
BRSE	Bradley Lake S	73.00	32	P	P	15 58 10.7	0.0
	baz=278,SNR=6.5						
NEA2	Nenana	73.09	27	P	P	15 58 11.4	+0.2
	baz=278,SNR=61						
MCK	McKinley	73.27	28	P	P	15 58 12.3	0.0
	baz=278,SNR=21						
O22K	Cooper Landing	73.40	31	P	P	15 58 12.5	-0.5
	baz=279						
H24K	Noodor Dome	73.40	25	P	P	15 58 13.9	+0.8
	baz=279,SNR=46						
WRH	Wood River Hil	73.53	27	IAmb	IAmb	15 58 17.1	
	comp=Z,44nm,0.8s						
TCOL	CIGO, UAF Yank	73.56	26	P	P	15 58 13.7	-0.2
	baz=279						
COLA	College	73.56	26	*d* iP	P	15 58 13.3	-0.6
COLA				pmax	pmax		
	comp=Z,22nm,0.8s						
COLA	College	73.56	26	P	P	15 58 13.9	0.0
	baz=279						
GHO	Glory Hole Cre	73.58	30	IAmb	IAmb	15 58 16.9	
	comp=Z,35nm,0.8s						
WAT1	Susitna Watana	73.58	29	P	P	15 58 13.7	-0.5
	baz=279						
SEW	Seward	73.59	31	P	P	15 58 13.5	-0.7
	baz=279						
SEW	Seward	73.59	31	IAmb	IAmb	15 58 21.4	
	comp=Z,43nm,1.1s						
POKR	Poker Plat Res	73.70	26	P	P	15 58 15.5	+0.7
	baz=280,SNR=7.2						
SML	Sawmill	73.85	30	P	P	15 58 15.7	-0.1
	baz=280,SNR=14						
KNK	Knik Glacier	73.86	30	P	P	15 58 15.7	-0.1
	baz=280,SNR=15						
KNK	Knik Glacier	73.86	30	IAmb	IAmb	15 58 16.5	
	comp=Z,48nm,0.8s						
KEV	Kevo	73.92	339	P	P	15 58 15.6	-0.3
KEV				pmax	pmax		
	comp=Z,25nm,0.7s						
KEV	Kevo	73.92	339	P	P	15 58 15.6	-0.3
KEV				IAmb	IAmb	15 58 16.4	
	comp=Z,25nm,0.7s						
ILAR	Eielson Array	73.99	26	P	P	15 58 15.1	-1.4
	comp=Z,11nm,0.6s,baz=268,slow=4.8,SNR=42						
ILAR				LR	LR	16 32 03.0	
	comp=Z,111nm,20.8s,baz=293,slow=37						
WAT6	Susitna Watana	73.99	29	P	P	15 58 16.6	-0.1
	baz=280,SNR=39						
HDA	Harding Lake	74.03	27	P	P	15 58 15.6	-1.0
	baz=280,SNR=22						
HDA	Harding Lake	74.03	27	IAmb	IAmb	15 58 18.6	
	comp=Z,23nm,0.7s						
KVT	Kavak	74.26	309	P	P	15 58 18.5	0.0
ARA0	ARCESS Array S	74.48	339	*e*P	P	15 58 19.0	-0.2
ARCES	ARCESS Array B	74.48	339	P	P	15 58 18.4	-0.8
	comp=Z,18nm,0.7s,baz=72,slow=7.8,SNR=38						
ARCES				LR	LR	16 35 23.0	
	comp=Z,388nm,19.2s,baz=60,slow=39						
GLI	Glacier Island	74.60	30	P	P	15 58 20.1	0.0
	baz=281,SNR=14						
SPA0	Spitsbergen Ar	74.69	348	*e*P	P	15 58 20.4	+0.1
SPITS	Spitsbergen Ar	74.69	348	P	P	15 58 20.3	0.0
SPITS				pmax	pmax		
	comp=Z,52nm,0.8s						
M24K	Tolsona, Glenn	74.80	29	P	P	15 58 22.0	+0.7
	baz=281,SNR=17						
HAMF	Hammerfest	74.84	340	*e*P	P	15 58 21.2	-0.1
SIM	Simferopol'	74.88	313	*e*P	P	15 58 20.0	-2.0
SIM				pmax	pmax		
	comp=Z,74nm,0.7s						
FID	Port Fidalgo	74.93	31	IAmb	IAmb	15 58 25.0	
	comp=Z,62nm,1.1s						
HIN	Hinchinbrook I	74.99	31	IAmb	IAmb	15 58 24.5	
	comp=Z,37nm,0.7s						
KLU	Klutina	75.04	30	P	P	15 58 22.7	0.0
	baz=282,SNR=12						
KLU	Klutina	75.04	30	IAmb	IAmb	15 58 36.7	
	comp=Z,26nm,1.0s						
RIDG	Independent Ri	75.06	27	P	P	15 58 22.2	-0.5
	baz=282,SNR=34						
RIDG	Independent Ri	75.06	27	IAmb	IAmb	15 58 25.4	
	comp=Z,40nm,0.9s						
HARP	HAARP	75.21	29	P	P	15 58 24.1	+0.5
	baz=282,SNR=8.9						
HSPB	Hornsund (broa	75.24	347	*e*P	P	15 58 23.4	-0.1
EYAK	Cordova Ski Ar	75.32	31	P	P	15 58 24.6	+0.4
	baz=282						
EYAK	Cordova Ski Ar	75.32	31	P	P	15 58 24.4	+0.3
EYAK				IAmb	IAmb	15 58 27.1	
	comp=Z,27nm,0.9s						
KTK1	Kautokeino	75.38	338	*e*P	P	15 58 24.1	-0.4
SCRK	Sand Creek	75.38	27	P	P	15 58 24.3	-0.4
	baz=283,SNR=32						
SCRK	Sand Creek	75.38	27	IAmb	IAmb	15 58 25.5	
	comp=Z,49nm,1.4s						
DOT	Dot Lake	75.42	27	IAmb	IAmb	15 58 27.6	
	comp=Z,37nm,1.0s						
BZK	Bozkurt	75.58	310	⇑P	P	15 58 25.9	-0.2
N25K	Chitina, Valde	75.64	29	P	P	15 58 26.7	+0.6
	baz=283,SNR=14						
N25K	Chitina, Valde	75.64	29	IAmb	IAmb	15 58 29.7	
	comp=Z,61nm,1.5s						
MENT	Mentasta	75.73	28	P	P	15 58 26.2	-0.4
MENT				IAmb	IAmb	15 58 30.9	
	comp=Z,32nm,0.7s						
BMRM	Bremner River	75.78	30	P	P	15 58 27.2	+0.3
	baz=283,SNR=8.4						
BMRM	Bremner River	75.78	30	P	P	15 58 26.0	-0.9
BMRM				IAmb	IAmb	15 58 30.2	
	comp=Z,46nm,1.1s						
L26K	Log Cabin Wild	75.88	28	P	P	15 58 27.9	+0.5
	baz=284,SNR=8.5						
FIA1	FINESS Array S	76.04	330	P	P	15 58 27.3	-1.0
FIA1				IAmb	IAmb	15 58 28.5	
	comp=Z,33nm,0.8s						
GLB	Gilahina Butte	76.04	30	IAmb	IAmb	15 58 33.1	
	comp=Z,39nm,0.9s						
FINES	FINESS Array B	76.04	330	P	P	15 58 27.7	-0.6
	comp=Z,28nm,0.8s,baz=68,slow=4.4,SNR=60						
FINES				LR	LR	16 35 19.2	
	comp=Z,507nm,18.4s,baz=72,slow=38						
M26K	Nabesna, AK	76.19	28	P	P	15 58 29.7	+0.5
	baz=284,SNR=53						
K27K	Chicken	76.19	27	P	P	15 58 30.1	+1.0
	baz=284						
K27K	Chicken	76.19	27	IAmb	IAmb	15 58 33.1	
	comp=Z,48nm,1.0s						
JETT	Jettan, Norway	76.21	339	*e*P	P	15 58 30.1	+0.9
BRTR	Keskin Array B	76.34	308	P	P	15 58 29.4	-1.2
	comp=Z,3.1nm,0.5s,baz=116,slow=2.8,SNR=25						
BRTR				LR	LR	16 35 59.5	
	comp=Z,280nm,21.9s,baz=70,slow=39						
EGAK	Eagle	76.38	26	P	P	15 58 30.3	+0.1
	baz=285,SNR=46						
EGAK	Eagle	76.38	26	P	P	15 58 30.2	+0.1
EGAK				IAmb	IAmb	15 58 33.2	
	comp=Z,38nm,0.8s						
MCARA	McCarthy VSAT	76.42	30	P	P	15 58 31.1	+0.5
	baz=284,SNR=7.6						
VSU	Vasula	76.43	327	*e*P	P	15 58 30.7	+0.2
VSU	Vasula	76.43	327	*d* iP	P	15 58 29.5	-1.0
VSU				pmax	pmax		
	comp=Z,180nm,0.8s						
MMAI	Mount Meron Ar	76.52	301	LR	LR	16 36 16.5	
	comp=Z,246nm,20.6s,baz=30,slow=39						
CRQM	Cirque	76.52	30	IAmb	IAmb	15 58 32.4	
	comp=Z,38nm,1.1s						
L27K	Beaver Creek,	76.54	28	P	P	15 58 32.0	+0.8
	baz=285,SNR=45						
L27K	Beaver Creek,	76.54	28	IAmb	IAmb	15 58 35.2	
	comp=Z,31nm,0.8s						
CRQE	Cirque	76.55	30	P	P	15 58 31.2	-0.2
	baz=284,SNR=6.0						
TRO	Tromso	76.68	339	*e*P	P	15 58 31.3	-0.5
M27K	Edge Creek, AK	76.70	28	P	P	15 58 32.8	+0.5
	baz=285,SNR=20						
MNK	Minsk	76.75	323	*i* P	P	15 58 32.1	-0.4
MNK				*i* PPP	PPP	16 03 15.1	
MNK				*i* S	S	16 08 20.3	+2.4
MNK				pmax	pmax		
	comp=N,12nm,0.9s						
MNK				pmax	pmax		
	comp=Z,91nm,0.9s						
MNK				pmax	pmax		
	comp=E,5.0nm,0.8s						
MNK				MLR	MLR		
	comp=Z,263nm,15.0s						
MNK				MLR	MLR		
	comp=E,27nm,18.0s						
MNK				MLR	MLR		
	comp=N,250nm,20.0s						
MNK	Minsk	76.75	323	*i* P	P	15 58 32.2	-0.3
	comp=E,5.0nm,0.8s						
MNK				*i* P	P	15 58 32.2	-0.3
	comp=N,12nm,0.9s						
MNK				*i* P	P	15 58 32.2	-0.3
	comp=Z,91nm,0.9s,baz=256						
MNK				*i* PPP	PPP	16 03 15.1	
MNK				*i* S	S	16 08 20.4	+2.5
MNK				*i* SSS	SSS	16 15 53.3	
MNK				*i* LQ	LQ	16 27 23.3	
MNK				*i* LR	LR	16 31 30.8	
MNK				*i* LRM	MLR	16 34 13.6	
	comp=Z,263nm,15.3s						
MNK				*i* LRM	MLR	16 34 23.8	
	comp=E,27nm,17.8s						
MNK				*i* LRM	MLR	16 34 59.4	
	comp=N,250nm,20.4s						
AKASG	Malin Array Be	76.85	319	P	P	15 58 31.4	-1.8
	comp=N,26nm,0.7s,baz=63,slow=5.5,SNR=66						
AKASG	Malin Array Be	76.85	319	P	P	15 58 31.8	-1.3
AKASG				IAmb	IAmb	15 58 32.6	
	comp=Z,29nm,0.8s						
AKBB	Malin Array Si	76.85	319	IAmb	IAmb	15 58 32.5	
	comp=Z,29nm,0.8s						
ANTO	Ankara	76.94	308	P	P	15 58 31.8	-2.2
ANTO				pmax	pmax		
	comp=Z,28nm,0.9s						
ANTO	Ankara	76.94	308	P	P	15 58 31.8	-2.2
ANTO				IAmb	IAmb	15 58 34.0	
	comp=Z,28nm,0.9s						
BARN	Barnard Glacie	77.14	30	IAmb	IAmb	15 58 38.0	
	comp=Z,37nm,0.8s						
MEF	Metsahovi	77.15	329	*e*P	P	15 58 34.2	-0.4
IDID	Didziasalis	77.19	324	*e*P	P	15 58 35.1	+0.2
RPZ	Rata Peaks	77.21	145	P	P	15 58 35.9	+0.7
RPZ				IAmb	IAmb	15 58 38.0	
	comp=Z,40nm,0.8s						
DAWY	Dawson	77.32	26	IAmb	IAmb	15 58 38.9	
	comp=Z,30nm,0.8s						
CTG	Chitna Glacier	77.32	30	P	P	15 58 36.6	+0.8
	baz=286,SNR=25						
URZ	Urewera	77.33	138	P	P	15 58 35.8	-0.1
	comp=Z,16nm,0.9s,baz=217,slow=15,SNR=5.6						
ISAL	Salakas	77.47	325	*e

EPYK	**Eagle Plains**	77.69	24	P	P	15 58 37.2	-0.4	
	baz=289,SNR=24							
EIL	**Elat**	77.71	297	LR	LR	16 37 00.8		
	comp=Z,161nm,18.9s,baz=86,slow=39							
MTSE	**Matsula**	77.84	328	*e*P	P	15 58 36.8	-1.6	
SORM	**Soroca**	78.03	317	⇑P	P	15 58 38.5	-1.3	
PCA	**Pinnacle**	78.08	30	P	P	15 58 39.9	0.0	
PINM	**Pinnacle**	78.08	30	P	P	15 58 40.8	+0.8	
	baz=287,SNR=9.2							
RAF	**Rauma**	78.17	331	*e*P	P	15 58 38.6	-1.6	
INK	**Inuvik**	78.19	21	P	P	15 58 40.0	-0.3	
	baz=291,SNR=25							
INK	**Inuvik**	78.19	21	IAmb	IAmb	15 58 40.8		
	comp=Z,38nm,0.9s							
TLCR		78.48	314	⇑P	P	15 58 41.9	-0.4	
STEI	**Steigen**	78.52	338	*e*P	P	15 58 41.4	-0.7	
JURR	**Jurilovca**	78.55	313	⇑P	P	15 58 42.3	-0.4	
PABE	**Paberze**	78.66	325	*e*P	P	15 58 43.2	+0.1	
FAUS	**Fauske**	78.71	338	*e*P	P	15 58 42.1	-1.0	
TPGR	**Topolog**	78.84	314	⇑P	P	15 58 43.4	-1.0	
SLIT	**Slitere, Latvi**	78.93	327	*e*P	P	15 58 43.8	-0.7	
CFR	**Carcaliu**	78.95	314	⇑P	P	15 58 43.8	-1.1	
TIRR	**Tirgusor**	78.95	313	⇑P	P	15 58 43.6	-1.3	
TIRR	**Tirgusor**	78.95	313	P	P	15 58 44.8	-0.1	
TIRR				pmax	pmax			
	comp=Z,46nm,1.1s							
LOF	**Lofoten**	79.04	339	*e*P	P	15 58 44.5	-0.4	
HYT	**Haines Junctio**	79.15	29	IAmb	IAmb	15 58 47.7		
	comp=Z,43nm,1.1s							
ISP	**Isparta**	79.17	306	P	P	15 58 44.8	-1.6	
ISP	**Isparta**	79.17	306	IAmb	IAmb	15 58 45.6		
	comp=Z,35nm,0.9s							
HARR	**Harsova**	79.22	314	⇑P	P	15 58 45.7	-0.6	
PETR	**Petresti**	79.41	315	⇑P	P	15 58 47.8	+0.3	
ICOR	**Ion Corvin**	79.46	313	⇑P	P	15 58 47.8	+0.1	
MOR8	**Moi Rana**	79.48	337	*e*P	P	15 58 45.3	-2.1	
ODBI	**Odobesti**	79.52	315	⇑P	P	15 58 48.4	+0.4	
SUW	**Suwalki**	79.54	324	*e*P	P	15 58 47.1	-0.9	
SUW	**Suwalki**	79.54	324	*e*P	P	15 58 47.5	-0.4	
TESR	**Tescani**	79.58	316	⇑P	P	15 58 47.5	-0.9	
PBUR	**Paburge**	79.61	326	*e*P	P	15 58 48.4	+0.1	
VRI	**Vrincioaia**	79.71	315	⇑P	P	15 58 49.1	0.0	
VRI	**Vrincioaia**	79.71	315	P	P	15 58 48.7	-0.4	
PLOR	**Plostina**	79.77	315	⇑P	P	15 58 48.8	-0.6	
BISRR	**Bisoca**	79.81	315	⇑P	P	15 58 49.4	-0.3	
KONS	**Konsvik**	79.84	337	*e*P	P	15 58 48.7	-0.6	
ELL	**Elmali**	79.93	305	P	P	15 58 49.7	-0.9	
ISR	**Istrita**	80.05	314	⇑P	P	15 58 50.9	0.0	
NEHR	**Nehoiu**	80.13	315	⇑P	P	15 58 51.2	-0.2	
BURAR	**Bucovina Array**	80.20	317	⇑P	P	15 58 51.5	-0.3	
LVV	**L'vov**	80.30	319	*e*P	P	15 58 50.8	-1.4	
LVV				*e*S	S	16 08 54.0	-2.1	
MLR	**Muntele Rosu**	80.34	315	⇑P	P	15 58 52.2	-0.4	
MLR	**Muntele Rosu**	80.34	315	P	P	15 58 52.3	-0.4	
WHY	**Whitehorse**	80.42	29	P	P	15 58 53.6	+0.9	
	baz=291							
UPP	**Uppsala**	80.49	330	*e*P	P	15 58 52.5	-0.5	
DOPR	**Dopca**	80.58	315	⇓P	P	15 58 53.5	-0.2	
SKAG	**Skagway**	80.64	30	P	P	15 58 55.1	+1.3	
	baz=291							
C36M	**Paulatuk**	80.85	19	P	P	15 58 54.0	-0.7	
	baz=300,SNR=5.5							
C36M	**Paulatuk**	80.85	19	P	P	15 58 53.5	-1.2	
C36M				IAmb	IAmb	15 58 54.9		
	comp=Z,44nm,0.8s							
ARCR	**ARCALIA**	80.92	317	⇑P	P	15 58 55.3	-0.3	
VOIR		80.96	315	⇑P	P	15 58 54.3	-1.6	
KLNR	**Kaliningrad**	81.00	325	*c i*P	P	15 58 54.9	-0.9	
KLNR				pmax	pmax			
	comp=Z,101nm,0.9s							
NSS	**Namsos**	81.10	336	*e*P	P	15 58 54.8	-1.3	
HUMR	**Humele**	81.28	314	⇑P	P	15 58 56.6	-1.0	
BMR	**Baia Mare**	81.30	317	⇑P	P	15 58 57.5	-0.1	
SIT	**Sitka**	81.52	32	P	P	15 58 59.6	+1.2	
	baz=292							
CJR	**Cluj-Napoca**	81.53	316	⇑P	P	15 58 58.9	+0.1	
JIS	**Juneau Island**	81.54	31	P	P	15 58 58.2	-0.3	
JIS				IAmb	IAmb	15 59 00.6		
	comp=Z,32nm,1.0s							
CBBR	**Cluj-Babes-Bol**	81.55	316	⇓P	P	15 58 59.2	+0.3	
OPO	**Ambohidratompo**	81.55	247	P	P	15 58 59.3	-0.2	
	comp=Z,13nm,0.8s,baz=66,slow=5.0,SNR=12							
BEL	**Belsk**	81.60	322	*e*P	P	15 58 58.6	-0.5	
DAG	**Danmarks Havn**	81.63	351	⇓*i*P	P	15 58 57.6	-1.2	
DAG				IAmb	IAmb	15 58 58.4		
	comp=Z,33nm,0.8s							
DAG	**Danmarks Havn**	81.63	351	⇓*i*P	P	15 58 57.5	-1.2	
DAG				pmax	pmax			
	comp=Z,33nm,0.8s							
KOLS	**Kolonicke sedl**	81.67	319	*e*P	P	15 58 59.0	-0.5	
KOLS	**Kolonicke sedl**	81.67	319	*e*P	P	15 58 59.0	-0.5	
EZN	**Ezine**	81.75	309	P	P	15 58 59.6	-0.5	
UZH	**Uzhgorod**	81.75	319	*e*P	P	15 58 59.2	-0.7	
UZH				*e*		15 59 07.0		
UZH				*e*		15 59 14.8		
DRGR		82.08	317	⇑P	P	15 59 01.3	-0.5	
DRGR		82.08	317	P	P	15 59 01.0	-0.8	
CRVS	**Cervenica-Dubn**	82.18	319	*e*P	P	15 59 02.0	-0.2	
CRVS				pmax	pmax			
	comp=Z,32nm,1.1s							
CRVS	**Cervenica-Dubn**	82.18	319	*e*P	P	15 59 02.0	-0.2	
HFS	**Hagfors**	82.20	331	P	P	15 59 00.7	-1.3	
	comp=Z,18nm,0.7s,baz=90,slow=4.8,SNR=6.2							
HFS				LR	LR	16 39 22.8		
	comp=Z,523nm,19.0s,baz=64,slow=38							
DEV	**Deva**	82.25	316	⇑P	P	15 59 02.5	-0.1	
GZR	**Gura Zlata**	82.50	315	⇑P	P	15 59 03.2	-0.8	
BLEU	**Blekinge**	82.71	327	*i* P	P	15 59 02.1	-2.7	
OJC	**Ojcow**	82.75	321	*e*P	P	15 59 04.5	-0.7	
PUNG	**Punghina**	82.75	314	⇑P	P	15 59 04.6	-0.6	
NC303	**NORSAR Array S**	82.78	333	IAmb	IAmb	15 59 04.8		
	comp=Z,26nm,0.8s							
HERR	**Herculane**	82.91	315	⇑P	P	15 59 05.0	-1.0	
NC602	**NORSAR Array S**	82.92	332	*e*P	P	15 59 04.3	-1.4	
NB2	**NORSAR Subarra**	82.92	333	P	P	15 59 03.7	-2.2	
	comp=Z,17nm,0.8s,baz=64,slow=5.3							
NB2	**NORSAR Subarra**	82.92	333	P	P	15 59 03.7	-2.2	
	baz=64,slow=5.3							
NOA	**NORSAR Array B**	82.92	333	P	P	15 59 04.0	-1.9	
	comp=Z,11nm,0.7s,baz=64,slow=5.0,SNR=47							
NOA				LR	LR	16 40 12.3		
	comp=Z,913nm,18.4s,baz=65,slow=39							
NC204	**NORSAR Array S**	83.02	333	IAmb	IAmb	15 59 06.3		
	comp=Z,28nm,0.7s							
VTS	**Vitosha**	83.09	313	⇑P	P	15 59 06.3	-1.0	
VTS	**Vitosha**	83.09	313	P	P	15 59 06.7	-0.6	
BZS	**Buzias**	83.19	316	⇑P	P	15 59 06.0	-1.5	
DOMB	**Dombas**	83.39	334	*e*P	P	15 59 07.3	-0.9	
MDVR	**Moldovita**	83.41	315	⇑P	P	15 59 08.1	-0.7	
PSZ	**Piszkesteto**	83.50	318	⇑P	P	15 59 08.9	-0.3	
PSZ	**Piszkesteto**	83.50	318	*e*P	P	15 59 08.3	-0.9	
PSZ	**Piszkesteto**	83.50	318	P	P	15 59 10.7	+1.5	
DLBC	**Dease Lake**	83.57	30	IAmb	IAmb	15 59 13.0		
	comp=Z,30nm,0.9s							
OSL	**Oslo**	83.64	332	*e*P	P	15 59 08.9	-0.5	
BSD	**Bornholm Skovb**	83.65	326	*i* P	P	15 59 09.6	0.0	
BSD				IAmb	IAmb	15 59 09.8		
	comp=Z,27nm,0.9s							
BSD	**Bornholm Skovb**	83.65	326	*i* P	P	15 59 09.6	0.0	
BSD				pmax	pmax			
	comp=Z,27nm,0.9s							
MOL	**Molde**	83.75	335	*e*P	P	15 59 08.8	-1.3	
NEEM	**North Greenlan**	83.82	358	⇓*i*P	P	15 59 10.3	-0.2	
NEEM				IAmb	IAmb	15 59 11.3		
	comp=Z,53nm,0.9s							
STRU	**Stroemstad**	83.83	331	*i* P	P	15 59 09.5	-1.0	
DBG	**Daneborg**	83.84	350	*i* P	P	15 59 09.4	-0.9	
DBG				IAmb	IAmb	15 59 10.2		
	comp=Z,29nm,0.7s							
OKC	**Ostrava-Krasne**	83.88	321	*e*P	P	15 59 11.5	+0.6	
OKC	**Ostrava-Krasne**	83.88	321	*e*P	P	15 59 11.5	+0.6	
VYHS	**Vyhne**	83.95	319	*e*P	P	15 59 11.1	-0.3	
VYHS				pmax	pmax			
	comp=Z,20nm,1.0s							
VYHS	**Vyhne**	83.95	319	*e*P	P	15 59 11.1	-0.3	
AKN	**Aaknes**	84.17	335	*e*P	P	15 59 12.6	+0.4	
LUNU	**Lund**	84.20	327	*i* P	P	15 59 11.0	-1.4	
LUNU				*i* P	PcP	15 59 11.6	-4.6	
BUD	**Budapest**	84.21	318	*e*P	P	15 59 11.9	-0.8	
KIBK	**Kibwezi**	84.21	266	P	P	15 59 10.8	-2.6	
BJUU	**Bjuv**	84.23	328	*i* P	P	15 59 11.7	-0.9	
IDI	**Anoyia**	84.25	305	⇑P	P	15 59 08.6	-4.6	
MORC	**Moravsky Berou**	84.27	321	⇑P	P	15 59 12.4	-0.6	
MORC	**Moravsky Berou**	84.27	321	P	P	15 59 11.0	-1.9	
MORC				pmax	pmax			
	comp=Z,14nm,1.0s							
MORC	**Moravsky Berou**	84.27	321	P	P	15 59 11.1	-1.9	
MORC	**Moravsky Berou**	84.27	321	*e*P	P	15 59 12.5	-0.5	
SKAR	**Skarslia**	84.36	333	*e*P	P	15 59 12.7	-0.6	
JAVC	**Velka Javorina**	84.54	320	*e*P	P	15 59 15.2	+0.8	
FRGS	**Fruska Gora**	84.54	316	⇑P	P	15 59 13.5	-0.9	
FRGS	**Fruska Gora**	84.54	316	⇓*i*P	P	15 59 13.4	-1.1	
SKO	**Skopje**	84.56	312	*i* P	P	15 59 13.8	-0.8	
KMBO	**Kilima Mbogo**	84.57	267	P	P	15 59 15.1	-0.3	
	comp=Z,7.4nm,0.9s,baz=56,slow=6.6,SNR=12							
KMBO	**Kilima Mbogo**	84.57	267	*i* P	P	15 59 16.1	+0.7	
KMBO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KSP	**Ksiaz**	84.59	322	*e*P	P	15 59 14.2	-0.4	
KRLC	**Kraliky**	84.60	321	*e*P	P	15 59 14.4	-0.3	
KRLC				MLR	MLR			
	comp=Z,200nm,16.1s							
KRLC	**Kraliky**	84.60	321	*e*P	P	15 59 14.4	-0.3	
KRLC				AMS	AMS	16 40 40.0		
	comp=Z,200nm,16.1s							
TULEG	**Thule**	84.65	2	⇓*i*P	P	15 59 13.5	-0.9	
TULEG				IAmb	IAmb	15 59 15.4		
	comp=Z,20nm,0.9s							
OSTC	**Ostas**	84.75	322	*e*P	P	15 59 15.2	-0.2	
OSTC				AMS	AMS	16 43 00.0		
	comp=Z,300nm,19.7s							
DPC	**Dobruska-Polom**	84.77	322	*e*P	P	15 59 15.5	0.0	
DPC				*e*		15 59 25.9		
DPC				MLR	MLR			
	comp=Z,300nm,16.9s							
DPC	**Dobruska-Polom**	84.77	322	*e*P	P	15 59 15.5	0.0	
DPC				*ex*	x	15 59 25.9		
DPC				AMS	AMS	16 43 30.0		
	comp=Z,300nm,16.9s							
DIVS	**Divibare**	84.80	315	⇓*i*P	P	15 59 14.7	-1.2	
DIVS	**Divibare**	84.80	315	IAmb	IAmb	15 59 15.9		
	comp=Z,23nm,1.2s							
SMOL	**Smolenice**	84.82	320	*e*P	P	15 59 16.0	+0.3	
SMOL	**Smolenice**	84.82	320	*e*P	P	15 59 16.0	+0.3	
CHVC	**Chvalec**	84.83	322	*e*P	P	15 59 15.7	-0.1	
CHVC				AMS	AMS	16 43 30.0		
	comp=Z,300nm,16.8s							
UPC	**Upice**	84.89	322	*e*P	P	15 59 15.9	-0.2	
UPC				MLR	MLR			
	comp=Z,400nm,17.7s							
UPC	**Upice**	84.89	322	*e*P	P	15 59 15.9	-0.2	
UPC				AMS	AMS	16 43 30.0		
	comp=Z,400nm,17.7s							
MORH	**Mrgy, Hungar**	84.92	317	⇑P	P	15 59 15.2	-1.1	
MORH	**Mrgy, Hungar**	84.92	317	⇓*i*P	P	15 59 15.2	-1.1	
AGG	**Agios Georgios**	84.94	309	IAmb	IAmb	15 59 14.5		
	comp=Z,19nm,0.9s							
MODS	**Modra-Piesok**	84.96	319	*e*P	P	15 59 17.3	+0.8	
MODS				pmax	pmax			
	comp=Z,41nm,1.8s							
MODS	**Modra-Piesok**	84.96	319	*e*P	P	15 59 17.3	+0.8	
HYA	**Hoyanger**	85.02	334	*e*P	P	15 59 15.8	-0.6	
VRAC	**Vranov**	85.02	321	LR	LR	16 39 18.6		
	comp=Z,298nm,19.3s,baz=61,slow=37							
VRAC	**Vranov**	85.02	321	⇑P	P	15 59 16.9	+0.2	
VRAC	**Vranov**	85.02	321	*e*P	P	15 59 16.6	-0.2	
FNA	**Florina**	85.02	311	IAmb	IAmb	15 59 15.6		
	comp=Z,25nm,0.7s							
ZST	**Bratislava**	85.14	319	*e*P	P	15 59 17.0	-0.4	
ZST	**Bratislava**	85.14	319	*e*P	P	15 59 17.0	-0.4	
KRUC	**Moravsky**	85.23	320	*e*P	P	15 59 17.5	-0.3	
BBLS	**Lazići**	85.28	315	⇓*i*P	P	15 59 17.3	-1.0	
EGYH	**Egyhazaskeszo**	85.30	319	*e*P	P	15 59 14.0	-4.1	
OHR	**Ohrid**	85.31	312	*i* P	P	15 59 16.5	-2.0	
KOVH	**Kovagotottos**	85.32	317	*e*P	P	15 59 17.0	-1.3	
RUDO	**Rudo**	85.40	314	*e*P	P	15 59 17.5	-1.3	
ODD1	**Odda**	85.46	333	*e*P	P	15 59 18.2	-0.5	
PUK	**Puka**	85.61	313	IAmb	IAmb	15 59 20.7		
	comp=Z,37nm,1.0s							
TREC	**Trest**	85.69	321	AMS	AMS	16 43 20.0		
	comp=Z,400nm,15.3s							
PVCC	**Panska Ves**	85.72	322	AMS	AMS	16 42 20.0		
	comp=Z,300nm,14.5s							
BER	**Bergen**	85.78	333	*e*P	P	15 59 20.0	-0.2	
ASK	**Askoy**	85.78	333	*e*P	P	15 59 19.9	-0.4	
BLS5	**Blasjo**	85.78	332	*e*P	P	15 59 20.1	-0.3	
UPM	**Unac-Piva**	85.86	314	*e*P	P	15 59 20.4	-0.9	
TIR	**Tirane**	85.89	312	⇓P	P	15 59 19.1	-2.2	
TIR	**Tirane**	85.89	312	P	P	15 59 21.9	+0.7	
PDG	**Podgorica**	85.91	313	⇑P	P	15 59 19.3	-2.0	
PDG	**Podgorica**	85.91	313	⇓*i*P	P	15 59 19.8	-1.5	
BRG	**Berggiesshubel**	85.94	323	*i* PKP	P	15 59 20.9	-0.4	
BRG				Amp		15 59 21.9		
	comp=Z,33nm,1.2s							
BRG	**Berggiesshubel**	85.94	323	P	P	15 59 30.8	+10	
BRG				Amp		15 59 31.8		
	comp=Z,31nm,1.4s							
PRU	**Pruhonice**	85.96	322	*e*P	P	15 59 20.9	-0.5	
PRU				*e*		15 59 29.9		
PRU				MLR	MLR			
	comp=Z,300nm,18.1s							
PRU	**Pruhonice**	85.96	322	*e*P	P	15 59 20.9	-0.5	
PRU				*ex*	x	15 59 29.9		
PRU				AMS	AMS	16 45 50.0		
	comp=Z,300nm,18.1s							
MUD	**Monsted U'grnd**	85.98	329	*i* P	P	15 59 21.2	-0.1	
MUD				IAmb	IAmb	15 59 21.8		
	comp=Z,25nm,0.7s							
MUD	**Monsted U'grnd**	85.98	329	*i* P	P	15 59 21.2	-0.1	
MUD				pmax	pmax			
	comp=Z,25nm,0.7s							
CONA	**Conrad Observa**	86.01	319	*i* P	P	15 59 21.7	-0.2	
	comp=Z,21nm,1.2s,SNR=15							
DRME	**Dracevica, Mon**	86.05	313	⇓*i*P	P	15 59 20.5	-1.5	
BRY	**Bratogost**	86.23	314	*e*P	P	15 59 21.9	-1.2	
CLL	**Collm**	86.29	323	*i* P	P	15 59 21.9	-1.1	
	comp=Z,26nm,1.2s							
CLL				*i*		15 59 31.8		
CLL				*e*PP	PP	16 02 42.0	-1.6	
CLL				*e*SKSac	SKSac	16 09 51.0	+3.4	
CLL				*e*SP	SPn	16 10 51.0	-1.7	
CLL				*e*(SS)		16 15 24.0		
CLL				*e*SSS	SSS	16 19 06.0		
CLL				*e*SSSS		16 22 06.0		
CLL				LmH		16 43 00.0		
	comp=N,400nm,19.6s							
CLL				LmH		16 43 00.0		
	comp=E,400nm,20.6s							
CLL				LmV		16 44 00.0		
	comp=Z,600nm,18.7s							
CLL	**Collm**	86.29	323	*i* P	P	15 59 21.9	-1.1	
CLL				*i*		15 59 31.8		
CLL				*e*S	SKSac	16 09 51.0	+3.4	
CLL				pmax	pmax			
	comp=Z,26nm,1.2s							
CLL				MLR	MLR			
	comp=Z,600nm,18.7s							
PBCC	**Pribram**	86.41	322	*e*P	P	15 59 23.1	-0.6	
BLY	**Banja Luka**	86.43	316	⇓*i*P	P	15 59 22.9	-0.9	
HCY	**Herceg Novi**	86.43	314	*e*P	P	15 59 22.2	-1.7	
ARSA	**Arzberg**	86.49	319	*i* P	P	15 59 23.5	-0.6	
	comp=Z,13nm,1.1s,SNR=7.5							
CKRC	**Cesky Krumlov**	86.59	321	*e*P	P	15 59 24.3	-0.3	
CKRC				*ex*	x	16 09 41.9		
CKRC				AMS	AMS	16 44 20.0		
	comp=Z,300nm,17.0s							
MGRS	**Mrkonjic Grad**	86.62	316	*e*P	P	15 59 24.4	-0.4	
GROS	**Grobnik**	86.83	318	*e*P	P	15 59 24.7	-1.2	
KHC	**Kasperske Hory**	86.89	321	*e*P	P	15 59 25.4	-0.7	
KHC				MLR	MLR			
	comp=Z,400nm,17.6s							
KHC	**Kasperske Hory**	86.89	321	*e*P	P	15 59 25.4	-0.7	
KHC				*ex*	x	16 00 18.5		
KHC				AMS	AMS	16 43 40.0		
	comp=Z,400nm,17.6s							
KHC	**Kasperske Hory**	86.89	321	P	P	15 59 24.6	-1.5	
GERES	**GERESS Array B**	86.94	321	P	P	15 59 25.4	-1.0	
	comp=Z,5.7nm,0.8s,baz=67,slow=4.5,SNR=36							
GERES				PKKPbc	PKKPbc	16 17 19.4	-1.0	
	comp=Z,0.7nm,0.7s,baz=189,slow=2.5,SNR=5.8							
GERES				LR	LR	16 40 46.7		
	comp=Z,306nm,21.6s,baz=68,slow=37							
MOA	**Molln**	87.02	320	*i* P	P	15 59 25.8	-0.9	
	comp=Z,21nm,1.2s,SNR=14							
SOKA	**Soboth**	87.03	319	*i* P	P	15 59 25.0	-1.9	
	comp=Z,11nm,1.0s,SNR=9.1							
NKC	**Novy Kostel**	87.08	322	*e*P	P	15 59 26.2	-0.7	
NKC				MLR	MLR			
	comp=Z,500nm,16.7s							
NKC	**Novy Kostel**	87.08	322	*e*P	P	15 59 26.2	-0.7	
NKC				AMS	AMS	16 43 00.0		
	comp=Z,500nm,16.7s							
CRES	**Cresnjev**	87.11	318	⇓*i*P	P	15 59 26.1	-1.1	
CRES	**Cresnjev**	87.11	318	*e*P	P	15 59 26.5	-0.7	
BOJS	**Bojanci**	87.38	317	⇓*i*P	P	15 59 27.8	-0.6	
OBKA	**Obir**	87.41	319	*i* P	P	15 59 27.5	-1.2	
	comp=Z,10nm,1.1s,SNR=8.0							
LJU	**Ljubljana**	87.61	318	⇓*i*P	P	15 59 28.6	-1.0	
LJU	**Ljubljana**	87.61	318	*e*P	P	15 59 28.6	-1.0	
SUMG	**Summit**	87.80	354	⇓*i*P	P	15 59 29.9	-0.5	
SUMG				IAmb	IAmb	15 59 30.9		
	comp=Z,24nm,0.9s							
SUMG	**Summit**	87.80	354	⇓*i*P	P	15 59 29.9	-0.5	
SUMG				pmax	pmax			
	comp=Z,24nm,0.9s							
SUMG	**Summit**	87.80	354	IAmb	IAmb	15 59 31.0		
	comp=Z,28nm,1.0s							
CEY	**Cerknica**	87.81	318	⇓*i*P	P	15 59 29.4	-1.1	
YKA	**Yellowknife Ar**	87.91	23	P	P	15 59 30.5	-0.1	
	comp=Z,29nm,0.8s,baz=312,slow=4.1,SNR=174							
YKA				PKKPbc	PKKPdf	16 17 13.4	+2.0	
	comp=Z,0.4nm,0.6s,baz=123,slow=3.1,SNR=3.8							
YKA	**Yellowknife Ar**	87.91	23	*i* P	P	15 59 30.5	-0.1	
YKA				pmax	pmax			
	comp=Z,31nm,0.8s							
KBA	**Koelnbreinsper**	87.92	319	*e*P	P	15 59 29.5	-1.8	
	comp=Z,4.7nm,0.8s							
MYKA	**Terra Mystica**	87.92	319	*e*P	P	15 59 29.9	-1.3	
	comp=Z,8.1nm,1.6s							
SKDS	**Skadanscina**	88.15	318	⇓*i*P	P	15 59 30.4	-1.8	
ABTA	**Abfaltersbach**	88.57	319	*i* P	P	15 59 32.0	-2.2	
	comp=Z,8.2nm,0.8s,SNR=8.1							
WTTA	**Wattenberg**	88.88	320	*i* P	P	15 59 34.8	-1.0	
	comp=Z,18nm,0.8s,SNR=7.1							
WATA	**Walderalm**	88.88	320	*i* P	P	15 59 34.3	-1.5	
	comp=Z,8.7nm,0.9s,SNR=5.4							
SQTA	**Sankt Quirin**	89.16	320	*i* P	P	15 59 36.0	-1.1	
	comp=Z,12nm,0.7s,SNR=8.4							
MOTA	**Moosalm**	89.17	320	*i* P	P	15 59 35.9	-1.2	
	comp=Z,9.3nm,0.9s,SNR=5.3							
RETA	**Reutte**	89.31	321	*e*P	P	15 59 36.3	-1.4	
	comp=Z,3.6nm,0.9s							
FETA	**Feichten**	89.54	320	*i* P	P	15 59 37.6	-1.2	
	comp=Z,9.7nm,0.8s,SNR=9.7							
AQU	**L'Aquila**	89.92	315	P	P	15 59 40.6	0.0	
AQU	**L'Aquila**	89.92	315	⇓*i*P	P	15 59 39.5	-1.1	
DAVA	**Damuels**	89.93	321	*e*P	P	15 59 39.7	-0.9	
	comp=Z,7.9nm,1.1s							
DAVOX	**Davos/Dischmat**	90.17	320	LR	LR	16 44 30.1		
	comp=Z,407nm,19.0s,baz=82,slow=38							
BTNL	**Ternell**	90.46	325	*d*PcP	P	15 59 41.2	-1.7	
MEM	**Membach**	90.52	325	*d*PcP	P	15 59 41.9	-1.3	
MBAR	**Mbarara**	90.57	270	*c e*P	P	15 59 44.3	0.0	
BSTI	**Sart Tilman**	90.77	325	*d*PcP	P	15 59 43.7	-0.6	
WLF	**Walferdange**	90.92	324	*d*PcP	P	15 59 44.7	-0.3	
BCLA	**Clavier**	91.00	325	*d*PcP	P	15 59 44.8	-0.6	
ICESG	**Greenland Ices**	91.24	353	*i* P	P	15 59 45.8	-0.8	
ICESG				IAmb	IAmb	15 59 46.2		
	comp=Z,11nm,0.8s							
BMRD	**Maredsous**	91.35	325	*d*PcP	P	15 59 46.0	-1.0	
RAFF	**Raffo Rosso**	91.43	310	P	P	15 59 46.5	-1.2	
SNF	**Seneffe**	91.51	325	*d*PcP	P	15 59 46.5	-1.2	
MSSA	**Maissana**	91.56	318	P	P	15 59 46.5	-1.7	
MSSA				IAmb	IAmb	15 59 47.5		
	comp=Z,15nm,0.8s							
DOU	**Dourbes**	91.56	325	*d*PcP	P	15 59 47.0	-1.0	

comp=Z,17nm,0.8s
TIC **Toumodi** 121.21 290 *e*PKIKP **PKPdf** 16 05 33.0 -2.1
LIC **Lamto** 121.41 290 *e*PKIKP **PKPdf** 16 05 32.7 -2.7
comp=Z,50nm,1.0s
LRAL **Lakeview Retre** 121.84 28 P **PKPdf** 16 05 35.0 -0.8
baz=328
KMSC **Kings Mountain** 122.24 22 P **PKPdf** 16 05 35.7 -0.8
baz=335
GOGA **Godfrey** 122.99 25 P **PKPdf** 16 05 37.8 -0.2
baz=332
BCIP **Isla Barro Col** 145.34 38 PKIKP **PKPbc** 16 06 19.3 -0.4
BCIP **Isla Barro Col** 145.34 38 **PKPbc** 16 06 19.3 -0.4
GO09 **Cerro Castillo** 145.91 165 **PKPab** 16 06 20.8 -0.2
AZU **Azuero** 146.16 41 *e*P **PKPdf** 16 06 21.7 +0.4
URIC **Uribia, Colomb** 147.02 24 *e*P **PKPbc** 16 06 24.0 -0.8
EFI **East Falkland** 147.22 181 *c i*PKP2 **PKiKP** 16 06 28.3 +1.7
EFI pmax pmax
comp=Z,116nm,1.7s
SJCC **San Jacinto, C** 147.23 31 *e*P **PKPbc** 16 06 25.4 0.0
MOTC **Monteria, Cord** 147.95 33 *e*P **PKPdf** 16 06 24.7 +0.4
DABV **Dabajuro** 148.24 22 *e*P **PKPbc** 16 06 27.5 -0.6
SMLC **San Martn de** 148.72 30 *e*P **PKPdf** 16 06 25.7 +0.1
UREC **Ipan Jos de Ur** 148.89 33 *e*P **PKPdf** 16 06 25.6 -0.3
DBBC **Dabeiba** 149.15 35 *e*P **PKPdf** 16 06 27.0 +0.6
ZARC **Zaragoza, Cauc** 149.46 33 *e*P **PKPdf** 16 06 25.6 -1.3
OCAC **Ocana** 149.56 29 *e*P **PKPbc** 16 06 31.4 -0.3
SDV **Santo Domingo** 150.12 24 PKPbc **PKPbc** 16 06 31.9 -1.2
comp=Z,57nm,0.8s,baz=316,slow=4.9,SNR=16
SDV **Santo Domingo** 150.12 24 *e*P **PKPbc** 16 06 32.4 -0.8
SDV **Santo Domingo** 150.12 24 *e*P **PKPbc** 16 06 33.5 +0.4
HELC **Santa Helena** 150.20 35 *e*P **PKPbc** 16 06 32.5 -1.0
CBOC **Ciudad Bolivar** 150.21 36 *e*P **PKPbc** 16 06 33.1 -0.3
SOCV **Socops** 150.58 25 *e*P **PKPbc** 16 06 32.1 -1.9
PAMC **Pamplona, Colo** 150.64 29 *e*P **PKPbc** 16 06 34.5 -0.3
PLMC **San Jos del P** 150.83 38 *e*P **PKPdf** 16 06 29.8 +0.7
MALC **Bahia Malaga** 150.91 41 *e*P **PKiKP** 16 06 35.4 0.0
BARC **Barichara** 151.06 31 *e*P **PKPbc** 16 06 35.3 -0.2
NORC **Norcasia** 151.58 35 *e*P **PKPbc** 16 06 34.1 -1.1
GUY2C **Guyana, Caldas** 151.09 36 *e*P **PKPdf** 16 06 29.9 -0.1
COYC **Coyhaique** 151.16 161 **PKiKP** 16 06 35.4 +0.4
YOTC **Yotoco, Valle** 151.54 39 *e*P **PKPdf** 16 06 29.9 -0.4
TOLC **Tolima** 151.64 36 *e*P **PKPdf** 16 06 30.8 +0.1
ANIL **Santa Ana** 151.68 37 *e*P **PKPbc** 16 06 36.3 -0.6
RUSC **La Rusia** 151.72 31 *e*P **PKPbc** 16 06 36.6 -0.7
ROSC **El Rosal** 151.98 34 PKP **PKPdf** 16 06 32.1 +0.8
comp=Z,13nm,0.6s,baz=233,slow=20,SNR=7.6
ROSC PKPbc **PKPbc** 16 06 37.5 -0.2
comp=Z,19nm,0.5s,baz=219,slow=6.5,SNR=14
ROSC **El Rosal** 151.98 34 *e*P **PKPdf** 16 06 32.0 +0.8
ORTC **Ortega, Tolima** 152.24 37 *e*P **PKPbc** 16 06 36.9 -1.0
ELOV **Elorza** 152.28 23 *e*P **PKPbc** 16 06 37.4 -0.5
CHIC **Chingaza** 152.47 34 *e*P **PKPdf** 16 06 31.4 -0.6
BBAC **Balboa, Cauca** 152.50 43 *e*P **PKPdf** 16 06 31.8 0.0
SOTA **Rioblanco** 152.82 42 *e*P **PKPdf** 16 06 32.9 +0.2
VILC **Villavicencio,** 152.93 34 *e*P **PKPbc** 16 06 39.6 0.0
OTAV **Otavalo** 153.00 48 *e*P **PKPdf** 16 06 32.8 0.0
OTAV **Otavalo** 153.00 48 *e*P **PKPbc** 16 06 38.1 -2.0
BETC **Betania** 153.11 39 *e*P **PKiKP** 16 06 40.5 +0.4
GARC **Garzon, Huila** 153.47 40 *e*P **PKPdf** 16 06 33.9 +0.7
NBPV **Pedro Velho** 153.94 295 *e*P **PKPbc** 16 06 39.1 -2.5
NBPA **Parau_RN** 155.13 299 *e*P **PKPdf** 16 06 40.4 +5.1
NBCL **Cascavel-CE** 155.21 303 *e*P **PKPdf** 16 06 40.5 +5.2
MDP **Montagnes des** 155.44 345 PKPab **PKPab** 16 07 00.7 -0.3
comp=Z,26nm,0.7s,baz=32,slow=3.6,SNR=12
PLCA **Paso Flores** 155.97 158 PKPbc PKPdf 16 06 44.9 +9.2
comp=Z,8.3nm,1.1s,baz=262,slow=1.8,SNR=8.9
PLCA PKPab **PKPab** 16 07 03.5 +0.8
comp=Z,16nm,0.9s,baz=195,slow=5.3,SNR=9.6
PLCA **Paso Flores** 155.97 158 *e*P **PKPdf** 16 06 41.5 +5.8
NBMO **Morrinhos-CE** 155.98 308 *e*P **PKPdf** 16 06 41.9 +5.5
NBAN **Anadia - AL** 156.31 289 *e*P **PKPdf** 16 06 41.3 +4.5
NBPB **Pedra_Branca-C** 157.03 303 *e*P **PKPdf** 16 06 43.3 +5.5
LC01 **Cunco** 157.03 153 **PKPab** 16 07 08.2 +0.9
ATAH **Atahualpa** 157.73 61 PKP **PKPdf** 16 06 39.4 +0.2
comp=Z,4.5nm,0.5s,baz=59,slow=3.6,SNR=4.8
ATAH PKPab **PKPab** 16 07 13.1 +1.5
comp=Z,15nm,0.9s,baz=341,slow=5.6,SNR=4.7
NBPS **Pedro II - PI** 157.75 308 *e*P **PKPdf** 16 06 44.2 +5.4
ROSB **Rosrio** 158.58 316 *e*P **PKPdf** 16 06 45.5 +5.9
BOAV **Boa Vista** 158.85 5 *e*P **PKPdf** 16 06 44.7 +4.7
NBPN **Ponto Novo - B** 160.30 291 *e*P **PKPdf** 16 06 47.4 +5.7
MCPB **Macapa, AP** 160.47 339 *e*P **PKPdf** 16 06 47.7 +5.8
TMAB **Tom-Au,PA,Br** 160.54 326 *e*P **PKPdf** 16 06 47.7 +5.7
TRQA **Tornquist** 160.65 173 *e*P **PKPdf** 16 06 48.2 +6.8
GDU01 **Guandu, BA** 160.80 282 *e*P **PKPdf** 16 06 48.0 +5.8
CMC01 **Camacan, BA** 161.19 278 *e*P **PKPdf** 16 06 48.6 +6.1
GUA01 **Guaratinga, BA** 161.71 274 *e*P **PKPdf** 16 06 48.1 +5.1
CO02 **Combarbal** 163.50 141 **PKPdf** 16 06 45.0 +0.4
CAM01 **Campos-RJ** 163.59 257 *e*P **PKPdf** 16 06 50.2 +5.4
DUB01 **Friburgo-RJ** 164.21 255 *e*P **PKPdf** 16 06 51.4 +6.0
MACA **Manacapuru-AM** 164.33 7 *e*P **PKPdf** 16 06 52.2 +6.5
PRPB **Parauapebas** 164.64 324 *e*P **PKPdf** 16 06 52.0 +6.1
SDBA **SAO DESIDERIO** 165.12 293 *e*P **PKPdf** 16 06 52.3 +6.0
VAS01 **Vassouras-RJ** 165.15 254 *e*P **PKPdf** 16 06 53.0 +6.8
SMTB **Santa Maria do** 165.24 311 *e*P **PKPdf** 16 06 52.6 +6.2
ITTB **Itaituba** 165.31 348 *e*P **PKPdf** 16 06 52.6 +6.1
JANB **Januaria** 165.58 283 *e*P **PKPdf** 16 06 52.1 +5.4
DIAM **Diamantina, MG** 165.58 270 *e*P **PKPdf** 16 06 52.8 +6.0
MC01 **Montes Claros** 165.63 276 *e*P **PKPdf** 16 06 52.0 +5.2
ESAR **Angra dos Reis** 165.89 250 *e*P **PKPdf** 16 06 53.1 +6.4
PLTB **Pedras Altas** 166.27 199 *e*P **PKPdf** 16 06 53.4 +6.6
BSCB **Bom Sucesso** 166.57 258 *e*P **PKPdf** 16 06 53.5 +6.1
PARB **Paraibuna** 166.85 248 *e*P **PKPdf** 16 06 53.7 +6.1
CPSB **Cacapava Do Su** 167.47 202 *e*P **PKPdf** 16 06 54.0 +6.3
NPGB **Novo Progresso** 167.80 343 *e*P **PKPdf** 16 06 54.3 +5.8
PET01 **Itanhaem-SP** 167.93 241 *e*P **PKPdf** 16 06 55.2 +7.0
VAO **Valinhos** 168.13 247 *e*P **PKPdf** 16 06 54.9 +6.4
TIJ01 **Guaruva-PR** 168.81 233 *e*P **PKPdf** 16 06 55.1 +6.1
BDFB **Brasilia** 169.16 285 PKP **PKPdf** 16 06 48.2 -1.2
comp=Z,7.0nm,0.8s,baz=353,slow=3.6,SNR=6.8
IPMB **Ipameri, GO** 169.85 275 *e*P **PKPdf** 16 06 55.7 +6.0
LVC **Limon Verde** 169.88 114 PKP **PKPdf** 16 06 50.9 +0.9
comp=Z,3.8nm,0.7s,baz=261,slow=3.2,SNR=4.0
LVC PKPab **PKPab** 16 08 05.5 +0.8
comp=Z,5.8nm,0.8s,baz=251,slow=4.0,SNR=4.5
LVC **Limon Verde** 169.88 114 *e*P **PKPdf** 16 06 57.0 +7.0
SNDB **Serra Nova Dou** 170.02 312 *e*P **PKPdf** 16 06 56.1 +6.3
LPAZ **La Paz** 170.81 75 PKP **PKPdf** 16 06 51.4 +0.4
comp=Z,12nm,1.1s,baz=8.9,slow=3.5,SNR=17
LPAZ PKPab **PKPab** 16 08 09.9 +0.6
comp=Z,3.1nm,0.7s,baz=358,slow=3.4,SNR=2.9
LPAZ PP **PP** 16 11 59.0 -1.0
comp=Z,6.6nm,1.2s,baz=351,slow=6.5,SNR=6.5
LPAZ **La Paz** 170.81 75 *e*P **PKPdf** 16 06 51.8 +0.8
ITRB **Iturama** 171.92 262 *e*P **PKPdf** 16 06 57.2 +6.5
PCMB **Pacaembu** 172.34 248 *e*P **PKPdf** 16 06 57.2 +6.3
CPUP **Villa Florida** 172.40 190 PKP **PKPdf** 16 06 49.7 -1.0
comp=Z,5.0nm,1.2s,baz=70,slow=6.0,SNR=3.0
CPUP PKPab **PKPab** 16 08 14.6 -0.3
comp=Z,5.5nm,1.0s,baz=214,slow=3.3,SNR=4.7
CPUP **Villa Florida** 172.40 190 *e*P **PKPdf** 16 06 56.7 +6.0
TRCB **Terra Rica** 172.96 235 *e*P **PKPdf** 16 06 57.9 +6.8
SALV **Santo Antonio** 175.80 313 *e*P **PKPdf** 16 06 59.0 +6.9
PP1B **Ponte de Pedra** 176.02 287 *e*P **PKPdf** 16 06 58.5 +6.4
SIV **San Ignacio** 176.48 37 PKP **PKPdf** 16 06 52.2 -0.1
comp=Z,13nm,0.9s,baz=258,slow=0.6,SNR=31
SIV PKPab **PKPab** 16 08 32.7 -0.8
comp=Z,3.9nm,0.9s,baz=327,slow=2.9,SNR=5.1
SIV PP **PP** 16 12 26.1 +0.6
comp=Z,1.4nm,0.8s,baz=45,slow=9.2,SNR=3.6
AQDB **Aquidauana** 176.60 241 *e*P **PKPdf** 16 06 58.7 +6.5

INET 18 15:51:21.8, 12°.63N×87°.25W, h76km, MW3.5, Near coast of Nicaragua

*NOU **18** 16:01:05.4, 16°.66S×167°.59E, h8km, ML4.6, Vanuatu Islands*
*IDC **18** 16:01:08.8±2.2, 16°.88S×167°.04E, h0km, mb4.0/3, mb1 4.2/5, mb1mx3.8/33, mbtmp4.2/5, ML4.6/2, Error ellipse: s-maj=43.2km s-min=31.8km az=20.0*
ISC 18 16:01:05.7±1.7, 16°.65S±0°.07×167°.6E±0°.2, h10km, n14, σ1°03/14, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.25	343	P	Pn	16 01 28.6	-0.7
LIFNC	LIFOU	4.12	185	P	Pn	16 02 07.6	-1.2
MARNC	Mare, Loyalty	4.83	175	P	Pn	16 02 18.0	-0.5
KOUNC	Koumac, New Ca	4.99	218	P	Pn	16 02 20.6	-0.1
YATNC	Mamie plateau,	5.42	187	P	Pn	16 02 26.0	-0.7
NOUC	Port Laguerre	5.56	192	P	Pn	16 02 28.2	-0.4
ONTNC	Ouen Toro	5.73	191	P	Pn	16 02 31.0	0.0
OUENC	Ouen Island, N	5.79	187	P	Pn	16 02 32.3	+0.6
PINNC	Pines Island,	5.94	181	P	Pn	16 02 34.7	+0.9
MSVF	Nonsavu	10.06	98	Pn	Pn	16 03 41.4	+11
	0.1nm,0.3s,baz=301,slow=10,SNR=3.9						
HNR	Honiara	10.33	313	Pn	Pn	16 03 36.4	+2.3
	7.6nm,0.3s,baz=157,slow=12,SNR=4.5						
HNR				Sn	Sn	16 05 28.8	-1.3
	2.7nm,0.3s,baz=178,slow=11,SNR=1.9						
STKA	Stephens Creek	28.03	232	P	P	16 06 56.8	-0.5
	1.4nm,0.6s,baz=89,slow=10,SNR=5.0						
WRA	Warramunga Arr	31.71	259	P	P	16 07 29.2	-0.8
	0.7nm,1.0s,baz=91,slow=9.1,SNR=2.4						
ASAR	Alice Springs	32.33	252	P	P	16 07 35.2	-0.1
	2.9nm,0.5s,baz=78,slow=8.6,SNR=83						

IDC 18 16:06:58.5±1.7, 60°.32S×27°.85W, h0km, mb3.8/2, mb1 3.7/2, mb1mx3.5/25, mbtmp3.7/2, Error ellipse: s-maj=117.7km s-min=59.4km az=100.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	76.95	30	P	P	16 18 52.6	0.0
	0.6nm,0.8s,baz=198,slow=6.3,SNR=2.2						
ASAR	Alice Springs	95.00	163	P	P	16 20 22.8	-0.1
	0.2nm,0.9s,baz=180,slow=4.4,SNR=1.5						
ILAR	Eielson Array	152.52	306	PKPbc	PKPbc	16 26 54.9	-0.1
	0.3nm,0.8s,baz=132,slow=1.9,SNR=2.3						

*ATH **18** 16:13:30.2, 36°.91N×20°.79E, h7km±2km, ML3.3/8, Error ellipse: s-maj=2.7km s-min=0.9km az=53.0*
*THE **18** 16:13:30.6, 36°.96N×20°.83E, h0km±2km, ML3.4/3, Error ellipse: s-maj=2.8km s-min=0.6km az=219.0*
*IDC **18** 16:13:35.1±1.9, 37°.02N×20°.86E, h54km±26km, mb3.3/8, mb1 3.3/11, mb1mx3.2/55, mbtmp3.5/11, ML2.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.4/31, Error ellipse: s-maj=24.1km s-min=11.5km az=16.0*
ISC 18 16:13:32.5±1.3, 37°.05N±0°.04×20°.86E±0°.03, h24km±11km, n69, σ1°79/89, mb3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.66	359	P	Pb	16 13 45.1	-0.3
LTHK				S	Sn	16 13 56.0	+0.1
3μm,0.5s							
LTHK	Lithakia	0.66	359	P	Pb	16 13 45.0	-0.4
LTHK				S	Sn	16 13 56.1	+0.2
LTHK				AML	AML	16 14 00.0	
comp=E,5271μm,0.4s							
LTHK				AML	AML	16 14 01.6	
comp=N,7728μm,0.6s							
PYL	PYLOS	0.72	102	P	Pb	16 13 44.8	-1.7
PYL				S	Sb	16 13 55.6	-0.5
PYL	PYLOS	0.72	102	P	Pb	16 13 44.8	-1.7
PYL				S	Sb	16 13 55.2	-0.9
ZAK2	Zakynthos	0.74	3	P	Pb	16 13 46.1	-0.6
ZAK2				S	Sn	16 13 58.5	+0.6
comp=N,7μm,0.7s							
AMT	Artemida-Makis	0.83	55	P	Pb	16 13 48.1	-0.3
AMT	Artemida-Makis	0.83	55	P	Pb	16 13 48.3	-0.1
AMT				S	Sn	16 14 01.0	+0.6
AMT				AML	AML	16 14 09.8	
comp=N,7888μm,0.5s							
AMT				AML	AML	16 14 11.2	
comp=E,7070μm,0.5s							
VLMS	Volimes, Zakyn	0.84	349	P	Pb	16 13 47.9	-0.6
VLMS	Volimes, Zakyn	0.84	349	P	Pb	16 13 48.1	-0.3
VLMS				S	Sn	16 14 02.1	+1.6
VLMS				AML	AML	16 14 08.4	
comp=E,4308μm,0.5s							
VLMS				AML	AML	16 14 12.1	
comp=N,7966μm,0.5s							
ITM	Ithomi	0.86	81	P	Pb	16 13 47.2	-1.7
ITM				S	Sb	16 14 00.4	+0.3
comp=N,1μm,0.4s							
ITM	Ithomi	0.86	81	P	Pb	16 13 47.3	-1.6
ITM				S	Sb	16 14 00.4	+0.3
ITM				AML	AML	16 14 06.7	
comp=E,2968μm,0.4s							
ITM				AML	AML	16 14 10.1	
comp=N,2468μm,0.4s							
VTN	Vitineika	0.90	17	P	Pn	16 13 49.9	+0.2
PSDA	Pessada-Kefalo	1.08	349	P	Pn	16 13 52.3	+0.1
PSDA	Pessada-Kefalo	1.08	349	P	Pb	16 13 52.5	-0.1
RLS	Riolos of Patr	1.11	26	P	Pb	16 13 53.0	-0.2
RLS	Riolos of Patr	1.11	26	P	Pb	16 13 53.3	+0.1
RLS				S	Sn	16 14 11.2	+3.9
RLS				AML	AML	16 14 16.2	
comp=N,1584μm,0.5s							
RLS				AML	AML	16 14 17.7	
comp=E,1267μm,0.4s							
VLS	Valsamata	1.14	349	P	Pn	16 13 53.2	+0.1
VLS	Valsamata	1.14	349	P	Pn	16 13 53.3	+0.2
VLS				S	Sn	16 14 10.8	+2.8
VLS				AML	AML	16 14 17.6	
comp=E,1513μm,0.5s							
VLS				AML	AML	16 14 22.3	
comp=N,1745μm,0.7s							
LXRA	Lixouri, Kepha	1.19	344	P	Pb	16 13 55.2	+0.7
KEF3	Kipouria, Keph	1.22	341	P	Pb	16 13 55.0	+0.1
KEF3	Kipouria, Keph	1.22	341	P	Pb	16 13 55.2	+0.3
DMLN	Damoulianata-K	1.25	342	P	Pb	16 13 55.4	0.0
DMLN	Damoulianata-K	1.25	342	P	Pb	16 13 55.4	0.0
KEF4	Livadi, Kephal	1.25	344	P	Pb	16 13 55.9	+0.4
VLX	Vlachokerasia	1.26	75	P	Pn	16 13 54.6	-0.1
VLX	Vlachokerasia	1.26	75	P	Pn	16 13 54.6	-0.1
KEF5	Kardakata, Kep	1.26	346	P	Pb	16 13 55.4	-0.3
KEF5	Kardakata, Kep	1.26	346	P	Pb	16 13 55.6	-0.1
FSK	Fiskardo	1.42	351	P	Pb	16 13 58.4	-0.1
KLV	Kalavryta, Ach	1.43	46	P	Pb	16 13 57.8	-0.7
KLV	Kalavryta, Ach	1.43	46	P	Pb	16 13 58.2	-0.3
LAKA	Lakka	1.48	37	P	Pb	16 13 59.3	-0.1
LAKA	Lakka	1.48	37	P	Pb	16 13 59.2	-0.3
EVGI	Lefkada island	1.57	354	P	Pb	16 14 00.7	-0.3
EFP	Efpalio	1.60	31	P	Pb	16 14 01.8	+0.3
EFP				AML	AML	16 14 44.4	
comp=N,625μm,0.7s							
EFP				AML	AML	16 14 44.5	
comp=E,653μm,0.8s							
TRIZ	Trizonia	1.63	36	P	Pb	16 14 01.2	-0.7
TRIZ	Trizonia	1.63	36	P	Pb	16 14 02.1	+0.2
PVO	Paravola	1.65	19	P	Pb	16 14 01.2	-1.1
PVO	Paravola	1.65	19	P	Pb	16 14 02.9	+0.6
PVO				AML	AML	16 14 37.1	
comp=E,806μm,0.4s							
PVO				AML	AML	16 14 43.0	
comp=N,860μm,0.6s							
SERG	Sergoula	1.66	35	P	Pb	16 14 02.0	-0.4
NYDR	Nydri-Lefkada	1.66	356	P	Pb	16 14 01.7	-0.8
VLI	Veliai	1.70	101	P	Pb	16 14 02.5	-0.7
LKD2	Lefkada island	1.74	355	P	Pb	16 14 03.6	-0.3
ANX	Ano Chora	1.75	28	P	Pb	16 14 03.1	-1.0
ANX	Ano Chora	1.75	28	P	Pb	16 14 04.7	+0.6
KTHA	Kythira Island	1.94	113	P	Pn	16 14 05.3	+1.2
THL	Klokotos Trika	2.67	20	P	Pn	16 14 16.2	+2.2
NEO	Neokhori	2.92	39	P	Pn	16 14 19.8	+2.2
IDI	Anoyia	3.71	117	P	Pn	16 14 30.6	+2.2
comp=N,0.6nm,0.3s,baz=266,slow=18,SNR=2.3							
IDI				S	Sn	16 15 11.9	+0.6
comp=N,2.3nm,0.3s,baz=77,slow=23,SNR=2.3							
FNA	Florina	3.75	6	P	Pn	16 14 31.1	+2.2
OHR	Ohrid	4.05	359	*i* Pn	Pn	16 14 35.5	+2.4
OHR				*i* Sn	Sn	16 15 23.0	+3.1
VAE	Valguarnera	5.16	277	P	Pn	16 14 51.6	+3.3
comp=N,0.9nm,0.3s,baz=210,slow=4.9,SNR=1.6							
VAE				S	Sn	16 15 49.4	+2.3
comp=N,0.3nm,0.3s,baz=201,slow=18,SNR=1.0							
STON	Ston	6.30	338	*e*Pn	Pn	16 15 03.3	-0.6
STON				Sn	Sn	16 16 09.9	-5.1
LSTV	Lastovo	6.47	333	*e*Pn	Pn	16 15 06.0	-0.3
LSTV				Sn	Sn	16 16 14.4	-4.9
RICI	Ricice	7.04	337	*e*Pn	Pn	16 15 14.1	0.0
RICI				Sn	Sn	16 16 29.1	-4.2
ZIRJ	Zirje	7.70	331	*e*Pn	Pn	16 15 22.5	-0.6
ZIRJ				Sn	Sn	16 16 44.2	-5.4
KIJV	Kijevo	7.73	335	*e*Pn	Pn	16 15 24.0	+0.5
KIJV				Sn	Sn	16 16 45.6	-4.6
MORI	Morici	7.86	332	*e*Pn	Pn	16 15 25.6	+0.3
MORI				Sn	Sn	16 16 49.0	-4.4
DUGI	Dugi Otok	8.22	329	*e*Pn	Pn	16 15 29.7	-0.5
DUGI				Sn	Sn	16 16 57.1	-5.1
AKASG	Malin Array Be	14.90	21	P	Pn	16 17 04.0	+2.5
comp=N,1.4nm,0.3s,baz=208,slow=9.4,SNR=5.9							
KVAR	Kislovodsk Arr	17.95	61	LR	LR	16 25 51.9	
comp=N,268nm,20.2s,baz=238,slow=41							
HFS	Hagfors	23.55	351	P	P	16 18 40.6	-0.2
comp=N,1.7nm,0.7s,baz=183,slow=13,SNR=6.0							
EKA	Eskdalemuir Ar	24.50	326	P	P	16 18 48.7	-1.1
comp=N,1.0nm,0.7s,baz=122,slow=7.7,SNR=1.5							
FINES	FINESS Array B	24.64	6	P	P	16 18 50.9	+0.1
comp=N,1.6nm,0.9s,baz=180,slow=9.5,SNR=4.8							
NOA	NORSAR Array B	24.77	349	P	P	16 18 51.6	-0.6
comp=N,0.4nm,0.6s,baz=164,slow=11,SNR=1.4							
TORD	Torodi Ar. Bea	29.34	221	P	P	16 19 33.2	-0.4
comp=N,0.4nm,0.6s,baz=31,slow=8.3,SNR=2.1							
ARCES	ARCESS Array B	32.64	3	P	P	16 20 01.8	-0.3
comp=N,0.6nm,0.6s,baz=194,slow=9.9,SNR=4.3							
KURBB	Kurchatov Arra	42.69	53	P	P	16 21 26.5	-0.8
comp=N,0.2nm,0.3s,baz=276,slow=8.9,SNR=2.5							
MKAR	Makanchi Array	45.67	58	P	P	16 21 50.4	-0.9
comp=N,0.2nm,0.4s,baz=267,slow=6.2,SNR=2.8							

KMA 18 16:26:56.0±0.3, 36°.26N×128°.58E, h16km±3km, Error ellipse: s-maj=3.7km s-min=2.0km az=151.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSEUS	ULSEONG	0.12	43	P	Pb	16 26 59.9	-0.1
SNR=13							
KSEUS	ULSEONG	0.12	43	P	Pb	16 26 59.9	-0.1
SNR=13							
KSEUS				S	Sg	16 27 02.1	0.0
KSSAJ	Sangju	0.37	293	P	Pg	16 27 03.7	+0.1
SNR=7.8							
KSSAJ	Sangju	0.37	293	P	Pg	16 27 03.7	+0.1
SNR=7.8							
KSGIC	Gimchen	0.43	245	P	Pg	16 27 04.7	+0.1
SNR=20							
KSGIC	Gimchen	0.43	245	P	Pg	16 27 04.7	+0.1
SNR=20							
KSGIC				S	Sg	16 27 10.6	+0.1
KSDAG	Daegu	0.56	152	P	Pg	16 27 07.0	+0.1
SNR=16							
KSDAG	Daegu	0.56	152	P	Pg	16 27 07.0	+0.1
SNR=16							
KSULJ	Uljin	0.80	56	P	Pb	16 27 11.4	-0.1
SNR=11							
KSULJ	Uljin	0.80	56	P	Pb	16 27 11.4	-0.1
SNR=11							
KSJEO	Jeonju	1.09	253	P	Pg	16 27 17.0	-0.1
SNR=7.2							

IDC 18 16:51:51.3±3.0, 18°.72S×174°.72W, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=145.0km s-min=30.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.56	31	Pn	Pn	16 53 15.9	+0.5
1.5nm,0.3s,baz=313,slow=23,SNR=0.9							
AFI				Sn	Sn	16 54 07.0	-13
2.1nm,0.3s,baz=234,slow=21,SNR=1.4							
WRA	Warramunga Arr	47.93	260	P	P	17 00 32.0	+0.1
0.6nm,0.4s,baz=96,slow=7.4,SNR=16							
WRA				PcP	PcP	17 01 59.9	-0.5
0.7nm,0.9s,baz=93,slow=3.3,SNR=2.6							
ASAR	Alice Springs	47.95	255	P	P	17 00 32.0	0.0
1.4nm,0.5s,baz=90,slow=8.5,SNR=43							
ASAR				PcP	PcP	17 01 60.0	-0.6
0.5nm,0.6s,baz=103,slow=4.0,SNR=4.3							
AKASG	Malin Array Be	142.85	335	PKhKP	PKPpre	17 11 23.8	
0.1nm,0.3s,baz=46,slow=3.8,SNR=1.9							
BRTR	Keskin Array B	147.81	317	PKPbc	PKPbc	17 11 38.1	-0.5
0.7nm,0.7s,baz=82,slow=2.8,SNR=3.7							
GERES	GERESS Array B	149.19	349	PKPbc	PKPbc	17 11 41.0	-0.9
0.5nm,0.6s,baz=4.8,slow=3.2,SNR=4.4							

*IDC **18** 17:04:21.9±0.7, 10°.52S×165°.34E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.3/33, mbtmp4.3/22, ML5.0/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/35, Error ellipse: s-maj=20.4km s-min=14.4km az=102.0*
*NEIC **18** 17:04:24.5±2.8, 10°.48S±0°.07×165°.43E±0°.09, h13km±4km, mb4.9/38, Error ellipse: s-maj=13.3km s-min=9.2km az=55.0*
*BJI **18** 17:04:26.9±0.0, 10°.15S×165°.61E, h41km, mB5.0/28, mb4.7/38, Ms4.7/5, Ms7 4.3/5*
ISC 18 17:04:26.7±0.4, 10°.52S±0°.05×165°.45E±0°.06, h31km, n102, σ1°36/112, mb4.7/46, MS4.0/8, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	5.19	161	Pn	Pn	17 05 42.9	+0.7
SANVU				Sn	Sn	17 06 40.8	-0.3
SANVU	Saraoutou	5.19	161	P	Pn	17 05 43.2	+1.0
HNR	Honiara	5.53	281	Pn	Pn	17 05 46.0	-0.8
53nm,0.3s,baz=137,slow=8.6,SNR=26							
HNR				Sn	Sn	17 06 49.2	-0.1
31nm,0.3s,baz=159,slow=14,SNR=2.1							
HNR				LR	LR	17 07 50.5	
comp=Z,1μm,19.6s,baz=92,slow=38							
HNR	Honiara	5.53	281	Pn	Pn	17 05 46.0	-0.8
HNR				Sn	Sn	17 06 49.8	+0

TUWZ	**Tuamarina**	**31.69 168**	P	**P**	**17 10 47.3**	**-0.1**
THZ	**Tophouse**	**31.81 169**	P	**P**	**17 10 49.6**	**+1.1**
TOO	**Toolangi**	**32.37 210**	P	**P**	**17 10 53.7**	**+0.1**
TOO			IAmb	IAmb	17 11 14.6	
	comp=Z,13nm,1.2s					
LTZ	**Lake Taylor**	**32.69 171**	P	**P**	**17 10 57.6**	**+1.3**
AS31	**Alice Springs**	**32.77 242**	P	**P**	**17 10 54.7**	**-2.5**
ASAR	**Alice Springs**	**32.77 242**	P	**P**	**17 10 54.5**	**-2.7**
	comp=Z,1.0nm,0.6s,baz=64,slow=10,SNR=34					
ASAR			PcP	**PcP**	**17 13 41.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=68,slow=2.8,SNR=4.6					
ASAR			LR	LR	17 23 41.8	
	comp=Z,114nm,18.7s,baz=85,slow=36					
ASAR	**Alice Springs**	**32.77 242**	P	**P**	**17 10 54.2**	**-3.0**
MTN	**Manton Dam**	**33.67 263**	P	**P**	**17 11 04.3**	**-0.8**
KNRA	**Kununurra**	**36.06 258**	P	**P**	**17 11 23.8**	**-2.0**
KNRA			IAmb	IAmb	17 11 46.0	
	comp=Z,54nm,1.6s					
PPT	**Papeete**	**44.11 104**	LR	LR	17 26 21.6	
	comp=Z,68nm,20.8s,baz=284,slow=30					
NWAO	**Narrogin (SRO)**	**49.52 236**	LR	LR	17 33 45.1	
	comp=Z,105nm,18.4s,baz=94,slow=36					
MJAR	**Matsushiro Arr**	**53.37 333**	P	**P**	**17 13 42.3**	**-1.0**
	comp=Z,29nm,0.8s,baz=162,slow=9.7,SNR=10					
MAT	**Matsushiro**	**53.37 333**	P	**P**	**17 13 42.1**	**-1.3**
JNU	**Nakatsue**	**54.48 324**	P	**P**	**17 13 51.2**	**-0.4**
	comp=Z,26nm,0.8s,baz=90,slow=3.7,SNR=5.2					
ASAJ	**Asahikawa**	**58.20 341**	P	**P**	**17 14 18.1**	**+0.3**
	comp=Z,9.1nm,0.8s,baz=214,slow=13,SNR=14					
KSRS	**Korea Array**	**59.28 326**	P	**P**	**17 14 25.4**	**0.0**
	comp=Z,1.0nm,0.8s,baz=134,slow=6.4,SNR=6.8					
YSS	**Yuzh-Sakhalins**	**60.70 342**	P	**P**	**17 14 33.7**	**-1.3**
YSS			IAmb	IAmb	17 14 36.5	
	comp=Z,23nm,1.5s					
NJ2	**Nanjing**	**61.44 315**	*e*P	**P**	**17 14 40.9**	**+0.5**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.7s					
USA0B	**Ussuriysk Arra**	**62.35 333**	P	**P**	**17 14 46.4**	**+0.2**
USA0B			IAmb	IAmb	17 14 47.7	
	comp=Z,11nm,1.2s					
USRK	**Ussuriysk Ar.**	**62.35 333**	P	**P**	**17 14 46.8**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=138,slow=6.9,SNR=11					
USRK	**Ussuriysk Ar.**	**62.35 333**	P	**P**	**17 14 45.3**	**-0.9**
PETK	**Petropavlovsk-**	**63.72 355**	P	**P**	**17 14 55.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=190,slow=13,SNR=2.8					
KLR	**Kul'dur**	**66.46 337**	P	**P**	**17 15 13.2**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=134,slow=7.5,SNR=8.1					
VNDA	**Vanda**	**67.01 181**	P	**P**	**17 15 16.6**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=11,slow=4.6,SNR=5.0					
VNDA	**Vanda**	**67.01 181**	P	**P**	**17 15 16.0**	**-0.2**
SBA	**Scott Base**	**67.33 180**	P	**P**	**17 15 19.2**	**+1.0**
SBA			IAmb	IAmb	17 15 41.4	
	comp=Z,17nm,1.6s					
BJI	**Beijing**	**67.89 321**	P	**P**	**17 15 22.4**	**+0.1**
BJI			pP	**sP**	**17 15 35.9**	**+1.9**
BJI			sP	**pwP**	**17 15 39.9**	**+4.3**
BJI			pmax	pmax		
	comp=Z,4.0nm,1.1s					
KMI	**Kunming**	**70.60 301**	⇑P	**P**	**17 15 41.0**	**+1.3**
KMI			pP	pwP	17 15 52.8	-0.1
KMI			sP	PcP	17 16 00.3	-0.4
KMI			pmax	pmax		
	comp=Z,9.0nm,0.5s					
KMI			LR	LR		
	comp=Z,310nm,14.5s					
KMI			LR	LR		
	comp=Z,250nm,15.4s					
KMI			LR	LR		
	comp=Z,310nm,17.1s					
HHC	**Hu-ho-hao-te**	**71.24 320**	*e*P	**P**	**17 15 45.3**	**+2.1**
HHC			pmax	pmax		
	comp=Z,18nm,0.8s					
HHC			pmax	pmax		
	comp=Z,96nm,6.6s					
CMAR	**Chiang Mai Arr**	**71.64 293**	P	**P**	**17 15 46.3**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=113,slow=4.0,SNR=13					
SEY	**Seymchan**	**73.92 354**	P	**P**	**17 15 59.2**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=161,slow=6.2,SNR=5.7					
LZH	**Lanzhou**	**74.19 312**	*e*P	**P**	**17 16 02.3**	**+1.5**
LZH			pmax	pmax		
	comp=Z,34nm,1.1s					
YAK	**Yakutsk**	**77.51 344**	P	**P**	**17 16 18.9**	**-0.1**
YAK			IAmb	IAmb	17 16 19.6	
	comp=Z,13nm,1.3s					
ULN	**Ulaanbaatar**	**77.70 324**	P	**P**	**17 16 21.0**	**+0.3**
ULN			IAmb	IAmb	17 16 22.1	
	comp=Z,12nm,1.3s					
SVW2	**Sparrevohn**	**77.70 18**	P	**P**	**17 16 20.6**	**+0.5**
SVW2			IAmb	IAmb	17 16 21.9	
	comp=Z,20nm,1.4s					
SONM	**Songino Array**	**78.07 324**	P	**P**	**17 16 21.5**	**-1.1**
	comp=Z,3.5nm,1.1s,baz=148,slow=4.7,SNR=13					
SONM	**Songino Array**	**78.07 324**	P	**P**	**17 16 22.6**	**0.0**
GTA	**Gaotai**	**78.48 314**	⇓P	**P**	**17 16 25.8**	**+0.7**
GTA			pP	PcP	17 16 33.9	-0.3
GTA			sP	pwP	17 16 38.0	-0.5
GTA			pmax	pmax		
	comp=Z,7.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,99nm,5.3s					
GTA			LR	LR		
	comp=Z,61nm,17.5s					
GTA			LR	LR		
	comp=Z,77nm,17.4s					
GTA			LR	LR		
	comp=Z,76nm,17.5s					
IMAR	**Indian Mountai**	**82.00 16**	P	**P**	**17 16 43.0**	**-0.3**
HDA	**Harding Lake**	**82.84 19**	P	**P**	**17 16 47.4**	**-0.3**
HDA			IAmb	IAmb	17 16 49.0	
	comp=Z,7.5nm,1.0s					
RIDG	**Independent Ri**	**83.08 20**	P	**P**	**17 16 48.4**	**-0.6**
RIDG			IAmb	IAmb	17 16 56.1	
	comp=Z,5.2nm,1.0s					
IL31		**83.11 19**	P	**P**	**17 16 48.8**	**-0.2**
ILAR	**Eielson Array**	**83.11 19**	P	**P**	**17 16 48.5**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=232,slow=5.8,SNR=14					
SCRK	**Sand Creek**	**83.52 20**	P	**P**	**17 16 51.5**	**+0.1**
L27K	**Beaver Creek,**	**83.69 21**	P	**P**	**17 16 52.7**	**+0.5**
L27K			IAmb	IAmb	17 17 10.4	
	comp=Z,20nm,1.7s					
BCAR	**Beaver Creek A**	**83.71 21**	P	**P**	**17 16 52.2**	**-0.1**
EGAK	**Eagle**	**84.98 20**	P	**P**	**17 16 58.9**	**+0.3**
EGAK			IAmb	IAmb	17 17 06.8	
	comp=Z,6.6nm,0.9s					
MAW	**Mawson**	**85.10 202**	P	**P**	**17 16 59.0**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=48,slow=7.5,SNR=4.9					
TIXI	**Tiksi**	**85.52 349**	P	**P**	**17 17 00.2**	**-0.9**
TIXI			IAmb	IAmb	17 17 01.8	
	comp=Z,6.8nm,1.4s					
NVAR	**Mina Array Bea**	**85.91 50**	P	**P**	**17 17 03.8**	**-0.4**
	comp=Z,0.7nm,1.0s,baz=236,slow=6.4,SNR=3.1					
WMQ	**Urumqi**	**88.52 315**	*e*P	**P**	**17 17 16.9**	**+0.4**
WMQ			pmax	pmax		
	comp=Z,15nm,0.8s					
WMQ			pmax	pmax		
	comp=Z,140nm,4.3s					
WMQ			LR	LR		
	comp=Z,370nm,16.3s					
WMQ			LR	LR		
	comp=Z,660nm,20.1s					
WMQ			LR	LR		
	comp=Z,530nm,22.5s					
MK31	**Makanchi Array**	**92.94 317**	P	**P**	**17 17 35.6**	**-1.3**
MK31			IAmb	IAmb	17 17 37.4	
	comp=Z,4.2nm,1.2s					
MKAR	**Makanchi Array**	**92.94 317**	P	**P**	**17 17 36.6**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=94,slow=5.5,SNR=22					
MKAR	**Makanchi Array**	**92.94 317**	P	**P**	**17 17 35.6**	**-1.3**
ZALV	**Zalesovo Beam**	**92.96 324**	P	**P**	**17 17 34.8**	**-2.0**
	comp=Z,1.7nm,0.7s,baz=108,slow=4.7,SNR=8.4					
ZALV	**Zalesovo Beam**	**92.96 324**	P	**P**	**17 17 34.6**	**-2.2**
MAKZ	**Makanchi**	**93.15 317**	P	**P**	**17 17 36.6**	**-1.3**
MAKZ			IAmb	IAmb	17 17 38.4	
	comp=Z,5.0nm,1.1s					
PDAR	**Pinedale Array**	**93.41 47**	P	**P**	**17 17 41.4**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=262,slow=6.3,SNR=1.7					
MNK	**Minsk**	**124.79 331**	*i* PKP	**PKiKP**	**17 23 23.2**	**-0.4**
	comp=E,3.0nm,1.4s					
MNK			*i* PKP	**PKiKP**	**17 23 23.2**	**-0.4**
	comp=N,24nm,1.2s					
MNK			*i* PKP	**PKiKP**	**17 23 23.2**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=234					
MNK			*i* PP	**PP**	**17 25 14.5**	**+3.7**
MNK			*i* PPP	PPP	17 27 34.6	
MNK			*i* SKS	**SKSdf**	**17 30 32.4**	**-0.5**
MNK			*i* PS	**PS**	**17 35 10.1**	**-1.2**
MNK			*i* SKKS	**SKKSdf**	**17 40 55.1**	**-3.4**
MNK			*i* SS	**SS**	**17 42 03.3**	**+0.2**
MNK			*i* SSS	SSS	17 45 46.1	
MNK			*i* LQ	LQ	18 10 27.0	
MNK			*i* LR	LR	18 15 41.0	
MNK			*i* LRM	MLR	18 19 27.4	
	comp=Z,115nm,20.4s					
MNK			*i* LRM	MLR	18 19 37.6	
	comp=E,7.0nm,25.4s					
MNK			*i* LRM	MLR	18 20 15.8	
	comp=N,331nm,25.4s					
KEST	**Kesra**	**146.82 323**	PKPbc	**PKPbc**	**17 24 05.0**	**-1.4**
	comp=N,3.3nm,1.0s,baz=0.0,slow=4.0,SNR=3.0					
ESDC	**Sonseca Array**	**149.47 344**	PKPbc	**PKiKP**	**17 24 14.3**	**0.0**
	comp=N,0.9nm,0.9s,baz=11,slow=2.6,SNR=5.2					

TAP ***18*** *17:07:37.0,24°.74N×122°.81E,h16km,ML2.5,C*
JMA ***18*** *17:07:37.3±0.1,24°.71N×122°.78E,h17km±2km,M1.9*
ISC 18 17:07:36.9±1.1,24°.74N±0°.05×122°.80E±0°.02,h16km±8km, n41,σ0s54/77,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**155**	P	**Pg**	**17 07 43.6**	**0.0**
JYNG				S	**Sg**	**17 07 48.1**	**0.0**
YOJ	**Yonaguni jima**	**0.34**	**145**	P	**Pg**	**17 07 44.1**	**+0.2**
YOJ				S	**Sg**	**17 07 48.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.34**	**145**	P	**Pg**	**17 07 44.1**	**+0.2**
	baz=147						
YOJ				S	**Sg**	**17 07 48.8**	**+0.1**
	baz=147						
TWC	**Suao**	**0.87**	**262**	*e*P	**Pb**	**17 07 53.3**	**-0.3**
	baz=262						
TWC				*e*S	**Sb**	**17 08 04.8**	**-0.3**
	baz=262						
TIPB	**Shuangxi**	**0.91**	**285**	*e*P	**Pb**	**17 07 54.1**	**-0.3**
	baz=285						
IRIF	**Iriomote-Funau**	**0.94**	**115**	P	**Pb**	**17 07 54.6**	**-0.2**
IRIF				S	**Sn**	**17 08 08.3**	**-0.2**
EWUT	**Wuta**	**0.97**	**253**	*e*S	**Sb**	**17 08 07.6**	**-0.3**
	baz=254						
NWF	**Wu-fen Shan**	**0.98**	**290**	*e*P	**Pb**	**17 07 55.0**	**-0.6**
	baz=289						
NWF				*e*S	**Sb**	**17 08 08.2**	**-0.1**
	baz=289						
WFSB	**Wu-fen Shan**	**0.98**	**290**	*e*P	**Pb**	**17 07 54.9**	**-0.6**
	baz=289						
WFSB				*e*S	**Sb**	**17 08 08.0**	**-0.2**
	baz=289						
NDS	**Dongshan**	**0.99**	**264**	*e*P	**Pb**	**17 07 55.6**	**0.0**
	baz=265						
NDS				*e*S	**Sb**	**17 08 08.7**	**+0.2**
	baz=265						
TWE	**Neicheng**	**1.03**	**269**	*e*P	**Pb**	**17 07 56.1**	**-0.2**
	baz=269						
TWE				*e*S	**Sb**	**17 08 09.6**	**0.0**
	baz=269						
ENTT	**Nioudou**	**1.12**	**265**	P	**Pb**	**17 07 58.0**	**0.0**
	baz=266						
ENTT				*e*S	**Sb**	**17 08 12.4**	**0.0**
	baz=266						
HATJ	**Hateruma jima**	**1.14**	**126**	P	**Pn**	**17 07 57.8**	**-0.4**
HATJ				*e*S	**Sn**	**17 08 13.3**	**-0.2**
NDT	**Datong Townshi**	**1.18**	**264**	*e*P	**Pn**	**17 07 58.7**	**0.0**
	baz=264						
NDT				*e*S	**Sb**	**17 08 14.0**	**+0.1**
	baz=264						
NWLT	**Wulai**	**1.18**	**272**	*e*P	**Pb**	**17 07 59.1**	**+0.2**
	baz=272						
NWLT				S	**Sb**	**17 08 13.9**	**0.0**
	baz=272						
JKRS	**Kuro-shima**	**1.21**	**114**	P	**Pb**	**17 07 59.6**	**+0.1**
JKRS				S	**Sb**	**17 08 15.0**	**+0.2**
NACB	**Ninganchiao**	**1.23**	**243**	*e*P	**Pn**	**17 07 59.4**	**0.0**
	baz=245						
NACB				*e*S	**Sn**	**17 08 15.8**	**+0.1**
	baz=245						
JIJ	**Ishigaki jima**	**1.28**	**107**	P	**Pn**	**17 08 00.4**	**+0.3**
JIJ				*e*S	**Sb**	**17 08 16.1**	**-0.8**
YHNB	**Yeheng**	**1.29**	**267**	P	**Pn**	**17 08 00.5**	**+0.1**
	baz=268						
YHNB				*e*S	**Sb**	**17 08 16.6**	**-0.8**
	baz=268						
ETLH	**Xiulin Townshi**	**1.31**	**247**	*e*P	**Pb**	**17 08 01.7**	**+0.5**
	baz=248						
ETLH				*e*S	**Sg**	**17 08 19.0**	**-0.3**
	baz=248						
NSK	**Sanguang**	**1.31**	**268**	P	**Pn**	**17 08 00.9**	**+0.3**
	baz=268						
NSK				*e*S	**Sb**	**17 08 17.1**	**-0.6**
	baz=268						
NNSB	**Datong**	**1.32**	**257**	P	**Pn**	**17 08 01.2**	**+0.4**
	baz=258						
NNSB				*e*S	**Sn**	**17 08 18.1**	**-0.1**
	baz=258						
NNSH	**Datong**	**1.32**	**257**	P	**Pb**	**17 08 01.3**	**-0.2**
	baz=258						
NNSH				*e*S	**Sn**	**17 08 18.0**	**-0.2**
	baz=258						
NNS	**Nan Shan**	**1.33**	**257**	P	**Pb**	**17 08 01.7**	**+0.2**
	baz=259						
NNS				S	**Sn**	**17 08 18.2**	**-0.1**
	baz=259						
JISG	**Ishigakijimahi**	**1.39**	**96**	P	**Pb**	**17 08 02.9**	**+0.5**
FUSS	**Fushou**	**1.50**	**251**	*e*P	**Pb**	**17 08 04.5**	**+0.1**
	baz=253						
FUSS				*e*S	**Sb**	**17 08 24.1**	**+0.8**
	baz=253						
WHF	**Hehuan Shan**	**1.52**	**247**	P	**Pb**	**17 08 04.8**	**-0.1**
	baz=249						
WHF				*e*S	**Sb**	**17 08 24.7**	**+0.6**
	baz=249						
TDCB	**Techi**	**1.57**	**252**	*e*P	**Pb**	**17 08 05.8**	**+0.1**
	baz=254						
TDCB				*e*S	**Sb**	**17 08 25.5**	**+0.2**
	baz=254						
LIOB	**Emei**	**1.62**	**267**	*e*P	**Pn**	**17 08 05.3**	**+0.4**
	baz=268						
LIOB				*e*S	**Sb**	**17 08 26.6**	**-0.1**
	baz=268						
CHGB	**Renai**	**1.63**	**246**	*e*P	**Pb**	**17 08 06.2**	**-0.5**
	baz=248						
CHGB				*e*S	**Sb**	**17 08 26.9**	**-0.1**
	baz=248						
NSTT	**Nanjuang**	**1.64**	**267**	*e*P	**Pb**	**17 08 06.1**	**-0.6**
	baz=267						
NSTT				*e*S	**Sb**	**17 08 26.8**	**-0.4**
	baz=267						
OWD	**Renai**	**1.67**	**243**	*e*P	**Pn**	**17 08 06.0**	**+0.3**
	baz=245						
OWD				*e*S	**Sn**	**17 08 27.0**	**+0.2**
	baz=245						
WHP	**Taichung City**	**1.75**	**255**	*e*P	**Pb**	**17 08 08.5**	**-0.1**
	baz=244						
WHP				*e*S	**Sb**	**17 08 31.0**	**+0.6**
	baz=244						
WCS	**Beigang Elemen**	**1.85**	**249**	*e*P	**Pn**	**17 08 09.1**	**+1.1**
	baz=237						
YULB	**Yu-li**	**1.92**	**226**	*e*P	**Pn**	**17 08 08.6**	**-0.3**
	baz=246						
YULB				*e*S	**Sn**	**17 08 33.4**	**+0.7**
	baz=246						
SMLT	**Sun Moon Lake**	**1.93**	**244**	*e*P	**Pb**	**17 08 10.6**	**-1.2**
	baz=232						
SMLT				*e*S	**Sb**	**17 08 34.4**	**-1.3**
	baz=232						
SSLB	**Suanglung**	**1.93**	**241**	*e*P	**Pn**	**17 08 09.7**	**+0.6**
	baz=243						
SSLB				*e*S	**Sn**	**17 08 33.3**	**+0.2**
	baz=243						
FULB	**Fuli**	**2.06**	**222**	*e*P	**Pn**	**17 08 11.4**	**+0.6**
	baz=210						
FULB				*e*S	**Sn**	**17 08 37.5**	**+1.3**
	baz=210						
ALS	**Alishan**	**2.19**	**237**	*e*P	**Pn**	**17 08 14.2**	**+1.3**
	baz=239						
ALS				*e*S	**Sn**	**17 08 41.0**	**+1.1**
	baz=239						
EDH	**Donghe**	**2.23**	**218**	*e*P	**Pn**	**17 08 12.4**	**-0.8**
	baz=221						
EDH				*e*S	**Sn**	**17 08 39.3**	**-1.0**
	baz=221						
CHN5	**Tsauling**	**2.24**	**240**	*e*S	**Sb**	**17 08 43.1**	**-1.6**
	baz=242						

MOS ***18*** *17:13:21.2±0.9,31°.04N×131°.36E,h47km,mb4.9/19, MS4.4/8,Error ellipse: s-maj=9.1km s-min=5.1km az=102.5*
NEIC ***18*** *17:13:21.3,31°.03N×131°.48E,h29km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=0.39; Mθθ=0.56; Mφφ=-0.17; Mrθ=0.86; Mrφ=-0.07; Mθφ=1.06; Fault plane solution: M0=1.46000×10^16 NP1:φs=225.35000°, δ=84.30000°,λ=-105.43000°. NP2:φs=115.56000°, δ=16.43000°,λ=-20.56000°. Principal axes: T 1.2856, Plg37.0000°, Azm329.0000°; N 0.2957, Plg15.0000°, Azm227.0000°; P -1.5813, Plg48.0000°, Azm119.0000°;*
NEIC ***18*** *17:13:21.2±2.3,31°.03N±0°.05×131°.48E±0°.05,h28km±4km, mb4.8/91,Mwr4.7/12 Error ellipse: s-maj=7.0km s-min=6.4km az=208.0*
BJI ***18*** *17:13:22.5±0.0,31°.00N×131°.40E,h36km,mB4.8/38, mb4.5/56,Ms4.6/49,Ms7 4.5/46*
NIED ***18*** *17:13:22.1,31°.08N×131°.51E,h32km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr=1.11; Mθθ=0.24; Mφφ=-0.88; Mrθ=0.72; Mθφ=-0.40; Mφr=1.00; Fault plane solution: M0=1.65000×10^16 NP1:φs=33.00000°, δ=69.00000°,λ=95.00000°. NP2:φs=199.00000°,δ=21.00000°, λ=77.00000°.*
JMA ***18*** *17:13:22.0±0.1,31°.08N×131°.50E,h32km±1km,M4.7*
JMA Felt III J1.
IDC ***18*** *17:13:23.5±1.3,31°.11N×131°.32E,h45km±11km,mb3.9/22, mb1 4.0/28,mb1mx4.0/37,mbtmp4.1/28,ML3.6/5,MS4.2/36, Ms1 4.2/36,ms1mx4.0/61,Error ellipse: s-maj=14.5km s-min=10.0km az=105.0*
GCMT ***18*** *17:13:24.2±0.4,31°.16N±0°.03×131°.64E±0°.03,h35km±1km, MW4.8/65,Moment Tensor Solution. s32,c36; s65,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.87±.15; Mθθ=0.05±.09; Mφφ-1.93±.09; Mrθ=0.72±.12; Mθφ-0.91±.06; Mφr=0.69±.10; Best double couple: M0=2.31600×10^16 NP1:φs=187.00000°,δ=35.00000°,λ=67.00000°. NP2: φs=34.00000°,δ=58.00000°,λ=105.00000°. Principal axes: T 2.1580, Plg72.0000°, Azm341.0000°; N 0.3100, Plg13.0000°, Azm206.0000°; P -2.4740, Plg12.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KMA ***18*** *17:13:50.2,32°.59N×129°.66E,h15km*
ISC 18 17:13:22.2±0.6,31°.07N±0°.03×131°.49E±0°.04,h40km±4km, n332,σ1s67/330,mb4.7/115,MS4.4/48,20C-14D,Fault plane solution: NP1:φs37.26388°,δ66.20664°, λ102.66287°. **NP2:φs188.15007°,δ26.77905°,λ63.56433°.**
Principal axes: T Plg66.4260°, Azm330.0682°; N Plg11.5710°, Azm212.0845°; P Plg20.2426°, Azm117.7543°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.49**	**338**	⇓P	**Pn**	**17 13 32.1**	**-0.7**
JNAR				*e*S	**Sn**	**17 13 39.6**	**-0.7**
JTSR	**Tashiro 2**	**0.49**	**282**	⇓P	**Pn**	**17 13 32.3**	**-0.6**
JTSR				*e*S	**Sn**	**17 13 40.5**	**+0.1**
JNKG	**Nichinankitago**	**0.60**	**351**	⇓P	**Pn**	**17 13 34.0**	**-0.3**
JNKG				*e*S	**Sn**	**17 13 42.7**	**-0.1**
JTN	**Tanegashima 3**	**0.60**	**227**	P	**Pn**	**17 13 34.6**	**+0.3**
JTN				*e*S	**Sn**	**17 13 44.0**	**+1.2**
JMTN	**Minamitane**	**0.84**	**217**	P	**Pn**	**17 13 38.2**	**+0.7**
JMTN				*e*S	**Sn**	**17 13 49.3**	**+0.7**
JTZ	**Takazaki**	**0.90**	**338**	⇓P	**Pn**	**17 13 38.5**	**+0.2**
JTZ				*e*S	**Sn**	**17 13 51.0**	**+0.9**
JSU	**Suzuyama**	**0.98**	**297**	⇓P	**Pn**	**17 13 39.7**	**+0.2**
JSU				*e*S	**Sn**	**17 13 53.2**	**+0.9**
JSU	**Suzuyama**	**0.98**	**297**		**Pn**	**17 13 39.7**	**+0.2**
JSU				Sn	**Sn**	**17 13 53.6**	**+1.4**
JTSN	**Tsuno**	**1.17**	**1**	⇑P	**Pn**	**17 13 41.8**	**-0.3**
JTSN				*e*S	**Sn**	**17 13 56.9**	**0.0**
JYAK	**Yakushimahirau**	**1.18**	**226**	P	**Pn**	**17 13 43.3**	**+1.1**
JKC	**Kuchinoerabu**	**1.26**	**242**	⇑P	**Pn**	**17 13 43.8**	**+0.5**
JKC				*e*S	**Sn**	**17 14 00.0**	**+0.9**
JZO	**Okuchi**	**1.31**	**325**	P	**Pn**	**17 13 44.5**	**+0.5**
JZO				S	**Sn**	**17 14 02.7**	**+2.4**
JNU	**Nakatsue**	**2.11**	**346**	P	**Pn**	**17 13 56.5**	**+1.5**
	11nm,0.3s,baz=168,slow=12,SNR=49						
JNU				S	**Sn**	**17 14 24.9**	**+4.9**
	134nm,0.3s,baz=231,slow=20,SNR=21						
JNU				LR	LR	17 14 30.7	
	comp=Z,1μm,21.5s,baz=208,slow=33						
JNU	**Nakatsue**	**2.11**	**346**	Pn	**Pn**	**17 13 55.5**	**+0.5**
JNU				Sn	**Sn**	**17 14 23.7**	**+3.6**
JMN	**Monobe**	**3.34**	**37**		**Pn**	**17 14 11.7**	**-0.2**
JMN				Sn	**Sn**	**17 14 50.2**	**-0.1**
JMN				LR	LR	17 15 21.3	
JTU	**Tsushima**	**3.87**	**334**		**Pn**	**17 14 19.5**	**+0.4**
JHS	**Saijyo**	**4.15**	**19**	Pn	**Pn**	**17 14 23.0**	**0.0**
KSMAS	**Masan**	**4.76**	**330**	P	**Pn**	**17 14 32.6**	**+1.2**
	SNR=18						
KSMAS	**Masan**	**4.76**	**330**	P	**Pn**	**17 14 32.6**	**+1.2**
	SNR=18						
HALB	**Hallimjungang-**	**4.99**	**299**	P	**Pn**	**17 14 36.0**	**+1.4**
	SNR=18						
HALB	**Hallimjungang-**	**4.99**	**299**	P	**Pn**	**17 14 36.0**	**+1.4**
	SNR=18						
GOS1	**Gosan-ri**	**5.00**	**298**	P	**Pn**	**17 14 36.9**	**+2.3**
	SNR=8.2						
GOS1	**Gosan-ri**	**5.00**	**298**	P	**Pn**	**17 14 36.9**	**+2.3**
	SNR=8.2						
EURB	**Uiryeong-eup**	**5.02**	**329**	P	**Pn**	**17 14 37.0**	**+2.1**
	SNR=7.7						
EURB	**Uiryeong-eup**	**5.02**	**329**	P	**Pn**	**17 14 37.0**	**+2.1**
	SNR=7.7						
JOW	**Kunigami**	**5.07**	**214**	P	**Pn**	**17 14 36.5**	**+0.9**
	36nm,0.3s,baz=83,slow=12,SNR=89						
JOW				S	**Sn**	**17 15 33.9**	**+0.8**
	4.0nm,0.3s,baz=108,slow=20,SNR=1.1						
JOW	**Kunigami**	**5.07**	**214**	Pn	**Pn**	**17 14 36.2**	**+0.5**
JMZ	**Minamidaito 2**	**5.24**	**183**	Pn	**Pn**	**17 14 33.6**	**-4.3**
JWT	**Wachi**	**5.33**	**37**	Pn	**Pn**	**17 14 39.9**	**+0.7**
KSCPR	**CHUPUNGNYEONG**	**5.92**	**331**	P	**Pn**	**17 14 49.4**	**+2.1**
	SNR=13						
KSCPR	**CHUPUNGNYEONG**	**5.92**	**331**	P	**Pn**	**17 14 49.4**	**+2.1**
	SNR=13						
OKCB	**Cheongsan-myeo**	**6.10**	**331**	P	**Pn**	**17 14 52.0**	**+2.3**
	SNR=21						
OKCB	**Cheongsan-myeo**	**6.10**	**331**	P	**Pn**	**17 14 52.0**	**+2.3**
	SNR=21						
KSBON	**Boeun**	**6.22**	**331**	P	**Pn**	**17 14 54.5**	**+3.0**
	SNR=14						
KSBON	**Boeun**	**6.22**	**331**	P	**Pn**	**17 14 54.5**	**+3.0**
	SNR=14						
INU	**Inuyama**	**6.30**	**46**		**Pn**	**17 14 53.8**	**+1.2**
TJN	**Taejon**

KSSEO	Seoul	7.43 331	P	Pn	17 15 10.1	+2.1
	SNR=30					
KSSEO	Seoul	7.43 331	P	Pn	17 15 10.1	+2.1
	SNR=29					
KSSEO	Seoul	7.43 331	P	Pn	17 15 10.1	+2.1
	SNR=30					
KSSEO	Seoul	7.43 331	P	Pn	17 15 10.1	+2.1
	SNR=29					
KSSOD	Songwoldong	7.49 331	P	Pn	17 15 10.9	+2.2
	SNR=20					
KSSOD	Songwoldong	7.49 331	P	Pn	17 15 10.9	+2.2
	SNR=20					
INCN	Inchon	7.55 329	P	Pn	17 15 11.4	+1.7
INCN	Inchon	7.55 329	Pn	Pn	17 15 11.4	+1.7
MAJO	Matsushiro	7.81 44	*de*P	Pn	17 15 14.6	+1.3
MAJO	Matsushiro	7.81 44	Pn	Pn	17 15 14.2	+0.9
MAT	Matsushiro	7.81 44	P	Pn	17 15 14.1	+0.8
MAT			*e*S	Sn	17 16 41.2	+0.7
MJAR	Matsushiro Arr	7.82 44	P	Pn	17 15 14.5	+1.2
	0.2nm,0.3s,baz=217,slow=11,SNR=22					
MJB9	Matsu-Tunnel	7.82 44	Pn	Pn	17 15 14.0	+0.6
KSMUS	Musan	7.84 331	P	Pn	17 15 15.4	+1.8
	SNR=20					
KSMUS	Musan	7.84 331	P	Pn	17 15 15.4	+1.8
	SNR=20					
YNCB	YEONCHEON	7.91 333	P	Pn	17 15 17.0	+2.5
	SNR=8.0					
SSE	Sheshan	8.83 273	P	Pn	17 15 37.3	+10
SSE			S	Sn	17 17 29.3	+24
SSE			pmax	pmax		
	comp=Z,48nm,0.7s					
SSE			pmax	pmax		
	comp=Z,87nm,3.5s					
SSE			LR	LR		
	comp=N,320nm,18.0s					
SSE			LR	LR		
	comp=E,990nm,16.5s					
JCJ	Chichijima	10.16 110	LR	LR	17 19 31.0	
	comp=E,637nm,18.2s,baz=278,slow=36					
JMM	Marumori	10.24 46	Pn	Pn	17 15 48.0	+1.5
TAIO	Taipei	10.71 238	Pn	Pn	17 15 52.0	-1.0
NJ2	Nanjing	10.82 278	*e*P	Pn	17 16 01.0	+6.5
NJ2			pmax	pmax		
	comp=E,18nm,0.9s					
NJ2			pmax	pmax		
	comp=E,380nm,4.7s					
NJ2			LR	LR		
	comp=E,900nm,13.3s					
NJ2			LR	LR		
	comp=E,2μm,17.0s					
NJ2			LR	LR		
	comp=E,2μm,15.2s					
YHNB	Yeheng	10.98 237	Pn	Pn	17 15 55.2	-1.5
NACB	Ninganchiao	11.13 234	Pn	Pn	17 15 58.5	-0.3
SSLB	Suanglung	11.83 235	Pn	Pn	17 16 06.9	-1.5
TPUB	Ta-pu	12.37 234	Pn	Pn	17 16 14.2	-1.5
TIA	Tai'an	13.02 297	P	P	17 16 29.3	-4.8
TIA			pmax	pmax		
	comp=E,25nm,1.7s					
TIA			pmax	pmax		
	comp=E,140nm,3.5s					
TIA			LR	LR		
	comp=E,680nm,15.7s					
TIA			LR	LR		
	comp=E,1μm,14.1s					
TIA			LR	LR		
	comp=E,2μm,13.9s					
USA0B	Ussuriysk Arra	13.12 2	P	Pn	17 16 23.7	-2.1
USA0B	Ussuriysk Arra	13.12 2	Pn	Pn	17 16 23.7	-2.1
USRK	Ussuriysk Ar.	13.12 2	P	Pn	17 16 27.5	+1.7
	baz=190,slow=12,SNR=2.5					
USRK			LR	LR	17 21 24.1	
	comp=E,1μm,19.8s,baz=166,slow=37					
USRK	Ussuriysk Ar.	13.12 2	Pn	Pn	17 16 24.2	-1.6
CN2	Changchun	13.58 341	*e*P	P	17 16 43.3	+3.0
CN2			*e*S	S	17 19 16.8	-6.6
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CN2			pmax	pmax		
	comp=Z,100nm,6.4s					
CN2			LR	LR		
	comp=N,2μm,15.0s					
CN2			LR	LR		
	comp=E,2μm,15.0s					
CN2			LR	LR		
	comp=Z,3μm,16.0s					
WHN	Wuhan	14.74 272	P	P	17 17 06.8	+14
BJT	Baijiatuau	15.32 310	P	P	17 16 58.6	-1.1
BJT			pmax	pmax		
	comp=Z,62nm,1.0s					
BJT	Baijiatuau	15.32 310	P	P	17 16 58.6	-1.1
BJT			IAmb	IAmb	17 17 13.1	
	comp=Z,62nm,1.0s					
BJI	Beijing	15.33 310	P	P	17 16 57.9	-1.8
BJI			pmax	pmax		
	comp=Z,230nm,4.1s					
BJI			LR	LR		
	comp=Z,890nm,14.2s					
BJI			LR	LR		
	comp=Z,2μm,15.5s					
ASAJ	Asahikawa	15.70 31	P	P	17 17 03.3	-0.6
	comp=Z,0.4nm,0.3s,baz=235,slow=8.9,SNR=8.3					
JKA	Kamikawa-asahi	15.70 31	Pn	Pn	17 16 58.5	-1.9
YSS	Yuzh-Sakhalins	18.09 26	*e*P	Pn	17 17 33.7	+3.5
YSS			*e*S	Sn	17 20 52.3	+1.3
YSS			pmax	pmax		
	comp=Z,10.0nm,0.8s					
YSS			MLR	MLR		
	comp=Z,600nm,15.0s					
YSS	Yuzh-Sakhalins	18.09 26	P	P	17 17 24.7	-5.5
KLR	Kul'dur	18.14 1	P	Pn	17 17 32.1	+1.2
	comp=Z,0.3nm,0.3s,baz=177,slow=10,SNR=16					
KLR			S	S	17 20 57.1	+0.7
	comp=Z,0.0nm,0.3s,baz=180,slow=20,SNR=5.8					
HHC	Hu-ho-hao-te	18.81 307	*e*P	Pn	17 17 43.8	+4.6
HHC			S	S	17 21 10.0	-0.4
HHC			pmax	pmax		
	comp=Z,23nm,1.3s					
HHC			pmax	pmax		
	comp=Z,340nm,7.6s					
HHC			LR	LR		
	comp=Z,2μm,15.8s					
HHC			LR	LR		
	comp=Z,1μm,12.9s					
HHC			LR	LR		
	comp=Z,2μm,17.7s					
ENH	Enshi	18.94 273		P	17 17 39.8	0.0
ENH			IAmb	IAmb	17 18 00.7	
	comp=Z,42nm,0.9s					
XAN	Xi'an	19.24 285	P	Pn	17 17 44.4	0.0
XAN			pmax	pmax		
	comp=Z,36nm,0.9s					
GRNR	Gornyy	20.02 9	*e*P	Pn	17 17 54.5	+1.1
GRNR			MLR	MLR		
	comp=N,430nm,16.0s					
GRNR			MLR	MLR		
	comp=E,340nm,16.0s					
GRNR			MLR	MLR		
	comp=Z,730nm,16.0s					
HIA	Hailar	20.23 337	*ce*P	P	17 17 54.0	+0.3
HIA			pmax	pmax		
	comp=Z,12nm,1.0s					
GYA	Guiyang	22.22 264	⇓P	P	17 18 16.4	+0.9
GYA			pP	pP	17 18 27.4	+1.9
GYA			S	S	17 22 15.8	-2.1
ZEA	Zeya	22.86 354	*e*P	P	17 18 20.1	-1.8
ZEA			*e*		17 19 10.1	
ZEA			*e*S	S	17 22 28.8	+0.4
ZEA			pmax	pmax		
	comp=N,10.0nm,0.7s					
ZEA			pmax	pmax		
	comp=Z,10.0nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,100nm,5.1s					
ZEA			smax	smax		
	comp=N,100nm,13.8s					
ZEA			MLR	MLR		
	comp=N,200nm,15.0s					
ZEA			MLR	MLR		
	comp=Z,200nm,12.0s					
QIZ	Qiongzhong	22.93 244	P	P	17 18 22.3	-0.6
QIZ			S	S	17 22 31.8	+1.6
QIZ			LR	LR		
	comp=Z,500nm,16.1s					
QIZ			LR	LR		
	comp=Z,550nm,11.6s					
QIZ			LR	LR		
	comp=Z,700nm,10.6s					
LZH	Lanzhou	23.53 290	*e*P	P	17 18 34.3	+5.4
LZH			pP	sP	17 18 43.3	-1.1
LZH			sP	pP	17 18 46.8	+7.4
LZH			S	S	17 22 38.9	-1.2
LZH			sS	sS	17 22 55.5	-2.6
LZH			pmax	pmax		
	comp=Z,55nm,1.3s					
LZH			pmax	pmax		
	comp=Z,200nm,4.6s					
LZH			LR	LR		
	comp=Z,540nm,12.5s					
LZH			LR	LR		
	comp=Z,1μm,13.6s					
LZH			LR	LR		
	comp=Z,1μm,15.5s					
CD2	Chengdu	23.75 277	P	P	17 18 30.5	-0.4
CD2			S	S	17 22 43.6	+0.1
CD2			sS	sS	17 23 00.8	-0.7
CD2			SS	SnSn	17 23 31.4	+7.4
CD2			pmax	pmax		
	comp=Z,30nm,1.4s					
CD2			pmax	pmax		
	comp=Z,280nm,6.6s					
CD2			LR	LR		
	comp=Z,2μm,16.5s					
CD2			LR	LR		
	comp=Z,1μm,21.0s					
CD2			LR	LR		
	comp=Z,2μm,12.1s					
ULN	Ulaanbaatar	25.08 319	P	P	17 18 41.8	-1.2
ULN			pmax	pmax		
	comp=Z,19nm,1.0s					
ULN	Ulaanbaatar	25.08 319	P	P	17 18 41.8	-1.2
ULN			IAmb	IAmb	17 18 44.9	
	comp=Z,19nm,1.0s					
SONM	Songino Array	25.44 318	P	P	17 18 45.6	-0.6
	comp=Z,1.7nm,0.4s,baz=133,slow=9.3,SNR=19					
SONM			LR	LR	17 30 20.7	
	comp=Z,1μm,18.0s,baz=126,slow=40					
SONM	Songino Array	25.44 318	P	P	17 18 45.3	-0.9
KMI	Kunming	26.00 264	⇑P	P	17 18 51.1	-0.5
KMI			pP	pP	17 18 59.8	-2.7
KMI			sP	sP	17 19 05.0	-2.4
KMI			PcP	PcP	17 22 17.8	-1.4
KMI			S	S	17 23 18.1	-1.8
KMI			sS	sS	17 23 32.3	-5.7
KMI			pmax	pmax		
	comp=Z,6.0nm,0.5s					
KMI			LR	LR		
	comp=Z,500nm,14.1s					
KMI			LR	LR		
	comp=Z,810nm,14.8s					
KMI			LR	LR		
	comp=Z,1μm,15.3s					
SLVN	Son La	26.52 255	P	P	17 18 56.2	+0.1
GTA	Gaotai	27.07 297	*e*P	P	17 19 00.3	-0.7
GTA			sS	sS	17 23 56.5	+2.0
GTA			pmax	pmax		
	comp=Z,4.0nm,1.2s					
GTA			pmax	pmax		
	comp=Z,57nm,4.7s					
GTA			LR	LR		
	comp=Z,490nm,14.9s					
GTA			LR	LR		
	comp=Z,460nm,15.6s					
GTA			LR	LR		
	comp=Z,630nm,14.2s					
PETK	Petropavlovsk-	29.09 33	LR	LR	17 32 08.0	
	comp=Z,521nm,18.5s,baz=207,slow=39					
CHAI	Chaiyaphum	30.86 247	P	P	17 19 41.7	+7.0
	comp=Z,13nm,0.8s					
YAK	Yakutsk	31.00 358	*e*P	P	17 19 42.1	+6.7
YAK			pmax	pmax		
	comp=Z,7.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,4.0nm,0.9s					
YAK			MLR	MLR		
	comp=Z,354nm,19.0s					
YAK			MLR	MLR		
	comp=N,357nm,20.0s					
YAK	Yakutsk	31.00 358	P	P	17 19 34.9	-0.6
YAK			IAmb	IAmb	17 19 42.9	
	comp=Z,8.7nm,0.8s					
UTTA	Uttaradit	31.02 252	P	P	17 19 38.3	+2.2
	comp=Z,11nm,0.7s					
MA2	Magadan	31.32 19	⇓*e*P	P	17 19 39.8	+1.4
MA2			pmax	pmax		
	comp=Z,15nm,1.6s					
SIJI	Sorong	31.76 180	LR	LR	17 30 58.5	
	comp=Z,282nm,21.0s,baz=38,slow=33					
CMMT	Chiang Mai	31.81 255	P	P	17 19 50.2	+7.1
	comp=Z,5.4nm,0.8s					
CHTO	Chiang Mai	31.81 255	P	P	17 19 42.2	-0.9
CHTO			pmax	pmax		
	comp=Z,5.0nm,1.0s					
CHTO	Chiang Mai	31.81 255	P	P	17 19 50.3	+7.2
	comp=Z,5.5nm,0.8s					
CHTO	Chiang Mai	31.81 255	P	P	17 19 42.2	-0.9
CMAR	Chiang Mai Arr	31.98 255	P	P	17 19 45.0	+0.3
	comp=Z,1.2nm,0.5s,baz=51,slow=7.7,SNR=9.6					
CMAR			PcP	PcP	17 22 34.4	+0.3
	comp=Z,0.3nm,0.5s,baz=7.1,slow=1.9,SNR=2.4					
CMAR			LR	LR	17 34 31.5	
	comp=Z,352nm,19.0s,baz=102,slow=40					
CMAR	Chiang Mai Arr	31.98 255	⇑*e*P	P	17 19 45.0	+0.3
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.4s					
CMAR	Chiang Mai Arr	31.98 255	P	P	17 19 43.2	-1.5
FAKI	Fak Fak	33.81 179	P	P	17 20 02.3	+1.8
SEY	Seymchan	34.58 17	P	P	17 20 08.2	+1.5
	comp=Z,2.8nm,0.8s,baz=189,slow=8.1,SNR=6.4					
SHL	Shillong	35.16 271	P	P	17 20 12.3	-0.1
SHL			pmax	pmax		
	comp=Z,5.0nm,0.4s					
WMQ	Urumqi	36.61 303	*e*P	P	17 20 26.5	+1.9
WMQ			LR	LR		
	comp=Z,360nm,12.5s					
WMQ			LR	LR		
	comp=Z,640nm,15.1s					
WMQ			LR	LR		
	comp=Z,490nm,16.9s					
KAPI	Kappang	37.59 199	LR	LR	17 36 17.5	
	comp=Z,88nm,21.4s,baz=20,slow=37					
DGZ	Jazzator, Alta	37.72 312	⇓*e*P	P	17 20 34.5	+0.5
DGZ			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ZAA0	Zalesovo Array	40.34 318	P	P	17 20 53.4	-2.2
ZALV	Zalesovo Beam	40.34 318	P	P	17 20 54.8	-0.7
	comp=Z,0.6nm,0.3s,baz=111,slow=8.4,SNR=5.1					
ZALV			PcP	PcP	17 22 58.5	+0.2
	comp=Z,0.7nm,0.4s,baz=92,slow=4.8,SNR=2.3					
ZALV			ScP	ScP	17 26 44.4	0.0
	comp=Z,0.4nm,0.4s,baz=134,slow=3.1,SNR=2.3					
ZALV			LR	LR	17 39 04.6	
	comp=Z,950nm,19.2s,baz=110,slow=38					
ZALV	Zalesovo Beam	40.34 318	*i* P	P	17 20 55.2	-0.4
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.3s					
ZALV	Zalesovo Beam	40.34 318	P	P	17 20 54.6	-0.9
TIXI	Tiksi	40.66 359	*de*P	P	17 20 58.3	+0.3
TIXI	Tiksi	40.66 359	P	P	17 20 57.1	-0.9
MK31	Makanchi Array	40.68 307	P	P	17 20 56.7	-1.9
MK31			pmax	pmax		
	comp=Z,4.0nm,1.1s					
MK31	Makanchi Array	40.68 307	P	P	17 20 56.7	-1.9
MKAR	Makanchi Array	40.68 307	P	P	17 20 58.0	-0.6
	comp=Z,1.3nm,0.6s,baz=93,slow=10,SNR=14					
MKAR			PcP	PcP	17 23 00.7	+1.0
	comp=Z,0.3nm,0.3s,baz=85,slow=8.8,SNR=6.6					
MKAR			ScP	ScP	17 26 46.1	+0.1
	comp=Z,0.9nm,1.0s,baz=83,slow=3.8,SNR=5.9					
MKAR			LR	LR	17 39 31.2	
	comp=Z,752nm,18.5s,baz=88,slow=39					
MKAR	Makanchi Array	40.68 307	P	P	17 20 56.9	-1.6
MAKZ	Makanchi	40.89 307	P	P	17 20 58.8	-1.5
MAKZ			pmax	pmax		
	comp=Z,3.0nm,1.0s					
MAKZ	Makanchi	40.89 307	P	P	17 20 58.8	-1.5
BILL	Bilibino	42.19 19	*d* iP	P	17 21 11.8	+1.2
BILL			pmax	pmax		
	comp=Z,15nm,2.5s					
BILL	Bilibino	42.19 19	P	P	17 21 12.2	+1.5
PMG	Port Moresby	42.96 157	LR	LR	17 36 56.2	
	comp=Z,134nm,18.6s,baz=322,slow=33					
PRZ	Przheval'sk	43.38 301	P	P	17 21 19.0	-1.9
PRZ			pmax	pmax		
	comp=Z,8.0nm,1.0s					
PRZ	Przheval'sk	43.38 301	P	P	17 21 19.0	-1.9
KDJ	Kajisay	44.30 300	P	P	17 21 28.4	+0.1
KDJ			pmax	pmax		
	comp=Z,14nm,1.7s					
KDJ	Kajisay	44.30 300	P	P	17 21 28.4	+0.1
FRU1	Bishkek	46.13 301	P	P	17 21 42.9	+0.2
FRU1			pmax	pmax		
	comp=Z,10.0nm,0.6s					
FRU1	Bishkek	46.13 301	P	P	17 21 42.9	+0.2
FRU1			IAmb	IAmb	17 21 47.3	
	comp=Z,10nm,0.6s					
KNRA	Kununurra	46.55 184	P	P	17 21 46.2	+0.3
HNR	Honiara	48.65 141	LR	LR	17 42 09.1	
	comp=Z,96nm,19.0s,baz=8.0,slow=35					
BRVK	Borovoye	48.78 315	*c i*P	P	17 22 02.6	-0.4
BRVK			pmax	pmax		
	comp=Z,8.0nm,0.6s					
BRVK	Borovoye	48.78 315	P	P	17 22 01.8	-1.2
BRVK			IAmb	IAmb	17 22 15.0	
	comp=Z,9.8nm,0.7s					
TARA	Tarawa	49.07 119	P	P	17 22 02.2	-3.4
KK31	Karatay Array	49.11 302	P	P	17 22 05.4	-0.3
KK31			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KK31	Karatay Array	49.11 302	P	P	17 22 05.4	-0.3
KK31			IAmb	IAmb	17 22 18.1	
	comp=Z,9.7nm,0.8s					
KKAR	Karatay Array	49.11 302	P	P	17 22 05.1	-0.6
KKAR			pmax	pmax		
	comp=Z,10.0nm,0.8s					
KKAR	Karatay Array	49.11 302	P	P	17 22 05.1	-0.6
KKAR			IAmb	IAmb	17 22 18.1	
	comp=Z,9.7nm,0.8s					
WB0	Warramunga Arr	50.62 176	P	P	17 22 17.4	+0.2
WB0			IAmb	IAmb	17 22 47.0	
	comp=Z,24nm,1.7s					
WRAB	Tennant Creek	50.78 177	⇓*e*P	P	17 22 18.7	+0.2
WRAB			pmax	pmax		
	comp=Z,20nm,2.0s					
WRA	Warramunga Arr	50.79 177	P	P	17 22 19.3	+0.8
	comp=Z,0.9nm,0.6s,baz=354,slow=7.9,SNR=9.9					
WRA	Warramunga Arr	50.79 177	P	P	17 22 19.0	+0.4
WB2	Warramunga Arr	50.79 177	P	P	17 22 17.5	-1.0
WB2			IAmb	IAmb	17 22 28.5	
	comp=Z,13nm,1.0s					
WR0	Warramunga Arr	50.82 176	P	P	17 22 17.9	-0.9
WR0			IAmb	IAmb	17 22 28.4	
	comp=Z,6.7nm,0.9s					
KBL	Kabul	51.86 291	P	P	17 22 29.9	+3.1
KBL			pmax	pmax		
	comp=Z,9.0nm,0.9s					
CTA	Charters Tower	52.80 162	P	P	17 22 34.3	+0.8
	comp=Z,3.4nm,0.8s,baz=21,slow=8.6,SNR=2.1					
CTAO	Charters Tower	52.80 162	P	P	17 22 34.3	+0.8
CTAO			pmax	pmax		
	comp=Z,40nm,1.8s					
CTAO	Charters Tower	52.80 162	P	P	17 22 34.3	+0.8
CTAO			IAmb	IAmb	17 22 42.4	
	comp=Z,40nm,1.8s					
PSA00	Pilbara Seismi	53.52 194	P	P	17 22 37.7	-1.0
AS31	Alice Springs	54.47 177	P	P	17 22 45.9	+0.1
ASAR	Alice Springs	54.47 177	P	P	17 22 47.1	+1.4
	comp=Z,1.4nm,0.9s,baz=9.6,slow=12,SNR=12					
ASAR			LR	LR	17 45 00.0	
	comp=Z,105nm,21.8s,baz=24,slow=35					
ARU	Arti	55.46 320	*c i*P	P	17 22 51.7	-0.8
ARU			*PP	pP	17 23 01.0	-3.2
ARU					17 23 47.9	
ARU					17 24 52.1	
ARU			S	S	17 30 36.2	+1.7
ARU			SS	SS	17 34 15.9	-3.2
ARU			pmax	pmax		
	comp=Z,6.0nm,0.6s					
ARU			MLR	MLR		
	comp=Z,635nm,16.0s					
ARU	Arti	55.46 320	P	P	17 22 51.9	-0.7
CHIR	Chirikof Islan	55.50 41	P	P	17 22 53.5	+0.7
ABKAR	Akbulak array	55.53 311	P	P	17 22 52.8	-0.4
ABKAR			IAmb	IAmb	17 23 01.9	
	comp=Z,4.4nm,0.7s					
ABKAR	Akbulak array	55.53 311	P	P	17 22 52.3	-0.9
KDAK	Kodiak Island	56.95 38	P	P	17 23 04.3	+1.1
KDAK			pmax	pmax		
	comp=Z,56nm,1.7s					
KDAK	Kodiak Island	56.95 38	P	P	17 23 04.2	+1.1
BPAW	Bear Paw Mtn.	57.13 31	P	P	17 23 03.8	-0.5
MLY	Manley	57.17 30	P	P	17 23 05.6	+0.9
MLY			IAmb	IAmb	17 23 19.5	
	comp=Z,7.0nm,1.2s					
TOLK	Toolik Lake Re	57.45 25	P	P	17 23 09.7	+3.1
TOLK			IAmb	IAmb	17 23 21.4	
	comp=Z,5.7nm,1.0s					
NEA2	Nenana	57.92 30	P	P	17 23 10.6	+0.7
NEA2			IAmb	IAmb	17 23 24.8	
	comp=Z,6.4nm,0.9s					
RND	Reindeer	58.14 31	P	P	17 23 12.3	+0.7
RND			pmax	pmax		
	comp=Z,8.0nm,1.0s					
RND	Reindeer	58.14 31	P	P	17 23 12.2	+0.7
RND			IAmb	IAmb	17 23 22.0	
	comp=Z,7.9nm,1.0s					
MDM	Murphy Dome	58.24 30	P	P	17 23 13.6	+1.4
MDM			IAmb	IAmb	17 23 27.1	
	comp=Z,9.3nm,0.9s					
SEW	Seward	58.27 35	P	P	17 23 13.9	+1.6
WRH	Wood River Hil	58.36 30	P	P	17 23 13.2	+0.3
WRH			IAmb	IAmb	17 23 24.6	
	comp=Z,7.5nm,1.4s					
COLA	College	58.41 30	⇑*e*P	P	17 23 13.4	+0.1
COLA			pmax	pmax		
	comp=Z,9.0nm,1.6s					
CCB	Clear Creek Bu	58.46 30	P	P	17 23 15.2	+1.6
IL31		58.84 30	P	P	17 23 15.6	-0.6
ILAR	Eielson Array	58.84 30	P	P	17 23 17.1	+0.9
	comp=Z,1.0nm,0.7s,baz=278,slow=6.6,SNR=10					
ILAR	Eielson Array	58.84 30	P	P	17 23 15.9	-0.4
HDA	Harding Lake	58.85 30	P	P	17 23 16.6	+0.2
HDA			IAmb	IAmb	17 23 30.0	
	comp=Z,5.3nm,0.9s					
SCM	Sheep Creek Mo	59.04 33	P	P	17 23 18.8	+1.0
SCM			pmax	pmax		
	comp=Z,15nm,1.1s					
SCM	Sheep Creek Mo	59.04 33	P	P	17 23 18.8	+1.0
SCM			IAmb	IAmb	17 23 45.0	
	comp=Z,15nm,1.1s					
BMAR	Burnt Mountain	59.42 26	P	P	17 23 22.9	+2.5
GEYT	Alibeck	59.43 298	P	P	17 23 21.5	+0.6
	comp=Z,1.3nm,0.5s,baz=57,slow=5.5,SNR=3.7					
GEYT			LR	LR	17 53 01.1	
	comp=Z,350nm,18.1s,baz=55,slow=40					
FID	Port Fidalgo	59.62 34	P	P	17 23 20.4	-1.3
FID			IAmb	IAmb	17 23 50.5	
	comp=Z,12nm,1.2s					
HIN	Hinchinbrook I	59.67 35	P	P	17 23 23.0	+0.8
RIDG	Independent Ri	59.87 31	P	P	17 23 24.4	+0.9
RIDG			IAmb	IAmb	17 23 39.5	
	comp=Z,14nm,1.6s					
SCRK	Sand Creek	60.20 30	P	P	17 23 26.7	+0.8
SCRK			IAmb	IAmb	17 23 28.1	
	comp=Z,18nm,1.7s					
DOT	Dot Lake	60.23 31	P	P	17 23 26.8	+0.9
DOT			IAmb	IAmb	17 23 39.2	
	comp=Z,6.2nm,1.1s					
N25K	Chitina, Valde	60.36 33	P	P	17 23 28.6	+1.7
N25K			IAmb	IAmb	17 24 06.2	
	comp=Z,8.1nm,1.2s					
MENT	Mentasta	60.51 32	P	P	17 23 29.6	+1.7
MENT			IAmb	IAmb	17 23 57.5	
	comp=Z,8.7nm,0.8s					
PRGR	Permogore	61.26 327	*e*P	P	17 23 33.1	+0.2
PRGR			pmax	pmax		
	comp=Z,3.0nm,0.4s					
L27K	Beaver Creek,	61.33 31	P	P	17 23 34.8	+1.3
BCAR	Beaver Creek A	61.35 31	P	P	17 23 34.6	+1.0
LIFNC	LIFOU	61.93 142	P	P	17 23 38.2	+0.3
BELG	Belogornoye	62.48 317	LR	LR	17 52 51.6	
	comp=Z,640nm,19.8s,baz=83,slow=38					
EPYK	Eagle Plains	62.67 27	P	P	17 23 43.6	+1.3
INK	Inuvik	63.32 24	P	P	17 23 48.0	+1.4
	comp=Z,1.7nm,0.7s,baz=293,slow=9.4,SNR=4.6					
INK	Inuvik	63.32 24	P	P	17 23 48.0	+1.4
INK			IAmb	IAmb	17 24 01.4	

comp=Z,8.5nm,1.1s
STKA Stephens Creek 63.33 170 P **P 17 23 48.3 +1.3**
comp=Z,1.6nm,0.9s,baz=345,slow=12,SNR=2.1
STKA LR LR 17 51 10.6
comp=Z,118nm,20.4s,baz=18,slow=36
HYT Haines Junctio 63.88 33 P **P 17 23 52.5 +2.0**
HYT IAmb IAmb 17 24 01.2
comp=Z,15nm,1.6s
LVZ Lovozero 64.11 335 P **P 17 23 55.0 +3.2**
LVZ pmax pmax
comp=Z,16nm,1.1s
LVZ Lovozero 64.11 335 P **P 17 23 55.0 +3.2**
LVZ IAmb IAmb 17 24 06.9
comp=Z,16nm,1.1s
KLMR Klimovskoe 64.32 327 *e*P **P 17 23 57.2 +4.0**
KLMR pmax pmax
comp=Z,17nm,1.2s
KLMR Klimovskoe 64.32 327 *e*P **P 17 23 57.3 +4.0**
KLMR AMP 17 24 03.8
comp=Z,17nm,1.2s
SPITS Spitsbergen Ar 64.70 348 P **P 17 23 59.1 +3.6**
SPITS pmax pmax
comp=Z,45nm,1.4s
AKT Akhty 65.86 305 *e*P **P 17 24 04.1 +0.3**
AKT *e* 17 24 34.0
AKT *e* 17 26 33.0
AKT pmax pmax
comp=Z,30nm,0.8s
KEV Kevo 66.00 338 P **P 17 24 04.3 +0.3**
KEV pmax pmax
comp=Z,21nm,1.0s
KEV Kevo 66.00 338 P **P 17 24 04.3 +0.3**
ARCES ARCESS Array B 66.57 338 P **P 17 24 07.7 0.0**
comp=Z,1.6nm,0.6s,baz=60,slow=5.9,SNR=9.9
ARCES LR LR 17 58 32.1
comp=Z,523nm,18.9s,baz=65,slow=41
ARCES ARCESS Array B 66.57 338 P **P 17 24 07.2 -0.5**
LPSR Galich'ya Gora 67.44 319 *e*P P 17 24 19.9 +6.4
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR MLR MLR
comp=Z,520nm,16.0s
OBN Obninsk 67.79 322 LR LR 17 56 30.4
comp=Z,90nm,19.3s,baz=14,slow=38
OBN Obninsk 67.79 322 *e*P **P 17 24 17.7 +2.1**
OBN *e* 17 24 40.7
OBN *e* 17 26 43.6
OBN *e*PPP PPP 17 28 22.3
OBN pmax pmax
comp=Z,14nm,0.6s
VSR Storozhevoye 67.83 317 *e*P P 17 24 21.4 +5.4
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR MLR MLR
comp=Z,810nm,15.0s
ZEI Tsey 68.03 308 *e*P P 17 24 22.9 +5.2
ZEI pmax pmax
comp=Z,18nm,0.9s
DLBC Dease Lake 68.28 34 LR LR 17 56 30.6
comp=Z,64nm,19.3s,baz=284,slow=38
KBZ Khabaz 68.34 309 P **P 17 24 19.5 +0.2**
comp=Z,2.5nm,0.7s,baz=54,slow=5.4,SNR=5.8
KBZ LR LR 17 59 07.0
comp=Z,334nm,18.2s,baz=72,slow=40
KVAR Kislovodsk Arr 68.39 309 LR LR 17 56 39.2
comp=Z,340nm,20.8s,baz=260,slow=38
KIV Kislovodsk 68.40 309 *e*P **P 17 24 20.4 +0.6**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,216nm,17.0s
KIV Kislovodsk 68.40 309 P **P 17 24 20.4 +0.6**
ONI Oni 68.41 307 P **P 17 24 20.8 +0.9**
ONI pmax pmax
comp=Z,11nm,0.8s
ONI Oni 68.41 307 P **P 17 24 20.8 +0.9**
ONI IAmb IAmb 17 24 33.5
comp=Z,11nm,0.8s
GNI Garni 68.46 305 LR LR 17 58 05.8
comp=Z,156nm,18.4s,baz=68,slow=39
FIA1 FINESS Array S 70.07 330 P **P 17 24 29.2 -0.5**
FIA1 IAmb IAmb 17 24 39.8
comp=Z,12nm,0.8s
FINES FINESS Array B 70.07 330 P **P 17 24 28.5 -1.2**
comp=Z,1.5nm,0.3s,baz=63,slow=5.3,SNR=15
FINES LR LR 17 58 50.8
comp=Z,538nm,18.2s,baz=60,slow=39
FINES FINESS Array B 70.07 330 P **P 17 24 28.3 -1.5**
RES Resolute Bay 70.26 12 LR LR 17 58 11.6
comp=Z,137nm,18.4s,baz=205,slow=38
GEVA Gevas 70.39 303 P **P 17 24 32.5 +0.1**
SOC Sochi 70.52 310 *e*P P 17 24 39.6 +6.8
SOC *e* 17 27 07.5
SOC *e*PPP PPP 17 28 56.1
SOC *e*SS SS 17 38 10.8 -3.5
SOC pmax pmax
comp=Z,19nm,0.6s
SOC MLR MLR
comp=Z,165nm,16.0s
GURO Guroymak-BITLI 71.03 304 P **P 17 24 37.4 +1.3**
GURO IAmb IAmb 17 24 49.5
comp=Z,10nm,1.0s
VSU Vasula 71.22 328 *e*P **P 17 24 38.9 +2.1**
KOPT Kop Dagi 71.49 306 P **P 17 24 39.4 +0.3**
KOPT IAmb IAmb 17 25 00.7
comp=Z,8.7nm,0.8s
MARD Mardin 72.45 303 P **P 17 24 44.9 +0.2**
MNK Minsk 72.58 324 *i* P **P 17 24 43.0 -2.0**
MNK *i* 17 25 00.2
MNK *i* 17 27 24.5
MNK *i* PPP PPP 17 29 09.1
MNK *i* S **S 17 34 04.2 -2.4**
MNK *i* SS **SS 17 38 46.1 +0.8**
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,13nm,1.0s
MNK Minsk 72.58 324 *i* P **P 17 24 43.0 -1.9**
comp=E,2.0nm,0.8s
MNK *i* P **P 17 24 43.0 -1.9**
comp=N,13nm,1.0s
MNK *i* P **P 17 24 43.0 -1.9**
comp=Z,5.0nm,0.7s,baz=241
MNK *i* PcP **sP 17 25 00.2 -1.4**
MNK *i* PP **PP 17 27 24.6 -1.7**
MNK *i* PPP PPP 17 29 09.1
MNK *i* S **S 17 34 04.2 -2.3**
MNK *i* SS **SS 17 38 46.1 +0.8**
MNK *i* SSS SSS 17 42 06.9
MNK *i* LR LR 17 57 17.7
IDID Didziasalis 72.75 325 *e*P **P 17 24 47.7 +1.7**
YKA Yellowknife Ar 72.94 26 P **P 17 24 48.3 +1.3**
comp=Z,0.5nm,0.6s,baz=304,slow=5.9,SNR=5.4
AKASG Malin Array Be 73.71 320 P **P 17 24 51.1 -0.7**
comp=Z,1.3nm,0.4s,baz=56,slow=6.5,SNR=12
AKASG LR LR 18 00 11.4
comp=Z,345nm,18.6s,baz=40,slow=38
AKASG Malin Array Be 73.71 320 *i* P **P 17 24 51.2 -0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 73.71 320 P **P 17 24 51.5 -0.2**
AKBB Malin Array Si 73.71 320 P **P 17 24 51.4 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 73.71 320 P **P 17 24 51.4 -0.4**
AKBB IAmb IAmb 17 25 02.3
comp=Z,10.0nm,0.8s
PABE Paberze 74.02 326 *e*P **P 17 24 55.5 +2.1**
PABE Paberze 74.02 326 P **P 17 24 55.0 +1.6**
PABE IAmb IAmb 17 25 04.7
comp=Z,22nm,1.1s
UPP Uppsala 74.44 331 *e*P **P 17 24 57.9 +2.1**
GAZ Gaziantep 75.06 304 P **P 17 24 59.4 -0.6**
GAZ IAmb IAmb 17 25 12.9
comp=Z,14nm,1.0s
SUW Suwalki 75.20 325 P **P 17 25 00.3 0.0**
SUW pmax pmax
comp=Z,18nm,0.8s
SUW Suwalki 75.20 325 P **P 17 25 00.3 0.0**
BNN Bunyan 75.23 307 P **P 17 25 01.2 +0.2**
NC405 NORSAR Array S 75.99 334 P **P 17 25 04.0 -0.8**
NB201 NORSAR Array S 76.19 334 P **P 17 25 06.5 +0.5**
NB2 NORSAR Subarra 76.23 334 P **P 17 25 06.5 +0.4**
comp=Z,1.2nm,0.5s,baz=47,slow=5.6
NOA NORSAR Array B 76.23 334 P **P 17 25 06.1 0.0**
comp=Z,1.2nm,0.5s,baz=49,slow=5.6,SNR=7.1
NOA LR LR 18 01 50.5
comp=Z,229nm,18.7s,baz=45,slow=38
NC204 NORSAR Array S 76.24 335 P **P 17 25 06.0 -0.2**
BR131 Keskin Array S 76.32 308 P **P 17 25 07.1 -0.1**
BR131 pmax pmax
comp=Z,21nm,0.9s
BR131 Keskin Array S 76.32 308 P **P 17 25 07.1 -0.1**
BRTR Keskin Array B 76.32 308 P **P 17 25 07.6 +0.4**
comp=Z,2.5nm,0.9s,baz=97,slow=4.8,SNR=14
BRTR LR LR 18 03 43.4
comp=Z,113nm,18.6s,baz=64,slow=40
BRTR Keskin Array B 76.32 308 P **P 17 25 07.1 -0.1**
KLNR Kaliningrad 76.32 326⇑*e*P **P 17 25 04.9 -1.8**
SUMG Summit 76.40 357 *e*P **P 17 25 08.5 +1.1**
SUMG Summit 76.40 357 *e*P **P 17 25 08.5 +1.1**
SUMG Summit 76.40 357 P **P 17 25 07.3 -0.1**
SUMG IAmb IAmb 17 25 19.9
comp=Z,26nm,1.7s
ANTO Ankara 76.82 309 P **P 17 25 08.2 -1.7**
ANTO pmax pmax
comp=Z,9.0nm,0.9s
ANTO Ankara 76.82 309 P **P 17 25 08.2 -1.7**
ANTO IAmb IAmb 17 25 23.1
comp=Z,9.5nm,0.9s
BUR08 Bucovina Ar. S 77.55 318 P **P 17 25 14.0 +0.1**
BUR08 IAmb IAmb 17 25 27.5
comp=Z,6.7nm,1.0s
BURAR Bucovina Array 77.56 318 P **P 17 25 13.8 -0.2**
BURAR pmax pmax
comp=Z,4.0nm,0.9s
BURAR Bucovina Array 77.56 318 P **P 17 25 13.8 -0.2**
MDUB Mudurnu 77.58 310 P **P 17 25 14.5 +0.3**
KOLS Kolonicke sedl 78.47 321 *e*P P 17 25 29.4 +10
CRVS Cervenica-Dubn 78.93 321 *e*P P 17 25 30.9 +9.5
OJC Ojcow 79.06 323 P **P 17 25 21.1 -1.0**
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC Ojcow 79.06 323 P **P 17 25 21.1 -1.0**
OJC IAmb IAmb 17 25 35.1
comp=Z,9.4nm,0.8s
GHAJ Ghor Haditha 79.06 300 P **P 17 25 22.1 -0.4**
GHAJ IAmb IAmb 17 25 35.5
comp=Z,14nm,0.8s
ILULI Ilulissat 80.00 1 P **P 17 25 27.4 +0.6**
ILULI pmax pmax
comp=Z,10.0nm,0.7s
ILULI Ilulissat 80.00 1 P **P 17 25 27.4 +0.6**
ILULI IAmb IAmb 17 25 30.6
comp=Z,10nm,0.7s
DPC Dobruska-Polom 80.76 324 *e*pP pP 17 25 41.4 -2.1
MODS Modra-Piesok 81.48 322 *e*P P 17 25 47.7 +13
CLL Collm 81.78 326 *e*P **P 17 25 38.0 +1.3**
CLL *e*pP **PcP 17 25 45.0 +2.7**
comp=Z,6.0nm,0.9s
CLL *e*SS SS 17 41 06.0 +1.9
CLL *e*SSS SSS 17 45 00.0
CLL *e* 17 46 36.0
CLL LV 18 05 00.0
comp=Z,400nm,20.1s
CLL Collm 81.78 326 *e*P **P 17 25 38.0 +1.3**
CLL MLR MLR
comp=Z,400nm,20.1s
CLL Collm 81.78 326 P **P 17 25 36.9 +0.2**
CLL IAmb IAmb 17 25 49.8
comp=Z,5.8nm,0.9s
CONA Conrad Observa 82.50 322 *e*P P 17 25 49.8 +9.2
comp=Z,5.4nm,0.8s
KHC Kasperske Hory 82.91 324 *e*pP pP 17 25 50.0 -4.9
GERES GERESS Array B 83.03 324 P **P 17 25 44.1 +0.7**
comp=Z,0.4nm,0.6s,baz=53,slow=5.0,SNR=3.3
ARSA Arzberg 83.11 322 *e*P P 17 25 49.8 +6.0
comp=Z,1.7nm,0.6s
MOA Molln 83.39 323 *e*P P 17 25 52.4 +7.3
comp=Z,2.4nm,0.8s
SOKA Soboth 83.73 322 *e*P **P 17 25 48.0 +1.0**
comp=Z,6.8nm,1.1s
OBKA Obir 84.09 322 *e*P **P 17 25 53.0 +4.1**
comp=Z,2.0nm,0.8s
KBA Koelnbreinsper 84.36 323 *e*P **P 17 25 53.6 +3.3**
comp=Z,1.4nm,0.6s
ZOU Zoufplan 84.89 322 P **P 17 25 53.4 +0.3**
ZOU IAmb IAmb 17 26 08.1
comp=Z,7.5nm,0.9s
ABTA Abfaltersbach 85.01 323 *e*P **P 17 25 53.6 +0.1**
comp=Z,7.6nm,1.1s
WATA Walderalm 85.10 324 *e*P P 17 26 00.1 +6.1
comp=Z,1.5nm,0.5s
WTTA Wattenberg 85.12 324 *e*P P 17 25 58.8 +4.7
comp=Z,1.5nm,0.6s
NVAR Mina Array Bea 85.12 48 P **P 17 25 55.9 +1.5**
comp=Z,0.4nm,0.6s,baz=282,slow=3.3,SNR=4.6
STAL STALIGIAL 85.22 322 P **P 17 25 55.0 +0.5**
STAL IAmb IAmb 17 26 11.7
comp=Z,8.2nm,0.9s
MOTA Moosalm 85.33 324 *e*P **P 17 25 55.0 -0.2**
comp=Z,1.3nm,0.6s
SQTA Sankt Quirin 85.36 324 *e*P **P 17 25 56.9 +1.6**
comp=Z,1.2nm,0.6s
RETA Reutte 85.41 324 *e*P **P 17 25 57.4 +1.9**
comp=Z,1.8nm,0.8s
FETA Feichten 85.74 324 *e*P **P 17 25 56.6 -0.7**
comp=Z,1.1nm,0.7s
DAVA Damuels 85.99 324 *e*P **P 17 25 59.1 +0.7**
comp=Z,6.7nm,1.2s
PDAR Pinedale Array 87.62 40 P **P 17 26 08.4 +1.8**
comp=Z,0.8nm,0.8s,baz=299,slow=1.0,SNR=7.4
PDAR LR LR 18 04 55.7
comp=Z,18nm,21.0s,baz=323,slow=35
ULM Lac du Bonnet 88.82 28 P **P 17 26 12.3 +0.5**
comp=Z,3.7nm,0.7s,baz=308,slow=5.1,SNR=6.3
ULM LR LR 18 11 18.1
comp=Z,85nm,19.0s,baz=326,slow=39
ULM Lac du Bonnet 88.82 28 IAmb IAmb 17 26 27.4
comp=Z,7.0nm,1.0s
PMOR Pomariorio Ree 89.83 108 *e*T T 19 05 39.5
comp=Z,2.5nm,0.2s
PPT Papeete 89.83 111 LR LR 18 00 42.9
comp=Z,54nm,20.0s,baz=306,slow=32
PPT2 Papeete2 89.84 111 *e*LR LR 17 55 07.0
comp=Z,73nm,21.5s
SCHQ Schefferville 93.01 10 LR LR 18 12 13.2
comp=Z,131nm,18.1s,baz=200,slow=38
TBI Tubuai 93.02 115 *e*LR LR 17 56 32.7
comp=Z,113nm,29.2s
KEST Kesra 94.18 316 LR LR 18 14 35.0
comp=Z,225nm,19.7s,baz=288,slow=39
KMBO Kilima Mbogo 94.21 271 LR LR 18 09 39.4
comp=Z,116nm,21.1s,baz=100,slow=36
ESDC Sonseca Array 98.36 327 LR LR 18 17 26.7
comp=Z,160nm,18.4s,baz=350,slow=39
TORD Torodi Ar. Bea 114.76 304 PKP **PKiKP 17 31 57.1 -1.9**
comp=Z,0.3nm,0.5s,baz=38,slow=3.4,SNR=1.9
H03N2 Juan Fernandez 154.21 103 T T 20 26 29.6
baz=278,slow=75,SNR=8.1
H03N3 Juan Fernandez 154.22 103 T T 20 26 30.2
baz=278,slow=75,SNR=6.8
H03N1 Juan Fernandez 154.23 103 T T 20 26 28.4
baz=278,slow=75,SNR=7.4

*DDA **18** 17:14:16.5, 41.°39N×43.°95E, h7km±2km, ML2.9*
*ISK **18** 17:14:16.6, 41.°31N×43.°94E, h6km, ML3.2/5*
*TIF **18** 17:14:16.2, 41.°33N×43.°95E, h14km*
*AZER **18** 17:14:18.2±0.3, 41.°31N×44.°19E, h5km±1km, ml3.3/24, Error ellipse: s-maj=3.8km s-min=2.3km az=315.0*
*NORS **18** 17:14:18.6±0.0, 41.°55N×43.°83E, h1km, MPVA4.1*
*NSSP **18** 17:14:19.8, 41.°32N×43.°98E, h7km, Ms3.2*
ISC 18 17:14:17.1±0.9, 41.°34N±0.°01×43.°95E±0.°01, h9km±7km, n74, σ1.9 s17/137, 6C-2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.18**	**92**	P	**Pg**	**17 14 21.2**	**+0.3**
DMNI				S	**Sg**	**17 14 24.2**	**+0.7**
TRLG	**Trialeti**	**0.23**	**28**	P	**Pg**	**17 14 21.9**	**-0.1**
TRLG				S	**Sg**	**17 14 25.5**	**+0.3**
BGD	**Bogdanovka**	**0.28**	**255**	P	**Pg**	**17 14 22.7**	**-0.1**
BGD				S	**Sg**	**17 14 26.9**	**+0.4**
BRNG	**Burnasheti**	**0.30**	**342**	P	**Pg**	**17 14 23.4**	**+0.1**
BRNG				S	**Sb**	**17 14 28.3**	**-1.8**
KZRT	**Kazreti**	**0.34**	**81**	P	**Pg**	**17 14 23.9**	**0.0**
KZRT				S	**Sg**	**17 14 28.6**	**+0.2**
KZRT	**Kazreti**	**0.34**	**81**	*i* P	**Pg**	**17 14 23.8**	**0.0**
KZRT				*i* S	**Sg**	**17 14 28.5**	**+0.2**
AKH	**Akhalkalaki**	**0.35**	**282**	P	**Pg**	**17 14 23.9**	**-0.3**
AKH				S	**Sg**	**17 14 28.9**	**0.0**
AKH	**Akhalkalaki**	**0.35**	**282**	PG	**Pg**	**17 14 23.9**	**-0.3**
AKH				SG	**Sg**	**17 14 29.4**	**+0.5**
STE	**Stepanavan**	**0.46**	**137**⇑	*i* P	**Pg**	**17 14 26.7**	**+0.6**
STE			⇑	*i* S	**Sg**	**17 14 33.7**	**+1.6**
STEZ	**Stepenevan**	**0.47**	**135**⇓	*i* P	**Pg**	**17 14 23.2**	**-3.2**
STEZ			⇓	*i* S	**Sg**	**17 14 30.0**	**-2.6**
BKRG	**Bakuriani**	**0.53**	**323**	P	**Pg**	**17 14 27.4**	**-0.2**
BKRG				S	**Sg**	**17 14 35.1**	**+0.5**
SPIZ	**Spitak**	**0.56**	**155**⇑	*i* P	**Pg**	**17 14 25.2**	**-2.9**
SPIZ			⇑	*i* S	**Sg**	**17 14 33.4**	**-2.1**
EAK	**Akyaka**	**0.70**	**202**	*i* P	**Pg**	**17 14 30.1**	**-0.6**
EAK				IAML		17 14 40.0	
EAK	comp=N,1μm,0.4s			IAML		17 14 40.0	
	comp=E,946nm,0.3s						
BTNK	**Botanikuri**	**0.72**	**61**	P	**Pg**	**17 14 29.9**	**-1.2**
BTNK				S	**Sg**	**17 14 40.2**	**-0.4**
BTNK	**Botanikuri**	**0.72**	**61**	*i* P	**Pg**	**17 14 29.7**	**-1.4**
BTNK				*i* S	**Sg**	**17 14 39.9**	**-0.7**
BTNK				IAML		17 14 40.0	
	comp=E,714nm,0.3s						
SEAG	**Tbilisi Sea**	**0.77**	**56**	P	**Pg**	**17 14 31.7**	**-0.3**
SEAG				S	**Sb**	**17 14 42.5**	**-0.9**
ABS	**Abastumani**	**0.95**	**297**	P	**Pg**	**17 14 34.6**	**-0.9**
ABS				S	**Sg**	**17 14 47.8**	**-0.1**
KARS	**Kars**	**0.97**	**223**	PG	**Pg**	**17 14 35.3**	**-0.5**
KARS				SG	**Sg**	**17 14 48.7**	**+0.3**
DIGO	**Kars**	**1.02**	**206**	*i* P	**Pg**	**17 14 35.9**	**-0.8**
ARUZ	**Aruch**	**1.06**	**174**	*i* P	**Pb**	**17 14 36.6**	**-1.1**
ARUZ				*i* S	**Sb**	**17 14 51.0**	**-0.6**
QZX	**Qazax, Azerbai**	**1.10**	**104**	P	**Pb**	**17 14 37.1**	**-1.3**
	SNR=24						
QZX				S	**Sb**	**17 14 52.6**	**-0.4**
KAPZ	**Kaputan**	**1.16**	**151**	*i* P	**Pb**	**17 14 39.2**	**-0.3**
KAPZ				*i* S	**Sb**	**17 14 54.9**	**+0.2**
GUDG	**Gudauri**	**1.20**	**19**	P	**Pn**	**17 14 40.1**	**-0.2**
GUDG				S	**Sn**	**17 14 57.0**	**+0.1**
VNNZ	**Vanand**	**1.23**	**185**	*i* P	**Pn**	**17 14 40.5**	**-0.2**
VNNZ				*i* S	**Sb**	**17 14 57.3**	**+0.6**
TKB	**Tkibuli**	**1.24**	**325**	P	**Pn**	**17 14 40.0**	**-0.8**
TKB				S	**Sb**	**17 14 56.6**	**-0.4**
ONI	**Oni**	**1.31**	**344**	P	**Pb**	**17 14 41.7**	**-0.2**
ONI				S	**Sg**	**17 14 59.6**	**+0.3**
ONI	**Oni**	**1.31**	**344**	*i* Pg	**Pb**	**17 14 41.8**	**-0.2**
ONI				*e*Sg	**Sg**	**17 14 59.7**	**+0.4**
GNI	**Garni**	**1.33**	**153**⇑	*i* P	**Pn**	**17 14 42.2**	**+0.1**
GNI			⇑	*i* S	**Sb**	**17 15 00.2**	**+0.7**
GNI	**Garni**	**1.33**	**153**	PN	**Pn**	**17 14 41.9**	**-0.1**
GNI				SN	**Sb**	**17 15 00.5**	**+1.0**
TASB	**TASBURUN-IGDIR**	**1.37**	**171**	PN	**Pn**	**17 14 42.2**	**-0.3**
PNSH	**Pansheti**	**1.39**	**21**	P	**Pn**	**17 14 42.6**	**-0.4**
PNSH				S	**Sg**	**17 15 01.7**	**-0.2**
MTEO	**Meteo**	**1.41**	**18**	P	**Pb**	**17 14 43.3**	**-0.7**
MTEO				S	**Sg**	**17 15 03.2**	**+0.6**
NRKZ	**NAREK**	**1.44**	**158**	*i* P	**Pn**	**17 14 44.8**	**+1.3**
NRKZ				*i* S	**Sb**	**17 15 04.6**	**+2.0**
SENK	**Senkaya-Erzuru**	**1.44**	**238**	PN	**Pn**	**17 14 43.5**	**-0.1**
ZEI	**Tsey**	**1.45**	**358**	*e*Pg	**Pb**	**17 14 44.2**	**-0.3**
ZEI				*e*Sg	**Sg**	**17 15 04.4**	**+0.4**
GDB	**GEDABAY**	**1.49**	**114**	P	**Pn**	**17 14 43.3**	**-1.0**
	SNR=12						
GDB				S	**Sn**	**17 15 02.9**	**-1.2**
LACR	**Lac**	**1.51**	**10**	*e*Pg	**Pb**	**17 14 45.1**	**-0.4**
LACR				*e*Sg	**Sg**	**17 15 05.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.59**	**350**	*e*Pg	**Pg**	**17 14 47.1**	**-0.5**
DIGR				*e*Sg	**Sg**	**17 15 08.2**	**-0.1**
DDFL	**Dedoflistskaro**	**1.63**	**85**	P	**Pg**	**17 14 49.1**	**+0.7**
DDFL				S	**Sg**	**17 15 14.9**	**+5.3**
BATM	**Batumi**	**1.72**	**280**	P	**Pn**	**17 14 48.0**	**+0.7**
BATM				S	**Sb**	**17 15 10.7**	**+0.1**
BATM	**Batumi**	**1.72**	**280**	PN	**Pn**	**17 14 47.8**	**+0.5**
HYR	**Heyderabad**	**1.75**	**157**	P	**Pn**	**17 14 48.4**	**+0.6**
	SNR=6.7						
HYR				S	**Sb**	**17 15 12.8**	**+1.1**
LGD	**Lagodekhi**	**1.79**	**73**	P	**Pn**	**17 14 48.9**	**+0.7**
LGD				S	**Sg**	**17 15 14.6**	**0.0**
VLKR	**Vladikavkaz**	**1.79**	**17**	*e*Pg	**Pg**	**17 14 51.8**	**+0.3**
VLKR				*e*Sg	**Sg**	**17 15 16.8**	**+2.0**
KMGR	**Komgaron**	**1.85**	**21**	*e*Pg	**Pg**	**17 14 52.3**	**-0.3**
KMGR				*e*Sg	**Sg**	**17 15 18.5**	**+1.9**
ARNR	**Ardon**	**1.86**	**7**	*e*Pg	**Pg**	**17 14 53.0**	**+0.2**
ARNR				*e*Sg	**Sg**	**17 15 19.3**	**+2.4**
HOPA	**Hopa-Artvin**	**1.89**	**272**	PN	**Pn**	**17 14 50.1**	**+0.5**
GANJ	**Ganja**	**1.92**	**110**	P	**Pn**	**17 14 50.7**	**+0.6**
	SNR=95						
GANJ				S	**Sn**	**17 15 15.3**	**+0.9**
LSNR	**Lesken**	**1.94**	**357**	*e*Pg	**Pg**	**17 14 53.2**	**-1.2**
LSNR				*e*Sg	**Sg**	**17 15 19.5**	**-0.1**
CHVG	**Ch'k'valeri**	**1.96**	**315**	P	**Pb**	**17 14 53.2**	**+0.1**
CHVG				S	**Sg**	**17 15 19.3**	**-0.9**
ZKTA	**Zakatala**	**2.03**	**81**	P	**Pn**	**17 14 52.0**	**+0.4**
	SNR=34						
ZKTA				S	**Sn**	**17 15 17.2**	**+0.1**
STDR	**Stavd-Durt**	**2.04**	**2**	*e*Pg	**Pg**	**17 14 56.5**	**+0.3**
STDR				*e*Sg	**Sg**	**17 15 23.7**	**+1.2**
BTKR	**Batakoyurt**	**2.08**	**12**	*e*Pg	**Pg**	**17 14 56.5**	**-0.6**
BTKR				*e*Sg	**Sg**	**17 15 27.3**	**+3.2**
KOPR	**Koprukoy-ERZUR**	**2.09**	**231**	PN	**Pn**	**17 14 52.7**	**+0.2**
SBZ	**Shahbuz**	**2.29**	**147**	P	**Pb**	**17 14 59.1**	**+0.4**
	SNR=54						
SBZ				S	**Sb**	**17 15 29.0**	**+1.9**
GROC	**Groznyy**	**2.31**	**36**	*e*Pg	**Pg**	**17 15 00.0**	**-1.5**
GROC				*e*Sg	**Sg**	**17 15 32.4**	**+0.9**
MNGR	**Mingechevir, A**	**2.43**	**102**	P	**Pb**	**17 14 59.5**	**-1.6**
	SNR=8.1						
MNGR				S	**Sb**	**17 15 29.3**	**-1.9**
SEKA	**Sheki**	**2.45**	**92**	P	**Pn**	**17 14 58.3**	**+0.9**
	SNR=24						
SEKA				S	**Sb**	**17 15 29.8**	**-1.9**
NAX	**Nakhchivan**	**2.46**	**151**	P	**Pb**	**17 15 02.8**	**+1.2**
	SNR=12						
NAX				S	**Sn**	**17 15 30.7**	**+3.0**
BRDA	**Brd**	**2.67**	**113**	P	**Pn**	**17 15 00.9**	**+0.6**
	SNR=9.6						
BRDA				S	**Sn**	**17 15 34.1**	**+1.2**
AGDM	**Agdam**	**2.69**	**116**	P	**Pn**	**17 15 02.2**	**+1.5**
	SNR=14						
AGDM				S	**Sn**	**17 15 33.9**	**+0.5**
ORD	**Ordubad**	**2.87**	**146**	P	**Pn**	**17 15 04.3**	**+1.2**
	SNR=5.7						
ORD				S	**Sn**	**17 15 39.5**	**+1.6**
QBL	**Gabala**	**2.96**	**96**	P	**Pn**	**17 15 05.1**	**+0.7**
	SNR=7.6						
QBL				S	**Sn**	**17 15 38.6**	**-1.4**
ZRD	**Zardab**	**3.02**	**109**	P	**Pn**	**17 15 06.3**	**+1.1**
	SNR=4.3						
ZRD				S	**Sn**	**17 15 40.9**	**-0.5**
XNQ	**Khinaliq**	**3.16**	**92**	P	**Pn**	**17 15 08.1**	**+0.8**
	SNR=8.9						
XNQ				S	**Sn**	**17 15 45.7**	**+0.4**
QRD	**Qoradiz**	**3.18**	**125**	P	**Pn**	**17 15 08.8**	**+1.4**
	SNR=4.8						
QRD				S	**Sn**	**17 15 44.8**	**-0.6**
BLQ	**Beylaqan**	**3.19**	**119**	P	**Pn**	**17 15 08.8**	**+1.4**
	SNR=6.1						
BLQ				S	**Sn**	**17 15 45.4**	**-0.2**
IML	**Ismayilli**	**3.24**	**98**	P	**Pn**	**17 15 09.2**	**+0.9**
	SNR=11						
IML				S	**Sn**	**17 15 44.6**	**-2.5**
QSAR	**Qusar**	**3.25**	**85**	P	**Pn**	**17 15 09.2**	**+0.9**
QSAR				S	**Sn**	**17 15 45.9**	**-1.2**
QUBA	**Quba, Azerbaij**	**3.42**	**88**	P	**Pn**	**17 15 11.5**	**+0.8**
SIZA	**Siyzn**	**3.74**	**92**	P	**Pn**	**17 15 15.1**	**0.0**
SIZA				S	**Sn**	**17 15 58.3**	**-1.1**
YRD	**Yardimli**	**4.08**	**125**	P	**Pn**	**17 15 19.5**	**-0.4**
	SNR=7.4						
LKRN	**Lenkeran, Azer**	**4.54**	**124**	P	**Pn**	**17 15 27.2**	**+1.2**
	SNR=3.2						
ASTR	**Astara**	**4.64**	**125**	P	**Pn**	**17 15 29.0**	**+1.6**

IDC 18 17:32:09.9±5.5, 19.°10S×178.°89W, h604km±46km, mb2.5/3, mb1 2.8/4, mb1mx2.6/22, mbtmp3.3/4, Error ellipse: s-maj=255.6km s-min=29.1km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.21**	**295**	P	P	17 33 30.9	+0.1
	1.1nm,0.3s,baz=248,slow=23,SNR=5.0						
WRA	**Warramunga Arr**	**43.98**	**261**	P	P	17 39 25.6	+0.1
	0.2nm,0.3s,baz=96,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**44.04**	**255**	P	P	17 39 25.6	-0.4
	0.3nm,0.4s,baz=90,slow=8.5,SNR=11						
TXAR	**Lajitas Array**	**87.02**	**58**	P	P	17 43 52.6	-0.1
	0.1nm,0.3s,baz=235,slow=3.2,SNR=3.5						

*IPEC **18** 17:49:29.2±0.2,51°.61N×15°.98E, h0km, ML2.4/4, Error ellipse: s-maj=3.5km s-min=1.6km az=63.0*
*PRU **18** 17:49:31.5±0.0,51°.51N×16°.06E, h0km*
*IDC **18** 17:49:32.5±1.1,51°.47N×15°.94E, h0km, mb1 3.2/5, mb1mx3.0/49, mbtmp3.0/5, ML2.7/5, Error ellipse: s-maj=14.3km s-min=8.9km az=124.0*
*VIE **18** 17:49:32.1±0.6,51°.38N×15°.77E, h0km, mb2.3/6, ml2.4/7, Error ellipse: s-maj=4.1km s-min=3.4km az=161.0 80 km NE of Liberec Suspected Mining induced.*

ISC 18 17:49:30.1±0.9, 51°.54N±0°.04×16°.06E±0°.03, h0km, n36, σ0.9 80/75, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**168**	*e*Pg	**Pg**	**17 49 44.7**	**+0.9**
KSP				*e*Sg	**Sg**	**17 49 54.0**	**+1.0**
CHVC	**Chvalec**	**0.96**	**180**	*e*PG	**Pb**	**17 49 49.3**	**-0.2**
CHVC				*e*SG	**Sb**	**17 50 01.8**	**-0.9**
OSTC	**Ostas**	**0.99**	**174**	*e*PG	**Pb**	**17 49 50.1**	**-0.1**
OSTC				*e*SG	**Sb**	**17 50 03.1**	**-0.7**
	comp=Z,26nm,0.3s						
UPC	**Upice**	**1.04**	**182**	*e*PG	**Pg**	**17 49 50.6**	**+0.7**
UPC				*e*SG	**Sg**	**17 50 04.1**	**+0.7**
	comp=Z,38nm,0.4s						
DPC	**Dobruska-Polom**	**1.21**	**172**	*e*PG	**Pg**	**17 49 53.4**	**+0.2**
DPC				*e*SG	**Sg**	**17 50 08.7**	**-0.1**
PVCC	**Panska Ves**	**1.39**	**223**	*e*PG	**Pn**	**17 49 57.0**	**+0.3**
PVCC				*e*SG	**Sn**	**17 50 16.2**	**+0.5**
	comp=Z,105nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**244**	Pg	**Pb**	**17 49 59.0**	**+0.4**
BRG				Sg	**Sn**	**17 50 19.2**	**+0.9**
BRG				Amp		17 50 20.3	
	comp=Z,36nm,0.4s						
BRG				Amp		18 06 21.0	
	comp=Z,0.7nm,15.0s						
BRG				Amp		18 06 25.0	
	comp=E,0.4nm,16.3s						
BRG				Amp		18 06 33.0	
	comp=N,0.4nm,14.4s						
KRLC	**Kraliky**	**1.54**	**162**	*e*PG	**Pn**	**17 49 58.8**	**0.0**
KRLC				*e*SG	**Sg**	**17 50 18.7**	**-0.8**
PRA	**Prague**	**1.80**	**216**	*e*SG	**Sg**	**17 50 27.6**	**-0.3**
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	**Pn**	**17 50 03.0**	**+0.2**
PRU				*e*PG	**Pb**	**17 50 04.6**	**+0.2**
PRU				*e*SG	**Sg**	**17 50 28.6**	**-0.3**
	comp=N,28nm,0.3s						
CLL	**Collm**	**1.93**	**264**	*e*Pn	**Pn**	**17 50 04.0**	**-0.1**
	comp=Z,8.0nm,0.4s						
CLL				*e*Pn	**Pb**	**17 50 07.0**	**+0.9**
CLL				*e*		17 50 11.0	
CLL				*i* Sg	**Sg**	**17 50 33.0**	**+1.0**
	comp=Z,20nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	**Pn**	**17 50 05.4**	**+0.2**
	baz=332						
MORC				*e*Sg	**Sg**	**17 50 34.6**	**+0.2**
	comp=Z,15nm,0.5s,baz=332						
MORC	**Moravsky Berou**	**2.00**	**151**	*e*PN	**Pn**	**17 50 05.5**	**+0.2**
MORC				*e*SG	**Sg**	**17 50 34.7**	**+0.3**
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PG	**Pg**	**17 50 11.3**	**-0.2**
OKC				*e*SG	**Sb**	**17 50 38.3**	**+0.9**
	comp=Z,24nm,0.9s						
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**17 50 10.2**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=336,slow=16,SNR=6.9						
VRAC				Pg	**Pg**	**17 50 13.5**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=348,slow=17,SNR=8.6						
VRAC				Lg	Lg	17 50 41.5	
	comp=Z,2.4nm,0.3s,baz=270,slow=20,SNR=9.9						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	**17 50 09.0**	**+0.3**
	baz=351						
VRAC				*e*Sg	**Sg**	**17 50 42.4**	**-0.3**
	comp=Z,13nm,0.6s,baz=351						
VRAC	**Vranov**	**2.26**	**171**	*e*PN	**Pn**	**17 50 09.1**	**+0.3**
VRAC				*e*SG	**Sg**	**17 50 42.4**	**-0.3**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	**Pn**	**17 50 12.2**	**+0.4**
	baz=354						
KRUC				*e*Sg	**Sg**	**17 50 49.6**	**-0.5**
	comp=Z,15nm,0.8s,baz=354						
KRUC	**Moravsky**	**2.49**	**175**	*e*PN	**Pn**	**17 50 12.3**	**+0.4**
KRUC				*e*SG	**Sg**	**17 50 49.7**	**-0.4**
NKC	**Novy Kostel**	**2.64**	**242**	*e*PN	**Pn**	**17 50 14.4**	**+0.5**
NKC				*e*PG	**Pg**	**17 50 20.3**	**-0.3**
NKC				*e*SG	**Sg**	**17 50 55.8**	**+1.0**
	comp=Z,28nm,0.3s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**17 50 22.2**	**+0.1**
OJC				*e*Sg	**Sg**	**17 50 58.0**	**+0.8**
JAVC	**Velka Javorina**	**2.88**	**158**	*e*Pn	**Pn**	**17 50 17.7**	**+0.4**
	baz=339						
JAVC				*e*Sg	**Sg**	**17 51 02.2**	**-0.3**
	comp=Z,16nm,0.8s,baz=339						
JAVC	**Velka Javorina**	**2.88**	**158**	*e*PN	**Pn**	**17 50 17.7**	**+0.4**
JAVC				*e*SG	**Sg**	**17 51 02.3**	**-0.3**
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	**Pn**	**17 50 17.4**	**0.0**
KHC				*e*PG	**Pb**	**17 50 23.7**	**+1.2**
KHC				*e*SN	**Sn**	**17 50 51.8**	**-1.1**
KHC				*e*SG	**Sg**	**17 51 02.4**	**-0.5**
	comp=Z,7.8nm,0.4s						
CKRC	**Cesky Krumlov**	**2.95**	**203**	*e*PN	**Pn**	**17 50 18.9**	**+0.7**
CKRC				*e*PG	**Pb**	**17 50 25.0**	**+1.5**
CKRC				*e*SG	**Sg**	**17 51 03.5**	**-1.3**
	comp=Z,8.2nm,0.4s						
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**17 50 21.4**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=29,slow=13,SNR=28						
GERES				Pg	**Pb**	**17 50 27.1**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=32,slow=18,SNR=21						
GERES				Sn	**Sn**	**17 50 57.9**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=27,slow=26,SNR=4.8						
GERES				Lg	Lg	17 51 07.3	
	comp=Z,2.3nm,0.3s,baz=24,slow=31,SNR=11						
LANS	**Liptovska Anna**	**3.24**	**136**	*e*PG	**Pg**	**17 50 32.3**	**+0.2**
LANS				*e*SG	**Sg**	**17 51 14.0**	**-0.1**
MODS	**Modra-Piesok**	**3.27**	**166**	*e*PG	**Pg**	**17 50 33.9**	**+1.2**
MODS				*e*SG	**Sg**	**17 51 16.9**	**+1.9**
CONA	**Conrad Observa**	**3.62**	**182**	*e*Pn	**Pn**	**17 50 27.3**	**-0.2**
	comp=Z,0.6nm,0.3s						
CONA				*e*Sg	**Sg**	**17 51 26.8**	**+0.5**
	comp=Z,4.1nm,0.5s						
MOA	**Molln**	**3.88**	**198**	*e*Pn	**Pn**	**17 50 31.0**	**0.0**
	comp=Z,2.2nm,0.4s						
MOA				*e*Sg	**Sg**	**17 51 33.2**	**-1.4**
	comp=Z,8.5nm,0.7s						
ARSA	**Arzberg**	**4.31**	**185**	*e*Pn	**Pn**	**17 50 36.7**	**-0.2**
	comp=Z,0.8nm,0.2s						
ARSA				*e*Sg	**Sg**	**17 51 47.8**	**-0.7**
	comp=Z,11nm,0.6s						
KBA	**Koelnbreinsper**	**4.81**	**203**	*e*Pn	**Pn**	**17 50 43.4**	**-0.5**
	comp=Z,1.8nm,0.4s						
KBA				*e*Sg	**Sg**	**17 52 04.1**	**-0.5**
	comp=Z,1.7nm,0.5s						
WTTA	**Wattenberg**	**5.17**	**216**	*e*Pn	**Pn**	**17 50 47.0**	**-1.8**
	comp=Z,0.9nm,0.4s						
WTTA				*e*Sg	**Sg**	**17 52 14.1**	**-1.9**
	comp=Z,1.1nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn	**Pn**	**17 51 05.8**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=15,SNR=1.8						
DAVOX				Lg	Lg	17 52 48.4	
	comp=Z,0.1nm,0.3s,baz=345,slow=20,SNR=2.1						
AKASG	**Malin Array Be**	**8.33**	**91**	Pn	**Pn**	**17 51 32.2**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=280,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**17 52 11.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=11,SNR=6.1						

*IDC **18** 18:04:36.7±1.4,32°.29S×178°.15W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/23, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=37.1km s-min=35.8km az=134.0*
*NEIC **18** 18:04:38.2±1.2,32°.53S±0°.10×178°.3W±0°.2, h1km±6km, mb4.9/17, Error ellipse: s-maj=23.2km s-min=6.4km az=56.0*

ISC 18 18:04:40.2±1.2, 32°.52S±0°.10×178°.2W±0°.2, h20km, n33, σ1.9 14/32, mb4.8/12, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.90**	**213**	Pn	**Pn**	**18 06 20.3**	**+0.1**
	1.0nm,0.3s,baz=110,slow=19,SNR=1.1						
URZ				Sn	**Sn**	**18 07 38.0**	**0.0**
	1.4nm,0.3s,baz=340,slow=19,SNR=1.4						
URZ	**Urewera**	**6.90**	**213**		**Pn**	**18 06 20.1**	**0.0**
OUZ	**Omahuta**	**7.35**	**246**	Pn	**Pn**	**18 06 27.9**	**+1.5**
BKZ	**Black Stump Fm**	**7.92**	**212**	Pn	**Pn**	**18 06 31.4**	**-2.8**
BFZ	**Birch Farm**	**9.29**	**207**	Pn	**Pn**	**18 06 51.6**	**-1.5**
LTZ	**Lake Taylor**	**12.72**	**214**	Pn	**Pn**	**18 07 39.8**	**-0.3**
ODZ	**Otahua Downs**	**15.22**	**212**	Pn	**Pn**	**18 08 11.4**	**-2.6**
HNR	**Honiara**	**30.61**	**314**	P	**P**	**18 10 52.2**	**-0.9**
HNR				IAmb	IAmb	18 11 26.5	
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**33.91**	**260**	P	**P**	**18 11 23.3**	**+1.4**
	comp=Z,2.1nm,0.7s,baz=87,slow=8.9,SNR=5.4						
STKA	**Stephens Creek**	**33.91**	**260**	P	**P**	**18 11 22.8**	**+0.9**
CTAO	**Charters Tower**	**34.04**	**282**	P	**P**	**18 11 23.9**	**+0.7**
CTAO				IAmb	IAmb	18 12 31.4	
	comp=Z,52nm,1.8s						
BBOO	**Buckleboo**	**38.29**	**257**	P	**P**	**18 11 59.1**	**-0.3**
AS31	**Alice Springs**	**42.88**	**269**	P	**P**	**18 12 36.8**	**-0.7**
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**18 12 37.0**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=109,slow=7.8,SNR=38						
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**18 12 36.8**	**-0.8**
WR0	**Warramunga Arr**	**43.89**	**275**	P	**P**	**18 12 44.7**	**-0.9**
WR0				IAmb	IAmb	18 12 52.5	
	comp=Z,28nm,1.8s						
WB2	**Warramunga Arr**	**44.05**	**274**	P	**P**	**18 12 46.0**	**-1.0**
WB2				IAmb	IAmb	18 12 47.4	
	comp=Z,24nm,1.5s						
WRAB	**Tennant Creek**	**44.06**	**274**	P	**P**	**18 12 46.2**	**-0.8**
WRAB				IAmb	IAmb	18 12 59.1	
	comp=Z,36nm,1.5s						
WRA	**Warramunga Arr**	**44.06**	**274**	P	**P**	**18 12 46.1**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=112,slow=7.8,SNR=44						
WRA	**Warramunga Arr**	**44.06**	**274**	P	**P**	**18 12 45.9**	**-1.2**
WB0	**Warramunga Arr**	**44.10**	**275**	P	**P**	**18 12 46.3**	**-1.0**
WB0				IAmb	IAmb	18 12 47.7	
	comp=Z,22nm,1.5s						
FORT	**Forrest**	**45.39**	**257**	P	**P**	**18 12 57.0**	**-0.5**
FORT				IAmb	IAmb	18 12 59.6	
	comp=Z,15nm,0.8s						
MTN	**Manton Dam**	**50.19**	**281**	P	**P**	**18 13 33.7**	**-1.2**
KNRA	**Kununurra**	**50.74**	**276**	P	**P**	**18 13 38.5**	**-0.5**
CASY	**Casey**	**53.20**	**209**	P	**P**	**18 13 57.5**	**+0.9**
CASY				IAmb	IAmb	18 14 54.5	
	comp=Z,34nm,1.6s						
FAKI	**Fak Fak**	**54.95**	**292**	P	**P**	**18 14 10.6**	**+0.5**
QSPA	**South Pole Qui**	**57.60**	**180**	P	**P**	**18 14 30.1**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=48,slow=2.1,SNR=1.8						
QSPA	**South Pole Qui**	**57.60**	**180**	IAmb	IAmb	18 14 41.4	
	comp=Z,18nm,1.7s						
SYO	**Syowa Base**	**75.02**	**193**	↓*e*X	P	18 16 30.9	+11
MKAR	**Makanchi Array**	**119.00**	**309**	PKP	**PKiKP**	**18 23 27.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=100,slow=1.6,SNR=2.3						
FINES	**FINESS Array B**	**147.07**	**339**	PKPbc	**PKPdf**	**18 24 18.9**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=69,slow=4.8,SNR=12						
AKASG	**Malin Array Be**	**152.86**	**320**	PKPbc	**PKPbc**	**18 24 34.4**	**-1.0**
	comp=Z,0.1nm,0.2s,baz=60,slow=2.2,SNR=1.6						
BRTR	**Keskin Array B**	**153.41**	**295**	PKPab	**PKPab**	**18 24 48.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=119,slow=3.2,SNR=2.3						

*BER **18** 18:13:56.1±2.4,79°.45N×3°.38E, h10km, ML2.2, ML2.8(NAO), Confirmed Earthquake*
*NAO **18** 18:13:57.2±9.3,79°.83N×4°.47E, h20km±79km, ML2.8*

ISC 18 18:13:49.4±0.9, 79°.65N±0°.09×2°.81E±0°.05, h12km, n16, σ2.9 19/28, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.85**	**109**	Pn	**Pb**	**18 14 24.1**	**+1.0**
KBS				Sn	**Sn**	**18 14 42.7**	**-1.5**
KBS	**Kingsbay**	**1.85**	**109**	*e*P	**Pb**	**18 14 24.1**	**+1.0**
KBS				*e*S	**Sn**	**18 14 42.6**	**-1.6**
KBS				IAML		18 14 51.3	
	comp=Z,37nm,0.2s						
BRBA	**Barentsburg A**	**2.73**	**120**	Pn	**Pb**	**18 14 37.4**	**-0.6**
BRBA				Sn	**Sn**	**18 15 04.8**	**-0.9**
BRBA	**Barentsburg A**	**2.73**	**120**	*e*P	**Pb**	**18 14 36.4**	**-1.6**
BRBA				*e*S	**Sn**	**18 15 04.1**	**-1.6**
BRBA				IAML		18 15 10.2	
	comp=Z,25nm,0.2s						
SPA0	**Spitsbergen Ar**	**3.00**	**113**	Pn	**Pb**	**18 14 40.8**	**-1.9**
	baz=313,slow=11						
SPA0				Sn	**Sn**	**18 15 11.7**	**-0.8**
SPA0	**Spitsbergen Ar**	**3.00**	**113**	Pn	**Pb**	**18 14 40.8**	**-1.9**
	baz=313,slow=11						
SPA0				Sn	**Sn**	**18 15 11.7**	**-0.8**
HSPB	**Hornsund (broa**	**3.70**	**129**	Pn	**Pn**	**18 14 49.8**	**+3.5**
HSPB				Sn	**Sn**	**18 15 27.6**	**-2.0**
HSPB	**Hornsund (broa**	**3.70**	**129**	*e*P	**Pn**	**18 14 49.6**	**+3.4**
HSPB				*e*S	**Sn**	**18 15 27.4**	**-2.2**
HSPB				IAML		18 15 32.3	
	comp=Z,10nm,0.3s						
NOR	**Nord**	**3.72**	**311**	*e*	**Pb**	**18 14 54.4**	**-0.6**
	baz=131,slow=12						
NOR				*i* P	**Pb**	**18 14 55.4**	**+0.5**
NOR				*i* S	**Pg**	**18 14 59.2**	**-1.4**
NOR				IAML		18 15 04.4	
	comp=Z,1.5nm,0.3s						
NOR	**Nord**	**3.72**	**311**	Pn	**Pb**	**18 14 55.0**	**0.0**
DAG	**Danmarks Havn**	**5.23**	**248**	*e*S	**Sn**	**18 16 07.6**	**+0.2**
HOPEN	**Hopen**	**5.54**	**113**	Pn	**Pn**	**18 15 14.5**	**+3.0**
HOPEN				Sn	**Sn**	**18 16 12.3**	**-2.6**
HOPEN	**Hopen**	**5.54**	**113**	*e*P	**Pn**	**18 15 13.8**	**+2.4**
HOPEN				*e*S	**Sn**	**18 16 11.2**	**-3.7**
HOPEN				IAML		18 16 15.4	
	comp=Z,11nm,0.6s						
DBG	**Daneborg**	**7.39**	**236**	*e*S	**Sn**	**18 16 58.3**	**-2.3**
ARA0	**ARCESS Array S**	**11.66**	**138**	Pn	**Pn**	**18 16 38.7**	**+3.4**
	baz=351,slow=12						
ARA0	**ARCESS Array S**	**11.66**	**138**	Pn	**Pn**	**18 16 38.7**	**+3.4**
	baz=351,slow=12						

*TUL **18** 18:19:09.8±0.9,35°.743N±0°.009×97°.38W±0°.01, h6km±3km, ML2.1, ML1.9/25(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=124.0*

NEIC 18 18:19:09.9±0.5, 35°.753N±0°.009×97°.382W±0°.009, h8km±3km, Error ellipse: s-maj=1.5km s-min=0.8km az=210.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**306**	Pg	Pg	18 19 12.0	+0.1
OK029				Sg	Sg	18 19 13.5	+0.2
OK025	**Westminster Rd**	**0.18**	**168**	Pg	Pg	18 19 13.4	-0.1
OK025				Sg	Sg	18 19 16.2	+0.2
BCOK	**Bluff Creek, N**	**0.21**	**243**	Pg	Pg	18 19 14.0	-0.1
BCOK				Sg	Sg	18 19 17.5	+0.5
BCOK				IAML		18 19 17.7	
	comp=N,424nm,0.4s						
OKCFA	**Oklahoma City**	**0.34**	**190**	Pg	Pg	18 19 16.5	-0.1
OKCSW	**OKLAHOMA CITY**	**0.35**	**188**	Pg	Pg	18 19 16.8	0.0
OK031	**S. Brethren Rd**	**0.48**	**66**	Pg	Pg	18 19 19.4	0.0
OK031				Sg	Sg	18 19 26.2	+0.5
OK031				IAML		18 19 26.7	
	comp=N,89nm,0.1s						
FNO	**Franklin**	**0.49**	**182**		Pg	18 19 19.3	-0.2
FNO				Sg	Sg	18 19 26.5	+0.5
FNO				IAML		18 19 26.8	
	comp=E,115nm,0.1s						
FNO				IAML		18 19 32.8	
	comp=N,73nm,1.0s						
QUOK	**Quay**	**0.69**	**52**	Pg	Pg	18 19 23.0	-0.2
QUOK				Sg	Sg	18 19 32.6	+0.4
QUOK				IAML		18 19 33.1	
	comp=E,45nm,0.2s						
QUOK				IAML		18 19 33.1	
	comp=N,61nm,0.2s						
CROK	**Carrier**	**0.89**	**327**	Pg	Pg	18 19 27.1	-0.1
BLOK	**Blackwell**	**1.01**	**8**	Pg	Pg	18 19 29.1	-0.4
BLOK				IAML		18 19 48.9	
	comp=E,47nm,0.2s						
X34A	**Smith Ranch, M**	**1.21**	**198**	Pn	Pb	18 19 32.7	-0.4
X34A				IAML		18 19 50.6	
	comp=N,19nm,0.3s						
X34A				IAML		18 19 50.6	
	comp=E,29nm,0.6s						
T35A	**Sooner Cattle**	**1.36**	**31**	Pn	Pn	18 19 35.2	-0.1
U32A	**Winter Ranch,**	**1.45**	**296**	Pn	Pn	18 19 36.4	-0.2
WMOK	**Wichita Mounta**	**1.53**	**229**	Pn	Pn	18 19 37.6	-0.1
HHAR	**Hobbs**	**2.84**	**78**	Pn	Pn	18 19 55.9	+0.3

*IDC **18** 18:28:18.3±2.1,59°.75N×153°.49W, h71km±33km, mb3.2/3, mb1 3.3/6, mb1mx3.0/46, mbtmp3.4/6, ML3.4/3, Error ellipse: s-maj=38.4km s-min=11.9km az=103.0*
*NEIC **18** 18:28:20.6±1.1,59°.66N±0°.05×153°.13W±0°.07, h106km±3km, Error ellipse: s-maj=7.2km s-min=5.4km az=181.0*
*AEIC **18** 18:28:21±1.5,59°.66N±0°.05×153°.13W±0°.08, h100km±4km, ML2.8, ML3.3/84(NEIC), Error ellipse: s-maj=7.5km s-min=5.7km az=163.0*

ISC 18 18:28:20.5±0.9, 59°.66N±0°.04×153°.13W±0°.03, h108km±5km, n155, σ0.5 75/170, mb3.6/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.05**	**267**		**Pn**	**18 28 35.2**	**-0.2**
P19K	**Oil Pt**	**0.05**	**267**		**Pn**	**18 28 35.2**	**-0.2**
P19K					**Sn**	**18 28 46.3**	**-0.3**
ILS	**Iliamna Low So**	**0.30**	**6**		**Pn**	**18 28 35.9**	**-0.3**
AU22	**Augustine Moun**	**0.31**	**202**		**Pn**	**18 28 36.0**	**0.0**
AU22					**Sn**	**18 28 47.5**	**-0.1**
AUL	**Augustine Lava**	**0.32**	**210**		**Pn**	**18 28 36.2**	**+0.1**
AUL					**Sn**	**18 28 47.8**	**0.0**
AUP	**Augustine Pinn**	**0.33**	**207**		**Pn**	**18 28 36.2**	**0.0**
AGU	**Augustine-Summ**	**0.33**	**208**		**Pn**	**18 28 36.3**	**0.0**
AUCH	**Augustine Cone**	**0.34**	**209**		**Pn**	**18 28 36.3**	**0.0**
AUQ	**Augustine Qik'**	**0.34**	**206**		**Pn**	**18 28 36.3**	**+0.1**
AUW	**Augustine West**	**0.34**	**212**		**Pn**	**18 28 36.3**	**+0.2**
IVE	**Iliamna Volcan**	**0.37**	**9**		**Pn**	**18 28 36.2**	**-0.3**
IVE					**Sn**	**18 28 47.8**	**-0.7**
O20K	**Slope Mountain**	**0.50**	**30**		**Pn**	**18 28 37.2**	**+0.1**
O20K					**Sn**	**18 28 49.7**	**0.0**
HOM	**Homer**	**0.75**	**89**		**Pn**	**18 28 39.7**	**+0.7**
HOM				Sn	**Sn**	**18 28 53.6**	**+0.5**
HOM				IAML		18 28 54.9	
	comp=N,1μm,0.5s						
RED	**Redoubt Volcan**	**0.79**	**13**		**Pn**	**18 28 39.3**	**-0.2**
O19K	**Port Alsworth**	**0.81**	**313**		**Pn**	**18 28 39.1**	**-0.5**
RDSO	**Redoubt South**	**0.82**	**13**		**Pn**	**18 28 39.8**	**-0.1**
RDSO					**Sn**	**18 28 55.0**	**+0.4**
RSO	**Redoubt South**	**0.83**	**13**		**Pn**	**18 28 39.9**	**-0.1**
RDWB	**Redoubt West**	**0.85**	**10**		**Pn**	**18 28 40.0**	**-0.1**
RDWB					**Sn**	**18 28 54.1**	**-0.9**
NCT	**North Crescent**	**0.92**	**6**		**Pn**	**18 28 40.7**	**0.0**
NCT					**Sn**	**18 28 55.5**	**-0.5**
DFR	**Drift River**	**0.97**	**13**		**Pn**	**18 28 41.3**	**0.0**
DFR					**Sn**	**18 28 56.9**	**0.0**
CNPM	**China Poot**	**0.97**	**97**		**Pn**	**18 28 41.4**	**+0.2**
CNPM				Sn	**Sn**	**18 28 56.4**	**-0.5**
CNPM				IAML		18 28 57.2	
	comp=N,588nm,0.4s						
CNPM				IAML		18 28 58.8	
	comp=E,475nm,0.4s						
O18K	**Koktuh Hills**	**1.07**	**282**		**Pn**	**18 28 42.0**	**-0.2**
O18K					**Sn**	**18 28 57.9**	**-0.8**
BRLK	**Bradley Lake**	**1.14**	**84**		**Pn**	**18 28 42.8**	**-0.2**
BRLK				Sn	**Sn**	**18 28 59.0**	**-1.1**
BRLK				IAML		18 29 00.7	
	comp=E,345nm,0.2s						
BRLK				IAML		18 29 01.2	
	comp=N,440nm,0.2s						
BRSE	**Bradley Lake S**	**1.21**	**85**		**Pn**	**18 28 43.9**	**+0.1**
BRSE					**Sn**	**18 29 00.9**	**-0.5**
KAPH	**Katmai Pasha**	**1.23**	**211**		**Pn**	**18 28 44.5**	**+0.4**
N19K	**Bonanza Creek**	**1.34**	**330**		**Pn**	**18 28 45.4**	**0.0**
KAHC	**Katmai Hardscr**	**1.40**	**225**		**Pn**	**18 28 46.3**	**+0.2**
KARR	**Katmai Rainbow**	**1.42**	**216**		**Pn**	**18 28 46.8**	**+0.6**
CAPN	**Captain Cook N**	**1.49**	**41**	Pn	**Pn**	**18 28 46.1**	**-0.9**
KAWH	**Katmai**	**1.54**	**215**		**Pn**	**18 28 47.9**	**+0.2**
SPCR	**Spurr Chakacha**	**1.62**	**16**		**Pn**	**18 28 48.9**	**+0.3**
SPBG	**Spurr Blockage**	**1.65**	**13**		**Pn**	**18 28 49.6**	**+0.6**
SPCP	**Crater Peak Br**	**1.69**	**16**		**Pn**	**18 28 50.1**	**+0.5**
SLKM	**Skilak Lake**	**1.69**	**58**		**Pn**	**18 28 50.0**	**+0.5**
KVTA	**Katmai Vly 10**	**1.70**	**222**		**Pn**	**18 28 50.0**	**+0.4**
N18K	**Kilae Creek**	**1.72**	**308**		**Pn**	**18 28 49.7**	**-0.1**
N18K					**Sn**	**18 29 10.9**	**-1.3**
SPNN	**North Nagishla**	**1.73**	**7**		**Pn**	**18 28 50.6**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.73**	**18**		**Pn**	**18 28 50.4**	**+0.3**
KCE	**Katmai Mt Cerb**	**1.77**	**218**		**Pn**	**18 28 51.3**	**+0.8**
KABR	**Katmai Barrier**	**1.80**	**213**		**Pn**	**18 28 51.3**	**+0.4**
KELA	**Mount Kelaz**	**1.82**	**229**		**Pn**	**18 28 51.5**	**+0.3**
SVW2	**Sparrevohn**	**1.89**	**321**		**Pn**	**18 28 51.8**	**-0.2**
O22K	**Cooper Landing**	**1.90**	**63**		**Pn**

HUR	**Hurricane**	**3.73**	**25**		**Pn**	**18 29 17.2**	**+1.1**
K20K	**Telida**	**3.74**	**353**		**Pn**	**18 29 17.0**	**+0.8**
WAT7	**Susitna Watana**	**3.80**	**31**		**Pn**	**18 29 17.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.80**	**73**	Pn	**Pn**	**18 29 17.6**	**+0.7**
WAT1	**Susitna Watana**	**3.88**	**33**		**Pn**	**18 29 18.3**	**+0.3**
WAT6	**Susitna Watana**	**3.93**	**39**		**Pn**	**18 29 18.9**	**0.0**
DIV	**Divide**	**3.94**	**65**		**Pn**	**18 29 18.4**	**-0.5**
KLU	**Klutina**	**4.00**	**60**		**Pn**	**18 29 19.5**	**-0.3**
KLU				IAML		18 30 06.7	
	comp=E,51nm,0.3s						
TRF	**Thorofare Moun**	**4.04**	**18**	Pn	**Pn**	**18 29 18.9**	**-1.4**
TRF				IAML		18 30 11.6	
	comp=N,56nm,0.8s						
KTH	**Kantishna Hill**	**4.05**	**14**	Pn	**Pn**	**18 29 18.1**	**-2.3**
CHIR	**Chirikof Islan**	**4.07**	**200**	Pn	**Pn**	**18 29 19.7**	**-1.0**
M24K	**Tolsona, Glenn**	**4.19**	**51**	Pn	**Pn**	**18 29 22.5**	**+0.1**
M24K				IAML		18 30 11.7	
	comp=N,39nm,1.0s						
M24K				IAML		18 30 19.0	
	comp=E,53nm,0.7s						
RND	**Reindeer**	**4.28**	**27**		**Pn**	**18 29 24.0**	**+0.5**
PS12	**TAPS Pump St12**	**4.34**	**62**		**Pn**	**18 29 24.9**	**+0.6**
BMRM	**Bremner River**	**4.44**	**69**	Pn	**Pn**	**18 29 26.2**	**+0.6**
BMRM				IAML		18 30 15.5	
	comp=E,28nm,0.3s						
BMRM				IAML		18 30 20.9	
	comp=N,22nm,0.8s						
HMT	**Hamilton**	**4.50**	**77**	Pn	**Pn**	**18 29 26.3**	**-0.2**
MCK	**McKinley**	**4.55**	**24**		**Pn**	**18 29 27.6**	**+0.5**
J20K	**Nowinta River**	**4.56**	**354**		**Pn**	**18 29 27.8**	**+0.5**
BPAW	**Bear Paw Mtn.**	**4.57**	**12**	Pn	**Pn**	**18 29 28.0**	**+0.6**
N25K	**Chitina, Valde**	**4.63**	**61**		**Pn**	**18 29 28.0**	**-0.3**
N25K				IAML		18 30 21.8	
	comp=N,16nm,0.6s						
NICHA	**Nichawak Mount**	**4.64**	**79**		**Pn**	**18 29 28.9**	**+0.6**
SUCK	**Suckling Hills**	**4.73**	**81**	Pn	**Pn**	**18 29 29.1**	**-0.4**
HARP	**HAARP**	**4.75**	**51**		**Pn**	**18 29 30.5**	**+0.6**
BWN	**Browne**	**4.85**	**19**		**Pn**	**18 29 32.0**	**+0.9**
BWN				IAML		18 30 48.2	
	comp=E,22nm,2.2s						
BWN				IAML		18 32 30.8	
	comp=N,27nm,2.2s						
GLB	**Gilahina Butte**	**4.94**	**65**	Pn	**Pn**	**18 29 31.8**	**-0.5**
GLB				IAML		18 30 29.2	
	comp=N,18nm,0.7s						
GLB				IAML		18 30 30.2	
	comp=E,13nm,1.4s						
PAX	**Paxson**	**4.97**	**45**	Pn	**Pn**	**18 29 33.0**	**+0.3**
VRDI	**Verde Repeater**	**5.04**	**68**	Pn	**Pn**	**18 29 32.0**	**-1.9**
VRDI				IAML		18 30 33.8	
	comp=N,14nm,1.5s						
VRDI				IAML		18 30 39.2	
	comp=E,12nm,3.3s						
CRQM	**Cirque**	**5.10**	**73**	Pn	**Pn**	**18 29 35.1**	**+0.4**
CRQM				IAML		18 30 32.8	
	comp=N,23nm,0.6s						
CRQM				IAML		18 30 33.4	
	comp=E,31nm,0.6s						
WAX	**Waxell Ridge**	**5.21**	**77**	Pn	**Pn**	**18 29 35.9**	**-0.1**
TGL	**Tana Glacier**	**5.25**	**73**	Pn	**Pn**	**18 29 36.6**	**-0.1**
TGL				IAML		18 31 53.0	
	comp=E,18nm,3.7s						
TGL				IAML		18 32 58.5	
	comp=N,15nm,2.7s						
NEA2	**Nenana**	**5.31**	**19**		**Pn**	**18 29 37.1**	**-0.2**
WRH	**Wood River Hil**	**5.38**	**24**		**Pn**	**18 29 38.0**	**-0.2**
ISLE	**Juniper Island**	**5.48**	**75**	Pn	**Pn**	**18 29 40.5**	**+0.8**
PTPK	**Patty Peak**	**5.50**	**69**		**Pn**	**18 29 41.1**	**+1.0**
KIAG	**Kiagna River**	**5.51**	**72**		**Pn**	**18 29 40.6**	**+0.5**
MLY	**Manley**	**5.51**	**11**	Pn	**Pn**	**18 29 40.5**	**+0.5**
BALM	**Baldy**	**5.53**	**71**		**Pn**	**18 29 41.0**	**+0.6**
I21K	**Tanana**	**5.57**	**5**		**Pn**	**18 29 41.4**	**+0.6**
HDA	**Harding Lake**	**5.58**	**29**		**Pn**	**18 29 40.8**	**-0.2**
CCB	**Clear Creek Bu**	**5.59**	**24**		**Pn**	**18 29 40.9**	**-0.2**
MENT	**Mentasta**	**5.60**	**50**	Pn	**Pn**	**18 29 41.8**	**+0.5**
M26K	**Nabesna, AK**	**5.64**	**56**		**Pn**	**18 29 42.9**	**+1.1**
MESA	**MESA**	**5.65**	**80**	Pn	**Pn**	**18 29 42.8**	**+0.7**
RIDG	**Independent Ri**	**5.68**	**40**		**Pn**	**18 29 42.7**	**+0.3**
PS08	**TAPS Pump Stn8**	**5.73**	**28**		**Pn**	**18 29 42.8**	**-0.2**
YAH	**Yahtse**	**5.75**	**78**	Pn	**Pn**	**18 29 44.5**	**+0.9**
I23K	**Minto, Yukon-K**	**5.78**	**16**		**Pn**	**18 29 43.8**	**+0.2**
TCOL	**CIGO, UAF Yank**	**5.78**	**23**		**Pn**	**18 29 43.7**	**0.0**
COLA	**College**	**5.79**	**23**	Pn	**Pn**	**18 29 43.8**	**+0.1**
MDM	**Murphy Dome**	**5.79**	**21**		**Pn**	**18 29 43.6**	**-0.2**
SDPT	**Sand Point**	**5.86**	**226**	Pn	**Pn**	**18 29 44.2**	**-0.5**
BARN	**Barnard Glacie**	**5.86**	**71**	Pn	**Pn**	**18 29 46.1**	**+1.2**
DOT	**Dot Lake**	**5.89**	**43**	Pn	**Pn**	**18 29 45.6**	**+0.5**
IL31		**5.90**	**27**		**Pn**	**18 29 44.9**	**-0.4**
ILAR	**Eielson Array**	**5.90**	**27**	P	**Pn**	**18 29 44.7**	**-0.6**
	comp=N,1.1nm,0.3s,baz=216,slow=14,SNR=30						
ILAR				S	**Sn**	**18 30 48.5**	**-3.1**
	comp=N,0.4nm,0.3s,baz=220,slow=20,SNR=5.1						
ILAR	**Eielson Array**	**5.90**	**27**	Pn	**Pn**	**18 29 43.8**	**-1.5**
CNBA	**Chernabura Isl**	**5.98**	**219**	Pn	**Pn**	**18 29 44.8**	**-1.7**
CTGM	**Chitina Glacie**	**6.01**	**72**	Pn	**Pn**	**18 29 47.8**	**+0.9**
TABL	**Table Mountain**	**6.06**	**77**	Pn	**Pn**	**18 29 47.3**	**-0.3**
POKR	**Poker Plat Res**	**6.09**	**23**	Pn	**Pn**	**18 29 47.6**	**-0.2**
SCRK	**Sand Creek**	**6.12**	**41**		**Pn**	**18 29 47.8**	**-0.6**
LOGN	**Logan Glacier**	**6.15**	**74**	Pn	**Pn**	**18 29 48.2**	**-0.7**
IM05	**Indian Mountai**	**6.35**	**358**		**Pn**	**18 29 51.9**	**+0.6**
IMAR	**Indian Mountai**	**6.36**	**358**		**Pn**	**18 29 52.1**	**+0.6**
YUK2	**White River**	**6.39**	**65**		**Pn**	**18 29 53.3**	**+1.2**
H23K	**Yukon River**	**6.41**	**13**		**Pn**	**18 29 52.8**	**+0.6**
L27K	**Beaver Creek,**	**6.42**	**53**	Pn	**Pn**	**18 29 51.9**	**-0.4**
BC03		**6.43**	**53**		**Pn**	**18 29 53.6**	**+1.1**
BCAR	**Beaver Creek A**	**6.43**	**53**		**Pn**	**18 29 52.3**	**-0.3**
PCA	**Pinnacle**	**6.50**	**81**	Pn	**Pn**	**18 29 55.3**	**+1.8**
H24K	**Noodor Dome**	**6.66**	**19**		**Pn**	**18 29 56.1**	**+0.6**
BCPM	**Bancas Point**	**6.81**	**82**	Pn	**Pn**	**18 29 57.6**	**-0.1**
K27K	**Chicken**	**6.82**	**45**	Pn	**Pn**	**18 29 58.1**	**+0.3**
EGAK	**Eagle**	**7.59**	**42**	Pn	**Pn**	**18 30 08.0**	**-0.1**
DAWY	**Dawson**	**7.85**	**50**	Pn	**Pn**	**18 30 12.0**	**+0.3**
HYT	**Haines Junctio**	**7.86**	**75**	Pn	**Pn**	**18 30 09.4**	**-2.6**
BMAR	**Burnt Mountain**	**8.68**	**22**	Pn	**Pn**	**18 30 22.0**	**-0.9**
YKA	**Yellowknife Ar**	**18.66**	**65**	P	**Pn**	**18 32 31.4**	**+0.3**
	comp=N,0.1nm,0.3s,baz=288,slow=13,SNR=5.7						
SONM	**Songino Array**	**54.94**	**306**	P	**P**	**18 37 40.9**	**+1.1**
	comp=N,0.4nm,0.6s,baz=22,slow=7.8,SNR=2.9						
ZALV	**Zalesovo Beam**	**57.61**	**324**	P	**P**	**18 37 59.0**	**+0.5**
	comp=N,0.9nm,0.4s,baz=26,slow=5.1,SNR=4.5						
MKAR	**Makanchi Array**	**64.66**	**321**	P	**P**	**18 38 45.9**	**-0.4**
	comp=N,0.1nm,0.4s,baz=39,slow=5.8,SNR=1.5						

*SOME **18** 18:39:09.7, 41°.07N×76°.17E, h10km*
*KRNET **18** 18:39:10.0±0.1, 41°.08N×76°.21E, h19km, mb3.4*
*NNC **18** 18:39:10.1±0.9, 41°.02N×76°.23E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.4km s-min=4.2km az=178.0*
*KNET **18** 18:39:12.1±0.8, 41°.11N×76°.19E, h19km±8km, ml2.9, Error ellipse: s-maj=9.2km s-min=3.9km az=111.0*

ISC 18 18:39:10.7±1.6, **41°.10N**±0°.06×**76°.17E**±0°.02, **h2**km±11km, **n70**, σ**1**§**38**/110, **34C-24D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.15**	**3**	⇓*i*P	**Pb**	**18 39 31.9**	**-1.6**
ULHL	baz=1.0			⇓*i*S	**Sb**	**18 39 48.0**	**-1.0**
ULHL	**Ulahol**	**1.15**	**3**	⇑P	**Pb**	**18 39 32.7**	**-0.8**
ULHL	16nm,0.1s,SNR=130			⇓S	**Sn**	**18 39 49.6**	**-0.9**
KDJ	**Kajisay**	**1.28**	**36**	⇓*i*P	**Pn**	**18 39 33.9**	**-2.0**
KDJ	baz=35			⇓*i*S	**Sb**	**18 39 51.5**	**-1.2**
BOOM	**Boomskoye usch**	**1.40**	**353**	⇓*i*P	**Pn**	**18 39 36.6**	**-0.9**
BOOM	baz=52			⇓*i*S	**Sb**	**18 39 56.0**	**-0.2**
ARLS	**Aral**	**1.58**	**300**	⇑*i*P	**Pn**	**18 39 39.5**	**-0.4**
ARLS	baz=99			⇑*i*S	**Sg**	**18 40 01.5**	**-0.1**
KBK	**Karagaybulak**	**1.81**	**330**	⇑*i*P	**Pb**	**18 39 43.7**	**-0.9**
KBK	baz=30			⇑*i*S	**Sg**	**18 40 08.5**	**-0.2**
KBK	**Karagaybulak**	**1.81**	**330**	⇓P	**Pb**	**18 39 44.9**	**+0.2**
KBK	40nm,0.2s,SNR=25			⇓S	**Sg**	**18 40 10.3**	**+1.5**
	215nm,0.4s						
TKM2	**Tokmak 2**	**1.87**	**347**	⇓*i*P	**Pb**	**18 39 44.7**	**-1.1**
TKM2	baz=46			⇓*i*S	**Sb**	**18 40 10.2**	**+0.5**
TKM2	**Tokmak 2**	**1.87**	**347**	⇑P	**Pb**	**18 39 46.1**	**+0.3**
TKM2	35nm,0.2s,SNR=75			⇓S	**Sg**	**18 40 12.2**	**+1.3**
TKM2	**Tokmak 2**	**1.87**	**347**	⇑Pg	**Pb**	**18 39 45.9**	**+0.1**
TKM2	37nm,0.5s			⇑Lg	Lg	18 40 12.4	
	25nm,0.3s						
KST	**Kastek**	**1.95**	**356**	*e*P	**Pb**	**18 39 47.6**	**+0.5**
KST	23nm,0.2s			*e*S	**Sg**	**18 40 15.2**	**+1.7**
	75nm,0.4s						
KST	**Kastek**	**1.95**	**356**	Pg	**Pb**	**18 39 47.6**	**+0.5**
KST	23nm,0.2s			Lg	Lg	18 40 15.2	
	75nm,0.4s						
IZV	**Izvestkoviy**	**1.97**	**10**	*e*P	**Pg**	**18 39 48.2**	**-0.3**
IZV	16nm,0.1s			*e*S	**Sg**	**18 40 16.1**	**+2.1**
IZV	**Izvestkoviy**	**1.97**	**10**	Pg	**Pg**	**18 39 48.2**	**-0.3**
IZV	16nm,0.1s			Lg	Lg	18 40 16.0	
	87nm,0.4s						
AAK	**Ala-Archa**	**1.98**	**322**	⇑*i*P	**Pb**	**18 39 46.4**	**-1.2**
AAK	baz=21			⇑*i*S	**Sb**	**18 40 13.0**	**+0.1**
AAK	**Ala-Archa**	**1.98**	**322**	⇓P	**Pb**	**18 39 48.0**	**+0.4**
AAK	31nm,0.2s,SNR=13			⇑S	**Sg**	**18 40 15.5**	**+1.1**
	44nm,0.3s						
AAK	**Ala-Archa**	**1.98**	**322**	⇓Pg	**Pb**	**18 39 48.1**	**+0.4**
AAK	31nm,0.4s			⇑Lg	Lg	18 40 14.8	
	45nm,0.6s						
ANVS	**Anan'yevo**	**2.02**	**33**	⇑*i*P	**Pn**	**18 39 46.6**	**+0.5**
ANVS	baz=32			⇑*i*S	**Sb**	**18 40 13.3**	**-0.8**
FRU1	**Bishkek**	**2.06**	**327**	⇑*i*P	**Pb**	**18 39 47.7**	**-1.2**
FRU1	baz=26			⇑*i*S	**Sb**	**18 40 15.3**	**+0.3**
AML	**Almayashu**	**2.12**	**300**	⇑*i*P	**Pb**	**18 39 48.7**	**-1.5**
AML	baz=0.0			⇑*i*S	**Sb**	**18 40 16.8**	**-0.3**
AML	**Almayashu**	**2.12**	**300**	⇑P	**Pb**	**18 39 49.5**	**-0.7**
AML	21nm,0.2s,SNR=38			⇓S	**Sg**	**18 40 18.3**	**-0.6**
	42nm,0.2s						
DGS	**Degeres**	**2.16**	**352**	*e*P	**Pb**	**18 39 51.5**	**+0.8**
DGS	22nm,0.5s			*e*S	**Sg**	**18 40 21.5**	**+1.2**
	71nm,0.4s						
DGS	**Degeres**	**2.16**	**352**	Pg	**Pb**	**18 39 51.5**	**+0.8**
DGS	22nm,0.5s			Lg	Lg	18 40 21.5	
	71nm,0.4s						
MDOK	**Medeo**	**2.17**	**17**	*e*P	**Pb**	**18 39 51.0**	**+0.2**
MDOK	15nm,0.5s			*e*S	**Sg**	**18 40 20.4**	**0.0**
	80nm,0.6s						
MDOK	**Medeo**	**2.17**	**17**	⇓Pg	**Pb**	**18 39 50.8**	**0.0**
MDOK	8.4nm,0.4s			⇓Lg	Lg	18 40 21.2	
	60nm,0.5s						
MDOK	**Medeo**	**2.17**	**17**	Pg	**Pb**	**18 39 51.0**	**+0.2**
MDOK	15nm,0.5s			Lg	Lg	18 40 21.3	
	80nm,0.6s						
PRZ	**Przheval'sk**	**2.17**	**50**	⇑*i*P	**Pn**	**18 39 48.7**	**+0.6**
PRZ	baz=48			⇑*i*S	**Sb**	**18 40 16.8**	**-1.5**
CHMS	**Chumysh**	**2.17**	**331**	⇑*i*P	**Pb**	**18 39 48.9**	**-1.9**
CHMS	baz=31			⇑*i*S	**Sb**	**18 40 17.3**	**-0.9**
CHMS	**Chumysh**	**2.17**	**331**	⇑P	**Pb**	**18 39 51.0**	**+0.2**
CHMS	16nm,0.2s,SNR=30			⇑S	**Sg**	**18 40 20.3**	**-0.3**
	22nm,0.2s						
AAA	**Alma-Ata**	**2.18**	**15**	*e*P	**Pg**	**18 39 52.4**	**-0.2**
AAA	18nm,0.2s			*e*S	**Sg**	**18 40 22.8**	**+1.9**
	132nm,0.4s						
AAA	**Alma-Ata**	**2.18**	**15**	Pg	**Pg**	**18 39 52.4**	**-0.2**
AAA	39nm,0.3s			Lg	Lg	18 40 23.0	
	149nm,0.4s						
KNDC	**Almaty**	**2.20**	**15**	⇑Pg	**Pg**	**18 39 54.4**	**+1.4**
KNDC	29nm,0.4s			⇓Lg	Lg	18 40 22.5	
	172nm,0.5s						
EKS2	**Erkin-Say**	**2.37**	**312**	⇓*i*P	**Pb**	**18 39 51.9**	**-2.4**
EKS2	baz=12			⇓*i*S	**Sb**	**18 40 22.5**	**-1.5**
EKS2	**Erkin-Say**	**2.37**	**312**	⇑P	**Pb**	**18 39 53.7**	**-0.6**
EKS2	18nm,0.3s,SNR=17						
USP	**Ospenovka**	**2.50**	**331**	⇑*i*P	**Pn**	**18 39 53.5**	**+1.1**
USP	baz=30			⇑*i*S	**Sb**	**18 40 25.3**	**-2.3**
USP	**Ospenovka**	**2.50**	**331**	⇓P	**Pb**	**18 39 55.3**	**-1.1**
USP	25nm,0.2s,SNR=38						
SATY	**Saty**	**2.57**	**40**	*e*P	**Pb**	**18 39 57.8**	**0.0**
SATY	22nm,0.9s			*e*S	**Sg**	**18 40 32.2**	**-1.3**
	118nm,0.3s						
SATY	**Saty**	**2.57**	**40**	Pg	**Pb**	**18 39 57.8**	**0.0**
SATY	22nm,0.9s			Lg	Lg	18 40 32.8	
	118nm,0.3s						
SGDS	**Sogindy**	**2.62**	**335**	Pg	**Pb**	**18 39 59.1**	**+0.8**
SGDS	27nm,0.3s			Lg	Lg	18 40 34.7	
	33nm,0.4s						
KRBS	**Karabastau**	**2.62**	**352**	*e*P	**Pb**	**18 39 59.8**	**+1.3**
KRBS	16nm,0.3s			*e*S	**Sg**	**18 40 35.7**	**+0.6**
	41nm,0.6s						
KRBS	**Karabastau**	**2.62**	**352**	Pg	**Pb**	**18 39 59.8**	**+1.3**
KRBS	16nm,0.3s			Lg	Lg	18 40 35.7	
	41nm,0.6s						
KTBS	**Karatobe**	**2.64**	**8**	*e*P	**Pg**	**18 40 00.2**	**-1.1**
KTBS	9.6nm,0.4s			*e*S	**Sg**	**18 40 36.5**	**+0.9**
	106nm,0.5s						
KTBS	**Karatobe**	**2.64**	**8**	Pg	**Pg**	**18 40 00.3**	**-1.1**
KTBS	9.6nm,0.4s			Lg	Lg	18 40 36.5	
	106nm,0.5s						
MRKS	**Merke**	**2.74**	**308**	*e*P	**Pb**	**18 40 00.9**	**+0.3**
MRKS	19nm,0.4s			*e*S	**Sg**	**18 40 37.9**	**-1.0**
	29nm,0.4s						
MRKS	**Merke**	**2.74**	**308**	Pg	**Pb**	**18 40 00.9**	**+0.3**
MRKS	19nm,0.4s			Lg	Lg	18 40 37.8	
	29nm,0.4s						
KUU	**Kurty**	**2.80**	**3**	*e*P	**Pb**	**18 40 02.6**	**+1.2**
KUU	15nm,0.5s			*e*S	**Sg**	**18 40 40.8**	**+0.1**
	114nm,0.7s						
KUU	**Kurty**	**2.80**	**3**	Pg	**Pb**	**18 40 02.6**	**+1.2**
KUU	15nm,0.5s			Lg	Lg	18 40 40.8	
	114nm,0.7s						
CHKK	**Chushkaly**	**2.82**	**12**	*e*P	**Pb**	**18 40 03.3**	**+1.5**
CHKK	8.9nm,0.5s			*e*S	**Sg**	**18 40 41.7**	**+0.3**
	65nm,0.2s						
CHKK	**Chushkaly**	**2.82**	**12**	Pg	**Pb**	**18 40 03.3**	**+1.5**
CHKK	8.9nm,0.5s			Lg	Lg	18 40 41.7	
	65nm,0.2s						
UZB	**Uzynbulak**	**2.95**	**45**	*e*P	**Pb**	**18 40 03.9**	**-0.2**
UZB	11nm,0.3s			*e*S	**Sb**	**18 40 42.9**	**+2.2**
	26nm,0.4s						
UZB	**Uzynbulak**	**2.95**	**45**	Pg	**Pb**	**18 40 03.9**	**-0.2**
UZB	11nm,0.3s			Lg	Lg	18 40 42.9	
	26nm,0.4s						
KPKS	**Kokpek**	**3.02**	**37**	*e*P	**Pb**	**18 40 05.4**	**+0.2**
KPKS	20nm,0.4s			*e*S	**Sg**	**18 40 45.3**	**-2.3**
	135nm,0.3s						
MNAS	**Manas**	**3.07**	**298**	⇑*e*P	**Pn**	**18 40 01.6**	**+1.2**
MNAS	baz=98			⇑*i*S	**Sn**	**18 40 39.2**	**+1.4**
	48nm,0.4s						
SHLS	**Shalkode**	**3.20**	**49**	*e*P	**Pg**	**18 40 12.8**	**+0.7**
SHLS	6.0nm,0.5s			*e*S	**Sg**	**18 40 58.5**	**+4.9**
	43nm,0.5s						
SHLS	**Shalkode**	**3.20**	**49**	Pg	**Pg**	**18 40 12.8**	**+0.7**
SHLS	12nm,0.6s			Lg	Lg	18 40 58.6	
	43nm,0.5s						
PDGK	**Podgornoye**	**3.33**	**47**	⇑Pg	**Pb**	**18 40 10.7**	**+0.2**
PDGK	4.5nm,0.6s			⇑Lg	Lg	18 40 53.0	
	28nm,0.7s						
ARXS	**Arharly**	**3.35**	**21**	*e*P	**Pb**	**18 40 12.1**	**+1.2**
ARXS	12nm,0.6s			*e*S	**Sg**	**18 40 57.2**	**-1.0**
	30nm,0.4s						
ARXS	**Arharly**	**3.35**	**21**	Pg	**Pb**	**18 40 12.1**	**+1.2**
ARXS	12nm,0.6s			Lg	Lg	18 40 57.4	
	30nm,0.4s						
TRKS	**Terek-Say**	**3.81**	**278**	⇓*e*P	**Pn**	**18 40 11.4**	**+0.8**
TRKS	baz=77			⇓*i*S	**Sn**	**18 40 56.4**	**+0.4**
	11nm,0.5s						
KTMS	**Ketmen**	**3.89**	**52**	*e*P	**Pb**	**18 40 21.1**	**+0.9**
KTMS	11nm,0.4s			*e*S	**Sg**	**18 41 12.2**	**-3.6**
	11nm,0.4s						
KTMS	**Ketmen**	**3.89**	**52**	Pg	**Pb**	**18 40 21.1**	**+0.9**
KTMS	11nm,0.5s			Lg	Lg	18 41 12.2	
	11nm,0.4s						
DJR	**Jarkent**	**4.19**	**38**	*e*P	**Pb**	**18 40 27.1**	**+1.8**
DJR	3.1nm,0.9s			*e*S	**Sg**	**18 41 22.6**	**-2.9**
	8.7nm,0.3s						
DJR	**Jarkent**	**4.19**	**38**	Pg	**Pb**	**18 40 27.1**	**+1.8**
DJR	2.6nm,0.3s			Lg	Lg	18 41 22.5	
	11nm,0.5s						
TDK	**Taldyqorghan**	**4.24**	**22**	*e*P	**Pb**	**18 40 27.4**	**+1.5**
TDK	16nm,0.5s			*e*S	**Sg**	**18 41 23.2**	**-3.5**
	68nm,0.5s						
TDK	**Taldyqorghan**	**4.24**	**22**	Pg	**Pb**	**18 40 27.4**	**+1.5**
TDK	16nm,0.5s			Lg	Lg	18 41 23.2	
	68nm,0.5s						
KK31	**Karatay Array**	**4.66**	**297**	Pg	**Pb**	**18 40 34.8**	**+1.6**
KK31	1.2nm,0.4s,baz=120,slow=17,SNR=16			Lg	Lg	18 41 37.6	
	2.5nm,0.5s,baz=113,slow=28,SNR=8.2						
KAPS	**Kapalarasan**	**4.79**	**28**	*e*P	**Pb**	**18 40 37.5**	**+2.1**
KAPS	3.5nm,0.6s			*e*S	**Sg**	**18 41 40.5**	**-4.2**
	12nm,0.5s						
KAPS	**Kapalarasan**	**4.79**	**28**	Pg	**Pb**	**18 40 37.0**	**+1.6**
KAPS	2.9nm,0.6s			Lg	Lg	18 41 40.4	
	17nm,0.4s						
MAKZ	**Makanchi**	**7.08**	**34**	⇓Lg	Lg	18 42 54.2	
	2.3nm,1.2s						
MK31	**Makanchi Array**	**7.21**	**36**	⇑Pg	**Pb**	**18 41 17.1**	**+0.5**
	0.4nm,0.6s,baz=210,slow=14,SNR=4.2						
MK31				Lg	Lg	18 42 58.0	
	1.0nm,0.5s,baz=222,slow=28,SNR=6.7						

*NSSP **18** 18:43:29.8, 39°.72N×45°.00E, h6km, Ms2.9*
*DDA **18** 18:43:31.1, 39°.89N×44°.99E, h7km±3km, ML2.4*

ISC 18 18:43:31.6±1.5, **39°.85N**±0°.04×**44°.99E**±0°.04, **h5**km±12km, **n14**, σ**0**§**69**/26, **1C-1D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRKZ	**NAREK**	**0.29**	**301**	*i* P	**Pb**	**18 43 39.1**	**-0.3**
NRKZ				*i* S	**Sb**	**18 43 44.7**	**+0.1**
GNI	**Garni**	**0.35**	**328**	*i* P	**Pg**	**18 43 38.9**	**+0.4**
GNI				*i* S	**Sb**	**18 43 46.5**	**0.0**
KAPZ	**Kaputan**	**0.52**	**335**	*i* P	**Pb**	**18 43 42.3**	**-1.0**
KAPZ				*i* S	**Sb**	**18 43 51.8**	**+0.5**
IGDI	**IGDIR**	**0.70**	**272**	*i* P	**Pg**	**18 43 44.5**	**-0.5**
IGDI				*i* S	**Sg**	**18 43 55.2**	**+1.1**
IGDI				IAML		18 43 56.0	
	comp=E,197nm,0.4s						
IGDI				IAML		18 43 57.0	
	comp=N,173nm,0.3s						
METS	**Metsamor**	**0.76**	**293**	*i* P	**Pg**	**18 43 45.6**	**-0.5**
METS				*i* S	**Sb**	**18 43 58.0**	**-0.1**
ARUZ	**Aruch**	**0.81**	**302**	*i* P	**Pb**	**18 43 47.5**	**-0.7**
ARUZ				*i* S	**Sb**	**18 44 00.6**	**+0.9**
VNNZ	**Vanand**	**0.93**	**286**	*i* P	**Pg**	**18 43 49.4**	**0.0**
VNNZ				*i* S	**Sb**	**18 44 03.4**	**+0.4**
DYDN	**Diyadin**	**1.05**	**253**	*i* P	**Pb**	**18 43 52.2**	**-0.2**
DYDN				IAML		18 44 24.0	
	comp=E,54nm,1.1s						
DYDN				IAML		18 44 24.0	
	comp=N,69nm,0.9s						
CLDR	**Caldiran**	**1.09**	**230**	*i* P	**Pg**	**18 43 52.1**	**-0.3**
CLDR				*i* S	**Sb**	**18 44 08.6**	**+1.0**
CLDR				IAML		18 44 13.0	
	comp=N,81nm,0.6s						
CLDR				IAML		18 44 18.0	
	comp=E,97nm,0.4s						
GRS	**Goris**	**1.09**	**108**	⇑*i*P	**Pn**	**18 43 54.0**	**+0.3**
GRS				⇓*i*S	**Sn**	**18 44 09.0**	**-0.4**
STE	**Stepanavan**	**1.24**	**338**	*i* P	**Pn**	**18 43 55.2**	**-0.6**
STE				*i* S	**Sn**	**18 44 13.7**	**+0.7**
EAK	**Akyaka**	**1.35**	**309**	*i* P	**Pb**	**18 43 57.7**	**+0.3**
EAK				*i* S	**Sn**	**18 44 15.9**	**+0.3**
EAK				IAML		18 44 28.0	
	comp=N,112nm,0.6s						
EAK				IAML		18 44 28.0	
	comp=E,116nm,0.6s						
DIGO	**Kars**	**1.36**	**295**	*i* P	**Pn**	**18 43 56.5**	**-1.0**
DIGO				*i* S	**Sn**	**18 44 17.3**	**+1.2**
DIGO				IAML		18 44 20.0	
	comp=N,107nm,0.3s						
DIGO				IAML		18 44 26.0	
	comp=E,116nm,1.2s						
KOTA	**Agri, Merkez-K**	**1.37**	**269**	*i* P	**Pn**	**18 43 56.7**	**-0.9**
KOTA				IAML		18 44 31.0	
	comp=N,28nm,1.0s						

*IDC **18** 18:45:55.4±2.9, 32°.30S×177°.71W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/28, mbtmp4.1/5, ML3.6/1

comp=Z,3.1nm,0.5s,baz=97,slow=9.8,SNR=8.3
CTAO Charters Tower 34.69 282 P P 18 52 45.5 +0.2
CTAO IAmb IAmb 18 52 49.1
comp=Z,39nm,1.5s
BBOO Buckleboo 38.90 257 P P 18 53 21.1 +0.1
BBOO IAmb IAmb 18 54 35.8
comp=Z,48nm,1.9s
AS31 Alice Springs 43.53 269 P P 18 53 58.3 -0.9
ASAR Alice Springs 43.53 269 P P 18 53 58.7 -0.5
comp=Z,1.1nm,0.5s,baz=107,slow=8.2,SNR=30
ASAR Alice Springs 43.53 269 P P 18 53 57.8 -1.4
WR0 Warramunga Arr 44.54 274 P P 18 54 06.3 -1.0
WR0 IAmb IAmb 18 55 20.1
comp=Z,37nm,1.9s
WB2 Warramunga Arr 44.70 274 P P 18 54 07.8 -0.9
WRA Warramunga Arr 44.71 274 P P 18 54 07.5 -1.2
comp=Z,2.3nm,0.4s,baz=113,slow=7.8,SNR=48
WRA Warramunga Arr 44.71 274 IAmb IAmb 18 54 08.9
comp=Z,0.6nm,1.3s
WB0 Warramunga Arr 44.75 274 P P 18 54 08.1 -0.9
WB0 IAmb IAmb 18 55 42.8
comp=Z,18nm,1.4s
FORT Forrest 46.00 257 P P 18 54 18.3 -0.5
QSPA South Pole Qui 57.51 180 P P 18 55 43.9 -0.5
QSPA IAmb IAmb 18 56 41.1
comp=Z,15nm,1.6s
MAW Mawson 70.43 201 P P 18 57 09.6 +0.5
MAW IAmb IAmb 18 58 52.4
comp=Z,6.3nm,2.0s
FINES FINESS Array B 147.38 339 PKPbc **PKPbc 19 05 38.6 +0.5**
comp=Z,0.7nm,0.5s,baz=284,slow=4.3,SNR=8.5
CLL Collm 159.81 341 *e*PKPab **PKPab 19 06 33.0 +0.3**

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*IDC **18** 19:02:53.8±2.2, 10°.61N×126°.02E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/40, mbtmp3.7/6, MS3.4/2, Ms1 3.4/2, ms1mx2.6/36, Error ellipse: s-maj=279.4km s-min=21.2km az=67.0*
*MAN **18** 19:02:57.4, 10°.89N×126°.33E, h23km, mb4.9, ML3.8, MS3.8*
ISC 18 19:02:58.2±1.0, 10°.9N±0°.1×126°.8E±0°.2, h35km, n9, σ1§26/8, mb3.8/6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**3.22**	**220**	‖ *e*P	Pn	19 03 48.6	+2.2
CGP				*e*S	**Sn**	**19 04 23.7**	**+0.2**
KSRS	**Korea Array**	**26.43**	**2**	LR	LR	19 20 00.3	
comp=Z,19nm,18.5s,baz=180,slow=38							
WRA	**Warramunga Arr**	**31.57**	**166**	P	**P**	**19 09 16.9**	**-0.7**
0.1nm,0.4s,baz=345,slow=9.0,SNR=1.4							
ASAR	**Alice Springs**	**35.08**	**169**	P	**P**	**19 09 46.1**	**-2.1**
0.3nm,0.6s,baz=352,slow=7.0,SNR=1.8							
ASAR				PcP	**PcP**	**19 12 20.2**	**+0.6**
0.3nm,0.8s,baz=356,slow=3.5,SNR=2.2							
STKA	**Stephens Creek**	**44.86**	**162**	P	**P**	**19 11 10.8**	**+1.5**
0.7nm,0.5s,baz=334,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**51.82**	**322**	P	**P**	**19 12 02.8**	**0.0**
0.8nm,0.6s,baz=121,slow=7.9,SNR=5.6							
ZALV	**Zalesovo Beam**	**54.30**	**331**	P	**P**	**19 12 20.4**	**-0.5**
0.5nm,0.5s,baz=111,slow=8.2,SNR=2.4							
FINES	**FINESS Array B**	**85.56**	**332**	P	**P**	**19 15 32.9**	**+0.2**
1.0nm,0.7s,baz=72,slow=4.5,SNR=3.4							
DLBC	**Dease Lake**	**87.56**	**31**	LR	LR	19 51 06.7	
comp=Z,68nm,20.3s,baz=148,slow=33							

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*DDA **18** 19:05:32.9, 42°.45N×43°.82E, h16km±1km, ML2.4*
*TIF **18** 19:05:33.5, 42°.43N×43°.83E, h14km±1km*
*MOS **18** 19:05:34.9±0.0, 42°.45N×43°.73E, h6km, MPVA3.8*
*NORS **18** 19:05:34.1±0.0, 42°.50N×43°.78E, h15km, MPVA3.9*
ISC 18 19:05:33.9±0.9, 42°.43N±0°.01×43°.76E±0°.01, h14km±7km, n57, σ1§14/117, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.28**	**306**	P	**Pb**	**19 05 40.9**	**+0.1**
ONI				S	**Sb**	**19 05 45.6**	**+0.2**
ONI	**Oni**	**0.28**	**306**	*e*Pg	**Pb**	**19 05 40.9**	**+0.1**
ONI				*e*Sg	**Sg**	**19 05 43.8**	**-0.1**
ZEI	**Tsey**	**0.38**	**16**	*i* Pg	**Pg**	**19 05 41.1**	**-0.5**
ZEI				*e*Sg	**Sg**	**19 05 46.8**	**0.0**
DIGR	**Digorskoe uzhe**	**0.49**	**344**	*i* Pg	**Pg**	**19 05 43.5**	**-0.2**
DIGR				*i* Sg	**Sg**	**19 05 50.5**	**+0.2**
GUDG	**Gudauri**	**0.53**	**86**	P	**Pg**	**19 05 44.4**	**+0.1**
GUDG				S	**Sg**	**19 05 52.0**	**+0.6**
LACR	**Lac**	**0.56**	**44**	*i* Pg	**Pg**	**19 05 44.3**	**-0.6**
LACR				*e*Sg	**Sg**	**19 05 52.1**	**-0.4**
TKB	**Tkibuli**	**0.57**	**263**	P	**Pg**	**19 05 45.8**	**+0.7**
TKB				S	**Sb**	**19 05 55.3**	**+1.5**
MTEO	**Meteo**	**0.62**	**66**	P	**Pg**	**19 05 45.1**	**-1.1**
MTEO				S	**Sg**	**19 05 54.5**	**0.0**
PNSH	**Pansheti**	**0.66**	**71**	P	**Pg**	**19 05 46.0**	**-0.8**
PNSH				S	**Sg**	**19 05 54.4**	**-1.3**
BKRG	**Bakuriani**	**0.69**	**195**	P	**Pg**	**19 05 47.6**	**+0.3**
BKRG				S	**Sb**	**19 05 58.2**	**+1.0**
BRNG	**Burnasheti**	**0.80**	**177**	P	**Pg**	**19 05 50.0**	**+0.5**
BRNG				S	**Sb**	**19 06 02.1**	**+1.6**
ARNR	**Ardon**	**0.85**	**27**	*e*Pg	**Pn**	**19 05 51.4**	**0.0**
ARNR				*e*Sg	**Sn**	**19 06 03.2**	**-0.4**
LSNR	**Lesken**	**0.85**	**3**	*e*Pg	**Pg**	**19 05 50.6**	**+0.2**
LSNR				*e*Sg	**Sn**	**19 06 03.4**	**-0.5**
VLKR	**Vladikavkaz**	**0.92**	**47**	*e*Pg	**Pb**	**19 05 52.3**	**+0.8**
VLKR				*e*Sg	**Sn**	**19 06 05.9**	**+0.5**
TRLG	**Trialeti**	**0.92**	**164**	P	**Pg**	**19 05 51.6**	**-0.1**
TRLG				S	**Sb**	**19 06 05.4**	**+1.5**
STDR	**Stavd-Durt**	**0.97**	**13**	*e*Pg	**Pn**	**19 05 54.0**	**+0.9**
STDR				*e*Sg	**Sn**	**19 06 07.5**	**+0.9**
ABS	**Abastumani**	**0.97**	**227**	P	**Pb**	**19 05 52.6**	**0.0**
ABS				S	**Sn**	**19 06 07.4**	**+0.4**
KMGR	**Komgaron**	**1.03**	**52**	*e*Pg	**Pn**	**19 05 54.8**	**+0.8**
KMGR				*e*Sg	**Sn**	**19 06 08.4**	**+0.2**
AKH	**Akhalkalaki**	**1.03**	**191**	P	**Pb**	**19 05 53.8**	**+0.2**
AKH				S	**Sn**	**19 06 08.8**	**+0.4**
BTNK	**Botanikuri**	**1.07**	**134**	P	**Pb**	**19 05 53.3**	**-0.9**
BTNK				S	**Sg**	**19 06 08.9**	**+0.5**
BTNK	**Botanikuri**	**1.07**	**134**	*i* P	**Pb**	**19 05 53.0**	**-1.1**
BTNK				*i* S	**Sb**	**19 06 08.5**	**+0.5**
NCK	**Nalchik**	**1.08**	**353**	*e*Pg	**Pn**	**19 05 55.1**	**+0.5**
NCK				*e*Sg	**Sn**	**19 06 10.7**	**+1.3**
BTKR	**Batakoyurt**	**1.11**	**31**	*i* Pg	**Pg**	**19 05 57.1**	**+1.9**
BTKR				*e*Sg	**Sn**	**19 06 12.0**	**+1.9**
NEY	**Neytrino**	**1.12**	**317**	*e*Pg	**Pb**	**19 05 55.5**	**+0.3**
NEY				*e*Sg	**Sn**	**19 06 11.2**	**+0.5**
DMNI	**Dmanisi**	**1.14**	**164**	P	**Pb**	**19 05 54.9**	**-0.6**
DMNI				S	**Sb**	**19 06 10.8**	**+0.6**
KZRT	**Kazreti**	**1.14**	**155**	P	**Pb**	**19 05 54.8**	**-0.6**
KZRT				S	**Sb**	**19 06 10.4**	**+0.3**
KZRT	**Kazreti**	**1.14**	**155**	*i* P	**Pb**	**19 05 54.9**	**-0.5**
KZRT				*i* S	**Sb**	**19 06 10.7**	**+0.6**
BGD	**Bogdanovka**	**1.17**	**186**	P	**Pb**	**19 05 56.1**	**+0.2**
BGD				S	**Sn**	**19 06 13.0**	**+1.2**
EPOS	**Posof**	**1.20**	**220**	*i* P	**Pn**	**19 05 56.6**	**+0.2**
EPOS				*i* S	**Sg**	**19 06 14.6**	**+1.9**
EPOS				IAML		19 06 16.0	
comp=E,54nm,0.4s							
EPOS				IAML		19 06 17.0	
comp=N,82nm,0.5s							
CHVG	**Ch'k'valeri**	**1.27**	**284**	P	**Pb**	**19 05 58.4**	**+0.8**
CHVG				S	**Sg**	**19 06 17.3**	**+2.3**
PRTR	**Priterechnaya**	**1.38**	**16**	*e*Pg	**Pg**	**19 06 00.9**	**+0.5**
PRTR				*e*Sg	**Sg**	**19 06 20.2**	**+1.9**
TRKR	**Terskaya**	**1.48**	**28**	*e*Pg	**Pg**	**19 06 03.0**	**+0.7**
TRKR				*e*Sg	**Sg**	**19 06 23.7**	**+2.2**
SHA1	**Shidzhatmaz**	**1.54**	**329**	*e*Pg	**Pb**	**19 06 02.9**	**+0.6**
SHA1				*e*Sg	**Sg**	**19 06 23.9**	**+0.3**
GROC	**Groznyy**	**1.69**	**62**	*e*Pg	**Pg**	**19 06 06.8**	**+0.6**
GROC				*e*Sg	**Sg**	**19 06 29.3**	**+1.2**
PYA1	**Pyatigorsk**	**1.71**	**344**	*e*Pg	**Pb**	**19 06 05.5**	**+0.5**
PYA1				*e*Sg	**Sg**	**19 06 27.9**	**-0.9**
KIV0	**Kislovodsk Arr**	**1.72**	**333**	*e*Pg	**Pg**	**19 06 05.9**	**+0.6**
KIV0				*e*Sg	**Sg**	**19 06 28.8**	**-0.3**
KIV	**Kislovodsk**	**1.72**	**333**	*e*Pg	**Pb**	**19 06 06.0**	**+0.7**
KIV				*e*Sg	**Sg**	**19 06 29.4**	**+0.2**
BEYR	**Belyy Ugol+**	**1.73**	**337**	*e*Pg	**Pb**	**19 06 06.1**	**+0.7**
BEYR				*e*Sg	**Sg**	**19 06 29.4**	**-0.2**
BATM	**Batumi**	**1.75**	**243**	P	**Pb**	**19 06 06.1**	**+0.4**
BATM				S	**Sg**	**19 06 30.3**	**+0.2**
DOMR	**Dombai**	**1.80**	**300**	*e*Pg	**Pb**	**19 06 06.7**	**+0.1**
DOMR				*e*Sg	**Sg**	**19 06 31.1**	**-0.6**
BTLR	**Botlikh**	**1.83**	**82**	*e*Pg	**Pb**	**19 06 08.2**	**+1.0**
BTLR				*e*Sg	**Sb**	**19 06 31.2**	**+1.2**
DBOC	**Borcka**	**1.90**	**236**	*i* P	**Pb**	**19 06 08.1**	**-0.2**
DBOC				*i* S	**Sg**	**19 06 35.6**	**+0.6**
DBOC				IAML		19 06 37.0	
comp=E,74nm,0.3s							
DAGI	**Agillar**	**1.93**	**226**	*i* P	**Pb**	**19 06 09.0**	**+0.1**
DAGI				*i* S	**Sg**	**19 06 35.8**	**-0.1**
DAGI				IAML		19 06 39.0	
comp=E,30nm,0.5s							
DAGI				IAML		19 06 43.0	
comp=N,40nm,0.9s							
LGD	**Lagodekhi**	**1.94**	**107**	P	**Pb**	**19 06 08.6**	**-0.3**
LGD				S	**Sg**	**19 06 35.4**	**-0.7**
DDFL	**Dedoflistskaro**	**2.01**	**118**	P	**Pg**	**19 06 13.7**	**+1.2**
DDFL	**Dedoflistskaro**	**2.01**	**118**	*i* P	**Pg**	**19 06 12.9**	**+0.4**
DDFL				*i* S	**Sg**	**19 06 40.0**	**+1.5**
ARXR	**Arkhyz**	**2.15**	**303**	*e*Pg	**Pb**	**19 06 13.2**	**+0.5**
ARXR				*e*Sg	**Sb**	**19 06 39.6**	**+0.3**
DDEM	**Demirkent**	**2.15**	**225**	*i* P	**Pb**	**19 06 13.4**	**+0.8**
DDEM				*i* S	**Sg**	**19 06 42.9**	**-0.1**
XNZR	**Khunzakh**	**2.18**	**86**	*e*Pg	**Pn**	**19 06 05.8**	**-4.0**
XNZR				*e*Sg	**Sb**	**19 06 42.0**	**+2.0**
DBC	**Dubki**	**2.34**	**74**	*e*Pn	**Pb**	**19 06 15.2**	**-0.6**
DBC				*e*Sn	**Sb**	**19 06 45.7**	**+1.2**
KRNR	**Karanay**	**2.35**	**79**	*e*Pn	**Pb**	**19 06 16.5**	**+0.4**
KRNR				*e*Sn	**Sb**	**19 06 45.9**	**+0.8**
GNI	**Garni**	**2.39**	**162**	*e*Pn	**Pb**	**19 06 17.3**	**+0.6**
GNI				*e*Sn	**Sg**	**19 06 50.0**	**-0.7**
ALER	**Alexandrovskoy**	**2.42**	**345**	*e*Pn	**Pn**	**19 06 15.0**	**+2.0**
ALER				*e*Sn	**Sb**	**19 06 47.5**	**+0.8**
RPOR	**Krasnaya Polya**	**2.86**	**298**	*e*Pn	**Pb**	**19 06 22.9**	**-1.8**
RPOR				*e*Sn	**Sn**	**19 06 53.7**	**+0.3**
GUZR	**Guzeripl'**	**3.09**	**302**	*e*Pn	**Pb**	**19 06 27.5**	**-1.2**
GUZR				*e*Sn	**Sb**	**19 07 04.1**	**-2.1**
GL1R	**Gelendzhik**	**4.65**	**299**	*e*Pn	**Pb**	**19 06 52.1**	**-3.1**
GL1R				*e*Sn	**Sn**	**19 07 36.5**	**-0.9**
MNK	**Minsk**	**15.98**	**325**	*i* P	**Pn**	**19 09 15.7**	**-2.3**
MNK				*i* P	**Pn**	**19 09 15.7**	**-2.3**
MNK				*i* P	**Pn**	**19 09 15.7**	**-2.3**
comp=Z,1.0nm,0.2s,baz=132							
MNK				*i* PP	**P**	**19 09 23.9**	**+2.3**
MNK				*i* PPP	PPP	19 09 31.4	
MNK				*i* S	**Sn**	**19 12 11.3**	**-3.6**
MNK				*i* SS	**SnSn**	**19 12 28.2**	**+0.5**
MNK				*i* SSS	SSS	19 12 40.8	
MNK				*i* LR	LR	19 15 10.1	

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*DJA **18** 19:15:01.7±1.0, 3°.N±4°.×12°.8E±°, h11km±6km, M4.0/8, mb4.1/3, MLv3.9/8*
*IDC **18** 19:15:05.8±3.4, 2°.78N×129°.07E, h75km±32km, mb3.3/5, mb1 3.6/6, mb1mx3.3/33, mbtmp3.7/6, MS3.1/2, Ms1 3.1/2, ms1mx2.4/25, Error ellipse: s-maj=69.1km s-min=19.8km az=60.0*
ISC 18 19:15:03.0±1.0, 2°.63N±0°.09×128°.54E±0°.07, h35km, n13, σ1§62/15, mb3.5/5, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.19**	**213**	P	**Pn**	**19 15 36.4**	**-0.6**
TNTI				S	**Sn**	**19 16 03.8**	**+0.9**
SGSI	**Sangihe**	**3.19**	**289**	P	**Pn**	**19 15 50.1**	**-0.6**
SGSI				S	**Sn**	**19 16 28.2**	**+0.7**
SWI	**Sorong**	**4.41**	**142**	P	**Pn**	**19 16 09.6**	**+2.1**
SIJI	**Sorong**	**4.42**	**142**	P	**Pn**	**19 16 08.7**	**+1.0**
5.7nm,0.3s,baz=331,slow=21,SNR=9.4							
SIJI				S	**Sn**	**19 16 56.8**	**-1.1**
1.6nm,0.3s,baz=155,slow=23,SNR=1.4							
KCP	**Kidapawan**	**5.54**	**322**	‖ *e*P	Pn	19 16 28.1	+5.0
GTOI	**Gorontalo**	**5.88**	**250**	P	**Pn**	**19 16 28.8**	**+1.1**
0.0nm11nm,0.6s							
FAKI	**Fak Fak**	**6.64**	**146**	P	**Pn**	**19 16 40.1**	**+1.8**
WRA	**Warramunga Arr**	**23.14**	**166**	P	**P**	**19 20 05.5**	**-1.0**
1.9nm,0.8s,baz=346,slow=10,SNR=15							
ASAR	**Alice Springs**	**26.66**	**169**	P	**P**	**19 20 37.6**	**-1.2**
0.5nm,0.6s,baz=349,slow=7.4,SNR=11							
ASAR				PcP	**PcP**	**19 24 00.8**	**-1.5**
0.3nm,0.4s,baz=358,slow=2.0,SNR=16							
CMAR	**Chiang Mai Arr**	**32.99**	**301**	P	**P**	**19 21 38.2**	**+3.2**
0.3nm,0.5s,baz=90,slow=5.7,SNR=1.9							
STKA	**Stephens Creek**	**36.49**	**161**	P	**P**	**19 22 03.9**	**-1.1**
1.8nm,0.5s,baz=344,slow=7.2,SNR=6.4							
ASAJ	**Asahikawa**	**43.14**	**15**	LR	LR	19 40 03.0	
comp=Z,16nm,21.6s,baz=162,slow=35							
MKAR	**Makanchi Array**	**59.49**	**325**	P	**P**	**19 25 01.3**	**-1.4**
0.2nm,0.5s,baz=129,slow=8.2,SNR=2.7							
MKAR				LR	LR	19 51 23.5	
comp=Z,21nm,20.3s,baz=283,slow=36							

IDC 18 19:18:23.2±4.4, 5°.58S×148°.57E, h146km±38km, mb2.9/3, mb1 3.1/5, mb1mx3.0/30, mbtmp3.4/5, Error ellipse: s-maj=122.0km s-min=31.9km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.05**	**200**	P	Pn	19 19 26.0	+1.9
1.5nm,0.3s,baz=0.0,slow=8.1,SNR=21							
PMG				S	Sn	19 20 10.7	-0.7
2.3nm,0.3s,baz=128,slow=9.8,SNR=3.7							
WRA	**Warramunga Arr**	**19.89**	**223**	P	P	19 22 43.3	-0.1
0.3nm,0.3s,baz=50,slow=10,SNR=11							
ASAR	**Alice Springs**	**22.87**	**217**	P	P	19 23 15.0	+0.7
0.6nm,0.7s,baz=50,slow=8.2,SNR=14							
SONM	**Songino Array**	**64.81**	**330**	P	P	19 28 46.5	0.0
0.2nm,0.4s,baz=123,slow=5.3,SNR=1.7							
MKAR	**Makanchi Array**	**78.17**	**320**	P	P	19 30 05.9	-0.7
0.2nm,0.6s,baz=106,slow=5.1,SNR=1.9							

DJA 18 19:32:35.1±1.1, 0°N±3°×12°5E±°, h25km±10km, M3.9/11, mb4.1/1, mB5.2/1, MLv3.8/11, Mw(mB)4.6/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.08**	**78**	P	Pn	19 33 08.4	-0.1
TNTI				S	Sn	19 33 33.8	+0.2
GTOI	**Gorontalo**	**2.34**	**277**	P	Pb	19 33 14.8	-1.8
GTOI				S	Sb	19 33 44.7	-0.4
SGSI	**Sangihe**	**3.34**	**3**	P	Pn	19 33 25.5	-0.3
MRSI	**Marisa**	**3.39**	**272**	P	Pn	19 33 25.1	-1.4
APSI	**Ampana**	**3.88**	**251**	P	Pn	19 33 33.7	+0.5
NLAI	**Namlea**	**3.96**	**153**	P	Pn	19 33 34.4	+0.1
MPSI	**Mapaga**	**5.43**	**270**	P	Pn	19 33 54.5	0.0
TTSI	**Tana Toraja**	**6.45**	**239**	P	Pn	19 34 09.1	+0.6

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*JMA **18** 19:34:55.3±0.4, 34°.39N×136°.76E, h358km±4km, M2.7*
*IDC **18** 19:34:56.5±0.7, 34°.39N×136°.82E, h361km±8km, mb2.9/9, mb1 3.0/16, mb1mx2.9/50, mbtmp3.6/16, Error ellipse: s-maj=17.7km s-min=12.7km az=72.0*
ISC 18 19:34:56.0±0.7, 34°.39N±0°.08×136°.80E±0°.06, h355km±7km, n29, σ1§02/34, mb3.1/9, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.08**	**271**	P	**Pn**	**19 35 40.3**	**0.0**
JKN2	**Miekihoku**	**0.46**	**251**	P	**Pn**	**19 35 40.4**	**-0.3**
TTO1	**TONANKAI O.B.S**	**0.77**	**181**	P	**Pn**	**19 35 41.2**	**0.0**
TK02	**Tokai 2**	**0.91**	**119**	P	**Pn**	**19 35 42.0**	**+0.3**
JYTA	**Yamagatataniai**	**1.20**	**358**	P	**Pn**	**19 35 43.3**	**+0.3**
JWT	**Wachi**	**1.45**	**308**	P	**Pn**	**19 35 44.3**	**0.0**
JWT				S	**S**	**19 36 21.7**	**-1.4**
JAI	**Aioi**	**2.04**	**254**	P	**Pn**	**19 35 47.4**	**-0.6**
JRY	**Ryogami san**	**2.37**	**46**	P	**Pn**	**19 35 50.9**	**+0.5**
JRY				*e*S	**S**	**19 36 33.9**	**-0.3**
MAT	**Matsushiro**	**2.44**	**28**	P	**Pn**	**19 35 51.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.44**	**28**	P	**Pn**	**19 35 51.1**	**+0.2**
0.2nm,0.3s,baz=196,slow=7.7,SNR=14							
MJAR				S	**S**	**19 36 37.5**	**+2.4**
0.0nm,0.3s,baz=50,slow=10,SNR=1.5							
JMN	**Monobe**	**2.51**	**256**	P	**Pn**	**19 35 51.0**	**-0.6**
JHJ	**Hachijo jima 2**	**2.79**	**116**	P	**Pn**	**19 35 53.5**	**-0.4**
3.1nm,0.3s,baz=278,slow=13,SNR=2.1							
JHJ				S	**S**	**19 36 42.9**	**+2.4**
6.9nm,0.3s,baz=86,slow=23,SNR=1.8							
JAG	**Ashikaga**	**2.97**	**46**	P	**Pn**	**19 35 54.0**	**-1.4**
JHS	**Saijyo**	**3.09**	**282**	P	**Pn**	**19 35 56.4**	**-0.2**
BSO1	**Boso 1**	**3.46**	**84**	P	**Pn**	**19 35 57.3**	**-2.0**
BSO1				*e*S	**S**	**19 36 47.9**	**-2.5**
JNU	**Nakatsue**	**5.09**	**257**	P	**Pn**	**19 36 16.9**	**0.0**
1.0nm,0.3s,baz=117,slow=3.7,SNR=3.4							
KSRS	**Korea Array**	**7.82**	**296**	P	**Pn**	**19 36 48.3**	**+0.3**
0.1nm,0.3s,baz=111,slow=12,SNR=5.9							
USRK	**Ussuriysk Ar.**	**10.48**	**341**	P	**P**	**19 37 20.4**	**+0.1**
baz=163,slow=10,SNR=5.9							
ASAJ	**Asahikawa**	**10.70**	**23**	P	**P**	**19 37 22.5**	**-0.2**
0.1nm,0.3s,baz=121,slow=29,SNR=1.2							
KLR	**Kul'dur**	**15.29**	**347**	P	**P**	**19 38 12.9**	**-0.4**
0.3nm,0.3s,baz=178,slow=9.1,SNR=7.9							
PETK	**Petropavlovsk-**	**23.89**	**32**	P	**P**	**19 39 38.8**	**+0.2**
1.2nm,0.7s,baz=61,slow=12,SNR=1.6							
SONM	**Songino Array**	**26.36**	**310**	P	**P**	**19 40 02.2**	**+1.2**
0.7nm,0.8s,baz=116,slow=9.5,SNR=6.0							
CMAR	**Chiang Mai Arr**	**37.18**	**255**	P	**P**	**19 41 35.5**	**+0.9**
0.2nm,0.4s,baz=148,slow=30,SNR=1.8							
ZALV	**Zalesovo Beam**	**41.01**	**315**	P	**P**	**19 42 05.5**	**0.0**
0.4nm,0.5s,baz=153,slow=43,SNR=1.8							
MKAR	**Makanchi Array**	**42.41**	**304**	P	**P**	**19 42 16.8**	**0.0**
0.4nm,0.5s,baz=84,slow=11,SNR=6.1							
WRA	**Warramunga Arr**	**54.08**	**183**	P	**P**	**19 43 45.2**	**-0.1**
0.6nm,0.9s,baz=0.2,slow=7.6,SNR=7.6							
ARCES	**ARCESS Array B**	**65.12**	**339**	P	**P**	**19 44 59.2**	**-0.1**
1.3nm,0.9s,baz=62,slow=9.6,SNR=4.4							
FINES	**FINESS Array B**	**69.36**	**331**	P	**P**	**19 45 25.1**	**-0.5**
1.8nm,0.9s,baz=14,slow=3.9,SNR=5.7							
GERES	**GERESS Array B**	**82.89**	**326**	P	**P**	**19 46 40.7**	**-1.0**
0.2nm,0.5s,baz=70,slow=5.6,SNR=1.9							

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*TUL **18** 20:03:54.9±1.5, 35°.75N±0°.01×97°.38W±0°.02, h2km±7km, ML2.5, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=2.6km s-min=1.6km az=120.0*
NEIC 18 20:03:55.2±0.8, 35°.77N±0°.01×97°.40W±0°.02, h6km±6km, Error ellipse: s-maj=3.0km s-min=1.7km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.05**	**304**		Pg	20 03 57.2	+0.5
OK029				Sg	Sg	20 03 58.8	+1.0
OK025	**Westminster Rd**	**0.19**	**164**		Pg	20 03 58.7	-0.3
OK025				Sg	Sg	20 04 01.5	-0.1
BCOK	**Bluff Creek, N**	**0.20**	**237**		Pg	20 03 59.4	+0.2
BCOK				Sg	Sg	20 04 02.7	+0.9
OK005	**Luther M Schoo**	**0.20**	**123**	Pg	Pg	20 03 59.0	-0.3
OK005				Sg	Sg	20 04 01.9	-0.1
OK001	**Jones High Sch**	**0.23**	**156**	Pg	Pg	20 03 59.3	-0.3
OK001				Sg	Sg	20 04 02.5	-0.1
OKCFA	**Oklahoma City**	**0.35**	**187**		Pg	20 04 01.8	-0.3
OKCFA				Sg	Sg	20 04 06.8	+0.1
OKCSW	**OKLAHOMA CITY**	**0.36**	**185**		Pg	20 04 01.9	-0.3
OK031	**S. Brethren Rd**	**0.49**	**68**		Pg	20 04 04.6	-0.1
OK031				Sg	Sg	20 04 11.4	+0.3
FNO	**Franklin**	**0.51**	**180**		Pg	20 04 04.6	-0.4
FNO				Sg	Sg	20 04 11.8	+0.1
QUOK	**Quay**	**0.69**	**54**		Pg	20 04 08.2	-0.3
QUOK				Sg	Sg	20 04 17.9	+0.4
CROK	**Carrier**	**0.87**	**328**	Pg	Pg	20 04 12.2	+0.2
BLOK	**Blackwell**	**1.00**	**9**		Pg	20 04 14.2	-0.2
GC02	**Grant County #**	**1.14**	**341**		Pg	20 04 16.8	-0.3
X34A	**Smith Ranch, M**	**1.22**	**197**		Pg	20 04 17.9	-0.6
OK032	**Salt Plains WL**	**1.22**	**328**		Pg	20 04 18.1	-0.5
KAN13	**South Haven SW**	**1.25**	**357**	Pg	Pg	20 04 18.8	-0.3
T35A	**Sooner Cattle**	**1.35**	**32**		Pn	20 04 20.0	-0.6
KAN09	**Caldwell North**	**1.38**	**353**	Pn	Pn	20 04 21.1	+0.1
KAN05	**Bluff City Nor**	**1.39**	**344**	Pn	Pn	20 04 21.1	-0.1
U32A	**Winter Ranch,**	**1.43**	**296**	Pn	Pn	20 04 21.7	0.0
KAN10	**Anthony SW Sta**	**1.47**	**338**	Pn	Pg	20 04 23.3	+0.1
WMOK	**Wichita Mounta**	**1.53**	**228**		Pn	20 04 22.8	-0.2
KAN08	**Anthony NE Sta**	**1.53**	**343**		Pb	20 04 23.8	-0.1
KAN12	**Harper NE Stat**	**1.60**	**343**	Pn	Pb	20 04 25.1	-0.1
LOOK	**Love County**	**1.78**	**174**		Pn	20 04 26.5	+0.1
X37A	**Clayton**	**2.04**	**125**		Pn	20 04 30.1	+0.1
Z35A	**Perchaven, San**	**2.43**	**177**	Pn	Pn	20 04 35.5	+0.1
U38A	**Gravette**	**2.53**	**74**		Pn	20 04 37.4	+0.6
R32A	**Long Quarter,**	**2.85**	**339**	Pn	Pn	20 04 42.9	+1.7
HHAR	**Hobbs**	**2.85**	**79**	

PLK5	Peulik 5	2.47	350		Pb	20 18 44.3	-1.2
SDPT	Sand Point	2.50	267	P	Pn	20 18 41.9	+0.5
	baz=89						
SDPT				S	Sn	20 19 11.4	0.0
	baz=89						
SDPT	Sand Point	2.50	267	Pn	Pn	20 18 41.9	+0.5
SDPT				IAML		20 19 34.5	
	comp=E,979nm,0.9s						
SDPT	Sand Point	2.50	267		Sn	20 19 11.4	0.0
KJL	Kejulik	2.51	6		Pn	20 18 44.4	+2.8
CAHL	Cahill	2.53	10		Pn	20 18 44.5	+2.6
KABR	Katmai Barrier	2.64	13		Pn	20 18 45.9	+2.4
ANCK	Angle Creek	2.66	7		Pn	20 18 46.4	+2.7
KCE	Katmai Mt Cerb	2.73	10		Pn	20 18 47.5	+2.9
KABU	Katmai Buttres	2.75	9		Pn	20 18 47.7	+2.9
KVTA	Katmai Vly 10	2.85	9		Pn	20 18 48.9	+2.6
KAWH	Katmai	2.91	14		Pn	20 18 49.4	+2.3
KDAK	Kodiak Island	2.95	40	Pn	Pn	20 18 47.7	+0.2
	comp=E,29nm,0.3s,baz=248,slow=6.0,SNR=634						
KDAK				Sn	Sn	20 19 21.0	-1.3
	comp=E,14nm,0.3s,baz=38,slow=20,SNR=6.2						
KDAK				Lg	Lg	20 19 44.0	
	baz=12,slow=18,SNR=1.3						
KDAK	Kodiak Island	2.95	40	Pn	Pn	20 18 48.7	+1.1
KDAK				IAML		20 20 03.2	
	comp=E,296nm,1.1s						
KARR	Katmai Rainbow	3.03	14		Pn	20 18 51.3	+2.6
KAPH	Katmai Pasha	3.18	17		Pn	20 18 53.4	+2.6
PS4A	Pavlof South-4	3.29	268		Pn	20 18 52.8	+0.5
HAG	Hague Volcano	3.32	268		Pn	20 18 53.3	+0.6
PN7A	Pavlof North-7	3.36	270		Pn	20 18 54.4	+1.1
BLHA	Black Hill	3.38	275		Pn	20 18 54.6	+1.0
DT1	Dutton Round H	3.56	265		Pn	20 18 56.3	+0.3
BALA	Baldy Mountain	3.83	267		Pn	20 19 01.4	+1.6
AUQ	Augustine Qik'	4.06	20		Pn	20 19 05.9	+3.0
AGU	Augustine-Summ	4.06	20		Pn	20 19 05.8	+2.8
AUH	Augustine H	4.07	20		Pn	20 19 05.7	+2.7
AUP	Augustine Pinn	4.07	20		Pn	20 19 05.7	+2.6
FALS	False Pass	4.25	263	P	Pn	20 19 06.1	+0.7
	baz=81						
FALS	False Pass	4.25	263	Pn	Pn	20 19 06.1	+0.7
O18K	Koktuh Hills	4.32	6	P	Pn	20 19 08.7	+2.2
	baz=185						
O18K	Koktuh Hills	4.32	6		Pn	20 19 08.7	+2.2
OPT	Oil Point	4.37	19	P	Pn	20 19 09.8	+2.6
	baz=200						
OPT	Oil Point	4.37	19		Pn	20 19 09.8	+2.6
P19K	Oil Pt	4.37	19	P	Pn	20 19 09.9	+2.7
	baz=200						
P19K	Oil Pt	4.37	19		Pn	20 19 09.9	+2.7
ISLZ	Isanotski Laza	4.45	262		Pn	20 19 08.6	+0.4
ISNN	Isanotski Nort	4.46	264		Pn	20 19 09.4	+1.0
BRPK	Brown Peak	4.49	261		Pn	20 19 09.2	+0.5
SSLN	Shishaldin Nor	4.59	264		Pn	20 19 10.9	+0.8
SSLN					Sn	20 20 02.7	-0.2
SSLS	Shishaldin Sou	4.61	263		Pn	20 19 11.4	+0.9
SSLW	Shishaldin Wes	4.67	263		Pn	20 19 12.0	+0.7
SSBA	Shishaldin	4.67	263		Pn	20 19 11.7	+0.4
ILS	Iliamna Low So	4.69	19		Pn	20 19 14.2	+2.6
HOM	Homer	4.75	28	P	Pn	20 19 14.4	+2.2
	baz=210						
HOM	Homer	4.75	28	Pn	Pn	20 19 13.9	+1.7
CNPM	China Poot	4.75	31	Pn	Pn	20 19 14.2	+1.8
CNPM				IAML		20 20 53.4	
	comp=E,137nm,1.1s						
CNPM				IAML		20 20 54.8	
	comp=N,151nm,1.2s						
IVE	Iliamna Volcan	4.75	19		Pn	20 19 14.8	+2.3
WTUG	Tugumak	4.80	265		Pn	20 19 13.4	+0.4
O20K	Slope Mountain	4.89	21	P	Pn	20 19 17.0	+2.7
	baz=202						
O20K	Slope Mountain	4.89	21		Pn	20 19 17.0	+2.7
WESE	West Dahl East	5.01	261		Pn	20 19 16.5	+0.6
BRLK	Bradley Lake	5.05	31		Pn	20 19 17.5	+1.0
BRLK				IAML		20 20 59.4	
	comp=N,76nm,0.8s						
BRLK				IAML		20 21 02.2	
	comp=E,108nm,0.6s						
BRSE	Bradley Lake S	5.08	32	P	Pn	20 19 18.0	+1.2
	baz=214						
BRSE	Bradley Lake S	5.08	32		Pn	20 19 18.0	+1.2
WESP	Westdahl Peak	5.08	261		Pn	20 19 17.7	+0.9
WECS	Westdahl Cape	5.10	262		Pn	20 19 18.0	+0.8
N18K	Kilae Creek	5.13	1	P	Pn	20 19 19.7	+2.2
	baz=180						
N18K	Kilae Creek	5.13	1		Pn	20 19 19.8	+2.2
RED	Redoubt Volcan	5.17	19		Pn	20 19 20.8	+2.5
RDSO	Redoubt South	5.21	19		Pn	20 19 21.2	+2.4
RSO	Redoubt South	5.22	19		Pn	20 19 21.6	+2.6
RDWB	Redoubt West	5.23	18		Pn	20 19 21.5	+2.5
NCT	North Crescent	5.28	17		Pn	20 19 22.4	+2.7
N19K	Bonanza Creek	5.33	9	P	Pn	20 19 22.9	+2.6
	baz=188						
N19K	Bonanza Creek	5.33	9		Pn	20 19 22.9	+2.6
DFR	Drift River	5.35	18		Pn	20 19 23.2	+2.6
SVW2	Sparrevohn	5.55	3	Pn	Pn	20 19 25.3	+2.0
AKSA	Akutan Strait	5.73	259		Pn	20 19 26.1	+0.4
SEW	Seward	5.77	35	P	Pn	20 19 26.6	+0.3
	baz=219						
SEW	Seward	5.77	35	Pn	Pn	20 19 26.5	+0.3
AKUT	Akutan	5.77	260	Pn	Pn	20 19 26.2	-0.1
SLKM	Skilak Lake	5.85	30		Pn	20 19 28.4	+1.0
O22K	Cooper Landing	5.97	32	P	Pn	20 19 30.7	+1.6
	baz=215						
O22K	Cooper Landing	5.97	32		Pn	20 19 31.5	+2.4
SPCR	Spurr Chakacha	6.00	18	P	Pn	20 19 32.0	+2.4
	baz=200						
SPCR	Spurr Chakacha	6.00	18		Pn	20 19 32.0	+2.4
SPWE	Spurr West	6.01	17		Pn	20 19 32.6	+2.9
SPU	Mount Spurr	6.02	19	Pn	Pn	20 19 32.1	+2.4
SPBG	Spurr Blockage	6.03	17		Pn	20 19 32.7	+2.7
SPCP	Crater Peak Br	6.08	18		Pn	20 19 33.1	+2.4
SPNN	North Nagishla	6.08	16		Pn	20 19 33.4	+2.6
SPCG	Spurr Capps Gl	6.12	19		Pn	20 19 33.4	+2.1
UNV	Unalaska Valle	6.27	258	P	Pn	20 19 32.7	-0.5
	baz=72						
UNV	Unalaska Valle	6.27	258		Pn	20 19 32.7	-0.5
MTBL	Makushin Table	6.33	260		Pn	20 19 33.8	-0.3
STLK	Strandline Lak	6.35	19		Pn	20 19 36.8	+2.5
MNAT	Makushin Natee	6.36	259		Pn	20 19 34.0	-0.4
MSW	Makushin Switc	6.41	259		Pn	20 19 34.5	-0.6
M19K	Big River Lodg	6.42	7	P	Pn	20 19 37.4	+2.2
	baz=188						
M19K	Big River Lodg	6.42	7		Pn	20 19 37.4	+2.2
RC01	Rabbit Creek A	6.47	29	P	Pn	20 19 37.3	+1.4
	baz=212						
RC01	Rabbit Creek A	6.47	29		Pn	20 19 37.2	+1.3
MGOD	Makushin Gods	6.50	259		Pn	20 19 35.8	-0.5
M20K	Styx River	6.52	12	P	Pn	20 19 39.3	+2.7
	baz=194						
M20K	Styx River	6.52	12		Pn	20 19 39.3	+2.7
MID	Middleton Isla	6.53	50	Pn	Pn	20 19 36.8	+0.1
MAPS	Pakushin South	6.53	259		Pn	20 19 36.2	-0.5
SUA	Susitna One	6.54	23	P	Pn	20 19 39.2	+2.2
	baz=206						
L19K	White Mountain	6.66	5	P	Pn	20 19 41.1	+2.5
	baz=185						
L19K	White Mountain	6.66	5		Pn	20 19 41.1	+2.5
PWL	Port Wells	6.70	35		Pn	20 19 39.5	+0.4
SKT	Skwentna	6.85	18	P	Pn	20 19 42.8	+1.6
	baz=201						
SKT	Skwentna	6.85	18		Pn	20 19 42.6	+1.4
HIN	Hinchinbrook I	7.03	43		Pn	20 19 43.5	-0.2
KNK	Knik Glacier	7.09	31	P	Pn	20 19 45.1	+0.6
	baz=216						
KNK	Knik Glacier	7.09	31		Pn	20 19 45.6	+1.1
GLI	Glacier Island	7.13	38	P	Pn	20 19 45.0	0.0
	baz=224						
GLI	Glacier Island	7.13	38		Pn	20 19 44.7	-0.3
GHO	Glory Hole Cre	7.25	28		Pn	20 19 47.5	+0.7
FID	Port Fidalgo	7.27	40		Pn	20 19 46.1	-0.8
OKTU	Okmok Mt. Tuli	7.29	257		Pn	20 19 46.6	-0.6
TT01	Tatalina	7.36	0		Pn	20 19 50.8	+2.6
EYAK	Cordova Ski Ar	7.42	43	P	Pn	20 19 49.1	+0.2
	baz=230						
EYAK	Cordova Ski Ar	7.42	43	Pn	Pn	20 19 48.7	-0.2
SML	Sawmill	7.45	30	P	Pn	20 19 50.7	+1.4
	baz=215						
SML	Sawmill	7.45	30		Pn	20 19 50.2	+0.9
CUT	Chulitna	7.48	21	Pn	Pn	20 19 51.7	+1.9
SCM	Sheep Creek Mo	7.76	32		Pn	20 19 54.7	+1.0
DIV	Divide	7.78	40		Pn	20 19 54.3	+0.4
K20K	Telida	7.88	7	P	Pn	20 19 57.5	+2.2
	baz=188						
K20K	Telida	7.88	7		Pn	20 19 57.5	+2.2
HMT	Hamilton	7.90	48		Pn	20 19 55.3	-0.3
NIKH	Nikolski High	7.91	256	Pn	Pn	20 19 55.2	-0.4
KLU	Klutina	7.97	38	P	Pn	20 19 57.3	+0.8
	baz=225						
KLU	Klutina	7.97	38		Pn	20 19 57.0	+0.4
NICHA	Nichawak Mount	7.97	49		Pn	20 19 57.0	+0.4
SUCK	Suckling Hills	7.97	50	Pn	Pn	20 19 56.7	+0.2
SPIA	Saint Paul Isl	8.02	287	P	Pn	20 19 59.0	+1.8
	baz=97						
BMRM	Bremner River	8.12	44	P	Pn	20 19 58.8	+0.2
	baz=232						
BMRM	Bremner River	8.12	44		Pn	20 19 58.8	+0.2
WAT7	Susitna Watana	8.17	24		Pn	20 20 00.5	+1.1
WAT6	Susitna Watana	8.24	28	P	Pn	20 20 00.9	+0.6
	baz=214						
WAT6	Susitna Watana	8.24	28		Pn	20 20 00.9	+0.6
WAT1	Susitna Watana	8.24	25	P	Pn	20 20 01.6	+1.3
	baz=210						
WAT1	Susitna Watana	8.24	25		Pn	20 20 01.6	+1.3
GRIN	Grindle Hills	8.27	50		Pn	20 20 00.7	0.0
M24K	Tolsona, Glenn	8.32	34	P	Pn	20 20 02.6	+1.2
	baz=221						
M24K	Tolsona, Glenn	8.32	34		Pn	20 20 02.5	+1.1
KHIT	Khitrov Hills	8.38	49		Pn	20 20 02.6	+0.4
N25K	Chitina, Valde	8.52	40	P	Pn	20 20 04.7	+0.6
	baz=228						
N25K	Chitina, Valde	8.52	40		Pn	20 20 04.7	+0.6
KULT	Kultieth River	8.52	51		Pn	20 20 03.9	-0.2
WAX	Waxell Ridge	8.56	50		Pn	20 20 04.4	-0.2
CRQM	Cirque	8.59	47		Pn	20 20 05.5	+0.3
RND	Reindeer	8.68	22		Pn	20 20 05.4	-0.8
J20K	Nowinta River	8.69	6	P	Pn	20 20 08.7	+2.4
	baz=187						
J20K	Nowinta River	8.69	6		Pn	20 20 08.7	+2.4
GLB	Gilahina Butte	8.71	42		Pn	20 20 06.9	+0.2
TGL	Tana Glacier	8.72	48		Pn	20 20 07.4	+0.5
VRDI	Verde Repeater	8.72	44		Pn	20 20 07.1	+0.1
MESA	MESA	8.83	53	Pn	Pn	20 20 08.5	0.0
ISLE	Juniper Island	8.86	50		Pn	20 20 08.8	+0.1
HARP	HAARP	8.87	35	P	Pn	20 20 10.6	+1.8
	baz=223						
HARP	HAARP	8.87	35		Pn	20 20 10.6	+1.8
BAGL	Bagley Icefiel	8.91	51		Pn	20 20 09.1	-0.3
BPAW	Bear Paw Mtn.	8.93	15	P	Pn	20 20 12.5	+2.9
	baz=198						
BPAW	Bear Paw Mtn.	8.93	15		Pn	20 20 08.8	-0.9
MCK	McKinley	8.95	21		Pn	20 20 11.3	+1.4
KIAG	Kiagna River	9.01	48		Pn	20 20 10.3	-0.5
YAH	Yahtse	9.01	52		Pn	20 20 11.1	+0.2
BALM	Baldy	9.07	47		Pn	20 20 11.8	+0.2
PTPK	Patty Peak	9.10	46		Pn	20 20 12.0	-0.1
PAX	Paxson	9.19	32		Pn	20 20 15.0	+1.7
TABL	Table Mountain	9.31	52		Pn	20 20 15.4	+0.4
SAMH	Samovar Hills	9.35	54		Pn	20 20 15.0	-0.5
BARN	Barnard Glacie	9.37	48		Pn	20 20 15.9	+0.1
CTGM	Chitina Glacie	9.46	49		Pn	20 20 18.2	+1.2
LOGN	Logan Glacier	9.54	50		Pn	20 20 18.9	+0.8
PCA	Pinnacle	9.58	55		Pn	20 20 19.8	+1.2
PINM	Pinnacle	9.58	55	P	Pn	20 20 18.0	-0.6
	baz=247						
NEA2	Nenana	9.70	18	P	Pn	20 20 19.8	-0.4
	baz=203						
NEA2	Nenana	9.70	18		Pn	20 20 19.8	-0.4
MENT	Mentasta	9.72	36		Pn	20 20 22.2	+1.7
WRH	Wood River Hil	9.78	21		Pn	20 20 20.9	-0.3
BCPM	Bancas Point	9.82	57		Pn	20 20 22.0	+0.1
PNL	Peninsula	9.85	59		Pn	20 20 22.6	+0.3
I21K	Tanana	9.85	10	P	Pn	20 20 23.4	+1.2
	baz=193						
I21K	Tanana	9.85	10		Pn	20 20 23.4	+1.2
MLY	Manley	9.85	13	P	Pn	20 20 23.7	+1.4
	baz=197						
MLY	Manley	9.85	13		Pn	20 20 22.8	+0.5
RIDG	Independent Ri	9.96	30	P	Pn	20 20 26.2	+2.4
	baz=219						
RIDG	Independent Ri	9.96	30	Pn	Pn	20 20 25.2	+1.4
HDA	Harding Lake	9.97	24		Pn	20 20 24.0	+0.1
CCB	Clear Creek Bu	9.99	21		Pn	20 20 23.7	-0.4
YUK2	White River	10.08	46		Pn	20 20 26.4	+0.9
PS08	TAPS Pump Stn8	10.11	23		Pn	20 20 27.0	+1.2
DOT	Dot Lake	10.12	32		Pn	20 20 27.2	+1.3
ANM	Nome	10.13	337	Pn	Pn	20 20 27.5	+1.5
I23K	Minto, Yukon-K	10.16	16	P	Pn	20 20 26.2	-0.3
	baz=201						
I23K	Minto, Yukon-K	10.16	16		Pn	20 20 26.1	-0.3
TCOL	CIGO, UAF Yank	10.18	20		Pn	20 20 26.7	0.0
MDM	Murphy Dome	10.19	19		Pn	20 20 24.1	-2.7
YUK3	Moose Creek	10.23	46		Pn	20 20 28.5	+0.9
IL31		10.29	23		Pn	20 20 28.0	-0.2
ILAR	Eielson Array	10.29	23	Pn	Pn	20 20 27.9	-0.4
	comp=E,3.5nm,0.3s,baz=218,slow=14,SNR=36						
ILAR				Sn	Sn	20 22 17.4	-5.6
	comp=E,0.3nm,0.3s,baz=168,slow=38,SNR=2.4						
ILAR	Eielson Array	10.29	23		Pn	20 20 27.8	-0.5
SCRK	Sand Creek	10.39	31	P	Pn	20 20 30.2	+0.4
	baz=220						
SCRK	Sand Creek	10.39	31		Pn	20 20 30.7	+1.0
L27K	Beaver Creek,	10.45	38		Pn	20 20 32.3	+1.9
BC03		10.46	38		Pn	20 20 32.1	+1.5
BCAR	Beaver Creek A	10.46	38		Pn	20 20 32.5	+1.8
POKR	Poker Plat Res	10.48	21	P	Pn	20 20 31.8	+0.9
	baz=207						
POKR	Poker Plat Res	10.48	21		Pn	20 20 31.1	+0.2
IMAR	Indian Mountai	10.51	5		Pn	20 20 33.0	+1.7
H23K	Yukon River	10.77	15	P	Pn	20 20 35.0	+0.1
	baz=199						
H23K	Yukon River	10.77	15		Pn	20 20 35.0	+0.1
H24K	Noodor Dome	11.05	18	P	Pn	20 20 38.2	-0.4
	baz=204						
H24K	Noodor Dome	11.05	18		Pn	20 20 38.2	-0.4
HYT	Haines Junctio	11.12	54	Pn	Pn	20 20 41.1	+1.4
ATKA	Atka Island	11.19	260	Pn	Pn	20 20 39.9	-0.7
SIT	Sitka	11.63	74	Pn	Pn	20 20 45.8	-0.7
EGAK	Eagle	11.82	33		Pn	20 20 51.1	+2.0
DAWY	Dawson	11.93	38		Pn	20 20 52.4	+1.8
JIS	Juneau Island	12.16	68	Pn	Pn	20 20 55.5	+1.8
ADK	Adak	12.72	262	Pn	Pn	20 21 01.1	-0.5
CRAG	Craig	13.01	81	Pn	Pn	20 21 05.3	0.0
BM03	Burnt Mountain	13.06	20		Pn	20 21 05.2	-0.9
BMAR	Burnt Mountain	13.07	20	Pn	Pn	20 21 11.2	+4.9
TOLK	Toolik Lake Re	13.46	10	Pn	P	20 21 18.5	-2.2
EPYK	Eagle Plains	14.26	33		Pn	20 21 23.0	+0.5
DLBC	Dease Lake	14.46	68	Pn	P	20 21 29.5	-2.4
	comp=E,0.2nm,0.3s,baz=118,slow=20,SNR=1.6						
DLBC				Sn	Sn	20 24 04.1	-0.7
	comp=E,0.2nm,0.3s,baz=201,slow=11,SNR=2.3						
DLBC				LR	LR	20 26 47.5	
	comp=E,147nm,18.3s,baz=278,slow=36						
DLBC	Dease Lake	14.46	68		Pn	20 21 27.9	+2.6
INK	Inuvik	16.46	30	Pn	Pn	20 21 52.1	+0.8
	comp=E,0.6nm,0.3s,baz=226,slow=14,SNR=8.9						
INK				Sn	Sn	20 24 50.1	-3.1
	comp=E,0.1nm,0.3s,baz=70,slow=28,SNR=1.2						
INK	Inuvik	16.46	30	P	Pn	20 21 52.0	+0.8
	baz=230						
INK	Inuvik	16.46	30		P	20 21 52.9	-1.0
C36M	Paulatuk	19.89	34	P	Pn	20 22 32.8	-0.5
C36M				IAmb	IAmb	20 23 01.1	
	comp=Z,18nm,0.9s						
BILL	Bilibino	21.28	321	P	P	20 22 47.2	+0.5
BILL				IAmb	IAmb	20 22 48.6	
	comp=Z,22nm,0.9s						
YKA	Yellowknife Ar	22.11	55	P	P	20 22 57.0	+1.4
	comp=Z,2.1nm,0.7s,baz=277,slow=9.6,SNR=18						
EDM	Edmonton	24.71	78	P	P	20 23 23.5	+1.9
EDM				IAmb	IAmb	20 23 33.2	
	comp=Z,16nm,1.2s						
PEA0B	Petropavlovsk-	26.66	284	P	P	20 23 39.4	+0.2
PETK	Petropavlovsk-	26.66	284	P	P	20 23 39.5	+0.3
	comp=Z,8.8nm,0.5s,baz=75,slow=10,SNR=37						
PETK	Petropavlovsk-	26.66	284	P	P	20 23 38.7	-0.5
SEY	Seymchan	26.68	307	P	P	20 23 39.0	-0.2
	comp=Z,3.0nm,0.5s,baz=93,slow=11,SNR=19						
MA2	Magadan	28.13	300	P	P	20 23 53.3	+1.1
	comp=Z,2.8nm,0.7s,baz=84,slow=15,SNR=4.5						
MA2				LR	LR	20 36 38.5	
	comp=Z,26nm,19.1s,baz=107,slow=40						
MA2	Magadan	28.13	300	P	P	20 23 53.8	+1.6
MA2				IAmb	IAmb	20 24 27.9	
	comp=Z,16nm,1.4s						
NVAR	Mina Array Bea	30.46	108	P	P	20 24 17.9	+4.6
	comp=Z,0.1nm,0.3s,baz=331,slow=7.2,SNR=2.1						
NVAR				LR	LR	20 33 58.1	
	comp=Z,77nm,18.9s,baz=271,slow=31						
R11A	Troy Canyon, C	32.00	105	P	P	20 24 26.0	-0.9
PDAR	Pinedale Array	32.38	93	P	P	20 24 32.2	+2.0
	comp=Z,0.3nm,0.7s,baz=320,slow=6.7,SNR=2.8						
TIXI	Tiksi	34.20	327	P	P	20 24 45.3	-0.1
	comp=Z,4.1nm,0.8s,baz=77,slow=7.7,SNR=14						
TIXI	Tiksi	34.20	327	P	P	20 24 45.8	+0.3
TIXI				IAmb	IAmb	20 24 47.4	
	comp=Z,4.7nm,0.9s						
SRU	San Rafael Swe	34.27	99		P	20 24 48.4	+1.8
KNB	Kanab	34.48	104	P	P	20 24 48.2	-0.2
YAK	Yakutsk	37.00	311	P	P	20 25 09.1	-0.4
YSS	Yuzh-Sakhalins	38.06	283	P	P	20 25 18.8	+0.1
YSS				IAmb	IAmb	20 25 19.9	
	comp=Z,4.7nm,0.7s						
JKA	Kamikawa-asahi	39.88	280	P	P	20 25 33.6	-0.4
JKA				IAmb	IAmb	20 25 35.7	
	comp=Z,15nm,1.1s						
FRB	Frobisher Bay	41.59	42	LR	LR	20 44 27.2	
	comp=Z,68nm,18.5s,baz=285,slow=38						
TXAR	Lajitas Array	45.29	103	P	P	20 26 20.9	+2.7
	comp=Z,0.5nm,0.8s,baz=321,slow=7.1,SNR=6.5						
TXAR				LR	LR	20 44 02.8	
	comp=Z,42nm,18.8s,baz=0.0,slow=34						
TXAR	Lajitas Array	45.29	103	P	P	20 26 19.3	+1.1
MAT	Matsushiro	47.45	275	P	P	20 26 35.0	0.0
MJAR	Matsushiro Arr	47.45	275	P	P	20 26 35.4	+0.4
	comp=Z,1.0nm,0.5s,baz=40,slow=7.0,SNR=9.5						
CN2	Changchun	49.46	291	eP	P	20 26 50.3	-0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KSRS	Korea Array	52.56	283	P	P	20 27 15.1	+1.3
	comp=Z,4.0nm,0.9s,baz=47,slow=6.9,SNR=19						
KSRS				LR	LR	20 51 07.6	
	comp=Z,6.2nm,19.6s,baz=145,slow=38						
KSAR	Wonju Array Be	52.59	284	P	P	20 27 14.1	+0.1
ARCES	ARCESS Array B	55.20	359	P	P	20 27 33.2	+0.6
	comp=Z,0.7nm,0.4s,baz=8.9,slow=8.6,SNR=15						
ARCES	ARCESS Array B	55.20	359	IAmb	IAmb	20 28 12.4	
	comp=Z,6.2nm,1.2s						
ULN	Ulaanbaatar	55.74	306	P	P	20 27 36.6	-0.5
SONM	Songino Array	56.07	306	P	P	20 27 40.5	+1.2
	comp=Z,3.7nm,0.9s,baz=45,slow=7.3,SNR=28						
SONM				LR	LR	20 53 29.1	
	comp=Z,41nm,18.8s,baz=42,slow=38						
SONM	Songino Array	56.07	306	P	P	20 27 39.9	+0.5
SONM				IAmb	IAmb	20 27 41.5	
	comp=Z,5.6nm,1.1s						
HHC	Hu-ho-hao-te	58.76	298	eP	P	20 28 00.4	+2.0
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,6.6s						
ZAA0	Zalesovo Array	59.95	323	P	P	20 28 06.7	+0.4
ZAA0				IAmb	IAmb	20 28 08.5	
	comp=Z,4.9nm,1.2s						
ZALV	Zalesovo Beam	59.95	323	P	P	20 28 07.0	+0.7
	comp=Z,1.1nm,0.4s,baz=21,slow=6.1,SNR=8.0						
ZALV				LR	LR	20 56 38.0	
	comp=Z,33nm,18.4s,baz=20,slow=39						
ZALV	Zalesovo Beam	59.95	323	P	P	20 28 06.7	+0.4
NJ2	Nanjing	61.55	286	eP	P	20 28 16.5	-1.0
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLMR	Klimovskoe	63.26	352	eP	P	20 28 29.5	+1.0
KLMR				AMP		20 28 31.4	
	comp=Z,6.0nm,1.0s						
NOA	NORSAR Array B	63.30	7	LR	LR	20 57 45.5	
	comp=Z,8.1nm,19.1s,baz=240,slow=38						
FINES	FINESS Array B	63.31	359	P	P	20 28 30.2	+1.4
	comp=Z,2.8nm,0.9s,baz=0.0,slow=8.2,SNR=6.4						
ARU	Arti	64.86	340	P	P	20 28 39.0	0.0
BRVK	Borovoye	65.18	331	P	P	20 28 42.0	+0.8
GTA	Gaotai	65.58	304	eP	P	20 28 45.0	+0.8
GTA				pP	pP	20 28 50.0	-0.3
GTA				sP	sP	20 28 53.3	+0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,29nm,4.6s						
GTA				LR	LR		
	comp=N,60nm,16.7s						
GTA				LR	LR		
	comp=E,82nm,17.1s						
GTA				LR	LR		
	comp=Z,58nm,18.2s				

ellipse: s-maj=74.9km s-min=32.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.09**	**160**	Pn	Pn	21 14 58.9	+0.3
	0.5nm,0.3s,baz=341,slow=16,SNR=19						
WRA				Sn	Sn	21 17 25.1	-11
	0.4nm,0.3s,baz=320,slow=26,SNR=7.3						
ASAR	**Alice Springs**	**17.50**	**166**	P	Pn	21 15 42.6	-0.5
	0.2nm,0.3s,baz=335,slow=11,SNR=18						
ASAR				S	Sn	21 18 42.1	-17
	0.1nm,0.3s,baz=318,slow=20,SNR=4.6						
MKAR	**Makanchi Array**	**67.57**	**327**	P	P	21 22 36.0	+0.1
	0.2nm,0.7s,baz=126,slow=5.3,SNR=2.0						

*IDC **18** 21:14:53.4±0.8, 13°.93N×58°.38W, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/43, mbtmp3.8/11, ML4.4/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/30, Error ellipse: s-maj=21.7km s-min=17.9km az=175.0*
*TRN **18** 21:14:56.4, 13°.87N×58°.51W, h22km, MD4.3*
*NEIC **18** 21:14:57.1±2.4, 13°.95N±0°.04×58°.41W±0°.09, h20km±5km, mb4.2/8, Error ellipse: s-maj=12.2km s-min=6.4km az=82.0*

ISC 18 21:14:55.1±0.7, **13°.90N**±0°.04×**58°.42W**±0°.06, **h10km**, **n113**, σ1§**40**/124, **mb3.6**/10, **MS3.1**/7, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**232**	*eP*	**Pn**	**21 15 20.6**	**+1.6**
BBSP				*eS*	**Sb**	**21 15 35.6**	**-0.3**
BBGH	**Gun Hill**	**1.34**	**236**	*i P*	**Pn**	**21 15 20.7**	**+0.8**
BBGH				*eS*	**Sb**	**21 15 38.0**	**+0.4**
BBGH	**Gun Hill**	**1.34**	**236**	Pn	**Pn**	**21 15 20.9**	**+1.0**
BBGH				Sn	**Sb**	**21 15 39.5**	**+1.9**
BCHC	**Barbados, Cave**	**1.40**	**237**	*eP*	**Pn**	**21 15 22.0**	**+1.3**
BCHC	**Barbados, Cave**	**1.40**	**237**	*e*	**Pg**	**21 15 24.8**	**+2.7**
BCHC				*eS*	**Sn**	**21 15 38.8**	**-0.5**
H05S1	**Guadeloupe/Mar**	**2.41**	**283**	Pn	**Pn**	**21 15 34.1**	**-0.4**
H05S1				Sn	**Sn**	**21 16 01.8**	**-2.2**
	SNR=763						
MPOM	**Morne Pois Mar**	**2.43**	**283**	*eP*	**Pn**	**21 15 34.1**	**-0.7**
SLW	**Petit Monier**	**2.45**	**273**	*eP*	**Pn**	**21 15 36.2**	**+1.0**
MCLT	**Moule a Chique**	**2.46**	**266**	*eP*	**Pn**	**21 15 35.1**	**-0.1**
MCLT				*eS*	**Sn**	**21 16 03.8**	**-1.6**
MCLT	**Moule a Chique**	**2.46**	**266**	Pn	Pn	21 15 32.3	-3.0
SLBI	**Saint Lucia, B**	**2.48**	**273**	*eP*	**Pn**	**21 15 35.3**	**-0.4**
SLBI				*eS*	**Sn**	**21 16 02.0**	**-4.0**
SLBI				*eS*	Sb	21 16 03.1	-7.4
MVM	**Montagne Vaucl**	**2.49**	**285**	*eP*	**Pn**	**21 15 35.4**	**-0.4**
SLCP	**Castries, St.**	**2.50**	**273**	*eP*	**Pn**	**21 15 37.0**	**+1.1**
SLCP				*eS*	**Sn**	**21 16 03.2**	**-3.2**
ILAM	**Ilet Lapin Mar**	**2.54**	**290**	*eP*	**Pn**	**21 15 36.4**	**+0.1**
SLB	**Belfond**	**2.55**	**269**	*eP*	**Pn**	**21 15 38.3**	**+1.7**
LPMF	**Morne Lapointe**	**2.56**	**286**	*eP*	**Pn**	**21 15 36.3**	**-0.4**
SLDE	**Delcer**	**2.57**	**268**	*eP*	**Pn**	**21 15 37.4**	**+0.6**
ZAM	**Aeronautique**	**2.62**	**285**	*eP*	**Pn**	**21 15 37.1**	**-0.4**
BIM	**Bigot**	**2.65**	**284**	*eP*	**Pn**	**21 15 37.6**	**-0.3**
BHS	**Barnard House**	**2.70**	**258**	*eP*	**Pn**	**21 15 40.2**	**+1.6**
SSV	**Crater Summit**	**2.76**	**258**	*eP*	**Pn**	**21 15 40.0**	**+0.5**
FDF	**Fort de France**	**2.78**	**288**	*eP*	**Pn**	**21 15 39.9**	**+0.2**
SVV	**Soufriere Volc**	**2.78**	**258**	*eP*	**Pn**	**21 15 40.3**	**+0.6**
BAMF	**Morne Balai**	**2.80**	**289**	*eP*	**Pn**	**21 15 40.3**	**+0.3**
GBMF	**Grand Be**	**2.81**	**289**	*eP*	**Pn**	**21 15 40.4**	**+0.2**
PML	**Morne Lenard**	**2.82**	**288**	*eP*	**Pn**	**21 15 40.7**	**+0.4**
SVB	**Belmont**	**2.83**	**258**	*eP*	**Pn**	**21 15 40.0**	**-0.3**
SVB	**Belmont**	**2.83**	**258**		**Pn**	**21 15 40.0**	**-0.3**
SVN	**Savane Anatole**	**2.83**	**290**	*eP*	**Pn**	**21 15 41.3**	**+1.0**
PCM	**Pelee Case Pet**	**2.86**	**289**	*eP*	**Pn**	**21 15 41.5**	**+0.7**
DLPL	**La Plaine**	**3.09**	**298**	*eP*	**Pn**	**21 15 44.0**	**0.0**
DLPL				*eS*	**Sn**	**21 16 19.8**	**-1.2**
DLPL	**La Plaine**	**3.09**	**298**		**Pn**	**21 15 44.0**	**0.0**
GCMP	**Grenada, Carri**	**3.25**	**245**	*eP*	**Pn**	**21 15 45.7**	**-0.4**
GCMP				*eS*	**Sn**	**21 16 22.1**	**-2.8**
DSLB	**Salisbury**	**3.29**	**298**	*eP*	**Pn**	**21 15 47.0**	**+0.3**
DSLB				*eS*	**Sn**	**21 16 23.8**	**-2.0**
TOSP	**Speyside**	**3.31**	**219**	*eP*	**Pn**	**21 15 47.1**	**+0.1**
TOSP				*eS*	**Sn**	**21 16 24.9**	**-1.5**
TOSP	**Speyside**	**3.31**	**219**		**Pn**	**21 15 47.3**	**+0.3**
MAGL	**Barre de l'ile**	**3.44**	**307**	*eP*	**Pn**	**21 15 49.6**	**+0.8**
MAGL				*eS*	**Sn**	**21 16 28.2**	**-1.4**
H05N1	**Guadeloupe/Mar**	**3.50**	**314**	Pn	**Pn**	**21 15 48.5**	**-1.2**
H05N1				Sn	**Sn**	**21 16 28.9**	**-2.4**
	SNR=299						
GRGR	**Grenville**	**3.61**	**241**	*eP*	**Pn**	**21 15 51.0**	**-0.1**
GRGR				*eS*	**Sn**	**21 16 31.6**	**-2.3**
GRGR	**Grenville**	**3.61**	**241**	Pn	**Pn**	**21 15 51.0**	**-0.1**
TDBA	**Terre de Bas,**	**3.67**	**302**	*eP*	**Pn**	**21 15 53.7**	**+1.8**
TDBA				*eS*	**Sn**	**21 16 35.1**	**-0.2**
TBG	**Guadaloupe-3**	**3.68**	**302**	*eP*	**Pn**	**21 15 52.5**	**+0.5**
ABD	**La Joyeuse, An**	**3.92**	**311**	*eP*	**Pn**	**21 15 55.9**	**+0.5**
ABD				*eS*	**Sn**	**21 16 39.7**	**-1.7**
TBH	**Brigand Hill**	**4.27**	**218**	*eP*	**Pn**	**21 15 59.6**	**-0.6**
TRN	**Trinidad (W)**	**4.35**	**222**	*eP*	**Pn**	**21 16 01.9**	**+0.5**
TRN	**Trinidad (W)**	**4.35**	**222**	*eS*	**Sn**	**21 16 49.0**	**-3.1**
ANBD	**Bethesda, Anti**	**4.50**	**315**	*eP*	**Pn**	**21 16 03.3**	**0.0**
ANBD	**Bethesda, Anti**	**4.50**	**315**	*eS*	**Sn**	**21 16 54.2**	**-1.5**
BPA	**Boggy Peak**	**4.56**	**314**	*eP*	**Pn**	**21 16 04.3**	**+0.1**
BPA	**Boggy Peak**	**4.56**	**314**	*eS*	**Sn**	**21 16 55.4**	**-2.0**
ANDO	**Antigua, Disas**	**4.59**	**315**	*eP*	**Pn**	**21 16 05.6**	**+1.1**
ANDO	**Antigua, Disas**	**4.59**	**315**	*eS*	**Sn**	**21 16 57.6**	**-0.3**
ANOC	**Antigua Open C**	**4.59**	**315**	*eP*	**Pn**	**21 16 05.0**	**+0.4**
ANOC	**Antigua Open C**	**4.59**	**315**	*eS*	**Sn**	**21 16 55.9**	**-2.2**
TPP	**Pointe-a-Pierr**	**4.63**	**220**	*e*	Pn	21 16 03.0	-2.2
ANWB	**Willy Bob**	**4.96**	**320**	*eP*	**Pn**	**21 16 10.2**	**+0.6**
ANWB	**Willy Bob**	**4.96**	**320**	*eS*	**Sn**	**21 17 06.5**	**-0.5**
ANWB	**Willy Bob**	**4.96**	**320**	Pn	**Pn**	**21 16 08.9**	**-0.7**
SKI	**Saint Kitts**	**5.38**	**310**	*eP*	**Pn**	**21 16 16.8**	**+1.2**
SKI	**Saint Kitts**	**5.38**	**310**	*eS*	**Sn**	**21 17 16.9**	**-0.8**
SKI	**Saint Kitts**	**5.38**	**310**	Pn	**Pn**	**21 16 16.7**	**+1.2**
SABA	**Saba**	**5.94**	**309**	Pn	**Pn**	**21 16 23.1**	**0.0**
SMRT	**St. Maarten**	**6.09**	**313**		**Pn**	**21 16 25.0**	**-0.2**
PLCV	**Puerto La Cruz**	**7.09**	**239**		**Pn**	**21 16 39.3**	**+0.4**
PCRV	**Puerto La Cruz**	**7.12**	**239**	Pn	**Pn**	**21 16 39.3**	**-0.1**
	10nm,0.3s,baz=58,slow=4.5,SNR=37						
PCRV				Sn	**Sn**	**21 17 55.0**	**-5.5**
	1.2nm,0.3s,baz=356,slow=23,SNR=1.6						
ABVI	**Anegada Island**	**7.44**	**311**	Pn	**Pn**	**21 16 44.2**	**+0.4**
STVI	**Saint Thomas**	**7.68**	**306**	Pn	**Pn**	**21 16 48.5**	**+1.4**
CUPR	**Culebra, Puert**	**7.92**	**305**		**Pn**	**21 16 50.8**	**+0.4**
MTP	**Monte Pirata**	**8.03**	**302**	Pn	**Pn**	**21 16 52.2**	**+0.4**
CBYP	**Canovanas**	**8.37**	**302**	Pn	**Pn**	**21 16 58.1**	**+1.5**
PDPR	**Patillas Dam,**	**8.38**	**300**	Pn	**Pn**	**21 16 57.0**	**+0.3**
SJG	**San Juan**	**8.53**	**300**	Pn	**Pn**	**21 16 59.3**	**+0.5**
	2.5nm,0.3s,baz=144,slow=19,SNR=4.4						
SJG				Sn	Sn	21 18 26.9	-8.3
	4.7nm,0.3s,baz=331,slow=19,SNR=2.4						
SJG	**San Juan**	**8.53**	**300**	*eP*	**Pn**	**21 16 59.3**	**+0.5**
GCPR	**Guaynabo City**	**8.57**	**302**		**Pn**	**21 17 00.7**	**+1.4**
OBIP	**Obispado Ponce**	**8.89**	**299**	Pn	**Pn**	**21 17 03.8**	**+0.1**
AOPR	**Arecibo Observ**	**9.15**	**300**	*eP*	**Pn**	**21 17 08.6**	**+1.3**
AOPR	**Arecibo Observ**	**9.15**	**300**		**Pn**	**21 17 08.3**	**+1.1**
MLPR	**Magueyes Islan**	**9.23**	**297**	Pn	**Pn**	**21 17 07.5**	**-0.9**
MPR	**Mayaguez**	**9.42**	**298**	Pn	**Pn**	**21 17 11.8**	**+0.9**
AGPR	**Aguadilla, PR**	**9.51**	**300**	Pn	**Pn**	**21 17 13.3**	**+1.2**
MDP	**Montagnes des**	**10.43**	**146**	Pn	Pn	21 17 19.2	-5.6
	4.6nm,0.3s,baz=332,slow=17,SNR=40						
MDP				Sn	Sn	21 19 03.2	-19
	9.6nm,0.3s,baz=56,slow=18,SNR=14						
MDP				LR	LR	21 21 25.3	
	comp=Z,186nm,21.5s,baz=340,slow=38						
SDDR	**Presa de Saban**	**13.34**	**294**	*e*	**Pn**	**21 18 07.7**	**+3.0**
SDDR	**Presa de Saban**	**13.34**	**294**	Pn	**Pn**	**21 18 03.8**	**-0.8**
OCAC	**Ocana**	**15.66**	**251**	*eP*	**Pn**	**21 18 40.5**	**+4.2**
BARC	**Barichara**	**16.23**	**245**	*eP*	**P**	**21 18 50.1**	**+3.4**
RUSC	**La Rusia**	**16.48**	**243**	Pn	**Pn**	**21 18 48.2**	**+1.1**
RUSC				IAmb	IAmb	21 19 05.6	
	comp=Z,25nm,1.1s						
RUSC	**La Rusia**	**16.48**	**243**	*eP*	**P**	**21 18 52.6**	**+2.8**
SJCC	**San Jacinto, C**	**16.88**	**258**	Pn	**Pn**	**21 18 50.4**	**-1.2**
SJCC				IAmb	IAmb	21 19 03.8	
	comp=Z,26nm,1.4s						
ZARC	**Zaragoza, Cauc**	**17.36**	**250**	*eP*	**Pn**	**21 18 57.6**	**0.0**
UREC	**San Jos de Ur**	**17.88**	**252**	*eP*	**Pn**	**21 19 02.5**	**-1.7**
ROSC	**El Rosal**	**18.07**	**242**	P	**Pn**	**21 19 06.6**	**-0.3**
NORC	**Norcasia**	**18.20**	**245**	*eP*	**Pn**	**21 19 08.5**	**+0.5**
HELC	**Santa Helena**	**18.50**	**247**	*eP*	**P**	**21 19 10.4**	**-1.6**
DBBC	**Dabeiba**	**18.78**	**250**	*eP*	**P**	**21 19 13.5**	**-1.2**
GUY2C	**Guyana, Caldas**	**18.79**	**244**	*eP*	**P**	**21 19 14.8**	**-0.6**
TOLC	**Tolima**	**19.06**	**243**	*eP*	**P**	**21 19 16.8**	**-1.3**
SAML	**Samuel**	**23.19**	**192**	P	**P**	**21 20 01.4**	**-0.8**
ATAH	**Atahualpa**	**28.81**	**225**	P	**P**	**21 20 54.3**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=126,slow=12,SNR=1.3						
SIV	**San Ignacio**	**29.81**	**185**	P	**P**	**21 21 02.9**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=292,slow=11,SNR=1.8						
SIV				LR	LR	21 33 45.2	
	comp=Z,42nm,21.3s,baz=294,slow=38						
LPAZ	**La Paz**	**31.49**	**198**	P	**P**	**21 21 18.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=356,slow=8.2,SNR=3.7						
LPAZ	**La Paz**	**31.49**	**198**	P	**P**	**21 21 17.1**	**-0.9**
CPUP	**Villa Florida**	**40.00**	**178**	LR	LR	21 40 25.7	
	comp=Z,44nm,19.6s,baz=2.5,slow=38						
SCHQ	**Schefferville**	**41.37**	**353**	LR	LR	21 38 53.9	
	comp=Z,18nm,18.2s,baz=62,slow=35						
TXAR	**Lajitas Array**	**44.50**	**298**	P	**P**	**21 23 06.4**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=116,slow=8.1,SNR=2.8						
MNTX	**Cornudas Mount**	**46.39**	**301**	P	**P**	**21 23 21.7**	**-0.3**
MNTX				IAmb	IAmb	21 23 25.4	
	comp=Z,2.0nm,0.8s						
ULM	**Lac du Bonnet**	**47.32**	**328**	LR	LR	21 46 20.2	
	comp=Z,20nm,18.5s,baz=206,slow=40						
PDAR	**Pinedale Array**	**52.40**	**314**	P	**P**	**21 24 08.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=106,slow=9.6,SNR=2.1						
PDAR				LR	LR	21 48 40.0	
	comp=Z,20nm,20.0s,baz=98,slow=39						
PDAR	**Pinedale Array**	**52.40**	**314**	P	**P**	**21 24 07.6**	**-0.4**
KOWA	**Kowa**	**52.63**	**82**	P	**P**	**21 24 09.9**	**0.0**
	comp=Z,1.6nm,0.6s,baz=310,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**57.97**	**307**	LR	LR	21 54 15.8	
	comp=Z,34nm,18.6s,baz=90,slow=41						
TORD	**Torodi Ar. Bea**	**58.31**	**83**	P	**P**	**21 24 49.7**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=297,slow=8.7,SNR=1.7						
TORD				LR	LR	21 46 52.8	
	comp=Z,65nm,19.4s,baz=230,slow=33						
FINES	**FINESS Array B**	**75.28**	**30**	P	**P**	**21 26 38.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=261,slow=8.3,SNR=4.0						
BRTR	**Keskin Array B**	**82.81**	**51**	P	**P**	**21 27 19.4**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=188,slow=5.8,SNR=4.3						

*IDC **18** 21:16:07.4±1.5, 19°.08S×176°.92W, h350km±26km, mb2.8/3, mb1 3.2/6, mb1mx2.9/36, mbtmp3.9/6, Error ellipse: s-maj=27.6km s-min=23.6km az=146.0*

ISC 18 21:16:07.1±1.1, **19°.25**±0°.2×**176°.9W**±0°.2, **h344km**, **n6**, σ0§**46**/7, **mb2.9**/3, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.98**	**286**	P	**Pn**	**21 17 26.7**	**+0.3**
	1.2nm,0.3s,baz=122,slow=22,SNR=7.9						
AFI	**Afiamalu**	**7.17**	**44**	P	**Pn**	**21 17 51.2**	**-0.3**
	0.9nm,0.3s,baz=192,slow=20,SNR=2.0						
AFI				S	**S**	**21 19 16.8**	**+0.4**
	1.6nm,0.3s,baz=204,slow=20,SNR=1.3						
URZ	**Urewera**	**19.74**	**194**	P	**P**	**21 20 13.0**	**+0.4**
	2.2nm,0.3s,baz=16,slow=14,SNR=12						
STKA	**Stephens Creek**	**39.30**	**243**	P	**P**	**21 23 04.1**	**+0.1**
	0.5nm,0.4s,baz=82,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**45.81**	**261**	P	**P**	**21 23 55.8**	**-0.4**
	0.6nm,1.0s,baz=96,slow=7.5,SNR=4.7						
ASAR	**Alice Springs**	**45.83**	**255**	P	**P**	**21 23 55.9**	**-0.4**
	0.3nm,0.4s,baz=91,slow=7.6,SNR=11						

*TRN **18** 21:19:50.5, 13°.86N×58°.38W, h102km, MD4.2*

ISC 18 21:19:50.0±2.6, **13°.95N**±0°.05×**58°.4W**±0°.1, **h10km**, **n38**, σ1§**23**/50, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.32**	**231**	*e*	**Pg**	**21 20 16.0**	**+0.7**
BBSP	**Saint Philip**	**1.32**	**231**	*eP*	**Pg**	**21 20 16.0**	**+0.7**
BBSP				*eS*	**Sg**	**21 20 33.4**	**+0.9**
BBGH	**Gun Hill**	**1.37**	**235**	*eP*	**Pb**	**21 20 15.8**	**+0.1**
BBGH				*eS*	**Sg**	**21 20 35.6**	**+1.4**
BCHC	**Barbados, Cave**	**1.44**	**236**	*eP*	**Pb**	**21 20 17.1**	**+0.3**
BCHC				*eS*	**Sg**	**21 20 36.3**	**+0.1**
MPOM	**Morne Pois Mar**	**2.42**	**282**	*eP*	**Pn**	**21 20 29.6**	**-0.1**
SLW	**Petit Monier**	**2.46**	**272**	*eP*	**Pn**	**21 20 31.6**	**+1.5**
MCLT	**Moule a Chique**	**2.47**	**265**	*eP*	**Pn**	**21 20 31.3**	**+1.0**
MVM	**Montagne Vaucl**	**2.48**	**284**	*eP*	**Pn**	**21 20 30.8**	**+0.3**
SLBI	**Saint Lucia, B**	**2.49**	**272**	*eP*	**Pn**	**21 20 31.1**	**+0.5**
SLBI				*eS*	**Sn**	**21 21 01.1**	**+0.1**
SLCP	**Castries, St.**	**2.50**	**272**	*e*	**Pb**	**21 20 34.5**	**-0.5**
ILAM	**Ilet Lapin Mar**	**2.52**	**289**	*eP*	**Pn**	**21 20 31.4**	**+0.4**
LPMF	**Morne Lapointe**	**2.56**	**284**	*eP*	**Pn**	**21 20 31.6**	**+0.1**
SLB	**Belfond**	**2.56**	**268**	*eP*	**Pn**	**21 20 33.0**	**+1.4**
SLB				*eS*	**Sn**	**21 21 03.5**	**+0.6**
ZAM	**Aeronautique**	**2.61**	**284**	*eP*	**Pn**	**21 20 32.2**	**-0.1**
TRMF	**Trois Ilets**	**2.63**	**283**	*eP*	**Pn**	**21 20 32.7**	**+0.2**
FDF	**Fort de France**	**2.77**	**287**	*eP*	**Pn**	**21 20 34.9**	**+0.4**
SSV	**Crater Summit**	**2.77**	**257**	*eP*	**Pn**	**21 20 35.1**	**+0.6**
SSV				*eS*	**Sn**	**21 21 07.3**	**-0.9**
BAMF	**Morne Balai**	**2.79**	**288**	*eP*	**Pn**	**21 20 35.7**	**+0.9**
GBMF	**Grand Be**	**2.80**	**288**	*eP*	**Pn**	**21 20 35.5**	**+0.6**
SVV	**Soufriere Volc**	**2.80**	**257**	*eP*	**Pn**	**21 20 35.3**	**+0.4**
SVV				*eS*	**Sn**	**21 21 06.7**	**-2.0**
PML	**Morne Lenard**	**2.81**	**287**	*eP*	**Pn**	**21 20 35.9**	**+0.8**
SVN	**Savane Anatole**	**2.82**	**289**	*eP*	**Pn**	**21 20 36.2**	**+1.1**
SVB	**Belmont**	**2.84**	**257**	*eP*	**Pn**	**21 20 34.9**	**-0.5**
SVB				*eS*	**Sn**	**21 21 07.7**	**-2.1**
PCM	**Pelee Case Pet**	**2.85**	**288**	*eP*	**Pn**	**21 20 36.6**	**+1.1**
DLPL	**La Plaine**	**3.07**	**297**	*eP*	**Pn**	**21 20 39.4**	**+0.8**
DSLB	**Salisbury**	**3.27**	**297**	*eP*	**Pn**	**21 20 42.1**	**+0.8**
DSLB				*eS*	**Sn**	**21 21 20.0**	**-0.3**
GCMP	**Grenada, Carri**	**3.28**	**244**	*eP*	**Pn**	**21 20 41.2**	**-0.2**
GCMP				*eS*	**Sn**	**21 21 18.1**	**-2.4**
MAGL	**Barre de l'ile**	**3.42**	**306**	*eP*	**Pn**	**21 20 44.4**	**+1.1**
MAGL				*eS*	**Sn**	**21 21 23.7**	**-0.2**
GRGR	**Grenville**	**3.64**	**241**	*eP*	**Pn**	**21 20 45.8**	**-0.7**
GRGR				*eS*	**Sn**	**21 21 27.2**	**-2.3**
TDBA	**Terre de Bas,**	**3.65**	**302**	*eP*	**Pn**	**21 20 48.1**	**+1.6**
ABD	**La Joyeuse, An**	**3.89**	**311**	*eP*	**Pn**	**21 20 49.9**	**0.0**
ABD	**La Joyeuse, An**	**3.89**	**311**	*eS*	**Sn**	**21 21 35.1**	**-0.5**
ANBD	**Bethesda, Anti**	**4.47**	**314**	*eP*	**Pn**	**21 20 58.7**	**+0.9**
ANBD	**Bethesda, Anti**	**4.47**	**314**	*eS*	**Sn**	**21 21 47.0**	**-2.9**
BPA	**Boggy Peak**	**4.53**	**313**	*eP*	**Pn**	**21 20 59.0**	**+0.4**
BPA	**Boggy Peak**	**4.53**	**313**	*eS*	**Sn**	**21 21 48.7**	**-2.8**
SKI	**Saint Kitts**	**5.36**	**309**	*eP*	**Pn**	**21 21 11.4**	**+1.3**
SKI	**Saint Kitts**	**5.36**	**309**	*eS*	**Sn**	**21 22 08.6**	**-3.3**

*SOME **18** 21:29:42.6, 42°.90N×84°.17E, h5km*
*NNC **18** 21:29:45.5±1.6, 42°.98N×84°.10E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=12.7km s-min=6.4km az=141.0*

ISC 18 21:29:40.2±2.8, **42°.9N**±0°.1×**84°.27E**±0°.10, **h10km**, **n19**, σ1§**55**/24, **3C-5D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.92**	**283**	*eP*	**Pg**	**21 30 35.9**	**-0.3**
	11nm,0.4s						
KTMS				*eS*	**Sg**	**21 31 14.3**	**+0.2**
	35nm,0.2s						
KTMS	**Ketmen**	**2.92**	**283**	Pg	**Pg**	**21 30 36.1**	**0.0**
	19nm,0.2s						
KTMS				Lg	Lg	21 31 14.4	
	44nm,0.3s						
PDGK	**Podgornoye**	**3.53**	**279**	Pg	**Pg**	**21 30 47.2**	**-0.6**
	2.1nm,0.3s						
PDGK				Lg	Lg	21 31 33.7	
	6.2nm,0.3s						
PDGK	**Podgornoye**	**3.53**	**279**	⇑Pg	**Pg**	**21 30 48.2**	**+0.4**
	1.6nm,0.3s						
PDGK				⇑Lg	Lg	21 31 34.2	
	5.3nm,0.3s						
SHLS	**Shalkode**	**3.54**	**276**	*eP*	**Pb**	**21 30 41.8**	**-1.1**
	7.3nm,0.2s						
SHLS				*eS*	**Sb**	**21 31 24.6**	**-1.3**
	63nm,0.3s						
SHLS	**Shalkode**	**3.54**	**276**	Pg	**Pb**	**21 30 41.8**	**-1.1**
	7.3nm,0.2s						
SHLS				Lg	Lg	21 31 24.6	
	63nm,0.3s						
DJR	**Jarkent**	**3.57**	**296**	*eP*	**Pb**	**21 30 45.9**	**+2.5**
	3.9nm,0.5s						
DJR				*eS*	**Sg**	**21 31 31.5**	**-3.2**
	16nm,0.4s						
DJR	**Jarkent**	**3.57**	**296**	Pg	**Pb**	**21 30 45.9**	**+2.5**
	3.9nm,0.5s						
DJR				Lg	Lg	21 31 31.5	
	16nm,0.4s						
UZB	**Uzynbulak**	**3.86**	**276**	*eP*	**Pg**	**21 30 53.9**	**-0.1**
	3.8nm,0.4s						
UZB				*eS*	**Sg**	**21 31 44.9**	**+0.9**
	12nm,0.2s						
UZB	**Uzynbulak**	**3.86**	**276**	Pg	**Pg**	**21 30 54.0**	**-0.1**
	3.8nm,0.4s						
UZB				Lg	Lg	21 31 44.9	
	12nm,0.2s						
KPKS	**Kokpek**	**4.13**	**280**	*eP*	**Pg**	**21 30 59.0**	**-0.3**
	2.9nm,0.3s						
KPKS				*eS*	**Sg**	**21 31 53.7**	**+1.0**
	12nm,0.4s						
MK31	**Makanchi Array**	**4.17**	**341**	⇓Pg	**Pg**	**21 30 59.5**	**-0.5**
	0.5nm,0.4s,baz=154,slow=16,SNR=18						
MK31				Lg	Lg	21 31 54.1	
	1.5nm,0.3s,baz=158,slow=29,SNR=6.7						
MAKZ	**Makanchi**	**4.26**	**338**	⇓Pg	**Pg**	**21 31 01.1**	**-0.7**
	1.1nm,0.5s						
MAKZ				⇓Lg	Lg	21 31 57.8	
KAPS	**Kapalarasan**	**4.29**	**306**	*eP*	**Pg**	**21 31 00.6**	**-1.7**
	4.1nm,0.4s						
KAPS				*eS*	**Sg**	**21 31 56.8**	**-0.9**
	3.7nm,0.2s						
KAPS	**Kapalarasan**	**4.29**	**306**	Pg	**Pb**	**21 30 59.4**	**+3.8**
	5.1nm,0.7s						
KAPS				Lg	Lg	21 31 53.9	
	7.3nm,0.5s						
ZSN	**Zaisan**	**4.60**	**5**	*eP*	**Pg**	**21 31 07.0**	**-1.3**
	1.5nm,0.7s						
ZSN				*eS*	**Sg**	**21 32 07.9**	**+0.1**
	2.4nm,0.3s						
ZSN	**Zaisan**	**4.60**	**5**	Pg	**Pg**	**21 31 07.4**	**-0.9**
	1.4nm,0.4s						
ZSN				Lg	Lg	21 32 07.5	
	3.7nm,0.7s						
MDOK	**Medeo**	**5.30**	**276**	⇑Lg	Lg	21 32 35.5	
	1.0nm,0.4s						
TKM2	**Tokmak 2**	**6.37**	**273**	⇓Pg	Pb	21 31 37.7	+6.5
	0.4nm,0.3s						
TKM2				⇓Lg	Lg	21 33 04.5	
	2.0nm,0.6s						

*IDC **18** 22:17:08.4±1.1, 27°.68N×140°.23E, h475km±14km, mb3.0/10, mb1 3.1/12, mb1mx2.8/48, mbtmp3.9/12, Error ellipse: s-maj=26.9km s-min=15.2km az=69.0*
*JMA **18** 22:17:09.2±0.1, 27°.85N×139°.56E, h422km, M3.5*

ISC 18 22:17:07.9±0.7, **27°.79N**±0°.09×**140°.1E**±0°.1, **h450km**, **n18**, σ1§**76**/23, **mb3.4**/10, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.98**	**110**	P	**P**	**22 18 10.4**	**+2.1**
CBIJ				S	**S**	**22 18 58.5**	**+1.3**
JCJ	**Chichijima**	**1.98**	**110**	P	**P**	**22 18 10.3**	**+2.0**
	31nm,0.3s,baz=290,slow=21,SNR=11	

BHHZ			S	Sn	22 29 18.1	-0.9
MOVZ	**Moawhango**	**5.94 205**	P	Pn	22 28 11.8	+0.5
MOVZ			S	Sn	22 29 18.2	-1.6
KRHZ	**Kereru**	**5.96 200**	P	Pn	22 28 11.9	+0.4
KRHZ			S	Sn	22 29 18.2	-1.9
KAHZ	**Kahuranaki**	**5.97 196**	P	Pn	22 28 12.5	+0.8
KAHZ			S	Sn	22 29 20.8	+0.4
VRZ	**Vera Road**	**6.10 213**	P	Pn	22 28 17.7	+4.5
PXZ	**Pawanui**	**6.20 195**	P	Pn	22 28 16.6	+2.0
PNHZ	**Pukenui**	**6.26 200**	P	Pn	22 28 15.0	-0.3
WPHZ	**Waipukurau**	**6.33 198**	P	Pn	22 28 17.8	+1.4
TSZ	**Takapari Road**	**6.46 201**	P	Pn	22 28 18.2	+0.1
NEZ	**North Egmont**	**6.52 216**	P	Pn	22 28 24.9	+6.0
WAZ	**Wanganui**	**6.53 208**	P	Pn	22 28 21.0	+2.1
DVHZ	**Dannevirke**	**6.62 199**	P	Pn	22 28 20.4	+0.3
ANWZ	**Angora Road**	**6.70 197**	P	Pn	22 28 23.0	+2.0
POWZ	**Post Office Ro**	**6.82 201**	P	Pn	22 28 23.0	+0.3
PRWZ	**Pori Road**	**6.92 200**	P	Pn	22 28 25.4	+1.5
BFZ	**Birch Farm**	**6.96 198**	P	Pn	22 28 23.6	-0.9
MRZ	**Mangatainoka R**	**7.13 201**	P	Pn	22 28 25.4	-1.3
TIWZ	**Tintock**	**7.15 199**	P	Pn	22 28 26.9	0.0
OGWZ	**Otaki Gorge**	**7.40 203**	P	Pn	22 28 28.5	-1.7
TMWZ	**Te Maipa**	**7.45 198**	P	Pn	22 28 30.2	-0.7
KIW	**Kapiti Island**	**7.53 204**	P	Pn	22 28 30.8	-1.0
CAW	**Cannon Point**	**7.70 203**	P	Pn	22 28 33.2	-0.8
PAWZ	**Paruwai Farm**	**7.84 200**	P	Pn	22 28 34.2	-1.7
DUWZ	**D'Urville Isla**	**7.85 209**	P	Pn	22 28 34.4	-1.6
PLWZ	**Palliser**	**8.06 200**	P	Pn	22 28 38.0	-0.8
TCW	**Tory Channel**	**8.06 206**	P	Pn	22 28 36.8	-1.9
TUWZ	**Tuamarina**	**8.37 207**	P	Pn	22 28 40.6	-2.2
QRZ	**Quartz Range**	**8.49 215**	P	Pn	22 28 43.9	-0.5
BSWZ	**Blackbirch Sta**	**8.65 206**	P	Pn	22 28 44.5	-1.9
THZ	**Tophouse**	**9.07 210**	P	Pn	22 28 50.4	-1.5
KHZ	**Kahutara**	**9.38 206**	P	Pn	22 28 53.0	-2.9
DSZ	**Denniston Nort**	**9.54 214**	P	Pn	22 28 57.0	-1.2
LTZ	**Lake Taylor**	**10.18 209**	P	Pn	22 29 04.0	-2.3
INZ	**Inchbonnie**	**10.48 212**	P	Pn	22 29 08.1	-2.1
OXZ	**Oxford**	**10.73 208**	P	Pn	22 29 10.7	-2.6
MQZ	**McQueen's Vall**	**10.82 205**	P	Pn	22 29 10.7	-3.8
WVZ	**Waitaha Valley**	**11.07 213**	P	Pn	22 29 15.3	-2.5
MHCZ	**Mount Hutt**	**11.09 209**	P	Pn	22 29 15.1	-3.0
GCSZ	**Gaunt Creek Bo**	**11.45 214**	P	Pn	22 29 19.9	-2.7
MSVF	**Nonsavu**	**16.28 357**	P	Pn	22 30 24.7	+1.9
	0.3nm,0.3s,baz=198,slow=20,SNR=2.5					
CTA	**Charters Tower**	**32.15 287**	P	**P**	22 32 55.6	+1.8
	4.1nm,0.5s,baz=106,slow=10,SNR=6.6					
ASAR	**Alice Springs**	**40.55 273**	P	**P**	22 34 05.3	+0.4
	3.3nm,0.7s,baz=113,slow=7.5,SNR=39					
WRA	**Warramunga Arr**	**41.88 278**	P	**P**	22 34 15.9	+0.2
	3.9nm,0.7s,baz=119,slow=7.6,SNR=22					
VNDA	**Vanda**	**44.22 185**	P	**P**	22 34 34.5	+0.9
	0.7nm,0.6s,baz=359,slow=8.1,SNR=3.7					
QSPA	**South Pole Qui**	**56.06 180**	P	**P**	22 36 03.0	+0.2
	9.6nm,0.8s,baz=30,slow=4.3,SNR=51					
SNAA	**Sanae**	**74.56 179**	P	**P**	22 38 00.2	-1.1
VNA3	**Neumayer Olymp**	**74.81 177**	P	**P**	22 38 01.4	-1.3
VNA1	**Neumayer--Stat**	**75.46 178**	P	**P**	22 38 05.3	-0.9
FINES	**FINESS Array B**	**147.57 336**	PKPbc	**PKPdf**	22 46 02.4	+0.7
	1.5nm,0.7s,baz=44,slow=4.8,SNR=7.9					
BRTR	**Keskin Array B**	**151.84 292**	PKPbc	**PKPbc**	22 46 13.6	-2.4
	0.2nm,0.4s,baz=132,slow=4.8,SNR=4.1					
LIC	**Lamto**	**152.05 171**	*e*PKP2	**PKPbc**	22 46 15.7	-1.3
	53nm,1.3s					
KIC	**Kosan Boka**	**152.22 172**	*e*PKP2	**PKiKP**	22 46 17.1	-0.5
	22nm,1.0s					
TIC	**Toumodi**	**152.47 171**	*e*PKP2	**PKPbc**	22 46 16.7	-1.2
TORD	**Torodi Ar. Bea**	**159.04 187**	PKPab	**PKPab**	22 46 54.6	-2.2
	0.7nm,0.4s,baz=171,slow=4.2,SNR=6.6					

IDC 18 23:26:38.3±2.0, 7°.77S×127°.29E, $h0^{km}$, mb3.1/1, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=63.8km s-min=31.4km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.92**	**30**	Pn	Pn	23 28 34.8	0.0
	0.6nm,0.3s,baz=210,slow=20,SNR=1.2						
WRA	**Warramunga Arr**	**13.89**	**151**	Pn	Pn	23 29 56.3	-0.4
	0.4nm,0.3s,baz=331,slow=13,SNR=9.5						
WRA				Sn	Sn	23 32 20.2	-12
	0.3nm,0.3s,baz=330,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**17.03**	**159**	P	Pn	23 30 38.5	+0.3
	0.1nm,0.3s,baz=334,slow=10,SNR=8.8						
ASAR				S	Sn	23 33 40.1	-8.2
	0.1nm,0.3s,baz=344,slow=27,SNR=1.6						
MKAR	**Makanchi Array**	**67.43**	**328**	P	P	23 37 35.9	0.0
	0.1nm,0.5s,baz=138,slow=6.4,SNR=2.1						

*IDC **18** 23:42:58.3±1.1, 18°.04S×178°.35W, h614^{km}±14^{km}, mb3.4/12, mb1 3.6/14, mb1mx3.4/31, mbtmp4.3/14, Error ellipse: s-maj=18.7km s-min=11.9km az=132.0*
*NOU **18** 23:42:58.7, 18°.22S×178°.12W, h631^{km}, MLv5.2, Fiji Islands Region*
*NEIC **18** 23:42:58.3±1.9, 18°.0S±0°.1×178°.3W±0°.1, h615^{km}±8^{km}, mb4.4/37, Error ellipse: s-maj=18.9km s-min=15.1km az=129.0*
ISC 18 23:42:57.3±0.5, 17°.99S±0°.09×178°.39W±0°.08, h600^{km}, n80, σ1^{s}±46/84, mb4.3/31, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.40**	**274**	P	**P**	**23 44 23.2**	**+4.2**
	1.6nm,0.3s,baz=56,slow=6.2,SNR=16						
MSVF	**Nonsavu**	**3.40**	**274**	P	P	23 44 24.1	+5.1
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**23 44 53.0**	**+0.5**
	8.5nm,0.3s,baz=201,slow=3.2,SNR=8.1						
AFI				S	**S**	**23 46 23.1**	**-3.6**
	1.4nm,0.3s,baz=153,slow=22,SNR=1.7						
AFI	**Afiamalu**	**7.54**	**58**	P	**P**	**23 44 54.1**	**+1.6**
MARNC	**Mare, Loyalty**	**13.25**	**253**	P	**P**	**23 45 49.1**	**+0.5**
SANVU	**Saraoutou**	**14.03**	**278**	P	**P**	**23 45 57.9**	**+1.3**
PINNC	**Pines Island,**	**14.06**	**249**	P	**P**	**23 45 57.6**	**+0.9**
YATNC	**Mamie plateau,**	**14.41**	**251**	P	**P**	**23 46 02.4**	**+2.3**
OUENC	**Ouen Island, N**	**14.55**	**250**	P	**P**	**23 46 03.2**	**+1.9**
NOUC	**Port Laguerre**	**14.95**	**252**	P	**P**	**23 46 08.6**	**+3.6**
URZ	**Urewera**	**20.57**	**190**	P	**P**	**23 46 54.1**	**-1.8**
	3.3nm,0.3s,baz=11,slow=16,SNR=8.2						
URZ	**Urewera**	**20.57**	**190**	P	**P**	**23 46 54.2**	**-1.7**
BKZ	**Black Stump Fm**	**21.56**	**191**	P	**P**	**23 47 02.6**	**-2.4**
QRZ	**Quartz Range**	**24.06**	**197**	P	**P**	**23 47 26.8**	**-0.3**
QRZ	**Quartz Range**	**24.06**	**197**	P	**P**	**23 47 27.6**	**+0.6**
TUWZ	**Tuamarina**	**24.27**	**194**	P	**P**	**23 47 27.3**	**-1.5**
THZ	**Tophouse**	**24.83**	**196**	P	**P**	**23 47 32.9**	**-1.0**
DSZ	**Denniston Nort**	**25.12**	**197**	P	**P**	**23 47 36.8**	**+0.4**
KHZ	**Kahutara**	**25.30**	**194**	P	**P**	**23 47 36.6**	**-1.3**
GVZ	**Greta Valley S**	**25.94**	**194**	P	**P**	**23 47 42.1**	**-1.5**
LTZ	**Lake Taylor**	**25.95**	**196**	P	**P**	**23 47 42.1**	**-1.6**
INZ	**Inchbonnie**	**26.12**	**197**	P	**P**	**23 47 44.3**	**-0.8**
OXZ	**Oxford**	**26.52**	**196**	P	**P**	**23 47 47.6**	**-1.1**
MQZ	**McQueen's Vall**	**26.73**	**195**	P	**P**	**23 47 49.6**	**-0.8**
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**23 48 12.9**	**+0.2**
EIDS				IAmb	IAmb	23 48 14.2	
	comp=Z,11nm,0.7s						
ARMA	**Armidale**	**29.91**	**240**	P	**P**	**23 48 19.7**	**+1.2**
ARMA				IAmb	IAmb	23 48 20.7	
	comp=Z,16nm,0.8s						
KWAJ	**Kwajalein Atol**	**30.00**	**331**	P	**P**	**23 48 20.3**	**+1.1**
CAN	**Canberra**	**33.67**	**233**	P	**P**	**23 48 50.9**	**+0.8**
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**23 49 19.7**	**+1.0**
TOO				IAmb	IAmb	23 49 21.1	
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**23 49 31.9**	**+1.2**
	comp=Z,12nm,0.5s,baz=88,slow=9.5,SNR=26						
STKA	**Stephens Creek**	**38.61**	**241**	P	**P**	**23 49 31.5**	**+0.9**
BBOO	**Buckleboo**	**43.38**	**241**	P	**P**	**23 50 08.7**	**+0.3**
BBOO				IAmb	IAmb	23 50 09.5	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**44.45**	**260**	P	**P**	**23 50 16.8**	**+0.1**
WR0				IAmb	IAmb	23 50 36.9	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**23 50 17.6**	**-0.6**
	comp=Z,5.1nm,0.4s,baz=94,slow=6.9,SNR=80						
WRA				S	**S**	**23 56 04.8**	**-7.3**
	comp=Z,0.9nm,0.9s,baz=92,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**23 50 17.6**	**-0.6**
AS31	**Alice Springs**	**44.79**	**254**	P	**P**	**23 50 19.6**	**+0.3**
AS31				IAmb	IAmb	23 50 21.3	
	comp=Z,8.5nm,1.1s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**23 50 19.8**	**+0.4**
	comp=Z,14nm,0.4s,baz=92,slow=7.7,SNR=208						

ASAR				PcP	**PcP**	**23 51 47.4**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=101,slow=3.7,SNR=4.9						
ASAR				ScP	**ScP**	**23 54 43.4**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=99,slow=4.3,SNR=2.8						
ASAR				S	**S**	**23 56 11.4**	**-2.8**
	comp=Z,1.1nm,1.0s,baz=93,slow=15,SNR=5.1						
FORT	**Forrest**	**49.99**	**245**	P	**P**	**23 50 57.2**	**-0.8**
KNRA	**Kununurra**	**50.50**	**264**	P	**P**	**23 51 02.1**	**+0.2**
KNRA				IAmb	IAmb	23 51 02.2	
	comp=Z,19nm,1.0s						
SOEI	**Soe**	**56.09**	**270**	P	**P**	**23 51 41.9**	**+0.3**
SOEI				IAmb	IAmb	23 51 56.1	
	comp=Z,43nm,1.2s						
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**23 51 52.9**	**-0.8**
PSA00	**Pilbara Seismi**	**57.91**	**255**	P	**P**	**23 51 53.3**	**-0.4**
PSA00				IAmb	IAmb	23 52 17.6	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**59.19**	**242**	P	**P**	**23 52 01.8**	**-0.3**
NWAO				IAmb	IAmb	23 52 09.6	
	comp=Z,14nm,1.1s						
SBA	**Scott Base**	**60.34**	**184**	P	**P**	**23 52 10.6**	**+1.7**
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**23 52 09.5**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=359,slow=8.6,SNR=6.1						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**23 52 09.4**	**+0.4**
MORW	**Morawa**	**60.47**	**246**	P	**P**	**23 52 09.8**	**-0.9**
MORW				IAmb	IAmb	23 52 12.8	
	comp=Z,25nm,1.4s						
MJAR	**Matsushiro Arr**	**67.99**	**323**	P	**P**	**23 52 57.8**	**0.0**
	comp=Z,97nm,0.9s,baz=151,slow=6.5,SNR=7.9						
MAT	**Matsushiro**	**67.99**	**323**	P	**P**	**23 52 57.7**	**-0.2**
ADK	**Adak**	**69.59**	**1**	P	**P**	**23 53 06.5**	**-0.6**
UGM	**Wanagama**	**69.66**	**268**	P	**P**	**23 53 07.9**	**-0.5**
JHS	**Saijyo**	**69.97**	**319**	P	**P**	**23 53 10.2**	**+0.4**
JHS				IAmb	IAmb	23 53 12.0	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**23 53 21.4**	**-0.2**
QSPA				IAmb	IAmb	23 53 22.4	
	comp=Z,6.4nm,0.9s						
SSLB	**Suanglung**	**72.30**	**303**	P	**P**	**23 53 22.5**	**-1.1**
SSLB				IAmb	IAmb	23 53 50.1	
	comp=Z,18nm,1.1s						
PEA0B	**Petropavlovsk-**	**73.77**	**345**	P	**P**	**23 53 31.4**	**+0.1**
PEA0B				IAmb	IAmb	23 54 00.1	
	comp=Z,21nm,1.2s						
PETK	**Petropavlovsk-**	**73.77**	**345**	P	**P**	**23 53 31.2**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=110,slow=6.6,SNR=13						
CHIR	**Chirikof Islan**	**76.01**	**13**	P	**P**	**23 53 42.9**	**-0.8**
YBH	**Yreka Blue Hor**	**78.58**	**39**	P	**P**	**23 53 58.6**	**+0.5**
	comp=Z,2.1nm,1.0s,baz=48,slow=16,SNR=2.3						
BEKR	**Beckworth**	**78.94**	**42**	P	**P**	**23 53 60.0**	**-0.2**
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**23 54 03.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=227,slow=6.7,SNR=5.3						
H04A	**Detroit Lake**	**80.65**	**37**	P	**P**	**23 54 08.6**	**-0.2**
H04A				IAmb	IAmb	23 54 23.0	
	comp=Z,6.6nm,1.1s						
SCM	**Sheep Creek Mo**	**83.31**	**14**	P	**P**	**23 54 21.2**	**-0.6**
SCM				IAmb	IAmb	23 54 21.8	
	comp=Z,6.1nm,0.5s						
N25K	**Chitina, Valde**	**83.78**	**16**	P	**P**	**23 54 23.9**	**-0.2**
N25K				IAmb	IAmb	23 54 24.4	
	comp=Z,3.2nm,0.6s						
GLB	**Gilahina Butte**	**83.84**	**16**	P	**P**	**23 54 24.1**	**-0.3**
SEY	**Seymchan**	**83.86**	**347**	P	**P**	**23 54 23.8**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=119,slow=5.1,SNR=8.4						
CCB	**Clear Creek Bu**	**85.66**	**13**	P	**P**	**23 54 31.8**	**-1.3**
CCB				IAmb	IAmb	23 54 32.2	
	comp=Z,2.6nm,0.5s						
IL31		**85.97**	**13**	P	**P**	**23 54 33.5**	**-1.0**
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**23 54 33.5**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=222,slow=5.0,SNR=17						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**23 54 33.8**	**-0.7**
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**23 54 37.0**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=216,slow=6.2,SNR=7.4						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**23 54 36.7**	**+0.9**
PD31	**Pinedale Array**	**87.40**	**43**	P	**P**	**23 54 42.2**	**0.0**
PDAR	**Pinedale Array**	**87.40**	**43**	P	**P**	**23 54 41.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=226,slow=4.2,SNR=5.7						
PDAR	**Pinedale Array**	**87.40**	**43**		**P**	**23 54 42.1**	**0.0**
BMAR	**Burnt Mountain**	**88.74**	**12**	P	**P**	**23 54 47.5**	**0.0**
BRTR	**Keskin Array B**	**144.86**	**315**	PKP	**PKPdf**	**00 01 27.3**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=83,slow=3.4,SNR=4.4						
BRTR	**Keskin Array B**	**144.86**	**315**	PKPbc		00 01 28.1	0.0
CLL	**Collm**	**145.55**	**347**	⇑*i*PKPbc	**PKPbc**	**00 01 29.0**	**-0.5**
	comp=Z,4.0nm,0.7s						
CLL				*e*pPKiKP	**pPKiKP**	**00 03 52.0**	**+1.6**
CLL	**Collm**	**145.55**	**347**		**PKPdf**	**00 01 28.6**	**+0.7**
GERES	**GERESS Array B**	**147.70**	**345**	PKPbc	**PKPbc**	**00 01 34.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=31,slow=3.1,SNR=8.1						

*BJI **18** 23:48:04.6±0.0, 30°.22N×78°.85E, h10^{km}, mb4.3/15, ML4.0/1*
*IDC **18** 23:48:05.8±0.7, 30°.35N×79°.13E, h0^{km}, mb3.9/20, mb1 4.0/22, mb1mx3.9/42, mbtmp3.9/22, ML3.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/43, Error ellipse: s-maj=19.9km s-min=14.2km az=45.0*
*MOS **18** 23:48:08.2±1.1, 30°.49N×79°.22E, h25^{km}, mb4.7/14, Error ellipse: s-maj=10.4km s-min=5.2km az=117.8*
*NDI **18** 23:48:09.4±1.5, 30°.45N×79°.17E, h7^{km}±6^{km}, ML4.2, mb4.4(NEIC)*
*DMN **18** 23:48:11.1±0.3, 30°.58N×79°.07E, h10^{km}, Ml4.6/9, Error ellipse: s-maj=18.2km s-min=4.8km az=28.0*
ISC 18 23:48:09.9±1.4, 30°.41N±0°.04×79°.15E±0°.04, h23^{km}±10^{km}, n172, σ1^{s}±28/193, mb4.3/38, MS3.1/3, 14C-2D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**0.95**	**265**	*e*P	**Pn**	**23 48 28.5**	**+0.6**
DDI				*e*S	**Sn**	**23 48 41.7**	**+0.9**
DDI				IAML		23 48 43.9	
	comp=E,13μm,0.3s						
DDI				IAML		23 48 44.1	
	comp=N,14μm,0.8s						
DDI	**Dehra Dun**	**0.95**	**265**	*e*P	**Pn**	**23 48 28.3**	**+0.4**
DDI				*e*S	**Sn**	**23 48 41.5**	**+0.7**
DDI				IAML		23 48 57.6	
	comp=E,3μm,0.2s						
DDI				IAML		23 48 58.4	
	comp=N,3μm,0.1s						
PTH	**Pithoragarh**	**1.26**	**132**	*e*P	**Pn**	**23 48 32.3**	**+0.1**
PTH				*e*S	**Sn**	**23 48 48.0**	**-0.5**
SMLA	**Simla**	**1.85**	**293**	*e*P	**Pb**	**23 48 42.5**	**-0.6**
SMLA				*e*S	**Sb**	**23 49 06.3**	**+0.5**
SMLA				IAML		23 49 09.0	
	comp=E,2μm,0.5s						
SMLA				IAML		23 49 12.1	
	comp=N,4μm,0.4s						
SMLA	**Simla**	**1.85**	**293**	*e*P	**Pb**	**23 48 43.0**	**0.0**
SMLA				*e*S	**Sb**	**23 49 06.7**	**+0.9**
SMLA				IAML		23 49 11.6	
	comp=N,3μm,0.4s						
SMLA				IAML		23 49 12.1	
	comp=E,2μm,0.2s						
NDI	**New Delhi**	**2.41**	**225**	*e*P	**Pn**	**23 48 49.2**	**+1.4**
NDI				*e*S	**Sb**	**23 49 19.6**	**-2.2**
NDI	**New Delhi**	**2.41**	**225**	*e*P	**Pb**	**23 48 52.5**	**0.0**
NDI				*e*S	**Sb**	**23 49 23.5**	**+1.7**
KUDL	**Kundal**	**3.24**	**227**	*e*P	**Pn**	**23 49 02.4**	**+3.1**
KUDL				*e*x	**Sn**	**23 49 34.1**	**-3.1**
PYUN	**Piuthan**	**4.07**	**123**	*e*Pn	**Pn**	**23 49 13.0**	**+2.1**
PYUN				*e*Sn	**Sn**	**23 49 59.5**	**+1.6**
	comp=E,441nm,0.5s						
DANN	**Dangsing**	**4.51**	**116**	*e*Pn	**Pn**	**23 49 19.6**	**+2.5**
KOLN	**Koldanda**	**4.70**	**123**	*e*Pn	**Pn**	**23 49 22.4**	**+2.9**
KOLN				*e*Sn	**Sn**	**23 50 15.3**	**+1.9**
	comp=E,46nm,0.2s						
GKN	**Gorkha**	**5.36**	**115**	*e*Pn	**Pn**	**23 49 30.8**	**+2.2**
GKN				*e*Sn	**Sn**	**23 50 31.0**	**+1.3**
	comp=E,238nm,0.5s						
SARP	**Sargodha**	**5.75**	**287**	P	**Pn**	**23 49 35.0**	**+1.1**
SARP	**Sargodha**	**5.75**	**287**	P	**Pn**	**23 49 35.0**	**+1.1**
DMN	**Daman**	**5.91**	**117**	*e*Pn	**Pn**	**23 49 39.0**	**+2.7**
CHCP	**Chirah Chowk**	**5.96**	**304**	P	**Pn**	**23 49 38.4**	**+1.7**
NIL	**Nilore**	**5.96**	**304**	P	**Pn**	**23 49 37.6**	**+0.9**
NIL	**Nilore**	**5.96**	**304**		**Pn**	**23 49 37.6**	**+0.9**
KKN	**Kakani**	**5.96**	**114**	*e*Pn	**Pn**	**23 49 39.7**	**+2.7**
KKN				*e*Sn	**Sn**	**23 50 44.8**	**+0.1**
	comp=E,90nm,0.3s						
PKIN	**Phulchoki**	**6.15**	**116**	*e*Pn	**Pn**	**23 49 41.9**	**+2.3**
PKIN				*e*Sn	**Sn**	**23 50 49.8**	**+0.3**
	comp=E,144nm,0.3s						
PKI	**Pulchoki**	**6.17**	**116**	*e*Pn	**Pn**	**23 49 42.3**	**+2.4**

JIRN	**Jiri**	**6.74**	**112**	*e*Pn	**Pn**	**23 49 49.8**	**+2.0**
JIRN				*e*Sn	**Sn**	**23 51 03.1**	**-1.0**
	comp=E,72nm,0.3s						
THW	**Thamme Wali**	**6.75**	**293**	P	**Pn**	**23 49 48.8**	**+1.2**
CEP	**Cherat**	**7.02**	**301**	P	**Pn**	**23 49 50.8**	**-0.6**
BHPL	**Bhopal**	**7.30**	**193**	*e*P	**Pn**	**23 49 56.0**	**+0.8**
BHPL				*e*S	**Sn**	**23 51 15.9**	**-1.5**
BHPL				IAML		23 52 05.0	
	comp=E,148nm,0.7s						
BHPL				IAML		23 52 19.1	
	comp=N,136nm,0.7s						
BHPL	**Bhopal**	**7.30**	**193**	*e*P	**Pn**	**23 49 56.1**	**+0.9**
BHPL				*e*S	**Sn**	**23 51 14.6**	**-2.9**
BHPL				IAML		23 52 07.2	
	comp=E,188nm,0.4s						
BHPL				IAML		23 52 07.9	
	comp=N,120nm,0.2s						
RAMN	**Ramite**	**7.39**	**116**	*e*Pn	**Pn**	**23 49 58.6**	**+2.0**
RAMN				*e*Sn	**Sn**	**23 51 18.7**	**-1.3**
	comp=N,93nm,0.4s						
ODAN	**Odare**	**8.05**	**114**	*e*Pn	**Pn**	**23 50 07.9**	**+2.2**
ODAN				*e*Sn	**Sn**	**23 51 35.3**	**-0.9**
	comp=N,50nm,0.3s						
TAPN	**Taplejung**	**8.10**	**110**	*e*Pn	**Pn**	**23 50 08.2**	**+1.8**
TAPN				*e*Sn	**Sn**	**23 51 36.3**	**-1.1**
	comp=N,145nm,0.7s						
GTK	**Tadong**	**8.84**	**108**	*e*P	**Pn**	**23 50 18.2**	**+1.9**
GTK				*e*S	**Sn**	**23 51 52.9**	**-2.4**
BOK	**Bokaro**	**8.91**	**136**	*e*P	**Pn**	**23 50 18.2**	**+1.1**
BOK	**Bokaro**	**8.91**	**136**	*e*P	**Pn**	**23 50 18.3**	**+1.1**
BOK				*e*S	**Sn**	**23 51 52.8**	**-4.1**
BOK				IAML		23 53 10.9	
	comp=E,42nm,2.0s						
KSH	**Kashi**	**9.45**	**345**	P	**Pn**	**23 50 22.3**	**-2.4**
KSH				S	Sn	23 51 59.8	-11
KSH				smax	smax		
	comp=E,56nm,0.5s						
KSH				smax	smax		
	comp=E,87nm,0.5s						
KBL	**Kabul**	**9.48**	**298**	P	**Pn**	**23 50 25.6**	**+0.4**
KBL	**Kabul**	**9.48**	**298**		**Pn**	**23 50 25.6**	**+0.4**
LSA	**Lhasa**	**10.42**	**91**	P	**Pn**	**23 50 38.0**	**-0.4**
LSA	**Lhasa**	**10.42**	**91**	Pn	**Pn**	**23 50 38.0**	**-0.4**
DRK	**Karamyk**	**10.87**	**328**	Pn	**Pn**	**23 50 44.1**	**-0.3**
GAR	**Garm**	**11.23**	**322**	Pn	**Pn**	**23 50 47.8**	**-1.3**
TARG	**Taragay, Kyrgy**	**11.35**	**355**		**Pn**	**23 50 49.6**	**-1.4**
CHGR	**Chuyangaron**	**11.64**	**318**	Pn	**Pn**	**23 50 53.8**	**-0.9**
BTK	**Batken**	**11.79**	**327**	P	**Pn**	**23 50 55.8**	**-0.9**
BTK	**Batken**	**11.79**	**327**	Pn	**Pn**	**23 50 55.8**	**-0.9**
KDJ	**Kajisay**	**11.81**	**353**	P	**Pn**	**23 50 57.0**	**0.0**
KDJ	**Kajisay**	**11.81**	**353**	Pn	**Pn**	**23 50 57.0**	**0.0**
SHL	**Shillong**	**12.24**	**110**	P	**Pn**	**23 51 00.9**	**-2.1**
SHL	**Shillong**	**12.24**	**110**	Pn	**Pn**	**23 51 00.9**	**-2.1**
BOOM	**Boomskoye usch**	**12.33**	**349**	P	**Pn**	**23 51 04.6**	**+0.4**
BOOM	**Boomskoye usch**	**12.33**	**349**	Pn	**Pn**	**23 51 04.6**	**+0.4**
AAK	**Ala-Archa**	**12.76**	**344**	Pn	**Pn**	**23 51 09.2**	**-0.9**
	comp=E,1.2nm,0.3s,baz=174,slow=9.2,SNR=2.3						
AAK	**Ala-Archa**	**12.76**	**344**	P	**Pn**	**23 51 09.2**	**-0.9**
AAK	**Ala-Archa**	**12.76**	**344**		**Pn**	**23 51 08.7**	**-1.4**
HYB	**Hyder

BURAR	Bucovina Array	44.36 309	⇑P	P	23 56 18.3	-0.1
BURAR	Bucovina Array	44.36 309	⇓P	P	23 56 16.9	-1.6
BURAR	Bucovina Array	44.36 309	P	P	23 56 18.6	+0.2
BUR08	Bucovina Ar. S	44.37 309	P	P	23 56 19.1	+0.5
BUR08			IAmb	IAmb	23 56 32.2	
	comp=Z,2.3nm,1.1s					
FIA1	FINESS Array S	46.28 328	P	P	23 56 33.0	-0.3
FINES	FINESS Array B	46.29 328	P	P	23 56 33.4	+0.1
	comp=Z,1.9nm,0.5s,baz=113,slow=8.2,SNR=27					
FINES	FINESS Array B	46.29 328	P	P	23 56 33.5	+0.1
MDVR	Moldovita	46.79 305	⇑P	P	23 56 38.6	+0.9
BZS	Buzias	46.83 306	⇑P	P	23 56 38.7	+0.8
BZS	Buzias	46.83 306	⇑P	P	23 56 38.7	+0.8
MORH	Mrgy, Hungar	48.87 307	⇑P	P	23 56 53.1	-0.6
KEV	Kevo	48.95 339	P	P	23 56 54.5	+0.6
KEV			pmax	pmax		
	comp=Z,33nm,1.5s					
KEV	Kevo	48.95 339	P	P	23 56 54.5	+0.6
ARCES	ARCESS Array B	49.34 338	P	P	23 56 57.1	+0.2
	comp=Z,4.7nm,0.7s,baz=113,slow=8.2,SNR=36					
ARCES			LR	LR	00 19 38.6	
	comp=Z,26nm,19.9s,baz=90,slow=38					
ARCES	ARCESS Array B	49.34 338	P	P	23 56 57.5	+0.5
ARCES			pmax	pmax		
	comp=Z,3.0nm,0.9s					
ARCES	ARCESS Array B	49.34 338	P	P	23 56 57.5	+0.5
ARCES			IAmb	IAmb	23 57 00.2	
	comp=Z,3.5nm,0.9s					
GERES	GERESS Array B	52.03 310	P	P	23 57 18.0	+0.3
	comp=Z,0.3nm,0.6s,baz=94,slow=9.4,SNR=4.5					
GERES	GERESS Array B	52.03 310	P	P	23 57 18.0	+0.3
GERES	GERESS Array B	52.03 310	P	P	23 57 17.7	0.0
NC303	NORSAR Array S	53.22 326	P	P	23 57 26.0	-0.1
NB2	NORSAR Subarra	53.28 326	P	P	23 57 26.1	-0.5
	comp=Z,1.0nm,0.6s,baz=94,slow=7.4					
NOA	NORSAR Array B	53.28 326	P	P	23 57 26.2	-0.4
	comp=Z,0.9nm,0.6s,baz=95,slow=7.1,SNR=4.7					
NOA	NORSAR Array B	53.28 326	P	P	23 57 26.2	-0.4
MURB	Monte Urbino	53.54 304	P	P	23 57 29.8	+1.0
MURB			IAmb	IAmb	23 57 31.5	
	comp=Z,8.5nm,1.0s					
TNTI	Ternate	54.38 113	P	P	23 57 35.5	+0.2
SALO	Salr	54.57 307	P	P	23 57 37.2	+0.9
SALO			IAmb	IAmb	23 57 37.9	
	comp=Z,7.8nm,1.0s					
MA2	Magadan	55.10 36	P	P	23 57 40.3	+0.4
MA2			pmax	pmax		
	comp=Z,19nm,1.4s					
MA2	Magadan	55.10 36	P	P	23 57 40.3	+0.4
SENIN	Lac Senin/Sane	56.66 308	P	P	23 57 51.9	+0.4
SENIN			IAmb	IAmb	23 57 52.4	
	comp=Z,4.2nm,0.8s					
BNI	Bardonecchia	57.34 307	P	P	23 57 56.4	+0.1
BNI			pmax	pmax		
	comp=Z,6.0nm,1.3s					
BNI	Bardonecchia	57.34 307	P	P	23 57 56.4	+0.1
BNI			IAmb	IAmb	23 58 06.2	
	comp=Z,6.3nm,1.3s					
KEST	Kesra	57.62 295	P	P	23 57 57.4	-1.0
	comp=Z,2.3nm,0.9s,baz=51,slow=6.5,SNR=5.1					
KEST	Kesra	57.62 295	P	P	23 57 58.2	-0.2
KEST			IAmb	IAmb	23 58 14.7	
	comp=Z,3.0nm,0.9s					
BILL	Bilibino	61.12 25	eP	P	23 58 21.8	-0.1
BILL			pmax	pmax		
	comp=Z,3.0nm,0.8s					
ESDC	Sonseca Array	66.41 303	P	P	23 58 56.8	-0.5
	comp=Z,1.3nm,0.8s,baz=58,slow=6.8,SNR=13					
ESDC	Sonseca Array	66.41 303	P	P	23 58 57.0	-0.3
PAB	San Pablo	66.73 303	P	P	23 58 59.7	+0.3
PAB			pmax	pmax		
	comp=Z,11nm,1.5s					
PAB	San Pablo	66.73 303	P	P	23 58 59.7	+0.3
TORD	Torodi Ar. Bea	72.75 275	P	P	23 59 36.1	-0.6
	comp=Z,2.4nm,0.7s,baz=53,slow=5.0,SNR=19					
TORD	Torodi Ar. Bea	72.75 275	P	P	23 59 36.6	-0.1
TORD			IAmb	IAmb	23 59 50.9	
	comp=Z,3.5nm,1.4s					
WB0	Warramunga Arr	72.87 126	P	P	23 59 37.5	+0.3
WB0			IAmb	IAmb	00 00 11.9	
	comp=Z,10nm,1.4s					
WRA	Warramunga Arr	72.95 126	P	P	23 59 37.6	-0.1
	comp=Z,2.1nm,0.9s,baz=320,slow=5.9,SNR=7.8					
WRA	Warramunga Arr	72.95 126	P	P	23 59 37.6	-0.1
TOLK	Toolik Lake Re	74.94 17	P	P	23 59 48.7	0.0
ASAR	Alice Springs	75.16 129	P	P	23 59 49.8	-0.8
	comp=Z,0.7nm,0.7s,baz=314,slow=5.6,SNR=8.9					
ASAR	Alice Springs	75.16 129	P	P	23 59 50.8	+0.2
ASAR	Alice Springs	75.16 129	P	P	23 59 50.8	+0.2
LBTB	Lobatse	75.29 229	P	P	23 59 51.9	+0.5
LBTB			pmax	pmax		
	comp=Z,5.0nm,1.2s					
LBTB	Lobatse	75.29 229	P	P	23 59 51.9	+0.5
LBTB			IAmb	IAmb	00 00 27.4	
	comp=Z,4.7nm,1.2s					
KOWA	Kowa	77.01 279	P	P	00 00 01.6	+0.2
KOWA			IAmb	IAmb	00 00 16.4	
	comp=Z,13nm,1.5s					
BMAR	Burnt Mountain	77.08 16	P	P	00 00 01.6	+0.6
BOSA	Boshof	78.02 227	P	P	00 00 06.5	-0.2
	comp=Z,1.7nm,0.8s,baz=59,slow=5.9,SNR=3.8					
BOSA	Boshof	78.02 227	P	P	00 00 06.7	0.0
BOSA			pmax	pmax		
	comp=Z,8.0nm,1.4s					
BOSA	Boshof	78.02 227	P	P	00 00 06.7	0.0
BOSA			IAmb	IAmb	00 00 31.2	
	comp=Z,8.2nm,1.4s					
PPLA	Purkeypile	78.43 21	P	P	00 00 09.9	+1.3
ILAR	Eielson Array	78.58 18	P	P	00 00 07.4	-1.9
	comp=Z,0.4nm,0.4s,baz=321,slow=4.1,SNR=5.1					
ILAR	Eielson Array	78.58 18	P	P	00 00 07.4	-1.9
YKA	Yellowknife Ar	86.77 6	P	P	00 00 52.3	+0.5
	comp=Z,0.2nm,0.5s,baz=36,slow=1.5,SNR=1.4					
YKA	Yellowknife Ar	86.77 6	P	P	00 00 52.3	+0.5

*IDC **18** 23:59:00.0±0.9, 31°.54N×90°.05E, h0km, mb3.5/9, mb1 3.7/10, mb1mx3.5/59, mbtmp3.5/10, ML4.2/2, Error ellipse: s-maj=31.9km s-min=18.7km az=61.0*

ISC 18 23:59:03.6±0.8, 31°.80N±0°.09×90°.6E±0°.1, h10km, n24, σ1°.67/20, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	Taplejung	5.08	210	eP	Pn	00 00 22.0	+2.0
	32nm,0.3s						
JIRN	Jiri	5.60	224	eP	Pn	00 00 29.5	+2.2
	29nm,0.4s						
ODAN	Odare	5.64	210	eP	Pn	00 00 29.1	+1.4
	35nm,0.4s						
RAMN	Ramite	5.93	217	eP	Pn	00 00 32.5	+0.7
	62nm,0.4s						
KKN	Kakani	6.08	230	eP	Pn	00 00 35.6	+1.9
	23nm,0.5s						
PKI	Pulchoki	6.14	228	eP	Pn	00 00 35.5	+0.8
	40nm,0.3s						
PKIN	Phulchoki	6.15	228	eP	Pn	00 00 35.8	+1.1
	50nm,0.4s						
DMN	Daman	6.31	230	eP	Pn	00 00 39.2	+2.2
	34nm,0.4s						
GKN	Gorkha	6.38	235	eP	Pn	00 00 38.5	+0.7
	28nm,0.4s						
DANN	Dangsing	6.81	241	eP	Pn	00 00 45.5	+1.6
	27nm,0.3s						
KOLN	Koldanda	7.25	238	eP	Pn	00 00 50.8	+1.0
	9.5nm,0.2s						
PYUN	Piuthan	7.52	243	eP	Pn	00 00 54.7	+1.1
	56nm,0.4s						
BRDH	Bariadhala	9.13	174	Pn	Pn	00 01 11.6	-3.9
	2.8nm,0.3s,baz=253,slow=19,SNR=2.2						
CMAR	Chiang Mai Arr	15.29	148	Pn	Pn	00 02 39.2	-0.4
	0.4nm,0.3s,baz=325,slow=13,SNR=1.7						
MKAR	Makanchi Array	16.27	339	Pn	Pn	00 02 52.2	+0.1
	0.0nm,0.3s,baz=146,slow=13,SNR=6.0						
SONM	Songino Array	20.05	32	P	P	00 03 39.2	+2.2
	1.3nm,0.8s,baz=215,slow=12,SNR=6.4						
KURBB	Kurchatov Arra	20.82	338	P	P	00 03 43.3	-1.8
	0.3nm,0.6s,baz=175,slow=8.4,SNR=1.7						
ZALV	Zalesovo Beam	22.52	351	P	P	00 04 04.6	+1.3
	0.5nm,0.7s,baz=116,slow=3.4,SNR=1.8						
BRTR	Keskin Array B	46.19	296	P	P	00 07 23.1	-5.7
	0.3nm,0.8s,baz=103,slow=7.3,SNR=2.3						
GERES	GERESS Array B	58.56	311	P	P	00 08 57.1	-3.3
	0.3nm,0.6s,baz=112,slow=14,SNR=3.9						
WRA	Warramunga Arr	66.39	135	P	P	00 09 51.1	-1.9
	0.9nm,0.8s,baz=323,slow=6.7,SNR=2.9						
ASAR	Alice Springs	69.00	138	P	P	00 10 07.8	-1.6
	0.6nm,0.7s,baz=323,slow=6.1,SNR=6.8						
ILAR	Eielson Array	73.90	22	P	P	00 10 39.3	+0.9
	0.4nm,0.8s,baz=290,slow=5.4,SNR=2.5						
TORD	Torodi Ar. Bea	82.24	281	P	P	00 11 22.8	-2.8
	0.6nm,0.7s,baz=51,slow=4.3,SNR=4.1						

*DDA **19** 00:08:00.1, 36°.11N×28°.43E, h7km±5km, ML1.8*
*ISK **19** 00:08:01.3, 36°.25N×28°.45E, h59km±1km, ML2.4/14*
*NIC **19** 00:08:02.1±0.0, 36°.02N×28°.61E, h22km, Ml2.9/2*

ISC 19 00:08:01.2±1.5, 36°.17N±0°.05×28°.44E±0°.04, h59km±10km, n34, σ0°.72/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.26	280	PG	Pn	00 08 11.6	+0.7
ARG				SG	Sn	00 08 18.8	+0.8
ARG	Arkhangelos	0.26	280	P	Pn	00 08 11.5	+0.5
ARG				S	Sn	00 08 18.4	+0.4
MRSB	Marmaris-Mugla	0.58	340	PG	Pn	00 08 13.6	-0.4
MRSB				SG	Sn	00 08 22.7	-0.6
TURN	Turunc	0.62	345	i P	Pn	00 08 14.4	-0.1
TURN				i S	Sn	00 08 23.7	-0.4
TURN				IAML		00 08 24.0	
	comp=N,56nm,0.2s						
TURN				IAML		00 08 24.0	
	comp=E,52nm,0.3s						
TURN	Turunc	0.62	345	PG	Pn	00 08 14.4	-0.1
TURN				SG	Sn	00 08 23.8	-0.4
DALY	Dalyan (Mula)	0.67	15	i P	Pn	00 08 14.7	-0.3
DALY				i S	Sn	00 08 24.2	-0.8
DALY				IAML		00 08 25.0	
	comp=N,42nm,0.4s						
DALY	Dalyan (Mula)	0.67	15	PG	Pn	00 08 14.8	-0.2
DALY				SG	Sn	00 08 24.4	-0.6
FETY	Fethiye	0.69	48	i P	Pn	00 08 14.9	-0.5
FETY				IAML		00 08 25.0	
	comp=N,78nm,0.6s						
FETY				IAML		00 08 25.0	
	comp=E,54nm,0.5s						
FETY				i S	Sn	00 08 25.1	-0.6
FETY	Fethiye	0.69	48	PG	Pn	00 08 14.9	-0.5
DAT	Datca	0.89	309	i P	Pn	00 08 18.1	+0.2
DAT				i S	Sn	00 08 30.1	-0.2
DAT				IAML		00 08 31.0	
	comp=E,32nm,0.8s						
DAT				IAML		00 08 34.0	
	comp=N,27nm,0.4s						
DAT	Datca	0.89	309	PG	Pn	00 08 17.9	0.0
KSL	Kastellorizon	0.92	91	P	Pn	00 08 18.0	-0.2
KSL				S	Sn	00 08 29.6	-1.1
AKAS	Kas	0.94	86	i P	Pn	00 08 18.9	+0.2
AKAS				i S	Sn	00 08 31.3	-0.1
AKAS				IAML		00 08 32.0	
	comp=N,28nm,0.3s						
AKAS				IAML		00 08 33.0	
	comp=E,18nm,0.5s						
AKAS	Kas	0.94	86	PG	Pn	00 08 18.8	+0.2
YER	Yerkesik	0.97	352	PG	Pn	00 08 19.2	+0.3
CAME	Cameli-Denizli	1.03	42	PG	Pn	00 08 19.9	+0.1
MULA	Mugla, Merkez-	1.09	355	i P	Pn	00 08 20.9	+0.5
MULA				IAML		00 08 39.0	
	comp=E,34nm,0.1s						
MULA				IAML		00 08 39.0	
	comp=N,22nm,0.4s						
NIS1	Nisyros Isl.	1.11	293	PN	Pn	00 08 21.2	+0.6
CAEL	Denizli, Camel	1.18	36	i P	Pn	00 08 21.9	+0.1
CAEL				i S	Sn	00 08 37.4	+0.3
CAEL				IAML		00 08 38.0	
	comp=N,30nm,1.2s						
CAEL				IAML		00 08 49.0	
	comp=E,39nm,1.4s						
MLSB	Milas	1.24	335	PN	Pn	00 08 22.3	-0.2
BODT	Bodrum	1.27	315	PN	Pn	00 08 22.7	-0.1
ELL	Elmali	1.31	64	PN	Pn	00 08 23.9	+0.4
ELL	Elmali	1.31	64	P	Pn	00 08 24.4	+0.9
ELL				S	Sn	00 08 42.0	+1.8
TAVA	DENIZLI_Tavas	1.34	16	i P	Pn	00 08 23.6	-0.3
TAVA				i S	Sn	00 08 39.9	-1.0
GOLH	Golhisar	1.39	40	i P	Pn	00 08 26.7	+2.1
GOLH				i S	Sn	00 08 43.9	+1.9
GOLH				IAML		00 08 44.0	
	comp=N,16nm,0.6s						
KORT	Korkueli	1.74	61	PN	Pn	00 08 30.0	+0.7
GCAM	G?zelcaml?	1.81	328	PN	Pn	00 08 30.6	+0.6
AYDB	Zeytinkoy-Aydi	1.83	346	PN	Pn	00 08 29.6	-0.8
AKMS	Akamas	3.37	109	P	Pn	00 08 51.2	-0.3
AKMS				AML	AML	00 09 29.7	
	comp=N,0.1nm,0.3s						
AKMS				AML	AML	00 09 31.6	
OSC1	CSNet OBS 1	3.54	138	S	Sn	00 09 33.2	-1.1
NATA	Nata	3.64	111	P	Pn	00 08 55.2	+0.1
SZAC	Souni	3.89	110	P	Pn	00 08 58.6	0.0
ASGA	Asgata	4.16	108	P	Pn	00 09 01.9	-0.2
ASGA				AML	AML	00 09 49.3	
ASGA				AML	AML	00 09 49.7	
CSS	Mathiatis	4.16	105	P	Pn	00 09 02.0	-0.2

*IDC **19** 00:36:43.8±4.3, 51°.87N×178°.43E, h75km±39km, mb3.5/16, mb1 3.7/18, mb1mx3.5/41, mbtmp3.9/18, ML3.4/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/40, Error ellipse: s-maj=23.2km s-min=12.1km az=170.0*
*NEIC **19** 00:36:46.5±1.4, 51°.8N±0°.1×178°.39E±0°.10, h102km±6km, Error ellipse: s-maj=18.9km s-min=8.7km az=183.0*
*AEIC **19** 00:36:47±1.3, 51°.8N±0°.1×178°.41E±0°.10, h101km±5km, ML3.6, mb4.1/55(NEIC), Error ellipse: s-maj=21.5km s-min=8.5km az=184.0*

ISC 19 00:36:46.4±0.8, 51°.8N±0°.1×178°.42E±0°.05, h101km±7km, n105, σ0°.80/106, mb4.0/35, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.14	26		Pn	00 37 01.2	+0.6
LSNW	Little Sitkin	0.16	23		Pn	00 37 00.8	+0.3
LSPA	Little Sitkin	0.16	37		Pn	00 37 01.1	+0.6
AMKA	Amchitka	0.71	129		Pn	00 37 04.0	+0.1
AMKA				Sn	Sn	00 37 16.9	-0.2
CESW	Semis' Southwe	0.72	84		Pn	00 37 04.1	+0.2
CEAP	Semis' Anvil P	0.74	76		Pn	00 37 04.7	+0.5
CERB	Semis' Cerberu	0.76	82		Pn	00 37 04.5	+0.2
CERAA	Semis' Rag'd T	0.79	84		Pn	00 37 05.0	+0.3
GALAA	Gareloi Lava P	1.75	91		Pn	00 37 16.1	+0.4
TASE	Tanaga Southea	2.20	88		Pn	00 37 21.6	0.0
TAFP	Tanaga Falls P	2.23	87		Pn	00 37 21.9	-0.1
KIMD	Kanaga Island	2.70	90		Pn	00 37 28.1	0.0
KIWB	Kanaga Island	2.75	88	Pn	Pn	00 37 29.2	+0.5
SMY	Shemya	2.80	291		Pn	00 37 29.1	-0.4
ADK	Adak	3.04	87		Pn	00 37 32.5	-0.1
ATKA	Atka Island	4.58	82		Pn	00 37 53.4	+0.1
NIKH	Nikolski High	7.87	77		Pn	00 38 38.8	+0.8
SPIA	Saint Paul Isl	8.49	46	Pn	Pn	00 38 47.2	+0.8
MAPS	Pakushin South	9.09	72		Pn	00 38 55.3	+0.8
AKUT	Akutan	9.81	70	Pn	Pn	00 39 06.0	+1.7
PETK	Petropavlovsk-	12.69	284	P	Pn	00 39 43.0	-0.1
	0.1nm,0.3s,baz=95,slow=10,SNR=2.0						
PETK				LR	LR	00 44 53.6	
	comp=Z,27nm,18.8s,baz=136,slow=39						
SDPT	Sand Point	13.01	66	Pn	Pn	00 39 45.5	-1.7
CHIR	Chirikof Islan	15.80	65	Pn	Pn	00 40 22.5	-0.4
SVW2	Sparrevohn	16.99	47		P	00 40 39.0	+1.2
OHAK	Old Harbor	17.21	61	P	P	00 40 38.1	-2.1
OHAK				IAmb	IAmb	00 40 41.1	
	comp=Z,10nm,1.1s						
KDAK	Kodiak Island	17.66	59	P	P	00 40 42.8	-2.3
	comp=Z,1.0nm,0.3s,baz=293,slow=2.0,SNR=21						
KDAK	Kodiak Island	17.66	59	P	P	00 40 42.8	-2.3
KDAK				IAmb	IAmb	00 40 58.6	
	comp=Z,25nm,1.5s						
CNPM	China Poot	18.63	54	P	P	00 40 55.5	-0.3
SKT	Skwentna	19.12	46	P	Pn	00 41 02.5	-0.5
SKT				IAmb	IAmb	00 41 07.3	
	comp=Z,6.5nm,1.0s						
SUA	Susitna One	19.32	48	P	P	00 41 02.6	-0.8
SUA				IAmb	IAmb	00 41 06.9	
	comp=Z,11nm,1.0s						
SEW	Seward	19.62	52	P	P	00 41 06.5	0.0
RC01	Rabbit Creek A	19.70	50	P	P	00 41 07.9	+0.5
IMAR	Indian Mountai	19.94	34	P	P	00 41 11.5	+1.6
GHO	Glory Hole Cre	20.24	48	P	P	00 41 13.8	+0.4
GHO				IAmb	IAmb	00 41 33.1	
	comp=Z,9.3nm,1.2s						
PWL	Port Wells	20.31	51	P	P	00 41 13.8	-0.3
PWL				IAmb	IAmb	00 41 14.6	
	comp=Z,13nm,1.1s						
SML	Sawmill	20.52	48	P	P	00 41 17.3	+1.0
SML				IAmb	IAmb	00 41 18.1	
	comp=Z,8.5nm,1.0s						
GLI	Glacier Island	20.91	51	P	P	00 41 20.1	-0.4
GLI				IAmb	IAmb	00 41 38.6	
	comp=Z,9.9nm,0.9s						
SCM	Sheep Creek Mo	20.99	48	P	P	00 41 21.4	0.0
SCM				IAmb	IAmb	00 41 45.5	
	comp=Z,9.7nm,0.9s						
HIN	Hinchinbrook I	21.12	52	P	P	00 41 23.1	+0.4
FID	Port Fidalgo	21.19	51	P	P	00 41 22.5	-0.9
FID				IAmb	IAmb	00 41 25.5	
	comp=Z,9.2nm,0.8s						
MDM	Murphy Dome	21.54	40	P	P	00 41 28.4	+1.3
M24K	Tolsona, Glenn	21.58	48	P	P	00 41 28.5	+0.8
M24K				IAmb	IAmb	00 41 32.3	
	comp=Z,9.9nm,0.8s						
HDA	Harding Lake	21.86	42	P	P	00 41 31.5	+1.0
ILAR	Eielson Array	22.01	41	P	P	00 41 29.8	-2.3
	comp=Z,0.8nm,0.7s,baz=256,slow=11,SNR=3.4						
N25K	Chitina, Valde	22.23	49	P	P	00 41 34.4	-0.1
N25K				IAmb	IAmb	00 41 60.0	
	comp=Z,8.7nm,1.3s						
RIDG	Independent Ri	22.56	44	P	P	00 41 37.5	-0.3
VRDI	Verde Repeater	22.72	51	P	P	00 41 39.0	-0.6
VRDI				IAmb	IAmb	00 41 41.5	
	comp=Z,6.9nm,1.0s						
TOLK	Toolik Lake Re	22.72	30	P	P	00 41 40.0	+0.5
TOLK				IAmb	IAmb	00 41 41.9	
	comp=Z,4.6nm,0.6s						
CRQM	Cirque	22.82	52	P	P	00 41 40.9	+0.2
CRQM				IAmb	IAmb	00 41 43.0	
	comp=Z,12nm,0.9s						
DOT	Dot Lake	22.87	44	P	P	00 41 41.0	-0.1
SCRK	Sand Creek	22.98	44	P	P	00 41 41.4	-0.9
YSS	Yuzh-Sakhalins	23.56	272	P	P	00 41 46.5	-1.0
L27K	Beaver Creek,	23.74	46	P	P	00 41 49.5	+0.4
BCAR	Beaver Creek A	23.76	46	P	P	00 41 49.6	+0.4
BMAR	Burnt Mountain	23.84	35	P	P	00 41 50.0	0.0
LOGN	Logan Glacier	23.87	52	P	P	00 41 50.0	-0.3
EGAK	Eagle	24.37	42	P	P	00 41 54.5	-0.1
EGAK				IAmb	IAmb	00 41 55.7	
	comp=Z,7.2nm,1.0s						
DAWY	Dawson	24.98	44	P	P	00 42 00.9	+0.6
DAWY				IAmb	IAmb	00 42 26.4	
	comp=Z,4.6nm,0.9s						
ASAJ	Asahikawa	24.99	266	P	P	00 41 59.6	-0.9
	comp=Z,3.5nm,0.7s,baz=52,slow=10,SNR=7.5						
ASAJ				LR	LR	00 53 49.0	
	comp=Z,19nm,19.3s,baz=330,slow=41						
HYT	Haines Junctio	25.58	52	P	P	00 42 06.4	+0.5
HYT				IAmb	IAmb	00 42 09.8	
	comp=Z,7.7nm,0.9s						
ERM	Erimo	25.77	262	P	P	00 42 09.1	+1.5
INK	Inuvik	28.10	36	P	P	00 42 28.4	+0.2
	comp=Z,2.5nm,0.9s,baz=186,slow=9.7,SNR=5.1						
INK	Inuvik	28.10	36	P	P	00 42 28.5	+0.4
INK				IAmb	IAmb	00 42 51.1	
	comp=Z,3.7nm,1.0s						
KLR	Kul'dur	29.39	284	P	P	00 42 39.7	0.0
	comp=Z,3.2nm,0.6s,baz=68,slow=7.3,SNR=11						
YKA	Yellowknife Ar	36.18	46	P	P	00 43 39.1	+0.4
	comp=Z,0.3nm,0.3s,baz=282,slow=7.1,SNR=6.7						
HAWA	Hanford	39.89	72	P	P	00 44 09.8	-0.3
KRMB	Red Mountain	39.91	81	P	P	00 44 10.9	+0.4
EDM	Edmonton	40.10	60	P	P	00 44 11.2	-0.6
NEW	Newport	40.34	69	P	P	00 44 12.8	-1.1
KHMM	Horse Mountain	40.40	82	P	P	00 44 16.2	+1.7
YBH	Yreka Blue Hor	40.53	80	P	P	00 44 16.7	+1.2
K05A	Summer Lake	41.07	78	P	P	00 44 20.8	+0.8
K05A				IAmb	IAmb	00 44 33.0	
	comp=Z,4.2nm,1.1s						
PAHR	Pah Rah Range	43.76	81	P	P	00 44 42.1	+0.2
PAHR				IAmb	IAmb	00 44 43.0	
	comp=Z,1.3nm,0.6s						
PNTR	Pine Nut	44.01	81	P	P	00 44 44.6	+0.7
HRY	Holter Researc	44.21	68	P	P	00 44 45.0	-0.3
WAKR	Walker	44.47	82	P	P	00 44 48.5	+0.9
WAKR				IAmb	IAmb	00 44 49.3	
	comp=Z,2.7nm,0.7s						
SONM	Songino Array	44.89	295	P	P	00 44 51.5	+0.8
	comp=Z,1.1nm,0.5s,baz=65,slow=8.0,SNR=7.6						
SONM	Songino Array	44.89	295	P	P	00 44 51.2	+0.6
KVN	Kaiserville	44.95	80	P	P	00 44 51.6	+0.3
BOZ	Bozeman (W)	44.95	69	P	P	00 44 50.0	-1.2
BOZ				IAmb	IAmb	00 44 50.5	
	comp=Z,1.3nm,0.6s						
RYN	Ryan	44.95	81	P	P	00 44 51.7	+0.4
RYN				IAmb	IAmb	00 44 52.5	
	comp=Z,1.7nm,0.6s						
NVAR	Mina Array Bea	45.21	81	P	P	00 44 54.1	+0.7
	comp=Z,1.4nm,0.6s,baz=297,slow=7.4,SNR=13						
NVAR	Mina Array Bea	45.21	81	P	P	00 44 54.4	+0.9
NV11	Mina Array Sit	45.30	81	P	P	00 44 54.4	+0.3
DUG	Dugway, Tooele	47.45	76	P	P	00 45 10.9	0.0
DUG				IAmb	IAmb	00 45 11.2	
	comp=Z,1.7nm,0.8s						
PD31	Pinedale Array	47.81	71	P	P	00 45 13.2	-0.6
PDAR	Pinedale Array	47.81	71	P	P	00 45 12.8	-1.0
	comp=Z,0.9nm,0.7s,baz=306,slow=3.2,SNR=12						
PDAR	Pinedale Array	47.81	71	P	P	00 45 13.0	-0.8
SPITS	Spitsbergen Ar	49.79	355	P	P	00 45 27.3	-0.8
	comp=Z,0.5nm,0.3s,baz=46,slow=6.0,SNR=5.0						
U15A	North Rim	50.16	79	P	P	00 45 32.0	+0.2
U15A				IAmb	IAmb	00 45 32.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui** baz=305	**0.35**	**306**	P	**Pb**	**01 04 02.2**	**+0.5**
HGSD	baz=305			S	**Sb**	**01 04 07.0**	**-0.4**
CHKT	**Chengkung** baz=243	**0.39**	**241**	*i* P	**Pb**	**01 04 02.5**	**+0.2**
CHKT	baz=243			*i* S	**Sb**	**01 04 08.4**	**+0.1**
TWF1	**Yuli** baz=280	**0.41**	**279**	⇓*i*P	**Pb**	**01 04 03.2**	**+0.5**
TWF1	baz=280			*i* S	**Sb**	**01 04 09.0**	**+0.1**
FULB	**Fuli** baz=259	**0.41**	**258**	*i* P	**Pb**	**01 04 03.2**	**+0.4**
FULB	baz=259			*i* S	**Sb**	**01 04 09.2**	**0.0**
YULB	**Yu-li** baz=285	**0.42**	**285**	P	**Pb**	**01 04 03.4**	**+0.6**
YULB	baz=285			S	**Sb**	**01 04 09.4**	**+0.3**
EHY	**Hungye** baz=300	**0.44**	**300**	*i* P	**Pb**	**01 04 03.9**	**+0.7**
EHY	baz=300			*i* S	**Sb**	**01 04 10.1**	**+0.3**
TEGC	**Jichi Village** baz=336	**0.46**	**337**	P	**Pb**	**01 04 04.5**	**+0.9**
TEGC	baz=336			S	**Sb**	**01 04 11.2**	**+0.8**
EGFH	**Guangfu** baz=322	**0.47**	**324**	*i* P	**Pb**	**01 04 04.5**	**+0.7**
EGFH	baz=322			S	**Sb**	**01 04 10.5**	**-0.4**
EDH	**Donghe** baz=233	**0.50**	**232**	*i* P	**Pb**	**01 04 04.9**	**+0.6**
EDH	baz=233			*i* S	**Sb**	**01 04 11.8**	**+0.1**
ECS	**Chishang** baz=249	**0.51**	**248**	P	**Pb**	**01 04 05.4**	**+1.0**
ECS	baz=249			S	**Sb**	**01 04 12.8**	**+0.9**
TEYL	**Yanliau Villag** baz=347	**0.59**	**348**	P	**Pn**	**01 04 07.6**	**-0.3**
TEYL	baz=347			S	**Sn**	**01 04 16.3**	**-1.3**
ESL	**Shilin** baz=331	**0.59**	**332**	*i* P	**Pb**	**01 04 06.2**	**+0.3**
ESL	baz=331			*i* S	**Sb**	**01 04 13.7**	**-0.7**
LDUT	**Ludao** baz=203	**0.66**	**202**	P	**Pg**	**01 04 06.8**	**+0.6**
LDUT	baz=203			*i* S	**Sg**	**01 04 15.6**	**+0.8**
ELDTW	**Lidau** baz=262	**0.67**	**262**	⇓*i*P	**Pg**	**01 04 06.9**	**+0.5**
ELDTW	baz=262			*i* S	**Sg**	**01 04 15.1**	**-0.1**
LONT	**Longtian** baz=237	**0.67**	**236**	*i* P	**Pb**	**01 04 07.4**	**+0.2**
LONT	baz=237			S	**Sb**	**01 04 16.8**	**+0.2**
ETM	**Tongmen** baz=340	**0.71**	**342**	P	**Pb**	**01 04 08.1**	**+0.1**
ETM	baz=340			S	**Sb**	**01 04 17.5**	**-0.3**
TWGBT	**Beinan** baz=233	**0.76**	**232**	P	**Pg**	**01 04 08.7**	**+0.5**
TWGBT	baz=233			S	**Sg**	**01 04 18.4**	**+0.3**
TWG	**Pinlang** baz=233	**0.77**	**233**	*i* P	**Pg**	**01 04 08.6**	**+0.3**
TWG	baz=233			*i* S	**Sg**	**01 04 18.6**	**+0.3**
TWD	**Chiawan** baz=350	**0.80**	**351**	P	**Pg**	**01 04 08.8**	**-0.2**
TWD	baz=350			*i* S	**Sg**	**01 04 19.5**	**+0.1**
OWD	**Renai** baz=321	**0.84**	**323**	*i* P	**Pb**	**01 04 10.2**	**0.0**
OWD	baz=321			*i* S	**Sg**	**01 04 19.9**	**-0.9**
SSLB	**Suanglung** baz=304	**0.87**	**305**	P	**Pg**	**01 04 10.5**	**+0.2**
SSLB	baz=304			S	**Sg**	**01 04 21.0**	**-0.7**
ETL	**Fush Village** baz=352	**0.88**	**353**	*e*P	**Pg**	**01 04 10.6**	**+0.2**
ETL	baz=352			S	**Sg**	**01 04 21.3**	**-0.5**
ALS	**Alishan** baz=284	**0.88**	**285**	*i* P	**Pb**	**01 04 11.4**	**+0.4**
ALS	baz=284			*e*S	**Sb**	**01 04 22.6**	**-0.4**
STYH	**Taoyuan** baz=263	**0.89**	**263**	*i* P	**Pg**	**01 04 11.0**	**+0.4**
STYH	baz=263			S	**Sg**	**01 04 22.3**	**+0.1**
NACB	**Ninganchiao** baz=350	**0.89**	**352**	P	**Pg**	**01 04 11.0**	**+0.3**
NACB	baz=350			S	**Sg**	**01 04 22.0**	**-0.3**
STYT	**Tauyuan** baz=262	**0.91**	**262**	*i* P	**Pg**	**01 04 11.2**	**+0.3**
STYT	baz=262			*e*S	**Sg**	**01 04 22.1**	**-0.7**
CHGB	**Renai** baz=325	**0.93**	**326**	P	**Pg**	**01 04 11.6**	**+0.2**
CHGB	baz=325			S	**Sg**	**01 04 23.3**	**-0.2**
ETLH	**Xiulin Townshi** baz=344	**0.95**	**346**	P	**Pg**	**01 04 11.8**	**+0.1**
ETLH	baz=344			S	**Sg**	**01 04 23.6**	**-0.4**
WHF	**Hehuan Shan** baz=332	**0.96**	**333**	*i* P	**Pg**	**01 04 12.2**	**+0.2**
WHF	baz=332			*i* S	**Sb**	**01 04 25.0**	**-0.2**
SMLT	**Sun Moon Lake** baz=307	**0.97**	**308**	*i* P	**Pb**	**01 04 12.7**	**+0.4**
SMLT	baz=307			S	**Sg**	**01 04 24.6**	**-0.2**
ECL	**Taimali** baz=227	**0.99**	**227**	*i* P	**Pg**	**01 04 11.6**	**-1.0**
ECL	baz=227			*e*S	**Sg**	**01 04 25.7**	**+0.2**
TYC	**Yuchr** baz=307	**1.01**	**308**	*i* P	**Pg**	**01 04 13.1**	**+0.1**
TYC	baz=307			S	**Sg**	**01 04 25.8**	**-0.4**
TPUB	**Ta-pu** baz=271	**1.02**	**271**	P	**Pb**	**01 04 13.5**	**+0.4**
TPUB	baz=271			S	**Sb**	**01 04 26.5**	**0.0**
CHN5	**Tsauling** baz=287	**1.02**	**288**	*i* P	**Pn**	**01 04 14.1**	**+0.3**
CHN5	baz=287			S	**Sn**	**01 04 27.6**	**-0.5**
WTP	**Ta-pu** baz=268	**1.03**	**268**	*i* P	**Pb**	**01 04 13.8**	**+0.4**
WTP	baz=268			*i* S	**Sb**	**01 04 27.4**	**+0.5**
SLGT	**Liugui** baz=254	**1.04**	**254**	*i* P	**Pg**	**01 04 13.8**	**+0.3**
SLGT	baz=254			*i* S	**Sg**	**01 04 27.0**	**-0.1**
DPDB	**Guoxing** baz=314	**1.05**	**315**	P	**Pn**	**01 04 14.4**	**+0.2**
DPDB	baz=314			S	**Sn**	**01 04 28.3**	**-0.6**
CHN4	**Tsaushan** baz=274	**1.05**	**274**	*i* P	**Pb**	**01 04 14.2**	**+0.5**
CHN4	baz=274			S	**Sn**	**01 04 29.1**	**+0.3**
FUSS	**Fushou** baz=334	**1.06**	**335**	*i* P	**Pn**	**01 04 15.0**	**+0.5**
FUSS	baz=334			S	**Sg**	**01 04 27.6**	**-0.1**
WJS	**Zhushan** baz=299	**1.07**	**300**	*i* P	**Pn**	**01 04 14.5**	**+0.1**
WJS	baz=299			*i* S	**Sn**	**01 04 29.3**	**+0.1**
WCS	**Beigang Elemen** baz=315	**1.08**	**316**	*i* P	**Pn**	**01 04 15.1**	**+0.5**
SGST	**Jiashian** baz=259	**1.08**	**259**	*i* P	**Pg**	**01 04 13.9**	**-0.3**
SGST	baz=259			*i* S	**Sn**	**01 04 29.3**	**-0.2**
TDCB	**Techi** baz=330	**1.10**	**331**	P	**Pb**	**01 04 14.8**	**+0.2**
TDCB	baz=330			S	**Sg**	**01 04 27.4**	**-1.5**
CHN1	**Nanshi** baz=265	**1.11**	**265**	*i* P	**Pn**	**01 04 15.7**	**+0.6**
CHN1	baz=265			*i* S	**Sn**	**01 04 30.7**	**+0.3**
WNT	**Mingjian** baz=301	**1.13**	**302**	*i* P	**Pn**	**01 04 15.5**	**+0.3**
WNT	baz=301			*i* S	**Sn**	**01 04 30.9**	**+0.2**
SNST	**Tainan City** baz=267	**1.14**	**267**	*i* P	**Pn**	**01 04 16.0**	**+0.6**
SNST	baz=267			*i* S	**Sn**	**01 04 30.9**	**-0.1**
TWK	**Hsinying** baz=269	**1.15**	**269**	*i* P	**Pn**	**01 04 15.8**	**+0.3**
TWK	baz=269			S	**Sn**	**01 04 31.2**	**-0.1**
WGK	**Gukeng** baz=290	**1.15**	**291**	*e*P	**Pn**	**01 04 16.4**	**+0.9**
WGK	baz=290			S	**Sn**	**01 04 31.3**	**+0.1**
SSD	**Sandimen** baz=242	**1.15**	**242**	*i* P	**Pb**	**01 04 15.1**	**-0.2**
SSD	baz=242			*e*S	**Sg**	**01 04 28.5**	**-2.0**
EWUT	**Wuta** baz=1.0	**1.16**	**2**	S	**Sb**	**01 04 29.2**	**-1.3**
TSMG	**Majia** baz=240	**1.16**	**240**	*i* P	**Pb**	**01 04 14.8**	**-0.7**
TSMG	baz=240			*e*S	**Sb**	**01 04 28.9**	**-1.6**
WDLH	**Douliu** baz=290	**1.17**	**290**	*i* P	**Pn**	**01 04 16.3**	**+0.5**
WDLH	baz=290			S	**Sn**	**01 04 31.4**	**-0.3**
NNSB	**Datong** baz=343	**1.18**	**344**	P	**Pb**	**01 04 15.9**	**-0.1**
NNSB	baz=343			*e*S	**Sg**	**01 04 29.9**	**-1.7**
NNSH	**Datong** baz=343	**1.18**	**344**	*i* P	**Pb**	**01 04 16.2**	**+0.2**
NNSH	baz=343			S	**Sg**	**01 04 29.8**	**-1.8**
NNS	**Nan Shan** baz=343	**1.20**	**344**	*e*P	**Pb**	**01 04 16.2**	**-0.1**
NNS	baz=343			*i* S	**Sb**	**01 04 30.2**	**-1.6**
WWF	**Wufeng** baz=308	**1.21**	**309**	*e*S	**Sn**	**01 04 33.8**	**+1.0**
EAST	**Anshuo** baz=222	**1.22**	**222**	*i* P	**Pb**	**01 04 14.5**	**-2.0**
MASBT	**Mashibuluo** baz=237	**1.22**	**237**	P	**Pb**	**01 04 15.5**	**-1.0**
MASBT	baz=237			*e*S	**Sb**	**01 04 31.5**	**-0.8**
CHY	**Chiayi** baz=280	**1.22**	**280**	*e*P	**Pg**	**01 04 17.7**	**+0.7**
CHY	baz=280			S	**Sn**	**01 04 33.4**	**+0.4**
WHP	**Taichung City** baz=323	**1.22**	**324**	P	**Pn**	**01 04 17.0**	**+0.4**
WHP	baz=323			*e*S	**Sb**	**01 04 32.3**	**-0.2**
WYL	**Yuanlin Townsh** baz=302	**1.25**	**303**	*e*S	**Sn**	**01 04 35.0**	**+1.1**
TWC	**Suao** baz=4.0	**1.32**	**5**	*i* S	**Sb**	**01 04 34.7**	**-0.6**
NDT	**Datong Townshi** baz=350	**1.33**	**351**	*e*P	**Pn**	**01 04 17.9**	**-0.1**
WCHH	**Zhanghua** baz=306	**1.34**	**306**	*e*S	**Sg**	**01 04 36.3**	**-0.2**
SSPT	**Xinbi** baz=234	**1.34**	**234**	*e*P	**Pn**	**01 04 18.4**	**+0.3**
SSPT	baz=234			*e*S	**Sb**	**01 04 34.9**	**-0.9**
ICHU	**Yijhu** baz=273	**1.34**	**273**	*e*P	**Pn**	**01 04 18.0**	**-0.1**
ICHU	baz=273			S	**Sb**	**01 04 35.8**	**+0.1**
NDS	**Dongshan** baz=358	**1.34**	**359**	P	**Pb**	**01 04 19.0**	**+0.3**
NDS	baz=358			S	**Sb**	**01 04 34.9**	**-1.0**
ENTT	**Nioudou** baz=353	**1.36**	**354**	P	**Pn**	**01 04 18.8**	**+0.4**
SLIU	**Shizi** baz=219	**1.37**	**219**	P	**Pn**	**01 04 17.2**	**-1.4**
SCZT	**Fangliau** baz=229	**1.37**	**229**	P	**Pn**	**01 04 18.6**	**+0.1**
SCZT	baz=229			*e*S	**Sb**	**01 04 35.7**	**-1.0**
TWQ1	**Liyutan** baz=319	**1.38**	**320**	*e*P	**Pg**	**01 04 20.3**	**+0.4**
TWQ1	baz=319			*e*S	**Sg**	**01 04 38.5**	**+0.7**
WRL	**Guolierlin Hig** baz=296	**1.39**	**296**	S	**Sn**	**01 04 37.3**	**+0.1**
CHN8	**Yiju** baz=272	**1.40**	**273**	S	**Sg**	**01 04 38.1**	**-0.5**
YHNB	**Yeheng** baz=345	**1.42**	**347**	P	**Pn**	**01 04 19.8**	**+0.5**
YHNB	baz=345			S	**Sb**	**01 04 36.9**	**-1.2**
NSK	**Sanguang** baz=345	**1.43**	**346**	*i* P	**Pn**	**01 04 19.5**	**+0.1**
NSK	baz=345			*i* S	**Sb**	**01 04 36.6**	**-1.8**
NSTT	**Nanjuang** baz=333	**1.50**	**334**	S	**Sb**	**01 04 40.9**	**+0.5**
NWLT	**Wulai** baz=351	**1.50**	**352**	P	**Pn**	**01 04 20.7**	**+0.3**
NWLT	baz=351			S	**Sn**	**01 04 38.7**	**-1.3**
LIOB	**Emei** baz=333	**1.50**	**334**	P	**Pg**	**01 04 22.7**	**+0.3**
LIOB	baz=333			*e*S	**Sn**	**01 04 40.0**	**-0.1**
JYNG	**Yonagunijimaku**	**1.60**	**43**	P	**Pn**	**01 04 22.5**	**+0.7**
JYNG				*e*S	**Sn**	**01 04 42.5**	**0.0**
TIPB	**Shuangxi** baz=2.0	**1.68**	**3**	*i* P	**Pb**	**01 04 24.6**	**+0.1**
TIPB	baz=2.0			S	**Sn**	**01 04 45.2**	**+0.7**
HATJ	**Hateruma jima**	**2.05**	**68**	P	**Pn**	**01 04 28.7**	**+0.8**
HATJ				*e*S	**Sn**	**01 04 53.2**	**-0.2**
IRIF	**Iriomote-Funau**	**2.10**	**60**	P	**Pn**	**01 04 29.9**	**+1.2**
IRIF				*e*S	**Sn**	**01 04 55.6**	**+0.8**
JKRS	**Kuro-shima**	**2.29**	**65**	P	**Pn**	**01 04 32.7**	**+1.5**
JKRS				*e*S	**Sn**	**01 04 59.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.45**	**64**	P	**Pn**	**01 04 34.4**	**+1.0**
JIJ				*e*S	**Sn**	**01 05 03.7**	**+0.3**
JISG	**Ishigakijimahi**	**2.69**	**61**	P	**Pn**	**01 04 37.3**	**+0.6**
JISG				S	**Sn**	**01 05 08.7**	**-0.6**
JTJ	**Tarama**	**3.03**	**63**	P	**Pn**	**01 04 42.7**	**+1.3**

*IDC **19** 01:09:43.3±1.0, 38.°91N×21.°78E, h0km, mb3.7/9, mb1 3.6/15, mb1mx3.5/40, mbtmp3.6/15, ML3.3/5, MS2.5/3, Ms1 2.5/3, ms1mx2.3/42, Error ellipse: s-maj=17.8km s-min=14.0km az=136.0*
*ATH **19** 01:09:44.6, 38.°81N×21.°90E, h16km, ML3.5/38, Error ellipse: s-maj=0.9km s-min=0.6km az=92.0*
*THE **19** 01:09:45.0, 38.°81N×21.°90E, h8km±1km, ML3.7/12, Error ellipse: s-maj=1.0km s-min=0.5km az=140.0*
ISC 19 01:09:45.0±0.8, 38.°82N±0.°02×21.°88E±0.°02, h19km±2km, n223, σ1°44/260, mb3.7/9, 12C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.12**	**330**	P	**Pg**	**01 09 48.0**	**-1.1**
EVR				S	**Sg**	**01 09 50.7**	**-1.2**
	79μm,0.3s						
EVR	**Evrytania**	**0.12**	**330**	P	**Pg**	**01 09 47.9**	**-1.1**
EVR				S	**Sg**	**01 09 50.6**	**-1.2**
EVR				AML	AML	01 09 50.9	
EVR				AML	AML	01 09 51.2	
ANX	**Ano Chora**	**0.23**	**172**	P	**Pg**	**01 09 49.7**	**-0.8**
ANX				S	**Sg**	**01 09 53.4**	**-0.8**
	58μm,0.4s						
ANX	**Ano Chora**	**0.23**	**172**	P	**Pg**	**01 09 49.7**	**-0.8**
ANX				S	**Sg**	**01 09 53.3**	**-0.8**
ANX				AML	AML	01 09 55.9	
ANX				AML	AML	01 09 56.5	
MAKR	**Makrakomi, Fth**	**0.28**	**45**	P	**Pg**	**01 09 50.7**	**-0.5**
MAKR				S	**Sg**	**01 09 55.0**	**-0.5**
	46μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.28**	**45**	P	**Pg**	**01 09 50.8**	**-0.5**
MAKR				S	**Sg**	**01 09 54.6**	**-0.9**
MAKR				AML	AML	01 09 56.2	
	comp=E,32566μm,0.4s						
MAKR				AML	AML	01 09 56.2	
	comp=N,24938μm,0.2s						
PVO	**Paravola**	**0.34**	**235**	P	**Pg**	**01 09 51.7**	**-0.7**
PVO				S	**Sg**	**01 09 57.5**	**+0.2**
	comp=N,7μm,0.3s						
PVO	**Paravola**	**0.34**	**235**	P	**Pg**	**01 09 51.6**	**-0.7**
PVO				AML	AML	01 10 03.5	
	comp=N,13492μm,0.4s						
PVO				AML	AML	01 10 03.8	
	comp=E,15439μm,0.2s						
EFP	**Efpalio**	**0.39**	**177**	P	**Pg**	**01 09 52.4**	**-0.7**
EFP				S	**Sb**	**01 09 58.8**	**-0.3**
	comp=E,26μm,0.2s						
EFP	**Efpalio**	**0.39**	**177**	P	**Pg**	**01 09 52.4**	**-0.7**
EFP				S	**Sg**	**01 09 57.9**	**-0.7**
EFP				AML	AML	01 10 00.2	
	comp=N,59492μm,0.3s						
EFP				AML	AML	01 10 01.5	
	comp=E,43057μm,0.2s						
AGG	**Agios Georgios**	**0.41**	**59**	P	**Pg**	**01 09 52.6**	**-0.9**
AGG				S	**Sb**	**01 09 59.3**	**-0.3**
	comp=E,13μm,0.3s						
AGG	**Agios Georgios**	**0.41**	**59**	P	**Pg**	**01 09 52.5**	**-0.9**
AGG				S	**Sg**	**01 09 58.7**	**-0.5**
AGG				AML	AML	01 09 59.8	
	comp=N,28273μm,0.3s						
AGG				AML	AML	01 09 59.8	
	comp=E,24567μm,0.3s						
SERG	**Sergoula**	**0.42**	**161**	P	**Pg**	**01 09 52.8**	**-1.0**
SERG				S	**Sb**	**01 09 59.8**	**-0.3**
	comp=E,19μm,0.2s						
SERG	**Sergoula**	**0.42**	**161**	P	**Pg**	**01 09 52.8**	**-1.0**
SERG				S	**Sg**	**01 09 59.2**	**-0.5**
SERG				AML	AML	01 10 01.8	
	comp=E,40370μm,0.2s						
SERG				AML	AML	01 10 02.8	
	comp=N,36108μm,0.3s						
TRIZ	**Trizonia**	**0.47**	**162**	P	**Pg**	**01 09 53.6**	**-1.1**
TRIZ				S	**Sg**	**01 10 00.9**	**-0.2**
	comp=N,20μm,0.4s						
TRIZ	**Trizonia**	**0.47**	**162**	P	**Pg**	**01 09 53.5**	**-1.1**
TRIZ				S	**Sg**	**01 10 00.8**	**-0.2**
UPR	**University Cam**	**0.54**	**188**	P	**Pg**	**01 09 55.3**	**-0.5**
UPR				S	**Sb**	**01 10 03.2**	**+0.1**
LAKA	**Lakka**	**0.58**	**173**	P	**Pg**	**01 09 55.5**	**-1.2**
LAKA				S	**Sb**	**01 10 04.9**	**+0.6**
	comp=N,7μm,0.3s						
LAKA	**Lakka**	**0.58**	**173**	P	**Pg**	**01 09 55.4**	**-1.2**
LAKA				AML	AML	01 10 11.2	
	comp=N,14766μm,0.3s						
LAKA				AML	AML	01 10 14.6	
	comp=E,16340μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.58**	**162**	P	**Pg**	**01 09 55.8**	**-0.8**
ALIK				S	**Sb**	**01 10 04.4**	**0.0**
DLFA	**Delphi**	**0.59**	**125**	P	**Pg**	**01 09 55.9**	**-0.8**
DLFA				S	**Sg**	**01 10 04.0**	**-0.6**
DLFA				AML	AML	01 10 07.3	
	comp=N,8430μm,0.3s						
DLFA				AML	AML	01 10 07.8	
	comp=E,8879μm,0.3s						
THL	**Klokotos Trika**	**0.75**	**8**	P	**Pg**	**01 09 58.6**	**-1.2**
THL				S	**Sb**	**01 10 10.0**	**+0.5**
	comp=E,3μm,0.5s						
THL	**Klokotos Trika**	**0.75**	**8**	P	**Pg**	**01 09 58.6**	**-1.2**
THL				AML	AML	01 10 11.1	
	comp=N,4914μm,0.5s						
THL				AML	AML	01 10 11.4	
	comp=E,6378μm,0.5s						
KLV	**Kalavryta, Ach**	**0.80**	**165**	P	**Pg**	**01 09 59.3**	**-1.4**
KLV				S	**Sb**	**01 10 11.6**	**+0.8**
	comp=E,4μm,0.6s						
KLV	**Kalavryta, Ach**	**0.80**	**165**	P	**Pg**	**01 09 58.9**	**-1.7**
KLV				AML	AML	01 10 12.8	
	comp=N,7225μm,0.5s						
KLV				AML	AML	01 10 12.8	
	comp=E,8075μm,0.7s						
RLS	**Riolos of Patr**	**0.82**	**203**	P	**Pb**	**01 10 00.9**	**+0.2**
RLS	**Riolos of Patr**	**0.82**	**203**	P	**Pg**	**01 10 00.5**	**-0.6**
RLS				AML	AML	01 10 14.9	
	comp=N,4765μm,0.5s						
RLS				AML	AML	01 10 15.7	
	comp=E,9361μm,0.5s						
LKR	**Lokris**	**0.89**	**100**	P	**Pg**	**01 10 00.5**	**-1.8**
LKR	**Lokris**	**0.89**	**100**	P	**Pg**	**01 10 00.3**	**-2.0**
LKR				AML	AML	01 10 16.0	
	comp=N,3105μm,0.2s						
LKR				AML	AML	01 10 17.3	
	comp=E,5292μm,0.2s						
NYDR	**Nydri-Lefkada**	**0.93**	**264**	P	**Pg**	**01 10 02.3**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.93**	**264**	P	**Pg**	**01 10 02.2**	**-0.9**
LRSO	**Larissa Observ**	**0.94**	**25**	P	**Pg**	**01 10 01.9**	**-1.4**
LRSO	**Larissa Observ**	**0.94**	**25**	P	**Pg**	**01 10 02.0**	**-1.4**
LKD2	**Lefkada island**	**0.96**	**269**	P	**Pg**	**01 10 03.0**	**-0.6**
LKD2	**Lefkada island**	**0.96**	**269**	P	**Pg**	**01 10 02.7**	**-0.9**
LKD2				AML	AML	01 10 24.0	
	comp=N,4938μm,0.6s						
LKD2				AML	AML	01 10 27.3	
	comp=E,6098μm,0.6s						
TSLK	**Tsoukalades, L**	**0.96**	**271**	P	**Pg**	**01 10 03.2**	**-0.5**
TSLK	**Tsoukalades, L**	**0.96**	**271**	P	**Pg**	**01 10 02.8**	**-0.9**
EVGI	**Lefkada island**	**0.98**	**259**	P	**Pg**	**01 10 02.9**	**-1.1**
EVGI	**Lefkada island**	**0.98**	**259**	P	**Pg**	**01 10 02.9**	**-1.1**
THAL	**Thalero**	**0.99**	**142**	P	**Pg**	**01 10 02.9**	**-1.4**
THAL				S	**Sb**	**01 10 16.8**	**+0.6**
	comp=E,5μm,0.3s						
THAL	**Thalero**	**0.99**	**142**	P	**Pg**	**01 10 02.4**	**-1.8**
THAL				AML	AML	01 10 20.8	
	comp=E,9740μm,0.2s						
THAL				AML	AML	01 10 24.8	
	comp=N,8946μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.03**	**263**	P	**Pg**	**01 10 03.9**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.03**	**263**	P	**Pg**	**01 10 03.8**	**-1.2**
SMIA	**Simia**	**1.04**	**86**	P	**Pg**	**01 10 03.7**	**-1.4**
SMIA	**Simia**	**1.04**	**86**	P	**Pg**	**01 10 03.5**	**-1.7**
SMIA				AML	AML	01 10 23.3	
	comp=E,5169μm,0.5s						
SMIA				AML	AML	01 10 31.4	
	comp=N,4232μm,0.6s						
VTN	**Vitineika**	**1.05**	**212**	P	**Pn**	**01 10 05.5**	**+0.7**
VTN	**Vitineika**	**1.05**	**212**	P	**Pg**	**01 10 04.1**	**-1.3**
FSK	**Fiskardo**	**1.09**	**251**	P	**Pg**	**01 10 05.0**	**-1.2**
FSK	**Fiskardo**	**1.09**	**251**	P	**Pg**	**01 10 04.8**	**-1.4**
FSK				AML	AML	01 10 26.9	
	comp=N,3224μm,0.6s						
FSK				AML	AML	01 10 29.5	
	comp=E,4552μm,0.4s						
NEO	**Neokhori**	**1.15**	**64**	P	**Pg**	**01 10 06.0**	**-1.3**
NEO	**Neokhori**	**1.15**	**64**	P	**Pg**	**01 10 05.3**	**-2.0**
NEO				AML	AML	01 10 26.2	
	comp=N,6504μm,0.4s						
NEO				AML	AML	01 10 26.4	
	comp=E,3433μm,0.3s						
XOR	**Xorichti**	**1.16**	**61**	P	**Pg**	**01 10 05.7**	**-1.7**
XOR	**Xorichti**	**1.16**	**61**	P	**Pg**	**01 10 05.4**	**-2.0**
XOR				AML	AML	01 10 25.6	
	comp=E,4135μm,0.6s						
XOR				AML	AML	01 10 26.9	
	comp=N,5724μm,0.5s						
JAN	**Janina**	**1.16**	**317**	P	**Pg**	**01 10 06.3**	**-1.2**
JAN	**Janina**	**1.16**	**317**	P	**Pg**	**01 10 05.5**	**-2.0**
JAN				AML	AML	01 10 30.3	
	comp=E,4388μm,0.4s						
JAN				AML	AML	01 10 32.1	
	comp=N,4271μm,0.4s						
LTK	**Loutraki**	**1.16**	**133**	P	**Pg**	**01 10 06.1**	**-1.4**
LTK	**Loutraki**	**1.16**	**133**	P	**Pg**	**01 10 05.7**	**-1.8**
LOUT	**Loutraki**	**1.19**	**134**	P	**Pg**	**01 10 06.5**	**-1.6**
LOUT	**Loutraki**	**1.19**	**134**	P	**Pg**	**01 10 06.3**	**-1.7**
LOUT				AML	AML	01 10 28.2	
	comp=N,464μm,0.3s						
LOUT				AML	AML	01 10 35.4	
	comp=E,490μm,0.4s						
VLS	**Valsamata**	**1.20**	**238**	P	**Pb**	**01 10 06.6**	**-0.5**
VLS	**Valsamata**	**1.20**	**238**	P	**Pb**	**01 10 06.3**	**-0.8**
VLS				AML	AML	01 10 34.6	
	comp=N,2180μm,0.4s						
VLS				AML	AML	01 10 36.2	
	comp=E,1900μm,0.7s						

KPRO	**Kipourio**	**1.21 341**	P	**Pg**	**01 10 06.4**	**-2.0**	
KPRO	**Kipourio**	**1.21 341**	P	**Pg**	**01 10 06.4**	**-2.0**	
KPRO			AML	AML	01 10 26.8		
	comp=N,7699μm,0.6s						
KPRO			AML	AML	01 10 27.4		
	comp=E,7184μm,0.6s						
KEF5	**Kardakata, Kep**	**1.23 245**	P	**Pn**	**01 10 07.4**	**+0.1**	
KEF5	**Kardakata, Kep**	**1.23 245**	P	**Pn**	**01 10 07.3**	**0.0**	
PSDA	**Pessada-Kefalo**	**1.24 236**	P	**Pn**	**01 10 07.1**	**-0.3**	
PSDA	**Pessada-Kefalo**	**1.24 236**	P	**Pn**	**01 10 07.0**	**-0.3**	
VIL2	**Platees**	**1.24 119**	P	**Pb**	**01 10 07.9**	**0.0**	
VIL2			AML	AML	01 10 27.7		
	comp=N,2188μm,0.3s						
VIL2			AML	AML	01 10 35.4		
	comp=E,3264μm,0.7s						
KEF4	**Livadi, Kephal**	**1.27 244**	P	**Pn**	**01 10 08.0**	**+0.2**	
KEF4	**Livadi, Kephal**	**1.27 244**	P	**Pn**	**01 10 07.1**	**-0.7**	
AMT	**Artemida-Makis**	**1.29 186**	P	**Pn**	**01 10 08.9**	**+0.8**	
AMT	**Artemida-Makis**	**1.29 186**	P	**Pn**	**01 10 08.5**	**+0.4**	
AMT			AML	AML	01 10 37.4		
	comp=N,5549μm,0.7s						
AMT			AML	AML	01 10 42.5		
	comp=E,3410μm,0.7s						
LXRA	**Lixouri, Kepha**	**1.29 242**	P	**Pn**	**01 10 08.3**	**+0.3**	
VILL	**Villia**	**1.30 120**	P	**Pn**	**01 10 08.0**	**-0.2**	
DMLN	**Damoulianata-K**	**1.32 244**	P	**Pn**	**01 10 08.5**	**+0.1**	
DMLN	**Damoulianata-K**	**1.32 244**	P	**Pn**	**01 10 08.3**	**-0.2**	
VLMS	**Volimes, Zakyn**	**1.34 226**	P	**Pn**	**01 10 09.1**	**+0.3**	
VLMS	**Volimes, Zakyn**	**1.34 226**	P	**Pn**	**01 10 08.6**	**-0.2**	
KEF3	**Kipouria, Keph**	**1.35 244**	P	**Pn**	**01 10 08.5**	**-0.4**	
KEF3	**Kipouria, Keph**	**1.35 244**	P	**Pn**	**01 10 08.2**	**-0.6**	
LIT	**Litokhoron**	**1.37 20**	P	**Pn**	**01 10 09.4**	**+0.3**	
LIT	**Litokhoron**	**1.37 20**	P	**Pn**	**01 10 09.1**	**-0.1**	
LIT			AML	AML	01 10 33.2		
	comp=N,4412μm,0.5s						
LIT			AML	AML	01 10 35.3		
	comp=E,3443μm,0.3s						
LTHK	**Lithakia**	**1.38 217**	P	**Pn**	**01 10 09.9**	**+0.7**	
LTHK	**Lithakia**	**1.38 217**	P	**Pn**	**01 10 09.7**	**+0.4**	
IGT	**Igoumenitsa**	**1.40 301**	P	**Pn**	**01 10 10.5**	**+0.9**	
IGT	**Igoumenitsa**	**1.40 301**	P	**Pn**	**01 10 10.3**	**+0.8**	
IGT			AML	AML	01 10 37.6		
	comp=N,1936μm,0.6s						
IGT			AML	AML	01 10 38.5		
	comp=E,1138μm,0.4s						
KZN	**Kozani**	**1.49 357**	P	**Pn**	**01 10 11.7**	**+0.8**	
KZN	**Kozani**	**1.49 357**	P	**Pn**	**01 10 11.2**	**+0.3**	
KZN			AML	AML	01 10 37.0		
	comp=N,2916μm,0.5s						
KZN			AML	AML	01 10 38.6		
	comp=E,5040μm,0.4s						
PENT	**Pentalofos**	**1.49 338**	P	**Pn**	**01 10 11.6**	**+0.6**	
PENT	**Pentalofos**	**1.49 338**	P	**Pn**	**01 10 11.4**	**+0.4**	
PENT			AML	AML	01 10 40.5		
	comp=N,2209μm,0.6s						
PENT			AML	AML	01 10 42.3		
	comp=E,1868μm,0.4s						
VLX	**Vlachokerasia**	**1.50 165**	P	**Pn**	**01 10 12.1**	**+1.1**	
VLX	**Vlachokerasia**	**1.50 165**	P	**Pn**	**01 10 11.8**	**+0.8**	
VLX			AML	AML	01 10 39.6		
	comp=N,3392μm,0.5s						
VLX			AML	AML	01 10 41.5		
	comp=E,4626μm,0.5s						
ALNA	**Alonissos**	**1.58 77**	P	**Pn**	**01 10 13.1**	**+1.1**	
KTI	**Kastanea**	**1.58 6**	P	**Pn**	**01 10 13.6**	**+1.4**	
ITM	**Ithomi**	**1.64 179**	P	**Pb**	**01 10 14.7**	**+0.1**	
ITM	**Ithomi**	**1.64 179**	P	**Pn**	**01 10 14.1**	**+1.3**	
ITM			AML	AML	01 10 51.4		
	comp=N,1192μm,0.8s						
ITM			AML	AML	01 10 56.8		
	comp=E,1138μm,0.7s						
EREA	**Eretria**	**1.65 103**	P	**Pn**	**01 10 14.0**	**+0.9**	
EREA	**Eretria**	**1.65 103**	P	**Pn**	**01 10 13.8**	**+0.8**	
EREA			AML	AML	01 10 44.2		
	comp=N,989μm,0.3s						
EREA			AML	AML	01 10 44.6		
	comp=E,1050μm,0.5s						
LSK	**Leskovik**	**1.66 324**	P	**Pb**	**01 10 15.3**	**+0.2**	
ATH	**Athens Observa**	**1.67 120**	P	**Pn**	**01 10 14.1**	**+0.8**	
ATH	**Athens Observa**	**1.67 120**	P	**Pn**	**01 10 14.0**	**+0.8**	
ATH			AML	AML	01 10 42.5		
	comp=E,1775μm,0.3s						
ATH			AML	AML	01 10 43.8		
	comp=N,1324μm,0.5s						
ATHU	**Athens Univers**	**1.72 119**	P	**Pn**	**01 10 14.7**	**+0.8**	
ATHU	**Athens Univers**	**1.72 119**	P	**Pn**	**01 10 14.6**	**+0.6**	
ATHU			AML	AML	01 10 46.0		
	comp=N,612μm,0.4s						
ATHU			AML	AML	01 10 47.3		
	comp=E,404μm,0.5s						
NEST	**Nestorio**	**1.72 338**	P	**Pb**	**01 10 15.9**	**-0.2**	
NEST	**Nestorio**	**1.72 338**	P	**Pb**	**01 10 15.9**	**-0.2**	
NEST			AML	AML	01 10 47.4		
	comp=N,1981μm,0.5s						
NEST			AML	AML	01 10 50.2		
	comp=E,2159μm,0.4s						
KRND	**KRANIDI**	**1.75 145**	P	**Pn**	**01 10 15.5**	**+1.2**	
KRND	**KRANIDI**	**1.75 145**	P	**Pn**	**01 10 15.3**	**+1.0**	
KRND			AML	AML	01 10 44.1		
	comp=N,1776μm,0.8s						
KRND			AML	AML	01 10 46.0		
	comp=E,1958μm,0.4s						
DION	**Dionisos Attik**	**1.77 114**	P	**Pn**	**01 10 15.8**	**+1.1**	
DION	**Dionisos Attik**	**1.77 114**	P	**Pn**	**01 10 15.5**	**+0.8**	
DION			AML	AML	01 10 45.8		
	comp=E,1708μm,0.4s						
DION			AML	AML	01 10 53.2		
	comp=N,1514μm,0.6s						
PAIG	**Paliouri**	**1.78 51**	P	**Pn**	**01 10 14.6**	**-0.2**	
VLY	**Voula,Athens**	**1.79 122**	P	**Pn**	**01 10 15.6**	**+0.7**	
VLY	**Voula,Athens**	**1.79 122**	P	**Pn**	**01 10 15.3**	**+0.4**	
VLY			AML	AML	01 10 44.5		
	comp=E,1257μm,0.3s						
VLY			AML	AML	01 10 47.6		
	comp=N,1314μm,0.6s						
SRN	**Sarande**	**1.81 307**	P	**Pb**	**01 10 18.7**	**+1.2**	
KEK	**Kerkira**	**1.85 300**	P	**Pn**	**01 10 17.7**	**+2.0**	
PLG	**Polygyros**	**1.97 37**	P	**Pn**	**01 10 17.4**	**0.0**	
KBN	**Korca**	**1.99 335**	P	**Pn**	**01 10 19.2**	**+1.4**	
THE	**Thessaloniki**	**2.00 24**	P	**Pn**	**01 10 17.7**	**0.0**	
FNA	**Florina**	**2.00 349**	P	**Pn**	**01 10 19.4**	**+1.5**	
HORT	**Hortiatis**	**2.01 27**	P	**Pn**	**01 10 17.9**	**-0.2**	
KARY	**Karystos**	**2.15 111**	P	**Pn**	**01 10 21.1**	**+1.1**	
OUR	**Ouranopolis**	**2.22 46**	P	**Pn**	**01 10 21.1**	**+0.3**	
VLI	**Veliai**	**2.25 158**	P	**Pn**	**01 10 22.5**	**+1.2**	
SOH	**Sokhos**	**2.30 29**	P	**Pn**	**01 10 22.6**	**+0.6**	
OHR	**Ohrid**	**2.44 340**	*e*Pn	**Pb**	**01 10 26.9**	**-1.4**	
OHR			*e*Sn	**Sb**	**01 10 58.8**	**+0.8**	
KNT	**Kendrikon**	**2.47 18**	P	**Pn**	**01 10 25.0**	**+0.7**	
SRS	**Serrai**	**2.65 29**	P	**Pn**	**01 10 27.1**	**+0.4**	
KTHR	**Kythira**	**2.70 160**	P	**Pn**	**01 10 29.9**	**+2.4**	
STIP	**Stip**	**2.88 5**	*e*Pn	**Pn**	**01 10 32.2**	**+2.2**	
NVR	**Nevrokopi**	**2.95 30**	P	**Pn**	**01 10 31.6**	**+0.7**	
TIR	**Tirane**	**2.96 329**	⇓P	**Pn**	**01 10 33.8**	**+2.7**	
KAVA	**Kavala**	**2.97 42**	P	**Pn**	**01 10 31.1**	**-0.1**	
PHP	**Peshkopia**	**3.07 339**	P	**Pn**	**01 10 34.9**	**+2.3**	
SKO	**Skopje**	**3.17 354**	*e*Pn	**Pn**	**01 10 35.0**	**+1.1**	
APE	**Apeiranthos**	**3.37 120**	⇑P	**Pn**	**01 10 38.1**	**+1.4**	
APE	**Apeiranthos**	**3.37 120**	⇓S	**Sn**	**01 11 15.9**	**-0.3**	
RDO	**Rodhopi**	**3.65 49**	P	**Pn**	**01 10 40.2**	**-0.2**	
VTS	**Vitosha**	**3.93 15**	⇑P	**Pn**	**01 10 45.5**	**+1.0**	
VTS	**Vitosha**	**3.93 15**	⇓S	**Sn**	**01 11 30.9**	**+0.6**	
PDG	**Podgorica**	**4.13 332**	⇓P	**Pn**	**01 10 50.0**	**+3.0**	
PDG	**Podgorica**	**4.13 332**	⇑S	**Sn**	**01 11 39.8**	**+5.1**	
PDG	**Podgorica**	**4.13 332**	*e*Pn	**Pn**	**01 10 49.8**	**+2.8**	
IDI	**Anoyia**	**4.26 145**	Pn	**Pn**	**01 10 50.5**	**+1.4**	
	comp=N,1.0nm,0.3s,baz=327,slow=8.3,SNR=21						
IDI			Sn	**Sn**	**01 11 37.2**	**-1.1**	
	comp=N,2.2nm,0.3s,baz=294,slow=23,SNR=2.2						
IDI	**Anoyia**	**4.26 145**	⇑P	**Pn**	**01 10 49.6**	**+0.6**	
MATE	**Matera**	**4.39 296**	⇓P	**Pn**	**01 10 52.8**	**+2.1**	
HCY	**Herceg Novi**	**4.45 326**	*e*Pn	**Pn**	**01 10 53.5**	**+2.0**	
TREB	**Trebinje**	**4.73 327**	*e*Pn	**Pn**	**01 10 56.7**	**+1.4**	
BRY	**Bratogost**	**4.80 329**	*e*Pn	**Pn**	**01 10 58.4**	**+1.9**	
UPM	**Unac-Piva**	**4.93 334**	*e*Pn	**Pn**	**01 11 01.3**	**+3.1**	
STON	**Ston**	**5.14 323**	*e*Pn	**Pn**	**01 11 01.7**	**+0.7**	
STON	**Ston**	**5.14 323**	*e*Pn	**Pn**	**01 11 01.8**	**+0.8**	
STON			Sn	**Sn**	**01 11 57.0**	**-2.9**	
RUDO	**Rudo**	**5.16 339**	*e*Pn	**Pn**	**01 11 03.0**	**+1.8**	
BBLS	**Lazići**	**5.38 341**	*e*Pn	**Pn**	**01 11 06.8**	**+2.5**	
DIVS	**Divibare**	**5.46 346**	*e*Pn	**Pn**	**01 11 07.3**	**+1.8**	
LSTV	**Lastovo**	**5.47 318**	*e*Pn	**Pn**	**01 11 06.3**	**+0.8**	
LSTV			Sn	**Sn**	**01 12 03.8**	**-4.1**	
HAPS	**Han Pijesak,BI**	**5.71 338**	*e*Pn	**Pn**	**01 11 09.9**	**+1.0**	
RICI	**Ricice**	**5.89 324**	*e*Pn	**Pn**	**01 11 12.3**	**+1.0**	
RICI			Sn	**Sn**	**01 12 14.8**	**-3.4**	
HVAR	**Hvar**	**5.99 318**	*e*Pn	**Pn**	**01 11 13.3**	**+0.7**	
HVAR			Sn	**Sn**	**01 12 17.4**	**-3.2**	
VAE	**Valguarnera**	**6.04 260**	Pn	**Pn**	**01 11 13.4**	**+0.1**	
	comp=N,0.2nm,0.3s,baz=174,slow=18,SNR=1.3						
VAE			Sn	**Sn**	**01 12 19.4**	**-2.6**	
	comp=N,0.2nm,0.3s,baz=13,slow=21,SNR=1.5						
HERR	**Herculane**	**6.07 4**	⇓P	**Pn**	**01 11 14.7**	**+0.9**	
FRGS	**Fruska Gora**	**6.52 347**	⇓P	**Pn**	**01 11 21.6**	**+1.7**	
FRGS	**Fruska Gora**	**6.52 347**	*e*Pn	**Pn**	**01 11 21.2**	**+1.2**	
KIJV	**Kijevo**	**6.62 323**	*e*Pn	**Pn**	**01 11 22.4**	**+1.1**	
KIJV			Sn	**Sn**	**01 12 33.2**	**-3.0**	
MGRS	**Mrkonjic Grad**	**6.65 329**	*e*Pn	**Pn**	**01 11 21.8**	**+0.1**	
ZIRJ	**Zirje**	**6.74 318**	*e*Pn	**Pn**	**01 11 23.3**	**+0.4**	
ZIRJ			Sn	**Sn**	**01 12 36.4**	**-2.8**	
BZS	**Buzias**	**6.80 358**	⇑P	**Pn**	**01 11 25.1**	**+1.4**	
BLY	**Banja Luka**	**6.89 331**	*e*Pn	**Pn**	**01 11 26.6**	**+1.6**	
ICOR	**Ion Corvin**	**6.91 38**	⇑P	**Pn**	**01 11 25.7**	**+0.4**	
VOIR		**7.02 19**	⇓P	**Pn**	**01 11 28.1**	**+1.3**	
DUGI	**Dugi Otok**	**7.28 317**	*e*Pn	**Pn**	**01 11 31.3**	**+0.9**	
DUGI			Sn	**Sn**	**01 12 48.6**	**-3.9**	
UDBI	**Udbina**	**7.32 323**	*e*Pn	**Pn**	**01 11 32.5**	**+1.6**	
UDBI			Sn	**Sn**	**01 12 50.3**	**-3.1**	
MLR	**Muntele Rosu**	**7.32 23**	Pn	**Pn**	**01 11 33.2**	**+2.2**	
	comp=N,2.7nm,0.3s,baz=311,slow=6.7,SNR=20						
MLR			Sn	**Sn**	**01 12 52.4**	**-1.2**	
	baz=220,slow=19,SNR=1.1						
MLR			LR	LR	01 15 05.3		
	comp=N,71nm,21.0s,baz=169,slow=44						
MLR	**Muntele Rosu**	**7.32 23**	⇑P	**Pn**	**01 11 32.2**	**+1.2**	
AQU	**L'Aquila**	**7.36 301**	*e*Pn	**Pn**	**01 11 34.5**	**+3.0**	
TIRR	**Tirgusor**	**7.46 39**	⇑P	**Pn**	**01 11 32.8**	**0.0**	
BISRR	**Bisoca**	**7.62 26**	⇓P	**Pn**	**01 11 35.6**	**+0.5**	
MORH	**Mrgy, Hungar**	**7.77 343**	⇑P	**Pn**	**01 11 38.4**	**+1.4**	
MORH	**Mrgy, Hungar**	**7.77 343**	*e*P	**Pn**	**01 11 38.1**	**+1.1**	
MORH	**Mrgy, Hungar**	**7.77 343**	*e*Pn	**Pn**	**01 11 38.4**	**+1.4**	
NVLJ	**Novalja**	**7.78 320**	*e*Pn	**Pn**	**01 11 38.1**	**+1.0**	
NVLJ			Sn	**Sn**	**01 13 00.4**	**-4.2**	
MOSL	**Moslavina**	**7.78 332**	*e*Pn	**Pn**	**01 11 37.9**	**+0.6**	
KOVH	**Kovagotottos**	**7.79 340**	*e*P	**Pn**	**01 11 38.1**	**+0.9**	
KOVH			*e*S	**Sn**	**01 13 02.5**	**-2.4**	
OZUR		**7.82 20**	⇓P	**Pn**	**01 11 39.0**	**+1.2**	
PLOR	**Plostina**	**7.87 25**	⇑P	**Pn**	**01 11 39.2**	**+0.7**	
VRI	**Vrincioaia**	**7.90 25**	⇑P	**Pn**	**01 11 40.2**	**+1.3**	
RABC	**Rab**	**7.95 320**	*e*Pn	**Pn**	**01 11 40.7**	**+1.1**	
RABC			Sn	**Sn**	**01 13 04.5**	**-4.5**	
BOJS	**Bojanci**	**8.30 326**	*e*Pn	**Pn**	**01 11 45.9**	**+1.6**	
KALN	**Kalnik**	**8.34 333**	*e*Pn	**Pn**	**01 11 45.5**	**+0.6**	
CRES	**Cresnjev**	**8.47 328**	*e*Pn	**Pn**	**01 11 47.5**	**+0.9**	
LOBO	**Lobor**	**8.50 332**	*e*Pn	**Pn**	**01 11 47.9**	**+0.8**	
BEHE	**Becsehely**	**8.52 335**	*e*Pn	**Pn**	**01 11 47.8**	**+0.4**	
CEY	**Cerknica**	**8.85 324**	*e*Pn	**Pn**	**01 11 53.2**	**+1.3**	
SKDS	**Skadanscina**	**8.90 322**	*e*Pn	**Pn**	**01 11 52.7**	**+0.1**	
BUD	**Budapest**	**8.91 347**	*e*P	**Pn**	**01 11 55.4**	**+2.8**	
MPLH	**Magyarpolny**	**8.93 341**	*e*P	**Pn**	**01 11 54.7**	**+1.7**	
MPLH			*e*S	**Sn**	**01 13 36.2**	**+3.1**	
BURAR	**Bucovina Array**	**9.12 14**	⇓P	**Pn**	**01 11 57.0**	**+1.3**	
BRTR	**Keskin Array B**	**9.16 81**	Pn	**Pn**	**01 11 58.8**	**+2.5**	
	comp=N,0.2nm,0.3s,baz=260,slow=13,SNR=7.9						
PSZ	**Piszkesteto**	**9.21 352**	⇑P	**Pn**	**01 11 58.8**	**+1.9**	
PSZ	**Piszkesteto**	**9.21 352**	*e*P	**Pn**	**01 11 58.4**	**+1.5**	
PSZ			*e*S	**Sn**	**01 13 42.2**	**+2.2**	
SOKA	**Soboth**	**9.33 330**	*i* Pn	**Pn**	**01 11 59.3**	**+0.8**	
	comp=N,1.1nm,0.3s,SNR=6.1						
OBKA	**Obir**	**9.39 327**	*e*Pn	**Pn**	**01 12 01.3**	**+1.9**	
	comp=N,0.3nm,0.2s						
ARSA	**Arzberg**	**9.63 333**	*e*Pn	**Pn**	**01 12 03.4**	**+0.9**	
	comp=N,1.0nm,0.4s						
VYHS	**Vyhne**	**9.92 348**	*e*PN	**Pn**	**01 12 09.2**	**+2.6**	
KEST	**Kesra**	**10.45 257**	Pn	**Pn**	**01 12 14.1**	**+0.1**	
	comp=N,0.0nm,0.3s,baz=39,slow=6.3,SNR=2.4						
ABTA	**Abfaltersbach**	**10.49 322**	*e*Pn	**Pn**	**01 12 15.8**	**+1.3**	
	comp=N,1.4nm,0.5s						
VRAC	**Vranov**	**11.15 342**	LR	LR	01 16 28.7		
	comp=N,19nm,21.1s,baz=240,slow=37						
WTTA	**Wattenberg**	**11.28 322**	*e*Pn	**Pn**	**01 12 26.7**	**+1.4**	
	comp=N,1.5nm,0.3s,SNR=6.0						
SQTA	**Sankt Quirin**	**11.46 321**	*e*Pn	**Pn**	**01 12 29.4**	**+1.7**	
	comp=N,1.4nm,0.3s						
MOTA	**Moosalm**	**11.60 321**	*e*Pn	**Pn**	**01 12 30.8**	**+1.1**	
	comp=N,0.5nm,0.3s						
GERES	**GERESS Array B**	**11.63 332**	Pn	**Pn**	**01 12 30.4**	**+0.4**	
	comp=N,0.1nm,0.3s,baz=147,slow=13,SNR=2.7						
RETA	**Reutte**	**11.87 320**	*e*Pn	**Pn**	**01 12 35.5**	**+2.3**	
	comp=N,0.2nm,0.2s						
DAVOX	**Davos/Dischmat**	**11.87 316**	Sn	Sn	01 14 37.4	-7.9	
	comp=N,0.1nm,0.3s,baz=338,slow=24,SNR=1.2						
KHC	**Kasperske Hory**	**11.91 333**	*e*PN	**Pn**	**01 12 35.6**	**+1.8**	
ESDC	**Sonseca Array**	**20.02 281**	P	**P**	**01 14 17.1**	**+0.4**	
	comp=N,0.1nm,0.3s,baz=72,slow=11,SNR=4.5						
HFS	**Hagfors**	**21.96 349**	P	**P**	**01 14 36.4**	**-1.0**	
	comp=N,1.8nm,0.6s,baz=156,slow=11,SNR=7.3						
BELG	**Belogornoye**	**22.40 44**	P	**P**	**01 14 42.9**	**+0.7**	
	comp=N,4.1nm,0.8s,baz=316,slow=22,SNR=1.6						
FINES	**FINESS Array B**	**22.80 5**	P	**P**	**01 14 45.1**	**-1.3**	
	comp=N,2.0nm,0.9s,baz=167,slow=12,SNR=4.8						
NB2	**NORSAR Subarra**	**23.22 347**	P	**P**	**01 14 51.6**	**+0.8**	
	comp=Z,0.5nm,0.5s,baz=159,slow=10						
NOA	**NORSAR Array B**	**23.22 347**	P	**P**	**01 14 50.0**	**-0.8**	
	comp=Z,0.8nm,0.8s,baz=163,slow=9.4,SNR=5.4						
NOA			LR	LR	01 24 59.5		
	comp=Z,9.1nm,18.7s,baz=200,slow=40						
EKA	**Eskdalemuir Ar**	**23.55 323**	P	**P**	**01 14 54.2**	**+0.2**	
	comp=Z,2.8nm,0.7s,baz=128,slow=9.1,SNR=8.8						
ARCES	**ARCESS Array B**	**30.84 2**	P	**P**	**01 15 59.1**	**-0.4**	
	comp=Z,2.4nm,0.9s,baz=189,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**31.20 220**	P	**P**	**01 16 04.5**	**+1.2**	
	comp=Z,0.6nm,0.6s,baz=36,slow=8.3,SNR=2.4						
MKAR	**Makanchi Array**	**44.06 59**	P	**P**	**01 17 53.7**	**+2.1**	
	comp=Z,0.5nm,0.4s,baz=271,slow=7.8,SNR=9.6						
ZALV	**Zalesovo Beam**	**44.47 49**	P	**P**	**01 17 56.3**	**+1.6**	
	comp=Z,1.4nm,0.6s,baz=278,slow=8.7,SNR=4.8						

DJA 19 01:23:04.0±0.2, 2°S±3°×12°7E±°, h10km, M3.8/10, mb4.3/4, mB4.8/1, MLv3.6/10, Mw(mB)4.0/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.82**	**156**	P	Pb	01 23 20.4	0.0
NLAI				S	Sg	01 23 29.5	-1.1
SANI	**Sanana**	**0.89**	**299**	P	Pg	01 23 20.9	-0.3
SANI				S	Sg	01 23 32.9	+0.1
MSAI	**Masohi**	**2.32**	**112**	P	Pn	01 23 43.1	+0.8
SWI	**Sorong**	**4.77**	**70**	P	Pn	01 24 16.9	+0.7
APSI	**Ampana**	**5.35**	**287**	P	Pn	01 24 25.3	+1.3
	0.2nm804nm62nm,0.5s						
APSI				S	Sn	01 25 26.0	+0.3
	0.2nm804nm62nm,0.5s						
FAKI	**Fak Fak**	**5.49**	**95**	P	Pn	01 24 25.2	-0.7
	0.2nm27nm,1.3s						
MRSI	**Marisa**	**5.65**	**301**	P	Pn	01 24 29.1	+1.0

BJI ***19*** *01:26:11.1±0.0, 37°.90N×72°.52E, h130km, mB4.6/13, mb4.5/23*
MOS ***19*** *01:26:12.5±0.9, 37°.93N×72°.61E, h136km, mb4.3/19, Error ellipse: s-maj=6.7km s-min=4.4km az=96.0*
NEIC ***19*** *01:26:13.8±1.9, 37°.97N±0°.06×72°.49E±0°.08, h140km±6km, mb4.2/21, Error ellipse: s-maj=9.4km s-min=8.2km az=103.0*
IDC ***19*** *01:26:13.7±2.4, 37°.96N×72°.60E, h133km±20km, mb3.5/21, mb1 3.7/27, mb1mx3.6/41, mbtmp4.0/27, MS3.6/1, Ms1 3.6/1, ms1mx2.3/42, Error ellipse: s-maj=17.3km s-min=10.6km az=176.0*
NNC ***19*** *01:26:15.8±5.9, 38°.20N×72°.49E, h185km±72km, mb3.4, mpv4.3, Error ellipse: s-maj=60.3km s-min=32.6km az=172.0*
ISC 19 01:26:12.3±0.5, 37°.89N±0°.04×72°.40E±0°.04, h129km±4km, h128km; pP-P, n227, σ2.28/253, mb4.1/42, 28C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.66**	**344**		**Pn**	**01 26 44.8**	**+2.3**
GAR	**Garm**	**1.98**	**305**		**Pn**	**01 26 48.2**	**+2.2**
BTK	**Batken**	**2.49**	**331**	PN	**Pn**	**01 26 55.1**	**+2.6**
BTK	**Batken**	**2.49**	**331**		**Pn**	**01 26 55.1**	**+2.6**
CHGR	**Chuyangaron**	**2.67**	**288**	Pn	**Pn**	**01 26 56.4**	**+1.8**
KSH	**Kashi**	**3.23**	**59**	P	**Pn**	**01 26 57.8**	**-4.2**
KSH				S	Sn	01 27 30.9	-9.5
KSH				smax	smax		
	comp=N,2μm,0.3s						
KSH				smax	smax		
	comp=E,760nm,0.3s						
CEP	**Cherat**	**4.08**	**186**	P	**Pn**	**01 27 16.1**	**+2.9**
TAS	**Tashkent**	**4.19**	**326**	PN	**Pn**	**01 27 14.9**	**+0.4**
TAS	**Tashkent**	**4.19**	**326**	Pn	**Pn**	**01 27 14.9**	**+0.4**
CHCP	**Chirah Chowk**	**4.28**	**170**	P	**Pn**	**01 27 18.5**	**+2.7**
NIL	**Nilore**	**4.28**	**170**	PN	**Pn**	**01 27 17.9**	**+2.0**
NIL	**Nilore**	**4.28**	**170**		**Pn**	**01 27 17.9**	**+2.0**
KBL	**Kabul**	**4.30**	**220**	PN	**Pn**	**01 27 18.7**	**+2.4**
KBL	**Kabul**	**4.30**	**220**	Pn	**Pn**	**01 27 18.7**	**+2.4**
AML	**Almayashu**	**4.35**	**13**	P	**Pn**	**01 27 18.1**	**+1.0**
	SNR=91						
EKS2	**Erkin-Say**	**4.88**	**12**	P	**Pn**	**01 27 26.1**	**+2.3**
	SNR=39						
AAK	**Ala-Archa**	**5.01**	**18**	P	**Pn**	**01 27 26.4**	**+0.9**
	10nm,0.3s,baz=272,slow=5.5,SNR=20						
AAK				S	**Sn**	**01 28 20.0**	**-2.6**
	9.5nm,0.3s,baz=331,slow=22,SNR=19						
AAK	**Ala-Archa**	**5.01**	**18**	P	**Pn**	**01 27 27.1**	**+1.5**
	SNR=16						
AAK	**Ala-Archa**	**5.01**	**18**	⇑P	**Pn**	**01 27 26.7**	**+1.2**
	24nm,0.5s						
AAK				⇓S	**Sn**	**01 28 21.0**	**-1.5**
	80nm,0.6s						
AAK	**Ala-Archa**	**5.01**	**18**	PN	**Pn**	**01 27 27.0**	**+1.5**
AAK	**Ala-Archa**	**5.01**	**18**		**Pn**	**01 27 27.0**	**+1.5**
THW	**Thamme Wali**	**5.11**	**186**	P	**Pn**	**01 27 28.0**	**+1.1**
KBK	**Karagaybulak**	**5.15**	**21**	P	**Pn**	**01 27 29.5**	**+2.1**
	SNR=7.6						
FRU1	**Bishkek**	**5.20**	**18**	PN	**Pn**	**01 27 29.0**	**+0.9**
FRU1	**Bishkek**	**5.20**	**18**		**Pn**	**01 27 29.0**	**+0.9**
ULHL	**Ulahol**	**5.25**	**33**	P	**Pn**	**01 27 29.1**	**+0.1**
	SNR=43						
BOOM	**Boomskoye usch**	**5.33**	**29**	PN	**Pn**	**01 27 30.5**	**+0.6**
BOOM	**Boomskoye usch**	**5.33**	**29**	Pn	**Pn**	**01 27 30.5**	**+0.6**
KK31	**Karatay Array**	**5.41**	**345**	⇓P	**Pn**	**01 27 32.2**	**+1.4**
	48nm,0.3s,baz=153,slow=11,SNR=1238						
KK31				⇓S	**Sn**	**01 28 30.2**	**-1.8**
	90nm,0.4s,baz=145,slow=25,SNR=24						
KK31	**Karatay Array**	**5.41**	**345**	PN	**Pn**	**01 27 31.8**	**+1.1**
KK31	**Karatay Array**	**5.41**	**345**	Pn	**Pn**	**01 27 31.8**	**+1.1**
KKAR	**Karatay Array**	**5.41**	**345**	PN	**Pn**	**01 27 31.9**	**+1.2**
KKAR	**Karatay Array**	**5.41**	**345**	Pn	**Pn**	**01 27 31.9**	**+1.2**
CHMS	**Chumysh**	**5.41**	**19**	P	**Pn**	**01 27 32.0**	**+1.2**
	SNR=29						
TKM2	**Tokmak 2**	**5.59**	**25**	P	**Pn**	**01 27 34.0**	**+0.6**
	SNR=13						
TKM2	**Tokmak 2**	**5.59**	**25**	⇓P	**Pn**	**01 27 33.8**	**+0.5**
	6.0nm,0.5s						
TKM2				⇑S	**Sn**	**01 28 37.7**	**+1.1**

comp=Z,27nm,0.1s
SVE Sverdlovsk 20.50 341 *e*P **P 01 30 41.3 +1.5**
SVE pmax pmax
comp=Z,8.0nm,0.7s
SHL Shillong 20.58 121 P **P 01 30 39.8 -1.4**
SHL pmax pmax
comp=Z,20nm,1.0s
SHL Shillong 20.58 121 P **P 01 30 39.8 -1.4**
ARU Arti 20.73 338 P **P 01 30 43.1 +0.9**
comp=Z,1.3nm,0.6s,baz=147,slow=8.5,SNR=9.9
ARU Arti 20.73 338*c i*P **P 01 30 43.4 +1.2**
ARU 01 31 11.3
ARU S **S 01 34 30.3 +3.9**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 20.73 338 P **P 01 30 42.3 +0.1**
ARU IAmb IAmb 01 30 44.5
comp=Z,4.6nm,0.6s
GROC Groznyy 20.86 293 *e*P **P 01 30 43.7 -0.1**
GROC *e**PP **pP 01 31 09.8 +1.8**
GROC *e**SP **sP 01 31 27.2 +2.4**
GROC *e*S **S 01 34 22.0 -7.2**
GROC pmax pmax
comp=Z,57nm,1.2s
GTA Gaotai 21.44 77 ⇓P **P 01 30 52.4 +2.2**
GTA pP sP 01 31 23.4 -8.3
GTA pmax pmax
comp=Z,7.0nm,1.2s
GNI Garni 21.58 285 P **P 01 30 56.3 +4.5**
comp=Z,8.0nm,0.7s,baz=7.0,slow=4.4,SNR=5.2
GNI Garni 21.58 285⇑ *e*P **P 01 30 52.1 +0.3**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 21.58 285 P **P 01 30 52.6 +0.9**
ZEI Tsey 22.22 292 *e*P **P 01 31 03.9 +5.5**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
NCK Nalchik 22.49 294 *e*P **P 01 31 03.2 +2.3**
NCK pmax pmax
comp=Z,14nm,0.5s
BELG Belogornoye 22.56 318 P **P 01 31 02.4 +1.0**
comp=Z,12nm,0.7s,baz=153,slow=11,SNR=4.8
KARS Kars 22.82 286 P **P 01 31 04.7 +0.4**
KARS pmax pmax
comp=Z,16nm,0.9s
KARS Kars 22.82 286 P **P 01 31 04.7 +0.4**
KBZ Khabaz 23.01 294 P **P 01 31 07.4 +1.6**
comp=Z,2.6nm,0.7s,baz=146,slow=4.6,SNR=6.7
KVAR Kislovodsk Arr 23.18 295 P **P 01 31 10.0 +2.5**
comp=Z,2.5nm,0.7s,baz=72,slow=20,SNR=1.5
KVAR Kislovodsk Arr 23.18 295 P **P 01 31 10.0 +2.5**
KIV Kislovodsk 23.18 295 *e*P **P 01 31 11.4 +3.9**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 23.18 295 P **P 01 31 07.2 -0.3**
KIV IAmb IAmb 01 31 30.5
comp=Z,10nm,1.1s
MARD Mardin 25.00 278 P **P 01 31 23.9 -0.3**
ZAK Zakamensk 25.24 50 *e*P **P 01 31 26.2 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 26.63 57 P **P 01 31 39.3 +0.5**
comp=Z,0.8nm,0.5s,baz=259,slow=11,SNR=9.2
SONM Songino Array 26.63 57 P **P 01 31 38.1 -0.7**
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 26.63 57 P **P 01 31 38.1 -0.7**
OBN Obninsk 29.65 317⇑ *e*P **P 01 32 06.8 +1.5**
OBN *e**PP **pP 01 32 38.8 +4.7**
OBN *e* 01 33 10.1
OBN pmax pmax
comp=Z,3.0nm,0.8s
BR131 Keskin Array S 30.11 286 P **P 01 32 08.8 -0.9**
BR131 pmax pmax
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 30.11 286 P **P 01 32 08.8 -0.9**
BR131 IAmb IAmb 01 32 14.0
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 30.11 286 P **P 01 32 13.1 +3.4**
comp=Z,1.8nm,0.6s,baz=95,slow=6.9,SNR=22
BRTR Keskin Array B 30.11 286 P **P 01 32 10.9 +1.2**
BRTR Keskin Array B 30.11 286 P **P 01 32 10.9 +1.2**
HHC Hu-ho-hao-te 30.25 72 *e*P **P 01 32 10.5 -0.4**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,85nm,5.7s
AKASG Malin Array Be 32.98 307 P **P 01 32 36.5 +1.9**
comp=Z,0.7nm,0.3s,baz=166,slow=6.8,SNR=7.8
AKASG Malin Array Be 32.98 307 *i*P **P 01 32 37.0 +2.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 32.98 307 P **P 01 32 35.4 +0.8**
AKBB Malin Array Si 32.98 307 P **P 01 32 35.9 +1.3**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 32.98 307 P **P 01 32 35.9 +1.3**
AKBB IAmb IAmb 01 32 37.5
comp=Z,3.7nm,0.8s
SORM Soroca 33.39 302 ⇓P **P 01 32 40.0 +1.9**
SORM Soroca 33.39 302 ⇓P **P 01 32 40.0 +1.9**
MNK Minsk 34.33 314 *i*P **P 01 32 43.7 -2.5**
MNK *i* *PP **pP 01 33 14.0 -1.3**
MNK *i* 01 34 03.4
MNK *i* 01 35 16.3
MNK *i*S **S 01 38 01.0 -2.9**
MNK *i* *SS **sS 01 38 55.0 -0.5**
MNK *i* SS **SnSn 01 40 28.6 +0.4**
MNK *i* 01 42 51.0
MNK pmax pmax
comp=Z,7.0nm,1.1s
MNK pmax pmax
comp=N,17nm,1.1s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=N,132nm,23.0s
MNK MLR MLR
comp=Z,33nm,10.0s
MNK MLR MLR
comp=E,9.0nm,22.0s
MNK Minsk 34.33 314 *i*P **P 01 32 43.7 -2.5**
comp=E,1.0nm,0.8s
MNK *i*P **P 01 32 43.7 -2.5**
comp=N,17nm,1.1s
MNK *i*P **P 01 32 43.7 -2.5**
comp=Z,7.0nm,1.1s,baz=100
MNK *i* pP **pP 01 33 14.0 -1.3**
MNK *i* PP **PnPn 01 34 03.5 -1.8**
MNK *i* PcP **PcP 01 35 16.3 -2.9**
MNK *i*S **S 01 38 01.0 -2.9**
MNK *i* sS **sS 01 38 55.1 -0.4**
MNK *i* SS **SnSn 01 40 28.7 +0.5**
MNK *i* LRM MLR 01 48 15.5
comp=N,132nm,22.6s
MNK *i* LRM MLR 01 48 29.0
comp=Z,33nm,9.9s
MNK *i* LRM MLR 01 48 47.1
comp=E,9.0nm,21.7s
VRI Vrincioaia 34.53 298 ⇑P **P 01 32 51.2 +3.1**
VRI Vrincioaia 34.53 298 ⇑P **P 01 32 51.2 +3.1**
TESR Tescani 34.56 299 ⇑P **P 01 32 51.1 +2.8**
PLOR Plostina 34.59 298 ⇓P **P 01 32 52.4 +3.8**
PLOR Plostina 34.59 298 ⇓P **P 01 32 52.4 +3.8**
MLR Muntele Rosu 35.11 298 ⇑P **P 01 32 57.7 +4.5**
MLR Muntele Rosu 35.11 298 P **P 01 32 52.2 -1.0**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 35.11 298 P **P 01 32 52.2 -1.0**
MLR IAmb IAmb 01 32 58.4
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 35.50 301 ⇑P **P 01 32 59.6 +3.1**
BURAR Bucovina Array 35.50 301 ⇑P **P 01 32 59.6 +3.1**
BURAR Bucovina Array 35.50 301 P **P 01 32 56.7 +0.2**
FINES FINESS Array B 36.98 325 P **P 01 33 10.6 +1.9**
comp=Z,2.4nm,0.5s,baz=117,slow=9.8,SNR=22
DRGR 37.25 300 ⇑P **P 01 33 14.6 +3.3**
DRGR 37.25 300 ⇑P **P 01 33 14.6 +3.3**
VTS Vitosha 37.40 293 ⇑P **P 01 33 16.1 +3.4**
VTS Vitosha 37.40 293 ⇑P **P 01 33 16.1 +3.4**
KOLS Kolonicke sedl 37.42 304 *e*P **P 01 33 15.5 +2.9**
KOLS Kolonicke sedl 37.42 304 *e*P **P 01 33 15.5 +2.9**
BZS Buzias 38.12 298 ⇑P **P 01 33 21.8 +3.2**
BZS Buzias 38.12 298 ⇑P **P 01 33 21.8 +3.2**

PUK Puka 39.94 293 IAmb IAmb 01 33 36.8
comp=Z,3.1nm,0.5s
MORH Mrgy, Hungar 40.10 300 ⇑P **P 01 33 38.0 +3.0**
ARA0 ARCESS Array S 40.30 337 *e*P **P 01 33 36.5 +0.1**
ARCES ARCESS Array B 40.30 337 P **P 01 33 38.0 +1.6**
comp=Z,0.6nm,0.3s,baz=114,slow=9.2,SNR=14
ARCES ARCESS Array B 40.30 337 P **P 01 33 38.0 +1.6**
JAVC Velka Javorina 40.45 304 *e*P **P 01 33 42.1 +4.1**
MORC Moravsky Berou 40.46 305 *e*P **P 01 33 41.0 +3.0**
KTK1 Kautokeino 40.81 335 *e*P **P 01 33 41.8 +1.3**
KRLC Kraliky 40.93 306 *e*P **P 01 33 44.4 +2.6**
KRLC Kraliky 40.93 306 *e*P **P 01 33 44.4 +2.6**
VRAC Vranov 41.12 305 *e*P **P 01 33 46.5 +3.2**
DPC Dobruska-Polom 41.20 306 *e*P **P 01 33 46.3 +2.3**
DPC Dobruska-Polom 41.20 306 *e*P **P 01 33 46.3 +2.3**
KRUC Moravsky 41.27 304 *e*P **P 01 33 47.5 +2.9**
CHVC Chvalec 41.35 307 *e*P **P 01 33 47.4 +2.2**
HAMF Hammerfest 41.36 338 *e*P **P 01 33 45.4 +0.4**
UPC Upice 41.38 306 *e*P **P 01 33 48.4 +2.9**
UPC Upice 41.38 306 *e*P **P 01 33 48.4 +2.9**
CONA Conrad Observa 41.76 303 *e*P **P 01 33 51.7 +3.1**
comp=Z,3.0nm,0.8s
JETT Jettan, Norway 41.95 336 *e*P **P 01 33 51.9 +2.0**
YAK Yakutsk 42.19 36⇓ *e*P **P 01 33 52.2 +0.4**
YAK pmax pmax
comp=Z,8.0nm,0.6s
PRU Pruhonice 42.37 306 *e*P **P 01 33 56.2 +2.7**
PRU Pruhonice 42.37 306 *e*P **P 01 33 56.2 +2.7**
TRO Tromso 42.46 335 *e*P **P 01 33 54.1 +0.2**
SOKA Soboth 42.50 301 *e*P **P 01 33 57.8 +3.1**
comp=Z,1.2nm,0.6s
BRG Berggiesshubel 42.66 307 *i*P **P 01 33 58.6 +2.8**
BRG Amp 01 33 59.5
comp=Z,2.5nm,0.6s
CKRC Cesky Krumlov 42.66 304 *e*P P 01 34 04.9 +9.0
GERES GERESS Array B 43.06 304 P **P 01 34 01.0 +1.8**
comp=Z,0.2nm,0.3s,baz=69,slow=8.5,SNR=7.2
KHC Kasperske Hory 43.10 305 *e*P **P 01 34 02.0 +2.5**
KHC Kasperske Hory 43.10 305 *e*P **P 01 34 02.0 +2.5**
FAUS Fauske 43.10 332 *e*P **P 01 33 59.4 +0.3**
MOR8 Moi Rana 43.17 330 *e*P **P 01 33 59.7 0.0**
CLL Collm 43.21 308 *e*P **P 01 34 02.0 +1.8**
CLL Collm 43.21 308 *e*P **P 01 34 02.0 +1.8**
KS19 Wonju Array Si 43.33 73 P **P 01 34 01.0 -0.4**
KS19 IAmb IAmb 01 34 06.4
comp=Z,3.5nm,0.9s
KSAR Wonju Array Be 43.36 73 P **P 01 34 00.2 -1.4**
KSAR Wonju Array Be 43.36 73 P **P 01 34 00.2 -1.4**
KSRS Korea Array 43.38 73 P **P 01 34 02.1 +0.3**
comp=Z,0.3nm,0.3s,baz=292,slow=7.6,SNR=2.1
NC602 NORSAR Array S 43.79 322 *e*P **P 01 34 05.3 +0.6**
NORES NORESS Array B 43.79 322 P **P 01 34 06.2 +1.5**
LOF Lofoten 43.92 332 *e*P **P 01 34 06.0 +0.3**
NSS Namsos 43.93 327 *e*P **P 01 34 06.0 +0.2**
NB2 NORSAR Subarra 43.96 322 P **P 01 34 07.6 +1.4**
comp=Z,1.2nm,0.5s,baz=93,slow=7.9
NB2 NORSAR Subarra 43.96 322 P **P 01 34 07.6 +1.4**
baz=93,slow=7.9
NOA NORSAR Array B 43.96 322 P **P 01 34 07.7 +1.5**
comp=Z,1.4nm,0.5s,baz=93,slow=7.7,SNR=8.4
TIXI Tiksi 44.07 22*ce*P **P 01 34 07.3 +0.5**
TIXI Tiksi 44.07 22 P **P 01 34 06.4 -0.4**
KONO Kongsberg 44.73 320 *e*P **P 01 34 13.5 +1.3**
DOMB Dombas 45.03 323 *e*P **P 01 34 14.4 -0.2**
DAVA Damuels 45.85 303 *e*P **P 01 34 23.5 +2.0**
comp=Z,3.1nm,0.5s
AKN Aaknes 46.01 324 *e*P **P 01 34 22.1 -0.2**
KEST Kesra 49.67 288 P **P 01 34 52.4 +1.4**
comp=Z,1.4nm,0.8s,baz=356,slow=17,SNR=2.9
KEST Kesra 49.67 288 IAmb IAmb 01 34 54.4
comp=Z,2.3nm,0.9s
MAJO Matsushiro 51.41 70⇓ *e*P **P 01 34 59.5 -4.5**
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 51.42 70 P **P 01 35 06.0 +2.0**
comp=Z,3μm,1.0s,baz=291,slow=6.4,SNR=4.1
MJAR Matsushiro Arr 51.42 70 P **P 01 35 06.0 +2.0**
JMIC Jan Mayen 51.77 336 LR LR 01 59 22.0
comp=Z,57nm,20.4s,baz=260,slow=38
BILL Biiibino 56.87 27⇓ *e*P **P 01 35 43.5 +0.5**
BILL *e**PP **pP 01 36 16.4 +1.4**
BILL *e*S **S 01 43 30.6 +4.5**
BILL pmax pmax
comp=Z,2.0nm,0.4s
ESDC Sonseca Array 57.80 298 P **P 01 35 51.5 +1.4**
comp=Z,0.9nm,0.6s,baz=58,slow=7.1,SNR=11
TORD Torodi Ar. Bea 66.87 269 P **P 01 36 51.5 +0.9**
comp=Z,1.2nm,0.4s,baz=47,slow=5.9,SNR=27
TOLK Toolik Lake Re 69.30 15 P **P 01 37 03.9 -1.2**
TOLK IAmb IAmb 01 37 06.9
comp=Z,4.6nm,0.7s
INK Inuvik 72.35 10 P **P 01 37 23.7 +0.2**
comp=Z,1.9nm,0.7s,baz=347,slow=5.6,SNR=5.0
INK Inuvik 72.35 10 IAmb IAmb 01 37 25.2
comp=Z,2.1nm,0.7s
ILAR Eielson Array 73.14 16 P **P 01 37 28.2 +0.1**
comp=Z,0.7nm,0.6s,baz=318,slow=3.8,SNR=8.1
ILAR Eielson Array 73.14 16 P **P 01 37 28.0 -0.1**
YKA Yellowknife Ar 79.80 3 P **P 01 38 05.8 +0.1**
comp=Z,0.5nm,0.5s,baz=340,slow=8.8,SNR=6.6
YKA Yellowknife Ar 79.80 3*ce*P **P 01 38 06.9 +1.2**
YKA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 81.79 123 P **P 01 38 16.2 -0.7**
comp=Z,0.7nm,0.7s,baz=321,slow=4.4,SNR=7.5
WRA Warramunga Arr 81.79 123 *i*P **P 01 38 17.0 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRAB Tennant Creek 81.79 123⇓ *e*P **P 01 38 16.1 -0.8**
WRAB pmax pmax
comp=Z,23nm,2.3s
ASAR Alice Springs 84.14 126 P **P 01 38 28.8 -0.2**
comp=Z,0.4nm,1.0s,baz=327,slow=5.0,SNR=1.8

*IDC **19** 01:29:38.7±3.4, 36.°06N×71.°03E, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.5/45, mbtmp3.9/7, ML3.2/2, Error ellipse: s-maj=75.3km s-min=24.0km az=140.0*
*NEIC **19** 01:29:51.9±1.6, 36.°42N±0.°06×71.°02E±0.°09, h130km±4km, mb4.1/7, Error ellipse: s-maj=10.7km s-min=9.0km az=75.0*
*NNC **19** 01:29:52.3±7.3, 36.°85N×70.°78E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=56.8km s-min=48.0km az=166.0*
ISC 19 01:29:52.7±0.8, 36.°45N±0.°07×70.°97E±0.°07, h150km, n33, σ1§56/35, mb3.9/4, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.47	220	Pn	Pn	01 30 33.3	-0.3
GAR	Garm	2.60	349	Pn	Pn	01 30 34.2	-0.9
CHGR	Chuyangaron	2.63	327	Pn	Pn	01 30 34.3	-1.2
DRK	Karamyk	3.10	12		Pn	01 30 41.5	0.0
NIL	Nilore	3.36	146	Pn	Pn	01 30 42.4	-2.3
AML	Almayashu SNR=66	6.05	20	P	Pn	01 31 19.5	-0.8
EKS2	Erkin-Say SNR=23	6.57	18	P	Pn	01 31 26.8	-0.2
KK31	Karatay Array 13nm,0.3s,baz=179,slow=13,SNR=57	6.66	357	⇓P	Pn	01 31 27.4	-0.6
KK31	3.1nm,0.3s,baz=182,slow=26,SNR=3.8			⇑S	Sn	01 32 40.2	-2.6
AAK	Ala-Archa 14nm,0.3s,baz=207,slow=6.4,SNR=12	6.75	23	Pn	Pn	01 31 28.9	-0.5
AAK	Ala-Archa SNR=9.8	6.75	23	P	Pn	01 31 29.0	-0.5
AAK	Ala-Archa 19nm,0.4s	6.75	23	⇑P	Pn	01 31 29.0	-0.4
AAK	24nm,0.8s			⇓S	Sn	01 32 43.1	-2.2
AAK	Ala-Archa SNR=5.6	6.75	23		Pn	01 31 29.1	-0.3
FRU1	Bishkek	6.95	23	Pn	Pn	01 31 30.3	-1.7
CHMS	Chumysh SNR=28	7.16	23	P	Pn	01 31 34.5	-0.3
USP	Ospenovka SNR=6.4	7.33	21	P	Pn	01 31 36.7	-0.3
TKM2	Tokmak 2 SNR=5.6	7.38	27	P	Pn	01 31 37.2	-0.6
TKM2	Tokmak 2 9.1nm,0.5s	7.38	27	⇓P	Pn	01 31 36.4	-1.5
TKM2	4.4nm,0.7s			⇓S	Sn	01 33 00.1	-0.3
GEYT	Alibeck 1.5nm,0.3s,baz=104,slow=16,SNR=3.8	10.37	282	Sn	Sn	01 34 08.1	-4.0
MAKZ	Makanchi	13.21	35	Pn	Pn	01 32 54.2	-0.2
MKAR	Makanchi Array 0.1nm,0.3s,baz=226,slow=12,SNR=2.1	13.34	36	Pn	Pn	01 32 53.2	-2.9
MKAR	Makanchi Array	13.34	36		Pn	01 32 56.5	+0.4
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=206,slow=11,SNR=5.2	15.18	19	Pn	Pn	01 33 17.8	-1.3
AKTO	Aktyubinsk baz=125,slow=12,SNR=1.7	16.81	330	P	Pn	01 33 40.0	+1.0
ZAA0	Zalesovo Array	19.97	24	P	P	01 34 13.7	+0.7
ZAA0				IAmb	IAmb	01 34 17.8	
ZALV	comp=Z,3.0nm,0.6s Zalesovo Beam comp=Z,1.8nm,0.3s,baz=212,slow=10.0,SNR=8.2	19.97	24	P	Pn	01 34 14.8	-1.4
SHL	Shillong	20.91	115	P	P	01 34 22.9	-0.6
SHL	comp=Z,12nm,1.1s			IAmb	IAmb	01 34 38.0	
ARU	Arti	21.67	341	P	P	01 34 31.7	+0.5
AKASG	Malin Array Be comp=Z,0.2nm,0.3s,baz=80,slow=6.9,SNR=1.9	32.96	309	P	P	01 36 16.3	+3.5
SUMG	Summit	61.10	341	P	P	01 39 53.0	+2.2
SUMG	comp=Z,2.3nm,0.8s			IAmb	IAmb	01 39 58.5	
TORD	Torodi Ar. Bea comp=Z,0.5nm,0.7s,baz=52,slow=5.9,SNR=4.6	65.70	269	P	P	01 40 26.1	+4.7
HDA	Harding Lake	75.13	16	P	P	01 41 19.4	+1.6
HDA	comp=Z,6.1nm,1.5s			IAmb	IAmb	01 41 30.6	
WAX	Waxell Ridge	79.53	16	P	P	01 41 42.4	-0.1
WRAB	Tennant Creek	81.98	122	P	P	01 41 55.4	-0.5

VIE 19 01:30:41.8±0.7, 47.°09N×9.°93E, h7km±13km, ml0.7/1, Error ellipse: s-maj=3.2km s-min=1.6km az=84.0 1 km NE of Schruns, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	Damuels 14nm,0.0s	0.20	351	*i* Pg	Pg	01 30 46.2	+0.2
DAVA	2.8nm,0.1s			*e*Sg	Sg	01 30 49.2	+0.4

LJU 19 01:31:21.2, 45.°65N×15.°44E, h1km, ML0.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRES	Cresnjev	0.17	3	*i* Pg	Pg	01 31 24.4	-0.1
CRES				*e*Sg	Sg	01 31 27.0	+0.2
CRES				IAML		01 31 28.4	
BOJS	comp=Z,6.3nm,0.1s Bojanci	0.20	222	*i* Pg	Pg	01 31 25.0	0.0
BOJS				*i* Sg	Sg	01 31 28.2	+0.6
BOJS				IAML		01 31 29.1	
GCIS	comp=Z,2.6nm,0.1s Gornji Cirnik	0.25	31	*i* Pg	Pg	01 31 26.4	+0.4
GCIS				*e*Sg	Sg	01 31 30.1	+0.8
GCIS				IAML		01 31 30.9	
LEGS	comp=Z,0.9nm,0.1s Legarje	0.31	344	*e*Sg	Sg	01 31 31.9	+0.7
VISS	Visnje	0.45	290	*i* Pg	Pg	01 31 30.4	+0.6
VISS				*i* Sg	Sg	01 31 36.5	+0.9
VISS				IAML		01 31 39.7	
GBRS	comp=Z,0.6nm,0.1s Gornja Briga	0.46	255	*e*Sg	Sg	01 31 36.5	+0.6
PDKS	Podkum	0.51	323	*i* Pg	Pg	01 31 31.5	+0.4
PDKS				*e*Sg	Sg	01 31 38.4	+0.7
PDKS				IAML		01 31 38.6	
	comp=Z,0.9nm,0.1s						

*ANF **19** 01:36:05.8±0.2, 39.°44N×120.°37W, h0km, ML3.3/9, Error ellipse: s-maj=5.6km s-min=1.7km az=56.0*
*NEIC **19** 01:36:06.2±2.2, 39.°451N±0.°010×120.°29W±0.°04, h4km±7km, Error ellipse: s-maj=5.1km s-min=0.7km az=76.0*
*NCEDC **19** 01:36:06.9±2.4, 39.°45N±0.°03×120.°28W±0.°05, h10km±6km, Mwr3.2/3, ML3.6/13(REN), ML3.1/84(NEIC), Error ellipse: s-maj=5.7km s-min=4.1km az=47.0*
*REN **19** 01:36:06.1±2.4, 39.°45N±0.°03×120.°29W±0.°04, h12km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=215.0*
*NEIC **19** 01:36:06.9, 39.°45N×120.°28W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}~0.24; $M_{\theta\theta}$0.31; $M_{\phi\phi}$-0.07; $M_{r\theta}$-2.13; $M_{\phi\phi}$-6.61; $M_{\phi r}$-3.38; Fault plane solution: $M_0$7.73000×10^{13} NP1:ϕ_s357.03000°, δ77.85000°, λ-24.44000°. NP2:ϕ_s92.49000°, δ66.14000°, λ-166.70000°. Principal axes: T 6.8481, Plg8.0000°, Azm46.0000°; N 1.5280, Plg63.0000°, Azm152.0000°; P -8.3761, Plg26.0000°, Azm313.0000°;*

ISC 19 01:36:05.9±0.8, 39.°45N±0.°02×120.°28W±0.°02, h6km, n91, σ0§99/92, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUBR	Rubicon Trail	0.41	166		Pb	01 36 14.8	-0.9
BEKR	Beckworth	0.42	352	Pg	Pg	01 36 14.3	+0.1
BEKR				IAML		01 36 21.4	
VCNR	comp=N,2μm,0.4s Virginia City	0.51	107		Pg	01 36 16.1	+0.3
PNTR	Pine Nut	0.64	124		Pg	01 36 18.6	+0.4
PNTR				IAML		01 36 28.0	
	comp=N,891nm,0.6s						
PNTR				IAML		01 36 30.3	
	comp=E,916nm,0.7s						
AFDM	Forest Hills D	0.73	227	Pg	Pg	01 36 20.0	0.0
AFDM				IAML		01 36 32.1	
	comp=N,834nm,0.3s						
AFDM				IAML		01 36 32.4	
	comp=E,966nm,0.3s						
PAHR	Pah Rah Range	0.74	69	Pg	Pg	01 36 20.2	0.0
PAHR				IAML		01 36 31.7	
	comp=E,962nm,0.3s						
YERR	Yerington	0.93	119		Pg	01 36 23.6	-0.2
ORV	Oroville	0.95	277		Pg	01 36 23.6	-0.5
ORV	Oroville	0.95	277	Pg	Pg	01 36 23.4	-0.7
ORV	Oroville	0.95	277	IAML		01 36 37.4	
	comp=N,532nm,0.3s						
ORV				IAML		01 36 37.4	
	comp=E,389nm,0.3s						
WAKR	Walker	1.15	145		Pg	01 36 27.8	-0.1
LCMM	Colby Mountain	1.18	307		Pg	01 36 28.0	-0.6
SUTB	Sutter Butte	1.19	260		Pg	01 36 27.9	-0.8
CMB	Columbia Colle	1.41	183		Pn	01 36 31.4	-0.8
CMB	Columbia Colle	1.41	183	Pn	Pn	01 36 30.9	-1.2
CMB	Columbia Colle	1.41	183	IAML		01 36 50.7	
	comp=N,345nm,0.4s						
O03E	Paynes Creek baz=125	1.44	306	P	Pn	01 36 32.3	-0.3
RYN	Ryan	1.59	120		Pn	01 36 35.3	+0.4
RYN				IAML		01 36 58.3	
	comp=E,360nm,0.3s						
LTCM	Tuscan Springs	1.61	299		Pb	01 36 35.8	-0.3
HATC	Hat Creek Radi	1.64	327		Pb	01 36 36.6	0.0
KVN	Kaiserville	1.74	102	Pn	Pn	01 36 36.4	-0.4
KVN				IAML		01 37 02.5	
	comp=N,253nm,0.3s						
KVN				IAML		01 37 04.4	
	comp=E,169nm,0.5s						
MNRC	McLaughlin Min	1.77	252		Pb	01 36 38.1	-0.7
LHV	Little Huntoon	1.83	130		Pb	01 36 39.2	-0.6
LHV				IAML		01 37 08.4	
	comp=N,148nm,0.6s						
LHV				IAML		01 37 14.2	
	comp=E,139nm,0.8s						
NVAR	Mina Array Bea	1.85	123		Pb	01 36 39.4	-0.8
GASB	Alder Springs	1.89	277		Pn	01 36 39.5	+0.6
LSHM	Sage Hen Hill	1.90	316		Pb	01 36 39.9	-1.2
BDM	Black Diamond	1.94	220		Pn	01 36 40.3	+0.9
NV11	Mina Array Sit	1.94	121		Pn	01 36 40.0	+0.4
NV11				IAML		01 37 10.5	
	comp=E,110nm,0.5s						
MDCM	Deadman Creek	1.99	150		Pb	01 36 42.8	+0.1
CVS	Carmenet Viney	2.02	238		Pn	01 36 41.2	+0.6
MDPB	Devils Postpil	2.04	152		Pb	01 36 42.8	-0.8
MDPB				IAML		01 37 11.4	
	comp=E,222nm,0.4s						
GDXM	Geysers	2.06	253	Pn	Pn	01 36 41.1	0.0
O02D	Mt. Diablo Mer baz=110	2.06	291	P	Pn	01 36 41.8	+0.6
WDC	Whiskeytown Da	2.07	304		Pn	01 36 41.8	+0.6
WDC	Whiskeytown Da	2.07	304	Pn	Pn	01 36 40.7	-0.5
MRDM	Red Cones	2.08	152		Pb	01 36 44.6	+0.3
COSM	Mount Oso	2.12	204		Pn	01 36 42.7	+0.7

MDRNC	Doe Ridge	2.13 147			Pg	01 36 46.0	-0.7
MLAC	Mammoth, Mammo	2.14 148		Pb	Pg	01 36 46.1	-0.8
	baz=329						
WENL	Wente Vineyard	2.16 213			Pn	01 36 43.1	+0.7
BKS	Berkeley--Byer	2.19 225			Pn	01 36 43.2	+0.4
HOPS	Hopland Field	2.21 259		Pn	Pn	01 36 44.3	+1.1
CMPM	Mikes Peak	2.24 202			Pb	01 36 45.8	-1.0
MHC	Mount Hamilton	2.36 207			Pn	01 36 46.2	+1.0
N02D	Trinity Center	2.40 310		Pb	Pb	01 36 49.1	-0.5
	baz=129						
FTR	Fort Ross	2.43 249			Pn	01 36 47.2	+1.1
MOD	Modoc Plateau	2.45 360			Pb	01 36 49.7	-0.8
MOD	Modoc Plateau	2.45 360		Pn	Pn	01 36 48.0	+1.4
MTUM	Tungsten Hills	2.49 147			Pb	01 36 49.2	-1.9
GHS	Gilroy Hot Spr	2.52 202			Pn	01 36 49.1	+1.7
JRSC	Jasper Ridge	2.55 218			Pn	01 36 48.5	+0.7
KCPM	Cahto Peak	2.56 276		Pn	Pn	01 36 48.3	+0.2
KCPM				IAML		01 37 44.1	
	comp=E,79nm,1.4s						
KCPM				IAML		01 37 51.5	
	comp=N,59nm,4.0s						
M04C	Macdoel	2.62 334		Pb	Pb	01 36 53.0	-0.3
	baz=153						
M04C				Sb	Sg	01 37 28.9	-1.0
	baz=153						
KMRM	Mail Ridge	2.75 287			Pn	01 36 51.8	+1.2
KMRM				IAML		01 37 42.4	
	comp=E,76nm,2.8s						
KMRM				IAML		01 37 49.9	
	comp=N,65nm,3.8s						
TPH	Tonopah	2.76 119		Pn	Pn	01 36 50.7	-0.1
TPH	Tonopah	2.76 119		IAML		01 37 36.3	
	comp=N,52nm,0.3s						
TPH				IAML		01 37 36.9	
	comp=E,50nm,0.4s						
M02C	Callahan	2.76 316		Pb	Pb	01 36 55.3	-0.4
	baz=134						
SAO	San Andreas Ge	2.83 199			Pn	01 36 51.5	-0.1
HELL	Mitchell Peak,	2.94 160			Pb	01 36 59.6	+0.9
YBH	Yreka Blue Hor	2.94 322		Pn	Pn	01 36 54.7	+1.5
VOG	Valley Oaks Go	3.20 167		Pb	Pb	01 37 03.5	+0.4
	baz=348						
WVOR	Wild Horse Val	3.23 22		Pn	Pn	01 36 56.9	-0.4
PMPB	Monarch Peak	3.25 187		Pn	Pn	01 36 57.8	+0.3
PMPB				IAML		01 37 55.0	
	comp=N,69nm,1.1s						
K05A	Summer Lake	3.31 352		Pn	Pn	01 36 59.5	+1.1
K05A				IAML		01 38 57.8	
	comp=N,34nm,4.4s						
CWC	Cottonwood Cre	3.47 149		Pb	Pb	01 37 09.3	+1.5
	baz=331						
CWC				Sb	Sg	01 37 55.1	-2.3
	baz=331						
PAGB	Antelope Grade	3.71 180		Pn	Pn	01 37 03.1	-0.7
PAGB				IAML		01 38 08.2	
	comp=E,45nm,3.2s						
PAGB				IAML		01 38 09.7	
	comp=N,41nm,0.6s						
R11A	Troy Canyon, C	3.83 105		Sb	Sg	01 38 06.0	-2.7
	baz=288						
J05D	Fort Rock, OR	3.90 350		Pb	Pb	01 37 15.9	+0.7
	baz=169						
TPNV	Topopah Spring	4.04 127		Pn	Pn	01 37 09.9	+1.5
TPNV				IAML		01 38 18.8	
	comp=N,17nm,0.8s						
TPNV				IAML		01 38 33.6	
	comp=N,19nm,5.0s						
ISA	Isabella, Lake	4.04 159		Pn	Pn	01 37 09.5	+1.1
ELK	Elko	4.08 70		Pn	Pn	01 37 08.4	-0.6
J08A	Circle Bar Ran	4.14 19		Pn	Pn	01 37 09.1	-0.7
J08A				IAML		01 38 19.4	
	comp=E,18nm,0.9s						
J08A				IAML		01 38 19.7	
	comp=N,16nm,0.9s						
PINE	Pine Mountain	4.37 354		Pn	Pn	01 37 13.1	0.0
PINE				IAML		01 38 03.4	
	comp=E,21nm,4.6s						
PINE				IAML		01 39 10.7	
	comp=N,26nm,4.4s						
ARVC	Arvin	4.46 165		Sb	Sb	01 38 22.6	+3.8
	baz=346						
PRN	Pahroc Range	4.58 115		Pn	Pn	01 37 15.3	-0.6
PRN					LR	01 38 32.6	
PRN				IAML		01 38 35.7	
	comp=E,20nm,2.2s						
PRN				IAML		01 38 36.1	
	comp=N,16nm,0.8s						
SPR3	Spring Creek 3	4.64 94		Pn	Pn	01 37 15.8	-1.1
SPR3				IAML		01 38 34.2	
	comp=E,13nm,0.7s						
SPR3				IAML		01 38 36.2	
	comp=N,11nm,0.7s						
I07A	Izee	4.67 7		Pn	Pn	01 37 16.9	-0.2
I07A				IAML		01 38 08.3	
	comp=N,12nm,4.6s						
GSC	Goldstone, Bar	4.98 145		Pn	Pn	01 37 21.3	0.0
GSC					Lg	01 38 47.5	
GSC				IAML		01 38 52.8	
	comp=E,20nm,0.9s						
GSC				IAML		01 38 56.1	
	comp=N,13nm,1.3s						
OSI	Osito Audit: C	4.98 165		Pn	Pn	01 37 21.6	+0.3
SHPR	Sheep Range	5.00 124		Pn	Pn	01 37 22.1	+0.5
PSUT	Pine Spring	5.09 98		Pn	Pn	01 37 24.1	+1.2
PSUT					LR	01 38 46.4	
PSUT				IAML		01 38 46.5	
	comp=N,13nm,0.9s						
MFID	Camas Ranch	5.19 39		Pn	Pn	01 37 24.6	+0.4
MFID				IAML		01 38 04.9	
	comp=N,7.9nm,5.0s						
MFID				IAML		01 39 24.4	
	comp=N,7.8nm,4.2s						
MWC	Mount Wilson	5.51 160		Pn	Pn	01 37 27.5	-1.1
BGU	Big Grassy Mou	5.75 73		Pn	Pn	01 37 31.2	-0.7
DUG	Dugway, Tooele	5.80 80		Pn	Pn	01 37 32.2	-0.4
TCRU	Three Creeks R	6.16 95		Pn	Pn	01 37 37.1	-0.5
TCRU					Sn	01 38 48.2	-0.3
TCRU					Lg	01 39 26.0	
SNCC	San Nicolas Is	6.22 174		Pn	Pn	01 37 39.4	+1.2
SPUT	South Promonto	6.26 70		Pn	Pn	01 37 38.6	-0.4
MVU	Marysvale	6.36 96		Pn	Pn	01 37 40.7	+0.3
PFO	Pinyon Flats O	6.59 151		Pn	Pn	01 37 42.1	-1.3
PFO					LR	01 39 38.1	
RDMU	Red Mountain	8.30 79		Pn	Pn	01 38 05.7	-1.3
RDMU					Sn	01 39 43.4	+2.2

*IDC **19** 01:51:06.4±3.0, 19°.87S×177°.53W, h431km±25km, mb3.0/3, mb1 3.3/5, mb1mx3.0/23, mbtmp4.0/5, Error ellipse: s-maj=40.1km s-min=24.7km az=111.0*

ISC 19 01:51:03.2±1.1, 19°.9S±0°.2×177°.2W±0°.2, h400km, n11, σ2§36/11, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.00	294	P	Pn	01 52 27.7	+2.3
	13nm,0.3s,baz=118,slow=22,SNR=86						
AFI	Afiamalu	7.86	42	S	S	01 54 29.0	-0.8
	1.0nm,0.3s,baz=80,slow=11,SNR=1.6						
URZ	Urewera	18.98	194	P	P	01 54 57.4	-0.5
	0.3nm,0.3s,baz=12,slow=19,SNR=1.3						
ASAR	Alice Springs	45.42	256	P	P	01 58 43.0	-1.5
	0.5nm,0.4s,baz=92,slow=8.3,SNR=12						
WRA	Warramunga Arr	45.46	261	P	P	01 58 42.5	-2.3
	0.3nm,0.2s,baz=97,slow=6.8,SNR=5.6						
MJAR	Matsushiro Arr	70.17	323	P	P	02 01 31.6	-2.4
	39nm,0.7s,baz=157,slow=6.9,SNR=4.9						
PETK	Petropavlovsk-	75.87	345	P	P	02 02 05.8	-0.9
	1.3nm,0.9s,baz=133,slow=6.1,SNR=1.5						
ARCES	ARCESS Array B	128.44	350	PKP	PKPdf	02 09 22.4	-0.1
	0.9nm,0.7s,baz=0.0,slow=2.4,SNR=4.8						
BRTR	Keskin Array B	146.98	314	PKPbc	PKPdf	02 09 59.7	+2.3
	0.5nm,0.6s,baz=127,slow=4.6,SNR=4.7						
GERES	GERESS Array B	149.80	346	PKPbc	PKPdf	02 10 05.8	+4.3
	0.5nm,0.6s,baz=46,slow=3.9,SNR=6.2						
DAVOX	Davos/Dischmat	152.55	349	PKPbc	PKPbc	02 10 13.8	+0.5
	1.2nm,0.4s,baz=293,slow=4.7,SNR=7.6						

*IDC **19** 01:53:49.6±1.7, 47°.00N×22°.55W, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.4/43, mbtmp3.6/7, ML4.3/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/42, Error ellipse: s-maj=47.1km s-min=26.0km az=21.0*

*LDG **19** 01:53:56.3±0.4, 46°.68N×22°.24W, h30km, Ml3.9/18, Error ellipse: s-maj=10.1km s-min=5.6km az=133.0*

ISC 19 01:53:51.1±1.3, 47°.0N±0°.2×22°.5W±0°.1, h10km, n41, σ1§70/37, mb3.8/4, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	Rostrenen	13.01	77	*e*Pn	Pn	01 56 55.2	-0.6
ROSF	Rostrenen	13.01	77	*e*P	P	01 57 00.9	-5.5
ROSF				*e*Sn	Sn	01 59 07.9	-13
	6.5nm,0.4s						
QUIF	Quistinic	13.10	79	*e*Pn	Pn	01 56 56.0	-1.0
QUIF	Quistinic	13.10	79	*e*P	P	01 57 02.2	-5.2
QUIF				*e*Sn	Sn	01 59 10.3	-12
	12nm,0.5s						
SGMF	Saint Gilles	13.49	77	*e*Pn	Pn	01 57 02.0	-0.4
SGMF	Saint Gilles	13.49	77	*e*P	P	01 57 07.6	-4.1
GRR	Gorron	14.61	77	*e*Pn	Pn	01 57 17.5	-0.3
GRR	Gorron	14.61	77	*e*P	P	01 57 22.1	-2.1
GRR				*e*Sn	Sn	01 59 47.0	-13
	3.3nm,0.4s						
EKA	Eskdalemuir Ar	14.65	48	Pn	Pn	01 57 19.5	+1.2
	baz=243,slow=12,SNR=11						
EKA				Sn	Sn	01 59 47.7	-13
	baz=243,slow=25,SNR=1.4						
FLN	La Foliniere	14.85	75	*e*Pn	Pn	01 57 20.8	-0.2
	baz=255						
FLN				*e*Sn	Sn	01 59 51.2	-14
	4.5nm,0.4s						
LDF	La Druitiere	15.09	76	*e*Pn	Pn	01 57 24.0	-0.3
LDF	La Druitiere	15.09	76	*e*P	P	01 57 28.3	-1.2
LDF				*e*Sn	Sn	01 59 59.1	-12
	2.9nm,0.4s						
MFF	Saint Martin d	15.29	83	*e*Pn	Pn	01 57 26.2	-0.7
MFF	Saint Martin d	15.29	83	*e*P	P	01 57 30.4	-1.3
MFF				*e*Sn	Sn	02 00 03.1	-13
	6.1nm,0.4s						
ESDC	Sonseca Array	15.32	112	Pn	Pn	01 57 26.4	-0.9
	0.2nm,0.3s,baz=301,slow=13,SNR=10.0						
ESDC				Sn	Sn	02 00 03.1	-14
	0.1nm,0.3s,baz=303,slow=23,SNR=3.0						
ETSF	Etsaut	16.04	97	*e*Pn	Pn	01 57 36.9	+0.2
LFF	La Frestale	16.26	89	*e*Pn	Pn	01 57 38.9	-0.5
LFF				*e*Sn	Sn	02 00 26.1	-14
	2.7nm,0.3s						
EPF	Esparros	16.60	96	*e*Pn	Pn	01 57 43.5	-0.3
RJF	Les Rejaudoux	16.70	87	*e*Pn	Pn	01 57 44.9	-0.1
RJF				*e*Sn	Sn	02 00 34.8	-16
	1.7nm,0.3s						
TCF	Toulx Ste Croi	16.95	83	*e*Pn	P	01 57 49.9	-0.3
TCF	Toulx Ste Croi	16.95	83	*e*P	P	01 57 53.4	+3.2
TCF				*e*Sn	Sn	02 00 36.3	-20
	1.8nm,0.3s						
HYF	Humbligny	17.07	80	*e*Pn	P	01 57 50.0	-1.5
HYF				*e*Sn	Sn	02 00 36.9	-22
CAF	Calviac	17.17	88	*e*Pn	Pn	01 57 50.9	-0.1
CAF				*e*Sn	Sn	02 00 48.9	-13
	1.4nm,0.3s						
BGF	Bois d'Agland	17.33	82	*e*Pn	P	01 57 54.6	+0.3
BGF				*e*Sn	Sn	02 00 46.6	-19
	8.1nm,0.4s						
AVF	Avril sur Loir	17.63	81	*e*Pn	P	01 57 58.6	+1.0
AVF				*e*Sn	Sn	02 00 57.0	-16
	2.4nm,0.4s						
MTLF	Montolieu	17.77	93	*e*Pn	P	01 57 58.8	-0.4
MTLF	Montolieu	17.77	93	*e*P	P	01 58 01.0	+1.8
MTLF				*e*Sn	Sn	02 01 03.3	-13
	2.0nm,0.4s						
BORG	Borgarnes	17.78	2	LR	LR	02 03 16.8	
	comp=Z,28nm,18.6s,baz=238,slow=32						
LOR	Lormes	17.89	80	*e*Pn	P	01 58 02.3	+1.7
	baz=262						
LOR	Lormes	17.89	80	*e*P	P	01 58 05.1	+4.5
LOR				*e*Sn	Sn	02 01 04.2	-15
	5.6nm,0.4s						
BAIF	Baives	17.89	70	*e*Sn	Sn	02 01 04.8	-14
	0.9nm,0.3s						
SMF	Signal de Mont	17.98	82	*e*Pn	P	01 58 02.7	+1.1
SMF				*e*Sn	Sn	02 01 04.8	-17
	1.4nm,0.4s						
MEZF	Maizieres J'vi	18.53	75	*e*Pn	Pn	01 58 10.0	+2.3
	baz=258						
SFTF	Sexfontaines	18.55	76	*e*Pn	Pn	01 58 10.3	+2.3
	baz=257						
LASF	Ste Croix	18.64	89	*e*Pn	Pn	01 58 11.5	+2.3
CABF	La Chapelle	19.51	81	*e*Pn	Pn	01 58 22.3	+2.6
MDT	Midelt	19.66	130	P	Pn	01 58 21.1	-0.4
	0.0nm,0.3s,baz=13,slow=5.1,SNR=1.1						
MDT				S	S	02 01 41.6	-20
	0.1nm,0.3s,baz=169,slow=19,SNR=1.3						
AKASG	Malin Array Be	33.64	64	P	P	02 00 30.3	-1.3
	0.3nm,0.4s,baz=300,slow=9.6,SNR=1.7						
PDAR	Pinedale Array	58.73	301	P	P	02 03 48.8	-0.4
	0.6nm,0.8s,baz=53,slow=5.0,SNR=4.5						
ILAR	Eielson Array	60.45	336	P	P	02 04 00.1	-0.3
	0.2nm,0.2s,baz=39,slow=4.6,SNR=1.5						
MKAR	Makanchi Array	65.79	47	P	P	02 04 37.6	+1.4
	0.5nm,0.6s,baz=308,slow=6.0,SNR=7.7						

MEX 19 02:03:53.3±0.3, 14°.96N×92°.85W, h94km±22km, MD3.6, Near coast of Chiapas

*IDC **19** 02:11:04.3±1.0, 25°.43N×142°.70E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/33, mbtmp3.9/12, Error ellipse: s-maj=45.2km s-min=16.7km az=81.0*

*NEIC **19** 02:11:10.4±1.6, 25°.5N±0°.1×142°.6E±0°.2, h39km±9km, mb4.1/6, Error ellipse: s-maj=22.9km s-min=15.2km az=76.0*

ISC 19 02:11:09.8±0.9, 25°.41N±0°.09×142°.6E±0°.2, h38km, n23, σ0§88/21, mb4.0/13, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.71	349	Pn	Pn	02 11 37.1	0.0
	62nm,0.3s,baz=272,slow=23,SNR=22						
JCJ				Sn	Sn	02 11 59.6	+1.8
	42nm,0.3s,baz=152,slow=20,SNR=4.4						
JMM	Marumori	12.51	354	Pn	Pn	02 14 03.9	-1.4
JOW	Kunigami	12.92	279	Pn	Pn	02 14 10.2	-0.7
USRK	Ussuriysk Ar.	20.63	338	P	P	02 15 46.2	+0.4
	1.7nm,0.7s,baz=146,slow=9.4,SNR=3.6						
KLR	Kul'dur	25.23	343	P	P	02 16 32.7	+0.6
	2.4nm,0.5s,baz=146,slow=6.8,SNR=11						
SONM	Songino Array	36.17	318	P	P	02 18 08.3	-0.4
	0.4nm,0.4s,baz=134,slow=12,SNR=3.9						
SONM	Songino Array	36.17	318	IAmb	IAmb	02 18 27.5	
	comp=Z,0.9nm,1.2s						
WB2	Warramunga Arr	45.78	191	P	P	02 19 28.4	+0.6
WRA	Warramunga Arr	45.78	191	P	P	02 19 28.6	+0.8
	comp=Z,1.8nm,0.4s,baz=9.4,slow=8.5,SNR=21						
WRA	Warramunga Arr	45.78	191	IAmb	IAmb	02 19 31.9	
	comp=Z,0.4nm,1.4s						
ASAR	Alice Springs	49.50	190	P	P	02 19 57.5	+0.8
	comp=Z,0.2nm,0.6s,baz=17,slow=11,SNR=1.9						
MK31	Makanchi Array	51.82	311	P	P	02 20 14.3	+0.3
MK31				IAmb	IAmb	02 20 28.4	
	comp=Z,2.0nm,1.4s						
MKAR	Makanchi Array	51.82	311	P	P	02 20 13.8	-0.2
	comp=Z,0.5nm,0.4s,baz=87,slow=10,SNR=9.7						
KK31	Karatay Array	60.35	307	P	P	02 21 15.1	0.0
KK31				IAmb	IAmb	02 21 19.5	
	comp=Z,3.7nm,1.2s						
KKAR	Karatay Array	60.35	307	P	P	02 21 14.3	-0.8
ABKAR	Akbulak array	66.52	315	P	P	02 21 55.4	-0.3
ARCES	ARCESS Array B	75.24	341	P	P	02 22 50.0	+1.7
	comp=Z,1.1nm,0.7s,baz=64,slow=8.4,SNR=8.7						
ARCES	ARCESS Array B	75.24	341	IAmb	IAmb	02 23 10.8	
	comp=Z,10nm,1.4s						
KBZ	Khabaz	79.41	313	P	P	02 23 12.8	+0.8
	comp=Z,1.2nm,0.5s,baz=162,slow=3.8,SNR=3.6						
FINES	FINESS Array B	79.61	334	P	P	02 23 13.1	+0.3
	comp=Z,1.7nm,0.5s,baz=89,slow=3.7,SNR=15						
NVAR	Mina Array Bea	81.29	52	P	P	02 23 21.5	-1.1
	comp=Z,0.4nm,0.8s,baz=283,slow=5.5,SNR=2.7						
AKASG	Malin Array Be	84.17	324	P	P	02 23 37.0	0.0
	comp=Z,0.8nm,0.5s,baz=53,slow=5.0,SNR=2.4						
NOA	NORSAR Array B	85.30	338	P	P	02 23 41.9	-0.7
	comp=Z,0.5nm,0.5s,baz=45,slow=4.9,SNR=2.4						

*IDC **19** 02:27:21.8±2.3, 5°.26S×153°.83E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/22, Error ellipse: s-maj=89.2km s-min=30.9km az=104.0*

ISC 19 02:27:28.4±1.7, 5°.3S±0°.3×153°.7E±0°.3, h43km, n8, σ0§36/9, mb3.5/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.69	238	Sn	Sn	02 30 43.7	0.0
	1.4nm,0.3s,baz=67,slow=21,SNR=2.0						
WRA	Warramunga Arr	23.83	231	P	P	02 32 37.9	+0.1
	0.3nm,0.4s,baz=50,slow=9.9,SNR=2.0						
WRA				PcP	PcP	02 36 19.9	-0.4
	0.5nm,0.7s,baz=51,slow=3.4,SNR=1.8						
ASAR	Alice Springs	26.43	224	P	P	02 33 01.3	-0.1
	0.4nm,0.8s,baz=54,slow=9.5,SNR=2.2						
ASAR				PcP	PcP	02 36 26.6	+0.5
	0.5nm,1.1s,baz=74,slow=2.1,SNR=4.1						
KLR	Kul'dur	57.58	343	LR	LR	03 01 40.6	
	comp=Z,11nm,18.2s,baz=174,slow=36						
SONM	Songino Array	67.23	328	P	P	02 38 18.6	+0.1
	1.0nm,0.5s,baz=156,slow=6.7,SNR=5.9						
MKAR	Makanchi Array	81.30	319	P	P	02 39 40.6	+0.3
	0.3nm,0.5s,baz=90,slow=7.4,SNR=5.4						
ZALV	Zalesovo Beam	82.08	326	P	P	02 39 43.7	-0.5
	0.7nm,0.4s,baz=90,slow=7.2,SNR=1.7						
TORD	Torodi Ar. Bea	151.34	288	PKPbc	PKPbc	02 47 18.6	0.0
	2.0nm,0.7s,baz=35,slow=2.2,SNR=10						

*IDC **19** 02:46:19.2±2.7, 32°.48N×82°.71E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.3/44, mbtmp3.4/6, ML2.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/27, Error ellipse: s-maj=81.1km s-min=25.3km az=75.0*

ISC 19 02:46:24.3±2.6, 32°.6N±0°.2×82°.8E±0°.5, h35km, n8, σ0§51/6, mb3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	14.20	359	Pn	Pn	02 49 42.4	-0.4
	0.1nm,0.3s,baz=178,slow=13,SNR=4.4						
KURBB	Kurchatov Arra	18.30	351	P	Pn	02 50 35.7	+0.6
	0.0nm,0.3s,baz=173,slow=11,SNR=8.6						
CMAR	Chiang Mai Arr	20.24	130	P	P	02 50 56.5	-0.1
	0.7nm,0.3s,baz=305,slow=12,SNR=6.6						
SONM	Songino Array	23.49	43	P	P	02 51 31.3	+0.3
	0.5nm,0.6s,baz=233,slow=7.0,SNR=3.7						
PALK	Pallekele	25.25	185	LR	LR	03 02 05.3	
	comp=Z,38nm,19.2s,baz=178,slow=38						
MDT	Midelt	71.23	297	LR	LR	03 34 11.8	
	comp=Z,29nm,18.1s,baz=334,slow=40						
WRA	Warramunga Arr	71.83	129	P	P	02 57 43.9	+0.2
	0.9nm,1.0s,baz=327,slow=6.0,SNR=2.3						
ASAR	Alice Springs	74.24	132	P	P	02 57 57.5	-0.4
	0.3nm,0.5s,baz=312,slow=5.6,SNR=5.3						

*NEIC **19** 02:55:00.7±1.9, 2°.89N±0°.06×125°.12E±0°.07, h89km±8km, mb4.7/19, Error ellipse: s-maj=12.2km s-min=5.9km az=57.0*

*DJA **19** 02:55:22.3±0.2, 2°.N±3°.×12°.7E±°., h130km±3km, M4.6/12, mB5.3/6, mb4.7/12, MLv4.4/12, Mw(mB)4.7/6*

*IDC **19** 02:55:24.2±1.9, 1°.73N×127°.58E, h153km±17km, mb4.3/9, mb1 4.5/11, mb1mx3.9/34, mbtmp4.7/11, Error ellipse: s-maj=25.6km s-min=10.8km az=77.0*

ISC 19 02:55:23.4±0.5, 1°.73N±0°.05×127°.40E±0°.07, h150km, n45, σ1§49/54, mb4.6/18, 29C-10D, Fault plane solution: NP1:ϕ_s196.21146°, δ89.50237°, λ97.84670°. **NP2:** ϕ_s289.81751°, δ7.86237°, λ3.64018°. **Principal axes:** T Plg44.9590°, Azm114.0525°; N Plg7.8464°, Azm16.1429°; P Plg43.9729°, Azm278.5026°; **Fault plane solution: NP1:**ϕ_s303.96085°, δ12.59416°, λ-35.00473°. **NP2:** ϕ_s68.31268°, δ82.81465°, λ-100.37060°. **Principal axes:** T Plg36.9881°, Azm167.4823°; N Plg10.2883°, Azm69.6239°; P Plg51.1269°, Azm326.6107°; **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.95	182		Pn	02 55 46.8	-1.1
TNTI	Ternate	0.95	182	P	Pn	02 55 47.1	-0.8
TNTI				S	Sn	02 56 05.3	-1.2
LBMI	Labuha	2.36	178	P	Pn	02 56 02.0	-0.8
LBMI				S	Sn	02 56 33.7	+0.5
SGSI	Sangihe	2.70	316	P	Pn	02 56 04.6	-2.4
SGSI				S	Sn	02 56 37.1	-3.6
SANI	Sanana	4.01	201	P	Pn	02 56 22.8	-1.1
SANI				S	Sn	02 57 06.0	-4.9
GTOI	Gorontalo	4.53	256	P	Pn	02 56 31.4	+0.8
GTOI				S	Sn	02 57 23.9	+1.0
SWI	Sorong	4.64	124	P	Pn	02 56 31.0	-1.1
SIJI	Sorong	4.65	124	P	Pn	02 56 30.7	-1.5
	18nm,0.3s,baz=321,slow=17,SNR=24						
NLAI	Namlea	4.95	184	P	Pn	02 56 35.9	-0.3
	0.9nm6μm54nm,0.5s						
MRSI	Marisa	5.60	257	P	Pn	02 56 44.9	0.0
	0.5nm1μm62nm,0.5s						
KCP	Kidapawan	5.73	336	*e*P	Pn	02 56 44.7	-1.9
KCP				*i* S	Sn	02 57 50.9	-0.7
APSI	Ampana	6.33	246	P	Pn	02 56 55.9	+1.4
	0.5nm818nm35nm,1.0s						
FAKI	Fak Fak	6.69	134	P	Pn	02 56 59.8	+0.3
	0.3nm92nm,1.1s						
MPSI	Mapaga	7.63	260	P	Pn	02 57 12.6	+0.6
	0.1nm795nm15nm,0.7s						
TTSI	Tana Toraja	8.95	238	P	Pn	02 57 29.7	+0.2
	3μm32nm,0.6s						
KAPI	Kappang	10.17	229	P	Pn	02 57 48.0	+2.2
	2.8nm,0.3s,baz=16,slow=9.0,SNR=11						
KAPI				S	Sn	02 59 35.8	-2.5
	4.2nm,0.3s,baz=150,slow=21,SNR=9.9						
GENI	Genyem	13.46	109	P	Pn	02 58 29.2	+0.5
	23nm,0.5s						
WB0	Warramunga Arr	22.44	163	P	P	03 00 09.2	-0.9
WB0				IAmb	IAmb	03 00 10.6	
	comp=Z,41nm,0.5s						
WRAB	Tennant Creek	22.58	163	P	P	03 00 11.0	-0.5
WRA	Warramunga Arr	22.59	163	P	P	03 00 11.3	-0.2
	comp=Z,43nm,0.5s,baz=344,slow=11,SNR=381						
WRA				PcP	PcP	03 03 59.9	+0.2
	comp=Z,0.5nm,0.4s,baz=333,slow=1.9,SNR=2.1						
WRA	Warramunga Arr	22.59	163	P	P	03 00 09.9	-1.6
WB2	Warramunga Arr	22.59	163

comp=Z,3.9nm,0.4s,baz=119,slow=8.7,SNR=47
ZALV Zalesovo Beam 62.66 333 P **P 03 05 34.7 +2.8**
comp=Z,1.9nm,0.5s,baz=125,slow=7.6,SNR=5.1
VNDA Vanda 81.37 173 P **P 03 07 23.4 +0.6**
comp=Z,2.5nm,0.5s,baz=320,slow=7.1,SNR=30
VNDA Vanda 81.37 173 P P 03 07 14.2 -8.6
VNDA IAmb IAmb 03 07 23.7
comp=Z,2.3nm,0.6s
ARCES ARCESS Array B 92.54 340 P **P 03 08 18.1 +0.7**
comp=Z,2.0nm,0.9s,baz=76,slow=5.1,SNR=3.7
TXAR Lajitas Array 122.26 53 PKP **PKPdf 03 14 00.7 -0.8**
comp=Z,0.2nm,0.6s,baz=172,slow=1.9,SNR=3.5
TORD Torodi Ar. Bea 124.16 287 PKP **PKPdf 03 14 04.8 -0.4**
comp=Z,0.6nm,0.5s,baz=83,slow=1.8,SNR=11

*ISK **19** 03:12:53.1, 39.°25N×39.°83E, h5km, ML3.5/24*
*DDA **19** 03:12:54.6, 39.°25N×39.°82E, h7km±1km, MW3.5*
ISC 19 03:12:54.4±1.0, 39.°29N±0.°02×39.°88E±0.°02, h8km±10km, n40, σ1§09/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCL	**Tunceli-Merkez**	**0.32**	**237**	*i* P	**Pg**	**03 13 00.4**	**-0.3**
TNCL				*i* S	**Sg**	**03 13 04.6**	**-0.3**
EUZM	**Uzumlu**	**0.44**	**341**	*i* P	**Pb**	**03 13 04.2**	**-0.3**
EUZM				*i* S	**Sb**	**03 13 11.9**	**+0.5**
EUZM				IAML		03 13 12.0	
	comp=N,2μm,0.5s						
EUZM				IAML		03 13 12.0	
	comp=E,3μm,0.4s						
YEDI	**Yedisu-Bingol**	**0.54**	**73**	PG	**Pb**	**03 13 05.7**	**-0.4**
YEDI				SG	**Sb**	**03 13 14.5**	**+0.4**
KOVA	**Elazig, Kovanc**	**0.58**	**185**	*i* P	**Pg**	**03 13 05.5**	**-0.2**
KOVA				*i* S	**Sg**	**03 13 13.6**	**+0.2**
KOVA				IAML		03 13 14.0	
	comp=E,2μm,0.5s						
KOVA				IAML		03 13 16.0	
	comp=N,1μm,0.5s						
BNGB	**Bingl**	**0.69**	**115**	PG	**Pg**	**03 13 07.6**	**-0.1**
BNGB				SG	**Sb**	**03 13 18.2**	**-0.2**
KOPT	**Kop Dagi**	**0.87**	**33**	*i* P	**Pn**	**03 13 12.5**	**-0.7**
KOPT				IAML		03 13 34.0	
	comp=E,391nm,0.6s						
KOPT				IAML		03 13 39.0	
	comp=N,686nm,0.6s						
REFA	**Refahiye_ERZN**	**0.87**	**277**	*i* P	**Pn**	**03 13 14.4**	**+1.2**
REFA				*i* S	**Sn**	**03 13 27.3**	**+1.2**
REFA				IAML		03 13 37.0	
	comp=N,284nm,1.3s						
REFA				IAML		03 13 37.0	
	comp=E,282nm,1.3s						
KARO	**Karliova-Bingo**	**0.91**	**88**	PG	**Pb**	**03 13 12.1**	**-0.4**
KARO				SG	**Sn**	**03 13 26.7**	**-0.3**
SLHN	**Bingol, Solhan**	**0.95**	**110**	*i* P	**Pb**	**03 13 12.8**	**-0.3**
SLHN				IAML		03 13 32.0	
	comp=E,2μm,0.3s						
SLHN				IAML		03 13 34.0	
	comp=N,912nm,0.5s						
HANI	**Diyarbakir_Han**	**0.96**	**155**	*i* P	**Pb**	**03 13 13.0**	**-0.3**
HANI				*i* S	**Sn**	**03 13 27.8**	**-0.4**
HANI				IAML		03 13 32.0	
	comp=N,816nm,0.6s						
HANI				IAML		03 13 32.0	
	comp=E,2μm,0.5s						
KELT	**Kelkit**	**0.99**	**331**	*i* P	**Pg**	**03 13 13.3**	**-0.1**
KELT				*i* S	**Sn**	**03 13 28.2**	**-0.8**
KELT				IAML		03 13 34.0	
	comp=E,415nm,0.6s						
KELT				IAML		03 13 40.0	
	comp=N,349nm,0.8s						
BAYB	**BAYBURT**	**1.01**	**16**	*i* P	**Pn**	**03 13 14.5**	**-0.6**
BAYB				IAML		03 13 36.0	
	comp=E,302nm,0.9s						
BAYB				IAML		03 13 37.0	
	comp=N,402nm,0.5s						
SVRC	**Sivrice-ELAZID**	**1.01**	**207**	PG	**Pg**	**03 13 12.5**	**-1.4**
ILIC	**ilic-Erzincan**	**1.03**	**280**	PG	**Pg**	**03 13 13.4**	**-0.8**
ILIC				SG	**Sg**	**03 13 27.9**	**+0.2**
ELZG	**Elazig**	**1.05**	**222**	*i* P	**Pg**	**03 13 13.6**	**-1.1**
ELZG				*i* S	**Sn**	**03 13 30.1**	**-0.5**
ELZG				IAML		03 13 33.0	
	comp=E,1μm,0.6s						
ELZG				IAML		03 13 35.0	
	comp=N,706nm,0.8s						
KEMA	**Kemaliye**	**1.08**	**269**	*i* P	**Pg**	**03 13 14.4**	**-0.7**
KEMA				*i* S	**Sg**	**03 13 29.3**	**+0.1**
KEMA				IAML		03 13 34.0	
	comp=N,640nm,0.5s						
KEMA				IAML		03 13 35.0	
	comp=E,795nm,0.7s						
BAYT	**Aydintepe-Bayb**	**1.12**	**10**	PN	**Pn**	**03 13 16.4**	**-0.2**
VRTB	**Varto-Mus**	**1.23**	**95**	*i* P	**Pn**	**03 13 19.1**	**+1.0**
VRTB				IAML		03 13 53.0	
	comp=E,1μm,0.9s						
VRTB				IAML		03 13 54.0	
	comp=N,840nm,0.9s						
VRTB	**Varto-Mus**	**1.23**	**95**	PN	**Pn**	**03 13 18.5**	**+0.5**
DYBB	**Diyarbakir**	**1.35**	**171**	PN	**Pb**	**03 13 19.6**	**-0.3**
DYBB				SN	**Sg**	**03 13 38.9**	**+1.2**
ALUC	**Giresun/Alucra**	**1.36**	**321**	*i* P	**Pb**	**03 13 20.3**	**+0.1**
ALUC				*i* S	**Sg**	**03 13 40.5**	**+2.3**
ALUC				IAML		03 13 48.0	
	comp=N,663nm,0.8s						
ALUC				IAML		03 13 53.0	
	comp=E,770nm,1.0s						
DIYA	**Diyarbakir**	**1.38**	**172**	*i* P	**Pg**	**03 13 21.3**	**+0.6**
DIYA				*i* S	**Sg**	**03 13 42.0**	**+3.3**
DIYA				IAML		03 13 42.0	
	comp=N,621nm,0.6s						
DIYA				IAML		03 13 42.0	
	comp=E,879nm,0.8s						
MALT	**Malatya**	**1.50**	**230**	PN	**Pn**	**03 13 20.6**	**-1.1**
MALT				SN	**Sg**	**03 13 42.6**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.53**	**137**	PN	**Pb**	**03 13 22.8**	**-0.3**
SVAN				SN	**Sg**	**03 13 44.3**	**+0.6**
SUSE	**Susehri**	**1.59**	**306**	*i* P	**Pb**	**03 13 24.2**	**+0.1**
SUSE				*i* S	**Sg**	**03 13 46.5**	**+1.0**
SUSE				IAML		03 13 50.0	
	comp=E,265nm,0.9s						
SUSE				IAML		03 13 55.0	
	comp=N,377nm,0.9s						
KOPR	**Koprukoy-ERZUR**	**1.68**	**65**	PN	**Pb**	**03 13 25.5**	**-0.1**
KOPR				SN	**Sg**	**03 13 49.3**	**+1.0**
KTUT	**Trabzon**	**1.70**	**357**	PN	**Pb**	**03 13 25.9**	**0.0**
KTUT				SN	**Sg**	**03 13 49.5**	**+0.4**
GURO	**Guroymak-BITLI**	**1.83**	**113**	PN	**Pb**	**03 13 27.5**	**-0.7**
ESPY	**Espiye-Giresun**	**1.85**	**332**	PN	**Pb**	**03 13 27.5**	**-1.0**
MAZI	**Mazidag**	**1.88**	**166**	PN	**Pn**	**03 13 27.3**	**+0.4**
CHOM	**Cayeli-Rize**	**1.93**	**20**	PN	**Pb**	**03 13 29.1**	**-0.7**
DARE	**Darende-Malaty**	**2.00**	**250**	PN	**Pn**	**03 13 28.6**	**0.0**
URFA	**Urfa**	**2.02**	**205**	PN	**Pn**	**03 13 29.3**	**+0.4**
MLAZ	**Malazgirt-MUS**	**2.08**	**93**	PN	**Pb**	**03 13 31.1**	**-1.3**
RSDY	**Resadiye-TOKAT**	**2.26**	**300**	PN	**Pn**	**03 13 32.9**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.29**	**55**	PN	**Pb**	**03 13 34.2**	**-1.8**
AKDM	**Akdamar-Van**	**2.60**	**111**	PN	**Pn**	**03 13 38.4**	**+1.5**
BATM	**Batumi**	**2.69**	**30**	PN	**Pn**	**03 13 39.9**	**+1.8**
KARS	**Kars**	**2.80**	**60**	PN	**Pb**	**03 13 41.7**	**-3.0**
VANB	**Van**	**2.82**	**103**	PN	**Pb**	**03 13 42.1**	**-3.0**

IDC 19 03:20:48.8±2.4, 4.°01N×122.°99E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/47, mbtmp3.6/3, Error ellipse: s-maj=343.4km s-min=28.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.29**	**155**	P	P	03 26 26.3	+0.1
	0.5nm,0.3s,baz=335,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**29.49**	**159**	P	P	03 26 54.8	-0.2
	0.3nm,0.5s,baz=335,slow=8.6,SNR=6.7						
MKAR	**Makanchi Array**	**55.24**	**327**	P	P	03 30 23.7	-0.1
	0.3nm,0.5s,baz=140,slow=7.2,SNR=2.2						

*TRN **19** 03:20:59.0, 13.°82N×58.°43W, h106km, MD4.0*
ISC 19 03:20:57.7±2.4, 13.°89N±0.°04×58.°4W±0.°1, h10km, n34, σ1§44/45, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.30**	**233**	*eP*	**Pg**	**03 21 24.0**	**+1.3**
BBSP				*eS*	**Sn**	**03 21 41.8**	**+2.4**
BBGH	**Gun Hill**	**1.36**	**237**	*eP*	**Pg**	**03 21 24.0**	**+0.2**
BBGH				*eS*	**Sg**	**03 21 43.4**	**+1.9**
BCHC	**Barbados, Cave**	**1.42**	**238**	*eS*	**Sg**	**03 21 43.5**	**0.0**
MPOM	**Morne Pois Mar**	**2.46**	**283**	*eP*	**Pn**	**03 21 37.8**	**-0.1**
SLW	**Petit Monier**	**2.48**	**273**	*eS*	**Sn**	**03 22 06.9**	**-1.7**
MCLT	**Moule a Chique**	**2.49**	**266**	*eP*	**Pn**	**03 21 38.7**	**+0.4**
MCLT				*eS*	**Sn**	**03 22 09.0**	**+0.3**
SLBI	**Saint Lucia, B**	**2.51**	**273**	*eP*	**Pn**	**03 21 39.0**	**+0.4**
SLBI				*eS*	**Sn**	**03 22 08.2**	**-1.2**
SLCP	**Castries, St.**	**2.53**	**273**	*eS*	**Sn**	**03 22 09.2**	**-0.5**
LPMF	**Morne Lapointe**	**2.59**	**286**	*eP*	**Pn**	**03 21 39.7**	**0.0**
ZAM	**Aeronautique**	**2.65**	**285**	*eP*	**Pn**	**03 21 40.4**	**-0.1**
TRMF	**Trois Ilets**	**2.66**	**284**	*eP*	**Pn**	**03 21 40.8**	**+0.1**
BIM	**Bigot**	**2.68**	**284**	*eP*	**Pn**	**03 21 41.0**	**+0.1**
FDF	**Fort de France**	**2.81**	**288**	*eP*	**Pn**	**03 21 43.1**	**+0.4**
BAMF	**Morne Balai**	**2.83**	**289**	*eP*	**Pn**	**03 21 43.5**	**+0.5**
GBMF	**Grand Be**	**2.84**	**289**	*eP*	**Pn**	**03 21 43.9**	**+0.7**
SVB	**Belmont**	**2.85**	**258**	*eP*	**Pn**	**03 21 43.8**	**+0.5**
SVB				*eS*	**Sn**	**03 22 16.8**	**-1.0**
SVOC	**Richmond Hill,**	**2.85**	**255**	*eS*	**Sn**	**03 22 15.1**	**-2.6**
SVN	**Savane Anatole**	**2.85**	**290**	*eP*	**Pn**	**03 21 44.1**	**+0.7**
PCM	**Pelee Case Pet**	**2.89**	**289**	*eP*	**Pn**	**03 21 44.4**	**+0.6**
DLPL	**La Plaine**	**3.12**	**298**	*eS*	**Sn**	**03 22 23.7**	**-0.6**
GCMP	**Grenada, Carri**	**3.27**	**245**	*eP*	**Pn**	**03 21 49.0**	**-0.1**
GCMP				*eS*	**Sn**	**03 22 25.1**	**-3.0**
DSLB	**Salisbury**	**3.31**	**298**	*eP*	**Pn**	**03 21 50.1**	**+0.4**
DSLB				*eS*	**Sn**	**03 22 27.3**	**-1.9**
TOSP	**Speyside**	**3.32**	**219**	*eP*	**Pn**	**03 21 49.6**	**-0.1**
TOSP				*eS*	**Sn**	**03 22 26.3**	**-3.0**
MAGL	**Barre de l'ile**	**3.47**	**307**	*eP*	**Pn**	**03 21 53.3**	**+1.6**
MAGL				*eS*	**Sn**	**03 22 32.8**	**-0.1**
GRGR	**Grenville**	**3.63**	**242**	*eP*	**Pn**	**03 21 53.9**	**-0.1**
GRGR				*eS*	**Sn**	**03 22 34.2**	**-2.8**
TDBA	**Terre de Bas,**	**3.69**	**302**	*eP*	**Pn**	**03 21 56.4**	**+1.4**
TBG	**Guadaloupe-3**	**3.71**	**302**	*eP*	**Pn**	**03 21 55.4**	**+0.4**
ABD	**La Joyeuse, An**	**3.94**	**311**	*eP*	**Pn**	**03 22 00.1**	**+1.8**
ABD				*eS*	**Sn**	**03 22 43.1**	**-1.6**
ANBD	**Bethesda, Anti**	**4.52**	**314**	*eP*	**Pn**	**03 22 07.0**	**+0.8**
ANBD	**Bethesda, Anti**	**4.52**	**314**	*eS*	**Sn**	**03 22 56.7**	**-2.3**
BPA	**Boggy Peak**	**4.59**	**314**	*eP*	**Pn**	**03 22 08.5**	**+1.3**
BPA	**Boggy Peak**	**4.59**	**314**	*eS*	**Sn**	**03 22 58.1**	**-2.5**
ANWB	**Willy Bob**	**4.98**	**319**	*eP*	**Pn**	**03 22 12.6**	**0.0**
ANWB	**Willy Bob**	**4.98**	**319**	*eS*	**Sn**	**03 23 07.5**	**-2.8**

*NSSP **19** 03:45:29.8, 39.°73N×45.°03E, h9km, Ms2.8*
*ISK **19** 03:45:31.2, 39.°84N×44.°96E, h5km, ML2.6/4*
ISC 19 03:45:29.1±3.2, 39.°83N±0.°06×45.°2E±0.°1, h5km±16km, n8, σ0§75/15, 4C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.47**	**313**	⇑*iP*	**Pb**	**03 45 39.0**	**-0.8**
GNI				⇑*iS*	**Sb**	**03 45 48.1**	**+0.9**
GNI	**Garni**	**0.47**	**313**	PG	**Pb**	**03 45 39.1**	**-0.8**
GNI				SG	**Sg**	**03 45 45.6**	**+1.3**
KAPZ	**Kaputan**	**0.62**	**323**	⇑*iP*	**Pb**	**03 45 42.4**	**-0.1**
KAPZ				⇑*iS*	**Sb**	**03 45 51.4**	**-0.1**
TASB	**TASBURUN-IGDIR**	**0.75**	**282**	PG	**Pg**	**03 45 43.5**	**+0.1**
TASB				SG	**Sg**	**03 45 52.7**	**-0.4**
METS	**Metsamor**	**0.91**	**291**	*eP*	**Pg**	**03 45 45.7**	**-0.8**
METS				*eS*	**Sg**	**03 45 58.0**	**-0.3**
ARUZ	**Aruch**	**0.95**	**299**	⇓*iP*	**Pb**	**03 45 47.7**	**-0.4**
ARUZ				⇓*iS*	**Sg**	**03 46 00.7**	**+0.9**
CLDR	**Caldiran**	**1.20**	**235**	PG	**Pn**	**03 45 52.9**	**+0.2**
CLDR				SG	**Sb**	**03 46 08.6**	**+0.3**
VANB	**Van**	**1.86**	**229**	PN	**Pg**	**03 46 04.9**	**+0.1**

IDC 19 03:54:46.9±1.2, 23.°25N×142.°49E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.5/36, mbtmp3.8/4, MS3.7/1, Ms1 3.6/1, ms1mx2.5/53, Error ellipse: s-maj=71.9km s-min=28.1km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.66**	**191**	P	P	04 02 54.1	+0.6
	2.2nm,1.0s,baz=28,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**47.38**	**191**	P	P	04 03 22.2	-0.8
	0.6nm,0.6s,baz=16,slow=11,SNR=9.7						
STKA	**Stephens Creek**	**54.82**	**181**	LR	LR	04 28 20.9	
	comp=Z,63nm,18.0s,baz=30,slow=37						
FINES	**FINESS Array B**	**81.51**	**334**	P	P	04 07 05.2	-0.7
	0.5nm,0.4s,baz=57,slow=7.0,SNR=6.4						
NVAR	**Mina Array Bea**	**82.68**	**51**	P	P	04 07 13.9	+1.0
	0.5nm,0.8s,baz=255,slow=5.5,SNR=4.3						

RSPR 19 04:08:01.9, 18.°93N×67.°57W, h53km±5km, MD2.0/3, 4C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.55**	**171**	⇓*eP*	Pn	04 08 13.3	-0.6
IDE	**Isla Desecheo**	**0.55**	**171**	*eS*	Sn	04 08 21.9	-0.6
IDE	**Isla Desecheo**	**0.55**	**171**	⇓*eP*	Pn	04 08 13.2	-0.7
IDE	**Isla Desecheo**	**0.55**	**171**	*eS*	Sn	04 08 21.8	-0.8
AGPR	**Aguadilla, PR**	**0.63**	**137**	⇑*eP*	Pn	04 08 14.0	-0.9
AGPR	**Aguadilla, PR**	**0.63**	**137**	*eS*	Sn	04 08 23.7	-0.6
AGPR	**Aguadilla, PR**	**0.63**	**137**	⇑*eP*	Pn	04 08 14.8	-0.1
AGPR	**Aguadilla, PR**	**0.63**	**137**	*eS*	Sn	04 08 25.0	+0.7
PCDR	**Punta Cana, DR**	**0.88**	**242**	⇑*eP*	Pn	04 08 17.3	-0.8
PCDR				*eS*	Sn	04 08 29.0	-0.8
PCDR	**Punta Cana, DR**	**0.88**	**242**	⇑*eP*	Pn	04 08 17.5	-0.5
PCDR	**Punta Cana, DR**	**0.88**	**242**	*eS*	Sn	04 08 29.1	-0.8

*NAO **19** 04:42:11.2±2.0, 72.°44N×2.°60E, ML3.2*
*IDC **19** 04:42:14.0±2.2, 72.°40N×3.°48E, h0km, mb3.4/3, mb1 3.6/8, mb1mx3.3/43, mbtmp3.5/8, ML2.9/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/42, Error ellipse: s-maj=35.6km s-min=23.5km az=104.0*
*BER **19** 04:42:14.4±2.2, 72.°54N×2.°70E, h10km, ML2.2, ML3.2(NAO), Confirmed Earthquake*
ISC 19 04:42:11.7±0.8, 72.°51N±0.°07×2.°78E±0.°07, h10km, n60, σ2§33/65, mb3.6/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**3.86**	**252**	LR	LR	04 44 31.4	
	comp=Z,67nm,21.9s,baz=86,slow=34						
BJO1	**Bjornoya**	**5.03**	**59**	Pn	**Pn**	**04 43 26.9**	**-0.2**
BJO1	**Bjornoya**	**5.03**	**59**	*eP*	**Pn**	**04 43 26.8**	**-0.2**
BJO1				IAML		04 44 20.6	
	comp=Z,9.3nm,0.7s						
HSPB	**Hornsund (broa**	**5.62**	**31**	*eP*	**Pn**	**04 43 36.2**	**+1.1**
N2VI	**Vinje**	**5.69**	**132**	*eP*	**Pn**	**04 43 37.4**	**+1.3**
N2VI				*e*		04 44 34.9	
N2VI				*eS*	**Sn**	**04 44 37.6**	**-3.7**
N2VI				IAML		04 44 43.5	
	comp=Z,4.8nm,0.5s						
LOF	**Lofoten**	**5.70**	**135**	*eP*	**Pn**	**04 43 38.5**	**+2.3**
LOF				*eS*	**Sn**	**04 44 38.2**	**-3.4**
LOF				IAML		04 44 43.3	
	comp=Z,3.9nm,0.5s						
N2SV	**S,rv¥gen**	**5.79**	**138**	*eP*	**Pn**	**04 43 38.4**	**+0.9**
N2SV				*eS*	**Sn**	**04 44 40.0**	**-3.7**
N2SV				IAML		04 44 40.2	
	comp=Z,3.4nm,0.5s						
N2VA	**Vr,y**	**5.92**	**140**	*eP*	**Pn**	**04 43 39.6**	**+0.3**
N2VA				*eS*	**Sn**	**04 44 42.2**	**-4.8**
N2VA				IAML		04 44 43.6	
	comp=Z,3.5nm,0.8s						
N2RO	**R,st**	**5.94**	**143**	*eP*	**Pn**	**04 43 41.1**	**+1.6**
N2RO				*eS*	**Sn**	**04 44 42.6**	**-4.9**
N2RO				IAML		04 44 45.8	
	comp=Z,5.4nm,0.6s						
TRO	**Tromso**	**5.98**	**111**	*eP*	**Pn**	**04 43 40.1**	**-0.1**
TRO				*eS*	**Sn**	**04 44 43.5**	**-5.1**
TRO				IAML		04 44 46.7	
	comp=Z,4.1nm,0.6s						
STEI	**Steigen**	**6.24**	**131**	*eP*	**Pn**	**04 43 44.4**	**+0.8**
STEI				*eS*	**Sn**	**04 44 49.7**	**-5.1**
STEI				IAML		04 44 56.8	
	comp=Z,3.6nm,0.4s						
N2IH	**Innhavet**	**6.37**	**129**	*eP*	**Pn**	**04 43 45.4**	**0.0**
N2IH				*eS*	**Sn**	**04 44 53.9**	**-4.1**
N2IH				IAML		04 44 57.8	
	comp=Z,5.0nm,0.4s						
N2NF	**Nordfold**	**6.37**	**132**	*eP*	**Pn**	**04 43 46.2**	**+0.7**
N2NF				*eS*	**Sn**	**04 44 54.4**	**-3.7**
N2NF				IAML		04 44 59.0	
	comp=Z,4.2nm,1.0s						
JETT	**Jettan, Norway**	**6.45**	**109**	*eP*	**Pn**	**04 43 46.5**	**-0.1**
JETT				IAML		04 44 59.7	
	comp=Z,6.1nm,0.4s						
NBB08	**Skaug oppvekst**	**6.55**	**136**	*eP*	**Pn**	**04 43 49.8**	**+1.9**
NBB08	**Skaug oppvekst**	**6.55**	**136**	IAML		04 45 01.4	
	comp=Z,6.4nm,0.3s						
SPA0	**Spitsbergen Ar**	**6.63**	**25**	Pn	**Pn**	**04 43 51.2**	**+2.0**
	baz=207,slow=16						
SPA0	**Spitsbergen Ar**	**6.63**	**25**	Pn	**Pn**	**04 43 51.2**	**+2.0**
	baz=207,slow=16						
SPITS	**Spitsbergen Ar**	**6.63**	**25**	Pn	**Pn**	**04 43 50.2**	**+1.1**
	baz=206,slow=15,SNR=7.3						
FAUS	**Fauske**	**6.69**	**134**	*eP*	**Pn**	**04 43 51.3**	**+1.4**
FAUS				*eS*	Sn	04 45 00.2	-5.9
FAUS				IAML		04 45 07.1	
	comp=Z,3.9nm,0.4s						
NBB30	**Finnes**	**6.72**	**140**	*eP*	**Pn**	**04 43 52.0**	**+1.7**
NBB30				*eS*	Sn	04 45 01.3	-5.5
NBB30				IAML		04 45 08.5	
	comp=Z,5.6nm,0.4s						
NBB05	**Inndyr**	**6.72**	**139**	*eP*	**Pn**	**04 43 51.0**	**+0.7**
NBB05	**Inndyr**	**6.72**	**139**	*eS*	**Sn**	**04 45 01.9**	**-5.0**
DBG	**Daneborg**	**6.80**	**296**	Pn	**Pn**	**04 43 50.9**	**-0.5**
DBG	**Daneborg**	**6.80**	**296**	*eP*	**Pn**	**04 43 51.2**	**-0.2**
DBG				*eS*	**Sn**	**04 45 02.0**	**-6.8**
KBS	**Kingsbay**	**6.83**	**15**	Pn	**Pn**	**04 43 53.0**	**+1.3**
KBS	**Kingsbay**	**6.83**	**15**	*eP*	**Pn**	**04 43 53.1**	**+1.4**
HAMF	**Hammerfest**	**6.87**	**96**	Pn	**Pn**	**04 43 52.5**	**+0.2**
HAMF	**Hammerfest**	**6.87**	**96**	*eP*	**Pn**	**04 43 50.9**	**-1.3**
HAMF				IAML		04 45 01.2	
	comp=Z,3.4nm,0.6s						
NBB15	**Halsa Church**	**6.89**	**142**	*eP*	**Pn**	**04 43 54.7**	**+2.0**
KIF	**Kilpisjarvi**	**6.90**	**112**	Pn	**Pn**	**04 43 53.8**	**+1.1**
KIF				Sn	Sn	04 45 05.1	-6.0
KIF	**Kilpisjarvi**	**6.90**	**112**	*eP*	**Pn**	**04 43 52.8**	**+0.2**
NBB17	**Glomfjord B¥r**	**6.90**	**140**	*eP*	**Pn**	**04 43 54.1**	**+1.3**
NBB13	**Alf Garage**	**6.95**	**143**	*eP*	**Pn**	**04 43 55.2**	**+1.7**
KONS	**Konsvik**	**7.03**	**144**	*eP*	**Pn**	**04 43 55.3**	**+0.8**
KONS				*eS*	Sn	04 45 07.8	-6.5
KONS				IAML		04 45 13.9	
	comp=Z,4.2nm,0.7s						
DAG	**Danmarks Havn**	**7.08**	**317**	*eP*	**Pn**	**04 43 56.1**	**+0.9**
DAG				*eS*	Sn	04 45 05.7	-10
SALU	**Saltoluokta**	**7.44**	**126**	*eP*	**Pn**	**04 44 00.5**	**+0.3**
MOR8	**Moi Rana**	**7.57**	**141**	*eP*	**Pn**	**04 44 02.5**	**+0.6**
MOR8				*eS*	Sn	04 45 19.9	-7.7
MOR8				IAML		04 45 27.2	
	comp=Z,4.6nm,0.5s						
KTK1	**Kautokeino**	**7.59**	**107**	*eP*	**Pn**	**04 44 02.9**	**+0.8**
KTK1				*eS*	Sn	04 45 20.4	-7.7
KTK1				IAML		04 45 32.2	
	comp=Z,19nm,0.6s						
ARA0	**ARCESS Array S**	**7.95**	**101**	Pn	**Pn**	**04 44 07.3**	**+0.1**
	baz=294,slow=11						
ARA0	**ARCESS Array S**	**7.95**	**101**	Pn	**Pn**	**04 44 07.3**	**+0.1**
	baz=294,slow=11						
ARA0				IAML		04 45 29.7	
	comp=Z,1.2nm,0.9s						
ARCES	**ARCESS Array B**	**7.95**	**101**	Pn	**Pn**	**04 44 07.5**	**+0.3**
	baz=330,slow=11,SNR=12						
HEF	**Hetta**	**8.08**	**110**	*eP*	**Pn**	**04 44 09.4**	**+0.4**
KEV	**Kevo**	**8.29**	**98**	*eP*	**Pn**	**04 44 10.7**	**-1.0**
NSS	**Namsos**	**8.68**	**153**	*eP*	**Pn**	**04 44 17.8**	**+0.7**
NSS				*eS*	Sn	04 45 47.7	-7.1
NSS				IAML		04 45 55.5	
	comp=Z,3.0nm,0.6s						
APA0	**Apatity Array**	**11.31**	**101**	Pn	**Pn**	**04 44 54.9**	**+1.8**
APA0	**Apatity Array**	**11.31**	**101**	Pn	**Pn**	**04 44 54.9**	**+1.8**
NOA	**NORSAR Array B**	**11.97**	**160**	Pn	**Pn**	**04 45 03.7**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=336,slow=11,SNR=1.8						
NOA				LR	LR	04 49 36.1	
	comp=Z,37nm,19.5s,baz=255,slow=38						
HFS	**Hagfors**	**13.14**	**155**	Pn	**Pn**	**04 45 19.8**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=359,slow=12,SNR=14						
HFS				Sn	Sn	04 47 35.8	-8.2
	comp=Z,0.1nm,0.3s,baz=350,slow=25,SNR=1.7						
HFS				LR	LR	04 49 52.7	
	comp=Z,35nm,19.3s,baz=334,slow=35						
HFS	**Hagfors**	**13.14**	**155**	Pn	**Pn**	**04 45 19.7**	**+1.6**
	baz=346,slow=8.6						
HFS	**Hagfors**	**13.14**	**155**	Pn	**Pn**	**04 45 19.7**	**+1.6**
	baz=346,slow=8.6						
FIA0	**FINESS Array S**	**14.21**	**129**	Pn	**Pn**	**04 45 33.8**	**+1.0**
	baz=333,slow=10						
FIA0	**FINESS Array S**	**14.21**	**129**	Pn	**Pn**	**04 45 33.8**	**+1.0**
	baz=333,slow=10						
FINES	**FINESS Array B**	**14.21**	**129**	Pn	**Pn**	**04 45

Z38A	**Mt. Pleasant**	**4.12**	**145**	Pn	Pn	04 43 20.5	+0.5
Z38A				LR	LR	04 44 28.6	
MGMO	**Mountain Grove**	**4.47**	**82**	Pn	Pn	04 43 24.9	0.0
MGMO				Sn	Sn	04 44 17.3	-0.2
KSCO	**Kaye Shedlock'**	**4.47**	**303**	IAmb_Lg		04 44 43.4	
comp=Z,9.9nm,0.8s							
P38A	**Dawn**	**4.48**	**48**	Pn	Pn	04 43 25.1	0.0
P38A				LR	LR	04 44 34.4	
P38A				IAmb_Lg		04 44 51.3	
comp=Z,10.0nm,0.8s							
N35A	**Tabor**	**4.51**	**21**	Pn	Pn	04 43 25.0	-0.6
N35A				LR	LR	04 44 40.2	
X40A	**Basin Creek Fa**	**4.60**	**117**	Pn	Pn	04 43 26.7	0.0
FCAR	**Ozark Folk Cen**	**4.66**	**98**	Pn	Pn	04 43 27.8	+0.3
FCAR				IAmb_Lg		04 44 55.6	
comp=Z,9.6nm,0.9s							
WHAR	**Wooly Hollow**	**4.68**	**105**	Pn	Pn	04 43 27.8	0.0
WHAR				LR	LR	04 44 43.3	
R40A	**Maddies Statio**	**4.70**	**68**	Pn	Pn	04 43 28.3	+0.3
R40A				IAmb_Lg		04 44 55.6	
comp=Z,10.0nm,0.8s							
BGNE	**Belgrade**	**4.74**	**357**	IAmb_Lg		04 44 47.7	
comp=Z,17nm,0.7s							
WLAR	**White Oak Lake**	**4.86**	**126**	IAmb_Lg		04 45 04.1	
comp=Z,9.8nm,0.8s							
237A	**Washetta, Mont**	**4.94**	**160**	Pn	Pn	04 43 29.9	-1.5
T25A	**Trinidad**	**5.31**	**277**	Pn	Pn	04 43 36.9	+0.2
T25A				IAmb_Lg		04 45 11.3	
comp=Z,12nm,1.0s							
P40A	**Paris**	**5.37**	**56**	Pn	Pn	04 43 38.0	+0.8
P40A				LR	LR	04 45 06.0	
P40A				IAmb_Lg		04 45 20.2	
comp=Z,8.4nm,0.9s							
LCAR	**Lake Charles**	**5.40**	**94**	Pn	Pn	04 43 37.5	-0.2
L34A	**Svendsen Farm,**	**5.41**	**11**	Pn	Pn	04 43 36.1	-1.7
CCM	**Cathedral Cave**	**5.41**	**73**	Pn	Pn	04 43 37.3	-0.5
PBMO	**Poplar Bluff**	**5.93**	**87**	IAmb_Lg		04 45 26.5	
comp=Z,12nm,0.8s							
JCT	**Junction City**	**6.39**	**196**	IAmb_Lg		04 45 45.4	
comp=Z,7.4nm,0.9s							
S44A	**Carbondale**	**6.91**	**79**	IAmb_Lg		04 45 59.4	
comp=Z,9.5nm,0.8s							
SIUC	**Southern Illin**	**6.94**	**79**	IAmb_Lg		04 45 54.7	
comp=Z,11nm,1.0s							
ECSD	**EROS Data Cent**	**7.12**	**7**		Pn	04 44 00.2	-1.0
K38A	**Parkersburg**	**7.12**	**32**	IAmb_Lg		04 46 12.9	
comp=Z,10nm,0.8s							
T45A	**Paducah**	**7.36**	**85**	IAmb_Lg		04 46 31.4	
comp=Z,9.9nm,0.8s							
HDIL	**Hopedale**	**7.71**	**57**	IAmb_Lg		04 46 37.1	
comp=Z,10nm,0.7s							
WCI	**Wyandotte Cave**	**9.29**	**77**	IAmb_Lg		04 47 21.6	
comp=Z,5.5nm,0.9s							

*INET **19** 05:31:29.3, 12°.95N×88°.74W, h29km, MW3.1*
SNET 19 05:31:33.6±0.8, 13°.05N×88°.86W, h65km±8km, ML3.5, 1C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.39**	**45**	⇑*i*P	Pn	05 31 45.1	+0.1
ALJI				*e*S	Sn	05 31 54.2	+1.0
ALJI				IAML		05 31 56.1	
comp=Z,2μm,0.2s							
TECO	**Alcaldia de Te**	**0.49**	**8**	⇓*e*P	Pn	05 31 45.8	-0.1
TECO				*e*S	Sn	05 31 55.3	+0.4
COEB	**Comit de Eme**	**0.55**	**35**	*e*P	Pn	05 31 46.7	+0.1
COEB				*e*S	Sn	05 31 56.8	+0.8
COEB				IAML		05 31 59.4	
comp=Z,2μm,0.2s							
COEG	**Centro de Oper**	**0.57**	**358**	⇓*e*P	Pn	05 31 46.7	-0.1
COEG				IAML		05 32 00.6	
comp=Z,1μm,0.2s							
SJTE	**Alcalda de S**	**0.58**	**345**	⇓*i*P	Pn	05 31 46.8	-0.1
SJTE				IAML		05 31 58.0	
comp=Z,1μm,0.1s							
JUCU	**Jucuarɲ**	**0.62**	**71**	*e*P	Pn	05 31 47.0	-0.4
JUCU				IAML		05 32 00.3	
comp=Z,2μm,0.2s							
PQSS	**Presa 15 de Se**	**0.64**	**27**	*i*P	Pn	05 31 47.8	+0.4
PAVA	**Las Pavas**	**0.66**	**353**	*e*P	Pn	05 31 48.3	+0.4
UEES	**Universidad Ev**	**0.76**	**331**	*e*P	Pn	05 31 48.9	-0.1
UEES				IAML		05 32 03.6	
comp=Z,3μm,0.2s							
JAYA	**Jayaque - finc**	**0.83**	**316**	*e*P	Pn	05 31 49.6	-0.3
JAYA				*e*S	Sn	05 32 02.3	+0.4
CEDA	**San Andres**	**0.91**	**325**	*e*P	Pn	05 31 51.2	+0.3
CEDA				*e*S	Sn	05 32 04.6	+1.1
LCND	**La Caada**	**0.97**	**75**	⇓*e*P	Pn	05 31 51.5	0.0
LCND				*e*S	Sn	05 32 05.9	+1.0
LCND				IAML		05 32 08.1	
comp=Z,1μm,0.2s							
TACO	**Tacachico**	**1.04**	**332**	*e*P	Pn	05 31 52.4	+0.1
CEVE	**Cerro Verde**	**1.08**	**316**	*e*P	Pn	05 31 53.2	+0.1
SLOZ	**Alcaldia de Sa**	**1.33**	**317**	*e*P	Pn	05 31 56.5	+0.3

*IDC **19** 05:48:07.3±0.6, 4°.98S×153°.17E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.3/33, mbtmp4.4/16, ML3.6/1, MS3.9/19, Ms1 3.9/19, ms1mx3.8/28, Error ellipse: s-maj=22.4km s-min=14.2km az=86.0*
*DJA **19** 05:48:14.6±0.6, 5°.5±4°.×15°.3E±°., h50km±6km, M5.2/13, mB5.9/6, mb4.7/13, MLv5.4/3, Mw(mB)5.4/6*
*BJI **19** 05:48:14.4±0.0, 4°.85S×153°.02E, h47km, mB5.1/13, mb4.8/21, Ms4.5/4, Ms7 4.3/4*
*NEIC **19** 05:48:15.1±1.4, 4°.97S±0°.04×153°.08E±0°.10, h50km±6km, mb4.7/38, Error ellipse: s-maj=14.0km s-min=5.4km az=91.0*
ISC 19 05:48:14.2±0.4, 4°.99S±0°.05×153°.10E±0°.07, h43km, n107, σ1.9, 63/96, mb4.7/41, MS3.9/24, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.23**	**310**	Pn	**Pn**	**05 48 35.6**	**+0.6**
RABL	**Rabaul**	**1.23**	**310**	P	**Pn**	**05 48 36.2**	**+1.2**
PMG	**Port Moresby**	**7.35**	**233**	Pn	**Pn**	**05 50 00.9**	**+1.9**
5.9nm,0.3s,baz=44,slow=7.0,SNR=13							
PMG	**Port Moresby**	**7.35**	**233**	Pn	**Pn**	**05 50 00.2**	**+1.2**
PMG	**Port Moresby**	**7.35**	**233**	P	**Pn**	**05 50 01.0**	**+1.9**
PMG	**Port Moresby**	**7.35**	**233**	P	**Pn**	**05 50 00.9**	**+1.9**
HNR	**Honiara**	**8.10**	**123**	LR	LR	05 53 16.8	
comp=Z,1μm,18.8s,baz=300,slow=38							
PATS	**Pohnpei**	**12.85**	**24**	Pn	**Pn**	**05 51 13.8**	**-0.5**
GENI	**Genyem**	**13.13**	**280**	P	**Pn**	**05 51 19.3**	**+1.1**
27nm,0.8s							
SMPI	**Sarmi**	**14.67**	**281**	P	**Pn**	**05 51 39.8**	**+0.7**
30nm,1.3s							
CTA	**Charters Tower**	**16.42**	**203**	Pn	**Pn**	**05 52 01.9**	**+0.2**
0.2nm,0.3s,baz=39,slow=14,SNR=3.1							
SANVU	**Saraoutou**	**17.32**	**128**	P	**P**	**05 52 13.6**	**-0.4**
GUMO	**Guam**	**20.19**	**336**	LR	LR	06 01 33.6	
comp=Z,234nm,18.2s,baz=144,slow=40							
EIDS	**Eidsvold**	**20.36**	**185**	P	**P**	**05 52 47.7**	**+0.6**
LIFNC	**LIFOU**	**20.85**	**140**	P	**P**	**05 52 53.0**	**+0.5**
FAKI	**Fak Fak**	**20.91**	**275**	P	**P**	**05 52 52.5**	**-0.7**
DZM	**Mont Dzumac**	**21.33**	**144**	*e*LR	LR	05 58 11.9	
comp=Z,770nm,23.1s							
DZM	**Mont Dzumac**	**21.33**	**144**	P	**P**	**05 52 57.2**	**-0.7**
65nm,1.0s,baz=284,slow=8.8,SNR=44							
DZM				LR	LR	06 00 20.7	
comp=Z,611nm,21.1s,baz=300,slow=34							
DZM	**Mont Dzumac**	**21.33**	**144**	P	**P**	**05 52 57.9**	**0.0**
ONTNC	**Ouen Toro**	**21.52**	**144**	P	**P**	**05 52 59.9**	**+0.2**
ONTNC				IAmb	IAmb	05 53 09.9	
comp=Z,66nm,1.0s							
OUENC	**Ouen Island, N**	**21.84**	**144**	P	**P**	**05 53 02.7**	**-0.4**
OUENC				IAmb	IAmb	05 53 05.3	
comp=Z,39nm,1.0s							
SIJI	**Sorong**	**22.19**	**280**	P	**P**	**05 53 06.0**	**-0.9**
comp=Z,27nm,0.5s,baz=97,slow=15,SNR=6.9							
SIJI				LR	LR	06 00 53.7	
comp=Z,466nm,20.2s,baz=265,slow=34							
SWI	**Sorong**	**22.19**	**280**	P	**P**	**05 53 05.7**	**-1.4**
comp=Z,817nmcomp=Z,62nm,1.2s							
PINNC	**Pines Island,**	**22.34**	**143**	P	**P**	**05 53 07.2**	**-1.3**
PINNC				IAmb	IAmb	05 53 18.9	
comp=Z,89nm,1.5s							
MTN	**Manton Dam**	**23.05**	**249**	P	**P**	**05 53 15.9**	**-0.1**
MTN				IAmb	IAmb	05 53 44.6	
comp=Z,22nm,0.8s							
WB0	**Warramunga Arr**	**23.40**	**230**	P	**P**	**05 53 18.7**	**-0.8**
WB0				IAmb	IAmb	05 53 28.8	
comp=Z,34nm,1.1s							
WR0	**Warramunga Arr**	**23.41**	**229**	P	**P**	**05 53 18.3**	**-1.2**
WR0				IAmb	IAmb	05 53 29.5	
comp=Z,27nm,1.1s							
WB2	**Warramunga Arr**	**23.54**	**229**	P	**P**	**05 53 19.6**	**-1.2**
WB2				IAmb	IAmb	05 53 35.8	
comp=Z,61nm,1.4s							
WRA	**Warramunga Arr**	**23.55**	**229**	P	**P**	**05 53 19.6**	**-1.3**
comp=Z,8.6nm,0.7s,baz=52,slow=9.9,SNR=60							
WRA				PcP	**PcP**	**05 57 06.8**	**+1.2**
comp=Z,1.5nm,0.6s,baz=53,slow=2.6,SNR=4.8							
WRA				ScP	**ScP**	**06 00 45.3**	**+4.8**
comp=Z,0.7nm,1.0s,baz=61,slow=3.2,SNR=2.3							
WRA	**Warramunga Arr**	**23.55**	**229**	P	**P**	**05 53 19.6**	**-1.3**
ARMA	**Armidale**	**25.33**	**183**	P	**P**	**05 53 36.9**	**-0.3**
ARMA				IAmb	IAmb	05 53 53.9	
comp=Z,47nm,1.5s							
KNRA	**Kununurra**	**26.16**	**244**	P	**P**	**05 53 44.0**	**-0.8**
AS31	**Alice Springs**	**26.21**	**223**	P	**P**	**05 53 44.2**	**-1.1**
ASAR	**Alice Springs**	**26.22**	**223**	P	**P**	**05 53 43.9**	**-1.4**
comp=Z,3.6nm,0.6s,baz=55,slow=8.9,SNR=29							
ASAR				PcP	**PcP**	**05 57 11.5**	**+0.1**
comp=Z,1.1nm,0.5s,baz=62,slow=3.1,SNR=4.4							
ASAR				ScP	**ScP**	**06 00 54.2**	**+6.2**
comp=Z,0.6nm,0.9s,baz=46,slow=2.3,SNR=2.0							
ASAR				LR	LR	06 03 33.8	
comp=Z,262nm,20.8s,baz=62,slow=35							
ASAR	**Alice Springs**	**26.22**	**223**	P	**P**	**05 53 44.0**	**-1.2**
MSVF	**Nonsavu**	**27.49**	**119**	LR	LR	06 04 07.3	
comp=Z,539nm,19.7s,baz=292,slow=35							
STKA	**Stephens Creek**	**28.84**	**201**	P	**P**	**05 54 06.3**	**-2.3**
comp=Z,2.5nm,0.5s,baz=9.9,slow=11,SNR=3.8							
STKA				LR	LR	06 05 53.1	
comp=Z,187nm,18.6s,baz=24,slow=37							
STKA	**Stephens Creek**	**28.84**	**201**	P	**P**	**05 54 06.7**	**-1.9**
FORT	**Forrest**	**34.83**	**220**	P	**P**	**05 54 60.0**	**-1.3**
PSA00	**Pilbara Seismi**	**36.20**	**240**	P	**P**	**05 55 11.6**	**-1.5**
PSA00				IAmb	IAmb	05 55 15.0	
comp=Z,12nm,1.1s							
PSA00	**Pilbara Seismi**	**36.20**	**240**	P	**P**	**05 55 11.6**	**-1.5**
MTKI	**Muara Teweh, K**	**38.36**	**275**	P	**P**	**05 55 30.3**	**-1.2**
comp=Z,4μmcomp=Z,50nm,0.4s							
BKZ	**Black Stump Fm**	**40.08**	**151**	P	**P**	**05 55 45.3**	**-0.3**
TUWZ	**Tuamarina**	**40.79**	**156**	P	**P**	**05 55 51.3**	**-0.1**
JNU	**Nakatsue**	**43.37**	**332**	P	**P**	**05 56 12.2**	**-0.4**
JNU				IAmb	IAmb	05 56 13.6	
comp=Z,28nm,1.2s							
MJAR	**Matsushiro Arr**	**43.60**	**343**	LR	LR	06 13 48.4	
comp=Z,104nm,18.8s,baz=170,slow=35							
KSRS	**Korea Array**	**48.31**	**333**	P	**P**	**05 56 50.1**	**-1.2**
comp=Z,1.8nm,0.9s,baz=155,slow=8.7,SNR=8.7							
KSRS				LR	LR	06 16 22.0	
comp=Z,57nm,18.9s,baz=138,slow=35							
USRK	**Ussuriysk Ar.**	**52.52**	**341**	P	**P**	**05 57 21.8**	**-1.4**
comp=Z,1.6nm,0.8s,baz=181,slow=10,SNR=5.4							
USRK	**Ussuriysk Ar.**	**52.52**	**341**	P	**P**	**05 57 22.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**52.53**	**341**	P	**P**	**05 57 22.6**	**-0.5**
PHIT	**Phitsanulok**	**56.51**	**294**	P	P	05 58 02.8	+10
XAN	**Xi'an**	**56.97**	**316**	P	**P**	**05 57 55.8**	**+0.2**
XAN				pP	pP	05 58 08.3	+0.6
XAN				pmax	pmax		
comp=Z,6.0nm,1.4s							
XAN				LR	LR		
comp=Z,230nm,20.6s							
XAN				LR	LR		
comp=Z,160nm,21.7s							
XAN				LR	LR		
comp=Z,310nm,20.6s							
PPT2	**Papeete2**	**57.38**	**108**	*e*LR	LR	06 14 54.7	
comp=Z,65nm,22.2s							
PETK	**Petropavlovsk-**	**58.01**	**3**	P	**P**	**05 58 02.6**	**+0.1**
comp=Z,1.2nm,0.5s,baz=176,slow=7.7,SNR=5.4							
PETK				LR	LR	06 19 07.8	
comp=Z,46nm,21.9s,baz=180,slow=32							
CM04	**Chiang Mai Arr**	**58.18**	**295**	P	P	05 58 13.4	+9.0
TBI	**Tubuai**	**58.20**	**114**	*e*S	**S**	**06 06 08.5**	**+5.0**
comp=Z,51nm,27.8s							
TBI				*e*LR	LR	06 15 18.0	
comp=Z,149nm,28.2s							
CM05	**Chiang Mai Arr**	**58.21**	**295**	P	**P**	**05 58 09.0**	**+4.4**
comp=Z,4.7nm,1.1s							
CM02	**Chiang Mai Arr**	**58.22**	**295**	P	P	05 58 16.8	+12
CMAR	**Chiang Mai Arr**	**58.23**	**295**	P	**P**	**05 58 05.5**	**+0.8**
comp=Z,2.2nm,0.7s,baz=120,slow=4.9,SNR=9.7							
CMAR				LR	LR	06 21 43.2	
comp=Z,69nm,20.6s,baz=110,slow=35							
CM13	**Chiang Mai Arr**	**58.25**	**295**	P	P	05 58 17.4	+13
CHTO	**Chiang Mai**	**58.34**	**296**	P	P	05 58 15.1	+10
HHC	**Hu-ho-hao-te**	**59.38**	**324**	*e*P	**P**	**05 58 15.6**	**+3.2**
HHC				pmax	pmax		
comp=Z,19nm,0.8s							
HHC				pmax	pmax		
comp=Z,63nm,6.6s							
LZH	**Lanzhou**	**61.58**	**316**	*e*P	**P**	**05 58 30.3**	**+2.7**
LZH				pP	sP	05 58 42.4	-2.3
LZH				sP	pP	05 58 50.0	+10
LZH				pmax	pmax		
comp=Z,17nm,1.2s							
GTA	**Gaotai**	**66.00**	**317**	*e*P	**P**	**05 59 00.1**	**+3.5**
GTA				pP	pP	05 59 08.0	-1.0
GTA				sP	sP	05 59 11.6	-2.3
GTA				pmax	pmax		
comp=Z,2.0nm,1.1s							
GTA				pmax	pmax		
comp=Z,75nm,5.8s							
GTA				LR	LR		
comp=Z,98nm,18.2s							
GTA				LR	LR		
comp=Z,120nm,19.3s							
GTA				LR	LR		
comp=Z,180nm,19.6s							
TAOE	**Nuku Hiva Isla**	**66.30**	**97**	*e*LR	LR	06 19 02.3	
comp=Z,77nm,21.4s							
ULN	**Ulaanbaatar**	**66.32**	**328**	P	**P**	**05 58 59.0**	**+0.5**
SONM	**Songino Array**	**66.65**	**328**	P	**P**	**05 59 00.8**	**+0.3**
comp=Z,0.9nm,0.5s,baz=152,slow=6.2,SNR=6.9							
SONM				LR	LR	06 26 11.4	
comp=Z,96nm,21.9s,baz=109,slow=34							
SONM	**Songino Array**	**66.65**	**328**	P	**P**	**05 59 00.7**	**+0.2**
CASY	**Casey**	**67.92**	**197**	P	**P**	**05 59 07.8**	**-0.3**
CASY				IAmb	IAmb	05 59 12.8	
comp=Z,11nm,1.1s							
VNDA	**Vanda**	**72.63**	**178**	P	**P**	**05 59 36.8**	**0.0**
comp=Z,5.0nm,1.1s,baz=332,slow=6.2,SNR=14							
VNDA	**Vanda**	**72.63**	**178**	P	**P**	**05 59 36.7**	**0.0**
VNDA				IAmb	IAmb	05 59 47.4	
comp=Z,8.6nm,1.2s							
SBA	**Scott Base**	**73.17**	**177**	P	**P**	**05 59 41.2**	**+1.3**
SBA				IAmb	IAmb	05 59 42.1	
comp=Z,16nm,1.4s							
WMQ	**Urumqi**	**76.09**	**317**	*e*P	**P**	**06 00 02.0**	**+4.4**
WMQ				pmax	pmax		
comp=Z,24nm,0.8s							
WMQ				pmax	pmax		
comp=Z,90nm,3.8s							
WMQ				LR	LR		
comp=Z,260nm,16.5s							
WMQ				LR	LR		
comp=Z,230nm,24.7s							
WMQ				LR	LR		
comp=Z,110nm,24.2s							
TIXI	**Tiksi**	**78.12**	**352**	P	**P**	**06 00 08.1**	**-0.3**
TIXI				IAmb	IAmb	06 00 10.7	
comp=Z,11nm,1.2s							
MK31	**Makanchi Array**	**80.67**	**319**	P	**P**	**06 00 23.3**	**+0.6**
MK31				IAmb	IAmb	06 00 24.3	
comp=Z,6.3nm,1.1s							
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**06 00 23.1**	**+0.3**
comp=Z,3.9nm,0.9s,baz=101,slow=6.3,SNR=25							
MKAR				LR	LR	06 36 37.1	
comp=Z,58nm,19.8s,baz=78,slow=36							
MKAR	**Makanchi Array**	**80.67**	**319**	P	**P**	**06 00 23.3**	**+0.6**
MAKZ	**Makanchi**	**80.88**	**319**	P	**P**	**06 00 24.1**	**+0.2**
MAKZ				IAmb	IAmb	06 00 25.3	
comp=Z,9.8nm,1.0s							
MCK	**McKinley**	**80.92**	**22**	P	**P**	**06 00 22.6**	**-1.1**
MCK				IAmb	IAmb	06 00 48.7	
comp=Z,12nm,1.2s							
MLY	**Manley**	**80.95**	**21**	P	**P**	**06 00 23.5**	**-0.4**
ZAA0	**Zalesovo Array**	**81.48**	**326**	P	**P**	**06 00 26.4**	**-0.4**
ZAA0				IAmb	IAmb	06 00 27.2	
comp=Z,6.1nm,0.8s							
ZALV	**Zalesovo Beam**	**81.48**	**326**	P	**P**	**06 00 26.2**	**-0.6**
comp=Z,4.6nm,0.6s,baz=109,slow=5.9,SNR=19							
ZALV				LR	LR	06 36 38.6	
comp=Z,41nm,20.7s,baz=110,slow=36							
ZALV	**Zalesovo Beam**	**81.48**	**326**	P	**P**	**06 00 26.7**	**-0.1**
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**06 00 28.6**	**-2.0**
comp=Z,1.3nm,1.0s,baz=251,slow=5.3,SNR=9.1							
ILAR				LR	LR	06 35 20.3	
comp=Z,51nm,18.9s,baz=244,slow=34							
ILAR	**Eielson Array**	**82.22**	**22**	P	**P**	**06 00 28.3**	**-2.2**
NIL	**Nilore**	**84.33**	**304**	P	**P**	**06 00 40.1**	**-2.1**
NIL				IAmb	IAmb	06 00 43.2	
comp=Z,10nm,0.9s							
QSPA	**South Pole Qui**	**84.97**	**180**	P	**P**	**06 00 44.7**	**-0.2**
MAW	**Mawson**	**85.51**	**203**	P	**P**	**06 00 46.7**	**-0.6**
comp=Z,4.7nm,0.4s,baz=120,slow=5.7,SNR=6.1							
MAW	**Mawson**	**85.51**	**203**	P	**P**	**06 00 47.2**	**-0.1**
MAW				IAmb	IAmb	06 00 47.9	
comp=Z,4.9nm,1.4s							
KKAR	**Karatay Array**	**87.98**	**313**	P	**P**	**06 00 59.2**	**-0.7**
BRVK	**Borovoye**	**89.64**	**323**	P	**P**	**06 01 06.5**	**-1.0**
NVAR	**Mina Array Bea**	**91.96**	**52**	LR	LR	06 36 15.2	
comp=Z,117nm,20.5s,baz=258,slow=31							
ARU	**Arti**	**96.64**	**326**	LR	LR	06 46 07.1	
comp=Z,57nm,20.2s,baz=60,slow=36							
AKTO	**Aktyubinsk**	**97.06**	**320**	LR	LR	06 44 46.1	
comp=Z,48nm,21.3s,baz=65,slow=35							
PDAR	**Pinedale Array**	**98.75**	**48**	LR	LR	06 42 42.0	
comp=Z,112nm,18.9s,baz=248,slow=33							
FINES	**FINESS Array B**	**111.35**	**336**	PKiKP	**PKiKP**	**06 06 42.8**	**-0.5**
comp=Z,1.6nm,1.0s,baz=50,slow=3.0,SNR=4.3							
AKASG	**Malin Array Be**	**114.83**	**324**	PKiKP	**PKiKP**	**06 06 49.1**	**-1.1**
comp=Z,0.6nm,0.4s,baz=50,slow=3.0,SNR=5.3							
BRTR	**Keskin Array B**	**115.66**	**312**	PKP	**PKiKP**	**06 06 52.0**	**-0.4**
comp=Z,0.9nm,0.9s,baz=85,slow=3.2,SNR=4.0							
KOLS	**Kolonicke sedl**	**119.64**	**325**	*e*PKP	**PKiKP**	**06 07 01.1**	**+1.4**
CLL	**Collm**	**123.16**	**331**	*e*PKPdf	**PKiKP**	**06 07 07.0**	**+0.5**
CLL				*e*		06 07 13.0	
CKRC	**Cesky Krumlov**	**124.07**	**328**	*e*PKPDF	**PKPdf**	**06 07 07.9**	**-0.2**
KHC	**Kasperske Hory**	**124.26**	**329**	*e*PKPDF	**PKPdf**	**06 07 08.5**	**0.0**
GERES	**GERESS Array B**	**124.37**	**329**	PKP	**PKPdf**	**06 07 08.8**	**0.0**
comp=Z,1.4nm,0.7s,baz=87,slow=2.8,SNR=13							
LPAZ	**La Paz**	**134.06**	**118**	PKP	**PKPdf**	**06 07 27.1**	**-1.6**
comp=Z,1.2nm,0.7s,baz=256,slow=4.3,SNR=4.8							
TORD	**Torodi Ar. Bea**	**150.65**	**288**	PKPbc	**PKPbc**	**06 08 02.1**	**-0.6**
comp=Z,11nm,0.8s,baz=55,slow=2.3,SNR=45							
BDFB	**Brasilia**	**150.72**	**135**	PKP	**PKPdf**	**06 07 55.2**	**-2.2**
comp=Z,8.7nm,0.4s,baz=156,slow=2.7,SNR=4.7							
BDFB				PKPbc	**PKPbc**	**06 08 02.6**	**-0.3**
comp=Z,8.7nm,0.4s,baz=216,slow=1.9,SNR=27							
BDFB	**Brasilia**	**150.72**	**135**		**PKPbc**	**06 08 02.8**	**-0.2**

*IDC **19** 05:49:51.0±0.8, 31°.71S×71°.84W, h0km, mb4.0/5, mb1 4.0/10, mb1mx3.9/28, mbtmp3.8/10, ML3.6/5, MS3.7/2, Ms1 3.7/2, ms1mx3.0/28, Error ellipse: s-maj=26.5km s-min=19.6km az=144.0*
*NEIC **19** 05:49:54.1±1.3, 31°.69S±0°.04×71°.98W±0°.07, h20km±5km, Error ellipse: s-maj=8.9km s-min=5.4km az=116.0*
*GUC **19** 05:49:54.3±0.7, 31°.73S×71°.90W, h25km, ML4.1*
ISC 19 05:49:51.9±2.9, 31°.70S±0°.04×71°.95W±0°.05, h7km±19km, n61, σ0.9, 79/72, mb4.2/6, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.95**	**59**	⇓*i*P	**Pb**	**05 50 11.4**	**+0.6**
CO02				*i*S	**Sb**	**05 50 23.7**	**0.0**
CO02				IAML		05 50 24.7	
comp=N,15μm,0.3s							
CO02	**Combarbal**	**0.95**	**59**		**Pb**	**05 50 11.8**	**+1.0**
CO02					**Sb**	**05 50 24.1**	**+0.4**
CO06	**Fray Jorge**	**1.06**	**15**	⇓*i*P	**Pb**	**05 50 13.4**	**+0.9**
CO06				*i*S	**Sb**	**05 50 27.3**	**+0.6**
CO06				IAML		05 50 31.2	
comp=E,6μm,0.3s							
VA01	**Torpederas**	**1.34**	**169**	*e*P	**Pn**	**05 50 17.5**	**+0.3**
VA01				*i*S	**Sn**	**05 50 34.3**	**-1.0**
VA01	**Torpederas**	**1.34**	**169**		**Pn**	**05 50 17.4**	**+0.3**
CO03	**El Pedregal**	**1.38**	**52**	⇓*e*P	**Pn**	**05 50 18.2**	**+0.5**
CO03				*i*S	**Sn**	**05 50 35.6**	**-0.7**
CO03				IAML		05 50 36.4	
comp=N,6μm,0.2s							
CO03	**El Pedregal**	**1.38**	**52**		**Pn**	**05 50 18.5**	**+0.8**
CO03				Sn	**Sn**	**05 50 35.9**	**-0.4**
ROCH	**El Roble**	**1.50**	**148**	⇑*e*P	**Pn**	**05 50 19.9**	**+0.5**
ROCH				*e*S	**Sn**	**05 50 38.9**	**-0.6**
ROCH				IAML		05 50 45.9	
comp=N,3μm,0.4s							
VA03	**San Esteban**	**1.59**	**132**	⇓*i*P	**Pn**	**05 50 21.3**	**+0.6**
VA03				*i*S	**Sn**	**05 50 41.2**	**-0.4**
VA03				IAML		05 50 46.6	
comp=E,8μm,0.5s							
VA03	**San Esteban**	**1.59**	**132**		**Pn**	**05 50 21.6**	**+0.9**
MT02	**Cur

comp=N,0.1nm,0.3s,baz=200,slow=11,SNR=3.5
LPAZ La Paz 15.73 14 IAmb IAmb 05 53 47.9
comp=Z,1.8nm,0.8s
SIV San Ignacio 18.51 35 P **P 05 54 07.5 -1.5**
comp=Z,0.1nm,0.3s,baz=237,slow=13,SNR=7.0
SPB Sao Paulo 23.14 76 P **P 05 54 59.1 +0.2**
SPB IAmb IAmb 05 55 00.1
comp=Z,11nm,0.8s
BDFB Brasilia 27.04 59 P **P 05 55 33.5 -1.7**
comp=Z,5.6nm,1.0s,baz=251,slow=6.5,SNR=5.8
BDFB Brasilia 27.04 59 P **P 05 55 34.4 -0.8**
BDFB IAmb IAmb 05 55 35.4
comp=Z,15nm,1.3s
TXAR Lajitas Array 67.77 330 P **P 06 00 51.7 +1.1**
comp=Z,0.4nm,0.8s,baz=122,slow=6.8,SNR=4.0
MAW Mawson 75.36 164 LR LR 06 37 19.5
comp=Z,80nm,18.5s,baz=68,slow=38
BOSA Boshof 81.08 118 P **P 06 02 08.4 +0.1**
comp=Z,1.6nm,0.8s,baz=230,slow=7.9,SNR=3.4
NVAR Mina Array Bea 82.05 325 P **P 06 02 14.2 +1.1**
comp=Z,0.7nm,0.7s,baz=156,slow=6.5,SNR=5.5
TORD Torodi Ar. Bea 83.36 70 P **P 06 02 19.9 -0.3**
comp=Z,2.1nm,0.8s,baz=253,slow=4.9,SNR=7.6
TORD Torodi Ar. Bea 83.36 70 IAmb IAmb 06 02 20.2
comp=Z,5.0nm,1.2s
WRA Warramunga Arr 122.80 210 PKP **PKPdf 06 08 48.4 -1.0**
comp=Z,0.9nm,0.8s,baz=162,slow=1.7,SNR=5.8
ZALV Zalesovo Beam 152.22 30 PKPbc **PKPbc 06 09 47.7 -0.2**
comp=Z,3.1nm,0.6s,baz=298,slow=3.0,SNR=14
MKAR Makanchi Array 155.15 45 PKPbc PKPbc 06 09 54.5
comp=Z,0.2nm,0.7s,baz=252,slow=4.2,SNR=2.6
MKAR PKPab **PKPab 06 10 11.1 +0.7**
comp=Z,0.8nm,0.9s,baz=318,slow=1.9,SNR=5.0

IDC 19 06:30:45.0±23.0, 24°35S×177°36W, h187km±160km, mb3.4/3, mb1 3.6/4, mb1mx3.2/38, mbtmp3.9/4, ML5.0/1, Error ellipse: s-maj=253.9km s-min=39.9km az=137.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.86**	**326**	P	Pn	06 32 36.5	-0.1
	0.7nm,0.3s,baz=137,slow=13,SNR=12						
CTA	**Charters Tower**	**33.89**	**270**	P	P	06 37 11.3	+1.0
	1.9nm,0.5s,baz=103,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**44.34**	**260**	P	P	06 38 36.5	-0.4
	0.6nm,0.4s,baz=93,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**44.78**	**266**	P	P	06 38 40.0	-0.4
	0.4nm,0.4s,baz=104,slow=7.9,SNR=10						
AKASG	**Malin Array Be**	**146.63**	**329**	PKPbc	PKPbc	06 50 03.7	-0.6
	0.3nm,0.4s,baz=39,slow=4.3,SNR=6.0						

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*IDC **19** 06:34:12.4±0.7, 13°.99N×58°.44W, h0km, mb3.9/17, mb1 4.2/20, mb1mx4.0/45, mbtmp4.0/20, ML4.6/2, Error ellipse: s-maj=19.3km s-min=14.9km az=177.0*
*NEIC **19** 06:34:14.1±1.8, 13°.88N±0°.06×58°.29W±0°.07, h10km±1km, mb4.5/69, Error ellipse: s-maj=11.8km s-min=10.1km az=101.0*
*TRN **19** 06:34:15.5, 13°.93N×58°.47W, h85km*

ISC 19 06:34:15.5±1.1, 13°.92N±0°.03×58°.45W±0°.05, h20km±4km, n199, σ1§18/224, mb4.5/47, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.27**	**230**	*eP*	**Pg**	**06 34 39.4**	**-0.8**
BBSP				*eS*	**Sg**	**06 34 58.1**	**+1.2**
BBGH	**Gun Hill**	**1.33**	**234**	*eP*	**Pn**	**06 34 39.2**	**+0.2**
BBGH				*eS*	**Sg**	**06 34 58.5**	**-0.1**
BBGH	**Gun Hill**	**1.33**	**234**		**Pb**	**06 34 39.4**	**-0.4**
BBGH				Sn	**Sg**	**06 34 59.3**	**+0.7**
BCHC	**Barbados, Cave**	**1.39**	**236**	*eP*	**Pb**	**06 34 40.8**	**-0.1**
BCHC				*eS*	**Sg**	**06 35 00.7**	**+0.1**
H05S1	**Guadeloupe/Mar**	**2.37**	**282**	Pn	**Pn**	**06 34 51.6**	**-1.7**
H05S1				Sn	**Sn**	**06 35 18.0**	**-3.8**
MPOM	**Morne Pois Mar**	**2.39**	**283**	*eP*	**Pn**	**06 34 52.5**	**-1.2**
SLW	**Petit Monier**	**2.42**	**273**	*eP*	**Pn**	**06 34 53.8**	**-0.2**
SLW				*eS*	**Sn**	**06 35 22.0**	**-1.1**
MCLT	**Moule a Chique**	**2.43**	**265**	*eP*	**Pn**	**06 34 54.9**	**+0.7**
MCLT				*eS*	**Sn**	**06 35 23.2**	**-0.1**
MCLT	**Moule a Chique**	**2.43**	**265**		**Pn**	**06 34 50.9**	**-3.3**
SLBI	**Saint Lucia, B**	**2.45**	**273**	*eP*	**Pn**	**06 34 53.8**	**-0.6**
SLBI				*eS*	**Sn**	**06 35 22.2**	**-1.6**
MVM	**Montagne Vaucl**	**2.45**	**285**	*eP*	**Pn**	**06 34 53.9**	**-0.6**
SLCP	**Castries, St.**	**2.47**	**272**	*eP*	**Pn**	**06 34 54.5**	**-0.2**
SLCP				*eS*	**Sn**	**06 35 22.9**	**-1.4**
ILAM	**Ilet Lapin Mar**	**2.50**	**290**	*eP*	**Pn**	**06 34 54.8**	**-0.3**
SLB	**Belfond**	**2.52**	**268**	*eP*	**Pn**	**06 34 56.0**	**+0.6**
SLB				*eS*	**Sn**	**06 35 24.6**	**-1.0**
LPMF	**Morne Lapointe**	**2.52**	**285**	*eP*	**Pn**	**06 34 54.6**	**-0.8**
SLDE	**Delcer**	**2.54**	**268**	*eP*	**Pn**	**06 34 55.6**	**0.0**
SLDE				*eS*	**Sn**	**06 35 24.1**	**-1.9**
ZAM	**Aeronautique**	**2.58**	**285**	*eP*	**Pn**	**06 34 55.6**	**-0.6**
TRMF	**Trois Ilets**	**2.59**	**284**	*eP*	**Pn**	**06 34 55.7**	**-0.7**
BIM	**Bigot**	**2.61**	**283**	*eP*	**Pn**	**06 34 56.0**	**-0.7**
BHS	**Barnard House**	**2.68**	**257**	*eP*	**Pn**	**06 34 58.0**	**+0.4**
SSV	**Crater Summit**	**2.73**	**258**	*eP*	**Pn**	**06 34 58.6**	**+0.2**
SSV				*eS*	**Sn**	**06 35 30.6**	**-0.4**
FDF	**Fort de France**	**2.74**	**287**	*eP*	**Pn**	**06 34 58.0**	**-0.5**
FDF	**Fort de France**	**2.74**	**287**		**Pn**	**06 34 57.9**	**-0.5**
SVV	**Soufriere Volc**	**2.75**	**258**	*eP*	**Pn**	**06 34 59.1**	**+0.5**
SVV				*eS*	**Sn**	**06 35 30.7**	**-0.7**
BAMF	**Morne Balai**	**2.76**	**289**	*eP*	**Pn**	**06 34 58.9**	**+0.1**
GBMF	**Grand Be**	**2.77**	**289**	*eP*	**Pn**	**06 34 59.3**	**+0.4**
PML	**Morne Lenard**	**2.78**	**288**	*eP*	**Pn**	**06 34 59.3**	**+0.3**
SVN	**Savane Anatole**	**2.79**	**289**	*eP*	**Pn**	**06 34 59.8**	**+0.7**
SVB	**Belmont**	**2.80**	**257**	*eP*	**Pn**	**06 34 58.7**	**-0.6**
SVB				*eS*	**Sn**	**06 35 31.0**	**-1.6**
SVB	**Belmont**	**2.80**	**257**		**Pn**	**06 34 58.6**	**-0.6**
SVOC	**Richmond Hill,**	**2.80**	**254**	*eP*	**Pn**	**06 34 59.1**	**-0.1**
SVOC				*eS*	**Sn**	**06 35 30.7**	**-1.8**
PCM	**Pelee Case Pet**	**2.82**	**289**	*eP*	**Pn**	**06 34 59.3**	**-0.2**
DLPL	**La Plaine**	**3.05**	**298**	*eP*	**Pn**	**06 35 03.0**	**+0.3**
DLPL				*eS*	**Sn**	**06 35 36.8**	**-1.9**
DLPL	**La Plaine**	**3.05**	**298**		**Pn**	**06 35 03.1**	**+0.4**
GCMP	**Grenada, Carri**	**3.23**	**244**	*eP*	**Pn**	**06 35 05.2**	**0.0**
GCMP				*eS*	**Sn**	**06 35 41.4**	**-1.7**
DSLB	**Salisbury**	**3.25**	**298**	*eP*	**Pn**	**06 35 05.0**	**-0.3**
DSLB				*eS*	**Sn**	**06 35 42.4**	**-1.2**
TOSP	**Speyside**	**3.31**	**218**	*eP*	**Pn**	**06 35 06.0**	**-0.2**
TOSP				*eS*	**Sn**	**06 35 43.8**	**-1.2**
TOSP	**Speyside**	**3.31**	**218**		**Pn**	**06 35 05.8**	**-0.4**
MAGL	**Barre de l'ile**	**3.40**	**307**	*eP*	**Pn**	**06 35 07.5**	**0.0**
MAGL				*eS*	**Sn**	**06 35 46.7**	**-0.6**
H05N1	**Guadeloupe/Mar**	**3.46**	**314**	Pn	**Pn**	**06 35 06.9**	**-1.5**
H05N1				Sn	**Sn**	**06 35 44.4**	**-4.6**
H05N1				T	T	06 38 38.3	
TPR	**Prospect**	**3.54**	**220**	*eP*	**Pn**	**06 35 09.7**	**+0.2**
TPR				*eS*	**Sn**	**06 35 49.5**	**-1.4**
GRGR	**Grenville**	**3.59**	**241**	*eP*	**Pn**	**06 35 10.1**	**-0.1**
GRGR				*eS*	**Sn**	**06 35 49.9**	**-2.2**
GRGR	**Grenville**	**3.59**	**241**	Pn	**Pn**	**06 35 10.1**	**-0.1**
TDBA	**Terre de Bas,**	**3.63**	**302**	*eP*	**Pn**	**06 35 10.3**	**-0.3**
TDBA				*eS*	**Sn**	**06 35 51.6**	**-1.3**
TBG	**Guadaloupe-3**	**3.64**	**302**	*eP*	**Pn**	**06 35 11.5**	**+0.7**
TBG				*eS*	**Sn**	**06 35 51.5**	**-1.6**
ABD	**La Joyeuse, An**	**3.88**	**311**	*eP*	**Pn**	**06 35 13.3**	**-0.7**
ABD				*eS*	**Sn**	**06 35 58.3**	**-0.8**
TBH	**Brigand Hill**	**4.27**	**217**	*eP*	**Pn**	**06 35 20.5**	**+1.0**
TBH	**Brigand Hill**	**4.27**	**217**	*eS*	**Sn**	**06 36 06.8**	**-2.0**
TRN	**Trinidad (W)**	**4.35**	**222**	*eP*	**Pn**	**06 35 20.8**	**+0.2**
TRN	**Trinidad (W)**	**4.35**	**222**	*eS*	**Sn**	**06 36 09.0**	**-1.7**
ANBD	**Bethesda, Anti**	**4.46**	**315**	*eP*	**Pn**	**06 35 21.9**	**-0.2**
BPA	**Boggy Peak**	**4.52**	**314**	*eP*	**Pn**	**06 35 21.9**	**-1.1**
BPA	**Boggy Peak**	**4.52**	**314**	*eS*	**Sn**	**06 36 11.4**	**-3.5**
ANWB	**Willy Bob**	**4.92**	**320**	*eP*	**Pn**	**06 35 27.7**	**-0.7**
ANWB	**Willy Bob**	**4.92**	**320**	Pn	**Pn**	**06 35 27.0**	**-1.4**
NVDO	**Nevis, Disaste**	**5.12**	**309**	*eP*	**Pn**	**06 35 30.9**	**-0.3**
SKOC	**St. Kitts, UWI**	**5.32**	**310**	*eP*	**Pn**	**06 35 34.4**	**+0.5**
SKI	**Saint Kitts**	**5.34**	**310**	*eP*	**Pn**	**06 35 34.9**	**+0.6**
SKI	**Saint Kitts**	**5.34**	**310**	Pn	**Pn**	**06 35 34.6**	**+0.3**
SEUS	**St. Eustatius**	**5.62**	**310**	*eP*	**Pn**	**06 35 38.6**	**+0.5**
SEUS	**St. Eustatius**	**5.62**	**310**	Pn	**Pn**	**06 35 39.0**	**+0.9**
SABA	**Saba**	**5.90**	**309**	*eP*	**Pn**	**06 35 41.9**	**0.0**
SABA	**Saba**	**5.90**	**309**	Pn	**Pn**	**06 35 42.6**	**+0.7**
SMRT	**St. Maarten**	**6.05**	**313**	Pn	**Pn**	**06 35 43.2**	**-0.8**
PLCV	**Puerto La Cruz**	**7.07**	**239**		**Pn**	**06 35 58.1**	**+0.1**
PCRV	**Puerto La Cruz**	**7.10**	**239**	Pn	**Pn**	**06 35 58.1**	**-0.4**
	9.3nm,0.3s,baz=49,slow=4.7,SNR=55						
CDVI	**St. Croix**	**7.17**	**303**	*eP*	**Pn**	**06 35 59.6**	**+0.2**
CDVI	**St. Croix**	**7.17**	**303**	Pn	**Pn**	**06 35 59.8**	**+0.4**
ABVI	**Anegada Island**	**7.40**	**311**	Pn	**Pn**	**06 36 03.2**	**+0.7**
STVI	**Saint Thomas**	**7.64**	**306**	Pn	**Pn**	**06 36 06.6**	**+0.8**
CUPR	**Culebra, Puert**	**7.88**	**304**		**Pn**	**06 36 09.0**	**-0.1**
MTP	**Monte Pirata**	**7.99**	**302**		**Pn**	**06 36 11.5**	**+0.9**
CBYP	**Canovanas**	**8.33**	**302**		**Pn**	**06 36 16.5**	**+1.2**
PDPR	**Patillas Dam,**	**8.34**	**300**	Pn	**Pn**	**06 36 15.8**	**+0.4**
SJG	**San Juan**	**8.49**	**300**	Pn	**Pn**	**06 36 18.1**	**+0.6**
	7.9nm,0.3s,baz=128,slow=5.5,SNR=23						
SJG				Sn	**Sn**	**06 37 56.4**	**+3.5**
	2.2nm,0.3s,baz=44,slow=21,SNR=3.4						
SJG	**San Juan**	**8.49**	**300**		**Pn**	**06 36 18.4**	**+0.9**
SJG	**San Juan**	**8.49**	**300**	*eP*	**Pn**	**06 36 18.9**	**+1.3**
GCPR	**Guaynabo City**	**8.53**	**302**		**Pn**	**06 36 19.0**	**+1.0**
ICMP	**Isla Caja de M**	**8.71**	**298**	Pn	**Pn**	**06 36 21.0**	**+0.5**
OBIP	**Obispado Ponce**	**8.85**	**299**		**Pn**	**06 36 21.9**	**-0.5**
EMPR	**Esperanza - Ma**	**8.98**	**301**	Pn	**Pn**	**06 36 26.3**	**+2.1**
AOPR	**Arecibo Observ**	**9.11**	**300**		**Pn**	**06 36 27.0**	**+1.0**
MLPR	**Magueyes Islan**	**9.19**	**297**	Pn	**Pn**	**06 36 26.2**	**-0.9**
MPR	**Mayaguez**	**9.38**	**298**	Pn	**Pn**	**06 36 30.9**	**+1.3**
AGPR	**Aguadilla, PR**	**9.47**	**300**	Pn	**Pn**	**06 36 32.0**	**+1.1**
HATO	**Hato, Curacao**	**10.38**	**262**	Pn	**Pn**	**06 36 46.5**	**+3.1**
MDP	**Montagnes des**	**10.47**	**146**	Pn	Pn	06 36 38.9	-5.7
	2.9nm,0.3s,baz=337,slow=18,SNR=60						
MDP				Sn	Sn	06 38 25.4	-16
	8.6nm,0.3s,baz=67,slow=20,SNR=7.6						
SDDR	**Presa de Saban**	**13.30**	**294**	Pn	**Pn**	**06 37 23.7**	**+0.3**
SDDR	**Presa de Saban**	**13.30**	**294**	*eP*	**Pn**	**06 37 23.9**	**+0.4**
SOCV	**Socops**	**13.40**	**247**	*eP*	**Pn**	**06 37 22.1**	**-2.6**
LGNH	**Logne**	**14.34**	**290**	Pn	**Pn**	**06 37 38.0**	**+0.4**
OCAC	**Ocana**	**15.64**	**250**	*eP*	**Pn**	**06 37 54.5**	**-0.7**
SMLC	**San Martn de**	**16.14**	**253**	*eP*	**Pn**	**06 37 58.6**	**-2.8**
BARC	**Barichara**	**16.22**	**245**	*eP*	**P**	**06 38 08.7**	**+3.0**
RUSC	**La Rusia**	**16.47**	**242**		**Pn**	**06 38 05.3**	**-0.8**
RUSC				IAmb	IAmb	06 38 15.5	
	comp=Z,19nm,0.5s						
RUSC	**La Rusia**	**16.47**	**242**	*eP*	**Pn**	**06 38 03.9**	**-2.1**
SJCC	**San Jacinto, C**	**16.85**	**258**		**Pn**	**06 38 11.2**	**+0.7**
ZARC	**Zaragoza, Cauc**	**17.34**	**250**	*eP*	**Pn**	**06 38 14.5**	**-2.0**
CHIC	**Chingaza**	**17.67**	**240**	*eP*	**Pn**	**06 38 19.9**	**-1.2**
UREC	**San Jos de Ur**	**17.86**	**252**	*eP*	**Pn**	**06 38 22.4**	**-0.7**
UREC				*eP*	**pwP**	**06 38 31.7**	**-0.8**
ROSC	**El Rosal**	**18.06**	**242**	P	**Pn**	**06 38 25.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=68,slow=16,SNR=2.1						
ROSC	**El Rosal**	**18.06**	**242**	P	**Pn**	**06 38 25.8**	**0.0**
NORC	**Norcasia**	**18.18**	**244**	*eP*	**Pn**	**06 38 25.4**	**-1.6**
HELC	**Santa Helena**	**18.48**	**247**	*eP*	**P**	**06 38 28.9**	**-1.9**
DBBC	**Dabeiba**	**18.75**	**250**	*eP*	P	06 38 25.7	-7.8
GUY2C	**Guyana, Caldas**	**18.77**	**244**	*eP*	**P**	**06 38 33.2**	**-1.0**
TOLC	**Tolima**	**19.05**	**242**	*eP*	**Pn**	**06 38 37.5**	**-0.3**
CBOC	**Ciudad Bolivar**	**19.05**	**247**	*eP*	**P**	**06 38 35.2**	**-1.7**
MACC	**Macarena, Meta**	**19.20**	**234**	*eP*	**P**	**06 38 37.6**	**-0.8**
BBSR	**BB Station**	**19.23**	**344**	P	**Pn**	**06 38 38.9**	**-0.7**
BBSR				IAmb	IAmb	06 38 50.4	
	comp=Z,42nm,1.4s						
ORTC	**Ortega, Tolima**	**19.33**	**241**	*eP*	**P**	**06 38 37.3**	**-2.6**
PLMC	**San Jos del P**	**19.73**	**245**	*eP*	**P**	**06 38 41.9**	**-2.4**
YOTC	**Yotoco, Valle**	**20.23**	**242**	*eP*	**P**	**06 38 46.1**	**-3.7**
GARC	**Garzon, Huila**	**20.49**	**237**	*eP*	**P**	**06 38 53.1**	**+0.4**
POPC	**Popayan, Colom**	**21.27**	**239**	*eP*	P	06 38 50.8	-10
BCIP	**Isla Barro Col**	**21.48**	**260**	P	**P**	**06 39 03.8**	**+0.7**
OTAV	**Otavalo**	**24.02**	**237**	P	**P**	**06 39 29.7**	**-0.2**
SRBA	**San Rafael, Bu**	**24.84**	**262**	P	**P**	**06 39 38.3**	**+1.3**
SRBA				IAmb	IAmb	06 40 00.7	
	comp=Z,13nm,1.2s						
BLA	**Blacksburg**	**30.36**	**324**	P	**P**	**06 40 27.2**	**+1.0**
BLA				IAmb	IAmb	06 40 34.8	
	comp=Z,14nm,1.3s						
152A	**Waverly Hall**	**30.36**	**312**	P	**P**	**06 40 27.4**	**+1.2**
TRNY	**Table Rock, Ra**	**30.41**	**336**	P	**P**	**06 40 27.1**	**+0.6**
LPAZ	**La Paz**	**31.50**	**198**	P	**P**	**06 40 37.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=54,slow=8.7,SNR=1.6						
ACCN	**Adirondack Com**	**32.14**	**339**	P	**P**	**06 40 42.7**	**+0.9**
ACCN				IAmb	IAmb	06 40 43.7	
	comp=Z,8.2nm,1.0s						
LRAL	**Lakeview Retre**	**32.20**	**311**	P	**P**	**06 40 43.4**	**+1.0**
LRAL				IAmb	IAmb	06 40 45.5	
	comp=Z,9.9nm,1.1s						
N54A	**Moraine State**	**32.84**	**329**	P	**P**	**06 40 50.0**	**+2.0**
N54A				IAmb	IAmb	06 40 50.2	
	comp=Z,3.9nm,0.8s						
Z47A	**Carrollton**	**33.06**	**311**	P	**P**	**06 40 51.4**	**+1.4**
J56A	**Wolcott**	**33.26**	**335**	P	**P**	**06 40 52.9**	**+1.4**
J56A				IAmb	IAmb	06 40 53.1	
	comp=Z,7.0nm,0.8s						
ALLY	**Alegheny Colle**	**33.44**	**330**	P	**P**	**06 40 53.2**	**+0.1**
ALLY				IAmb	IAmb	06 40 55.4	
	comp=Z,6.6nm,0.7s						
PLAL	**Pickwick Lake**	**33.95**	**313**	P	**P**	**06 40 59.9**	**+2.3**
WVT	**Waverly**	**34.38**	**315**	P	**P**	**06 41 01.0**	**-0.3**
VBMS	**Vicksburg**	**34.48**	**307**	P	**P**	**06 41 02.9**	**+0.7**
OXF	**Oxford**	**34.67**	**312**	P	**P**	**06 41 04.7**	**+0.8**
W45A	**Hickory Valley**	**34.82**	**313**	P	**P**	**06 41 05.4**	**+0.2**
143A	**Socs Landing,**	**35.36**	**308**	P	**P**	**06 41 11.2**	**+1.3**
SADO	**Sadowa**	**35.43**	**334**	P	**P**	**06 41 10.0**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=173,slow=9.0,SNR=4.4						
SADO	**Sadowa**	**35.43**	**334**	P	**P**	**06 41 10.9**	**+0.6**
SADO				IAmb	IAmb	06 41 11.8	
	comp=Z,7.8nm,1.0s						
CCAR	**Cane Creek**	**36.15**	**309**	P	**P**	**06 41 17.7**	**+1.1**
PBMO	**Poplar Bluff**	**36.50**	**314**	P	**P**	**06 41 19.4**	**-0.2**
PBMO				IAmb	IAmb	06 41 21.5	
	comp=Z,6.6nm,0.8s						
LCAR	**Lake Charles**	**36.67**	**313**	P	**P**	**06 41 21.3**	**+0.2**
WLAR	**White Oak Lake**	**37.07**	**308**	P	**P**	**06 41 25.8**	**+1.3**
WLAR				IAmb	IAmb	06 41 46.3	
	comp=Z,7.8nm,0.9s						
WHAR	**Wooly Hollow**	**37.13**	**311**	P	**P**	**06 41 26.2**	**+1.2**
WHAR				IAmb	IAmb	06 41 27.4	
	comp=Z,10nm,1.2s						
X40A	**Basin Creek Fa**	**37.19**	**309**	P	**P**	**06 41 26.9**	**+1.4**
FCAR	**Ozark Folk Cen**	**37.28**	**312**	P	**P**	**06 41 27.3**	**+1.0**
FCAR				IAmb	IAmb	06 41 28.4	
	comp=Z,6.9nm,0.9s						
CCM	**Cathedral Cave**	**37.71**	**316**	P	**P**	**06 41 30.2**	**+0.3**
MIAR	**Mount Ida**	**37.77**	**309**	P	**P**	**06 41 31.3**	**+0.9**
MGMO	**Mountain Grove**	**37.97**	**314**	P	**P**	**06 41 32.7**	**+0.6**
MGMO				IAmb	IAmb	06 41 34.9	
	comp=Z,9.1nm,1.1s						
U40A	**Yellville**	**38.02**	**312**	P	**P**	**06 41 33.1**	**+0.6**
U40A				IAmb	IAmb	06 41 34.5	
	comp=Z,8.0nm,1.1s						
W39A	**Magazine**	**38.19**	**310**	P	**P**	**06 41 34.1**	**+0.1**
W39A				IAmb	IAmb	06 41 37.2	
	comp=Z,9.9nm,1.1s						
HHAR	**Hobbs**	**38.77**	**311**	P	**P**	**06 41 39.5**	**+0.6**
N41A	**Harden Midland**	**38.87**	**320**	P	**P**	**06 41 39.8**	**+0.2**
Z35A	**Perchaven, San**	**40.16**	**306**	P	**P**	**06 41 52.0**	**+1.6**
Z35A				IAmb	IAmb	06 41 52.9	
	comp=Z,8.2nm,0.8s						
N38A	**Joes South For**	**40.44**	**318**	P	**P**	**06 41 53.7**	**+1.0**
N38A				IAmb	IAmb	06 42 05.1	
	comp=Z,8.9nm,0.9s						
I40A	**Norwalk**	**40.59**	**324**	P	**P**	**06 41 54.6**	**+0.7**
I40A				IAmb	IAmb	06 41 55.1	
	comp=Z,4.7nm,0.5s						
OK031	**S. Brethren Rd**	**40.78**	**310**	P	**P**	**06 41 56.4**	**+0.9**
OK031				IAmb	IAmb	06 41 57.4	
	comp=Z,20nm,1.4s						
JCT	**Junction City**	**41.42**	**300**	P	**P**	**06 42 01.7**	**+0.7**
JCT				IAmb	IAmb	06 42 03.8	
	comp=Z,12nm,1.5s						
KAN13	**South Haven SW**	**41.66**	**311**	P	**P**	**06 42 04.2**	**+1.4**
WMOK	**Wichita Mounta**	**41.82**	**307**	P	**P**	**06 42 04.6**	**+0.4**
ABTX	**Abilene, Hawle**	**41.85**	**304**	P	**P**	**06 42 04.7**	**+0.2**
KSU1	**Kansas State U**	**41.91**	**314**	P	**P**	**06 42 03.9**	**-0.9**
OK032	**Salt Plains WL**	**42.12**	**310**	P	**P**	**06 42 07.5**	**+0.9**
OK032				IAmb	IAmb	06 42 10.5	
	comp=Z,8.0nm,1.0s						
L34A	**Svendsen Farm,**	**43.07**	**318**	P	**P**	**06 42 15.0**	**+0.7**
TXAR	**Lajitas Array**	**44.46**	**298**	P	**P**	**06 42 25.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=116,slow=5.7,SNR=5.1						
MSTX	**Muleshoe**	**44.74**	**304**	P	**P**	**06 42 28.1**	**+0.2**
AGMN	**Agassiz Nation**	**46.13**	**326**	P	**P**	**06 42 38.3**	**-0.2**
AGMN				IAmb	IAmb	06 42 39.3	
	comp=Z,4.4nm,0.6s						
MNTX	**Cornudas Mount**	**46.35**	**301**	P	**P**	**06 42 41.3**	**+0.7**
MNTX				IAmb	IAmb	06 42 51.9	
	comp=Z,4.2nm,1.0s						
ULM	**Lac du Bonnet**	**47.28**	**328**	P	**P**	**06 42 47.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=79,slow=5.1,SNR=3.5						
BW06	**Boulder Array**	**52.36**	**314**	P	**P**	**06 43 26.4**	**-0.3**
PD31	**Pinedale Array**	**52.36**	**314**	P	**P**	**06 43 26.6**	**0.0**
PDAR	**Pinedale Array**	**52.36**	**314**	P	**P**	**06 43 26.0**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=120,slow=8.1,SNR=12						
PDAR	**Pinedale Array**	**52.36**	**314**	P	**P**	**06 43 26.4**	**-0.3**
RLMT	**Red Lodge**	**52.90**	**317**	P	**P**	**06 43 31.6**	**+1.0**
RLMT				IAmb	IAmb	06 43 32.7	
	comp=Z,6.6nm,1.4s						
JLU	**Jordanelle**	**53.13**	**311**	P	**P**	**06 43 33.3**	**+0.9**
JLU				IAmb	IAmb	06 43 35.7	
	comp=Z,7.5nm,1.3s						
ESDC	**Sonseca Array**	**54.03**	**51**	P	**P**	**06 43 39.0**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=253,slow=9.7,SNR=4.1						
ESDC	**Sonseca Array**	**54.03**	**51**	P	**P**	**06 43 37.4**	**-1.4**
EGMT	**Eagleton**	**54.22**	**320**	P	**P**	**06 43 38.7**	**-1.3**
EGMT				IAmb	IAmb	06 43 41.7	
	comp=Z,4.3nm,0.8s						
PLCA	**Paso Flores**	**55.52**	**191**	P	**P**	**06 43 51.0**	**+1.5**
	comp=Z,2.4nm,0.8s,baz=333,slow=4.5,SNR=2.0						
NVAR	**Mina Array Bea**	**57.93**	**307**	P	**P**	**06 44 07.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=89,slow=7.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**58.34**	**83**	P	**P**	**06 44 09.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=267,slow=5.3,SNR=2.6						
NEW	**Newport**	**58.99**	**318**	P	**P**	**06 44 14.6**	**+0.7**
NEW				IAmb	IAmb	06 44 15.0	
	comp=Z,2.9nm,0.8s						
SUMG	**Summit**	**59.81**	**7**	P	**P**	**06 44 19.5**	**0.0**
SUMG				IAmb	IAmb	06 44 21.3	
	comp=Z,7.0nm,1.1s						
LTY	**Liberty**	**61.10**	**316**	P	**P**	**06 44 29.2**	**+0.8**
LTY				IAmb	IAmb	06 44 40.1	
	comp=Z,7.6nm,1.4s						
YKA	**Yellowknife Ar**	**62.43**	**334**	P	**P**	**06 44 36.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=108,slow=8.1,SNR=10						
E03A	**Lebam**	**62.93**	**315**	P	**P**	**06 44 41.6**	**+0.9**
NLWA	**Neilton Lookou**	**63.27**	**316**	P	**P**	**06 44 43.6**	**+0.7**
KEST	**Kesra**	**64.05**	**57**	P	**P**	**06 44 48.9**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=294,slow=10.0,SNR=3.4						
GERES	**GERESS Array B**	**67.91**	**43**	P	**P**	**06 45 12.6**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=259,slow=6.5,SNR=5.8						
GERES	**GERESS Array B**	**67.91**	**43**	P	**P**	**06 45 12.7**	**-0.3**
INK	**Inuvik**	**71.64**	**338**	P	**P**	**06 45 35.7**	**+0.2**
	comp=Z,1.7nm,1.1s,baz=100,slow=4.7,SNR=1.6						
DAWY	**Dawson**	**73.62**	**333**	P	**P**	**06 45 48.7**	**+1.3**
EGAK	**Eagle**	**74.41**	**334**	P	**P**	**06 45 52.7**

2.7nm,0.3s,baz=340,slow=16,SNR=6.9
MDP Sn Sn 06 39 12.5 -17
12nm,0.3s,baz=86,slow=19,SNR=7.1
SDV Santo Domingo 12.95 249 LR LR 06 45 03.3
comp=Z,186nm,21.0s,baz=74,slow=46
SDV Santo Domingo 12.95 249 Pn **Pn 06 38 05.3 -1.1**
SDDR Presa de Saban 13.31 294 Pn **Pn 06 38 11.8 +0.6**
LGNH Logne 14.35 290 Pn **Pn 06 38 24.6 -0.8**
ROSC El Rosal 18.06 242 P **Pn 06 39 12.8 -0.9**
2.2nm,0.3s,baz=275,slow=8.7,SNR=3.0
ROSC LR LR 06 48 58.6
comp=Z,348nm,19.4s,baz=52,slow=46
ROSC El Rosal 18.06 242 P **Pn 06 39 12.6 -1.1**
OTAV Otavalo 24.02 237 P **P 06 40 15.0 -2.9**
U54A Nelsons Funny 30.73 321 P **P 06 41 18.1 +0.6**
N59A State Game Lan 30.87 334 P **P 06 41 19.9 +1.3**
BDFB Brasilia 31.12 160 P **P 06 41 20.7 -0.4**
1.7nm,0.9s,baz=319,slow=11,SNR=1.5
TKL Tuckaleechee C 31.42 318 P **P 06 41 24.2 +0.6**
1.0nm,0.7s,baz=139,slow=9.1,SNR=1.5
TKL LR LR 06 54 01.6
comp=Z,114nm,21.3s,baz=220,slow=36
LPAZ La Paz 31.50 198 P **P 06 41 24.9 -0.1**
1.6nm,0.9s,baz=20,slow=12,SNR=2.5
LPAZ LR LR 06 56 00.9
comp=Z,135nm,21.6s,baz=4.5,slow=40
M57A Sunshine Farm, 31.80 333 P **P 06 41 28.4 +1.6**
M57A IAmb IAmb 06 41 31.3
comp=Z,5.2nm,0.9s
BINY Binghamton 32.02 335 P **P 06 41 30.1 +1.3**
BINY IAmb IAmb 06 41 38.3
comp=Z,7.2nm,1.1s
LMN Caledonia Moun 32.29 352 P **P 06 41 31.9 +0.8**
LMN IAmb IAmb 06 41 32.4
comp=Z,8.0nm,0.7s
Z47A Carrollton 33.08 311 P **P 06 41 38.6 +0.5**
FRNY Flat Rock 33.41 340 P **P 06 41 42.1 +1.3**
FRNY IAmb IAmb 06 41 42.8
comp=Z,4.3nm,0.8s
PLAL Pickwick Lake 33.96 313 P **P 06 41 46.3 +0.5**
PLAL IAmb IAmb 06 41 57.0
comp=Z,7.7nm,0.8s
OXF Oxford 34.68 312 P **P 06 41 53.2 +1.1**
LMQ La Malbaie 34.97 346 P **P 06 41 56.2 +1.8**
LMQ IAmb IAmb 06 42 13.8
comp=Z,7.8nm,0.9s
UTMT University of 35.21 315 P **P 06 41 58.3 +1.7**
143A Socs Landing, 35.38 308 P **P 06 41 59.5 +1.5**
SADO Sadowa 35.44 334 P **P 06 41 57.8 -0.6**
comp=Z,2.0nm,0.6s,baz=150,slow=8.1,SNR=2.0
SADO Sadowa 35.44 334 P **P 06 41 58.9 +0.4**
342A Flagon Creek P 35.58 305 P **P 06 42 00.6 +0.7**
PBMO Poplar Bluff 36.52 314 P **P 06 42 08.5 +0.7**
PBMO IAmb IAmb 06 42 18.5
comp=Z,6.3nm,0.8s
LCAR Lake Charles 36.68 313 P **P 06 42 10.7 +1.5**
WHAR Wooly Hollow 37.14 311 P **P 06 42 14.4 +1.3**
WHAR IAmb IAmb 06 42 16.2
comp=Z,7.0nm,0.9s
X40A Basin Creek Fa 37.20 309 P **P 06 42 15.1 +1.5**
FCAR Ozark Folk Cen 37.29 312 P **P 06 42 15.3 +0.9**
FCAR IAmb IAmb 06 42 25.4
comp=Z,6.6nm,0.7s
LVC Limon Verde 37.72 196 P **P 06 42 17.5 -1.0**
comp=Z,2.2nm,0.6s,baz=7.0,slow=10
LVC LR LR 06 59 52.2
comp=Z,112nm,21.3s,baz=312,slow=40
HDIL Hopedale 37.83 320 P **P 06 42 20.3 +1.5**
HDIL IAmb IAmb 06 42 38.8
comp=Z,5.6nm,0.8s
GLMI Grayling 38.00 329 P **P 06 42 21.1 +0.8**
U40A Yellville 38.03 312 P **P 06 42 20.9 +0.2**
U40A IAmb IAmb 06 42 31.1
comp=Z,7.0nm,0.9s
JCT Junction City 41.43 300 P **P 06 42 49.8 +0.7**
JCT IAmb IAmb 06 42 51.6
comp=Z,8.0nm,0.9s
ABTX Abilene, Hawle 41.87 304 P **P 06 42 53.5 +0.9**
ABTX IAmb IAmb 06 43 02.6
comp=Z,14nm,1.1s
CBKS Cedar Bluff 44.02 312 P **P 06 43 10.0 0.0**
CBKS IAmb IAmb 06 43 12.9
comp=Z,7.8nm,0.8s
TXAR Lajitas Array 44.47 298 P **P 06 43 14.2 +0.4**
comp=Z,1.5nm,0.9s,baz=123,slow=7.1,SNR=6.4
TXAR LR LR 07 05 15.7
comp=Z,36nm,21.9s,baz=0.0,slow=41
TXAR Lajitas Array 44.47 298 P **P 06 43 14.8 +0.9**
MSTX Muleshoe 44.75 304 P **P 06 43 17.1 +1.1**
F33A 5 Mile Ranch, 45.02 323 P **P 06 43 18.5 +0.6**
HPIG 45.86 294 P **P 06 43 25.9 +0.8**
HPIG IAmb IAmb 06 43 27.9
comp=Z,6.3nm,0.8s
SUSD Miller 45.93 320 P **P 06 43 25.8 +0.6**
ZON Zonda 46.25 192 P **P 06 43 27.9 +0.1**
ZON IAmb IAmb 06 43 36.8
comp=Z,4.1nm,0.7s
MNTX Cornudas Mount 46.37 301 P **P 06 43 30.0 +1.2**
MNTX IAmb IAmb 06 43 39.9
comp=Z,9.5nm,0.9s
ULM Lac du Bonnet 47.30 328 P **P 06 43 34.9 -0.9**
comp=Z,2.0nm,0.7s,baz=147,slow=9.2,SNR=3.2
ULM LR LR 07 03 00.9
comp=Z,64nm,21.9s,baz=126,slow=36
PDAR Pinedale Array 52.37 314 P **P 06 44 14.3 -0.5**
comp=Z,1.4nm,0.9s,baz=111,slow=8.4,SNR=3.7
PDAR LR LR 07 07 52.4
comp=Z,35nm,20.9s,baz=106,slow=38
PDAR Pinedale Array 52.37 314 P **P 06 44 14.7 -0.1**
YHH Holmes Hill 53.88 316 P **P 06 44 27.0 +1.1**
ESDC Sonseca Array 54.03 51 P **P 06 44 27.1 +0.3**
comp=Z,0.4nm,0.9s,baz=262,slow=4.9,SNR=1.9
MCMT McKenzie Canyo 55.25 315 P **P 06 44 37.0 +1.2**
NVAR Mina Array Bea 57.94 307 P **P 06 44 55.5 +0.4**
comp=Z,0.9nm,0.8s,baz=104,slow=6.6,SNR=2.6
YKA Yellowknife Ar 62.44 334 P **P 06 45 24.2 -0.9**
comp=Z,1.0nm,0.5s,baz=107,slow=8.0,SNR=4.7
GERES GERESS Array B 67.91 43 P **P 06 46 01.2 +0.1**
comp=Z,0.4nm,0.6s,baz=264,slow=4.7,SNR=4.2
GERES GERESS Array B 67.91 43 P **P 06 46 02.9 +1.8**
NOA NORSAR Array B 68.10 29 LR LR 07 10 31.2
comp=Z,36nm,20.9s,baz=225,slow=31
BCAR Beaver Creek A 74.70 332 P **P 06 46 42.5 +0.7**
L27K Beaver Creek, 74.72 332 P **P 06 46 42.7 +0.7**
L27K IAmb IAmb 06 46 43.7
comp=Z,3.9nm,1.0s
ARCES ARCESS Array B 74.95 21 P **P 06 46 43.2 +0.1**
comp=Z,2.2nm,0.8s,baz=243,slow=8.0,SNR=3.7
ARCES LR LR 07 14 55.4
comp=Z,25nm,19.6s,baz=185,slow=32
FINES FINESS Array B 75.28 30 P **P 06 46 44.6 -0.5**
comp=Z,1.9nm,0.8s,baz=183,slow=3.4,SNR=3.7
BUR08 Bucovina Ar. S 75.60 44 P **P 06 46 49.0 +1.5**
BUR08 IAmb IAmb 06 46 58.8
comp=Z,3.6nm,1.0s
ILAR Eielson Array 76.87 334 P **P 06 46 52.7 -1.4**
comp=Z,0.3nm,0.3s,baz=90,slow=3.9,SNR=2.1
BRTR Keskin Array B 82.83 51 P **P 06 47 26.5 -0.6**
comp=Z,0.9nm,0.9s,baz=332,slow=5.7,SNR=2.6

NNC 19 06:37:42.8±4.5, 37°84N×78°59E, h0km, mb3.9, mpv3.6, 6C-4D, Error ellipse: s-maj=32.8km s-min=27.4km az=22.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**5.44**	**348**	Pg	Pg	06 39 23.6	-3.5
	7.6nm,0.8s						
MDOK				Lg	Lg	06 40 38.5	
	25nm,1.3s						
MDOK	**Medeo**	**5.44**	**348**	Pg	Pg	06 39 25.6	-1.5
	5.5nm,0.4s						
MDOK				Lg	Lg	06 40 39.9	
	11nm,0.8s						
PDGK	**Podgornoye**	**5.53**	**7**	⇑Pg	Pb	06 39 22.1	+2.0
	3.9nm,0.5s						
PDGK				⇑Lg	Lg	06 40 40.7	
	20nm,0.9s						
TKM2	**Tokmak 2**	**5.56**	**337**	⇑Pg	Pb	06 39 22.2	+1.3
	2.5nm,0.7s						
TKM2				⇓Lg	Lg	06 40 40.7	
	8.9nm,1.1s						
AAK	**Ala-Archa**	**5.72**	**328**	⇓Pg	Pb	06 39 24.2	+0.6
	3.1nm,0.6s						
AAK				⇑Lg	Lg	06 40 41.5	
	15nm,1.0s						
KUU	**Kurty**	**6.28**	**345**	Pg	Pg	06 39 38.3	-4.8
	2.1nm,0.7s						
KUU				Lg	Lg	06 41 02.5	
	6.0nm,0.7s						
MRKS	**Merke**	**6.39**	**322**	Pg	Pb	06 39 31.9	-2.9
	2.8nm,0.5s						
MRKS				Lg	Lg	06 40 50.4	
	2.1nm,0.3s						
MAKZ	**Makanchi**	**9.30**	**15**	⇓Pn	Pn	06 40 00.2	+2.0
	2.8nm,0.9s						
MAKZ				⇓Sn	Sn	06 41 43.5	+0.1
	0.7nm,0.5s						
MK31	**Makanchi Array**	**9.36**	**16**	⇑Pn	Pn	06 39 59.0	+0.2
	0.8nm,0.5s,baz=197,slow=12,SNR=16						
MK31				⇑Sn	Sn	06 41 43.0	-1.7
	1.1nm,0.6s,baz=190,slow=22,SNR=5.2						

*TRN **19** 06:46:00.8, 13°89N×58°53W, h94km, MD4.1*
ISC 19 06:45:59.0±2.4, 13°94N±0°04×58°5W±0°1, h10km, n34, σ1°58/47, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**229**	*eP*	**Pg**	**06 46 25.1**	**+1.9**
BBSP				*eS*	**Sn**	**06 46 40.9**	**+1.2**
BBGH	**Gun Hill**	**1.31**	**233**	*eP*	**Pn**	**06 46 24.2**	**+0.8**
BBGH				*eS*	**Sn**	**06 46 42.3**	**+1.3**
MPOM	**Morne Pois Mar**	**2.35**	**282**	*eP*	**Pn**	**06 46 38.3**	**+0.6**
SLW	**Petit Monier**	**2.38**	**272**	*eP*	**Pn**	**06 46 38.7**	**+0.6**
MCLT	**Moule a Chique**	**2.40**	**265**	*eP*	**Pn**	**06 46 38.2**	**-0.2**
MCLT				*eS*	**Sn**	**06 47 07.0**	**-0.8**
MVM	**Montagne Vaucl**	**2.41**	**285**	*eP*	**Pn**	**06 46 39.3**	**+0.7**
SLBI	**Saint Lucia, B**	**2.42**	**272**	*eP*	**Pn**	**06 46 38.7**	**+0.1**
SLBI				*eS*	**Sn**	**06 47 07.7**	**-0.6**
SLCP	**Castries, St.**	**2.43**	**272**	*eP*	**Pn**	**06 46 40.0**	**+1.2**
SLCP				*eS*	**Sn**	**06 47 07.5**	**-1.2**
SLB	**Belfond**	**2.48**	**268**	*eP*	**Pn**	**06 46 39.3**	**-0.4**
LPMF	**Morne Lapointe**	**2.48**	**285**	*eP*	**Pn**	**06 46 40.2**	**+0.6**
ZAM	**Aeronautique**	**2.54**	**285**	*eP*	**Pn**	**06 46 40.8**	**+0.4**
TRMF	**Trois Ilets**	**2.56**	**284**	*eP*	**Pn**	**06 46 41.6**	**+1.1**
BIM	**Bigot**	**2.57**	**283**	*eP*	**Pn**	**06 46 41.5**	**+0.8**
FDF	**Fort de France**	**2.70**	**287**	*eP*	**Pn**	**06 46 43.3**	**+0.7**
BAMF	**Morne Balai**	**2.72**	**289**	*eP*	**Pn**	**06 46 43.8**	**+0.9**
GBMF	**Grand Be**	**2.73**	**288**	*eP*	**Pn**	**06 46 43.7**	**+0.6**
PML	**Morne Lenard**	**2.74**	**288**	*eP*	**Pn**	**06 46 44.2**	**+1.0**
SVN	**Savane Anatole**	**2.75**	**289**	*eP*	**Pn**	**06 46 44.0**	**+0.7**
SVB	**Belmont**	**2.77**	**256**	*eP*	**Pn**	**06 46 44.0**	**+0.5**
SVB				*eS*	**Sn**	**06 47 16.0**	**-1.1**
PCM	**Pelee Case Pet**	**2.78**	**289**	*eP*	**Pn**	**06 46 44.6**	**+1.0**
DSLB	**Salisbury**	**3.21**	**298**	*eP*	**Pn**	**06 46 50.8**	**+1.3**
DSLB				*eS*	**Sn**	**06 47 27.1**	**-0.7**
GCMP	**Grenada, Carri**	**3.21**	**243**	*eP*	**Pn**	**06 46 49.2**	**-0.3**
GCMP				*eS*	**Sn**	**06 47 24.2**	**-3.6**
TOSP	**Speyside**	**3.30**	**217**	*eP*	**Pn**	**06 46 51.1**	**+0.2**
TOSP				*eS*	**Sn**	**06 47 27.5**	**-2.7**
MAGL	**Barre de l'ile**	**3.36**	**307**	*eP*	**Pn**	**06 46 52.5**	**+0.9**
MAGL				*eS*	**Sn**	**06 47 31.3**	**-0.3**
GRGR	**Grenville**	**3.57**	**240**	*eP*	**Pn**	**06 46 54.8**	**+0.2**
GRGR				*eS*	**Sn**	**06 47 35.3**	**-1.6**
TDBA	**Terre de Bas,**	**3.59**	**302**	*eP*	**Pn**	**06 46 55.5**	**+0.8**
ABD	**La Joyeuse, An**	**3.84**	**311**	*eP*	**Pn**	**06 46 58.8**	**+0.6**
ABD				*eS*	**Sn**	**06 47 41.9**	**-1.5**
TRN	**Trinidad (W)**	**4.34**	**221**	*eP*	**Pn**	**06 47 05.9**	**+0.7**
TRN				*eS*	**Sn**	**06 47 50.2**	**-5.6**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eP*	**Pn**	**06 47 06.4**	**+0.3**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eS*	**Sn**	**06 47 55.2**	**-2.4**
BPA	**Boggy Peak**	**4.48**	**314**	*eP*	**Pn**	**06 47 07.5**	**+0.5**
BPA	**Boggy Peak**	**4.48**	**314**	*eS*	**Sn**	**06 47 55.6**	**-3.6**
SKI	**Saint Kitts**	**5.30**	**310**	*eP*	**Pn**	**06 47 19.4**	**+1.1**
SKI	**Saint Kitts**	**5.30**	**310**	*eS*	**Sn**	**06 48 16.7**	**-2.9**

*TRN **19** 06:50:30.7, 13°91N×58°51W, h114km, MD3.7*
ISC 19 06:50:30.3±3.0, 13°92N±0°07×58°5W±0°2, h10km, n21, σ1°60/27, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**230**	*eP*	**Pg**	**06 50 54.8**	**+0.4**
BBSP				*eS*	**Sn**	**06 51 14.5**	**+3.6**
BBGH	**Gun Hill**	**1.31**	**234**	*eP*	**Pg**	**06 50 56.1**	**+0.6**
BBGH				*eS*	**Sg**	**06 51 15.0**	**+2.5**
MPOM	**Morne Pois Mar**	**2.38**	**283**	*eP*	**Pn**	**06 51 09.0**	**-0.3**
SLW	**Petit Monier**	**2.40**	**273**	*eP*	**Pn**	**06 51 09.4**	**-0.3**
MCLT	**Moule a Chique**	**2.41**	**265**	*eP*	**Pn**	**06 51 10.2**	**+0.4**
MCLT				*eS*	**Sn**	**06 51 38.7**	**-0.7**
SLBI	**Saint Lucia, B**	**2.43**	**273**	*eP*	**Pn**	**06 51 09.1**	**-1.0**
SLBI				*eS*	**Sn**	**06 51 38.9**	**-1.0**
MVM	**Montagne Vaucl**	**2.44**	**285**	*eP*	**Pn**	**06 51 09.8**	**-0.4**
LPMF	**Morne Lapointe**	**2.51**	**285**	*eP*	**Pn**	**06 51 10.8**	**-0.4**
ZAM	**Aeronautique**	**2.56**	**285**	*eP*	**Pn**	**06 51 11.5**	**-0.4**
BIM	**Bigot**	**2.59**	**284**	*eP*	**Pn**	**06 51 12.2**	**-0.1**
FDF	**Fort de France**	**2.72**	**288**	*eP*	**Pn**	**06 51 14.1**	**-0.1**
BAMF	**Morne Balai**	**2.74**	**289**	*eP*	**Pn**	**06 51 14.5**	**0.0**
GBMF	**Grand Be**	**2.75**	**289**	*eP*	**Pn**	**06 51 14.9**	**+0.4**
PML	**Morne Lenard**	**2.77**	**288**	*eP*	**Pn**	**06 51 14.8**	**+0.1**
SVB	**Belmont**	**2.78**	**257**	*eP*	**Pn**	**06 51 14.1**	**-0.9**
SVB				*eS*	**Sn**	**06 51 46.9**	**-1.7**
PCM	**Pelee Case Pet**	**2.80**	**289**	*eP*	**Pn**	**06 51 15.2**	**0.0**
GCMP	**Grenada, Carri**	**3.21**	**244**	*eP*	**Pn**	**06 51 20.2**	**-0.6**
GCMP				*eS*	**Sn**	**06 51 56.3**	**-2.9**
TOSP	**Speyside**	**3.30**	**218**	*eP*	**Pn**	**06 51 22.2**	**+0.2**
TDBA	**Terre de Bas,**	**3.61**	**302**	*eP*	**Pn**	**06 51 27.0**	**+0.7**
TRN	**Trinidad (W)**	**4.34**	**222**	*eP*	**Pn**	**06 51 36.4**	**+0.1**
TRN	**Trinidad (W)**	**4.34**	**222**	*eS*	**Sn**	**06 52 21.9**	**-5.1**

*IDC **19** 06:52:46.7±1.0, 32°35S×177°62W, h0km, mb4.6/6, mb1 4.6/9, mb1mx4.2/34, mbtmp4.5/9, ML4.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/37, Error ellipse: s-maj=33.3km s-min=21.9km az=147.0*
*NEIC **19** 06:52:49.6±1.2, 32°54S±0°03×177°8W±0°2, h10km±1km, mb4.6/22, Error ellipse: s-maj=24.2km s-min=5.0km az=93.0*
ISC 19 06:52:50.5±0.6, 32°41S±0°08×177°8W±0°1, h20km, n48, σ1°21/50, mb4.6/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.17**	**214**	Pn	**Pn**	**06 54 32.9**	**-1.3**
	2.2nm,0.3s,baz=268,slow=6.7,SNR=11						
URZ				Sn	**Sn**	**06 55 53.4**	**-1.7**
	4.4nm,0.3s,baz=255,slow=23,SNR=13						
BKZ	**Black Stump Fm**	**8.19**	**213**	Pn	**Pn**	**06 54 46.5**	**-1.7**
MSVF	**Nonsavu**	**15.09**	**345**	Pn	**Pn**	**06 56 19.1**	**-3.6**
	0.1nm,0.3s,baz=151,slow=17,SNR=4.4						
MSVF	**Nonsavu**	**15.09**	**345**		**Pn**	**06 56 23.9**	**+1.3**
MSVF				IAmb	IAmb	06 56 32.9	
	comp=Z,12nm,1.1s						
OUENC	**Ouen Island, N**	**16.87**	**302**		**P**	**06 56 47.3**	**-0.2**
OUENC				IAmb	IAmb	06 57 16.4	
	comp=Z,45nm,1.3s						
ONTNC	**Ouen Toro**	**17.22**	**302**		**P**	**06 56 51.4**	**+0.1**
ONTNC				IAmb	IAmb	06 57 03.9	
	comp=Z,55nm,1.1s						
AFI	**Afiamalu**	**19.21**	**18**	P	**P**	**06 57 11.4**	**-2.0**
	comp=Z,1.8nm,0.3s,baz=206,slow=24,SNR=2.7						
RAR	**Rarotonga**	**19.53**	**60**	LR	LR	07 03 50.3	
	comp=Z,31nm,19.0s,baz=246,slow=34						
MCQ	**Macquarie Isla**	**27.56**	**210**	P	**P**	**06 58 33.5**	**-2.3**
EIDS	**Eidsvold**	**28.08**	**276**	P	**P**	**06 58 41.8**	**+0.9**
STKA	**Stephens Creek**	**34.26**	**260**	P	**P**	**06 59 36.8**	**+1.7**
	comp=Z,2.6nm,0.7s,baz=91,slow=12,SNR=7.0						
STKA				LR	LR	07 11 47.1	
	comp=Z,55nm,18.9s,baz=138,slow=33						
STKA	**Stephens Creek**	**34.26**	**260**	P	**P**	**06 59 37.1**	**+1.9**
CTA	**Charters Tower**	**34.35**	**282**	P	**P**	**06 59 37.3**	**+1.2**
	comp=Z,8.2nm,0.5s,baz=99,slow=9.6,SNR=20						
CTAO	**Charters Tower**	**34.35**	**282**	P	**P**	**06 59 37.5**	**+1.4**
BBOO	**Buckleboo**	**38.64**	**257**	P	**P**	**07 00 12.7**	**+0.1**
BBOO				IAmb	IAmb	07 00 13.8	
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**43.22**	**269**	P	**P**	**07 00 50.5**	**0.0**
ASAR	**Alice Springs**	**43.22**	**269**	P	**P**	**07 00 50.3**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=106,slow=7.7,SNR=53						
ASAR				PcP	**PcP**	**07 02 39.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=114,slow=4.0,SNR=2.0						
ASAR	**Alice Springs**	**43.22**	**269**	P	**P**	**07 00 49.8**	**-0.7**
WR0	**Warramunga Arr**	**44.21**	**274**	P	**P**	**07 00 58.1**	**-0.4**
WR0				IAmb	IAmb	07 01 13.1	
	comp=Z,17nm,1.2s						
WB2	**Warramunga Arr**	**44.38**	**274**	P	**P**	**07 00 59.3**	**-0.5**
WRA	**Warramunga Arr**	**44.39**	**274**	P	**P**	**07 00 59.4**	**-0.5**
	comp=Z,6.9nm,0.4s,baz=113,slow=7.7,SNR=129						
WRA	**Warramunga Arr**	**44.39**	**274**	P	**P**	**07 00 59.1**	**-0.8**
WB0	**Warramunga Arr**	**44.42**	**274**	P	**P**	**07 00 59.8**	**-0.4**
FORT	**Forrest**	**45.74**	**257**	P	**P**	**07 01 10.4**	**-0.1**
KNRA	**Kununurra**	**51.07**	**276**	P	**P**	**07 01 51.6**	**-0.1**
CASY	**Casey**	**53.46**	**209**	P	**P**	**07 02 10.5**	**+1.7**
SIJI	**Sorong**	**57.26**	**293**	P	**P**	**07 02 37.6**	**+0.7**
	comp=Z,18nm,0.5s,baz=244,slow=23,SNR=2.2						
QSPA	**South Pole Qui**	**57.71**	**180**	P	**P**	**07 02 40.1**	**+0.6**
QSPA				IAmb	IAmb	07 02 57.3	
	comp=Z,6.2nm,0.8s						
SNAA	**Sanae**	**76.15**	**178**	P	**P**	**07 04 38.1**	**+1.5**
SNAA				x	x	07 04 51.9	
SNAA	**Sanae**	**76.15**	**178**	P	**P**	**07 04 37.0**	**+0.3**
SNAA				IAmb	IAmb	07 04 52.0	
	comp=Z,4.7nm,1.0s						
VNA3	**Neumayer Olymp**	**76.30**	**176**	P	**P**	**07 04 38.7**	**+1.3**
VNA3				x	x	07 04 52.7	
VNA1	**Neumayer--Stat**	**76.96**	**176**	P	**P**	**07 04 42.9**	**+1.8**
VNA1				x	x	07 04 56.7	
ISA	**Isabella, Lake**	**87.59**	**44**	P	**P**	**07 05 38.1**	**+0.9**
ISA				IAmb	IAmb	07 05 40.3	
	comp=Z,4.2nm,1.2s						
NVAR	**Mina Array Bea**	**89.58**	**43**	P	**P**	**07 05 46.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=215,slow=7.5,SNR=6.4						
NVAR	**Mina Array Bea**	**89.58**	**43**	P	**P**	**07 05 47.0**	**+0.2**
TPH	**Tonopah**	**89.97**	**43**	P	**P**	**07 05 49.7**	**+1.2**
HYT	**Haines Junctio**	**98.56**	**19**	P	Pdif	07 06 28.4	+1.2
KURK	**Kurchatov**	**122.56**	**313**		**PKPdf**	**07 11 42.6**	**-1.4**
KURBB	**Kurchatov Arra**	**122.59**	**313**	PKP	**PKPdf**	**07 11 42.6**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=102,slow=2.2,SNR=5.7						
KBZ	**Khabaz**	**146.35**	**301**	PKPbc	**PKPdf**	**07 12 28.7**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=170,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	**PKPdf**	**07 12 29.8**	**+0.8**
	comp=Z,5.0nm,0.8s,baz=54,slow=3.3,SNR=25						
FINES	**FINESS Array B**	**147.08**	**339**		**PKPbc**	**07 12 30.5**	**-0.6**
AKASG	**Malin Array Be**	**152.98**	**321**	PKPbc	**PKPbc**	**07 12 44.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=64,slow=2.8,SNR=2.3						
BRTR	**Keskin Array B**	**153.66**	**295**	PKPbc	**PKiKP**	**07 12 48.4**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=182,slow=13,SNR=3.8						
BRTR	**Keskin Array B**	**153.66**	**295**	PKPdf	**PKPdf**	**07 12 38.8**	**-1.4**
BRTR					**PKiKP**	**07 12 48.1**	**0.0**
BRTR				PKPab	**PKPab**	**07 13 02.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**160.82**	**178**	PKPab	**PKPab**	**07 13 31.8**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=208,slow=3.4,SNR=4.4						
GERES	**GERESS Array B**	**161.44**	**336**	PKPab	**PKPab**	**07 13 33.2**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=49,slow=4.4,SNR=2.2						
GERES	**GERESS Array B**	**161.44**	**336**		**PKPab**	**07 13 33.8**	**-0.1**

*IDC **19** 07:00:49.0±7.0, 19°79S×178°50W, h488km±43km, mb3.2/3, mb1 3.3/4, mb1mx2.8/38, mbtmp4.0/4, Error ellipse: s-maj=162.1km s-min=32.3km az=145.0*
ISC 19 07:00:49.3±2.6, 19°4S±0°5×178°5W±0°4, h500km, n7, σ0°72/7, mb3.7/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.71**	**296**	P	**P**	**07 02 05.4**	**-0.1**
	2.2nm,0.3s,baz=246,slow=19,SNR=20						
CTA	**Charters Tower**	**33.17**	**263**	P	**P**	**07 06 45.0**	**+1.0**
	2.9nm,0.5s,baz=71,slow=10.0,SNR=7.4						
WRA	**Warramunga Arr**	**44.33**	**261**	P	**P**	**07 08 13.9**	**-0.7**
	0.5nm,0.3s,baz=95,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**07 08 14.1**	**-0.7**
	1.3nm,0.5s,baz=91,slow=8.2,SNR=22						
ASAR				PcP	**PcP**	**07 09 48.2**	**0.0**
	0.5nm,0.6s,baz=100,slow=3.8,SNR=5.2						
AKASG	**Malin Array Be**	**141.87**	**331**	PKhKP	PKPpre	07 19 21.0	
	0.7nm,0.4s,baz=44,slow=4.7,SNR=7.8						
BRTR	**Keskin Array B**	**145.79**	**313**	PKPbc	**PKPab**	**07 19 33.9**	**-0.2**
	0.6nm,0.6s,baz=108,slow=4.7,SNR=4.0						
GERES	**GERESS Array B**	**149.05**	**344**	PKPbc	**PKiKP**	**07 19 42.0**	**+0.3**
	0.2nm,0.5s,baz=39,slow=2.0,SNR=3.5						

*TRN **19** 07:05:40.2, 13°82N×58°56W, h97km, MD4.1*
ISC 19 07:05:39.1±2.4, 13°90N±0°04×58°6W±0°1, h10km, n36, σ1°38/48, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.18**	**228**	*eP*	**Pn**	**07 06 03.2**	**+1.6**
BBSP				*eS*	**Sn**	**07 06 19.9**	**+2.1**
BBGH	**Gun Hill**	**1.23**	**233**	*eP*	**Pg**	**07 06 03.5**	**+0.7**
BBGH				*eS*	**Sn**	**07 06 21.0**	**+1.9**
BCHC	**Barbados, Cave**	**1.29**	**234**	*eP*	**Pg**	**07 06 04.6**	**+0.7**
BCHC				*eS*	**Sn**	**07 06 22.2**	**+1.6**
MPOM	**Morne Pois Mar**	**2.30**	**284**	*eP*	**Pn**	**07 06 17.7**	**+0.6**
MCLT	**Moule a Chique**	**2.33**	**266**	*eP*	**Pn**	**07 06 17.8**	**+0.3**
MCLT				*eS*	**Sn**	**07 06 45.6**	**-0.5**
SLBI	**Saint Lucia, B**	**2.35**	**273**	*eP*	**Pn**	**07 06 18.4**	**+0.7**
SLBI				*eS*	**Sn**	**07 06 46.7**	**0.0**
MVM	**Montagne Vaucl**	**2.36**	**286**	*eP*	**Pn**	**07 06 18.8**	**+0.8**
LPMF	**Morne Lapointe**	**2.43**	**286**	*eP*	**Pn**	**07 06 19.2**	**+0.3**
ZAM	**Aeronautique**	**2.49**	**286**	*eP*	**Pn**	**07 06 20.0**	**+0.3**
TRMF	**Trois Ilets**	**2.50**	**285**	*eP*	**Pn**	**07 06 20.3**	**+0.4**
BIM	**Bigot**	**2.52**	**284**	*eP*	**Pn**	**07 06 20.6**	**+0

mb4.9/48,Ms4.7/7,Ms7 4.3/7
IDC **19** 07:34:27.8±0.6, 10°.57S×165°.31E, h0km, mb4.4/20, mb1 4.5/22, mb1mx4.4/36, mbtmp4.4/22, ML4.7/2, MS4.0/20, Ms1 4.0/20, ms1mx3.8/33, Error ellipse: s-maj=18.7km s-min=14.6km az=93.0
NEIC **19** 07:34:30.4±1.1, 10°.42S±0°.09×165°.39E±0°.09, h10km±1km, mb5.0/97, Error ellipse: s-maj=17.0km s-min=11.7km az=46.0
GCMT **19** 07:34:32.4±0.3, 10°.54S±0°.02×165°.29E±0°.03, h17km±1km, MW4.9/71, Moment Tensor Solution. s24,c26; s71,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20±.18; $M_{\theta\theta}$1.62±.11; $M_{\phi\phi}$0.58±.10; $M_{r\theta}$-2.04±.31; $M_{\theta\phi}$-1.15±.07; $M_{\phi r}$-0.29±.31; Best double couple: $M_0$3.06400×10^{16} NP1:ϕ_s323.00000°, δ31.00000°, λ-50.00000°. NP2: ϕ_s99.00000°, δ67.00000°, λ-111.00000°. Principal axes: T 2.9000, Plg19.0000°, Azm204.0000°; N 0.3300, Plg19.0000°, Azm107.0000°; P -3.2290, Plg62.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MOS **19** 07:34:32.9±0.8, 10°.40S×165°.24E, h18km, mb5.0/36 Error ellipse: s-maj=9.7km s-min=8.2km az=108.4
ISC 19 07:34:32.9±0.3, 10°.52S±0°.05×165°.41E±0°.06, h31km, n243, σ1s17/243, mb4.9/107, MS4.0/24, 5C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**5.20**	**161**	Pn	**Pn**	**07 35 48.2**	**-0.4**
HNR	**Honiara**	**5.48**	**281**	Pn	**Pn**	**07 35 49.7**	**-2.8**
35nm,0.3s,baz=146,slow=3.6,SNR=3.4							
HNR				Sn	**Sn**	**07 36 54.4**	**-0.2**
24nm,0.3s,baz=181,slow=22,SNR=1.3							
HNR				LR	LR	07 37 56.9	
comp=Z,2μm,18.0s,baz=142,slow=39							
HNR	**Honiara**	**5.48**	**281**	P	**Pn**	**07 35 51.2**	**-1.3**
HNR	**Honiara**	**5.48**	**281**		**Pn**	**07 35 51.2**	**-1.3**
LIFNC	**LIFOU**	**10.35**	**170**	Pn	**Pn**	**07 37 00.6**	**+1.3**
MARNC	**Mare, Loyalty**	**11.19**	**167**	Pn	**Pn**	**07 37 10.9**	**+0.1**
DZM	**Mont Dzumac**	**11.53**	**175**	*e*LR	LR	07 39 56.6	
comp=Z,1μm,26.4s							
DZM	**Mont Dzumac**	**11.53**	**175**	Pn	**Pn**	**07 37 14.4**	**-1.1**
3.0nm,0.3s,baz=327,slow=16,SNR=28							
DZM				Sn	**Sn**	**07 39 21.1**	**-2.3**
baz=351,slow=9.7,SNR=1.0							
DZM				LR	LR	07 41 25.6	
comp=Z,2μm,18.0s,baz=34,slow=36							
ONTNC	**Ouen Toro**	**11.77**	**175**	Pn	**Pn**	**07 37 19.2**	**+0.5**
OUENC	**Ouen Island, N**	**11.91**	**174**	Pn	**Pn**	**07 37 21.6**	**+0.9**
PINNC	**Pines Island,**	**12.19**	**171**	Pn	**Pn**	**07 37 25.5**	**+1.1**
MSVF	**Nonsavu**	**14.20**	**122**	Pn	**P**	**07 37 59.4**	**+0.3**
0.4nm,0.3s,baz=288,slow=9.7,SNR=18							
MSVF				LR	LR	07 42 09.8	
comp=Z,830nm,18.4s,baz=305,slow=32							
PMG	**Port Moresby**	**18.01**	**272**	LR	LR	07 45 00.5	
comp=Z,239nm,19.7s,baz=80,slow=35							
PMG	**Port Moresby**	**18.01**	**272**	*i* P	**P**	**07 38 43.1**	**+1.8**
PMG				pmax	pmax		
comp=Z,90nm,1.9s							
PMG	**Port Moresby**	**18.01**	**272**		**Pn**	**07 38 40.3**	**-0.7**
PATS	**Pohnpei**	**18.63**	**337**	P	**P**	**07 38 47.8**	**-0.3**
EIDS	**Eidsvold**	**20.07**	**221**		**P**	**07 39 04.5**	**+0.7**
EIDS				IAmb	IAmb	07 39 16.3	
comp=Z,84nm,1.3s							
CTA	**Charters Tower**	**20.76**	**240**	P	**P**	**07 39 12.6**	**+1.2**
comp=Z,2.5nm,0.8s,baz=72,slow=14,SNR=1.5							
CTA				LR	LR	07 47 43.1	
comp=Z,415nm,18.1s,baz=78,slow=38							
CTAO	**Charters Tower**	**20.76**	**240**	P	**P**	**07 39 10.9**	**-0.5**
CTAO				pmax	pmax		
comp=Z,44nm,1.4s							
CTAO	**Charters Tower**	**20.76**	**240**	P	**P**	**07 39 10.9**	**-0.5**
AFI	**Afiamalu**	**22.55**	**101**	LR	LR	07 46 26.7	
comp=Z,314nm,21.1s,baz=275,slow=32							
ARMA	**Armidale**	**23.59**	**211**	P	**P**	**07 39 42.5**	**+1.3**
URZ	**Urewera**	**29.55**	**161**	P	**P**	**07 40 34.2**	**-0.6**
comp=Z,8.3nm,0.8s,baz=185,slow=23,SNR=1.9							
URZ				LR	LR	07 51 01.0	
comp=Z,481nm,19.4s,baz=349,slow=34							
URZ	**Urewera**	**29.55**	**161**	P	**P**	**07 40 35.9**	**+1.1**
BKZ	**Black Stump Fm**	**30.20**	**163**	P	**P**	**07 40 41.2**	**+0.6**
STKA	**Stephens Creek**	**30.60**	**222**	P	**P**	**07 40 42.1**	**-2.0**
comp=Z,3.5nm,0.7s,baz=42,slow=12,SNR=4.8							
STKA				LR	LR	07 52 40.2	
comp=Z,356nm,18.5s,baz=33,slow=36							
STKA	**Stephens Creek**	**30.60**	**222**	P	**P**	**07 40 44.4**	**+0.2**
STKA				pmax	pmax		
comp=Z,2.0nm,0.9s							
STKA	**Stephens Creek**	**30.60**	**222**	P	**P**	**07 40 44.4**	**+0.2**
WB0	**Warramunga Arr**	**31.27**	**249**	P	**P**	**07 40 49.0**	**-1.2**
WRAB	**Tennant Creek**	**31.34**	**249**	*i* P	**P**	**07 40 54.6**	**+3.7**
WRAB				pmax	pmax		
comp=Z,11nm,1.2s							
WB2	**Warramunga Arr**	**31.34**	**249**	P	**P**	**07 40 50.6**	**-0.3**
WRA	**Warramunga Arr**	**31.36**	**249**	P	**P**	**07 40 48.8**	**-2.3**
comp=Z,1.0nm,0.8s,baz=82,slow=8.8,SNR=3.0							
WRA				PcP	**PcP**	**07 43 44.2**	**-0.4**
comp=Z,0.9nm,0.8s,baz=81,slow=3.2,SNR=3.5							
WRA				LR	LR	07 52 07.5	
comp=Z,230nm,20.4s,baz=85,slow=34							
WRA	**Warramunga Arr**	**31.36**	**249**	P	**P**	**07 40 53.3**	**+2.2**
WRA	**Warramunga Arr**	**31.36**	**249**	P	**P**	**07 40 53.2**	**+2.2**
GUMO	**Guam**	**31.45**	**319**	LR	LR	07 51 26.8	
comp=Z,178nm,21.6s,baz=126,slow=32							
BFZ	**Birch Farm**	**31.54**	**164**	P	**P**	**07 40 53.0**	**+0.7**
TUWZ	**Tuamarina**	**31.70**	**168**	P	**P**	**07 40 55.2**	**+1.5**
TOO	**Toolangi**	**32.35**	**210**	P	**P**	**07 41 01.6**	**+2.0**
TOO				pmax	pmax		
comp=Z,21nm,1.4s							
TOO	**Toolangi**	**32.35**	**210**	P	**P**	**07 41 01.6**	**+2.0**
TOO				IAmb	IAmb	07 41 12.3	
comp=Z,21nm,1.4s							
LTZ	**Lake Taylor**	**32.70**	**171**	P	**P**	**07 41 04.2**	**+1.6**
ASAR	**Alice Springs**	**32.73**	**242**	P	**P**	**07 41 00.8**	**-2.3**
comp=Z,0.9nm,0.7s,baz=63,slow=10,SNR=13							
ASAR				PcP	**PcP**	**07 43 47.4**	**-1.0**
comp=Z,1.1nm,0.7s,baz=65,slow=2.8,SNR=6.7							
ASAR				LR	LR	07 53 53.2	
comp=Z,208nm,18.7s,baz=70,slow=36							
MTN	**Manton Dam**	**33.63**	**263**	P	**P**	**07 41 10.3**	**-0.7**
MTN				IAmb	IAmb	07 41 35.4	
comp=Z,30nm,1.4s							
BBOO	**Buckleboo**	**34.95**	**226**	P	**P**	**07 41 21.8**	**-0.4**
BBOO				IAmb	IAmb	07 41 31.0	
comp=Z,16nm,0.8s							
TAU	**Tasmania Unive**	**35.92**	**203**	P	**P**	**07 41 30.9**	**+0.5**
TAU				pmax	pmax		
comp=Z,49nm,1.4s							
TAU	**Tasmania Unive**	**35.92**	**203**	P	**P**	**07 41 30.9**	**+0.5**
KNRA	**Kununurra**	**36.02**	**258**	P	**P**	**07 41 30.4**	**-1.2**
KNRA				IAmb	IAmb	07 41 47.7	
comp=Z,47nm,1.4s							
MMRI	**Maumere**	**42.58**	**269**	P	**P**	**07 42 25.6**	**-0.9**
PPT	**Papeete**	**44.15**	**104**	LR	LR	07 56 56.2	
comp=Z,170nm,18.7s,baz=285,slow=30							
PPT2	**Papeete2**	**44.15**	**104**	*e*LQ	LQ	07 53 06.1	
comp=Z,496nm,27.2s							
PPT2				*e*LR	LR	07 55 00.7	
comp=Z,241nm,22.5s							
TBI	**Tubuai**	**44.84**	**113**	*e*LQ	LQ	07 53 26.4	
comp=Z,346nm,32.0s							
TBI				*e*LR	LR	07 55 17.3	
comp=Z,328nm,25.5s							
KAPI	**Kappang**	**45.53**	**273**	P	**P**	**07 42 49.2**	**-1.0**
comp=Z,8.0nm,0.8s,baz=68,slow=5.1,SNR=4.1							
KAPI	**Kappang**	**45.53**	**273**	P	**P**	**07 42 49.7**	**-0.4**
KAPI				pmax	pmax		
comp=Z,24nm,1.0s							
KAPI	**Kappang**	**45.53**	**273**	P	**P**	**07 42 49.7**	**-0.4**
KAPI				IAmb	IAmb	07 42 59.3	
comp=Z,24nm,0.9s							
TOLI2	**Tolitoli**	**45.87**	**282**	P	**P**	**07 42 51.4**	**-1.4**
MJAR	**Matsushiro Arr**	**53.35**	**333**	P	**P**	**07 43 47.8**	**-1.7**
comp=Z,3.7nm,0.7s,baz=171,slow=8.1,SNR=9.0							
MJAR	**Matsushiro Arr**	**53.35**	**333**	P	**P**	**07 43 50.0**	**+0.6**
MJAR	**Matsushiro Arr**	**53.35**	**333**	P	**P**	**07 43 50.0**	**+0.6**
MAJO	**Matsushiro**	**53.35**	**333**	P	**P**	**07 43 48.7**	**-0.8**
MAJO				pmax	pmax		
comp=Z,18nm,1.3s							
MAJO	**Matsushiro**	**53.35**	**333**	P	**P**	**07 43 48.7**	**-0.8**
MAJO				IAmb	IAmb	07 43 52.0	
comp=Z,18nm,1.3s							
MAT	**Matsushiro**	**53.35**	**333**	P	**P**	**07 43 48.5**	**-1.0**
TAOE	**Nuku Hiva Isla**	**53.64**	**93**	*e*S	**S**	**07 51 20.5**	**-3.8**
comp=Z,217nm,28.8s							
TAOE				*e*LR	LR	07 59 26.6	
comp=Z,623nm,23.5s							
JNU	**Nakatsue**	**54.46**	**324**	P	**P**	**07 43 57.5**	**-0.1**
comp=Z,9.6nm,0.8s,baz=218,slow=2.8,SNR=4.2							
JNU	**Nakatsue**	**54.46**	**324**	P	**P**	**07 43 57.5**	**-0.1**
JSD	**Sado**	**54.57**	**334**	P	**P**	**07 43 58.0**	**-0.3**
JSD				IAmb	IAmb	07 43 58.9	
comp=Z,21nm,1.0s							
JHS	**Saijyo**	**54.62**	**327**	P	**P**	**07 43 58.4**	**-0.3**
JHS				IAmb	IAmb	07 44 06.7	
comp=Z,29nm,1.3s							
JTM	**Tenmabayashi**	**55.78**	**338**	P	**P**	**07 44 07.0**	**0.0**
ASAJ	**Asahikawa**	**58.19**	**341**	P	**P**	**07 44 24.0**	**0.0**
comp=Z,11nm,0.8s,baz=219,slow=11,SNR=23							
ASAJ	**Asahikawa**	**58.19**	**341**	P	**P**	**07 44 24.0**	**0.0**
KSRS	**Korea Array**	**59.25**	**326**	P	**P**	**07 44 31.4**	**-0.1**
comp=Z,11nm,0.6s,baz=131,slow=7.4,SNR=3.9							
KSAR	**Wonju Array Be**	**59.27**	**326**	P	**P**	**07 44 32.1**	**+0.5**
KSAR	**Wonju Array Be**	**59.27**	**326**	P	**P**	**07 44 32.1**	**+0.5**
INCN	**Inchon**	**60.00**	**325**	P	**P**	**07 44 37.0**	**+0.3**
INCN				pmax	pmax		
comp=Z,11nm,0.8s							
INCN	**Inchon**	**60.00**	**325**	P	**P**	**07 44 37.0**	**+0.3**
INCN				IAmb	IAmb	07 44 46.6	
comp=Z,11nm,0.8s							
YSS	**Yuzh-Sakhalins**	**60.69**	**342**	*e*P	**P**	**07 44 41.6**	**+0.5**
YSS				*e*		07 44 50.5	
YSS				pmax	pmax		
comp=Z,10.0nm,1.1s							
YSS	**Yuzh-Sakhalins**	**60.69**	**342**	P	**P**	**07 44 41.1**	**-0.1**
YSS				IAmb	IAmb	07 44 51.5	
comp=Z,15nm,1.1s							
NJ2	**Nanjing**	**61.41**	**315**	*e*P	**P**	**07 44 48.0**	**+1.6**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
USA0B	**Ussuriysk Arra**	**62.33**	**333**	P	**P**	**07 44 52.1**	**-0.2**
USA0B				pmax	pmax		
comp=Z,26nm,1.4s							
USA0B	**Ussuriysk Arra**	**62.33**	**333**	P	**P**	**07 44 52.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**62.33**	**333**	P	**P**	**07 44 52.5**	**+0.2**
comp=Z,4.7nm,1.0s,baz=145,slow=7.0,SNR=13							
PETK	**Petropavlovsk-**	**63.71**	**355**	P	**P**	**07 45 03.1**	**+1.8**
comp=Z,3.2nm,1.0s,baz=184,slow=17,SNR=3.8							
PETK				LR	LR	08 07 22.7	
comp=Z,57nm,21.6s,baz=167,slow=31							
CN2	**Changchun**	**65.12**	**329**	*e*P	**P**	**07 45 11.3**	**+0.6**
CN2				pmax	pmax		
comp=Z,10.0nm,0.9s							
PANO	**Nakornpanom**	**66.07**	**294**	P	**P**	**07 45 16.3**	**-1.1**
comp=Z,82nmcomp=Z,3.6nm,1.1s							
PANO	**Nakornpanom**	**66.07**	**294**	P	**P**	**07 45 16.3**	**-1.1**
comp=Z,82nmcomp=Z,3.6nm,1.1s							
KLR	**Kul'dur**	**66.44**	**337**	*ce*P	**P**	**07 45 19.5**	**+0.4**
KLR				pmax	pmax		
comp=Z,14nm,1.4s							
CASY	**Casey**	**66.75**	**201**	P	**P**	**07 45 22.4**	**+1.5**
CASY				IAmb	IAmb	07 45 30.2	
comp=Z,12nm,0.9s							
VNDA	**Vanda**	**67.01**	**181**	P	**P**	**07 45 22.9**	**+0.5**
comp=Z,1.0nm,0.7s,baz=339,slow=7.0,SNR=3.8							
VNDA	**Vanda**	**67.01**	**181**	P	**P**	**07 45 23.5**	**+1.1**
VNDA				pmax	pmax		
comp=Z,8.0nm,1.2s							
VNDA	**Vanda**	**67.01**	**181**	P	**P**	**07 45 23.5**	**+1.1**
VNDA				IAmb	IAmb	07 45 32.7	
comp=Z,7.6nm,1.2s							
ENH	**Enshi**	**67.31**	**309**	P	**P**	**07 45 23.6**	**-1.5**
SBA	**Scott Base**	**67.33**	**180**	P	**P**	**07 45 26.1**	**+1.7**
SBA				pmax	pmax		
comp=Z,3.0nm,2.7s							
RPSI	**Rantau Prapat**	**67.45**	**277**	P	**P**	**07 45 25.5**	**-0.8**
PSI	**Prapat**	**67.47**	**277**	P	**P**	**07 45 25.5**	**-1.1**
PSI				pmax	pmax		
comp=Z,18nm,1.1s							
NONG	**Nongkai**	**67.69**	**294**	P	**P**	**07 45 28.4**	**+0.7**
comp=Z,28nm,1.1s							
GYA	**Guiyang**	**67.85**	**304**	*e*P	**P**	**07 45 28.9**	**+0.2**
BJT	**Baijiatuau**	**67.85**	**321**	P	**P**	**07 45 28.4**	**+0.1**
BJT				pmax	pmax		
comp=Z,12nm,1.3s							
BJT	**Baijiatuau**	**67.85**	**321**	P	**P**	**07 45 28.4**	**+0.1**
BJT				IAmb	IAmb	07 45 29.7	
comp=Z,12nm,1.3s							
BJI	**Beijing**	**67.86**	**321**	P	**P**	**07 45 28.6**	**+0.3**
BJI				pmax	pmax		
comp=Z,8.0nm,1.2s							
GSI	**Gunungsitoli**	**68.47**	**276**	P	**P**	**07 45 31.6**	**-1.2**
XAN	**Xi'an**	**69.52**	**312**	P	**P**	**07 45 39.0**	**+0.1**
XAN				pP	pP	07 45 46.8	-0.9
XAN				sP	sP	07 45 50.9	+0.2
XAN				pmax	pmax		
comp=Z,16nm,1.6s							
XAN				pmax	pmax		
comp=Z,310nm,4.3s							
KMI	**Kunming**	**70.56**	**301**	⇓P	**P**	**07 45 46.5**	**+0.8**
KMI				pP	pP	07 45 50.8	-3.6
KMI				sP	sP	07 45 52.9	-4.9
KMI				pmax	pmax		
comp=Z,19nm,1.0s							
MA2	**Magadan**	**70.84**	**352**	*ce*P	**P**	**07 45 44.8**	**-1.6**
MA2				pmax	pmax		
comp=Z,22nm,2.5s							
LAMP	**Lampang**	**71.00**	**294**	P	**P**	**07 45 52.1**	**+3.9**
comp=Z,19nm,0.7s							
LAMP	**Lampang**	**71.00**	**294**	P	**P**	**07 45 52.1**	**+3.9**
comp=Z,19nm,0.7s							
HHC	**Hu-ho-hao-te**	**71.22**	**320**	*e*P	**P**	**07 45 50.3**	**+1.1**
HHC				pmax	pmax		
comp=Z,19nm,0.9s							
HHC				pmax	pmax		
comp=Z,120nm,6.6s							
CM04	**Chiang Mai Arr**	**71.55**	**293**	P	**P**	**07 45 52.7**	**+1.2**
comp=Z,138nmcomp=Z,13nm,1.1s							
CM04	**Chiang Mai Arr**	**71.55**	**293**	P	**P**	**07 45 52.7**	**+1.2**
comp=Z,138nmcomp=Z,13nm,1.1s							
CM01	**Chiang Mai Arr**	**71.57**	**293**	P	**P**	**07 45 53.7**	**+2.0**
comp=Z,213nmcomp=Z,7.9nm,1.1s							
CM01	**Chiang Mai Arr**	**71.57**	**293**	P	**P**	**07 45 53.7**	**+2.0**
comp=Z,213nmcomp=Z,7.9nm,1.1s							
CM05	**Chiang Mai Arr**	**71.58**	**293**	P	**P**	**07 45 53.1**	**+1.4**
comp=Z,5.4nm,0.4s							
CM05	**Chiang Mai Arr**	**71.58**	**293**	P	**P**	**07 45 53.1**	**+1.4**
comp=Z,5.4nm,0.4s							
CM02	**Chiang Mai Arr**	**71.58**	**293**	P	**P**	**07 45 53.5**	**+1.7**
comp=Z,13nm,1.1s							
CM02	**Chiang Mai Arr**	**71.58**	**293**	P	**P**	**07 45 53.5**	**+1.7**
comp=Z,13nm,1.1s							
CM31	**Chiang Mai Arr**	**71.60**	**293**	P	**P**	**07 45 52.5**	**+0.6**
CM31				IAmb	IAmb	07 45 53.6	
comp=Z,12nm,0.9s							
CMAR	**Chiang Mai Arr**	**71.60**	**293**	P	**P**	**07 45 51.8**	**0.0**
comp=Z,4.5nm,0.7s,baz=113,slow=4.5,SNR=21							
CMAR	**Chiang Mai Arr**	**71.60**	**293**	*i* P	**P**	**07 45 52.7**	**+0.9**
CMAR				pmax	pmax		
comp=Z,6.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**71.60**	**293**	P	**P**	**07 45 51.6**	**-0.2**
CM15	**Chiang Mai Arr**	**71.61**	**293**	P	**P**	**07 45 53.2**	**+1.3**
comp=Z,12nm,0.9s							
CM15	**Chiang Mai Arr**	**71.61**	**293**	P	**P**	**07 45 53.2**	**+1.3**
comp=Z,12nm,0.9s							
CM13	**Chiang Mai Arr**	**71.62**	**293**	P	**P**	**07 45 53.2**	**+1.2**
comp=Z,9.2nm,1.0s							
CM13	**Chiang Mai Arr**	**71.62**	**293**	P	**P**	**07 45 53.2**	**+1.2**
comp=Z,9.2nm,1.0s							
CMMT	**Chiang Mai**	**71.70**	**294**	P	**P**	**07 45 53.6**	**+1.1**
comp=Z,6.0nm,1.3s							
CMMT	**Chiang Mai**	**71.70**	**294**	P	**P**	**07 45 53.6**	**+1.1**
comp=Z,6.0nm,1.3s							
CHTO	**Chiang Mai**	**71.71**	**294**	P	**P**	**07 45 52.4**	**-0.1**
CHTO				pmax	pmax		
comp=Z,26nm,1.5s							
CHTO	**Chiang Mai**	**71.71**	**294**	P	**P**	**07 45 53.6**	**+1.1**
comp=Z,5.9nm,1.3s							
CHTO	**Chiang Mai**	**71.71**	**294**	P	**P**	**07 45 53.6**	**+1.1**
comp=Z,5.9nm,1.3s							
CHTO	**Chiang Mai**	**71.71**	**294**	P	**P**	**07 45 52.4**	**-0.1**
CHTO				IAmb	IAmb	07 45 53.8	
comp=Z,26nm,1.5s							
ZEA	**Zeya**	**71.73**	**337**	*e*P	**P**	**07 45 52.7**	**+0.8**
ZEA				pmax	pmax		
comp=N,10.0nm,1.6s							
ZEA				pmax	pmax		
comp=Z,10.0nm,1.3s							
HIA	**Hailar**	**71.75**	**330**	*i* P	**P**	**07 45 52.7**	**+0.6**
HIA				pmax	pmax		
comp=Z,18nm,1.6s							
CD2	**Chengdu**	**72.02**	**307**	*e*P	**P**	**07 45 55.0**	**+0.8**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
LZH	**Lanzhou**	**74.16**	**312**	*e*P	**P**	**07 46 08.4**	**+1.5**
LZH				pP	pP	07 46 12.6	-2.9
LZH				sP	pwP	07 46 15.4	-4.8
LZH				pmax	pmax		
comp=Z,30nm,1.3s							
KDAK	**Kodiak Island**	**76.21**	**22**	LR	LR	08 11 25.9	
comp=Z,96nm,21.2s,baz=238,slow=29							
YAK	**Yakutsk**	**77.50**	**344**	*e*P	**P**	**07 46 24.1**	**-1.0**
YAK				pmax	pmax		
comp=Z,18nm,1.1s							
YAK				pmax	pmax		
comp=E,3.0nm,1.1s							
YAK	**Yakutsk**	**77.50**	**344**	P	**P**	**07 46 24.7**	**-0.4**
ULN	**Ulaanbaatar**	**77.68**	**324**	P	**P**	**07 46 27.2**	**+0.5**
ULN				pmax	pmax		
comp=Z,13nm,0.9s							
ULN	**Ulaanbaatar**	**77.68**	**324**	P	**P**	**07 46 27.2**	**+0.5**
ULN				IAmb	IAmb	07 46 28.4	
comp=Z,13nm,0.9s							
SVW2	**Sparrevohn**	**77.72**	**18**	P	**P**	**07 46 26.8**	**+0.3**
SVW2				IAmb	IAmb	07 46 28.3	
comp=Z,25nm,1.4s							
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**07 46 28.9**	**+0.2**
comp=Z,4.3nm,0.9s,baz=141,slow=6.5,SNR=22							
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**07 46 28.8**	**+0.1**
BILL	**Bilibino**	**78.36**	**0**	*d i* P	**P**	**07 46 30.4**	**+0.6**
BILL				*i*		07 49 25.4	
BILL				*e*PPP	PPP	07 51 15.8	
BILL				pmax	pmax		
comp=Z,15nm,1.3s							
BILL				MLR	MLR		
comp=Z,79nm,18.0s							
BILL	**Bilibino**	**78.36**	**0**	P	**P**	**07 46 30.4**	**+0.6**
BILL				IAmb	IAmb	07 46 31.2	
comp=Z,16nm,1.1s							
GTA	**Gaotai**	**78.45**	**314**	⇑P	**P**	**07 46 32.3**	**+1.1**
GTA				pP	pP	07 46 38.4	-1.4
GTA				sP	pwP	07 46 42.1	-2.4
GTA				pmax	pmax		
comp=Z,12nm,1.4s							
GTA				pmax	pmax		
comp=Z,69nm,5.5s							
GTA				LR	LR		
comp=Z,99nm,17.5s							
GTA				LR	LR		
comp=Z,110nm,17.8s							
GTA				LR	LR		
comp=Z,100nm,17.1s							
QSPA	**South Pole Qui**	**79.48**	**180**	P	**P**	**07 46 37.0**	**+0.7**
RC01	**Rabbit Creek A**	**79.62**	**20**	P	**P**	**07 46 37.1**	**+0.2**
RC01				IAmb	IAmb	07 46 41.1	
comp=Z,22nm,1.2s							
BOD	**Bodaibo**	**79.91**	**335**	*e*P	**P**	**07 46 36.8**	**-1.7**
BOD				pmax	pmax		
comp=Z,10.0nm,1.7s							
PWL	**Port Wells**	**79.94**	**21**	P	**P**	**07 46 38.5**	**-0.2**
PWL				IAmb	IAmb	07 46 39.8	
comp=Z,19nm,1.1s							
SHL	**Shillong**	**79.97**	**298**	P	**P**	**07 46 39.8**	**0.0**
SHL				pmax	pmax		
comp=Z,11nm,0.9s							
SHL	**Shillong**	**79.97**	**298**	P	**P**	**07 46 39.8**	**0.0**
SHL				IAmb	IAmb	07 46 40.2	
comp=Z,10nm,0.9s							
KNK	**Knik Glacier**	**80.28**	**21**	P	**P**	**07 46 40.3**	**-0.2**
KNK				IAmb	IAmb	07 46 41.9	
comp=Z,19nm,1.4s							
CUT	**Chulitna**	**80.38**	**19**	P	**P**	**07 46 41.1**	**+0.2**
CUT				IAmb	IAmb	07 46 51.9	
comp=Z,13nm,0.7s							
FID	**Port Fidalgo**	**80.53**	**22**	P	**P**	**07 46 41.8**	**-0.1**
FID				IAmb	IAmb	07 46 42.7	
comp=Z,26nm,1.4s							
SML	**Sawmill**	**80.60**	**20**	P	**P**	**07 46 42.7**	**+0.5**
SML				pmax	pmax		
comp=Z,20nm,1.5s							
SML	**Sawmill**	**80.60**	**20**	P	**P**	**07 46 42.2**	**-0.1**
SML				IAmb	IAmb	07 46 55.2	
comp=Z,20nm,1.5s							
ZAK	**Zakamensk**	**81.08**	**325**	*e*P	**P**	**07 46 43.9**	**-1.2**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.2s							
KLU	**Klutina**	**81.23**	**21**	P	**P**	**07 46 45.7**	**0.0**
KLU				IAmb	IAmb	07 46 52.3	
comp=Z,14nm,1.1s							
RND	**Reindeer**	**81.55**	**19**	P	**P**	**07 46 46.7**	**-0.6**
RND				pmax	pmax		
comp=Z,11nm,1.3s							
RND	**Reindeer**	**81.55**	**19**	P	**P**	**07 46 46.6**	**-0.6**
RND				IAmb	IAmb	07 46 51.8	
comp=Z,11nm,1.3s							
M24K	**Tolsona, Glenn**	**81.55**	**21**	P	**P**	**07 46 47.1**	**-0.2**
WAX	**Waxell Ridge**	**81.70**	**23**	P	**P**	**07 46 48.6**	**+0.4**
WAX				IAmb	IAmb	07 46 49.7	
comp=Z,15nm,0.8s							
CRQM	**Cirque**	**81.78**	**23**	P	**P**	**07 46 49.0**	**+0.2**
CRQM				IAmb	IAmb	07 46 50.0	
comp=Z,16nm,1.0s							
N25K	**Chitina, Valde**	**81.78**	**22**	P	**P**	**07 46 49.0**	**+0.4**
N25K				IAmb	IAmb	07 46 55.3	
comp=Z,14nm,0.9s							
VRDI	**Verde Repeater**	**81.96**	**22**	P	**P**	**07 46 49.4**	**-0.2**
VR

MAW LR LR 08 21 13.7
comp=Z,71nm,20.4s,baz=82,slow=33
MAW Mawson 85.08 202 P **P 07 47 05.7 +0.3**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 85.08 202 P **P 07 47 05.7 +0.3**
WAKR Walker 85.11 50 P **P 07 47 06.6 +0.2**
MDPB Devils Postpil 85.12 50 P **P 07 47 06.2 -0.3**
DAWY Dawson 85.19 21 P **P 07 47 06.8 +0.8**
DAWY IAmb IAmb 07 47 15.7
comp=Z,7.1nm,1.1s
TIXI Tiksi 85.51 349 *ce*P **P 07 47 07.7 +0.4**
TIXI Tiksi 85.51 349 P **P 07 47 07.0 -0.4**
TIXI IAmb IAmb 07 47 08.2
comp=Z,7.1nm,1.1s
MOD Modoc Plateau 85.52 46 P **P 07 47 07.5 -0.8**
BMAR Burnt Mountain 85.60 17 P **P 07 47 08.5 +0.5**
LHV Little Huntoon 85.74 50 P **P 07 47 09.3 +0.1**
LHV IAmb IAmb 07 47 13.7
comp=Z,8.6nm,1.2s
NVAR Mina Array Bea 85.94 50 P **P 07 47 10.3 -0.2**
comp=Z,2.9nm,1.0s,baz=234,slow=7.6,SNR=11
NVAR LR LR 08 17 32.2
comp=Z,68nm,18.9s,baz=259,slow=30
NV11 Mina Array Sit 86.05 50 P **P 07 47 10.4 -0.6**
KVN Kaiserville 86.27 49 P **P 07 47 12.3 +0.2**
KVN pmax pmax
comp=Z,7.0nm,1.4s
J08A Circle Bar Ran 87.25 45 P **P 07 47 16.7 0.0**
J08A IAmb IAmb 07 47 37.9
comp=Z,7.8nm,1.3s
EPYK Eagle Plains 87.43 20 P **P 07 47 17.7 +0.8**
EPYK IAmb IAmb 07 47 18.7
comp=Z,12nm,1.1s
BMO Blue Mountains 88.48 44 P **P 07 47 22.4 -0.1**
BMO pmax pmax
comp=Z,4.0nm,1.4s
BMO Blue Mountains 88.48 44 P **P 07 47 22.4 -0.1**
WMQ Urumqi 88.49 315 *eP* **P 07 47 21.4 -1.1**
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ pmax pmax
comp=Z,130nm,3.8s
SPR3 Spring Creek 3 89.09 50 P **P 07 47 25.9 +0.1**
CCUT Cedar City 89.48 52 P **P 07 47 27.3 -0.2**
CCUT IAmb IAmb 07 47 29.1
comp=Z,7.6nm,1.3s
SZCU Shurtz Canyon 89.70 52 P **P 07 47 28.8 +0.2**
U15A North Rim 90.06 53 P **P 07 47 30.6 +0.2**
DGZ Jazzator, Alta 90.28 321 *i* P **P 07 47 30.0 -0.9**
DGZ pmax pmax
comp=Z,10.0nm,1.7s
MVU Marysvale 90.58 51 P **P 07 47 32.6 -0.1**
DLMT Dillon 91.84 44 P **P 07 47 38.4 +0.1**
DLMT IAmb IAmb 07 47 42.9
comp=Z,6.9nm,1.1s
BOZ Bozeman (W) 92.56 44 P **P 07 47 42.2 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
MK31 Makanchi Array 92.91 317 P **P 07 47 42.1 -0.9**
MK31 pmax pmax
comp=Z,15nm,1.5s
MK31 Makanchi Array 92.91 317 P **P 07 47 42.1 -0.9**
MKAR Makanchi Array 92.91 317 P **P 07 47 42.5 -0.5**
comp=Z,3.6nm,0.8s,baz=92,slow=6.3,SNR=32
MKAR PKKP **PKKPdf 08 04 51.9 -1.6**
comp=Z,0.6nm,0.7s,baz=287,slow=3.0,SNR=4.8
MKAR Makanchi Array 92.91 317 P **P 07 47 42.9 -0.1**
MKAR Makanchi Array 92.91 317 P **P 07 47 42.9 -0.1**
ZAA0 Zalesovo Array 92.93 324 P **P 07 47 41.2 -1.7**
ZAA0 IAmb IAmb 07 47 42.6
comp=Z,9.2nm,1.4s
ZALV Zalesovo Beam 92.93 324 P **P 07 47 41.8 -1.1**
comp=Z,1.3nm,0.4s,baz=107,slow=4.2,SNR=7.4
ZALV LR LR 08 26 35.1
comp=Z,45nm,21.7s,baz=80,slow=34
ZALV Zalesovo Beam 92.93 324 P **P 07 47 41.4 -1.5**
MAKZ Makanchi 93.12 317 P **P 07 47 43.5 -0.5**
MAKZ pmax pmax
comp=Z,12nm,1.2s
MAKZ Makanchi 93.12 317 P **P 07 47 43.5 -0.5**
PDAR Pinedale Array 93.44 47 P **P 07 47 45.2 -0.7**
comp=Z,0.5nm,0.8s,baz=274,slow=2.6,SNR=3.5
PDAR LR LR 08 22 39.0
comp=Z,35nm,21.1s,baz=277,slow=31
TXAR Lajitas Array 95.87 61 P **P 07 47 58.3 +1.2**
comp=Z,0.3nm,0.8s,baz=230,slow=5.4,SNR=3.0
TXAR LR LR 08 22 09.2
comp=Z,52nm,21.7s,baz=0.0,slow=30
SNAA Sanae 97.62 184 P Pdif 07 48 05.6 +1.5
SNAA Sanae 97.62 184 *i* P Pdif 07 48 05.9 +1.7
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 97.62 184 P Pdif 07 48 06.4 +2.2
VNA3 Neumayer Olymp 98.36 182 P Pdif 07 48 08.8 +1.4
OBN Obninsk 120.18 329⇑ *e*PKIKP **PKiKP 07 53 24.8 +4.1**
OBN *e*PPP PPP 07 57 22.6
OBN pmax pmax
comp=Z,6.0nm,0.4s
KIV Kislovodsk 120.62 315 *i* PKIKP **PKiKP 07 53 22.8 +0.7**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,47nm,22.0s
MNK Minsk 124.77 331 *i* PKIKP **PKPdf 07 53 27.7 -1.8**
MNK *i* 07 55 17.1
MNK *i* PPP PPP 07 57 57.1
MNK *i* 08 00 39.6
MNK *i* PS **PS 08 05 17.5 +0.2**
MNK *i* SSS SSS 08 16 52.4
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK pmax pmax
comp=N,22nm,1.2s
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK MLR MLR
comp=E,24nm,19.0s
MNK MLR MLR
comp=N,240nm,20.0s
MNK Minsk 124.77 331 *i* PKP **PKPdf 07 53 27.7 -1.7**
comp=E,2.0nm,0.8s
MNK *i* PKP **PKPdf 07 53 27.7 -1.7**
comp=N,22nm,1.2s
MNK *i* PKP **PKPdf 07 53 27.7 -1.7**
comp=Z,6.0nm,0.6s,baz=232
MNK *i* PP **PP 07 55 17.1 +0.2**
MNK *i* PPP PPP 07 57 57.1
MNK *i* SKS **SKSdf 08 00 39.6 +0.5**
MNK *i* PS **PS 08 05 17.6 +0.3**
MNK *i* SS **SS 08 12 15.3 +6.3**
MNK *i* SSS SSS 08 16 52.5
MNK *i* LR LR 08 45 50.6
MNK *i* LRM MLR 08 47 57.1
comp=Z,210nm,27.5s
MNK *i* LRM MLR 08 48 21.3
comp=E,24nm,18.8s
MNK *i* LRM MLR 08 48 27.7
comp=N,240nm,20.2s
BOSA Boshof 125.27 224 PKP **PKPdf 07 53 31.1 -0.4**
comp=N,0.6nm,0.6s,baz=9.8,slow=2.0,SNR=3.7
BOSA Boshof 125.27 224 PKIKP **PKPdf 07 53 31.8 +0.3**
BOSA Boshof 125.27 224 **PKPdf 07 53 31.8 +0.3**
GERES GERESS Array B 135.09 334 PKP **PKPdf 07 53 49.1 -0.3**
comp=N,0.6nm,0.8s,baz=349,slow=2.7,SNR=4.7
KEST Kesra 146.79 323 PKPbc **PKPbc 07 54 12.3 -0.2**
comp=N,3.3nm,0.9s,baz=160,slow=5.2,SNR=5.3
KEST Kesra 146.79 323 **PKPdf 07 54 09.2 -1.6**
ESDC Sonseca Array 149.46 344 PKPbc **PKPbc 07 54 18.6 -0.8**
comp=N,1.1nm,0.8s,baz=20,slow=4.7,SNR=4.9
TORD Torodi Ar. Bea 163.84 281 PKP **PKPdf 07 54 32.9 -1.1**
comp=N,0.7nm,0.6s,baz=70,slow=1.4,SNR=3.5
TORD Torodi Ar. Bea 163.84 281 **PKPdf 07 54 31.1 -2.9**

DJA ***19*** *07:50:12.4±0.5, 1°.N±3°.×12°.3E±°, h11km±3km, M5.0/27, mb5.0/27, mB5.5/13, MLv5.0/19, Mw(mB)4.9/13, MwMwp4.7/1, Mwp5.0/1*
BJI ***19*** *07:50:14.3±0.0, 0°.68N×123°.11E, h89km, mB4.9/28, mb4.8/47, Ms4.4/6, Ms7 4.0/6*
NEIC ***19*** *07:50:16.0±1.2, 1°.07N±0°.06×122°.83E±0°.06, h60km±7km, mb4.7/51, Error ellipse: s-maj=9.5km s-min=8.8km az=219.0*

IDC ***19*** *07:50:16.9±1.9, 0°.97N×122°.91E, h77km±17km, mb4.1/27, mb1 4.2/29, mb1mx4.1/52, mbtmp4.5/29, MS3.6/6, Ms1 3.6/6, ms1mx3.2/29, Error ellipse: s-maj=17.5km s-min=10.0km az=82.0*
ISC 19 07:50:14.4±0.3, 0°.98N±0°.04×122°.78E±0°.05, h50km, n140, σ1§82/149, mb4.7/66, MS3.9/7, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.41**	**146**	P	**Pn**	**07 50 22.5**	**-2.2**
GTOI				S	**Sn**	**07 50 28.8**	**-3.3**
MRSI	**Marisa**	**0.97**	**239**	P	**Pn**	**07 50 31.9**	**+0.1**
MRSI				S	**Sn**	**07 50 45.4**	**+0.8**
KMSI	**Cibinong**	**1.27**	**108**	P	**Pn**	**07 50 37.5**	**+1.7**
KMSI				S	**Sn**	**07 50 57.5**	**+5.7**
TOLI2	**Tolitoli**	**2.00**	**274**	Pn	**Pn**	**07 50 47.0**	**+1.2**
LUWI	**Luwuk**	**2.01**	**180**	Pn	**Pn**	**07 50 48.6**	**+2.7**
APSI	**Ampana**	**2.19**	**211**	P	**Pn**	**07 50 51.0**	**+2.6**
MPSI	**Mapaga**	**2.95**	**258**	P	**Pn**	**07 51 01.2**	**+2.4**
SANI	**Sanana**	**4.40**	**133**	P	**Pn**	**07 51 20.9**	**+2.1**
TNTI	**Ternate**	**4.59**	**93**	Pn	**Pn**	**07 51 21.6**	**+0.2**
TTSI	**Tana Toraja**	**4.97**	**216**	P	**Pn**	**07 51 30.2**	**+3.6**
	2.9nm6μm924nm,0.7s						
SMKI	**Samarinda**	**5.75**	**256**	P	**Pn**	**07 51 38.2**	**+1.0**
	1.9nm279nm,0.8s						
BNSI	**Bone**	**5.97**	**207**	P	**Pn**	**07 51 44.1**	**+3.7**
	1.2nm4μm398nm,0.8s						
NLAI	**Namlea**	**6.02**	**134**	P	**Pn**	**07 51 44.3**	**+3.3**
	0.6nm3μm101nm,0.8s						
BKB	**Balikpapan**	**6.29**	**249**	Pn	**Pn**	**07 51 46.3**	**+1.6**
KCP	**Kidapawan**	**6.42**	**21**⇑	*i*P	**Pn**	**07 51 47.3**	**+0.7**
KCP				*i* S	**Sn**	**07 52 57.7**	**-0.9**
DAV	**Davao City (W)**	**6.66**	**25**	P	**Pn**	**07 51 51.2**	**+1.3**
	194nm,0.3s,baz=211,slow=2.2,SNR=8.7						
DAV				S	**Sn**	**07 53 07.7**	**+3.3**
	43nm,0.3s,baz=273,slow=18,SNR=6.6						
DAV	**Davao City (W)**	**6.66**	**25**	Pn	**Pn**	**07 51 49.4**	**-0.4**
KAPI	**Kappang**	**6.68**	**207**	P	**Pn**	**07 51 52.9**	**+2.9**
	18nm,0.3s,baz=28,slow=4.6,SNR=48						
KAPI				S	**Sn**	**07 53 04.5**	**-0.3**
	baz=238,slow=23,SNR=0.8						
KAPI				LR	LR	07 54 56.3	
	comp=Z,533nm,19.9s,baz=40,slow=42						
KAPI	**Kappang**	**6.68**	**207**	Pn	**Pn**	**07 51 53.2**	**+3.2**
BKSI	**Bulukumba**	**6.80**	**203**	P	**Pn**	**07 51 54.8**	**+3.1**
	0.5nm1μm126nm,0.9s						
PAGZ	**Pagadian**	**6.85**	**5**⇑	*i*P	**Pn**	**07 51 52.7**	**+0.3**
PAGZ				*i* S	Sn	07 52 51.9	-17
BUKP	**Musuan**	**7.22**	**18**⇓	*i*P	**Pn**	**07 51 57.8**	**+0.2**
BUKP				*i* S	**Pn**	**07 52 01.4**	**+3.9**
BSSI	**Bau Bau, Buton**	**7.43**	**198**	P	**Pn**	**07 52 04.6**	**+4.2**
	0.4nm1μm122nm,0.7s						
MSAI	**Masohi**	**7.50**	**125**	P	**Pn**	**07 52 04.1**	**+2.8**
	0.1nm42nm,0.9s						
KBKI	**Kotabaru**	**7.86**	**237**	P	**Pn**	**07 52 07.5**	**+1.3**
	0.3nm78nm,0.6s						
MTKI	**Muara Teweh, K**	**8.11**	**256**	P	**Pn**	**07 52 10.8**	**+1.1**
	5μm64nm,0.8s						
BBKI	**Banjar Baru**	**9.08**	**241**	P	**Pn**	**07 52 22.7**	**-0.2**
EDFI	**Ende, Flores**	**9.73**	**186**	P	**Pn**	**07 52 35.0**	**+3.1**
	24nm,1.2s						
SOEI	**Soe**	**10.77**	**172**	P	**Pn**	**07 52 49.8**	**+3.6**
	102nm,0.9s						
STKI	**Sintang**	**11.34**	**265**	P	**Pn**	**07 52 52.9**	**-0.9**
KNRA	**Kununurra**	**17.58**	**161**	P	**Pn**	**07 54 17.9**	**+1.9**
KNRA				IAmb	IAmb	07 54 37.0	
	comp=Z,27nm,0.8s						
MDSI	**Maura Dua**	**19.36**	**254**	P	**P**	**07 54 36.7**	**+0.6**
	comp=Z,11nm,0.9s						
YULB	**Yu-li**	**22.32**	**356**	P	**P**	**07 55 07.1**	**-1.0**
YULB				IAmb	IAmb	07 55 25.9	
	comp=Z,21nm,0.9s						
PDSI	**Padang**	**22.39**	**265**	P	**P**	**07 55 10.2**	**+1.3**
	comp=Z,21nm,1.0s						
PSA00	**Pilbara Seismi**	**22.60**	**187**	P	**P**	**07 55 10.0**	**-1.0**
MNSI	**Mandailing Nat**	**23.20**	**270**	P	**P**	**07 55 18.2**	**+1.0**
	comp=Z,18nm,0.7s						
WB0	**Warramunga Arr**	**23.56**	**152**	P	**P**	**07 55 20.5**	**-0.1**
WB0				IAmb	IAmb	07 55 39.2	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**23.68**	**152**	P	**P**	**07 55 21.4**	**-0.4**
	comp=Z,6.5nm,0.6s,baz=330,slow=11,SNR=65						
WRA	**Warramunga Arr**	**23.68**	**152**	P	**P**	**07 55 20.8**	**-1.0**
WB2	**Warramunga Arr**	**23.69**	**152**	P	**P**	**07 55 21.8**	**0.0**
WB2				IAmb	IAmb	07 55 34.7	
	comp=Z,31nm,1.4s						
WR0	**Warramunga Arr**	**23.79**	**152**	P	**P**	**07 55 22.9**	**+0.1**
RPSI	**Rantau Prapat**	**23.90**	**274**	P	**P**	**07 55 24.0**	**+0.2**
TSI	**Tuntungan**	**24.32**	**276**	P	**P**	**07 55 28.6**	**+0.9**
	comp=Z,130nm,0.9s						
KRAB	**Krabi**	**24.57**	**288**	P	**P**	**07 55 32.2**	**+2.3**
	comp=Z,59μmcomp=Z,513nm,0.7s						
KHON	**Khomkaen**	**24.89**	**309**	P	**P**	**07 55 35.1**	**+2.3**
GIRL	**Giralia**	**24.91**	**199**	P	**P**	**07 55 34.2**	**+1.3**
GSI	**Gunungsitoli**	**25.20**	**271**	P	**P**	**07 55 35.5**	**-0.2**
NONG	**Nongkai**	**25.69**	**313**	P	**P**	**07 55 42.2**	**+2.1**
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**26.78**	**157**	P	**P**	**07 55 50.1**	**+0.2**
ASAR	**Alice Springs**	**26.78**	**157**	P	**P**	**07 55 49.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=339,slow=12,SNR=16						
ASAR				PcP	**PcP**	**07 59 11.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=343,slow=2.6,SNR=3.5						
ASAR				ScP	**ScP**	**08 02 43.6**	**-4.7**
	comp=Z,0.5nm,1.0s,baz=334,slow=2.6,SNR=1.9						
ASAR	**Alice Springs**	**26.78**	**157**	P	**P**	**07 55 50.3**	**+0.3**
SLVN	**Son La**	**27.35**	**319**	P	**P**	**07 55 55.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**29.14**	**308**	P	**P**	**07 56 11.5**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=136,slow=5.6,SNR=6.0						
CMAR				LR	LR	08 10 50.7	
	comp=Z,62nm,18.1s,baz=176,slow=42						
CMAR	**Chiang Mai Arr**	**29.14**	**308**	P	**P**	**07 56 10.7**	**-0.3**
CHTO	**Chiang Mai**	**29.33**	**309**	P	**P**	**07 56 12.7**	**0.0**
MORW	**Morawa**	**30.57**	**192**	P	**P**	**07 56 23.6**	**+0.1**
MORW				IAmb	IAmb	07 56 47.4	
	comp=Z,35nm,1.4s						
KMI	**Kunming**	**30.83**	**323**	⇓P	**P**	**07 56 28.6**	**+2.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2	**Nanjing**	**31.13**	**354**	*e*P	**P**	**07 56 30.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FORT	**Forrest**	**31.98**	**171**	P	**P**	**07 56 35.7**	**-0.2**
CD2	**Chengdu**	**34.80**	**331**	*e*P	**P**	**07 57 01.5**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**35.35**	**340**	P	**P**	**07 57 06.0**	**+0.7**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN	**Xi'an**	**35.35**	**340**	P	**P**	**07 57 06.5**	**+1.2**
BBOO	**Buckleboo**	**35.87**	**161**	P	**P**	**07 57 09.7**	**0.0**
BBOO				IAmb	IAmb	07 57 31.2	
	comp=Z,10nm,1.1s						
PATS	**Pohnpei**	**35.91**	**80**	P	P	07 57 05.0	-5.3
KSRS	**Korea Array**	**36.60**	**7**	P	**P**	**07 57 15.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=182,slow=9.7,SNR=6.8						
KSRS				LR	LR	08 13 29.3	
	comp=Z,68nm,19.4s,baz=142,slow=38						
STKA	**Stephens Creek**	**37.23**	**153**	P	**P**	**07 57 19.6**	**-1.7**
	comp=Z,4.7nm,0.8s,baz=321,slow=8.9,SNR=9.3						
STKA	**Stephens Creek**	**37.23**	**153**	P	**P**	**07 57 21.9**	**+0.7**
MJAR	**Matsushiro Arr**	**38.16**	**20**	P	**P**	**07 57 27.0**	**-2.1**
	comp=Z,48nm,0.7s,baz=196,slow=9.1,SNR=7.8						
MJAR				LR	LR	08 11 52.1	
	comp=Z,44nm,21.1s,baz=185,slow=34						
SHL	**Shillong**	**38.53**	**312**	P	**P**	**07 57 32.5**	**-0.1**
SHL				IAmb	IAmb	07 57 34.6	
	comp=Z,13nm,1.0s						
LZH	**Lanzhou**	**39.10**	**335**	*e*P	**P**	**07 57 35.5**	**-1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
BJI	**Beijing**	**39.34**	**352**	P	**P**	**07 57 39.9**	**+1.0**
BJI				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.97**	**347**	*e*P	**P**	**07 57 53.8**	**+1.3**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,66nm,6.6s						
ARMA	**Armidale**	**41.59**	**141**	P	**P**	**07 57 57.9**	**+0.2**
ARMA				IAmb	IAmb	07 58 14.4	
	comp=Z,27nm,1.3s						
GTA	**Gaotai**	**43.62**	**334**	⇓P	**P**	**07 58 14.9**	**+0.8**
GTA				pmax	pmax		
	comp=Z,18nm,1.2s						
GTA				pmax	pmax		
	comp=Z,84nm,4.4s						
GTA				LR	LR		
	comp=Z,85nm,17.8s						
GTA				LR	LR		
	comp=Z,100nm,17.1s						
GTA				LR	LR		
	comp=Z,130nm,17.4s						
CAN	**Canberra**	**43.64**	**148**	P	**P**	**07 58 14.2**	**0.0**
TOO	**Toolangi**	**43.74**	**154**	P	**P**	**07 58 15.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**43.81**	**10**	P	**P**	**07 58 13.1**	**-2.3**
	comp=Z,1.3nm,0.7s,baz=184,slow=8.4,SNR=4.1						
USRK	**Ussuriysk Ar.**	**43.81**	**10**	P	**P**	**07 58 12.5**	**-2.9**
ASAJ	**Asahikawa**	**46.43**	**20**	P	**P**	**07 58 35.1**	**-1.1**
	comp=Z,6.7nm,0.7s,baz=231,slow=12,SNR=15						
JKA	**Kamikawa-asahi**	**46.43**	**20**	P	**P**	**07 58 34.8**	**-1.4**
JKA				IAmb	IAmb	07 58 37.9	
	comp=Z,9.3nm,1.0s						
HIA	**Hailar**	**48.17**	**357**	P	**P**	**07 58 50.0**	**+0.2**
ULN	**Ulaanbaatar**	**48.65**	**346**	P	**P**	**07 58 53.7**	**+0.1**
ULN				IAmb	IAmb	07 58 55.8	
	comp=Z,11nm,1.4s						
SONM	**Songino Array**	**48.79**	**345**	P	**P**	**07 58 55.4**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=163,slow=9.1,SNR=14						
SONM	**Songino Array**	**48.79**	**345**	P	**P**	**07 58 55.5**	**+0.9**
SONM				IAmb	IAmb	07 58 56.8	
	comp=Z,6.6nm,1.2s						
WMQ	**Urumqi**	**52.84**	**329**	*e*P	**P**	**07 59 27.0**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,20nm,6.3s						
TLY	**Talaya**	**53.03**	**345**	P	**P**	**07 59 26.1**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=160,slow=7.7,SNR=3.9						
NIL	**Nilore**	**56.58**	**311**	P	**P**	**07 59 51.7**	**-0.7**
NIL				IAmb	IAmb	07 59 54.7	
	comp=Z,7.9nm,0.8s						
KSH	**Kashi**	**57.30**	**318**	P	**P**	**07 59 59.3**	**+1.8**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,99nm,4.8s						
MSVF	**Nonsavu**	**57.47**	**112**	P	**P**	**07 59 57.7**	**-1.3**
MK31	**Makanchi Array**	**57.67**	**328**	P	**P**	**07 59 59.4**	**-0.5**
MK31				IAmb	IAmb	08 00 01.7	
	comp=Z,7.1nm,1.0s						
MKAR	**Makanchi Array**	**57.67**	**328**	P	**P**	**08 00 00.5**	**+0.7**
	comp=Z,7.9nm,0.7s,baz=127,slow=8.4,SNR=81						
MKAR	**Makanchi Array**	**57.67**	**328**	P	**P**	**08 00 00.4**	**+0.6**
MAKZ	**Makanchi**	**57.84**	**328**	P	**P**	**08 00 00.7**	**-0.3**
MAKZ				IAmb	IAmb	08 00 02.3	
	comp=Z,5.7nm,0.7s						
KDJ	**Kajisay**	**57.88**	**321**	P	**P**	**08 00 00.1**	**-1.5**
KDJ				IAmb	IAmb	08 00 03.7	
	comp=Z,8.6nm,0.8s						
PETK	**Petropavlovsk-**	**59.48**	**24**	P	**P**	**08 00 13.2**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=218,slow=3.4,SNR=5.7						
KBL	**Kabul**	**60.14**	**310**	P	**P**	**08 00 17.2**	**-0.2**
GAR	**Garm**	**60.96**	**315**	P	**P**	**08 00 22.5**	**-0.3**
ZAA0	**Zalesovo Array**	**61.33**	**336**	P	**P**	**08 00 24.6**	**-0.3**
ZALV	**Zalesovo Beam**	**61.33**	**336**	P	**P**	**08 00 24.7**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=121,slow=5.7,SNR=24						
ZALV	**Zalesovo Beam**	**61.33**	**336**	P	**P**	**08 00 24.6**	**-0.3**
KK31	**Karatay Array**	**62.63**	**319**	P	**P**	**08 00 33.0**	**-0.9**
KKAR	**Karatay Array**	**62.63**	**319**	P	**P**	**08 00 33.3**	**-0.6**
SEY	**Seymchan**	**65.62**	**14**	P	**P**	**08 00 53.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=230,slow=9.1,SNR=6.5						
BVAR	**Borovoye Array**	**67.53**	**329**	P	**P**	**08 01 05.9**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=187,slow=24,SNR=19						
BRVK	**Borovoye**	**67.61**	**329**	P	**P**	**08 01 05.8**	**-0.1**
BRVK				IAmb	IAmb	08 01 07.2	
	comp=Z,15nm,1.1s						
GEYT	**Alibeck**	**69.59**	**310**	P	**P**	**08 01 19.6**	**+1.0**
	comp=Z,24nm,0.6s,baz=220,slow=21,SNR=6.7						
TIXI	**Tiksi**	**70.67**	**2**	P	**P**	**08 01 23.3**	**-1.2**
	comp=Z,4.8nm,0.8s,baz=154,slow=3.9,SNR=5.7						
TIXI	**Tiksi**	**70.67**	**2**	P	**P**	**08 01 23.1**	**-1.3**
TIXI				IAmb	IAmb	08 01 24.4	
	comp=Z,5.5nm,0.8s						
ABKAR	**Akbulak array**	**71.82**	**322**	P	**P**	**08 01 31.6**	**-0.3**
ABKAR				IAmb	IAmb	08 01 32.9	
	comp=Z,8.5nm,1.1s						
AKTO	**Aktyubinsk**	**73.40**	**323**	P	**P**	**08 01 41.4**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=112,slow=7.0,SNR=15						
ARU	**Arti**	**75.18**	**329**	P	**P**	**08 01 51.0**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=60,slow=3.3,SNR=11						
ARU	**Arti**	**75.18**	**329**	P	**P**	**08 01 51.1**	**-0.4**
ARU				IAmb	IAmb	08 01 52.4	
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**81.24**	**172**	P	**P**	**08 02 24.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=326,slow=6.8,SNR=6.9						
VNDA	**Vanda**	**81.24**	**172**	P	**P**	**08 02 25.0**	**+0.4**
KBZ	**Khabaz**	**82.00**	**314**	P	**P**	**08 02 29.3**	**0.0**
	comp=Z,2.3nm,0.8s,baz=249,slow=1.2,SNR=4.5						
KLMR	**Klimovskoe**	**85.86**	**331**	P		08 02 43.8	-4.8
KLMR				AMP		08 02 49.6	
	comp=Z,3.0nm,0.6s						
KDAK	**Kodiak Island**	**86.31**	**32**	P	**P**	**08 02 50.3**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=214,slow=4.1,SNR=7.4						
IMAR	**Indian Mountai**	**86.44**	**24**	P	**P**	**08 02 51.7**	**+0.2**
MLY	**Manley**	**87.63**	**25**	P	**P**	**08 02 57.4**	**+0.2**
MLY				IAmb	IAmb	08 02 58.2	
	comp=Z,5.3nm,1.0s						
I23K	**Minto, Yukon-K**	**88.22**	**25**	P	**P**	**08 02 59.3**	**-0.7**
I23K				IAmb	IAmb	08 03 01.1	
	comp=Z,5.4nm,0.7s						
TOLK	**Toolik Lake Re**	**88.23**	**21**	P	**P**	**08 03 00.3**	**+0.2**
TOLK				IAmb	IAmb	08 03 01.6	
	comp=Z,9.9nm,1.5s						
NEA2	**Nenana**	**88.33**	**26**	P	**P**	**08 03 00.3**	**-0.2**
RND	**Reindeer**	**88.40**	**27**	P	**P**	**08 03 00.2**	**-0.7**
RND				IAmb	IAmb	08 03 00.8	
	comp=Z,4.7nm,0.8s						
SML	**Sawmill**	**88.62**	**28**	P	**P**	**08 03 01.7**	**-0.3**
BRTR	**Keskin Array B**	**88.72**	**310**	P	P	08 02 59.1	-4.0
	comp=Z,0.4nm,0.6s,baz=110,slow=3.8,SNR=2.8						
CCB	**Clear Creek Bu**	**88.87**	**26**	P	**P**	**08 03 01.8**	**-1.2**
CCB				IAmb	IAmb	08 03 02.9	
	comp=Z,2.4nm,0.6s						
ILAR	**Eielson Array**	**89.27**	**25**	P	**P**	**08 03 02.8**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=243,slow=4.9,SNR=11						
M24K	**Tolsona, Glenn**	**89.63**	**28**	P	**P**	**08 03 05.8**	**-1.0**
AKASG	**Malin Array Be**	**91.51**	**321**	LR	LR	08 50 46.6	
	comp=Z,45nm,19.5s,baz=10.0,slow=40						
ARCES	**ARCESS Array B**	**91.64**	**340**	P	**P**	**08 03 14.5**	**-1.4**
	comp=Z,2.6nm,0.9s,baz=93,slow=8.5,SNR=4.2						
MNK	**Minsk**	**92.06**	**324**	*i* P	P	08 03 13.5	-4.6
	comp=E,1.0nm,0.6s						
MNK				*i* P	P	08 03 13.5	-4.

comp=Z,0.5nm,0.8s,baz=277,slow=1.2,SNR=5.0
LPAZ La Paz 161.37 145 PKPab **PKPab 08 10 53.3 -2.1**
comp=Z,1.4nm,0.6s,baz=200,slow=4.7,SNR=2.0

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*IDC **19** 08:12:15.0±1.1,2.°12S×138.°65E,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.8/24,mbtmp3.9/7,ML4.2/1,MS3.2/7, Ms1 3.2/7,ms1mx3.0/32,Error ellipse: s-maj=59.8km s-min=20.9km az=84.0*
*NEIC **19** 08:12:24.2±1.0,2.°30S±0.°09×138.°51E±0.°10,h60km±7km, mb4.2/22,Error ellipse: s-maj=16.6km s-min=9.9km az=131.0*
ISC 19 08:12:20.1±0.7,2.°31S±0.°07×138.°64E±0.°09,h32km,n41, σ1º55/39,mb4.0/11,MS3.3/3,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.41**	**264**	Pn	**Pn**	**08 13 54.2**	**+1.8**
FAKI				Sn	**Sn**	**08 15 04.4**	**-0.1**
SIJI	**Sorong**	**7.51**	**281**	LR	LR	08 17 37.4	
	comp=Z,376nm,18.4s,baz=84,slow=43						
MTN	**Manton Dam**	**12.83**	**215**	Pn	**Pn**	**08 15 22.1**	**+1.7**
SOEI	**Soe**	**16.08**	**242**	Pn	**Pn**	**08 16 04.6**	**+0.4**
SOEI				IAmb	IAmb	08 16 29.3	
	comp=Z,43nm,1.2s						
KNRA	**Kununurra**	**16.47**	**216**	Pn	**P**	**08 16 10.3**	**-1.0**
KNRA				IAmb	IAmb	08 16 39.8	
	comp=Z,18nm,0.9s						
GUMO	**Guam**	**16.96**	**21**	LR	LR	08 22 25.6	
	comp=Z,35nm,21.1s,baz=206,slow=36						
WB0	**Warramunga Arr**	**17.84**	**193**	P	**P**	**08 16 27.5**	**+1.1**
WB0				IAmb	IAmb	08 16 39.4	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**17.99**	**193**	P	**P**	**08 16 28.2**	**+0.1**
WR0				IAmb	IAmb	08 16 56.0	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**18.01**	**193**	P	**P**	**08 16 30.3**	**+2.0**
WRAB				IAmb	IAmb	08 16 42.3	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**18.02**	**193**	P	**P**	**08 16 29.6**	**+1.2**
WB2				IAmb	IAmb	08 16 42.5	
	comp=Z,9.8nm,0.7s						
WRA	**Warramunga Arr**	**18.02**	**193**	P	**P**	**08 16 29.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=14,slow=13,SNR=19						
WRA				S	**Sn**	**08 19 41.5**	**-6.9**
	comp=Z,0.2nm,0.3s,baz=3.7,slow=23,SNR=5.2						
WRA				LR	LR	08 23 33.1	
	comp=Z,70nm,19.3s,baz=15,slow=37						
WRA	**Warramunga Arr**	**18.02**	**193**	P	**Pn**	**08 16 28.5**	**+0.3**
KAPI	**Kappang**	**19.04**	**261**	LR	LR	08 24 16.4	
	comp=Z,55nm,20.4s,baz=90,slow=38						
CTAO	**Charters Tower**	**19.17**	**158**	P	**Pn**	**08 16 43.7**	**+1.5**
CTAO				IAmb	IAmb	08 16 51.7	
	comp=Z,28nm,1.5s						
AS31	**Alice Springs**	**21.72**	**192**	P	**P**	**08 17 09.9**	**+1.2**
ASAR	**Alice Springs**	**21.72**	**192**	P	**P**	**08 17 09.3**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=21,slow=9.3,SNR=19						
ASAR				S	**S**	**08 21 07.3**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=10,slow=29,SNR=4.1						
ASAR				LR	LR	08 26 36.9	
	comp=Z,135nm,21.1s,baz=40,slow=39						
ASAR	**Alice Springs**	**21.72**	**192**		**P**	**08 17 09.1**	**+0.4**
EIDS	**Eidsvold**	**25.87**	**153**	P	**P**	**08 17 50.0**	**+0.9**
EIDS				IAmb	IAmb	08 17 55.5	
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**29.54**	**175**	P	**P**	**08 18 23.0**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=359,slow=7.2,SNR=4.0						
STKA	**Stephens Creek**	**29.54**	**175**	P	**P**	**08 18 22.3**	**+0.5**
FORT	**Forrest**	**30.03**	**198**	P	**P**	**08 18 27.0**	**+0.8**
BBOO	**Buckleboo**	**30.44**	**184**	P	**P**	**08 18 30.6**	**+0.8**
KSRS	**Korea Array**	**40.80**	**347**	LR	LR	08 33 49.4	
	comp=Z,29nm,21.4s,baz=157,slow=32						
SONM	**Songino Array**	**57.33**	**335**	LR	LR	08 45 27.0	
	comp=Z,34nm,21.9s,baz=215,slow=35						
MK31	**Makanchi Array**	**69.43**	**322**	P	**P**	**08 23 24.9**	**-0.3**
MKAR	**Makanchi Array**	**69.43**	**322**	P	**P**	**08 23 24.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=103,slow=7.8,SNR=7.9						
MKAR	**Makanchi Array**	**69.43**	**322**	P	**P**	**08 23 24.8**	**-0.4**
MAKZ	**Makanchi**	**69.63**	**322**	P	**P**	**08 23 26.1**	**-0.2**
MAKZ				IAmb	IAmb	08 23 55.3	
	comp=Z,2.3nm,0.5s						
NIL	**Nilore**	**71.03**	**307**	P	**P**	**08 23 34.7**	**-0.6**
ZALV	**Zalesovo Beam**	**71.56**	**330**	P	**P**	**08 23 36.3**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=129,slow=4.6,SNR=2.1						
VNDA	**Vanda**	**76.18**	**175**	P	**P**	**08 24 05.8**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=318,slow=7.8,SNR=2.2						
VNDA	**Vanda**	**76.18**	**175**	P	**P**	**08 24 05.5**	**+0.9**
BRVK	**Borovoye**	**79.02**	**325**	P	**P**	**08 24 19.5**	**-1.4**
BRVK				IAmb	IAmb	08 24 30.2	
	comp=Z,4.1nm,0.8s						
MAW	**Mawson**	**82.47**	**202**	P	**P**	**08 24 37.5**	**-1.5**
MAW				IAmb	IAmb	08 24 38.7	
	comp=Z,0.8nm,0.6s						
GEYT	**Alibeck**	**83.94**	**308**	P	**P**	**08 24 47.2**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**83.94**	**308**	P	**P**	**08 24 47.2**	**-0.2**
GYA0B				IAmb	IAmb	08 24 54.6	
	comp=Z,3.4nm,0.8s						
ABKAR	**Akbulak array**	**84.37**	**320**	P	**P**	**08 24 49.3**	**+0.1**
ILAR	**Eielson Array**	**85.50**	**24**	P	**P**	**08 24 52.1**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=243,slow=4.9,SNR=2.1						
BMAR	**Burnt Mountain**	**87.06**	**22**	P	**P**	**08 25 03.0**	**+0.7**
QSPA	**South Pole Qui**	**87.63**	**180**	P	**P**	**08 25 05.2**	**0.0**
LPAZ	**La Paz**	**147.74**	**126**	PKPbc	**PKiKP**	**08 32 05.2**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=180,slow=3.0,SNR=2.6						

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*TRN **19** 08:46:07.0,13.°91N×58.°50W,h101km,MD4.1*
ISC 19 08:46:05.8±2.4,13.°99N±0.°04×58.°5W±0.°1,h10km,n36, σ1º26/45,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.29**	**227**	*e*S	**Sn**	**08 46 49.3**	**+2.0**
BBGH	**Gun Hill**	**1.34**	**231**	*e*P	**Pg**	**08 46 31.6**	**0.0**
BBGH				*e*S	**Sg**	**08 46 50.3**	**+1.3**
MPOM	**Morne Pois Mar**	**2.34**	**281**	*e*P	**Pn**	**08 46 44.0**	**-0.4**
MCLT	**Moule a Chique**	**2.40**	**264**	*e*P	**Pn**	**08 46 45.3**	**+0.1**
MCLT				*e*S	**Sn**	**08 47 14.5**	**-0.2**
MVM	**Montagne Vaucl**	**2.40**	**284**	*e*P	**Pn**	**08 46 45.7**	**+0.5**
SLBI	**Saint Lucia, B**	**2.42**	**271**	*e*P	**Pn**	**08 46 45.4**	**0.0**
SLBI				*e*S	**Sn**	**08 47 14.7**	**-0.3**
SLCP	**Castries, St.**	**2.43**	**271**	*e*P	**Pn**	**08 46 46.2**	**+0.7**
LPMF	**Morne Lapointe**	**2.47**	**284**	*e*P	**Pn**	**08 46 46.4**	**+0.2**
ZAM	**Aeronautique**	**2.53**	**283**	*e*P	**Pn**	**08 46 47.4**	**+0.4**
TRMF	**Trois Ilets**	**2.54**	**283**	*e*P	**Pn**	**08 46 48.1**	**+0.9**
BIM	**Bigot**	**2.56**	**282**	*e*P	**Pn**	**08 46 48.1**	**+0.6**
FDF	**Fort de France**	**2.69**	**286**	*e*P	**Pn**	**08 46 50.1**	**+1.0**
BAMF	**Morne Balai**	**2.71**	**288**	*e*P	**Pn**	**08 46 50.8**	**+1.4**
GBMF	**Grand Be**	**2.72**	**287**	*e*P	**Pn**	**08 46 51.3**	**+1.7**
PML	**Morne Lenard**	**2.73**	**287**	*e*P	**Pn**	**08 46 51.1**	**+1.4**
SVN	**Savane Anatole**	**2.73**	**288**	*e*P	**Pn**	**08 46 51.2**	**+1.4**
PCM	**Pelee Case Pet**	**2.76**	**288**	*e*P	**Pn**	**08 46 51.5**	**+1.3**
SVB	**Belmont**	**2.78**	**255**	*e*P	**Pn**	**08 46 50.4**	**-0.1**
SVB				*e*S	**Sn**	**08 47 22.0**	**-2.2**
DSLB	**Salisbury**	**3.18**	**297**	*e*P	**Pn**	**08 46 57.3**	**+1.3**
DSLB				*e*S	**Sn**	**08 47 33.7**	**-0.3**
GCMP	**Grenada, Carri**	**3.23**	**243**	*e*P	**Pn**	**08 46 56.8**	**+0.2**
GCMP				*e*S	**Sn**	**08 47 32.5**	**-2.7**
MAGL	**Barre de l'ile**	**3.33**	**306**	*e*P	**Pn**	**08 46 59.6**	**+1.6**
MAGL				*e*S	**Sn**	**08 47 38.4**	**+0.7**
TOSP	**Speyside**	**3.34**	**217**	*e*P	**Pn**	**08 46 57.8**	**-0.3**
TDBA	**Terre de Bas,**	**3.56**	**302**	*e*P	**Pn**	**08 47 02.5**	**+1.3**
TDBA				*e*S	**Sn**	**08 47 43.0**	**-0.3**
TBG	**Guadaloupe-3**	**3.57**	**302**	*e*P	**Pn**	**08 47 02.8**	**+1.5**
TBG				*e*S	**Sn**	**08 47 43.0**	**-0.5**
GRGR	**Grenville**	**3.60**	**239**	*e*P	**Pn**	**08 47 01.6**	**0.0**
ABD	**La Joyeuse, An**	**3.81**	**311**	*e*P	**Pn**	**08 47 05.9**	**+1.4**
TRN	**Trinidad (W)**	**4.38**	**221**	*e*P	**Pn**	**08 47 12.7**	**+0.3**
ANBD	**Bethesda, Anti**	**4.38**	**314**	*e*P	**Pn**	**08 47 13.6**	**+1.1**
ANBD	**Bethesda, Anti**	**4.38**	**314**	*e*S	**Sn**	**08 48 02.7**	**-0.9**
BPA	**Boggy Peak**	**4.45**	**313**	*e*P	**Pn**	**08 47 14.4**	**+1.0**
BPA	**Boggy Peak**	**4.45**	**313**	*e*S	**Sn**	**08 48 03.0**	**-2.2**
ANOC	**Antigua Open C**	**4.48**	**314**	*e*P	**Pn**	**08 47 14.4**	**+0.6**
ANWB	**Willy Bob**	**4.84**	**319**	*e*P	**Pn**	**08 47 19.0**	**+0.3**
ANWB	**Willy Bob**	**4.84**	**319**	*e*S	**Sn**	**08 48 12.2**	**-2.7**
SKI	**Saint Kitts**	**5.27**	**310**	*e*P	**Pn**	**08 47 24.6**	**-0.2**
SKI	**Saint Kitts**	**5.27**	**310**	*e*S	**Sn**	**08 48 22.8**	**-2.9**

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*IDC **19** 09:22:29.6±5.4,7.°41S×128.°67E,h101km±59km,mb3.4/2, mb1 3.5/5,mb1mx3.3/25,mbtmp3.8/5,Error ellipse: s-maj=91.1km s-min=22.7km az=76.0*

*NEIC **19** 09:22:32.8±1.2,7.°24S±0.°07×129.°26E±0.°09,h125km±5km, mb4.2/11,Error ellipse: s-maj=12.6km s-min=9.8km az=80.0*
ISC 19 09:22:30.3±0.6,7.°28S±0.°06×129.°2E±0.°1,h100km,n31, σ1º94/33,mb4.3/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.20**	**108**	Pn	**Pn**	**09 23 07.5**	**+2.0**
FAKI	**Fak Fak**	**5.30**	**35**	Pn	**Pn**	**09 23 48.4**	**+1.3**
SOEI	**Soe**	**5.45**	**243**	Pn	**Pn**	**09 23 52.8**	**+3.6**
MTN	**Manton Dam**	**5.85**	**161**	Pn	**Pn**	**09 23 58.9**	**+4.4**
SIJI	**Sorong**	**6.70**	**18**	P	**Pn**	**09 24 09.6**	**+3.5**
	1.6nm,0.3s,baz=188,slow=21,SNR=2.6						
SIJI				S	**Sn**	**09 25 20.7**	**-0.4**
	0.9nm,0.3s,baz=83,slow=23,SNR=1.8						
KNRA	**Kununurra**	**8.35**	**183**	Pn	**Pn**	**09 24 30.7**	**+2.1**
WB0	**Warramunga Arr**	**13.40**	**158**		**Pn**	**09 25 37.6**	**+1.1**
WRAB	**Tennant Creek**	**13.53**	**159**	Pn	**Pn**	**09 25 39.9**	**+1.7**
WRA	**Warramunga Arr**	**13.54**	**159**	P	**Pn**	**09 25 37.1**	**-1.2**
	0.8nm,0.3s,baz=335,slow=11,SNR=43						
WRA				S	Sn	09 27 59.4	-8.0
	1.0nm,0.3s,baz=330,slow=24,SNR=6.8						
WRA	**Warramunga Arr**	**13.54**	**159**		**Pn**	**09 25 40.1**	**+1.8**
WB2	**Warramunga Arr**	**13.54**	**159**	Pn	**Pn**	**09 25 40.0**	**+1.6**
WR0	**Warramunga Arr**	**13.63**	**158**	Pn	**Pn**	**09 25 40.5**	**+1.0**
AS31	**Alice Springs**	**16.91**	**165**	P	**Pn**	**09 26 21.0**	**+0.2**
ASAR	**Alice Springs**	**16.91**	**165**	P	**Pn**	**09 26 22.1**	**+1.3**
	0.3nm,0.3s,baz=338,slow=9.0,SNR=11						
ASAR				S	**Sn**	**09 29 23.4**	**-5.3**
	0.3nm,0.3s,baz=346,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**16.91**	**165**	P	**Pn**	**09 26 21.2**	**+0.3**
GIRL	**Giralia**	**20.99**	**222**	P	**P**	**09 27 06.8**	**+1.1**
FORT	**Forrest**	**23.40**	**182**	P	**P**	**09 27 31.1**	**+0.8**
FORT				IAmb	IAmb	09 27 38.1	
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**26.19**	**167**	P	**P**	**09 27 55.9**	**+0.3**
BBOO				IAmb	IAmb	09 28 01.8	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**09 28 03.5**	**0.0**
	comp=Z,1.2nm,0.8s,baz=342,slow=9.6,SNR=3.4						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**09 28 03.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**27.83**	**202**	P	**P**	**09 28 10.7**	**+0.5**
NWAO				IAmb	IAmb	09 28 36.0	
	comp=Z,22nm,1.2s						
KSAR	**Wonju Array Be**	**44.51**	**359**	P	**P**	**09 30 30.8**	**-1.0**
KS19	**Wonju Array Si**	**44.57**	**359**	P	**P**	**09 30 30.8**	**-1.5**
KS19				IAmb	IAmb	09 30 51.9	
	comp=Z,14nm,1.4s						
MCQ	**Macquarie Isla**	**52.80**	**159**	P	**P**	**09 31 35.4**	**+0.4**
PLWZ	**Palliser**	**53.15**	**138**	P	**P**	**09 31 37.1**	**-0.9**
MK31	**Makanchi Array**	**68.03**	**327**	P	**P**	**09 33 18.7**	**-0.3**
MK31				IAmb	IAmb	09 33 20.5	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**09 33 17.0**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=117,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**09 33 17.4**	**-1.6**
KK31	**Karatay Array**	**73.03**	**319**	P	**P**	**09 33 49.5**	**0.0**
KK31				IAmb	IAmb	09 34 13.8	
	comp=Z,1.1nm,0.8s						
KKAR	**Karatay Array**	**73.03**	**319**	P	**P**	**09 33 48.8**	**-0.7**
QSPA	**South Pole Qui**	**82.69**	**180**	P	**P**	**09 34 40.9**	**-1.8**
QSPA				IAmb	IAmb	09 35 05.6	
	comp=Z,6.3nm,1.5s						

MAN 19 09:24:54.9,9.°30N×127.°28E,h8km,mb4.6,ML3.5,MS3.4, Philippine Islands region

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*INET **19** 09:25:59.6,12.°69N×86.°92W,h14km,MW4.2*
*SNET **19** 09:26:01.4±0.7,12.°65N×86.°89W,h25km±8km,ML3.4*
*UCR **19** 09:26:04.5±1.8,12.°69N×86.°93W,h18km±10km,ML3.4, MW3.9*
ISC 19 09:26:03.7±1.0,12.°72N±0.°06×86.°94W±0.°06,h10km,n31, σ0º98/39,2D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.04**	**303**	*e*P	**Pg**	**09 26 22.9**	**-0.8**
CNCH				*e*S	**Sn**	**09 26 40.3**	**+1.2**
CNCH	**Conchagua**	**1.04**	**303**	*e*P	**Pg**	**09 26 22.9**	**-0.8**
CNCH				*e*S	**Sn**	**09 26 40.3**	**+1.2**
LCND	**La Caada**	**1.10**	**302**	*e*P	**Pb**	**09 26 23.4**	**-1.5**
LCND				IAML		09 26 25.0	
	comp=Z,1μm,0.5s						
LCND				*e*S	**Sb**	**09 26 40.6**	**+1.3**
LCND	**La Caada**	**1.10**	**302**	*e*P	**Pb**	**09 26 23.4**	**-1.5**
LCND				IAML		09 26 25.0	
	comp=Z,1μm,0.5s						
LCND				*e*S	**Sb**	**09 26 40.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.37**	**346**	*e*P	**Pn**	**09 26 28.2**	**-0.9**
TGUH				*e*S	**Sb**	**09 26 48.7**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.37**	**346**	*e*P	**Pn**	**09 26 28.2**	**-0.9**
TGUH				*e*S	**Sb**	**09 26 48.7**	**+1.4**
JUCU	**Jucuarı́n**	**1.39**	**293**	*e*P	**Pn**	**09 26 28.1**	**-1.1**
JUCU				IAML		09 26 35.9	
	comp=Z,467nm,0.4s						
JUCU				*e*S	**Sg**	**09 26 49.4**	**+1.0**
JUCU	**Jucuarı́n**	**1.39**	**293**	*e*P	**Pn**	**09 26 28.1**	**-1.1**
JUCU				IAML		09 26 35.9	
	comp=Z,467nm,0.4s						
JUCU				*e*S	**Sg**	**09 26 49.4**	**+1.0**
ALJI	**Alcalda de J**	**1.71**	**291**	*e*P	**Pn**	**09 26 33.1**	**-0.4**
ALJI	**Alcalda de J**	**1.71**	**291**	*e*P	**Pn**	**09 26 33.1**	**-0.4**
TECA	**Tecapa**	**1.71**	**297**	*e*P	**Pn**	**09 26 33.8**	**0.0**
TECA	**Tecapa**	**1.71**	**297**	*e*P	**Pn**	**09 26 33.8**	**0.0**
COEB	**Comit de Eme**	**1.74**	**297**	*e*P	**Pn**	**09 26 33.6**	**-0.5**
COEB				IAML		09 26 40.1	
	comp=Z,360nm,0.5s						
COEB	**Comit de Eme**	**1.74**	**297**	*e*P	**Pn**	**09 26 33.6**	**-0.5**
COEB				IAML		09 26 40.1	
	comp=Z,360nm,0.5s						
PQSS	**Presa 15 de Se**	**1.82**	**300**	*e*P	**Pn**	**09 26 34.9**	**-0.3**
TECO	**Alcaldia de Te**	**1.97**	**295**	*e*P	**Pn**	**09 26 36.9**	**-0.4**
COEG	**Centro de Oper**	**2.10**	**296**	*e*P	**Pn**	**09 26 38.9**	**-0.1**
COEG	**Centro de Oper**	**2.10**	**296**	*e*P	**Pn**	**09 26 38.9**	**-0.1**
SJTE	**Alcalda de S**	**2.21**	**294**	*e*P	**Pn**	**09 26 40.4**	**-0.1**
SJTE	**Alcalda de S**	**2.21**	**294**	*e*P	**Pn**	**09 26 40.4**	**-0.1**
LFRS	**El Faro**	**2.26**	**294**	*e*P	**Pn**	**09 26 41.6**	**+0.3**
LFRS	**El Faro**	**2.26**	**294**	*e*P	**Pn**	**09 26 41.6**	**+0.3**
BUEV	**Buena Vista**	**2.42**	**142**	*e*S	**Sn**	**09 27 11.9**	**-1.3**
CEVE	**Cerro Verde**	**2.84**	**293**	*e*P	**Pn**	**09 26 50.1**	**+0.7**
CEVE	**Cerro Verde**	**2.84**	**293**	*e*P	**Pn**	**09 26 50.1**	**+0.7**
SAJU	**San Juanillo,**	**2.89**	**155**	*e*P	**Pn**	**09 26 49.4**	**-0.5**
JTS	**Las Juntas de**	**3.10**	**141**	*e*P	**Pn**	**09 26 51.8**	**-0.9**
ARE1	**Arenal 1**	**3.12**	**136**	*e*P	**Pn**	**09 26 55.2**	**+2.2**
OCM	**Ochomogo**	**4.05**	**134**	*e*P	**Pn**	**09 27 06.6**	**+0.7**
LCR2	**La Lucha 2**	**4.12**	**135**	*e*P	**Pn**	**09 27 07.3**	**+0.3**
RIMA	**Rio Macho**	**4.20**	**134**	*e*P	**Pn**	**09 27 09.3**	**+1.2**

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*NNC **19** 09:28:20.3±0.6,43.°12N×78.°75E,h2km±3km,mb3.1, mpv2.9,Error ellipse: s-maj=5.1km s-min=2.8km az=174.0*
*KRNET **19** 09:28:21.0±0.1,43.°15N×78.°75E,h15km,mb2.4*
*SOME **19** 09:28:22.0,43.°17N×78.°73E,h10km*
ISC 19 09:28:21.1±1.0,43.°16N±0.°02×78.°72E±0.°02,h4km±9km, n30,σ0º94/56,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.22**	**93**	*e*P	**Pg**	**09 28 25.4**	**-0.1**
	baz=91						
UZB				*e*S	**Sg**	**09 28 28.2**	**-0.2**
	baz=91						
UZB	**Uzynbulak**	**0.22**	**93**	*e*P	**Pg**	**09 28 25.4**	**-0.1**
	34nm,0.1s						
UZB				*e*S	**Sg**	**09 28 28.2**	**-0.2**
	323nm,0.1s						
UZB	**Uzynbulak**	**0.22**	**93**	P	**Pg**	**09 28 25.3**	**-0.1**
	34nm,0.1s						
UZB				S	**Sg**	**09 28 28.3**	**-0.2**
	323nm,0.1s						
SATY	**Saty**	**0.25**	**247**	*e*P	**Pg**	**09 28 26.7**	**+0.7**
	baz=50						
SATY				*e*S	**Sg**	**09 28 30.3**	**+1.0**
	baz=50						
SATY	**Saty**	**0.25**	**247**	*e*P	**Pg**	**09 28 26.7**	**+0.7**
	4.8nm,0.1s						
SATY				*e*S	**Sg**	**09 28 30.3**	**+1.0**
	122nm,0.1s						
SATY	**Saty**	**0.25**	**247**	P	**Pg**	**09 28 25.5**	**-0.5**
	4.8nm,0.1s						
SATY				S	**Sg**	**09 28 30.3**	**+1.0**
	122nm,0.1s						
KPKS	**Kokpek**	**0.31**	**355**	*e*P	**Pg**	**09 28 27.5**	**+0.4**
	baz=52						
KPKS				*e*S	**Sg**	**09 28 31.9**	**+0.7**
	baz=52						
KPKS	**Kokpek**	**0.31**	**355**	*e*P	**Pg**	**09 28 27.5**	**+0.4**
	13nm,0.1s						
KPKS				*e*S	**Sg**	**09 28 32.0**	**+0.7**
	75nm,0.3s						
SHLS	**Shalkode**	**0.54**	**90**	*e*P	**Pn**	**09 28 36.8**	**+1.0**
	2.9nm,0.2s						
SHLS				*e*S	**Sn**	**09 28 47.5**	**+2.1**
	4.9nm,0.1s						
SHLS	**Shalkode**	**0.54**	**90**	P	**Pn**	**09 28 35.9**	**+0.1**
	2.9nm,0.1s						
SHLS				S	**Sn**	**09 28 47.9**	**+2.5**
	8.9nm,0.2s						
PDGK	**Podgornoye**	**0.59**	**73**	P	**Pg**	**09 28 30.8**	**-1.6**
	1.3nm,0.3s						
PDGK				S	**Sg**	**09 28 39.3**	**-0.8**
	4.5nm,0.5s						
PRZ	**Przheval'sk**	**0.71**	**199**	⇓*i*P	**Pg**	**09 28 34.4**	**-0.4**
	baz=2.0						
PRZ				⇓*i*S	**Sg**	**09 28 44.1**	**0.0**
	baz=2.0						
ANVS	**Anan'yevo**	**0.86**	**244**	⇑*i*P	**Pg**	**09 28 38.0**	**+0.4**
	baz=46						
ANVS				⇑*i*S	**Sg**	**09 28 49.3**	**+0.5**
	baz=46						
ARXS	**Arharly**	**1.24**	**329**	*e*P	**Pn**	**09 28 44.7**	**-0.6**
	4.6nm,0.2s						
ARXS				*e*S	**Sg**	**09 29 01.5**	**+0.6**
	4.7nm,0.3s						
ARXS	**Arharly**	**1.24**	**329**	P	**Pn**	**09 28 44.2**	**-1.1**
	4.6nm,0.2s						
ARXS				S	**Sn**	**09 29 01.8**	**-0.7**
	4.7nm,0.3s						
DJR	**Jarkent**	**1.41**	**33**	*e*P	**Pg**	**09 28 47.8**	**-0.2**
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**09 29 06.7**	**+0.4**
	2.2nm,0.3s						
DJR	**Jarkent**	**1.41**	**33**	P	**Pg**	**09 28 48.1**	**0.0**
	0.6nm,0.1s						
DJR				S	**Sg**	**09 29 08.7**	**+2.4**
	2.2nm,0.3s						
KDJ	**Kajisay**	**1.53**	**228**	⇑*i*P	**Pb**	**09 28 49.6**	**-0.6**
	baz=29						
KDJ				⇑*i*S	**Sb**	**09 29 09.9**	**-0.1**
	baz=29						
KTBS	**Karatobe**	**1.58**	**291**	*e*P	**Pb**	**09 28 50.9**	**-0.1**
	4.1nm,0.2s						
KTBS				*e*S	**Sb**	**09 29 11.9**	**+0.5**
	14nm,0.4s						
KTBS	**Karatobe**	**1.58**	**291**	P	**Pn**	**09 28 50.0**	**-0.1**
	4.1nm,0.2s						
KTBS				S	**Sb**	**09 29 11.9**	**+0.5**
	14nm,0.4s						
KST	**Kastek**	**2.02**	**268**	*e*P	**Pb**	**09 28 59.0**	**+0.4**
	1.6nm,0.2s						
KST				*e*S	**Sg**	**09 29 25.9**	**-0.2**
	3.5nm,0.3s						
KST	**Kastek**	**2.02**	**268**	Pg	**Pb**	**09 28 58.1**	**-0.5**
	1.7nm,0.3s						
KST				Lg	Lg	09 29 26.9	
	3.5nm,0.3s						
BOOM	**Boomskoye usch**	**2.15**	**253**	⇑*i*P	**Pb**	**09 28 59.4**	**-1.4**
	baz=53						
BOOM				⇑*i*S	**Sb**	**09 29 27.2**	**-0.7**
	baz=53						
DGS	**Degeres**	**2.16**	**273**	*e*P	**Pb**	**09 29 01.6**	**+0.8**
	3.3nm,0.4s						
DGS				*e*S	**Sg**	**09 29 30.2**	**-0.3**
	9.4nm,0.4s						
DGS	**Degeres**	**2.16**	**273**	Pg	**Pb**	**09 28 59.8**	**-1.0**
	3.3nm,0.4s						
DGS				Lg	Lg	09 29 30.0	
	9.4nm,0.4s						
KAPS	**Kapalarasan**	**2.17**	**12**	*e*P	**Pb**	**09 29 00.9**	**-0.1**
	0.7nm,0.4s						
KAPS				*e*S	**Sg**	**09 29 29.4**	**-1.6**
	0.4nm,0.2s						
KAPS	**Kapalarasan**	**2.17**	**12**	Pg	**Pb**	**09 29 00.4**	**-0.7**
	0.7nm,0.4s						
KAPS				Lg	Lg	09 29 29.6	
	0.4nm,0.2s						
KRBS	**Karabastau**	**2.28**	**285**	*e*P	**Pb**	**09 29 03.4**	**+0.5**
	2.5nm,0.3

ICMP IAML 09 45 25.1
comp=E,55nm,0.7s
GCPR Guaynabo City 1.71 112⇑ eP Pn 09 44 56.0 -0.2
GCPR Guaynabo City 1.71 112 eS Sn 09 45 17.8 +0.3
GCPR Guaynabo City 1.71 112 Pn **Pn 09 44 55.6 -0.6**
GCPR IAML 09 45 25.3
comp=N,40nm,0.6s
GCPR Guaynabo City 1.71 112 Sn 09 45 17.8 +0.3
SJG San Juan 1.74 119 Pn 09 44 56.0 -0.5
SJG IAML 09 45 21.3
comp=N,74nm,0.4s
SJG IAML 09 45 21.4
comp=N,69nm,0.3s
IGPR InterUniversit 1.85 122⇑ eP Pn 09 44 58.3 +0.2
IGPR InterUniversit 1.85 122 eS Sn 09 45 21.2 +0.3
PDPR Patillas Dam, 1.89 120 Pn **Pn 09 44 58.3 -0.4**
PDPR IAML 09 45 48.2
comp=E,53nm,3.3s
CBYP Canovanas 1.93 111⇑ eP Pn 09 44 59.2 0.0
CBYP Canovanas 1.93 111 eS Sn 09 45 23.6 +0.8
CBYP Canovanas 1.93 111 Pn 09 44 58.3 -0.8
MTP Monte Pirata 2.26 112⇑ eP Pn 09 45 03.8 +0.1
MTP Monte Pirata 2.26 112 eS Sn 09 45 31.2 +0.2
MTP Monte Pirata 2.26 112 Pn **Pn 09 45 04.0 +0.3**
MTP Monte Pirata 2.26 112 Sn 09 45 31.2 +0.2
CUPR Culebra, Puert 2.43 105⇑ eP Pn 09 45 06.6 +0.5
CUPR Culebra, Puert 2.43 105 eS Sn 09 45 35.3 0.0
CUPR Culebra, Puert 2.43 105 Pn **Pn 09 45 06.2 +0.2**
CUPR Culebra, Puert 2.43 105 Sn 09 45 35.3 0.0
STVI Saint Thomas 2.72 103⇑ eP Pn 09 45 11.2 +1.2
STVI Saint Thomas 2.72 103 eS Sn 09 45 42.4 0.0
STVI Saint Thomas 2.72 103 Pn **Pn 09 45 09.2 -0.8**
STVI IAML 09 46 06.0
comp=N,20nm,1.9s
STVI IAML 09 46 31.2
comp=E,20nm,1.7s
STVI Saint Thomas 2.72 103 Sn 09 45 42.4 0.0
VGBI Virgin Gorda, 3.21 98⇑ eP Pn 09 45 18.0 +1.2
VGBI Virgin Gorda, 3.21 98 eS Sn 09 45 55.0 +0.5
VGBI Virgin Gorda, 3.21 98 Pn 09 45 18.0 +1.2
VGBI **Sn 09 45 55.0 +0.5**
JAKH Jacmel 4.58 262 Pn **Pn 09 45 32.8 -2.8**

*IDC **19** 09:51:45.2±1.7, 5°.06S×153°.49E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.6/28, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.4/25, Error ellipse: s-maj=60.9km s-min=29.6km az=106.0*
ISC 19 09:51:53.1±1.8, 5°.1S±0°.2×153°.4E±0°.4, h56km, n8, σ0§87/7, mb3.7/5, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.51**	**235**	LR	LR	09 56 14.5	
comp=Z,64nm,21.1s,baz=148,slow=35							
WRA	**Warramunga Arr**	**23.68**	**230**	P	**P**	**09 56 59.2**	**-0.8**
0.5nm,0.6s,baz=55,slow=10,SNR=5.5							
ASAR	**Alice Springs**	**26.32**	**224**	P	**P**	**09 57 24.6**	**+0.8**
0.3nm,0.6s,baz=54,slow=8.9,SNR=5.2							
SONM	**Songino Array**	**66.93**	**328**	P	**P**	**10 02 40.5**	**+0.7**
0.4nm,0.5s,baz=154,slow=4.4,SNR=2.3							
MKAR	**Makanchi Array**	**80.98**	**319**	P	**P**	**10 04 02.1**	**+0.3**
0.9nm,0.9s,baz=91,slow=6.9,SNR=5.9							
ZALV	**Zalesovo Beam**	**81.77**	**326**	P	**P**	**10 04 04.6**	**-1.2**
1.1nm,0.6s,baz=110,slow=6.1,SNR=4.8							
BDFB	**Brasilia**	**150.40**	**135**	PKPbc	**PKPbc**	**10 11 39.6**	**0.0**
1.0nm,0.4s,baz=158,slow=5.4,SNR=1.7							
TORD	**Torodi Ar. Bea**	**150.99**	**288**	PKPbc	**PKiKP**	**10 11 41.3**	**-0.1**
0.4nm,0.5s,baz=46,slow=1.8,SNR=3.8							

*NEIC **19** 09:57:43.8±1.1, 33°.37S±0°.07×176°.7W±0°.2, h38km±6km, mb4.4/9, Error ellipse: s-maj=19.3km s-min=8.6km az=73.0*
*IDC **19** 09:57:50.2±2.9, 32°.86S×178°.53W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=69.7km s-min=44.4km az=123.0*
*WEL **19** 09:57:54.8±1.4, 33°.S±26°.×17°.9W±3°.6, h165km±60km, M4.6/12, mB4.5/1, ML4.8/9, MLv4.6/12, Mw(mB)3.6/1, Error ellipse: s-maj=0.1km s-min=0.0km az=124.0*
ISC 19 09:57:57.7±2.3, 32°.9S±0°.1×179°.0W±0°.3, h45km, n37, σ1§78/44, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.18**	**205**	P	**Pn**	**09 59 13.0**	**+0.4**
WMGZ	**Waiomatatini S**	**5.37**	**203**	P	**Pn**	**09 59 14.4**	**-0.9**
WMGZ				S	**Sn**	**10 00 20.7**	**+4.8**
HAZ	**Te Kaha**	**5.54**	**208**	P	**Pn**	**09 59 17.0**	**-0.6**
HAZ				S	**Sn**	**10 00 22.6**	**+2.6**
PKGZ	**Pakihiroa**	**5.55**	**205**	P	**Pn**	**09 59 15.6**	**-2.2**
PKGZ				S	**Sn**	**10 00 20.8**	**+0.5**
PUZ	**Puketiti**	**5.65**	**203**	P	**Pn**	**09 59 17.1**	**-2.1**
PUZ				S	**Sn**	**10 00 24.4**	**+1.6**
RUGZ	**Raukumara Rang**	**5.77**	**207**	P	**Pn**	**09 59 18.9**	**-1.9**
RUGZ				S	**Sn**	**10 00 26.8**	**+1.1**
TWGZ	**Tauwhareparae**	**5.84**	**204**	P	**Pn**	**09 59 21.6**	**-0.1**
TWGZ				S	**Sn**	**10 00 28.6**	**+1.1**
CNGZ	**Carnagh Statio**	**6.05**	**202**	P	**Pn**	**09 59 23.3**	**-1.2**
MWZ	**Matawai**	**6.15**	**207**	P	**Pn**	**09 59 24.1**	**-1.9**
MWZ				S	**Sn**	**10 00 34.2**	**-0.7**
URZ	**Urewera**	**6.25**	**210**	Pn	**Pn**	**09 59 25.4**	**-1.9**
1.3nm,0.3s,baz=277,slow=2.7,SNR=13							
URZ				Sn	**Sn**	**10 00 38.4**	**+1.1**
1.4nm,0.3s,baz=138,slow=21,SNR=5.7							
URZ	**Urewera**	**6.25**	**210**		**Pn**	**09 59 24.0**	**-3.3**
URZ	**Urewera**	**6.25**	**210**	P	**Pn**	**09 59 24.3**	**-3.0**
URZ				S	**Sn**	**10 00 38.2**	**+0.9**
RAGZ	**Rawiri**	**6.33**	**207**	P	**Pn**	**09 59 26.5**	**-2.0**
RAGZ				S	**Sn**	**10 00 38.3**	**-1.2**
OUZ	**Omahuta**	**6.60**	**247**	Pn	Pn	09 59 39.0	+6.8
SNGZ	**Shannon Statio**	**6.61**	**206**	P	**Pn**	**09 59 31.3**	**-0.9**
SNGZ				S	**Sn**	**10 00 46.6**	**+0.3**
RAHZ	**Arahi**	**6.82**	**207**	P	**Pn**	**09 59 34.1**	**-1.1**
RAHZ				S	**Sn**	**10 00 50.6**	**-0.9**
MTHZ	**Maungataniwha**	**6.86**	**209**	P	**Pn**	**09 59 35.7**	**0.0**
MTHZ				S	**Sn**	**10 00 53.9**	**+1.4**
NMHZ	**Naumai**	**7.09**	**208**	P	**Pn**	**09 59 37.8**	**-1.0**
NMHZ				S	**Sn**	**10 00 59.1**	**+1.0**
BKZ	**Black Stump Fm**	**7.27**	**209**	Pn	Pn	09 59 36.0	-5.4
BKZ	**Black Stump Fm**	**7.27**	**209**	P	**Pn**	**09 59 40.6**	**-0.8**
BKZ				S	**Sn**	**10 01 01.3**	**-1.4**
SNZO	**South Karori**	**9.81**	**209**	Pn	Pn	10 00 10.4	-5.7
TUWZ	**Tuamarina**	**10.24**	**212**	Pn	**Pn**	**10 00 17.7**	**-4.2**
AS31	**Alice Springs**	**42.23**	**270**	P	**P**	**10 05 48.1**	**+1.5**
ASAR	**Alice Springs**	**42.23**	**270**	P	**P**	**10 05 48.2**	**+1.6**
0.4nm,0.6s,baz=112,slow=7.5,SNR=7.5							
ASAR	**Alice Springs**	**42.23**	**270**	P	**P**	**10 05 47.8**	**+1.2**
WR0	**Warramunga Arr**	**43.26**	**275**	P	**P**	**10 05 56.5**	**+1.5**
WR0				IAmb	IAmb	10 06 24.6	
comp=Z,6.4nm,1.4s							
WB2	**Warramunga Arr**	**43.43**	**275**	P	**P**	**10 05 57.6**	**+1.3**
WB2				IAmb	IAmb	10 06 06.3	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**43.44**	**275**	P	**P**	**10 05 58.0**	**+1.5**
comp=Z,1.0nm,0.4s,baz=114,slow=7.7,SNR=25							
WRA	**Warramunga Arr**	**43.44**	**275**	P	**P**	**10 05 57.7**	**+1.3**
WB0	**Warramunga Arr**	**43.48**	**276**	P	**P**	**10 05 58.0**	**+1.3**
WB0				IAmb	IAmb	10 06 25.7	
comp=Z,9.5nm,1.1s							
VNDA	**Vanda**	**45.55**	**186**	P	P	10 05 57.3	-15
VNDA				IAmb	IAmb	10 06 19.9	
comp=Z,4.1nm,1.5s							
KNRA	**Kununurra**	**50.13**	**277**	P	**P**	**10 06 49.4**	**+0.6**
QSPA	**South Pole Qui**	**57.23**	**180**	P	P	10 07 22.9	-17
QSPA				IAmb	IAmb	10 07 31.5	
comp=Z,8.9nm,1.4s							
KSAR	**Wonju Array Be**	**85.73**	**320**	P	P	10 10 24.4	-7.3
KS19	**Wonju Array Si**	**85.78**	**320**	P	P	10 10 24.6	-7.4
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	**PKPbc**	**10 17 34.1**	**-1.0**
comp=Z,1.2nm,0.5s,baz=64,slow=4.4,SNR=8.5							
FINES	**FINESS Array B**	**147.16**	**338**		PKPdf	10 17 20.8	-12

NNC 19 10:05:54.1±3.5, 37°.69N×78°.09E, h10km±17km, mb4.0, mpv3.7, 4C-7D, Error ellipse: s-maj=36.5km s-min=23.4km az=86.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**5.37**	**2**	Pg	Pg	10 07 33.7	-3.4
10nm,0.7s							
SATY				Lg	Lg	10 08 45.6	
15nm,0.6s							
MDOK	**Medeo**	**5.53**	**352**	Pg	Pb	10 07 35.5	+4.6
6.9nm,0.5s							
MDOK				Lg	Lg	10 08 50.6	
20nm,0.7s							
MDOK	**Medeo**	**5.53**	**352**	Pg	Pg	10 07 36.3	-3.7
10nm,0.5s							
MDOK				Lg	Lg	10 08 49.8	
15nm,0.6s							
TKM2	**Tokmak 2**	**5.56**	**341**	⇓Pg	Pb	10 07 33.0	+1.4
2.6nm,0.4s							
TKM2				⇑Lg	Lg	10 08 52.2	
4.7nm,0.7s							
AAK	**Ala-Archa**	**5.66**	**332**	⇑Pg	Pb	10 07 34.5	+1.4
3.5nm,0.5s							
AAK				⇓Lg	Lg	10 08 57.4	
7.8nm,0.8s							
PDGK	**Podgornoye**	**5.74**	**10**	⇑Pn	Pn	10 07 20.6	+1.0
1.7nm,0.4s							
PDGK				⇓Pg	Pb	10 07 36.1	+1.7
3.2nm,0.5s							
PDGK				⇓Lg	Lg	10 08 56.8	
14nm,0.8s							
KUU	**Kurty**	**6.34**	**348**	Pg	Pg	10 07 52.4	-3.2
2.3nm,0.3s							
KUU				Lg	Lg	10 09 17.2	
6.1nm,0.6s							
MAKZ	**Makanchi**	**9.56**	**16**	⇓Pn	Pn	10 08 12.8	+1.0
1.3nm,0.4s							
MAKZ				⇓Sn	Sn	10 10 00.5	+1.2
1.1nm,0.6s							
MK31	**Makanchi Array**	**9.62**	**18**	⇑Pn	Pn	10 08 12.9	+0.2
0.4nm,0.3s,baz=200,slow=12,SNR=27							
MK31				⇓Sn	Sn	10 09 59.4	-1.3
1.3nm,0.6s,baz=200,slow=24,SNR=5.8							

*GCG **19** 10:45:40.4±0.8, 13°.91N×92°.77W, h34km, MD4.1*
*IDC **19** 10:45:42.9±1.2, 14°.28N×91°.55W, h0km, mb3.9/13, mb1 4.2/14, mb1mx3.9/53, mbtmp3.9/14, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/49, Error ellipse: s-maj=42.0km s-min=19.5km az=43.0*
*NEIC **19** 10:45:50.1±1.4, 14°.02N±0°.08×92°.14W±0°.08, h52km±8km, mb4.2/79, Error ellipse: s-maj=13.7km s-min=9.2km az=224.0*
ISC 19 10:45:49.0±0.7, 13°.96N±0°.08×92°.21W±0°.07, h54km, n124, σ1§21/125, mb4.2/36, MS3.4/5, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.75**	**42**	Pn	**Pn**	**10 46 01.9**	**-1.8**
FUG	**Fuego 3**	**1.41**	**70**	⇓eP	**Pn**	**10 46 11.4**	**-1.2**
HUEH	**Huehuetenango**	**1.51**	**27**	Pn	**Pn**	**10 46 13.6**	**-0.5**
PCG	**Pacaya**	**1.61**	**74**	eP	**Pn**	**10 46 14.8**	**-0.6**
NBG	**Las Nubes**	**1.91**	**71**	eP	**Pn**	**10 46 20.1**	**+0.6**
NBG				eS	**Sn**	**10 46 49.0**	**+6.4**
CCIG	**Comitan**	**2.31**	**2**		**Pn**	**10 46 26.2**	**+1.4**
MTO3	**Montecristo**	**2.80**	**81**	Pn	**Pn**	**10 46 30.9**	**-0.7**
ESQI	**Esquipulas**	**2.85**	**78**	Pn	**Pn**	**10 46 31.6**	**-0.5**
SNET	**Serv Nac Est T**	**2.91**	**95**	Pn	**Pn**	**10 46 33.2**	**+0.3**
PETF	**Flores**	**3.71**	**37**	Pn	**Pn**	**10 46 43.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**4.79**	**88**	Pn	**Pn**	**10 46 57.8**	**-1.1**
CRIN	**San Cristobal**	**5.18**	**103**		**Pn**	**10 47 05.0**	**+0.9**
CNGN	**Cerro Negro**	**5.56**	**104**	Pn	**Pn**	**10 47 10.0**	**+0.7**
TLIG	**Tlapa**	**7.09**	**301**	Pn	**Pn**	**10 47 30.9**	**+0.6**
ACON	**Acoyapa**	**7.14**	**105**	Pn	**Pn**	**10 47 30.8**	**-0.2**
DUNO	**Dulce Nombre,**	**7.62**	**120**	Pn	**Pn**	**10 47 38.2**	**+0.7**
JTS	**Las Juntas de**	**7.98**	**116**	Pn	**Pn**	**10 47 41.7**	**-0.8**
0.4nm,0.3s,baz=177,slow=20,SNR=1.5							
JTS				Lg	Lg	10 49 42.4	
0.2nm,0.3s,baz=140,slow=24,SNR=6.0							
JTS	**Las Juntas de**	**7.98**	**116**		**Pn**	**10 47 42.7**	**+0.2**
RIMA	**Rio Macho**	**9.17**	**116**		**Pn**	**10 47 59.8**	**+0.8**
SRBA	**San Rafael, Bu**	**9.86**	**118**		**Pn**	**10 48 08.8**	**+0.4**
DRK0	**Durika**	**9.95**	**117**	Pn	**Pn**	**10 48 09.8**	**+0.3**
060A	**Indiantown**	**17.08**	**39**	P	**P**	**10 49 44.4**	**-0.9**
346A	**Big Creek Wild**	**17.53**	**8**		**Pn**	**10 49 48.7**	**-0.9**
553A	**Crawfordville**	**17.68**	**23**		**Pn**	**10 49 50.2**	**-1.3**
553A				IAmb	IAmb	10 50 03.4	
comp=Z,36nm,1.0s							
NATX	**Nacogdoches**	**17.86**	**353**	P	**P**	**10 49 53.9**	**+0.2**
NATX				IAmb	IAmb	10 49 57.3	
comp=Z,22nm,1.1s							
HPIG		**18.02**	**318**	P	**P**	**10 49 55.8**	**0.0**
TXAR	**Lajitas Array**	**18.62**	**327**	P	**P**	**10 50 02.8**	**+0.6**
comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=14							
TX31	**Lajitas Ar. Si**	**18.62**	**327**	P	**P**	**10 50 03.1**	**+0.9**
TX31				IAmb	IAmb	10 50 16.0	
comp=Z,18nm,1.1s							
TX32	**Lajitas Array**	**18.62**	**327**	P	**P**	**10 50 02.3**	**0.0**
352A	**Blakely**	**18.67**	**20**	P	**P**	**10 50 02.1**	**-0.7**
352A				IAmb	IAmb	10 50 10.5	
comp=Z,42nm,1.4s							
TIGA	**Tifton**	**19.11**	**23**	P	**Pn**	**10 50 07.7**	**-1.2**
TIGA				IAmb	IAmb	10 50 16.2	
comp=Z,18nm,0.9s							
OTAV	**Otavalo**	**19.27**	**134**	P	**P**	**10 50 09.6**	**-0.4**
Z38A	**Mt. Pleasant**	**19.38**	**353**	P	**P**	**10 50 10.6**	**+0.2**
Z38A				IAmb	IAmb	10 50 16.1	
comp=Z,24nm,1.4s							
Z47A	**Carrollton**	**19.52**	**10**	P	**Pn**	**10 50 12.5**	**-1.2**
Z47A				IAmb	IAmb	10 50 14.0	
comp=Z,14nm,0.8s							
LRAL	**Lakeview Retre**	**19.57**	**13**	P	**P**	**10 50 12.6**	**0.0**
WLAR	**White Oak Lake**	**19.66**	**358**		**P**	**10 50 14.1**	**+0.6**
WLAR				IAmb	IAmb	10 50 20.8	
comp=Z,19nm,1.0s							
ABTX	**Abilene, Hawle**	**19.78**	**341**	P	**P**	**10 50 15.3**	**+0.4**
LPIG	**La Paz**	**19.84**	**303**	LR	LR	10 58 11.2	
comp=Z,97nm,19.6s,baz=124,slow=37							
152A	**Waverly Hall**	**19.84**	**19**	P	**P**	**10 50 15.0**	**-0.5**
154A	**Montrose**	**20.34**	**23**	P	**P**	**10 50 21.1**	**+0.1**
154A				IAmb	IAmb	10 50 28.4	
comp=Z,17nm,0.8s							
RUSC	**La Rusia**	**20.46**	**111**		**P**	**10 50 22.3**	**-0.7**
RUSC				IAmb	IAmb	10 50 25.1	
comp=Z,13nm,1.2s							
MIAR	**Mount Ida**	**20.53**	**357**	P	**P**	**10 50 22.9**	**-0.1**
MIAR				IAmb	IAmb	10 50 44.5	
comp=Z,9.3nm,1.1s							
X37A	**Clayton**	**20.74**	**353**	P	**P**	**10 50 25.2**	**0.0**
X37A				IAmb	IAmb	10 50 33.2	
comp=Z,15nm,1.2s							
X48A	**Hartselle**	**20.93**	**12**	P	**P**	**10 50 27.4**	**+0.1**
X48A				IAmb	IAmb	10 50 36.1	
comp=Z,7.2nm,0.8s							
GOGA	**Godfrey**	**20.93**	**21**	P	**P**	**10 50 27.6**	**+0.2**
GOGA				IAmb	IAmb	10 50 35.4	
comp=Z,8.0nm,0.8s							
GDL2	**Guadalupe Moun**	**21.29**	**331**	P	**P**	**10 50 31.4**	**+0.1**
FPAL	**Fort Paine**	**21.34**	**15**	P	**P**	**10 50 31.9**	**+0.2**
FPAL				IAmb	IAmb	10 50 53.1	
comp=Z,11nm,0.9s							
MNTX	**Cornudas Mount**	**21.39**	**328**	P	**P**	**10 50 32.9**	**+0.6**
WMOK	**Wichita Mounta**	**21.52**	**345**	P	**P**	**10 50 33.7**	**0.0**
X51A	**Calhoun**	**21.57**	**17**	P	**P**	**10 50 34.4**	**+0.3**
X51A				IAmb	IAmb	10 50 43.2	
comp=Z,13nm,1.1s							
OK025	**Westminster Rd**	**22.02**	**349**	P	**P**	**10 50 38.2**	**-0.7**
HODGE	**Hodges**	**22.10**	**22**	P	**P**	**10 50 39.3**	**-0.5**
MSTX	**Muleshoe**	**22.10**	**336**	P	**P**	**10 50 39.8**	**-0.2**
MSTX				IAmb	IAmb	10 50 43.8	
comp=Z,7.2nm,1.0s							
BCOK	**Bluff Creek, N**	**22.14**	**348**	P	**P**	**10 50 39.3**	**-0.9**
V48A	**Smith Brothers**	**22.22**	**12**	P	**P**	**10 50 39.9**	**-1.2**
V48A				IAmb	IAmb	10 50 41.3	
comp=Z,7.7nm,0.9s							
OK031	**S. Brethren Rd**	**22.29**	**350**	P	**P**	**10 50 40.3**	**-1.6**
OK031				IAmb	IAmb	10 50 41.2	
comp=Z,8.3nm,0.6s							
AMTX	**Amarillo**	**22.52**	**339**	P	**P**	**10 50 44.1**	**-0.4**
CLTN	**Cedars of Leba**	**22.66**	**12**	P	**P**	**10 50 44.8**	**-1.0**
TKL	**Tuckaleechee C**	**22.90**	**18**	P	**P**	**10 50 44.6**	**-3.7**
comp=Z,1.8nm,0.7s,baz=190,slow=11,SNR=1.8							
TKL				LR	LR	11 01 14.3	
comp=Z,155nm,19.2s,baz=194,slow=42							
TKL	**Tuckaleechee C**	**22.90**	**18**	P	**P**	**10 50 48.5**	**+0.2**
V52A	**Sevierville**	**23.12**	**18**	P	**P**	**10 50 50.0**	**-0.6**
T35A	**Sooner Cattle**	**23.18**	**351**	P	**P**	**10 50 50.0**	**-1.1**
T35A				IAmb	IAmb	10 50 51.5	
comp=Z,7.7nm,0.9s							
U49A	**Red Boiling Sp**	**23.18**	**13**	P	**P**	**10 50 50.1**	**-1.1**
U49A				IAmb	IAmb	10 50 50.4	
comp=Z,6.3nm,0.8s							
T47A	**Sharon Grove**	**23.38**	**10**	P	**P**	**10 50 51.9**	**-1.1**
T47A				IAmb	IAmb	10 50 52.1	
comp=Z,9.8nm,1.1s							
S44A	**Carbondale**	**23.78**	**6**	P	**P**	**10 50 56.0**	**-0.7**
TZTN	**Tazewell**	**23.79**	**18**	P	**P**	**10 50 56.5**	**-0.3**
TZTN				IAmb	IAmb	10 51 10.4	
comp=Z,7.6nm,0.9s							
SIUC	**Southern Illin**	**23.81**	**6**	P	**P**	**10 50 55.8**	**-1.2**
V55A	**Taylorsville**	**23.93**	**22**	P	**P**	**10 50 57.7**	**-0.4**
V55A				IAmb	IAmb	10 51 20.1	
comp=Z,12nm,1.2s							
BNM	**Barren Site**	**23.97**	**329**	P	**P**	**10 50 59.6**	**+0.9**
ANMO	**Albuquerque**	**24.53**	**331**	P	**P**	**10 51 05.3**	**+1.5**
comp=Z,2.5nm,0.9s,baz=136,slow=12,SNR=7.9							
ANMO	**Albuquerque**	**24.53**	**331**	P	**P**	**10 51 04.8**	**+0.9**
WCI	**Wyandotte Cave**	**24.73**	**11**	P	**P**	**10 51 04.5**	**-0.9**
WCI				IAmb	IAmb	10 51 05.3	
comp=Z,11nm,0.8s							
OLIL	**Olney**	**24.94**	**8**	P	**P**	**10 51 06.6**	**-0.6**
ATAH	**Atahualpa**	**25.05**	**146**	LR	LR	11 00 03.4	
comp=Z,86nm,18.0s,baz=291,slow=34							
KSU1	**Kansas State U**	**25.34**	**352**	P	**P**	**10 51 10.1**	**-0.8**
T25A	**Trinidad**	**25.52**	**337**	P	**P**	**10 51 13.5**	**+0.7**
T25A				IAmb	IAmb	10 51 17.8	
comp=Z,5.1nm,0.8s							
SDCO	**Great Sand Dun**	**26.47**	**336**	P	**P**	**10 51 22.2**	**+0.7**
MVCO	**Mesa Verde**	**27.33**	**331**	P	**P**	**10 51 29.8**	**+0.6**
MVCO				IAmb	IAmb	10 51 32.3	
comp=Z,8.8nm,1.1s							
PV01	**Paradox Valley**	**28.11**	**332**	P	**P**	**10 51 36.6**	**+0.4**
PV01				IAmb	IAmb	10 51 39.4	
comp=Z,5.8nm,1.3s							
PFO	**Pinyon Flats O**	**29.45**	**316**	P	**P**	**10 51 49.5**	**+1.5**
comp=Z,0.3nm,0.6s,baz=14,slow=2.5,SNR=3.7							
PFO	**Pinyon Flats O**	**29.45**	**316**	P	**P**	**10 51 48.5**	**+0.6**
CCUT	**Cedar City**	**30.10**	**325**	P	**P**	**10 51 54.3**	**+0.4**
P17A	**Butcher Ranch,**	**30.20**	**331**	P	**P**	**10 51 55.8**	**+1.2**
P17A				IAmb	IAmb	10 51 57.4	
comp=Z,3.5nm,0.9s							
HWUT	**Hardware Ranch**	**32.27**	**332**	P	**P**	**10 52 13.1**	**+0.3**
PDAR	**Pinedale Array**	**32.37**	**336**	P	**P**	**10 52 14.0**	**+0.3**
comp=Z,0.6nm,0.9s,baz=134,slow=8.6,SNR=3.8							
PDAR				PcP	**PcP**	**10 55 01.6**	**+1.2**
comp=Z,0.3nm,0.6s,baz=124,slow=4.8,SNR=2.2							
REDW	**Red Top Meadow**	**33.39**	**335**	P	**P**	**10 52 23.4**	**+0.8**
ELK	**Elko**	**33.41**	**327**	P	**P**	**10 52 24.1**	**+1.2**
comp=Z,1.2nm,0.7s,baz=140,slow=7.6,SNR=8.5							
ELK	**Elko**	**33.41**	**327**	P	**P**	**10 52 22.9**	**+0.1**
SNOW	**Snow King Moun**	**33.43**	**335**	P	**P**	**10 52 23.4**	**+0.4**
NV11	**Mina Array Sit**	**33.48**	**321**	P	**P**	**10 52 24.3**	**+0.9**
NV11				IAmb	IAmb	10 52 26.8	
comp=Z,2.6nm,0.9s							
TPAW	**Teton Pass**	**33.54**	**335**	P	**P**	**10 52 24.7**	**+0.8**
TPAW				IAmb	IAmb	10 52 26.3	
comp=Z,9.0nm,1.4s							
NVAR	**Mina Array Bea**	**33.57**	**321**	P	**P**	**10 52 27.1**	**+2.8**
comp=Z,1.6nm,0.7s,baz=137,slow=8.5,SNR=18							
NVAR				PcP	**PcP**	**10 55 05.5**	**+1.6**
comp=Z,0.4nm,0.6s,baz=129,slow=2.9,SNR=2.9							
NVAR				LR	LR	11 05 44.3	
comp=Z,59nm,20.2s,baz=114,slow=36							
NVAR	**Mina Array Bea**	**33.57**	**321**	P	**P**	**10 52 24.1**	**-0.1**
KVN	**Kaiserville**	**33.85**	**322**	P	**P**	**10 52 27.9**	**+1.3**
KVN				IAmb	IAmb	10 52 29.8	
comp=Z,3.2nm,1.0s							
MCMT	**McKenzie Canyo**	**35.42**	**334**	P	**P**	**10 52 41.4**	**+1.2**
J08A	**Circle Bar Ran**	**36.96**	**328**	P	**P**	**10 52 54.5**	**+1.3**
F10A	**Beach Ranch, E**	**38.24**	**332**	P	**P**	**10 53 05.2**	**+1.2**
YBH	**Yreka Blue Hor**	**38.27**	**322**	LR	LR	11 08 40.4	
comp=Z,71nm,18.6s,baz=164,slow=36							
EDM	**Edmonton**	**42.60**	**341**	P	**P**	**10 53 39.9**	**+0.1**
EDM				IAmb	IAmb	10 53 41.3	
comp=Z,4.4nm,0.7s							
SIV	**San Ignacio**	**42.81**	**133**	P	**P**	**10 53 41.6**	**-0.4**
comp=Z,1.0nm,0.6s,baz=340,slow=8.4,SNR=6.1							
PGC	**Sidney**	**43.12**	**330**	P	**P**	**10 53 45.3**	**+1.4**
YKA	**Yellowknife Ar**	**51.02**	**347**	P	**P**	**10 54 45.9**	**+0.6**
comp=Z,2.8nm,0.7s,baz=153,slow=7.7,SNR=6.8							
DLBC	**Dease Lake**	**52.60**	**336**	P	**P**	**10 54 58.5**	**+1.2**
comp=Z,4.0nm,1.0s,baz=75,slow=6.7,SNR=5.5							
DLBC	**Dease Lake**	**52.60**	**336**	P	**P**	**10 54 58.0**	**+0.7**
DLBC				IAmb	IAmb	10 55 01.5	
comp=Z,5.1nm,1.1s							
BCAR	**Beaver Creek A**	**59.99**	**336**	P	**P**	**10 55 51.0**	**+1.2**
L27K	**Beaver Creek,**	**60.01**	**336**	P	**P**	**10 55 50.9**	**+1.0**
L27K				IAmb	IAmb	10 56 13.2	
comp=Z,4

K05A	Summer Lake	1.17 316	IAML			10 55 48.2	
	comp=E,358nm,1.1s						
K05A			IAML			10 55 48.2	
	comp=N,531nm,1.1s						
LASM	Arnica Sink	1.37 258			Pn	10 55 25.5	-1.8
LTIM	Timbered Crate	1.47 241			Pn	10 55 26.7	-1.8
HOG	Hogback Mounta	1.47 284			Pn	10 55 28.5	-0.2
M04C	Macdoel	1.54 266	P		Pn	10 55 27.8	-1.7
	baz=87,SNR=264						
M04C			S		Sg	10 55 52.1	+1.0
	baz=87						
M04C	Macdoel	1.54 266			Pn	10 55 27.8	-1.7
LBCM	Butte Creek Ri	1.58 228			Pn	10 55 28.0	-2.1
K04D	Chiloquin, OR	1.63 297	Pn		Pn	10 55 29.2	-1.6
	baz=116,SNR=59						
K04D			Pb		Pb	10 55 30.8	-1.2
	baz=116						
K04D			S		Sg	10 55 55.7	+1.7
	baz=116						
J05D	Fort Rock, OR	1.75 323	Pb		Pn	10 55 32.7	+0.2
	baz=140,SNR=200						
J05D			S		Sg	10 55 58.4	+0.4
	baz=140						
J05D	Fort Rock, OR	1.75 323			Pn	10 55 32.8	+0.3
J05D					Sg	10 55 59.4	+1.4
J08A	Circle Bar Ran	1.75 33	Pn		Pn	10 55 30.8	-1.7
J08A	Circle Bar Ran	1.75 33			Sn	10 55 55.0	0.0
L04D	Klamath Falls	1.90 281	P		Pn	10 55 32.7	-1.8
	baz=100,SNR=99						
L04D			S		Sg	10 56 03.1	+0.3
	baz=100						
TMBU	Tom Butte, New	1.98 330			Pn	10 55 36.0	+0.4
SVIC	Surveyors Ice	2.05 329			Pn	10 55 37.9	+1.3
SVIC					LR	10 56 07.7	
NCOR	Newberry Crate	2.06 332			Pb	10 55 38.4	-1.0
BEKR	Beckworth	2.07 192	Pn		Pn	10 55 36.2	-0.7
PINE	Pine Mountain	2.08 336			Pn	10 55 37.4	+0.4
PINE			IAML			10 56 08.5	
	comp=E,167nm,0.7s						
J04D	Umpqua Nationa	2.18 309	Pb		Pb	10 55 40.5	-0.9
	baz=126,SNR=29						
YBH	Yreka Blue Hor	2.19 267	Pn		Pn	10 55 37.3	-1.1
YBH			IAML			10 56 15.7	
	comp=N,50nm,1.7s						
I07A	Izee	2.19 5			Pn	10 55 38.2	-0.3
I07A			IAML			10 56 10.6	
	comp=N,143nm,0.6s						
I07A			IAML			10 56 18.3	
	comp=E,139nm,0.8s						
O03E	Paynes Creek	2.21 224	Pb		Pn	10 55 39.4	+0.7
	baz=46,SNR=42						
O03E			Sb		Sb	10 56 08.9	-0.5
	baz=46						
PAHR	Pah Rah Range	2.21 172	Pn		Pn	10 55 38.1	-0.7
M02C	Callahan	2.35 259	P		Pn	10 55 38.2	-2.4
	baz=78,SNR=7.6						
N02D	Trinity Center	2.38 248	Pb		Pn	10 55 42.3	+1.3
	baz=68,SNR=14						
N02D			Sb		Sb	10 56 16.1	+1.8
	baz=68						
HUMO	Hull Mountain	2.46 288	Pn		Pn	10 55 41.7	-0.3
HUMO			IAML			10 56 22.0	
	comp=N,53nm,0.8s						
HUMO			IAML			10 56 31.5	
	comp=E,48nm,1.1s						
WDC	Whiskeytown Da	2.46 239	Pn		Pn	10 55 42.1	+0.1
WDC			IAML			10 56 18.4	
	comp=N,37nm,1.1s						
VCNR	Virginia City	2.60 178			Pn	10 55 45.0	+0.8
VCNR			IAML			10 56 22.3	
	comp=N,89nm,0.5s						
VCNR			IAML			10 56 25.9	
	comp=E,106nm,1.0s						
ORV	Oroville	2.68 210			Pn	10 55 45.6	+0.5
I05D	Terrebonne, OR	2.69 336	Pb		Pb	10 55 48.9	-1.2
	baz=153,SNR=14						
I05D			Sb		Sg	10 56 26.7	-1.4
	baz=153						
I04A	Tendick Farm,	2.71 315	Pb		Pb	10 55 49.6	-0.7
	baz=133,SNR=9.9						
PNTR	Pine Nut	2.81 177			Pn	10 55 47.0	-0.1
PNTR			IAML			10 56 31.3	
	comp=E,57nm,1.0s						
PNTR			IAML			10 56 36.6	
	comp=N,54nm,1.5s						
O02D	Mt. Diablo Mer	2.85 234	Pb		Pb	10 55 50.5	-2.3
	baz=54,SNR=5.4						
O02D			Sb		Sb	10 56 28.8	+1.0
	baz=54						
L02E	Cave Junction	2.85 277	P		Pn	10 55 47.1	-0.4
	baz=95,SNR=31						
RUBR	Rubicon Trail	2.86 186	Pn		Pn	10 55 47.2	-0.6
RUBR			IAML			10 56 34.5	
	comp=N,46nm,2.4s						
RUBR			IAML			10 56 59.2	
	comp=E,43nm,2.4s						
YERR	Yerington	2.94 172			Pn	10 55 49.1	+0.3
YERR			IAML			10 56 34.6	
	comp=E,68nm,1.1s						
YERR			IAML			10 56 35.4	
	comp=N,62nm,1.0s						
K02D	Willamette Mer	2.98 287	P		Pn	10 55 49.7	+0.4
	baz=104,SNR=47						
AFDM	Forest Hills D	3.08 197			Pn	10 55 50.4	-0.2
KRMB	Red Mountain	3.11 264	Pn		Pn	10 55 50.3	-0.8
KRMB			IAML			10 56 37.0	
	comp=N,44nm,4.6s						
KRMB			IAML			10 56 52.1	
	comp=E,39nm,3.1s						
KVN	Kaiserville	3.12 155	Pn		Pn	10 55 50.9	-0.5
KVN			IAML			10 56 38.6	
	comp=E,28nm,2.0s						
KHMM	Horse Mountain	3.14 252			Pn	10 55 52.2	+0.7
KHMM			IAML			10 56 47.2	
	comp=E,68nm,3.9s						
KHMM			IAML			10 56 51.0	
	comp=N,63nm,1.7s						
BUCK	Buck Mountain	3.28 316	Pn		Pn	10 55 52.6	-0.8
BUCK			IAML			10 57 33.1	
	comp=N,54nm,2.6s						
H04A	Detroit Lake	3.29 329			Pn	10 55 54.3	+0.8
H04A			IAML			10 56 55.5	
	comp=E,26nm,2.3s						
H04A			IAML			10 56 56.7	
	comp=N,23nm,2.0s						
MFID	Camas Ranch	3.29 61	Pn		Pn	10 55 50.0	-3.6
KBO	Bosley Butte	3.32 277	Pn		Pn	10 55 53.7	-0.2
JCC	Jacoby Creek,	3.37 253	Pn		Pn	10 55 54.1	-0.4
JCC			IAML			10 56 59.5	
	comp=N,55nm,2.0s						
H04D	Lebanon	3.40 322	Pb		Pb	10 56 01.9	-0.2
	baz=139						
WAKR	Walker	3.40 175			Pn	10 55 54.1	-1.1
RYN	Ryan	3.41 163			Pn	10 55 54.6	-0.6
RYN			IAML			10 56 50.0	
	comp=E,32nm,2.1s						
RYN			IAML			10 56 55.4	
	comp=N,22nm,2.6s						
G08A	Pilot Rock	3.44 10			Pn	10 55 54.5	-1.2
BMO	Blue Mountains	3.46 31			Pn	10 55 55.1	-0.9
BMO			IAML			10 56 49.6	
	comp=N,20nm,0.6s						
BMO			IAML			10 56 50.4	
	comp=N,32nm,1.2s						
KEBM	Edson Butte	3.51 288	Pn		Pn	10 55 56.4	-0.1
G05D	Wamic, OR	3.52 342	Sb		Sb	10 56 50.1	+2.9
	baz=160						
ELK	Elko	3.61 107	Pn		Pn	10 55 59.5	+1.4
NVAR	Mina Array Bea	3.65 161			Pn	10 55 58.2	-0.4
NV11	Mina Array Sit	3.68 160			Pn	10 55 59.0	0.0
NV11			IAML			10 56 57.5	
	comp=E,19nm,2.1s						
NV11			IAML			10 57 07.1	
	comp=N,16nm,1.4s						
I02D	Swisshome	3.71 308	Pb		Pb	10 56 07.4	0.0
	baz=125						
COR	Corvallis	3.72 317	Pn		Pn	10 55 59.0	-0.3
LHV	Little Huntoon	3.77 164			Pn	10 56 00.5	+0.5
LHV			IAML			10 57 03.8	
	comp=E,43nm,2.6s						
LHV			IAML			10 57 18.6	
	comp=N,22nm,1.2s						
CMB	Columbia Colle	3.88 187			Pn	10 56 01.5	-0.2
F07A	Phinny Hill Vi	4.00 359			Pn	10 56 03.0	-0.1
F07A			IAML			10 57 14.9	
	comp=E,28nm,0.9s						
F07A			IAML			10 57 18.0	
	comp=N,16nm,1.1s						
F05D	White Salmon	4.17 344	Sb		Sb	10 57 10.5	+4.8
	baz=161						
MDPB	Devils Postpil	4.29 172			Pn	10 56 08.0	+0.5
TPH	Tonopah	4.30 152			Pn	10 56 07.2	-0.3
TPH	Tonopah	4.30 152	IAML			10 57 22.7	
	comp=E,12nm,1.4s						
TPH			IAML			10 57 32.6	
	comp=N,13nm,2.9s						
F10A	Beach Ranch, E	4.47 24			Pn	10 56 10.5	+0.7
R11A	Troy Canyon, C	4.79 136			Pn	10 56 14.9	+0.7
R11A			IAML			10 57 32.4	
	comp=N,8.6nm,3.0s						
R11A			IAML			10 57 38.7	
	comp=E,9.7nm,3.5s						
SPR3	Spring Creek 3	5.07 123			Pn	10 56 18.7	+0.5
SPR3			IAML			10 57 40.8	
	comp=E,18nm,1.1s						
SPR3			IAML			10 57 48.7	
	comp=N,13nm,1.2s						
BGU	Big Grassy Mou	5.17 99			Pn	10 56 18.3	-1.2
BGU			IAML			10 57 43.8	
	comp=N,9.9nm,2.1s						
BGU			IAML			10 57 51.9	
	comp=E,16nm,2.0s						
BCYI	Bear Canyon	5.26 61			Pn	10 56 19.6	-1.2
SPUT	South Promonto	5.53 94	Pn		Pn	10 56 24.5	+0.1
DUG	Dugway, Tooele	5.54 106			Pn	10 56 25.1	+0.5
PSUT	Pine Spring	5.65 125			Pn	10 56 26.4	+0.3
TPNV	Topopah Spring	5.65 150	Pn		Pn	10 56 26.6	+0.5
PRN	Pahroc Range	5.79 139			Pn	10 56 27.5	-0.4
MCMT	McKenzie Canyo	5.84 58			Pn	10 56 28.1	-0.7
HWUT	Hardware Ranch	6.16 90	Pn		Pn	10 56 34.0	+1.0
DLMT	Dillon	6.26 54			Pn	10 56 34.0	-0.4
MSO	Missoula	6.47 38	Pn		Pn	10 56 36.6	-0.6
CCUT	Cedar City	6.58 129			Pn	10 56 38.7	-0.2
TPAW	Teton Pass	6.70 73			Pn	10 56 40.9	+0.3
SZCU	Shurtz Canyon	6.71 128			Pn	10 56 41.6	+0.9
REDW	Red Top Meadow	6.75 74	Pn		Pn	10 56 41.3	+0.1
IMW	Indian Meadow	6.80 70	Pn		Pn	10 56 42.0	+0.1
SNOW	Snow King Moun	6.84 74	Pn		Pn	10 56 41.2	-1.2
LOHW	Long Hollow	6.97 73	Pn		Pn	10 56 45.0	+0.8
YPP	Pitchstone Pla	6.99 67			Pn	10 56 44.9	+0.3
MTPU	Mount Pierson	6.99 121			Pn	10 56 45.5	+0.8
YMR	Madison River	7.01 64			Pn	10 56 44.5	-0.3
FLWY	Flagg Ranch	7.01 69			Pn	10 56 45.0	+0.2
PKCU	Pink Cliffs	7.28 125			Pn	10 56 49.4	+0.8
MOBC	Moresby Island	13.92 328	Pn		Pn	10 58 19.2	+0.2
DIB	Dawson Inlet,	14.16 327	Pn		Pn	10 58 20.7	-1.6

KRSZO ***19*** *10:56:43.3±1.1, 48°.05N×23°.70E, h9km±7km, ML3.1/11, Error ellipse: s-maj=5.9km s-min=3.1km az=42.0*
SIGU ***19*** *10:56:43.7, 48°.03N×23°.67E, h6km*
BUC ***19*** *10:56:43.6±0.5, 48°.10N×23°.74E, h5km, ml3.0/10, Error ellipse: s-maj=4.2km s-min=2.5km az=15.0*

ISC 19 10:56:43.4±1.0, 48°.05N±0°.02×23°.71E±0°.02, h6km±9km, n62, σ1§20/90, 24C-13D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	Rahkiv	0.31	94	⇓iPg	Pg	10 56 50.3	+0.9
RAKU				Pm		10 56 50.4	
RAKU				m		10 56 50.5	
RAKU				eSg	Sg	10 56 55.3	+1.9
RAKU				Sm		10 56 55.8	
KORU	Korolevo	0.40	286	⇑iPg	Pg	10 56 51.6	+0.4
KORU				Pm		10 56 52.0	
KORU				eSg	Sg	10 56 57.3	+0.8
KORU				Sm		10 56 59.3	
KORU				m		10 57 19.4	
BMR	Baia Mare	0.40	201	⇑P	Pg	10 56 51.9	+0.7
BMR				⇑S	Sb	10 56 58.0	-1.4
BMR	Baia Mare	0.40	201	⇑P	Pg	10 56 51.9	+0.7
BMR				⇑S	Sb	10 56 58.0	-1.4
BMR	Baia Mare	0.40	201	Pb	Pg	10 56 52.0	+0.8
	comp=Z,2.5nm,SNR=88						
BMR				Sg	Sb	10 56 58.1	-1.3
MEZ	Mezhgor'ye	0.48	344	⇑iPg	Pg	10 56 53.3	+0.6
MEZ				Pm		10 56 53.6	
MEZ				eSg	Sb	10 57 01.1	-0.7
MEZ				m		10 57 02.7	
MEZ				Sm		10 57 03.0	
TRSU	Trosnyk	0.51	275	⇑iPg	Pg	10 56 53.8	+0.6
TRSU				Pm		10 56 55.4	
TRSU				i Sg	Sg	10 57 00.9	+1.1
TRSU				Sm		10 57 02.5	
TRSU				m		10 57 35.8	
NSLU	Nyzhne Selyshc	0.52	73	⇓iPg	Pg	10 56 48.3	-5.2
NSLU				Pm		10 56 48.7	
NSLU				eSg	Sg	10 56 51.9	-8.3
NSLU				m		10 56 53.7	
NSLU				Sm		10 56 54.5	
BRIU	Brid	0.55	302	ePg	Pg	10 56 54.3	+0.4
BRIU				Pm		10 56 55.0	
BRIU				eSg	Sb	10 57 02.8	-0.7
BRIU				m		10 57 04.5	
BRIU				Sm		10 57 06.0	
BERU	Beregovo	0.74	285	i Pg	Pg	10 56 57.2	-0.4
BERU				eSg	Sb	10 57 08.3	-0.7
BERU				m		10 57 13.0	
TRPA	Tarpa	0.79	276	⇑P	Pg	10 56 58.8	+0.3
TRPA				⇓S	Sb	10 57 09.7	-0.9
TRPA	Tarpa	0.79	276	⇑P	Pg	10 56 58.8	+0.3
TRPA	Tarpa	0.79	276	eP	Pb	10 56 59.5	-0.1
TRPA				eS	Sg	10 57 09.5	+0.7
TRPA	Tarpa	0.79	276	Pg	Pb	10 56 59.5	-0.1
	comp=Z,0.4nm,SNR=22						
TRPA				Lg	Lg	10 57 09.5	
MUKU	Mukachevo	0.80	301	⇑iPg	Pg	10 56 58.9	+0.2
MUKU				Pm		10 57 00.7	
MUKU				i Sg	Sb	10 57 10.9	+0.2
MUKU				Sm		10 57 13.3	
MUKU				m		10 57 13.5	
STNU	Starunia	0.84	38	ePg	Pn	10 57 02.1	+0.2
STNU				eSg	Sn	10 57 14.6	-0.1
KSV	Kosov	0.94	73	ePg	Pn	10 57 03.2	-0.1
KSV				Pm		10 57 04.1	
KSV				eSg	Sn	10 57 17.5	+0.3
KSV				Sm		10 57 21.3	
KSV				m		10 57 22.2	
HOLU	Holmets	1.01	299	ePg	Pg	10 57 02.8	+0.1
HOLU				eSg	Sn	10 57 17.7	-0.9
MESR	Meseseni	1.04	210	⇑P	Pn	10 57 04.8	+0.3
MESR				⇓S	Sn	10 57 20.3	+0.9
MESR	Meseseni	1.04	210	⇑P	Pn	10 57 04.8	+0.3
ARCR	ARCALIA	1.06	155	⇑P	Pn	10 57 04.9	0.0
ARCR				⇑S	Sb	10 57 18.9	+0.6
ARCR	ARCALIA	1.06	155	⇑P	Pn	10 57 04.9	0.0
ARCR	ARCALIA	1.06	155	Pn	Pn	10 57 05.0	+0.1
	comp=Z,1.0nm,SNR=40						
ARCR				Sg	Sb	10 57 19.2	+0.9
MORS	Morshin	1.09	6	⇓iPg	Pn	10 57 06.7	+1.4
MORS				eSg	Sn	10 57 22.6	+1.9
BURAR	Bucovina Array	1.10	113	⇓P	Pg	10 57 04.8	+0.2
BURAR				⇑S	Sg	10 57 19.7	+0.8
BURAR	Bucovina Array	1.10	113	⇓P	Pg	10 57 04.8	+0.2
UZH	Uzhgorod	1.11	302	ePg	Pn	10 57 05.7	+0.1
UZH				Pm		10 57 06.9	
UZH				i Sg	Sn	10 57 20.5	-0.7
UZH				Sm		10 57 24.4	
SHIU	Shidnytsya	1.20	349	ePg	Pn	10 57 08.1	+1.3
CBBR	Cluj-Babes-Bol	1.29	185	⇓P	Pg	10 57 08.9	+0.9
CBBR	Cluj-Babes-Bol	1.29	185	⇓P	Pg	10 57 08.9	+0.9
KOLS	Kolonicke sedl	1.30	313	Pn	Pg	10 57 09.2	+0.8
	comp=Z,61nm,SNR=43						
KOLS				Sn	Sn	10 57 26.0	0.0
KOLS	Kolonicke sedl	1.30	313	ePG	Pg	10 57 09.2	+0.8
KOLS				eSG	Sn	10 57 25.8	-0.2
CJR	Cluj-Napoca	1.34	183	⇑P	Pg	10 57 09.5	+0.4
CJR				⇑S	Sn	10 57 29.4	+2.5
CJR	Cluj-Napoca	1.34	183	⇑P	Pg	10 57 09.5	+0.4
CJR	Cluj-Napoca	1.34	183	Pg	Pg	10 57 09.5	+0.4
	comp=Z,1.1nm,SNR=31						
LTVH	Ltavrtes, Hu	1.39	242	Lg	Lg	10 57 30.5	
DRGR		1.43	209	⇑P	Pn	10 57 10.0	-0.1
DRGR		1.43	209	⇑P	Pn	10 57 10.0	-0.1
DRGR		1.43	209	Pn	Pn	10 57 10.0	-0.1
	comp=Z,0.4nm,SNR=22						
CRVS	Cervenica-Dubn	1.72	301	Pg	Pg	10 57 18.1	+1.6
	SNR=5.7						
CRVS	Cervenica-Dubn	1.72	301	ePN	Pg	10 57 16.2	-0.2
KMPD	K-Podol'skiy	1.91	73	ePn	Pb	10 57 19.2	+0.6
KMPD				eSn	Sg	10 57 44.6	0.0
MDB	Medias	1.96	166	⇓P	Pb	10 57 19.0	-0.6
MDB				⇑S	Sb	10 57 44.5	+0.2
MDB	Medias	1.96	166	⇓P	Pb	10 57 19.0	-0.6
HORU	Horodok	2.15	56	ePn	Pb	10 57 22.7	0.0
HORU				eSn	Sb	10 57 50.6	+1.0
KECS	Kecovo	2.20	283	Pn	Pn	10 57 20.2	-0.4
	comp=Z,0.7nm,SNR=6.1						
KECS	Kecovo	2.20	283	ePN	Pn	10 57 20.0	-0.5
KECS				eLG	Lg	10 57 59.8	
DEV	Deva	2.24	195	⇓P	Pb	10 57 23.6	-0.6
DEV	Deva	2.24	195	⇓P	Pb	10 57 23.6	-0.6
NDNU	Novodnistrovsk	2.50	76	ePn	Pb	10 57 28.1	-0.6
NDNU				eSn	Sb	10 57 59.7	-0.1
PSZ	Piszkesteto	2.57	268	eP	Pn	10 57 24.4	-1.3
PSZ	Piszkesteto	2.57	268	Pn	Pn	10 57 24.4	-1.3
	comp=Z,0.1nm,SNR=4.7						
GZR	Gura Zlata	2.73	194	⇑P	Pn	10 57 29.3	+1.4
GZR	Gura Zlata	2.73	194	⇑P	Pn	10 57 29.3	+1.4
GZR	Gura Zlata	2.73	194	Pg	Pg	10 57 35.0	-0.8
	comp=Z,0.1nm,SNR=12						
VRI	Vrincioaia	3.01	135	Pg	Pg	10 57 50.0	+9.0
LANS	Liptovska Anna	3.02	293	Pn	Pn	10 57 32.5	+0.5
LANS	Liptovska Anna	3.02	293	ePN	Pn	10 57 32.4	+0.5
BISRR	Bisoca	3.24	139	Pn	Pn	10 57 34.2	-0.7
	comp=Z,0.3nm,SNR=8.5						
VYHS	Vyhne	3.29	280	Pn	Pn	10 57 35.0	-0.6
VYHS	Vyhne	3.29	280	ePN	Pn	10 57 34.9	-0.6
VYHS				eSN	Sn	10 58 15.5	+0.6
KRUC	Moravsky	4.96	284	ePN	Pn	10 57 58.7	+0.2
KRUC				eSN	Sn	10 58 55.6	-0.6

IDC ***19*** *11:16:20.0±0.5, 2°.93N×78°.77W, h0km, mb4.4/23, mb1 4.5/26, mb1mx4.4/41, mbtmp4.4/26, ML4.0/3, MS4.2/11, Ms1 4.2/11, ms1mx3.9/33, Error ellipse: s-maj=20.5km s-min=10.8km az=60.0*
NEIC ***19*** *11:16:21.5±1.7, 2°.76N±0°.05×78°.90W±0°.07, h10km±1km, mb4.9/235, ML4.0(RSNC), Error ellipse: s-maj=12.0km s-min=8.3km az=259.0*
RSNC ***19*** *11:16:21.4±0.9, 2°.89N×79°.16W, h24km±6km, ML4.0, Mw5.2, Fault plane solution: NP1:ϕ_s2.00000°, δ90.00000°, λ-90.00000°.*
VAO ***19*** *11:16:22.8±0.3, 2°.78N×78°.60W, h10km, mb5.0*
GCMT ***19*** *11:16:26.5±0.4, 2°.96N±0°.03×79°.26W±0°.03, h12km, MW5.0/60, Moment Tensor Solution. s16,c18; s60,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.40±.10; $M_{\theta\theta}$0.04±.08; $M_{\phi\phi}$-1.44±.10; $M_{r\theta}$-0.42±.27; $M_{r\phi}$-0.31±.07; $M_{\theta\phi}$-4.19±.24; Best double couple: $M_0$4.45400×10^{16} NP1:ϕ_s17.00000°, δ10.00000°, λ101.00000°. NP2: ϕ_s186.00000°, δ81.00000°, λ88.00000°. Principal axes: T 4.4100, Plg54.0000°, Azm94.0000°; N 0.0920, Plg2.0000°, Azm186.0000°; P -4.4980, Plg36.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 11:16:21.2±0.8, 2°.83N±0°.03×78°.98W±0°.03, h13km±4km, n625, σ1§58/644, mb4.9/152, MS4.2/14, 21C-11D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	1.03	166		Pb	11 16 40.6	-0.3
TUMC	Tumaco	1.03	166	⇑iP	Pb	11 16 40.9	+0.1
TUMC				eS	Sn	11 16 55.6	+0.1
CTUM2	Tumaco	1.03	166	⇑eP	Pb	11 16 40.8	-0.1
CTUM2				eS	Sg	11 16 55.3	+0.9
BBAC	Balboa, Cauca	1.91	115	⇑iP	Pn	11 16 52.7	-0.9
BBAC				eS	Sn	11 17 14.2	-3.4
BBAC				i		11 17 36.9	
	comp=Z,2μm,0.6s						
MALC	Bahia Malaga	2.02	54	⇑iP	Pn	11 16 54.1	-0.9
CMBC	Cumbal	2.20	148	eP	Pn	11 16 57.3	-0.5
CMBC				eS	Sn	11 17 26.2	+1.1
CMBC				i		11 17 56.1	
	comp=Z,624nm,0.7s						
CCUFI	Cufio, Nario	2.28	134	eP	Pn	11 17 00.4	+1.4
CCUFI				eS	Sb	11 17 30.2	-0.5
GCUF	Volcan Galeras	2.28	134	⇑iP	Pn	11 16 59.5	+0.5
GCUF				eS	Sb	11 17 29.6	-1.1
GCUF				i		11 17 44.1	
	comp=Z,1μm,0.7s						
PTGL	Punta Galera	2.29	207	⇓eP	Pn	11 16 56.6	-2.1
PTGL				eS	Sn	11 17 23.9	-2.9
PTGL				i		11 17 31.8	
	comp=Z,1μm,0.5s						
POPC	Popayan, Colom	2.32	97	eS	Sb	11 17 30.3	-1.4
CPAS1	Pasto	2.32	134	⇑eP	Pn	11 17 01.0	+1.5
CPAS1	Pasto	2.32	134	eS	Sn	11 17 29.8	+1.7
CPAS2	Pasto	2.35	133	eP	Pn	11 17 01.3	+1.5
CPAS2	Pasto	2.35	133	eS	Sb	11 17 30.7	-2.0
CRUC	La Cruz	2.38	122	eP	Pn	11 17 01.2	+1.0
CRUC				eS	Sb	11 17 32.9	-0.7
CRUC				i		11 17 54.6	
	comp=Z,2μm,0.6s						
TULM	Tulcn-Chalpat	2.41	150	⇑eP	Pn	11 17 00.8	0.0
TULM				eS	Sb	11 17 33.2	-1.4
TULM				i		11 17 52.8	
	comp=Z,630nm,0.7s						
SOTA	Rioblanco	2.46	106	⇑iP	Pn	11 17 01.9	+0.3
SOTA				eS	Sg	11 17 38.7	-1.9
SOTA				i		11 17 46.6	
	comp=Z,2μm,0.7s						
RAC02	Cali,SGC	2.50	77	eP	Pn	11 17 00.3	-1.4
RAC02				eS	Sn	11 17 30.6	-1.6
PAC1	Pacto, Paraso	2.55	176	eP	Pn	11 17 01.2	-1.2
CUSE	Cuicocha Este	2.57	167	⇑eP	Pn	11 17 02.5	-0.4
CUSE				eS	Sn	11 17 32.0	-2.3
OTAV	Otavalo	2.62	168	Pn	Pn	11 17 02.7	-0.9
OTAV	Otavalo	2.62	168	⇑iP	Pn	11 17 02.8	-0.9
OTAV				eS	Sn	11 17 34.5	-1.2
OTAV				i		11 17 38.3	
	comp=Z,641nm,0.5s						
OTAV	Otavalo	2.62	168	eP	Pn	11 17 03.3	-0.4
PCON	Cinco Dias	2.62	101	⇑iP	Pn	11 17 04.2	+0.4
PCON				eS	Sb	11 17 38.5	-2.3
PCON				i		11 17 59.7	
	comp=Z,1μm,0.8s						
PIZC	Pizarro, Choco	2.67	37	eP	Pn	11 16 58.5	-5.4
YOTC	Yotoco, Valle	2.87	66	⇑iP	Pn	11 17 04.6	-2.1
YOTC				eS	Sn	11 17 34.5	-6.8
YOTC				i		11 18 20.4	
	comp=Z,219nm,0.8s						
MAPC	Malpelo	2.87	294

comp=Z,97nm,0.7s
HELC Santa Helena 4.79 46 *eP* **Pn 11 17 32.2 -1.2**
HELC *eS* **Sn 11 18 29.3 +0.2**
NORC Norcasia 4.92 56⇑ *iP* **Pn 11 17 35.8 +0.9**
NORC *eS* **Sn 11 18 30.7 -1.1**
PTLC Puerto Leguiza 4.94 122 *eP* **Pn 11 17 38.0 +2.9**
PTLC *eS* **Sn 11 18 37.6 +5.3**
PTLC *i* 11 19 20.9
comp=Z,119nm,0.7s
DBBC Dabeiba 4.99 33 *eP* **Pn 11 17 37.2 +1.2**
DBBC *i* 11 19 02.7
comp=Z,156nm,0.6s
ROSC El Rosal 5.06 67 Pn **Pn 11 17 39.1 +2.0**
comp=Z,13nm,0.3s,baz=59,slow=1.6,SNR=45
ROSC El Rosal 5.06 67 Pn **Pn 11 17 38.9 +1.8**
ROSC El Rosal 5.06 67⇑ *iP* **Pn 11 17 39.1 +2.0**
ROSC *eS* **Sn 11 18 36.1 +0.4**
AZU Azuero 5.10 345 *eP* **Pn 11 17 33.9 -3.4**
AZU *eS* **Sn 11 18 31.3 -4.8**
MACC Macarena, Meta 5.17 97⇑ *iP* **Pn 11 17 39.7 +1.4**
MACC *eS* **Sn 11 18 38.9 +1.0**
MACC *i* 11 19 23.1
comp=Z,118nm,0.6s
VILC Villavicencio, 5.43 76 *eP* **Pn 11 17 43.9 +1.9**
VILC *eS* **Sn 11 18 44.8 +0.4**
VILC *i* 11 18 55.4
comp=Z,170nm,0.5s
CHIC Chingaza 5.53 71⇑ *iP* **Pn 11 17 45.2 +1.5**
CHIC *eS* **Sn 11 18 47.9 +0.4**
UREC San Jos de Ur 5.98 35 *eP* **Pn 11 17 51.7 +2.3**
ZARC Zaragoza, Cauc 6.19 41 *eP* **Pn 11 17 52.6 +0.3**
GUVC San Jose del G 6.35 92 *eP* **Pn 11 17 54.2 -0.4**
BCIP Isla Barro Col 6.36 352 Pn **Pn 11 17 55.9 +1.2**
BCIP Isla Barro Col 6.36 352 *eP* **Pn 11 17 50.7 -3.9**
BCIP *eS* **Sn 11 19 01.5 -5.6**
BCIP *i* 11 19 17.6
comp=Z,32nm,0.9s
RUSC La Rusia 6.62 62 Pn **Pn 11 17 59.1 +0.5**
RUSC La Rusia 6.62 62⇑ *eP* **Pn 11 17 59.6 +1.0**
RUSC *eS* **Sn 11 19 14.9 +0.6**
MOTC Monteria, Cord 6.77 29 *eP* **Pn 11 18 02.2 +1.9**
BARC Barichara 6.88 57 *eP* **Pn 11 18 02.5 +0.5**
BARC *eS* **Sn 11 19 19.8 -0.6**
BARC *i* 11 19 26.3
comp=Z,26nm,0.4s
CDITO Canoas 6.90 326 **Pn 11 18 04.0 +1.9**
DRK0 Durika 7.67 327 **Pn 11 18 13.9 +1.0**
SMLC San Martn de 7.68 39 *eP* **Pn 11 18 13.9 +1.1**
PAMC Pamplona, Colo 7.69 54 *eP* **Pn 11 18 16.1 +2.7**
PAMC *eS* **Sn 11 19 40.2 -0.6**
SRBA San Rafael, Bu 7.71 326 **Pn 11 18 14.6 +1.3**
OCAC Ocana 7.79 46 *eP* **Pn 11 18 13.8 -0.6**
OCAC *eS* **Sn 11 19 40.8 -1.8**
OCAC *i* 11 21 08.5
comp=Z,14nm,0.7s
SJCC San Jacinto, C 7.97 28 **Pn 11 18 17.6 +0.7**
SJCC San Jacinto, C 7.97 28 *eP* **Pn 11 18 19.6 +2.7**
PEZE Perez Zeledon, 8.02 325 Pn **Pn 11 18 20.3 +2.8**
RIMA Rio Macho 8.43 325 **Pn 11 18 25.8 +2.5**
CVTR Volcan Turrial 8.58 327 **Pn 11 18 27.3 +1.7**
HDC Heredia 8.77 325 **Pn 11 18 29.8 +2.0**
CAO2 Cobano, Puntar 9.14 318 **Pn 11 18 34.0 +1.1**
JTS Las Juntas de 9.50 322 Pn **Pn 11 18 39.5 +1.7**
comp=Z,1.1nm,0.3s,baz=189,slow=8.6,SNR=22
JTS Sn **Sn 11 20 21.6 -2.9**
comp=Z,0.6nm,0.3s,baz=0.7,slow=22,SNR=7.5
JTS LR LR 11 21 37.1
comp=Z,1µm,21.5s,baz=225,slow=33
DUNO Dulce Nombre, 9.69 318 Pn **Pn 11 18 42.1 +1.7**
ATAH Atahualpa 9.91 177 Pn **Pn 11 18 46.4 +2.6**
comp=Z,0.4nm,0.3s,baz=357,slow=10,SNR=3.1
ATAH Sn **Sn 11 20 38.4 +3.1**
comp=Z,2.6nm,0.3s,baz=360,slow=12,SNR=5.7
SDV Santo Domingo 10.25 54 Pn **Pn 11 18 49.1 +0.8**
comp=Z,4.4nm,0.3s,baz=248,slow=7.7,SNR=5.1
SDV LR LR 11 23 24.6
comp=Z,3µm,18.6s,baz=224,slow=42
SDV Santo Domingo 10.25 54 *eP* **Pn 11 18 46.0 -2.3**
ESPN Las Esperanzas 10.70 331 **Pn 11 18 56.4 +2.2**
ACON Acoyapa 10.96 326 Pn **Pn 11 18 59.6 +1.7**
URIC Uribia, Colomb 11.21 38 Pn **Pn 11 19 01.2 0.0**
PAYG Puerto Ayora 11.83 253 **Pn 11 19 10.8 +1.1**
CZSB Cruzeiro do Su 12.21 149 *eP* **Pn 11 19 14.8 -0.1**
TGUH Tegucigalpa,Un 13.84 324 Pn **Pn 11 19 38.5 +1.2**
NNA Nana 14.87 172 Pn **P 11 19 56.6 -0.5**
comp=Z,1.9nm,0.3s,baz=312,slow=7.5,SNR=6.0
NNA Nana 14.87 172 **Pn 11 19 49.5 -1.9**
MTO3 Montecristo 15.40 319 **Pn 11 19 59.2 +0.7**
MTO3 IAmb IAmb 11 20 06.6
comp=Z,73nm,0.9s
ESQI Esquipulas 15.51 319 **Pn 11 20 01.0 +1.2**
PCRV Puerto La Cruz 16.00 62 Pn **P 11 20 08.0 -1.7**
comp=Z,1.8nm,0.3s,baz=194,slow=6.4,SNR=14
HUEH Huehuetenango 17.51 316 P **P 11 20 26.6 +0.1**
HUEH IAmb IAmb 11 20 34.5
comp=Z,80nm,1.0s
PETF Flores 17.62 323 P **P 11 20 27.9 +0.3**
SDDR Presa de Saban 17.73 25 P **Pn 11 20 28.2 +0.2**
ETMB Extrema 17.87 135 *eP* **Pn 11 20 27.4 -2.3**
BOAV Boa Vista 18.44 91 *eP* **P 11 20 34.4 -2.2**
CCIG Comitan 18.61 317 P **Pn 11 20 39.8 +0.8**
TPP Pointe-a-Pierr 18.93 66 *eP* **Pn 11 20 45.7 +3.1**
MLPR Magueyes Islan 19.06 37 P **P 11 20 42.0 -1.4**
MLPR IAmb IAmb 11 20 51.5
comp=Z,56nm,0.8s
TRN Trinidad (W) 19.09 65 *eP* **P 11 20 41.5 -2.3**
MPR Mayaguez 19.20 36 P **Pn 11 20 45.6 -0.1**
MPR IAmb IAmb 11 20 54.7
comp=Z,56nm,0.8s
MACA Manacapuru-AM 19.23 108 *eP* **P 11 20 44.4 -0.9**
ICMP Isla Caja de M 19.32 38 P **P 11 20 45.4 -0.8**
ICMP IAmb IAmb 11 20 54.5
comp=Z,102nm,0.9s
OBIP Obispado Ponce 19.39 38 P **Pn 11 20 47.5 -0.6**
OBIP IAmb IAmb 11 20 55.5
comp=Z,89nm,0.9s
AGPR Aguadilla, PR 19.41 36 P **P 11 20 47.4 +0.2**
GRGR Grenville 19.49 61 *eP* P 11 20 40.0 -8.2
GRGR Grenville 19.49 61 *eP* **P 11 20 47.4 -0.8**
GRGR Grenville 19.49 61 P **P 11 20 48.5 +0.3**
AOPR Arecibo Observ 19.53 37 P **Pn 11 20 49.7 -0.1**
AOPR IAmb IAmb 11 21 04.1
comp=Z,120nm,1.1s
SAML Samuel 19.61 127 P **P 11 20 47.8 -1.7**
SJG San Juan 19.72 39 P **P 11 20 50.7 +0.1**
comp=Z,1.3nm,0.3s,baz=224,slow=12,SNR=12
SJG San Juan 19.72 39 P **Pn 11 20 51.7 -0.4**
SJG IAmb IAmb 11 21 07.6
comp=Z,44nm,0.8s
PDPR Patillas Dam, 19.73 39 P **Pn 11 20 51.5 -0.7**
PDPR IAmb IAmb 11 20 58.2
comp=Z,49nm,0.9s
EMPR Esperanza - Ma 19.77 37 P **P 11 20 51.2 +0.1**
GCMP Grenada, Carri 19.85 60 *eP* P 11 20 43.1 -9.0
GCPR Guaynabo City 19.91 38 P **P 11 20 52.8 +0.1**
CBYP Canovanas 20.02 39 P **P 11 20 52.9 -1.2**
CBYP IAmb IAmb 11 21 02.8
comp=Z,69nm,0.8s
MTP Monte Pirata 20.09 40 P **P 11 20 54.0 -0.6**
MTP IAmb IAmb 11 21 05.7
comp=Z,62nm,0.9s
TOSP Speyside 20.13 64 *eP* Pn 11 21 00.8 +3.8
TOSP Speyside 20.13 64 P **P 11 20 53.9 -1.3**
TOSP IAmb IAmb 11 21 01.5
comp=Z,72nm,0.9s
CDVI St. Croix 20.36 42 *eP* **P 11 20 57.6 0.0**
CDVI St. Croix 20.36 42 P **P 11 20 57.2 -0.4**
SVB Belmont 20.37 58 *eP* **P 11 20 56.9 -0.9**
SVB Belmont 20.37 58 P **P 11 20 56.6 -1.2**
CUPR Culebra, Puert 20.42 40 P **P 11 20 56.8 -1.4**
CUPR IAmb IAmb 11 21 06.7
comp=Z,72nm,0.9s
STVI Saint Thomas 20.66 41 P **P 11 21 01.6 +0.7**
SLB Belfond 20.82 57 *eP* **P 11 21 00.2 -2.5**
MCLT Moule a Chique 20.85 58 *eP* **P 11 21 00.6 -2.3**
MCLT *eS* **P 11 21 01.2 -1.7**
MCLT Moule a Chique 20.85 58 P **P 11 21 02.1 -0.8**
SLBI Saint Lucia, B 20.98 57 *eP* **P 11 21 02.7 -1.6**
SLBI *eS* **P 11 21 03.0 -1.3**
FDF Fort de France 21.20 55 P **P 11 21 06.9 +0.2**
SABA Saba 21.32 45 *eP* **P 11 21 11.4 +3.3**
DSLB Salisbury 21.36 53 *eP* **P 11 21 10.0 +1.5**
SEUS St. Eustatius 21.42 46 *eP* **P 11 21 11.9 +2.8**

DLPL La Plaine 21.44 53 *eP* **P 11 21 04.3 -5.0**
SKI Saint Kitts 21.50 47 *eP* **P 11 21 10.4 +0.5**
CBE Ff, Capester 21.57 51 *eP* **P 11 21 11.0 +0.3**
SMRT St. Maarten 21.73 45 *eP* **P 11 21 12.8 +0.5**
SMRT St. Maarten 21.73 45 P **P 11 21 11.6 -0.7**
LPAZ La Paz 21.81 151 P **P 11 21 13.9 0.0**
comp=Z,8.5nm,0.6s,baz=343,slow=12,SNR=29
LPAZ La Paz 21.81 151 P **P 11 21 13.8 -0.1**
LPAZ La Paz 21.81 151 *eP* **P 11 21 13.9 0.0**
ABD La Joyeuse, An 21.90 51 *eP* **P 11 21 12.2 -2.0**
BPA Boggy Peak 21.97 49 *eP* P 11 21 23.6 +8.6
ANBD Bethesda, Anti 22.04 49 *eP* **P 11 21 13.4 -2.3**
MNMC Minye Minye 23.69 157 P **P 11 21 33.3 +0.2**
PSGCX Pisagua 23.92 159 P **P 11 21 33.2 -1.9**
PSGCX IAmb IAmb 11 21 46.0
comp=Z,36nm,1.0s
TLIG Tlapa 24.17 309 P **P 11 21 39.0 +1.5**
PB11 IPOC Station P 24.24 158 P **P 11 21 36.9 -1.3**
ITTB Itaituba 24.30 107 *eP* **P 11 21 37.1 -1.6**
VILB Vilhena 24.36 130 *eP* **P 11 21 38.9 -0.3**
TA02 Huaiquique 24.54 160 P **P 11 21 41.0 +0.3**
PB08 IPOC Station P 24.78 158 P **P 11 21 43.6 +0.2**
PB08 IAmb IAmb 11 21 56.2
comp=Z,33nm,0.7s
TA01 Diego Aracena 24.80 160 P **P 11 21 41.5 -1.5**
MALB Monte Alegre 25.14 100 *eP* **P 11 21 46.4 +0.1**
PB01 IPOC Station P 25.48 159 P **P 11 21 48.2 -1.1**
PB01 IAmb IAmb 11 22 05.8
comp=Z,40nm,1.0s
NPGB Novo Progresso 25.53 113 *eP* **P 11 21 48.7 -1.1**
SIV San Ignacio 25.75 137 P **P 11 21 52.0 +0.2**
comp=Z,29nm,0.9s,baz=320,slow=9.3,SNR=119
PB07 IPOC Station P 25.97 160 P **P 11 21 52.5 -1.5**
PB07 IAmb IAmb 11 22 20.0
comp=Z,30nm,0.8s
MDP Montagnes des 26.37 84 P **P 11 21 56.4 -1.1**
comp=Z,6.0nm,0.8s,baz=256,slow=18,SNR=3.0
MDP LR LR 11 33 40.1
comp=Z,861nm,20.6s,baz=282,slow=40
PTLB Pontes e Lacer 26.74 133 *eP* **P 11 22 00.1 -0.6**
CLDB Colider 26.78 121 *eP* **P 11 21 59.6 -1.6**
MCPB Macapa, AP 27.10 96 *eP* **P 11 22 03.2 -0.8**
LVC Limon Verde 27.12 159 P **P 11 22 07.1 +2.6**
comp=Z,19nm,0.9s,baz=314,slow=6.7,SNR=12
LVC LR LR 11 33 59.7
comp=Z,1µm,21.9s,baz=319,slow=39
LVC Limon Verde 27.12 159 P **P 11 22 03.7 -0.8**
LVC IAmb IAmb 11 22 32.4
comp=Z,32nm,1.1s
LVC Limon Verde 27.12 159 *eP* **P 11 22 05.8 +1.2**
SALV Santo Antonio 29.61 130 *eP* **P 11 22 25.6 -0.8**
250A Grady 29.80 347 P **P 11 22 27.9 0.0**
152A Waverly Hall 30.17 350 P **P 11 22 31.6 +0.4**
152A IAmb IAmb 11 22 39.6
comp=Z,30nm,1.1s
ZAIG Zacatecas 30.27 313 P **P 11 22 33.5 +1.1**
PRPB Parauapebas 30.46 107 *eP* **P 11 22 33.1 -0.9**
344A Westbrook Farm 30.56 340 P **P 11 22 35.2 +0.6**
GOGA Godfrey 30.72 353 P **P 11 22 37.2 +1.3**
baz=171
GOGA Godfrey 30.72 353 P **P 11 22 37.0 +1.1**
GOGA IAmb IAmb 11 22 44.4
comp=Z,20nm,1.4s
LRAL Lakeview Retre 30.98 347 P **P 11 22 39.3 +1.0**
baz=164,SNR=7.4
LRAL Lakeview Retre 30.98 347 P **P 11 22 38.8 +0.5**
LRAL IAmb IAmb 11 22 46.6
comp=Z,25nm,1.1s
AC02 Maricunga 30.98 163 P **P 11 22 38.1 -0.9**
AC02 IAmb IAmb 11 22 43.1
comp=Z,24nm,1.1s
SNDB Serra Nova Dou 31.20 119 *eP* **P 11 22 39.4 -1.1**
PP1B Ponte de Pedra 31.25 131 *eP* **P 11 22 40.9 0.0**
TMAB Tom-Au,PA,Br 31.30 99 *eP* **P 11 22 41.7 +0.3**
JSC Jenkinsville 31.37 356 P **P 11 22 43.2 +1.5**
HODGE Hodges 31.39 355 P **P 11 22 42.4 +0.5**
HODGE IAmb IAmb 11 22 50.7
comp=Z,26nm,1.3s
833A Chaparral WMA, 31.97 324 P **P 11 22 48.2 +1.1**
baz=139
BG3 Lake Jocassee 32.22 354 P **P 11 22 50.4 +1.2**
BG3 IAmb IAmb 11 22 58.1
comp=Z,25nm,1.3s
KMSC Kings Mountain 32.23 356 P P 11 22 54.1 +4.9
baz=176,SNR=5.5
KMSC Kings Mountain 32.23 356 P **P 11 22 50.1 +0.9**
KMSC IAmb IAmb 11 22 58.7
comp=Z,22nm,1.1s
Y45A Yeager Farm, C 32.42 343 P **P 11 22 51.1 +0.1**
AQDB Aquidauana 32.52 136 P **P 11 22 51.0 -1.0**
AQDB Aquidauana 32.52 136 *eP* **P 11 22 51.6 -0.4**
ARAG Araguaiana, MT 32.58 125 *eP* **P 11 22 49.2 -3.4**
CPCT Cooper Cave 32.87 352 P **P 11 22 56.0 +1.1**
CPCT IAmb IAmb 11 23 03.4
comp=Z,26nm,1.3s
SWET Sewanee 32.87 349 P **P 11 22 55.0 0.0**
SWET IAmb IAmb 11 23 02.8
comp=Z,22nm,1.2s
V53A Saluda 32.87 354 P **P 11 22 56.2 +1.2**
V53A IAmb IAmb 11 23 03.7
comp=Z,22nm,1.5s
435B Jarrell 32.90 330 P **P 11 22 55.3 +0.1**
435B IAmb IAmb 11 23 05.9
comp=Z,18nm,1.1s
TKL Tuckaleechee C 32.97 353 P **P 11 22 56.2 +0.5**
comp=Z,1.1nm,0.7s,baz=173,slow=14,SNR=1.9
TKL Tuckaleechee C 32.97 353 P **P 11 22 57.2 +1.5**
PLAL Pickwick Lake 33.09 346 P **P 11 22 57.9 +1.1**
PLAL IAmb IAmb 11 23 05.1
comp=Z,20nm,1.2s
V52A Sevierville 33.13 353 P **P 11 22 58.0 +0.8**
V52A IAmb IAmb 11 23 04.9
comp=Z,17nm,1.4s
SMTB Santa Maria do 33.38 111 *eP* **P 11 22 58.3 -1.3**
WLAR White Oak Lake 33.42 338 P **P 11 22 59.9 +0.2**
V48A Smith Brothers 33.55 348 P **P 11 23 01.1 +0.2**
U54A Nelsons Funny 33.63 356 P **P 11 23 02.6 +1.0**
U54A IAmb IAmb 11 23 10.5
comp=Z,21nm,1.0s
CLTN Cedars of Leba 33.79 349 P **P 11 23 03.0 0.0**
CLTN IAmb IAmb 11 23 10.9
comp=Z,21nm,1.2s
TZTN Tazewell 33.82 353 P **P 11 23 07.2 +4.0**
baz=172
JCT Junction City 33.84 327 P **P 11 23 05.6 +2.2**
baz=140
JCT Junction City 33.84 327 P **P 11 23 04.5 +1.1**
JCT IAmb IAmb 11 23 14.4
comp=Z,16nm,1.2s
PEXB Peixe 33.91 117 *eP* **P 11 23 02.8 -1.4**
T57A Hurt 34.01 360 P **P 11 23 05.0 +0.3**
T57A IAmb IAmb 11 23 13.4
comp=Z,22nm,1.0s
AROD Rodeo 34.04 165 *eP* **P 11 23 08.7 +3.1**
X40A Basin Creek Fa 34.04 339 P **P 11 23 06.1 +1.0**
baz=155
ACLC CERRO LA CRUZ 34.08 161 *eP* **P 11 23 07.7 +2.0**
WVT Waverly 34.14 347 P **P 11 23 09.0 +3.1**
baz=164
WVT Waverly 34.14 347 P **P 11 23 06.5 +0.6**
WVT IAmb IAmb 11 23 12.9
comp=Z,22nm,1.4s
ACDV Cuesta del Vie 34.14 165 *eP* **P 11 23 09.1 +2.9**
MIAR Mount Ida 34.36 338 P **P 11 23 08.7 +0.8**
baz=154
MIAR Mount Ida 34.36 338 P **P 11 23 08.7 +0.8**
MIAR IAmb IAmb 11 23 31.2
comp=Z,14nm,1.1s
W41B Gary Mavity, V 34.46 341 P **P 11 23 09.6 +0.8**
baz=156
ACCO Cerro Coronel 34.55 165 *eP* **P 11 23 12.3 +2.4**
WHAR Wooly Hollow 34.58 341 P **P 11 23 10.1 +0.3**
WHAR IAmb IAmb 11 23 17.2
comp=Z,39nm,1.4s
T47A Sharon Grove 34.81 349 P **P 11 23 12.0 +0.3**
T47A IAmb IAmb 11 23 19.1
comp=Z,36nm,1.3s
S51A Beattyville 34.90 354 P **P 11 23 12.2 -0.3**
S51A IAmb IAmb 11 23 20.7
comp=Z,40nm,1.4s
LCAR Lake Charles 34.94 343 P **P 11 23 12.7 -0.3**
LCAR IAmb IAmb 11 23 20.2
comp=Z,33nm,1.4s
W39A Magazine 35.02 339 P **P 11 23 14.5 +0.9**
baz=154
W39A Magazine 35.02 339 P **P 11 23 14.0 +0.4**
W39A IAmb IAmb 11 23 24.1
comp=Z,34nm,1.2s
HPIG 35.04 316 P **P 11 23 15.5 +1.4**
AVFE Valle Fertil 35.07 163 *eP* **P 11 23 16.0 +1.9**
FCAR Ozark Folk Cen 35.08 341 P **P 11 23 14.3 +0.2**
APLL PUNTA DE LOS L 35.11 161 *eP* **P 11 23 16.1 +1.7**
TXAR Lajitas Array 35.29 321 P **P 11 23 17.9 +1.8**
comp=Z,2.2nm,0.8s,baz=135,slow=8.3,SNR=28
TXAR PcP **PcP 11 25 47.9 +1.2**
comp=Z,0.9nm,0.9s,baz=134,slow=3.9,SNR=2.9
TXAR LR LR 11 38 44.5
comp=Z,197nm,21.1s,baz=0.0,slow=38
TXAR Lajitas Array 35.29 321 P **P 11 23 17.4 +1.3**
TX31 Lajitas Ar. Si 35.29 321 P **P 11 23 17.6 +1.5**
TX31 IAmb IAmb 11 23 36.7
comp=Z,34nm,1.4s
TX32 Lajitas Array 35.29 321 P **P 11 23 17.4 +1.3**
ROSB Rosrio 35.30 99 *eP* **P 11 23 15.0 -1.3**
R55A Marlinton 35.30 358 P **P 11 23 16.3 +0.2**
R55A IAmb IAmb 11 23 25.3
comp=Z,17nm,0.9s
LOOK Love County 35.35 333 P **P 11 23 16.2 -0.3**
LOOK IAmb IAmb 11 23 27.2
comp=Z,22nm,1.0s
ABTX Abilene, Hawle 35.42 329 P **P 11 23 17.6 +0.5**
ABTX IAmb IAmb 11 23 27.7
comp=Z,15nm,1.0s
ZON Zonda 35.56 165 P **P 11 23 17.0 -1.4**
ZON IAmb IAmb 11 23 21.9
comp=Z,40nm,1.4s
R50A Paris 35.63 353 P **P 11 23 18.6 -0.1**
R50A IAmb IAmb 11 23 26.8
comp=Z,29nm,1.4s
RTLS Leoncito 35.64 166 *eP* **P 11 23 21.9 +2.5**
BDFB Brasilia 35.71 122 P **P 11 23 18.4 -1.5**
comp=Z,1.4nm,0.6s,baz=280,slow=9.5,SNR=4.8
BDFB LR LR 11 38 18.7
comp=Z,1µm,18.3s,baz=295,slow=37
U40A Yellville 35.74 341 P **P 11 23 19.8 0.0**
baz=156,SNR=10
U40A Yellville 35.74 341 P **P 11 23 20.4 +0.6**
U40A IAmb IAmb 11 23 33.2
comp=Z,18nm,0.9s
CPUP Villa Florida 35.76 145 P **P 11 23 19.8 -0.2**
comp=Z,4.8nm,0.9s,baz=100,slow=0.9,SNR=3.5
CPUP PcP **PcP 11 25 46.4 -1.6**
comp=Z,1.9nm,0.7s,baz=308,slow=5.3,SNR=3.3
ACHE Chepes 35.78 162 *eP* **P 11 23 22.4 +2.0**
T42A Van Buren 35.82 343 P **P 11 23 20.1 -0.3**
T42A IAmb IAmb 11 23 27.4
comp=Z,32nm,1.4s
WCI Wyandotte Cave 35.87 350 P **P 11 23 20.9 +0.1**
WCI IAmb IAmb 11 23 28.1
comp=Z,22nm,1.1s
USIN University of 35.87 348 P **P 11 23 21.4 +0.6**
ITRB Iturama 35.94 130 *eP* **P 11 23 21.1 -0.6**
AUSP Uspallata 36.03 166 *eP* **P 11 23 25.9 +3.3**
HHAR Hobbs 36.05 339 P **P 11 23 22.9 +0.4**
Q52A Bidwell 36.09 356 P **P 11 23 22.7 -0.1**
TRCB Terra Rica 36.18 136 *eP* **P 11 23 23.1 -0.7**
MGMO Mountain Grove 36.28 342 P **P 11 23 24.5 +0.1**
MGMO IAmb IAmb 11 23 31.9
comp=Z,44nm,1.5s
VA03 San Esteban 36.28 168 P **P 11 23 24.1 -0.5**
ROC1 El Roble 36.40 169⇓ *eP* **P 11 23 26.9 +1.2**
PCMB Pacaembu 36.40 133 *eP* **P 11 23 24.5 -1.1**
TUL1 Leonard 36.41 337 P **P 11 23 29.4 +3.8**
baz=151
SLBS Sierra La Lagu 36.42 307 P **P 11 23 26.1 +0.2**
ASAL Salagasta 36.51 166 *eP* **P 11 23 29.4 +2.8**
OLIL Olney 36.70 348 P **P 11 23 27.5 -0.4**
OLIL IAmb IAmb 11 23 35.6
comp=Z,43nm,1.2s
IPMB Ipameri, GO 36.70 125 *eP* **P 11 23 27.1 -1.2**
WMOK Wichita Mounta 36.71 332 P **P 11 23 28.3 +0.2**
baz=146
WMOK Wichita Mounta 36.71 332 P **P 11 23 28.4 +0.2**
ARCO CERRO ARCO 36.73 166 *eP* **P 11 23 31.6 +3.1**
P52A Corning 36.75 356 P **P 11 23 32.6 +4.2**
baz=175,SNR=7.0
P52A Corning 36.75 356 P **P 11 23 27.7 -0.6**
P52A IAmb IAmb 11 23 37.1
comp=Z,32nm,1.1s
CCM Cathedral Cave 36.82 344 P **P 11 23 28.5 -0.5**
baz=159
CCM Cathedral Cave 36.82 344 P **P 11 23 28.5 -0.5**
CCM IAmb IAmb 11 23 35.8
comp=Z,38nm,1.2s
BLO Bloomington 36.82 350 P **P 11 23 28.8 -0.2**
OK031 S. Brethren Rd 36.87 335 P **P 11 23 29.3 -0.2**
P49A Miami Univ. Ec 36.91 353 P **P 11 23 29.3 -0.5**
P49A IAmb IAmb 11 23 36.7
comp=Z,29nm,1.3s
P48A Milroy 36.93 352 P **P 11 23 30.2 +0.3**
P48A IAmb IAmb 11 23 36.7
comp=Z,39nm,1.4s
OK029 Liberty Lake 37.00 335 P **P 11 23 31.0 +0.5**
QUOK Quay 37.01 336 P **P 11 23 31.1 +0.5**
QUOK IAmb IAmb 11 23 40.9
comp=Z,27nm,1.0s
Q44A Meyer Farm, Va 37.06 347 P **P 11 23 30.9 -0.1**
Q44A IAmb IAmb 11 23 38.4
comp=Z,33nm,1.1s
SDBA SAO DESIDERIO 37.08 115 *eP* **P 11 23 30.6 -1.0**
MRA San Martin 37.24 161⇓ *eP* **P 11 23 34.2 +1.4**
MRA *eP* **pP 11 23 34.3 -2.0**
O56A Blue Knob Stat 37.27 1 P P 11 23 40.1 +7.3
baz=180,SNR=8.1
O53A New Philadelph 37.31 357 P P 11 23 38.5 +5.4
baz=176,SNR=5.6
R40A Maddies Statio 37.33 343 P **P 11 23 33.6 +0.2**
R40A IAmb IAmb 11 23 40.1
comp=Z,33nm,1.5s
ACSO Alum Creek Sta 37.41 355 P **P 11 23 38.5 +4.5**
baz=173,SNR=5.0
SSPA Standing Stone 37.65 1 P P 11 23 40.9 +4.9
baz=182
GDL2 Guadalupe Moun 37.72 324 P **P 11 23 39.0 +2.1**
BO01 Tunca 37.76 169 P **P 11 23 36.0 -1.0**
BO01 IAmb IAmb 11 23 49.2
comp=Z,48nm,1.5s
N54A Moraine State 37.98 359 P P 11 23 44.1 +5.3
baz=178,SNR=7.1
MNTX Cornudas Mount 37.99 322 P **P 11 23 40.5 +1.4**
baz=134,SNR=15
MNTX Cornudas Mount 37.99 322 P **P 11 23 38.9 -0.1**
N59A State Game Lan 38.03 4 P P 11 23 46.0 +6.8
baz=185
MSTX Muleshoe 38.12 327 P **P 11 23 40.7 +0.5**
baz=139
MSTX Muleshoe 38.12 327 P **P 11 23 40.7 +0.5**
MSTX IAmb IAmb 11 23 49.1
comp=Z,18nm,0.9s
BB19B Bebedouro 38.12 130 *eP* **P 11 23 38.7 -1.6**
M57A Sunshine Farm, 38.38 2 P **P 11 23 43.0 +0.9**
M57A IAmb IAmb 11 23 51.6
comp=Z,44nm,1.3s
P40A Paris 38.42 344 P **P 11 23 42.6 +0.1**
M55A Ridgway 38.47 0 P **P 11 23 43.5 +0.6**
M54A Oil Creek Stat 38.52 359 P P 11 23 48.6 +5.3
baz=179,SNR=5.6
JANB Januaria 38.65 118 *eP* **P 11 23 43.5 -1.4**
FRTB Fartura 38.71 134 *eP* **P 11 23 43.5 -1.7**
ITQB Itaqui 38.76 148 *eP* **P 11 23 45.2 -0.2**
P38A Dawn 38.94 342 P **P 11 23 47.3 +0.4**
BINY Binghamton 39.29 4 P P 11 23 58.4 +8.6
baz=185,SNR=6.0
NBMO Morrinhos-CE 39.39 99 *eP* **P 11 23 50.0 -1.1**
RCLB Rio Claro- Sao 39.66 131 *eP* **P 11 23 52.0 -1.2**
MC01 Montes Claros 39.67 120 *eP* **P 11 23 52.2 -1.2**
K56A Middlesex 39.73 2 P P 11 23 58.6 +5.1
baz=182
N38A Joes South For 39.93 343 P **P 11 23 54.5 -0.6**
N38A IAmb IAmb 11 24 02.5
comp=Z,28nm,1.0s
121A Cookes Peak, D 40.05 321 P **P 11 23 59.4 +2.9**
baz=132,SNR=16
121A Cookes Peak, D 40.05 321 P **P 11 23 57.9 +1.4**
121A IAmb IAmb 11 24 09.7
comp=Z,52nm,1.2s
K62A Royalston 40.12 8 P P 11 24 04.8 +8.1
baz=190
NBPB Pedra_Branca-C 40.22 102 *eP* **P 11 23 57.3 -0.7**

TIJ01	Guaruva-PR	40.34	136	eP	P	11 23 58.3	-0.6
SPB	Sao Paulo	40.41	132	eP	P	11 23 58.0	-1.3
VAO	Valinhos	40.42	131	eP	P	11 23 58.3	-1.2
BNM	Barren Site	40.44	324	P	P	11 24 00.5	+0.8
J58A	Remsen	40.49	4	P	P	11 24 07.4	+7.7
	baz=186						
DIAM	Diamantina, MG	40.61	122	eP	P	11 24 00.3	-1.0
LENM	Lemitar	40.66	323	P	P	11 24 03.1	+1.6
ANMO	Albuquerque	40.90	325	P	P	11 24 05.8	+2.3
	baz=135						
ANMO	Albuquerque	40.90	325	P	P	11 24 04.8	+1.3
NBPN	Ponto Novo - B	40.91	110	eP	P	11 24 02.8	-0.8
PET01	Itanhaem-SP	40.94	133	eP	P	11 24 02.2	-1.6
BSCB	Bom Sucesso	41.03	127	eP	P	11 24 02.8	-1.8
CPSB	Cacapava Do Su	41.07	145	eP	P	11 24 03.9	-0.8
JFWS	Jewell Farm	41.16	347	P	P	11 24 09.4	+4.1
	baz=163						
JFWS	Jewell Farm	41.16	347	P	P	11 24 06.1	+0.8
JFWS				IAmb	IAmb	11 24 12.3	
	comp=Z,15nm,0.8s						
T25A	Trinidad	41.39	329	P	P	11 24 09.9	+2.3
	baz=140,SNR=11						
T25A	Trinidad	41.39	329	P	P	11 24 09.2	+1.7
T25A				IAmb	IAmb	11 24 20.5	
	comp=Z,24nm,1.1s						
PARB	Paraibuna	41.62	130	eP	P	11 24 08.8	-0.7
SADO	Sadowa	41.77	360	P	P	11 24 15.2	+5.0
	comp=Z,12nm,1.0s,baz=206,slow=7.3,SNR=7.5						
SADO	Sadowa	41.77	360	P	P	11 24 10.4	+0.2
SADO				IAmb	IAmb	11 24 18.5	
	comp=Z,32nm,1.2s						
TUC	Tucson	41.86	318	P	P	11 24 13.2	+1.9
	baz=128						
TUC	Tucson	41.86	318	P	P	11 24 12.6	+1.3
PLTB	Pedras Altas	42.01	147	P	P	11 24 11.0	-1.4
PLTB				IAmb	IAmb	11 24 12.6	
	comp=Z,21nm,1.1s						
PLTB	Pedras Altas	42.01	147	eP	P	11 24 11.7	-0.7
LC01	Cunco	42.03	172	P	P	11 24 12.8	+0.3
LC01				IAmb	IAmb	11 24 20.9	
	comp=Z,25nm,0.8s						
PLVO	Plevna	42.07	2	P	P	11 24 12.9	+0.2
PLVO				IAmb	IAmb	11 24 33.9	
	comp=Z,22nm,1.0s						
TER01	Tubaro-SC	42.35	139	eP	P	11 24 13.2	-2.1
GDU01	Guandu, BA	42.40	114	eP	P	11 24 15.0	-0.8
SDCO	Great Sand Dun	42.41	328	P	P	11 24 18.0	+2.0
	baz=139,SNR=39						
SDCO	Great Sand Dun	42.41	328	P	P	11 24 17.4	+1.5
SDCO				IAmb	IAmb	11 24 25.9	
	comp=Z,24nm,1.1s						
NBPA	Parau_RN	42.67	102	eP	P	11 24 16.7	-1.3
X18A	Snowflake	42.72	321	P	P	11 24 19.6	+1.2
VAS01	Vassouras-RJ	42.75	128	eP	P	11 24 18.1	-0.5
NBIT	Itapeh - BA	42.95	115	eP	P	11 24 18.7	-1.5
ALGO	Algonquin Park	42.96	1	P	P	11 24 25.0	+5.1
	baz=181,SNR=5.9						
W18A	Petrified Fore	42.97	322	P	P	11 24 22.9	+2.4
	baz=132						
W18A	Petrified Fore	42.97	322	P	P	11 24 22.5	+2.1
CMC01	Camacan, BA	43.02	116	eP	P	11 24 20.4	-0.4
S22A	4UR Ranch, Cre	43.12	327	P	P	11 24 24.3	+2.6
	baz=137						
NBLV	Livramento - P	43.17	104	eP	P	11 24 21.0	-1.2
GUA01	Guaratinga, BA	43.23	118	eP	P	11 24 22.0	-0.5
NAN01	Guarapari, ES	43.45	120	eP	P	11 24 23.2	-1.1
DUB01	Friburgo-RJ	43.50	127	eP	P	11 24 24.6	-0.1
TRQA	Tornquist	43.62	160	eP	P	11 24 26.9	+1.6
ECSD	EROS Data Cent	43.64	341	P	P	11 24 27.8	+2.4
	baz=154,SNR=5.6						
ECSD	EROS Data Cent	43.64	341	P	P	11 24 25.5	0.0
ECSD				IAmb	IAmb	11 24 32.5	
	comp=Z,20nm,1.2s						
MVCO	Mesa Verde	43.67	325	P	P	11 24 29.2	+3.2
	baz=135						
MVCO	Mesa Verde	43.67	325	P	P	11 24 26.7	+0.6
RIB01	Linhares ES	43.84	122	eP	P	11 24 26.1	-1.3
RCBR	Riachuelo	43.87	101	eP	P	11 24 26.7	-1.2
SPMN	Marine on St.	43.94	346	P	P	11 24 30.2	+2.4
	baz=160						
SPMN	Marine on St.	43.94	346	P	P	11 24 27.1	-0.7
CAM01	Campos-RJ	43.95	126	eP	P	11 24 27.2	-1.1
ISCO	Idaho Springs	44.02	330	P	P	11 24 30.5	+1.5
	baz=140						
ISCO	Idaho Springs	44.02	330	P	P	11 24 30.2	+1.2
PLCA	Paso Flores	44.03	171	P	P	11 24 30.5	+1.8
	comp=Z,17nm,0.7s,baz=350,slow=8.8,SNR=50						
PLCA	Paso Flores	44.03	171	P	P	11 24 29.2	+0.5
PLCA	Paso Flores	44.03	171	eP	P	11 24 30.8	+2.1
WUAZ	Wupatki	44.25	321	P	P	11 24 33.1	+2.4
	baz=130,SNR=12						
WUAZ	Wupatki	44.25	321	P	P	11 24 32.3	+1.6
WUAZ				IAmb	IAmb	11 24 41.4	
	comp=Z,20nm,0.8s						
SMCO	Snowmass	44.25	328	P	P	11 24 32.5	+1.6
NBAN	Anadia - AL	44.31	107	eP	P	11 24 30.5	-0.8
PV02	Paradox Valley	44.50	326	P	P	11 24 34.2	+1.4
PV13	Radium Mtn., P	44.51	326	P	P	11 24 34.1	+1.3
NBPV	Pedro Velho	44.57	102	eP	P	11 24 31.8	-1.6
PV03	Paradox Valley	44.60	326	P	P	11 24 33.7	+0.2
F36A	Milaca	44.72	346	P	P	11 24 33.7	-0.3
F36A				IAmb	IAmb	11 24 40.8	
	comp=Z,14nm,0.9s						
U15A	North Rim	45.40	322	P	P	11 24 42.1	+2.1
U15A				IAmb	IAmb	11 25 03.1	
	comp=Z,23nm,1.5s						
F33A	5 Mile Ranch,	45.44	343	P	P	11 24 40.8	+1.0
F33A				IAmb	IAmb	11 24 45.8	
	comp=Z,21nm,1.3s						
W13A	Hualapai Mount	45.60	319	P	P	11 24 42.8	+1.3
W13A				IAmb	IAmb	11 24 58.7	
	comp=Z,24nm,1.3s						
IKP	In-Ko-Pah, Jac	45.73	315	P	P	11 24 44.4	+2.0
	baz=123						
IRM	Iron Mountain	45.89	317	P	P	11 24 45.5	+1.9
	baz=125						
PKCU	Pink Cliffs	46.07	323	P	P	11 24 47.3	+2.0
PKCU				IAmb	IAmb	11 24 55.4	
	comp=Z,19nm,1.3s						
MONP2	Monument Peak	46.08	315	P	P	11 24 47.1	+1.8
	baz=123						
LSQQ	Lebel-sur-Quev	46.09	2	P	P	11 24 50.1	+5.2
	baz=183						
KNB	Kanab	46.10	322	P	P	11 24 47.0	+1.5
KNB				IAmb	IAmb	11 25 01.8	
	comp=Z,14nm,1.1s						
SRU	San Rafael Swe	46.13	326	P	P	11 24 46.7	+1.1
SRU				IAmb	IAmb	11 24 54.9	
	comp=Z,12nm,1.2s						
LCMT	Little Creek M	46.36	321	P	P	11 24 48.8	+1.4
LCMT				IAmb	IAmb	11 25 02.7	
	comp=Z,16nm,1.5s						
MTPU	Mount Pierson	46.38	323	P	P	11 24 47.4	-0.4
BELC	Belle Mtn. Jos	46.39	316	P	P	11 24 49.4	+1.7
	baz=124						
PFO	Pinyon Flats O	46.49	316	P	P	11 24 50.6	+2.1
	comp=Z,0.5nm,0.7s,baz=143,slow=5.8,SNR=4.1						
PFO	Pinyon Flats O	46.49	316	P	P	11 24 50.4	+1.9
	baz=123						
P17A	Butcher Ranch,	46.50	326	P	P	11 24 49.5	+1.0
GMRC	Granite Mounta	46.60	317	P	P	11 24 51.2	+1.9
	baz=125						
SZCU	Shurtz Canyon	46.64	322	P	P	11 24 50.8	+1.1
MSU	Marysvale	46.68	324	P	P	11 24 50.2	+0.1
MVU	Marysvale	46.70	324	P	P	11 24 51.4	+1.2
RSSD	Black Hills	46.72	335	P	P	11 24 51.7	+1.5
	baz=144						
RSSD	Black Hills	46.72	335	P	P	11 24 51.2	+1.0
CCUT	Cedar City	46.78	322	P	P	11 24 52.9	+2.1
TCRU	Three Creeks R	46.91	324	P	P	11 24 53.9	+2.1
TCRU				IAmb	IAmb	11 25 03.0	
	comp=Z,9.3nm,1.0s						
HEC	Hector,Ludlow	47.08	317	P	P	11 24 55.4	+2.3
	baz=124						
TUQ	Turquoise Moun	47.15	318	P	P	11 24 55.6	+2.0
	baz=125						
SHPR	Sheep Range	47.27	320	P	P	11 24 56.6	+2.0
SHPR				IAmb	IAmb	11 25 06.9	
	comp=Z,16nm,1.4s						
SHOC	Shoshone, Teco	47.65	318	P	P	11 24 59.6	+2.2
	baz=125						
GSC	Goldstone, Bar	47.66	317	P	P	11 24 59.5	+1.9
	baz=124						
GSC	Goldstone, Bar	47.66	317	P	P	11 24 58.9	+1.3
GSC				IAmb	IAmb	11 25 14.4	
	comp=Z,21nm,1.5s						
PSUT	Pine Spring	47.70	323	P	P	11 24 57.5	-0.4
PRN	Pahroc Range	47.74	321	P	P	11 24 59.2	+1.0
BW06	Boulder Array	48.21	330	P	P	11 25 05.9	+4.0
	baz=137						
BW06	Boulder Array	48.21	330	P	P	11 25 03.2	+1.3
PDAR	Pinedale Array	48.21	330	P	P	11 25 02.5	+0.7
	comp=Z,0.6nm,0.7s,baz=114,slow=10,SNR=5.6						
PDAR				PcP	PcP	11 26 29.1	+0.1
	comp=Z,0.6nm,0.7s,baz=169,slow=5.1,SNR=1.8						
PDAR	Pinedale Array	48.21	330	P	P	11 25 01.6	-0.3
TPNV	Topopah Spring	48.24	319	P	P	11 25 04.1	+2.0
	baz=126,SNR=5.7						
TPNV	Topopah Spring	48.24	319	P	P	11 25 03.3	+1.2
TPNV				IAmb	IAmb	11 25 19.5	
	comp=Z,10nm,1.1s						
EDW2	Edwards Air Fo	48.25	316	P	P	11 25 03.6	+1.5
	baz=123						
SPR3	Spring Creek 3	48.28	323	P	P	11 25 03.7	+1.1
LRMC	Laurel Mtn Rad	48.36	317	P	P	11 25 05.0	+2.0
	baz=123,SNR=7.3						
FURC	Furnace Creek,	48.36	319	P	P	11 25 05.0	+2.2
	baz=125						
HWUT	Hardware Ranch	48.43	327	P	P	11 25 04.3	+0.8
R11A	Troy Canyon, C	48.65	321	P	P	11 25 07.1	+1.8
	baz=128						
R11A	Troy Canyon, C	48.65	321	P	P	11 25 06.2	+0.9
ARVC	Arvin	48.96	316	P	P	11 25 09.6	+2.1
	baz=122						
GRAC	Grapevine Rang	48.99	319	P	P	11 25 09.9	+2.1
	baz=125						
ISA	Isabella, Lake	49.00	317	P	P	11 25 10.1	+2.2
	baz=123						
ISA	Isabella, Lake	49.00	317	P	P	11 25 09.4	+1.5
REDW	Red Top Meadow	49.30	329	P	P	11 25 11.5	+1.3
REDW				IAmb	IAmb	11 25 21.9	
	comp=Z,19nm,1.3s						
LOHW	Long Hollow	49.35	330	P	P	11 25 11.7	+1.1
ULM	Lac du Bonnet	49.38	346	P	P	11 25 09.4	-0.9
	comp=Z,6.9nm,0.6s,baz=152,slow=8.3,SNR=13						
ULM	Lac du Bonnet	49.38	346	P	P	11 25 10.3	-0.1
VES	Vestal, Richgr	49.52	317	P	P	11 25 13.9	+2.2
	baz=122						
TPH	Tonopah	49.52	320	P	P	11 25 13.3	+1.3
PKM	Mcpherson Peak	49.53	315	P	P	11 25 14.0	+2.0
	baz=121						
TIN	Tinemaha, Big	49.60	318	P	P	11 25 14.6	+2.1
	baz=124						
FLWY	Flagg Ranch	49.74	330	P	P	11 25 14.1	+0.5
FLWY				IAmb	IAmb	11 25 39.0	
	comp=Z,18nm,1.1s						
RLMT	Red Lodge	49.82	332	P	P	11 25 14.9	+0.7
	baz=139						
RLMT	Red Lodge	49.82	332	P	P	11 25 14.2	+0.1
RLMT				IAmb	IAmb	11 25 22.5	
	comp=Z,14nm,1.2s						
SMMC	Simmler	49.87	315	P	P	11 25 16.7	+2.2
	baz=121						
ELK	Elko	49.93	324	P	P	11 25 15.9	+0.9
YNE	Yellowstone No	50.09	332	P	P	11 25 16.7	+0.5
YMR	Madison River	50.30	331	P	P	11 25 19.5	+1.7
YMR				IAmb	IAmb	11 25 43.0	
	comp=Z,12nm,1.0s						
MLAC	Mammoth, Mammo	50.32	319	P	P	11 25 20.1	+2.0
	baz=124						
NV11	Mina Array Sit	50.33	320	P	P	11 25 19.0	+0.9
NV11				IAmb	IAmb	11 25 35.0	
	comp=Z,17nm,1.3s						
YHH	Holmes Hill	50.33	331	P	P	11 25 19.4	+1.3
NVAR	Mina Array Bea	50.42	320	P	P	11 25 20.6	+1.8
	comp=Z,2.0nm,0.7s,baz=121,slow=7.2,SNR=24						
NVAR				PcP	PcP	11 26 38.5	+1.3
	comp=Z,2.3nm,0.7s,baz=131,slow=4.9,SNR=3.7						
NVAR				LR	LR	11 48 41.6	
	comp=Z,129nm,18.2s,baz=127,slow=38						
NVAR	Mina Array Bea	50.42	320	P	P	11 25 20.2	+1.3
LHV	Little Huntoon	50.45	319	P	P	11 25 19.9	+1.2
LHV				IAmb	IAmb	11 25 36.0	
	comp=Z,20nm,1.3s						
MDPB	Devils Postpil	50.48	318	P	P	11 25 21.2	+1.9
MDPB				IAmb	IAmb	11 25 36.5	
	comp=Z,18nm,1.1s						
GCMT	Greycliff	50.51	332	P	P	11 25 19.9	+0.6
KVN	Kaiserville	50.65	321	P	P	11 25 21.9	+1.4
RYN	Ryan	50.68	320	P	P	11 25 22.2	+1.6
WAKR	Walker	51.20	319	P	P	11 25 26.2	+1.5
BOZ	Bozeman (W)	51.30	331	P	P	11 25 26.5	+1.3
	baz=136,SNR=5.8						
BOZ	Bozeman (W)	51.30	331	P	P	11 25 25.9	+0.7
YERR	Yerington	51.34	320	P	P	11 25 27.4	+1.7
YERR				IAmb	IAmb	11 25 40.7	
	comp=Z,24nm,1.5s						
MCMT	McKenzie Canyo	51.35	329	P	P	11 25 27.3	+1.5
PNTR	Pine Nut	51.63	320	P	P	11 25 29.5	+1.6
VCNR	Virginia City	51.78	320	P	P	11 25 30.5	+1.5
PAHR	Pah Rah Range	51.84	321	P	P	11 25 30.4	+1.0
PAHR				IAmb	IAmb	11 25 45.8	
	comp=Z,16nm,1.4s						
HRY	Holter Researc	52.20	332	P	P	11 25 32.7	+0.8
AFDM	Forest Hills D	52.45	319	P	P	11 25 35.5	+1.7
BEKR	Beckworth	52.55	320	P	P	11 25 35.6	+0.9
SCHQ	Schefferville	52.78	9	P	P	11 25 36.0	+0.1
	comp=Z,3.9nm,0.9s,baz=1.0,slow=19,SNR=5.1						
SCHQ	Schefferville	52.78	9	P	P	11 25 36.6	+0.7
ORV	Oroville	53.12	319	P	P	11 25 40.6	+1.9
ORV				IAmb	IAmb	11 25 55.5	
	comp=Z,30nm,1.3s						
MSO	Missoula	53.30	331	P	P	11 25 40.9	+0.9
	baz=134						
MSO	Missoula	53.30	331	P	P	11 25 40.7	+0.6
J08A	Circle Bar Ran	53.44	325	P	P	11 25 42.4	+1.2
F10A	Beach Ranch, E	54.40	328	P	P	11 25 48.2	+0.2
F10A				IAmb	IAmb	11 25 58.3	
	comp=Z,11nm,1.1s						
WALA	Waterton Lakes	54.87	333	P	P	11 25 52.5	+1.1
WALA				IAmb	IAmb	11 26 02.1	
	comp=Z,11nm,1.1s						
J05D	Fort Rock, OR	55.02	323	P	P	11 25 54.1	+1.4
	baz=125						
YBH	Yreka Blue Hor	55.06	321	LR	LR	11 49 18.5	
	comp=Z,199nm,19.5s,baz=148,slow=36						
NEW	Newport	55.85	330	P	P	11 25 59.5	+1.0
LON	Longmire	57.37	326	P	P	11 26 10.0	+0.7
LON				IAmb	IAmb	11 26 18.0	
	comp=Z,15nm,1.3s						
A04D	Lummi Island	59.02	328	P	P	11 26 22.0	+1.3
	baz=126						
TAOE	Nuku Hiva Isla	62.06	259	eLR	LR	11 45 06.4	
	comp=Z,258nm,28.0s						
MACI	Morro de la Ar	64.51	60	P	P	11 26 59.0	+0.6
YKA	Yellowknife Ar	65.15	343	P	P	11 27 01.2	-0.4
	comp=Z,1.2nm,0.8s,baz=130,slow=6.7,SNR=2.9						
DLBC	Dease Lake	68.17	334	P	P	11 27 22.8	+1.7
PPT	Papeete	72.43	251	LR	LR	11 52 36.9	
	comp=Z,67nm,19.2s,baz=104,slow=30						
PPT2	Papeete2	72.44	251	eS	S	11 37 06.5	-5.7
	comp=Z,70nm,25.8s						
PPT2	Papeete2	72.44	251	eLR	LR	11 50 00.5	
	comp=Z,254nm,28.0s						
PTEO	Sao Teotonio	72.67	52	i LQ	LQ	11 27 56.5	
MORF	Marmelete	72.68	52	eP	P	11 27 49.9	+0.8
	comp=Z,28nm,1.8s						
MORF	Marmelete	72.68	52	ePcP	PcP	11 28 07.8	+1.3
PNCL	Nicolau / Gran	72.92	51	eP	P	11 27 51.3	+0.9
	comp=Z,18nm,1.7s						
PNCL				i LQ	LQ	11 27 57.8	
PSBE	So Bento	72.96	50	eP	P	11 27 51.3	+0.6
	comp=Z,24nm,1.9s						
PSBE				i LQ	LQ	11 27 57.6	
MESJ	Messejana	73.11	51	eP	P	11 27 52.4	+0.8
	comp=Z,13nm,1.6s						
PCVE	Castro Verde	73.22	52	eP	P	11 27 53.5	+1.3
	comp=Z,18nm,1.5s						
PCVE				i LQ	LQ	11 28 00.0	
PBDV	Barranco-do-Ve	73.24	52	eP	P	11 27 52.6	+0.2
	comp=Z,32nm,1.5s						
PCAS	Casmilo, Conde	73.29	49	eP	P	11 27 53.4	+0.8
	comp=Z,28nm,1.6s						
PCAS				i LQ	LQ	11 28 00.3	
TBI	Tubuai	73.30	245	eLR	LR	11 50 24.2	
	comp=Z,223nm,27.8s						
PMTG	Montargil	73.32	50	eP	P	11 27 51.5	-1.3
	comp=Z,10nm,1.5s						
PMTG				i LQ	LQ	11 27 59.7	
EVO	Evora	73.39	51	eP	P	11 27 53.7	+0.5
	comp=Z,16nm,1.6s						
LIC	Lamto	73.75	84	eP	P	11 27 54.9	-0.9
	comp=Z,84nm,1.1s						
TIC	Toumodi	73.75	84	eP	P	11 27 56.0	+0.2
PESTR	Estremoz	73.77	50	eP	P	11 27 55.9	+0.4
	comp=Z,23nm,1.0s						
PESTR				i LQ	LQ	11 28 02.8	
PESTR	Estremoz	73.77	50	P	P	11 27 55.2	-0.3
PVIS	Viseu	73.86	48	eP	P	11 27 56.3	+0.3
	comp=Z,21nm,1.6s						
PVIS				i LQ	LQ	11 28 03.1	
SUMG	Summit	74.01	12	P	P	11 27 57.4	+0.7
PMRV	Marv??o	74.02	50	eP	P	11 27 57.0	+0.1
	comp=Z,15nm,1.7s						
PMRV				i LQ	LQ	11 28 03.8	
PCBR	Castelo Branco	74.02	49	eP	P	11 27 57.5	+0.6
	comp=Z,22nm,1.7s						
PCBR				i LQ	LQ	11 28 04.0	
KIC	Kosan Boka	74.03	84	eP	P	11 27 57.9	+0.4
	comp=Z,29nm,0.9s						
POLO	Lamas de Olo	74.06	48	eP	P	11 27 57.7	+0.5
POLO				i LQ	LQ	11 28 04.5	
PBAR	Barrancos	74.09	51	eP	P	11 27 58.3	+1.0
	comp=Z,12nm,1.7s						
PBAR				i LQ	LQ	11 28 04.5	
DAWY	Dawson	74.88	337	P	P	11 28 02.8	+1.3
DAWY				IAmb	IAmb	11 28 09.8	
	comp=Z,15nm,1.2s						
PBRG	Braganca	74.91	48	eP	P	11 28 02.8	+0.7
	comp=Z,24nm,1.7s						
PBRG				i LQ	LQ	11 28 09.1	
BCAR	Beaver Creek A	75.44	335	P	P	11 28 05.5	+0.8
L27K	Beaver Creek,	75.45	335	P	P	11 28 06.5	+1.7
	baz=113,SNR=8.0						
L27K	Beaver Creek,	75.45	335	P	P	11 28 05.6	+0.9
EGAK	Eagle	75.88	337	P	P	11 28 08.5	+1.4
	baz=114,SNR=8.6						
EGAK	Eagle	75.88	337	P	P	11 28 07.4	+0.3
BMRM	Bremner River	75.89	333	P	P	11 28 08.7	+1.4
	baz=110,SNR=6.7						
K27K	Chicken	75.94	336	P	P	11 28 09.3	+1.8
	baz=113						
K27K	Chicken	75.94	336	P	P	11 28 08.5	+1.0
K27K				IAmb	IAmb	11 28 16.9	
	comp=Z,17nm,1.2s						
L26K	Log Cabin Wild	76.08	335	P	P	11 28 09.4	+1.0
	baz=112						
MENT	Mentasta	76.20	335	P	P	11 28 09.2	+0.2
MENT				IAmb	IAmb	11 28 17.6	
	comp=Z,16nm,1.4s						
PAB	San Pablo	76.36	50	P	P	11 28 10.2	-0.4
PAB				IAmb	IAmb	11 28 18.7	
	comp=Z,9.9nm,1.1s						
DOT	Dot Lake	76.61	335	P	P	11 28 11.6	+0.2
ESDC	Sonseca Array	76.68	50	P	P	11 28 12.8	+0.6
	comp=Z,3.3nm,0.8s,baz=262,slow=5.9,SNR=26						
ESDC	Sonseca Array	76.68	50	P	P	11 28 12.4	+0.1
ESBB	Sonseca Array	76.68	50	P	P	11 28 12.8	+0.5
ESBB				IAmb	IAmb	11 28 20.5	
	comp=Z,17nm,1.4s						
SCRK	Sand Creek	76.70	336	P	P	11 28 13.4	+1.5
	baz=112,SNR=5.7						
SCRK	Sand Creek	76.70	336	P	P	11 28 12.7	+0.7
SCRK				IAmb	IAmb	11 28 20.7	
	comp=Z,18nm,1.2s						
PAX	Paxson	76.96	335	P	P	11 28 15.0	+1.6
	baz=110,SNR=6.2						
RIDG	Independent Ri	76.97	335	P	P	11 28 14.7	+1.3
	baz=111,SNR=6.9						
M24K	Tolsona, Glenn	76.98	334	P	P	11 28 14.3	+0.8
	baz=109,SNR=6.3						
SCM	Sheep Creek Mo	77.41	333	P	P	11 28 16.6	+0.6
WAT6	Susitna Watana	77.83	334	P	P	11 28 18.9	+0.5
	baz=108,SNR=8.4						
SML	Sawmill	77.86	333	P	P	11 28 21.8	+3.4
	baz=107,SNR=5.6						
HDA	Harding Lake	78.06	336	P	P	11 28 20.2	+0.8
	baz=109,SNR=7.6						
HDA	Harding Lake	78.06	336	P	P	11 28 20.0	+0.6
ILAR	Eielson Array	78.16	336	P	P	11 28 20.8	+0.8
	comp=Z,1.1nm,0.8s,baz=113,slow=4.7,SNR=10						
ILAR				LR	LR	12 06 36.7	
	comp=Z,83nm,19.2s,baz=128,slow=39						
ILAR	Eielson Array	78.16	336	P	P	11 28 20.1	+0.2
BMAR	Burnt Mountain	78.20	339	P	P	11 28 22.0	+1.8
POKR	Poker Flat Res	78.49	336	P	P	11 28 21.8	0.0
RND	Reindeer	78.56	334	P	P	11 28 22.7	+0.4
MDM	Murphy Dome	78.76	336	P	P	11 28 24.0	+0.7
MDM				IAmb	IAmb	11 28 32.1	
	comp=Z,16nm,1.2s						
H24K	Noodor Dome	78.89	337	P	P	11 28 28.4	+4.3
	baz=108,SNR=7.3						
NEA2	Nenana	78.99	336	P	P	11 28 25.3	+0.7
I23K	Minto, Yukon-K	79.28	336	P	P	11 28 28.8	+2.8
	baz=107,SNR=8.3						
I23K	Minto, Yukon-K	79.28	336	P	P	11 28 27.0	+1.0
SKT	Skwentna	79.36	333	P	P	11 28 27.5	+0.8
	baz=104,SNR=6.7						
SKT	Skwentna	79.36	333	P	P	11 28 27.1	+0.4
SKT				IAmb	IAmb	11 28 34.9	
	comp=Z,23nm,1.1s						
H23K	Yukon River	79.54	337	P	P	11 28 31.7	+4.1
	baz=107						
MLY	Manley	79.80	336	P	P	11 28 30.6	+1.6
	baz=105,SNR=7.2						
MLY	Manley	79.80	336	P	P	11 28 30.0	+1.0
MLY				IAmb	IAmb	11 28 37.6	
	comp=Z,16nm,1.1s						
PPLA	Purkeypile	79.88	334	P	P	11 28 30.5	+0.8
	baz=104,SNR=5.6						
PPLA	Purkeypile	79.88	334	P	P	11 28 30.4	+0.8
M20K	Styx River	80.08	332	P	P	11 28 31.3	+0.7
	baz=103						
TORD	Torodi Ar. Bea	80.28	77	P	P	11 28 32.2	-0.3
	comp=Z,2.5nm,0.5s,baz=283,slow=6.1,SNR=16						
TORD

RETA	Reutte	87.76	43	eP	P	11 29 10.7	+0.5
	comp=Z,10nm,1.3s						
MOTA	Moosalm	88.00	43	eP	P	11 29 11.6	+0.2
	comp=Z,6.9nm,1.0s						
ZCCA	Zocca	88.01	46	P	P	11 29 12.1	+0.7
SQTA	Sankt Quirin	88.07	43	eP	P	11 29 12.5	+0.7
	comp=Z,14nm,1.1s						
WATA	Walderalm	88.32	43	eP	P	11 29 13.4	+0.5
	comp=Z,8.6nm,1.3s						
SNAA	Sanae	88.32	162	P	P	11 29 13.4	+1.1
SNAA	Sanae	88.32	162	pP	pP	11 29 19.9	+3.6
SNAA	Sanae	88.32	162	P	P	11 29 13.2	+0.9
WTTA	Wattenberg	88.36	43	eP	P	11 29 14.0	+0.9
	comp=Z,8.9nm,1.0s						
CTI	Castel Tesino	88.42	44	P	P	11 29 14.1	+0.7
TEOL	Teolo	88.47	45	P	P	11 29 13.9	+0.5
ABTA	Abfaltersbach	88.99	43	eP	P	11 29 16.9	+0.9
	comp=Z,9.0nm,1.2s						
CLL	Collm	89.06	39	eP	P	11 29 17.0	+0.9
CLL				i (sP)	pwP	11 29 23.5	+1.0
CLL				e		11 29 31.0	
CLL				Lm	MLR	12 08 00.0	
	comp=Z,100nm,21.3s						
ZOU	Zoufplan	89.31	44	P	P	11 29 16.8	-0.9
ZOU				IAmb	IAmb	11 29 30.8	
	comp=Z,18nm,1.4s						
KBA	Koelnbreinsper	89.54	43	eP	P	11 29 19.4	+0.7
	comp=Z,3.9nm,0.6s						
KHC	Kasperske Hory	89.56	41	eP	P	11 29 21.8	+3.2
GERES	GERESS Array B	89.66	41	P	P	11 29 19.7	+0.6
	comp=Z,0.4nm,0.7s,baz=284,slow=4.0,SNR=1.6						
BRG	Berggiesshubel	89.68	39	eP	P	11 29 25.8	+6.8
BRG				Amp		11 29 31.1	
	comp=Z,6.3nm,1.2s						
MYKA	Terra Mystica	89.77	44	eP	P	11 29 20.0	+0.3
	comp=Z,3.2nm,1.0s						
CADS	Cadrg	89.86	44	i P	P	11 29 20.8	+0.7
CADS				i		11 29 27.5	
MOA	Molln	90.11	42	eP	P	11 29 20.7	-0.5
	comp=Z,8.6nm,1.3s						
OBKA	Obir	90.40	44	eP	P	11 29 23.5	+0.9
	comp=Z,3.2nm,0.9s						
PDKS	Podkum	90.75	44	i P	P	11 29 25.3	+1.1
ARSA	Arzberg	91.01	43	eP	P	11 29 27.1	+1.8
	comp=Z,3.7nm,0.8s						
CONA	Conrad Observa	91.17	42	eP	P	11 29 28.0	+1.8
	comp=Z,5.6nm,1.3s						
DPC	Dobruska-Polom	91.23	40	eP	P	11 29 27.4	+1.0
DPC				epP	pwP	11 29 33.2	+0.4
KRUC	Moravsky	91.41	41	eP	P	11 29 26.8	-0.4
VRAC	Vranov	91.52	41	eP	P	11 29 26.3	-1.4
QSPA	South Pole Qui	92.86	180	P	P	11 29 33.3	-0.3
FINES	FINESS Array B	94.69	28	P	P	11 29 42.1	+0.2
	comp=Z,4.3nm,1.0s,baz=235,slow=6.3,SNR=4.6						
MNK	Minsk	97.42	34	i P	P	11 29 49.3	-5.2
	comp=E,2.0nm,0.9s						
MNK				i P	P	11 29 49.3	-5.2
	comp=N,32nm,0.8s						
MNK				i P	P	11 29 49.3	-5.2
	comp=Z,10.0nm,0.8s,baz=104						
MNK				i PP	PP	11 33 45.8	-5.5
MNK				i PPP	PPP	11 35 49.8	
MNK				i S	SKSac	11 40 34.9	+3.2
MNK				i PS	PS	11 42 37.0	-5.3
MNK				i SS	SS	11 48 14.2	+17
MNK				i SSS	SSS	11 51 38.3	
MNK				i LQ	LQ	12 07 47.0	
MNK				i LR	LR	12 12 44.7	
MNK				i LRM	MLR	12 14 02.3	
	comp=N,274nm,21.6s						
MNK				i LRM	MLR	12 14 11.2	
	comp=E,13nm,22.9s						
MNK				i LRM	MLR	12 14 44.3	
	comp=Z,215nm,22.9s						
KLMR	Klimovskoe	100.99	26	ePdif	Pdif	11 30 12.8	+2.5
KLMR				AMP		11 30 18.7	
	comp=Z,10.0nm,1.6s						
ZALV	Zalesovo Beam	121.83	11	PKP	PKPdf	11 35 14.7	-0.4
	comp=Z,0.4nm,0.4s,baz=346,slow=5.2,SNR=1.5						
KURBB	Kurchatov Arra	123.37	17	PKP	PKiKP	11 35 18.5	+0.1
	comp=Z,0.4nm,0.5s,baz=331,slow=2.3,SNR=3.0						
MJAR	Matsushiro Arr	127.72	322	PKP	PKiKP	11 35 29.3	+1.8
	comp=Z,0.6nm,0.5s,baz=108,slow=5.7,SNR=4.9						
MJAR	Matsushiro Arr	127.72	322		PKPdf	11 35 24.6	-2.4
MKAR	Makanchi Array	127.90	16	PKP	PKPdf	11 35 26.6	-0.4
	comp=Z,0.7nm,0.9s,baz=7.8,slow=2.7,SNR=5.3						
MKAR	Makanchi Array	127.90	16		PKPdf	11 35 26.9	-0.2
SONM	Songino Array	129.33	355	PKP	PKPdf	11 35 30.0	+0.2
	comp=Z,0.6nm,0.7s,baz=356,slow=0.9,SNR=4.6						
SONM	Songino Array	129.33	355		PKPdf	11 35 29.6	-0.2
WMQ	Urumqi	132.04	13	ePKP	PKiKP	11 35 36.0	-0.1
STKA	Stephens Creek	132.16	228	PKP	PKiKP	11 35 36.5	-0.1
	comp=Z,3.3nm,1.1s,baz=116,slow=23,SNR=3.6						
HHC	Hu-ho-hao-te	135.48	349	ePKP	PKPdf	11 35 37.8	-3.8
NJ2	Nanjing	141.40	335	ePKP	PKPdf	11 35 52.4	-0.2
ASAR	Alice Springs	142.06	234	PKhKP	PKPpre	11 35 49.5	
	comp=Z,9.0nm,0.6s,baz=121,slow=3.4,SNR=12						
ASAR	Alice Springs	142.06	234	PKPdf	PKPdf	11 35 52.5	-1.6
XAN	Xi'an	142.58	349	ePKP	PKPdf	11 35 52.4	-2.3
XAN				pPKP	PKiKP	11 35 57.6	-0.2
WRA	Warramunga Arr	143.30	240	PKhKP	PKPpre	11 35 53.2	
	comp=Z,4.0nm,0.7s,baz=109,slow=3.0,SNR=13						
WRA	Warramunga Arr	143.30	240		PKPbc	11 35 54.7	+1.4
CD2	Chengdu	146.35	356	PKPbc	PKPdf	11 35 59.6	-1.8
KMI	Kunming	152.17	357	↓PKPbc	PKPdf	11 36 09.9	-1.2
CMAR	Chiang Mai Arr	158.75	5	PKP	PKPdf	11 36 21.6	+1.8
	comp=Z,0.5nm,0.4s,baz=259,slow=1.8,SNR=2.1						
CMAR				PKPab	PKPab	11 36 54.0	-1.0
	comp=Z,1.4nm,0.9s,baz=328,slow=3.6,SNR=4.1						
CMAR	Chiang Mai Arr	158.75	5		PKPdf	11 36 18.0	-1.8
CMAR				PKPab	PKPab	11 36 54.6	-0.5

GCMT 19 11:20:02.0±0.3, 1°.02N±0°.01×85°.32W±0°.02, h20km±1km, MW4.9/98, Moment Tensor Solution. s23,c26; s98,c131; Duration: 0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.34±.12; $M_{\theta\theta}$0.67±.09; $M_{\phi\phi}$-0.32±.11; $M_{r\theta}$-0.44±.19; $M_{\theta\phi}$2.86±.09; $M_{\phi r}$-0.07±.19; **Best double couple:** $M_0$2.93600×10^{16} **NP1:**ϕ_s185.00000°, δ82.00000°, λ180.00000°. **NP2:**ϕ_s275.00000°, δ90.00000°, λ8.00000°. **Principal axes:** T 3.1180, Plg6.0000°, Azm140.0000°; N -0.3640, Plg82.0000°, Azm278.0000°; P -2.7540, Plg6.0000°, Azm50.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Off coast of Ecuador**

*PRU **19** 11:30:45.7±0.0, 48°.17N×23°.88E, h0km, M4.0*
*KRSZO **19** 11:30:46.6±0.6, 48°.09N×23°.68E, h6km±4km, ML4.1/29, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0*
*MOS **19** 11:30:46.3±0.8, 48°.09N×23°.61E, h8km, mb4.4/3, Error ellipse: s-maj=5.7km s-min=3.7km az=116.6*
*BUC **19** 11:30:47.6±0.5, 48°.10N×23°.66E, h5km±3km, ml3.8/25, Error ellipse: s-maj=3.4km s-min=2.3km az=28.0*
*NEIC **19** 11:30:47.3±2.4, 48°.13N±0°.04×23°.70E±0°.06, h10km±6km, Error ellipse: s-maj=6.0km s-min=5.2km az=141.0*
*IDC **19** 11:30:47.4±0.6, 48°.11N×23°.58E, h0km, mb3.5/5, mb1 3.7/11, mb1mx3.5/49, mbtmp3.6/11, ML3.7/5, MS2.9/10, Ms1 2.9/10, ms1mx2.7/44, Error ellipse: s-maj=8.7km s-min=6.8km az=15.0*
*SIGU **19** 11:30:47.4, 48°.04N×23°.67E, h8km*
ISC 19 11:30:46.4±1.0, 48°.11N±0°.01×23°.72E±0°.01, h1km±6km, n318, σ1°.71/413, mb3.8/7, 55C-50D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAKU	Rahkiv	0.31	106	i	Pg	Pg		11 30 54.2	+1.8
RAKU					Pm			11 30 54.3	
RAKU				e	Sg	Sb		11 30 59.7	-0.6
RAKU					Sm			11 31 02.5	
RAKU					m			11 31 06.3	
KORU	Korolevo	0.39	277	i	Pg	Pg		11 30 55.5	+1.6
KORU					Pm			11 30 55.9	
KORU				e	Sg	Sg		11 31 00.8	+1.8
KORU					Sm			11 31 03.3	
KORU					m			11 31 19.1	
MEZ	Mezhgor'ye	0.42	341	i	Pg	Pb		11 30 57.1	+0.5
MEZ				e	Sg	Sb		11 31 04.4	+0.9
MEZ					m			11 31 07.7	
BMR	Baia Mare	0.46	199	i	P	Pg		11 30 55.9	+0.7
BMR				i	S	Sg		11 31 01.7	+0.4
BMR	Baia Mare	0.46	199	i	P	Pg		11 30 55.9	+0.7
BMR				i	S	Sg		11 31 01.7	+0.4
BMR	Baia Mare	0.46	199		P	Pg		11 30 55.8	+0.6
BMR					S	Sg		11 31 01.6	+0.4
BMR	Baia Mare	0.46	199			Pg		11 30 55.9	+0.6
BMR						Sg		11 31 01.7	+0.4
BMR	Baia Mare	0.46	199		Pg	Pg		11 30 55.8	+0.6
	comp=Z,30nm,SNR=630								
BMR					Sg	Sg		11 31 01.9	+0.7
NSLU	Nyzhne Selyshc	0.50	80	i	Pg	Pg		11 30 52.1	-3.9
NSLU				i	Sg	Sg		11 30 55.1	-7.4
NSLU					Sm			11 30 56.0	
NSLU					m			11 31 01.3	
TRSU	Trosnyk	0.51	268	i	Pg	Pb		11 30 57.7	-0.3
TRSU					Pm			11 30 59.4	
TRSU				e	Sg	Sb		11 31 04.8	-1.1
TRSU					Sm			11 31 06.4	
TRSU					m			11 31 56.0	
BRIU	Brid	0.52	296	i	Pg	Pb		11 30 57.9	-0.3
BRIU					Pm			11 31 01.1	
BRIU				e	Sg	Sb		11 31 06.4	+0.2
BRIU					m			11 31 08.4	
BRIU					Sm			11 31 09.1	
BERU	Beregovo	0.73	280	i	Pg	Pg		11 31 00.7	+0.4
BERU				e	Sg	Sb		11 31 12.2	0.0
BERU					m			11 31 16.8	
MUKU	Mukachevo	0.77	297	i	Pg	Pb		11 31 02.7	+0.2
MUKU					Pm			11 31 04.4	
MUKU				e	Sg	Sn		11 31 14.4	-2.0
MUKU					Sm			11 31 17.4	
MUKU					m			11 31 17.4	
TRPA	Tarpa	0.79	272	i	P	Pg		11 31 02.3	+0.8
TRPA				i	S	Sb		11 31 13.2	-0.8
TRPA	Tarpa	0.79	272	i	P	Pg		11 31 02.3	+0.8
TRPA	Tarpa	0.79	272	e	P	Pg		11 31 02.5	+1.0
TRPA	Tarpa	0.79	272			Pg		11 31 02.3	+0.8
TRPA						Sb		11 31 13.2	-0.8
TRPA	Tarpa	0.79	272		Pg	Pg		11 31 02.5	+1.0
	comp=Z,15nm,SNR=7.2								
STNU	Starunia	0.80	41	i	Pg	Pn		11 31 06.4	+1.7
KSV	Kosov	0.93	77	i	Pg	Pn		11 31 06.9	+0.4
KSV					m			11 31 29.3	
HOLU	Holmets	0.98	295	i	Pg	Pb		11 31 06.5	+0.4
HOLU				e	Sg	Sn		11 31 20.9	-0.8
MORS	Morshin	1.03	7	e	Pg	Pn		11 31 10.3	+2.4
UZH	Uzhgorod	1.08	299	i	P	Pg		11 31 07.0	-0.1
UZH					i			11 31 23.0	
UZH	Uzhgorod	1.08	299	e	Pg	Pn		11 31 08.4	-0.2
UZH					Pm			11 31 10.7	
UZH				e	Sg	Sn		11 31 24.6	+0.4
UZH					Sm			11 31 28.3	
MESR	Meseseni	1.09	209	i	P	Pb		11 31 08.3	+0.3
MESR				i	S	Sb		11 31 23.0	+0.2
MESR	Meseseni	1.09	209	i	P	Pb		11 31 08.3	+0.3
MESR	Meseseni	1.09	209			Pb		11 31 08.3	+0.3
MESR						Sb		11 31 23.0	+0.2
ARCR	ARCALIA	1.11	157	i	P	Pb		11 31 08.4	0.0
ARCR				i	S	Sb		11 31 23.3	-0.1
ARCR	ARCALIA	1.11	157	i	P	Pb		11 31 08.4	0.0
ARCR	ARCALIA	1.11	157			Pb		11 31 08.4	0.0
ARCR						Sb		11 31 23.3	-0.1
ARCR	ARCALIA	1.11	157		Pn	Pb		11 31 08.4	0.0
	comp=Z,7.7nm,SNR=234								
BUR01	Bucovina Ar. S	1.13	116			Pb		11 31 08.9	+0.2
BURAR	Bucovina Array	1.13	116	i	P	Pb		11 31 08.9	+0.2
BURAR	Bucovina Array	1.13	116	i	P	Pb		11 31 08.9	+0.2
BURAR	Bucovina Array	1.13	116		Pn	Pb		11 31 09.0	+0.4
SHIU	Shidnytsya	1.14	348	e	Pg	Pn		11 31 11.6	+2.2
SHIU				e	Sg	Sn		11 31 28.8	+3.2
KOLS	Kolonicke sedl	1.26	311	e	P	Pg		11 31 12.4	+1.8
KOLS				e				11 31 32.1	
KOLS	Kolonicke sedl	1.26	311		Pn	Pg		11 31 11.9	+1.3
	comp=Z,1μm,SNR=1000								
KOLS	Kolonicke sedl	1.26	311	e	PG	Pg		11 31 12.4	+1.8
KOLS				e	SG	Sn		11 31 32.1	+3.4
CBBR	Cluj-Babes-Bol	1.35	185	i	P	Pb		11 31 12.8	+0.4
CBBR	Cluj-Babes-Bol	1.35	185	i	P	Pb		11 31 12.8	+0.4
CBBR	Cluj-Babes-Bol	1.35	185			Pb		11 31 12.8	+0.4
CJR	Cluj-Napoca	1.40	183	i	P	Pn		11 31 13.3	+0.2
CJR				i	S	Sg		11 31 33.6	+2.2
CJR	Cluj-Napoca	1.40	183	i	P	Pn		11 31 13.3	+0.2
CJR	Cluj-Napoca	1.40	183		P	Pn		11 31 13.2	+0.2
CJR					S	Sb		11 31 32.0	+0.3
CJR	Cluj-Napoca	1.40	183			Pn		11 31 13.3	+0.2
CJR						Sg		11 31 33.6	+2.2
CJR	Cluj-Napoca	1.40	183		Pn	Pn		11 31 13.0	-0.1
	comp=Z,10nm,SNR=233								
CJR					Sn	Sb		11 31 32.1	+0.3
LTVH	Ltavrtes, Hu	1.43	240	i	P	Pb		11 31 14.3	+0.6
LTVH				i	S	Sg		11 31 34.6	+2.5
LTVH	Ltavrtes, Hu	1.43	240	i	P	Pb		11 31 14.3	+0.6
LTVH	Ltavrtes, Hu	1.43	240	e	P	Pn		11 31 12.9	-0.4
LTVH				e	S	Sn		11 31 32.0	-0.7
LTVH	Ltavrtes, Hu	1.43	240			Pb		11 31 14.2	+0.6
LTVH						Sg		11 31 34.6	+2.5
LTVH	Ltavrtes, Hu	1.43	240		Pn	Pn		11 31 12.9	-0.4
	comp=Z,5.2nm,SNR=84								
LTVH					Sn	Sn		11 31 32.0	-0.7
CHRU	Chernivtsi	1.49	82	e	Pn	Pg		11 31 16.4	+1.6
CHRU					m			11 31 42.7	
DRGR		1.49	208	i	P	Pn		11 31 13.9	-0.4
DRGR				i	S	Sb		11 31 34.4	+0.2
DRGR		1.49	208	i	P	Pn		11 31 13.9	-0.4
DRGR		1.49	208		P	Pn		11 31 13.8	-0.4
DRGR					S	Sb		11 31 34.3	+0.2
DRGR		1.49	208			Pn		11 31 13.9	-0.4
DRGR						Sb		11 31 34.4	+0.2
DRGR		1.49	208		Pn	Pn		11 31 13.8	-0.5
	comp=Z,5.3nm,SNR=262								
DRGR					Sn	Sn		11 31 32.8	-1.5
KWP	Kalwaria Pacla	1.66	337		P	Pb		11 31 18.1	+0.4
KWP	Kalwaria Pacla	1.66	337			Pb		11 31 18.1	+0.4
KWP	Kalwaria Pacla	1.66	337		Pg	Pg		11 31 18.9	+0.8
	comp=Z,55nm,SNR=42								
CRVS	Cervenica-Dubn	1.69	299	e	P	Pn		11 31 17.0	0.0
CRVS	Cervenica-Dubn	1.69	299		Pn	Pn		11 31 17.2	+0.2
	comp=Z,70nm,SNR=161								
CRVS	Cervenica-Dubn	1.69	299	e	PN	Pn		11 31 17.0	0.0
LVV	L'vov	1.72	7	e	P	Pg		11 31 20.0	+0.7
LVV				e	S	Sg		11 31 44.1	+2.5
LVV					pmax	pmax			
	comp=Z,840nm,1.2s								
LVV					smax	smax			
	comp=E,600nm,1.2s								
LVV					smax	smax			
	comp=N,1μm,1.4s								
LVV	L'vov	1.72	7	e	Pn	Pg		11 31 20.7	+1.4
LVV					m			11 31 24.8	
LVV				e	Sn	Sg		11 31 43.7	+2.1
PRAR	RASCA	1.85	113	i	P	Pb		11 31 21.4	+0.4
PRAR	RASCA	1.85	113	i	P	Pb		11 31 21.4	+0.4
PRAR	RASCA	1.85	113			Pb		11 31 21.4	+0.4
JOSR	Joseni	1.86	138	i	P	Pb		11 31 20.9	-0.3
JOSR	Joseni	1.86	138	i	P	Pb		11 31 20.9	-0.3
JOSR	Joseni	1.86	138			Pb		11 31 20.9	-0.3
KMPD	K-Podol'skiy	1.89	75	e	Pn	Pg		11 31 23.0	+0.5
KMPD				e	Sn	Sg		11 31 47.3	+0.4
MDB	Medias	2.02	167	i	P	Pn		11 31 23.0	+1.5
MDB	Medias	2.02	167	i	P	Pn		11 31 23.0	+1.5
MDB	Medias	2.02	167		P	Pn		11 31 23.0	+1.5
MDB	Medias	2.02	167			Pn		11 31 23.0	+1.5
STHS	Stebnicka Huta	2.09	310	e	P	Pn		11 31 23.2	+0.7
STHS				e				11 31 55.9	
STHS	Stebnicka Huta	2.09	310		Pg	Pb		11 31 24.5	-0.6
	comp=Z,3.4nm,SNR=133								
STHS	Stebnicka Huta	2.09	310	e	PN	Pn		11 31 23.2	+0.7
STHS				e	SN	Sg		11 31 55.9	+2.3
HORU	Horodok	2.11	57	e	P	Pn		11 31 25.3	0.0
HORU					Pm			11 31 27.7	
HORU				e	Sn	Sg		11 31 55.4	+1.4
HORU					Sm			11 31 57.6	
KECS	Kecovo	2.19	281	e	P	Pn		11 31 23.5	-0.3
KECS				e				11 31 51.8	
KECS					pmax	pmax			
	comp=N,289nm,0.6s								
KECS	Kecovo	2.19	281		Pg	Pn		11 31 23.6	-0.2
	comp=Z,12nm,SNR=101								
KECS					Sn	Sn		11 31 51.2	-0.3
KECS	Kecovo	2.19	281	e	PN	Pn		11 31 23.5	-0.3
KECS				e	SN	Sn		11 31 51.8	+0.3
KECS				e	LG	Lg		11 32 02.3	
DEV	Deva	2.30	194	i	P	Pn		11 31 25.5	+0.2
DEV				i	S	Sn		11 31 53.6	-0.6
DEV	Deva	2.30	194	i	P	Pn		11 31 25.5	+0.2
DEV	Deva	2.30	194		P	Pn		11 31 25.5	+0.2
DEV								11 31 53.6	
DEV	Deva	2.30	194			Pn		11 31 25.5	+0.2
DEV						Sn		11 31 53.6	-0.6
DEV	Deva	2.30	194		Pn	Pn		11 31 25.1	-0.2
	comp=Z,2.5nm,SNR=82								
SIRR	Siria	2.32	218	i	P	Pn		11 31 25.4	-0.2
SIRR				i	S	Sb		11 31 56.6	-1.4
SIRR	Siria	2.32	218	i	P	Pn		11 31 25.4	-0.2
SIRR	Siria	2.32	218			Pn		11 31 25.4	-0.2
SIRR						Sb		11 31 56.6	-1.4
SIRR	Siria	2.32	218		Pg	Pn		11 31 25.0	-0.6
	comp=Z,1.9nm,SNR=117								
DOPR	Dopca	2.43	151	i	P	Pn		11 31 28.5	+1.4
DOPR	Dopca	2.43	151	i	P	Pn		11 31 28.5	+1.4
DOPR	Dopca	2.43	151			Pn		11 31 28.5	+1.4
OZUR		2.46	144	i	P	Pn		11 31 29.0	+1.3
OZUR		2.46	144	i	P	Pn		11 31 29.0	+1.3
OZUR		2.46	144			Pn		11 31 29.0	+1.3
BSZH	Besenyszg	2.47	252		Pg	Pg		11 31 34.6	+1.0
NDNU	Novodnistrovsk	2.48	77	e	Pn	Pb		11 31 31.9	+0.2
TESR	Tescani	2.56	128	i	P	Pn		11 31 31.2	+2.3
TESR	Tescani	2.56	128	i	P	Pn		11 31 31.2	+2.3
TESR	Tescani	2.56	128			Pn		11 31 31.2	+2.3
PSZ	Piszkesteto	2.57	267	i	P	Pn		11 31 28.6	-0.5
PSZ	Piszkesteto	2.57	267	i	P	Pn		11 31 28.6	-0.5
PSZ	Piszkesteto	2.57	267	e	P	Pn		11 31 28.3	-0.8
PSZ	Piszkesteto	2.57	267		P	Pn		11 31 28.1	-1.1
PSZ	Piszkesteto	2.57	267		Pn	Pn		11 31 28.1	-1.1
PSZ	Piszkesteto	2.57	267			Pn		11 31 28.6	-0.5
PSZ	Piszkesteto	2.57	267	x	x	x		11 31 28.3	
	comp=Z,1.9nm,SNR=113								
LOT	Lotru	2.67	179	i	P	Pn		11 31 30.9	+0.4
LOT	Lotru	2.67	179	i	P	Pn		11 31 30.9	+0.4
LOT	Lotru	2.67	179			Pn		11 31 30.9	+0.4
LOT	Lotru	2.67	179		Pg	Pn		11 31 30.6	+0.1
	comp=Z,2.3nm,SNR=101								
AMBH	Ambrzfalva	2.69	230	e	S	Sn		11 32 02.1	-1.8
AMBH	Ambrzfalva	2.69	230		Pg	Pg		11 31 43.3	+5.3
AMBH					Sn	Sn		11 32 02.1	-1.8
IAS	Iasi	2.76	108		P	Pb		11 31 36.1	-0.3
IAS	Iasi	2.76	108		Pg	Pg		11 31 39.7	+0.5
	comp=Z,2.7nm,SNR=14								
GZR	Gura Zlata	2.80	194	i	P	Pn		11 31 32.5	+0.3
GZR	Gura Zlata	2.80	194	i	P	Pn		11 31 32.5	+0.3
GZR	Gura Zlata	2.80	194		P	Pn		11 31 32.5	+0.3
GZR	Gura Zlata	2.80	194			Pn		11 31 32.5	+0.3
GZR	Gura Zlata	2.80	194		Pn	Pn		11 31 32.3	0.0
	comp=Z,1.6nm,SNR=146								
GZR					Pg	Pb		11 31 38.2	+1.1
VOIR		2.83	161	i	P	Pn		11 31 33.6	+0.9
VOIR		2.83	161	i	P	Pn		11 31 33.6	+0.9
VOIR		2.83	161		P	Pn		11 31 33.6	+0.9
VOIR		2.83	161			Pn		11 31 33.6	+0.9
LANS	Liptovska Anna	3.00	292	e	P	Pn		11 31 36.1	+1.0
LANS				e				11 32 16.0	
LANS	Liptovska Anna	3.00	292		Pn	Pn		11 31 36.1	+1.0
	comp=Z,0.7nm,SNR=44								
LANS	Liptovska Anna	3.00	292	e	PN	Pn		11 31 36.1	+1.0
LANS				e	SN	Sb		11 32 16.0	-1.8
PLOR	Plostina	3.02	137	i	P	Pn		11 31 37.3	+2.0
PLOR	Plostina	3.02	137	i	P	Pn		11 31 37.3	+2.0
PLOR	Plostina	3.02	137	i	P	Pn		11 31 37.3	+2.0
PLOR	Plostina	3.02	137			Pn		11 31 37.3	+2.0
MLR	Muntele Rosu	3.04	149		Pn	Pn		11 31 36.3	+0.7
	comp=Z,0.5nm,0.3s,baz=330,slow=8.1,SNR=3.7								
MLR					Pg	Pg		11 31 44.4	-0.1
	comp=Z,1.1nm,0.3s,baz=203,slow=8.3,SNR=9.5								
MLR					Lg	Lg		11 32 24.2	
	comp=Z,4.1nm,0.3s,baz=311,slow=19,SNR=1.8								
MLR					LR	LR		11 33 08.9	
	comp=Z,308nm,21.5s,baz=323,slow=46								
MLR	Muntele Rosu	3.04	149	i	P	Pn		11 31 37.5	+1.9
MLR	Muntele Rosu	3.04	149		Pn	Pn		11 31 35.7	+0.1
MLR	Muntele Rosu	3.04	149		Pn	Pb		11 31 39.9	-1.3
	comp=Z,0.5nm,SNR=23								
VRI	Vrincioaia	3.05	136	i	P	Pn		11 31 37.0	+1.4
VRI	Vrincioaia	3.05	136	i	P	Pn		11 31 37.0	+1.4

AKASG Pg **Pb** **11 32 06.5 +1.6**
comp=Z,18nm,0.3s,baz=236,slow=17,SNR=33
AKASG Sn **Sn** **11 32 50.7 +3.9**
comp=Z,8.5nm,0.3s,baz=240,slow=23,SNR=5.8
AKASG Lg Lg 11 33 07.1
comp=Z,38nm,0.3s,baz=230,slow=29,SNR=9.9
AKASG Malin Array Be 4.43 52 *i* P Pn 11 31 59.7 +5.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 4.43 52 P **Pn** **11 31 54.8 +0.2**
AKBB Malin Array Si 4.43 52 **Pn** **11 31 54.8 +0.2**
DIVS Divibare 4.78 214 **Pn** **11 31 59.1 -0.4**
SOP Sopron 4.83 268 P **Pn** **11 32 00.3 +0.1**
VRAC Vranov 4.87 287 Pn **Pn** **11 32 00.7 0.0**
comp=Z,1.7nm,0.3s,baz=109,slow=12,SNR=14
VRAC Sn **Sn** **11 32 58.2 +0.7**
comp=Z,5.9nm,0.3s,baz=11,slow=22,SNR=14
VRAC LR LR 11 34 09.6
comp=Z,81nm,21.6s,baz=116,slow=42
VRAC Vranov 4.87 287 ⇑P **Pn** **11 32 00.1 -0.5**
VRAC ⇑S **Sn** **11 32 58.1 +0.7**
VRAC Vranov 4.87 287 ⇑P **Pn** **11 32 00.1 -0.5**
VRAC Vranov 4.87 287 **Pn** **11 32 00.1 -0.5**
VRAC **Sn** **11 32 58.1 +0.7**
VRAC Vranov 4.87 287 *e*PN **Pn** **11 32 00.6 0.0**
VRAC *e*SN **Sn** **11 32 57.5 0.0**
VRAC Vranov 4.87 287 Pg **Pn** **11 32 00.6 0.0**
TIRR Tirgusor 4.89 137 P **Pn** **11 32 02.8 +1.8**
KRUC Moravsky 4.95 284 P **Pn** **11 32 01.0 -0.8**
KRUC Moravsky 4.95 284 *e*PN **Pn** **11 32 01.7 -0.1**
KRUC *e*SN **Sn** **11 32 58.0 -1.6**
KRLC Kraliky 4.96 296 *e*P **Pn** **11 32 01.8 -0.1**
KRLC *e* 11 32 58.8
KRLC Kraliky 4.96 296 *e*PN **Pn** **11 32 01.8 -0.1**
KRLC *e*SN **Sn** **11 32 58.8 -1.1**
CONA Conrad Observa 5.27 271 *e*Pn **Pn** **11 32 05.5 -0.8**
comp=Z,3.0nm,0.3s
CONA *e*Sn **Sn** **11 33 06.4 -1.3**
comp=Z,14nm,0.6s
DPC Dobruska-Polom 5.34 298 *e*P **Pn** **11 32 07.7 +0.6**
DPC *e* 11 33 07.4
DPC Dobruska-Polom 5.34 298 *e*PN **Pn** **11 32 07.7 +0.6**
DPC *e*SN **Sn** **11 33 07.4 -1.8**
OSTC Ostas 5.48 299 *e*PN **Pn** **11 32 09.8 +0.8**
VTS Vitosha 5.50 184 P **Pn** **11 32 08.2 -1.3**
VTS Vitosha 5.50 184 **Pn** **11 32 08.2 -1.3**
KSP Ksiaz 5.56 302 P **Pn** **11 32 11.0 +0.9**
KSP pmax pmax
comp=Z,78nm,0.7s
KSP Ksiaz 5.56 302 Pn **Pn** **11 32 11.4 +1.3**
comp=Z,78nm,0.7s,SNR=9.1
TREC Trest 5.58 285 P **Pn** **11 32 09.9 -0.5**
TREC pmax pmax
comp=Z,18nm,0.7s
UPC Upice 5.58 298 *e*P **Pn** **11 32 10.9 +0.5**
UPC Upice 5.58 298 *e*PN **Pn** **11 32 10.9 +0.5**
CHVC Chvalec 5.59 299 *e*PN **Pn** **11 32 10.9 +0.4**
CHVC *e*SN **Sn** **11 33 14.0 -1.3**
ARSA Arzberg 5.60 264 *e*Pn **Pn** **11 32 10.1 -0.6**
comp=Z,2.0nm,0.3s
ARSA Pg **Pb** **11 32 24.5 -0.3**
comp=Z,6.3nm,0.4s
SUW Suwalki 5.92 357 *e*P **Pg** **11 32 38.9 -0.8**
SUW *e*S **Sg** **11 33 55.6 -0.6**
SUW Suwalki 5.92 357 P **Pn** **11 32 16.4 +1.4**
SUW Suwalki 5.92 357 **Pn** **11 32 16.4 +1.4**
PLD Plovdiv 6.05 173 P **Pn** **11 32 18.7 +1.9**
CKRC Cesky Krumlov 6.30 280 *e*PN **Pn** **11 32 20.2 -0.1**
CKRC *e*SN **Sn** **11 33 32.2 -0.6**
PRU Pruhonice 6.32 291 *e*P **Pn** **11 32 20.9 +0.4**
PRU *e* 11 33 31.8
PRU Pruhonice 6.32 291 *e*PN **Pn** **11 32 20.9 +0.4**
PRU *e*SN **Sn** **11 33 31.8 -1.4**
MOA Molln 6.35 271 *e*Pn **Pn** **11 32 20.9 -0.1**
comp=Z,0.8nm,0.3s
RICI Ricice 6.52 227 *e*Pn **Pn** **11 32 24.8 +1.5**
RICI Sn **Sn** **11 33 33.3 -4.9**
PBCC Pribram 6.60 287 *e*PN **Pn** **11 32 23.8 -0.6**
PBCC *e*SN **Sn** **11 33 38.7 -1.5**
GEC2 GERESS Array S 6.70 280 Pn **Pn** **11 32 25.8 -0.1**
GERES GERESS Array B 6.70 280 Pn **Pn** **11 32 26.0 +0.2**
comp=Z,2.3nm,0.3s,baz=93,slow=14,SNR=37
GERES Sn **Sn** **11 33 41.6 -1.2**
comp=Z,3.1nm,0.3s,baz=78,slow=25,SNR=12
GERES LR LR 11 35 10.5
comp=Z,61nm,21.7s,baz=325,slow=40
GERES GERESS Array B 6.70 280 P **Pn** **11 32 26.6 +0.8**
GERES GERESS Array B 6.70 280 Pn **Pn** **11 32 26.6 +0.8**
KHC Kasperske Hory 6.80 282 *e*P **Pn** **11 32 26.7 -0.5**
KHC *e* 11 33 43.6
KHC Kasperske Hory 6.80 282 *e*PN **Pn** **11 32 26.7 -0.5**
KHC *e*SN **Sn** **11 33 43.6 -1.6**
KHC Kasperske Hory 6.80 282 Pn **Pn** **11 32 26.1 -1.0**
KLNR Kaliningrad 6.86 343 *i* P **Pn** **11 32 29.6 +1.7**
KLNR pmax pmax
comp=Z,23nm,0.9s
MNK Minsk 6.91 21 *i* P **Pn** **11 32 28.4 -0.2**
MNK *i* S **Sn** **11 33 49.1 +1.3**
MNK pmax pmax
comp=N,36nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.5s
MNK MLR MLR
comp=N,224nm,18.0s
MNK MLR MLR
comp=Z,211nm,19.0s
MNK MLR MLR
comp=E,9.0nm,15.0s
MNK Minsk 6.91 21 *i* P **Pn** **11 32 28.4 -0.2**
comp=E,5.0nm,0.9s
MNK *i* P **Pn** **11 32 28.4 -0.2**
comp=N,36nm,0.8s
MNK *i* P **Pn** **11 32 28.4 -0.2**
comp=Z,9.0nm,0.5s,baz=21
MNK *i* PP **PnPn** **11 32 36.0 -0.1**
MNK *i* PPP PPP 11 32 43.6
MNK *i* S **Sn** **11 33 49.1 +1.4**
MNK *i* SS **SnSn** **11 34 01.3 +2.3**
MNK *i* SSS SSS 11 34 13.7
MNK *i* LQ LQ 11 34 27.9
MNK *i* LR LR 11 34 38.9
MNK *i* LRM MLR 11 35 22.9
comp=N,224nm,17.9s
MNK *i* LRM MLR 11 35 27.8
comp=Z,211nm,19.0s
MNK *i* LRM MLR 11 35 34.3
comp=E,9.0nm,15.2s
BRG Berggiesshubel 6.94 297 P **Pn** **11 32 29.6 +0.6**
BRG Berggiesshubel 6.94 297 Pn **Pn** **11 32 29.8 +0.8**
BRG Amp 11 32 31.6
comp=Z,3.0nm,0.5s
BRG r 11 34 01.1
BRG Amp 11 34 44.1
comp=Z,16nm,1.1s
BRG Amp 11 35 29.0
comp=Z,0.2nm,13.9s
BRG Amp 11 36 02.0
comp=N,0.3nm,8.6s
MORI Morici 7.01 236 *e*Pn **Pn** **11 32 31.4 +1.4**
MORI Sn **Sn** **11 33 43.9 -6.4**
NACGM Naroch 7.06 15 *i* P Pb 11 32 42.4 -7.3
NACGM *i* Pb Pb 11 32 42.4 -7.3
NACGM *i* P Pb 11 32 42.4 -7.3
baz=198
NACGM *i* Pb Pn 11 32 44.1 +13
NACGM *i* PP **PbPb** **11 32 51.0 -1.9**
NACGM *i* PPP PPP 11 32 58.9
NACGM *i* S **Sb** **11 34 06.3 -8.1**
NACGM *i* LQ LQ 11 34 46.9
NACGM *i* LR LR 11 35 17.0
NACGM *i* Sb Sb 11 35 48.5 +94
comp=Z,114nm,12.8s
LSTV Lastovo 7.18 224 *e*Pn **Pn** **11 32 34.9 +2.5**
LSTV Sn **Sn** **11 33 50.3 -4.2**
ZIRJ Zirje 7.18 235 *e*Pn **Pn** **11 32 34.1 +1.7**
ZIRJ Sn **Sn** **11 33 48.6 -5.9**
WET Wettzell 7.26 282 P **Pn** **11 32 33.5 0.0**
WET pmax pmax
comp=Z,5.0nm,0.7s
DUGI Dugi Otok 7.30 239 *e*Pn **Pn** **11 32 35.4 +1.5**
DUGI Sn **Sn** **11 33 49.6 -7.7**

ALN Alexandroupoli 7.40 166 P **Pn** **11 32 35.2 -0.2**
ALN Alexandroupoli 7.40 166 Pn **Pn** **11 32 35.2 -0.2**
PABE Paberze 7.41 1 Pn **Pn** **11 32 37.3 +1.9**
IIGN Ignalina 7.41 11 *e*P **Pn** **11 32 37.2 +1.6**
IIGN *e*S **Sg** **11 34 42.8 -1.4**
IIGN IAML 11 35 01.1
comp=Z,18nm,0.5s
IDID Didziasalis 7.45 13 *e*P **Pn** **11 32 37.5 +1.5**
IDID *e*S **Sg** **11 34 40.5 -5.0**
IDID IAML 11 34 54.0
comp=Z,15nm,0.6s
ZOU Zoufplan 7.46 262 Pn **Pn** **11 32 36.3 -0.2**
ISAL Salakas 7.62 10 *e*P **Pn** **11 32 37.4 -1.0**
ISAL IAML 11 35 01.0
comp=Z,13nm,0.7s
CLL Collm 7.65 299 *e*Pn **Pn** **11 32 39.0 +0.3**
CLL *e*Sb **Sb** **11 34 28.0 -3.1**
CLL *e* 11 34 44.0
CLL *e*Sg **Sg** **11 34 52.0 +0.3**
CLL Lmax 11 36 00.0
CLL Collm 7.65 299 P **Pn** **11 32 39.6 +0.9**
CLL Collm 7.65 299 Pn **Pn** **11 32 39.6 +0.9**
SEV Sevastopol' 7.76 114⇓*e*P **Pn** **11 32 40.0 -0.2**
SEV *e*S **Sn** **11 34 09.7 +1.1**
SEV pmax pmax
comp=Z,4.0nm,0.5s
SEV smax smax
comp=N,6.0nm,0.5s
SEV smax smax
comp=E,2.0nm,0.5s
SEV Sevastopol' 7.76 114⇑*e*Pn **Pn** **11 32 40.0 -0.2**
SEV Pm 11 32 40.7
SEV *e*Sn **Sn** **11 34 09.7 +1.1**
SEV Sm 11 34 14.1
SIM Simferopol' 7.84 110⇑*e*P **Pn** **11 32 42.0 +0.6**
SIM *e*S **Sn** **11 34 11.8 +1.1**
SIM pmax pmax
comp=Z,37nm,0.4s
SIM smax smax
comp=N,4.0nm,0.5s
SIM smax smax
comp=E,14nm,0.5s
SIM Simferopol' 7.84 110⇓*e*Pn **Pn** **11 32 42.0 +0.6**
SIM Pm 11 32 48.7
SIM *e*Sn **Sn** **11 34 11.8 +1.1**
SIM Sm 11 34 28.1
YAL Yalta 8.09 113 *e*P **Pn** **11 32 46.9 +2.1**
YAL pmax pmax
comp=Z,33nm,0.2s
YAL Yalta 8.09 113 *e*Pn **Pn** **11 32 46.9 +2.1**
YAL Pm 11 32 48.1
WTTA Wattenberg 8.20 269 *e*Pn **Pn** **11 32 47.9 +1.4**
comp=Z,0.4nm,0.2s
MOX Moxa 8.29 292 P **Pn** **11 32 48.3 +0.7**
MOX pmax pmax
comp=Z,4.0nm,0.8s
SUDU Sudak 8.43 108 *e*P **Pn** **11 32 48.6 -0.8**
SUDU *e*S **Sn** **11 34 24.9 -0.2**
SUDU pmax pmax
comp=Z,7.0nm,0.5s
SUDU smax smax
comp=E,29nm,0.2s
SUDU smax smax
comp=N,9.0nm,0.2s
SUDU Sudak 8.43 108 *e*Pn **Pn** **11 32 48.6 -0.8**
SUDU Pm 11 32 56.2
SUDU *e*Sn **Sn** **11 34 24.9 -0.2**
SUDU Sm 11 34 25.9
BSD Bornholm Skovb 8.89 325 *e* **Pn** **11 32 53.6 -2.1**
baz=97,slow=16
BSD *i* P Pg 11 32 57.6 -39
DAVOX Davos/Dischmat 9.47 267 LR LR 11 37 08.7
comp=N,109nm,21.8s,baz=80,slow=41
BLEU Blekinge 9.52 332 *e*P **Pn** **11 33 06.1 +1.6**
LUNU Lund 9.84 324 *i* P **Pn** **11 33 11.4 +2.6**
LUNU *i* S **Sn** **11 34 54.0 -5.8**
BFO Black Forest 10.28 277 P **Pn** **11 33 14.6 -0.2**
BFO Black Forest 10.28 277 Pn **Pn** **11 33 14.6 -0.2**
DEL Delary 10.31 328 *i* P **Pn** **11 33 15.6 +0.5**
DEL IAML 11 35 12.6
comp=Z,0.9nm,0.4s
BJUU Bjuv 10.32 325 *i* S **Sn** **11 35 07.8 -3.9**
BJUU Bjuv 10.32 325 *e*P **Pn** **11 33 16.9 +1.5**
VSU Vasula 10.52 9 *i* P **Pn** **11 33 20.0 +1.9**
VSU pmax pmax
comp=Z,54nm,1.1s
OBN Obninsk 10.62 44 Sn **Sn** **11 35 13.9 -4.9**
comp=Z,1.5nm,0.3s,baz=204,slow=23,SNR=2.1
OBN Lg Lg 11 36 17.0
comp=Z,1.1nm,0.3s,baz=46,slow=22,SNR=3.0
OBN Obninsk 10.62 44*ce*P **Pn** **11 33 22.8 +3.4**
OBN *i* S **Sn** **11 35 13.9 -4.9**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,30nm,16.0s
BRTR Keskin Array B 11.02 136 LR LR 11 38 53.1
comp=Z,68nm,18.8s,baz=320,slow=44
SENIN Lac Senin/Sane 11.30 267 Pn **Pn** **11 33 27.3 -1.7**
MOS Moscow 11.47 43 *e*P Pn 11 33 20.4 -11
MOS *e*SS **Sn** **11 35 39.7 -0.1**
SOC Sochi 12.04 106 *e*P **Pn** **11 33 37.4 -1.5**
SOC *e* 11 35 53.4
SOC MLR MLR
comp=Z,40nm,14.0s
PUL Pulkovo 12.30 16 *i* P **Pn** **11 33 45.4 +3.0**
PUL pmax pmax
comp=Z,50nm,0.7s
ORIF Oris-en-Rattie 12.69 262 P **Pn** **11 33 49.5 +1.6**
ORIF pmax pmax
comp=Z,4.0nm,1.0s
IDI Anoyia 12.84 176 LR LR 11 39 30.3
comp=Z,36nm,20.1s,baz=282,slow=41
HFS Hagfors 13.38 338 Pn **Pn** **11 33 54.9 -2.2**
comp=Z,0.5nm,0.3s,baz=143,slow=12,SNR=13
HFS Sn **Sn** **11 36 19.4 -6.9**
comp=Z,0.4nm,0.3s,baz=154,slow=24,SNR=4.0
FINES FINESS Array B 13.43 5 Pn **Pn** **11 33 53.5 -4.3**
comp=Z,0.7nm,0.3s,baz=175,slow=14,SNR=17
FINES Sn Sn 11 36 17.0 -11
comp=Z,0.2nm,0.3s,baz=185,slow=19,SNR=2.9
FINES Lg Lg 11 37 46.3
comp=Z,0.4nm,0.3s,baz=177,slow=26,SNR=3.1
FINES LR LR 11 39 28.4
comp=Z,105nm,19.6s,baz=277,slow=39
FINES FINESS Array B 13.43 5 Pn **Pn** **11 33 54.6 -3.1**
FIA1 FINESS Array S 13.43 5 Pn **Pn** **11 33 55.1 -2.7**
KIV Kislovodsk 13.81 100 *e*P **Pn** **11 34 05.9 +2.7**
KIV pmax pmax
comp=Z,7.0nm,1.0s
SHA1 Shidzhatmaz 13.88 101 *i* P **Pn** **11 34 07.0 +2.7**
PYA1 Pyatigorsk 14.04 100 *i* P **Pn** **11 34 08.7 +2.4**
NC602 NORSAR Array S 14.46 335 Pn **Pn** **11 34 09.0 -2.9**
NC405 NORSAR Array S 14.73 337 Pn **Pn** **11 34 11.8 -3.8**
NAO01 NORSAR Array S 14.73 335 Pn **Pn** **11 34 12.7 -3.0**
NB201 NORSAR Array S 14.79 336 Pn **Pn** **11 34 13.3 -3.1**
NB2 NORSAR Subarra 14.80 336 P **Pn** **11 34 13.8 -2.8**
comp=Z,1.9nm,0.6s,baz=146,slow=11
NOA NORSAR Array B 14.80 336 Pn **Pn** **11 34 12.5 -4.1**
comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=12
NC303 NORSAR Array S 14.91 336 Pn **Pn** **11 34 14.7 -3.4**
NBO00 NORSAR Array S 14.92 335 Pn **Pn** **11 34 15.1 -3.0**
NC204 NORSAR Array S 15.12 335 Pn **Pn** **11 34 17.2 -3.7**
KLMR Klimovskoe 15.66 30 *e*P **P** **11 34 33.2 +1.0**
KLMR pmax pmax
comp=Z,6.0nm,0.5s
KLMR Klimovskoe 15.66 30 *e*Pn **P** **11 34 33.2 +1.0**
KLMR AMP 11 34 34.9
comp=Z,6.0nm,0.5s
BELG Belogornoye 15.85 65 LR LR 11 40 59.9
comp=Z,49nm,20.4s,baz=69,slow=38
MSF Maaselka 18.07 7 P **Pn** **11 34 56.7 -1.6**
MSF pmax pmax
comp=Z,8.0nm,1.9s
SGF Sodankyl 19.44 3 P **Pn** **11 35 14.6 -0.3**
SGF pmax pmax
comp=Z,10.0nm,3.0s
LVZ Lovozero 20.61 12 *i* P Pn 11 35 28.4 -0.4
LVZ pmax pmax
comp=Z,7.0nm,1.0s
LVZ Lovozero 20.61 12 P **P** **11 35 24.5 -2.0**
LVZ IAmb IAmb 11 35 34.4
comp=Z,7.9nm,1.0s
ARCES ARCESS Array B 21.50 2 P **P** **11 35 36.0 -0.2**
comp=Z,3.7nm,0.6s,baz=185,slow=12,SNR=14
ARCES LR LR 11 44 19.9
comp=Z,58nm,20.1s,baz=350,slow=38
ARCES ARCESS Array B 21.50 2 P **P** **11 35 36.0 -0.2**
ARCES ARCESS Array B 21.50 2 P **P** **11 35 31.8 -4.4**
ARCES IAmb IAmb 11 35 38.5
comp=Z,11nm,1.1s
ESDC Sonseca Array 21.57 257 P **P** **11 35 36.8 -0.4**
comp=Z,0.6nm,0.9s,baz=58,slow=9.3,SNR=5.8
AKTO Aktyubinsk 22.38 71 P **P** **11 35 46.4 +0.6**
comp=Z,1.6nm,0.5s,baz=279,slow=12,SNR=6.4
AKTO LR LR 11 44 53.5
comp=Z,15nm,20.4s,baz=323,slow=38
ARU Arti 22.68 55 P **P** **11 35 49.0 +0.2**
comp=Z,0.6nm,0.3s,baz=279,slow=9.0,SNR=4.0
ARU Arti 22.68 55*d i* P **P** **11 35 50.2 +1.4**
ARU S **S** **11 40 01.4 +3.7**
ARU SS **SnSn** **11 40 30.1 +3.5**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 23.81 74 P **P** **11 35 59.7 -0.7**
ABKAR IAmb IAmb 11 36 10.1
comp=Z,2.3nm,0.9s
ABKAR Akbulak array 23.81 74 P **P** **11 35 60.0 -0.4**
TORD Torodi Ar. Bea 39.38 215 P **P** **11 38 18.0 +0.6**
comp=Z,0.3nm,0.5s,baz=16,slow=9.3,SNR=2.1
SINGT Singida 53.58 166 *i* S **S** **11 47 48.0 +4.6**
BILL Bilibino 60.82 15⇓*i* P **P** **11 41 01.4 +1.9**
BILL *e* 11 43 20.5
BILL *e*S S 11 49 28.1 +11
BILL *e*SS **SS** **11 53 20.6 +5.6**
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,60nm,18.0s

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*NOU **19** 11:33:44.7, 31.°64S×175.°85W, h7km, MLv5.1, Kermadec Islands Region*
*NEIC **19** 11:33:53.3±0.8, 31.°40S±0.°08×177.°0W±0.°2, h77km±7km, mb4.5/17, Error ellipse: s-maj=24.3km s-min=12.3km az=88.0*
*IDC **19** 11:34:01.5±2.4, 31.°19S×178.°29W, h67km±22km, mb3.5/3, mb1 3.9/5, mb1mx3.5/37, mbtmp4.1/5, Error ellipse: s-maj=39.8km s-min=17.5km az=112.0*
ISC 19 11:33:58.2±1.2, 31.°36S±0.°08×178.°1W±0.°2, h50km, n92, σ2=00/77, mb4.2/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.11**	**5**	P		**Pn**	**Pn**	**11 34 33.5**	**+2.5**
	284nm,0.3s,baz=271,slow=22,SNR=8.1								
RAO				S		**Sn**	**Sn**	**11 34 56.4**	**+0.4**
	466nm,0.3s,baz=66,slow=21,SNR=4.5								
RAO	**Raoul Island**	**2.11**	**5**			**Pn**	**Pn**	**11 34 29.1**	**-1.9**
RAO	**Raoul Island**	**2.11**	**5**	P		**Pn**	**Pn**	**11 34 33.3**	**+2.3**
MXZ	**Matakaoa Point**	**6.86**	**205**	Pn		**Pn**	**Pn**	**11 35 36.7**	**+0.6**
HAZ	**Te Kaha**	**7.22**	**207**	P		**Pn**	**Pn**	**11 35 44.8**	**+3.7**
PKGZ	**Pakihiroa**	**7.23**	**205**	P		**Pn**	**Pn**	**11 35 44.5**	**+3.2**
PUZ	**Puketiti**	**7.33**	**203**	P		**Pn**	**Pn**	**11 35 45.6**	**+2.9**
RUGZ	**Raukumara Rang**	**7.44**	**207**	P		**Pn**	**Pn**	**11 35 47.2**	**+2.9**
TWGZ	**Tauwhareparae**	**7.52**	**204**	P		**Pn**	**Pn**	**11 35 48.3**	**+3.1**
CNGZ	**Carnagh Statio**	**7.72**	**202**	P		**Pn**	**Pn**	**11 35 51.1**	**+3.2**
TKGZ	**Te Karaka**	**7.80**	**204**	P		**Pn**	**Pn**	**11 35 51.4**	**+2.3**
OPRZ	**Ohinepanea**	**7.82**	**213**	P		**Pn**	**Pn**	**11 35 53.3**	**+4.0**
MWZ	**Matawai**	**7.82**	**206**	P		**Pn**	**Pn**	**11 35 51.6**	**+2.1**
MARZ	**Manawahe**	**7.88**	**212**	P		**Pn**	Pn	11 35 56.4	+6.2
URZ	**Urewera**	**7.92**	**208**	P		**Pn**	**Pn**	**11 35 53.5**	**+2.8**
	5.0nm,0.3s,baz=269,slow=3.3,SNR=42								
URZ	**Urewera**	**7.92**	**208**			**Pn**	**Pn**	**11 35 51.8**	**+1.1**
URZ	**Urewera**	**7.92**	**208**	P		**Pn**	**Pn**	**11 35 52.8**	**+2.1**
RAGZ	**Rawiri**	**8.01**	**206**	P		**Pn**	**Pn**	**11 35 54.3**	**+2.4**
PRGZ	**Paritu Road**	**8.22**	**202**	P		**Pn**	**Pn**	**11 35 57.6**	**+2.7**
MUGZ	**Murupara**	**8.25**	**209**	P		**Pn**	**Pn**	**11 35 57.4**	**+2.2**
TOZ	**Tahuroa Road**	**8.25**	**218**	P		**Pn**	Pn	11 36 04.5	+9.3
RTZ	**Ruatahuna**	**8.28**	**208**	P		**Pn**	**Pn**	**11 35 57.6**	**+1.9**
SNGZ	**Shannon Statio**	**8.29**	**205**	P		**Pn**	**Pn**	**11 35 58.2**	**+2.4**
RAHZ	**Arahi**	**8.50**	**206**	P		**Pn**	**Pn**	**11 36 00.4**	**+1.8**
MTHZ	**Maungataniwha**	**8.54**	**208**	P		**Pn**	**Pn**	**11 36 01.6**	**+2.4**
MRHZ	**Matea Rd**	**8.70**	**209**	P		**Pn**	**Pn**	**11 36 02.9**	**+1.5**
NMHZ	**Naumai**	**8.76**	**207**	P		**Pn**	**Pn**	**11 36 04.0**	**+1.6**
ARHZ	**Aropaoanui**	**8.84**	**205**	P		**Pn**	**Pn**	**11 36 04.8**	**+1.6**
BKZ	**Black Stump Fm**	**8.95**	**208**	Pn		**Pn**	**Pn**	**11 36 06.4**	**+1.6**
BKZ	**Black Stump Fm**	**8.95**	**208**	P		**Pn**	**Pn**	**11 36 05.3**	**+0.5**
MCHZ	**McNeill Hill**	**9.11**	**206**	P		**Pn**	**Pn**	**11 36 08.9**	**+1.9**
KWHZ	**Kaweka Forest**	**9.20**	**207**	P		**Pn**	**Pn**	**11 36 09.5**	**+1.3**
NTVZ	**North Tongarir**	**9.24**	**212**	P		**Pn**	**Pn**	**11 36 11.8**	**+2.9**
TMVZ	**Te Maari**	**9.24**	**211**	P		**Pn**	**Pn**	**11 36 10.5**	**+1.6**
ETVZ	**East Tongariro**	**9.25**	**211**	P		**Pn**	**Pn**	**11 36 11.8**	**+2.8**
NNVZ	**North Ngauruho**	**9.29**	**212**	P		**Pn**	**Pn**	**11 36 14.3**	**+4.6**
OTVZ	**Oturere**	**9.29**	**211**	P		**Pn**	**Pn**	**11 36 11.0**	**+1.3**
SNVZ	**South Ngauruho**	**9.32**	**211**	P		**Pn**	**Pn**	**11 36 11.8**	**+1.7**
BHHZ	**Black Hill Sta**	**9.40**	**209**	P		**Pn**	**Pn**	**11 36 11.6**	**+0.7**
KRHZ	**Kereru**	**9.40**	**207**	P		**Pn**	**Pn**	**11 36 10.9**	**-0.2**
FWVZ	**Far West T-bar**	**9.42**	**212**	P		**Pn**	**Pn**	**11 36 13.5**	**+2.0**
MOVZ	**Moawhango**	**9.46**	**210**	P		**Pn**	**Pn**	**11 36 12.5**	**+0.7**
PNHZ	**Pukenui**	**9.71**	**207**	P		**Pn**	**Pn**	**11 36 14.7**	**-0.5**
TSZ	**Takapari Road**	**9.92**	**207**	P		**Pn**	**Pn**	**11 36 17.0**	**-1.1**
DVHZ	**Dannevirke**	**10.05**	**206**	P		**Pn**	**Pn**	**11 36 19.7**	**-0.2**
BFZ	**Birch Farm**	**10.36**	**205**	Pn		**Pn**	**Pn**	**11 36 23.9**	**-0.2**
BFZ	**Birch Farm**	**10.36**	**205**	P		**Pn**	**Pn**	**11 36 23.0**	**-1.1**
OGWZ	**Otaki Gorge**	**10.88**	**208**	P		**Pn**	**Pn**	**11 36 29.0**	**-2.2**
SNZO	**South Karori**	**11.49**	**208**	Pn		**Pn**	**Pn**	**11 36 40.1**	**+0.6**
PLWZ	**Palliser**	**11.50**	**206**	Pn		**Pn**	**Pn**	**11 36 39.7**	**0.0**
TUWZ	**Tuamarina**	**11.90**	**210**	Pn		**Pn**	**Pn**	**11 36 46.1**	**+0.9**
NNZ	**Nelson**	**11.98**	**212**	Pn		**Pn**	**Pn**	**11 36 47.5**	**+1.2**
QRZ	**Quartz Range**	**12.09**	**216**	Pn		**Pn**	**Pn**	**11 36 50.0**	**+2.2**
BSWZ	**Blackbirch Sta**	**12.17**	**210**	Pn		**Pn**	**Pn**	**11 36 49.8**	**+1.0**
THZ	**Tophouse**	**12.63**	**212**	Pn		**Pn**	**Pn**	**11 36 56.8**	**+1.6**
KHZ	**Kahutara**	**12.89**	**209**	Pn		**Pn**	**Pn**	**11 36 57.5**	**-1.1**
LTZ	**Lake Taylor**	**13.73**	**211**	Pn		**Pn**	**Pn**	**11 37 09.4**	**-0.8**
MSVF	**Nonsavu**	**14.00**	**345**	P		**Pn**	**Pn**	**11 37 15.7**	**+1.7**
	0.4nm,0.3s,baz=137,slow=12,SNR=6.1								
MSVF	**Nonsavu**	**14.00**	**345**	Pn		**Pn**	**Pn**	**11 37 11.8**	**-2.2**
MSVF	**Nonsavu**	**14.00**	**345**	P		**Pn**	**Pn**	**11 37 15.7**	**+1.7**
OXZ	**Oxford**	**14.27**	**210**	Pn		**Pn**	**Pn**	**11 37 16.0**	**-1.4**
RPZ	**Rata Peaks**	**15.01**	**212**	Pn		**Pn**	**Pn**	**11 37 26.1**	**-1.0**
RPZ				IAmb		IAmb	IAmb	11 37 41.5	
	comp=Z,78nm,1.3s								
ODZ	**Otahua Downs**	**16.25**	**210**	Pn		**Pn**	**Pn**	**11 37 38.8**	**-4.1**
ODZ				IAmb		IAmb	IAmb	11 38 07.6	
	comp=Z,43nm,1.2s								
WKZ	**Wanaka**	**16.80**	**213**			**Pn**	**Pn**	**11 37 48.2**	**-1.7**
WHZ	**Wether Hill Ro**	**18.10**	**213**	P		**P**	**P**	**11 38 03.3**	**-2.5**
WHZ				IAmb		IAmb	IAmb	11 38 25.7	
	comp=Z,59nm,1.4s								
AFI	**Afiamalu**	**18.32**	**20**	P		P	P	11 37 55.4	-13
	comp=Z,37nm,1.3s								
STKA	**Stephens Creek**	**34.17**	**258**	P		**P**	**P**	**11 40 40.9**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=89,slow=9.5,SNR=3.6								
STKA	**Stephens Creek**	**34.17**	**258**	P		**P**	**P**	**11 40 38.5**	**-0.2**
BBOO	**Buckleboo**	**38.62**	**255**	P		**P**	**P**	**11 41 17.1**	**+0.4**
AS31	**Alice Springs**	**42.96**	**268**	P		**P**	**P**	**11 41 51.1**	**-1.5**
ASAR	**Alice Springs**	**42.96**	**268**	P		**P**	**P**	**11 41 52.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=106,slow=7.5,SNR=11								
ASAR	**Alice Springs**	**42.96**	**268**	P		**P**	**P**	**11 41 52.0**	**-0.6**
WR0	**Warramunga Arr**	**43.86**	**273**	P		**P**	**P**	**11 41 59.2**	**-0.7**
WR0				IAmb		IAmb	IAmb	11 42 21.8	
	comp=Z,6.3nm,1.1s								
WB2	**Warramunga Arr**	**44.03**	**273**	P		**P**	**P**	**11 41 60.0**	**-1.2**
WB2				IAmb		IAmb	IAmb	11 42 22.5	
	comp=Z,10nm,1.2s								
WRA	**Warramunga Arr**	**44.04**	**273**	P		**P**	**P**	**11 42 01.0**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=110,slow=8.0,SNR=11								
WB0	**Warramunga Arr**	**44.07**	**273**	P		**P**	**P**	**11 42 00.8**	**-0.7**
WB0				IAmb		IAmb	IAmb	11 42 27.7	
	comp=Z,14nm,1.4s								
VNDA	**Vanda**	**47.13**	**186**	P		P	P	11 42 17.8	-7.2
VNDA				IAmb		IAmb	IAmb	11 42 43.1	
	comp=Z,3.3nm,1.4s								
CASY	**Casey**	**54.25**	**208**	P		P	P	11 43 13.8	-4.8
SOEI	**Soe**	**57.39**	**279**	P		**P**	**P**	**11 43 39.8**	**-2.2**
QSPA	**South Pole Qui**	**58.76**	**180**	P		P	P	11 43 42.2	-8.7
QSPA				IAmb		IAmb	IAmb	11 44 02.2	
	comp=Z,8.5nm,1.4s								
MAW	**Mawson**	**71.38**	**201**	P		P	P	11 45 06.1	-6.4
SNAA	**Sanae**	**77.20**	**178**

baz=237,slow=74,SNR=4.5
H03N3 Juan Fernandez 80.22 123 T T 13 15 13.9
baz=240,slow=72,SNR=9.1
H03N2 Juan Fernandez 80.22 123 T T 13 15 07.4
baz=240,slow=72,SNR=8.7
H03N1 Juan Fernandez 80.24 123 T T 13 15 12.8
baz=240,slow=72,SNR=13
USA0B Ussuriysk Arra 87.90 327 P P 11 46 36.1 -6.0
USA0B IAmb IAmb 11 46 37.1
comp=Z,3.3nm,0.9s
USRK Ussuriysk Ar. 87.90 327 P P 11 46 35.4 -6.8
FINES FINESS Array B 146.00 339 PKPbc **PKPdf** **11 53 30.6 -0.2**
comp=Z,2.3nm,0.8s,baz=38,slow=5.5,SNR=14
TORD Torodi Ar. Bea 161.88 179 PKPab **PKPab** **11 54 42.7 +2.5**
comp=Z,0.7nm,0.6s,baz=192,slow=3.9,SNR=2.8

*MAN **19** 11:35:21.0, 13°.55N×120°.08E, h12km, mb4.6, ML3.5, MS3.4*
*IDC **19** 11:35:22.8±1.4, 12°.79N×119°.91E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/43, mbtmp3.8/4, MS3.3/2, Ms1 3.4/2, ms1mx2.7/55, Error ellipse: s-maj=61.0km s-min=22.1km az=59.0*
ISC 19 11:35:20.4±1.6, 13°.41N±0°.07×120°.10E±0°.10, h10km, n10, σ0°.77/9, mb3.6/3, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**24**	⇑*iP*	**Pg**	**11 35 27.8**	**+0.3**
LUBP				*i*S	**Sg**	**11 35 31.7**	**-0.6**
PGP	**Puerto Galera**	**0.84**	**84**	⇓*eP*	**Pg**	**11 35 37.0**	**+0.4**
PGP				*i*S	**Sg**	**11 35 47.2**	**-0.4**
GQP	**Guinayangan**	**2.34**	**78**	⇓*eP*	**Pn**	**11 36 00.0**	**+1.1**
GQP				*e*S	**Sn**	**11 36 26.8**	**-0.9**
RCP	**Roxas**	**3.17**	**125**	⇑*eP*	**Pb**	**11 36 17.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.94**	**287**	P	Pn	11 40 07.3	+1.1
	1.4nm,0.7s,baz=96,slow=9.2,SNR=12						
USRK	**Ussuriysk Ar.**	**32.33**	**16**	LR	LR	11 56 06.2	
	comp=Z,39nm,19.1s,baz=73,slow=38						
WRA	**Warramunga Arr**	**35.98**	**157**	P	**P**	**11 42 20.9**	**-0.9**
	1.6nm,0.6s,baz=336,slow=9.7,SNR=11						
SONM	**Songino Array**	**36.17**	**344**	P	P	11 42 31.9	+8.7
	0.7nm,0.7s,baz=153,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**39.24**	**160**	P	**P**	**11 42 49.2**	**-0.2**
	1.2nm,0.7s,baz=340,slow=6.6,SNR=12						
NOA	**NORSAR Array B**	**87.25**	**333**	LR	LR	12 31 10.3	
	comp=Z,19nm,19.5s,baz=270,slow=38						

*KRSZO **19** 11:49:19.5±1.2, 48°.06N×23°.66E, h6km±9km, ML2.7/10, Error ellipse: s-maj=6.2km s-min=4.1km az=20.0*
*SIGU **19** 11:49:19.7, 48°.05N×23°.70E, h6km*
*BUC **19** 11:49:19.1±0.7, 48°.11N×23°.72E, h3km±3km, ml2.5/10, Error ellipse: s-maj=4.8km s-min=3.0km az=166.0*
ISC 19 11:49:19.5±1.1, 48°.08N±0°.02×23°.71E±0°.02, h4km±9km, n54, σ1°.30/77, 21C-14D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.31**	**99**	⇓*i*P	**Pg**	**11 49 26.3**	**+0.8**
RAKU				Pm		11 49 26.5	
RAKU				m		11 49 26.5	
RAKU				*e*Sg	**Sg**	**11 49 31.2**	**+1.7**
RAKU				Sm		11 49 31.6	
KORU	**Korolevo**	**0.40**	**282**	⇑*i*P	**Pg**	**11 49 27.6**	**+0.5**
KORU				Pm		11 49 27.9	
KORU				*e*Sg	**Sb**	**11 49 34.2**	**-1.3**
KORU				m		11 49 34.8	
KORU				Sm		11 49 35.2	
BMR	**Baia Mare**	**0.43**	**200**	⇑P	**Pg**	**11 49 28.0**	**+0.3**
BMR				⇓S	**Sb**	**11 49 34.5**	**-1.9**
BMR	**Baia Mare**	**0.43**	**200**	⇑P	**Pg**	**11 49 28.0**	**+0.3**
BMR				⇓S	**Sb**	**11 49 34.5**	**-1.9**
BMR	**Baia Mare**	**0.43**	**200**	Pg	**Pg**	**11 49 28.0**	**+0.3**
	comp=Z,0.7nm,SNR=16						
MEZ	**Mezhgor'ye**	**0.46**	**343**	⇑*e*Pg	**Pg**	**11 49 29.2**	**+0.9**
MEZ				Pm		11 49 29.5	
MEZ				*e*Sg	**Sb**	**11 49 36.2**	**-1.1**
MEZ				m		11 49 37.2	
MEZ				Sm		11 49 37.2	
TRSU	**Trosnyk**	**0.51**	**273**	*e*Pg	**Pb**	**11 49 30.0**	**-0.9**
TRSU				Pm		11 49 30.0	
TRSU				*e*Sg	**Sg**	**11 49 36.9**	**+1.1**
TRSU				m		11 49 38.3	
TRSU				Sm		11 49 38.4	
NSLU	**Nyzhne Selyshc**	**0.51**	**76**	⇓*i*Pg	Pg	11 49 24.2	-5.2
NSLU				Pm		11 49 24.4	
NSLU				*e*Sg	**Sg**	**11 49 28.1**	**-7.9**
NSLU				m		11 49 29.1	
NSLU				Sm		11 49 29.1	
BRIU	**Brid**	**0.53**	**300**	⇓*e*Pg	**Pg**	**11 49 30.0**	**+0.3**
BRIU				Pm		11 49 30.6	
BRIU				*e*Sg	**Sb**	**11 49 39.2**	**-0.2**
BRIU				m		11 49 40.3	
BRIU				Sm		11 49 40.8	
BERU	**Beregovo**	**0.73**	**283**	*e*Pg	**Pg**	**11 49 33.7**	**+0.2**
BERU				*e*Sg	**Sb**	**11 49 44.9**	**-0.2**
BERU				m		11 49 48.7	
MUKU	**Mukachevo**	**0.78**	**299**	*e*Pg	**Pg**	**11 49 35.0**	**+0.5**
MUKU				Pm		11 49 36.5	
MUKU				*e*Sg	**Sb**	**11 49 47.3**	**+0.7**
MUKU				Sm		11 49 49.1	
MUKU				m		11 49 51.5	
TRPA	**Tarpa**	**0.79**	**274**	*e*P	**Pb**	**11 49 35.4**	**-0.3**
TRPA				*e*S	**Sg**	**11 49 45.5**	**+0.6**
TRPA	**Tarpa**	**0.79**	**274**	Pg	**Pb**	**11 49 35.4**	**-0.3**
	comp=Z,17nm,SNR=6.0						
TRPA				Lg	Lg	11 49 45.5	
STNU	**Starunia**	**0.82**	**39**	*e*Pg	**Pb**	**11 49 36.6**	**+0.2**
KSV	**Kosov**	**0.94**	**75**	*e*Pg	**Pg**	**11 49 38.0**	**+0.5**
HOLU	**Holmets**	**1.00**	**297**	*e*Pg	**Pg**	**11 49 38.8**	**+0.2**
HOLU				*e*Sg	**Sn**	**11 49 53.6**	**-1.1**
MESR	**Meseseni**	**1.06**	**209**	⇑P	**Pb**	**11 49 40.0**	**-0.4**
MESR				⇑S	**Sn**	**11 49 55.6**	**-0.6**
MESR	**Meseseni**	**1.06**	**209**	⇑P	**Pb**	**11 49 40.0**	**-0.4**
MORS	**Morshin**	**1.07**	**6**	*e*Pg	**Pn**	**11 49 41.9**	**+0.7**
MORS				*e*Sg	**Sn**	**11 49 58.2**	**+1.8**
ARCR	**ARCALIA**	**1.08**	**156**	⇓P	**Pb**	**11 49 40.8**	**0.0**
ARCR				⇓S	**Sb**	**11 49 55.0**	**-0.1**
ARCR	**ARCALIA**	**1.08**	**156**	⇓P	**Pb**	**11 49 40.8**	**0.0**
ARCR	**ARCALIA**	**1.08**	**156**	Pb	**Pn**	**11 49 41.5**	**+0.1**
	comp=Z,0.5nm,SNR=7.7						
UZH	**Uzhgorod**	**1.10**	**301**	*e*Sg	**Sn**	**11 49 56.8**	**-0.4**
BURAR	**Bucovina Array**	**1.11**	**114**	⇑P	**Pb**	**11 49 41.3**	**-0.1**
BURAR				⇓S	**Sb**	**11 49 56.3**	**+0.1**
BURAR	**Bucovina Array**	**1.11**	**114**	⇑P	**Pb**	**11 49 41.3**	**-0.1**
SHIU	**Shidnytsya**	**1.17**	**349**	*e*Pg	**Pn**	**11 49 43.6**	**+0.9**
SHIU				*e*Sg	**Sn**	**11 50 01.3**	**+2.2**
KOLS	**Kolonicke sedl**	**1.29**	**312**	Pn	**Pg**	**11 49 44.3**	**+0.1**
	comp=Z,18nm,SNR=23						
KOLS	**Kolonicke sedl**	**1.29**	**312**	*e*PG	**Pg**	**11 49 44.7**	**+0.5**
KOLS				*e*SG	**Sn**	**11 50 01.9**	**0.0**
CBBR	**Cluj-Babes-Bol**	**1.31**	**185**	⇓P	**Pg**	**11 49 45.0**	**+0.3**
CBBR	**Cluj-Babes-Bol**	**1.31**	**185**	⇓P	**Pg**	**11 49 45.0**	**+0.3**
CJR	**Cluj-Napoca**	**1.36**	**183**	⇑P	**Pg**	**11 49 45.9**	**+0.2**
CJR				⇓S	**Sn**	**11 50 06.4**	**+2.5**
CJR	**Cluj-Napoca**	**1.36**	**183**	⇑P	**Pg**	**11 49 45.9**	**+0.2**
CJR	**Cluj-Napoca**	**1.36**	**183**	Pn	**Pg**	**11 49 45.9**	**+0.2**
	comp=Z,0.3nm,SNR=10						
LTVH	**Ltavrtes, Hu**	**1.41**	**241**	⇑S	**Sg**	**11 50 06.4**	**+1.8**
LTVH	**Ltavrtes, Hu**	**1.41**	**241**	⇑S	**Sg**	**11 50 06.4**	**+1.8**
DRGR		**1.45**	**208**	⇑P	**Pn**	**11 49 45.9**	**-0.7**
DRGR				⇑S	**Sg**	**11 50 06.7**	**+0.6**
DRGR		**1.45**	**208**	⇑P	**Pn**	**11 49 45.9**	**-0.7**
DRGR		**1.45**	**208**	Pn	**Pn**	**11 49 45.9**	**-0.7**
	comp=Z,0.2nm,SNR=8.9						
DRGR				Sn	**Sb**	**11 50 05.2**	**-0.8**
CRVS	**Cervenica-Dubn**	**1.71**	**300**	*e*PN	**Pg**	**11 49 52.6**	**+0.3**
KMPD	**K-Podol'skiy**	**1.90**	**74**	*e*Pn	**Pb**	**11 49 54.4**	**-0.2**
KMPD				*e*Sn	**Sb**	**11 50 18.3**	**-0.3**
HORU	**Horodok**	**2.13**	**57**	*e*Sn	**Sb**	**11 50 25.5**	**+0.1**
KECS	**Kecovo**	**2.19**	**282**	Pn	**Pn**	**11 49 55.9**	**-0.8**
	comp=Z,0.3nm,SNR=2.9						
KECS	**Kecovo**	**2.19**	**282**	*e*PN	**Pn**	**11 49 55.9**	**-0.8**
KECS				*e*SN	**Sn**	**11 50 24.7**	**+0.4**
SIRR	**Siria**	**2.29**	**219**	⇑P	**Pn**	**11 49 59.0**	**+1.0**
SIRR				⇑S	**Sb**	**11 50 29.0**	**-0.9**
SIRR	**Siria**	**2.29**	**219**	⇑P	**Pn**	**11 49 59.0**	**+1.0**
SIRR	**Siria**	**2.29**	**219**	Pg	**Pn**	**11 49 59.2**	**+1.2**
	comp=Z,0.1nm,SNR=3.9						

DOPR	**Dopca**	**2.40**	**151**	⇑P	**Pn**	**11 50 00.0**	**+0.5**
DOPR	**Dopca**	**2.40**	**151**	⇑P	**Pn**	**11 50 00.0**	**+0.5**
PSZ	**Piszkesteto**	**2.57**	**268**	⇓P	**Pn**	**11 50 00.6**	**-1.3**
PSZ	**Piszkesteto**	**2.57**	**268**	⇓P	**Pn**	**11 50 00.6**	**-1.3**
PSZ	**Piszkesteto**	**2.57**	**268**	*e*P	**Pn**	**11 50 00.7**	**-1.3**
PSZ	**Piszkesteto**	**2.57**	**268**	Pn	**Pn**	**11 50 00.7**	**-1.3**
	SNR=2.1						
VYHS	**Vyhne**	**3.28**	**279**	Pn	**Pn**	**11 50 10.9**	**-0.7**
	SNR=3.7						
VYHS	**Vyhne**	**3.28**	**279**	*e*PN	**Pn**	**11 50 11.0**	**-0.7**

*PRU **19** 12:23:45.5±0.0, 47°.97N×23°.82E, h0km*
*BUC **19** 12:23:48.4±0.5, 48°.10N×23°.67E, h7km±2km, ml3.4/13, Error ellipse: s-maj=3.7km s-min=2.4km az=15.0*
*KRSZO **19** 12:23:48.1±1.0, 48°.06N×23°.64E, h9km±7km, ML3.4/16, Error ellipse: s-maj=3.7km s-min=2.9km az=54.0*
*SIGU **19** 12:23:48.2, 48°.04N×23°.65E, h7km*
ISC 19 12:23:48.7±1.0, 48°.06N±0°.02×23°.66E±0°.02, h10km±8km, n92, σ0°.99/127, 25C-19D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.34**	**96**	⇑*i*Pg	**Pg**	**12 23 54.9**	**-0.6**
RAKU				Pm		12 23 54.9	
RAKU				*e*Sg	**Sg**	**12 24 00.1**	**+0.1**
RAKU				Sm		12 24 00.4	
RAKU				m		12 24 02.7	
KORU	**Korolevo**	**0.37**	**285**	⇑*i*Pg	**Pg**	**12 23 55.9**	**-0.1**
KORU				Pm		12 23 57.5	
KORU				*e*Sg	**Sg**	**12 24 01.6**	**+0.7**
KORU				Sm		12 24 03.7	
KORU				m		12 24 20.6	
BMR	**Baia Mare**	**0.41**	**196**	⇑P	**Pg**	**12 23 56.4**	**-0.3**
BMR				⇑S	**Sg**	**12 24 02.6**	**+0.5**
BMR	**Baia Mare**	**0.41**	**196**	⇑P	**Pg**	**12 23 56.4**	**-0.3**
BMR				⇑S	**Sg**	**12 24 02.6**	**+0.5**
BMR	**Baia Mare**	**0.41**	**196**	Pg	**Pg**	**12 23 56.3**	**-0.3**
	comp=Z,6.0nm,SNR=194						
BMR				Lg	Lg	12 24 02.6	
MEZ	**Mezhgor'ye**	**0.46**	**348**	⇑*i*Pg	**Pg**	**12 23 57.5**	**-0.3**
MEZ				Pm		12 23 59.0	
MEZ				*e*Sg	**Sb**	**12 24 04.8**	**-1.2**
MEZ				m		12 24 05.6	
MEZ				Sm		12 24 07.4	
TRSU	**Trosnyk**	**0.47**	**274**	*e*Pg	**Pg**	**12 23 58.0**	**0.0**
TRSU				Pm		12 23 59.8	
TRSU				*e*Sg	**Sg**	**12 24 05.0**	**+0.7**
TRSU				Sm		12 24 06.8	
TRSU				m		12 24 56.8	
BRIU	**Brid**	**0.51**	**303**	Pg	**Pg**	**12 23 58.3**	**-0.4**
BRIU				Pm		12 23 58.7	
BRIU				*e*Sg	**Sb**	**12 24 06.7**	**-0.6**
BRIU				Sm		12 24 08.2	
BRIU				m		12 24 27.7	
NSLU	**Nyzhne Selyshc**	**0.55**	**75**	⇓*e*Pg	Pg	12 23 52.5	-6.9
NSLU				Pm		12 23 52.7	
NSLU				*e*Sg	Sg	12 23 56.2	-10
NSLU				Sm		12 23 58.7	
NSLU				m		12 24 00.8	
BERU	**Beregovo**	**0.70**	**284**	*e*Pg	**Pg**	**12 24 01.4**	**-0.9**
BERU				*e*Sg	**Sb**	**12 24 12.6**	**-0.2**
BERU				m		12 24 17.1	
TRPA	**Tarpa**	**0.76**	**276**	⇑P	**Pb**	**12 24 03.4**	**-0.6**
TRPA				⇓S	**Sb**	**12 24 13.9**	**-0.5**
TRPA	**Tarpa**	**0.76**	**276**	⇑P	**Pb**	**12 24 03.4**	**-0.6**
TRPA	**Tarpa**	**0.76**	**276**	*e*P	**Pg**	**12 24 03.2**	**-0.2**
TRPA				*e*S	**Sb**	**12 24 13.8**	**-0.5**
TRPA	**Tarpa**	**0.76**	**276**	Pg	**Pg**	**12 24 03.2**	**-0.2**
	comp=Z,2.7nm,SNR=114						
TRPA				Lg	Lg	12 24 13.8	
MUKU	**Mukachevo**	**0.76**	**301**	*e*Pg	**Pg**	**12 24 03.1**	**-0.3**
MUKU				Pm		12 24 04.8	
MUKU				*e*Sg	**Sb**	**12 24 15.2**	**+0.7**
MUKU				Sm		12 24 17.8	
MUKU				m		12 24 17.8	
STNU	**Starunia**	**0.85**	**40**	*e*Pg	**Pn**	**12 24 07.0**	**+0.1**
STNU				*e*Sg	**Sn**	**12 24 19.5**	**0.0**
KSV	**Kosov**	**0.97**	**74**	⇑*i*Pg	**Pb**	**12 24 07.7**	**0.0**
KSV				Pm		12 24 09.9	
KSV				*e*Sg	**Sn**	**12 24 22.7**	**+0.4**
KSV				Sm		12 24 26.1	
KSV				m		12 24 31.8	
HOLU	**Holmets**	**0.97**	**299**	*e*Pg	**Pg**	**12 24 07.0**	**-0.5**
HOLU				*e*Sg	**Sn**	**12 24 21.9**	**-0.4**
MESR	**Meseseni**	**1.03**	**208**	⇓P	**Pn**	**12 24 08.8**	**-0.5**
MESR				⇓S	**Sn**	**12 24 24.5**	**+0.7**
MESR	**Meseseni**	**1.03**	**208**	⇓P	**Pn**	**12 24 08.8**	**-0.5**
UZH	**Uzhgorod**	**1.08**	**302**	*e*Pg	**Pg**	**12 24 09.1**	**-0.3**
UZH				Pm		12 24 11.2	
UZH				*e*Sg	**Sn**	**12 24 25.0**	**+0.1**
UZH				Sm		12 24 29.2	
MORS	**Morshin**	**1.08**	**8**	⇓*e*Pg	**Pn**	**12 24 11.0**	**+1.0**
ARCR	**ARCALIA**	**1.08**	**154**	⇓P	**Pb**	**12 24 09.4**	**-0.2**
ARCR				⇓S	**Sn**	**12 24 25.9**	**+0.9**
ARCR	**ARCALIA**	**1.08**	**154**	⇓P	**Pb**	**12 24 09.4**	**-0.2**
ARCR	**ARCALIA**	**1.08**	**154**	Pg	**Pb**	**12 24 09.4**	**-0.2**
BURAR	**Bucovina Array**	**1.14**	**113**	⇓P	**Pg**	**12 24 09.3**	**-1.3**
BURAR				⇓S	**Sn**	**12 24 26.4**	**-0.1**
BURAR	**Bucovina Array**	**1.14**	**113**	⇓P	**Pg**	**12 24 09.3**	**-1.3**
SHIU	**Shidnytsya**	**1.18**	**350**	*e*Pg	**Pn**	**12 24 12.6**	**+1.3**
SHIU				*e*Sg	**Sn**	**12 24 30.2**	**+2.7**
KOLS	**Kolonicke sedl**	**1.27**	**314**	Pg	**Pn**	**12 24 12.4**	**-0.2**
	comp=Z,196nm,SNR=270						
KOLS	**Kolonicke sedl**	**1.27**	**314**	*e*PG	**Pn**	**12 24 12.3**	**-0.3**
KOLS				*e*SG	**Sn**	**12 24 32.4**	**+2.7**
CBBR	**Cluj-Babes-Bol**	**1.30**	**183**	⇓P	**Pg**	**12 24 13.2**	**-0.4**
CBBR	**Cluj-Babes-Bol**	**1.30**	**183**	⇓P	**Pg**	**12 24 13.2**	**-0.4**
CJR	**Cluj-Napoca**	**1.35**	**182**	⇓P	**Pg**	**12 24 14.2**	**-0.4**
CJR				⇓S	**Sn**	**12 24 34.0**	**+2.3**
CJR	**Cluj-Napoca**	**1.35**	**182**	⇓P	**Pg**	**12 24 14.2**	**-0.4**
CJR	**Cluj-Napoca**	**1.35**	**182**	Pn	**Pg**	**12 24 14.1**	**-0.6**
	comp=Z,2.1nm,SNR=65						
CJR				Sn	**Sn**	**12 24 33.5**	**+1.8**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	⇑P	**Pn**	**12 24 13.4**	**-0.5**
LTVH				⇑S	**Sg**	**12 24 34.1**	**+1.3**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	⇑P	**Pn**	**12 24 13.4**	**-0.5**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	*e*P	**Pg**	**12 24 15.5**	**+0.5**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	Pg	**Pg**	**12 24 15.5**	**+0.5**
	comp=Z,1.1nm,SNR=13						
LTVH				Sn	**Sg**	**12 24 35.4**	**+2.6**
DRGR		**1.43**	**207**	⇑P	**Pn**	**12 24 14.3**	**-0.5**
DRGR				⇑S	**Sg**	**12 24 34.9**	**+0.3**
DRGR		**1.43**	**207**	⇑P	**Pn**	**12 24 14.3**	**-0.5**
DRGR		**1.43**	**207**	Pn	**Pn**	**12 24 14.2**	**-0.5**
	comp=Z,1.1nm,SNR=48						
DRGR				Sn	**Sg**	**12 24 34.1**	**-0.5**
CHRU	**Chernivtsi**	**1.53**	**80**	*e*Pn	**Pg**	**12 24 17.4**	**-0.7**
CRVS	**Cervenica-Dubn**	**1.69**	**301**	Pn	**Pb**	**12 24 19.1**	**-0.8**
	comp=Z,0.1nm,SNR=30						
CRVS	**Cervenica-Dubn**	**1.69**	**301**	*e*PN	**Pb**	**12 24 20.1**	**+0.2**
CRVS				*e*LG	Lg	12 24 56.2	
KWP	**Kalwaria Pacla**	**1.69**	**338**	Sn	**Sb**	**12 24 41.8**	**+0.4**
LVV	**L'vov**	**1.77**	**8**	*e*Pn	**Pb**	**12 24 21.4**	**0.0**
KMPD	**K-Podol'skiy**	**1.93**	**74**	*e*Pn	**Pb**	**12 24 23.6**	**-0.4**
KMPD				*e*Sn	**Sg**	**12 24 49.2**	**-1.6**
STHS	**Stebnicka Huta**	**2.10**	**311**	Pg	**Pg**	**12 24 31.0**	**+2.0**
	comp=Z,0.7nm,SNR=20						
STHS				Sn	**Sb**	**12 24 52.3**	**-0.7**
HORU	**Horodok**	**2.16**	**57**	*e*Pn	**Pb**	**12 24 27.3**	**-0.7**
HORU				Pm		12 24 28.5	
HORU				*e*Sn	**Sb**	**12 24 54.9**	**0.0**
HORU				Sm		12 24 58.0	
KECS	**Kecovo**	**2.17**	**282**	Pn	**Pn**	**12 24 24.7**	**-0.2**
	comp=Z,2.6nm,SNR=21						
KECS				Sn	**Sn**	**12 24 52.0**	**+0.3**
KECS	**Kecovo**	**2.17**	**282**	*e*PN	**Pn**	**12 24 24.3**	**-0.6**
KECS				*e*SN	**Sn**	**12 24 52.0**	**+0.3**
DEV	**Deva**	**2.24**	**194**	⇑P	**Pn**	**12 24 26.0**	**+0.1**
DEV				⇑S	**Sn**	**12 24 54.8**	**+1.2**
DEV	**Deva**	**2.24**	**194**	⇑P	**Pn**	**12 24 26.0**	**+0.1**
DEV	**Deva**	**2.24**	**194**	Pg	**Pb**	**12 24 29.6**	**+0.3**
	comp=Z,0.5nm,SNR=20						
SIRR	**Siria**	**2.26**	**218**	Pg	**Pg**	**12 24 32.1**	**+0.1**
DOPR	**Dopca**	**2.41**	**150**	⇓P	**Pn**	**12 24 29.4**	**+1.2**
DOPR	**Dopca**	**2.41**	**150**	⇓P	**Pn**	**12 24 29.4**	**+1.2**
BSZH	**Besenyszg**	**2.42**	**253**	Pg	Pg	12 24 42.1	+7.0
NDNU	**Novodnistrovsk**	**2.53**	**76**	*e*Pn	**Pb**	**12 24 33.9**	**-0.3**
NDNU				*e*Sn	**Sb**	**12 25 04.7**	**-0.6**

PSZ	**Piszkesteto**	**2.54**	**268**	⇑P	**Pn**	**12 24 29.9**	**-0.1**
PSZ	**Piszkesteto**	**2.54**	**268**	⇑P	**Pn**	**12 24 29.9**	**-0.1**
PSZ	**Piszkesteto**	**2.54**	**268**	*e*P	**Pn**	**12 24 28.8**	**-1.2**
PSZ	**Piszkesteto**	**2.54**	**268**	Pg	**Pn**	**12 24 28.8**	**-1.2**
	comp=Z,0.4nm,SNR=30						
LOT	**Lotru**	**2.62**	**178**	Pg	**Pg**	**12 24 37.4**	**-1.5**
AMBH	**Ambrzfalva**	**2.64**	**231**	*e*S	**Sn**	**12 25 03.0**	**-0.3**
AMBH	**Ambrzfalva**	**2.64**	**231**	Sn	**Sn**	**12 25 03.0**	**-0.3**
GZR	**Gura Zlata**	**2.74**	**193**	⇑P	**Pn**	**12 24 33.6**	**+0.8**
GZR	**Gura Zlata**	**2.74**	**193**	⇑P	**Pn**	**12 24 33.6**	**+0.8**
GZR	**Gura Zlata**	**2.74**	**193**	Pg	**Pb**	**12 24 38.8**	**+1.0**
LANS	**Liptovska Anna**	**2.99**	**293**	Pn	**Pn**	**12 24 36.9**	**+0.7**
	comp=Z,0.2nm,SNR=8.9						
LANS	**Liptovska Anna**	**2.99**	**293**	*e*PN	**Pn**	**12 24 36.5**	**+0.3**
LANS				*e*LG	Lg	12 25 45.6	
MLR	**Muntele Rosu**	**3.01**	**148**	⇑P	**Pn**	**12 24 38.6**	**+2.0**
MLR	**Muntele Rosu**	**3.01**	**148**	⇑P	**Pn**	**12 24 38.6**	**+2.0**
MLR	**Muntele Rosu**	**3.01**	**148**	Pg	**Pg**	**12 24 44.3**	**-2.1**
	comp=Z,0.1nm,SNR=6.8						
VRI	**Vrincioaia**	**3.04**	**135**	Pg	**Pg**	**12 24 49.2**	**+2.3**
VYHS	**Vyhne**	**3.25**	**279**	Pn	**Pn**	**12 24 39.3**	**-0.6**
	SNR=3.8						
VYHS	**Vyhne**	**3.25**	**279**	*e*PN	**Pn**	**12 24 39.0**	**-0.8**
VYHS				*e*SN	**Sn**	**12 25 19.2**	**+0.6**
MORH	**Mrgy, Hungar**	**3.89**	**244**	Sn	**Sn**	**12 25 31.2**	**-3.1**
OKC	**Ostrava-Krasne**	**4.05**	**298**	*e*PN	**Pn**	**12 24 50.5**	**-0.2**
OKC	**Ostrava-Krasne**	**4.05**	**298**	Pg	**Pn**	**12 24 52.2**	**+1.5**
	SNR=2.7						
JAVC	**Velka Javorina**	**4.07**	**284**	Pn	**Pn**	**12 24 52.4**	**+1.4**
MORC	**Moravsky Berou**	**4.39**	**295**	*e*PN	**Pn**	**12 24 54.7**	**-0.7**
VRAC	**Vranov**	**4.85**	**288**	*e*PN	**Pn**	**12 25 01.1**	**-0.6**
VRAC				*e*SN	**Sn**	**12 25 57.4**	**-0.5**
KRUC	**Moravsky**	**4.93**	**284**	*e*PN	**Pn**	**12 25 02.8**	**0.0**
KRUC				*e*SN	**Sn**	**12 25 58.0**	**-1.9**
KRLC	**Kraliky**	**4.95**	**297**	*e*SN	**Sn**	**12 25 59.8**	**-0.7**
CONA	**Conrad Observa**	**5.24**	**271**	*e*Pn	**Pn**	**12 25 05.7**	**-1.5**
	comp=Z,2.3nm,0.6s						
DPC	**Dobruska-Polom**	**5.33**	**298**	*e*PN	**Pn**	**12 25 07.6**	**-0.8**
DPC				*e*SN	**Sn**	**12 26 09.8**	**0.0**
KSP	**Ksiaz**	**5.55**	**303**	Pn	**Pn**	**12 25 11.9**	**+0.5**
	comp=Z,14nm,0.9s,SNR=6.7						
PRU	**Pruhonice**	**6.30**	**291**	*e*SN	**Sn**	**12 26 31.9**	**-1.8**
KHC	**Kasperske Hory**	**6.78**	**283**	*e*PN	**Pn**	**12 25 26.9**	**-1.3**
KHC				*e*SN	**Sn**	**12 26 44.0**	**-1.4**
WTTA	**Wattenberg**	**8.16**	**269**	*e*Pn	Pn	12 25 55.2	+7.8
	comp=Z,0.3nm,0.1s						

*SIGU **19** 12:32:18.7, 48°.04N×23°.67E, h4km*
*KRSZO **19** 12:32:19.8±1.8, 48°.03N×23°.61E, h11km±2km, ML2.5/8, Error ellipse: s-maj=14.9km s-min=5.1km az=56.0*
ISC 19 12:32:19.4±1.1, 48°.03N±0°.03×23°.64E±0°.03, h5km±10km, n29, σ0°.74/41, 3C-1D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.36**	**91**	⇓*i*Pg	**Pg**	**12 32 25.7**	**-0.6**
RAKU				Pm		12 32 25.9	
RAKU				m		12 32 25.9	
RAKU				*i*Sg	**Sg**	**12 32 30.9**	**-0.1**
RAKU				Sm		12 32 31.0	
KORU	**Korolevo**	**0.36**	**291**	⇑*i*Pg	**Pg**	**12 32 26.9**	**+0.5**
KORU				Pm		12 32 30.4	
KORU				*i*Sg	**Sb**	**12 32 32.9**	**-1.3**
KORU				m		12 32 34.0	
KORU				S

σ1§55/45, mb3.3/11, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	1.49	127	P	Pn	12 57 00.7	-1.2
JSH	Shimam	1.83	151	P	Pn	12 57 03.3	-1.1
JYG	Yagishiri	1.86	84	P	Pn	12 57 03.1	-1.4
JRBN	Rebuntou	1.97	53	P	Pn	12 57 03.4	-1.8
JRBN				eS	S	12 57 37.7	-4.5
JHR	Hokuryu	2.14	103	P	Pn	12 57 06.3	-0.4
JOSM	Okushiri--Mats	2.22	168	eS	S	12 57 45.1	-1.1
JEW	Eniwo	2.37	126	P	Pn	12 57 08.6	-0.1
JWK2	Keihoku	2.42	63	P	Pn	12 57 08.8	-0.2
ASAJ	Asahikawa	2.71	92	P	Pn	12 57 11.3	-0.4
	6.6nm,0.3s,baz=281,slow=10,SNR=145						
ASAJ				S	S	12 57 53.9	0.0
	baz=288,slow=20,SNR=6.0						
JSE	Soyaes	2.76	74	P	Pn	12 57 11.8	-0.4
JSE				eS	S	12 57 54.4	-0.4
JKK2	Kamakawa 2	2.84	96	P	Pn	12 57 12.9	-0.1
JKK2				eS	S	12 57 56.0	-0.3
JKB	Kayabe	2.86	145	P	Pn	12 57 12.3	-0.9
JFR	Furan	2.93	111	P	Pn	12 57 13.6	-0.3
JOT	Ohata	3.30	150	P	Pn	12 57 16.9	-0.7
JNBK	Urakawa-nobuka	3.47	123	P	Pn	12 57 19.8	+0.4
JTKR	Abashiri--Toko	3.66	93	P	Pn	12 57 21.3	0.0
JTKR				eS	S	12 58 10.9	-0.4
JCH	Churui	3.68	115	P	Pn	12 57 19.8	-1.7
JAR	Ashorobuto	3.69	103	P	Pn	12 57 21.7	0.0
JAR				eS	S	12 58 13.0	+1.0
JANG	Nango	4.36	152	P	Pn	12 57 27.2	-1.8
JAK	Akkeshi	4.43	104	P	Pn	12 57 28.5	-1.3
JAK				eS	S	12 58 23.4	-3.3
JRA	Rausu	4.54	92	P	Pn	12 57 30.9	0.0
USRK	Ussuriysk Ar.	4.93	272	P	Pn	12 57 33.0	-2.5
	baz=93,slow=11,SNR=13						
NEM2	Nemuro 2	5.07	98	P	Pn	12 57 36.7	-0.4
NEM2				eS	S	12 58 34.9	-5.2
JMK	Ichinoseki	5.59	161	P	Pn	12 57 42.3	-1.0
JMK				eS	S	12 58 49.5	-1.8
MJAR	Matsushiro Arr	7.72	184	P	Pn	12 58 09.8	+0.7
	0.1nm,0.3s,baz=7.8,slow=13,SNR=5.2						
PETK	Petropavlovsk-	15.24	48	P	Pn	12 59 40.4	+0.5
	0.1nm,0.3s,baz=232,slow=3.0,SNR=6.0						
SEY	Seymchan	20.28	18	P	P	13 00 30.7	-1.5
	0.9nm,0.6s,baz=276,slow=18,SNR=2.3						
SONM	Songino Array	22.71	291	P	P	13 00 54.5	-0.8
	0.6nm,0.4s,baz=87,slow=10,SNR=5.1						
ZALV	Zalesovo Beam	35.86	305	P	P	13 02 50.1	-0.3
	0.7nm,0.3s,baz=99,slow=7.4,SNR=1.7						
MKAR	Makanchi Array	38.97	294	P	P	13 03 16.8	+0.3
	1.1nm,0.6s,baz=86,slow=8.8,SNR=5.5						
INK	Inuvik	48.96	30	P	P	13 04 35.7	+0.9
	0.5nm,0.3s,baz=306,slow=12,SNR=8.5						
FINES	FINESS Array B	61.56	330	P	P	13 06 04.4	+0.2
	2.4nm,0.8s,baz=62,slow=8.9,SNR=6.8						
WRA	Warramunga Arr	64.02	185	P	P	13 06 22.4	+1.6
	0.3nm,0.9s,baz=0.7,slow=6.9,SNR=5.3						
NOA	NORSAR Array B	66.80	335	P	P	13 06 38.4	+0.3
	0.4nm,0.6s,baz=39,slow=4.8,SNR=2.0						
AKASG	Malin Array Be	67.46	320	P	P	13 06 42.7	+0.3
	0.3nm,0.3s,baz=43,slow=5.6,SNR=1.8						
ASAR	Alice Springs	67.74	185	P	P	13 06 47.9	+3.4
	0.3nm,0.8s,baz=354,slow=5.6,SNR=4.9						
NVAR	Mina Array Bea	72.25	54	P	P	13 07 15.5	+3.6
	0.1nm,0.5s,baz=319,slow=4.2,SNR=2.5						
PDAR	Pinedale Array	74.00	45	P	P	13 07 24.3	+2.3
	0.3nm,0.7s,baz=350,slow=7.5,SNR=2.7						

*NEIC **19** 13:20:47.4±1.6, 23°.05N±0°.09×142°.4E±0°.2, h127km±5km, mb4.2/17, Error ellipse: s-maj=21.0km s-min=12.0km az=69.0*
*IDC **19** 13:20:48.1±1.9, 23°.05N×142°.32E, h138km±15km, mb3.8/21, mb1 3.8/23, mb1mx3.7/53, mbtmp4.2/23, Error ellipse: s-maj=17.5km s-min=12.0km az=87.0*
*JMA **19** 13:20:51.7±0.1, 23°.43N×142°.09E, h206km±2km, M4.8*
ISC 19 13:20:49.5±0.6, 23°.15N±0°.07×142°.5E±0°.1, h150km, n66,
σ1§86/70, mb4.1/28, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.48	355	P	Pn	13 21 44.2	+1.2
JHH2				S	Sn	13 22 24.8	+0.3
CBIJ	Chichi jima	3.94	356	P	Pn	13 21 49.7	+0.8
CBIJ				S	Sn	13 22 34.8	-0.4
JCJ	Chichijima	3.94	356	P	Pn	13 21 49.9	+0.9
	89nm,0.3s,baz=127,slow=20,SNR=48						
JCJ				S	Sn	13 22 34.7	-0.5
	80nm,0.3s,baz=204,slow=17,SNR=12						
JCJ	Chichijima	3.94	356	Pn	Pn	13 21 46.5	-2.4
JHJ	Hachijo jima 2	10.22	347	P	Pn	13 23 11.5	-0.8
	3.0nm,0.3s,baz=106,slow=20,SNR=1.1						
JHJ				S	Sn	13 24 59.0	-6.3
	3.1nm,0.3s,baz=246,slow=19,SNR=1.6						
BSO1	Boso 1	11.54	354	P	Pn	13 23 27.3	-1.9
BSO3	Boso 3	11.74	352	P	Pn	13 23 29.7	-2.4
JSG	Sagara	12.09	343	Pn	Pn	13 23 37.7	+0.9
INU	Inuyama	13.06	340		P	13 23 51.4	-2.7
JYT	Yasato	13.19	352	Pn	Pn	13 23 50.2	-0.7
JRY	Ryogami san	13.20	347	P	Pn	13 23 48.5	-2.7
JAG	Ashikaga	13.49	349	P	Pn	13 23 51.2	-3.7
JHO	Hitachi	13.52	353	P	Pn	13 23 52.3	-2.9
JHO				eS	Sn	13 26 12.6	-12
MJAR	Matsushiro Arr	13.86	345	P	Pn	13 23 58.8	-0.7
	0.1nm,0.3s,baz=144,slow=10,SNR=4.4						
MAJO	Matsushiro	13.86	345	Pn	Pn	13 23 55.7	-3.8
MJB9	Matsu-Tunnel	13.86	345	Pn	Pn	13 23 54.1	-5.5
JHS	Saijyo	14.37	327		P	13 24 09.4	+0.8
JMM	Marumori	14.74	355		Pn	13 24 08.2	-2.4
JSD	Sado	15.28	347	Pn	Pn	13 24 14.1	-3.2
JSD				IAmb	IAmb	13 24 34.1	
	comp=Z,19nm,1.5s						
JTM	Tenmabayashi	17.63	356	P	P	13 24 39.5	-5.1
JTM				IAmb	IAmb	13 25 07.9	
	comp=Z,21nm,1.2s						
KSRS	Korea Array	18.98	322	P	Pn	13 25 04.9	+3.1
	comp=Z,0.5nm,0.3s,baz=137,slow=8.4,SNR=23						
KSAR	Wonju Array Be	19.00	322	P	Pn	13 25 04.1	+2.2
KS19	Wonju Array Si	19.05	322	P	Pn	13 25 05.7	+3.2
ASAJ	Asahikawa	20.91	0	P	P	13 25 23.3	+3.2
	comp=Z,2.7nm,0.6s,baz=217,slow=11,SNR=12						
KLR	Kul'dur	27.38	345	P	P	13 26 21.2	+0.6
	comp=Z,1.2nm,0.5s,baz=195,slow=7.0,SNR=5.2						
XAN	Xi'an	31.29	298	eP	P	13 26 55.1	-0.3
XAN				pP	pP	13 27 23.4	-3.5
HHC	Hu-ho-hao-te	31.40	312	eP	P	13 26 58.8	+2.4
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,72nm,6.6s						
SONM	Songino Array	37.83	320	P	P	13 27 51.5	-0.1
	comp=Z,1.5nm,0.6s,baz=132,slow=5.8,SNR=8.7						
SONM	Songino Array	37.83	320	P	P	13 27 51.4	-0.1
GTA	Gaotai	39.53	304	eP	P	13 28 06.9	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YAK	Yakutsk	39.84	351	P	P	13 28 08.3	+0.4
	comp=Z,5.0nm,0.5s,baz=186,slow=2.9,SNR=4.7						
YAK	Yakutsk	39.84	351	IAmb	IAmb	13 28 09.2	
	comp=Z,12nm,0.6s						
SEY	Seymchan	40.32	7	P	P	13 28 14.2	+2.3
	comp=Z,0.5nm,0.4s,baz=113,slow=14,SNR=1.8						
TLY	Talaya	41.22	324	P	P	13 28 20.3	+0.9
	comp=Z,2.8nm,0.5s,baz=98,slow=3.4,SNR=4.4						
WRA	Warramunga Arr	43.56	191	P	P	13 28 37.4	-1.3
	comp=Z,1.0nm,0.4s,baz=9.2,slow=7.9,SNR=21						
WRA				PcP	PcP	13 30 22.5	-1.2
	comp=Z,0.4nm,0.6s,baz=3.4,slow=2.9,SNR=1.1						
ASAR	Alice Springs	47.28	191	P	P	13 29 06.3	-1.5
	comp=Z,0.2nm,0.4s,baz=15,slow=11,SNR=5.4						
WMQ	Urumqi	49.18	309	eP	P	13 29 24.1	+1.7
ZAA0	Zalesovo Array	52.69	321	P	P	13 29 47.7	-0.6
ZAA0				IAmb	IAmb	13 29 49.3	
	comp=Z,3.2nm,1.1s						
ZALV	Zalesovo Beam	52.69	321	P	P	13 29 47.9	-0.4
	comp=Z,2.1nm,0.3s,baz=112,slow=7.1,SNR=11						
ZALV				PcP	PcP	13 30 54.9	-1.1
	comp=Z,1.1nm,0.5s,baz=108,slow=4.7,SNR=4.8						
ZALV	Zalesovo Beam	52.69	321	P	P	13 29 47.4	-0.9
MK31	Makanchi Array	53.26	312	P	P	13 29 52.4	-0.2
MK31				IAmb	IAmb	13 29 53.7	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	53.26	312	P	P	13 29 53.0	+0.3
	comp=Z,2.2nm,0.5s,baz=88,slow=9.1,SNR=29						
MKAR				PcP	PcP	13 30 57.9	-0.5
	comp=Z,0.3nm,0.4s,baz=79,slow=3.7,SNR=2.6						
MKAR	Makanchi Array	53.26	312	P	P	13 29 52.6	0.0
MAKZ	Makanchi	53.48	312	P	P	13 29 54.4	+0.2
MAKZ				IAmb	IAmb	13 29 55.5	
	comp=Z,4.2nm,1.0s						
STKA	Stephens Creek	54.72	181	P	P	13 30 02.7	-0.6
	comp=Z,0.9nm,0.5s,baz=338,slow=11,SNR=2.2						
KDAK	Kodiak Island	57.38	35	P	P	13 30 23.0	+1.1
	comp=Z,1.9nm,0.5s,baz=222,slow=9.4,SNR=6.4						
ILAR	Eielson Array	61.05	28	P	P	13 30 47.2	+0.3
	comp=Z,0.2nm,0.3s,baz=252,slow=5.2,SNR=5.4						
KK31	Karatay Array	61.67	308	P	P	13 30 51.0	-0.6
KK31				IAmb	IAmb	13 30 52.6	
	comp=Z,2.1nm,0.7s						
KKAR	Karatay Array	61.67	308	P	P	13 30 51.7	+0.1
KBL	Kabul	64.09	298	P	P	13 31 07.6	-0.4
INK	Inuvik	66.50	24	P	P	13 31 23.8	+1.2
	comp=Z,1.2nm,0.5s,baz=294,slow=5.6,SNR=9.5						
INK	Inuvik	66.50	24	P	P	13 31 23.5	+1.0
INK				IAmb	IAmb	13 31 48.8	
	comp=Z,3.9nm,1.1s						
ARU	Arti	67.73	323	P	P	13 31 29.8	-0.8
	comp=Z,2.2nm,0.4s,baz=58,slow=2.3,SNR=10.0						
ARU	Arti	67.73	323	P	P	13 31 29.8	-0.8
ABKAR	Akbulak array	68.07	316	P	P	13 31 32.2	-0.6
ABKAR				IAmb	IAmb	13 31 33.3	
	comp=Z,3.4nm,0.9s						
AKTO	Aktyubinsk	69.08	317	P	P	13 31 38.7	-0.4
	comp=Z,1.8nm,0.6s,baz=81,slow=6.9,SNR=7.0						
YKA	Yellowknife Ar	75.47	28	P	P	13 32 17.9	+1.1
	comp=Z,1.6nm,0.5s,baz=294,slow=5.5,SNR=6.9						
ARCES	ARCESS Array B	77.35	341	P	P	13 32 27.2	0.0
	comp=Z,0.8nm,0.5s,baz=44,slow=5.6,SNR=9.5						
ARCES	ARCESS Array B	77.35	341	P	P	13 32 26.2	-1.0
ARCES				IAmb	IAmb	13 32 39.6	
	comp=Z,12nm,1.4s						
KBZ	Khabaz	80.91	314	P	P	13 32 47.5	+0.4
	comp=Z,2.6nm,0.7s,baz=70,slow=6.4,SNR=6.6						
FINES	FINESS Array B	81.61	334	P	P	13 32 49.5	-0.9
	comp=Z,2.4nm,0.6s,baz=62,slow=4.8,SNR=26						
NVAR	Mina Array Bea	82.74	51	P	P	13 32 58.5	+1.5
	comp=Z,0.9nm,0.7s,baz=276,slow=5.5,SNR=9.7						
AKASG	Malin Array Be	85.97	324	P	P	13 33 11.6	-1.1
	comp=Z,0.7nm,0.5s,baz=55,slow=4.5,SNR=4.5						
AKASG	Malin Array Be	85.97	324	IAmb	IAmb	13 33 12.2	
	comp=Z,1.5nm,1.1s						
PLCA	Paso Flores	147.18	130	PKPbc	PKPab	13 40 15.1	-2.1
	comp=Z,4.4nm,1.2s,baz=244,slow=3.1,SNR=3.5						
LPAZ	La Paz	150.41	82	PKPbc	PKiKP	13 40 25.5	0.0
	comp=Z,1.2nm,0.5s,baz=24,slow=3.7,SNR=8.8						

*TRN **19** 13:34:14.2, 13°.90N×58°.60W, h98km, MD3.7*
ISC 19 13:34:12.8±2.2, 13°.95N±0°.04×58°.6W±0°.1, h10km, n38,
σ1§49/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.19	226	eP	Pn	13 34 37.5	+1.9
BBGH	Gun Hill	1.24	230	eP	Pg	13 34 37.5	+0.9
BBGH				eS	Sn	13 34 55.5	+2.5
MPOM	Morne Pois Mar	2.26	283	eP	Pn	13 34 50.2	-0.2
SLW	Petit Monier	2.29	272	eP	Pn	13 34 52.0	+1.3
SLW				eS	Sn	13 35 19.0	0.0
MCLT	Moule a Chique	2.30	264	eP	Pn	13 34 51.7	+0.8
MCLT				eS	Sn	13 35 19.8	+0.4
MVM	Montagne Vaucl	2.32	285	eP	Pn	13 34 52.0	+0.8
SLBI	Saint Lucia, B	2.32	272	eP	Pn	13 34 52.6	+1.4
SLBI				eS	Sn	13 35 20.0	+0.2
SLB	Belfond	2.39	267	eP	Pn	13 34 52.8	+0.7
SLB				eS	Sn	13 35 20.9	-0.6
LPMF	Morne Lapointe	2.39	285	eP	Pn	13 34 52.0	-0.1
ZAM	Aeronautique	2.45	285	eP	Pn	13 34 53.3	+0.4
TRMF	Trois Ilets	2.46	284	eP	Pn	13 34 53.4	+0.2
BIM	Bigot	2.48	284	eP	Pn	13 34 54.0	+0.6
FDF	Fort de France	2.61	288	eP	Pn	13 34 56.1	+1.0
SSV	Crater Summit	2.61	257	eP	Pn	13 34 53.9	-1.3
BAMF	Morne Balai	2.63	290	eP	Pn	13 34 57.0	+1.6
SVV	Soufriere Volc	2.63	257	eP	Pn	13 34 56.2	+0.7
GBMF	Grand Be	2.64	289	eP	Pn	13 34 57.0	+1.3
PML	Morne Lenard	2.65	289	eP	Pn	13 34 57.1	+1.4
SVN	Savane Anatole	2.66	290	eP	Pn	13 34 57.0	+1.2
SVB	Belmont	2.68	256	eP	Pn	13 34 56.6	+0.5
SVB				eS	Sn	13 35 27.5	-1.2
PCM	Pelee Case Pet	2.69	289	eP	Pn	13 34 58.3	+2.1
DSLB	Salisbury	3.12	299	eP	Pn	13 35 03.3	+1.1
DSLB				eS	Sn	13 35 38.7	-0.9
GCMP	Grenada, Carri	3.13	243	eP	Pn	13 35 02.4	+0.2
GCMP				eS	Sn	13 35 38.3	-1.3
TOSP	Speyside	3.25	216	eP	Pn	13 35 04.0	+0.1
TOSP				eS	Sn	13 35 40.8	-1.9
MAGL	Barre de l'ile	3.28	308	eP	Pn	13 35 06.0	+1.6
MAGL				eS	Sn	13 35 42.4	-1.2
GRGR	Grenville	3.49	239	eP	Pn	13 35 07.5	+0.2
GRGR				eS	Sn	13 35 45.6	-3.1
TDBA	Terre de Bas,	3.51	303	e	Pn	13 35 03.0	-4.5
TDBA	Terre de Bas,	3.51	303	eP	Pn	13 35 04.3	-3.2
CBE	Ff, Capester	3.61	306	eP	Pn	13 35 09.8	+0.9
CBE				eS	Sn	13 35 49.6	-1.9
ABD	La Joyeuse, An	3.77	312	eP	Pn	13 35 11.9	+0.9
TRN	Trinidad (W)	4.28	220	eP	Pn	13 35 18.7	+0.6
TRN	Trinidad (W)	4.28	220	eS	Sn	13 36 03.9	-4.3
ANBD	Bethesda, Anti	4.35	316	eP	Pn	13 35 20.1	+1.1
ANBD	Bethesda, Anti	4.35	316	eS	Sn	13 36 07.9	-1.9
BPA	Boggy Peak	4.41	315	eP	Pn	13 35 20.9	+1.0
BPA	Boggy Peak	4.41	315	eS	Sn	13 36 09.7	-1.7
ANWB	Willy Bob	4.82	321	eP	Pn	13 35 26.6	+1.2
ANWB	Willy Bob	4.82	321	eS	Sn	13 36 19.6	-1.8

*RSPR **19** 13:34:16.7, 19°.57N×65°.40W, h76km±14km, MD3.2/4*
*NEIC **19** 13:34:18±1.1, 19°.5N±0°.1×65°.52W±0°.04, h64km±33km, Error ellipse: s-maj=19.9km s-min=5.5km az=185.0*
ISC 19 13:34:15.8±3.0, 19°.6N±0°.2×65°.41W±0°.07, h64km, n28,
σ0§45/30, 5C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.30	175⇑	eP	Pn	13 34 38.1	+0.1
CUPR	Culebra, Puert	1.30	175	eS	Sn	13 34 55.1	+0.5
CUPR	Culebra, Puert	1.30	175		Pn	13 34 38.1	+0.1
CUPR					Sn	13 34 55.1	+0.5
STVI	Saint Thomas	1.33	161	Pn	Pn	13 34 39.3	+1.0
STVI				IAML		13 35 03.6	
	comp=N,21nm,0.9s						
CBYP	Canovanas	1.40	198⇑	eP	Pn	13 34 39.0	-0.4
CBYP	Canovanas	1.40	198	eS	Sn	13 34 56.7	-0.3
CBYP	Canovanas	1.40	198		Pn	13 34 39.0	-0.4
CBYP					Sn	13 34 56.7	-0.3
CBYP	Canovanas	1.40	198	IAML		13 34 59.3	
	comp=E,63nm,0.2s						
GCPR	Guaynabo City	1.45	206	Pn	Pn	13 34 39.1	-0.8
GCPR				IAML		13 35 34.9	
	comp=N,42nm,2.8s						
MTP	Monte Pirata	1.51	185⇓	eP	Pn	13 34 40.9	+0.1
MTP	Monte Pirata	1.51	185	eS	Sn	13 34 59.7	+0.1
MTP	Monte Pirata	1.51	185		Pn	13 34 40.9	+0.1
MTP					Sn	13 34 59.7	+0.1
MTP	Monte Pirata	1.51	185	IAML		13 35 01.2	
	comp=E,17nm,0.2s						
EMPR	Esperanza - Ma	1.55	223	Pn	Pn	13 34 41.2	0.0
EMPR				IAML		13 35 13.4	
	comp=E,63nm,0.8s						
SJG	San Juan	1.65	205	Pn	Pn	13 34 42.2	-0.4
SJG				IAML		13 35 09.0	
	comp=E,17nm,0.9s						
PDPR	Patillas Dam,	1.69	200	Pn	Pn	13 34 42.5	-0.7
AOPR	Arecibo Observ	1.79	226⇑	eP	Pn	13 34 45.0	+0.5
AOPR	Arecibo Observ	1.79	226		Pn	13 34 44.0	-0.5
AOPR				IAML		13 35 16.1	
	comp=N,37nm,0.7s						
CELP	Cerrillos	1.89	216⇑	eP	Pn	13 34 45.8	-0.1
CELP	Cerrillos	1.89	216		Pn	13 34 45.8	-0.1
OBIP	Obispado Ponce	1.93	216	Pn	Pn	13 34 46.2	-0.3
OBIP				IAML		13 35 09.9	
	comp=E,16nm,2.5s						
OBIP				IAML		13 35 50.2	
	comp=N,16nm,2.3s						
AGPR	Aguadilla, PR	1.97	235	Pn	Pn	13 34 46.9	-0.1
AGPR				IAML		13 35 18.0	
	comp=N,37nm,2.0s						
LSP	Las Mesas	2.14	228⇑	eP	Pn	13 34 49.6	+0.4
LSP	Las Mesas	2.14	228		Pn	13 34 49.6	+0.4
LSP					Sn	13 35 15.2	+0.5
LSP	Las Mesas	2.14	228	eS	Sn	13 35 15.2	+0.5
LSP					Pn	13 34 49.6	+0.4
LSP					Sn	13 35 15.2	+0.5
MPR	Mayaguez	2.15	230	Pn	Pn	13 34 49.5	+0.1
MLPR	Magueyes Islan	2.25	224	Pn	Pn	13 34 50.4	-0.4
MLPR				IAML		13 35 29.3	
	comp=E,14nm,2.4s						
MLPR				IAML		13 35 47.1	
	comp=N,16nm,2.9s						
DLPL	La Plaine	5.82	136		Pn	13 35 38.8	-0.8

*NNC **19** 13:35:15.7±0.4, 44°.51N×79°.44E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=2.8km s-min=2.6km az=58.0*
*SOME **19** 13:35:17.2, 44°.48N×79°.38E, h15km*
ISC 19 13:35:13.8±1.1, 44°.58N±0°.02×79°.53E±0°.02, h7km±10km, n50, σ1§21/81, 9C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.31	142⇓	eP	Pb	13 35 22.2	+0.4
	162nm,0.1s						
DJR				eS	Sb	13 35 25.9	-1.2
	2μm,0.3s						
DJR	Jarkent	0.31	142	P	Pb	13 35 22.2	+0.4
	162nm,0.1s						
DJR				S	Sb	13 35 26.0	-1.1
	2μm,0.3s						
KAPS	Kapalarasan	0.72	350⇓	eP	Pn	13 35 30.9	+0.4
	33nm,0.2s						
KAPS				eS	Sn	13 35 41.2	-0.7
	132nm,0.2s						
KAPS	Kapalarasan	0.72	350	P	Pn	13 35 30.9	+0.4
	33nm,0.2s						
KAPS				S	Sn	13 35 41.2	-0.7
	132nm,0.2s						
TDK	Taldyqorghan	0.90	298	eP	Pb	13 35 32.5	+0.6
	34nm,0.2s						
TDK				eS	Sg	13 35 43.8	+0.9
	323nm,0.3s						
TDK	Taldyqorghan	0.90	298	P	Pn	13 35 32.6	-0.4
	51nm,0.2s						
TDK				S	Sg	13 35 43.8	+0.9
	323nm,0.3s						
PDGK	Podgornoye	1.25	181	P	Pg	13 35 38.2	+0.5
	84nm,0.2s						
PDGK				S	Sg	13 35 53.2	-0.7
	44nm,0.3s						
PDGK	Podgornoye	1.25	181	⇑Pn	Pg	13 35 38.0	+0.3
	35nm,0.2s						
PDGK				⇑Sn	Sn	13 35 57.2	+2.2
	39nm,0.5s						
KPKS	Kokpek	1.27	209	eP	Pg	13 35 38.2	+0.2
	153nm,0.3s						
KPKS				eS	Sb	13 35 54.0	-0.6
	353nm,0.2s						
ARXS	Arharly	1.27	254	eP	Pg	13 35 39.1	+1.0
	43nm,0.2s						
ARXS				eS	Sg	13 35 55.0	+0.4
	160nm,0.3s						
ARXS	Arharly	1.27	254	P	Pg	13 35 39.1	+1.0
	43nm,0.2s						
ARXS				S	Sg	13 35 55.0	+0.4
	160nm,0.3s						
KTMS	Ketmen	1.28	152	eP	Pg	13 35 38.9	+0.6
	3.8nm,0.4s						
KTMS				eS	Sn	13 35 55.0	-0.8
	57nm,0.2s						
KTMS	Ketmen	1.28	152	P	Pg	13 35 38.9	+0.6
	3.8nm,0.4s						
KTMS				S	Sn	13 35 55.0	-0.8
	57nm,0.2s						
SHLS	Shalkode	1.42	182	eP	Pg	13 35 41.7	+0.6
	132nm,0.2s						
SHLS				eS	Sg	13 35 59.3	-0.2
	70nm,0.2s						
SHLS	Shalkode	1.42	182	P	Pg	13 35 41.7	+0.6
	132nm,0.2s						
SHLS				S	Sg	13 35 59.3	-0.2
	70nm,0.2s						
KURS	Kuram	1.46	222	eP	Pg	13 35 42.0	+0.1
	36nm,0.2s						
KURS				eS	Sg	13 36 00.3	-0.5
	68nm,0.5s						
KURS	Kuram	1.46	222	P	Pg	13 35 41.9	+0.1
	36nm,0.2s						
KURS				S	Sg	13 36 00.3	-0.5
	68nm,0.5s						
UZB	Uzynbulak	1.48	194	eP	Pg	13 35 41.9	-0.2
	98nm,0.2s						
UZB				eS	Sg	13 36 00.2	-1.0
	122nm,0.3s						
UZB	Uzynbulak	1.48	194	P	Pg	13 35 41.9	-0.2
	98nm,0.2s						
UZB				S	Sg	13 36 00.2	-1.0
	122nm,0.3s						
SATY	Saty	1.72	209	eP	Pg	13 35 46.9	+0.2
	48nm,0.1s						
SATY				eS	Sg	13 36 08.3	-0.8
	166nm,0.2s						
SATY	Saty	1.72	209	P	Pg	13 35 46.9	+0.2
	48nm,0.1s						
SATY				S	Sg	13 36 08.3	-0.8
	166nm,

KRBS	**Karabastau**	**2.91 254**	*e*P		**Pb**	**13 36 07.2**	**+1.2**
	2.1nm,0.3s						
KRBS			*e*S		**Sb**	**13 36 43.2**	**+1.3**
	9.4nm,0.3s						
KRBS	**Karabastau**	**2.91 254**	Pg		**Pb**	**13 36 07.2**	**+1.2**
	2.1nm,0.3s						
KRBS			Lg		Lg	13 36 43.2	
	9.4nm,0.3s						
MK31	**Makanchi Array**	**2.94 40**	⇑Pn		**Pb**	**13 36 06.3**	**-0.3**
	0.3nm,0.2s,baz=217,slow=16,SNR=62						
MK31			⇑Pg		**Pg**	**13 36 12.2**	**+2.0**
	0.6nm,0.2s,baz=218,slow=16,SNR=9.2						
MK31			⇓Lg		Lg	13 36 49.4	
	4.1nm,0.3s,baz=216,slow=26,SNR=15						
KST	**Kastek**	**3.00 241**	*e*P		**Pb**	**13 36 09.1**	**+1.4**
	6.5nm,0.4s						
KST			*e*S		**Sb**	**13 36 46.4**	**+1.8**
	19nm,0.3s						
KST	**Kastek**	**3.00 241**	Pg		**Pb**	**13 36 09.1**	**+1.4**
	6.5nm,0.4s						
KST			Lg		Lg	13 36 46.4	
	19nm,0.3s						
DGS	**Degeres**	**3.02 245**	*e*P		**Pb**	**13 36 08.8**	**+0.8**
	5.5nm,0.3s						
DGS			*e*S		**Sb**	**13 36 46.0**	**+0.8**
	43nm,0.3s						
DGS	**Degeres**	**3.02 245**	Pg		**Pb**	**13 36 08.8**	**+0.8**
	5.5nm,0.3s						
DGS			Lg		Lg	13 36 46.0	
	43nm,0.3s						
SGDS	**Sogindy**	**3.71 254**	Pg		**Pb**	**13 36 20.9**	**+1.2**
	2.7nm,0.5s						
SGDS			Lg		Lg	13 37 06.5	
	8.5nm,0.3s						
MRKS	**Merke**	**4.92 250**	*e*P		**Pg**	**13 36 44.8**	**-3.3**
	2.8nm,0.4s						
MRKS			*e*S		**Sg**	**13 37 47.5**	**-4.4**
	7.0nm,0.6s						
MRKS	**Merke**	**4.92 250**	Pg		**Pg**	**13 36 44.8**	**-3.3**
	2.8nm,0.4s						
MRKS			Lg		Lg	13 37 47.5	
	7.0nm,0.6s						
KURBB	**Kurchatov Arra**	**6.09 354**	⇑Pg		**Pg**	**13 37 07.7**	**-2.6**
	0.4nm,0.3s						
KURBB			⇓Lg		Lg	13 38 30.8	
	21nm,0.7s						
OTUK	**Ortayu**	**6.18 309**	⇓Lg		Lg	13 38 33.3	
	5.1nm,0.9s						
KK31	**Karatay Array**	**6.68 260**	⇑Lg		Lg	13 38 46.6	
	1.2nm,0.5s,baz=78,slow=28,SNR=6.4						

TAP 19 13:35:19.4,24.°62N×121.°77E,h9km±1km,ML0.8,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDS	**Dongshan**	**0.05**	**282**	*i* P	Pg	13 35 22.1	+0.8
	baz=281						
NDS				*i* S	Sg	13 35 23.4	+0.7
	baz=281						
TWC	**Suao**	**0.07**	**101**	P	Pg	13 35 22.3	+0.8
	baz=100						
TWC				S	Sg	13 35 24.1	+1.0
	baz=100						
TWE	**Neicheng**	**0.14**	**316**	*i* P	Pg	13 35 23.2	+0.8
	baz=319						
TWE				*i* S	Sg	13 35 25.7	+1.1
	baz=319						
EWUT	**Wuta**	**0.18**	**178**	P	Pg	13 35 24.2	+1.1
	baz=178						
EWUT				S	Sg	13 35 26.9	+1.2
	baz=178						
ENTT	**Nioudou**	**0.19**	**275**	*i* P	Pg	13 35 24.6	+1.3
	baz=274						
ENTT				S	Sg	13 35 27.1	+1.1
	baz=274						
NDT	**Datong Townshi**	**0.24**	**265**	P	Pg	13 35 25.0	+0.8
	baz=265						
NDT				S	Sg	13 35 29.5	+2.0
	baz=265						
NWLT	**Wulai**	**0.29**	**302**	P	Pg	13 35 25.9	+0.7
	baz=302						
NWLT				S	Sg	13 35 30.3	+1.2
	baz=302						
TIPB	**Shuangxi**	**0.35**	**8**	*e*P	Pg	13 35 24.5	-1.8
	baz=7.0						
TIPB				*e*S	Sg	13 35 31.6	+0.6
	baz=7.0						
YHNB	**Yeheng**	**0.36**	**277**	*e*P	Pb	13 35 28.3	+0.3
	baz=277						
YHNB				S	Sb	13 35 33.5	-0.4
	baz=277						

JMA 19 13:35:52.3±0.3,24.°98N×123.°41E,h16km,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.63**	**215**	P	Pg	13 36 04.3	-0.4
YOJ				*e*S	Sg	13 36 12.9	-0.2
IRIF	**Iriomote-Funau**	**0.70**	**156**	S	Sg	13 36 15.3	-0.2
JIJ	**Ishigaki jima**	**0.91**	**132**	P	Pb	13 36 09.0	-0.6
JIJ				*e*S	Sb	13 36 20.2	-1.3
JISG	**Ishigakijimahi**	**0.91**	**115**	S	Sb	13 36 20.7	-0.8
JKRS	**Kuro-shima**	**0.92**	**143**	P	Pb	13 36 09.8	-0.1
JKRS				*e*S	Sb	13 36 21.7	-0.1

*PRU **19** 13:41:52.7±0.0, 48.°03N×23.°79E, h0km*
*BUC **19** 13:41:53.6±0.4, 48.°11N×23.°68E, h6km±2km, ml3.0/20, Error ellipse: s-maj=3.0km s-min=1.9km az=23.0*
*KRSZO **19** 13:41:53.7±0.9, 48.°05N×23.°63E, h4km±8km, ML3.2/15, Error ellipse: s-maj=3.4km s-min=2.8km az=51.0*
*SIGU **19** 13:41:53.6, 48.°03N×23.°67E, h6km*
ISC 19 13:41:54.0±1.1,48.°08N±0.°02×23.°66E±0.°02,h4km±9km, n93,σ0°88/133,31C-33D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAKU	**Rahkiv**	**0.34**	**98**	⇓*i*Pg	**Pg**	**13 42 00.3**	**-0.3**
RAKU				Pm		13 42 00.5	
RAKU				m		13 42 00.5	
RAKU				*i* Sg	**Sg**	**13 42 05.0**	**-0.1**
RAKU				Sm		13 42 05.6	
KORU	**Korolevo**	**0.36**	**283**	⇑*i*Pg	**Pg**	**13 42 01.6**	**+0.7**
KORU				Pm		13 42 04.9	
KORU				*i* Sg	**Sb**	**13 42 07.8**	**-1.2**
KORU				Sm		13 42 11.8	
KORU				m		13 42 25.2	
BMR	**Baia Mare**	**0.42**	**195**	⇓P	**Pg**	**13 42 01.9**	**-0.1**
BMR				⇓S	**Sg**	**13 42 08.3**	**+0.9**
BMR	**Baia Mare**	**0.42**	**195**	⇓P	**Pg**	**13 42 01.9**	**-0.1**
BMR				⇓S	**Sg**	**13 42 08.3**	**+0.9**
BMR	**Baia Mare**	**0.42**	**195**	Pg	**Pg**	**13 42 01.9**	**-0.1**
	comp=Z,3.6nm,SNR=83						
BMR				Sg	**Sg**	**13 42 08.2**	**+0.8**
MEZ	**Mezhgor'ye**	**0.45**	**348**	⇑*i*Pg	**Pb**	**13 42 03.2**	**-1.3**
MEZ				Pm		13 42 04.6	
MEZ				*i* Sg	**Sb**	**13 42 10.6**	**-1.0**
MEZ				m		13 42 12.3	
MEZ				Sm		13 42 13.1	
TRSU	**Trosnyk**	**0.47**	**273**	*i* Pg	**Pg**	**13 42 03.7**	**+0.7**
TRSU				Pm		13 42 04.9	
TRSU				*e*Sg	**Sb**	**13 42 11.3**	**-0.9**
TRSU				Sm		13 42 12.5	
TRSU				m		13 43 02.0	
BRIU	**Brid**	**0.50**	**302**	⇑*i*Pg	**Pg**	**13 42 04.1**	**+0.5**
BRIU				Pm		13 42 11.4	
BRIU				*i* Sg	**Sb**	**13 42 13.1**	**+0.1**
BRIU				m		13 42 14.7	
BRIU				Sm		13 42 17.2	
NSLU	**Nyzhne Selyshc**	**0.55**	**77**	⇓*i*Pg	Pg	13 41 58.2	-6.3
NSLU				Pm		13 42 00.8	
NSLU				*i* Sg	Sg	13 42 01.9	-10
NSLU				m		13 42 04.4	
NSLU				Sm		13 42 05.1	
BERU	**Beregovo**	**0.70**	**284**	*i* Pg	**Pg**	**13 42 07.0**	**-0.3**
BERU				Pm		13 42 10.4	
BERU				*i* Sg	**Sb**	**13 42 19.1**	**+0.5**
BERU				m		13 42 22.6	
BERU				Sm		13 42 24.3	
MUKU	**Mukachevo**	**0.75**	**301**	⇑*i*Pg	**Pb**	**13 42 08.9**	**-0.7**
MUKU				Pm		13 42 16.3	
MUKU				*e*Sg	**Sb**	**13 42 21.1**	**+0.9**
MUKU				m		13 42 23.1	
MUKU				Sm		13 42 23.4	
TRPA	**Tarpa**	**0.75**	**275**	⇑P	**Pb**	**13 42 08.9**	**-0.8**
TRPA				⇓S	**Sb**	**13 42 19.3**	**-0.9**
TRPA	**Tarpa**	**0.75**	**275**	⇑P	**Pb**	**13 42 08.9**	**-0.8**
TRPA	**Tarpa**	**0.75**	**275**	Pg	Pn	13 42 21.3	+10
	comp=Z,299μm,SNR=121						
	comp=Z,3μm,0.8s						
STNU	**Starunia**	**0.85**	**41**	*e*Pg	**Pn**	**13 42 12.7**	**-0.1**
STNU				*e*Sg	**Sn**	**13 42 25.5**	**-0.2**
HOLU	**Holmets**	**0.96**	**298**	⇓*i*Pg	**Pb**	**13 42 12.6**	**-0.7**
HOLU				*i* Sg	**Sn**	**13 42 27.6**	**-0.9**
KSV	**Kosov**	**0.97**	**75**	⇓*i*Pg	**Pb**	**13 42 12.9**	**-0.5**
KSV				Pm		13 42 15.8	
KSV				*e*Sg	**Sn**	**13 42 28.0**	**-0.7**
KSV				Sm		13 42 33.3	
KSV				m		13 42 35.2	
MESR	**Meseseni**	**1.04**	**208**	⇓P	**Pn**	**13 42 14.9**	**-0.5**
MESR				⇓S	**Sn**	**13 42 30.0**	**-0.4**
MESR	**Meseseni**	**1.04**	**208**	⇓P	**Pn**	**13 42 14.9**	**-0.5**
UZH	**Uzhgorod**	**1.07**	**302**	*e*Pg	**Pn**	**13 42 15.6**	**-0.1**
UZH				Pm		13 42 16.6	
UZH				*e*Sg	**Sn**	**13 42 30.8**	**-0.2**
UZH				Sm		13 42 34.4	
UZH				m		13 42 45.0	
MORS	**Morshin**	**1.07**	**8**	*i* Pg	**Pn**	**13 42 16.8**	**+1.0**
MORS				*e*Sg	**Sn**	**13 42 33.8**	**+2.7**
ARCR	**ARCALIA**	**1.10**	**154**	⇓P	**Pg**	**13 42 14.6**	**-0.4**
ARCR				⇓S	**Sn**	**13 42 31.3**	**-0.4**
ARCR	**ARCALIA**	**1.10**	**154**	⇓P	**Pg**	**13 42 14.6**	**-0.4**
ARCR	**ARCALIA**	**1.10**	**154**	Pb	**Pg**	**13 42 14.8**	**-0.2**
	comp=Z,1.3nm,SNR=47						
ARCR				Lg	Lg	13 42 29.5	
BURAR	**Bucovina Array**	**1.15**	**113**	⇑P	**Pg**	**13 42 14.8**	**-1.1**
BURAR				⇑S	**Sb**	**13 42 31.2**	**-0.5**
BURAR	**Bucovina Array**	**1.15**	**113**	⇑P	**Pg**	**13 42 14.8**	**-1.1**
BURAR	**Bucovina Array**	**1.15**	**113**	Pg	**Pg**	**13 42 14.6**	**-1.4**
SHIU	**Shidnytsya**	**1.17**	**350**	*i* Pg	**Pn**	**13 42 17.9**	**+0.8**
SHIU				*i* Sg	**Sn**	**13 42 35.9**	**+2.4**
KOLS	**Kolonicke sedl**	**1.26**	**313**	Pn	**Pb**	**13 42 17.9**	**-0.4**
	comp=Z,97nm,SNR=125						
KOLS	**Kolonicke sedl**	**1.26**	**313**	*e*PG	**Pn**	**13 42 18.8**	**+0.4**
KOLS				*e*SG	**Sn**	**13 42 39.7**	**+3.9**
CBBR	**Cluj-Babes-Bol**	**1.31**	**183**	⇑P	**Pg**	**13 42 18.7**	**-0.3**
CBBR	**Cluj-Babes-Bol**	**1.31**	**183**	⇑P	**Pg**	**13 42 18.7**	**-0.3**
CJR	**Cluj-Napoca**	**1.36**	**182**	⇑P	**Pn**	**13 42 19.8**	**0.0**
CJR				⇑S	**Sn**	**13 42 39.3**	**+0.9**
CJR	**Cluj-Napoca**	**1.36**	**182**	⇑P	**Pn**	**13 42 19.8**	**0.0**
CJR	**Cluj-Napoca**	**1.36**	**182**	Pg	**Pn**	**13 42 19.6**	**-0.3**
	comp=Z,1.6nm,SNR=42						
CJR				Lg	Lg	13 42 39.9	
LTVH	**Ltavrtes, Hu**	**1.37**	**240**	⇑P	**Pn**	**13 42 19.3**	**-0.6**
LTVH				⇑S	**Sn**	**13 42 40.9**	**+2.3**
LTVH	**Ltavrtes, Hu**	**1.37**	**240**	⇑P	**Pn**	**13 42 19.3**	**-0.6**
LTVH	**Ltavrtes, Hu**	**1.37**	**240**	*e*P	**Pg**	**13 42 20.5**	**+0.2**
LTVH				*e*S	**Sn**	**13 42 38.7**	**+0.2**
LTVH	**Ltavrtes, Hu**	**1.37**	**240**	Pg	**Pg**	**13 42 20.5**	**+0.2**
	comp=Z,0.7nm,SNR=6.8						
LTVH				Sn	**Sn**	**13 42 38.7**	**+0.2**
DRGR		**1.44**	**207**	⇑P	**Pn**	**13 42 20.0**	**-0.9**
DRGR				⇑S	**Sn**	**13 42 40.3**	**+0.1**
DRGR		**1.44**	**207**	⇑P	**Pn**	**13 42 20.0**	**-0.9**
DRGR		**1.44**	**207**	Pn	**Pn**	**13 42 19.9**	**-1.0**
	comp=Z,0.8nm,SNR=38						
DRGR				Sn	**Sn**	**13 42 40.6**	**+0.3**
CHRU	**Chernivtsi**	**1.53**	**81**	*e*Pn	**Pg**	**13 42 23.5**	**+0.2**
CHRU				m		13 42 53.0	
CRVS	**Cervenica-Dubn**	**1.68**	**300**	Pg	**Pg**	**13 42 26.9**	**+0.7**
	comp=Z,185nm,SNR=7.7						
	comp=Z,9.2nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.68**	**300**	*e*PN	**Pb**	**13 42 24.6**	**-0.9**
LVV	**L'vov**	**1.76**	**8**	*e*Pn	**Pg**	**13 42 27.7**	**-0.1**
LVV				Pm		13 42 30.1	
LVV				*e*Sn	**Sg**	**13 42 50.3**	**-0.3**
LVV				m		13 42 58.7	
LVV				Sm		13 43 07.3	
KMPD	**K-Podol'skiy**	**1.93**	**74**	*i* Pn	**Pb**	**13 42 29.4**	**-0.3**
KMPD				*e*Sn	**Sb**	**13 42 53.8**	**-0.4**
MDB	**Medias**	**2.00**	**165**	⇓P	**Pn**	**13 42 28.7**	**+0.2**
MDB				⇓S	**Sb**	**13 42 55.6**	**-0.5**
MDB	**Medias**	**2.00**	**165**	⇓P	**Pn**	**13 42 28.7**	**+0.2**
KECS	**Kecovo**	**2.16**	**282**	Pn	**Pn**	**13 42 30.1**	**-0.7**
	comp=Z,1.3nm,SNR=12						
KECS	**Kecovo**	**2.16**	**282**	*e*PN	**Pn**	**13 42 30.0**	**-0.7**
KECS				*e*SN	**Sn**	**13 42 58.0**	**0.0**
KECS				*e*LG	Lg	13 43 06.4	
HORU	**Horodok**	**2.16**	**57**	*e*Pn	**Pb**	**13 42 33.2**	**-0.5**
HORU				Pm		13 42 39.8	
HORU				*i* Sn	**Sg**	**13 43 02.2**	**-1.1**
HORU				Sm		13 43 06.6	
HORU				m		13 43 11.9	
DEV	**Deva**	**2.25**	**194**	⇑P	**Pn**	**13 42 32.1**	**+0.1**
DEV	**Deva**	**2.25**	**194**	⇑P	**Pn**	**13 42 32.1**	**+0.1**
DEV	**Deva**	**2.25**	**194**	Pg	**Pb**	**13 42 35.2**	**0.0**
	comp=Z,0.4nm,SNR=14						
SIRR	**Siria**	**2.27**	**218**	⇓P	**Pn**	**13 42 32.2**	**-0.1**
SIRR				⇑S	**Sn**	**13 43 01.7**	**+1.1**
SIRR	**Siria**	**2.27**	**218**	⇓P	**Pn**	**13 42 32.2**	**-0.1**
SIRR	**Siria**	**2.27**	**218**	Pg	**Pb**	**13 42 35.3**	**-0.2**
NDNU	**Novodnistrovsk**	**2.53**	**77**	*i* Pn	**Pb**	**13 42 39.7**	**-0.2**
NDNU				Pm		13 42 46.4	
NDNU				*i* Sn	**Sb**	**13 43 12.2**	**+0.9**
NDNU				m		13 43 17.3	
NDNU				Sm		13 43 18.7	
PSZ	**Piszkesteto**	**2.53**	**268**	⇓P	**Pn**	**13 42 34.9**	**-1.0**
PSZ	**Piszkesteto**	**2.53**	**268**	⇓P	**Pn**	**13 42 34.9**	**-1.0**
PSZ	**Piszkesteto**	**2.53**	**268**	*e*P	**Pn**	**13 42 34.6**	**-1.3**
PSZ	**Piszkesteto**	**2.53**	**268**	Pg	**Pn**	**13 42 34.6**	**-1.3**
	comp=Z,0.2nm,SNR=12						
TESR	**Tescani**	**2.57**	**126**	⇑P	**Pn**	**13 42 37.0**	**+0.7**
TESR	**Tescani**	**2.57**	**126**	⇑P	**Pn**	**13 42 37.0**	**+0.7**
LOT	**Lotru**	**2.63**	**178**	⇓P	**Pn**	**13 42 38.0**	**+0.6**
LOT	**Lotru**	**2.63**	**178**	⇓P	**Pn**	**13 42 38.0**	**+0.6**
GZR	**Gura Zlata**	**2.75**	**193**	⇑P	**Pn**	**13 42 38.9**	**0.0**
GZR				⇓S	**Sn**	**13 43 14.4**	**+1.8**
GZR	**Gura Zlata**	**2.75**	**193**	⇑P	**Pn**	**13 42 38.9**	**0.0**
GZR	**Gura Zlata**	**2.75**	**193**	Pg	**Pn**	**13 42 44.2**	**+0.4**
VOIR		**2.81**	**160**	⇓P	**Pn**	**13 42 40.0**	**+0.2**
VOIR				⇑S	**Sn**	**13 43 15.6**	**+1.6**
VOIR		**2.81**	**160**	⇓P	**Pn**	**13 42 40.0**	**+0.2**
LANS	**Liptovska Anna**	**2.98**	**293**	Pn	**Pn**	**13 42 42.5**	**+0.4**
	comp=Z,0.1nm,SNR=4.7						
LANS	**Liptovska Anna**	**2.98**	**293**	*e*PN	**Pn**	**13 42 42.2**	**+0.1**
MLR	**Muntele Rosu**	**3.02**	**148**	⇓P	**Pn**	**13 42 41.3**	**-1.5**
MLR	**Muntele Rosu**	**3.02**	**148**	⇓P	**Pn**	**13 42 41.3**	**-1.5**
MLR	**Muntele Rosu**	**3.02**	**148**	Pg	**Pg**	**13 42 54.3**	**+2.4**
VRI	**Vrincioaia**	**3.05**	**135**	⇑P	**Pn**	**13 42 42.5**	**-0.5**
VRI	**Vrincioaia**	**3.05**	**135**	⇑P	**Pn**	**13 42 42.5**	**-0.5**
VYHS	**Vyhne**	**3.25**	**279**	Pn	**Pn**	**13 42 44.8**	**-1.0**
	SNR=3.0						
VYHS	**Vyhne**	**3.25**	**279**	*e*PN	**Pn**	**13 42 44.9**	**-0.8**
VYHS				*e*SN	**Sn**	**13 43 25.8**	**+1.0**
BISRR	**Bisoca**	**3.28**	**139**	Pn	**Pn**	**13 42 46.5**	**+0.2**
	comp=Z,0.1nm,SNR=4.4						
HERR	**Herculane**	**3.31**	**195**	⇓P	**Pn**	**13 42 46.0**	**-0.6**
HERR	**Herculane**	**3.31**	**195**	⇓P	**Pn**	**13 42 46.0**	**-0.6**
JAVC	**Velka Javorina**	**4.06**	**283**	Pn	**Pn**	**13 42 57.9**	**+0.9**
VRAC	**Vranov**	**4.84**	**287**	⇓P	**Pn**	**13 43 07.1**	**-0.5**
VRAC				⇑S	**Sn**	**13 44 03.9**	**-0.1**
VRAC	**Vranov**	**4.84**	**287**	⇓P	**Pn**	**13 43 07.1**	**-0.5**
VRAC	**Vranov**	**4.84**	**287**	*e*PN	**Pn**	**13 43 06.9**	**-0.7**
VRAC				*e*SN	**Sn**	**13 44 03.6**	**-0.5**
KRUC	**Moravsky**	**4.92**	**284**	*e*PN	**Pn**	**13 43 08.0**	**-0.7**
KRUC				*e*SN	**Sn**	**13 44 05.7**	**-0.4**
DPC	**Dobruska-Polom**	**5.32**	**298**	*e*PN	**Pn**	**13 43 14.0**	**-0.2**
DPC				*e*SN	**Sn**	**13 44 15.3**	**-0.6**
OSTC	**Ostas**	**5.46**	**300**	*e*PN	**Pn**	**13 43 16.4**	**+0.2**
KSP	**Ksiaz**	**5.54**	**303**	Pn	**Pn**	**13 43 17.6**	**+0.4**
	comp=Z,12nm,0.8s,SNR=4.8						
KHC	**Kasperske Hory**	**6.77**	**283**	*e*PN	**Pn**	**13 43 34.4**	**+0.3**
KHC				*e*SN	**Sn**	**13 44 50.2**	**-1.4**

*IDC **19** 13:45:07.6±3.1, 30.°54S×177.°74W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/34, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=70.0km s-min=27.0km az=113.0*
*NEIC **19** 13:45:14.2±1.2, 30.°2S±0.°1×178.°4W±0.°2, h13km±7km, mb4.6/14, Error ellipse: s-maj=28.0km s-min=11.2km az=118.0*

ISC 19 13:45:11.3±2.1,30.°57S±0.°08×177.°7W±0.°3,h33km,n22, σ1§22/22,mb4.5/11,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**353**	Pn	**Pn**	**13 45 33.9**	**+0.5**
	91nm,0.3s,baz=90,slow=23,SNR=1.7						
RAO				Sn	**Sn**	**13 45 48.0**	**-1.9**
	316nm,0.3s,baz=189,slow=23,SNR=6.7						
URZ	**Urewera**	**8.78**	**208**	Pn	**Pn**	**13 47 16.9**	**+1.1**
	0.3nm,0.3s,baz=87,slow=4.3,SNR=2.0						
URZ				Sn	**Sn**	**13 48 50.5**	**-3.0**
	0.6nm,0.3s,baz=227,slow=11,SNR=2.7						
BKZ	**Black Stump Fm**	**9.80**	**207**		**Pn**	**13 47 30.2**	**+0.3**
MSWZ	**Moikau Station**	**12.22**	**206**	Pn	**Pn**	**13 48 03.0**	**+0.1**
PYZ	**Puysegur Point**	**19.74**	**214**	P	**Pn**	**13 49 39.2**	**-0.6**
LHI	**Lord Howe Isla**	**19.91**	**261**	P	**P**	**13 49 39.8**	**-0.3**
EIDS	**Eidsvold**	**27.98**	**273**	P	**P**	**13 51 00.4**	**+1.4**
EIDS				IAmb	IAmb	13 51 19.4	
	comp=Z,13nm,1.1s						
CTAO	**Charters Tower**	**34.06**	**279**	P	**P**	**13 51 53.5**	**+0.9**
CTAO				IAmb	IAmb	13 52 20.2	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**34.67**	**257**	P	**P**	**13 52 00.1**	**+2.2**
	comp=Z,2.6nm,0.7s,baz=100,slow=10,SNR=6.5						
STKA	**Stephens Creek**	**34.67**	**257**	IAmb	IAmb	13 52 01.1	
	comp=Z,0.8nm,0.8s						
RABL	**Rabaul**	**38.66**	**307**	P	**P**	**13 52 29.8**	**-2.2**
PMG	**Port Moresby**	**38.89**	**295**	P	**P**	**13 52 33.6**	**-0.3**
PMG				IAmb	IAmb	13 52 51.5	
	comp=Z,20nm,0.9s						
BBOO	**Buckleboo**	**39.15**	**254**	P	**P**	**13 52 36.2**	**+0.3**
BBOO				IAmb	IAmb	13 52 41.1	
	comp=Z,15nm,1.3s						
AS31	**Alice Springs**	**43.34**	**267**	P	**P**	**13 53 10.0**	**-0.4**
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**13 53 11.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=106,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**13 53 10.3**	**-0.2**
WR0	**Warramunga Arr**	**44.16**	**272**	P	**P**	**13 53 17.4**	**+0.3**
WR0				IAmb	IAmb	13 53 45.5	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**44.33**	**272**	P	**P**	**13 53 18.7**	**+0.3**
WB2				IAmb	IAmb	13 53 22.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**13 53 18.7**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=110,slow=8.1,SNR=25						
WB0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**13 53 19.2**	**+0.5**
WB0				IAmb	IAmb	13 53 33.6	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**59.54**	**180**	P	P	13 55 20.1	+8.8
QSPA				IAmb	IAmb	13 55 21.4	
	comp=Z,3.1nm,1.0s						
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc	**PKPab**	**14 04 45.2**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=8.1,slow=4.0,SNR=5.4						

*IDC **19** 13:52:34.5±3.4, 35.°56N×105.°20E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.3/48, mbtmp3.5/7, ML3.7/2, MS4.2/1, Ms1 4.2/1, ms1mx2.5/31, Error ellipse: s-maj=81.1km s-min=34.7km az=92.0*
*NEIC **19** 13:52:42.2±1.5, 35.°4N±0.°1×104.°58E±0.°10, h45km±8km, mb4.6/9, Error ellipse: s-maj=17.0km s-min=10.8km az=197.0*
ISC 19 13:52:41.0±0.8,35.°5N±0.°1×104.°6E±0.°1,h35km,n24, σ1§08/21,mb4.4/8,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**3.82**	**111**		**Pn**	**13 53 38.4**	**+1.0**
ENH	**Enshi**	**6.61**	**140**	Pn	**Pn**	**13 54 16.9**	**+1.2**
SONM	**Songino Array**	**12.42**	**6**	Pn	Pn	13 55 29.7	-5.6
	0.2nm,0.3s,baz=172,slow=12,SNR=2.1						
CMAR	**Chiang Mai Arr**	**17.68**	**198**	P	**Pn**	**13 56 44.9**	**+0.2**
	0.2nm,0.3s,baz=13,slow=8.4,SNR=1.4						
MKAR	**Makanchi Array**	**20.19**	**311**	P	**P**	**13 57 13.7**	**+1.1**
	0.4nm,0.5s,baz=109,slow=11,SNR=6.7						
MAKZ	**Makanchi**	**20.39**	**311**	P	**P**	**13 57 14.3**	**-0.4**
JNU	**Nakatsue**	**21.80**	**89**	LR	LR	14 07 18.7	
	comp=Z,669nm,19.6s,baz=286,slow=42						
USA0B	**Ussuriysk Arra**	**22.67**	**59**	P	**P**	**13 57 39.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**22.67**	**59**	P	**P**	**13 57 39.2**	**0.0**
ZALV	**Zalesovo Beam**	**23.08**	**329**	P	**P**	**13 57 43.7**	**+0.3**
	0.9nm,0.6s,baz=125,slow=9.5,SNR=2.0						
ZALV	**Zalesovo Beam**	**23.08**	**329**	P	**P**	**13 57 42.7**	**-0.7**
JMN	**Monobe**	**24.11**	**86**	P	**P**	**13 57 53.4**	**-0.1**
KURK	**Kurchatov**	**24.16**	**317**	P	**P**	**13 57 54.7**	**+0.9**
KURBB	**Kurchatov Arra**	**24.17**	**317**	P	**P**	**13 57 54.7**	**+0.9**
	0.6nm,0.5s,baz=137,slow=8.6,SNR=12						
ERM	**Erimo**	**30.57**	**66**	P	**P**	**13 58 49.0**	**-2.2**
ERM				IAmb

MK31	**Makanchi Array**	**68.14 327**	P	**P**	**14 04 06.5**	**-0.3**
MK31			IAmb	IAmb	14 04 07.6	
comp=Z,2.5nm,0.6s						
MKAR	**Makanchi Array**	**68.14 327**	P	**P**	**14 04 06.9**	**+0.1**
comp=Z,3.5nm,0.5s,baz=121,slow=8.0,SNR=50						
MKAR	**Makanchi Array**	**68.14 327**	P	**P**	**14 04 06.6**	**-0.2**
MAKZ	**Makanchi**	**68.32 326**	P	**P**	**14 04 07.7**	**-0.2**
ZALV	**Zalesovo Beam**	**71.42 334**	P	**P**	**14 04 26.1**	**-0.6**
comp=Z,0.7nm,0.4s,baz=117,slow=5.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.42 334**	P	**P**	**14 04 25.5**	**-1.3**
KURBB	**Kurchatov Arra**	**72.41 328**	P	**P**	**14 04 32.4**	**-0.3**
comp=Z,1.0nm,0.6s,baz=128,slow=5.1,SNR=16						
KURK	**Kurchatov**	**72.41 328**	P	**P**	**14 04 32.4**	**-0.4**
VNDA	**Vanda**	**72.79 173**	P	**P**	**14 04 35.8**	**+1.3**
comp=Z,0.7nm,0.7s,baz=326,slow=7.0,SNR=7.6						
KK31	**Karatay Array**	**73.34 319**	P	**P**	**14 04 37.5**	**-0.9**
KK31			IAmb	IAmb	14 04 39.1	
comp=Z,3.5nm,1.4s						
KKAR	**Karatay Array**	**73.34 319**	P	**P**	**14 04 37.6**	**-0.8**
BVAR	**Borovoye Array**	**77.97 328**	P	**P**	**14 05 04.2**	**-0.4**
comp=Z,0.2nm,0.3s,baz=177,slow=5.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**129.18 282**	PKP	**PKPdf**	**14 12 14.6**	**-0.4**
comp=Z,0.3nm,0.6s,baz=132,slow=2.2,SNR=1.4						
CPUP	**Villa Florida**	**146.41 167**	PKPbc	**PKPab**	**14 12 49.2**	**+0.6**
comp=Z,3.7nm,1.0s,baz=225,slow=1.4,SNR=3.7						

*IDC **19** 14:03:16.6±1.8, 7.°82S×129.°17E, h0km, mb3.4/1, mb1 4.2/4, mb1mx3.6/27, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=54.0km s-min=22.3km az=81.0*
*NEIC **19** 14:03:16.6±2.6, 7.°57S±0.°08×128.°09E±0.°09, h19km±10km, mb4.4/3, Error ellipse: s-maj=14.1km s-min=9.7km az=132.0*
ISC 19 14:03:13.4±1.1, **7.70S**±0.°07×**128.1E**±0.°1, **h10**km, **n18**, σ2**93**/19, **mb4.6**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.16**	**95**	Pn	**Pn**	**14 04 06.6**	**+3.4**
SOEI	**Soe**	**4.33**	**242**	Pn	**Pn**	**14 04 22.1**	**+2.7**
MMRI	**Maumere**	**5.91**	**260**	Pn	**Pn**	**14 04 42.1**	**+1.2**
MTN	**Manton Dam**	**5.91**	**150**	Pn	**Pn**	**14 04 45.7**	**+4.7**
FAKI	**Fak Fak**	**6.27**	**41**	Pn	**Pn**	**14 04 48.1**	**+2.1**
SIJI	**Sorong**	**7.47**	**25**	Pn	**Pn**	**14 05 02.5**	**0.0**
8.0nm,0.3s,baz=120,slow=14,SNR=15							
SIJI				Sn	**Sn**	**14 06 25.1**	**-2.2**
1.2nm,0.3s,baz=276,slow=23,SNR=1.7							
KNRA	**Kununurra**	**7.96**	**176**		**Pn**	**14 05 11.3**	**+2.1**
WB0	**Warramunga Arr**	**13.45**	**154**		**Pn**	**14 06 22.4**	**-2.1**
WRA	**Warramunga Arr**	**13.58**	**154**	Pn	**Pn**	**14 06 24.3**	**-1.9**
0.7nm,0.3s,baz=336,slow=12,SNR=28							
WRA				Sn	Sn	14 08 49.8	-7.6
1.2nm,0.3s,baz=333,slow=22,SNR=8.0							
WRA	**Warramunga Arr**	**13.58**	**154**		**Pn**	**14 06 23.5**	**-2.8**
WB2	**Warramunga Arr**	**13.59**	**154**	Pn	**Pn**	**14 06 23.7**	**-2.6**
WR0	**Warramunga Arr**	**13.68**	**154**		**Pn**	**14 06 25.0**	**-2.6**
AS31	**Alice Springs**	**16.82**	**161**		**Pn**	**14 07 06.8**	**-2.4**
AS31				IAmb	IAmb	14 07 09.9	
comp=Z,3.1nm,0.6s							
ASAR	**Alice Springs**	**16.82**	**161**	Pn	**Pn**	**14 07 07.5**	**-1.6**
comp=Z,1.1nm,0.3s,baz=339,slow=12,SNR=86							
ASAR				Sn	**Sn**	**14 10 11.2**	**-5.0**
comp=Z,0.5nm,0.3s,baz=320,slow=17,SNR=6.3							
ASAR	**Alice Springs**	**16.82**	**161**		**Pn**	**14 07 07.0**	**-2.2**
FORT	**Forrest**	**22.96**	**180**	P	**P**	**14 08 21.8**	**+3.7**
FORT				IAmb	IAmb	14 08 24.5	
comp=Z,15nm,0.7s							
BBOO	**Buckleboo**	**26.05**	**165**	P	**P**	**14 08 47.7**	**+0.7**
BBOO				IAmb	IAmb	14 09 03.5	
comp=Z,16nm,1.2s							
MKAR	**Makanchi Array**	**67.81**	**328**	P	P	14 14 21.1	+9.5
comp=Z,0.2nm,0.5s,baz=120,slow=7.0,SNR=4.3							

*IDC **19** 14:14:40.8±0.8, 9.°08S×153.°61E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.1/23, mbtmp4.0/14, ML3.6/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/26, Error ellipse: s-maj=23.9km s-min=17.2km az=100.0*
*NEIC **19** 14:14:43.3±0.9, 9.°2S±0.°1×153.°6E±0.°1, h13km±2km, mb4.5/18, Error ellipse: s-maj=18.2km s-min=15.3km az=81.0*
ISC 19 14:14:42.4±0.5, **9.09S**±0.°09×**153.62E**±0.°09, **h10**km, **n37**, σ0**79**/35, **mb4.2**/21, **MS3.5**/5, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.25**	**94**	Pn	**Pn**	**14 16 14.8**	**+0.1**
1.3nm,0.3s,baz=255,slow=7.6,SNR=2.4							
PATS	**Pohnpei**	**16.50**	**17**	Pn	**Pn**	**14 18 34.7**	**+0.6**
DZM	**Mont Dzumac**	**17.84**	**138**	P	**Pn**	**14 18 50.8**	**-0.2**
0.2nm,0.3s,baz=258,slow=20,SNR=3.1							
ARMA	**Armidale**	**21.30**	**185**	P	**P**	**14 19 28.3**	**-1.1**
ARMA				IAmb	IAmb	14 19 38.4	
comp=Z,22nm,1.2s							
WR0	**Warramunga Arr**	**21.37**	**238**	P	**P**	**14 19 29.8**	**-0.5**
WR0				IAmb	IAmb	14 19 35.4	
comp=Z,36nm,1.2s							
WB0	**Warramunga Arr**	**21.41**	**238**	P	**P**	**14 19 30.3**	**-0.3**
WB0				IAmb	IAmb	14 19 35.8	
comp=Z,28nm,1.1s							
WB2	**Warramunga Arr**	**21.52**	**238**	P	**P**	**14 19 31.4**	**-0.5**
WB2				IAmb	IAmb	14 19 36.5	
comp=Z,10nm,0.9s							
WRA	**Warramunga Arr**	**21.53**	**238**	P	**P**	**14 19 31.8**	**-0.1**
comp=Z,12nm,0.9s,baz=63,slow=10,SNR=29							
WRA	**Warramunga Arr**	**21.53**	**238**	P	**P**	**14 19 31.1**	**-0.9**
AS31	**Alice Springs**	**23.78**	**230**	P	**P**	**14 19 54.6**	**-0.8**
ASAR	**Alice Springs**	**23.78**	**230**	P	**P**	**14 19 55.3**	**-0.1**
comp=Z,11nm,1.0s,baz=65,slow=8.7,SNR=49							
ASAR	**Alice Springs**	**23.78**	**230**	P	**P**	**14 19 54.9**	**-0.6**
STKA	**Stephens Creek**	**25.27**	**205**	P	**P**	**14 20 08.5**	**-0.5**
comp=Z,5.8nm,1.0s,baz=14,slow=12,SNR=7.3							
STKA				LR	LR	14 30 19.8	
comp=Z,137nm,18.1s,baz=24,slow=37							
STKA	**Stephens Creek**	**25.27**	**205**	P	**P**	**14 20 08.1**	**-0.9**
CAN	**Canberra**	**26.45**	**189**	P	**P**	**14 20 19.4**	**-0.2**
FORT	**Forrest**	**32.14**	**224**	P	**P**	**14 21 11.3**	**+1.0**
RAO	**Raoul Island**	**33.38**	**131**	LR	LR	14 32 07.4	
comp=Z,368nm,19.1s,baz=302,slow=31							
KAPI	**Kappang**	**33.84**	**275**	P	**P**	**14 21 25.9**	**+0.5**
MJAR	**Matsushiro Arr**	**47.65**	**343**	P	**P**	**14 23 18.8**	**-0.1**
comp=Z,1.5nm,0.8s,baz=166,slow=6.1,SNR=4.8							
MJAR				LR	LR	14 40 58.0	
comp=Z,19nm,21.9s,baz=275,slow=33							
KSRS	**Korea Array**	**52.18**	**334**	P	**P**	**14 23 53.6**	**+0.3**
comp=Z,0.9nm,0.8s,baz=155,slow=7.3,SNR=5.0							
KSRS				LR	LR	14 46 27.5	
comp=Z,22nm,18.1s,baz=141,slow=36							
USRK	**Ussuriysk Ar.**	**56.55**	**341**	P	**P**	**14 24 25.8**	**+0.7**
comp=Z,0.8nm,0.6s,baz=132,slow=20,SNR=1.8							
CMAR	**Chiang Mai Arr**	**60.49**	**297**	P	**P**	**14 24 53.9**	**+0.8**
comp=Z,1.0nm,0.8s,baz=134,slow=7.7,SNR=2.5							
CMAR	**Chiang Mai Arr**	**60.49**	**297**	P	**P**	**14 24 52.5**	**-0.6**
PETK	**Petropavlovsk-**	**62.05**	**3**	P	**P**	**14 25 02.4**	**-0.5**
comp=Z,1.8nm,0.8s,baz=108,slow=4.7,SNR=2.9							
PETK				LR	LR	14 46 09.2	
comp=Z,32nm,20.9s,baz=162,slow=30							
VNDA	**Vanda**	**68.54**	**178**	P	**P**	**14 25 45.8**	**+1.0**
comp=Z,0.5nm,0.8s,baz=257,slow=4.5,SNR=2.1							
VNDA	**Vanda**	**68.54**	**178**	IAmb	IAmb	14 26 01.0	
comp=Z,3.7nm,1.4s							
ULN	**Ulaanbaatar**	**70.05**	**329**	P	**P**	**14 25 55.0**	**+0.3**
ULN				IAmb	IAmb	14 26 04.5	
comp=Z,6.6nm,1.3s							
SONM	**Songino Array**	**70.37**	**328**	P	**P**	**14 25 56.8**	**+0.1**
comp=Z,4.6nm,1.0s,baz=137,slow=5.9,SNR=7.2							
SONM	**Songino Array**	**70.37**	**328**	P	**P**	**14 25 57.0**	**+0.3**
SONM				IAmb	IAmb	14 26 04.5	
comp=Z,6.8nm,1.1s							
QSPA	**South Pole Qui**	**80.90**	**180**	P	**P**	**14 26 56.5**	**-0.3**
QSPA				IAmb	IAmb	14 27 05.4	
comp=Z,8.8nm,1.1s							
MK31	**Makanchi Array**	**84.08**	**319**	P	**P**	**14 27 12.8**	**-0.8**
MK31				IAmb	IAmb	14 27 20.2	
comp=Z,1.7nm,1.1s							
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**14 27 12.6**	**-0.9**
comp=Z,1.2nm,0.8s,baz=107,slow=6.5,SNR=12							
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**14 27 12.4**	**-1.2**
MAKZ	**Makanchi**	**84.29**	**319**	P	**P**	**14 27 13.1**	**-1.4**
MAKZ				IAmb	IAmb	14 27 21.7	
comp=Z,3.8nm,1.1s							
ILAR	**Eielson Array**	**85.81**	**22**	P	**P**	**14 27 20.1**	**-1.7**
comp=Z,0.4nm,0.7s,baz=224,slow=5.0,SNR=4.7							

NVAR	**Mina Array Bea**	**94.08**	**52**	P	**P**	**14 28 03.3**	**+1.6**
comp=Z,0.1nm,0.3s,baz=200,slow=4.8,SNR=1.7						
TORD	**Torodi Ar. Bea**	**152.17**	**281**	PKPbc	**PKPbc**	**14 34 39.2**	**-0.2**
comp=Z,1.7nm,0.9s,baz=67,slow=2.2,SNR=5.5						

*RSPR **19** 14:18:04.8, 19.°24N×65.°46W, h125km±3km, MD3.6/13*
*NEIC **19** 14:18:05.2±2.5, 19.°49N±0.°06×65.°50W±0.°04, h39km±45km, Error ellipse: s-maj=9.3km s-min=5.1km az=164.0*
ISC 19 14:18:02.7±1.5, **19.51N**±0.°07×**65.47W**±0.°04, **h16**km, **n60**, σ0**62**/64, **15C-1D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.21**	**172**	i*e*P	**Pg**	**14 18 26.0**	**0.0**
CUPR	**Culebra, Puert**	**1.21**	**172**		**Pb**	**14 18 25.1**	**-0.1**
CUPR				IAML		14 18 43.3	
comp=N,248nm,0.8s							
STVI	**Saint Thomas**	**1.25**	**157**	i*e*P	**Pg**	**14 18 26.9**	**+0.1**
STVI	**Saint Thomas**	**1.25**	**157**		**Pb**	**14 18 26.1**	**+0.1**
CBYP	**Canovanas**	**1.29**	**197**	i*e*P	**Pb**	**14 18 26.9**	**+0.3**
CBYP	**Canovanas**	**1.29**	**197**	*e*S	**Sg**	**14 18 44.9**	**+0.6**
CBYP	**Canovanas**	**1.29**	**197**		**Pn**	**14 18 25.8**	**-0.3**
CBYP				IAML		14 18 50.7	
comp=E,355nm,0.2s							
CBYP				IAML		14 18 54.8	
comp=N,513nm,0.2s							
CBYP	**Canovanas**	**1.29**	**197**		**Sg**	**14 18 44.9**	**+0.6**
ABVI	**Anegada Island**	**1.33**	**126**	Pn	**Pg**	**14 18 28.8**	**+0.5**
GCPR	**Guaynabo City**	**1.33**	**206**		**Pn**	**14 18 25.8**	**-0.8**
TBVI	**Tortola**	**1.35**	**143**	i*e*P	**Pg**	**14 18 28.8**	**0.0**
TBVI	**Tortola**	**1.35**	**143**		**Pg**	**14 18 28.8**	**0.0**
MTP	**Monte Pirata**	**1.41**	**183**	i*e*P	**Pb**	**14 18 28.3**	**-0.3**
MTP	**Monte Pirata**	**1.41**	**183**	*e*S	**Sb**	**14 18 46.9**	**+0.5**
MTP	**Monte Pirata**	**1.41**	**183**		**Pn**	**14 18 27.8**	**+0.1**
MTP				IAML		14 18 48.0	
comp=E,253nm,0.8s							
MTP				IAML		14 18 48.0	
comp=N,233nm,0.9s							
MTP	**Monte Pirata**	**1.41**	**183**		**Sb**	**14 18 46.9**	**+0.5**
VGBI	**Virgin Gorda,**	**1.43**	**135**	i*e*P	**Pg**	**14 18 29.4**	**-0.9**
VGBI	**Virgin Gorda,**	**1.43**	**135**	*e*S	**Sg**	**14 18 49.1**	**+0.2**
VGBI	**Virgin Gorda,**	**1.43**	**135**		**Pg**	**14 18 29.4**	**-0.9**
VGBI					**Sg**	**14 18 49.1**	**+0.2**
EMPR	**Esperanza - Ma**	**1.44**	**224**	i*e*P	**Pb**	**14 18 29.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.44**	**224**	*e*S	**Sg**	**14 18 48.5**	**-0.6**
EMPR	**Esperanza - Ma**	**1.44**	**224**		**Pn**	**14 18 27.8**	**-0.3**
EMPR				IAML		14 18 59.9	
comp=N,326nm,0.8s							
EMPR	**Esperanza - Ma**	**1.44**	**224**		**Sg**	**14 18 48.5**	**-0.6**
SJG	**San Juan**	**1.53**	**205**		**Pn**	**14 18 29.0**	**-0.4**
SJG				IAML		14 18 55.1	
comp=N,174nm,0.6s							
PDPR	**Patillas Dam,**	**1.57**	**200**		**Pn**	**14 18 29.7**	**-0.3**
IGPR	**InterUniversit**	**1.65**	**202**	i*e*P	**Pn**	**14 18 31.3**	**+0.2**
IGPR	**InterUniversit**	**1.65**	**202**	*e*S	**Sn**	**14 18 51.9**	**0.0**
AOPR	**Arecibo Observ**	**1.68**	**227**	i*e*P	**Pn**	**14 18 32.2**	**+0.8**
AOPR	**Arecibo Observ**	**1.68**	**227**	*e*S	**Sb**	**14 18 53.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.68**	**227**		**Pn**	**14 18 30.9**	**-0.5**
AOPR	**Arecibo Observ**	**1.68**	**227**		**Sb**	**14 18 53.9**	**-0.3**
CELP	**Cerrillos**	**1.77**	**217**	i*e*P	**Pn**	**14 18 32.8**	**+0.1**
CELP	**Cerrillos**	**1.77**	**217**	*e*S	**Sn**	**14 18 55.5**	**+0.5**
CELP	**Cerrillos**	**1.77**	**217**		**Pn**	**14 18 32.8**	**+0.1**
CELP					**Sn**	**14 18 55.5**	**+0.5**
OBIP	**Obispado Ponce**	**1.81**	**217**	i*e*P	**Pn**	**14 18 33.9**	**+0.6**
OBIP	**Obispado Ponce**	**1.81**	**217**	*e*S	**Sn**	**14 18 55.9**	**-0.1**
OBIP	**Obispado Ponce**	**1.81**	**217**		**Pn**	**14 18 33.0**	**-0.2**
OBIP				IAML		14 19 01.9	
comp=N,149nm,0.8s							
OBIP				IAML		14 19 13.3	
comp=E,139nm,0.6s							
OBIP	**Obispado Ponce**	**1.81**	**217**		**Sn**	**14 18 55.9**	**-0.1**
AGPR	**Aguadilla, PR**	**1.87**	**237**	i*e*P	**Pb**	**14 18 35.5**	**-1.0**
AGPR	**Aguadilla, PR**	**1.87**	**237**	*e*S	**Sb**	**14 18 59.0**	**-0.6**
AGPR	**Aguadilla, PR**	**1.87**	**237**		**Pn**	**14 18 33.9**	**-0.1**
AGPR				IAML		14 19 12.9	
comp=N,134nm,0.7s							
AGPR				IAML		14 19 24.4	
comp=E,128nm,1.1s							
AGPR	**Aguadilla, PR**	**1.87**	**237**		**Sb**	**14 18 59.0**	**-0.6**
CDVI	**St. Croix**	**1.87**	**159**		**Pn**	**14 18 33.9**	**-0.1**
ICMP	**Isla Caja de M**	**1.90**	**212**		**Pn**	**14 18 34.3**	**-0.2**
ICMP				IAML		14 19 07.9	
comp=E,192nm,0.9s							
ICMP				IAML		14 19 18.3	
comp=N,134nm,0.8s							
LSP	**Las Mesas**	**2.03**	**229**	i*e*P	**Pn**	**14 18 36.6**	**+0.3**
LSP	**Las Mesas**	**2.03**	**229**	*e*S	**Sn**	**14 19 01.7**	**+0.4**
LSP	**Las Mesas**	**2.03**	**229**		**Pn**	**14 18 36.6**	**+0.3**
LSP					**Sn**	**14 19 01.7**	**+0.4**
MPR	**Mayaguez**	**2.04**	**231**		**Pn**	**14 18 35.9**	**-0.5**
MLPR	**Magueyes Islan**	**2.14**	**224**	i*e*P	**Pn**	**14 18 37.9**	**+0.2**
MLPR	**Magueyes Islan**	**2.14**	**224**	*e*S	**Sn**	**14 19 03.8**	**-0.2**
MLPR	**Magueyes Islan**	**2.14**	**224**		**Pn**	**14 18 36.6**	**-1.1**
MLPR				IAML		14 19 15.2	
comp=E,92nm,0.8s							
MLPR	**Magueyes Islan**	**2.14**	**224**		**Sn**	**14 19 03.8**	**-0.2**
IDE	**Isla Desecheo**	**2.20**	**240**	i*e*P	**Pn**	**14 18 39.4**	**+0.8**
IDE	**Isla Desecheo**	**2.20**	**240**	*e*S	**Sn**	**14 19 07.0**	**+1.5**
IDE	**Isla Desecheo**	**2.20**	**240**		**Pn**	**14 18 39.4**	**+0.8**
IDE					**Sn**	**14 19 07.0**	**+1.5**
PCDR	**Punta Cana, DR**	**2.93**	**251**	i*e*P	**Pn**	**14 18 50.0**	**+1.5**
PCDR	**Punta Cana, DR**	**2.93**	**251**		**Pn**	**14 18 48.4**	**-0.2**
PCDR				IAML		14 19 23.6	
comp=E,67nm,0.9s							
ANWB	**Willy Bob**	**3.94**	**117**	Pn	**Pn**	**14 19 00.6**	**-2.0**
ANWB				IAML		14 20 17.6	
comp=E,60nm,1.0s							
SDDR	**Presa de Saban**	**5.52**	**265**		**Pn**	**14 19 24.4**	**+0.1**
GRTK	**Grand Turk**	**5.67**	**292**	Pn	**Pn**	**14 19 25.4**	**-0.9**

*ATH **19** 14:26:36.6, 37.°92N×21.°47E, h18km±1km, ML3.3/26, Error ellipse: s-maj=1.7km s-min=0.7km az=207.0*
*THE **19** 14:26:36.6, 37.°92N×21.°47E, h13km±1km, ML3.5/10, Error ellipse: s-maj=1.1km s-min=0.5km az=63.0*
ISC 19 14:26:36.0±0.9, **37.95N**±0.°02×**21.46E**±0.°02, **h24**km±5km, **n90**, σ1**24**/120, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.11**	**1**	P	**Pb**	**14 26 40.5**	**-0.1**
RLS				S	**Sb**	**14 26 43.1**	**-0.5**
19μm,0.3s							
RLS	**Riolos of Patr**	**0.11**	**1**	P	**Pb**	**14 26 40.5**	**-0.1**
RLS				S	**Sb**	**14 26 43.1**	**-0.5**
RLS				AML	AML	14 26 44.0	
comp=N,44958μm,0.4s							
RLS				AML	AML	14 26 44.2	
comp=E,29754μm,0.2s							
VTN	**Vitineika**	**0.22**	**262**	P	**Pb**	**14 26 42.5**	**+0.7**
VTN	**Vitineika**	**0.22**	**262**	P	**Pb**	**14 26 42.4**	**+0.6**
VTN				S	**Sb**	**14 26 46.3**	**+0.6**
UPR	**University Cam**	**0.42**	**37**	P	**Pb**	**14 26 45.4**	**+0.5**
UPR				S	**Sb**	**14 26 52.3**	**+1.4**
AMT	**Artemida-Makis**	**0.46**	**155**	P	**Pb**	**14 26 45.3**	**-0.1**
AMT				S	**Sb**	**14 26 52.4**	**+0.5**
comp=E,10μm,0.4s							
AMT	**Artemida-Makis**	**0.46**	**155**	P	**Pb**	**14 26 45.3**	**-0.1**
AMT				S	**Sb**	**14 26 52.3**	**+0.5**
AMT				AML	AML	14 26 53.4	
comp=E,21514μm,0.5s							
AMT				AML	AML	14 26 54.7	
comp=N,19253μm,0.3s							
LAKA	**Lakka**	**0.50**	**54**	P	**Pb**	**14 26 45.9**	**-0.3**
LAKA				S	**Sb**	**14 26 54.4**	**+1.3**
comp=N,14μm,0.4s							
LAKA	**Lakka**	**0.50**	**54**	P	**Pb**	**14 26 45.9**	**-0.3**
LAKA				S	**Sb**	**14 26 54.4**	**+1.3**
LAKA				AML	AML	14 26 55.3	
comp=N,36384μm,0.4s							
LAKA				AML	AML	14 26 58.6	
comp=E,25551μm,0.4s							
LTHK	**Lithakia**	**0.55**	**245**	P	**Pb**	**14 26 47.4**	**+0.4**
LTHK	**Lithakia**	**0.55**	**245**	P	**Pb**	**14 26 47.6**	**+0.6**
LTHK				AML	AML	14 27 04.1	
comp=E,19792μm,0.5s							
LTHK				AML	AML	14 27 04.2	
comp=N,14536μm,0.6s							
KLV	**Kalavryta, Ach**	**0.55**	**80**	P	**Pb**	**14 26 46.5**	**-0.6**
KLV				S	**Sb**	**14 26 55.3**	**+0.7**
comp=N,2μm,0.4s							
KLV	**Kalavryta, Ach**	**0.55**	**80**	P	**Pb**	**14 26 46.3**	**-0.7**

KLV				S	**Sb**	**14 26 55.4**	**+0.7**
KLV				AML	AML	14 26 57.6	
comp=E,3740μm,0.3s							
KLV				AML	AML	14 26 58.1	
comp=N,4070μm,0.4s							
EFP	**Efpalio**	**0.59**	**36**	P	**Pb**	**14 26 47.8**	**0.0**
EFP				S	**Sb**	**14 26 57.1**	**+1.4**
comp=N,4μm,0.3s							
EFP	**Efpalio**	**0.59**	**36**	P	**Pb**	**14 26 47.8**	**0.0**
EFP				S	**Sn**	**14 26 57.3**	**-0.5**
EFP				AML	AML	14 26 58.6	
comp=E,10544μm,0.3s							
EFP				AML	AML	14 27 00.1	
comp=N,5552μm,0.5s							
ALIK	**Aliki, Aigiali**	**0.60**	**58**	P	**Pb**	**14 26 48.2**	**+0.4**
ALIK				S	**Sn**	**14 26 57.7**	**-0.3**
TRIZ	**Trizonia**	**0.64**	**49**	P	**Pb**	**14 26 48.6**	**+0.1**
TRIZ				S	**Sb**	**14 26 58.2**	**+1.2**
comp=N,4μm,0.4s							
TRIZ	**Trizonia**	**0.64**	**49**	P	**Pb**	**14 26 48.6**	**+0.1**
TRIZ				S	**Sn**	**14 26 58.6**	**-0.3**
VLMS	**Volimes, Zakyn**	**0.64**	**264**	P	**Pb**	**14 26 48.5**	**0.0**
VLMS	**Volimes, Zakyn**	**0.64**	**264**	P	**Pb**	**14 26 48.4**	**-0.1**
VLMS				AML	AML	14 27 03.1	
comp=N,8087μm,0.3s							
VLMS				AML	AML	14 27 03.9	
comp=E,6147μm,0.3s							
SERG	**Sergoula**	**0.66**	**45**	P	**Pb**	**14 26 49.0**	**+0.1**
SERG				S	**Sn**	**14 26 59.1**	**-0.5**
comp=E,6μm,0.3s							
SERG	**Sergoula**	**0.66**	**45**	P	**Pb**	**14 26 48.9**	**+0.1**
SERG				S	**Sn**	**14 26 59.5**	**-0.1**
SERG				AML	AML	14 27 01.3	
comp=N,13519μm,0.3s							
SERG				AML	AML	14 27 02.2	
comp=E,10213μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.71**	**284**	P	**Pb**	**14 26 49.8**	**+0.1**
PSDA				S	**Sn**	**14 27 01.5**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.71**	**284**	P	**Pb**	**14 26 49.9**	**+0.1**
VLS	**Valsamata**	**0.73**	**289**	P	**Pb**	**14 26 50.2**	**+0.2**
VLS	**Valsamata**	**0.73**	**289**	P	**Pb**	**14 26 50.1**	**+0.2**
VLS				AML	AML	14 27 07.0	
comp=E,1782μm,0.3s							
VLS				AML	AML	14 27 07.6	
comp=N,3134μm,0.3s							
ANX	**Ano Chora**	**0.74**	**29**	P	**Pb**	**14 26 50.3**	**0.0**
ANX	**Ano Chora**	**0.74**	**29**	P	**Pb**	**14 26 50.3**	**0.0**
ANX				AML	AML	14 27 04.0	
comp=E,6898μm,0.4s							
ANX				AML	AML	14 27 04.6	
comp=N,11428μm,0.7s							
ARGA	**Argostoli. Kep**	**0.81**	**287**	P	**Pn**	**14 26 52.6**	**+0.7**
ARGA				AML	AML	14 27 10.4	
comp=N,4616μm,0.5s							
ARGA				AML	AML	14 27 14.0	
comp=E,5106μm,0.5s							
ITM	**Ithomi**	**0.85**	**154**	P	**Pb**	**14 26 51.6**	**-0.5**
ITM				S	**Sn**	**14 27 04.6**	**+0.4**
comp=E,1μm,0.4s							
ITM	**Ithomi**	**0.85**	**154**	P	**Pb**	**14 26 51.5**	**-0.5**
ITM				S	**Sb**	**14 27 03.5**	**+0.5**
ITM				AML	AML	14 27 07.5	
comp=N,2321μm,0.4s							
ITM				AML	AML	14 27 08.9	
comp=E,2878μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.85**	**288**	P	**Pn**	**14 26 52.9**	**+0.5**
KEF5	**Kardakata, Kep**	**0.85**	**293**	P	**Pb**	**14 26 52.3**	**+0.2**
KEF5				S	**Sn**	**14 27 06.5**	**+2.2**
comp=E,8μm,0.5s							
KEF5	**Kardakata, Kep**	**0.85**	**293**	P	**Pb**	**14 26 52.3**	**+0.2**
KEF5				AML	AML	14 27 10.3	
comp=E,13471μm,0.5s							
KEF5				AML	AML	14 27 10.9	
comp=N,17925μm,0.5s							
FSK	**Fiskardo**	**0.88**	**306**	P	**Pb**	**14 26 53.0**	**+0.5**
FSK	**Fiskardo**	**0.88**	**306**	P	**Pb**	**14 26 53.0**	**+0.5**
FSK				S	**Sn**	**14 27 06.0**	**+1.2**
FSK				AML	AML	14 27 10.7	
comp=E,3500μm,0.2s							
FSK				AML	AML	14

JAN AML AML 14 27 43.4
comp=E,567μm,0.5s
JAN AML AML 14 27 47.5
comp=N,457μm,0.4s
ATH Athens Observa 1.78 88 P Pb 14 27 08.5 +0.6
ATH AML AML 14 27 36.7
comp=N,594μm,0.4s
ATH AML AML 14 27 37.4
comp=E,758μm,0.4s
IGT Igoumenitsa 1.81 331 P **Pb 14 27 08.0 -0.5**
VLY Voula,Athens 1.85 92 P **Pn 14 27 07.2 +1.0**
LIT Litokhoron 2.29 20 P **Pb 14 27 15.8 -0.9**
STON Ston 5.70 331 *e*Pn **Pn 14 27 59.2 +0.2**
STON Sn **Sn 14 28 59.8 -3.9**
LSTV Lastovo 5.95 326 *e*Pn **Pn 14 28 03.2 +0.6**
LSTV Sn **Sn 14 29 06.3 -3.6**
RICI Ricice 6.44 331 *e*Pn **Pn 14 28 10.1 +0.8**
RICI Sn **Sn 14 29 18.8 -3.3**
HVAR Hvar 6.47 325 *e*Pn **Pn 14 28 10.6 +0.9**
HVAR Sn **Sn 14 29 19.4 -3.4**
KIJV Kijevo 7.16 329 *e*Pn **Pn 14 28 20.6 +1.4**
KIJV Sn **Sn 14 29 35.0 -4.7**
ZIRJ Zirje 7.21 324 *e*Pn **Pn 14 28 20.8 +1.0**
ZIRJ Sn **Sn 14 29 36.8 -4.2**
MORI Morici 7.34 325 *e*Pn **Pn 14 28 23.1 +1.4**
MORI Sn **Sn 14 29 40.4 -3.9**
DUGI Dugi Otok 7.74 323 *e*Pn **Pn 14 28 28.6 +1.4**
DUGI Sn **Sn 14 29 49.6 -4.4**

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*IDC **19** 14:33:47.2±3.0, 15°.92S×175°.02W, h281km±23km, mb3.4/3, mb1 3.7/4, mb1mx3.1/33, mbtmp4.0/4, Error ellipse: s-maj=272.1km s-min=22.0km az=151.0*
*NEIC **19** 14:33:48.2±0.9, 15°.74S±0°.09×174°.19W±0°.1, h300km±8km, mb4.4/17, Error ellipse: s-maj=21.2km s-min=9.9km az=120.0*
ISC 19 14:33:45.4±0.6, 15°.95S±0°.09×174°.99W±0°.08, h278km, n28, σ1§69/29, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.71**	**57**	P	**Pn**	**14 34 51.0**	**+3.6**
	9.2nm,0.3s,baz=213,slow=2.7,SNR=20						
AFI				S	**S**	**14 35 38.5**	**+1.7**
	5.8nm,0.3s,baz=78,slow=21,SNR=2.1						
AFI	**Afiamalu**	**3.71**	**57**		**Pn**	**14 34 50.6**	**+3.2**
NIUE	**Niue**	**5.74**	**123**	Pn	**Pn**	**14 35 11.2**	**+0.2**
RAR	**Rarotonga**	**15.34**	**112**	P	**P**	**14 37 03.8**	**-3.6**
MARNC	**Mare, Loyalty**	**16.99**	**249**	P	**Pn**	**14 37 27.9**	**-0.1**
HNR	**Honiara**	**25.28**	**282**	P	**P**	**14 38 45.5**	**-1.5**
OXZ	**Oxford**	**29.44**	**199**	P	**P**	**14 39 26.3**	**+2.6**
WHZ	**Wether Hill Ro**	**33.09**	**202**	P	**P**	**14 39 56.2**	**+0.7**
ARMA	**Armidale**	**33.75**	**239**	P	**P**	**14 40 02.1**	**+0.7**
ARMA				IAmb	IAmb	14 40 23.8	
	comp=Z,28nm,1.5s						
WMR	**Waimanalo Ridg**	**40.75**	**25**	P	**P**	**14 40 58.2**	**-1.7**
STKA	**Stephens Creek**	**42.44**	**240**	P	**P**	**14 41 14.8**	**+1.3**
WR0	**Warramunga Arr**	**48.04**	**257**	P	**P**	**14 41 58.8**	**+1.3**
WR0				IAmb	IAmb	14 42 03.3	
	comp=Z,9.4nm,1.4s						
WB0	**Warramunga Arr**	**48.19**	**258**	P	**P**	**14 41 59.4**	**+0.8**
WB2	**Warramunga Arr**	**48.22**	**257**	P	**P**	**14 41 59.6**	**+0.8**
WB2				IAmb	IAmb	14 42 01.0	
	comp=Z,7.5nm,1.1s						
WRA	**Warramunga Arr**	**48.23**	**257**	P	**P**	**14 42 00.3**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=94,slow=7.2,SNR=38						
WRA	**Warramunga Arr**	**48.23**	**257**	P	**P**	**14 41 59.3**	**+0.3**
AS31	**Alice Springs**	**48.48**	**252**	P	**P**	**14 42 01.7**	**+0.9**
ASAR	**Alice Springs**	**48.48**	**252**	P	**P**	**14 42 01.9**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=87,slow=8.0,SNR=119						
ASAR	**Alice Springs**	**48.48**	**252**	P	**P**	**14 42 01.3**	**+0.4**
PSA00	**Pilbara Seismi**	**61.58**	**254**	P	**P**	**14 43 35.3**	**+1.2**
PSA00				IAmb	IAmb	14 43 59.2	
	comp=Z,20nm,1.3s						
JGF	**Kuroka**	**68.30**	**320**	P	**P**	**14 44 16.0**	**-0.9**
JGF				IAmb	IAmb	14 44 33.8	
	comp=Z,14nm,1.3s						
INU	**Inuyama**	**68.35**	**319**	P	**P**	**14 44 16.6**	**-0.6**
INU				IAmb	IAmb	14 44 45.0	
	comp=Z,19nm,1.4s						
NIKH	**Nikolski High**	**68.84**	**4**	P	**P**	**14 44 18.9**	**-0.9**
PEA0B	**Petropavlovsk-**	**72.70**	**343**	P	**P**	**14 44 41.2**	**-1.8**
PEA0B				IAmb	IAmb	14 44 44.5	
	comp=Z,22nm,1.4s						
PASC	**Pasadena Art C**	**73.50**	**46**	P	**P**	**14 44 48.7**	**+0.6**
PASC				IAmb	IAmb	14 44 50.5	
	comp=Z,7.8nm,0.5s						
NVAR	**Mina Array Bea**	**75.77**	**43**	P	**P**	**14 45 02.9**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=219,slow=9.8,SNR=4.1						
NVAR	**Mina Array Bea**	**75.77**	**43**	P	**P**	**14 44 59.7**	**-1.6**
USA0B	**Ussuriysk Arra**	**76.92**	**324**	P	**P**	**14 45 05.6**	**-1.6**
USA0B				IAmb	IAmb	14 45 08.1	
	comp=Z,2.8nm,0.7s						

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*IDC **19** 14:34:15.0±2.3, 5°.46N×126°.74E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, MS4.2/1, Ms1 4.2/1, ms1mx2.7/23, Error ellipse: s-maj=176.2km s-min=26.1km az=66.0*
*MAN **19** 14:34:16.3, 5°.20N×127°.38E, h40km, mb4.4, ML3.2, MS3.0*
*NEIC **19** 14:34:21.5±1.3, 5°.64N±0°.07×126°.9E±0°.1, h46km±10km, mb4.2/9, Error ellipse: s-maj=17.9km s-min=9.6km az=103.0*
ISC 19 14:34:20.9±0.8, 5°.54N±0°.09×127°.1E±0°.1, h50km, n21, σ1§63/19, mb4.0/8, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.14**	**315**	Pn	**Pn**	**14 34 52.0**	**-2.3**
KCP	**Kidapawan**	**2.47**	**306**	⇓*e*P	**Pn**	**14 35 00.6**	**+1.8**
BUKP	**Musuan**	**3.08**	**319**	⇑*e*P	Pn	14 35 10.9	+3.7
BUKP				*i* S	**Sn**	**14 35 47.2**	**+4.4**
CGP	**Cagayan de Oro**	**3.75**	**321**	⇑*e*P	Pn	14 35 24.8	+8.4
CGP				*e*S	Sn	14 36 07.2	+7.9
TOLI2	**Tolitoli**	**7.69**	**235**	Pn	**Pn**	**14 36 09.5**	**-0.9**
SZP	**Santa**	**13.59**	**332**	Pn	**Pn**	**14 37 28.5**	**-2.6**
WB0	**Warramunga Arr**	**26.16**	**164**	P	**P**	**14 39 51.1**	**+0.4**
WB0				IAmb	IAmb	14 40 08.3	
	comp=Z,7.2nm,1.2s						
WRAB	**Tennant Creek**	**26.30**	**164**	P	**P**	**14 39 53.4**	**+1.4**
WRAB				IAmb	IAmb	14 39 55.7	
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**26.31**	**164**	P	**P**	**14 39 52.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=344,slow=10,SNR=13						
WB2	**Warramunga Arr**	**26.31**	**164**	P	**P**	**14 39 52.9**	**+0.7**
WB2				IAmb	IAmb	14 40 01.7	
	comp=Z,5.4nm,1.2s						
WR0	**Warramunga Arr**	**26.38**	**164**	P	**P**	**14 39 53.6**	**+0.8**
WR0				IAmb	IAmb	14 40 16.9	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**29.78**	**167**	P	**P**	**14 40 23.4**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=349,slow=7.3,SNR=4.0						
JWT	**Wachi**	**30.57**	**13**	P	**P**	**14 40 30.4**	**+0.5**
HNR	**Honiara**	**35.96**	**114**	LR	LR	14 54 50.3	
	comp=Z,347nm,19.1s,baz=229,slow=34						
MK31	**Makanchi Array**	**56.30**	**324**	P	**P**	**14 43 56.2**	**-0.4**
MKAR	**Makanchi Array**	**56.30**	**324**	P	**P**	**14 43 56.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=119,slow=8.6,SNR=7.0						
MKAR	**Makanchi Array**	**56.30**	**324**	P	**P**	**14 43 56.1**	**-0.5**
KK31	**Karatay Array**	**62.17**	**316**	P	**P**	**14 44 36.5**	**-0.8**
KK31				IAmb	IAmb	14 44 59.9	
	comp=Z,3.1nm,1.4s						
KKAR	**Karatay Array**	**62.17**	**316**	P	**P**	**14 44 36.8**	**-0.5**
AFI	**Afiamalu**	**63.65**	**108**	P	**P**	**14 44 49.0**	**+1.3**
ABKAR	**Akbulak array**	**70.99**	**320**	P	**P**	**14 45 32.9**	**-0.5**

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*IDC **19** 14:42:06.2±3.1, 32°.78S×178°.47W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=72.0km s-min=45.9km az=121.0*
*NEIC **19** 14:42:06.8±1.5, 32°.9S±0°.1×178°.3W±0°.3, h10km±2km, mb4.4/5, Error ellipse: s-maj=41.2km s-min=6.4km az=119.0*
ISC 19 14:42:10.4±2.4, 33°.0S±0°.2×178°.6W±0°.4, h32km, n12, σ1§21/13, mb4.3/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.27**	**208**	Pn	**Pn**	**14 43 28.4**	**+1.6**
URZ	**Urewera**	**6.36**	**212**	Pn	**Pn**	**14 43 43.5**	**+1.6**
	1.8nm,0.3s,baz=292,slow=3.6,SNR=9.8						
URZ				Sn	**Sn**	**14 44 51.5**	**-2.0**
	baz=136,slow=20,SNR=1.6						
URZ	**Urewera**	**6.36**	**212**		**Pn**	**14 43 42.1**	**+0.2**
BKZ	**Black Stump Fm**	**7.38**	**212**	Pn	**Pn**	**14 43 56.0**	**+0.1**
ASAR	**Alice Springs**	**42.57**	**270**	P	**P**	**14 50 04.5**	**+1.0**
	0.3nm,0.7s,baz=110,slow=7.7,SNR=7.2						
WR0	**Warramunga Arr**	**43.61**	**275**	P	**P**	**14 50 12.7**	**+0.8**
WR0				IAmb	IAmb	14 50 41.6	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.78**	**275**	P	**P**	**14 50 14.0**	**+0.8**
WB2				IAmb	IAmb	14 50 31.7	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**43.79**	**275**	P	**P**	**14 50 14.3**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=116,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**43.79**	**275**	P	**P**	**14 50 13.9**	**+0.5**
WB0	**Warramunga Arr**	**43.82**	**275**	P	**P**	**14 50 14.1**	**+0.5**
WB0				IAmb	IAmb	14 50 24.7	
	comp=Z,6.0nm,1.2s						
MJAR	**Matsushiro Arr**	**80.08**	**326**	P	**P**	**14 54 15.4**	**-1.4**
FINES	**FINESS Array B**	**147.35**	**338**	PKPbc	**PKPbc**	**15 01 49.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=57,slow=5.1,SNR=5.7						

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*IDC **19** 14:51:38.9±3.0, 22°.27S×177°.86W, h288km±30km, mb3.2/7, mb1 3.6/9, mb1mx3.3/29, mbtmp4.0/9, Error ellipse: s-maj=40.6km s-min=15.0km az=150.0*
*NEIC **19** 14:51:41.5±2.3, 22°.45S±0°.10×177°.64W±0°.09, h316km±8km, mb4.5/16, Error ellipse: s-maj=14.9km s-min=11.5km az=214.0*
ISC 19 14:51:44.0±0.6, 22°.47S±0°.09×177°.75W±0°.08, h352km, n37, σ1§45/35, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.14**	**319**	Pn	**Pn**	**14 53 13.5**	**-3.2**
NIUE	**Niue**	**8.06**	**67**		**Pn**	**14 53 35.7**	**-3.2**
AFI	**Afiamalu**	**10.23**	**35**	P	Pn	14 53 58.0	-6.8
	4.1nm,0.3s,baz=197,slow=2.2,SNR=11						
AFI				S	S	14 55 44.8	-16
	3.2nm,0.3s,baz=84,slow=17,SNR=1.7						
AFI	**Afiamalu**	**10.23**	**35**	Pn	Pn	14 53 58.4	-6.5
MARNC	**Mare, Loyalty**	**13.23**	**272**	P	**Pn**	**14 54 40.4**	**+0.2**
PINNC	**Pines Island,**	**13.68**	**267**	P	**Pn**	**14 54 46.1**	**+0.7**
OUENC	**Ouen Island, N**	**14.25**	**267**	P	**Pn**	**14 54 52.4**	**+0.3**
DZM	**Mont Dzumac**	**14.64**	**269**	P	**Pn**	**14 54 58.6**	**+1.9**
	0.6nm,0.3s,baz=86,slow=19,SNR=5.0						
DZM	**Mont Dzumac**	**14.64**	**269**	P	**P**	**14 54 54.0**	**-0.7**
URZ	**Urewera**	**16.35**	**195**	P	**P**	**14 55 12.9**	**-0.1**
	3.5nm,0.3s,baz=310,slow=2.9,SNR=20						
URZ				S	**S**	**14 58 02.3**	**-4.0**
	0.5nm,0.3s,baz=301,slow=22,SNR=1.5						
URZ	**Urewera**	**16.35**	**195**	IAmb	IAmb	14 55 35.3	
	comp=Z,40nm,1.3s						
BKZ	**Black Stump Fm**	**17.36**	**195**	P	**P**	**14 55 23.1**	**-0.8**
QRZ	**Quartz Range**	**20.06**	**202**	P	**P**	**14 55 52.1**	**-0.1**
THZ	**Tophouse**	**20.78**	**200**	P	**P**	**14 55 58.3**	**-0.6**
LTZ	**Lake Taylor**	**21.90**	**200**	P	**P**	**14 56 08.0**	**-1.0**
ARMA	**Armidale**	**28.47**	**247**	P	**P**	**14 57 09.1**	**+1.0**
ARMA				IAmb	IAmb	14 57 12.1	
	comp=Z,39nm,1.4s						
CAN	**Canberra**	**31.65**	**239**	P	**P**	**14 57 36.5**	**+0.8**
CAN				IAmb	IAmb	14 57 56.8	
	comp=Z,29nm,1.5s						
CTA	**Charters Tower**	**33.57**	**267**	P	**P**	**14 57 53.0**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=94,slow=10,SNR=9.2						
CTAO	**Charters Tower**	**33.57**	**267**	P	**P**	**14 57 52.7**	**+0.2**
CTAO				IAmb	IAmb	14 58 12.4	
	comp=Z,15nm,1.3s						
STKA	**Stephens Creek**	**37.18**	**247**	P	**P**	**14 58 22.6**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=97,slow=12,SNR=6.8						
PATS	**Pohnpei**	**37.38**	**318**	P	**P**	**14 58 25.1**	**+0.6**
PATS				IAmb	IAmb	14 58 32.8	
	comp=Z,21nm,1.3s						
BBOO	**Buckleboo**	**41.91**	**245**	P	**P**	**14 59 00.7**	**-0.7**
BBOO				IAmb	IAmb	14 59 13.3	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**44.32**	**259**	P	**P**	**14 59 20.4**	**-0.3**
ASAR	**Alice Springs**	**44.33**	**259**	P	**P**	**14 59 20.6**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=89,slow=8.0,SNR=6.1						
WRA	**Warramunga Arr**	**44.59**	**264**	P	**P**	**14 59 21.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=96,slow=8.3,SNR=2.0						
WRA	**Warramunga Arr**	**44.59**	**264**	P	**P**	**14 59 22.5**	**-0.3**
WMR	**Waimanalo Ridg**	**47.72**	**26**	P	**P**	**14 59 46.7**	**-0.1**
SOEI	**Soe**	**56.81**	**273**	P	**P**	**15 00 53.5**	**+0.2**
SOEI				IAmb	IAmb	15 01 16.6	
	comp=Z,39nm,1.2s						
QSPA	**South Pole Qui**	**67.61**	**180**	P	**P**	**15 02 05.8**	**+2.3**
JSD	**Sado**	**73.00**	**325**	P	**P**	**15 02 37.2**	**+1.1**
JSD				IAmb	IAmb	15 02 42.3	
	comp=Z,17nm,1.5s						
NVAR	**Mina Array Bea**	**82.30**	**43**	P	**P**	**15 03 29.3**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=223,slow=8.7,SNR=5.5						
NVAR	**Mina Array Bea**	**82.30**	**43**	P	**P**	**15 03 26.9**	**-0.3**
TXAR	**Lajitas Array**	**87.92**	**57**	P	**P**	**15 03 57.6**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=217,slow=7.4,SNR=5.4						
PDAR	**Pinedale Array**	**90.23**	**43**	P	**P**	**15 04 06.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=180,slow=3.0,SNR=3.9						
ARCES	**ARCESS Array B**	**130.89**	**349**	PKP	**PKiKP**	**15 10 14.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=308,slow=2.1,SNR=5.1						
AKASG	**Malin Array Be**	**144.83**	**330**	PKP	**PKPdf**	**15 10 38.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=41,slow=4.1,SNR=7.0						
BRTR	**Keskin Array B**	**148.30**	**310**	PKPbc	**PKPbc**	**15 10 49.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=113,slow=1.9,SNR=2.6						

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*NEIC **19** 14:51:40.6±2.1, 7°.24S±0°.09×156°.10E±0°.08, h35km±2km, mb4.6/25, Error ellipse: s-maj=16.3km s-min=13.3km az=25.0*
*IDC **19** 14:51:47.4±2.0, 7°.36S×155°.73E, h83km±20km, mb3.9/12, mb1 4.0/15, mb1mx3.9/29, mbtmp4.3/15, MS3.4/4, Ms1 3.4/4, ms1mx3.0/25, Error ellipse: s-maj=15.7km s-min=13.3km az=168.0*
ISC 19 14:51:43.8±0.5, 7°.08S±0°.07×155°.73E±0°.07, h50km, n55, σ1§69/56, mb4.5/24, MS3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.78**	**120**	P	**Pn**	**14 52 54.7**	**+1.3**
	7.7nm,0.3s,baz=276,slow=3.6,SNR=9.7						
HNR				S	**Sn**	**14 53 49.2**	**+1.6**
	8.9nm,0.3s,baz=324,slow=5.5,SNR=5.1						
HNR	**Honiara**	**4.78**	**120**	Pn	Pn	14 52 42.8	-11
PMG	**Port Moresby**	**8.79**	**254**	P	**Pn**	**14 53 52.3**	**+3.9**
	1.5nm,0.3s,baz=140,slow=21,SNR=3.3						
PMG				S	**Sn**	**14 55 26.5**	**+0.2**
	0.6nm,0.3s,baz=302,slow=22,SNR=1.0						
PMG				LR	LR	14 56 53.3	
	comp=Z,208nm,20.0s,baz=54,slow=35						
PMG	**Port Moresby**	**8.79**	**254**		**Pn**	**14 53 51.0**	**+2.6**
MANU	**Manus Island**	**9.72**	**301**	Pn	**Pn**	**14 54 01.1**	**-0.1**
PATS	**Pohnpei**	**14.06**	**11**	Pn	**Pn**	**14 54 57.9**	**-2.5**
CTA	**Charters Tower**	**15.87**	**214**	P	**Pn**	**14 55 24.5**	**+0.5**
	0.3nm,0.3s,baz=27,slow=13,SNR=6.0						
CTAO	**Charters Tower**	**15.87**	**214**	P	**Pn**	**14 55 26.1**	**+2.0**
WR0	**Warramunga Arr**	**24.22**	**236**	P	**P**	**14 56 55.0**	**-1.1**
WR0				IAmb	IAmb	14 56 57.8	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**24.25**	**237**	P	**P**	**14 56 55.2**	**-1.2**
WB0				IAmb	IAmb	14 56 56.4	
	comp=Z,18nm,1.2s						
WB2	**Warramunga Arr**	**24.37**	**236**	P	**P**	**14 56 56.2**	**-1.3**
WRA	**Warramunga Arr**	**24.38**	**236**	P	**P**	**14 56 56.4**	**-1.2**
	comp=Z,5.9nm,0.8s,baz=63,slow=9.3,SNR=23						
WRA	**Warramunga Arr**	**24.38**	**236**	P	**P**	**14 56 56.0**	**-1.5**
AS31	**Alice Springs**	**26.67**	**229**	P	**P**	**14 57 16.1**	**-2.3**
ASAR	**Alice Springs**	**26.67**	**229**	P	**P**	**14 57 16.4**	**-2.0**
	comp=Z,2.4nm,0.7s,baz=63,slow=9.2,SNR=36						
ASAR	**Alice Springs**	**26.67**	**229**	P	**P**	**14 57 15.6**	**-2.8**
STKA	**Stephens Creek**	**27.98**	**206**	P	**P**	**14 57 28.4**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=29,slow=15,SNR=5.5						
STKA				LR	LR	15 07 44.6	
	comp=Z,102nm,18.6s,baz=26,slow=34						
STKA	**Stephens Creek**	**27.98**	**206**	P	**P**	**14 57 26.6**	**-3.4**
BBOO	**Buckleboo**	**31.46**	**213**	P	**P**	**14 57 57.4**	**-3.4**
BBOO				IAmb	IAmb	14 58 25.2	
	comp=Z,12nm,1.3s						
FORT	**Forrest**	**35.04**	**224**	P	**P**	**14 58 30.1**	**-1.9**
KAPI	**Kappang**	**35.83**	**271**	P	**P**	**14 58 39.3**	**+0.3**
KAPI				IAmb	IAmb	14 58 46.6	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.99**	**229**	P	**P**	**14 59 44.7**	**-1.8**
YULB	**Yu-li**	**45.27**	**313**	P	**P**	**14 59 57.4**	**+0.6**
TPUB	**Ta-pu**	**45.70**	**312**	P	**P**	**15 00 01.1**	**+0.9**
MJAR	**Matsushiro Arr**	**46.40**	**340**	P	**P**	**15 00 05.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=162,slow=7.1,SNR=8.6						
MAJO	**Matsushiro**	**46.40**	**340**	P	**P**	**15 00 06.2**	**+0.7**
MAJO				IAmb	IAmb	15 00 08.2	
	comp=Z,5.1nm,0.9s						
JHS	**Saijyo**	**46.98**	**334**	P	**P**	**15 00 10.2**	**+0.2**
JSD	**Sado**	**47.74**	**341**	P	**P**	**15 00 15.7**	**-0.2**
JSD				IAmb	IAmb	15 00 20.1	
	comp=Z,7.4nm,1.0s						
KSRS	**Korea Array**	**51.35**	**332**	P	**P**	**15 00 45.0**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=142,slow=7.2,SNR=11						
USA0B	**Ussuriysk Arra**	**55.36**	**339**	P	**P**	**15 01 09.9**	**-2.8**
USA0B				IAmb	IAmb	15 01 14.8	
	comp=Z,5.7nm,1.3s						
USRK	**Ussuriysk Ar.**	**55.36**	**339**	P	**P**	**15 01 14.4**	**+1.7**
	comp=Z,3.6nm,1.0s,baz=167,slow=8.2,SNR=6.1						
USRK	**Ussuriysk Ar.**	**55.36**	**339**	P	**P**	**15 01 09.9**	**-2.8**
ENH	**Enshi**	**57.83**	**312**	P	**P**	**15 01 30.8**	**+0.2**
ENH				IAmb	IAmb	15 01 52.6	
	comp=Z,15nm,1.4s						
PETK	**Petropavlovsk-**	**59.98**	**1**	P	**P**	**15 01 48.0**	**+3.0**
	comp=Z,0.8nm,0.6s,baz=160,slow=4.7,SNR=5.2						
PETK				LR	LR	15 25 17.4	
	comp=Z,29nm,20.5s,baz=127,slow=33						
CM31	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**15 01 57.2**	**+1.3**
CM31				IAmb	IAmb	15 02 09.4	
	comp=Z,4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**15 01 57.8**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=118,slow=5.3,SNR=13						
CMAR	**Chiang Mai Arr**	**61.48**	**295**	P	**P**	**15 01 56.9**	**+1.0**
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**15 02 51.0**	**+1.9**
	comp=Z,3.2nm,0.9s,baz=136,slow=6.0,SNR=14						
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**15 02 50.3**	**+1.1**
SONM				IAmb	IAmb	15 02 52.3	
	comp=Z,4.1nm,1.0s						
VNDA	**Vanda**	**70.48**	**179**	P	**P**	**15 02 52.4**	**-0.4**
ILAR	**Eielson Array**	**83.18**	**21**	P	**P**	**15 04 04.8**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=230,slow=5.7,SNR=7.0						
ILAR				LR	LR	15 36 17.3	
	comp=Z,24nm,20.7s,baz=267,slow=32						
ILAR	**Eielson Array**	**83.18**	**21**	P	**P**	**15 04 04.2**	**-0.1**
MK31	**Makanchi Array**	**83.95**	**319**	P	**P**	**15 04 09.2**	**+0.5**
MK31				IAmb	IAmb	15 04 11.0	
	comp=Z,6.1nm,0.8s						
MKAR	**Makanchi Array**	**83.95**	**319**	P	**P**	**15 04 09.9**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=103,slow=5.8,SNR=60						
MKAR	**Makanchi Array**	**83.95**	**319**	P	**P**	**15 04 09.0**	**+0.2**
MAKZ	**Makanchi**	**84.16**	**318**	P	**P**	**15 04 10.3**	**+0.5**
MAW	**Mawson**	**84.60**	**203**	P	**P**	**15 04 09.9**	**-1.7**
	comp=Z,4.5nm,0.9s,baz=97,slow=11,SNR=6.7						
MAW	**Mawson**	**84.60**	**203**	P	**P**	**15 04 10.5**	**-1.1**
ZAA0	**Zalesovo Array**	**84.66**	**326**	P	**P**	**15 04 11.7**	**-0.4**
ZAA0				IAmb	IAmb	15 04 12.9	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**84.66**	**326**	P	**P**	**15 04 12.3**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=108,slow=4.8,SNR=12						
ZALV	**Zalesovo Beam**	**84.66**	**326**	P	**P**	**15 04 11.8**	**-0.3**
GERES	**GERESS Array B**	**127.50**	**329**	PKP	**PKPdf**	**15 10 43.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=67,slow=2.6,SNR=5.4						
ESDC	**Sonseca Array**	**142.77**	**334**	PKP	**PKPdf**	**15 11 09.4**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=6.1,slow=1.3,SNR=4.3						
BDFB	**Brasilia**	**147.40**	**134**	PKPbc	**PKPdf**	**15 11 21.5**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=177,slow=8.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**153.75**	**285**	PKPbc	**PKPbc**	**15 11 37.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=42,slow=1.8,SNR=2.2						

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*NEIC **19** 15:01:58.3±0.7, 19°.04N±0°.04×66°.81W±0°.04, h43km±21km, Error ellipse: s-maj=6.6km s-min=3.9km az=225.0*
*RSPR **19** 15:01:58.7, 19°.06N×66°.83W, h46km±2km, MD3.1/12*
*OSPL **19** 15:01:58.2±0.3, 18°.98N×66°.66W, h10km±20km, ML2.5*
ISC 19 15:01:57.2±1.3, 19°.04N±0°.06×66°.80W±0°.03, h29km, n55, σ0§48/60, 11C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.61**	**155**	⇑*e*P	**Pn**	**15 02 10.8**	**+0.9**
EMPR	**Esperanza - Ma**	**0.61**	**155**	*e*S	**Sn**	**15 02 20.0**	**+1.1**
EMPR	**Esperanza - Ma**	**0.61**	**155**		**Pn**	**15 02 10.8**	**+0.9**
EMPR					**Sn**	**15 02 20.0**	**+1.1**
EMPR	**Esperanza - Ma**	**0.61**	**155**	IAML		15 02

STVI	**Saint Thomas**	**1.88 111**	⇑	*e*P	**Pn**	**15 02 27.8**	**+0.5**
STVI	**Saint Thomas**	**1.88 111**			**Pn**	**15 02 27.8**	**+0.5**
STVI	**Saint Thomas**	**1.88 111**	IAML			15 02 53.3	
	comp=N,56nm,0.2s						
SDDR	**Presa de Saban**	**4.25 270**	Pn		**Pn**	**15 03 00.6**	**+0.6**

SIGU ***19*** *15:14:02.7, 48.°04N×23.°68E, h4km*
BUC ***19*** *15:14:02.6±0.5, 48.°09N×23.°71E, h4km±2km, ml3.0/9, Error ellipse: s-maj=3.8km s-min=2.1km az=158.0*
KRSZO ***19*** *15:14:02.8±1.3, 48.°05N×23.°67E, h12km±8km, ML2.9/13, Error ellipse: s-maj=6.1km s-min=3.9km az=34.0*
ISC 19 15:14:03.7±0.9, 48.°04N±0.°02×23.°69E±0.°02, h10km±8km, n62, σ0§88/91, 15C-19D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.32**	**93**	⇓*i*Pg			**Pg**	**15 14 09.5**	**-0.6**
RAKU				Pm				15 14 09.7	
RAKU				m				15 14 09.9	
RAKU				*i* Sg			**Sg**	**15 14 14.6**	**+0.2**
RAKU				Sm				15 14 16.6	
KORU	**Korolevo**	**0.39**	**287**	⇑*i*Pg			**Pg**	**15 14 10.7**	**-0.7**
KORU				Pm				15 14 12.2	
KORU				*i* Sg			**Sg**	**15 14 16.5**	**0.0**
KORU				Sm				15 14 19.4	
KORU				m				15 14 35.3	
BMR	**Baia Mare**	**0.39**	**199**	⇑P			**Pg**	**15 14 11.1**	**-0.3**
BMR				⇑S			**Sg**	**15 14 17.2**	**+0.6**
BMR	**Baia Mare**	**0.39**	**199**	⇑P			**Pg**	**15 14 11.1**	**-0.3**
BMR				⇑S			**Sg**	**15 14 17.2**	**+0.6**
BMR	**Baia Mare**	**0.39**	**199**	Pg			**Pg**	**15 14 11.1**	**-0.3**
	comp=Z,2.0nm,SNR=29								
BMR				Sg			**Sg**	**15 14 17.6**	**+1.0**
MEZ	**Mezhgor'ye**	**0.48**	**346**	⇓*i*Pg			**Pg**	**15 14 12.6**	**-0.6**
MEZ				m			**Sg**	**15 14 20.1**	**+0.5**
MEZ				*i* Sg			**Sg**	**15 14 20.1**	**+0.5**
TRSU	**Trosnyk**	**0.49**	**276**	*e*Pg			**Pg**	**15 14 12.5**	**-0.8**
TRSU				Pm				15 14 13.2	
TRSU				*i* Sg			**Sg**	**15 14 20.0**	**+0.2**
TRSU				Sm				15 14 21.6	
TRSU				m				15 15 00.1	
BRIU	**Brid**	**0.54**	**304**	*e*Pg			**Pg**	**15 14 13.3**	**-0.8**
BRIU				Pm				15 14 13.7	
BRIU				*i* Sg			**Sg**	**15 14 21.7**	**+0.5**
BRIU				m				15 14 23.4	
BRIU				Sm				15 14 23.6	
NSLU	**Nyzhne Selyshc**	**0.54**	**73**	*e*Pg			Pg	15 14 07.4	-6.8
NSLU				Pm				15 14 08.6	
NSLU				*i* Sg			Sg	15 14 10.7	-11
NSLU				Sm				15 14 12.8	
NSLU				m				15 14 17.0	
BERU	**Beregovo**	**0.72**	**286**	*e*Pg			**Pg**	**15 14 17.2**	**-0.5**
BERU				Pm				15 14 17.5	
BERU				*i* Sg			**Sb**	**15 14 28.1**	**-0.3**
BERU				m				15 14 31.7	
BERU				Sm				15 14 32.6	
TRPA	**Tarpa**	**0.78**	**277**	*e*P			**Pg**	**15 14 18.5**	**-0.1**
TRPA				*e*S			**Sg**	**15 14 28.6**	**-0.1**
TRPA	**Tarpa**	**0.78**	**277**	Pg			**Pg**	**15 14 18.5**	**-0.1**
	comp=Z,0.5nm,SNR=43								
TRPA				Lg			Lg	15 14 28.6	
MUKU	**Mukachevo**	**0.78**	**302**	*i* Pg			**Pg**	**15 14 18.3**	**-0.5**
MUKU				Pm				15 14 19.5	
MUKU				⇑*i*Sg			**Sb**	**15 14 30.2**	**+0.1**
MUKU				Sm				15 14 32.6	
MUKU				m				15 14 34.4	
STNU	**Starunia**	**0.86**	**39**	*e*Pg			**Pb**	**15 14 21.2**	**+0.4**
STNU				*i* Sg			**Sb**	**15 14 33.3**	**+1.0**
KSV	**Kosov**	**0.96**	**73**	*i* Pg			**Pg**	**15 14 22.1**	**-0.1**
KSV				Pm				15 14 24.4	
KSV				*i* Sg			**Sn**	**15 14 36.7**	**-0.4**
KSV				m				15 14 42.6	
KSV				Sm				15 14 46.0	
HOLU	**Holmets**	**1.00**	**300**	⇓*i*Pg			**Pg**	**15 14 22.7**	**-0.2**
HOLU				*i* Sg			**Sn**	**15 14 37.6**	**-0.3**
MESR	**Meseseni**	**1.02**	**209**	⇑P			**Pb**	**15 14 23.7**	**+0.2**
MESR				⇓S			**Sn**	**15 14 37.7**	**-0.8**
MESR	**Meseseni**	**1.02**	**209**	⇑P			**Pb**	**15 14 23.7**	**+0.2**
ARCR	**ARCALIA**	**1.06**	**155**	⇓P			**Pg**	**15 14 23.9**	**-0.2**
ARCR				⇑S			**Sb**	**15 14 38.5**	**+0.5**
ARCR	**ARCALIA**	**1.06**	**155**	⇓P			**Pg**	**15 14 23.9**	**-0.2**
ARCR	**ARCALIA**	**1.06**	**155**	Pb			**Pg**	**15 14 24.0**	**-0.1**
	comp=Z,0.7nm,SNR=25								
ARCR				Sg			**Sn**	**15 14 38.7**	**-0.7**
MORS	**Morshin**	**1.10**	**7**	*i* Pg			**Pn**	**15 14 25.1**	**-0.1**
MORS				*i* Sg			**Sn**	**15 14 41.5**	**+1.1**
UZH	**Uzhgorod**	**1.10**	**303**	*i* Pg			**Pb**	**15 14 24.6**	**-0.2**
UZH				Pm				15 14 25.6	
UZH				*i* Sg			**Sn**	**15 14 41.2**	**+0.8**
UZH				Sm				15 14 46.6	
UZH				m				15 14 59.1	
BURAR	**Bucovina Array**	**1.12**	**112**	⇓P			**Pb**	**15 14 23.8**	**-1.4**
BURAR				⇓S			**Sg**	**15 14 38.6**	**-1.1**
BURAR	**Bucovina Array**	**1.12**	**112**	⇓P			**Pb**	**15 14 23.8**	**-1.4**
BURAR	**Bucovina Array**	**1.12**	**112**	Pg			**Pb**	**15 14 23.8**	**-1.4**
SHIU	**Shidnytsya**	**1.20**	**350**	*i* Pg			**Pg**	**15 14 26.9**	**+0.1**
SHIU				Pm				15 14 28.2	
SHIU				*i* Sg			**Sn**	**15 14 44.7**	**+1.7**
SHIU				Sm				15 14 53.5	
SHIU				m				15 14 58.2	
CBBR	**Cluj-Babes-Bol**	**1.28**	**184**	⇓P			**Pb**	**15 14 27.9**	**0.0**
CBBR	**Cluj-Babes-Bol**	**1.28**	**184**	⇓P			**Pb**	**15 14 27.9**	**0.0**
KOLS	**Kolonicke sedl**	**1.29**	**314**	Pg			**Pn**	**15 14 27.7**	**-0.2**
	comp=Z,50nm,SNR=60								
KOLS	**Kolonicke sedl**	**1.29**	**314**	*e*PG			**Pb**	**15 14 28.2**	**0.0**
KOLS				*e*SG			**Sg**	**15 14 47.3**	**+1.9**
CJR	**Cluj-Napoca**	**1.33**	**183**	⇓P			**Pg**	**15 14 29.1**	**-0.2**
CJR				⇓S			**Sg**	**15 14 48.8**	**+2.2**
CJR	**Cluj-Napoca**	**1.33**	**183**	⇓P			**Pg**	**15 14 29.1**	**-0.2**
CJR	**Cluj-Napoca**	**1.33**	**183**	Pg			**Pb**	**15 14 28.9**	**+0.1**
	comp=Z,0.9nm,SNR=29								
CJR				Lg			Lg	15 14 48.8	
LTVH	**Ltavrtes, Hu**	**1.38**	**242**	*e*S			**Sg**	**15 14 49.7**	**+1.8**
LTVH	**Ltavrtes, Hu**	**1.38**	**242**	Lg			Lg	15 14 49.7	
DRGR		**1.42**	**208**	⇑P			**Pn**	**15 14 29.1**	**-0.5**
DRGR				⇑S			**Sg**	**15 14 50.0**	**+0.7**
DRGR		**1.42**	**208**	⇑P			**Pn**	**15 14 29.1**	**-0.5**
DRGR		**1.42**	**208**	Pn			**Pn**	**15 14 29.0**	**-0.6**
	comp=Z,0.4nm,SNR=19								
CRVS	**Cervenica-Dubn**	**1.71**	**301**	Pn			**Pn**	**15 14 33.3**	**-0.3**
	SNR=6.6								
CRVS	**Cervenica-Dubn**	**1.71**	**301**	*e*PN			**Pb**	**15 14 35.2**	**-0.1**
LVV	**L'vov**	**1.79**	**7**	*i* Pn			**Pb**	**15 14 37.0**	**+0.4**
LVV				Pm				15 14 38.0	
LVV				*i* Sn			**Sg**	**15 15 01.3**	**0.0**
LVV				m				15 15 03.1	
LVV				Sm				15 15 05.3	
KMPD	**K-Podol'skiy**	**1.92**	**73**	⇓*i*Pn			**Pb**	**15 14 39.0**	**+0.2**
KMPD				*i* Sn			**Sg**	**15 15 05.0**	**-0.5**
HORU	**Horodok**	**2.16**	**56**	*e*Pn			**Pb**	**15 14 42.9**	**0.0**
HORU				*i* Sn			**Sg**	**15 15 12.2**	**-0.9**
KECS	**Kecovo**	**2.18**	**283**	Pn			**Pn**	**15 14 39.2**	**-0.9**
	comp=Z,0.7nm,SNR=5.8								
KECS	**Kecovo**	**2.18**	**283**	*e*PN			**Pn**	**15 14 39.0**	**-1.1**
KECS				*e*LG			Lg	15 15 17.7	
DEV	**Deva**	**2.23**	**194**	Pg			**Pb**	**15 14 45.0**	**+1.0**
	comp=Z,0.2nm,SNR=6.6								
SIRR	**Siria**	**2.25**	**219**	⇓P			**Pn**	**15 14 41.0**	**0.0**
SIRR				⇑S			**Sb**	**15 15 11.3**	**-1.1**
SIRR	**Siria**	**2.25**	**219**	⇓P			**Pn**	**15 14 41.0**	**0.0**
SIRR	**Siria**	**2.25**	**219**	Pg			**Pn**	**15 14 41.2**	**+0.1**
	comp=Z,0.1nm,SNR=5.2								
NDNU	**Novodnistrovsk**	**2.52**	**76**	*i* Pn			**Pb**	**15 14 48.6**	**-0.4**
NDNU				Pm				15 14 49.7	
NDNU				*i* Sn			**Sb**	**15 15 22.0**	**+2.0**
NDNU				m				15 15 26.5	
NDNU				Sm				15 15 27.9	
PSZ	**Piszkesteto**	**2.55**	**269**	*e*P			**Pn**	**15 14 43.9**	**-1.3**
PSZ	**Piszkesteto**	**2.55**	**269**	Pn			**Pn**	**15 14 43.9**	**-1.3**
	comp=Z,0.1nm,SNR=6.1								
GZR	**Gura Zlata**	**2.72**	**194**	⇑P			**Pn**	**15 14 47.9**	**+0.3**
GZR	**Gura Zlata**	**2.72**	**194**	⇑P			**Pn**	**15 14 47.9**	**+0.3**
GZR	**Gura Zlata**	**2.72**	**194**	Pg			**Pb**	**15 14 53.7**	**+1.2**
	comp=Z,0.1nm,SNR=7.3								
VOIR		**2.77**	**160**	⇓P			**Pn**	**15 14 49.0**	**+0.8**
VOIR		**2.77**	**160**	⇓P			**Pn**	**15 14 49.0**	**+0.8**
LANS	**Liptovska Anna**	**3.01**	**293**	*e*PN			**Pn**	**15 14 51.3**	**-0.2**
VYHS	**Vyhne**	**3.27**	**280**	Pn			**Pn**	**15 14 54.0**	**-1.0**
	SNR=2.2								
VYHS	**Vyhne**	**3.27**	**280**	*e*PN			**Pn**	**15 14 54.0**	**-1.0**
VYHS				*e*SN			**Sn**	**15 15 34.8**	**+0.8**
MORH	**Mrgy, Hungar**	**3.90**	**244**	Sn			**Sn**	**15 15 45.7**	**-3.7**

INET ***19*** *15:20:16.0, 13.°35N×88.°87W, h70km, MW3.2*
UCR ***19*** *15:20:17.7±1.1, 13.°01N×89.°03W, h41km±15km, ML3.6*
SNET ***19*** *15:20:17.7±1.1, 13.°03N×89.°03W, h44km±11km, ML3.6*
ISC 19 15:20:17.5±1.9, 13.°01N±0.°10×89.°02W±0.°04, h55km, n62, σ0§47/103, 1C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.54**	**54**	*e*P			**Pn**	**15 20 29.5**	**0.0**
ALJI				*e*S			**Sn**	**15 20 38.1**	**-0.1**
ALJI				IAML				15 20 39.1	
	comp=Z,3μm,0.2s								
ALJI	**Alcalda de J**	**0.54**	**54**	*e*P			**Pn**	**15 20 29.5**	**0.0**
ALJI				*e*S			**Sn**	**15 20 38.1**	**-0.1**
ALJI				IAML				15 20 39.1	
	comp=Z,3μm,0.2s								
LALI	**Alcalda de L**	**0.56**	**328**	*e*P			**Pn**	**15 20 29.2**	**-0.6**
LALI				*e*S			**Sn**	**15 20 37.5**	**-1.1**
LALI	**Alcalda de L**	**0.56**	**328**	*e*P			**Pn**	**15 20 29.2**	**-0.6**
LALI				*e*S			**Sn**	**15 20 37.5**	**-1.1**
TECO	**Alcaldia de Te**	**0.57**	**24**	⇓*e*P			**Pn**	**15 20 29.6**	**-0.4**
TECO				*e*S			**Sn**	**15 20 38.4**	**-0.6**
SJTE	**Alcalda de S**	**0.60**	**1**	*e*P			**Pn**	**15 20 29.8**	**-0.6**
SJTE				*e*S			**Sn**	**15 20 39.3**	**-0.4**
SJTE	**Alcalda de S**	**0.60**	**1**	*e*P			**Pn**	**15 20 29.8**	**-0.6**
SJTE				*e*S			**Sn**	**15 20 39.3**	**-0.4**
LFRS	**El Faro**	**0.61**	**356**	*e*P			**Pn**	**15 20 30.0**	**-0.5**
LFRS				*e*S			**Sn**	**15 20 39.7**	**-0.2**
LFRS	**El Faro**	**0.61**	**356**	*e*P			**Pn**	**15 20 30.0**	**-0.5**
LFRS				*e*S			**Sn**	**15 20 39.7**	**-0.2**
COEG	**Centro de Oper**	**0.62**	**12**	⇓*e*P			**Pn**	**15 20 30.1**	**-0.5**
COEG				*e*S			**Sn**	**15 20 40.0**	**-0.1**
COEG				IAML				15 20 44.2	
	comp=Z,4μm,0.3s								
COEG	**Centro de Oper**	**0.62**	**12**	⇓*e*P			**Pn**	**15 20 30.1**	**-0.5**
COEG				*e*S			**Sn**	**15 20 40.0**	**-0.1**
COEG				IAML				15 20 44.2	
	comp=Z,4μm,0.3s								
COEB	**Comit de Eme**	**0.68**	**44**	*e*P			**Pn**	**15 20 31.2**	**-0.1**
COEB				IAML				15 20 44.2	
	comp=Z,3μm,0.3s								
COEB	**Comit de Eme**	**0.68**	**44**	*e*P			**Pn**	**15 20 31.2**	**-0.1**
COEB				IAML				15 20 44.2	
	comp=Z,3μm,0.3s								
AEIL	**Aeropuerto Ilo**	**0.69**	**352**	*e*P			**Pn**	**15 20 31.2**	**-0.2**
AEIL				*e*S			**Sn**	**15 20 42.9**	**+1.3**
AEIL				IAML				15 20 48.2	
	comp=Z,3μm,0.3s								
AEIL	**Aeropuerto Ilo**	**0.69**	**352**	*e*P			**Pn**	**15 20 31.2**	**-0.2**
AEIL				*e*S			**Sn**	**15 20 42.9**	**+1.3**
AEIL				IAML				15 20 48.2	
	comp=Z,3μm,0.3s								
TECA	**Tecapa**	**0.70**	**46**	*e*P			**Pn**	**15 20 31.5**	**-0.1**
TECA				*e*S			**Sn**	**15 20 42.0**	**+0.2**
TECA	**Tecapa**	**0.70**	**46**	*e*P			**Pn**	**15 20 31.5**	**-0.1**
TECA				*e*S			**Sn**	**15 20 42.0**	**+0.2**
PAVA	**Las Pavas**	**0.70**	**6**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
PAVA				IAML				15 20 32.3	
	comp=Z,1μm,0.3s								
PAVA				*e*S			**Sn**	**15 20 42.0**	**+0.1**
PAVA	**Las Pavas**	**0.70**	**6**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
PAVA				IAML				15 20 32.3	
	comp=Z,1μm,0.3s								
PAVA				*e*S			**Sn**	**15 20 42.0**	**+0.1**
SNET	**Serv Nac Est T**	**0.71**	**343**	*e*P			**Pn**	**15 20 31.1**	**-0.6**
SNET				*e*S			**Sn**	**15 20 41.2**	**-0.7**
SNET				IAML				15 20 42.6	
	comp=Z,2μm,0.2s								
SNET	**Serv Nac Est T**	**0.71**	**343**	*e*P			**Pn**	**15 20 31.1**	**-0.6**
SNET				*e*S			**Sn**	**15 20 41.2**	**-0.7**
SNET				IAML				15 20 42.6	
	comp=Z,2μm,0.2s								
UDBS	**Universidad Do**	**0.71**	**349**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
UDBS				*e*S			**Sn**	**15 20 41.7**	**-0.4**
UDBS				IAML				15 20 43.5	
	comp=Z,2μm,0.2s								
UDBS	**Universidad Do**	**0.71**	**349**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
UDBS				*e*S			**Sn**	**15 20 41.7**	**-0.4**
UDBS				IAML				15 20 43.5	
	comp=Z,2μm,0.2s								
IGN	**Direccin Gen**	**0.72**	**348**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
IGN	**Direccin Gen**	**0.72**	**348**	*e*P			**Pn**	**15 20 31.4**	**-0.3**
SEMO	**Seminario San**	**0.72**	**344**	*e*P			**Pn**	**15 20 31.5**	**-0.3**
MAGS	**Ministerio de**	**0.72**	**339**	*e*P			**Pn**	**15 20 31.5**	**-0.3**
LBRS	**Las Brisas**	**0.73**	**358**	*e*P			**Pn**	**15 20 31.9**	**0.0**
LBRS				*e*S			**Sn**	**15 20 41.7**	**-0.7**
LBRS	**Las Brisas**	**0.73**	**358**	*e*P			**Pn**	**15 20 31.9**	**0.0**
LBRS				*e*S			**Sn**	**15 20 41.7**	**-0.7**
UESS	**Universidad de**	**0.73**	**346**	*e*P			**Pn**	**15 20 31.7**	**-0.2**
UESS				IAML				15 20 47.9	
	comp=Z,2μm,0.2s								
UESS	**Universidad de**	**0.73**	**346**	*e*P			**Pn**	**15 20 31.7**	**-0.2**
UESS				IAML				15 20 47.9	
	comp=Z,2μm,0.2s								
UEES	**Universidad Ev**	**0.74**	**343**	*e*P			**Pn**	**15 20 31.6**	**-0.4**
UEES				IAML				15 20 46.6	
	comp=Z,2μm,0.2s								
UEES	**Universidad Ev**	**0.74**	**343**	*e*P			**Pn**	**15 20 31.6**	**-0.4**
UEES				IAML				15 20 46.6	
	comp=Z,2μm,0.2s								
LFU	**La Fuente**	**0.74**	**353**	*e*P			**Pn**	**15 20 32.0**	**-0.1**
LFU				*e*S			**Sn**	**15 20 43.0**	**+0.2**
LFU	**La Fuente**	**0.74**	**353**	*e*P			**Pn**	**15 20 32.0**	**-0.1**
LFU				*e*S			**Sn**	**15 20 43.0**	**+0.2**
PQSS	**Presa 15 de Se**	**0.76**	**36**	⇑*e*P			**Pn**	**15 20 32.3**	**+0.1**
PQSS				*e*S			**Sn**	**15 20 43.3**	**+0.3**
PQSS				IAML				15 20 45.1	
	comp=Z,4μm,0.2s								
BOQS	**Boqueron**	**0.77**	**341**	*e*P			**Pn**	**15 20 32.3**	**-0.2**
BOQS				*e*S			**Sn**	**15 20 43.6**	**+0.1**
BOQS	**Boqueron**	**0.77**	**341**	*e*P			**Pn**	**15 20 32.3**	**-0.2**
BOQS				*e*S			**Sn**	**15 20 43.6**	**+0.1**
JUCU	**Jucuarın**	**0.79**	**72**	*e*P			**Pn**	**15 20 32.1**	**-0.5**
JUCU				*e*S			**Sn**	**15 20 43.5**	**-0.2**
JUCU				IAML				15 20 48.5	
	comp=Z,1μm,0.3s								
JUCU	**Jucuarın**	**0.79**	**72**	*e*P			**Pn**	**15 20 32.1**	**-0.5**
JUCU				*e*S			**Sn**	**15 20 43.5**	**-0.2**
JUCU				IAML				15 20 48.5	
	comp=Z,1μm,0.3s								
LCY	**Lacayo**	**0.82**	**60**	*e*P			**Pn**	**15 20 33.0**	**0.0**
LCY				*e*S			**Sn**	**15 20 45.3**	**+0.9**
LCY	**Lacayo**	**0.82**	**60**	*e*P			**Pn**	**15 20 33.0**	**0.0**
LCY				*e*S			**Sn**	**15 20 45.3**	**+0.9**
PACA	**Pacayal**	**0.82**	**56**	*e*P			**Pn**	**15 20 33.3**	**+0.2**
PACA				IAML				15 20 47.4	
	comp=Z,1μm,0.2s								
PACA	**Pacayal**	**0.82**	**56**	*e*P			**Pn**	**15 20 33.3**	**+0.2**
PACA				IAML				15 20 47.4	
	comp=Z,1μm,0.2s								
CEVE	**Cerro Verde**	**1.01**	**324**	*e*P			**Pn**	**15 20 35.1**	**-0.6**
CEVE				IAML				15 20 50.5	
	comp=Z,2μm,0.3s								
CEVE	**Cerro Verde**	**1.01**	**324**	*e*P			**Pn**	**15 20 35.1**	**-0.6**
CEVE				IAML				15 20 50.5	
	comp=Z,2μm,0.3s								
SBLS	**San Blas**	**1.01**	**325**	*e*P			**Pn**	**15 20 36.1**	**+0.3**
SBLS				*e*S			**Sn**	**15 20 49.7**	**+0.5**
SBLS	**San Blas**	**1.01**	**325**	*e*P			**Pn**	**15 20 36.1**	**+0.3**
SBLS				*e*S			**Sn**	**15 20 49.7**	**+0.5**
SNJE	**San Jose**	**1.03**	**326**	*e*P			**Pn**	**15 20 36.1**	**+0.1**
SNJE				*e*S			**Sn**	**15 20 50.1**	**+0.6**
SNJE	**San Jose**	**1.03**	**326**	*e*P			**Pn**	**15 20 36.1**	**+0.1**
SNJE				*e*S			**Sn**	**15 20 50.1**	**+0.6**
RTR	**El Retiro**	**1.07**	**325**	*e*P			**Pn**	**15 20 36.9**	**+0.4**
RTR				*e*S			**Sn**	**15 20 51.7**	**+1.1**
RTR	**El Retiro**	**1.07**	**325**	*e*P			**Pn**	**15 20 36.9**	**+0.4**
RTR				*e*S			**Sn**	**15 20 51.7**	**+1.1**
UNIC	**Universidad Ca**	**1.10**	**332**	*e*P			**Pn**	**15 20 36.8**	**0.0**
UNIC	**Universidad Ca**	**1.10**	**332**	*e*P			**Pn**	**15 20 36.8**	**0.0**
LCND	**La Caada**	**1.14**	**75**	⇓*e*P			**Pn**	**15 20 37.2**	**0.0**
LCND				*e*S			**Sn**	**15 20 52.1**	**+0.2**
LCND				IAML				15 20 54.5	
	comp=Z,1μm,0.4s								
LCND	**La Caada**	**1.14**	**75**	⇓*e*P			**Pn**	**15 20 37.2**	**0.0**
LCND				*e*S			**Sn**	**15 20 52.1**	**+0.2**
LCND				IAML				15 20 54.5	
	comp=Z,1μm,0.4s								
SLOZ	**Alcaldia de Sa**	**1.26**	**324**	*e*P			**Pn**	**15 20 38.7**	**-0.1**
SLOZ				*e*S			**Sn**	**15 20 55.8**	**+1.1**
MTO3	**Montecristo**	**1.42**	**346**	⇓*e*P			**Pn**	**15 20 41.3**	**+0.1**
MTO3	**Montecristo**	**1.42**	**346**	⇓*e*P			**Pn**	**15 20 41.3**	**+0.1**
ESQI	**Esquipulas**	**1.57**	**348**	*e*P			**Pn**	**15 20 43.4**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.99**	**58**	*e*P			**Pn**	**15 20 48.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.99**	**58**	*e*P			**Pn**	**15 20 48.7**	**-0.2**

NEIC ***19*** *16:01:39.2±1.1, 17.°59S±0.°09×178.°7W±0.°1, h536km±8km, mb4.4/14, Error ellipse: s-maj=15.9km s-min=10.3km az=53.0*
IDC ***19*** *16:01:41.6±2.2, 17.°38S×178.°92W, h557km±18km, mb2.9/5, mb1 3.2/6, mb1mx2.9/23, mbtmp3.8/6, Error ellipse: s-maj=111.0km s-min=19.8km az=152.0*
ISC 19 16:01:39.5±0.6, 17.°68S±0.°1×178.°68W±0.°09, h547km, n29, σ0§98/29, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.12**	**267**	P			**P**	**16 02 56.9**	**+1.7**
	2.9nm,0.3s,baz=42,slow=4.8,SNR=28								
MSVF	**Nonsavu**	**3.12**	**267**	P			**P**	**16 02 56.8**	**+1.5**
AFI	**Afiamalu**	**7.58**	**62**	P			**P**	**16 03 30.9**	**-2.3**
NIUE	**Niue**	**8.44**	**102**	P			**P**	**16 03 40.0**	**-1.6**
RAO	**Raoul Island**	**11.65**	**177**	P			**P**	**16 04 14.9**	**+0.6**
MARNC	**Mare, Loyalty**	**13.12**	**251**	P			**P**	**16 04 29.1**	**-0.6**
ONTNC	**Ouen Toro**	**14.75**	**249**	P			**P**	**16 04 45.5**	**-1.0**
LTZ	**Lake Taylor**	**26.29**	**195**	P			**P**	**16 06 31.4**	**-0.3**
MLZ	**Mavora Lakes**	**29.83**	**199**	P			**P**	**16 07 01.9**	**-0.6**
MLZ				IAmb			IAmb	16 07 05.9	
	comp=Z,43nm,1.5s								
STKA	**Stephens Creek**	**38.57**	**241**	P			**P**	**16 08 16.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=72,slow=9.6,SNR=3.6								
STKA	**Stephens Creek**	**38.57**	**241**	P			**P**	**16 08 14.7**	**-1.2**
BBOO	**Buckleboo**	**43.35**	**241**	P			**P**	**16 08 53.5**	**-0.3**
BBOO				IAmb			IAmb	16 09 12.5	
	comp=Z,10nm,1.2s								
WR0	**Warramunga Arr**	**44.25**	**259**	P			**P**	**16 09 00.9**	**-0.1**
WR0				IAmb			IAmb	16 09 19.0	
	comp=Z,12nm,1.4s								
WB0	**Warramunga Arr**	**44.41**	**259**	P			**P**	**16 09 01.5**	**-0.7**
WB0				IAmb			IAmb	16 09 05.2	
	comp=Z,16nm,1.4s								
WB2	**Warramunga Arr**	**44.43**	**259**	P			**P**	**16 09 01.6**	**-0.8**
WB2				IAmb			IAmb	16 09 18.0	
	comp=Z,7.6nm,1.2s								
WRA	**Warramunga Arr**	**44.44**	**259**	P			**P**	**16 09 01.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.3,SNR=7.5								
ASAR	**Alice Springs**	**44.64**	**254**	P			**P**	**16 09 04.2**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=88,slow=8.1,SNR=59								
ASAR	**Alice Springs**	**44.64**	**254**	P			**P**	**16 09 03.6**	**-0.4**
MTN	**Manton Dam**	**48.55**	**268**	P			**P**	**16 09 34.0**	**+0.4**
MTN				IAmb			IAmb	16 09 58.2	
	comp=Z,32nm,1.4s								
FORT	**Forrest**	**49.92**	**244**	P			**P**	**16 09 43.5**	**0.0**
FORT				IAmb			IAmb	16 09 49.7	
	comp=Z,28nm,1.1

comp=Z,2.0nm,0.8s
SONM Songino Array 52.34 2 P P 16 22 44.8 +1.1
comp=Z,2.2nm,0.8s,baz=175,slow=9.8,SNR=11
SONM Songino Array 52.34 2 P P 16 22 44.3 +0.6
JSD Sado 53.05 34 P P 16 22 48.9 0.0
JSD IAmb IAmb 16 23 13.3
comp=Z,7.3nm,1.2s
MK31 Makanchi Array 54.76 342 P P 16 23 01.0 -0.1
MKAR Makanchi Array 54.76 342 P P 16 23 01.3 +0.2
comp=Z,1.7nm,0.6s,baz=153,slow=8.8,SNR=29
MKAR Makanchi Array 54.76 342 P P 16 23 00.9 -0.3
KK31 Karatay Array 56.41 331 P P 16 23 12.5 -0.5
KKAR Karatay Array 56.41 331 P P 16 23 12.3 -0.7
ZAA0 Zalesovo Array 60.60 347 P P 16 23 41.8 +0.1
ZAA0 IAmb IAmb 16 23 42.9
comp=Z,1.4nm,0.8s
ZALV Zalesovo Beam 60.60 347 P P 16 23 41.6 -0.1
comp=Z,1.2nm,0.4s,baz=151,slow=6.2,SNR=6.5
BVAR Borovoye Array 64.12 338 P P 16 24 05.0 -0.1
comp=Z,0.7nm,0.5s,baz=179,slow=8.6,SNR=4.4
ABKAR Akbulak array 65.94 330 P P 16 24 16.8 -0.1
YAK Yakutsk 69.38 13 P P 16 24 37.3 -0.8
YAK IAmb IAmb 16 24 38.1
comp=Z,4.9nm,0.7s
SIRT Sirnak 70.87 312 P P 16 24 46.3 -1.5
PEA0B Petropavlovsk- 73.05 31 P P 16 25 00.2 -0.1
PEA0B IAmb IAmb 16 25 15.4
comp=Z,22nm,1.3s
PETK Petropavlovsk- 73.05 31 P P 16 25 00.4 +0.1
PET Petropavlovsk 73.49 31 P P 16 25 02.7 -0.1
PET IAmb IAmb 16 25 26.8
comp=Z,12nm,1.1s
BRTR Keskin Array B 78.11 312 P P 16 25 29.4 -0.1
comp=Z,0.8nm,0.7s,baz=139,slow=6.6,SNR=5.5
FINES FINESS Array B 88.36 332 P P 16 26 22.2 +1.1
comp=Z,0.7nm,0.4s,baz=113,slow=6.6,SNR=12
TXAR Lajitas Array 144.09 44 PKP PKPbc 16 33 04.5 +1.0
comp=Z,0.1nm,0.4s,baz=252,slow=1.9,SNR=6.6

IDC 19 16:33:03.3±2.0, 1°.02N×125°.40E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/34, mbtmp3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/23, Error ellipse: s-maj=188.2km s-min=26.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.60**	**158**	P	P	16 38 05.5	-0.3
	0.4nm,0.3s,baz=336,slow=10,SNR=16						
ASAR	**Alice Springs**	**25.89**	**162**	P	P	16 38 37.4	+0.2
	0.4nm,0.5s,baz=344,slow=12,SNR=5.5						
JCJ	**Chichijima**	**30.53**	**30**	LR	LR	16 52 58.9	
	comp=Z,14nm,18.6s,baz=116,slow=39						
STKA	**Stephens Creek**	**36.14**	**156**	P	P	16 40 07.2	-0.2
	2.0nm,1.0s,baz=351,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**59.04**	**327**	P	P	16 43 05.3	+0.1
	0.2nm,0.5s,baz=130,slow=5.8,SNR=2.0						

*JMA **19** 16:32:59.9±0.6, 33°.16N×126°.95E, h0km*
KMA 19 16:33:04.0±0.8, 33°.26N×127°.05E, h20km±7km, Error ellipse: s-maj=10.8km s-min=5.8km az=33.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJJU	**Jeju**	**0.45**	**293**	P	Pb	16 33 13.4	+0.1
	SNR=36						
KSJJU				S	Sb	16 33 19.9	+0.3
KSJJU	**Jeju**	**0.45**	**293**	P	Pb	16 33 13.4	+0.1
	SNR=36						
KSJJU				S	Sb	16 33 19.9	+0.3
KSSGP	**Seogwipo**	**0.46**	**270**	P	Pb	16 33 13.3	0.0
	SNR=11						
KSSGP	**Seogwipo**	**0.46**	**270**	P	Pb	16 33 13.3	0.0
	SNR=11						
HALB	**Hallimjungang-**	**0.66**	**283**	P	Pb	16 33 16.8	-0.1
	SNR=59						
HALB	**Hallimjungang-**	**0.66**	**283**	P	Pb	16 33 16.8	-0.1
	SNR=59						
HALB				S	Sb	16 33 26.3	+0.6
GOS1	**Gosan-ri**	**0.70**	**274**	P	Pb	16 33 17.6	0.0
	SNR=9.4						
GOS1	**Gosan-ri**	**0.70**	**274**	P	Pb	16 33 17.6	0.0
	SNR=9.4						
KSWAN	**Wando**	**1.17**	**346**	P	Pn	16 33 25.0	-0.1
	SNR=44						
KOHB	**KOHEUNG**	**1.37**	**8**	P	Pn	16 33 28.0	0.0
	SNR=72						
BOSB	**Boseong-gun**	**1.51**	**5**	P	Pn	16 33 30.1	+0.2
	SNR=30						
JFU	**Fukue jima 2**	**1.55**	**112**	P	Pn	16 33 29.6	-0.9
JFU				S	Sb	16 33 50.7	-0.6
JTSM	**Tsushimamitsus**	**2.23**	**60**	*e*S	Sb	16 34 10.7	0.0
JII	**Iki**	**2.31**	**76**	*e*S	Sb	16 34 13.1	+0.1
JTU	**Tsushima**	**2.33**	**56**	*e*S	Sb	16 34 14.3	+0.6

*IDC **19** 16:40:18.5±2.1, 14°.96S×166°.85E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.7/31, mbtmp4.0/6, ML4.6/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=56.2km s-min=30.2km az=136.0*
*NEIC **19** 16:40:25.7±1.4, 14°.83S±0°.09×166°.7E±0°.1, h47km±10km, mb4.6/11, Error ellipse: s-maj=19.3km s-min=7.4km az=52.0*
ISC 19 16:40:24.6±0.9, 14°.84S±0°.10×166°.7E±0°.1, h36km, n22, σ0°.71/22, mb4.2/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.80**	**139**		**Pn**	**16 40 39.5**	**+0.1**
SANVU				Sn	**Sn**	**16 40 50.7**	**+0.6**
LIFNC	**LIFOU**	**5.93**	**175**	Pn	**Pn**	**16 41 49.0**	**-0.9**
MARNC	**Mare, Loyalty**	**6.74**	**169**	Pn	**Pn**	**16 41 59.9**	**-1.0**
ONTNC	**Ouen Toro**	**7.43**	**181**	Pn	**Pn**	**16 42 11.1**	**+0.6**
OUENC	**Ouen Island, N**	**7.54**	**179**	Pn	**Pn**	**16 42 12.4**	**+0.3**
PINNC	**Pines Island,**	**7.77**	**175**	Pn	**Pn**	**16 42 14.8**	**-0.4**
HNR	**Honiara**	**8.48**	**309**	Pn	**Pn**	**16 42 26.5**	**+1.6**
	7.3nm,0.3s,baz=192,slow=4.4,SNR=6.5						
HNR				Sn	**Sn**	**16 43 58.4**	**-1.1**
	12nm,0.3s,baz=40,slow=22,SNR=6.6						
HNR				LR	LR	16 45 28.7	
	comp=Z,52nm,21.0s,baz=148,slow=36						
CTA	**Charters Tower**	**20.15**	**252**	P	Pn	16 44 57.0	-0.9
	4.5nm,0.8s,baz=99,slow=14,SNR=5.5						
CTAO	**Charters Tower**	**20.15**	**252**	P	**P**	**16 44 56.5**	**+0.6**
CTAO				IAmb	IAmb	16 45 18.6	
	comp=Z,39nm,1.5s						
BKZ	**Black Stump Fm**	**25.73**	**162**	P	**P**	**16 45 52.3**	**+0.5**
BKZ				IAmb	IAmb	16 45 52.4	
	comp=Z,42nm,1.5s						
STKA	**Stephens Creek**	**28.48**	**229**	P	**P**	**16 46 16.6**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=39,slow=10,SNR=3.7						
WB0	**Warramunga Arr**	**31.16**	**256**	P	**P**	**16 46 39.8**	**-0.6**
WB0				IAmb	IAmb	16 46 45.7	
	comp=Z,3.9nm,1.1s						
WRA	**Warramunga Arr**	**31.23**	**256**	P	**P**	**16 46 40.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=86,slow=9.6,SNR=4.6						
ASAR	**Alice Springs**	**32.08**	**249**	P	**P**	**16 46 48.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=76,slow=8.7,SNR=4.0						
BBOO	**Buckleboo**	**33.05**	**232**	P	**P**	**16 46 56.4**	**-0.4**
BBOO				IAmb	IAmb	16 47 14.7	
	comp=Z,19nm,1.2s						
KNRA	**Kununurra**	**36.54**	**264**	P	**P**	**16 47 27.3**	**+0.2**
FORT	**Forrest**	**38.74**	**239**	P	**P**	**16 47 45.4**	**-0.1**
FORT				IAmb	IAmb	16 47 45.8	
	comp=Z,17nm,0.8s						
MORW	**Morawa**	**48.69**	**244**	P	**P**	**16 49 05.4**	**-0.3**
KS19	**Wonju Array Si**	**63.56**	**326**	P	**P**	**16 50 50.7**	**-0.9**
KS19				IAmb	IAmb	16 51 16.0	
	comp=Z,6.4nm,1.1s						
QSPA	**South Pole Qui**	**75.19**	**180**	P	**P**	**16 52 02.9**	**-0.4**
QSPA				IAmb	IAmb	16 52 04.8	
	comp=Z,4.6nm,1.1s						
ILAR	**Eielson Array**	**86.81**	**18**	P	**P**	**16 53 04.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=230,slow=6.1,SNR=7.1						
NVAR	**Mina Array Bea**	**87.79**	**49**	LR	LR	17 24 54.1	
	comp=Z,25nm,19.1s,baz=273,slow=30						

*JMA **19** 17:24:47.4±0.3, 44°.00N×147°.86E, h0km, M4.1*
*MOS **19** 17:24:47.7±1.4, 44°.43N×148°.00E, h74km, mb4.1/3, Error ellipse: s-maj=14.8km s-min=14.5km az=160.6*
*SKHL **19** 17:24:48.3±0.3, 44°.40N×148°.10E, h78km±5km, mb4.7/6*

ISC 19 17:24:47.9±1.6, 44°.35N±0°.08×148°.1E±0°.1, h70km±9km, n33, σ1°.62/46, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.89**	**351**	*d* iPN	**Pn**	**17 25 04.7**	**-0.3**
KUR				*i* S	**Sn**	**17 25 16.7**	**-0.9**
KUR				pmax	pmax		
	comp=E,55nm,0.1s						
KUR				pmax	pmax		
	comp=Z,562nm,0.1s						
KUR				pmax	pmax		
	comp=N,75nm,0.2s						
KUR				smax	smax		
	comp=N,732nm,0.2s						
KUR				smax	smax		
	comp=E,998nm,0.2s						
KUR	**Kuril'sk**	**0.89**	**351**	*i* P	**Pn**	**17 25 04.7**	**-0.3**
KUR				AMB	AMB	17 25 05.2	
	comp=E,550nm,0.2s						
KUR				*i* S	**Sn**	**17 25 16.8**	**-0.9**
KUR				A	A	17 25 17.0	
	comp=E,730nm,0.2s						
KUR				A	A	17 25 17.0	
	comp=E,1μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.61**	**259**	*e*PN	**Pn**	**17 25 14.3**	**0.0**
YUK				*e*S	**Sn**	**17 25 33.6**	**-0.6**
YUK				pmax	pmax		
	comp=N,139nm,0.1s						
YUK				pmax	pmax		
	comp=E,100nm,0.1s						
YUK				pmax	pmax		
	comp=Z,445nm,0.1s						
YUK				smax	smax		
	comp=E,869nm,0.4s						
YUK				smax	smax		
	comp=N,496nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.61**	**259**	*e*P	**Pn**	**17 25 14.3**	**0.0**
YUK				AMB	AMB	17 25 16.3	
	comp=N,140nm,0.2s						
YUK				AMB	AMB	17 25 16.3	
	comp=N,100nm,0.2s						
YUK				AMB	AMB	17 25 16.3	
	comp=N,450nm,0.2s						
YUK				*e*S	**Sn**	**17 25 33.6**	**-0.6**
YUK				A	A	17 25 36.0	
	comp=N,500nm,0.4s						
YUK				A	A	17 25 36.0	
	comp=N,870nm,0.4s						
GRPR	**Tuman**	**1.69**	**259**	*e*PN	**Pn**	**17 25 15.6**	**+0.3**
GRPR				*e*S	**Sn**	**17 25 35.0**	**-1.0**
GRPR				pmax	pmax		
	comp=Z,177nm,0.2s						
GRPR				pmax	pmax		
	comp=N,155nm,0.1s						
GRPR				pmax	pmax		
	comp=E,97nm,0.1s						
GRPR				smax	smax		
	comp=E,443nm,0.4s						
GRPR				smax	smax		
	comp=N,810nm,0.3s						
GRPR	**Tuman**	**1.69**	**259**	*e*P	**Pn**	**17 25 15.6**	**+0.3**
GRPR				AMB	AMB	17 25 17.0	
	comp=N,160nm,0.2s						
GRPR				AMB	AMB	17 25 17.0	
	comp=N,100nm,0.2s						
GRPR				AMB	AMB	17 25 17.0	
	comp=N,180nm,0.2s						
GRPR				*e*S	**Sn**	**17 25 35.0**	**-1.0**
GRPR				A	A	17 25 40.0	
	comp=N,810nm,0.4s						
GRPR				A	A	17 25 40.0	
	comp=N,440nm,0.4s						
NEM2	**Nemuro 2**	**1.94**	**240**	P	**Pn**	**17 25 18.1**	**-0.6**
NEM2				*e*S	**Sn**	**17 25 40.1**	**-2.1**
NMR	**Nemuro--Hokkai**	**1.95**	**241**	⇓*i* PN	**Pn**	**17 25 18.1**	**-0.7**
NMR				*e*S	**Sn**	**17 25 40.2**	**-2.2**
NMR	**Nemuro--Hokkai**	**1.95**	**241**	*i* P	**Pn**	**17 25 18.2**	**-0.6**
NMR				*e*S	**Sn**	**17 25 40.5**	**-1.9**
RUSJ	**Misakicho**	**2.04**	**264**	⇓*i* PN	**Pn**	**17 25 21.6**	**+1.6**
RUSJ				*e*S	**Sn**	**17 25 46.6**	**+2.2**
JRA	**Rausu**	**2.15**	**260**	P	**Pn**	**17 25 22.7**	**+1.1**
JRA				*e*S	**Sn**	**17 25 48.8**	**+1.5**
JNSB	**Nemuroshibetsu**	**2.28**	**256**	P	**Pn**	**17 25 24.2**	**+1.0**
JNSB				*e*S	**Sn**	**17 25 51.1**	**+0.9**
JKHN	**Kushirohamanak**	**2.46**	**240**	*e*S	**Sn**	**17 25 53.0**	**-1.5**
JNK	**Nakash**	**2.53**	**254**	*e*S	**Sn**	**17 25 56.4**	**0.0**
AKK	**Akkeshi**	**2.69**	**241**	*i* P	**Pn**	**17 25 27.7**	**-1.1**
AKK				*i* S	**Sn**	**17 25 57.6**	**-2.6**
JAK	**Akkeshi**	**2.79**	**242**	*e*S	**Sn**	**17 26 00.8**	**-1.9**
JAR	**Ashorobuto**	**3.28**	**253**	*e*S	**Sn**	**17 26 15.8**	**+1.1**
JOB	**Onbets**	**3.39**	**246**	*e*S	**Sn**	**17 26 17.2**	**-0.2**
JCH	**Churui**	**3.83**	**245**	*e*S	**Sn**	**17 26 28.4**	**+0.2**
ERM	**Erimo**	**4.28**	**239**	*i* PN	**Pn**	**17 25 53.5**	**+3.0**
JNBK	**Urakawa-nobuka**	**4.39**	**244**	P	**Pn**	**17 25 53.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.54**	**307**	*e*PN	**Pn**	**17 25 55.6**	**+1.6**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.54**	**307**	*e*P	**Pn**	**17 25 55.2**	**+1.2**
YSS				AMB	AMB	17 25 56.4	
	comp=Z,10.0nm,0.4s						
KLR	**Kul'dur**	**12.19**	**299**	*i* PN	**Pn**	**17 27 38.4**	**-0.1**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
KLR	**Kul'dur**	**12.19**	**299**	*i* P	**Pn**	**17 27 38.4**	**-0.1**
KLR				AMB	AMB	17 27 40.1	
	comp=Z,10.0nm,1.0s						
YAK	**Yakutsk**	**20.72**	**335**	*i* P	Pn	17 29 23.8	-1.4
YAK	**Yakutsk**	**20.72**	**335**	*i* P	Pn	17 29 23.8	-1.4
TIXI	**Tiksi**	**28.91**	**348**	*i* P	**P**	**17 30 40.4**	**+0.7**
TIXI	**Tiksi**	**28.91**	**348**	*i* P	**P**	**17 30 40.4**	**+0.7**
BRVK	**Borovoye**	**49.68**	**309**	*i* P	**P**	**17 33 33.4**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**49.68**	**309**	*i* P	**P**	**17 33 33.4**	**+1.1**
ARU	**Arti**	**54.36**	**317**	*d* iP	**P**	**17 34 05.1**	**-1.9**
ARU				S	**S**	**17 41 38.0**	**-1.6**
ARU				SS	**SS**	**17 45 16.2**	**-5.7**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.8s						
YKA	**Yellowknife Ar**	**54.94**	**34**	*i* P	**P**	**17 34 13.6**	**+2.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*NEIC **19** 18:00:17.5±0.8, 33°.6S±0°.2×173°.4W±0°.1, h10km±2km, mb4.4/7, Error ellipse: s-maj=35.2km s-min=5.0km az=144.0*
*IDC **19** 18:00:49.2±1.4, 32°.85S×178°.35W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/35, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=34.8km s-min=31.9km az=161.0*
ISC 19 18:00:50.6±1.2, 33°.0S±0°.1×178°.4W±0°.2, h10km, n18, σ1°.50/17, mb3.9/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.42**	**214**	Pn	**Pn**	**18 02 25.4**	**+0.2**
	1.3nm,0.3s,baz=22,slow=16,SNR=26						
URZ				Sn	**Sn**	**18 03 36.2**	**-2.4**
	0.8nm,0.3s,baz=294,slow=22,SNR=1.6						
URZ	**Urewera**	**6.42**	**214**	Pn	**Pn**	**18 02 26.4**	**+1.2**
BKZ	**Black Stump Fm**	**7.44**	**212**	Pn	**Pn**	**18 02 39.8**	**+0.5**
CTA	**Charters Tower**	**33.98**	**283**	P	**P**	**18 07 36.5**	**+2.0**
	2.8nm,0.7s,baz=131,slow=9.3,SNR=1.5						
CTA	**Charters Tower**	**33.98**	**283**	P	**P**	**18 07 36.5**	**+2.0**
AS31	**Alice Springs**	**42.71**	**270**	P	**P**	**18 08 47.4**	**-0.6**
AS31				IAmb	IAmb	18 08 54.6	
	comp=Z,1.8nm,1.2s						
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**18 08 47.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=110,slow=7.3,SNR=9.6						
ASAR	**Alice Springs**	**42.71**	**270**	P	**P**	**18 08 47.8**	**-0.2**
WR0	**Warramunga Arr**	**43.76**	**275**	P	**P**	**18 08 55.7**	**-0.8**
WR0				IAmb	IAmb	18 09 14.8	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**43.92**	**275**	P	**P**	**18 08 57.2**	**-0.6**
WB2				IAmb	IAmb	18 09 11.3	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**43.93**	**275**	P	**P**	**18 08 57.5**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=114,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**43.93**	**275**	P	**P**	**18 08 56.0**	**-1.9**
WB0	**Warramunga Arr**	**43.97**	**275**	P	**P**	**18 08 57.0**	**-1.2**
WB0				IAmb	IAmb	18 09 10.1	
	comp=Z,4.0nm,0.9s						
KNRA	**Kununurra**	**50.62**	**277**	P	P	18 09 43.0	-7.1
QSPA	**South Pole Qui**	**57.14**	**180**	P	**P**	**18 10 38.8**	**+1.5**
	comp=Z,0.8nm,1.0s,baz=338,slow=3.4,SNR=1.5						
QSPA	**South Pole Qui**	**57.14**	**180**	P	P	18 10 00.1	-37
QSPA				IAmb	IAmb	18 10 04.3	
	comp=Z,2.4nm,1.2s						
NVAR	**Mina Array Bea**	**90.34**	**43**	P	**P**	**18 13 51.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=207,slow=5.8,SNR=1.8						
FINES	**FINESS Array B**	**147.43**	**338**	PKPbc	**PKPab**	**18 20 33.2**	**-2.7**
	comp=Z,1.1nm,0.6s,baz=41,slow=4.4,SNR=8.9						

*IDC **19** 18:01:50.4±2.2, 43°.91N×105°.64W, h0km, mb4.0/3, mb1 3.9/7, mb1mx3.5/46, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=80.9km s-min=7.6km az=148.0*
*NEIC **19** 18:01:50.8±1.5, 43°.73N±0°.05×105°.26W±0°.06, h0km±2km, ML3.3/44, Error ellipse: s-maj=10.0km s-min=6.7km az=324.0*
ISC 19 18:01:49.8±0.9, 43°.73N±0°.06×105°.26W±0°.07, h0km, n60, σ1°.04/58, mb4.5/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**66**		**Pb**	**18 02 09.5**	**-0.1**
K22A	**Casper**	**1.42**	**221**		**Pn**	**18 02 15.3**	**-1.8**
K22A				IAML		18 02 37.6	
	comp=E,495nm,0.3s						
K22A				IAML		18 02 41.4	
	comp=N,524nm,0.3s						
PHWY	**Pilot Hill**	**2.44**	**183**		**Pn**	**18 02 31.6**	**+0.4**
RWWY	**Rawlins**	**2.50**	**216**	Pn	**Pn**	**18 02 33.0**	**+1.1**
RWWY				IAML		18 03 06.9	
	comp=N,135nm,0.7s						
RWWY				IAML		18 03 07.3	
	comp=N,185nm,1.1s						
LAO	**LASA Array**	**3.03**	**347**		**Pn**	**18 02 41.3**	**+2.2**
LAO				IAML		18 03 35.7	
	comp=N,126nm,0.7s						
RLMT	**Red Lodge**	**3.19**	**297**	Pn	**Pn**	**18 02 41.9**	**+0.5**
RLMT				IAML		18 03 35.8	
	comp=N,70nm,0.4s						
RLMT				IAML		18 03 40.4	
	comp=N,77nm,0.3s						
BW06	**Boulder Array**	**3.28**	**254**		**Pn**	**18 02 43.3**	**+0.5**
PD31	**Pinedale Array**	**3.28**	**254**		**Pn**	**18 02 43.0**	**+0.3**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**18 02 43.0**	**+0.3**
	comp=N,6.3nm,0.3s,baz=71,slow=16,SNR=34						
PDAR				Lg	Lg	18 03 26.9	
	comp=N,13nm,0.3s,baz=79,slow=34,SNR=9.5						
PDAR	**Pinedale Array**	**3.28**	**254**		**Pn**	**18 02 43.0**	**+0.3**
YNE	**Yellowstone No**	**3.63**	**292**		**Pn**	**18 02 48.3**	**+0.8**
YNE				IAML		18 03 51.5	
	comp=N,72nm,0.3s						
YMP	**Mirror Lake Pl**	**3.66**	**288**		**Pn**	**18 02 48.8**	**+0.8**
GCMT	**Greycliff**	**3.75**	**305**		**Pn**	**18 02 50.8**	**+1.7**
LOHW	**Long Hollow**	**3.88**	**270**		**Pn**	**18 02 50.5**	**-0.4**
H17A	**Grant Village**	**3.89**	**282**		**Pn**	**18 02 53.7**	**+2.6**
H17A				IAML		18 03 53.3	
	comp=E,36nm,0.7s						
H17A				IAML		18 03 55.7	
	comp=N,36nm,1.1s						
ISCO	**Idaho Springs**	**3.94**	**184**		**Pn**	**18 02 53.1**	**+1.2**
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pn**	**18 02 52.7**	**+0.9**
FLWY				IAML		18 04 07.3	
	comp=N,37nm,1.8s						
FLWY				IAML		18 04 07.4	
	comp=N,38nm,2.0s						
REDW	**Red Top Meadow**	**4.08**	**267**		**Pn**	**18 02 54.9**	**+1.2**
REDW				IAML		18 04 12.5	
	comp=N,45nm,0.8s						
REDW				IAML		18 04 13.4	
	comp=N,52nm,0.7s						
TPAW	**Teton Pass**	**4.14**	**269**		**Pn**	**18 02 55.6**	**+1.1**
TPAW				IAML		18 04 16.0	
	comp=N,33nm,1.0s						
YHH	**Holmes Hill**	**4.15**	**287**	Pn	**Pn**	**18 02 56.0**	**+1.3**
O20A	**White River Ci**	**4.23**	**213**		**Pn**	**18 02 56.5**	**+0.8**
O20A				IAML		18 04 15.3	
	comp=N,48nm,1.0s						
O20A				IAML		18 04 22.8	
	comp=E,51nm,1.1s						
E28A	**Huff**	**4.30**	**47**		**Pn**	**18 02 57.9**	**+1.3**
AHID	**Auburn Hatcher**	**4.37**	**259**		**Pn**	**18 02 58.3**	**+0.6**
AHID				IAML		18 04 11.9	
	comp=N,44nm,0.7s						
BOZ	**Bozeman (W)**	**4.91**	**295**		**Pn**	**18 03 04.8**	**-0.2**
BOZ				IAML		18 04 26.9	
	comp=N,15nm,0.9s						
BOZ				IAML		18 04 31.9	
	comp=N,18nm,1.0s						
HWUT	**Hardware Ranch**	**5.11**	**248**	Pn	**Pn**	**18 03 08.2**	**+0.4**
HWUT				IAML		18 04 28.6	
	comp=N,23nm,1.1s						
HWUT				IAML		18 04 33.2	
	comp=N,22nm,1.2s						
KSCO	**Kaye Shedlock'**	**5.12**	**156**		**Pn**	**18 03 07.5**	**-0.4**
EGMT	**Eagleton**	**5.31**	**325**		**Pn**	**18 03 11.0**	**+0.5**
DLMT	**Dillon**	**5.49**	**290**		**Pn**	**18 03 12.9**	**-0.1**
HRY	**Holter Researc**	**5.51**	**305**		**Pn**	**18 03 13.1**	**-0.2**
LRM	**Limekiln Ridge**	**5.53**	**295**		**Pn**	**18 03 13.3**	**-0.2**
PV22	**Blue Mesa, Par**	**5.83**	**208**		**Pn**	**18 03 19.7**	**+2.0**
PV07	**Paradox Valley**	**5.88**	**207**		**Pn**	**18 03 20.2**	**+1.9**
PV15	**Paradox Valley**	**5.91**	**205**		**Pn**	**18 03 19.6**	**+0.8**
P17A	**Butcher Ranch,**	**5.91**	**226**		**Pn**	**18 03 19.5**	**+0.7**
PV04	**Paradox Valley**	**6.00**	**209**		**Pn**	**18 03 19.5**	**-0.5**
PV12	**Saucer Basin,**	**6.04**	**208**		**Pn**	**18 03 21.7**	**+1.1**
PV14	**Lion Creek, Pa**	**6.06**	**209**		**Pn**	**18 03 21.6**	**+0.7**
PV20	**West Nyswonger**	**6.07**	**209**		**Pn**	**18 03 21.8**	**+0.8**
PV11	**David Mesa, Pa**	**6.08**	**208**		**Pn**	**18 03 21.5**	**+0.4**
SRU	**San Rafael Swe**	**6.08**	**222**		**Pn**	**18 03 20.8**	**-0.3**
PV16	**Nyswonger Mesa**	**6.08**	**208**		**Pn**	**18 03 20.7**	**-0.4**
PV03	**Paradox Valley**	**6.11**	**208**		**Pn**	**18 03 21.4**	**-0.1**
PV02	**Paradox Valley**	**6.11**	**207**	Pn	**Pn**	**18 03 23.2**	**+1.6**
PV17	**East Wray Mesa**	**6.12**	**208**		**Pn**	**18 03 22.2**	**+0.5**
PV01	**Paradox Valley**	**6.13**	**205**		**Pn**	**18 03 22.6**	**+0.7**
PV18	**Skein Mesa, Pa**	**6.14**	**208**		**Pn**	**18 03 23.0**	**+1.0**
PV13	**Radium Mtn., P**	**6.18**	**207**		**Pn**	**18 03 23.4**	**+0.8**
ECSD	**EROS Data Cent**	**6.27**	**87**	Pn	**Pn**	**18 03 24.7**	**+1.2**
TMUT	**Trail Mountain**	**6.29**	**227**		**Pn**	**18 03 24.2**	**+0.1**
DUG	**Dugway, Tooele**	**6.64**	**240**	Pn	**Pn**	**18 03 29.6**	**+0.7**
MSU	**Marysvale**	**7.38**	**227**	Pn	**Pn**	**18 03 40.2**	**+1.2**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**

GCPR	Guaynabo City	1.28 208	⇓eP	Pn	18 08 29.8	-0.5
GCPR	Guaynabo City	1.28 208		Pn	18 08 29.8	-0.5
TBVI	Tortola	1.30 142	⇑eP	Pg	18 08 31.6	-0.6
TBVI	Tortola	1.30 142	eS	Sg	18 08 49.0	-0.1
TBVI	Tortola	1.30 142		Pg	18 08 31.6	-0.6
TBVI				Sg	18 08 49.0	-0.1
MTP	Monte Pirata	1.35 184	⇑eP	Pb	18 08 31.7	-0.3
MTP	Monte Pirata	1.35 184	eS	Sg	18 08 49.8	-0.9
MTP	Monte Pirata	1.35 184		Pb	18 08 31.7	-0.3
MTP				Sg	18 08 49.8	-0.9
MTP	Monte Pirata	1.35 184	IAML		18 08 54.5	
	comp=E,213nm,0.3s					
MTP			IAML		18 09 00.8	
	comp=N,131nm,0.4s					
VGBI	Virgin Gorda,	1.38 133	⇑eP	Pb	18 08 32.6	+0.1
VGBI	Virgin Gorda,	1.38 133	eS	Sg	18 08 51.6	-0.1
VGBI	Virgin Gorda,	1.38 133		Pb	18 08 32.6	+0.1
VGBI				Sg	18 08 51.6	-0.1
EMPR	Esperanza - Ma	1.40 226	⇑eP	Pb	18 08 33.2	+0.4
EMPR	Esperanza - Ma	1.40 226	eS	Sg	18 08 51.6	-0.7
EMPR	Esperanza - Ma	1.40 226		Pb	18 08 33.2	+0.4
EMPR				Sg	18 08 51.6	-0.7
EMPR	Esperanza - Ma	1.40 226	IAML		18 09 00.5	
	comp=E,266nm,0.8s					
EMPR			IAML		18 09 01.3	
	comp=N,211nm,0.5s					
SJG	San Juan	1.48 206		Pn	18 08 32.9	-0.2
SJG			IAML		18 08 58.9	
	comp=N,102nm,0.5s					
SJG			IAML		18 09 02.9	
	comp=N,109nm,0.6s					
PDPR	Patillas Dam,	1.52 201		Pn	18 08 33.5	-0.1
PDPR			IAML		18 08 55.7	
	comp=E,122nm,0.6s					
IGPR	InterUniversit	1.60 203	⇑eP	Pn	18 08 34.7	0.0
IGPR	InterUniversit	1.60 203	eS	Sn	18 08 55.2	+0.2
AOPR	Arecibo Observ	1.65 228	⇑eP	Pn	18 08 35.5	+0.2
AOPR	Arecibo Observ	1.65 228	eS	Sn	18 08 56.4	+0.2
AOPR	Arecibo Observ	1.65 228		Pn	18 08 35.2	-0.2
AOPR	Arecibo Observ	1.65 228		Sn	18 08 56.4	+0.2
CELP	Cerrillos	1.73 218	⇑eP	Pn	18 08 36.9	+0.4
CELP	Cerrillos	1.73 218	eS	Sn	18 08 58.5	+0.2
CELP	Cerrillos	1.73 218		Pn	18 08 36.9	+0.4
CELP				Sn	18 08 58.5	+0.2
OBIP	Obispado Ponce	1.77 218		Pn	18 08 37.4	+0.4
OBIP			IAML		18 09 12.4	
	comp=E,79nm,1.3s					
CDVI	St. Croix	1.81 159	Pn	Pb	18 08 40.2	+0.3
AGPR	Aguadilla, PR	1.84 238	⇑eP	Pn	18 08 38.7	+0.6
AGPR	Aguadilla, PR	1.84 238	eS	Sn	18 09 01.8	+0.7
AGPR	Aguadilla, PR	1.84 238		Pn	18 08 38.7	+0.6
AGPR				Sn	18 09 01.8	+0.7
AGPR	Aguadilla, PR	1.84 238	IAML		18 09 06.3	
	comp=E,82nm,1.0s					
AGPR			IAML		18 09 06.5	
	comp=N,70nm,0.8s					
ICMP	Isla Caja de M	1.86 213	Pn	Pn	18 08 38.9	+0.7
ICMP			IAML		18 09 13.1	
	comp=E,100nm,0.5s					
ICMP			IAML		18 09 35.7	
	comp=N,93nm,1.1s					
LSP	Las Mesas	2.00 231	⇑eP	Pn	18 08 40.6	+0.4
LSP	Las Mesas	2.00 231	eS	Sn	18 09 05.0	+0.1
LSP	Las Mesas	2.00 231		Pn	18 08 40.6	+0.4
LSP				Sn	18 09 05.0	+0.1
MLPR	Magueyes Islan	2.10 226	⇑eP	Pn	18 08 41.1	-0.5
MLPR	Magueyes Islan	2.10 226	eS	Sn	18 09 07.0	-0.4
MLPR	Magueyes Islan	2.10 226		Pn	18 08 41.1	-0.5
MLPR				Sn	18 09 07.0	-0.4
IDE	Isla Desecheo	2.18 241	⇓eP	Pn	18 08 42.9	+0.2
IDE	Isla Desecheo	2.18 241	eS	Sn	18 09 09.6	+0.2
IDE	Isla Desecheo	2.18 241		Pn	18 08 42.9	+0.2
IDE				Sn	18 09 09.6	+0.2
SDDR	Presa de Saban	5.53 266		Pn	18 09 28.4	-0.3

NEIC ***19*** *18:14:55.1±2.8, 4°.0S±0°.1×137°.9E±0°.1, h9km±10km, mb4.3/7, Error ellipse: s-maj=16.9km s-min=12.6km az=134.0*

IDC ***19*** *18:15:06.1±1.3, 4°.30S×137°.04E, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, ML3.8/3, Error ellipse: s-maj=45.6km s-min=21.6km az=58.0*

ISC 19 18:14:55.2±0.9, 4°.11S±0°.09×137°.89E±0°.08, h10km, n19, σ3§59/17, mb4.0/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	5.75	282	Pn	Pn	18 16 23.7	+3.0
SIJI	Sorong	7.36	296	Pn	Pn	18 16 46.2	+3.5
	0.9nm,0.3s,baz=114,slow=19,SNR=4.4						
SIJI				Sn	Sn	18 18 01.8	-4.6
	1.3nm,0.3s,baz=246,slow=21,SNR=1.6						
MANU	Manus Island	9.69	78	Pn	Pn	18 17 14.2	-0.5
MTN	Manton Dam	10.95	217	Pn	Pn	18 17 32.4	+0.3
KNRA	Kununurra	14.58	217	Pn	Pn	18 18 21.5	-0.2
SOEI	Soe	14.63	247	Pn	Pn	18 18 21.5	-1.1
WB0	Warramunga Arr	15.93	192	Pn	Pn	18 18 41.8	+2.2
WB0				IAmb	IAmb	18 18 59.8	
	comp=Z,12nm,1.1s						
WR0	Warramunga Arr	16.09	191		P	18 18 44.6	-0.5
WR0				IAmb	IAmb	18 19 02.2	
	comp=Z,10nm,0.6s						
WB2	Warramunga Arr	16.11	192	Pn	Pn	18 18 42.9	+0.9
WB2				IAmb	IAmb	18 19 02.3	
	comp=Z,18nm,1.1s						
WRA	Warramunga Arr	16.11	192	Pn	Pn	18 18 43.8	+1.8
	comp=Z,0.5nm,0.3s,baz=8.4,slow=13,SNR=13						
WRA				Sn	Sn	18 21 28.3	-13
	comp=Z,0.7nm,0.3s,baz=14,slow=22,SNR=5.8						
WRA				Lg	Lg	18 23 17.4	
	comp=Z,0.4nm,0.3s,baz=359,slow=30,SNR=3.8						
WRA	Warramunga Arr	16.11	192	Pn	Pn	18 18 43.1	+1.1
CTA	Charters Tower	17.85	154	P	P	18 19 19.8	+15
	comp=Z,0.2nm,0.3s,baz=328,slow=12,SNR=1.8						
CTA				Lg	Lg	18 24 42.1	
	comp=Z,0.1nm,0.3s,baz=228,slow=20,SNR=3.2						
GUMO	Guam	18.90	21	P	P	18 19 13.4	-2.7
GUMO				IAmb	IAmb	18 19 24.1	
	comp=Z,38nm,0.9s						
ASAR	Alice Springs	19.82	191	P	Pn	18 19 34.1	+6.4
	comp=Z,0.6nm,0.3s,baz=13,slow=11,SNR=42						
ASAR				S	S	18 23 01.1	-8.5
	comp=Z,0.2nm,0.3s,baz=4.0,slow=28,SNR=4.5						
ASAR				Lg	Lg	18 25 13.6	
	comp=Z,0.1nm,0.3s,baz=9.1,slow=31,SNR=2.0						
EIDS	Eidsvold	24.65	150	P	P	18 20 18.6	+2.5
EIDS				IAmb	IAmb	18 20 35.3	
	comp=Z,18nm,1.2s						
ARMA	Armidale	29.21	155	P	P	18 20 57.0	-0.3
CMAR	Chiang Mai Arr	44.44	302	P	P	18 23 14.5	+7.7
	comp=Z,0.6nm,0.8s,baz=123,slow=6.6,SNR=3.9						
MKAR	Makanchi Array	70.40	323	P	P	18 26 20.2	+11
	comp=Z,0.9nm,0.5s,baz=119,slow=6.9,SNR=16						
ILAR	Eielson Array	87.44	25	P	P	18 27 56.9	+14
	comp=Z,0.3nm,0.5s,baz=262,slow=4.3,SNR=1.3						

IDC ***19*** *18:46:13.0±5.2, 44°.54N×129°.27W, h0km, mb3.3/1, mb1 3.6/7, mb1mx3.4/41, mbtmp3.3/7, ML3.2/5, MS3.2/16, Ms1 3.2/16, ms1mx3.2/23, Error ellipse: s-maj=62.4km s-min=37.3km az=88.0*

NEIC ***19*** *18:46:17.9±2.1, 44°.56N±0°.03×128°.9W±0°.2, h10km±2km, mb3.8/17, Error ellipse: s-maj=21.6km s-min=3.0km az=256.0*

ISC 19 18:46:13.4±3.3, 44°.6N±0°.1×129°.4W±0°.3, h13km, n75, σ1§29/64, MS3.2/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.04	113	Pn	Pn	18 47 11.1	-3.9
COR	Corvallis	4.36	87	Pn	Pn	18 47 18.0	-1.3
E03A	Lebam	4.56	62	Pn	Pn	18 47 20.9	-1.2
BUCK	Buck Mountain	4.62	92	Pn	Pn	18 47 21.0	-2.0
NLWA	Neilton Lookou	4.79	52	Pn	Pn	18 47 23.4	-1.9
KRMB	Red Mountain	5.04	125	Pn	Pn	18 47 29.7	+0.9
HUMO	Hull Mountain	5.07	110	Pn	Pn	18 47 27.4	-1.7
H04A	Detroit Lake	5.16	86	Pn	Pn	18 47 29.4	-1.0
YBH	Yreka Blue Hor	5.65	118	Pn	Pn	18 47 37.9	+0.7
	0.1nm,0.3s,baz=264,slow=18,SNR=5.8						
YBH				Sn	Sn	18 48 42.1	+0.2
	0.3nm,0.3s,baz=35,slow=17,SNR=1.9						
YBH				LR	LR	18 49 26.9	
	comp=Z,96nm,20.9s,baz=325,slow=35						
LON	Longmire	5.76	65		Pn	18 47 38.8	+0.1
PGC	Sidney	5.80	43	Pn	Pn	18 47 38.4	-0.7
D05A	Enumclaw	5.81	60	Pn	Pn	18 47 40.5	+1.2
PINE	Pine Mountain	6.14	94	Pn	Pn	18 47 43.2	-0.7
LTY	Liberty	6.67	63		Pn	18 47 49.2	-1.9
A05A	Maple Falls	6.71	46	Pn	Pn	18 47 52.1	+0.5
B06A	Marblemount	6.75	51		Pn	18 47 52.5	+0.3
I07A	Izee	7.12	90	Pn	Pn	18 47 55.9	-1.5
HAWA	Hanford	7.18	72	Pn	Pn	18 47 59.2	+1.1
G08A	Pilot Rock	7.45	81	Pn	Pn	18 47 59.5	-2.4
J08A	Circle Bar Ran	7.98	95	Pn	Pn	18 48 09.3	+0.1
PAHR	Pah Rah Range	8.88	120	Pn	Pn	18 48 21.5	-0.1
NEW	Newport	9.26	62	Pn	Pn	18 48 28.3	+1.6
	0.1nm,0.3s,baz=252,slow=19,SNR=3.0						
NEW				LR	LR	18 51 58.4	
	comp=Z,312nm,20.4s,baz=256,slow=38						
NVAR	Mina Array Bea	10.33	122	Pn	Pn	18 48 44.2	+2.8
	baz=302,slow=17,SNR=4.9						
NVAR				LR	LR	18 52 22.8	
	comp=Z,80nm,20.1s,baz=304,slow=36						
JTMT	Jette	10.97	68	Pn	Pn	18 48 50.9	+0.8
MSO	Missoula	11.06	73	Pn	Pn	18 48 48.9	-2.4
ELK	Elko	11.11	105	Pn	Pn	18 48 53.5	+1.4
	0.0nm,0.3s,baz=293,slow=11,SNR=6.0						
ELK				LR	LR	18 53 00.4	
	comp=Z,85nm,20.0s,baz=290,slow=37						
ELK	Elko	11.11	105	Pn	Pn	18 48 51.9	-0.2
MCMT	McKenzie Canyo	11.79	83		Pn	18 49 01.5	0.0
R11A	Troy Canyon, C	12.07	116		Pn	18 49 06.2	+0.9
TPNV	Topopah Spring	12.53	123	Pn	Pn	18 49 11.9	+0.5
PSUT	Pine Spring	13.10	112		Pn	18 49 18.9	-0.5
YHH	Holmes Hill	13.21	82		Pn	18 49 21.8	+0.9
TPAW	Teton Pass	13.33	88		Pn	18 49 22.5	+0.1
HWUT	Hardware Ranch	13.37	96	Pn	Pn	18 49 23.2	+0.2
REDW	Red Top Meadow	13.42	89		Pn	18 49 24.0	+0.2
DLBC	Dease Lake	13.91	359	LR	LR	18 54 16.9	
	comp=Z,166nm,18.9s,baz=160,slow=35						
CCUT	Cedar City	13.97	115	Pn	Pn	18 49 31.0	-0.3
MSU	Marysvale	14.24	109		Pn	18 49 35.8	+0.9
LCMT	Little Creek M	14.36	116		Pn	18 49 36.4	-0.2
PDAR	Pinedale Array	14.48	90	Pn	Pn	18 49 42.6	+4.5
	0.1nm,0.3s,baz=278,slow=9.0,SNR=4.3						
PDAR				LR	LR	18 55 22.0	
	comp=Z,209nm,18.6s,baz=282,slow=38						
KNB	Kanab	14.63	115		Pn	18 49 40.3	+0.1
P17A	Butcher Ranch,	14.77	104	Pn	Pn	18 49 42.7	+0.7
PFO	Pinyon Flats O	14.83	133	LR	LR	18 54 34.4	
	comp=Z,104nm,20.6s,baz=334,slow=34						
SRU	San Rafael Swe	15.08	105	Pn	Pn	18 49 46.3	+0.1
RDMU	Red Mountain	15.14	98	Pn	Pn	18 49 47.0	-0.2
U15A	North Rim	15.32	116	Pn	Pn	18 49 49.5	-0.1
O20A	White River Ci	16.25	98	Pn	Pn	18 50 01.1	-0.4
O20A				IAmb	IAmb	18 50 08.7	
	comp=Z,11nm,1.2s						
PV10	Paradox Valley	16.45	105	Pn	Pn	18 50 04.0	-0.2
PV10				IAmb	IAmb	18 50 20.9	
	comp=Z,6.1nm,0.9s						
PV14	Lion Creek, Pa	16.46	105	Pn	Pn	18 50 03.6	-0.7
PV14				IAmb	IAmb	18 50 09.8	
	comp=Z,9.2nm,1.3s						
PV04	Paradox Valley	16.53	105	Pn	Pn	18 50 04.2	-1.0
PV04				IAmb	IAmb	18 50 10.9	
	comp=Z,12nm,1.3s						
PV17	East Wray Mesa	16.55	105	Pn	Pn	18 50 04.6	-0.7
PV17				IAmb	IAmb	18 50 26.8	
	comp=Z,7.9nm,1.2s						
PV16	Nyswonger Mesa	16.56	105	P	Pn	18 50 08.0	+2.4
PV11	David Mesa, Pa	16.60	105	P	Pn	18 50 08.1	+2.1
PV18	Skein Mesa, Pa	16.60	105	P	Pn	18 50 07.9	+1.9
PV18				IAmb	IAmb	18 50 25.1	
	comp=Z,9.7nm,1.4s						
PV07	Paradox Valley	16.69	104	Pn	Pn	18 50 07.1	0.0
PV07				IAmb	IAmb	18 50 10.6	
	comp=Z,15nm,1.5s						
PV13	Radium Mtn., P	16.70	105	Pn	Pn	18 50 07.6	+0.3
PV02	Paradox Valley	16.74	105	Pn	Pn	18 50 08.7	+0.9
PV15	Paradox Valley	16.85	104	P	Pn	18 50 11.2	+2.0
PV15				IAmb	IAmb	18 50 17.4	
	comp=Z,9.5nm,1.4s						
PV01	Paradox Valley	16.89	105	P	Pn	18 50 11.4	+1.7
MVCO	Mesa Verde	17.40	108	P	P	18 50 18.4	+1.1
MVCO				IAmb	IAmb	18 50 27.3	
	comp=Z,10nm,1.2s						
SDCO	Great Sand Dun	19.20	102	P	P	18 50 36.4	-0.8
KDAK	Kodiak Island	19.53	321	LR	LR	18 55 57.4	
	comp=Z,110nm,21.9s,baz=147,slow=30						
YKA	Yellowknife Ar	19.92	20	LR	LR	18 57 24.8	
	comp=Z,43nm,21.1s,baz=0.0,slow=34						
ANMO	Albuquerque	20.03	111	P	P	18 50 46.1	-0.1
	comp=Z,0.0nm,0.3s,baz=297,slow=8.1,SNR=1.8						
T25A	Trinidad	20.26	103	P	P	18 50 48.4	-0.3
BNM	Barren Site	20.39	113	P	P	18 50 49.4	-0.7
RSO	Redoubt South	21.16	327	P	P	18 51 04.5	+6.2
ILAR	Eielson Array	22.49	340	LR	LR	18 58 25.3	
	comp=Z,89nm,21.1s,baz=161,slow=32						
ULM	Lac du Bonnet	23.27	64	LR	LR	19 00 14.8	
	comp=Z,107nm,20.4s,baz=262,slow=36						
INK	Inuvik	23.91	356	LR	LR	19 00 19.5	
	comp=Z,63nm,19.6s,baz=118,slow=35						
WMOK	Wichita Mounta	25.41	102	P	P	18 51 39.4	-1.2
TXAR	Lajitas Array	25.43	118	P	P	18 51 41.5	+0.6
	comp=Z,0.7nm,1.0s,baz=321,slow=7.0,SNR=6.8						
TXAR				LR	LR	19 00 51.2	
	comp=Z,26nm,20.4s,baz=0.0,slow=35						
LPIG	La Paz	25.67	136	LR	LR	19 00 24.7	
	comp=Z,45nm,19.2s,baz=254,slow=33						
SCHQ	Schefferville	40.47	52	LR	LR	19 10 26.8	
	comp=Z,106nm,21.1s,baz=228,slow=36						
ARCES	ARCESS Array B	64.74	9	LR	LR	19 26 28.5	
	comp=Z,19nm,18.2s,baz=250,slow=37						

IDC ***19*** *19:05:54.7±0.5, 12°.49N×142°.78E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/43, mbtmp4.2/17, ML4.4/1, MS3.6/14, Ms1 3.6/14, ms1mx3.5/26, Error ellipse: s-maj=18.5km s-min=12.3km az=79.0*

BJI ***19*** *19:05:58.0±0.0, 12°.21N×143°.06E, h60km, mB5.0/30, mb4.7/47, Ms4.4/11, Ms7 4.1/11*

NEIC ***19*** *19:05:59.5±2.5, 12°.46N±0°.09×142°.83E±0°.09, h38km±6km, mb4.7/34, Error ellipse: s-maj=13.6km s-min=12.3km az=171.0*

ISC 19 19:05:58.3±0.4, 12°.42N±0°.06×142°.84E±0°.07, h28km, n84, σ1§54/95, mb4.6/43, MS3.8/16, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.29	59	Pn	Pn	19 06 35.5	+1.1
	95nm,0.3s,baz=183,slow=1.9,SNR=51						
GUMO				Sn	Sn	19 07 03.7	+2.0
	36nm,0.3s,baz=61,slow=22,SNR=7.7						
GUMO				LR	LR	19 07 30.4	
	comp=Z,812nm,18.3s,baz=248,slow=41						
PATS	Pohnpei	16.22	109	Pn	Pn	19 09 43.6	-0.9
PATS				IAmb	IAmb	19 09 58.2	
	comp=Z,87nm,1.5s						
PMG	Port Moresby	22.10	169	P	P	19 10 52.3	+0.8
	comp=Z,6.7nm,0.6s,baz=351,slow=17,SNR=1.9						
PMG	Port Moresby	22.10	169	P	P	19 10 48.0	-3.6
JNU	Nakatsue	23.34	334	P	P	19 11 06.3	+1.8
	comp=Z,12nm,0.8s,baz=62,slow=3.2,SNR=4.8						
JNU	Nakatsue	23.34	334	P	P	19 11 02.2	-2.2
JNU				IAmb	IAmb	19 11 21.3	
	comp=Z,25nm,1.1s						
INU	Inuyama	23.43	348	P	P	19 11 01.7	-3.6
SSLB	Suanglung	23.64	302	P	P	19 11 07.9	+0.4
SSLB				IAmb	IAmb	19 11 09.8	
	comp=Z,34nm,0.9s						
JWT	Wachi	23.74	345	P	P	19 11 08.2	-0.1
JWT				IAmb	IAmb	19 11 10.3	
	comp=Z,27nm,1.4s						
WAKE	Wake Island	23.88	70	P	P	19 11 08.8	-1.0
JHS	Saijyo	24.15	340	P	P	19 11 09.6	-2.6
JHS				IAmb	IAmb	19 11 14.0	
	comp=Z,38nm,1.4s						
MJAR	Matsushiro Arr	24.38	351	P	P	19 11 13.6	-0.6
	comp=Z,4.1nm,0.6s,baz=178,slow=2.3,SNR=23						
MJAR	Matsushiro Arr	24.38	351	P	P	19 11 11.4	-2.9
MAJO	Matsushiro	24.38	351	P	P	19 11 12.9	-1.4
MAJO				IAmb	IAmb	19 11 21.0	
	comp=Z,16nm,0.8s						
MAT	Matsushiro	24.38	351	P	P	19 11 13.4	-0.9
MAT				eS	S	19 15 30.0	-2.2
MJB9	Matsu-Tunnel	24.39	351	P	P	19 11 13.2	-1.1
MJB9				IAmb	IAmb	19 11 21.0	
	comp=Z,17nm,0.8s						
JSD	Sado	25.84	352	P	P	19 11 26.3	-1.1
JSD				IAmb	IAmb	19 11 37.0	
	comp=Z,25nm,1.0s						
KSRS	Korea Array	28.29	334	P	P	19 11 49.9	+0.5
	comp=Z,2.5nm,0.8s,baz=149,slow=9.4,SNR=13						
KSRS				LR	LR	19 22 16.3	
	comp=Z,74nm,18.5s,baz=163,slow=35						
NJ2	Nanjing	29.46	315	eP	P	19 12 00.4	+0.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CTAO	Charters Tower	32.47	174	P	P	19 12 26.0	-0.6
CTAO				IAmb	IAmb	19 12 32.2	
	comp=Z,20nm,1.2s						
USA0B	Ussuriysk Arra	33.02	346	P	P	19 12 30.8	-0.3
USA0B				IAmb	IAmb	19 12 33.2	
	comp=Z,13nm,0.8s						
USRK	Ussuriysk Ar.	33.02	346	P	P	19 12 32.2	+1.1
	comp=Z,10nm,0.7s,baz=172,slow=8.8,SNR=34						
USRK	Ussuriysk Ar.	33.02	346	P	P	19 12 30.9	-0.2
WB0	Warramunga Arr	33.05	195	P	P	19 12 31.0	-0.6
WB0				IAmb	IAmb	19 12 40.8	
	comp=Z,25nm,1.4s						
WR0	Warramunga Arr	33.19	194	P	P	19 12 31.9	-1.0
WR0				IAmb	IAmb	19 12 36.6	
	comp=Z,17nm,1.4s						
WB2	Warramunga Arr	33.22	195	P	P	19 12 33.5	+0.4
WB2				IAmb	IAmb	19 12 38.5	
	comp=Z,7.9nm,0.9s						
WRA	Warramunga Arr	33.23	195	P	P	19 12 34.2	+1.0
	comp=Z,5.2nm,0.7s,baz=16,slow=9.6,SNR=29						
WRA				LR	LR	19 26 34.7	
	comp=Z,155nm,18.4s,baz=305,slow=37						
WRA	Warramunga Arr	33.23	195	P	P	19 12 33.5	+0.3
MDJ	Mudanjiang	34.04	343	P	P	19 12 42.3	+2.3
MDJ				pP	pwP	19 12 55.8	+4.2
MDJ				sP	sP	19 13 02.3	+12
MDJ				S	S	19 18 03.6	-0.2
MDJ				sS	sS	19 18 23.1	+7.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,160nm,7.7s						
MDJ				LR	LR		
	comp=Z,87nm,6.4s						
MDJ				LR	LR		
	comp=Z,140nm,9.7s						
MDJ				LR	LR		
	comp=Z,200nm,11.1s						
ENH	Enshi	35.60	305	P	P	19 12 52.2	-1.6
BJI	Beijing	36.19	324	P	P	19 12 59.3	+0.7
BJI				pP	pwP	19 13 12.9	+2.6
BJI				pmax	pmax		
	comp=Z,15nm,1.0s						
AS31	Alice Springs	36.91	194	P	P	19 13 05.8	+0.9
ASAR	Alice Springs	36.91	194	P	P	19 13 05.8	+0.9
	comp=Z,1.5nm,0.5s,baz=23,slow=11,SNR=10						
ASAR				PcP	PcP	19 15 27.4	+1.2
	comp=Z,0.9nm,0.7s,baz=24,slow=3.5,SNR=7.8						
ASAR				LR	LR	19 29 14.1	
	comp=Z,214nm,18.6s,baz=41,slow=38						
ASAR	Alice Springs	36.91	194	P	P	19 13 03.9	-1.0
ASAR					PcP	19 15 27.4	+1.2
XAN	Xi'an	37.61	311	P	P	19 13 11.1	+0.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
EIDS	Eidsvold	38.41	168	P	P	19 13 17.6	+0.1
EIDS				IAmb	IAmb	19 13 35.2	
	comp=Z,19nm,1.3s						
HHC	Hu-ho-hao-te	39.42	322	eP	P	19 13 26.5	+0.5
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,50nm,5.7s						
LZH	Lanzhou	42.25	311	eP	P	19 13 51.0	+1.5
LZH				pP	pwP	19 14 06.4	+4.8
LZH				sP	sP	19 14 13.3	+13
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
PETK	Petropavlovsk-	42.29	13	P	P	19 13 49.2	-0.1
	comp=Z,0.9nm,0.7s,baz=196,slow=13,SNR=2.1						
PETK				LR	LR	19 29 00.6	
	comp=Z,119nm,21.5s,baz=201,slow=33						
CMAR	Chiang Mai Arr	42.66	284	P	P	19 13 54.2	+1.3
	comp=Z,1.7nm,0.8s,baz=80,slow=5.9,SNR=9.3						
STKA	Stephens Creek	44.06	182	P	P	19 14 04.4	+0.5
	comp=Z,3.3nm,0.7s,baz=351,slow=10,SNR=5.2						
STKA				LR	LR	19 36 22.6	
	comp=Z,70nm,18.3s,baz=27,slow=41						
STKA	Stephens Creek	44.06	182	P	P	19 14 02.7	-1.1
GTA	Gaotai	46.50	313	⇓P	P	19 14 24.3	+0.8
GTA				pP	pwP	19 14 37.6	+2.0
GTA				sP	sP	19 14 42.9	+9.1
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,38nm,5.1s						
GTA				LR	LR		
	comp=Z,52nm,18.2s						
GTA				LR	LR		
	comp=Z,61nm,17.8s						
GTA				LR	LR		
	comp=Z,83nm,17.8s						
SONM	Songino Array	46.58	327	P	P	19 14 24.0	0.0
	comp=Z,2.2nm,1.0s,baz=133,slow=10.0,SNR=15						
SONM				LR	LR	19 33 49.9	
	comp=Z,102nm,20.0s,baz=116,slow=36						
SONM	Songino Array	46.58	327	P	P	19 14 22.2	-1.7
MORW	Morawa	48.69	212	P	P	19 14 39.8	-0.6
YAK	Yakutsk	50.44	352	P	P	19 14 51.8	-1.4
NWAO	Narrogin (S

MNK			*i* P	**P**	**19 19 12.4**	**-0.6**
	comp=N,7.0nm,0.7s					
MNK			*i* P	**P**	**19 19 12.4**	**-0.6**
	comp=Z,7.0nm,0.7s,baz=242					
MNK			*i* pP	**pwP**	**19 19 29.4**	**+3.9**
MNK			*i* PP	**PP**	**19 22 57.7**	**-0.5**
MNK			*i* PPP	PPP	19 24 58.4	
MNK			*i* S	**SKSac**	**19 29 45.9**	**0.0**
MNK			*i* sS	**SKKSac**	**19 30 11.7**	**+5.6**
MNK			*i* PS	**PS**	**19 31 38.5**	**+0.5**
MNK			*i* SS	**SS**	**19 36 36.6**	**-2.5**
MNK			*i* SSS	SSS	19 40 17.7	
MNK			*i* LQ	LQ	19 55 37.9	
MNK			*i* LR	LR	19 58 48.6	
MNK			*i* LRM	MLR	20 01 13.7	
	comp=Z,176nm,22.9s					
MNK			*i* LRM	MLR	20 01 48.0	
	comp=N,284nm,21.0s					
MNK			*i* LRM	MLR	20 01 54.4	
	comp=E,11nm,22.2s					
PDAR	**Pinedale Array**	**94.19 45**	LR	LR	19 58 33.7	
	comp=E,19nm,18.5s,baz=353,slow=34					
NOA	**NORSAR Array B**	**97.42 338**	LR	LR	20 07 18.4	
	comp=E,14nm,19.0s,baz=70,slow=38					
TORD	**Torodi Ar. Bea**	**133.85 302**	PKP	**PKiKP**	**19 25 14.6**	**-0.5**
	comp=E,0.5nm,0.7s,baz=29,slow=3.4,SNR=2.1					
LVC	**Limon Verde**	**148.13 113**	PKPbc	**PKiKP**	**19 25 44.1**	**-0.5**
	comp=E,10nm,0.7s,baz=240,slow=4.0,SNR=8.7					
LVC	**Limon Verde**	**148.13 113**	PKPab	**PKiKP**	**19 25 44.5**	**-0.1**
LPAZ	**La Paz**	**149.76 101**	PKP	**PKPdf**	**19 25 43.9**	**+1.3**
	comp=E,5.7nm,1.0s,baz=315,slow=4.3,SNR=4.9					
LPAZ			PKPbc	**PKiKP**	**19 25 48.0**	**-0.4**
	comp=E,15nm,0.7s,baz=287,slow=2.2,SNR=10					
LPAZ	**La Paz**	**149.76 101**		**PKiKP**	**19 25 49.1**	**+0.7**
CPUP	**Villa Florida**	**156.52 129**	PKPab	**PKPab**	**19 26 21.2**	**+1.0**
	comp=E,3.7nm,0.8s,baz=218,slow=5.6,SNR=4.2					
SIV	**San Ignacio**	**156.55 102**	PKP	**PKPdf**	**19 25 52.4**	**+0.6**
	comp=E,1.2nm,0.7s,baz=258,slow=3.2,SNR=6.4					
SIV			PKPab	**PKPab**	**19 26 22.3**	**+1.7**
	comp=E,0.9nm,0.7s,baz=251,slow=7.8,SNR=2.5					
BDFB	**Brasilia**	**168.99 108**	PKP	**PKPdf**	**19 26 04.7**	**+0.7**
	comp=E,2.5nm,0.8s,baz=186,slow=18,SNR=1.9					

LDG ***19*** *19:18:03.2±0.2, 51°.62N×16°.30E, h1km, Ml4.1/20, Error ellipse: s-maj=5.6km s-min=3.3km az=5.0, Suspected Mining induced.*
MOS ***19*** *19:18:04.2±0.9, 51°.63N×16°.10E, h14km, mb4.2/2, Error ellipse: s-maj=5.9km s-min=3.4km az=88.0*
IPEC ***19*** *19:18:04.4±0.3, 51°.58N×16°.22E, h0km±1km, ML3.8/3, Error ellipse: s-maj=2.1km s-min=1.5km az=36.0*
IDC ***19*** *19:18:05.9±0.5, 51°.51N×16°.04E, h0km, mb3.7/6, mb1 3.7/14, mb1mx3.5/44, mbtmp3.7/14, ML3.3/8, MS2.9/3, Ms1 2.9/3, ms1mx2.4/57, Error ellipse: s-maj=9.6km s-min=5.5km az=112.0*
DNK ***19*** *19:18:05.9±2.7, 51°.68N×16°.11E, h0km±60km, ML2.8*
NEIC ***19*** *19:18:05.3±2.2, 51°.62N±0°.06×16°.05E±0°.10, h11km±7km, Error ellipse: s-maj=10.5km s-min=7.0km az=134.0*
PRU ***19*** *19:18:06.9±0.0, 51°.47N×16°.06E, h0km, M4.0, Felt In Harrachov, Pencin*
BGR ***19*** *19:18:06.1±0.3, 51°.49N×16°.09E, h1km, ML3.9/13, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
UPP ***19*** *19:18:08.9±2.9, 51°.79N×15°.47E, h0km, ML2.7, Suspected explosion*

ISC 19 19:18:03.6±0.4, 51°.57N±0°.02×16°.06E±0°.02, h0km, n289, σ1.9 67/429, mb3.8/7, 10C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg	**Pb**	**19 18 18.9**	**-0.6**
KSP				*e*Sg	**Sg**	**19 18 28.0**	**+0.4**
KSP	**Ksiaz**	**0.75**	**169**	P	**Pb**	**19 18 18.8**	**-0.6**
KSP				S	**Sg**	**19 18 28.0**	**+0.4**
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg	**Pb**	**19 18 18.9**	**-0.6**
KSP				*e*Sg	**Sg**	**19 18 28.1**	**+0.5**
CHVC	**Chvalec**	**0.99**	**180**	*e*PG	**Pb**	**19 18 23.5**	**-0.1**
CHVC				*e*SG	**Sg**	**19 18 35.2**	**-0.1**
	comp=Z,1μm,0.7s						
OSTC	**Ostas**	**1.02**	**175**	*e*PG	**Pb**	**19 18 24.1**	**-0.1**
OSTC				*e*SG	**Sg**	**19 18 36.8**	**+0.4**
	comp=Z,1μm,0.4s						
UPC	**Upice**	**1.07**	**182**	*e*P	**Pb**	**19 18 25.1**	**+0.1**
UPC				*e*		19 18 38.0	
UPC				smax	smax		
	comp=N,2μm,0.8s						
UPC	**Upice**	**1.07**	**182**	*e*PG	**Pb**	**19 18 25.1**	**+0.1**
UPC				*e*SG	**Sg**	**19 18 38.0**	**+0.1**
	comp=N,2μm,0.8s						
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*P	**Pb**	**19 18 27.9**	**+0.1**
DPC				*e*		19 18 42.7	
DPC				smax	smax		
	comp=N,789nm,0.5s						
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*PG	**Pb**	**19 18 27.9**	**+0.1**
DPC				*e*SG	**Sg**	**19 18 42.7**	**-0.6**
	comp=N,788nm,0.5s						
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*Pg	**Pb**	**19 18 27.8**	**-0.1**
DPC				*e*Sg	**Sg**	**19 18 43.3**	**0.0**
PVCC	**Panska Ves**	**1.41**	**223**	*e*P	**Pb**	**19 18 31.7**	**+0.9**
PVCC				*e*		19 18 50.2	
PVCC				smax	smax		
	comp=N,2μm,0.6s						
PVCC	**Panska Ves**	**1.41**	**223**	*e*PG	**Pb**	**19 18 31.7**	**+0.9**
PVCC				*e*SG	**Sn**	**19 18 50.2**	**+0.4**
	comp=N,2μm,0.6s						
BRG	**Berggiesshubel**	**1.51**	**243**	P	**Pg**	**19 18 32.7**	**+0.2**
BRG	**Berggiesshubel**	**1.51**	**243**	Pn	**Pn**	**19 18 32.1**	**+0.3**
BRG				Pg	**Pg**	**19 18 34.0**	**+1.6**
BRG				Sg	**Sn**	**19 18 54.0**	**+1.7**
BRG				Amp		19 18 54.5	
	comp=Z,734nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	*e*Pn	**Pb**	**19 18 32.3**	**-0.1**
BRG				*e*Pg	**Pg**	**19 18 33.6**	**+1.1**
BRG				*e*Sg	**Sn**	**19 18 53.9**	**+1.7**
KRLC	**Kraliky**	**1.57**	**163**	*e*P	**Pb**	**19 18 33.6**	**+0.1**
KRLC				*e*		19 18 53.9	
KRLC				smax	smax		
	comp=N,473nm,0.5s						
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pb**	**19 18 33.6**	**+0.1**
KRLC				*e*SG	**Sn**	**19 18 53.9**	**+0.1**
	comp=N,473nm,0.5s						
FBE	**Freiberg**	**1.82**	**250**	*e*Pn	**Pn**	**19 18 37.1**	**+0.9**
FBE				*e*Pg	**Pg**	**19 18 39.4**	**+0.9**
FBE				*e*Sg	**Sg**	**19 19 03.8**	**+1.7**
PRA	**Prague**	**1.83**	**215**	*e*P	**Pn**	**19 18 37.2**	**+1.0**
PRA				*e*		19 19 02.5	
PRA				smax	smax		
	comp=N,429nm,0.7s						
PRA	**Prague**	**1.83**	**215**	*e*PG	**Pn**	**19 18 37.2**	**+1.0**
PRA				*e*SG	**Sg**	**19 19 02.5**	**+0.3**
	comp=N,429nm,0.7s						
GKP	**Gorka Klasztor**	**1.84**	**22**	*e*P	**Pg**	**19 18 38.8**	**-0.1**
GKP	**Gorka Klasztor**	**1.84**	**22**	P	**Pg**	**19 18 39.6**	**+0.7**
PRU	**Pruhonice**	**1.86**	**212**	*e*P	**Pb**	**19 18 37.8**	**-0.6**
PRU				*e*		19 19 03.1	
PRU				smax	smax		
	comp=N,317nm,0.5s						
PRU	**Pruhonice**	**1.86**	**212**	*e*PG	**Pb**	**19 18 37.8**	**-0.6**
PRU				*e*SG	**Sg**	**19 19 03.1**	**-0.2**
	comp=N,317nm,0.5s						
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pn**	**19 18 38.0**	**+0.3**
CLL				*e*Pg	**Pg**	**19 18 41.0**	**+0.3**
CLL				*e*		19 18 45.0	
CLL				*e*Sg	**Sg**	**19 19 07.0**	**+1.3**
	comp=Z,463nm,0.7s						
CLL	**Collm**	**1.93**	**263**	P	**Pn**	**19 18 38.5**	**+0.7**
CLL	**Collm**	**1.93**	**263**	Pn	**Pn**	**19 18 38.5**	**+0.7**
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pn**	**19 18 38.4**	**+0.7**
CLL				*e*Sg	**Sg**	**19 19 07.7**	**+2.0**
RAC	**Raciborz**	**2.01**	**137**	*e*PN	**Pn**	**19 18 39.1**	**+0.3**
RAC				*e*PG	**Pg**	**19 18 42.8**	**+0.6**
RAC				*e*SG	**Sg**	**19 19 09.5**	**+1.3**
RAC	**Raciborz**	**2.01**	**137**	*e*P	**Pn**	**19 18 39.1**	**+0.3**
RAC				*e*		19 19 09.5	
MORC	**Moravsky Berou**	**2.03**	**152**	⇓P	**Pn**	**19 18 39.5**	**+0.4**
MORC	**Moravsky Berou**	**2.03**	**152**	⇑S	**Sn**	**19 19 03.5**	**-1.7**
MORC	**Moravsky Berou**	**2.03**	**152**	P	**Pn**	**19 18 39.4**	**+0.3**
MORC	**Moravsky Berou**	**2.03**	**152**	Pn	**Pn**	**19 18 39.4**	**+0.3**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**19 18 39.3**	**+0.2**
	baz=336						
MORC				*e*Sg	**Sb**	**19 19 06.8**	**-0.4**
	comp=Z,454nm,0.6s,baz=336						
MORC	**Moravsky Berou**	**2.03**	**152**	*e*PN	**Pn**	**19 18 39.3**	**+0.2**
MORC				*e*SG	**Sb**	**19 19 06.9**	**-0.3**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**19 18 39.6**	**+0.4**
MORC				*e*Sg	**Sb**	**19 19 07.5**	**+0.3**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*P	**Pg**	**19 18 45.6**	**+0.1**
OKC				*e*		19 19 12.7	
OKC				smax	smax		
	comp=N,557nm,0.6s						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pg**	**19 18 45.6**	**+0.1**
OKC				*e*SG	**Sb**	**19 19 12.7**	**+1.1**
	comp=N,557nm,0.6s						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*Pn	**Pn**	**19 18 41.4**	**+0.2**
OKC				*e*Pg	**Pg**	**19 18 45.8**	**+0.3**
OKC				*e*Sg	**Sb**	**19 19 11.7**	**+0.1**
VRAC	**Vranov**	**2.29**	**171**	Pn	**Pn**	**19 18 43.5**	**+0.8**
	comp=N,6.5nm,0.3s,baz=338,slow=15,SNR=40						
VRAC				Lg	Lg	19 19 15.0	
	comp=N,45nm,0.3s,baz=65,slow=18,SNR=13						
VRAC	**Vranov**	**2.29**	**171**	⇑P	**Pn**	**19 18 43.2**	**+0.4**
VRAC	**Vranov**	**2.29**	**171**	P	**Pn**	**19 18 43.5**	**+0.8**
VRAC				S	**Sn**	**19 19 10.2**	**-1.4**
VRAC	**Vranov**	**2.29**	**171**	*e*Pn	**Pn**	**19 18 43.1**	**+0.4**
	baz=354						
VRAC				*e*Sg	**Sb**	**19 19 15.9**	**+1.2**
	comp=N,494nm,0.6s,baz=354						
VRAC	**Vranov**	**2.29**	**171**	*e*PN	**Pn**	**19 18 43.1**	**+0.4**
VRAC				*e*SG	**Sb**	**19 19 15.9**	**+1.2**
PBCC	**Pribram**	**2.30**	**216**	*e*PG	**Pg**	**19 18 47.6**	**-0.1**
PBCC				*e*SG	**Sg**	**19 19 17.0**	**-0.6**
TREC	**Trest**	**2.31**	**189**	*e*P	**Pn**	**19 18 44.6**	**+1.7**
TREC				*e*		19 19 16.9	
TREC				smax	smax		
	comp=N,225nm,0.4s						
TREC	**Trest**	**2.31**	**189**	*e*PN	**Pn**	**19 18 44.6**	**+1.7**
TREC				*e*PG	**Pg**	**19 18 47.3**	**-0.6**
TREC				*e*SG	**Sg**	**19 19 16.9**	**-0.9**
	comp=N,225nm,0.4s						
KRUC	**Moravsky**	**2.52**	**175**	P	**Pn**	**19 18 47.2**	**+1.4**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pn**	**19 18 46.8**	**+1.0**
	baz=358						
KRUC	**Moravsky**	**2.52**	**175**	*e*Pg	**Pb**	**19 18 50.6**	**+0.8**
	baz=358						
KRUC				*e*Sg	**Sg**	**19 19 23.4**	**-1.2**
	comp=N,457nm,0.8s,baz=358						
KRUC	**Moravsky**	**2.52**	**175**	*e*PN	**Pn**	**19 18 46.9**	**+1.1**
KRUC				*e*PG	**Pb**	**19 18 50.6**	**+0.8**
KRUC				*e*SG	**Sg**	**19 19 23.5**	**-1.2**
WERD	**Werda**	**2.63**	**246**	*e*Pn	**Pn**	**19 18 48.5**	**+1.2**
WERD				*e*Pg	**Pg**	**19 18 54.9**	**+0.9**
WERD				*e*Sg	**Sg**	**19 19 28.9**	**+0.9**
NKC	**Novy Kostel**	**2.65**	**241**	*e*P	**Pn**	**19 18 49.4**	**+1.8**
NKC				*e*		19 19 30.0	
NKC				smax	smax		
	comp=N,501nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN	**Pn**	**19 18 49.4**	**+1.8**
NKC				*e*PG	**Pg**	**19 18 54.4**	**0.0**
NKC				*e*SG	**Sg**	**19 19 30.0**	**+1.2**
	comp=N,501nm,0.4s						
OJC	**Ojcow**	**2.73**	**118**	P	**Pn**	**19 18 49.3**	**+0.7**
OJC	**Ojcow**	**2.73**	**118**	Pn	**Pn**	**19 18 49.3**	**+0.7**
OJC	**Ojcow**	**2.73**	**118**	*e*Pn	**Pn**	**19 18 47.7**	**-0.9**
OJC				*e*Pg	**Pg**	**19 18 56.3**	**+0.5**
OJC				*e*Sg	**Sg**	**19 19 31.5**	**+0.4**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*PN	**Pn**	**19 18 52.7**	**+1.5**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*P	**Pn**	**19 18 52.2**	**+0.9**
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**19 18 52.5**	**+1.2**
KHC				*e*PG	**Pg**	**19 18 58.6**	**-0.9**
KHC				*e*SN	**Sn**	**19 19 27.1**	**0.0**
KHC				*e*SG	**Sg**	**19 19 36.4**	**-0.9**
	comp=N,204nm,0.5s						
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**19 18 51.7**	**+0.4**
BEL	**Belsk**	**2.95**	**83**	P	**Pn**	**19 18 53.4**	**+1.7**
MOX	**Moxa**	**2.95**	**253**	P	**Pn**	**19 18 52.9**	**+1.1**
MOX	**Moxa**	**2.95**	**253**	*e*Pn	**Pn**	**19 18 53.0**	**+1.3**
MOX				*e*Pg	**Pg**	**19 19 01.6**	**+1.4**
MOX				*e*Sg	**Sg**	**19 19 40.0**	**+1.6**
CKRC	**Cesky Krumlov**	**2.98**	**203**	*e*PN	**Pn**	**19 18 53.4**	**+1.3**
CKRC				*e*PG	**Pb**	**19 18 59.0**	**+1.5**
CKRC				*e*SG	**Sg**	**19 19 37.9**	**-1.4**
GEC2	**GERESS Array S**	**3.12**	**210**	Pn	**Pn**	**19 18 55.1**	**+0.8**
GEC2	**GERESS Array S**	**3.12**	**210**	*e*Pn	**Pn**	**19 18 55.0**	**+0.8**
GEC2				*e*Sg	**Sg**	**19 19 42.0**	**-1.9**
GERES	**GERESS Array B**	**3.12**	**210**	Pn	**Pn**	**19 18 56.0**	**+1.8**
	comp=N,7.9nm,0.3s,baz=33,slow=12,SNR=177						
GERES				Pg	**Pg**	**19 19 02.4**	**-1.1**
	comp=N,20nm,0.3s,baz=26,slow=17,SNR=37						
GERES				Sn	**Sn**	**19 19 32.8**	**+0.5**
	comp=N,17nm,0.3s,baz=46,slow=17,SNR=6.3						
GERES				Lg	Lg	19 19 41.0	
	comp=N,36nm,0.3s,baz=30,slow=26,SNR=11						
GERES	**GERESS Array B**	**3.12**	**210**		**Pn**	**19 18 55.0**	**+0.8**
WET	**Wettzell**	**3.17**	**221**	P	**Pn**	**19 18 56.2**	**+1.4**
WET	**Wettzell**	**3.17**	**221**	*e*Pn	**Pn**	**19 18 55.9**	**+1.1**
WET				*e*Sg	**Sg**	**19 19 43.9**	**-1.7**
SMOL	**Smolenice**	**3.19**	**163**	*e*P	**Pn**	**19 18 57.6**	**+2.6**
SMOL	**Smolenice**	**3.19**	**163**	*e*PN	**Pn**	**19 18 57.6**	**+2.6**
SMOL				*e*PG	**Pg**	**19 19 05.0**	**+0.3**
SMOL				*e*SG	**Sg**	**19 19 45.3**	**-0.7**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*P	**Pn**	**19 18 57.5**	**+1.5**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*PN	**Pn**	**19 18 57.5**	**+1.5**
LANS				*e*PG	**Pg**	**19 19 06.4**	**+0.3**
LANS				*e*SG	**Sg**	**19 19 47.6**	**-0.7**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*P	**Pn**	**19 18 59.7**	**+3.2**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PN	**Pn**	**19 18 59.7**	**+3.2**
MODS				*e*PG	**Pg**	**19 19 07.6**	**+0.8**
MODS				*e*SG	**Sg**	**19 19 50.1**	**+0.6**
ZST	**Bratislava**	**3.45**	**168**	*e*P	**Pn**	**19 19 01.1**	**+2.6**
ZST	**Bratislava**	**3.45**	**168**	*e*PN	**Pn**	**19 19 01.1**	**+2.6**
ZST				*e*PG	**Pg**	**19 19 09.4**	**-0.3**
ZST				*e*SG	**Sg**	**19 19 53.5**	**-0.8**
CLZ	**Clausthal**	**3.55**	**277**	*e*Pn	**Pn**	**19 19 02.2**	**+2.2**
CLZ				*e*Sg	**Sg**	**19 19 58.9**	**+1.3**
GRB1	**Grafenberg Arr**	**3.56**	**234**	P	**Pn**	**19 19 01.9**	**+1.8**
VYHS	**Vyhne**	**3.56**	**149**	*e*P	**Pn**	**19 19 01.1**	**+1.0**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**19 19 01.1**	**+1.0**
VYHS				*e*PG	**Pg**	**19 19 13.2**	**+1.3**
VYHS				*e*SG	**Sg**	**19 19 56.9**	**-1.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*P	**Pn**	**19 19 03.1**	**+2.4**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**19 19 01.6**	**+0.8**
BSD				*e*S	**Sn**	**19 19 43.0**	**-1.1**
BSD				IAML		19 19 46.1	
	comp=Z,11nm,0.3s						
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**19 19 01.5**	**+0.8**
BSD				*e*S	**Sn**	**19 19 43.0**	**-1.1**
GRA1	**Grafenberg Arr**	**3.61**	**240**		**Pn**	**19 19 01.6**	**+0.8**
GRF	**Grafenberg Arr**	**3.61**	**240**	P	**Pn**	**19 19 01.6**	**+0.8**
GRF	**Grafenberg Arr**	**3.61**	**240**	*e*Pn	**Pn**	**19 19 02.5**	**+1.7**
GRF				*e*Sg	**Sg**	**19 20 00.1**	**+0.4**
GRFO	**Grafenberg**	**3.61**	**240**	P	**Pn**	**19 19 01.8**	**+1.0**
GRFO	**Grafenberg**	**3.61**	**240**		**Pn**	**19 19 01.8**	**+1.0**
CONA	**Conrad Observa**	**3.65**	**182**	*i* Pn	**Pn**	**19 19 02.6**	**+1.2**
	comp=Z,3.9nm,0.2s,SNR=10.0						
CONA				Pg	**Pg**	**19 19 13.7**	**+0.1**
	comp=Z,15nm,0.3s						
CONA				Sg	**Sg**	**19 20 00.0**	**-0.9**
	comp=Z,186nm,0.5s						
CONA	**Conrad Observa**	**3.65**	**182**		**Pn**	**19 19 02.6**	**+1.2**
CONA					**Pg**	**19 19 13.7**	**+0.1**
CONA					LR	19 20 00.0	
MOA	**Molln**	**3.91**	**198**	*i* Pn	**Pn**	**19 19 06.0**	**+1.1**
	comp=Z,9.2nm,0.2s,SNR=18						
MOA				Sg	**Sg**	**19 20 08.9**	**-0.2**
	comp=Z,129nm,0.4s						
MOA	**Molln**	**3.91**	**198**		**Pn**	**19 19 06.0**	**+1.1**
MOA					**Sg**	**19 20 08.9**	**-0.2**
SOP	**Sopron**	**3.91**	**175**	*e*P	**Pn**	**19 19 07.1**	**+2.2**
SOP	**Sopron**	**3.91**	**175**	P	**Pn**	**19 19 07.0**	**+2.2**
KLNR	**Kaliningrad**	**3.93**	**38**	*i* P	**Pn**	**19 19 05.8**	**+0.7**
KLNR				pmax	pmax		
	comp=Z,41nm,0.3s						
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*P	**Pn**	**19 19 06.2**	**+0.7**
STHS	**Stebnicka Huta**	**3.95**	**121**	*e*PN	**Pn**	**19 19 06.2**	**+0.7**
SRO2	**Moca**	**4.11**	**157**	*e*SG	**Sg**	**19 20 13.2**	**-2.2**
KECS	**Kecovo**	**4.21**	**136**	*e*P	**Pn**	**19 19 09.3**	**+0.3**
KECS	**Kecovo**	**4.21**	**136**	*e*PN	**Pn**	**19 19 09.2**	**+0.3**
KECS				*e*PG	**Pg**	**19 19 25.4**	**+1.2**
KECS				*e*SG	**Sg**	**19 20 16.8**	**-1.9**
BSEG	**Bad Segeberg**	**4.22**	**306**	P	**Pn**	**19 19 10.7**	**+1.7**
ARSA	**Arzberg**	**4.34**	**185**	*i* Pn	**Pn**	**19 19 12.5**	**+1.7**
	comp=Z,2.5nm,0.2s,SNR=5.4						
ARSA				Sg	**Sg**	**19 20 20.3**	**-2.7**
	comp=Z,74nm,0.6s						
ARSA	**Arzberg**	**4.34**	**185**		**Pn**	**19 19 12.6**	**+1.7**
ARSA					LR	19 20 20.3	
LUNU	**Lund**	**4.35**	**340**	*i* P	**Pn**	**19 19 11.4**	**+0.5**
LUNU				*i* S	**Sn**	**19 20 01.4**	**-0.9**
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*P	**Pn**	**19 19 13.3**	**+2.0**
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*PN	**Pn**	**19 19 13.3**	**+2.0**
CRVS				*e*PG	**Pg**	**19 19 30.1**	**+2.7**
CRVS				*e*SG	**Sg**	**19 20 24.4**	**+0.3**
PSZ	**Piszkesteto**	**4.42**	**144**	⇑P	**Pn**	**19 19 13.2**	**+1.2**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*P	**Pn**	**19 19 13.5**	**+1.5**
PSZ	**Piszkesteto**	**4.42**	**144**	P	**Pn**	**19 19 12.9**	**+0.9**
PSZ	**Piszkesteto**	**4.42**	**144**	Pn	**Pn**	**19 19 12.9**	**+0.9**
MPLH	**Magyarpolny**	**4.51**	**167**	*e*P	**Pn**	**19 19 14.5**	**+1.4**
FUR	**Furstenfeldbru**	**4.61**	**224**	P	**Pn**	**19 19 15.9**	**+1.4**
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**19 19 17.5**	**+1.2**
BLEU				*e*S	**Sn**	**19 20 09.6**	**-2.2**
BLEU				S	**Sn**	**19 20 09.7**	**-2.2**
BLEU	**Blekinge**	**4.74**	**358**	P	**Pn**	**19 19 17.5**	**+1.2**
BLEU				S	**Sn**	**19 20 09.7**	**-2.2**
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*P	**Pn**	**19 19 17.4**	**+0.5**
KOLS				*e*		19 20 11.7	
KOLS	**Kolonicke sedl**	**4.78**	**121**	*e*PN	**Pn**	**19 19 17.4**	**+0.5**
KOLS				*e*PG	**Pg**	**19 19 35.6**	**+0.4**
KOLS				*e*SN	**Sn**	**19 20 11.7**	**-1.2**
KOLS				*e*SG	**Sg**	**19 20 33.5**	**-3.6**
KBA	**Koelnbreinsper**	**4.84**	**203**	*i* Pn	**Pn**	**19 19 19.3**	**+1.5**
	comp=Z,12nm,0.4s,SNR=16						
KBA				Sg	**Sg**	**19 20 37.3**	**-1.7**
	comp=Z,36nm,0.4s						
KBA	**Koelnbreinsper**	**4.84**	**203**	P	**Pn**	**19 19 19.2**	**+1.5**
KBA	**Koelnbreinsper**	**4.84**	**203**		**Pn**	**19 19 19.3**	**+1.5**
KBA					LR	19 20 37.3	
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**19 19 17.7**	**-0.2**
BJUU				*i* P	**Pn**	**19 19 18.2**	**+0.3**
BJUU				S	**Sn**	**19 20 11.3**	**-3.3**
BJUU				*e*S	**Sn**	**19 20 12.2**	**-2.5**
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**19 19 17.7**	**-0.2**
BJUU				S	**Sn**	**19 20 11.3**	**-3.3**
SOKA	**Soboth**	**4.95**	**188**	*e*Pn	**Pn**	**19 19 20.1**	**+0.9**
	comp=Z,2.7nm,0.5s						
SOKA				Sg	**Sg**	**19 20 39.3**	**-3.1**
	comp=Z,56nm,0.7s						
SOKA	**Soboth**	**4.95**	**188**		**Pn**	**19 19 20.1**	**+0.9**
SOKA					LR	19 20 39.3	
SUW	**Suwalki**	**4.96**	**58**	*e*P	**Pn**	**19 19 21.2**	**+1.9**
UZH	**Uzhgorod**	**4.97**	**124**	*e*P	**Pn**	**19 19 21.7**	**+2.2**
UZH				*e*S	**Sn**	**19 20 19.5**	**+1.8**
TNS	**Taunus Mts**	**5.01**	**257**	P	**Pn**	**19 19 21.4**	**+1.4**
DEL	**Delary**	**5.07**	**346**	*e*	**Pn**	**19 19 21.1**	**+0.3**
	baz=171,slow=16						
DEL				P	**Pn**	**19 19 21.5**	**+0.7**
DEL				*i* P	**Pn**	**19 19 21.5**	**+0.7**
DEL				*e*S	**Sn**	**19 20 16.4**	**-3.6**
DEL				IAML		19 20 20.8	
	comp=Z,8.4nm,0.4s						
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**19 19 21.5**	**+0.7**
WATA	**Walderalm**	**5.15**	**216**	*e*Pn	**Pn**	**19 19 23.8**	**+1.7**
	comp=Z,6.0nm,0.3s,SNR=5.4						
WATA				*e*Sn	**Sn**	**19 20 21.8**	**-0.5**
	comp=Z,26nm,0.5s						
WATA	**Walderalm**	**5.15**	**216**		**Pn**	**19 19 23.8**	**+1.7**
WATA					**Sn**	**19 20 21.8**	**-0.5**
OBKA	**Obir**	**5.17**	**192**	*e*Pn	**Pn**	**19 19 24.1**	**+1.8**
	comp=Z,1.1nm,0.2s						
OBKA				Pg	**Pg**	**19 19 42.3**	**-0.3**
	comp=Z,6.7nm,0.5s						
OBKA				Sg	**Sg**	**19 20 48.8**	**-0.7**
	comp=Z,64nm,0.6s					

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DRGR                  6.47 135 ⇑P        Pn        19 19 41.0 +0.9
DRGR                  6.47 135  P        Pn        19 19 41.2 +1.1
DRGR                             S        Sn        19 20 54.4 -0.3
DRGR                             pmax     pmax
      comp=Z,7.0nm,0.6s
CDF   Champ du Feu    6.49 244 ePn        Pn        19 19 40.0 -0.4
CDF   Champ du Feu    6.49 244 ePg        Pg        19 20 07.1 -0.8
CDF                             eSn        Sn        19 20 49.1 -6.0
CDF                             eSg        Sg        19 21 30.0 -1.9
      comp=Z,101nm,0.8s
ECH   Echery          6.66 243  P         Pn        19 19 42.4 -0.3
ECH   Echery          6.66 243 Pn         Pn        19 19 42.4 -0.3
TUE   Stuetta         6.75 223 Pn         Pn        19 19 46.0 +1.9
TEOL  Teolo           6.87 207 Pn         Pn        19 19 46.4 +0.9
FRGS  Fruska Gora     6.89 157 ⇑P         Pn        19 19 46.9 +1.1
CJR   Cluj-Napoca     6.93 132 ⇑P         Pn        19 19 47.7 +1.3
CJR   Cluj-Napoca     6.93 132  P         Pn        19 19 47.7 +1.3
BZS   Buzias          7.00 146 ⇓P         Pn        19 19 49.3 +1.8
BZS   Buzias          7.00 146  P         Pn        19 19 49.2 +1.8
HINF  Hinteralfeld    7.06 241 ePn        Pn        19 19 49.1 +0.9
HINF                             eSn        Sn        19 21 06.1 -3.0
HINF                             eSg        Sg        19 21 49.5 -0.6
      comp=Z,53nm,0.7s
SLIT  Slitere, Latvi  7.06  28 eP         Pn        19 19 49.7 +1.7
NVLJ  Novalja         7.06 187 ePn        Pn        19 19 49.8 +1.7
BUR08 Bucovina Ar. S  7.12 120            Pn        19 19 50.0 +0.9
BURAR Bucovina Array  7.15 120 ⇑P         Pn        19 19 50.3 +0.8
BURAR Bucovina Array  7.15 120  P         Pn        19 19 50.2 +0.8
BURAR Bucovina Array  7.15 120 Pn         Pn        19 19 50.6 +1.2
IIGN  Ignalina        7.15  54 eP         Pn        19 19 51.6 +2.3
IIGN                             IAML               19 20 39.0
      comp=Z,5.3nm,0.6s
ISAL  Salakas         7.20  52 IAML               19 20 43.7
      comp=Z,3.5nm,0.6s
HAU   Haudompre       7.23 244 ePn        Pn        19 19 50.2 -0.3
HAU   Haudompre       7.23 244 ePg        Pg        19 20 22.1  0.0
HAU                             eSn        Sn        19 21 10.0 -3.3
HAU                             eSg        Sg        19 21 54.8 -0.9
      comp=Z,71nm,0.8s
GIVF  Givet           7.27 263 eSg        Sg        19 21 54.8 -2.1
      comp=Z,32nm,0.7s
PAGF  Fort de Pagny   7.31 250 ePn        Pn        19 19 53.0 +1.5
PAGF                             eSg        Sg        19 21 58.8 +0.7
      comp=Z,74nm,0.7s
IDID  Didziasalis     7.39  55 eP         Pn        19 19 54.4 +1.7
KIJV  Kijevo          7.58 178 ePn        Pn        19 19 56.8 +1.6
DUGI  Dugi Otok       7.62 185 ePn        Pn        19 19 57.4 +1.6
GZR   Gura Zlata      7.62 142 ⇑P         Pn        19 19 56.6 +0.6
GZR   Gura Zlata      7.62 142  P         Pn        19 19 56.5 +0.6
SAVF  Savonnieres en  7.63 251 ePn        Pn        19 19 56.8 +0.8
SAVF                             eSg        Sg        19 22 11.2 +2.6
      comp=Z,30nm,0.8s
BAIF  Baives          7.66 263 ePn        Pn        19 19 56.7 +0.3
BAIF                             eSg        Sg        19 22 06.4 -3.1
      comp=Z,34nm,0.9s
MNK   Minsk           7.71  63 i P         Pn        19 19 58.3 +1.4
MNK                              i S        Sn        19 21 27.0 +2.2
MNK                              pmax       pmax
      comp=N,5.0nm,0.9s
MNK                              pmax       pmax
      comp=E,1.0nm,0.9s
MNK                              pmax       pmax
      comp=Z,7.0nm,0.9s
MNK                              MLR        MLR
      comp=Z,151nm,22.0s
MNK                              MLR        MLR
      comp=E,5.0nm,25.0s
MNK                              MLR        MLR
      comp=N,220nm,24.0s
MNK   Minsk           7.71  63 i P         Pn        19 19 58.3 +1.4
      comp=E,1.0nm,0.9s
MNK                              i P        Pn        19 19 58.3 +1.4
      comp=N,5.0nm,0.9s
MNK                              i P        Pn        19 19 58.3 +1.4
      comp=Z,7.0nm,0.9s,baz=71
MNK                              i PP       PnPn      19 20 05.9 +1.7
MNK                              i PPP      PPP       19 20 13.5
MNK                              i S        Sn        19 21 27.1 +2.2
MNK                              i SS       SnSn      19 21 41.3 +5.4
MNK                              i SSS      SSS       19 21 53.6
MNK                              i LQ       LQ        19 22 12.2
MNK                              i LR       LR        19 23 02.7
MNK                              i LRM      MLR       19 24 00.6
      comp=Z,151nm,21.7s
MNK                              i LRM      MLR       19 24 08.7
      comp=E,5.0nm,24.6s
MNK                              i LRM      MLR       19 24 08.7
      comp=N,220nm,23.9s
MORI  Morici          7.72 182 ePn        Pn        19 19 58.6 +1.5
MEZF  Maizieres J'vi  7.73 251 eSg        Sg        19 22 08.1 -3.5
      comp=N,55nm,0.9s
SFTF  Sexfontaines    7.88 249 eSg        Sg        19 22 14.9 -1.5
      comp=N,33nm,0.6s
ZIRJ  Zirje           7.93 182 ePn        Pn        19 20 02.3 +2.3
STRU  Stroemstad      7.98 342 i P        Pn        19 20 01.0 +0.4
STRU                             i S        Sn        19 21 27.8 -3.7
HOMB  Homborsund      7.99 330 eS         Sn        19 21 26.1 -5.8
CABF  La Chapelle     8.21 237 ePn        Pn        19 20 02.3 -1.8
CABF  La Chapelle     8.21 237 ePg        Pg        19 20 39.6 -1.3
CABF                             eSg        Sg        19 22 24.0 -3.2
      comp=N,87nm,0.9s
AKASG Malin Array Be  8.33  91 Pn         Pn        19 20 04.9 -0.6
      comp=N,3.2nm,0.3s,baz=279,slow=12,SNR=20
AKASG                            Sn         Sn        19 21 35.7 -4.4
      comp=N,3.3nm,0.3s,baz=272,slow=22,SNR=5.9
AKASG                            Lg         Lg        19 22 32.3
      comp=N,1.1nm,0.3s,baz=283,slow=28,SNR=4.3
AKBB  Malin Array Si  8.33  91 P          Pn        19 20 04.6 -0.8
AKBB  Malin Array Si  8.33  91 Pn         Pn        19 20 04.6 -0.8
UPP   Uppsala         8.35   5 eP         Pn        19 20 04.5 -1.3
MTSE  Matsula         8.41  29 eP         Pn        19 20 08.2 +1.6
MSSA  Maissana        8.48 214 Pn         Pn        19 20 09.5 +1.8
LPL   La Plagne       8.66 229 ePn        Pn        19 20 11.0 +0.7
LPL                             eSg        Sg        19 22 42.4 +0.9
      comp=N,25nm,0.9s
LPG   La Plagne       8.66 229 ePn        Pn        19 20 11.1 +0.7
LPG                             eSg        Sg        19 22 43.9 +2.2
      comp=N,69nm,1.1s
HFS   Hagfors         8.68 352 Pn         Pn        19 20 11.0 +0.6
      comp=N,0.2nm,0.3s,baz=166,slow=14,SNR=9.5
HFS                             Sn         Sn        19 21 44.6 -4.2
      comp=N,0.3nm,0.3s,baz=173,slow=18,SNR=2.8
AAL   Aland           8.90  13 eP         Pn        19 20 15.3 +2.1
LOR   Lormes          9.04 246 ePn        Pn        19 20 15.0 -0.4
      baz=62
LOR   Lormes          9.04 246 eP         Pn        19 20 20.6 +5.2
      baz=77
LOR                             eSg        Sn        19 22 56.1  +58
      comp=N,16nm,0.7s
VSU   Vasula          9.22  37 eP         Pn        19 20 19.9 +2.2
VSU   Vasula          9.22  37 i P         Pn        19 20 17.8 +0.1
MBDF  Montbardon      9.24 226 ePn        Pn        19 20 20.6 +2.4
MBDF  Montbardon      9.24 226 ePg        Pn        19 21 00.5  +42
MBDF                            eSg        Sn        19 22 59.2  +56
      comp=N,19nm,0.9s
SMF   Signal de Mont  9.41 243 eSg        Sn        19 23 00.6  +54
      comp=N,26nm,0.8s
ORIF  Oris-en-Rattie  9.51 230 ePn        Pn        19 20 22.3 +0.5
ORIF                            eSg        Sn        19 23 08.2  +59
      comp=N,28nm,0.9s
NC602 NORSAR Array S  9.52 346 Pn         Pn        19 20 20.7 -1.1
NORES NORESS Array B  9.52 346 P          Pn        19 20 22.8 +1.0
AVF   Avril sur Loir  9.60 245 ePn        Pn        19 20 22.0 -0.9
AVF   Avril sur Loir  9.60 245 ePg        Pn        19 21 07.4  +44
AVF                             eSg        Sn        19 23 10.0  +59
      comp=N,28nm,0.8s
SBF   Sospel          9.65 220 ePn        Pn        19 20 24.1 +0.3
SBF   Sospel          9.65 220 eP         Pn        19 20 27.6 +3.8
MEF   Metsahovi       9.84  25 eP         Pn        19 20 27.9 +1.8
NB201 NORSAR Array S  9.86 346 Pn         Pn        19 20 26.7 +0.3
NC405 NORSAR Array S  9.86 348 Pn         Pn        19 20 25.8 -0.6
NOA   NORSAR Array B  9.86 346 Pn         Pn        19 20 27.0 +0.5
      comp=N,0.0nm,0.3s,baz=190,slow=5.2,SNR=6.8
NOA                             Sn         Sn        19 22 09.6 -8.2
      comp=N,0.0nm,0.3s,baz=231,slow=11,SNR=3.7
NOA                             Lg         Lg        19 23 12.6
      comp=N,0.0nm,0.3s,baz=210,slow=21,SNR=3.9
RAF   Rauma           9.98  16 eP         Pn        19 20 27.2 -0.9
VIVF  Saint-Julien-l  10.14 233 ePn        Pn        19 20 32.0 +1.6
VIVF                            eSg        Sg        19 23 26.5
      comp=N,9.1nm,0.7s
FRF   La Foret Royal  10.23 222 ePn        Pn        19 20 32.8 +1.2
LMR   La Mourre       10.47 222 ePn        Pn        19 20 35.0 +0.1
TCF   Toulx Ste Croi  10.53 245 eSg        Sg        19 23 39.6
      comp=N,19nm,0.8s
FINES FINESS Array B  11.32  25 Pn         Pn        19 20 46.0 -0.4
      comp=N,0.7nm,0.3s,baz=208,slow=11,SNR=19
FINES                            Sn         Sn        19 22 47.6 -5.8
      comp=N,0.7nm,0.3s,baz=206,slow=21,SNR=5.3
FINES                            LR         LR        19 24 58.7
      comp=N,33nm,20.5s,baz=307,slow=36
FINES FINESS Array B  11.32  25 Pn         Pn        19 20 45.8 -0.5
FIA1  FINESS Array S  11.32  25 Pn         Pn        19 20 45.9 -0.4
EKA   Eskdalemuir Ar  12.05 296 Pn         Pn        19 20 55.1 -1.3
      baz=104,slow=14,SNR=5.3
EKA                             Sn         Sn        19 23 02.2  -9.3
      baz=103,slow=25,SNR=4.2
EKA   Eskdalemuir Ar  12.05 296  P         Pn        19 20 57.8 +1.4
OBN   Obninsk         12.74  66 i eP        Pn        19 21 06.4 +0.5
OBN                              eS         Sn        19 23 24.8 -3.5
OBN                              pmax       pmax
      comp=Z,3.0nm,0.8s
OBN                              MLR        MLR
      comp=Z,32nm,18.0s
LPSR  Galich'ya Gora  14.09  77 eP         Pn        19 21 20.1 -4.1
LPSR                             pmax       pmax
      comp=Z,9.0nm,0.6s
BALB  Balikesir       14.49 141 Pn         Pn        19 21 29.6 -0.3
ANN   Anapa           15.75 107 eP         Pn        19 21 42.3 -4.3
ANN                              eS         Sn        19 24 35.4 -6.2
ANN                              pmax       pmax
      comp=Z,34nm,1.2s
KLMR  Klimovskoe      15.93  45 eP         Pn        19 21 47.9 -0.9
KLMR                             e          19 24 48.3
KLMR                             pmax       pmax
      comp=Z,13nm,1.4s
KLMR  Klimovskoe      15.93  45 ePn        Pn        19 21 47.9 -0.9
KLMR                             AMP        19 21 57.3
      comp=Z,13nm,1.4s
KLMR                             eSn        Sn        19 24 48.3 +2.5
KLMR                             eSn        Sn        19 24 48.3 +2.5
IDI   Anoyia          17.47 155            Pn        19 22 09.0 +0.3
IDI                              IAmb       IAmb      19 22 11.5
      comp=Z,14nm,1.0s
ARCES ARCESS Array B  18.56  10 Pn         P         19 22 19.0 -2.6
      baz=191,slow=12,SNR=13
ARCES ARCESS Array B  18.56  10 P          P         19 22 18.7 -3.0
ARCES                            IAmb       IAmb      19 22 30.3
      comp=Z,12nm,1.4s
PRGR  Permogore       18.96  46 eP         P         19 22 25.7 -0.3
PRGR                             e          19 25 48.1
PRGR                             pmax       pmax
      comp=Z,2.0nm,0.4s
KIV   Kislovodsk      19.37 103 eP         P         19 22 30.5 -0.3
KIV                              pmax       pmax
      comp=Z,4.0nm,1.0s
SHA1  Shidzhatmaz     19.47 103 i P         P         19 22 31.5 -0.6
MMAI  Mount Meron Ar  23.30 135 LR         LR        19 33 59.9
      comp=Z,24nm,19.1s,baz=320,slow=41
ARU   Arti            25.13  62 P          P         19 23 30.9 +1.0
      comp=Z,1.3nm,0.6s,baz=273,slow=11,SNR=6.3
ARU   Arti            25.13  62 d i P       P         19 23 30.7 +0.8
ARU                                        19 24 01.7
ARU                              S          S         19 27 55.8 +0.3
ARU                              pmax       pmax
      comp=Z,4.0nm,0.7s
AKTO  Aktyubinsk      26.17  76 P          P         19 23 40.4 +1.0
      comp=Z,1.7nm,0.7s,baz=284,slow=17,SNR=4.3
BRVK  Borovoye        32.52  66 i P         P         19 24 36.6 +0.8
BRVK                             pmax       pmax
      comp=Z,1.0nm,0.9s
TORD  Torodi Ar. Bea  40.05 202 P          P         19 25 41.7 +1.3
      comp=Z,0.9nm,1.0s,baz=12,slow=7.3,SNR=2.9
MKAR  Makanchi Array  42.22  69 P          P         19 26 00.5 +2.5
      comp=Z,0.4nm,0.7s,baz=299,slow=6.0,SNR=4.8
MKAR  Makanchi Array  42.22  69 i P         P         19 25 59.2 +1.1
SONM  Songino Array   54.90  55 P          P         19 27 38.3 +2.5
      comp=Z,0.5nm,0.8s,baz=287,slow=5.9,SNR=2.7
YKA   Yellowknife Ar  59.79 336 P          P         19 28 12.8 +2.9
      comp=Z,0.6nm,0.7s,baz=41,slow=7.7,SNR=3.1
KLR   Kul'dur         65.62  40 LR         LR        20 02 04.5
      comp=Z,21nm,20.5s,baz=175,slow=40
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*IDC **19** 19:24:56.5±1.7,2°.70N×128°.70E, h230km±17km, mb3.6/12, mb1 3.7/13, mb1mx3.5/36, mbtmp4.1/13, Error ellipse: s-maj=23.4km s-min=9.2km az=76.0*
*MAN **19** 19:25:27.7,5°.36N×127°.01E, h221km, mb4.7, ML3.6, MS3.6*
ISC 19 19:24:58.3±0.6, 2°.7N±0°.1×128°.6E±0°.2, h250km, n15, σ1°61/19, mb3.9/13, 1C, Halmahera

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Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
SIJI  Sorong          4.41 143  P     Pn          19 26 04.8  -2.1
      1.3nm,0.3s,baz=326,slow=19,SNR=2.8
KCP   Kidapawan       5.56 321 ⇑ i P   Pn          19 26 17.9  -3.1
WRA   Warramunga Arr  23.18 166  P     P           19 29 42.6  -0.5
      3.5nm,0.6s,baz=344,slow=10.0,SNR=43
ASAR  Alice Springs   26.70 169  P     P           19 30 14.8  -0.1
      4.4nm,0.5s,baz=354,slow=7.9,SNR=126
ASAR                             PcP   PcP         19 33 32.2  +0.6
      0.6nm,1.0s,baz=346,slow=2.8,SNR=1.8
ASAR                             ScP   ScP         19 36 50.0  +2.2
      0.6nm,1.0s,baz=338,slow=4.0,SNR=4.0
CMAR  Chiang Mai Arr  33.04 300  P     P           19 31 11.6  +1.0
      1.6nm,0.7s,baz=123,slow=7.6,SNR=14
CMAR                             ScP   ScP         19 37 12.2  +3.7
      0.5nm,0.8s,baz=90,slow=0.9,SNR=4.4
KSRS  Korea Array     34.60 359  P     P           19 31 24.4  +0.6
      1.9nm,0.5s,baz=176,slow=9.9,SNR=12
MJAR  Matsushiro Arr  34.82  14  P     P           19 31 24.3  -1.4
      4.2nm,0.9s,baz=170,slow=8.6,SNR=17
STKA  Stephens Creek  36.52 161  P     P           19 31 40.1   0.0
      2.2nm,0.4s,baz=331,slow=9.1,SNR=12
USRK  Ussuriysk Ar.   41.44   4  P     P           19 32 21.1  +0.5
      2.1nm,0.7s,baz=194,slow=7.9,SNR=5.1
SONM  Songino Array   48.90 340  P     P           19 33 19.7  +0.5
      1.0nm,0.7s,baz=153,slow=8.7,SNR=7.7
PETK  Petropavlovsk-  55.69  21  P     P           19 34 10.1  +1.4
      1.2nm,0.6s,baz=192,slow=2.9,SNR=4.3
MKAR  Makanchi Array  59.49 325  P     P           19 34 35.5  +0.2
      1.7nm,0.4s,baz=115,slow=8.0,SNR=39
MKAR                             PcP   PcP         19 35 20.5  +0.4
      0.6nm,0.8s,baz=130,slow=4.5,SNR=4.3
ZALV  Zalesovo Beam   62.38 332  P     P           19 34 53.7  -0.8
      0.8nm,0.4s,baz=126,slow=7.9,SNR=4.6
VNDA  Vanda           82.17 173  P     P           19 36 51.5  +0.8
      0.6nm,0.8s,baz=20,slow=4.3,SNR=2.8
ARCES ARCESS Array B  92.07 340  P     P           19 37 38.0  -0.8
      2.9nm,1.0s,baz=78,slow=4.8,SNR=8.7
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*IDC **19** 19:30:16.3±2.1, 32°.22S×178°.02W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/24, mbtmp4.2/4, ML3.2/1, Error ellipse: s-maj=53.0km s-min=34.3km az=127.0*
ISC 19 19:30:20.3±1.3, 32°.2S±0°.1×178°.0W±0°.2, h24km, n9, σ1°34/11, mb4.3/3, South of Kermadec Islands

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Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
URZ   Urewera         7.21 212  Pn    Pn          19 32 02.5  -1.7
      0.4nm,0.3s,baz=340,slow=19,SNR=2.0
URZ                              Sn    Sn          19 33 27.1  +1.7
      1.2nm,0.3s,baz=267,slow=23,SNR=7.6
CTA   Charters Tower  34.11 282  P     P           19 37 04.8  +1.5
      4.0nm,0.6s,baz=98,slow=10,SNR=6.3
ASAR  Alice Springs   43.02 269  P     P           19 38 18.1  -0.1
      1.7nm,0.6s,baz=104,slow=7.2,SNR=28
ASAR                             PcP   PcP         19 40 08.5  +0.2
      0.3nm,0.8s,baz=116,slow=4.3,SNR=1.6
WRA   Warramunga Arr  44.17 274  P     P           19 38 25.2  -2.3
      2.3nm,0.5s,baz=114,slow=7.8,SNR=48
SNAA  Sanae           76.33 178  P     P           19 42 07.7  +0.8
VNA3  Neumayer Olymp  76.49 176  P     P           19 42 07.8   0.0
VNA1  Neumayer--Stat  77.15 177  P     P           19 42 11.5   0.0
FINES FINESS Array B  146.84 339 PKPbc  PKPdf       19 49 58.5  +0.6
      3.2nm,1.0s,baz=63,slow=4.5,SNR=7.3
AKASG Malin Array Be  152.72 321 PKPbc  PKiKP       19 50 14.8   0.0
      0.1nm,0.2s,baz=45,slow=1.8,SNR=1.5
```

WEL 19 19:38:39.1, 42°S±2°×17°4E±°, h16km±3km, M3.0/42, ML3.2/42, MLv3.0/42, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1, Cook Strait

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
CMWZ  Cape Campbell   0.07 144  P     Pg          19 38 42.5  +0.3
CMWZ                             S     Sg          19 38 45.6  +1.2
BSWZ  Blackbirch Sta  0.21 264  P     Pb          19 38 44.4  -0.2
BSWZ                             S     Sb          19 38 48.4  +0.2
TUWZ  Tuamarina       0.31 328  P     Pb          19 38 46.4  +0.2
TUWZ                             S     Sb          19 38 51.7  +0.7
TCW   Tory Channel    0.49  10  P     Pb          19 38 49.4  +0.1
TCW                              S     Sb          19 38 57.1  +0.9
BHW   Baring Head     0.60  62  P     Pb          19 38 51.9  +0.7
WEL   Wellington      0.61  48  P     Pb          19 38 51.9  +0.6
WEL                              S     Sn          19 39 01.1  -1.4
PLWZ  Palliser        0.83  82  P     Pn          19 38 55.8  -0.3
PLWZ                             S     Sn          19 39 09.5  +1.5
KHZ   Kahutara        0.86 212  P     Pn          19 38 56.3  -0.1
MSWZ  Moikau Station  0.86  72  P     Pn          19 38 56.6  +0.1
CAW   Cannon Point    0.90  50  P     Pn          19 38 57.2  +0.3
CAW                              S     Sn          19 39 10.4  +0.7
DUWZ  D'Urville Isla  0.91 349  P     Pg          19 38 56.7   0.0
DUWZ                             S     Sn          19 39 10.2  +0.4
THZ   Tophouse        0.94 265  P     Pg          19 38 57.3   0.0
PAWZ  Paruwai Farm    1.00  72  P     Pn          19 38 58.3  -0.1
KIW   Kapiti Island   1.00  34  P     Pn          19 38 58.5   0.0
MTW   Mount Morrison  1.14  63  P     Pn          19 39 00.2  -0.1
OGWZ  Otaki Gorge     1.16  41  P     Pg          19 39 01.3  -0.2
OGWZ                             S     Sg          19 39 18.2  +1.6
TRWZ  Traveller       1.18  76  P     Pn          19 39 00.8  -0.1
HOWZ  Holdsworth Sta  1.29  53  P     Pn          19 39 02.6  +0.2
TMWZ  Te Maipa        1.43  66  P     Pn          19 39 03.9  -0.3
MRZ   Mangatainoka R  1.49  47  P     Pn          19 39 05.4  +0.3
QRZ   Quartz Range    1.50 305  P     Pb          19 39 07.0  +0.4
GVZ   Greta Valley S  1.52 213  P     Pn          19 39 05.2  -0.4
TIWZ  Tintock         1.59  55  P     Pn          19 39 06.8  +0.3
DSZ   Denniston Nort  1.76 268  P     Pb          19 39 10.9  -0.2
LTZ   Lake Taylor     1.77 232  P     Pn          19 39 09.3  +0.2
PRWZ  Pori Road       1.78  51  P     Pn          19 39 09.2  +0.2
BFZ   Birch Farm      1.87  58  P     Pn          19 39 09.6  -0.8
WAZ   Wanganui        2.04  18  P     Pb          19 39 16.6  +1.0
DVHZ  Dannevirke      2.06  48  P     Pg          19 39 17.8  -0.8
TSZ   Takapari Road   2.13  41  P     Pn          19 39 15.3  +1.3
OKCZ  Okains Bay      2.19 201  P     Pn          19 39 13.2  -1.5
OXZ   Oxford          2.26 223  P     Pn          19 39 14.5  -1.3
INZ   Inchbonnie      2.27 242  P     Pb          19 39 19.0  -0.5
MQZ   McQueen's Vall  2.30 208  P     Pn          19 39 14.2  -2.0
PNHZ  Pukenui         2.36  42  P     Pn          19 39 16.8  -0.3
KHEZ  Kahui Hut       2.40 357  P     Pg          19 39 23.6  -1.4
PKVZ  Pokaka          2.56  21  P     Pb          19 39 25.7  +1.0
MOVZ  Moawhango       2.59  29  P     Pb          19 39 24.7  -0.3
VRZ   Vera Road       2.61  10  P     Pb          19 39 24.5  -0.9
BHHZ  Black Hill Sta  2.63  34  P     Pb          19 39 26.1  +0.2
WHVZ  Whangaehu Hut   2.64  25  P     Pb          19 39 25.7  -0.4
MHCZ  Mount Hutt      2.65 225  P     Pn          19 39 20.0  -1.2
FWVZ  Far West T-bar  2.66  24  P     Pb          19 39 26.9  +0.6
TUVZ  Tukino          2.68  26  P     Pn          19 39 26.0  -0.7
NGZ   Ngauruhoe       2.74  24  P     Pb          19 39 28.4  +0.6
SNVZ  South Ngauruho  2.75  25  P     Pb          19 39 27.4  -0.4
OTVZ  Oturere         2.77  25  P     Pb          19 39 28.9  +0.5
NNVZ  North Ngauruho  2.79  24  P     Pb          19 39 29.3  +0.7
WTVZ  West Tongariro  2.80  23  P     Pb          19 39 29.7  +1.1
ETVZ  East Tongariro  2.81  25  P     Pb          19 39 29.1  +0.1
KRVZ  Karewarewa      2.83  24  P     Pb          19 39 29.9  +0.7
TMVZ  Te Maari        2.83  25  P     Pb          19 39 29.2  -0.1
WVZ   Waitaha Valley  2.89 240  P     Pb          19 39 29.0  -1.1
GCSZ  Gaunt Creek Bo  3.27 239  P     Pb          19 39 33.9  -2.7
TMZ   Timaru          3.55 220  P     Pn          19 39 32.5  -0.9
```

*BER **19** 19:43:33.7±3.5, 79°.99N×21°.04E, h15km±15km, ML2.3, ML2.8(NAO), Confirmed Earthquake*
*IEPN **19** 19:43:35.0, 79°.99N×20°.08E, h10km*
*NAO **19** 19:43:35.5±3.3, 79°.81N×20°.84E, h18km±14km, ML2.8*
ISC 19 19:43:33.4±1.2, 79°.91N±0°.06×20°.38E±0°.05, h10km, n18, σ2°16/42, 1C, Svalbard region

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
KBS   Kingsbay        1.84 242  Pn    Pn          19 44 05.7  +0.8
KBS                              Pg    Pg          19 44 09.6  +1.0
KBS                              Lg    Lg          19 44 32.9
KBS   Kingsbay        1.84 242  eP    Pn          19 44 05.6  +0.6
KBS                              ePg   Pg          19 44 09.4  +0.8
KBS                              eS    Sn          19 44 26.9  -1.3
KBS                              eSg   Sg          19 44 32.8  +0.4
KBS                              IAML               19 44 37.1
      comp=Z,63nm,0.6s
KBS   Kingsbay        1.84 242  eP    Pn          19 44 05.6  +0.6
KBS                              eS    Sn          19 44 28.6  +0.4
SPA0  Spitsbergen Ar  1.90 206  Pn    Pn          19 44 05.8  +0.1
      baz=33,slow=18
SPA0                             Pg    Pb          19 44 09.7  +1.7
      baz=29,slow=18
SPA0                             Lg    Lg          19 44 34.3
      baz=39,slow=18
SPA0  Spitsbergen Ar  1.90 206  Pn    Pn          19 44 05.8  +0.1
      baz=33,slow=18
SPA0                             Pg    Pb          19 44 09.7  +1.7
      baz=29,slow=18
SPA0                             Sg    Sg          19 44 34.3  +0.1
      baz=39,slow=18
SPA0  Spitsbergen Ar  1.90 206 ⇑ i P   Pn          19 44 05.9  +0.1
SPA0                             eS    Sn          19 44 29.8  +0.1
BRBA  Barentsburg A   2.20 216  Pn    Pn          19 44 10.5  +0.6
BRBA                             Lg    Lg          19 44 44.2
BRBA  Barentsburg A   2.20 216  eP    Pn          19 44 09.8   0.0
BRBA                             ePg   Pb          19 44 14.5  +1.3
BRBA                             eS    Sn          19 44 35.2  -1.9
BRBA                             eSg   Sg          19 44 43.8  -0.1
BRBA                             IAML               19 44 49.9
      comp=Z,44nm,0.5s
HSPB  Hornsund (broa  3.08 201  eP    Pn          19 44 21.8  -0.1
HSPB                             ePg   Pb          19 44 28.5  +0.4
HSPB                             eS    Sn          19 44 55.7  -3.0
HSPB                             eSg   Sb          19 45 08.0  +2.4
HSPB                             IAML               19 45 11.9
      comp=Z,14nm,0.5s
HSPB  Hornsund (broa  3.08 201  P     Pn          19 44 23.5  +1.6
HSPB                             eS    Sn          19 45 00.3  +1.6
HOPEN Hopen           3.54 162  Pn    Pn          19 44 27.7  -0.6
HOPEN                            Sn    Sn          19 45 07.7  -2.4
HOPEN                            Lg    Lg          19 45 22.8
HOPEN Hopen           3.54 162  eP    Pn          19 44 27.6  -0.7
HOPEN                            ePg   Pb          19 44 36.6  +0.5
HOPEN                            eS    Sn          19 45 06.7  -3.4
HOPEN                            eSg   Sb          19 45 21.2  +2.2
HOPEN                            IAML               19 45 30.1
      comp=Z,17nm,0.2s
HOPEN Hopen           3.54 162  eP    Pn          19 44 27.5  -0.7
HOPEN                            eS    Sn          19 45 08.3  -1.9
ZFI2  Zemlya Franca-  4.64  66  eP    Pn          19 44 43.1  -0.3
ZFI2                             eS    Sn          19 45 33.0  -4.2
      comp=Z,9.0nm,1.1s
BJO1  Bjornoya        5.44 184  eP    Pn          19 44 53.5  -0.8
BJO1                             eS    Sn          19 45 51.1  -5.8
NOR   Nord            6.11 304  eP    Pn          19 45 01.4  -2.1
NOR                              eS    Sn          19 46 06.1  -7.2
ARA0  ARCESS Array S  10.51 170 Pn    Pn          19 46 01.6  -2.1
      baz=358,slow=11
ARA0                             Sn    Sn          19 47 50.6  -11
      baz=2.4,slow=22
ARA0  ARCESS Array S  10.51 170 Pn    Pn          19 46 01.6  -2.1
      baz=358,slow=11
ARA0                             Sn    Sn          19 47 50.6  -11
      baz=2.4,slow=22
```

IDC 19 19:48:43.9±5.8, 39°.19N×110°.47E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.3/47, mbtmp3.7/4, ML2.7/1, Error ellipse: s-maj=124.5km s-min=29.1km az=85.0, Western Nei Mongol

```
Code  Station Name    Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
SONM  Songino Array   9.13 342  Pn    Pn          19 50 56.9  -0.1
      0.1nm,0.3s,baz=156,slow=14,SNR=9.9
SONM                             Sn    Sn          19 52 35.1  -5.4
      0.1nm,0.3s,baz=166,slow=25,SNR=2.0
SONM                             Lg    Lg          19 53 30.3
      0.1nm,0.3s,baz=171,slow=31,SNR=3.2
MKAR  Makanchi Array  21.88 299  P     P           19 53 38.3   0.0
      1.0nm,1.0s,baz=106,slow=9.2,SNR=6.9
CMAR  Chiang Mai Arr  22.95 209  P     P           19 53 49.8  -0.1
      1.4nm,0.8s,baz=7.7,slow=9.8,SNR=11
KURBB Kurchatov Arra  25.14 308  P     P           19 54 10.6  +0.1
      2.6nm,0.3s,baz=104,slow=9.9,SNR=2.1
```

*IDC **19** 19:55:08.3±1.0, 13°.40N×58°.44W, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.7/48, mbtmp3.9/10, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/33, Error ellipse: s-maj=31.7km s-min=21.7km az=21.0*
*NEIC **19** 19:55:08.5±2.8, 13°.99N±0°.06×58°.0W±0°.1, h21km±8km, mb4.4/4, Error ellipse: s-maj=17.0km s-min=7.9km az=79.0*
*TRN **19** 19:55:13.2, 13°.94N×58°.50W, h70km, MD4.2*
ISC 19 19:55:12.1±1.8, **13°.94N**±0°.04×**58°.48W**±0°.07, **h16**km±11km, **n102**, σ1§**27**/114, **mb3.9**/10, **MS3.6**/4, **1C**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**229**	*eP*	**Pb**	**19 55 35.7**	**+0.1**
BBSP				*eS*	**Sg**	**19 55 53.2**	**+0.2**
BBGH	**Gun Hill**	**1.32**	**233**	*eP*	**Pb**	**19 55 37.1**	**+0.5**
BBGH				*eS*	**Sb**	**19 55 54.0**	**+0.9**
BBGH	**Gun Hill**	**1.32**	**233**	Pn	**Pb**	**19 55 37.0**	**+0.5**
BCHC	**Barbados, Cave**	**1.38**	**234**	*eP*	**Pg**	**19 55 38.2**	**-0.5**
BCHC				*eS*	**Sn**	**19 55 54.5**	**-0.1**
H05S1	**Guadeloupe/Mar**	**2.34**	**282**	Pn	**Pn**	**19 55 49.5**	**-0.4**
H05S1				Sn	**Sn**	**19 56 17.8**	**-0.5**
	SNR=876						
MPOM	**Morne Pois Mar**	**2.36**	**283**	*eP*	**Pn**	**19 55 50.6**	**+0.4**
SLW	**Petit Monier**	**2.39**	**272**	*eP*	**Pn**	**19 55 51.2**	**+0.6**
SLW				*eS*	**Sn**	**19 56 17.9**	**-1.7**
MCLT	**Moule a Chique**	**2.40**	**265**	*eP*	**Pn**	**19 55 51.5**	**+0.6**
MCLT				*eS*	**Sn**	**19 56 20.0**	**+0.1**
MCLT	**Moule a Chique**	**2.40**	**265**		**Pn**	**19 55 49.0**	**-1.8**
SLBI	**Saint Lucia, B**	**2.42**	**272**	*eP*	**Pn**	**19 55 51.8**	**+0.8**
SLBI				*eS*	**Sn**	**19 56 20.1**	**-0.4**
ILAM	**Ilet Lapin Mar**	**2.46**	**290**	*eP*	**Pn**	**19 55 52.2**	**+0.6**
SLB	**Belfond**	**2.49**	**268**	*eP*	**Pn**	**19 55 51.6**	**-0.5**
LPMF	**Morne Lapointe**	**2.49**	**285**	*eP*	**Pn**	**19 55 52.7**	**+0.6**
ZAM	**Aeronautique**	**2.50**	**285**	*eP*	**Pn**	**19 55 53.1**	**+0.3**
TRMF	**Trois Ilets**	**2.56**	**284**	*eP*	**Pn**	**19 55 54.0**	**+1.0**
BIM	**Bigot**	**2.58**	**283**	*eP*	**Pn**	**19 55 53.6**	**+0.4**
FDF	**Fort de France**	**2.71**	**287**	*eP*	**Pn**	**19 55 55.9**	**+0.8**
FDF	**Fort de France**	**2.71**	**287**		**Pn**	**19 55 55.1**	**0.0**
FDF				Sn	**Sn**	**19 56 28.0**	**+0.5**
SSV	**Crater Summit**	**2.71**	**257**	*eP*	**Pn**	**19 55 54.9**	**-0.2**
SSV				*eS*	**Sn**	**19 56 28.0**	**+0.3**
BAMF	**Morne Balai**	**2.73**	**289**	*eP*	**Pn**	**19 55 56.3**	**+0.9**
SVV	**Soufriere Volc**	**2.73**	**257**	*eP*	**Pn**	**19 55 55.3**	**-0.1**
SVV				*eS*	**Sn**	**19 56 28.8**	**+0.7**
GBMF	**Grand Be**	**2.74**	**288**	*eP*	**Pn**	**19 55 56.4**	**+0.8**
PML	**Morne Lenard**	**2.75**	**288**	*eP*	**Pn**	**19 55 56.5**	**+0.9**
SVN	**Savane Anatole**	**2.75**	**289**	*eP*	**Pn**	**19 55 56.8**	**+1.1**
SVB	**Belmont**	**2.78**	**256**	*eP*	**Pn**	**19 55 55.9**	**-0.1**
SVB				*eS*	**Sn**	**19 56 26.7**	**-2.5**
SVB	**Belmont**	**2.78**	**256**		**Pn**	**19 55 55.9**	**-0.1**
SVOC	**Richmond Hill,**	**2.78**	**254**	*eS*	**Sn**	**19 56 28.6**	**-0.6**
PCM	**Pelee Case Pet**	**2.79**	**288**	*eP*	**Pn**	**19 55 57.3**	**+1.2**
DLPL	**La Plaine**	**3.01**	**298**	*eP*	**Pn**	**19 56 00.3**	**+1.1**
DLPL				*eS*	**Sn**	**19 56 33.4**	**-1.7**
DLPL	**La Plaine**	**3.01**	**298**		**Pn**	**19 55 59.9**	**+0.7**
DSLB	**Salisbury**	**3.21**	**298**	*eP*	**Pn**	**19 56 02.8**	**+0.8**
DSLB				*eS*	**Sn**	**19 56 39.5**	**-0.4**
GCMP	**Grenada, Carri**	**3.21**	**244**	*eP*	**Pn**	**19 56 02.0**	**0.0**
GCMP				*eS*	**Sn**	**19 56 38.2**	**-1.8**
TOSP	**Speyside**	**3.31**	**218**	*eP*	**Pn**	**19 56 03.5**	**+0.3**
TOSP				*eS*	**Sn**	**19 56 40.9**	**-1.4**
TOSP	**Speyside**	**3.31**	**218**		**Pn**	**19 56 03.4**	**+0.1**
MAGL	**Barre de l'ile**	**3.36**	**307**	*eP*	**Pn**	**19 56 05.0**	**+0.9**
MAGL				*eS*	**Sn**	**19 56 43.2**	**-0.5**
H05N1	**Guadeloupe/Mar**	**3.43**	**314**	Pn	**Pn**	**19 56 04.7**	**-0.3**
H05N1				Sn	**Sn**	**19 56 42.9**	**-2.5**
	SNR=978						
GRGR	**Grenville**	**3.58**	**240**	*eP*	**Pn**	**19 56 07.4**	**+0.3**
GRGR				*eS*	**Sn**	**19 56 47.4**	**-1.6**
GRGR	**Grenville**	**3.58**	**240**	Pn	**Pn**	**19 56 07.2**	**+0.2**
TDBA	**Terre de Bas,**	**3.59**	**302**	*eP*	**Pn**	**19 56 08.2**	**+1.0**
TBG	**Guadaloupe-3**	**3.60**	**302**	*eP*	**Pn**	**19 56 07.7**	**+0.4**
CBE	**Ff, Capester**	**3.69**	**305**	*eP*	**Pn**	**19 56 09.6**	**+1.0**
CBE				*eS*	**Sn**	**19 56 50.2**	**-1.6**
ABD	**La Joyeuse, An**	**3.84**	**311**	*eP*	**Pn**	**19 56 11.3**	**+0.7**
ABD				*eS*	**Sn**	**19 56 53.9**	**-1.6**
TRN	**Trinidad (W)**	**4.34**	**221**	*eP*	**Pn**	**19 56 18.3**	**+0.7**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eP*	**Pn**	**19 56 19.3**	**+0.6**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*eS*	**Sn**	**19 57 08.0**	**-1.9**
BPA	**Boggy Peak**	**4.49**	**314**	*eP*	**Pn**	**19 56 20.2**	**+0.7**
BPA	**Boggy Peak**	**4.49**	**314**	*eS*	**Sn**	**19 57 08.2**	**-3.2**
ANWB	**Willy Bob**	**4.88**	**320**	*eP*	**Pn**	**19 56 24.9**	**-0.1**
ANWB	**Willy Bob**	**4.88**	**320**	*eS*	**Sn**	**19 57 18.7**	**-2.5**
ANWB	**Willy Bob**	**4.88**	**320**	Pn	**Pn**	**19 56 24.2**	**-0.7**
SKI	**Saint Kitts**	**5.31**	**310**	*eP*	**Pn**	**19 56 32.2**	**+1.4**
SKI	**Saint Kitts**	**5.31**	**310**	*eS*	**Sn**	**19 57 29.0**	**-2.8**
SKI	**Saint Kitts**	**5.31**	**310**	Pn	**Pn**	**19 56 32.0**	**+1.1**
SMRT	**St. Maarten**	**6.02**	**313**	Pn	**Pn**	**19 56 40.0**	**-0.5**
STVI	**Saint Thomas**	**7.61**	**306**	Pn	**Pn**	**19 57 02.7**	**+0.3**
CUPR	**Culebra, Puert**	**7.85**	**304**		**Pn**	**19 57 05.4**	**-0.3**
MTP	**Monte Pirata**	**7.96**	**302**	Pn	**Pn**	**19 57 08.4**	**+1.2**
CBYP	**Canovanas**	**8.29**	**302**		**Pn**	**19 57 13.2**	**+1.3**
PDPR	**Patillas Dam,**	**8.31**	**300**	Pn	**Pn**	**19 57 12.5**	**+0.5**
SJG	**San Juan**	**8.46**	**300**		**Pn**	**19 57 15.3**	**+1.2**
GCPR	**Guaynabo City**	**8.50**	**302**		**Pn**	**19 57 15.9**	**+1.3**
OBIP	**Obispado Ponce**	**8.81**	**299**	Pn	**Pn**	**19 57 19.3**	**+0.4**
AOPR	**Arecibo Observ**	**9.08**	**300**	Pn	**Pn**	**19 57 24.1**	**+1.5**
MLPR	**Magueyes Islan**	**9.16**	**297**	Pn	**Pn**	**19 57 23.6**	**-0.1**
AGPR	**Aguadilla, PR**	**9.43**	**300**	Pn	**Pn**	**19 57 28.0**	**+0.6**
MDP	**Montagnes des**	**10.50**	**146**	Pn	Pn	19 57 35.3	-6.8
	2.5nm,0.3s,baz=330,slow=16,SNR=23						
MDP				Sn	Sn	19 59 20.8	-19
	7.5nm,0.3s,baz=240,slow=21,SNR=13						
SDDR	**Presa de Saban**	**13.27**	**294**		**Pn**	**19 58 20.6**	**+0.6**
OCAC	**Ocana**	**15.62**	**250**	*eP*	**Pn**	**19 58 53.0**	**+1.0**
SMLC	**San Martn de**	**16.11**	**253**	*eP*	**Pn**	**19 58 55.7**	**-2.4**
BARC	**Barichara**	**16.20**	**245**	*eP*	**P**	**19 59 01.2**	**-1.3**
RUSC	**La Rusia**	**16.45**	**242**	P	**P**	**19 59 04.4**	**-1.3**
RUSC	**La Rusia**	**16.45**	**242**	*eP*	**P**	**19 59 06.1**	**+0.5**
SJCC	**San Jacinto, C**	**16.83**	**258**	P	**Pn**	**19 59 08.0**	**+0.7**
SJCC	**San Jacinto, C**	**16.83**	**258**	*eP*	**Pn**	**19 59 06.8**	**-0.5**
ZARC	**Zaragoza, Cauc**	**17.32**	**250**	*eP*	**Pn**	**19 59 10.9**	**-2.5**
CHIC	**Chingaza**	**17.66**	**240**	*eP*	**Pn**	**19 59 17.1**	**-0.9**
UREC	**San Jos de Ur**	**17.84**	**252**	*eP*	**P**	**19 59 20.6**	**+0.1**
ROSC	**El Rosal**	**18.04**	**241**	LR	LR	20 07 40.3	
	comp=Z,182nm,18.8s,baz=78,slow=42						
NORC	**Norcasia**	**18.16**	**244**	*eP*	**Pn**	**19 59 22.0**	**-1.9**
HELC	**Santa Helena**	**18.46**	**247**	*eP*	**P**	**19 59 24.1**	**-3.7**
GUY2C	**Guyana, Caldas**	**18.75**	**244**	*eP*	**P**	**19 59 29.6**	**-1.5**
TOLC	**Tolima**	**19.03**	**242**	*eP*	**P**	**19 59 33.7**	**-0.2**
ORTC	**Ortega, Tolima**	**19.31**	**240**	*eP*	**P**	**19 59 33.7**	**-3.1**
PLMC	**San Jos del P**	**19.71**	**245**	*eP*	**P**	**19 59 41.3**	**+0.2**
YOTC	**Yotoco, Valle**	**20.21**	**242**	*eP*	**P**	**19 59 43.4**	**-3.3**
SOTA	**Rioblanco**	**21.42**	**238**	*eP*	**P**	**19 59 57.9**	**-2.2**
ATAH	**Atahualpa**	**28.80**	**225**	P	P	20 01 04.2	-5.9
	4.0nm,0.8s,baz=35,slow=12,SNR=2.5						
CPUP	**Villa Florida**	**40.05**	**178**	LR	LR	20 21 57.9	
	comp=Z,66nm,18.9s,baz=224,slow=41						
TXAR	**Lajitas Array**	**44.42**	**298**	P	**P**	**20 03 24.0**	**+1.4**
	0.7nm,0.8s,baz=127,slow=8.4,SNR=9.4						
TXAR				LR	LR	20 25 11.4	
	comp=Z,13nm,19.9s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**44.42**	**298**	P	**P**	**20 03 21.7**	**-0.9**
MNTX	**Cornudas Mount**	**46.32**	**301**	P	**P**	**20 03 37.7**	**+0.1**
MNTX				IAmb	IAmb	20 03 41.3	
	comp=Z,3.0nm,0.9s						
H10N3	**ASCENSION HYDR**	**48.72**	**114**	T	T	20 55 54.3	
	baz=293						
H10N2	**ASCENSION HYDR**	**48.72**	**114**	T	T	20 55 58.0	
	baz=293						
H10N1	**ASCENSION HYDR**	**48.74**	**114**	T	T	20 56 01.9	
	baz=293						
PDAR	**Pinedale Array**	**52.33**	**314**	P	**P**	**20 04 25.4**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=120,slow=8.8,SNR=4.1						
KOWA	**Kowa**	**52.69**	**82**	P	**P**	**20 04 26.1**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=277,slow=7.9,SNR=2.4						
NVAR	**Mina Array Bea**	**57.89**	**307**	P	**P**	**20 05 06.7**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=96,slow=6.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**58.36**	**83**	P	**P**	**20 05 06.3**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=266,slow=6.5,SNR=2.6						
TORD				LR	LR	20 27 44.3	
	comp=Z,47nm,18.3s,baz=215,slow=34						
DAVOX	**Davos/Dischmat**	**65.17**	**45**	LR	LR	20 29 27.5	
	comp=Z,42nm,19.4s,baz=266,slow=31						
INK	**Inuvik**	**71.61**	**338**	P	**P**	**20 06 34.1**	**+1.6**
	comp=Z,2.0nm,1.0s,baz=109,slow=6.2,SNR=2.3						
FINES	**FINESS Array B**	**75.27**	**30**	P	**P**	**20 06 54.2**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=269,slow=8.3,SNR=1.9						
ILAR	**Eielson Array**	**76.83**	**334**	P	**P**	**20 07 04.0**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=71,slow=3.9,SNR=3.0						

*IDC **19** 20:17:04.4±2.3, 3°.97N×125°.76E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.3/3, Error ellipse: s-maj=213.7km s-min=28.2km az=65.0*
*DJA **19** 20:17:13.9±1.4, 4°.N±5°×12°.7E±°, h22km±14km, M3.9/8, mb4.0/3, mB5.6/1, MLv3.8/8, Mw(mB)5.0/1*
ISC 19 20:17:09.9±4.0, **4°.4N**±0°.3×**126°.8E**±0°.1, **h35**km, **n7**, σ1§**37**/7, **mb3.3**/3, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.43**	**242**	P	**Pn**	**20 17 34.5**	**+1.1**
SGSI				S	**Sn**	**20 17 50.6**	**-0.4**
TNTI	**Ternate**	**3.60**	**171**	P	**Pn**	**20 18 04.3**	**+1.0**
GTOI	**Gorontalo**	**5.29**	**226**	P	**Pn**	**20 18 26.3**	**-0.2**
MRSI	**Marisa**	**6.20**	**232**	P	**Pn**	**20 18 39.4**	**+0.5**
	0.2nm20nm,0.9s						
WRA	**Warramunga Arr**	**25.26**	**163**	P	**P**	**20 22 30.8**	**-2.2**
	0.8nm,0.6s,baz=339,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**28.70**	**166**	P	**P**	**20 23 04.1**	**+0.2**
	0.2nm,0.8s,baz=341,slow=11,SNR=1.2						
MKAR	**Makanchi Array**	**57.09**	**325**	P	P	20 26 50.6	-2.2
	0.1nm,0.3s,baz=124,slow=7.7,SNR=4.7						

*TRN **19** 20:17:45.6, 19°.18N×65°.78W, h178km*
*NEIC **19** 20:17:49.3±1.7, 19°.59N±0°.09×65°.50W±0°.05, h45km±45km, Error ellipse: s-maj=12.7km s-min=7.0km az=190.0*
*RSPR **19** 20:17:49.4, 19°.48N×65°.48W, h94km±4km, MD3.7/12*
ISC 19 20:17:49.3±1.3, **19°.57N**±0°.08×**65°.51W**±0°.03, **h35**km, **n80**, σ1§**04**/83, **14C-3D**, **Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.28**	**170**⇑	*eP*	**Pn**	**20 18 10.6**	**-0.1**
CUPR	**Culebra, Puert**	**1.28**	**170**	*eS*	**Sn**	**20 18 27.8**	**+1.1**
CUPR	**Culebra, Puert**	**1.28**	**170**		**Pn**	**20 18 10.4**	**-0.3**
CUPR				Sn	**Sn**	**20 18 27.7**	**+1.1**
CUPR				IAML		20 18 30.8	
	comp=E,633nm,0.5s						
CUPR				IAML		20 18 35.8	
	comp=N,594nm,0.8s						
STVI	**Saint Thomas**	**1.33**	**156**⇑	*eP*	**Pn**	**20 18 11.5**	**+0.1**
STVI	**Saint Thomas**	**1.33**	**156**	*eS*	**Sn**	**20 18 28.4**	**+0.7**
STVI	**Saint Thomas**	**1.33**	**156**		**Pn**	**20 18 10.1**	**-1.2**
STVI	**Saint Thomas**	**1.33**	**156**		**Sn**	**20 18 28.4**	**+0.7**
STVI	**Saint Thomas**	**1.33**	**156**	IAML		20 18 39.5	
	comp=E,650nm,0.8s						
STVI				IAML		20 18 43.3	
	comp=N,645nm,0.8s						
CBYP	**Canovanas**	**1.33**	**194**⇑	*eP*	**Pn**	**20 18 11.7**	**+0.1**
CBYP	**Canovanas**	**1.33**	**194**		**Pn**	**20 18 10.8**	**-0.8**
GCPR	**Guaynabo City**	**1.37**	**203**⇑	*eP*	**Pn**	**20 18 11.6**	**-0.4**
GCPR	**Guaynabo City**	**1.37**	**203**	*eS*	**Sn**	**20 18 30.0**	**+1.1**
GCPR	**Guaynabo City**	**1.37**	**203**		**Pn**	**20 18 11.3**	**-0.7**
GCPR				Sn	**Sn**	**20 18 29.1**	**+0.2**
ABVI	**Anegada Island**	**1.40**	**127**		**Pn**	**20 18 11.6**	**-0.7**
TBVI	**Tortola**	**1.43**	**143**⇑	*eP*	**Pn**	**20 18 12.4**	**-0.4**
TBVI	**Tortola**	**1.43**	**143**	*eS*	**Sn**	**20 18 31.4**	**+1.0**
TBVI	**Tortola**	**1.43**	**143**		**Pn**	**20 18 12.4**	**-0.4**
TBVI					**Sn**	**20 18 31.4**	**+1.0**
EMPR	**Esperanza - Ma**	**1.45**	**222**⇑	*eP*	**Pn**	**20 18 13.4**	**+0.2**
EMPR	**Esperanza - Ma**	**1.45**	**222**	*eS*	**Sn**	**20 18 32.5**	**+1.5**
EMPR	**Esperanza - Ma**	**1.45**	**222**		**Pn**	**20 18 13.0**	**-0.1**
EMPR	**Esperanza - Ma**	**1.45**	**222**		**Sn**	**20 18 32.5**	**+1.5**
EMPR	**Esperanza - Ma**	**1.45**	**222**	IAML		20 18 47.2	
	comp=E,1μm,0.7s						
EMPR				IAML		20 18 50.0	
	comp=N,991nm,0.7s						
MTP	**Monte Pirata**	**1.47**	**181**⇑	*eP*	**Pn**	**20 18 13.5**	**+0.2**
MTP	**Monte Pirata**	**1.47**	**181**	*eS*	**Sn**	**20 18 32.1**	**+0.8**
MTP	**Monte Pirata**	**1.47**	**181**		**Sn**	**20 18 32.1**	**+0.8**
MTP	**Monte Pirata**	**1.47**	**181**		**Pn**	**20 18 13.2**	**-0.2**
MTP	**Monte Pirata**	**1.47**	**181**	IAML		20 18 37.3	
	comp=E,731nm,1.0s						
MTP				IAML		20 18 38.2	
	comp=N,433nm,0.6s						
VGBI	**Virgin Gorda,**	**1.50**	**136**⇑	*eP*	**Pn**	**20 18 14.0**	**+0.2**
VGBI	**Virgin Gorda,**	**1.50**	**136**	*eS*	**Sn**	**20 18 33.1**	**+0.8**
VGBI	**Virgin Gorda,**	**1.50**	**136**		**Pn**	**20 18 14.0**	**+0.2**
VGBI					**Sn**	**20 18 33.1**	**+0.8**
SJG	**San Juan**	**1.57**	**203**	*eP*	**Pn**	**20 18 14.5**	**-0.2**
SJG	**San Juan**	**1.57**	**203**		**Pn**	**20 18 14.4**	**-0.4**
SJG				IAML		20 18 40.0	
	comp=N,404nm,0.6s						
SJG				IAML		20 18 43.8	
	comp=N,456nm,0.6s						
PDPR	**Patillas Dam,**	**1.62**	**197**		**Pn**	**20 18 14.8**	**-0.6**
AOPR	**Arecibo Observ**	**1.69**	**224**⇑	*eP*	**Pn**	**20 18 16.9**	**+0.4**
AOPR	**Arecibo Observ**	**1.69**	**224**	*eP*	**Pn**	**20 18 16.1**	**-0.3**
AOPR				*eS*	**Sn**	**20 18 38.7**	**+1.8**
AOPR	**Arecibo Observ**	**1.69**	**224**		**Sn**	**20 18 38.3**	**+1.3**
AOPR	**Arecibo Observ**	**1.69**	**224**		**Pn**	**20 18 16.1**	**-0.3**
AOPR	**Arecibo Observ**	**1.69**	**224**	IAML		20 18 45.0	
	comp=E,2μm,0.4s						
AOPR				IAML		20 18 46.1	
	comp=N,1μm,0.5s						
IGPR	**InterUniversit**	**1.70**	**199**⇑	*eP*	**Pn**	**20 18 16.4**	**0.0**
IGPR	**InterUniversit**	**1.70**	**199**	*eS*	**Sn**	**20 18 37.4**	**+0.4**
CELP	**Cerrillos**	**1.80**	**214**⇑	*eP*	**Pn**	**20 18 18.0**	**+0.1**
CELP	**Cerrillos**	**1.80**	**214**		**Pn**	**20 18 18.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.84**	**214**⇑	*eP*	**Pn**	**20 18 18.6**	**+0.1**
OBIP	**Obispado Ponce**	**1.84**	**214**		**Pn**	**20 18 18.4**	**-0.1**
OBIP				IAML		20 18 48.0	
	comp=N,328nm,0.6s						
OBIP				IAML		20 18 53.6	
	comp=E,341nm,0.8s						
AGPR	**Aguadilla, PR**	**1.87**	**234**⇑	*eP*	**Pn**	**20 18 19.6**	**+0.7**
AGPR	**Aguadilla, PR**	**1.87**	**234**		**Pn**	**20 18 18.7**	**-0.2**
AGPR				IAML		20 18 47.2	
	comp=E,308nm,0.6s						
AGPR				IAML		20 18 53.3	
	comp=N,296nm,0.7s						
ICMP	**Isla Caja de M**	**1.93**	**210**		**Pn**	**20 18 20.1**	**+0.4**
ICMP				IAML		20 18 56.2	
	comp=E,401nm,0.7s						
ICMP				IAML		20 19 23.2	
	comp=N,329nm,1.6s						
CDVI	**St. Croix**	**1.94**	**159**	*eP*	**Pn**	**20 18 21.4**	**+1.5**
CDVI	**St. Croix**	**1.94**	**159**		**Pn**	**20 18 21.5**	**+1.6**
LSP	**Las Mesas**	**2.04**	**227**⇑	*eP*	**Pn**	**20 18 21.6**	**+0.4**
LSP	**Las Mesas**	**2.04**	**227**		**Pn**	**20 18 21.6**	**+0.4**
GBPR	**Guanica, Bosqu**	**2.05**	**219**⇑	*eP*	**Pn**	**20 18 21.8**	**+0.4**
GBPR	**Guanica, Bosqu**	**2.05**	**219**		**Pn**	**20 18 21.8**	**+0.4**
MLPR	**Magueyes Islan**	**2.16**	**223**⇑	*eP*	**Pn**	**20 18 22.3**	**-0.5**
MLPR	**Magueyes Islan**	**2.16**	**223**	*eS*	**Sn**	**20 18 48.8**	**+0.4**
MLPR	**Magueyes Islan**	**2.16**	**223**		**Sn**	**20 18 48.8**	**+0.4**
MLPR	**Magueyes Islan**	**2.16**	**223**		**Pn**	**20 18 21.8**	**-1.0**
IDE	**Isla Desecheo**	**2.20**	**238**⇑	*eP*	**Pn**	**20 18 23.5**	**+0.1**
IDE	**Isla Desecheo**	**2.20**	**238**	*eS*	**Sn**	**20 18 51.2**	**+1.8**
IDE	**Isla Desecheo**	**2.20**	**238**		**Pn**	**20 18 23.5**	**+0.1**
IDE					**Sn**	**20 18 51.2**	**+1.8**
SMRT	**St. Maarten**	**2.76**	**123**	*eP*	**Pn**	**20 18 32.7**	**+1.5**
SMRT				*eS*	**Sn**	**20 19 06.5**	**+3.2**
SABA	**Saba**	**2.90**	**132**	*eP*	**Pn**	**20 18 35.0**	**+1.9**
PCDR	**Punta Cana, DR**	**2.91**	**249**	Pn	**Pn**	**20 18 33.6**	**+0.4**
PCDR				IAML		20 19 26.8	
	comp=N,224nm,0.8s						
SKI	**Saint Kitts**	**3.45**	**130**	*eP*	**Pn**	**20 18 40.6**	**0.0**
ANWB	**Willy Bob**	**4.01**	**118**	*eP*	**Pn**	**20 18 49.3**	**+1.0**
ANWB	**Willy Bob**	**4.01**	**118**	*eS*	**Sn**	**20 19 35.1**	**+1.0**
BPA	**Boggy Peak**	**4.29**	**125**	*eP*	**Pn**	**20 18 51.0**	**-1.2**
BPA	**Boggy Peak**	**4.29**	**125**	*eS*	**Sn**	**20 19 39.5**	**-1.4**
ANBD	**Bethesda, Anti**	**4.36**	**125**	*eP*	**Pn**	**20 18 52.0**	**-1.0**
ANBD	**Bethesda, Anti**	**4.36**	**125**	*eS*	**Sn**	**20 19 41.7**	**-1.0**
SDDR	**Presa de Saban**	**5.49**	**265**		**Pn**	**20 19 09.9**	**+1.2**
SDDR	**Presa de Saban**	**5.49**	**265**	*eP*	**Pn**	**20 19 09.3**	**+0.7**
GRTK	**Grand Turk**	**5.61**	**291**	Pn	**Pn**	**20 19 08.2**	**-2.1**
SMLC	**San Martn de**	**13.54**	**219**	*eP*	**P**	**20 21 07.0**	**-0.6**
PAMC	**Pamplona, Colo**	**14.02**	**211**	*eP*	**Pn**	**20 21 05.1**	**-0.9**
UREC	**San Jos de Ur**	**15.25**	**221**	*eP*	**Pn**	**20 21 18.5**	**-3.7**
RUSC	**La Rusia**	**15.47**	**209**	*eP*	**P**	**20 21 30.0**	**+0.4**
NORC	**Norcasia**	**16.64**	**214**	*eP*	**Pn**	**20 21 40.5**	**+0.4**
GUY2C	**Guyana, Caldas**	**17.19**	**215**	*eP*	**Pn**	**20 21 48.2**	**+0.8**
PLMC	**San Jos del P**	**17.96**	**217**	*eP*	**Pn**	**20 21 54.9**	**-1.7**

*IDC **19** 20:18:47.8±1.8, 7°.45S×108°.09E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/50, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=123.2km s-min=20.9km az=48.0*
*DJA **19** 20:18:54.4±0.6, 8°.S±3°×10°.8E±°, h14km±5km, M4.0/16, mb3.8/1, MLv4.2/16*
ISC 19 20:18:56.3±0.8, **8°.05S**±0°.10×**107°.93E**±0°.05, **h70**km, **n26**, σ1§**78**/26, **mb3.3**/6, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.50**	**347**	P	**Pn**	**20 19 07.9**	**-1.3**
CISI				S	**Sn**	**20 19 16.2**	**-2.5**
CNJI	**Cibinong**	**1.08**	**313**	P	**Pn**	**20 19 15.3**	**-0.5**
CNJI				S	**Sn**	**20 19 28.6**	**-1.7**
KPJI	**Karang Pucung**	**1.22**	**55**	P	**Pn**	**20 19 17.7**	**+0.1**
KPJI				S	**Sn**	**20 19 35.0**	**+1.5**
LEM	**Lembang**	**1.25**	**346**	P	**Pn**	**20 19 18.6**	**+0.4**
LEM				S	**Sn**	**20 19 38.2**	**+3.7**
DBJI	**Dramaga**	**1.89**	**322**	P	**Pn**	**20 19 27.5**	**+1.0**
YOGI	**Yogyakarta**	**2.35**	**85**	P	**Pn**	**20 19 32.4**	**-0.4**
UGM	**Wanagama**	**2.57**	**87**	P	**Pn**	**20 19 35.6**	**-0.1**
SMRI	**Semarang**	**2.68**	**68**	P	**Pn**	**20 19 38.2**	**+1.0**
PCJI	**Pacitan**	**3.22**	**93**	P	**Pn**	**20 19 44.3**	**-0.2**
BLSI	**Bandar Lampung**	**3.77**	**315**	P	**Pn**	**20 19 53.8**	**+1.8**
PWJI	**Pagerwojo**	**3.84**	**90**	P	**Pn**	**20 19 53.2**	**+0.3**
KASI	**Kota Agung**	**4.23**	**306**	P	**Pn**	**20 19 59.4**	**+1.1**
LWLI	**Liwa**	**4.88**	**308**	P	**Pn**	**20 20 08.8**	**+1.4**
MDSI	**Maura Dua**	**5.14**	**313**	P	**Pn**	**20 20 13.4**	**+2.6**
WRA	**Warramunga Arr**	**28.17**	**118**	P	**P**	**20 24 43.4**	**+1.0**
	0.4nm,0.9s,baz=293,slow=11,SNR=1.4						
ASAR	**Alice Springs**	**29.34**	**125**	P	**P**	**20 24 55.2**	**+2.5**
	0.5nm,0.9s,baz=306,slow=7.9,SNR=3.0						
H08S2	**Diego Garcia H**	**35.10**	**268**	T	T	21 02 44.5	
	baz=93,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**35.11**	**268**	T	T	21 02 56.5	
	baz=93,slow=76,SNR=32						
H08S1	**Diego Carcia H**	**35.12**	**268**	T	T	21 02 57.8

DALY	Dalyan (Mula)	0.97	103	PG	Pb	20 22 26.1	-0.2
DGB	zmir	1.12	335	*i* P	Pb	20 22 28.2	-0.7
DGB				*i* S	Sb	20 22 42.6	-0.7
DGB				IAML		20 22 47.0	
	comp=N,401nm,0.3s						
TAVA	DENIZLI_Tavas	1.23	69	*i* P	Pn	20 22 30.5	-0.1
TAVA				*i* S	Sn	20 22 47.3	+0.3
TAVA				IAML		20 22 53.0	
	comp=E,114nm,0.4s						
FETY	Fethiye	1.35	107	P	Pn	20 22 31.2	-1.0
FETY	Fethiye	1.35	107	PN	Pb	20 22 32.5	-0.3
ZEYE	Izmir, Urla-Ze	1.43	328	*i* P	Pg	20 22 34.9	-0.2
CAME	Cameli-Denizli	1.47	93	PN	Pb	20 22 34.7	-0.2
CAEL	Denizli, Camel	1.48	86	*i* P	Pg	20 22 37.8	+1.7
URLA	Izmir	1.50	333	*i* P	Pg	20 22 41.0	+4.6
URLA	Izmir	1.50	333	PN	Pn	20 22 34.2	0.0
KARP	Karpathos	1.50	190	P	Pn	20 22 34.4	0.0
KARP	Karpathos	1.50	190	P	Pn	20 22 34.4	0.0
KARP	Karpathos	1.50	190	PN	Pn	20 22 34.4	0.0
KARP	Karpathos	1.50	190	⇑P	Pn	20 22 34.2	-0.2
KARP				S	Sb	20 22 54.8	+0.3
KARP				AML	AML	20 23 00.2	
	comp=E,1.5nm,0.6s						
KARP				AML	AML	20 23 00.2	
	comp=E,1.5nm,0.6s						
KARP				AML	AML	20 23 03.2	
	comp=E,1.8nm,0.8s						
KARP				AML	AML	20 23 03.2	
	comp=E,1.8nm,0.8s						
APE	Apeiranthos	1.56	272	⇓P	Pb	20 22 35.8	-0.5
APE	Apeiranthos	1.56	272	⇑S	Sg	20 22 59.2	+1.5
APE	Apeiranthos	1.56	272	P	Pb	20 22 36.0	-0.3
APE	Apeiranthos	1.56	272	P	Pb	20 22 35.8	-0.5
APE				S	Sn	20 22 55.2	+0.1
APE				AML	AML	20 23 08.7	
	comp=E,811µm,0.6s						
APE				AML	AML	20 23 08.8	
	comp=N,800µm,0.4s						
APE	Apeiranthos	1.56	272	*i* P	Pn	20 22 34.3	-0.7
APE	Apeiranthos	1.56	272	PN	Pb	20 22 35.6	-0.7
APE	Apeiranthos	1.56	272	P	Pb	20 22 35.8	-0.5
APE				S	Sb	20 22 55.5	-0.5
GOLH	Golhisar	1.68	82	*i* P	Pg	20 22 40.5	+0.6
MANT	Manisa	1.69	30	*i* P	Pn	20 22 36.7	-0.4
SANT	Santorini	1.75	248	⇑P	Pb	20 22 38.8	-0.8
SANT	Santorini	1.75	248	⇓S	Sg	20 23 02.4	-1.5
SANT	Santorini	1.75	248	P	Pn	20 22 38.1	+0.4
SANT	Santorini	1.75	248	PN	Pn	20 22 37.9	+0.2
KULA	Kula-Manisa	1.75	32	P	Pn	20 22 37.4	-0.4
CHOS	Chios island	1.76	321	P	Pn	20 22 37.6	-0.3
CHOS	Chios island	1.76	321	PN	Pn	20 22 37.8	-0.1
THR3	Thira Island,	1.78	250	P	Pn	20 22 38.4	+0.4
SNT5	Nea Kammeni, S	1.79	250	P	Pn	20 22 38.5	+0.4
THR6	Thira Island,	1.80	249	P	Pn	20 22 38.9	+0.5
THR6	Thira Island,	1.80	249	P	Pn	20 22 39.1	+0.7
AKAS	Kas	1.89	114	*i* P	Pg	20 22 43.5	-0.5
AKAS	Kas	1.89	114	PN	Pn	20 22 40.4	+0.7
TNSA	Tinos	1.91	286	P	Pb	20 22 41.1	-1.2
KSL	Kastellorizon	1.91	117	P	Pb	20 22 42.4	0.0
KSL	Kastellorizon	1.91	117	⇑P	Pb	20 22 41.4	-0.9
KSL				AML	AML	20 23 17.6	
	comp=N,0.5nm,1.3s						
KSL				AML	AML	20 23 24.6	
	comp=N,0.6nm,0.9s						
ZEDA	zmir-Bergama	1.96	351	*i* P	Pg	20 22 44.9	-0.2
ELL	Elmali	1.97	98	PN	Pn	20 22 41.2	+0.3
PASA	Karahalli, USA	2.07	50	*i* P	Pn	20 22 43.2	+1.1
USAK	Uak-Merkez	2.08	36	*i* P	Pn	20 22 42.0	-0.2
ZKR	Zakros	2.17	208	PN	Pb	20 22 45.1	-1.6
ZKR	Zakros	2.17	208	P	Pn	20 22 44.8	+1.3
BASM	Basmaki-Afyon	2.23	66	PN	Pn	20 22 44.4	0.0
KORT	Korkueli	2.30	90	*i* P	Pb	20 22 49.0	-0.1
KORT	Korkueli	2.30	90	PN	Pn	20 22 45.6	+0.2
STEP	BALIKESIR_Sava	2.35	5	*i* P	Pg	20 22 52.4	-0.3
PRK	Paraskevi	2.40	337	P	Pn	20 22 46.7	0.0
AKUM	Antalya-Kumluc	2.41	106	*i* P	Pb	20 22 50.9	0.0
AKUM				*i* S	Sn	20 23 17.3	+1.1
AKUM				IAML		20 23 31.0	
	comp=E,178nm,0.4s						
KZIL	AFYON_Kizioren	2.44	59	*i* P	Pg	20 22 54.8	+0.3
BUCA	Burdur, Bucak-	2.48	82	*i* P	Pb	20 22 53.8	+1.7
BUHA	Balikesir, Bur	2.48	353	*i* P	Pg	20 22 54.8	-0.4
BUHA				*i* S	Sg	20 23 26.8	-0.6
BCK	Bucak	2.52	79	PN	Pn	20 22 48.8	+0.4
ANTB	Antalya	2.55	92	PN	Pn	20 22 49.4	+0.7
BALY	Balya	2.71	2	*i* P	Pb	20 22 57.2	+1.3
IDI	Anoyia	2.72	231	Pn	Pn	20 22 50.3	-0.8
	comp=E,1.5nm,0.3s,baz=20,slow=6.1,SNR=15						
IDI				Sn	Sn	20 23 23.1	-0.8
	comp=E,4.1nm,0.3s,baz=118,slow=22,SNR=7.4						
IDI	Anoyia	2.72	231	⇑P	Pn	20 22 51.4	+0.3
IDI	Anoyia	2.72	231	PN	Pn	20 22 52.5	+1.4
BAYC	CANAKKALE_Bayr	2.80	345	*i* P	Pn	20 22 51.5	-0.6
ULDT	Uludag	3.37	22	*i* P	Pg	20 23 10.2	-1.9
IGD	Bursa	3.50	22	*i* P	Pg	20 23 12.9	-1.7
SMTH	Samothraki Isl	3.75	337	P	Pn	20 23 05.3	+0.1
ALN	Alexandroupoli	4.01	344	P	Pn	20 23 09.2	+0.4
RDO	Rodhopi	4.37	340	P	Pn	20 23 14.2	+0.5
AKMS	Akamas	4.42	116	P	Pn	20 23 15.6	+1.1
AKMS				AML	AML	20 24 05.2	
	comp=E,0.4nm,0.9s						
AKMS				AML	AML	20 24 06.9	
	comp=E,0.3nm,0.6s						
AGG	Agios Georgios	4.52	298	*i* P	Pn	20 23 15.1	-0.7
ALFC	Alefka	4.55	113	P	Pn	20 23 16.8	+0.5
ALFC				AML	AML	20 24 08.4	
	comp=E,0.2nm,0.3s						
ALFC				AML	AML	20 24 10.7	
	comp=E,0.2nm,0.3s						
NATA	Nata	4.71	117	P	Pn	20 23 19.1	+0.7
LEF	Lefka	4.79	112	⇓P	Pn	20 23 19.3	-0.1
SZAC	Souni	4.94	116	⇑P	Pn	20 23 22.9	+1.2
SZAC				AML	AML	20 24 19.5	
	comp=E,0.2nm,0.7s						
SZAC				AML	AML	20 24 19.7	
	comp=E,0.2nm,0.6s						
CSS	Mathiatis	5.18	112	P	Pn	20 23 26.5	+1.7
ASGA	Asgata	5.20	114	P	Pn	20 23 26.3	+1.3
MVOU	Mavrovouni	5.38	110	⇑P	Pn	20 23 28.3	+0.7
BRTR	Keskin Array B	5.54	59	Pn	Pn	20 23 31.8	+1.9
	comp=E,0.5nm,0.3s,baz=178,slow=29,SNR=13						
BRTR				Sn	Sn	20 24 31.0	-2.5
	baz=238,slow=30,SNR=0.9						
SLUM	Salum	5.84	199	S	Sn	20 24 36.8	-3.9
SLUM	baz=201			AMP		20 24 00.0	
	baz=201						
STIP	Stip	6.20	320	*i* Pn	Pn	20 23 39.6	+0.8
VTS	Vitosha	6.46	331	⇓P	Pn	20 23 43.8	+1.3
MMAI	Mount Meron Ar	7.64	119	Pn	Pn	20 23 57.9	-0.8
	comp=E,3.1nm,0.3s,baz=305,slow=12,SNR=17						
MMAI				Sn	Sn	20 25 20.2	-4.9
	comp=E,3.6nm,0.3s,baz=306,slow=27,SNR=7.9						
MMAI				LR	LR	20 28 33.1	
	comp=E,19nm,20.3s,baz=235,slow=51						
HMYD	Mayadein	7.74	158	P	Pn	20 24 00.3	+0.3
	baz=157						
SWA2		7.95	193	P	Pn	20 24 03.1	+0.2
	baz=194						
KOT	Kottamia	7.96	152	P	Pn	20 24 03.4	+0.3
	baz=151						
KOT				AMP		20 25 00.0	
	baz=151						
GLL	Jalalah	8.24	153	P	Pn	20 24 06.9	0.0
	baz=153						
RYAN	Fayoum	8.27	163	S	Sn	20 25 34.4	-6.2
	baz=162						
RYAN				AMP		20 25 00.0	
	baz=162						
SUZ	Suez	8.46	147	P	Pn	20 24 10.0	+0.2
	baz=146						
MLR	Muntele Rosu	8.53	353	⇓P	Pn	20 24 12.4	+1.5
PLOR	Plostina	8.83	356	⇓P	Pn	20 24 16.0	+1.1
VRI	Vrincioaia	8.84	357	⇑P	Pn	20 24 16.6	+1.6
ZNM	Zenema	8.88	148	P	Pn	20 24 15.8	+0.3
	baz=147						
GZR	Gura Zlata	9.07	339	⇓P	Pn	20 24 20.4	+2.1
HFRF	Wahat Farafira	9.88	176	P	Pn	20 24 29.1	-0.3
	baz=175						
HFRF				S	Sn	20 26 13.8	-6.4
	baz=175						
MORH	Mrgy, Hungar	11.30	327	⇑P	Pn	20 24 50.3	+1.6
HDK1	Dakhla	11.57	171	P	Pn	20 24 53.4	+0.8
	baz=171						
ESDC	Sonseca Array	24.73	286	P	P	20 27 29.8	+1.0
	comp=E,0.4nm,0.5s,baz=84,slow=9.2,SNR=6.8						
TORD	Torodi Ar. Bea	33.12	231	P	P	20 28 43.5	-0.1
	comp=E,1.2nm,0.6s,baz=35,slow=8.7,SNR=6.6						
KURBB	Kurchatov Arra	38.49	53	P	P	20 29 29.8	+0.5
	comp=E,0.8nm,0.7s,baz=276,slow=8.6,SNR=6.5						
MKAR	Makanchi Array	41.19	59	P	P	20 29 52.2	+0.4
	comp=E,0.3nm,0.5s,baz=281,slow=7.6,SNR=2.8						
ZALV	Zalesovo Beam	42.36	48	P	P	20 30 01.9	+0.7
	comp=E,1.0nm,0.6s,baz=274,slow=8.1,SNR=4.6						
SONM	Songino Array	56.85	52	P	P	20 31 52.8	+0.8
	comp=E,0.4nm,0.7s,baz=284,slow=7.3,SNR=2.7						

TAP ***19*** *20:25:47.6, 24.°55N×122.°72E, h98km, ML2.6, C*
JMA ***19*** *20:25:47.7±0.2, 24.°41N×122.°72E, h94km±2km, M1.9*
ISC 19 20:25:48.0±1.6, 24.°51N±0.°05×122.°73E±0.°03, h92km±11km, n56, σ0.°61/107, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.26	101	P	Pn	20 26 01.6	+0.2
YOJ				*e*S	Sn	20 26 11.5	+0.1
YOJ	Yonaguni jima	0.26	101	*e*P	Pn	20 26 02.0	+0.6
	baz=112						
YOJ				*e*S	Sn	20 26 12.4	+1.0
	baz=112						
TWC	Suao	0.81	277	*e*P	Pn	20 26 05.7	0.0
	baz=277						
TWC				*e*S	Sn	20 26 18.7	-0.2
	baz=277						
EWUT	Wuta	0.87	266	*e*S	Sn	20 26 20.9	+0.8
	baz=258						
NTC	Toucheng	0.89	293	*e*P	Pn	20 26 06.8	+0.2
	baz=284						
NTC				*e*S	Sn	20 26 20.4	0.0
	baz=284						
IRIF	Iriomote-Funau	0.93	101	P	Pn	20 26 07.0	0.0
IRIF				*e*S	Sn	20 26 21.1	-0.1
NDS	Dongshan	0.93	278	*e*P	Pn	20 26 07.5	+0.5
	baz=275						
NDS				*e*S	Sn	20 26 20.5	-0.8
	baz=275						
TIPB	Shuangxi	0.94	299	*e*P	Pn	20 26 06.9	-0.2
	baz=294						
TIPB				*e*S	Sn	20 26 21.3	-0.3
	baz=294						
TWE	Neicheng	0.99	282	*e*P	Pn	20 26 07.2	-0.5
	baz=279						
TWE				*e*S	Sn	20 26 21.8	-0.6
	baz=279						
ENTT	Nioudou	1.07	277	*e*P	Pn	20 26 08.7	+0.1
	baz=274						
ENTT				*e*S	Sn	20 26 24.0	-0.1
	baz=274						
ETL	Fush Village	1.07	251	*e*P	Pn	20 26 08.4	-0.2
	baz=241						
ETL				*e*S	Sn	20 26 24.0	-0.2
	baz=241						
NACB	Ninganchiao	1.09	252	P	Pn	20 26 08.2	-0.6
	baz=243						
NACB				S	Sn	20 26 23.9	-0.6
	baz=243						
NDT	Datong Townshi	1.11	275	*e*S	Sn	20 26 25.3	+0.3
	baz=275						
TWD	Chiawan	1.12	248	*e*P	Pn	20 26 08.5	-0.7
	baz=244						
TWD				*e*S	Sn	20 26 24.5	-0.6
	baz=244						
NWLT	Wulai	1.15	284	*e*P	Pn	20 26 09.3	-0.2
	baz=288						
NWLT				*e*S	Sn	20 26 25.1	-0.7
	baz=288						
ETLH	Xiulin Townshi	1.18	255	P	Pn	20 26 09.7	-0.3
	baz=247						
ETLH				S	Sn	20 26 26.0	-0.5
	baz=247						
NHDH	Xindian Distri	1.19	293	*e*P	Pn	20 26 09.8	-0.1
	baz=282						
NHDH				*e*S	Sn	20 26 26.3	-0.2
	baz=282						
JKRS	Kuro-shima	1.20	103	P	Pn	20 26 10.4	+0.3
JKRS				S	Sn	20 26 27.7	+1.0
TEYL	Yanliau Villag	1.22	238	*e*P	Pn	20 26 10.0	-0.3
	baz=237						
TEYL				*e*S	Sn	20 26 27.3	+0.2
	baz=237						
TAP1	Taipei	1.22	296	*e*S	Sn	20 26 26.2	-0.9
	baz=285						
YM01	YM01	1.23	301	*e*P	Pn	20 26 10.5	-0.1
	baz=291						
YM01				*e*S	Sn	20 26 27.2	-0.4
	baz=291						
NNSB	Datong	1.23	266	*e*P	Pn	20 26 10.7	+0.1
	baz=257						
NNSB				*e*S	Sn	20 26 27.2	-0.5
	baz=257						
NNSH	Datong	1.23	266	*e*P	Pn	20 26 10.7	+0.1
	baz=257						
NNSH				*e*S	Sn	20 26 27.9	+0.3
	baz=257						
NNS	Nan Shan	1.24	267	*e*P	Pn	20 26 11.1	+0.4
	baz=257						
NNS				*e*S	Sn	20 26 27.5	-0.3
	baz=257						
YHNB	Yeheng	1.24	278	*e*P	Pn	20 26 10.8	0.0
	baz=275						
YHNB				*e*S	Sn	20 26 27.4	-0.5
	baz=275						
ETM	Tongmen	1.25	245	*e*P	Pn	20 26 10.0	-0.7
	baz=239						
ETM				*e*S	Sn	20 26 27.2	-0.8
	baz=239						
NSK	Sanguang	1.26	278	*e*P	Pn	20 26 11.0	+0.1
	baz=275						
NSK				*e*S	Sn	20 26 28.2	0.0
	baz=275						
JIJ	Ishigaki jima	1.30	96	P	Pn	20 26 11.1	-0.2
JIJ				S	Sn	20 26 28.0	-0.8
TEGC	Jichi Village	1.35	234	*e*P	Pn	20 26 12.6	+0.7
	baz=229						
TEGC				*e*S	Sn	20 26 31.4	+1.4
	baz=229						
ESL	Shilin	1.37	240	*e*P	Pn	20 26 11.5	-0.7
	baz=242						
ESL				*e*S	Sn	20 26 29.7	-0.8
	baz=242						
FUSS	Fushou	1.38	259	P	Pn	20 26 12.7	+0.1
	baz=256						
FUSS				*e*S	Sn	20 26 31.0	-0.1
	baz=256						
WHF	Hehuan Shan	1.39	255	*e*P	Pn	20 26 13.0	+0.2
	baz=257						
WHF				*e*S	Sn	20 26 31.3	-0.2
	baz=257						
JISG	Ishigakijimahi	1.44	87	P	Pn	20 26 12.9	-0.1
JISG				S	Sn	20 26 31.1	-0.9
EGFH	Guangfu	1.46	235	P	Pn	20 26 12.7	-0.6
	baz=236						
EGFH				S	Sn	20 26 32.1	-0.2
	baz=236						
TDCB	Techi	1.46	260	P	Pn	20 26 13.7	+0.3
	baz=254						
TDCB				S	Sn	20 26 32.3	-0.3
	baz=254						
CHGB	Renai	1.49	253	*e*P	Pn	20 26 13.7	-0.2
	baz=243						
CHGB				*e*S	Sn	20 26 32.8	-0.7
	baz=243						
OWD	Renai	1.52	249	*e*P	Pn	20 26 14.0	-0.2
	baz=241						
OWD				*e*S	Sn	20 26 33.2	-0.9
	baz=241						
HGSD	Ruisui	1.57	230	*e*P	Pn	20 26 14.4	-0.2
	baz=225						
HGSD				*e*S	Sn	20 26 34.2	-0.7
	baz=225						
LIOB	Emei	1.57	275	*e*P	Pn	20 26 15.1	+0.4
	baz=273						
LIOB				*e*S	Sn	20 26 35.1	+0.1
	baz=273						
NSTT	Nanjuang	1.58	275	*e*S	Sn	20 26 35.2	0.0
	baz=272						
EHY	Hungye	1.63	232	*e*P	Pn	20 26 15.1	-0.4
	baz=230						
EHY				*e*S	Sn	20 26 35.8	-0.5
	baz=230						
WHP	Taichung City	1.64	262	*e*P	Pn	20 26 16.7	+0.9
	baz=258						
WHP				*e*S	Sn	20 26 37.2	+0.5
	baz=258						
WCS	Beigang Elemen	1.72	255	*e*P	Pn	20 26 16.9	+0.3
	baz=251						
WCS				*e*S	Sn	20 26 39.3	+0.9
	baz=251						
YULB	Yu-li	1.72	230	*e*P	Pn	20 26 16.1	-0.6
	baz=235						
YULB				*e*S	Sn	20 26 37.4	-1.0
	baz=235						
EYUL	Yuli	1.73	228	*e*P	Pn	20 26 17.7	+0.9
	baz=235						
EYUL				*e*S	Sn	20 26 39.5	+0.8
	baz=235						
TWF1	Yuli	1.75	229	*e*P	Pn	20 26 16.5	-0.5
	baz=235						
TWF1				*e*S	Sn	20 26 38.2	-0.8
	baz=235						
SSLB	Suanglung	1.77	246	*e*P	Pn	20 26 17.4	+0.1
	baz=240						
SSLB				*e*S	Sn	20 26 38.9	-0.8
	baz=240						
SMLT	Sun Moon Lake	1.78	250	*e*P	Pn	20 26 18.2	+0.7
	baz=244						
SMLT				*e*S	Sn	20 26 40.8	+0.7
	baz=244						
TYC	Yuchr	1.81	251	*e*P	Pn	20 26 18.5	+0.7
	baz=243						
TYC				*e*S	Sn	20 26 41.0	+0.5
	baz=243						
FULB	Fuli	1.85	225	*e*P	Pn	20 26 18.4	0.0
	baz=217						
FULB				*e*S	Sn	20 26 41.9	+0.4
	baz=217						
ELDTW	Lidau	2.05	230	*e*P	Pn	20 26 20.6	-0.4
	baz=228						
ELDTW				*e*S	Sn	20 26 44.6	-1.5
	baz=228						
CHN5	Tsauling	2.08	245	*e*P	Pn	20 26 22.7	+1.2
	baz=242						
CHN5				*e*S	Sn	20 26 48.5	+1.5
	baz=242						
STYH	Taoyuan	2.23	234	*e*P	Pn	20 26 24.1	+0.9
	baz=228						
STYH				*e*S	Sn	20 26 51.1	+0.8
	baz=228						
TWGBT	Beinan	2.27	222	*e*P	Pn	20 26 22.8	-1.0
	baz=226						
TWGBT				*e*S	Sn	20 26 50.2	-0.9
	baz=226						
TPUB	Ta-pu	2.27	238	*e*S	Sn	20 26 51.9	+0.7
	baz=229						
CHN4	Tsaushan	2.27	240	*e*P	Pn	20 26 24.8	+0.9
	baz=237						
CHN4				*e*S	Sn	20 26 52.4	+1.1
	baz=237						

IDC ***19*** *20:28:10.0±0.7, 55.°36S×27.°01W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/25, mbtmp4.3/9, ML4.1/1, MS3.8/1, Ms1 3.7/1, ms1mx3.1/17, Error ellipse: s-maj=29.1km s-min=17.4km az=70.0*
NEIC ***19*** *20:28:14.9±1.2, 55.°4S±0.°1×27.°33W±0.°09, h29km±5km, mb4.6/25, Error ellipse: s-maj=18.7km s-min=6.8km az=186.0*
ISC 19 20:28:14.0±0.6, 55.°39S±0.°10×27.°2W±0.°1, h25km, n47, σ0.°60/42, mb4.5/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.46	278	Pn	Pn	20 29 33.6	0.0
VNA1	Neumayer--Stat	17.42	159	P	P	20 32 16.5	+0.6
VNA3	Neumayer Olymp	17.62	161	P	P	20 32 18.5	+0.3
SNAA	Sanae	19.36	157	P	Pn	20 32 38.5	0.0
SNAA	Sanae	19.36	157	P	P	20 32 36.1	-1.2
	0.6nm,0.3s,baz=298,slow=11,SNR=30						
SNAA	Sanae	19.36	157	P	P	20 32 37.2	-0.1
PMSA	Palmer Station	20.32	228	P	P	20 32 48.5	+0.8
	15nm,1.0s,baz=87,slow=11,SNR=2.1						
PMSA	Palmer Station	20.32	228	P	P	20 32 47.0	-0.8
PMSA				IAmb	IAmb	20 32 58.8	
	comp=Z,26nm,1.0s						
TRQA	Tornquist	29.04	292	P	P	20 34 12.9	+1.0
QSPA	South Pole Qui	34.86	180	P	P	20 35 02.9	+0.1
	comp=Z,3.6nm,0.6s,baz=131,slow=0.7,SNR=24						
QSPA	South Pole Qui	34.86	180	P	P	20 35 03.5	+0.7
QSPA				IAmb	IAmb	20 35 04.7	
	comp=Z,14nm,1.5s						
CPUP	Villa Florida	36.36	311	P	P	20 35 15.0	-0.8
	comp=Z,1.6nm,0.7s,baz=142,slow=8.9,SNR=3.0						
CPUP	Villa Florida	36.36	311	IAmb	IAmb	20 35 18.0	
	comp=Z,2.5nm,1.0s						
MT09	Talagante	37.08	287	P	P	20 35 21.2	-0.9
MT01	Popeta	37.16	287	P	P	20 35 22.4	-0.3
MT02	Curacav	37.56	288	P	P	20 35 26.2	+0.3
VA03	San Esteban	37.62	289	P	P	20 35 25.9	-0.7
VA03				IAmb	IAmb	20 35 28.6	
	comp=Z,13nm,0.8s						
CO02	Combarbal	39.06	290	P	P	20 35 38.8	0.0
CO02				IAmb	IAmb	20 35 44.6	
	comp=Z,20nm,1.0s						
CO03	El Pedregal	39.18	291	P	P	20 35 39.2	-0.5
CO03				IAmb	IAmb	20 35 55.3	
	comp=Z,6.3nm,0.9s						
GO04	Tololo Observa	39.76	291	P	P	20 35 44.2	-0.5
MAW	Mawson	40.70	144	P	P	20 35 51.4	-0.4
	comp=Z,2.3nm,0.8s,baz=228,slow=12,SNR=4.5						
MAW	Mawson	40.70	144	P	P	20 35 51.6	-0.2
GO02	Mina Guanaco	43.17	297	P	P	20 36 12.1	-0.7
GO02				IAmb	IAmb	20 36 15.3	
	comp=Z,14nm,0.9s						
LVC	Limon Verde	44.95	300	P	P	20 36 28.1	+1.0
LVC				IAmb	IAmb	20 36 32.8	
	comp=Z,5.2nm,0.8s						
BOSA	Boshof	45.84	76	LR	LR	20 52 30.6	
	comp=Z,101nm,19.4s,baz=186,slow=32						
PB01	IPOC Station P	46.55	300	P	P	20 36 39.1	-0.5
PB01				IAmb	IAmb	20 36 41.1	
	comp=Z,7.5nm,0.7s						
PB08	IPOC Station P	47.15	301	P	P	20 36 44.3	-0.3
PB08				IAmb	IAmb	20 36 58.0	
	comp=Z,4.1nm,0.8s						
VNDA	Vanda	47.23	183	P	P	20 36 44.2	+0.1
	comp=Z,2.8nm,0.6s,baz=187,slow=6.5,SNR=30						
VNDA	Vanda	47.23	183	P	P	20 36 44.4	+0.3
VNDA				IAmb	IAmb	20 36 46.0	
	comp=Z,3.7nm,0.8s						
PB11	IPOC Station P	47.72	301	P	P	20 36 47.7	-1.0
PSGCX	Pisagua	48.09	300	P	P	20 36 51.5	0.0
H10N1	ASCENSION HYDR	48.49	17	T	T	21 29 54.1	
	baz=189						
H10N3	ASCENSION HYDR	48.50	17	T	T	21 29 03.6	
	baz=189						
H10N2	ASCENSION HYDR	48.51	17	T	T	21 29 33.4	
	baz=189						
TSUM	Tsumeb	49.39	61	P	P	20 37 02.3	+0.7
LPAZ	La Paz	49.97	305	P	P	20 37 07.4	+0.8
	comp=Z,2.8nm,0.6s,baz=216,slow=8.3,SNR=14						
LPAZ	La Paz	49.97	305	P	P	20 37 07.0	+0.5
LPAZ				IAmb	IAmb	20 37 07.9	
	comp=Z,3.1nm,0.7s						
TORD	Torodi Ar. Bea	72.50	30

mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/15, Error ellipse: s-maj=79.9km s-min=26.1km az=124.0

ISC 19 20:30:44.2±1.9, 7°.4S±0°.4×149°.7E±0°.4, h35km, n7, σ1s06/7, mb3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.21**	**230**	Pn	**Pn**	**20 31 33.6**	**+1.4**
PMG	46nm,0.3s,baz=57,slow=6.7,SNR=109			Sn	**Sn**	**20 32 08.2**	**-1.0**
	45nm,0.3s,baz=326,slow=22,SNR=15						
WRA	**Warramunga Arr**	**19.43**	**228**	P	**Pn**	**20 35 08.2**	**-0.9**
	0.3nm,0.3s,baz=54,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.18**	**221**	P	**P**	**20 35 37.6**	**+0.1**
	0.4nm,0.5s,baz=58,slow=8.8,SNR=15						
RAR	**Rarotonga**	**50.69**	**111**	LR	LR	20 55 54.8	
	comp=Z,66nm,20.9s,baz=340,slow=30						
MKAR	**Makanchi Array**	**80.21**	**320**	P	**P**	**20 42 51.4**	**+0.2**
	0.4nm,0.9s,baz=108,slow=4.7,SNR=2.8						
ILAR	**Eielson Array**	**85.69**	**23**	P	**P**	**20 43 19.1**	**0.0**
	0.5nm,1.1s,baz=233,slow=4.6,SNR=1.3						
TORD	**Torodi Ar. Bea**	**147.97**	**283**	PKPbc	**PKiKP**	**20 50 28.0**	**-0.8**
	0.8nm,0.5s,baz=54,slow=3.1,SNR=13						

*IDC **19** 20:37:15.1±1.3, 47°.20N×154°.16E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.4/46, mbtmp3.4/8, ML2.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/30, Error ellipse: s-maj=37.3km s-min=25.5km az=136.0*

ISC 19 20:37:19.8±1.1, 47°.3N±0°.2×154°.1E±0°.2, h31km, n12, σ0s79/8, mb3.4/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.29**	**20**	Pn	**Pn**	**20 38 49.9**	**-0.5**
	0.6nm,0.3s,baz=205,slow=13,SNR=8.3						
ASAJ	**Asahikawa**	**8.64**	**253**	Pn	**Pn**	**20 39 22.6**	**-0.1**
	0.2nm,0.3s,baz=85,slow=12,SNR=3.1						
KLR	**Kul'dur**	**15.01**	**286**	LR	LR	20 46 28.4	
	comp=Z,40nm,18.6s,baz=148,slow=37						
ILAR	**Eielson Array**	**35.72**	**39**	P	**P**	**20 44 15.1**	**-0.1**
	0.2nm,0.6s,baz=259,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**20 45 49.4**	**-0.7**
	0.3nm,0.7s,baz=61,slow=7.4,SNR=2.9						
FINES	**FINESS Array B**	**63.85**	**335**	P	**P**	**20 47 50.2**	**+1.4**
	1.7nm,0.9s,baz=48,slow=6.2,SNR=4.0						
NOA	**NORSAR Array B**	**67.95**	**342**	P	**P**	**20 48 15.8**	**+0.6**
	0.3nm,0.7s,baz=28,slow=6.5,SNR=1.9						
ASAR	**Alice Springs**	**72.92**	**199**	P	**P**	**20 48 45.8**	**-0.1**
	0.2nm,0.7s,baz=26,slow=6.6,SNR=1.3						
TXAR	**Lajitas Array**	**76.65**	**61**	P	**P**	**20 49 07.8**	**+0.1**
	0.2nm,0.6s,baz=321,slow=3.8,SNR=2.3						
H03N2	**Juan Fernandez**	**138.09**	**90**	T	T	23 30 20.1	
	baz=309						
H03N1	**Juan Fernandez**	**138.10**	**90**	T	T	23 30 06.5	
	baz=309						
H03N3	**Juan Fernandez**	**138.10**	**90**	T	T	23 30 20.9	
	baz=309						

IDC 19 20:41:31.4±2.5, 25°.68N×141°.14E, h122km±25km, mb3.6/4, mb1 3.8/4, mb1mx3.2/31, mbtmp4.0/4, Error ellipse: s-maj=65.8km s-min=19.7km az=98.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.69**	**33**	P	Pn	20 42 02.3	+1.2
	11nm,0.3s,baz=358,slow=19,SNR=7.4						
JCJ				S	Sn	20 42 23.7	-0.1
	26nm,0.3s,baz=263,slow=23,SNR=11						
WRA	**Warramunga Arr**	**45.83**	**189**	P	P	20 49 41.1	-0.2
	1.5nm,0.3s,baz=9.7,slow=6.9,SNR=20						
STKA	**Stephens Creek**	**57.24**	**180**	P	P	20 51 05.5	-0.5
	2.4nm,0.9s,baz=344,slow=15,SNR=4.0						
ILAR	**Eielson Array**	**59.39**	**28**	P	P	20 51 21.5	+0.9
	0.5nm,0.8s,baz=249,slow=6.8,SNR=5.2						
FINES	**FINESS Array B**	**78.79**	**334**	P	P	20 53 19.9	-0.5
	1.1nm,0.8s,baz=55,slow=7.3,SNR=6.5						

*DDA **19** 20:56:34.1, 37°.00N×28°.33E, h7km±2km, ML1.2*

ISK 19 20:56:33.5, 37°.01N×28°.25E, h23km, mL1.4/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**11**	PG	Pb	20 56 38.6	+0.4
YER				SG	Sb	20 56 41.7	+0.3
TURN	**Turunc**	**0.23**	**181**	*i* P	Pb	20 56 39.0	-0.3
TURN				*i* S	Sb	20 56 43.3	+0.1
TURN				IAML		20 56 44.0	
	comp=N,45nm,0.4s						
TURN	**Turunc**	**0.23**	**181**	PG	Pb	20 56 39.9	+0.6
TURN				SG	Sb	20 56 44.1	+0.9
MULA	**Mugla, Merkez-**	**0.26**	**12**	*i* P	Pb	20 56 39.8	0.0
MULA				*i* S	Sb	20 56 45.1	+1.1
DALY	**Dalyan (Mula)**	**0.37**	**120**	*i* P	Pb	20 56 41.8	+0.3
DALY	**Dalyan (Mula)**	**0.37**	**120**	*i* P	Pb	20 56 41.8	+0.3
DALY	**Dalyan (Mula)**	**0.37**	**120**	PG	Pb	20 56 41.8	+0.3
TAVA	**DENIZLI_Tavas**	**0.70**	**49**	*i* P	Pb	20 56 46.6	-0.5
TAVA				*i* S	Sb	20 56 54.8	-1.6
AYDN	**Tasoluk**	**0.72**	**336**	*i* P	Pn	20 56 49.8	+1.4
AYDN				*i* S	Sn	20 56 59.5	+0.8
BODT	**Bodrum**	**0.76**	**274**	PG	Pn	20 56 48.6	-0.2
AYDB	**Zeytinkoy-Aydi**	**0.98**	**343**	PG	Pn	20 56 52.2	+0.2

*DDA **19** 20:57:00.8, 36°.43N×29°.77E, h7km±2km, ML1.5*

ISK 19 20:57:00.3, 36°.35N×29°.73E, h27km, mL2.0/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.16**	**220**	*i* P	Pb	20 57 05.9	0.0
AKAS				*i* S	Sb	20 57 10.6	+1.0
AKAS				IAML		20 57 11.0	
	comp=E,77nm,0.5s						
AKAS				IAML		20 57 12.0	
	comp=N,146nm,0.3s						
AKAS	**Kas**	**0.16**	**220**	PG	Pb	20 57 06.0	+0.2
AKAS				SG	Sb	20 57 10.4	+0.8
DEMR	**Demre-Antalya**	**0.18**	**129**	PG	Pb	20 57 06.2	+0.3
AKUM	**Antalya-Kumluc**	**0.49**	**93**	*i* P	Pb	20 57 10.4	-0.1
FETY	**Fethiye**	**0.59**	**299**	*i* P	Pb	20 57 12.3	+0.1
FETY				*i* S	Sn	20 57 21.4	-0.5
FETY	**Fethiye**	**0.59**	**299**	PG	Pb	20 57 12.5	+0.3
FETY				SG	Sn	20 57 22.1	+0.3
CAME	**Cameli-Denizli**	**0.68**	**330**	PG	Pn	20 57 14.6	+0.2
CAME				SG	Sn	20 57 25.0	+0.8
KORT	**Korkueli**	**0.82**	**37**	*i* P	Pn	20 57 17.2	+1.0
KORT				*i* S	Sn	20 57 32.3	+4.8
KORT				IAML		20 57 33.0	
	comp=N,20nm,0.5s						
KORT				IAML		20 57 34.0	
	comp=E,22nm,0.6s						
KORT	**Korkueli**	**0.82**	**37**	PG	Pn	20 57 16.4	+0.2
DALY	**Dalyan (Mula)**	**0.98**	**298**	PG	Pn	20 57 18.3	0.0
TAVA	**DENIZLI_Tavas**	**1.29**	**330**	*i* P	Pb	20 57 24.6	+0.7
TAVA				*i* S	Sb	20 57 41.2	+1.1
MULA	**Mugla, Merkez-**	**1.45**	**309**	*i* P	Pb	20 57 26.8	+0.2
MULA				*i* S	Sb	20 57 44.4	-0.3
MULA				IAML		20 57 54.0	
	comp=E,6.5nm,0.5s						

*IDC **19** 21:02:40.6±0.9, 4°.43S×125°.44E, h444km±10km, mb3.8/18, mb1 4.0/21, mb1mx3.7/41, mbtmp4.6/21, Error ellipse: s-maj=13.0km s-min=8.1km az=63.0*

*NEIC **19** 21:02:40.6±1.6, 4°.4S±0°.1×125°.4E±0°.1, h437km±2km, mb4.5/27, Error ellipse: s-maj=16.9km s-min=13.4km az=54.0*

*DJA **19** 21:02:40.5±0.1, 4°.5±2°×12°.6E±°, h437km±3km, M4.5/34, mB5.0/21, mb4.6/34, MLv4.8/25, Mw(mB)4.3/21*

ISC 19 21:02:40.4±0.4, 4°.48S±0°.05×125°.44E±0°.06, h441km, n127, σ1s12/142, mb4.4/46, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.06**	**53**	P	**P**	**21 03 40.5**	**0.0**
NLAI				S	**S**	**21 04 27.1**	**-2.0**
SANI	**Sanana**	**2.47**	**13**	P	**P**	**21 03 43.3**	**+0.2**
SANI				S	**S**	**21 04 33.3**	**-0.5**
MSAI	**Masohi**	**3.66**	**72**	P	**P**	**21 03 51.1**	**-0.9**
BNDI	**Bandanaira**	**4.45**	**91**	P	**P**	**21 03 58.8**	**-0.3**
APSI	**Ampana**	**5.19**	**313**	P	**P**	**21 04 07.3**	**+1.1**
	0.7nm3μm216nm,0.9s						
BSSI	**Bau Bau, Buton**	**5.20**	**251**	P	**P**	**21 04 07.9**	**+1.6**
	0.4nm135nm,0.8s						
MMRI	**Maumere**	**5.21**	**217**	P	**P**	**21 04 08.0**	**+1.5**
MMRI	**Maumere**	**5.21**	**217**	P	**P**	**21 04 08.2**	**+1.7**
	0.3nm38nm,0.9s						
BNSI	**Bone**	**5.32**	**271**	P	**P**	**21 04 08.9**	**+1.4**
	2.0nm5μm495nm,0.7s						
BKSI	**Bulukumba**	**5.37**	**261**	P	**P**	**21 04 09.0**	**+1.0**
	0.9nm2μm224nm,0.7s						
SOEI	**Soe**	**5.37**	**192**	P	**P**	**21 04 09.0**	**+0.8**
SOEI	**Soe**	**5.37**	**192**	P	**P**	**21 04 09.0**	**+0.8**
	0.8nm3μm49nm,0.4s						
TNTI	**Ternate**	**5.56**	**20**	P	**P**	**21 04 10.1**	**+0.1**
TNTI					**S**	**21 05 20.7**	**-2.2**
TNTI	**Ternate**	**5.56**	**20**	P	**P**	**21 04 10.0**	**+0.1**
	0.3nm909nm42nm,0.8s						
GTOI	**Gorontalo**	**5.63**	**334**	P	**P**	**21 04 13.1**	**+2.5**
	1.3nm4μm449nm,0.7s						
EDFI	**Ende, Flores**	**5.65**	**221**	P	**P**	**21 04 11.7**	**+0.8**
	0.1nm23nm,0.8s						
KAPI	**Kappang**	**5.70**	**264**	P	**P**	**21 04 12.5**	**+1.2**
	8.6nm,0.3s,baz=88,slow=3.2,SNR=24						
KAPI				S	**S**	**21 05 25.0**	**-0.5**
	baz=119,slow=20,SNR=0.9						
KAPI	**Kappang**	**5.70**	**264**	P	**P**	**21 04 11.0**	**-0.3**
TTSI	**Tana Toraja**	**5.79**	**284**	P	**P**	**21 04 13.3**	**+1.1**
	0.5nm2μm134nm,0.6s						
BATI	**Baumati**	**5.96**	**197**	P	**P**	**21 04 15.3**	**+1.3**
	1.2nm4μm289nm,0.5s						
MRSI	**Marisa**	**6.04**	**325**	P	**P**	**21 04 15.2**	**+0.4**
	3.3nm9μm965nm,0.6s						
SWI	**Sorong**	**6.83**	**58**	P	**P**	**21 04 22.9**	**-0.4**
	1.1nm3μm313nm,0.8s						
SIJI	**Sorong**	**6.83**	**59**	P	**P**	**21 04 23.0**	**-0.3**
	14nm,0.3s,baz=265,slow=22,SNR=66						
SIJI				S	**S**	**21 05 47.8**	**+0.5**
	2.1nm,0.3s,baz=33,slow=21,SNR=5.5						
FAKI	**Fak Fak**	**6.97**	**77**	P	**P**	**21 04 24.7**	**-0.1**
FAKI	**Fak Fak**	**6.97**	**77**	P	**P**	**21 04 24.5**	**-0.2**
	1.5nm6μm240nm,0.7s						
TOLI2	**Tolitoli**	**7.24**	**320**	P	**P**	**21 04 27.5**	**-0.2**
MPSI	**Mapaga**	**7.32**	**311**	P	**P**	**21 04 29.2**	**+0.7**
WBSI	**Waikabubak, Su**	**7.90**	**229**	P	**P**	**21 04 33.6**	**-1.1**
	0.7nm67nm,0.5s						
SGSI	**Sangihe**	**8.11**	**1**	P	**P**	**21 04 37.1**	**+0.1**
	3μm194nm,0.6s						
KMPI	**Kaimana, Papua**	**8.28**	**85**	P	**P**	**21 04 38.9**	**0.0**
	177nm,0.5s						
PLAI	**Plampang**	**8.75**	**240**	P	**P**	**21 04 43.8**	**-0.2**
	1μm102nm,0.6s						
TWSI	**Taliwang, Sumb**	**9.50**	**243**	P	**P**	**21 04 51.7**	**-0.4**
	769nm22nm,0.7s						
MTN	**Manton Dam**	**10.04**	**146**	P	**P**	**21 04 58.8**	**+0.8**
BBKI	**Banjar Baru**	**10.62**	**275**	P	**P**	**21 05 07.1**	**+2.6**
	31nm,0.7s						
MTKI	**Muara Teweh, K**	**11.10**	**288**	P	**P**	**21 05 11.2**	**+1.5**
KNRA	**Kununurra**	**11.60**	**164**	P	**P**	**21 05 15.8**	**+0.7**
KMMI	**Kalianget**	**11.70**	**257**	P	**P**	**21 05 18.0**	**+1.8**
	2μm98nm,0.5s						
GENI	**Genyem**	**14.82**	**83**	P	**P**	**21 05 49.5**	**-0.4**
	2μm56nm,0.7s						
SMRI	**Semarang**	**15.14**	**260**	P	**P**	**21 05 53.0**	**-0.4**
KPJI	**Karang Pucung**	**16.66**	**259**	P	**P**	**21 06 10.1**	**+0.5**
	73nm,0.6s						
WB0	**Warramunga Arr**	**17.52**	**151**	P	**P**	**21 06 18.4**	**-0.2**
WRAB	**Tennant Creek**	**17.65**	**151**	P	**P**	**21 06 19.8**	**-0.2**
WRA	**Warramunga Arr**	**17.65**	**151**	P	**P**	**21 06 19.0**	**-0.9**
	12nm,0.3s,baz=337,slow=10,SNR=229						
WRA				S	**S**	**21 09 18.6**	**-2.2**
	baz=326,slow=17,SNR=6.1						
WRA				ScP	**ScP**	**21 13 26.0**	**-1.0**
	baz=320,slow=2.3,SNR=2.2						
WRA	**Warramunga Arr**	**17.65**	**151**	P	**P**	**21 06 18.5**	**-1.5**
WB2	**Warramunga Arr**	**17.66**	**151**	P	**P**	**21 06 19.7**	**-0.3**
WR0	**Warramunga Arr**	**17.76**	**151**	P	**P**	**21 06 20.8**	**-0.3**
CISI	**Cisompet, Garu**	**17.79**	**259**	P	**P**	**21 06 19.0**	**-2.6**
CISI				IAmb	IAmb	21 06 20.2	
	comp=Z,36nm,0.6s						
CISI	**Cisompet, Garu**	**17.79**	**259**	P	**P**	**21 06 19.8**	**-1.8**
AS31	**Alice Springs**	**20.75**	**158**	P	**P**	**21 06 50.5**	**+1.2**
AS31				IAmb	IAmb	21 06 52.6	
	comp=Z,19nm,0.5s						
ASAR	**Alice Springs**	**20.75**	**158**	P	**P**	**21 06 50.2**	**+0.9**
	comp=Z,28nm,0.4s,baz=335,slow=8.3,SNR=232						
ASAR				S	**S**	**21 10 12.1**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=350,slow=27,SNR=6.5						
ASAR				ScP	**ScP**	**21 13 34.3**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=321,slow=1.3,SNR=3.8						
ASAR	**Alice Springs**	**20.75**	**158**	P	**P**	**21 06 50.4**	**+1.1**
PMG	**Port Moresby**	**22.10**	**104**	P	**P**	**21 07 02.4**	**+0.8**
	comp=Z,19nm,0.6s,baz=296,slow=19,SNR=4.1						
MNSI	**Mandailing Nat**	**26.36**	**281**	P	**P**	**21 07 39.9**	**+0.2**
	comp=Z,14nm,0.8s						
RABL	**Rabaul**	**26.65**	**90**	P	**P**	**21 07 42.1**	**-0.2**
CHAI	**Chaiyaphum**	**30.80**	**312**	P	**P**	**21 08 19.0**	**+0.4**
	comp=Z,45nm,0.6s						
CHAI	**Chaiyaphum**	**30.80**	**312**	P	**P**	**21 08 19.0**	**+0.4**
STKA	**Stephens Creek**	**31.19**	**153**	P	**P**	**21 08 22.8**	**+1.1**
	comp=Z,32nm,0.6s,baz=327,slow=8.8,SNR=75						
STKA				PP	**pwP**	**21 09 43.3**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=321,slow=11,SNR=3.0						
STKA				ScP	**ScP**	**21 14 04.2**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=322,slow=5.2,SNR=5.4						
STKA	**Stephens Creek**	**31.19**	**153**	P	**P**	**21 08 22.8**	**+1.1**
STKA				IAmb	IAmb	21 08 23.6	
	comp=Z,6.3nm,0.6s						
STKA				ScP	**ScP**	**21 14 04.0**	**-0.6**
UTHA	**Uthaitani**	**32.54**	**308**	P	**P**	**21 08 34.7**	**+1.2**
	comp=Z,0.0nmcomp=Z,66nmcomp=Z,4.9nm,0.7s						
UTTA	**Uttaradit**	**33.02**	**313**	P	**P**	**21 08 38.5**	**+0.9**
	comp=Z,204nmcomp=Z,15nm,0.8s						
UTTA	**Uttaradit**	**33.02**	**313**	P	**P**	**21 08 38.6**	**+0.9**
	comp=Z,0.0nmcomp=Z,51nmcomp=Z,3.8nm,0.8s						
CM36	**Chiang Mai Arr**	**34.59**	**312**	P	**P**	**21 08 52.0**	**+1.1**
CM04	**Chiang Mai Arr**	**34.60**	**312**	P	**P**	**21 08 52.3**	**+1.3**
	comp=Z,135nmcomp=Z,15nm,0.8s						
CM04	**Chiang Mai Arr**	**34.60**	**312**	P	**P**	**21 08 52.0**	**+1.0**
	comp=Z,0.0nmcomp=Z,135nmcomp=Z,15nm,0.8s						
CM09	**Chiang Mai Arr**	**34.62**	**312**	P	**P**	**21 08 52.6**	**+1.4**
	comp=Z,97nmcomp=Z,13nm,0.7s						
CM09	**Chiang Mai Arr**	**34.62**	**312**	P	**P**	**21 08 52.6**	**+1.4**
	comp=Z,0.0nmcomp=Z,97nmcomp=Z,13nm,0.7s						
CM05	**Chiang Mai Arr**	**34.62**	**312**	P	**P**	**21 08 52.4**	**+1.2**
	comp=Z,95nmcomp=Z,12nm,0.8s						
CM05	**Chiang Mai Arr**	**34.62**	**312**	P	**P**	**21 08 52.5**	**+1.2**
	comp=Z,0.0nmcomp=Z,95nmcomp=Z,12nm,0.8s						
CM01	**Chiang Mai Arr**	**34.63**	**312**	P	**P**	**21 08 52.6**	**+1.3**
	comp=Z,126nmcomp=Z,15nm,0.7s						
CM01	**Chiang Mai Arr**	**34.63**	**312**	P	**P**	**21 08 52.0**	**+0.7**
	comp=Z,0.0nmcomp=Z,126nmcomp=Z,15nm,0.7s						
CM02	**Chiang Mai Arr**	**34.65**	**312**	P	**P**	**21 08 52.6**	**+1.2**
	comp=Z,0.0nmcomp=Z,106nmcomp=Z,13nm,0.8s						
CM31	**Chiang Mai Arr**	**34.66**	**312**	P	**P**	**21 08 52.8**	**+1.2**
	comp=Z,1.1nmcomp=Z,316nm,0.7s						
CM31	**Chiang Mai Arr**	**34.66**	**312**	P	**P**	**21 08 50.8**	**-0.8**
CM31				IAmb	IAmb	21 08 53.2	
	comp=Z,9.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**34.66**	**312**	P	**P**	**21 08 52.4**	**+0.8**
	comp=Z,7.8nm,0.7s,baz=138,slow=7.0,SNR=59						
CMAR	**Chiang Mai Arr**	**34.66**	**312**	P	**P**	**21 08 50.9**	**-0.7**
CM13	**Chiang Mai Arr**	**34.67**	**312**	P	**P**	**21 08 52.5**	**+0.9**
	comp=Z,113nmcomp=Z,14nm,0.9s						
CM13	**Chiang Mai Arr**	**34.67**	**312**	P	**P**	**21 08 52.0**	**+0.4**
	comp=Z,0.0nmcomp=Z,113nmcomp=Z,14nm,0.9s						
CM15	**Chiang Mai Arr**	**34.67**	**312**	P	**P**	**21 08 52.7**	**+1.0**
	comp=Z,142nmcomp=Z,15nm,0.8s						
CM15	**Chiang Mai Arr**	**34.67**	**312**	P	**P**	**21 08 52.0**	**+0.3**
	comp=Z,0.0nmcomp=Z,142nmcomp=Z,15nm,0.8s						
CM32	**Chiang Mai Arr**	**34.85**	**312**	P	**P**	**21 08 55.0**	**+1.8**
CMMT	**Chiang Mai**	**34.88**	**312**	P	**P**	**21 08 54.1**	**+0.6**
	comp=Z,23nm,0.9s						
CMMT	**Chiang Mai**	**34.88**	**312**	P	**P**	**21 08 54.0**	**+0.6**
	comp=Z,0.1nmcomp=Z,23nm,0.9s						
CHTO	**Chiang Mai**	**34.88**	**312**	P	**P**	**21 08 53.3**	**-0.1**
CHTO				IAmb	IAmb	21 08 55.0	
	comp=Z,14nm,0.8s						
KMI	**Kunming**	**36.77**	**324**	⇓P	**P**	**21 09 10.6**	**+1.2**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NJ2	**Nanjing**	**36.86**	**351**	*e*P	**P**	**21 09 13.6**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CAN	**Canberra**	**37.63**	**148**	P	**P**	**21 09 17.7**	**+1.6**
CAN				IAmb	IAmb	21 09 19.4	
	comp=Z,29nm,0.6s						
TOO	**Toolangi**	**37.70**	**154**	P	**P**	**21 09 17.8**	**+1.1**
TOO				IAmb	IAmb	21 09 19.7	
	comp=Z,14nm,0.8s						
MJAR	**Matsushiro Arr**	**42.52**	**15**	P	**P**	**21 09 54.3**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=171,slow=8.6,SNR=2.7						
SHL	**Shillong**	**44.18**	**314**	P	**P**	**21 10 07.8**	**-1.2**
SHL				IAmb	IAmb	21 10 09.0	
	comp=Z,9.4nm,0.8s						
LZH	**Lanzhou**	**45.14**	**335**	*e*P	**P**	**21 10 19.4**	**+3.2**
LZH				pP	PcP	21 11 48.3	+0.5
LZH				sP	sP	21 12 39.1	+8.5
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC	**Hu-ho-hao-te**	**46.87**	**346**	*e*P	**P**	**21 10 32.0**	**+2.7**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,47nm,6.6s						
USRK	**Ussuriysk Ar.**	**48.81**	**6**	P	**P**	**21 10 43.1**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=197,slow=6.8,SNR=9.1						
USRK	**Ussuriysk Ar.**	**48.81**	**6**	P	**P**	**21 10 44.1**	**+0.3**
GTA	**Gaotai**	**49.66**	**334**	⇓P	**P**	**21 10 50.6**	**+0.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**54.71**	**344**	P	**P**	**21 11 26.3**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=161,slow=8.5,SNR=10						
SONM				PcP	**PcP**	**21 12 22.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=143,slow=4.4,SNR=2.6						
SONM	**Songino Array**	**54.71**	**344**	P	**P**	**21 11 26.5**	**-0.3**
SONM					**PcP**	**21 12 22.7**	**-0.3**
WMQ	**Urumqi**	**58.86**	**329**	*e*P	**P**	**21 11 57.5**	**+2.0**
NIL	**Nilore**	**62.16**	**312**	P	**P**	**21 12 17.2**	**-0.4**
NIL				IAmb	IAmb	21 12 17.8	
	comp=Z,23nm,0.5s						
PETK	**Petropavlovsk-**	**63.48**	**21**	P	**P**	**21 12 27.0**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=195,slow=9.7,SNR=4.2						
MK31	**Makanchi Array**	**63.68**	**328**	P	**P**	**21 12 26.4**	**-0.7**
MKAR	**Makanchi Array**	**63.68**	**328**	P	**P**	**21 12 26.9**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=118,slow=8.3,SNR=78						
MKAR				PcP	**PcP**	**21 12 59.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=116,slow=4.3,SNR=4.4						
MKAR	**Makanchi Array**	**63.68**	**328**	P	**P**	**21 12 27.1**	**0.0**
MAKZ	**Makanchi**	**63.85**	**328**	P	**P**	**21 12 27.8**	**-0.5**
KBL	**Kabul**	**65.69**	**311**	P	**P**	**21 12 40.1**	**-0.3**
KBL				IAmb	IAmb	21 12 41.4	
	comp=Z,12nm,0.7s						
GAR	**Garm**	**66.70**	**316**	P	**P**	**21 12 45.7**	**-0.9**
GAR				IAmb	IAmb	21 12 46.9	
	comp=Z,15nm,0.7s						
CHGR	**Chuyangaron**	**67.35**	**315**	P	**P**	**21 12 49.7**	**-0.9**
CHGR				IAmb	IAmb	21 12 50.8	
	comp=Z,17nm,0.7s						
ZAA0	**Zalesovo Array**	**67.37**	**335**	P	**P**	**21 12 49.3**	**-0.9**
ZAA0				IAmb	IAmb	21 12 49.8	
	comp=Z,5.9nm,1.1s						
ZALV	**Zalesovo Beam**	**67.37**	**335**	P	**P**	**21 12 49.0**	**-1.2**
	comp=Z,2.6nm,0.4s,baz=108,slow=4.8,SNR=14						
ZALV	**Zalesovo Beam**	**67.37**	**335**	P	**P**	**21 12 49.3**	**-0.9**
HRA	**Herat**	**70.84**	**309**	P	**P**	**21 13 10.7**	**-1.3**
BRVK	**Borovoye**	**73.62**	**329**	P	**P**	**21 13 27.3**	**-0.2**
BRVK				IAmb	IAmb	21 13 28.0	
	comp=Z,4.5nm,1.1s						
VNDA	**Vanda**	**75.51**	**172**	P	**P**	**21 13 38.0**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=320,slow=6.3,SNR=6.4						
ABKAR	**Akbulak array**	**77.74**	**322**	P	**P**	**21 13 49.6**	**-0.9**
AKTO	**Aktyubinsk**	**79.33**	**323**	P	**P**	**21 13 58.8**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=84,slow=9.2						
BELG	**Belogornoye**	**86.12**	**323**	P	**P**	**21 14 33.1**	**-0.3**
	comp=Z,5.9nm,0.6s,baz=333,slow=2.8,SNR=14						
KBZ	**Khabaz**	**87.69**	**314**	P	**P**	**21 14 40.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=102,slow=2.7,SNR=4.3						
ILAR	**Eielson Array**	**93.02**	**25**	P	**P**	**21 15 03.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=234,slow=5.0,SNR=9.6						
BRTR	**Keskin Array B**	**94.22**	**309**	P	**P**	**21 15 10.2**	**-1.3**
	comp=

MT03 Universidad Ad 2.15 146 Pn 21 09 22.0 +1.2
MT09 Talagante 2.21 159⇑ *e*P Pn 21 09 23.2 +1.5
MT09 *e*S **Sn 21 09 50.1 +1.5**
MT09 IAML 21 10 02.6
comp=N,3μm,0.5s
MT09 Talagante 2.21 159 Pn 21 09 23.1 +1.5
MT01 Popeta 2.22 165⇑ *e*P Pn 21 09 22.6 +1.0
MT01 *e*S **Sb 21 09 51.9 -0.6**
MT01 Popeta 2.22 165 P Pn 21 09 21.8 +0.1
LMEL Las Melosas 2.58 146 *e*P Pn 21 09 28.7 +1.9
LMEL *e*S **Sn 21 10 00.0 +2.1**
LMEL IAML 21 10 10.5
comp=E,3μm,0.3s
BO01 Tunca 2.76 165⇑ *e*P Pn 21 09 30.1 +1.0
BO01 *e*S **Sn 21 10 04.9 +2.8**
BO01 Tunca 2.76 165 Pn 21 09 29.9 +0.8
BO03 Pichilemu 2.77 180 *e*P Pn 21 09 29.4 +0.2
BO03 *e*S **Sn 21 10 00.3 -2.0**
ZON Zonda 2.79 87 Pn **Pn 21 09 30.8 +1.2**
LCO Las Campanas 2.91 22 Pn **Pn 21 09 31.8 +0.4**
BO02 Sierra Bellavi 3.22 163 *e*P Pn 21 09 37.0 +1.6
BO02 *e*S **Sn 21 10 13.6 +0.1**
BO02 IAML 21 10 29.7
comp=E,2μm,0.4s
BO02 Sierra Bellavi 3.22 163 Pn 21 09 36.3 +0.8
GO05 Huala 3.28 180 Pn **Pn 21 09 35.3 -1.0**
AC04 Llanos de Chal 3.58 12 Pn **Pn 21 09 40.0 -0.5**
ML02 Panimavida 4.06 174 Pn 21 09 48.0 +1.1
GO03 Copiap 4.37 20 Pn **Pn 21 09 52.5 +1.2**
AC02 Maricunga 5.45 28 Pn **Pn 21 10 07.3 +0.7**
H03N1 Juan Fernandez 6.12 252 Pn **Pn 21 10 16.3 +1.2**
baz=79,slow=14,SNR=7.6
H03N1 T T 21 17 00.4
baz=79,slow=73,SNR=7454
H03N3 Juan Fernandez 6.14 252 Pn **Pn 21 10 15.6 +0.2**
baz=79,slow=14,SNR=7.7
H03N3 T T 21 16 59.0
baz=79,slow=73,SNR=4186
H03N2 Juan Fernandez 6.14 252 Pn **Pn 21 10 16.7 +1.4**
baz=79,slow=14,SNR=6.0
H03N2 T T 21 17 01.5
baz=79,slow=73,SNR=3754
GO02 Mina Guanaco 6.85 18 Pn **Pn 21 10 24.0 -1.7**
LC01 Cunco 7.16 180 Pn 21 10 29.1 -0.5
PB14 IPOC Station P 7.20 11 Pn **Pn 21 10 30.0 -0.4**
PLCA Paso Flores 9.07 173 Pn **Pn 21 10 56.3 +0.5**
comp=E,0.8nm,0.3s,baz=334,slow=11,SNR=14
PLCA Lg Lg 21 13 22.1
comp=E,0.1nm,0.3s,baz=266,slow=20,SNR=2.2
PLCA LR LR 21 14 48.8
comp=E,331nm,20.0s,baz=312,slow=40
PLCA Paso Flores 9.07 173 *e*P Pn 21 10 56.5 +0.7
LVC Limon Verde 9.47 17 Pn **Pn 21 10 58.9 -2.6**
comp=E,0.5nm,0.3s,baz=188,slow=22,SNR=2.5
LVC Sn **Sn 21 12 53.2 +5.3**
comp=E,2.1nm,0.3s,baz=193,slow=10,SNR=2.3
LVC Limon Verde 9.47 17 *e*P Pn 21 11 00.8 -0.8
TRQA Tornquist 10.34 130 Pn 21 11 13.0 -0.2
TRQA Tornquist 10.34 130 *e*P Pn 21 11 13.7 +0.5
ITQB Itaqui 13.34 85 Pn 21 11 54.2 -0.1
ITQB Itaqui 13.34 85 *e*P Pn 21 11 54.1 -0.1
CPUP Villa Florida 13.87 71 Pn **Sn 21 11 59.4 -2.0**
comp=E,0.2nm,0.3s,baz=264,slow=9.7,SNR=3.4
CPUP Sn **Sn 21 14 33.6 -1.5**
comp=E,0.5nm,0.3s,baz=238,slow=9.0,SNR=1.9
CPUP LR LR 21 18 12.1
comp=E,168nm,20.9s,baz=227,slow=42
CPUP Villa Florida 13.87 71 *e*P Pn 21 12 01.5 +0.1
PLTB Pedras Altas 15.61 95 Pn **Pn 21 12 22.9 -2.1**
PLTB IAmb IAmb 21 12 34.8
comp=Z,21nm,1.4s
PLTB Pedras Altas 15.61 95 *e*P Pn 21 12 25.0 +0.1
LPAZ La Paz 15.75 14 Pn **Pn 21 12 26.1 -1.2**
comp=Z,0.3nm,0.3s,baz=200,slow=4.8,SNR=8.4
LPAZ La Paz 15.75 14 Pn **Pn 21 12 23.6 -3.7**
LPAZ La Paz 15.75 14 *e*P Pn 21 12 27.4 0.0
CPSB Cacapava Do Su 15.92 90 *e*P Pn 21 12 28.6 -0.2
ITAB Concordia 17.82 81 *e*P P 21 12 53.5 0.0
AQDB Aquidauana 18.37 56 *e*P P 21 12 57.2 -2.3
SIV San Ignacio 18.53 35 P **P 21 12 59.8 -1.6**
comp=Z,0.5nm,0.3s,baz=220,slow=9.8,SNR=16
TRCB Terra Rica 19.31 67 *e*P Pn 21 13 10.4 -0.7
PTLB Pontes e Lacer 19.97 39 *e*P P 21 13 17.4 +0.2
PP1B Ponte de Pedra 20.89 52 *e*P P 21 13 27.4 +0.2
PCMB Pacaembu 21.02 66 *e*P P 21 13 28.5 -0.1
TIJ01 Guaruva-PR 21.12 78 *e*P P 21 13 29.0 -0.8
VILB Vilhena 21.57 33 *e*P P 21 13 33.4 -1.2
SALV Santo Antonio 21.61 47 *e*P P 21 13 34.1 -0.8
ETMB Extrema 22.43 15 *e*P P 21 13 43.9 +0.1
PET01 Itanhaem-SP 22.97 77 *e*P P 21 13 49.2 -0.2
SPB Sao Paulo 23.14 76 P **P 21 13 47.4 -3.7**
SPB Sao Paulo 23.14 76 *e*P P 21 13 51.0 -0.1
BB19B Bebedouro 23.46 69 *e*P P 21 13 53.9 -0.5
RCLB Rio Claro- Sao 23.59 73 *e*P P 21 13 55.3 -0.4
VAO Valinhos 23.78 75 *e*P P 21 13 57.4 -0.2
CZSB Cruzeiro do Su 23.88 358 *e*P P 21 13 57.7 -0.7
ARAG Araguaiana, MT 24.30 54 *e*P P 21 14 02.2 -0.2
IPMB Ipameri, GO 25.44 63 *e*P P 21 14 11.5 -1.2
CLDB Colider 25.56 39 *e*P P 21 14 14.3 +0.5
BSCB Bom Sucesso 26.52 73 *e*P P 21 14 21.9 -0.7
VAS01 Vassouras-RJ 27.02 77 *e*P P 21 14 27.0 0.0
BDFB Brasilia 27.05 59 P **P 21 14 26.1 -1.3**
comp=Z,9.7nm,0.8s,baz=240,slow=8.7,SNR=12
BDFB LR LR 21 26 54.8
comp=Z,116nm,19.2s,baz=206,slow=41
BDFB Brasilia 27.05 59 P **P 21 14 24.0 -3.3**
BDFB IAmb IAmb 21 14 27.3
comp=Z,17nm,1.1s
SNDB Serra Nova Dou 27.36 49 *e*P P 21 14 29.6 -0.5
DUB01 Friburgo-RJ 27.99 77 *e*P P 21 14 33.5 -2.2
DIAM Diamantina, MG 28.80 69 *e*P P 21 14 42.7 -0.3
NPGB Novo Progresso 29.02 36 *e*P P 21 14 43.1 -1.8
PEXB Peixe 29.24 53 *e*P P 21 14 46.6 -0.3
MC01 Montes Claros 29.48 66 *e*P P 21 14 47.6 -1.4
ALF01 Guarapari-ES 30.02 76 *e*P P 21 14 53.1 -0.6
JANB Januaria 30.18 63 *e*P P 21 14 54.5 -0.8
BSFB Barra de Sao F 30.80 73 *e*P P 21 15 01.3 +0.7
ITTB Itaituba 31.18 33 *e*P P 21 15 03.3 -0.7
SDBA SAO DESIDERIO 31.43 58 *e*P P 21 15 05.4 -0.9
SMTB Santa Maria do 32.08 50 *e*P P 21 15 11.5 -0.5
PRPB Paraiapebas 32.78 44 *e*P P 21 15 16.9 -1.2
MALB Monte Alegre 34.07 33 *e*P P 21 15 29.1 -0.1
BOAV Boa Vista 35.62 20 *e*P P 21 15 42.5 -0.2
NBPN Ponto Novo - B 35.93 62 *e*P P 21 15 44.3 -1.1
MCPB Macapa, AP 36.43 35 *e*P P 21 15 49.1 -0.4
TMAB Tom-Au,PA,Br 36.84 42 *e*P P 21 15 53.2 0.0
NBPS Pedro II - PI 39.47 53 *e*P P 21 16 14.6 -0.8
NBLV Livramento - P 40.65 61 *e*P P 21 16 24.3 -0.9
NBRF Rio Formoso - 41.15 64 *e*P P 21 16 29.3 0.0
VNA3 Neumayer Olymp 51.44 159 P **P 21 17 50.6 +1.2**
VNA1 Neumayer--Stat 51.74 158 P **P 21 17 53.2 +1.5**
SNAA Sanae 53.67 158 P **P 21 18 07.1 +1.0**
SNAA Sanae 53.67 158 P **P 21 18 06.4 +0.3**
comp=Z,4.2nm,0.8s,baz=285,slow=6.6,SNR=23
SNAA Sanae 53.67 158 P **P 21 18 06.1 +0.1**
SNAA IAmb IAmb 21 18 07.9
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 58.51 180 P **P 21 18 41.8 +1.0**
TXAR Lajitas Array 67.79 330 P **P 21 19 43.4 +0.7**
comp=Z,0.4nm,0.6s,baz=146,slow=8.4,SNR=6.8
LIC Lamto 73.99 72 *e*P P 21 20 20.5 -0.2
comp=Z,105nm,1.8s
TIC Toumodi 74.24 72 *e*P P 21 20 22.6 +0.5
KIC Kosan Boka 74.30 72 *e*P P 21 20 23.4 +0.9
comp=Z,18nm,0.7s
BOSA Boshof 81.06 118 P **P 21 20 59.9 -0.4**
comp=Z,4.5nm,0.8s,baz=217,slow=2.6,SNR=7.9
PDAR Pinedale Array 81.77 333 P **P 21 21 04.6 +1.0**
comp=Z,0.3nm,0.5s,baz=131,slow=2.7,SNR=2.7
NVAR Mina Array Bea 82.06 325 P **P 21 21 05.9 +0.7**
comp=Z,1.2nm,0.8s,baz=146,slow=5.9,SNR=8.9
TORD Torodi Ar. Bea 83.36 70 P **P 21 21 12.1 -0.2**
comp=Z,4.1nm,0.8s,baz=251,slow=4.6,SNR=14
ASAR Alice Springs 119.63 207 PKP **PKPdf 21 27 34.7 -0.6**
comp=Z,0.5nm,0.8s,baz=123,slow=1.5,SNR=3.4
WRA Warramunga Arr 122.78 210 PKP **PKPdf 21 27 41.3 -0.1**
comp=Z,0.6nm,0.5s,baz=158,slow=1.6,SNR=16
BVAR Borovoye Array 145.53 41 PKPbc **PKPdf 21 28 22.1 -0.3**
comp=Z,3.5nm,0.7s,baz=194,slow=12,SNR=25
ZALV Zalesovo Beam 152.24 30 PKPbc **PKiKP 21 28 40.2 0.0**
comp=Z,6.8nm,0.5s,baz=299,slow=3.6,SNR=30
MKAR Makanchi Array 155.16 45 PKP **PKPdf 21 28 36.7 -0.9**
comp=Z,0.3nm,0.7s,baz=262,slow=0.7,SNR=4.0
MKAR PKPbc **sPKPdf 21 28 45.6 +1.6**
comp=Z,0.3nm,0.8s,baz=262,slow=0.9,SNR=3.6
SONM Songino Array 163.85 4 PKPab **PKPab 21 29 41.8 +1.6**
comp=Z,0.6nm,0.8s,baz=339,slow=3.7,SNR=5.1

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*DDA **19** 21:13:54.7, 37.09N×27.51E, h4km±1km, ML1.9*
ISK 19 21:13:54.5, 37.04N×27.51E, h4km, ML2.0/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.06**	**293**	*i* P	Pg	21 13 56.6	+0.8
BDRM				*i* P	Pg	21 13 56.6	+0.8
BDRM				*i* S	Sg	21 13 58.0	+1.2
BDRM				IAML		21 13 58.0	
	comp=N,3μm,0.2s						
BDRM				IAML		21 13 58.0	
	comp=E,4μm,0.2s						
BDRM				IAML		21 13 58.0	
	comp=E,4μm,0.2s						
BDRM				*i* S		21 13 58.0	
BODT	**Bodrum**	**0.16**	**277**	PG	Pg	21 13 58.3	+0.6
BODT				SG	Sg	21 14 01.1	+1.3
DAT	**Datca**	**0.32**	**170**	*i* P	Pb	21 14 02.1	-0.7
DAT	**Datca**	**0.32**	**170**	PG	Pg	21 14 01.3	+0.6
DAT				SG	Sb	21 14 06.7	-1.7
DDIM	**Aydin, Didim**	**0.47**	**333**	*i* P	Pg	21 14 03.3	-0.1
DDIM				*i* S	Sg	21 14 10.1	+0.6
DDIM				IAML		21 14 12.0	
	comp=E,82nm,0.7s						
DDIM				IAML		21 14 14.0	
	comp=N,72nm,0.9s						
NIS1	**Nisyros Isl.**	**0.51**	**211**	PG	Pg	21 14 05.2	+0.8
NIS1				SG	Sb	21 14 12.7	-1.2
KOSK	**Kos Island**	**0.52**	**236**	PG	Pb	21 14 05.3	-0.8
YER	**Yerkesik**	**0.63**	**81**	PG	Pb	21 14 07.3	-0.7
TURN	**Turunc**	**0.65**	**114**	*i* P	Pb	21 14 08.1	-0.2
TURN				*i* S	Sg	21 14 16.2	+0.8
TURN	**Turunc**	**0.65**	**114**	PG	Pg	21 14 07.3	+0.4
TURN				SG	Sb	21 14 17.2	-0.5
AYDN	**Tasoluk**	**0.68**	**26**	*i* P	Pg	21 14 07.3	-0.3
AYDN				*i* S	Sg	21 14 16.3	-0.2
MULA	**Mugla, Merkez-**	**0.68**	**72**	*i* P	Pg	21 14 07.9	+0.2
GCAM	**G?zelcaml?**	**0.69**	**342**	*i* P	Pb	21 14 08.5	-0.6
GCAM				*i* S	Sg	21 14 16.9	+0.1
GCAM				IAML		21 14 21.0	
	comp=E,44nm,0.7s						
GCAM				IAML		21 14 23.0	
	comp=N,43nm,0.2s						
GCAM	**G?zelcaml?**	**0.69**	**342**	PG	Pb	21 14 08.9	-0.2
DALY	**Dalyan (Mula)**	**0.94**	**103**	PG	Pg	21 14 12.9	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.95**	**19**	PG	Pb	21 14 13.4	-0.2
FETY	**Fethiye**	**1.33**	**107**	*i* P	Pb	21 14 21.8	+1.8

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*SIGU **19** 21:14:20.4, 48.05N×23.70E, h6km*
*KRSZO **19** 21:14:20.4±1.0, 48.05N×23.65E, h6km±8km, ML3.9/15,*
Error ellipse: s-maj=4.4km s-min=3.5km az=26.0
*BUC **19** 21:14:21.8±0.4, 48.00N×23.66E, h3km, ml3.2/15, Error*
ellipse: s-maj=3.4km s-min=2.6km az=4.0
ISC 19 21:14:20.0±1.1, 48.07N±0.02×23.74E±0.02, h5km±9km,
n78, σ1§23/101, 38C-30D,
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAKU	**Rahkiv**	**0.29**	**98**	⇓*i*Pg	**Pg**	**21 14 27.0**	**+1.4**
RAKU				m		21 14 27.3	
KORU	**Korolevo**	**0.41**	**283**	⇑*e*Pg	**Pg**	**21 14 28.2**	**+0.2**
KORU				Pm		21 14 30.5	
KORU				⇓*e*Sg	**Sg**	**21 14 34.6**	**+1.2**
KORU				m		21 14 35.9	
KORU				Sm		21 14 38.8	
BMR	**Baia Mare**	**0.42**	**203**	⇓P	**Pg**	**21 14 28.6**	**+0.4**
BMR				⇑S	**Sg**	**21 14 33.8**	**+0.2**
BMR	**Baia Mare**	**0.42**	**203**	⇓P	**Pg**	**21 14 28.6**	**+0.4**
BMR				⇑S	**Sg**	**21 14 33.8**	**+0.2**
BMR	**Baia Mare**	**0.42**	**203**	Pb	**Pg**	**21 14 28.7**	**+0.5**
	comp=Z,18nm,SNR=712						
BMR				Sg	**Sb**	**21 14 34.9**	**-1.7**
MEZ	**Mezhgor'ye**	**0.47**	**342**	⇑*e*Pg	**Pg**	**21 14 30.1**	**+1.0**
MEZ				Pm		21 14 31.0	
MEZ				⇓*e*Sg	**Sg**	**21 14 37.1**	**+1.9**
MEZ				m		21 14 38.4	
MEZ				Sm		21 14 38.4	
NSLU	**Nyzhne Selyshc**	**0.50**	**74**	⇓*e*Pg	Pg	21 14 25.1	-4.4
NSLU				Pm		21 14 25.5	
NSLU				⇑*e*Sg	**Sg**	**21 14 28.6**	**-7.4**
NSLU				Sm		21 14 29.6	
NSLU				m		21 14 31.0	
TRSU	**Trosnyk**	**0.53**	**273**	⇑*e*Pg	**Pg**	**21 14 30.5**	**+0.5**
TRSU				Pm		21 14 32.9	
TRSU				⇓*e*Sg	**Sb**	**21 14 37.9**	**-1.7**
TRSU				Sm		21 14 39.8	
TRSU				m		21 14 54.6	
BRIU	**Brid**	**0.55**	**300**	⇓*e*Pg	**Pg**	**21 14 30.7**	**+0.1**
BRIU				Pm		21 14 30.8	
BRIU				⇑*e*Sg	**Sb**	**21 14 39.4**	**-1.0**
BRIU				Sm		21 14 42.3	
BRIU				m		21 14 45.2	
BERU	**Beregovo**	**0.75**	**283**	⇑*e*Pg	**Pg**	**21 14 34.7**	**+0.4**
BERU				⇑*e*Sg	**Sb**	**21 14 45.7**	**-0.3**
BERU				m		21 14 50.6	
MUKU	**Mukachevo**	**0.80**	**299**	⇑*e*Pg	**Pg**	**21 14 35.9**	**+0.6**
MUKU				Pm		21 14 37.4	
MUKU				⇑*e*Sg	**Sb**	**21 14 48.1**	**+0.6**
MUKU				m		21 14 50.3	
MUKU				Sm		21 14 50.3	
TRPA	**Tarpa**	**0.81**	**275**	⇑P	**Pg**	**21 14 35.4**	**0.0**
TRPA				⇑S	**Sb**	**21 14 46.6**	**-1.1**
TRPA	**Tarpa**	**0.81**	**275**	⇑P	**Pg**	**21 14 35.4**	**0.0**
TRPA	**Tarpa**	**0.81**	**275**	*e*P	**Pg**	**21 14 35.7**	**+0.3**
TRPA	**Tarpa**	**0.81**	**275**	Pg	**Pg**	**21 14 35.7**	**+0.3**
	comp=Z,6.5nm,SNR=543						
STNU	**Starunia**	**0.82**	**38**	⇑*e*Pg	**Pb**	**21 14 37.3**	**+0.6**
KSV	**Kosov**	**0.92**	**74**	⇓*e*Pg	**Pb**	**21 14 39.8**	**+1.3**
KSV				m		21 15 02.5	
HOLU	**Holmets**	**1.01**	**298**	⇑*e*Pg	**Pg**	**21 14 39.8**	**+0.4**
HOLU				⇓*e*Sg	**Sn**	**21 14 54.5**	**-1.0**
MESR	**Meseseni**	**1.06**	**211**	⇓P	**Pb**	**21 14 41.0**	**+0.2**
MESR				⇑S	**Sb**	**21 14 54.5**	**-0.5**
MESR	**Meseseni**	**1.06**	**211**	⇓P	**Pb**	**21 14 41.0**	**+0.2**
ARCR	**ARCALIA**	**1.07**	**157**	⇓P	**Pn**	**21 14 41.5**	**0.0**
ARCR				⇑S	**Sn**	**21 14 56.4**	**-0.4**
ARCR	**ARCALIA**	**1.07**	**157**	⇓P	**Pn**	**21 14 41.5**	**0.0**
ARCR	**ARCALIA**	**1.07**	**157**	Pg	**Pn**	**21 14 41.6**	**0.0**
	comp=Z,5.2nm,SNR=104						
ARCR				Sg	**Sn**	**21 14 56.6**	**-0.2**
MORS	**Morshin**	**1.07**	**5**	⇑*e*Pg	**Pn**	**21 14 43.0**	**+1.3**
BURAR	**Bucovina Array**	**1.09**	**114**	⇑P	**Pg**	**21 14 41.2**	**+0.3**
BURAR				⇓S	**Sb**	**21 14 57.5**	**+1.5**
BURAR	**Bucovina Array**	**1.09**	**114**	⇑P	**Pg**	**21 14 41.2**	**+0.3**
BURAR	**Bucovina Array**	**1.09**	**114**	Pg	**Pg**	**21 14 41.3**	**+0.3**
UZH	**Uzhgorod**	**1.12**	**301**	⇑*e*Pg	**Pb**	**21 14 41.9**	**+0.1**
UZH				⇑*e*Sg	**Sn**	**21 14 57.8**	**-0.3**
CBBR	**Cluj-Babes-Bol**	**1.30**	**186**	⇓P	**Pg**	**21 14 45.6**	**+0.7**
CBBR	**Cluj-Babes-Bol**	**1.30**	**186**	⇓P	**Pg**	**21 14 45.6**	**+0.7**
KOLS	**Kolonicke sedl**	**1.30**	**312**	*e*PG	**Pg**	**21 14 45.4**	**+0.4**
CJR	**Cluj-Napoca**	**1.36**	**184**	⇓P	**Pb**	**21 14 45.9**	**0.0**
CJR				⇑S	**Sn**	**21 15 04.5**	**+0.5**
CJR	**Cluj-Napoca**	**1.36**	**184**	⇓P	**Pb**	**21 14 45.9**	**0.0**
CJR	**Cluj-Napoca**	**1.36**	**184**	Pg	**Pg**	**21 14 46.4**	**+0.4**
	comp=Z,6.6nm,SNR=260						
LTVH	**Ltavrtes, Hu**	**1.42**	**242**	⇓P	**Pg**	**21 14 47.3**	**+0.2**
LTVH	**Ltavrtes, Hu**	**1.42**	**242**	⇓P	**Pg**	**21 14 47.3**	**+0.2**
LTVH	**Ltavrtes, Hu**	**1.42**	**242**	*e*S	**Sg**	**21 15 05.3**	**-0.1**
LTVH	**Ltavrtes, Hu**	**1.42**	**242**	Pg	**Pg**	**21 14 47.4**	**+0.4**
LTVH				Sn	**Sg**	**21 15 05.3**	**-0.1**
DRGR		**1.45**	**209**	⇑P	**Pn**	**21 14 46.5**	**-0.5**
DRGR				⇓S	**Sb**	**21 15 05.9**	**-0.4**
DRGR		**1.45**	**209**	⇑P	**Pn**	**21 14 46.5**	**-0.5**
DRGR		**1.45**	**209**	Pn	**Pn**	**21 14 46.6**	**-0.5**
	comp=Z,2.9nm,SNR=132						
CRVS	**Cervenica-Dubn**	**1.73**	**300**	Pn	**Pn**	**21 14 50.6**	**-0.2**
	comp=Z,0.5nm,SNR=101						
CRVS	**Cervenica-Dubn**	**1.73**	**300**	*e*PN	**Pn**	**21 14 51.5**	**+0.8**
PRAR	**RASCA**	**1.82**	**112**	⇑P	**Pb**	**21 14 54.7**	**+0.9**
PRAR	**RASCA**	**1.82**	**112**	⇑P	**Pb**	**21 14 54.7**	**+0.9**
KMPD	**K-Podol'skiy**	**1.88**	**74**	⇑*e*Pn	**Pb**	**21 14 55.4**	**+0.6**
MDB	**Medias**	**1.98**	**167**	⇓P	**Pb**	**21 14 56.1**	**-0.3**
MDB	**Medias**	**1.98**	**167**	⇓P	**Pb**	**21 14 56.1**	**-0.3**
KECS	**Kecovo**	**2.21**	**282**	Pn	**Pn**	**21 14 56.8**	**-0.5**
	comp=Z,8.3nm,SNR=67						
KECS	**Kecovo**	**2.21**	**282**	*e*PN	**Pn**	**21 14 57.0**	**-0.3**
DEV	**Deva**	**2.26**	**195**	Pg	**Pg**	**21 15 03.7**	**+0.5**
	comp=Z,1.4nm,SNR=94						
SIRR	**Siria**	**2.29**	**219**	⇑P	**Pn**	**21 14 59.3**	**+0.8**
SIRR	**Siria**	**2.29**	**219**	⇑P	**Pn**	**21 14 59.3**	**+0.8**
DOPR	**Dopca**	**2.38**	**151**	⇓P	**Pn**	**21 15 01.6**	**+1.9**
DOPR	**Dopca**	**2.38**	**151**	⇓P	**Pn**	**21 15 01.6**	**+1.9**
BSZH	**Besenyszg**	**2.47**	**253**	⇑P	**Pn**	**21 15 02.7**	**+1.9**
BSZH	**Besenyszg**	**2.47**	**253**	⇑P	**Pn**	**21 15 02.7**	**+1.9**
NDNU	**Novodnistrovsk**	**2.48**	**76**	⇑*e*Pn	**Pb**	**21 15 03.9**	**-1.0**
PSZ	**Piszkesteto**	**2.59**	**268**	*e*P	**Pn**	**21 15 01.6**	**-1.0**
PSZ	**Piszkesteto**	**2.59**	**268**	Pn	**Pn**	**21 15 01.6**	**-1.0**
	comp=Z,1.2nm,SNR=77						
LOT	**Lotru**	**2.62**	**180**	Pg	**Pg**	**21 15 10.6**	**+0.4**
	comp=Z,1.4nm,SNR=84						
GZR	**Gura Zlata**	**2.75**	**194**	⇑P	**Pn**	**21 15 06.4**	**+1.5**
GZR	**Gura Zlata**	**2.75**	**194**	⇑P	**Pn**	**21 15 06.4**	**+1.5**
GZR	**Gura Zlata**	**2.75**	**194**	Pg	**Pg**	**21 15 11.5**	**-1.2**
GZR				Sn	**Sn**	**21 15 39.0**	**+0.5**
BZS	**Buzias**	**2.85**	**212**	Pn	**Pn**	**21 15 05.8**	**-0.3**
	comp=Z,0.4nm,SNR=31						
MLR	**Muntele Rosu**	**2.99**	**149**	⇑P	**Pn**	**21 15 10.3**	**+2.2**
MLR	**Muntele Rosu**	**2.99**	**149**	⇑P	**Pn**	**21 15 10.3**	**+2.2**
LANS	**Liptovska Anna**	**3.04**	**293**	*e*PN	**Pn**	**21 15 09.0**	**+0.3**
SORM	**Soroca**	**3.09**	**87**	⇓P	**Pb**	**21 15 13.4**	**-2.0**
SORM	**Soroca**	**3.09**	**87**	⇓P	**Pb**	**21 15 13.4**	**-2.0**
VYHS	**Vyhne**	**3.30**	**279**	Pn	**Pn**	**21 15 11.6**	**-0.8**
	comp=Z,0.1nm,SNR=8.4						
VYHS	**Vyhne**	**3.30**	**279**	*e*PN	**Pn**	**21 15 11.5**	**-0.8**
HERR	**Herculane**	**3.31**	**196**	⇓P	**Pn**	**21 15 14.8**	**+2.3**
HERR	**Herculane**	**3.31**	**196**	⇓P	**Pn**	**21 15 14.8**	**+2.3**
KIS	**Kishinev**	**3.60**	**105**	*e*P	Pn	21 15 12.0	-4.4
KIS				LRM	MLR	21 17 18.0	
	comp=Z,180nm,6.0s						
MPLH	**Magyarpolny**	**4.29**	**260**	Pg	Pg	21 15 48.7	+6.6
	comp=Z,0.2nm,SNR=15						
MORC	**Moravsky Berou**	**4.43**	**295**	Pn	**Pn**	**21 15 27.5**	**-0.4**
NACGM	**Naroch**	**7.11**	**14**	*i* P	**Pn**	**21 16 04.0**	**-0.5**
NACGM				*i* P	**Pn**	**21 16 04.0**	**-0.5**
NACGM				*i* P	**Pn**	**21 16 04.0**	**-0.5**
	baz=196						
NACGM				*i* PP	**PnPn**	**21 16 11.6**	**-0.4**
NACGM				*i* PPP	PPP	21 16 19.2	
NACGM				*i* S	**Sn**	**21 17 25.4**	**-0.2**
NACGM				*i* SS	**SnSn**	**21 17 38.7**	**+1.8**
NACGM				*i* SSS	SSS	21 17 51.1	
NACGM				*i* LQ	LQ	21 18 04.4	
NACGM				*i* LR	LR	21 18 29.1	
NACGM				*i* Sb	Sg	21 18 35.0	+27
	comp=Z,139nm,1.3s						

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*VIE **19** 21:14:40.6, 48.00N×24.29E, h0km, mb2.8/1, ML3.9/2*
144 km NNE of Cluj-Napaca
*PRU **19** 21:14:44.2±0.0, 48.02N×23.90E, h0km*
*IDC **19** 21:14:46.6±0.9, 48.04N×23.54E, h0km, mb3.3/4,*
mb1 3.6/9, mb1mx3.3/38, mbtmp3.5/9, ML3.5/4, MS3.0/5,
Ms1 3.0/5, ms1mx2.6/33, Error ellipse: s-maj=13.0km
s-min=9.3km az=178.0
*SIGU **19** 21:14:47.2, 48.01N×23.66E, h6km*
*BUC **19** 21:14:49.9±0.3, 47.92N×23.59E, h3km±1km, ml3.6/39,*
Error ellipse: s-maj=2.0km s-min=1.3km az=175.0
ISC 19 21:14:47.5±0.9, 48.04N±0.02×23.67E±0.01, h14km±7km,
n169, σ1§66/223, mb3.5/4, 73C-75D,
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAKU	**Rahkiv**	**0.33**	**93**	⇓*i*Pg	**Pg**	**21 14 54.0**	**-0.3**
RAKU				Pm		21 14 54.5	
RAKU				⇑*e*Sg	**Sg**	**21 14 59.1**	**+0.2**
RAKU				Sm		21 14 59.6	
KORU	**Korolevo**	**0.38**	**288**	⇑*i*Pg	**Pg**	**21 14 55.2**	**+0.1**
KORU				Pm		21 14 56.7	
KORU				⇓*e*Sg	**Sg**	**21 15 01.2**	**+1.0**
KORU				Sm		21 15 02.9	
KORU				m		21 15 19.7	
BMR	**Baia Mare**	**0.39**	**198**	⇑P	**Pg**	**21 14 55.5**	**+0.2**
BMR				⇓S	**Sg**	**21 14 59.5**	**-1.1**
BMR	**Baia Mare**	**0.39**	**198**	⇑P	**Pg**	**21 14 55.5**	**+0.2**
MEZ	**Mezhgor'ye**	**0.48**	**347**	⇑*i*Pg	**Pg**	**21 14 56.9**	**-0.1**
MEZ				Pm		21 14 58.4	
MEZ				⇓*e*Sg	**Sg**	**21 15 04.2**	**+0.7**
MEZ				m		21 15 05.0	
MEZ				Sm		21 15 06.9	
TRSU	**Trosnyk**	**0.48**	**276**	⇑*i*Pg	**Pg**	**21 14 57.3**	**+0.3**
TRSU				Pm		21 14 59.2	
TRSU				⇑*e*Sg	**Sb**	**21 15 04.5**	**-0.2**
TRSU				Sm		21 15 06.2	
TRSU				m		21 15 55.8	
BRIU	**Brid**	**0.53**	**304**	⇑*i*Pg	**Pg**	**21 14 57.5**	**-0.3**
BRIU				Pm		21 14 57.7	
BRIU				⇓*e*Sg	**Sb**	**21 15 06.4**	**+0.4**
BRIU				Sm		21 15 09.5	
BRIU

KMPD	K-Podol'skiy	1.93	73	⇑	ePn	Pb	21 15 23.2 +0.7
KMPD				⇑	eSn	Sg	21 15 48.6 -1.0
MDB	Medias	1.96	165	⇓	P	Pb	21 15 22.8 -0.2
MDB				⇓	S	Sb	21 15 47.3 -0.2
MDB	Medias	1.96	165	⇓	P	Pb	21 15 22.8 -0.2
STHS	Stebnicka Huta	2.11	311		Pg	Pn	21 15 24.4 +1.9
HORU	Horodok	2.17	56	⇓	ePn	Pb	21 15 26.9 +0.3
HORU					Pm		21 15 27.5
HORU				⇓	eSn	Sb	21 15 55.4 +2.1
HORU					Sm		21 15 59.2
KECS	Kecovo	2.17	283		ePN	Pn	21 15 23.6 +0.3
KECS					eSN	Sn	21 15 51.6 +1.6
KECS					eLG	Lg	21 16 02.2
GIRR	Girov	2.21	119	⇓	P	Pb	21 15 27.4 +0.3
GIRR	Girov	2.21	119	⇓	P	Pb	21 15 27.4 +0.3
DEV	Deva	2.23	194	⇑	P	Pn	21 15 25.9 +1.9
DEV				⇑	S	Sn	21 15 53.0 +1.7
DEV	Deva	2.23	194	⇑	P	Pn	21 15 25.9 +1.9
SIRR	Siria	2.25	218	⇑	P	Pn	21 15 25.1 +0.8
SIRR				⇑	S	Sn	21 15 54.0 +2.2
SIRR	Siria	2.25	218	⇑	P	Pn	21 15 25.1 +0.8
DOPR	Dopca	2.39	150	⇑	P	Pn	21 15 28.5 +2.2
DOPR				⇓	S	Sb	21 15 59.9 +0.3
DOPR	Dopca	2.39	150	⇑	P	Pn	21 15 28.5 +2.2
BSZH	Besenyszg	2.42	253	⇓	P	Pb	21 15 29.3 -1.5
BSZH				⇓	S	Sb	21 16 00.5 +0.1
BSZH	Besenyszg	2.42	253	⇓	P	Pb	21 15 29.3 -1.5
BSZH	Besenyszg	2.42	253		Pg	Pg	21 15 39.4 +5.5
OZUR		2.43	143	⇓	P	Pn	21 15 28.7 +1.8
OZUR				⇓	S	Sb	21 16 00.2 -0.5
OZUR		2.43	143	⇓	P	Pn	21 15 28.7 +1.8
NDNU	Novodnistrovsk	2.53	76	⇓	ePn	Pb	21 15 31.8 -0.8
NDNU				⇓	eSn	Sb	21 16 04.4 +0.8
PSZ	Piszkesteto	2.54	269	⇑	S	Sb	21 16 03.1 -0.9
PSZ	Piszkesteto	2.54	269	⇑	P	Pn	21 15 28.5 +0.1
PSZ	Piszkesteto	2.54	269	⇑	S	Sb	21 16 03.1 -0.9
TESR	Tescani	2.54	126	⇑	P	Pb	21 15 31.6 -1.3
TESR	Tescani	2.54	126	⇑	P	Pb	21 15 31.6 -1.3
LOT	Lotru	2.60	178	⇓	P	Pn	21 15 30.5 +1.3
LOT				⇓	S	Sn	21 16 02.8 +2.1
LOT	Lotru	2.60	178	⇓	P	Pn	21 15 30.5 +1.3
AMBH	Ambrzfalva	2.63	231	⇓	P	Pn	21 15 30.6 +1.1
AMBH				⇓	S	Sn	21 16 03.8 +2.6
AMBH	Ambrzfalva	2.63	231	⇓	P	Pn	21 15 30.6 +1.1
AMBH	Ambrzfalva	2.63	231		Pg	Pn	21 15 30.7 +1.1
GZR	Gura Zlata	2.72	193	⇓	S	Sn	21 16 05.9 +2.2
GZR	Gura Zlata	2.72	193	⇓	S	Sn	21 16 05.9 +2.2
IAS	Iasi	2.77	106	⇓	P	Pb	21 15 35.6 -1.1
IAS				⇓	S	Sb	21 16 11.1 +0.6
IAS	Iasi	2.77	106	⇓	P	Pb	21 15 35.6 -1.1
VOIR		2.77	160	⇓	P	Pn	21 15 33.4 +1.8
VOIR		2.77	160	⇓	P	Pn	21 15 33.4 +1.8
BZS	Buzias	2.81	211	⇑	P	Pn	21 15 33.2 +1.2
BZS				⇓	S	Sn	21 16 07.3 +1.7
BZS	Buzias	2.81	211	⇑	P	Pn	21 15 33.2 +1.2
MLR	Muntele Rosu	2.99	148		Pn	Pn	21 15 36.5 +1.8
	0.4nm,0.3s,baz=292,slow=15,SNR=5.9						
MLR					Lg	Lg	21 16 26.8
	1.3nm,0.3s,baz=131,slow=16,SNR=1.8						
MLR					LR	LR	21 17 08.8
	comp=Z,195nm,21.6s,baz=318,slow=47						
MLR	Muntele Rosu	2.99	148	⇓	P	Pn	21 15 37.8 +3.1
MLR				⇓	S	Sn	21 16 13.9 +3.4
MLR	Muntele Rosu	2.99	148	⇓	P	Pn	21 15 37.8 +3.1
PLOR	Plostina	3.00	136	⇑	P	Pn	21 15 38.0 +3.3
PLOR	Plostina	3.00	136	⇑	P	Pn	21 15 38.0 +3.3
LANS	Liptovska Anna	3.00	293		Pg	Pn	21 15 36.1 +1.3
LANS	Liptovska Anna	3.00	293		ePN	Pn	21 15 35.9 +1.2
LANS					eLG	Lg	21 16 45.1
VRI	Vrincioaia	3.02	135	⇑	P	Pn	21 15 37.0 +2.1
VRI	Vrincioaia	3.02	135	⇑	P	Pn	21 15 37.0 +2.1
SORM	Soroca	3.14	87	⇑	P	Pb	21 15 41.6 -1.5
SORM				⇓	S	Sb	21 16 20.9 -0.2
SORM	Soroca	3.14	87	⇑	P	Pb	21 15 41.6 -1.5
NEHR	Nehoiu	3.18	144	⇓	P	Pn	21 15 40.2 +3.1
NEHR	Nehoiu	3.18	144	⇓	P	Pn	21 15 40.2 +3.1
BANR	Banloc	3.18	214	⇓	P	Pn	21 15 37.4 +0.2
BANR				⇑	S	Sn	21 16 16.9 +2.0
BANR	Banloc	3.18	214	⇓	P	Pn	21 15 37.4 +0.2
BUD	Budapest	3.19	262		Pg	Pg	21 15 49.6 +1.1
ODBI	Odobesti	3.25	133	⇓	P	Pn	21 15 41.9 +3.7
ODBI	Odobesti	3.25	133	⇓	P	Pn	21 15 41.9 +3.7
VYHS	Vyhne	3.26	280		ePN	Pn	21 15 38.4 +0.1
VYHS					eSN	Sn	21 16 19.5 +2.6
HERR	Herculane	3.28	196	⇓	P	Pn	21 15 41.3 +2.8
HERR				⇓	S	Sn	21 16 19.3 +2.0
HERR	Herculane	3.28	196	⇓	P	Pn	21 15 41.3 +2.8
OJC	Ojcow	3.35	312		Pg	Pn	21 15 41.0 +1.5
SRE	Strehaia	3.40	186	⇑	P	Pn	21 15 43.0 +2.8
SRE				⇓	S	Sn	21 16 22.0 +1.8
SRE	Strehaia	3.40	186	⇑	P	Pn	21 15 43.0 +2.8
ISR	Istrita	3.53	145	⇑	P	Pn	21 15 45.4 +3.4
ISR	Istrita	3.53	145	⇑	P	Pn	21 15 45.4 +3.4
MDVR	Moldovita	3.53	203	⇓	P	Pn	21 15 43.5 +1.4
MDVR				⇑	S	Sn	21 16 25.6 +1.9
MDVR	Moldovita	3.53	203	⇓	P	Pn	21 15 43.5 +1.4
HUMR	Humele	3.63	165	⇑	P	Pn	21 15 46.0 +2.7
HUMR				⇑	S	Sn	21 16 27.7 +1.7
HUMR	Humele	3.63	165	⇑	P	Pn	21 15 46.0 +2.7
MILM	Milestii Mici	3.66	106	⇑	S	Sb	21 16 32.9 -3.4
MILM	Milestii Mici	3.66	106	⇓	P	Pn	21 15 45.1 +1.4
MILM	Milestii Mici	3.66	106	⇑	S	Sb	21 16 32.9 -3.4
PUNG	Punghina	3.80	188	⇑	S	Sn	21 16 31.8 +1.6
PUNG	Punghina	3.80	188	⇑	S	Sn	21 16 31.8 +1.6
MORH	Mrgy, Hungar	3.89	244		Pg	Pb	21 15 53.4 -2.5
	comp=Z,0.2nm,SNR=24						
FRGS	Fruska Gora	3.93	224	⇓	P	Pn	21 15 49.4 +1.9
FRGS	Fruska Gora	3.93	224	⇓	P	Pn	21 15 49.4 +1.9
BAIL	Bailesti	4.03	183	⇑	S	Sn	21 16 38.4 +2.5
BAIL	Bailesti	4.03	183	⇑	S	Sn	21 16 38.4 +2.5
OKC	Ostrava-Krasne	4.06	298		ePN	Pn	21 15 49.8 +0.6
OKC	Ostrava-Krasne	4.06	298		Pg	Pn	21 15 50.5 +1.3
JAVC	Velka Javorina	4.08	284		ePN	Pn	21 15 50.3 +0.8
CFR	Carcaliu	4.21	131	⇓	P	Pn	21 15 52.9 +1.8
CFR	Carcaliu	4.21	131	⇓	P	Pn	21 15 52.9 +1.8
KOVH	Kovagotottos	4.28	245		Pg	Pb	21 15 58.0 -4.5
	comp=Z,0.2nm,SNR=20						
MODS	Modra-Piesok	4.29	277		ePN	Pn	21 15 54.3 +1.9
MORC	Moravsky Berou	4.40	295		ePN	Pn	21 15 54.0 +0.1
MORC					eSN	Sn	21 16 44.9 0.0
AKASG	Malin Array Be	4.50	52		Pg	Pb	21 16 08.2 +2.0
	comp=Z,12nm,0.3s,baz=240,slow=17,SNR=20						
AKASG					Lg	Lg	21 17 05.2
	comp=Z,17nm,0.3s,baz=230,slow=29,SNR=9.6						
VRAC	Vranov	4.86	288		Pn	Pn	21 15 59.5 -0.7
	comp=Z,1.2nm,0.3s,baz=103,slow=13,SNR=19						
VRAC					Sn	Sn	21 16 57.0 +0.8
	comp=Z,3.8nm,0.3s,baz=10,slow=19,SNR=11						
VRAC	Vranov	4.86	288		ePN	Pn	21 16 00.2 0.0
VRAC					eSN	Sn	21 16 57.3 +1.1
KRUC	Moravsky	4.94	285		ePN	Pn	21 16 00.9 -0.4
KRUC					eSN	Sn	21 16 59.3 +1.1
KRLC	Kraliky	4.96	297		ePN	Pn	21 16 01.3 -0.4
KRLC					eSN	Sn	21 16 58.4 -0.5
CONA	Conrad Observa	5.25	272		ePn	Pn	21 16 05.4 -0.2
	comp=Z,1.3nm,0.2s						
DPC	Dobruska-Polom	5.34	298		ePN	Pn	21 16 07.8 +0.9
DPC					eSN	Sn	21 17 08.7 +0.5
OSTC	Ostas	5.49	300		ePN	Pn	21 16 09.4 +0.6
ARSA	Arzberg	5.56	265		ePn	Pn	21 16 10.6 +0.7
	comp=Z,2.1nm,0.4s						
KSP	Ksiaz	5.57	303		ePdif	Pn	21 16 11.1 +1.1
KSP	Ksiaz	5.57	303		Pg	Pn	21 16 11.0 +1.1
UPC	Upice	5.59	299		ePN	Pn	21 16 10.8 +0.6
CHVC	Chvalec	5.59	300		ePN	Pn	21 16 11.0 +0.7
SOKA	Soboth	6.03	260		ePn	Pn	21 16 17.9 +1.6
	comp=Z,0.5nm,0.3s						
CKRC	Cesky Krumlov	6.28	281		ePN	Pn	21 16 20.1 +0.4
CKRC					eSN	Sn	21 17 31.7 +0.5
PRU	Pruhonice	6.31	291		ePN	Pn	21 16 20.1 0.0
PRU					eSN	Sn	21 17 30.8 -1.2
MOA	Molln	6.32	272		ePn	Pn	21 16 21.1 +0.8
	comp=Z,0.6nm,0.2s						
PRA	Prague	6.40	292		ePN	Pn	21 16 22.3 +1.0
STIP	Stip	6.44	190		i Pn	Pn	21 16 29.6 +7.7
RICI	Ricice	6.45	228		ePn	Pn	21 16 24.4 +2.3
RICI					Sn	Sn	21 17 35.3 -0.2
KIJV	Kijevo	6.47	234		ePn	Pn	21 16 25.4 +3.1
KIJV					Sn	Sn	21 17 34.1 -1.9
GERES	GERESS Array B	6.68	281		Pn	Pn	21 16 25.8 +0.5
	comp=Z,1.6nm,0.3s,baz=95,slow=14,SNR=30						
GERES					Sn	Sn	21 17 40.5 -0.7
	comp=Z,1.8nm,0.3s,baz=78,slow=25,SNR=11						
KHC	Kasperske Hory	6.78	283		ePn	Pn	21 16 26.8 +0.1
KHC					eSN	Sn	21 17 43.7 0.0
BRG	Berggiesshubel	6.94	298		Pn	Pn	21 16 29.8 +1.0
BRG					Amp		21 16 38.9
	comp=Z,2.7nm,0.6s						
BRG					r		21 18 00.5
BRG					Amp		21 18 13.9
	comp=Z,5.7nm,1.0s						
BRG					r		21 18 42.1
BRG					Amp		21 18 58.6
	comp=Z,9.6nm,1.4s						
MORI	Morici	6.95	236		ePn	Pn	21 16 31.7 +2.9
MORI					Sn	Sn	21 17 46.6 -1.1
ZIRJ	Zirje	7.12	235		ePn	Pn	21 16 33.0 +1.8
ZIRJ					Sn	Sn	21 17 49.6 -2.2
DUGI	Dugi Otok	7.24	239		ePn	Pn	21 16 34.9 +2.1
DUGI					Sn	Sn	21 17 52.7 -2.1
IIGN	Ignalina	7.49	11		eP	Pg	21 17 10.5 -0.2
IDID	Didziasalis	7.53	14		eP	Pg	21 17 12.1 +0.6
NKC	Novy Kostel	7.68	291		ePN	Pn	21 16 38.3 -0.6
ISAL	Salakas	7.69	10		eP	Pg	21 17 10.5 -4.1
LUNU	Lund	9.88	324		i P	Pn	21 17 12.2 +3.2
DEL	Delary	10.35	328		i P	Pn	21 17 16.2 +0.8
DEL					i S	Sn	21 19 05.8 -5.3
BJUU	Bjuv	10.36	325		i P	Pn	21 17 16.3 +0.7
BJUU					i S	Sn	21 19 07.0 -4.5
OBN	Obninsk	10.69	44		Sn	Sn	21 19 17.1 -2.3
	comp=Z,0.6nm,0.3s,baz=115,slow=23,SNR=4.1						
OBN					Lg	Lg	21 20 16.2
	baz=46,slow=22,SNR=3.2						
HFS	Hagfors	13.43	338		Pn	Pn	21 17 55.8 -1.7
	comp=Z,0.3nm,0.3s,baz=160,slow=14,SNR=9.1						
FINES	FINESS Array B	13.50	5		Pn	Pn	21 17 54.7 -3.7
	comp=Z,0.4nm,0.3s,baz=168,slow=9.8,SNR=13						
FINES					Sn	Sn	21 20 17.9 -10
	comp=Z,0.1nm,0.3s,baz=184,slow=19,SNR=3.3						
FINES					Lg	Lg	21 21 42.8
	comp=Z,0.2nm,0.3s,baz=203,slow=28,SNR=2.8						
FINES					LR	LR	21 23 28.8
	comp=Z,75nm,20.0s,baz=194,slow=39						
NOA	NORSAR Array B	14.85	336		Pn	Pn	21 18 11.1 -5.8
	comp=Z,0.0nm,0.3s,baz=146,slow=11,SNR=8.3						
NOA					LR	LR	21 24 10.4
	comp=Z,24nm,20.2s,baz=140,slow=38						
ESDC	Sonseca Array	21.52	257		P		21 19 37.0 +0.8
	comp=Z,0.5nm,0.9s,baz=54,slow=11,SNR=3.9						
ARCES	ARCESS Array B	21.57	2		P		21 19 35.8 -0.6
	comp=Z,2.0nm,0.7s,baz=187,slow=11,SNR=9.1						
ARCES					LR	LR	21 28 19.3
	comp=Z,64nm,19.9s,baz=180,slow=38						
AKTO	Aktyubinsk	22.43	71		P		21 19 46.0 +0.3
	comp=Z,1.8nm,0.7s,baz=278,slow=12,SNR=2.7						
ARU	Arti	22.74	55		P		21 19 49.9 +1.0
	comp=Z,0.7nm,0.6s,baz=259,slow=12,SNR=4.7						
BORG	Borgarnes	29.16	321		LR	LR	21 32 43.1
	comp=Z,40nm,18.1s,baz=346,slow=37						

*TUL **19** 21:29:31.3±1.4, 36°.67N±0°.01×97°.73W±0°.02, h5km±7km, ML2.8, mb_Lg2.6/43(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=120.0*

NEIC 19 21:29:31.4±0.6, 36°.65N±0°.01×97°.72W±0°.02, h6km±7km, Error ellipse: s-maj=2.1km s-min=1.8km az=121.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.23	330	Pg	Pg	21 29 35.9	-0.1
GC02				Sg	Sg	21 29 39.2	+0.1
CROK	Carrier	0.26	235		Pg	21 29 36.8	+0.2
CROK				Sg	Sg	21 29 40.6	+0.6
KAN13	South Haven SW	0.41	28	Pg	Pg	21 29 39.6	+0.2
KAN13				Sg	Sg	21 29 45.2	+0.4
OK032	Salt Plains WL	0.42	291	Pg	Pg	21 29 39.4	-0.2
OK032					Sg	21 29 45.3	+0.1
KAN05	Bluff City Nor	0.47	345	Pg	Pg	21 29 40.4	-0.2
KAN05				Sg	Sg	21 29 46.8	0.0
KAN09	Caldwell North	0.49	9	Pg	Pg	21 29 40.9	0.0
KAN09				Sg	Sg	21 29 47.5	+0.2
KAN10	Anthony SW Sta	0.56	327	Pg	Pg	21 29 42.0	-0.3
KAN10				Sg	Sg	21 29 49.5	0.0
KS20	Mayfield South	0.59	13		Pg	21 29 42.7	-0.2
KAN08	Anthony NE Sta	0.61	341		Pg	21 29 43.0	-0.2
KAN12	Harper NE Stat	0.68	341		Pg	21 29 44.2	-0.4
OK029	Liberty Lake	0.88	166		Pg	21 29 48.3	0.0
QUOK	Quay	0.95	120		Pg	21 29 49.6	0.0
OK031	S. Brethren Rd	1.00	134	Pg	Pg	21 29 50.4	-0.1
BCOK	Bluff Creek, N	1.00	175		Pg	21 29 50.5	-0.1
T35A	Sooner Cattle	1.00	74	Pg	Pg	21 29 50.5	-0.3
U32A	Winter Ranch,	1.07	256		Pg	21 29 51.3	-0.6
OK025	Westminster Rd	1.11	164		Pg	21 29 52.1	-0.7
OKCFA	Oklahoma City	1.25	170		Pb	21 29 55.0	-0.4
OKCSW	OKLAHOMA CITY	1.27	170		Pn	21 29 55.5	-0.2
FNO	Franklin	1.42	169		Pn	21 29 57.7	0.0
R32A	Long Quarter,	1.94	336	Pn	Pn	21 30 04.7	-0.2
X34A	Smith Ranch, M	2.05	183	Pn	Pn	21 30 07.5	+1.1
WMOK	Wichita Mounta	2.10	205	Pn	Pn	21 30 07.2	+0.1
KSU1	Kansas State U	2.60	19	Pn	Pn	21 30 13.9	-0.1
KSU1				IAmb_Lg		21 30 56.3	
	comp=Z,14nm,0.7s						
LOOK	Love County	2.69	170	Pn	Pn	21 30 15.7	+0.4
U38A	Gravette	2.69	94		Pn	21 30 15.6	+0.4
X37A	Clayton	2.81	136	Pn	Pn	21 30 18.0	+1.1
X37A				IAmb_Lg		21 31 08.1	
	comp=Z,28nm,0.7s						
HHAR	Hobbs	3.07	96		Pn	21 30 21.2	+0.7
W39A	Magazine	3.51	113	IAmb_Lg		21 31 30.4	
	comp=Z,16nm,0.8s						
AMTX	Amarillo	3.67	242	IAmb_Lg		21 31 28.6	
	comp=Z,14nm,0.9s						
U40A	Yellville	3.93	93	Pn	Pn	21 30 32.7	+0.4
U40A				IAmb_Lg		21 31 36.8	
	comp=Z,18nm,0.9s						
MIAR	Mount Ida	3.98	121	IAmb_Lg		21 31 46.3	
	comp=Z,11nm,0.7s						
Z38A	Mt. Pleasant	4.06	146	IAmb_Lg		21 31 42.5	
	comp=Z,20nm,0.7s						
P38A	Dawn	4.44	47	IAmb_Lg		21 31 58.4	
	comp=Z,13nm,0.7s						
X40A	Basin Creek Fa	4.53	117	Pn	Pn	21 30 41.4	+0.9
X40A				IAmb_Lg		21 32 05.7	
	comp=Z,9.7nm,0.7s						
R40A	Maddies Statio	4.63	68	IAmb_Lg		21 31 59.8	
	comp=Z,8.5nm,0.8s						
BGNE	Belgrade	4.76	356	IAmb_Lg		21 32 03.4	
	comp=Z,15nm,0.7s						
WLAR	White Oak Lake	4.79	127	IAmb_Lg		21 32 11.4	
	comp=Z,11nm,1.0s						
P40A	Paris	5.32	56	IAmb_Lg		21 32 25.3	
	comp=Z,13nm,0.8s						
CCM	Cathedral Cave	5.34	73	IAmb_Lg		21 32 28.3	
	comp=Z,10nm,0.7s						
T25A	Trinidad	5.39	277	IAmb_Lg		21 32 26.1	
	comp=Z,7.9nm,0.9s						
L34A	Svendsen Farm,	5.41	11	IAmb_Lg		21 32 28.7	
	comp=Z,12nm,0.8s						
OGNE	Ogallala	5.45	323	IAmb_Lg		21 32 38.7	
	comp=Z,14nm,0.8s						
PBMO	Poplar Bluff	5.86	87	IAmb_Lg		21 32 47.6	
	comp=Z,7.7nm,0.8s						
SIUC	Southern Illin	6.87	79	IAmb_Lg		21 33 06.8	
	comp=Z,7.5nm,0.7s						
Q44A	Meyer Farm, Va	7.25	69	IAmb_Lg		21 33 27.0	
	comp=Z,8.5nm,0.9s						
L42A	Oliver, Polo	8.21	47	IAmb_Lg		21 33 58.9	
	comp=Z,7.5nm,0.8s						
JFWS	Jewell Farm	8.49	40	IAmb_Lg		21 33 58.7	
	comp=Z,6.6nm,0.7s						
SFIN	Lafayette	9.12	63	IAmb_Lg		21 34 22.2	
	comp=Z,6.0nm,0.7s						

*ISK **19** 21:37:01.6, 40°.75N×30°.08E, h9km, ML2.6/17*
*DDA **19** 21:37:01.7, 40°.74N×30°.08E, h7km±3km, ML2.4*

ISC 19 21:37:02.0±1.0, 40°.77N±0°.02×30°.07E±0°.02, h10km±8km, n46, σ0°.85/60, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUV	Serdivan-Sakar	0.20	99	PG	Pg	21 37 05.9	-0.3
KAYN	Sakarya, Kayna	0.28	46	i P	Pb	21 37 08.0	-1.2
KAYN				i S	Sg	21 37 12.1	+0.5
HRT	Hereke	0.31	280	PG	Pb	21 37 08.6	-1.1
HRT				SG	Sb	21 37 13.5	-1.3
GEYV	SAKARYA_Geyve	0.33	149	i P	Pg	21 37 08.8	+0.2
KAND	Kocaeli-Kandir	0.34	15	i P	Pb	21 37 09.6	-0.5
KAND				IAML		21 37 14.0	
	comp=E,367nm,0.2s						
KAND				i S	Sb	21 37 14.5	-1.0
ADVT	Abdulvahap	0.42	217	PG	Pg	21 37 09.9	-0.4
GULT	Gulveren	0.48	135	PG	Pg	21 37 11.3	0.0
SILT	Sile	0.50	320	PG	Pb	21 37 12.0	-0.9
GPA	Golpazari	0.51	159	PG	Pg	21 37 11.6	-0.4
GPA				SG	Sg	21 37 19.1	+0.3
YLV	Yalova	0.57	249	PG	Pg	21 37 13.0	-0.1
CAVI	Cavuskoy	0.59	197	PG	Pg	21 37 13.3	-0.2
SAHE	Sakarya_HENDEK	0.60	82	i P	Pg	21 37 13.5	-0.1
SAHE				i S	Sg	21 37 21.7	+0.2
BILE	Bilecik/Merkez	0.63	194	i P	Pg	21 37 14.3	+0.1
TRML	Termal-Yalova	0.70	257	PG	Pb	21 37 15.7	-0.6
BTAS	Taskesti	0.73	105	i P	Pg	21 37 15.5	-0.7
BTAS				i S	Sg	21 37 25.4	-0.3
GEMT	Gemlik	0.75	244	PG	Pg	21 37 16.2	-0.3
KAVV	Kandilli-Istan	0.82	291	PG	Pb	21 37 18.0	-0.3
ISK	Istanbul-Kandi	0.82	291	PG	Pg	21 37 17.7	-0.2
IGD	Bursa	0.83	233	i P	Pg	21 37 17.4	-0.7
IGD				i S	Sg	21 37 28.9	-0.1
SRCK	Saricakaya, Es	0.84	150	PG	Pg	21 37 18.1	-0.1
AUBOZ	BOZOYUK	0.86	182	i P	Pn	21 37 19.9	-0.2
AUBOZ	BOZOYUK	0.86	182		Pg	21 37 18.1	-0.5
MDUB	Mudurnu	0.91	109	PG	Pb	21 37 19.5	-0.3
KLYT	Kilyos	0.92	302	PG	Pb	21 37 19.9	-0.1
BORA	Eskisehir	0.94	162	i P	Pb	21 37 20.0	-0.4
BORA				i S	Sn	21 37 35.4	+0.7
BORA	Eskisehir	0.94	162	PG	Pg	21 37 19.7	-0.3
ARMT	Armutlu	0.94	258	PG	Pb	21 37 20.2	-0.2
ULDT	Uludag	0.95	229	i P	Pb	21 37 20.6	-0.1
ULDT				i S	Sb	21 37 33.2	-0.2
MDNY	Mudanya-Bursa	0.99	247	PG	Pb	21 37 21.1	-0.1
YIGI	Dzce	1.06	79	i P	Pg	21 37 21.7	-0.7
YIGI				IAML		21 37 31.0	
	comp=N,47nm,1.1s						
YIGI				i S	Sg	21 37 35.8	-0.4
BGKT	Bogazkoy	1.07	293	PG	Pb	21 37 22.4	-0.1
ANDZ	Kutahya, Merke	1.27	186	i P	Pg	21 37 26.9	+0.6
CTKS	Kestanelik-??a	1.27	292	PN	Pg	21 37 26.1	-0.4
ELBA	Catalca	1.30	287	i P	Pb	21 37 26.2	-0.3
SGAZ	Eskisehir, Sey	1.37	154	i P	Pg	21 37 28.5	+0.2
SGAZ				i S	Sg	21 37 45.9	-0.2
KCTX	Karacabey (Bur	1.40	249	PN	Pg	21 37 28.3	-0.6
DEVR	Zonguldak/Devr	1.48	75	i P	Pg	21 37 31.2	+0.7
DEVR				i S	Sn	21 37 47.7	-0.4
BCAM	Yenicaga	1.51	88	i P	Pg	21 37 30.5	-0.5
BCAM				i S	Sg	21 37 50.1	-0.6
DURS	Dursunbey	1.69	227	i P	Pg	21 37 34.4	-0.1
GDZ	Gediz	1.74	195	i P	Pg	21 37 35.2	-0.2
GDZ				i S	Sg	21 37 58.3	+0.3
TIRR	Tirgusor	3.88	342	⇑	P	Pn	21 38 05.1	+3.4
TIRR	Tirgusor	3.88	342	⇑	S	Sn	21 38 46.1	-1.2
TPGR	Topolog	4.26	344	⇓	P	Pn	21 38 09.1	+2.2
TPGR	Topolog	4.26	344	⇓	S	Sn	21 38 54.6	-2.1
CFR	Carcaliu	4.63	343	⇑	P	Pn	21 38 14.2	+2.3
CFR	Carcaliu	4.63	343	⇑	S	Sn	21 39 05.6	-0.1

*JMA **19** 21:40:53.9±0.1, 24°.58N×122°.69E, h18km±1km, M2.3*
*TAP **19** 21:40:53.4, 24°.63N×122°.73E, h19km, ML3.0, C*

ISC 19 21:40:53.5±1.0, 24°.60N±0°.03×122°.70E±0°.02, h19km±2km, n66, σ0°.77/104, Taiwan region

| Code | Station Name | Δ° | AZ

YHNB			*e*S		**Sb**	**21 41 31.1 -0.1**
	baz=272					
NNSB	**Datong**	**1.22 262**	P		**Pn**	**21 41 16.0 +0.3**
	baz=271					
NNSB			*e*S		**Sb**	**21 41 30.2 -1.2**
	baz=271					
NNSH	**Datong**	**1.22 262**	P		**Pb**	**21 41 16.1 +0.1**
	baz=271					
NNSH			*e*S		**Sb**	**21 41 30.7 -0.7**
	baz=271					
ANP	**Anpu**	**1.22 299**	*e*P		**Pg**	**21 41 17.1 -0.1**
	baz=310					
NNS	**Nan Shan**	**1.22 263**	P		**Pn**	**21 41 16.1 +0.3**
	baz=271					
NNS			*e*S		**Sb**	**21 41 30.8 -0.8**
	baz=271					
NSK	**Sanguang**	**1.23 274**	P		**Pn**	**21 41 16.0 +0.2**
	baz=273					
NSK			*e*S		**Sb**	**21 41 31.9 +0.2**
	baz=273					
JKRS	**Kuro-shima**	**1.25 107**	P		**Pb**	**21 41 16.6 +0.1**
JKRS			S		**Sn**	**21 41 32.5 +0.2**
NTST	**Danshui**	**1.27 296**	*e*P		**Pn**	**21 41 16.2 0.0**
	baz=294					
TWS1	**Kuangyinshan**	**1.27 293**	*e*P		**Pn**	**21 41 16.2 -0.1**
	baz=291					
ETM	**Tongmen**	**1.27 240**	*e*P		**Pn**	**21 41 16.4 +0.1**
	baz=240					
ETM			*e*S		**Sb**	**21 41 33.6 +0.7**
	baz=240					
JIJ	**Ishigaki jima**	**1.33 100**	P		**Pn**	**21 41 17.0 -0.2**
JIJ			S		**Sn**	**21 41 33.9 -0.5**
FUSS	**Fushou**	**1.38 255**	*e*P		**Pb**	**21 41 18.9 0.0**
	baz=263					
FUSS			*e*S		**Sb**	**21 41 36.4 +0.2**
	baz=263					
WHF	**Hehuan Shan**	**1.39 251**	*e*P		**Pb**	**21 41 19.1 -0.1**
	baz=258					
WHF			*e*S		**Sb**	**21 41 37.6 +0.9**
	baz=258					
TDCB	**Techi**	**1.45 256**	P		**Pb**	**21 41 20.5 +0.4**
	baz=256					
TDCB			*e*S		**Sn**	**21 41 38.1 +0.5**
	baz=256					
CHGB	**Renai**	**1.50 249**	P		**Pb**	**21 41 21.0 +0.1**
	baz=248					
LIOB	**Emei**	**1.54 272**	*e*P		**Pb**	**21 41 22.3 +0.8**
	baz=286					
OWD	**Renai**	**1.54 245**	P		**Pn**	**21 41 20.9 +0.8**
	baz=245					
OWD			*e*S		**Sb**	**21 41 42.0 +1.3**
	baz=245					
NSTT	**Nanjuang**	**1.55 271**	*e*P		**Pb**	**21 41 22.3 +0.7**
	baz=287					
NSTT			*e*S		**Sb**	**21 41 42.3 +1.4**
	baz=287					
HGSD	**Ruisui**	**1.61 227**	*e*P		**Pn**	**21 41 20.3 -0.7**
	baz=227					
WHP	**Taichung City**	**1.63 259**	P		**Pb**	**21 41 23.7 +0.6**
	baz=266					
WHP			*e*S		**Sg**	**21 41 45.3 -1.0**
	baz=266					
DPDB	**Guoxing**	**1.72 251**	*e*P		**Pb**	**21 41 24.3 -0.3**
	baz=250					
WCS	**Beigang Elemen**	**1.72 252**	*e*P		**Pb**	**21 41 25.0 +0.4**
	baz=252					
WCS			*e*S		**Sb**	**21 41 47.6 +1.7**
	baz=252					
NMLH	**Miaoli**	**1.74 268**	*e*P		**Pg**	**21 41 26.6 -0.5**
	baz=281					
YULB	**Yu-li**	**1.76 227**	*e*P		**Pn**	**21 41 22.8 -0.3**
	baz=217					
EYUL	**Yuli**	**1.78 226**	*e*P		**Pn**	**21 41 23.7 +0.4**
	baz=215					
SSLB	**Suanglung**	**1.79 243**	*e*P		**Pn**	**21 41 23.6 +0.1**
	baz=242					
SMLT	**Sun Moon Lake**	**1.79 247**	*e*P		**Pb**	**21 41 25.2 -0.7**
	baz=245					
TYC	**Yuchr**	**1.82 248**	P		**Pb**	**21 41 26.3 0.0**
	baz=232					
ALS	**Alishan**	**2.05 238**	*e*P		**Pb**	**21 41 29.1 -1.3**
	baz=237					
CHN5	**Tsauling**	**2.10 242**	*e*P		**Pb**	**21 41 30.5 -0.7**
	baz=241					
STYH	**Taoyuan**	**2.27 231**	*e*P		**Pn**	**21 41 32.1 +2.1**
	baz=231					
STYT	**Tauyuan**	**2.29 232**	*e*P		**Pn**	**21 41 32.4 +2.0**
	baz=231					
TPUB	**Ta-pu**	**2.30 236**	*e*P		**Pb**	**21 41 32.9 -1.6**
	baz=235					
TWGBT	**Beinan**	**2.32 220**	*e*P		**Pn**	**21 41 31.7 +0.9**
	baz=220					
WTP	**Ta-pu**	**2.34 235**	*e*P		**Pn**	**21 41 32.9 +1.8**
	baz=234					
TWK	**Hsinying**	**2.42 237**	*e*P		**Pn**	**21 41 34.2 +1.9**
	baz=236					
SLGT	**Liugui**	**2.47 230**	*e*P		**Pb**	**21 41 35.5 -1.9**
	baz=230					
MASBT	**Mashibuluo**	**2.75 224**	*e*P		**Pn**	**21 41 38.4 +1.8**
	baz=215					
EAST	**Anshuo**	**2.79 218**	*e*P		**Pn**	**21 41 35.4 -1.9**
	baz=218					

*IDC **19** 22:56:58.1±4.1, 10°.86S×165°.47E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/36, mbtmp3.6/5, MS3.3/8, Ms1 3.3/8, ms1mx3.1/34, Error ellipse: s-maj=144.2km s-min=35.0km az=133.0, Santa Cruz Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**13.97**	**121**	LR	LR	23 04 53.8	
	comp=Z,309nm,21.2s,baz=239,slow=34						
AFI	**Afiamalu**	**22.43**	**100**	LR	LR	23 08 26.8	
	comp=Z,111nm,19.7s,baz=207,slow=31						
WRA	**Warramunga Arr**	**31.29**	**249**	P	P	23 03 20.8	+0.6
	0.3nm,0.8s,baz=81,slow=7.4,SNR=1.6						
GUMO	**Guam**	**31.74**	**319**	LR	LR	23 14 15.2	
	comp=Z,62nm,21.3s,baz=124,slow=33						
ASAR	**Alice Springs**	**32.63**	**243**	P	P	23 03 31.6	-0.4
	0.3nm,0.6s,baz=67,slow=10,SNR=2.2						
RAR	**Rarotonga**	**34.88**	**112**	LR	LR	23 14 15.7	
	comp=Z,86nm,21.6s,baz=106,slow=30						
MJAR	**Matsushiro Arr**	**53.68**	**333**	LR	LR	23 26 59.4	
	comp=Z,18nm,21.4s,baz=145,slow=34						
KSRS	**Korea Array**	**59.57**	**326**	LR	LR	23 33 51.9	
	comp=Z,16nm,18.1s,baz=166,slow=37						
PETK	**Petropavlovsk-**	**64.06**	**355**	LR	LR	23 29 26.5	
	comp=Z,17nm,19.7s,baz=155,slow=30						
SONM	**Songino Array**	**78.35**	**324**	P	P	23 09 01.2	+0.7
	0.3nm,0.5s,baz=118,slow=5.2,SNR=2.6						
SONM				LR	LR	23 41 32.6	
	comp=Z,20nm,19.8s,baz=86,slow=34						
ILAR	**Eielson Array**	**83.42**	**19**	P	P	23 09 27.4	+0.3
	0.3nm,0.7s,baz=231,slow=5.9,SNR=1.1						
MKAR	**Makanchi Array**	**93.20**	**317**	P	P	23 10 13.4	-1.1
	0.7nm,0.7s,baz=96,slow=5.5,SNR=6.5						

*IDC **19** 23:05:51.6±1.0, 30°.10S×177°.41W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/35, mbtmp4.2/5, MS3.5/3, Ms1 3.5/3, ms1mx3.0/29, Error ellipse: s-maj=25.3km s-min=22.7km az=77.0*

ISC 19 23:05:55.8±1.0, 30°.27S±0°.08×177°.5W±0°.2, h33km, n20, σ1°47/18, mb4.4/5, MS3.6/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**340**	Pn	**Pn**	**23 06 12.7**	**-1.9**
	446nm,0.3s,baz=131,slow=10,SNR=12						
RAO				Sn	**Sn**	**23 06 26.3**	**-2.1**
	1μm,0.3s,baz=294,slow=16,SNR=10						
URZ	**Urewera**	**9.13**	**208**	Pn	**Pn**	**23 08 02.7**	**-2.5**
	0.5nm,0.3s,baz=343,slow=24,SNR=1.8						
URZ				Sn	**Sn**	**23 09 45.2**	**-1.7**
	2.3nm,0.3s,baz=134,slow=22,SNR=10.0						
PPT	**Papeete**	**28.40**	**70**	LR	LR	23 21 57.7	
	comp=Z,55nm,18.1s,baz=199,slow=34						
CTA	**Charters Tower**	**34.20**	**279**	P	**P**	**23 12 40.8**	**+2.3**
	2.9nm,0.4s,baz=108,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**34.93**	**257**	P	**P**	**23 12 46.5**	**+1.9**
	2.9nm,0.4s,baz=95,slow=13,SNR=9.4						
STKA				LR	LR	23 26 31.6	
	comp=Z,95nm,18.1s,baz=27,slow=35						
ASAR	**Alice Springs**	**43.55**	**267**	P	**P**	**23 13 57.2**	**+0.5**
	1.3nm,0.5s,baz=106,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**23 14 05.0**	**+0.4**
	2.9nm,0.5s,baz=110,slow=8.1,SNR=22						
H03S2	**Juan Fernandez**	**80.18**	**123**	T	T	00 47 22.6	
	baz=238						
H03S1	**Juan Fernandez**	**80.19**	**123**	T	T	00 47 20.9	
	baz=238						
H03S3	**Juan Fernandez**	**80.20**	**123**	T	T	00 47 23.2	
	baz=238						
NVAR	**Mina Array Bea**	**87.85**	**42**	P	**P**	**23 18 41.9**	**-0.2**
	0.3nm,0.7s,baz=217,slow=8.8,SNR=2.3						
NVAR				LR	LR	23 55 43.9	
	comp=Z,30nm,18.2s,baz=262,slow=34						
MKAR	**Makanchi Array**	**118.02**	**310**	PKP	**PKiKP**	**23 24 40.9**	**+1.9**
	0.3nm,0.7s,baz=112,slow=1.8,SNR=3.1						
KURBB	**Kurchatov Arra**	**121.31**	**314**	PKP	**PKiKP**	**23 24 45.3**	**+0.1**
	0.2nm,0.6s,baz=108,slow=2.4,SNR=2.2						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	**PKPbc**	**23 25 28.9**	**+0.1**
	1.8nm,0.5s,baz=60,slow=4.1,SNR=31						
NB2	**NORSAR Subarra**	**148.68**	**352**	PKPdf	**PKiKP**	**23 25 39.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=10,slow=2.0						
NOA	**NORSAR Array B**	**148.68**	**352**	PKPbc	**PKPbc**	**23 25 38.7**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=19,slow=4.1,SNR=2.6						
HFS	**Hagfors**	**149.20**	**349**	PKPbc	**PKPbc**	**23 25 40.7**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=354,slow=2.9,SNR=5.5						
AKASG	**Malin Array Be**	**151.45**	**323**	PKPbc	**PKPbc**	**23 25 46.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=46,slow=3.0,SNR=2.3						
MMAI	**Mount Meron Ar**	**151.91**	**284**	PKPbc	**PKiKP**	**23 25 49.4**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=117,slow=2.9,SNR=6.5						
BRTR	**Keskin Array B**	**152.91**	**299**	PKPbc	**PKiKP**	**23 25 50.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=143,slow=5.9,SNR=3.5						

*IDC **19** 23:06:52.8±0.8, 0°.18S×125°.44E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/59, mbtmp4.0/14, ML3.9/1, MS3.1/3, Ms1 3.2/3, ms1mx2.7/40, Error ellipse: s-maj=34.4km s-min=16.8km az=76.0*

*DJA **19** 23:06:58.8±1.7, 0°.5±4°×12°.5E±°, h22km±15km, M4.5/12, mb4.9/3, MLv4.2/12*

*NEIC **19** 23:07:01.4±2.0, 0°.37S±0°.06×125°.27E±0°.06, h62km±10km, mb4.4/16, Error ellipse: s-maj=9.9km s-min=8.2km az=223.0*

ISC 19 23:07:00.4±0.5, 0°.36S±0°.06×125°.29E±0°.06, h57km, n48, σ1°34/48, mb4.2/19, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.36**	**62**		**Pn**	**23 07 38.9**	**+2.1**
TNTI				Sn	**Sn**	**23 08 07.0**	**+2.4**
TNTI	**Ternate**	**2.36**	**62**	P	**Pn**	**23 07 34.0**	**-2.8**
GTOI	**Gorontalo**	**2.48**	**293**	P	**Pn**	**23 07 40.8**	**+2.4**
LUWI	**Luwuk**	**2.61**	**255**		**Pn**	**23 07 41.3**	**+1.2**
NLAI	**Namlea**	**3.39**	**148**	P	**Pn**	**23 07 50.9**	**0.0**
MRSI	**Marisa**	**3.45**	**284**	P	**Pn**	**23 07 49.1**	**-2.5**
APSI	**Ampana**	**3.68**	**261**	P	**Pn**	**23 07 55.8**	**+1.0**
MSAI	**Masohi**	**4.70**	**129**	P	**Pn**	**23 08 10.2**	**+1.4**
TOLI2	**Tolitoli**	**4.74**	**288**		**Pn**	**23 08 08.9**	**-0.4**
MPSI	**Mapaga**	**5.43**	**277**	P	**Pn**	**23 08 19.6**	**+0.7**
	0.2nm22nm,0.6s						
TTSI	**Tana Toraja**	**6.08**	**244**	P	**Pn**	**23 08 28.4**	**+0.6**
	0.3nm71nm,0.6s						
BNDI	**Bandanaira**	**6.20**	**132**	P	**Pn**	**23 08 30.5**	**+1.1**
KAPI	**Kappang**	**7.21**	**230**	Pn	**Pn**	**23 08 43.9**	**+0.7**
	2.0nm,0.3s,baz=74,slow=3.6,SNR=5.3						
KAPI				Sn	**Sn**	**23 10 01.8**	**-2.0**
	1.1nm,0.3s,baz=152,slow=16,SNR=1.6						
KAPI				LR	LR	23 12 19.6	
	comp=Z,134nm,19.9s,baz=74,slow=44						
FAKI	**Fak Fak**	**7.41**	**110**	Pn	**Pn**	**23 08 45.9**	**-0.1**
KNRA	**Kununurra**	**15.61**	**167**	Pn	**Pn**	**23 10 35.7**	**-1.2**
KNRA				IAmb	IAmb	23 10 38.2	
	comp=Z,14nm,0.8s						
KPJI	**Karang Pucung**	**17.72**	**247**	P	**P**	**23 11 07.4**	**+3.9**
CISI	**Cisompet, Garu**	**18.83**	**247**	P	**P**	**23 11 15.1**	**-0.7**
CISI				IAmb	IAmb	23 11 18.9	
	comp=Z,51nm,1.4s						
WB0	**Warramunga Arr**	**21.25**	**156**	P	**P**	**23 11 41.8**	**-0.3**
WB0				IAmb	IAmb	23 12 01.4	
	comp=Z,11nm,1.2s						
MBWA	**Marble Bar**	**21.38**	**194**	P	**P**	**23 11 42.8**	**-0.5**
WRA	**Warramunga Arr**	**21.39**	**156**	P	**P**	**23 11 42.6**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=336,slow=12,SNR=15						
WB2	**Warramunga Arr**	**21.40**	**156**	P	**P**	**23 11 43.5**	**0.0**
WR0	**Warramunga Arr**	**21.49**	**156**	P	**P**	**23 11 44.6**	**+0.1**
PSA00	**Pilbara Seismi**	**21.75**	**194**	P	**P**	**23 11 47.8**	**+0.6**
PSA00				IAmb	IAmb	23 11 58.9	
	comp=Z,34nm,1.4s						
GIRL	**Giralia**	**24.63**	**205**	P	**P**	**23 12 15.1**	**-0.5**
ASAR	**Alice Springs**	**24.64**	**161**	P	**P**	**23 12 16.9**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=352,slow=16,SNR=12						
ASAR				PcP	**PcP**	**23 15 52.0**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=342,slow=1.7,SNR=5.2						
ASAR	**Alice Springs**	**24.64**	**161**	P	**P**	**23 12 17.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**31.93**	**307**	LR	LR	23 25 47.1	
	comp=Z,28nm,21.9s,baz=210,slow=36						
JNU	**Nakatsue**	**33.71**	**8**	P	**P**	**23 13 34.7**	**-1.7**
	comp=Z,8.7nm,1.0s,baz=337,slow=7.7,SNR=2.2						
JNU	**Nakatsue**	**33.71**	**8**	IAmb	IAmb	23 13 42.0	
	comp=Z,54nm,1.5s						
BBOO	**Buckleboo**	**33.84**	**164**	P	**P**	**23 13 36.5**	**-0.9**
MJAR	**Matsushiro Arr**	**38.62**	**17**	P	**P**	**23 14 16.6**	**-1.7**
	comp=Z,3.2nm,0.8s,baz=186,slow=8.5,SNR=4.7						
PALK	**Pallekele**	**45.11**	**281**	LR	LR	23 33 35.2	
	comp=Z,41nm,20.0s,baz=249,slow=35						
SONM	**Songino Array**	**50.74**	**344**	P	**P**	**23 15 53.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=158,slow=7.6,SNR=5.1						
MK31	**Makanchi Array**	**60.13**	**327**	P	**P**	**23 17 02.6**	**+0.5**
MK31				IAmb	IAmb	23 17 04.2	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	**23 17 01.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=121,slow=8.1,SNR=27						
MKAR	**Makanchi Array**	**60.13**	**327**	P	**P**	**23 17 03.3**	**+1.2**
MAKZ	**Makanchi**	**60.31**	**327**	P	**P**	**23 17 04.2**	**+0.9**
MAKZ				IAmb	IAmb	23 17 05.7	
	comp=Z,2.3nm,0.6s						
KDJ	**Kajisay**	**60.49**	**320**	P	**P**	**23 17 05.7**	**+0.8**
KDJ				IAmb	IAmb	23 17 07.9	
	comp=Z,3.4nm,0.7s						
KBL	**Kabul**	**62.92**	**310**	P	**P**	**23 17 20.6**	**-0.8**
KBL				IAmb	IAmb	23 17 22.6	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**63.59**	**335**	P	**P**	**23 17 25.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=114,slow=6.6,SNR=3.8						
GAR	**Garm**	**63.68**	**315**	P	**P**	**23 17 26.8**	**+0.6**
KURBB	**Kurchatov Arra**	**64.43**	**329**	P	**P**	**23 17 30.3**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=133,slow=6.3,SNR=18						
KURK	**Kurchatov**	**64.44**	**329**	P	**P**	**23 17 30.3**	**-0.5**
BVAR	**Borovoye Array**	**69.97**	**328**	P	**P**	**23 18 05.0**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=142,slow=5.6,SNR=2.4						
AKTO	**Aktyubinsk**	**75.97**	**323**	P	**P**	**23 18 41.1**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=97,slow=7.7,SNR=18						
ARU	**Arti**	**77.62**	**329**	P	**P**	**23 18 50.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=176,slow=10,SNR=3.6						
KMBO	**Kilima Mbogo**	**88.03**	**269**	P	**P**	**23 19 47.5**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=63,slow=9.1,SNR=1.9						
BRTR	**Keskin Array B**	**91.50**	**310**	P	**P**	**23 20 01.4**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=115,slow=6.5,SNR=2.7						

IDC 19 23:22:59.3±2.0, 3°.44S×142°.14E, h0km, mb3.3/2, mb1 3.9/4, mb1mx3.4/36, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=61.3km s-min=32.6km az=107.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**140**	Pn	Pn	23 24 53.5	+0.1
	1.0nm,0.3s,baz=278,slow=18,SNR=1.2						
WRA	**Warramunga Arr**	**18.08**	**204**	P	Pn	23 27 12.0	-0.1
	0.4nm,0.3s,baz=23,slow=12,SNR=8.1						
ASAR	**Alice Springs**	**21.62**	**201**	P	P	23 27 51.4	+0.1
	0.4nm,0.5s,baz=37,slow=13,SNR=4.9						
ILAR	**Eielson Array**	**85.09**	**24**	P	P	23 35 36.9	-0.1
	0.2nm,0.4s,baz=262,slow=4.3,SNR=2.0						

*BJI **19** 23:49:52.1±0.0, 6°.46S×130°.01E, h151km, mB4.8/12, mb4.7/17*

*IDC **19** 23:49:54.1±1.9, 6°.49S×129°.94E, h162km±17km, mb4.0/12, mb1 4.1/15, mb1mx3.8/45, mbtmp4.5/15, MS3.5/2, Ms1 3.5/2, ms1mx2.7/27, Error ellipse: s-maj=25.4km s-min=10.3km az=64.0*

*NEIC **19** 23:49:54.6±2.7, 6°.49S±0°.02×130°.04E±0°.08, h162km±8km, mb4.7/31, Error ellipse: s-maj=11.1km s-min=2.5km az=101.0*

*DJA **19** 23:49:54.7±0.2, 7°.5±2°×13°.0E±°, h168km±3km, M4.8/27, mB5.3/13, mb4.8/27, MLv5.1/12, Mw(mB)4.7/13*

ISC 19 23:49:52.4±0.4, 6°.54S±0°.04×130°.05E±0°.05, h146km, n120, σ2°15/127, mb4.7/34, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.89**	**139**		**Pn**	**23 50 30.3**	**+4.2**
SAUI				Sn	**Sn**	**23 50 54.8**	**+2.8**
SAUI	**Saumlaki**	**1.89**	**139**	P	**Pn**	**23 50 29.9**	**+3.8**
SAUI				S	**Sn**	**23 50 55.4**	**+3.5**
BNDI	**Bandanaira**	**2.01**	**356**	P	**Pn**	**23 50 31.9**	**+4.4**
MSAI	**Masohi**	**3.37**	**341**	P	**Pn**	**23 50 48.3**	**+3.9**
MSAI				S	**Sn**	**23 51 27.5**	**+2.9**
FAKI	**Fak Fak**	**4.21**	**31**	Pn	**Pn**	**23 50 56.4**	**+0.9**
FAKI				Sn	**Sn**	**23 51 42.1**	**-2.4**
FAKI	**Fak Fak**	**4.21**	**31**	P	**Pn**	**23 50 56.6**	**+1.2**
FAKI				S	**Sn**	**23 51 43.0**	**-1.4**
NLAI	**Namlea**	**4.41**	**318**	P	**Pn**	**23 51 02.4**	**+4.5**
KMPI	**Kaimana, Papua**	**4.63**	**52**	P	**Pn**	**23 51 02.6**	**+1.7**
SIJI	**Sorong**	**5.76**	**12**	P	**Pn**	**23 51 15.5**	**-0.5**
	42nm,0.3s,baz=45,slow=5.8,SNR=96						
SIJI				S	**Sn**	**23 52 15.1**	**-6.2**
	49nm,0.3s,baz=119,slow=23,SNR=16						
SWI	**Sorong**	**5.77**	**12**	P	**Pn**	**23 51 17.0**	**+0.9**
	2.4nm6μm104nm,0.4s						
SANI	**Sanana**	**6.03**	**318**	P	**Pn**	**23 51 23.7**	**+4.2**
	0.4nm1μm109nm,0.8s						
MTN	**Manton Dam**	**6.35**	**170**	P	**Pn**	**23 51 25.1**	**+1.3**
	baz=6.4,SNR=369						
MTN				S	**Sn**	**23 52 34.9**	**-0.5**
	baz=6.4						
MTN	**Manton Dam**	**6.35**	**170**		**Pn**	**23 51 25.9**	**+2.1**
MTN				Sn	**Sn**	**23 52 34.8**	**-0.5**
SOEI	**Soe**	**6.55**	**240**		**Pn**	**23 51 28.4**	**+1.7**
SOEI	**Soe**	**6.55**	**240**	P	**Pn**	**23 51 29.8**	**+3.1**
	2.3nm3μm289nm,0.8s						
KDU	**Kakadu**	**6.56**	**159**	P	**Pn**	**23 51 28.2**	**+1.7**
	baz=6.6,SNR=265						
KDU				S	**Sn**	**23 52 37.1**	**-3.1**
	baz=6.6						
BATI	**Baumata**	**7.29**	**240**	P	**Pn**	**23 51 38.6**	**+2.2**
	1.0nm4μm268nm,0.6s						
TNTI	**Ternate**	**7.74**	**340**	Pn	**Pn**	**23 51 42.3**	**-0.1**
MMRI	**Maumere**	**8.02**	**254**	Pn	**Pn**	**23 51 48.0**	**+1.8**
MMRI	**Maumere**	**8.02**	**254**	P	**Pn**	**23 51 50.6**	**+4.5**
	92nm,0.5s						
EDFI	**Ende, Flores**	**8.57**	**255**	P	**Pn**	**23 51 56.9**	**+3.3**
	30nm,0.8s						
KNRA	**Kununurra**	**9.17**	**188**	P	**Pn**	**23 52 01.8**	**+0.4**
	baz=9.2,SNR=116						
KNRA				S	**Sn**	**23 53 38.3**	**-4.8**
	baz=9.2						
KNRA	**Kununurra**	**9.17**	**188**		**Pn**	**23 52 02.0**	**+0.6**
APSI	**Ampana**	**10.08**	**303**	P	**Pn**	**23 52 17.6**	**+4.0**
	1μm101nm,1.1s						
BNSI	**Bone**	**10.12**	**282**	P	**Pn**	**23 52 18.4**	**+4.2**
	51nm,0.9s						
KAPI	**Kappang**	**10.36**	**278**	P	**Pn**	**23 52 17.9**	**+0.6**
	0.4nm,0.3s,baz=161,slow=23,SNR=2.5						
KAPI	**Kappang**	**10.36**	**278**	Pn	**Pn**	**23 52 18.7**	**+1.3**
MRSI	**Marisa**	**10.68**	**310**	P	**Pn**	**23 52 25.1**	**+3.5**
	1μm148nm,0.9s						
TTSI	**Tana Toraja**	**10.77**	**288**	P	Pn	23 52 41.9	+19
WBSI	**Waikabubak, Su**	**10.99**	**253**	P	**Pn**	**23 52 28.7**	**+2.9**
	2μm81nm,0.5s						
TOLI2	**Tolitoli**	**11.97**	**309**		**Pn**	**23 52 38.5**	**-0.1**
MPSI	**Mapaga**	**12.22**	**304**	P	**P**	**23 52 45.5**	**-2.6**
	15nm,1.0s						
PLAI	**Plampang**	**12.37**	**259**	P	**Pn**	**23 52 45.2**	**+1.4**
	2μm110nm,0.8s						
TWSI	**Taliwang, Sumb**	**13.23**	**260**	P	**Pn**	**23 52 55.1**	**+0.3**
WB0	**Warramunga Arr**	**13.81**	**163**	Pn	**Pn**	**23 53 01.7**	**-0.5**
WRAB	**Tennant Creek**	**13.95**	**163**	Pn	**Pn**	**23 53 05.6**	**+1.7**
WRA	**Warramunga Arr**	**13.96**	**163**	P	**Pn**	**23 53 02.4**	**-1.7**
	6.6nm,0.3s,baz=331,slow=13,SNR=68						
WRA				S	**Sn**	**23 55 32.3**	**-6.4**
	19nm,0.3s,baz=341,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.96**	**163**		**Pn**	**23 53 03.4**	**-0.7**
WB2	**Warramunga Arr**	**13.96**	**163**		**Pn**	**23 53 03.2**	**-0.8**
WR0	**Warramunga Arr**	**14.03**	**162**	Pn	**Pn**	**23 53 04.3**	**-0.7**
KBKI	**Kotabaru**	**14.20**	**282**	P	**P**	**23 53 08.6**	**-1.5**
	5μm48nm,0.9s						
BBKI	**Banjar Baru**	**15.46**	**281**	P	**P**	**23 53 25.0**	**+0.9**
	2μm101nm,1.3s						
QIS	**Mount Isa**	**16.73**	**147**	P	**Pn**	**23 53 39.9**	**+1.5**
	baz=17,SNR=80						
PMG	**Port Moresby**	**17.18**	**101**	LR	LR	00 01 11.4	
	comp=Z,101nm,18.5s,baz=316,slow=39						
PMG	**Port Moresby**	**17.18**	**101**	P	**Pn**	**23 53 44.4**	**+0.5**
PMG				IAmb	IAmb	23 53 51.0	
	comp=Z,27nm,1.1s						
AS31	**Alice Springs**	**17.42**	**168**		**Pn**	**23 53 48.0**	**+1.3**
ASAR	**Alice Springs**	**17.43**	**168**	P	**Pn**	**23 53 47.7**	**+1.0**
	comp=Z,13nm,0.3s,baz=341,slow=10,SNR=324						
ASAR				S	**S**	**23 56 58.9**	**-1.0**
	comp=Z,4.6nm,0.3s,

CNB Canberra Magne 33.70 151 P P 23 56 22.2 +2.4
baz=34,SNR=6.0
TOO Toolangi 33.93 158 P P 23 56 24.6 +2.9
baz=34,SNR=7.4
TOO Toolangi 33.93 158 P P 23 56 23.6 +1.8
TOO IAmb IAmb 23 56 25.0
comp=Z,9.3nm,0.6s
CHAI Chaiyaphum 35.63 309 P P 23 56 36.0 -0.5
comp=Z,509nmcomp=Z,26nm,0.6s
PHIT Phitsanulok 37.60 309 P P 23 56 53.6 +0.4
comp=Z,54nm,0.8s
UTTA Uttaradit 37.83 310 P P 23 56 55.1 0.0
comp=Z,204nmcomp=Z,22nm,0.6s
ONTNC Ouen Toro 38.44 118 P P 23 56 59.2 -1.0
CMAR Chiang Mai Arr 39.48 310 P P 23 57 08.2 -0.7
comp=Z,2.8nm,0.6s,baz=134,slow=6.9,SNR=18
CMMT Chiang Mai 39.68 310 P P 23 57 10.9 +0.3
comp=Z,8.9nm,0.9s
CHTO Chiang Mai 39.69 310 P P 23 57 10.9 +0.3
comp=Z,8.9nm,0.9s
CHTO Chiang Mai 39.69 310 P P 23 57 09.8 -0.9
JWT Wachi 41.91 7 P P 23 57 28.0 -0.5
CD2 Chengdu 44.95 327 *eP* **P 23 57 54.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 45.05 335 P P 23 57 52.5 -1.3
XAN pmax pmax
comp=Z,6.0nm,1.0s
USRK Ussuriysk Ar. 50.54 2 P P 23 58 35.6 -0.2
comp=Z,1.4nm,0.5s,baz=188,slow=7.0,SNR=6.5
USRK Ussuriysk Ar. 50.54 2 P P 23 58 35.4 -0.4
FOZ Fox Glacier 50.72 143 P P 23 58 36.5 -0.8
QRZ Quartz Range 50.97 139 P P 23 58 39.9 +0.7
QRZ IAmb IAmb 23 58 40.3
comp=Z,25nm,1.1s
LBZ Lake Benmore 51.42 144 P P 23 58 42.8 +0.2
LBZ IAmb IAmb 23 58 48.3
comp=Z,34nm,1.2s
LSA Lhasa 51.91 316 P P 23 58 46.5 -0.4
LSA IAmb IAmb 23 58 48.0
comp=Z,10.0nm,0.5s
TUWZ Tuamarina 52.19 139 P P 23 58 48.4 +0.2
BKZ Black Stump Fm 52.88 135 P P 23 58 54.0 +0.5
BKZ IAmb IAmb 23 58 55.5
comp=Z,18nm,1.2s
SONM Songino Array 58.03 341 P P 23 59 29.8 -0.3
comp=Z,0.8nm,0.5s,baz=152,slow=7.4,SNR=4.7
WMQ Urumqi 63.04 327 *eP* **P 00 00 06.4 +2.3**
MK31 Makanchi Array 67.87 327 IAmb IAmb 00 00 36.1
comp=Z,6.3nm,0.7s
MKAR Makanchi Array 67.87 327 P P 00 00 35.1 0.0
comp=Z,8.4nm,0.5s,baz=114,slow=8.5,SNR=120
MKAR Makanchi Array 67.87 327 P P 00 00 35.3 +0.2
MAKZ Makanchi 68.05 327 P P 00 00 35.9 -0.3
MAKZ IAmb IAmb 00 00 37.1
comp=Z,7.5nm,0.7s
ZALV Zalesovo Beam 71.20 334 P P 00 00 53.2 -2.0
comp=Z,1.6nm,0.5s,baz=126,slow=5.9,SNR=5.4
KURBB Kurchatov Arra 72.15 328 P P 00 01 00.2 -0.8
comp=Z,2.4nm,0.5s,baz=129,slow=5.1,SNR=28
VNDA Vanda 72.89 173 P P 00 01 05.2 +0.2
comp=Z,1.3nm,0.5s,baz=321,slow=7.4,SNR=28
VNDA Vanda 72.89 173 P P 00 01 05.3 +0.3
MAW Mawson 75.39 201 LR LR 00 34 04.6
comp=Z,38nm,18.2s,baz=233,slow=35
WSAR Wadi Sarin 75.71 296 P P 00 01 21.2 -1.2
comp=Z,6.2nm,0.7s,baz=143,slow=3.5,SNR=6.4
QSPA South Pole Qui 83.43 180 P P 00 02 02.5 -0.9
comp=Z,2.0nm,0.6s,baz=52,slow=0.4,SNR=13
SYO Syowa Base 84.10 201⇑*eX* **P 00 02 04.0 -2.6**
ARU Arti 85.35 328 P P 00 02 11.9 -1.1
comp=Z,1.0nm,0.6s,baz=110,slow=8.1,SNR=5.7
TORD Torodi Ar. Bea 128.77 282 SKPbc SKiKP 00 11 45.3 -21
comp=Z,1.3nm,0.7s,baz=81,slow=2.7,SNR=4.1
CPUP Villa Florida 146.55 168 PKPbc **PKPbc 00 09 16.7 -0.7**
comp=Z,1.6nm,0.6s,baz=137,slow=2.0,SNR=4.3
LPAZ La Paz 151.05 142 PKPbc **PKiKP 00 09 30.8 +0.3**
comp=Z,1.1nm,0.4s,baz=13,slow=2.1,SNR=16

*IDC **19** 23:57:45.3±5.4, 36°.72N×71°.23E, h69km±34km, mb3.4/6, mb1 3.7/12, mb1mx3.4/44, mbtmp3.9/12, ML3.8/6, MS2.8/2, Ms1 2.9/2, ms1mx2.3/33, Error ellipse: s-maj=66.4km s-min=21.6km az=141.0*
*NEIC **19** 23:57:49.5±2.1, 36°.90N±0°.06×71°.13E±0°.04, h84km±11km, mb4.1/6, Error ellipse: s-maj=9.6km s-min=4.3km az=164.0*
ISC 19 23:57:47.1±0.7, 36°.71N±0°.06×71°.15E±0°.06, h100km, n51, σ2§10/49, mb3.7/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.38**	**344**		**Pn**	**23 58 24.9**	**+0.2**
CHGR	**Chuyangaron**	**2.50**	**322**	Pn	**Pn**	**23 58 26.1**	**-0.2**
KBL	**Kabul**	**2.76**	**219**	Pn	Pn	23 58 34.6	+4.6
DRK	**Karamyk**	**2.81**	**10**		**Pn**	**23 58 30.8**	**+0.2**
BTK	**Batken**	**3.35**	**356**	Pn	**Pn**	**23 58 38.3**	**+0.7**
NIL	**Nilore**	**3.51**	**150**	Pn	**Pn**	**23 58 43.4**	**+3.6**
AML	**Almayashu**	**5.76**	**19**	P	**Pn**	**23 59 10.9**	**+0.4**
SNR=78
EKS2 Erkin-Say 6.28 18 P Pn 23 59 17.6 +0.3
SNR=22
KK31 Karatay Array 6.40 356 Pn **Pn 23 59 18.4 -0.4**
KK31 Sn **Sn 00 00 27.2 -3.2**
KKAR Karatay Array 6.40 356 Pn **Pn 23 59 18.3 -0.6**
AAK Ala-Archa 6.46 23 P Pn 23 59 18.6 -1.1
7.7nm,0.3s,baz=207,slow=8.4,SNR=19
AAK S **Sn 00 00 29.8 -2.1**
2.6nm,0.3s,baz=346,slow=19,SNR=8.4
AAK Ala-Archa 6.46 23 P Pn 23 59 20.1 +0.4
SNR=12
AAK Ala-Archa 6.46 23 Pn **Pn 23 59 19.4 -0.4**
KBK Karagaybulak 6.62 25 P Pn 23 59 22.7 +0.7
SNR=6.9
FRU1 Bishkek 6.65 23 Pn 23 59 22.9 +0.6
BOOM Boomskoye usch 6.85 31 Pn **Pn 23 59 25.2 +0.1**
CHMS Chumysh 6.86 23 P Pn 23 59 25.1 0.0
SNR=44
USP Ospenovka 7.03 20 P Pn 23 59 26.9 -0.6
SNR=13
TKM2 Tokmak 2 7.08 28 P Pn 23 59 28.3 0.0
SNR=39
KDJ Kajisay 7.14 39 Pn **Pn 23 59 29.7 +0.6**
TARG Taragay, Kyrgy 7.20 44 Pn **Pn 23 59 30.0 0.0**
SMLA Simla 7.49 136 *eP* **Pn 23 59 34.4 +0.8**
SMLA *eS* **Sn 00 00 53.7 -3.2**
KUDL Kundal 9.66 151 *eP* Pn 23 59 56.4 -6.8
KUDL Kundal 9.66 151 *eS* **Sn 00 01 43.6 -6.3**
GEYT Alibeck 10.45 281 P Pn 00 00 12.5 -1.4
1.1nm,0.3s,baz=195,slow=16,SNR=12
GEYT S **Sn 00 02 02.5 -6.5**
0.4nm,0.3s,baz=80,slow=35,SNR=2.0
GYA0B ALIBECK ARRAY 10.45 281 Pn **Pn 00 00 12.9 -1.0**
KURBB Kurchatov Arra 14.88 19 P Pn 00 01 12.5 +0.3
0.1nm,0.3s,baz=206,slow=10,SNR=11
ABKAR Akbulak array 14.96 330 Pn **Pn 00 01 11.2 -1.9**
BVAR Borovoye Array 16.32 358 P Pn 00 01 29.0 -1.1
0.4nm,0.3s,baz=179,slow=12,SNR=13
BRVK Borovoye 16.36 358 IAmb IAmb 00 01 33.3
comp=Z,5.4nm,0.7s
BRVK Borovoye 16.36 358 P 00 01 31.7 0.0
BRVK IAmb IAmb 00 01 33.3
comp=Z,5.4nm,0.7s
BRVK Borovoye 16.36 358 P 00 01 31.7 0.0
AKTO Aktyubinsk 16.66 330 P Pn 00 01 33.1 -1.2
comp=Z,0.5nm,0.3s,baz=157,slow=5.4,SNR=11
ZAA0 Zalesovo Array 19.67 25 P P 00 02 07.9 -0.2
ZALV Zalesovo Beam 19.67 25 P P 00 02 07.2 -0.9
comp=Z,0.7nm,0.3s,baz=222,slow=10,SNR=8.7
ZALV Zalesovo Beam 19.67 25 P P 00 02 07.7 -0.4
GNI Garni 20.94 287 P Pn 00 02 25.4 -0.1
GNI IAmb IAmb 00 02 31.1
comp=Z,10nm,1.1s
BR131 Keskin Array S 29.48 287 P P 00 03 45.4 +3.6
BR131 IAmb IAmb 00 03 49.2
comp=Z,3.6nm,1.1s
BRTR Keskin Array B 29.48 287 P P 00 03 44.3 +2.4
comp=Z,0.7nm,0.6s,baz=111,slow=9.1,SNR=5.3
BRTR Keskin Array B 29.48 287 P P 00 03 45.2 +3.3
CMAR Chiang Mai Arr 30.45 119 LR LR 00 19 16.1
comp=Z,7.1nm,21.6s,baz=200,slow=42
ELL Elmali 32.87 283 P P 00 04 15.1 +3.5
FIA1 FINESS Array S 37.37 326 P P 00 04 52.5 +2.7
FIA1 IAmb IAmb 00 05 08.6
comp=Z,9.6nm,1.2s
FINES FINESS Array B 37.37 326 P P 00 04 51.2 +1.4
comp=Z,2.2nm,0.9s,baz=139,slow=18,SNR=1.1
FINES FINESS Array B 37.37 326 P P 00 04 51.7 +1.9
ARCES ARCESS Array B 40.99 337 P P 00 05 21.4 +1.6
comp=Z,2.8nm,0.9s,baz=114,slow=9.0,SNR=3.7
NB2 NORSAR Subarra 44.28 323 P P 00 05 48.2 +1.7
comp=Z,1.4nm,0.7s,baz=96,slow=7.9
NOA NORSAR Array B 44.28 323 P P 00 05 48.0 +1.5
comp=Z,0.4nm,0.6s,baz=96,slow=7.7,SNR=2.8
ESDC Sonseca Array 57.46 298 P P 00 07 27.4 +1.7
comp=Z,0.4nm,0.8s,baz=55,slow=9.6,SNR=3.2
BORG Borgarnes 58.48 330 LR LR 00 34 29.9
comp=Z,24nm,19.2s,baz=335,slow=38
TORD Torodi Ar. Bea 65.84 269 P P 00 08 23.6 +1.4
comp=Z,0.5nm,0.6s,baz=51,slow=4.6,SNR=2.4

*IDC **20** 00:06:13.0±4.0, 59°.33S×25°.02W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=138.1km s-min=57.4km az=169.0*
ISC 20 00:06:17.6±1.1, 59°.3S±0°.2×25°.2W±0°.3, h27km, n6, σ1§76/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.41**	**155**	P	**P**	**00 09 34.2**	**-0.8**
VNA3	**Neumayer Olymp**	**13.59**	**158**	P	**P**	**00 09 36.3**	**-0.8**
SNAA	**Sanae**	**15.37**	**153**	P	**P**	**00 09 59.6**	**+2.8**
LPAZ	**La Paz**	**53.11**	**305**	P	**P**	**00 15 33.6**	**+0.2**
0.3nm,0.4s,baz=135,slow=4.3,SNR=1.7
TORD Torodi Ar. Bea 75.40 27 P P 00 17 58.3 -0.3
0.9nm,1.0s,baz=208,slow=5.9,SNR=5.1
ILAR Eielson Array 152.98 307 PKPbc **PKPbc 00 26 10.8 0.0**
0.5nm,0.9s,baz=112,slow=1.0,SNR=4.1

IDC 20 00:15:04.8±2.4, 6°.53S×129°.61E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/36, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=156.8km s-min=32.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.10**	**161**	Pn	Pn	00 18 25.8	-0.1
0.2nm,0.3s,baz=344,slow=13,SNR=6.7
WRA Sn Sn 00 20 56.5 -6.8
0.4nm,0.3s,baz=356,slow=24,SNR=6.4
ASAR Alice Springs 17.53 167 P Pn 00 19 10.9 +0.1
0.1nm,0.3s,baz=345,slow=9.6,SNR=1.3
MKAR Makanchi Array 67.63 327 P P 00 26 03.6 0.0
0.3nm,0.4s,baz=112,slow=8.2,SNR=5.5

*NEIC **20** 00:22:28.9±0.9, 22°.2S±0°.1×171°.66E±0°.02, h111km±9km, mb4.7/11, Error ellipse: s-maj=17.2km s-min=2.9km az=182.0*
*IDC **20** 00:22:29.0±3.9, 22°.31S×171°.61E, h118km±39km, mb3.7/7, mb1 3.8/8, mb1mx3.6/28, mbtmp4.0/8, Error ellipse: s-maj=26.3km s-min=22.7km az=152.0*
*NOU **20** 00:22:30.7, 22°.14S×171°.53E, h90km, ML5.2, Southeast of Loyalty Islands*
ISC 20 00:22:27.3±0.7, 22°.28S±0°.09×171°.62E±0°.07, h98km, n34, σ1§65/35, mb4.0/11, 1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.43**	**283**		**Pn**	**00 23 20.4**	**+1.6**
MARNC **Sn 00 23 58.5 0.0**
MARNC Mare, Loyalty 3.43 283 P **Pn 00 23 20.8 +2.0**
PINNC Pines Island, 3.88 264 P **Pn 00 23 27.2 +2.4**
PINNC **Sn 00 24 08.7 -0.7**
PINNC Pines Island, 3.88 264 P **Pn 00 23 27.2 +2.4**
LIFNC LIFOU 4.34 289 Pn **Pn 00 23 32.8 +1.6**
LIFNC **Sn 00 24 17.5 -3.1**
LIFNC LIFOU 4.34 289 P **Pn 00 23 32.7 +1.6**
YATNC Mamie plateau, 4.39 272 P Pn 00 23 33.3 +1.5
OUENC Ouen Island, N 4.43 267 Pn 00 23 34.2 +2.0
OUENC **Sn 00 24 22.8 +0.1**
OUENC Ouen Island, N 4.43 267 P Pn 00 23 34.4 +2.1
ONTNC Ouen Toro 4.79 269 Pn 00 23 39.7 +2.6
ONTNC Ouen Toro 4.79 269 P Pn 00 23 40.0 +2.9
NOUC Port Laguerre 4.93 271 P Pn 00 23 41.3 +2.2
MSVF Nonsavu 7.55 54 P Pn 00 24 16.5 +1.7
0.2nm,0.3s,baz=267,slow=21,SNR=2.5
BFZ Birch Farm 18.76 169 P P 00 26 39.2 +0.5
THZ Tophouse 19.46 177 P P 00 26 46.8 +0.6
THZ IAmb IAmb 00 26 55.6
comp=Z,69nm,1.4s
LTZ Lake Taylor 20.45 179 P P 00 26 58.1 +1.1
LTZ IAmb IAmb 00 26 59.1
comp=Z,39nm,0.7s
CAN Canberra 23.64 232 P P 00 27 31.9 +2.1
CAN IAmb IAmb 00 27 33.3
comp=Z,14nm,1.1s
STKA Stephens Creek 28.32 244 P P 00 28 11.7 -0.2
comp=Z,2.3nm,0.8s,baz=60,slow=8.1,SNR=3.1
STKA Stephens Creek 28.32 244 IAmb IAmb 00 28 18.6
comp=Z,2.1nm,1.4s
AS31 Alice Springs 34.69 260 P P 00 29 07.9 0.0
ASAR Alice Springs 34.69 260 P P 00 29 08.0 +0.1
comp=Z,3.5nm,0.7s,baz=87,slow=9.4,SNR=29
WRA Warramunga Arr 34.80 267 P P 00 29 08.0 -0.9
comp=Z,0.6nm,0.3s,baz=98,slow=8.4,SNR=8.9
MORW Morawa 50.17 250 P P 00 31 13.2 0.0
VNDA Vanda 55.50 183 P P 00 31 51.5 -0.1
comp=Z,1.3nm,0.9s,baz=0.3,slow=8.0,SNR=9.4
VNDA Vanda 55.50 183 IAmb IAmb 00 32 01.9
comp=Z,2.0nm,1.1s
SBA Scott Base 55.68 181 P P 00 31 54.1 +1.2
SBA IAmb IAmb 00 31 55.0
comp=Z,10nm,0.8s
CASY Casey 58.27 205 P P 00 32 10.7 -0.7
CASY IAmb IAmb 00 32 11.4
comp=Z,11nm,1.1s
QSPA South Pole Qui 67.79 180 P P 00 33 14.0 -0.6
QSPA IAmb IAmb 00 33 15.0
comp=Z,7.4nm,0.9s
KSRS Korea Array 72.26 325 P P 00 33 42.0 0.0
comp=Z,0.9nm,0.5s,baz=143,slow=5.9,SNR=6.4
MAW Mawson 76.47 202 P P 00 34 04.1 -1.9
comp=Z,1.6nm,0.7s,baz=197,slow=19,SNR=3.6
SYO Syowa Base 82.64 196⇓*eX* P 00 34 34.2 -5.2
SNAA Sanae 86.22 182 P P 00 34 55.8 -1.8
VNA3 Neumayer Olymp 86.73 180 P P 00 34 58.2 -1.8
NVAR Mina Array Bea 89.16 48 P P 00 35 11.8 -0.5
comp=Z,0.3nm,0.6s,baz=225,slow=7.5,SNR=2.5

*SIGU **20** 00:26:39.6, 48°.03N×23°.67E, h5km*
*KRSZO **20** 00:26:40.1±1.2, 48°.09N×23°.60E, h4km±9km, ML2.8/12, Error ellipse: s-maj=4.8km s-min=3.8km az=79.0*
*BUC **20** 00:26:41.0±0.3, 48°.08N×23°.61E, h2km, ml2.4/12, Error ellipse: s-maj=2.8km s-min=1.8km az=169.0*
*IDC **20** 00:26:43.1±1.0, 47°.73N×22°.96E, h0km, mb1 3.0/5, mb1mx2.9/40, mbtmp2.9/5, ML2.2/4, Error ellipse: s-maj=14.1km s-min=11.2km az=22.0*
ISC 20 00:26:39.6±1.1, 48°.03N±0°.02×23°.68E±0°.02, h4km±9km, n72, σ1§50/99, 22C-24D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.33**	**91**	P	**Pg**	**00 26 44.8**	**-1.1**
RAKU Pm 00 26 46.6
RAKU *eSg* **Sg 00 26 51.9 +1.7**
RAKU Sm 00 26 52.5
RAKU m 00 26 54.0
KORU Korolevo 0.39 289⇑*iPg* **Pg 00 26 47.6 +0.6**
KORU Pm 00 26 51.8
KORU *eSg* **Sb 00 26 54.0 -1.2**
KORU m 00 26 55.0
KORU Sm 00 27 05.3
TRSU Trosnyk 0.49 278⇓*iPg* **Pb 00 26 49.8 -0.9**
TRSU Pm 00 26 50.9
TRSU *eSg* **Sb 00 26 57.6 -0.6**
TRSU Sm 00 26 58.4
TRSU m 00 27 13.6
MEZ Mezhgor'ye 0.49 347 *ePg* **Pg 00 26 49.2 +0.1**
MEZ Pm 00 26 49.5
MEZ *eSg* **Sg 00 26 56.3 +0.8**
MEZ m 00 26 58.4
MEZ Sm 00 26 59.0
BRIU Brid 0.54 305 *i*Pg **Pg 00 26 50.5 +0.6**
BRIU Pm 00 26 55.2
BRIU *e*Sg **Sb 00 26 59.4 -0.1**
BRIU m 00 27 01.3
BRIU Sm 00 27 02.0
NSLU Nyzhne Selyshc 0.55 72 *e*Pg Pg 00 26 44.2 -5.9
NSLU Pm 00 26 46.7
NSLU *e*Sg **Pg 00 26 47.3 -2.8**
NSLU Sm 00 26 49.1
NSLU m 00 26 52.2
BERU Beregovo 0.72 287⇓*iPg* **Pg 00 26 53.6 +0.2**
BERU Pm 00 26 57.3
BERU *i* Sg **Sn 00 27 06.6 -1.3**
BERU Sm 00 27 07.1
BERU m 00 27 09.6
TRPA Tarpa 0.77 278 ⇓P **Pg 00 26 54.5 +0.2**
TRPA ⇑S **Sg 00 27 04.9 +0.6**
TRPA Tarpa 0.77 278 ⇓P **Pg 00 26 54.5 +0.2**
TRPA Tarpa 0.77 278 *e*P **Pb 00 26 55.0 -0.5**
TRPA *e*S **Sb 00 27 05.4 -0.9**
TRPA Tarpa 0.77 278 Pg **Pb 00 26 55.0 -0.5**
comp=Z,0.6nm,SNR=59
TRPA Lg Lg 00 27 05.4
MUKU Mukachevo 0.78 303⇑*iPg* **Pg 00 26 54.6 0.0**
MUKU Pm 00 26 58.0
MUKU *e*Sg **Sb 00 27 06.9 +0.2**
MUKU m 00 27 09.0
MUKU Sm 00 27 09.1
STNU Starunia 0.87 39 *e*Pg **Pn 00 26 58.6 0.0**
STNU *e*Sg **Sb 00 27 10.2 +0.9**
KSV Kosov 0.97 73⇓*iPg* **Pn 00 26 59.8 -0.2**
KSV Pm 00 27 02.4
KSV *e*Sg **Sn 00 27 13.4 -0.8**
KSV m 00 27 22.2
KSV Sm 00 27 22.8
HOLU Holmets 0.99 300⇓*iPg* **Pg 00 26 58.6 -0.1**
HOLU *e*Sg **Sb 00 27 13.3 +0.5**
MESR Meseseni 1.01 209 ⇑P **Pn 00 27 00.3 -0.2**
MESR ⇑S **Sn 00 27 15.1 0.0**
MESR Meseseni 1.01 209 ⇑P **Pn 00 27 00.3 -0.2**
UZH Uzhgorod 1.10 303⇓*iPg* **Pg 00 27 00.2 -0.5**
UZH Pm 00 27 02.8
UZH *i* Sg **Sn 00 27 16.7 -0.6**
UZH Sm 00 27 20.5
UZH m 00 27 31.1
MORS Morshin 1.11 7⇓*iPg* **Pn 00 27 03.1 +1.2**
CBBR Cluj-Babes-Bol 1.27 184 ⇑P **Pn 00 27 05.1 +1.1**
CBBR Cluj-Babes-Bol 1.27 184 ⇑P **Pn 00 27 05.1 +1.1**
KOLS Kolonicke sedl 1.30 314 Pn **Pn 00 27 03.9 -0.6**
comp=Z,33nm,SNR=48
KOLS Lg Lg 00 27 21.6
KOLS Kolonicke sedl 1.30 314 *e*PG **Pg 00 27 04.9 +0.4**
KOLS *e*SG **Sn 00 27 24.1 +1.8**
LTVH Ltavrtes, Hu 1.36 242 ⇑P **Pg 00 27 05.8 +0.1**
LTVH ⇓S **Sn 00 27 26.1 +2.3**
LTVH Ltavrtes, Hu 1.36 242 ⇑P **Pg 00 27 05.8 +0.1**
LTVH Ltavrtes, Hu 1.36 242 *e*P **Pg 00 27 05.8 +0.1**
LTVH Ltavrtes, Hu 1.36 242 Pn **Pg 00 27 05.8 +0.1**
comp=Z,0.3nm,SNR=6.1
DRGR 1.41 208 ⇓S **Sn 00 27 26.9 +2.0**
DRGR 1.41 208 ⇓S **Sn 00 27 26.9 +2.0**
DRGR 1.41 208 Pn **Pn 00 27 05.9 -0.1**
comp=Z,0.3nm,SNR=17
DRGR Sn **Sn 00 27 26.7 +1.7**
CHRU Chernivtsi 1.52 79 *e*Sg **Sg 00 27 30.9 +2.3**
CRVS Cervenica-Dubn 1.71 301 Pg **Pb 00 27 11.4 -0.2**
SNR=6.3
CRVS Cervenica-Dubn 1.71 301 *e*PN **Pb 00 27 11.7 +0.1**
CRVS *e*LG Lg 00 27 41.9
KWP Kalwaria Pacla 1.72 339 Pg **Pn 00 27 11.0 +0.7**
comp=Z,1.3nm,SNR=4.1
KMPD K-Podol'skiy 1.93 73 *e*Pn **Pb 00 27 15.5 +0.2**
KMPD *e*Sn **Sb 00 27 40.8 +1.1**
MDB Medias 1.95 165 ⇓P **Pb 00 27 15.3 -0.3**
MDB ⇓S **Sg 00 27 42.4 +0.2**
MDB Medias 1.95 165 ⇓P **Pb 00 27 15.3 -0.3**
STHS Stebnicka Huta 2.12 312 Pn **Pn 00 27 11.4 -4.4**
comp=Z,0.8nm,SNR=8.5
HORU Horodok 2.17 56 *e*Pn **Pb 00 27 19.0 -0.4**
HORU *e*Sn **Sb 00 27 47.2 +0.5**
KECS Kecovo 2.18 283 Pn **Pn 00 27 16.7 +0.1**
comp=Z,0.7nm,SNR=5.6
KECS Kecovo 2.18 283 *e*PN **Pn 00 27 15.8 -0.8**
DEV Deva 2.21 194 ⇓P **Pb 00 27 19.0 -1.2**
DEV ⇑S **Sb 00 27 48.4 +0.5**
DEV Deva 2.21 194 ⇓P **Pb 00 27 19.0 -1.2**
NDNU Novodnistrovsk 2.53 76 *e*Pn **Pb 00 27 25.8 +0.4**
NDNU m 00 27 30.0
NDNU Pm 00 27 37.9
NDNU *e*Sn **Sg 00 27 59.3 -1.4**
NDNU Sm 00 28 01.9
TESR Tescani 2.53 126 ⇑P **Pb 00 27 23.8 -1.8**
TESR Tescani 2.53 126 ⇑P **Pb 00 27 23.8 -1.8**
PSZ Piszkesteto 2.54 269 *e*P **Pn 00 27 20.6 -1.0**
PSZ Piszkesteto 2.54 269 Pn **Pn 00 27 20.6 -1.0**
comp=Z,0.1nm,SNR=4.6
VOIR 2.76 160 ⇓P **Pn 00 27 27.0 +2.3**
VOIR 2.76 160 ⇓P **Pn 00 27 27.0 +2.3**
BZS Buzias 2.80 211 ⇓P **Pn 00 27 27.0 +1.9**
BZS ⇑S **Sb 00 28 02.6 -2.2**
BZS Buzias 2.80 211 ⇓P **Pn 00 27 27.0 +1.9**
BZS Buzias 2.80 211 Pn **Pn 00 27 24.7 -0.4**
SNR=1.6
BZS Pg **Pg 00 27 35.2 +2.0**
MLR Muntele Rosu 2.98 148 Pn **Pb 00 27 32.3 -1.0**
comp=Z,0.2nm,0.3s,baz=318,slow=16,SNR=2.6
MLR Lg Lg 00 28 20.8
comp=Z,0.1nm,0.3s,baz=23,slow=22,SNR=1.4
MLR Muntele Rosu 2.98 148 ⇑P **Pb 00 27 30.7 -2.6**
MLR Muntele Rosu 2.98 148 ⇑P **Pb 00 27 30.7 -2.6**
PLOR Plostina 2.98 136 ⇓P **Pb 00 27 30.6 -2.6**
PLOR Plostina 2.98 136 ⇓P **Pb 00 27 30.6 -2.6**
LANS Liptovska Anna 3.01 293 Pn **Pn 00 27 28.4 +0.4**
comp=Z,0.1nm,SNR=3.4
LANS Liptovska Anna 3.01 293 *e*PN **Pn 00 27 28.3 +0.3**
VRI Vrincioaia 3.01 135 ⇑P **Pn 00 27 30.7 +2.7**
VRI Vrincioaia 3.01 135 ⇑P **Pn 00 27 30.7 +2.7**
SORM Soroca 3.13 86 ⇑P **Pn 00 27 32.1 +2.5**
SORM ⇓S **Sb 00 28 11.0 -3.3**
SORM Soroca 3.13 86 ⇑P **Pn 00 27 32.1 +2.5**
VYHS Vyhne 3.27 280 Pn **Pn 00 27 30.8 -0.7**
SNR=1.4
VYHS Vyhne 3.27 280 *e*PN **Pn 00 27 30.8 -0.7**
VYHS *e*SN **Sn 00 28 11.1 +0.3**
HERR Herculane 3.27 196 ⇑P **Pn 00 27 34.2 +2.6**
HERR ⇓S **Sb 00 28 15.2 -3.0**
HERR Herculane 3.27 196 ⇑P **Pn 00 27 34.2 +2.6**
AKASG Malin Array Be 4.50 52 Pn **Pb 00 28 01.2 +2.1**
comp=Z,2.1nm,0.3s,baz=235,slow=17,SNR=8.2
AKASG Sn **Sb 00 28 55.1 +1.5**
comp=Z,2.8nm,0.3s,baz=231,slow=28,SNR=12
GERES GERESS Array B 6.69 281 Pn **Pn 00 28 17.4 -1.2**
comp=Z,0.2nm,0.3s,baz=92,slow=14,SNR=8.6
BRTR Keskin Array B 10.98 136 Pn Pn 00 29 24.1 +6.6
comp=Z,0.0nm,0.3s,baz=328,slow=14,SNR=1.4
HFS Hagfors 13.44 338 Pn **Pn 00 29 49.6 -1.3**
comp=Z,0.1nm,0.3s,baz=167,slow=13,SNR=1.2

IDC 20 00:27:24.4±4.0, 4°.04S×151°.72E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.6/38, Error ellipse: s-maj=137.0km s-min=35.9km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.17**	**226**	P	P	00 32 31.9	-1.0
1.8nm,0.4s,baz=52,slow=9.6,SNR=5.8
ASAR Alice Springs 26.01 220 P P 00 33 00.4 +1.0
0.5nm,0.4s,baz=51,slow=9.2,SNR=8.5
RAO Raoul Island 38.17 134 LR LR 00 46 30.2
comp=Z,195nm,19.8s,baz=249,slow=30
MKAR Makanchi Array 79.04 319 P P 00 39 31.0 +0.3
0.2nm,0.5s,baz=101,slow=5.5,SNR=1.7
TORD Torodi Ar. Bea 149.04 289 PKPbc PKPbc 00 47 14.5 -1.3
0.2nm,0.4s,baz=66,slow=2.7,SNR=1.6

IDC 20 00:31:11.4±2.2, 4°.10S×152°.41E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, ML2.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=139.1km

s-min=27.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.42**	**224**	Pn	Pn	00 32 59.4	-1.5
	3.0nm,0.3s,baz=170,slow=6.1,SNR=1.6						
PMG				Sn	Sn	00 34 22.7	-3.1
	1.9nm,0.3s,baz=338,slow=5.9,SNR=1.9						
HNR	**Honiara**	**9.16**	**126**	LR	LR	00 36 28.3	
	comp=Z,210nm,18.8s,baz=312,slow=35						
WRA	**Warramunga Arr**	**23.63**	**227**	P	P	00 36 25.1	+0.7
	3.2nm,0.3s,baz=51,slow=9.9,SNR=17						
ASAR	**Alice Springs**	**26.41**	**221**	P	P	00 36 50.0	0.0
	0.9nm,0.4s,baz=56,slow=9.0,SNR=6.7						
ILAR	**Eielson Array**	**81.66**	**22**	P	P	00 43 30.5	-0.7
	0.4nm,0.7s,baz=252,slow=5.4,SNR=1.9						
TORD	**Torodi Ar. Bea**	**149.72**	**289**	PKPbc	PKPbc	00 51 04.4	0.0
	0.6nm,0.5s,baz=60,slow=3.7,SNR=3.6						

*IDC **20** 00:48:11.5±3.0, 13°.92N×146°.65E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/46, mbtmp3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/34, Error ellipse: s-maj=88.4km s-min=29.3km az=162.0*

ISC 20 00:48:16.8±2.6, 13°.9N±0°.5×146°.6E±0°.3, h37km, n7, σ1§20/6, mb3.8/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.66**	**261**	Pn	**Pn**	**00 48 43.0**	**-0.2**
	36nm,0.3s,baz=98,slow=5.2,SNR=7.8						
KSRS	**Korea Array**	**28.76**	**328**	LR	LR	01 02 48.4	
	comp=Z,19nm,21.8s,baz=128,slow=30						
MKAR	**Makanchi Array**	**62.43**	**316**	P	**P**	**00 58 37.2**	**+1.0**
	0.4nm,0.5s,baz=106,slow=7.2,SNR=6.5						
KURBB	**Kurchatov Arra**	**65.47**	**320**	P	**P**	**00 58 57.0**	**+0.9**
	0.6nm,0.6s,baz=99,slow=6.9,SNR=5.8						
ILAR	**Eielson Array**	**67.62**	**25**	P	**P**	**00 59 08.6**	**-1.0**
	0.3nm,0.5s,baz=252,slow=5.8,SNR=1.0						
NVAR	**Mina Array Bea**	**85.47**	**52**	P	**P**	**01 00 52.2**	**+0.8**
	0.4nm,0.6s,baz=263,slow=4.3,SNR=1.9						
FINES	**FINESS Array B**	**91.60**	**336**	P	**P**	**01 01 18.8**	**-0.9**
	1.9nm,1.0s,baz=46,slow=8.1,SNR=2.0						

*IDC **20** 00:48:33.6±0.8, 13°.77N×146°.67E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.0/47, mbtmp4.0/14, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=22.2km s-min=18.1km az=158.0*
*NEIC **20** 00:48:34.9±1.0, 13°.5N±0°.2×146°.75E±0°.03, h10km±2km, mb4.8/11, Error ellipse: s-maj=32.8km s-min=4.3km az=186.0*

ISC 20 00:48:36.9±0.6, 13°.6N±0°.1×146°.73E±0°.08, h26km, n33, σ1§03/32, mb4.3/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.81**	**269**	Pn	**Pn**	**00 49 05.1**	**-1.3**
	215nm,0.3s,baz=176,slow=23,SNR=22						
GUMO				Sn	**Sn**	**00 49 28.3**	**-0.2**
	338nm,0.3s,baz=184,slow=22,SNR=9.1						
GUMO	**Guam**	**1.81**	**269**		**Pn**	**00 49 06.3**	**0.0**
PATS	**Pohnpei**	**13.24**	**119**		**Pn**	**00 51 41.8**	**-1.6**
JSU	**Suzuyama**	**23.24**	**323**	P	**P**	**00 53 42.7**	**+0.4**
JSU				IAmb	IAmb	00 53 50.3	
	comp=Z,39nm,1.0s						
MJAR	**Matsushiro Arr**	**24.07**	**343**	LR	LR	01 02 36.4	
	comp=Z,30nm,18.1s,baz=195,slow=35						
MJAR	**Matsushiro Arr**	**24.07**	**343**	P	**P**	**00 53 50.6**	**+0.5**
TATO	**Taipei**	**26.31**	**299**	P	**P**	**00 54 11.2**	**+0.5**
SSLB	**Suanglung**	**26.38**	**296**	P	**P**	**00 54 10.6**	**-0.8**
SSLB				IAmb	IAmb	00 54 11.7	
	comp=Z,34nm,1.1s						
KSRS	**Korea Array**	**29.05**	**328**	P	**P**	**00 54 32.7**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=151,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**35.51**	**200**	P	**P**	**00 55 32.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=21,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**39.13**	**199**	P	**P**	**00 56 04.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=24,slow=9.3,SNR=1.9						
CMAR	**Chiang Mai Arr**	**46.07**	**283**	P	**P**	**00 56 59.3**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=85,slow=5.8,SNR=6.6						
SONM	**Songino Array**	**47.75**	**324**	P	**P**	**00 57 12.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=134,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**62.65**	**324**	P	**P**	**00 58 59.3**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=96,slow=8.9,SNR=2.5						
MK31	**Makanchi Array**	**62.72**	**316**	P	**P**	**00 59 00.6**	**+0.8**
MKAR	**Makanchi Array**	**62.72**	**316**	P	**P**	**00 59 00.3**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=90,slow=9.0,SNR=14						
MKAR	**Makanchi Array**	**62.72**	**316**	P	**P**	**00 59 00.2**	**+0.4**
KDAK	**Kodiak Island**	**63.09**	**32**	P	**P**	**00 59 01.7**	**-0.2**
KDAK				IAmb	IAmb	00 59 01.9	
	comp=Z,8.7nm,1.1s						
CNPM	**China Poot**	**64.30**	**30**	P	**P**	**00 59 10.2**	**+0.2**
PPLA	**Purkeypile**	**64.95**	**26**	P	**P**	**00 59 15.9**	**+1.6**
PPLA				IAmb	IAmb	00 59 17.2	
	comp=Z,3.0nm,0.7s						
RC01	**Rabbit Creek A**	**65.47**	**29**	P	**P**	**00 59 18.4**	**+0.8**
KURK	**Kurchatov**	**65.72**	**320**	P	**P**	**00 59 19.8**	**+0.4**
KURBB	**Kurchatov Arra**	**65.77**	**320**	P	**P**	**00 59 19.8**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=100,slow=7.1,SNR=9.6						
ILAR	**Eielson Array**	**67.77**	**25**	P	**P**	**00 59 31.6**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=251,slow=5.8,SNR=11						
PAX	**Paxson**	**67.91**	**27**	P	**P**	**00 59 34.1**	**+0.9**
PAX				IAmb	IAmb	00 59 42.9	
	comp=Z,6.4nm,1.0s						
BVAR	**Borovoye Array**	**71.02**	**322**	P	**P**	**00 59 52.2**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=141,slow=9.3,SNR=9.6						
HYT	**Haines Junctio**	**71.27**	**30**	P	**P**	**00 59 55.8**	**+1.9**
HYT				IAmb	IAmb	00 59 56.8	
	comp=Z,5.2nm,0.7s						
YKA	**Yellowknife Ar**	**81.99**	**28**	P	**P**	**01 00 53.5**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=280,slow=4.8,SNR=1.6						
NVAR	**Mina Array Bea**	**85.48**	**52**	P	**P**	**01 01 15.1**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=265,slow=5.7,SNR=10						
PDAR	**Pinedale Array**	**90.65**	**46**	P	**P**	**01 01 37.6**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=303,slow=5.0,SNR=2.7						
FINES	**FINESS Array B**	**91.88**	**336**	P	**P**	**01 01 41.8**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=85,slow=4.4,SNR=4.6						
LPIG	**La Paz**	**95.99**	**64**	LR	LR	01 37 04.2	
	comp=Z,263nm,19.2s,baz=309,slow=30						
LPAZ	**La Paz**	**146.25**	**99**	PKPbc	**PKPab**	**01 08 18.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=275,slow=6.6,SNR=3.6						

*ATH **20** 01:01:55.9, 37°.12N×25°.55E, h11km±1km, ML3.0/1, Error ellipse: s-maj=1.6km s-min=0.8km az=150.0*
*THE **20** 01:01:56.5, 37°.15N×25°.54E, h4km±4km, ML2.5/3, Error ellipse: s-maj=4.2km s-min=1.2km az=131.0*
*DDA **20** 01:02:13.7, 37°.26N×27°.30E, h7km±3km, ML1.1*

ISC 20 01:01:55.1±0.9, 37°.15N±0°.02×25°.59E±0°.03, h11km±5km, n33, σ0§69/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.09**	**213**	P	**Pg**	**01 01 58.4**	**+0.5**
APE				S	**Sg**	**01 01 59.1**	**-0.7**
	17μm,0.1s						
APE	**Apeiranthos**	**0.09**	**213**	P	**Pg**	**01 01 58.4**	**+0.5**
APE				S	**Sg**	**01 01 59.2**	**-0.7**
APE				AML	AML	01 01 59.2	
	comp=N,26717μm,0.1s						
APE				AML	AML	01 01 59.3	
	comp=E,38025μm,0.2s						
TNSA	**Tinos**	**0.52**	**319**	P	**Pb**	**01 02 06.1**	**-0.2**
CMBO	**Columbo, Santo**	**0.69**	**193**	P	**Pn**	**01 02 10.1**	**-0.7**
CMBO				S	**Sb**	**01 02 20.1**	**+1.5**
	comp=E,270nm,0.3s						
CMBO	**Columbo, Santo**	**0.69**	**193**	P	**Pg**	**01 02 08.2**	**-0.4**
CMBO				S	**Sg**	**01 02 17.9**	**+0.3**
THT2	**Imerovigli**	**0.72**	**191**	P	**Pb**	**01 02 09.5**	**-0.2**
SFIR	**Foira Santorin**	**0.73**	**190**	P	**Pn**	**01 02 10.9**	**-0.5**
SFIR				S	**Sb**	**01 02 21.0**	**+1.1**
THR7	**Fira-Santorini**	**0.73**	**190**	P	**Pb**	**01 02 09.9**	**0.0**
THR7	**Fira-Santorini**	**0.73**	**190**	P	**Pg**	**01 02 08.7**	**-0.6**
THR8	**Santorini-Mono**	**0.74**	**187**	P	**Pg**	**01 02 09.7**	**+0.2**
THR3	**Thira Island,**	**0.75**	**192**	P	**Pb**	**01 02 10.8**	**+0.6**
THR5	**Thira Island,**	**0.75**	**195**	P	**Pb**	**01 02 10.9**	**+0.7**
THR5	**Thira Island,**	**0.75**	**195**	P	**Pg**	**01 02 09.0**	**-0.7**
SNT5	**Nea Kammeni, S**	**0.76**	**192**	P	**Pb**	**01 02 11.0**	**+0.7**
SNT5				S	**Sn**	**01 02 22.5**	**-0.6**
	comp=E,235nm,0.2s						
SNT5	**Nea Kammeni, S**	**0.76**	**192**	P	**Pg**	**01 02 09.5**	**-0.3**
SANT	**Santorini**	**0.78**	**188**	P	**Pb**	**01 02 11.4**	**+0.7**
SANT	**Santorini**	**0.78**	**188**	P	**Pg**	**01 02 10.4**	**+0.1**
THR6	**Thira Island,**	**0.80**	**191**	P	**Pn**	**01 02 11.9**	**-0.4**
THR6	**Thira Island,**	**0.80**	**191**	P	**Pg**	**01 02 10.6**	**-0.1**
MHLO	**Agia Marina, M**	**1.06**	**245**	P	**Pn**	**01 02 16.5**	**+0.6**
MHLO				S	**Sg**	**01 02 29.8**	**+0.5**
MHLO	**Agia Marina, M**	**1.06**	**245**	P	**Pb**	**01 02 15.2**	**-0.3**
MHLO				S	**Sb**	**01 02 28.3**	**-0.9**
SMG	**Samos**	**1.14**	**60**	P	**Pg**	**01 02 17.8**	**+0.7**
SMG	**Samos**	**1.14**	**60**	P	**Pg**	**01 02 17.7**	**+0.7**
SMG				S	**Sn**	**01 02 33.4**	**+0.9**
KARY	**Karystos**	**1.28**	**314**	P	**Pg**	**01 02 19.8**	**+0.1**
KARY				S	**Sn**	**01 02 36.0**	**+0.1**
CHOS	**Chios island**	**1.29**	**16**	P	**Pg**	**01 02 20.3**	**+0.3**
CHOS				S	**Sg**	**01 02 37.9**	**+1.1**
DDIM	**Aydin, Didim**	**1.35**	**76**	*i* P	**Pn**	**01 02 17.6**	**-2.2**
DDIM				IAML		01 02 21.0	
	comp=N,61nm,2.0s						
DDIM				IAML		01 02 27.0	
	comp=E,42nm,1.1s						
DGB	**zmir**	**1.37**	**48**	*i* P	**Pg**	**01 02 21.3**	**-0.1**
GCAM	**G?zelcaml?**	**1.42**	**67**	*i* P	**Pg**	**01 02 23.1**	**+0.8**
GCAM				IAML		01 02 44.0	
	comp=N,16nm,0.9s						
GCAM				IAML		01 02 49.0	
	comp=E,15nm,0.6s						
BDRM	**Kayabasi**	**1.48**	**93**	*i* P	**Pn**	**01 02 20.9**	**-0.8**
BDRM				*i* P	**Pn**	**01 02 21.4**	**-0.3**
BDRM				*i* S	**Pb**	**01 02 22.2**	**-0.4**
BDRM				*i* S	**Pb**	**01 02 22.7**	**0.0**
DION	**Dionisos Attik**	**1.61**	**306**	P	**Pb**	**01 02 24.7**	**-0.2**
DAT	**Datca**	**1.64**	**104**	*i* P	**Pb**	**01 02 25.3**	**-0.2**
ATHU	**Athens Univers**	**1.66**	**300**	P	**Pb**	**01 02 25.1**	**-0.5**
ATHU				S	**Sb**	**01 02 46.9**	**+0.5**
AYDN	**Tasoluk**	**1.89**	**74**	*i* P	**Pg**	**01 02 31.3**	**-0.2**

*INET **20** 01:24:08.9, 13°.00N×90°.33W, h21km, MW3.6*
*GCG **20** 01:24:09.0±0.3, 13°.42N×90°.89W, h192km, MD4.1*
*SNET **20** 01:24:11.3±1.9, 12°.95N×90°.47W, h7km±11km, ML3.8*
*UCR **20** 01:24:11.8±1.8, 12°.97N×90°.46W, h6km±10km, ML3.7, mb4.2(NEIC)*
*NEIC **20** 01:24:16.8±2.5, 13°.12N±0°.08×90°.32W±0°.07, h40km±7km, mb4.2/53, Md3.8(SNET), Error ellipse: s-maj=13.1km s-min=7.9km az=214.0*
*IDC **20** 01:24:20.1±3.5, 13°.61N×89°.86W, h66km±31km, mb3.4/9, mb1 3.8/10, mb1mx3.6/29, mbtmp3.8/10, ML3.8/1, Error ellipse: s-maj=40.5km s-min=17.1km az=48.0*

ISC 20 01:24:16.8±1.2, 13°.04N±0°.06×90°.37W±0°.06, h59km±10km, n139, σ1§74/165, mb4.1/30, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**1.06**	**43**	*e*P	**Pn**	**01 24 32.6**	**-3.3**
CEVE				*e*S	**Sn**	**01 24 50.0**	**0.0**
CEVE				IAML		01 24 53.4	
	comp=Z,16μm,0.4s						
CEVE	**Cerro Verde**	**1.06**	**43**	*e*P	**Pn**	**01 24 32.6**	**-3.3**
CEVE				*e*S	**Sn**	**01 24 50.0**	**0.0**
CEVE				IAML		01 24 53.4	
	comp=Z,16μm,0.4s						
SBLS	**San Blas**	**1.07**	**42**	*e*P	**Pn**	**01 24 34.0**	**-2.1**
SBLS	**San Blas**	**1.07**	**42**	*e*P	**Pn**	**01 24 34.0**	**-2.1**
RTR	**El Retiro**	**1.10**	**39**	*e*P	**Pn**	**01 24 34.5**	**-1.9**
RTR	**El Retiro**	**1.10**	**39**	*e*P	**Pn**	**01 24 34.5**	**-1.9**
SNJE	**San Jose**	**1.10**	**42**	*i* P	**Pn**	**01 24 34.4**	**-2.0**
SNJE	**San Jose**	**1.10**	**42**	*i* P	**Pn**	**01 24 34.4**	**-2.0**
LALI	**Alcalda de L**	**1.11**	**66**	*e*P	**Pn**	**01 24 34.9**	**-1.4**
LALI				*e*S	**Sn**	**01 24 51.7**	**+1.0**
LALI				IAML		01 24 53.9	
	comp=Z,841nm,0.5s						
LALI	**Alcalda de L**	**1.11**	**66**	*e*P	**Pn**	**01 24 34.9**	**-1.4**
LALI				*e*S	**Sn**	**01 24 51.7**	**+1.0**
LALI				IAML		01 24 53.9	
	comp=Z,841nm,0.5s						
SLOZ	**Alcaldia de Sa**	**1.13**	**30**	*e*P	**Pn**	**01 24 34.3**	**-2.3**
SLOZ				*e*S	**Sn**	**01 24 52.8**	**+1.5**
SLOZ				IAML		01 24 56.0	
	comp=Z,2μm,0.5s						
BOQS	**Boqueron**	**1.26**	**57**	*e*P	**Pn**	**01 24 36.9**	**-1.6**
BOQS	**Boqueron**	**1.26**	**57**	*e*P	**Pn**	**01 24 36.9**	**-1.6**
SNET	**Serv Nac Est T**	**1.28**	**60**	*e*P	**Pn**	**01 24 36.9**	**-1.7**
SNET				*e*S	**Sn**	**01 24 56.6**	**+1.7**
SNET	**Serv Nac Est T**	**1.28**	**60**	*e*P	**Pn**	**01 24 36.9**	**-1.7**
SNET				*e*S	**Sn**	**01 24 56.6**	**+1.7**
SNET	**Serv Nac Est T**	**1.28**	**60**	Pn	**Pn**	**01 24 36.8**	**-1.8**
UEES	**Universidad Ev**	**1.28**	**58**	*e*P	**Pn**	**01 24 37.1**	**-1.7**
UEES	**Universidad Ev**	**1.28**	**58**	*e*P	**Pn**	**01 24 37.1**	**-1.7**
PCG	**Pacaya**	**1.36**	**350**	*e*P	**Pn**	**01 24 37.4**	**-2.5**
PCG				*e*S	**Sn**	**01 25 02.8**	**+5.6**
LFRS	**El Faro**	**1.40**	**65**	*e*P	**Pn**	**01 24 38.2**	**-2.0**
LFRS	**El Faro**	**1.40**	**65**	*e*P	**Pn**	**01 24 38.2**	**-2.0**
SJTE	**Alcalda de S**	**1.44**	**67**	*e*P	**Pn**	**01 24 38.9**	**-1.9**
SJTE				IAML		01 25 08.3	
	comp=Z,575nm,0.3s						
SJTE	**Alcalda de S**	**1.44**	**67**	*e*P	**Pn**	**01 24 38.9**	**-1.9**
SJTE				IAML		01 25 08.3	
	comp=Z,575nm,0.3s						
LBRS	**Las Brisas**	**1.46**	**62**	*e*P	**Pn**	**01 24 39.7**	**-1.4**
LBRS	**Las Brisas**	**1.46**	**62**	*e*P	**Pn**	**01 24 39.7**	**-1.4**
FUG	**Fuego 3**	**1.47**	**342**	*e*P	**Pn**	**01 24 39.0**	**-2.3**
FUG				*e*S	**Sn**	**01 25 00.4**	**+0.7**
NBG	**Las Nubes**	**1.54**	**1**	*e*P	**Pn**	**01 24 41.4**	**-0.9**
PAVA	**Las Pavas**	**1.54**	**64**	*e*P	**Pn**	**01 24 41.1**	**-1.1**
PAVA	**Las Pavas**	**1.54**	**64**	*e*P	**Pn**	**01 24 41.1**	**-1.1**
COEG	**Centro de Oper**	**1.56**	**68**	*e*P	**Pn**	**01 24 41.1**	**-1.2**
COEG				*e*S	**Sn**	**01 25 05.5**	**+3.9**
COEG				IAML		01 25 07.6	
	comp=Z,1μm,0.4s						
COEG	**Centro de Oper**	**1.56**	**68**	*e*P	**Pn**	**01 24 41.1**	**-1.2**
COEG				*e*S	**Sn**	**01 25 05.5**	**+3.9**
COEG				IAML		01 25 07.6	
	comp=Z,1μm,0.4s						
TECO	**Alcaldia de Te**	**1.62**	**72**	*e*P	**Pn**	**01 24 40.9**	**-2.3**
TECO				*e*S	**Sn**	**01 25 05.5**	**+2.5**
TECO				IAML		01 25 09.7	
	comp=Z,348nm,0.4s						
MTO3	**Montecristo**	**1.67**	**36**	*e*P	**Pn**	**01 24 42.6**	**-1.4**
MTO3				*e*S	**Sn**	**01 25 07.9**	**+3.5**
MTO3	**Montecristo**	**1.67**	**36**	*e*P	**Pn**	**01 24 42.6**	**-1.4**
MTO3				*e*S	**Sn**	**01 25 07.9**	**+3.5**
MTO3	**Montecristo**	**1.67**	**36**		**Pn**	**01 24 42.5**	**-1.4**
ALJI	**Alcalda de J**	**1.77**	**81**	*e*P	**Pn**	**01 24 45.0**	**-0.1**
ALJI				*e*S	**Sn**	**01 25 07.7**	**+1.1**
ALJI				IAML		01 25 15.6	
	comp=Z,925nm,0.6s						
ALJI	**Alcalda de J**	**1.77**	**81**	*e*P	**Pn**	**01 24 45.0**	**-0.1**
ALJI				*e*S	**Sn**	**01 25 07.7**	**+1.1**
ALJI				IAML		01 25 15.6	
	comp=Z,925nm,0.6s						
ESQI	**Esquipulas**	**1.81**	**33**	Pn	**Pn**	**01 24 44.3**	**-1.5**
COEB	**Comit de Eme**	**1.84**	**76**	*e*P	**Pn**	**01 24 44.4**	**-1.8**
COEB				*e*S	**Sn**	**01 25 12.1**	**+3.5**
COEB				IAML		01 25 15.2	
	comp=Z,931nm,0.4s						
COEB	**Comit de Eme**	**1.84**	**76**	*e*P	**Pn**	**01 24 44.4**	**-1.8**
COEB				*e*S	**Sn**	**01 25 12.1**	**+3.5**
COEB				IAML		01 25 15.2	
	comp=Z,931nm,0.4s						
PQSS	**Presa 15 de Se**	**1.85**	**72**	*e*P	**Pn**	**01 24 44.6**	**-1.7**
PQSS				*e*S	**Sn**	**01 25 10.6**	**+2.0**
PQSS				IAML		01 25 14.5	
	comp=Z,281nm,0.2s						
RTAL	**Retalhuleu**	**1.96**	**319**	Pn	**Pn**	**01 24 43.8**	**-4.0**
JUCU	**Jucuarˌn**	**2.07**	**84**	*e*P	**Pn**	**01 24 48.9**	**-0.5**
JUCU				*e*S	**Sn**	**01 25 15.7**	**+1.5**
JUCU				IAML		01 25 23.8	
	comp=Z,654nm,0.4s						
JUCU	**Jucuarˌn**	**2.07**	**84**	*e*P	**Pn**	**01 24 48.9**	**-0.5**
JUCU				*e*S	**Sn**	**01 25 15.7**	**+1.5**
JUCU				IAML		01 25 23.8	
	comp=Z,654nm,0.4s						
HUEH	**Huehuetenango**	**2.52**	**334**	Pn	**Pn**	**01 24 54.4**	**-1.2**
TGUH	**Tegucigalpa,Ůn**	**3.17**	**71**	Pn	**Pn**	**01 25 03.3**	**-1.1**
CRIN	**San Cristobal**	**3.25**	**96**	Pn	**Pn**	**01 25 03.6**	**-1.9**
CNGN	**Cerro Negro**	**3.62**	**98**	Pn	**Pn**	**01 25 09.8**	**-0.6**
CCIG	**Comitan**	**3.65**	**332**	Pn	**Pn**	**01 25 10.4**	**-0.6**
PETF	**Flores**	**3.88**	**7**	Pn	**Pn**	**01 25 13.7**	**-0.3**
ACON	**Acoyapa**	**5.18**	**101**	Pn	**Pn**	**01 25 28.8**	**-3.0**
HZTE	**Horizontes, Gu**	**5.21**	**116**	*e*P	**Pn**	**01 25 31.3**	**-1.0**
HZTE	**Horizontes, Gu**	**5.21**	**116**	Pn	**Pn**	**01 25 30.8**	**-1.4**
SAJU	**San Juanillo,**	**5.44**	**122**	*e*P	**Pn**	**01 25 33.4**	**-1.9**
PLVR	**Palo Verde**	**5.59**	**118**	*e*P	**Pn**	**01 25 36.2**	**-1.5**
DUNO	**Dulce Nombre,**	**5.61**	**121**	Pn	**Pn**	**01 25 36.3**	**-1.4**
JTS	**Las Juntas de**	**5.97**	**117**	P	**Pn**	**01 25 42.2**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=12,slow=21,SNR=5.1						
JTS				S	**Sn**	**01 26 48.4**	**-1.3**
	baz=352,slow=19,SNR=0.8						
JTS	**Las Juntas de**	**5.97**	**117**	*e*P	**Pn**	**01 25 41.5**	**-1.1**
JTS	**Las Juntas de**	**5.97**	**117**	Pn	**Pn**	**01 25 42.4**	**-0.3**
ESPN	**Las Esperanzas**	**5.98**	**97**	Pn	**Pn**	**01 25 41.5**	**-1.3**
CEDE	**Laguna Cedeo**	**6.10**	**114**	*e*P	**Pn**	**01 25 43.5**	**-1.0**
CAO2	**Cobano, Puntar**	**6.14**	**122**	Pn	**Pn**	**01 25 43.3**	**-1.7**
LAFE	**Finca La Fe, P**	**6.24**	**120**	*e*P	**Pn**	**01 25 44.5**	**-1.9**
LCR2	**La Lucha 2**	**7.05**	**117**	*e*P	**Pn**	**01 25 58.2**	**+0.6**
RIMA	**Rio Macho**	**7.16**	**116**	Pn	**Pn**	**01 25 58.7**	**-0.4**
PEZE	**Perez Zeledon,**	**7.50**	**118**	Pn	**Pn**	**01 26 03.9**	**+0.1**
SRBA	**San Rafael, Bu**	**7.85**	**118**	Pn	**Pn**	**01 26 08.4**	**-0.1**
DRK0	**Durika**	**7.93**	**118**	Pn	**Pn**	**01 26 10.2**	**+0.5**
TLIG	**Tlapa**	**9.10**	**301**	Pn	**Pn**	**01 26 25.1**	**-0.5**
SJCC	**San Jacinto, C**	**15.21**	**100**		**P**	**01 27 50.4**	**-1.7**
342A	**Flagon Creek P**	**18.34**	**355**	P	**Pn**	**01 28 28.9**	**+1.9**
342A				IAmb	IAmb	01 28 30.1	
	comp=Z,21nm,1.2s						
Z47A	**Carrollton**	**20.18**	**6**	P	**P**	**01 28 44.5**	**-2.1**
Z47A				IAmb	IAmb	01 29 00.4	
	comp=Z,9.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**20.38**	**325**	P	**P**	**01 28 50.1**	**+1.2**
TX31				IAmb	IAmb	01 28 53.8	
	comp=Z,20nm,1.2s						
TX32	**Lajitas Array**	**20.38**	**325**	P	**P**	**01 28 50.3**	**+1.3**
TXAR	**Lajitas Array**	**20.38**	**325**	P	**P**	**01 28 50.3**	**+1.4**
	comp=Z,2.0nm,0.5s,baz=147,slow=12,SNR=42						
TXAR				PcP	**PcP**	**01 33 00.8**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=145,slow=3.3,SNR=2.3						
TXAR	**Lajitas Array**	**20.38**	**325**	P	**P**	**01 28 50.1**	**+1.1**
TXAR					**PcP**	**01 33 00.3**	**+0.4**
ABTX	**Abilene, Hawle**	**21.26**	**338**	P	**P**	**01 28 58.5**	**+0.1**
OXF	**Oxford**	**21.39**	**2**	P	**P**	**01 29 00.7**	**+1.1**
X48A	**Hartselle**	**21.53**	**7**		**P**	**01 29 02.1**	**+1.0**
MIAR	**Mount Ida**	**21.61**	**353**	P	**P**	**01 29 02.9**	**+0.9**
X37A	**Clayton**	**21.93**	**349**	P	**P**	**01 29 05.5**	**+0.1**
X37A				IAmb	IAmb	01 29 07.1	
	comp=Z,10nm,1.3s						
SWET	**Sewanee**	**22.44**	**10**	P	**P**	**01 29 10.0**	**-0.9**
X34A	**Smith Ranch, M**	**22.51**	**344**	P	**P**	**01 29 10.1**	**-1.6**
X34A				IAmb	IAmb	01 29 11.4	
	comp=Z,8.6nm,1.0s						
CPCT	**Cooper Cave**	**22.93**	**12**	P	**P**	**01 29 15.4**	**-0.6**
Y58A	**Scranton**	**22.94**	**23**	P	**P**	**01 29 16.3**	**+0.1**
FNO	**Franklin**	**23.02**	**345**	P	**P**	**01 29 15.1**	**-1.8**
MNTX	**Cornudas Mount**	**23.14**	**326**	P	**P**	**01 29 17.7**	**-0.5**
MNTX				IAmb	IAmb	01 29 19.0	
	comp=Z,7.5nm,1.0s						
CLTN	**Cedars of Leba**	**23.24**	**8**	P	**P**	**01 29 19.0**	**0.0**
TKL	**Tuckaleechee C**	**23.29**	**14**	P	**P**	**01 29 17.5**	**-2.1**
	baz=168,slow=11						
TKL	**Tuckaleechee C**	**23.29**	**14**	P	**P**	**01 29 18.6**	**-1.0**
OK025	**Westminster Rd**	**23.31**	**346**	P	**P**	**01 29 17.7**	**-2.1**
MSTX	**Muleshoe**	**23.70**	**334**	P	**P**	**01 29 24.1**	**+0.6**
U49A	**Red Boiling Sp**	**23.73**	**9**	P	**P**	**01 29 23.1**	**-0.6**
U49A				IAmb	IAmb	01 29 23.7	
	comp=Z,5.9nm,0.9s						
T47A	**Sharon Grove**	**24.02**	**6**	P	**P**	**01 29 25.6**	**-0.8**
T50A	**Nancy**	**24.39**	**11**	P	**P**	**01 29 29.9**	**+0.3**
121A	**Cookes Peak, D**	**25.11**	**323**	P	**P**	**01 29 38.9**

ISC 20 01:32:28.6±0.5, 16°.5S±0°.1×66°.5E±0°.1, h10km, n94, σ0°89/87, mb4.5/48, MS3.8/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**10.58**	**34**	T	T	01 45 40.4	
	baz=213,slow=75,SNR=262						
H08S2	**Diego Garcia H**	**10.59**	**34**	T	T	01 45 41.8	
	baz=213,slow=75,SNR=330						
H08S3	**Diego Garcia H**	**10.60**	**34**	T	T	01 45 41.9	
	baz=213,slow=75,SNR=1248						
PALK	**Pallekele**	**27.50**	**32**	LR	LR	01 46 21.0	
	comp=Z,91nm,20.3s,baz=313,slow=30						
LODK	**Lodwar**	**36.62 300**		P	**P**	**01 39 34.4**	**-1.2**
LBTB	**Lobatse**	**39.06 251**		P	**P**	**01 39 56.6**	**+0.5**
	6.5nm,0.8s,baz=102,slow=7.6,SNR=4.8						
LBTB	**Lobatse**	**39.06 251**		P	**P**	**01 39 57.1**	**+0.9**
LBTB				IAmb	IAmb	01 40 03.3	
	comp=Z,11nm,0.9s						
BOSA	**Boshof**	**39.77 245**		P	**P**	**01 40 02.2**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=68,slow=7.6,SNR=3.6						
BOSA				LR	LR	01 52 52.7	
	comp=Z,161nm,21.5s,baz=70,slow=31						
BOSA	**Boshof**	**39.77 245**		P	**P**	**01 40 01.9**	**-0.2**
H01W3	**Cape Leeuwin H**	**46.16 123**		T	T	02 30 22.3	
	baz=279,slow=75,SNR=28						
H01W2	**Cape Leeuwin H**	**46.16 123**		T	T	02 30 16.7	
	baz=279,slow=75,SNR=32						
H01W1	**Cape Leeuwin H**	**46.18 123**		T	T	02 30 23.9	
	baz=279,slow=75,SNR=24						
CMAR	**Chiang Mai Arr**	**47.19**	**44**	LR	LR	01 57 55.6	
	comp=Z,114nm,21.1s,baz=230,slow=32						
KBL	**Kabul**	**50.85**	**3**	P	**P**	**01 41 31.6**	**+1.7**
KBL				IAmb	IAmb	01 41 37.7	
	comp=Z,5.9nm,0.9s						
MAW	**Mawson**	**51.09 182**		P	**P**	**01 41 32.0**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=1.3,slow=8.2,SNR=3.8						
MAW	**Mawson**	**51.09 182**		P	**P**	**01 41 32.9**	**+1.9**
BOOM	**Boomskoye usch**	**59.37**	**8**	P	**P**	**01 42 33.0**	**+1.8**
KK31	**Karatay Array**	**59.45**	**3**	P	**P**	**01 42 32.8**	**+1.2**
KKAR	**Karatay Array**	**59.45**	**3**	P	**P**	**01 42 32.4**	**+0.8**
GNI	**Garni**	**59.93 341**		P	**P**	**01 42 37.9**	**+2.7**
BNN	**Bunyan**	**62.13 333**		P	**P**	**01 42 51.5**	**+1.4**
ASAR	**Alice Springs**	**63.18 108**		P	**P**	**01 42 56.9**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=242,slow=6.8,SNR=5.9						
ASAR				LR	LR	02 07 36.4	
	comp=Z,267nm,19.5s,baz=275,slow=33						
ASAR	**Alice Springs**	**63.18 108**		P	**P**	**01 42 56.3**	**-1.2**
BR131	**Keskin Array S**	**63.82 332**		P	**P**	**01 43 02.5**	**+1.1**
BRTR	**Keskin Array B**	**63.82 332**		P	**P**	**01 43 01.9**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=159,slow=10,SNR=14						
BRTR	**Keskin Array B**	**63.82 332**		P	**P**	**01 43 02.4**	**+1.1**
WRA	**Warramunga Arr**	**64.11 104**		P	**P**	**01 43 03.6**	**0.0**
	comp=Z,2.2nm,1.0s,baz=260,slow=6.9,SNR=4.8						
WRA	**Warramunga Arr**	**64.11 104**		P	**P**	**01 43 04.1**	**+0.5**
MKAR	**Makanchi Array**	**64.61**	**12**	P	**P**	**01 43 06.5**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=219,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**64.61**	**12**	P	**P**	**01 43 06.2**	**-0.1**
MK31	**Makanchi Array**	**64.62**	**12**	P	**P**	**01 43 06.7**	**+0.4**
MK31				IAmb	IAmb	01 43 07.7	
	comp=Z,4.5nm,1.1s						
ABKAR	**Akbulak array**	**65.76 355**		P	**P**	**01 43 13.1**	**-0.4**
ABKAR	**Akbulak array**	**65.76 355**		P	**P**	**01 43 12.7**	**-0.9**
ABKAR				IAmb	IAmb	01 43 15.2	
	comp=Z,7.7nm,1.2s						
STKA	**Stephens Creek**	**68.97 118**		LR	LR	02 09 09.5	
	comp=Z,102nm,20.7s,baz=206,slow=32						
BRVK	**Borovoye**	**69.38**	**2**	P	**P**	**01 43 36.2**	**-0.2**
BRVK				IAmb	IAmb	01 43 37.9	
	comp=Z,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.52 291**		P	**P**	**01 43 44.1**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=135,slow=5.2,SNR=4.2						
TORD				LR	LR	02 12 50.5	
	comp=Z,55nm,18.3s,baz=95,slow=34						
TORD	**Torodi Ar. Bea**	**70.52 291**		P	**P**	**01 43 43.9**	**-0.3**
VTS	**Vitosha**	**71.06 328**		P	**P**	**01 43 47.1**	**0.0**
VTS				IAmb	IAmb	01 43 51.2	
	comp=Z,7.2nm,1.4s						
MLR	**Muntele Rosu**	**71.86 331**		P	**P**	**01 43 51.9**	**0.0**
MLR				IAmb	IAmb	01 43 54.6	
	comp=Z,9.9nm,1.3s						
ZAA0	**Zalesovo Array**	**71.93**	**11**	P	**P**	**01 43 51.4**	**-0.5**
ZAA0				IAmb	IAmb	01 43 58.1	
	comp=Z,7.1nm,1.0s						
ZALV	**Zalesovo Beam**	**71.93**	**11**	P	**P**	**01 43 51.7**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=205,slow=6.4,SNR=13						
ZALV	**Zalesovo Beam**	**71.93**	**11**	P	**P**	**01 43 51.4**	**-0.5**
PUK	**Puka**	**72.43 325**		P	**P**	**01 43 55.2**	**-0.1**
PUK				IAmb	IAmb	01 44 03.2	
	comp=Z,7.4nm,1.1s						
ARU	**Arti**	**72.99 355**		P	**P**	**01 43 58.1**	**-0.1**
ARU				IAmb	IAmb	01 44 04.7	
	comp=Z,7.8nm,1.1s						
SONM	**Songino Array**	**73.33**	**27**	P	**P**	**01 44 00.9**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=218,slow=6.8,SNR=8.7						
SONM	**Songino Array**	**73.33**	**27**	P	**P**	**01 44 00.3**	**-0.3**
SONM				IAmb	IAmb	01 44 08.0	
	comp=Z,4.3nm,1.0s						
QSPA	**South Pole Qui**	**73.56 180**		P	**P**	**01 44 01.9**	**+0.2**
	comp=Z,5.3nm,1.1s,baz=274,slow=4.8,SNR=6.6						
QSPA	**South Pole Qui**	**73.56 180**		P	**P**	**01 44 01.4**	**-0.4**
DIVS	**Divibare**	**73.78 327**		P	**P**	**01 44 04.0**	**+0.7**
DIVS				IAmb	IAmb	01 44 05.9	
	comp=Z,5.2nm,0.9s						
AKASG	**Malin Array Be**	**74.52 336**		P	**P**	**01 44 06.4**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=137,slow=4.7,SNR=12						
AKASG	**Malin Array Be**	**74.52 336**		P	**P**	**01 44 06.9**	**-0.4**
AKBB	**Malin Array Si**	**74.52 336**		P	**P**	**01 44 06.6**	**-0.7**
AKBB				IAmb	IAmb	01 44 13.9	
	comp=Z,6.9nm,1.0s						
KEST	**Kesra**	**75.02 315**		LR	LR	02 16 59.5	
	comp=Z,69nm,19.0s,baz=240,slow=36						
VNDA	**Vanda**	**75.13 167**		P	**P**	**01 44 10.3**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=264,slow=4.4,SNR=5.3						
NRCA	**Norcia**	**76.76 323**		P	**P**	**01 44 20.9**	**+0.4**
NRCA				IAmb	IAmb	01 44 23.6	
	comp=Z,6.6nm,1.1s						
CASP	**Castiglione de**	**78.06 322**		P	**P**	**01 44 28.7**	**+1.0**
SOKA	**Soboth**	**78.11 327**		*eP*	**P**	**01 44 29.8**	**+1.9**
	comp=Z,4.0nm,0.7s						
OJC	**Ojcow**	**78.14 331**		P	**P**	**01 44 29.2**	**+1.3**
ARSA	**Arzberg**	**78.22 327**		*eP*	**P**	**01 44 30.2**	**+1.8**
	comp=Z,8.1nm,1.0s						
OBKA	**Obir**	**78.26 326**		*eP*	**P**	**01 44 30.4**	**+1.6**
CONA	**Conrad Observa**	**78.49 328**		*eP*	**P**	**01 44 29.7**	**-0.3**
	comp=Z,9.7nm,1.2s						
KSRS	**Korea Array**	**78.81**	**45**	P	**P**	**01 44 32.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=247,slow=6.4,SNR=4.4						
KSRS				LR	LR	02 20 15.4	
	comp=Z,24nm,18.0s,baz=200,slow=36						
MYKA	**Terra Mystica**	**78.82 326**		*eP*	**P**	**01 44 32.3**	**+0.4**
	comp=Z,2.3nm,1.0s						
KBA	**Koelnbreinsper**	**79.26 326**		*eP*	**P**	**01 44 35.3**	**+1.0**
	comp=Z,5.6nm,1.3s						
MOA	**Molln**	**79.26 327**		*eP*	**P**	**01 44 34.5**	**+0.4**
	comp=Z,7.1nm,0.9s						
ABTA	**Abfaltersbach**	**79.50 326**		*eP*	**P**	**01 44 36.3**	**+0.7**
	comp=Z,7.3nm,0.9s						
DPC	**Dobruska-Polom**	**79.86 330**		*eP*	**P**	**01 44 37.8**	**+0.4**
DPC				*epP*	**pwP**	**01 44 43.7**	**-0.7**
OSTC	**Ostas**	**80.04 330**		*eP*	**P**	**01 44 38.9**	**+0.5**
OSTC				*epP*	**pwP**	**01 44 44.4**	**-0.9**
GERES	**GERESS Array B**	**80.18 328**		P	**P**	**01 44 38.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=126,slow=6.8,SNR=5.8						
GERES	**GERESS Array B**	**80.18 328**		P	**P**	**01 44 38.1**	**-1.2**
WTTA	**Wattenberg**	**80.29 326**		*eP*	**P**	**01 44 39.7**	**-0.3**
	comp=Z,4.8nm,1.1s						
WATA	**Walderalm**	**80.37 326**		*eP*	**P**	**01 44 40.9**	**+0.6**
	comp=Z,7.2nm,1.3s						
KHC	**Kasperske Hory**	**80.42 328**		*eP*	**P**	**01 44 41.2**	**+0.7**
KHC				*epP*	**PcP**	**01 44 46.3**	**-1.2**
SQTA	**Sankt Quirin**	**80.50 325**		*eP*	**P**	**01 44 40.9**	**-0.1**
	comp=Z,4.5nm,1.1s						
MOTA	**Moosalm**	**80.63 325**		*eP*	**P**	**01 44 41.0**	**-0.8**
	comp=Z,2.5nm,0.9s						
FETA	**Feichten**	**80.64 325**		*eP*	**P**	**01 44 41.5**	**-0.4**
	comp=Z,1.2nm,0.6s						
PVCC	**Panska Ves**	**80.82 329**		*eP*	**P**	**01 44 44.6**	**+2.1**
RETA	**Reutte**	**80.90 325**		*eP*	**P**	**01 44 43.2**	**+0.1**
	comp=Z,3.8nm,1.2s						
DAVA	**Damuels**	**81.27 325**		*eP*	**P**	**01 44 45.3**	**+0.1**
	comp=Z,3.7nm,1.0s						
BNI	**Bardonecchia**	**81.83 322**		P	**P**	**01 44 47.9**	**-0.4**
BNI				IAmb	IAmb	01 44 51.2	
	comp=Z,7.8nm,1.3s						
SENIN	**Lac Senin/Sane**	**82.19 323**		P	**P**	**01 44 51.4**	**+1.2**
SENIN				IAmb	IAmb	01 44 52.0	
	comp=Z,5.4nm,0.8s						
FINES	**FINESS Array B**	**84.11 342**		P	**P**	**01 44 59.1**	**-0.3**
	comp=Z,2.8nm,1.1s,baz=95,slow=2.9,SNR=2.0						
USRK	**Ussuriysk Ar.**	**84.84**	**41**	P	**P**	**01 45 02.7**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=261,slow=2.8,SNR=2.7						
USRK				LR	LR	02 23 25.1	
	comp=Z,33nm,19.4s,baz=94,slow=36						
MJAR	**Matsushiro Arr**	**85.70**	**50**	P	**P**	**01 45 07.6**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=224,slow=3.4,SNR=2.0						
MJAR				LR	LR	02 23 01.8	
	comp=Z,35nm,20.7s,baz=225,slow=35						
ESDC	**Sonseca Array**	**86.14 313**		P	**P**	**01 45 10.4**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=101,slow=3.8,SNR=10						
ESDC	**Sonseca Array**	**86.14 313**		P	**P**	**01 45 09.2**	**-1.0**
ESDC				IAmb	IAmb	01 45 17.5	
	comp=Z,3.7nm,1.1s						
PAB	**San Pablo**	**86.35 313**		P	**P**	**01 45 12.2**	**+0.9**
PAB				IAmb	IAmb	01 45 18.7	
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**126.78**	**17**	PKP	**PKPdf**	**01 51 31.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=336,slow=4.0,SNR=1.7						
PDAR	**Pinedale Array**	**153.64 353**		PKPbc	**PKPbc**	**01 52 27.9**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=80,slow=1.8,SNR=4.6						
PDAR	**Pinedale Array**	**153.64 353**		PKPbc	**PKPbc**	**01 52 27.8**	**-0.5**
NVAR	**Mina Array Bea**	**157.78**	**10**	PKPab	**PKPab**	**01 52 58.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=341,slow=3.1,SNR=7.0						
NVAR	**Mina Array Bea**	**157.78**	**10**		**PKPab**	**01 52 58.5**	**0.0**
TXAR	**Lajitas Array**	**164.40 326**		PKPab	**PKPab**	**01 53 27.1**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=90,slow=5.4,SNR=5.1						
TXAR	**Lajitas Array**	**164.40 326**		PKPab	**PKPab**	**01 53 26.2**	**-1.4**

*NNC **20** 01:35:49.1±3.1, 41°.81N×79°.19E, h0km, mb3.0, mpv3.0,*
Error ellipse: s-maj=21.1km s-min=11.5km az=151.0
*SOME **20** 01:35:49.7, 41°.88N×79°.13E, h10km*
*KRNET **20** 01:35:49.8±0.1, 41°.87N×79°.11E, h15km, mb2.4*
ISC 20 01:35:50.7±1.7, 41°.89N±0°.06×79°.08E±0°.05, h15km±10km, n32, σ1°12/58, 10C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.78 320**		⇑*iP*	**Pg**	**01 36 05.3**	**-0.6**
	baz=20						
PRZ				⇑*iS*	**Sb**	**01 36 16.9**	**+0.4**
	baz=20						
TARG	**Taragay, Kyrgy**	**0.96 261**		⇑*iP*	**Pg**	**01 36 08.7**	**-0.7**
	baz=62						
TARG				⇑*iS*	**Sg**	**01 36 22.0**	**-0.1**
	baz=62						
UZB	**Uzynbulak**	**1.26 358**		*eP*	**Pn**	**01 36 13.4**	**-0.5**
	2.0nm,0.1s						
UZB				*eS*	**Sb**	**01 36 30.6**	**+0.3**
	2.8nm,0.1s						
UZB	**Uzynbulak**	**1.26 358**		P	**Pn**	**01 36 13.4**	**-0.5**
	2.0nm,0.1s						
UZB				S	**Sb**	**01 36 29.5**	**-0.9**
	0.5nm,0.2s						
SATY	**Saty**	**1.27 337**		*eP*	**Pn**	**01 36 14.2**	**+0.2**
	2.5nm,0.1s						
SATY				*eS*	**Sg**	**01 36 31.8**	**+0.1**
	18nm,0.1s						
SATY	**Saty**	**1.27 337**		P	**Pn**	**01 36 14.2**	**+0.2**
	2.5nm,0.1s						
SATY				S	**Sb**	**01 36 31.3**	**+0.6**
	18nm,0.1s						
SHLS	**Shalkode**	**1.30**	**13**	*eP*	**Pg**	**01 36 15.6**	**-0.1**
	14nm,0.1s						
SHLS				*eS*	**Sg**	**01 36 34.4**	**+1.8**
	11nm,0.2s						
SHLS	**Shalkode**	**1.30**	**13**	P	**Pg**	**01 36 15.6**	**-0.1**
	14nm,0.1s						
SHLS				S	**Sg**	**01 36 33.3**	**+0.6**
	11nm,0.2s						
ANVS	**Anan'yevo**	**1.38 311**		⇑*iP*	**Pn**	**01 36 15.9**	**+0.4**
	baz=11						
ANVS				⇑*iS*	**Sb**	**01 36 35.0**	**+1.3**
	baz=11						
KDJ	**Kajisay**	**1.43 280**		⇓*iP*	**Pn**	**01 36 16.6**	**+0.3**
	baz=81						
KDJ				⇓*iS*	**Sb**	**01 36 36.6**	**+1.2**
	baz=81						
PDGK	**Podgornoye**	**1.47**	**12**	P	**Pn**	**01 36 16.7**	**-0.1**
	1.1nm,0.2s						
PDGK				S	**Sn**	**01 36 35.3**	**-0.7**
	5.5nm,0.2s						
PDGK	**Podgornoye**	**1.47**	**12**	⇑P	**Pn**	**01 36 15.5**	**-1.3**
	2.0nm,0.6s						
PDGK				⇑S	**Sg**	**01 36 41.4**	**+3.2**
	5.3nm,0.6s						
KPKS	**Kokpek**	**1.60 350**		*eP*	**Pb**	**01 36 19.9**	**-0.2**
	6.0nm,0.1s						
KPKS				*eS*	**Sg**	**01 36 41.9**	**-0.4**
	14nm,0.2s						
TNSS	**Tian-Shan**	**1.95 307**		Pg	**Pg**	**01 36 27.9**	**-0.2**
	1.2nm,0.1s						
TNSS				Lg	Lg	01 36 54.4	
	8.2nm,0.3s						
MDOK	**Medeo**	**1.97 311**		⇑Pn	**Pb**	**01 36 26.1**	**-0.2**
	2.7nm,0.8s						
MDOK				⇑Sn	**Sg**	**01 36 54.1**	**+0.1**
	12nm,0.6s						
ULHL	**Ulahol**	**2.14 281**		⇓*iP*	**Pb**	**01 36 28.6**	**-0.7**
	baz=81						
ULHL				⇓*iS*	**Sb**	**01 36 56.8**	**+1.0**
	baz=81						
IZV	**Izvestkoviy**	**2.15 303**		*eP*	**Pg**	**01 36 30.9**	**-1.1**
	3.2nm,0.2s						
IZV				*eS*	**Sg**	**01 37 00.5**	**+0.6**
	6.5nm,0.2s						
IZV	**Izvestkoviy**	**2.15 303**		Pg	**Pg**	**01 36 31.6**	**-0.4**
	2.1nm,0.2s						
IZV				Lg	Lg	01 37 00.7	
	6.5nm,0.2s						
BOOM	**Boomskoye usch**	**2.41 286**		⇓*eP*	**Pb**	**01 36 32.7**	**-1.1**
	baz=86						
BOOM				⇓*iS*	**Sb**	**01 37 03.6**	**+0.2**
	baz=86						
CHKK	**Chushkaly**	**2.49 323**		*eP*	**Pb**	**01 36 36.7**	**+1.5**
	1.4nm,0.1s						
CHKK				*eS*	**Sg**	**01 37 10.5**	**-0.3**
	33nm,0.2s						
ARXS	**Arharly**	**2.50 339**		*eP*	**Pb**	**01 36 36.4**	**+1.1**
	2.2nm,0.1s						
ARXS				*eS*	**Sg**	**01 37 10.4**	**-0.5**
	7.2nm,0.3s						
ARXS	**Arharly**	**2.50 339**		Pg	**Pb**	**01 36 36.4**	**+1.1**
	2.2nm,0.1s						
ARXS				S	**Sg**	**01 37 09.5**	**-1.5**
	7.3nm,0.3s						
DJR	**Jarkent**	**2.50**	**12**	*eP*	**Pb**	**01 36 35.5**	**+0.2**
	0.9nm,0.1s						
DJR				*eS*	**Sg**	**01 37 08.4**	**-2.5**
	4.1nm,0.2s						
DJR	**Jarkent**	**2.50**	**12**	Pg	**Pb**	**01 36 36.2**	**+1.0**
	0.8nm,0.1s						
DJR				Lg	Lg	01 37 08.6	
	4.1nm,0.2s						
KTBS	**Karatobe**	**2.54 317**		*eP*	**Pg**	**01 36 37.7**	**-1.5**
	1.1nm,0.2s						
KTBS				*eS*	**Sg**	**01 37 12.3**	**+0.1**
	9.5nm,0.3s						
KST	**Kastek**	**2.58 298**		*eP*	**Pb**	**01 36 38.4**	**+1.7**
	1.1nm,0.1s						
KST				*eS*	**Sg**	**01 37 13.6**	**+0.1**
	4.1nm,0.4s						
KST	**Kastek**	**2.58 298**		Pg	**Pg**	**01 36 39.3**	**-0.7**
	1.5nm,0.3s						
KST				Lg	Lg	01 37 13.9	
	4.1nm,0.4s						
DGS	**Degeres**	**2.79 300**		*eP*	**Pb**	**01 36 42.2**	**+1.9**
	1.5nm,0.4s						
DGS				*eS*	**Sg**	**01 37 20.3**	**0.0**
	3.5nm,0.3s						
DGS	**Degeres**	**2.79 300**		Pg	**Pb**	**01 36 42.2**	**+1.9**
	1.5nm,0.4s						
DGS				Lg	Lg	01 37 19.2	
	3.5nm,0.3s						
KUU	**Kurty**	**2.84 316**		*eP*	**Pb**	**01 36 42.4**	**+1.3**
	0.5nm,0.1s						
KUU				*eS*	**Sg**	**01 37 20.2**	**-1.7**
	5.8nm,0.4s						
KUU	**Kurty**	**2.84 316**		Pg	**Pg**	**01 36 43.1**	**-2.0**
	0.5nm,0.2s						
KUU				Lg	Lg	01 37 20.4	
	5.8nm,0.4s						
KRBS	**Karabastau**	**3.09 307**		*eP*	**Pb**	**01 36 47.4**	**+2.1**
	0.4nm,0.2s						
KRBS				*eS*	**Sg**	**01 37 29.0**	**-0.8**
	2.4nm,0.2s						

*TRN **20** 01:44:44.8, 13°.66N×58°.57W, h140km, MD3.7*
ISC 20 01:44:48.6±2.6, 13°.89N±0°.04×58°.8W±0°.2, h10km, n30, σ1°75/41, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.02 220**		*eS*	**Sn**	**01 45 28.2**	**+4.9**
BBGH	**Gun Hill**	**1.06 225**		*eP*	**Pn**	**01 45 10.2**	**+0.7**
BBGH				*eS*	**Sn**	**01 45 29.7**	**+5.4**
MPOM	**Morne Pois Mar**	**2.08 286**		*eP*	**Pn**	**01 45 23.8**	**+0.2**
MCLT	**Moule a Chique**	**2.10 265**		*eP*	**Pb**	**01 45 25.0**	**-1.8**
MCLT				*eS*	**Sn**	**01 45 51.9**	**+1.9**
SLBI	**Saint Lucia, B**	**2.12 274**		*eP*	**Pn**	**01 45 24.9**	**+0.7**
SLBI				*eS*	**Sn**	**01 45 52.8**	**+2.1**
LPMF	**Morne Lapointe**	**2.22 288**		*eP*	**Pn**	**01 45 25.7**	**+0.3**
ZAM	**Aeronautique**	**2.27 288**		*eP*	**Pn**	**01 45 26.6**	**+0.3**
TRMF	**Trois Ilets**	**2.28 287**		*eP*	**Pn**	**01 45 26.6**	**+0.3**
BIM	**Bigot**	**2.30 286**		*eP*	**Pn**	**01 45 26.9**	**+0.3**
FDF	**Fort de France**	**2.44 290**		*eP*	**Pn**	**01 45 28.8**	**+0.3**
GBMF	**Grand Be**	**2.47 292**		*eP*	**Pn**	**01 45 29.7**	**+0.7**
SVB	**Belmont**	**2.47 256**		*eP*	**Pn**	**01 45 28.1**	**-0.8**
SVB				*eS*	**Sn**	**01 46 00.0**	**+0.8**
PML	**Morne Lenard**	**2.48 291**		*eP*	**Pn**	**01 45 29.5**	**+0.4**
SVN	**Savane Anatole**	**2.49 293**		*eP*	**Pn**	**01 45 30.2**	**+0.9**
PCM	**Pelee Case Pet**	**2.52 292**		*eP*	**Pn**	**01 45 30.6**	**+1.0**
GCMP	**Grenada, Carri**	**2.92 242**		*eP*	**Pn**	**01 45 32.4**	**-2.7**
GCMP				*eS*	**Sn**	**01 46 08.8**	**-1.6**
DSLB	**Salisbury**	**2.97 301**		*eP*	**Pn**	**01 45 36.3**	**+0.4**
DSLB				*eS*	**Sn**	**01 46 13.8**	**+2.2**
MAGL	**Barre de l'ile**	**3.16 311**		*eP*	**Pn**	**01 45 39.2**	**+0.8**
MAGL				*eS*	**Sn**	**01 46 18.2**	**+2.0**
GRGR	**Grenville**	**3.29 238**		*eS*	**Sn**	**01 46 16.3**	**-3.2**
TDBA	**Terre de Bas,**	**3.37 306**		*e*	**Pn**	**01 45 40.3**	**-1.0**
TDBA	**Terre de Bas,**	**3.37 306**		*eP*	**Pn**	**01 45 42.1**	**+0.8**
TDBA				*eS*	**Sn**	**01 46 23.2**	**+1.8**
TBG	**Guadaloupe-3**	**3.38 306**		*eP*	**Pn**	**01 45 41.7**	**+0.3**
TBG				*eS*	**Sn**	**01 46 24.1**	**+2.5**
CBE	**Ff, Capester**	**3.48 309**		*eP*	**Pn**	**01 45 42.4**	**-0.4**
CBE				*eS*	**Sn**	**01 46 25.3**	**+1.2**
ABD	**La Joyeuse, An**	**3.66 315**		*eP*	**Pn**	**01 45 45.3**	**0.0**
ABD				*eS*	**Sn**	**01 46 29.4**	**+0.9**
ANBD	**Bethesda, Anti**	**4.25 318**		*eP*	**Pn**	**01 45 53.4**	**0.0**
ANBD	**Bethesda, Anti**	**4.25 318**		*eS*	**Sn**	**01 46 44.0**	**+0.9**
BPA	**Boggy Peak**	**4.31 317**		*eP*	**Pn**	**01 45 54.4**	**+0.2**
BPA	**Boggy Peak**	**4.31 317**		*eS*	**Sn**	**01 46 43.7**	**-1.0**
ANWB	**Willy Bob**	**4.73 323**		*eP*	**Pn**	**01 45 59.1**	**-1.0**
ANWB	**Willy Bob**	**4.73 323**		*eS*	**Sn**	**01 46 55.3**	**+0.3**

*TRN **20** 02:06:29.6, 13°.86N×58°.45W, h97km, MD3.7*
ISC 20 02:06:28.7±2.5, 13°.94N±0°.05×58°.5W±0°.1, h10km, n30, σ1°19/40, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28 230**		*eP*	**Pb**	**02 06 53.1**	**+0.1**
BBSP				*eS*	**Sn**	**02 07 12.3**	**+2.4**
BBGH	**Gun Hill**	**1.33 234**		*eP*	**Pn**	**02 06 53.2**	**-0.2**
BBGH				*eS*	**Sg**	**02 07 12.8**	**+1.1**
MPOM	**Morne Pois Mar**	**2.39 282**		*eP*	**Pn**	**02 07 07.4**	**-0.5**
MCLT	**Moule a Chique**	**2.43 265**		*eP*	**Pn**	**02 07 10.6**	**+2.1**
MCLT				*eS*	**Sn**	**02 07 37.1**	**-1.2**
SLBI	**Saint Lucia, B**	**2.45 272**		*eP*	**Pn**	**02 07 09.7**	**+1.0**
SLBI				*eS*	**Sn**	**02 07 37.7**	**-1.1**
LPMF	**Morne Lapointe**	**2.52 285**		*eP*	**Pn**	**02 07 10.5**	**+0.8**
ZAM	**Aeronautique**	**2.57 284**		*eP*	**Pn**	**02 07 10.8**	**+0.3**
TRMF	**Trois Ilets**	**2.59 284**		*eP*	**Pn**	**02 07 10.6**	**-0.1**
BAMF	**Morne Balai**	**2.75 289**		*eP*	**Pn**	**02 07 14.0**	**+1.0**
SVV	**Soufriere Volc**	**2.75 257**		*eS*	**Sn**	**02 07 45.5**	**-0.9**
GBMF	**Grand Be**	**2.76 288**		*eP*	**Pn**	**02 07 13.7**	**+0.5**
PML	**Morne Lenard**	**2.77 288**		*eP*	**Pn**	**02 07 14.7**	**+1.4**
SVN	**Savane Anatole**	**2.78 289**		*eP*	**Pn**	**02 07 15.1**	**+1.7**
SVB	**Belmont**	**2.80 257**		*eP*	**Pn**	**02 07 12.7**	**-1.0**
SVB		

BARN	**Barnard Glacie**	**10.16**	**46**	Pn	Pn	02 37 15.2	+0.3
RIDG	**Independent Ri**	**10.81**	**29**	Pn	Pn	02 37 24.6	+1.1
HDA	**Harding Lake**	**10.81**	**23**	Pn	Pn	02 37 24.4	+0.8
CCB	**Clear Creek Bu**	**10.83**	**21**	Pn	Pn	02 37 22.9	-0.9
MDM	**Murphy Dome**	**11.03**	**19**	Pn	Pn	02 37 24.5	-2.0
IL31		**11.14**	**22**	Pn	Pn	02 37 28.9	+0.9
ILAR	**Eielson Array**	**11.14**	**22**	Pn	Pn	02 37 29.1	+1.1
IMAR	**Indian Mountai**	**11.30**	**6**	Pn	Pn	02 37 32.4	+2.2
EGAK	**Eagle**	**12.66**	**32**	Pn	Pn	02 37 50.1	+1.3
BMAR	**Burnt Mountain**	**13.91**	**20**	Pn	Pn	02 38 05.7	-0.2
INK	**Inuvik**	**17.30**	**30**	Pn	Pn	02 38 49.7	-0.5
INK				IAmb	IAmb	02 38 55.8	
	comp=Z,2.9nm,0.8s						
C36M	**Paulatuk**	**20.73**	**33**	P	P	02 39 29.6	+0.5
C36M				IAmb	IAmb	02 39 56.6	
	comp=Z,16nm,1.4s						

*IDC **20** 02:43:11.9±1.1, 57°.24S×27°.16W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.5/22, mbtmp3.5/3, Error ellipse: s-maj=68.7km s-min=32.8km az=85.0*

ISC 20 02:43:14.3±1.2, 57°.3S±0°.2×27°.6W±0°.4, h10km, n9, σ1§03/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.73**	**156**	P	**Pn**	**02 46 55.7**	**+0.1**
VNA3	**Neumayer Olymp**	**15.89**	**159**	P	**Pn**	**02 46 57.0**	**-0.8**
SNAA	**Sanae**	**17.70**	**154**	P	**P**	**02 47 21.8**	**+0.3**
SNAA	**Sanae**	**17.70**	**154**	P	**Pn**	**02 47 20.9**	**+0.3**
	baz=311,slow=14						
VNDA	**Vanda**	**45.30**	**183**	P	**P**	**02 51 31.0**	**-0.5**
	0.3nm,0.5s,baz=185,slow=7.7,SNR=1.8						
TORD	**Torodi Ar. Bea**	**74.27**	**30**	P	**P**	**02 54 50.6**	**-0.9**
	0.4nm,0.7s,baz=204,slow=6.0,SNR=2.0						
INK	**Inuvik**	**146.61**	**319**	PKPbc	**PKPdf**	**03 02 53.5**	**+0.8**
	0.5nm,0.4s,baz=344,slow=7.4,SNR=1.8						
ILAR	**Eielson Array**	**150.75**	**310**	PKPbc	**PKPbc**	**03 03 04.7**	**-0.5**
	0.7nm,0.8s,baz=128,slow=1.3,SNR=8.0						
SONM	**Songino Array**	**151.02**	**89**	PKPbc	**PKPdf**	**03 03 02.7**	**+1.9**
	0.4nm,0.4s,baz=225,slow=1.8,SNR=2.2						

*DDA **20** 03:17:06.3, 37°.05N×27°.55E, h6km±1km, ML1.8*

ISK 20 03:17:06.5, 37°.05N×27°.43E, h20km, ML1.5/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.02**	**43**	*i* P	Pb	03 17 08.6	-1.5
BDRM				*i* P		03 17 08.8	
BDRM				IAML		03 17 10.0	
	comp=N,545nm,0.1s						
BDRM				IAML		03 17 10.0	
	comp=E,698nm,0.2s						
BDRM				IAML		03 17 10.0	
	comp=E,700nm,0.2s						
BDRM				*i* S	Sb	03 17 10.4	-2.1
BDRM				*i* S		03 17 10.5	
BODT	**Bodrum**	**0.09**	**278**	PG	Pb	03 17 10.7	+0.2
BODT				SG	Sb	03 17 13.7	+0.5
YKAV	**Yalikavak-Bodr**	**0.14**	**303**	PG	Pb	03 17 11.1	-0.2
YKAV				SG	Sb	03 17 14.5	0.0
DAT	**Datca**	**0.34**	**159**	PG	Pb	03 17 14.3	+0.4
DAT				SG	Sb	03 17 19.9	+0.9
MLSB	**Milas**	**0.37**	**49**	PG	Pb	03 17 14.7	+0.3
DDIM	**Aydin, Didim**	**0.43**	**340**	*i* P	Pb	03 17 16.4	+1.0
DDIM				*i* S	Sb	03 17 22.8	+1.3
DDIM				IAML		03 17 31.0	
	comp=N,42nm,1.7s						
NIS1	**Nisyros Isl.**	**0.49**	**204**	PG	Pb	03 17 16.3	-0.1
GCAM	**G?zelcaml?**	**0.67**	**347**	PG	Pn	03 17 20.5	-0.3
AYDN	**Tasoluk**	**0.71**	**30**	*i* P	Pb	03 17 19.2	-1.1
AYDN				*i* S	Sb	03 17 28.3	-1.3
TURN	**Turunc**	**0.71**	**112**	PG	Pn	03 17 20.9	-0.5
MULA	**Mugla, Merkez-**	**0.74**	**74**	*i* P	Pn	03 17 21.4	-0.5

*KRSZO **20** 03:18:23.6±1.2, 48°.01N×23°.69E, h2km±10km, ML2.4/6, Error ellipse: s-maj=7.4km s-min=4.4km az=20.0*
*BUC **20** 03:18:23.9±0.3, 48°.09N×23°.70E, h7km±2km, ml2.0/6, Error ellipse: s-maj=3.5km s-min=1.6km az=7.0*

SIGU 20 03:18:23.9, 48°.06N×23°.70E, h10km, 18C-7D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.32**	**96**	*i* Pg	Pg	03 18 30.1	-0.1
RAKU				Pm		03 18 30.5	
RAKU				m		03 18 30.6	
RAKU				*i* Sg	Sg	03 18 35.4	+1.0
RAKU				Sm		03 18 36.0	
KORU	**Korolevo**	**0.39**	**285**	*e*Pg	Pg	03 18 31.8	+0.2
KORU				Pm		03 18 32.2	
KORU				*i* Sg	Sb	03 18 38.0	-1.0
KORU				Sm		03 18 41.0	
KORU				m		03 18 45.2	
MEZ	**Mezhgor'ye**	**0.47**	**345**	⇑*i* Pg	Pg	03 18 33.5	+0.4
MEZ				*i* Sg	Sb	03 18 40.4	-1.0
MEZ				m		03 18 42.5	
TRSU	**Trosnyk**	**0.50**	**274**	⇓*i* Pg	Pg	03 18 34.1	+0.5
TRSU				*e*Sg	Sb	03 18 41.8	-0.3
TRSU				m		03 19 28.6	
NSLU	**Nyzhne Selyshc**	**0.53**	**75**	*e*Pg	Pg	03 18 28.6	-5.5
NSLU				Pm		03 18 28.6	
NSLU				*i* Sg	Sg	03 18 32.2	-8.8
NSLU				m		03 18 33.0	
NSLU				Sm		03 18 33.4	
BRIU	**Brid**	**0.53**	**302**	⇑*i* Pg	Pg	03 18 34.8	+0.5
BRIU				Pm		03 18 35.1	
BRIU				*i* Sg	Sb	03 18 42.8	-0.3
BRIU				Sm		03 18 44.6	
BRIU				m		03 19 02.2	
BERU	**Beregovo**	**0.73**	**284**	*e*Pg	Pb	03 18 38.5	-0.1
BERU				Pm		03 18 38.6	
BERU				*e*Sg	Sb	03 18 49.3	+0.6
BERU				Sm		03 18 53.1	
TRPA	**Tarpa**	**0.78**	**276**	⇑P	Pg	03 18 39.1	+0.2
TRPA				⇑S	Sg	03 18 49.7	+0.5
TRPA	**Tarpa**	**0.78**	**276**	⇑P	Pg	03 18 39.1	+0.2
TRPA	**Tarpa**	**0.78**	**276**	*e*P	Pb	03 18 39.9	+0.3
TRPA				*e*S	Sg	03 18 49.6	+0.5
TRPA	**Tarpa**	**0.78**	**276**	Pg	Pb	03 18 39.9	+0.3
	comp=Z,0.2nm,SNR=18						
TRPA				Lg	Lg	03 18 49.6	
MUKU	**Mukachevo**	**0.78**	**301**	*e*Pg	Pb	03 18 39.5	-0.1
MUKU				*i* Sg	Sb	03 18 51.0	+0.7
STNU	**Starunia**	**0.84**	**39**	*i* Pg	Pb	03 18 40.9	+0.3
STNU				*i* Sg	Sn	03 18 53.4	-0.9
KSV	**Kosov**	**0.95**	**74**	*e*Pg	Pb	03 18 42.7	+0.2
KSV				Pm		03 18 44.3	
KSV				*i* Sg	Sn	03 18 56.4	-0.5
KSV				Sm		03 19 02.8	
KSV				m		03 19 06.8	
HOLU	**Holmets**	**0.99**	**298**	*i* Pg	Pn	03 18 43.6	-0.3
HOLU				*i* Sg	Sn	03 18 58.2	+0.2
MESR	**Meseseni**	**1.04**	**209**	⇑S	Sn	03 18 59.5	+0.3
MESR	**Meseseni**	**1.04**	**209**	⇑S	Sn	03 18 59.5	+0.3
MORS	**Morshin**	**1.08**	**7**	*i* Pg	Pn	03 18 45.5	+0.4
MORS				*i* Sg	Sn	03 19 01.3	+1.1
UZH	**Uzhgorod**	**1.10**	**302**	*i* Pg	Pn	03 18 45.8	+0.5
UZH				Pm		03 18 46.5	
UZH				*i* Sg	Sn	03 19 01.7	+1.1
UZH				Sm		03 19 06.6	
BURAR	**Bucovina Array**	**1.11**	**113**	⇓P	Pg	03 18 44.7	-0.6
BURAR				⇑S	Sb	03 19 00.4	+0.4
BURAR	**Bucovina Array**	**1.11**	**113**	⇓P	Pg	03 18 44.7	-0.6
KOLS	**Kolonicke sedl**	**1.29**	**313**	Pn	Pg	03 18 49.2	+0.6
	comp=Z,14nm,SNR=21						
KOLS	**Kolonicke sedl**	**1.29**	**313**	*e*PG	Pg	03 18 49.1	+0.4
KOLS				*e*SG	Sg	03 19 06.5	+1.1
CBBR	**Cluj-Babes-Bol**	**1.30**	**185**	⇑P	Pg	03 18 48.9	+0.1
CBBR	**Cluj-Babes-Bol**	**1.30**	**185**	⇑P	Pg	03 18 48.9	+0.1
CJR	**Cluj-Napoca**	**1.35**	**183**	⇑P	Pg	03 18 50.1	+0.4
CJR				⇑S	Sg	03 19 09.3	+2.0
CJR	**Cluj-Napoca**	**1.35**	**183**	⇑P	Pg	03 18 50.1	+0.4
CJR	**Cluj-Napoca**	**1.35**	**183**	Pn	Pg	03 18 50.2	+0.4
	comp=Z,0.2nm,SNR=6.7						
CJR				Sn	Sg	03 19 09.4	+2.1
LTVH	**Ltavrtes, Hu**	**1.39**	**242**	Sn	Sg	03 19 11.1	+2.5
DRGR		**1.44**	**208**	⇓P	Pg	03 18 51.5	0.0
DRGR				⇑S	Sg	03 19 10.7	+0.7
DRGR		**1.44**	**208**	⇓P	Pg	03 18 51.5	0.0
DRGR		**1.44**	**208**	Pn	Pn	03 18 50.1	0.0
	comp=Z,0.1nm,SNR=3.9						
DRGR				Sn	Sg	03 19 10.2	+0.1
KMPD	**K-Podol'skiy**	**1.91**	**74**	*i* Sn	Sg	03 19 24.3	-0.9
HORU	**Horodok**	**2.15**	**56**	*e*Pn	Pb	03 19 01.4	-1.4
HORU				*i* Sn	Sb	03 19 30.2	+0.7
PSZ	**Piszkesteto**	**2.56**	**268**	*e*P	Pn	03 19 05.6	+0.1
PSZ	**Piszkesteto**	**2.56**	**268**	Pn	Pn	03 19 05.6	+0.1
	SNR=1.6						
VOIR		**2.78**	**160**	⇓P	Pn	03 19 09.7	+1.1
VOIR				⇑S	Sn	03 19 45.0	+2.8
VOIR		**2.78**	**160**	⇓P	Pn	03 19 09.7	+1.1
BZS	**Buzias**	**2.83**	**211**	⇑P	Pn	03 19 09.5	+0.3
BZS				⇑S	Sn	03 19 44.7	+1.4
BZS	**Buzias**	**2.83**	**211**	⇑P	Pn	03 19 09.5	+0.3
LANS	**Liptovska Anna**	**3.01**	**293**	*e*PN	Pn	03 19 13.8	+2.1
VYHS	**Vyhne**	**3.28**	**279**	Pn	Pn	03 19 16.3	+0.9
	SNR=2.0						
VYHS	**Vyhne**	**3.28**	**279**	*e*PN	Pn	03 19 16.2	+0.9

*NEIC **20** 03:27:44.6±2.0, 4°.55S±0°.10×152°.1E±0°.1, h83km±7km, mb4.3/9, Error ellipse: s-maj=18.7km s-min=14.1km az=104.0*
*IDC **20** 03:27:46.9±5.7, 4°.99S×152°.29E, h95km±46km, mb3.6/3, mb1 3.9/4, mb1mx3.3/38, mbtmp4.0/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/24, Error ellipse: s-maj=116.2km s-min=29.7km az=128.0*

ISC 20 03:27:45.1±0.8, 4°.55S±0°.08×152°.1E±0°.1, h100km, n21, σ1§82/22, mb4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.36**	**11**	Pn	**Pn**	**03 27 57.9**	**-2.1**
MANU	**Manus Island**	**5.33**	**298**	Pn	**Pn**	**03 29 01.6**	**-0.8**
PMG	**Port Moresby**	**6.88**	**225**	P	**Pn**	**03 29 24.7**	**+1.3**
	1.2nm,0.3s,baz=247,slow=19,SNR=1.4						
PMG				S	**Sn**	**03 30 37.2**	**-2.9**
	1.9nm,0.3s,baz=74,slow=20,SNR=1.8						
PMG				LR	LR	03 32 12.4	
	comp=Z,89nm,21.1s,baz=198,slow=40						
PMG	**Port Moresby**	**6.88**	**225**		**Pn**	**03 29 23.2**	**-0.1**
PATS	**Pohnpei**	**12.90**	**29**	Pn	**Pn**	**03 30 44.8**	**0.0**
WB0	**Warramunga Arr**	**22.94**	**227**	P	**P**	**03 32 41.1**	**+0.1**
WB0				IAmb	IAmb	03 32 57.1	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**22.96**	**227**	P	**P**	**03 32 41.5**	**+0.3**
WR0				IAmb	IAmb	03 32 47.3	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**23.08**	**227**	P	**P**	**03 32 42.4**	**0.0**
WB2				IAmb	IAmb	03 32 54.9	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**23.09**	**227**	P	**P**	**03 32 42.8**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=53,slow=10.0,SNR=40						
WRA	**Warramunga Arr**	**23.09**	**227**	P	**P**	**03 32 42.0**	**-0.4**
AS31	**Alice Springs**	**25.87**	**221**	P	**P**	**03 33 11.1**	**+3.4**
ASAR	**Alice Springs**	**25.87**	**221**	P	**P**	**03 33 08.5**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=56,slow=9.1,SNR=23						
ASAR	**Alice Springs**	**25.87**	**221**	P	**P**	**03 33 11.0**	**+3.3**
BBOO	**Buckleboo**	**31.86**	**206**	P	**P**	**03 34 00.7**	**-0.1**
FORT	**Forrest**	**34.54**	**218**	P	**P**	**03 34 24.3**	**+0.2**
BHW	**Baring Head**	**41.99**	**154**	P	**P**	**03 35 25.4**	**-1.0**
ENH	**Enshi**	**53.47**	**313**	P	**P**	**03 36 57.4**	**+2.1**
ENH				IAmb	IAmb	03 37 05.6	
	comp=Z,7.8nm,1.0s						
ZAA0	**Zalesovo Array**	**80.55**	**326**	P	**P**	**03 39 45.0**	**-1.3**
ZAA0				IAmb	IAmb	03 39 46.5	
	comp=Z,2.6nm,0.4s						
ZALV	**Zalesovo Beam**	**80.55**	**326**	P	**P**	**03 39 44.9**	**-1.4**
ILAR	**Eielson Array**	**82.19**	**22**	P	**P**	**03 39 58.2**	**+3.4**
	comp=Z,0.3nm,0.7s,baz=253,slow=5.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.56**	**288**	PKPbc	**PKPab**	**03 47 27.4**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=79,slow=4.1,SNR=3.4						

*IASPEI **20** 03:33:24.3±1.0, 36°.85N±0°.02×97°.88W±0°.03, h6km±6km, Error ellipse: s-maj=4.1km s-min=3.4km az=119.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TUL **20** 03:33:24±1.2, 36°.87N±0°.03×97°.90W±0°.04, h4km±7km, ML3.1, mb_Lg2.9/88(NEIC), Error ellipse: s-maj=6.1km s-min=2.5km az=134.0*
*ANF **20** 03:33:24.9±0.5, 36°.84N×97°.92W, h0km, ML3.9/9, Error ellipse: s-maj=4.9km s-min=4.5km az=17.0*
*NEIC **20** 03:33:24.5±1.2, 36°.84N±0°.03×97°.88W±0°.04, h3km±7km, Error ellipse: s-maj=6.6km s-min=2.5km az=133.0*

ISC 20 03:33:24.4±0.8, 36°.84N±0°.02×97°.88W±0°.02, h6km±6km, n92, σ1§01/85, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.02**	**50**	Pg	**Pg**	**03 33 25.4**	**-0.2**
GC02				Sg	**Sg**	**03 33 26.2**	**-0.2**
KAN17	**Caldwell West**	**0.23**	**24**	Pg	**Pg**	**03 33 28.7**	**-0.2**
KAN17				Sg	**Sg**	**03 33 31.7**	**-0.2**
OK032	**Salt Plains WL**	**0.27**	**263**	Pg	**Pg**	**03 33 29.6**	**0.0**
KAN05	**Bluff City Nor**	**0.27**	**1**	Pg	**Pg**	**03 33 29.3**	**-0.4**
KAN05				Sg	**Sg**	**03 33 33.5**	**+0.2**
KAN10	**Anthony SW Sta**	**0.33**	**329**		**Pg**	**03 33 30.5**	**-0.4**
KAN10					**Sg**	**03 33 34.8**	**-0.5**
CROK	**Carrier**	**0.34**	**194**		**Pg**	**03 33 31.6**	**+0.6**
CROK				Sg	**Sg**	**03 33 36.9**	**+1.3**
KAN09	**Caldwell North**	**0.36**	**35**	Pg	**Pg**	**03 33 31.2**	**-0.3**
KAN09					**Sg**	**03 33 36.2**	**-0.1**
KAN13	**South Haven SW**	**0.37**	**61**	Pg	**Pg**	**03 33 31.6**	**0.0**
KAN08	**Anthony NE Sta**	**0.40**	**349**		**Pg**	**03 33 31.7**	**-0.4**
KAN12	**Harper NE Stat**	**0.47**	**348**		**Pg**	**03 33 33.0**	**-0.5**
KS20	**Mayfield South**	**0.47**	**34**	Pg	**Pg**	**03 33 33.3**	**-0.2**
KS20				Sg	**Sg**	**03 33 39.4**	**-0.2**
BLOK	**Blackwell**	**0.54**	**98**	Pg	**Pg**	**03 33 34.9**	**+0.1**
BLOK				Sg	**Sb**	**03 33 44.4**	**+0.1**
U32A	**Winter Ranch,**	**1.01**	**243**		**Pg**	**03 33 43.2**	**-0.5**
U32A				Sg	**Sg**	**03 33 57.0**	**+0.1**
U32A	**Winter Ranch,**	**1.01**	**243**	P		03 33 43.3	
	baz=61,SNR=34						
OK029	**Liberty Lake**	**1.09**	**162**		**Pg**	**03 33 45.3**	**-0.1**
T35A	**Sooner Cattle**	**1.10**	**85**	Pg	**Pg**	**03 33 45.0**	**-0.5**
T35B	**Sooner Cattle**	**1.10**	**85**	P		03 33 45.0	
	baz=268						
T35B				S		03 34 00.5	
	baz=268						
QUOK	**Quay**	**1.16**	**125**		**Pg**	**03 33 46.3**	**-0.2**
BCOK	**Bluff Creek, N**	**1.20**	**169**		**Pg**	**03 33 47.0**	**-0.4**
OK031	**S. Brethren Rd**	**1.22**	**136**		**Pg**	**03 33 47.4**	**-0.3**
OK025	**Westminster Rd**	**1.33**	**161**		**Pn**	**03 33 49.5**	**0.0**
OKCFA	**Oklahoma City**	**1.46**	**166**		**Pn**	**03 33 51.8**	**+0.4**
OKCFA				IAmb_Lg		03 34 13.4	
	comp=Z,56nm,0.7s						
OKCFA	**Oklahoma City**	**1.46**	**166**	P		03 33 51.8	
	baz=346,SNR=19						
OKCFA				S		03 34 12.2	
	baz=346						
OKCSW	**OKLAHOMA CITY**	**1.47**	**166**		**Pn**	**03 33 51.8**	**+0.3**
FNO	**Franklin**	**1.62**	**166**		**Pn**	**03 33 54.1**	**+0.6**
FNO				IAmb_Lg		03 34 17.2	
	comp=Z,94nm,0.9s						
R32A	**Long Quarter,**	**1.71**	**338**		**Pn**	**03 33 55.0**	**+0.2**
R32A	**Long Quarter,**	**1.71**	**338**	P		03 33 55.2	
	baz=157						
R32A				S		03 34 17.4	
	baz=157						
TUL1	**Leonard**	**1.92**	**118**	P	**Pb**	**03 33 58.9**	**-0.9**
	baz=300						
TUL1				S	**Sb**	**03 34 25.3**	**+1.2**
	baz=300						
TUL1	**Leonard**	**1.92**	**118**	P		03 33 58.4	
	baz=300,SNR=51						
TUL1				S		03 34 25.2	
	baz=300						
WMOK	**Wichita Mounta**	**2.22**	**200**	P	**Pn**	**03 34 03.2**	**+1.5**
	baz=18						
WMOK				S	**Sb**	**03 34 31.7**	**-1.0**
	baz=18						
WMOK	**Wichita Mounta**	**2.22**	**200**	Pn	**Pn**	**03 34 02.1**	**+0.3**
WMOK	**Wichita Mounta**	**2.22**	**200**	P		03 34 02.1	
	baz=18,SNR=20						
WMOK				S		03 34 31.6	
	baz=18						
X34A	**Smith Ranch, M**	**2.23**	**179**	Pn	**Pn**	**03 34 03.3**	**+1.4**
CBKS	**Cedar Bluff**	**2.46**	**324**	S	**Sb**	**03 34 39.2**	**-0.4**
	baz=143						
CBKS	**Cedar Bluff**	**2.46**	**324**	Pn	**Pn**	**03 34 06.4**	**+1.3**
CBKS	**Cedar Bluff**	**2.46**	**324**	P		03 34 05.4	
	baz=143,SNR=11						
CBKS				S		03 34 39.4	
	baz=143						
KSU1	**Kansas State U**	**2.47**	**24**	S	**Sb**	**03 34 40.0**	**0.0**
	baz=205						
KSU1	**Kansas State U**	**2.47**	**24**	Pn	**Pn**	**03 34 06.0**	**+0.7**
KSU1				IAmb_Lg		03 34 45.9	
	comp=Z,62nm,0.7s						
KSU1	**Kansas State U**	**2.47**	**24**	P		03 34 05.8	
	baz=205						
U38A	**Gravette**	**2.84**	**97**	Pn	**Pn**	**03 34 11.1**	**+0.8**
LOOK	**Love County**	**2.90**	**168**	Pn	**Pn**	**03 34 12.1**	**+1.1**
X37A	**Clayton**	**3.03**	**137**	Pn	**Pn**	**03 34 13.8**	**+0.8**
X37A				IAmb_Lg		03 35 08.2	
	comp=Z,40nm,0.7s						
HHAR	**Hobbs**	**3.22**	**99**		**Pn**	**03 34 16.4**	**+0.8**
HHAR	**Hobbs**	**3.22**	**99**	P		03 34 16.6	
	baz=282						
Z35A	**Perchaven, San**	**3.54**	**171**	Pn	**Pn**	**03 34 20.8**	**+0.9**
Z35A	**Perchaven, San**	**3.54**	**171**	P		03 34 20.8	
	baz=352,SNR=6.5						
AMTX	**Amarillo**	**3.65**	**239**	Pb	**Pb**	**03 34 30.7**	**+1.4**
	baz=56						
AMTX				Sb	**Sg**	**03 35 19.1**	**-2.6**
	baz=56						
AMTX	**Amarillo**	**3.65**	**239**	Pn	**Pn**	**03 34 22.2**	**+0.7**
AMTX				IAmb_Lg		03 35 19.7	
	comp=Z,28nm,1.0s						
W39A	**Magazine**	**3.70**	**115**	Sb	**Sg**	**03 35 22.0**	**-1.3**
	baz=298						
W39A	**Magazine**	**3.70**	**115**	Pn	**Pn**	**03 34 24.1**	**+2.0**
N33A	**J Bar K, Exete**	**3.91**	**5**	Pn	**Pn**	**03 34 25.0**	**0.0**
U40A	**Yellville**	**4.07**	**95**	Pn	**Pn**	**03 34 28.0**	**+0.8**
U40A				IAmb_Lg		03 35 34.0	
	comp=Z,25nm,0.8s						
MIAR	**Mount Ida**	**4.18**	**122**	Sb	**Sg**	**03 35 36.0**	**-2.7**
	baz=305						
MIAR	**Mount Ida**	**4.18**	**122**	Pn	**Pn**	**03 34 30.7**	**+2.0**
MIAR				IAmb_Lg		03 35 47.8	
	comp=Z,23nm,0.8s						
Z38A	**Mt. Pleasant**	**4.29**	**146**	Pn	**Pn**	**03 34 31.5**	**+1.4**
Z38A				IAmb_Lg		03 35 46.4	
	comp=Z,36nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.33**	**301**	Pn	**Pn**	**03 34 32.7**	**+1.7**
N35A	**Tabor**	**4.38**	**23**	Pn	**Pn**	**03 34 33.3**	**+1.8**
P38A	**Dawn**	**4.41**	**50**	Pn	**Pn**	**03 34 32.7**	**+0.8**
P38A				IAmb_Lg		03 35 42.2	
	comp=Z,19nm,0.7s						
MGMO	**Mountain Grove**	**4.50**	**84**	Pn	**Pn**	**03 34 33.3**	**+0.1**
MGMO				IAmb_Lg		03 35 56.2	
	comp=Z,19nm,0.9s						
BGNE	**Belgrade**	**4.57**	**357**	P	**Pn**	**03 34 34.2**	**+0.2**
	baz=177						
BGNE	**Belgrade**	**4.57**	**357**	Pn	**Pn**	**03 34 33.8**	**-0.3**
BGNE				IAmb_Lg		03 35 55.7	
	comp=Z,29nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**70**	Pn	**Pn**	**03 34 36.4**	**+0.8**
R40A				IAmb_Lg		03 36 01.2	
	comp=Z,17nm,0.8s						
X40A	**Basin Creek Fa**	**4.73**	**118**	Pn	**Pn**	**03 34 37.8**	**+1.6**
X40A				IAmb_Lg		03 36 04.6	
	comp=Z,17nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.74**	**100**	Pn	**Pn**	**03 34 38.3**	**+1.9**
FCAR				IAmb_Lg		03 35 57.3	
	comp=Z,26nm,1.0s						
WHAR	**Wooly Hollow**	**4.79**	**107**	Pn	**Pn**	**03 34 38.5**	**+1.5**
WHAR				IAmb_Lg		03 36 01.6	
	comp=Z,23nm,1.0s						
WHTX	**Lake Whitney,**	**4.85**	**176**	P	**Pn**	**03 34 38.2**	**+0.3**
	baz=356						
WHTX	**Lake Whitney,**	**4.85**	**176**	Pn	**Pn**	**03 34 38.1**	**+0.3**
WLAR	**White Oak Lake**	**5.01**	**127**	Pn	**Pn**	**03 34 40.4**	**+0.4**
WLAR				IAmb_Lg		03 36 17.6	
	comp=Z,25nm,0.9s						
237A	**Washetta, Mont**	**5.12**	**160**	Pn	**Pn**	**03 34 39.8**	**-1.8**
OGNE	**Ogallala**	**5.23**	**323**	Pn	**Pn**	**03 34 43.4**	**+0.2**
OGNE				IAmb_Lg		03 36 17.5	
	comp=Z,25nm,0.8s						
T25A	**Trinidad**	**5.24**	**275**	Pn	**Pn**	**03 34 42.1**	**-1.4**
T25A				IAmb_Lg		03 36 22.6	
	comp=Z,18nm,0.9s						
L34A	**Svendsen Farm,**	**5.25**	**12**	IAmb_Lg		03 36 18.7	
	comp=Z,28nm,0.8s						
P40A	**Paris**	**5.32**	**58**	Pn	**Pn**	**03 34 44.6**	**+0.2**
P40A				IAmb_Lg		03 36 17.2	
	comp=Z,29nm,0.9s						
CCM	**Cathedral Cave**	**5.42**	**75**	Pn	**Pn**	**03 34 46.7**	**+1.0**
CCM				IAmb_Lg		03 36 19.3	
	comp=Z,19nm,0.9s						
LCAR	**Lake Charles**	**5.48**	**96**	Pn	**Pn**	**03 34 47.6**	**+1.1**
PBMO	**Poplar Bluff**	**5.98**	**88**	IAmb_Lg		03 36 33.6	
	comp=Z,15nm,0.7s						
435B	**Jarrell**	**6.04**	**178**	IAmb_Lg		03 36 47.8	
	comp=Z,16nm,0.9s						
**SDCO

EDFI	Ende, Flores	2.61 276	P	Pn	04 15 23.0	-0.1
EDFI			S	Sn	04 15 54.2	-0.1
BASI	Baing, Sumba	3.87 252	P	Pn	04 15 39.0	-0.9
WBSI	Waikabubak, Su	4.90 262	P	Pn	04 15 53.8	-0.1
PLAI	Plampang	6.46 271	P	Pn	04 16 14.1	-1.0
	0.2nm37nm,0.8s					
SAUI	Saumlaki	6.99 82	P	Pn	04 16 23.4	+1.2
	2.6nm461nm,1.5s					
TWSI	Taliwang, Sumb	7.35 272	P	Pn	04 16 26.1	-1.1
	0.1nm7.2nm,0.8s					
WRA	Warramunga Arr	14.55 139	Pn	Pn	04 18 04.3	+0.7
	0.1nm,0.3s,baz=315,slow=15,SNR=7.6					
WRA			Sn	Sn	04 20 37.6	-6.4
	0.4nm,0.3s,baz=309,slow=23,SNR=8.1					
ASAR	Alice Springs	17.21 149	P	Pn	04 18 38.4	+1.7
	baz=316,slow=11,SNR=1.3					
ASAR			S	Sn	04 21 41.6	-6.5
	0.1nm,0.3s,baz=326,slow=25,SNR=2.8					
MKAR	Makanchi Array	66.99 330	P	P	04 25 24.9	+0.3
	0.2nm,0.4s,baz=142,slow=7.2,SNR=2.3					

*BJI **20** 04:24:11.6±0.0, 18°.01S×177°.46W, h625km, mB5.0/14, mb4.7/24*
*IDC **20** 04:24:13.5±0.7, 18°.16S×177°.96W, h619km±8km, mb3.9/22, mb1 4.0/25, mb1mx3.9/38, mbtmp4.8/25, Error ellipse: s-maj=11.3km s-min=8.0km az=160.0*
*NEIC **20** 04:24:14.2±2.0, 18°.13S±0°.10×178°.0W±0°.1, h616km±6km, mb4.5/105, Error ellipse: s-maj=14.8km s-min=13.9km az=141.0*
ISC 20 04:24:11.4±0.3,**18°.15S**±0°.06×**177°.96W**±0°.05,**h590**km, **n210,** σ1§**16/200, mb4.5**/90,**11C-29D, Fault plane solution: NP1:**φ₁213.29231°,δ88.96937°,λ101.73676°. **NP2:**φ₂308.24042°,δ11.78130°,λ5.05405°. **Principal axes:** T Plg44.8239°, Azm134.9927°; N Plg11.7348°, Azm33.0782°; P Plg42.8040°, Azm291.9864°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.82	276	P	P	04 25 39.9	+4.9
	77nm,0.3s,baz=137,slow=5.0,SNR=606						
MSVF				S	S	04 26 51.7	+8.6
	baz=138,slow=20,SNR=0.8						
MSVF	Nonsavu	3.82	276	P	P	04 25 40.3	+5.3
AFI	Afiamalu	7.29	56	P	P	04 26 05.4	+1.6
	30nm,0.3s,baz=331,slow=2.1,SNR=25						
AFI				S	S	04 27 37.8	+1.9
	0.8nm,0.3s,baz=272,slow=21,SNR=1.7						
AFI	Afiamalu	7.29	56	P	P	04 26 05.1	+1.2
NIUE	Niue	7.68	98	P	P	04 26 09.8	+2.5
FUNA	Funafuti	9.96	344	P	P	04 26 31.2	+1.5
MARNC	Mare, Loyalty	13.59	254	P	P	04 27 07.5	+1.1
LIFNC	LIFOU	14.20	257	P	P	04 27 12.4	0.0
PINNC	Pines Island,	14.38	250	P	P	04 27 15.3	+1.1
SANVU	Saraoutou	14.46	279	P	P	04 27 16.5	+1.5
KNTN	Kanton	16.46	23	P	P	04 27 33.1	-0.5
RAR	Rarotonga	17.40	103	P	P	04 27 41.8	-0.3
	0.5nm,0.3s,baz=244,slow=5.6,SNR=6.3						
RAR	Rarotonga	17.40	103	P	P	04 27 42.9	+0.8
RAR				IAmb	IAmb	04 27 43.7	
	comp=Z,37nm,0.9s						
OUZ	Omahuta	18.59	202	P	P	04 27 55.9	+3.2
OUZ				IAmb	IAmb	04 28 02.3	
	comp=Z,39nm,1.3s						
URZ	Urewera	20.50	191	P	P	04 28 08.9	-1.0
	comp=Z,8.7nm,0.5s,baz=305,slow=1.5,SNR=11						
URZ	Urewera	20.50	191	P	P	04 28 09.1	-0.8
URZ				IAmb	IAmb	04 28 10.0	
	comp=Z,33nm,1.2s						
URZ	Urewera	20.50	191	P	P	04 28 09.2	-0.7
TUWZ	Tuamarina	24.22	195	P	P	04 28 44.3	+1.3
THZ	Tophouse	24.80	196	P	P	04 28 48.6	+0.4
PAE	Paea	27.00	93	eP	P	04 29 07.7	-0.2
	comp=Z,16nm,1.2s						
PPT2	Papeete2	27.01	93	eP	P	04 29 08.0	-0.1
	comp=Z,54nm,1.4s						
PPT	Papeete	27.02	93	P	P	04 29 08.9	+0.9
	comp=Z,20nm,0.5s,baz=92,slow=4.2,SNR=10						
PPTF	Pamatai, Papee	27.02	93	P	P	04 29 08.9	+0.8
TBI	Tubuai	27.13	106	eP	P	04 29 09.0	+0.1
	comp=Z,139nm,1.0s						
TIAR	Tiarei	27.24	93	eP	P	04 29 10.0	0.0
	comp=Z,4.8nm,0.9s						
FOZ	Fox Glacier	27.33	200	P	P	04 29 10.5	+0.2
PMOR	Pomariorio Ree	28.97	88	eP	P	04 29 24.6	-0.4
	comp=Z,57nm,0.9s						
VAH	Vaihoa	29.18	89	eP	P	04 29 26.4	-0.5
	comp=Z,24nm,0.8s						
MLZ	Mavora Lakes	29.52	200	P	P	04 29 30.3	+0.9
EIDS	Eidsvold	29.59	250	P	P	04 29 30.4	+0.1
EIDS				IAmb	IAmb	04 29 31.3	
	comp=Z,24nm,0.7s						
ARMA	Armidale	30.19	240	P	P	04 29 36.9	+1.4
ARMA				IAmb	IAmb	04 29 37.5	
	comp=Z,17nm,0.8s						
KWAJ	Kwajalein Atol	30.33	331	P	P	04 29 37.2	+0.6
CTA	Charters Tower	33.83	261	P	P	04 30 06.7	+0.4
	comp=Z,32nm,0.6s,baz=90,slow=10.0,SNR=30						
CTAO	Charters Tower	33.83	261	P	P	04 30 06.7	+0.4
CAN	Canberra	33.90	233	P	P	04 30 07.8	+1.0
PATS	Pohnpei	34.13	315	P	P	04 30 10.2	+1.3
PMG	Port Moresby	34.92	280	P	P	04 30 16.3	+0.9
	comp=Z,70nm,0.8s,baz=102,slow=5.7,SNR=12						
PMG	Port Moresby	34.92	280	P	P	04 30 16.7	+1.2
TOO	Toolangi	37.35	231	P	P	04 30 36.1	+0.9
TOO				IAmb	IAmb	04 30 36.9	
	comp=Z,26nm,0.8s						
STKA	Stephens Creek	38.89	242	P	P	04 30 48.5	+0.9
	comp=Z,31nm,0.7s,baz=89,slow=9.7,SNR=42						
STKA	Stephens Creek	38.89	242	P	P	04 30 48.6	+1.0
STKA				IAmb	IAmb	04 30 49.5	
	comp=Z,8.5nm,0.9s						
GENI	Genyem	43.84	286	P	P	04 31 26.7	-0.2
	comp=Z,94nm,0.7s						
WR0	Warramunga Arr	44.81	260	P	P	04 31 33.9	-0.4
WR0				IAmb	IAmb	04 31 34.9	
	comp=Z,32nm,1.4s						
WB0	Warramunga Arr	44.97	260	P	P	04 31 35.1	-0.5
WB0				IAmb	IAmb	04 31 35.8	
	comp=Z,36nm,0.8s						
WB2	Warramunga Arr	44.99	260	P	P	04 31 35.2	-0.5
WRAB	Tennant Creek	45.00	260	P	P	04 31 35.6	-0.2
WRAB				IAmb	IAmb	04 31 35.6	
	comp=Z,27nm,0.6s						
WRA	Warramunga Arr	45.01	260	P	P	04 31 35.4	-0.4
	comp=Z,27nm,0.6s,baz=96,slow=6.9,SNR=554						
WRA				PcP	PcP	04 33 03.4	-0.6
	comp=Z,2.3nm,0.7s,baz=86,slow=3.6,SNR=3.5						
WRA				S	S	04 37 29.9	-2.7
	comp=Z,0.9nm,0.9s,baz=119,slow=15,SNR=2.8						
WRA	Warramunga Arr	45.01	260	P	P	04 31 34.7	-1.1
WRA				PcP	PcP	04 33 03.2	-0.8
AS31	Alice Springs	45.13	254	P	P	04 31 36.7	-0.1
AS31				IAmb	IAmb	04 31 37.4	
	comp=Z,22nm,1.1s						
ASAR	Alice Springs	45.13	254	P	P	04 31 36.7	-0.1
	comp=Z,51nm,0.6s,baz=89,slow=7.9,SNR=420						
ASAR				PcP	PcP	04 33 03.5	-0.9
	comp=Z,2.9nm,0.5s,baz=104,slow=3.6,SNR=5.3						
ASAR				ScP	ScP	04 36 00.3	-1.2
	comp=Z,2.1nm,0.9s,baz=96,slow=4.7,SNR=5.0						
ASAR				S	S	04 37 31.9	-2.5
	comp=Z,1.4nm,0.8s,baz=90,slow=16,SNR=5.8						
GUMO	Guam	48.36	308	P	P	04 32 01.1	+0.2
	comp=Z,65nm,0.6s,baz=148,slow=9.0,SNR=7.8						
GUMO	Guam	48.36	308	P	P	04 32 01.1	+0.2
MTN	Manton Dam	49.22	269	P	P	04 32 06.5	-0.9
FORT	Forrest	50.29	245	P	P	04 32 14.3	-0.7
FORT				IAmb	IAmb	04 32 15.0	
	comp=Z,36nm,0.8s						
KNRA	Kununurra	50.89	264	P	P	04 32 19.0	-0.5
KNRA				IAmb	IAmb	04 32 19.9	
	comp=Z,36nm,0.8s						
FAKI	Fak Fak	51.04	281	P	P	04 32 20.4	-0.3
SWI	Sorong	52.71	283	P	P	04 32 32.8	+0.1
	comp=Z,1μmcomp=Z,144nm,0.8s						
SOEI	Soe	56.49	270	P	P	04 33 00.4	+1.2
SOEI	Soe	56.49	270	P	P	04 32 59.8	+0.6
	comp=Z,121nm,0.9s						
PSA00	Pilbara Seismi	58.26	255	P	P	04 33 09.8	-1.2
PSA00				IAmb	IAmb	04 33 11.1	
	comp=Z,14nm,0.9s						
EDFI	Ende, Flores	59.21	271	P	P	04 33 16.3	-1.3
	comp=Z,27nm,1.0s						
NWAO	Narrogin (SRO)	59.47	242	P	P	04 33 18.2	-0.8
	comp=Z,9.7nm,0.8s,baz=184,slow=13,SNR=1.8						
NWAO	Narrogin (SRO)	59.47	242	P	P	04 33 18.1	-0.8
NWAO				IAmb	IAmb	04 33 44.5	
	comp=Z,46nm,1.4s						
SBA	Scott Base	60.21	184	P	P	04 33 25.0	+2.1
VNDA	Vanda	60.24	185	P	P	04 33 23.8	+0.6
	comp=Z,1.2nm,0.8s,baz=350,slow=7.0,SNR=10						
VNDA	Vanda	60.24	185	P	P	04 33 24.2	+1.0
MORW	Morawa	60.77	246	P	P	04 33 26.9	-0.7
MORW				IAmb	IAmb	04 33 50.6	
	comp=Z,24nm,1.2s						
TOLI2	Tolitoli	63.18	281	P	P	04 33 43.3	0.0
TOLI2				IAmb	IAmb	04 33 43.6	
	comp=Z,14nm,0.8s						
GIRL	Giralia	63.23	253	P	P	04 33 44.4	+0.8
MPSI	Mapaga	63.73	280	P	P	04 33 45.6	-1.3
	comp=Z,801nmcomp=Z,35nm,0.8s						
TWSI	Taliwang, Sumb	63.79	269	P	P	04 33 47.2	0.0
	comp=Z,38nm,0.8s						
JHJ2	Mitsune	65.00	322	P	P	04 33 54.4	0.0
JYT	Yasato	67.01	324	P	P	04 34 07.0	+0.2
BBKI	Banjar Baru	67.27	274	P	P	04 34 09.2	+0.3
	comp=Z,19nm,1.1s						
MJAR	Matsushiro Arr	68.35	323	P	P	04 34 13.7	-1.4
	comp=Z,8.3nm,0.7s,baz=161,slow=5.7,SNR=20						
MJAR	Matsushiro Arr	68.35	323	P	P	04 34 15.9	+0.9
MJAR				IAmb	IAmb	04 34 40.4	
	comp=Z,33nm,1.1s						
MAJO	Matsushiro	68.35	323	P	P	04 34 14.4	-0.7
MAJO				IAmb	IAmb	04 34 14.9	
	comp=Z,14nm,0.6s						
MAT	Matsushiro	68.35	323	P	P	04 34 14.4	-0.6
MJB9	Matsu-Tunnel	68.36	323	P	P	04 34 14.4	-0.6
MJB9				IAmb	IAmb	04 34 14.9	
	comp=Z,16nm,0.6s						
SPMM	Sapulut	68.49	283	P	P	04 34 17.0	+0.6
PCJI	Pacitan	69.36	268	P	P	04 34 21.6	+0.1
	comp=Z,176nm,1.1s						
JSD	Sado	69.38	324	P	P	04 34 21.0	-0.1
JSD				IAmb	IAmb	04 34 21.8	
	comp=Z,18nm,0.7s						
ADK	Adak	69.74	1	P	P	04 34 21.6	-1.3
UGM	Wanagama	70.06	268	P	P	04 34 25.1	-0.6
JHS	Saijyo	70.36	319	P	P	04 34 27.5	+0.5
JHS				IAmb	IAmb	04 34 28.2	
	comp=Z,33nm,0.8s						
STKI	Sintang	71.57	276	P	P	04 34 34.4	-0.2
SBUM	Sibu	71.66	279	P	P	04 34 36.0	+0.9
JKA	Kamikawa-asahi	71.69	331	P	P	04 34 35.8	+1.3
JKA				IAmb	IAmb	04 34 36.0	
	comp=Z,10.0nm,0.8s						
QSPA	South Pole Qui	71.91	180	P	P	04 34 35.9	+0.2
QSPA				IAmb	IAmb	04 34 36.8	
	comp=Z,12nm,0.8s						
YULB	Yu-li	72.25	303	P	P	04 34 37.1	-1.2
YULB				IAmb	IAmb	04 34 38.0	
	comp=Z,16nm,0.8s						
JTU	Tsushima	72.44	317	P	P	04 34 38.7	-0.4
SSLB	Suanglung	72.72	303	P	P	04 34 39.8	-1.2
SSLB				IAmb	IAmb	04 34 42.1	
	comp=Z,24nm,1.1s						
CISI	Cisompet, Garu	72.73	268	P	P	04 34 40.7	-0.7
CISI				IAmb	IAmb	04 34 45.1	
	comp=Z,21nm,1.1s						
TPUB	Ta-pu	72.75	302	P	P	04 34 39.5	-1.6
KSM	Kuching	73.14	277	P	P	04 34 44.0	+0.4
PEA0B	Petropavlovsk-	74.02	345	P	P	04 34 47.3	-0.3
PEA0B				IAmb	IAmb	04 34 48.0	
	comp=Z,12nm,0.7s						
PETK	Petropavlovsk-	74.02	345	P	P	04 34 46.7	-1.0
	comp=Z,9.9nm,0.6s,baz=130,slow=8.0,SNR=26						
KSRS	Korea Array	75.16	318	P	P	04 34 54.9	+0.5
	comp=Z,1.7nm,0.6s,baz=134,slow=6.3,SNR=8.7						
PMPB	Monarch Peak	76.42	44	P	P	04 35 02.2	+0.7
PMPB				IAmb	IAmb	04 35 02.6	
	comp=Z,20nm,1.2s						
KASI	Kota Agung	76.48	269	P	P	04 34 59.8	-2.4
	comp=Z,49nm,0.9s						
USRK	Ussuriysk Ar.	77.05	326	P	P	04 35 05.2	+0.6
	comp=Z,2.1nm,0.7s,baz=99,slow=6.0,SNR=6.7						
USRK	Ussuriysk Ar.	77.05	326	P	P	04 35 06.1	+1.5
MDSI	Maura Dua	77.09	269	P	P	04 35 03.2	-2.4
	comp=Z,9.3nm,0.8s						
CBX	Cerro Bola	77.18	50	P	P	04 35 06.8	+1.0
MWC	Mount Wilson	77.19	47	P	P	04 35 06.2	+0.3
MWC				IAmb	IAmb	04 35 06.8	
	comp=Z,7.3nm,0.8s						
ISA	Isabella, Lake	77.68	46	P	P	04 35 08.8	+0.4
CMB	Columbia Colle	77.72	43	P	P	04 35 08.6	+0.1
AFDM	Forest Hills D	77.87	42	P	P	04 35 09.0	-0.3
SLBS	Sierra La Lagu	78.31	60	P	P	04 35 12.9	+0.9
SLBS				IAmb	IAmb	04 35 41.8	
	comp=Z,18nm,1.3s						
MDPB	Devils Postpil	78.35	44	P	P	04 35 12.6	+0.5
NJ2	Nanjing	78.42	309	‖ iP	P	04 35 12.6	+0.3
NJ2				pmax	pmax		
	comp=Z,16nm,0.7s						
YBH	Yreka Blue Hor	78.44	39	P	P	04 35 13.5	+1.1
WAKR	Walker	78.61	43	IAmb	IAmb	04 35 14.9	
	comp=Z,5.8nm,0.9s						
MDJ	Mudanjiang	78.62	325	IAmb	IAmb	04 35 14.7	
	comp=Z,15nm,0.9s						
PNTR	Pine Nut	78.83	42	IAmb	IAmb	04 35 16.1	
	comp=Z,7.7nm,0.9s						
YERR	Yerington	79.00	43	IAmb	IAmb	04 35 16.7	
	comp=Z,5.1nm,0.7s						
LHV	Little Huntoon	79.07	44	P	P	04 35 16.3	+0.7
LHV				IAmb	IAmb	04 35 17.5	
	comp=Z,6.8nm,1.0s						
NVAR	Mina Array Bea	79.30	44	P	P	04 35 17.2	+0.1
	comp=Z,2.6nm,0.7s,baz=225,slow=8.8,SNR=16						
NVAR	Mina Array Bea	79.30	44	P	P	04 35 17.1	0.0
TPH	Tonopah	79.83	44	IAmb	IAmb	04 35 21.1	
	comp=Z,13nm,1.0s						
TPNV	Topopah Spring	79.88	46	IAmb	IAmb	04 35 21.1	
	comp=Z,11nm,1.5s						
CN2	Changchun	80.47	322	eP	P	04 35 22.1	-0.7
CN2				ePP	PP	04 38 38.8	+1.3
CN2				SKS	S	04 44 40.3	-1.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PINE	Pine Mountain	80.72	38	P	P	04 35 24.7	+0.3
PINE				IAmb	IAmb	04 35 26.0	
	comp=Z,7.3nm,0.9s						
PRN	Pahroc Range	80.94	46	P	P	04 35 26.6	+1.0
PRN				IAmb	IAmb	04 35 27.3	
	comp=Z,6.2nm,0.9s						
TUC	Tucson	81.51	52	P	P	04 35 29.6	+1.0
TUC				IAmb	IAmb	04 35 30.8	
	comp=Z,6.7nm,1.1s						
U15A	North Rim	82.36	48	P	P	04 35 33.8	+0.8
U15A				IAmb	IAmb	04 35 34.8	
	comp=Z,7.4nm,0.8s						
WUAZ	Wupatki	82.58	49	IAmb	IAmb	04 35 35.6	
	comp=Z,7.9nm,1.3s						
PKCU	Pink Cliffs	82.84	47	IAmb	IAmb	04 35 37.7	
	comp=Z,5.5nm,1.0s						
IPM	Ipoh	82.87	277	P	P	04 35 36.0	+0.3
N25K	Chitina, Valde	83.82	15	P	P	04 35 38.6	-0.8
N25K				IAmb	IAmb	04 35 39.3	
	comp=Z,5.1nm,0.8s						
SEY	Seymchan	84.10	347	P	P	04 35 39.9	-0.8
	comp=Z,10nm,0.8s,baz=121,slow=5.2,SNR=26						
BJI	Beijing	84.25	315	P	P	04 35 42.3	+0.4
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RND	Reindeer	84.41	13	IAmb	IAmb	04 35 42.2	
	comp=Z,8.3nm,0.8s						
ENH	Enshi	84.76	304	IAmb	IAmb	04 35 45.9	
	comp=Z,20nm,0.9s						
WRH	Wood River Hil	85.51	13	IAmb	IAmb	04 35 47.1	
	comp=Z,4.2nm,0.9s						
CCB	Clear Creek Bu	85.72	13	P	P	04 35 46.5	-2.0
CCB				IAmb	IAmb	04 35 48.0	
	comp=Z,8.8nm,1.3s						
TX32	Lajitas Array	85.77	57	P	P	04 35 50.2	+0.6
TX32				IAmb	IAmb	04 35 51.8	
	comp=Z,8.4nm,0.8s						
TXAR	Lajitas Array	85.77	57	P	P	04 35 50.4	+0.8
	comp=Z,6.0nm,0.7s,baz=219,slow=6.1,SNR=96						
ANMO	Albuquerque	85.92	51	P	P	04 35 50.1	-0.3
ILAR	Eielson Array	86.03	13	P	P	04 35 48.6	-1.2
	comp=Z,1.3nm,0.5s,baz=228,slow=5.3,SNR=13						
REDW	Red Top Meadow	86.68	42	IAmb	IAmb	04 35 55.0	
	comp=Z,5.9nm,1.1s						
XAN	Xi'an	86.74	307	P	P	04 35 54.8	+0.7
XAN				pmax	pmax		
	comp=Z,20nm,1.5s						
PDAR	Pinedale Array	87.23	43	P	P	04 35 56.2	-0.2
	comp=Z,1.2nm,0.6s,baz=222,slow=3.5,SNR=16						
HHC	Hu-ho-hao-te	87.74	314	eP	P	04 35 59.9	+1.2
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,72nm,6.4s						
CMAR	Chiang Mai Arr	89.36	290	P	P	04 36 06.9	+0.3
	comp=Z,2.3nm,0.4s,baz=106,slow=2.7,SNR=13						
CHTO	Chiang Mai	89.48	290	P	P	04 36 07.3	+0.2
CHTO				IAmb	IAmb	04 36 08.2	
	comp=Z,6.3nm,0.8s						
ABTX	Abilene, Hawle	90.21	56	IAmb	IAmb	04 36 11.0	
	comp=Z,11nm,1.2s						
SNAA	Sanae	90.35	178	P	P	04 36 08.9	-1.3
VNA3	Neumayer Olymp	90.47	176	P	P	04 36 10.1	-0.6
PLCA	Paso Flores	90.86	134	P	P	04 36 13.1	-0.1
	comp=Z,2.0nm,0.7s,baz=242,slow=6.2,SNR=4.6						
VNA1	Neumayer--Stat	91.14	177	P	P	04 36 13.3	-0.4
LZH	Lanzhou	91.37	308	‖ P	P	04 36 15.9	+0.2
LZH				pP	pP	04 38 29.4	+5.7
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
SONM	Songino Array	94.01	319	P	P	04 36 26.6	-0.9
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=3.9						
KKAR	Karatay Array	117.80	310		PKPdf	04 41 50.6	-1.1
ARCES	ARCESS Array B	126.62	350	PKP	PKPdf	04 42 06.6	-1.3
	comp=Z,2.8nm,0.8s,baz=46,slow=2.6,SNR=4.1						
ARCES	ARCESS Array B	126.62	350		PKPdf	04 42 05.9	-2.0
FINES	FINESS Array B	133.53	344	PKP	PKPdf	04 42 19.5	-1.6
	comp=Z,0.8nm,0.6s,baz=66,slow=4.8,SNR=4.7						
AKASG	Malin Array Be	140.97	333	PKhKP	PKPpre	04 42 28.2	
	comp=Z,1.0nm,0.4s,baz=42,slow=4.3,SNR=14						
AKASG	Malin Array Be	140.97	333		PKPpre	04 42 28.3	
AKBB	Malin Array Si	140.97	333	PKPpre	PKPpre	04 42 28.0	
EKA	Eskdalemuir Ar	142.67	5	PKhKP	PKPpre	04 42 33.8	
	comp=Z,0.7nm,0.5s,baz=326,slow=2.6,SNR=8.4						
GAZ	Gazianteр	143.81	309		PKPbc	04 42 39.2	-0.8
BNN	Bunyan	144.13	312		PKPbc	04 42 40.0	-0.9
ILGA	Ilgaz	144.54	317		PKPdf	04 42 41.6	-0.5
OJC	Ojcow	144.98	340	PKPbc	PKPdf	04 42 42.4	+0.3
BURAR	Bucovina Array	145.02	332		PKPdf	04 42 42.8	+0.3
BR131	Keskin Array S	145.25	315		PKPdf	04 42 42.6	-0.6
BRTR	Keskin Array B	145.25	315	PKPbc	PKPdf	04 42 43.2	0.0
	comp=Z,7.5nm,0.9s,baz=127,slow=4.0,SNR=26						
BRTR	Keskin Array B	145.25	315		PKPdf	04 42 42.9	-0.3
OSTC	Ostas	145.74	344	ePKP	PKPbc	04 42 45.5	+0.3
ANTO	Ankara	145.75	316		PKPbc	04 42 45.1	-0.6
BR231	Keskin MP Arra	145.77	316		PKPdf	04 42 44.6	+0.6
CLL	Collm	145.79	348	‖ iPKPbc	PKPbc	04 42 44.5	-0.8
	comp=Z,16nm,0.8s						
CLL				i PKiKP	PKPab	04 42 46.0	-1.1
CLL	Collm	145.79	348		PKPdf	04 42 44.4	+0.9
DPC	Dobruska-Polom	145.90	344	ePKP	PKPbc	04 42 45.2	-0.5
BRG	Berggiesshubel	146.00	346	ePKP	PKPbc	04 42 45.2	-0.7
BRG				Amp		04 42 47.9	
	comp=Z,5.5nm,0.9s						
LANS	Liptovska Anna	146.01	339	ePKP	PKPbc	04 42 46.4	+0.3
MORC	Moravsky Berou	146.07	342		PKPdf	04 42 45.1	+1.0
MORC	Moravsky Berou	146.07	342	ePKP	PKPbc	04 42 45.3	-0.9
MLR	Muntele Rosu	146.25	329	PKPbc	PKPbc	04 42 45.9	-1.1
	comp=Z,6.0nm,1.0s,baz=117,slow=3.6,SNR=6.9						
MLR	Muntele Rosu	146.25	329		PKPbc	04 42 46.7	-0.3
MDUB	Mudurnu	146.47	318		PKPbc	04 42 46.6	-1.1
MMAI	Mount Meron Ar	146.63	303	PKPbc	PKPdf	04 42 46.9	+1.3
	comp=Z,4.0nm,0.5s,baz=48,slow=6.8,SNR=7.5						
PRU	Pruhonice	146.69	345	ePKP	PKPbc	04 42 47.1	-0.7
VRAC	Vranov	146.77	343	ePKP	PKPbc	04 42 47.6	-0.5
VRAC				e		04 42 51.0	
VYHS	Vyhne	146.79	339	ePKP	PKPbc	04 42 47.8	-0.4
VYHS				e		04 42 51.2	
JAVC	Velka Javorina	146.85	341	ePKP	PKPbc	04 42 48.8	+0.4
KRUC	Moravsky	147.04	343	ePKP	PKPbc	04 42 48.1	-0.7
KRUC				e		04 42 51.8	
KHC	Kasperske Hory	147.71	346	ePKP	PKPbc	04 42 50.2	-0.4
KHC				ex	x	04 42 54.6	
KHC	Kasperske Hory	147.71	346		PKPbc	04 42 50.0	-0.6
CKRC	Cesky Krumlov	147.82	345	ePKP	PKPbc	04 42 50.3	-0.5
GEC2	GERESS Array S	147.95	345	PKPbc	PKPbc	04 42 50.1	-1.1
GERES	GERESS Array B	147.95	345	PKPbc	PKPbc	04 42 50.4	-0.9
	comp=Z,3.5nm,0.8s,baz=29,slow=3.0,SNR=21						
CONA	Conrad Observa	148.22	342	eP	PKPdf	04 42 46.7	-1.0
	comp=Z,6.9nm,1.3s						
ARSA	Arzberg	148.93	342	eP	PKPdf	04 42 48.1	-0.7
	comp=Z,3.1nm,0.9s						
SOKA	Soboth	149.59	342	eP	PKPdf	04 42 50.0	0.0
	comp=Z,5.2nm,1.3s						
RETA	Reutte	149.88	348	eP	PKPdf	04 42 49.5	-0.9
	comp=Z,2.4nm,1.0s						
OBKA	Obir	149.89	343	eP	P

MJAR	**Matsushiro Arr**	**3.58 240**	Pn	**Pn**	**04 26 17.5 +0.5**
	0.5nm,0.3s,baz=57,slow=9.4,SNR=10				
MAT	**Matsushiro**	**3.58 240**	P	**Pn**	**04 26 18.6 +1.6**
MAT			*e*S	**Sn**	**04 26 57.6 -0.5**
KSRS	**Korea Array**	**11.20 269**	Pn	**Pn**	**04 28 04.3 +3.1**
	0.3nm,0.3s,baz=85,slow=15,SNR=2.3				
SONM	**Songino Array**	**27.46 302**	P	**P**	**04 31 04.6 -0.1**
	0.5nm,0.5s,baz=94,slow=8.8,SNR=3.1				
H11N2	**WAKE ISLAND Hy**	**28.46 124**	T	T	05 01 32.4
	baz=316,slow=75,SNR=100				
H11N1	**WAKE ISLAND Hy**	**28.47 124**	T	T	05 01 33.2
	baz=316,slow=75,SNR=150				
H11N3	**WAKE ISLAND Hy**	**28.48 124**	T	T	05 01 33.9
	baz=316,slow=75,SNR=121				
H11S1	**WAKE ISLAND Hy**	**29.23 126**	T	T	05 02 29.2
	baz=318,slow=76,SNR=45				
H11S3	**WAKE ISLAND Hy**	**29.23 126**	T	T	05 02 27.0
	baz=318,slow=76,SNR=74				
H11S2	**WAKE ISLAND Hy**	**29.24 126**	T	T	05 02 32.1
	baz=318,slow=76,SNR=55				
ZALV	**Zalesovo Beam**	**41.37 311**	P	**P**	**04 33 03.5 -0.7**
	1.0nm,0.4s,baz=78,slow=9.1,SNR=2.7				
MKAR	**Makanchi Array**	**43.82 301**	P	**P**	**04 33 23.6 -0.7**
	0.7nm,0.7s,baz=84,slow=8.9,SNR=7.3				

WEL 20 04:27:35.4±1.0,37°S±15′×17°7E±1°6,h228km±14km, M2.8/12,MLv2.8/12,Error ellipse: s-maj=0.0km s-min=0.0km az=133.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.07**	**127**	P	Pn	04 28 08.3	0.0
HAZ				S	S	04 28 34.1	0.0
RUGZ	**Raukumara Rang**	**1.15**	**138**	P	Pn	04 28 08.6	-0.5
RUGZ				S	S	04 28 35.0	-0.4
URZ	**Urewera**	**1.18**	**164**	S	S	04 28 36.3	+0.6
PKGZ	**Pakihiroa**	**1.33**	**126**	P	Pn	04 28 10.5	+0.2
PKGZ				S	S	04 28 38.8	+1.2
MXZ	**Matakaoa Point**	**1.35**	**110**	P	Pn	04 28 10.1	-0.2
MXZ				S	S	04 28 39.3	+1.7
MUGZ	**Murupara**	**1.36**	**178**	P	Pn	04 28 10.9	+0.5
MUGZ				S	S	04 28 38.3	+0.4
MWZ	**Matawai**	**1.38**	**152**	P	Pn	04 28 10.7	+0.1
MWZ				S	S	04 28 38.6	+0.3
TWGZ	**Tauwhareparae**	**1.46**	**137**	P	Pn	04 28 11.6	+0.4
TWGZ				S	S	04 28 39.9	+0.6
RAGZ	**Rawiri**	**1.49**	**158**	P	Pn	04 28 11.8	+0.3
RTZ	**Ruatahuna**	**1.51**	**172**	P	Pn	04 28 11.8	+0.1
RTZ				S	S	04 28 40.9	+0.7
WMGZ	**Waiomatatini S**	**1.53**	**118**	P	Pn	04 28 11.6	-0.2
WMGZ				S	S	04 28 40.5	+0.4
PUZ	**Puketiti**	**1.56**	**128**	P	Pn	04 28 11.7	-0.3
PUZ				S	S	04 28 41.3	+0.6
MTHZ	**Maungataniwha**	**1.74**	**177**	P	Pn	04 28 13.5	0.0
RIGZ	**Rimuhau**	**1.79**	**153**	P	Pn	04 28 14.0	0.0
RIGZ				S	S	04 28 45.5	+1.1
RAHZ	**Arahi**	**1.82**	**171**	P	Pn	04 28 14.6	+0.3
RAHZ				S	S	04 28 45.0	+0.2
NMHZ	**Naumai**	**1.98**	**178**	P	Pn	04 28 16.4	+0.6
BKZ	**Black Stump Fm**	**2.05**	**185**	P	Pn	04 28 16.0	-0.5
BKZ				S	S	04 28 48.9	+0.1
KAHZ	**Kahuranaki**	**2.68**	**177**	P	Pn	04 28 22.2	-0.7
KAHZ				S	S	04 29 00.4	+0.1

IDC 20 04:37:39.7±19.0,23°26S×68°60E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.5/53,mbtmp3.8/5,Error ellipse: s-maj=643.9km s-min=33.1km az=51.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**15.97**	**14**	T	T	04 57 00.3	
	baz=192,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**15.97**	**14**	T	T	04 57 00.4	
	baz=192,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**15.99**	**14**	T	T	04 57 01.7	
	baz=192,slow=76,SNR=18						
ASAR	**Alice Springs**	**59.40**	**105**	P	P	04 47 45.4	+1.0
	0.9nm,0.9s,baz=262,slow=5.5,SNR=4.7						
WRA	**Warramunga Arr**	**60.75**	**101**	P	P	04 47 52.7	-1.0
	0.9nm,0.9s,baz=253,slow=6.9,SNR=5.2						
MKAR	**Makanchi Array**	**70.82**	**10**	P	P	04 48 58.1	+0.1
	0.8nm,0.8s,baz=206,slow=4.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**74.08**	**7**	P	P	04 49 17.7	+0.4
	0.4nm,0.4s,baz=201,slow=7.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**78.16**	**10**	P	P	04 49 40.0	-0.4
	0.7nm,0.3s,baz=197,slow=3.9,SNR=3.6						

*IDC **20** 05:02:43.4±1.4,3°.90N×125°.88E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.5/58,mbtmp4.0/4,ML4.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.2/48,Error ellipse: s-maj=117.4km s-min=22.6km az=72.0*
*NEIC **20** 05:02:52.0±2.4,4°.58N±0°.04×125°.9E±0°.1,h110km±10km, mb4.5/15,Error ellipse: s-maj=14.9km s-min=5.9km az=101.0*
*MAN **20** 05:02:52.6,4°.71N×125°.60E,h137km,mb5.0,ML3.9, MS3.9*

ISC 20 05:02:53.8±0.7,4°.62N±0°.05×125°.8E±0°.1,h150km,n27, σ1§93/26,mb4.4/9,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.45**	**354**	Pn	**Pn**	**05 03 32.8**	**-1.6**
	46nm,0.3s,baz=312,slow=6.9,SNR=1.3						
DAV				Sn	**Sn**	**05 04 05.0**	**-0.6**
	48nm,0.3s,baz=304,slow=22,SNR=1.7						
DAV	**Davao City (W)**	**2.45**	**354**		**Pn**	**05 03 31.4**	**-3.0**
KCP	**Kidapawan**	**2.48**	**343**	⇑*i*P	**Pn**	**05 03 32.2**	**-2.7**
KCP				*i*S	**Sn**	**05 04 05.8**	**-0.7**
BUKP	**Musuan**	**3.33**	**347**	⇓*i*P	**Pn**	**05 03 42.0**	**-3.4**
TNTI	**Ternate**	**4.12**	**158**	Pn	**Pn**	**05 03 51.7**	**-4.0**
TOLI2	**Tolitoli**	**6.13**	**236**	Pn	**Pn**	**05 04 20.1**	**-2.3**
SOEI	**Soe**	**14.37**	**186**		**P**	**05 06 14.5**	**+1.2**
JAGI	**Jajag, Banyuwa**	**17.46**	**222**		**Pn**	**05 06 48.6**	**+0.2**
MTN	**Manton Dam**	**18.13**	**163**	Pn	**Pn**	**05 06 57.6**	**+1.3**
MTN				IAmb	IAmb	05 07 26.5	
	comp=Z,36nm,1.4s						
UGM	**Wanagama**	**19.71**	**231**	P	**P**	**05 07 11.3**	**-0.5**
NACB	**Ninganchiao**	**19.86**	**349**	P	**P**	**05 07 13.5**	**+0.1**
NACB				IAmb	IAmb	05 07 25.2	
	comp=Z,22nm,0.9s						
KNRA	**Kununurra**	**20.38**	**172**	P	**P**	**05 07 18.8**	**-0.2**
KNRA				IAmb	IAmb	05 07 22.0	
	comp=Z,32nm,0.6s						
WB0	**Warramunga Arr**	**25.66**	**161**	P	**P**	**05 08 10.1**	**+0.2**
WB0				IAmb	IAmb	05 08 36.8	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**25.80**	**161**	P	**P**	**05 08 09.6**	**-1.5**
WRAB				IAmb	IAmb	05 08 31.9	
	comp=Z,4.9nm,0.7s						
WRA	**Warramunga Arr**	**25.80**	**161**	P	**P**	**05 08 08.5**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=336,slow=10,SNR=37						
WRA	**Warramunga Arr**	**25.80**	**161**	IAmb	IAmb	05 08 11.0	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**25.81**	**161**	P	**P**	**05 08 08.7**	**-2.5**
WB2				IAmb	IAmb	05 08 25.0	
	comp=Z,18nm,1.4s						
WR0	**Warramunga Arr**	**25.88**	**161**	P	**P**	**05 08 12.4**	**+0.5**
WR0				IAmb	IAmb	05 08 32.7	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**26.69**	**192**	P	**P**	**05 08 18.1**	**-1.0**
PSA00				IAmb	IAmb	05 08 27.1	
	comp=Z,26nm,1.2s						
AS31	**Alice Springs**	**29.20**	**165**	P	**P**	**05 08 42.2**	**+0.7**
ASAR	**Alice Springs**	**29.20**	**165**	P	**P**	**05 08 42.0**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=343,slow=6.9,SNR=30						
BBOO	**Buckleboo**	**38.47**	**166**	P	**P**	**05 10 02.5**	**+1.2**
STKA	**Stephens Creek**	**39.28**	**159**	P	**P**	**05 10 08.0**	**-0.1**
PETK	**Petropavlovsk-**	**54.95**	**23**	LR	LR	05 35 29.6	
	comp=Z,30nm,20.8s,baz=108,slow=35						
MKAR	**Makanchi Array**	**56.32**	**325**	P	P	05 12 31.5	+12
	comp=Z,0.2nm,0.4s,baz=135,slow=6.9,SNR=2.1						
MKAR	**Makanchi Array**	**56.32**	**325**	P	**P**	**05 12 19.8**	**+0.7**
TOLK	**Toolik Lake Re**	**83.75**	**22**	P	**P**	**05 15 09.0**	**+3.1**
TOLK				IAmb	IAmb	05 15 19.2	
	comp=Z,6.4nm,0.8s						

*IDC **20** 05:12:53.8±0.8,24°.13N×122°.65E,h0km,mb3.9/13, mb1 4.0/13,mb1mx3.8/56,mbtmp3.9/13,MS3.2/9,*
Ms1 3.2/9,ms1mx3.0/52,Error ellipse: s-maj=36.7km s-min=17.1km az=72.0
*NEIC **20** 05:12:57.9±2.4,23°.96N±0°.04×122°.75E±0°.05,h25km±1km, mb4.2/16,Error ellipse: s-maj=7.5km s-min=4.9km az=131.0*
*JMA **20** 05:12:58.7±0.2,23°.99N×122°.64E,h29km±4km,M4.2*
*TAP **20** 05:12:58.6,23°.98N×122°.70E,h38km,ML4.4,D*

ISC 20 05:12:58.3±1.0,23°.94N±0°.02×122°.67E±0°.02,h30km±7km, n195,σ1§26/309,mb4.0/21,MS3.2/7,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.57**	**26**	P	**Pb**	**05 13 09.4**	**-0.4**
JYNG				S	**Sb**	**05 13 16.6**	**-1.1**
YOJ	**Yonaguni jima**	**0.60**	**31**	P	**Pb**	**05 13 10.1**	**-0.3**
YOJ				S	**Sb**	**05 13 17.7**	**-1.0**
YOJ	**Yonaguni jima**	**0.60**	**31**	⇓P	**Pb**	**05 13 10.2**	**-0.3**
	baz=29						
YOJ				S	**Sb**	**05 13 17.9**	**-0.8**
	baz=29						
YOJ	**Yonaguni jima**	**0.60**	**31**		**Pb**	**05 13 09.8**	**-0.7**
YOJ					**Sb**	**05 13 17.9**	**-0.8**
EWUT	**Wuta**	**0.96**	**302**	*i*P	**Pn**	**05 13 16.3**	**+0.7**
	baz=300						
EWUT				*i*S	**Sb**	**05 13 29.7**	**+1.0**
	baz=300						
ETL	**Fush Village**	**0.98**	**283**	P	**Pn**	**05 13 17.0**	**+0.9**
	baz=268						
ETL				S	**Sb**	**05 13 30.3**	**+0.8**
	baz=268						
TEYL	**Yanliau Villag**	**0.99**	**266**	P	**Pn**	**05 13 16.5**	**+0.5**
	baz=257						
TEYL				S	**Sn**	**05 13 29.1**	**+0.2**
	baz=257						
TWD	**Chiawan**	**0.99**	**278**	*i*P	**Pn**	**05 13 15.5**	**-0.6**
	baz=277						
TWD				*i*S	**Sn**	**05 13 29.1**	**-0.1**
	baz=277						
TWC	**Suao**	**1.00**	**312**	⇓*i*P	**Pn**	**05 13 16.6**	**+0.3**
	baz=310						
TWC				*i*S	**Sn**	**05 13 29.8**	**+0.4**
	baz=310						
NACB	**Ninganchiao**	**1.01**	**283**	P	**Pn**	**05 13 16.4**	**0.0**
	baz=270						
NACB				*e*S	**Sn**	**05 13 30.1**	**+0.4**
	baz=270						
NACB	**Ninganchiao**	**1.01**	**283**		**Pn**	**05 13 16.4**	**0.0**
NACB				Sn	**Sn**	**05 13 29.9**	**+0.3**
HATJ	**Hateruma jima**	**1.04**	**83**	P	**Pb**	**05 13 17.9**	**+0.2**
HATJ				S	**Sb**	**05 13 31.9**	**+0.8**
IRIF	**Iriomote-Funau**	**1.04**	**68**	P	**Pb**	**05 13 17.5**	**-0.2**
IRIF				S	**Sb**	**05 13 32.6**	**+1.5**
TEGC	**Jichi Village**	**1.06**	**258**	P	**Pn**	**05 13 17.4**	**+0.3**
	baz=256						
TEGC				S	**Sb**	**05 13 32.6**	**+0.9**
	baz=256						
ETM	**Tongmen**	**1.08**	**272**	P	**Pn**	**05 13 17.4**	**0.0**
	baz=262						
ETM				*e*S	**Sn**	**05 13 31.1**	**-0.2**
	baz=262						
NDS	**Dongshan**	**1.11**	**308**	*i*P	**Pb**	**05 13 19.2**	**+0.3**
	baz=307						
NDS				*e*S	**Sn**	**05 13 33.0**	**+0.9**
	baz=307						
ETLH	**Xiulin Townshi**	**1.12**	**284**	P	**Pn**	**05 13 18.5**	**+0.5**
	baz=272						
ETLH				*e*S	**Sb**	**05 13 34.1**	**+0.7**
	baz=272						
ESL	**Shilin**	**1.14**	**264**	*i*P	**Pn**	**05 13 18.0**	**-0.2**
	baz=262						
ESL				*i*S	**Sn**	**05 13 32.8**	**-0.1**
	baz=262						
EGFH	**Guangfu**	**1.17**	**257**	*e*P	**Pn**	**05 13 19.1**	**+0.5**
	baz=245						
EGFH				S	**Sn**	**05 13 34.8**	**+1.2**
	baz=245						
NTC	**Toucheng**	**1.19**	**320**	*e*P	**Pn**	**05 13 19.5**	**+0.7**
	baz=331						
NTC				*e*S	**Sb**	**05 13 35.5**	**+0.1**
	baz=331						
TWE	**Neicheng**	**1.20**	**310**	*i*P	**Pn**	**05 13 19.8**	**+0.8**
	baz=309						
TWE				S	**Sb**	**05 13 36.4**	**+0.8**
	baz=309						
ENTT	**Nioudou**	**1.23**	**305**	*i*P	**Pn**	**05 13 20.3**	**+1.0**
	baz=291						
ENTT				S	**Sb**	**05 13 36.3**	**-0.1**
	baz=291						
HGSD	**Ruisui**	**1.23**	**249**	P	**Pn**	**05 13 19.5**	**+0.1**
	baz=248						
HGSD				S	**Sn**	**05 13 35.0**	**0.0**
	baz=248						
TWB1	**Santiao Chiao**	**1.23**	**330**	*i*P	**Pn**	**05 13 19.7**	**+0.3**
	baz=329						
TWB1				S	**Sn**	**05 13 35.5**	**+0.5**
	baz=329						
NDT	**Datong Townshi**	**1.25**	**302**	P	**Pn**	**05 13 20.5**	**+0.9**
	baz=290						
NDT				S	**Sb**	**05 13 37.0**	**0.0**
	baz=290						
JKRS	**Kuro-shima**	**1.26**	**76**	P	**Pb**	**05 13 21.1**	**-0.3**
JKRS				S	**Sb**	**05 13 38.4**	**+1.2**
NNSB	**Datong**	**1.27**	**293**	P	**Pn**	**05 13 20.8**	**+0.6**
	baz=291						
NNSB				S	**Sn**	**05 13 37.1**	**+0.9**
	baz=291						
NNSH	**Datong**	**1.27**	**293**	*i*P	**Pn**	**05 13 20.9**	**+0.7**
	baz=291						
NNSH				S	**Sn**	**05 13 37.0**	**+0.7**
	baz=291						
TIPB	**Shuangxi**	**1.28**	**323**	*i*P	**Pn**	**05 13 20.9**	**+0.8**
	baz=334						
TIPB				S	**Sn**	**05 13 36.5**	**+0.1**
	baz=334						
NNS	**Nan Shan**	**1.29**	**293**	*i*P	**Pn**	**05 13 21.1**	**+0.8**
	baz=292						
NNS				S	**Sn**	**05 13 36.8**	**+0.2**
	baz=292						
WHF	**Hehuan Shan**	**1.30**	**279**	*i*P	**Pn**	**05 13 21.2**	**+0.4**
	baz=278						
WHF				*i*S	**Sn**	**05 13 37.3**	**-0.1**
	baz=278						
EHY	**Hungye**	**1.31**	**251**	*i*P	**Pn**	**05 13 20.9**	**+0.3**
	baz=250						
EHY				*i*S	**Sn**	**05 13 37.7**	**+0.7**
	baz=250						
FUSS	**Fushou**	**1.34**	**283**	P	**Pn**	**05 13 21.8**	**+0.6**
	baz=282						
FUSS				S	**Sn**	**05 13 39.4**	**+1.3**
	baz=282						
NWLT	**Wulai**	**1.35**	**308**	*e*P	**Pn**	**05 13 22.1**	**+1.0**
	baz=307						
NWLT				*e*S	**Sb**	**05 13 39.7**	**-0.3**
	baz=307						
OWD	**Renai**	**1.37**	**271**	*e*P	**Pn**	**05 13 22.0**	**+0.6**
	baz=270						
OWD				*e*S	**Sn**	**05 13 39.0**	**+0.3**
	baz=270						
YULB	**Yu-li**	**1.37**	**247**	P	**Pn**	**05 13 22.0**	**+0.6**
	baz=236						
YULB				S	**Sn**	**05 13 39.5**	**+1.0**
	baz=236						
YULB	**Yu-li**	**1.37**	**247**		**Pn**	**05 13 22.0**	**+0.6**
YULB				Sn	**Sn**	**05 13 39.7**	**+1.1**
EYUL	**Yuli**	**1.38**	**245**	P	**Pn**	**05 13 21.8**	**+0.4**
	baz=234						
EYUL				*e*S	**Sn**	**05 13 39.3**	**+0.8**
	baz=234						
CHGB	**Renai**	**1.38**	**275**	P	**Pn**	**05 13 22.3**	**+0.7**
	baz=274						
CHGB				S	**Sn**	**05 13 39.4**	**+0.5**
	baz=274						
NWF	**Wu-fen Shan**	**1.39**	**324**	*i*P	**Pn**	**05 13 22.2**	**+0.5**
	baz=324						
NWF				S	**Sn**	**05 13 40.2**	**+1.2**
	baz=324						
YHNB	**Yeheng**	**1.39**	**302**	⇑P	**Pn**	**05 13 22.6**	**+1.0**
	baz=301						
YHNB				S	**Sn**	**05 13 40.4**	**+1.3**
	baz=301						
YHNB	**Yeheng**	**1.39**	**302**		**Pn**	**05 13 22.7**	**+1.0**
YHNB				Sn	**Sb**	**05 13 43.8**	**+2.7**
TWF1	**Yuli**	**1.39**	**245**	P	**Pn**	**05 13 22.0**	**+0.4**
	baz=235						
TWF1				S	**Sn**	**05 13 39.6**	**+0.7**
	baz=235						
NSK	**Sanguang**	**1.41**	**302**	*i*P	**Pn**	**05 13 22.6**	**+0.8**
	baz=301						
NSK				S	**Sn**	**05 13 41.0**	**+1.6**
	baz=301						
JIJ	**Ishigaki jima**	**1.41**	**72**	P	**Pn**	**05 13 22.8**	**+1.0**
JIJ				S	**Sb**	**05 13 40.8**	**-0.7**
TWA	**Mucha**	**1.43**	**316**	*i*P	**Pn**	**05 13 23.4**	**+1.2**
	baz=316						
TWA				*i*S	**Sb**	**05 13 41.7**	**-0.6**
	baz=316						
TNOU	**National Taiwa**	**1.46**	**326**	P	**Pn**	**05 13 22.8**	**+0.3**
	baz=325						
TNOU				S	**Sn**	**05 13 41.2**	**+0.6**
	baz=325						
NHDH	**Xindian Distri**	**1.46**	**314**	*e*P	**Pn**	**05 13 23.7**	**+1.1**
	baz=328						
NHDH				*e*S	**Sb**	**05 13 42.3**	**-0.7**
	baz=328						
CHKT	**Chengkung**	**1.46**	**235**	P	**Pn**	**05 13 22.6**	**0.0**
	baz=225						
CHKT				S	**Sn**	**05 13 39.9**	**-0.8**
	baz=225						
FULB	**Fuli**	**1.47**	**240**	P	**Pn**	**05 13 22.8**	**+0.2**
	baz=230						
FULB				*e*S	**Sn**	**05 13 40.2**	**-0.7**
	baz=230						
NHY	**Taipei**	**1.49**	**318**	*e*P	**Pn**	**05 13 23.2**	**+0.3**
	baz=331						
NHY				*e*S	**Sn**	**05 13 42.1**	**+0.9**
	baz=331						
TATO	**Taipei**	**1.49**	**314**	P	**Pn**	**05 13 24.3**	**+1.3**
	baz=327						
TATO				S	**Sn**	**05 13 42.8**	**+1.3**
	baz=327						
TATO	**Taipei**	**1.49**	**314**		**Pn**	**05 13 24.2**	**+1.2**
TATO				Sn	**Sb**	**05 13 43.8**	**-0.1**
TAP1	**Taipei**	**1.51**	**316**	*e*P	**Pn**	**05 13 24.4**	**+1.1**
	baz=330						
TAP1				*e*S	**Sn**	**05 13 43.1**	**+1.1**
	baz=330						
TAP	**Taipei**	**1.52**	**316**	P	**Pn**	**05 13 25.1**	**+1.6**
	baz=330						
TAP				S	**Sn**	**05 13 43.4**	**+1.1**
	baz=330						
YM01	**YM01**	**1.56**	**320**	P	**Pn**	**05 13 24.7**	**+0.7**
	baz=319						
ECS	**Chishang**	**1.58**	**238**	P	**Pn**	**05 13 24.7**	**+0.5**
	baz=228						
ECS				S	**Sn**	**05 13 44.2**	**+0.7**
	baz=228						
SSLB	**Suanglung**	**1.58**	**265**	P	**Pn**	**05 13 25.6**	**+1.4**
	baz=264						
SSLB				S	**Sn**	**05 13 44.0**	**+0.3**
	baz=264						
SSLB	**Suanglung**	**1.58**	**265**		**Pn**	**05 13 25.0**	**+0.7**
SSLB				Sn	**Sn**	**05 13 44.8**	**+1.0**
EDH	**Donghe**	**1.58**	**233**	*e*P	**Pn**	**05 13 24.2**	**-0.1**
	baz=224						
EDH				S	**Sn**	**05 13 42.8**	**-0.9**
	baz=224						
YM08	**YM08**	**1.59**	**322**	P	**Pn**	**05 13 24.2**	**-0.1**
	baz=322						
YM08				*e*S	**Sn**	**05 13 44.8**	**+1.0**
	baz=322						
DPDB	**Guoxing**	**1.60**	**274**	*e*P	**Pn**	**05 13 25.6**	**+1.0**
	baz=273						
DPDB				*e*S	**Sn**	**05 13 44.8**	**+0.6**
	baz=273						
WHP	**Taichung City**	**1.61**	**282**	P	**Pn**	**05 13 26.4**	**+1.6**
	baz=282						
WHP				S	**Sb**	**05 13 47.0**	**-0.5**
	baz=282						
WCS	**Beigang Elemen**	**1.61**	**274**	*e*P	**Pn**	**05 13 26.4**	**+1.7**
	baz=274						
WCS				S	**Sn**	**05 13 45.1**	**+0.6**
	baz=274						
SMLT	**Sun Moon Lake**	**1.62**	**268**	*i*P	**Pn**	**05 13 26.0**	**+1.1**
	baz=267						
SMLT				S	**Sn**	**05 13 45.4**	**+0.6**
	baz=267						
ANP	**Anpu**	**1.62**	**320**	*e*P	**Pn**	**05 13 25.8**	**+0.9**
	baz=319						
TWS1	**Kuangyinshan**	**1.62**	**316**	P	**Pn**	**05 13 25.6**	**+0.7**
	baz=315						
JISG	**Ishigakijimahi**	**1.63**	**66**	P	**Pn**	**05 13 25.7**	**+0.9**
JISG				*e*S	**Sn**	**05 13 45.8**	**+1.0**
NJD	**Zhudong**	**1.65**	**299**	*e*P	**Pb**	**05 13 27.4**	**-0.6**
	baz=298						
NJD				*e*S	**Sn**	**05 13 47.5**	**+2.2**
	baz=298						
TWY	**Chenhua**	**1.65**	**324**	P	**Pn**	**05 13 26.4**	**+1.2**
	baz=324						
TWY				*e*S	**Sn**	**05 13 46.0**	**+0.7**
	baz=324						
TYC	**Yuchr**	**1.66**	**269**	P	**Pn**	**05 13 26.7**	**+1.4**
	baz=268						
TYC				S	**Sn**	**05 13 45.4**	**-0.2**
	baz=268						
LIOB	**Emei**	**1.67**	**295**	P	**Pn**	**05 13 27.4**	**+2.0**
	baz=295						
LIOB				*e*S	**Sn**	**05 13 47.1**	**+1.3**
	baz=295						
NSTT	**Nanjuang**	**1.67**	**295**	P	**Pn**	**05 13 27.4**	**+2.0**
	baz=294						
NSTT				S	**Sn**	**05 13 48.1**	**+2.2**
	baz=294						
LDUT	**Ludao**	**1.68**	**221**	*i*P	**Pn**	**05 13 25.6**	**0.0**
	baz=221						
LDUT				*i*S	**Sn**	**05 13 44.8**	**-1.2**
	baz=221						
WHYT	**Xinyi Township**	**1.68**	**262**	*e*P	**Pn**	**05 13 27.2**	**+1.5**
	baz=252						
WHYT				S	**Sn**	**05 13 47.7**	**+1.5**
	baz=252						
ELDTW	**Lidau**	**1.69**	**244**	P	**Pn**	**05 13 25.0**	**-0.9**
	baz=243						
ELDTW				*e*S	**Sn**	**05 13 46.9**	**+0.2**
	baz=243						
NCU	**National Centr**	**1.70**	**307**	*e*P	**Pn**	**05 13 27.3**	**+1.5**
	baz=308						
NCU				*e*S	**Sn**	**05 13 48.6**	**+2.1**
	baz=308						
NCUH	**Zhongli**	**1.70**	**307**	*e*P	**Pn**	**05 13 27.1**	**+1.2**
	baz=307						
HSN1	**Hsinchu**	**1.72**	**299**	*e*P	**Pn**	**05 13 27.5**	**+1.3**
	baz=298						
LONT	**Longtian**	**1.75**	**234**	P	**Pn**	**05 13 27.2**	**+0.6**
	baz=226						
LONT				S	**Sn**	**05 13 47.5**	**-0.4**
	baz=226						
ALS	**Alishan**	**1.77**	**256**	P	**Pn**	**05 13 28.5**	**+1.5**
	baz=255						
ALS				S	**Sn**	**05 13 49.7**	**+1.1**
	baz=255						
PCYT	**Pengchaiyu**	**1.77**	**342**	P	**Pn**	**05 13 27.2**	**+0.4**
	baz=343						
PCYT				S	**Sn**	**05 13 48.3**	**0.0**
	baz=343						
TWQ1	**Liyutan**	**1.78**	**284**	P	**Pb**	**05 13 29.3**	**-1.0**
	baz=283						
TWQ1				*e*S	**Sb**	**05 13 51.4**	**-0.9**
	baz=283						
WJS	**Zhushan**	**1.78**	**267**	*e*P	**Pb**	**05 13 29.6**	**-0.7**
	baz=266						
WJS				S	**Sb**	**05 13 52.5**	**+0.1**
	baz=266						
NSY	**Sanyi**	**1.81**	**286**	P	**Pb**	**05 13 29.9**	**-0.9**
	baz=285						
NSY				S	**Sn**	**05 13 51.6**	**+2.2**
	baz=285						
WWF	**Wufeng**	**1.81**	**274**	P

TTN S **Sn** **05 13 49.5 -0.4**
baz=221
TCU Taichung 1.84 277 *e*S **Sb** **05 13 53.7 -0.1**
baz=276
TWGBT Beinan 1.84 233 P **Pn** **05 13 28.3 +0.4**
baz=225
TWGBT S **Sn** **05 13 50.5 +0.4**
baz=225
TWG Pinlang 1.85 233 P **Pn** **05 13 28.0 +0.1**
baz=225
TWG S **Sn** **05 13 50.2 0.0**
baz=225
TWG Pinlang 1.85 233 **Pn** **05 13 28.5 +0.6**
TWG Sn **Sn** **05 13 50.7 +0.5**
WDJ Dajia District 1.90 283 *e*P **Pn** **05 13 30.9 +2.3**
baz=282
WDJ *e*S **Sn** **05 13 53.5 +2.0**
baz=282
STYH Taoyuan 1.90 247 *e*P **Pn** **05 13 30.0 +1.4**
baz=239
STYH *e*S **Sn** **05 13 52.2 +0.6**
baz=239
WYL Yuanlin Townsh 1.92 271 *e*P **Pb** **05 13 31.8 -0.8**
baz=270
WYL S **Sb** **05 13 56.4 +0.4**
baz=270
STYT Tauyuan 1.92 247 P **Pn** **05 13 31.0 +2.0**
baz=239
STYT S **Sn** **05 13 53.7 +1.6**
baz=239
WCHH Zhanghua 1.94 275 P **Pb** **05 13 31.8 -1.2**
baz=287
WCHH S **Sb** **05 13 56.0 -0.7**
baz=287
WGK Gukeng 1.95 263 P **Pb** **05 13 32.5 -0.7**
baz=262
WGK *e*S **Sb** **05 13 55.8 -1.2**
baz=262
WDLH Douliu 1.97 263 *e*P **Pn** **05 13 32.1 +2.5**
baz=262
WDLH *e*S **Sb** **05 13 57.8 +0.1**
baz=262
JTJ Tarama 1.98 69 P **Pn** **05 13 31.0 +1.3**
JTJ S **Sn** **05 13 55.2 +1.8**
TPUB Ta-pu 1.98 252 P **Pn** **05 13 32.4 +2.7**
baz=243
TPUB *e*S **Sn** **05 13 55.4 +1.8**
baz=243
TPUB Ta-pu 1.98 252 **Pn** **05 13 32.4 +2.7**
CHN4 Tsaushan 2.00 253 P **Pb** **05 13 33.1 -0.8**
baz=244
CHN4 *e*S **Sb** **05 13 57.4 -1.0**
baz=244
WTP Ta-pu 2.01 250 *e*P **Pb** **05 13 33.2 -1.0**
baz=242
WTP *e*S **Sn** **05 13 56.5 +2.2**
baz=242
ECL Taimali 2.07 230 *e*P **Pn** **05 13 31.2 +0.3**
baz=240
ECL S **Sn** **05 13 55.4 -0.4**
baz=240
SLGT Liugui 2.09 244 P **Pn** **05 13 33.1 +1.9**
baz=235
SLGT *e*S **Sn** **05 13 58.2 +2.1**
baz=235
SGST Jiashian 2.10 246 *i* P **Pn** **05 13 34.0 +2.6**
baz=237
SGST *e*S **Sn** **05 13 59.7 +3.2**
baz=237
WRL Guolierlin Hig 2.10 269 *e*P **Pn** **05 13 34.0 +2.6**
baz=282
WRL *e*S **Sb** **05 14 01.1 -0.3**
baz=282
CHN1 Nanshi 2.11 250 P **Pb** **05 13 34.8 -1.1**
baz=241
CHN1 S **Sn** **05 13 59.9 +3.2**
baz=241
WTK Tuku 2.11 264 *e*P **Pb** **05 13 34.8 -1.0**
baz=263
WTK *e*S **Sb** **05 14 00.8 -0.8**
baz=263
CHY Chiayi 2.11 258 *e*P **Pn** **05 13 34.2 +2.8**
baz=257
CHY S **Sb** **05 14 01.1 -0.5**
baz=257
TWK Hsinying 2.11 252 *e*P **Pn** **05 13 34.2 +2.6**
baz=251
TWK *e*S **Sb** **05 14 00.4 -1.4**
baz=251
LAY Lan-yu 2.16 209 *e*P **Pn** **05 13 31.5 -0.7**
baz=208
TSMG Majia 2.23 237 P **Pn** **05 13 35.6 +2.4**
baz=231
SCST Cishan 2.26 243 *e*P **Pn** **05 13 36.7 +3.1**
baz=232
SCST *e*S **Sb** **05 14 06.2 +0.2**
baz=232
WSF Szhu 2.27 263 *e*P **Pn** **05 13 35.1 +1.5**
baz=262
WSF *e*S **Sn** **05 14 03.6 +3.1**
baz=262
ICHU Yijhu 2.27 256 P **Pn** **05 13 36.4 +2.7**
baz=255
ICHU S **Sn** **05 14 03.8 +3.1**
baz=255
TAW Tawu 2.27 226 *e*P **Pn** **05 13 35.0 +1.3**
baz=234
TAW *e*S **Sn** **05 13 59.7 -1.0**
baz=234
EAST Anshuo 2.29 228 *e*P **Pn** **05 13 34.2 +0.3**
baz=234
EAST *e*S **Sn** **05 14 00.8 -0.3**
baz=234
CHN3 Shinhua 2.29 248 *e*P **Pn** **05 13 36.4 +2.5**
baz=247
CHN3 S **Sb** **05 14 07.3 +0.6**
baz=247
MASBT Mashibuluo 2.29 235 *e*P **Pn** **05 13 35.6 +1.5**
baz=229
MASBT *e*S **Sn** **05 14 01.6 +0.3**
baz=229
CHN8 Yiju 2.33 256 *e*P **Pn** **05 13 36.4 +1.8**
baz=255
CHN8 S **Sn** **05 14 05.9 +3.7**
baz=255
TWM1 Shoushan 2.35 242 *e*P **Pn** **05 13 36.4 +1.6**
baz=241
SCLT Jiali 2.40 252 *e*P **Pn** **05 13 37.2 +1.7**
baz=251
SSPT Xinbi 2.42 234 *e*P **Pn** **05 13 37.2 +1.5**
baz=228
SLIU Shizi 2.43 226 *e*P **Pn** **05 13 36.4 +0.4**
baz=225
SCZT Fangliau 2.45 231 *e*P **Pn** **05 13 38.3 +2.1**
baz=224
SCZT *e*S **Sn** **05 14 06.8 +1.6**
baz=224
SNJT Kaohsiung City 2.45 242 *e*P **Pn** **05 13 38.3 +2.1**
baz=241
JMJ Miyako jima 2 2.54 69 *e*P **Pn** **05 13 37.8 +0.3**
baz=70
JMJ *e*S **Sn** **05 14 08.1 +0.7**
baz=70
HEN Hengchun 2.62 223 *e*P **Pn** **05 13 41.0 +2.4**
baz=222
TWKBT Hengchun 2.63 221 *e*P **Pn** **05 13 41.3 +2.6**
baz=220
TWK1 Hengchun 2.63 221 *e*P **Pn** **05 13 40.2 +1.5**
baz=220
WDGT Dungji 2.85 257 *e*P **Pn** **05 13 43.7 +2.1**
baz=256
PHUB P'eng-hu 2.87 262 *e*P **Pn** **05 13 44.0 +2.0**
baz=276
PHUB *e*S **Sn** **05 14 17.0 +1.5**
baz=276
PNG Penghu 2.88 263 *e*P **Pn** **05 13 43.4 +1.3**
baz=277
VWUC VWUC 3.12 290 *e*P **Pn** **05 13 45.1 -0.3**
baz=290
VWUC *e*S **Sn** **05 14 18.9 -2.6**
baz=290
PTMZ Houxiangcun 3.42 289 *e*P **Pn** **05 13 50.5 +1.0**
baz=289
LYJJ Jianjiangzhen 3.70 315 *e*P **Pn** **05 13 53.2 -0.2**
baz=315
XPSS Dashiqiu 3.73 323 *e*P **Pn** **05 13 53.7 0.0**
baz=323
KNM Kinmen 3.90 278 *e*P **Pn** **05 13 58.1 +1.9**
baz=277
MHZQ Yeshan 3.94 304 *e*P **Pn** **05 13 56.7 0.0**
baz=304
KNMB Chin-men Tao 3.95 278 *e*P **Pn** **05 13 56.4 -0.3**
baz=278
KNMB Chin-men Tao 3.95 278 Pn **Pn** **05 13 57.7 +0.9**
AXDP Jialang 4.39 284 *e*P **Pn** **05 14 04.6 +1.7**
baz=283
ZPLA Ao Xicun 4.50 271 *e*P **Pn** **05 14 05.4 +1.0**
baz=280
JOW Kunigami 5.83 59 *e*P **Pn** **05 14 21.9 -0.7**
baz=60
JOW Kunigami 5.83 59 Pn **Pn** **05 14 22.3 -0.3**
KSRS Korea Array 14.20 17 Pn **Pn** **05 16 18.9 +1.6**
0.4nm,0.3s,baz=201,slow=12,SNR=5.8
KSRS LR LR 05 22 26.3
comp=Z,70nm,19.1s,baz=185,slow=41
MJAR Matsushiro Arr 18.35 43 LR LR 05 24 45.9
comp=Z,30nm,19.8s,baz=195,slow=39
USA0B Ussuriysk Arra 21.60 18 P **P** **05 17 44.0 -1.6**
USA0B IAmb IAmb 05 17 44.9
comp=Z,4.1nm,0.8s
USRK Ussuriysk Ar. 21.60 18 P **P** **05 17 43.9 -1.7**
comp=Z,3.5nm,0.7s,baz=200,slow=11,SNR=7.5
CMAR Chiang Mai Arr 22.77 261 LR LR 05 27 13.2
comp=Z,38nm,19.7s,baz=224,slow=38
KLR Kul'dur 26.23 14 P **P** **05 18 29.2 -1.3**
comp=Z,1.9nm,0.5s,baz=224,slow=5.5,SNR=11
KLR LR LR 05 29 03.4
comp=Z,62nm,18.8s,baz=176,slow=37
SONM Songino Array 27.14 336 P **P** **05 18 37.4 -1.4**
comp=Z,1.9nm,0.6s,baz=156,slow=9.2,SNR=9.5
SONM LR LR 05 30 33.3
comp=Z,84nm,21.4s,baz=151,slow=39
SONM Songino Array 27.14 336 P **P** **05 18 37.5 -1.3**
TLY Talaya 31.32 337 LR LR 05 32 57.2
comp=Z,49nm,19.4s,baz=139,slow=39
YAK Yakutsk 38.37 5 LR LR 05 37 16.6
comp=Z,24nm,18.1s,baz=260,slow=38
PETK Petropavlovsk- 39.32 33 P **P** **05 20 22.3 -2.2**
MK31 Makanchi Array 39.46 316 P **P** **05 20 25.9 +0.1**
MKAR Makanchi Array 39.46 316 P **P** **05 20 25.6 -0.2**
comp=Z,1.4nm,0.6s,baz=102,slow=9.9,SNR=14
MKAR PcP **PcP** **05 22 33.4 +0.1**
comp=Z,1.0nm,0.7s,baz=91,slow=4.9,SNR=6.8
MAKZ Makanchi 39.67 315 P **P** **05 20 27.7 +0.2**
MAKZ IAmb IAmb 05 20 28.0
comp=Z,2.4nm,0.7s
KNRA Kununurra 39.82 171 P **P** **05 20 31.9 +2.9**
MA2 Magadan 40.70 22 LR LR 05 39 39.9
comp=Z,40nm,18.9s,baz=123,slow=40
ZALV Zalesovo Beam 41.19 327 P **P** **05 20 37.7 -2.2**
comp=Z,1.0nm,0.4s,baz=140,slow=8.1,SNR=3.2
ZALV LR LR 05 38 29.2
comp=Z,30nm,21.1s,baz=141,slow=37
ZALV Zalesovo Beam 41.19 327 P **P** **05 20 38.3 -1.7**
KURK Kurchatov 43.15 320 P **P** **05 20 55.3 -0.7**
KURBB Kurchatov Arra 43.17 320 P **P** **05 20 55.3 -0.9**
comp=Z,0.8nm,0.5s,baz=112,slow=10.0,SNR=4.4
ARSB Arslanbob 44.66 305 P **P** **05 21 08.5 0.0**
WRA Warramunga Arr 45.08 164 P **P** **05 21 13.0 +1.3**
comp=Z,1.7nm,0.7s,baz=346,slow=8.9,SNR=10
WRA Warramunga Arr 45.08 164 IAmb IAmb 05 21 21.4
comp=Z,0.5nm,1.4s
WB2 Warramunga Arr 45.08 164 P **P** **05 21 13.7 +1.9**
WB2 IAmb IAmb 05 21 27.1
comp=Z,6.0nm,1.1s
WR0 Warramunga Arr 45.14 164 P **P** **05 21 13.9 +1.7**
WR0 IAmb IAmb 05 21 37.6
comp=Z,9.1nm,1.2s
KKAR Karatay Array 46.70 307 P **P** **05 21 24.7 +0.3**
KBL Kabul 47.50 296 P **P** **05 21 32.4 +1.4**
AS31 Alice Springs 48.56 166 P **P** **05 21 39.2 +0.3**
AS31 IAmb IAmb 05 21 58.4
comp=Z,1.4nm,1.2s
ASAR Alice Springs 48.56 166 P **P** **05 21 40.8 +1.8**
comp=Z,0.5nm,0.5s,baz=348,slow=6.7,SNR=8.1
BRVK Borovoye 48.80 321 P **P** **05 21 39.9 -0.6**
BRVK IAmb IAmb 05 21 40.3
comp=Z,1.8nm,0.6s
ABKAR Akbulak array 54.58 314 P **P** **05 22 23.9 +0.2**
ABKAR IAmb IAmb 05 22 24.2
comp=Z,1.5nm,0.7s
GEYT Alibeck 56.09 301 P **P** **05 22 36.8 +2.0**
comp=Z,18nm,0.5s,baz=60,slow=8.8,SNR=3.8
IMAR Indian Mountai 65.79 26 P **P** **05 23 40.4 +0.2**
BMAR Burnt Mountain 69.19 24 P **P** **05 24 02.7 +1.0**
ARCES ARCESS Array B 70.27 338 P **P** **05 24 06.9 -1.4**
comp=Z,1.6nm,0.8s,baz=52,slow=5.8,SNR=4.3
BCAR Beaver Creek A 71.40 29 P **P** **05 24 15.9 +0.6**
FIA1 FINESS Array S 72.34 330 P **P** **05 24 20.4 -0.5**
FINES FINESS Array B 72.34 330 P **P** **05 24 20.1 -0.7**
comp=Z,0.8nm,0.4s,baz=66,slow=6.1,SNR=9.6
FINES FINESS Array B 72.34 330 P **P** **05 24 20.4 -0.5**
AKASG Malin Array Be 73.95 319 P **P** **05 24 29.1 -1.5**
comp=Z,0.4nm,0.5s,baz=56,slow=6.2,SNR=4.3
AKASG Malin Array Be 73.95 319 P **P** **05 24 30.5 -0.1**
BR131 Keskin Array S 74.41 307 P **P** **05 24 33.7 0.0**
BR131 IAmb IAmb 05 24 34.6
comp=Z,2.6nm,0.8s
BRTR Keskin Array B 74.41 307 P **P** **05 24 33.5 -0.2**
comp=Z,1.2nm,0.8s,baz=79,slow=6.4,SNR=6.1
BRTR Keskin Array B 74.41 307 P **P** **05 24 33.9 +0.1**
NB2 NORSAR Subarra 79.07 333 P **P** **05 24 57.8 -1.7**
comp=Z,0.4nm,0.5s,baz=57,slow=5.6
NOA NORSAR Array B 79.07 333 P **P** **05 24 58.1 -1.4**
comp=Z,0.4nm,0.5s,baz=56,slow=5.6,SNR=5.6

*IDC **20** 05:16:16.9±1.4, 22°.97S×66°.54W, h210km±19km, mb3.7/1, mb1 3.8/6, mb1mx3.3/33, mbtmp4.3/6, Error ellipse: s-maj=28.2km s-min=16.1km az=118.0*
*VAO **20** 05:16:24.1±0.9, 22°.94S×66°.56W, h318km±10km, mb3.9*
ISC 20 05:16:17.1±0.7, **22°.94S**±0°.08×**66°.63W**±0°.08, **h222**km, **n40**, σ0°**89**/42, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**278**	P	**Pn**	**05 16 59.7**	**+0.7**
	152nm,0.3s,baz=281,slow=22,SNR=28						
LVC				S	**S**	**05 17 31.2**	**-0.2**
	baz=261,slow=21,SNR=0.8						
LPAZ	**La Paz**	**6.76**	**348**	P	**Pn**	**05 17 56.6**	**+1.5**
	5.4nm,0.3s,baz=167,slow=7.6,SNR=133						
LPAZ				S	**S**	**05 19 12.6**	**-0.5**
	0.5nm,0.3s,baz=73,slow=24,SNR=4.1						
SIV	**San Ignacio**	**8.67**	**38**	P	**Pn**	**05 18 18.2**	**-0.9**
	3.5nm,0.3s,baz=230,slow=11,SNR=57						
AQDB	**Aquidauana**	**10.45**	**79**	*e*P	**P**	**05 18 47.4**	**-0.8**
PP1B	**Ponte de Pedra**	**12.23**	**66**	*e*P	**P**	**05 19 09.1**	**+1.1**
SALV	**Santo Antonio**	**12.46**	**58**	*e*P	**P**	**05 19 11.1**	**+0.6**
TRCB	**Terra Rica**	**12.90**	**92**	*e*P	**P**	**05 19 17.2**	**+1.8**
CPSB	**Cacapava Do Su**	**13.94**	**125**	*e*P	**P**	**05 19 27.5**	**+0.7**
PCMB	**Pacaembu**	**14.29**	**88**	*e*P	**P**	**05 19 31.7**	**+0.9**
PLTB	**Pedras Altas**	**14.52**	**130**	*e*P	**P**	**05 19 33.9**	**+0.6**
ITRB	**Iturama**	**15.50**	**81**	*e*P	**Pn**	**05 19 45.1**	**+0.6**
FRTB	**Fartura**	**15.71**	**95**	*e*P	**Pn**	**05 19 47.6**	**+0.6**
ARAG	**Araguaiana, MT**	**15.72**	**65**	*e*P	**Pn**	**05 19 47.5**	**+0.3**
CLDB	**Colider**	**15.84**	**43**	*e*P	**Pn**	**05 19 49.3**	**+0.6**
TER01	**Tubaro-SC**	**16.72**	**113**	*e*P	**P**	**05 19 58.4**	**+0.9**
BB19B	**Bebedouro**	**16.89**	**87**	*e*P	**P**	**05 19 59.8**	**+0.3**
RCLB	**Rio Claro- Sao**	**17.64**	**92**	*e*P	**P**	**05 20 07.7**	**+0.1**
SPB	**Sao Paulo**	**17.65**	**96**	*e*P	**P**	**05 20 08.5**	**+0.7**
PET01	**Itanhaem-SP**	**17.79**	**98**	*e*P	**P**	**05 20 09.6**	**+0.4**
IPMB	**Ipameri, GO**	**17.94**	**77**	*e*P	**P**	**05 20 12.1**	**+1.0**
PLCA	**Paso Flores**	**18.05**	**190**	P	**P**	**05 20 12.0**	**+0.1**
	0.3nm,0.3s,baz=13,slow=11,SNR=9.1						
PLCA	**Paso Flores**	**18.05**	**190**	*e*P	**Pn**	**05 20 13.0**	**-1.5**
VAO	**Valinhos**	**18.11**	**94**	*e*P	**P**	**05 20 13.2**	**+0.4**
SNDB	**Serra Nova Dou**	**18.23**	**56**	*e*P	**P**	**05 20 13.9**	**-0.1**
BDFB	**Brasilia**	**19.00**	**71**	P	**P**	**05 20 23.5**	**+0.9**
	0.9nm,0.3s,baz=236,slow=11,SNR=15						
NPGB	**Novo Progresso**	**19.17**	**36**	*e*P	**P**	**05 20 24.2**	**0.0**
PARB	**Paraibuna**	**19.32**	**95**	*e*P	**P**	**05 20 26.4**	**+0.5**
BSCB	**Bom Sucesso**	**20.36**	**89**	*e*P	**P**	**05 20 37.3**	**+0.3**
MACA	**Manacapuru-AM**	**20.48**	**17**	*e*P	**P**	**05 20 37.7**	**-0.6**
PEXB	**Peixe**	**20.51**	**61**	*e*P	**P**	**05 20 38.2**	**-0.3**
ITTB	**Itaituba**	**21.25**	**31**	*e*P	**P**	**05 20 45.6**	**-0.7**
DIAM	**Diamantina, MG**	**21.97**	**82**	*e*P	**P**	**05 20 53.5**	**0.0**
MC01	**Montes Claros**	**22.21**	**78**	*e*P	**P**	**05 20 54.1**	**-1.5**
JANB	**Januaria**	**22.49**	**74**	*e*P	**P**	**05 20 56.6**	**-1.6**
SMTB	**Santa Maria do**	**23.00**	**56**	*e*P	**P**	**05 21 01.4**	**-1.4**
SDBA	**SAO DESIDERIO**	**23.17**	**67**	*e*P	**P**	**05 21 02.7**	**-1.6**
PRPB	**Parauapebas**	**23.25**	**47**	*e*P	**P**	**05 21 04.2**	**-0.7**
GUA01	**Guaratinga, BA**	**26.00**	**81**	*e*P	**P**	**05 21 28.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**75.87**	**69**	P	**P**	**05 27 39.1**	**-0.4**
	1.3nm,0.6s,baz=256,slow=5.3,SNR=10						
MKAR	**Makanchi Array**	**145.49**	**39**	PKPbc	**PKPab**	**05 35 30.6**	**+1.0**
	0.6nm,0.4s,baz=318,slow=4.0,SNR=8.3						

*IDC **20** 05:24:41.5±0.8, 51°.23N×178°.88W, h0km, mb3.7/10, mb1 4.1/11, mb1mx3.8/46, mbtmp3.8/11, ML4.1/1, MS3.2/4, Ms1 3.3/4, ms1mx2.9/51, Error ellipse: s-maj=31.6km s-min=17.1km az=166.0*
*AEIC **20** 05:24:43±1.9, 51°.11N±0°.06×178°.86W±0°.05, h26km±4km, ML3.8, mb4.3/105(NEIC), Error ellipse: s-maj=9.6km s-min=3.6km az=165.0*
*NEIC **20** 05:24:45.5±1.5, 51°.30N±0°.07×178°.84W±0°.05, h24km±5km, Error ellipse: s-maj=10.5km s-min=3.3km az=165.0*
ISC 20 05:24:43.6±2.1, **51°.19N**±0°.10×**178°.88W**±0°.03, **h17**km±11km, **n162**, σ0°**92**/158, **mb4.3**/58, **MS2.9**/3, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.58**	**7**		**Pn**	**05 24 56.6**	**-0.5**
GAEA	**Gareloi East**	**0.60**	**8**		**Pn**	**05 24 56.9**	**-0.6**
TASE	**Tanaga Southea**	**0.84**	**39**		**Pg**	**05 25 00.1**	**+0.1**
TAFP	**Tanaga Falls P**	**0.91**	**38**		**Pb**	**05 25 01.1**	**+0.1**
TAFP					**Sg**	**05 25 13.7**	**+0.5**
CERAA	**Semis' Rag'd T**	**1.15**	**309**		**Pb**	**05 25 05.4**	**+0.4**
AMKA	**Amchitka**	**1.16**	**280**		**Pn**	**05 25 03.9**	**-1.2**
AMKA					**Sb**	**05 25 18.7**	**-1.2**
KIMD	**Kanaga Island**	**1.18**	**60**		**Pn**	**05 25 04.6**	**-0.7**
KIMD					**Sb**	**05 25 19.9**	**-0.7**
CESW	**Semis' Southwe**	**1.21**	**307**		**Pb**	**05 25 06.2**	**+0.1**
CEAP	**Semis' Anvil P**	**1.26**	**311**		**Pb**	**05 25 07.5**	**+0.5**
KIWB	**Kanaga Island**	**1.27**	**58**		**Pn**	**05 25 06.0**	**-0.6**
KIKV	**Kanaga Island**	**1.27**	**56**		**Pn**	**05 25 06.2**	**-0.4**
KIKV					**Sb**	**05 25 21.9**	**-1.4**
KICM	**Kanaga Island**	**1.28**	**54**		**Pn**	**05 25 06.7**	**-0.1**
KICM					**Sb**	**05 25 23.1**	**-0.4**
ADK	**Adak**	**1.54**	**62**		**Pn**	**05 25 09.8**	**-0.5**
LSPA	**Little Sitkin**	**1.77**	**297**		**Pb**	**05 25 14.8**	**-0.7**
LSSA	**Little Sitkin**	**1.80**	**296**		**Pn**	**05 25 14.4**	**+0.6**
LSNW	**Little Sitkin**	**1.80**	**297**		**Pn**	**05 25 15.0**	**+1.0**
GSTD	**Great Sitkin T**	**1.92**	**62**		**Pn**	**05 25 15.5**	**0.0**
GSTD					**Sn**	**05 25 39.5**	**+0.2**
GSMY	**Great Sitkin M**	**1.96**	**63**		**Pn**	**05 25 16.3**	**+0.2**
GSMY					**Sb**	**05 25 41.8**	**-1.2**
GSTR	**Great Sitkin T**	**1.98**	**62**		**Pn**	**05 25 17.0**	**+0.6**
ATKA	**Atka Island**	**3.09**	**69**		**Pn**	**05 25 32.2**	**+0.6**
ATKA					**Sn**	**05 26 08.8**	**+0.8**
KOFP	**Korovin Flat P**	**3.17**	**68**		**Pn**	**05 25 33.9**	**+1.2**
NIKH	**Nikolski High**	**6.43**	**70**	Pn	**Pn**	**05 26 16.9**	**-0.6**
SPIA	**Saint Paul Isl**	**7.85**	**37**	Pn	**Pn**	**05 26 37.3**	**+0.5**
AKUT	**Akutan**	**8.50**	**65**	Pn	**Pn**	**05 26 45.7**	**-0.1**
OHAK	**Old Harbor**	**16.09**	**58**		**Pn**	**05 28 28.9**	**+0.1**
SVW2	**Sparrevohn**	**16.25**	**43**	Pn	**Pn**	**05 28 28.7**	**-2.1**
KDAK	**Kodiak Island**	**16.57**	**56**	Pn	**Pn**	**05 28 31.8**	**-3.1**
	0.7nm,0.3s,baz=241,slow=3.8,SNR=27						
KDAK				LR	LR	05 36 09.9	
	comp=Z,172nm,18.9s,baz=255,slow=42						
KDAK	**Kodiak Island**	**16.57**	**56**		**Pn**	**05 28 34.3**	**-0.7**
CNPM	**China Poot**	**17.68**	**51**		**Pn**	**05 28 48.5**	**-0.4**
SEW	**Seward**	**18.71**	**50**	P	**Pn**	**05 29 01.4**	**+0.1**
SEW				IAmb	IAmb	05 29 11.6	
	comp=Z,23nm,1.4s						
KTH	**Kantishna Hill**	**19.30**	**39**	P	**Pn**	**05 29 08.5**	**-0.2**
KTH				IAmb	IAmb	05 29 22.5	
	comp=Z,8.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**19.53**	**38**	P	**P**	**05 29 10.3**	**+0.3**
KNK	**Knik Glacier**	**19.55**	**47**	P	**P**	**05 29 10.5**	**+0.3**
MLY	**Manley**	**20.08**	**36**	P	**P**	**05 29 16.6**	**+0.5**
RND	**Reindeer**	**20.08**	**41**	P	**P**	**05 29 16.1**	**+0.1**
NEA2	**Nenana**	**20.50**	**38**	P	**P**	**05 29 21.1**	**+0.6**
I23K	**Minto, Yukon-K**	**20.65**	**36**	P	**P**	**05 29 22.9**	**+0.8**
M24K	**Tolsona, Glenn**	**20.79**	**46**	P	Pn	05 29 25.1	-1.1
M24K				IAmb	IAmb	05 29 50.8	
	comp=Z,9.5nm,0.8s						
MDM	**Murphy Dome**	**20.99**	**37**	P	**P**	**05 29 26.9**	**+1.1**
MDM				IAmb	IAmb	05 29 35.3	
	comp=Z,14nm,1.0s						
CCB	**Clear Creek Bu**	**21.02**	**38**	P	**P**	**05 29 27.4**	**+1.3**
IL31		**21.43**	**38**	P	**P**	**05 29 29.1**	**-1.3**
ILAR	**Eielson Array**	**21.43**	**38**	P	**P**	**05 29 30.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=238,slow=9.4,SNR=5.8						
ILAR				LR	LR	05 38 57.2	
	comp=Z,54nm,20.1s,baz=237,slow=40						
SUCK	**Suckling Hills**	**21.48**	**52**	P	**P**	**05 29 30.2**	**-0.9**
SUCK				IAmb	IAmb	05 29 43.7	
	comp=Z,19nm,1.2s						
RIDG	**Independent Ri**	**21.88**	**42**	P	**P**	**05 29 35.7**	**+0.3**
L27K	**Beaver Creek,**	**22.99**	**45**	P	**P**	**05 29 46.1**	**-1.1**
BCAR	**Beaver Creek A**	**23.01**	**45**	P	**P**	**05 29 48.5**	**+1.1**
K27K	**Chicken**	**23.13**	**42**	P	**P**	**05 29 48.0**	**-0.5**
PCA	**Pinnacle**	**23.23**	**52**	P	**P**	**05 29 50.1**	**+0.4**
PCA				IAmb	IAmb	05 30 15.9	
	comp=Z,11nm,1.0s						
BCPM	**Bancas Point**	**23.53**	**53**	P	**P**	**05 29 52.9**	**+0.3**
BCPM				IAmb	IAmb	05 29 53.7	
	comp=Z,8.7nm,0.6s						
EGAK	**Eagle**	**23.73**	**41**	P	**P**	**05 29 54.4**	**0.0**
H11N2	**WAKE ISLAND Hy**	**33.33**	**205**	T	T	06 06 40.6	
	baz=17,slow=76,SNR=67						
H11N3	**WAKE ISLAND Hy**	**33.34**	**205**	T	T	06 06 41.3	
	baz=17,slow=76,SNR=67						
H11N1	**WAKE ISLAND Hy**	**33.35**	**205**	T	T	06 06 41.4	
	baz=17,slow=76,SNR=64						
MJAR	**Matsushiro Arr**	**33.70**	**261**	LR	LR	05 44 52.4	
	comp=Z,17nm,20.5s,baz=105,slow=36						
H11S1	**WAKE ISLAND Hy**	**34.55**	**205**	T	T	06 08 19.3	
	baz=17,slow=75,SNR=85						
H11S2	**WAKE ISLAND Hy**	**34.57**	**205**	T	T	06 08 17.4	
	baz=17,slow=75,SNR=46						
H11S3	**WAKE ISLAND Hy**	**34.57**	**205**	T	T	06 08 16.1	
	baz=17,slow=75,SNR=25						
YKA	**Yellowknife Ar**	**35.40**	**46**	LR	LR	05 47 50.8	
	comp=Z,66nm,18.3s,baz=0.0,slow=39						
B08A	**Colville Reser**	**37.65**	**70**	P	**P**	**05 31 58.6**	**+1.1**
B08A				IAmb	IAmb	05 32 01.5	
	comp=Z,3.5nm,0.9s						
EDM	**Edmonton**	**38.95**	**61**	P	**P**	**05 32 08.2**	**-0.2**
EDM				IAmb	IAmb	05 32 12.6	
	comp=Z,8.1nm,1.1s						
NEW	**Newport**	**39.00**	**69**	P	**P**	**05 32 09.7**	**+0.8**
NEW				IAmb	IAmb	05 32 12.2	
	comp=Z,3.7nm,0.7s						
BMO	**Blue Mountains**	**40.59**	**74**	P	**P**	**05 32 23.4**	**+1.1**
J08A	**Circle Bar Ran**	**40.68**	**77**	P	**P**	**05 32 24.5**	**+1.4**
J08A				IAmb	IAmb	05 32 32.8	
	comp=Z,2.8nm,0.7s						
WVOR	**Wild Horse Val**	**41.09**	**78**	P	**P**	**05 32 28.0**	**+1.6**
WVOR				IAmb	IAmb	05 32 36.3	
	comp=Z,3.7nm,0.7s						
MSO	**Missoula**	**41.58**	**70**	P	**P**	**05 32 31.0**	**+0.6**
MSO				IAmb	IAmb	05 32 44.8	
	comp=Z,6.2nm,1.4s						
HRY	**Holter Researc**	**42.88**	**69**	P	**P**	**05 32 41.3**	**+0.3**
DLMT	**Dillon**	**43.15**	**71**	P	**P**	**05 32 41.6**	**-1.5**
BCYI	**Bear Canyon**	**43.24**	**72**	P	**P**	**05 32 43.4**	**-0.7**
MCMT	**McKenzie Canyo**	**43.29**	**72**	P	**P**	**05 32 45.0**	**+0.5**
RYN	**Ryan**	**43.37**	**82**	P	**P**	**05 32 44.3**	**-0.8**
EGMT	**Eagleton**	**43.40**	**66**	P	**P**	**05 32 45.6**	**+0.5**
EGMT				IAmb	IAmb	05 32 50.4	
	comp=Z,3.0nm,0.8s						
BOZ	**Bozeman (W)**	**43.59**	**70**	P	**P**	**05 32 46.9**	**+0.1**
BOZ				IAmb	IAmb	05 32 49.9	
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**43.63**	**83**	P	**P**	**05 32 49.1**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=292,slow=9.1,SNR=5.3						
NVAR	**Mina Array Bea**	**43.63**	**83**	P	**P**	**05 32 46.3**	**-0.9**
MDPB	**Devils Postpil**	**43.63**	**84**	P	**P**	**05 32 46.0**	**-1.3**
QLMT	**Earthquake Lak**	**44.13**	**71**	P	**P**	**05 32 51.9**	**+0.7**
ELK	**Elko**	**44.15**	**78**	P	**P**	**05 32 52.5**	**+1.1**
ELK				IAmb	IAmb	05 32 56.0	
	comp=Z,3.1nm,0.9s						
YHB	**Horse Butte**	**44.31**	**71**	P	**P**	**05 32 52.7**	**+0.1**
YHB				IAmb	IAmb	05 32 58.7	
	comp=Z,3.5nm,0.9s						
YMR	**Madison River**	**44.50**	**71**	P	**P**	**05 32 54.4**	**+0.2**
YMR				IAmb	IAmb	05 32 55.7	
	comp=Z,4.3nm,1.0s						
YHH	**Holmes Hill**	**44.50**	**70**	P	**P**	**05 32 54.7**	**+0.5**
YHH

YNR	**Norris Junctio**	**44.64**	**70**	P	**P**	**05 32 55.0**	**-0.3**
YNR				IAmb	IAmb	05 32 57.5	
comp=Z,4.7nm,0.9s							
GCMT	**Greycliff**	**44.64**	**69**	P	**P**	**05 32 55.4**	**+0.2**
YMP	**Mirror Lake PI**	**44.94**	**70**	P	**P**	**05 32 58.8**	**+1.1**
YMP				IAmb	IAmb	05 33 10.0	
comp=Z,2.7nm,0.7s							
IMW	**Indian Meadow**	**44.94**	**72**	P	**P**	**05 32 57.6**	**-0.1**
IMW				IAmb	IAmb	05 32 59.8	
comp=Z,4.1nm,1.2s							
FLWY	**Flagg Ranch**	**44.98**	**71**	P	**P**	**05 32 57.7**	**-0.3**
FLWY				IAmb	IAmb	05 33 15.8	
comp=Z,4.4nm,1.0s							
FXWY	**Fox Creek**	**45.04**	**72**	P	**P**	**05 32 58.6**	**+0.2**
RLMT	**Red Lodge**	**45.25**	**69**	P	**P**	**05 33 01.2**	**+1.1**
RLMT				IAmb	IAmb	05 33 04.3	
comp=Z,4.9nm,0.8s							
SNOW	**Snow King Moun**	**45.30**	**72**	P	**P**	**05 33 01.2**	**+0.7**
LOHW	**Long Hollow**	**45.30**	**72**	P	**P**	**05 33 01.0**	**+0.5**
SPUT	**South Promonto**	**45.52**	**75**	P	**P**	**05 33 02.4**	**+0.1**
SPUT				IAmb	IAmb	05 33 07.3	
comp=Z,3.5nm,0.9s							
TPNV	**Topopah Spring**	**45.82**	**83**	P	**P**	**05 33 04.3**	**-0.4**
TPNV				IAmb	IAmb	05 33 09.7	
comp=Z,2.7nm,1.1s							
HWUT	**Hardware Ranch**	**45.88**	**75**	P	**P**	**05 33 03.8**	**-1.3**
HWUT				IAmb	IAmb	05 33 10.6	
comp=Z,2.3nm,0.8s							
DUG	**Dugway, Tooele**	**45.96**	**77**	P	**P**	**05 33 05.5**	**-0.2**
DUG				IAmb	IAmb	05 33 14.3	
comp=Z,4.9nm,1.1s							
LAO	**LASA Array**	**46.15**	**66**	P	**P**	**05 33 06.3**	**-0.7**
LAO				IAmb	IAmb	05 33 10.2	
comp=Z,3.7nm,0.8s							
BW06	**Boulder Array**	**46.42**	**72**	P	**P**	**05 33 09.0**	**-0.4**
BW06				IAmb	IAmb	05 33 10.8	
comp=Z,8.7nm,1.3s							
PD31	**Pinedale Array**	**46.42**	**72**	P	**P**	**05 33 09.7**	**+0.3**
PD31				IAmb	IAmb	05 33 10.8	
comp=Z,7.8nm,1.3s							
PDAR	**Pinedale Array**	**46.42**	**72**	P	**P**	**05 33 09.7**	**+0.3**
comp=Z,2.7nm,0.8s,baz=325,slow=3.3,SNR=21							
PDAR	**Pinedale Array**	**46.42**	**72**	P	**P**	**05 33 09.8**	**+0.5**
JLU	**Jordanelle**	**46.55**	**76**	P	**P**	**05 33 11.1**	**+0.6**
JLU				IAmb	IAmb	05 33 14.9	
comp=Z,4.6nm,1.1s							
NLU	**North Lily Min**	**46.56**	**77**	P	**P**	**05 33 11.2**	**+0.7**
NLU				IAmb	IAmb	05 33 20.0	
comp=Z,2.4nm,0.8s							
SONM	**Songino Array**	**46.69**	**297**	P	**P**	**05 33 12.0**	**+0.7**
comp=Z,0.5nm,0.6s,baz=72,slow=9.3,SNR=2.9							
MPU	**Maple Canyon**	**46.79**	**76**	P	**P**	**05 33 13.1**	**+0.8**
MPU				IAmb	IAmb	05 33 16.2	
comp=Z,2.4nm,1.0s							
TCRU	**Three Creeks R**	**47.15**	**78**	P	**P**	**05 33 12.8**	**-2.4**
TCRU				IAmb	IAmb	05 33 28.5	
comp=Z,4.2nm,1.1s							
CCUT	**Cedar City**	**47.24**	**80**	P	**P**	**05 33 15.2**	**-0.7**
MVU	**Marysvale**	**47.36**	**78**	P	**P**	**05 33 14.0**	**-2.8**
MSU	**Marysvale**	**47.38**	**78**	P	**P**	**05 33 13.2**	**-3.8**
TMUT	**Trail Mountain**	**47.49**	**77**	P	**P**	**05 33 17.4**	**-0.5**
TMUT				IAmb	IAmb	05 33 22.9	
comp=Z,3.8nm,1.0s							
P17A	**Butcher Ranch,**	**47.67**	**76**	P	**P**	**05 33 18.9**	**-0.2**
P17A				IAmb	IAmb	05 33 20.8	
comp=Z,3.0nm,0.7s							
SRU	**San Rafael Swe**	**48.02**	**77**	P	**P**	**05 33 18.5**	**-3.4**
SRU				IAmb	IAmb	05 33 32.1	
comp=Z,3.7nm,0.8s							
O20A	**White River Ci**	**48.78**	**74**	P	**P**	**05 33 28.0**	**+0.3**
RSSD	**Black Hills**	**48.88**	**67**	P	**P**	**05 33 27.9**	**-0.6**
RSSD				IAmb	IAmb	05 33 30.9	
comp=Z,2.3nm,0.8s							
PV14	**Lion Creek, Pa**	**49.40**	**76**	P	**P**	**05 33 32.9**	**+0.3**
PV14				IAmb	IAmb	05 33 33.6	
comp=Z,3.7nm,0.8s							
PV17	**East Wray Mesa**	**49.50**	**76**	P	**P**	**05 33 33.9**	**+0.7**
PV17				IAmb	IAmb	05 33 37.9	
comp=Z,5.4nm,0.7s							
PV12	**Saucer Basin,**	**49.57**	**76**	P	**P**	**05 33 33.7**	**-0.1**
PV12				IAmb	IAmb	05 33 46.7	
comp=Z,5.0nm,0.8s							
SMCO	**Snowmass**	**50.14**	**74**	P	**P**	**05 33 38.8**	**+0.4**
ISCO	**Idaho Springs**	**50.58**	**73**	P	**P**	**05 33 41.4**	**-0.1**
ISCO				IAmb	IAmb	05 33 45.1	
comp=Z,2.5nm,1.1s							
ZAA0	**Zalesovo Array**	**54.13**	**314**	P	**P**	**05 34 08.6**	**+1.3**
ZALV	**Zalesovo Beam**	**54.13**	**314**	P	**P**	**05 34 06.8**	**-0.4**
MNTX	**Cornudas Mount**	**56.03**	**80**	P	**P**	**05 34 20.8**	**-0.6**
MNTX				IAmb	IAmb	05 34 25.5	
comp=Z,2.9nm,1.1s							
WMOK	**Wichita Mounta**	**58.00**	**73**	P	**P**	**05 34 35.7**	**+0.4**
WMOK				IAmb	IAmb	05 34 37.4	
comp=Z,1.8nm,0.8s							
OK031	**S. Brethren Rd**	**58.34**	**71**	P	**P**	**05 34 37.8**	**+0.2**
P40A	**Paris**	**58.70**	**65**	P	**P**	**05 34 39.4**	**-0.7**
TX32	**Lajitas Array**	**58.73**	**81**	P	**P**	**05 34 37.8**	**-2.8**
TX32				IAmb	IAmb	05 34 52.0	
comp=Z,1.8nm,1.1s							
TXAR	**Lajitas Array**	**58.73**	**81**	P	**P**	**05 34 40.8**	**+0.2**
comp=Z,0.7nm,0.7s,baz=280,slow=3.3,SNR=9.7							
TXAR	**Lajitas Array**	**58.73**	**81**	P	**P**	**05 34 40.0**	**-0.6**
ABTX	**Abilene, Hawle**	**58.93**	**75**	P	**P**	**05 34 40.6**	**-1.2**
ABTX				IAmb	IAmb	05 34 45.1	
comp=Z,3.3nm,0.7s							
HDIL	**Hopedale**	**59.55**	**62**	P	**P**	**05 34 45.7**	**-0.2**
HHAR	**Hobbs**	**59.82**	**69**	P	**P**	**05 34 47.8**	**-0.1**
HHAR				IAmb	IAmb	05 35 05.1	
comp=Z,1.9nm,0.7s							
P43A	**Skaggs, Pawnee**	**60.05**	**63**	P	**P**	**05 34 49.2**	**-0.2**
MKAR	**Makanchi Array**	**60.11**	**308**	P	**P**	**05 34 51.2**	**+1.4**
comp=Z,0.1nm,0.4s,baz=52,slow=2.4,SNR=2.2							
X37A	**Clayton**	**60.14**	**71**	P	**P**	**05 34 50.6**	**+0.5**
X37A				IAmb	IAmb	05 34 55.7	
comp=Z,4.5nm,0.8s							
MGMO	**Mountain Grove**	**60.19**	**67**	P	**P**	**05 34 49.0**	**-1.4**
MGMO				IAmb	IAmb	05 34 49.9	
comp=Z,4.3nm,0.9s							
SFIN	**Lafayette**	**60.89**	**61**	P	**P**	**05 34 54.6**	**-0.5**
FCAR	**Ozark Folk Cen**	**61.15**	**68**	P	**P**	**05 34 56.4**	**-0.6**
FCAR				IAmb	IAmb	05 34 57.5	
comp=Z,5.9nm,1.0s							
PBMO	**Poplar Bluff**	**61.52**	**66**	P	**P**	**05 34 59.1**	**-0.3**
P48A	**Milroy**	**62.45**	**61**	P	**P**	**05 35 04.7**	**-1.0**
T47A	**Sharon Grove**	**63.26**	**64**	P	**P**	**05 35 11.5**	**+0.4**
W45A	**Hickory Valley**	**63.37**	**66**	P	**P**	**05 35 12.3**	**+0.5**
WVT	**Waverly**	**63.46**	**65**	P	**P**	**05 35 12.6**	**+0.2**
WVT				IAmb	IAmb	05 35 13.3	
comp=Z,3.5nm,0.8s							
PLAL	**Pickwick Lake**	**64.13**	**66**	P	**P**	**05 35 17.2**	**+0.3**
CLTN	**Cedars of Leba**	**64.34**	**64**	P	**P**	**05 35 18.6**	**+0.4**
U49A	**Red Boiling Sp**	**64.34**	**63**	P	**P**	**05 35 18.0**	**-0.2**
T50A	**Nancy**	**64.51**	**62**	P	**P**	**05 35 19.3**	**0.0**
SWET	**Sewanee**	**65.19**	**64**	P	**P**	**05 35 23.7**	**-0.1**
W50A	**Signal Mountai**	**65.55**	**64**	P	**P**	**05 35 26.5**	**+0.3**
V51A	**Loudon**	**65.66**	**63**	P	**P**	**05 35 26.4**	**-0.4**
CPCT	**Cooper Cave**	**65.82**	**63**	P	**P**	**05 35 27.4**	**-0.4**
FPAL	**Fort Paine**	**65.86**	**65**	P	**P**	**05 35 28.0**	**-0.1**
FINES	**FINESS Array B**	**65.96**	**347**	P	**P**	**05 35 27.6**	**-0.7**
comp=Z,0.6nm,0.6s,baz=79,slow=9.9,SNR=4.0							
FINES	**FINESS Array B**	**65.96**	**347**	P	**P**	**05 35 28.5**	**+0.2**
V52A	**Sevierville**	**66.05**	**62**	P	**P**	**05 35 29.4**	**+0.1**
V52A				IAmb	IAmb	05 35 37.4	
comp=Z,4.3nm,0.8s							
TKL	**Tuckaleechee C**	**66.08**	**63**	P	**P**	**05 35 29.6**	**0.0**
Y52A	**Lilburn**	**67.23**	**64**	P	**P**	**05 35 37.1**	**+0.2**
250A	**Grady**	**67.34**	**67**	P	**P**	**05 35 37.9**	**+0.3**
JSC	**Jenkinsville**	**68.49**	**62**	P	**P**	**05 35 44.8**	**0.0**
CMAR	**Chiang Mai Arr**	**70.98**	**276**	P	**P**	**05 36 01.0**	**+0.7**
comp=Z,0.6nm,0.3s,baz=14,slow=5.2,SNR=4.1							
WRA	**Warramunga Arr**	**81.84**	**224**	P	**P**	**05 37 01.6**	**-0.1**
comp=Z,1.3nm,0.8s,baz=27,slow=5.9,SNR=5.3							
ASAR	**Alice Springs**	**85.31**	**222**	P	**P**	**05 37 20.1**	**+0.6**
comp=Z,0.4nm,0.8s,baz=26,slow=6.1,SNR=7.9							
H03N2	**Juan Fernandez**	**121.14**	**106**	T	T	07 56 24.9	
baz=317,slow=77,SNR=25							
H03N1	**Juan Fernandez**	**121.16**	**106**	T	T	07 56 30.8	
baz=317,slow=77,SNR=22							
H03N3	**Juan Fernandez**	**121.16**	**106**	T	T	07 56 25.4	
baz=317,slow=77,SNR=20							
LBTB	**Lobatse**	**147.83**	**315**	PKPbc	**PKPbc**	**05 44 28.2**	**+0.7**
comp=Z,3.8nm,0.7s,baz=11,slow=2.1,SNR=7.3							

*IDC **20** 05:24:56.7±1.1, 11°.12S×12°.80W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/41, mbtmp4.0/5, MS3.9/4, Ms1 3.8/4, ms1mx3.4/46, Error ellipse: s-maj=62.2km s-min=21.2km az=96.0*

*NEIC **20** 05:24:58.4±1.6, 11°.20S±0°.06×13°.0W±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=24.6km s-min=7.9km az=74.0*

ISC 20 05:24:57.8±0.7, 11°.2S±0°.1×13°.1W±0°.2, h10km, n25, σ1§15/17, mb4.5/8, MS3.9/4, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.71**	**325**	T	T	05 28 42.7	
baz=78,slow=74,SNR=181							
H10S3	**ASCENSION HYDR**	**2.73**	**325**	T	T	05 28 35.7	
baz=142,slow=74,SNR=276							
ASCN	**Ascension**	**3.49**	**339**	Pn	**Pn**	**05 25 51.8**	**-0.4**
H10N1	**ASCENSION HYDR**	**3.61**	**337**	Pn	**Pn**	**05 25 54.2**	**+0.6**
H10N3	**ASCENSION HYDR**	**3.62**	**337**	Pn	**Pn**	**05 25 54.6**	**+0.8**
baz=181,slow=74,SNR=2.5							
H10N2	**ASCENSION HYDR**	**3.63**	**337**	Pn	**Pn**	**05 25 54.6**	**+0.7**
baz=273,slow=74,SNR=5.3							
TORD	**Torodi Ar. Bea**	**28.28**	**32**	P	**P**	**05 30 50.8**	**-0.9**
1.0nm,0.8s,baz=220,slow=7.8,SNR=4.8							
TORD				LR	LR	05 40 15.0	
comp=Z,157nm,21.3s,baz=190,slow=33							
TORD	**Torodi Ar. Bea**	**28.28**	**32**	P	**P**	**05 30 50.1**	**-1.6**
BDFB	**Brasilia**	**34.25**	**259**	LR	LR	05 43 05.5	
comp=Z,184nm,20.1s,baz=109,slow=32							
BDFB	**Brasilia**	**34.25**	**259**	P	**P**	**05 31 44.1**	**-0.3**
BDFB				IAmb	IAmb	05 31 48.2	
comp=Z,18nm,1.5s							
TRQA	**Tornquist**	**51.13**	**230**	P	**P**	**05 33 59.8**	**-1.3**
TRQA				IAmb	IAmb	05 34 04.6	
comp=Z,7.3nm,1.1s							
KEST	**Kesra**	**51.26**	**23**	P	**P**	**05 34 04.0**	**+2.0**
comp=Z,4.3nm,0.9s,baz=246,slow=8.3,SNR=5.0							
KEST	**Kesra**	**51.26**	**23**	P	**P**	**05 34 03.2**	**+1.1**
KEST				IAmb	IAmb	05 34 12.1	
comp=Z,10nm,1.2s							
H05S1	**Guadeloupe/Mar**	**53.75**	**297**	T	T	06 32 25.2	
SNR=7.2							
H05N1	**Guadeloupe/Mar**	**54.78**	**299**	T	T	06 33 43.4	
SNR=6.1							
PB11	**IPOC Station P**	**54.98**	**254**	P	**P**	**05 34 29.7**	**-0.2**
SNAA	**Sanae**	**60.75**	**176**	P	**P**	**05 35 10.0**	**+0.5**
comp=Z,2.3nm,0.8s,baz=335,slow=6.1,SNR=7.8							
SNAA	**Sanae**	**60.75**	**176**	IAmb	IAmb	05 35 11.2	
comp=Z,5.2nm,1.1s							
GERES	**GERESS Array B**	**64.29**	**19**	P	**P**	**05 35 33.7**	**+0.2**
comp=Z,0.2nm,0.3s,baz=191,slow=4.5,SNR=3.5							
ATAH	**Atahualpa**	**64.51**	**267**	LR	LR	06 02 29.5	
comp=Z,95nm,19.7s,baz=97,slow=35							
AKASG	**Malin Array Be**	**71.78**	**27**	P	**P**	**05 36 18.6**	**-1.8**
comp=Z,0.3nm,0.4s,baz=226,slow=6.7,SNR=5.3							
QSPA	**South Pole Qui**	**78.94**	**180**	P	**P**	**05 37 03.1**	**+1.5**
comp=Z,5.6nm,1.1s,baz=184,slow=4.4,SNR=9.5							
QSPA	**South Pole Qui**	**78.94**	**180**	P	**P**	**05 37 02.0**	**+0.4**
QSPA				IAmb	IAmb	05 37 03.7	
comp=Z,7.2nm,1.1s							
SADO	**Sadowa**	**81.48**	**319**	LR	LR	06 05 22.2	
comp=Z,77nm,21.7s,baz=218,slow=30							
CCM	**Cathedral Cave**	**87.69**	**309**	P	**P**	**05 37 47.8**	**+0.8**

*MOS **20** 05:28:33.9±0.9, 34°.72S×54°.73E, h8km, mb5.7/71, MS4.8/14, Error ellipse: s-maj=11.4km s-min=5.3km az=98.3*

*IDC **20** 05:28:33.8±0.4, 34°.74S×54°.62E, h0km, mb4.7/28, mb1 4.8/28, mb1mx4.7/37, mbtmp4.7/28, MS4.9/30, Ms1 4.9/30, ms1mx4.8/37, Error ellipse: s-maj=14.2km s-min=11.5km az=39.0*

*BJI **20** 05:28:33.1±0.0, 34°.73S×54°.53E, h4km, mB5.7/41, mb5.1/51, Ms5.3/44, Ms7 5.1/47*

*GCMT **20** 05:28:35.7±0.1, 34°.69S±0°.01×54°.54E±0°.01, h12km, MW5.4/148, Moment Tensor Solution. s107,c167; s148,c295; Duration: 1§3 Moment tensor: Scale 10^17 Nm; M_{rr}=1.80±.02; $M_{\theta\theta}$ 1.81±.02; $M_{\phi\phi}$=0.01±.02; $M_{r\theta}$0.25±.05; $M_{\theta\phi}$=0.07±.02; $M_{\phi r}$0.20±.06; Best double couple: $M_0$1.83500×10^17 NP1:φ=99.00000°, δ41.00000°, λ=80.00000°. NP2:φ=266.00000°, δ49.00000°, λ=98.00000°. Principal axes: T 1.8300, Plg4.0000°, Azm2.0000°; N 0.0080, Plg6.0000°, Azm271.0000°; P =1.8400, Plg83.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 05:28:36.7±2.1, 34°.84S±0°.07×54°.6E±0°.1, h10km±1km, mb5.6/115, Ms_20 5.3/267, Mwc5.4(GCMT) Error ellipse: s-maj=15.4km s-min=12.5km az=261.0*

*NEIC **20** 05:28:37, 34°.70S×54°.56E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; M_{rr}=1.78; $M_{\theta\theta}$1.86; $M_{\phi\phi}$=0.07; $M_{r\theta}$=0.09; $M_{\theta\phi}$=0.09; $M_{\phi r}$0.03; Fault plane solution: $M_0$1.83000×10^17 NP1:φ=272.00000°, δ44.00000°, λ=91.00000°. NP2:φ=93.00000°, δ46.00000°, λ=89.00000°. Principal axes: T 1.8639, Plg1.0000°, Azm183.0000°; N =0.0790, Plg1.0000°, Azm273.0000°; P =1.7849, Plg88.0000°, Azm35.0000°;*

ISC 20 05:28:35.3±0.6, 34°.81S±0°.04×54°.61E±0°.05, h8km±3km, h8km:pP-P, n978, σ1§21/925, mb5.4/185, MS5.2/199, 33C-27D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**11.80**	**189**		**Pn**	**05 31 22.4**	**-1.4**
RER	**Riviere de l'E**	**13.63**	**4**	Pn	**Pn**	**05 31 46.9**	**-2.2**
RER	**Riviere de l'E**	**13.63**	**4**	P	**Pn**	**05 31 46.4**	**-2.6**
VOI	**Vohitsoka**	**14.57**	**330**	Pn	**Pn**	**05 32 01.0**	**-1.0**
VOI	**Vohitsoka**	**14.57**	**330**	P	**Pn**	**05 32 02.1**	**+0.2**
ABPO	**Ambohimpanom**	**17.04**	**335**	P	**P**	**05 32 35.2**	**-0.8**
ABPO				pmax	pmax		
comp=Z,68nm,1.1s							
ABPO	**Ambohimpanom**	**17.04**	**335**	Pn	**P**	**05 32 35.2**	**-0.8**
OPO	**Ambohidratompo**	**17.47**	**336**	LR	LR	05 37 52.0	
comp=Z,4μm,19.1s,baz=20,slow=32							
PAF	**Port-aux-Franc**	**18.53**	**146**	P	**Pn**	**05 32 52.7**	**+0.5**
PAF				pmax	pmax		
comp=Z,568nm,1.4s							
PAF	**Port-aux-Franc**	**18.53**	**146**	P	**Pn**	**05 32 52.7**	**+0.5**
PAF				IAmb	IAmb	05 33 01.3	
comp=Z,568nm,1.4s							
AIS	**Amsterdam Isla**	**18.73**	**106**		**Pn**	**05 32 55.4**	**+0.6**
AIS				IAmb	IAmb	05 33 00.2	
comp=Z,726nm,1.5s							
SBV	**Sambava**	**21.67**	**348**	P	**P**	**05 33 26.6**	**+0.2**
SNR=5.9							
BOSA	**Boshof**	**25.67**	**276**	P	**P**	**05 34 04.6**	**-1.3**
comp=Z,14nm,1.0s,baz=111,slow=8.8,SNR=15							
BOSA				LR	LR	05 42 18.5	
comp=Z,982nm,21.2s,baz=120,slow=32							
BOSA	**Boshof**	**25.67**	**276**	P	**P**	**05 34 04.5**	**-1.3**
LBTB	**Lobatse**	**26.90**	**283**	P	**P**	**05 34 15.9**	**-1.1**
comp=Z,16nm,0.8s,baz=127,slow=6.9,SNR=22							
LBTB				LR	LR	05 43 03.5	
comp=Z,1μm,21.7s,baz=115,slow=32							
LBTB	**Lobatse**	**26.90**	**283**	P	**P**	**05 34 16.5**	**-0.5**
LBTB				pmax	pmax		
comp=Z,60nm,1.2s							
LBTB	**Lobatse**	**26.90**	**283**	P	**P**	**05 34 16.5**	**-0.5**
MATP	**Matopo**	**27.11**	**295**	P	**P**	**05 34 17.3**	**-1.6**
comp=Z,11nm,0.6s,baz=124,slow=7.7,SNR=20							
MATP				LR	LR	05 43 44.1	
comp=Z,2μm,18.8s,baz=126,slow=34							
SUR	**Sutherland**	**28.18**	**265**	P	**P**	**05 34 28.8**	**+0.3**
comp=Z,22nm,0.8s,baz=100,slow=12,SNR=10							
SUR	**Sutherland**	**28.18**	**265**	P	**P**	**05 34 27.3**	**-1.2**
SUR				IAmb	IAmb	05 34 35.9	
comp=Z,92nm,1.3s							
MSEY	**Mahe Island**	**29.99**	**2**	IAMs_20	IAMs_20	05 43 05.6	
comp=Z,5μm,20.0s							
LSZ	**Lusaka**	**30.68**	**303**	P	**P**	**05 34 51.0**	**+0.3**
comp=Z,4.4nm,0.7s,baz=138,slow=9.8,SNR=8.1							
LSZ				LR	LR	05 45 57.8	
comp=Z,3μm,18.5s,baz=132,slow=34							
LSZ	**Lusaka**	**30.68**	**303**	P	**P**	**05 34 50.3**	**-0.5**
LSZ	**Lusaka**	**30.68**	**303**	P	**P**	**05 34 50.8**	**+0.1**
LSZ				P	**P**	**05 34 50.8**	**+0.1**
H08S1	**Diego Garcia H**	**31.63**	**35**	T	T	06 07 59.8	
baz=208,slow=76,SNR=139							
H08S2	**Diego Garcia H**	**31.64**	**35**	T	T	06 08 09.7	
baz=208,slow=76,SNR=65							
H08S3	**Diego Garcia H**	**31.65**	**35**	T	T	06 08 01.7	
baz=208,slow=76,SNR=100							
MAW	**Mawson**	**33.19**	**174**	P	**P**	**05 35 12.3**	**+0.3**
comp=Z,9.2nm,0.8s,baz=321,slow=10,SNR=12							
MAW				LR	LR	05 45 09.2	
comp=Z,6μm,21.1s,baz=5.5,slow=30							
MAW	**Mawson**	**33.19**	**174**	P	**P**	**05 35 12.9**	**+0.8**
baz=33,SNR=8.0							
MAW	**Mawson**	**33.19**	**174**	P	**P**	**05 35 12.5**	**+0.5**
MAW				pmax	pmax		
comp=Z,7.0nm,1.2s							
MAW	**Mawson**	**33.19**	**174**	P	**P**	**05 35 12.5**	**+0.5**
SYO	**Syowa Base**	**35.27**	**189**	*eP*	**P**	**05 35 31.4**	**+1.3**
SYO	**Syowa Base**	**35.27**	**189**	*eP*	pP	05 35 33.0	+1.2
KIBK	**Kibwezi**	**35.79**	**331**	P	**P**	**05 35 35.6**	**+0.4**
KIBK	**Kibwezi**	**35.79**	**331**	P	**P**	**05 35 36.9**	**+1.7**
TSUM	**Tsumeb**	**36.23**	**286**	P	**P**	**05 35 38.1**	**-1.0**
comp=Z,7.3nm,0.6s,baz=127,slow=8.6,SNR=6.6							
TSUM	**Tsumeb**	**36.23**	**286**	P	**P**	**05 35 38.5**	**-0.6**
KMBO	**Kilima Mbogo**	**37.22**	**330**	P	**P**	**05 35 48.2**	**+0.7**
comp=Z,1.3nm,0.3s,baz=139,slow=7.1,SNR=8.4							
KMBO				LR	LR	05 48 47.3	
comp=Z,3μm,21.6s,baz=150,slow=33							
KMBO	**Kilima Mbogo**	**37.22**	**330**	*ceP*	**P**	**05 35 49.7**	**+2.1**
MBAR	**Mbarara**	**40.68**	**322**	*i P*	**P**	**05 36 16.5**	**0.0**
MBAR	**Mbarara**	**40.68**	**322**	IAMs_20	IAMs_20	05 51 36.8	
comp=Z,3μm,20.0s							
MBAR	**Mbarara**	**40.68**	**322**	P	**P**	**05 36 19.2**	**+2.7**
MBAR				P	**P**	**05 36 19.2**	**+2.7**
LODK	**Lodwar**	**42.11**	**331**	P	**P**	**05 36 30.2**	**+2.0**
LODK				IAMs_20	IAMs_20	05 52 28.1	
comp=Z,4μm,19.0s							
LODK	**Lodwar**	**42.11**	**331**	P	**P**	**05 36 30.3**	**+2.1**
DILA	**Dilla**	**43.82**	**336**	*eP*	**P**	**05 36 43.9**	**+1.9**
CASY	**Casey**	**45.08**	**152**	P	**P**	**05 36 50.7**	**-0.7**
CASY	**Casey**	**45.08**	**152**	IAMs_20	IAMs_20	05 54 19.7	
comp=Z,3μm,18.0s							
HARA	**HARA**	**45.15**	**344**	*eP*	**P**	**05 36 54.8**	**+2.0**
FURI	**Furi**	**46.01**	**338**	P	**P**	**05 37 03.5**	**+3.8**
FURI	**Furi**	**46.01**	**338**	IAMs_20	IAMs_20	05 53 15.4	
comp=Z,2μm,21.0s							
FURI	**Furi**	**46.01**	**338**	*eP*	**P**	**05 37 01.1**	**+1.4**
AAE	**Adis Abeba**	**46.10**	**338**	*eP*	**P**	**05 37 02.1**	**+1.7**
ANKE	**Ethiopia-Afar**	**46.35**	**340**	*eP*	**P**	**05 37 03.8**	**+1.4**
SNAA	**Sanae**	**47.23**	**201**	P	**P**	**05 37 08.2**	**-0.2**
SNAA	**Sanae**	**47.23**	**201**	P	**P**	**05 37 07.8**	**-0.5**
comp=Z,13nm,0.9s,baz=89,slow=6.8,SNR=29							
SNAA	**Sanae**	**47.23**	**201**	*ceP*	**P**	**05 37 08.3**	**-0.1**
SNAA				pmax	pmax		
comp=Z,21nm,1.0s							
SNAA	**Sanae**	**47.23**	**201**	P	**P**	**05 37 08.2**	**-0.2**
SNAA				IAmb	IAmb	05 37 15.3	
comp=Z,50nm,1.4s							
ATD	**Arta Tunnel**	**47.41**	**344**	P	**P**	**05 37 10.2**	**-0.1**
ATD				IAmb	IAmb	05 37 29.8	
comp=Z,120nm,1.6s							
DESE	**Dese**	**47.83**	**340**	*eP*	**P**	**05 37 16.1**	**+2.1**
TEND	**Ethiopian Broa**	**48.11**	**342**	*eP*	**P**	**05 37 18.5**	**+2.8**
H01W2	**Cape Leeuwin H**	**48.19**	**108**	T	T	06 29 09.9	
baz=251,slow=75,SNR=36							
H01W3	**Cape Leeuwin H**	**48.20**	**108**	T	T	06 28 56.9	
baz=251,slow=75,SNR=42							
H01W1	**Cape Leeuwin H**	**48.20**	**108**	T	T	06 29 08.6	
baz=251,slow=75,SNR=38							
VNA1	**Neumayer--Stat**	**48.64**	**203**	P	**P**	**05 37 19.7**	**+0.5**
VNA3	**Neumayer Olymp**	**49.22**	**203**	P	**P**	**05 37 23.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.27**	**107**	P	**P**	**05 37 42.7**	**+2.9**
MORW	**Morawa**	**51.74**	**102**	P	**P**	**05 37 44.6**	**+1.2**
MORW				IAmb	IAmb	05 37 52.2	
comp=Z,90nm,1.6s							
GIRL	**Giralia**	**52.99**	**94**	P	**P**	**05 37 54.1**	**+1.4**
baz=53,SNR=3.9							
DOK	**Doka**	**53.13**	**359**	P	**P**	**05 37 54.6**	**+1.0**
DOK				P	**P**	**05 37 54.6**	**+1.0**
GSI	**Gunungsitoli**	**53.90**	**57**	P	**P**	**05 38 00.3**	**+0.9**
KASI	**Kota Agung**	**54.40**	**69**	P	**P**	**05 38 02.1**	**-1.0**
comp=Z,62nm,1.5s							
LHSI	**Lahat**	**54.74**	**67**	P	**P**	**05 38 05.0**	**-0.5**
comp=Z,2μmcomp=

BNSI	**Bone**	**67.44**	**79**	P	**P**	**05 39 30.5**	**-1.3**
	comp=Z,1μmcomp=Z,29nm,0.9s						
CHAI	**Chaiyaphum**	**67.57**	**50**	P	**P**	**05 39 37.1**	**+4.6**
	comp=Z,1μmcomp=Z,21nm,1.0s						
CM31	**Chiang Mai Arr**	**67.67**	**46**	P	**P**	**05 39 33.6**	**+0.4**
CM31				IAmb	IAmb	05 39 35.8	
	comp=Z,80nm,1.5s						
CM31	**Chiang Mai Arr**	**67.67**	**46**	P	**P**	**05 39 33.5**	**+0.4**
	SNR=9.2						
CMAR	**Chiang Mai Arr**	**67.67**	**46**	P	**P**	**05 39 33.0**	**-0.1**
	comp=Z,8.7nm,0.8s,baz=231,slow=6.6,SNR=28						
CMAR				LR	LR	06 05 37.4	
	comp=Z,944nm,18.8s,baz=249,slow=33						
CMAR	**Chiang Mai Arr**	**67.67**	**46**	*ce*P	**P**	**05 39 33.2**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.67**	**46**	P	**P**	**05 39 33.4**	**+0.3**
SOEI	**Soe**	**67.81**	**87**	P	**P**	**05 39 33.1**	**-1.2**
CHTO	**Chiang Mai**	**67.95**	**46**	P	**P**	**05 39 35.1**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,68nm,1.7s						
CHTO	**Chiang Mai**	**67.95**	**46**	P	**P**	**05 39 35.1**	**+0.3**
CHTO				IAmb	IAmb	05 39 37.5	
	comp=Z,68nm,1.6s						
CHTO	**Chiang Mai**	**67.95**	**46**	P	**P**	**05 39 35.1**	**+0.3**
TTSI	**Tana Toraja**	**68.00**	**78**	P	**P**	**05 39 35.7**	**+0.3**
	comp=Z,1μmcomp=Z,39nm,0.8s						
KOLN	**Koldanda**	**68.01**	**28**	*e*P	**P**	**05 39 34.5**	**-0.8**
	comp=Z,311nm,1.4s						
KNRA	**Kununurra**	**68.34**	**94**	P	**P**	**05 39 37.3**	**-0.1**
	baz=69,SNR=7.6						
KNRA	**Kununurra**	**68.34**	**94**	P	**P**	**05 39 37.3**	**-0.1**
DDI	**Dehra Dun**	**68.45**	**22**	*e*P	P	05 39 42.8	+5.0
ASAR	**Alice Springs**	**68.47**	**104**	P	**P**	**05 39 37.9**	**-0.4**
	comp=Z,15nm,0.6s,baz=234,slow=5.9,SNR=182						
ASAR				LR	LR	06 05 51.1	
	comp=Z,528nm,19.6s,baz=254,slow=33						
ASAR	**Alice Springs**	**68.47**	**104**	P	**P**	**05 39 38.3**	**0.0**
ASAR	**Alice Springs**	**68.47**	**104**	P	**P**	**05 39 38.3**	**0.0**
AS31	**Alice Springs**	**68.47**	**104**	P	**P**	**05 39 38.2**	**-0.1**
PKI	**Pulchoki**	**68.54**	**29**	*e*P	**P**	**05 39 37.5**	**-1.3**
	comp=Z,232nm,1.6s						
PKIN	**Phulchoki**	**68.54**	**29**	*e*P	**P**	**05 39 37.5**	**-1.2**
DANN	**Dangsing**	**68.59**	**27**	*e*P	**P**	**05 39 38.0**	**-1.0**
	comp=Z,88nm,1.1s						
GKN	**Gorkha**	**68.62**	**28**	*e*P	**P**	**05 39 38.2**	**-0.8**
	comp=Z,150nm,1.2s						
KKN	**Kakani**	**68.68**	**29**	*e*P	**P**	**05 39 38.3**	**-1.2**
	comp=Z,180nm,1.3s						
ODAN	**Odare**	**68.73**	**31**	*e*P	**P**	**05 39 39.5**	**-0.4**
JIRN	**Jiri**	**68.94**	**30**	*e*P	**P**	**05 39 40.5**	**-0.8**
SMLA	**Simla**	**68.94**	**21**	*e*P	**P**	**05 39 40.2**	**-0.5**
SMLA				IAmb	IAmb	05 39 47.8	
	comp=Z,211nm,1.9s						
GUN	**Gumba**	**69.03**	**29**	*e*P	**P**	**05 39 41.4**	**-0.4**
	comp=Z,386nm,1.5s						
HRA	**Herat**	**69.20**	**7**	P	**P**	**05 39 43.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**69.21**	**304**	P	**P**	**05 39 42.4**	**-0.4**
	comp=Z,7.8nm,1.0s,baz=126,slow=4.1,SNR=21						
TORD				LR	LR	06 10 14.8	
	comp=Z,1μm,18.4s,baz=95,slow=36						
TORD	**Torodi Ar. Bea**	**69.21**	**304**	P	**P**	**05 39 42.9**	**+0.1**
TORD				IAmb	IAmb	05 39 45.8	
	comp=Z,91nm,1.8s						
KIC	**Kosan Boka**	**69.25**	**294**	*e*P	**P**	**05 39 44.7**	**+1.6**
	comp=Z,60nm,1.2s						
TAPN	**Taplejung**	**69.30**	**31**	*e*P	**P**	**05 39 42.7**	**-0.8**
LIC	**Lamto**	**69.37**	**294**	*e*P	**P**	**05 39 44.5**	**+0.6**
	comp=Z,213nm,1.9s						
TIC	**Toumodi**	**69.64**	**294**	*e*P	**P**	**05 39 46.8**	**+1.3**
GTK	**Tadong**	**69.66**	**32**	*e*P	**P**	**05 39 45.0**	**-0.5**
SHL	**Shillong**	**69.66**	**36**	P	**P**	**05 39 45.7**	**+0.1**
SHL				pmax	pmax		
	comp=Z,171nm,1.8s						
SHL	**Shillong**	**69.66**	**36**	*e*P	**P**	**05 39 45.0**	**-0.6**
SHL				IAmb	IAmb	05 39 48.8	
	comp=Z,299nm,2.4s						
SHL	**Shillong**	**69.66**	**36**	P	**P**	**05 39 45.7**	**+0.1**
SHL	**Shillong**	**69.66**	**36**	P	**P**	**05 39 45.6**	**+0.1**
	SNR=15						
PMSA	**Palmer Station**	**69.86**	**204**	LR	LR	06 04 38.1	
	comp=Z,523nm,18.4s,baz=104,slow=31						
IMP	**Imphal**	**70.06**	**38**	*e*P	**P**	**05 39 48.7**	**+0.8**
IMP				IAmb	IAmb	05 39 51.6	
	comp=Z,279nm,2.4s						
MPSI	**Mapaga**	**70.08**	**75**	P	**P**	**05 39 48.3**	**0.0**
	comp=Z,695nmcomp=Z,31nm,1.7s						
SPMM	**Sapulut**	**70.09**	**69**	P	**P**	**05 39 46.0**	**-2.4**
KBL	**Kabul**	**70.30**	**13**	P	**P**	**05 39 50.0**	**+0.7**
KBL				pmax	pmax		
	comp=Z,47nm,1.4s						
KBL	**Kabul**	**70.30**	**13**	P	**P**	**05 39 50.0**	**+0.7**
KBL				IAmb	IAmb	05 40 06.7	
	comp=Z,47nm,1.4s						
KBL	**Kabul**	**70.30**	**13**	P	**P**	**05 39 50.0**	**+0.7**
	SNR=16						
NIL	**Nilore**	**70.31**	**16**	P	**P**	**05 39 48.1**	**-1.1**
NIL				pmax	pmax		
	comp=Z,116nm,1.8s						
NIL	**Nilore**	**70.31**	**16**	P	**P**	**05 39 48.1**	**-1.1**
NIL				IAmb	IAmb	05 39 56.5	
	comp=Z,116nm,1.8s						
STKA	**Stephens Creek**	**70.40**	**116**	P	**P**	**05 39 50.6**	**+0.5**
	comp=Z,12nm,0.8s,baz=274,slow=2.7,SNR=14						
STKA				LR	LR	06 04 19.6	
	comp=Z,726nm,20.5s,baz=221,slow=30						
STKA	**Stephens Creek**	**70.40**	**116**	P	**P**	**05 39 50.5**	**+0.4**
TOO	**Toolangi**	**70.43**	**123**	P	**P**	**05 39 50.9**	**+0.7**
TOO				pmax	pmax		
	comp=Z,34nm,1.5s						
TOO	**Toolangi**	**70.43**	**123**	P	**P**	**05 39 50.9**	**+0.7**
WRA	**Warramunga Arr**	**70.69**	**101**	P	**P**	**05 39 51.8**	**-0.2**
	comp=Z,33nm,0.6s,baz=237,slow=5.6,SNR=336						
WRA	**Warramunga Arr**	**70.69**	**101**	P	**P**	**05 39 52.2**	**+0.2**
WRA				pmax	pmax		
	comp=Z,21nm,1.6s						
WRA	**Warramunga Arr**	**70.69**	**101**	P	**P**	**05 39 52.2**	**+0.2**
WB2	**Warramunga Arr**	**70.70**	**101**	P	**P**	**05 39 52.1**	**0.0**
WRAB	**Tennant Creek**	**70.70**	**101**	*ce*P	**P**	**05 39 51.8**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,154nm,1.3s						
WRAB	**Tennant Creek**	**70.70**	**101**	P	**P**	**05 39 51.8**	**-0.3**
WB0	**Warramunga Arr**	**70.82**	**101**	P	**P**	**05 39 52.6**	**-0.2**
WR0	**Warramunga Arr**	**70.84**	**101**	P	**P**	**05 39 53.0**	**+0.1**
KOHI	**KOHIMA**	**70.88**	**37**	*e*P	**P**	**05 39 53.2**	**+0.2**
TOLI2	**Tolitoli**	**71.25**	**75**	P	**P**	**05 39 55.2**	**-0.2**
MTN	**Manton Dam**	**71.78**	**93**	P	**P**	**05 39 58.6**	**-0.1**
MTN				IAmb	IAmb	05 40 01.3	
	comp=Z,108nm,1.6s						
ITAN	**ITANAGAR**	**71.87**	**36**	*e*P	**P**	**05 39 59.5**	**+0.7**
ITAN				IAmb	IAmb	05 40 06.6	
	comp=Z,110nm,0.9s						
CSS	**Mathiatis**	**72.20**	**342**	P	**P**	**05 40 00.2**	**-0.4**
CSS				IAmb	IAmb	05 40 08.6	
	comp=Z,78nm,1.3s						
GEYT	**Alibeck**	**72.44**	**3**	P	**P**	**05 40 02.1**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=160,slow=35,SNR=1.8						
GEYT				LR	LR	06 10 18.2	
	comp=Z,418nm,18.1s,baz=95,slow=35						
GYA0B	**ALIBECK ARRAY**	**72.44**	**3**	P	**P**	**05 40 02.2**	**+0.2**
SIRT	**Sirnak**	**72.83**	**350**	P	**P**	**05 40 05.3**	**+0.9**
LSA	**Lhasa**	**72.83**	**33**	P	**P**	**05 40 05.5**	**+0.4**
LSA	**Lhasa**	**72.83**	**33**	P	**P**	**05 40 05.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,107nm,1.6s						
LSA	**Lhasa**	**72.83**	**33**	P	**P**	**05 40 05.9**	**+0.8**
LSA				IAmb	IAmb	05 40 08.3	
	comp=Z,107nm,1.6s						
LSA				IAMs_20	IAMs_20	06 08 51.1	
	comp=Z,1μm,19.0s						
SLVN	**Son La**	**72.85**	**48**	P	**P**	**05 40 05.6**	**+0.7**
SLVN				IAmb	IAmb	05 40 08.1	
	comp=Z,129nm,2.0s						
MARD	**Mardin**	**72.90**	**348**	P	**P**	**05 40 05.0**	**+0.1**
KDU	**Kakadu**	**72.97**	**94**	P	**P**	**05 40 05.8**	**+0.1**
	baz=73,SNR=3.9						
LKP	**Lekhapani**	**73.08**	**38**	*e*P	**P**	**05 40 05.8**	**-0.2**
LKP				IAmb	IAmb	05 40 12.8	
	comp=Z,41nm,0.5s						
GAZ	**Gaziantep**	**73.42**	**346**	P	**P**	**05 40 08.1**	**+0.2**
GAZ				IAmb	IAmb	05 40 15.8	
	comp=Z,122nm,1.6s						
CMSA	**Cobar Meteorol**	**73.59**	**117**	P	**P**	**05 40 10.2**	**+1.1**
	baz=74,SNR=6.0						
GURO	**Guroymak-BITLI**	**73.92**	**350**	P	**P**	**05 40 12.5**	**+1.7**
CAN	**Canberra**	**74.00**	**122**	P	**P**	**05 40 12.0**	**+0.4**
CAN				pmax	pmax		
	comp=Z,96nm,1.5s						
CAN	**Canberra**	**74.00**	**122**	P	**P**	**05 40 12.0**	**+0.4**
CAN				IAmb	IAmb	05 40 20.9	
	comp=Z,96nm,1.5s						
YNG	**Young**	**74.11**	**121**	P	**P**	**05 40 13.9**	**+1.6**
	baz=74,SNR=11						
KOWA	**Kowa**	**74.12**	**301**	P	**P**	**05 40 10.9**	**-1.5**
KOWA				IAmb	IAmb	05 40 15.9	
	comp=Z,105nm,1.9s						
MALT	**Malatya**	**74.28**	**347**	P	**P**	**05 40 15.6**	**+2.6**
CHGR	**Chuyangaron**	**74.33**	**12**	P	**P**	**05 40 12.9**	**-0.3**
KARP	**Karpathos**	**74.54**	**337**	IAMs_20	IAMs_20	06 13 43.2	
	comp=Z,1μm,22.0s						
QIS	**Mount Isa**	**74.59**	**104**	P	**P**	**05 40 15.8**	**+0.5**
	baz=75,SNR=13						
ELL	**Elmali**	**74.81**	**340**	P	**P**	**05 40 17.0**	**+0.9**
ELL				pmax	pmax		
	comp=Z,228nm,1.4s						
ELL	**Elmali**	**74.81**	**340**	P	**P**	**05 40 17.0**	**+0.9**
ARG	**Arkhangelos**	**74.85**	**338**	P	**P**	**05 40 20.7**	**+4.6**
GAR	**Garm**	**74.86**	**13**	P	**P**	**05 40 17.6**	**+1.2**
GAR				IAmb	IAmb	05 40 23.8	
	comp=Z,46nm,1.1s						
GAR				IAMs_20	IAMs_20	06 09 18.6	
	comp=Z,2μm,21.0s						
QIZ	**Qiongzhong**	**74.94**	**54**	P	**P**	**05 40 18.4**	**+1.3**
QIZ				S	**S**	**05 49 50.1**	**-4.8**
QIZ				SS	**SS**	**05 54 41.8**	**-2.1**
QIZ				LR	LR		
	comp=Z,550nm,17.7s						
QIZ				LR	LR		
	comp=Z,600nm,23.5s						
QIZ				LR	LR		
	comp=Z,630nm,35.3s						
KMI	**Kunming**	**75.05**	**44**	⇓P	**P**	**05 40 18.8**	**+0.9**
KMI				pP	sP	05 40 21.1	+1.0
KMI				PP	**PP**	**05 43 06.8**	**+0.6**
KMI				S	**S**	**05 50 00.9**	**+4.5**
KMI				pmax	pmax		
	comp=Z,16nm,1.5s						
KMI				pmax	pmax		
	comp=Z,270nm,5.3s						
KMI				LR	LR		
	comp=Z,640nm,20.6s						
KMI				LR	LR		
	comp=Z,570nm,18.7s						
KMI				LR	LR		
	comp=Z,940nm,20.6s						
QLP	**Quilpie**	**75.06**	**112**	P	**P**	**05 40 18.8**	**+1.0**
	baz=75,SNR=5.1						
GNI	**Garni**	**75.14**	**352**	*de*P	**P**	**05 40 17.5**	**-0.4**
GNI				pmax	pmax		
	comp=Z,78nm,1.7s						
GNI	**Garni**	**75.14**	**352**	P	**P**	**05 40 18.8**	**+0.8**
GNI	**Garni**	**75.14**	**352**	IAMs_20	IAMs_20	06 10 35.4	
	comp=Z,2μm,20.0s						
GNI	**Garni**	**75.14**	**352**	P	**P**	**05 40 19.0**	**+1.1**
DRK	**Karamyk**	**75.61**	**14**	P	**P**	**05 40 21.3**	**+0.5**
YER	**Yerkesik**	**75.65**	**339**	P	**P**	**05 40 23.9**	**+3.1**
EFI	**East Falkland**	**75.70**	**216**	*i* P	**P**	**05 40 21.2**	**+0.2**
EFI				pmax	pmax		
	comp=Z,62nm,1.1s						
BTK	**Batken**	**75.98**	**13**	P	**P**	**05 40 23.8**	**+1.1**
BTK				pmax	pmax		
	comp=Z,166nm,1.9s						
BTK	**Batken**	**75.98**	**13**	P	**P**	**05 40 23.8**	**+1.1**
BTK				IAMs_20	IAMs_20	06 10 08.2	
	comp=Z,1μm,20.0s						
AKH	**Akhalkalaki**	**76.53**	**351**	⇑P	**P**	**05 40 27.7**	**+1.8**
KSH	**Kashi**	**76.54**	**17**	P	**P**	**05 40 23.4**	**-2.5**
KSH				pP	sP	05 40 29.8	+1.6
KSH				S	**S**	**05 50 07.5**	**-4.6**
KSH				sS	sS	05 50 16.9	+2.1
KSH				pmax	pmax		
	comp=Z,26nm,2.3s						
KSH				pmax	pmax		
	comp=Z,230nm,3.1s						
KSH				LR	LR		
	comp=Z,460nm,9.7s						
KSH				LR	LR		
	comp=Z,610nm,10.9s						
KSH				LR	LR		
	comp=Z,670nm,11.0s						
BR131	**Keskin Array S**	**76.65**	**344**	P	**P**	**05 40 25.7**	**-0.9**
BR131				pmax	pmax		
	comp=Z,41nm,1.2s						
BR131	**Keskin Array S**	**76.65**	**344**	P	**P**	**05 40 25.6**	**-0.9**
BR131	**Keskin Array S**	**76.65**	**344**	P	**P**	**05 40 25.9**	**-0.6**
	SNR=12						
BRTR	**Keskin Array B**	**76.65**	**344**	P	**P**	**05 40 25.2**	**-1.3**
	comp=Z,5.3nm,0.9s,baz=169,slow=6.9,SNR=23						
BRTR				LR	LR	06 11 38.3	
	comp=Z,957nm,20.3s,baz=160,slow=34						
BRTR	**Keskin Array B**	**76.65**	**344**	*i* P	**P**	**05 40 25.7**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**76.65**	**344**	P	**P**	**05 40 25.5**	**-1.1**
MANT	**Manisa**	**76.82**	**339**	P	**P**	**05 40 28.0**	**+0.3**
ANTO	**Ankara**	**76.99**	**343**	P	**P**	**05 40 28.2**	**-0.2**
ANTO				pmax	pmax		
	comp=Z,39nm,1.1s						
ANTO	**Ankara**	**76.99**	**343**	P	**P**	**05 40 28.2**	**-0.2**
ANTO				IAmb	IAmb	05 40 35.8	
	comp=Z,39nm,1.1s						
ANTO				IAMs_20	IAMs_20	06 12 29.2	
	comp=Z,1μm,21.0s						
MAK	**Makhachkala**	**77.67**	**355**	*e*P	**P**	**05 40 29.1**	**-2.9**
MAK				*e*		05 43 23.5	
MAK				*e*S	**S**	**05 50 18.7**	**-5.1**
MAK				pmax	pmax		
	comp=Z,220nm,1.2s						
MAK				MLR	MLR		
	comp=Z,497nm,16.0s						
ONI	**Oni**	**77.70**	**352**	P	**P**	**05 40 32.6**	**+0.3**
ONI				pmax	pmax		
	comp=Z,104nm,1.7s						
ONI	**Oni**	**77.70**	**352**	P	**P**	**05 40 32.6**	**+0.3**
ONI				IAmb	IAmb	05 40 41.3	
	comp=Z,104nm,1.7s						
ITM	**Ithomi**	**77.81**	**334**	P	**P**	**05 40 33.0**	**+0.1**
ITM				IAmb	IAmb	05 40 40.5	
	comp=Z,95nm,1.7s						
ZEI	**Tsey**	**77.84**	**352**	*e*P	**P**	**05 40 33.5**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,46nm,1.6s						
ILGA	**Ilgaz**	**77.90**	**344**	P	**P**	**05 40 33.7**	**0.0**
GROC	**Groznyy**	**78.05**	**353**	*e*P	**P**	**05 40 32.0**	**-2.1**
GROC				*e*S	**S**	**05 50 25.1**	**-2.9**
GROC				pmax	pmax		
	comp=Z,97nm,1.4s						
BALB	**Balikesir**	**78.09**	**339**	P	**P**	**05 40 34.7**	**+0.3**
GYA	**Guiyang**	**78.36**	**46**	⇑P	**P**	**05 40 38.8**	**+2.4**
GYA				S	**S**	**05 50 34.9**	**+2.6**
GYA				pmax	pmax		
	comp=Z,5.0nm,2.0s						
GYA				LR	LR		
	comp=Z,110nm,20.7s						
NEY	**Neytrino**	**78.44**	**351**	*i* P	**P**	**05 40 37.0**	**+0.5**
ARMA	**Armidale**	**78.50**	**119**	P	**P**	**05 40 39.0**	**+1.6**
	baz=79,SNR=4.3						
ARMA	**Armidale**	**78.50**	**119**	P	**P**	**05 40 37.4**	**0.0**
ARMA				IAmb	IAmb	05 40 46.3	
	comp=Z,78nm,1.4s						
AML	**Almayashu**	**78.54**	**14**	P	**P**	**05 40 38.2**	**+0.9**
SWI	**Sorong**	**78.55**	**83**	P	**P**	**05 40 37.7**	**0.0**
	comp=Z,1μmcomp=Z,80nm,1.2s						
DZA	**Taraz**	**78.82**	**12**	*e*P	**P**	**05 40 38.0**	**-0.5**
	baz=12						
DZA	**Taraz**	**78.82**	**12**	*e*P	**P**	**05 40 37.9**	**-0.5**
KK31	**Karatay Array**	**78.89**	**12**	P	**P**	**05 40 38.5**	**-0.3**
KK31				pmax	pmax		
	comp=Z,67nm,1.4s						
KK31	**Karatay Array**	**78.89**	**12**	P	**P**	**05 40 38.5**	**-0.3**
KK31				IAmb	IAmb	05 40 46.9	
	comp=Z,67nm,1.4s						
KKAR	**Karatay Array**	**78.89**	**12**	P	**P**	**05 40 38.7**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,67nm,1.4s						
KKAR	**Karatay Array**	**78.89**	**12**	P	**P**	**05 40 39.0**	**+0.2**
KKAR	**Karatay Array**	**78.89**	**12**	P	**P**	**05 40 38.7**	**-0.1**
KKAR				IAmb	IAmb	05 40 46.9	
	comp=Z,67nm,1.4s						
KBZ	**Khabaz**	**78.89**	**351**	P	**P**	**05 40 38.5**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=142,slow=4.1,SNR=16						
KBZ				LR	LR	06 13 36.7	
	comp=Z,1μm,20.9s,baz=144,slow=34						
SHA1	**Shidzhatmaz**	**78.93**	**351**	*d i* P	**P**	**05 40 38.7**	**-0.6**
TARG	**Taragay, Kyrgy**	**79.08**	**17**	P	**P**	**05 40 40.1**	**-0.3**
KIV	**Kislovodsk**	**79.14**	**351**	*e*P	**P**	**05 40 39.5**	**-0.7**
KIV				*e*		05 43 38.0	
KIV				*e*S	**S**	**05 50 39.8**	**0.0**
KIV				*e*SS	**SS**	**05 55 47.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,56nm,3.3s						
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV	**Kislovodsk**	**79.14**	**351**	P	**P**	**05 40 40.2**	**0.0**
KIV				IAmb	IAmb	05 40 48.0	
	comp=Z,105nm,1.6s						
KIV				IAMs_20	IAMs_20	06 13 52.2	
	comp=Z,937nm,20.0s						
KIV	**Kislovodsk**	**79.14**	**351**	P	**P**	**05 40 40.6**	**+0.4**
AAK	**Ala-Archa**	**79.19**	**15**	P	**P**	**05 40 41.5**	**+0.8**
AAK				pmax	pmax		
	comp=Z,132nm,1.5s						
AAK	**Ala-Archa**	**79.19**	**15**	P	**P**	**05 40 41.5**	**+0.8**
AAK				IAmb	IAmb	05 40 49.5	
	comp=Z,132nm,1.4s						
SOC	**Sochi**	**79.19**	**349**	*d i* P	**P**	**05 40 38.6**	**-1.8**
SOC				*e*		05 43 37.0	
SOC				*e*PPP	PPP	05 45 27.8	
SOC				*e*S	**S**	**05 50 39.0**	**-1.2**
SOC				*e*SS	**SS**	**05 55 47.8**	**+0.4**
SOC				*e*SSS	SSS	05 59 09.4	
SOC				pmax	pmax		
	comp=Z,13nm,0.5s						
SOC				MLR	MLR		
	comp=Z,285nm,16.0s						
AGG	**Agios Georgios**	**79.30**	**335**	P	**P**	**05 40 41.3**	**+0.1**
AGG				pmax	pmax		
	comp=Z,59nm,1.4s						
AGG	**Agios Georgios**	**79.30**	**335**	P	**P**	**05 40 41.3**	**+0.1**
AGG				IAmb	IAmb	05 40 48.7	
	comp=Z,59nm,1.4s						
KDJ	**Kajisay**	**79.31**	**17**	P	**P**	**05 40 41.0**	**-0.4**
KDJ				pmax	pmax		
	comp=Z,100nm,1.3s						
KDJ	**Kajisay**	**79.31**	**17**	P	**P**	**05 40 41.0**	**-0.4**
KDJ				IAmb	IAmb	05 40 49.6	
	comp=Z,100nm,1.3s						
BOOM	**Boomskoye usch**	**79.36**	**16**	P	**P**	**05 40 41.6**	**0.0**
BOOM				pmax	pmax		
	comp=Z,82nm,1.4s						
BOOM	**Boomskoye usch**	**79.36**	**16**	P	**P**	**05 40 41.6**	**0.0**
BOOM				IAmb	IAmb	05 40 49.9	
	comp=Z,82nm,1.4s						
WDD	**Wied Dalam**	**79.61**	**328**	IAMs_20	IAMs_20	06 18 19.4	
	comp=Z,2μm,18.0s						
PRZ	**Przheval'sk**	**79.94**	**18**	P	**P**	**05 40 45.8**	**+1.0**
PRZ				pmax	pmax		
	comp=Z,414nm,1.8s						
PRZ	**Przheval'sk**	**79.94**	**18**	P	**P**	**05 40 45.8**	**+1.0**
SGDS	**Sogindy**	**80.00**	**15**	⇓*e*P	**P**	**05 40 43.1**	**-1.9**
	comp=Z,68nm,3.1s,baz=15						
SGDS	**Sogindy**	**80.00**	**15**	*de*P	**P**	**05 40 43.0**	**-1.9**
SGDS				pmax	pmax		
	comp=Z,68nm,3.1s						
CD2	**Chengdu**	**80.08**	**41**	P	**P**	**05 40 47.6**	**+1.9**
CD2				S	**S**	**05 50 54.6**	**+4.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				LR	LR		
	comp=Z,780nm,22.1s						
CD2				LR	LR		
	comp=Z,960nm,16.2s						
CD2				LR	LR		
	comp=Z,900nm,22.6s						
CTAO	**Charters Tower**	**80.11**	**108**	P	**P**	**05 40 46.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,167nm,1.9s						
CTAO	**Charters Tower**	**80.11**	**108**	P	**P**	**05 40 46.7**	**+0.5**
CTAO				IAmb	IAmb	05 40 50.6	
	comp=Z,167nm,1.9s						
GOF	**Gofitskoye**	**80.18**	**352**	⇑*e*P	**P**	**05 40 45.4**	**-0.4**
GOF				pmax	pmax		
	comp=Z,82nm,1.1s						
SATY	**Saty**	**80.48**	**17**	⇓*i* P	**P**	**05 40 46.5**	**-1.2**
	comp=Z,71nm,2.3s,baz=17						
SATY	**Saty**	**80.48**	**17**	*d i* P	**P**	**05 40 46.4**	**-1.2**
SATY				pmax	pmax		
	comp=Z,71nm,2.3s						
UZB	**Uzynbulak**	**80.72**	**18**	⇓*e*P	**P**	**05 40 47.3**	**-1.6**
	comp=Z,62nm,2.2s,baz=18						
UZB	**Uzynbulak**	**80.72**	**18**	*de*P	**P**	**05 40 47.3**	**-1.6**
UZB				pmax	pmax		
	comp=Z,62nm,2.2s						
ANN	**Anapa**	**80.75**	**348**	*e*P	**P**	**05 40 48.5**	**-0.3**
ANN				*e*S	**S**	**05 50 59.2**	**+2.6**
ANN				pmax	pmax		
	comp=Z,62nm,1.8s						
ANN				MLR	MLR		
	comp=Z,572nm,18.0s						
KUU	**Kurty**	**80.79**	**16**	*e*P	**P**	**05 40 47.7**	**-1.4**
	comp=Z,145nm,2.2s,baz=16						
KUU	**Kurty**	**80.79**	**16**	*e*P	**P**	**05 40 47.6**	**-1.5**
KUU				pmax	pmax		
	comp=Z,145nm,2.2s						
SHLS	**Shalkode**	**80.84**	**18**	⇓*e*P	**P**	**05 40 49.1**	**-0.4**
	comp=Z,80nm,2.4s,baz=18						
SHLS	**Shalkode**	**80.84**	**18**	*de*P	**P**	**05 40 49.1**	**-0.4**
SHLS				pmax	pmax		
	comp=Z,80nm,2.4s						
RAFF	**Raffo Rosso**	**80.85**	**329**	P	**P**	**05 40 50.1**	**+0.6**
RAFF				IAmb	IAmb	05 40 59.1	
	comp=Z,113nm,1.6s						
EIDS	**Eidsvold**	**80.89**	**114**	P	**P**	**05 40 50.9**	**+0.6**
	baz=81,SNR=5.2						
EIDS	**Eidsvold**	**80.89**	**114**	P	**P**	**05 40 49.9**	**-0.4**
EIDS				IAmb	IAmb	05 40 58.9	
	comp=Z,102nm,1.6s						
CHKK	**Chushkaly**	**80.90**	**16**	*e*P	**P**	**05 40 48.2**	**-1.5**
	baz=16						
CHKK	**Chushkaly**	**80.90**	**16**	*

PDG	**Podgorica**	**83.40**	**334**	⇓P	**P**	**05 41 03.6**	**+0.8**
PDG	**Podgorica**	**83.40**	**334**	P	**P**	**05 41 03.4**	**+0.7**
ABKAR	**Akbulak array**	**83.83**	**4**	P	**P**	**05 41 04.8**	**0.0**
ABKAR				IAmb	IAmb	05 41 12.4	
comp=Z,61nm,1.5s							
ABKAR	**Akbulak array**	**83.83**	**4**	P	**P**	**05 41 03.9**	**-0.9**
WMQ	**Urumqi**	**83.86**	**23**	P	**P**	**05 41 06.0**	**+0.8**
WMQ				pP	pwP	05 41 11.6	+0.3
WMQ				S	**S**	**05 51 29.8**	**+1.1**
WMQ				pmax	pmax		
comp=Z,52nm,1.5s							
WMQ				pmax	pmax		
comp=Z,820nm,4.7s							
WMQ				LR	LR		
comp=Z,790nm,18.5s							
WMQ				LR	LR		
comp=Z,950nm,18.9s							
WMQ				LR	LR		
comp=Z,630nm,18.7s							
MLR	**Muntele Rosu**	**84.03**	**340**	⇑P	**P**	**05 41 05.2**	**-0.9**
MLR	**Muntele Rosu**	**84.03**	**340**	P	**P**	**05 41 05.4**	**-0.7**
MLR				pmax	pmax		
comp=Z,83nm,1.4s							
MLR	**Muntele Rosu**	**84.03**	**340**	P	**P**	**05 41 05.4**	**-0.7**
LZH	**Lanzhou**	**84.14**	**38**	⇑P	**P**	**05 41 07.6**	**+0.6**
LZH				sP	pwP	05 41 12.8	-0.3
LZH				PP	**PP**	**05 44 19.3**	**-2.4**
LZH				SKS	**S**	**05 51 27.6**	**-4.5**
LZH				S	**SKSac**	**05 51 32.1**	**+1.4**
LZH				sS	ScS	05 51 43.8	-0.5
LZH				SS	**SS**	**05 57 05.1**	**+3.3**
LZH				pmax	pmax		
comp=Z,35nm,1.4s							
LZH				pmax	pmax		
comp=Z,440nm,8.0s							
LZH				LR	LR		
comp=Z,580nm,16.0s							
LZH				LR	LR		
comp=Z,530nm,16.3s							
LZH				LR	LR		
comp=Z,570nm,19.2s							
VRI	**Vrincioaia**	**84.16**	**341**	⇑P	**P**	**05 41 06.2**	**-0.4**
VRI	**Vrincioaia**	**84.16**	**341**	⇑P	**P**	**05 41 06.2**	**-0.4**
PLOR	**Plostina**	**84.17**	**341**	⇓P	**P**	**05 41 06.2**	**-0.5**
PLOR	**Plostina**	**84.17**	**341**	⇓P	**P**	**05 41 06.2**	**-0.5**
VOIR		**84.23**	**340**	⇑P	**P**	**05 41 06.6**	**-0.5**
VOIR		**84.23**	**340**	⇑P	**P**	**05 41 06.6**	**-0.5**
HERR	**Herculane**	**84.52**	**338**	⇑P	**P**	**05 41 08.9**	**+0.5**
VASR	**Vaslui**	**84.60**	**342**	⇑P	**P**	**05 41 07.2**	**-1.6**
DIVS	**Divibare**	**84.61**	**336**	P	**P**	**05 41 09.3**	**+0.2**
DIVS				IAmb	IAmb	05 41 17.4	
comp=Z,78nm,1.7s							
MDVR	**Moldovita**	**84.66**	**337**	⇑P	**P**	**05 41 09.7**	**+0.5**
KIS	**Kishinev**	**84.67**	**343**	*e*P	**P**	**05 41 08.0**	**-1.1**
comp=Z,120nm,3.7s							
KIS	**Kishinev**	**84.67**	**343**	*e*PP	PP	05 44 23.0	-2.5
KIS				LRM	MLR	06 19 27.0	
comp=Z,100nm,18.0s							
KIS	**Kishinev**	**84.67**	**343**	*e*P	**P**	**05 41 08.0**	**-1.1**
KIS				*e*		05 44 23.0	
KIS				pmax	pmax		
comp=Z,120nm,3.7s							
GTA	**Gaotai**	**84.84**	**34**	⇑P	**P**	**05 41 09.6**	**-0.8**
GTA				pP	pwP	05 41 15.8	-0.7
GTA				sP	PcP	05 41 19.8	+6.0
GTA				PP	**PP**	**05 44 27.8**	**+0.5**
GTA				S	**S**	**05 51 38.0**	**-0.9**
GTA				sS	sS	05 51 44.3	+2.6
GTA				pmax	pmax		
comp=Z,28nm,2.2s							
GTA				pmax	pmax		
comp=Z,380nm,4.7s							
GTA				LR	LR		
comp=Z,680nm,21.1s							
GTA				LR	LR		
comp=Z,530nm,20.7s							
GTA				LR	LR		
comp=Z,1μm,23.3s							
GZR	**Gura Zlata**	**84.87**	**338**	⇑P	**P**	**05 41 10.3**	**0.0**
GZR	**Gura Zlata**	**84.87**	**338**	⇑P	**P**	**05 41 10.3**	**0.0**
MAKZ	**Makanchi**	**84.89**	**18**	P	**P**	**05 41 09.5**	**-0.8**
MAKZ				pmax	pmax		
comp=Z,47nm,1.2s							
MAKZ	**Makanchi**	**84.89**	**18**	P	**P**	**05 41 09.5**	**-0.8**
MAKZ				IAmb	IAmb	05 41 18.1	
comp=Z,47nm,1.2s							
VSL	**Villasalto**	**84.93**	**327**	IAMs_20	IAMs_20	06 19 03.1	
comp=Z,937nm,20.0s							
MK31	**Makanchi Array**	**84.96**	**19**	P	**P**	**05 41 09.9**	**-0.8**
MK31				pmax	pmax		
comp=Z,70nm,1.8s							
MK31	**Makanchi Array**	**84.96**	**19**	P	**P**	**05 41 09.9**	**-0.8**
MK31				IAmb	IAmb	05 41 18.4	
comp=Z,70nm,1.8s							
MKAR	**Makanchi Array**	**84.96**	**19**	P	**P**	**05 41 09.9**	**-0.7**
comp=Z,7.2nm,0.6s,baz=212,slow=4.6,SNR=66							
MKAR				LR	LR	06 17 06.3	
comp=Z,275nm,18.7s,baz=196,slow=34							
MKAR	**Makanchi Array**	**84.96**	**19**	*ce*P	**P**	**05 41 10.1**	**-0.6**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.6s							
MKAR	**Makanchi Array**	**84.96**	**19**	P	**P**	**05 41 10.0**	**-0.7**
XAN	**Xi'an**	**85.29**	**43**	P	**P**	**05 41 12.8**	**+0.1**
XAN				pP	pwP	05 41 19.5	+0.7
XAN				sP	PcP	05 41 23.3	+7.5
XAN				S	**S**	**05 51 42.5**	**-0.9**
XAN				SS	**SS**	**05 57 20.9**	**+2.3**
XAN				pmax	pmax		
comp=Z,48nm,1.0s							
XAN				pmax	pmax		
comp=Z,490nm,4.1s							
XAN				LR	LR		
comp=Z,640nm,17.6s							
XAN				LR	LR		
comp=Z,620nm,17.7s							
XAN				LR	LR		
comp=Z,600nm,18.6s							
BZS	**Buzias**	**85.43**	**337**	⇑P	**P**	**05 41 13.4**	**+0.5**
BZS	**Buzias**	**85.43**	**337**	⇑P	**P**	**05 41 13.5**	**+0.5**
AQU	**L'Aquila**	**85.56**	**331**	IAMs_20	IAMs_20	06 22 29.8	
comp=Z,733nm,18.0s							
FRGS	**Fruska Gora**	**85.61**	**336**	⇑P	**P**	**05 41 14.3**	**+0.4**
BRZS	**Berezniki**	**85.92**	**12**	⇓*e*P	**P**	**05 41 14.0**	**-1.4**
comp=Z,61nm,2.5s,baz=12							
BRZS	**Berezniki**	**85.92**	**12**	*de*P	**P**	**05 41 14.0**	**-1.4**
BRZS				pmax	pmax		
comp=Z,61nm,2.5s							
ARCR	**ARCALIA**	**85.94**	**340**	⇑P	P	05 41 07.8	-7.7
WHN	**Wuhan**	**85.96**	**48**	P	**P**	**05 41 16.9**	**+0.9**
WHN				S	**S**	**05 51 51.1**	**+1.1**
WHN				LR	LR		
comp=Z,2μm,21.5s							
SPB	**Sao Paulo**	**86.07**	**244**	IAMs_20	IAMs_20	06 11 35.3	
comp=Z,943nm,20.0s							
DRGR		**86.15**	**339**	⇓P	**P**	**05 41 16.3**	**-0.4**
DRGR		**86.15**	**339**	⇓P	**P**	**05 41 16.3**	**-0.4**
BURAR	**Bucovina Array**	**86.18**	**341**	⇓P	**P**	**05 41 16.4**	**-0.4**
BURAR	**Bucovina Array**	**86.18**	**341**	P	**P**	**05 41 16.2**	**-0.6**
ZSN	**Zaisan**	**86.27**	**20**	*e*P	**P**	**05 41 16.0**	**-1.2**
comp=Z,182nm,4.8s,baz=20							
ZSN	**Zaisan**	**86.27**	**20**	*e*P	**P**	**05 41 15.9**	**-1.2**
VRH	**Novokhopyorsk**	**86.39**	**352**	*e*P	**P**	**05 41 17.8**	**+0.2**
VRH				pmax	pmax		
comp=Z,60nm,1.0s							
VORD	**Divnogorie**	**86.47**	**350**	*e*P	**P**	**05 41 17.3**	**-0.7**
VORD				pmax	pmax		
comp=Z,20nm,1.2s							
TRQA	**Tornquist**	**86.67**	**225**	P	**P**	**05 41 19.4**	**-0.3**
TRQA				pmax	pmax		
comp=Z,53nm,1.2s							
TRQA	**Tornquist**	**86.67**	**225**	P	**P**	**05 41 19.4**	**-0.3**
TRQA				IAmb	IAmb	05 41 27.1	
comp=Z,53nm,1.2s							
VSR	**Storozhevoye**	**86.73**	**350**	*e*P	**P**	**05 41 18.9**	**-0.4**
VSR				pmax	pmax		
comp=Z,60nm,1.4s							
MORH	**Mrgy, Hungar**	**86.93**	**336**	⇓P	**P**	**05 41 19.8**	**-0.5**
MORH	**Mrgy, Hungar**	**86.93**	**336**	*e*P	**P**	**05 41 20.6**	**+0.2**
KOVH	**Kovagotottos**	**87.00**	**336**	*e*P	**P**	**05 41 22.5**	**+1.7**
SEM	**Semipalatinsk**	**87.82**	**16**	*e*P	**P**	**05 41 23.4**	**-1.6**
baz=16							
SEM	**Semipalatinsk**	**87.82**	**16**	*e*P	**P**	**05 41 23.3**	**-1.6**
UZH	**Uzhgorod**	**87.93**	**339**	*e*P	**P**	**05 41 25.5**	**+0.4**
UZH				*i*		05 41 29.1	
SKDS	**Skadanscina**	**88.00**	**333**	*e*P	**P**	**05 41 24.7**	**-0.9**
CEY	**Cerknica**	**88.01**	**333**	*e*P	**P**	**05 41 24.9**	**-0.7**
PSZ	**Piszkesteto**	**88.02**	**337**	*e*P	**P**	**05 41 26.4**	**+0.7**
PSZ	**Piszkesteto**	**88.02**	**337**	P	**P**	**05 41 25.5**	**-0.2**
PSZ				pmax	pmax		
comp=Z,37nm,1.2s							
PSZ	**Piszkesteto**	**88.02**	**337**	P	**P**	**05 41 25.5**	**-0.2**
PSZ				IAmb	IAmb	05 41 32.9	
comp=Z,36nm,1.2s							
AKASG	**Malin Array Be**	**88.04**	**344**	P	**P**	**05 41 24.9**	**-0.7**
comp=Z,5.9nm,0.7s,baz=168,slow=4.1,SNR=25							
AKASG				LR	LR	06 18 55.5	
comp=Z,237nm,20.7s,baz=135,slow=34							
AKASG	**Malin Array Be**	**88.04**	**344**	P	**P**	**05 41 25.0**	**-0.6**
AKASG				pmax	pmax		
comp=Z,59nm,1.9s							
AKASG	**Malin Array Be**	**88.04**	**344**	P	**P**	**05 41 25.0**	**-0.6**
AKASG				IAmb	IAmb	05 41 32.5	
comp=Z,59nm,1.9s							
AKBB	**Malin Array Si**	**88.04**	**344**	P	**P**	**05 41 25.2**	**-0.4**
AKBB				pmax	pmax		
comp=Z,90nm,1.6s							
AKBB	**Malin Array Si**	**88.04**	**344**	P	**P**	**05 41 25.1**	**-0.4**
LPSR	**Galich'ya Gora**	**88.11**	**351**	*e*P	**P**	**05 41 25.6**	**-0.3**
LPSR				pmax	pmax		
comp=Z,60nm,1.3s							
MPLH	**Magyarpolny**	**88.14**	**336**	*e*P	**P**	**05 41 29.7**	**+3.6**
KOLS	**Kolonicke sedl**	**88.20**	**339**	*e*P	**P**	**05 41 26.9**	**+0.4**
KOLS	**Kolonicke sedl**	**88.20**	**339**	*e*P	**P**	**05 41 26.9**	**+0.4**
GROS	**Grobnik**	**88.23**	**334**	*e*P	**P**	**05 41 26.8**	**0.0**
KECS	**Kecovo**	**88.34**	**338**	*e*P	**P**	**05 41 27.5**	**+0.4**
KECS	**Kecovo**	**88.34**	**338**	*e*P	**P**	**05 41 27.5**	**+0.4**
SRO	**Srobarova**	**88.44**	**336**	*e*P	**P**	**05 41 29.3**	**+1.7**
SRO	**Srobarova**	**88.44**	**336**	*e*P	**P**	**05 41 29.3**	**+1.7**
BRVK	**Borovoye**	**88.56**	**9**	*ce*P	**P**	**05 41 28.2**	**+0.2**
BRVK				pmax	pmax		
comp=Z,29nm,2.5s							
BRVK	**Borovoye**	**88.56**	**9**	P	**P**	**05 41 29.2**	**+1.2**
BRVK				IAmb	IAmb	05 41 36.3	
comp=Z,39nm,1.6s							
BRVK	**Borovoye**	**88.56**	**9**	P	**P**	**05 41 28.4**	**+0.3**
SOKA	**Soboth**	**88.59**	**334**	*i* P	**P**	**05 41 29.1**	**+0.6**
comp=Z,20nm,1.5s,SNR=12							
OBKA	**Obir**	**88.62**	**334**	*i* P	**P**	**05 41 29.1**	**+0.4**
comp=Z,26nm,1.6s,SNR=9.5							
VYHS	**Vyhne**	**88.86**	**337**	*e*P	**P**	**05 41 29.5**	**-0.2**
VYHS				pmax	pmax		
comp=Z,62nm,1.6s							
VYHS	**Vyhne**	**88.86**	**337**	*e*P	**P**	**05 41 29.4**	**-0.2**
ARSA	**Arzberg**	**88.90**	**335**	*i* P	**P**	**05 41 30.2**	**+0.3**
comp=Z,19nm,1.6s,SNR=6.9							
DGZ	**Jazzator, Alta**	**89.03**	**21**	*i* P	**P**	**05 41 30.3**	**-0.3**
MYKA	**Terra Mystica**	**89.06**	**333**	*e*P	**P**	**05 41 29.7**	**-1.0**
comp=Z,6.3nm,1.1s							
ZST	**Bratislava**	**89.17**	**336**	*e*P	**P**	**05 41 30.4**	**-0.6**
ZST				pmax	pmax		
comp=Z,187nm,1.8s							
ZST	**Bratislava**	**89.17**	**336**	*e*P	**P**	**05 41 30.4**	**-0.6**
LANS	**Liptovska Anna**	**89.24**	**338**	*e*P	**P**	**05 41 32.6**	**+1.2**
LANS	**Liptovska Anna**	**89.24**	**338**	*e*P	**P**	**05 41 32.6**	**+1.2**
ZOU	**Zoufplan**	**89.25**	**333**	P	**P**	**05 41 31.8**	**+0.1**
ZOU				IAmb	IAmb	05 41 40.9	
comp=Z,60nm,1.8s							
MODS	**Modra-Piesok**	**89.27**	**336**	*e*P	**P**	**05 41 32.0**	**+0.5**
MODS				pmax	pmax		
comp=Z,51nm,1.5s							
MODS	**Modra-Piesok**	**89.27**	**336**	*e*P	**P**	**05 41 32.0**	**+0.5**
CTI	**Castel Tesino**	**89.33**	**332**	P	**P**	**05 41 32.9**	**+0.9**
CTI				pmax	pmax		
comp=Z,67nm,1.7s							
CTI	**Castel Tesino**	**89.33**	**332**	P	**P**	**05 41 32.9**	**+0.9**
CTI				IAmb	IAmb	05 41 36.8	
comp=Z,67nm,1.7s							
SMOL	**Smolenice**	**89.34**	**336**	*e*P	**P**	**05 41 31.9**	**+0.1**
SMOL	**Smolenice**	**89.34**	**336**	*e*P	**P**	**05 41 31.9**	**+0.1**
CONA	**Conrad Observa**	**89.36**	**335**	*i* P	**P**	**05 41 32.4**	**+0.3**
comp=Z,34nm,1.6s,SNR=18							
PLCA	**Paso Flores**	**89.47**	**218**	P	**P**	**05 41 34.2**	**+1.1**
comp=Z,1.4nm,0.7s,baz=210,slow=9.0,SNR=4.1							
PLCA				LR	LR	06 14 50.3	
comp=Z,732nm,21.4s,baz=139,slow=31							
PLCA	**Paso Flores**	**89.47**	**218**	IAmb	IAmb	05 41 41.0	
comp=Z,43nm,1.6s							
KBA	**Koelnbreinsper**	**89.55**	**333**	*e*P	**P**	**05 41 34.3**	**+1.2**
comp=Z,0.2nm,0.3s							
JAVC	**Velka Javorina**	**89.56**	**337**	*e*P	**P**	**05 41 33.2**	**+0.3**
ABTA	**Abfaltersbach**	**89.58**	**333**	*i* P	**P**	**05 41 34.0**	**+0.9**
comp=Z,26nm,1.7s,SNR=5.1							
NJ2	**Nanjing**	**89.80**	**50**	*e*P	**P**	**05 41 36.3**	**+1.9**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.5s							
MOA	**Molln**	**89.86**	**334**	*e*P	**P**	**05 41 34.6**	**+0.2**
comp=Z,18nm,1.9s							
URZ	**Urewera**	**89.87**	**138**	LR	LR	06 15 37.9	
comp=Z,1μm,20.0s,baz=183,slow=31							
OJC	**Ojcow**	**90.08**	**338**	P	**P**	**05 41 35.0**	**-0.3**
OJC				pmax	pmax		
comp=Z,74nm,1.7s							
OJC				MLR	MLR		
comp=Z,400nm,20.0s							
OJC	**Ojcow**	**90.08**	**338**	P	**P**	**05 41 35.0**	**-0.3**
OJC				IAmb	IAmb	05 41 43.5	
comp=Z,74nm,1.7s							
KRUC	**Moravsky**	**90.16**	**336**	*e*P	**P**	**05 41 34.7**	**-0.9**
OKC	**Ostrava-Krasne**	**90.26**	**337**	AMS	AMS	06 28 40.0	
comp=Z,300nm,14.9s							
VRAC	**Vranov**	**90.30**	**336**	*e*P	**P**	**05 41 35.4**	**-0.9**
WTTA	**Wattenberg**	**90.34**	**332**	*e*P	**P**	**05 41 37.6**	**+0.8**
comp=Z,12nm,1.1s							
MORC	**Moravsky Berou**	**90.40**	**337**	P	**P**	**05 41 37.7**	**+0.9**
MORC				pmax	pmax		
comp=Z,33nm,1.7s							
MORC	**Moravsky Berou**	**90.40**	**337**	P	**P**	**05 41 37.7**	**+0.9**
MORC	**Moravsky Berou**	**90.40**	**337**	*e*P	**P**	**05 41 36.2**	**-0.6**
WATA	**Walderalm**	**90.43**	**332**	*e*P	**P**	**05 41 37.4**	**+0.3**
comp=Z,6.7nm,0.6s							
SQTA	**Sankt Quirin**	**90.47**	**332**	*e*P	**P**	**05 41 38.2**	**+0.9**
comp=Z,15nm,1.2s							
FETA	**Feichten**	**90.49**	**332**	*e*P	**P**	**05 41 38.2**	**+0.7**
comp=Z,10nm,1.3s							
BNI	**Bardonecchia**	**90.57**	**328**	P	**P**	**05 41 38.0**	**+0.1**
BNI				pmax	pmax		
comp=Z,24nm,1.4s							
BNI				MLR	MLR		
comp=Z,700nm,21.0s							
BNI	**Bardonecchia**	**90.57**	**328**	P	**P**	**05 41 38.0**	**+0.1**
TUE	**Stuetta**	**90.59**	**331**	P	**P**	**05 41 38.1**	**+0.1**
TUE				IAmb	IAmb	05 41 40.7	
comp=Z,84nm,1.9s							
MOTA	**Moosalm**	**90.61**	**332**	*e*P	**P**	**05 41 38.8**	**+0.8**
comp=Z,14nm,1.5s							
TREC	**Trest**	**90.66**	**336**	AMS	AMS	06 27 50.0	
comp=Z,500nm,17.1s							
CKRC	**Cesky Krumlov**	**90.67**	**335**	AMS	AMS	06 30 40.0	
comp=Z,300nm,17.1s							
BTO	**Baotou**	**90.73**	**39**	*e*P	**P**	**05 41 37.3**	**-1.4**
RETA	**Reutte**	**90.86**	**332**	*i* P	**P**	**05 41 38.7**	**-0.4**
comp=Z,13nm,1.0s,SNR=6.1							
OBN	**Obninsk**	**90.89**	**350**	*ce*P	**P**	**05 41 39.2**	**+0.4**
OBN				*e*		05 45 11.8	
OBN				*e*S	**SKSac**	**05 52 09.7**	**-0.7**
OBN				pmax	pmax		
comp=Z,30nm,1.2s							
OBN				MLR	MLR		
comp=Z,418nm,19.0s							
GERES	**GERESS Array B**	**90.90**	**334**	P	**P**	**05 41 38.8**	**-0.4**
comp=Z,0.3nm,0.4s,baz=151,slow=2.2,SNR=1.6							
GERES				LR	LR	06 26 59.5	
comp=Z,197nm,18.1s,baz=150,slow=39							
KRLC	**Kraliky**	**90.90**	**337**	AMS	AMS	06 27 30.0	
comp=Z,400nm,19.8s							
ARU	**Arti**	**90.94**	**2**	*c i*P	**P**	**05 41 39.1**	**0.0**
ARU				PPP	PPP	05 47 11.4	
ARU				S	**SKSac**	**05 52 11.2**	**+0.5**
ARU				SP	**SPn**	**05 53 45.7**	**+1.4**
ARU				SS	**SS**	**05 58 46.9**	**+6.8**
ARU				pmax	pmax		
comp=Z,47nm,2.3s							
ARU	**Arti**	**90.94**	**2**	P	**P**	**05 41 38.1**	**-1.0**
ARU				IAmb	IAmb	05 41 41.5	
comp=Z,72nm,1.8s							
DAVA	**Damuels**	**91.04**	**331**	*e*P	**P**	**05 41 40.4**	**+0.3**
comp=Z,5.2nm,0.7s							
KHC	**Kasperske Hory**	**91.19**	**334**	*e*P	**P**	**05 41 40.5**	**0.0**
KHC				*e*		05 52 13.2	
KHC				MLR	MLR		
comp=Z,400nm,17.9s							
KHC	**Kasperske Hory**	**91.19**	**334**	*e*P	**P**	**05 41 40.5**	**0.0**
KHC				*e*SKS	**SKSac**	**05 52 13.2**	**+0.6**
KHC				AMS	AMS	06 25 40.0	
comp=Z,400nm,17.9s							
BDFB	**Brasilia**	**91.21**	**250**	P	**P**	**05 41 43.2**	**+1.6**
comp=Z,5.8nm,0.8s,baz=64,slow=4.8,SNR=7.8							
BDFB				LR	LR	06 16 25.2	
comp=Z,358nm,18.2s,baz=133,slow=32							
DPC	**Dobruska-Polom**	**91.29**	**337**	*e*SKS	**SKSac**	**05 52 15.6**	**+2.5**
DPC				AMS	AMS	06 23 00.0	
comp=Z,500nm,21.6s							
MOS	**Moscow**	**91.35**	**350**	*e*P	**P**	**05 41 42.1**	**+1.1**
SENIN	**Lac Senin/Sane**	**91.35**	**329**	P	**P**	**05 41 42.0**	**+0.5**
SENIN				IAmb	IAmb	05 42 06.4	
comp=Z,39nm,1.6s							
SVE	**Sverdlovsk**	**91.42**	**3**	*e*P	**P**	**05 41 41.4**	**+0.1**
SVE				pmax	pmax		
comp=Z,32nm,1.5s							
CPUP	**Villa Florida**	**91.45**	**236**	LR	LR	06 16 16.6	
comp=Z,290nm,21.1s,baz=157,slow=31							
OSTC	**Ostas**	**91.50**	**337**	AMS	AMS	06 23 20.0	
comp=Z,400nm,20.2s							
UPC	**Upice**	**91.53**	**337**	AMS	AMS	06 23 20.0	
comp=Z,500nm,19.0s							
PRU	**Pruhonice**	**91.58**	**335**	*e*P	**P**	**05 41 42.1**	**-0.1**
PRU				*e*		05 52 20.5	
PRU				MLR	MLR		
comp=Z,400nm,17.1s							
PRU	**Pruhonice**	**91.58**	**335**	*e*P	**P**	**05 41 42.1**	**-0.1**
PRU				*e*SKS	**SKSac**	**05 52 20.5**	**+5.9**
PRU				AMS	AMS	06 23 30.0	
comp=Z,400nm,17.1s							
CHVC	**Chvalec**	**91.58**	**337**	AMS	AMS	06 23 20.0	
comp=Z,500nm,21.3s							
SSB	**Saint Sauveur**	**91.69**	**327**	P	**P**	**05 41 42.4**	**-0.5**
SSB				pmax	pmax		
comp=Z,11nm,1.2s							
SSB				MLR	MLR		
comp=Z,600nm,21.0s							
SSB	**Saint Sauveur**	**91.69**	**327**	P	**P**	**05 41 42.4**	**-0.5**
HHC	**Hu-ho-hao-te**	**91.71**	**40**	*e*P	**P**	**05 41 43.8**	**+0.6**
HHC				SKS	**SKSac**	**05 52 12.3**	**-3.8**
HHC				S	**ScS**	**05 52 46.3**	**-0.3**
HHC				pmax	pmax		
comp=Z,27nm,1.4s							
HHC				pmax	pmax		
comp=Z,210nm,7.6s							
HHC				LR	LR		
comp=Z,570nm,19.2s							
HHC				LR	LR		
comp=Z,470nm,17.7s							
HHC				LR	LR		
comp=Z,480nm,17.6s							
ESBB	**Sonseca Array**	**91.73**	**319**	P	**P**	**05 41 43.2**	**-0.1**
ESDC	**Sonseca Array**	**91.73**	**319**	P	**P**	**05 41 43.3**	**+0.1**
comp=Z,1.9nm,0.8s,baz=138,slow=3.6,SNR=14							
ESDC				LR	LR	06 24 47.1	
comp=Z,2μm,18.8s,baz=150,slow=37							
ESDC	**Sonseca Array**	**91.73**	**319**	P	**P**	**05 41 42.8**	**-0.5**
ESDC				IAmb	IAmb	05 41 51.7	
comp=Z,32nm,1.6s							
PAB	**San Pablo**	**91.85**	**318**	P	**P**	**05 41 44.2**	**+0.3**
PAB				pmax	pmax		
comp=Z,59nm,2.0s							
PAB				MLR	MLR		
comp=Z,2μm,19.0s							
PAB	**San Pablo**	**91.85**	**318**	P	**P**	**05 41 44.2**	**+0.3**
PAB				IAmb	IAmb	05 41 47.2	
comp=Z,59nm,1.9s							
PAB	**San Pablo**	**91.85**	**318**	IAMs_20	IAMs_20	06 24 40.3	
comp=Z,1μm,19.0s							
MNK	**Minsk**	**91.88**	**345**	*i* P	**P**	**05 41 46.5**	**+3.0**
MNK				*i*		05 45 25.5	
MNK				*i* PPP	PPP	05 47 24.1	
MNK				*i* S	**SKSac**	**05 52 19.5**	**+3.4**
MNK				*i*		05 52 46.4	
MNK				*i* SS	SS	05 59 06.0	+12
MNK				pmax	pmax		
comp=N,12nm,1.0s							
MNK				pmax	pmax		
comp=Z,7.0nm,1.0s							
MNK				MLR	MLR		
comp=Z,197nm,20.0s							
MNK	**Minsk**	**91.88**	**345**	*i* P	**P**	**05 41 46.5**	**+3.0**
comp=E,1.0nm,1.0s							
MNK				*i* P	**P**	**05 41 46.5**	**+3.0**
comp=N,12nm,1.0s							
MNK				*i* P	**P**	**05 41 46.5**	**+3.0**
comp=Z,7.0nm,1.0s,baz=158							
MNK				*i* PP	**PP**	**05 45 25.5**	**+2.3**
MNK				*i* PPP	PPP	05 47 24.2	
MNK				*i* SKS	SKiKP	05 50 21.6	+13
MNK				*i* S	**SKSac**	**05 52 19.6**	**+3.4**
MNK				*i* SKKS	**ScS**	**05 52 46.5**	**-0.7**
MNK				*i* PS	PnS	05 54 18.6	+22
MNK				*i* SS	SS	05 59 06.1	+12
MNK				*i* SSS	SSS	06 02 12.3	
MNK				*i* LQ	LQ	06 16 41.5	
MNK				*i* LR	LR	06 20 21.8	
MNK				*i* LRM	MLR	06 26 14.3	
comp=Z,197nm,20.0s							
MNK				*i* LRM	MLR	06 27 42.4	
comp=E,59nm,20.3s							
MNK				*i* LRM	MLR	06 27 47.0	
comp=N,498nm,20.3s							
PVCC	**Panska Ves**	**92.03**	**336**	*e*P	**P**	**05 41 43.8**	**-0.5**
PVCC				MLR	MLR		
comp=Z,300nm,18.0s							
PVCC	**Panska Ves**	**92.03**	**336**	*e*P	**P**	**05 41 43.8**	**-0.5**
PVCC				AMS	AMS	06 25 00.0	
comp=Z,300nm,18.0s							
ZALV	**Zalesovo Beam**	**92.17**	**17**	P	**P**	**05 41 43.1**	**-1.8**
comp=Z,1.7nm,0.5s,baz=212,slow=5.7,SNR=5.8							
ZALV				LR	LR	06 19 36.8	
comp=Z,490nm,21.9s,baz=210,slow=33							
ZALV	**Zalesovo Beam**	**92.17**	**17**	*i* P	**P**	**05 41 43.2**	**-1.7**
ZALV	

CLL *e*PPS PPS 05 54 48.0
CLL *e* 05 55 38.0
CLL *e*SS **SS** **05 59 12.0 -1.1**
CLL *e*SSS SSS 06 02 42.0
CLL *e* 06 03 47.0
CLL *e*SSSS 06 06 18.0
CLL LmH 06 28 00.0
comp=N,300nm,20.1s
CLL LmH 06 28 00.0
comp=E,100nm,18.8s
CLL LmV 06 29 00.0
comp=Z,400nm,18.8s
CLL Lm MLR 07 23 00.0
comp=N,200nm,19.8s
CLL Lm MLR 07 23 00.0
comp=E,300nm,18.7s
CLL Lm MLR 07 23 00.0
comp=Z,300nm,19.2s
CLL Collm 93.22 335 *e*P **P** **05 41 50.0 +0.3**
CLL *e* 05 52 24.0
CLL *e*S **ScS** **05 53 02.0 +3.6**
CLL pmax pmax
comp=Z,20nm,1.5s
CLL MLR MLR
comp=Z,400nm,18.8s
PMRV Marv??o 93.45 317 *e*P **P** **05 41 50.8 -0.4**
comp=Z,26nm,1.8s
PMRV Marv??o 93.45 317 *e*SS SS 05 59 20.2 +3.2
PMRV Marv??o 93.45 317 *e*LR LR 06 13 03.2
comp=Z,881nm,22.0s
BJT Baijiatuau 93.61 43 IAMs_20 IAMs_20 06 20 15.6
comp=Z,764nm,21.0s
PMTG Montargil 93.68 316 *e*P **P** **05 41 53.1 +0.9**
comp=Z,22nm,1.8s
MTE Manteigas 94.20 317 *e*P **P** **05 41 55.4 +0.7**
comp=Z,16nm,1.8s
MTE Manteigas 94.20 317 *e*SS SS 05 59 33.6 +5.8
MTE *e*LQ LQ 06 09 10.2
MTE *e*LR LR 06 13 55.2
comp=Z,1μm,18.0s
MTE Manteigas 94.20 317 IAMs_20 IAMs_20 06 26 15.7
comp=Z,1μm,18.0s
SONM Songino Array 94.41 32 P **P** **05 41 54.5 -1.0**
comp=Z,0.5nm,0.7s,baz=243,slow=1.6,SNR=2.8
SONM LR LR 06 22 39.2
comp=Z,2μm,18.0s,baz=220,slow=34
SONM Songino Array 94.41 32 P **P** **05 41 54.6 -1.0**
SONM pmax pmax
comp=Z,17nm,1.8s
SONM Songino Array 94.41 32 P **P** **05 41 54.6 -1.0**
MVO Moncorvo 94.44 318 *e*P **P** **05 41 57.4 +1.6**
comp=Z,18nm,1.8s
MVO Moncorvo 94.44 318 *e*SS SS 05 59 36.0 +4.8
MVO *e*LQ LQ 06 07 00.8
MVO *e*LR LR 06 13 38.7
comp=Z,1μm,18.0s
PCAS Casmilo, Conde 94.50 317 *e*P **P** **05 41 57.0 +1.0**
COI Coimbra 94.56 317 IAMs_20 IAMs_20 06 25 43.1
comp=Z,853nm,19.0s
PVIS Viseu 94.61 317 *e*P **P** **05 41 56.5 -0.1**
comp=Z,20nm,1.9s
ULN Ulaanbaatar 94.72 32 IAMs_20 IAMs_20 06 22 12.7
comp=Z,1μm,19.0s
ULN Ulaanbaatar 94.72 32 P **P** **05 41 56.4 -0.6**
CLF Chambon-Foret 94.81 328 IAMs_20 IAMs_20 06 26 57.5
comp=Z,912nm,20.0s
PVRL Vila Real 94.90 318 *e*P **P** **05 41 58.0 +0.2**
comp=Z,13nm,1.9s
BTNL Ternell 95.17 331 *d*x x 05 42 05.2
PMOZ Porto Moniz, M 95.18 307 *e*LR LR 06 19 14.8
comp=Z,691nm,20.0s
DOU Dourbes 95.40 330 *d*P **P** **05 42 00.2 +0.4**
PGAV Gavieira, Arco 95.67 318 *e*SS SS 05 59 55.9 +7.2
PGAV Gavieira, Arco 95.67 318 *e*LR LR 06 14 21.4
comp=Z,810nm,16.0s
VSU Vasula 95.80 346 *i* P **P** **05 41 59.6 -1.8**
VSU pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 96.11 353 *e*P **P** **05 41 58.7 -4.0**
KLMR *e* 05 45 51.7
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR Klimovskoe 96.11 353 *e*P **P** **05 41 58.8 -4.0**
KLMR AMP 05 42 09.7
comp=Z,19nm,1.3s
KLMR *e*PP **PP** **05 45 51.7 -4.5**
TLY Talaya 96.24 28 LR LR 06 22 49.3
comp=Z,1μm,21.5s,baz=220,slow=34
KSRS Korea Array 98.98 51 P **P** **05 42 15.2 -1.1**
comp=Z,0.7nm,0.4s,baz=258,slow=4.7,SNR=1.8
KSRS LR LR 06 25 14.3
comp=Z,193nm,18.4s,baz=237,slow=34
ESK Eskdalemuir 102.46 330 IAMs_20 IAMs_20 06 33 34.9
comp=Z,549nm,18.0s
APA Apatity 103.31 352⇑ *i*P **Pdif** **05 42 30.0 -4.9**
APA pmax pmax
comp=Z,3.0nm,0.9s
YAK Yakutsk 113.65 30 IAMs_20 IAMs_20 06 32 57.1
comp=Z,833nm,22.0s
KBS Kingsbay 116.14 352 IAMs_20 IAMs_20 06 40 19.2
comp=Z,473nm,19.0s
TBI Tubuai 117.81 155 *e*SS SS 06 04 52.9 +5.7
comp=Z,675nm,29.0s
TBI Tubuai 117.81 155 *e*LR LR 06 23 16.5
comp=Z,716nm,34.5s
TIXI Tiksi 117.92 20 IAMs_20 IAMs_20 06 37 22.2
comp=Z,528nm,19.0s
ANGG Ammassalik, Gr 122.03 331 IAMs_20 IAMs_20 06 40 30.3
comp=Z,605nm,21.0s
MACC Macarena, Meta 122.18 248 *e*P **PKPdf** **05 47 30.2 -1.2**
MA2 Magadan 122.28 37 IAMs_20 IAMs_20 06 38 54.7
comp=Z,1μm,20.0s
PPT2 Papeete2 123.05 152 *e*LR LR 06 25 32.0
comp=Z,642nm,24.2s
SDV Santo Domingo 123.81 256 IAMs_20 IAMs_20 06 34 16.6
comp=Z,574nm,20.0s
GCUF Volcan Galeras 124.20 244 *e*P **PKiKP** **05 47 36.5 +0.3**
SOTA Rioblanco 124.26 245 *e*P **PKiKP** **05 47 36.8 +0.5**
ORTC Ortega, Tolima 124.38 248 *e*P **PKPdf** **05 47 34.4 -1.2**
PETK Petropavlovsk- 124.45 45 PKP **PKPdf** **05 47 33.8 -0.6**
comp=Z,1.4nm,0.8s,baz=315,slow=0.4,SNR=2.9
POPC Popayan, Colom 124.57 246 *e*P PKPdf 05 47 26.9 -9.3
TOLC Tolima 124.87 249 *e*P **PKPdf** **05 47 35.4 -1.5**
NORC Norcasia 125.14 250 *e*P **PKPdf** **05 47 35.4 -1.7**
GUY2C Guyana, Caldas 125.30 249 *e*P **PKPdf** **05 47 35.1 -2.8**
ZARC Zaragoza, Cauc 126.32 252 *e*P **PKPdf** **05 47 36.2 -3.0**
SMLC San Martn de 126.49 254 *e*P **PKPdf** **05 47 37.9 -1.7**
SFJD Kangerlussuaq 127.41 331 IAMs_20 IAMs_20 06 43 42.5
comp=Z,454nm,19.0s
ILULI Ilulissat 127.61 334 IAMs_20 IAMs_20 06 44 42.9
comp=Z,678nm,20.0s
ALE Alert 127.75 351 IAMs_20 IAMs_20 06 46 21.3
comp=Z,454nm,22.0s
LCBC Los crdobas, 128.33 252 *e*P PKPdf 05 47 31.8 -11
BILL Bilibino 129.84 27⇓ *i*PKIKP **PKiKP** **05 47 45.2 +0.1**
BILL *i* 05 49 59.5
BILL pmax pmax
comp=Z,4.0nm,1.2s
TULEG Thule 131.19 345 IAMs_20 IAMs_20 06 51 21.3
comp=Z,390nm,18.0s
GTBY Guantanamo Bay 133.42 265 IAMs_20 IAMs_20 06 53 41.6
comp=Z,382nm,20.0s
TAOE Nuku Hiva Isla 134.38 159 *e*LR LR 06 30 53.0
comp=Z,544nm,21.8s
MTDJ Mount Denham 134.54 261 IAMs_20 IAMs_20 06 50 35.3
comp=Z,568nm,20.0s
PQI Presque Isle 135.85 304 IAMs_20 IAMs_20 06 47 35.1
comp=Z,642nm,20.0s
PKME Peaks-Kenny Pk 136.59 301 IAMs_20 IAMs_20 06 54 32.6
comp=Z,842nm,20.0s
D62A Allapoint, All 136.60 304 IAMs_20 IAMs_20 06 46 46.7
comp=Z,681nm,21.0s
E62A Clayton Lake 136.88 303 IAMs_20 IAMs_20 06 52 32.3
comp=Z,665nm,18.0s
M65A Busby, Falmout 137.06 296 IAMs_20 IAMs_20 06 52 32.2
comp=Z,779nm,21.0s
L64A Middleborough 137.26 296 IAMs_20 IAMs_20 06 52 50.5
comp=Z,737nm,19.0s
G62A West of Eustis 137.46 301 IAMs_20 IAMs_20 06 51 14.5
comp=Z,645nm,21.0s
BCX Boston College 137.56 297 IAMs_20 IAMs_20 06 52 36.5
comp=Z,545nm,18.0s
WES Weston 137.68 297 IAMs_20 IAMs_20 06 52 19.7
comp=Z,529nm,19.0s
L63A North Scituate 137.82 296 IAMs_20 IAMs_20 06 53 33.3
comp=Z,733nm,18.0s

H62A Milan 137.83 300 IAMs_20 IAMs_20 06 53 35.5
comp=Z,775nm,18.0s
HRV Adam Dziewonsk 137.87 297 IAMs_20 IAMs_20 06 51 32.7
comp=Z,521nm,18.0s
K62A Royalston 138.39 297 IAMs_20 IAMs_20 06 52 10.4
comp=Z,777nm,20.0s
YLE Yale 138.72 295 IAMs_20 IAMs_20 06 52 04.2
comp=Z,521nm,19.0s
WSPT Westport, CT 138.99 295 IAMs_20 IAMs_20 06 48 02.4
comp=Z,490nm,21.0s
GAMB Gambell 139.60 30 IAMs_20 IAMs_20 06 49 33.1
comp=Z,401nm,20.0s
A21K Barrow 139.87 15 IAMs_20 IAMs_20 06 51 27.2
comp=Z,434nm,22.0s
RDOG Red Dog Mine 140.52 21 IAMs_20 IAMs_20 06 50 23.7
comp=Z,455nm,21.0s
P60A Greenville 140.52 292 IAMs_20 IAMs_20 06 49 09.0
comp=Z,620nm,19.0s
N59A State Game Lan 140.78 294 IAMs_20 IAMs_20 06 50 24.9
comp=Z,877nm,22.0s
CBN Corbin Frederi 141.59 290 IAMs_20 IAMs_20 06 48 50.5
comp=Z,766nm,20.0s
ANM Nome 141.70 27 IAMs_20 IAMs_20 06 52 23.3
comp=Z,415nm,19.0s
DWPF Disney Wildern 142.15 272 IAMs_20 IAMs_20 06 50 43.2
comp=Z,736nm,18.0s
SSPA Standing Stone 142.34 293 **PKPdf** **05 48 08.4 +0.1**
NHSC New Hope 142.70 281 IAMs_20 IAMs_20 06 50 00.9
comp=Z,724nm,20.0s
O56A Blue Knob Stat 142.81 293 IAMs_20 IAMs_20 06 48 57.7
comp=Z,468nm,18.0s
BIRD Birdtown, Kers 143.31 283 PKPbc 05 48 08.7 +1.4
TOLK Toolik Lake Re 143.49 15 P PKPab 05 48 05.6 -0.2
baz=326
TOLK Toolik Lake Re 143.49 15 IAMs_20 IAMs_20 07 03 23.6
comp=Z,643nm,18.0s
656A Willston 143.50 274 PKPbc 05 48 08.5 +0.5
SADO Sadowa 143.53 300 PKP PKPbc 05 48 08.9 +1.3
comp=Z,3.5nm,0.8s,baz=120,slow=7.1,SNR=3.9
U56A King 143.61 286 PKPbc 05 48 08.6 +0.4
MCWV Mont Chateau 143.72 291 IAMs_20 IAMs_20 06 48 27.6
comp=Z,721nm,19.0s
R55A Marlinton 143.74 289 PKPbc 05 48 09.8 +1.2
M54A Oil Creek Stat 143.77 295 P PKPab 05 48 06.5 -1.3
baz=95
BLA Blacksburg 143.80 287 PKIKP PKPbc 05 48 08.8 +0.1
BLA Blacksburg 143.80 287 P PKPab 05 48 07.5 -0.5
baz=100
BLA Blacksburg 143.80 287 PKPbc 05 48 08.8 +0.1
BLA IAMs_20 IAMs_20 06 46 56.9
comp=Z,485nm,19.0s
JSC Jenkinsville 143.87 282 PKIKP PKPbc 05 48 08.8 -0.1
JSC Jenkinsville 143.87 282 PKPbc 05 48 08.8 -0.2
N54A Moraine State 143.96 294 P PKPab 05 48 07.6 -0.9
baz=95
N54A Moraine State 143.96 294 IAMs_20 IAMs_20 06 54 01.1
comp=Z,571nm,19.0s
ERPA Erie 144.05 296 P **PKPab** **05 48 07.5 -1.3**
baz=94
KMSC Kings Mountain 144.12 284 P **PKPab** **05 48 08.6 -0.7**
baz=103
KMSC Kings Mountain 144.12 284 **PKPab** **05 48 09.3 +0.1**
V55A Taylorsville 144.18 285 **PKPab** **05 48 09.3 -0.2**
O54A Avella 144.18 292 **PKPab** **05 48 09.2 -0.2**
255A Hazlehurst 144.24 278 **PKPab** **05 48 09.9 +0.2**
Q54A Coxs Mills 144.39 290 **PKPab** **05 48 10.2 +0.1**
PAULI Pauline 144.44 283 **PKPab** **05 48 09.9 -0.5**
NIKH Nikolski High 144.46 46 P **PKPab** **05 48 08.1 -1.8**
baz=283
M53A Wt Miller and 144.52 294 P **PKPab** **05 48 09.5 -1.0**
baz=94
M53A Wt Miller and 144.52 294 **PKPab** **05 48 09.9 -0.6**
IMAR Indian Mountai 144.57 20 PKPdf PKPbc 05 48 10.1 0.0
N53A Lisbon 144.59 293 **PKPab** **05 48 10.3 -0.5**
S54A Dingess, Beckl 144.60 288 **PKPab** **05 48 10.3 -0.7**
HODGE Hodges 144.66 282 **PKPab** **05 48 10.7 -0.6**
U54A Nelsons Funny 144.78 286 **PKPab** **05 48 11.3 -0.5**
O53A New Philadelph 144.83 292 P **PKPab** **05 48 10.4 -1.3**
baz=96
O53A New Philadelph 144.83 292 **PKPab** **05 48 11.5 -0.2**
P53A Whipple 144.88 291 PKPdf **PKPab** **05 48 11.2 -0.7**
154A Montrose 144.94 279 **PKPab** **05 48 12.0 -0.3**
TIGA Tifton 145.01 277 P **PKPbc** **05 48 11.4 -1.2**
baz=107
TIGA Tifton 145.01 277 **PKPbc** **05 48 12.1 -0.5**
R53A Hurricane 145.17 289 **PKPbc** **05 48 12.6 -0.4**
C36M Paulatuk 145.40 359 P **PKPbc** **05 48 10.9 -1.8**
baz=2.0
V53A Saluda 145.41 284 **PKPbc** **05 48 13.6 -0.2**
GOGA Godfrey 145.44 280 P **PKPdf** **05 48 12.1 -1.9**
baz=104
P52A Corning 145.47 291 P **PKPdf** **05 48 12.7 -1.1**
baz=96
P52A Corning 145.47 291 IAMs_20 IAMs_20 06 47 27.0
comp=Z,666nm,19.0s
UNV Unalaska Valle 145.59 44 P **PKPdf** **05 48 12.4 -1.2**
baz=287
I21K Tanana 145.66 20 P **PKPbc** **05 48 13.7 0.0**
baz=319
N51A Ashland 145.76 293 PKPbc **PKPbc** **05 48 14.8 0.0**
J20K Nowinta River 145.77 22 P **PKPdf** **05 48 13.3 -0.2**
baz=315
H23K Yukon River 145.79 17 P **PKPdf** **05 48 13.5 -0.1**
baz=323,SNR=25
K50A Casco 146.03 297 PKPbc **PKPdf** **05 48 15.1 +0.4**
MLY Manley 146.11 19 P **PKPdf** **05 48 13.6 -0.6**
baz=321,SNR=18
INK Inuvik 146.13 5 PKPbc **PKPdf** **05 48 14.0 0.0**
comp=Z,16nm,0.6s,baz=348,slow=5.8,SNR=38
INK Inuvik 146.13 5 P **PKPdf** **05 48 13.4 -0.6**
baz=348
FYU Fort Yukon 146.13 14 PKPbc **PKPab** **05 48 16.1 +0.4**
FYU IAMs_20 IAMs_20 07 01 59.6
comp=Z,512nm,18.0s
TZTN Tazewell 146.16 285 P **PKPdf** **05 48 13.8 -1.3**
baz=100
TZTN Tazewell 146.16 285 PKPbc **PKPbc** **05 48 15.8 -0.3**
ACSO Alum Creek Sta 146.17 292 P **PKPdf** **05 48 15.1 +0.1**
baz=95
ACSO Alum Creek Sta 146.17 292 PKPbc **PKPbc** **05 48 16.0 0.0**
H24K Noodor Dome 146.18 16 P **PKPbc** **05 48 15.2 -0.1**
baz=326,SNR=14
152A Waverly Hall 146.27 278 PKPbc **PKPdf** **05 48 15.3 -0.1**
Q51A Peebles 146.34 290 **PKPbc** **05 48 16.2 -0.4**
S51A Beattyville 146.36 287 PKPbc **PKPbc** **05 48 16.6 -0.1**
K20K Felida 146.37 23 P **PKPdf** **05 48 14.9 +0.2**
baz=315
I23K Minto, Yukon-K 146.38 18 P **PKPbc** **05 48 15.8 0.0**
baz=323,SNR=25
I23K Minto, Yukon-K 146.38 18 IAMs_20 IAMs_20 06 55 28.4
comp=Z,431nm,21.0s
CHUM Lake Minchumin 146.54 21 P **PKPbc** **05 48 15.6 -0.7**
baz=318
V51A Loudon 146.67 284 **PKPbc** **05 48 17.1 -0.5**
BPAW Bear Paw Mtn. 146.76 20 P **PKPbc** **05 48 16.6 -0.4**
baz=320,SNR=11
BPAW Bear Paw Mtn. 146.76 20 IAMs_20 IAMs_20 06 56 37.6
comp=Z,453nm,20.0s
AAM Ann Arbor 146.78 296 P **PKPdf** **05 48 16.7 +0.7**
baz=91
MDM Murphy Dome 146.82 18 PKPbc **PKPbc** **05 48 16.8 -0.4**
MDM IAMs_20 IAMs_20 06 56 22.8
comp=Z,462nm,22.0s
X51A Calhoun 146.83 281 **PKPdf** **05 48 16.9 +0.6**
POKR Poker Plat Res 146.88 17 P **PKPdf** **05 48 15.9 +0.5**
baz=326
POKR Poker Plat Res 146.88 17 IAMs_20 IAMs_20 06 59 19.5
comp=Z,494nm,19.0s
NEA2 Nenana 146.90 18 P **PKPdf** **05 48 16.0 +0.5**
baz=323
NEA2 Nenana 146.90 18 IAMs_20 IAMs_20 06 58 33.1
comp=Z,397nm,20.0s
L19K White Mountain 146.92 25 P **PKPbc** **05 48 17.5 0.0**
baz=312
FALS False Pass 146.97 41 P **PKPdf** **05 48 16.2 +0.3**
baz=292
PRP Porcupine Dome 146.98 15 P **PKPbc** **05 48 17.4 -0.4**
baz=329
PRP Porcupine Dome 146.98 15 **PKPbc** **05 48 17.6 -0.1**
PRP IAMs_20 IAMs_20 06 58 16.0
comp=Z,448nm,20.0s
TCOL CIGO, UAF Yank 146.98 17 P **PKPdf** **05 48 16.1 +0.6**
baz=325
TCOL CIGO, UAF Yank 146.98 17 IAMs_20 IAMs_20 06 55 50.1
comp=Z,477nm,22.0s
COLA College 146.98 17 P **PKPdf** **05 48 15.8 +0.3**
baz=325
COLA College 146.98 17 IAMs_20 IAMs_20 06 55 50.1
comp=Z,449nm,22.0s
E46A Sault Ste Mari 147.08 303 PKPbc **PKPbc** **05 48 17.8 -0.6**
BWN Browne 147.13 19 IAMs_20 IAMs_20 07 01 55.4
comp=Z,504nm,21.0s
CCB Clear Creek Bu 147.18 18 IAMs_20 IAMs_20 06 58 13.5
comp=Z,508nm,20.0s
O49A Covington 147.20 292 **PKPdf** **05 48 17.9 +1.1**
WRH Wood River Hil 147.25 18 **PKPbc** **05 48 17.9 -0.4**
WRH IAMs_20 IAMs_20 06 58 28.3
comp=Z,311nm,18.0s
M19K Big River Lodg 147.27 25 P **PKPdf** **05 48 16.3 +0.2**
baz=313
ILAR Eielson Array 147.30 17 PKP **PKPdf** **05 48 15.4 -0.7**
comp=Z,5.1nm,0.6s,baz=315,slow=3.4,SNR=31
ILAR PKPbc **pPKPdf** **05 48 16.7 -1.1**
comp=Z,5.1nm,0.6s,baz=316,slow=3.6,SNR=47
PPLA Purkeypile 147.30 22 P **PKPbc** **05 48 17.9 -0.8**
baz=317,SNR=14
L48A N Adams 147.35 295 **PKPbc** **05 48 18.4 -1.0**
GLMI Grayling 147.43 300 P **PKPdf** **05 48 18.2 +1.3**
baz=86
GLMI Grayling 147.43 300 **PKPbc** **05 48 19.2 -0.3**
FPAL Fort Paine 147.43 281 **PKPbc** **05 48 19.4 -0.5**
P49A Miami Univ. Ec 147.45 290 P **PKPdf** **05 48 17.2 +0.1**
baz=95
TRF Thorofare Moun 147.46 21 P **PKPdf** **05 48 17.7 +1.0**
baz=320
TRF Thorofare Moun 147.46 21 IAMs_20 IAMs_20 07 00 45.1
comp=Z,399nm,20.0s
N18K Kilae Creek 147.52 28 P **PKPbc** **05 48 18.8 -0.5**
baz=309
HDA Harding Lake 147.59 17 P **PKPdf** **05 48 17.3 +0.7**
baz=326
HDA Harding Lake 147.59 17 IAMs_20 IAMs_20 06 56 16.2
comp=Z,444nm,21.0s
MCK McKinley 147.62 19 P **PKPdf** **05 48 17.9 +1.2**
baz=322
MCK McKinley 147.62 19 IAMs_20 IAMs_20 06 59 24.2
comp=Z,474nm,20.0s
J47A Sunmer 147.64 297 **PKPbc** **05 48 19.3 -0.8**
R49A Shelbyville 147.68 288 PKPbc **PKPbc** **05 48 19.8 -0.6**
EPYK Eagle Plains 147.70 9 P **PKPbc** **05 48 18.3 -1.3**
baz=343
EPYK Eagle Plains 147.70 9 IAMs_20 IAMs_20 07 01 26.6
comp=Z,516nm,19.0s
M20K Styx River 147.72 24 P **PKPdf** **05 48 18.1 +1.1**
baz=314
BRAL Brewton 147.77 274 P **PKPdf** **05 48 17.0 -1.0**
baz=107
BRAL Brewton 147.77 274 **PKPbc** **05 48 20.4 -0.4**
BRAL IAMs_20 IAMs_20 06 50 28.1
comp=Z,524nm,20.0s
RND Reindeer 147.90 20 IAMs_20 IAMs_20 06 57 04.6
comp=Z,388nm,20.0s
U49A Red Boiling Sp 147.93 285 **PKPdf** **05 48 17.1 -1.0**
N19K Bonanza Creek 147.96 27 P **PKPdf** **05 48 19.0 +1.5**
baz=311
SKT Skwentna 148.18 23 P **PKPdf** **05 48 18.6 +0.9**
baz=317
LRAL Lakeview Retre 148.22 278 P **PKPdf** **05 48 19.0 +0.3**
baz=104
LRAL Lakeview Retre 148.22 278 PKPbc **PKPbc** **05 48 21.2 -0.8**
LRAL IAMs_20 IAMs_20 06 53 44.1
comp=Z,440nm,20.0s
CUT Chulitna 148.26 22 P **PKPdf** **05 48 19.2 +1.5**
baz=319
CUT Chulitna 148.26 22 PKPbc **PKiKP** **05 48 22.5 -0.3**
CUT IAMs_20 IAMs_20 07 00 19.4
comp=Z,391nm,20.0s
CLTN Cedars of Leba 148.30 284 PKPbc **PKPbc** **05 48 22.3 +0.2**
O18K Koktuh Hills 148.31 29 P **PKPbc** **05 48 19.8 -1.6**
baz=309
SDPT Sand Point 148.32 39 P **PKPbc** **05 48 19.9 -1.6**
baz=296
O19K Port Alsworth 148.43 27 P **PKPdf** **05 48 19.2 +1.2**
baz=311
WAT1 Susitna Watana 148.44 20 P **PKPdf** **05 48 19.7 +1.6**
baz=322
EGAK Eagle 148.51 13 P **PKPbc** **05 48 20.9 -0.8**
baz=335,SNR=11
EGAK Eagle 148.51 13 IAMs_20 IAMs_20 06 58 27.3
comp=Z,380nm,18.0s
SPCR Spurr Chakacha 148.51 25 P **PKPdf** **05 48 19.9 +1.6**
baz=315
WCI Wyandotte Cave 148.55 288 PKIKP **PKPdf** **05 48 18.6 -0.4**
WCI Wyandotte Cave 148.55 288 P **PKPdf** **05 48 19.3 +0.3**
baz=96
WCI Wyandotte Cave 148.55 288 PKPdf **PKPdf** **05 48 18.6 -0.4**
X48A Hartselle 148.57 281 PKPbc **PKPbc** **05 48 22.4 -0.4**
SCRK Sand Creek 148.65 16 P **PKPbc** **05 48 20.6 -1.7**
baz=330
SCRK Sand Creek 148.65 16 **PKPbc** **05 48 20.9 -1.3**
RIDG Independent Ri 148.65 17 P **PKPbc** **05 48 20.8 -1.4**
baz=328
RIDG Independent Ri 148.65 17 IAMs_20 IAMs_20 06 56 43.6
comp=Z,340nm,21.0s
SUA Susitna One 148.81 23 P **PKPdf** **05 48 20.6 +1.7**
baz=317
SUA Susitna One 148.81 23 IAMs_20 IAMs_20 06 59 56.0
comp=Z,358nm,20.0s
WAT6 Susitna Watana 148.87 20 P **PKPdf** **05 48 20.4 +1.4**
baz=323
E43A Lone Tree Farm 148.93 304 **PKPbc** **05 48 23.5 +0.1**
K27K Chicken 149.01 14 P **PKPbc** **05 48 21.9 -1.1**
baz=333
K27K Chicken 149.01 14 IAMs_20 IAMs_20 06 56 28.8
comp=Z,574nm,22.0s
T47A Sharon Grove 149.05 285 **PKPbc** **05 48 23.5 -0.5**
Z47A Carrollton 149.13 278 PKPbc **PKPbc** **05 48 23.8 -0.5**
PAX Paxson 149.15 18 PKP2 **PKPbc** **05 48 24.1 +0.6**
PAX Paxson 149.15 18 P **PKPbc** **05 48 21.6 -1.9**
baz=327
PAX Paxson 149.15 18 **PKPbc** **05 48 24.1 +0.6**
FIS Fire Island 149.22 23 IAMs_20 IAMs_20 06 40 29.9
comp=Z,552nm,19.0s
SML Sawmill 149.31 21 P **PKPbc** **05 48 21.9 -2.0**
baz=321
SML Sawmill 149.31 21 IAMs_20 IAMs_20 06 57 33.0
comp=Z,340nm,20.0s
SFIN Lafayette 149.32 292 P **PKPdf** **05 48 20.5 +0.3**
baz=92
RC01 Rabbit Creek A 149.42 23 P **PKPbc** **05 48 22.8 -1.3**
baz=318
RC01 Rabbit Creek A 149.42 23 **PKPbc** **05 48 24.5 +0.4**
RC01 IAMs_20 IAMs_20 06 58 04.0
comp=Z,432nm,19.0s
DAWY Dawson 149.48 12 **PKPbc** **05 48 24.7 +0.4**
WVT Waverly 149.50 283 PKP2 **PKPbc** **05 48 24.5 -0.6**
WVT Waverly 149.50 283 P **PKPdf** **05 48 21.3 +0.7**
baz=99
WVT Waverly 149.50 283 PKPbc **PKPbc** **05 48 24.5 -0.6**
WVT Waverly 149.50 283 IAMs_20 IAMs_20 06 44 17.0
comp=Z,658nm,22.0s
KNK Knik Glacier 149.58 22 P **PKPbc** **05 48 22.6 -2.0**
baz=321
KNK Knik Glacier 149.58 22 IAMs_20 IAMs_20 07 00 48.1
comp=Z,441nm,19.0s
MENT Mentasta 149.60 17 **PKPbc** **05 48 25.1 +0.5**
L26K Log Cabin Wild 149.62 16 P **PKPbc** **05 48 24.4 -0.2**
baz=330
M24K Tolsona, Glenn 149.68 19 P **PKPbc** **05 48 24.5 -0.3**
baz=325
M24K Tolsona, Glenn 149.68 19 **PKiKP** **05 48 25.7 -0.1**
H43A Windswept, Lux 149.70 300 **PKPbc** **05 48 25.2 -0.1**
HARP HAARP 149.71 18 P **PKPbc** **05 48 25.1 +0.2**
baz=327
HOM Homer 149.79 27 P **PKPbc** **05 48 25.2 +0.2**
baz=314
O22K Cooper Landing 149.88 24 P **PKPbc** **05 48 25.1 -0.1**
baz=318
O22K Cooper Landing 149.88 24 IAMs_20 IAMs_20 07 01 46.2
comp=Z,432nm,19.0s
HQIL Hanson Quary C 149.91 295 IAMs_20 IAMs_20 06 54 56.3
comp=Z,593nm,20.0s
L27K Beaver Creek, 149.92 15 P **PKPbc** **05 48 25.1 -0.3**
baz=332,SNR=20
L27K Beaver Creek, 149.92 15 **PKiKP** **05 48 26.4 +0.1**
L27K IAMs_20 IAMs_20 06 56 24.7
comp=Z,429nm,18.0s
BCAR Beaver Creek A 149.92 15 PKPbc **PKiKP** **05 48 26.2 -0.1**
BCAR PKPab **sPKPab** **05 48 33.3 0.0**
L44A Lake County Fo 149.94 295 P **PKPbc** **05 48 25.3 -0.7**
baz=88
L44A Lake County Fo 149.94 295 **PKPbc** **05 48 25.1 -0.9**
L44A IAMs_20 IAMs_20 06 55 03.2

comp=Z,526nm,20.0s
CNPM China Poot 150.03 26 IAMs_20 IAMs_20 06 56 37.5
comp=Z,412nm,22.0s
BRSE Bradley Lake S 150.06 26 P **PKPbc 05 48 24.9 -0.9**
baz=315
K43A Burlington 150.23 297 **PKPbc 05 48 26.5 -0.2**
M26K Nabesna, AK 150.24 16 P **PKPbc 05 48 26.3 +0.1**
baz=330,SNR=11
SEW Seward 150.25 24 P **PKPbc 05 48 25.9 -0.2**
baz=318
KLU Klutina 150.25 20 P **PKPbc 05 48 26.6 +0.4**
baz=325,SNR=9.4
GLI Glacier Island 150.41 21 P **PKPbc 05 48 26.5 -0.1**
baz=322
GLI Glacier Island 150.41 21 IAMs_20 IAMs_20 06 58 22.0
comp=Z,442nm,20.0s
W45A Hickory Valley 150.44 281 **PKPbc 05 48 27.0 -0.5**
COWI Conover 150.44 303 IAMs_20 IAMs_20 06 57 01.0
comp=Z,384nm,20.0s
CHIR Chirikof Islan 150.49 35 P **PKPbc 05 48 26.8 0.0**
baz=303
OXF Oxford 150.50 280 PKIKP **PKPdf 05 48 23.3 +1.1**
OXF Oxford 150.50 280 P **PKPbc 05 48 26.4 -1.2**
baz=101
OXF Oxford 150.50 280 PKPdf **PKPdf 05 48 23.3 +1.1**
N25K Chitina, Valde 150.52 19 P **PKiKP 05 48 27.5 -0.1**
baz=327,SNR=12
M27K Edge Creek, AK 150.53 16 P **PKPbc 05 48 27.3 +0.4**
baz=332
I42A Draeger Farm, 150.57 299 **PKPbc 05 48 26.7 -0.8**
KDAK Kodiak Island 150.68 30 PKPab **PKPab 05 48 34.7 +0.5**
FID Port Fidalgo 150.69 21 IAMs_20 IAMs_20 06 58 28.2
comp=Z,378nm,20.0s
OHAK Old Harbor 150.74 31 P **PKPbc 05 48 27.2 -0.2**
baz=308
Q44A Meyer Farm, Va 150.74 289 **PKPbc 05 48 27.4 -0.6**
SII Sitkinak Islan 150.74 33 P **PKiKP 05 48 28.0 -0.2**
baz=306
S44A Carbondale 150.83 286 **PKPbc 05 48 28.1 -0.2**
S44A PKPab **PKPab 05 48 35.0 -0.5**
GLB Gilahina Butte 150.86 18 **PKiKP 05 48 28.4 +0.1**
GLB IAMs_20 IAMs_20 06 59 00.9
comp=Z,397nm,21.0s
VBMS Vicksburg 150.90 275 P **PKPbc 05 48 28.5 -0.1**
baz=105
VBMS Vicksburg 150.90 275 IAMs_20 IAMs_20 06 51 12.9
comp=Z,519nm,19.0s
HIN Hinchinbrook I 150.97 22 IAMs_20 IAMs_20 06 58 15.9
comp=Z,481nm,21.0s
HDIL Hopedale 151.00 292 P **PKPbc 05 48 27.9 -0.7**
baz=90
HDIL Hopedale 151.00 292 IAMs_20 IAMs_20 07 01 17.4
comp=Z,534nm,19.0s
BMRM Bremner River 151.05 19 P **PKPbc 05 48 27.8 -0.3**
baz=326,SNR=7.5
EYAK Cordova Ski Ar 151.07 21 P **PKPbc 05 48 28.2 +0.1**
baz=324
MCARA McCarthy VSAT 151.11 18 P **PKPbc 05 48 28.5 +0.3**
baz=329
MCARA McCarthy VSAT 151.11 18 IAMs_20 IAMs_20 06 57 50.4
comp=Z,429nm,19.0s
VRDI Verde Repeater 151.14 18 **PKPbc 05 48 28.4 -0.1**
VRDI IAMs_20 IAMs_20 06 57 44.1
comp=Z,455nm,21.0s
GNAR Gosnell 151.23 283 PKPbc **PKPbc 05 48 29.1 -0.1**
L42A Oliver, Polo 151.25 295 **PKPbc 05 48 28.8 -0.4**
L42A PKPab **PKPab 05 48 36.5 -0.6**
G40A Rib Lake 151.31 302 **PKPbc 05 48 28.3 -0.9**
G40A PKPab **PKPab 05 48 36.5 -0.8**
YKA Yellowknife Ar 151.47 350 PKP **PKPdf 05 48 21.6 -1.2**
comp=Z,1.0nm,0.8s,baz=46,slow=1.6,SNR=3.7
YKA PKPbc **PKPbc 05 48 28.2 -0.8**
comp=Z,7.1nm,0.6s,baz=27,slow=2.0,SNR=36
CRQM Cirque 151.62 18 IAMs_20 IAMs_20 06 57 42.3
comp=Z,404nm,20.0s
EYMN Ely 151.62 308 P **PKPbc 05 48 28.9 -0.9**
baz=75
JFWS Jewell Farm 151.62 297 P **PKPbc 05 48 28.9 -1.1**
baz=85
CRQE Cirque 151.63 18 P **PKPbc 05 48 29.5 -0.1**
baz=328
HMT Hamilton 151.67 20 IAMs_20 IAMs_20 07 00 09.4
comp=Z,472nm,18.0s
TGL Tana Glacier 151.70 18 **PKiKP 05 48 30.6 +0.5**
I40A Norwalk 151.79 299 **PKPbc 05 48 29.9 -0.4**
CTG Chitna Glacier 151.88 17 P **PKiKP 05 48 30.4 -0.1**
baz=332
CTGM Chitina Glacie 151.88 17 IAMs_20 IAMs_20 06 59 07.7
comp=Z,492nm,19.0s
ISLE Juniper Island 151.96 18 **PKiKP 05 48 31.1 +0.5**
ISLE IAMs_20 IAMs_20 07 00 10.7
comp=Z,616nm,21.0s
WAX Waxell Ridge 151.96 18 IAMs_20 IAMs_20 07 01 58.8
comp=Z,538nm,18.0s
SUCK Suckling Hills 152.03 20 IAMs_20 IAMs_20 07 10 12.7
comp=Z,515nm,18.0s
LOGN Logan Glacier 152.09 16 IAMs_20 IAMs_20 06 58 49.0
comp=Z,647nm,19.0s
T42A Van Buren 152.22 285 IAMs_20 IAMs_20 07 00 02.9
comp=Z,502nm,20.0s
YAH Yahtse 152.31 18 **PKiKP 05 48 31.7 +0.1**
YAH IAMs_20 IAMs_20 07 01 54.2
comp=Z,496nm,20.0s
TABL Table Mountain 152.39 17 IAMs_20 IAMs_20 07 00 13.2
comp=Z,393nm,18.0s
L40A Anamosa 152.41 295 **PKiKP 05 48 32.1 +0.1**
L40A PKPab **pPKPab 05 48 43.5 -0.2**
MESA MESA 152.42 18 P **PKiKP 05 48 31.7 0.0**
baz=330
CCM Cathedral Cave 152.43 287 P **PKPbc 05 48 30.8 -1.1**
baz=94
PINM Pinnacle 152.91 16 P **PKPbc 05 48 32.3 -0.1**
baz=333
W41B Gary Mavity, V 152.91 280 P **PKPbc 05 48 32.6 -0.5**
baz=99
FCAR Ozark Folk Cen 152.92 282 **PKPbc 05 48 31.6 -1.5**
FCAR PKPab **sPKPbc 05 48 39.4 +4.1**
Z41A Richland Creek 153.01 276 P **PKPbc 05 48 32.4 -0.9**
baz=102
SPMN Marine on St. 153.13 303 P **PKPbc 05 48 32.1 -1.1**
baz=79
SPMN Marine on St. 153.13 303 **PKPbc 05 48 32.5 -0.7**
SPMN PKPab **PKPab 05 48 45.3 +0.4**
BCPM Bancas Point 153.17 16 IAMs_20 IAMs_20 06 56 33.8
comp=Z,413nm,20.0s
R40A Maddies Statio 153.25 287 **PKPbc 05 48 33.4 -0.3**
R40A PKPab **PKPab 05 48 45.1 -0.6**
X40A Basin Creek Fa 153.28 279 P **PKPbc 05 48 33.1 -0.8**
baz=100
X40A Basin Creek Fa 153.28 279 IAMs_20 IAMs_20 06 40 53.0
comp=Z,528nm,20.0s
WLAR White Oak Lake 153.35 277 PKPdf **PKPdf 05 48 25.4 -1.2**
WLAR **PKPbc 05 48 34.0 -0.1**
WLAR PKPab **PKPab 05 48 46.6 +0.4**
ULM Lac du Bonnet 153.56 315 PKPbc **PKPbc 05 48 33.1 -0.9**
comp=Z,5.5nm,0.8s,baz=116,slow=6.7,SNR=4.3
U40A Yellville 153.56 283 P **PKPbc 05 48 33.5 -1.0**
baz=96
U40A Yellville 153.56 283 **PKPdf 05 48 26.1 -0.6**
U40A **PKPbc 05 48 34.2 -0.3**
U40A PKPab **PKPab 05 48 45.9 -1.1**
U40A IAMs_20 IAMs_20 07 00 21.4
comp=Z,411nm,20.0s
MIAR Mount Ida 153.89 279 P **PKPbc 05 48 34.2 -1.1**
baz=100
MIAR Mount Ida 153.89 279 IAMs_20 IAMs_20 06 58 25.2
comp=Z,518nm,21.0s
SCIA State Center 153.90 295 P **PKPbc 05 48 34.5 -0.6**
baz=85
W39A Magazine 154.16 280 P **PKPbc 05 48 34.3 -1.6**
baz=98
W39A Magazine 154.16 280 IAMs_20 IAMs_20 07 04 40.4
comp=Z,442nm,20.0s
NATX Nacogdoches 154.18 272 P **PKPbc 05 48 35.1 -0.8**
baz=105
P38A Dawn 154.26 290 PKPdf **PKPdf 05 48 28.4 +0.7**
P38A **PKPbc 05 48 35.7 -0.2**
P38A PKPab **PKPab 05 48 50.1 +0.2**
AGMN Agassiz Nation 154.30 311 P **PKPbc 05 48 34.9 -0.8**
baz=69
AGMN Agassiz Nation 154.30 311 IAMs_20 IAMs_20 06 57 35.7
comp=Z,490nm,18.0s
HHAR Hobbs 154.42 282 PKPdf **PKPdf 05 48 26.3 -1.7**
HHAR **PKPbc 05 48 35.9 -0.5**
HHAR PKPab **PKPab 05 48 49.5 -1.2**
U38A Gravette 154.80 283 **PKiKP 05 48 38.4 +1.2**
U38A PKPab **PKPab 05 48 51.8 -0.5**
TUL1 Leonard 155.88 281 P **PKPdf 05 48 28.7 -1.2**
baz=96
ECSD EROS Data Cent 156.10 301 P **PKPdf 05 48 29.5 -0.6**
baz=78
435B Jarrell 156.32 268 IAMs_20 IAMs_20 07 04 45.4
comp=Z,549nm,21.0s
T35A Sooner Cattle 156.54 284 PKPdf **PKPdf 05 48 29.0 -1.9**
T35A PKPab **PKPab 05 48 59.0 -0.8**
WHTX Lake Whitney, 156.54 271 P **PKPdf 05 48 28.4 -2.6**
baz=105
KSU1 Kansas State U 156.65 289 P **PKPdf 05 48 29.1 -1.8**
baz=88
KSU1 Kansas State U 156.65 289 IAMs_20 IAMs_20 06 49 30.1
comp=Z,521nm,20.0s
KS21 Milan North St 157.48 284 IAMs_20 IAMs_20 07 00 32.0
comp=Z,598nm,22.0s
SUSD Miller 157.56 303 P **PKPdf 05 48 30.9 -1.0**
baz=74
WRAK Wrangell Islan 157.87 10 P **PKPdf 05 48 31.3 -0.5**
baz=345
WRAK Wrangell Islan 157.87 10 IAMs_20 IAMs_20 06 51 47.5
comp=Z,501nm,20.0s
OK032 Salt Plains WL 157.89 283 IAMs_20 IAMs_20 07 00 52.1
comp=Z,447nm,21.0s
E28A Huff 157.99 310 **PKPab 05 49 05.8 +0.1**
JCT Junction City 158.05 266 PKIKP **PKPdf 05 48 31.7 -1.3**
JCT Junction City 158.05 266 P **PKPdf 05 48 32.6 -0.4**
baz=108
JCT Junction City 158.05 266 PKPdf **PKPdf 05 48 31.7 -1.3**
WMOK Wichita Mounta 158.16 277 P **PKPdf 05 48 31.8 -1.2**
baz=98
WMOK Wichita Mounta 158.16 277 IAMs_20 IAMs_20 06 48 27.3
comp=Z,488nm,19.0s
R32A Long Quarter, 158.31 287 PKPdf **PKPdf 05 48 31.1 -2.0**
R32A **PKPab 05 49 06.4 -1.0**
ABTX Abilene, Hawle 158.49 272 P **PKPdf 05 48 32.4 -1.1**
baz=103
AMTX Amarillo 160.55 277 P **PKPdf 05 48 34.9 -1.0**
baz=97
OGNE Ogallala 160.60 295 P **PKPdf 05 48 34.6 -1.1**
baz=79
TX31 Lajitas Ar. Si 160.81 260 **PKPdf 05 48 36.3 0.0**
TX31 PKPab **PKPab 05 49 18.2 -0.4**
TX32 Lajitas Array 160.81 260 **PKPdf 05 48 35.3 -1.0**
TX32 PKPab **PKPab 05 49 18.4 -0.2**
TXAR Lajitas Array 160.81 260 PKP **PKPdf 05 48 35.5 -0.8**
comp=Z,1.4nm,0.8s,baz=131,slow=2.4,SNR=22
TXAR PKPab **PKPab 05 49 19.1 +0.5**
comp=Z,2.1nm,1.0s,baz=140,slow=7.9,SNR=4.9
TXAR PP **PP 05 53 02.6 +0.9**
comp=Z,0.6nm,1.1s,baz=84,slow=2.8,SNR=2.9
TXAR Lajitas Array 160.81 260 PKIKP **PKPdf 05 48 36.3 0.0**
TXAR Lajitas Array 160.81 260 PKPdf **PKPdf 05 48 36.3 0.0**
TXAR PKPab **PKPab 05 49 18.1 -0.5**
LAO LASA Array 161.30 315 P **PKPdf 05 48 35.6 -0.6**
baz=58
MSTX Muleshoe 161.32 274 P **PKPdf 05 48 35.8 -0.9**
baz=99
KSCO Kaye Shedlock' 161.33 290 P **PKPdf 05 48 35.9 -0.7**
baz=84
EGMT Eagleton 162.39 323 P **PKPdf 05 48 36.5 -0.8**
baz=47
EGMT Eagleton 162.39 323 **PKPdf 05 48 36.6 -0.8**
EGMT PKPab **PKPab 05 49 23.4 -1.4**
T25A Trinidad 162.86 284 P **PKPdf 05 48 37.7 -0.6**
baz=89
MNTX Cornudas Mount 162.98 265 P **PKPdf 05 48 37.8 -0.5**
baz=106
MNTX Cornudas Mount 162.98 265 **PKPdf 05 48 37.5 -0.8**
MNTX PKPab **PKPab 05 49 27.2 -0.8**
Q24A Divide 163.29 290 P **PKPdf 05 48 38.2 -0.6**
baz=82
K22A Casper 163.35 304 P **PKPdf 05 48 37.0 -1.6**
baz=68
N23A Red Feather La 163.50 297 P **PKPdf 05 48 36.8 -2.0**
baz=75
ISCO Idaho Springs 163.50 293 PKIKP **PKPdf 05 48 38.1 -0.9**
ISCO 05 49 30.6
ISCO Idaho Springs 163.50 293 P **PKPdf 05 48 36.8 -2.1**
baz=79
ISCO Idaho Springs 163.50 293 **PKPdf 05 48 38.1 -0.9**
ISCO PKPab **PKPab 05 49 30.6 +0.2**
SDCO Great Sand Dun 163.70 286 P **PKPdf 05 48 38.5 -0.6**
baz=86
SDCO Great Sand Dun 163.70 286 PKPdf **PKPdf 05 48 39.0 -0.1**
SDCO PKPab **PKPab 05 49 31.6 +0.3**
GCMT Greycliff 163.78 317 **PKPdf 05 48 38.3 -0.5**
RLMT Red Lodge 163.94 315 P **PKPdf 05 48 37.5 -1.6**
baz=56
RLMT Red Lodge 163.94 315 **PKPdf 05 48 39.0 -0.1**
RWWY Rawlins 164.17 301 **PKPdf 05 48 38.5 -0.9**
RWWY PKPab **PKPab 05 49 32.4 -0.7**
YNE Yellowstone No 164.43 315 **PKPdf 05 48 39.7 +0.2**
YNE PKPab **PKPab 05 49 34.0 -0.1**
ANMO Albuquerque 164.46 276 P **PKPdf 05 48 39.5 -0.3**
baz=95
JTMT Jette 164.63 331 **PKPdf 05 48 38.9 -0.6**
JTMT PKPab **PKPab 05 49 34.8 0.0**
S22A 4UR Ranch, Cre 164.75 286 P **PKPdf 05 48 39.8 -0.4**
baz=85
BOZ Bozeman (W) 164.97 320 P **PKPdf 05 48 39.0 -0.9**
baz=49
H17A Grant Village 165.12 314 P **PKPdf 05 48 40.1 -0.1**
baz=55
H17A Grant Village 165.12 314 **PKPdf 05 48 39.2 -1.0**
121A Cookes Peak, D 165.17 266 P **PKPdf 05 48 40.1 -0.4**
baz=104
YMR Madison River 165.18 316 **PKPdf 05 48 39.6 -0.6**
YMR PKPab **pPKPab 05 49 38.9 -0.2**
MSO Missoula 165.21 328 P **PKPdf 05 48 38.4 -1.6**
baz=40
NEW Newport 165.21 338 PKIKP **PKPdf 05 48 38.8 -1.1**
NEW Newport 165.21 338 P **PKPdf 05 48 38.2 -1.7**
baz=28
NEW Newport 165.21 338 **PKPdf 05 48 38.8 -1.1**
NEW PKPab **PKPab 05 49 37.5 +0.3**
BW06 Boulder Array 165.33 308 P **PKPdf 05 48 38.6 -1.8**
baz=63
BW06 Boulder Array 165.33 308 **PKPdf 05 48 38.9 -1.5**
BW06 PKPab **PKPab 05 49 37.1 -1.1**
PDAR Pinedale Array 165.33 308 PKP **PKPdf 05 48 39.2 -1.1**
comp=Z,1.9nm,0.8s,baz=115,slow=3.5,SNR=19
PDAR PKPab **PKPab 05 49 38.7 +0.5**
comp=Z,0.1nm,0.4s,baz=49,slow=30,SNR=1.5
PDAR PP **PP 05 53 25.5 +0.2**
comp=Z,1.5nm,1.0s,baz=97,slow=6.0,SNR=5.2
PDAR Pinedale Array 165.33 308 **PKPdf 05 48 38.5 -1.9**
O20A White River Ci 165.39 296 P **PKPdf 05 48 39.6 -0.9**
baz=74
SNOW Snow King Moun 165.74 312 **PKPdf 05 48 39.5 -1.3**
SNOW PKPab **PKPab 05 49 39.1 -0.9**
REDW Red Top Meadow 165.86 311 **PKPdf 05 48 39.9 -1.0**
REDW PKPab **PKPab 05 49 39.6 -0.9**
PV01 Paradox Valley 166.06 289 **PKPdf 05 48 40.0 -1.1**
PV01 PKPab **PKPab 05 49 40.5 -1.2**
MVCO Mesa Verde 166.12 285 P **PKPdf 05 48 40.2 -1.1**
baz=85
MCMT McKenzie Canyo 166.12 320 **PKPdf 05 48 40.4 -0.6**
MCMT PKPab **PKPab 05 49 41.2 -0.4**
PV13 Radium Mtn., P 166.25 289 **PKPdf 05 48 40.7 -0.6**
PV13 PKPab **PKPab 05 49 42.7 +0.2**
B05A Bryant 166.33 351 P **PKPdf 05 48 39.6 -1.1**
baz=12
PV05 Paradox Valley 166.49 289 **PKPdf 05 48 40.5 -1.0**
PV05 PKPab **PKPab 05 49 42.3 -1.2**
BCYI Bear Canyon 166.76 319 **PKPdf 05 48 40.8 -0.6**
E09A Wood Farm, Sta 167.09 337 **PKPdf 05 48 40.5 -0.8**
E09A PKPab **PKPab 05 49 45.2 -0.1**
P17A Butcher Ranch, 167.42 296 **PKPdf 05 48 41.9 -0.2**
P17A PKPab **pPKPab 05 49 48.7 -0.4**
TUC Tucson 167.57 263 PKIKP **PKPdf 05 48 43.5 +1.2**
TUC Tucson 167.57 263 P **PKPdf 05 48 42.1 -0.1**
baz=106
TUC Tucson 167.57 263 **PKPdf 05 48 43.5 +1.2**
TMUT Trail Mountain 167.82 296 **PKPdf 05 48 43.0 +0.4**
TMUT PKPab **PKPab 05 49 50.1 +0.7**
MPU Maple Canyon 167.89 299 **PKPdf 05 48 42.2 -0.2**
MPU PKPab **PKPab 05 49 49.1 -0.5**
E04D Cinebar 168.07 351 P **PKPdf 05 48 41.3 -0.7**
baz=12
G08A Pilot Rock 168.43 337 **PKPdf 05 48 44.8 +2.3**
BGU Big Grassy Mou 168.49 306 **PKPdf 05 48 42.1 -0.7**
BGU PKPab **PKPab 05 49 51.9 -0.2**
WUAZ Wupatki 168.51 278 P **PKPdf 05 48 41.8 -1.1**
baz=91
F04D Rainier, OR 168.59 352 P **PKPdf 05 48 42.4 0.0**
baz=10
DUG Dugway, Tooele 168.66 302 P **PKPdf 05 48 42.6 -0.3**
baz=66
214A Organ Pipe Nat 169.11 258 P **PKPdf 05 48 43.1 -0.1**
baz=109
G05D Wamic, OR 169.12 345 P **PKPdf 05 48 42.1 -0.7**
baz=18
I07A Izee 169.68 336 PKPdf **PKPdf 05 48 42.5 -0.8**
I07A PKPab **PKPab 05 49 55.0 -2.1**
CCUT Cedar City 169.90 289 **PKPdf 05 48 42.4 -1.4**
CCUT PKPab **PKPab 05 49 58.0 -0.6**
H04D Lebanon 170.08 349 P **PKPdf 05 48 42.4 -0.9**
baz=13
SPR3 Spring Creek 3 170.21 299 **PKPdf 05 48 43.7 -0.4**
SPR3 PKPab **PKPab 05 49 58.6 -1.5**
PINE Pine Mountain 170.39 340 **PKPdf 05 48 45.0 +1.2**
I02D Swisshome 170.64 353 P **PKPdf 05 48 43.0 -0.6**
baz=8.3
I04A Tendick Farm, 170.73 346 P **PKPdf 05 48 44.4 +0.5**
baz=16
J05D Fort Rock, OR 170.94 340 P **PKPdf 05 48 44.1 0.0**
baz=23
I03D Drain, OR 170.98 351 P **PKPdf 05 48 44.2 +0.4**
baz=11
GLA Glamis 171.05 262 P **PKPdf 05 48 44.2 -0.2**
baz=104
J04D Umpqua Nationa 171.20 344 P **PKPdf 05 48 43.0 -1.3**
baz=18
K05A Summer Lake 171.35 337 **PKPdf 05 48 44.3 -0.1**
K05A PKPab **PKPab 05 50 04.7 0.0**
R11A Troy Canyon, C 171.36 297 **PKPab 05 50 05.9 +0.9**
IRM Iron Mountain 171.52 269 P **PKPdf 05 48 44.4 -0.1**
baz=97
J01E Myrtle Point 171.58 353 P **PKPdf 05 48 43.7 -0.5**
baz=8.8
K04D Chiloquin, OR 171.69 341 P **PKPdf 05 48 44.4 -0.1**
baz=22
SWSC Sam W. Stewart 171.81 260 P **PKPdf 05 48 43.8 -0.9**
baz=106
MOD Modoc Plateau 171.87 332 **PKPdf 05 48 43.4 -1.2**
MOD PKPab **PKPab 05 50 06.2 -0.7**
IKP In-Ko-Pah, Jac 171.98 257 P **PKPdf 05 48 44.7 -0.1**
baz=108
GMRC Granite Mounta 172.00 273 P **PKPdf 05 48 45.2 +0.4**
baz=93
BELC Belle Mtn. Jos 172.20 267 P **PKPdf 05 48 45.5 +0.5**
baz=99
L04D Klamath Falls 172.22 343 P **PKPdf 05 48 44.1 -0.6**
baz=20
TUQ Turquoise Moun 172.22 277 P **PKPdf 05 48 45.1 +0.1**
baz=88
TPNV Topopah Spring 172.28 289 P **PKPdf 05 48 44.0 -1.0**
baz=77
MONP2 Monument Peak 172.30 258 P **PKPdf 05 48 46.7 +1.5**
baz=107
HEC Hector,Ludlow 172.55 273 P **PKPdf 05 48 45.0 0.0**
baz=93
TPH Tonopah 172.66 299 PKIKP **PKPdf 05 48 44.1 -1.1**
TPH 05 50 10.6
TPH Tonopah 172.66 299 **PKPdf 05 48 44.0 -1.1**
TPH PKPab **PKPab 05 50 10.6 -0.2**
GSC Goldstone, Bar 172.94 276 P **PKPdf 05 48 45.2 0.0**
baz=89
M02C Callahan 173.13 344 P **PKPdf 05 48 45.2 +0.2**
baz=18
NV11 Mina Array Sit 173.15 304 **PKPdf 05 48 46.9 +1.6**
NV11 PKPab **PKPab 05 50 11.6 -1.3**
NVAR Mina Array Bea 173.25 304 PKP **PKPdf 05 48 46.5 +1.1**
comp=Z,1.5nm,0.7s,baz=169,slow=0.7,SNR=12
NVAR PKPab **PKPab 05 50 12.9 -0.5**
comp=Z,0.4nm,0.3s,baz=215,slow=13,SNR=5.4
NVAR PP **PP 05 54 06.8 +1.4**
comp=Z,0.1nm,0.5s,baz=116,slow=4.1,SNR=1.9
NVAR Mina Array Bea 173.25 304 **PKPdf 05 48 46.4 +1.0**
NVAR PKPab **PKPab 05 50 12.1 -1.3**
LHV Little Huntoon 173.48 304 **PKPdf 05 48 45.3 +0.2**
LHV PKPab **PKPab 05 50 12.9 -1.1**
N02D Trinity Center 173.49 342 P **PKPdf 05 48 45.2 0.0**
baz=20
YERR Yerington 173.55 312 **PKPdf 05 48 45.8 +0.3**
YERR PKPab **PKPab 05 50 14.6 0.0**
BEKR Beckworth 173.55 323 **PKPdf 05 48 44.4 -1.0**
BEKR PKPab **pPKPab 05 50 16.7 +0.5**
TIN Tinemaha, Big 173.78 293 P **PKPdf 05 48 45.2 -0.3**
baz=71
O03E Paynes Creek 173.82 334 P **PKPdf 05 48 44.7 -0.7**
baz=29
EDW2 Edwards Air Fo 173.92 273 P **PKPdf 05 48 45.1 -0.4**
baz=92
O02D Mt. Diablo Mer 174.25 340 P **PKPdf 05 48 46.1 +0.6**
baz=23
ISA Isabella, Lake 174.28 281 P **PKPdf 05 48 45.3 -0.4**
baz=84
VES Vestal, Richgr 174.74 283 P **PKPdf 05 48 45.1 -0.6**
baz=81
CMB Columbia Colle 174.84 310 PKIKP **PKPdf 05 48 44.6 -1.1**
CMB 05 50 18.3
CMB Columbia Colle 174.84 310 **PKPdf 05 48 44.6 -1.1**
CMB PKPab **PKPab 05 50 18.3 -1.9**

*IDC **20** 06:15:45.1±3.7,9.°41N×127.°26E,h0km,mb3.6/4,*
mb1 3.7/4,mb1mx3.4/38,mbtmp3.6/4,Error ellipse:
s-maj=312.6km s-min=24.5km az=67.0
*MAN **20** 06:15:50.9,9.°22N×126.°89E,h23km,mb5.2,ML4.1,MS4.2*
ISC 20 06:15:51.2±1.4,9.°15N±0.°07×127.°0E±0.°1,h38km,n10,
σ1§62/12,mb3.5/4,3C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.15**	**213⇑**	*e*P	**Pn**	**06 16 11.8**	**+1.1**
BIPH				*e*S	**Sn**	**06 16 21.6**	**-3.6**
BUKP	**Musuan**	**2.29**	**237⇑**	*i*P	**Pn**	**06 16 26.9**	**+0.4**
BUKP				*i*S	**Sn**	**06 16 55.5**	**+2.0**
MSLP	**Maasin**	**2.33**	**295⇓**	*i*P	**Pn**	**06 16 26.9**	**0.0**
CGP	**Cagayan de Oro**	**2.38**	**253⇓**	*e*P	Pn	06 16 37.3	+10
CGP				*e*S	**Sn**	**06 16 55.6**	**0.0**
KCP	**Kidapawan**	**2.84**	**222⇓**	*e*P	**Pn**	**06 16 33.6**	**-0.5**
RCP	**Roxas**	**4.82**	**300⇓**	*e*P	**Pn**	**06 17 01.8**	**+0.5**
WRA	**Warramunga Arr**	**29.80**	**166**	P	**P**	**06 21 56.2**	**+1.6**
	0.7nm,0.9s,baz=348,slow=9.0,SNR=2.1						
ASAR	**Alice Springs**	**33.30**	**168**	P	**P**	**06 22 25.9**	**+0.4**
	0.3nm,0.5s,baz=352,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**53.35**	**323**	P	**P**	**06 25 05.9**	**-0.9**
	0.5nm,0.6s,baz=119,slow=8.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**57.40**	**326**	P	**P**	**06 25 34.7**	**-1.1**
	0.3nm,0.5s,baz=126,slow=6.6,SNR=5.9						

MEX 20 06:30:07.7±1.5,17.°15N×99.°99W,h34km±23km,MD4.4,1D,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.28**	**249**	*i*P	Pn	06 30 13.6	-1.7
CAIG				*i*S	Sn	06 30 19.3	-0.1
ACP2	**Acapulco**	**0.29**	**160**	*i*P	Pn	06 30 14.0	-1.4
ACP2				*i*S	Sb	06 30 20.2	-0.5
DAIG	**Los Arroyos**	**0.35**	**111**	*i*P	Pb	06 30 14.3	-1.9
DAIG				*i*S	Sn	06 30 20.3	-1.5
MEIG	**Mezcala**	**0.85**	**25**	*i*P	Pn	06 30 20.7	-2.7
MEIG				*i*S	Sn	06 30 31.9	-2.8
CRIG	**Cruz Grande**	**0.92**	**116**	*e*P	Pn	06 30 22.2	-2.0
CRIG				*i*S	Sn	06 30 34.2	-2.0
ARIG	**Puente Sto Nin**	**1.18**	**343**	*i*P	Pn	06 30 25.9	-1.9
ARIG				*i*S	Sn	06 30 40.7	-2.0
MGIG	**Malinaltepec**	**1.30**	**86**	*e*P	Pn	06 30 28.2	-1.4
MGIG				*i*S	Sn	06 30 44.5	-1.5
PLIG	**Platanillo**	**1.32**	**21**	*i*P	Pn	06 30 28.3	-1.5
PLIG				*i*S	Sn	06 30 45.6	-0.8
TLIG	**Tlapa**	**1.42**	**73**	*e*P	Pn	06 30 30.0	-1.3
TLIG				*i*S	Sn	06 30 47.9	-1.0
ZIIG	**Zihuatanejo**	**1.48**	**288**	*e*P	Pn	06 30 30.0	-1.9
ZIIG				*i*S	Sn	06 30 50.9	+0.8
HMTT	**Tlapaneco**	**1.51**	**64**	*i*P	Pn	06 30 31.1	-1.4
HMTT				*i*S	Sn	06 30 51.8	+0.8
MAVM	**Malinalco, Edo**	**1.86**	**15**	*e*P	Pn	06 30 35.3	-2.1
MAVM				*i*S	Sn	06 31 00.8	+0.9
UON	**La Union**	**1.92**	**295**	*i*P	Pn	06 30 38.9	+0.9
UON				*i*S	Sb	06 31 04.2	-1.6
TOVM	**TOLUCA**	**2.14**	**8**	*e*P	Pn	06 30 39.9	-1.5

TOVM				*i* S	Sn	06 31 06.6	-0.4
HLIG	**Huajuapan de L**	**2.19**	**72**	*e*P	Pn	06 30 40.9	-1.1
HLIG				*e*S	Sn	06 31 09.0	+1.0
PPM	**Popocatepetl**	**2.31**	**34**	*i* P	Pn	06 30 41.9	-1.9
PPM				*i* S	Sb	06 31 15.2	-2.1
CVM	**Colonia del Va**	**2.35**	**19**	*e*P	Pn	06 30 45.8	+1.9
CVM				*i* S	Sb	06 31 15.9	-2.1
YOIG	**Yosondua**	**2.36**	**97**	*e*P	Pn	06 30 43.6	-0.6
YOIG				*i* S	Sn	06 31 09.9	-2.3
PTVM	**Pico Tres Padr**	**2.57**	**19**	*e*P	Pn	06 30 49.0	+1.8
PTVM				*i* S	Sn	06 31 20.3	+2.9
MOIG	**Morelia**	**2.76**	**336**	*e*P	Pn	06 30 50.4	+0.6
MOIG				*e*S	Sb	06 31 27.0	-3.1
TPIG	**Tehuac#an**	**2.81**	**63**	*i* P	Pn	06 30 47.4	-2.9
TPIG				*i* S	Sb	06 31 27.5	-3.8
ACIG	**Acambay**	**2.82**	**2**	*i* P	Pn	06 30 52.6	+2.1
ACIG				*i* S	Sb	06 31 28.3	-3.3
TOIG	**Toxpalan**	**2.94**	**71**	*e*P	Pn	06 30 51.0	-1.3
TOIG				*e*S	Sn	06 31 28.2	+1.7
PEIG	**Puerto Escondi**	**2.96**	**112**	*e*P	Pn	06 30 51.9	-0.4
PEIG				*i* S	Sn	06 31 22.6	-4.0
VHO	**Vista Hermosa**	**3.12**	**91**	*i* P	Pn	06 30 54.4	-0.3
VHO				*i* S	Sn	06 31 27.5	-3.3
MMIG	**Aquila**	**3.39**	**290**	*e*P	Pn	06 30 55.4	-2.9
MMIG				*e*S	Sb	06 31 45.2	-2.8
JRQG	**Juriquilla Cam**	**3.56**	**353**	*i* P	Pb	06 31 07.0	-3.2
HUIG	**Huatulco**	**3.97**	**110**	*i* P	Pb	06 31 12.2	-4.8
COIG	**Colima**	**4.06**	**300**	‖*e*P	Pn	06 31 11.6	+4.1
COIG				*e*S	Sb	06 32 02.1	-5.1
EZ5V		**4.14**	**305**	*e*P	Pn	06 30 54.1	-15
EZ5V				*e*S	Sb	06 32 08.9	-0.8
R15V		**4.30**	**299**	*i* P	Pn	06 31 13.5	+2.7
R15V				*e*P	Pb	06 31 14.3	-8.3
R15V				*i* S	Sb	06 32 10.4	-3.6
R15V				*i* S	Sn	06 32 14.4	+15
CJM	**Chamela**	**5.34**	**297**	*i* P	Pn	06 31 32.6	+7.5
CJM				*i* S	Sb	06 32 37.8	-6.1
CJM				*e*S	Sn	06 32 39.0	+14
TGIG		**6.58**	**92**	*i* P	Pn	06 31 50.8	+8.6

MEX ***20*** *06:31:30.4±1.1,24°.88N×108°.68W,h10km,MD5.1*
IDC ***20*** *06:31:30.6±0.9,25°.49N×109°.62W,h0km,mb4.0/8, mb1 4.2/15,mb1mx4.1/52,mbtmp4.0/15,ML3.5/7,MS4.3/24, Ms1 4.3/24,ms1mx4.1/46,Error ellipse: s-maj=17.5km s-min=15.1km az=105.0*
NEIC ***20*** *06:31:32.3±2.1,25°.44N±0°.06×109°.69W±0°.08,h10km±1km, mb4.6/179,Error ellipse: s-maj=11.6km s-min=10.1km az=276.0*
GCMT ***20*** *06:31:33.3±0.3,25°.62N±0°.02×109°.81W±0°.02,h16km±1km, MW4.9/102,Moment Tensor Solution. s19,c19; s102,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.05±.10; $M_{\theta\theta}$-2.67±.10; $M_{\phi\phi}$2.62±.09; $M_{r\theta}$-0.43±.26; $M_{\theta\phi}$-0.87±.08; $M_{r\phi}$0.89±.30; Best double couple: $M_0$2.94900×10^16^ NP1:ϕ_s37.00000°,δ73.00000°, λ8.00000°. NP2:ϕ_s305.00000°,δ82.00000°,λ163.00000°. Principal axes: T 3.0580, Plg18.0000°, Azm260.0000°; N -0.2200, Plg71.0000°, Azm100.0000°; P -2.8390, Plg6.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 06:31:31.8±0.5,25°.46N±0°.04×109°.65W±0°.04,h11km, n494,σ1§16/473,mb4.6/53,MS4.3/19,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.57**	**75**	*i* P	**Pb**	**06 31 44.0**	**+0.3**
TSIG				*i* S	**Sn**	**06 31 54.0**	**-1.2**
LPIG	**La Paz**	**1.48**	**204**	Pg	**Pn**	**06 31 56.5**	**-1.8**
7.6nm,0.3s,baz=353,slow=1.7,SNR=21							
LPIG				Lg	Lg	06 32 14.5	
97nm,0.3s,baz=143,slow=5.2,SNR=10							
LPIG	**La Paz**	**1.48**	**204**	*i* P	**Pn**	**06 31 56.5**	**-1.8**
LPIG				*i* S	**Sn**	**06 32 15.3**	**-2.4**
SLBS	**Sierra La Lagu**	**1.78**	**189**	Pn	**Pn**	**06 32 01.6**	**-1.1**
CSIG	**Choix**	**1.79**	**40**	*e*P	**Pn**	**06 32 00.1**	**-2.5**
CSIG				*i* S	**Sn**	**06 32 23.2**	**-2.1**
GUYB	**Guaymas**	**2.67**	**336**	*i* P	Pn	06 32 09.1	-5.6
SRIG	**Santa Rosalia**	**2.98**	**309**	*e*P	Pn	06 32 13.4	-5.6
SRIG	**Santa Rosalia**	**2.98**	**309**	Pn	**Pn**	**06 32 17.5**	**-1.5**
MAIG	**Mazatlaan**	**3.71**	**127**		**Pg**	**06 32 41.9**	**-0.9**
HSIG		**3.73**	**342**	*e*P	**Pn**	**06 32 24.9**	**-4.5**
HSIG				*i* S	**Sb**	**06 33 19.6**	**-3.5**
HSIG		**3.73**	**342**	Pn	**Pn**	**06 32 25.1**	**-4.3**
HPIG		**3.87**	**67**	*e*P	**Pn**	**06 32 31.5**	**0.0**
HPIG				*i* S	**Sg**	**06 33 34.5**	**-1.6**
HPIG		**3.87**	**67**		**Pn**	**06 32 31.3**	**-0.2**
NZIG	**Nacozari, Sono**	**4.90**	**1**	*i* P	**Pn**	**06 32 46.4**	**+0.8**
NZIG				*i* S	**Sb**	**06 33 52.9**	**-3.9**
CGIG		**5.11**	**16**	*e*P	**Pn**	**06 32 51.8**	**+3.4**
CGIG				*i* S	**Sb**	**06 34 07.5**	**+4.7**
CGIG		**5.11**	**16**		**Pn**	**06 32 51.8**	**+3.4**
TX31	**Lajitas Ar. Si**	**6.57**	**53**		**Pn**	**06 33 07.3**	**-1.1**
TX32	**Lajitas Array**	**6.57**	**53**		**Pn**	**06 33 07.7**	**-0.8**
TXAR	**Lajitas Array**	**6.57**	**53**	Pn	**Pn**	**06 33 06.6**	**-1.9**
1.1nm,0.3s,baz=229,slow=14,SNR=64							
TXAR				Lg	Lg	06 34 55.3	
13nm,0.3s,baz=251,slow=29,SNR=11							
TXAR	**Lajitas Array**	**6.57**	**53**	Pn	**Pn**	**06 33 07.9**	**-0.6**
TUC	**Tucson**	**6.90**	**352**	P	**Pn**	**06 33 10.3**	**-2.7**
baz=170							
TUC	**Tucson**	**6.90**	**352**	Pn	**Pn**	**06 33 10.6**	**-2.4**
ZAIG	**Zacatecas**	**7.00**	**111**	*e*P	Pn	06 33 20.9	+6.3
ZAIG	**Zacatecas**	**7.00**	**111**	Pn	**Pn**	**06 33 13.7**	**-0.9**
214A	**Organ Pipe Nat**	**7.05**	**338**	P	**Pn**	**06 33 12.9**	**-2.1**
baz=155,SNR=22							
214A	**Organ Pipe Nat**	**7.05**	**338**	Pn	**Pn**	**06 33 13.5**	**-1.5**
SFX	**San Felipe**	**7.21**	**322**	Pn	**Pn**	**06 33 16.5**	**-0.7**
121A	**Cookes Peak, D**	**7.24**	**13**	P	**Pn**	**06 33 15.0**	**-2.7**
baz=193							
121A	**Cookes Peak, D**	**7.24**	**13**		**Pn**	**06 33 16.9**	**-0.8**
MNTX	**Cornudas Mount**	**7.26**	**30**	P	**Pn**	**06 33 15.6**	**-2.3**
baz=212							
MNTX	**Cornudas Mount**	**7.26**	**30**	Pn	**Pn**	**06 33 18.0**	**+0.1**
GLA	**Glamis**	**8.82**	**330**	P	**Pn**	**06 33 37.6**	**-1.7**
baz=147,SNR=12							
GLA	**Glamis**	**8.82**	**330**		**Pn**	**06 33 37.8**	**-1.4**
CCX	**Cicese**	**8.88**	**318**		**Pn**	**06 33 40.5**	**+0.5**
Y22D	**IRIS PASSCAL I**	**8.91**	**15**	P	**Pn**	**06 33 39.7**	**-0.9**
baz=196							
Y22D	**IRIS PASSCAL I**	**8.91**	**15**		**Pn**	**06 33 42.0**	**+1.3**
LENM	**Lemitar**	**8.98**	**14**		**Pn**	**06 33 40.0**	**-1.7**
X18A	**Snowflake**	**9.05**	**358**	Pn	**Pn**	**06 33 41.3**	**-1.3**
BNM	**Barren Site**	**9.05**	**16**	Pn	**Pn**	**06 33 41.8**	**-0.8**
RMX	**La Rumorosa**	**9.07**	**323**		**Pn**	**06 33 42.2**	**-0.7**
CPRX	**Cap Rock**	**9.08**	**32**	Pn	**Pn**	**06 33 42.6**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**9.13**	**323**	P	**Pn**	**06 33 43.6**	**0.0**
baz=139							
CBX	**Cerro Bola**	**9.19**	**320**		**Pn**	**06 33 45.9**	**+1.4**
TKX	**Tecate**	**9.34**	**321**	Pn	**Pn**	**06 33 49.0**	**+2.5**
BAR	**Barrett**	**9.46**	**321**	Pn	**Pn**	**06 33 49.9**	**+1.8**
MONP2	**Monument Peak**	**9.48**	**323**	P	**Pn**	**06 33 49.4**	**+0.8**
baz=139							
TJX	**Tijuana**	**9.56**	**319**	Pn	**Pn**	**06 33 48.4**	**-1.1**
833A	**Chaparral WMA,**	**9.59**	**70**	P	**Pn**	**06 33 49.8**	**0.0**
baz=256							
W18A	**Petrified Fore**	**9.63**	**360**	P	**Pn**	**06 33 50.4**	**-0.2**
baz=179,SNR=6.6							
W18A	**Petrified Fore**	**9.63**	**360**		**Pn**	**06 33 52.2**	**+1.7**
PDMCI	**Parker Dam,Lak**	**9.64**	**337**	P	**Pn**	**06 33 51.1**	**+0.6**
baz=154							
ANMO	**Albuquerque**	**9.85**	**15**	Pn	**Pn**	**06 33 54.8**	**+1.2**
0.1nm,0.3s,baz=202,slow=13,SNR=23							
ANMO				Lg	Lg	06 36 38.8	
0.7nm,0.3s,baz=47,slow=9.1,SNR=3.5							
ANMO				LR	LR	06 37 17.3	
comp=Z,2μm,18.1s,baz=191,slow=35							
ANMO	**Albuquerque**	**9.85**	**15**	P	**Pn**	**06 33 53.7**	**+0.1**
baz=197							
ANMO	**Albuquerque**	**9.85**	**15**	Pn	**Pn**	**06 33 55.2**	**+1.6**
109C	**Camp Elliot, M**	**9.86**	**320**	P	**Pn**	**06 33 54.8**	**+1.2**
baz=136							
109C	**Camp Elliot, M**	**9.86**	**320**		**Pn**	**06 33 52.6**	**-1.0**
IRM	**Iron Mountain**	**9.90**	**332**	P	**Pn**	**06 33 55.0**	**+0.9**
baz=149,SNR=11							
JCT	**Junction City**	**10.04**	**58**	P	**Pn**	**06 33 55.4**	**-0.6**
baz=243							
TPFO	**Pinon Flats**	**10.05**	**325**	P	**Pn**	**06 33 57.2**	**+0.9**
baz=141							
PFO	**Pinyon Flats O**	**10.06**	**325**	Pn	**Pn**	**06 33 58.5**	**+2.2**
0.1nm,0.3s,baz=133,slow=13,SNR=7.9							
PFO				Lg	Lg	06 36 55.3	
0.1nm,0.3s,baz=206,slow=6.5,SNR=3.6							
PFO	**Pinyon Flats O**	**10.06**	**325**	P	**Pn**	**06 33 57.6**	**+1.2**
baz=141							
PFO	**Pinyon Flats O**	**10.06**	**325**		**Pn**	**06 33 58.0**	**+1.6**
WUAZ	**Wupatki**	**10.14**	**352**	P	**Pn**	**06 33 58.0**	**+0.5**
baz=170,SNR=22							
WUAZ	**Wupatki**	**10.14**	**352**	Pn	**Pn**	**06 33 58.6**	**+1.1**
BELC	**Belle Mtn. Jos**	**10.14**	**329**	P	**Pn**	**06 33 58.5**	**+0.9**
baz=145,SNR=5.8							
NEE2	**Needles Airpor**	**10.23**	**336**	P	**Pn**	**06 33 59.4**	**+0.9**
baz=153							
W13A	**Hualapai Mount**	**10.28**	**340**		**Pn**	**06 33 59.6**	**0.0**
MSTX	**Muleshoe**	**10.37**	**34**	P	**Pn**	**06 34 00.3**	**-0.3**
baz=217							
MURC	**Murrieta**	**10.44**	**323**	P	**Pn**	**06 34 03.0**	**+1.5**
baz=138							
GMRC	**Granite Mounta**	**10.65**	**332**	P	**Pn**	**06 34 04.9**	**+0.4**
baz=148,SNR=6.7							
SCI2	**San Clemente I**	**10.80**	**316**	P	**Pn**	**06 34 08.4**	**+2.0**
baz=131							
HEC	**Hector,Ludlow**	**10.99**	**330**	P	**Pn**	**06 34 10.3**	**+1.3**
baz=146							
U15A	**North Rim**	**11.17**	**349**		**Pn**	**06 34 13.3**	**+1.6**
BFSC	**Mount Baldy Ra**	**11.18**	**323**	P	**Pn**	**06 34 13.4**	**+1.7**
baz=139							
ABTX	**Abilene, Hawle**	**11.29**	**48**	Pn	**Pn**	**06 34 16.1**	**+2.9**
TUQ	**Turquoise Moun**	**11.32**	**333**	P	**Pn**	**06 34 15.0**	**+1.3**
baz=149							
RRX	**Edison Barstow**	**11.33**	**328**	P	**Pn**	**06 34 15.1**	**+1.3**
baz=143							
MWC	**Mount Wilson**	**11.38**	**322**		**Pn**	**06 34 14.7**	**+0.1**
PASC	**Pasadena Art C**	**11.41**	**322**		**Pn**	**06 34 15.1**	**+0.3**
GSC	**Goldstone, Bar**	**11.59**	**330**	P	**Pn**	**06 34 18.7**	**+1.3**
baz=145							
GSC	**Goldstone, Bar**	**11.59**	**330**		**Pn**	**06 34 17.7**	**+0.4**
SNCC	**San Nicolas Is**	**11.59**	**314**	Pn	**Pn**	**06 34 19.5**	**+2.3**
AMTX	**Amarillo**	**11.65**	**34**	Pn	**Pn**	**06 34 20.8**	**+2.7**
MVCO	**Mesa Verde**	**11.76**	**4**	P	**Pn**	**06 34 20.0**	**+0.2**
baz=185,SNR=48							
MVCO	**Mesa Verde**	**11.76**	**4**		**Pn**	**06 34 20.6**	**+0.8**
KNB	**Kanab**	**11.84**	**348**		**Pn**	**06 34 21.9**	**+1.1**
EDW2	**Edwards Air Fo**	**11.84**	**324**	P	**Pn**	**06 34 22.1**	**+1.4**
baz=140							
SHOC	**Shoshone, Teco**	**11.87**	**333**	P	**Pn**	**06 34 22.1**	**+1.1**
baz=149							
435B	**Jarrell**	**11.89**	**61**	P	**Pn**	**06 34 22.0**	**+0.6**
baz=247							
435B	**Jarrell**	**11.89**	**61**	Pn	**Pn**	**06 34 22.2**	**+0.9**
LCMT	**Little Creek M**	**11.92**	**346**		**Pn**	**06 34 22.6**	**+0.7**
SHPR	**Sheep Range**	**11.98**	**338**		**Pn**	**06 34 24.4**	**+1.6**
OSI	**Osito Audit: C**	**12.04**	**321**	P	**Pn**	**06 34 24.8**	**+1.4**
baz=136							
SCZ2	**Santa Cruz Isl**	**12.15**	**317**	P	**Pn**	**06 34 26.7**	**+1.8**
baz=131							
LRMC	**Laurel Mtn Rad**	**12.15**	**327**	P	**Pn**	**06 34 26.6**	**+1.5**
baz=142							
PKCU	**Pink Cliffs**	**12.16**	**350**		**Pn**	**06 34 27.5**	**+2.1**
SZCU	**Shurtz Canyon**	**12.45**	**347**		**Pn**	**06 34 31.4**	**+2.2**
CCUT	**Cedar City**	**12.47**	**346**		**Pn**	**06 34 32.0**	**+2.6**
T25A	**Trinidad**	**12.47**	**20**	P	**Pn**	**06 34 29.6**	**+0.1**
baz=202							
T25A	**Trinidad**	**12.47**	**20**		**Pn**	**06 34 30.1**	**+0.6**
ARVC	**Arvin**	**12.48**	**323**	P	**Pn**	**06 34 31.2**	**+1.8**
baz=137,SNR=26							
S22A	**4UR Ranch, Cre**	**12.48**	**10**	P	**Pn**	**06 34 30.2**	**+0.5**
baz=192							
PV05	**Paradox Valley**	**12.59**	**2**		**Pn**	**06 34 33.2**	**+2.0**
FURC	**Furnace Creek,**	**12.60**	**332**	P	**Pn**	**06 34 31.7**	**+0.8**
baz=148							
PV01	**Paradox Valley**	**12.67**	**4**		**Pn**	**06 34 32.3**	**0.0**
PV13	**Radium Mtn., P**	**12.68**	**3**		**Pn**	**06 34 32.9**	**+0.5**
ISA	**Isabella, Lake**	**12.70**	**325**	P	**Pn**	**06 34 33.6**	**+1.2**
baz=140,SNR=27							
ISA	**Isabella, Lake**	**12.70**	**325**		**Pn**	**06 34 33.3**	**+0.9**
MTPU	**Mount Pierson**	**12.73**	**351**		**Pn**	**06 34 35.5**	**+2.3**
PV02	**Paradox Valley**	**12.74**	**3**		**Pn**	**06 34 33.3**	**+0.2**
SDCO	**Great Sand Dun**	**12.75**	**15**	P	**Pn**	**06 34 32.8**	**-0.6**
baz=197,SNR=10							
SDCO	**Great Sand Dun**	**12.75**	**15**		**Pn**	**06 34 35.3**	**+2.0**
PV18	**Skein Mesa, Pa**	**12.77**	**3**		**Pn**	**06 34 33.7**	**+0.2**
TPNV	**Topopah Spring**	**12.77**	**335**	P	**Pn**	**06 34 34.1**	**+0.7**
baz=151,SNR=10							
TPNV	**Topopah Spring**	**12.77**	**335**		**Pn**	**06 34 36.1**	**+2.7**
PRN	**Pahroc Range**	**12.77**	**340**		**Pn**	**06 34 34.6**	**+1.1**
PV03	**Paradox Valley**	**12.78**	**3**		**Pn**	**06 34 33.3**	**-0.3**
PV17	**East Wray Mesa**	**12.80**	**2**		**Pn**	**06 34 34.4**	**+0.5**
PV11	**David Mesa, Pa**	**12.82**	**3**		**Pn**	**06 34 34.6**	**+0.4**
PV19	**Morning Glory**	**12.83**	**2**		**Pn**	**06 34 34.3**	**-0.1**
PV16	**Nyswonger Mesa**	**12.83**	**3**		**Pn**	**06 34 34.5**	**+0.1**
PV12	**Saucer Basin,**	**12.84**	**3**		**Pn**	**06 34 34.9**	**+0.3**
PV20	**West Nyswonger**	**12.86**	**2**		**Pn**	**06 34 35.5**	**+0.8**
PKM	**Mcpherson Peak**	**12.87**	**319**	P	**Pn**	**06 34 35.6**	**+0.7**
baz=134,SNR=12							
PV15	**Paradox Valley**	**12.89**	**4**		**Pn**	**06 34 35.2**	**0.0**
PV14	**Lion Creek, Pa**	**12.89**	**2**		**Pn**	**06 34 35.5**	**+0.3**
PV10	**Paradox Valley**	**12.89**	**2**		**Pn**	**06 34 34.4**	**-0.9**
PV04	**Paradox Valley**	**12.91**	**3**		**Pn**	**06 34 35.7**	**+0.2**
PV07	**Paradox Valley**	**12.97**	**3**		**Pn**	**06 34 37.3**	**+1.0**
PV22	**Blue Mesa, Par**	**13.06**	**3**		**Pn**	**06 34 38.3**	**+0.8**
VES	**Vestal, Richgr**	**13.15**	**324**	P	**Pn**	**06 34 39.9**	**+1.4**
baz=139,SNR=20							
WMOK	**Wichita Mounta**	**13.18**	**43**	P	**Pn**	**06 34 38.8**	**-0.2**
baz=228							
WMOK	**Wichita Mounta**	**13.18**	**43**		**Pn**	**06 34 39.5**	**+0.5**
MVU	**Marysvale**	**13.19**	**351**		**Pn**	**06 34 41.3**	**+2.0**
MSU	**Marysvale**	**13.19**	**351**		**Pn**	**06 34 41.1**	**+1.7**
GRAC	**Grapevine Rang**	**13.26**	**332**	P	**Pn**	**06 34 41.9**	**+1.8**
baz=147							
SMMC	**Simmler**	**13.27**	**320**	P	**Pn**	**06 34 41.2**	**+1.0**
baz=134							
TCRU	**Three Creeks R**	**13.33**	**350**		**Pn**	**06 34 41.4**	**+0.2**
PSUT	**Pine Spring**	**13.52**	**346**		**Pn**	**06 34 45.8**	**+2.1**
SRU	**San Rafael Swe**	**13.64**	**357**		**Pn**	**06 34 45.5**	**+0.2**
VOG	**Valley Oaks Go**	**13.67**	**325**	P	**Pn**	**06 34 46.8**	**+1.1**
baz=139							
TIN	**Tinemaha, Big**	**13.69**	**330**	P	**Pn**	**06 34 46.5**	**+0.5**
baz=145,SNR=8.3							
X34A	**Smith Ranch, M**	**13.69**	**46**	Pn	**Pn**	**06 34 44.4**	**-1.5**
PAGB	**Antelope Grade**	**13.71**	**321**		**Pn**	**06 34 45.9**	**-0.4**
LOOK	**Love County**	**13.76**	**49**	Pn	**Pn**	**06 34 47.0**	**+0.1**
237A	**Washetta, Mont**	**13.78**	**59**	Pn	**Pn**	**06 34 46.6**	**-0.5**
R11A	**Troy Canyon, C**	**13.80**	**340**	P	**Pn**	**06 34 48.2**	**+0.5**
baz=156,SNR=14							
R11A	**Troy Canyon, C**	**13.80**	**340**		**Pn**	**06 34 47.9**	**+0.3**
TMUT	**Trail Mountain**	**13.86**	**355**		**Pn**	**06 34 50.2**	**+1.6**
SMCO	**Snowmass**	**13.87**	**9**		**Pn**	**06 34 49.6**	**+0.9**
Q24A	**Divide**	**13.99**	**15**	P	**Pn**	**06 34 50.9**	**+0.6**
baz=197							
P17A	**Butcher Ranch,**	**14.01**	**356**		**Pn**	**06 34 50.8**	**+0.4**
SPR3	**Spring Creek 3**	**14.07**	**345**		**Pn**	**06 34 52.2**	**+0.8**
TPH	**Tonopah**	**14.13**	**335**		**Pn**	**06 34 52.9**	**+0.8**
U32A	**Winter Ranch,**	**14.20**	**37**	Pn	**Pn**	**06 34 51.4**	**-1.5**
MLAC	**Mammoth, Mammo**	**14.44**	**329**	P	**Pn**	**06 34 57.3**	**+0.9**
baz=144							
MDPB	**Devils Postpil**	**14.55**	**329**		**Pn**	**06 34 59.0**	**+1.1**
NATX	**Nacogdoches**	**14.58**	**61**	P	**Pn**	**06 34 58.3**	**+0.2**
baz=249							
NLU	**North Lily Min**	**14.60**	**353**		**Pn**	**06 34 58.2**	**-0.4**
MPU	**Maple Canyon**	**14.61**	**354**		**Pn**	**06 34 59.4**	**+0.7**
O20A	**White River Ci**	**14.69**	**4**	P	**Pn**	**06 34 60.0**	**+0.3**
baz=185,SNR=8.8							
O20A	**White River Ci**	**14.69**	**4**		**Pn**	**06 35 01.0**	**+1.3**
ISCO	**Idaho Springs**	**14.70**	**12**	P	**Pn**	**06 35 00.3**	**+0.3**
baz=194,SNR=13							
ISCO	**Idaho Springs**	**14.70**	**12**	Pn	**Pn**	**06 35 01.6**	**+1.7**
LHV	**Little Huntoon**	**14.80**	**332**	Pn	**Pn**	**06 35 02.0**	**+1.0**
NV11	**Mina Array Sit**	**14.81**	**333**	Pn	**Pn**	**06 35 02.8**	**+1.5**
NVAR	**Mina Array Bea**	**14.87**	**333**	Pn	**Pn**	**06 35 02.8**	**+0.6**
0.1nm,0.3s,baz=155,slow=15,SNR=18							
NVAR				Lg	Lg	06 39 32.1	
0.0nm,0.3s,baz=142,slow=31,SNR=1.6							
NVAR				LR	LR	06 40 04.5	
comp=Z,439nm,20.2s,baz=150,slow=35							
NVAR	**Mina Array Bea**	**14.87**	**333**		**Pn**	**06 35 03.3**	**+1.1**
DUG	**Dugway, Tooele**	**14.94**	**351**	P	**Pn**	**06 35 03.7**	**+0.6**
baz=168							
DUG	**Dugway, Tooele**	**14.94**	**351**		**Pn**	**06 35 03.5**	**+0.5**
RDMU	**Red Mountain**	**15.07**	**0**		**Pn**	**06 35 05.0**	**0.0**
RDMU				IAmb	IAmb	06 35 18.1	
comp=Z,24nm,1.3s							
SAO	**San Andreas Ge**	**15.12**	**321**	Pn	**Pn**	**06 35 04.8**	**-0.6**
SAO				IAmb	IAmb	06 35 24.9	
comp=Z,27nm,1.2s							
RYN	**Ryan**	**15.12**	**332**		**Pn**	**06 35 06.5**	**+0.9**
RYN				IAmb	IAmb	06 35 17.6	
comp=Z,53nm,1.4s							
OK031	**S. Brethren Rd**	**15.18**	**43**	Pn	**Pn**	**06 35 07.3**	**+1.2**
OK031				IAmb	IAmb	06 35 20.4	
comp=Z,36nm,0.9s							
JLU	**Jordanelle**	**15.18**	**355**	Pn	**Pn**	**06 35 06.5**	**+0.1**
JLU				IAmb	IAmb	06 35 27.8	
comp=Z,43nm,1.4s							
CTU	**Camp Tracy**	**15.30**	**354**		**Pn**	**06 35 08.5**	**+0.6**
KVN	**Kaiserville**	**15.31**	**334**		**Pn**	**06 35 09.4**	**+1.3**
KVN				IAmb	IAmb	06 35 23.9	
comp=Z,42nm,1.3s							
X37A	**Clayton**	**15.34**	**50**	Pn	**Pn**	**06 35 08.2**	**-0.1**
X37A				IAmb	IAmb	06 35 23.5	
comp=Z,24nm,0.8s							
WAKR	**Walker**	**15.42**	**330**		**Pn**	**06 35 10.8**	**+1.3**
WAKR				IAmb	IAmb	06 35 17.9	
comp=Z,53nm,1.3s							
BLOK	**Blackwell**	**15.48**	**40**	Pn	**Pn**	**06 35 10.5**	**+0.3**
CMB	**Columbia Colle**	**15.50**	**327**		**Pn**	**06 35 10.3**	**-0.1**
CMB				IAmb	IAmb	06 35 17.1	
comp=Z,29nm,1.4s							
BGU	**Big Grassy Mou**	**15.68**	**350**	Pn	**Pn**	**06 35 12.8**	**-0.2**
N23A	**Red Feather La**	**15.70**	**10**	P	**Pn**	**06 35 13.7**	**+0.4**
baz=192							
CBKS	**Cedar Bluff**	**15.73**	**30**	P	**Pn**	**06 35 14.2**	**+0.8**
baz=215,SNR=8.4							
CBKS	**Cedar Bluff**	**15.73**	**30**	Pn	**Pn**	**06 35 13.1**	**-0.3**
YERR	**Yerington**	**15.73**	**331**		**Pn**	**06 35 13.6**	**0.0**
TUL1	**Leonard**	**15.81**	**46**	P	**Pn**	**06 35 15.5**	**+1.0**
baz=233							
R32A	**Long Quarter,**	**15.90**	**33**	Pn	**Pn**	**06 35 15.8**	**+0.3**
R32A				IAmb	IAmb	06 35 26.9	
comp=Z,53nm,1.2s							
ELK	**Elko**	**15.95**	**344**	Pn	**Pn**	**06 35 17.0**	**+0.6**
comp=Z,0.1nm,0.3s,baz=173,slow=5.3,SNR=13							
ELK				Lg	Lg	06 40 01.3	
comp=Z,0.1nm,0.3s,baz=237,slow=6.2,SNR=1.6							
ELK				LR	LR	06 41 33.7	
comp=Z,2μm,18.1s,baz=170,slow=38							
ELK	**Elko**	**15.95**	**344**		**Pn**	**06 35 17.1**	**+0.8**
PNTR	**Pine Nut**	**15.97**	**331**		**Pn**	**06 35 18.1**	**+1.4**
SPUT	**South Promonto**	**15.98**	**352**		**Pn**	**06 35 17.8**	**+1.0**
T35A	**Sooner Cattle**	**16.01**	**41**		**P**	**06 35 20.7**	**+0.3**
T35A				IAmb	IAmb	06 35 29.4	
comp=Z,84nm,1.2s							
VCNR	**Virginia City**	**16.16**	**331**		**Pn**	**06 35 20.4**	**+1.3**
VCNR				IAmb	IAmb	06 35 30.0	
comp=Z,65nm,1.1s							
PHWY	**Pilot Hill**	**16.18**	**11**	Pn	**Pn**	**06 35 19.6**	**+0.1**
HWUT	**Hardware Ranch**	**16.19**	**355**	Pn	**Pn**	**06 35 20.3**	**+0.9**
HWUT				IAmb	IAmb	06 35 34.9	
comp=Z,96nm,1.4s							
RUBR	**Rubicon Trail**	**16.19**	**329**	P	**Pn**	**06 35 20.9**	**+1.4**
RWWY	**Rawlins**	**16.32**	**7**		**P**	**

M04C	Macdoel	19.16	331	P	Pn	06 35 57.2 +1.0
	baz=144					
RSSD	Black Hills	19.17	12	P	Pn	06 35 56.2 -0.3
	baz=195					
RSSD	Black Hills	19.17	12	P	P	06 35 55.7 +0.1
YNR	Norris Junctio	19.23	358	P	Pn	06 35 58.0 +0.7
YNR				IAmb	IAmb	06 36 11.9
	comp=Z,41nm,1.4s					
YMP	Mirror Lake Pl	19.25	359	P	Pn	06 35 57.3 -0.1
YMP				IAmb	IAmb	06 36 08.3
	comp=Z,49nm,1.5s					
J08A	Circle Bar Ran	19.27	340	P	Pn	06 35 57.0 -0.5
J08A				IAmb	IAmb	06 36 09.5
	comp=Z,68nm,1.3s					
N35A	Tabor	19.29	34	P	Pn	06 35 58.3 +0.7
N35A				IAmb	IAmb	06 36 03.7
	comp=Z,28nm,0.9s					
YHB	Horse Butte	19.29	357	P	P	06 35 55.5 -1.4
M02C	Callahan	19.30	329	P	Pn	06 35 57.9 0.0
	baz=141					
YHH	Holmes Hill	19.31	357	P	P	06 35 57.3 +0.1
KHMM	Horse Mountain	19.34	326	P	Pn	06 35 58.6 +0.2
KHMM				IAmb	IAmb	06 36 03.8
	comp=Z,42nm,1.2s					
R40A	Maddies Statio	19.49	45	P	P	06 35 59.4 +0.5
MCMT	McKenzie Canyo	19.50	353	P	Pn	06 36 00.4 -0.1
YBH	Yreka Blue Hor	19.50	330	P	Pn	06 36 00.4 +0.1
	comp=Z,0.0nm,0.3s,baz=141,slow=6.5,SNR=2.5					
YBH				LR	LR	06 42 54.3
	comp=Z,367nm,18.6s,baz=159,slow=35					
YBH	Yreka Blue Hor	19.50	330		P	06 35 58.4 -0.7
YNE	Yellowstone No	19.51	359	P	Pn	06 36 00.1 -0.5
YNE				IAmb	IAmb	06 36 14.1
	comp=Z,58nm,1.4s					
K05A	Summer Lake	19.55	335	P	P	06 35 59.9 +0.1
P38A	Dawn	19.55	40	P	P	06 35 59.6 0.0
T42A	Van Buren	19.58	49	P	P	06 35 59.8 -0.1
RLMT	Red Lodge	19.62	1	P	P	06 36 00.8 +0.2
	baz=181,SNR=5.9					
RLMT	Red Lodge	19.62	1	P	P	06 36 00.4 -0.1
OXF	Oxford	19.69	58	P	P	06 36 01.0 0.0
	baz=248					
OXF	Oxford	19.69	58	P	P	06 36 01.3 +0.2
L04D	Klamath Falls	19.71	331	P	Pn	06 36 02.5 -0.4
	baz=144					
K04D	Chiloquin, OR	19.81	333	P	Pn	06 36 03.5 -0.5
	baz=146					
PBMO	Poplar Bluff	19.91	51	P	Pn	06 36 04.5 -0.6
PBMO				IAmb	IAmb	06 36 17.6
	comp=Z,38nm,1.5s					
DLMT	Dillon	20.00	354	P	P	06 36 04.4 -0.2
DLMT				IAmb	IAmb	06 36 30.8
	comp=Z,34nm,1.2s					
CCM	Cathedral Cave	20.02	47	P	P	06 36 04.9 +0.2
	baz=237					
CCM	Cathedral Cave	20.02	47	P	Pn	06 36 05.6 -0.8
W45A	Hickory Valley	20.11	56	P	Pn	06 36 07.6 +0.2
W45A				IAmb	IAmb	06 36 14.4
	comp=Z,34nm,1.2s					
J05D	Fort Rock, OR	20.16	335	P	P	06 36 06.7 +0.4
	baz=148,SNR=19					
BOZ	Bozeman (W)	20.16	356	P	P	06 36 06.6 +0.3
	baz=174,SNR=21					
BOZ	Bozeman (W)	20.16	356	P	P	06 36 06.8 +0.5
I07A	Izee	20.24	339	P	P	06 36 06.4 -0.7
L02E	Cave Junction	20.25	329	P	Pn	06 36 08.5 -0.6
	baz=141					
GCMT	Greycliff	20.29	360	P	P	06 36 07.8 +0.1
Z47A	Carrollton	20.31	63	P	Pn	06 36 09.3 -0.5
Z47A				IAmb	IAmb	06 36 20.4
	comp=Z,33nm,0.9s					
BMO	Blue Mountains	20.32	344	P	P	06 36 08.4 +0.4
BMO				IAmb	IAmb	06 36 18.6
	comp=Z,36nm,1.1s					
P40A	Paris	20.38	42	P	P	06 36 09.0 +0.5
P40A				IAmb	IAmb	06 36 16.1
	comp=Z,40nm,1.1s					
LRM	Limekiln Ridge	20.45	354	P	P	06 36 09.1 -0.4
J04D	Umpqua Nationa	20.47	333	P	Pn	06 36 10.8 -1.0
	baz=146					
PINE	Pine Mountain	20.48	336	P	P	06 36 10.6 +0.8
N38A	Joes South For	20.51	38	P	P	06 36 09.9 -0.1
PLAL	Pickwick Lake	20.88	58	P	P	06 36 14.3 +0.2
I04A	Tendick Farm,	21.05	334	P	P	06 36 17.9 +2.1
	baz=146					
I05D	Terrebonne, OR	21.10	336	P	P	06 36 17.0 +0.6
	baz=149					
ECSD	EROS Data Cent	21.11	27	P	P	06 36 16.6 +0.2
	baz=214,SNR=12					
ECSD	EROS Data Cent	21.11	27	P	P	06 36 16.7 +0.3
ECSD				IAmb	IAmb	06 36 26.4
	comp=Z,37nm,1.2s					
LRAL	Lakeview Retre	21.13	64	P	P	06 36 17.1 +0.4
	baz=255					
LRAL	Lakeview Retre	21.13	64	P	P	06 36 16.1 -0.6
G08A	Pilot Rock	21.17	342	P	P	06 36 16.9 -0.3
G08A				IAmb	IAmb	06 36 23.8
	comp=Z,30nm,1.2s					
S44A	Carbondale	21.18	50	P	P	06 36 16.9 -0.2
S44A				IAmb	IAmb	06 36 35.7
	comp=Z,18nm,0.9s					
J01E	Myrtle Point	21.19	330	P	P	06 36 18.4 +1.2
	baz=142					
F10A	Beach Ranch, E	21.36	345	P	P	06 36 19.1 -0.1
I03D	Drain, OR	21.36	332	P	P	06 36 20.5 +1.5
	baz=144					
LAO	LASA Array	21.36	6	P	P	06 36 19.2 0.0
	baz=188					
LAO	LASA Array	21.36	6	P	P	06 36 18.2 -1.0
250A	Grady	21.49	67	P	P	06 36 21.0 +0.4
250A				IAmb	IAmb	06 36 38.0
	comp=Z,30nm,1.1s					
X48A	Hartselle	21.50	60	P	P	06 36 20.1 -0.6
WVT	Waverly	21.50	55	P	P	06 36 20.4 -0.4
	baz=247					
WVT	Waverly	21.50	55	P	P	06 36 20.3 -0.4
MSO	Missoula	21.60	352	P	P	06 36 21.6 -0.2
	baz=169,SNR=16					
MSO	Missoula	21.60	352	P	P	06 36 22.2 +0.4
MSO				IAmb	IAmb	06 36 29.2
	comp=Z,40nm,1.3s					
H04A	Detroit Lake	21.71	335	P	P	06 36 24.1 +1.3
H04A				IAmb	IAmb	06 36 34.4
	comp=Z,46nm,1.4s					
H04D	Lebanon	21.79	334	P	P	06 36 24.5 +0.9
	baz=146					
Y49A	Blount Mountai	21.82	62	P	P	06 36 24.0 -0.2
Y49A				IAmb	IAmb	06 36 35.9
	comp=Z,21nm,1.3s					
G05D	Wamic, OR	21.87	337	P	P	06 36 25.2 +0.5
	baz=150					
I02D	Swisshome	21.90	332	P	P	06 36 25.5 +0.6
	baz=143					
Q44A	Meyer Farm, Va	21.95	47	P	P	06 36 26.2 +0.7
K38A	Parkersburg	22.05	35	P	P	06 36 27.3 +0.7
E09A	Wood Farm, Sta	22.08	344	P	P	06 36 27.0 +0.1
E09A				IAmb	IAmb	06 36 33.1
	comp=Z,36nm,1.3s					
E28A	Huff	22.25	16	P	P	06 36 28.2 -0.6
HAWA	Hanford	22.34	342	P	P	06 36 29.1 -0.5
HAWA				IAmb	IAmb	06 36 37.2
	comp=Z,23nm,1.1s					
T47A	Sharon Grove	22.39	54	P	P	06 36 31.9 +1.7
T47A				IAmb	IAmb	06 36 44.2
	comp=Z,16nm,1.1s					
OLIL	Olney	22.48	49	P	P	06 36 32.4 +1.2
F05D	White Salmon	22.48	338	P	P	06 36 31.7 +0.5
	baz=151					
L40A	Anamosa	22.48	38	P	P	06 36 32.7 +1.5
L40A				IAmb	IAmb	06 36 44.8
	comp=Z,15nm,0.9s					
EGMT	Eagleton	22.53	360	P	P	06 36 31.5 -0.1
	baz=180					
EGMT	Eagleton	22.53	360	P	P	06 36 32.0 +0.3
EGMT				IAmb	IAmb	06 36 57.4
	comp=Z,28nm,1.1s					
JTMT	Jette	22.55	352	P	P	06 36 31.7 -0.3
JTMT				IAmb	IAmb	06 36 55.9
	comp=Z,23nm,1.4s					
E07A	Sunnyside	22.58	341	P	P	06 36 30.0 -2.3
FPAL	Fort Paine	22.66	61	P	P	06 36 34.1 +0.9
FPAL				IAmb	IAmb	06 36 41.5
	comp=Z,15nm,1.0s					
HDIL	Hopedale	22.68	43	P	P	06 36 33.1 -0.2
	baz=235					
HDIL	Hopedale	22.68	43	P	P	06 36 33.5 +0.2
D08A	Wollman Farm,	22.79	343	P	P	06 36 33.6 -0.7
D08A				IAmb	IAmb	06 36 40.0
	comp=Z,22nm,1.1s					
152A	Waverly Hall	22.91	66	P	P	06 36 35.8 0.0
152A				IAmb	IAmb	06 36 43.9
	comp=Z,29nm,1.2s					
O44A	Mansfield	22.98	45	P	P	06 36 34.7 -1.7
O44A				IAmb	IAmb	06 36 44.5
	comp=Z,31nm,1.4s					
F33A	5 Mile Ranch,	22.99	24	P	P	06 36 35.9 -0.6
F33A				IAmb	IAmb	06 36 53.8
	comp=Z,29nm,1.5s					
W50A	Signal Mountai	23.09	59	P	P	06 36 36.6 -1.0
W50A				IAmb	IAmb	06 37 03.7
	comp=Z,12nm,0.9s					
U49A	Red Boiling Sp	23.18	56	P	P	06 36 37.4 -1.1
U49A				IAmb	IAmb	06 36 58.6
	comp=Z,23nm,1.4s					
X51A	Calhoun	23.26	61	P	P	06 36 38.5 -0.8
X51A				IAmb	IAmb	06 36 47.5
	comp=Z,31nm,1.2s					
L42A	Oliver, Polo	23.33	40	P	P	06 36 39.8 -0.2
L42A				IAmb	IAmb	06 37 02.1
	comp=Z,17nm,1.2s					
LON	Longmire	23.36	339	P	P	06 36 40.6 +0.3
E04D	Cinebar	23.45	337	P	P	06 36 40.7 -0.4
	baz=149					
WCI	Wyandotte Cave	23.50	52	P	P	06 36 40.6 -1.1
	baz=244					
NEW	Newport	23.52	347	P	P	06 36 41.4 -0.5
	comp=Z,1.6nm,0.8s,baz=164,slow=11,SNR=9.4					
NEW				LR	LR	06 46 06.9
	comp=Z,678nm,20.4s,baz=160,slow=37					
NEW	Newport	23.52	347	P	P	06 36 40.6 -1.2
	baz=163					
NEW	Newport	23.52	347	P	P	06 36 41.1 -0.8
NEW				IAmb	IAmb	06 36 47.8
	comp=Z,38nm,1.4s					
JFWS	Jewell Farm	23.59	38	P	P	06 36 41.6 -1.0
	baz=229					
TIGA	Tifton	23.64	69	P	P	06 36 42.6 -0.5
	baz=262					
Y52A	Lilburn	23.71	63	P	P	06 36 44.7 +0.9
Y52A				IAmb	IAmb	06 36 51.9
	comp=Z,22nm,1.2s					
MDND	Maddock	23.72	17	P	P	06 36 42.2 -1.5
	baz=203					
MDND	Maddock	23.72	17	P	P	06 36 43.8 +0.1
CPCT	Cooper Cave	23.78	59	P	P	06 36 45.1 +0.6
CPCT				IAmb	IAmb	06 36 59.5
	comp=Z,24nm,1.4s					
WALA	Waterton Lakes	23.80	353	P	P	06 36 44.0 -0.6
WALA				IAmb	IAmb	06 36 50.8
	comp=Z,25nm,1.2s					
D05A	Enumclaw	23.80	339	P	P	06 36 46.8 +2.2
SPMN	Marine on St.	23.95	30	P	P	06 36 44.8 -1.2
	baz=220					
SPMN	Marine on St.	23.95	30	P	P	06 36 44.6 -1.4
SPMN				IAmb	IAmb	06 37 02.7
	comp=Z,16nm,1.2s					
SFIN	Lafayette	23.98	46	P	P	06 36 45.2 -1.2
	baz=239					
SFIN	Lafayette	23.98	46	P	P	06 36 47.3 +0.9
SFIN				IAmb	IAmb	06 36 57.2
	comp=Z,22nm,1.0s					
V51A	Loudon	24.02	59	P	P	06 36 47.5 +0.7
V51A				IAmb	IAmb	06 36 54.6
	comp=Z,20nm,1.1s					
D04E	Lakebay	24.05	338	P	P	06 36 47.5 +0.5
	baz=150					
GOGA	Godfrey	24.09	65	P	P	06 36 46.5 -1.0
	baz=256					
GOGA	Godfrey	24.09	65	P	P	06 36 48.5 +1.0
GOGA				IAmb	IAmb	06 36 55.3
	comp=Z,35nm,1.5s					
B08A	Colville Reser	24.10	344	P	P	06 36 47.2 -0.2
F36A	Milaca	24.12	28	P	P	06 36 45.5 -2.1
F36A				IAmb	IAmb	06 37 00.3
	comp=Z,16nm,1.3s					
TKL	Tuckaleechee C	24.43	59	P	P	06 36 51.8 +1.2
	comp=Z,2.5nm,0.8s,baz=198,slow=10,SNR=3.5					
TKL				LR	LR	06 47 16.6
	comp=Z,1μm,18.4s,baz=252,slow=39					
D03D	Eldon	24.47	338	P	P	06 36 51.7 +0.9
	baz=149					
L44A	Lake County Fo	24.47	42	P	P	06 36 50.3 -0.5
	baz=234					
V52A	Sevierville	24.62	59	P	P	06 36 54.4 +2.1
V52A				IAmb	IAmb	06 37 08.3
	comp=Z,30nm,1.5s					
B05A	Bryant	24.79	340	P	P	06 36 53.6 0.0
	baz=152					
TZTN	Tazewell	24.88	57	P	P	06 36 54.0 -0.6
	baz=251					
BG3	Lake Jocassee	24.90	61	P	P	06 36 53.0 -1.9
BG3				IAmb	IAmb	06 37 08.5
	comp=Z,15nm,1.1s					
P49A	Miami Univ. Ec	25.18	50	P	P	06 36 57.2 -0.1
	baz=244					
AGMN	Agassiz Nation	25.25	22	P	P	06 36 58.0 +0.2
	baz=210					
AGMN	Agassiz Nation	25.25	22	P	P	06 36 57.3 -0.5
AGMN				IAmb	IAmb	06 37 06.1
	comp=Z,12nm,1.1s					
DWPF	Disney Wildern	25.30	78	P	P	06 36 58.2 -0.3
	baz=271					
KMSC	Kings Mountain	26.21	62	P	P	06 37 06.2 -0.4
	baz=256					
P52A	Corning	27.03	52	P	P	06 37 12.8 -1.2
	baz=247					
JTS	Las Juntas de	27.85	118	LR	LR	06 48 44.7
	comp=Z,433nm,19.4s,baz=350,slow=37					
O53A	New Philadelph	27.92	51	P	P	06 37 21.3 -0.8
	baz=247					
MCWV	Mont Chateau	28.68	53	P	P	06 37 27.7 -1.1
	baz=250					
BBB	Bella Bella	30.14	337	LR	LR	06 49 18.2
	comp=Z,471nm,20.9s,baz=10,slow=35					
WRAK	Wrangell Islan	35.03	338	P	P	06 38 24.1 -0.2
	baz=142					
DLBC	Dease Lake	35.97	342	P	P	06 38 33.8 +1.3
YKA	Yellowknife Ar	37.18	356	P	P	06 38 41.8 -0.8
	comp=Z,4.1nm,1.1s,baz=170,slow=8.4,SNR=3.7					
YKA				LR	LR	06 54 20.1
	comp=Z,823nm,19.0s,baz=0.0,slow=37					
ROSC	El Rosal	39.57	115	LR	LR	06 57 51.3
	comp=Z,284nm,20.1s,baz=334,slow=40					
RUSC	La Rusia	40.01	113	P	P	06 39 06.4 -1.1
RUSC				IAmb	IAmb	06 39 24.8
	comp=Z,12nm,1.1s					
BCPM	Bancas Point	40.23	337	P	P	06 39 08.1 -0.2
BCPM				IAmb	IAmb	06 39 23.4
	comp=Z,28nm,1.5s					
CRQE	Cirque	42.03	336	P	P	06 39 22.7 -0.6
	baz=132					
M27K	Edge Creek, AK	42.71	338	P	P	06 39 27.5 -1.2
	baz=134					
BMRM	Bremner River	42.73	336	P	P	06 39 28.0 -0.8
	baz=130					
M26K	Nabesna, AK	43.12	338	P	P	06 39 31.1 -0.8
	baz=133					
N25K	Chitina, Valde	43.14	336	P	P	06 39 32.1 -0.1
	baz=131					
N25K	Chitina, Valde	43.14	336	P	P	06 39 32.7 +0.5
N25K				IAmb	IAmb	06 39 40.1
	comp=Z,15nm,1.2s					
BCAR	Beaver Creek A	43.18	339	P	P	06 39 33.5 +1.0
DAWY	Dawson	43.19	341	P	P	06 39 33.5 +1.0
DAWY				IAmb	IAmb	06 39 39.9
	comp=Z,21nm,1.2s					
L27K	Beaver Creek,	43.19	339	P	P	06 39 32.5 -0.1
	baz=135,SNR=5.2					
KLU	Klutina	43.56	336	P	P	06 39 35.7 +0.1
	baz=129					
KLU	Klutina	43.56	336	P	P	06 39 37.2 +1.6
KLU				IAmb	IAmb	06 39 42.5
	comp=Z,13nm,1.4s					
GLI	Glacier Island	43.62	334	P	P	06 39 36.2 +0.2
	baz=127					
GLI	Glacier Island	43.62	334	P	P	06 39 36.5 +0.5
L26K	Log Cabin Wild	43.66	339	P	P	06 39 35.9 -0.4
	baz=133					
K27K	Chicken	43.97	340	P	P	06 39 38.7 -0.1
	baz=136,SNR=5.5					
K27K	Chicken	43.97	340	P	P	06 39 39.5 +0.8
K27K				IAmb	IAmb	06 39 46.0
	comp=Z,11nm,1.1s					
EGAK	Eagle	44.24	341	P	P	06 39 40.9 +0.1
	baz=137,SNR=5.3					
EGAK	Eagle	44.24	341	P	P	06 39 41.7 +0.8
EGAK				IAmb	IAmb	06 39 47.4
	comp=Z,13nm,1.2s					
EPYK	Eagle Plains	44.30	345	P	P	06 39 41.5 +0.1
	baz=144					
EPYK	Eagle Plains	44.30	345	P	P	06 39 41.9 +0.5
OHAK	Old Harbor	44.39	328	P	P	06 39 42.6 +0.4
	baz=117					
BRSE	Bradley Lake S	44.47	332	P	P	06 39 43.8 +1.0
	baz=122					
KNK	Knik Glacier	44.47	335	P	P	06 39 43.0 +0.2
	baz=126					
SCRK	Sand Creek	44.53	339	P	P	06 39 43.4 0.0
	baz=133					
SCRK	Sand Creek	44.53	339	P	P	06 39 44.2 +0.8
SCRK				IAmb	IAmb	06 39 50.1
	comp=Z,9.6nm,1.1s					
BRLK	Bradley Lake	44.54	332	P	P	06 39 44.6 +1.1
SML	Sawmill	44.66	335	P	P	06 39 44.0 -0.4
	baz=126					
WAT6	Susitna Watana	44.91	336	P	P	06 39 46.0 -0.5
	baz=128					
INK	Inuvik	45.24	348	P	P	06 39 48.3 -0.4
	baz=149,SNR=5.0					
WAT1	Susitna Watana	45.35	336	P	P	06 39 49.4 -0.4
	baz=127					
SUA	Susitna One	45.41	334	P	P	06 39 50.6 +0.2
CUT	Chulitna	45.75	335	P	P	06 39 52.2 -0.7
	baz=125					
CUT	Chulitna	45.75	335	P	P	06 39 53.6 +0.7
HDA	Harding Lake	45.78	338	P	P	06 39 54.5 +1.4
HDA				IAmb	IAmb	06 40 03.9
	comp=Z,9.8nm,1.4s					
RND	Reindeer	45.81	337	P	P	06 39 55.1 +1.5
RND				IAmb	IAmb	06 40 16.4
	comp=Z,11nm,1.2s					
IL31		46.00	339	P	P	06 39 55.2 +0.3
ILAR	Eielson Array	46.00	339	P	P	06 39 55.0 +0.1
	comp=Z,1.8nm,1.0s,baz=150,slow=6.5,SNR=22					
CCB	Clear Creek Bu	46.22	338	P	P	06 39 58.8 +2.2
CCB				IAmb	IAmb	06 40 02.3
	comp=Z,5.9nm,1.2s					
TRF	Thorofare Moun	46.36	336	P	P	06 39 59.0 +1.0
COLA	College	46.38	339	P	P	06 39 57.3 -0.6
	baz=129					
COLA	College	46.38	339	P	P	06 39 59.1 +1.3
TCOL	CIGO, UAF Yank	46.38	339	P	P	06 39 57.2 -0.7
	baz=129					
POKR	Poker Plat Res	46.40	339	P	P	06 39 57.3 -0.8
	baz=130					
POKR	Poker Plat Res	46.40	339	P	P	06 39 58.3 +0.3
O18K	Koktuh Hills	46.49	330	P	P	06 39 58.0 -0.9
	baz=117					
BWN	Browne	46.49	337	P	P	06 39 59.1 +0.4
M20K	Styx River	46.59	333	P	P	06 39 58.4 -1.3
	baz=121					
NEA2	Nenana	46.61	338	P	P	06 39 58.4 -1.3
	baz=128					
NEA2	Nenana	46.61	338	P	P	06 40 00.7 +1.0
N19K	Bonanza Creek	46.62	332	P	P	06 39 58.4 -1.5
	baz=118,SNR=6.5					
DRLN	Deer Lake	46.65	45	P	P	06 40 01.2 +1.0
FYU	Fort Yukon	46.70	341	P	P	06 40 01.1 +0.8
CHNA	Chernabura Isl	46.74	323	P	P	06 40 00.1 -0.7
	baz=108					
PPLA	Purkeypile	46.76	335	P	P	06 39 59.6 -1.4
	baz=123					
PPLA	Purkeypile	46.76	335	P	P	06 40 01.4 +0.3
BPAW	Bear Paw Mtn.	46.99	337	P	P	06 40 00.7 -2.0
	baz=125					
BPAW	Bear Paw Mtn.	46.99	337	P	P	06 40 03.2 +0.5
H24K	Noodor Dome	47.01	340	P	P	06 40 01.1 -1.8
	baz=130					
I23K	Minto, Yukon-K	47.05	338	P	P	06 40 01.8 -1.3
	baz=128,SNR=7.3					
I23K	Minto, Yukon-K	47.05	338	P	P	06 40 04.4 +1.3
M19K	Big River Lodg	47.12	333	P	P	06 40 02.1 -1.6
	baz=120					
BMAR	Burnt Mountain	47.12	342	P	P	06 40 04.4 +0.7
N18K	Kilae Creek	47.17	331	P	P	06 40 01.8 -2.4
	baz=117,SNR=6.5					
SVW2	Sparrevohn	47.23	332	P	P	06 40 05.1 +0.5
CHUM	Lake Minchumin	47.35	336	P	P	06 40 03.8 -1.6
	baz=123					
L19K	White Mountain	47.45	333	P	P	06 40 04.8 -1.5
	baz=119,SNR=6.2					
MLY	Manley	47.45	338	P	P	06 40 05.1 -1.2
	baz=126					
MLY	Manley	47.45	338	P	P	06 40 06.9 +0.6
H23K	Yukon River	47.53	339	P	P	06 40 04.5 -2.4
	baz=128					
K20K	Telida	47.73	335	P	P	06 40 06.3 -2.1
	baz=121,SNR=5.8					
I21K	Tanana	47.96	337	P	P	06 40 08.0 -2.2
	baz=125					
J20K	Nowinta River	48.19	336	P	P	06 40 09.6 -2.4
	baz=122,SNR=5.6					
IMAR	Indian Mountai	49.03	338	P	P	06 40 18.6 +0.2
TOLK	Toolik Lake Re	49.33	342	P	P	06 40 18.9 -1.9
	baz=130					
TOLK	Toolik Lake Re	49.33	342	P	P	06 40 21.4 +0.7
EUNU	Eureka	55.57	5	P	P	06 41 06.7 -0.2
EUNU				IAmb	IAmb	06 41 13.1
	comp=Z,9.5nm,1.2s					
PPT	Papeete	57.79	226	LR	LR	07 00 38.0
	comp=Z,102nm,18.2s,baz=335,slow=30					
LPAZ	La Paz	57.93	131	LR	LR	07 03 59.2
	comp=Z,117nm,20.5s,baz=340,slow=34					
SUMG	Summit	60.30	19	P	P	06 41 43.2 +2.6
H03N2	Juan Fernandez	65.45	152	T	T	07 53 37.6
	baz=331,slow=77,SNR=452					
H03N1	Juan Fernandez	65.46	152	T	T	07 53 38.9
	baz=331,slow=77,SNR=546					
H03N3	Juan Fernandez	65.47	152	T	T	07 53 42.5
	baz=331,slow=77,SNR=503					
PETK	Petropavlovsk-	71.59	321	P	P	06 42 54.9 +1.8
	comp=Z,8.1nm,1.1s,baz=68,slow=19,SNR=8.0					
PETK	Petropavlovsk-	71.59	321	P	P	06 42 55.1 +2.0
CPUP	Villa Florida	72.10	132	P	P	06 42 57.5 +1.1
	comp=Z,2.5nm,0.9s,baz=299,slow=10,SNR=3.2					
CPUP	Villa Florida	72.10	132	IAmb	IAmb	06 43 04.6
	comp=Z,6.8nm,1.1s					
BDFB	Brasilia	72.58	117	LR	LR	07 16 56.5
	comp=Z,204nm,18.6s,baz=249,slow=38					
PLCA	Paso Flores	75.21	150	LR	LR	07 11 17.6
	comp=Z,111nm,18.1s,baz=244,slow=32					
ARCES	ARCESS Array B	79.94	15	LR	LR	07 20 57.9
	comp=Z,170nm,19.7s,baz=335,slow=37					
MSVF	Nonsavu	82.39	246	LR	LR	07 12 04.3
	comp=Z,259nm,20.1s,baz=38,slow=30					
ESDC	Sonseca Array	85.23	48	P	P	06 44 10.4 +1.7
	comp=Z,0.3nm,0.4s,baz=297,slow=5.6,SNR=1.6					
ESDC				LR	LR	07 20 07.3
	comp=Z,141nm,18.5s,baz=285,slow=34					
ESDC	Sonseca Array	85.23	48	IAmb	IAmb	06 44 16.9
	comp=Z,5.1nm,1.4s					
FINES	FINESS Array B	86.34	20	P	P	06 44 13.4 -0.3
	comp=Z,0.7nm,0.5s,baz=323,slow=2.9,SNR=6.2					
JCJ	Chichijima	93.31	302	LR	LR	07 18 01.3
	comp=Z,90nm,20.0s,baz=86,slow=30					
KEST	Kesra	96.20	46	LR	LR	07 26 15.3
	comp=Z,131nm,21.6s,baz=250,slow=34					
GUMO	Guam	97.75	289	LR	LR	07 19 33.8
	comp=Z,116nm,21.7s,baz=97,slow=30					
TLY	Talaya	97.82	340	LR	LR	07 33 00.6
	comp=Z,96nm,19.3s,baz=9.5,slow=38					
ARU	Arti	97.83	7	LR	LR	07 32 43.4
	comp=Z,280nm,20.1s,baz=299,slow=38					
ZALV	Zalesovo Beam	99.94	351	LR	LR	07 36 55.6
	comp=Z,82nm,18.6s,baz=12,slow=39					
SONM	Songino Array	100.17	336	P	Pdif

CO06	**Fray Jorge**	**0.43**	**231**	*e*P	Pn	06 34 04.9	+0.6
CO06				*e*S	Sn	06 34 12.3	+1.0
CO06				IAML		06 34 16.6	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**0.45**	**60**	⇓*i*P	Pn	06 34 06.1	+1.2
GO04				*i*S	Sn	06 34 14.6	+2.4
GO04	**Tololo Observa**	**0.45**	**60**	⇓*e*P	Pn	06 34 06.1	+1.1
GO04				*e*S	Sn	06 34 14.1	+1.9
GO04				IAML		06 34 15.3	
	comp=N,6μm,0.1s						
CO05	**La Serena**	**0.48**	**1**	⇓*i*P	Pn	06 34 05.6	+0.5
CO05				*i*S	Sn	06 34 13.7	+1.3
CO05	**La Serena**	**0.48**	**1**	⇓*e*P	Pn	06 34 05.6	+0.5
CO05				*e*S	Sn	06 34 13.6	+1.1
CO05				IAML		06 34 14.2	
	comp=E,1μm,0.3s						
CO03	**El Pedregal**	**0.65**	**132**	⇑*i*P	Pn	06 34 08.3	+0.7
CO03				*i*S	Sn	06 34 18.9	+2.2
CO03				IAML		06 34 19.3	
	comp=E,2μm,0.2s						
CO03	**El Pedregal**	**0.65**	**132**	⇑*e*P	Pn	06 34 08.3	+0.7
CO03				*e*S	Sn	06 34 18.6	+1.8
CO03				IAML		06 34 19.3	
	comp=E,2μm,0.1s						
CO02	**Combarbal**	**0.83**	**165**	⇑*i*P	Pn	06 34 10.6	+0.6
CO02				*i*S	Sn	06 34 22.8	+1.7
CO02				IAML		06 34 23.8	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**0.83**	**165**	⇑*e*P	Pn	06 34 10.6	+0.6
CO02				*e*S	Sn	06 34 22.4	+1.3
CO02				IAML		06 34 23.8	
	comp=E,2μm,0.2s						
VA03	**San Esteban**	**2.43**	**166**	*e*P	Pn	06 34 34.5	+2.5
VA03				*i*S	Sn	06 35 05.7	+5.3
VA03				IAML		06 35 10.6	
	comp=E,189nm,0.2s						
ROCH	**El Roble**	**2.57**	**175**	*e*P	Pn	06 34 35.4	+1.4
ROCH				*i*S	Sn	06 35 10.2	+6.1
ROCH				IAML		06 35 14.2	
	comp=N,152nm,0.6s						
ROCH	**El Roble**	**2.57**	**175**	⇑*e*P	Pn	06 34 35.3	+1.3
ROCH				*e*S	Sn	06 35 06.8	+2.7
ROCH				IAML		06 35 14.2	
	comp=N,158nm,0.5s						
GO03	**Copiap**	**2.94**	**18**	IAML		06 35 24.2	
	comp=E,63nm,0.3s						

IDC 20 06:48:15.6±13.0, 8°29S×128°09E, h84km±103km, mb3.8/1, mb1 3.9/3, mb1mx3.2/35, mbtmp4.0/3, ML3.9/2, Error ellipse: s-maj=137.1km s-min=88.0km az=70.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.07**	**153**	P	Pn	06 51 17.6	-0.4
	0.4nm,0.3s,baz=326,slow=14,SNR=27						
WRA				S	Sn	06 53 43.3	+1.6
	1.3nm,0.3s,baz=334,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.27**	**161**	P	P	06 52 00.2	-0.5
	1.3nm,0.3s,baz=341,slow=12,SNR=67						
ASAR				S	Sn	06 54 58.2	-1.1
	0.2nm,0.3s,baz=337,slow=25,SNR=3.1						
STKA	**Stephens Creek**	**26.62**	**154**	P	P	06 53 46.2	-0.1
	1.3nm,0.5s,baz=333,slow=9.0,SNR=3.2						

*NNC **20** 07:03:41.5±1.9, 54°.23N×87°.72E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=18.1km s-min=9.5km az=14.0, Suspected Mining explosion.*

IDC 20 07:03:46.3±3.0, 54°22N×87°39E, h0km, mb1 3.2/2, mb1mx3.0/45, mbtmp3.2/2, ML2.6/2, 5C-2D, Error ellipse: s-maj=25.5km s-min=17.0km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**261**	*i*		07 12 21.6	
	baz=76,slow=298,SNR=2.4						
ZAA0	**Zalesovo Array**	**1.54**	**261**	⇑P	Pn	07 04 12.3	-2.6
	1.9nm,0.8s						
ZAA0				⇑S	Sg	07 04 36.0	+0.4
	3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**1.54**	**261**	Pg	Pn	07 04 12.4	-2.5
	0.9nm,0.3s,baz=79,slow=16,SNR=16						
ZALV				Lg	Lg	07 04 35.9	
	1.5nm,0.3s,baz=81,slow=26,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.50**	**240**	Pn	Pn	07 05 23.8	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=14						
KURBB				Lg	Lg	07 07 12.0	
	0.0nm,0.3s,baz=60,slow=31,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.50**	**240**	⇓Pn	Pn	07 05 21.7	-1.5
	3.4nm,0.8s						
KURBB				⇑Lg	Lg	07 07 12.7	
	12nm,0.9s						
MK31	**Makanchi Array**	**8.11**	**206**	⇑Pn	Pn	07 05 42.8	-2.5
	0.9nm,0.8s,baz=29,slow=14,SNR=7.2						
MK31				⇓Sn	Sn	07 07 15.7	-1.9
	0.6nm,0.6s,baz=30,slow=28,SNR=4.2						
MK31				⇑Lg	Lg	07 08 01.8	
	10nm,1.4s,baz=29,slow=29,SNR=5.2						
MKAR	**Makanchi Array**	**8.11**	**206**	Pn	Pn	07 05 47.1	+1.9
	0.2nm,0.3s,baz=23,slow=13,SNR=7.5						
MKAR				Sn	Sn	07 07 15.5	-2.0
	0.1nm,0.3s,baz=28,slow=28,SNR=6.2						
MKAR				Lg	Lg	07 08 06.9	
	0.0nm,0.3s,baz=26,slow=30,SNR=8.1						

*IDC **20** 07:11:24.0±1.3, 10°.31S×152°.31E, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/34, mbtmp4.1/11, ML4.0/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=42.5km s-min=18.1km az=115.0*

*NEIC **20** 07:11:26.1±1.0, 10°.3S±0°.1×152°.3E±0°.1, h10km±1km, mb4.1/11, Error ellipse: s-maj=23.6km s-min=18.9km az=91.0*

ISC 20 07:11:26.0±0.8, 10°35S±0°08×152°2E±0°1, h10km, n30, σ1§12/30, mb4.1/10, MS3.5/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.05**	**280**	Pn	**Pn**	**07 12 43.7**	**+1.9**
	3.8nm,0.3s,baz=277,slow=22,SNR=2.3						
PMG				Pg	**Pb**	**07 12 53.3**	**-1.2**
	6.6nm,0.3s,baz=52,slow=3.6,SNR=6.2						
PMG				Lg	Lg	07 14 03.9	
	4.2nm,0.3s,baz=220,slow=17,SNR=4.9						
PMG				LR	LR	07 14 28.8	
	comp=Z,513nm,18.3s,baz=98,slow=36						
PMG	**Port Moresby**	**5.05**	**280**		**Pn**	**07 12 43.2**	**+1.3**
CTA	**Charters Tower**	**11.25**	**210**	Pn	**Pn**	**07 14 07.7**	**+0.8**
	1.7nm,0.3s,baz=24,slow=15,SNR=14						
CTA				Sn	**Sn**	**07 16 09.5**	**-3.4**
	1.3nm,0.3s,baz=349,slow=4.6,SNR=2.6						
CTAO	**Charters Tower**	**11.25**	**210**	Pn	**Pn**	**07 14 08.4**	**+1.4**
EIDS	**Eidsvold**	**14.98**	**184**	Pn	**Pn**	**07 14 58.6**	**+0.8**
WR0	**Warramunga Arr**	**19.52**	**239**	P	**P**	**07 15 54.3**	**+0.6**
WR0				IAmb	IAmb	07 16 01.4	
	comp=Z,9.1nm,0.9s						
WB0	**Warramunga Arr**	**19.56**	**239**	P	**P**	**07 15 54.4**	**+0.3**
WB0				IAmb	IAmb	07 16 00.5	
	comp=Z,8.4nm,0.8s						
WRAB	**Tennant Creek**	**19.67**	**239**	P	**P**	**07 15 55.8**	**+0.4**
WRAB				IAmb	IAmb	07 16 22.9	
	comp=Z,7.2nm,0.9s						
WB2	**Warramunga Arr**	**19.67**	**239**	P	**P**	**07 15 56.0**	**+0.6**
WB2				IAmb	IAmb	07 16 17.4	
	comp=Z,8.7nm,0.8s						
WRA	**Warramunga Arr**	**19.68**	**239**	P	**P**	**07 15 55.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=63,slow=10,SNR=13						
WRA	**Warramunga Arr**	**19.68**	**239**	P	**P**	**07 15 55.0**	**-0.5**
AS31	**Alice Springs**	**21.90**	**230**	P	**P**	**07 16 20.0**	**+0.5**
AS31				IAmb	IAmb	07 16 22.9	
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**21.90**	**230**	P	**P**	**07 16 19.6**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=60,slow=9.1,SNR=34						
ASAR	**Alice Springs**	**21.90**	**230**	P	**P**	**07 16 20.1**	**+0.6**
SIJI	**Sorong**	**22.84**	**293**	LR	LR	07 27 19.5	
	comp=Z,172nm,18.6s,baz=263,slow=42						
KNRA	**Kununurra**	**23.43**	**254**	P	**P**	**07 16 35.5**	**-0.1**
STKA	**Stephens Creek**	**23.56**	**203**	P	**P**	**07 16 37.8**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=21,slow=12,SNR=5.2						
STKA				LR	LR	07 25 18.5	
	comp=Z,187nm,18.6s,baz=19,slow=35						
STKA	**Stephens Creek**	**23.56**	**203**	P	**P**	**07 16 36.7**	**0.0**
TOO	**Toolangi**	**27.77**	**191**	P	**P**	**07 17 15.3**	**+0.2**
TOO				IAmb	IAmb	07 17 32.4	
	comp=Z,7.5nm,1.2s						
JOW	**Kunigami**	**43.65**	**328**	LR	LR	07 35 52.2	
	comp=Z,100nm,21.1s,baz=273,slow=34						
KSRS	**Korea Array**	**52.72**	**336**	P	**P**	**07 20 40.7**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=153,slow=8.4,SNR=4.2						
KSRS				LR	LR	07 41 17.8	
	comp=Z,43nm,19.1s,baz=56,slow=34						
KLR	**Kul'dur**	**61.99**	**345**	P	**P**	**07 21 45.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=250,slow=5.7,SNR=3.8						
PETK	**Petropavlovsk-**	**63.38**	**4**	P	**P**	**07 21 55.1**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=181,slow=12,SNR=7.2						
PETK				LR	LR	07 46 02.1	
	comp=Z,26nm,19.2s,baz=134,slow=33						
PETK	**Petropavlovsk-**	**63.38**	**4**	P	**P**	**07 21 54.5**	**-0.9**
SONM	**Songino Array**	**70.72**	**329**	P	**P**	**07 22 42.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=147,slow=6.1,SNR=7.0						
SONM	**Songino Array**	**70.72**	**329**	IAmb	IAmb	07 22 55.9	
	comp=Z,3.9nm,1.2s						
MKAR	**Makanchi Array**	**84.11**	**320**	P	**P**	**07 23 56.4**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=114,slow=4.8,SNR=7.7						
ILAR	**Eielson Array**	**87.50**	**22**	P	**P**	**07 24 12.7**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=256,slow=4.9,SNR=20						
ILAR				LR	LR	07 56 37.1	
	comp=Z,29nm,20.6s,baz=162,slow=31						
TORD	**Torodi Ar. Bea**	**151.00**	**278**	PKPbc	**PKPbc**	**07 31 19.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=65,slow=2.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**151.00**	**278**		**PKPdf**	**07 31 16.2**	**+1.8**
TORD				PKPab	**sPKPbc**	**07 31 25.8**	**+1.9**

IDC 20 07:28:19.2±3.3, 54°27N×87°23E, h0km, mb1 3.1/2, mb1mx2.9/50, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=28.1km s-min=17.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**258**	*i*		07 37 00.0	
	baz=76,slow=299,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.46**	**258**	Pg	Pn	07 28 45.3	-1.4
	0.7nm,0.3s,baz=76,slow=18,SNR=8.4						
ZALV				Lg	Lg	07 29 05.4	
	2.3nm,0.3s,baz=76,slow=30,SNR=6.9						
KURBB	**Kurchatov Arra**	**6.45**	**239**	Pn	Pn	07 29 56.1	+0.9
	0.1nm,0.3s,baz=56,slow=15,SNR=2.0						
MKAR	**Makanchi Array**	**8.12**	**205**	Pn	Pn	07 30 19.3	+1.1
	0.1nm,0.3s,baz=26,slow=15,SNR=5.4						
MKAR				Sn	Sn	07 31 50.5	-0.1
	0.1nm,0.3s,baz=24,slow=30,SNR=6.0						
MKAR				Lg	Lg	07 32 35.1	
	baz=24,slow=25,SNR=3.0						

MAN 20 07:42:24.5, 6°75N×124°71E, h83km, mb3.5, ML2.2, MS1.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.17**	**17**	⇓*i*P	Pn	07 42 47.5	+1.6
BUKP				*i*S	Sn	07 43 02.7	+0.8

NEIC 20 07:56:19.8±1.7, 37°09N±0°04×97°83W±0°06, h8km±5km, Error ellipse: s-maj=7.4km s-min=5.3km az=50.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.04**	**294**	Pg	Pg	07 56 20.3	-1.2
KAN05				Sg	Sg	07 56 20.9	-1.8
KAN06	**Argonia West S**	**0.16**	**351**		Pg	07 56 22.7	-0.4
KAN06					Sg	07 56 25.1	-0.3
KAN09	**Caldwell North**	**0.17**	**75**		Pg	07 56 23.6	+0.2
KAN09	**Caldwell North**	**0.17**	**75**		Sg	07 56 26.1	+0.3
KAN08	**Anthony NE Sta**	**0.18**	**319**		Pg	07 56 22.9	-0.6
KAN08					Sg	07 56 25.4	-0.6
KAN10	**Anthony SW Sta**	**0.22**	**278**		Pg	07 56 23.4	-0.8
KAN10					Sg	07 56 26.2	-0.9
KS21	**Milan North St**	**0.23**	**34**		Pg	07 56 24.5	0.0
KS21					Sg	07 56 28.1	+0.4
GC02	**Grant County #**	**0.24**	**186**		Pg	07 56 24.4	-0.3
KAN12	**Harper NE Stat**	**0.25**	**326**		Pg	07 56 24.1	-0.6
KAN12					Sg	07 56 27.6	-0.5
KS20	**Mayfield South**	**0.26**	**58**	Pg	Pg	07 56 25.0	0.0
KS20				Sg	Sg	07 56 29.2	+0.8
KAN13	**South Haven SW**	**0.29**	**106**		Pg	07 56 25.8	+0.2
KAN13					Sg	07 56 30.2	+0.8
OK032	**Salt Plains WL**	**0.42**	**227**		Pg	07 56 27.3	-0.7
OK032					Sg	07 56 33.0	-0.6
BLOK	**Blackwell**	**0.59**	**124**		Pg	07 56 31.4	+0.2
CROK	**Carrier**	**0.60**	**192**		Pg	07 56 30.9	-0.5
T35A	**Sooner Cattle**	**1.07**	**99**		Pg	07 56 40.1	-0.2
T35B	**Sooner Cattle**	**1.07**	**99**	P		07 56 40.0	
	baz=280,SNR=71						
T35B				S		07 56 54.3	
	baz=280						
U32A	**Winter Ranch,**	**1.18**	**233**		Pb	07 56 41.2	-1.3
U32A	**Winter Ranch,**	**1.18**	**233**	P		07 56 40.9	
	baz=52,SNR=11						
U32A				S		07 56 57.1	
	baz=52						
QUOK	**Quay**	**1.29**	**135**	Pg	Pn	07 56 43.9	-0.2
OK029	**Liberty Lake**	**1.33**	**167**		Pn	07 56 44.3	-0.3
OK031	**S. Brethren Rd**	**1.39**	**145**		Pn	07 56 45.5	+0.1
BCOK	**Bluff Creek, N**	**1.44**	**173**		Pn	07 56 46.1	-0.1
R32A	**Long Quarter,**	**1.50**	**332**		Pn	07 56 46.9	-0.1
R32A	**Long Quarter,**	**1.50**	**332**	P		07 56 46.8	
	baz=153,SNR=61						
OK025	**Westminster Rd**	**1.56**	**165**		Pn	07 56 48.2	+0.4
OKCFA	**Oklahoma City**	**1.70**	**170**		Pn	07 56 50.5	+0.7
OKCFA	**Oklahoma City**	**1.70**	**170**	S		07 57 13.6	
	baz=349						
OKCSW	**OKLAHOMA CITY**	**1.71**	**169**		Pn	07 56 50.3	+0.4
FNO	**Franklin**	**1.86**	**169**		Pn	07 56 52.9	+0.9
TUL1	**Leonard**	**2.02**	**125**	P		07 56 54.9	
	baz=306,SNR=44						
TUL1				S		07 57 23.0	
	baz=306						
KSU1	**Kansas State U**	**2.22**	**25**		Pn	07 56 58.1	+1.2
KSU1				IAmb_Lg		07 57 34.9	
	comp=Z,34nm,0.7s						
KSU1	**Kansas State U**	**2.22**	**25**	S		07 57 28.6	
	baz=206						
CBKS	**Cedar Bluff**	**2.29**	**319**		Pn	07 56 57.9	+0.1
CBKS	**Cedar Bluff**	**2.29**	**319**	P		07 56 57.6	
	baz=139,SNR=18						
WMOK	**Wichita Mounta**	**2.47**	**199**		Pn	07 57 00.6	+0.2
WMOK	**Wichita Mounta**	**2.47**	**199**	P		07 57 00.3	
	baz=17,SNR=30						
X34A	**Smith Ranch, M**	**2.49**	**180**		Pn	07 57 01.4	+0.9
U38A	**Gravette**	**2.84**	**102**		Pn	07 57 06.2	+0.8
LOOK	**Love County**	**3.14**	**170**	Pn	Pn	07 57 09.2	-0.3
X37A	**Clayton**	**3.20**	**141**		Pn	07 57 10.6	+0.3
X37A	**Clayton**	**3.20**	**141**	P		07 57 11.2	
	baz=322,SNR=48						
HHAR	**Hobbs**	**3.23**	**103**	Pn	Pn	07 57 10.9	+0.1
W39A	**Magazine**	**3.78**	**119**	Pn	Pn	07 57 19.9	+1.6
W39A				IAmb_Lg		07 58 29.1	
	comp=Z,19nm,0.8s						
Z35A	**Perchaven, San**	**3.78**	**173**	Pn	Pn	07 57 16.8	-1.6
Z35A				IAmb_Lg		07 58 29.8	
	comp=Z,13nm,1.1s						
Z35A	**Perchaven, San**	**3.78**	**173**	P		07 57 18.8	
	baz=353,SNR=7.1						
AMTX	**Amarillo**	**3.82**	**236**	Pn	Pn	07 57 19.6	+0.6
AMTX				IAmb_Lg		07 58 27.0	
	comp=Z,15nm,0.7s						
U40A	**Yellville**	**4.06**	**99**		Pn	07 57 22.2	0.0
N35A	**Tabor**	**4.13**	**24**	Pn	Pn	07 57 23.1	0.0
N35A				IAmb_Lg		07 58 31.7	
	comp=Z,16nm,0.8s						
P38A	**Dawn**	**4.22**	**52**	IAmb_Lg		07 58 38.4	
	comp=Z,11nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.25**	**298**	Pn	Pn	07 57 24.4	-0.4
MIAR	**Mount Ida**	**4.29**	**125**	Pn	Pn	07 57 26.6	+1.3
MIAR				IAmb_Lg		07 58 39.1	
	comp=Z,9.8nm,0.9s						
BGNE	**Belgrade**	**4.32**	**357**	Pn	Pn	07 57 23.6	-2.1
MGMO	**Mountain Grove**	**4.44**	**88**	Pn	Pn	07 57 28.0	+0.6
Z38A	**Mt. Pleasant**	**4.48**	**148**	IAmb_Lg		07 58 52.4	
	comp=Z,15nm,0.7s						
R40A	**Maddies Statio**	**4.57**	**73**	IAmb_Lg		07 58 50.7	
	comp=Z,8.1nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.75**	**103**	IAmb_Lg		07 58 49.7	
	comp=Z,9.3nm,0.8s						
X40A	**Basin Creek Fa**	**4.82**	**121**	IAmb_Lg		07 59 00.3	
	comp=Z,8.8nm,0.7s						
WHAR	**Wooly Hollow**	**4.83**	**110**	Pn	Pn	07 57 31.7	-1.0
WHAR				IAmb_Lg		07 59 03.9	
	comp=Z,12nm,0.8s						
L34A	**Svendsen Farm,**	**5.00**	**13**	Pn	Pn	07 57 33.6	-1.5
L34A				IAmb_Lg		07 58 59.6	
	comp=Z,13nm,0.7s						
OGNE	**Ogallala**	**5.05**	**321**	Pn	Pn	07 57 37.0	+1.1
OGNE				IAmb_Lg		07 59 11.6	
	comp=Z,13nm,0.8s						
WHTX	**Lake Whitney,**	**5.10**	**176**	Pn	Pn	07 57 35.8	-0.7
WLAR	**White Oak Lake**	**5.13**	**130**	IAmb_Lg		07 59 11.2	
	comp=Z,11nm,1.0s						
N38A	**Joes South For**	**5.14**	**43**	IAmb_Lg		07 59 17.7	
	comp=Z,14nm,0.9s						
P40A	**Paris**	**5.16**	**60**	IAmb_Lg		07 59 10.0	
	comp=Z,15nm,1.1s						
T25A	**Trinidad**	**5.26**	**272**	IAmb_Lg		07 59 11.3	
	comp=Z,7.3nm,0.7s						
CCM	**Cathedral Cave**	**5.32**	**78**	IAmb_Lg		07 59 17.8	
	comp=Z,8.7nm,0.7s						
T42A	**Van Buren**	**5.39**	**89**	IAmb_Lg		07 59 12.6	
	comp=Z,6.9nm,1.1s						
LCAR	**Lake Charles**	**5.47**	**99**	IAmb_Lg		07 59 20.2	
	comp=Z,8.5nm,1.0s						
PBMO	**Poplar Bluff**	**5.93**	**91**	IAmb_Lg		07 59 35.8	
	comp=Z,9.1nm,0.8s						
SCIA	**State Center**	**5.99**	**35**	IAmb_Lg		07 59 32.9	
	comp=Z,12nm,0.8s						
435B	**Jarrell**	**6.30**	**178**	IAmb_Lg		07 59 48.2	
	comp=Z,7.4nm,0.7s						
ECSD	**EROS Data Cent**	**6.70**	**8**		Pn	07 57 58.0	-0.4
JCT	**Junction City**	**6.80**	**195**	IAmb_Lg		08 00 05.4	
	comp=Z,9.8nm,1.1s						
L40A	**Anamosa**	**7.12**	**44**	IAmb_Lg		08 00 06.1	
	comp=Z,9.6nm,0.9s						

*NEIC **20** 07:56:36.7±2.4, 24°.7S±0°.1×179°.95W±0°.05, h419km±12km, mb4.2/14, Error ellipse: s-maj=21.6km s-min=6.1km az=190.0*

*IDC **20** 07:56:48.3±5.5, 24°.19S×179°.56E, h551km±52km, mb3.2/4, mb1 3.4/5, mb1mx3.0/22, mbtmp4.0/5, Error ellipse: s-maj=106.7km s-min=25.1km az=147.0*

ISC 20 07:56:37.3±0.8, 24°8S±0°1×179°87W±0°10, h450km, n26, σ1§74/24, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.80**	**159**	P	**P**	**07 57 55.2**	**-4.5**
MSVF	**Nonsavu**	**7.25**	**344**	P	P	07 58 32.5	+7.5
	0.7nm,0.3s,baz=246,slow=23,SNR=5.1						
MSVF	**Nonsavu**	**7.25**	**344**	P	**P**	**07 58 23.6**	**-1.3**
NIUE	**Niue**	**10.82**	**60**	P	**P**	**07 59 04.2**	**+0.7**
MARNC	**Mare, Loyalty**	**11.60**	**284**	P	**P**	**07 59 08.8**	**-3.1**
PINNC	**Pines Island,**	**11.82**	**278**	P	**P**	**07 59 13.0**	**-1.2**
DZM	**Mont Dzumac**	**12.85**	**279**	P	**P**	**07 59 23.3**	**-2.2**
CTAO	**Charters Tower**	**31.61**	**272**	P	**P**	**08 02 23.6**	**+1.8**
CTAO				IAmb	IAmb	08 02 36.8	
	comp=Z,21nm,1.3s						
TOO	**Toolangi**	**32.09**	**238**	P	**P**	**08 02 27.6**	**+1.9**
TOO				IAmb	IAmb	08 02 32.7	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**08 02 48.0**	**+1.6**
	comp=Z,1.4nm,0.4s,baz=85,slow=8.2,SNR=8.9						
STKA	**Stephens Creek**	**34.52**	**249**	P	**P**	**08 02 48.1**	**+1.6**
BBOO	**Buckleboo**	**39.22**	**248**	P	**P**	**08 03 25.9**	**+0.6**
BBOO				IAmb	IAmb	08 03 27.4	
	comp=Z,26nm,1.3s						
AS31	**Alice Springs**	**42.02**	**262**	P	**P**	**08 03 48.9**	**+0.9**
ASAR	**Alice Springs**	**42.02**	**262**	P	**P**	**08 03 48.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=96,slow=7.3,SNR=36						
ASAR	**Alice Springs**	**42.02**	**262**	P	**P**	**08 03 48.4**	**+0.4**
WR0	**Warramunga Arr**	**42.28**	**267**	P	**P**	**08 03 50.4**	**+0.3**
WR0				IAmb	IAmb	08 03 50.8	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**42.46**	**267**	P	**P**	**08 03 51.9**	**+0.4**
WB2				IAmb	IAmb	08 03 52.2	
	comp=Z,9.2nm,1.1s						
WB0	**Warramunga Arr**	**42.47**	**267**	P	**P**	**08 03 52.0**	**+0.4**
WB0				IAmb	IAmb	08 03 53.3	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**42.47**	**267**	P	**P**	**08 03 51.9**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=99,slow=6.9,SNR=112						
WRA	**Warramunga Arr**	**42.47**	**267**	IAmb	IAmb	08 03 52.3	
	comp=Z,0.4nm,0.8s						
FORT	**Forrest**	**46.13**	**250**	P	**P**	**08 04 19.7**	**-0.2**
KNRA	**Kununurra**	**48.81**	**270**	P	**P**	**08 04 40.7**	**+0.4**
PSA00	**Pilbara Seismi**	**55.13**	**260**	P	**P**	**08 05 24.8**	**-1.3**
PSA00				IAmb	IAmb	08 05 51.8	
	comp=Z,25nm,1.4s						
MORW	**Morawa**	**56.70**	**250**	P	**P**	**08 05 37.1**	**+0.2**
QSPA	**South Pole Qui**	**65.33**	**180**	P	**P**	**08 06 36.3**	**+2.8**
QSPA				IAmb	IAmb	08 06 57.8	
	comp=Z,5.6nm,1.4s						
NVAR	**Mina Array Bea**	**85.29**	**44**	P	**P**	**08 08 27.2**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=212,slow=7.9,SNR=3.5						

*IDC **20** 07:58:08.6±2.0, 53°.50N×87°.75E, h0km, mb1 3.6/4, mb1mx3.3/47, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=19.1km s-min=12.5km az=55.0*

*NNC **20** 07:58:09.8±1.8, 53°.44N×87°.53E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=14.5km s-min=6.1km az=59.0, Suspected Mining explosion.*

**ISC 20 07:58:07.9±1.4

I31KZ AKTYUBINSK INF 18.43 272 *i* 09 47 40.0
baz=66,slow=317,SNR=2.2

IDC 20 08:02:36.9±2.8, 54°.17N×86°.30E, h0km, mb1 3.1/2, mb1mx3.0/38, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=20.3km s-min=12.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**256**	*i*		08 08 50.0	
	baz=73,slow=314,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.90**	**256**	Pg	Pg	08 02 52.4	-1.8
	2.1nm,0.3s,baz=74,slow=17,SNR=7.1						
ZALV				Lg	Lg	08 03 07.7	
	6.3nm,0.3s,baz=79,slow=29,SNR=16						
ZALV				Rg	Rg	08 03 12.4	
	4.6nm,0.3s,baz=184,slow=8.9,SNR=13						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	08 04 06.8	+0.8
	0.1nm,0.3s,baz=52,slow=13,SNR=4.0						
KURBB				Lg	Lg	08 05 44.7	
	0.0nm,0.3s,baz=55,slow=32,SNR=2.7						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	08 04 33.4	+1.6
	0.2nm,0.3s,baz=22,slow=13,SNR=1.9						

NNC 20 08:13:47.4±2.2, 53°.97N×87°.24E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=17.3km s-min=10.0km az=40.0, Suspected Mining explosion.

IDC 20 08:13:46.2±3.1, 54°.20N×87°.30E, h0km, mb1 3.0/2, mb1mx2.9/67, mbtmp3.0/2, ML2.5/2, 5C-5D, Error ellipse: s-maj=27.3km s-min=16.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**261**	*i*		08 22 30.0	
	baz=77,slow=299,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.49**	**261**	⇑P	Pn	08 14 13.9	-0.2
	0.7nm,0.6s						
ZAA0				⇓S	Sg	08 14 33.6	-0.3
	2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**1.49**	**261**	Pg	Pn	08 14 11.9	-2.3
	0.6nm,0.3s,baz=80,slow=17,SNR=13						
ZALV				Lg	Lg	08 14 34.0	
	1.3nm,0.3s,baz=83,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	08 15 23.0	+0.6
	0.1nm,0.3s,baz=56,slow=14,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.45**	**240**	⇓Pn	Pn	08 15 19.0	-3.3
	5.6nm,1.4s						
KURBB				⇑Sn	Sn	08 16 33.5	-3.1
	4.5nm,0.8s						
KURBB				⇑Lg	Lg	08 17 05.8	
	4.6nm,0.7s						
MK31	**Makanchi Array**	**8.07**	**205**	⇑Pn	Pn	08 15 43.5	-1.1
	0.3nm,0.6s,baz=27,slow=13,SNR=4.9						
MK31				⇓Sn	Sn	08 17 13.5	-3.0
	0.8nm,0.7s,baz=24,slow=27,SNR=5.0						
MK31				⇓Lg	Lg	08 17 56.6	
	1.5nm,0.8s,baz=29,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**8.07**	**205**	Pn	Pn	08 15 46.5	+1.9
	0.1nm,0.3s,baz=25,slow=11,SNR=5.5						
MKAR				Sn	Sn	08 17 15.1	-1.5
	0.1nm,0.3s,baz=24,slow=27,SNR=6.3						
MKAR				Lg	Lg	08 18 04.1	
	0.1nm,0.3s,baz=28,slow=28,SNR=3.4						
MAKZ	**Makanchi**	**8.14**	**207**	⇑Sn	Sn	08 17 17.3	-0.9
	2.5nm,1.1s						
MAKZ				⇓Lg	Lg	08 17 59.7	
	4.4nm,1.2s						

IDC 20 08:41:24.1±1.3, 60°.03S×47°.44W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/20, mbtmp4.3/4, ML3.7/1, MS3.6/4, Ms1 3.5/4, ms1mx3.3/16, Error ellipse: s-maj=41.8km s-min=27.5km az=58.0
NEIC 20 08:41:27±2.2, 60°.16S±0°.05×47°.6W±0°.2, h10km±1km, mb4.4/5, Error ellipse: s-maj=20.0km s-min=6.4km az=110.0

ISC 20 08:41:26.2±0.7, 60°.1S±0°.1×47°.6W±0°.1, h10km, n32, σ1§03/27, mb4.3/4, MS3.5/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.39**	**51**	Pn	**Pn**	**08 43 29.2**	**+1.5**
PMSA	**Palmer Station**	**8.93**	**232**	Pn	**Pn**	**08 43 36.1**	**+1.1**
	0.8nm,0.3s,baz=59,slow=11,SNR=2.1						
PMSA				LR	LR	08 47 06.0	
	comp=Z,380nm,19.4s,baz=79,slow=38						
PMSA	**Palmer Station**	**8.93**	**232**		**Pn**	**08 43 35.8**	**+0.8**
VNA3	**Neumayer Olymp**	**18.74**	**142**	P	**P**	**08 45 42.4**	**-2.5**
VNA1	**Neumayer--Stat**	**19.03**	**140**	P	**Pn**	**08 45 48.4**	**-0.3**
SNAA	**Sanae**	**20.97**	**142**	P	**P**	**08 46 10.5**	**+1.4**
SNAA	**Sanae**	**20.97**	**142**	P	**P**	**08 46 10.2**	**+1.1**
	24nm,0.9s,baz=285,slow=10.0,SNR=72						
SNAA	**Sanae**	**20.97**	**142**	P	**P**	**08 46 09.9**	**+0.8**
PLCA	**Paso Flores**	**24.09**	**313**	P	**P**	**08 46 41.4**	**-0.3**
	6.2nm,1.3s,baz=172,slow=7.1,SNR=2.9						
PLCA				LR	LR	08 54 47.2	
	comp=Z,145nm,18.2s,baz=203,slow=33						
PLCA	**Paso Flores**	**24.09**	**313**	P	**P**	**08 46 41.5**	**-0.3**
QSPA	**South Pole Qui**	**30.10**	**180**	P	**P**	**08 47 35.3**	**-0.3**
	5.0nm,1.0s,baz=175,slow=2.3,SNR=9.8						
QSPA	**South Pole Qui**	**30.10**	**180**	P	**P**	**08 47 35.5**	**-0.1**
QSPA				IAmb	IAmb	08 47 43.5	
	comp=Z,6.2nm,0.9s						
CPUP	**Villa Florida**	**34.46**	**344**	LR	LR	09 04 09.8	
	comp=Z,57nm,19.2s,baz=211,slow=40						
SBA	**Scott Base**	**40.66**	**191**	P	**P**	**08 49 06.4**	**+0.5**
SBA				IAmb	IAmb	08 49 13.8	
	comp=Z,4.9nm,0.8s						
MAW	**Mawson**	**42.89**	**148**	LR	LR	09 05 28.1	
	comp=Z,84nm,20.3s,baz=245,slow=34						
CASY	**Casey**	**52.85**	**169**	P	**P**	**08 50 41.3**	**0.0**
CASY				IAmb	IAmb	08 50 45.8	
	comp=Z,5.8nm,1.1s						
H10S2	**ASCENSION HYDR**	**56.70**	**40**	T	T	09 52 47.4	
	baz=200,slow=74,SNR=9.4						
H10S3	**ASCENSION HYDR**	**56.70**	**40**	T	T	09 52 47.4	
	baz=20,slow=74,SNR=17						
H10N3	**ASCENSION HYDR**	**57.80**	**40**	T	T	09 54 13.7	
	baz=199,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**57.80**	**40**	T	T	09 54 10.2	
	baz=199,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**57.82**	**40**	T	T	09 54 15.0	
	baz=199,slow=75,SNR=31						
NAO01	**NORSAR Array S**	**128.80**	**32**		**PKiKP**	**09 00 33.4**	**+0.4**
IL31		**144.78**	**313**		**PKPdf**	**09 01 01.2**	**-0.3**
ILAR	**Eielson Array**	**144.78**	**313**	PKP	**PKPdf**	**09 01 00.8**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=149,slow=1.3,SNR=12						
ILAR	**Eielson Array**	**144.78**	**313**		**PKPdf**	**09 01 00.9**	**-0.6**
RND	**Reindeer**	**144.81**	**310**		**PKPdf**	**09 01 01.2**	**-0.5**
CCB	**Clear Creek Bu**	**145.06**	**312**		**PKPdf**	**09 01 01.7**	**-0.3**
NEA2	**Nenana**	**145.50**	**312**	PKPdf	**PKPab**	**09 01 03.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**145.98**	**310**	PKPdf	**PKPab**	**09 01 04.5**	**-0.6**
MK31	**Makanchi Array**	**148.15**	**92**	PKPdf	**PKPdf**	**09 01 08.7**	**+0.8**
MK31					**pPKPbc**	**09 01 13.1**	**-0.8**
MKAR	**Makanchi Array**	**148.15**	**92**	PKPbc	**PKPbc**	**09 01 09.3**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=246,slow=2.1,SNR=18						
MKAR	**Makanchi Array**	**148.15**	**92**	PKPdf	**PKPbc**	**09 01 09.2**	**-1.9**
MKAR				PKPbc	**pPKPbc**	**09 01 13.1**	**-0.8**

NNC 20 08:58:31.9±5.4, 52°.91N×77°.81E, h0km, mb3.6, mpv3.2, 3C-4D, Error ellipse: s-maj=213.5km s-min=42.4km az=75.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.33**	**169**	⇑Pn	Pn	08 59 11.5	0.0
	2.7nm,0.7s,baz=303,slow=16						
KURBB				⇓Sn	Sn	08 59 41.8	+1.0
	7.9nm,0.6s,baz=308,slow=30						
BRVK	**Borovoye**	**4.55**	**275**	⇓Pn	Pg	09 00 17.7	+19
	3.2nm,0.7s						
BRVK				⇑Lg	Lg	09 01 32.9	
	12nm,1.2s						
MAKZ	**Makanchi**	**6.67**	**155**	⇓Pn	Pg	09 01 05.9	+26
	2.5nm,0.8s						
MAKZ				⇑Lg	Lg	09 02 03.1	
	2.7nm,0.8s						
MK31	**Makanchi Array**	**6.77**	**153**	Pn	Pg	09 01 12.5	+31
	2.0nm,0.6s,baz=230,slow=2.7,SNR=16						
MK31				⇓Lg	Lg	09 02 07.7	
	0.8nm,0.6s						

KRSC 20 09:00:35.7±0.9, 53°.81N×159°.52E, h139km±9km, ML3.8
IDC 20 09:00:38.4±0.8, 53°.92N×158°.72E, h149km±23km, mb3.2/8, mb1 3.4/8, mb1mx3.2/32, mbtmp3.6/8, Error ellipse: s-maj=55.0km s-min=18.3km az=1.0

ISC 20 09:00:37.5±0.8, 53°.82N±0°.04×159°.45E±0°.05, h137km±6km, n45, σ0§99/62, mb3.5/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.21**	**360**	*eP*	**Pn**	**09 00 55.8**	**-0.4**
SDLR	**Sedlovina**	**0.64**	**212**	*i P*	**Pn**	**09 00 58.3**	**0.0**
SDLR				*eS*	**Sn**	**09 01 14.0**	**0.0**
NLC	**Nalytchevo**	**0.66**	**186**	*i P*	**Pn**	**09 00 58.1**	**-0.1**
NLC				*eS*	**Sn**	**09 01 13.9**	**0.0**
KRX	**Arik**	**0.67**	**226**	*eP*	**Pn**	**09 00 58.4**	**-0.1**
KRX				*eS*	**Sn**	**09 01 14.2**	**-0.2**
KRER	**Koryakskii**	**0.67**	**219**	*i P*	**Pn**	**09 00 58.7**	**+0.1**
KRER				*eS*	**Sn**	**09 01 14.9**	**+0.4**
SMAR	**Somma**	**0.68**	**215**	*eP*	**Pn**	**09 00 58.5**	**-0.2**
SMAR				*eS*	**Sn**	**09 01 14.7**	**0.0**
AVH	**Avacha**	**0.70**	**217**	*i P*	**Pn**	**09 00 59.0**	**+0.4**
AVH				*eS*	**Sn**	**09 01 15.0**	**+0.3**
KOK	**Koryaka**	**0.72**	**223**	*i P*	**Pn**	**09 00 59.0**	**+0.2**
KOK				*eS*	**Sn**	**09 01 15.4**	**+0.5**
UGLR	**Uglovaya**	**0.72**	**212**	*i P*	**Pn**	**09 00 58.9**	**+0.1**
SPN	**Mys Shipunski**	**0.80**	**155**	*i P*	**Pn**	**09 00 58.8**	**-0.5**
SPN				*eS*	**Sn**	**09 01 15.1**	**-0.7**
DALK	**Dalny**	**0.90**	**208**	*eP*	**Pn**	**09 00 59.8**	**-0.2**
GNL	**Ganaly**	**0.91**	**262**	*i P*	**Pn**	**09 00 59.6**	**-0.6**
GNL				*eS*	**Sn**	**09 01 16.4**	**-1.1**
PET	**Petropavlovsk**	**0.93**	**211**	*i P*	**Pn**	**09 01 00.2**	**-0.1**
PET				*eS*	**Sn**	**09 01 17.5**	**-0.2**
PETK	**Petropavlovsk-**	**1.27**	**236**	P	**Pn**	**09 01 02.2**	**-1.3**
	18nm,0.3s,baz=66,slow=14,SNR=171						
PETK				S	**Sn**	**09 01 22.9**	**-0.5**
	4.7nm,0.3s,baz=90,slow=18,SNR=4.1						
KRMR	**Karymshinskiy**	**1.27**	**219**	*eP*	**Pn**	**09 01 03.4**	**-0.2**
KRMR				*eS*	**Sn**	**09 01 23.1**	**-0.3**
KZV	**Kizimen**	**1.38**	**21**	*eP*	**Pn**	**09 01 04.8**	**-0.1**
TUMD	**Tumrok D**	**1.49**	**21**	*eP*	**Pn**	**09 01 05.8**	**-0.1**
TUMD				*eS*	**Sn**	**09 01 27.3**	**-0.3**
RUS	**Russkaya**	**1.50**	**202**	*i P*	**Pn**	**09 01 05.6**	**-0.4**
RUS				*eS*	**Sn**	**09 01 26.9**	**-0.9**
TUMR	**Tumrok**	**1.52**	**15**	*eP*	**Pn**	**09 01 06.6**	**+0.3**
GRL	**Gorelyy**	**1.52**	**214**	*eP*	**Pn**	**09 01 06.9**	**+0.5**
GRL				*eS*	**Sn**	**09 01 29.2**	**+0.8**
MKZ	**Mys Kozlova**	**1.53**	**60**	*eP*	**Pn**	**09 01 06.1**	**-0.1**
MKZ				*eS*	**Sn**	**09 01 27.7**	**-0.5**
MTVR	**Mutnovka**	**1.54**	**210**	*i P*	**Pn**	**09 01 07.1**	**+0.4**
MTVR				*eS*	**Sn**	**09 01 29.5**	**+0.6**
APC	**Apacha**	**1.64**	**238**	*eP*	**Pn**	**09 01 07.7**	**+0.1**
APC				*eS*	**Sn**	**09 01 30.7**	**+0.2**
KMNR	**Kamenistaya**	**1.99**	**13**	*eP*	**Pn**	**09 01 12.1**	**+0.4**
KMNR				*eS*	**Sn**	**09 01 38.0**	**0.0**
ESO	**Esso**	**2.15**	**349**	*eP*	**Pn**	**09 01 14.9**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.23**	**15**	*eP*	**Pn**	**09 01 15.3**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.25**	**227**	*eP*	**Pn**	**09 01 13.1**	**-1.7**
LGNR	**Loginova**	**2.37**	**17**	*eP*	**Pn**	**09 01 16.2**	**-0.4**
SRDR	**Sredinnyy**	**2.50**	**3**	*eP*	**Pn**	**09 01 17.5**	**-0.5**
PAU	**Pauzhetka**	**2.86**	**215**	*eP*	**Pn**	**09 01 22.5**	**+0.1**
SMKR	**Semkarok**	**3.00**	**22**	*eP*	**Pn**	**09 01 25.1**	**+0.9**
SRKR	**Sorokina**	**3.00**	**18**	*eP*	**Pn**	**09 01 25.4**	**+1.1**
KBTR	**Krutoberegovo**	**3.08**	**38**	*eP*	**Pn**	**09 01 25.5**	**+0.3**
KBTR				*eS*	**Sn**	**09 02 00.0**	**-2.1**
BKI	**Bering**	**4.04**	**67**	*eP*	**Pn**	**09 01 37.0**	**-0.8**
BKI				*eS*	**Sn**	**09 02 21.8**	**-2.9**
ILAR	**Eielson Array**	**28.58**	**46**	P	**P**	**09 06 22.7**	**+2.6**
	0.1nm,0.3s,baz=262,slow=23,SNR=1.2						
INK	**Inuvik**	**33.53**	**38**	P	**P**	**09 07 04.4**	**+1.0**
	0.7nm,0.7s,baz=259,slow=2.3,SNR=6.2						
H11N2	**WAKE ISLAND Hy**	**34.51**	**168**	T	T	09 43 28.7	
	baz=352,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**34.52**	**168**	T	T	09 43 13.0	
	baz=352,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**34.53**	**168**	T	T	09 43 14.5	
	baz=352,slow=76,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.06**	**302**	P	P	09 08 09.6	-5.6
	1.4nm,0.3s,baz=57,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**47.49**	**295**	P	**P**	**09 08 55.7**	**-2.7**
	0.6nm,0.7s,baz=59,slow=7.1,SNR=5.1						
PDAR	**Pinedale Array**	**57.50**	**61**	P	**P**	**09 10 14.1**	**+1.8**
	0.4nm,0.5s,baz=317,slow=3.1,SNR=6.7						
FINES	**FINESS Array B**	**59.30**	**336**	P	**P**	**09 10 22.5**	**-1.6**
	0.8nm,0.4s,baz=31,slow=8.4,SNR=11						
NOA	**NORSAR Array B**	**62.73**	**343**	P	**P**	**09 10 45.5**	**-1.8**
	0.1nm,0.4s,baz=12,slow=6.9,SNR=2.1						
TXAR	**Lajitas Array**	**70.70**	**67**	P	**P**	**09 11 40.2**	**+1.8**
	0.3nm,0.5s,baz=300,slow=5.1,SNR=7.2						

IDC 20 09:13:05.1±1.1, 34°.76S×54°.65E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/42, mbtmp3.9/6, MS3.7/13, Ms1 3.7/13, ms1mx3.4/34, Error ellipse: s-maj=31.6km s-min=30.7km az=137.0

ISC 20 09:13:06.7±1.0, 34°.8S±0°.2×54°.6E±0°.2, h10km, n25, σ0§31/6, mb4.1/6, MS3.6/13, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**25.69**	**276**	LR	LR	09 27 37.4	
	comp=Z,48nm,18.5s,baz=202,slow=34						
LBTB	**Lobatse**	**26.91**	**283**	LR	LR	09 27 58.3	
	comp=Z,52nm,18.1s,baz=128,slow=33						
MATP	**Matopo**	**27.11**	**295**	LR	LR	09 28 23.6	
	comp=Z,84nm,18.2s,baz=174,slow=34						
H08S1	**Diego Carcia H**	**31.59**	**35**	T	T	09 52 27.3	
	baz=208,slow=76,SNR=19						
H08S2	**Diego Garcia H**	**31.60**	**35**	T	T	09 52 27.7	
	baz=208,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**31.61**	**35**	T	T	09 52 28.9	
	baz=208,slow=76,SNR=15						
MAW	**Mawson**	**33.22**	**174**	LR	LR	09 29 28.6	
	comp=Z,201nm,20.9s,baz=44,slow=30						
SNAA	**Sanae**	**47.26**	**201**	P	**P**	**09 21 40.0**	**+0.3**
	1.0nm,1.0s,baz=90,slow=6.1,SNR=6.3						
H01W2	**Cape Leeuwin H**	**48.18**	**108**	T	T	10 13 30.6	
	baz=251						
H01W3	**Cape Leeuwin H**	**48.19**	**108**	T	T	10 13 30.7	
	baz=251,slow=74,SNR=3.8						
H01W1	**Cape Leeuwin H**	**48.20**	**108**	T	T	10 13 31.8	
	baz=251,slow=74,SNR=3.2						
QSPA	**South Pole Qui**	**55.41**	**180**	P	**P**	**09 22 40.9**	**-0.1**
	3.1nm,0.9s,baz=270,slow=4.5,SNR=5.6						
VNDA	**Vanda**	**59.92**	**166**	LR	LR	09 47 08.3	
	comp=Z,82nm,18.2s,baz=263,slow=34						
CMAR	**Chiang Mai Arr**	**67.64**	**46**	LR	LR	09 50 53.6	
	comp=Z,46nm,18.6s,baz=203,slow=34						
ASAR	**Alice Springs**	**68.46**	**104**	P	**P**	**09 24 09.1**	**-0.3**
	1.0nm,0.8s,baz=228,slow=6.4,SNR=5.8						
TORD	**Torodi Ar. Bea**	**69.21**	**304**	P	**P**	**09 24 13.7**	**-0.2**
	1.7nm,1.1s,baz=87,slow=2.7,SNR=3.7						
MMAI	**Mount Meron Ar**	**69.81**	**343**	LR	LR	09 51 47.6	
	comp=Z,33nm,18.2s,baz=150,slow=33						
PMSA	**Palmer Station**	**69.90**	**204**	LR	LR	09 47 47.7	
	comp=Z,252nm,20.1s,baz=72,slow=30						
WRA	**Warramunga Arr**	**70.68**	**101**	P	**P**	**09 24 23.1**	**0.0**
	4.6nm,1.0s,baz=234,slow=5.6,SNR=16						
GEYT	**Alibeck**	**72.41**	**3**	LR	LR	09 54 56.4	
	comp=Z,29nm,18.1s,baz=190,slow=35						
BRTR	**Keskin Array B**	**76.63**	**343**	LR	LR	09 55 48.5	
	comp=Z,26nm,21.6s,baz=146,slow=34						
AKTO	**Aktyubinsk**	**84.89**	**2**	LR	LR	10 00 25.0	
	comp=Z,15nm,18.7s,baz=195,slow=34						
MKAR	**Makanchi Array**	**84.93**	**19**	P	**P**	**09 25 41.9**	**+0.3**
	0.5nm,0.7s,baz=211,slow=4.2,SNR=3.3						
URZ	**Urewera**	**89.88**	**138**	LR	LR	09 59 57.9	
	comp=Z,133nm,18.2s,baz=226,slow=31						
SONM	**Songino Array**	**94.37**	**32**	LR	LR	10 05 15.3	
	comp=Z,53nm,20.9s,baz=270,slow=33						

MEX 20 09:23:39.8±0.5, 15°.66N×94°.30W, h16km±999km, MD4.0, Near coast of Oaxaca

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SJA 20 09:23:54.2±0.7, 33°.77S×72°.74W, h23km±12km, ML4.3, MW4.5
NEIC 20 09:23:56.7±1.9, 33°.80S±0°.04×72°.44W±0°.08, h6km±5km, Error ellipse: s-maj=9.5km s-min=6.5km az=88.0
IDC 20 09:23:56.6±1.2, 33°.78S×72°.31W, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/28, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=31.9km s-min=28.4km az=131.0
GUC 20 09:23:58.1±0.8, 33°.79S×72°.56W, h30km±4km, ML4.1
NEIC 20 09:23:58, 33°.80S×72°.47W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.30; $M_{\theta\phi}$-0.38; $M_{\phi r}$-1.17; Fault plane solution: $M_0$1.54000×10^{15} NP1:ϕ_s174.77000°, δ72.25000°, λ71.54000°. NP2:ϕ_s42.36000°, δ25.39000°, λ134.69000°. Principal axes: T 1.5890, Plg59.0000°, Azm59.0000°; N -0.1131, Plg18.0000°, Azm181.0000°; P -1.4759, Plg25.0000°, Azm279.0000°;

ISC 20 09:23:57.1±1.6, 33°.78S±0°.03×72°.46W±0°.05, h8km±10km, n80, σ1§50/90, mb4.2/3, 6C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.71**	**80**	⇓*iP*	**Pn**	**09 24 12.4**	**-1.0**
VA05				*i* S	**Sn**	**09 24 23.0**	**-1.6**
VA05				IAML		09 24 24.2	
	comp=E,9μm,0.3s						
VA05	**Santo Domingo**	**0.71**	**80**		**Pn**	**09 24 12.4**	**-1.0**
BO03	**Pichilemu**	**0.82**	**150**	⇓*iP*	**Pb**	**09 24 13.4**	**-0.3**
BO03				*i* S	**Sb**	**09 24 24.9**	**-0.1**
BO03				IAML		09 24 26.4	
	comp=E,13μm,0.6s						
MT01	**Popeta**	**1.01**	**95**	⇑*iP*	**Pn**	**09 24 16.8**	**-0.8**
MT01				*i* S	**Sn**	**09 24 31.0**	**-1.0**
MT01	**Popeta**	**1.01**	**95**		**Pn**	**09 24 16.7**	**-0.8**
VA01	**Torpederas**	**1.01**	**42**	*eP*	**Pn**	**09 24 16.8**	**-0.8**
VA01	**Torpederas**	**1.01**	**42**		**Pn**	**09 24 17.0**	**-0.6**
MT02	**Curacav**	**1.22**	**65**	⇑*iP*	**Pg**	**09 24 20.0**	**-0.4**
MT02				*i* S	**Sn**	**09 24 37.1**	**0.0**
MT02	**Curacav**	**1.22**	**65**		**Pg**	**09 24 20.2**	**-0.3**
MT09	**Talagante**	**1.22**	**90**	⇑*eP*	**Pn**	**09 24 19.9**	**-0.7**
MT09				*eS*	**Sb**	**09 24 36.6**	**0.0**
MT09				IAML		09 24 40.7	
	comp=N,4μm,0.3s						
MT09	**Talagante**	**1.22**	**90**		**Pn**	**09 24 19.6**	**-1.0**
BO01	**Tunca**	**1.29**	**119**	⇑*iP*	**Pn**	**09 24 20.4**	**-1.1**
BO01				*i* S	**Sb**	**09 24 38.4**	**-0.1**
BO01				IAML		09 24 40.7	
	comp=N,4μm,0.6s						
BO01	**Tunca**	**1.29**	**119**		**Pn**	**09 24 20.4**	**-1.1**
GO05	**Huala**	**1.30**	**161**	⇑*iP*	**Pn**	**09 24 20.4**	**-1.2**
GO05				*i* S	**Sb**	**09 24 37.2**	**-1.6**
GO05				IAML		09 24 43.8	
	comp=E,6μm,0.4s						
GO05	**Huala**	**1.30**	**161**		**Pn**	**09 24 20.4**	**-1.2**
GO05	**Huala**	**1.30**	**161**	*eP*	**Pn**	**09 24 20.4**	**-1.2**
GO05				*eS*	**Sg**	**09 24 39.9**	**+0.8**
ROC1	**El Roble**	**1.45**	**57**	*eP*	**Pb**	**09 24 24.0**	**-0.5**
ROC1				*eS*	**Sg**	**09 24 47.0**	**+3.4**
ROCH	**El Roble**	**1.45**	**57**	⇓*eP*	**Pb**	**09 24 24.0**	**-0.5**
ROCH				*eS*	**Sg**	**09 24 45.5**	**+1.7**
ROCH				IAML		09 24 54.2	
	comp=N,4μm,0.7s						
MT05	**Renca**	**1.48**	**75**	*eP*	**Pb**	**09 24 24.4**	**-0.5**
MT05				*i* S	**Sg**	**09 24 44.7**	**-0.2**
MT05	**Renca**	**1.48**	**75**		**Pn**	**09 24 23.8**	**-0.4**
MT03	**Universidad Ad**	**1.65**	**81**	*eP*	**Pb**	**09 24 26.6**	**-1.2**
MT03				*eS*	**Sb**	**09 24 49.1**	**+0.3**
MT03				IAML		09 25 00.5	
	comp=N,3μm,0.5s						
MT03	**Universidad Ad**	**1.65**	**81**		**Pn**	**09 24 26.4**	**0.0**
MT03	**Universidad Ad**	**1.65**	**81**	*eP*	**Pb**	**09 24 26.8**	**-1.0**
MT03				*eS*	**Sg**	**09 24 51.7**	**+1.6**
MT03				IAML		09 24 54.7	
	comp=Z,2μm,1.4s						
BO02	**Sierra Bellavi**	**1.72**	**127**		**Pn**	**09 24 27.6**	**+0.2**
VA03	**San Esteban**	**1.89**	**58**	⇑*eP*	**Pb**	**09 24 30.2**	**-1.7**
VA03				*eS*	**Sb**	**09 24 54.7**	**-1.0**
VA03	**San Esteban**	**1.89**	**58**		**Pb**	**09 24 30.1**	**-1.8**
VA03	**San Esteban**	**1.89**	**58**	*eP*	**Pb**	**09 24 30.2**	**-1.7**
VA03				*eS*	**Sb**	**09 24 55.5**	**-0.2**
VA03				IAML		09 25 04.3	
	comp=Z,2μm,1.8s						
ML02	**Panimavida**	**2.16**	**157**		**Pn**	**09 24 33.2**	**-0.1**
CO02	**Combarbal**	**2.85**	**26**		**Pn**	**09 24 42.9**	**-0.1**
LAMA	**Las Malvinas**	**2.92**	**114**	*eP*	**Pb**	**09 24 46.8**	**-2.7**
BI02	**San Fabin de**	**3.04**	**162**		**Pn**	**09 24 45.3**	**-0.2**
ARCO	**CERRO ARCO**	**3.09**	**73**	*eP*	**Pb**	**09 24 50.4**	**-2.1**
AAGR	**Agrelo**	**3.11**	**78**	*eP*	**Pb**	**09 24 49.7**	**-3.1**
EDS3	**Malargue**	**3.21**	**129**	*eP*	**Pb**	**09 24 54.5**	**+0.1**
ASAL	**Salagasta**	**3.26**	**70**

KK31 S Sn 09 27 34.8 +0.8
4.3nm,0.5s,baz=180,slow=19,SNR=17
AAK Alia-Archa 6.00 24 ⇓P Pn 09 26 26.9 +0.6
2.9nm,0.4s
AAK ⇑S Sn 09 27 38.3 +2.5
3.7nm,0.5s
TKM2 Tokmak 2 6.64 29 ⇓P Pn 09 26 34.1 -1.0
3.5nm,0.5s
TKM2 ⇑S Sn 09 27 51.6 -0.1
2.0nm,0.9s

*IDC **20** 09:27:13.7±0.6, 18°.21S×71°.19W, h0km, mb4.2/11, mb1 4.5/12, mb1mx4.3/27, mbtmp4.3/12, ML4.8/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/26, Error ellipse: s-maj=21.8km s-min=17.4km az=69.0*
*VAO **20** 09:27:15.3±0.3, 18°.23S×71°.25W, h10km, mb4.5*
*NEIC **20** 09:27:17.8±1.9, 18°.50S±0°.05×71°.47W±0°.04, h24km±4km, Error ellipse: s-maj=8.4km s-min=4.5km az=210.0*
*GUC **20** 09:27:18.0±0.8, 18°.41S×71°.38W, h30km±4km, ML4.7*
ISC 20 09:27:15.0±2.9,**18°.41S**±0°.05×**71°.41W**±0°.05,**h13**km±18km, **n161**,σ1$71/158,**mb4.5**/26,**MS3.8**/3,**8C-1D**,**Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.01**	**88**	⇓*i*P	**Pb**	**09 27 34.7**	**+0.2**
AP01				*i* S	**Sb**	**09 27 47.6**	**-0.1**
AP01				IAML		09 27 51.1	
	comp=E,33μm,0.3s						
PSGC	**Pisagua**	**1.69**	**134**	⇑*i*P	**Pn**	**09 27 45.5**	**+1.1**
PSGC				*i* S	**Sn**	**09 28 05.9**	**-0.2**
PSGCX	**Pisagua**	**1.69**	**134**		**Pn**	**09 27 45.4**	**+1.0**
MNMC	**Minye Minye**	**1.86**	**113**	⇑*i*P	**Pn**	**09 27 47.9**	**+1.0**
MNMC				*i* S	**Sb**	**09 28 12.1**	**-0.3**
MNMC				IAML		09 28 23.0	
	comp=E,15μm,0.7s						
MNMC	**Minye Minye**	**1.86**	**113**		**Pn**	**09 27 48.0**	**+1.2**
PB11	**IPOC Station P**	**2.13**	**129**	⇑*i*P	**Pn**	**09 27 51.9**	**+1.4**
PB11				*i* S	**Sn**	**09 28 17.9**	**+0.9**
PB11				IAML		09 28 25.9	
	comp=N,9μm,0.5s						
PB11	**IPOC Station P**	**2.13**	**129**		**Pn**	**09 27 51.9**	**+1.4**
TA02	**Huaiquique**	**2.21**	**147**	⇑*e*P	**Pn**	**09 27 52.7**	**+1.4**
TA02				*i* S	**Sn**	**09 28 19.1**	**+0.6**
TA02				IAML		09 28 20.8	
	comp=N,4μm,0.5s						
TA02	**Huaiquique**	**2.21**	**147**		**Pn**	**09 27 52.8**	**+1.4**
TA01	**Diego Aracena**	**2.44**	**152**	⇑*i*P	**Pn**	**09 27 55.5**	**+1.0**
TA01				*i* S	**Sn**	**09 28 21.9**	**-2.2**
TA01	**Diego Aracena**	**2.44**	**152**		**Pn**	**09 27 55.5**	**+1.0**
PB08	**IPOC Station P**	**2.74**	**129**	⇑*i*P	**Pn**	**09 28 00.5**	**+1.5**
PB08				*i* S	**Sn**	**09 28 33.7**	**+1.4**
PB08				IAML		09 28 55.5	
	comp=E,1μm,0.4s						
PB08	**IPOC Station P**	**2.74**	**129**		**Pn**	**09 28 00.5**	**+1.5**
PB01	**IPOC Station P**	**3.18**	**146**		**Pn**	**09 28 05.7**	**+0.8**
PB02	**IPOC Station P**	**3.23**	**154**	⇑*i*P	**Pn**	**09 28 06.6**	**+1.1**
PB02				*i* S	**Sn**	**09 28 41.6**	**-2.3**
PB02				IAML		09 28 45.4	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**3.60**	**157**	⇑*i*P	**Pn**	**09 28 11.4**	**+0.8**
PB07				*i* S	**Sn**	**09 28 49.7**	**-3.4**
PB07	**IPOC Station P**	**3.60**	**157**	Pn	**Pn**	**09 28 11.2**	**+0.6**
LPAZ	**La Paz**	**3.78**	**57**	Pn	**Pn**	**09 28 17.7**	**+4.2**
	comp=E,0.3nm,0.3s,baz=233,slow=12,SNR=11						
LPAZ				LR	LR	09 29 22.5	
	comp=E,530nm,18.5s,baz=263,slow=37						
LPAZ	**La Paz**	**3.78**	**57**	*e*P	**Pn**	**09 28 16.1**	**+2.6**
PB09	**IPOC Station P**	**3.94**	**149**		**Pn**	**09 28 17.2**	**+1.9**
PB04	**IPOC Station P**	**4.08**	**163**		**Pn**	**09 28 17.4**	**+0.1**
PB06	**IPOC Station P**	**4.61**	**158**		**Pn**	**09 28 24.6**	**+0.1**
LVC	**Limon Verde**	**4.79**	**151**	Pn	**Pn**	**09 28 29.1**	**+1.9**
	comp=E,43nm,0.3s,baz=344,slow=9.3,SNR=229						
LVC				Sn	**Sn**	**09 29 23.5**	**+0.7**
	comp=E,44nm,0.3s,baz=272,slow=23,SNR=11						
LVC				LR	LR	09 30 25.3	
	comp=E,953nm,19.5s,baz=320,slow=39						
LVC	**Limon Verde**	**4.79**	**151**	*e*P	**Pn**	**09 28 29.2**	**+1.9**
PB15	**IPOC Station P**	**5.11**	**160**		**Pn**	**09 28 31.4**	**0.0**
PB10	**IPOC Station P**	**5.14**	**171**		**Pn**	**09 28 31.5**	**-0.2**
PB14	**IPOC Station P**	**6.25**	**172**	Pn	**Pn**	**09 28 46.2**	**-1.1**
GO02	**Mina Guanaco**	**6.93**	**166**	Pn	**Pn**	**09 28 56.5**	**-0.1**
GO02					**Sn**	**09 30 14.2**	**-1.3**
NNA	**Nana**	**8.26**	**320**	Sn	**Sn**	**09 30 46.8**	**-1.2**
	comp=E,3.0nm,0.3s,baz=74,slow=21,SNR=1.9						
NNA	**Nana**	**8.26**	**320**	Pn	**Pn**	**09 29 15.8**	**+1.1**
AC02	**Maricunga**	**8.64**	**166**	Pn	**Pn**	**09 29 21.1**	**+0.8**
GO03	**Copiap**	**9.20**	**173**	Pn	**Pn**	**09 29 25.7**	**-1.9**
GO03					**Sn**	**09 31 07.3**	**-3.8**
AC04	**Llanos de Chal**	**9.75**	**178**	Pn	**Pn**	**09 29 32.8**	**-2.3**
ETMB	**Extrema**	**9.92**	**31**	*e*P	**Pn**	**09 29 35.4**	**-2.0**
SIV	**San Ignacio**	**10.17**	**78**	Pn	**Pn**	**09 29 43.1**	**+2.2**
	comp=E,7.4nm,0.3s,baz=284,slow=9.0,SNR=55						
SIV				LR	LR	09 33 56.8	
	comp=E,771nm,19.6s,baz=264,slow=41						
CZSB	**Cruzeiro do Su**	**10.69**	**353**	*e*P	**Pn**	**09 29 46.1**	**-1.9**
PTLB	**Pontes e Lacer**	**12.11**	**78**	*e*P	**Pn**	**09 30 05.5**	**-1.9**
AQDB	**Aquidauana**	**14.96**	**100**	Pn	**Pn**	**09 30 46.2**	**-0.1**
AQDB	**Aquidauana**	**14.96**	**100**	*e*P	**Pn**	**09 30 45.5**	**-0.9**
CPUP	**Villa Florida**	**15.21**	**124**	LR	LR	09 37 45.3	
	comp=E,153nm,20.1s,baz=280,slow=42						
CPUP	**Villa Florida**	**15.21**	**124**	*e*P	**Pn**	**09 30 50.0**	**+0.3**
SALV	**Santo Antonio**	**15.23**	**83**	*e*P	**Pn**	**09 30 49.8**	**-0.1**
PP1B	**Ponte de Pedra**	**15.75**	**90**	*e*P	**Pn**	**09 30 55.9**	**-0.8**
H03N1	**Juan Fernandez**	**16.41**	**203**	T	T	09 48 09.3	
	baz=20						
H03N2	**Juan Fernandez**	**16.41**	**203**	T	T	09 48 07.7	
	baz=20,slow=74,SNR=373						
H03N3	**Juan Fernandez**	**16.43**	**203**	T	T	09 48 06.9	
	baz=20,slow=74,SNR=148						
CLDB	**Colider**	**16.86**	**66**	*e*P	**Pn**	**09 31 10.4**	**-0.4**
MACA	**Manacapuru-AM**	**18.44**	**36**	*e*P	**P**	**09 31 28.6**	**-1.8**
ARAG	**Araguaiana, MT**	**18.93**	**85**	*e*P	**P**	**09 31 33.5**	**-2.3**
PCMB	**Pacaembu**	**19.20**	**103**	*e*P	**P**	**09 31 39.2**	**+0.5**
NPGB	**Novo Progresso**	**19.29**	**56**	*e*P	**P**	**09 31 37.6**	**-2.1**
CPSB	**Cacapava Do Su**	**20.23**	**130**	*e*P	**P**	**09 31 50.1**	**+0.3**
GCUF	**Volcan Galeras**	**20.37**	**343**	*e*P	Pn	09 31 59.3	+5.2
SNDB	**Serra Nova Dou**	**20.43**	**75**	*e*P	**P**	**09 31 49.8**	**-2.4**
ITTB	**Itaituba**	**20.73**	**50**	*e*P	**P**	**09 31 53.0**	**-2.4**
PLTB	**Pedras Altas**	**20.86**	**133**	P	**P**	**09 31 56.7**	**-0.1**
PLTB	**Pedras Altas**	**20.86**	**133**	*e*P	**P**	**09 31 56.6**	**-0.1**
GARC	**Garzon, Huila**	**20.86**	**348**	*e*P	**P**	**09 31 57.5**	**+0.4**
SOTA	**Rioblanco**	**21.05**	**345**	*e*P	**P**	**09 32 00.9**	**+1.5**
BBAC	**Balboa, Cauca**	**21.10**	**344**	*e*P	**P**	**09 32 01.7**	**+2.1**
PCON	**Cinco Dias**	**21.19**	**346**	*e*P	**P**	**09 32 03.2**	**+2.3**
TRQA	**Tornquist**	**21.24**	**159**	P	**P**	**09 32 02.0**	**+1.2**
TRQA				IAmb	IAmb	09 32 07.4	
	comp=Z,13nm,0.8s						
BETC	**Betania**	**21.33**	**349**	*e*P	**P**	**09 32 03.4**	**+1.4**
POPC	**Popayan, Colom**	**21.46**	**345**	*e*P	P	09 31 55.2	-8.3
IPMB	**Ipameri, GO**	**22.04**	**93**	*e*P	**P**	**09 32 09.2**	**-0.5**
PLCA	**Paso Flores**	**22.26**	**178**	P	**P**	**09 32 14.4**	**+2.6**
	comp=Z,7.5nm,1.0s,baz=350,slow=9.6,SNR=9.0						
PLCA	**Paso Flores**	**22.26**	**178**	P	**P**	**09 32 12.1**	**+0.3**
PLCA				IAmb	IAmb	09 32 16.1	
	comp=Z,34nm,1.5s						
PLCA	**Paso Flores**	**22.26**	**178**	*e*P	**P**	**09 32 15.4**	**+3.6**
ORTC	**Ortega, Tolima**	**22.50**	**350**	*e*P	**P**	**09 32 08.3**	**-6.2**
BDFB	**Brasilia**	**22.54**	**87**	P	**P**	**09 32 13.3**	**-1.8**
	comp=Z,12nm,0.5s,baz=264,slow=10,SNR=18						
BDFB				LR	LR	09 42 27.5	
	comp=Z,281nm,21.1s,baz=219,slow=41						
BDFB	**Brasilia**	**22.54**	**87**	P	**P**	**09 32 14.6**	**-0.5**
BDFB				IAmb	IAmb	09 32 15.4	
	comp=Z,14nm,0.6s						
RCLB	**Rio Claro- Sao**	**22.72**	**104**	*e*P	**P**	**09 32 16.9**	**0.0**
TER01	**Tubaro-SC**	**22.75**	**120**	*e*P	**P**	**09 32 17.9**	**+0.8**
YOTC	**Yotoco, Valle**	**22.78**	**347**	*e*P	**P**	**09 32 18.9**	**+1.3**
PEXB	**Peixe**	**23.15**	**78**	*e*P	**P**	**09 32 20.6**	**-0.8**
TOLC	**Tolima**	**23.17**	**350**	*e*P	**P**	**09 32 22.7**	**+0.8**
BOAV	**Boa Vista**	**23.29**	**29**	*e*P	**P**	**09 32 21.2**	**-1.5**
MALB	**Monte Alegre**	**23.53**	**48**	*e*P	**P**	**09 32 24.2**	**-0.9**
PLMC	**San Jos del P**	**23.66**	**348**	*e*P	**P**	**09 32 23.4**	**-3.0**
GUY2C	**Guyana, Caldas**	**23.81**	**350**	*e*P	**P**	**09 32 23.4**	**-4.9**
NORC	**Norcasia**	**24.07**	**352**	*e*P	**P**	**09 32 23.4**	**-6.9**
RUSC	**La Rusia**	**24.21**	**356**	P	**P**	**09 32 31.8**	**-0.3**
RUSC				IAmb	IAmb	09 32 50.6	
	comp=Z,10nm,0.6s						
RUSC	**La Rusia**	**24.21**	**356**	*e*P	**P**	**09 32 30.9**	**-1.2**
PRPB	**Parauapebas**	**24.32**	**63**	*e*P	**P**	**09 32 30.7**	**-1.9**
CBOC	**Ciudad Bolivar**	**24.55**	**349**	*e*P	**P**	**09 32 34.1**	**-0.7**
SMTB	**Santa Maria do**	**24.99**	**71**	*e*P	**P**	**09 32 38.7**	**0.0**
BSCB	**Bom Sucesso**	**25.20**	**100**	*e*P	**P**	**09 32 39.7**	**-0.9**
ZARC	**Zaragoza, Cauc**	**25.96**	**352**	*e*P	**P**	**09 32 43.7**	**-3.7**
MCPB	**Macapa, AP**	**26.14**	**49**	*e*P	**P**	**09 32 47.9**	**-1.2**
JANB	**Januaria**	**26.15**	**87**	*e*P	**P**	**09 32 48.4**	**-1.0**
DIAM	**Diamantina, MG**	**26.32**	**94**	*e*P	**P**	**09 32 50.0**	**-1.0**
SDV	**Santo Domingo**	**27.14**	**2**	LR	LR	09 45 01.6	
	comp=Z,237nm,19.2s,baz=207,slow=40						
SMLC	**San Martn de**	**27.17**	**354**	*e*P	**P**	**09 32 56.2**	**-2.1**
TMAB	**Tom-Au,PA,Br**	**27.86**	**58**	*e*P	**P**	**09 33 04.0**	**-0.6**
SJCC	**San Jacinto, C**	**28.37**	**352**	P	**P**	**09 33 08.5**	**-0.7**
BSFB	**Barra de Sao F**	**28.95**	**96**	*e*P	**P**	**09 33 14.3**	**-0.1**
RIB01	**Linhares ES**	**29.35**	**97**	*e*P	**P**	**09 33 16.1**	**-1.7**
NAN01	**Guarapari, ES**	**29.72**	**94**	*e*P	**P**	**09 33 19.6**	**-1.6**
MDP	**Montagnes des**	**29.81**	**40**	LR	LR	09 45 51.8	
	comp=Z,340nm,19.7s,baz=230,slow=38						
GUA01	**Guaratinga, BA**	**30.18**	**91**	*e*P	**P**	**09 33 24.1**	**-1.2**
GDU01	**Guandu, BA**	**30.92**	**86**	*e*P	**P**	**09 33 30.5**	**-1.3**
NBPN	**Ponto Novo - B**	**31.09**	**80**	*e*P	**P**	**09 33 31.5**	**-1.8**
NBPB	**Pedra_Branca-C**	**33.58**	**72**	*e*P	**P**	**09 33 54.3**	**-0.9**
NBMO	**Morrinhos-CE**	**34.17**	**68**	*e*P	**P**	**09 33 59.0**	**-1.3**
NBAN	**Anadia - AL**	**35.12**	**81**	*e*P	**P**	**09 34 06.5**	**-2.1**
RCBR	**Riachuelo**	**36.81**	**75**	P	**P**	**09 34 22.4**	**-0.7**
	comp=Z,8.7nm,0.6s,baz=282,slow=2.6,SNR=6.9						
NBPV	**Pedro Velho**	**37.15**	**76**	*e*P	**P**	**09 34 24.6**	**-1.3**
T57A	**Hurt**	**55.60**	**352**	P	**P**	**09 36 51.0**	**+0.6**
TXAR	**Lajitas Array**	**56.77**	**326**	P	**P**	**09 36 59.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=154,slow=9.0,SNR=2.9						
VNA3	**Neumayer Olymp**	**63.74**	**161**	P	**P**	**09 37 47.8**	**+1.6**
VNA1	**Neumayer--Stat**	**63.97**	**161**	P	**P**	**09 37 49.3**	**+1.7**
SDCO	**Great Sand Dun**	**64.41**	**330**	P	**P**	**09 37 51.0**	**-0.3**
SDCO				IAmb	IAmb	09 37 53.0	
	comp=Z,3.1nm,0.9s						
SNAA	**Sanae**	**65.95**	**161**	P	**P**	**09 38 01.8**	**+1.2**
SNAA	**Sanae**	**65.95**	**161**	P	**P**	**09 38 01.5**	**+0.9**
PV01	**Paradox Valley**	**66.19**	**329**	P	**P**	**09 38 04.2**	**+1.4**
PV01				IAmb	IAmb	09 38 06.3	
	comp=Z,5.9nm,1.4s						
SMCO	**Snowmass**	**66.25**	**330**	P	**P**	**09 38 04.6**	**+1.2**
PV15	**Paradox Valley**	**66.31**	**329**	P	**P**	**09 38 04.4**	**+0.8**
PV15				IAmb	IAmb	09 38 05.8	
	comp=Z,6.9nm,1.0s						
KNB	**Kanab**	**67.56**	**325**	P	**P**	**09 38 13.7**	**+2.2**
KNB				IAmb	IAmb	09 38 14.4	
	comp=Z,5.7nm,1.1s						
LCMT	**Little Creek M**	**67.78**	**325**	P	**P**	**09 38 14.9**	**+2.0**
SRU	**San Rafael Swe**	**67.92**	**328**	P	**P**	**09 38 14.9**	**+1.2**
CCUT	**Cedar City**	**68.24**	**325**	P	**P**	**09 38 17.2**	**+1.4**
CCUT				IAmb	IAmb	09 38 19.1	
	comp=Z,5.0nm,1.0s						
P17A	**Butcher Ranch,**	**68.31**	**328**	P	**P**	**09 38 16.2**	**+0.1**
P17A				IAmb	IAmb	09 38 17.6	
	comp=Z,3.8nm,1.0s						
MSU	**Marysvale**	**68.32**	**327**	P	**P**	**09 38 17.2**	**+1.0**
MVU	**Marysvale**	**68.33**	**327**	P	**P**	**09 38 18.3**	**+1.9**
SHPR	**Sheep Range**	**68.49**	**323**	P	**P**	**09 38 19.3**	**+2.0**
SHPR				IAmb	IAmb	09 38 20.1	
	comp=Z,3.8nm,1.1s						
PSUT	**Pine Spring**	**69.22**	**326**	P	**P**	**09 38 23.8**	**+1.9**
PSUT				IAmb	IAmb	09 38 40.1	
	comp=Z,3.5nm,1.0s						
TPNV	**Topopah Spring**	**69.42**	**323**	P	**P**	**09 38 24.7**	**+1.6**
TPNV				IAmb	IAmb	09 38 26.2	
	comp=Z,4.2nm,1.1s						
SPR3	**Spring Creek 3**	**69.82**	**326**	P	**P**	**09 38 27.2**	**+1.5**
DUG	**Dugway, Tooele**	**69.90**	**327**	P	**P**	**09 38 27.4**	**+1.4**
DUG				IAmb	IAmb	09 38 29.0	
	comp=Z,7.8nm,1.5s						
R11A	**Troy Canyon, C**	**70.03**	**324**	P	**P**	**09 38 28.8**	**+1.9**
PDAR	**Pinedale Array**	**70.28**	**331**	P	**P**	**09 38 28.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=129,slow=7.0,SNR=4.9						
HWUT	**Hardware Ranch**	**70.33**	**329**	P	**P**	**09 38 29.4**	**+0.8**
NVAR	**Mina Array Bea**	**71.62**	**323**	P	**P**	**09 38 38.1**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=156,slow=6.8,SNR=8.6						
QSPA	**South Pole Qui**	**71.76**	**180**	P	**P**	**09 38 38.9**	**+1.9**
	comp=Z,3.3nm,0.5s,baz=165,slow=0.8,SNR=39						
QSPA	**South Pole Qui**	**71.76**	**180**	P	**P**	**09 38 37.0**	**0.0**
QSPA				IAmb	IAmb	09 38 39.3	
	comp=Z,4.7nm,0.6s						
YNE	**Yellowstone No**	**72.23**	**332**	P	**P**	**09 38 41.4**	**+1.2**
YHH	**Holmes Hill**	**72.44**	**332**	P	**P**	**09 38 43.8**	**+2.4**
YHH				IAmb	IAmb	09 38 44.1	
	comp=Z,7.2nm,1.5s						
PAHR	**Pah Rah Range**	**73.11**	**323**	P	**P**	**09 38 45.4**	**+0.1**
MFID	**Camas Ranch**	**73.79**	**328**	P	**P**	**09 38 50.6**	**+1.4**
MFID				IAmb	IAmb	09 38 51.8	
	comp=Z,6.5nm,1.2s						
ORV	**Oroville**	**74.23**	**322**	P	**P**	**09 38 53.9**	**+2.2**
ORV				IAmb	IAmb	09 38 54.6	
	comp=Z,5.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**78.59**	**72**	P	**P**	**09 39 15.4**	**-1.6**
	comp=Z,4.6nm,0.6s,baz=250,slow=5.6,SNR=33						
TORD	**Torodi Ar. Bea**	**78.59**	**72**	P	**P**	**09 39 15.6**	**-1.4**
TORD				IAmb	IAmb	09 39 16.2	
	comp=Z,3.5nm,0.8s						
VNDA	**Vanda**	**79.46**	**190**	P	**P**	**09 39 23.5**	**+2.8**
	comp=Z,0.9nm,0.8s,baz=100,slow=3.9,SNR=4.9						
VNDA	**Vanda**	**79.46**	**190**	IAmb	IAmb	09 39 23.8	
	comp=Z,3.3nm,1.2s						
ESDC	**Sonseca Array**	**85.33**	**46**	P	**P**	**09 39 52.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=251,slow=5.7,SNR=10						
ESDC	**Sonseca Array**	**85.33**	**46**	P	**P**	**09 39 52.6**	**+0.6**
ESDC				IAmb	IAmb	09 40 01.1	
	comp=Z,4.1nm,1.2s						
YKA	**Yellowknife Ar**	**87.52**	**341**	P	**P**	**09 40 01.9**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=137,slow=5.1,SNR=12						
H11S2	**WAKE ISLAND Hyl**	**25.09**	**280**	T	T	12 03 49.5	
	baz=100,slow=74,SNR=538						
H11S1	**WAKE ISLAND Hyl**	**25.10**	**280**	T	T	12 03 50.0	
	baz=100,slow=74,SNR=349						
H11N3	**WAKE ISLAND Hyl**	**25.10**	**282**	T	T	12 03 59.9	
	baz=99,slow=74,SNR=44						
H11S3	**WAKE ISLAND Hyl**	**25.11**	**280**	T	T	12 03 50.7	
	baz=100,slow=74,SNR=368						
H11N2	**WAKE ISLAND Hyl**	**25.12**	**282**	T	T	12 03 47.0	
	baz=99,slow=74,SNR=45						
H11N1	**WAKE ISLAND Hyl**	**25.12**	**281**	T	T	12 03 55.5	
	baz=99,slow=74,SNR=44						
ASAR	**Alice Springs**	**131.42**	**212**	PKP	**PKPdf**	**09 46 28.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=117,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**134.27**	**215**	PKP	**PKPdf**	**09 46 33.7**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=142,slow=1.8,SNR=17						
ZALV	**Zalesovo Beam**	**140.07**	**22**	PKP	**PKPdf**	**09 46 44.0**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=267,slow=2.8,SNR=4.4						
MKAR	**Makanchi Array**	**144.38**	**32**	PKP	**PKPab**	**09 46 49.4**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=328,slow=4.4,SNR=19						
MKAR	**Makanchi Array**	**144.38**	**32**		**PKPab**	**09 46 49.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**147.65**	**328**	PKPbc	**PKPbc**	**09 47 00.2**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=60,slow=5.5,SNR=6.2						
MJAR	**Matsushiro Arr**	**148.30**	**311**	PKPbc	**PKPbc**	**09 47 02.1**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=288,slow=0.8,SNR=7.4						
SONM	**Songino Array**	**150.60**	**3**	PKPbc	**PKPbc**	**09 47 07.3**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=308,slow=1.1,SNR=14						

*IDC **20** 09:30:37.8±4.3, 9°.54N×127°.61E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/47, mbtmp3.4/3, Error ellipse: s-maj=319.4km s-min=29.4km az=67.0*
*MAN **20** 09:30:44.9, 9°.16N×126°.65E, h6km, mb4.4, ML3.2, MS2.9*
ISC 20 09:30:41.6±1.4,**9°.19N**±0°.09×**126°.78E**±0°.09,**h10**km,**n7**, σ1$60/10,**mb3.4**/3,**3D**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.11**	**297**	⇓*i*P	**Pb**	**09 31 21.4**	**+1.4**
BUKP	**Musuan**	**2.14**	**233**	⇓*i*P	**Pn**	**09 31 20.2**	**+2.8**
BUKP				*i* S	**Sg**	**09 31 49.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.18**	**251**	⇓*e*P	**Pn**	**09 31 19.4**	**+1.4**
CGP				*e*S	**Sb**	**09 31 47.1**	**-1.3**
LLP	**Lapu-Lapu**	**2.99**	**292**	*e*P	**Pb**	**09 31 33.9**	**-1.1**
LLP				*e*S	**Sb**	**09 32 11.1**	**-0.5**
WRA	**Warramunga Arr**	**29.89**	**166**	P	**P**	**09 36 49.3**	**-0.4**
	0.4nm,0.8s,baz=348,slow=9.3,SNR=1.3						
ASAR	**Alice Springs**	**33.39**	**168**	P	**P**	**09 37 19.2**	**-1.3**
	0.3nm,0.7s,baz=354,slow=7.2,SNR=5.4						
MKAR	**Makanchi Array**	**53.19**	**323**	P	**P**	**09 39 59.4**	**-0.6**
	0.3nm,0.5s,baz=120,slow=7.5,SNR=4.0						

IDC 20 09:32:15.8±6.9,**18°.71S**×**70°.95W**,**h97**km±41km,**mb3.5**/1, **mb1 3.4**/4,**mb1mx3.2**/26,**mbtmp3.8**/4,**Error ellipse: s-maj=108.9km s-min=33.5km az=105.0**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.61**	**49**	P	Pn	09 33 10.4	0.0
	1.6nm,0.3s,baz=242,slow=11,SNR=8.1						
LVC	**Limon Verde**	**4.33**	**154**	P	Pn	09 33 19.7	-0.1
	5.4nm,0.3s,baz=342,slow=11,SNR=7.4						
SIV	**San Ignacio**	**9.81**	**76**	P	Pn	09 34 34.0	-0.1
	0.8nm,0.3s,baz=292,slow=16,SNR=1.6						
TORD	**Torodi Ar. Bea**	**78.27**	**72**	P	P	09 44 05.7	+0.1
	0.5nm,0.5s,baz=259,slow=5.0,SNR=2.7						
MKAR	**Makanchi Array**	**144.40**	**32**	PKP	PKPdf	09 51 40.1	-0.7
	0.3nm,0.6s,baz=301,slow=5.0,SNR=4.2						

*NNC **20** 09:38:40.5±3.3, 54°.30N×86°.86E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=25.1km s-min=13.5km az=72.0, Suspected Mining explosion.*
IDC 20 09:38:39.8±3.4,**54°.35N**×**87°.22E**,**h0**km,**mb1 3.2**/2, **mb1mx3.0**/57,**mbtmp3.2**/2,**ML2.8**/2,**4C-3D**,**Error ellipse: s-maj=33.0km s-min=20.5km az=43.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**255**	*i*		09 47 10.0	
	baz=76,slow=311,SNR=1.8						
ZAA0	**Zalesovo Array**	**1.47**	**255**	⇑Pn	Pn	09 39 05.3	-2.1
	0.3nm,0.3s,baz=79,slow=14						
ZAA0				⇓Sn	Sg	09 39 23.3	-3.6
	1.0nm,0.4s,baz=71,slow=24						
ZALV	**Zalesovo Beam**	**1.47**	**255**	Pg	Pn	09 39 05.4	-2.0
	2.2nm,0.3s,baz=69,slow=17,SNR=12						
ZALV				Lg	Lg	09 39 26.4	
	1.7nm,0.3s,baz=71,slow=22,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.48**	**238**	Pn	Pn	09 40 17.4	+1.0
	0.1nm,0.3s,baz=56,slow=14,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.48**	**238**	⇓Pn	Pn	09 40 14.2	-2.1
	2.3nm,0.6s						
KURBB				⇑Sn	Sn	09 41 30.0	-1.0
	2.1nm,0.6s						
KURBB				⇓Lg	Lg	09 42 01.2	
	2.7nm,0.7s						
MK31	**Makanchi Array**	**8.18**	**204**	⇑Pn	Pn	09 40 37.9	-1.8
	0.3nm,0.6s,baz=28,slow=14,SNR=8.3						
MK31				⇑Lg	Lg	09 42 57.0	
MKAR	**Makanchi Array**	**8.18**	**204**	Pn	Pn	09 40 40.7	+1.0
	0.2nm,0.3s,baz=26,slow=14,SNR=7.9						

*NOU **20** 09:45:30.7, 32°.06S×139°.14E, h0km, ML4.0, Near Coast of South Australia*
*AUST **20** 09:45:30.8±1.0, 32°.16S×139°.25E, h10km, Error ellipse: s-maj=12.9km s-min=10.4km az=48.0*
*IDC **20** 09:45:32.9±5.0, 31°.62S×139°.31E, h0km, mb1 3.7/2, mb1mx3.4/31, mbtmp3.4/2, ML3.3/2, Error ellipse: s-maj=91.9km s-min=16.6km az=27.0*
ISC 20 09:45:29.6±0.9,**32°.07S**±0°.07×**139°.18E**±0°.05,**h10**km,**n7**, σ1$58/13,**Near coast of South Australia**

| Code |

VA01 **Torpederas** 3.51 41 *e*P Pn 09 48 32.7 -2.0
VA01 *i* S Sn 09 49 12.3 -3.7
VA01 IAML 09 49 14.8
comp=E,1µm,0.4s
VA01 **Torpederas** 3.51 41 Pn 09 48 32.4 -2.3
MT02 **Curacav** 3.62 48 *e*P Pn 09 48 34.5 -1.9
MT02 *i* S Sn 09 49 16.0 -3.1
MT02 IAML 09 49 16.7
comp=E,876nm,0.6s
MT02 **Curacav** 3.62 48 Pn Pn 09 48 34.3 -2.1
LC01 **Cunco** 3.75 149⇓ *e*P Pn 09 48 37.1 -1.0
LC01 *e*S Sn 09 49 18.2 -3.9
LC01 IAML 09 49 21.9
comp=E,589nm,0.4s
LC01 **Cunco** 3.75 149 Pn 09 48 37.0 -1.1
LC01 **Cunco** 3.75 149 *i* P Pn 09 48 37.6 -0.5
LC01 IAML 09 49 28.8
comp=Z,492nm,1.1s
MT05 **Renca** 3.79 53 *e*P Pn 09 48 37.4 -1.3
MT05 *i* S Sn 09 49 20.8 -2.5
MT05 **Renca** 3.79 53 Pn 09 48 37.6 -1.1
MT03 **Universidad Ad** 3.88 56 Pn 09 48 38.9 -1.0
MT03 **Universidad Ad** 3.88 56 *i* P Pn 09 48 38.8 -1.2
MT03 ⇓*e*S Sn 09 49 23.6 -1.9
MT03 IAML 09 49 29.7
comp=Z,1µm,1.1s
EDS3 **Malargue** 4.05 92 *i* P Pn 09 48 45.1 +2.8
H03S1 **Juan Fernandez** 4.17 295 Pn Pn 09 48 41.3 -2.3
baz=78,slow=12,SNR=307
H03S1 T T 09 52 56.6
baz=115,slow=72,SNR=25
H03S3 **Juan Fernandez** 4.18 295 Pn Pn 09 48 41.5 -2.3
baz=78,slow=12,SNR=202
H03S3 T T 09 52 53.6
baz=115,slow=72,SNR=16
H03S2 **Juan Fernandez** 4.19 295 Pn Pn 09 48 41.4 -2.4
baz=78,slow=12,SNR=435
H03S2 T T 09 52 51.7
baz=115,slow=72,SNR=12
VA03 **San Esteban** 4.32 48 Pn 09 48 45.1 -0.9
VA03 **San Esteban** 4.32 48 *i* P Pn 09 48 44.6 -1.4
VA03 *e*S Sn 09 49 33.4 -3.0
VA03 IAML 09 49 35.8
comp=Z,2µm,1.0s
RFA **San Rafael** 4.93 81 *i* P Pn 09 48 55.0 +0.7
RFA *e*S Sb 09 50 08.7 +2.8
RFA IAML 09 50 10.2
comp=Z,337nm,2.0s
AAGR **Agrelo** 5.28 62 *i* P Pn 09 49 00.6 +1.3
AAGR *e*S Sn 09 50 02.4 +2.4
AAGR IAML 09 50 22.7
comp=Z,191nm,2.8s
CO02 **Combarbal** 5.31 33 Pn 09 48 57.9 -1.8
ARCO **CERRO ARCO** 5.34 59 *i* P Pn 09 49 01.4 +1.3
ARCO *e*S Sn 09 50 05.6 +4.0
ARCO IAML 09 50 07.9
comp=Z,338nm,0.9s
LL04 **Puerto Octay** 5.41 164 Pn 09 48 58.5 -2.4
ASAL **Salagasta** 5.55 57 *i* P Pn 09 49 04.0 +1.1
ASAL *e*S Sn 09 50 09.8 +3.2
ASAL IAML 09 50 14.5
comp=Z,103nm,0.6s
LL03 **Petrohue** 5.63 165 Pn 09 49 03.9 0.0
RTLS **Leoncito** 5.76 49 *i* P Pn 09 49 06.8 +0.8
RTLS *e*S Sn 09 50 12.9 +0.9
RTLS IAML 09 50 16.3
comp=Z,132nm,0.9s
PLCA **Paso Flores** 5.84 150 Pn Pn 09 49 07.0 +0.1
comp=Z,14nm,0.3s,baz=320,slow=11,SNR=155
PLCA LR LR 09 51 22.5
comp=Z,2µm,18.8s,baz=348,slow=39
PLCA **Paso Flores** 5.84 150 Pn 09 49 06.9 0.0
PLCA **Paso Flores** 5.84 150 *e*P Pn 09 49 07.2 +0.3
PLCA **Paso Flores** 5.84 150 *i* P Pn 09 49 06.9 0.0
PLCA IAML 09 50 31.7
comp=Z,107nm,0.6s
GO04 **Tololo Observa** 6.29 30 Pn Pn 09 49 11.0 -2.2
ZON **Zonda** 6.31 50 Pn Pn 09 49 13.3 0.0
LL07 **Hotel Espejo d** 7.14 175 Pn Pn 09 49 23.4 -1.2
LCO **Las Campanas** 7.37 26 Pn Pn 09 49 27.4 -0.6
GO07 **Milladeo Hill,** 7.41 176 Pn 09 49 26.4 -1.9
LL02 **Futaleuf** 7.72 166 Pn Pn 09 49 32.0 -0.5
AC04 **Llanos de Chal** 7.99 21 Pn 09 49 33.7 -2.7
GO03 **Copiap** 8.83 25 Pn 09 49 45.7 -2.2
AC02 **Maricunga** 9.92 28 Pn Pn 09 50 02.0 -1.2
COYC **Coyhaique** 10.00 171 Pn Pn 09 50 03.9 +0.1
TRQA **Tornquist** 10.20 107 Pn 09 50 07.6 +1.0
GO02 **Mina Guanaco** 11.29 23 Pn Pn 09 50 19.9 -2.1
LVC **Limon Verde** 13.90 21 Pn Pn 09 50 56.3 -1.2
comp=Z,0.4nm,0.3s,baz=354,slow=19,SNR=2.9
LVC LR LR 09 56 15.6
comp=Z,528nm,18.6s,baz=212,slow=37
LVC **Limon Verde** 13.90 21 Pn Pn 09 50 56.1 -1.5
LVC **Limon Verde** 13.90 21 *e*P Pn 09 50 58.3 +0.7
PB07 **IPOC Station P** 14.48 17 Pn Pn 09 51 00.9 -4.4
PSGCX **Pisagua** 16.49 14 P Pn 09 51 28.3 -3.3
MNMC **Minye Minye** 17.05 16 P Pn 09 51 35.4 -3.6
MNMC IAmb IAmb 09 52 00.3
comp=Z,90nm,1.1s
CPUP **Villa Florida** 17.33 62 P Pn 09 51 37.8 -4.3
comp=Z,0.2nm,0.3s,baz=238,slow=9.9,SNR=3.8
CPUP LR LR 09 59 17.5
comp=Z,354nm,21.1s,baz=238,slow=40
CPUP **Villa Florida** 17.33 62 P P 09 51 43.8 +0.3
CPUP IAmb IAmb 09 51 55.5
comp=Z,17nm,0.8s
CPUP **Villa Florida** 17.33 62 *e*P P 09 51 45.3 +1.8
PLTB **Pedras Altas** 17.71 83 Pn 09 51 45.3 -1.6
CPSB **Cacapava Do Su** 18.32 79 *e*P P 09 51 55.4 +1.0
EFI **East Falkland** 19.77 149 P P 09 52 10.5 +0.4
LPAZ **La Paz** 20.13 18 P P 09 52 17.0 +2.0
comp=Z,38nm,1.1s,baz=184,slow=8.2,SNR=25
LPAZ **La Paz** 20.13 18 *e*P Pn 09 52 17.9 +1.1
LPAZ **La Paz** 20.13 18 *e*P P 09 52 16.3 +1.3
AQDB **Aquidauana** 22.34 52 P P 09 52 38.1 -0.1
AQDB IAmb IAmb 09 52 43.9
comp=Z,64nm,1.2s
TER01 **Tubaro-SC** 22.51 79 *e*P P 09 52 40.8 +0.9
TRCB **Terra Rica** 22.86 62 *e*P P 09 52 44.9 +1.1
SIV **San Ignacio** 22.95 35 P P 09 52 44.5 -0.2
comp=Z,20nm,1.0s,baz=231,slow=12,SNR=40
NNA **Nana** 23.73 354 LR LR 10 00 07.1
comp=Z,400nm,18.9s,baz=186,slow=32
PTLB **Pontes e Lacer** 24.35 38 *e*P P 09 52 58.5 +0.3
PCMB **Pacaembu** 24.59 61 *e*P P 09 53 01.3 +0.8
FRTB **Fartura** 24.78 67 *e*P P 09 53 03.6 +1.4
PP1B **Ponte de Pedra** 25.00 49 *e*P P 09 53 04.3 +0.2
SALV **Santo Antonio** 25.84 45 *e*P P 09 53 12.0 +0.2
PET01 **Itanhaem-SP** 26.00 71 *e*P P 09 53 16.0 +2.8
VILB **Vilhena** 26.02 33 *e*P P 09 53 13.5 +0.1
SPB **Sao Paulo** 26.26 70 *e*P P 09 53 17.0 +1.5
ITRB **Iturama** 26.48 59 *e*P P 09 53 18.9 +1.3
ETMB **Extrema** 26.83 18 *e*P P 09 53 21.8 +1.1
RCLB **Rio Claro- Sao** 26.84 68 *e*P P 09 53 23.9 +3.0
BB19B **Bebedouro** 26.91 64 *e*P P 09 53 23.2 +1.7
VAO **Valinhos** 26.94 69 *e*P P 09 53 24.8 +3.0
CZSB **Cruzeiro do Su** 27.90 4 *e*P P 09 53 31.1 +0.8
ARAG **Araguaiana, MT** 28.34 51 *e*P P 09 53 35.6 +1.3
ATAH **Atahualpa** 28.68 352 P P 09 53 40.2 +2.5
comp=Z,3.7nm,0.9s,baz=182,slow=16,SNR=4.8
ATAH LR LR 10 02 39.0
comp=Z,263nm,18.6s,baz=195,slow=31
IPMB **Ipameri, GO** 29.13 60 *e*P P 09 53 43.8 +2.4
BSCB **Bom Sucesso** 29.75 68 *e*P P 09 53 48.9 +2.1
CLDB **Colider** 29.93 39 *e*P P 09 53 48.3 0.0
VAS01 **Vassouras-RJ** 30.05 72 *e*P P 09 53 51.8 +2.4
BDFB **Brasilia** 30.88 56 P P 09 53 56.5 -0.5
comp=Z,6.7nm,0.9s,baz=227,slow=5.4,SNR=4.9
BDFB LR LR 10 08 04.9
comp=Z,620nm,18.3s,baz=293,slow=40
DUB01 **Friburgo-RJ** 30.98 73 *e*P P 09 53 59.5 +1.8
TBTG **Tabatinga, AM** 31.64 9 *e*P P 09 54 04.1 +0.6
CAM01 **Campos-RJ** 31.68 73 *e*P P 09 54 05.8 +2.0
DIAM **Diamantina, MG** 32.21 66 *e*P P 09 54 09.5 +0.8
MC01 **Montes Claros** 33.02 63 *e*P P 09 54 15.8 +0.1
PEXB **Peixe** 33.28 52 *e*P P 09 54 17.8 -0.1
JANB **Januaria** 33.85 60 *e*P P 09 54 22.9 0.0
BSFB **Barra de Sao F** 34.01 69 *e*P P 09 54 25.3 +1.1
MACA **Manacapuru-AM** 34.78 24 *e*P P 09 54 31.3 +0.4
NAN01 **Guarapari, ES** 35.14 69 *e*P P 09 54 34.1 +0.1
SDBA **SAO DESIDERIO** 35.29 56 *e*P P 09 54 35.6 +0.3
ITTB **Itaituba** 35.62 33 *e*P P 09 54 38.1 0.0
PTLC **Puerto Leguiza** 35.70 359 *e*P P 09 54 37.3 -1.5

OTAV **Otavalo** 35.97 353 P P 09 54 42.8 +1.2
OTAV **Otavalo** 35.97 353 *e*P P 09 54 41.5 -0.1
PAC1 **Pacto, Paraso** 36.03 352 *e*P P 09 54 41.8 0.0
SMTB **Santa Maria do** 36.21 49 *e*P P 09 54 43.3 +0.1
CMC01 **Camacan, BA** 37.13 66 *e*P P 09 54 52.4 +1.3
BBAC **Balboa, Cauca** 37.64 355 *e*P P 09 54 56.8 +1.3
MACC **Macarena, Meta** 37.67 1 *e*P P 09 54 56.0 +0.4
SOTA **Rioblanco** 37.71 356 *e*P P 09 54 57.8 +1.4
PCON **Cinco Dias** 37.89 357 *e*P P 09 54 58.9 +0.9
GUVC **San Jose del G** 38.09 3 *e*P P 09 54 58.7 -0.4
POPC **Popayan, Colom** 38.12 356 *e*P P 09 54 52.8 -6.8
ORTC **Ortega, Tolima** 39.42 359 *e*P P 09 55 10.5 +0.1
YOTC **Yotoco, Valle** 39.53 357 *e*P P 09 55 11.1 -0.2
VILC **Villavicencio,** 39.62 1 *e*P P 09 55 11.1 -1.0
NBPN **Ponto Novo - B** 39.64 60 *e*P P 09 55 13.0 +0.9
BOAV **Boa Vista** 40.06 22 *e*P P 09 55 15.8 +0.1
TOLC **Tolima** 40.10 359 *e*P P 09 55 16.7 +0.4
CHIC **Chingaza** 40.14 1 *e*P P 09 55 17.7 +1.0
ROSC **El Rosal** 40.34 0 P P 09 55 22.4 +4.0
comp=Z,6.0nm,0.3s,baz=211,slow=12,SNR=4.7
ROSC LR LR 10 11 35.5
comp=Z,274nm,18.3s,baz=232,slow=36
PLMC **San Jos del P** 40.45 357 *e*P P 09 55 17.8 -1.1
GUY2C **Guyana, Caldas** 40.73 358 *e*P P 09 55 23.6 +1.9
MCPB **Macapa, AP** 40.85 35 *e*P P 09 55 23.6 +1.4
NORC **Norcasia** 41.06 359 *e*P P 09 55 27.0 +3.1
TMAB **Tom-Au,PA,Br** 41.15 42 *e*P P 09 55 25.7 +1.0
CBOC **Ciudad Bolivar** 41.39 358 *e*P P 09 55 27.7 +1.0
RUSC **La Rusia** 41.40 2 P P 09 55 28.7 +1.5
RUSC **La Rusia** 41.40 2 *e*P P 09 55 27.8 +0.5
HELC **Santa Helena** 41.70 358 *e*P P 09 55 30.5 +1.0
DBBC **Dabeiba** 42.54 357 *e*P P 09 55 37.4 +1.4
ELOV **Elorza** 42.74 7 *e*P P 09 55 36.4 -1.1
ZARC **Zaragoza, Cauc** 42.98 359 *e*P P 09 55 39.4 -0.1
UREC **San Jos de Ur** 43.25 358 *e*P P 09 55 39.4 -2.3
NBPB **Pedra_Branca-C** 43.86 55 *e*P P 09 55 47.6 +0.8
SOCV **Socops** 43.89 5 *e*P P 09 55 45.5 -1.4
SMLC **San Martn de** 44.28 0 *e*P P 09 55 49.4 -0.6
NBLV **Livramento - P** 44.38 60 *e*P P 09 55 51.8 +0.8
LL2C **La Loma 2 Cana** 45.03 1 *e*P P 09 55 54.5 -1.5
SJCC **San Jacinto, C** 45.37 359 P P 09 55 58.9 +0.1
SJCC **San Jacinto, C** 45.37 359 *e*P P 09 56 01.0 +2.3
NBPA **Parau_RN** 45.39 58 *e*P P 09 56 00.3 +1.3
RIMA **Rio Macho** 46.11 347 P P 09 56 04.2 -0.6
COVE **Coope Vega, Sa** 47.14 347 P P 09 56 12.1 -0.6
VNA3 **Neumayer Olymp** 48.52 157 P P 09 56 23.3 +0.5
VNA1 **Neumayer--Stat** 48.87 156 P P 09 56 26.3 +0.9
SNAA **Sanae** 50.74 157 P P 09 56 40.1 +0.4
SNAA **Sanae** 50.74 157 P P 09 56 40.0 +0.3
comp=Z,16nm,0.9s,baz=271,slow=7.1,SNR=59
SNAA **Sanae** 50.74 157 P 09 56 39.9 +0.1
TGUH **Tegucigalpa,Un** 50.98 344 P P 09 56 40.8 -1.4
CBYP **Canovanas** 54.29 10 P P 09 57 05.6 -0.9
QSPA **South Pole Qui** 54.52 180 P P 09 57 06.8 -1.1
TLIG **Tlapa** 57.73 332 IAmb IAmb 09 57 34.4
comp=Z,12nm,1.1s
SBA **Scott Base** 61.00 192 P P 09 57 54.7 +1.6
SBA IAmb IAmb 09 58 10.4
comp=Z,14nm,1.2s
VNDA **Vanda** 62.04 192 P P 09 58 01.5 +1.4
comp=Z,3.6nm,1.0s,baz=154,slow=3.8,SNR=13
VNDA **Vanda** 62.04 192 P P 09 58 00.5 +0.5
DWPF **Disney Wildern** 63.83 353 P P 09 58 12.4 -0.1
baz=174
TBI **Tubuai** 65.07 258 *e*LR LR 10 17 48.0
comp=Z,428nm,30.5s
TIGA **Tifton** 67.36 351 P P 09 58 34.7 -0.5
baz=172
BRAL **Brewton** 67.59 348 P P 09 58 37.2 +0.5
baz=169
833A **Chaparral WMA,** 67.92 336 P P 09 58 39.9 +1.0
baz=158
TIAR **Tiarei** 67.94 264 *e*P P 09 58 41.5 +2.1
comp=Z,3.7nm,1.0s
PPT2 **Papeete2** 68.11 264 *e*S S 10 07 41.4 +1.0
comp=Z,210nm,24.8s
PPT2 **Papeete2** 68.11 264 *e*LR LR 10 19 12.3
comp=Z,509nm,29.2s
PPT **Papeete** 68.12 264 LR LR 10 22 46.7
comp=Z,124nm,18.2s,baz=124,slow=31
NHSC **New Hope** 68.68 355 P P 09 58 43.3 -0.2
baz=175
152A **Waverly Hall** 68.71 351 IAmb IAmb 09 58 47.4
comp=Z,10.0nm,1.0s
342A **Flagon Creek P** 68.83 344 P P 09 58 43.7 -0.8
VBMS **Vicksburg** 69.25 345 P P 09 58 48.1 +1.1
baz=166
GOGA **Godfrey** 69.29 352 P P 09 58 46.9 -0.3
baz=172
GOGA **Godfrey** 69.29 352 IAmb IAmb 09 58 57.3
comp=Z,10.0nm,1.0s
LRAL **Lakeview Retre** 69.41 349 P P 09 58 48.0 0.0
baz=169,SNR=5.6
435B **Jarrell** 69.65 339 P P 09 58 50.1 +0.5
baz=160
NATX **Nacogdoches** 69.77 342 P P 09 58 51.2 +1.0
baz=163
HODGE **Hodges** 69.97 353 P P 09 58 50.6 -0.9
HODGE IAmb IAmb 09 58 55.5
comp=Z,15nm,1.1s
JCT **Junction City** 70.05 337 P P 09 58 52.3 +0.2
baz=158
TXAR **Lajitas Array** 70.34 333 P P 09 58 54.9 +1.0
comp=Z,17nm,1.0s,baz=146,slow=9.1,SNR=51
TXAR LR LR 10 25 37.1
comp=Z,100nm,18.8s,baz=0.0,slow=32
CNNC **Cliffs of the** 70.67 357 P P 09 58 55.9 +0.2
baz=177
WHTX **Lake Whitney,** 70.75 339 P P 09 58 56.7 +0.5
baz=160
WHTX **Lake Whitney,** 70.75 339 P P 09 58 55.9 -0.4
Z41A **Richland Creek** 70.75 344 P P 09 58 56.9 +0.7
baz=164
KMSC **Kings Mountain** 70.79 354 P P 09 58 56.4 -0.1
baz=174
BG3 **Lake Jocassee** 70.80 353 IAmb IAmb 09 59 00.9
comp=Z,13nm,1.1s
W52A **Murphy** 71.01 352 IAmb IAmb 09 59 10.4
comp=Z,14nm,1.1s
OXF **Oxford** 71.26 347 P P 09 58 59.3 0.0
baz=167
Z38A **Mt. Pleasant** 71.28 342 P P 09 59 00.9 +1.5
V53A **Saluda** 71.45 353 P P 09 58 59.2 -1.3
PLAL **Pickwick Lake** 71.49 348 IAmb IAmb 09 59 01.7
comp=Z,15nm,1.1s
TKL **Tuckaleechee C** 71.55 352 IAmb IAmb 09 59 11.5
comp=Z,11nm,1.0s
X43A **Merill** 71.55 346 P P 09 59 02.0 +1.0
baz=166
U59A **Littleton** 71.77 357 IAmb IAmb 09 59 03.4
comp=Z,14nm,1.1s
U56A **King** 71.91 355 IAmb IAmb 09 59 14.1
comp=Z,14nm,1.0s
X40A **Basin Creek Fa** 71.94 344 P P 09 59 03.3 -0.1
baz=164
ABTX **Abilene, Hawle** 71.99 338 P P 09 59 04.2 +0.4
baz=159
ABTX **Abilene, Hawle** 71.99 338 P P 09 59 03.6 -0.2
MAW **Mawson** 72.07 164 P P 09 59 03.9 0.0
comp=Z,12nm,0.9s,baz=225,slow=7.5,SNR=13
MAW LR LR 10 30 46.9
comp=Z,82nm,18.2s,baz=236,slow=36
MAW **Mawson** 72.07 164 P 09 59 04.6 +0.7
MIAR **Mount Ida** 72.16 343 P P 09 59 05.0 +0.2
baz=164
TZTN **Tazewell** 72.40 352 P P 09 59 05.8 -0.3
baz=172
W41B **Gary Mavity, V** 72.47 345 P P 09 59 06.8 +0.3
baz=165
WVT **Waverly** 72.57 349 P P 09 59 06.9 -0.2
baz=169
WVT **Waverly** 72.57 349 P P 09 59 06.3 -0.9
BLA **Blacksburg** 72.78 355 P P 09 59 08.2 -0.2
baz=175
W39A **Magazine** 72.83 343 P P 09 59 09.3 +0.6
baz=164
MNTX **Cornudas Mount** 73.10 333 P P 09 59 10.5 0.0
baz=154
MNTX **Cornudas Mount** 73.10 333 IAmb IAmb 09 59 14.9
comp=Z,13nm,1.1s
LCAR **Lake Charles** 73.11 346 P P 09 59 09.4 -0.9
FCAR **Ozark Folk Cen** 73.13 345 P P 09 59 09.4 -1.1
FCAR IAmb IAmb 09 59 14.5
comp=Z,11nm,0.9s
S54A **Dingess, Beckl** 73.43 354 IAmb IAmb 09 59 15.9

comp=Z,8.5nm,0.8s
CBN **Corbin Frederi** 73.60 358 P P 09 59 13.1 -0.1
baz=178
WMOK **Wichita Mounta** 73.70 339 P P 09 59 13.8 -0.1
baz=160
U40A **Yellville** 73.74 345 P P 09 59 14.0 -0.1
baz=164
R55A **Marlinton** 73.82 355 P P 09 59 13.8 -0.8
HHAR **Hobbs** 73.91 344 IAmb IAmb 09 59 19.2
comp=Z,14nm,1.1s
TUL1 **Leonard** 74.00 342 P P 09 59 15.5 -0.1
baz=162
R50A **Paris** 74.20 352 IAmb IAmb 09 59 16.9
comp=Z,12nm,1.1s
MSTX **Muleshoe** 74.23 336 P P 09 59 17.6 +0.5
baz=156
R49A **Shelbyville** 74.31 351 IAmb IAmb 09 59 29.4
comp=Z,18nm,1.1s
USIN **University of** 74.34 349 P P 09 59 16.4 -1.1
WCI **Wyandotte Cave** 74.40 350 P P 09 59 18.9 +1.1
baz=170
AMTX **Amarillo** 74.72 337 P P 09 59 20.6 +0.7
baz=157
121A **Cookes Peak, D** 74.77 331 P P 09 59 21.2 +0.8
baz=152
121A **Cookes Peak, D** 74.77 331 P P 09 59 22.2 +1.8
Q51A **Peebles** 74.83 353 IAmb IAmb 09 59 24.3
comp=Z,15nm,0.9s
CCM **Cathedral Cave** 75.05 346 P P 09 59 22.0 +0.3
baz=166
CCM **Cathedral Cave** 75.05 346 P P 09 59 22.3 +0.7
P60A **Greenville** 75.16 359 P P 09 59 22.7 +0.5
baz=179
MCWV **Mont Chateau** 75.17 356 P P 09 59 22.1 -0.2
baz=175
WUPA **West Chester U** 75.28 359 IAmb IAmb 09 59 27.9
comp=Z,9.3nm,0.9s
P52A **Corning** 75.32 354 P P 09 59 22.7 -0.5
baz=174
MVL **Millersville** 75.36 358 P P 09 59 22.4 -1.0
MVL IAmb IAmb 09 59 28.3
comp=Z,19nm,1.3s
P49A **Miami Univ. Ec** 75.48 352 P P 09 59 23.5 -0.6
baz=171
P49A **Miami Univ. Ec** 75.48 352 IAmb IAmb 09 59 27.6
comp=Z,14nm,0.9s
O56A **Blue Knob Stat** 75.71 357 P P 09 59 26.9 +1.4
baz=176
KAN10 **Anthony SW Sta** 75.75 341 P P 09 59 24.9 -0.8
O52A **Adamsville** 75.77 354 P P 09 59 25.9 +0.1
TUC **Tucson** 75.79 329 P P 09 59 27.4 +1.2
baz=150
TUC **Tucson** 75.79 329 P P 09 59 28.0 +1.8
Y22D **IRIS PASSCAL I** 75.80 333 P P 09 59 27.3 +1.0
baz=153
O53A **New Philadelph** 75.85 355 P P 09 59 27.7 +1.5
baz=174
LENM **Lemitar** 75.90 333 P P 09 59 27.1 +0.2
ACSO **Alum Creek Sta** 75.99 353 P P 09 59 26.7 -0.3
baz=173
SSPA **Standing Stone** 76.05 357 P P 09 59 27.5 +0.2
baz=177
SSPA **Standing Stone** 76.05 357 P P 09 59 27.5 +0.2
SSPA IAmb IAmb 09 59 31.6
comp=Z,12nm,1.1s
N59A **State Game Lan** 76.27 359 P P 09 59 29.5 +0.9
baz=179
N59A **State Game Lan** 76.27 359 IAmb IAmb 09 59 30.1
comp=Z,15nm,1.1s
P43A **Skaggs, Pawnee** 76.28 348 P P 09 59 27.3 -1.3
PAL **Palisades** 76.35 0 P P 09 59 30.6 +1.7
baz=180
214A **Organ Pipe Nat** 76.36 327 P P 09 59 30.9 +1.6
baz=149
ANMO **Albuquerque** 76.41 333 P P 09 59 31.0 +1.2
baz=154
N54A **Moraine State** 76.48 356 P P 09 59 29.5 -0.2
baz=175
SFX **San Felipe** 76.52 325 IAmb IAmb 09 59 36.0
comp=Z,11nm,0.9s
SFIN **Lafayette** 76.62 350 P P 09 59 29.8 -0.7
baz=169
N49A **Columbus Grove** 76.80 352 P P 09 59 29.9 -1.6
M53A **WI Miller and** 77.00 355 P P 09 59 32.7 0.0
baz=175
M54A **Oil Creek Stat** 77.00 356 P P 09 59 32.6 -0.1
baz=176
LIC **Lamto** 77.13 73 *e*P P 09 59 33.4 -0.7
comp=Z,35nm,1.1s
HDIL **Hopedale** 77.13 348 P P 09 59 33.0 -0.4
baz=168
HDIL **Hopedale** 77.13 348 P P 09 59 32.4 -1.0
KSU1 **Kansas State U** 77.23 342 P P 09 59 33.9 -0.1
baz=162
L63A **North Scituate** 77.25 2 P P 09 59 34.7 +0.6
baz=182
L64A **Middleborough** 77.34 3 P P 09 59 35.3 +0.8
baz=183
X18A **Snowflake** 77.38 331 P P 09 59 36.5 +1.2
TIC **Toumodi** 77.39 72 *e*P P 09 59 36.2 +0.6
L58A **Harry Jones Me** 77.40 359 P P 09 59 35.6 +0.7
baz=179
KIC **Kosan Boka** 77.44 73 *e*P P 09 59 36.3 +0.5
comp=Z,110nm,1.4s
BINY **Binghamton** 77.55 359 P P 09 59 37.8 +2.0
baz=179
ERPA **Erie** 77.63 356 P P 09 59 36.2 0.0
baz=175
T25A **Trinidad** 77.67 336 P P 09 59 38.0 +1.2
baz=156
T25A **Trinidad** 77.67 336 P P 09 59 37.2 +0.4
CBKS **Cedar Bluff** 77.78 340 P P 09 59 37.7 +0.5
baz=159
W18A **Petrified Fore** 77.81 331 P P 09 59 38.8 +1.2
baz=151
L61B **Northampton** 77.81 1 P P 09 59 37.8 +0.6
baz=181
HRV **Adam Dziewonsk** 77.89 2 P P 09 59 38.6 +1.0
baz=182
K61A **Williamstown** 78.02 1 P P 09 59 39.2 +0.8
baz=181
K62A **Royalston** 78.03 2 P P 09 59 39.5 +1.1
baz=182
K63A **Dunstable** 78.07 2 P P 09 59 39.5 +0.9
baz=182
K56A **Middlesex** 78.08 358 P P 09 59 38.7 0.0
baz=178
HQIL **Hanson Quary C** 78.12 350 P P 09 59 38.2 -0.7
GLA **Glamis** 78.19 326 P P 09 59 39.3 -0.3
baz=148
CASY **Casey** 78.26 182 P P 09 59 40.7 +1.1
RMX **La Rumorosa** 78.39 325 IAmb IAmb 09 59 46.7
comp=Z,9.2nm,1.0s
IKP **In-Ko-Pah, Jac** 78.45 325 P P 09 59 41.7 +0.6
baz=147
K50A **Casco** 78.48 354 P P 09 59 40.3 -0.6
L44A **Lake County Fo** 78.50 350 P P 09 59 40.5 -0.5
baz=169
SWSC **Sam W. Stewart** 78.55 325 P P 09 59 43.0 +1.5
baz=147
SDCO **Great Sand Dun** 78.58 335 P P 09 59 42.0 0.0
baz=155
J60A **Lant Hill Farm** 78.59 1 P P 09 59 42.4 +0.9
baz=181
J62A **Henniker** 78.60 2 P P 09 59 42.5 +0.9
baz=182
J63A **Strafford** 78.68 2 P P 09 59 42.7 +0.7
baz=183
J61A **Chester** 78.70 1 P P 09 59 42.7 +0.6
baz=182
J58A **Remsen** 78.70 359 P P 09 59 42.5 +0.3
baz=179
BAR **Barrett** 78.74 325 IAmb IAmb 09 59 48.5
comp=Z,19nm,1.2s
J57A **Williamstown** 78.76 359 P P 09 59 42.0 -0.4
MONP2 **Monument Peak** 78.80 325 P P 09 59 43.0 -0.2
baz=146
KSCO **Kaye Shedlock'** 78.81 338 P P 09 59 44.2 +1.2
baz=157
WUAZ **Wupatki** 78.81 330 P P 09 59 43.7 +0.6
baz=150
WUAZ **Wupatki** 78.81 330 IAmb IAmb 09 59 49.2
comp=Z,14nm,1.1s
PDMCI **Parker Dam,Lak** 78.94 327 P P 09 59 44.7 +1.1
baz=148
I58A **Old Forge** 79.03 360 P P 09 59 44.1 +0.1
baz=180

S22A	4UR Ranch, Cre	79.04 334	P	P	09 59 45.3	+0.8
	baz=154					
109C	Camp Elliot, M	79.11 324	P	P	09 59 45.8	+1.2
	baz=146					
I59A	Olmsteadville	79.14 0	P	P	09 59 45.2	+0.7
	baz=180					
SCIA	State Center	79.15 346	P	P	09 59 45.0	+0.3
	baz=165					
MVCO	Mesa Verde	79.17 333	P	P	09 59 46.2	+1.1
	baz=152					
MVCO	Mesa Verde	79.17 333	IAmb	IAmb	09 59 50.6	
	comp=Z,17nm,1.1s					
I60A	Shoreham	79.19 1	P	P	09 59 45.0	+0.3
	baz=181					
I62A	Tamworth	79.26 2	P	P	09 59 45.7	+0.5
	baz=182					
IRM	Iron Mountain	79.27 327	P	P	09 59 45.5	0.0
	baz=147,SNR=8.2					
I57A	Carthage	79.29 359	P	P	09 59 45.3	0.0
	baz=179					
I64A	Boothbay	79.38 3	P	P	09 59 45.9	+0.2
	baz=184					
TPFO	Pinon Flats	79.40 325	P	P	09 59 46.5	+0.1
	baz=146,SNR=8.3					
PFO	Pinyon Flats O	79.41 325	P	P	09 59 46.1	-0.3
	baz=146,SNR=10					
PFO	Pinyon Flats O	79.41 325	P	P	09 59 48.8	+2.4
PFO			IAmb	IAmb	09 59 52.7	
	comp=Z,17nm,1.1s					
I63A	Otisfield	79.47 3	P	P	09 59 47.0	+0.7
	baz=183					
W13A	Hualapai Mount	79.50 328	P	P	09 59 48.1	+1.1
BELC	Belle Mtn. Jos	79.52 326	P	P	09 59 46.6	-0.4
	baz=147					
Q24A	Divide	79.56 336	P	P	09 59 48.4	+1.0
	baz=155					
JFWS	Jewell Farm	79.59 348	P	P	09 59 46.9	-0.1
	baz=167					
JFWS	Jewell Farm	79.59 348	P	P	09 59 46.3	-0.7
LBNH	Lisbon	79.61 2	P	P	09 59 48.0	+0.9
	baz=182					
MURC	Murrieta	79.74 325	P	P	09 59 48.6	+0.5
	baz=146					
H58A	Gabriels	79.76 0	P	P	09 59 47.8	-0.1
	baz=180					
BGNE	Belgrade	79.79 342	P	P	09 59 48.5	+0.3
	baz=161					
H57A	Richville	79.81 359	P	P	09 59 48.4	+0.3
	baz=179					
SCI2	San Clemente I	79.88 323	P	P	09 59 48.8	0.0
	baz=145					
H61A	Lyndonville	79.91 2	P	P	09 59 49.7	+1.0
	baz=182					
H60A	Morristown	79.92 1	P	P	09 59 49.4	+0.7
	baz=181					
LONY	Lake Ozonia	79.96 360	P	P	09 59 49.7	+0.7
	baz=180					
LONY	Lake Ozonia	79.96 360	IAmb	IAmb	10 00 00.2	
	comp=Z,17nm,1.2s					
H62A	Milan	79.97 2	P	P	09 59 49.7	+0.7
	baz=183					
U15A	North Rim	79.97 330	P	P	09 59 48.4	-1.1
U15A			IAmb	IAmb	09 59 55.7	
	comp=Z,15nm,1.1s					
H59A	Cadyville	79.99 0	P	P	09 59 49.4	+0.2
	baz=181					
PV01	Paradox Valley	80.01 333	IAmb	IAmb	09 59 55.3	
	comp=Z,16nm,1.2s					
GMRC	Granite Mounta	80.02 327	P	P	09 59 49.8	+0.1
	baz=147,SNR=7.5					
H63A	New Sharon	80.10 3	P	P	09 59 50.3	+0.6
	baz=184					
H64A	Troy	80.12 4	P	P	09 59 50.7	+1.0
	baz=184					
PV13	Radium Mtn., P	80.13 333	IAmb	IAmb	09 59 55.7	
	comp=Z,19nm,1.1s					
PV02	Paradox Valley	80.14 333	IAmb	IAmb	09 59 55.9	
	comp=Z,16nm,1.1s					
CIS	Catalina Islan	80.16 324	P	P	09 59 50.2	-0.1
	baz=145					
PV05	Paradox Valley	80.16 333	IAmb	IAmb	10 00 02.4	
	comp=Z,12nm,0.9s					
FRNY	Flat Rock	80.18 1	P	P	09 59 51.0	+0.9
FRNY			IAmb	IAmb	09 59 54.6	
	comp=Z,15nm,1.1s					
PV03	Paradox Valley	80.22 333	P	P	09 59 51.4	+0.6
H65A	Eastbrook	80.23 4	P	P	09 59 51.2	+0.8
	baz=185					
PV18	Skein Mesa, Pa	80.24 333	IAmb	IAmb	09 59 56.0	
	comp=Z,14nm,1.1s					
PV11	David Mesa, Pa	80.27 333	IAmb	IAmb	09 59 57.2	
	comp=Z,16nm,1.1s					
PV19	Morning Glory	80.32 333	P	P	09 59 51.7	+0.3
I42A	Draeger Farm,	80.33 349	IAmb	IAmb	09 59 54.9	
	comp=Z,17nm,0.9s					
FMP	Fort Macarthur	80.36 324	P	P	09 59 51.5	+0.2
	baz=145					
HEC	Hector,Ludlow	80.36 326	P	P	09 59 52.3	+0.8
	baz=147,SNR=7.8					
PV04	Paradox Valley	80.37 333	IAmb	IAmb	09 59 57.0	
	comp=Z,14nm,1.2s					
H66A	Whiting	80.38 5	P	P	09 59 51.9	+0.7
	baz=186					
PV14	Lion Creek, Pa	80.39 333	IAmb	IAmb	09 59 57.1	
	comp=Z,16nm,1.1s					
OGNE	Ogallala	80.41 339	P	P	09 59 51.8	+0.2
	baz=158					
ISCO	Idaho Springs	80.47 336	P	P	09 59 50.5	-1.8
	baz=155					
BFSC	Mount Baldy Ra	80.49 325	P	P	09 59 51.2	-1.0
	baz=146,SNR=9.1					
G63A	Kingsbury	80.57 3	P	P	09 59 52.1	-0.1
	baz=184					
TSUM	Tsumeb	80.58 107	P	P	09 59 52.3	-0.9
TSUM			IAmb	IAmb	09 59 55.2	
	comp=Z,20nm,1.4s					
I40A	Norwalk	80.60 348	IAmb	IAmb	09 59 53.4	
	comp=Z,19nm,1.2s					
G62A	West of Eustis	80.63 3	P	P	09 59 53.5	+0.9
	baz=183					
G62A	West of Eustis	80.63 3	P	P	09 59 53.0	+0.4
G62A			IAmb	IAmb	09 59 57.6	
	comp=Z,17nm,1.1s					
TUQ	Turquoise Moun	80.68 327	P	P	09 59 54.8	+1.5
	baz=147,SNR=12					
PKME	Peaks-Kenny Pk	80.74 4	P	P	09 59 53.6	+0.5
	baz=184					
G64A	Maxfield	80.75 4	P	P	09 59 53.9	+0.7
	baz=185					
G65A	Princeton	80.78 5	P	P	09 59 54.6	+1.3
	baz=186					
PKCU	Pink Cliffs	80.85 330	IAmb	IAmb	10 00 23.6	
	comp=Z,19nm,1.5s					
BOSA	Boshof	80.96 119	P	P	09 59 55.2	+0.1
	comp=Z,11nm,1.0s,baz=226,slow=3.0,SNR=7.4					
BOSA			LR	LR	10 30 35.7	
	comp=Z,148nm,19.8s,baz=190,slow=32					
BOSA	Boshof	80.96 119	P	P	09 59 55.3	+0.2
GSC	Goldstone, Bar	80.97 326	P	P	09 59 55.4	+0.7
	baz=146					
EDW2	Edwards Air Fo	81.17 325	P	P	09 59 55.9	+0.1
	baz=146,SNR=6.0					
F63A	Nahmakanta, Br	81.18 4	P	P	09 59 57.1	+1.6
	baz=184					
I37A	Lemond, Waseca	81.22 346	P	P	09 59 55.8	0.0
SHPR	Sheep Range	81.25 328	P	P	09 59 57.5	+1.2
SHPR			IAmb	IAmb	10 00 02.5	
	comp=Z,22nm,1.3s					
MTPU	Mount Pierson	81.31 331	IAmb	IAmb	10 00 02.6	
	comp=Z,11nm,1.2s					
F62A	Pittston Farm,	81.33 3	P	P	09 59 57.2	+0.9
	baz=184					
ALGO	Algonquin Park	81.36 357	P	P	09 59 56.0	-0.4
	baz=177					
CCUT	Cedar City	81.37 330	IAmb	IAmb	10 00 03.4	
	comp=Z,18nm,1.2s					
F64A	Sherman	81.39 4	P	P	09 59 57.9	+1.3
LRMC	Laurel Mtn Rad	81.52 326	P	P	09 59 57.5	-0.2
	baz=146					
N23A	Red Feather La	81.57 336	P	P	09 59 56.7	-1.3
	baz=155					
SRU	San Rafael Swe	81.60 332	IAmb	IAmb	10 00 03.2	
	comp=Z,11nm,1.1s					
ECSD	EROS Data Cent	81.62 344	P	P	09 59 58.0	+0.1
	baz=162					
O20A	White River Ci	81.67 334	P	P	09 59 59.0	+0.6
	baz=153,SNR=7.5					
O20A	White River Ci	81.67 334	P	P	09 59 59.1	+0.6
O20A			IAmb	IAmb	10 00 10.4	
	comp=Z,9.2nm,0.8s					
MSU	Marysvale	81.72 331	P	P	10 00 00.1	+1.3
E60A	Ste Agathe de	81.75 2	P	P	09 59 58.6	+0.1
	baz=182					
E61A	Lac Etchemin	81.85 3	P	P	10 00 00.0	+1.0
	baz=183					
TCRU	Three Creeks R	81.91 331	IAmb	IAmb	10 00 03.9	
	comp=Z,13nm,1.5s					
E63A	Oxbow	81.94 4	P	P	10 00 00.0	+0.6
	baz=185					
E64A	Bridgewater	81.97 5	P	P	10 00 00.2	+0.6
	baz=185					
TMUT	Trail Mountain	82.02 332	P	P	10 00 01.8	+1.3
ISA	Isabella, Lake	82.03 325	P	P	10 00 00.7	+0.3
	baz=145,SNR=10.0					
ISA	Isabella, Lake	82.03 325	P	P	10 00 01.1	+0.8
ISA			IAmb	IAmb	10 00 06.5	
	comp=Z,13nm,1.1s					
PKM	Mcpherson Peak	82.04 324	P	P	10 00 01.5	+0.9
	baz=144					
E62A	Clayton Lake	82.08 3	P	P	10 00 00.5	+0.3
	baz=184					
TPNV	Topopah Spring	82.09 327	P	P	10 00 00.6	-0.2
	baz=147,SNR=8.2					
SPMN	Marine on St.	82.27 347	P	P	10 00 00.6	-0.7
	baz=165					
SPMN	Marine on St.	82.27 347	IAmb	IAmb	10 00 11.5	
	comp=Z,12nm,0.9s					
D60A	Saint Jean D'O	82.31 2	P	P	10 00 01.5	+0.2
	baz=183					
D58A	Chemin du LacG	82.45 1	P	P	10 00 02.3	+0.2
	baz=181					
VES	Vestal, Richgr	82.47 325	P	P	10 00 02.2	-0.3
	baz=145					
D62A	Allapoint, All	82.56 4	P	P	10 00 02.5	-0.2
	baz=184					
D62A	Allapoint, All	82.56 4	P	P	10 00 03.4	+0.7
D63A	Stockholm	82.57 4	P	P	10 00 03.1	+0.3
	baz=185					
GRAC	Grapevine Rang	82.63 327	P	P	10 00 03.2	-0.2
	baz=146					
LATQ	La Tuque	82.74 1	P	P	10 00 04.6	+1.0
	baz=181					
MPU	Maple Canyon	82.81 332	P	P	10 00 05.7	+1.2
SUSD	Miller	82.84 343	P	P	10 00 04.0	-0.3
	baz=160					
NLU	North Lily Min	82.92 332	P	P	10 00 05.9	+0.8
PAGB	Antelope Grade	82.93 324	P	P	10 00 05.7	+0.7
R11A	Troy Canyon, C	82.98 329	P	P	10 00 06.0	+0.6
	baz=147,SNR=6.1					
R11A	Troy Canyon, C	82.98 329	IAmb	IAmb	10 00 07.8	
	comp=Z,9.8nm,1.2s					
VOG	Valley Oaks Go	83.00 325	P	P	10 00 05.3	+0.1
	baz=145					
TIN	Tinemaha, Big	83.06 326	P	P	10 00 05.8	+0.1
	baz=146					
KOWA	Kowa	83.08 67	P	P	10 00 05.9	-0.3
JLU	Jordanelle	83.25 332	P	P	10 00 07.7	+0.9
LBTB	Lobatse	83.31 116	P	P	10 00 06.9	-0.6
K22A	Casper	83.34 337	P	P	10 00 07.7	+0.7
	baz=154,SNR=12					
DUG	Dugway, Tooele	83.42 331	P	P	10 00 08.6	+1.1
	baz=150,SNR=19					
F33A	5 Mile Ranch,	83.56 345	IAmb	IAmb	10 00 11.7	
	comp=Z,11nm,1.0s					
MLAC	Mammoth, Mammo	83.81 326	P	P	10 00 10.9	+1.1
	baz=145					
RSSD	Black Hills	83.91 339	P	P	10 00 10.3	+0.3
	baz=156					
RSSD	Black Hills	83.91 339	P	P	10 00 10.8	+0.7
MDPB	Devils Postpil	83.92 326	P	P	10 00 10.5	+0.2
BGU	Big Grassy Mou	84.13 332	P	P	10 00 11.1	-0.1
NVAR	Mina Array Bea	84.23 327	P	P	10 00 13.3	+1.5
	comp=Z,3.5nm,0.8s,baz=152,slow=6.1,SNR=24					
NVAR			LR	LR	10 30 09.3	
	comp=Z,51nm,21.3s,baz=161,slow=30					
LSQQ	Lebel-sur-Quev	84.43 358	P	P	10 00 12.6	+0.3
	baz=178					
BW06	Boulder Array	84.46 335	P	P	10 00 12.8	-0.1
	baz=152,SNR=16					
PD31	Pinedale Array	84.46 335	P	P	10 00 13.0	+0.1
PD31			IAmb	IAmb	10 00 17.6	
	comp=Z,13nm,1.2s					
PDAR	Pinedale Array	84.46 335	P	P	10 00 12.6	-0.3
	comp=Z,9.2nm,1.1s,baz=142,slow=5.1,SNR=27					
PDAR			LR	LR	10 34 35.7	
	comp=Z,61nm,19.1s,baz=164,slow=33					
RYN	Ryan	84.49 327	P	P	10 00 13.6	+0.6
EYMN	Ely	84.68 349	P	P	10 00 13.4	-0.2
	baz=166					
WAKR	Walker	84.80 326	IAmb	IAmb	10 00 21.1	
	comp=Z,12nm,1.2s					
ELK	Elko	84.85 330	IAmb	IAmb	10 00 20.3	
	comp=Z,8.2nm,1.0s					
CMB	Columbia Colle	84.85 325	IAmb	IAmb	10 00 20.5	
	comp=Z,9.8nm,1.3s					
YERR	Yerington	85.10 327	IAmb	IAmb	10 00 19.4	
	comp=Z,15nm,1.4s					
MATQ	Matagami	85.15 358	P	P	10 00 14.7	-1.2
	baz=177					
CHGQ	Chibougamau	85.25 360	P	P	10 00 16.0	-0.4
	baz=180					
PNTR	Pine Nut	85.35 326	P	P	10 00 18.4	+0.9
REDW	Red Top Meadow	85.43 334	P	P	10 00 18.4	+0.6
AGMN	Agassiz Nation	85.81 346	P	P	10 00 18.9	-0.3
	baz=163					
AGMN	Agassiz Nation	85.81 346	IAmb	IAmb	10 00 23.5	
	comp=Z,12nm,1.1s					
MDND	Maddock	86.20 343	P	P	10 00 21.3	+0.2
	baz=160					
YPP	Pitchstone Pla	86.21 335	P	P	10 00 22.1	+0.4
YPP			IAmb	IAmb	10 00 28.1	
	comp=Z,15nm,1.5s					
H17A	Grant Village	86.24 335	P	P	10 00 22.0	+0.2
	baz=151					
YMP	Mirror Lake Pl	86.40 335	IAmb	IAmb	10 00 42.3	
	comp=Z,10nm,1.1s					
RLMT	Red Lodge	86.44 336	P	P	10 00 22.5	-0.1
	baz=152					
TORD	Torodi Ar. Bea	86.59 71	P	P	10 00 23.6	-0.2
	comp=Z,6.8nm,1.0s,baz=248,slow=4.5,SNR=18					
TORD			LR	LR	10 36 32.8	
	comp=Z,71nm,19.3s,baz=225,slow=34					
TORD	Torodi Ar. Bea	86.59 71	P	P	10 00 23.5	-0.3
YHH	Holmes Hill	86.68 335	P	P	10 00 24.5	+0.5
LAO	LASA Array	86.89 339	P	P	10 00 25.0	+0.3
	baz=155					
LAO	LASA Array	86.89 339	IAmb	IAmb	10 00 28.9	
	comp=Z,11nm,1.1s					
O03E	Paynes Creek	87.32 326	P	P	10 00 27.2	+0.3
	baz=143					
BOZ	Bozeman (W)	87.65 335	P	P	10 00 28.9	+0.4
	baz=151					
BOZ	Bozeman (W)	87.65 335	IAmb	IAmb	10 00 33.5	
	comp=Z,10nm,1.4s					
ULM	Lac du Bonnet	87.68 346	P	P	10 00 28.2	0.0
	comp=Z,7.8nm,1.0s,baz=196,slow=2.8,SNR=6.0					
ULM	Lac du Bonnet	87.68 346	P	P	10 00 27.8	-0.5
O02D	Mt. Diablo Mer	87.69 325	P	P	10 00 29.3	+0.6
	baz=143					
N02D	Trinity Center	88.28 326	P	P	10 00 31.9	+0.4
	baz=143					
M04C	Macdoel	88.53 327	P	P	10 00 33.4	+0.7
	baz=143					
M02C	Callahan	88.68 326	P	P	10 00 33.4	0.0
	baz=143					
L04D	Klamath Falls	89.08 327	P	P	10 00 35.3	0.0
	baz=143					
EGMT	Eagleton	89.16 337	P	P	10 00 35.9	+0.5
	baz=152					
J05D	Fort Rock, OR	89.47 328	P	P	10 00 37.6	+0.4
	baz=144					
MSO	Missoula	89.53 334	P	P	10 00 38.0	+0.7
	baz=149					
L02E	Cave Junction	89.63 326	P	P	10 00 37.6	-0.1
	baz=142					
PINE	Pine Mountain	89.75 328	P	P	10 00 38.2	-0.3
F10A	Beach Ranch, E	90.03 332	IAmb	IAmb	10 00 44.7	
	comp=Z,14nm,1.4s					
K02D	Willamette Mer	90.08 326	P	P	10 00 40.3	+0.4
	baz=142					
I05D	Terrebonne, OR	90.36 328	P	P	10 00 41.6	+0.5
	baz=144					
SCHQ	Schefferville	90.42 4	P	P	10 00 41.1	+0.1
	comp=Z,6.3nm,0.9s,baz=90,slow=7.1,SNR=3.7					
JTMT	Jette	90.43 334	IAmb	IAmb	10 00 59.9	
	comp=Z,7.4nm,1.2s					
I03D	Drain, OR	90.72 327	P	P	10 00 42.6	-0.1
	baz=142					
D08A	Wollman Farm,	91.58 331	IAmb	IAmb	10 00 51.2	
	comp=Z,5.7nm,0.9s					
G03D	McMinnville, O	91.88 328	P	P	10 00 48.0	-0.1
	baz=142					
NEW	Newport	91.90 333	LR	LR	10 38 54.2	
	comp=Z,30nm,18.3s,baz=153,slow=33					
NEW	Newport	91.90 333	P	P	10 00 47.3	-0.9
	baz=146					
NEW	Newport	91.90 333	IAmb	IAmb	10 00 49.3	
	comp=Z,9.9nm,1.4s					
ESDC	Sonseca Array	99.15 47	P	Pdif	10 01 21.4	-0.1
	comp=Z,0.3nm,0.3s,baz=245,slow=5.5,SNR=4.3					
ESDC			LR	LR	10 47 29.7	
	comp=Z,27nm,18.4s,baz=230,slow=36					
ESDC	Sonseca Array	99.15 47	IAmb	IAmb	10 01 22.7	
	comp=Z,2.0nm,1.3s					
FRB	Frobisher Bay	99.23 3	LR	LR	10 44 12.9	
	comp=Z,37nm,20.5s,baz=203,slow=34					
BBB	Bella Bella	99.30 330	LR	LR	10 44 20.9	
	comp=Z,26nm,18.3s,baz=141,slow=34					
H02S1	DAWSON INLET T	101.86 329	P	Pdif	10 01 33.0	-0.1
GERES	GERESS Array B	114.72 47	PKP	PKPdf	10 06 20.2	-0.1
	comp=Z,0.9nm,0.7s,baz=117,slow=1.5,SNR=4.6					
ILAR	Eielson Array	114.85 333	PKP	PKPdf	10 06 19.2	-0.7
	comp=Z,0.4nm,0.6s,baz=234,slow=2.9,SNR=5.4					
ASAR	Alice Springs	115.16 209	PKP	PKiKP	10 06 21.0	-1.0
	comp=Z,0.7nm,0.8s,baz=127,slow=2.0,SNR=5.2					
ASAR			PKKPbc	PKKPbc	10 16 56.8	+0.3
	comp=Z,0.6nm,0.6s,baz=341,slow=2.7,SNR=8.1					
VYHS	Vyhne	117.66 49	ePKP	PKiKP	10 06 29.0	+3.1
TOLK	Toolik Lake Re	117.68 336	P	PKPdf	10 06 24.9	-0.4
	baz=117					
WRA	Warramunga Arr	118.32 211	PKP	PKPdf	10 06 27.3	-0.8
	comp=Z,1.4nm,0.8s,baz=163,slow=1.6,SNR=12					
WRA	Warramunga Arr	118.32 211	PKPdf	PKPdf	10 06 27.6	-0.5
BRTR	Keskin Array B	124.33 63	PKP	PKPdf	10 06 39.3	+0.1
	comp=Z,1.3nm,0.8s,baz=180,slow=4.9,SNR=6.2					
AKASG	Malin Array Be	124.76 49	PKP	PKPdf	10 06 38.4	-1.0
	comp=Z,0.7nm,0.3s,baz=264,slow=2.7,SNR=6.6					
AKASG	Malin Array Be	124.76 49	PKPdf	PKPdf	10 06 37.0	-2.4
KLMR	Klimovskoe	131.92 37	ePKPdf	PKPdf	10 06 51.0	-1.7
KLMR			AMP		10 06 55.6	
	comp=Z,32nm,1.3s					
KBZ	Khabaz	132.12 60	PKP	PKPdf	10 06 51.4	-2.3
	comp=Z,2.8nm,0.9s,baz=211,slow=4.1,SNR=3.5					
PETK	Petropavlovsk-	139.93 312	PKP	PKPdf	10 07 09.0	+1.1
	comp=Z,4.2nm,0.9s,baz=175,slow=8.6,SNR=8.6					
NRIK	Noril'sk	144.88 11	PKP	PKPab	10 07 15.5	+0.2
	comp=Z,15nm,1.0s,baz=34,slow=1.7,SNR=18					
NRIK	Noril'sk	144.88 11	PKPdf	PKPab	10 07 15.9	+0.6
KSH	Kashi	156.26 72	PKP	PKPdf	10 07 35.8	+0.9
KSH			PP	PP	10 11 36.3	-4.9
ZALV	Zalesovo Beam	156.70 32	PKP	PKPdf	10 07 34.8	0.0
	comp=Z,2.2nm,0.4s,baz=280,slow=4.4,SNR=7.3					
ZALV			PKPab	PKPab	10 08 05.1	+0.9
	comp=Z,4.6nm,0.8s,baz=305,slow=5.1,SNR=1.4					
MKAR	Makanchi Array	159.34 50	PKP	PKPdf	10 07 38.2	-0.2
	comp=Z,4.6nm,0.9s,baz=298,slow=2.6,SNR=28					
MKAR			PKPab	PKPab	10 08 15.9	0.0
	comp=Z,3.4nm,0.9s,baz=292,slow=4.6,SNR=6.3					
MKAR	Makanchi Array	159.34 50	PKPdf	PKPdf	10 07 34.0	-4.3
CMAR	Chiang Mai Arr	161.82 159	PKP	PKPdf	10 07 41.5	-0.3
	comp=Z,0.5nm,0.3s,baz=323,slow=1.4,SNR=4.4					
CMAR			PKPab	PKPab	10 08 26.7	-0.5
	comp=Z,0.8nm,0.5s,baz=216,slow=4.5,SNR=1.4					
CMAR	Chiang Mai Arr	161.82 159		PKPdf	10 07 41.2	-0.7
KSRS	Korea Array	162.01 282	PKP	PKPdf	10 07 40.7	-0.7
	comp=Z,0.4nm,0.3s,baz=178,slow=2.4,SNR=1.7					
KSRS			PKPab	PKPab	10 08 28.9	+1.1
	comp=Z,1.8nm,0.9s,baz=96,slow=3.8,SNR=5.5					
WMQ	Urumqi	164.03 54	ePKP	PKPdf	10 07 44.3	+1.0
SONM	Songino Array	167.88 358	PKP	PKPdf	10 07 45.3	-1.1
	comp=Z,1.0nm,1.1s,baz=152,slow=4.4,SNR=4.7					
SONM			PKPab	PKPab	10 08 54.2	+0.8
	comp=Z,5.4nm,1.1s,baz=341,slow=2.8,SNR=12					
NJ2	Nanjing	168.42 255	ePKP	PKPdf	10 07 47.3	+0.3
HHC	Hu-ho-hao-te	173.07 319	ePKP	PKPdf	10 07 45.4	-4.0
HHC			LR	LR		
	comp=Z,120nm,22.2s					
HHC			LR	LR		
	comp=Z,160nm,22.7s					
HHC			LR	LR		
	comp=Z,130nm,21.6s					
GTA	Gaotai	174.09 50	ePKP	PKPdf	10 07 50.1	+0.2
GTA			PKPab	PKPab	10 09 22.8	+1.5
CD2	Chengdu	174.96 161	PKP	PKPdf	10 07 49.6	-0.7
LZH	Lanzhou	178.51 75	ePKP	PKPdf	10 07 50.3	-0.7
LZH			pPKP	pPKPdf	10 07 54.0	+0.3
LZH			sPKP		10 07 55.6	
LZH			LR	LR		
	comp=Z,270nm,18.2s					
LZH			LR	LR		
	comp=Z,310nm,18.6s					

NNC ***20*** *10:06:09.0±13.0, 55°.86N×84°.54E, h0km, mb2.4, mpv2.0, Error ellipse: s-maj=122.0km s-min=95.4km az=63.0*

IDC 20 10:06:09.9±3.4, 53°.59N×87°.88E, h0km, mb1 2.9/1, mb1mx2.8/30, mbtmp2.9/1, ML2.9/1, 4C-2D, Error ellipse: s-maj=33.3km s-min=17.8km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.85	282	*i*			10 18 00.0	
	baz=99,slow=298,SNR=1.1							
ZAA0	Zalesovo Array	1.85	282	⇑P		Pn	10 06 42.9	0.0
	0.5nm,0.4s,baz=102,slow=14							
ZAA0				⇓S		Sb	10 07 08.6	+0.3
	2.5nm,0.3s,baz=110,slow=24							
ZALV	Zalesovo Beam	1.85	282	Pn		Pn	10 06 42.9	0.0
	3.3nm,0.3s,baz=99,slow=14,SNR=24							
ZALV				Lg		Lg	10 07 08.6	
	6.7nm,0.3s,baz=102,slow=25,SNR=17							
KURBB	Kurchatov Arra	6.48	246	⇑Sn		Sn	10 08 58.1	-3.0
	4.0nm,0.8s							
KURBB				⇓Lg		Lg	10 09 33.8	
	7.7nm,0.9s							
MK31	Makanchi Array	7.69	210	⇑Lg		Lg	10 10 08.4	
	2.8nm,1.1s							
MKAR	Makanchi Array	7.69	210	Pn		Pn	10 08 04.4	+1.2
	0.2nm,0.3s,baz=30,slow=14,SNR=7.3							
MAKZ	Makanchi	7.78	211	⇑Lg		Lg	10 10 09.0	
	2.3nm,1.3s							
I31KZ	AKTYUBINSK INF	18.58	272	*i*			12 02 25.0	
	baz=68,slow=313							

NIC ***20*** *10:06:48.7±0.0, 33°.82N×34°.18E, h68km±25km, Ml3.0/3*
ISK ***20*** *10:06:49.3, 33°.91N×33°.98E, h80km, ML2.9/10*
HLW ***20*** *10:06:49.5, 33°.76N×33°.93E, h15km±18km, Md3.1*
GII ***20*** *10:06:50.7±0.0, 33°.94N×34°.04E, h30km, MD2.2/1, Mm2.2/4*

ISC 20 10:06:50.8±2.7, 33°.88N±0°.03×33°.94E±0°.04, h34km±5km, n40, σ0°81/56, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASGA	Asgata	1.07	328	P		Pn	10 07 08.5	-0.9
ASGA				S		Sn	10 07 22.0	-1.1
ASGA					AML	AML	10 07 22.1	
	0.2nm,0.2s							
ASGA					AML	AML	10 07 22.1	
	0.2nm,0.2s							
ASGA					AML	AML	10 07 22.9	
	0.3nm,0.3s							
ASGA					AML	AML	10 07 22.

SZAC			AML	AML	10 07 29.7	
	2.1nm,0.2s					
HNTI	**Hanita**	**1.30 127**	Pn	**Pn**	**10 07 12.3**	**-0.3**
HNTI			Sn	**Sn**	**10 07 28.8**	**0.0**
LFK	**Lefkose**	**1.44 347**	PN	**Pn**	**10 07 14.5**	**0.0**
MMC7	**Mount Meron ar**	**1.49 125**	Pn	**Pn**	**10 07 14.4**	**-0.8**
MMA0B	**Mount Meron ar**	**1.50 125**	Pn	**Pn**	**10 07 15.3**	**0.0**
MMA0B			Sn	**Sn**	**10 07 33.1**	**-0.6**
LEF	**Lefka**	**1.51 325**	PN	**Pn**	**10 07 16.1**	**+0.7**
LEF			SN	**Sn**	**10 07 35.2**	**+1.3**
OFRI	**`Ofer**	**1.53 145**	Pn	**Pn**	**10 07 15.8**	**+0.1**
OFRI			Sn	**Sn**	**10 07 34.1**	**-0.3**
GEM	**Giv'at Ha'Em**	**1.59 114**	Pn	**Pn**	**10 07 16.5**	**0.0**
GEM			Sn	**Sn**	**10 07 34.8**	**-1.0**
NATI	**Neve Ativ**	**1.62 112**	Pn	**Pn**	**10 07 15.6**	**-1.3**
NATI			Sn	**Sn**	**10 07 36.1**	**-0.6**
EREN	**Erenkoy**	**1.66 7**	PN	**Pn**	**10 07 17.3**	**-0.2**
ALFC	**Alefka**	**1.69 320**	P	**Pn**	**10 07 18.0**	**+0.1**
ALFC			S	**Sn**	**10 07 38.8**	**+0.5**
ALFC			AML	AML	10 07 40.3	
	0.4nm,0.6s					
ALFC			AML	AML	10 07 40.3	
	0.4nm,0.6s					
ALFC			AML	AML	10 07 40.9	
	0.4nm,0.4s					
ALFC			AML	AML	10 07 40.9	
	0.4nm,0.4s					
AKMS	**Akamas**	**1.75 311**	P	**Pn**	**10 07 18.8**	**+0.2**
MMLI	**Mount Malkishu**	**1.90 139**	Pn	**Pn**	**10 07 21.0**	**+0.2**
MMLI			Sn	**Sn**	**10 07 43.6**	**0.0**
MMLI	**Mount Malkishu**	**1.90 139**	PN	**Pn**	**10 07 21.1**	**+0.2**
HMDT	**Nahal Hemdat**	**2.10 140**	Pn	**Pn**	**10 07 24.2**	**+0.7**
HMDT			Sn	**Sn**	**10 07 49.6**	**+1.2**
AKKU	**Akkuyu-Mersin**	**2.30 352**	PN	**Pn**	**10 07 26.3**	**0.0**
TEKE	**Tekeli-Mersin**	**2.36 344**	PN	**Pn**	**10 07 27.2**	**+0.1**
IKL	**Isikli**	**2.37 355**	PN	**Pn**	**10 07 26.7**	**-0.5**
KEBE	**Keben-Mersin**	**2.57 356**	PN	**Pn**	**10 07 29.8**	**-0.3**
TEVE	**Tevekalti-Mers**	**2.59 351**	PN	**Pn**	**10 07 30.3**	**0.0**
DSI	**Dead Sea**	**2.60 152**	Pn	**Pn**	**10 07 31.3**	**+0.9**
KIZK	**Mersin**	**2.60 4**	PN	**Pn**	**10 07 30.1**	**-0.3**
YTIR	**Yattir**	**2.70 158**	Pn	**Pn**	**10 07 32.5**	**+0.7**
YTIR			Sn	**Sn**	**10 08 05.3**	**+2.0**
GAZI	**Gazipasa**	**2.70 331**	PN	**Pn**	**10 07 32.2**	**+0.4**
MERS	**Mersin**	**3.02 9**	PN	**Pn**	**10 07 36.2**	**-0.1**
TAHT	**Tahtakopru-Hat**	**3.10 36**	PN	**Pn**	**10 07 37.2**	**-0.1**
KRMN	**Karaman**	**3.34 351**	PN	**Pn**	**10 07 40.5**	**-0.1**
PRNI	**Paran**	**3.63 165**	Pn	**Pn**	**10 07 45.2**	**+0.6**
KRMI	**Paran Flat**	**3.81 170**	Pn	**Pn**	**10 07 47.6**	**+0.6**
KRMI			Sn	**Sn**	**10 08 32.1**	**+1.5**
SUZ	**Suez**	**4.13 193**	P	**Pn**	**10 07 51.0**	**-0.4**
	baz=194					
SUZ			S	**Sn**	**10 08 35.4**	**-3.2**
	baz=194					
KOT	**Kottamia**	**4.32 205**	P	**Pn**	**10 07 53.5**	**-0.7**
	baz=206					
GLL	**Jalalah**	**4.69 204**	P	**Pn**	**10 07 58.9**	**-0.2**
	baz=206					
HSAF	**As Saff**	**4.70 206**	P	**Pn**	**10 07 58.4**	**-0.9**
	baz=207					
TR2	**Tor 2**	**5.48 182**	P	**Pn**	**10 08 09.2**	**-0.7**
	baz=182					

*KRNET **20** 10:24:40.3±0.1, 41°.33N×69°.75E, h10km, mb2.8*
*ISU **20** 10:24:42, 41°.30N×69°.70E, h5km*
ISC 20 10:24:41.2±1.0, 41°.29N±0°.03×69°.72E±0°.04, h5km±10km, n15, σ1s44/30, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBZ	**Yangibazar**	**0.10**	**276**	*eP*	**Pg**	**10 24 44.0**	**+0.6**
YBZ				*eS*	**Sg**	**10 24 46.0**	**+1.0**
TAS	**Tashkent**	**0.33**	**276**	⇓*iP*	**Pg**	**10 24 47.0**	**-0.5**
	baz=70						
TAS				⇓*iS*	**Sg**	**10 24 51.8**	**0.0**
	baz=70						
TAS	**Tashkent**	**0.33**	**276**	*i* P	**Pg**	**10 24 47.0**	**-0.5**
TAS				*eS*	**Sg**	**10 24 52.0**	**+0.2**
CHMG	**Chimgan**	**0.34**	**40**	*eP*	**Pg**	**10 24 48.0**	**+0.2**
CHMG				*eS*	**Sb**	**10 24 54.0**	**-1.4**
CHRV	**Charvak**	**0.39**	**26**	*i* P	**Pb**	**10 24 50.0**	**-0.6**
CHRV				*eS*	**Sb**	**10 24 57.0**	**+0.1**
TRKS	**Terek-Say**	**1.09**	**77**	⇑*iP*	**Pb**	**10 25 01.3**	**-1.3**
	baz=83						
TRKS				⇑*iS*	**Sb**	**10 25 15.7**	**-1.5**
	baz=83						
BTK	**Batken**	**1.49**	**146**	⇑*iP*	**Pb**	**10 25 08.5**	**-0.8**
	baz=47						
BTK				⇑*iS*	**Sg**	**10 25 29.4**	**+0.5**
	baz=47						
BTK	**Batken**	**1.49**	**146**	*i* P	**Pb**	**10 25 09.0**	**-0.3**
BTK				*i* S	**Sg**	**10 25 30.0**	**+1.1**
GAR	**Garm**	**2.33**	**169**	⇓*iP*	**Pb**	**10 25 22.5**	**-1.2**
	baz=69						
GAR				⇓*iS*	**Sb**	**10 25 53.5**	**+0.6**
	baz=69						
MNAS	**Manas**	**2.40**	**59**	⇑*iP*	**Pb**	**10 25 22.5**	**-2.3**
	baz=60						
MNAS				⇑*iS*	**Sb**	**10 25 52.2**	**-2.5**
	baz=60						
DRK	**Karamyk**	**2.41**	**138**	⇓*iP*	**Pb**	**10 25 23.3**	**-1.8**
	baz=39						
DRK				⇓*iS*	**Sb**	**10 25 54.0**	**-1.1**
	baz=39						
OHH	**Osh**	**2.44**	**107**	⇑*iP*	**Pb**	**10 25 23.3**	**-2.3**
	baz=8.0						
OHH				⇑*iS*	**Sb**	**10 25 54.4**	**-1.6**
	baz=8.0						
CHGR	**Chuyangaron**	**2.67**	**190**	⇑*iP*	**Pb**	**10 25 27.3**	**-2.1**
	baz=90						
CHGR				⇑*iS*	**Sb**	**10 26 01.4**	**-1.1**
	baz=90						
AML	**Almayashu**	**3.09**	**73**	⇑*iP*	**Pn**	**10 25 32.4**	**+1.5**
	baz=74						
AML				⇑*iS*	**Sn**	**10 26 10.5**	**+2.1**
	baz=74						
ARLS	**Aral**	**3.50**	**79**	⇑*iP*	**Pn**	**10 25 37.9**	**+1.6**
	baz=80						
ARLS				⇑*iS*	**Sn**	**10 26 19.7**	**+1.6**
	baz=80						

WEL 20 10:38:27.5, 44°.5S±3°.×17°.3E±°., h10km±4km, M3.1/18, mB5.3/3, ML3.0/18, MLv2.9/18, Mw(mB)4.8/3, Error ellipse: s-maj=0.0km s-min=0.0km az=158.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.12**	**196**	P	Pb	10 38 31.9	+0.1
MQZ				S	Sg	10 38 34.4	+2.0
OKCZ	**Okains Bay**	**0.29**	**116**	P	Pb	10 38 34.7	-0.2
OKCZ				S	Sb	10 38 39.5	-0.3
AKCZ	**Akaroa Harbour**	**0.32**	**151**	P	Pb	10 38 35.6	+0.2
AKCZ				S	Sb	10 38 40.4	-0.1
AMCZ	**Amberley**	**0.42**	**355**	P	Pb	10 38 36.9	-0.1
RACZ	**Rakaia**	**0.43**	**252**	P	Pb	10 38 37.9	+0.8
OXZ	**Oxford**	**0.55**	**299**	P	Pb	10 38 39.3	+0.1
OXZ				S	Sb	10 38 47.3	0.0
GVZ	**Greta Valley S**	**0.67**	**22**	P	Pb	10 38 41.6	+0.3
WACZ	**Wakanui South**	**0.71**	**241**	P	Pn	10 38 43.4	-0.2
MHCZ	**Mount Hutt**	**0.82**	**274**	P	Pn	10 38 44.9	-0.3
LTZ	**Lake Taylor**	**0.87**	**339**	P	Pb	10 38 44.8	+0.1
LTZ				S	Sb	10 38 57.0	+0.5
ARCZ	**Arundel**	**1.16**	**252**	P	Pn	10 38 51.1	+1.3
RPZ	**Rata Peaks**	**1.20**	**264**	P	Pg	10 38 50.9	+0.4
RPZ				S	Sb	10 39 06.0	+0.1
INZ	**Inchbonnie**	**1.26**	**313**	P	Pg	10 38 52.5	+0.7
KHZ	**Kahutara**	**1.33**	**28**	P	Pn	10 38 51.0	-1.1
TMZ	**Timaru**	**1.45**	**237**	P	Pg	10 38 55.3	-0.1
THZ	**Tophouse**	**1.84**	**5**	P	Pn	10 38 58.7	-0.5
DSZ	**Denniston Nort**	**1.96**	**340**	P	Pb	10 39 02.5	-0.9
ODZ	**Otahua Downs**	**2.07**	**225**	P	Pb	10 39 04.6	-0.5
NTVZ	**North Tongarir**	**5.02**	**28**	P	Pn	10 39 46.1	+3.1
HRRZ	**Handcock Road**	**5.86**	**29**	P	Pn	10 39 57.1	+2.6
MARZ	**Manawahe**	**6.36**	**30**	P	Pn	10 40 00.2	-1.2
WIZ	**White Island**	**6.96**	**31**	P	Pn	10 40 11.8	+2.3

IDC 20 10:41:43.4±2.4, 9°.67S×121°.75E, h0km, mb3.8/1, mb1 3.4/3, mb1mx3.2/29, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=234.7km s-min=30.6km az=52.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.88**	**131**	Pn	Pn	10 45 27.5	-0.9
	0.1nm,0.3s,baz=307,slow=14,SNR=1.4						
ASAR	**Alice Springs**	**18.13**	**142**	P	P	10 45 57.7	+0.5
	0.1nm,0.3s,baz=318,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**66.31**	**332**	P	P	10 52 33.6	-0.1
	0.6nm,0.7s,baz=139,slow=7.8,SNR=7.8						

KMA 20 10:46:39.9±0.5, 33°.27N×127°.04E, h19km±2km, Error ellipse: s-maj=5.4km s-min=3.0km az=150.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSSP	**Seongsanpo**	**0.18**	**310**	P	Pg	10 46 44.6	0.0
KSSSP	**Seongsanpo**	**0.18**	**310**	P	Pg	10 46 44.6	0.0
KSJJU	**Jeju**	**0.45**	**291**	P	Pg	10 46 49.2	+0.1
KSJJU				S	Sb	10 46 55.7	+0.1
KSJJU	**Jeju**	**0.45**	**291**	P	Pg	10 46 49.2	+0.1
KSJJU				S	Sb	10 46 55.7	+0.1
KSSGP	**Seogwipo**	**0.46**	**268**	P	Pg	10 46 49.3	0.0
KSSGP	**Seogwipo**	**0.46**	**268**	P	Pg	10 46 49.3	0.0
HALB	**Hallimjungang-**	**0.66**	**281**	P	Pb	10 46 52.8	+0.1
HALB	**Hallimjungang-**	**0.66**	**281**	P	Pb	10 46 52.8	+0.1
GOS1	**Gosan-ri**	**0.70**	**272**	P	Pb	10 46 53.4	-0.1
KSJDO	**Jindo**	**1.34**	**333**	P	Pn	10 47 03.5	-0.1
KOHB	**KOHEUNG**	**1.36**	**8**	P	Pn	10 47 03.7	-0.1
KOHB	**KOHEUNG**	**1.36**	**8**	P	Pn	10 47 03.7	-0.1
BOSB	**Boseong-gun**	**1.49**	**5**	P	Pn	10 47 06.1	+0.4
BOSB	**Boseong-gun**	**1.49**	**5**	P	Pn	10 47 06.1	+0.4

*IDC **20** 10:48:31.5±4.0, 35°.73N×141°.31E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/35, mbtmp3.5/3, ML2.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/25, Error ellipse: s-maj=110.7km s-min=31.6km az=54.0*
*JMA **20** 10:48:36.5±0.2, 35°.81N×141°.13E, h31km±1km, M2.7*
ISC 20 10:48:35.9±1.5, 35°.80N±0°.08×141°.2E±0°.1, h31km, n15, σ0s87/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.28**	**250**	P	**Pb**	**10 48 43.2**	**+0.1**
CHOJ				S	**Sb**	**10 48 47.7**	**-0.3**
JIHU	**Itakohorinouch**	**0.56**	**288**	P	**Pn**	**10 48 47.8**	**+0.2**
JSMT	**Sammumatsuo**	**0.61**	**255**	P	**Pb**	**10 48 48.3**	**+0.1**
JHYU	**Hitachinakayam**	**0.72**	**319**	P	**Pn**	**10 48 50.0**	**+0.1**
JHYU				*eS*	**Sb**	**10 48 59.3**	**-0.3**
JYT	**Yasato**	**0.91**	**298**	P	**Pn**	**10 48 51.8**	**-0.6**
JHO	**Hitachi**	**0.95**	**329**	P	**Pn**	**10 48 53.0**	**0.0**
BSO3	**Boso 3**	**1.14**	**209**	P	**Pb**	**10 48 56.2**	**-0.6**
MJAR	**Matsushiro Arr**	**2.51**	**288**	Pn	**Pn**	**10 49 16.0**	**+1.4**
	0.4nm,0.3s,baz=102,slow=10,SNR=17						
MAT	**Matsushiro**	**2.52**	**288**	P	**Pn**	**10 49 16.2**	**+1.6**
MAT				S	**Sn**	**10 49 42.7**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**27.70**	**118**	T	T	11 23 26.2	
	baz=311,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**27.71**	**118**	T	T	11 23 22.0	
	baz=311,slow=75,SNR=9.2						
H11N3	**WAKE ISLAND Hy**	**27.72**	**118**	T	T	11 23 23.9	
	baz=311,slow=75,SNR=8.4						
MKAR	**Makanchi Array**	**44.62**	**303**	P	**P**	**10 56 46.0**	**+0.7**
	0.3nm,0.6s,baz=85,slow=9.9,SNR=2.8						
PMG	**Port Moresby**	**45.31**	**172**	LR	LR	11 13 36.6	
	comp=Z,26nm,21.8s,baz=151,slow=33						
WRA	**Warramunga Arr**	**55.81**	**188**	P	**P**	**10 58 10.0**	**-0.2**
	0.4nm,0.8s,baz=2.4,slow=7.6,SNR=8.5						

*IDC **20** 11:08:16.9±0.5, 35°.39S×105°.15W, h0km, mb4.8/16, mb1 4.9/16, mb1mx4.8/26, mbtmp4.8/16, MS5.0/17, Ms1 5.0/17, ms1mx4.9/21, Error ellipse: s-maj=16.7km s-min=15.0km az=136.0*
*MOS **20** 11:08:17.6±1.1, 35°.42S×105°.10W, h11km, mb5.1/24, Error ellipse: s-maj=13.7km s-min=7.3km az=87.8*
*NEIC **20** 11:08:18.7, 35°.54S×105°.09W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.40; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$1.56; $M_{r\theta}$0.21; $M_{\theta\phi}$-4.35; $M_{\phi r}$-0.68; Fault plane solution: $M_0$4.76000×10^{17} NP1:ϕ_s100.68000°, δ81.88000°, λ174.98000°. NP2:ϕ_s191.39000°, δ85.03000°, λ8.15000°. Principal axes: T 4.6027, Plg9.0000°, Azm56.0000°; N 0.3000, Plg80.0000°, Azm223.0000°; P -4.9027, Plg2.0000°, Azm326.0000°;*
*NEIC **20** 11:08:19.4±1.4, 35°.53S±0°.09×105°.1W±0°.1, h14km±1km, mb5.2/299, Ms_20 5.2/282, Mwb5.7/60, Mwc5.8(GCMT) Error ellipse: s-maj=17.2km s-min=14.6km az=255.0*
*NEIC **20** 11:08:23, 35°.52S×104°.89W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.16; $M_{\theta\theta}$-1.57; $M_{\phi\phi}$2.73; $M_{r\theta}$0.55; $M_{\theta\phi}$-6.80; $M_{\phi r}$-1.15; Fault plane solution: $M_0$7.31000×10^{17} NP1:ϕ_s98.00000°, δ83.00000°, λ176.00000°. NP2:ϕ_s189.00000°, δ86.00000°, λ7.00000°. Principal axes: T 7.8857, Plg8.0000°, Azm54.0000°; N -1.3235, Plg82.0000°, Azm216.0000°; P -6.5622, Plg3.0000°, Azm324.0000°;*
*GCMT **20** 11:08:24.4±0.1, 35°.45S±0°.01×104°.83W±0°.01, h18km, MW5.8/160, Moment Tensor Solution. s154,c323; s160,c359; Duration: 1s9 Moment tensor: Scale 1017 Nm; M_{rr}0.92±.05; $M_{\theta\theta}$-1.35±.05; $M_{\phi\phi}$2.27±.05; $M_{r\theta}$0.57±.12; $M_{\theta\phi}$-5.81±.05; $M_{\phi r}$-1.41±.13; Best double couple: $M_0$6.24200×10^{17} NP1:ϕ_s98.00000°, δ79.00000°, λ176.00000°. NP2:ϕ_s189.00000°, δ86.00000°, λ11.00000°. Principal axes: T 6.8270, Plg11.0000°, Azm54.0000°; N -1.1660, Plg78.0000°, Azm210.0000°; P -5.6560, Plg5.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 11:08:18.4±0.3, 35°.48S±0°.06×105°.09W±0°.06, h13km, n882, σ1s21/729, mb5.1/173, MS5.2/169, 9C-3D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.08**	**335**	Pn	**Pn**	**11 10 30.3**	**+1.1**
	9.7nm,0.3s,baz=163,slow=9.2,SNR=10						
H03S2	**Juan Fernandez**	**21.57**	**93**	T	T	11 35 38.8	
	baz=279,slow=75,SNR=88						
H03S1	**Juan Fernandez**	**21.58**	**93**	T	T	11 35 46.2	
	baz=279,slow=75,SNR=56						
H03S3	**Juan Fernandez**	**21.58**	**93**	T	T	11 35 40.9	
	baz=279,slow=75,SNR=70						
H03N2	**Juan Fernandez**	**21.65**	**92**	T	T	11 35 42.0	
	baz=247,slow=72,SNR=33						
H03N3	**Juan Fernandez**	**21.65**	**92**	T	T	11 35 45.1	
	baz=247,slow=72,SNR=36						
H03N1	**Juan Fernandez**	**21.66**	**92**	T	T	11 35 23.9	
	baz=247,slow=72,SNR=27						
LL05	**Los Muermos**	**25.37**	**113**	P	**P**	**11 13 45.6**	**+0.4**
LL04	**Puerto Octay**	**26.16**	**112**	P	**P**	**11 13 53.3**	**+0.9**
LL04				IAmb	IAmb	11 14 15.7	
	comp=Z,71nm,1.3s						
LL01	**San Ignacio de**	**26.23**	**115**	P	**P**	**11 13 52.9**	**-0.1**
LL02	**Futaleuf**	**26.71**	**117**	P	**P**	**11 13 57.6**	**+0.2**
COYC	**Coyhaique**	**26.87**	**122**	P	**P**	**11 14 00.0**	**+1.2**
COYC				IAmb	IAmb	11 14 07.5	
	comp=Z,58nm,1.2s						
COYC	**Coyhaique**	**26.87**	**122**	IAMs_20	IAMs_20	11 21 31.9	
	comp=Z,10μm,20.0s						
BI02	**San Fabin de**	**27.28**	**103**	P	**P**	**11 14 01.0**	**-1.7**
BI02				IAmb	IAmb	11 14 31.8	
	comp=Z,77nm,1.4s						
ML02	**Panimavida**	**27.30**	**101**	P	**P**	**11 14 03.0**	**+0.2**
PLCA	**Paso Flores**	**27.57**	**111**	P	**P**	**11 14 06.7**	**+1.5**
	comp=Z,13nm,0.9s,baz=274,slow=8.5,SNR=16						
PLCA				LR	LR	11 21 51.8	
	comp=Z,2μm,19.2s,baz=276,slow=30						
PLCA	**Paso Flores**	**27.57**	**111**	*eP*	**P**	**11 14 07.2**	**+2.0**
PLCA	**Paso Flores**	**27.57**	**111**	P	**P**	**11 14 05.0**	**-0.2**
PLCA				IAmb	IAmb	11 14 28.0	
	comp=Z,78nm,1.5s						
PLCA	**Paso Flores**	**27.57**	**111**	*eP*	**P**	**11 14 07.7**	**+2.5**
ZON	**Zonda**	**30.50**	**93**	P	**P**	**11 14 30.9**	**-0.5**
ZON				pmax	pmax		
	comp=Z,34nm,1.1s						
ZON	**Zonda**	**30.50**	**93**	P	**P**	**11 14 30.9**	**-0.5**
ZON				IAmb	IAmb	11 14 41.6	
	comp=Z,34nm,1.1s						
PB14	**IPOC Station P**	**31.76**	**80**	IAMs_20	IAMs_20	11 23 32.0	
	comp=Z,8μm,21.0s						
AC02	**Maricunga**	**31.82**	**84**	P	**P**	**11 14 42.9**	**-0.6**
AC02				IAmb	IAmb	11 15 43.1	
	comp=Z,60nm,1.6s						
GO02	**Mina Guanaco**	**32.17**	**81**	P	**P**	**11 14 46.5**	**+0.1**
PB10	**IPOC Station P**	**32.18**	**78**	IAMs_20	IAMs_20	11 23 44.0	
	comp=Z,8μm,22.0s						
LVC	**Limon Verde**	**33.94**	**78**	P	**P**	**11 15 02.8**	**+0.8**
	comp=Z,15nm,1.2s,baz=212,slow=7.1,SNR=3.6						
LVC	**Limon Verde**	**33.94**	**78**	*eP*	**P**	**11 15 01.8**	**-0.1**
LVC	**Limon Verde**	**33.94**	**78**	P	**P**	**11 15 02.0**	**0.0**
LVC				IAmb	IAmb	11 15 17.9	
	comp=Z,25nm,1.2s						
LVC	**Limon Verde**	**33.94**	**78**	*eP*	**P**	**11 15 03.0**	**+1.1**
PB01	**IPOC Station P**	**34.30**	**75**	P	**P**	**11 15 04.9**	**+0.2**
TRQA	**Tornquist**	**34.41**	**107**	*eP*	**P**	**11 15 07.0**	**+1.5**
PB11	**IPOC Station P**	**34.86**	**73**	P	**P**	**11 15 09.3**	**-0.4**
MNMC	**Minye Minye**	**35.27**	**72**	P	**P**	**11 15 13.0**	**-0.3**
MNMC				IAMs_20	IAMs_20	11 25 14.9	
	comp=Z,7μm,21.0s						
ATAH	**Atahualpa**	**37.35**	**47**	P	**P**	**11 15 32.6**	**+1.3**
	comp=Z,25nm,0.8s,baz=180,slow=4.2,SNR=13						
LPAZ	**La Paz**	**38.06**	**70**	P	**P**	**11 15 37.7**	**+0.2**
	comp=Z,22nm,1.1s,baz=239,slow=4.5,SNR=23						
LPAZ				LR	LR	11 28 12.8	
	comp=Z,4μm,19.0s,baz=250,slow=31						
LPAZ	**La Paz**	**38.06**	**70**	P	**P**	**11 15 37.7**	**+0.2**
LPAZ				IAmb	IAmb	11 15 41.3	
	comp=Z,41nm,1.3s						
LPAZ	**La Paz**	**38.06**	**70**	*eP*	**P**	**11 15 36.1**	**-1.4**
LPAZ	**La Paz**	**38.06**	**70**	*eP*	**P**	**11 15 37.4**	**-0.1**
PMSA	**Palmer Station**	**38.20**	**153**	*eP*	**P**	**11 15 37.6**	**+0.1**
TBI	**Tubuai**	**40.19**	**275**	*eS*	**S**	**11 22 00.3**	**-0.9**
	comp=Z,293nm,28.0s						
TBI				*e*LQ	LQ	11 25 08.0	
	comp=Z,10μm,34.8s						
TBI				*e*LR	LR	11 26 47.6	
	comp=Z,2μm,30.5s						
TBI	**Tubuai**	**40.19**	**275**	*e*T	T	11 57 57.0	
	comp=Z,14nm,0.3s						
CZSB	**Cruzeiro do Su**	**40.51**	**55**	*eP*	**P**	**11 15 56.4**	**-0.9**
TAOE	**Nuku Hiva Isla**	**41.53**	**301**	*eS*	**S**	**11 22 19.0**	**-2.4**
	comp=Z,1μm,27.3s						
TAOE				*e*LQ	LQ	11 25 44.7	
	comp=Z,9μm,28.5s						
TAOE				*e*LR	LR	11 27 31.0	
	comp=Z,4μm,26.7s						
CPUP	**Villa Florida**	**41.65**	**91**	LR	LR	11 31 01.6	
	comp=Z,2μm,18.3s,baz=252,slow=33						
MEH	**Mehetia**	**41.84**	**283**	*e*T	T	12 00 02.3	
	comp=Z,70nm,0.3s						
PLTB	**Pedras Altas**	**42.64**	**100**	P	**P**	**11 16 14.3**	**-0.4**
PLTB				IAmb	IAmb	11 16 21.9	
	comp=Z,75nm,1.4s						
PLTB	**Pedras Altas**	**42.64**	**100**	*eP*	**P**	**11 16 16.8**	**+2.1**
TIAR	**Tiarei**	**43.03**	**283**	*eP*	**P**	**11 16 18.0**	**0.0**
TIAR	**Tiarei**	**43.03**	**283**	*e*T	T	12 01 30.3	
	comp=Z,4.0nm,0.3s						
PPTF	**Pamatai, Papee**	**43.19**	**282**	P	**P**	**11 16 18.9**	**-0.4**
PPTF				IAmb	IAmb	11 16 20.4	
	comp=Z,57nm,1.1s						
PPT2	**Papeete2**	**43.20**	**282**	*eP*	**P**	**11 16 19.5**	**+0.1**
	comp=Z,68nm,1.5s						
PPT2				*e*S	**S**	**11 22 45.4**	**-0.7**
	comp=Z,3μm,27.2s						
PPT2				*e*LQ	LQ	11 26 17.0	
	comp=Z,13μm,32.0s						
PPT2				*e*LR	LR	11 28 12.2	
	comp=Z,1μm,26.2s						
PPT2	**Papeete2**	**43.20**	**282**	*e*T	T	12 01 42.3	
	comp=Z,1.5nm,0.3s						
PPT	**Papeete**	**43.21**	**283**	P	**P**	**11 16 19.5**	**+0.1**
	comp=Z,30nm,0.9s,baz=230,slow=16,SNR=4.9						
CPSB	**Cacapava Do Su**	**43.24**	**99**	*eP*	**P**	**11 16 19.2**	**-0.3**
OTAV	**Otavalo**	**43.35**	**41**	P	**P**	**11 16 20.9**	**-0.1**
OTAV				pmax	pmax		
	comp=Z,67nm,1.4s						
OTAV	**Otavalo**	**43.35**	**41**	P	**P**	**11 16 20.9**	**-0.1**
OTAV				IAmb	IAmb	11 16 40.3	
	comp=Z,67nm,1.4s						
OTAV	**Otavalo**	**43.35**	**41**	IAMs_20	IAMs_20	11 29 44.2	
	comp=Z,4μm,21.0s						
OTAV	**Otavalo**	**43.35**	**41**	*eP*	**P**	**11 16 20.6**	**-0.4**
ETMB	**Extrema**	**43.61**	**64**	*eP*	**P**	**11 16 21.5**	**-1.1**
SIV	**San Ignacio**	**43.72**	**75**	P	**P**	**11 16 22.5**	**-1.1**
	comp=Z,26nm,1.1s,baz=250,slow=10,SNR=27						
TULM	**Tulcn-Chalpat**	**44.11**	**41**	*eP*	**P**	**11 16 22.8**	**-4.4**
GCUF	**Volcan Galeras**	**44.77**	**41**	*eP*	**P**	**11 16 32.6**	**+0.1**
PTLC	**Puerto Leguiza**	**45.33**	**45**	*eP*	**P**	**11 16 34.0**	**-2.4**
PTLB	**Pontes e Lacer**	**45.56**	**76**	*eP*	**P**	**11 16 37.6**	**-0.7**
AQDB	**Aquidauana**	**45.65**	**84**	P	**P**	**11 16 38.6**	**-0.3**
AQDB				IAmb	IAmb	11 16 46.4	
	comp=Z,31nm,0.9s						
AQDB	**Aquidauana**	**45.65**	**84**	*eP*	**P**	**11 16 38.2**	**-0.7**
SOTA	**Rioblanco**	**45.93**	**42**	*eP*	**P**	**11 16 42.8**	**+1.1**
VILB	**Vilhena**	**46.18**	**72**	*eP*	**P**	**11 16 43.0**	**-0.2**
POPC	**Popay

SJCC	San Jacinto, C	53.24	38	eP	P	11 17 36.2	-0.7
NPGB	Novo Progresso	53.56	70	eP	P	11 17 37.9	-1.4
ESAR	Angra dos Reis	53.61	94	eP	P	11 17 40.4	+0.9
SNDB	Serra Nova Dou	53.78	78	eP	P	11 17 39.6	-1.4
BSCB	Bom Sucesso	54.30	92	eP	P	11 17 44.1	-0.7
BDFB	Brasilia	54.39	84	P	P	11 17 45.0	-0.6
	comp=Z,10nm,1.0s,baz=208,slow=6.0,SNR=6.4						
BDFB				LR	LR	11 39 19.4	
	comp=Z,3µm,18.4s,baz=241,slow=34						
BDFB	Brasilia	54.39	84	P	P	11 17 45.6	+0.1
BDFB				pmax	pmax		
	comp=Z,37nm,1.4s						
BDFB	Brasilia	54.39	84	P	P	11 17 45.6	+0.1
BDFB				IAmb	IAmb	11 18 10.1	
	comp=Z,36nm,1.4s						
QSPA	South Pole Qui	54.73	180	P	P	11 17 47.6	+0.3
VAS01	Vassouras-RJ	54.77	94	eP	P	11 17 48.4	+0.2
SDV	Santo Domingo	54.80	43	IAMs_20	IAMs_20	11 37 34.6	
	comp=Z,2µm,20.0s						
SDV	Santo Domingo	54.80	43	eP	P	11 17 44.8	-3.7
ITTB	Itaituba	54.98	67	eP	P	11 17 47.1	-2.5
SBA	Scott Base	55.23	195	P	P	11 17 50.8	+0.2
SBA				pmax	pmax		
	comp=Z,51nm,1.8s						
SBA	Scott Base	55.23	195	P	P	11 17 50.8	+0.2
SBA				IAmb	IAmb	11 18 30.0	
	comp=Z,51nm,1.8s						
DUB01	Friburgo-RJ	55.74	94	eP	P	11 17 55.9	+0.8
PEXB	Peixe	56.11	80	eP	P	11 17 57.4	-0.4
BOAV	Boa Vista	56.15	58	eP	P	11 17 56.5	-1.6
VNDA	Vanda	56.33	195	P	P	11 17 59.5	+1.1
	comp=Z,1.8nm,0.8s,baz=92,slow=7.2,SNR=12						
VNDA				LR	LR	11 37 35.4	
	comp=Z,1µm,18.4s,baz=98,slow=31						
VNDA	Vanda	56.33	195	P	P	11 17 59.3	+0.9
URIC	Uribia, Colomb	56.41	40	P	P	11 18 00.7	+1.0
URIC	Uribia, Colomb	56.41	40	eP	P	11 17 58.1	-1.6
CAM01	Campos-RJ	56.45	94	eP	P	11 18 00.7	+0.6
DIAM	Diamantina, MG	56.55	89	eP	P	11 18 01.2	+0.2
JANB	Januaria	57.72	86	eP	P	11 18 09.2	-0.1
MALB	Monte Alegre	57.73	66	eP	P	11 18 07.6	-1.6
ALF01	Guarapari-ES	57.79	93	eP	P	11 18 09.7	+0.1
ZAIG	Zacatecas	57.98	3	P	P	11 18 11.1	0.0
PRPB	Parauapebas	58.40	74	eP	P	11 18 12.5	-1.4
HATO	Hato, Curacao	58.44	43	IAMs_20	IAMs_20	11 39 56.0	
	comp=Z,3µm,21.0s						
SMTB	Santa Maria do	58.55	78	eP	P	11 18 14.5	-0.5
VNA3	Neumayer Olymp	58.55	158	P	P	11 18 13.7	-0.6
BSFB	Barra de Sao F	58.58	92	eP	P	11 18 15.1	-0.1
SDBA	SAO DESIDERIO	58.68	83	eP	P	11 18 16.1	+0.1
RIB01	Linhares ES	58.71	92	eP	P	11 18 15.7	-0.4
VNA1	Neumayer--Stat	59.18	157	P	P	11 18 19.1	+0.6
MTDJ	Mount Denham	59.46	31	IAMs_20	IAMs_20	11 37 37.3	
	comp=Z,2µm,22.0s						
NAN01	Guarapari, ES	59.67	91	eP	P	11 18 22.8	+0.1
MCPB	Macapa, AP	60.37	67	eP	P	11 18 26.6	-1.0
SNAA	Sanae	60.44	159	P	P	11 18 26.5	-0.8
SNAA	Sanae	60.44	159	P	P	11 18 29.0	+1.6
	comp=Z,3.2nm,0.8s,baz=273,slow=4.7,SNR=16						
SNAA	Sanae	60.44	159	P	P	11 18 29.0	+1.6
SNAA	Sanae	60.44	159	P	P	11 18 28.2	+0.9
SNAA				IAmb	IAmb	11 18 40.4	
	comp=Z,12nm,1.0s						
SNAA				IAMs_20	IAMs_20	11 39 37.4	
	comp=Z,2µm,21.0s						
GUA01	Guaratinga, BA	60.59	90	eP	P	11 18 29.1	+0.1
CMC01	Camacan, BA	61.46	89	eP	P	11 18 34.8	-0.2
GTBY	Guantanamo Bay	62.00	32	IAMs_20	IAMs_20	11 38 44.7	
	comp=Z,3µm,22.0s						
TMAB	Tom-Au,PA,Br	62.10	71	eP	P	11 18 38.1	-1.1
SDDR	Presa de Saban	62.94	36	P	P	11 18 45.1	+0.4
SDDR				IAmb	IAmb	11 19 05.8	
	comp=Z,24nm,1.0s						
SDDR				IAMs_20	IAMs_20	11 42 47.3	
	comp=Z,2µm,20.0s						
SDDR	Presa de Saban	62.94	36	eP	P	11 18 44.9	+0.1
KVTX	Kingsville	63.05	7	IAMs_20	IAMs_20	11 38 57.7	
	comp=Z,1µm,18.0s						
NBPN	Ponto Novo - B	63.37	84	eP	P	11 18 47.0	-0.9
833A	Chaparral WMA,	63.68	6	P	P	11 18 49.1	-0.3
	baz=185						
MLPR	Magueyes Islan	64.24	41	P	P	11 18 53.8	+0.6
TX32	Lajitas Array	64.48	1	P	P	11 18 56.0	+1.3
TXAR	Lajitas Array	64.48	1	P	P	11 18 54.9	+0.2
	comp=Z,3.6nm,0.8s,baz=184,slow=8.0,SNR=36						
TXAR				LR	LR	11 42 26.7	
	comp=Z,894nm,18.1s,baz=0.0,slow=32						
TXAR	Lajitas Array	64.48	1	P	P	11 18 55.9	+1.1
TXAR	Lajitas Array	64.48	1	P	P	11 18 55.9	+1.1
TX31	Lajitas Ar. Si	64.48	1	P	P	11 18 55.7	+0.9
PDPR	Patillas Dam,	64.83	42	P	P	11 18 57.6	+0.5
SJG	San Juan	64.83	41	P	P	11 18 58.2	+1.0
SJG				pmax	pmax		
	comp=Z,119nm,1.7s						
SJG	San Juan	64.83	41	P	P	11 18 58.2	+1.0
SJG	San Juan	64.83	41	IAMs_20	IAMs_20	11 45 07.4	
	comp=Z,1µm,20.0s						
ROSB	Rosrio	64.87	75	eP	P	11 18 55.8	-1.9
CBYP	Canovanas	65.12	41	P	P	11 18 59.3	+0.1
GRTK	Grand Turk	65.18	35	IAMs_20	IAMs_20	11 40 54.8	
	comp=Z,1µm,20.0s						
JCT	Junction City	65.79	5	P	P	11 19 03.4	+0.2
JCT				pmax	pmax		
	comp=Z,19nm,0.9s						
JCT	Junction City	65.79	5	P	P	11 19 03.2	0.0
	baz=185						
JCT	Junction City	65.79	5	P	P	11 19 03.4	+0.2
JCT				IAmb	IAmb	11 19 12.9	
	comp=Z,20nm,0.8s						
NBPS	Pedro II - PI	66.09	78	eP	P	11 19 04.6	-1.1
435B	Jarrell	66.28	7	P	P	11 19 06.2	-0.1
	baz=187						
435B	Jarrell	66.28	7	P	P	11 19 06.7	+0.4
MNTX	Cornudas Mount	66.82	360	P	P	11 19 10.0	+0.3
	baz=180						
MNTX	Cornudas Mount	66.82	360	P	P	11 19 10.2	+0.5
ANWB	Willy Bob	66.92	45	IAMs_20	IAMs_20	11 45 30.7	
	comp=Z,1µm,20.0s						
DWPF	Disney Wildern	67.07	23	P	P	11 19 11.2	-0.1
	baz=201						
DWPF	Disney Wildern	67.07	23	P	P	11 19 12.2	+0.8
DWPF	Disney Wildern	67.07	23	IAMs_20	IAMs_20	11 42 43.1	
	comp=Z,2µm,21.0s						
NBAN	Anadia - AL	67.22	86	eP	P	11 19 12.3	-0.5
214A	Organ Pipe Nat	67.47	353	P	P	11 19 14.3	+0.5
	baz=173						
214A	Organ Pipe Nat	67.47	353	P	P	11 19 15.6	+1.7
214A				IAmb	IAmb	11 19 59.8	
	comp=Z,16nm,1.4s						
WHTX	Lake Whitney,	67.49	7	P	P	11 19 14.4	+0.4
	baz=187						
WHTX	Lake Whitney,	67.49	7	P	P	11 19 14.4	+0.4
NATX	Nacogdoches	67.59	10	P	P	11 19 14.4	-0.2
	baz=189						
NATX	Nacogdoches	67.59	10	P	P	11 19 15.7	+1.1
TUC	Tucson	67.64	355	P	P	11 19 16.4	+1.4
TUC				pmax	pmax		
	comp=Z,20nm,1.6s						
TUC	Tucson	67.64	355	P	P	11 19 15.2	+0.2
	baz=175						
TUC	Tucson	67.64	355	P	P	11 19 16.4	+1.4
TUC				IAmb	IAmb	11 19 51.2	
	comp=Z,20nm,1.6s						
121A	Cookes Peak, D	67.70	358	P	P	11 19 16.3	+0.8
	baz=178						
121A	Cookes Peak, D	67.70	358	P	P	11 19 18.5	+3.0
121A				IAmb	IAmb	11 19 30.9	
	comp=Z,17nm,1.2s						
NBMO	Morrinhos-CE	67.86	78	eP	P	11 19 15.7	-1.1
ABTX	Abilene, Hawle	67.94	5	P	P	11 19 17.2	+0.4
	baz=185						
ABTX	Abilene, Hawle	67.94	5	P	P	11 19 18.9	+2.1
ABTX				IAmb	IAmb	11 19 33.8	
	comp=Z,21nm,1.2s						
BRAL	Brewton	68.43	17	IAMs_20	IAMs_20	11 44 19.1	
	comp=Z,2µm,20.0s						
RMX	La Rumorosa	68.50	350	P	P	11 19 21.6	+1.1
RMX				IAmb	IAmb	11 19 39.7	
	comp=Z,16nm,1.2s						
TKX	Tecate	68.55	350	P	P	11 19 22.3	+1.7
TKX				IAmb	IAmb	11 19 31.5	
	comp=Z,8.4nm,0.7s						
BAR	Barrett	68.66	350	P	P	11 19 22.6	+1.2
BAR				IAmb	IAmb	11 20 07.6	
	comp=Z,27nm,1.4s						
NBRF	Rio Formoso -	68.71	85	eP	P	11 19 21.6	-0.5
NBPA	Parau_RN	68.78	82	eP	P	11 19 21.6	-0.9
Z35A	Perchaven, San	68.84	7	P	P	11 19 23.3	+0.9
MSTX	Muleshoe	69.12	2	P	P	11 19 24.6	+0.3
	baz=182						
MSTX	Muleshoe	69.12	2	P	P	11 19 25.9	+1.7
MSTX				IAmb	IAmb	11 19 46.0	
	comp=Z,36nm,1.6s						
352A	Blakely	69.24	18	P	P	11 19 25.8	+0.9
LENM	Lemitar	69.30	358	P	P	11 19 25.3	-0.2
250A	Grady	69.39	17	P	P	11 19 26.9	+1.1
MSVF	Nonsavu	69.41	263	eP	P	11 19 27.3	+0.8
MSVF	Nonsavu	69.41	263	P	P	11 19 26.8	+0.3
LOOK	Love County	69.50	7	P	P	11 19 28.3	+1.8
LOOK				IAmb	IAmb	11 19 43.4	
	comp=Z,22nm,1.1s						
TPFO	Pinon Flats	69.54	350	P	P	11 19 27.4	+0.4
	baz=170						
PFO	Pinyon Flats O	69.55	350	LR	LR	11 42 54.9	
	comp=Z,514nm,19.6s,baz=168,slow=30						
PFO	Pinyon Flats O	69.55	350	eP	P	11 19 29.4	+2.4
PFO	Pinyon Flats O	69.55	350	P	P	11 19 27.3	+0.3
	baz=170						
PFO	Pinyon Flats O	69.55	350	P	P	11 19 28.9	+2.0
MURC	Murrieta	69.64	349	P	P	11 19 27.5	+0.1
	baz=170						
RCBR	Riachuelo	69.71	83	IAMs_20	IAMs_20	11 48 23.2	
	comp=Z,2µm,19.0s						
RCBR	Riachuelo	69.71	83	eP	P	11 19 27.8	-0.6
X18A	Snowflake	69.79	356	P	P	11 19 28.7	+0.1
X18A				IAmb	IAmb	11 19 59.9	
	comp=Z,15nm,1.0s						
BELC	Belle Mtn. Jos	69.86	350	P	P	11 19 29.7	+0.8
	baz=171						
NBPV	Pedro Velho	69.86	83	eP	P	11 19 28.5	-0.8
IRM	Iron Mountain	69.91	351	P	P	11 19 30.0	+0.9
	baz=171						
PDMCI	Parker Dam,Lak	69.93	352	P	P	11 19 30.7	+1.6
	baz=172						
X34A	Smith Ranch, M	70.04	6	P	P	11 19 31.1	+1.2
X34A				IAmb	IAmb	11 19 39.2	
	comp=Z,21nm,1.1s						
AMTX	Amarillo	70.07	3	P	P	11 19 31.8	+1.7
	baz=183						
AMTX	Amarillo	70.07	3	P	P	11 19 31.1	+1.0
AMTX				IAmb	IAmb	11 19 45.3	
	comp=Z,30nm,1.1s						
ANMO	Albuquerque	70.07	359⇑	eP	P	11 19 30.8	+0.6
ANMO				pmax	pmax		
	comp=Z,11nm,1.7s						
ANMO	Albuquerque	70.07	359	P	P	11 19 31.0	+0.8
	baz=179						
ANMO	Albuquerque	70.07	359	P	P	11 19 31.7	+1.5
ANMO				IAmb	IAmb	11 20 16.6	
	comp=Z,21nm,1.7s						
WMOK	Wichita Mounta	70.10	6	P	P	11 19 31.1	+0.9
WMOK				pmax	pmax		
	comp=Z,12nm,1.5s						
WMOK	Wichita Mounta	70.10	6	P	P	11 19 30.8	+0.6
	baz=185						
WMOK	Wichita Mounta	70.10	6	P	P	11 19 31.1	+0.9
LRAL	Lakeview Retre	70.23	16	P	P	11 19 31.0	0.0
	baz=196						
LRAL	Lakeview Retre	70.23	16	P	P	11 19 31.5	+0.5
LRAL				IAMs_20	IAMs_20	11 44 19.8	
	comp=Z,2µm,22.0s						
X37A	Clayton	70.29	9	P	P	11 19 32.1	+0.8
X37A				IAmb	IAmb	11 20 08.7	
	comp=Z,17nm,1.1s						
BFSC	Mount Baldy Ra	70.34	349	P	P	11 19 31.4	-0.5
	baz=169						
152A	Waverly Hall	70.43	18	P	P	11 19 32.6	+0.4
MIAR	Mount Ida	70.49	10	P	P	11 19 33.5	+0.9
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MIAR	Mount Ida	70.49	10	P	P	11 19 33.1	+0.6
	baz=190,SNR=6.2						
MIAR	Mount Ida	70.49	10	P	P	11 19 33.5	+0.9
X40A	Basin Creek Fa	70.54	11	P	P	11 19 33.1	+0.2
	baz=190						
GMRC	Granite Mounta	70.59	351	P	P	11 19 33.6	+0.2
	baz=171						
W13A	Hualapai Mount	70.69	352	P	P	11 19 35.1	+1.1
HEC	Hector,Ludlow	70.73	350	P	P	11 19 34.5	+0.4
	baz=170						
FNO	Franklin	70.73	7	P	P	11 19 35.6	+1.5
WUAZ	Wupatki	70.87	355	P	P	11 19 35.7	+0.6
	baz=175						
WUAZ	Wupatki	70.87	355	P	P	11 19 36.7	+1.6
WUAZ				IAmb	IAmb	11 20 19.4	
	comp=Z,22nm,1.4s						
WUAZ				IAMs_20	IAMs_20	11 44 00.8	
	comp=Z,1µm,22.0s						
Z51A	Franklin	70.93	18	P	P	11 19 36.2	+0.9
EDW2	Edwards Air Fo	71.02	349	P	P	11 19 36.6	+0.7
	baz=169						
W39A	Magazine	71.10	10	P	P	11 19 37.0	+0.8
	baz=190,SNR=6.0						
W39A	Magazine	71.10	10	P	P	11 19 37.4	+1.2
W39A				IAmb	IAmb	11 19 52.7	
	comp=Z,16nm,1.1s						
BCOK	Bluff Creek, N	71.11	6	P	P	11 19 38.1	+1.8
OXF	Oxford	71.15	14	IAMs_20	IAMs_20	11 50 17.3	
	comp=Z,1µm,19.0s						
Y49A	Blount Mountai	71.15	16	P	P	11 19 37.9	+1.3
Y49A				IAmb	IAmb	11 19 50.8	
	comp=Z,27nm,1.4s						
GSC	Goldstone, Bar	71.26	350	P	P	11 19 38.2	+0.9
GSC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GSC	Goldstone, Bar	71.26	350	P	P	11 19 38.3	+0.9
	baz=170						
GSC	Goldstone, Bar	71.26	350	P	P	11 19 38.2	+0.9
OK029	Liberty Lake	71.26	7	P	P	11 19 38.2	+0.9
TUQ	Turquoise Moun	71.27	351	P	P	11 19 38.3	+0.9
	baz=171						
W41B	Gary Mavity, V	71.30	11	P	P	11 19 37.4	0.0
	baz=191,SNR=8.3						
PKM	Mcpherson Peak	71.34	347	P	P	11 19 38.7	+0.8
	baz=167						
ARVC	Arvin	71.40	348	P	P	11 19 39.0	+0.9
	baz=168						
WHAR	Wooly Hollow	71.41	11	P	P	11 19 39.1	+0.9
GOGA	Godfrey	71.46	19	P	P	11 19 40.2	+1.8
GOGA				pmax	pmax		
	comp=Z,16nm,1.2s						
GOGA	Godfrey	71.46	19	P	P	11 19 38.9	+0.4
	baz=198						
GOGA	Godfrey	71.46	19	P	P	11 19 40.2	+1.8
GOGA				IAmb	IAmb	11 20 08.8	
	comp=Z,16nm,1.2s						
GOGA	Godfrey	71.46	19	IAMs_20	IAMs_20	11 49 13.3	
	comp=Z,1µm,18.0s						
TUL1	Leonard	71.55	8	P	P	11 19 39.7	+0.7
	baz=188						
LRMC	Laurel Mtn Rad	71.56	349	P	P	11 19 39.5	+0.3
	baz=169						
X48A	Hartselle	71.58	16	P	P	11 19 39.9	+0.7
X48A				IAmb	IAmb	11 19 56.9	
	comp=Z,37nm,1.5s						
QUOK	Quay	71.71	7	P	P	11 19 40.4	+0.5
QUOK				IAmb	IAmb	11 19 55.1	
	comp=Z,15nm,0.8s						
Y52A	Lilburn	71.73	18	P	P	11 19 42.2	+2.0
Y52A				IAmb	IAmb	11 19 54.1	
	comp=Z,44nm,1.5s						
SHOC	Shoshone, Teco	71.77	350	P	P	11 19 41.4	+1.1
	baz=170						
U15A	North Rim	71.85	354	P	P	11 19 41.5	+0.4
ISA	Isabella, Lake	71.87	349	P	P	11 19 42.2	+1.2
ISA				pmax	pmax		
	comp=Z,18nm,1.3s						
ISA	Isabella, Lake	71.87	349	P	P	11 19 41.6	+0.6
	baz=169						
ISA	Isabella, Lake	71.87	349	P	P	11 19 42.2	+1.2
ISA				IAmb	IAmb	11 20 18.1	
	comp=Z,18nm,1.3s						
PLAL	Pickwick Lake	71.87	15	P	P	11 19 41.9	+0.9
PLAL				IAmb	IAmb	11 19 54.0	
	comp=Z,16nm,1.1s						
PLAL				IAMs_20	IAMs_20	11 46 38.4	
	comp=Z,1µm,22.0s						
CROK	Carrier	71.92	6	P	P	11 19 42.1	+0.9
FPAL	Fort Paine	71.99	17	P	P	11 19 41.7	0.0
FPAL				IAmb	IAmb	11 19 55.7	
	comp=Z,26nm,1.1s						
FCAR	Ozark Folk Cen	72.02	11	P	P	11 19 43.2	+1.4
NHSC	New Hope	72.11	22	IAMs_20	IAMs_20	11 50 03.5	
	comp=Z,2µm,19.0s						
VES	Vestal, Richgr	72.14	348	P	P	11 19 43.5	+1.0
	baz=168						
HHAR	Hobbs	72.14	9	P	P	11 19 42.8	+0.2
OK032	Salt Plains WL	72.20	6	P	P	11 19 43.8	+1.0
X51A	Calhoun	72.20	17	P	P	11 19 44.0	+1.1
SHPR	Sheep Range	72.23	351	P	P	11 19 44.0	+0.7
PAGB	Antelope Grade	72.24	347	P	P	11 19 45.2	+2.1
PAGB				IAmb	IAmb	11 20 29.8	
	comp=Z,36nm,1.3s						
U38A	Gravette	72.24	9	P	P	11 19 43.6	+0.5
U38A				IAmb	IAmb	11 20 00.1	
	comp=Z,28nm,1.2s						
BLOK	Blackwell	72.24	7	P	P	11 19 44.9	+1.8
BLOK				IAmb	IAmb	11 19 59.6	
	comp=Z,15nm,0.9s						
T25A	Trinidad	72.25	1	P	P	11 19 43.7	+0.3
	baz=181						
T25A	Trinidad	72.25	1	P	P	11 19 45.0	+1.5
T25A				IAmb	IAmb	11 20 11.3	
	comp=Z,21nm,1.2s						
T25A				IAMs_20	IAMs_20	11 46 26.4	
	comp=Z,1µm,20.0s						
LCAR	Lake Charles	72.35	12	P	P	11 19 45.8	+2.0
U40A	Yellville	72.37	10	P	P	11 19 44.2	+0.3
	baz=190,SNR=7.9						
U40A	Yellville	72.37	10	P	P	11 19 44.8	+0.9
MVCO	Mesa Verde	72.39	357	P	P	11 19 44.5	+0.2
	baz=177						
MVCO	Mesa Verde	72.39	357	P	P	11 19 44.1	-0.1
FURC	Furnace Creek,	72.41	350	P	P	11 19 45.3	+1.2
	baz=170						
KAN13	South Haven SW	72.47	6	P	P	11 19 45.4	+0.9
KNB	Kanab	72.48	354	P	P	11 19 45.7	+0.9
KNB				pmax	pmax		
	comp=Z,18nm,1.3s						
KNB	Kanab	72.48	354	P	P	11 19 45.7	+0.9
KNB				IAmb	IAmb	11 20 21.1	
	comp=Z,18nm,1.3s						
LCMT	Little Creek M	72.52	353	P	P	11 19 46.3	+1.4
KAN05	Bluff City Nor	72.53	6	P	P	11 19 46.6	+1.8
HODGE	Hodges	72.56	20	P	P	11 19 46.0	+0.9
HODGE				IAmb	IAmb	11 20 14.8	
	comp=Z,55nm,2.0s						
SWET	Sewanee	72.57	16	P	P	11 19 45.5	+0.3
KAN09	Caldwell North	72.58	6	P	P	11 19 47.4	+2.2
KAN09				IAmb	IAmb	11 19 55.0	
	comp=Z,33nm,1.1s						
SYO	Syowa Base	72.60	167⇓	eP	P	11 19 41.6	-3.4
SYO	Syowa Base	72.60	167⇓	eP	P	11 19 46.0	+1.0
KS20	Mayfield South	72.68	6	P	P	11 19 46.9	+1.2
KS20				IAmb	IAmb	11 19 55.7	
	comp=Z,36nm,1.2s						
W50A	Signal Mountai	72.69	17	P	P	11 19 47.2	+1.3
W50A				IAmb	IAmb	11 20 00.1	
	comp=Z,23nm,1.1s						
TPNV	Topopah Spring	72.80	351	P	P	11 19 47.0	+0.3
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TPNV	Topopah Spring	72.80	351	P	P	11 19 47.2	+0.6
	baz=170						
TPNV	Topopah Spring	72.80	351	P	P	11 19 47.0	+0.3
PMPB	Monarch Peak	72.81	347	P	P	11 19 48.0	+1.4
PMPB				IAmb	IAmb	11 19 58.8	
	comp=Z,24nm,0.9s						
SDCO	Great Sand Dun	72.85	360	P	P	11 19 47.5	+0.4
	baz=180						
SDCO	Great Sand Dun	72.85	360	P	P	11 19 47.7	+0.6
SDCO				IAMs_20	IAMs_20	11 46 33.4	
	comp=Z,1µm,20.0s						
PKCU	Pink Cliffs	72.86	354	P	P	11 19 49.2	+2.0
PKCU				IAmb	IAmb	11 20 24.1	
	comp=Z,34nm,1.3s						
V48A	Smith Brothers	72.87	15	P	P	11 19 47.2	+0.3
V48A				IAmb	IAmb	11 20 00.2	
	comp=Z,26nm,1.0s						
S22A	4UR Ranch, Cre	72.87	359	P	P	11 19 48.0	+0.7
	baz=178						
JSC	Jenkinsville	72.89	20	P	P	11 19 48.7	+1.7
JSC				pmax	pmax		
	comp=Z,15nm,1.0s						
JSC	Jenkinsville	72.89	20	P	P	11 19 48.7	+1.7
JSC				IAmb	IAmb	11 19 50.3	
	comp=Z,15nm,1.0s						
W52A	Murphy	72.93	18	P	P	11 19 49.0	+1.7
W52A				IAmb	IAmb	11 20 02.1	
	comp=Z,28nm,1.2s						
WVT	Waverly	73.03	15	P	P	11 19 48.7	+0.9
WVT				pmax	pmax		
	comp=Z,11nm,1.1s						
WVT	Waverly	73.03	15	P	P	11 19 48.2	+0.4
	baz=195						
WVT	Waverly	73.03	15	P	P	11 19 48.7	+0.9
WVT	Waverly	73.03	15	IAMs_20	IAMs_20	11 47 11.0	
	comp=Z,1µm,21.0s						
CCUT	Cedar City	73.06	353	P	P	11 19 49.8	+1.5
SZCU	Shurtz Canyon	73.08	353	P	P	11 19 48.8	+0.4
SZCU				IAmb	IAmb	11 20 25.0	
	comp=Z,25nm,1.4s						
BG3	Lake Jocassee	73.09	19	P	P	11 19 48.9	+0.6
BG3				IAmb	IAmb	11 19 53.8	
	comp=Z,22nm,1.0s						
PRN	Pahroc Range	73.10	352	P	P	11 19 49.7	+1.3
CPCT	Cooper Cave	73.12	17	P	P	11 19 49.1	+0.7
CPCT				IAmb	IAmb	11 20 19.0	
	comp=Z,26nm,1.3s						
TIN	Tinemaha, Big	73.19	349	P	P	11 19 49.4	+0.5
	baz=169						
PAULI	Pauline	73.23	20	P	P	11 19 49.4	+0.3
PAULI				IAmb	IAmb	11 20 18.1	
	comp=Z,16nm,1.0s						
MGMO	Mountain Grove	73.24	11	P	P	11 19 50.2	+1.2
PV05	Paradox Valley	73.28	357	P	P	11 19 51.1	+1.6
T42A	Van Buren	73.30	12	P	P	11 19 49.4	0.0
T42A				IAmb	IAmb	11 20 06.1	
	comp=Z,26nm,1.4s						
PV01	Paradox Valley	73.31	357	P	P	11 19 50.2	+0.4
CLTN	Cedars of Leba	73.31	16	P	P	11 19 50.5	+1.0
CLTN				IAmb	IAmb	11 20 02.9	
	comp=Z,18nm,1.1s						
PV13	Radium Mtn., P	73.35	357	P	P	11 19 50.7	+0.8

S44A	Carbondale	74.27	13	P	P	11 19 55.5	+0.5
CCM	Cathedral Cave	74.28	11	P	P	11 19 57.4	+2.3
CCM				pmax	pmax		
	comp=Z,16nm,1.0s						
CCM	Cathedral Cave	74.28	11	P	P	11 19 55.6	+0.5
	baz=192						
CCM	Cathedral Cave	74.28	11	P	P	11 19 57.4	+2.3
CCM				IAmb	IAmb	11 20 14.6	
	comp=Z,16nm,0.9s						
SIUC	Southern Illin	74.30	13	P	P	11 19 56.6	+1.4
SIUC				IAmb	IAmb	11 20 08.9	
	comp=Z,16nm,0.8s						
SMCO	Snowmass	74.30	358	P	P	11 19 55.9	+0.2
SMCO				IAMs_20	IAMs_20	11 47 27.8	
	comp=Z,1μm,19.0s						
SRU	San Rafael Swe	74.39	356	P	P	11 19 55.8	-0.2
SRU				pmax	pmax		
	comp=Z,11nm,0.9s						
SRU	San Rafael Swe	74.39	356	P	P	11 19 55.8	-0.2
LHV	Little Huntoon	74.40	349	P	P	11 19 56.5	+0.7
LHV				IAmb	IAmb	11 20 16.6	
	comp=Z,27nm,1.1s						
TZTN	Tazewell	74.40	18	P	P	11 19 56.5	+0.6
	baz=198						
TZTN	Tazewell	74.40	18	P	P	11 19 57.6	+1.7
TZTN				IAmb	IAmb	11 20 16.8	
	comp=Z,31nm,1.1s						
CMB	Columbia Colle	74.50	348	P	P	11 19 56.3	-0.2
CMB				pmax	pmax		
	comp=Z,14nm,1.0s						
CMB	Columbia Colle	74.50	348	P	P	11 19 56.2	-0.2
CMB				IAMs_20	IAMs_20	11 44 46.0	
	comp=Z,1μm,21.0s						
NV11	Mina Array Sit	74.53	349	P	P	11 19 57.1	+0.4
NV11				IAmb	IAmb	11 20 09.0	
	comp=Z,16nm,0.9s						
T50A	Nancy	74.55	17	P	P	11 19 56.6	-0.1
T50A				IAmb	IAmb	11 20 10.9	
	comp=Z,21nm,1.1s						
NVAR	Mina Array Bea	74.55	349	P	P	11 19 57.0	+0.1
	comp=Z,15nm,1.0s,baz=187,slow=7.8,SNR=33						
NVAR				LR	LR	11 45 50.3	
	comp=Z,613nm,18.2s,baz=168,slow=30						
NVAR	Mina Array Bea	74.55	349	P	P	11 19 57.6	+0.6
SPR3	Spring Creek 3	74.59	353	P	P	11 19 57.4	+0.1
TMUT	Trail Mountain	74.62	355	P	P	11 19 57.5	+0.1
TMUT				IAmb	IAmb	11 20 24.8	
	comp=Z,14nm,0.9s						
KSU1	Kansas State U	74.62	7	P	P	11 19 58.1	+1.0
	baz=187						
P17A	Butcher Ranch,	74.76	355	P	P	11 19 58.4	+0.3
RYN	Ryan	74.78	349	P	P	11 19 58.9	+0.7
WAKR	Walker	74.80	348	P	P	11 19 59.0	+0.7
WAKR				IAmb	IAmb	11 20 11.2	
	comp=Z,46nm,1.8s						
ISCO	Idaho Springs	74.91	360	P	P	11 20 00.3	+1.2
ISCO				pmax	pmax		
	comp=Z,12nm,1.3s						
ISCO	Idaho Springs	74.91	360	P	P	11 19 59.5	+0.4
	baz=180						
ISCO	Idaho Springs	74.91	360	P	P	11 20 00.2	+1.2
ISCO				IAMs_20	IAMs_20	11 47 58.7	
	comp=Z,888nm,18.0s						
CASY	Casey	74.93	194	P	P	11 19 59.3	+0.6
CASY	Casey	74.93	194	IAMs_20	IAMs_20	11 50 09.3	
	comp=Z,1μm,18.0s						
KVN	Kaiserville	75.12	350	P	P	11 20 00.5	+0.2
KVN				pmax	pmax		
	comp=Z,13nm,0.9s						
KVN	Kaiserville	75.12	350	P	P	11 20 00.5	+0.2
KVN				IAmb	IAmb	11 20 12.3	
	comp=Z,13nm,0.9s						
YERR	Yerington	75.24	349	P	P	11 20 01.6	+0.7
YERR				IAmb	IAmb	11 20 48.4	
	comp=Z,55nm,1.8s						
O20A	White River Ci	75.30	358	P	P	11 20 02.0	+0.8
	baz=177						
O20A	White River Ci	75.30	358	P	P	11 20 03.1	+1.9
O20A				IAmb	IAmb	11 20 55.4	
	comp=Z,18nm,1.2s						
NLU	North Lily Min	75.33	354	P	P	11 20 01.6	+0.2
MPU	Maple Canyon	75.36	355	P	P	11 20 02.2	+0.7
WCI	Wyandotte Cave	75.38	15	P	P	11 20 03.0	+1.6
WCI				pmax	pmax		
	comp=Z,37nm,1.2s						
WCI	Wyandotte Cave	75.38	15	P	P	11 20 02.3	+0.9
	baz=196						
WCI	Wyandotte Cave	75.38	15	P	P	11 20 03.0	+1.6
WCI				IAmb	IAmb	11 20 17.7	
	comp=Z,36nm,1.2s						
WCI	Wyandotte Cave	75.38	15	IAMs_20	IAMs_20	11 47 33.1	
	comp=Z,1μm,22.0s						
PNTR	Pine Nut	75.40	348	P	P	11 20 02.3	+0.4
PNTR				IAmb	IAmb	11 21 08.3	
	comp=Z,22nm,1.1s						
S51A	Beattyville	75.43	17	P	P	11 20 03.6	+1.8
S51A				IAmb	IAmb	11 20 27.2	
	comp=Z,16nm,1.0s						
RUBR	Rubicon Trail	75.45	348	P	P	11 20 03.1	+0.9
Q44A	Meyer Farm, Va	75.49	13	P	P	11 20 03.1	+1.1
Q44A				IAmb	IAmb	11 20 22.9	
	comp=Z,22nm,0.8s						
OLIL	Olney	75.50	14	P	P	11 20 02.7	+0.6
AFDM	Forest Hills D	75.50	347	P	P	11 20 02.2	0.0
KIP	Kipapa	75.60	310	eP	P	11 20 03.1	0.0
KIP				pmax	pmax		
	comp=Z,75nm,1.2s						
P40A	Paris	75.60	10	P	P	11 20 03.5	+0.8
VCNR	Virginia City	75.61	348	P	P	11 20 03.5	+0.4
DUG	Dugway, Tooele	75.63	354	P	P	11 20 04.5	+1.4
DUG	Dugway, Tooele	75.63	354	P	P	11 20 04.4	+1.4
	baz=174						
DUG	Dugway, Tooele	75.63	354	P	P	11 20 04.5	+1.4
DUG				IAMs_20	IAMs_20	11 47 46.9	
	comp=Z,1μm,18.0s						
R49A	Shelbyville	75.68	16	P	P	11 20 04.7	+1.4
R49A				IAmb	IAmb	11 20 33.1	
	comp=Z,17nm,1.1s						
RDMU	Red Mountain	75.79	356	P	P	11 20 05.3	+1.3
RDMU				IAmb	IAmb	11 20 39.9	
	comp=Z,33nm,1.6s						
BLA	Blacksburg	75.86	20	P	P	11 20 05.3	+1.0
	baz=200						
BLA	Blacksburg	75.86	20	IAMs_20	IAMs_20	11 48 30.9	
	comp=Z,1μm,22.0s						
R50A	Paris	75.87	17	P	P	11 20 05.5	+1.2
R50A				IAmb	IAmb	11 20 20.7	
	comp=Z,26nm,1.2s						
JLU	Jordanelle	75.93	355	P	P	11 20 05.3	+0.4
JLU				IAmb	IAmb	11 20 41.1	
	comp=Z,38nm,1.7s						
HOPS	Hopland Field	75.94	346	P	P	11 20 05.8	+1.1
PAHR	Pah Rah Range	75.97	349	P	P	11 20 06.4	+1.4
N23A	Red Feather La	76.00	359	P	P	11 20 06.4	+1.0
	baz=179						
CTU	Camp Tracy	76.04	355	P	P	11 20 06.6	+1.1
CTU				IAmb	IAmb	11 20 41.6	
	comp=Z,31nm,1.8s						
P43A	Skaggs, Pawnee	76.11	12	P	P	11 20 06.1	+0.4
ORV	Oroville	76.18	347	P	P	11 20 07.4	+1.3
ORV				pmax	pmax		
	comp=Z,21nm,1.6s						
ORV	Oroville	76.18	347	P	P	11 20 07.3	+1.3
BEKR	Beckworth	76.28	348	P	P	11 20 06.7	-0.2
BEKR				IAmb	IAmb	11 20 58.6	
	comp=Z,26nm,1.3s						
BGU	Big Grassy Mou	76.38	354	P	P	11 20 08.8	+1.5
PHWY	Pilot Hill	76.41	360	IAMs_20	IAMs_20	11 48 48.4	
	comp=Z,1μm,19.0s						
ELK	Elko	76.42	352	LR	LR	11 46 42.7	
	comp=Z,502nm,21.9s,baz=182,slow=30						
ELK	Elko	76.42	352	P	P	11 20 09.0	+1.3
ELK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ELK	Elko	76.42	352	P	P	11 20 08.9	+1.3
N35A	Tabor	76.46	7	P	P	11 20 09.0	+1.5
P46A	Rosedale	76.52	14	P	P	11 20 08.9	+1.0
SPUT	South Promonto	76.71	354	P	P	11 20 10.3	+1.1
P48A	Milroy	76.75	16	P	P	11 20 10.6	+1.4
P48A				IAmb	IAmb	11 20 25.3	
	comp=Z,23nm,1.1s						
Q51A	Peebles	76.81	17	P	P	11 20 10.2	+0.6
Q51A				IAmb	IAmb	11 20 13.3	
	comp=Z,28nm,1.1s						
RWWY	Rawlins	76.82	358	P	P	11 20 10.3	+0.4
RWWY				IAmb	IAmb	11 20 42.5	
	comp=Z,16nm,1.1s						
MAW	Mawson	76.83	175	P	P	11 20 10.2	+0.7
	comp=Z,4.7nm,0.9s,baz=337,slow=5.6,SNR=5.8						
MAW				LR	LR	11 51 07.9	
	comp=Z,690nm,22.0s,baz=187,slow=33						
MAW	Mawson	76.83	175	P	P	11 20 09.7	+0.2
HWUT	Hardware Ranch	76.94	355	P	P	11 20 11.3	+0.8
HWUT				IAMs_20	IAMs_20	11 47 59.4	
	comp=Z,1μm,20.0s						
O03E	Paynes Creek	76.95	347	P	P	11 20 11.8	+1.3
	baz=166						
P49A	Miami Univ. Ec	76.97	16	P	P	11 20 11.6	+1.1
	baz=197						
P49A	Miami Univ. Ec	76.97	16	P	P	11 20 11.3	+0.8
P49A				IAMs_20	IAMs_20	11 49 03.3	
	comp=Z,2μm,22.0s						
Q52A	Bidwell	77.02	18	P	P	11 20 11.3	+0.6
Q52A				IAmb	IAmb	11 20 36.3	
	comp=Z,21nm,1.1s						
O02D	Mt. Diablo Mer	77.03	346	P	P	11 20 12.2	+1.3
	baz=165						
HDIL	Hopedale	77.04	12	P	P	11 20 11.6	+0.7
	baz=193						
KMRM	Mail Ridge	77.25	345	P	P	11 20 14.4	+2.3
SFIN	Lafayette	77.28	14	P	P	11 20 12.1	-0.1
	baz=195						
SFIN	Lafayette	77.28	14	P	P	11 20 13.7	+1.5
SFIN				IAmb	IAmb	11 20 42.4	
	comp=Z,25nm,1.3s						
R58B	Mineral	77.30	22	P	P	11 20 12.5	+0.1
R58B				IAmb	IAmb	11 20 36.9	
	comp=Z,16nm,1.0s						
P51A	Williamsport	77.31	17	P	P	11 20 13.0	+0.6
P51A				IAmb	IAmb	11 20 43.0	
	comp=Z,31nm,1.1s						
WDC	Whiskeytown Da	77.37	346	P	P	11 20 13.1	+0.4
WDC				pmax	pmax		
	comp=Z,19nm,1.0s						
WDC	Whiskeytown Da	77.37	346	P	P	11 20 13.1	+0.4
WDC				IAmb	IAmb	11 20 24.1	
	comp=Z,19nm,1.0s						
Q54A	Coxs Mills	77.41	19	P	P	11 20 14.0	+1.0
Q54A				IAmb	IAmb	11 20 41.6	
	comp=Z,16nm,1.1s						
O49A	Covington	77.68	16	P	P	11 20 16.2	+1.7
O49A				IAmb	IAmb	11 20 31.0	
	comp=Z,40nm,1.4s						
P52A	Corning	77.68	18	P	P	11 20 14.1	-0.4
	baz=199						
P52A	Corning	77.68	18	P	P	11 20 15.2	+0.7
P52A				IAmb	IAmb	11 20 39.6	
	comp=Z,24nm,0.8s						
P53A	Whipple	77.74	19	P	P	11 20 16.2	+1.5
P53A				IAmb	IAmb	11 20 32.2	
	comp=Z,44nm,1.6s						
K22A	Casper	77.76	359	P	P	11 20 15.1	+0.1
	baz=179						
K22A	Casper	77.76	359	P	P	11 20 16.9	+1.8
N02D	Trinity Center	77.78	346	P	P	11 20 15.7	+0.6
	baz=165						
KHMM	Horse Mountain	77.89	346	P	P	11 20 17.3	+1.5
KHMM				IAmb	IAmb	11 20 26.3	
	comp=Z,28nm,1.1s						
Q56A	Snyder Ridge,	77.92	20	P	P	11 20 16.6	+0.8
Q56A				IAmb	IAmb	11 20 53.2	
	comp=Z,31nm,1.5s						
BW06	Boulder Array	77.97	357	P	P	11 20 16.1	-0.2
	baz=176,SNR=20						
BW06	Boulder Array	77.97	357	P	P	11 20 16.2	-0.2
BW06				IAmb	IAmb	11 21 05.1	
	comp=Z,26nm,1.2s						
PD31	Pinedale Array	77.97	357	P	P	11 20 15.9	-0.4
PD31				IAmb	IAmb	11 21 05.1	
	comp=Z,23nm,1.2s						
PDAR	Pinedale Array	77.97	357	P	P	11 20 15.6	-0.8
	comp=Z,10nm,0.8s,baz=162,slow=5.9,SNR=52						
PDAR				LR	LR	11 49 50.2	
	comp=Z,375nm,20.5s,baz=175,slow=32						
PDAR	Pinedale Array	77.97	357	P	P	11 20 15.9	-0.4
ACSO	Alum Creek Sta	78.04	17	P	P	11 20 16.1	-0.4
	baz=198						
ACSO	Alum Creek Sta	78.04	17	P	P	11 20 17.1	+0.6
ACSO				IAmb	IAmb	11 20 47.0	
	comp=Z,15nm,0.9s						
N47A	Urbana	78.05	15	P	P	11 20 17.1	+0.7
AHID	Auburn Hatcher	78.06	355	P	P	11 20 17.7	+0.9
AHID				IAmb	IAmb	11 21 02.9	
	comp=Z,28nm,1.5s						
L40A	Anamosa	78.20	11	P	P	11 20 19.2	+1.9
M02C	Callahan	78.21	346	P	P	11 20 17.4	-0.1
	baz=165,SNR=8.7						
O52A	Adamsville	78.21	18	P	P	11 20 18.0	+0.6
O52A				IAmb	IAmb	11 20 43.3	
	comp=Z,29nm,0.9s						
MOD	Modoc Plateau	78.26	348	P	P	11 20 18.4	+0.6
MOD				IAmb	IAmb	11 21 04.4	
	comp=Z,22nm,1.1s						
M04C	Macdoel	78.40	347	P	P	11 20 18.9	+0.2
	baz=166,SNR=12						
N49A	Columbus Grove	78.42	16	P	P	11 20 18.3	-0.2
O53A	New Philadelph	78.50	18	P	P	11 20 18.6	-0.4
	baz=200						
O53A	New Philadelph	78.50	18	P	P	11 20 19.2	+0.2
YBH	Yreka Blue Hor	78.52	347	LR	LR	11 47 08.0	
	comp=Z,797nm,21.6s,baz=166,slow=30						
YBH	Yreka Blue Hor	78.52	347	P	P	11 20 18.8	-0.4
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	Yreka Blue Hor	78.52	347	P	P	11 20 18.8	-0.4
REDW	Red Top Meadow	78.64	356	P	P	11 20 19.6	-0.5
REDW				IAmb	IAmb	11 21 14.5	
	comp=Z,30nm,1.4s						
REDW				IAMs_20	IAMs_20	11 48 56.6	
	comp=Z,857nm,20.0s						
SNOW	Snow King Moun	78.73	356	P	P	11 20 21.9	+1.3
SNOW				IAmb	IAmb	11 20 50.2	
	comp=Z,21nm,1.1s						
TPAW	Teton Pass	78.77	356	P	P	11 20 21.9	+1.1
TPAW				IAmb	IAmb	11 20 54.5	
	comp=Z,26nm,1.1s						
N51A	Ashland	78.84	17	P	P	11 20 20.9	0.0
L44A	Lake County Fo	78.86	13	P	P	11 20 21.1	+0.2
	baz=194						
LOHW	Long Hollow	78.87	356	P	P	11 20 20.7	-0.6
LOHW				IAmb	IAmb	11 21 11.1	
	comp=Z,21nm,1.2s						
L04D	Klamath Falls	78.91	347	P	P	11 20 21.4	0.0
	baz=166,SNR=7.3						
L02E	Cave Junction	79.10	346	P	P	11 20 22.3	0.0
	baz=165						
N53A	Lisbon	79.12	19	P	P	11 20 22.9	+0.5
N53A				IAmb	IAmb	11 20 39.8	
	comp=Z,49nm,1.4s						
MFID	Camas Ranch	79.12	352	P	P	11 20 24.0	+1.5
K05A	Summer Lake	79.16	348	P	P	11 20 24.4	+1.6
K05A				IAmb	IAmb	11 20 33.4	
	comp=Z,21nm,0.9s						
IMW	Indian Meadow	79.18	356	IAMs_20	IAMs_20	11 49 42.8	
	comp=Z,869nm,20.0s						
JFWS	Jewell Farm	79.19	11	P	P	11 20 22.9	+0.2
	baz=192						
K04D	Chiloquin, OR	79.21	348	P	P	11 20 22.8	-0.2
	baz=166						
ECSD	EROS Data Cent	79.21	6	P	P	11 20 22.9	+0.1
	baz=187						
ECSD	EROS Data Cent	79.21	6	P	P	11 20 23.7	+0.9
ECSD				IAmb	IAmb	11 20 34.8	
	comp=Z,19nm,1.0s						
RSSD	Black Hills	79.23	1	P	P	11 20 24.9	+1.7
RSSD				pmax	pmax		
	comp=Z,16nm,1.3s						
RSSD	Black Hills	79.23	1	P	P	11 20 23.7	+0.5
	baz=181						
RSSD	Black Hills	79.23	1	P	P	11 20 24.9	+1.7
O56A	Blue Knob Stat	79.23	20	P	P	11 20 22.7	-0.4
	baz=202						
O56A	Blue Knob Stat	79.23	20	P	P	11 20 23.0	-0.1
O56A				IAmb	IAmb	11 20 48.2	
	comp=Z,21nm,1.0s						
K43A	Burlington	79.30	12	P	P	11 20 24.0	+0.7
K43A				IAmb	IAmb	11 20 49.4	
	comp=Z,36nm,1.2s						
FLWY	Flagg Ranch	79.35	356	P	P	11 20 24.3	+0.4
FLWY				IAmb	IAmb	11 20 27.3	
	comp=Z,14nm,0.8s						
J08A	Circle Bar Ran	79.40	350	P	P	11 20 24.7	+0.6
HUMO	Hull Mountain	79.41	347	P	P	11 20 24.1	+0.1
N54A	Moraine State	79.49	19	P	P	11 20 24.4	0.0
	baz=200						
N54A	Moraine State	79.49	19	IAMs_20	IAMs_20	11 52 29.9	
	comp=Z,936nm,20.0s						
YPP	Pitchstone Pla	79.54	356	P	P	11 20 25.8	+0.7
K02D	Willamette Mer	79.63	346	P	P	11 20 24.8	-0.4
	baz=165,SNR=7.4						
MVL	Millersville	79.64	22	P	P	11 20 24.6	-0.7
MVL				IAmb	IAmb	11 20 49.0	
	comp=Z,62nm,2.0s						
H17A	Grant Village	79.65	356	P	P	11 20 25.1	-0.5
	baz=176						
P60A	Greenville	79.69	23	P	P	11 20 24.9	-0.6
	baz=204						
SUSD	Miller	79.74	4	P	P	11 20 25.5	-0.3
	baz=185						
M53A	Wi Miller and	79.75	18	P	P	11 20 25.3	-0.5
	baz=200						
M53A	Wi Miller and	79.75	18	IAMs_20	IAMs_20	11 52 34.0	
	comp=Z,1μm,21.0s						
J05D	Fort Rock, OR	79.76	348	P	P	11 20 25.6	-0.4
	baz=167,SNR=13						
SSPA	Standing Stone	79.77	21	P	P	11 20 25.5	-0.5
	baz=202						
SSPA	Standing Stone	79.77	21	P	P	11 20 24.4	-1.6
SSPA				IAmb	IAmb	11 21 03.3	
	comp=Z,25nm,1.3s						
SSPA	Standing Stone	79.77	21	IAMs_20	IAMs_20	11 50 48.3	
	comp=Z,1μm,21.0s						
BCYI	Bear Canyon	79.77	354	P	P	11 20 27.2	+1.0
I37A	Lemond, Waseca	79.83	9	P	P	11 20 28.0	+1.8
I37A				IAmb	IAmb	11 20 37.8	
	comp=Z,28nm,0.9s						
AAM	Ann Arbor	79.85	16	P	P	11 20 26.7	+0.3
	baz=198						
AAM	Ann Arbor	79.85	16	IAMs_20	IAMs_20	11 50 32.5	
	comp=Z,1μm,21.0s						
J04D	Umpqua Nationa	79.87	347	P	P	11 20 26.1	-0.6
	baz=166						
YMR	Madison River	79.95	356	P	P	11 20 28.3	+1.2
YHB	Horse Butte	80.04	356	P	P	11 20 30.1	+2.4
YHB				IAmb	IAmb	11 21 19.7	
	comp=Z,38nm,1.9s						
YHH	Holmes Hill	80.06	356	P	P	11 20 29.6	+1.8
M54A	Oil Creek Stat	80.08	19	P	P	11 20 27.9	+0.3
	baz=201						
M54A	Oil Creek Stat	80.08	19	IAMs_20	IAMs_20	11 52 56.7	
	comp=Z,1μm,19.0s						
J01E	Myrtle Point	80.13	346	P	P	11 20 27.7	-0.1
	baz=164						
QLMT	Earthquake Lak	80.14	355	P	P	11 20 29.2	+1.1
PINE	Pine Mountain	80.20	348	P	P	11 20 29.4	+1.0
PINE				IAmb	IAmb	11 20 32.9	
	comp=Z,28nm,0.8s						
YNE	Yellowstone No	80.23	356	P	P	11 20 29.2	+0.5
MCMT	McKenzie Canyo	80.24	354	P	P	11 20 28.8	+0.1
I07A	Izee	80.26	350	P	P	11 20 28.5	-0.2
I07A				IAmb	IAmb	11 20 33.1	
	comp=Z,16nm,0.9s						
RLMT	Red Lodge	80.31	357	P	P	11 20 28.8	-0.3
	baz=177,SNR=7.1						
RLMT	Red Lodge	80.31	357	P	P	11 20 29.9	+0.8
RLMT				IAMs_20	IAMs_20	11 51 33.8	
	comp=Z,966nm,19.0s						
I42A	Draeger Farm,	80.35	12	P	P	11 20 30.2	+1.1
I42A				IAmb	IAmb	11 20 46.6	
	comp=Z,41nm,1.5s						
I04A	Tendick Farm,	80.46	347	P	P	11 20 29.4	-0.3
	baz=166						
J47A	Sunmer	80.49	15	P	P	11 20 30.4	+0.6
J47A				IAmb	IAmb	11 20 38.9	
	comp=Z,23nm,0.9s						
I03D	Drain, OR	80.53	347	P	P	11 20 29.9	-0.1
	baz=165						
ERPA	Erie	80.57	19	IAMs_20	IAMs_20	11 53 06.5	
	comp=Z,1μm,19.0s						
N59A	State Game Lan	80.66	22	P	P	11 20 30.7	-0.1
	baz=204						
BMO	Blue Mountains	80.72	351	P	P	11 20 32.0	+0.9
BMO				pmax	pmax		
	comp=Z,14nm,1.6s						
BMO	Blue Mountains	80.72	351	P	P	11 20 32.0	+0.9
DLMT	Dillon	80.75	355	P	P	11 20 31.9	+0.6
I05D	Terrebonne, OR	80.80	348	P	P	11 20 31.5	+0.1
	baz=167						
BOZ	Bozeman (W)	80.91	355	P	P	11 20 33.0	+0.8
BOZ				pmax	pmax		
	comp=Z,25nm,1.6s						
BOZ	Bozeman (W)	80.91	355	P	P	11 20 31.7	-0.5
	baz=175,SNR=10.0						
BOZ	Bozeman (W)	80.91	355	P	P	11 20 33.0	+0.8
BOZ				IAmb	IAmb	11 21 21.9	
	comp=Z,25nm,1.6s						
BOZ				IAMs_20	IAMs_20	11 51 20.8	
	comp=Z,1μm,19.0s						
I02D	Swisshome	81.02	346	P	P	11 20 32.2	-0.3
	baz=165						
SPMN	Marine on St.	81.09	9	P	P	11 20 33.4	+0.5
	baz=190						
SPMN	Marine on St.	81.09	9	P	P	11 20 34.1	+1.2
SPMN				IAmb	IAmb	11 20 44.5	
	comp=Z,21nm,0.9s						
H43A	Windswept, Lux	81.11	12	P	P	11 20 35.5	+2.5
H43A				IAmb	IAmb	11 20 42.2	
	comp=Z,36nm,1.1s						
ODNJ	Ogdensburg	81.17	23	P	P	11 20 34.3	+0.8
ODNJ				IAmb	IAmb	11 20 37.6	
	comp=Z,20nm,1.1s						
LRM	Limekiln Ridge	81.20	355	P	P	11 20 35.5	+1.7
KSPA	Keystone Colle	81.24	22	P	P	11 20 34.7	+0.8
KSPA				IAmb	IAmb	11 20 41.4	
	comp=Z,38nm,1.4s						
H04A	Detroit Lake	81.28	348	P	P	11 20 35.2	+1.2
H04A				IAmb	IAmb	11 20 42.3	
	comp=Z,21nm,1.3s						
PAL	Palisades	81.33	23	P	P	11 20 34.0	-0.3
	baz=205						
PAL	Palisades	81.33	23	IAMs_20	IAMs_20	11 52 42.5	
	comp=Z,2μm,20.0s						
G08A	Pilot Rock	81.37	350	P	P	11 20 35.2	+0.6
G40A	Rib Lake	81.49	11	P	P	11 20 36.3	+1.2
F36A	Milaca	81.63	8	P	P	11 20 37.7	+1.9
F36A				IAmb	IAmb	11 20 47.2	
	comp=Z,19nm,0.8s						
WSPT	Westport, CT	81.66	24	IAMs_20	IAMs_20	11 51 52.4	
	comp=Z,2μm,22.0s						
L58A	Harry Jones Me	81.66	22	P	P	11 20 35.8	-0.3
	baz=204						
G05D	Wamic, OR	81.68	348	P	P	11 20 36.2	+0.1
	baz=167						
BINY	Binghamton	81.76	21	P	P	11 20 36.3	-0.3
	baz=204						
E28A	Huff	81.77	3	P	P	11 20 38.4	+1.9
LAO	LASA Array	81.80	359	P	P	11 20 37.1	+0.4
	baz=179						
LAO	LASA Array	81.80	359	P	P	11 20 38.2	+1.5
F10A	Beach Ranch, E	81.81	351	P	P	11 20 37.6	+0.7
K56A	Middlesex	81.83	20	P	P	11 20 36.4	-0.5
	baz=202						
G03D	McMinnville, O	81.98	347	P	P	11 20 37.3	-0.3
	baz=165						
HRY	Holter Researc	82.04	355	P	P	11 20 39.6	+1.5
L59A	Walton	82.04	22	P	P	11 20

HAWA IAMs_20 IAMs_20 11 50 16.3
comp=Z,982nm,22.0s
ARMA Armidale 82.58 238 P **P 11 20 41.3 -0.3**
M64A Tiverton 82.71 25 IAMs_20 IAMs_20 11 53 12.2
comp=Z,1µm,19.0s
L63A North Scituate 82.86 25 IAMs_20 IAMs_20 11 52 55.0
comp=Z,1µm,20.0s
M65A Busby, Falmout 82.92 25 IAMs_20 IAMs_20 11 53 46.7
comp=Z,1µm,21.0s
BRYW Bryant College 82.93 25 IAMs_20 IAMs_20 11 53 06.9
comp=Z,1µm,20.0s
TRY Troy 82.96 23 IAMs_20 IAMs_20 11 51 59.8
comp=Z,2µm,22.0s
L61B Northampton 83.02 24 P **P 11 20 43.3 +0.1**
baz=206
K61A Williamstown 83.03 23 P **P 11 20 43.0 -0.3**
baz=206
J58A Remsen 83.03 21 P **P 11 20 43.0 -0.2**
baz=204
E04D Cinebar 83.16 348 P **P 11 20 43.6 -0.1**
baz=166
L64A Middleborough 83.18 25 IAMs_20 IAMs_20 11 53 24.7
comp=Z,1µm,20.0s
EGMT Eagleton 83.23 357 P **P 11 20 43.8 -0.4**
baz=176
EGMT Eagleton 83.23 357 P **P 11 20 46.0 +1.8**
JTMT Jette 83.26 354 P **P 11 20 45.4 +0.9**
JTMT IAmb IAmb 11 20 48.5
comp=Z,9.4nm,0.9s
SADO Sadowa 83.27 18 P **P 11 20 45.3 +1.0**
K62A Royalston 83.36 24 P **P 11 20 44.5 -0.4**
baz=206
WES Weston 83.42 24 IAMs_20 IAMs_20 11 53 10.8
comp=Z,1µm,20.0s
I58A Old Forge 83.43 21 P **P 11 20 44.7 -0.6**
baz=204
DELO Deloro Mine 83.43 19 P **P 11 20 42.9 -2.3**
DELO IAmb IAmb 11 21 22.7
comp=Z,18nm,1.1s
HRV Adam Dziewonsk 83.45 24 IAMs_20 IAMs_20 11 53 01.6
comp=Z,1µm,21.0s
I57A Carthage 83.45 21 P **P 11 20 45.5 +0.2**
baz=204
J60A Lant Hill Farm 83.50 23 P **P 11 20 45.4 -0.2**
baz=205
LTY Liberty 83.54 349 P **P 11 20 47.2 +1.4**
LTY IAmb IAmb 11 22 07.6
comp=Z,25nm,1.5s
K63A Dunstable 83.62 24 IAMs_20 IAMs_20 11 52 56.2
comp=Z,2µm,22.0s
D05A Enumclaw 83.68 348 P **P 11 20 47.5 +1.1**
D04E Lakebay 83.80 348 P **P 11 20 46.9 -0.1**
baz=166
AGMN Agassiz Nation 83.81 6 P **P 11 20 47.2 +0.1**
baz=188
AGMN Agassiz Nation 83.81 6 P **P 11 20 48.6 +1.5**
AGMN IAmb IAmb 11 20 58.3
comp=Z,14nm,1.1s
I59A Olmsteadville 83.86 22 P **P 11 20 47.3 -0.1**
baz=205
NCB Newcomb 83.91 22 P **P 11 20 48.4 +0.7**
EYMN Ely 83.94 9 P **P 11 20 48.6 +0.9**
baz=191
J62A Henniker 84.00 24 P **P 11 20 48.0 -0.2**
baz=207
H57A Richville 84.01 21 P **P 11 20 48.9 +0.7**
baz=204
NEW Newport 84.06 352 P **P 11 20 49.5 +1.1**
NEW pmax pmax
comp=Z,25nm,1.4s
NEW Newport 84.06 352 P **P 11 20 49.2 +0.9**
baz=170
NEW Newport 84.06 352 P **P 11 20 49.5 +1.1**
NEW IAmb IAmb 11 21 24.6
comp=Z,25nm,1.4s
PLVO Plevna 84.06 20 P **P 11 20 50.1 +1.7**
B35A Bob, Littlefor 84.08 8 P **P 11 20 49.1 +0.7**
B35A IAmb IAmb 11 20 59.2
comp=Z,14nm,0.9s
D03D Eldon 84.20 348 P **P 11 20 49.7 +0.7**
baz=165
FFD Franklin Falls 84.27 24 IAMs_20 IAMs_20 11 53 28.5
comp=Z,2µm,22.0s
J63A Strafford 84.29 24 P **P 11 20 49.5 -0.2**
baz=207
H58A Gabriels 84.33 22 P **P 11 20 49.8 0.0**
baz=205
LONY Lake Ozonia 84.39 21 P **P 11 20 49.3 -0.8**
baz=204
LONY Lake Ozonia 84.39 21 P **P 11 20 50.1 0.0**
LONY IAmb IAmb 11 21 12.5
comp=Z,22nm,1.1s
WALA Waterton Lakes 84.53 354 P **P 11 20 51.9 +1.0**
WALA IAmb IAmb 11 22 05.3
comp=Z,29nm,1.6s
H59A Cadyville 84.68 22 P **P 11 20 52.0 +0.4**
baz=205
VT1 Waterbury 84.69 23 IAMs_20 IAMs_20 11 53 25.3
comp=Z,2µm,22.0s
I62A Tamworth 84.74 24 IAMs_20 IAMs_20 11 53 41.8
comp=Z,2µm,22.0s
B05A Bryant 84.74 349 P **P 11 20 51.9 +0.1**
baz=166
LBNH Lisbon 84.87 23 P **P 11 20 52.4 -0.2**
baz=206
B06A Marblemount 84.89 349 P **P 11 20 54.0 +1.5**
H60A Morristown 84.91 23 P **P 11 20 53.4 +0.6**
baz=206
H61A Lyndonville 85.13 23 P **P 11 20 54.8 +0.9**
baz=206
I63A Otisfield 85.14 24 IAMs_20 IAMs_20 11 54 14.6
comp=Z,1µm,20.0s
H62A Milan 85.42 24 P **P 11 20 55.9 +0.6**
baz=207
H62A Milan 85.42 24 IAMs_20 IAMs_20 11 54 02.8
comp=Z,2µm,21.0s
ULM Lac du Bonnet 85.74 6 P **P 11 20 55.5 -1.2**
comp=Z,6.0nm,1.0s,baz=169,slow=8.3,SNR=4.5
ULM Lac du Bonnet 85.74 6 P **P 11 20 58.0 +1.3**
ULM pmax pmax
comp=Z,38nm,1.5s
ULM Lac du Bonnet 85.74 6 P **P 11 20 58.0 +1.3**
WVL Waterville 85.91 25 IAMs_20 IAMs_20 11 54 54.8
comp=Z,1µm,20.0s
G61A St-Isidore-de- 85.93 23 P **P 11 20 58.8 +0.9**
baz=207
H64A Troy 86.13 25 P **P 11 20 59.7 +0.9**
baz=208
G62A West of Eustis 86.19 24 P **P 11 21 00.5 +1.4**
baz=208
G62A West of Eustis 86.19 24 IAMs_20 IAMs_20 11 54 59.4
comp=Z,1µm,20.0s
G63A Kingsbury 86.41 24 P **P 11 21 01.5 +1.4**
baz=208
H65A Eastbrook 86.51 25 P **P 11 21 01.0 +0.4**
baz=209
PKME Peaks-Kenny Pk 86.65 24 P **P 11 21 02.4 +1.1**
baz=208
PKME Peaks-Kenny Pk 86.65 24 IAMs_20 IAMs_20 11 55 28.4
comp=Z,961nm,20.0s
F61A St Evariste 86.72 23 P **P 11 21 02.6 +0.9**
baz=207
EMMW East Machias 86.80 26 IAMs_20 IAMs_20 11 55 25.3
comp=Z,999nm,21.0s
G64A Maxfield 86.82 25 P **P 11 21 02.7 +0.6**
baz=209
E60A Ste Agathe de 86.92 23 P **P 11 21 01.5 -1.1**
baz=207
F62A Pittston Farm, 86.98 24 P **P 11 21 03.1 +0.1**
baz=208
F62A Pittston Farm, 86.98 24 IAMs_20 IAMs_20 11 55 12.1
comp=Z,2µm,21.0s
F63A Nahmakanta, Br 87.10 24 P **P 11 21 03.5 0.0**
baz=209
F63A Nahmakanta, Br 87.10 24 IAMs_20 IAMs_20 11 55 52.2
comp=Z,1µm,20.0s
D58A Chemin du LacG 87.14 21 P **P 11 21 03.9 +0.2**
baz=206
G65A Princeton 87.19 26 P **P 11 21 04.0 +0.1**
baz=210
G65A Princeton 87.19 26 IAMs_20 IAMs_20 11 55 37.6
comp=Z,1µm,20.0s
E61A Lac Etchemin 87.28 23 P **P 11 21 02.9 -1.6**
baz=208
F64A Sherman 87.49 25 P **P 11 21 03.5 -2.0**
baz=209
F64A Sherman 87.49 25 IAMs_20 IAMs_20 11 59 21.7
comp=Z,955nm,19.0s
D60A Saint Jean D'O 87.57 23 P **P 11 21 03.5 -2.3**
baz=207
E62A Clayton Lake 87.76 24 IAMs_20 IAMs_20 11 55 55.9
comp=Z,1µm,20.0s
LSQQ Lebel-sur-Quev 87.80 18 P **P 11 21 06.9 +0.1**
baz=203
E63A Oxbow 87.96 24 IAMs_20 IAMs_20 11 59 38.0
comp=Z,970nm,19.0s
D61A St Aubert, Com 88.06 23 P **P 11 21 07.3 -0.8**
baz=208
E64A Bridgewater 88.15 25 P **P 11 21 07.3 -1.2**
baz=210
D62A Allapoint, All 88.32 24 IAMs_20 IAMs_20 11 56 21.7
comp=Z,1µm,20.0s
STKA Stephens Creek 88.35 231 P **P 11 21 10.8 +0.6**
comp=Z,5.1nm,0.9s,baz=135,slow=7.2,SNR=5.6
STKA LR LR 11 52 53.9
comp=Z,1µm,21.7s,baz=152,slow=30
SCHQ Schefferville 95.76 21 LR LR 12 00 51.7
comp=Z,1µm,21.7s,baz=276,slow=33
SKAG Skagway 97.85 345 P **P 11 21 52.5 -0.5**
baz=156
YKA Yellowknife Ar 97.93 356 LR LR 12 01 56.0
comp=Z,539nm,18.6s,baz=0.0,slow=33
ASAR Alice Springs 98.91 233 P **P 11 21 56.7 -2.2**
comp=Z,0.7nm,0.7s,baz=132,slow=3.4,SNR=9.1
ASAR PKKP **PKKPdf 11 38 27.4 +0.2**
comp=Z,0.3nm,0.6s,baz=312,slow=2.4,SNR=4.3
ASAR LR LR 12 00 45.8
comp=Z,1µm,19.7s,baz=154,slow=32
H11S2 WAKE ISLAND Hy 99.08 286 T T 13 12 07.8
baz=127,slow=74,SNR=18
H11S1 WAKE ISLAND Hy 99.10 286 T T 13 12 08.9
baz=127,slow=74,SNR=13
H11S3 WAKE ISLAND Hy 99.10 286 T T 13 12 09.2
baz=127,slow=74,SNR=12
PINM Pinnacle 99.53 343 P **Pdif 11 21 59.9 -0.7**
baz=152
CTG Chitna Glacier 100.56 343 P **Pdif 11 22 04.1 -1.1**
baz=151
CHIR Chirikof Islan 100.61 334 IAMs_20 IAMs_20 11 56 34.1
comp=Z,874nm,18.0s
H01W1 Cape Leeuwin H 100.99 212 T T 13 15 26.1
baz=146,slow=76,SNR=42
H01W2 Cape Leeuwin H 100.99 212 T T 13 15 48.8
baz=146,slow=76,SNR=28
H01W3 Cape Leeuwin H 101.00 212 T T 13 15 31.8
baz=146,slow=76,SNR=33
KDAK Kodiak Island 101.09 336 IAMs_20 IAMs_20 11 56 58.6
comp=Z,795nm,21.0s
WRA Warramunga Arr 101.22 236 P **Pdif 11 22 08.5 -0.7**
comp=Z,1.5nm,0.9s,baz=142,slow=4.7,SNR=6.4
CNBA Chernabura Isl 101.35 331 IAMs_20 IAMs_20 11 56 49.9
comp=Z,817nm,19.0s
HIN Hinchinbrook I 101.40 340 IAMs_20 IAMs_20 11 58 07.6
comp=Z,673nm,19.0s
FID Port Fidalgo 101.69 341 IAMs_20 IAMs_20 11 57 23.7
comp=Z,648nm,22.0s
GLI Glacier Island 101.96 340 IAMs_20 IAMs_20 11 58 12.6
comp=Z,623nm,22.0s
CNPM China Poot 102.06 338 IAMs_20 IAMs_20 11 57 54.1
comp=Z,548nm,18.0s
PWL Port Wells 102.29 340 IAMs_20 IAMs_20 11 58 10.2
comp=Z,610nm,19.0s
O22K Cooper Landing 102.38 339 IAMs_20 IAMs_20 11 57 38.6
comp=Z,679nm,22.0s
KNK Knik Glacier 102.78 340 IAMs_20 IAMs_20 11 58 51.2
comp=Z,534nm,20.0s
RC01 Rabbit Creek A 102.87 339 IAMs_20 IAMs_20 11 59 26.7
comp=Z,588nm,20.0s
SML Sawmill 103.07 340 IAMs_20 IAMs_20 11 59 01.8
comp=Z,560nm,20.0s
WAT1 Susitna Watana 103.96 341 P **Pdif 11 22 19.5 -0.7**
baz=145
CUT Chulitna 104.09 340 IAMs_20 IAMs_20 11 59 31.7
comp=Z,631nm,21.0s
SKT Skwentna 104.10 339 IAMs_20 IAMs_20 11 59 32.2
comp=Z,687nm,20.0s
MCK McKinley 104.80 341 IAMs_20 IAMs_20 12 00 00.7
comp=Z,547nm,21.0s
TRF Thorofare Moun 104.93 341 IAMs_20 IAMs_20 12 00 49.1
comp=Z,606nm,22.0s
KTH Kantishna Hill 105.19 341 IAMs_20 IAMs_20 12 00 07.8
comp=Z,528nm,20.0s
C36M Paulatuk 105.45 353 IAMs_20 IAMs_20 12 16 47.5
comp=Z,607nm,20.0s
PMOZ Porto Moniz, M 106.64 61 *i* LQ LQ 11 37 21.4
PMOZ Porto Moniz, M 106.64 61 *e* LR LR 11 58 35.1
comp=Z,1µm,20.0s
NRS Narsarsuaq 107.79 26 IAMs_20 IAMs_20 12 04 58.4
comp=Z,888nm,21.0s
TOLK Toolik Lake Re 108.92 344 P **PKiKP 11 26 43.5 -3.1**
baz=143
TOLK Toolik Lake Re 108.92 344 IAMs_20 IAMs_20 12 11 40.5
comp=Z,508nm,19.0s
SFJD Kangerlussuaq 110.17 20 IAMs_20 IAMs_20 12 13 07.4
comp=Z,666nm,19.0s
ANM Nome 110.27 336 P **PKiKP 11 26 47.6 -1.6**
baz=131
ANM Nome 110.27 336 IAMs_20 IAMs_20 12 02 59.2
comp=Z,495nm,20.0s
ILULI Ilulissat 111.61 18 IAMs_20 IAMs_20 12 08 58.5
comp=Z,652nm,21.0s
RDOG Red Dog Mine 111.84 340 IAMs_20 IAMs_20 12 04 39.7
comp=Z,616nm,21.0s
GAMB Gambell 111.94 334 IAMs_20 IAMs_20 12 05 15.6
comp=Z,510nm,19.0s
LSZ Lusaka 112.88 130 IAMs_20 IAMs_20 12 10 06.9
comp=Z,891nm,20.0s
MORF Marmelete 114.94 61 *e*SS SS 11 43 56.6 +2.4
MORF IAMs_20 IAMs_20 12 12 01.9
comp=Z,2µm,18.5s
MESJ Messejana 115.48 61 *e*PP PP 11 28 03.1 +0.9
MESJ *e*SS SS 11 44 03.8 +2.6
MESJ IAMs_20 IAMs_20 12 08 18.0
comp=Z,2µm,20.8s
PVAQ Vaqueiros 115.65 61 *e*PP PP 11 28 04.7 +1.3
PVAQ *i* LQ LQ 11 37 48.4
PVAQ *e*SS SS 11 44 09.6 +6.2
PVAQ Vaqueiros 115.65 61 *e*LR LR 12 02 56.3
comp=Z,2µm,22.0s
PMRV Marv??o 116.75 59 *e*PP PP 11 28 14.9 +3.7
PMRV *i* LQ LQ 11 37 47.1
PMRV *e*SS SS 11 44 30.0 +12
PMRV Marv??o 116.75 59 *e*LR LR 12 02 59.3
comp=Z,2µm,22.0s
SUMG Summit 116.96 18 IAMs_20 IAMs_20 12 16 39.7
comp=Z,671nm,20.0s
MTE Manteigas 117.06 58 *e*PP PP 11 28 16.9 +3.6
MTE *i* LQ LQ 11 37 58.6
MTE *e*SS SS 11 44 36.0 +14
MTE Manteigas 117.06 58 *e*LR LR 12 03 31.9
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 117.21 56 *e*PP PP 11 28 16.1 +1.7
PGAV Gavieira, Arco 117.21 56 *e*LR LR 12 03 49.9
comp=Z,1µm,22.0s
MVO Moncorvo 117.73 58 *e*PP PP 11 28 21.9 +3.9
MVO *i* LQ LQ 11 37 59.7
MVO *e*SS SS 11 44 43.8 +13
MVO Moncorvo 117.73 58 *e*LR LR 12 04 04.6
comp=Z,2µm,24.0s
ESDC Sonseca Array 119.27 60 PKP **PKPdf 11 27 06.7 -0.5**
comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=7.4
ESDC Sonseca Array 119.27 60 PKPdf **PKiKP 11 27 07.5 +0.2**
CART Cartagena 120.58 64 IAMs_20 IAMs_20 12 11 43.6
comp=Z,632nm,22.0s
PET Petropavlovsk 120.94 316 IAMs_20 IAMs_20 12 07 27.3
comp=Z,883nm,21.0s
PETK Petropavlovsk- 121.52 315 PKP **PKPdf 11 27 10.6 -0.5**
comp=Z,1.2nm,0.8s,baz=157,slow=4.7,SNR=2.3
KAPI Kappang 121.76 236 IAMs_20 IAMs_20 12 16 30.7
comp=Z,384nm,19.0s
BILL Bilibino 121.87 334 *i* PKIKP **PKiKP 11 27 13.5 +2.0**
BILL *i* 11 28 50.6
BILL pmax pmax
comp=Z,2.0nm,0.7s
JAGI Jajag, Banyuwa 122.74 228 IAMs_20 IAMs_20 12 13 11.6
comp=Z,657nm,21.0s
ESK Eskdalemuir 124.76 43 IAMs_20 IAMs_20 12 16 24.7
comp=Z,563nm,19.0s
EKA Eskdalemuir Ar 124.79 43 PKP **PKiKP 11 27 18.9 +1.3**
comp=Z,0.2nm,0.3s,baz=222,slow=3.8,SNR=1.9
TOLI2 Tolitoli 125.40 242 IAMs_20 IAMs_20 12 18 45.9
comp=Z,501nm,20.0s
CLF Chambon-Foret 126.27 53 IAMs_20 IAMs_20 12 19 15.0
comp=Z,684nm,20.0s
SSB Saint Sauveur 127.07 56 IAMs_20 IAMs_20 12 17 40.2
comp=Z,725nm,20.0s
VSL Villasalto 128.87 65 IAMs_20 IAMs_20 12 21 13.1
comp=Z,762nm,21.0s
KIBK Kibwezi 128.98 130 IAMs_20 IAMs_20 12 15 18.6
comp=Z,778nm,21.0s
WLF Walferdange 129.15 51 IAMs_20 IAMs_20 12 24 26.1
comp=Z,669nm,19.0s
YSS Yuzh-Sakhalins 129.18 305 *e*PKIKP **PKPdf 11 27 22.7 -3.2**
YSS *e* 11 39 41.0
YSS *e* 11 46 56.0
ECH Echery 129.51 53 IAMs_20 IAMs_20 12 25 43.7
comp=Z,513nm,19.0s
BFO Black Forest 130.30 53 IAMs_20 IAMs_20 12 18 48.6
comp=Z,798nm,22.0s
STU Stuttgart 130.95 53 IAMs_20 IAMs_20 12 21 39.7
comp=Z,654nm,20.0s
LODK Lodwar 131.49 122 IAMs_20 IAMs_20 12 24 36.3
comp=Z,625nm,19.0s
KONO Kongsberg 132.13 38 IAMs_20 IAMs_20 12 18 23.4
comp=Z,523nm,21.0s
GRFO Grafenberg 132.40 52 IAMs_20 IAMs_20 12 20 06.1
comp=Z,485nm,21.0s
GRA1 Grafenberg Arr 132.40 52 IAMs_20 IAMs_20 12 19 56.1
comp=Z,638nm,22.0s
PMBI Palembang 132.66 223 IAMs_20 IAMs_20 12 18 21.5
comp=Z,351nm,19.0s
NOA NORSAR Array B 132.90 37 PKP **PKPdf 11 27 33.0 +0.4**
comp=Z,0.6nm,0.8s,baz=281,slow=2.3,SNR=3.0
CEL Celeste 133.40 68 IAMs_20 IAMs_20 12 19 27.9
comp=Z,555nm,20.0s
CLL Collm 133.71 50 *e*PKiKP **PKiKP 11 27 39.0 +3.4**
comp=Z,4.0nm,1.0s
CLL *e*PP **PP 11 30 04.0 0.0**
CLL *e*PKSdf **PKSdf 11 31 12.0 +1.5**
CLL *e*PPP PPP 11 32 58.0
CLL *e*SKSP 11 40 05.0
CLL *e*PPS PPS 11 42 07.0
CLL *e*SS SS 11 47 48.0 -2.3
CLL *e*SSS SSS 11 52 40.0
CLL *e* 11 55 18.0
CLL *e*(SSSS) 11 56 06.0
CLL Collm 133.71 50 *e*PKIKP **PKiKP 11 27 39.0 +3.4**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 133.71 50 IAMs_20 IAMs_20 12 20 49.7
comp=Z,508nm,20.0s
KHC Kasperske Hory 133.86 53 *e*PKIKP **PKiKP 11 27 36.2 +0.1**
KHC Kasperske Hory 133.86 53 *e*PKP **PKiKP 11 27 36.2 +0.1**
GERES GERESS Array B 133.90 53 PKP **PKPdf 11 27 34.8 -0.1**
comp=Z,0.3nm,0.2s,baz=145,slow=3.6,SNR=2.0
GERES GERESS Array B 133.90 53 **PKPdf 11 27 34.7 -0.2**
CKRC Cesky Krumlov 134.30 54 *e*PKP **PKiKP 11 27 43.0 +6.0**
TIXI Tiksi 134.44 339 ⇑*i*PKIKP **PKiKP 11 27 38.5 +2.0**
OSTC Ostas 135.68 51 *e*PKP **PKiKP 11 27 41.0 +1.3**
YAK Yakutsk 137.01 326 ⇑*i*PKIKP **PKiKP 11 27 42.9 +0.9**
YAK Yakutsk 137.01 326 IAMs_20 IAMs_20 12 18 18.7
comp=Z,406nm,21.0s
DIVS Divibare 137.62 61 PKPdf **PKPdf 11 27 41.4 -0.6**
DIVS IAMs_20 IAMs_20 12 27 01.4
comp=Z,536nm,20.0s
FURI Furi 137.68 120 IAMs_20 IAMs_20 12 23 50.4
comp=Z,703nm,20.0s
KSRS Korea Array 137.79 289 PKP **PKiKP 11 27 44.1 -0.2**
comp=Z,1.2nm,0.8s,baz=172,slow=2.1,SNR=6.8
MDJ Mudanjiang 137.85 300 PKP **PKiKP 11 27 44.3 0.0**
ZEA Zeya 139.55 314 *e*PKIKP **PKPdf 11 27 39.7 -5.4**
SUW Suwalki 139.89 46 IAMs_20 IAMs_20 12 24 35.9
comp=Z,734nm,22.0s
FINES FINESS Array B 139.90 34 PKP **PKPdf 11 27 43.6 -1.8**
comp=Z,1.5nm,0.9s,baz=132,slow=2.8,SNR=3.7
PABE Paberze 140.15 44 IAMs_20 IAMs_20 12 24 29.7
comp=Z,757nm,22.0s
SANT Santorini 140.30 74 IAMs_20 IAMs_20 12 27 04.8
comp=Z,669nm,22.0s
RPSI Rantau Prapat 140.51 220 IAMs_20 IAMs_20 12 33 39.6
comp=Z,528nm,19.0s
KARP Karpathos 141.44 76 IAMs_20 IAMs_20 12 32 49.8
comp=Z,451nm,19.0s
PUL Pulkovo 142.42 36 ⇑*i*PKIKP **PKiKP 11 27 53.4 +0.3**
MNK Minsk 142.54 45 *i* PKHKP PKPpre 11 27 40.5
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=E,1.0nm,1.0s
MNK pmax pmax
comp=Z,16nm,1.0s
MNK MLR MLR
comp=E,49nm,19.0s
MNK MLR MLR
comp=Z,645nm,19.0s
MNK MLR MLR
comp=N,832nm,19.0s
NJ2 Nanjing 143.53 278 *e*PKP **PKPdf 11 27 53.8 +0.9**
ELL Elmali 143.88 74 PKIKP **PKPdf 11 27 54.1 +0.5**
ELL Elmali 143.88 74 **PKPdf 11 27 54.1 +0.5**
KIEV Kiev 143.94 51 PKIKP **PKiKP 11 27 56.0 -0.5**
AKASG Malin Array Be 143.95 51 PKP **PKPdf 11 27 52.4 -0.6**
comp=N,2.7nm,0.7s,baz=274,slow=3.6,SNR=4.7
AKASG Malin Array Be 143.95 51 PKIKP **PKPdf 11 27 54.5 +1.5**
AKASG Malin Array Be 143.95 51 PKPdf **PKPdf 11 27 54.5 +1.5**
AKBB Malin Array Si 143.95 51 PKIKP **PKPdf 11 27 53.9 +0.8**
AKBB Malin Array Si 143.95 51 PKPdf **PKPdf 11 27 53.9 +0.8**
ISP Isparta 144.56 73 IAMs_20 IAMs_20 12 34 02.3
comp=Z,462nm,21.0s
HIA Hailar 144.66 307 ⇑*i*PKIKP **PKiKP 11 27 58.1 0.0**
HIA Hailar 144.66 307 **PKPab 11 27 52.6 -0.5**
QIZ Qiongzhong 145.11 251 PKPbc **PKPdf 11 27 56.1 0.0**
QIZ PP **PP 11 31 15.8 +1.0**
QIZ SS SS 11 50 07.9 +2.7
QIZ LR LR
comp=Z,380nm,24.5s
NRIK Noril'sk 145.37 352 PKPbc **PKPab 11 27 56.4 +1.3**
comp=Z,18nm,0.9s,baz=45,slow=2.5,SNR=15
NRIK Noril'sk 145.37 352 PKIKP **PKPab 11 27 56.1 +1.1**
NRIK Noril'sk 145.37 352 **PKPab 11 27 56.1 +1.1**
MDUB Mudurnu 145.45 68 PKPdf **PKiKP 11 27 58.5 -1.7**
BOD Bodaibo 145.80 323 *e*PKP2 **PKPdf 11 27 55.9 -0.1**
BOD pmax pmax
comp=Z,43nm,1.6s
TIA Tai'an 145.97 284 ⇑PKPbc **PKPdf 11 27 56.0 -1.1**
EIL Elat 146.00 88 PKPbc **PKPab 11 27 59.8 +1.2**
comp=Z,7.1nm,0.7s,baz=69,slow=1.9,SNR=5.5
KLMR Klimovskoe 146.05 31 *e*PKIKP **PKPdf 11 27 54.8 -1.6**
KLMR pmax pmax
comp=Z,72nm,0.9s
KLMR Klimovskoe 146.05 31 *e*PKPdf **PKPdf 11 27 54.9 -1.5**
KLMR AMP 11 28 07.4
comp=Z,72nm,0.9s
CSS Mathiatis 146.21 79 PKPab **PKPbc 11 27 58.6 0.0**
WHN Wuhan 146.72 273 ⇓PKPbc **PKPab 11 28 01.9 +0.5**
GHAJ Ghor Haditha 147.04 86 IAMs_20 IAMs_20 12 32 09.9
comp=Z,634nm,20.0s
OBN Obninsk 147.21 41 PKPbc **PKPbc 11 28 01.2 +0.4**
comp=Z,15nm,0.4s,baz=213,slow=10,SNR=4.7
OBN Obninsk 147.21 41 ⇑*e*PKIKP **PKPdf 11 27 59.3 +0.8**
OBN *i* 11 28 05.2
OBN *i* 11 31 24.4
OBN *e* 11 35 01.3
OBN pmax pmax
comp=Z,15nm,0.8s
BR131 Keskin Array S 147.24 70 PKP2 **PKPbc 11 28 01.0 -0.6**
BR131 Keskin Array S 147.24 70 **PKPbc 11 28 01.0 -0.6**
BRTR Keskin Array B 147.24 70 PKPbc **PKPbc 11 28 02.0 +0.4**
comp=Z,5.2nm,0.9s,baz=200,slow=3.3,SNR=13
BRTR Keskin Array B 147.24 70 PKIKP **PKPdf 11 28 00.1 +0.8**
BRTR Keskin Array B 147.24 70 **PKPdf 11 28 00.1 +0.8**
MMAI Mount Meron Ar 147.40 83 PKPbc **PKPbc 11 28 03.1 +1.0**
comp=Z,3.3nm,0.5s,baz=207,slow=1.6,SNR=3.8
ILGA Ilgaz 147.41 68 **PKPdf 11 27 58.3 -1.3**
MOS Moscow 147.54 40 *i* PKP2 **PKPbc 11 28 02.3 +0.6**
MOS *e* 11 31 25.4
MOS MLR MLR
comp=Z,700nm,20.0s
PRGR Permogore 147.95 26 *e*PKP2 **PKPbc 11 28 01.5 -1.1**
PRGR pmax pmax
comp=Z,19nm,0.7s
BNN Bunyan 148.85 72 **PKiKP 11 28 06.6 -0.7**
LPSR Galich'ya Gora 149.40 45 *i* PKHKP **PKPdf 11 28 00.7 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GAZ Gaziantep 149.71 76 **PKPab 11 28 12.6 -0.8**
VSR Storozhevoye 149.98 47 *i* PKIKP **PKPdf 11 28 01.4 -1.7**
VSR pmax pmax
comp=Z,50nm,1.7s

ANN	**Anapa**	**150.10**	**60**	*i* PKP2	**PKiKP**	**11 28 11.9**	**+2.5**	
ANN				pmax	pmax			
comp=Z,29nm,0.7s								
VORD	**Divnogorie**	**150.13**	**48**	*e*PKIKP	**PKPdf**	**11 28 01.0**	**-2.4**	
VORD				pmax	pmax			
comp=Z,20nm,0.9s								
HHC	**Hu-ho-hao-te**	**150.83**	**292**	*e*P	**PKPdf**	**11 28 01.8**	**-3.2**	
SLVN	**Son La**	**150.99**	**249**		**PKPbc**	**11 28 09.9**	**-1.6**	
GYA	**Guiyang**	**151.43**	**261**	*e*P	**PKPab**	**11 28 22.6**	**+1.8**	
GYA				pmax	pmax			
comp=Z,3.0nm,1.1s								
VRH	**Novokhopyorsk**	**151.50**	**46**	*e*PKIKP	**PKPdf**	**11 28 00.0**	**-5.5**	
VRH				pmax	pmax			
comp=Z,30nm,0.8s								
SOC	**Sochi**	**151.84**	**63**	*i* PKIKP	**PKiKP**	**11 28 14.0**	**+0.9**	
SOC				*e*		11 31 54.9		
SOC				*e*PPP	PPP	11 35 16.1		
SOC				*e*SSS	SSS	11 57 07.2		
SOC				pmax	pmax			
comp=Z,31nm,0.8s								
XAN	**Xi'an**	**152.10**	**277**	P	**PKiKP**	**11 28 14.8**	**+0.8**	
XAN				pP	PKPab	11 28 22.8	-0.5	
XAN				sP	sPKPab	11 28 29.6	+1.9	
XAN				pmax	pmax			
comp=Z,17nm,1.6s								
CMAR	**Chiang Mai Arr**	**152.80**	**238**	PKP	**PKPdf**	**11 28 08.4**	**-0.1**	
comp=Z,1.0nm,0.3s,baz=182,slow=2.1,SNR=5.6								
CMAR				PKPbc	**PKiKP**	**11 28 16.5**	**+0.7**	
comp=Z,1.1nm,0.3s,baz=260,slow=1.6,SNR=7.2								
CMAR	**Chiang Mai Arr**	**152.80**	**238**		**PKPbc**	**11 28 15.3**	**-0.2**	
CHTO	**Chiang Mai**	**153.04**	**238**	IAMs_20	IAMs_20	12 34 02.9		
comp=Z,337nm,20.0s								
ULN	**Ulaanbaatar**	**153.19**	**307**	PKIKP	**PKPbc**	**11 28 14.0**	**-1.8**	
ULN	**Ulaanbaatar**	**153.19**	**307**		**PKPbc**	**11 28 14.0**	**-1.8**	
ULN	**Ulaanbaatar**	**153.19**	**307**	IAMs_20	IAMs_20	12 27 42.7		
comp=Z,328nm,20.0s								
SONM	**Songino Array**	**153.62**	**308**	PKPbc	**PKPbc**	**11 28 15.3**	**-1.4**	
comp=Z,4.7nm,0.8s,baz=132,slow=1.9,SNR=14								
SONM	**Songino Array**	**153.62**	**308**	PKIKP	**PKPbc**	**11 28 14.9**	**-1.8**	
SONM	**Songino Array**	**153.62**	**308**		**PKPbc**	**11 28 14.8**	**-1.8**	
TLY	**Talaya**	**153.86**	**317**	PKPbc	**PKiKP**	**11 28 18.2**	**+1.2**	
comp=Z,4.3nm,0.7s,baz=280,slow=0.5,SNR=8.0								
KIV	**Kislovodsk**	**153.94**	**61**	*e*PKIKP	**PKPdf**	**11 28 10.4**	**+0.9**	
KIV				pmax	pmax			
comp=Z,7.0nm,1.1s								
KIV	**Kislovodsk**	**153.94**	**61**	IAMs_20	IAMs_20	12 36 45.4		
comp=Z,341nm,21.0s								
KBZ	**Khabaz**	**154.12**	**62**	PKP	**PKPdf**	**11 28 09.4**	**-0.1**	
comp=Z,4.8nm,1.0s,baz=236,slow=4.7,SNR=4.7								
ZAK	**Zakamensk**	**154.64**	**315**	*e*PKIKP	**PKPbc**	**11 28 17.0**	**-1.8**	
ZAK				pmax	pmax			
comp=Z,8.0nm,1.4s								
ONI	**Oni**	**154.65**	**64**	PKIKP	**PKPbc**	**11 28 16.4**	**-2.6**	
ONI	**Oni**	**154.65**	**64**		**PKPbc**	**11 28 16.4**	**-2.6**	
ZEI	**Tsey**	**154.96**	**64**	*i* PKIKP	**PKiKP**	**11 28 21.1**	**+1.3**	
ZEI				pmax	pmax			
comp=Z,13nm,1.4s								
CD2	**Chengdu**	**155.47**	**268**	PKP	**PKPdf**	**11 28 12.0**	**+0.1**	
GNI	**Garni**	**155.78**	**70**	*i* PKIKP	**PKPdf**	**11 28 10.5**	**-1.7**	
GNI	**Garni**	**155.78**	**70**	IAMs_20	IAMs_20	12 40 22.3		
comp=Z,371nm,22.0s								
ARU	**Arti**	**156.28**	**23**	*i* PKIKP	**PKPdf**	**11 28 14.8**	**+2.7**	
LZH	**Lanzhou**	**156.55**	**280**	*e*PKP	**PKPdf**	**11 28 12.5**	**-0.9**	
LZH				pPKP	pPKPdf	11 28 15.8	-0.9	
LZH				sPKP		11 28 17.1		
LZH				LR	LR			
comp=Z,390nm,18.2s								
LZH				LR	LR			
comp=Z,640nm,18.0s								
LZH				LR	LR			
comp=Z,580nm,20.1s								
MAK	**Makhachkala**	**157.56**	**62**	*e*PKIKP	**PKPdf**	**11 28 08.8**	**-5.4**	
MAK				*e*		11 35 14.6		
MAK				*e*SSS	SSS	11 58 30.7		
MAK				pmax	pmax			
comp=Z,216nm,1.2s								
GTA	**Gaotai**	**159.86**	**289**	*e*PKP	**PKPdf**	**11 28 21.9**	**+4.7**	
GTA				PKPab	**sPKPab**	**11 29 03.6**	**+2.6**	
GTA				LR	LR			
comp=Z,300nm,19.6s								
GTA				LR	LR			
comp=Z,440nm,22.2s								
GTA				LR	LR			
comp=Z,650nm,21.8s								
ZALV	**Zalesovo Beam**	**160.27**	**342**	PKP	**PKPdf**	**11 28 17.3**	**+0.3**	
comp=Z,3.0nm,0.7s,baz=37,slow=0.7,SNR=7.3								
ABKAR	**Akbulak array**	**162.38**	**34**	PKPdf	**PKPdf**	**11 28 19.1**	**-0.3**	
ABKAR	**Akbulak array**	**162.38**	**34**		**PKPdf**	**11 28 19.4**	**0.0**	
ABKAR				PKPab	**PKPab**	**11 29 05.7**	**-1.3**	
WMQ	**Urumqi**	**167.11**	**314**	*e*PKP	**PKPdf**	**11 28 24.8**	**+1.0**	
WMQ				LR	LR			
comp=Z,580nm,20.1s								
WMQ				LR	LR			
comp=Z,330nm,20.1s								
WMQ				LR	LR			
comp=Z,490nm,21.9s								
MK31	**Makanchi Array**	**167.41**	**336**	PKIKP	**PKPdf**	**11 28 23.0**	**-0.9**	
MK31						11 29 29.1		
MK31	**Makanchi Array**	**167.41**	**336**		**PKPdf**	**11 28 23.0**	**-0.9**	
MK31				PKPab	**PKPab**	**11 29 29.1**	**0.0**	
MKAR	**Makanchi Array**	**167.41**	**336**	PKP	**PKPdf**	**11 28 24.1**	**+0.3**	
comp=Z,0.7nm,0.8s,baz=30,slow=1.3,SNR=6.3								

*IDC **20** 11:53:10.6±1.3,27°.51N×140°.88E,h90km±12km,mb4.0/21, mb1 4.2/21,mb1mx4.0/45,mbtmp4.3/21,Error ellipse: s-maj=17.5km s-min=12.6km az=87.0*
*NEIC **20** 11:53:12.9±1.5,27°.50N±0°.08×141°.04E±0°.10, h103km±5km,mb4.6/64,Error ellipse: s-maj=12.4km s-min=11.1km az=74.0*
*JMA **20** 11:53:13.6±0.1,27°.56N×141°.37E,h115km,M4.3*
ISC 20 11:53:11.7±0.4,27°.53N±0°.05×141°.10E±0°.07,h100km, n121,σ1§41/123,mb4.4/49,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.06**	**114**	P	**Pn**	**11 53 33.9**	**+1.1**
CBIJ				*e*S	**Sn**	11 53 49.4	+0.7
JCJ	**Chichijima**	**1.06**	**114**	P	**Pn**	**11 53 34.1**	**+1.3**
1μm,0.3s,baz=312,slow=2.9,SNR=445							
JCJ				S	**Sn**	**11 53 49.7**	**+1.0**
1μm,0.3s,baz=102,slow=24,SNR=68							
JCJ				LR	LR	11 54 05.1	
comp=Z,420nm,19.6s,baz=248,slow=44							
JHH2	**Haha-jima-NKT2**	**1.31**	**133**	P	**Pn**	**11 53 37.2**	**+1.5**
JHH2				*e*S	**Sn**	11 53 54.4	+0.6
JHJ2	**Mitsune**	**5.67**	**349**	*e*S	**Sn**	11 55 39.4	+2.1
BSO1	**Boso 1**	**7.10**	**359**	P	**Pn**	11 54 52.9	+0.5
JOD2	**Odawara 2**	**7.90**	**348**	P	**Pn**	11 55 06.1	+2.3
JYN	**Shimob**	**8.24**	**345**	P	**Pn**	11 55 11.2	+2.8
JYN				*e*S	**Sn**	11 56 42.7	+2.9
JHU	**Hanno**	**8.44**	**350**	P	**Pn**	11 55 11.1	0.0
JHU				*e*S	**Sn**	11 56 40.8	-3.8
JYT	**Yasato**	**8.71**	**355**	P	**Pn**	11 55 14.8	+0.1
JYT				*e*S	**Sn**	11 56 47.8	-3.3
JYT	**Yasato**	**8.71**	**355**		**Pn**	11 55 15.0	+0.3
JHO	**Hitachi**	**9.06**	**357**	P	**Pn**	11 55 18.1	-1.5
JHO				*e*S	**Sn**	11 56 52.7	-7.1
MAJO	**Matsushiro**	**9.31**	**345**	Pn	**Pn**	11 55 23.0	0.0
JMM	**Marumori**	**10.31**	**359**	Pn	**Pn**	11 55 35.0	-1.6
JSD	**Sado**	**10.74**	**348**		**Pn**	11 55 42.7	+0.3
ERM	**Erimo**	**14.55**	**6**	Pn	**Pn**	11 56 34.3	+1.8
YHNB	**Yeheng**	**17.94**	**265**	Pn	**Pn**	11 57 16.8	+2.0
YHNB				IAmb	IAmb	11 57 18.7	
comp=Z,26nm,0.7s							
YULB	**Yu-li**	**18.34**	**261**	Pn	**Pn**	11 57 21.4	+1.8
YULB				IAmb	IAmb	11 57 24.6	
comp=Z,28nm,1.0s							
SSLB	**Suanglung**	**18.53**	**263**		**Pn**	11 57 23.7	+1.9
SSLB				IAmb	IAmb	11 57 26.0	
comp=Z,23nm,0.8s							
KLR	**Kul'dur**	**22.84**	**344**	P	**P**	**11 58 06.9**	**+0.7**
comp=Z,2.0nm,0.7s,baz=150,slow=9.4,SNR=7.9							
H11N2	**WAKE ISLAND Hy**	**24.84**	**103**	T	T	12 24 30.0	
baz=296,slow=74,SNR=12							
H11N1	**WAKE ISLAND Hy**	**24.85**	**103**	T	T	12 24 33.0	
baz=296,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**24.86**	**103**	T	T	12 24 33.8	
baz=296,slow=74,SNR=13							
H11S3	**WAKE ISLAND Hy**	**25.17**	**105**	T	T	12 24 21.3	
baz=297,slow=74,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**25.18**	**105**	T	T	12 24 11.6	
baz=297,slow=74,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**25.19**	**105**	T	T	12 24 07.8	
baz=297,slow=74,SNR=8.0							
FAKI	**Fak Fak**	**31.45**	**197**	P	**P**	**11 59 23.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**39.68**	**266**	PcP	**PcP**	**12 02 39.8**	**+0.5**
comp=Z,1.1nm,0.4s,baz=54,slow=3.3,SNR=4.6							
SOEI	**Soe**	**40.49**	**206**	P	**P**	**12 00 40.5**	**-0.5**
MTN	**Manton Dam**	**41.28**	**195**	P	**P**	**12 00 47.2**	**-0.2**
KNRA	**Kununurra**	**44.59**	**197**	P	**P**	**12 01 13.6**	**-0.3**
KNRA				IAmb	IAmb	12 01 14.9	
comp=Z,10.0nm,0.8s							
TIXI	**Tiksi**	**44.68**	**355**	P	**P**	**12 01 14.1**	**0.0**
comp=Z,2.1nm,0.3s,baz=137,slow=4.4,SNR=3.6							
TIXI	**Tiksi**	**44.68**	**355**	P	**P**	**12 01 14.4**	**+0.3**
TIXI				IAmb	IAmb	12 01 15.0	
comp=Z,3.7nm,0.4s							
AKUT	**Akutan**	**46.74**	**40**	P	**P**	**12 01 32.5**	**+1.9**
RPSI	**Rantau Prapat**	**47.24**	**246**	P	**P**	**12 01 35.6**	**+0.6**
RPSI				IAmb	IAmb	12 01 37.0	
comp=Z,13nm,0.8s							
WB0	**Warramunga Arr**	**47.46**	**189**	P	**P**	**12 01 36.5**	**-0.1**
CTAO	**Charters Tower**	**47.60**	**173**	P	**P**	**12 01 37.8**	**+0.2**
CTAO				IAmb	IAmb	12 01 47.5	
comp=Z,17nm,1.2s							
WRAB	**Tennant Creek**	**47.63**	**189**	P	**P**	**12 01 38.2**	**+0.4**
WRAB				IAmb	IAmb	12 01 38.5	
comp=Z,16nm,0.8s							
WR0	**Warramunga Arr**	**47.63**	**188**	P	**P**	**12 01 37.8**	**-0.1**
WB2	**Warramunga Arr**	**47.64**	**189**	P	**P**	**12 01 38.0**	**0.0**
WRA	**Warramunga Arr**	**47.64**	**189**	P	**P**	**12 01 37.7**	**-0.2**
comp=Z,8.7nm,0.3s,baz=6.2,slow=7.7,SNR=381							
WRA	**Warramunga Arr**	**47.64**	**189**	P	**P**	**12 01 36.9**	**-1.1**
ZALV	**Zalesovo Beam**	**48.53**	**319**	P	**P**	**12 01 43.2**	**-1.2**
comp=Z,0.9nm,0.3s,baz=110,slow=13,SNR=2.1							
MKAR	**Makanchi Array**	**49.45**	**309**	P	**P**	**12 01 50.3**	**-1.4**
comp=Z,0.2nm,0.4s,baz=92,slow=11,SNR=2.7							
MKAR				PcP	**PcP**	**12 03 11.9**	**-0.4**
comp=Z,0.5nm,0.7s,baz=80,slow=6.8,SNR=4.8							
AS31	**Alice Springs**	**51.37**	**188**	P	**P**	**12 02 06.7**	**+0.5**
ASAR	**Alice Springs**	**51.37**	**188**	P	**P**	**12 02 05.8**	**-0.4**
comp=Z,1.6nm,0.4s,baz=16,slow=9.0,SNR=68							
ASAR	**Alice Springs**	**51.37**	**188**	P	**P**	**12 02 06.0**	**-0.3**
NRIK	**Noril'sk**	**51.89**	**339**	P	**P**	**12 02 09.2**	**-0.3**
comp=Z,4.1nm,0.6s,baz=117,slow=12,SNR=4.9							
PSA00	**Pilbara Seismi**	**52.97**	**205**	P	**P**	**12 02 17.2**	**-0.9**
PSA00				IAmb	IAmb	12 02 24.9	
comp=Z,8.9nm,1.4s							
EIDS	**Eidsvold**	**53.47**	**169**	P	**P**	**12 02 21.3**	**-0.3**
OHAK	**Old Harbor**	**54.18**	**38**	P	**P**	**12 02 27.6**	**+1.1**
KDAK	**Kodiak Island**	**54.60**	**37**	P	**P**	**12 02 30.6**	**+1.0**
comp=Z,1.7nm,0.3s,baz=318,slow=8.0,SNR=24							
KDAK	**Kodiak Island**	**54.60**	**37**	P	**P**	**12 02 30.6**	**+1.0**
IMAR	**Indian Mountai**	**55.09**	**27**	P	**P**	**12 02 34.9**	**+1.8**
PPLA	**Purkeypile**	**55.28**	**31**	P	**P**	**12 02 36.4**	**+1.8**
PPLA				IAmb	IAmb	12 02 37.2	
comp=Z,5.7nm,1.1s							
SUA	**Susitna One**	**55.81**	**33**	P	**P**	**12 02 39.1**	**+0.7**
SUA				IAmb	IAmb	12 03 05.3	
comp=Z,8.2nm,1.4s							
KTH	**Kantishna Hill**	**55.93**	**30**	P	**P**	**12 02 40.8**	**+1.7**
KTH				IAmb	IAmb	12 02 46.3	
comp=Z,6.3nm,1.3s							
BPAW	**Bear Paw Mtn.**	**55.97**	**29**	P	**P**	**12 02 40.9**	**+1.5**
BPAW				IAmb	IAmb	12 02 48.2	
comp=Z,5.5nm,1.2s							
MLY	**Manley**	**56.19**	**28**	P	**P**	**12 02 42.4**	**+1.5**
MLY				IAmb	IAmb	12 02 43.9	
comp=Z,5.6nm,0.9s							
TOLK	**Toolik Lake Re**	**57.14**	**24**	P	**P**	**12 02 49.9**	**+2.3**
TOLK				IAmb	IAmb	12 02 51.0	
comp=Z,3.7nm,0.9s							
MDM	**Murphy Dome**	**57.24**	**29**	P	**P**	**12 02 50.7**	**+2.4**
MDM				IAmb	IAmb	12 02 51.7	
comp=Z,13nm,1.4s							
CCB	**Clear Creek Bu**	**57.40**	**29**	P	**P**	**12 02 50.8**	**+1.4**
SCM	**Sheep Creek Mo**	**57.46**	**32**	P	**P**	**12 02 51.0**	**+1.0**
SCM				IAmb	IAmb	12 02 51.7	
comp=Z,5.4nm,0.6s							
IL31		**57.80**	**29**	P	**P**	**12 02 53.2**	**+1.1**
IL31				IAmb	IAmb	12 02 53.7	
comp=Z,6.4nm,1.2s							
ILAR	**Eielson Array**	**57.80**	**29**	P	**P**	**12 02 52.5**	**+0.3**
comp=Z,3.4nm,1.0s,baz=257,slow=5.6,SNR=19							
ILAR	**Eielson Array**	**57.80**	**29**	P	**P**	**12 02 52.8**	**+0.6**
M24K	**Tolsona, Glenn**	**58.01**	**32**	P	**P**	**12 02 54.4**	**+0.6**
M24K				IAmb	IAmb	12 03 00.4	
comp=Z,8.3nm,1.0s							
KK31	**Karatay Array**	**58.05**	**305**	P	**P**	**12 02 53.6**	**-0.7**
KK31				IAmb	IAmb	12 02 57.8	
comp=Z,1.6nm,0.5s							
KKAR	**Karatay Array**	**58.05**	**305**	P	**P**	**12 02 53.9**	**-0.5**
KLU	**Klutina**	**58.12**	**33**	P	**P**	**12 02 55.8**	**+1.2**
KLU				IAmb	IAmb	12 02 56.8	
comp=Z,4.0nm,0.7s							
RIDG	**Independent Ri**	**58.65**	**30**	P	**P**	**12 02 59.5**	**+1.3**
RIDG				IAmb	IAmb	12 02 59.5	
comp=Z,3.2nm,0.9s							
BMAR	**Burnt Mountain**	**58.88**	**26**	P	**P**	**12 03 02.0**	**+2.2**
SCRK	**Sand Creek**	**59.03**	**30**	P	**P**	**12 03 02.3**	**+1.4**
STKA	**Stephens Creek**	**59.08**	**180**	P	**P**	**12 03 00.7**	**-0.7**
comp=Z,2.4nm,0.7s,baz=56,slow=7.1,SNR=4.7							
STKA	**Stephens Creek**	**59.08**	**180**	P	**P**	**12 03 00.4**	**-1.1**
FORT	**Forrest**	**59.30**	**193**	P	**P**	**12 03 03.4**	**+0.4**
K27K	**Chicken**	**59.87**	**30**	P	**P**	**12 03 08.6**	**+2.0**
L27K	**Beaver Creek,**	**60.02**	**31**	P	**P**	**12 03 09.5**	**+1.9**
L27K				IAmb	IAmb	12 03 10.2	
comp=Z,4.0nm,1.1s							
BCAR	**Beaver Creek A**	**60.03**	**31**	P	**P**	**12 03 09.0**	**+1.3**
EGAK	**Eagle**	**60.25**	**29**	P	**P**	**12 03 09.9**	**+0.7**
EGAK				IAmb	IAmb	12 03 16.0	
comp=Z,4.6nm,1.2s							
DAWY	**Dawson**	**61.05**	**30**	P	**P**	**12 03 15.1**	**+0.4**
MORW	**Morawa**	**61.18**	**205**	P	**P**	**12 03 15.8**	**-0.1**
EPYK	**Eagle Plains**	**62.00**	**27**	P	**P**	**12 03 22.1**	**+1.1**
EPYK				IAmb	IAmb	12 03 23.4	
comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**63.04**	**25**	P	**P**	**12 03 28.3**	**+0.6**
comp=Z,1.8nm,0.7s,baz=287,slow=14,SNR=5.6							
INK	**Inuvik**	**63.04**	**25**	P	**P**	**12 03 28.4**	**+0.6**
ABKAR	**Akbulak array**	**64.10**	**314**	P	**P**	**12 03 33.7**	**-1.4**
ABKAR	**Akbulak array**	**64.10**	**314**	P	**P**	**12 03 34.0**	**-1.1**
EUNU	**Eureka**	**69.61**	**8**	P	**P**	**12 04 10.2**	**+0.6**
EUNU				IAmb	IAmb	12 04 11.3	
comp=Z,4.7nm,0.9s							
SPITS	**Spitsbergen Ar**	**69.78**	**350**	P	**P**	**12 04 11.7**	**+1.1**
comp=Z,5.6nm,0.8s,baz=99,slow=10,SNR=5.7							
YKA	**Yellowknife Ar**	**72.22**	**28**	P	**P**	**12 04 25.9**	**+0.3**
comp=Z,1.5nm,0.5s,baz=298,slow=5.6,SNR=15							
ARCES	**ARCESS Array B**	**72.81**	**341**	P	**P**	**12 04 29.1**	**0.0**
comp=Z,2.3nm,0.6s,baz=72,slow=9.1,SNR=9.1							
ARCES	**ARCESS Array B**	**72.81**	**341**	P	**P**	**12 04 29.3**	**+0.2**
ARCES				IAmb	IAmb	12 04 30.0	
comp=Z,8.9nm,1.1s							
BKZ	**Black Stump Fm**	**74.12**	**152**	P	**P**	**12 04 36.5**	**-0.6**
NNZ	**Nelson**	**74.66**	**155**	P	**P**	**12 04 39.5**	**-0.5**
KBZ	**Khabaz**	**77.00**	**313**	P	**P**	**12 04 53.1**	**-0.4**
comp=Z,4.7nm,0.8s,baz=75,slow=4.3,SNR=11							
FIA1	**FINESS Array S**	**77.13**	**333**	P	**P**	**12 04 53.0**	**-1.0**
FIA1				IAmb	IAmb	12 05 03.9	
comp=Z,6.9nm,1.1s							
FINES	**FINESS Array B**	**77.13**	**333**	P	**P**	**12 04 53.0**	**-0.9**
comp=Z,1.2nm,0.4s,baz=66,slow=5.5,SNR=15							
FINES	**FINESS Array B**	**77.13**	**333**	P	**P**	**12 04 53.2**	**-0.8**
WALA	**Waterton Lakes**	**78.74**	**40**	P	**P**	**12 05 04.1**	**+0.8**
BEKR	**Beckworth**	**78.93**	**51**	P	**P**	**12 05 04.9**	**+0.3**
JTMT	**Jette**	**79.16**	**42**	P	**P**	**12 05 07.0**	**+1.3**
KVN	**Kaiserville**	**80.86**	**51**	P	**P**	**12 05 15.7**	**+0.7**
NVAR	**Mina Array Bea**	**81.01**	**51**	P	**P**	**12 05 17.0**	**+1.1**
comp=Z,0.9nm,0.7s,baz=280,slow=5.6,SNR=7.6							
HRY	**Holter Researc**	**81.13**	**42**	P	**P**	**12 05 17.6**	**+1.4**
LRM	**Limekiln Ridge**	**81.21**	**43**	P	**P**	**12 05 18.0**	**+1.1**
AKASG	**Malin Array Be**	**81.69**	**323**	P	**P**	**12 05 17.3**	**-1.7**
comp=Z,0.5nm,0.3s,baz=47,slow=5.4,SNR=4.2							
NC405	**NORSAR Array S**	**82.63**	**338**	P	**P**	**12 05 21.6**	**-2.0**
NC405				IAmb	IAmb	12 05 22.9	
comp=Z,20nm,1.2s							
NB2	**NORSAR Subarra**	**82.85**	**338**	P	**P**	**12 05 22.6**	**-2.2**
comp=Z,0.6nm,0.5s,baz=49,slow=4.6							
NOA	**NORSAR Array B**	**82.85**	**338**	P	**P**	**12 05 23.7**	**-1.1**
comp=Z,0.8nm,0.5s,baz=47,slow=4.8,SNR=5.7							
RLMT	**Red Lodge**	**83.49**	**42**	P	**P**	**12 05 28.3**	**-0.3**
DUG	**Dugway, Tooele**	**83.86**	**48**	P	**P**	**12 05 31.7**	**+1.1**
HWUT	**Hardware Ranch**	**83.93**	**46**		**P**	**12 05 31.7**	**+0.7**
HWUT				IAmb	IAmb	12 05 33.2	
comp=Z,4.3nm,1.0s							
BW06	**Boulder Array**	**84.58**	**44**	P	**P**	**12 05 34.9**	**+0.6**
PD31	**Pinedale Array**	**84.58**	**44**	P	**P**	**12 05 34.9**	**+0.6**
PDAR	**Pinedale Array**	**84.58**	**44**	P	**P**	**12 05 34.7**	**+0.4**
comp=Z,1.6nm,1.0s,baz=302,slow=3.3,SNR=8.7							
PDAR	**Pinedale Array**	**84.58**	**44**	P	**P**	**12 05 34.9**	**+0.6**
KNB	**Kanab**	**85.48**	**50**	P	**P**	**12 05 40.1**	**+1.3**
KNB				IAmb	IAmb	12 05 41.7	
comp=Z,6.1nm,1.0s							
RDMU	**Red Mountain**	**85.76**	**46**	P	**P**	**12 05 41.0**	**+0.8**
RDMU				IAmb	IAmb	12 05 42.6	
comp=Z,4.6nm,0.8s							
ANMO	**Albuquerque**	**90.94**	**49**	P	**P**	**12 06 06.9**	**+2.0**
comp=Z,0.8nm,0.6s,baz=302,slow=6.8,SNR=4.0							
TXAR	**Lajitas Array**	**96.11**	**53**	P	**P**	**12 06 29.9**	**+1.2**
comp=Z,1.0nm,0.8s,baz=180,slow=0.6,SNR=5.9							
LPAZ	**La Paz**	**150.74**	**74**	PKPbc	**PKiKP**	**12 12 54.4**	**0.0**
comp=Z,5.2nm,0.7s,baz=341,slow=2.6,SNR=13							
PLCA	**Paso Flores**	**150.85**	**125**	PKPbc	**PKiKP**	**12 12 53.3**	**0.0**
comp=Z,3.3nm,0.9s,baz=197,slow=5.7,SNR=4.9							

*INET **20** 12:00:54.6,13°.32N×90°.29W,h28km,MW4.2*
*GCG **20** 12:00:57.2±0.3,13°.82N×90°.85W,h143km±20km,MD4.2*
*SNET **20** 12:01:00.2±1.9,13°.57N×90°.45W,h45km±24km,ML4.4*
*UCR **20** 12:01:00.3±1.9,13°.53N×90°.43W,h30km±6km,ML4.3, mb4.3(NEIC)*
*IDC **20** 12:01:02.6±2.8,13°.73N×90°.09W,h70km±25km,mb3.8/5, mb1 3.9/7,mb1mx3.6/36,mbtmp4.0/7,Error ellipse: s-maj=61.4km s-min=14.6km az=52.0*
*NEIC **20** 12:01:02.5±2.2,13°.62N±0°.08×90°.30W±0°.07,h65km±7km, mb4.3/47,Md4.4(SNET),Error ellipse: s-maj=12.6km s-min=8.0km az=211.0*
ISC 20 12:01:01.5±0.9,13°.56N±0°.06×90°.36W±0°.05,h62km±8km, n133,σ1§12/163,mb4.3/24,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOZ	**Alcaldia de Sa**	**0.72**	**50**	*e*P	**Pn**	**12 01 15.7**	**-0.6**
SLOZ				*e*S	**Sn**	**12 01 27.7**	**+0.7**
SLOZ				IAML		12 01 33.8	
comp=Z,11μm,0.5s							
CEVE	**Cerro Verde**	**0.76**	**70**	*e*P	**Pn**	**12 01 14.9**	**-1.9**
CEVE				*e*S	**Sn**	**12 01 27.6**	**-0.5**
CEVE				IAML		12 01 34.4	
comp=Z,35μm,0.4s							
CEVE	**Cerro Verde**	**0.76**	**70**	*e*P	**Pn**	**12 01 14.9**	**-1.9**
CEVE				*e*S	**Sn**	**12 01 27.6**	**-0.5**
CEVE				IAML		12 01 34.4	
comp=Z,35μm,0.4s							
SBLS	**San Blas**	**0.76**	**69**	*e*P	**Pn**	**12 01 16.2**	**-0.7**
SBLS	**San Blas**	**0.76**	**69**	*e*P	**Pn**	**12 01 16.2**	**-0.7**
RTR	**El Retiro**	**0.77**	**64**	*e*P	**Pn**	**12 01 16.5**	**-0.4**
RTR	**El Retiro**	**0.77**	**64**	*e*P	**Pn**	**12 01 16.5**	**-0.4**
SNJE	**San Jose**	**0.79**	**67**	*e*P	**Pn**	**12 01 16.7**	**-0.5**
SNJE	**San Jose**	**0.79**	**67**	*e*P	**Pn**	**12 01 16.7**	**-0.5**
PCG	**Pacaya**	**0.86**	**343**	*e*P	**Pn**	**12 01 19.5**	**+1.3**
FUG	**Fuego 3**	**1.00**	**332**	*e*P	**Pn**	**12 01 19.1**	**-0.7**
FUG				*e*S	**Sn**	**12 01 36.3**	**+2.9**
LALI	**Alcalda de L**	**1.01**	**94**	*e*P	**Pn**	**12 01 19.1**	**-0.7**
LALI				*e*S	**Sn**	**12 01 34.6**	**+1.3**
LALI				IAML		12 01 37.0	
comp=Z,3μm,0.7s							
LALI	**Alcalda de L**	**1.01**	**94**	*e*P	**Pn**	**12 01 19.1**	**-0.7**
LALI				*e*S	**Sn**	**12 01 34.6**	**+1.3**
LALI				IA

GUAI	**GUAI**	**5.76**	**124**	*e*P	**Pn**	**12 02 24.6**	**+0.1**
HORNC	**Hornillas**	**5.80**	**119**	*e*P	**Pn**	**12 02 24.6**	**-0.5**
COLC	**Colonia**	**5.80**	**119**	*e*P	**Pn**	**12 02 26.4**	**+1.3**
CUI	**Cuipilapa**	**5.84**	**119**	*e*P	**Pn**	**12 02 27.1**	**+1.5**
DUNO	**Dulce Nombre,**	**5.88**	**126**		**Pn**	**12 02 26.0**	**-0.2**
ACAL	**Aguas Claras**	**5.96**	**119**	*e*P	**Pn**	**12 02 26.8**	**-0.5**
JTS	**Las Juntas de**	**6.21**	**121**	P	**Pn**	**12 02 30.8**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=70,slow=2.8,SNR=12						
JTS				S	**Sn**	**12 03 39.9**	**-0.4**
	comp=Z,3.1nm,0.3s,baz=43,slow=22,SNR=1.2						
JTS	**Las Juntas de**	**6.21**	**121**	Pn	**Pn**	**12 02 31.5**	**+0.9**
CAO2	**Cobano, Puntar**	**6.42**	**126**	Pn	**Pn**	**12 02 34.0**	**+0.4**
RIMA	**Rio Macho**	**7.39**	**120**		**Pn**	**12 02 47.9**	**+0.8**
PEZE	**Perez Zeledon,**	**7.75**	**122**	Pn	**Pn**	**12 02 52.9**	**+1.1**
SRBA	**San Rafael, Bu**	**8.10**	**121**	Pn	**Pn**	**12 02 57.9**	**+1.3**
DRK0	**Durika**	**8.18**	**121**	Pn	**Pn**	**12 02 59.1**	**+1.4**
TLIG	**Tlapa**	**8.86**	**298**		**Pn**	**12 03 08.0**	**+1.0**
SJCC	**San Jacinto, C**	**15.30**	**102**	P	**P**	**12 04 36.4**	**-1.1**
TX32	**Lajitas Array**	**19.96**	**324**	P	**P**	**12 05 29.4**	**+0.5**
TXAR	**Lajitas Array**	**19.96**	**324**	P	**Pn**	**12 05 30.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=12						
TXAR	**Lajitas Array**	**19.96**	**324**	P	**Pn**	**12 05 30.4**	**-0.7**
TX31	**Lajitas Ar. Si**	**19.97**	**324**	P	**Pn**	**12 05 30.4**	**-0.6**
Z38A	**Mt. Pleasant**	**20.06**	**349**	P	Pn	12 05 30.7	-1.3
Z38A				IAmb	IAmb	12 05 32.0	
	comp=Z,20nm,0.7s						
Z51A	**Franklin**	**20.22**	**13**	P	**P**	**12 05 29.9**	**-1.6**
Z51A				IAmb	IAmb	12 05 52.0	
	comp=Z,17nm,0.9s						
Y49A	**Blount Mountai**	**20.52**	**9**	P	**P**	**12 05 34.9**	**+0.1**
Y49A				IAmb	IAmb	12 05 55.0	
	comp=Z,10nm,0.8s						
X48A	**Hartselle**	**21.01**	**8**	P	**P**	**12 05 40.0**	**-0.1**
X48A				IAmb	IAmb	12 05 42.2	
	comp=Z,6.6nm,0.8s						
MIAR	**Mount Ida**	**21.09**	**353**	P	**P**	**12 05 39.5**	**-1.4**
X37A	**Clayton**	**21.42**	**349**	P	**P**	**12 05 45.5**	**+1.1**
X37A				IAmb	IAmb	12 05 47.7	
	comp=Z,6.5nm,0.7s						
PLAL	**Pickwick Lake**	**21.43**	**5**	P	**P**	**12 05 44.0**	**-0.4**
W39A	**Magazine**	**21.76**	**352**	P	**P**	**12 05 46.6**	**-1.4**
SWET	**Sewanee**	**21.93**	**10**	P	**P**	**12 05 49.6**	**-0.2**
SWET				IAmb	IAmb	12 06 07.7	
	comp=Z,9.5nm,0.8s						
V48A	**Smith Brothers**	**22.31**	**8**	P	**P**	**12 05 54.6**	**+0.6**
V48A				IAmb	IAmb	12 06 11.5	
	comp=Z,16nm,1.2s						
WVT	**Waverly**	**22.59**	**5**	P	**P**	**12 05 56.1**	**-0.7**
MNTX	**Cornudas Mount**	**22.72**	**325**	P	**P**	**12 05 58.7**	**+0.3**
CLTN	**Cedars of Leba**	**22.72**	**8**	P	**P**	**12 05 57.0**	**-1.4**
CLTN				IAmb	IAmb	12 06 15.3	
	comp=Z,32nm,1.3s						
TKL	**Tuckaleechee C**	**22.79**	**14**	P	**P**	**12 05 59.8**	**+0.8**
TKL				IAmb	IAmb	12 06 15.4	
	comp=Z,7.8nm,0.9s						
MPR	**Mayaguez**	**22.79**	**75**	P	**P**	**12 05 58.9**	**-0.4**
OK029	**Liberty Lake**	**23.04**	**345**	P	**P**	**12 06 00.7**	**-0.9**
U49A	**Red Boiling Sp**	**23.22**	**9**	P	**P**	**12 06 02.1**	**-1.2**
U49A				IAmb	IAmb	12 06 19.2	
	comp=Z,12nm,0.7s						
T42A	**Van Buren**	**23.38**	**359**		**P**	**12 06 04.7**	**-0.1**
T45A	**Paducah**	**23.41**	**3**	P	**P**	**12 06 03.8**	**-1.3**
T47A	**Sharon Grove**	**23.51**	**7**	P	**P**	**12 06 05.1**	**-0.9**
TZTN	**Tazewell**	**23.68**	**14**	P	**P**	**12 06 08.1**	**+0.4**
TZTN				IAmb	IAmb	12 06 24.4	
	comp=Z,7.0nm,0.8s						
ATAH	**Atahualpa**	**23.75**	**149**	P	**P**	**12 06 09.5**	**+0.7**
	comp=Z,5.8nm,0.7s,baz=274,slow=3.3,SNR=4.3						
T50A	**Nancy**	**23.88**	**11**	P	**P**	**12 06 09.7**	**+0.4**
T50A				IAmb	IAmb	12 06 26.2	
	comp=Z,6.8nm,0.7s						
BLOK	**Blackwell**	**23.90**	**346**	P	**P**	**12 06 08.8**	**-0.9**
BLOK				IAmb	IAmb	12 06 09.2	
	comp=Z,13nm,0.6s						
S44A	**Carbondale**	**24.05**	**2**	P	**P**	**12 06 10.7**	**-0.2**
S44A				IAmb	IAmb	12 06 13.3	
	comp=Z,8.8nm,0.8s						
SIUC	**Southern Illin**	**24.07**	**2**	P	**P**	**12 06 11.3**	**+0.2**
SIUC				IAmb	IAmb	12 06 13.1	
	comp=Z,8.3nm,0.6s						
U54A	**Nelsons Funny**	**24.11**	**17**	P	**P**	**12 06 11.9**	**+0.4**
U54A				IAmb	IAmb	12 06 29.1	
	comp=Z,11nm,0.9s						
WCI	**Wyandotte Cave**	**24.83**	**8**	P	**P**	**12 06 18.5**	**+0.5**
SKI	**Saint Kitts**	**26.87**	**78**	P	**P**	**12 06 34.9**	**-1.8**
MCWV	**Mont Chateau**	**27.59**	**18**	P	**P**	**12 06 39.8**	**-3.2**
MTPU	**Mount Pierson**	**31.16**	**325**	P	**P**	**12 07 16.3**	**+1.3**
PDAR	**Pinedale Array**	**33.49**	**334**	P	**P**	**12 07 34.4**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=137,slow=9.4,SNR=2.0						
PDAR	**Pinedale Array**	**33.49**	**334**	P	**P**	**12 07 33.5**	**-1.8**
REDW	**Red Top Meadow**	**34.54**	**333**	P	**P**	**12 07 43.5**	**-0.8**
REDW				IAmb	IAmb	12 08 02.3	
	comp=Z,5.9nm,1.4s						
NV11	**Mina Array Sit**	**34.93**	**320**	P	**P**	**12 07 47.1**	**-0.6**
NV11				IAmb	IAmb	12 07 58.4	
	comp=Z,3.8nm,1.4s						
AGMN	**Agassiz Nation**	**34.93**	**354**	P	**P**	**12 07 45.7**	**-1.6**
AGMN				IAmb	IAmb	12 07 47.9	
	comp=Z,4.0nm,0.7s						
NVAR	**Mina Array Bea**	**35.02**	**320**	P	**P**	**12 07 49.6**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=132,slow=8.3,SNR=27						
NVAR				PcP	**PcP**	**12 10 19.3**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=118,slow=4.5,SNR=5.5						
NVAR				ScP	**ScP**	**12 14 01.0**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=133,slow=4.6,SNR=6.1						
NVAR	**Mina Array Bea**	**35.02**	**320**	P	**P**	**12 07 49.0**	**+0.4**
NVAR				PcP	**PcP**	**12 10 19.6**	**+0.1**
LHV	**Little Huntoon**	**35.04**	**320**	P	**P**	**12 07 49.3**	**+0.9**
LHV				IAmb	IAmb	12 07 50.8	
	comp=Z,3.4nm,0.7s						
KVN	**Kaiserville**	**35.28**	**321**	P	**P**	**12 07 51.0**	**+0.4**
KVN				IAmb	IAmb	12 07 52.2	
	comp=Z,2.5nm,1.1s						
ULM	**Lac du Bonnet**	**36.86**	**354**	P	**P**	**12 08 02.4**	**-1.4**
	comp=Z,4.7nm,0.8s,baz=181,slow=5.7,SNR=4.0						
ULM	**Lac du Bonnet**	**36.86**	**354**	P	**P**	**12 08 02.8**	**-1.0**
ULM				IAmb	IAmb	12 08 03.5	
	comp=Z,5.0nm,0.9s						
LPAZ	**La Paz**	**36.91**	**143**	P	**P**	**12 08 04.4**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=324,slow=9.0,SNR=5.2						
LPAZ	**La Paz**	**36.91**	**143**	P	**P**	**12 08 04.0**	**-1.2**
J08A	**Circle Bar Ran**	**38.28**	**326**	P	**P**	**12 08 15.8**	**-0.2**
KRMB	**Red Mountain**	**40.32**	**320**	P	**P**	**12 08 32.8**	**-0.3**
KRMB				IAmb	IAmb	12 08 58.4	
	comp=Z,12nm,1.4s						
KBO	**Bosley Butte**	**40.90**	**321**	P	**P**	**12 08 38.0**	**+0.2**
VA01	**Torpederas**	**49.65**	**159**	P	**P**	**12 09 49.7**	**+2.7**
BCAR	**Beaver Creek A**	**61.08**	**336**	P	**P**	**12 11 08.1**	**-0.8**
BMAR	**Burnt Mountain**	**64.25**	**340**	P	**P**	**12 11 29.2**	**-0.8**
RAR	**Rarotonga**	**76.40**	**244**	P	**P**	**12 12 44.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**146.89**	**344**	PKPbc	**PKPdf**	**12 20 36.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=352,slow=3.2,SNR=6.8						
CMAR	**Chiang Mai Arr**	**146.89**	**344**		**PKPdf**	**12 20 36.1**	**+0.1**

*ROM **20** 12:23:54.9±0.2, 45°.879N±0°.008×6°.93E±0°.02, h12km±1km, ML1.5/6, Error ellipse: s-maj=1.3km s-min=0.3km az=298.0*
*ZUR **20** 12:23:54.6, 45°.90N×6°.88E, h8km±3km, MLh1.4/10, Error ellipse: s-maj=6.6km s-min=0.9km az=247.0*
*GEN **20** 12:23:54.6, 45°.90N×6°.88E, h7km±1km, Ml1.5*
*LDG **20** 12:23:54.7±0.0, 45°.89N×6°.90E, h7km, Ml2.5/6, Error ellipse: s-maj=1.0km s-min=0.7km az=116.0*
ISC 20 12:23:54.6±0.9, **45°.89N**±0°.02×**6°.89E**±0°.02, **h13**km±7km, **n37**, σ0°**50**/68, **5C-9D, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.17**	**135**	⇑Pg	**Pg**	**12 23 58.5**	**-0.2**
MRGE				⇑Pg	**Pg**	**12 23 58.5**	**-0.2**
	0.4nm,SNR=60						
MRGE	**Morge**	**0.17**	**135**	⇑P	**Pg**	**12 23 58.5**	**-0.2**
MRGE				S	**Sg**	**12 24 01.5**	**-0.1**
MRGE				AML	AML		
	comp=E,438μm,0.4s						
MRGE				AML	AML		
	comp=N,457μm,0.4s						
MRGE				AML	AML		
	comp=N,458μm,0.4s						
REMY	**Saint-Rhmy-en**	**0.20**	**106**	P	**Pg**	**12 23 59.0**	**-0.2**
REMY				S	**Sg**	**12 24 02.3**	**-0.1**
REMY	**Saint-Rhmy-en**	**0.20**	**106**	⇑P	**Pg**	**12 23 59.0**	**-0.2**
REMY				S	**Sg**	**12 24 02.3**	**-0.1**
REMY				AML	AML		
	comp=N,457μm,0.5s						
REMY				AML	AML		
	comp=E,265μm,1.5s						
REMY				AML	AML		
	comp=E,264μm,0.5s						
SALAN	**Lac Salanfe**	**0.26**	**14**	⇓Pg	**Pg**	**12 23 59.9**	**-0.2**
	comp=E,0.1nm,SNR=11						
SALAN				⇓Pg	**Pg**	**12 23 59.9**	**-0.2**
RSL	**Roselend**	**0.27**	**222**	⇓Pg	**Pg**	**12 24 00.4**	**0.0**
RSL				⇓Pg	**Pg**	**12 24 00.4**	**0.0**
	comp=E,0.3nm,SNR=118						
RSL				Sg	**Sg**	**12 24 04.1**	**-0.3**
GRYON	**Gryon**	**0.39**	**24**	Pg	**Pg**	**12 24 02.4**	**-0.1**
	SNR=15						
GRYON				Pg	**Pg**	**12 24 02.4**	**-0.1**
LPL	**La Plagne**	**0.39**	**196**	*e*Pg	**Pg**	**12 24 02.7**	**+0.2**
LPL				*e*Sg	**Sg**	**12 24 07.8**	**0.0**
	comp=E,12nm,0.2s						
LPG	**La Plagne**	**0.41**	**193**	*e*Pg	**Pg**	**12 24 03.0**	**+0.2**
LPG				*e*Sg	**Sg**	**12 24 08.4**	**+0.1**
	comp=E,20nm,0.3s						
DIX	**Grande Dixence**	**0.41**	**63**	Pg	**Pg**	**12 24 02.7**	**-0.1**
	comp=E,0.1nm,SNR=35						
DIX				Pg	**Pg**	**12 24 02.7**	**-0.1**
DIX				Sg	**Sg**	**12 24 08.4**	**-0.1**
DIX	**Grande Dixence**	**0.41**	**63**	P	**Pg**	**12 24 02.9**	**+0.1**
DIX				S	**Sg**	**12 24 08.3**	**-0.1**
AIGLE	**Aigle**	**0.45**	**6**	Pg	**Pg**	**12 24 03.6**	**0.0**
	SNR=5.9						
AIGLE				Pg	**Pg**	**12 24 03.6**	**0.0**
LSD	**Lago del Serru**	**0.47**	**158**	⇓Pg	**Pg**	**12 24 04.0**	**+0.1**
LSD				⇓Pg	**Pg**	**12 24 04.0**	**+0.1**
	comp=E,0.1nm,SNR=35						
LSD	**Lago del Serru**	**0.47**	**158**	P	**Pg**	**12 24 03.9**	**0.0**
LSD				S	**Sg**	**12 24 10.4**	**+0.2**
LSD	**Lago del Serru**	**0.47**	**158**	P	**Pg**	**12 24 04.0**	**+0.1**
LSD				S	**Sg**	**12 24 10.2**	**0.0**
LSD				AML	AML		
	comp=E,78μm,0.6s						
LSD				AML	AML		
	comp=N,62μm,0.3s						
LSD				AML	AML		
	comp=E,78μm,0.6s						
SENIN	**Lac Senin/Sane**	**0.55**	**31**	Sg	**Sg**	**12 24 12.8**	**-0.1**
	SNR=14						
SENIN				Sg	**Sg**	**12 24 12.8**	**-0.1**
CIRO	**Champorcher**	**0.56**	**121**	P	**Pg**	**12 24 04.8**	**-0.8**
CIRO				S	**Sg**	**12 24 12.2**	**-0.9**
SATI	**Passo dei Sala**	**0.69**	**91**	P	**Pg**	**12 24 07.9**	**-0.1**
TRAV	**Traversella**	**0.71**	**122**	⇓Pg	**Pg**	**12 24 08.3**	**-0.2**
TRAV				⇓Pg	**Pg**	**12 24 08.3**	**-0.2**
	comp=E,0.1nm,SNR=10						
TRAV	**Traversella**	**0.71**	**122**	P	**Pg**	**12 24 08.3**	**-0.2**
TRAV				S	**Sg**	**12 24 17.6**	**-0.2**
TRAV	**Traversella**	**0.71**	**122**	⇓P	**Pg**	**12 24 08.3**	**-0.2**
TRAV				AML	AML		
	comp=E,41μm,0.3s						
TRAV				AML	AML		
	comp=N,62μm,0.4s						
EMBD	**Embd, Matterta**	**0.73**	**64**	Pg	**Pg**	**12 24 08.5**	**-0.4**
EMBD				Pg	**Pg**	**12 24 08.5**	**-0.4**
	SNR=8.8						
MMK	**Mattmark**	**0.77**	**78**	⇑P	**Pg**	**12 24 09.4**	**-0.2**
MMK				S	**Sg**	**12 24 18.7**	**-1.0**
MMK				AML	AML		
	comp=E,28μm,0.5s						
MMK				AML	AML		
	comp=N,30μm,0.2s						
MMK				AML	AML		
	comp=E,28μm,0.5s						
MMK				AML	AML		
	comp=N,30μm,0.2s						
RSP	**Reno Superiore**	**0.79**	**160**	P	**Pg**	**12 24 09.9**	**0.0**
RSP				S	**Sg**	**12 24 20.3**	**0.0**
RSP	**Reno Superiore**	**0.79**	**160**	P	**Pg**	**12 24 10.1**	**+0.2**
RSP				S	**Sg**	**12 24 20.6**	**+0.2**
RSP				AML	AML		
	comp=E,41μm,0.7s						
RSP				AML	AML		
	comp=E,41μm,0.7s						
RSP				AML	AML		
	comp=N,58μm,0.9s						
BNI	**Bardonecchia**	**0.85**	**190**	P	**Pg**	**12 24 10.2**	**-0.9**
BNI				S	**Sg**	**12 24 21.8**	**-0.5**
CABF	**La Chapelle**	**0.91**	**323**	*e*Pn	**Pb**	**12 24 12.8**	**+0.5**
CABF				*e*Sn	**Sb**	**12 24 25.7**	**+1.4**
	comp=N,8.0nm,0.2s						
RRL	**Rocca Remolon**	**0.97**	**184**	P	**Pg**	**12 24 13.3**	**-0.1**
MBDF	**Montbardon**	**1.17**	**184**	*e*Pg	**Pg**	**12 24 16.7**	**-0.4**
MBDF				*e*Sg	**Sg**	**12 24 32.0**	**-0.4**
	comp=N,13nm,0.5s						
ORIF	**Oris-en-Rattie**	**1.21**	**216**	*e*Pg	**Pb**	**12 24 17.1**	**-0.3**
ORIF				*e*Sg	**Sg**	**12 24 32.9**	**-0.6**
	comp=N,23nm,0.4s						
PZZ	**Stroppo**	**1.40**	**173**	P	**Pn**	**12 24 19.6**	**-0.3**
VIVF	**Saint-Julien-l**	**1.87**	**237**	*e*Pn	**Pn**	**12 24 26.0**	**-0.4**
VIVF	**Saint-Julien-l**	**1.87**	**237**	*e*Pg	**Pb**	**12 24 29.4**	**+0.7**
VIVF				*e*Sg	**Sg**	**12 24 54.6**	**-0.2**
	comp=N,5.7nm,0.2s						
HINF	**Hinteralfeld**	**1.92**	**359**	*e*Pn	**Pn**	**12 24 27.3**	**+0.2**
HINF				*e*Sg	**Sg**	**12 24 55.2**	**-1.3**
	comp=N,10nm,0.5s						
SMRF	**Simiane la Rot**	**2.13**	**206**	*e*Pn	**Pn**	**12 24 28.9**	**-1.1**
LMR	**La Mourre**	**2.57**	**186**	*e*Pg	**Pb**	**12 24 42.3**	**+1.7**
CAF	**Calviac**	**3.53**	**256**	*e*Pn	**Pn**	**12 24 47.8**	**-1.4**

*IDC **20** 12:45:50.0±2.5, 2°.57N×128°.81E, h241km±26km, mb3.2/7, mb1 3.4/8, mb1mx3.1/34, mbtmp3.7/8, Error ellipse: s-maj=71.4km s-min=14.2km az=63.0*
ISC 20 12:45:50.6±1.4, **2°.6N**±0°.3×**128°.9E**±0°.5, **h250**km, **n8**, σ0°**51**/9, **mb3.5**/7, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.19**	**146**	P	**Pn**	**12 46 56.3**	**-0.3**
	2.2nm,0.3s,baz=310,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**23.05**	**167**	P	**P**	**12 50 33.9**	**-0.4**
	1.2nm,0.4s,baz=345,slow=10.0,SNR=39						
ASAR	**Alice Springs**	**26.58**	**170**	P	**P**	**12 51 05.5**	**-0.6**
	0.9nm,0.5s,baz=352,slow=7.4,SNR=35						
ASAR				PcP	**PcP**	**12 54 24.3**	**+0.7**
	0.2nm,0.4s,baz=339,slow=1.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**33.32**	**300**	P	**P**	**12 52 05.2**	**-0.1**
	0.3nm,0.3s,baz=91,slow=5.4,SNR=4.2						
STKA	**Stephens Creek**	**36.36**	**162**	P	**P**	**12 52 31.5**	**+0.4**
	1.0nm,0.3s,baz=346,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**59.71**	**325**	P	**P**	**12 55 29.1**	**0.0**
	0.2nm,0.4s,baz=123,slow=9.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**63.85**	**327**	P	**P**	**12 55 56.1**	**-0.3**
	0.7nm,0.6s,baz=127,slow=5.9,SNR=5.8						
VNDA	**Vanda**	**82.07**	**173**	P	**P**	**12 57 43.0**	**+0.5**
	0.4nm,0.8s,baz=302,slow=7.0,SNR=2.4						

*KRNET **20** 12:45:56.7±0.1, 41°.34N×70°.92E, h10km, mb2.5*
ISC 20 12:45:56.8±1.3, **41°.32N**±0°.04×**70°.94E**±0°.04, **h5**km±13km, **n7**, σ1°**01**/14, **9C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.26**	**37**	⇓*i*P	**Pg**	**12 46 01.0**	**-0.9**
	baz=57						
TRKS				⇓*i*S	**Sg**	**12 46 04.8**	**-0.5**
	baz=57						
TAS	**Tashkent**	**1.24**	**271**	⇑*i*P	**Pb**	**12 46 20.0**	**-0.7**
	baz=70						
TAS				⇑*i*S	**Sn**	**12 46 36.8**	**-1.2**
	baz=70						
BTK	**Batken**	**1.27**	**184**	⇓*e*P	**Pg**	**12 46 21.2**	**0.0**
	baz=83						
BTK				⇓*i*S	**Sn**	**12 46 39.0**	**+0.2**
	baz=83						
OHH	**Osh**	**1.61**	**119**	⇑*i*P	**Pb**	**12 46 27.3**	**+0.1**
	baz=19						
OHH				⇑*i*S	**Sg**	**12 46 49.2**	**+0.6**
	baz=19						
MNAS	**Manas**	**1.65**	**45**	⇑*e*P	**Pb**	**12 46 27.7**	**-0.1**
	baz=45						
MNAS				⇑*i*S	**Sg**	**12 46 50.4**	**+0.6**
	baz=45						
KK31	**Karatay Array**	**1.81**	**350**	⇑P	**Pg**	**12 46 32.0**	**+0.6**
	1.0nm,0.3s,baz=167,slow=16,SNR=19						
KK31				⇓S	**Sg**	**12 46 57.0**	**+2.1**
	2.9nm,0.4s,baz=167,slow=30,SNR=12						
AML	**Almayashu**	**2.22**	**68**	⇑*i*P	**Pb**	**12 46 36.5**	**-1.1**
	baz=68						
AML				⇑*i*S	**Sb**	**12 47 06.4**	**+0.9**
	baz=68						

*KRNET **20** 12:58:38.1±0.1, 41°.09N×70°.01E, h8km, mb2.5*
ISC 20 12:58:38.0±1.4, **41°.05N**±0°.06×**70°.03E**±0°.05, **h11**km±15km, **n6**, σ1°**80**/12, **7C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.62**	**297**	⇑*i*P	**Pg**	**12 58 49.6**	**-0.5**
	baz=94						
TAS				⇑*i*S	**Sg**	**12 58 57.4**	**-0.9**
	baz=94						
TRKS	**Terek-Say**	**0.96**	**60**	⇓*i*P	**Pg**	**12 58 56.4**	**-0.2**
	baz=66						
TRKS				⇓*i*S	**Sg**	**12 59 09.0**	**-0.1**
	baz=66						
BTK	**Batken**	**1.15**	**149**	⇑*i*P	**Pb**	**12 59 00.8**	**+0.8**
	baz=49						
BTK				⇑*i*S	**Sn**	**12 59 17.1**	**+1.1**
	baz=49						
KK31	**Karatay Array**	**2.09**	**10**	⇑Pn	**Pg**	**12 59 19.6**	**+1.6**
	0.9nm,0.3s,baz=191,slow=15,SNR=15						
KK31				⇓Sn	**Sg**	**12 59 48.2**	**+3.2**
	0.9nm,0.3s,baz=191,slow=25,SNR=7.5						
MNAS	**Manas**	**2.34**	**51**	⇑*i*P	**Pb**	**12 59 19.5**	**-0.8**
	baz=52						
MNAS				⇑*i*S	**Sb**	**12 59 49.5**	**+0.2**
	baz=52						
AML	**Almayashu**	**2.95**	**67**	⇓*e*P	**Pb**	**12 59 29.1**	**-1.7**
	baz=68						
AML				⇓*i*S	**Sb**	**13 00 04.5**	**-2.6**
	baz=68						

*DDA **20** 13:02:22.0, 35°.49N×30°.06E, h28km, MW3.4*
*ISK **20** 13:02:22.2, 35°.52N×29°.99E, h19km, ML3.0/31*
*NIC **20** 13:02:26.0±0.0, 35°.38N×29°.92E, h10km±16km, Ml3.2/2*
*THE **20** 13:02:25.6, 35°.66N×29°.84E, h0km±1km, ML2.7/3, Error ellipse: s-maj=6.8km s-min=0.7km az=114.0*
*HLW **20** 13:02:28.6, 35°.37N×30°.01E, h25km±12km, Md3.8*
ISC 20 13:02:24.9±1.3, **35°.57N**±0°.04×**29°.99E**±0°.03, **h24**km±14km, **n60**, σ1°**43**/82, **2C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.67**	**330**	P	**Pb**	**13 02 36.7**	**-1.3**
KSL				S	**Sb**	**13 02 46.1**	**-0.8**
	1μm,0.4s						
DEMR	**Demre-Antalya**	**0.67**	**354**	PG	**Pb**	**13 02 36.3**	**-1.8**
DEMR				SG	**Sb**	**13 02 47.2**	**+0.2**
AKAS	**Kas**	**0.74**	**335**	⇑*i*P	**Pb**	**13 02 38.0**	**-1.2**
AKAS				*i* S	**Sb**	**13 02 50.2**	**+1.3**
AKAS	**Kas**	**0.74**	**335**	PG	**Pb**	**13 02 38.2**	**-1.0**
AKAS				SG	**Sb**	**13 02 49.2**	**+0.3**
AKUM	**Antalya-Kumluc**	**0.81**	**211**	⇑*i*P	**Pb**	**13 02 39.5**	**-0.9**
AKUM				*i* S	**Sb**	**13 02 50.9**	**+0.1**
AKUM				IAML		13 02 52.0	
	comp=N,254nm,0.4s						
ELL	**Elmali**	**1.18**	**357**	PN	**Pn**	**13 02 45.1**	**-1.0**
FETY	**Fethiye**	**1.30**	**326**	P	**Pn**	**13 02 46.3**	**-1.3**
FETY				S	**Sn**	**13 03 04.3**	**+0.1**
FETY	**Fethiye**	**1.30**	**326**	PN	**Pn**	**13 02 46.2**	**-1.3**
ANTB	**Antalya**	**1.44**	**22**	PN	**Pn**	**13 02 48.9**	**-0.5**
KORT	**Korkueli**	**1.46**	**11**	*i* P	**Pn**	**13 02 49.5**	**-0.4**
KORT				*i* S	Sb	13 03 21.2	+11
KORT				IAML		13 03 32.0	
	comp=E,76nm,1.0s						
KORT	**Korkueli**	**1.46**	**11**	PN	**Pn**	**13 02 49.2**	**-0.7**
CAME	**Cameli-Denizli**	**1.48**	**338**	PN	**Pn**	**13 02 50.0**	**-0.3**
CAEL	**Denizli, Camel**	**1.65**	**341**	*e*P	**Pn**	**13 02 52.8**	**+0.3**
CAEL				*i* S	**Sb**	**13 03 23.0**	**+7.9**
CAEL				IAML		13 03 31.0	
	comp=N,142nm,0.6s						
ARG	**Arkhangelos**	**1.65**	**294**	P	**Pn**	**13 02 51.8**	**-0.6**
ARG				S	**Sn**	**13 03 12.2**	**-0.6**
ARG	**Arkhangelos**	**1.65**	**294**	PN	**Pn**	**13 02 51.4**	**-1.0**
DALY	**Dalyan (Mula)**	**1.65**	**319**	*e*P	**Pn**	**13 02 52.1**	**-0.4**
DALY				*i* S	**Sb**	**13 03 16.8**	**+1.7**
DALY				IAML		13 03 39.0	
	comp=N,62nm,1.1s						
DALY	**Dalyan (Mula)**	**1.65**	**319**	PN	**Pn**	**13 02 51.7**	**-0.7**
GOLH	**Golhisar**	**1.70**	**348**	*i* P	**Pb**	**13 02 55.5**	**-0.2**
GOLH				*i* S	Sb	13 03 25.1	+8.4
GOLH				IAML		13 03 36.0	
	comp=N,79nm,1.0s						
BUCA	**Burdur, Bucak-**	**1.82**	**14**	*e*P	**Pn**	**13 02 55.5**	**+0.8**
BUCA				*i* S	**Sb**	**13 03 19.9**	**0.0**
TURN	**Turunc**	**1.86**	**311**	PN	**Pn**	**13 02 54.7**	**-0.6**
KEPZ	**Antalya-Kepez**	**1.86**	**44**	*i* P	**Pn**	**13 02 55.5**	**+0.1

KEBE	Keben-Mersin	3.14	73	PN	Pn	13 03 11.9	-1.1
KIZT	Kizilcal	3.63	24	PN	Pn	13 03 19.9	+0.1
SANT	Santorini	3.76	284	PN	Pn	13 03 20.8	-0.7
TVSB	Tavsanli	3.90	354	PN	Pn	13 03 22.3	-1.1
APE	Apeiranthos	3.90	294	PN	Pn	13 03 23.9	+0.5
SLUM	Salum	5.70	226	P	Pn	13 03 50.0	+1.9
	baz=228						
KOT	Kottamia	5.83	164	P	Pn	13 03 50.7	+0.7
	baz=163						
HSAF	As Saff	6.08	167	P	Pn	13 03 54.6	+1.3
	baz=166						
GLL	Jalalah	6.14	166	P	Pn	13 03 55.4	+1.1
	baz=165						
SUZ	Suez	6.19	156	P	Pn	13 03 55.7	+0.9
	baz=155						
SUZ				S	Sn	13 04 59.7	-5.2
	baz=155						

*ISK **20** 13:08:03.7, 38.°37N×42.°90E, h5km, ML2.6/10*
*DDA **20** 13:08:03.0, 38.°29N×42.°85E, h7km±1km, ML2.4*
ISC 20 13:08:03.5±0.9, 38.°33N±0.°03×42.°87E±0.°02, h7km±7km, n18, σ0°70/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	Akdamar-Van	0.08	91	PG	Pg	13 08 05.8	+0.1
AKDM				SG	Sg	13 08 07.3	+0.1
TVAN	Van	0.46	65	*i* P	Pg	13 08 12.4	-0.1
TVAN				*i* S	Sb	13 08 20.3	-1.0
VANB	Van	0.48	57	PG	Pg	13 08 12.4	-0.5
ADCV	BITLIS_Adilcev	0.49	346	*i* P	Pg	13 08 13.4	+0.3
ADCV				*i* S	Sb	13 08 21.0	-1.1
ADCV				IAML		13 08 22.0	
	comp=N,340nm,0.6s						
BLIS	Bitlis-Merkez	0.60	278	*i* P	Pg	13 08 15.1	-0.1
BLIS				*i* S	Sg	13 08 23.4	+0.4
BLIS				IAML		13 08 28.0	
	comp=N,148nm,0.3s						
GURO	Guroymak-BITLI	0.70	289	PG	Pb	13 08 17.9	-0.2
GURO				SG	Sb	13 08 27.5	-0.4
SRTM	Siirt_Merkez	0.82	246	*eP*	Pg	13 08 18.4	-0.9
SRTM				*i* S	Sn	13 08 34.0	-0.1
SRTM				IAML		13 08 38.0	
	comp=N,97nm,0.8s						
MLAZ	Malazgirt-MUS	0.85	343	PG	Pg	13 08 19.7	-0.1
MLAZ				SG	Sb	13 08 32.2	-0.1
SIRT	Sirnak	0.90	203	PG	Pn	13 08 22.4	-0.2
HAKT	HAKKARI	1.01	139	*i* P	Pb	13 08 23.4	-0.2
HAKT				*i* S	Sn	13 08 41.1	+2.1
MUSM	Mu-Merkez	1.14	291	*i* P	Pg	13 08 24.9	-0.4
MUSM				*i* S	Sg	13 08 40.0	-0.1
CLDR	Caldiran	1.15	45	PN	Pg	13 08 25.1	-0.5
SVAN	Silvan-Diyarba	1.33	263	PN	Pg	13 08 29.9	+0.9
KOTA	Agri, Merkez-K	1.49	10	*i* P	Pn	13 08 30.9	0.0
KOTA				*i* S	Sg	13 08 51.5	0.0
EATA	Eleskirt	1.56	349	*i* P	Pb	13 08 32.6	-0.3
EATA				*i* S	Sg	13 08 55.0	+1.3
EATA				IAML		13 08 56.0	
	comp=N,55nm,0.5s						
KOPR	Koprukoy-ERZUR	1.84	335	PN	Pn	13 08 36.3	+0.6
BNGB	Bingl	1.84	292	PN	Pb	13 08 37.1	-0.5
MAZI	Mazidag	2.11	246	PN	Pb	13 08 41.9	-0.2

IDC 20 13:18:28.6±1.7, 2.°25S×126.°01E, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/41, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=36.5km s-min=28.3km az=64.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.43	75	Pn	Pn	13 19 51.3	+0.4
	1.3nm,0.3s,baz=255,slow=20,SNR=6.8						
SIJI				Sn	Sn	13 20 54.1	0.0
	0.5nm,0.3s,baz=117,slow=23,SNR=1.9						
WRA	Warramunga Arr	19.38	156	P	Pn	13 22 57.5	+0.3
	0.1nm,0.3s,baz=332,slow=12,SNR=15						
ASAR	Alice Springs	22.62	161	P	P	13 23 30.3	-1.0
	0.4nm,0.5s,baz=346,slow=12,SNR=6.1						
MKAR	Makanchi Array	62.10	328	P	P	13 28 51.2	-0.1
	0.1nm,0.4s,baz=123,slow=9.2,SNR=1.7						

*IDC **20** 13:18:30.3±0.8, 25.°16N×126.°76E, h0km, mb4.0/13, mb1 4.0/15, mb1mx3.9/42, mbtmp3.9/15, ML3.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/48, Error ellipse: s-maj=24.2km s-min=16.8km az=80.0*
*NEIC **20** 13:18:33.4±2.9, 25.°06N±0.°08×127.°03E±0.°05, h26km±6km, mb4.5/22, Error ellipse: s-maj=12.9km s-min=4.6km az=159.0*
*JMA **20** 13:18:34.0±0.1, 25.°14N×126.°95E, h63km, M3.6*
*NIED **20** 13:18:34.0, 25.°14N×126.°95E, h63km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.13; Mθθ-0.31; Mφφ0.19; Mrθ0.25; Mθφ-1.30; Mφr0.89; Fault plane solution: M0 1.60000×10^15 NP1:φs7.00000°, δ90.00000°, λ35.00000°. NP2:φs276.00000°, δ55.00000°, λ179.00000°.*
ISC 20 13:18:32.0±3.0, 25.°12N±0.°06×126.°95E±0.°05, h15km±18km, n69, σ0°90/72, mb4.2/25, MS3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.21	353	P	Pn	13 18 54.8	+0.4
JKE				*eS*	Sb	13 19 10.3	+0.2
JJT3	Tamagusuku3	1.27	36	*eS*	Sn	13 19 11.6	-0.3
JOGS	Gusukube	1.45	256	P	Pb	13 18 58.6	0.0
JAGN	Aguni-jima	1.49	10	P	Pb	13 18 59.1	-0.2
JMJ2	Miyako jima3	1.52	256	P	Pb	13 18 59.7	-0.2
JMJ2				*eS*	Sn	13 19 17.0	-1.1
JIKM	Ikemajima	1.56	263	P	Pb	13 19 00.2	-0.3
JIRB	Irabujima	1.64	260	P	Pn	13 19 01.3	+1.0
JIRB				*eS*	Sn	13 19 21.0	-0.1
JNTH	Nagotoyohara	1.70	34	P	Pn	13 19 01.7	+0.7
JNTH				*eS*	Sn	13 19 21.5	-1.0
JOW	Kunigami	2.08	35	Pn	Pn	13 19 07.9	+1.5
	5.3nm,0.3s,baz=117,slow=29,SNR=16						
JOW				Sn	Sn	13 19 31.3	-0.7
	40nm,0.3s,baz=122,slow=27,SNR=11						
JOW	Kunigami	2.08	35	*eS*	Sn	13 19 31.1	-0.9
JOW	Kunigami	2.08	35		Pn	13 19 07.1	+0.7
JTJ	Tarama	2.10	257	P	Pn	13 19 07.2	+0.7
JTJ				*eS*	Sn	13 19 32.3	-0.1
JIH	Iheya	2.12	25	P	Pn	13 19 07.3	+0.5
JIH				*eS*	Sn	13 19 32.0	-0.8
JYRO	Yoronjima	2.33	35	P	Pn	13 19 10.5	+0.8
JISG	Ishigakijimahi	2.46	258	P	Pn	13 19 11.8	+0.3
JIJ	Ishigaki jima	2.66	254	P	Pn	13 19 14.7	+0.4
JIJ				*eS*	Sn	13 19 46.6	+0.3
JMZ	Minamidaito 2	3.92	79	Pn	Pn	13 19 29.8	-1.8
NACB	Ninganchiao	4.96	260	Pn	Pn	13 19 45.7	-0.3
YHNB	Yeheng	5.08	266	Pn	Pn	13 19 48.5	+0.8
YULB	Yu-li	5.44	253	Pn	Pn	13 19 50.6	-2.0
SSLB	Suanglung	5.62	258	Pn	Pn	13 19 54.7	-0.4
TPUB	Ta-pu	6.05	254	Pn	Pn	13 20 00.7	-0.2
JSU	Suzuyama	7.07	25	Pn	Pn	13 20 13.8	-1.2
JNU	Nakatsue	8.68	22	Pn	Pn	13 20 39.5	+2.5
	0.7nm,0.3s,baz=226,slow=8.5,SNR=6.5						
JNU	Nakatsue	8.68	22		Pn	13 20 38.4	+1.3
KSRS	Korea Array	12.33	4	LR	LR	13 26 47.8	
	comp=Z,181nm,18.1s,baz=180,slow=40						
JWT	Wachi	12.48	34	Pn	Pn	13 21 28.5	-0.6
JSD	Sado	16.07	34	P	P	13 22 21.0	+0.4
CMAR	Chiang Mai Arr	26.81	261	P	P	13 24 12.7	+0.9
	1.1nm,0.8s,baz=71,slow=6.6,SNR=4.7						
CMAR				LR	LR	13 35 26.6	
	comp=Z,71nm,20.6s,baz=94,slow=38						
SONM	Songino Array	27.89	330	P	P	13 24 20.5	-0.9
	1.7nm,0.5s,baz=149,slow=9.0,SNR=6.3						
SONM	Songino Array	27.89	330	IAmb	IAmb	13 24 24.8	
	comp=Z,1.5nm,0.8s						
SHL	Shillong	31.64	278	P	P	13 24 55.4	+0.5
PETK	Petropavlovsk-	36.24	31	LR	LR	13 43 20.9	
	comp=Z,52nm,18.1s,baz=231,slow=41						
MK31	Makanchi Array	41.43	313	P	P	13 26 16.9	-1.0
MK31				IAmb	IAmb	13 26 18.1	
	comp=Z,3.1nm,0.7s						
MKAR	Makanchi Array	41.43	313	P	P	13 26 17.2	-0.7
	comp=Z,4.5nm,0.6s,baz=98,slow=10,SNR=58						
MKAR	Makanchi Array	41.43	313	P	P	13 26 17.0	-0.9
MAKZ	Makanchi	41.64	313	P	P	13 26 18.5	-1.1
MAKZ				IAmb	IAmb	13 26 20.0	
	comp=Z,5.3nm,0.9s						
ZAA0	Zalesovo Array	42.45	324	P	P	13 26 24.4	-1.7
ZAA0				IAmb	IAmb	13 27 55.5	
	comp=Z,12nm,1.9s						
ZALV	Zalesovo Beam	42.45	324	P	P	13 26 24.8	-1.3
	comp=Z,1.2nm,0.6s,baz=115,slow=9.2,SNR=4.7						
ZALV				LR	LR	13 45 41.0	
	comp=Z,58nm,20.9s,baz=83,slow=38						
ZALV	Zalesovo Beam	42.45	324	P	P	13 26 24.5	-1.6
KDJ	Kajisay	44.14	305	P	P	13 26 40.3	+0.1
KDJ				IAmb	IAmb	13 26 41.5	
	comp=Z,4.4nm,0.9s						
KURK	Kurchatov	44.85	318	P	P	13 26 44.5	-0.9
KURBB	Kurchatov Arra	44.88	318	P	P	13 26 44.5	-1.2
	comp=Z,1.1nm,0.5s,baz=104,slow=8.8,SNR=11						
WB0	Warramunga Arr	45.20	170	P	P	13 26 47.6	-0.9
WB0				IAmb	IAmb	13 28 09.2	
	comp=Z,21nm,1.5s						
WRAB	Tennant Creek	45.35	170	P	P	13 26 49.0	-0.7
WRAB				IAmb	IAmb	13 27 47.5	
	comp=Z,24nm,1.7s						
WRA	Warramunga Arr	45.36	170	P	P	13 26 50.5	+0.6
	comp=Z,2.3nm,0.7s,baz=351,slow=8.2,SNR=15						
WRA	Warramunga Arr	45.36	170	P	P	13 26 49.9	+0.1
WB2	Warramunga Arr	45.37	170	P	P	13 26 49.8	0.0
WR0	Warramunga Arr	45.41	170	P	P	13 26 50.6	+0.4
WR0				IAmb	IAmb	13 27 01.9	
	comp=Z,25nm,1.5s						
TIXI	Tiksi	46.58	1	P	P	13 26 58.3	-0.5
AS31	Alice Springs	48.96	172	P	P	13 27 18.4	+0.5
AS31				IAmb	IAmb	13 29 08.4	
	comp=Z,8.8nm,2.0s						
ASAR	Alice Springs	48.96	172	P	P	13 27 19.0	+1.2
	comp=Z,1.2nm,0.8s,baz=356,slow=14,SNR=12						
ASAR	Alice Springs	48.96	172	P	P	13 27 18.2	+0.3
KKAR	Karatay Array	49.12	306	P	P	13 27 19.0	0.0
KKAR	Karatay Array	49.12	306	P	P	13 27 19.1	0.0
KKAR				IAmb	IAmb	13 27 20.4	
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	50.41	319	P	P	13 27 27.7	-1.0
BRVK				IAmb	IAmb	13 28 59.9	
	comp=Z,7.5nm,1.6s						
KBL	Kabul	50.52	295	P	P	13 27 30.4	+0.4
KBL				IAmb	IAmb	13 27 31.8	
	comp=Z,22nm,1.6s						
ABKAR	Abkulak array	56.57	314	P	P	13 28 13.9	0.0
ABKAR	Abkulak array	56.57	314	P	P	13 28 14.1	+0.2
ABKAR				IAmb	IAmb	13 28 15.1	
	comp=Z,4.4nm,0.7s						
GEYT	Alibeck	58.85	300	LR	LR	13 57 42.7	
	comp=Z,46nm,19.4s,baz=0.0,slow=40						
GEYT	Alibeck	58.85	300	P	P	13 28 31.2	+0.9
ILAR	Eielson Array	65.96	28	P	P	13 29 18.8	+1.5
	comp=Z,0.3nm,0.7s,baz=270,slow=5.4,SNR=4.7						
ARCES	ARCESS Array B	70.61	339	P	P	13 29 46.4	+0.1
	comp=Z,1.1nm,0.7s,baz=64,slow=8.1,SNR=1.7						
ARCES				LR	LR	14 07 23.1	
	comp=Z,32nm,18.4s,baz=80,slow=42						
AFI	Afiamalu	71.20	116	P	P	13 29 49.4	-1.4
FINES	FINESS Array B	73.26	330	P	P	13 30 02.1	-0.2
	comp=Z,0.8nm,0.7s,baz=64,slow=4.4,SNR=5.0						
FINES				LR	LR	14 06 09.6	
	comp=Z,40nm,20.9s,baz=62,slow=39						
AKASG	Malin Array Be	75.62	319	P	P	13 30 16.1	-0.2
	comp=Z,0.5nm,0.4s,baz=56,slow=5.8,SNR=5.1						
AKASG	Malin Array Be	75.62	319	IAmb	IAmb	13 30 21.2	
	comp=Z,3.0nm,1.4s						
BRTR	Keskin Array B	76.80	308	P	P	13 30 24.5	+1.1
	comp=Z,0.9nm,0.8s,baz=70,slow=2.1,SNR=4.4						
NOA	NORSAR Array B	79.79	334	P	P	13 30 39.2	-0.3
	comp=Z,0.5nm,0.7s,baz=54,slow=5.6,SNR=3.8						
NOA				LR	LR	14 10 06.3	
	comp=Z,35nm,19.5s,baz=55,slow=39						

IDC 20 13:33:41.6±3.0, 23.°54N×94.°80E, h115km±34km, mb3.1/3, mb1 3.2/5, mb1mx3.0/41, mbtmp3.4/5, Error ellipse: s-maj=35.6km s-min=19.2km az=38.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	3.03	254	P	Pn	13 34 27.9	-0.2
	15nm,0.3s,baz=236,slow=14,SNR=1.8						
BRDH				S	Sn	13 35 04.5	+0.6
	11nm,0.3s,baz=244,slow=23,SNR=14						
CMAR	Chiang Mai Arr	6.37	142	P	Pn	13 35 13.0	-0.1
	baz=314,slow=13,SNR=5.3						
MKAR	Makanchi Array	25.29	340	P	P	13 38 57.2	-0.1
	0.4nm,0.5s,baz=145,slow=12,SNR=6.6						
WRA	Warramunga Arr	57.92	135	P	P	13 43 21.9	-0.1
	0.3nm,0.4s,baz=320,slow=7.6,SNR=1.9						
ASAR	Alice Springs	60.37	138	P	P	13 43 38.9	0.0
	0.2nm,0.5s,baz=320,slow=7.0,SNR=6.1						

*DRS **20** 13:43:22.9±0.0, 42.°49N×45.°42E, h14km*
*MOS **20** 13:43:22.3±0.0, 42.°56N×45.°51E, h20km, MPVA3.9*
*NORS **20** 13:43:22.7±0.0, 42.°48N×45.°47E, h11km, MPVA3.8*
*TIF **20** 13:43:22.6, 42.°63N×45.°43E, h19km±3km*
ISC 20 13:43:23.3±1.0, 42.°55N±0.°03×45.°46E±0.°02, h12km±9km, n28, σ0°78/53, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.57	78	*eP*g	Pg	13 43 34.3	-0.2
BTLR				*eS*g	Sg	13 43 42.8	+0.6
PNSH	Pansheti	0.63	278	P	Pg	13 43 34.9	-0.8
PNSH				S	Sg	13 43 42.7	-1.3
KMGR	Komgaron	0.67	320	*eP*g	Pg	13 43 36.8	+0.4
KMGR				*eS*g	Sb	13 43 47.4	+1.1
MTEO	Meteo	0.70	281	P	Pg	13 43 36.2	-0.8
MTEO				S	Sg	13 43 45.0	-1.2
GROC	Groznyy	0.70	20	*eP*g	Pg	13 43 37.2	+0.2
GROC				*eS*g	Sn	13 43 48.2	-1.6
GUDG	Gudauri	0.73	264	P	Pg	13 43 37.0	-0.6
GUDG				S	Sg	13 43 47.5	+0.4
VLKR	Vladikavkaz	0.76	311	*eP*g	Pb	13 43 39.1	+0.5
VLKR				*eS*g	Sn	13 43 50.3	-1.1
LACR	Lac	0.90	289	*eP*g	Pb	13 43 39.5	-1.4
LACR				*eS*g	Sb	13 43 51.3	-1.7
LGD	Lagodekhi	0.92	141	P	Pb	13 43 41.6	+0.4
LGD				S	Sb	13 43 52.6	-0.6
XNZR	Khunzakh	0.92	90	*i* Pg	Pb	13 43 40.8	-0.5
XNZR				*eS*g	Sg	13 43 53.8	+0.7
BTNK	Botanikuri	0.99	210	P	Pb	13 43 42.7	+0.3
BTNK				S	Sn	13 43 57.8	+0.8
DLMR	Dylym	1.01	58	*eP*g	Pb	13 43 42.9	+0.2
DLMR				*eS*g	Sb	13 43 55.7	-0.2
ARNR	Ardon	1.07	307	*eP*g	Pb	13 43 43.8	0.0
ARNR				*eS*g	Sn	13 44 00.2	+1.2
KRNR	Karanay	1.10	75	*eP*g	Pb	13 43 44.2	-0.2
KRNR				*eS*g	Sg	13 43 59.1	+0.2
DBC	Dubki	1.11	64	*eP*g	Pn	13 43 44.7	-0.1
DBC				*eS*g	Sn	13 44 00.2	+0.1
GNBR	Gunib	1.12	98	*eP*g	Pb	13 43 44.1	-0.6
GNBR				*eS*g	Sb	13 43 59.0	-0.3
ARKR	Arakani	1.13	87	*eP*g	Pb	13 43 44.8	-0.1
ARKR				*eS*g	Sg	13 44 00.2	+0.3
KMKR	Kumukh	1.28	108	*eP*g	Pn	13 43 47.0	-0.2
KMKR				*eS*g	Sg	13 44 05.0	+0.3
KZRT	Kazreti	1.40	215	P	Pb	13 43 49.8	+0.4
KZRT				S	Sg	13 44 09.3	+0.8
LSNR	Lesken	1.41	302	*eP*g	Pg	13 43 50.7	+0.4
LSNR				*eS*g	Sg	13 44 09.8	+1.2
TRLG	Trialeti	1.43	226	P	Pb	13 43 50.6	+0.7
PRTR	Priterechnaya	1.48	325	*eP*g	Pb	13 43 50.7	-0.1
PRTR				*eS*g	Sg	13 44 12.6	+1.6
ONI	Oni	1.48	272	P	Pb	13 43 51.5	+0.7
BRNG	Burnasheti	1.53	233	P	Pb	13 43 52.7	+1.1
DMNI	Dmanisi	1.54	218	P	Pb	13 43 51.9	0.0
DMNI				S	Sg	13 44 13.0	0.0
BKRG	Bakuriani	1.64	242	P	Pb	13 43 53.7	+0.1
BKRG				S	Sg	13 44 16.2	0.0
NEY	Neytrino	2.13	290	*eP*g	Pb	13 44 01.6	-0.3
NEY				*eS*g	Sb	13 44 28.9	+0.5
SHA1	Shidzhatmaz	2.37	301	*eP*n	Pb	13 44 05.6	-0.5
SHA1				*eS*n	Sb	13 44 36.7	+1.3

*IDC **20** 13:56:24.9±2.2, 37.°18N×138.°63E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.1/40, mbtmp3.2/3, ML2.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/51, Error ellipse: s-maj=15.9km s-min=13.4km az=60.0*
*JMA **20** 13:56:26.7, 37.°20N×138.°56E, h10km±2km, M3.5*
JMA Felt III J1.
*NIED **20** 13:56:26.7, 37.°20N×138.°56E, h10km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.07; Mθθ-0.93; Mφφ-1.14; Mrθ1.00; Mθφ-1.38; Mφr0.05; Fault plane solution: M0 2.48000×10^14 NP1:φs61.00000°, δ57.00000°, λ112.00000°. NP2:φs204.00000°, δ39.00000°, λ61.00000°.*
ISC 20 13:56:27.1±1.2, 37.°17N±0.°03×138.°58E±0.°04, h7km±11km, n13, σ1°21/17, 1C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	Nakama	0.34	259	⇓P	Pg	13 56 33.5	-0.3
JIZZ	Izumozaki	0.37	16	⇓P	Pg	13 56 34.3	-0.1
JGK	Kuni	0.61	175	⇓P	Pg	13 56 38.8	-0.1
JGK				S	Sg	13 56 47.6	+0.8
JKT	Katashina	0.67	127	⇓P	Pg	13 56 39.7	-0.3
JKT				S	Sg	13 56 49.1	+0.3
MAT	Matsushiro	0.69	206	P	Pg	13 56 39.8	-0.7
MAT				S	Sg	13 56 49.7	+0.2
MAT	Matsushiro	0.69	206	P	Pg	13 56 39.8	-0.7
MAT				S	Sg	13 56 49.4	-0.1
MJAR	Matsushiro Arr	0.69	205	Pg	Pg	13 56 38.8	-1.7
	5.3nm,0.3s,baz=25,slow=17,SNR=102						
MJAR				Lg	Lg	13 56 49.3	
	18nm,0.3s,baz=23,slow=28,SNR=21						
JNS	Sasagawa	0.87	42	⇑P	Pg	13 56 42.4	-1.5
JNS				S	Sg	13 56 54.4	-0.8
ASAJ	Asahikawa	7.58	22	Pn	Pn	13 58 20.4	+2.5
	0.3nm,0.3s,baz=221,slow=4.7,SNR=5.7						
KSRS	Korea Array	8.50	275	Pn	Pn	13 58 31.3	+0.8
	0.2nm,0.3s,baz=86,slow=14,SNR=2.7						
KSRS				LR	LR	14 01 03.0	
	comp=Z,27nm,20.2s,baz=70,slow=32						
USRK	Ussuriysk Ar.	8.62	327	Pn	Pn	13 58 32.4	+0.2
	baz=147,slow=16,SNR=1.5						
TLY	Talaya	28.54	312	LR	LR	14 14 46.4	
	comp=Z,33nm,18.4s,baz=30,slow=39						
WRA	Warramunga Arr	56.95	185	P	P	14 06 10.9	-2.1
	0.7nm,1.0s,baz=0.0,slow=7.5,SNR=1.8						

*IDC **20** 13:59:44.0±1.7, 0.°86N×123.°38E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/41, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=58.6km s-min=26.8km az=66.0*
*NEIC **20** 13:59:58.1±1.4, 0.°40N±0.°09×122.°4E±0.°2, h130km±11km, mb4.2/14, Error ellipse: s-maj=26.6km s-min=8.4km az=66.0*
*DJA **20** 13:59:59.5±0.6, 0.°N±6.°×12.°2E±.°, h108km±6km, M3.6/6, mb3.6/2, MLv3.6/6*
ISC 20 13:59:58.1±0.8, 0.°45N±0.°07×122.°41E±0.°07, h150km, n26, σ2°06/27, mb3.9/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.47	273	P	Pn	14 00 16.9	-2.4
MRSI				S	Sn	14 00 30.4	-4.9
GTOI	Gorontalo	0.63	73	P	Pn	14 00 19.7	-0.5
GTOI				S	Sn	14 00 33.2	-3.7
APSI	Ampana	1.55	209	P	Pn	14 00 26.4	-1.8
TOLI2	Tolitoli	1.75	292		Pn	14 00 29.2	-1.2
MPSI	Mapaga	2.51	267	P	Pn	14 00 38.5	-0.9
SANI	Sanana	4.36	125	P	Pn	14 01 01.8	-1.3
KAPI	Kappang	6.04	206	Pn	Pn	14 01 26.2	+0.8
	2.0nm,0.3s,baz=346,slow=4.2,SNR=7.3						
KAPI	Kappang	6.04	206		Pn	14 01 24.6	-0.8
MTN	Manton Dam	15.79	147	P	P	14 03 34.5	+1.3
MTN				IAmb	IAmb	14 03 35.1	
	comp=Z,24nm,1.4s						
KNRA	Kununurra	17.21	159	P	Pn	14 03 50.5	+0.9
KNRA				IAmb	IAmb	14 04 05.3	
	comp=Z,21nm,1.3s						
WB0	Warramunga Arr	23.28	150	P	P	14 04 53.1	+0.5
WB0				IAmb	IAmb	14 04 55.7	
	comp=Z,14nm,1.4s						
WRAB	Tennant Creek	23.40	151	P	P	14 04 54.6	+1.0
WRAB				IAmb	IAmb	14 05 16.1	
	comp=Z,8.8nm,1.4s						
WRA	Warramunga Arr	23.40	151	P	P	14 04 54.4	+0.7
	comp=Z,0.7nm,0.3s,baz=331,slow=11,SNR=28						
WRA	Warramunga Arr	23.40	151	IAmb	IAmb	14 05 00.4	
	comp=Z,0.3nm,1.4s						
WB2	Warramunga Arr	23.41	151	P	P	14 04 54.5	+0.7
WR0	Warramunga Arr	23.51	150	P	P	14 04 55.2	+0.5
WR0				IAmb	IAmb	14 05 08.7	
	comp=Z,6.1nm,1.3s						
AS31	Alice Springs	26.45	156	P	P	14 05 21.4	+0.1
ASAR	Alice Springs	26.45	156	P	P	14 05 22.4	+1.1
	comp=Z,0.4nm,0.5s,baz=342,slow=14,SNR=13						
ASAR	Alice Springs	26.45	156	P	P	14 05 21.8	+0.5
MORW	Morawa	29.98	191	P	P	14 05 51.6	-0.9
MORW				IAmb	IAmb	14 05 52.0	
	comp=Z,33nm,1.4s						
FORT	Forrest	31.52	171	P	P	14 06 06.2	+0.2
BBOO	Buckleboo	35.50	160	P	P	14 06 40.5	0.0
MAJO	Matsushiro	38.78	20	P	P	14 07 07.3	-0.9
MAJO				IAmb	IAmb	14 07 20.7	
	comp=Z,5.8nm,1.3s						
MJAR	Matsushiro Arr	38.78	20	P	P	14 07 07.1	-1.1
MK31	Makanchi Array	57.92	329	P	P	14 09 39.1	+4.5
MK31				IAmb	IAmb	14 09 54.0	
	comp=Z,1.7nm,1.4s						
MKAR	Makanchi Array	57.92	329	P	P	14 09 39.0	+4.4
	comp=Z,0.2nm,0.3s,baz=129,slow=8.8,SNR=3.2						

*IDC **20** 14:33:38.7±1.4, 57.°06S×23.°54W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/28, mbtmp4.1/

MNMC Minye Minye 50.89 299 P P 14 42 41.1 -0.2
LPAZ La Paz 52.66 302 P **P 14 42 55.1 +0.1**
comp=Z,4.2nm,0.6s,baz=130,slow=5.2,SNR=16
LPAZ La Paz 52.66 302 P **P 14 42 54.5 -0.5**
LPAZ IAmb IAmb 14 42 55.5
comp=Z,4.9nm,0.6s
TORD Torodi Ar. Bea 73.11 26 P **P 14 45 11.1 +0.8**
comp=Z,0.6nm,0.6s,baz=196,slow=6.6,SNR=3.0
TORD Torodi Ar. Bea 73.11 26 IAmb IAmb 14 45 20.9
comp=Z,0.9nm,0.8s
KMBO Kilima Mbogo 73.62 65 LR LR 15 14 23.3
comp=Z,198nm,21.4s,baz=281,slow=33
ROSC El Rosal 74.14 307 LR LR 15 19 09.0
comp=Z,92nm,20.4s,baz=50,slow=37
ILAR Eielson Array 152.36 309 PKPbc **PKPbc 14 53 34.2 -0.3**
comp=Z,0.8nm,0.5s,baz=130,slow=2.4,SNR=10

*KRNET **20** 14:39:41.4±0.1, 40°.59N×69°.60E, h14km, mb2.8*
ISC 20 14:39:42.2±1.4, 40°.60N±0°.03×69°.67E±0°.07, h11km±13km, n8, σ1§65/16, 11C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.03**	**121**	⇑*i*P	**Pg**	**14 40 02.3**	**+0.1**
	baz=20						
BTK				⇑*i*S	**Sn**	**14 40 16.9**	**-0.4**
	baz=20						
TRKS	**Terek-Say**	**1.45**	**50**	⇑*i*P	**Pb**	**14 40 09.4**	**0.0**
	baz=53						
TRKS				⇑*i*S	**Sg**	**14 40 29.6**	**+0.7**
	baz=53						
GAR	**Garm**	**1.68**	**162**	⇑*i*P	**Pb**	**14 40 13.0**	**-0.2**
	baz=61						
GAR				⇑*i*S	**Sg**	**14 40 36.1**	**-0.1**
	baz=61						
CHGR	**Chuyangaron**	**1.98**	**192**	⇓*i*P	**Pb**	**14 40 17.9**	**-0.5**
	baz=90						
CHGR				⇓*i*S	**Sg**	**14 40 44.8**	**-1.1**
	baz=90						
DRK	**Karamyk**	**1.98**	**124**	⇓*i*P	**Pb**	**14 40 18.5**	**-0.1**
	baz=23						
DRK				⇓*i*S	**Sg**	**14 40 46.4**	**+0.3**
	baz=23						
KK31	**Karatay Array**	**2.58**	**14**	⇑Pn	**Pg**	**14 40 31.1**	**-0.5**
	0.9nm,0.3s,baz=194,slow=16,SNR=5.7						
KK31				Sn	**Sg**	**14 41 06.4**	**+1.4**
	1.5nm,0.3s,baz=202,slow=30,SNR=13						
MNAS	**Manas**	**2.84**	**48**	⇑*i*P	**Pb**	**14 40 30.8**	**-2.3**
	baz=48						
MNAS				⇑*i*S	**Sb**	**14 41 07.1**	**-0.9**
	baz=48						
AML	**Almayashu**	**3.40**	**62**	⇑*i*P	**Pn**	**14 40 38.6**	**+3.1**
	baz=62						
AML				⇑*i*S	**Sb**	**14 41 20.5**	**-3.6**
	baz=62						

*IDC **20** 14:46:51.3±1.6, 34°.73N×136°.07E, h360km±25km, mb2.6/2, mb1 2.7/5, mb1mx2.5/53, mbtmp3.4/5, Error ellipse: s-maj=35.9km s-min=26.7km az=48.0*
*JMA **20** 14:46:52.2±0.1, 34°.88N×135°.97E, h360km±2km, M2.5*
ISC 20 14:46:52.0±1.0, 34°.8N±0°.1×135°.96E±0°.08, h350km, n19, σ1§51/21, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.28**	**233**	P	**Pn**	**14 47 37.4**	**+1.4**
JWT	**Wachi**	**0.65**	**315**	P	**Pn**	**14 47 37.9**	**+1.4**
JWT				*e*S	**S**	**14 48 13.7**	**+1.4**
JWY	**Kouya**	**0.67**	**207**	P	**Pn**	**14 47 38.5**	**+1.6**
JIE	**Ise**	**0.75**	**125**	P	**Pn**	**14 47 38.6**	**+1.6**
JYTA	**Yamagatataniai**	**1.00**	**39**	P	**Pn**	**14 47 39.2**	**+1.5**
JYTA				S	**S**	**14 48 16.2**	**+1.9**
JTNC	**Tanabenakahech**	**1.04**	**196**	P	**Pn**	**14 47 39.4**	**+1.3**
TTO1	**TONANKAI O.B.S**	**1.38**	**150**	P	**Pn**	**14 47 41.4**	**+2.2**
JKG	**Kaga**	**1.48**	**12**	P	**Pn**	**14 47 41.1**	**+1.2**
JAI	**Aioi**	**1.62**	**231**	P	**Pn**	**14 47 42.2**	**+1.3**
JYN	**Shimob**	**2.22**	**72**	P	**Pn**	**14 47 45.6**	**+0.6**
JHS	**Saijyo**	**2.34**	**275**	P	**Pn**	**14 47 47.2**	**+1.3**
MJAR	**Matsushiro Arr**	**2.51**	**46**	P	**Pn**	**14 47 47.4**	**+0.3**
	0.0nm,0.3s,baz=211,slow=9.3,SNR=2.2						
JOI	**OKI**	**2.65**	**304**	P	**Pn**	**14 47 49.6**	**+1.3**
JRY	**Ryogami san**	**2.68**	**63**	P	**Pn**	**14 47 49.8**	**+1.2**
JGT2	**ShimaneMisato**	**2.84**	**276**	P	**Pn**	**14 47 50.9**	**+0.9**
KSRS	**Korea Array**	**7.01**	**294**	P	**Pn**	**14 48 35.6**	**+1.2**
	0.1nm,0.3s,baz=105,slow=13,SNR=5.0						
ASAJ	**Asahikawa**	**10.60**	**27**	P	**Pn**	**14 49 16.3**	**-0.6**
	0.3nm,0.3s,baz=205,slow=8.4,SNR=7.1						
MKAR	**Makanchi Array**	**41.59**	**304**	P	**P**	**14 54 05.8**	**-0.9**
	0.3nm,0.6s,baz=92,slow=9.3,SNR=3.3						
WRA	**Warramunga Arr**	**54.48**	**182**	P	**P**	**14 55 42.3**	**-2.4**
	0.2nm,0.6s,baz=360,slow=7.7,SNR=4.8						

*DDA **20** 14:51:32.9, 37°.12N×28°.75E, h7km±6km, ML3.0*
*ISK **20** 14:51:32.0, 37°.13N×28°.77E, h13km, ML3.4/22*
*IDC **20** 14:51:33.0±1.4, 37°.11N×28°.95E, h0km, mb3.7/2, mb1 3.7/6, mb1mx3.4/46, mbtmp3.7/6, ML3.6/4, MS2.9/4, Ms1 2.9/4, ms1mx2.4/44, Error ellipse: s-maj=28.4km s-min=18.4km az=146.0*
*THE **20** 14:51:33.9, 37°.12N×28°.71E, h0km±1km, ML3.3/5, Error ellipse: s-maj=1.9km s-min=1.4km az=39.0*
ISC 20 14:51:32.5±1.1, 37°.13N±0°.02×28°.80E±0°.02, h5km±8km, n48, σ1§52/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.33**	**200**	*i*P	**Pg**	**14 51 38.8**	**-0.1**
DALY				*i*S	**Sb**	**14 51 45.7**	**-0.8**
DALY				IAML		14 51 46.0	
	comp=E,2μm,1.0s						
DALY				IAML		14 51 50.0	
	comp=N,2μm,0.7s						
DALY	**Dalyan (Mula)**	**0.33**	**200**	PG	**Pg**	**14 51 38.8**	**-0.1**
DALY				SG	**Sg**	**14 51 44.4**	**+1.1**
TAVA	**DENIZLI_Tavas**	**0.35**	**15**	*i*P	**Pb**	**14 51 39.8**	**-1.4**
TAVA				IAML		14 51 45.0	
	comp=E,2μm,0.6s						
TAVA				*i*S	**Sb**	**14 51 45.4**	**-1.7**
TAVA				IAML		14 51 47.0	
	comp=N,3μm,0.6s						
MULA	**Mugla, Merkez-**	**0.40**	**288**	*i*P	**Pg**	**14 51 40.5**	**+0.2**
MULA				*i*S	**Sb**	**14 51 46.8**	**-1.8**
MULA				IAML		14 51 47.0	
	comp=N,2μm,0.8s						
MULA				IAML		14 51 52.0	
	comp=E,2μm,0.4s						
YER	**Yerkesik**	**0.41**	**271**	P	**Pg**	**14 51 40.4**	**-0.1**
YER				S	**Sg**	**14 51 47.0**	**+1.1**
YER	**Yerkesik**	**0.41**	**271**	PG	**Pg**	**14 51 40.6**	**+0.1**
YER				SG	**Sg**	**14 51 46.6**	**+0.7**
CAEL	**Denizli, Camel**	**0.42**	**91**	*i*P	**Pb**	**14 51 40.9**	**-1.5**
CAEL				*i*S	**Sb**	**14 51 48.6**	**-0.5**
CAEL				IAML		14 51 53.0	
	comp=E,3μm,0.6s						
CAEL				IAML		14 51 53.0	
	comp=N,2μm,0.5s						
CAME	**Cameli-Denizli**	**0.44**	**115**	PG	**Pb**	**14 51 41.3**	**-1.6**
CAME				SG	**Sb**	**14 51 48.8**	**-1.0**
FETY	**Fethiye**	**0.54**	**155**	PG	**Pb**	**14 51 43.4**	**-1.1**
TURN	**Turunc**	**0.57**	**232**	*i*P	**Pg**	**14 51 41.8**	**-1.6**
TURN				IAML		14 51 55.0	
	comp=N,502nm,0.7s						
TURN				IAML		14 51 56.0	
	comp=E,587nm,0.4s						
TURN	**Turunc**	**0.57**	**232**	PG	**Pg**	**14 51 42.9**	**-0.5**
TURN				SG	**Sg**	**14 51 51.6**	**+0.8**
GOLH	**Golhisar**	**0.62**	**80**	*i*P	**Pn**	**14 51 46.3**	**-1.6**
GOLH				*i*S	**Sn**	**14 51 56.6**	**-1.8**
GOLH				IAML		14 52 06.0	
	comp=N,856nm,1.0s						
MRSB	**Marmaris-Mugla**	**0.64**	**230**	PG	**Pg**	**14 51 44.8**	**+0.1**
MLSB	**Milas**	**0.83**	**282**	PG	**Pg**	**14 51 48.0**	**-0.5**
AYDN	**Tasoluk**	**0.90**	**306**	*i*P	**Pb**	**14 51 49.9**	**-0.7**
AYDN				*i*S	**Sb**	**14 52 02.2**	**-0.8**
AYDN				IAML		14 52 09.0	
	comp=N,488nm,0.5s						
AYDN				IAML		14 52 09.0	
	comp=E,420nm,0.4s						
DAT	**Datca**	**1.06**	**248**	P	**Pg**	**14 51 52.4**	**-0.3**
DAT				S	**Sn**	**14 52 08.6**	**-0.6**
DAT	**Datca**	**1.06**	**248**	PG	**Pg**	**14 51 51.5**	**-1.2**
ARG	**Arkhangelos**	**1.06**	**211**	P	**Pb**	**14 51 52.1**	**-1.2**
ARG				S	**Sn**	**14 52 08.7**	**-0.4**
	comp=E,770nm,0.3s						
ARG	**Arkhangelos**	**1.06**	**211**	PG	**Pb**	**14 51 52.5**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**319**	PG	**Pn**	**14 51 53.1**	**-1.4**
AKAS	**Kas**	**1.11**	**144**	PN	**Pn**	**14 51 53.9**	**-0.8**
KSL	**Kastellorizon**	**1.16**	**147**	P	**Pg**	**14 51 55.3**	**+0.5**
KSL				S	**Sn**	**14 52 14.6**	**+3.0**
	comp=E,1μm,0.8s						
BODT	**Bodrum**	**1.19**	**267**	P	**Pn**	**14 51 54.9**	**-0.9**
BODT				S	**Sn**	**14 52 12.3**	**-0.1**
BODT	**Bodrum**	**1.19**	**267**	PN	**Pn**	**14 51 54.6**	**-1.2**
YKAV	**Yalikavak-Bodr**	**1.21**	**270**	PN	**Pn**	**14 51 54.9**	**-1.2**
DEMR	**Demre-Antalya**	**1.26**	**135**	PN	**Pg**	**14 51 56.2**	**-0.4**
BASM	**Basmaki-Afyon**	**1.27**	**51**	PN	**Pg**	**14 51 56.2**	**-0.6**
KHL	**Karahalli**	**1.32**	**26**	PN	**Pg**	**14 51 56.6**	**-1.2**
GCAM	**G?zelcaml?**	**1.37**	**295**	PN	**Pn**	**14 51 57.3**	**-0.9**
KULA	**Kula-Manisa**	**1.39**	**356**	P	**Pg**	**14 51 58.7**	**-0.4**
KULA				S	**Sg**	**14 52 20.0**	**+3.0**
KULA	**Kula-Manisa**	**1.39**	**356**	PN	**Pg**	**14 51 57.9**	**-1.2**
NIS1	**Nisyros Isl.**	**1.40**	**248**	P	**Pg**	**14 51 59.1**	**-0.3**
NIS1				S	**Sg**	**14 52 18.1**	**+0.6**
	comp=E,2μm,0.7s						
NIS1	**Nisyros Isl.**	**1.40**	**248**	PN	**Pn**	**14 51 57.3**	**-1.4**
ANTB	**Antalya**	**1.50**	**98**	PN	**Pb**	**14 51 59.6**	**-1.2**
ISP	**Isparta**	**1.54**	**63**	PN	**Pb**	**14 52 00.4**	**-1.1**
SMG	**Samos**	**1.67**	**291**	P	**Pb**	**14 52 02.4**	**-1.2**
SMG				S	**Sb**	**14 52 23.5**	**-1.4**
	comp=E,580nm,0.8s						
KARP	**Karpathos**	**2.06**	**220**	P	**Pb**	**14 52 08.8**	**-1.6**
KARP				S	**Sb**	**14 52 35.2**	**-1.1**
	comp=E,430nm,0.8s						
KARP	**Karpathos**	**2.06**	**220**	PN	**Pn**	**14 52 07.2**	**-0.6**
IDI	**Anoyia**	**3.66**	**241**	Pn	**Pn**	**14 52 30.7**	**+1.0**
	comp=E,4.4nm,0.3s,baz=57,slow=17,SNR=20						
IDI				Sn	**Sn**	**14 53 16.4**	**+3.2**
	comp=E,4.3nm,0.3s,baz=237,slow=7.0,SNR=7.8						
BRTR	**Keskin Array B**	**4.60**	**54**	Pn	**Pn**	**14 52 44.0**	**+1.2**
	comp=E,1.3nm,0.3s,baz=232,slow=16,SNR=24						
BRTR				Sn	**Sn**	**14 53 39.8**	**+3.2**
	comp=E,0.4nm,0.3s,baz=244,slow=25,SNR=6.0						
BRTR				LR	LR	14 55 02.3	
	comp=E,70nm,19.5s,baz=262,slow=46						
MMAI	**Mount Meron Ar**	**6.79**	**125**	Pn	**Pn**	**14 53 11.9**	**-0.9**
	comp=E,4.6nm,0.3s,baz=308,slow=16,SNR=18						
EIL	**Elat**	**9.04**	**144**	Sn	**Sn**	**14 55 20.3**	**-5.6**
	comp=E,0.3nm,0.3s,baz=80,slow=15,SNR=3.7						
GNI	**Garni**	**12.82**	**72**	LR	LR	15 00 27.9	
	comp=E,36nm,18.7s,baz=270,slow=42						
GERES	**GERESS Array B**	**16.06**	**322**	Pn	**P**	**14 55 23.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=126,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**24.40**	**357**	P	**P**	**14 56 52.6**	**+1.2**
	comp=E,1.4nm,0.7s,baz=159,slow=11,SNR=4.8						
HFS	**Hagfors**	**24.97**	**342**	LR	LR	15 08 15.5	
	comp=E,26nm,20.6s,baz=326,slow=40						
MDT	**Midelt**	**27.63**	**271**	LR	LR	15 10 59.9	
	comp=E,42nm,18.2s,baz=116,slow=42						
TORD	**Torodi Ar. Bea**	**34.02**	**232**	P	**P**	**14 58 20.9**	**+3.5**
	comp=E,0.6nm,0.5s,baz=36,slow=9.0,SNR=3.5						

IDC 20 15:12:51.1±2.0, 6°.83S×129°.15E, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.4/30, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=116.1km s-min=31.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**159**	Pn	Pn	15 16 10.4	-0.1
	0.2nm,0.3s,baz=338,slow=13,SNR=8.1						
WRA				Sn	Sn	15 18 33.0	-14
	0.5nm,0.3s,baz=333,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.35**	**165**	P	Pn	15 16 55.0	+0.1
	0.4nm,0.3s,baz=339,slow=9.8,SNR=48						
ASAR				S	Sn	15 19 56.2	-13
	0.2nm,0.3s,baz=358,slow=31,SNR=6.9						
MKAR	**Makanchi Array**	**67.63**	**327**	P	P	15 23 49.9	0.0
	0.4nm,0.5s,baz=116,slow=8.0,SNR=7.7						

*IDC **20** 15:28:40.5±0.6, 30°.36N×94°.90E, h0km, mb4.5/22, mb1 4.6/25, mb1mx4.4/40, mbtmp4.4/25, ML4.0/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/34, Error ellipse: s-maj=18.4km s-min=12.0km az=40.0*
*BJI **20** 15:28:41.0±0.0, 30°.37N×94°.89E, h8km, mB4.8/28, mb4.5/47, ML4.2/8, Ms4.2/41, Ms7 4.0/41*
*MOS **20** 15:28:42.4±1.2, 30°.39N×94°.88E, h24km, mb5.1/66, Error ellipse: s-maj=6.7km s-min=3.4km az=126.0*
*NEIC **20** 15:28:44.7±1.8, 30°.32N±0°.08×94°.93E±0°.08, h34km±4km, mb4.9/116, Error ellipse: s-maj=12.1km s-min=10.3km az=191.0*
*NDI **20** 15:28:48.7±3.9, 30°.47N×94°.40E, h52km±61km, mb4.7, mb4.9(NEIC)*
ISC 20 15:28:43.4±0.7, 30°.28N±0°.04×94°.91E±0°.03, h23km±5km, n512, σ1§85/525, mb4.9/147, MS3.7/9, 27C-20D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.81**	**180**	*e*P	**Pb**	**15 29 34.2**	**+1.4**
LKP	**Lekhapani**	**3.05**	**164**	*ex*	**Pn**	**15 29 33.7**	**+3.4**
ITAN	**ITANAGAR**	**3.29**	**199**	*e*P	**Pb**	**15 29 38.8**	**-2.4**
LSA	**Lhasa**	**3.31**	**261**	Pg	**Pn**	**15 29 37.3**	**+3.1**
LSA				Sg	**Sb**	**15 30 27.0**	**+5.3**
LSA				smax	smax		
	comp=N,200nm,1.6s						
LSA				smax	smax		
	comp=E,340nm,2.1s						
LSA	**Lhasa**	**3.31**	**261**	P	**Pn**	**15 29 35.2**	**+0.9**
LSA	**Lhasa**	**3.31**	**261**	Pn	**Pn**	**15 29 35.2**	**+0.9**
JORH	**JORHAT**	**3.57**	**189**	*e*P	**Pb**	**15 29 43.2**	**-2.8**
SHL	**Shillong**	**5.41**	**210**	P	**Pn**	**15 30 03.3**	**+0.5**
SHL	**Shillong**	**5.41**	**210**	*e*P	**Pn**	**15 30 04.4**	**+1.6**
SHL	**Shillong**	**5.41**	**210**	Pn	**Pn**	**15 30 03.3**	**+0.5**
GTK	**Tadong**	**6.27**	**243**	*e*P	**Pn**	**15 30 16.0**	**+1.3**
CD2	**Chengdu**	**7.66**	**83**	Pn	**Pn**	**15 30 32.8**	**-0.8**
CD2				Sn	**Sn**	**15 31 58.6**	**-1.1**
CD2				LR	LR		
	comp=N,2μm,6.5s						
CD2				LR	LR		
	comp=E,1μm,6.3s						
CD2				LR	LR		
	comp=Z,2μm,7.2s						
KMI	**Kunming**	**8.64**	**125**	⇑P	**Pn**	**15 30 51.8**	**+4.6**
KMI				smax	smax		
	comp=N,93nm,1.7s						
KMI				smax	smax		
	comp=E,57nm,1.8s						
KMI				LR	LR		
	comp=N,260nm,4.3s						
KMI				LR	LR		
	comp=E,510nm,5.8s						
KMI				LR	LR		
	comp=Z,450nm,11.3s						
LZH	**Lanzhou**	**9.46**	**50**	*e*P	Pn	15 31 03.6	+5.1
LZH				pP		15 31 10.4	
LZH				PP	**PnPn**	**15 31 12.0**	**+5.8**
LZH				*e*S	**Sn**	**15 32 48.6**	**+4.4**
LZH				sS		15 32 55.5	
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
LZH				pmax	pmax		
	comp=Z,180nm,4.6s						
LZH				LR	LR		
	comp=N,600nm,5.7s						
LZH				LR	LR		
	comp=E,640nm,6.0s						
LZH				LR	LR		
	comp=Z,520nm,7.1s						
GTA	**Gaotai**	**9.96**	**23**	*e*P	**Pn**	**15 31 07.3**	**+2.1**
GTA				S	**Sn**	**15 33 00.5**	**+4.2**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,41nm,4.4s						
GTA				LR	LR		
	comp=N,470nm,9.1s						
GTA				LR	LR		
	comp=E,410nm,7.6s						
GTA				LR	LR		
	comp=Z,460nm,10.5s						
GYA	**Guiyang**	**11.03**	**107**	⇓P	**Pn**	**15 31 22.4**	**+2.4**
GYA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CM33	**Chiang Mai Arr**	**11.99**	**161**	P	**Pn**	**15 31 37.0**	**+4.0**
CHTO	**Chiang Mai**	**11.99**	**161**	P	**Pn**	**15 31 32.7**	**-0.4**
CHTO	**Chiang Mai**	**11.99**	**161**	P	Pn	15 31 37.9	+4.8
	8.5nm,2.6s						
CHTO	**Chiang Mai**	**11.99**	**161**	Pn	**Pn**	**15 31 32.6**	**-0.4**
CMMT	**Chiang Mai**	**12.00**	**161**	P	**Pn**	**15 31 37.2**	**+4.1**
	8.4nm,1.6s						
CMMT	**Chiang Mai**	**12.00**	**161**	P	**Pn**	**15 31 37.2**	**+4.1**
CM34	**Chiang Mai Arr**	**12.02**	**160**	P	Pn	15 31 39.0	+5.6
SLVN	**Son La**	**12.04**	**136**	Pn	**Pn**	**15 31 32.9**	**-0.8**
CM32	**Chiang Mai Arr**	**12.12**	**162**	P	Pn	15 31 42.0	+7.2
CM35	**Chiang Mai Arr**	**12.18**	**161**	P	Pn	15 31 41.0	+5.4
CM36	**Chiang Mai Arr**	**12.32**	**161**	P	P	15 31 45.0	-4.5
CM15	**Chiang Mai Arr**	**12.33**	**162**	P	**P**	**15 31 52.6**	**+2.9**
CM15	**Chiang Mai Arr**	**12.33**	**162**	P	**P**	**15 31 52.6**	**+2.9**
CMAR	**Chiang Mai Arr**	**12.33**	**162**	Pn	**Pn**	**15 31 40.0**	**+2.3**
	0.3nm,0.3s,baz=333,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**12.33**	**162**	*i*P	**Pn**	**15 31 41.4**	**+3.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**12.33**	**162**	Pn	**Pn**	**15 31 39.5**	**+1.9**
CM02	**Chiang Mai Arr**	**12.36**	**162**	P	**P**	**15 31 52.1**	**+2.2**
CM02	**Chiang Mai Arr**	**12.36**	**162**	P	**P**	**15 31 52.2**	**+2.3**
CM13	**Chiang Mai Arr**	**12.36**	**162**	P	**P**	**15 31 52.6**	**+2.7**
CM13	**Chiang Mai Arr**	**12.36**	**162**	P	**P**	**15 31 52.6**	**+2.7**
MHMT	**Maesarieng**	**12.36**	**166**	P	P	15 31 56.1	+6.1
MHMT	**Maesarieng**	**12.36**	**166**	P	P	15 31 56.0	+6.0
CM01	**Chiang Mai Arr**	**12.37**	**162**	P	**P**	**15 31 54.5**	**+4.4**
CM01	**Chiang Mai Arr**	**12.37**	**162**	P	**P**	**15 31 54.5**	**+4.4**
CM05	**Chiang Mai Arr**	**12.39**	**162**	P	**P**	**15 31 52.5**	**+2.3**
CM05	**Chiang Mai Arr**	**12.39**	**162**	P	**P**	**15 31 52.5**	**+2.3**
CM04	**Chiang Mai Arr**	**12.40**	**162**	P	**P**	**15 31 52.7**	**+2.4**
CM04	**Chiang Mai Arr**	**12.40**	**162**	P	**P**	**15 31 52.8**	**+2.4**
ENH	**Enshi**	**12.61**	**86**		**Pn**	**15 31 40.6**	**-0.8**
WMQ	**Urumqi**	**14.68**	**339**	*e*P	**Pn**	**15 32 09.1**	**-0.6**
WMQ				pP	P	15 32 16.0	+0.3
WMQ				pmax	pmax		
	comp=Z,29nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.9s						
WMQ				LR	LR		
	comp=Z,290nm,9.9s						
WMQ				LR	LR		
	comp=Z,290nm,12.3s						
WMQ				LR	LR		
	comp=Z,150nm,14.1s						
UTHA	**Uthaitani**	**15.24**	**163**	P	**P**	**15 32 25.7**	**+3.7**
SMLA	**Simla**	**15.29**	**278**	*e*P	**Pn**	**15 32 15.2**	**-2.6**
SMLA				IAmb	IAmb	15 32 25.2	
	comp=Z,23nm,0.4s						
KHON	**Khomkaen**	**15.66**	**151**	P	**P**	**15 32 33.5**	**+6.8**
KHON	**Khomkaen**	**15.66**	**151**	P	**P**	**15 32 33.0**	**+6.3**
CHAI	**Chaiyaphum**	**15.72**	**154**	P	**P**	**15 32 30.1**	**+2.8**
	comp=Z,22nm,0.9s						
CHAI	**Chaiyaphum**	**15.72**	**154**	P	**P**	**15 32 30.2**	**+2.9**
KHLT	**Khaolaem Dam**	**15.78**	**167**	P	**P**	**15 32 32.8**	**+4.8**
	comp=Z,22nm,1.0s						
KHLT	**Khaolaem Dam**	**15.78**	**167**	P	**P**	**15 32 32.8**	**+4.8**
PANO	**Nakornpanom**	**15.80**	**144**	P	**Pn**	**15 32 26.9**	**+2.4**
	comp=Z,206nmcomp=Z,6.2nm,1.6s						
TIY	**Taiyuan**	**16.30**	**58**	*e*P	**P**	**15 32 35.0**	**+1.2**
TIY				LR	LR		
	comp=Z,310nm,7.1s						
TIY				LR	LR		
	comp=Z,210nm,7.0s						
TIY				LR	LR		
	comp=Z,520nm,11.6s						
WHN	**Wuhan**	**16.78**	**84**	P	**Pn**	**15 32 36.8**	**-0.1**
WHN				pP	**pP**	**15 32 45.1**	**-1.5**
BHPL	**Bhopal**	**17.10**	**250**	*e*P	**Pn**	**15 32 38.2**	**-2.9**
BHPL				IAmb	IAmb	15 32 47.0	
	comp=Z,64nm,1.3s						
HHC	**Hu-ho-hao-te**	**17.14**	**48**	*e*P	**P**	**15 32 44.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.4s						
HHC				LR	LR		
	comp=Z,320nm,9.7s						
HHC				LR	LR		
	comp=Z,210nm,10.7s						
HHC				LR	LR		
	comp=Z,320nm,9.7s						
SHLS	**Shalkode**	**17.80**	**320**	*e*P	**Pn**	**15 32 45.0**	**-4.8**
	comp=Z,79nm,1.7s,baz=321						
SHLS	**Shalkode**	**17.80**	**320**	*e*P	**Pn**	**15 32 44.9**	**-4.8**
SHLS				pmax	pmax		
	comp=Z,79nm,1.7s						
PRZ	**Przheval'sk**	**17.98**	**317**	P	**P**	**15 32 52.8**	**+0.3**
PRZ				pmax	pmax		
	comp=Z,186nm,1.3s						
PRZ	**Przheval'sk**	**17.98**	**317**	P	**P**	**15 32 52.8**	**+0.3**
PRZ				IAmb	IAmb	15 32 58.2	
	comp=Z,186nm,1.2s						
KSH	**Kashi**	**18.03**	**306**	P	**P**	**15 32 54.3**	**+1.4**
KSH				S	**Sn**	**15 36 15.3**	**+2.2**
KSH				sS	sS	15 36 26.1	-4.4
KSH				SS	**SnSn**	**15 36 36.1**	**+9.4**
KSH				pmax	pmax		
	comp=Z,16nm,2.0s						
KSH				LR	LR		
	comp=Z,170nm,5.0s						
KSH				LR	LR		
	comp=Z,100nm,4.2s						
KSH				LR	LR		
	comp=Z,120nm,4.9s						
UZB	**Uzynbulak**	**18.04**	**320**	*e*P	**Pn**	**15 32 50.9**	**-1.8**
	baz=319						
UZB	**Uzynbulak**	**18.04**	**320**	*e*P	**Pn**	**15 32 50.8**	**-1.9**
SATY	**Saty**	**18.34**	**319**	*e*P	**Pn**	**15 32 54.9**	**-1.4**
	baz=318						
SATY	**Saty**	**18.34**	**319**	*e*P	**Pn**	**15 32 54.9**	**-1.4**
KDJ	**Kajisay**	**18.52**	**315**	P	**P**	**15 32 58.1**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,85nm,1.4s						
KDJ	**Kajisay**	**18.52**	**315**	P	**P**	**15 32 58.1**	**-0.2**
ZSN	**Zaisan**	**18.81**	**338**	*e*P	**Pn**	**15 33 02.2**	**+0.3**
	baz=338						
ZSN	**Zaisan**	**18.81**	**338**	*e*P	**Pn**	**15

BJI				S	Sn	15 36 57.9	+0.2
BJI				pmax	pmax		
	comp=Z,16nm,1.8s						
BJI				LR	LR		
	comp=Z,440nm,8.6s						
BJI				LR	LR		
	comp=Z,460nm,7.9s						
TKM2	Tokmak 2	19.93	315	P	Pn	15 33 15.7	+0.2
	SNR=15						
KUU	Kurty	20.04	318	*e*P	P	15 33 11.7	-3.0
	baz=318						
KUU	Kurty	20.04	318	*e*P	P	15 33 11.7	-3.0
KBK	Karagaybulak	20.19	313	P	Pn	15 33 18.2	-0.4
	SNR=8.3						
AAK	Ala-Archa	20.47	313	P	Pn	15 33 21.2	-0.7
	SNR=25						
FRU1	Bishkek	20.47	313	P	P	15 33 18.6	-1.0
FRU1				pmax	pmax		
	comp=Z,91nm,1.4s						
FRU1	Bishkek	20.47	313	P	P	15 33 18.6	-1.0
FRU1				IAmb	IAmb	15 33 23.6	
	comp=Z,91nm,1.4s						
CHMS	Chumysh	20.49	314	P	Pn	15 33 21.8	-0.2
	SNR=28						
NJ2	Nanjing	20.56	79	*e*P	P	15 33 20.1	-0.4
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USP	Ospenovka	20.79	314	P	Pn	15 33 25.0	-0.5
	SNR=21						
SGDS	Sogindy	20.81	315	*e*P	P	15 33 21.8	-1.4
	baz=314						
SGDS	Sogindy	20.81	315	*e*P	P	15 33 21.8	-1.4
EKS2	Erkin-Say	20.94	312	P	Pn	15 33 27.3	0.0
	SNR=17						
DRK	Karamyk	21.01	302	P	P	15 33 24.5	-1.2
DRK				IAmb	IAmb	15 33 28.8	
	comp=Z,56nm,1.1s						
ZAK	Zakamensk	21.04	15	*e*P	P	15 33 25.4	-0.3
ZAK				pmax	pmax		
	comp=Z,40nm,1.3s						
MOY	Mondy	21.84	10	*e*P	P	15 33 35.2	+1.0
MOY				pmax	pmax		
	comp=Z,66nm,1.2s						
BTK	Batken	21.91	303	P	P	15 33 34.5	-0.7
BTK				pmax	pmax		
	comp=Z,95nm,1.2s						
BTK	Batken	21.91	303	P	P	15 33 34.5	-0.7
BTK				IAmb	IAmb	15 33 38.7	
	comp=Z,95nm,1.1s						
GAR	Garm	21.97	300	P	P	15 33 34.3	-1.4
KBL	Kabul	22.22	288	P	P	15 33 37.5	-1.1
KBL				pmax	pmax		
	comp=Z,136nm,1.1s						
KBL	Kabul	22.22	288	P	P	15 33 37.5	-1.1
DZA	Taraz	22.64	310	*e*P	P	15 33 41.6	-1.3
	baz=310						
DZA	Taraz	22.64	310	*e*P	P	15 33 41.5	-1.3
CHGR	Chuyangaron	22.76	298	P	P	15 33 42.7	-1.4
SEM	Semipalatinsk	22.92	335	*e*P	P	15 33 42.7	-3.2
	baz=335						
SEM	Semipalatinsk	22.92	335	*e*P	P	15 33 42.6	-3.2
IRK	Irkutsk	23.00	15	*e*P	P	15 33 46.8	+0.3
IRK				pmax	pmax		
	comp=Z,59nm,1.8s						
KK31	Karatay Array	23.28	310	P	P	15 33 48.6	-0.8
KK31				pmax	pmax		
	comp=Z,56nm,1.5s						
KK31	Karatay Array	23.28	310	P	P	15 33 48.6	-0.8
KK31				IAmb	IAmb	15 33 52.9	
	comp=Z,56nm,1.4s						
KKAR	Karatay Array	23.28	310	P	P	15 33 48.9	-0.5
KKAR				pmax	pmax		
	comp=Z,56nm,1.5s						
KKAR	Karatay Array	23.28	310	P	P	15 33 48.9	-0.5
KKAR	Karatay Array	23.28	310	P	P	15 33 49.1	-0.3
KKAR				IAmb	IAmb	15 33 52.9	
	comp=Z,56nm,1.4s						
KURBB	Kurchatov Arra	23.73	334	P	P	15 33 52.4	-1.3
	comp=Z,12nm,0.9s,baz=144,slow=10,SNR=61						
KURBB				PcP	PcP	15 37 37.9	+0.8
	comp=Z,2.3nm,0.8s,baz=161,slow=1.5,SNR=10						
KURK	Kurchatov	23.77	334	P	P	15 33 52.4	-1.7
KURK						15 37 37.9	
KURK	Kurchatov	23.77	334	P	P	15 33 52.4	-1.7
ZAA0	Zalesovo Array	24.75	346	P	P	15 34 02.3	-0.8
ZAA0				IAmb	IAmb	15 34 06.0	
	comp=Z,52nm,1.5s						
ZALV	Zalesovo Beam	24.75	346	P	P	15 34 02.8	-0.3
	comp=Z,8.2nm,0.7s,baz=163,slow=9.0,SNR=31						
ZALV	Zalesovo Beam	24.75	346	P	P	15 34 02.2	-0.9
SNY	Shenyang	25.77	56	⇓P	P	15 34 14.3	+1.9
SNY				pmax	pmax		
	comp=Z,16nm,1.2s						
BRZS	Berezniki	25.83	326	*e*P	P	15 34 12.1	-0.9
	comp=Z,42nm,1.3s,baz=326						
BRZS	Berezniki	25.83	326	*e*P	P	15 34 12.0	-0.9
BRZS				pmax	pmax		
	comp=Z,42nm,1.3s						
HIA	Hailar	26.70	38	P	P	15 34 21.0	+0.1
HIA				pmax	pmax		
	comp=Z,30nm,1.4s						
HIA	Hailar	26.70	38	P	P	15 34 21.0	+0.1
CN2	Changchun	27.69	52	*e*P	P	15 34 30.3	+0.6
CN2				*e*PP	PnPn	15 35 16.3	+0.7
CN2				*e*S	S	15 39 05.6	-4.9
CN2				pmax	pmax		
	comp=Z,30nm,1.2s						
CN2				LR	LR		
	comp=Z,190nm,10.0s						
CN2				LR	LR		
	comp=Z,180nm,10.0s						
CN2				LR	LR		
	comp=Z,260nm,11.0s						
HRA	Herat	27.83	287	P	P	15 34 30.5	-0.9
KSRS	Korea Array	28.23	66	LR	LR	15 46 12.0	
	comp=Z,32nm,18.4s,baz=208,slow=37						
BVAR	Borovoye Array	28.92	329	P	P	15 34 40.9	+0.3
	comp=Z,5.8nm,1.0s,baz=170,slow=20,SNR=24						
BVAR				PcP	PcP	15 37 50.0	+0.8
	comp=Z,1.4nm,0.8s,baz=126,slow=7.5,SNR=4.6						
GSI	Gunungsitoli	28.93	174	P	P	15 34 41.4	+0.4
GSI				IAmb	IAmb	15 34 51.1	
	comp=Z,29nm,1.3s						
GSI	Gunungsitoli	28.93	174	P	P	15 34 42.4	+1.4
	comp=Z,46nm,2.0s						
BRVK	Borovoye	28.99	329	*c i*P	P	15 34 41.7	+0.5
BRVK				pmax	pmax		
	comp=Z,29nm,1.3s						
BRVK	Borovoye	28.99	329	P	P	15 34 41.1	-0.2
JSU	Suzuyama	30.45	78	P	P	15 34 52.1	-2.3
BOD	Bodaibo	30.54	20	*e*P	P	15 34 55.8	+1.0
BOD				pmax	pmax		
	comp=Z,13nm,1.5s						
MDJ	Mudanjiang	30.77	53	P	P	15 34 55.8	-1.3
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.7s						
GEYT	Alibeck	31.25	294	P	P	15 35 02.6	+1.2
	comp=Z,278nm,0.7s,baz=112,slow=6.9,SNR=13						
GYA0B	ALIBECK ARRAY	31.25	294	P	P	15 35 01.6	+0.2
GYA0B				IAmb	IAmb	15 35 05.1	
	comp=Z,20nm,1.1s						
VLA	Vladivostok	32.04	56	⇑*e*P	P	15 35 09.4	+1.2
VLA				pmax	pmax		
	comp=Z,16nm,1.0s						
USA0B	Ussuriysk Arra	32.34	54	P	P	15 35 07.9	-2.9
USA0B				pmax	pmax		
	comp=Z,3.0nm,0.7s						
USA0B	Ussuriysk Arra	32.34	54	P	P	15 35 07.9	-2.9
USRK	Ussuriysk Ar.	32.34	54	P	P	15 35 12.2	+1.4
	comp=Z,1.2nm,0.7s,baz=251,slow=12,SNR=4.1						
USRK				LR	LR	15 49 14.3	
	comp=Z,54nm,20.7s,baz=46,slow=38						
USRK	Ussuriysk Ar.	32.34	54	P	P	15 35 07.8	-3.0
ABKAR	Akbulak array	32.49	316	P	P	15 35 11.9	-0.2
ABKAR	Akbulak array	32.49	316	P	P	15 35 12.1	0.0
ABKAR				IAmb	IAmb	15 35 14.6	
	comp=Z,6.9nm,0.9s						
ZEA	Zeya	33.10	36	*e*P	P	15 35 18.6	+1.2
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
JWT	Wachi	34.24	71	P	P	15 35 25.6	-1.9
JWT				IAmb	IAmb	15 35 37.3	
	comp=Z,25nm,1.5s						
KSI	Kapahiang	34.53	166	P	P	15 35 30.6	+0.3
	comp=Z,30nm,2.4s						
SVE	Sverdlovsk	35.70	328	*e*P	P	15 35 40.8	+1.0
SVE				pmax	pmax		
	comp=Z,39nm,1.4s						
MJAR	Matsushiro Arr	36.45	68	P	P	15 35 46.6	0.0
	comp=Z,23nm,0.8s,baz=269,slow=7.7,SNR=2.4						
MJAR				LR	LR	15 51 41.1	
	comp=Z,26nm,18.6s,baz=240,slow=38						
MJAR	Matsushiro Arr	36.45	68	P	P	15 35 44.2	-2.3
ARU	Arti	36.46	326	*c i*P	P	15 35 46.8	+0.4
ARU						15 37 07.9	
ARU						15 38 08.7	
ARU				S	S	15 41 29.4	+2.7
ARU				pmax	pmax		
	comp=Z,40nm,1.5s						
ARU	Arti	36.46	326	P	P	15 35 45.8	-0.6
LKRN	Lenkeran, Azer	38.60	295	P	P	15 36 05.8	+1.1
JEW	Eniwo	38.97	58	P	P	15 36 06.2	-1.5
JEW				IAmb	IAmb	15 36 18.2	
	comp=Z,26nm,1.3s						
YAK	Yakutsk	38.97	25	*d i*P	P	15 36 07.7	+0.2
YAK				pmax	pmax		
	comp=Z,45nm,1.7s						
YAK	Yakutsk	38.97	25	P	P	15 36 06.7	-0.8
YAK				IAmb	IAmb	15 36 09.4	
	comp=Z,22nm,0.9s						
NRIK	Noril'sk	39.33	356	P	P	15 36 10.9	+0.5
	comp=Z,4.0nm,0.5s,baz=150,slow=5.1,SNR=11						
NRIK	Noril'sk	39.33	356	P	P	15 36 09.3	-1.1
NRIK				IAmb	IAmb	15 36 12.5	
	comp=Z,26nm,1.4s						
SEKA	Sheki	39.78	299	P	P	15 36 14.5	-0.2
MNGR	Mingechevir, A	39.87	299	P	P	15 36 16.2	+0.9
ASAJ	Asahikawa	39.88	56	P	P	15 36 15.7	+0.4
	comp=Z,5.0nm,0.8s,baz=258,slow=7.7,SNR=7.0						
JKA	Kamikawa-asahi	39.88	56	P	P	15 36 15.0	-0.3
JKA				IAmb	IAmb	15 36 18.3	
	comp=Z,40nm,1.5s						
ZKTA	Zakatala	40.22	300	P	P	15 36 19.0	+0.8
YSS	Yuzh-Sakhalins	40.25	52	*e*P	P	15 36 18.4	0.0
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
YSS	Yuzh-Sakhalins	40.25	52	P	P	15 36 17.9	-0.5
YSS				IAmb	IAmb	15 36 21.3	
	comp=Z,44nm,1.2s						
GANJ	Ganja	40.45	298	P	P	15 36 19.6	-0.6
LGD	Lagodekhi	40.50	300	P	P	15 36 23.4	+2.8
UMR	Umm Al-Rimmam	40.67	281	*e*P	P	15 36 20.9	-1.2
QRN	Al-Qurain	40.69	280	*e*P	P	15 36 21.4	-0.9
GROC	Groznyy	40.86	302	*e*P	P	15 36 21.0	-2.5
GROC				pmax	pmax		
	comp=Z,112nm,1.4s						
MIB	Mutribah	40.94	282	*e*P	P	15 36 22.7	-1.6
NAX	Nakhchivan	41.14	296	P	P	15 36 26.7	+0.8
RST	Umm Al-Ruwaisa	41.30	281	*e*P	P	15 36 25.9	-1.3
GNI	Garni	41.67	298	P	P	15 36 29.9	-0.5
GNI				pmax	pmax		
	comp=Z,53nm,1.4s						
GNI	Garni	41.67	298	P	P	15 36 29.9	-0.5
GNI				IAmb	IAmb	15 36 58.5	
	comp=Z,53nm,1.4s						
GUDG	Gudauri	41.82	301	P	P	15 36 35.0	+3.4
KZRT	Kazreti	41.89	300	P	P	15 36 34.1	+2.1
ZEI	Tsey	42.24	302	*e*P	P	15 36 35.7	+0.6
ZEI				pmax	pmax		
	comp=Z,21nm,1.4s						
BGD	Bogdanovka	42.50	299	P	P	15 36 41.4	+4.2
AKH	Akhalkalaki	42.57	300	P	P	15 36 41.0	+3.3
ONI	Oni	42.58	301	P	P	15 36 40.8	+3.2
JAGI	Jajag, Banyuwa	42.74	151	P	P	15 36 38.0	-1.1
GOF	Gofitskoye	42.90	305	⇑*e*P	P	15 36 41.3	+1.2
GOF				pmax	pmax		
	comp=Z,135nm,1.4s						
KBZ	Khabaz	42.98	303	P	P	15 36 42.3	+1.6
	comp=Z,4,1nm,0.9s,baz=35,slow=5.1,SNR=6.6						
KIV	Kislovodsk	43.13	303	*e*P	P	15 36 44.0	+1.8
KIV				pmax	pmax		
	comp=Z,29nm,1.1s						
KIV	Kislovodsk	43.13	303	P	P	15 36 41.2	-0.9
KIV				IAmb	IAmb	15 36 47.0	
	comp=Z,34nm,1.2s						
SHA1	Shidzhatmaz	43.15	303	*c i*P	P	15 36 43.2	+0.7
VRH	Novokhopyorsk	44.27	314	*e*P	P	15 36 51.5	+0.5
VRH				pmax	pmax		
	comp=Z,40nm,1.0s						
PRGR	Permogore	44.74	329	*e*P	P	15 36 54.0	-0.6
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
KOPT	Kop Dagi	44.93	298	P	P	15 36 56.0	-0.8
MARD	Mardin	45.01	294	P	P	15 36 56.6	-0.8
SOC	Sochi	45.29	303	*e*P	P	15 37 00.3	+1.0
SOC				*e*		15 38 42.5	
SOC				*e*PPP	PPP	15 39 21.7	
SOC				*e*S	S	15 43 41.7	+3.3
SOC				*e*SS	ScS	15 46 56.1	+1.4
SOC				*e*SSS	SSS	15 47 53.1	
SOC				pmax	pmax		
	comp=Z,38nm,1.0s						
VORD	Divnogorie	45.76	313	*e*P	P	15 37 01.8	-1.1
VORD				pmax	pmax		
	comp=Z,20nm,1.0s						
VSR	Storozhevoye	45.86	314	*e*P	P	15 37 03.2	-0.5
VSR				pmax	pmax		
	comp=Z,30nm,1.3s						
LPSR	Galich'ya Gora	46.15	315	*e*P	P	15 37 06.2	+0.3
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
MALT	Malatya	46.72	296	P	P	15 37 14.3	+3.5
ANN	Anapa	46.88	305	*e*P	P	15 37 11.8	0.0
ANN				pmax	pmax		
	comp=Z,72nm,1.2s						
MOS	Moscow	47.30	320	*e*P	P	15 37 14.9	0.0
MOS				*e*		15 39 06.6	
MOS				pmax	pmax		
	comp=Z,81nm,1.3s						
KLMR	Klimovskoe	47.31	327	*e*P	P	15 37 13.3	-1.6
KLMR				*e*		15 39 04.3	
KLMR				pmax	pmax		
	comp=Z,71nm,1.3s						
KLMR	Klimovskoe	47.31	327	*e*P	P	15 37 13.3	-1.6
KLMR				AMP		15 37 18.1	
	comp=Z,71nm,1.3s						
KLMR				*e*PP	PP	15 39 04.4	-1.6
OBN	Obninsk	47.81	319	*de*P	P	15 37 19.9	+1.0
OBN				*e*		15 38 49.2	
OBN				*i*		15 39 10.3	
OBN				*e*S	S	15 44 13.5	-0.7
OBN				pmax	pmax		
	comp=Z,58nm,1.3s						
GAZ	Gaziantep	47.84	294	P	P	15 37 19.0	-0.5
GAZ				IAmb	IAmb	15 37 21.8	
	comp=Z,12nm,0.9s						
BNN	Bunyan	48.64	297	P	P	15 37 25.8	0.0
SOEI	Soe	48.80	140	P	P	15 37 26.6	-0.5
SOEI	Soe	48.80	140	P	P	15 37 29.1	+2.0
	comp=Z,51nm,0.8s						
SIM	Simferopol'	49.23	305	*e*P	P	15 37 30.4	+0.4
BR131	Keskin Array S	50.20	298	P	P	15 37 37.5	-0.2
BR131				pmax	pmax		
	comp=Z,11nm,1.0s						
BR131	Keskin Array S	50.20	298	P	P	15 37 37.5	-0.2
BR131				IAmb	IAmb	15 37 40.0	
	comp=Z,11nm,0.9s						
BRTR	Keskin Array B	50.20	298	P	P	15 37 37.5	-0.2
	comp=Z,4.8nm,0.8s,baz=118,slow=6.0,SNR=25						
BRTR	Keskin Array B	50.20	298	*ce*P	P	15 37 37.7	0.0
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	Keskin Array B	50.20	298	P	P	15 37 37.2	-0.4
PEA0B	Petropavlovsk-	50.30	44	P	P	15 37 37.2	-0.9
PEA0B				pmax	pmax		
	comp=Z,23nm,1.5s						
PEA0B	Petropavlovsk-	50.30	44	P	P	15 37 37.2	-0.9
PEA0B				IAmb	IAmb	15 37 55.3	
	comp=Z,22nm,1.4s						
PETK	Petropavlovsk-	50.30	44	P	P	15 37 37.7	-0.4
PETK	Petropavlovsk-	50.30	44	P	P	15 37 37.7	-0.4
ANTO	Ankara	50.82	299	P	P	15 37 41.3	-0.9
ANTO				pmax	pmax		
	comp=Z,49nm,1.1s						
ANTO	Ankara	50.82	299	P	P	15 37 41.3	-0.9
MSEY	Mahe Island	51.29	234	P	P	15 37 45.1	-0.9
MSEY				pmax	pmax		
	comp=Z,65nm,1.2s						
MSEY	Mahe Island	51.29	234	P	P	15 37 45.1	-0.9
KDZE	Karadeniz Ereo	51.60	301	⇑P	P	15 37 57.8	+10
PUL	Pulkovo	51.64	324	⇑*e*P	P	15 37 48.4	+0.5
PUL				pmax	pmax		
	comp=Z,55nm,0.8s						
MDUB	Mudurnu	51.92	300	P	P	15 37 49.5	-1.1
AKASG	Malin Array Be	52.14	313	P	P	15 37 51.2	-0.6
	comp=Z,16nm,0.8s,baz=76,slow=6.9,SNR=42						
AKASG	Malin Array Be	52.14	313	P	P	15 37 50.8	-1.1
AKBB	Malin Array Si	52.14	313	P	P	15 37 50.8	-1.0
AKBB				pmax	pmax		
	comp=Z,25nm,1.1s						
AKBB	Malin Array Si	52.14	313	P	P	15 37 50.8	-1.0
AKBB				IAmb	IAmb	15 37 53.7	
	comp=Z,25nm,1.1s						
MNK	Minsk	52.81	318	*i* P	P	15 37 57.7	+1.0
MNK				*i*		15 39 04.8	
MNK				*i*		15 39 58.2	
MNK				*i* PPP	PPP	15 41 04.7	
MNK				*i* S	S	15 45 27.1	+3.4
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,15nm,0.9s						
MNK	Minsk	52.81	318	*i* P	P	15 37 57.8	+1.1
	comp=E,2.0nm,0.9s						
MNK				*i* P	P	15 37 57.8	+1.1
	comp=N,9.0nm,0.9s						
MNK				*i* P	P	15 37 57.8	+1.1
	comp=Z,15nm,0.9s,baz=268						
MNK				*i* PcP	PcP	15 39 04.8	-1.0
MNK				*i* PP	PP	15 39 58.3	+2.3
MNK				*i* PPP	PPP	15 41 04.8	
MNK				*i* ScP	ScP	15 42 46.4	-15
MNK				*i* PcS	PcS	15 43 03.9	-0.4
MNK				*i* S	S	15 45 27.2	+3.5
MNK				*i* SS	SKiKP	15 49 09.4	-5.8
MNK				*i* SSS	SSS	15 51 02.6	
MNK				*i* LQ	LQ	15 56 39.6	
MNK				*i* LR	LR	15 59 04.8	
MNK				*i* LRM	MLR	16 06 16.9	
	comp=Z,112nm,18.6s						
MNK				*i* LRM	MLR	16 06 20.6	
	comp=E,22nm,18.7s						
MNK				*i* LRM	MLR	16 06 22.6	
	comp=N,404nm,18.7s						
SORM	Soroca	52.91	310	⇑P	P	15 37 56.2	-1.3
SORM	Soroca	52.91	310	⇑P	P	15 37 56.2	-1.3
TPGR	Topolog	53.26	306	⇓P	P	15 38 02.0	+1.7
CFR	Carcaliu	53.41	306	⇑P	P	15 38 01.7	+0.4
CFR	Carcaliu	53.41	306	⇑P	P	15 38 01.7	+0.4
VSU	Vasula	53.42	323	*e*P	P	15 38 01.8	+0.6
VSU	Vasula	53.42	323	*d i*P	P	15 38 02.1	+0.9
VSU				pmax	pmax		
	comp=Z,83nm,1.2s						
IDID	Didziasalis	53.45	319	*e*P	P	15 38 02.0	+0.6
HARR	Harsova	53.63	305	⇓P	P	15 38 03.4	+0.5
HARR	Harsova	53.63	305	⇓P	P	15 38 03.4	+0.5
ELL	Elmali	53.66	295	P	P	15 38 02.2	-1.3
ELL				pmax	pmax		
	comp=Z,124nm,1.0s						
ELL	Elmali	53.66	295	P	P	15 38 02.2	-1.3
IIGN	Ignalina	53.74	319	*e*P	P	15 38 04.1	+0.5
ISAL	Salakas	53.79	319	*e*P	P	15 38 04.4	+0.5
ICOR	Ion Corvin	53.81	305	⇓P	P	15 38 05.3	+1.1
FIA1	FINESS Array S	53.83	326	P	P	15 38 02.8	-1.3
FIA1				IAmb	IAmb	15 38 06.8	
	comp=Z,25nm,1.4s						
FINES	FINESS Array B	53.83	326	P	P	15 38 04.5	+0.3
	comp=Z,21nm,1.3s,baz=93,slow=7.2,SNR=22						
FINES	FINESS Array B	53.83	326	*i* P	P	15 38 05.5	+1.4
FINES				pmax	pmax		
	comp=Z,21nm,1.3s						
FINES	FINESS Array B	53.83	326	P	P	15 38 03.1	-1.0
TESR	Tescani	54.26	308	⇑P	P	15 38 08.2	+0.7
VRI	Vrincioaia	54.30	307	⇑P	P	15 38 09.9	+2.1
VRI	Vrincioaia	54.30	307	⇑P	P	15 38 09.9	+2.1
PLOR	Plostina	54.35	307	⇑P	P	15 38 08.9	+0.6
PLOR	Plostina	54.35	307	⇑P	P	15 38 08.9	+0.6
ISR	Istrita	54.54	306	⇓P	P	15 38 11.2	+1.6
ISR	Istrita	54.54	306	⇓P	P	15 38 11.2	+1.6
BALB	Balikesir	54.58	299	P	P	15 38 10.2	+0.2
MEF	Metsahovi	54.63	325	*e*P	P	15 38 10.4	+0.5
ARCES	ARCESS Array B	54.78	336	P	P	15 38 12.4	+1.5
	comp=Z,2.9nm,0.8s,baz=93,slow=4.5,SNR=5.1						
ARCES				PcP	PcP	15 39 14.5	+1.3
	comp=Z,3.3nm,0.8s,baz=66,slow=4.1,SNR=4.6						
MLR	Muntele Rosu	54.90	307	⇓P	P	15 38 13.4	+1.1
MLR	Muntele Rosu	54.90	307	⇓P	P	15 38 13.4	+1.1
MLR	Muntele Rosu	54.90	307	P	P	15 38 12.2	-0.2
MTSE	Matsula	54.95	323	*e*P	P	15 38 10.7	-1.6
PABE	Paberze	55.02	319	*e*P	P	15 38 13.4	+0.6
PABE	Paberze	55.02	319	P	P	15 38 12.4	-0.4
BURAR	Bucovina Array	55.07	309	⇓P	P	15 38 12.7	-0.8
BURAR	Bucovina Array	55.07	309	P	P	15 38 12.8	-0.7
DOPR	Dopca	55.20	307	⇓P	P	15 38 14.8	+0.4
BILL	Bilibino	55.33	26	*e*P	P	15 38 15.6	+0.7
BILL				pmax	pmax		
	comp=Z,15nm,1.3s						
ARCR	ARCALIA	55.73	309	⇑P	P	15 38 19.0	+0.9
HUMR	Humele	55.73	306	⇑P	P	15 38 20.3	+2.1
KARP	Karpathos	56.11	295	P	P	15 38 20.8	-0.3
KNRA	Kununurra	56.14	140	P	P	15 38 20.8	-0.5
KNRA				IAmb	IAmb	15 38 31.4	
	comp=Z,18nm,1.2s						
KOLS	Kolonicke sedl	56.81	311	*e*P	P	15 38 27.2	+1.4
KOLS	Kolonicke sedl	56.81	311	*e*P	P	15 38 27.2	+1.4
UZH	Uzhgorod	56.84	311	⇑*i*P	P	15 38 26.7	+0.7
UZH				*i*		15 38 30.3	
DRGR		56.89	309	⇓P	P	15 38 26.2	-0.3
DRGR		56.89	309	⇓P	P	15 38 26.2	-0.3
SANT	Santorini	57.22	296	⇑P	P	15 38 16.4	-13
CRVS	Cervenica-Dubn	57.34	311	*e*P	P	15 38 32.3	+2.7
CRVS	Cervenica-Dubn	57.34	311	*e*P	P	15 38 32.3	+2.7
VTS	Vitosha	57.36	304	P	P	15 38 29.4	-0.6
VTS				pmax	pmax		
	comp=Z,21nm,1.2s						
VTS	Vitosha	57.36	304	P	P	15 38 29.4	-0.6
VTS				IAmb	IAmb	15 38 33.1	
	comp=Z,21nm,1.2s						
PAIG	Paliouri	57.67	300	P	P	15 38 35.4	+3.4
BZS	Buzias	57.86	307	⇓P	P	15 38 34.7	+1.4
BZS	Buzias	57.86	307	⇓P	P	15 38 34.7	+1.4
MDVR	Moldovita	57.97	306	⇑P	P	15 38 34.7	+0.6
UPP	Uppsala	58.04

MORC Moravsky Berou 59.69 313 ⇑P **P 15 38 42.4 -3.6**
MORC Moravsky Berou 59.69 313 P **P 15 38 43.1 -2.9**
MORC pmax pmax
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 59.69 313 P **P 15 38 43.1 -2.9**
MORC IAmb IAmb 15 38 48.2
comp=Z,8.0nm,1.0s
MORC Moravsky Berou 59.69 313 *e*P **P 15 38 46.8 +0.8**
ITM Ithomi 59.72 298 P **P 15 38 44.2 -2.2**
MORH Mrgy, Hungar 59.75 309 ⇑P **P 15 38 46.3 -0.1**
MORH Mrgy, Hungar 59.75 309 *e*P **P 15 38 45.5 -0.9**
JAVC Velka Javorina 59.80 312 *e*P **P 15 38 48.8 +2.0**
PUK Puka 59.91 304 P **P 15 38 46.2 -1.4**
KOVH Kovagotottos 60.15 309 *e*P **P 15 38 47.8 -1.4**
MODS Modra-Piesok 60.16 311 *e*P **P 15 38 52.2 +2.9**
MODS Modra-Piesok 60.16 311 *e*P **P 15 38 52.2 +2.9**
KSP Ksiaz 60.24 314 P **P 15 38 52.0 +2.3**
PDG Podgorica 60.26 304 ⇓P **P 15 38 50.1 +0.1**
PDG Podgorica 60.26 304 P **P 15 38 48.2 -1.8**
PDG IAmb IAmb 15 38 51.2
comp=Z,6.6nm,0.8s
MPLH Magyarpolny 60.27 310 *e*P **P 15 38 49.3 -0.7**
DPC Dobruska-Polom 60.33 314 *e*P **P 15 38 51.6 +1.2**
DPC Dobruska-Polom 60.33 314 *e*P **P 15 38 51.6 +1.2**
VRAC Vranov 60.39 313 *e*P **P 15 38 52.4 +1.6**
KRUC Moravsky 60.58 312 *e*P **P 15 38 52.8 +0.8**
NC405 NORSAR Array S 60.76 326 P **P 15 38 51.0 -2.1**
SOP Sopron 60.80 311 *e*P **P 15 38 54.4 +0.8**
SOP Sopron 60.80 311 P **P 15 38 56.6 +3.1**
NC303 NORSAR Array S 60.91 327 P **P 15 38 51.9 -2.2**
NC303 IAmb IAmb 15 38 55.8
comp=Z,11nm,1.0s
NORES NORESS Array B 60.91 326 P **P 15 38 55.7 +1.6**
NORES pmax pmax
comp=Z,3.0nm,0.6s
NB201 NORSAR Array S 60.98 326 P **P 15 38 53.5 -1.1**
NB201 IAmb IAmb 15 38 57.3
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 61.02 326 P **P 15 38 54.7 -0.2**
comp=Z,21nm,1.2s,baz=80,slow=6.9
NOA NORSAR Array B 61.02 326 P **P 15 38 53.9 -1.0**
comp=Z,5.6nm,0.9s,baz=79,slow=6.7,SNR=21
NOA LR LR 16 04 44.8
comp=Z,9.6nm,19.2s,baz=245,slow=36
NC204 NORSAR Array S 61.19 327 P **P 15 38 54.6 -1.5**
CONA Conrad Observa 61.19 311 *i* P **P 15 38 56.7 +0.3**
comp=Z,21nm,1.1s,SNR=14
RGN Rugen 61.21 319 P **P 15 38 55.2 -1.0**
PRU Pruhonice 61.53 314 *e*P **P 15 39 00.2 +1.7**
PRU Pruhonice 61.53 314 *e*P **P 15 39 00.2 +1.7**
ARSA Arzberg 61.58 310 *e*P **P 15 38 59.4 +0.5**
comp=Z,3.7nm,0.8s
BRG Berggiesshubel 61.69 315 *e*P **P 15 38 60.0 +0.5**
BRG Amp 15 39 03.2
comp=Z,6.4nm,1.0s
CKRC Cesky Krumlov 61.97 312 *e*P **P 15 39 03.2 +1.7**
SOKA Soboth 62.06 310 *i* P **P 15 39 01.8 -0.5**
comp=Z,16nm,1.5s,SNR=11
LODK Lodwar 62.13 257 P **P 15 39 01.6 -1.5**
CLL Collm 62.16 315 *i* P **P 15 39 02.4 -0.3**
comp=Z,7.0nm,1.1s
CLL *e*PP **PP 15 41 20.0 +0.8**
CLL Collm 62.16 315 *i* P **P 15 39 02.4 -0.3**
CLL pmax pmax
comp=Z,7.0nm,1.1s
MOA Molln 62.25 311 *e*P **P 15 39 03.6 +0.2**
comp=Z,7.2nm,1.0s
GEC2 GERESS Array S 62.35 313 P **P 15 39 03.6 -0.5**
GEC2 IAmb IAmb 15 39 06.5
comp=Z,9.6nm,1.0s
GERES GERESS Array B 62.35 313 P **P 15 39 04.7 +0.5**
comp=Z,2.6nm,0.7s,baz=69,slow=7.3,SNR=26
GERES GERESS Array B 62.35 313 P **P 15 39 04.1 -0.1**
KHC Kasperske Hory 62.35 313 *e*P **P 15 39 05.8 +1.7**
KHC Kasperske Hory 62.35 313 *e*P **P 15 39 05.8 +1.7**
KHC Kasperske Hory 62.35 313 P **P 15 39 02.1 -2.0**
OBKA Obir 62.42 310 *e*P **P 15 39 04.6 -0.1**
comp=Z,6.2nm,1.0s
WB0 Warramunga Arr 62.61 138 P **P 15 39 06.3 +0.3**
WRAB Tennant Creek 62.72 138⇑*e*P **P 15 39 07.4 +0.7**
WRAB pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 62.72 138 P **P 15 39 07.7 +0.9**
comp=Z,3.3nm,0.8s,baz=325,slow=7.3,SNR=15
WRA Warramunga Arr 62.72 138 P **P 15 39 07.5 +0.8**
WB2 Warramunga Arr 62.72 138 P **P 15 39 07.6 +0.8**
NKC Novy Kostel 62.77 314 *e*P **P 15 39 09.3 +2.4**
NKC Novy Kostel 62.77 314 *e*P **P 15 39 09.3 +2.4**
MYKA Terra Mystica 62.99 310 *e*P **P 15 39 07.2 -1.2**
comp=Z,4.8nm,1.1s
KBA Koelnbreinsper 63.06 311 *e*P **P 15 39 09.1 +0.1**
comp=Z,3.4nm,0.8s
KMBO Kilima Mbogo 63.07 251 *i* P **P 15 39 12.8 +3.2**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ZOU Zoufplan 63.45 310 P **P 15 39 11.2 -0.5**
ZOU IAmb IAmb 15 39 17.2
comp=Z,12nm,1.4s
ABTA Abfaltersbach 63.70 311 *e*P **P 15 39 12.3 -0.9**
comp=Z,5.7nm,1.0s
STAL STALIGIAL 63.72 310 P **P 15 39 11.7 -1.5**
STAL IAmb IAmb 15 39 15.3
comp=Z,17nm,1.2s
CEL Celeste 63.95 301 P **P 15 39 14.0 -0.9**
WTTA Wattenberg 64.12 311 *e*P **P 15 39 15.7 -0.3**
comp=Z,10nm,1.0s
WATA Walderalm 64.14 311 *e*P **P 15 39 16.5 +0.4**
comp=Z,7.7nm,1.1s
INTR Introdacqua 64.19 305 P **P 15 39 13.6 -2.8**
INTR IAmb IAmb 15 39 21.5
comp=Z,19nm,1.2s
SQTA Sankt Quirin 64.41 311 *e*P **P 15 39 17.9 +0.1**
comp=Z,8.1nm,1.0s
MOTA Moosalm 64.44 311 *i* P **P 15 39 18.2 +0.1**
comp=Z,16nm,1.3s,SNR=5.8
CTI Castel Tesino 64.48 310 P **P 15 39 17.8 -0.5**
CTI Castel Tesino 64.48 310 P **P 15 39 17.8 -0.5**
CTI IAmb IAmb 15 39 23.5
comp=Z,9.5nm,1.1s
NRCA Norcia 64.48 306 P **P 15 39 18.8 +0.4**
NRCA IAmb IAmb 15 39 22.1
comp=Z,8.5nm,0.9s
RETA Reutte 64.62 312 *i* P **P 15 39 19.1 -0.1**
comp=Z,10.0nm,1.1s,SNR=6.1
TEOL Teolo 64.68 309 P **P 15 39 19.6 +0.1**
GAMB Gambell 64.74 29 P **P 15 39 18.9 -0.6**
baz=287
MURB Monte Urbino 64.76 307 P **P 15 39 20.4 +0.2**
FETA Feichten 64.79 311 *i* P **P 15 39 20.0 -0.4**
comp=Z,9.5nm,1.0s,SNR=7.9
DAVA Damuels 65.25 312 *e*P **P 15 39 23.3 -0.1**
comp=Z,6.7nm,0.8s
AS31 Alice Springs 65.41 141 P **P 15 39 23.8 -0.6**
ASAR Alice Springs 65.41 141 P **P 15 39 25.4 +1.0**
comp=Z,3.3nm,0.8s,baz=324,slow=6.2,SNR=34
ASAR Alice Springs 65.41 141 P **P 15 39 24.8 +0.3**
OSSC Osservatorio P 65.56 307 P **P 15 39 24.5 -0.7**
OSSC IAmb IAmb 15 39 27.0
comp=Z,12nm,0.8s
TUE Stuetta 65.86 311 P **P 15 39 26.2 -1.2**
TUE IAmb IAmb 15 39 28.9
comp=Z,10nm,0.9s
BFO Black Forest 65.91 313 P **P 15 39 26.0 -1.4**
BFO pmax pmax
comp=Z,13nm,1.3s
BFO Black Forest 65.91 313 P **P 15 39 26.0 -1.4**
BFO IAmb IAmb 15 39 30.0
comp=Z,13nm,1.3s
CDF Champ du Feu 66.55 313 *e*P **P 15 39 32.5 +0.9**
CDF pmax pmax
comp=Z,20nm,1.4s
WLF Walferdange 66.82 315 P **P 15 39 31.4 -1.8**
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 66.82 315 P **P 15 39 31.4 -1.8**
HINF Hinteralfeld 67.02 313 *e*P **P 15 39 34.4 -0.1**
HINF pmax pmax
comp=Z,6.0nm,0.3s
ANM Nome 67.08 28 P **P 15 39 34.6 0.0**
baz=292
SENIN Lac Senin/Sane 67.23 311 P **P 15 39 35.2 -0.9**
PGF Pioggiola 67.44 307 *e*P **P 15 39 39.4 +2.0**
PGF pmax pmax
comp=Z,18nm,1.0s
SPIA Saint Paul Isl 67.61 36 P **P 15 39 37.0 -1.0**
baz=291
LPG La Plagne 67.90 311 *e*P **P 15 39 41.1 +0.6**
LPG pmax pmax
comp=Z,21nm,1.0s
LPL La Plagne 67.90 311 *e*P **P 15 39 41.0 +0.6**
LPL pmax pmax
comp=Z,19nm,1.0s
BNI Bardonecchia 68.11 310 P **P 15 39 40.8 -0.8**
BNI pmax pmax
comp=Z,7.0nm,1.1s
BNI Bardonecchia 68.11 310 P **P 15 39 40.8 -0.8**
MBAR Mbarara 68.18 256⇑*e*P **P 15 39 42.6 +0.1**
ORIF Oris-en-Rattie 68.68 310 *e*P **P 15 39 45.0 -0.2**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
VOI Vohitsoka 69.50 228 P **P 15 39 49.2 -1.2**
VIVF Saint-Julien-l 69.50 311 *e*P **P 15 39 50.4 +0.2**
VIVF pmax pmax
comp=Z,20nm,1.2s
AVF Avril sur Loir 69.61 313 *e*P **P 15 39 50.6 -0.1**
AVF pmax pmax
comp=Z,16nm,1.2s
KEST Kesra 69.74 300 P **P 15 39 51.5 -0.4**
comp=Z,14nm,1.1s,baz=178,slow=2.5,SNR=10
KEST Kesra 69.74 300 P **P 15 39 50.9 -1.0**
KEST IAmb IAmb 15 39 54.7
comp=Z,29nm,1.2s
NIKH Nikolski High 69.96 40 P **P 15 39 52.0 -0.8**
baz=294
TOLK Toolik Lake Re 70.71 21 P **P 15 39 56.7 -0.5**
baz=304,SNR=10
TOLK Toolik Lake Re 70.71 21 P **P 15 39 58.2 +1.0**
TOLK IAmb IAmb 15 40 00.3
comp=Z,14nm,1.1s
UNV Unalaska Valle 70.88 38 P **P 15 39 55.0 -3.3**
baz=295
CAF Calviac 71.17 311 *e*P **P 15 40 02.3 +1.9**
CAF pmax pmax
comp=Z,16nm,1.2s
RJF Les Rejaudoux 71.37 312 *e*P **P 15 40 01.8 +0.2**
RJF pmax pmax
comp=Z,34nm,1.4s
GRR Gorron 71.57 316 *e*P **P 15 40 02.7 0.0**
GRR pmax pmax
comp=Z,25nm,1.2s
J20K Nowinta River 71.60 26 P **P 15 40 02.2 -0.4**
baz=302,SNR=10
MTLF Montolieu 71.73 310 *e*P **P 15 40 05.4 +1.7**
MTLF pmax pmax
comp=Z,17nm,1.2s
I21K Tanana 71.85 24 P **P 15 40 03.7 -0.3**
baz=303
K20K Telida 72.06 26 P **P 15 40 04.3 -1.1**
baz=302,SNR=8.0
H23K Yukon River 72.33 23 P **P 15 40 06.4 -0.5**
baz=305
MLY Manley 72.37 24 P **P 15 40 05.3 -1.9**
baz=304,SNR=9.4
MLY Manley 72.37 24 P **P 15 40 07.3 0.0**
L19K White Mountain 72.38 28 P **P 15 40 06.3 -1.0**
baz=302,SNR=7.4
N18K Kilae Creek 72.74 29 P **P 15 40 08.6 -0.9**
baz=301
I23K Minto, Yukon-K 72.78 23 P **P 15 40 07.2 -2.4**
baz=305
BPAW Bear Paw Mtn. 72.81 25 P **P 15 40 08.0 -1.8**
baz=304,SNR=12
BPAW Bear Paw Mtn. 72.81 25 P **P 15 40 09.6 -0.2**
BPAW IAmb IAmb 15 40 13.4
comp=Z,15nm,1.2s
H24K Noodor Dome 72.88 23 P **P 15 40 07.3 -3.0**
baz=306
BMAR Burnt Mountain 72.94 20 P **P 15 40 10.9 +0.3**
PPLA Purkeypile 73.03 26 P **P 15 40 08.7 -2.6**
baz=304,SNR=10
PPLA Purkeypile 73.03 26 P **P 15 40 11.7 +0.3**
NEA2 Nenana 73.21 24 P **P 15 40 09.7 -2.5**
baz=306
NEA2 Nenana 73.21 24 P **P 15 40 12.2 +0.1**
NEA2 IAmb IAmb 15 40 15.0
comp=Z,12nm,1.1s
N19K Bonanza Creek 73.26 29 P **P 15 40 10.0 -2.6**
baz=302
TRF Thorofare Moun 73.43 25 P **P 15 40 10.9 -2.8**
baz=305
POKR Poker Plat Res 73.46 23 P **P 15 40 11.5 -2.1**
baz=307
TCOL CIGO, UAF Yank 73.46 23 P **P 15 40 10.6 -3.0**
baz=307
COLA College 73.46 23 P **P 15 40 10.6 -3.0**
baz=307
O18K Koktuh Hills 73.46 30 P **P 15 40 10.8 -3.0**
baz=302
CCB Clear Creek Bu 73.61 24 P **P 15 40 13.9 -0.6**
SKT Skwentna 73.80 27 P **P 15 40 13.1 -2.6**
baz=304
SKT Skwentna 73.80 27 P **P 15 40 15.5 -0.2**
SKT IAmb IAmb 15 40 18.1
comp=Z,22nm,1.3s
PRP Porcupine Dome 73.85 22 P **P 15 40 12.9 -3.2**
baz=308
IL31 73.85 23 P **P 15 40 14.6 -1.3**
ILAR Eielson Array 73.85 23 P **P 15 40 14.9 -1.0**
comp=Z,3.5nm,0.9s,baz=297,slow=4.7,SNR=27
ILAR Eielson Array 73.85 23 P **P 15 40 14.3 -1.6**
RND Reindeer 73.98 25 P **P 15 40 14.9 -1.9**
RND pmax pmax
comp=Z,10.0nm,1.2s
RND Reindeer 73.98 25 P **P 15 40 14.9 -1.9**
CHNA Chernabura Isl 74.01 35 P **P 15 40 14.1 -2.9**
baz=300
HDA Harding Lake 74.05 23 P **P 15 40 14.3 -2.8**
baz=308
SUA Susitna One 74.40 27 P **P 15 40 16.4 -3.0**
baz=305
P19K Oil Pt 74.41 29 P **P 15 40 15.9 -3.4**
baz=304
O20K Slope Mountain 74.43 29 P **P 15 40 15.4 -4.1**
baz=304
WAT1 Susitna Watana 74.44 25 P **P 15 40 16.5 -3.0**
baz=307
WAT6 Susitna Watana 74.89 25 P **P 15 40 18.8 -3.4**
baz=307,SNR=5.4
RC01 Rabbit Creek A 75.02 27 P **P 15 40 20.5 -2.3**
baz=306
RC01 Rabbit Creek A 75.02 27 P **P 15 40 21.1 -1.7**
RC01 IAmb IAmb 15 40 25.8
comp=Z,18nm,1.2s
SML Sawmill 75.13 26 P **P 15 40 23.4 -0.1**
SML Sawmill 75.13 26 P **P 15 40 20.6 -2.9**
baz=307,SNR=8.2
SML Sawmill 75.13 26 P **P 15 40 23.4 -0.1**
SML IAmb IAmb 15 40 26.2
comp=Z,18nm,1.0s
RIDG Independent Ri 75.19 23 P **P 15 40 21.7 -2.2**
baz=309,SNR=7.1
RIDG Independent Ri 75.19 23 P **P 15 40 23.1 -0.7**
RIDG IAmb IAmb 15 40 25.9
comp=Z,25nm,1.4s
KNK Knik Glacier 75.32 26 P **P 15 40 22.4 -2.1**
baz=307
SCRK Sand Creek 75.34 23 P **P 15 40 21.2 -3.5**
baz=310,SNR=11
SCRK Sand Creek 75.34 23 P **P 15 40 23.2 -1.5**
SCRK IAmb IAmb 15 40 27.1
comp=Z,14nm,1.0s
INK Inuvik 75.38 17 P **P 15 40 23.2 -1.5**
INK pmax pmax
comp=Z,14nm,1.2s
INK Inuvik 75.38 17 P **P 15 40 21.4 -3.3**
baz=318
INK Inuvik 75.38 17 P **P 15 40 23.2 -1.5**
INK IAmb IAmb 15 40 27.4
comp=Z,14nm,1.1s
SEW Seward 75.72 28 P **P 15 40 23.6 -3.1**
baz=306
EGAK Eagle 75.73 22 P **P 15 40 23.8 -3.0**
baz=312,SNR=9.1
KDAK Kodiak Island 75.74 31 P **P 15 40 27.7 +0.7**
KDAK pmax pmax
comp=Z,16nm,1.3s
KDAK Kodiak Island 75.74 31 P **P 15 40 27.7 +0.7**
KDAK IAmb IAmb 15 40 28.6
comp=Z,16nm,1.2s
M24K Tolsona, Glenn 75.75 25 P **P 15 40 24.3 -2.8**
baz=309
EPYK Eagle Plains 75.95 19 P **P 15 40 25.9 -2.2**
baz=316
STKA Stephens Creek 76.05 140 P **P 15 40 29.6 +0.6**
comp=Z,6.3nm,1.1s,baz=289,slow=3.8,SNR=3.4
STKA Stephens Creek 76.05 140 P **P 15 40 29.0 0.0**
L26K Log Cabin Wild 76.17 24 P **P 15 40 27.3 -2.1**
baz=311
KLU Klutina 76.23 26 P **P 15 40 27.1 -2.7**
baz=309,SNR=5.4
KLU Klutina 76.23 26 P **P 15 40 30.1 +0.2**
KLU IAmb IAmb 15 40 33.5
comp=Z,20nm,1.3s
N25K Chitina, Valde 76.65 25 P **P 15 40 30.4 -1.8**
baz=310
L27K Beaver Creek, 76.67 23 P **P 15 40 30.5 -1.8**
baz=312,SNR=17
L27K Beaver Creek, 76.67 23 P **P 15 40 31.7 -0.6**
L27K IAmb IAmb 15 40 35.9
comp=Z,15nm,1.2s
C36M Paulatuk 76.67 13 P **P 15 40 30.0 -2.1**
baz=326
C36M Paulatuk 76.67 13 P **P 15 40 32.0 0.0**
C36M IAmb IAmb 15 40 34.8
comp=Z,33nm,1.4s
BCAR Beaver Creek A 76.68 23 P **P 15 40 32.0 -0.3**
M26K Nabesna, AK 76.71 24 P **P 15 40 30.9 -1.6**
baz=311
BMRM Bremner River 77.06 26 P **P 15 40 32.6 -1.9**
baz=310
BMRM Bremner River 77.06 26 P **P 15 40 33.4 -1.1**
BMRM IAmb IAmb 15 40 38.1
comp=Z,16nm,1.2s
M27K Edge Creek, AK 77.12 24 P **P 15 40 32.9 -2.0**
baz=312,SNR=6.6
MCARA McCarthy VSAT 77.37 25 P **P 15 40 35.1 -1.0**
baz=311
ESDC Sonseca Array 77.52 309 P **P 15 40 38.0 +0.6**
comp=Z,5.3nm,1.1s,baz=42,slow=5.6,SNR=19
CRQE Cirque 77.76 25 P **P 15 40 36.5 -2.0**
baz=311
PAB San Pablo 77.84 309 P **P 15 40 38.5 -0.8**
PAB pmax pmax
comp=Z,15nm,1.5s
PAB San Pablo 77.84 309 P **P 15 40 38.5 -0.8**
CTG Chitna Glacier 78.26 24 P **P 15 40 39.0 -2.3**
baz=313
SKAG Skagway 81.44 23 P **P 15 40 57.1 -1.2**
baz=318
YKA Yellowknife Ar 84.56 13 P **P 15 41 15.2 +0.8**
comp=Z,1.5nm,0.8s,baz=327,slow=4.2,SNR=6.0
LBTB Lobatse 86.20 238 P **P 15 41 22.7 -0.6**
LBTB pmax pmax
comp=Z,16nm,1.0s
LBTB Lobatse 86.20 238 P **P 15 41 22.7 -0.6**
LBTB IAmb IAmb 15 41 25.5
comp=Z,16nm,1.0s
TORD Torodi Ar. Bea 86.20 283 P **P 15 41 24.0 +0.5**
comp=Z,6.9nm,1.1s,baz=51,slow=4.1,SNR=16
TORD PP **PP 15 44 43.3 -0.9**
comp=Z,1.5nm,1.0s,baz=52,slow=5.8,SNR=4.4
TORD Torodi Ar. Bea 86.20 283 P **P 15 41 23.2 -0.3**
TORD IAmb IAmb 15 41 25.8
comp=Z,12nm,1.2s
AFI Afiamalu 99.70 100 LR LR 16 22 11.6
comp=Z,82nm,19.4s,baz=178,slow=32
TXAR Lajitas Array 118.13 18 PKP **PKiKP 15 47 30.4 +1.3**
comp=Z,0.4nm,0.8s,baz=197,slow=2.1,SNR=3.9

KRSZO ***20*** *15:29:13.8±1.1, 48°.04N×23°.66E, h8km±1km, ML2.7/10,*
Error ellipse: s-maj=5.7km s-min=3.9km az=30.0
SIGU ***20*** *15:29:14.0, 48°.06N×23°.70E, h4km*
BUC ***20*** *15:29:14.4±0.3, 48°.07N×23°.71E, h8km±1km, ml2.4/12,*
Error ellipse: s-maj=2.7km s-min=1.7km az=17.0
ISC 20 15:29:14.4±1.0, 48°.06N±0°.02×23°.71E±0°.02, h10km±8km,
n60, σ0°63/87, 22C-23D, Ukraine-Moldova-Southwestern
Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.31**	**96**	*e*Pg	**Pg**	**15 29 20.3**	**-0.3**
RAKU				Pm		15 29 20.9	
RAKU				m		15 29 21.0	
RAKU				⇑*i*Sg	**Sg**	**15 29 25.7**	**+0.9**
RAKU				Sm		15 29 26.1	
KORU	**Korolevo**	**0.40**	**284**	⇑*i*Pg	**Pg**	**15 29 21.9**	**-0.3**
KORU				Pm		15 29 22.8	
KORU				*i* Sg	**Sb**	**15 29 28.1**	**-1.5**
KORU				Sm		15 29 29.4	
KORU				m		15 29 44.6	
BMR	**Baia Mare**	**0.41**	**200**	⇓P	**Pg**	**15 29 22.3**	**-0.2**
BMR				⇑S	**Sg**	**15 29 28.2**	**+0.3**
BMR	**Baia Mare**	**0.41**	**200**	⇓P	**Pg**	**15 29 22.3**	**-0.2**
BMR				⇑S	**Sg**	**15 29 28.2**	**+0.3**
BMR	**Baia Mare**	**0.41**	**200**	Pg	**Pg**	**15 29 22.4**	**-0.2**
BMR	comp=Z,0.7nm,SNR=16			Lg	Lg	15 29 28.3	
MEZ	**Mezhgor'ye**	**0.47**	**344**	⇑*i*Pg	**Pg**	**15 29 23.5**	**-0.1**
MEZ				*i* Sg	**Sb**	**15 29 30.6**	**-1.2**
TRSU	**Trosnyk**	**0.50**	**274**	⇓*i*Pg	**Pg**	**15 29 24.1**	**-0.1**
TRSU				Pm		15 29 25.4	
TRSU				⇓*i*Sg	**Sb**	**15 29 32.2**	**-0.5**
TRSU				Sm		15 29 32.7	
TRSU				m		15 29 47.9	
NSLU	**Nyzhne Selyshc**	**0.52**	**75**	*e*Pg	Pg	15 29 18.5	-6.0
NSLU				Pm		15 29 18.6	
NSLU				⇑*i*Sg	Sg	15 29 21.9	-10
NSLU				m		15 29 23.0	
NSLU				Sm		15 29 23.3	
BRIU	**Brid**	**0.54**	**301**	*e*Pg	**Pg**	**15 29 24.4**	**-0.4**
BRIU				Pm		15 29 25.2	
BRIU				*i* Sg	**Sb**	**15 29 33.1**	**-0.5**
BRIU				Sm		15 29 34.4	
BRIU				m		15 29 36.1	
BERU	**Beregovo**	**0.73**	**284**	*e*Pg	**Pb**	**15 29 28.7**	**-0.5**
BERU				Pm		15 29 28.9	
BERU				⇑*i*Sg	**Sb**	**15 29 39.7**	**+0.5**
BERU				m		15 29 43.3	
BERU				Sm		15 29 43.9	
MUKU	**Mukachevo**	**0.79**	**300**	*i* Pg	**Pb**	**15 29 29.7**	**-0.4**
MUKU				Pm		15 29 30.5	
MUKU				⇑*i*Sg	**Sb**	**15 29 41.7**	**+0.9**
MUKU				m		15 29 43.5	
MUKU				Sm		15 29 44.4	
TRPA	**Tarpa**	**0.79**	**275**	⇓P	**Pb**	**15 29 30.1**	**0.0**
TRPA				⇓S	**Sg**	**15 29 39.7**	**-0.1**
TRPA	**Tarpa**	**0.79**	**275**	⇓P	**Pb**	**15 29 30.1**	**0.0**
TRPA	**Tarpa**	**0.79**	**275**	⇓S	**Sg**	**15 29 39.7**	**-0.1**
TRPA	**Tarpa**	**0.79**	**275**	*e*P	**Pb**	**15 29 30.1**	**0.0**
TRPA				*e*S	**Sg**	**15 29 39.9**	**+0.1**
TRPA	**Tarpa**	**0.79**	**275**	Pg	**Pb**	**15 29 30.1**	**0.0**
TRPA	comp=Z,16nm,SNR=5.5			Lg	Lg	15 29 39.9	
STNU	**Starunia**	**0.84**	**39**	*e*Pg	**Pb**	**15 29 31.1**	**0.0**
STNU				*i* Sg	**Sn**	**15 29 43.9**	**-0.8**
KSV	**Kosov**	**0.95**	**74**	*i* Pg	**Pn**	**15 29 33.5**	**-0.2**
KSV				*i* Sg	**Sn**	**15 29 47.7**	**+0.4**
KSV				Sm		15 29 57.3	
HOLU	**Holmets**	**1.00**	**298**	*e*Pg	**Pn**	**15 29 34.0**	**-0.4**
HOLU				*i* Sg	**Sn**	**15 29 48.9**	**+0.4**
MESR	**Meseseni**	**1.05**	**210**	⇑P	**Pn**	**15 29 35.0**	**-0.1**
MESR				⇑S	**Sn**	**15 29 49.7**	**0.0**
MESR	**Meseseni**	**1.05**	**210**	⇑P	**Pn**	**15 29 35.0**	**-0.1**
ARCR	**ARCALIA**	**1.07**	**156**	⇑P	**Pn**	**15 29 35.4**	**-0.1**
ARCR				⇓S	**Sn**	**15 29 50.3**	**-0.1**
ARCR	**ARCALIA**	**1.07**	**156**	⇑P	**Pn**	**15 29 35.4**	**-0.1**
ARCR	**ARCALIA**	**1.07**	**156**	Pg	**Pn**	**15 29 36.2**	**+0.8**
MORS	**Morshin**	**1.08**	**7**	*e*Pg	**Pn**	**15 29 35.9**	**+0.3**
MORS				*i* Sg	**Sn**	**15 29 52.2**	**+1.6**
UZH	**Uzhgorod**	**1.10**	**302**	⇓*i*Pg	**Pn**	**15 29 36.2**	**+0.4**
UZH				Pm		15 29 36.7	
UZH				*i* Sg	**Sn**	**15 29 52.5**	**+1.4**
UZH				Sm		15 29 54.5	
BURAR	**Bucovina Array**	**1.11**	**113**	⇑P	**Pg**	**15 29 35.4**	**-0.4**
BURAR				⇑S	**Sn**	**15 29 51.3**	**-0.2**
BURAR	**Bucovina Array**	**1.11**	**113**	⇑P	**Pg**	**15 29 35.4**	**-0.4**
KOLS	**Kolonicke sedl**	**1.29**	**313**	Pg	**Pg**	**15 29 38.8**	**-0.4**
	comp=Z,22nm,SNR=24						
KOLS	**Kolonicke sedl**	**1.29**	**313**	*e*PG	**Pg**	**15 29 39.3**	**+0.1**
KOLS				*e*SG	**Sn**	**15 29 55.9**	**+0.1**
CBBR	**Cluj-Babes-Bol**	**1.30**	**185**	⇓P	**Pg**	**15 29 39.1**	**-0.2**

CBBR	Cluj-Babes-Bol	1.30 185	⇓P	Pg	15 29 39.1	-0.2
CJR	Cluj-Napoca	1.35 183	⇓P	Pg	15 29 40.3	0.0
CJR			⇓S	Sg	15 29 58.4	+0.6
CJR	Cluj-Napoca	1.35 183	⇓P	Pg	15 29 40.3	0.0
CJR	Cluj-Napoca	1.35 183	Pg	Pg	15 29 40.3	0.0
	comp=Z,0.3nm,SNR=6.4					
LTVH	Ltavrtes, Hu	1.39 242	⇓S	Sg	15 29 59.8	+0.6
LTVH	Ltavrtes, Hu	1.39 242	⇓S	Sg	15 29 59.8	+0.6
DRGR		1.44 208	⇓P	Pn	15 29 40.4	-0.2
DRGR			⇑S	Sg	15 30 00.4	-0.3
DRGR		1.44 208	⇓P	Pn	15 29 40.4	-0.2
DRGR		1.44 208	Pn	Pn	15 29 40.2	-0.4
	comp=Z,0.3nm,SNR=13					
DRGR			Sn	Sn	15 29 59.3	-0.2
CRVS	Cervenica-Dubn	1.71 300	*e*PN	Pg	15 29 47.1	-0.1
KMPD	K-Podol'skiy	1.91 74	*e*Pn	Pg	15 29 50.1	-0.8
KMPD			*i* Sn	Sg	15 30 16.2	+0.6
HORU	Horodok	2.14 56	*e*Pn	Pb	15 29 54.1	+0.9
HORU			Pm		15 29 54.6	
HORU			*i* Sn	Sg	15 30 23.6	+0.4
HORU			m		15 30 28.3	
HORU			Sm		15 30 28.5	
KECS	Kecovo	2.19 282	Pn	Pn	15 29 51.2	+0.4
	comp=Z,0.4nm,SNR=3.3					
KECS	Kecovo	2.19 282	*e*Pn	Pn	15 29 51.2	+0.4
KECS			*e*SN	Sn	15 30 18.0	0.0
SIRR	Siria	2.27 219	⇑P	Pn	15 29 52.8	+0.8
SIRR			⇑S	Sn	15 30 21.7	+1.6
SIRR	Siria	2.27 219	⇑P	Pn	15 29 52.8	+0.8
SIRR	Siria	2.27 219	Pg	Pg	15 29 56.6	-1.3
	comp=Z,0.1nm,SNR=4.8					
NDNU	Novodnistrovsk	2.50 76	*e*Sn	Sg	15 30 33.5	-1.2
PSZ	Piszkesteto	2.56 268	⇑P	Pn	15 29 55.1	-0.9
PSZ	Piszkesteto	2.56 268	⇑P	Pn	15 29 55.1	-0.9
PSZ	Piszkesteto	2.56 268	*e*P	Pn	15 29 56.3	+0.3
PSZ	Piszkesteto	2.56 268	Pg	Pn	15 29 56.3	+0.3
	SNR=2.9					
GZR	Gura Zlata	2.75 194	⇓P	Pn	15 29 59.1	+0.6
GZR	Gura Zlata	2.75 194	⇓P	Pn	15 29 59.1	+0.6
GZR	Gura Zlata	2.75 194	Pg	Pg	15 30 05.3	-1.6
BZS	Buzias	2.83 211	⇓P	Pn	15 30 00.8	+1.1
BZS	Buzias	2.83 211	⇓P	Pn	15 30 00.8	+1.1
VYHS	Vyhne	3.28 279	Pn	Pn	15 30 05.2	-0.6
	SNR=1.5					
VYHS	Vyhne	3.28 279	*e*PN	Pn	15 30 05.7	-0.1
VYHS			*e*SN	Sn	15 30 45.7	+0.8

IDC 20 15:33:29.0±6.8, 6°59S×154°56E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=147.3km s-min=43.6km az=97.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.70	234	P	P	15 38 43.4	+0.6
	0.8nm,0.5s,baz=58,slow=9.9,SNR=12						
ASAR	Alice Springs	26.12	227	P	P	15 39 04.3	-0.6
	0.4nm,0.6s,baz=60,slow=9.1,SNR=12						
CMAR	Chiang Mai Arr	60.22	296	P	P	15 43 39.5	0.0
	0.7nm,0.7s,baz=125,slow=5.6,SNR=6.5						

IDC 20 15:49:20.4±4.4, 2°50S×140°33E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=162.1km s-min=31.5km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.30	198	P	Pn	15 53 35.7	-0.2
	0.1nm,0.3s,baz=18,slow=12,SNR=9.6						
ASAR	Alice Springs	21.95	196	P	P	15 54 16.1	+0.4
	0.6nm,0.6s,baz=28,slow=10,SNR=3.3						
H11S3	WAKE ISLAND Hy 33.29	50		T	T	16 31 04.9	
	baz=232,slow=75,SNR=13						
H11S2	WAKE ISLAND Hy 33.30	50		T	T	16 31 07.4	
	baz=232,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy 33.31	50		T	T	16 31 07.9	
	baz=232,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy 34.17	49		T	T	16 32 10.9	
	baz=233,slow=75,SNR=17						
H11N2	WAKE ISLAND Hy 34.19	49		T	T	16 32 11.7	
	baz=233,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy 34.19	49		T	T	16 32 12.5	
	baz=233,slow=75,SNR=8.3						
MKAR	Makanchi Array	70.61	322	P	P	16 00 37.6	-0.1
	0.2nm,0.4s,baz=104,slow=9.9,SNR=4.0						

IDC 20 16:06:59.4±3.7, 5°92S×150°45E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/22, mbtmp3.2/2, Error ellipse: s-maj=128.4km s-min=51.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.76	223	Sn	Sn	16 09 04.8	-3.5
	2.8nm,0.3s,baz=142,slow=10,SNR=2.1						
WRA	Warramunga Arr	20.96	227	P	P	16 11 44.2	-0.1
	0.4nm,0.4s,baz=53,slow=11,SNR=7.2						
ASAR	Alice Springs	23.77	220	P	P	16 12 13.7	-0.1
	0.7nm,1.0s,baz=56,slow=9.1,SNR=6.5						
TORD	Torodi Ar. Bea	148.39	285	PKPbc	PKPbc	16 26 48.5	-0.5
	0.2nm,0.4s,baz=29,slow=3.3,SNR=1.4						

IDC 20 16:10:53.6±10.0, 12°34S×167°26E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.6/3, Error ellipse: s-maj=331.3km s-min=55.7km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.47	252	P	P	16 17 25.7	-0.4
	0.2nm,0.6s,baz=86,slow=9.5,SNR=1.4						
ASAR	Alice Springs	33.58	246	P	P	16 17 36.1	+0.3
	0.4nm,0.7s,baz=71,slow=9.5,SNR=6.2						
MKAR	Makanchi Array	95.48	317	P	P	16 24 20.3	-0.2
	0.6nm,0.7s,baz=102,slow=6.4,SNR=7.1						

IDC 20 16:13:00.3±8.5, 5°93S×150°03E, h49km±65km, mb2.8/2, mb1 3.3/3, mb1mx3.0/28, mbtmp3.3/3, ML1.5/1, Error ellipse: s-maj=117.6km s-min=59.4km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.47	219	P	Pn	16 14 06.5	+0.9
	1.6nm,0.3s,baz=27,slow=11,SNR=2.0						
PMG				S	Sn	16 14 57.2	+0.9
	5.0nm,0.3s,baz=176,slow=21,SNR=9.0						
WRA	Warramunga Arr	20.65	226	P	P	16 17 35.6	-0.5
	0.5nm,0.4s,baz=52,slow=10,SNR=11						
ASAR	Alice Springs	23.49	220	P	P	16 18 05.6	-0.3
	0.2nm,0.5s,baz=56,slow=9.3,SNR=9.8						
TORD	Torodi Ar. Bea	147.98	285	PKPbc	PKPbc	16 32 41.1	-0.4
	0.2nm,0.3s,baz=94,slow=1.8,SNR=2.0						

IDC 20 16:13:05.5±7.2, 6°49S×154°33E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/29, mbtmp3.8/3, Error ellipse: s-maj=156.4km s-min=44.3km az=97.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.57	234	P	P	16 18 18.6	+0.6
	1.4nm,0.5s,baz=58,slow=9.8,SNR=5.6						
ASAR	Alice Springs	26.02	227	P	P	16 18 39.9	-0.7
	0.9nm,0.6s,baz=59,slow=8.9,SNR=8.4						
H11S3	WAKE ISLAND Hy 27.66	26		T	T	16 47 13.2	
	baz=206,slow=74,SNR=6.6						
H11S2	WAKE ISLAND Hy 27.66	26		T	T	16 47 16.8	
	baz=206,slow=74,SNR=5.2						
H11S1	WAKE ISLAND Hy 27.67	26		T	T	16 47 20.7	
	baz=206						
CMAR	Chiang Mai Arr	59.98	296	P	P	16 23 14.3	+0.1
	1.0nm,0.8s,baz=134,slow=4.8,SNR=6.7						

IDC 20 16:42:23.3±8.0, 6°08S×150°10E, h61km±61km, mb3.3/2, mb1 3.7/3, mb1mx3.2/29, mbtmp3.7/3, ML2.1/1, Error ellipse: s-maj=103.7km s-min=51.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.41	221	P	Pn	16 43 28.1	+0.5
	6.6nm,0.3s,baz=50,slow=5.7,SNR=16						
PMG				S	Sn	16 44 18.4	+0.7
	14nm,0.3s,baz=55,slow=17,SNR=9.8						
WRA	Warramunga Arr	20.60	227	P	P	16 46 57.6	0.0
	1.7nm,0.6s,baz=52,slow=10,SNR=25						
ASAR	Alice Springs	23.42	220	P	P	16 47 27.4	+0.1
	0.5nm,0.3s,baz=55,slow=9.2,SNR=38						
TORD	Torodi Ar. Bea	148.09	285	PKPbc	PKPbc	17 02 02.4	-0.8
	0.8nm,0.5s,baz=80,slow=2.4,SNR=9.8						

IDC 20 16:47:01.2±8.9, 6°15S×150°23E, h62km±67km, mb2.7/2, mb1 3.1/3, mb1mx2.9/30, mbtmp3.2/3, ML1.1/1, Error ellipse: s-maj=115.8km s-min=58.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.44	223	P	Pn	16 48 06.6	+0.6
	0.8nm,0.3s,baz=61,slow=12,SNR=1.4						
PMG				S	Sn	16 48 57.3	+0.8
	2.1nm,0.3s,baz=145,slow=18,SNR=2.0						
WRA	Warramunga Arr	20.65	227	P	P	16 51 35.7	-0.3
	0.5nm,0.4s,baz=52,slow=10,SNR=5.3						
ASAR	Alice Springs	23.45	220	P	P	16 52 05.5	+0.1
	0.1nm,0.3s,baz=56,slow=9.2,SNR=6.6						
TORD	Torodi Ar. Bea	148.23	285	PKPbc	PKPbc	17 06 40.7	-0.7
	0.3nm,0.8s,baz=78,slow=2.2,SNR=1.7						

IDC 20 16:48:06.1±9.1, 5°79S×149°86E, h58km±71km, mb2.7/2, mb1 3.1/3, mb1mx2.8/30, mbtmp3.2/3, ML1.5/1, Error ellipse: s-maj=143.5km s-min=58.8km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.48	217	P	Pn	16 49 12.4	+0.9
	1.8nm,0.3s,baz=45,slow=5.7,SNR=1.9						
PMG				S	Sn	16 50 02.5	+0.1
	2.5nm,0.3s,baz=114,slow=16,SNR=2.8						
WRA	Warramunga Arr	20.63	226	P	P	16 52 41.6	+0.7
	0.3nm,0.4s,baz=52,slow=10,SNR=1.8						
ASAR	Alice Springs	23.49	219	P	P	16 53 11.4	+0.5
	0.3nm,0.8s,baz=54,slow=9.3,SNR=5.1						
TORD	Torodi Ar. Bea	147.79	285	PKPbc	PKPdf	17 07 44.1	+1.4
	0.6nm,0.8s,baz=71,slow=1.4,SNR=2.0						

*ISK **20** 17:06:34.3, 38°86N×26°88E, h14km, ML3.5/23*
*DDA **20** 17:06:34.8, 38°86N×26°86E, h7km±2km, ML3.1*
*ATH **20** 17:06:35.4, 38°82N×26°91E, h10km±3km, ML3.0/6, Error ellipse: s-maj=3.2km s-min=1.4km az=282.0*
*THE **20** 17:06:36.3, 38°85N×26°85E, h19km±1km, ML3.0/8, Error ellipse: s-maj=1.8km s-min=0.5km az=256.0*

ISC 20 17:06:34.9±0.8, 38°85N±0°02×26°89E±0°02, h12km±5km, n55, σ0s44/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAND	Candarli	0.12	326	PG	Pg	17 06 37.8	-0.3
CAND				SG	Sg	17 06 40.2	-0.2
ZEDA	zmir-Bergama	0.18	52	*i* P	Pg	17 06 39.0	0.0
ZEDA				IAML		17 06 42.0	
	comp=N,6μm,0.4s						
ZEDA				IAML		17 06 42.0	
	comp=E,3μm,0.4s						
ZEDA				*i* S	Sg	17 06 42.3	+0.4
FOCM	Foa	0.19	222	PG	Pg	17 06 38.9	-0.1
FOCM				SG	Sg	17 06 41.9	0.0
DKL	Dikili	0.22	3	PG	Pg	17 06 39.6	0.0
DKL				SG	Sg	17 06 42.9	+0.1
AYVA	Ayvalik	0.48	341	*i* P	Pg	17 06 44.4	+0.1
AYVA				IAML		17 06 51.0	
	comp=E,1μm,0.5s						
AYVA				*i* S	Sg	17 06 51.1	+0.4
AYVA				IAML		17 06 53.0	
	comp=N,1μm,0.3s						
URLA	Izmir	0.54	205	*i* P	Pg	17 06 45.6	+0.1
URLA				*i* S	Sb	17 06 54.1	0.0
URLA	Izmir	0.54	205	PG	Pg	17 06 45.6	+0.1
URLA				SG	Sb	17 06 54.3	+0.2
PRK	Paraskevi	0.62	309	P	Pb	17 06 47.9	+0.2
PRK				S	Sb	17 06 57.0	+0.7
	comp=N,1μm,0.6s						
PRK	Paraskevi	0.62	309	P	Pb	17 06 47.8	+0.2
PRK				S	Sb	17 06 57.0	+0.7
PRK				AML	AML	17 07 02.1	
	comp=N,1463μm,0.5s						
PRK				AML	AML	17 07 02.5	
	comp=E,2089μm,0.5s						
BUHA	Balikesir, Bur	0.66	13	*i* P	Pg	17 06 47.4	-0.4
BUHA				*i* S	Sg	17 06 56.9	+0.3
BUHA				IAML		17 07 01.0	
	comp=N,859nm,0.6s						
BUHA				IAML		17 07 02.0	
	comp=E,1μm,0.5s						
ZEYE	Izmir, Urla-Ze	0.68	207	*i* P	Pg	17 06 48.0	-0.2
ZEYE				*i* S	Sb	17 06 58.3	+0.2
ZEYE				IAML		17 07 01.0	
	comp=N,1μm,0.3s						
ZEYE				IAML		17 07 02.0	
	comp=E,2μm,0.3s						
CESE	eme	0.70	222	PG	Pg	17 06 48.7	+0.3
GMLD	Gumuldur	0.78	179	PG	Pg	17 06 50.1	+0.2
CHOS	Chios island	0.80	235	P	Pg	17 06 50.2	-0.2
CHOS				S	Sb	17 07 02.5	+0.9
	comp=E,3μm,0.7s						
CHOS	Chios island	0.80	235	P	Pg	17 06 50.4	0.0
CHOS				S	Sb	17 07 01.8	+0.2
CHOS				AML	AML	17 07 03.9	
	comp=N,5307μm,0.3s						
CHOS				AML	AML	17 07 05.2	
	comp=E,4248μm,0.3s						
CHOS	Chios island	0.80	235	PG	Pg	17 06 50.2	-0.2
GOMA	Golmarmara-Man	0.81	100	PG	Pg	17 06 51.0	+0.4
GOMA				SG	Sb	17 07 02.7	+0.8
STEP	BALIKESIR_Sava	0.83	51	*i* P	Pg	17 06 50.5	-0.5
STEP				*i* S	Sb	17 07 02.6	+0.3
STEP				IAML		17 07 05.0	
	comp=N,1μm,0.6s						
STEP				IAML		17 07 07.0	
	comp=E,1μm,0.7s						
SIGR	SIGRI	0.88	294	P	Pg	17 06 51.4	-0.5
SIGR				S	Sg	17 07 03.6	+0.1
	comp=E,945nm,0.5s						
SIGR	SIGRI	0.88	294	P	Pb	17 06 52.3	+0.2
SIGR				S	Sb	17 07 04.5	+0.7
SIGR				AML	AML	17 07 07.0	
	comp=E,1216μm,0.4s						
SIGR				AML	AML	17 07 08.9	
	comp=N,1538μm,0.3s						
SIGR	SIGRI	0.88	294	PG	Pg	17 06 51.8	-0.1
EZN	Ezine	1.07	336	P	Pb	17 06 54.9	-0.3
EZN				S	Sb	17 07 09.1	0.0
	comp=N,1μm,0.4s						
EZN	Ezine	1.07	336	PG	Pb	17 06 54.9	-0.3
PSRA	Psara	1.08	254	P	Pb	17 06 55.8	+0.2
PSRA				S	Sn	17 07 10.5	-0.2
PSRA				AML	AML	17 07 12.8	
	comp=E,3272μm,0.3s						
PSRA				AML	AML	17 07 13.9	
	comp=N,1860μm,0.2s						
BALB	Balikesir	1.10	44	PN	Pb	17 06 55.4	-0.4
BALB				SN	Sn	17 07 11.9	+0.8
SMG	Samos	1.14	182	P	Pb	17 06 56.1	-0.4
SMG				S	Sg	17 07 12.3	+0.5
	comp=N,1μm,0.4s						
SMG	Samos	1.14	182	P	Pb	17 06 56.1	-0.4
SMG				AML	AML	17 07 15.4	
	comp=N,3042μm,0.4s						
SMG				AML	AML	17 07 17.0	
	comp=E,2546μm,0.3s						
BOZC	Bozcaada	1.18	327	PN	Pn	17 06 56.6	-0.6
GCAM	G?zelcaml?	1.18	167	PN	Pn	17 06 56.7	-0.5
AYDB	Zeytinkoy-Aydi	1.20	139	PN	Pn	17 06 57.5	0.0
GONE	Gonen-Balikesi	1.34	27	PN	Pn	17 06 59.2	-0.2
KULA	Kula-Manisa	1.43	103	P	Pn	17 07 00.8	+0.1
KULA				S	Sn	17 07 18.9	-0.4
KULA	Kula-Manisa	1.43	103	PN	Pn	17 07 00.7	+0.1
DST	Dursunbey	1.54	60	PN	Pn	17 07 02.2	0.0
GADA	Gvkgeada	1.54	330	P	Pn	17 07 02.1	0.0
GADA				S	Sn	17 07 20.8	-1.3
	comp=E,332nm,0.5s						
KRBG	Karabiga-Canak	1.57	11	PN	Pn	17 07 02.2	-0.3
GELI	Tayfur-Gelibol	1.58	348	PN	Pn	17 07 02.6	0.0
EDC	Edincik	1.67	26	PN	Pn	17 07 03.6	-0.3
LIA	Limnos Island	1.69	309	P	Pb	17 07 06.7	+0.9
LIA				AML	AML	17 07 30.0	
	comp=E,248μm,0.5s						
LIA				AML	AML	17 07 30.9	
	comp=N,269μm,0.6s						
KCTX	Karacabey (Bur	1.81	38	PN	Pn	17 07 05.3	-0.6
BODT	Bodrum	1.82	169	P	Pn	17 07 05.6	-0.4
SKY	Skiros Island	1.83	272	P	Pb	17 07 08.7	+0.5
MRMT	Marmara Adasi	1.83	17	PN	Pn	17 07 06.1	-0.1
ERIK	Erikli-Kesan	1.84	351	PN	Pn	17 07 06.9	+0.7
RKY	Sarkoy-Tekirda	1.85	7	PN	Pn	17 07 06.3	-0.1
MAR6	Marsite Statio	1.87	9	PN	Pn	17 07 06.9	+0.2
SMTH	Samothraki Isl	1.93	327	P	Pn	17 07 07.2	-0.3
SMTH				S	Sn	17 07 30.5	-1.1
	comp=N,165nm,0.3s						
YER	Yerkesik	2.04	147	P	Pn	17 07 09.2	+0.2
ALN	Alexandroupoli	2.14	343	P	Pn	17 07 10.5	+0.1
DAT	Datca	2.19	165	P	Pn	17 07 10.6	-0.6
KYMI	Kymi, Euboea I	2.19	265	P	Pb	17 07 14.1	-0.4
RDO	Rodhopi	2.52	336	P	Pn	17 07 15.9	+0.4
RDO				S	Sn	17 07 45.3	-0.8
	comp=N,55nm,0.5s						
KAVA	Kavala	2.81	320	P	Pn	17 07 19.8	+0.1
EDRB	Edirne	2.99	358	P	Pn	17 07 22.7	+0.6
NVR	Nevrokopi	3.41	318	P	Pn	17 07 28.4	+0.5

*TAP **20** 17:21:45.2, 24°79N×122°31E, h15km, ML3.1, C*
*JMA **20** 17:21:46.0±0.1, 24°74N×122°31E, h24km±4km, M2.6*

ISC 20 17:21:45.5±0.9, 24°76N±0°02×122°32E±0°02, h16km±8km, n88, σ0s92/168, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.39	310	P	Pg	17 21 52.9	-0.5
TWB1				S	Sg	17 21 57.5	-1.3
	baz=306						
NTC	Toucheng	0.45	282	*i* P	Pg	17 21 54.4	-0.2
NTC				S	Sb	17 22 01.6	0.0
	baz=277						
TWC	Suao	0.45	250	*i* P	Pg	17 21 54.4	-0.3
TWC				*i* S	Sg	17 22 01.0	+0.3
	baz=251						
TIPB	Shuangxi	0.49	295	*i* P	Pg	17 21 55.3	-0.1
TIPB				*i* S	Sb	17 22 02.3	-0.5
	baz=291						
ILA	Ilan	0.52	271	*e*P	Pn	17 21 57.1	-1.1
ILA				*e*S	Sg	17 22 02.9	+0.1
	baz=266						
NDS	Dongshan	0.56	257	P	Pb	17 21 56.3	-0.6
NDS				S	Sb	17 22 04.1	-0.6
	baz=248						
NWF	Wu-fen Shan	0.57	302	*i* P	Pg	17 21 57.3	+0.4
NWF				*i* S	Sg	17 22 05.7	+1.0
	baz=299						
WFSB	Wu-fen Shan	0.57	302	*i* P	Pg	17 21 57.5	+0.6
WFSB				S	Sg	17 22 05.3	+0.7
	baz=299						
EWUT	Wuta	0.58	237	*i* P	Pb	17 21 57.0	-0.3
EWUT				*i* S	Sb	17 22 04.9	-0.4
	baz=234						
TWE	Neicheng	0.59	266	*i* P	Pb	17 21 56.8	-0.7
TWE				S	Sb	17 22 05.0	-0.6
	baz=262						
TNOU	National Taiwa	0.63	308	P	Pb	17 21 57.6	-0.4
TNOU				S	Sb	17 22 06.0	-0.6
	baz=305						
JYNG	Yonagunijimaku	0.65	118	P	Pb	17 21 58.4	-0.1
JYNG				*e*S	Sg	17 22 07.5	+0.5
ENTT	Nioudou	0.69	260	*i* P	Pg	17 21 59.1	0.0
ENTT				*e*S	Sb	17 22 06.9	-1.7
	baz=265						
YOJ	Yonaguni jima	0.70	115	P	Pb	17 21 59.0	-0.4
YOJ				*e*S	Sg	17 22 09.0	+0.5
YOJ	Yonaguni jima	0.70	115	P	Pb	17 21 58.9	-0.4
YOJ				*e*S	Sb	17 22 08.5	-0.2
	baz=117						
NWLT	Wulai	0.74	271	P	Pb	17 21 59.6	-0.4
NWLT				*e*S	Sb	17 22 08.4	-1.5
	baz=268						
NHDH	Xindian Distri	0.75	286	*i* P	Pn	17 22 00.6	-0.7
NHDH				S	Sn	17 22 11.1	-1.2
	baz=275						
NDT	Datong Townshi	0.75	258	P	Pg	17 22 00.3	+0.1
NDT				S	Sb	17 22 09.9	-0.2
	baz=263						
YM01	YM01	0.78	300	P	Pg	17 22 01.0	+0.3
YM01				S	Sg	17 22 11.7	+0.7
	baz=297						
TATO	Taipei	0.78	286	P	Pb	17 22 00.7	-0.1
TATO				S	Sg	17 22 11.2	+0.1
	baz=273						
YM08	YM08	0.78	303	P	Pb	17 22 00.4	-0.4
YM08				*e*S	Sb	17 22 09.5	-1.7
	baz=300						
TWY	Chenhua	0.83	308	*i* P	Pb	17 22 01.3	-0.2
TWY				*i* S	Sg	17 22 13.0	+0.4
	baz=306						
ANP	Anpu	0.84	300	P	Pg	17 22 01.7	-0.1
ANP				*e*S	Sn	17 22 14.5	-0.3
	baz=298						
YHNB	Yeheng	0.86	264	P	Pb	17 22 02.1	0.0
YHNB				S	Sb	17 22 13.0	-0.4
	baz=272						
ETL	Fush Village	0.87	227	P	Pb	17 22 02.3	0.0
ETL				*e*S	Sb	17 22 13.5	-0.2
	baz=234						
NSK	Sanguang	0.88	265	*i* P	Pb	17 22 02.1	-0.3
NSK				*e*S	Sb	17 22 12.7	-1.1
	baz=272						
NACB	Ninganchiao	0.88	228	*i* P	Pb	17 22 02.4	0.0
NACB				*e*S	Sb	17 22 13.0	-0.9
	baz=236						
NTST	Danshui	0.88	297	*e*P	Pn	17 22 05.2	+1.9
TWS1	Kuangyinshan	0.88	293	P	Pg	17 22 02.5	-0.2
TWS1				*e*S	Sn	17 22 17.7	+2.0
	baz=290						
PCYT	Pengchaiyu	0.89	346	*i* P	Pn	17 22 03.0	-0.4
PCYT				S	Sg	17 22 15.0	+0.3
	baz=345						
NNSB	Datong	0.91	249	P	Pb	17 22 03.0	0.0
NNSB				S	Sg	17 22 15.5	+0.2
	baz=235						
NNSH	Datong	0.91	249	*i* P	Pb	17 22 03.0	-0.1
NNSH				S	Sb	17 22 14.9	-0.1
	baz=235						
NNS	Nan Shan	0.92	250	*i* P	Pb	17 22 03.0	-0.1
NNS				*i* S	Sg	17 22 15.6	+0.2
	baz=236						

ETLH	**Xiulin Townshi**	**0.94 234**	P	**Pb**	**17 22 03.3**	**-0.2**
	baz=232					
ETLH			S	**Sg**	**17 22 16.1**	**0.0**
	baz=232					
TWD	**Chiawan**	**0.94 224**	*i* P	**Pn**	**17 22 03.6**	**-0.5**
	baz=230					
TWD			S	**Sg**	**17 22 16.0**	**-0.2**
	baz=230					
ETM	**Tongmen**	**1.09 224**	P	**Pn**	**17 22 05.8**	**-0.4**
	baz=236					
ETM			*e*S	**Sg**	**17 22 21.2**	**+0.2**
	baz=236					
FUSS	**Fushou**	**1.10 243**	*i* P	**Pn**	**17 22 06.6**	**+0.1**
	baz=240					
FUSS			S	**Sn**	**17 22 21.1**	**-0.4**
	baz=240					
NJD	**Zhudong**	**1.12 269**	P	**Pg**	**17 22 08.0**	**+0.9**
	baz=267					
NJD			*e*S	**Sg**	**17 22 23.9**	**+2.2**
	baz=267					
WHF	**Hehuan Shan**	**1.14 238**	*i* P	**Pg**	**17 22 07.6**	**0.0**
	baz=235					
WHF			S	**Sn**	**17 22 22.2**	**-0.4**
	baz=235					
TDCB	**Techi**	**1.17 245**	P	**Pb**	**17 22 07.6**	**+0.1**
	baz=233					
TDCB			S	**Sn**	**17 22 22.4**	**-0.6**
	baz=233					
LIOB	**Emei**	**1.19 265**	P	**Pg**	**17 22 08.1**	**-0.4**
	baz=253					
LIOB			*e*S	**Sn**	**17 22 22.6**	**-0.7**
	baz=253					
NSTT	**Nanjuang**	**1.20 264**	P	**Pg**	**17 22 09.8**	**+1.0**
	baz=253					
NSTT			S	**Sg**	**17 22 25.1**	**+0.6**
	baz=253					
SBCB	**Hsinchu**	**1.21 272**	*e*P	**Pn**	**17 22 05.8**	**-2.0**
	baz=269					
SBCB			*e*S	**Sg**	**17 22 26.2**	**+1.5**
	baz=269					
ESL	**Shilin**	**1.24 221**	*i* P	**Pg**	**17 22 09.2**	**-0.3**
	baz=201					
ESL			S	**Sg**	**17 22 27.6**	**+1.9**
	baz=201					
CHGB	**Renai**	**1.25 236**	P	**Pg**	**17 22 09.6**	**-0.2**
	baz=234					
CHGB			S	**Sn**	**17 22 25.4**	**+0.2**
	baz=234					
OWD	**Renai**	**1.31 233**	P	**Pg**	**17 22 10.6**	**-0.3**
	baz=239					
OWD			*e*S	**Sg**	**17 22 29.2**	**+1.1**
	baz=239					
WHP	**Taichung City**	**1.34 249**	P	**Pg**	**17 22 10.8**	**-0.6**
	baz=247					
WHP			S	**Sb**	**17 22 27.6**	**+0.4**
	baz=247					
IRIF	**Iriomote-Funau**	**1.36 108**	P	**Pb**	**17 22 10.5**	**0.0**
IRIF			*e*S	**Sb**	**17 22 28.3**	**+0.7**
NMLH	**Miaoli**	**1.41 261**	*e*P	**Pg**	**17 22 13.5**	**+0.9**
	baz=259					
NMLH			*e*S	**Sg**	**17 22 32.5**	**+1.5**
	baz=259					
NSY	**Sanyi**	**1.46 257**	*e*P	**Pg**	**17 22 15.3**	**+1.7**
	baz=254					
NSY			*e*S	**Sg**	**17 22 35.1**	**+2.5**
	baz=254					
DPDB	**Guoxing**	**1.46 240**	*e*P	**Pg**	**17 22 13.9**	**+0.3**
	baz=239					
DPDB			*e*S	**Sb**	**17 22 30.6**	**-0.1**
	baz=239					
WCS	**Beigang Elemen**	**1.46 242**	*e*P	**Pg**	**17 22 14.4**	**+0.8**
	baz=240					
WCS			*e*S	**Sb**	**17 22 30.1**	**-0.5**
	baz=240					
HGSD	**Ruisui**	**1.50 213**	*e*P	**Pb**	**17 22 13.0**	**0.0**
	baz=197					
HGSD			*e*S	**Sg**	**17 22 35.1**	**+1.0**
	baz=197					
EHY	**Hungye**	**1.54 216**	P	**Pn**	**17 22 12.8**	**+0.4**
	baz=199					
EHY			S	**Sb**	**17 22 34.0**	**+1.0**
	baz=199					
SMLT	**Sun Moon Lake**	**1.56 236**	*e*P	**Pg**	**17 22 15.8**	**+0.2**
	baz=241					
SMLT			S	**Sg**	**17 22 35.2**	**-0.8**
	baz=241					
SSLB	**Suanglung**	**1.58 232**	*e*P	**Pg**	**17 22 15.2**	**-0.6**
	baz=238					
SSLB			S	**Sg**	**17 22 35.8**	**-0.6**
	baz=238					
TYC	**Yuchr**	**1.58 238**	P	**Pg**	**17 22 15.5**	**-0.5**
	baz=236					
TYC			*e*S	**Sg**	**17 22 36.9**	**+0.3**
	baz=236					
WDJ	**Dajia District**	**1.58 255**	*e*P	**Pb**	**17 22 14.2**	**-0.2**
	baz=270					
WDJ			*e*S	**Sb**	**17 22 34.3**	**+0.2**
	baz=270					
TCU	**Taichung**	**1.61 248**	*e*P	**Pg**	**17 22 17.3**	**+0.7**
	baz=265					
TCU			*e*S	**Sg**	**17 22 39.2**	**+1.6**
	baz=265					
JKRS	**Kuro-shima**	**1.63 108**	P	**Pn**	**17 22 12.6**	**-0.9**
WWF	**Wufeng**	**1.64 244**	*e*P	**Pg**	**17 22 18.6**	**+1.5**
	baz=262					
WWF			*e*S	**Sg**	**17 22 40.7**	**+2.3**
	baz=262					
YULB	**Yu-li**	**1.65 215**	P	**Pn**	**17 22 14.1**	**+0.2**
	baz=213					
EYUL	**Yuli**	**1.68 213**	*e*P	**Pn**	**17 22 14.0**	**-0.2**
	baz=199					
EYUL			*e*S	**Sb**	**17 22 37.9**	**+1.0**
	baz=199					
TWF1	**Yuli**	**1.68 214**	*e*P	**Pn**	**17 22 12.2**	**-2.1**
	baz=212					
TWF1			*e*S	**Sb**	**17 22 38.2**	**+1.1**
	baz=212					
WHYT	**Xinyi Township**	**1.71 232**	*e*P	**Pg**	**17 22 18.3**	**0.0**
	baz=242					
WHYT			*e*S	**Sg**	**17 22 41.7**	**+1.2**
	baz=242					
JIJ	**Ishigaki jima**	**1.71 103**	P	**Pn**	**17 22 14.9**	**+0.3**
WNT1	**Nantou City**	**1.72 241**	*e*S	**Sg**	**17 22 42.3**	**+1.4**
	baz=258					
WJS	**Zhushan**	**1.73 237**	*e*P	**Pn**	**17 22 15.5**	**+0.7**
	baz=236					
WJS			S	**Sg**	**17 22 42.1**	**+1.0**
	baz=236					
WNT	**Mingjian**	**1.73 240**	*i* P	**Pg**	**17 22 18.3**	**-0.4**
	baz=258					
WNT			*e*S	**Sg**	**17 22 42.9**	**+1.7**
	baz=258					
FULB	**Fuli**	**1.82 211**	P	**Pb**	**17 22 17.2**	**-1.2**
	baz=194					
FULB			*e*S	**Sg**	**17 22 43.5**	**-0.6**
	baz=194					
JISG	**Ishigakijimahi**	**1.82 95**	P	**Pn**	**17 22 16.6**	**+0.4**
ALS	**Alishan**	**1.86 228**	P	**Pb**	**17 22 19.7**	**+0.4**
	baz=210					
ALS			*e*S	**Sg**	**17 22 44.3**	**-1.2**
	baz=210					
CHN5	**Tsauling**	**1.89 233**	*e*P	**Pg**	**17 22 22.0**	**+0.1**
	baz=231					
CHN5			*e*S	**Sg**	**17 22 48.0**	**+1.4**
	baz=231					
WDLH	**Douliu**	**1.94 237**	P	**Pb**	**17 22 21.1**	**+0.6**
	baz=253					
WDLH			*e*S	**Sg**	**17 22 49.4**	**+1.3**
	baz=253					
ELDTW	**Lidau**	**1.97 217**	*e*P	**Pn**	**17 22 18.6**	**+0.3**
	baz=203					
EDH	**Donghe**	**2.01 208**	*e*P	**Pb**	**17 22 20.8**	**-0.8**
	baz=193					
EDH			*e*S	**Sn**	**17 22 44.2**	**+0.7**
	baz=193					
WTK	**Tuku**	**2.06 239**	P	**Pb**	**17 22 21.9**	**-0.7**
	baz=238					
WTK			S	**Sb**	**17 22 49.0**	**+1.1**
	baz=238					
CHN4	**Tsaushan**	**2.11 229**	P	**Pb**	**17 22 23.7**	**+0.3**
	baz=211					
CHN4			S	**Sb**	**17 22 51.3**	**+2.0**
	baz=211					
TPUB	**Ta-pu**	**2.12 227**	P	**Pb**	**17 22 23.3**	**-0.2**
	baz=210					
TPUB			S	**Sb**	**17 22 50.2**	**+0.5**
	baz=210					
STYT	**Tauyuan**	**2.14 222**	P	**Pb**	**17 22 22.5**	**-1.4**
	baz=207					
STYT			*e*S	**Sb**	**17 22 51.3**	**+1.1**
	baz=207					
WTP	**Ta-pu**	**2.17 226**	P	**Pb**	**17 22 23.9**	**-0.5**
	baz=209					
WTP			*e*S	**Sg**	**17 22 54.1**	**-1.2**
	baz=209					
CHN1	**Nanshi**	**2.27 227**	*e*P	**Pb**	**17 22 25.4**	**-0.7**
	baz=210					
CHN1			*e*S	**Sb**	**17 22 55.6**	**+1.7**
	baz=210					
SGST	**Jiashian**	**2.31 224**	*e*P	**Pn**	**17 22 23.9**	**+1.1**
	baz=207					
SGST			*e*S	**Sg**	**17 22 57.8**	**-1.9**
	baz=207					
SCST	**Cishan**	**2.50 222**	P	**Pb**	**17 22 29.2**	**-0.9**
	baz=222					
SCST			*e*S	**Sg**	**17 23 03.6**	**-2.5**
	baz=222					
SSD	**Sandimen**	**2.53 218**	*i* P	**Pb**	**17 22 28.7**	**-1.9**
	baz=202					
SSD			*e*S	**Sb**	**17 23 01.1**	**-0.4**
	baz=202					
TSMG	**Majia**	**2.56 217**	P	**Pb**	**17 22 29.5**	**-1.5**
	baz=202					
TSMG			*e*S	**Sb**	**17 23 01.9**	**-0.3**
	baz=202					
MASBT	**Mashibuluo**	**2.64 216**	*e*P	**Pn**	**17 22 28.4**	**+1.0**
	baz=202					
MASBT			S	**Sb**	**17 23 03.1**	**-1.5**
	baz=202					
AXDP	**Jialang**	**3.95 273**	*e*P	**Pn**	**17 22 45.7**	**+0.3**
	baz=270					

*NCEDC **20** 17:33:26.5±2.0, 38°.82N±0°.02×122°.80W±0°.03, h4km±7km, Md3.0/121, ML2.8/58(NEIC), Error ellipse: s-maj=4.3km s-min=2.8km az=55.0*
*NEIC **20** 17:33:26.6±2.2, 38°.84N±0°.02×122°.72W±0°.03, h3km±7km, Error ellipse: s-maj=3.3km s-min=2.8km az=197.0*
*IDC **20** 17:33:29.9±4.0, 38°.80N×122°.75W, h18km±14km, mb1 3.2/4, mb1mx3.1/41, mbtmp2.9/4, ML3.1/4, Error ellipse: s-maj=43.0km s-min=11.0km az=45.0*

ISC 20 17:33:27.1±0.9, **38°.81N**±0°.02×**122°.81W**±0°.03, **h10**km, **n60,** σ**1**§**19**/59, **Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**96**	Pg	**Pg**	**17 33 27.0**	**-2.0**
GCRM	**Castle Rock Sp**	**0.08**	**116**		**Pg**	**17 33 28.3**	**-1.2**
GPMM	**Pine Mountain**	**0.11**	**290**		**Pg**	**17 33 29.3**	**-0.7**
HOPS	**Hopland Field**	**0.28**	**312**		**Pg**	**17 33 32.3**	**-0.4**
FTR	**Fort Ross**	**0.40**	**224**		**Pg**	**17 33 35.3**	**+0.4**
CVS	**Carmenet Viney**	**0.54**	**149**		**Pg**	**17 33 37.2**	**-0.4**
MCCM	**Marconi Confer**	**0.67**	**185**		**Pg**	**17 33 38.3**	**-1.7**
MCCM				IAML		17 33 55.1	
	comp=E,606nm,0.7s						
MCCM				IAML		17 33 56.3	
	comp=N,370nm,1.0s						
GNAM	**Navarro Ridge**	**0.75**	**301**		**Pg**	**17 33 41.8**	**+0.3**
GASB	**Alder Springs**	**0.85**	**5**		**Pn**	**17 33 44.0**	**-1.3**
SUTB	**Sutter Butte**	**0.90**	**62**		**Pb**	**17 33 43.5**	**-1.3**
HERB	**Hercules**	**0.90**	**151**		**Pb**	**17 33 44.3**	**-0.6**
BRK	**Berkeley--Havi**	**1.03**	**155**		**Pg**	**17 33 46.2**	**-0.6**
VAK	**Adit at Lawren**	**1.03**	**154**		**Pb**	**17 33 46.4**	**-0.6**
BL67	**Building 67, L**	**1.03**	**155**		**Pg**	**17 33 46.4**	**-0.5**
BKS	**Berkeley--Byer**	**1.03**	**154**		**Pg**	**17 33 46.1**	**-0.9**
KCPM	**Cahto Peak**	**1.06**	**326**	Pg	**Pg**	**17 33 47.0**	**-0.6**
SMCB	**Saint Mary's C**	**1.11**	**150**		**Pn**	**17 33 48.0**	**-0.7**
FARB	**Farallon Islan**	**1.12**	**188**		**Pb**	**17 33 47.9**	**-0.7**
BDM	**Black Diamond**	**1.13**	**139**		**Pb**	**17 33 47.8**	**-0.9**
ORV	**Oroville**	**1.26**	**53**		**Pn**	**17 33 47.8**	**-3.0**
KBSM	**Bell Springs**	**1.26**	**331**		**Pg**	**17 33 51.6**	**+0.2**
AFDM	**Forest Hills D**	**1.44**	**84**		**Pn**	**17 33 50.5**	**-2.7**
WENL	**Wente Vineyard**	**1.45**	**145**		**Pn**	**17 33 52.8**	**-0.5**
JRSC	**Jasper Ridge**	**1.47**	**162**		**Pn**	**17 33 52.8**	**-0.9**
KMRM	**Mail Ridge**	**1.57**	**334**	Pn	**Pb**	**17 33 55.5**	**-0.9**
MHC	**Mount Hamilton**	**1.73**	**147**		**Pn**	**17 33 56.4**	**-0.9**
WDC	**Whiskeytown Da**	**1.78**	**7**		**Pn**	**17 33 56.7**	**-1.2**
GHS	**Gilroy Hot Spr**	**2.02**	**147**		**Pn**	**17 34 00.4**	**-0.9**
CMB	**Columbia Colle**	**2.05**	**111**		**Pn**	**17 34 00.4**	**-1.3**
RUBR	**Rubicon Trail**	**2.08**	**82**		**Pn**	**17 34 01.7**	**-0.6**
RUBR				IAML		17 34 23.0	
	comp=E,93nm,0.9s						
RUBR				IAML		17 34 39.4	
	comp=N,94nm,0.8s						
BEKR	**Beckworth**	**2.17**	**60**		**Pn**	**17 34 03.1**	**-0.3**
BEKR				IAML		17 34 38.6	
	comp=E,35nm,0.8s						
KHMM	**Horse Mountain**	**2.18**	**341**		**Pn**	**17 34 03.8**	**+0.2**
KHMM				IAML		17 34 23.3	
	comp=N,44nm,3.5s						
KHMM				IAML		17 34 42.0	
	comp=E,39nm,4.0s						
SAO	**San Andreas Ge**	**2.31**	**152**	Pn	**Pn**	**17 34 03.5**	**-1.7**
VCNR	**Virginia City**	**2.51**	**78**		**Pn**	**17 34 08.9**	**+0.8**
VCNR				IAML		17 34 23.8	
	comp=N,29nm,0.8s						
VCNR				IAML		17 34 49.4	
	comp=E,48nm,1.1s						
PNTR	**Pine Nut**	**2.52**	**83**		**Pn**	**17 34 09.0**	**+0.7**
PNTR				IAML		17 34 54.7	
	comp=N,66nm,1.4s						
HAST	**Hastings Reser**	**2.61**	**157**		**Pn**	**17 34 08.2**	**-1.2**
WAKR	**Walker**	**2.66**	**96**		**Pn**	**17 34 10.7**	**+0.5**
WAKR				IAML		17 34 50.8	
	comp=E,39nm,0.7s						
WAKR				IAML		17 35 13.7	
	comp=N,24nm,1.7s						
YERR	**Yerington**	**2.79**	**85**		**Pn**	**17 34 11.5**	**-0.5**
YERR				IAML		17 34 52.6	
	comp=N,39nm,0.7s						
PAHR	**Pah Rah Range**	**2.81**	**70**		**Pn**	**17 34 12.6**	**+0.4**
PAHR				IAML		17 35 08.6	
	comp=N,16nm,1.6s						
YBH	**Yreka Blue Hor**	**2.92**	**1**	Pg	**Pg**	**17 34 22.0**	**-1.0**
	comp=N,1.0nm,0.3s,baz=192,slow=11,SNR=15						
YBH	**Yreka Blue Hor**	**2.92**	**1**		**Pn**	**17 34 12.8**	**-0.9**
PMPB	**Monarch Peak**	**3.04**	**148**	Pn	**Pn**	**17 34 14.1**	**-1.2**
MDPB	**Devils Postpil**	**3.16**	**111**		**Pn**	**17 34 17.4**	**+0.2**
MDPB				IAML		17 35 07.3	
	comp=E,25nm,1.1s						
MDPB				IAML		17 35 09.2	
	comp=N,29nm,0.8s						
RYN	**Ryan**	**3.36**	**92**		**Pn**	**17 34 19.4**	**-0.4**
RYN				IAML		17 35 15.8	
	comp=E,18nm,1.8s						
RYN				IAML		17 35 25.3	
	comp=N,16nm,1.7s						
LHV	**Little Huntoon**	**3.42**	**98**		**Pn**	**17 34 21.5**	**+1.0**
LHV				IAML		17 34 43.5	
	comp=E,27nm,1.5s						
LHV				IAML		17 34 51.8	
	comp=N,23nm,1.1s						
NVAR	**Mina Array Bea**	**3.55**	**95**	Pn	**Pn**	**17 34 23.1**	**+0.6**
	comp=N,0.5nm,0.3s,baz=268,slow=15,SNR=9.0						
NVAR				Pg	**Pb**	**17 34 30.6**	**+0.5**
	comp=N,1.5nm,0.3s,baz=267,slow=19,SNR=25						
NVAR				Lg	Lg	17 35 20.6	
	comp=N,1.1nm,0.3s,baz=274,slow=32,SNR=3.6						
NVAR	**Mina Array Bea**	**3.55**	**95**		**Pn**	**17 34 21.8**	**-0.7**
MOD	**Modoc Plateau**	**3.63**	**31**		**Pn**	**17 34 22.3**	**-1.3**
MOD				IAML		17 35 05.9	
	comp=E,11nm,4.8s						
NV11	**Mina Array Sit**	**3.66**	**94**		**Pn**	**17 34 23.7**	**-0.3**
NV11				IAML		17 35 26.2	
	comp=E,19nm,2.2s						
NV11				IAML		17 35 28.0	
	comp=N,18nm,2.8s						
KVN	**Kaiserville**	**3.68**	**85**	Pn	**Pn**	**17 34 23.6**	**-0.6**
KVN				IAML		17 35 06.9	
	comp=E,10nm,4.4s						
KVN				IAML		17 35 24.5	
	comp=N,9.4nm,1.6s						
HUMO	**Hull Mountain**	**3.80**	**358**		**Pn**	**17 34 23.9**	**-1.8**
HUMO				IAML		17 34 55.4	
	comp=E,11nm,4.8s						
TPH	**Tonopah**	**4.45**	**98**		**Pn**	**17 34 35.7**	**+0.9**
TPH	**Tonopah**	**4.45**	**98**	IAML		17 36 02.5	
	comp=N,12nm,2.7s						
TPH				IAML		17 37 18.1	
	comp=E,14nm,0.3s						
ISA	**Isabella, Lake**	**4.67**	**131**	Pn	**Pn**	**17 34 37.4**	**-0.3**
ISA				IAML		17 35 12.0	
	comp=E,11nm,4.5s						
ISA				IAML		17 36 48.0	
	comp=N,11nm,4.8s						
TPNV	**Topopah Spring**	**5.51**	**108**		**Pn**	**17 34 49.1**	**-0.2**
R11A	**Troy Canyon, C**	**5.68**	**92**		**Pb**	**17 35 07.4**	**+1.0**
ELK	**Elko**	**6.14**	**69**	Pn	**Pn**	**17 34 59.7**	**+1.6**
	comp=N,0.1nm,0.3s,baz=238,slow=9.5,SNR=3.6						
PRN	**Pahroc Range**	**6.28**	**100**		**Pn**	**17 34 58.6**	**-1.3**
PDAR	**Pinedale Array**	**10.80**	**64**	Pn	**Pn**	17 36 07.9	+6.0
	comp=N,0.0nm,0.3s,baz=259,slow=15,SNR=2.8						
TXAR	**Lajitas Array**	**18.43**	**115**	Pn	**Pn**	**17 37 46.7**	**+4.0**
	comp=N,0.0nm,0.3s,baz=315,slow=13,SNR=3.7						

*IDC **20** 18:03:38.9±1.8, 43°.75N×105°.47W, h0km, mb1 3.6/4, mb1mx3.3/44, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=49.0km s-min=9.1km az=148.0*
*NEIC **20** 18:03:39.1±1.0, 43°.82N±0°.05×105°.28W±0°.06, h0km±2km, ML3.2/54, Error ellipse: s-maj=8.2km s-min=6.7km az=157.0*

ISC 20 18:03:38.8±1.0, **43°.81N**±0°.06×**105°.28W**±0°.07, **h0**km, **n76,** σ**0**§**80**/76, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**70**	Pg	**Pg**	**18 03 57.1**	**+0.1**
K22A	**Casper**	**1.47**	**219**		**Pn**	**18 04 05.0**	**-1.7**
K22A				IAML		18 04 30.4	
	comp=E,407nm,0.3s						
K22A				IAML		18 04 31.6	
	comp=N,486nm,0.3s						
PHWY	**Pilot Hill**	**2.51**	**183**		**Pn**	**18 04 20.9**	**-0.1**
RWWY	**Rawlins**	**2.55**	**215**	Pn	**Pn**	**18 04 22.4**	**+0.9**
RWWY				IAML		18 04 58.0	
	comp=N,123nm,0.9s						
RWWY				IAML		18 04 59.7	
	comp=N,134nm,0.6s						
LAO	**LASA Array**	**2.96**	**347**		**Pn**	**18 04 26.4**	**-0.6**
RLMT	**Red Lodge**	**3.14**	**296**		**Pn**	**18 04 30.1**	**+0.4**
RLMT				IAML		18 05 19.6	
	comp=N,90nm,0.3s						
RLMT				IAML		18 05 26.6	
	comp=N,77nm,0.3s						
BW06	**Boulder Array**	**3.29**	**253**		**Pn**	**18 04 31.0**	**-0.7**
BW06				IAML		18 05 22.8	
	comp=N,50nm,0.3s						
BW06				IAML		18 05 22.8	
	comp=N,40nm,0.3s						
PD31	**Pinedale Array**	**3.29**	**253**		**Pn**	**18 04 31.5**	**-0.3**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**18 04 31.8**	**0.0**
	comp=N,4.0nm,0.3s,baz=68,slow=16,SNR=103						
PDAR				Lg	Lg	18 05 17.1	
	comp=N,16nm,0.3s,baz=76,slow=34,SNR=3.6						
PDAR	**Pinedale Array**	**3.29**	**253**		**Pn**	**18 04 31.7**	**-0.1**
YNE	**Yellowstone No**	**3.59**	**291**		**Pn**	**18 04 36.0**	**+0.1**
YNE				IAML		18 05 35.3	
	comp=E,62nm,0.4s						
YNE				IAML		18 05 44.2	
	comp=N,67nm,0.4s						
YMP	**Mirror Lake Pl**	**3.62**	**287**		**Pn**	**18 04 36.2**	**-0.1**
GCMT	**Greycliff**	**3.70**	**304**		**Pn**	**18 04 36.7**	**-0.5**
OGNE	**Ogallala**	**3.74**	**139**	Pn	**Pn**	**18 04 38.5**	**+0.8**
H17A	**Grant Village**	**3.86**	**281**		**Pn**	**18 04 38.5**	**-1.1**
LOHW	**Long Hollow**	**3.86**	**269**		**Pn**	**18 04 39.4**	**-0.3**
FLWY	**Flagg Ranch**	**3.92**	**276**		**Pn**	**18 04 41.2**	**+0.7**
FLWY				IAML		18 05 51.6	
	comp=N,42nm,2.0s						
FLWY				IAML		18 05 55.7	
	comp=N,35nm,1.2s						
YNR	**Norris Junctio**	**3.98**	**285**	Pn	**Pn**	**18 04 40.0**	**-1.2**
SNOW	**Snow King Moun**	**3.99**	**267**	Pn	**Pn**	**18 04 42.1**	**+0.8**
SNOW				IAML		18 05 40.7	
	comp=N,48nm,0.3s						
YPP	**Pitchstone Pla**	**4.01**	**279**	Pn	**Pn**	**18 04 41.8**	**+0.1**
ISCO	**Idaho Springs**	**4.01**	**184**	Pn	**Pn**	**18 04 42.2**	**+0.5**
REDW	**Red Top Meadow**	**4.07**	**266**		**Pn**	**18 04 43.4**	**+0.9**
REDW				IAML		18 05 54.7	
	comp=N,37nm,1.7s						
REDW				IAML		18 06 00.8	
	comp=N,29nm,1.6s						
IMW	**Indian Meadow**	**4.09**	**273**	Pn	**Pn**	**18 04 40.3**	**-2.6**
IMW				IAML		18 05 15.2	
	comp=N,22nm,0.5s						
IMW				IAML		18 05 55.5	
	comp=N,19nm,0.7s						
YHH	**Holmes Hill**	**4.12**	**286**	Pn	**Pn**	**18 04 43.0**	**-0.2**
TPAW	**Teton Pass**	**4.12**	**268**	Pn	**Pn**	**18 04 44.3**	**+1.1**
TPAW				IAML		18 06 00.7	
	comp=N,17nm,1.0s						
TPAW				IAML		18 06 12.1	
	comp=N,24nm,0.9s						
E28A	**Huff**	**4.26**	**48**		**Pn**	**18 04 43.3**	**-1.7**
O20A	**White River Ci**	**4.28**	**212**		**Pn**	**18 04 43.4**	**-1.9**
O20A				IAML		18 05 58.1	
	comp=N,30nm,0.6s						
O20A				IAML		18 05 59.4	
	comp=E,28nm,0.9s						
YHB	**Horse Butte**	**4.35**	**285**	Pn	**Pn**	**18 04 44.8**	**-1.5**
YHB				IAML		18 06 21.6	
	comp=N,15nm,0.8s						
QLMT	**Earthquake Lak**	**4.53**	**285**		**Pn**	**18 04 49.0**	**+0.2**
SMCO	**Snowmass**	**4.79**	**196**		**Pn**	**18 04 52.8**	**+0.2**
SMCO				IAML		18 06 09.1	
	comp=N,20nm,0.3s						
SMCO				IAML		18 06 18.4	
	comp=N,16nm,1.2s						
BOZ	**Bozeman (W)**	**4.87**	**294**		**Pn**	**18 04 53.1**	**-0.3**
BOZ				IAML		18 06 16.8	
	comp=N,12nm,0.7s						
BOZ				IAML		18 06 17.2	
	comp=N,11nm,0.9s						
HWUT	**Hardware Ranch**	**5.12**	**247**	Pn	**Pn**	**18 04 57.1**	**+0.2**
HWUT				IAML		18 06 26.4	
	comp=N,18nm,0.9s						
HWUT				IAML		18 06 38.1	
	comp=N,14nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.19**	**156**	Pn	**Pn**	**18 04 57.8**	**0.0**
EGMT	**Eagleton**	**5.25**	**325**		**Pn**	**18 04 58.6**	**+0.1**
HRY	**Holter Researc**	**5.46**	**304**		**Pn**	**18 05 01.3**	**-0.1**
LRM	**Limekiln Ridge**	**5.48**	**294**		**Pn**	**18 05 02.0**	**+0.1**
MCMT	**McKenzie Canyo**	**5.52**	**283**		**Pn**	**18 05 01.9**	**-0.6**
MDND	**Maddock**	**5.67**	**42**	Pn	**Pn**	**18 05 04.5**	**+0.3**
SPUT	**South Promonto**	**5.85**	**247**	Pn	**Pn**	**18 05 07.0**	**+0.2**
PV22	**Blue Mesa, Par**	**5.89**	**208**		**Pn**	**18 05 08.3**	**+0.8**
PV07	**Paradox Valley**	**5.93**	**206**		**Pn**	**18 05 07.7**	**-0.4**
P17A	**Butcher Ranch,**	**5.95**	**225**		**Pn**	**18 05 08.4**	**+0.1**
PV15	**Paradox Valley**	**5.97**	**205**		**Pn**	**18 05 08.9**	**+0.3**
SDCO	**Great Sand Dun**	**6.06**	**182**	Pn	**Pn**	**18 05 10.4**	**+0.5**
PV04	**Paradox Valley**	**6.06**	**208**		**Pn**	**18 05 10.4**	**+0.7**
PV12	**Saucer Basin,**	**6.09**	**207**	Pn	**Pn**	**18 05 09.5**	**-0.7**
PV14	**Lion Creek, Pa**	**6.12**	**209**		**Pn**	**18 05 11.0**	**+0.3**
PV10	**Paradox Valley**	**6.12**	**209**	Pn	**Pn**	**18 05 12.0**	**+1.4**
SRU	**San Rafael Swe**	**6.12**	**222**		**Pn**	**18 05 10.2**	**-0.4**
PV20	**West Nyswonger**	**6.13**	**208**		**Pn**	**18 05 09.9**	**-0.8**
PV11	**David Mesa, Pa**	**6.13**	**207**		**Pn**	**18 05 11.5**	**+0.7**
PV16	**Nyswonger Mesa**	**6.14**	**208**		**Pn**	**18 05 09.9**	**-0.9**
PV19	**Morning Glory**	**6.16**	**208**

YKA	**Yellowknife Ar**	**19.50 347**	P	**P**	**18 08 07.2**	**0.0**
	comp=N,0.1nm,0.3s,baz=177,slow=9.7,SNR=2.4					

*TUL **20** 18:26:11.3±1.1,36°.52N±0°.01×97°.22W±0°.02, h5km±7km, ML2.5, mb_Lg2.7/40(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=102.0*

NEIC 20 18:26:11.2±0.4, 36°.50N±0°.01×97°.24W±0°.01, h5km±6km, Error ellipse: s-maj=1.7km s-min=1.3km az=167.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	**Blackwell**	**0.26**	**5**		Pg	18 26 16.6	+0.3
BLOK				Sg	Sg	18 26 19.8	+0.1
KAN13	**South Haven SW**	**0.54**	**340**		Pg	18 26 21.8	+0.1
QUOK	**Quay**	**0.54**	**127**		Pg	18 26 22.1	+0.4
QUOK				Sg	Sg	18 26 29.2	+0.4
CROK	**Carrier**	**0.60**	**270**		Pg	18 26 23.1	+0.4
GC02	**Grant County #**	**0.61**	**305**		Pg	18 26 23.2	+0.3
OK031	**S. Brethren Rd**	**0.64**	**149**	Pg	Pg	18 26 23.6	+0.1
KAN09	**Caldwell North**	**0.70**	**335**		Pg	18 26 24.6	-0.1
T35A	**Sooner Cattle**	**0.72**	**55**		Pg	18 26 24.9	-0.1
T35A				Sg	Sg	18 26 33.8	-0.5
OK029	**Liberty Lake**	**0.73**	**194**	Pg	Pg	18 26 25.0	-0.2
KS20	**Mayfield South**	**0.77**	**341**		Pg	18 26 26.0	0.0
OK032	**Salt Plains WL**	**0.83**	**291**		Pg	18 26 27.2	0.0
BCOK	**Bluff Creek, N**	**0.90**	**200**	Pg	Pg	18 26 28.4	0.0
KAN10	**Anthony SW Sta**	**0.92**	**312**	Pg	Pg	18 26 28.9	-0.1
OK025	**Westminster Rd**	**0.93**	**185**	Pg	Pg	18 26 28.8	-0.1
KAN08	**Anthony NE Sta**	**0.93**	**321**	Pg	Pg	18 26 28.7	-0.4
KAN12	**Harper NE Stat**	**1.00**	**323**	Pg	Pg	18 26 30.4	0.0
OKCSW	**OKLAHOMA CITY**	**1.11**	**188**	Pg	Pg	18 26 32.5	0.0
FNO	**Franklin**	**1.25**	**186**		Pg	18 26 35.0	-0.1
U32A	**Winter Ranch,**	**1.42**	**266**	Pn	Pn	18 26 37.7	0.0
U32A				IAmb_Lg		18 27 00.5	
	comp=Z,32nm,0.7s						
X34A	**Smith Ranch, M**	**1.96**	**194**		Pb	18 26 47.3	-0.1
WMOK	**Wichita Mounta**	**2.16**	**216**		Pn	18 26 49.2	+1.3
U38A	**Gravette**	**2.30**	**91**		Pn	18 26 49.4	-0.4
X37A	**Clayton**	**2.44**	**141**	Pn	Pn	18 26 52.6	+0.9
HHAR	**Hobbs**	**2.67**	**94**		Pn	18 26 54.5	-0.4
U40A	**Yellville**	**3.54**	**91**	IAmb_Lg		18 28 09.0	
	comp=Z,9.7nm,0.8s						
WHAR	**Wooly Hollow**	**4.20**	**105**	IAmb_Lg		18 28 25.0	
	comp=Z,10nm,1.0s						
R40A	**Maddies Statio**	**4.34**	**64**	IAmb_Lg		18 28 29.1	
	comp=Z,7.0nm,0.8s						
CCM	**Cathedral Cave**	**5.03**	**70**	IAmb_Lg		18 28 58.2	
	comp=Z,14nm,0.9s						
P40A	**Paris**	**5.09**	**52**	IAmb_Lg		18 28 52.6	
	comp=Z,6.0nm,0.8s						
L34A	**Svendsen Farm,**	**5.50**	**7**	IAmb_Lg		18 29 16.4	
	comp=Z,12nm,1.0s						
Q44A	**Meyer Farm, Va**	**6.95**	**67**	IAmb_Lg		18 29 56.9	
	comp=Z,11nm,1.0s						
WVT	**Waverly**	**7.61**	**90**	IAmb_Lg		18 30 33.0	
	comp=Z,14nm,1.0s						
PV15	**Paradox Valley**	**9.13**	**285**	IAmb_Lg		18 31 13.9	
	comp=Z,10.0nm,0.7s						
PV01	**Paradox Valley**	**9.17**	**284**	IAmb_Lg		18 31 18.5	
	comp=Z,7.9nm,0.9s						
PV07	**Paradox Valley**	**9.27**	**285**	IAmb_Lg		18 31 17.4	
	comp=Z,6.9nm,0.7s						
PV02	**Paradox Valley**	**9.31**	**284**	IAmb_Lg		18 31 18.2	
	comp=Z,11nm,1.0s						
O20A	**White River Ci**	**9.37**	**296**	IAmb_Lg		18 31 02.8	
	comp=Z,13nm,1.0s						
PV22	**Blue Mesa, Par**	**9.39**	**286**	IAmb_Lg		18 31 14.6	
	comp=Z,8.9nm,1.1s						
PV03	**Paradox Valley**	**9.40**	**284**	IAmb_Lg		18 31 17.9	
	comp=Z,7.9nm,0.9s						
PV18	**Skein Mesa, Pa**	**9.45**	**284**	IAmb_Lg		18 31 09.4	
	comp=Z,10nm,1.1s						
PV16	**Nyswonger Mesa**	**9.46**	**284**	IAmb_Lg		18 31 16.9	
	comp=Z,9.7nm,0.8s						
PV19	**Morning Glory**	**9.52**	**284**	IAmb_Lg		18 31 15.5	
	comp=Z,9.1nm,0.9s						
PV14	**Lion Creek, Pa**	**9.55**	**285**	IAmb_Lg		18 31 25.9	
	comp=Z,7.9nm,0.8s						

*IDC **20** 18:48:31.9±5.8, 20°.39S×178°.55W, h562km±39km, mb3.0/3, mb1 3.3/4, mb1mx2.8/32, mbtmp3.9/4, Error ellipse: s-maj=148.1km s-min=25.2km az=148.0*

ISC 20 18:48:30.3±1.6, 20°.7S±0°.4×178°.4W±0°.2, h550km, n7, σ1§08/7, mb3.5/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.47**	**310**	P	**P**	**18 49 56.1**	**+0.2**
	3.3nm,0.3s,baz=108,slow=20,SNR=12						
ASAR	**Alice Springs**	**44.14**	**257**	P	**P**	**18 55 50.6**	**0.0**
	1.6nm,0.5s,baz=93,slow=7.8,SNR=25						
ASAR				PcP	**PcP**	**18 57 23.6**	**-0.1**
	0.4nm,0.5s,baz=103,slow=3.6,SNR=6.9						
WRA	**Warramunga Arr**	**44.23**	**262**	P	**P**	**18 55 50.7**	**-0.7**
	0.7nm,0.5s,baz=98,slow=8.6,SNR=20						
PDAR	**Pinedale Array**	**89.32**	**43**	P	**P**	**19 00 28.1**	**-0.4**
	0.3nm,0.5s,baz=235,slow=5.2,SNR=3.5						
AKASG	**Malin Array Be**	**142.99**	**331**	PKhKP	PKPpre	19 06 57.6	
	1.9nm,0.5s,baz=42,slow=4.3,SNR=15						
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc	**PKPdf**	**19 07 10.2**	**+1.9**
	0.9nm,0.7s,baz=145,slow=3.9,SNR=4.9						
GERES	**GERESS Array B**	**150.27**	**344**	PKPbc	**PKPbc**	**19 07 18.9**	**-0.7**
	0.4nm,0.6s,baz=0.0,slow=3.2,SNR=5.8						

*ATH **20** 18:50:47.8, 38°.80N×20°.50E, h35km±1km, ML2.7/20, Error ellipse: s-maj=1.4km s-min=0.7km az=127.0*
*THE **20** 18:50:48.3, 38°.79N×20°.41E, h27km, ML2.9/15, Error ellipse: s-maj=0.7km s-min=0.4km az=107.0*

ISC 20 18:50:47.4±0.8, 38°.82N±0°.02×20°.42E±0°.02, h32km±5km, n109, σ1§51/176, 7C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.18**	**138**	P	**Pb**	**18 50 53.8**	**0.0**
DRAG				S	**Sn**	**18 50 58.3**	**+0.4**
	12μm,0.2s						
DRAG	**Dragano-Lefkad**	**0.18**	**138**	P	**Pb**	**18 50 53.8**	**0.0**
DRAG				S	**Sn**	**18 50 58.4**	**+0.4**
TSLK	**Tsoukalades, L**	**0.18**	**88**	P	**Pb**	**18 50 54.0**	**+0.2**
TSLK				S	**Sn**	**18 50 58.7**	**+0.7**
	4μm,0.2s						
TSLK	**Tsoukalades, L**	**0.18**	**88**	P	**Pb**	**18 50 54.0**	**+0.2**
TSLK				S	**Sn**	**18 50 58.9**	**+0.8**
TSLK				AML	AML	18 50 59.1	
	comp=E,11576μm,0.2s						
TSLK				AML	AML	18 50 59.2	
	comp=N,5755μm,0.3s						
LKD2	**Lefkada island**	**0.19**	**99**	P	**Pb**	**18 50 53.9**	**+0.1**
LKD2				S	**Sn**	**18 50 58.5**	**+0.3**
LKD2	**Lefkada island**	**0.19**	**99**	P	**Pb**	**18 50 53.9**	**+0.1**
LKD2				S	**Sb**	**18 50 57.9**	**-0.3**
LKD2				AML	AML	18 50 58.8	
	comp=E,9094μm,0.3s						
LKD2				AML	AML	18 50 58.9	
	comp=N,5849μm,0.1s						
NYDR	**Nydri-Lefkada**	**0.24**	**116**	P	**Pb**	**18 50 54.1**	**-0.2**
NYDR				S	**Sb**	**18 50 58.7**	**-0.3**
	comp=N,2μm,0.2s						
NYDR	**Nydri-Lefkada**	**0.24**	**116**	P	**Pb**	**18 50 54.1**	**-0.2**
NYDR				S	**Sb**	**18 50 58.6**	**-0.5**
EVGI	**Lefkada island**	**0.27**	**137**	P	**Pb**	**18 50 54.6**	**-0.1**
EVGI				S	**Sb**	**18 50 59.5**	**-0.2**
	comp=N,5μm,0.1s						
EVGI	**Lefkada island**	**0.27**	**137**	P	**Pb**	**18 50 54.7**	**-0.1**
EVGI				S	**Sb**	**18 50 59.4**	**-0.2**
FSK	**Fiskardo**	**0.37**	**163**	P	**Pb**	**18 50 56.0**	**-0.1**
FSK				S	**Sn**	**18 51 02.3**	**-0.4**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.37**	**163**	P	**Pb**	**18 50 56.1**	**-0.1**
FSK				S	**Sb**	**18 51 01.7**	**-0.3**
FSK				AML	AML	18 51 02.7	
	comp=N,3293μm,0.2s						
FSK				AML	AML	18 51 03.8	
	comp=E,5437μm,0.1s						
KEF5	**Kardakata, Kep**	**0.54**	**176**	P	**Pb**	**18 50 58.4**	**-0.2**
KEF5				S	**Sn**	**18 51 06.9**	**0.0**
	comp=E,6μm,0.3s						
KEF5	**Kardakata, Kep**	**0.54**	**176**	P	**Pb**	**18 50 58.6**	**0.0**
KEF5				S	**Sn**	**18 51 07.3**	**+0.5**
KEF4	**Livadi, Kephal**	**0.56**	**180**	P	**Pb**	**18 50 58.8**	**-0.1**
KEF4				S	**Sn**	**18 51 07.4**	**+0.1**
KEF4	**Livadi, Kephal**	**0.56**	**180**	P	**Pb**	**18 50 58.8**	**-0.1**
KEF4				S	**Sn**	**18 51 07.7**	**+0.4**
DMLN	**Damoulianata-K**	**0.58**	**184**	P	**Pb**	**18 50 59.3**	**+0.1**
DMLN				S	**Sn**	**18 51 08.4**	**+0.6**
	comp=E,2μm,0.2s						
DMLN	**Damoulianata-K**	**0.58**	**184**	P	**Pb**	**18 50 59.4**	**+0.1**
DMLN				S	**Sb**	**18 51 07.6**	**+0.2**
KEF3	**Kipouria, Keph**	**0.62**	**185**	P	**Pb**	**18 50 59.5**	**-0.3**
KEF3				S	**Sn**	**18 51 08.7**	**0.0**
KEF3	**Kipouria, Keph**	**0.62**	**185**	P	**Pb**	**18 50 59.6**	**-0.3**
KEF3				S	**Sb**	**18 51 08.6**	**+0.2**
LXRA	**Lixouri, Kepha**	**0.62**	**179**	P	**Pb**	**18 50 59.9**	**+0.1**
LXRA				S	**Sn**	**18 51 09.7**	**+1.0**
ARG2	**Argostoli**	**0.64**	**175**	P	**Pb**	**18 51 00.2**	**0.0**
ARG2				S	**Sn**	**18 51 09.7**	**+0.4**
	comp=E,6μm,0.2s						
ARGA	**Argostoli. Kep**	**0.64**	**176**	P	**Pn**	**18 51 01.1**	**+0.9**
ARGA				S	**Sn**	**18 51 10.4**	**+1.1**
VLS	**Valsamata**	**0.65**	**168**	P	**Pb**	**18 51 00.0**	**-0.5**
VLS				S	**Sb**	**18 51 09.5**	**+0.1**
VLS	**Valsamata**	**0.65**	**168**	P	**Pb**	**18 51 00.0**	**-0.5**
VLS				S	**Sb**	**18 51 09.5**	**+0.1**
VLS				AML	AML	18 51 10.9	
	comp=N,2831μm,0.2s						
VLS				AML	AML	18 51 11.7	
	comp=E,3950μm,0.1s						
VLS	**Valsamata**	**0.65**	**168**	⇓P	**Pb**	**18 51 00.0**	**-0.5**
VLS				S	**Sn**	**18 51 10.0**	**+0.4**
VLS				AML	AML		
	comp=N,786μm,0.6s						
VLS				AML	AML		
	comp=E,936μm,1.4s						
PSDA	**Pessada-Kefalo**	**0.71**	**170**	P	**Pb**	**18 51 01.0**	**-0.5**
PSDA				S	**Sn**	**18 51 11.5**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.71**	**170**	P	**Pb**	**18 51 01.0**	**-0.5**
PSDA				S	**Sb**	**18 51 10.2**	**-0.8**
IGT	**Igoumenitsa**	**0.72**	**354**	P	**Pn**	**18 51 02.1**	**+0.7**
IGT				S	**Sn**	**18 51 13.1**	**+1.8**
IGT	**Igoumenitsa**	**0.72**	**354**	P	**Pn**	**18 51 02.3**	**+0.9**
IGT				S	**Sn**	**18 51 13.5**	**+2.2**
IGT				AML	AML	18 51 13.8	
	comp=E,877μm,0.3s						
IGT				AML	AML	18 51 15.9	
	comp=N,768μm,0.2s						
PVO	**Paravola**	**0.89**	**103**	P	**Pn**	**18 51 04.0**	**+0.4**
PVO				S	**Sb**	**18 51 16.4**	**+0.5**
PVO	**Paravola**	**0.89**	**103**	P	**Pn**	**18 51 04.0**	**+0.4**
JAN	**Janina**	**0.90**	**22**	P	**Pn**	**18 51 04.9**	**+1.0**
JAN				S	**Sn**	**18 51 17.1**	**+1.2**
	comp=N,418nm,0.3s						
JAN	**Janina**	**0.90**	**22**	P	**Pn**	**18 51 04.4**	**+0.5**
JAN				S	**Sn**	**18 51 16.6**	**+0.7**
JAN				AML	AML	18 51 18.1	
	comp=E,792μm,0.3s						
JAN				AML	AML	18 51 18.3	
	comp=N,874μm,0.3s						
VLMS	**Volimes, Zakyn**	**0.96**	**169**	P	**Pn**	**18 51 04.9**	**+0.2**
VLMS				S	**Sb**	**18 51 18.6**	**+0.7**
	comp=N,778nm,0.3s						
VLMS	**Volimes, Zakyn**	**0.96**	**169**	P	**Pn**	**18 51 04.8**	**+0.1**
VLMS				S	**Sb**	**18 51 18.9**	**+0.9**
VLMS				AML	AML	18 51 24.0	
	comp=E,1020μm,0.3s						
VLMS				AML	AML	18 51 24.8	
	comp=N,1862μm,0.3s						
KASA	**Kassiopi**	**1.00**	**338**	P	**Pb**	**18 51 07.8**	**+1.5**
KASA				S	**Sb**	**18 51 21.0**	**+1.9**
KASA				AML	AML	18 51 25.4	
	comp=N,766μm,0.3s						
KASA				AML	AML	18 51 26.3	
	comp=E,602μm,0.4s						
KEK	**Kerkira**	**1.02**	**332**	P	**Pn**	**18 51 06.7**	**+1.2**
KEK	**Kerkira**	**1.02**	**332**	P	**Pn**	**18 51 06.6**	**+1.2**
KEK				S	**Sb**	**18 51 21.4**	**+1.8**
KEK				AML	AML	18 51 25.8	
	comp=E,612μm,0.3s						
KEK				AML	AML	18 51 32.9	
	comp=N,316μm,0.4s						
KEK	**Kerkira**	**1.02**	**332**	P	**Pn**	**18 51 06.7**	**+1.2**
KEK				S	**Sn**	**18 51 18.6**	**0.0**
VTN	**Vitineika**	**1.08**	**146**	P	**Pb**	**18 51 07.1**	**-0.5**
EVR	**Evrytania**	**1.09**	**84**	P	**Pn**	**18 51 07.3**	**+0.8**
EVR	**Evrytania**	**1.09**	**84**	P	**Pn**	**18 51 07.2**	**+0.7**
EVR				AML	AML	18 51 24.6	
	comp=N,272μm,0.3s						
EVR				AML	AML	18 51 28.3	
	comp=E,404μm,0.4s						
SRN	**Sarande**	**1.11**	**343**	P	**Pn**	**18 51 07.9**	**+1.2**
SRN	**Sarande**	**1.11**	**343**	P	**Pn**	**18 51 08.0**	**+1.2**
SRN				S	**Sn**	**18 51 21.4**	**+0.5**
RLS	**Riolos of Patr**	**1.12**	**132**	P	**Pn**	**18 51 07.3**	**+0.5**
RLS				S	**Sb**	**18 51 21.6**	**-0.8**
RLS	**Riolos of Patr**	**1.12**	**132**	P	**Pn**	**18 51 07.3**	**+0.5**
RLS				S	**Sb**	**18 51 21.6**	**-0.8**
RLS				AML	AML	18 51 26.2	
	comp=N,639μm,0.3s						
RLS				AML	AML	18 51 33.0	
	comp=E,626μm,0.5s						
LTHK	**Lithakia**	**1.15**	**163**	P	**Pn**	**18 51 07.4**	**+0.1**
LTHK	**Lithakia**	**1.15**	**163**	P	**Pn**	**18 51 06.9**	**-0.4**
ANX	**Ano Chora**	**1.19**	**100**	P	**Pn**	**18 51 08.6**	**+0.6**
ANX				S	**Sb**	**18 51 24.6**	**-0.1**
	comp=E,365nm,0.3s						
ANX	**Ano Chora**	**1.19**	**100**	P	**Pn**	**18 51 08.8**	**+0.9**
ANX				S	**Sb**	**18 51 24.4**	**-0.3**
ANX				AML	AML	18 51 28.0	
	comp=E,703μm,0.4s						
ANX				AML	AML	18 51 28.2	
	comp=N,802μm,0.4s						
EFP	**Efpalio**	**1.23**	**108**	P	**Pn**	**18 51 08.9**	**+0.5**
EFP				S	**Sb**	**18 51 25.6**	**+0.1**
	comp=N,502nm,0.4s						
EFP	**Efpalio**	**1.23**	**108**	P	**Pn**	**18 51 08.8**	**+0.5**
EFP				S	**Sb**	**18 51 25.4**	**-0.1**
EFP				AML	AML	18 51 26.9	
	comp=E,942μm,0.4s						
EFP				AML	AML	18 51 29.0	
	comp=N,975μm,0.4s						
SERG	**Sergoula**	**1.34**	**107**	P	**Pn**	**18 51 10.7**	**+0.7**
SERG	**Sergoula**	**1.34**	**107**	P	**Pn**	**18 51 10.7**	**+0.7**
SERG				AML	AML	18 51 33.0	
	comp=E,491μm,0.4s						
SERG				AML	AML	18 51 33.1	
	comp=N,446μm,0.2s						
MAKR	**Makrakomi, Fth**	**1.35**	**81**	P	**Pb**	**18 51 11.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.35**	**81**	P	**Pb**	**18 51 11.9**	**-0.2**
MAKR				AML	AML	18 51 35.4	
	comp=N,166μm,0.6s						
MAKR				AML	AML	18 51 37.1	
	comp=E,244μm,0.3s						
KPRO	**Kipourio**	**1.35**	**32**	P	**Pb**	**18 51 12.1**	**-0.1**
KPRO				S	**Sn**	**18 51 28.9**	**+1.9**
	comp=E,358nm,0.5s						
KPRO	**Kipourio**	**1.35**	**32**	P	**Pb**	**18 51 12.4**	**+0.2**
KPRO				AML	AML	18 51 32.8	
	comp=E,842μm,0.4s						
KPRO				AML	AML	18 51 34.4	
	comp=N,610μm,0.6s						
LAKA	**Lakka**	**1.35**	**115**	P	**Pn**	**18 51 10.6**	**+0.5**
LAKA	**Lakka**	**1.35**	**115**	P	**Pn**	**18 51 10.5**	**+0.5**
LAKA				AML	AML	18 51 35.1	
	comp=E,932μm,0.5s						
LAKA				AML	AML	18 51 39.3	
	comp=N,821μm,0.5s						
TRIZ	**Trizonia**	**1.37**	**109**	P	**Pn**	**18 51 11.1**	**+0.8**
TRIZ				S	**Sb**	**18 51 29.3**	**-0.3**
	comp=N,238nm,0.4s						
TRIZ	**Trizonia**	**1.37**	**109**	P	**Pn**	**18 51 11.0**	**+0.7**
TRIZ				S	**Sb**	**18 51 29.0**	**-0.6**
THL	**Klokotos Trika**	**1.45**	**58**	P	**Pn**	**18 51 12.4**	**+1.1**
THL	**Klokotos Trika**	**1.45**	**58**	P	**Pn**	**18 51 12.4**	**+1.1**
THL				AML	AML	18 51 34.8	
	comp=N,166μm,0.5s						
THL				AML	AML	18 51 40.5	
	comp=E,140μm,0.4s						
THL	**Klokotos Trika**	**1.45**	**58**	P	**Pn**	**18 51 12.4**	**+1.1**
THL				S	**Sn**	**18 51 30.9**	**+1.7**
PENT	**Pentalofos**	**1.48**	**22**	P	**Pn**	**18 51 13.9**	**+1.9**
AGG	**Agios Georgios**	**1.50**	**82**	P	**Pn**	**18 51 13.7**	**+1.6**
AGG	**Agios Georgios**	**1.50**	**82**	P	**Pn**	**18 51 13.8**	**+1.6**
KLV	**Kalavryta, Ach**	**1.56**	**119**	P	**Pn**	**18 51 13.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.56**	**119**	P	**Pn**	**18 51 13.6**	**+0.6**
KLV				AML	AML	18 51 44.8	
	comp=N,133μm,0.6s						
KLV				AML	AML	18 51 51.4	
	comp=E,125μm,0.6s						
KLV	**Kalavryta, Ach**	**1.56**	**119**	P	**Pn**	**18 51 13.6**	**+0.6**
KLV				S	**Sb**	**18 51 33.6**	**-1.5**
AMT	**Artemida-Makis**	**1.64**	**141**	P	**Pn**	**18 51 15.4**	**+1.4**
AMT	**Artemida-Makis**	**1.64**	**141**	P	**Pn**	**18 51 15.7**	**+1.7**
AMT				AML	AML	18 51 47.7	
	comp=E,330μm,0.5s						
AMT				AML	AML	18 51 52.7	
	comp=N,299μm,0.4s						
NEST	**Nestorio**	**1.67**	**17**	P	**Pb**	**18 51 17.0**	**-0.6**
SCTE	**Santa Cesarea**	**1.96**	**310**	⇓P	**Pn**	**18 51 19.7**	**+1.2**
SCTE				S	**Sn**	**18 51 43.5**	**+1.5**
SCTE				AML	AML		
	comp=N,326μm,0.9s						
SCTE				AML	AML		
	comp=E,345μm,0.5s						
ITM	**Ithomi**	**2.02**	**144**	P	**Pn**	**18 51 20.4**	**+1.1**
FNA	**Florina**	**2.10**	**20**	P	**Pn**	**18 51 21.7**	**+1.3**
FNA				S	**Sn**	**18 51 46.9**	**+1.5**
	comp=E,95nm,0.4s						
PYL	**PYLOS**	**2.19**	**151**	P	**Pn**	**18 51 22.0**	**+0.5**
SERS	**Sersale**	**2.92**	**275**	⇑P	**Pn**	**18 51 33.5**	**+1.8**
SERS				S	**Sn**	**18 52 05.3**	**-0.5**
SERS				AML	AML		
	comp=E,37μm,0.3s						
SERS				AML	AML		
	comp=N,35μm,1.5s						
CELI	**Celico**	**3.10**	**282**	P	**Pn**	**18 51 36.2**	**+1.9**
CELI				S	**Sn**	**18 52 10.5**	**+0.3**
CELI				AML	AML		
	comp=E,41μm,0.4s						
CELI				AML	AML		
	comp=N,46μm,1.2s						
PLAC	**Placanica**	**3.14**	**265**	⇓P	**Pn**	**18 51 36.4**	**+1.7**
PLAC				AML	AML		
	comp=E,50μm,0.2s						
PLAC				AML	AML		
	comp=N,43μm,1.3s						
STIP	**Stip**	**3.17**	**25**	*i*Pn	**Pn**	**18 51 38.2**	**+3.0**
NOCI	**Noci**	**3.25**	**308**	⇑P	**Pn**	**18 51 37.3**	**+1.2**
NOCI				S	**Sn**	**18 52 14.3**	**+0.6**
NOCI				AML	AML		
	comp=N,137μm,0.3s						
NOCI				AML	AML		
	comp=E,107μm,0.8s						
SALB	**San Lorenzo Be**	**3.33**	**290**	P	**Pn**	**18 51 39.2**	**+1.8**
SALB				S	**Sn**	**18 52 16.9**	**+1.0**
SALB				AML	AML		
	comp=E,38μm,0.2s						
SALB				AML	AML		
	comp=N,30μm,0.6s						
MIGL	**Miglionico**	**3.55**	**301**	⇑P	**Pn**	**18 51 41.6**	**+1.3**
MIGL				S	**Sn**	**18 52 21.6**	**+0.4**
MIGL				AML	AML		
	comp=E,123μm,1.1s						
MIGL				AML	AML		
	comp=N,116μm,1.3s						
JOPP	**Joppolo**	**3.56**	**268**	⇑P	**Pn**	**18 51 42.0**	**+1.7**
JOPP				AML	AML		
	comp=E,56μm,1.0s						
JOPP				AML	AML		
	comp=N,80μm,0.6s						
AMUR	**Altamura**	**3.60**	**307**	⇓P	**Pn**	**18 51 42.2**	**+1.1**
AMUR				S	**Sn**	**18 52 23.4**	**+1.0**
AMUR				AML	AML		
	comp=N,46μm,0.3s						
AMUR				AML	AML		
	comp=E,50μm,1.2s						
MCEL	**Monticello**	**3.88**	**294**	P	**Pn**	**18 51 46.3**	**+1.5**
MCEL				AML	AML		
	comp=N,33μm,1.2s						
MCEL				AML	AML		
	comp=E,36μm,0.3s						
MSRU	**Castanea**	**3.89**	**263**	P	**Pn**	**18 51 46.3**	**+1.3**
MSRU				AML	AML		
	comp=E,91μm,1.0s						
MSRU				AML	AML		
	comp=N,55μm,0.3s						
MRVN	**Minervino Murg**	**3.95**	**306**	⇑P	**Pn**	**18 51 47.0**	**+1.2**
MRVN				S	**Sn**	**18 52 30.6**	**-0.4**
MRVN				AML	AML		
	comp=N,37μm,0.9s						
MRVN				AML	AML		
	comp=E,38μm,1.0s						
ACER	**Acerenza**	**3.97**	**301**	⇓P	**Pn**	**18 51 47.8**	**+1.7**
ACER				AML	AML		
	comp=E,60μm,0.5s						
ACER				AML	AML		
	comp=N,63μm,0.5s						
MPNC	**Port Mandanici**	**4.04**	**262**	P	**Pn**	**18 51 49.1**	**+2.2**
MPNC				AML	AML		
	comp=E,116μm,0.6s						
MPNC				AML	AML		
	comp=N,100μm,0.5s						
PALZ	**Palazzo San Ge**	**4.04**	**303**	⇑P	**Pn**	**18 51 48.6**	**+1.6**
VPL	**Vulcano Piano**	**4.28**	**266**	P	**Pn**	**18 51 52.2**	**+1.8**
VPL				AML	AML		
	comp=E,228μm,1.6s						
VPL				AML	AML		
	comp=N,226μm,1.0s						
MUCR	**Ucria**	**4.42**	**262**	P	**Pn**	**18 51 54.3**	**+1.9**
MUCR				AML	AML		
	comp=N,36μm,1.3s						
MUCR				AML	AML		
	comp=E,40μm,1.6s						
MSAG	**Monte S. Angel**	**4.50**	**311**	P	**Pn**	**18 51 54.4**	**+1.0**
MSAG				AML	AML		
	comp=E,108μm,0.2s						
MSAG				AML	AML		
	comp=N,232μm,0.1s						
STON	**Ston**	**4.55**	**334**	*e*Pn	**Pn**	**18 51 53.2**	**-0.7**
STON				Sn	**Sn**	**18 52 39.5**	**-6.1**
CAFE	**Carife**	**4.56**	**301**	P	**Pn**	**18 51 56.4**	**+2.2**
CAFE				AML	AML		
	comp=N,20μm,0.9s						
CAFE				AML	AML		
	comp=E,29μm,1.6s						
SGRT	**San Giovanni R**	**4.63**	**311**	P	**Pn**	**18 51 56.5**	**+1.3**
SGRT				AML	AML		
	comp=N,128μm,0.7s						
SGRT				AML	AML		
	comp=E,107μm,0.1s						
LSTV	**Lastovo**	**4.77**	**327**	*e*Pn	**Pn**	**18 51 56.5**	**-0.6**
LSTV				Sn	**Sn**	**18 52 45.5**	**-5.7**
MELA	**Melanico ??? S**	**4.97**	**307**	⇑P	**Pn**	**18 52 01.5**	**+1.

0.5nm3µm13nm,0.9s
SANI Sanana 7.32 305 P **Pn 18 59 17.1 -1.1**
0.1nm11nm,1.0s
SOEI Soe 8.34 245 P **Pn 18 59 34.9 +2.5**
17nm,1.1s
WRA Warramunga Arr 13.73 171 Pn **Pn 19 00 47.1 +1.1**
0.2nm,0.3s,baz=354,slow=13,SNR=16
WRA Sn **Sn 19 03 12.7 -4.5**
1.0nm,0.3s,baz=342,slow=24,SNR=10.0
ASAR Alice Springs 17.34 174 Pn **P 19 01 34.9 +1.3**
0.1nm,0.3s,baz=355,slow=14,SNR=9.7
MKAR Makanchi Array 68.75 326 P P 19 08 57.9 +25
0.2nm,0.5s,baz=126,slow=6.1,SNR=2.6

*NEIC **20** 19:13:27.4±2.2,24°.21S±0°.06×66°.75W±0°.03, h176km±6km, mb4.4/62, Md4.0(SJA), Error ellipse: s-maj=9.8km s-min=2.7km az=199.0*
*IDC **20** 19:13:28.4±1.1,24°.13S×66°.76W, h186km±8km, mb3.8/10, mb1 4.0/16, mb1mx3.7/38, mbtmp4.3/16, MS3.3/1, Ms1 3.3/1, ms1mx2.7/28, Error ellipse: s-maj=16.3km s-min=11.8km az=24.0*
*VAO **20** 19:13:29.3±0.4,24°.15S×66°.94W, h220km±3km, mb4.4*
*GUC **20** 19:13:29.2±0.6,24°.20S×66°.98W, h198km±6km, ML4.9*
ISC 20 19:13:28.0±0.6,**24°.17S**±0°.04×**66°.92W**±0°.04,**h192**km±6km,
n196,σ1°.39/214,**mb4.3**/33,**13C-2D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.40**	**113**	⇓*iP*	**Pn**	**19 14 02.0**	**+1.6**
SLA				*i* S	**Sn**	**19 14 26.9**	**+1.5**
LVC	**Limon Verde**	**2.40**	**310**	P	**Pn**	**19 14 12.4**	**+1.7**
	44nm,0.3s,baz=136,slow=6.8,SNR=175						
LVC				S	**Sn**	**19 14 45.2**	**+1.3**
	165nm,0.3s,baz=308,slow=21,SNR=12						
LVC	**Limon Verde**	**2.40**	**310**	⇑*iP*	**Pn**	**19 14 12.4**	**+1.7**
LVC				*eS*	**Sn**	**19 14 44.6**	**+0.7**
LVC	**Limon Verde**	**2.40**	**310**	Pn	**Pn**	**19 14 11.8**	**+1.1**
LVC	**Limon Verde**	**2.40**	**310**	*eP*	**Pn**	**19 14 12.6**	**+1.9**
PB15	**IPOC Station P**	**2.53**	**292**	⇑*iP*	**Pn**	**19 14 13.6**	**+1.6**
PB15				*eS*	**Sn**	**19 14 46.3**	**+0.3**
PB15	**IPOC Station P**	**2.53**	**292**	Pn	**Pn**	**19 14 13.4**	**+1.4**
GO02	**Mina Guanaco**	**2.62**	**247**	⇑*iP*	**Pn**	**19 14 14.4**	**+1.2**
GO02				*eS*	**Sn**	**19 14 48.9**	**+0.5**
GO02				IAML		19 14 53.8	
	comp=E,2µm,0.3s						
GO02	**Mina Guanaco**	**2.62**	**247**	Pn	**Pn**	**19 14 14.3**	**+1.2**
PB06	**IPOC Station P**	**2.84**	**300**	⇑*iP*	**Pn**	**19 14 17.0**	**+1.4**
PB06				*eS*	**Sn**	**19 14 52.5**	**-0.1**
PB06				IAML		19 14 54.2	
	comp=N,2µm,0.2s						
PB06	**IPOC Station P**	**2.84**	**300**		**Pn**	**19 14 16.9**	**+1.3**
PB09	**IPOC Station P**	**3.19**	**317**	⇑*iP*	**Pn**	**19 14 21.4**	**+1.7**
PB09				*eS*	**Sn**	**19 15 01.0**	**+0.9**
PB09	**IPOC Station P**	**3.19**	**317**	Pn	**Pn**	**19 14 21.3**	**+1.6**
PB14	**IPOC Station P**	**3.21**	**261**	⇑*iP*	**Pn**	**19 14 20.7**	**+0.6**
PB14				*i* S	**Sn**	**19 14 59.1**	**-1.7**
PB14	**IPOC Station P**	**3.21**	**261**	Pn	**Pn**	**19 14 20.4**	**+0.3**
PB05	**IPOC Station P**	**3.29**	**293**	⇑*iP*	**Pn**	**19 14 21.9**	**+1.0**
PB05				*eS*	**Sn**	**19 15 00.2**	**-1.9**
AC02	**Maricunga**	**3.32**	**217**	⇑*iP*	**Pn**	**19 14 22.9**	**+1.3**
AC02				*eS*	**Sn**	**19 15 04.8**	**+1.2**
AC02	**Maricunga**	**3.32**	**217**		**Pn**	**19 14 22.7**	**+1.1**
PB10	**IPOC Station P**	**3.39**	**280**	⇑*iP*	**Pn**	**19 14 23.1**	**+1.1**
PB10				*eS*	**Sn**	**19 15 02.9**	**-1.4**
PB10	**IPOC Station P**	**3.39**	**280**	Pn	**Pn**	**19 14 22.6**	**+0.6**
PB04	**IPOC Station P**	**3.49**	**301**	⇑*eP*	**Pn**	**19 14 24.2**	**+0.9**
PB04				*eS*	**Sn**	**19 15 05.2**	**-1.5**
PB04	**IPOC Station P**	**3.49**	**301**		**Pn**	**19 14 23.8**	**+0.4**
PB07	**IPOC Station P**	**3.66**	**311**	⇑*eP*	**Pn**	**19 14 26.2**	**+0.7**
PB07				*eS*	**Sn**	**19 15 08.3**	**-2.2**
PB07	**IPOC Station P**	**3.66**	**311**	Pn	**Pn**	**19 14 25.7**	**+0.2**
PB01	**IPOC Station P**	**3.91**	**322**	*eP*	**Pn**	**19 14 29.1**	**+0.5**
PB01				*eS*	**Sn**	**19 15 13.8**	**-2.3**
PB01	**IPOC Station P**	**3.91**	**322**		**Pn**	**19 14 28.8**	**+0.2**
PB02	**IPOC Station P**	**3.95**	**315**	⇑*eP*	**Pn**	**19 14 29.4**	**+0.3**
PB02				*eS*	**Sn**	**19 15 14.4**	**-2.4**
PB08	**IPOC Station P**	**4.51**	**332**	⇑*eP*	**Pn**	**19 14 37.5**	**+1.1**
PB08				*eS*	**Sn**	**19 15 29.3**	**-0.9**
PB08	**IPOC Station P**	**4.51**	**332**		**Pn**	**19 14 36.4**	**0.0**
GO03	**Copiap**	**4.53**	**221**	⇓*eP*	**Pn**	**19 14 35.7**	**-0.6**
GO03				*eS*	**Sn**	**19 15 27.9**	**-2.2**
GO03				IAML		19 15 29.2	
	comp=E,364nm,0.5s						
GO03	**Copiap**	**4.53**	**221**	Pn	**Pn**	**19 14 35.6**	**-0.8**
TA01	**Diego Aracena**	**4.69**	**319**		**Pn**	**19 14 37.8**	**-0.5**
TA02	**Huaiquique**	**4.89**	**322**		**Pn**	**19 14 40.2**	**-0.6**
PB11	**IPOC Station P**	**5.07**	**329**	Pn	**Pn**	**19 14 42.7**	**-0.6**
PSGCX	**Pisagua**	**5.44**	**326**		**Pn**	**19 14 46.5**	**-1.5**
AC04	**Llanos de Chal**	**5.49**	**222**	Pn	**Pn**	**19 14 47.4**	**-1.1**
MNMC	**Minye Minye**	**5.60**	**333**		**Pn**	**19 14 49.8**	**-0.5**
LCO	**Las Campanas**	**5.89**	**214**	Pn	**Pn**	**19 14 53.3**	**-0.7**
CO03	**El Pedregal**	**7.44**	**206**	Pn	**Pn**	**19 15 12.3**	**-1.7**
CO02	**Combarbal**	**7.89**	**206**	Pn	**Pn**	**19 15 17.7**	**-2.1**
LPAZ	**La Paz**	**7.92**	**352**	P	**Pn**	**19 15 21.8**	**+0.8**
	comp=E,2.7nm,0.3s,baz=161,slow=10,SNR=36						
LPAZ				S	**Sn**	**19 16 49.0**	**-1.6**
	comp=E,0.4nm,0.3s,baz=47,slow=20,SNR=2.1						
LPAZ	**La Paz**	**7.92**	**352**		**Pn**	**19 15 21.5**	**+0.5**
LPAZ	**La Paz**	**7.92**	**352**	*eP*	**Pn**	**19 15 22.0**	**+1.1**
CPUP	**Villa Florida**	**8.94**	**106**	P	**Pn**	**19 15 33.1**	**-0.5**
	comp=E,0.7nm,0.3s,baz=287,slow=9.8,SNR=6.7						
CPUP	**Villa Florida**	**8.94**	**106**	Pn	**Pn**	**19 15 32.0**	**-1.6**
MT02	**Curacav**	**9.78**	**201**	Pn	**Pn**	**19 15 42.8**	**-1.7**
SIV	**San Ignacio**	**9.81**	**35**	P	**Pn**	**19 15 43.7**	**-1.4**
	comp=E,1.8nm,0.3s,baz=246,slow=7.2,SNR=16						
SIV				S	Sn	19 17 22.6	-12
	baz=253,slow=15,SNR=4.5						
MT09	**Talagante**	**10.21**	**199**	Pn	**Pn**	**19 15 46.3**	**-3.9**
ITQB	**Itaqui**	**10.69**	**123**	*eP*	**Pn**	**19 15 56.5**	**+0.1**
AQDB	**Aquidauana**	**11.01**	**73**	Pn	**Pn**	**19 15 58.2**	**-2.3**
AQDB	**Aquidauana**	**11.01**	**73**	*eP*	**Pn**	**19 16 01.9**	**+1.3**
BO02	**Sierra Bellavi**	**11.11**	**197**	Pn	**Pn**	**19 15 57.9**	**-3.8**
PTLB	**Pontes e Lacer**	**11.35**	**42**	*eP*	**Pn**	**19 16 06.0**	**+1.1**
VILB	**Vilhena**	**12.84**	**31**	*eP*	**Pn**	**19 16 25.8**	**+1.9**
BI02	**San Fabin de**	**13.01**	**196**	Pn	**Pn**	**19 16 25.4**	**-0.4**
TRCB	**Terra Rica**	**13.18**	**87**	Pn	**Pn**	**19 16 26.0**	**-2.1**
TRCB				P	**P**	**19 16 30.2**	**-1.1**
TRCB	**Terra Rica**	**13.18**	**87**	*eP*	**Pn**	**19 16 28.2**	**+0.1**
SALV	**Santo Antonio**	**13.37**	**54**	*eP*	**Pn**	**19 16 31.8**	**+1.3**
PLTB	**Pedras Altas**	**13.98**	**126**	Pn	**Pn**	**19 16 36.1**	**-1.9**
PLTB	**Pedras Altas**	**13.98**	**126**	*eP*	**P**	**19 16 39.1**	**-1.0**
ETMB	**Extrema**	**14.29**	**3**	*eP*	**Pn**	**19 16 41.5**	**-0.5**
TRQA	**Tornquist**	**14.47**	**164**	Pn	**Pn**	**19 16 42.2**	**-1.8**
TRQA	**Tornquist**	**14.47**	**164**	*eP*	**P**	**19 16 45.8**	**+0.3**
PCMB	**Pacaembu**	**14.65**	**83**	*eP*	**Pn**	**19 16 46.0**	**-0.4**
LC01	**Cunco**	**15.28**	**195**	Pn	**Pn**	**19 16 51.6**	**-2.2**
LC01				IAmb	IAmb	19 17 24.3	
	comp=Z,42nm,1.7s						
FRTB	**Fartura**	**15.91**	**91**	*eP*	**P**	**19 17 01.7**	**+0.1**
ITRB	**Iturama**	**15.99**	**77**	*eP*	**P**	**19 17 01.8**	**-0.7**
TIJ01	**Guaruva-PR**	**16.32**	**98**	*eP*	**Pn**	**19 17 05.8**	**-0.8**
ARAG	**Araguaiana, MT**	**16.50**	**62**	*eP*	**Pn**	**19 17 08.5**	**-0.4**
TER01	**Tubaro-SC**	**16.52**	**109**	*eP*	**Pn**	**19 17 08.2**	**-0.8**
PLCA	**Paso Flores**	**16.80**	**190**	P	**Pn**	**19 17 11.8**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=23,slow=14,SNR=6.0						
PLCA	**Paso Flores**	**16.80**	**190**	P	**Pn**	**19 17 11.3**	**-0.9**
PLCA				IAmb	IAmb	19 17 19.6	
	comp=Z,7.9nm,0.6s						
PLCA	**Paso Flores**	**16.80**	**190**	*eP*	**P**	**19 17 10.5**	**-0.7**
CLDB	**Colider**	**16.93**	**41**	*eP*	**P**	**19 17 12.7**	**-0.2**
BB19B	**Bebedouro**	**17.26**	**83**	*eP*	**P**	**19 17 16.4**	**0.0**
CZSB	**Cruzeiro do Su**	**17.26**	**340**	*eP*	**P**	**19 17 15.3**	**-1.1**
LL04	**Puerto Octay**	**17.32**	**194**	P	**Pn**	**19 17 16.9**	**-1.4**
LL04				IAmb	IAmb	19 17 20.4	
	comp=Z,9.4nm,0.7s						
SPB	**Sao Paulo**	**17.83**	**92**	P	**P**	**19 17 20.0**	**-2.6**
SPB				IAmb	IAmb	19 17 28.5	
	comp=Z,17nm,0.7s						
SPB	**Sao Paulo**	**17.83**	**92**	*eP*	**P**	**19 17 22.3**	**-0.3**
RCLB	**Rio Claro- Sao**	**17.89**	**88**	*eP*	**P**	**19 17 23.0**	**-0.4**
PET01	**Itanhaem-SP**	**17.92**	**94**	*eP*	**P**	**19 17 22.5**	**-1.0**
VAO	**Valinhos**	**18.33**	**90**	*eP*	**P**	**19 17 27.4**	**-0.7**
IPMB	**Ipameri, GO**	**18.50**	**74**	*eP*	**P**	**19 17 28.9**	**-1.1**
LL01	**São Ignacio de**	**18.72**	**193**	P	**P**	**19 17 32.5**	**+0.4**
SNDB	**Serra Nova Dou**	**19.15**	**53**	*eP*	**P**	**19 17 36.1**	**-0.9**
LL02	**Futaleuf**	**19.40**	**191**		**P**	**19 17 37.8**	**-1.7**
LL02				IAmb	IAmb	19 17 43.2	
	comp=Z,12nm,0.8s						
PARB	**Paraibuna**	**19.51**	**92**	*eP*	**P**	**19 17 40.1**	**-0.8**
BDFB	**Brasilia**	**19.68**	**68**	P	**P**	**19 17 42.2**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=247,slow=11,SNR=21						
BDFB	**Brasilia**	**19.68**	**68**	P	**P**	**19 17 41.2**	**-1.6**
NPGB	**Novo Progresso**	**20.32**	**35**	*eP*	**P**	**19 17 47.3**	**-2.2**
ESAR	**Angra dos Reis**	**20.63**	**91**	*eP*	**P**	**19 17 52.1**	**-0.6**
BSCB	**Bom Sucesso**	**20.68**	**86**	*eP*	**P**	**19 17 52.3**	**-1.2**
PEXB	**Peixe**	**21.34**	**59**	*eP*	**P**	**19 17 59.1**	**-1.3**
VAS01	**Vassouras-RJ**	**21.65**	**90**	*eP*	**P**	**19 18 03.7**	**+0.1**
ITTB	**Itaituba**	**22.45**	**30**	*eP*	**P**	**19 18 09.6**	**-1.6**
DUB01	**Friburgo-RJ**	**22.66**	**90**	*eP*	**P**	**19 18 12.5**	**-0.7**
MC01	**Montes Claros**	**22.75**	**75**	*eP*	**P**	**19 18 12.4**	**-1.6**
JANB	**Januaria**	**23.11**	**71**	*eP*	**P**	**19 18 16.3**	**-1.0**
CAM01	**Campos-RJ**	**23.36**	**89**	*eP*	**P**	**19 18 19.0**	**-0.4**
SDBA	**SAO DESIDERIO**	**23.91**	**65**	*eP*	**P**	**19 18 23.5**	**-1.1**
SMTB	**Santa Maria do**	**23.93**	**54**	*eP*	**P**	**19 18 24.1**	**-0.6**
PRPB	**Parauapebas**	**24.29**	**45**	*eP*	**P**	**19 18 27.2**	**-0.8**
ALF01	**Guarapari-ES**	**24.46**	**87**	*eP*	**P**	**19 18 28.7**	**-0.8**
BSFB	**Barra de Sao F**	**24.81**	**83**	*eP*	**P**	**19 18 31.6**	**-1.1**
RIB01	**Linhares ES**	**25.09**	**84**	*eP*	**P**	**19 18 34.2**	**-0.9**
MALB	**Monte Alegre**	**25.34**	**31**	*eP*	**P**	**19 18 37.3**	**-0.1**
GUA01	**Guaratinga, BA**	**26.48**	**79**	*eP*	**P**	**19 18 46.8**	**-0.8**
BOAV	**Boa Vista**	**27.13**	**14**	*eP*	**P**	**19 18 51.1**	**-2.3**
CMC01	**Camacan, BA**	**27.19**	**76**	*eP*	**P**	**19 18 52.6**	**-1.4**
NBIT	**Itapeh - BA**	**27.44**	**76**	*eP*	**P**	**19 18 55.5**	**-0.7**
GDU01	**Guandu, BA**	**27.82**	**73**	*eP*	**P**	**19 18 57.9**	**-1.8**
NBPN	**Ponto Novo - B**	**28.65**	**67**	*eP*	**P**	**19 19 05.6**	**-1.5**
ROSC	**El Rosal**	**29.72**	**345**	LR	LR	19 32 10.8	
	comp=Z,51nm,19.0s,baz=243,slow=38						
RUSC	**La Rusia**	**30.48**	**348**	P	**P**	**19 19 21.5**	**-2.1**
RUSC				IAmb	IAmb	19 19 26.1	
	comp=Z,9.1nm,1.0s						
NBPS	**Pedro II - PI**	**31.44**	**55**	*eP*	**P**	**19 19 30.6**	**-1.1**
NBPB	**Pedra_Branca-C**	**32.15**	**59**	*eP*	**P**	**19 19 37.2**	**-0.5**
NBAN	**Anadia - AL**	**32.57**	**69**	*eP*	**P**	**19 19 40.1**	**-1.3**
NBCL	**Cascavel-CE**	**33.97**	**59**	*eP*	**P**	**19 19 51.2**	**-2.3**
SJCC	**San Jacinto, C**	**34.81**	**346**	P	**P**	**19 19 59.6**	**-1.1**
SJCC				IAmb	IAmb	19 21 01.3	
	comp=Z,14nm,1.2s						
NBPV	**Pedro Velho**	**35.10**	**65**	*eP*	**P**	**19 20 02.6**	**-0.7**
PMSA	**Palmer Station**	**40.64**	**178**	*eP*	**P**	**19 20 46.8**	**-2.1**
MTO3	**Montecristo**	**44.16**	**328**	P	**P**	**19 21 19.9**	**+1.8**
MTO3				IAmb	IAmb	19 21 20.7	
	comp=Z,15nm,1.4s						
SOR	**Soroa**	**49.23**	**340**	P	**P**	**19 21 58.0**	**+0.9**
SOR				IAmb	IAmb	19 21 58.7	
	comp=Z,7.2nm,0.8s						
SNAA	**Sanae**	**59.17**	**161**	P	**P**	**19 23 08.3**	**-0.1**
GOGA	**Godfrey**	**59.39**	**344**	P	**P**	**19 23 07.8**	**-2.4**
GOGA				IAmb	IAmb	19 23 10.8	
	comp=Z,4.5nm,0.6s						
FPAL	**Fort Paine**	**61.03**	**342**	P	**P**	**19 23 21.9**	**+0.6**
X48A	**Hartselle**	**61.35**	**341**	P	**P**	**19 23 23.9**	**+0.4**
V53A	**Saluda**	**61.39**	**345**	P	**P**	**19 23 22.2**	**-1.5**
V53A				IAmb	IAmb	19 23 49.6	
	comp=Z,7.5nm,0.8s						
W50A	**Signal Mountai**	**61.57**	**343**	P	**P**	**19 23 25.0**	**0.0**
W50A				IAmb	IAmb	19 23 25.6	
	comp=Z,6.5nm,0.8s						
CPCT	**Cooper Cave**	**61.59**	**344**	P	**P**	**19 23 25.1**	**0.0**
CPCT				IAmb	IAmb	19 23 26.1	
	comp=Z,5.5nm,0.7s						
TKL	**Tuckaleechee C**	**61.60**	**344**	P	**P**	**19 23 25.0**	**-0.1**
TKL				IAmb	IAmb	19 24 07.7	
	comp=Z,5.0nm,0.8s						
SWET	**Sewanee**	**61.75**	**342**	P	**P**	**19 23 26.1**	**-0.1**
JCT	**Junction City**	**62.83**	**328**	P	**P**	**19 23 34.7**	**+1.2**
WVT	**Waverly**	**63.15**	**341**	P	**P**	**19 23 34.5**	**-0.8**
T47A	**Sharon Grove**	**63.74**	**342**	P	**P**	**19 23 39.0**	**-0.2**
TXAR	**Lajitas Array**	**63.86**	**324**	P	**P**	**19 23 41.5**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=153,slow=8.2,SNR=14						
TXAR	**Lajitas Array**	**63.86**	**324**	P	**P**	**19 23 41.2**	**+0.9**
TX31	**Lajitas Ar. Si**	**63.86**	**324**	P	**P**	**19 23 41.3**	**+1.0**
TX32	**Lajitas Array**	**63.86**	**324**	P	**P**	**19 23 41.3**	**+1.0**
TX32				IAmb	IAmb	19 23 49.6	
	comp=Z,5.6nm,1.4s						
PBMO	**Poplar Bluff**	**64.55**	**339**	P	**P**	**19 23 43.9**	**-0.6**
U40A	**Yellville**	**64.99**	**337**	P	**P**	**19 23 47.8**	**+0.4**
QSPA	**South Pole Qui**	**66.04**	**180**	P	**P**	**19 23 54.7**	**+0.8**
MNTX	**Cornudas Mount**	**66.63**	**325**		**P**	**19 23 58.4**	**+0.5**
MSTX	**Muleshoe**	**67.12**	**328**	P	**P**	**19 24 02.1**	**+1.0**
P38A	**Dawn**	**68.16**	**338**	P	**P**	**19 24 07.6**	**+0.3**
121A	**Cookes Peak, D**	**68.56**	**324**	P	**P**	**19 24 12.9**	**+2.6**
121A				IAmb	IAmb	19 24 13.6	
	comp=Z,6.6nm,1.0s						
ANMO	**Albuquerque**	**69.73**	**326**	P	**P**	**19 24 19.4**	**+2.0**
	comp=Z,3.4nm,0.8s,baz=121,slow=4.3,SNR=8.7						
ANMO	**Albuquerque**	**69.73**	**326**	P	**P**	**19 24 18.0**	**+0.6**
WUAZ	**Wupatki**	**72.76**	**323**	P	**P**	**19 24 36.9**	**+1.3**
WUAZ				IAmb	IAmb	19 24 39.0	
	comp=Z,5.2nm,0.8s						
ECSD	**EROS Data Cent**	**72.86**	**338**	P	**P**	**19 24 36.3**	**+0.5**
ECSD				IAmb	IAmb	19 24 37.3	
	comp=Z,7.5nm,1.0s						
PV22	**Blue Mesa, Par**	**73.69**	**327**	P	**P**	**19 24 43.5**	**+2.6**
F36A	**Milaca**	**73.77**	**341**	P	**P**	**19 24 41.4**	**+0.4**
F36A				IAmb	IAmb	19 24 42.0	
	comp=Z,7.8nm,0.8s						
W13A	**Hualapai Mount**	**73.86**	**321**	P	**P**	**19 24 44.3**	**+2.3**
U15A	**North Rim**	**73.93**	**323**	P	**P**	**19 24 45.4**	**+2.9**
KNB	**Kanab**	**74.66**	**323**	P	**P**	**19 24 49.6**	**+3.1**
KNB				IAmb	IAmb	19 24 50.4	
	comp=Z,11nm,1.1s						
O20A	**White River Ci**	**74.67**	**328**	P	**P**	**19 24 48.9**	**+2.3**
O20A				IAmb	IAmb	19 24 49.6	
	comp=Z,7.0nm,1.0s						
LCMT	**Little Creek M**	**74.88**	**323**	P	**P**	**19 24 48.9**	**+1.1**
SRU	**San Rafael Swe**	**75.00**	**326**	P	**P**	**19 24 49.9**	**+1.4**
MTPU	**Mount Pierson**	**75.07**	**325**	P	**P**	**19 24 51.2**	**+2.1**
CCUT	**Cedar City**	**75.34**	**323**	P	**P**	**19 24 53.2**	**+2.7**
CCUT				IAmb	IAmb	19 24 54.4	
	comp=Z,7.6nm,1.0s						
P17A	**Butcher Ranch,**	**75.39**	**326**	P	**P**	**19 24 52.8**	**+2.1**
P17A				IAmb	IAmb	19 27 24.8	
	comp=Z,7.0nm,0.5s						
RWWY	**Rawlins**	**75.40**	**330**	P	**P**	**19 24 52.9**	**+2.1**
RWWY				IAmb	IAmb	19 25 53.7	
	comp=Z,7.4nm,0.8s						
MSU	**Marysvale**	**75.41**	**325**	P	**P**	**19 24 53.6**	**+2.7**
MVU	**Marysvale**	**75.42**	**325**	P	**P**	**19 24 53.1**	**+2.2**
TPNV	**Topopah Spring**	**76.52**	**321**	P	**P**	**19 24 59.6**	**+2.5**
TPNV				IAmb	IAmb	19 25 01.0	
	comp=Z,7.9nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	**P**	**19 24 57.1**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=258,slow=5.5,SNR=22						
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P	**P**	**19 24 57.4**	**-0.2**
TORD				IAmb	IAmb	19 25 43.2	
	comp=Z,9.8nm,1.6s						
ISA	**Isabella, Lake**	**76.93**	**319**	P	**P**	**19 25 01.8**	**+2.4**
PD31	**Pinedale Array**	**77.33**	**329**	P	**P**	**19 25 02.6**	**+1.0**
PDAR	**Pinedale Array**	**77.33**	**329**	P	**P**	**19 25 02.8**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=142,slow=8.0,SNR=7.9						
PDAR	**Pinedale Array**	**77.33**	**329**	P	**P**	**19 25 03.0**	**+1.4**
ULM	**Lac du Bonnet**	**78.41**	**342**	P	**P**	**19 25 07.7**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=114,slow=6.6,SNR=4.8						
ULM	**Lac du Bonnet**	**78.41**	**342**	P	**P**	**19 25 07.8**	**+0.7**
ULM				IAmb	IAmb	19 27 00.3	
	comp=Z,9.8nm,1.4s						
ELK	**Elko**	**78.65**	**325**	P	**P**	**19 25 10.7**	**+1.8**
	comp=Z,2.0nm,0.8s,baz=71,slow=4.0,SNR=4.0						
ELK	**Elko**	**78.65**	**325**	P	**P**	**19 25 10.3**	**+1.4**
NVAR	**Mina Array Bea**	**78.72**	**321**	P	**P**	**19 25 10.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=148,slow=5.8,SNR=5.1						
NVAR	**Mina Array Bea**	**78.72**	**321**	P	**P**	**19 25 10.7**	**+1.3**
IMW	**Indian Meadow**	**78.84**	**329**	P	**P**	**19 25 10.7**	**+0.8**
RLMT	**Red Lodge**	**79.03**	**331**	P	**P**	**19 25 12.4**	**+1.6**
RLMT				IAmb	IAmb	19 27 02.4	
	comp=Z,5.8nm,1.0s						
KVN	**Kaiserville**	**79.03**	**322**	P	**P**	**19 25 12.9**	**+2.0**
YNE	**Yellowstone No**	**79.27**	**330**	P	**P**	**19 25 13.0**	**+0.8**
YNE				IAmb	IAmb	19 27 11.8	
	comp=Z,7.0nm,0.8s						
YHH	**Holmes Hill**	**79.48**	**330**	P	**P**	**19 25 16.0**	**+2.6**
YHH				IAmb	IAmb	19 25 16.7	
	comp=Z,5.1nm,0.9s						
GCMT	**Greycliff**	**79.72**	**331**	P	**P**	**19 25 16.2**	**+1.8**
MAW	**Mawson**	**81.25**	**163**	P	**P**	**19 25 23.5**	**+1.3**
	comp=Z,3.8nm,0.8s,baz=204,slow=6.6,SNR=11						
ESDC	**Sonseca Array**	**86.47**	**44**	P	**P**	**19 25 50.2**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=222,slow=3.9,SNR=6.3						
YKA	**Yellowknife Ar**	**94.31**	**340**	P	**P**	**19 26 25.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=131,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**128.33**	**205**	PKP	**PKPdf**	**19 32 12.6**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=143,slow=1.9,SNR=26						
WRA	**Warramunga Arr**	**131.51**	**207**	PKP	**PKPdf**	**19 32 19.1**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=158,slow=1.7,SNR=44						
WRA				SKPbc	**SKPbc**	**19 35 26.3**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=159,slow=3.7,SNR=6.6						
WRA	**Warramunga Arr**	**131.51**	**207**		**PKPdf**	**19 32 18.9**	**+0.4**
PETK	**Petropavlovsk-**	**135.79**	**323**	PKP	**PKiKP**	**19 32 28.1**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=113,slow=3.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**143.51**	**28**	PKP	PKPbc	19 32 37.8	+0.5
	comp=Z,4.0nm,0.6s,baz=302,slow=4.1,SNR=23						
MKAR	**Makanchi Array**	**146.61**	**40**	PKPbc	**PKPdf**	**19 32 46.2**	**+1.2**
	comp=Z,7.0nm,0.7s,baz=320,slow=2.0,SNR=56						
MKAR	**Makanchi Array**	**146.61**	**40**	PKPdf	**PKPdf**	**19 32 45.9**	**+0.9**
GUMO	**Guam**	**148.21**	**256**	PKPbc	**PKPbc**	**19 32 53.1**	**+1.1**
	comp=Z,6.0nm,0.4s,baz=242,slow=11,SNR=4.1						
MJAR	**Matsushiro Arr**	**155.14**	**306**	PKPab	**PKPab**	**19 33 25.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=184,slow=0.6,SNR=5.0						
SONM	**Songino Array**	**155.79**	**11**	PKPab	**PKPab**	**19 33 27.7**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=321,slow=5.9,SNR=5.9						

*TUL **20** 19:28:17.8±1.0,36°.80N±0°.03×98°.34W±0°.04, h3km±7km, ML2.9, mb_Lg2.7/46(NEIC), Error ellipse: s-maj=4.9km s-min=3.0km az=125.0*
NEIC 20 19:28:18.4±1.2,**36°.80N**±0°.04×**98°.33W**±0°.04,**h9**km±7km,
Error ellipse: s-maj=6.2km s-min=4.9km az=185.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.10**	**89**	Pg	Pg	19 28 20.5	-0.4
OK032				Sg	Sg	19 28 22.4	-0.3
KAN10	**Anthony SW Sta**	**0.37**	**31**	Pg	Pg	19 28 25.5	-0.2
KAN10				Sg	Sg	19 28 30.9	+0.2
GC02	**Grant County #**	**0.38**	**83**	Pg	Pg	19 28 25.7	-0.2
GC02				Sg	Sg	19 28 31.6	+0.6
CROK	**Carrier**	**0.41**	**137**	Pg	Pg	19 28 26.2	-0.2
KAN05	**Bluff City Nor**	**0.48**	**50**	Pg	Pg	19 28 27.4	-0.3
KAN08	**Anthony NE Sta**	**0.51**	**34**	Pg	Pg	19 28 28.0	-0.3
KAN12	**Harper NE Stat**

*NEIC **20** 19:47:21.7±1.7, 31°.68S×0°.05×72°.1W±0°.1, h1km±2km, Error ellipse: s-maj=15.1km s-min=6.5km az=104.0*
*IDC **20** 19:47:22.2±1.0, 31°.63S×71°.88W, h0km, mb4.2/4, mb1 4.1/7, mb1mx3.9/39, mbtmp4.0/7, ML3.9/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/29, Error ellipse: s-maj=31.9km s-min=21.9km az=111.0*
*GUC **20** 19:47:24.7±0.9, 31°.68S×71°.99W, h28km±4km, ML4.1*
ISC 20 19:47:24.6±1.0, 31°.68S±0°.03×72°.09W±0°.05, h24km±7km, n87, σ1°70/102, mb4.4/4, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**1.04**	**63**	*eP*	**Pb**	**19 47 42.6**	**-1.5**
CO02				*i* S	**Sb**	**19 47 55.1**	**-2.2**
CO02				IAML		19 47 55.8	
	comp=E,25μm,0.2s						
CO02	**Combarbal**	**1.04**	**63**	Pn	**Pb**	**19 47 42.6**	**-1.5**
CO06	**Fray Jorge**	**1.07**	**21**	*eP*	**Pn**	**19 47 43.8**	**-0.4**
CO06				*i* S	**Sb**	**19 47 57.9**	**-0.2**
VA01	**Torpederas**	**1.39**	**165**		**Pn**	**19 47 48.4**	**-0.2**
CO03	**El Pedregal**	**1.46**	**55**	*eP*	**Pn**	**19 47 49.3**	**-0.3**
CO03				*i* S	**Sn**	**19 48 07.3**	**-0.7**
CO03				IAML		19 48 11.3	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**1.46**	**55**	Pn	**Pn**	**19 47 49.4**	**-0.2**
ROCH	**El Roble**	**1.58**	**145**	*eP*	**Pn**	**19 47 51.4**	**-0.1**
ROCH				*i* S	**Sb**	**19 48 11.4**	**-1.6**
ROCH				IAML		19 48 18.8	
	comp=N,5μm,0.3s						
ROC1	**El Roble**	**1.58**	**145**	*i* P	**Pn**	**19 47 51.8**	**+0.4**
ROC1				*e*S	**Sb**	**19 48 11.4**	**-1.6**
VA03	**San Esteban**	**1.69**	**130**	*eP*	**Pn**	**19 47 52.9**	**0.0**
VA03				*i* S	**Sn**	**19 48 13.7**	**-0.2**
VA03				IAML		19 48 22.5	
	comp=N,5μm,0.4s						
VA03	**San Esteban**	**1.69**	**130**	Pn	**Pn**	**19 47 51.0**	**-1.8**
MT02	**Curacav**	**1.77**	**153⇑**	*eP*	**Pn**	**19 47 54.0**	**+0.2**
MT02				*i* S	**Sb**	**19 48 16.5**	**-1.8**
MT02				IAML		19 48 25.2	
	comp=E,988nm,0.4s						
MT02	**Curacav**	**1.77**	**153**	Pn	**Pn**	**19 47 53.8**	**-0.1**
GO04	**Tololo Observa**	**1.86**	**37**	*eP*	**Pn**	**19 47 55.1**	**-0.2**
GO04				*i* S	**Sb**	**19 48 19.8**	**-1.3**
GO04	**Tololo Observa**	**1.86**	**37**	Pn	**Pn**	**19 47 55.1**	**-0.2**
GO04	**Tololo Observa**	**1.86**	**37**	*i* P	**Pn**	**19 47 55.7**	**+0.4**
GO04				*e*S	**Sb**	**19 48 20.6**	**-0.4**
CO05	**La Serena**	**1.90**	**23⇑**	*eP*	**Pn**	**19 47 56.0**	**+0.5**
CO05				*e*S	**Sn**	**19 48 19.7**	**+1.0**
CO05				IAML		19 48 27.8	
	comp=N,3μm,0.4s						
VA05	**Santo Domingo**	**2.02**	**169⇑**	*eP*	**Pn**	**19 47 57.0**	**-0.2**
VA05				*e*S	**Sb**	**19 48 23.9**	**-1.3**
VA05				IAML		19 48 34.1	
	comp=E,4μm,0.3s						
VA05	**Santo Domingo**	**2.02**	**169**		**Pn**	**19 47 57.2**	**0.0**
MT05	**Renca**	**2.06**	**147**	*eP*	**Pn**	**19 47 58.1**	**+0.3**
MT05				*i* S	**Sb**	**19 48 24.6**	**-1.9**
MT05				IAML		19 48 36.9	
	comp=E,4μm,0.3s						
MT05	**Renca**	**2.06**	**147**		**Pn**	**19 47 56.3**	**-1.5**
MT03	**Universidad Ad**	**2.25**	**144**	*eP*	**Pn**	**19 48 01.1**	**+0.6**
MT03				*i* S	**Sb**	**19 48 29.1**	**-3.0**
MT03				IAML		19 48 34.5	
	comp=N,3μm,0.3s						
MT03	**Universidad Ad**	**2.25**	**144**		**Pn**	**19 48 00.7**	**+0.2**
MT09	**Talagante**	**2.29**	**156⇑**	*eP*	**Pn**	**19 48 02.0**	**+0.9**
MT09				*e*S	**Sb**	**19 48 31.1**	**-2.2**
MT09				IAML		19 48 41.9	
	comp=N,2μm,0.2s						
MT09	**Talagante**	**2.29**	**156**	Pn	**Pn**	**19 48 01.8**	**+0.7**
MT01	**Popeta**	**2.29**	**162⇑**	*eP*	**Pn**	**19 48 01.3**	**+0.3**
MT01				*e*S	**Sn**	**19 48 30.6**	**+2.0**
MT01				IAML		19 48 40.6	
	comp=E,1μm,0.4s						
MT01	**Popeta**	**2.29**	**162**	Pn	**Pn**	**19 48 01.4**	**+0.3**
AUSP	**Uspallata**	**2.36**	**104**	*i* P	**Pb**	**19 48 04.8**	**-1.8**
AUSP				*e*S	**Sb**	**19 48 34.6**	**-0.9**
AROD	**Rodeo**	**2.70**	**57**	*i* P	**Pb**	**19 48 09.9**	**-2.6**
AROD				*e*S	**Sb**	**19 48 46.9**	**+1.5**
ACCO	**Cerro Coronel**	**2.81**	**68**	*i* P	**Pb**	**19 48 11.6**	**-2.8**
ACCO				*e*S	**Sb**	**19 48 49.0**	**+0.5**
ACCO				IAML		19 48 53.8	
	comp=Z,1μm,0.6s						
BO01	**Tunca**	**2.84**	**163**	Pn	**Pn**	**19 48 09.0**	**+0.5**
ASAL	**Salagasta**	**2.91**	**109**	*i* P	**Pb**	**19 48 13.2**	**-2.6**
ASAL				*e*S	**Sb**	**19 48 52.5**	**+1.5**
ASAL				IAML		19 48 59.4	
	comp=Z,294nm,0.4s						
ZON	**Zonda**	**2.91**	**88**	Pn	**Pb**	**19 48 12.5**	**-3.4**
ARCO	**CERRO ARCO**	**2.91**	**114**	*i* P	**Pb**	**19 48 15.8**	**-0.2**
ARCO				*e*S	**Sb**	**19 48 55.0**	**+3.8**
ARCO				IAML		19 49 00.1	
	comp=Z,749nm,0.6s						
ACDV	**Cuesta del Vie**	**2.96**	**60**	*i* P	**Pb**	**19 48 13.4**	**-3.4**
ACDV				*e*S	**Sb**	**19 48 53.5**	**+1.0**
ACDV				IAML		19 49 04.2	
	comp=Z,466nm,0.5s						
AAGR	**Agrelo**	**3.09**	**118**	*i* P	**Pb**	**19 48 15.6**	**-3.4**
AAGR				*e*S	**Sb**	**19 49 00.2**	**+3.8**
AAGR				IAML		19 49 08.4	
	comp=Z,580nm,1.1s						
BO02	**Sierra Bellavi**	**3.30**	**161**	Pn	**Pn**	**19 48 14.9**	**+0.1**
GO05	**Huala**	**3.33**	**178**	Pn	**Pn**	**19 48 14.8**	**-0.5**
AVFE	**Valle Fertil**	**4.10**	**77**	*i* P	**Pn**	**19 48 28.6**	**+2.8**
AVFE				IAML		19 49 26.3	
	comp=Z,491nm,0.5s						
ML02	**Panimavida**	**4.12**	**172**	Pn	**Pn**	**19 48 26.5**	**+0.5**
RFA	**San Rafael**	**4.33**	**136**	*i* P	Pn	19 48 33.5	+4.4
RFA				IAML		19 49 42.6	
	comp=Z,121nm,0.8s						
GO03	**Copiap**	**4.38**	**22**	*i* P	**Pn**	**19 48 27.9**	**-1.8**
ACHE	**Chepes**	**4.66**	**85**	*i* P	**Pn**	**19 48 36.6**	**+2.8**
BI02	**San Fabin de**	**5.02**	**173**	Pn	**Pn**	**19 48 39.1**	**+0.5**
AC02	**Maricunga**	**5.47**	**29**		**Pn**	**19 48 44.4**	**-0.8**
H03N1	**Juan Fernandez**	**6.03**	**251**	Pn	**Pn**	**19 48 54.1**	**+2.0**
	baz=147,slow=72,SNR=16						
H03N1				T	T	19 55 33.9	
	baz=79,slow=72,SNR=515						
H03N3	**Juan Fernandez**	**6.04**	**251**	Pn	**Pn**	**19 48 53.9**	**+1.6**
	baz=147,slow=72,SNR=12						
H03N3				T	T	19 55 39.8	
	baz=79,slow=72,SNR=560						
H03N2	**Juan Fernandez**	**6.04**	**251**	Pn	**Pn**	**19 48 54.1**	**+1.9**
	baz=147,slow=72,SNR=9.4						
H03N2				T	T	19 55 40.7	
	baz=79,slow=72,SNR=555						
H03S3	**Juan Fernandez**	**6.13**	**248**	T	T	19 55 49.9	
	baz=84,slow=75,SNR=3.9						
H03S1	**Juan Fernandez**	**6.14**	**248**	T	T	19 55 49.7	
	baz=84,slow=75,SNR=7.0						
H03S2	**Juan Fernandez**	**6.15**	**248**	T	T	19 55 45.9	
	baz=84,slow=75,SNR=9.7						
GO02	**Mina Guanaco**	**6.85**	**19**		**Pn**	**19 49 02.9**	**-1.0**
PB14	**IPOC Station P**	**7.18**	**12**	Pn	**Pn**	**19 49 07.3**	**-1.2**
PB14	**IPOC Station P**	**7.18**	**12**	*i* P	**Pn**	**19 49 07.5**	**-0.9**
PB14				IAML		19 51 11.7	
	comp=Z,81nm,0.8s						
LC01	**Cunco**	**7.21**	**179**		**Pn**	**19 49 07.7**	**-0.9**
FSA	**Cafayete**	**7.71**	**46**	*i* P	**Pn**	**19 49 18.9**	**+3.4**
PB15	**IPOC Station P**	**8.75**	**16**	Pn	**Pn**	**19 49 29.2**	**-0.7**
PLCA	**Paso Flores**	**9.12**	**173**	Pn	**Pn**	**19 49 35.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=341,slow=12,SNR=9.8						
PLCA	**Paso Flores**	**9.12**	**173**		**Pn**	**19 49 34.3**	**-0.6**
PLCA	**Paso Flores**	**9.12**	**173**	*i* P	**Pn**	**19 49 35.8**	**+0.9**
LVC	**Limon Verde**	**9.46**	**18**	Pn	**Pn**	**19 49 36.8**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=176,slow=18,SNR=1.9						
LVC	**Limon Verde**	**9.46**	**18**	Pn	**Pn**	**19 49 37.0**	**-2.8**
LVC	**Limon Verde**	**9.46**	**18**	*i* P	**Pn**	**19 49 36.7**	**-3.1**
LVC				IAML		19 51 44.1	
	comp=Z,30nm,0.8s						
PB07	**IPOC Station P**	**10.10**	**12**	Pn	**Pn**	**19 49 46.5**	**-2.0**
PB09	**IPOC Station P**	**10.16**	**15**	Pn	**Pn**	**19 49 48.5**	**-0.7**
TRQA	**Tornquist**	**10.46**	**130**		**Pn**	**19 49 51.5**	**-1.6**
PB01	**IPOC Station P**	**10.84**	**13**	Pn	**Pn**	**19 49 56.8**	**-1.7**
PB08	**IPOC Station P**	**11.78**	**14**	Pn	**Pn**	**19 50 09.0**	**-2.6**
PB11	**IPOC Station P**	**12.06**	**11**	Pn	**Pn**	**19 50 14.6**	**-0.7**
PSGCX	**Pisagua**	**12.16**	**9**	Pn	**Pn**	**19 50 15.9**	**-0.6**
MNMC	**Minye Minye**	**12.69**	**11**	Pn	**Pn**	**19 50 21.9**	**-2.1**
CPUP	**Villa Florida**	**13.96**	**71**	LR	LR	19 56 36.8	
	comp=Z,168nm,21.0s,baz=229,slow=40						
SIV	**San Ignacio**	**18.56**	**35**	P	**P**	**19 51 39.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=222,slow=8.9,SNR=4.6						
BDFB	**Brasilia**	**27.13**	**60**	P	**P**	**19 53 05.4**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=229,slow=9.3,SNR=4.9						
BDFB	**Brasilia**	**27.13**	**60**	P	**P**	**19 53 04.2**	**-1.9**
BDFB				IAmb	IAmb	19 53 31.6	
	comp=Z,41nm,2.0s						
VNA3	**Neumayer Olymp**	**51.53**	**159**	P	**P**	**19 56 29.4**	**+1.3**
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 56 45.8**	**+1.2**
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 56 45.7**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=264,slow=7.7,SNR=22						
SNAA	**Sanae**	**53.75**	**158**	P	**P**	**19 56 45.9**	**+1.2**
SNAA				IAmb	IAmb	19 56 46.7	
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**81.96**	**325**	P	**P**	**19 59 45.3**	**+2.6**
	comp=Z,0.4nm,0.7s,baz=139,slow=5.9,SNR=3.0						
NVAR				pP	**pwP**	**19 59 57.9**	**+4.4**
	comp=Z,0.5nm,0.7s,baz=158,slow=6.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**19 59 51.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=259,slow=4.6,SNR=10						
TORD	**Torodi Ar. Bea**	**83.46**	**70**	P	**P**	**19 59 50.2**	**-0.5**
TORD				IAmb	IAmb	19 59 51.9	
	comp=Z,3.3nm,0.9s						
H11N3	**WAKE ISLAND Hyl**	**26.09**	**272**	T	T	22 25 38.8	
	baz=116,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hyl**	**26.10**	**272**	T	T	22 25 40.2	
	baz=116,slow=75,SNR=5.5						
H11N2	**WAKE ISLAND Hyl**	**26.10**	**272**	T	T	22 25 40.0	
	baz=116,slow=75,SNR=26						
ZALV	**Zalesovo Beam**	**152.26**	**30**	PKPbc	**PKiKP**	**20 07 19.0**	**+0.9**
	comp=Z,3.9nm,0.6s,baz=299,slow=2.9,SNR=17						
MKAR	**Makanchi Array**	**155.21**	**45**	PKPab	**PKPab**	**20 07 41.1**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=308,slow=2.9,SNR=4.6						
MKAR	**Makanchi Array**	**155.21**	**45**		**PKPdf**	**20 07 15.1**	**-0.5**

*IDC **20** 19:53:11.5±1.0, 28°.85N×139°.53E, h416km±28km, mb2.8/5, mb1 3.0/7, mb1mx2.7/39, mbtmp3.7/7, Error ellipse: s-maj=76.7km s-min=12.1km az=72.0*
ISC 20 19:53:11.7±0.9, 28°.9N±0°.1×139°.6E±0°.2, h423km, n7, σ0°67/9, mb3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.86**	**127**	P	**P**	**19 54 15.9**	**+0.3**
	12nm,0.3s,baz=270,slow=24,SNR=11						
JCJ				S	**S**	**19 55 06.8**	**-0.6**
	9.8nm,0.3s,baz=336,slow=23,SNR=2.4						
JHJ	**Hachijo jima 2**	**4.25**	**2**	P	**P**	**19 54 28.3**	**+1.0**
	12nm,0.3s,baz=345,slow=21,SNR=9.1						
JHJ				S	**S**	**19 55 28.1**	**-0.9**
	2.7nm,0.3s,baz=215,slow=22,SNR=1.7						
SONM	**Songino Array**	**31.88**	**316**	P	**P**	**19 59 00.1**	**-0.1**
	0.2nm,0.5s,baz=127,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**47.62**	**308**	P	**P**	**20 01 07.2**	**-0.4**
	0.4nm,0.6s,baz=87,slow=9.2,SNR=4.9						
WRA	**Warramunga Arr**	**48.79**	**187**	P	**P**	**20 01 16.5**	**0.0**
	0.8nm,0.4s,baz=1.7,slow=7.6,SNR=31						
ASAR	**Alice Springs**	**52.52**	**187**	P	**P**	**20 01 44.5**	**+0.6**
	0.4nm,0.5s,baz=2.1,slow=7.7,SNR=6.1						
FINES	**FINESS Array B**	**75.36**	**333**	P	**P**	**20 04 09.9**	**-0.2**
	0.4nm,0.4s,baz=51,slow=4.4,SNR=5.4						

*ANF **20** 20:19:01.9±0.1, 36°.88N×98°.10W, h0km, ML5.9/17, Error ellipse: s-maj=2.9km s-min=1.5km az=175.0*
*IDC **20** 20:19:02.5±0.4, 36°.88N×98°.22W, h0km, mb4.7/28, mb1 4.8/37, mb1mx4.7/53, mbtmp4.6/37, ML4.2/8, MS3.7/29, Ms1 3.7/29, ms1mx3.7/44, Error ellipse: s-maj=8.7km s-min=7.4km az=29.0*
*NEIC **20** 20:19:03.0±3.0, 36°.80N±0°.03×98°.24W±0°.04, h5km±1km, Error ellipse: s-maj=6.2km s-min=5.2km az=292.0*
*NEIC **20** 20:19:03.4, 36°.84N×98°.26W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.87; $M_{\theta\theta}$3.74; $M_{\phi\phi}$0.14; $M_{r\theta}$3.37; $M_{\theta\phi}$1.08; $M_{\phi r}$0.10; Fault plane solution: $M_0$5.20000×10^{15} NP1:φ263.52000°, δ65.37000°, λ-82.19000°. NP2:φ65.31000°, δ25.77000°, λ-106.51000°. Principal axes: T 5.2290, Plg20.0000°, Azm348.0000°; N -0.0599, Plg7.0000°, Azm80.0000°; P -5.1692, Plg69.0000°, Azm189.0000°;*
*TUL **20** 20:19:03.4±2.9, 36°.84N±0°.03×98°.26W±0°.04, h4km±3km, mb4.4/166(NEIC), mb_Lg4.9/153(NEIC), Mwr4.4/48(NEIC) Error ellipse: s-maj=0.0km s-min=0.0km az=218.0*
ISC 20 20:19:03.5±0.6, 36°.88N±0°.02×98°.17W±0°.02, h10km±3km, n846, σ1°49/868, mb4.6/101, MS3.9/25, 12C-9D, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.09**	**205**	Pg	**Pg**	**20 19 05.1**	**-0.8**
GC02	**Grant County #**	**0.25**	**97**	Pg	**Pb**	**20 19 10.1**	**+1.5**
KAN10	**Anthony SW Sta**	**0.25**	**13**	Pg	**Pb**	**20 19 10.0**	**+1.5**
KAN10				Sg	**Sb**	**20 19 14.7**	**+2.7**
KAN05	**Bluff City Nor**	**0.33**	**46**	Pg	**Pb**	**20 19 11.8**	**+0.4**
KAN05				Sg	**Sb**	**20 19 17.2**	**+0.4**
KAN08	**Anthony NE Sta**	**0.38**	**24**	Pg	**Pb**	**20 19 12.6**	**+0.2**
CROK	**Carrier**	**0.40**	**159**	Pg	**Pg**	**20 19 11.6**	**+0.1**
KAN12	**Harper NE Stat**	**0.43**	**18**		**Pb**	**20 19 13.6**	**+0.2**
KAN09	**Caldwell North**	**0.51**	**60**		**Pb**	**20 19 15.1**	**+0.6**
KAN13	**South Haven SW**	**0.57**	**76**		**Pb**	**20 19 16.1**	**+0.6**
KS21	**Milan North St**	**0.57**	**45**		**Pb**	**20 19 16.2**	**+0.6**
KS20	**Mayfield South**	**0.60**	**54**		**Pb**	**20 19 16.8**	**+0.7**
BLOK	**Blackwell**	**0.77**	**99**		**Pb**	**20 19 19.5**	**+0.4**
U32A	**Winter Ranch,**	**0.84**	**234**	Pg	**Pg**	**20 19 18.2**	**-1.5**
U32A	**Winter Ranch,**	**0.84**	**234**	P		20 19 18.3	
	baz=56,SNR=414						
U32A				S		20 19 28.5	
	baz=56						
OK029	**Liberty Lake**	**1.23**	**152**		**Pg**	**20 19 26.3**	**-0.7**
BCOK	**Bluff Creek, N**	**1.30**	**160**		**Pn**	**20 19 27.3**	**-0.6**
T35A	**Sooner Cattle**	**1.32**	**88**		**Pg**	**20 19 29.4**	**+0.4**
T35B	**Sooner Cattle**	**1.32**	**88**	P		20 19 29.6	
	baz=266,SNR=1000						
T35B				S		20 19 48.1	
	baz=266						
QUOK	**Quay**	**1.37**	**121**		**Pg**	**20 19 29.8**	**-0.1**
OK031	**S. Brethren Rd**	**1.42**	**131**		**Pg**	**20 19 30.1**	**-0.5**
OK009	**Oakdale Elemen**	**1.43**	**155**		**Pb**	**20 19 30.1**	**-0.2**
OK005	**Luther M Schoo**	**1.46**	**147**		**Pg**	**20 19 30.9**	**-0.6**
OK025	**Westminster Rd**	**1.46**	**153**		**Pb**	**20 19 30.4**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**1.59**	**158**		**Pn**	**20 19 32.0**	**+0.2**
R32A	**Long Quarter,**	**1.60**	**344**		**Pg**	**20 19 33.4**	**-0.7**
R32A	**Long Quarter,**	**1.60**	**344**	P		20 19 33.5	
	baz=166,SNR=1000						
R32A				S		20 19 55.2	
	baz=166						
FNO	**Franklin**	**1.74**	**159**		**Pn**	**20 19 34.4**	**+0.6**
FNO				IAmb_Lg		20 19 59.5	
	comp=Z,10μm,0.8s						
OK011	**Prague**	**1.84**	**139**		**Pn**	**20 19 35.2**	**+0.1**
TUL1	**Leonard**	**2.15**	**116**	P	**Pn**	**20 19 40.6**	**+1.2**
	baz=296,SNR=285						
TUL1				Sb	**Sb**	**20 20 09.0**	**-0.2**
	baz=296						
TUL1	**Leonard**	**2.15**	**116**	P		20 19 40.9	
	baz=296,SNR=117						
TUL1				S		20 20 11.6	
	baz=296						
WMOK	**Wichita Mounta**	**2.20**	**193**	P	**Pn**	**20 19 40.1**	**0.0**
	baz=13,SNR=638						
WMOK				S	**Sn**	**20 20 08.2**	**+0.7**
	baz=13						
WMOK	**Wichita Mounta**	**2.20**	**193**		**Pn**	**20 19 39.7**	**-0.5**
WMOK	**Wichita Mounta**	**2.20**	**193**	IAmb_Lg		20 20 12.2	
	comp=Z,9μm,1.1s						
WMOK	**Wichita Mounta**	**2.20**	**193**	P		20 19 40.3	
	baz=13,SNR=1000						
WMOK				S		20 20 08.5	
	baz=13						
X34A	**Smith Ranch, M**	**2.29**	**173**		**Pn**	**20 19 42.5**	**+1.0**
CBKS	**Cedar Bluff**	**2.29**	**328**	P	**Pn**	**20 19 43.0**	**+1.5**
	baz=148,SNR=914						
CBKS				S	**Sb**	**20 20 12.5**	**-1.1**
	baz=148						
CBKS	**Cedar Bluff**	**2.29**	**328**		**Pn**	**20 19 43.0**	**+1.5**
CBKS				IAmb_Lg		20 20 17.5	
	comp=Z,6μm,0.9s						
CBKS	**Cedar Bluff**	**2.29**	**328**	P		20 19 43.0	
	baz=148,SNR=326						
CBKS				S		20 20 12.4	
	baz=148						
KSU1	**Kansas State U**	**2.53**	**29**	P	**Pb**	**20 19 47.0**	**-2.1**
	baz=209,SNR=466						
KSU1				Sb	**Sg**	**20 20 22.7**	**-2.2**
	baz=209						
KSU1	**Kansas State U**	**2.53**	**29**	Pn	**Pb**	**20 19 47.0**	**-2.1**
KSU1	**Kansas State U**	**2.53**	**29**	P		20 19 47.2	
	baz=209,SNR=67						
LOOK	**Love County**	**2.99**	**164**		**Pn**	**20 19 52.2**	**+1.2**
LOOK				IAmb_Lg		20 20 42.7	
	comp=Z,4μm,0.8s						
U38A	**Gravette**	**3.07**	**97**		**Pn**	**20 19 54.0**	**+1.9**
U38A				IAmb_Lg		20 20 50.6	
	comp=Z,5μm,0.9s						
U38A	**Gravette**	**3.07**	**97**	P		20 19 54.2	
	baz=278,SNR=169						
X37A	**Clayton**	**3.23**	**134**	Pn	**Pn**	**20 19 55.6**	**+1.3**
X37A				IAmb_Lg		20 20 47.5	
	comp=Z,4μm,0.8s						
X37A	**Clayton**	**3.23**	**134**	P		20 19 55.5	
	baz=315,SNR=346						
HHAR	**Hobbs**	**3.45**	**99**		**Pn**	**20 19 59.2**	**+1.8**
HHAR				IAmb_Lg		20 21 04.0	
	comp=Z,3μm,0.8s						
HHAR	**Hobbs**	**3.45**	**99**	P		20 19 59.3	
	baz=280						
AMTX	**Amarillo**	**3.48**	**236**	P	**Pn**	**20 19 58.7**	**+0.8**
	baz=55						
AMTX				Sb	**Sb**	**20 20 50.8**	**+3.0**
	baz=55						
AMTX	**Amarillo**	**3.48**	**236**		**Pn**	**20 19 58.9**	**+1.0**
AMTX				IAmb_Lg		20 20 55.1	
	comp=Z,4μm,0.7s						
AMTX	**Amarillo**	**3.48**	**236**	P		20 19 58.5	
	baz=55,SNR=70						
Z35A	**Perchaven, San**	**3.62**	**168**		**Pn**	**20 20 00.5**	**+0.8**
Z35A				IAmb_Lg		20 21 01.1	
	comp=Z,5μm,1.2s						
Z35A	**Perchaven, San**	**3.62**	**168**	P		20 20 00.2	
	baz=348,SNR=91						
Z35A				S		20 20 43.3	
	baz=348						
N33B	**J Bar K, Exete**	**3.89**	**8**	P		20 20 04.3	
	baz=189,SNR=68						
N33B				S		20 20 50.9	
	baz=189						
N33A	**J Bar K, Exete**	**3.89**	**8**		**Pn**	**20 20 04.7**	**+1.2**
N33A				IAmb_Lg		20 21 13.6	
	comp=Z,2μm,0.8s						
W39A	**Magazine**	**3.93**	**114**	P	**Pn**	**20 20 04.5**	**+0.6**
	baz=296,SNR=108						
W39A	**Magazine**	**3.93**	**114**		**Pn**	**20 20 05.3**	**+1.4**
W39A	**Magazine**	**3.93**	**114**	P		20 20 05.2	
	baz=296,SNR=199						
KSCO	**Kaye Shedlock'**	**4.12**	**302**	P	**Pn**	**20 20 07.3**	**+0.7**
	baz=121,SNR=35						
KSCO				Sb	**Sg**	**20 21 11.2**	**-4.5**
	baz=121						
KSCO	**Kaye Shedlock'**	**4.12**	**302**		**Pn**	**20 20 07.5**	**+0.9**
KSCO				IAmb_Lg		20 21 15.6	
	comp=Z,3μm,0.7s						
KSCO	**Kaye Shedlock'**	**4.12**	**302**	P		20 20 07.7	
	baz=121,SNR=75						
U40A	**Yellville**	**4.30**	**95**	P	**Pn**	**20 20 10.4**	**+1.3**
	baz=278,SNR=164						
U40A	**Yellville**	**4.30**	**95**		**Pn**	**20 20 10.6**	**+1.5**
U40A				IAmb_Lg		20 21 21.8	
	comp=Z,3μm,0.7s						
U40A	**Yellville**	**4.30**	**95**	P		20 20 10.7	
	baz=278,SNR=111						
U40A				P		20 20 10.7	
	baz=278,SNR=111						
MIAR	**Mount Ida**	**4.40**	**121**	P	**Pn**	**20 20 11.3**	**+0.8**
	baz=302,SNR=101						
MIAR	**Mount Ida**	**4.40**	**121**	Pn	**Pn**	**20 20 11.6**	**+1.2**
MIAR				IAmb_Lg		20 21 27.9	
	comp=Z,3μm,0.8s						
MIAR	**Mount Ida**	**4.40**	**121**	P		20 20 11.5	
	baz=302,SNR=167						
ABTX	**Abilene, Hawle**	**4.42**	**196**	P	**Pn**	**20 20 10.2**	**-0.6**
	baz=15,SNR=36						
ABTX				Sb	**Sb**	**20 21 17.3**	**+2.7**
	baz=15						
ABTX	**Abilene, Hawle**	**4.42**	**196**		**Pn**	**20 20 10.1**	**-0.6**
ABTX				IAmb_Lg		20 21 21.5	
	comp=Z,2μm,0.7s						
ABTX	**Abilene, Hawle**	**4.42**	**196**	P		20 20 10.3	
	baz=15,SNR=36						
N35A	**Tabor**	**4.43**	**26**		**Pn**	**20 20 12.7**	**+1.8**
N35A	**Tabor**	**4.43**	**26**	P		20 20 13.3	
	baz=207,SNR=9.7						
Z38A	**Mt. Pleasant**	**4.46**	**143**		**Pn**	**20 20 12.3**	**+1.1**
Z38A	**Mt. Pleasant**	**4.46**	**143**	P		20 20 12.2	
	baz=324,SNR=31						
BGNE	**Belgrade**	**4.52**	**0**	P	**Pn**	**20 20 13.3**	**+1.2**
	baz=180,SNR=63						
BGNE	**Belgrade**	**4.52**	**0**		**Pn**	**20 20 13.6**	**+1.5**
BGNE	**Belgrade**	**4.52**	**0**	P		20 20 13.7	
	ba

N38A Joes South For 5.48 43 Pn 20 20 26.9 +1.6
N38A Joes South For 5.48 43 P 20 20 27.0
baz=226,SNR=37
P40A Paris 5.49 59 Pn 20 20 26.6 +1.2
P40A Paris 5.49 59 P 20 20 26.8
baz=242,SNR=29
CCM Cathedral Cave 5.63 76 P Pn 20 20 26.9 -0.4
baz=259
CCM Cathedral Cave 5.63 76 Pn Pn 20 20 28.3 +1.0
CCM IAmb_Lg 20 22 06.0
comp=Z,2μm,0.8s
CCM Cathedral Cave 5.63 76 P 20 20 28.3
baz=259,SNR=48
T42A Van Buren 5.67 86 Pn 20 20 29.3 +1.5
T42A IAmb_Lg 20 22 15.8
comp=Z,1μm,1.0s
Z41A Richland Creek 5.69 128 P Pn 20 20 27.6 -0.5
baz=310,SNR=12
Z41A S Sn 20 21 32.3 -1.3
baz=310
Z41A Richland Creek 5.69 128 P 20 20 28.8
baz=310,SNR=5.7
Z41A P 20 20 28.8
baz=310,SNR=5.7
LCAR Lake Charles 5.71 96 Pn Pn 20 20 29.4 +1.1
LCAR IAmb_Lg 20 22 08.7
comp=Z,1μm,0.8s
K31A O'Neill 5.75 356 Pn 20 20 29.0 0.0
NATX Nacogdoches 5.87 149 P Pn 20 20 29.9 -0.7
baz=331,SNR=10
NATX S Sn 20 21 35.2 -2.9
baz=331
NATX Nacogdoches 5.87 149 Pn 20 20 30.4 -0.3
NATX IAmb_Lg 20 22 24.4
comp=Z,2μm,0.8s
Q24A Divide 5.90 293 P Pn 20 20 31.9 +0.6
baz=109,SNR=18
Q24A S Sn 20 21 38.0 -1.2
baz=109
SDCO Great Sand Dun 5.91 281 P Pn 20 20 32.3 +0.8
baz=97,SNR=80
SDCO S Sn 20 21 38.8 -0.6
baz=97
SDCO Great Sand Dun 5.91 281 Pn Pn 20 20 32.3 +0.8
SDCO IAmb_Lg 20 22 18.1
comp=Z,2μm,1.2s
CCAR Cane Creek 6.00 118 Pn Pn 20 20 33.4 +1.0
CCAR IAmb_Lg 20 22 28.4
comp=Z,3μm,1.0s
CCAR Cane Creek 6.00 118 P 20 20 33.8
baz=301,SNR=29
435B Jarrell 6.10 175 P Pn 20 20 33.0 -0.8
baz=355,SNR=24
435B Jarrell 6.10 175 Pn Pn 20 20 33.2 -0.6
PBMO Poplar Bluff 6.21 89 Pn 20 20 36.1 +0.9
PBMO IAmb_Lg 20 22 29.5
comp=Z,2μm,0.8s
HBAR Harrisburg 6.21 100 Pn 20 20 36.3 +1.1
SCIA State Center 6.31 36 P Pn 20 20 38.7 +2.0
baz=219
SCIA S Sn 20 21 48.7 -0.1
baz=219
SCIA State Center 6.31 36 Pn 20 20 38.5 +1.8
LPAR Lepanto 6.48 99 Pn Pn 20 20 39.9 +0.9
LPAR IAmb_Lg 20 22 47.4
comp=Z,2μm,0.8s
SLM Saint Louis 6.52 72 Pn 20 20 40.5 +1.0
SLM IAmb_Lg 20 22 39.0
comp=Z,1μm,0.8s
JCT Junction City 6.53 193 P Pn 20 20 38.1 -1.5
baz=12,SNR=29
JCT Junction City 6.53 193 Pn Pn 20 20 38.2 -1.5
JCT Junction City 6.53 193 P 20 20 38.3
baz=12,SNR=21
ISCO Idaho Springs 6.54 299 P Pn 20 20 40.6 +0.5
baz=115,SNR=45
ISCO Idaho Springs 6.54 299 Pn Pn 20 20 40.2 +0.1
ISCO Idaho Springs 6.54 299 P 20 20 40.6
baz=115,SNR=33
PARMO Parma 6.76 89 Pn 20 20 44.1 +1.3
N41A Harden Midland 6.87 54 Pn 20 20 46.2 +1.9
PENMO Penman 6.88 91 Pn Pn 20 20 43.9 -0.5
MET Memphis--Engin 6.90 102 Lg 20 22 41.1
MET IAmb_Lg 20 22 45.6
comp=Z,2μm,0.9s
GDL2 Guadalupe Moun 6.92 229 Pn 20 20 45.0 -0.2
ECSD EROS Data Cent 6.95 9 P Pn 20 20 45.4 0.0
baz=190,SNR=42
ECSD EROS Data Cent 6.95 9 Pn Pn 20 20 45.2 -0.2
ECSD EROS Data Cent 6.95 9 P 20 20 45.5
baz=190,SNR=35
143A Socs Landing, 6.95 125 Pn 20 20 46.2 +0.8
143A IAmb_Lg 20 22 58.3
comp=Z,2μm,0.9s
S22A 4UR Ranch, Cre 6.96 280 P Pn 20 20 46.9 +1.1
baz=95
ANMO Albuquerque 7.00 256 Pn Pn 20 20 46.9 +0.6
comp=Z,3.8nm,0.3s,baz=81,slow=16,SNR=39
ANMO Pg Pb 20 20 56.7 -8.6
comp=Z,8.7nm,0.3s,baz=81,slow=17,SNR=11
ANMO Lg Lg 20 22 38.1
comp=Z,85nm,0.3s,baz=333,slow=19,SNR=9.3
ANMO LR LR 20 24 01.5
comp=Z,124nm,19.1s,baz=82,slow=43
ANMO Albuquerque 7.00 256 P Pn 20 20 46.6 +0.3
baz=72
ANMO Albuquerque 7.00 256 Pn Pn 20 20 46.7 +0.3
K38A Parkersburg 7.10 34 Pn 20 20 48.2 +0.8
S44A Carbondale 7.15 81 Pn 20 20 48.9 +0.8
S44A IAmb_Lg 20 22 58.8
comp=Z,1μm,0.7s
GLAT Glass 7.17 92 Pn Pn 20 20 48.3 -0.1
SIUC Southern Illin 7.18 81 Pn 20 20 49.6 +1.0
SIUC IAmb_Lg 20 22 59.2
comp=Z,2μm,0.9s
HALT Halls 7.18 95 IAmb_Lg 20 22 53.8
comp=Z,2μm,1.0s
PHWY Pilot Hill 7.18 310 Pn 20 20 49.0 +0.1
PHWY IAmb_Lg 20 23 04.7
comp=Z,1μm,1.0s
HICK Hickman 7.19 90 Pn 20 20 49.9 +1.2
N23A Red Feather La 7.27 306 P Pn 20 20 51.3 +1.2
baz=122,SNR=80
SMCO Snowmass 7.32 291 Pn 20 20 50.4 -0.5
342A Flagon Creek P 7.32 137 Pn 20 20 51.2 +0.7
342A IAmb_Lg 20 23 13.1
comp=Z,850nm,1.1s
P43A Skaggs, Pawnee 7.34 65 Pn 20 20 51.7 +1.0
P43A IAmb_Lg 20 23 07.0
comp=Z,2μm,0.8s
441A DeRidder 7.38 144 Pn 20 20 53.1 +1.7
BNM Barren Site 7.42 251 Pn Pn 20 20 52.0 -0.1
L40A Anamosa 7.46 44 Pn 20 20 53.1 +0.7
W45A Hickory Valley 7.48 101 Pn 20 20 53.4 +0.8
W45A IAmb_Lg 20 23 11.2
comp=Z,2μm,0.8s
W45A Hickory Valley 7.48 101 P 20 20 53.6
baz=285,SNR=8.2
UTMT University of 7.50 91 Pn Pn 20 20 53.8 +0.8
OXF Oxford 7.51 106 P Pn 20 20 53.1 0.0
baz=290,SNR=98
OXF Oxford 7.51 106 Pn Pn 20 20 53.2 +0.2
OXF IAmb_Lg 20 23 24.8
comp=Z,1μm,1.0s
Q44A Meyer Farm, Va 7.51 72 Pn Pn 20 20 54.1 +1.1
Q44A IAmb_Lg 20 23 14.4
comp=Z,1μm,1.0s
SUSD Miller 7.58 356 P Pn 20 20 54.8 +0.8
baz=175,SNR=7.4
SUSD Miller 7.58 356 Pn 20 20 54.6 +0.6
SUSD IAmb_Lg 20 23 20.6
comp=Z,1μm,1.0s
T45A Paducah 7.62 86 Pn 20 20 56.4 +1.7
Y45A Yeager Farm, C 7.66 111 Pn Pn 20 20 56.3 +1.1
Y45A IAmb_Lg 20 23 25.8
comp=Z,1μm,0.8s
Y22D IRIS PASSCAL I 7.67 251 Pn Pn 20 20 55.7 +0.2
LENM Lemitar 7.68 252 Pn Pn 20 20 58.6 +3.0
VBMS Vicksburg 7.84 124 P Pn 20 20 57.0 -0.5
baz=308
VBMS Vicksburg 7.84 124 Pn 20 20 58.5 +0.9
HDIL Hopedale 7.84 59 P Pn 20 20 58.1 +0.4
baz=244,SNR=54
HDIL Hopedale 7.84 59 Pn Pn 20 20 59.6 +1.9
HDIL Hopedale 7.84 59 P 20 20 58.2
baz=244,SNR=37

MNTX Cornudas Mount 7.90 231 P Pn 20 20 57.7 -0.8
baz=47,SNR=172
MNTX Cornudas Mount 7.90 231 Pn Pn 20 20 57.1 -1.4
MNTX IAmb_Lg 20 23 21.9
comp=Z,1μm,0.8s
MNTX Cornudas Mount 7.90 231 P 20 20 57.6
baz=47,SNR=117
I37A Lemond, Waseca 8.00 26 Pn 20 20 58.8 -0.9
I37A IAmb_Lg 20 23 27.7
comp=Z,879nm,0.8s
735A Kenedy 8.01 178 Pn 20 20 59.8 -0.2
735A IAmb_Lg 20 23 36.1
comp=Z,1μm,1.0s
OLIL Olney 8.18 74 Pn 20 21 03.1 +0.8
OLIL IAmb_Lg 20 23 27.7
comp=Z,2μm,1.0s
344A Westbrook Farm 8.20 129 Pn 20 21 03.1 +0.5
MVCO Mesa Verde 8.27 275 Pn Pn 20 21 02.2 -1.6
O44A Mansfield 8.27 64 Pn 20 21 03.6 0.0
O44A IAmb_Lg 20 23 29.2
comp=Z,2μm,0.9s
PV15 Paradox Valley 8.32 283 Pn Pn 20 21 05.4 +1.0
L42A Oliver, Polo 8.33 50 Pn Pn 20 21 05.0 +0.7
L42A IAmb_Lg 20 23 37.8
comp=Z,1μm,0.8s
L42A Oliver, Polo 8.33 50 P 20 21 05.8
baz=234,SNR=20
WVT Waverly 8.36 92 P Pn 20 21 03.3 -1.4
baz=278
WVT S Sn 20 22 35.4 -3.7
baz=278
WVT Waverly 8.36 92 Pn Pn 20 21 04.3 -0.4
PV01 Paradox Valley 8.36 282 Pn Pn 20 21 03.4 -1.6
PLAL Pickwick Lake 8.40 100 Pn 20 21 05.1 -0.2
USIN University of 8.42 79 Pn 20 21 05.1 -0.6
PV07 Paradox Valley 8.46 284 Pn Pn 20 21 03.8 -2.5
RWWY Rawlins 8.50 307 Pn Pn 20 21 07.3 +0.4
RWWY IAmb_Lg 20 23 42.4
comp=Z,1μm,1.2s
RSSD Black Hills 8.50 330 P Pn 20 21 07.7 +0.8
baz=147
RSSD Black Hills 8.50 330 Pn Pn 20 21 07.0 +0.1
RSSD Black Hills 8.50 330 P 20 21 08.7
baz=147,SNR=17
PV02 Paradox Valley 8.50 282 Pn Pn 20 21 04.5 -2.4
O20A White River Ci 8.54 295 P Pn 20 21 08.7 +1.3
baz=110
O20A White River Ci 8.54 295 Pn Pn 20 21 07.6 +0.2
O20A IAmb_Lg 20 23 49.5
comp=Z,866nm,1.1s
JFWS Jewell Farm 8.56 43 P Pn 20 21 08.3 +0.8
baz=228,SNR=43
JFWS Jewell Farm 8.56 43 Pn 20 21 07.9 +0.4
JFWS IAmb_Lg 20 23 37.8
comp=Z,1μm,0.8s
JFWS Jewell Farm 8.56 43 P 20 21 08.3
baz=228,SNR=55
PV13 Radium Mtn., P 8.56 282 Pn Pn 20 21 07.1 -0.6
PV12 Saucer Basin, 8.56 283 Pn Pn 20 21 08.8 +1.0
PV12 IAmb_Lg 20 23 51.5
comp=Z,966nm,1.2s
PV22 Blue Mesa, Par 8.58 284 Pn Pn 20 21 09.3 +1.3
PV03 Paradox Valley 8.59 282 Pn 20 21 09.4 +1.2
833A Chaparral WMA, 8.60 187 P Pn 20 21 07.5 -0.5
baz=6.5
146A Union 8.61 117 Pn 20 21 08.6 +0.5
146A IAmb_Lg 20 23 55.1
comp=Z,977nm,0.9s
PV11 David Mesa, Pa 8.62 283 Pn 20 21 08.2 -0.3
PV11 IAmb_Lg 20 23 44.1
comp=Z,914nm,1.0s
K22A Casper 8.63 314 P Pn 20 21 08.4 -0.3
baz=130,SNR=17
K22A Casper 8.63 314 Pn 20 21 08.4 -0.3
K22A IAmb_Lg 20 23 48.0
comp=Z,1μm,1.0s
K22A Casper 8.63 314 P 20 21 08.9
baz=130,SNR=10
PV18 Skein Mesa, Pa 8.64 282 Pn 20 21 09.6 +0.8
PV04 Paradox Valley 8.65 283 Pn Pn 20 21 08.2 -0.7
PV04 IAmb_Lg 20 24 00.0
comp=Z,760nm,1.1s
PV16 Nyswonger Mesa 8.65 283 Pn 20 21 08.7 -0.3
PV16 IAmb_Lg 20 23 44.6
comp=Z,729nm,1.1s
PV17 East Wray Mesa 8.68 282 Pn 20 21 08.8 -0.6
PV20 West Nyswonger 8.70 283 Pn 20 21 09.1 -0.5
PV19 Morning Glory 8.71 283 Pn Pn 20 21 11.2 +1.5
PV14 Lion Creek, Pa 8.74 283 Pn 20 21 09.5 -0.8
PV10 Paradox Valley 8.76 283 Pn Pn 20 21 11.9 +1.4
PV05 Paradox Valley 8.78 281 Pn Pn 20 21 09.3 -1.4
TX31 Lajitas Ar. Si 8.83 213 Pn 20 21 09.3 -2.0
TX31 Lajitas Ar. Si 8.83 213 P 20 21 10.2
baz=30,SNR=94
TXAR Lajitas Array 8.83 213 Pn Pn 20 21 09.7 -1.7
comp=Z,10nm,0.3s,baz=32,slow=10,SNR=258
TXAR Pg Pg 20 21 40.2 -12
comp=Z,11nm,0.3s,baz=34,slow=14,SNR=8.0
TXAR Lg Lg 20 23 31.9
comp=Z,20nm,0.3s,baz=12,slow=6.9,SNR=2.2
TXAR Lajitas Array 8.83 213 Pn Pn 20 21 09.6 -1.8
TX32 Lajitas Array 8.83 213 Pn 20 21 09.6 -1.8
T47A Sharon Grove 8.86 86 Pn 20 21 12.2 +0.6
T47A IAmb_Lg 20 23 53.8
comp=Z,711nm,0.9s
121A Cookes Peak, D 9.03 244 P Pn 20 21 13.5 -0.6
baz=59,SNR=12
121A Cookes Peak, D 9.03 244 Pn Pn 20 21 13.3 -0.9
121A IAmb_Lg 20 23 59.2
comp=Z,836nm,1.2s
P46A Rosedale 9.04 69 Pn 20 21 14.3 +0.2
P46A IAmb_Lg 20 23 55.1
comp=Z,1μm,0.8s
346A Big Creek Wild 9.05 125 Pn 20 21 14.8 +0.5
Z47A Carrollton 9.06 111 Pn 20 21 14.9 +0.6
Z47A IAmb_Lg 20 24 17.8
comp=Z,707nm,1.1s
M44A Midewin, Midew 9.06 57 Pn 20 21 14.9 +0.6
F33A 5 Mile Ranch, 9.06 8 Pn Pn 20 21 13.9 -0.4
F33A IAmb_Lg 20 23 51.9
comp=Z,863nm,1.0s
I40A Norwalk 9.06 37 Pn 20 21 14.8 +0.5
I40A IAmb_Lg 20 23 53.9
comp=Z,615nm,0.8s
V48A Smith Brothers 9.23 94 Pn 20 21 16.8 +0.1
V48A IAmb_Lg 20 23 58.4
comp=Z,816nm,1.1s
SPMN Marine on St. 9.26 24 P Pn 20 21 17.5 +0.4
baz=208,SNR=16
SPMN Marine on St. 9.26 24 Pn Pn 20 21 16.9 -0.2
SPMN IAmb_Lg 20 24 05.5
comp=Z,722nm,1.0s
SFIN Lafayette 9.34 65 P Pn 20 21 17.9 -0.2
baz=251,SNR=28
SFIN Lafayette 9.34 65 Pn 20 21 18.5 +0.3
SFIN IAmb_Lg 20 24 06.8
comp=Z,1μm,1.0s
SFIN Lafayette 9.34 65 P 20 21 18.0
baz=251,SNR=18
X48A Hartselle 9.37 102 Pn Pn 20 21 18.3 -0.3
HQIL Hanson Quary C 9.37 55 Pn 20 21 18.6 -0.1
HQIL IAmb_Lg 20 24 13.4
comp=Z,1μm,1.0s
BLO Bloomington 9.47 73 Pn 20 21 19.0 -1.0
BLO IAmb_Lg 20 24 11.0
comp=Z,1μm,0.8s
L44A Lake County Fo 9.52 53 P Pn 20 21 20.7 0.0
baz=239,SNR=7.1
L44A Lake County Fo 9.52 53 Pn 20 21 20.4 -0.2
WCI Wyandotte Cave 9.52 78 P Pn 20 21 20.6 -0.1
baz=265
WCI Wyandotte Cave 9.52 78 Pn Pn 20 21 21.0 +0.3
WCI IAmb_Lg 20 24 23.0
comp=Z,627nm,0.7s
K43A Burlington 9.54 49 Pn 20 21 21.9 +1.0
CLTN Cedars of Leba 9.56 91 Pn Pn 20 21 21.0 -0.3
F36A Milaca 9.62 20 Pn Pn 20 21 20.2 -1.9
RDMU Red Mountain 9.64 296 Pn Pn 20 21 22.1 -0.4
E28A Huff 9.87 350 Pn Pn 20 21 24.9 -0.5
E28A IAmb_Lg 20 24 29.7
comp=Z,1μm,1.0s
X18A Snowflake 9.87 260 Pn Pn 20 21 23.9 -1.8
I42A Draeger Farm, 9.94 42 Pn Pn 20 21 25.8 -0.6
I42A Draeger Farm, 9.94 42 P 20 21 26.9
baz=228,SNR=11

LRAL Lakeview Retre 9.94 109 P Pn 20 21 25.8 -0.6
baz=296,SNR=13
LRAL Lakeview Retre 9.94 109 Pn Pn 20 21 26.3 -0.1
LRAL IAmb_Lg 20 24 29.4
comp=Z,622nm,1.1s
U49A Red Boiling Sp 9.95 88 Pn 20 21 27.1 +0.4
SRU San Rafael Swe 10.01 287 Pn Pn 20 21 27.3 -0.3
SWET Sewanee 10.04 96 Pn 20 21 29.1 +1.1
Y49A Blount Mountai 10.06 104 Pn 20 21 27.8 -0.3
P17A Butcher Ranch, 10.23 288 Pn Pn 20 21 28.8 -1.9
D32A Dogwood Acres, 10.28 4 Pn Pn 20 21 28.7 -2.4
G40A Rib Lake 10.31 33 Pn Pn 20 21 30.9 -0.5
P48A Milroy 10.36 72 Pn Pn 20 21 30.6 -1.5
R49A Shelbyville 10.41 78 Pn 20 21 33.2 +0.3
FPAL Fort Paine 10.47 99 Pn 20 21 34.3 +0.6
L46A Eue Claire 10.51 57 Pn 20 21 33.7 -0.5
N47A Urbana 10.51 64 Pn Pn 20 21 33.3 -0.9
W50A Signal Mountai 10.54 95 Pn Pn 20 21 35.1 +0.3
BW06 Boulder Array 10.55 307 P Pn 20 21 34.1 -0.8
baz=121,SNR=22
BW06 Boulder Array 10.55 307 Pn Pn 20 21 33.5 -1.5
PD31 Pinedale Array 10.55 307 Pn 20 21 33.8 -1.2
PDAR Pinedale Array 10.55 307 Pn Pn 20 21 34.4 -0.6
comp=Z,1.4nm,0.3s,baz=113,slow=15,SNR=41
PDAR Pg 20 22 18.1
comp=Z,6.5nm,0.3s,baz=106,slow=16,SNR=7.9
PDAR Sn Sn 20 23 30.5 -2.8
comp=Z,2.9nm,0.3s,baz=235,slow=47,SNR=0.8
PDAR Lg Lg 20 24 29.8
comp=Z,14nm,0.3s,baz=116,slow=30,SNR=3.9
PDAR LR LR 20 25 56.1
comp=Z,900nm,18.4s,baz=124,slow=39
PDAR Pinedale Array 10.55 307 Pn 20 21 33.6 -1.3
TMUT Trail Mountain 10.56 287 Pn Pn 20 21 35.7 +0.5
T50A Nancy 10.67 85 Pn Pn 20 21 37.1 +0.7
WUAZ Wupatki 10.76 267 P Pn 20 21 39.5 +1.6
baz=79
WUAZ Wupatki 10.76 267 Pn Pn 20 21 38.2 +0.3
BRAL Brewton 10.84 118 P Pn 20 21 38.6 -0.1
baz=304,SNR=6.5
BRAL Brewton 10.84 118 Pn Pn 20 21 38.3 -0.4
E38A The Farm, Brul 10.89 25 Pn Pn 20 21 38.7 -0.7
P49A Miami Univ. Ec 10.91 72 P Pn 20 21 39.0 -0.7
baz=260,SNR=12
P49A Miami Univ. Ec 10.91 72 Pn Pn 20 21 39.0 -0.7
P49A Miami Univ. Ec 10.91 72 P 20 21 39.9
baz=260,SNR=10
H43A Windswept, Lux 10.94 43 Pn Pn 20 21 39.0 -1.0
H43A Windswept, Lux 10.94 43 P 20 21 39.4
baz=229,SNR=13
250A Grady 10.97 113 Pn 20 21 39.9 -0.7
MDND Maddock 11.01 355 P Pn 20 21 39.9 -1.2
baz=174
MDND Maddock 11.01 355 Pn Pn 20 21 39.8 -1.2
JLU Jordanelle 11.02 294 Pn Pn 20 21 40.4 -1.0
X51A Calhoun 11.06 98 Pn 20 21 42.0 +0.2
R50A Paris 11.07 79 Pn 20 21 41.5 -0.4
CPCT Cooper Cave 11.12 93 Pn 20 21 43.3 +0.6
V51A Loudon 11.20 91 Pn 20 21 44.6 +0.9
V51A Loudon 11.20 91 P 20 21 44.8
baz=279,SNR=37
MTPU Mount Pierson 11.21 280 Pn Pn 20 21 41.9 -2.2
Z51A Franklin 11.22 105 Pn 20 21 43.0 -1.0
MSU Marysvale 11.22 283 Pn Pn 20 21 42.9 -1.3
MVU Marysvale 11.25 283 Pn Pn 20 21 41.6 -3.0
PKCU Pink Cliffs 11.30 277 Pn Pn 20 21 43.9 -1.5
O49A Covington 11.32 69 Pn Pn 20 21 43.7 -1.6
NLU North Lily Min 11.34 290 Pn Pn 20 21 43.6 -2.2
TUC Tucson 11.35 250 P Pn 20 21 46.2 +0.3
baz=63
TUC Tucson 11.35 250 Pn Pn 20 21 43.6 -2.3
U15A North Rim 11.36 272 Pn 20 21 47.6 +1.5
HWUT Hardware Ranch 11.41 299 Pn Pn 20 21 46.6 -0.1
COWI Conover 11.42 33 Pn 20 21 46.4 -0.3
TCRU Three Creeks R 11.44 283 Pn Pn 20 21 47.0 -0.2
LAO LASA Array 11.49 331 P Pn 20 21 46.1 -1.6
baz=146,SNR=25
LAO LASA Array 11.49 331 Pn 20 21 46.2 -1.5
AGMN Agassiz Nation 11.53 8 P Pn 20 21 45.6 -2.6
baz=189
AGMN Agassiz Nation 11.53 8 Pn Pn 20 21 44.8 -3.4
I45A Fountain 11.55 48 Pn Pn 20 21 48.6 +0.1
N49A Columbus Grove 11.62 65 Pn Pn 20 21 48.3 -1.1
N49A Columbus Grove 11.62 65 P 20 21 48.4
baz=254,SNR=9.1
N49A P 20 21 48.4
baz=254,SNR=9.1
F42A Maple Grove Fa 11.63 37 Pn 20 21 48.5 -1.0
LOHW Long Hollow 11.63 309 Pn Pn 20 21 48.1 -1.7
S51A Beattyville 11.64 82 Pn Pn 20 21 50.2 +0.5
S51A Beattyville 11.64 82 P 20 21 50.6
baz=270,SNR=10
S51A P 20 21 50.6
baz=270,SNR=10
SNOW Snow King Moun 11.65 308 Pn Pn 20 21 49.1 -1.0
REDW Red Top Meadow 11.66 308 Pn 20 21 48.5 -1.7
W52A Murphy 11.67 95 Pn 20 21 50.2 0.0
TKL Tuckaleechee C 11.68 92 Pn Pn 20 21 50.6 +0.3
comp=Z,14nm,0.3s,baz=240,slow=7.7,SNR=112
TKL Sn Sn 20 23 57.6 -3.2
comp=Z,2.9nm,0.3s,baz=110,slow=20,SNR=2.3
TKL Lg Lg 20 25 05.9
comp=Z,5.1nm,0.3s,baz=172,slow=22,SNR=6.5
TKL LR LR 20 25 53.2
comp=Z,150nm,19.6s,baz=280,slow=35
TKL Tuckaleechee C 11.68 92 Pn 20 21 51.0 +0.7
TKL Tuckaleechee C 11.68 92 P 20 21 51.4
baz=280,SNR=10
KNB Kanab 11.73 275 Pn Pn 20 21 52.2 +1.1
TZTN Tazewell 11.74 87 P Pn 20 21 49.5 -1.6
baz=276,SNR=11
TZTN Tazewell 11.74 87 Pn 20 21 51.8 +0.7
RLMT Red Lodge 11.74 318 P Pn 20 21 50.5 -0.8
baz=131,SNR=16
RLMT Red Lodge 11.74 318 Pn 20 21 50.2 -1.1
L48A N Adams 11.76 60 Pn 20 21 50.4 -1.0
L48A N Adams 11.76 60 P 20 21 50.9
baz=249,SNR=12
L48A P 20 21 50.9
baz=249,SNR=12
HPIG 11.78 215 Pn 20 21 49.8 -2.1
TPAW Teton Pass 11.79 308 Pn Pn 20 21 48.7 -3.3
V52A Sevierville 11.79 91 Pn 20 21 52.0 +0.1
152A Waverly Hall 11.83 107 Pn 20 21 52.3 +0.1
Q51A Peebles 11.89 75 Pn 20 21 52.3 -0.8
Q51A Peebles 11.89 75 P 20 21 52.6
baz=264,SNR=8.8
Q51A P 20 21 52.6
baz=264,SNR=8.8
Y52A Lilburn 11.90 100 Pn 20 21 52.9 -0.4
SZCU Shurtz Canyon 11.92 278 Pn Pn 20 21 50.4 -3.3
B35A Bob, Littlefor 11.93 14 Pn Pn 20 21 50.6 -2.9
DUG Dugway, Tooele 11.94 291 Pn Pn 20 21 51.8 -2.1
FLWY Flagg Ranch 11.94 311 Pn 20 21 53.5 -0.5
SPUT South Promonto 11.94 296 Pn Pn 20 21 50.1 -3.9
IMW Indian Meadow 11.99 310 Pn 20 21 53.6 -1.2
YMP Mirror Lake Pl 12.00 315 Pn 20 21 54.2 -0.7
J47A Sunmer 12.03 54 Pn 20 21 53.3 -1.6
LCMT Little Creek M 12.07 275 Pn Pn 20 21 54.0 -1.7
451A Vernon 12.07 118 Pn 20 21 54.3 -1.3
YNE Yellowstone No 12.07 316 Pn 20 21 55.7 -0.2
EYMN Ely 12.10 22 P Pn 20 21 53.0 -2.9
baz=206
EYMN Ely 12.10 22 Pn Pn 20 21 53.4 -2.6
YPP Pitchstone Pla 12.11 311 Pn Pn 20 21 57.7 +1.3
CCUT Cedar City 12.14 278 Pn Pn 20 21 54.7 -2.1
P51A Williamsport 12.17 73 Pn 20 21 55.2 -1.6
352A Blakely 12.21 112 Pn 20 21 56.3 -1.3
BGU Big Grassy Mou 12.26 294 Pn Pn 20 21 53.6 -4.8
YNR Norris Junctio 12.28 313 Pn Pn 20 21 57.8 -0.9
ACSO Alum Creek Sta 12.35 70 P Pn 20 21 57.5 -1.9
baz=259,SNR=39
ACSO Alum Creek Sta 12.35 70 Pn Pn 20 21 58.0 -1.4
GCMT Greycliff 12.39 319 Pn 20 21 58.9 -1.3
D41A Chassel 12.42 32 Pn Pn 20 21 58.2 -2.0
YHH Holmes Hill 12.43 313 Pn 20 21 58.4 -2.3
AAM Ann Arbor 12.43 60 P Pn 20 21 59.4 -1.0
baz=249
AAM Ann Arbor 12.43 60 Pn 20 21 58.5 -1.9
V53A Saluda 12.45 91 Pn 20 22 00.8 -0.1
G45A Suttons Bay 12.47 45 Pn Pn 20 22 00.3 -0.7
BG3 Lake Jocassee 12.49 94 Pn 20 22 00.8 -0.6
GOGA Godfrey 12.52 102 P Pn 20 22 00.3 -1.4

baz=290,SNR=11
GOGA Godfrey 12.52 102 Pn 20 22 00.8 -1.0
PSUT Pine Spring 12.54 282 Pn Pn 20 22 00.9 -1.3
M50A Fremont 12.57 64 Pn 20 22 01.5 -0.9
YHB Horse Butte 12.61 313 Pn Pn 20 22 02.3 -0.8
E43A Lone Tree Farm 12.63 38 Pn Pn 20 22 01.3 -1.8
Q52A Bidwell 12.73 76 Pn 20 22 04.1 -0.4
Q52A Bidwell 12.73 76 P 20 22 04.1
baz=265,SNR=7.9
Q52A P 20 22 04.1
baz=265,SNR=7.9
QLMT Earthquake Lak 12.79 312 Pn 20 22 05.7 +0.1
W13A Hualapai Mount 12.86 267 Pn Pn 20 22 06.2 -0.4
P52A Corning 12.90 73 Pn 20 22 04.5 -2.4
baz=262,SNR=27
P52A Corning 12.90 73 Pn Pn 20 22 04.8 -2.1
R53A Hurricane 12.94 79 Pn 20 22 06.9 -0.6
N51A Ashland 12.94 67 Pn Pn 20 22 06.7 -0.8
GLMI Grayling 12.95 48 P Pn 20 22 04.8 -2.9
baz=237,SNR=8.2
GLMI Grayling 12.95 48 Pn Pn 20 22 04.9 -2.7
214A Organ Pipe Nat 13.05 252 P Pn 20 22 08.7 -0.3
baz=64
214A Organ Pipe Nat 13.05 252 Pn Pn 20 22 07.1 -2.0
154A Montrose 13.09 105 Pn 20 22 07.9 -1.7
U54A Nelsons Funny 13.12 87 Pn 20 22 08.8 -1.3
O52A Adamsville 13.19 71 Pn 20 22 10.1 -0.8
HODGE Hodges 13.22 97 Pn 20 22 10.3 -1.0
TIGA Tifton 13.23 110 P Pn 20 22 10.3 -1.2
baz=298
TIGA Tifton 13.23 110 Pn Pn 20 22 08.9 -2.6
553A Crawfordville 13.25 116 Pn Pn 20 22 11.0 -0.8
PDMCI Parker Dam,Lak 13.26 264 P Pn 20 22 11.5 -0.3
baz=74
K50A Casco 13.31 59 Pn 20 22 12.2 -0.2
BOZ Bozeman (W) 13.34 315 Pn 20 22 11.6 -1.5
PAULI Pauline 13.42 94 Pn 20 22 13.2 -0.8
S54A Dingess, Beckl 13.45 81 Pn 20 22 13.4 -1.0
P53A Whipple 13.45 74 Pn Pn 20 22 12.1 -2.3
ULM Lac du Bonnet 13.46 6 Pn Pn 20 22 10.2 -4.3
comp=Z,2.2nm,0.3s,baz=186,slow=12,SNR=14
ULM Sn Sn 20 24 32.1 -12
comp=Z,1.9nm,0.3s,baz=230,slow=11,SNR=3.4
ULM Lg Lg 20 26 00.8
comp=Z,1.4nm,0.3s,baz=196,slow=6.4,SNR=3.5
ULM LR LR 20 27 33.9
comp=Z,679nm,18.7s,baz=193,slow=38
ULM Lac du Bonnet 13.46 6 Pn Pn 20 22 09.5 -5.1
PRN Pahroc Range 13.48 277 Pn Pn 20 22 17.2 +2.2
MCMT McKenzie Canyo 13.64 310 Pn Pn 20 22 19.2 +1.9
SHPR Sheep Range 13.65 274 Pn Pn 20 22 18.5 +1.2
O53A New Philadelph 13.68 71 P Pn 20 22 15.4 -2.2
baz=261,SNR=6.4
O53A New Philadelph 13.68 71 Pn Pn 20 22 14.8 -2.9
V55A Taylorsville 13.70 89 Pn 20 22 16.7 -1.2
KMSC Kings Mountain 13.74 92 P Pn 20 22 16.0 -2.3
baz=282
KMSC Kings Mountain 13.74 92 Pn 20 22 16.9 -1.5
DLMT Dillon 13.77 312 Pn Pn 20 22 19.6 +0.7
M52A Chesterland 13.83 65 Pn Pn 20 22 16.5 -3.1
Q54A Coxs Mills 13.84 76 Pn 20 22 18.4 -1.4
ELK Elko 13.86 291 Pn Pn 20 22 24.1 +3.8
comp=Z,0.1nm,0.3s,baz=102,slow=11,SNR=4.6
ELK Lg Lg 20 26 16.4
comp=Z,0.1nm,0.3s,baz=244,slow=13,SNR=1.6
ELK LR LR 20 27 45.1
comp=Z,334nm,18.1s,baz=99,slow=38
ELK Elko 13.86 291 Pn 20 22 21.3 +1.0
255A Hazlehurst 13.86 106 Pn 20 22 18.6 -1.4
R11A Troy Canyon, C 13.89 281 P Pn 20 22 19.6 -1.0
baz=91,SNR=7.5
R11A Troy Canyon, C 13.89 281 Pn Pn 20 22 20.6 0.0
LRM Limekiln Ridge 13.94 314 Pn Pn 20 22 21.2 -0.2
JSC Jenkinsville 14.00 96 Pn 20 22 19.9 -2.1
EGMT Eagleton 14.02 326 P Pn 20 22 20.7 -1.6
baz=139,SNR=17
EGMT Eagleton 14.02 326 Pn 20 22 21.1 -1.2
E46A Sault Ste Mari 14.03 43 Pn Pn 20 22 20.0 -2.2
N53A Lisbon 14.06 69 Pn Pn 20 22 20.0 -2.8
IRM Iron Mountain 14.10 264 P Pn 20 22 22.0 -1.3
baz=74,SNR=6.3
BLA Blacksburg 14.18 83 P Pn 20 22 22.0 -2.5
baz=274,SNR=7.8
BLA Blacksburg 14.18 83 Pn 20 22 22.9 -1.5
U56A King 14.30 87 Pn 20 22 25.2 -0.9
O54A Avella 14.31 71 Pn 20 22 24.7 -1.5
M53A WI Miller and 14.31 66 P Pn 20 22 22.7 -3.5
baz=257,SNR=11
M53A WI Miller and 14.31 66 Pn Pn 20 22 22.4 -3.8
GMRC Granite Mounta 14.35 267 P Pn 20 22 25.3 -1.5
baz=77,SNR=9.6
R55A Marlinton 14.38 79 Pn 20 22 25.6 -1.6
TUQ Turquoise Moun 14.42 270 P Pn 20 22 28.1 +0.2
baz=79
TPNV Topopah Spring 14.47 276 P Pn 20 22 28.5 0.0
baz=85
TPNV Topopah Spring 14.47 276 Pn Pn 20 22 29.2 +0.6
ZAIG Zacatecas 14.57 196 Pn 20 22 30.0 -0.1
SHOC Shoshone, Teco 14.62 272 P Pn 20 22 30.7 +0.2
baz=81
MCWV Mont Chateau 14.66 74 Pn 20 22 29.6 -1.3
N54A Moraine State 14.72 68 P Pn 20 22 28.8 -3.0
baz=260,SNR=8.8
N54A Moraine State 14.72 68 Pn Pn 20 22 28.9 -3.0
ALLY Alegheny Colle 14.74 66 Pn 20 22 28.4 -3.7
Y57A Sumter 14.77 96 Pn 20 22 28.8 -3.6
W57A Gilead 14.81 91 Pn Pn 20 22 30.8 -2.2
BELC Belle Mtn. Jos 14.82 264 P Pn 20 22 32.7 -0.6
baz=74
HEC Hector,Ludlow 14.88 267 P Pn 20 22 33.3 -0.8
baz=77
ERPA Erie 14.97 64 P Pn 20 22 32.4 -2.7
baz=255
ERPA Erie 14.97 64 Pn 20 22 33.9 -1.2
MFID Camas Ranch 14.99 301 Pn Pn 20 22 34.9 -0.6
FURC Furnace Creek, 15.02 274 P Pn 20 22 36.0 +0.2
baz=83
M54A Oil Creek Stat 15.06 66 P Pn 20 22 33.4 -3.1
baz=258,SNR=7.4
M54A Oil Creek Stat 15.06 66 Pn Pn 20 22 35.4 -1.0
M54A Oil Creek Stat 15.06 66 P 20 22 36.7
baz=258,SNR=8.2
656A Willston 15.08 115 Pn 20 22 36.4 -0.2
Q56A Snyder Ridge, 15.13 76 Pn Pn 20 22 35.8 -1.5
T57A Hurt 15.13 84 Pn 20 22 36.0 -1.2
GSC Goldstone, Bar 15.16 270 P Pn 20 22 37.9 +0.2
baz=79
GSC Goldstone, Bar 15.16 270 Pn Pn 20 22 37.0 -0.8
TPH Tonopah 15.18 280 P P 20 22 41.5 -1.8
PFO Pinyon Flats O 15.30 263 Lg Lg 20 27 02.7
comp=Z,0.2nm,0.3s,baz=172,slow=23,SNR=3.9
PFO LR LR 20 28 06.5
comp=Z,106nm,18.2s,baz=71,slow=36
S57A Dark Hollow, R 15.31 81 Pn 20 22 38.1 -1.6
IKP In-Ko-Pah, Jac 15.34 259 P Pn 20 22 40.3 +0.1
baz=69
MSO Missoula 15.37 315 P Pn 20 22 40.9 +0.4
baz=125
MSO Missoula 15.37 315 Pn 20 22 39.7 -0.7
Y58A Scranton 15.38 96 Pn Pn 20 22 37.5 -3.1
V58A Windy Hill, Pi 15.39 88 Pn Pn 20 22 37.2 -3.6
V58A IAmb IAmb 20 22 41.0
comp=Z,12nm,0.9s
MONP2 Monument Peak 15.50 260 P Pn 20 22 42.0 -0.4
baz=70
O56A Blue Knob Stat 15.70 72 P Pn 20 22 41.0 -3.8
baz=264,SNR=8.6
O56A Blue Knob Stat 15.70 72 Pn Pn 20 22 42.7 -2.1
O56A IAmb IAmb 20 23 07.0
comp=Z,21nm,0.7s
M55A Ridgway 15.72 67 Pn Pn 20 22 41.3 -3.7
M55A IAmb IAmb 20 23 04.7
comp=Z,26nm,0.9s
BAR Barrett 15.77 260 Pn 20 22 44.3 -1.5
BAR IAmb IAmb 20 22 53.7
comp=Z,17nm,0.8s
CBX Cerro Bola 15.90 259 Pn 20 22 45.4 -2.1
NV11 Mina Array Sit 15.91 282 Pn 20 22 47.5 -0.1
NVAR Mina Array Bea 16.03 282 Pn P 20 22 51.3 -1.5
comp=Z,0.5nm,0.3s,baz=90,slow=11,SNR=42
NVAR Lg Lg 20 27 21.2
baz=292,slow=43,SNR=1.2
NVAR LR LR 20 29 13.8
comp=Z,307nm,19.2s,baz=88,slow=38

NVAR Mina Array Bea 16.03 282 Pn 20 22 48.0 -1.2
109C Camp Elliot, M 16.04 261 Pn 20 22 50.1 +0.8
109C IAmb IAmb 20 22 55.9
comp=Z,23nm,1.0s
P57A Homestead Farm 16.06 75 Pn Pn 20 22 47.0 -2.4
BFSC Mount Baldy Ra 16.08 266 P Pn 20 22 48.2 -1.7
baz=75
R58B Mineral 16.16 80 Pn Pn 20 22 48.6 -2.1
JSRW J. Sargeant Re 16.17 81 Pn Pn 20 22 48.6 -2.2
LHV Little Huntoon 16.19 281 P P 20 22 54.9 +0.6
LHV IAmb IAmb 20 22 57.7
comp=Z,25nm,0.7s
EDW2 Edwards Air Fo 16.20 269 P Pn 20 22 50.0 -1.3
baz=77
RYN Ryan 16.20 282 P P 20 22 53.7 -0.8
J54A Appleton 16.23 61 Pn Pn 20 22 48.1 -3.5
J54A IAmb IAmb 20 22 50.9
comp=Z,32nm,0.8s
SSPA Standing Stone 16.25 70 P Pn 20 22 48.7 -3.2
baz=263
SSPA Standing Stone 16.25 70 Pn Pn 20 22 49.3 -2.6
SSPA IAmb IAmb 20 22 53.6
comp=Z,24nm,0.8s
MEDO Medina 16.33 61 Pn Pn 20 22 48.1 -4.8
U59A Littleton 16.37 86 Pn Pn 20 22 50.8 -2.6
U59A IAmb IAmb 20 22 53.7
comp=Z,24nm,0.9s
SADO Sadowa 16.39 55 Pn Pn 20 22 48.7 -4.9
comp=Z,1.0nm,0.3s,baz=260,slow=13,SNR=4.9
SADO Sn Sn 20 25 55.0 -0.4
comp=Z,2.9nm,0.3s,baz=338,slow=18,SNR=2.6
SADO Lg Lg 20 27 33.4
comp=Z,4.6nm,0.3s,baz=314,slow=12,SNR=3.1
SADO LR LR 20 29 35.1
comp=Z,184nm,18.3s,baz=137,slow=38
SADO Sadowa 16.39 55 Pn Pn 20 22 51.9 -1.7
SADO IAmb IAmb 20 23 13.2
comp=Z,28nm,0.9s
ISA Isabella, Lake 16.43 272 P 20 22 55.9 -1.1
LPIG La Paz 16.46 223 LR LR 20 29 20.4
comp=Z,320nm,19.4s,baz=36,slow=38
T59A Double "B" Far 16.48 83 Pn Pn 20 22 52.4 -2.5
BMO Blue Mountains 16.50 305 Pn Pn 20 22 50.5 -4.6
WVOR Wild Horse Val 16.70 296 P P 20 23 00.1 +0.1
WALA Waterton Lakes 16.72 322 P 20 22 59.2 -1.0
L56A Greenwood 16.73 65 Pn Pn 20 22 56.1 -1.9
L56A IAmb IAmb 20 23 10.0
comp=Z,31nm,0.7s
YERR Yerington 16.76 284 P Pn 20 22 59.1 +0.6
J08A Circle Bar Ran 16.81 299 Pn Pn 20 22 58.5 -0.5
J55A Hilton 16.81 61 Pn Pn 20 22 57.0 -2.0
J55A IAmb IAmb 20 23 25.8
comp=Z,31nm,1.1s
PAHR Pah Rah Range 16.89 286 Pn 20 22 58.3 -1.9
F10A Beach Ranch, E 16.90 308 Pn 20 22 58.9 -1.3
F10A IAmb IAmb 20 23 21.0
comp=Z,22nm,1.1s
M57A Sunshine Farm, 16.91 68 Pn Pn 20 22 58.1 -2.2
M57A IAmb IAmb 20 23 05.3
comp=Z,18nm,0.6s
WAKR Walker 16.91 282 Pn 20 22 59.5 -1.0
K56A Middlesex 17.02 64 P Pn 20 22 58.8 -2.9
baz=257
PNTR Pine Nut 17.04 284 P P 20 23 03.0 -1.0
VCNR Virginia City 17.08 285 Pn 20 23 01.0 -1.7
N58A Sunbury 17.16 70 Pn 20 23 01.2 -2.1
N58A IAmb IAmb 20 23 23.9
comp=Z,19nm,0.8s
DELO Deloro Mine 17.32 58 Pn Pn 20 23 01.1 -4.2
DELO IAmb IAmb 20 23 16.8
comp=Z,25nm,1.2s
MVL Millersville 17.36 73 Pn Pn 20 23 04.6 -1.3
J56A Wolcott 17.49 62 Pn Pn 20 23 04.7 -2.8
J56A IAmb IAmb 20 23 30.3
comp=Z,15nm,0.7s
ALGO Algonquin Park 17.56 53 P Pn 20 23 06.1 -2.2
baz=246
PECO Prince Edward 17.57 60 Pn Pn 20 23 04.4 -4.0
PECO IAmb IAmb 20 23 31.7
comp=Z,26nm,1.0s
K57A Scipio Center 17.61 64 Pn 20 23 08.1 -0.9
BEKR Beckworth 17.65 286 Pn Pn 20 23 08.5 -1.2
PKM Mcpherson Peak 17.65 270 P Pn 20 23 08.6 -1.2
baz=77
CMB Columbia Colle 17.68 280 P P 20 23 11.9 +1.1
I07A Izee 17.73 301 P P 20 23 12.0 +0.6
G08A Pilot Rock 17.75 305 P P 20 23 12.2 +0.6
MOD Modoc Plateau 17.82 293 Pn 20 23 08.2 -3.5
PLVO Plevna 17.86 56 Pn Pn 20 23 08.6 -3.5
N59A State Game Lan 17.88 70 P Pn 20 23 09.3 -3.1
baz=264,SNR=5.6
N59A State Game Lan 17.88 70 Pn Pn 20 23 10.4 -1.9
N59A IAmb IAmb 20 23 16.5
comp=Z,21nm,0.8s
BINY Binghamton 17.89 66 P Pn 20 23 10.2 -2.3
baz=260
BINY Binghamton 17.89 66 Pn Pn 20 23 10.9 -1.6
BINY IAmb IAmb 20 23 37.4
comp=Z,26nm,0.8s
P60A Greenville 17.91 74 P Pn 20 23 11.2 -1.4
baz=268
P60A Greenville 17.91 74 Pn 20 23 11.5 -1.1
WUPA West Chester U 17.93 73 Pn Pn 20 23 10.6 -2.3
NEW Newport 17.95 315 P P 20 23 13.5 -0.3
comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=9.5
NEW Lg Lg 20 28 19.9
comp=Z,0.2nm,0.3s,baz=71,slow=13,SNR=2.3
NEW Newport 17.95 315 P Pn 20 23 12.6 -0.7
baz=123
NEW Newport 17.95 315 Pn 20 23 10.9 -2.4
KSPA Keystone Colle 17.96 68 Pn Pn 20 23 11.3 -2.0
KSPA IAmb IAmb 20 23 25.1
comp=Z,24nm,0.9s
L58A Harry Jones Me 17.97 66 P Pn 20 23 11.4 -2.0
baz=260,SNR=9.6
FFC Flin Flon 18.04 353 Pn Pn 20 23 10.6 -3.5
FFC IAmb IAmb 20 23 17.7
comp=Z,26nm,0.8s
AFDM Forest Hills D 18.11 283 Pn 20 23 11.3 -3.9
J57A Williamstown 18.13 62 Pn Pn 20 23 13.2 -2.2
J57A IAmb IAmb 20 23 27.0
comp=Z,34nm,1.3s
LUPA Lehigh Univers 18.15 71 Pn 20 23 12.4 -3.3
LUPA IAmb IAmb 20 23 19.9
comp=Z,21nm,0.9s
PMPB Monarch Peak 18.20 275 P 20 23 16.6 0.0
PMPB IAmb IAmb 20 23 19.1
comp=Z,16nm,0.7s
K05A Summer Lake 18.39 296 P 20 23 19.4 +0.6
D08A Wollman Farm, 18.43 310 P Pn 20 23 17.4 -1.6
I57A Carthage 18.50 61 P P 20 23 17.6 -2.2
baz=255
ORV Oroville 18.52 285 P P 20 23 17.9 -2.1
ORV sP 20 23 24.8 +0.7
HAWA Hanford 18.54 308 P Pn 20 23 20.2 -0.1
L59A Walton 18.58 66 P P 20 23 20.1 -0.6
L59A IAmb IAmb 20 23 25.1
comp=Z,22nm,0.8s
J58A Remsen 18.63 63 P P 20 23 19.6 -1.6
baz=257,SNR=7.2
PINE Pine Mountain 18.65 299 Pn 20 23 23.7 +1.7
PINE IAmb IAmb 20 23 28.5
comp=Z,20nm,0.8s
J05D Fort Rock, OR 18.75 297 P P 20 23 21.8 -0.9
baz=102
BRNJ Basking Ridge 18.77 71 P P 20 23 20.8 -2.0
BRNJ IAmb IAmb 20 23 22.0
comp=Z,20nm,0.9s
ODNJ Ogdensburg 18.77 70 P P 20 23 20.8 -2.0
ODNJ IAmb IAmb 20 23 23.9
comp=Z,18nm,0.7s
O03E Paynes Creek 18.78 288 P P 20 23 21.9 -1.0
baz=93
H57A Richville 18.82 59 P P 20 23 20.9 -2.4
baz=254
VLDQ Val d'Or 18.89 47 Pn 20 23 24.8 +0.2
I58A Old Forge 18.92 62 P P 20 23 21.7 -2.8
baz=257,SNR=7.4
M04C Macdoel 18.93 292 P P 20 23 24.0 -0.8
baz=97,SNR=8.8
TRNY Table Rock, Ra 19.07 70 P P 20 23 24.3 -1.7
TRNY IAmb IAmb 20 23 30.7
comp=Z,16nm,0.8s
I05D Terrebonne, OR 19.07 300 P P 20 23 25.4 -0.6
baz=105

SOR Soroa 19.20 133 P P 20 23 26.1 -1.5
J59A Piesco 19.20 63 P P 20 23 26.8 -0.8
J59A IAmb IAmb 20 23 44.8
comp=Z,13nm,0.7s
TLIG Tlapa 19.25 181 P P 20 23 26.0 -2.2
TLIG IAmb IAmb 20 23 35.7
comp=Z,13nm,0.7s
B08A Colville Reser 19.27 313 P P 20 23 27.2 -1.1
PAL Palisades 19.29 70 P P 20 23 26.2 -2.3
baz=265
G05D Wamic, OR 19.30 303 P P 20 23 28.8 +0.1
baz=108
L04D Klamath Falls 19.34 293 P P 20 23 28.4 -0.8
baz=98
WDC Whiskeytown Da 19.36 288 P P 20 23 28.4 -0.8
WDC IAmb IAmb 20 23 34.9
comp=Z,22nm,1.2s
J04D Umpqua Nationa 19.36 297 P P 20 23 29.2 -0.2
baz=101
LONY Lake Ozonia 19.42 59 P P 20 23 28.3 -1.6
baz=254
LONY Lake Ozonia 19.42 59 P P 20 23 28.5 -1.4
EDM Edmonton 19.48 332 P P 20 23 30.6 +0.2
EDM IAmb IAmb 20 23 34.6
comp=Z,30nm,0.8s
N02D Trinity Center 19.50 290 P P 20 23 30.1 -0.8
baz=94,SNR=8.7
NCB Newcomb 19.51 61 P P 20 23 30.6 -0.3
NCB IAmb IAmb 20 23 33.0
comp=Z,30nm,1.4s
O02D Mt. Diablo Mer 19.53 287 P P 20 23 30.1 -1.0
baz=92
YBH Yreka Blue Hor 19.58 292 P P 20 23 31.8 +0.1
comp=Z,0.5nm,0.3s,baz=112,slow=7.5,SNR=10
YBH Yreka Blue Hor 19.58 292 P P 20 23 31.7 0.0
MATQ Matagami 19.63 43 P P 20 23 30.4 -1.8
baz=237,SNR=6.7
H58A Gabriels 19.65 60 P P 20 23 30.9 -1.5
baz=256,SNR=6.9
M02C Callahan 19.65 291 P P 20 23 32.1 -0.4
baz=95
TRY Troy 19.67 65 P 20 23 32.8 +0.1
TRY IAmb IAmb 20 23 35.9
comp=Z,22nm,0.8s
KSCT Kent School, K 19.68 68 P P 20 23 32.5 -0.2
KSCT IAmb IAmb 20 23 39.6
comp=Z,23nm,0.8s
I04A Tendick Farm, 19.69 298 P P 20 23 32.7 -0.2
baz=102
I59A Olmsteadville 19.72 62 P P 20 23 32.1 -1.1
baz=258,SNR=9.0
H04A Detroit Lake 19.74 301 P 20 23 33.9 +0.4
H04A IAmb IAmb 20 23 43.6
comp=Z,16nm,0.9s
ACCN Adirondack Com 19.79 63 P 20 23 33.4 -0.5
ACCN IAmb IAmb 20 23 53.8
comp=Z,14nm,0.7s
J60A Lant Hill Farm 19.94 64 P P 20 23 35.2 -0.4
baz=260
H59A Cadyville 20.05 60 P P 20 23 35.2 -1.5
baz=256,SNR=9.7
LON Longmire 20.12 307 P P 20 23 38.4 +0.8
LON IAmb IAmb 20 23 47.3
comp=Z,15nm,1.0s
FRNY Flat Rock 20.16 59 P P 20 23 38.1 +0.1
FRNY IAmb IAmb 20 23 40.3
comp=Z,24nm,1.1s
KHMM Horse Mountain 20.27 289 P P 20 23 39.1 -0.3
KHMM IAmb IAmb 20 23 43.9
comp=Z,17nm,0.8s
L02E Cave Junction 20.29 293 P P 20 23 39.6 +0.3
baz=97
D05A Enumclaw 20.40 308 P P 20 23 40.2 -0.3
D05A IAmb IAmb 20 24 00.1
comp=Z,34nm,1.1s
K02D Willamette Mer 20.40 294 P P 20 23 39.6 -1.1
baz=98
J61A Chester 20.58 64 P P 20 23 41.1 -1.4
baz=260
UCCT U. Connecticut 20.62 68 P P 20 23 42.5 -0.5
UCCT IAmb IAmb 20 23 47.2
comp=Z,20nm,0.9s
B05A Bryant 20.89 311 P P 20 23 45.4 -0.4
baz=114
HRV Adam Dziewonsk 21.19 66 P P 20 23 47.9 -1.1
baz=263
HRV Adam Dziewonsk 21.19 66 P P 20 23 51.0 +1.9
HRV IAmb IAmb 20 23 54.9
comp=Z,21nm,1.1s
LBNH Lisbon 21.19 62 P P 20 23 48.3 -0.8
baz=259
LBNH Lisbon 21.19 62 P P 20 23 50.4 +1.3
LBNH IAmb IAmb 20 23 56.4
comp=Z,14nm,1.0s
MOQ Mont Orford 21.20 59 P P 20 23 50.1 +0.9
PETF Flores 21.20 158 P P 20 23 48.7 -0.6
CCIG Comitan 21.20 164 P P 20 23 48.5 -1.1
CCIG S 20 27 40.4 -5.1
D03D Eldon 21.22 308 P P 20 23 48.7 -0.7
baz=111
H61A Lyndonville 21.25 61 P P 20 23 48.3 -1.4
baz=258
D58A Chemin du LacG 21.30 53 P P 20 23 48.7 -1.6
baz=250
WES Weston 21.35 67 P P 20 23 51.7 +0.9
WES IAmb IAmb 20 23 53.9
comp=Z,25nm,1.2s
CHGQ Chibougamau 21.53 45 P P 20 23 52.6 -0.1
baz=242,SNR=15
G61A St-Isidore-de- 21.69 59 P P 20 23 52.6 -1.8
baz=256
H62A Milan 21.79 61 P P 20 23 53.9 -1.7
baz=259,SNR=5.9
H62A Milan 21.79 61 P P 20 23 56.5 +0.9
H62A IAmb IAmb 20 23 59.4
comp=Z,17nm,0.9s
E60A Ste Agathe de 22.02 56 P P 20 23 57.5 -0.4
baz=254
I63A Otisfield 22.11 63 P P 20 23 57.7 -1.2
baz=260
I63A Otisfield 22.11 63 P P 20 24 02.1 +3.1
I63A IAmb IAmb 20 24 02.9
comp=Z,13nm,0.8s
F61A St Evariste 22.22 57 P P 20 23 59.5 -0.7
baz=255
E61A Lac Etchemin 22.67 56 P P 20 24 04.8 -0.2
baz=255
WVL Waterville 22.85 61 P P 20 24 09.1 +2.3
F62A Pittston Farm, 22.90 58 P P 20 24 06.1 -1.2
baz=257,SNR=6.0
F62A Pittston Farm, 22.90 58 P P 20 24 08.8 +1.5
F62A IAmb IAmb 20 24 10.9
comp=Z,16nm,1.1s
G63A Kingsbury 22.97 60 P P 20 24 06.5 -1.7
baz=259
H64A Troy 23.17 61 P P 20 24 08.9 -1.2
baz=260
PKME Peaks-Kenny Pk 23.23 60 P P 20 24 10.0 -0.7
baz=259
E62A Clayton Lake 23.37 56 P P 20 24 12.2 0.0
baz=256,SNR=6.1
E62A Clayton Lake 23.37 56 P P 20 24 13.9 +1.7
E62A IAmb IAmb 20 24 15.8
comp=Z,19nm,1.1s
F63A Nahmakanta, Br 23.44 59 P P 20 24 12.4 -0.5
baz=258
F63A Nahmakanta, Br 23.44 59 P P 20 24 14.7 +1.8
F63A IAmb IAmb 20 24 17.4
comp=Z,20nm,1.1s
G64A Maxfield 23.60 60 P P 20 24 14.5 +0.1
baz=259
MTO3 Montecristo 23.73 158 P P 20 24 15.3 -0.9
MTO3 IAmb IAmb 20 24 37.5
comp=Z,12nm,0.9s
D62A Allapoint, All 23.80 55 P P 20 24 15.7 -0.6
baz=255
D62A Allapoint, All 23.80 55 P P 20 24 17.6 +1.2
D62A IAmb IAmb 20 24 21.3
comp=Z,19nm,1.1s
F64A Sherman 23.99 59 P P 20 24 17.9 -0.3
baz=258
F64A Sherman 23.99 59 P P 20 24 19.1 +0.9
F64A IAmb IAmb 20 24 20.4
comp=Z,12nm,0.9s
E63A Oxbow 24.06 57 P P 20 24 18.8 -0.1
baz=257,SNR=9.7

E63A **Oxbow** 24.06 57 P **P** 20 24 20.1 +1.3
EMMW **East Machias** 24.42 62 P **P** 20 24 24.0 +1.8
E64A **Bridgewater** 24.46 58 P **P** 20 24 21.4 -1.1
baz=258
YKA **Yellowknife Ar** 27.58 344 P **P** 20 24 50.7 +0.1
comp=Z,6.0nm,0.8s,baz=143,slow=9.4,SNR=18
YKA LR LR 20 35 44.9
comp=Z,8µm,21.6s,baz=0.0,slow=36
JTS **Las Juntas de** 29.04 152 LR LR 20 38 05.7
comp=Z,102nm,22.0s,baz=30,slow=39
DLBC **Dease Lake** 29.95 326 P **P** 20 25 12.7 +0.9
comp=Z,17nm,1.1s,baz=136,slow=6.6,SNR=14
DLBC LR LR 20 37 58.1
comp=Z,366nm,18.1s,baz=110,slow=38
DLBC **Dease Lake** 29.95 326 P **P** 20 25 15.1 +3.3
FRB **Frobisher Bay** 32.30 24 P **P** 20 25 32.5 +0.2
comp=Z,8.1nm,0.6s,baz=5.3,slow=4.0,SNR=3.9
SJG **San Juan** 33.77 115 P **P** 20 25 46.2 +0.6
comp=Z,4.2nm,0.3s,baz=301,slow=20,SNR=1.5
HYT **Haines Junctio** 34.43 327 P **P** 20 25 52.8 +1.7
HYT IAmb IAmb 20 25 56.3
comp=Z,11nm,1.2s
PINM **Pinnacle** 35.38 325 P **P** 20 25 58.2 -1.0
baz=112
DBBC **Dabeiba** 35.84 141 *e*P **P** 20 26 04.4 +0.9
TABL **Table Mountain** 35.92 325 P **P** 20 26 06.5 +2.5
ZARC **Zaragoza, Cauc** 36.14 138 *e*P **P** 20 26 06.6 +0.5
CTG **Chitna Glacier** 36.20 326 P **P** 20 26 05.9 -0.5
baz=112
MESA **MESA** 36.20 324 P **P** 20 26 06.1 -0.3
baz=110
EPYK **Eagle Plains** 36.90 335 P **P** 20 26 11.8 -0.3
baz=124
M27K **Edge Creek, AK** 36.97 328 P **P** 20 26 12.3 -0.6
baz=113,SNR=12
INK **Inuvik** 37.07 339 P **P** 20 26 13.4 -0.1
comp=Z,2.9nm,0.7s,baz=122,slow=8.2,SNR=6.9
INK **Inuvik** 37.07 339 P **P** 20 26 13.1 -0.4
baz=130
INK **Inuvik** 37.07 339 P **P** 20 26 13.7 +0.2
INK IAmb IAmb 20 26 17.0
comp=Z,6.7nm,0.9s
BCAR **Beaver Creek A** 37.22 329 P **P** 20 26 16.4 +1.6
L27K **Beaver Creek,** 37.23 329 P **P** 20 26 14.7 -0.2
baz=114
L27K **Beaver Creek,** 37.23 329 P **P** 20 26 16.4 +1.4
L27K IAmb IAmb 20 26 19.6
comp=Z,6.4nm,0.8s
PAMC **Pamplona, Colo** 37.45 135 *e*P **P** 20 26 18.6 +0.8
M26K **Nabesna, AK** 37.47 327 P **P** 20 26 17.3 +0.3
baz=112,SNR=9.3
PLMC **San Jos del P** 37.62 143 *e*P **P** 20 26 18.3 -0.4
EGAK **Eagle** 37.70 331 P **P** 20 26 19.1 +0.3
baz=117,SNR=11
EGAK **Eagle** 37.70 331 P **P** 20 26 19.2 +0.3
EGAK IAmb IAmb 20 26 22.5
comp=Z,8.3nm,0.9s
BMRM **Bremner River** 37.70 325 P **P** 20 26 19.3 +0.3
baz=108
K27K **Chicken** 37.73 330 P **P** 20 26 19.7 +0.6
K27K IAmb IAmb 20 26 23.6
comp=Z,6.8nm,0.9s
NORC **Norcasia** 37.76 140 *e*P **P** 20 26 20.6 +0.7
BARC **Barichara** 37.80 137 *e*P **P** 20 26 20.9 +0.5
GUY2C **Guyana, Caldas** 37.80 141 *e*P **P** 20 26 21.2 +0.5
L26K **Log Cabin Wild** 37.86 328 P **P** 20 26 21.0 +0.8
baz=112
N25K **Chitina, Valde** 37.90 326 P **P** 20 26 21.2 +0.5
baz=109
TOLC **Tolima** 38.37 141 *e*P **P** 20 26 26.7 +1.3
YOTC **Yotoco, Valle** 38.39 143 *e*P **P** 20 26 25.1 -0.2
RUSC **La Rusia** 38.43 137 P **P** 20 26 26.5 +0.4
RUSC IAmb IAmb 20 26 28.3
comp=Z,19nm,1.2s
RUSC **La Rusia** 38.43 137 *e*P **P** 20 26 26.1 0.0
KLU **Klutina** 38.47 325 P **P** 20 26 25.9 +0.4
baz=108,SNR=6.1
KLU **Klutina** 38.47 325 P **P** 20 26 26.6 +1.1
KLU IAmb IAmb 20 26 30.8
comp=Z,9.6nm,1.0s
SCRK **Sand Creek** 38.48 329 P **P** 20 26 25.4 -0.2
baz=113
ROSC **El Rosal** 38.66 140 P **P** 20 26 28.8 +0.9
comp=Z,6.1nm,0.3s,baz=64,slow=15,SNR=4.4
ROSC LR LR 20 45 19.8
comp=Z,50nm,20.0s,baz=122,slow=41
RIDG **Independent Ri** 38.75 329 P **P** 20 26 27.3 -0.5
baz=111
RIDG **Independent Ri** 38.75 329 P **P** 20 26 29.6 +1.8
RIDG IAmb IAmb 20 26 32.3
comp=Z,11nm,1.0s
ORTC **Ortega, Tolima** 38.99 142 *e*P **P** 20 26 30.6 +0.4
CHIC **Chingaza** 39.14 139 *e*P **P** 20 26 31.9 0.0
POPC **Popayan, Colom** 39.50 145 *e*P P 20 26 25.9 -8.9
WAT6 **Susitna Watana** 39.61 326 P **P** 20 26 34.5 -0.6
baz=107,SNR=5.6
KNK **Knik Glacier** 39.62 325 P **P** 20 26 34.3 -0.8
baz=105
SML **Sawmill** 39.66 325 P **P** 20 26 34.1 -1.4
baz=105
SML **Sawmill** 39.66 325 P **P** 20 26 37.6 +2.2
SML IAmb IAmb 20 26 40.2
comp=Z,12nm,1.0s
PRP **Porcupine Dome** 39.69 331 P **P** 20 26 35.8 +0.1
baz=113,SNR=8.3
PRP **Porcupine Dome** 39.69 331 P **P** 20 26 36.9 +1.3
PRP IAmb IAmb 20 26 39.5
comp=Z,5.3nm,0.8s
BBAC **Balboa, Cauca** 39.70 146 *e*P **P** 20 26 37.5 +1.1
PCON **Cinco Dias** 39.81 145 *e*P **P** 20 26 38.6 +0.9
HDA **Harding Lake** 39.85 329 P **P** 20 26 36.4 -0.5
baz=110
HDA **Harding Lake** 39.85 329 P **P** 20 26 38.5 +1.7
SOTA **Rioblanco** 39.89 145 *e*P **P** 20 26 39.4 +1.1
GHO **Glory Hole Cre** 39.93 325 P **P** 20 26 38.6 +0.9
GHO IAmb IAmb 20 26 42.0
comp=Z,8.3nm,0.9s
IL31 **39.95 330** P **P** 20 26 38.8 +1.2
ILAR **Eielson Array** 39.95 330 P **P** 20 26 39.4 +1.7
comp=Z,14nm,0.8s,baz=109,slow=6.5,SNR=80
ILAR PcP **PcP** 20 28 42.7 -0.2
comp=Z,5.8nm,0.9s,baz=134,slow=2.7,SNR=9.8
ILAR LR LR 20 44 24.9
comp=Z,197nm,20.0s,baz=118,slow=38
ILAR **Eielson Array** 39.95 330 P **P** 20 26 39.0 +1.3
BETC **Betania** 39.96 143 *e*P **P** 20 26 39.5 +1.2
FYU **Fort Yukon** 39.99 333 P **P** 20 26 38.5 +0.5
FYU IAmb IAmb 20 26 42.5
comp=Z,9.2nm,1.1s
WAT1 **Susitna Watana** 40.04 327 P **P** 20 26 38.3 -0.2
baz=106
BMAR **Burnt Mountain** 40.12 334 P **P** 20 26 40.6 +1.4
RC01 **Rabbit Creek A** 40.14 324 P **P** 20 26 38.8 -0.5
baz=103
CCB **Clear Creek Bu** 40.28 330 P **P** 20 26 41.8 +1.4
CCB IAmb IAmb 20 26 44.5
comp=Z,13nm,0.9s
POKR **Poker Plat Res** 40.29 330 P **P** 20 26 39.6 -1.0
baz=110
POKR **Poker Plat Res** 40.29 330 P **P** 20 26 41.6 +1.1
POKR IAmb IAmb 20 26 44.8
comp=Z,8.9nm,0.8s
RND **Reindeer** 40.34 327 P **P** 20 26 42.0 +1.0
WRH **Wood River Hil** 40.34 329 P **P** 20 26 41.8 +0.9
WRH IAmb IAmb 20 26 45.1
comp=Z,8.0nm,1.0s
COLA **College** 40.37 330 P **P** 20 26 41.6 +0.4
baz=109
COLA **College** 40.37 330 P **P** 20 26 42.0 +0.8
COLA IAmb IAmb 20 26 45.9
comp=Z,16nm,0.9s
TCOL **CIGO, UAF Yank** 40.38 330 P **P** 20 26 41.0 -0.2
baz=109
TCOL **CIGO, UAF Yank** 40.38 330 P **P** 20 26 42.0 +0.8
MDM **Murphy Dome** 40.55 330 P **P** 20 26 43.3 +0.6
MDM IAmb IAmb 20 26 46.8
comp=Z,11nm,1.0s
CUT **Chulitna** 40.70 326 P **P** 20 26 43.0 -0.9
baz=104
SUA **Susitna One** 40.70 324 P **P** 20 26 44.1 0.0
baz=102
H24K **Noodor Dome** 40.71 331 P **P** 20 26 44.6 +0.5
baz=110,SNR=11
NEA2 **Nenana** 40.78 329 P **P** 20 26 44.1 -0.5
baz=108
NEA2 **Nenana** 40.78 329 P **P** 20 26 42.9 -1.6

OTAV **Otavalo** 40.78 149 P **P** 20 26 44.5 -1.1
OTAV IAmb IAmb 20 26 47.8
comp=Z,13nm,1.1s
OTAV **Otavalo** 40.78 149 *e*P **P** 20 26 46.5 +0.9
HOM **Homer** 40.79 321 P **P** 20 26 44.8 +0.1
baz=100
TRF **Thorofare Moun** 40.97 327 P **P** 20 26 45.6 -0.8
baz=105,SNR=7.7
TRF **Thorofare Moun** 40.97 327 P **P** 20 26 48.2 +1.8
TRF IAmb IAmb 20 26 51.0
comp=Z,11nm,1.0s
I23K **Minto, Yukon-K** 41.07 330 P **P** 20 26 47.1 +0.2
baz=108
I23K **Minto, Yukon-K** 41.07 330 P **P** 20 26 48.5 +1.6
I23K IAmb IAmb 20 26 51.3
comp=Z,7.1nm,1.1s
SKT **Skwentna** 41.18 325 P **P** 20 26 48.0 +0.1
baz=102
MACC **Macarena, Meta** 41.20 141 *e*P **P** 20 26 48.6 0.0
KTH **Kantishna Hill** 41.27 327 P **P** 20 26 50.1 +1.4
KTH IAmb IAmb 20 26 53.1
comp=Z,10nm,1.0s
H23K **Yukon River** 41.35 331 P **P** 20 26 50.0 +0.7
baz=109,SNR=6.7
BPAW **Bear Paw Mtn.** 41.44 328 P **P** 20 26 51.8 +1.8
baz=105,SNR=5.1
BPAW **Bear Paw Mtn.** 41.44 328 P **P** 20 26 51.5 +1.5
BPAW IAmb IAmb 20 26 54.3
comp=Z,5.9nm,0.8s
MLY **Manley** 41.59 329 P **P** 20 26 52.2 +0.9
baz=106,SNR=15
MLY **Manley** 41.59 329 P **P** 20 26 52.2 +0.9
MLY IAmb IAmb 20 26 55.8
comp=Z,11nm,1.0s
PPLA **Purkeypile** 41.67 326 P **P** 20 26 52.7 +0.6
baz=103
PPLA **Purkeypile** 41.67 326 P **P** 20 26 53.8 +1.7
DY2G **Dye2** 41.76 28 *i* P **P** 20 26 53.7 +0.8
DY2G IAmb IAmb 20 26 55.7
comp=Z,6.8nm,0.8s
CHUM **Lake Minchumin** 41.95 328 P **P** 20 26 54.2 0.0
baz=104
I21K **Tanana** 42.14 329 P **P** 20 26 56.5 +0.9
baz=105,SNR=8.6
TOLK **Toolik Lake Re** 42.33 335 P **P** 20 26 58.8 +1.5
baz=112,SNR=9.9
TOLK **Toolik Lake Re** 42.33 335 P **P** 20 26 58.2 +0.9
TOLK IAmb IAmb 20 27 01.6
comp=Z,10nm,0.7s
N19K **Bonanza Creek** 42.37 323 P **P** 20 26 58.2 +0.4
baz=98
K20K **Telida** 42.60 327 P **P** 20 26 59.9 +0.3
baz=101
L19K **White Mountain** 42.75 325 P **P** 20 27 01.3 +0.6
baz=99
J20K **Nowinta River** 42.80 328 P **P** 20 27 01.0 -0.1
baz=102
N18K **Kilae Creek** 43.04 322 P **P** 20 27 02.4 -0.7
baz=97
IMAR **Indian Mountai** 43.05 330 P **P** 20 27 04.2 +1.0
EUNU **Eureka** 43.53 3 P **P** 20 27 07.7 +0.8
EUNU IAmb IAmb 20 27 10.6
comp=Z,10nm,1.2s
ICESG **Greenland Ices** 44.92 26 ⇓*i* P **P** 20 27 19.0 +0.5
ICESG IAmb IAmb 20 27 21.2
comp=Z,18nm,0.7s
NEEM **North Greenlan** 45.37 13 *i* P **P** 20 27 23.3 +1.4
NEEM IAmb IAmb 20 27 25.3
comp=Z,21nm,1.0s
SUMG **Summit** 46.24 21 *i* P **P** 20 27 29.9 +0.9
SUMG IAmb IAmb 20 27 32.2
comp=Z,13nm,0.8s
SUMG **Summit** 46.24 21 P **P** 20 27 29.8 +0.9
SCO **Scoresbysund** 51.17 25 *i* P **P** 20 28 07.4 +1.0
SCO IAmb IAmb 20 28 09.8
comp=Z,14nm,0.8s
SCO **Scoresbysund** 51.17 25 P **P** 20 28 07.1 +0.8
DAG **Danmarks Havn** 52.04 17 *i* P **P** 20 28 13.0 +0.2
DAG IAmb IAmb 20 28 15.4
comp=Z,16nm,0.7s
NOR **Nord** 52.51 11 *i* P **P** 20 28 17.5 +1.2
NOR IAmb IAmb 20 28 19.4
comp=Z,7.1nm,0.9s
LPAZ **La Paz** 60.00 146 P **P** 20 29 10.7 -0.4
comp=Z,3.6nm,0.7s,baz=283,slow=1.7,SNR=15
LPAZ **La Paz** 60.00 146 P **P** 20 29 09.2 -2.0
MNMC **Minye Minye** 61.90 149 P **P** 20 29 24.0 +0.3
PB01 **IPOC Station P** 63.66 150 P **P** 20 29 34.2 -0.9
ARCES **ARCESS Array B** 66.23 19 P **P** 20 29 51.7 +0.5
comp=Z,23nm,1.1s,baz=315,slow=5.2,SNR=22
ARCES LR LR 20 58 45.2
comp=Z,86nm,19.2s,baz=330,slow=36
ARCES **ARCESS Array B** 66.23 19 P **P** 20 29 51.2 0.0
KEV **Kevo** 66.46 18 *e*P **P** 20 29 53.3 +0.7
KEV **Kevo** 66.46 18 P **P** 20 29 52.9 +0.3
PGAV **Gavieira, Arco** 66.47 54 *e*P **P** 20 29 56.3 +3.0
PCAB **Cabril** 66.75 55 *e*P **P** 20 29 56.0 +0.9
comp=Z,22nm,1.5s
NB2 **NORSAR Subarra** 66.89 30 P **P** 20 29 55.2 -0.4
comp=Z,6.7nm,1.4s,baz=308,slow=5.3
NOA **NORSAR Array B** 66.89 30 P **P** 20 29 56.4 +0.8
comp=Z,2.4nm,0.8s,baz=304,slow=6.5,SNR=8.1
NOA LR LR 20 57 53.8
comp=Z,70nm,20.4s,baz=300,slow=35
PVRL **Vila Real** 67.17 55 *e*P **P** 20 29 58.6 +0.8
PCAS **Casmilo, Conde** 67.26 56 *e*P **P** 20 29 59.5 +1.2
comp=Z,19nm,1.2s
PMAFR **Mafra** 67.27 58 *e*P **P** 20 30 02.0 +3.6
PVIS **Viseu** 67.33 55 *e*P **P** 20 29 58.9 +0.1
comp=Z,16nm,2.2s
PBRG **Braganca** 67.54 54 *e*P **P** 20 30 02.2 +2.1
MVO **Moncorvo** 67.68 55 *e*P **P** 20 30 02.2 +1.2
comp=Z,18nm,1.3s
MTE **Manteigas** 67.72 56 *e*P **P** 20 30 02.1 +0.8
comp=Z,14nm,1.4s
PMTG **Montargil** 67.93 57 *e*P **P** 20 30 03.8 +1.3
comp=Z,13nm,2.0s
PCBR **Castelo Branco** 68.04 56 *e*P **P** 20 30 03.8 +0.6
comp=Z,14nm,1.2s
PNCL **Nicolau / Gran** 68.20 58 *e*P **P** 20 30 05.8 +1.6
PMRV **Marv??o** 68.31 56 *e*P **P** 20 30 07.4 +2.5
PTEO **Sao Teotonio** 68.36 59 *e*P **P** 20 30 08.9 +3.7
MORF **Marmelete** 68.53 59 *e*P **P** 20 30 08.3 +2.0
MORF IAmb IAmb 20 30 13.1
comp=Z,14nm,1.0s
MESJ **Messejana** 68.55 58 *e*P **P** 20 30 08.2 +1.8
MESJ IAmb IAmb 20 30 10.6
comp=Z,51nm,1.9s
MESJ **Messejana** 68.55 58 *e*P **P** 20 30 07.8 +1.4
comp=Z,24nm,1.6s
PBEJ **Beja** 68.70 58 *e*P **P** 20 30 10.5 +3.1
comp=Z,12nm,1.3s
PCVE **Castro Verde** 68.78 58 *e*P **P** 20 30 09.7 +1.8
comp=Z,22nm,1.3s
PETK **Petropavlovsk-** 68.98 321 P **P** 20 30 08.9 +0.1
comp=Z,2.8nm,0.8s,baz=158,slow=4.8,SNR=4.9
PETK LR LR 21 03 52.6
comp=Z,31nm,18.1s,baz=77,slow=39
PETK **Petropavlovsk-** 68.98 321 P **P** 20 30 09.6 +0.7
PVAQ **Vaqueiros** 69.12 58 *e*P **P** 20 30 11.9 +1.9
comp=Z,28nm,1.4s
PBAR **Barrancos** 69.18 57 *e*P **P** 20 30 10.2 -0.2
comp=Z,14nm,1.8s
BDFB **Brasilia** 70.44 128 P **P** 20 30 18.6 +0.2
comp=Z,5.8nm,0.9s,baz=346,slow=8.3,SNR=2.6
BDFB **Brasilia** 70.44 128 IAmb IAmb 20 30 19.9
comp=Z,12nm,1.2s
ESDC **Sonseca Array** 70.45 55 P **P** 20 30 19.0 +0.8
comp=Z,2.5nm,1.1s,baz=301,slow=7.2,SNR=11
ESDC LR LR 20 59 58.1
comp=Z,48nm,18.8s,baz=235,slow=35
ESDC **Sonseca Array** 70.45 55 P **P** 20 30 18.6 +0.4
ESDC IAmb IAmb 20 30 20.3
comp=Z,4.2nm,1.4s
FINES **FINESS Array B** 72.10 25 P **P** 20 30 28.8 +1.1
comp=Z,11nm,0.7s,baz=311,slow=3.6,SNR=28
FINES LR LR 21 01 09.1
comp=Z,109nm,20.2s,baz=307,slow=35
FINES **FINESS Array B** 72.10 25 P **P** 20 30 28.6 +0.8
FIA1 **FINESS Array S** 72.10 25 P **P** 20 30 27.9 +0.2
CLL **Collm** 73.53 38 *i* P **P** 20 30 37.6 +1.2
comp=Z,10.0nm,1.3s
GRA1 **Grafenberg Arr** 73.64 40 P **P** 20 30 37.8 +0.6
GRFO **Grafenberg** 73.64 40 P **P** 20 30 38.2 +1.1
CPUP **Villa Florida** 73.69 142 P **P** 20 30 37.7 +0.2
comp=Z,4.9nm,0.9s,baz=339,slow=8.3,SNR=6.8

CPUP LR LR 21 07 34.1
comp=Z,29nm,18.1s,baz=256,slow=40
CPUP **Villa Florida** 73.69 142 P **P** 20 30 38.0 +0.4
NKC **Novy Kostel** 73.93 39 *e*P **P** 20 30 41.4 +2.6
NRIK **Noril'sk** 74.01 358 P **P** 20 30 39.1 +0.3
comp=Z,10nm,1.0s,baz=40,slow=3.4,SNR=4.4
NRIK LR LR 21 05 12.0
comp=Z,54nm,18.5s,baz=60,slow=37
NRIK **Noril'sk** 74.01 358 IAmb IAmb 20 30 42.7
comp=Z,9.3nm,0.9s
BRG **Berggiesshubel** 74.27 38 *e*P **P** 20 30 42.0 +1.3
BRG Amp 20 30 44.3
comp=Z,5.6nm,0.8s
DAVA **Damuels** 74.42 42 *e*P **P** 20 30 42.9 +1.0
comp=Z,4.8nm,1.1s
RETA **Reutte** 74.77 42 *e*P **P** 20 30 46.2 +2.4
comp=Z,4.1nm,0.9s
PVCC **Panska Ves** 74.79 38 AMS AMS 21 01 50.0
PRA **Prague** 75.02 38 AMS AMS 21 03 40.0
comp=Z,100nm,5.4s
MOTA **Moosalm** 75.04 42 *e*P **P** 20 30 47.1 +1.6
comp=Z,2.4nm,0.5s
FETA **Feichten** 75.04 42 *e*P **P** 20 30 47.2 +1.7
comp=Z,6.0nm,1.2s
PRU **Pruhonice** 75.13 38 *e*P **P** 20 30 47.6 +1.9
PRU AMS AMS 21 02 00.0
comp=Z,100nm,15.4s
SQTA **Sankt Quirin** 75.17 42 *e*P **P** 20 30 48.7 +2.5
comp=Z,4.2nm,0.9s
KHC **Kasperske Hory** 75.20 39 *e*P **P** 20 30 47.6 +1.4
KHC AMS AMS 21 03 00.0
comp=Z,100nm,20.4s
WATA **Walderalm** 75.29 41 *e*P **P** 20 30 48.4 +1.4
comp=Z,2.1nm,0.5s
WTTA **Wattenberg** 75.37 41 *e*P **P** 20 30 49.8 +2.3
comp=Z,2.8nm,0.8s
GERES **GERESS Array B** 75.44 39 P **P** 20 30 48.9 +1.2
comp=Z,2.8nm,0.7s,baz=328,slow=4.7,SNR=23
CHVC **Chvalec** 75.48 37 *e*P **P** 20 30 49.3 +1.5
UPC **Upice** 75.51 37 *e*P **P** 20 30 49.6 +1.7
OSTC **Ostas** 75.58 37 *e*P **P** 20 30 49.9 +1.6
PABE **Paberze** 75.59 30 *e*P **P** 20 30 50.5 +2.2
DPC **Dobruska-Polom** 75.76 37 *e*P **P** 20 30 51.2 +1.8
DPC AMS AMS 21 02 50.0
comp=Z,100nm,6.9s
CKRC **Cesky Krumlov** 75.77 39 *e*P **P** 20 30 52.3 +2.8
CKRC AMS AMS 21 03 10.0
comp=Z,100nm,16.3s
ABTA **Abfaltersbach** 76.16 41 *e*P **P** 20 30 53.4 +1.6
comp=Z,6.9nm,1.0s
KRLC **Kralicky** 76.17 37 *e*P **P** 20 30 53.5 +1.8
SUW **Suwalki** 76.33 31 *e*P **P** 20 30 54.6 +2.1
KBA **Koelnbreinsper** 76.39 41 *e*P **P** 20 30 55.0 +1.8
comp=Z,4.8nm,1.1s
ISAL **Salakas** 76.39 29 *e*P **P** 20 30 55.0 +2.2
VRAC **Vranov** 76.58 38 *e*P **P** 20 30 55.4 +1.3
IIGN **Ignalina** 76.59 29 *e*P **P** 20 30 56.2 +2.2
KRUC **Moravsky** 76.65 38 *e*P **P** 20 30 55.1 +0.7
KLMR **Klimovskoe** 76.65 20 *e*P **P** 20 30 54.5 +0.3
KLMR AMP 20 30 55.6
comp=Z,9.0nm,0.9s
MORC **Moravsky Berou** 76.73 37 *e*P **P** 20 30 56.0 +1.0
MYKA **Terra Mystica** 76.83 41 *e*P **P** 20 30 56.6 +1.0
comp=Z,3.0nm,0.9s
ROBS **Robic** 77.01 41 *e*P **P** 20 30 59.4 +2.8
CONA **Conrad Observa** 77.13 39 *i* P **P** 20 30 58.5 +1.2
comp=Z,2.4nm,0.6s,SNR=6.5
VOJS **Vojsko** 77.35 41 *i* P **P** 20 30 59.7 +1.1
OBKA **Obir** 77.39 41 *i* P **P** 20 30 59.7 +1.0
comp=Z,14nm,0.8s,SNR=15
ARSA **Arzberg** 77.41 40 *e*P **P** 20 30 59.1 +0.3
comp=Z,4.3nm,1.2s
SMOL **Smolenice** 77.52 38 *e*P **P** 20 31 01.4 +2.0
SOKA **Soboth** 77.53 40 *i* P **P** 20 31 00.6 +1.1
comp=Z,5.0nm,0.6s,SNR=15
ZST **Bratislava** 77.58 38 *e*P **P** 20 31 01.3 +1.6
PERS **Pernice** 77.60 40 *i* P **P** 20 31 00.8 +0.9
SOP **Sopron** 77.65 39 *e*P **P** 20 31 01.6 +1.5
MNK **Minsk** 77.86 29 *i* P **P** 20 31 01.5 +0.4
comp=E,2.0nm,0.9s
MNK *i* P **P** 20 31 01.5 +0.4
comp=N,8.0nm,0.9s
MNK *i* P **P** 20 31 01.5 +0.4
comp=Z,19nm,0.9s,baz=139
MNK *i* PcP **PcP** 20 31 11.1 +0.1
MNK *i* PP **PP** 20 33 57.0 +0.8
MNK *i* PPP PPP 20 35 44.5
MNK *i* S **S** 20 40 56.4 +2.5
MNK *i* ScS **SKSac** 20 41 14.8 -0.2
MNK *i* SS **SS** 20 45 57.4 +4.2
MNK *i* SSS SSS 20 48 53.8
MNK *i* LQ LQ 20 55 54.8
MNK *i* LR LR 21 03 11.2
MNK *i* LRM MLR 21 08 44.7
comp=Z,142nm,19.4s
MNK *i* LRM MLR 21 08 49.3
comp=E,10.0nm,19.4s
MNK *i* LRM MLR 21 08 52.6
comp=N,181nm,19.4s
VYHS **Vyhne** 78.22 37 *e*P **P** 20 31 04.2 +0.9
MPLH **Magyarpolny** 78.48 39 *e*P **P** 20 31 05.9 +1.2
PSZ **Piszkesteto** 79.14 37 *e*P **P** 20 31 09.1 +0.7
KOVH **Kovagotottos** 79.50 39 *e*P **P** 20 31 10.9 +0.6
KOLS **Kolonicke sedl** 79.55 35 *e*P **P** 20 31 12.6 +2.0
MORH **Mrgy, Hungar** 79.69 39 *e*P **P** 20 31 12.1 +0.8
TRPA **Tarpa** 80.25 36 ⇑P **P** 20 31 16.2 +1.9
TRPA **Tarpa** 80.25 36 *e*P **P** 20 31 15.9 +1.6
FRGS **Fruska Gora** 81.01 39 ⇑P **P** 20 31 20.0 +1.4
BMR **Baia Mare** 81.02 36 ⇓P **P** 20 31 20.9 +2.4
AKASG **Malin Array Be** 81.28 31 P **P** 20 31 20.4 +0.6
comp=N,10nm,0.7s,baz=322,slow=4.7,SNR=24
AKASG LR LR 21 07 31.7
comp=N,66nm,18.7s,baz=300,slow=36
AKASG **Malin Array Be** 81.28 31 P **P** 20 31 19.6 -0.2
AKASG IAmb IAmb 20 31 23.6
comp=Z,3.4nm,1.4s
DRGR **81.29 37** ⇑P **P** 20 31 21.3 +1.3
PLCA **Paso Flores** 81.29 159 P **P** 20 31 20.5 +0.7
comp=Z,4.7nm,0.8s,baz=340,slow=8.5,SNR=7.9
PLCA **Paso Flores** 81.29 159 P **P** 20 31 20.3 +0.5
KEST **Kesra** 81.31 52 P **P** 20 31 21.9 +1.5
comp=Z,8.4nm,1.0s,baz=280,slow=5.9,SNR=8.0
KEST LR LR 21 08 06.5
comp=Z,52nm,18.0s,baz=343,slow=36
KEST **Kesra** 81.31 52 P **P** 20 31 20.4 0.0
BZS **Buzias** 81.59 38 ⇑P **P** 20 31 22.7 +1.1
ARCR **ARCALIA** 81.85 36 ⇑P **P** 20 31 25.1 +2.2
BURAR **Bucovina Array** 81.86 35 ⇓P **P** 20 31 25.1 +2.0
GZR **Gura Zlata** 82.33 38 ⇓P **P** 20 31 26.2 +0.7
MATE **Matera** 82.46 44 ⇓P **P** 20 31 27.6 +1.4
PRAR **RASCA** 82.51 34 ⇓P **P** 20 31 27.5 +1.1
SORM **Soroca** 82.87 33 ⇓P **P** 20 31 30.2 +2.1
BOVS **Bovan** 83.05 39 ⇑P **P** 20 31 30.4 +1.2
OZUR 83.25 36 ⇑P **P** 20 31 31.9 +1.6
VOIR 83.39 36 ⇑P **P** 20 31 31.8 +0.7
MTUR **Matau** 83.55 37 ⇑P **P** 20 31 34.6 +2.7
MLR **Muntele Rosu** 83.77 36 ⇑P **P** 20 31 34.6 +1.5
PLOR **Plostina** 83.83 35 ⇑P **P** 20 31 35.2 +2.0
VRI **Vrincioaia** 83.86 35 ⇓P **P** 20 31 34.2 +0.8
VTS **Vitosha** 84.56 39 ⇓P **P** 20 31 38.2 +1.0
CFR **Carcaliu** 85.03 35 ⇑P **P** 20 31 39.5 +0.2
USRK **Ussuriysk Ar.** 87.38 326 P **P** 20 31 52.3 +1.4
comp=Z,2.3nm,1.0s,baz=32,slow=4.1,SNR=2.7
USRK LR LR 21 14 05.3
comp=Z,46nm,19.1s,baz=35,slow=38
ZALV **Zalesovo Beam** 89.50 358 P **P** 20 32 01.8 +1.1
comp=Z,10nm,0.8s,baz=354,slow=4.0,SNR=32
ZALV LR LR 21 15 53.7
comp=Z,70nm,18.6s,baz=44,slow=38
ZALV **Zalesovo Beam** 89.50 358 P **P** 20 32 01.3 +0.6
TORD **Torodi Ar. Bea** 89.92 74 P **P** 20 32 03.8 +0.4
comp=Z,2.2nm,1.0s,baz=293,slow=5.0,SNR=6.1
TORD LR LR 21 11 12.4
comp=Z,23nm,18.6s,baz=225,slow=35
TORD **Torodi Ar. Bea** 89.92 74 P **P** 20 32 03.4 0.0
TORD IAmb IAmb 20 32 04.5
comp=Z,3.1nm,1.1s
MJAR **Matsushiro Arr** 90.19 318 P **P** 20 32 04.7 +0.3
comp=Z,7.6nm,1.3s,baz=38,slow=5.7,SNR=6.9
BRTR **Keskin Array B** 91.82 35 P **P** 20 32 11.6 -0.4
comp=Z,1.0nm,0.7s,baz=323,slow=2.4,SNR=5.6
BRTR **Keskin Array B** 91.82 35 P **P** 20 32 12.0 0.0
KBZ **Khabaz** 92.32 27 P **P** 20 32 15.9 +1.9
comp=Z,7.7nm,1.0s,baz=320,slow=2.6,SNR=11

KBZ LR LR 21 12 31.0
comp=Z,84nm,21.7s,baz=314,slow=35
SONM Songino Array 92.85 344 P **P 20 32 18.7 +2.1**
comp=Z,3.4nm,0.8s,baz=1.1,slow=3.8,SNR=17
SONM LR LR 21 20 37.3
comp=Z,38nm,18.1s,baz=56,slow=40
KSRS Korea Array 94.63 325 P **P 20 32 26.8 +2.0**
comp=Z,0.7nm,0.6s,baz=38,slow=5.7,SNR=5.1
KSRS LR LR 21 18 53.5
comp=Z,30nm,20.6s,baz=116,slow=38
MKAR Makanchi Array 96.70 360 P **P 20 32 34.8 +0.6**
comp=Z,4.0nm,0.9s,baz=9.6,slow=3.8,SNR=24
MKAR PKKP **PKKPdf 20 49 15.3 -0.9**
comp=Z,0.4nm,0.8s,baz=121,slow=4.7,SNR=4.1
MKAR LR LR 21 17 49.5
comp=Z,27nm,21.1s,baz=356,slow=36
HHC Hu-ho-hao-te 97.98 338 *eP* **P 20 32 39.6 -0.5**
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,63nm,7.1s
CMAR Chiang Mai Arr 122.64 341 PKP **PKiKP 20 38 00.5 +0.3**
comp=Z,0.9nm,0.7s,baz=322,slow=2.5,SNR=5.8
VNA3 Neumayer Olymp 123.96 157 PKPdf **PKPdf 20 38 00.8 -0.1**
SNAA Sanae 126.19 157 PKPdf **PKiKP 20 38 05.6 0.0**
VNDA Vanda 127.84 196 PKP **PKiKP 20 38 09.8 +1.1**
comp=Z,2.9nm,0.9s,baz=317,slow=1.9,SNR=12
WRA Warramunga Arr 131.44 275 PKP **PKPdf 20 38 16.6 0.0**
comp=Z,1.6nm,1.1s,baz=59,slow=2.1,SNR=4.9
BOSA Boshof 132.30 97 PKP **PKPdf 20 38 17.6 -0.7**
comp=Z,3.4nm,0.8s,baz=223,slow=3.1,SNR=5.0
ASAR Alice Springs 133.66 271 PKP **PKPdf 20 38 20.1 -0.7**
comp=Z,0.6nm,0.9s,baz=39,slow=1.7,SNR=6.1
MAW Mawson 147.41 167 PKPbc **PKPbc 20 38 45.4 -1.1**
comp=Z,25nm,0.7s,baz=189,slow=3.5,SNR=70
MAW Mawson 147.41 167 PKPdf **PKPbc 20 38 45.7 -0.8**

BER 20 20:29:05.3±0.8, 67°.83N×120°.28E, h0km, ML1.6, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.20**	**9**	*eP*	Pg	20 29 27.9	-0.2
KIF				*eS*	Sg	20 29 43.3	-0.3
HEF	**Hetta**	**1.39**	**64**	*eP*	Pg	20 29 30.1	-1.9
HEF				*eS*	Sg	20 29 48.0	-2.0
KTK1	**Kautokeino**	**1.61**	**41**	*eP*	Pn	20 29 32.8	-2.2
KTK1				*eS*	Sn	20 29 54.0	-2.5
KTK1				IAML		20 30 03.5	
comp=Z,34nm,0.8s							
ARA0	**ARCESS Array S**	**2.56**	**46**	*eP*	Pn	20 29 46.9	-1.2
ARA0				*eS*	Sn	20 30 16.7	-3.2
ARA0				IAML		20 30 26.6	
comp=Z,1.8nm,0.8s							

MAN 20 20:31:59.8, 15°.93N×120°.29E, h30km, mb4.3, ML3.1, MS2.8, Luzon

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IDC 20 20:33:03.6±2.7, 13°.63S×167°.44E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/40, mbtmp4.1/4, MS4.0/1, Ms1 4.0/1, ms1mx2.8/29, Error ellipse: s-maj=97.2km s-min=38.2km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**20.64**	**141**	LR	LR	20 43 48.2	
comp=Z,424nm,21.8s,baz=312,slow=31							
STKA	**Stephens Creek**	**29.84**	**228**	P	P	20 39 12.8	+0.2
2.0nm,0.5s,baz=50,slow=9.6,SNR=12							
WRA	**Warramunga Arr**	**32.27**	**254**	P	P	20 39 34.4	+0.1
1.0nm,0.5s,baz=84,slow=9.7,SNR=19							
ASAR	**Alice Springs**	**33.23**	**248**	P	P	20 39 42.4	-0.4
1.5nm,0.4s,baz=77,slow=9.5,SNR=42							
MKAR	**Makanchi Array**	**96.52**	**316**	P	P	20 46 35.7	+0.6
0.2nm,0.6s,baz=96,slow=4.5,SNR=2.2							
ARCES	**ARCESS Array B**	**119.23**	**346**	PKP	PKPdf	20 51 53.4	-0.8
2.2nm,1.0s,baz=61,slow=2.4,SNR=6.3							

NIED ***20*** *20:46:00.6, 33°.88N×134°.88E, h46km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.44; $M_{\theta\theta}$=1.33; $M_{\phi\phi}$=1.76; $M_{r\theta}$=0.64; $M_{\theta\phi}$=-0.20; $M_{\phi r}$=0.65; Fault plane solution: M_0=1.84000×10^14^ NP1: ϕ_s=37.00000°, δ81.00000°, λ=-33.00000°. NP2: ϕ_s=134.00000°, δ58.00000°, λ=-169.00000°.*

JMA 20 20:46:00.5, 33°.87N×134°.88E, h46km±1km, M3.5, 8C-3D Broadband fault plane solution: P waves. NP1: ϕ_s=143.00000°, δ60.00000°, λ=-154.00000°. **NP2:** ϕ_s=38.00000°, δ67.00000°, λ=-33.00000°. **Principal axes:** T Plg5.0000°, Azm92.0000°; N Plg51.0000°, Azm188.0000°; P Plg39.0000°, Azm358.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.36**	**258**	⇑P	Pn	20 46 09.9	0.0
JAI				S	Sn	20 46 16.2	-0.4
JWM	**Minabe**	**0.40**	**93**	⇑P	Pn	20 46 10.3	0.0
JWM				S	Sn	20 46 16.9	-0.3
JTNC	**Tanabenakahech**	**0.61**	**95**	⇑P	Pn	20 46 12.8	-0.1
JTNC				S	Sn	20 46 21.7	-0.2
JAWN	**Awajishima-nag**	**0.61**	**2**	⇓P	Pn	20 46 12.9	-0.1
JAWN				S	Sn	20 46 21.7	-0.3
JWY	**Kouya**	**0.69**	**59**	⇑P	Pn	20 46 13.9	-0.1
JWY				S	Sn	20 46 23.3	-0.4
JMN	**Monobe**	**0.84**	**261**	⇑P	Pn	20 46 16.0	-0.1
JMN				S	Sn	20 46 27.2	-0.2
JJS	**Sakaide**	**0.93**	**303**	⇑P	Pn	20 46 16.9	-0.3
JJS				S	Sn	20 46 28.4	-1.1
JHE	**Heguri**	**1.03**	**40**	⇑P	Pn	20 46 18.3	-0.2
JHE				S	Sn	20 46 31.3	-0.5
JKS	**Kasai**	**1.11**	**358**	⇓P	Pn	20 46 19.3	-0.3
JKS				S	Sn	20 46 32.5	-1.3
JKN2	**Miekihoku**	**1.21**	**72**	⇑P	Pn	20 46 20.5	-0.5
JAD	**Aida**	**1.22**	**331**	⇓P	Pn	20 46 20.6	-0.5
JAD				S	Sn	20 46 34.5	-2.0
MAT	**Matsushiro**	**3.81**	**45**	P	Pn	20 46 57.8	+1.1
MAT				S	Sn	20 47 39.6	-0.7

RSNC 20 20:47:19.1±1.0, 2°.64N×75°.06W, h5km±3km, ML3.9, Mw3.9, 5C-6D, Fault plane solution: NP1: ϕ_s63.00000°, δ88.00000°, λ=-175.00000°., **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BETC	**Betania**	**0.38**	**276**	⇓*iP*	Pg	20 47 26.4	-0.1
BETC				*eS*	Sg	20 47 32.1	+0.5
BETC				*i*		20 47 32.5	
comp=Z,8μm,0.3s							
GARC	**Garzon, Huila**	**0.62**	**224**	⇑*iP*	Pg	20 47 30.4	-0.8
GARC				*eS*	Sg	20 47 38.9	-0.4
GARC				*i*		20 47 40.0	
comp=Z,12μm,0.3s							
ORTC	**Ortega, Tolima**	**1.27**	**352**	⇑*iP*	Pg	20 47 40.8	-2.8
ORTC				*eS*	Sg	20 47 58.1	-2.0
ORTC				*i*		20 48 00.3	
comp=Z,3μm,0.2s							
MACC	**Macarena, Meta**	**1.31**	**112**	⇓*iP*	Pn	20 47 41.9	-2.1
MACC				*eS*	Sg	20 47 59.3	-1.9
MACC				*i*		20 48 02.2	
comp=Z,3μm,0.4s							
PCON	**Cinco Dias**	**1.37**	**257**	⇓*iP*	Pn	20 47 43.3	-2.2
PCON				*eS*	Sg	20 48 01.7	-1.6
PCON				*i*		20 48 03.6	
comp=Z,5μm,0.4s							
POPC	**Popayan, Colom**	**1.62**	**266**	⇓*iP*	Pn	20 47 38.0	-11
POPC				*eS*	Sn	20 47 59.9	-10
POPC				*i*		20 48 01.6	
comp=Z,367nm,0.3s							
SOTA	**Rioblanco**	**1.63**	**252**	⇓*iP*	Pn	20 47 47.6	-1.3
SOTA				*eS*	Sn	20 48 09.6	-0.8
SOTA				*i*		20 48 10.8	
comp=Z,1μm,0.6s							
RAC02	**Cali,SGC**	**1.64**	**296**	*eP*	Pn	20 47 47.8	-0.9
RAC02				*eS*	Sn	20 48 09.0	-1.2
YOTC	**Yotoco, Valle**	**1.85**	**316**	*eP*	Pn	20 47 49.7	-1.9
YOTC				*eS*	Sn	20 48 13.7	-1.8
YOTC				*i*		20 48 14.5	
comp=Z,1μm,0.3s							
ANIL	**Santa Ana**	**1.87**	**349**	⇑*eP*	Pn	20 47 48.7	-3.4
ANIL				*eS*	Sn	20 48 14.8	-1.3
TOLC	**Tolima**	**1.95**	**352**	*eP*	Pn	20 47 49.7	-3.4
TOLC				*eS*	Sn	20 48 17.9	-0.3
TOLC				*i*		20 48 19.2	
comp=Z,1μm,0.3s							
VILC	**Villavicencio,**	**2.00**	**43**	*eP*	Pb	20 47 55.0	-1.0
VILC				*eS*	Sb	20 48 21.7	+0.4
CRUC	**La Cruz**	**2.17**	**241**	⇑*eP*	Pn	20 47 56.0	-0.2
CRUC				*eS*	Sn	20 48 24.4	+0.7
CRUC				*i*		20 48 30.1	
comp=Z,581nm,0.5s							
BBAC	**Balboa, Cauca**	**2.27**	**254**	*eP*	Pn	20 47 56.1	-1.4
BBAC				*eS*	Sn	20 48 27.3	+1.4
BBAC				*i*		20 48 31.9	
comp=Z,311nm,0.6s							
ROSC	**El Rosal**	**2.31**	**19**	*eP*	Pn	20 47 56.8	-1.4
ROSC				*eS*	Sn	20 48 28.4	+1.3
ROSC				*i*		20 48 36.3	
comp=Z,673nm,0.5s							
CHIC	**Chingaza**	**2.38**	**34**	*eP*	Pn	20 47 59.2	0.0
CHIC				*eS*	Sn	20 48 30.6	+1.7
CHIC				*i*		20 48 35.7	
comp=Z,1μm,0.5s							
GUVC	**San Jose del G**	**2.43**	**92**	*eP*	Pn	20 47 58.5	-1.1
GUVC				*eS*	Sn	20 48 27.7	-2.0
GUVC				*i*		20 48 37.8	
comp=Z,1μm,0.2s							
PTLC	**Puerto Leguiza**	**2.47**	**174**	*eP*	Pb	20 48 04.6	+0.6
PTLC				*eS*	Sg	20 48 40.8	+2.3
PTLC				*i*		20 48 49.9	
comp=Z,729nm,0.4s							
PLMC	**San Jos del P**	**2.56**	**332**	⇓*eP*	Pn	20 47 59.2	-2.1
PLMC				*eS*	Sn	20 48 33.0	+0.1
PLMC				*i*		20 48 37.1	
comp=Z,834nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.58**	**353**	⇑*eP*	Pn	20 48 00.4	-1.6
GUY2C				*eS*	Sb	20 48 38.6	+0.1
GUY2C				*i*		20 48 41.2	
comp=Z,336nm,0.3s							
MALC	**Bahia Malaga**	**2.65**	**301**	*eP*	Pn	20 48 02.4	-0.1
MALC				*eS*	Sb	20 48 37.9	-2.0
MALC				*i*		20 48 50.3	
comp=Z,212nm,0.4s							
GCUF	**Volcan Galeras**	**2.68**	**238**	*eP*	Pn	20 48 03.0	-0.4
GCUF				*eS*	Sb	20 48 41.5	+0.2
GCUF				*i*		20 48 50.2	
comp=Z,260nm,0.4s							
NORC	**Norcasia**	**2.91**	**4**	*eP*	Pn	20 48 03.4	-2.8
NORC				*eS*	Sb	20 48 45.5	-2.0
NORC				*i*		20 48 49.0	
comp=Z,267nm,0.1s							
PTGC	**Puerto Gaitan,**	**3.31**	**62**	*eP*	Pn	20 48 10.7	-0.8
PTGC				*eS*	Sn	20 48 50.9	-0.3
PTGC				*i*		20 49 05.5	
comp=Z,505nm,0.6s							
TULM	**Tulcn-Chalpat**	**3.33**	**235**	*eP*	Pb	20 48 16.4	-2.6
TULM				*eS*	Sb	20 49 02.1	+2.1
TULM				*i*		20 49 07.9	
comp=Z,117nm,0.7s							
CBOC	**Ciudad Bolivar**	**3.34**	**344**	*eP*	Pn	20 48 11.0	-1.2
CBOC				*eS*	Sn	20 48 50.9	-1.5
HELC	**Santa Helena**	**3.56**	**352**	*eP*	Pn	20 48 15.2	-0.2
HELC				*eS*	Sb	20 49 06.5	+0.1
HELC				*i*		20 49 14.3	
comp=Z,82nm,0.3s							
RUSC	**La Rusia**	**3.78**	**31**	*eP*	Pn	20 48 17.6	-1.0
RUSC				*eS*	Sn	20 49 05.0	+1.3
RUSC				*i*		20 49 19.3	
comp=Z,238nm,0.8s							
OTAV	**Otavalo**	**4.15**	**235**	*eP*	Pn	20 48 25.5	+2.0
BARC	**Barichara**	**4.35**	**25**	*eP*	Pn	20 48 24.3	-1.8
DBBC	**Dabeiba**	**4.50**	**345**	*eP*	Pn	20 48 27.4	-0.6
DBBC				*eS*	Sn	20 49 19.2	-1.6
ZARC	**Zaragoza, Cauc**	**4.82**	**2**	*eP*	Pn	20 48 31.1	-1.4
ZARC				*eS*	Sb	20 49 40.2	-2.3
ZARC				*i*		20 49 51.8	
comp=Z,78nm,0.4s							
PAMC	**Pamplona, Colo**	**5.23**	**27**	*eP*	Pn	20 48 38.2	-0.2
PAMC				*eS*	Sn	20 49 37.2	-2.1
PAMC				*i*		20 50 09.9	
comp=Z,40nm,0.4s							
OCAC	**Ocana**	**5.83**	**17**	*eP*	Pn	20 48 44.2	-2.1
OCAC				*eS*	Sn	20 49 49.5	-4.2
OCAC				*i*		20 50 01.6	
comp=Z,106nm,0.5s							
SJCC	**San Jacinto, C**	**7.21**	**359**	*eP*	Pn	20 49 02.4	-2.9

TUL ***20*** *20:50:16±1.8, 36°.39N±0°.02×96°.86W±0°.05, h5km±7km, ML3.4, mb_Lg3.2/103(NEIC), Error ellipse: s-maj=6.0km s-min=2.0km az=78.0*

NEIC 20 20:50:16.4±1.3, 36°.38N±0°.01×96°.92W±0°.05, h5km±2km, Error ellipse: s-maj=7.4km s-min=3.0km az=259.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.27**	**140**		Pg	20 50 21.4	-0.3
QUOK				Sg	Sg	20 50 24.8	-0.6
OK031	**S. Brethren Rd**	**0.43**	**171**		Pg	20 50 24.9	0.0
BLOK	**Blackwell**	**0.44**	**328**		Pg	20 50 25.5	+0.5
BLOK				Sg	Sg	20 50 31.8	+0.9
T35A	**Sooner Cattle**	**0.63**	**32**	Pg	Pg	20 50 27.9	-0.6
T35B	**Sooner Cattle**	**0.63**	**32**	P		20 50 27.8	
baz=210,SNR=269							
OK029	**Liberty Lake**	**0.73**	**217**		Pg	20 50 30.9	+0.5
OK005	**Luther M Schoo**	**0.76**	**197**	Pg	Pg	20 50 29.3	-1.6
KAN13	**South Haven SW**	**0.77**	**325**		Pg	20 50 31.6	+0.3
KAN13				Sg	Sb	20 50 42.3	-0.9
CROK	**Carrier**	**0.86**	**278**		Pb	20 50 33.6	-0.4
OK025	**Westminster Rd**	**0.87**	**203**		Pg	20 50 33.0	-0.1
OK025				Sg	Sb	20 50 45.3	-0.6
GC02	**Grant County #**	**0.89**	**302**		Pg	20 50 33.9	+0.4
OK009	**Oakdale Elemen**	**0.90**	**207**	Pg	Pg	20 50 33.0	-0.6
BCOK	**Bluff Creek, N**	**0.91**	**218**		Pg	20 50 34.1	+0.2
KAN09	**Caldwell North**	**0.94**	**324**		Pg	20 50 34.5	+0.1
KS20	**Mayfield South**	**0.98**	**329**		Pg	20 50 35.4	+0.1
TUL1	**Leonard**	**1.03**	**117**	P		20 50 35.0	
baz=298							
KAN05	**Bluff City Nor**	**1.05**	**314**		Pg	20 50 36.7	+0.1
OKCSW	**OKLAHOMA CITY**	**1.06**	**203**		Pg	20 50 36.3	-0.5
OK032	**Salt Plains WL**	**1.12**	**292**		Pg	20 50 38.0	+0.1
FNO	**Franklin**	**1.19**	**199**		Pg	20 50 38.3	-1.0
KAN08	**Anthony NE Sta**	**1.19**	**315**		Pg	20 50 39.3	0.0
KAN10	**Anthony SW Sta**	**1.20**	**309**		Pb	20 50 39.5	-0.1
KAN12	**Harper NE Stat**	**1.26**	**317**		Pg	20 50 40.3	-0.2
U32A	**Winter Ranch,**	**1.68**	**271**		Pb	20 50 47.6	-0.2
U32A				IAmb_Lg		20 51 14.5	
comp=Z,259nm,0.8s							
U32A	**Winter Ranch,**	**1.68**	**271**	P		20 50 47.7	
baz=90							
U32A				Sb		20 51 11.2	
baz=90							
X34A	**Smith Ranch, M**	**1.93**	**203**		Pb	20 50 51.2	-0.9
U38A	**Gravette**	**2.05**	**88**		Pn	20 50 51.7	+0.1
U38A	**Gravette**	**2.05**	**88**	P		20 50 52.0	
baz=269,SNR=70							
U38A				S		20 51 18.6	
baz=269							
X37A	**Clayton**	**2.19**	**144**		Pn	20 50 53.7	+0.2
X37A	**Clayton**	**2.19**	**144**	P		20 50 53.7	
baz=326,SNR=53							
X37A				S		20 51 21.9	
baz=326							
WMOK	**Wichita Mounta**	**2.23**	**223**		Pn	20 50 54.9	+0.7
WMOK	**Wichita Mounta**	**2.23**	**223**	P		20 50 55.0	
baz=43,SNR=163							
LOOK	**Love County**	**2.39**	**185**		Pn	20 50 56.7	+0.4
LOOK				IAmb_Lg		20 51 34.8	
comp=Z,58nm,0.9s							
HHAR	**Hobbs**	**2.41**	**92**		Pn	20 50 56.8	+0.2
HHAR	**Hobbs**	**2.41**	**92**	P		20 50 57.0	
baz=273							
R32A	**Long Quarter,**	**2.48**	**326**	Pn	Pn	20 50 56.3	-1.3
R32A				IAmb_Lg		20 51 40.8	
comp=Z,81nm,0.7s							
R32A	**Long Quarter,**	**2.48**	**326**	S		20 51 34.0	
baz=144							
KSU1	**Kansas State U**	**2.73**	**5**		Pn	20 50 59.6	-1.3
W39A	**Magazine**	**2.81**	**114**		Pn	20 51 01.9	-0.1
W39A	**Magazine**	**2.81**	**114**	P		20 51 01.6	
baz=296							
Z35A	**Perchaven, San**	**3.06**	**185**	Pn	Pn	20 51 05.5	+0.1
Z35A	**Perchaven, San**	**3.06**	**185**	P		20 51 06.2	
baz=5.5,SNR=6.8							
U40A	**Yellville**	**3.29**	**89**		Pn	20 51 08.4	-0.1
U40A	**Yellville**	**3.29**	**89**	P		20 51 08.5	
baz=272,SNR=38							
U40A				P		20 51 08.5	
baz=272,SNR=38							
MIAR	**Mount Ida**	**3.29**	**123**		Pn	20 51 08.7	+0.1
MIAR	**Mount Ida**	**3.29**	**123**	P		20 51 08.6	
baz=305,SNR=27							
CBKS	**Cedar Bluff**	**3.30**	**318**		Pn	20 51 09.0	+0.2
CBKS	**Cedar Bluff**	**3.30**	**318**	P		20 51 09.6	
baz=136							
CBKS				S		20 51 49.5	
baz=136							
Z38A	**Mt. Pleasant**	**3.50**	**152**	Pn	Pn	20 51 09.5	-2.0
Z38A				IAmb_Lg		20 52 15.5	
comp=Z,64nm,0.8s							
MGMO	**Mountain Grove**	**3.82**	**77**		Pn	20 51 15.4	-0.4
MGMO				IAmb_Lg		20 52 17.9	
comp=Z,70nm,0.8s							
X40A	**Basin Creek Fa**	**3.84**	**118**		Pn	20 51 16.4	+0.3
X40A				IAmb_Lg		20 52 21.4	
comp=Z,42nm,0.8s							
X40A	**Basin Creek Fa**	**3.84**	**118**	P		20 51 16.5	
baz=301,SNR=17							
X40A				P		20 51 16.5	
baz=301,SNR=17							
FCAR	**Ozark Folk Cen**	**3.92**	**96**		Pn	20 51 16.9	-0.3
WHAR	**Wooly Hollow**	**3.92**	**105**		Pn	20 51 17.4	+0.1
WHAR				IAmb_Lg		20 52 27.6	
comp=Z,54nm,0.8s							
W41B	**Gary Mavity, V**	**3.99**	**106**	P		20 51 17.7	
baz=289,SNR=14							
W41B				S		20 52 04.9	
baz=289							
AMTX	**Amarillo**	**4.15**	**250**	IAmb_Lg		20 52 40.9	
comp=Z,39nm,0.7s							
R40A	**Maddes Statio**	**4.17**	**61**		Pn	20 51 20.2	-0.6
R40A				IAmb_Lg		20 52 29.2	
comp=Z,61nm,0.8s							
R40A	**Maddes Statio**	**4.17**	**61**	P		20 51 20.6	
baz=244,SNR=14							
P38A	**Dawn**	**4.20**	**39**		Pn	20 51 20.8	-0.4
P38A				IAmb_Lg		20 52 33.4	
comp=Z,42nm,0.7s							
P38A	**Dawn**	**4.20**	**39**	P		20 51 21.3	
baz=220,SNR=6.7							
N33A	**J Bar K, Exete**	**4.37**	**355**	IAmb_Lg		20 52 39.6	
comp=Z,74nm,1.0s							
N35A	**Tabor**	**4.58**	**12**		Pn	20 51 23.1	-3.3
N35A				IAmb_Lg		20 52 51.9	
comp=Z,74nm,1.0s							
LCAR	**Lake Charles**	**4.67**	**92**	Pn	Pn	20 51 23.6	-4.0
LCAR				IAmb_Lg		20 52 41.1	
comp=Z,35nm,0.8s							
T42A	**Van Buren**	**4.73**	**80**	Pn	Pn	20 51 27.0	-1.4
CCM	**Cathedral Cave**	**4.83**	**68**	IAmb_Lg		20 52 56.6	
comp=Z,87nm,0.8s							
CCAR	**Cane Creek**	**4.88**	**119**	IAmb_Lg		20 52 52.0	
comp=Z,23nm,0.7s							
P40A	**Paris**	**4.97**	**49**	Pn	Pn	20 51 31.1	-0.7
P40A				IAmb_Lg		20 52 50.3	
comp=Z,53nm,0.8s							
NATX	**Nacogdoches**	**4.98**	**157**	IAmb_Lg		20 53 04.9	
comp=Z,31nm,0.8s							
BGNE	**Belgrade**	**5.11**	**350**	IAmb_Lg		20 53 11.0	
comp=Z,79nm,0.8s							
KSCO	**Kaye Shedlock'**	**5.23**	**302**	Pn	Pn	20 51 33.8	-1.6
KSCO				IAmb_Lg		20 53 10.8	
comp=Z,26nm,0.8s							
N38A	**Joes South For**	**5.27**	**32**	Pn	Pn	20 51 34.7	-1.1
N38A				IAmb_Lg		20 53 08.7	
comp=Z,55nm,0.7s							
MSTX	**Muleshoe**	**5.36**	**245**	Pn	Pn	20 51 34.8	-2.4
GNAR	**Gosnell**	**5.60**	**92**	IAmb_Lg		20 53 23.7	
comp=Z,70nm,0.8s							
435B	**Jarrell**	**5.61**	**186**	IAmb_Lg		20 53 25.0	
comp=Z,32nm,0.7s							
SLM	**Saint Louis**	**5.77**	**65**	IAmb_Lg		20 53 16.1	
comp=Z,49nm,0.9s							
T25A	**Trinidad**	**6.06**	**279**	IAmb_Lg		20 53 34.9	
comp=Z,41nm,0.9s							
OGNE	**Ogallala**	**6.06**	**320**	Pn	Pn	20 51 45.4	-1.4
OGNE				IAmb_Lg		20 53 35.1	
comp=Z,29nm,0.8s							
SCIA	**State Center**	**6.22**	**26**	IAmb_Lg		20 53 46.8	
comp=Z,37nm,0.8s							
JCT	**Junction City**	**6.36**	**203**	IAmb_Lg		20 53 47.6	
comp=Z,19nm,0.8s							
K31A	**O'Neill**	**6.39**	**348**	IAmb_Lg		20 53 54.5	
comp=Z,57nm,0.8s							
W45A	**Hickory Valley**	**6.41**	**99**	IAmb_Lg		20 53 41.7	
comp=Z,34nm,0.7s							
K38A	**Parkersburg**	**7.03**	**26**	IAmb_Lg		20 54 06.9	
comp=Z,33nm,0.9s							
L40A	**Anamosa**	**7.19**	**36**	IAmb_Lg		20 54 12.2	
comp=Z,18nm,0.7s							
HDIL	**Hopedale**	**7.29**	**53**	IAmb_Lg		20 54 26.9	
comp=Z,46nm,0.7s							
O44A	**Mansfield**	**7.64**	**58**	IAmb_Lg		20 54 16.0	
comp=Z,39nm,0.7s							
I37A	**Lemond, Waseca**	**8.09**	**18**	IAmb_Lg		20 54 46.2	
comp=Z,18nm,1.0s							
PHWY	**Pilot Hill**	**8.27**	**309**	IAmb_Lg		20 54 56.0	
comp=Z,13nm,1.0s							
JFWS	**Jewell Farm**	**8.31**	**36**	IAmb_Lg		20 54 40.4	
comp=Z,19nm,0.9s							
CLTN	**Cedars of Leba**	**8.56**	**89**	IAmb_Lg		20 54 50.6	
comp=Z,13nm,0.7s							
WCI	**Wyandotte Cave**	**8.67**	**75**	IAmb_Lg		20 54 55.0	
comp=Z,28nm,0.7s							
SFIN	**Lafayette**	**8.69**	**60**	IAmb_Lg		20 54 50.0	
comp=Z,29nm,0.7s							
BLO	**Bloomington**	**8.69**	**68**	IAmb_Lg		20 54 49.7	
comp=Z,42nm,0.8s							
Y49A	**Blount Mountai**	**8.97**	**103**	IAmb_Lg		20 55 09.0	
comp=Z,13nm,0.8s							
U49A	**Red Boiling Sp**	**8.98**	**86**	IAmb_Lg		20 54 57.7	
comp=Z,11nm,0.8s							
RSSD	**Black Hills**	**9.45**	**327**	IAmb_Lg		20 55 20.7	
comp=Z,24nm,1.2s							
F33A	**5 Mile Ranch,**	**9.46**	**3**	IAmb_Lg		20 55 21.0	
comp=Z,11nm,0.9s							
W50A	**Signal Mountai**	**9.51**	**94**	IAmb_Lg		20 55 20.1	
comp=Z,20nm,0.8s							
R49A	**Shelbyville**	**9.55**	**75**	IAmb_Lg		20 55 25.9	
comp=Z,12nm,0.8s							
P48A	**Milroy**	**9.59**	**68**	IAmb_Lg		20 55 16.2	
comp=Z,36nm,0.7s							
RWWY	**Rawlins**	**9.60**	**307**	IAmb

n228,σ1§11/224,mb4.0/9,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.05**	**183**	Pg	**Pg**	**20 54 33.8**	**-0.2**
OK032				Sg	**Sg**	**20 54 35.0**	**-0.4**
GC02	**Grant County #**	**0.28**	**90**		**Pg**	**20 54 38.5**	**+0.8**
KAN10	**Anthony SW Sta**	**0.28**	**18**	Pg	**Pg**	**20 54 38.5**	**+0.6**
KAN10				Sg	**Sg**	**20 54 43.0**	**+1.3**
KAN05	**Bluff City Nor**	**0.37**	**46**		**Pg**	**20 54 40.2**	**+0.8**
CROK	**Carrier**	**0.39**	**152**		**Pg**	**20 54 40.1**	**+0.4**
KAN08	**Anthony NE Sta**	**0.42**	**27**	Pg	**Pg**	**20 54 41.0**	**+0.6**
KAN08				Sg	**Sb**	**20 54 47.3**	**-0.8**
KAN12	**Harper NE Stat**	**0.47**	**21**	Pg	**Pg**	**20 54 42.0**	**+0.6**
KAN09	**Caldwell North**	**0.55**	**59**		**Pg**	**20 54 43.5**	**+0.7**
KAN13	**South Haven SW**	**0.61**	**74**		**Pg**	**20 54 44.5**	**+0.7**
KS20	**Mayfield South**	**0.64**	**54**		**Pg**	**20 54 45.2**	**+0.6**
U32A	**Winter Ranch,**	**0.79**	**234**	Pg	**Pg**	**20 54 46.9**	**-0.5**
U32A	**Winter Ranch,**	**0.79**	**234**	P		20 54 46.8	
	baz=54,SNR=71						
BLOK	**Blackwell**	**0.80**	**96**		**Pg**	**20 54 47.9**	**+0.4**
OK029	**Liberty Lake**	**1.22**	**150**	Pn	**Pg**	**20 54 54.9**	**-0.6**
BCOK	**Bluff Creek, N**	**1.29**	**158**	Pn	**Pn**	**20 54 55.8**	**-0.4**
T35A	**Sooner Cattle**	**1.36**	**87**		**Pn**	**20 54 57.9**	**+0.6**
T35B	**Sooner Cattle**	**1.36**	**87**	P		20 54 58.0	
	baz=267,SNR=328						
T35B				S		20 55 16.4	
	baz=267						
QUOK	**Quay**	**1.39**	**119**		**Pn**	**20 54 58.1**	**+0.5**
OK009	**Oakdale Elemen**	**1.42**	**153**		**Pn**	**20 54 58.4**	**+0.3**
OK031	**S. Brethren Rd**	**1.42**	**129**		**Pn**	**20 54 58.5**	**+0.4**
OK005	**Luther M Schoo**	**1.45**	**145**		**Pn**	**20 54 59.1**	**+0.6**
OK025	**Westminster Rd**	**1.45**	**151**		**Pn**	**20 54 58.8**	**+0.3**
OK001	**Jones High Sch**	**1.49**	**150**		**Pn**	**20 54 58.8**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.57**	**156**		**Pn**	**20 55 00.7**	**+0.5**
R32A	**Long Quarter,**	**1.62**	**346**		**Pb**	**20 55 01.9**	**-0.3**
R32A	**Long Quarter,**	**1.62**	**346**	P		20 55 01.9	
	baz=166,SNR=486						
R32A				S		20 55 23.4	
	baz=166						
FNO	**Franklin**	**1.72**	**157**		**Pn**	**20 55 02.9**	**+0.7**
OK011	**Prague**	**1.84**	**137**		**Pn**	**20 55 04.2**	**+0.4**
WMOK	**Wichita Mounta**	**2.16**	**193**	P	**Pn**	**20 55 08.4**	**+0.1**
	baz=12						
WMOK				S	**Sn**	**20 55 36.3**	**+1.1**
	baz=12						
WMOK	**Wichita Mounta**	**2.16**	**193**	Pn	**Pn**	**20 55 08.4**	**+0.1**
WMOK				IAmb_Lg		20 55 39.6	
	comp=Z,716nm,0.9s						
WMOK	**Wichita Mounta**	**2.16**	**193**	P		20 55 09.0	
	baz=12,SNR=68						
WMOK				S		20 55 37.9	
	baz=12						
TUL1	**Leonard**	**2.16**	**115**	P	**Pn**	**20 55 09.5**	**+1.2**
	baz=296,SNR=82						
TUL1				S	**Sn**	**20 55 37.8**	**+2.5**
	baz=296						
TUL1	**Leonard**	**2.16**	**115**	P		20 55 09.6	
	baz=296,SNR=39						
TUL1				S		20 55 39.9	
	baz=296						
X34A	**Smith Ranch, M**	**2.27**	**172**		**Pn**	**20 55 11.2**	**+1.5**
CBKS	**Cedar Bluff**	**2.30**	**329**	P	**Pn**	**20 55 11.2**	**+0.9**
	baz=148,SNR=84						
CBKS				S	**Sn**	**20 55 39.8**	**+1.1**
	baz=148						
CBKS	**Cedar Bluff**	**2.30**	**329**		**Pn**	**20 55 11.3**	**+1.0**
CBKS				IAmb_Lg		20 55 44.1	
	comp=Z,804nm,0.8s						
CBKS	**Cedar Bluff**	**2.30**	**329**	P		20 55 11.4	
	baz=148,SNR=180						
CBKS				S		20 55 40.7	
	baz=148						
KSU1	**Kansas State U**	**2.58**	**29**	P	**Pn**	**20 55 15.5**	**+1.5**
	baz=210,SNR=93						
KSU1	**Kansas State U**	**2.58**	**29**		**Pn**	**20 55 15.5**	**+1.5**
KSU1				IAmb_Lg		20 55 57.6	
	comp=Z,672nm,0.7s						
KSU1	**Kansas State U**	**2.58**	**29**	P		20 55 15.6	
	baz=210,SNR=18						
LOOK	**Love County**	**2.97**	**163**		**Pn**	**20 55 20.6**	**+1.1**
LOOK				IAmb_Lg		20 56 13.4	
	comp=Z,456nm,0.7s						
U38A	**Gravette**	**3.10**	**96**		**Pn**	**20 55 22.4**	**+1.2**
U38A				IAmb_Lg		20 56 16.4	
	comp=Z,679nm,0.8s						
U38A	**Gravette**	**3.10**	**96**	P		20 55 22.6	
	baz=278,SNR=49						
X37A	**Clayton**	**3.23**	**134**	Pn	**Pn**	**20 55 24.1**	**+1.1**
X37A				IAmb_Lg		20 56 18.4	
	comp=Z,554nm,0.9s						
X37A	**Clayton**	**3.23**	**134**	P		20 55 24.3	
	baz=315,SNR=52						
AMTX	**Amarillo**	**3.44**	**236**	P	**Pn**	**20 55 27.0**	**+1.1**
	baz=54						
AMTX				Sb	**Sb**	**20 56 16.4**	**+1.3**
	baz=54						
AMTX	**Amarillo**	**3.44**	**236**		**Pn**	**20 55 27.2**	**+1.3**
AMTX				IAmb_Lg		20 56 25.9	
	comp=Z,428nm,0.8s						
AMTX	**Amarillo**	**3.44**	**236**	P		20 55 27.5	
	baz=54						
HHAR	**Hobbs**	**3.48**	**98**		**Pn**	**20 55 27.6**	**+1.1**
HHAR				IAmb_Lg		20 56 29.4	
	comp=Z,651nm,1.0s						
HHAR	**Hobbs**	**3.48**	**98**	P		20 55 27.8	
	baz=280						
Z35A	**Perchaven, San**	**3.60**	**167**		**Pn**	**20 55 28.8**	**+0.7**
Z35A				IAmb_Lg		20 56 27.5	
	comp=Z,366nm,1.2s						
Z35A	**Perchaven, San**	**3.60**	**167**	P		20 55 29.2	
	baz=348,SNR=22						
Z35A				S		20 56 12.6	
	baz=348						
N33B	**J Bar K, Exete**	**3.92**	**8**	P		20 55 32.7	
	baz=189,SNR=27						
N33A	**J Bar K, Exete**	**3.92**	**8**		**Pn**	**20 55 32.5**	**-0.1**
N33A				IAmb_Lg		20 56 46.9	
	comp=Z,281nm,0.8s						
W39A	**Magazine**	**3.95**	**113**	P	**Pn**	**20 55 34.3**	**+1.5**
	baz=296,SNR=8.0						
W39A	**Magazine**	**3.95**	**113**	Pn	**Pn**	**20 55 33.5**	**+0.7**
W39A				IAmb_Lg		20 56 39.9	
	comp=Z,460nm,0.8s						
W39A	**Magazine**	**3.95**	**113**	P		20 55 33.4	
	baz=296,SNR=23						
KSCO	**Kaye Shedlock'**	**4.11**	**303**	P	**Pn**	**20 55 35.0**	**-0.1**
	baz=121						
KSCO				S	**Sn**	**20 56 23.1**	**-0.3**
	baz=121						
KSCO	**Kaye Shedlock'**	**4.11**	**303**	Pn	**Pn**	**20 55 35.4**	**+0.2**
KSCO				IAmb_Lg		20 56 44.2	
	comp=Z,292nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.11**	**303**	P		20 55 36.2	
	baz=121,SNR=30						
U40A	**Yellville**	**4.34**	**95**	P	**Pn**	**20 55 39.1**	**+1.0**
	baz=278						
U40A	**Yellville**	**4.34**	**95**	Pn	**Pn**	**20 55 38.7**	**+0.5**
U40A				IAmb_Lg		20 56 53.8	
	comp=Z,493nm,0.8s						
U40A	**Yellville**	**4.34**	**95**	P		20 55 39.2	
	baz=278,SNR=21						
U40A				P		20 55 39.2	
	baz=278,SNR=21						
ABTX	**Abilene, Hawle**	**4.38**	**196**	P	**Pn**	**20 55 38.6**	**-0.3**
	baz=15						
ABTX				S	**Sn**	**20 56 31.2**	**+1.2**
	baz=15						
ABTX	**Abilene, Hawle**	**4.38**	**196**	Pn	**Pn**	**20 55 38.4**	**-0.5**
ABTX				IAmb_Lg		20 56 52.6	
	comp=Z,282nm,1.1s						
MIAR	**Mount Ida**	**4.42**	**120**	P	**Pn**	**20 55 40.0**	**+0.7**
	baz=303						
MIAR				S	**Sn**	**20 56 32.6**	**+1.8**
	baz=303						
MIAR	**Mount Ida**	**4.42**	**120**	Pn	**Pn**	**20 55 40.0**	**+0.7**
MIAR				IAmb_Lg		20 57 00.6	
	comp=Z,339nm,0.8s						
MIAR	**Mount Ida**	**4.42**	**120**	P		20 55 40.8	
	baz=303,SNR=24						
Z38A	**Mt. Pleasant**	**4.45**	**143**	Pn	**Pn**	**20 55 40.6**	**+0.9**
Z38A	**Mt. Pleasant**	**4.45**	**143**	P		20 55 40.7	
	baz=324,SNR=10						
N35A	**Tabor**	**4.48**	**26**	Pn	**Pn**	**20 55 40.8**	**+0.7**
BGNE	**Belgrade**	**4.55**	**1**	P	**Pn**	**20 55 42.0**	**+0.8**
	baz=181,SNR=25						
BGNE				S	**Sn**	**20 56 34.4**	**+0.3**
	baz=181						
BGNE	**Belgrade**	**4.55**	**1**	Pn	**Pn**	**20 55 41.8**	**+0.7**
BGNE	**Belgrade**	**4.55**	**1**	P		20 55 42.0	
	baz=181,SNR=75						
P38A	**Dawn**	**4.61**	**52**		**Pn**	**20 55 42.5**	**+0.6**
P38A				IAmb_Lg		20 57 10.3	
	comp=Z,311nm,0.8s						
P38A	**Dawn**	**4.61**	**52**	P		20 55 43.0	
	baz=234,SNR=30						
MSTX	**Muleshoe**	**4.71**	**234**	P	**Pn**	**20 55 43.5**	**+0.1**
	baz=51,SNR=6.0						
MSTX				Sb	**Sb**	**20 56 55.0**	**+3.3**
	baz=51						
MSTX	**Muleshoe**	**4.71**	**234**	Pn	**Pn**	**20 55 43.1**	**-0.3**
MSTX				IAmb_Lg		20 57 04.2	
	comp=Z,353nm,1.2s						
MGMO	**Mountain Grove**	**4.76**	**85**		**Pn**	**20 55 45.3**	**+1.2**
MGMO				IAmb_Lg		20 57 05.1	
	comp=Z,329nm,0.9s						
WHTX	**Lake Whitney,**	**4.89**	**172**	P	**Pn**	**20 55 46.2**	**+0.5**
	baz=353,SNR=17						
WHTX	**Lake Whitney,**	**4.89**	**172**		**Pn**	**20 55 46.3**	**+0.5**
WHTX	**Lake Whitney,**	**4.89**	**172**	P		20 55 46.4	
	baz=353,SNR=21						
R40A	**Maddies Statio**	**4.93**	**71**	Pn	**Pn**	**20 55 47.3**	**+0.9**
R40A				IAmb_Lg		20 57 22.9	
	comp=Z,204nm,0.8s						
R40A	**Maddies Statio**	**4.93**	**71**	P		20 55 47.4	
	baz=255,SNR=58						
X40A	**Basin Creek Fa**	**4.97**	**117**	P	**Pn**	**20 55 48.1**	**+1.2**
	baz=300,SNR=28						
X40A				S	**Sn**	**20 56 46.1**	**+1.6**
	baz=300						
X40A	**Basin Creek Fa**	**4.97**	**117**		**Pn**	**20 55 48.1**	**+1.2**
X40A				IAmb_Lg		20 57 14.0	
	comp=Z,251nm,0.7s						
X40A	**Basin Creek Fa**	**4.97**	**117**	P		20 55 48.0	
	baz=300,SNR=49						
X40A				P		20 55 48.0	
	baz=300,SNR=49						
T25A	**Trinidad**	**4.97**	**275**	P	**Pn**	**20 55 46.4**	**-0.8**
	baz=92						
T25A	**Trinidad**	**4.97**	**275**	Pn	**Pn**	**20 55 47.1**	**0.0**
FCAR	**Ozark Folk Cen**	**5.00**	**99**	Pn	**Pn**	**20 55 47.6**	**+0.3**
FCAR				IAmb_Lg		20 57 11.2	
	comp=Z,226nm,0.7s						
WHAR	**Wooly Hollow**	**5.04**	**106**	Pn	**Pn**	**20 55 48.7**	**+0.9**
WHAR				IAmb_Lg		20 57 25.8	
	comp=Z,356nm,0.9s						
OGNE	**Ogallala**	**5.06**	**325**	P	**Pn**	**20 55 49.2**	**+1.0**
	baz=143,SNR=12						
OGNE				S	**Sn**	**20 56 47.2**	**+0.4**
	baz=143						
OGNE	**Ogallala**	**5.06**	**325**	Pn	**Pn**	**20 55 49.8**	**+1.6**
OGNE	**Ogallala**	**5.06**	**325**	P		20 55 49.8	
	baz=143,SNR=47						
W41B	**Gary Mavity, V**	**5.11**	**107**	P	**Pn**	**20 55 49.3**	**+0.5**
	baz=291						
W41B				S	**Sn**	**20 56 48.4**	**+0.5**
	baz=291						
W41B	**Gary Mavity, V**	**5.11**	**107**	P		20 55 49.6	
	baz=291,SNR=15						
237A	**Washetta, Mont**	**5.23**	**157**		**Pn**	**20 55 50.2**	**-0.3**
237A				IAmb_Lg		20 57 21.5	
	comp=Z,321nm,0.9s						
237A	**Washetta, Mont**	**5.23**	**157**	P		20 55 50.6	
	baz=338,SNR=15						
237A				S		20 56 49.4	
	baz=338						
WLAR	**White Oak Lake**	**5.23**	**126**		**Pn**	**20 55 51.2**	**+0.7**
WLAR				IAmb_Lg		20 57 17.8	
	comp=Z,227nm,0.8s						
L34A	**Svendsen Farm,**	**5.30**	**15**	Pn	**Pn**	**20 55 51.7**	**+0.3**
N38A	**Joes South For**	**5.53**	**43**		**Pn**	**20 55 55.4**	**+0.8**
N38A	**Joes South For**	**5.53**	**43**	P		20 55 55.7	
	baz=226,SNR=17						
P40A	**Paris**	**5.54**	**59**	Pn	**Pn**	**20 55 55.4**	**+0.7**
P40A				IAmb_Lg		20 57 30.7	
	comp=Z,362nm,0.8s						
CCM	**Cathedral Cave**	**5.67**	**76**	P	**Pn**	**20 55 57.1**	**+0.6**
	baz=260						
CCM	**Cathedral Cave**	**5.67**	**76**		**Pn**	**20 55 56.8**	**+0.3**
CCM				IAmb_Lg		20 57 35.2	
	comp=Z,192nm,0.8s						
CCM	**Cathedral Cave**	**5.67**	**76**	P		20 55 57.2	
	baz=260,SNR=14						
Z41A	**Richland Creek**	**5.70**	**127**	S	**Sn**	**20 57 01.4**	**-1.0**
	baz=310						
T42A	**Van Buren**	**5.70**	**86**	Pn	**Pn**	**20 55 56.8**	**-0.1**
T42A				IAmb_Lg		20 57 44.1	
	comp=Z,218nm,0.8s						
LCAR	**Lake Charles**	**5.74**	**96**	Pn	**Pn**	**20 55 58.1**	**+0.7**
LCAR				IAmb_Lg		20 57 36.7	
	comp=Z,281nm,0.9s						
K31A	**O'Neill**	**5.78**	**356**	Pn	**Pn**	**20 55 58.7**	**+0.7**
NATX	**Nacogdoches**	**5.87**	**149**	P	**Pn**	**20 55 59.6**	**+0.4**
	baz=331						
NATX	**Nacogdoches**	**5.87**	**149**		**Pn**	**20 55 59.8**	**+0.6**
NATX				IAmb_Lg		20 57 54.7	
	comp=Z,187nm,1.1s						
Q24A	**Divide**	**5.88**	**293**	P	**Pn**	**20 55 59.7**	**0.0**
	baz=109						
SDCO	**Great Sand Dun**	**5.88**	**281**	P	**Pn**	**20 55 59.7**	**0.0**
	baz=97						
SDCO	**Great Sand Dun**	**5.88**	**281**	Pn	**Pn**	**20 56 00.4**	**+0.7**
CCAR	**Cane Creek**	**6.02**	**117**	Pn	**Pn**	**20 56 02.2**	**+0.9**
CCAR				IAmb_Lg		20 57 54.0	
	comp=Z,264nm,0.8s						
435B	**Jarrell**	**6.08**	**175**	P	**Pn**	**20 56 02.3**	**+0.1**
	baz=355						
435B	**Jarrell**	**6.08**	**175**		**Pn**	**20 56 02.2**	**+0.1**
435B				IAmb_Lg		20 57 53.6	
	comp=Z,342nm,0.8s						
PBMO	**Poplar Bluff**	**6.24**	**88**	Pn	**Pn**	**20 56 05.0**	**+0.6**
SCIA	**State Center**	**6.36**	**36**	P	**Pn**	**20 56 06.0**	**0.0**
	baz=219						
SCIA	**State Center**	**6.36**	**36**	Pn	**Pn**	**20 56 06.9**	**+1.0**
X43A	**Marvell**	**6.40**	**109**	P	**Pn**	**20 56 08.5**	**+2.0**
	baz=293						
JCT	**Junction City**	**6.49**	**192**	P	**Pn**	**20 56 08.5**	**+0.7**
	baz=11						
JCT	**Junction City**	**6.49**	**192**	Pn	**Pn**	**20 56 08.6**	**+0.7**
ISCO	**Idaho Springs**	**6.52**	**299**	P	**Pn**	**20 56 08.1**	**-0.4**
	baz=115						
ISCO	**Idaho Springs**	**6.52**	**299**		**Pn**	**20 56 08.4**	**-0.1**
SLM	**Saint Louis**	**6.56**	**72**	IAmb_Lg		20 58 02.6	
	comp=Z,226nm,0.7s						
PARMO	**Parma**	**6.79**	**89**	Pn	**Pn**	**20 56 12.2**	**+0.4**
GDL2	**Guadalupe Moun**	**6.88**	**229**	Pn	**Pn**	**20 56 14.1**	**+0.9**
ANMO	**Albuquerque**	**6.96**	**257**	Pn	**Pn**	**20 56 15.7**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=81,slow=14,SNR=2.6						
ANMO				Pg	Pb	20 56 26.9	-6.4
	comp=Z,0.9nm,0.3s,baz=76,slow=18,SNR=5.5						
ANMO				Lg	Lg	20 58 06.3	
	comp=Z,4.9nm,0.3s,baz=6.7,slow=15,SNR=3.4						
ANMO	**Albuquerque**	**6.96**	**257**	P	**Pn**	**20 56 14.2**	**-0.2**
	baz=72						
ANMO	**Albuquerque**	**6.96**	**257**		**Pn**	**20 56 14.2**	**-0.2**
143A	**Socs Landing,**	**6.96**	**124**	IAmb_Lg		20 58 25.7	
	comp=Z,205nm,1.1s						
ECSD	**EROS Data Cent**	**6.98**	**10**	P	**Pn**	**20 56 13.7**	**-0.9**
	baz=190						
ECSD				S	**Sn**	**20 57 31.9**	**-2.1**
	baz=190						
ECSD	**EROS Data Cent**	**6.98**	**10**	Pn	**Pn**	**20 56 13.6**	**-0.9**
ECSD				IAmb_Lg		20 58 19.2	
	comp=Z,139nm,0.8s						
PHWY	**Pilot Hill**	**7.18**	**310**		**Pn**	**20 56 17.6**	**+0.1**
PHWY				IAmb_Lg		20 58 17.7	
	comp=Z,144nm,0.9s						
S44A	**Carbondale**	**7.19**	**81**		**Pn**	**20 56 18.3**	**+1.0**
S44A				IAmb_Lg		20 58 33.7	
	comp=Z,238nm,0.8s						
S44A	**Carbondale**	**7.19**	**81**	P		20 56 18.1	
	baz=266,SNR=14						
SIUC	**Southern Illin**	**7.22**	**80**		**Pn**	**20 56 18.9**	**+1.2**
SIUC				IAmb_Lg		20 58 37.5	
	comp=Z,221nm,0.8s						
HICK	**Hickman**	**7.22**	**90**	Pn	**Pn**	**20 56 17.6**	**-0.2**
N23A	**Red Feather La**	**7.26**	**306**	P	**Pn**	**20 56 18.3**	**-0.3**
	baz=122						
SMCO	**Snowmass**	**7.30**	**291**	Pn	**Pn**	**20 56 17.5**	**-1.7**
BNM	**Barren Site**	**7.38**	**251**	Pn	**Pn**	**20 56 18.0**	**-2.2**
441A	**DeRidder**	**7.38**	**144**	Pn	**Pn**	**20 56 21.0**	**+1.0**
P43A	**Skaggs, Pawnee**	**7.38**	**65**		**Pn**	**20 56 21.3**	**+1.3**
L40A	**Anamosa**	**7.50**	**44**		**Pn**	**20 56 22.6**	**+1.0**
L40A				IAmb_Lg		20 58 38.0	
	comp=Z,255nm,0.8s						
OXF	**Oxford**	**7.53**	**105**	P	**Pn**	**20 56 22.1**	**0.0**
	baz=290						
OXF	**Oxford**	**7.53**	**105**	Pn	**Pn**	**20 56 22.0**	**0.0**
OXF				IAmb_Lg		20 58 34.7	
	comp=Z,160nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.55**	**71**	Pn	**Pn**	**20 56 23.2**	**+0.9**
Q44A				IAmb_Lg		20 58 42.3	
	comp=Z,177nm,0.8s						
SUSD	**Miller**	**7.60**	**356**	IAmb_Lg		20 58 38.6	
	comp=Z,209nm,0.9s						
Y22D	**IRIS PASSCAL I**	**7.63**	**251**	IAmb_Lg		20 58 42.1	
	comp=Z,230nm,1.0s						
Y45A	**Yeager Farm, C**	**7.68**	**110**	IAmb_Lg		20 58 56.4	
	comp=Z,157nm,0.8s						
MNTX	**Cornudas Mount**	**7.85**	**231**	P	**Pn**	**20 56 25.9**	**-0.6**
	baz=47						
MNTX	**Cornudas Mount**	**7.85**	**231**		**Pn**	**20 56 26.3**	**-0.2**
MNTX	**Cornudas Mount**	**7.85**	**231**	P		20 56 26.7	
	baz=47,SNR=7.6						
HDIL	**Hopedale**	**7.89**	**59**	P	**Pn**	**20 56 27.2**	**+0.3**
	baz=245,SNR=9.9						
HDIL	**Hopedale**	**7.89**	**59**	Pn	**Pn**	**20 56 27.6**	**+0.7**
HDIL	**Hopedale**	**7.89**	**59**	P		20 56 28.2	
	baz=245,SNR=18						
735A	**Kenedy**	**7.98**	**177**	IAmb_Lg		20 58 55.7	
	comp=Z,136nm,1.0s						
I37A	**Lemond, Waseca**	**8.04**	**26**		**Pn**	**20 56 27.9**	**-1.1**
I37A				IAmb_Lg		20 58 55.8	
	comp=Z,146nm,0.8s						
OLIL	**Olney**	**8.22**	**74**	Pn	**Pn**	**20 56 30.8**	**-0.7**
OLIL				IAmb_Lg		20 59 07.3	
	comp=Z,164nm,0.8s						
MVCO	**Mesa Verde**	**8.24**	**276**	IAmb_Lg		20 59 02.7	
	comp=Z,155nm,1.2s						
PV15	**Paradox Valley**	**8.29**	**283**		**Pn**	**20 56 30.4**	**-2.3**
O44A	**Mansfield**	**8.32**	**64**	Pn	**Pn**	**20 56 32.2**	**-0.6**
O44A				IAmb_Lg		20 58 57.8	
	comp=Z,218nm,0.8s						
L42A	**Oliver, Polo**	**8.37**	**49**	Pn	**Pn**	**20 56 31.2**	**-2.4**
L42A				IAmb_Lg		20 59 05.9	
	comp=Z,198nm,0.8s						
WVT	**Waverly**	**8.39**	**92**	P	**Pn**	**20 56 34.0**	**+0.1**
	baz=278						
WVT	**Waverly**	**8.39**	**92**	Pn	**Pn**	**20 56 32.4**	**-1.4**
PLAL	**Pickwick Lake**	**8.43**	**100**	Pn	**Pn**	**20 56 34.9**	**+0.5**
PLAL				IAmb_Lg		20 59 03.1	
	comp=Z,122nm,1.1s						
PV07	**Paradox Valley**	**8.43**	**284**		**Pn**	**20 56 36.4**	**+1.8**
RWWY	**Rawlins**	**8.49**	**307**	Pn	**Pn**	**20 56 34.6**	**-0.8**
RWWY				IAmb_Lg		20 59 10.5	
	comp=Z,180nm,1.1s						
RSSD	**Black Hills**	**8.51**	**330**	P	**Pn**	**20 56 36.1**	**+0.4**
	baz=147						
RSSD	**Black Hills**	**8.51**	**330**	Pn	**Pn**	**20 56 37.2**	**+1.6**
RSSD				IAmb_Lg		20 59 10.2	
	comp=Z,116nm,0.8s						
O20A	**White River Ci**	**8.52**	**296**	IAmb_Lg		20 59 20.1	
	comp=Z,104nm,1.1s						
PV13	**Radium Mtn., P**	**8.54**	**282**	Pn	**Pn**	**20 56 34.7**	**-1.4**
PV12	**Saucer Basin,**	**8.54**	**283**	Pn	**Pn**	**20 56 34.3**	**-1.8**
PV22	**Blue Mesa, Par**	**8.55**	**285**	Pn	**Pn**	**20 56 34.1**	**-2.1**
PV03	**Paradox Valley**	**8.57**	**283**	Pn	**Pn**	**20 56 34.5**	**-2.0**
PV11	**David Mesa, Pa**	**8.59**	**283**	Pn	**Pn**	**20 56 34.6**	**-2.1**
PV11				IAmb_Lg		20 59 13.8	
	comp=Z,104nm,0.9s						
JFWS	**Jewell Farm**	**8.60**	**43**	P	**Pn**	**20 56 36.9**	**+0.1**
	baz=228,SNR=7.9						
JFWS	**Jewell Farm**	**8.60**	**43**		**Pn**	**20 56 35.8**	**-0.9**
JFWS				IAmb_Lg		20 59 08.2	
	comp=Z,207nm,0.7s						
JFWS	**Jewell Farm**	**8.61**	**43**	P		20 56 38.2	
	baz=228,SNR=14						
PV18	**Skein Mesa, Pa**	**8.61**	**283**	Pn	**Pn**	**20 56 35.2**	**-1.9**
146A	**Union**	**8.62**	**117**	IAmb_Lg		20 59 23.4	
	comp=Z,91nm,0.9s						
PV16	**Nyswonger Mesa**	**8.63**	**283**	Pn	**Pn**	**20 56 35.8**	**-1.5**
PV04	**Paradox Valley**	**8.63**	**283**	Pn	**Pn**	**20 56 35.4**	**-1.9**
PV04				IAmb_Lg		20 59 22.9	
	comp=Z,94nm,1.2s						
K22A	**Casper**	**8.63**	**315**	P	**Pn**	**20 56 36.6**	**-0.7**
	baz=130						
K22A	**Casper**	**8.63**	**315**	Pn	**Pn**	**20 56 36.5**	**-0.8**
K22A				IAmb_Lg		20 59 14.1	
	comp=Z,140nm,0.8s						
PV17	**East Wray Mesa**	**8.66**	**283**	Pn	**Pn**	**20 56 37.1**	**-0.6**
PV14	**Lion Creek, Pa**	**8.72**	**283**	Pn	**Pn**	**20 56 36.8**	**-1.8**
TX31	**Lajitas Ar. Si**	**8.78**	**213**	Pn	**Pn**	**20 56 37.7**	**-1.7**
TX32	**Lajitas Array**	**8.78**	**213**	Pn	**Pn**	**20 56 38.2**	**-1.1**
TXAR	**Lajitas Array**	**8.78**	**213**	Pn	**Pn**	**20 56 39.1**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=31,slow=11,SNR=9.4						
TXAR				Pg	Pg	20 57 09.3	-11
	comp=Z,1.2nm,0.3s,baz=24,slow=12,SNR=4.8						
TXAR				Lg	Lg	20 59 01.9	
	comp=Z,2.2nm,0.3s,baz=227,slow=46,SNR=4.0						
TXAR				LR	LR	21 00 21.8	
	comp=Z,41nm,18.1s,baz=0.0,slow=39						
T47A	**Sharon Grove**	**8.89**	**86**	Pn	**Pn**	**20 56 40.3**	**-0.5**
T47A				IAmb_Lg		20 59 29.1	
	comp=Z,148nm,0.9s						
121A	**Cookes Peak, D**	**8.98**	**244**	Pn	**Pn**	**20 56 41.4**	**-0.8**
Z47A	**Carrollton**	**9.08**	**111**	IAmb_Lg		20 59 35.8	
	comp=Z,88nm,1.1s					

N49A	Columbus Grove	11.66	65		Pn	20 57 17.7	-0.9
TKL	Tuckaleechee C	11.72	92	Pn	Pn	20 57 17.4	-2.0
	comp=Z,2.4nm,0.3s,baz=177,slow=8.5,SNR=7.7						
TKL				Sn	Sn	20 59 24.5	-5.8
	comp=Z,1.0nm,0.3s,baz=263,slow=12,SNR=1.9						
TKL				Lg	Lg	21 00 34.4	
	comp=Z,2.0nm,0.3s,baz=36,slow=4.0,SNR=5.9						
TKL				LR	LR	21 01 59.5	
	comp=Z,40nm,18.9s,baz=346,slow=39						
L48A	N Adams	11.80	60	P		20 57 20.8	
	baz=249,SNR=6.2						
L48A				P		20 57 20.8	
	baz=249,SNR=6.2						
ACSO	Alum Creek Sta	12.39	70	P	Pn	20 57 27.8	-0.8
	baz=259						
GOGA	Godfrey	12.55	102	P	Pn	20 57 30.4	-0.3
	baz=290						
M50A	Fremont	12.62	64		Pn	20 57 30.6	-1.1
Q52A	Bidwell	12.77	76	Pn	Pn	20 57 34.1	+0.3
N51A	Ashland	12.98	67		Pn	20 57 35.4	-1.3
GLMI	Grayling	13.00	48	P	Pn	20 57 35.1	-1.8
	baz=237						
GLMI	Grayling	13.00	48	Pn	Pn	20 57 35.8	-1.1
HSIG		13.24	238	Pn	Pn	20 57 41.1	+0.8
P53A	Whipple	13.49	74	Pn	Pn	20 57 42.4	-1.2
ULM	Lac du Bonnet	13.50	6	Pn	Pn	20 57 38.1	-5.6
	comp=Z,1.1nm,0.3s,baz=173,slow=12,SNR=6.1						
ULM				Sn	Sn	21 00 01.4	-12
	comp=Z,1.3nm,0.3s,baz=189,slow=11,SNR=2.9						
ULM				Lg	Lg	21 01 28.4	
	comp=Z,1.5nm,0.3s,baz=96,slow=15,SNR=1.8						
ELK	Elko	13.84	292	Lg	Lg	21 01 48.0	
	comp=Z,0.1nm,0.3s,baz=61,slow=4.6,SNR=2.5						
M52A	Chesterland	13.88	65	Pn	Pn	20 57 46.8	-2.1
EGMT	Eagleton	14.03	326	P	Pn	20 57 49.2	-1.9
	baz=139						
TPNV	Topopah Spring	14.44	276	P	P	20 58 04.1	+0.4
T57A	Hurt	15.16	84	Pn	Pn	20 58 06.7	+0.3
M55A	Ridgway	15.76	67	Pn	Pn	20 58 12.4	-1.8
NVAR	Mina Array Bea	16.00	282	Pn	P	20 58 20.6	-0.5
	comp=Z,0.1nm,0.3s,baz=109,slow=11,SNR=4.9						
SADO	Sadowa	16.43	55	Sn	Sn	21 01 23.4	-1.9
	comp=Z,0.8nm,0.3s,baz=310,slow=22,SNR=1.8						
SADO				Lg	Lg	21 03 01.5	
	comp=Z,0.5nm,0.3s,baz=193,slow=18,SNR=1.2						
NEW	Newport	17.95	315	Lg	Lg	21 03 49.8	
	baz=114,slow=22,SNR=1.8						
NEW				LR	LR	21 06 58.2	
	comp=Z,41nm,18.2s,baz=190,slow=42						
YBH	Yreka Blue Hor	19.56	292	P	Pn	20 59 01.2	-0.2
	comp=Z,0.0nm,0.3s,baz=167,slow=18,SNR=2.0						
YBH				LR	LR	21 06 35.8	
	comp=Z,51nm,18.5s,baz=222,slow=37						
YKA	Yellowknife Ar	27.60	344	P	P	21 00 18.5	-0.9
	comp=Z,0.4nm,0.5s,baz=155,slow=4.4,SNR=2.7						
JTS	Las Juntas de	29.03	152	LR	LR	21 13 45.2	
	comp=Z,29nm,18.6s,baz=26,slow=40						
ILAR	Eielson Array	39.96	330	P	P	21 02 07.0	+0.6
	comp=Z,1.9nm,0.7s,baz=106,slow=7.1,SNR=21						
ILAR				PcP	PcP	21 04 12.4	+0.9
	comp=Z,0.8nm,0.9s,baz=189,slow=3.6,SNR=5.5						
ARCES	ARCESS Array B	66.27	19	P	P	21 05 19.9	-0.3
	comp=Z,1.6nm,0.7s,baz=309,slow=6.6,SNR=7.4						
KEV	Kevo	66.50	18	P	P	21 05 21.4	-0.1
FINES	FINESS Array B	72.14	25	P	P	21 05 57.1	+0.5
	comp=Z,1.6nm,0.6s,baz=348,slow=8.0,SNR=8.0						
GERES	GERESS Array B	75.49	39	P	P	21 06 17.0	+0.3
	comp=Z,0.2nm,0.5s,baz=329,slow=3.7,SNR=2.1						
AKASG	Malin Array Be	81.32	31	P	P	21 06 48.4	-0.2
	comp=Z,0.6nm,0.4s,baz=314,slow=4.3,SNR=5.8						
ZALV	Zalesovo Beam	89.53	358	P	P	21 07 30.6	+1.1
	comp=Z,1.3nm,0.8s,baz=353,slow=4.6,SNR=5.1						
ZALV	Zalesovo Beam	89.53	358	P	P	21 07 29.8	+0.2
SONM	Songino Array	92.87	344	P	P	21 07 47.7	+2.3
	comp=Z,0.4nm,0.7s,baz=50,slow=2.3,SNR=2.9						
MKAR	Makanchi Array	96.73	360	P	P	21 08 02.9	0.0
	comp=Z,0.3nm,0.7s,baz=25,slow=6.7,SNR=3.8						
MAW	Mawson	147.39	167	PKPbc	PKPbc	21 14 15.7	+0.5
	comp=Z,2.3nm,0.8s,baz=201,slow=9.4,SNR=6.8						

*IDC **20** 21:06:24.5±1.0, 6°.26N×126°.32E, h156km±7km, mb3.8/8, mb1 3.8/9, mb1mx3.4/40, mbtmp4.2/9, Error ellipse: s-maj=48.8km s-min=11.6km az=64.0*
*NEIC **20** 21:06:25.5±2.3, 6°.06N±0°.09×125°.9E±0°.2, h155km±8km, mb4.3/16, Error ellipse: s-maj=27.1km s-min=10.6km az=73.0*
*MAN **20** 21:06:27.4, 6°.22N×125°.80E, h121km, mb4.6, ML3.5, MS3.3*

ISC 20 21:06:24.4±0.6, 6°.02N±0°.07×126°.1E±0°.1, h150km, n38, σ1§57/42, mb4.2/13, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.15	335	P	Pn	21 06 49.5	-1.0
	135nm,0.3s,baz=245,slow=6.8,SNR=16						
DAV				S	Sn	21 07 11.0	+0.6
	188nm,0.3s,baz=113,slow=21,SNR=6.6						
DAV	Davao City (W)	1.15	335		Pn	21 06 50.6	+0.1
KCP	Kidapawan	1.38	315	↑iP	Pn	21 06 52.4	-0.4
KCP				*i* S	Sn	21 07 12.8	-1.7
BUKP	Musuan	2.10	332	↓*e*P	Pn	21 07 01.2	+0.5
BUKP				*i* S	Sn	21 07 33.7	+5.0
MSLP	Maasin	4.25	344	↑*i*P	Pn	21 07 28.5	+0.5
TNTI	Ternate	5.38	166	Pn	Pn	21 07 42.6	-0.2
TOLI2	Tolitoli	7.18	227	Pn	Pn	21 08 06.0	-1.0
SIJI	Sorong	8.59	143	P	Pn	21 08 25.6	-0.3
	0.6nm,0.3s,baz=255,slow=23,SNR=1.4						
SIJI				S	Sn	21 09 58.2	-3.2
	0.7nm,0.3s,baz=198,slow=23,SNR=1.7						
FAKI	Fak Fak	10.82	145	Pn	Pn	21 08 56.9	+1.6
SOEI	Soe	15.78	187	Pn	Pn	21 09 58.1	-0.6
SOEI				IAmb	IAmb	21 10 11.7	
	comp=Z,32nm,1.2s						
TPUB	Ta-pu	17.96	344	P	P	21 10 24.2	+0.9
MTN	Manton Dam	19.41	165	P	P	21 10 41.4	+2.2
MTN				IAmb	IAmb	21 10 52.2	
	comp=Z,38nm,1.5s						
KNRA	Kununurra	21.73	173	P	P	21 11 05.1	+1.2
KNRA				IAmb	IAmb	21 11 07.5	
	comp=Z,7.2nm,0.8s						
WB0	Warramunga Arr	26.91	162	P	P	21 11 52.5	+0.8
WB0				IAmb	IAmb	21 12 18.1	
	comp=Z,13nm,1.3s						
WRAB	Tennant Creek	27.05	163	P	P	21 11 53.8	+0.8
WRAB				IAmb	IAmb	21 12 00.4	
	comp=Z,3.3nm,0.6s						
WRA	Warramunga Arr	27.06	163	P	P	21 11 53.8	+0.8
	comp=Z,0.9nm,0.3s,baz=338,slow=10,SNR=66						
WRA	Warramunga Arr	27.06	163	P	P	21 11 52.9	-0.1
WB2	Warramunga Arr	27.06	163	P	P	21 11 53.9	+0.8
WR0	Warramunga Arr	27.13	162	P	P	21 11 54.3	+0.6
WR0				IAmb	IAmb	21 12 09.8	
	comp=Z,6.6nm,1.3s						
CMAR	Chiang Mai Arr	29.19	297	P	P	21 12 13.2	+1.2
	comp=Z,0.4nm,0.6s,baz=100,slow=7.5,SNR=2.1						
AS31	Alice Springs	30.48	166	P	P	21 12 24.6	+1.2
AS31				IAmb	IAmb	21 12 25.8	
	comp=Z,1.9nm,0.5s						
ASAR	Alice Springs	30.49	166	P	P	21 12 24.6	+1.1
	comp=Z,1.9nm,0.4s,baz=338,slow=7.3,SNR=52						
ASAR	Alice Springs	30.49	166	P	P	21 12 24.8	+1.4
FORT	Forrest	36.64	177	P	P	21 13 17.7	+1.1
NWAO	Narrogin (SRO)	39.63	192	P	P	21 13 41.7	+0.2
	comp=Z,8.4nm,0.8s,baz=112,slow=17,SNR=1.5						
NWAO	Narrogin (SRO)	39.63	192	P	P	21 13 42.9	+1.3
BBOO	Buckleboo	39.77	167	P	P	21 13 44.7	+2.0
STKA	Stephens Creek	40.50	159	P	P	21 13 50.2	+1.6
	comp=Z,3.1nm,0.5s,baz=329,slow=8.6,SNR=14						
STKA	Stephens Creek	40.50	159	P	P	21 13 50.7	+2.0
MK31	Makanchi Array	55.31	325	P	P	21 15 41.7	-0.8
MKAR	Makanchi Array	55.31	325	P	P	21 15 41.6	-0.9
	comp=Z,0.4nm,0.3s,baz=117,slow=7.3,SNR=16						
KKAR	Karatay Array	61.12	316	P	P	21 16 22.0	-1.0
NRIK	Noril'sk	68.06	346	P	P	21 17 05.1	-2.3
	comp=Z,4.0nm,0.5s,baz=90,slow=2.0,SNR=4.9						
NRIK	Noril'sk	68.06	346	P	P	21 17 05.5	-1.8
NRIK				IAmb	IAmb	21 17 10.6	
	comp=Z,4.6nm,0.6s						
ABKAR	Akbulak array	69.97	320	P	P	21 17 18.4	-1.2
FINES	FINESS Array B	89.51	332	P	P	21 19 04.0	-0.4
	comp=Z,2.1nm,1.1s,baz=126,slow=9.7,SNR=5.3						
TORD	Torodi Ar. Bea	121.56	289	PKP	PKPdf	21 24 59.5	-1.8
	comp=Z,0.2nm,0.4s,baz=86,slow=1.9,SNR=2.0						
TORD	Torodi Ar. Bea	121.56	289		PKPdf	21 24 58.6	-2.6

TAP 20 21:07:32.4, 25°.18N×122°.15E, h202km, ML3.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.23	220	P	Pn	21 07 58.9	-0.1
	baz=218						
TWB1				S	S	21 08 17.8	-1.8
	baz=218						
TNOU	National Taiwa	0.34	264	*e*S	S	21 08 18.1	-1.9
	baz=264						
NWF	Wu-fen Shan	0.35	251	P	Pn	21 08 00.1	+0.7
	baz=251						
NWF				S	S	21 08 18.4	-1.9
	baz=251						
WFSB	Wu-fen Shan	0.35	251	*e*P	Pn	21 08 00.2	+1.0
	baz=251						
WFSB				*e*S	S	21 08 18.4	-1.7
	baz=251						
TIPB	Shuangxi	0.36	234	*i* P	Pn	21 07 58.9	-0.5
	baz=234						
TIPB				*e*S	S	21 08 18.5	-1.7
	baz=234						
NTC	Toucheng	0.44	222	*e*P	Pn	21 07 59.0	-0.5
	baz=221						
NTC				*e*S	S	21 08 19.4	-1.1
	baz=221						
YM08	YM08	0.51	271	*e*P	Pn	21 07 59.3	-0.5
	baz=270						
YM01	YM01	0.53	266	*e*P	Pn	21 07 59.7	-0.2
	baz=265						
YM01				*e*S	S	21 08 19.4	-1.6
	baz=265						
NHY	Taipei	0.55	255	*e*S	S	21 08 19.9	-1.2
	baz=254						
TWA	Mucha	0.55	249	P	Pn	21 08 00.1	+0.2
	baz=247						
TWA				S	S	21 08 19.6	-1.6
	baz=247						
ILA	Ilan	0.55	221	*e*P	Pn	21 08 00.3	+0.4
	baz=220						
ILA				*e*S	S	21 08 20.1	-1.1
	baz=220						
TAP	Taipei	0.60	256	*e*P	Pn	21 08 00.3	+0.3
	baz=255						
TAP				*e*S	S	21 08 20.7	-0.8
	baz=255						
NHDH	Xindian Distri	0.61	249	P	Pn	21 08 00.1	0.0
	baz=248						
TWC	Suao	0.63	206	*i* P	Pn	21 07 59.8	-0.5
	baz=204						
TWC				S	S	21 08 19.9	-2.0
	baz=204						
NTST	Danshui	0.64	268	*e*P	Pn	21 08 00.1	-0.1
	baz=268						
TWE	Neicheng	0.64	224	*i* P	Pn	21 08 00.5	+0.2
	baz=222						
TWE				S	S	21 08 20.9	-0.9
	baz=222						
TWS1	Kuangyinshan	0.67	263	P	Pn	21 08 00.5	+0.1
	baz=262						
TWS1				S	S	21 08 20.9	-1.1
	baz=262						
NDS	Dongshan	0.68	216	*i* P	Pn	21 08 01.2	+0.7
	baz=215						
NDS				S	S	21 08 21.6	-0.6
	baz=215						
NWLT	Wulai	0.71	236	*e*P	Pn	21 08 00.2	-0.5
	baz=235						
NWLT				*e*S	S	21 08 20.5	-2.0
	baz=235						
ENTT	Nioudou	0.76	225	*i* P	Pn	21 08 00.4	-0.5
	baz=223						
ENTT				S	S	21 08 22.3	-0.6
	baz=223						
EWUT	Wuta	0.81	205	*e*S	S	21 08 22.3	-1.1
	baz=204						
NDT	Datong Townshi	0.82	225	*i* P	Pn	21 08 01.3	+0.1
	baz=224						
NDT				S	S	21 08 21.6	-1.8
	baz=224						
YHNB	Yeheng	0.87	234	P	Pn	21 08 01.0	-0.6
	baz=233						
YHNB				*e*S	S	21 08 22.7	-1.4
	baz=233						
NSK	Sanguang	0.88	235	*i* P	Pn	21 08 01.0	-0.6
	baz=234						
NSK				*i* S	S	21 08 21.6	-2.5
	baz=234						
NCU	National Centr	0.90	256	P	Pn	21 08 02.0	+0.3
	baz=255						
NCUH	Zhongli	0.90	256	*e*P	Pn	21 08 01.8	+0.2
	baz=256						
NHW	Xinwu Township	1.01	260	*e*P	Pn	21 08 02.0	-0.4
	baz=259						
NHW				*e*S	S	21 08 24.6	-0.9
	baz=259						
NNSB	Datong	1.03	223	P	Pn	21 08 02.6	0.0
	baz=222						
NNSB				*e*S	S	21 08 24.6	-1.3
	baz=222						
NNSH	Datong	1.03	223	*i* P	Pn	21 08 02.6	0.0
	baz=222						
NNSH				S	S	21 08 25.4	-0.5
	baz=222						
NJD	Zhudong	1.06	245	*e*P	Pn	21 08 02.1	-0.6
	baz=245						
YOJ	Yonaguni jima	1.06	132	*e*P	Pn	21 08 02.6	-0.1
	baz=132						
YOJ				*e*S	S	21 08 24.6	-1.5
	baz=132						
HSN1	Hsinchu	1.10	249	*e*P	Pn	21 08 02.5	-0.5
	baz=248						
HSN1				*e*S	S	21 08 25.1	-1.4
	baz=248						
NACB	Ninganchiao	1.13	207	P	Pn	21 08 02.6	-0.6
	baz=206						
NACB				S	S	21 08 26.4	-0.6
	baz=206						
ETL	Fush Village	1.13	205	P	Pn	21 08 03.1	-0.2
	baz=205						
ETL				S	S	21 08 25.7	-1.4
	baz=205						
HSN	Hsinchu	1.14	251	*e*P	Pn	21 08 03.1	-0.2
	baz=251						
ETLH	Xiulin Townshi	1.15	212	S	S	21 08 25.7	-1.7
	baz=211						
LIOB	Emei	1.16	243	*i* P	Pn	21 08 03.1	-0.4
	baz=242						
LIOB				S	S	21 08 27.0	-0.3
	baz=242						
NSTT	Nanjuang	1.18	242	*i* P	Pn	21 08 03.1	-0.6
	baz=241						
NSTT				S	S	21 08 25.8	-1.7
	baz=241						
TWD	Chiawan	1.21	205	P	Pn	21 08 03.9	0.0
	baz=204						
TWD				*e*S	S	21 08 26.8	-1.2
	baz=204						
FUSS	Fushou	1.24	222	P	Pn	21 08 04.8	+0.4
	baz=221						
FUSS				*e*S	S	21 08 27.2	-1.8
	baz=221						
TWT	Tachien	1.28	224	P	Pn	21 08 05.1	+0.4
	baz=223						
TWT				*e*S	S	21 08 28.3	-1.0
	baz=223						
TDCB	Techi	1.29	224	P	Pn	21 08 04.4	-0.3
	baz=224						
TDCB				*e*S	S	21 08 28.0	-1.4
	baz=224						
HWA	Hwalien	1.30	203	*e*S	S	21 08 28.0	-1.2
	baz=202						
WHF	Hehuan Shan	1.31	218	*i* P	Pn	21 08 05.4	+0.2
	baz=217						
WHF				*i* S	S	21 08 28.9	-1.3
	baz=217						
ETM	Tongmen	1.35	206	P	Pn	21 08 04.1	-0.9
	baz=206						
TEYL	Yanliau Villag	1.40	201	*e*S	S	21 08 29.6	-1.1
	baz=201						
WHP	Taichung City	1.42	231	P	Pn	21 08 05.6	0.0
	baz=230						
WHP				*e*S	S	21 08 30.4	-0.6
	baz=230						
CHGB	Renai	1.43	219	P	Pn	21 08 06.3	+0.4
	baz=218						
CHGB				*e*S	S	21 08 30.0	-1.5
	baz=218						
NSY	Sanyi	1.48	239	P	Pn	21 08 06.3	+0.2
	baz=238						
TWQ1	Liyutan	1.50	237	*e*S	S	21 08 31.8	-0.4
	baz=236						
ESL	Shilin	1.51	206	*e*P	Pn	21 08 06.4	0.0
	baz=205						
ESL				*e*S	S	21 08 31.6	-0.7
	baz=205						
OWD	Renai	1.51	216	*e*P	Pn	21 08 06.8	+0.3
	baz=215						
OWD				*e*S	S	21 08 32.2	-0.4
	baz=215						
WCS	Beigang Elemen	1.59	225	*e*P	Pn	21 08 06.7	-0.4
	baz=225						
WCS				*e*S	S	21 08 32.7	-0.8
	baz=225						
DPDB	Guoxing	1.60	224	*e*P	Pn	21 08 07.1	-0.1
	baz=224						
WDJ	Dajia District	1.60	239	*e*P	Pn	21 08 06.6	-0.6
	baz=238						
TCU	Taichung	1.69	233	*e*P	Pn	21 08 07.9	-0.1
	baz=232						
SMLT	Sun Moon Lake	1.73	222	P	Pn	21 08 08.1	-0.4
	baz=221						
SMLT				*e*S	S	21 08 35.9	-0.1
	baz=221						
TYC	Yuchr	1.73	223	P	Pn	21 08 08.1	-0.3
	baz=222						
WWF	Wufeng	1.74	230	*e*P	Pn	21 08 08.6	+0.1
	baz=229						
SSLB	Suanglung	1.77	218	P	Pn	21 08 08.6	-0.2
	baz=218						
SSLB				S	S	21 08 35.2	-1.4
	baz=218						
HGSD	Ruisui	1.81	202	*e*P	Pn	21 08 09.7	+0.5
	baz=201						
HGSD				*e*S	S	21 08 36.1	-1.1
	baz=201						
EHY	Hungye	1.83	204	*e*P	Pn	21 08 09.3	-0.1
	baz=204						
EHY				*e*S	S	21 08 36.9	-0.7
	baz=204						
YULB	Yu-li	1.95	204	*e*P	Pn	21 08 09.6	-1.0
	baz=203						
YULB				*e*S	S	21 08 39.0	-0.7
	baz=203						
EYUL	Yuli	1.98	203	*e*P	Pn	21 08 12.1	+1.3
	baz=202						
EYUL				*e*S	S	21 08 38.8	-1.4
	baz=202						
TWF1	Yuli	1.98	203	*e*P	Pn	21 08 11.3	+0.4
	baz=202						
TWF1				*e*S	S	21 08 39.9	-0.4
	baz=202						
ALS	Alishan	2.07	217	P	Pn	21 08 12.1	0.0
	baz=216						
ALS				*e*S	S	21 08 41.7	-0.7
	baz=216						
CHN5	Tsauling	2.07	221	P	Pn	21 08 11.7	-0.2
	baz=220						
CHN5				S	S	21 08 41.0	-1.1
	baz=220						
WDLH	Douliu	2.09	225	*e*P	Pn	21 08 12.1	+0.1
	baz=224						
FULB	Fuli	2.13	202	*e*P	Pn	21 08 13.1	+0.7
	baz=201						
FULB				*e*S	S	21 08 42.2	-0.8
	baz=201						
CHKT	Chengkung	2.20	199	*e*P	Pn	21 08 14.2	+1.1
	baz=198						
WMLT	Mailiao	2.23	232	*e*S	S	21 08 43.6	-1.2
	baz=231						
ELDTW	Lidau	2.24	208	*e*P	Pn	21 08 13.8	+0.1
	baz=207						
ELDTW				*e*S	S	21 08 43.7	-1.6
	baz=207						
CHY	Chiayi	2.30	224	*e*S	S	21 08 44.7	-1.5
	baz=222						
CHN4	Tsaushan	2.31	218	*e*P	Pn	21 08 14.0	-0.3
	baz=217						
CHN4				*e*S	S	21 08 45.7	-0.7
	baz=217						
EDH	Donghe	2.33	200	*e*S	S	21 08 46.3	-0.6
	baz=199						
TPUB	Ta-pu	2.33	217	*e*P	Pn	21 08 14.3	-0.3
	baz=216						
TPUB				*e*S	S	21 08 45.2	-1.7
	baz=216						
STYT	Tauyuan	2.38	213	*e*P	Pn	21 08 14.6	-0.6
	baz=212						
STYT				*e*S	S	21 08 46.1	-1.7
	baz=212						
WTP	Ta-pu	2.38	216	*e*P	Pn	21 08 14.7	-0.5
	baz=215						
SLGT	Liugui	2.58	213	*e*P	Pn	21 08 17.1	-0.2
	baz=212						
SLGT				*e*S	S	21 08 51.4	-0.3
	baz=212						

TAP 20 21:07:55.0, 24°.33N×121°.80E, h12km, ML1.6, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	Heping Village	0.06	246	P	Pg	21 07 57.9	+0.4
	baz=240						
EHP				S	Sg	21 07 59.5	+0.3
	baz=240						
EWUT	Wuta	0.11	350	*i* P	Pb	21 07 59.0	-0.2
	baz=350						
EWUT				*i* S	Sg	21 08 00.9	+0.6
	baz=350						
ETL	Fush Village	0.24	223	P	Pb	21 08 01.1	-0.2
	baz=222						
ETL				S	Sg	21 08 04.8	+1.3
	baz=222						
NACB	Ninganchiao	0.24	230	⇓P	Pb	21 08 01.1	-0.3
	baz=229						
NACB				S	Sg	21 08 04.9	+1.3
	baz=229						
TWC	Suao	0.28	9	P	Pg	21 08 01.3	+0.5
	baz=11						
TWC				S	Sb	21 08 05.8	-0.8
	baz=11						
NDS	Dongshan	0.31	346	*e*P	Pb	21 08 02.4	-0.1
	baz=345						
NDS				S	Sb	21 08 07.0	-0.5
	baz=345						
TWD	Chiawan	0.31	216	*i* P	Pb	21 08 02.4	-0.2
	baz=215						
TWD				S	Sg	21 08 06.6	+0.9
	baz=215						
ETLH	Xiulin Townshi	0.32	246	P	Pb	21 08 02.6	-0.1
	baz=246						
ETLH				S	Sb	21 08 07.5	-0.3
	baz=246						
ETLH	Xiulin Townshi	0.32	246	P	Pb	21 08 02.9	+0.3
	baz=211						
ENTT	Nioudou	0.37	325	P	Pb	21 08 03.6	+0.1
	baz=325						
ENTT				*e*S	Sb	21 08 09.0	-0.3
	baz=325						
NDT	Datong Townshi	0.37	316	P	Pb	21 08 03.6	0.0
	baz=315						
NDT				*e*S	Sb	21 08 09.7	+0.3
	baz=315						
NNSB	Datong	0.39	284	P	Pb	21 08 04.0	+0.1
	baz=283						
NNSB				*e*S	Sb	21 08 09.9	0.0
	baz=283						
NNSH	Datong	0.39	284	*e*P	Pb	21 08 04.1	+0.1
	baz=283						
NNSH				*e*S	Sb	21 08 09.8	-0.1
	baz=283						
HWA	Hwalien	0.40	207	*e*P	Pb	21 08 03.9	-0.1
	baz=205						
HWA				*e*S	Sb	21 08 09.7	-0.3
	baz=205						
HWA	Hwalien	0.40	207	*e*P	Pb	21 08 03.9	-0.1
	baz=202						
TWE	Neicheng	0.40	343	*e*P	Pb	21 08 03.9	-0.2
	baz=344						
TWE				S	Sg	21 08 09.2	+0.8
	baz=344						
ILA	Ilan	0.43	354	*e*P	Pb	21 08 04.4	-0.2
	baz=354						
ETM	Tongmen	0.46	217	*e*S	Sb	21 08 11.3	-0.5

baz=217
TEYL Yanliau Villag 0.50 202 *e*P Pb 21 08 05.6 -0.1
baz=202
TEYL *e*S Sg 21 08 11.2 -0.3
baz=202
TEYL Yanliau Villag 0.50 202 *e*P Pb 21 08 05.6 -0.1
baz=201
YHNB Yeheng 0.51 311 *e*S Sb 21 08 13.5 +0.1
baz=310
FUSS Fushou 0.51 260 *e*S Sb 21 08 13.6 0.0
baz=260
NWLT Wulai 0.52 329 *e*P Pb 21 08 06.3 +0.3
baz=328
NTC Toucheng 0.52 3 *e*P Pb 21 08 06.4 +0.4
baz=3.0
NTC *e*S Sb 21 08 13.5 0.0
baz=3.0
WHF Hehuan Shan 0.52 249 *e*S Sb 21 08 13.9 -0.1
baz=248
NSK Sanguang 0.53 310 *e*P Pb 21 08 06.4 +0.2
baz=310
NSK *e*S Sb 21 08 13.8 -0.1
baz=310

*IDC **20** 21:18:51.6±1.8, 23°.32S×179°.63E, h542km±15km, mb3.7/8, mb1 3.8/11, mb1mx3.3/38, mbtmp4.7/11, Error ellipse: s-maj=26.5km s-min=17.2km az=132.0*
*NEIC **20** 21:18:52.0±2.2, 23°.08S±0°.10×179°.7E±0°.1, h540km±5km, mb4.6/29, Error ellipse: s-maj=16.2km s-min=13.6km az=63.0*

ISC 20 21:18:52.7±0.5, 23°.18S±0°.07×179°.54E±0°.09, h553km, n98, σ1 9 70/106, mb4.5/20, 7C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.60**	**345**	P	**P**	**21 20 28.5**	**+0.4**
	3.3nm,0.3s,baz=206,slow=17,SNR=8.0						
AFI	**Afiamalu**	**12.36**	**43**	P	**P**	**21 21 33.0**	**-2.1**
	4.5nm,0.3s,baz=356,slow=7.7,SNR=5.0						
AFI	**Afiamalu**	**12.36**	**43**	P	**P**	**21 21 33.3**	**-1.8**
OUZ	**Omahuta**	**13.06**	**202**	P	**P**	**21 21 45.1**	**+3.1**
OUZ	**Omahuta**	**13.06**	**202**	P	**P**	**21 21 45.2**	**+3.1**
WCZ	**Waipu Caves**	**13.49**	**198**	P	**P**	**21 21 46.2**	**+2.8**
GRZ	**Great Barrier**	**13.49**	**194**	P	**P**	**21 21 50.2**	**+3.8**
KUZ	**Kuaotunu**	**13.91**	**193**	P	**P**	**21 21 52.9**	**+2.2**
MXZ	**Matakaoa Point**	**14.37**	**184**	P	**P**	**21 21 58.7**	**+3.3**
HAZ	**Te Kaha**	**14.60**	**186**	P	**P**	**21 21 57.3**	**-0.4**
HAZ				S	**S**	**21 24 26.7**	**-3.6**
URZ	**Urewera**	**15.17**	**187**	P	**P**	**21 22 01.5**	**-2.1**
	2.6nm,0.3s,baz=281,slow=3.2,SNR=13						
URZ				S	**S**	**21 24 34.2**	**-6.4**
	0.2nm,0.3s,baz=253,slow=19,SNR=1.1						
URZ	**Urewera**	**15.17**	**187**	P	**P**	**21 22 01.6**	**-2.1**
VRZ	**Vera Road**	**16.41**	**193**	P	**P**	**21 22 17.6**	**+1.9**
WNVZ	**Wahianoa**	**16.44**	**191**	P	**P**	**21 22 15.6**	**-0.6**
PKVZ	**Pokaka**	**16.45**	**192**	P	**P**	**21 22 19.3**	**+3.2**
MOVZ	**Moawhango**	**16.49**	**192**	P	**P**	**21 22 16.3**	**-0.3**
BHHZ	**Black Hill Sta**	**16.52**	**190**	P	**P**	**21 22 15.2**	**-1.6**
TSZ	**Taapari Road**	**17.09**	**189**	P	**P**	**21 22 22.0**	**+0.1**
BFZ	**Birch Farm**	**17.67**	**188**	P	**P**	**21 22 26.8**	**-0.4**
BFZ	**Birch Farm**	**17.67**	**188**	P	**P**	**21 22 26.2**	**-0.9**
MRZ	**Mangatainoka R**	**17.74**	**190**	P	**P**	**21 22 27.2**	**-0.6**
MRZ				S	**S**	**21 25 23.9**	**+0.8**
OGWZ	**Otaki Gorge**	**17.96**	**191**	P	**P**	**21 22 29.6**	**-0.2**
OGWZ				S	**S**	**21 25 23.8**	**-2.8**
HOWZ	**Holdsworth Sta**	**17.98**	**190**	P	**P**	**21 22 29.2**	**-0.9**
DUWZ	**D'Urville Isla**	**18.19**	**194**	P	**P**	**21 22 32.8**	**+0.8**
DUWZ				S	**S**	**21 25 30.3**	**-0.1**
CAW	**Cannon Point**	**18.26**	**191**	P	**P**	**21 22 32.6**	**0.0**
TCW	**Tory Channel**	**18.51**	**193**	P	**P**	**21 22 35.8**	**+1.0**
QRZ	**Quartz Range**	**18.56**	**197**	P	**P**	**21 22 37.3**	**+2.0**
NNZ	**Nelson**	**18.71**	**195**	P	**P**	**21 22 37.8**	**+1.1**
TUWZ	**Tuamarina**	**18.79**	**193**	P	**P**	**21 22 36.9**	**-0.4**
TUWZ	**Tuamarina**	**18.79**	**193**	P	**P**	**21 22 37.9**	**+0.5**
TUWZ				S	**S**	**21 25 43.7**	**+3.7**
THZ	**Tophouse**	**19.34**	**195**	P	**P**	**21 22 43.8**	**+1.3**
THZ	**Tophouse**	**19.34**	**195**	P	**P**	**21 22 43.6**	**+1.1**
DSZ	**Denniston Nort**	**19.61**	**197**	P	**P**	**21 22 45.7**	**+0.8**
LTZ	**Lake Taylor**	**20.46**	**195**	P	**P**	**21 22 52.4**	**-0.2**
LTZ				IAmb	IAmb	21 23 15.5	
	comp=Z,37nm,1.2s						
LTZ	**Lake Taylor**	**20.46**	**195**	P	**P**	**21 22 52.7**	**+0.1**
INZ	**Inchbonnie**	**20.62**	**197**	P	**P**	**21 22 52.9**	**-1.0**
OXZ	**Oxford**	**21.03**	**195**	P	**P**	**21 22 56.8**	**-0.8**
WVZ	**Waitaha Valley**	**21.14**	**198**	P	**P**	**21 22 59.9**	**+1.2**
MQZ	**McQueen's Vall**	**21.25**	**194**	P	**P**	**21 22 59.5**	**-0.1**
FOZ	**Fox Glacier**	**21.83**	**199**	P	**P**	**21 23 04.1**	**-0.7**
LBZ	**Lake Benmore**	**22.50**	**198**	P	**P**	**21 23 10.9**	**0.0**
LBZ	**Lake Benmore**	**22.50**	**198**	P	**P**	**21 23 10.6**	**-0.3**
JCZ	**Jackson Bay**	**22.64**	**200**	P	**P**	**21 23 13.4**	**+1.2**
WHZ	**Wether Hill Ro**	**24.53**	**200**	P	**P**	**21 23 31.2**	**+2.3**
EIDS	**Eidsvold**	**26.02**	**259**	P	**P**	**21 23 43.5**	**+1.2**
EIDS				IAmb	IAmb	21 24 02.4	
	comp=Z,24nm,1.2s						
CTA	**Charters Tower**	**31.06**	**269**	P	**P**	**21 24 26.9**	**+0.7**
	comp=Z,20nm,0.4s,baz=96,slow=10,SNR=35						
CTAO	**Charters Tower**	**31.06**	**269**	P	**P**	**21 24 27.1**	**+0.8**
TOO	**Toolangi**	**32.49**	**236**	P	**P**	**21 24 39.8**	**+1.6**
TOO				IAmb	IAmb	21 24 58.1	
	comp=Z,21nm,1.4s						
PMG	**Port Moresby**	**33.87**	**288**	P	**P**	**21 24 50.0**	**0.0**
	comp=Z,14nm,0.3s,baz=278,slow=21,SNR=4.9						
PMG	**Port Moresby**	**33.87**	**288**	P	**P**	**21 24 50.1**	**+0.1**
PMG				IAmb	IAmb	21 24 50.9	
	comp=Z,24nm,0.7s						
BBOO	**Buckleboo**	**39.34**	**246**	P	**P**	**21 25 35.7**	**+0.8**
AS31	**Alice Springs**	**41.74**	**260**	P	**P**	**21 25 54.2**	**+0.1**
ASAR	**Alice Springs**	**41.74**	**260**	P	**P**	**21 25 54.1**	**0.0**
	comp=Z,4.1nm,0.6s,baz=96,slow=6.5,SNR=40						
ASAR				PcP	**PcP**	**21 27 38.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=108,slow=2.9,SNR=3.9						
ASAR				S	**S**	**21 31 26.9**	**-5.0**
	comp=Z,0.6nm,0.9s,baz=104,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**41.74**	**260**	P	**P**	**21 25 54.0**	**-0.2**
WR0	**Warramunga Arr**	**41.85**	**266**	P	**P**	**21 25 54.3**	**-0.6**
WB0	**Warramunga Arr**	**42.03**	**266**	P	**P**	**21 25 55.8**	**-0.6**
WB0				IAmb	IAmb	21 25 56.4	
	comp=Z,8.7nm,0.7s						
WB2	**Warramunga Arr**	**42.03**	**266**	P	**P**	**21 25 56.0**	**-0.4**
WB2				IAmb	IAmb	21 25 56.5	
	comp=Z,6.9nm,0.6s						
WRAB	**Tennant Creek**	**42.03**	**266**	P	**P**	**21 25 55.9**	**-0.5**
WRA	**Warramunga Arr**	**42.04**	**266**	P	**P**	**21 25 55.9**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=96,slow=8.4,SNR=217						
WRA				PcP	**PcP**	**21 27 39.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=102,slow=3.1,SNR=1.7						
WRA				S	**S**	**21 31 30.4**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=101,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**42.04**	**266**	P	**P**	**21 25 56.2**	**-0.3**
FORT	**Forrest**	**46.17**	**249**	P	**P**	**21 26 28.3**	**+0.1**
FORT				IAmb	IAmb	21 26 48.8	
	comp=Z,51nm,1.2s						
MTN	**Manton Dam**	**46.98**	**274**	P	**P**	**21 26 34.0**	**-0.6**
MTN				IAmb	IAmb	21 26 54.1	
	comp=Z,26nm,1.2s						
KNRA	**Kununurra**	**48.27**	**269**	P	**P**	**21 26 44.1**	**0.0**
KNRA				IAmb	IAmb	21 26 44.4	
	comp=Z,12nm,0.5s						
GUMO	**Guam**	**49.87**	**314**	P	**P**	**21 26 55.5**	**-0.4**
	comp=Z,17nm,0.5s,baz=209,slow=12,SNR=3.7						
GUMO	**Guam**	**49.87**	**314**	P	**P**	**21 26 55.8**	**-0.2**
GUMO				IAmb	IAmb	21 27 06.5	
	comp=Z,64nm,1.4s						
PSA00	**Pilbara Seismi**	**54.88**	**259**	P	**P**	**21 27 31.4**	**-0.3**
PSA00				IAmb	IAmb	21 27 31.7	
	comp=Z,16nm,1.3s						
VNDA	**Vanda**	**55.06**	**185**	P	**P**	**21 27 34.8**	**+2.8**
MORW	**Morawa**	**56.73**	**250**	P	**P**	**21 27 44.5**	**0.0**
MORW				IAmb	IAmb	21 28 12.9	
	comp=Z,35nm,1.5s						
CASY	**Casey**	**60.57**	**206**	P	**P**	**21 28 10.5**	**+1.0**
CISI	**Cisompet, Garu**	**70.29**	**270**	P	**P**	**21 29 11.5**	**+0.1**
CISI				IAmb	IAmb	21 29 23.2	
	comp=Z,13nm,1.0s						
JSD	**Sado**	**72.19**	**327**	P	**P**	**21 29 22.4**	**+0.5**
KSRS	**Korea Array**	**77.43**	**320**	P	**P**	**21 29 52.3**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=129,slow=6.5,SNR=5.4						
PEA0B	**Petropavlovsk-**	**78.31**	**347**	P	**P**	**21 29 56.7**	**+1.2**
PEA0B				IAmb	IAmb	21 30 06.0	
	comp=Z,19nm,1.4s						
PETK	**Petropavlovsk-**	**78.31**	**347**	P	**P**	**21 29 56.3**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=161,slow=9.4,SNR=8.9						
USRK	**Ussuriysk Ar.**	**79.94**	**327**	P	**P**	**21 30 06.0**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=72,slow=6.2,SNR=6.0						
JCC	**Jacoby Creek,**	**82.45**	**40**	P	**P**	**21 30 16.7**	**-0.7**
JCC				IAmb	IAmb	21 30 45.7	
	comp=Z,19nm,0.8s						
MKAR	**Makanchi Array**	**111.36**	**313**	PKiKP	**PKiKP**	**21 36 23.3**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=172,slow=1.7,SNR=2.5						
MKAR	**Makanchi Array**	**111.36**	**313**		**PKiKP**	**21 36 23.7**	**-0.4**
ARCES	**ARCESS Array B**	**131.10**	**348**	PKP	**PKPdf**	**21 37 00.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=65,slow=1.3,SNR=6.6						
ARCES	**ARCESS Array B**	**131.10**	**348**		**PKPdf**	**21 37 01.1**	**0.0**
FINES	**FINESS Array B**	**137.64**	**341**	PKP	**PKPdf**	**21 37 14.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=111,slow=2.7,SNR=4.4						
FINES				SKPbc	**SKPbc**	**21 39 55.3**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=72,slow=4.5,SNR=4.5						
FINES	**FINESS Array B**	**137.64**	**341**		**PKPdf**	**21 37 13.7**	**+0.2**
NB2	**NORSAR Subarra**	**141.31**	**351**	PKP	**PKPdf**	**21 37 15.7**	**-4.6**
	comp=Z,0.3nm,0.5s,baz=21,slow=3.6						
NOA	**NORSAR Array B**	**141.31**	**351**	PKhKP	PKPpre	21 37 15.7	
	comp=Z,0.3nm,0.7s,baz=356,slow=1.8,SNR=4.3						
AKASG	**Malin Array Be**	**144.14**	**327**	PKP	PKPbc	21 37 24.7	-0.4
	comp=Z,3.3nm,0.5s,baz=44,slow=4.4,SNR=8.4						
AKASG	**Malin Array Be**	**144.14**	**327**		PKPbc	21 37 24.6	-0.5
BRTR	**Keskin Array B**	**146.81**	**308**	PKPbc	**PKPbc**	**21 37 33.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=97,slow=2.3,SNR=5.1						
BRTR	**Keskin Array B**	**146.81**	**308**		**PKPbc**	**21 37 33.6**	**+0.2**
OSTC	**Ostas**	**149.74**	**339**	*e*PKP	**PKiKP**	**21 37 41.5**	**+0.6**
CHVC	**Chvalec**	**149.77**	**339**	*e*PKP	**PKiKP**	**21 37 41.4**	**+0.5**
DPC	**Dobruska-Polom**	**149.88**	**338**	*e*PKP	**PKiKP**	**21 37 41.9**	**+0.7**
KRLC	**Kraliky**	**149.95**	**338**	*e*PKP	**PKiKP**	**21 37 41.8**	**+0.4**
CLL	**Collm**	**150.05**	**343**	*j*/PKPbc	**PKPbc**	**21 37 41.5**	**+0.6**
	comp=Z,8.0nm,0.8s						
PRU	**Pruhonice**	**150.78**	**340**	*e*PKP	**PKiKP**	**21 37 43.4**	**+0.4**
KHC	**Kasperske Hory**	**151.83**	**340**	*e*PKP	**PKiKP**	**21 37 45.9**	**+0.6**
CKRC	**Cesky Krumlov**	**151.87**	**339**	*e*PKP	**PKiKP**	**21 37 46.0**	**+0.7**
GERES	**GERESS Array B**	**152.04**	**340**	PKPbc	**PKPbc**	**21 37 46.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=48,slow=2.0,SNR=6.1						
GERES	**GERESS Array B**	**152.04**	**340**		**PKPbc**	**21 37 45.9**	**+0.3**

*IDC **20** 21:21:57.6±2.0, 23°.81S×66°.74W, h206km±21km, mb3.3/1, mb1 3.3/5, mb1mx3.1/33, mbtmp3.7/5, Error ellipse: s-maj=35.0km s-min=22.4km az=157.0*
*NEIC **20** 21:21:57.7±2.0, 23°.94S±0°.05×67°.0W±0°.2, h230km±26km, Error ellipse: s-maj=30.1km s-min=4.2km az=100.0*

ISC 20 21:21:57.0±0.9, 23°.92S±0°.06×66°.9W±0°.1, h223km±14km, n30, σ1 9 03/39, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**305**	P	**Pn**	**21 22 41.3**	**+0.9**
	24nm,0.3s,baz=145,slow=6.2,SNR=285						
LVC				S	**S**	**21 23 13.6**	**-0.4**
	13nm,0.3s,baz=269,slow=20,SNR=15						
LVC	**Limon Verde**	**2.27**	**305**	Pn	**Pn**	**21 22 41.3**	**+0.9**
LVC				Sn	**S**	**21 23 14.2**	**+0.1**
PB15	**IPOC Station P**	**2.48**	**286**		**Pn**	**21 22 43.3**	**+1.0**
PB15				Sn	**S**	**21 23 17.4**	**-0.1**
PB06	**IPOC Station P**	**2.75**	**296**		**Pn**	**21 22 46.2**	**+1.0**
PB06				Sn	**S**	**21 23 21.8**	**-1.0**
GO02	**Mina Guanaco**	**2.76**	**243**	Pn	**Pn**	**21 22 46.3**	**+0.9**
GO02				Sn	**S**	**21 23 23.3**	**+0.1**
PB09	**IPOC Station P**	**3.03**	**314**		**Pn**	**21 22 49.7**	**+1.3**
PB09				Sn	**S**	**21 23 28.4**	**-0.1**
PB14	**IPOC Station P**	**3.29**	**257**	Pn	**Pn**	**21 22 52.1**	**+0.6**
PB14				Sn	**S**	**21 23 32.2**	**-1.7**
PB10	**IPOC Station P**	**3.39**	**276**	Pn	**Pn**	**21 22 53.3**	**+1.0**
PB10				Sn	**S**	**21 23 34.8**	**-0.8**
PB04	**IPOC Station P**	**3.39**	**297**		**Pn**	**21 22 53.2**	**+0.6**
PB07	**IPOC Station P**	**3.52**	**308**	Pn	**Pn**	**21 22 54.5**	**+0.3**
AC02	**Maricunga**	**3.54**	**214**	Pn	**Pn**	**21 22 55.4**	**+0.8**
PB01	**IPOC Station P**	**3.74**	**319**		**Pn**	**21 22 57.1**	**+0.5**
PB08	**IPOC Station P**	**4.31**	**330**		**Pn**	**21 23 05.0**	**+1.2**
TA01	**Diego Aracena**	**4.52**	**317**	Pn	**Pn**	**21 23 06.8**	**+0.8**
GO03	**Copiap**	**4.74**	**219**	Pn	**Pn**	**21 23 08.1**	**-0.7**
PB11	**IPOC Station P**	**4.87**	**328**	Pn	**Pn**	**21 23 10.3**	**-0.3**
PSGCX	**Pisagua**	**5.25**	**324**	Pn	**Pn**	**21 23 13.9**	**-1.3**
MNMC	**Minye Minye**	**5.39**	**332**	Pn	**Pn**	**21 23 17.4**	**+0.2**
AC04	**Llanos de Chal**	**5.69**	**221**	Pn	**Pn**	**21 23 19.4**	**-1.2**
GO04	**Tololo Observa**	**7.14**	**208**	Pn	**Pn**	**21 23 37.9**	**-1.4**
LPAZ	**La Paz**	**7.68**	**351**	P	**Pn**	**21 23 47.6**	**+0.8**
	0.3nm,0.3s,baz=179,slow=3.9,SNR=6.8						
LPAZ				S	**S**	**21 25 12.6**	**-1.9**
	0.2nm,0.3s,baz=80,slow=21,SNR=1.5						
LPAZ	**La Paz**	**7.68**	**351**	Pn	**Pn**	**21 23 48.1**	**+1.3**
SIV	**San Ignacio**	**9.60**	**36**	P	**Pn**	**21 24 08.6**	**-2.3**
	0.3nm,0.3s,baz=207,slow=18,SNR=3.8						
TRQA	**Tornquist**	**14.70**	**165**		**Pn**	**21 25 14.7**	**+0.1**
SAML	**Samuel**	**15.30**	**14**		**Pn**	**21 25 20.9**	**-1.1**
BDFB	**Brasilia**	**19.56**	**69**	P	**P**	**21 26 08.8**	**+0.4**
	0.4nm,0.3s,baz=238,slow=13,SNR=6.6						
BDFB	**Brasilia**	**19.56**	**69**	P	**P**	**21 26 09.0**	**+0.6**
BDFB				IAmb	IAmb	21 26 10.2	
	comp=Z,7.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	**P**	**21 33 23.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=252,slow=5.2,SNR=5.4						
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	**PKiKP**	**21 40 46.4**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=155,slow=2.0,SNR=7.2						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	**PKPab**	**21 41 13.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=299,slow=4.9,SNR=5.3						

IDC 20 21:41:51.6±2.6, 5°.43N×125°.78E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/43, mbtmp3.4/3, Error ellipse: s-maj=220.1km s-min=30.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.59**	**162**	P	P	21 47 32.1	+0.4
	0.7nm,1.0s,baz=341,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**29.99**	**165**	P	P	21 48 01.8	-0.3
	0.3nm,0.6s,baz=342,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**55.63**	**325**	P	P	21 51 29.2	-0.1
	0.1nm,0.4s,baz=114,slow=8.3,SNR=2.0						

*IDC **20** 21:50:12.2±2.3, 41°.00N×112°.86W, h0km, mb1 2.5/1, mb1mx2.5/40, mbtmp2.1/1, ML3.4/1, Error ellipse: s-maj=56.3km s-min=5.7km az=160.0*
*NEIC **20** 21:50:13.7±1.1, 41°.09N±0°.03×112°.88W±0°.03, h0km±2km, ML1.5/22, Error ellipse: s-maj=6.3km s-min=3.0km az=143.0*

ISC 20 21:50:13.3±1.0, 41°.07N±0°.04×112°.88W±0°.04, h0km, n17, σ0 8 87/18, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.18**	**218**		**Pg**	**21 50 17.8**	**+1.1**
SPUT	**South Promonto**	**0.41**	**54**		**Pg**	**21 50 21.0**	**0.0**
SPUT				Sg	**Sg**	**21 50 26.9**	**+0.6**
SPUT				IAML		21 50 28.5	
	comp=N,62nm,0.2s						
DUG	**Dugway, Tooele**	**0.88**	**177**	Pg	**Pb**	**21 50 31.3**	**-0.1**
DUG				IAML		21 50 50.3	
	comp=N,20nm,0.5s						
CTU	**Camp Tracy**	**0.94**	**113**		**Pb**	**21 50 32.2**	**-0.2**
CTU				IAML		21 50 49.5	
	comp=N,16nm,0.4s						
CTU				IAML		21 50 52.9	
	comp=E,14nm,0.3s						
HWUT	**Hardware Ranch**	**1.13**	**61**	Pg	**Pg**	**21 50 34.1**	**-0.7**
HWUT				IAML		21 50 58.0	
	comp=E,12nm,0.5s						
HWUT				IAML		21 51 00.9	
	comp=E,9.9nm,0.5s						
JLU	**Jordanelle**	**1.18**	**113**	Pg	**Pg**	**21 50 35.4**	**-0.5**
JLU				IAML		21 50 57.2	
	comp=E,7.5nm,0.4s						
NLU	**North Lily Min**	**1.27**	**151**	Pg	**Pg**	**21 50 37.3**	**-0.4**
NLU				IAML		21 50 43.2	
	comp=E,6.5nm,0.4s						
MPU	**Maple Canyon**	**1.42**	**137**	Pn	**Pg**	**21 50 40.3**	**-0.1**
MPU				IAML		21 51 07.1	
	comp=E,6.1nm,0.3s						
MPU				IAML		21 51 07.2	
	comp=N,5.7nm,0.4s						
ELK	**Elko**	**1.82**	**260**	Pg	**Pn**	**21 50 46.2**	**+0.2**
	comp=N,1.3nm,0.3s,baz=85,slow=11,SNR=8.9						
ELK				Sn	**Sn**	**21 51 07.7**	**-2.2**
	comp=N,0.5nm,0.3s,baz=13,slow=23,SNR=2.8						
ELK				Lg	Lg	21 51 10.7	
	comp=N,1.6nm,0.3s,baz=351,slow=19,SNR=5.6						
ELK	**Elko**	**1.82**	**260**		**Pn**	**21 50 46.2**	**+0.2**
ELK				IAML		21 51 12.9	
	comp=N,5.6nm,0.3s						
ELK				IAML		21 51 14.9	
	comp=N,3.7nm,0.3s						
MSU	**Marysvale**	**2.61**	**168**	Pn	**Pn**	**21 50 57.6**	**+0.6**
PSUT	**Pine Spring**	**2.64**	**197**	Pn	**Pn**	**21 50 57.9**	**+0.5**
SRU	**San Rafael Swe**	**2.66**	**136**	Pn	**Pn**	**21 50 58.1**	**+0.5**
PDAR	**Pinedale Array**	**3.00**	**55**	Pn	**Pn**	**21 51 03.8**	**+1.4**
	comp=N,0.5nm,0.3s,baz=218,slow=12,SNR=9.6						
PDAR				Pg	**Pb**	**21 51 08.0**	**+0.2**
	comp=N,0.5nm,0.3s,baz=218,slow=15,SNR=8.0						
PDAR				Lg	Lg	21 51 46.9	
	comp=N,0.4nm,0.3s,baz=232,slow=21,SNR=3.1						
PDAR	**Pinedale Array**	**3.00**	**55**	Pn	**Pn**	**21 51 03.4**	**+1.0**
I56US	**NEWPORT INFRAS**	**7.80**	**339**	*i*		22 34 00.0	
	baz=160,slow=309,SNR=3.0						
I57US	**PINON FLAT INF**	**7.97**	**202**	*i*		22 39 10.0	
	baz=15,slow=300,SNR=1.2						

IDC 20 22:33:18.9±29.0, 13°.05N×87°.55E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/47, mbtmp3.8/4, Error ellipse: s-maj=696.7km s-min=76.8km az=132.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.93**	**354**	P	P	22 40 03.7	-0.1
	0.4nm,0.5s,baz=169,slow=8.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**40.86**	**358**	P	P	22 41 02.4	0.0
	0.9nm,0.4s,baz=164,slow=7.3,SNR=5.1						
FINES	**FINESS Array B**	**65.14**	**332**	P	P	22 44 01.4	-0.1
	1.2nm,0.6s,baz=113,slow=3.2,SNR=6.0						
GERES	**GERESS Array B**	**69.67**	**317**	P	P	22 44 30.7	+0.1
	0.5nm,0.8s,baz=90,slow=5.9,SNR=3.9						

*TRN **20** 22:59:20.9, 13°.83N×58°.63W, h93km, MD4.2*
*IDC **20** 22:59:21.8±0.6, 13°.38N×59°.08W, h0km, mb3.9/19, mb1 4.1/20, mb1mx4.0/47, mbtmp3.9/20, ML4.1/1, MS3.4/8, Ms1 3.4/8, ms1mx3.1/32, Error ellipse: s-maj=18.8km s-min=16.3km az=134.0*
*NEIC **20** 22:59:27.1±2.3, 13°.84N±0°.06×59°.09W±0°.07, h13km±2km, mb4.4/26, Error ellipse: s-maj=10.9km s-min=7.3km az=128.0*

ISC 20 22:59:24.5±1.7, 13°.87N±0°.03×59°.01W±0°.05, h5km±10km, n148, σ1 9 52/167, mb4.3/28, MS3.4/6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**0.88**	**210**	*e*P	**Pb**	**22 59 43.0**	**+0.6**
BBSP				*e*S	**Sn**	**22 59 59.4**	**+2.5**
BBGH	**Gun Hill**	**0.91**	**217**	*e*P	**Pb**	**22 59 43.4**	**+0.6**
BBGH				*e*S	**Sn**	**23 00 00.3**	**+2.8**
BBGH	**Gun Hill**	**0.91**	**217**		**Pg**	**22 59 43.1**	**+1.2**
H05S1	**Guadeloupe/Mar**	**1.86**	**287**	Pn	**Pn**	**22 59 56.9**	**-0.2**
H05S1				Sn	**Sg**	**23 00 24.1**	**-0.2**
	SNR=307						
SLW	**Petit Monier**	**1.88**	**275**	*e*P	**Pn**	**22 59 58.1**	**+0.7**
SLW				*e*S	**Sg**	**23 00 24.6**	**-0.5**
MPOM	**Morne Pois Mar**	**1.89**	**288**	*e*P	**Pn**	**22 59 56.8**	**-0.7**
MPOM				*e*S	**Sg**	**23 00 25.0**	**-0.1**
MPOM	**Morne Pois Mar**	**1.89**	**288**		**Pn**	**22 59 57.0**	**-0.5**
MCLT	**Moule a Chique**	**1.89**	**265**	*e*P	**Pn**	**22 59 58.4**	**+0.8**
MCLT				*e*S	**Sg**	**23 00 25.5**	**+0.2**
SLBI	**Saint Lucia, B**	**1.92**	**275**	*e*P	**Pn**	**22 59 57.8**	**-0.1**
SLBI				*e*S	**Sg**	**23 00 25.0**	**-1.2**
SLCP	**Castries, St.**	**1.93**	**274**	*e*S	**Sg**	**23 00 25.8**	**-0.9**
MVM	**Montagne Vaucl**	**1.96**	**290**	*e*P	**Pn**	**22 59 58.6**	**+0.1**
SLB	**Belfond**	**1.98**	**269**	*e*P	**Pn**	**22 59 59.4**	**+0.6**
SLB				*e*S	**Sg**	**23 00 27.2**	**-1.0**
SLDE	**Delcer**	**2.00**	**268**	*e*P	**Pn**	**22 59 60.0**	**+1.0**
SLDE				*e*S	**Sg**	**23 00 28.1**	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.02**	**297**	*e*P	**Pn**	**22 59 59.3**	**0.0**
ILAM				*e*S	**Sb**	**23 00 27.2**	**-0.1**
ILAM	**Ilet Lapin Mar**	**2.02**	**297**	Pn	**Pn**	**22 59 59.0**	**-0.3**
LPMF	**Morne Lapointe**	**2.03**	**290**	*e*

5.4nm,0.3s,baz=250,slow=20,SNR=10
SDDR Presa de Saban 12.83 295 Pn 23 02 29.3 +1.5
SDDR Presa de Saban 12.83 295 *eP* **Pn 23 02 29.4 +1.6**
PAMC Pamplona, Colo 14.94 246 *eP* **Pn 23 02 54.3 -2.7**
OCAC Ocana 15.12 250 *eP* **Pn 23 02 58.9 -0.3**
ARGC Ariguani, Magd 15.44 257 *eP* **Pn 23 03 03.8 +0.6**
SMLC San Martn de 15.61 253 *eP* **Pn 23 03 02.6 -2.8**
BARC Barichara 15.71 244 *eP* **P 23 03 12.7 +1.5**
RUSC La Rusia 15.97 242 P **Pn 23 03 12.3 +1.7**
RUSC IAmb IAmb 23 03 29.7
comp=Z,45nm,1.1s
RUSC La Rusia 15.97 242 *eP* **Pn 23 03 11.7 +1.1**
SJCC San Jacinto, C 16.31 258 Pn **Pn 23 03 14.2 -0.5**
SJCC IAmb IAmb 23 03 27.7
comp=Z,13nm,0.5s
SJCC San Jacinto, C 16.31 258 *eP* **Pn 23 03 14.4 -0.2**
ZARC Zaragoza, Cauc 16.81 249 *eP* **Pn 23 03 18.8 -2.2**
ROSC El Rosal 17.56 241 LR LR 23 12 52.2
comp=Z,217nm,18.6s,baz=46,slow=47
NORC Norcasia 17.67 244 *eP* **Pn 23 03 30.8 -0.9**
HELC Santa Helena 17.96 246 *eP* **Pn 23 03 34.0 -1.7**
DBBC Dabeiba 18.23 250 *eP* **Pn 23 03 36.6 -2.1**
GUY2C Guyana, Caldas 18.27 244 *eP* **Pn 23 03 36.6 -2.9**
CBOC Ciudad Bolivar 18.54 246 *eP* **P 23 03 39.9 -2.5**
PLMC San Jos del P 19.22 244 *eP* **P 23 03 46.2 -3.6**
AZU Azuero 21.74 256 *eP* **P 23 04 20.8 +3.7**
ATAH Atahualpa 28.39 224 P **P 23 05 16.9 -3.7**
comp=Z,3.6nm,0.8s,baz=23,slow=8.9,SNR=2.0
SIV San Ignacio 29.75 184 P P 23 05 25.4 -6.8
comp=Z,0.6nm,0.6s,baz=57,slow=20,SNR=1.9
SIV LR LR 23 17 13.3
comp=Z,70nm,21.7s,baz=314,slow=37
TKL Tuckaleechee C 31.08 319 LR LR 23 18 56.2
comp=Z,19nm,20.8s,baz=130,slow=37
LPAZ La Paz 31.30 197 P P 23 05 40.4 -6.2
comp=Z,0.5nm,0.7s,baz=14,slow=12,SNR=2.1
PLAL Pickwick Lake 33.59 314 P **P 23 06 05.3 -0.5**
PLAL IAmb IAmb 23 06 14.8
comp=Z,5.4nm,0.8s
Q44A Meyer Farm, Va 36.37 319 P **P 23 06 32.3 +2.5**
FCAR Ozark Folk Cen 36.91 312 P **P 23 06 35.9 +1.4**
FCAR IAmb IAmb 23 06 42.7
comp=Z,5.5nm,0.9s
U40A Yellville 37.65 313 P **P 23 06 43.1 +2.3**
U40A IAmb IAmb 23 06 45.1
comp=Z,12nm,1.4s
WMOK Wichita Mounta 41.42 307 P **P 23 07 14.2 +1.9**
TX32 Lajitas Array 44.00 298 P **P 23 07 33.4 0.0**
TXAR Lajitas Array 44.00 298 P **P 23 07 33.5 0.0**
comp=Z,0.3nm,0.6s,baz=124,slow=7.5,SNR=5.5
TXAR PcP **PP 23 09 15.9 +0.1**
comp=Z,0.1nm,0.5s,baz=95,slow=4.9,SNR=1.8
TXAR Lajitas Array 44.00 298 P **P 23 07 33.1 -0.3**
MNTX Cornudas Mount 45.91 301 P **P 23 07 46.1 -2.4**
MNTX IAmb IAmb 23 07 58.3
comp=Z,5.2nm,1.0s
H10N3 ASCENSION HYDR 49.16 113 T T 00 00 04.9
baz=295,slow=74,SNR=9.1
H10N2 ASCENSION HYDR 49.16 113 T T 00 00 05.1
baz=295,slow=74,SNR=9.7
H10N1 ASCENSION HYDR 49.18 113 T T 23 59 55.7
baz=295,slow=74,SNR=153
BW06 Boulder Array 52.00 314 P **P 23 08 37.2 +1.8**
PD31 Pinedale Array 52.00 314 P **P 23 08 37.5 +2.1**
PDAR Pinedale Array 52.00 314 P **P 23 08 36.0 +0.6**
comp=Z,1.5nm,1.0s,baz=120,slow=5.8,SNR=8.4
PDAR Pinedale Array 52.00 314 P **P 23 08 36.3 +0.9**
AHID Auburn Hatcher 53.09 313 P **P 23 08 45.5 +2.1**
AHID IAmb IAmb 23 08 46.9
comp=Z,5.5nm,1.1s
ESDC Sonseca Array 54.48 51 P **P 23 08 54.2 +0.8**
comp=Z,0.7nm,0.8s,baz=257,slow=8.1,SNR=7.9
ESDC Sonseca Array 54.48 51 P **P 23 08 54.4 +1.0**
PLCA Paso Flores 55.37 191 P P 23 08 53.9 -5.9
comp=Z,2.2nm,0.9s,baz=347,slow=9.3,SNR=3.1
NVAR Mina Array Bea 57.52 307 P **P 23 09 13.8 -1.7**
comp=Z,0.3nm,0.7s,baz=96,slow=4.5,SNR=2.8
NVAR LR LR 23 39 52.4
comp=Z,58nm,18.1s,baz=92,slow=42
NVAR Mina Array Bea 57.52 307 P **P 23 09 14.2 -1.3**
TORD Torodi Ar. Bea 58.88 83 P **P 23 09 22.3 -2.7**
comp=Z,2.5nm,0.8s,baz=285,slow=6.5,SNR=10
TORD LR LR 23 30 55.8
comp=Z,116nm,21.5s,baz=275,slow=32
TORD Torodi Ar. Bea 58.88 83 P **P 23 09 22.8 -2.3**
YKA Yellowknife Ar 62.24 334 P **P 23 09 47.5 +0.4**
comp=Z,0.3nm,0.5s,baz=121,slow=20,SNR=2.2
DAVOX Davos/Dischmat 65.57 45 P **P 23 10 11.0 +1.3**
comp=Z,2.1nm,0.7s,baz=225,slow=8.2,SNR=5.9
GEC2 GERESS Array S 68.31 43 P **P 23 10 28.2 +1.3**
GEC2 IAmb IAmb 23 10 43.4
comp=Z,3.9nm,1.3s
GERES GERESS Array B 68.31 43 P **P 23 10 26.8 -0.1**
comp=Z,1.0nm,0.7s,baz=269,slow=6.3,SNR=3.6
GERES LR LR 23 38 20.3
comp=Z,18nm,18.2s,baz=288,slow=34
GERES GERESS Array B 68.31 43 P **P 23 10 27.8 +0.8**
NB2 NORSAR Subarra 68.40 30 P **P 23 10 29.1 +1.9**
comp=Z,5.2nm,1.4s,baz=259,slow=6.5
NOA NORSAR Array B 68.40 30 P **P 23 10 28.5 +1.3**
comp=Z,0.6nm,0.8s,baz=250,slow=6.8,SNR=4.3
NOA LR LR 23 35 58.9
comp=Z,29nm,20.7s,baz=250,slow=32
HFS Hagfors 69.46 31 P **P 23 10 36.0 +2.3**
comp=Z,2.2nm,0.9s,baz=194,slow=12,SNR=2.6
INK Inuvik 71.48 338 P **P 23 10 46.3 +0.3**
comp=Z,3.5nm,1.0s,baz=59,slow=4.1,SNR=3.5
BCAR Beaver Creek A 74.47 332 P **P 23 11 02.8 -1.1**
L27K Beaver Creek, 74.49 332 P **P 23 11 05.2 +1.2**
MCARA McCarthy VSAT 75.08 330 P **P 23 11 08.8 +1.5**
ARCES ARCESS Array B 75.18 21 P **P 23 11 10.2 +2.4**
comp=Z,2.8nm,0.8s,baz=269,slow=7.3,SNR=5.2
ARCES ARCESS Array B 75.18 21 P **P 23 11 09.8 +2.0**
FINES FINESS Array B 75.58 30 P **P 23 11 11.4 +1.2**
comp=Z,2.3nm,0.7s,baz=270,slow=5.7,SNR=7.6
FINES FINESS Array B 75.58 30 P **P 23 11 11.7 +1.5**
FIA1 FINESS Array S 75.58 30 P **P 23 11 12.9 +2.7**
BURAR Bucovina Array 76.02 44 P **P 23 11 14.7 +1.6**
BURAR IAmb IAmb 23 11 16.5
comp=Z,3.7nm,0.9s
PRP Porcupine Dome 76.04 335 P **P 23 11 13.2 +0.2**
PRP IAmb IAmb 23 11 14.3
comp=Z,5.0nm,1.2s
ILAR Eielson Array 76.66 334 P **P 23 11 15.3 -1.0**
comp=Z,0.5nm,0.7s,baz=110,slow=3.7,SNR=6.2
ILAR Eielson Array 76.66 334 P **P 23 11 16.0 -0.3**
MDM Murphy Dome 77.22 334 P **P 23 11 19.5 -0.1**
MDM IAmb IAmb 23 11 20.5
comp=Z,6.1nm,1.2s
NEA2 Nenana 77.61 334 P **P 23 11 21.5 -0.2**
NEA2 IAmb IAmb 23 11 23.2
comp=Z,3.2nm,0.9s
BRTR Keskin Array B 83.27 51 P **P 23 11 53.8 +1.0**
comp=Z,1.3nm,0.9s,baz=263,slow=4.0,SNR=5.8
BRTR Keskin Array B 83.27 51 P **P 23 11 53.5 +0.7**

*IDC **20** 23:08:10.6±1.2, 13°.44N×59°.04W, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.8/51, mbtmp3.9/10, ML3.8/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/31, Error ellipse: s-maj=36.4km s-min=21.1km az=175.0*
*TRN **20** 23:08:10.4, 13°.86N×58°.55W, h95km, MD4.3*
*NEIC **20** 23:08:17.1±1.9, 13°.83N±0°.04×58°.99W±0°.05, h19km±5km, mb4.4/27, Error ellipse: s-maj=7.3km s-min=5.1km az=55.0*
ISC 20 23:08:14.1±1.8, **13°.90N**±0°.03×**58°.90W**±0°.05, **h9**km±11km, **n141**, σ1±**50**/164, **mb4.3**/20, **MS3.5**/5, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**0.96**	**214**	*eP*	**Pg**	**23 08 33.4**	**+0.9**
BBSP				*eS*	**Sn**	23 08 50.4	+2.9
BBGH	**Gun Hill**	**0.99**	**220**	*eP*	**Pb**	23 08 33.3	-0.2
BBGH				*eS*	**Sn**	23 08 51.1	+2.8
BBGH	**Gun Hill**	**0.99**	**220**		**Pb**	23 08 33.2	-0.2
BBGH					**Sn**	23 08 50.1	+1.8
BCHC	**Barbados, Cave**	**1.04**	**223**	*eP*	**Pb**	23 08 34.7	+0.4
BCHC				*eS*	**Sn**	23 08 53.0	+3.4
H05S1	**Guadeloupe/Mar**	**1.95**	**286**	Pn	**Pn**	23 08 44.8	-2.5
H05S1				Sn	**Sb**	23 09 15.3	+1.2
	SNR=475						
MPOM	**Morne Pois Mar**	**1.98**	**286**	*eP*	**Pn**	23 08 47.8	+0.1
MPOM				*eS*	**Sb**	23 09 14.8	-0.1
MPOM	**Morne Pois Mar**	**1.98**	**286**	Sn	**Sb**	**23 09 13.8**	**-1.2**
SLW	**Petit Monier**	**1.98**	**274**	*eP*	**Pn**	**23 08 48.7**	**+0.8**
SLW				*eS*	**Sb**	23 09 16.4	+1.2
MCLT	**Moule a Chique**	**1.99**	**265**	*eP*	**Pn**	**23 08 49.0**	**+1.0**
MCLT				*eS*	**Sb**	23 09 16.3	+0.9
MCLT	**Moule a Chique**	**1.99**	**265**	Pn	**Pn**	**23 08 44.5**	**-3.4**
SLBI	**Saint Lucia, B**	**2.02**	**274**	*eP*	**Pn**	**23 08 47.8**	**-0.4**
SLBI				*eS*	**Sb**	23 09 16.2	0.0
SLCP	**Castries, St.**	**2.03**	**273**	*eP*	**Pn**	23 08 49.5	+1.1
SLCP				*eS*	**Sb**	23 09 17.8	+1.2
MVM	**Montagne Vaucl**	**2.04**	**289**	*eP*	**Pn**	23 08 49.1	+0.5
SLB	**Belfond**	**2.08**	**268**	*eP*	**Pn**	23 08 50.4	+1.2
SLB				*eS*	**Sg**	23 09 19.8	-1.3
SLDE	**Delcer**	**2.10**	**268**	*eP*	**Pn**	23 08 50.0	+0.6
SLDE				*eS*	**Sb**	23 09 19.0	+0.5
ILAM	**Ilet Lapin Mar**	**2.10**	**295**	*eP*	**Pn**	23 08 49.0	-0.4
ILAM				*eS*	**Sb**	23 09 17.7	-0.8
ILAM	**Ilet Lapin Mar**	**2.10**	**295**	Pn	**Pn**	23 08 49.2	-0.2
ILAM					**Sb**	23 09 18.3	-0.2
LPMF	**Morne Lapointe**	**2.11**	**289**	*eP*	**Pn**	23 08 49.7	+0.1
ZAM	**Aeronautique**	**2.17**	**288**	*eP*	**Pn**	23 08 50.8	+0.5
TRMF	**Trois Ilets**	**2.18**	**287**	*eP*	**Pn**	23 08 50.9	+0.4
BIM	**Bigot**	**2.19**	**286**	*eP*	**Pn**	23 08 50.3	-0.4
BIM				*eS*	**Sb**	23 09 21.5	+0.3
BIM	**Bigot**	**2.19**	**286**		**Pn**	23 08 50.3	-0.4
BIM					**Sb**	23 09 21.0	-0.2
SSV	**Crater Summit**	**2.30**	**256**	*eP*	**Pn**	23 08 52.5	+0.2
SSV				*eS*	**Sb**	23 09 22.4	-2.0
SVV	**Soufriere Volc**	**2.33**	**256**	*eP*	**Pn**	23 08 52.7	+0.2
SVV				*eS*	**Sb**	23 09 22.5	-2.6
FDF	**Fort de France**	**2.33**	**291**	*eP*	**Pn**	23 08 52.3	-0.3
FDF				*eS*	**Sn**	23 09 23.1	+1.6
FDF	**Fort de France**	**2.33**	**291**		**Pn**	23 08 52.4	-0.3
BAMF	**Morne Balai**	**2.36**	**293**	*eP*	**Pn**	23 08 53.3	+0.2
GBMF	**Grand Be**	**2.37**	**292**	*eP*	**Pn**	23 08 53.4	+0.2
SVB	**Belmont**	**2.37**	**255**	*eP*	**Pn**	23 08 53.7	+0.5
SVB				*eS*	**Sb**	23 09 24.2	-2.2
SVB	**Belmont**	**2.37**	**255**	Pn	**Pn**	23 08 52.9	-0.3
SVN	**Savane Anatole**	**2.39**	**293**	*eP*	**Pn**	23 08 53.9	+0.5
SVN	**Savane Anatole**	**2.39**	**293**	Pn	**Pn**	23 08 53.0	-0.4
SVN					**Sb**	23 09 27.0	+0.1
PCM	**Pelee Case Pet**	**2.42**	**292**	*eP*	**Pn**	23 08 54.3	+0.5
DLPL	**La Plaine**	**2.68**	**302**	Pn	**Pn**	23 08 57.1	-0.3
GCMP	**Grenada, Carri**	**2.83**	**240**	*eP*	**Pn**	23 08 58.4	-1.1
GCMP				*eS*	**Sn**	23 09 34.2	+0.4
DSLB	**Salisbury**	**2.88**	**302**	*eP*	**Pn**	23 08 59.6	-0.6
DSLB				*eS*	**Sn**	23 09 35.8	+0.9
TOSP	**Speyside**	**3.04**	**212**	*eP*	**Pn**	23 09 00.2	-2.2
TOSP				*eS*	**Sn**	23 09 36.4	-2.5
TOSP	**Speyside**	**3.04**	**212**	Pn	**Pn**	23 08 59.8	-2.6
MAGL	**Barre de l'ile**	**3.07**	**312**	*eP*	**Pn**	23 09 02.3	-0.5
MAGL				*eS*	**Sn**	23 09 40.3	+0.6
H05N1	**Guadeloupe/Mar**	**3.18**	**319**	Pn	**Pn**	23 09 02.7	-1.5
H05N1				Sn	**Sn**	23 09 42.3	0.0
	SNR=213						
GRGR	**Grenville**	**3.21**	**237**	*eP*	**Pn**	23 09 04.1	-0.6
GRGR				*eS*	**Sn**	23 09 42.1	-1.0
GRGR	**Grenville**	**3.21**	**237**	Pn	**Pn**	23 09 03.7	-1.0
BOT	**Bacolet**	**3.25**	**213**	*e*	**Pn**	23 09 01.0	-4.2
TPR	**Prospect**	**3.26**	**214**	*eP*	**Pn**	23 09 02.7	-2.8
TDBA	**Terre de Bas,**	**3.28**	**307**	*eP*	**Pn**	23 09 05.1	-0.5
TDBA				*eS*	**Sn**	23 09 45.5	+0.7
TBG	**Guadaloupe-3**	**3.29**	**306**	*eP*	**Pn**	23 09 05.0	-0.8
TBG				*eS*	**Sn**	23 09 45.3	+0.3
CBE	**Ff, Capester**	**3.39**	**310**	*eP*	**Pn**	23 09 06.6	-0.6
CBE				*eS*	**Sn**	23 09 48.4	+0.9
ABD	**La Joyeuse, An**	**3.58**	**316**	*eP*	**Pn**	23 09 08.8	-0.9
ABD				*eS*	**Sn**	23 09 51.6	-0.5
TRN	**Trinidad (W)**	**4.06**	**217**	*eP*	**Pn**	23 09 14.3	-2.0
TRN	**Trinidad (W)**	**4.06**	**217**	*eS*	**Sn**	23 09 59.8	-4.1
ANBD	**Bethesda, Anti**	**4.17**	**319**	*eP*	**Pn**	23 09 16.8	-1.1
ANBD	**Bethesda, Anti**	**4.17**	**319**	*eS*	**Sn**	23 10 04.6	-2.2
BPA	**Boggy Peak**	**4.23**	**318**	*eP*	**Pn**	23 09 17.4	-1.4
BPA	**Boggy Peak**	**4.23**	**318**	*eS*	**Sn**	23 10 06.6	-1.7
ANDO	**Antigua, Disas**	**4.26**	**319**	*eP*	**Pn**	23 09 18.1	-1.0
ANDO	**Antigua, Disas**	**4.26**	**319**	*eS*	**Sn**	23 10 07.3	-1.7
ANOC	**Antigua Open C**	**4.27**	**319**	*eP*	**Pn**	23 09 17.9	-1.3
ANWB	**Willy Bob**	**4.66**	**324**	*eP*	**Pn**	23 09 22.6	-2.0
ANWB	**Willy Bob**	**4.66**	**324**	*eS*	**Sn**	23 10 15.7	-3.2
ANWB	**Willy Bob**	**4.66**	**324**	Pn	**Pn**	23 09 27.4	+2.8
NVBH	**Bath Hotel, Ne**	**4.80**	**312**	*eP*	**Pn**	23 09 24.1	-2.5
NVDO	**Nevis, Disaste**	**4.80**	**312**	*eP*	**Pn**	23 09 25.2	-1.4
NVDO	**Nevis, Disaste**	**4.80**	**312**	*eS*	**Sn**	23 10 21.4	-1.0
SKI	**Saint Kitts**	**5.03**	**313**	*eP*	**Pn**	23 09 29.6	-0.2
SKI	**Saint Kitts**	**5.03**	**313**	*eS*	**Sn**	23 10 26.0	-2.1
SKI	**Saint Kitts**	**5.03**	**313**	Pn	**Pn**	23 09 30.4	+0.6
SMRT	**St. Maarten**	**5.75**	**316**	*eP*	**Pn**	23 09 39.0	-0.7
SMRT	**St. Maarten**	**5.75**	**316**	*eS*	**Sn**	23 10 43.2	-2.7
SMRT	**St. Maarten**	**5.75**	**316**	Pn	**Pn**	23 09 39.6	-0.1
PCRV	**Puerto La Cruz**	**6.72**	**237**	Pn	**Pn**	23 09 53.4	+0.3
	6.2nm,0.3s,baz=73,slow=3.0,SNR=28						
PCRV				Sn	**Sn**	**23 11 08.5**	**-1.3**
	baz=63,slow=21,SNR=1.2						
CUPR	**Culebra, Puert**	**7.54**	**306**		**Pn**	23 10 04.5	+0.4
MTP	**Monte Pirata**	**7.63**	**304**	Pn	**Pn**	23 10 06.6	+1.1
HUMP	**Col San Antoni**	**7.90**	**303**	Pn	**Pn**	23 10 09.8	+0.7
CBYP	**Canovanas**	**7.97**	**304**	Pn	**Pn**	23 10 10.8	+0.6
PDPR	**Patillas Dam,**	**7.98**	**302**	Pn	**Pn**	23 10 12.1	+1.9
SJG	**San Juan**	**8.13**	**302**	Pn	**Pn**	23 10 11.5	-0.8
	1.2nm,0.3s,baz=136,slow=6.7,SNR=3.4						
SJG				Sn	Sn	23 11 55.1	+11
	1.7nm,0.3s,baz=346,slow=23,SNR=1.6						
SJG				LR	LR	23 13 40.6	
	comp=Z,404nm,19.7s,baz=124,slow=40						
SJG	**San Juan**	**8.13**	**302**	Pn	**Pn**	23 10 13.9	+1.6
GCPR	**Guaynabo City**	**8.18**	**303**		**Pn**	23 10 14.8	+1.9
OBIP	**Obispado Ponce**	**8.48**	**300**	Pn	**Pn**	23 10 18.8	+1.7
AOPR	**Arecibo Observ**	**8.74**	**301**	Pn	**Pn**	23 10 21.8	+1.0
MLPR	**Magueyes Islan**	**8.81**	**298**	Pn	**Pn**	23 10 21.8	+0.1
MDP	**Montagnes des**	**10.70**	**144**	Pn	Pn	23 10 32.4	-15
	4.7nm,0.3s,baz=333,slow=16,SNR=41						
MDP				Sn	Sn	23 12 20.8	-27
	11nm,0.3s,baz=57,slow=17,SNR=16						
MDP				LR	LR	23 16 09.1	
	comp=Z,273nm,18.2s,baz=332,slow=46						
SDDR	**Presa de Saban**	**12.91**	**295**	Pn	**Pn**	**23 11 19.1**	**+1.2**
ARGC	**Ariguani, Magd**	**15.54**	**257**	*eP*	**Pn**	**23 11 55.7**	**+2.1**
SMLC	**San Martn de**	**15.71**	**253**	*eP*	**Pn**	**23 11 52.9**	**-2.9**
BARC	**Barichara**	**15.81**	**244**	*eP*	**P**	**23 12 02.7**	**+1.5**
RUSC	**La Rusia**	**16.07**	**242**		**Pn**	**23 12 02.0**	**+1.1**
RUSC				IAmb	IAmb	23 12 19.1	
	comp=Z,23nm,0.9s						
RUSC	**La Rusia**	**16.07**	**242**	*eP*	**P**	**23 12 07.2**	**+2.8**
SJCC	**San Jacinto, C**	**16.42**	**258**	Pn	**Pn**	**23 12 05.0**	**+0.1**
SJCC	**San Jacinto, C**	**16.42**	**258**	*eP*	**Pn**	**23 12 05.3**	**+0.3**
GTBY	**Guantanamo Bay**	**16.62**	**293**	Pn	**Pn**	**23 12 08.7**	**+1.2**
GTBY				IAmb	IAmb	23 12 21.9	
	comp=Z,43nm,1.1s						
ZARC	**Zaragoza, Cauc**	**16.92**	**250**	*eP*	**Pn**	**23 12 08.8**	**-2.5**
ROSC	**El Rosal**	**17.67**	**241**	LR	LR	23 21 12.8	
	comp=Z,380nm,20.6s,baz=49,slow=45						
ROSC	**El Rosal**	**17.67**	**241**		**Pn**	**23 12 21.1**	**+0.2**
NORC	**Norcasia**	**17.78**	**244**	*eP*	**Pn**	**23 12 22.0**	**0.0**
HELC	**Santa Helena**	**18.07**	**247**	*eP*	**Pn**	**23 12 23.5**	**-2.4**
DBBC	**Dabeiba**	**18.34**	**250**	*eP*	**Pn**	**23 12 26.2**	**-2.7**
GUY2C	**Guyana, Caldas**	**18.37**	**244**	*eP*	**Pn**	**23 12 27.1**	**-2.6**
CBOC	**Ciudad Bolivar**	**18.64**	**246**	*eP*	**P**	**23 12 29.5**	**-3.0**
PLMC	**San Jos del P**	**19.32**	**244**	*eP*	**P**	**23 12 36.3**	**-3.6**
YOTC	**Yotoco, Valle**	**19.83**	**242**	*eP*	**P**	**23 12 43.5**	**-2.0**
JTS	**Las Juntas de**	**25.72**	**265**	LR	LR	23 26 27.4	
	comp=Z,54nm,18.3s,baz=120,slow=43						
V61A	**Roper**	**26.97**	**327**	P	**P**	**23 13 57.2**	**+1.1**
ATAH	**Atahualpa**	**28.48**	**224**	P	P	23 14 04.6	-5.7
	comp=Z,4.1nm,0.7s,baz=266,slow=9.1,SNR=2.2						
PLAL	**Pickwick Lake**	**33.65**	**314**	P	**P**	**23 14 56.2**	**+1.0**
PLAL				IAmb	IAmb	23 15 04.3	
	comp=Z,6.7nm,1.1s						
WHAR	**Wooly Hollow**	**36.81**	**311**	P	**P**	**23 15 24.3**	**+1.8**
WHAR				IAmb	IAmb	23 15 31.1	
	comp=Z,6.1nm,0.9s						
X40A	**Basin Creek Fa**	**36.86**	**310**	P	**P**	**23 15 21.7**	**-1.2**
FCAR	**Ozark Folk Cen**	**36.97**	**312**	P	**P**	**23 15 25.1**	**+1.3**
FCAR				IAmb	IAmb	23 15 28.1	
	comp=Z,7.0nm,1.1s						
CCM	**Cathedral Cave**	**37.42**	**316**	P	**P**	**23 15 28.8**	**+1.2**
CCM				IAmb	IAmb	23 15 36.1	
	comp=Z,3.6nm,0.8s						
W39A	**Magazine**	**37.87**	**310**	P	**P**	**23 15 32.4**	**+1.0**
W39A				IAmb	IAmb	23 15 42.3	
	comp=Z,12nm,1.2s						
TXAR	**Lajitas Array**	**44.08**	**298**	P	**P**	**23 16 21.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=98,slow=6.5,SNR=2.6						
TXAR				LR	LR	23 37 15.5	
	comp=Z,46nm,20.4s,baz=0.0,slow=40						
MSTX	**Muleshoe**	**44.39**	**305**	P	**P**	**23 16 23.8**	**-1.6**
KSCO	**Kaye Shedlock'**	**45.86**	**311**	P	**P**	**23 16 37.9**	**+1.0**
AGMN	**Agassiz Nation**	**45.91**	**326**	P	**P**	**23 16 38.3**	**+1.3**
AGMN				IAmb	IAmb	23 16 43.6	
	comp=Z,5.2nm,1.0s						
MNTX	**Cornudas Mount**	**45.99**	**301**	P	**P**	**23 16 37.3**	**-0.6**
MNTX				IAmb	IAmb	23 16 42.4	
	comp=Z,7.4nm,1.1s						
ULM	**Lac du Bonnet**	**47.07**	**328**	LR	LR	23 38 04.5	
	comp=Z,57nm,19.5s,baz=154,slow=38						
ULM	**Lac du Bonnet**	**47.07**	**328**	P	**P**	**23 16 46.7**	**+0.6**
BNM	**Barren Site**	**47.54**	**304**	P	**P**	**23 16 50.1**	**-0.2**
H10N3	**ASCENSION HYDR**	**49.08**	**113**	T	T	00 08 57.4	
	baz=295,slow=75,SNR=5.0						
H10N2	**ASCENSION HYDR**	**49.08**	**113**	T	T	00 08 57.8	
	baz=295,slow=75,SNR=4.2						
H10N1	**ASCENSION HYDR**	**49.10**	**113**	T	T	00 08 59.1	
	baz=295,slow=75,SNR=4.7						
SFS	**San Fernando**	**52.00**	**54**	P	**P**	**23 17 23.4**	**-0.5**
PD31	**Pinedale Array**	**52.06**	**314**	P	**P**	**23 17 25.4**	**+0.8**
PDAR	**Pinedale Array**	**52.06**	**314**	P	**P**	**23 17 23.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=108,slow=8.1,SNR=8.1						
PDAR				LR	LR	23 43 07.5	
	comp=Z,56nm,18.9s,baz=128,slow=40						
PDAR	**Pinedale Array**	**52.06**	**314**	P	**P**	**23 17 25.7**	**+1.1**
BW06	**Boulder Array**	**52.06**	**314**	P	**P**	**23 17 25.4**	**+0.8**
RLMT	**Red Lodge**	**52.62**	**317**	P	**P**	**23 17 29.7**	**+1.1**
GCMT	**Greycliff**	**53.11**	**317**	P	**P**	**23 17 31.9**	**-0.3**
REDW	**Red Top Meadow**	**53.14**	**314**	P	**P**	**23 17 34.0**	**+1.4**
REDW				IAmb	IAmb	23 17 41.8	
	comp=Z,9.6nm,1.5s						
AHID	**Auburn Hatcher**	**53.14**	**313**	P	**P**	**23 17 33.3**	**+0.7**
HWUT	**Hardware Ranch**	**53.16**	**312**	P	**P**	**23 17 33.6**	**+0.9**
HWUT				IAmb	IAmb	23 17 46.4	
	comp=Z,8.1nm,1.4s						
BGU	**Big Grassy Mou**	**54.06**	**311**	P	**P**	**23 17 39.7**	**+0.4**
BGU				IAmb	IAmb	23 17 48.7	
	comp=Z,4.9nm,1.2s						
PSUT	**Pine Spring**	**54.16**	**308**	P	**P**	**23 17 40.9**	**+0.8**
PSUT				IAmb	IAmb	23 17 53.9	
	comp=Z,2.1nm,0.8s						
ESDC	**Sonseca Array**	**54.38**	**51**	P	**P**	**23 17 43.3**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=259,slow=7.1,SNR=4.9						
LRM	**Limekiln Ridge**	**54.96**	**317**	P	**P**	**23 17 44.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**58.77**	**83**	P	**P**	**23 18 12.3**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=279,slow=6.1,SNR=5.5						
DAVOX	**Davos/Dischmat**	**65.48**	**45**	P	**P**	**23 18 57.5**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=165,slow=8.1,SNR=3.2						
GERES	**GERESS Array B**	**68.22**	**43**	P	**P**	**23 19 14.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=269,slow=6.3,SNR=6.1						
ARCES	**ARCESS Array B**	**75.12**	**21**	LR	LR	23 47 48.5	
	comp=Z,30nm,20.1s,baz=275,slow=32						
FINES	**FINESS Array B**	**75.51**	**30**	P	**P**	**23 20 01.1**	**+2.5**
	comp=Z,1.7nm,0.7s,baz=260,slow=5.4,SNR=6.3						
ILAR	**Eielson Array**	**76.68**	**334**	P	**P**	**23 20 05.2**	**0.0**
	comp=Z,0.8nm,0.9s,baz=91,slow=3.8,SNR=7.9						

*TRN **20** 23:13:28.2, 13°.83N×58°.58W, h91km, MD4.0*
ISC 20 23:13:25.5±1.7, **13°.88N**±0°.04×**58°.43W**±0°.10, **h10**km, **n61**, σ2±**16**/84, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**233**	*eP*	**Pb**	**23 13 50.9**	**+1.5**
BBSP				*eS*	**Sg**	23 14 07.3	+1.2
BBGH	**Gun Hill**	**1.32**	**237**	*eP*	**Pb**	23 13 51.2	+0.9
BBGH				*eS*	**Sb**	23 14 08.2	+0.8
BCHC	**Barbados, Cave**	**1.38**	**238**	*eP*	**Pn**	23 13 51.8	+1.0
BCHC				*eS*	**Sb**	23 14 08.1	-1.0
MPOM	**Morne Pois Mar**	**2.42**	**284**	*eP*	**

2.9nm,0.3s,baz=272,slow=4.7,SNR=31
URZ S S 23 47 42.1 +5.7
2.6nm,0.3s,baz=294,slow=21,SNR=13
ASAR Alice Springs 39.73 274 P P 23 52 57.6 +0.4
0.8nm,0.7s,baz=117,slow=7.7,SNR=8.5
WRA Warramunga Arr 41.11 279 P P 23 53 08.1 -0.5
1.4nm,0.8s,baz=117,slow=8.1,SNR=12
MAW Mawson 67.23 202 P P 23 56 15.4 -0.4
0.8nm,0.4s,baz=106,slow=7.4,SNR=2.3
NVAR Mina Array Bea 93.57 45 P P 23 58 36.9 +0.3
0.2nm,0.4s,baz=205,slow=4.0,SNR=2.3

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*IDC **20** 23:59:53.3±0.5, 24°.36N×46°.28W, h0km, mb4.3/21, mb1 4.5/21, mb1mx4.3/43, mbtmp4.3/21, MS3.8/27, Ms1 3.9/27, ms1mx3.8/31, Error ellipse: s-maj=15.9km s-min=13.0km az=133.0*
*MOS **20** 23:59:54.4±0.8, 24°.41N×46°.24W, h13km, mb5.0/94, Error ellipse: s-maj=6.4km s-min=5.2km az=147.9*
*NEIC **20** 23:59:56.4±1.2, 24°.39N±0°.08×46°.20W±0°.06, h10km±1km, mb4.8/386, Error ellipse: s-maj=15.6km s-min=7.0km az=208.0*
*GCMT **20** 23:59:58.4±0.3, 24°.54N±0°.03×46°.22W±0°.02, h13km±1km, MW4.8/105, Moment Tensor Solution. s21,c24; s105,c131; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.19±.13; $M_{\theta\theta}$0.36±.08; $M_{\phi\phi}$1.83±.09; $M_{r\theta}$-0.02±.26; $M_{\theta\phi}$0.46±.05; $M_{\phi r}$-0.48±.21; Best double couple: $M_0$2.13000×10^16^ NP1:ϕ_s198.00000°, δ39.00000°, λ-86.00000°. NP2:ϕ_s13.00000°, δ51.00000°, λ-93.00000°. Principal axes: T 2.0130, Plg6.0000°, Azm106.0000°; N 0.2330, Plg3.0000°, Azm15.0000°; P -2.2460, Plg83.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 23:59:55.3±0.4, **24°.34N**±0°.07×**46°.23W**±0°.05, **h10**km, **n731**, σ**0**§**90**/665, **mb4.7**/278, **MS3.9**/31, **3C-4D, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**15.97**	**248**	Pn	**Pn**	**00 03 41.4**	**+1.2**
ANWB				IAmb	IAmb	00 03 55.0	
comp=Z,62nm,0.8s							
SKI	**Saint Kitts**	**16.93**	**249**	P	**Pn**	**00 03 52.5**	**0.0**
SKI	**Saint Kitts**	**16.93**	**249**	Pn	**Pn**	**00 03 52.5**	**0.0**
CDVI	**St. Croix**	**18.50**	**253**	P	**P**	**00 04 12.1**	**+0.4**
CUPR	**Culebra, Puert**	**18.73**	**255**	P	**P**	**00 04 13.8**	**-0.5**
MTP	**Monte Pirata**	**19.05**	**255**	P	**Pn**	**00 04 19.1**	**+0.5**
PDPR	**Patillas Dam,**	**19.49**	**255**		**Pn**	**00 04 24.2**	**+0.3**
SJG	**San Juan**	**19.57**	**255**	LR	LR	00 10 27.8	
comp=Z,298nm,20.7s,baz=85,slow=32							
EMPR	**Esperanza - Ma**	**19.77**	**257**	P	**P**	**00 04 26.6**	**+0.9**
OBIP	**Obispado Ponce**	**20.00**	**256**	P	**P**	**00 04 29.8**	**+1.6**
OBIP				IAmb	IAmb	00 04 41.8	
comp=Z,54nm,1.2s							
AOPR	**Arecibo Observ**	**20.02**	**257**	P	**P**	**00 04 29.5**	**+1.0**
AOPR				IAmb	IAmb	00 04 34.6	
comp=Z,60nm,1.1s							
MDP	**Montagnes des**	**20.10**	**199**	LR	LR	00 10 24.3	
comp=Z,113nm,21.6s,baz=32,slow=31							
AGPR	**Aguadilla, PR**	**20.30**	**257**	P	**P**	**00 04 33.0**	**+1.5**
MPR	**Mayaguez**	**20.41**	**257**		**S**	**00 08 22.7**	**+1.3**
MLPR	**Magueyes Islan**	**20.41**	**256**	P	**P**	**00 04 32.9**	**+0.2**
MLPR				IAmb	IAmb	00 04 36.3	
comp=Z,36nm,1.1s							
SDDR	**Presa de Saban**	**23.88**	**262**	P	**P**	**00 05 10.9**	**+1.6**
SDDR				IAmb	IAmb	00 05 20.5	
comp=Z,39nm,1.2s							
LMN	**Caledonia Moun**	**26.18**	**330**	P	**P**	**00 05 29.7**	**-0.3**
LMN				IAmb	IAmb	00 05 31.8	
comp=Z,25nm,1.2s							
GGN	**Saint George**	**26.64**	**326**	P	**P**	**00 05 33.8**	**-0.2**
GGN				IAmb	IAmb	00 05 37.5	
comp=Z,25nm,1.2s							
H66A	**Whiting**	**26.65**	**325**	P	**P**	**00 05 34.4**	**+0.2**
baz=133							
EMMW	**East Machias**	**26.67**	**325**	P	**P**	**00 05 34.1**	**-0.2**
EMMW				IAmb	IAmb	00 05 37.6	
comp=Z,25nm,1.2s							
PMOZ	**Porto Moniz, M**	**26.79**	**65**	*e*LR	LR	00 12 06.3	
comp=Z,179nm,22.0s							
L64A	**Middleborough**	**26.93**	**317**	P	**P**	**00 05 37.2**	**+0.5**
baz=123							
M64A	**Tiverton**	**26.95**	**316**	P	**P**	**00 05 37.4**	**+0.5**
baz=122							
M64A	**Tiverton**	**26.95**	**316**	P	**P**	**00 05 38.2**	**+1.2**
M64A				IAmb	IAmb	00 05 43.2	
comp=Z,20nm,1.0s							
G65A	**Princeton**	**27.06**	**326**	P	**P**	**00 05 39.0**	**+1.1**
baz=133							
G65A	**Princeton**	**27.06**	**326**	P	**P**	**00 05 38.7**	**+0.8**
G65A				IAmb	IAmb	00 05 42.6	
comp=Z,24nm,1.2s							
H65A	**Eastbrook**	**27.08**	**324**	P	**P**	**00 05 38.1**	**0.0**
baz=131							
BCX	**Boston College**	**27.35**	**317**	P	**P**	**00 05 40.3**	**-0.2**
BCX				IAmb	IAmb	00 05 42.0	
comp=Z,22nm,1.2s							
I64A	**Boothbay**	**27.35**	**321**	P	**P**	**00 05 40.5**	**0.0**
baz=128							
L63A	**North Scituate**	**27.37**	**316**	P	**P**	**00 05 40.5**	**-0.2**
baz=122							
H64A	**Troy**	**27.57**	**323**	P	**P**	**00 05 42.5**	**-0.1**
baz=130							
HRV	**Adam Dziewonsk**	**27.68**	**317**	P	**P**	**00 05 43.1**	**-0.5**
baz=123							
G64A	**Maxfield**	**27.72**	**324**	P	**P**	**00 05 43.7**	**-0.2**
baz=131							
K63A	**Dunstable**	**27.76**	**317**	P	**P**	**00 05 43.7**	**-0.6**
baz=123							
J63A	**Strafford**	**27.82**	**319**	P	**P**	**00 05 44.2**	**-0.5**
baz=125							
SDV	**Santo Domingo**	**27.91**	**241**	LR	LR	00 15 40.8	
comp=Z,198nm,21.1s,baz=61,slow=34							
F64A	**Sherman**	**27.92**	**326**	P	**P**	**00 05 45.2**	**-0.4**
baz=133							
F64A	**Sherman**	**27.92**	**326**	P	**P**	**00 05 45.7**	**+0.1**
F64A				IAmb	IAmb	00 06 03.1	
comp=Z,23nm,1.4s							
I63A	**Otisfield**	**27.98**	**321**	P	**P**	**00 05 45.9**	**-0.2**
baz=127							
PKME	**Peaks-Kenny Pk**	**28.01**	**324**	P	**P**	**00 05 46.3**	**-0.2**
baz=130							
PKME	**Peaks-Kenny Pk**	**28.01**	**324**	P	**P**	**00 05 46.8**	**+0.3**
PKME				IAmb	IAmb	00 05 49.0	
comp=Z,18nm,1.1s							
E64A	**Bridgewater**	**28.04**	**327**	P	**P**	**00 05 46.6**	**-0.1**
baz=134,SNR=8.8							
G63A	**Kingsbury**	**28.09**	**323**	P	**P**	**00 05 46.9**	**-0.3**
baz=130							
K62A	**Royalston**	**28.19**	**317**	P	**P**	**00 05 47.5**	**-0.6**
baz=122							
F63A	**Nahmakanta, Br**	**28.20**	**325**	P	**P**	**00 05 47.7**	**-0.4**
baz=131							
J62A	**Henniker**	**28.23**	**318**	P	**P**	**00 05 48.2**	**-0.2**
baz=124							
PQI	**Presque Isle**	**28.31**	**327**	P	**P**	**00 05 49.5**	**+0.4**
I62A	**Tamworth**	**28.31**	**320**	P	**P**	**00 05 48.6**	**-0.6**
baz=125							
E63A	**Oxbow**	**28.34**	**327**	P	**P**	**00 05 49.7**	**+0.4**
baz=133							
E63A	**Oxbow**	**28.34**	**327**	P	**P**	**00 05 50.4**	**+1.1**
L61B	**Northampton**	**28.36**	**316**	P	**P**	**00 05 49.3**	**-0.3**
baz=121							
PAL	**Palisades**	**28.45**	**312**	P	**P**	**00 05 50.6**	**+0.2**
baz=117							
D63A	**Stockholm**	**28.61**	**328**	P	**P**	**00 05 51.6**	**-0.2**
baz=135,SNR=5.9							
H62A	**Milan**	**28.62**	**321**	P	**P**	**00 05 51.3**	**-0.6**
baz=127							
H62A	**Milan**	**28.62**	**321**	P	**P**	**00 05 52.7**	**+0.8**
H62A				IAmb	IAmb	00 05 54.5	
comp=Z,25nm,1.5s							
G62A	**West of Eustis**	**28.66**	**323**	P	**P**	**00 05 52.2**	**-0.1**
baz=128							
TRNY	**Table Rock, Ra**	**28.73**	**312**	P	**P**	**00 05 53.8**	**+0.9**
J61A	**Chester**	**28.75**	**318**	P	**P**	**00 05 53.4**	**+0.3**
baz=123							
F62A	**Pittston Farm,**	**28.79**	**324**	P	**P**	**00 05 53.7**	**+0.4**
baz=130							
HNH	**Hanover**	**28.79**	**319**	P	**P**	**00 05 54.5**	**+1.1**
HNH				IAmb	IAmb	00 05 55.0	
comp=Z,19nm,1.2s							
LBNH	**Lisbon**	**28.87**	**320**	P	**P**	**00 05 54.9**	**+0.7**
LBNH				pmax	pmax		
comp=Z,19nm,1.5s							
LBNH	**Lisbon**	**28.87**	**320**	P	**P**	**00 05 55.5**	**+1.3**
baz=125							
LBNH	**Lisbon**	**28.87**	**320**	P	**P**	**00 05 54.9**	**+0.7**
LBNH				IAmb	IAmb	00 05 58.5	
comp=Z,19nm,1.4s							
E62A	**Clayton Lake**	**29.03**	**326**	P	**P**	**00 05 55.4**	**-0.1**
baz=132							
E62A	**Clayton Lake**	**29.03**	**326**	P	**P**	**00 05 55.3**	**-0.2**
E62A				IAmb	IAmb	00 05 57.1	
comp=Z,15nm,1.0s							
H61A	**Lyndonville**	**29.04**	**320**	P	**P**	**00 05 55.8**	**+0.1**
baz=125							
D62A	**Allapoint, All**	**29.10**	**327**	P	**P**	**00 05 56.2**	**0.0**
baz=133							
D62A	**Allapoint, All**	**29.10**	**327**	P	**P**	**00 05 56.1**	**0.0**
D62A				IAmb	IAmb	00 06 05.2	
comp=Z,11nm,1.0s							
J60A	**Lant Hill Farm**	**29.23**	**317**	P	**P**	**00 05 58.0**	**+0.6**
baz=121							
G61A	**St-Isidore-de-**	**29.26**	**322**	P	**P**	**00 05 57.3**	**-0.2**
baz=127							
F61A	**St Evariste**	**29.39**	**323**	P	**P**	**00 05 58.5**	**-0.2**
baz=129							
E61A	**Lac Etchemin**	**29.41**	**325**	P	**P**	**00 05 58.5**	**-0.3**
baz=130							
I60A	**Shoreham**	**29.47**	**318**	P	**P**	**00 05 59.5**	**+0.1**
baz=122							
U59A	**Littleton**	**29.63**	**301**	P	**P**	**00 06 01.3**	**+0.4**
U59A				IAmb	IAmb	00 06 28.2	
comp=Z,20nm,1.5s							
N59A	**State Game Lan**	**29.68**	**311**	P	**P**	**00 06 03.1**	**+1.7**
MOQ	**Mont Orford**	**29.69**	**321**	P	**P**	**00 06 02.2**	**+0.8**
MVL	**Millersville**	**29.72**	**309**	P	**P**	**00 06 02.4**	**+0.7**
MVL				IAmb	IAmb	00 06 03.5	
comp=Z,16nm,1.3s							
MTDJ	**Mount Denham**	**29.76**	**264**	P	**P**	**00 06 03.4**	**+1.0**
I59A	**Olmsteadville**	**29.80**	**317**	P	**P**	**00 06 02.4**	**-0.1**
baz=122							
D60A	**Saint Jean D'O**	**29.95**	**325**	P	**P**	**00 06 02.6**	**-1.0**
baz=130							
LMQ	**La Malbaie**	**30.06**	**326**	P	**P**	**00 06 05.6**	**+1.0**
NCB	**Newcomb**	**30.11**	**317**	P	**P**	**00 06 05.3**	**+0.1**
H59A	**Cadyville**	**30.15**	**319**	P	**P**	**00 06 05.6**	**+0.2**
baz=123							
FRNY	**Flat Rock**	**30.19**	**319**	P	**P**	**00 06 06.6**	**+0.8**
FRNY				IAmb	IAmb	00 06 07.2	
comp=Z,12nm,0.9s							
H58A	**Gabriels**	**30.32**	**318**	P	**P**	**00 06 07.6**	**+0.6**
baz=122							
I58A	**Old Forge**	**30.43**	**316**	P	**P**	**00 06 08.5**	**+0.5**
baz=120							
J58A	**Remsen**	**30.47**	**316**	P	**P**	**00 06 09.0**	**+0.7**
baz=119							
LONY	**Lake Ozonia**	**30.67**	**318**	P	**P**	**00 06 10.8**	**+0.7**
baz=122							
060A	**Indiantown**	**30.83**	**282**	P	**P**	**00 06 12.3**	**+0.7**
SSPA	**Standing Stone**	**31.05**	**309**	P	**P**	**00 06 13.3**	**-0.1**
baz=112							
SSPA	**Standing Stone**	**31.05**	**309**	P	**P**	**00 06 14.1**	**+0.6**
H57A	**Richville**	**31.08**	**317**	P	**P**	**00 06 13.7**	**+0.1**
baz=121							
SJCC	**San Jacinto, C**	**31.08**	**248**	P	**P**	**00 06 15.7**	**+1.7**
SJCC				IAmb	IAmb	00 06 16.3	
comp=Z,29nm,1.5s							
W57A	**Gilead**	**31.10**	**298**	P	**P**	**00 06 14.2**	**+0.3**
W57A				IAmb	IAmb	00 06 15.6	
comp=Z,11nm,1.2s							
D58A	**Chemin du LacG**	**31.11**	**324**	P	**P**	**00 06 13.7**	**-0.1**
baz=128							
LATQ	**La Tuque**	**31.23**	**324**	P	**P**	**00 06 15.0**	**+0.1**
LATQ				IAmb	IAmb	00 06 17.5	
comp=Z,14nm,1.2s							
BIRD	**Birdtown, Kers**	**31.39**	**297**	P	**P**	**00 06 16.8**	**+0.3**
BIRD				IAmb	IAmb	00 06 18.2	
comp=Z,12nm,1.2s							
O56A	**Blue Knob Stat**	**31.40**	**308**	P	**P**	**00 06 17.8**	**+1.1**
baz=110							
O56A	**Blue Knob Stat**	**31.40**	**308**	P	**P**	**00 06 17.9**	**+1.3**
O56A				IAmb	IAmb	00 06 20.3	
comp=Z,28nm,1.5s							
Q56A	**Snyder Ridge,**	**31.45**	**306**	P	**P**	**00 06 17.4**	**+0.3**
RUSC	**La Rusia**	**31.64**	**239**	P	**P**	**00 06 20.0**	**+0.5**
RUSC				IAmb	IAmb	00 06 35.2	
comp=Z,10nm,1.0s							
BLA	**Blacksburg**	**31.88**	**302**	P	**P**	**00 06 22.2**	**+1.3**
BLA				pmax	pmax		
comp=Z,29nm,1.5s							
BLA	**Blacksburg**	**31.88**	**302**	P	**P**	**00 06 21.9**	**+1.0**
baz=104							
BLA	**Blacksburg**	**31.88**	**302**	P	**P**	**00 06 22.2**	**+1.3**
R55A	**Marlinton**	**31.93**	**304**	P	**P**	**00 06 23.0**	**+1.7**
R55A				IAmb	IAmb	00 06 26.3	
comp=Z,15nm,1.2s							
M55A	**Ridgway**	**31.98**	**310**	IAmb	IAmb	00 06 23.4	
comp=Z,10nm,0.9s							
JSC	**Jenkinsville**	**31.98**	**296**	P	**P**	**00 06 23.0**	**+1.3**
JSC				pmax	pmax		
comp=Z,7.0nm,1.4s							
JSC	**Jenkinsville**	**31.98**	**296**	P	**P**	**00 06 23.0**	**+1.3**
J55A	**Hilton**	**32.06**	**314**	P	**P**	**00 06 22.6**	**+0.2**
J55A				IAmb	IAmb	00 06 29.5	
comp=Z,7.3nm,0.8s							
MCWV	**Mont Chateau**	**32.13**	**307**	P	**P**	**00 06 24.0**	**+1.0**
MCWV				IAmb	IAmb	00 06 29.5	
comp=Z,26nm,1.5s							
KMSC	**Kings Mountain**	**32.18**	**298**	P	**P**	**00 06 24.0**	**+0.5**
baz=100							
M54A	**Oil Creek Stat**	**32.62**	**310**	P	**P**	**00 06 27.9**	**+0.6**
baz=111							
N54A	**Moraine State**	**32.66**	**309**	P	**P**	**00 06 28.3**	**+0.7**
baz=110							
HODGE	**Hodges**	**32.79**	**296**	P	**P**	**00 06 29.3**	**+0.5**
ERPA	**Erie**	**33.07**	**311**	P	**P**	**00 06 32.1**	**+0.9**
baz=112							
ERPA	**Erie**	**33.07**	**311**	P	**P**	**00 06 31.4**	**+0.2**
ROSC	**El Rosal**	**33.26**	**239**	LR	LR	00 19 52.4	
comp=Z,312nm,20.7s,baz=44,slow=36							
M53A	**Wt Miller and**	**33.31**	**309**	P	**P**	**00 06 34.2**	**+0.9**
baz=110							
R53A	**Hurricane**	**33.33**	**303**	P	**P**	**00 06 34.2**	**+0.7**
R53A				IAmb	IAmb	00 06 36.8	
comp=Z,24nm,1.4s							
V53A	**Saluda**	**33.46**	**298**	P	**P**	**00 06 35.4**	**+0.7**
CHGQ	**Chibougamau**	**33.63**	**327**	P	**P**	**00 06 36.2**	**+0.3**
baz=129,SNR=11							
SOR	**Soroa**	**33.69**	**275**	P	**P**	**00 06 37.4**	**+0.6**
SOR				pmax	pmax		
comp=Z,14nm,1.2s							
SOR	**Soroa**	**33.69**	**275**	P	**P**	**00 06 37.4**	**+0.6**
SOR				IAmb	IAmb	00 06 38.8	
comp=Z,14nm,1.2s							
GOGA	**Godfrey**	**33.70**	**294**	P	**P**	**00 06 37.0**	**+0.2**
GOGA				pmax	pmax		
comp=Z,11nm,1.4s							
GOGA	**Godfrey**	**33.70**	**294**	P	**P**	**00 06 37.0**	**+0.2**
GOGA				IAmb	IAmb	00 06 41.2	
comp=Z,11nm,1.4s							
V52A	**Sevierville**	**34.12**	**298**	P	**P**	**00 06 41.0**	**+0.6**
TZTN	**Tazewell**	**34.20**	**300**	P	**P**	**00 06 41.3**	**+0.2**
baz=100							
TZTN	**Tazewell**	**34.20**	**300**	P	**P**	**00 06 41.8**	**+0.7**
TZTN				IAmb	IAmb	00 06 42.9	
comp=Z,11nm,0.9s							
VLDQ	**Val d'Or**	**34.22**	**322**	IAmb	IAmb	00 06 43.8	
comp=Z,20nm,1.4s							
TKL	**Tuckaleechee C**	**34.23**	**298**	P	**P**	**00 06 41.3**	**-0.1**
TKL				pmax	pmax		
comp=Z,9.0nm,1.2s							
TKL	**Tuckaleechee C**	**34.23**	**298**	P	**P**	**00 06 41.3**	**-0.1**
LSQQ	**Lebel-sur-Quev**	**34.48**	**324**	P	**P**	**00 06 43.4**	**0.0**
baz=124							
Q51A	**Peebles**	**34.56**	**304**	P	**P**	**00 06 44.6**	**+0.4**
Q51A				IAmb	IAmb	00 06 45.7	
comp=Z,14nm,0.9s							
352A	**Blakely**	**34.80**	**291**	P	**P**	**00 06 47.1**	**+0.7**
352A				IAmb	IAmb	00 06 48.7	
comp=Z,13nm,1.1s							
X51A	**Calhoun**	**34.97**	**296**	P	**P**	**00 06 48.2**	**+0.5**
X51A				IAmb	IAmb	00 07 08.5	
comp=Z,27nm,1.4s							
MATQ	**Matagami**	**35.23**	**324**	P	**P**	**00 06 49.0**	**-0.8**
baz=124							
PMTG	**Montargil**	**35.23**	**56**	*e*P	**P**	**00 06 51.4**	**+1.4**
comp=Z,13nm,1.9s							
PVAQ	**Vaqueiros**	**35.28**	**59**	*e*LR	LR	00 15 42.5	
comp=Z,142nm,20.0s							
T50A	**Nancy**	**35.30**	**300**	IAmb	IAmb	00 06 52.5	
comp=Z,10nm,0.8s							
COI	**Coimbra**	**35.37**	**54**	P	**P**	**00 06 50.1**	**-1.1**
COI				pmax	pmax		
comp=Z,14nm,1.1s							
COI	**Coimbra**	**35.37**	**54**	P	**P**	**00 06 50.1**	**-1.1**
COI				IAmb	IAmb	00 06 58.7	
comp=Z,14nm,1.1s							
W50A	**Signal Mountai**	**35.41**	**297**	P	**P**	**00 06 52.2**	**+0.6**
FPAL	**Fort Paine**	**35.58**	**296**	P	**P**	**00 06 53.2**	**+0.1**
O49A	**Covington**	**35.59**	**306**	P	**P**	**00 06 53.4**	**+0.3**
O49A				IAmb	IAmb	00 06 55.1	
comp=Z,20nm,1.4s							
P49A	**Miami Univ. Ec**	**35.71**	**304**	P	**P**	**00 06 53.0**	**-1.2**
R49A	**Shelbyville**	**35.79**	**302**	P	**P**	**00 06 55.2**	**+0.4**
R49A				IAmb	IAmb	00 06 56.5	
comp=Z,8.3nm,0.8s							
PMRV	**Marv??o**	**35.95**	**56**	*e*P	**P**	**00 06 55.9**	**-0.3**
PMRV				*e*LR	LR	00 15 59.1	
comp=Z,122nm,22.0s							
250A	**Grady**	**35.96**	**291**	P	**P**	**00 06 57.0**	**+0.7**
250A				IAmb	IAmb	00 07 00.3	
comp=Z,18nm,1.2s							
PGAV	**Gavieira, Arco**	**35.96**	**51**	*e*S	**S**	**00 12 43.4**	**+8.5**
PGAV				*e*LR	LR	00 16 13.2	
comp=Z,107nm,20.0s							
MTE	**Manteigas**	**36.06**	**54**	*e*P	**P**	**00 06 57.7**	**+0.5**
comp=Z,11nm,1.8s							
MTE				*e*S	**S**	**00 12 36.3**	**-0.1**
MTE				*e*LR	LR	00 16 16.0	
comp=Z,116nm,20.0s							
POLO	**Lamas de Olo**	**36.13**	**52**	*e*P	**P**	**00 06 58.0**	**+0.2**
CLTN	**Cedars of Leba**	**36.35**	**298**	P	**P**	**00 07 00.5**	**+0.9**
CLTN				IAmb	IAmb	00 07 01.3	
comp=Z,15nm,1.5s							
MVO	**Moncorvo**	**36.63**	**53**	*e*S	**S**	**00 12 44.4**	**-0.8**
MVO				*e*LR	LR	00 16 27.2	
comp=Z,110nm,18.0s							
WCI	**Wyandotte Cave**	**36.65**	**302**	P	**P**	**00 07 02.4**	**+0.2**
WCI				pmax	pmax		
comp=Z,12nm,1.1s							
WCI	**Wyandotte Cave**	**36.65**	**302**	P	**P**	**00 07 02.2**	**+0.1**
baz=100							
WCI	**Wyandotte Cave**	**36.65**	**302**	P	**P**	**00 07 02.4**	**+0.2**
WCI				IAmb	IAmb	00 07 03.9	
comp=Z,12nm,1.1s							
V48A	**Smith Brothers**	**36.70**	**298**	P	**P**	**00 07 02.5**	**-0.1**
X48A	**Hartselle**	**36.75**	**295**	P	**P**	**00 07 02.2**	**-0.9**
N47A	**Urbana**	**36.76**	**306**	P	**P**	**00 07 02.9**	**-0.2**
T47A	**Sharon Grove**	**37.09**	**300**	P	**P**	**00 07 06.1**	**+0.2**
L46A	**Eue Claire**	**37.49**	**308**	P	**P**	**00 07 09.9**	**+0.6**
L46A				IAmb	IAmb	00 07 10.3	
comp=Z,14nm,0.9s							
Z47A	**Carrollton**	**37.52**	**293**	P	**P**	**00 07 10.5**	**+0.9**
Z47A				IAmb	IAmb	00 07 11.6	
comp=Z,14nm,0.8s							
E46A	**Sault Ste Mari**	**37.55**	**316**	P	**P**	**00 07 09.6**	**0.0**
E46A				IAmb	IAmb	00 07 24.3	
comp=Z,17nm,1.2s							
WVT	**Waverly**	**37.56**	**298**	P	**P**	**00 07 10.6**	**+0.7**
WVT				pmax	pmax		
comp=Z,8.0nm,0.8s							
WVT	**Waverly**	**37.56**	**298**	P	**P**	**00 07 09.7**	**-0.2**
baz=96							
WVT	**Waverly**	**37.56**	**298**	P	**P**	**00 07 10.6**	**+0.7**
P46A	**Rosedale**	**37.61**	**304**	P	**P**	**00 07 10.9**	**+0.7**
P46A				IAmb	IAmb	00 07 11.9	
comp=Z,10nm,0.8s							
PLAL	**Pickwick Lake**	**37.64**	**296**	P	**P**	**00 07 11.9**	**+1.2**
PLAL				IAmb	IAmb	00 07 12.5	
comp=Z,15nm,1.0s							
USIN	**University of**	**37.67**	**301**	P	**P**	**00 07 10.4**	**-0.4**
USIN				IAmb	IAmb	00 07 14.5	
comp=Z,14nm,1.1s							
SFIN	**Lafayette**	**37.69**	**305**	P	**P**	**00 07 10.9**	**-0.1**
baz=102							
OLIL	**Olney**	**38.13**	**302**	P	**P**	**00 07 15.8**	**+1.1**
OLIL				IAmb	IAmb	00 07 16.5	
comp=Z,11nm,0.7s							
146A	**Union**	**38.34**	**292**	P	**P**	**00 07 17.0**	**+0.5**
146A				IAmb	IAmb	00 07 18.2	
comp=Z,9.6nm,0.7s							
HQIL	**Hanson Quary C**	**38.56**	**307**	P	**P**	**00 07 19.1**	**+0.8**
HQIL				IAmb	IAmb	00 07 28.2	
comp=Z,17nm,0.9s							
W45A	**Hickory Valley**	**38.56**	**296**	P	**P**	**00 07 18.7**	**+0.3**
ESDC	**Sonseca Array**	**38.59**	**56**	P	**P**	**00 07 18.2**	**-0.5**
comp=Z,0.5nm,0.8s,baz=261,slow=8.9,SNR=5.0							
ESDC				PcP	**PcP**	**00 09 31.3**	**+0.2**
comp=Z,0.8nm,1.1s,baz=289,slow=3.9,SNR=3.6							
ESDC				LR	LR	00 19 15.6	
comp=Z,126nm,21.7s,baz=260,slow=30							
L44A	**Lake County Fo**	**38.70**	**308**	P	**P**	**00 07 19.9**	**+0.5**
baz=104							
L44A	**Lake County Fo**	**38.70**	**308**	P	**P**	**00 07 19.4**	**0.0**
L44A				IAmb	IAmb	00 07 20.7	
comp=Z,15nm,0.9s							
HICK	**Hickman**	**38.72**	**299**	P	**P**	**00 07 20.5**	**+0.8**
SIUC	**Southern Illin**	**38.85**	**300**	P	**P**	**00 07 21.1**	**+0.4**
SIUC				IAmb	IAmb	00 07 22.7	
comp=Z,15nm,1.1s							
Q44A	**Meyer Farm, Va**	**38.87**	**302**	P	**P**	**00 07 21.2**	**+0.4**
Q44A				IAmb	IAmb	00 07 22.5	
comp=Z,12nm,0.8s							
S44A	**Carbondale**	**38.88**	**300**	P	**P**	**00 07 21.5**	**+0.5**
S44A				IAmb	IAmb	00 07 22.8	
comp=Z,11nm,0.8s							
K43A	**Burlington**	**39.12**	**308**	P	**P**	**00 07 22.6**	**-0.5**
E43A	**Lone Tree Farm**	**39.29**	**314**	P	**P**	**00 07 24.4**	**+0.1**
E43A				IAmb	IAmb	00 07 32.7	
comp=Z,26nm,1.4s							
OTAV	**Otavalo**	**39.35**	**237**	P	**P**	**00 07 26.2**	**+0.5**
OTAV				pmax	pmax		
comp=Z,7.0nm,1.3s							
OTAV	**Otavalo**	**39.35**	**237**	P	**P**	**00 07 26.2**	**+0.5**
HDIL	**Hopedale**	**39.36**	**305**	P	**P**	**00 07 24.7**	**-0.3**
JTS	**Las Juntas de**	**39.37**	**256**	*e*P	**P**	**00 07 25.2**	**-0.2**
JTS				pmax	pmax		
comp=Z,10.0nm,1.2s						

comp=Z,15nm,0.9s
MGMO Mountain Grove 41.21 299 P P 00 07 40.2 -0.3
PETF Flores 41.37 268 P P 00 07 42.2 +0.3
PETF IAmb IAmb 00 07 44.7
comp=Z,32nm,1.5s
X40A Basin Creek Fa 41.53 295 P P 00 07 42.7 -0.3
baz=91
U40A Yellville 41.62 298 P P 00 07 43.5 -0.3
baz=93,SNR=5.1
U40A Yellville 41.62 298 P P 00 07 44.0 +0.1
ANGG Ammassalik, Gr 41.65 5 P P 00 07 42.7 -0.8
ESQI Esquipulas 41.66 265 P P 00 07 45.9 +1.5
ESQI IAmb IAmb 00 07 47.5
comp=Z,24nm,1.0s
ETSF Etsaut 41.72 52 eP P 00 07 46.1 +1.5
ETSF pmax pmax
comp=Z,25nm,1.9s
MTO3 Montecristo 41.73 264 P P 00 07 45.9 +0.7
WLAR White Oak Lake 41.75 294 P P 00 07 45.7 +0.9
WLAR IAmb IAmb 00 07 46.9
comp=Z,30nm,1.2s
MIAR Mount Ida 42.15 295 P P 00 07 48.8 +0.7
MIAR pmax pmax
comp=Z,13nm,1.5s
MIAR Mount Ida 42.15 295 P P 00 07 47.9 -0.2
baz=91
MIAR Mount Ida 42.15 295 P P 00 07 48.8 +0.7
W39A Magazine 42.33 296 P P 00 07 49.9 +0.3
baz=91,SNR=6.0
W39A Magazine 42.33 296 IAmb IAmb 00 07 50.9
comp=Z,20nm,1.4s
E38A The Farm, Brul 42.36 313 P P 00 07 50.4 +0.7
N38A Joes South For 42.36 304 P P 00 07 49.7 -0.1
N38A IAmb IAmb 00 07 50.7
comp=Z,20nm,0.8s
EPF Esparros 42.40 52 eP P 00 07 53.2 +3.1
EPF pmax pmax
comp=Z,6.0nm,1.2s
P38A Dawn 42.44 303 P P 00 07 50.2 -0.2
P38A IAmb IAmb 00 07 51.3
comp=Z,15nm,1.1s
SCIA State Center 42.51 306 P P 00 07 51.2 +0.2
SIV San Ignacio 42.62 201 P P 00 07 51.8 -0.3
comp=Z,2.9nm,1.1s,baz=29,slow=6.3,SNR=6.0
EYMN Ely 42.70 315 P P 00 07 51.6 -0.8
baz=107
EYMN Ely 42.70 315 P P 00 07 52.6 +0.2
MFF Saint Martin d 42.85 47 eP P 00 07 53.2 -0.5
MFF pmax pmax
comp=Z,17nm,1.3s
SPMN Marine on St. 42.86 311 P P 00 07 53.7 0.0
baz=103
SPMN Marine on St. 42.86 311 IAmb IAmb 00 07 55.0
comp=Z,12nm,0.7s
I37A Lemond, Waseca 43.02 309 P P 00 07 55.5 +0.5
I37A IAmb IAmb 00 07 57.0
comp=Z,35nm,1.5s
LFF La Frestale 43.06 49 eP P 00 07 55.4 0.0
LFF pmax pmax
comp=Z,41nm,1.7s
NATX Nacogdoches 43.10 291 P P 00 07 56.5 +0.7
baz=87
NATX Nacogdoches 43.10 291 P P 00 07 56.6 +0.7
Z38A Mt. Pleasant 43.32 293 P P 00 07 58.1 +0.4
Z38A IAmb IAmb 00 07 59.5
comp=Z,21nm,0.9s
DBIC Dimbokro 43.34 107 P P 00 07 57.4 -0.6
DBIC Dimbokro 43.34 107 P P 00 07 57.4 -0.6
F36A Milaca 43.49 312 P P 00 07 58.9 0.0
X37A Clayton 43.63 295 P P 00 08 00.6 +0.5
RJF Les Rejaudoux 43.68 49 eP P 00 08 02.1 +1.7
RJF pmax pmax
comp=Z,16nm,1.5s
MTLF Montolieu 43.80 52 eP P 00 08 01.2 -0.2
MTLF pmax pmax
comp=Z,2.0nm,0.4s
CAF Calviac 43.98 50 eP P 00 08 03.9 +1.1
CAF pmax pmax
comp=Z,9.0nm,1.4s
TUL1 Leonard 43.98 297 P P 00 08 02.1 -0.8
baz=91
237A Washetta, Mont 44.06 292 P P 00 08 04.0 +0.4
237A IAmb IAmb 00 08 23.4
comp=Z,12nm,0.8s
N35A Tabor 44.18 304 P P 00 08 04.5 0.0
B35A Bob, Littlefor 44.25 315 P P 00 08 05.3 +0.5
H10N2 ASCENSION HYDR 44.51 132 T T 00 55 21.1
baz=317,slow=75,SNR=203
H10N3 ASCENSION HYDR 44.51 132 T T 00 55 21.1
baz=317,slow=75,SNR=176
H10N1 ASCENSION HYDR 44.52 132 T T 00 55 22.5
baz=317,slow=75,SNR=192
T35A Sooner Cattle 44.59 299 P P 00 08 07.6 -0.2
KSU1 Kansas State U 44.77 302 P P 00 08 08.2 -1.0
baz=94
OK031 S. Brethren Rd 44.83 297 IAmb IAmb 00 08 10.5
comp=Z,20nm,1.2s
ICESG Greenland Ices 44.94 3 i P P 00 08 09.5 -1.0
ICESG IAmb IAmb 00 08 10.3
comp=Z,9.6nm,0.9s
ILULI Ilulissat 44.99 358 P P 00 08 09.8 -0.7
ILULI pmax pmax
comp=Z,14nm,1.1s
ILULI Ilulissat 44.99 358 P P 00 08 09.8 -0.7
ILULI IAmb IAmb 00 08 29.2
comp=Z,14nm,1.1s
LOOK Love County 45.13 294 P P 00 08 12.1 -0.1
Z35A Perchaven, San 45.22 294 P P 00 08 12.9 +0.1
Z35A IAmb IAmb 00 08 15.1
comp=Z,10nm,0.8s
OK025 Westminster Rd 45.24 297 P P 00 08 12.8 -0.2
AVF Avril sur Loir 45.24 47 eP P 00 08 12.8 0.0
AVF pmax pmax
comp=Z,5.0nm,1.0s
ECSD EROS Data Cent 45.26 308 P P 00 08 12.7 -0.4
baz=98
FNO Franklin 45.29 296 P P 00 08 12.7 -0.8
OK029 Liberty Lake 45.33 297 P P 00 08 13.8 +0.1
KAN13 South Haven SW 45.36 299 P P 00 08 14.0 +0.1
F33A 5 Mile Ranch, 45.38 311 P P 00 08 13.9 -0.1
F33A IAmb IAmb 00 08 14.3
comp=Z,18nm,1.5s
KS20 Mayfield South 45.43 299 P P 00 08 14.5 +0.1
BCOK Bluff Creek, N 45.46 297 P P 00 08 14.5 -0.2
WHTX Lake Whitney, 45.46 292 P P 00 08 14.2 -0.6
baz=86
KAN09 Caldwell North 45.48 299 P P 00 08 14.0 -0.8
KAN09 IAmb IAmb 00 08 15.9
comp=Z,12nm,0.9s
N33A J Bar K, Exete 45.53 304 P P 00 08 14.4 -0.9
SMF Signal de Mont 45.54 48 eP P 00 08 16.7 +1.5
SMF pmax pmax
comp=Z,16nm,1.6s
KAN17 Caldwell West 45.59 299 P P 00 08 15.5 -0.2
KAN17 IAmb IAmb 00 08 17.5
comp=Z,9.5nm,0.8s
AGMN Agassiz Nation 45.61 315 P P 00 08 15.6 -0.1
baz=103,SNR=5.5
AGMN Agassiz Nation 45.61 315 IAmb IAmb 00 08 16.6
comp=Z,11nm,0.8s
X34A Smith Ranch, M 45.66 295 P P 00 08 16.6 +0.3
435B Jarrell 45.66 290 P P 00 08 16.2 -0.2
LOR Lormes 45.68 47 eP P 00 08 15.9 -0.4
LOR pmax pmax
comp=Z,4.0nm,0.9s
KAN05 Bluff City Nor 45.68 299 P P 00 08 16.9 +0.4
LPAZ La Paz 45.69 210 P P 00 08 16.5 -0.8
comp=Z,4.3nm,0.8s,baz=9.2,slow=8.8,SNR=13
LPAZ LR LR 00 26 19.8
comp=Z,76nm,21.4s,baz=12,slow=35
LPAZ La Paz 45.69 210 P P 00 08 17.3 0.0
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ La Paz 45.69 210 P P 00 08 17.3 0.0
LPAZ IAmb IAmb 00 08 27.8
comp=Z,6.8nm,0.9s
KAN08 Anthony NE Sta 45.76 299 P P 00 08 17.1 0.0
CROK Carrier 45.76 298 P P 00 08 17.4 +0.2
KAN12 Harper NE Stat 45.78 299 P P 00 08 17.7 +0.4
VIVF Saint-Julien-l 45.79 50 eP P 00 08 18.0 +0.7
VIVF pmax pmax
comp=Z,31nm,2.0s
KAN10 Anthony SW Sta 45.86 299 P P 00 08 18.3 +0.4
OK032 Salt Plains WL 45.95 298 P P 00 08 18.3 -0.2
ULM Lac du Bonnet 46.10 317 P P 00 08 18.5 -1.1
comp=Z,19nm,1.1s,baz=95,slow=8.3,SNR=10
ULM LR LR 00 25 41.3
comp=Z,260nm,19.9s,baz=110,slow=34
BGNE Belgrade 46.12 305 P P 00 08 19.1 -0.8
KVTX Kingsville 46.30 286 P P 00 08 19.8 -1.6
WMOK Wichita Mounta 46.43 296 P P 00 08 23.0 +0.5
WMOK pmax pmax
comp=Z,15nm,1.2s
WMOK Wichita Mounta 46.43 296 P P 00 08 22.4 -0.1
baz=88,SNR=16
TORD Torodi Ar. Bea 46.52 95 P P 00 08 22.4 -0.9
comp=Z,13nm,0.8s,baz=298,slow=8.5,SNR=50
TORD LR LR 00 25 22.3
comp=Z,345nm,21.8s,baz=285,slow=33
TORD Torodi Ar. Bea 46.52 95 P P 00 08 22.5 -0.9
TORD IAmb IAmb 00 08 23.4
comp=Z,12nm,1.1s
U32A Winter Ranch, 46.58 298 P P 00 08 23.5 -0.1
U32A IAmb IAmb 00 08 24.9
comp=Z,9.3nm,0.8s
CABF La Chapelle 47.05 48 eP P 00 08 27.6 +0.4
CABF pmax pmax
comp=Z,21nm,1.3s
CBKS Cedar Bluff 47.19 301 P P 00 08 27.4 -1.0
CBKS pmax pmax
comp=Z,14nm,0.8s
CBKS Cedar Bluff 47.19 301 P P 00 08 28.2 -0.2
baz=91
CBKS Cedar Bluff 47.19 301 P P 00 08 27.4 -1.0
BNI Bardonecchia 47.23 50 P P 00 08 29.7 +1.0
BNI pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 47.23 50 P P 00 08 29.7 +1.0
BNI IAmb IAmb 00 08 40.0
comp=Z,13nm,1.2s
MBDF Montbardon 47.25 51 eP P 00 08 30.0 +1.1
MBDF pmax pmax
comp=Z,8.0nm,1.1s
ABTX Abilene, Hawle 47.26 293 P P 00 08 28.7 -0.3
baz=86,SNR=5.1
ABTX Abilene, Hawle 47.26 293 P P 00 08 28.9 -0.1
LPG La Plagne 47.34 50 eP P 00 08 33.2 +3.5
LPG pmax pmax
comp=Z,13nm,1.6s
HAU Haudompre 47.47 46 eP P 00 08 31.6 +1.2
HAU pmax pmax
comp=Z,7.0nm,0.9s
833A Chaparral WMA, 47.51 287 P P 00 08 30.5 -0.4
baz=82
JCT Junction City 47.59 290 P P 00 08 31.1 -0.5
baz=84
JCT Junction City 47.59 290 IAmb IAmb 00 08 32.1
comp=Z,9.1nm,1.1s
HINF Hinteralfeld 47.77 47 eP P 00 08 33.7 +0.9
HINF pmax pmax
comp=Z,34nm,2.3s
MDND Maddock 47.98 313 P P 00 08 33.4 -1.0
baz=100
MDND Maddock 47.98 313 P P 00 08 33.3 -1.0
FCC Fort Churchill 48.03 329 P P 00 08 34.8 +0.3
FCC pmax pmax
comp=Z,17nm,0.9s
FCC Fort Churchill 48.03 329 P P 00 08 34.8 +0.3
CDF Champ du Feu 48.16 46 eP P 00 08 37.0 +1.2
CDF pmax pmax
comp=Z,37nm,1.2s
SUMG Summit 48.47 3 i P P 00 08 37.7 -0.4
SUMG IAmb IAmb 00 08 39.0
comp=Z,10nm,0.9s
SUMG Summit 48.47 3 P P 00 08 37.0 -1.1
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 48.47 3 P P 00 08 37.0 -1.1
SUMG IAmb IAmb 00 08 38.8
comp=Z,12nm,1.0s
E28A Huff 48.52 311 P P 00 08 38.3 -0.2
AMTX Amarillo 48.81 296 P P 00 08 40.5 -0.6
baz=87
VSL Villasalto 48.83 58 P P 00 08 41.2 +0.2
VSL IAmb IAmb 00 08 48.7
comp=Z,12nm,1.0s
BFO Black Forest 48.84 46 P P 00 08 42.1 +1.2
BFO pmax pmax
comp=Z,7.0nm,1.1s
BFO Black Forest 48.84 46 P P 00 08 42.1 +1.2
BFO IAmb IAmb 00 08 47.7
comp=Z,7.1nm,1.1s
KEST Kesra 48.86 63 P P 00 08 42.2 +0.8
comp=Z,4.1nm,0.8s,baz=259,slow=3.0,SNR=5.3
KEST LR LR 00 28 25.2
comp=Z,97nm,18.0s,baz=221,slow=35
KEST Kesra 48.86 63 P P 00 08 42.1 +0.7
TUE Stuetta 49.26 49 IAmb IAmb 00 08 55.0
comp=Z,17nm,1.4s
PB11 IPOC Station P 49.42 210 P P 00 08 43.9 -1.9
KSCO Kaye Shedlock' 49.45 301 P P 00 08 45.6 -0.3
PB08 IPOC Station P 49.53 209 P P 00 08 46.3 -0.5
PB08 IAmb IAmb 00 08 53.6
comp=Z,11nm,0.9s
DAVA Damuels 49.72 48 eP P 00 08 48.6 +0.7
comp=Z,6.1nm,0.9s
MSTX Muleshoe 49.77 295 P P 00 08 48.2 -0.2
baz=85,SNR=6.9
KMY Karmoy 49.93 32 eP P 00 08 49.0 0.0
FETA Feichten 50.27 48 eP P 00 08 54.2 +2.2
comp=Z,6.6nm,1.2s
RETA Reutte 50.34 48 eP P 00 08 54.2 +1.7
comp=Z,7.7nm,1.4s
OSSC Osservatorio P 50.36 53 P P 00 08 53.7 +1.1
OSSC IAmb IAmb 00 08 59.8
comp=Z,13nm,1.1s
SUE Sulen 50.40 29 eP P 00 08 53.0 +0.4
MOTA Moosalm 50.56 48 eP P 00 08 56.5 +2.2
comp=Z,1.4nm,0.5s
BLS5 Blasjo 50.59 32 eP P 00 08 54.3 +0.3
SQTA Sankt Quirin 50.61 48 eP P 00 08 54.6 0.0
comp=Z,6.3nm,0.9s
RSSD Black Hills 50.63 308 P P 00 08 54.5 -0.5
RSSD pmax pmax
comp=Z,6.0nm,1.4s
RSSD Black Hills 50.63 308 P P 00 08 54.5 -0.5
TEOL Teolo 50.77 50 P P 00 08 55.7 0.0
TEOL IAmb IAmb 00 09 03.5
comp=Z,12nm,1.1s
CTI Castel Tesino 50.81 50 IAmb IAmb 00 09 10.0
comp=Z,13nm,1.4s
FFC Flin Flon 50.83 322 P P 00 08 55.9 -0.1
FFC pmax pmax
comp=Z,20nm,1.3s
FFC Flin Flon 50.83 322 P P 00 08 55.9 -0.1
FFC IAmb IAmb 00 08 56.7
comp=Z,20nm,1.2s
WATA Walderalm 50.88 48 eP P 00 08 57.8 +1.2
comp=Z,7.0nm,1.3s
T25A Trinidad 50.90 299 P P 00 08 57.3 +0.3
baz=87
WTTA Wattenberg 50.91 48 eP P 00 08 54.4 -2.5
comp=Z,5.7nm,0.8s
WTTA Wattenberg 50.91 48 P P 00 08 57.6 +0.7
WTTA pmax pmax
comp=Z,9.0nm,1.0s
TX31 Lajitas Ar. Si 51.07 289 IAmb IAmb 00 08 58.8
comp=Z,10nm,1.1s
TXAR Lajitas Array 51.07 289 P P 00 08 57.1 -1.2
comp=Z,1.7nm,0.8s,baz=106,slow=8.5,SNR=13
TXAR PcP **PcP 00 10 14.4 +0.2**
comp=Z,0.7nm,0.9s,baz=90,slow=4.1,SNR=3.7
TXAR LR LR 00 29 28.6
comp=Z,103nm,22.0s,baz=0.0,slow=35
BSEG Bad Segeberg 51.11 39 P P 00 08 59.3 +1.3
BSEG pmax pmax
comp=Z,9.0nm,1.6s
GDL2 Guadalupe Moun 51.28 293 P P 00 08 59.8 -0.1
MURB Monte Urbino 51.28 53 P P 00 08 59.6 0.0
MURB IAmb IAmb 00 09 23.0
comp=Z,14nm,1.2s
ZAIG Zacatecas 51.37 280 P P 00 09 01.6 +0.8
Q24A Divide 51.41 301 P P 00 09 01.4 +0.5
baz=88,SNR=8.3
ABTA Abfaltersbach 51.46 49 eP P 00 09 01.0 +0.1
comp=Z,6.7nm,1.0s
CPUP Villa Florida 51.50 193 P P 00 09 00.3 -0.9
comp=Z,3.2nm,1.0s,baz=15,slow=6.6,SNR=3.5
CPUP LR LR 00 31 38.0
comp=Z,56nm,18.3s,baz=342,slow=37
PHWY Pilot Hill 51.61 304 P P 00 09 02.7 +0.3
NRCA Norcia 51.70 54 P P 00 09 03.2 +0.4
SDCO Great Sand Dun 51.74 300 P P 00 09 03.5 0.0
baz=87
ISCO Idaho Springs 51.75 302 P P 00 09 05.2 +1.7
ISCO pmax pmax
comp=Z,2.0nm,0.7s
ISCO Idaho Springs 51.75 302 P P 00 09 03.6 +0.1
baz=88
NKC Novy Kostel 51.78 44 AMS AMS 00 28 50.0
comp=Z,100nm,16.7s
SKAR Skarslia 51.88 31 eP P 00 09 03.6 -0.3
AQU L'Aquila 51.91 54 P P 00 09 03.0 -1.3
AQU pmax pmax
comp=Z,14nm,1.1s
AQU L'Aquila 51.91 54 IAmb IAmb 00 09 13.9
comp=Z,14nm,1.0s
N23A Red Feather La 51.98 304 P P 00 09 05.0 -0.2
baz=89
KBA Koelnbreinsper 52.05 48 eP P 00 09 05.2 -0.3
comp=Z,2.7nm,0.6s
MNTX Cornudas Mount 52.20 292 P P 00 09 06.2 -0.4
MYKA Terra Mystica 52.23 49 eP P 00 09 08.2 +1.6
comp=Z,5.9nm,1.1s
CLL Collm 52.27 43 eP P 00 09 07.0 +0.2
CLL eS S **00 16 28.0 -3.8**
CLL Collm 52.27 43 P P 00 09 07.7 +0.9
CLL pmax pmax
comp=Z,11nm,1.5s
CLL Collm 52.27 43 P P 00 09 07.7 +0.9
LAO LASA Array 52.32 311 P P 00 09 06.9 -0.4
baz=94
LAO LASA Array 52.32 311 P P 00 09 06.9 -0.4
KHC Kasperske Hory 52.38 46 eP P 00 09 07.1 -0.6
KHC Kasperske Hory 52.38 46 eP P 00 09 07.1 -0.6
K22A Casper 52.40 306 P P 00 09 07.5 -0.7
baz=90
K22A Casper 52.40 306 IAmb IAmb 00 09 08.4
comp=Z,8.1nm,0.8s
GEC2 GERESS Array S 52.44 46 P P 00 09 15.9 +7.7
GEC2 pmax pmax
comp=Z,11nm,1.3s
GEC2 GERESS Array S 52.44 46 IAmb IAmb 00 09 15.9
comp=Z,11nm,1.4s
GERES GERESS Array B 52.44 46 P P 00 09 08.8 +0.5
comp=Z,2.0nm,0.9s,baz=262,slow=6.6,SNR=18
GERES LR LR 00 27 54.5
comp=Z,60nm,19.0s,baz=280,slow=32
GERES GERESS Array B 52.44 46 P P 00 09 08.5 +0.3
GERES GERESS Array B 52.44 46 P P 00 09 08.5 +0.3
ANMO Albuquerque 52.72 296 P P 00 09 11.9 +1.3
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 52.72 296 P P 00 09 11.5 +0.8
baz=84
ANMO Albuquerque 52.72 296 P P 00 09 11.9 +1.3
MOA Molln 52.73 47 eP P 00 09 09.2 -1.2
comp=Z,3.3nm,0.9s
PAOL Paolisi 52.79 56 P P 00 09 11.3 +0.4
S22A 4UR Ranch, Cre 52.79 300 P P 00 09 12.3 +1.0
baz=86
OSL Oslo 52.80 32 eP P 00 09 10.9 +0.4
CKRC Cesky Krumlov 52.84 46 eP P 00 09 10.5 -0.6
OBKA Obir 52.84 49 eP P 00 09 12.1 +0.9
comp=Z,11nm,1.0s
RWWY Rawlins 52.92 305 P P 00 09 12.2 +0.1
RWWY IAmb IAmb 00 09 13.4
comp=Z,18nm,1.1s
RGN Rugen 52.96 39 P P 00 09 11.8 0.0
PRU Pruhonice 53.09 45 eP P 00 09 14.8 +1.9
PRU eS S **00 16 45.7 +2.6**
PRU MLR MLR
comp=Z,100nm,15.9s
PRU Pruhonice 53.09 45 eP P 00 09 14.8 +1.9
PRU eS S **00 16 45.7 +2.6**
PRU AMS AMS 00 34 40.0
comp=Z,100nm,15.9s
PVCC Panska Ves 53.16 44 P P 00 09 15.2 +1.8
PVCC pmax pmax
comp=Z,8.0nm,1.4s
SOKA Soboth 53.19 49 eP P 00 09 14.9 +1.1
comp=Z,2.7nm,1.1s
NEEM North Greenlan 53.22 359 i P P 00 09 13.6 -0.2
NEEM IAmb IAmb 00 09 14.4
comp=Z,10nm,0.8s
HPIG 53.22 286 P P 00 09 14.3 -0.2
HPIG IAmb IAmb 00 09 18.3
comp=Z,14nm,1.3s
NB2 NORSAR Subarra 53.35 31 P P 00 09 13.9 -0.8
comp=Z,1.3nm,0.7s,baz=254,slow=7.9
NB2 NORSAR Subarra 53.35 31 P P 00 09 13.9 -0.8
NB2 NORSAR Subarra 53.35 31 P P 00 09 13.9 -0.8
baz=254,slow=7.9
NOA NORSAR Array B 53.35 31 P P 00 09 14.3 -0.4
comp=Z,1.4nm,0.7s,baz=255,slow=7.6,SNR=15
NOA LR LR 00 27 43.1
comp=Z,81nm,21.1s,baz=245,slow=31
NB201 NORSAR Array S 53.39 31 P P 00 09 15.1 +0.1
NC602 NORSAR Array S 53.42 31 eP P 00 09 15.7 +0.6
TULEG Thule 53.44 354 P P 00 09 14.9 -0.1
NC303 NORSAR Array S 53.48 31 P P 00 09 15.6 +0.1
NC300 NORSAR Array S 53.51 31 P P 00 09 15.9 +0.1
NC300 IAmb IAmb 00 09 16.8
comp=Z,7.5nm,0.8s
ARSA Arzberg 53.55 48 eP P 00 09 15.4 -0.9
comp=Z,4.6nm,0.9s
TREC Trest 53.65 46 P P 00 09 16.7 -0.3
TREC pmax pmax
comp=Z,3.0nm,1.3s
O20A White River Ci 53.75 303 P P 00 09 18.3 +0.1
baz=87
O20A White River Ci 53.75 303 IAmb IAmb 00 09 19.9
comp=Z,7.0nm,0.8s
CONA Conrad Observa 53.81 47 eP P 00 09 18.2 -0.1
comp=Z,5.1nm,1.6s
PV15 Paradox Valley 54.05 301 P P 00 09 20.8 +0.3
PV15 IAmb IAmb 00 09 22.2
comp=Z,10nm,0.9s
121A Cookes Peak, D 54.11 294 P P 00 09 21.4 +0.6
baz=82,SNR=10
CHVC Chvalec 54.11 44 eP P 00 09 20.3 -0.1
PV01 Paradox Valley 54.13 300 P P 00 09 21.1 +0.1
PV01 IAmb IAmb 00 09 23.0
comp=Z,7.6nm,0.9s
MVCO Mesa Verde 54.16 299 P P 00 09 22.1 +0.9
baz=85,SNR=5.9
MVCO Mesa Verde 54.16 299 IAmb IAmb 00 09 23.3
comp=Z,19nm,1.3s
PV07 Paradox Valley 54.17 301 P P 00 09 22.3 +1.0
DAG Danmarks Havn 54.20 8 ↓ i P P 00 09 20.0 -0.6
DAG IAmb IAmb 00 09 20.7
comp=Z,5.3nm,0.7s
DAG Danmarks Havn 54.20 8 P P 00 09 20.2 -0.4
DAG pmax pmax
comp=Z,11nm,1.6s
OSTC Ostas 54.21 44 eP P 00 09 20.8 -0.3
OSTC AMS AMS 00 28 40.0
comp=Z,100nm,15.5s
KRUC Moravsky 54.23 46 eP P 00 09 20.6 -0.6
PV02 Paradox Valley 54.26 301 P P 00 09 21.9 -0.1
PV02 IAmb IAmb 00 09 23.2
comp=Z,8.7nm,1.0s
DPC Dobruska-Polom 54.26 44 eP P 00 09 22.6 +1.1
DPC Dobruska-Polom 54.26 44 eP P 00 09 22.6 +1.1
PV22 Blue Mesa, Par 54.27 301 P P 00 09 23.0 +0.9
PV12 Saucer Basin, 54.30 301 P P 00 09 23.0 +0.8
PV12 IAmb IAmb 00 09 26.2
comp=Z,7.2nm,1.1s
PV13 Radium Mtn., P 54.33 301 P P 00 09 22.6 +0.1
PV13 IAmb IAmb 00 09 24.2
comp=Z,10nm,1.1s
VRAC Vranov 54.37 46 eP P 00 09 21.5 -0.8
PV18 Skein Mesa, Pa 54.39 301 P P 00 09 23.0 +0.1
PV18 IAmb IAmb 00 09 26.0
comp=Z,11nm,1.4s
RLMT Red Lodge 54.40 309 P P 00 09 23.3 +0.5
baz=90,SNR=12
KRLC Kraliky 54.54 45 eP P 00 09 24.3 +0.7
KRLC Kraliky 54.54 45 eP P 00 09 24.3 +0.7
PV05 Paradox Valley 54.55 300 P P 00 09 23.9 -0.2
PV05 IAmb IAmb 00 09 25.1
comp=Z,9.6nm,1.2s
BW06 Boulder Array 54.64 306 P P 00 09 24.2 -0.5
baz=88,SNR=16
BW06 Boulder Array 54.64 306 IAmb IAmb 00 09 25.2
comp=Z,16nm,1.1s

PD31	Pinedale Array	54.64	306	IAmb	IAmb	00 09 25.2	
	comp=Z,15nm,1.1s						
PDAR	Pinedale Array	54.64	306	P	P	00 09 24.2	-0.5
	comp=Z,12nm,1.1s,baz=90,slow=7.9,SNR=46						
PDAR				LR	LR	00 30 27.2	
	comp=Z,210nm,21.7s,baz=100,slow=34						
NSS	Namsos	54.73	27	eP	P	00 09 24.3	-0.3
RDMU	Red Mountain	54.74	304	IAmb	IAmb	00 09 26.4	
	comp=Z,7.9nm,0.9s						
EGMT	Eagleton	54.78	313	P	P	00 09 25.3	-0.1
	baz=92,SNR=7.8						
EGMT	Eagleton	54.78	313	IAmb	IAmb	00 09 26.4	
	comp=Z,12nm,0.9s						
YNE	Yellowstone No	54.92	309	P	P	00 09 26.2	-0.4
YNE				IAmb	IAmb	00 09 27.9	
	comp=Z,16nm,1.2s						
MORC	Moravsky Berou	55.01	45	eP	P	00 09 26.8	-0.2
YMP	Mirror Lake Pl	55.03	309	P	P	00 09 27.7	+0.2
LKWY	Lake	55.21	308	P	P	00 09 29.7	+0.9
LKWY				pmax	pmax		
	comp=Z,12nm,0.9s						
LKWY	Lake	55.21	308	P	P	00 09 29.7	+0.9
LKWY				IAmb	IAmb	00 09 33.3	
	comp=Z,12nm,0.8s						
LOHW	Long Hollow	55.38	307	P	P	00 09 29.7	-0.3
LOHW				IAmb	IAmb	00 09 30.8	
	comp=Z,7.5nm,0.9s						
FLWY	Flagg Ranch	55.43	308	P	P	00 09 30.5	+0.1
FLWY				IAmb	IAmb	00 09 31.2	
	comp=Z,9.3nm,0.9s						
SNOW	Snow King Moun	55.49	307	P	P	00 09 30.5	-0.3
SNOW				IAmb	IAmb	00 09 31.9	
	comp=Z,8.3nm,0.8s						
YPP	Pitchstone Pla	55.50	308	P	P	00 09 32.2	+1.3
YPP				IAmb	IAmb	00 09 52.9	
	comp=Z,9.5nm,1.4s						
YHH	Holmes Hill	55.52	309	P	P	00 09 31.7	+0.6
YHH				IAmb	IAmb	00 09 37.7	
	comp=Z,9.2nm,1.3s						
REDW	Red Top Meadow	55.57	307	IAmb	IAmb	00 09 32.3	
	comp=Z,12nm,1.4s						
SRU	San Rafael Swe	55.58	302	P	P	00 09 32.8	+1.3
SRU				pmax	pmax		
	comp=Z,16nm,0.7s						
YMR	Madison River	55.61	309	P	P	00 09 32.5	+0.9
IMW	Indian Meadow	55.61	308	IAmb	IAmb	00 09 33.7	
	comp=Z,9.7nm,0.8s						
TPAW	Teton Pass	55.63	307	IAmb	IAmb	00 09 33.0	
	comp=Z,18nm,1.4s						
P17A	Butcher Ranch,	55.72	302	P	P	00 09 32.6	+0.1
P17A				IAmb	IAmb	00 09 33.8	
	comp=Z,20nm,1.5s						
YHB	Horse Butte	55.77	309	P	P	00 09 34.9	+2.2
AHID	Auburn Hatcher	55.77	306	P	P	00 09 32.5	-0.3
AHID				IAmb	IAmb	00 09 36.3	
	comp=Z,9.7nm,0.9s						
KONS	Konsvik	55.81	25	eP	P	00 09 33.0	+0.6
QLMT	Earthquake Lak	55.93	309	P	P	00 09 34.5	+0.6
BOZ	Bozeman (W)	56.06	310	P	P	00 09 35.7	+1.0
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BOZ	Bozeman (W)	56.06	310	P	P	00 09 34.7	0.0
	baz=89,SNR=12						
BOZ	Bozeman (W)	56.06	310	IAmb	IAmb	00 09 35.7	
	comp=Z,11nm,1.2s						
TMUT	Trail Mountain	56.09	302	IAmb	IAmb	00 09 37.4	
	comp=Z,7.4nm,0.9s						
HWUT	Hardware Ranch	56.19	305	IAmb	IAmb	00 09 36.3	
	comp=Z,8.3nm,0.8s						
PDG	Podgorica	56.24	54	P	P	00 09 36.5	+0.7
PDG				IAmb	IAmb	00 09 46.6	
	comp=Z,11nm,1.1s						
MPU	Maple Canyon	56.36	303	P	P	00 09 37.4	+0.4
MPU				IAmb	IAmb	00 09 38.2	
	comp=Z,16nm,1.1s						
CTU	Camp Tracy	56.39	304	P	P	00 09 36.0	-1.2
CTU				IAmb	IAmb	00 09 37.9	
	comp=Z,7.6nm,1.0s						
OJC	Ojcow	56.48	45	P	P	00 09 40.2	+2.7
OJC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LOF	Lofoten	56.49	23	eP	P	00 09 36.8	-0.4
PSZ	Piszkesteto	56.52	48	P	P	00 09 38.5	+0.6
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PSZ	Piszkesteto	56.52	48	P	P	00 09 38.5	+0.6
TUC	Tucson	56.65	294	P	P	00 09 40.1	+1.0
TUC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TUC	Tucson	56.65	294	P	P	00 09 39.2	+0.1
	baz=80						
TUC	Tucson	56.65	294	P	P	00 09 40.1	+1.0
TUC				IAmb	IAmb	00 09 40.8	
	comp=Z,8.3nm,1.1s						
WUAZ	Wupatki	56.65	298	P	P	00 09 40.0	+0.9
	baz=82,SNR=9.3						
WUAZ	Wupatki	56.65	298	IAmb	IAmb	00 09 41.3	
	comp=Z,14nm,1.1s						
DIVS	Divibare	56.69	52	P	P	00 09 39.5	+0.4
NLU	North Lily Min	56.70	303	IAmb	IAmb	00 09 40.8	
	comp=Z,11nm,1.0s						
PUK	Puka	56.73	55	P	P	00 09 39.6	+0.1
PUK				IAmb	IAmb	00 09 58.0	
	comp=Z,8.3nm,1.1s						
DLMT	Dillon	56.74	309	IAmb	IAmb	00 09 41.0	
	comp=Z,8.9nm,1.1s						
SPUT	South Promonto	56.87	305	P	P	00 09 40.6	0.0
FAUS	Fauske	56.89	24	eP	P	00 09 40.5	+0.4
MSU	Marysvale	56.92	301	P	P	00 09 41.7	+0.6
MSU	Marysvale	56.92	301	P	P	00 09 41.7	+0.6
MVU	Marysvale	56.95	301	P	P	00 09 42.1	+0.7
MTPU	Mount Pierson	56.98	301	P	P	00 09 42.1	+0.4
STEI	Steigen	57.04	23	eP	P	00 09 39.9	-1.2
TCRU	Three Creeks R	57.12	301	P	P	00 09 43.1	+0.6
DUG	Dugway, Tooele	57.24	303	P	P	00 09 44.5	+1.3
DUG				pmax	pmax		
	comp=Z,15nm,0.7s						
DUG	Dugway, Tooele	57.24	303	P	P	00 09 43.5	+0.2
	baz=84,SNR=26						
U15A	North Rim	57.27	299	IAmb	IAmb	00 09 45.8	
	comp=Z,6.8nm,1.1s						
EDM	Edmonton	57.27	319	P	P	00 09 43.0	-0.1
EDM				pmax	pmax		
	comp=Z,25nm,1.1s						
EDM	Edmonton	57.27	319	P	P	00 09 43.0	-0.1
KBN	Korca	57.52	56	P	P	00 09 46.6	+1.5
KBN				pmax	pmax		
	comp=Z,16nm,1.1s						
KBN	Korca	57.52	56	P	P	00 09 46.6	+1.5
KBN				IAmb	IAmb	00 09 57.7	
	comp=Z,16nm,1.1s						
WALA	Waterton Lakes	57.56	314	P	P	00 09 44.8	-0.5
KNB	Kanab	57.61	300	P	P	00 09 45.5	-0.4
KNB				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KNB	Kanab	57.61	300	P	P	00 09 45.5	-0.4
MSO	Missoula	57.63	311	P	P	00 09 45.7	-0.1
	baz=88						
MSO	Missoula	57.63	311	IAmb	IAmb	00 09 54.8	
	comp=Z,9.5nm,1.5s						
SLBS	Sierra La Lagu	57.73	284	P	P	00 09 46.6	-0.2
JTMT	Jette	57.83	312	P	P	00 09 46.8	-0.4
FNA	Florina	57.95	56	P	P	00 09 48.7	+0.6
FNA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FNA	Florina	57.95	56	P	P	00 09 48.7	+0.6
FNA				IAmb	IAmb	00 10 10.0	
	comp=Z,6.4nm,1.0s						
CCUT	Cedar City	57.97	300	IAmb	IAmb	00 09 50.3	
	comp=Z,15nm,1.2s						
PSUT	Pine Spring	58.23	301	IAmb	IAmb	00 09 52.1	
	comp=Z,8.3nm,1.0s						
EUNU	Eureka	58.35	352	P	P	00 09 50.0	-0.3
214A	Organ Pipe Nat	58.40	294	P	P	00 09 52.3	+0.9
	baz=79,SNR=11						
NOR	Nord	58.53	5	‖ iP	P	00 09 50.6	-0.8
NOR				IAmb	IAmb	00 09 51.5	
	comp=Z,17nm,1.3s						
YKA	Yellowknife Ar	58.73	330	P	P	00 09 52.0	-1.1
	comp=Z,4.8nm,0.9s,baz=98,slow=8.1,SNR=10						
W13A	Hualapai Mount	58.74	297	P	P	00 09 54.3	+0.3
TRO	Tromso	58.80	22	eP	P	00 09 53.8	+0.4
LIT	Litokhoron	58.87	57	P	P	00 09 55.8	+1.3
LIT	Litokhoron	58.87	57	P	P	00 09 55.8	+1.3
ELK	Elko	59.02	304	P	P	00 09 56.6	+0.8
ELK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ELK	Elko	59.02	304	IAmb	IAmb	00 09 56.6	
	comp=Z,8.8nm,0.8s						
PDMCI	Parker Dam,Lak	59.08	297	P	P	00 09 56.5	+0.5
	baz=80						
VTS	Vitosha	59.16	54	P	P	00 09 57.8	+1.2
VTS				pmax	pmax		
	comp=Z,9.0nm,1.4s						
VTS	Vitosha	59.16	54	P	P	00 09 57.8	+1.2
VTS				IAmb	IAmb	00 10 04.5	
	comp=Z,8.7nm,1.4s						
JETT	Jettan, Norway	59.28	22	eP	P	00 09 57.4	+0.5
PRN	Pahroc Range	59.32	300	P	P	00 09 58.9	+1.1
PRN				IAmb	IAmb	00 09 59.9	
	comp=Z,9.1nm,1.0s						
SHPR	Sheep Range	59.54	299	P	P	00 10 00.4	+1.0
R11A	Troy Canyon, C	59.60	301	P	P	00 09 59.9	+0.2
	baz=82,SNR=7.0						
NEW	Newport	59.71	313	P	P	00 10 01.0	+0.8
NEW				pmax	pmax		
	comp=Z,12nm,0.8s						
NEW	Newport	59.71	313	P	P	00 10 00.1	-0.1
	baz=86,SNR=11						
GLA	Glamis	59.87	295	P	P	00 10 01.4	-0.2
GLA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GLA	Glamis	59.87	295	P	P	00 10 02.3	+0.7
	baz=79						
GLA	Glamis	59.87	295	P	P	00 10 01.4	-0.2
GLA				IAmb	IAmb	00 10 03.4	
	comp=Z,5.5nm,0.9s						
IRM	Iron Mountain	59.93	297	P	P	00 10 02.6	+0.7
	baz=80,SNR=5.2						
F10A	Beach Ranch, E	59.95	310	IAmb	IAmb	00 10 21.0	
	comp=Z,7.4nm,1.2s						
BMO	Blue Mountains	60.10	309	P	P	00 10 04.0	+1.0
BMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BURAR	Bucovina Array	60.12	48	P	P	00 10 03.5	+0.4
BURAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BURAR	Bucovina Array	60.12	48	P	P	00 10 03.5	+0.4
KTK1	Kautokeino	60.16	23	eP	P	00 10 02.7	-0.2
GMRC	Granite Mounta	60.23	297	P	P	00 10 04.5	+0.4
	baz=80,SNR=8.0						
TUQ	Turquoise Moun	60.33	298	P	P	00 10 05.4	+0.6
	baz=80						
TPNV	Topopah Spring	60.34	300	P	P	00 10 05.1	+0.3
TPNV				pmax	pmax		
	comp=Z,15nm,1.2s						
TPNV	Topopah Spring	60.34	300	P	P	00 10 05.8	+0.9
	baz=80,SNR=12						
TPNV	Topopah Spring	60.34	300	P	P	00 10 05.1	+0.3
FINES	FINESS Array B	60.49	32	P	P	00 10 04.3	-0.8
	comp=Z,1.2nm,0.4s,baz=278,slow=6.0,SNR=18						
FINES				LR	LR	00 33 09.4	
	comp=Z,83nm,18.4s,baz=256,slow=33						
FINES	FINESS Array B	60.49	32	P	P	00 10 03.9	-1.3
HAMF	Hammerfest	60.60	21	eP	P	00 10 06.1	+0.2
BELC	Belle Mtn. Jos	60.65	297	P	P	00 10 08.0	+0.9
	baz=79						
SWSC	Sam W. Stewart	60.69	295	P	P	00 10 07.9	+0.8
	baz=78						
MLR	Muntele Rosu	60.81	50	P	P	00 10 08.8	+0.9
MLR				pmax	pmax		
	comp=Z,12nm,1.1s						
MLR	Muntele Rosu	60.81	50	P	P	00 10 08.8	+0.9
MLR				IAmb	IAmb	00 10 16.4	
	comp=Z,12nm,1.1s						
SPA0	Spitsbergen Ar	60.82	12	eP	P	00 10 05.1	-2.2
FURC	Furnace Creek,	60.90	300	P	P	00 10 09.8	+1.4
	baz=80						
IKP	In-Ko-Pah, Jac	61.01	295	P	P	00 10 10.5	+1.1
	baz=78						
ARA0	ARCESS Array S	61.04	22	eP	P	00 10 08.3	-0.6
ARCES	ARCESS Array B	61.04	22	P	P	00 10 07.5	-1.4
	comp=Z,2.1nm,0.5s,baz=253,slow=6.5,SNR=24						
ARCES				LR	LR	00 30 58.7	
	comp=Z,26nm,21.8s,baz=220,slow=31						
ARCES	ARCESS Array B	61.04	22	P	P	00 10 08.3	-0.6
ARCES				pmax	pmax		
	comp=Z,31nm,1.5s						
ARCES	ARCESS Array B	61.04	22	P	P	00 10 08.3	-0.6
GSC	Goldstone, Bar	61.06	298	P	P	00 10 10.6	+0.9
	baz=79						
TPFO	Pinon Flats	61.10	296	P	P	00 10 10.1	0.0
	baz=78						
PFO	Pinyon Flats O	61.10	296	P	P	00 10 11.3	+1.2
PFO				pmax	pmax		
	comp=Z,6.0nm,1.4s						
PFO	Pinyon Flats O	61.10	296	P	P	00 10 10.1	0.0
	baz=78						
PFO	Pinyon Flats O	61.10	296	P	P	00 10 11.3	+1.2
J08A	Circle Bar Ran	61.11	307	P	P	00 10 10.0	+0.1
J08A				IAmb	IAmb	00 10 11.8	
	comp=Z,11nm,1.5s						
E08A	Dider Farm, El	61.17	311	P	P	00 10 10.1	0.0
GRAC	Grapevine Rang	61.21	300	P	P	00 10 10.7	0.0
	baz=80						
MONP2	Monument Peak	61.22	295	P	P	00 10 11.6	+0.6
	baz=78						
G08A	Pilot Rock	61.22	310	IAmb	IAmb	00 10 10.9	
	comp=Z,4.3nm,0.8s						
WVOR	Wild Horse Val	61.34	306	P	P	00 10 11.2	-0.4
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WVOR	Wild Horse Val	61.34	306	P	P	00 10 11.2	-0.4
MNK	Minsk	61.41	40	i P	P	00 10 11.0	-0.6
MNK				i		00 12 31.4	
MNK				i PPP	PPP	00 13 51.2	
MNK				i S	S	00 18 28.3	-4.1
MNK				i SS	SS	00 22 35.0	+2.3
MNK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MNK				pmax	pmax		
	comp=N,10.0nm,1.3s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.0s						
MNK				MLR	MLR		
	comp=Z,124nm,21.0s						
KVN	Kaiserville	61.44	303	P	P	00 10 13.5	+1.2
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NV11	Mina Array Sit	61.58	302	IAmb	IAmb	00 10 22.0	
	comp=Z,7.7nm,1.5s						
NVAR	Mina Array Bea	61.70	302	P	P	00 10 13.3	-0.8
	comp=Z,1.4nm,0.7s,baz=81,slow=6.4,SNR=12						
NVAR				LR	LR	00 34 51.6	
	comp=Z,378nm,21.4s,baz=90,slow=34						
I07A	Izee	61.76	308	IAmb	IAmb	00 10 15.1	
	comp=Z,6.2nm,1.1s						
RYN	Ryan	61.83	302	IAmb	IAmb	00 10 15.5	
	comp=Z,6.0nm,1.1s						
LHV	Little Huntoon	61.88	302	IAmb	IAmb	00 10 20.8	
	comp=Z,10nm,1.4s						
BFSC	Mount Baldy Ra	61.96	297	P	P	00 10 15.9	0.0
	baz=78						
EDW2	Edwards Air Fo	62.10	298	P	P	00 10 17.3	+0.6
	baz=78						
PAHR	Pah Rah Range	62.31	304	IAmb	IAmb	00 10 19.3	
	comp=Z,8.0nm,1.3s						
ISA	Isabella, Lake	62.33	299	P	P	00 10 18.8	+0.5
ISA				pmax	pmax		
	comp=Z,11nm,0.9s						
ISA	Isabella, Lake	62.33	299	P	P	00 10 19.4	+1.1
	baz=79,SNR=11						
ISA	Isabella, Lake	62.33	299	P	P	00 10 18.8	+0.5
AKASG	Malin Array Be	62.48	44	P	P	00 10 15.3	-3.6
	comp=Z,1.7nm,0.6s,baz=276,slow=6.0,SNR=8.6						
AKASG				LR	LR	00 35 48.2	
	comp=Z,54nm,18.2s,baz=245,slow=34						
AKASG	Malin Array Be	62.48	44	i P	P	00 10 18.0	-0.9
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	62.48	44	P	P	00 10 18.0	-0.9
AKBB	Malin Array Si	62.48	44	P	P	00 10 18.0	-0.9
AKBB				IAmb	IAmb	00 10 25.9	
	comp=Z,9.4nm,1.5s						
WAKR	Walker	62.56	302	P	P	00 10 19.9	-0.1
WAKR				IAmb	IAmb	00 10 21.2	
	comp=Z,9.3nm,1.1s						
VCNR	Virginia City	62.59	303	P	P	00 10 20.7	+0.6
LLLB	Lillooet	62.62	316	P	P	00 10 18.8	-1.1
MOD	Modoc Plateau	62.65	306	P	P	00 10 20.4	0.0
MOD				IAmb	IAmb	00 10 28.6	
	comp=Z,5.1nm,0.7s						
G05D	Wamic, OR	62.88	310	P	P	00 10 21.8	0.0
	baz=82						
F05D	White Salmon	62.89	311	P	P	00 10 21.6	-0.2
	baz=82						
A05A	Maple Falls	62.93	314	P	P	00 10 20.9	-0.9
K05A	Summer Lake	62.95	307	P	P	00 10 22.5	+0.1
BEKR	Beckworth	63.03	304	P	P	00 10 22.8	-0.2
J05D	Fort Rock, OR	63.11	308	P	P	00 10 23.6	+0.1
	baz=81,SNR=7.0						
CMB	Columbia Colle	63.38	302	P	P	00 10 25.6	+0.4
CMB				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CMB	Columbia Colle	63.38	302	P	P	00 10 25.6	+0.4
CMB				IAmb	IAmb	00 10 27.1	
	comp=Z,7.2nm,1.4s						
E04D	Cinebar	63.56	312	P	P	00 10 25.9	-0.2
	baz=82						
H04A	Detroit Lake	63.57	309	P	P	00 10 26.4	+0.1
SCZ2	Santa Cruz Isl	63.61	297	P	P	00 10 26.6	-0.2
	baz=77						
D03D	Eldon	63.78	313	P	P	00 10 27.8	+0.2
	baz=82						
M04C	Macdoel	63.80	306	P	P	00 10 28.0	0.0
	baz=80						
I04A	Tendick Farm,	63.87	308	P	P	00 10 27.7	-0.7
	baz=80,SNR=5.7						
ORV	Oroville	63.95	304	P	P	00 10 28.5	-0.4
ORV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ORV	Oroville	63.95	304	P	P	00 10 28.5	-0.4
ORV				IAmb	IAmb	00 10 29.7	
	comp=Z,6.1nm,1.0s						
H04D	Lebanon	63.99	309	P	P	00 10 27.9	-1.1
	baz=81						
O03E	Paynes Creek	64.04	305	P	P	00 10 28.8	-0.7
	baz=79						
L04D	Klamath Falls	64.06	307	P	P	00 10 29.5	-0.2
	baz=80,SNR=6.6						
G03D	McMinnville, O	64.25	310	P	P	00 10 31.0	+0.3
	baz=81						
NLWA	Neilton Lookou	64.32	313	P	P	00 10 31.4	+0.2
YBH	Yreka Blue Hor	64.45	306	P	P	00 10 31.9	-0.3
YBH				pmax	pmax		
	comp=Z,13nm,1.5s						
YBH	Yreka Blue Hor	64.45	306	IAmb	IAmb	00 10 31.9	
	comp=Z,13nm,1.5s						
I03D	Drain, OR	64.56	308	P	P	00 10 32.5	-0.3
	baz=80						
N02D	Trinity Center	64.59	305	P	P	00 10 31.9	-1.2
	baz=79						
M02C	Callahan	64.62	306	P	P	00 10 32.9	-0.4
	baz=79						
O02D	Mt. Diablo Mer	64.80	305	P	P	00 10 33.4	-1.1
	baz=79						
K02D	Willamette Mer	64.97	307	P	P	00 10 34.7	-0.9
	baz=79						
L02E	Cave Junction	65.02	307	P	P	00 10 35.5	-0.3
	baz=79						
J01E	Myrtle Point	65.07	308	P	P	00 10 35.8	-0.3
	baz=79						
OBN	Obninsk	66.35	38	eP	P	00 10 43.6	-0.5
OBN				e		00 11 18.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
INK	Inuvik	66.65	336	P	P	00 10 53.5	+7.7
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	Inuvik	66.65	336	P	P	00 10 44.8	-0.9
	baz=83						
INK	Inuvik	66.65	336	IAmb	IAmb	00 10 53.5	
	comp=Z,5.6nm,0.9s						
KLMR	Klimovskoe	67.02	32	eP	P	00 10 46.3	-2.0
KLMR				e		00 11 14.9	
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KLMR	Klimovskoe	67.02	32	eP	P	00 10 46.3	-2.0
KLMR				AMP		00 10 58.6	
	comp=Z,9.0nm,1.1s						
KLMR				ePcP	PcP	00 11 15.0	-1.6
BR131	Keskin Array S	67.38	55	P	P	00 10 51.6	+0.5
BR131				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BR131	Keskin Array S	67.38	55	P	P	00 10 51.6	+0.5
BR131				IAmb	IAmb	00 11 01.3	
	comp=Z,7.7nm,1.2s						
BRTR	Keskin Array B	67.38	55	P	P	00 10 50.5	-0.6
	comp=Z,3.7nm,1.1s,baz=271,slow=5.0,SNR=10						
BRTR				LR	LR	00 37 52.7	
	comp=Z,68nm,20.3s,baz=278,slow=34						
BRTR	Keskin Array B	67.38	55	i P	P	00 10 51.7	+0.5
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRTR	Keskin Array B	67.38	55	P	P	00 10 51.1	-0.1
WRAK	Wrangell Islan	67.98	323	P	P	00 10 53.2	-1.2
	baz=79						
EPYK	Eagle Plains	68.17	334	P	P	00 10 54.9	-0.6
	baz=79						
EPYK	Eagle Plains	68.17	334	IAmb	IAmb	00 10 55.3	
	comp=Z,5.6nm,0.8s						
PLCA	Paso Flores	68.58	200	P	P	00 10 58.2	-0.1
	comp=Z,4.3nm,0.8s,baz=343,slow=5.5,SNR=6.0						
PLCA				LR	LR	00 42 38.9	
	comp=Z,77nm,18.2s,baz=2.5,slow=37						
H09W1	TRISTAN DA CUN	68.94	151	T	T	01 26 00.8	
	SNR=11						
DAWY	Dawson	69.76	332	IAmb	IAmb	00 11 06.0	
	comp=Z,5.1nm,0.8s						
EGAK	Eagle	70.33	333	P	P	00 11 08.4	-0.5
	baz=75						
SOC	Sochi	70.83	50	eP	P	00 11 13.6	+1.3
SOC				e		00 13 46.9	
SOC				ePPP	PPP	00 15 32.3	
SOC				eS	S	00 20 32.9	+5.5
SOC				eSS	SS	00 24 58.9	-0.4
SOC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
K27K	Chicken	70.91	332	P	P	00 11 11.8	-0.6
	baz=74						
K27K	Chicken	70.91	332	IAmb	IAmb	00 11 34.9	
	comp=Z,11nm,1.4s						
BMAR	Burnt Mountain	70.92	336	P	P	00 11 12.9	+0.4
BCAR	Beaver Creek A	71.06	331	P	P	00 11 13.2	-0.3
L27K	Beaver Creek,	71.08	331	P	P	00 11 13.1	-0.4
	baz=74,SNR=6.7						
L27K	Beaver Creek,	71.08	331	P	P	00 11 13.4	-0.2
L27K				IAmb	IAmb	00 11 14.2	
	comp=Z,7.1nm,1.1s						
CTG	Chitna Glacier	71.45	329	P	P	00 11 15.8	-0.1
	baz=73						
M26K	Nabesna, AK	71.79	331	P	P	00 11 16.9	-1.0
	baz=72						
PRP	Porcupine Dome	71.87	334	P	P	00 11 18.3	-0.2
	baz=71,SNR=6.1						
PRP	Porcupine Dome	71.87	334	IAmb	IAmb	00 11 19.3	
	comp=Z,4.6nm,0.8s						
MCARA	McCarthy VSAT	72.11	330	P	P	00 11 19.3	-0.4
	baz=72						
RIDG	Independent Ri	72.17	332	P	P	00 11 19.5	-0.6
	baz=71						
TOLK	Toolik Lake Re	72.29	338	P	P	00 11 20.6	-0.1
	baz=69						
TOLK	Toolik Lake Re	72.29	338	IAmb	IAmb	00 11 21.9	
	comp=Z,5.4nm,0.8s						
GLB	Gilahina Butte	72.45	330	IAmb	IAmb	00 11 22.7	
	comp=Z,16nm,1.3s						
IL31		72.67	334	IAmb	IAmb	00 11 23.4	
	comp=Z,7.8nm

comp=Z,6.0nm,1.1s
KIV MLR MLR

KIV Kislovodsk 72.78 49 P P 00 11 24.0 -0.2
KIV IAmb IAmb 00 11 27.5
comp=Z,5.9nm,1.0s

BMRM Bremner River 72.97 330 P P 00 11 24.2 -0.7
baz=71

KBZ Khabaz 73.00 49 P P 00 11 25.1 -0.3
comp=Z,1.3nm,0.7s,baz=274,slow=11,SNR=3.8

CCB Clear Creek Bu 73.08 334 IAmb IAmb 00 11 25.8
comp=Z,8.6nm,1.0s

MDM Murphy Dome 73.14 334 IAmb IAmb 00 11 29.7
comp=Z,8.6nm,1.3s

WRH Wood River Hil 73.26 334 IAmb IAmb 00 11 26.9
comp=Z,8.1nm,1.0s

M24K Tolsona, Glenn 73.29 331 P **P 00 11 26.3 -0.5**
baz=70

H23K Yukon River 73.33 335 P **P 00 11 27.2 +0.3**
baz=68,SNR=7.7

KLU Klutina 73.39 330 P **P 00 11 27.2 -0.2**
baz=70

KLU Klutina 73.39 330 IAmb IAmb 00 11 36.4
comp=Z,19nm,1.5s

I23K Minto, Yukon-K 73.51 335 P **P 00 11 27.3 -0.6**
baz=68

I23K Minto, Yukon-K 73.51 335 IAmb IAmb 00 11 28.4
comp=Z,4.5nm,0.8s

NCK Nalchik 73.55 49⇑ *i*P **P 00 11 29.3 +0.6**
NCK pmax pmax
comp=Z,4.0nm,0.9s

EYAK Cordova Ski Ar 73.64 329 P **P 00 11 28.1 -0.6**
baz=70

ONI Oni 73.73 50 P **P 00 11 30.4 +0.6**
ONI pmax pmax
comp=Z,8.0nm,1.2s

ONI Oni 73.73 50 P **P 00 11 30.4 +0.6**
ONI IAmb IAmb 00 11 47.1
comp=Z,7.8nm,1.2s

MCK McKinley 73.88 333 P **P 00 11 30.4 +0.2**
MCK pmax pmax
comp=Z,9.0nm,1.0s

MCK McKinley 73.88 333 P **P 00 11 29.0 -1.2**
baz=68

MCK McKinley 73.88 333 IAmb IAmb 00 11 30.4
comp=Z,8.6nm,1.0s

WAT1 Susitna Watana 74.06 332 P **P 00 11 30.9 -0.4**
baz=68

MLY Manley 74.10 335 P **P 00 11 30.9 -0.6**
baz=67,SNR=7.0

I21K Tanana 74.52 335 P **P 00 11 33.5 -0.3**
baz=66

TRF Thorofare Moun 74.55 333 P **P 00 11 33.7 -0.6**
baz=67

TRF Thorofare Moun 74.55 333 IAmb IAmb 00 11 34.3
comp=Z,7.0nm,0.9s

KNK Knik Glacier 74.55 331 P **P 00 11 33.5 -0.7**
baz=68

BPAW Bear Paw Mtn. 74.57 334 P **P 00 11 33.5 -0.7**
baz=66

BPAW Bear Paw Mtn. 74.57 334 IAmb IAmb 00 11 35.8
comp=Z,8.1nm,1.3s

KTH Kantishna Hill 74.76 333 IAmb IAmb 00 11 35.9
comp=Z,14nm,1.0s

CHUM Lake Minchumin 75.19 334 P **P 00 11 36.9 -0.9**
baz=65

RC01 Rabbit Creek A 75.25 331 P **P 00 11 37.3 -0.9**
baz=66

SUA Susitna One 75.54 331 P **P 00 11 39.8 -0.2**
baz=66

SKT Skwentna 75.67 332 P **P 00 11 40.0 -0.6**
baz=65

J20K Nowinta River 75.79 335 P **P 00 11 40.8 -0.5**
baz=64

K20K Telida 76.13 334 P **P 00 11 42.5 -0.7**
baz=63

HOM Homer 76.71 330 P **P 00 11 46.3 -0.2**
baz=64

M19K Big River Lodg 76.92 332 P **P 00 11 47.3 -0.4**
baz=63

O20K Slope Mountain 76.97 330 P **P 00 11 47.6 -0.5**
baz=64

L19K White Mountain 76.98 333 P **P 00 11 47.2 -0.9**
baz=62

TTA Tatalina 77.11 334 P **P 00 11 47.9 -0.9**
baz=62

N19K Bonanza Creek 77.46 332 P **P 00 11 49.8 -1.1**
baz=62

ARU Arti 77.79 33*d i*P **P 00 11 52.4 -0.3**
ARU S **S 00 21 46.0 +0.8**
ARU pmax pmax
comp=Z,8.0nm,1.5s

N18K Kilae Creek 78.13 332 P **P 00 11 53.4 -1.1**
baz=61

O18K Koktuh Hills 78.23 331 P **P 00 11 53.9 -1.1**
baz=62

MBAR Mbarara 78.38 96⇑ *e*P **P 00 11 58.4 +1.5**

OHAK Old Harbor 78.56 328 P **P 00 11 56.0 -0.8**
baz=63

SVE Sverdlovsk 78.65 32 *e*P **P 00 11 57.5 +0.1**
SVE pmax pmax
comp=Z,9.0nm,1.3s

ABKAR Akbulak array 81.77 39 P **P 00 12 14.8 +0.5**

KMBO Kilima Mbogo 84.52 94 LR LR 00 48 21.1
comp=Z,115nm,21.3s,baz=305,slow=34

BILL Bilibino 84.82 348 *e*P **P 00 12 29.3 -0.4**
BILL *e* 00 12 34.3
BILL pmax pmax
comp=Z,8.0nm,1.3s

BRVK Borovoye 85.35 33⇓ *e*P **P 00 12 32.5 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.2s

BRVK Borovoye 85.35 33 P **P 00 12 33.1 +0.4**
BRVK IAmb IAmb 00 12 34.0
comp=Z,4.7nm,1.1s

GEYT Alibeck 85.86 50 LR LR 00 50 54.2
comp=Z,23nm,19.9s,baz=355,slow=36

BOSA Boshof 86.59 123 LR LR 00 44 28.9
comp=Z,75nm,19.0s,baz=332,slow=31

ZALV Zalesovo Beam 91.35 26 P **P 00 13 01.4 +0.1**
comp=Z,2.5nm,0.9s,baz=318,slow=6.0,SNR=8.1

ZALV LR LR 00 51 14.5
comp=Z,24nm,20.9s,baz=33,slow=34

ZALV Zalesovo Beam 91.35 26 P **P 00 13 00.9 -0.4**

MKAR Makanchi Array 95.31 33 LR LR 00 55 02.7
comp=Z,39nm,18.9s,baz=325,slow=35

KSH Kashi 96.68 41 P **P 00 13 26.4 +0.1**
KSH pP pwP 00 13 31.8 -1.8
KSH pmax pmax
comp=Z,14nm,0.5s

KSH pmax pmax
comp=Z,190nm,4.1s

WMQ Urumqi 100.09 32 *e*P **Pdif 00 13 42.8 +1.4**

CMAR Chiang Mai Arr 125.57 42 PKP **PKPdf 00 18 57.8 +0.1**
comp=Z,1.5nm,0.3s,baz=328,slow=1.4,SNR=1.5

COCO West Island 143.02 78 *i* PKIKP **PKPdf 00 19 29.4 -0.8**

WRA Warramunga Arr 175.59 353 PKPab **PKPab 00 21 41.9 -1.7**
comp=Z,1.2nm,0.8s,baz=13,slow=5.0,SNR=7.3

ASAR Alice Springs 179.32 350 PKPab 00 21 58.9
comp=Z,2.1nm,1.0s,baz=5.7,slow=4.7,SNR=7.3

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*TUL **21** 00:18:39.6±1.0, 36°.289N±0°.004×97°.52W±0°.02, h8km±7km, ML2.7, mb_Lg2.4/20(NEIC), Error ellipse: s-maj=2.2km s-min=0.4km az=78.0*

NEIC 21 00:18:39.4±0.8, 36°.289N±0°.006×97°.52W±0°.02, h1km±7km, Error ellipse: s-maj=2.1km s-min=0.7km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43 300**		Pg		00 18 48.0	+0.2
CROK				Sg	Sg	00 18 54.1	+0.7
OK029	**Liberty Lake**	**0.49 174**		Pg		00 18 49.2	+0.3
OK029				Sg	Sg	00 18 56.0	+0.7
BLOK	**Blackwell**	**0.53 27**		Pg		00 18 49.9	+0.3
BLOK				Sg	Sg	00 18 57.1	+0.6
GC02	**Grant County #**	**0.62 334**		Pg		00 18 51.6	+0.2
GC02				Sg	Sg	00 19 00.0	+0.5
BCOK	**Bluff Creek, N**	**0.64 187**		Pg		00 18 51.7	+0.1
BCOK				Sg	Sg	00 19 00.4	+0.6
OK031	**S. Brethren Rd**	**0.64 121**		Pg		00 18 52.0	+0.3
OK031				Sg	Sg	00 19 00.7	+0.6
QUOK	**Quay**	**0.67 100**		Pg		00 18 52.4	+0.2
QUOK				Sg	Sg	00 19 01.4	+0.6
OK025	**Westminster Rd**	**0.72 168**		Pg		00 18 53.4	+0.1
KAN13	**South Haven SW**	**0.72 3**		Pg		00 18 53.4	0.0
OK032	**Salt Plains WL**	**0.76 313**	Pg	Pg		00 18 53.8	-0.2
KAN17	**Caldwell West**	**0.78 345**		Pg		00 18 54.4	0.0
KAN09	**Caldwell North**	**0.85 355**		Pg		00 18 55.6	-0.1
KAN05	**Bluff City Nor**	**0.87 341**	Pg	Pg		00 18 56.0	-0.1
OKCSW	**OKLAHOMA CITY**	**0.88 176**		Pg		00 18 56.3	-0.1
KS20	**Mayfield South**	**0.94 358**		Pg		00 18 57.2	-0.2
KAN10	**Anthony SW Sta**	**0.95 331**	Pg	Pg		00 18 58.1	+0.4
KAN08	**Anthony NE Sta**	**1.00 339**	Pg	Pg		00 18 58.4	-0.3
T35A	**Sooner Cattle**	**1.02 52**		Pg		00 18 58.9	-0.2
FNO	**Franklin**	**1.03 175**		Pg		00 18 58.9	-0.4
KAN12	**Harper NE Stat**	**1.08 339**	Pg	Pg		00 18 59.8	-0.3
U32A	**Winter Ranch,**	**1.20 275**		Pg		00 19 01.9	-0.6
X34A	**Smith Ranch, M**	**1.70 189**		Pn		00 19 10.7	+0.4
WMOK	**Wichita Mounta**	**1.86 214**		Pn		00 19 12.3	-0.1
LOOK	**Love County**	**2.31 173**	Pn	Pn		00 19 17.8	-0.8
R32A	**Long Quarter,**	**2.33 336**	Pn	Pn		00 19 20.4	+1.4
X37A	**Clayton**	**2.44 133**		Pn		00 19 20.2	-0.1
X37A			IAmb_Lg			00 20 02.9	
comp=Z,12nm,0.7s							
U38A	**Gravette**	**2.53 86**		Pn		00 19 22.2	+0.6
HHAR	**Hobbs**	**2.89 89**		Pn		00 19 28.1	+1.5
KSU1	**Kansas State U**	**2.90 14**		Pn		00 19 26.4	-0.3
Z35A	**Perchaven, San**	**2.96 176**	Pn	Pn		00 19 27.4	-0.2
CBKS	**Cedar Bluff**	**3.08 326**	Pn	Pn		00 19 28.7	-0.5
W39A	**Magazine**	**3.23 109**		Pn		00 19 30.6	-0.6
W39A			IAmb_Lg			00 20 26.4	
comp=Z,12nm,0.8s							
MIAR	**Mount Ida**	**3.66 117**	Pn	Pn		00 19 37.0	-0.1
AMTX	**Amarillo**	**3.67 249**	IAmb_Lg			00 20 38.3	
comp=Z,8.4nm,0.8s							
U40A	**Yellville**	**3.77 88**	IAmb_Lg			00 20 41.9	
comp=Z,11nm,0.7s							
ABTX	**Abilene, Hawle**	**4.06 206**	Pn	Pn		00 19 43.9	+1.3
X40A	**Basin Creek Fa**	**4.23 114**	Pn	Pn		00 19 45.0	0.0
MGMO	**Mountain Grove**	**4.30 77**	IAmb_Lg			00 20 57.9	
comp=Z,10.0nm,0.8s							
WHAR	**Wooly Hollow**	**4.37 102**	Pn	Pn		00 19 47.1	+0.3
P38A	**Dawn**	**4.58 42**	IAmb_Lg			00 21 07.3	
comp=Z,6.2nm,0.9s							
KSCO	**Kaye Shedlock'**	**4.88 305**	IAmb_Lg			00 21 23.9	
comp=Z,6.3nm,0.7s							
CCM	**Cathedral Cave**	**5.31 69**	IAmb_Lg			00 21 25.5	
comp=Z,6.8nm,0.8s							
P40A	**Paris**	**5.40 52**	IAmb_Lg			00 21 35.8	
comp=Z,7.7nm,0.9s							
SWET	**Sewanee**	**9.48 93**	IAmb_Lg			00 23 46.8	
comp=Z,1.9nm,0.8s							

IDC 21 00:55:21.2±3.1, 32°.18S×178°.18W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/33, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=73.6km s-min=47.1km az=124.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.18 211**		Pn	Pn	00 57 05.8	-1.6
0.4nm,0.3s,baz=127,slow=23,SNR=2.0							
URZ				Sn	Sn	00 58 26.9	-2.8
2.9nm,0.3s,baz=156,slow=23,SNR=11							
ASAR	**Alice Springs**	**42.89 269**		P	P	01 03 21.8	+0.2
0.3nm,0.5s,baz=104,slow=7.7,SNR=4.8							
WRA	**Warramunga Arr**	**44.04 274**		P	P	01 03 30.9	-0.1
0.5nm,0.3s,baz=112,slow=7.9,SNR=20							
FINES	**FINESS Array B**	**146.75 339**		PKPbc	PKPbc	01 15 03.5	-0.8
3.9nm,1.1s,baz=332,slow=2.4,SNR=6.2							

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*ECGS **21** 01:00:30.4, 0°.87S±0°.04×29°.21E±0°.04, h4km±5km, ML2.7, Error ellipse: s-maj=7.5km s-min=6.9km az=118.8, smi:local/63f93285-33bd-4730-8026-c0a3bb796330 Note: Depth/Latitude/Longitude errors are calculated from covariance matrix as 1D marginal (Lon/Lat errors as great circle degrees) while OriginUncertainty min/max horizontal errors are calculated from 2D error ellipsoid and are therefore seemingly higher compared to 1D errors. Error estimates can be reconstructed from the following original NonLinLoc error statistics line:STATISTICS ExpectX 25.7579 Y 72.1513 Z 7.63169 CovXX 23.796 XY -1.78972 XZ 10.9403 YY 21.5264 YZ -2.4091 ZZ 32.6052 EllAz1 88.0408 Dip1 -33.8126 Len1 7.6094 Az2 3.6951 Dip2 8.36862 Len2 8.62128 Len3 1.195218e+01*

*EAF **21** 01:00:33.8±1.2, 0°.51S×29°.04E, h0km±8km, MD3.0*

ISC 21 01:00:30.2±1.0, 0°.985±0°.05×29°.41E±0°.05, h10km, n12, σ2°.09/15, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGB	**Rumangabo**	**0.36 187**		*e*S	**Sb**	**01 00 46.5**	**+1.8**
RGB	**Rumangabo**	**0.36 187**		*e*P	**Pb**	**01 00 39.6**	**+0.8**
KTSH	**Kitshanga**	**0.44 235**		*i* S	**Sg**	**01 00 43.6**	**-1.1**
KTSH	**Kitshanga**	**0.44 235**		*i* P	**Pg**	**01 00 38.0**	**-0.9**
BOBN	**Bobandana**	**0.82 209**		*i* P	**Pg**	**01 00 46.2**	**+0.1**
BOBN	**Bobandana**	**0.82 209**		*e*S	**Sb**	**01 00 58.1**	**+0.3**
KIL	**Kilembe**	**1.32 27**		*e*P	**Pb**	**01 00 55.6**	**+0.4**
KIL				*e*S	**Sb**	**01 01 10.4**	**-1.8**
MBAR	**Mbarara**	**1.38 74**		*e*P	**Pb**	**01 00 57.3**	**+1.0**
MBAR				*e*S	**Sg**	**01 01 16.5**	**+1.7**
LWI	**Lwiro**	**1.39 206**		*e*P	**Pn**	**01 00 55.7**	**-0.1**
LWI	**Lwiro**	**1.39 206**		*i* S	**Sg**	**01 01 15.6**	**+0.7**
TEBE	**Entebbe**	**3.23 71**		*e*P	**Pb**	**01 01 29.3**	**+1.5**
TEBE				*e*S	**Sb**	**01 02 08.9**	**+1.6**
SINGT	**Singida**	**6.54 126**		*i* S	**Sg**	**01 03 54.5**	**-5.8**

UCR 21 01:02:20.9±1.9, 8°.64N×83°.29W, h6km±6km, MW4.0, mb4.3(NEIC), 6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.23 192**		*e*P	Pg	01 02 25.6	0.0
EDSV	**San Vito**	**0.36 59**		*e*P	Pb	01 02 29.0	-0.9
EDSV				*e*S	Sb	01 02 36.2	+0.4
EDPN	**Palmar Norte**	**0.37 333**		*e*P	Pg	01 02 28.4	+0.4
EDPN				*e*S	Sb	01 02 34.8	-1.1
CCOL	**Caracol de Cor**	**0.38 126**		*e*P	Pg	01 02 28.4	0.0
CCOL				*e*S	Sb	01 02 35.5	-0.9
CDITO	**Canoas**	**0.41 98⇓**		*e*P	Pg	01 02 28.8	-0.1
CDITO				*e*S	Sg	01 02 35.6	+1.2
LPLA	**Las Palmas La**	**0.48 35⇓**		*i*P	Pg	01 02 30.8	+0.6
LPLA				*e*S	Sb	01 02 39.2	-0.1
EDBA	**Buenos Aires**	**0.53 1**		*e*P	Pg	01 02 31.8	+0.7
EDBA				*e*S	Sb	01 02 40.4	0.0
BRU2	**Volcan**	**0.61 75⇓**		*e*P	Pg	01 02 32.7	0.0
BRU2				*e*S	Sb	01 02 42.5	-0.5
DRK0	**Durika**	**0.62 4**		*e*P	Pg	01 02 33.0	+0.1
DRK0				*e*S	Sb	01 02 42.6	-0.9
PEZE	**Perez Zeledon,**	**0.84 333**		*e*P	Pg	01 02 36.4	-0.6
PEZE				*e*S	Sb	01 02 48.9	-0.6
CDM	**Cerro de Muert**	**1.03 333⇓**		*e*P	Pg	01 02 39.6	-1.0
CDM				*e*S	Sb	01 02 54.8	-0.6
RIMA	**Rio Macho**	**1.26 333⇓**		*e*P	Pg	01 02 42.7	-2.4
LCR2	**La Lucha 2**	**1.31 327**		*e*P	Pn	01 02 43.9	-2.1
LCR2				*e*S	Sb	01 03 03.1	-0.1
VTCV	**VTCV, Calle Va**	**1.41 342**		*e*P	Pn	01 02 45.8	-1.5
RAFA	**San Farael, Vo**	**1.41 339**		*e*P	Pn	01 02 45.9	-1.6
OCM	**Ochomogo**	**1.42 332**		*e*P	Pn	01 02 45.9	-1.6
CVTR	**Volcan Turrial**	**1.45 341**		*e*P	Pn	01 02 46.6	-1.6
VTUC	**Crater, Volcan**	**1.46 341**		*e*P	Pn	01 02 47.0	-1.2
HDC3	**Heredia 3**	**1.58 329**		*e*P	Pn	01 02 49.8	+0.1
HDC	**Heredia**	**1.58 329**		*e*P	Pn	01 02 49.9	+0.2
RIFO	**Rio Frio, Sara**	**1.79 339**		*e*P	Pn	01 02 53.2	+0.8
CRPO	**Crater poas**	**1.81 329⇓**		*e*P	Pn	01 02 53.3	+0.4
CRPO				*e*S	Sb	01 03 18.3	+0.6
ARE1	**Arenal 1**	**2.30 322**		*e*P	Pn	01 03 00.2	+0.8
JTS	**Las Juntas de**	**2.33 315**		*e*P	Pn	01 03 00.9	+1.1
ACAL	**Aguas Claras**	**2.63 319**		*e*P	Pn	01 03 05.0	+0.9
GRZA	**Playa Garza**	**2.64 299**		*e*P	Pn	01 03 03.5	-0.7
GUAI	**GUAI**	**2.73 307**		*e*P	Pn	01 03 05.0	-0.3
HORNC	**Hornillas**	**2.78 318**		*e*P	Pn	01 03 06.9	+0.8
BUAI	**Buenos Aires**	**3.00 318**		*e*P	Pn	01 03 09.5	+0.4
GBS3	**Finca Las Img**	**3.02 315**		*e*P	Pn	01 03 10.2	+0.8

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*TUL **21** 01:22:20.0±0.8, 36°.83N±0°.01×98°.23W±0°.03, h3km±5km, ML2.6, mb_Lg2.3/29(NEIC), Error ellipse: s-maj=3.0km s-min=1.5km az=111.0*

NEIC 21 01:22:20.0±1.0, 36°.84N±0°.02×98°.27W±0°.03, h9km±5km, Error ellipse: s-maj=3.9km s-min=2.4km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.06 127**		Pg	Pg	01 22 21.5	-0.5
OK032				Sg	Sg	01 22 22.5	-0.8
KAN10	**Anthony SW Sta**	**0.32 26**			Pg	01 22 26.3	0.0
KAN10				Sg	Sg	01 22 30.8	+0.3
GC02	**Grant County #**	**0.33 87**			Pg	01 22 26.1	-0.3
GC02				Sg	Sg	01 22 30.5	-0.3
CROK	**Carrier**	**0.40 146**			Pg	01 22 27.8	-0.1
CROK				Sg	Sg	01 22 33.4	+0.3
KAN05	**Bluff City Nor**	**0.42 49**			Pg	01 22 27.9	-0.2
KAN05				Sg	Sg	01 22 33.7	+0.1
KAN17	**Caldwell West**	**0.45 63**			Pg	01 22 28.4	-0.4
KAN17				Sg	Sg	01 22 34.7	0.0
KAN08	**Anthony NE Sta**	**0.46 31**			Pg	01 22 28.7	-0.1
KAN08				Sg	Sg	01 22 35.1	+0.2
KAN12	**Harper NE Stat**	**0.51 25**			Pg	01 22 29.7	-0.1
KAN12				Sg	Sg	01 22 36.1	-0.4
KAN09	**Caldwell North**	**0.60 60**			Pg	01 22 31.2	-0.3
KAN13	**South Haven SW**	**0.66 74**			Pg	01 22 32.3	-0.3
KS20	**Mayfield South**	**0.69 55**			Pg	01 22 32.8	-0.5
BLOK	**Blackwell**	**0.85 95**	Pg	Pg	Pg	01 22 35.7	-0.6
OK029	**Liberty Lake**	**1.23 148**			Pn	01 22 42.6	-0.7
BCOK	**Bluff Creek, N**	**1.29 156**			Pn	01 22 43.7	-0.5
T35A	**Sooner Cattle**	**1.41 86**			Pn	01 22 45.4	-0.4
QUOK	**Quay**	**1.42 117**			Pn	01 22 45.5	-0.5
OK031	**S. Brethren Rd**	**1.45 127**			Pn	01 22 46.4	0.0
OK025	**Westminster Rd**	**1.46 149**			Pn	01 22 46.8	+0.3
OKCSW	**OKLAHOMA CITY**	**1.58 155**			Pb	01 22 48.9	-0.5
R32A	**Long Quarter,**	**1.62 348**			Pb	01 22 49.6	-0.5
FNO	**Franklin**	**1.73 156**			Pn	01 22 50.6	+0.5
FNO			IAmb_Lg			01 23 13.2	
comp=Z,15nm,0.7s							
WMOK	**Wichita Mounta**	**2.14 191**			Pn	01 22 56.4	+0.6
X34A	**Smith Ranch, M**	**2.26 171**			Pn	01 22 59.1	+1.6
LOOK	**Love County**	**2.97 162**	IAmb_Lg			01 24 00.7	
comp=Z,10nm,0.8s							
U38A	**Gravette**	**3.15 96**			Pn	01 23 10.1	+0.4
U38A			IAmb_Lg			01 24 07.3	
comp=Z,10nm,0.8s							
X37A	**Clayton**	**3.25 133**	Pn	Pn		01 23 11.5	+0.4
X37A			IAmb_Lg			01 24 05.4	
comp=Z,12nm,1.1s							
AMTX	**Amarillo**	**3.39 236**	IAmb_Lg			01 24 12.1	
comp=Z,8.1nm,0.9s							
HHAR	**Hobbs**	**3.53 98**	Pn	Pn		01 23 15.0	0.0
W39A	**Magazine**	**3.98 113**	Pn	Pn		01 23 21.4	+0.2
W39A			IAmb_Lg			01 24 34.9	
comp=Z,9.2nm,0.8s							
U40A	**Yellville**	**4.38 95**	IAmb_Lg			01 24 39.5	
comp=Z,9.1nm,0.8s							
MIAR	**Mount Ida**	**4.45 120**	IAmb_Lg			01 24 39.1	
comp=Z,5.7nm,0.8s							
MGMO	**Mountain Grove**	**4.81 84**	IAmb_Lg			01 24 52.5	
comp=Z,4.7nm,0.8s							
X40A	**Basin Creek Fa**	**5.00 116**	IAmb_Lg			01 25 01.4	
comp=Z,5.1nm,0.8s							
FCAR	**Ozark Folk Cen**	**5.05 99**	IAmb_Lg			01 25 01.0	
comp=Z,4.7nm,0.7s							
WHAR	**Wooly Hollow**	**5.08 106**	IAmb_Lg			01 25 08.0	
comp=Z,5.2nm,0.9s							
P40A	**Paris**	**5.59 59**	IAmb_Lg			01 25 17.8	
comp=Z,6.1nm,0.8s							
T42A	**Van Buren**	**5.75 86**	IAmb_Lg			01 25 26.3	
comp=Z,4.7nm,1.0s							
JCT	**Junction City**	**6.47 192**	IAmb_Lg			01 26 03.5	
comp=Z,5.0nm,0.8s							

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*BJI **21** 01:27:04.6±0.0, 18°.73N×95°.99E, h25km, mB4.9/45, mb4.6/53, ML4.9/3, Ms4.9/51, Ms7 4.6/47*

*IDC **21** 01:27:05.7±0.4, 19°.12N×96°.18E, h0km, mb4.7/25, mb1 4.8/26, mb1mx4.7/29, mbtmp4.6/26, ML4.0/1, MS3.8/18, Ms1 3.8/18, ms1mx3.7/34, Error ellipse: s-maj=14.8km s-min=9.5km az=28.0*

*NEIC **21** 01:27:07.5±0.9, 19°.08N±0°.07×96°.23E±0°.06, h9km±3km, mb5.0/143, Error ellipse: s-maj=9.5km s-min=8.0km az=184.0*

*MOS **21** 01:27:07.3±1.0, 19°.14N×96°.15E, h23km, mb5.1/63, MS4.1/7, Error ellipse: s-maj=7.6km s-min=3.9km az=123.3*

*GCMT **21** 01:27:08.5±0.3, 19°.15N±0°.04×96°.25E±0°.02, h19km±1km, MW4.8/73, Moment Tensor Solution. s20,c22; s73,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.15; $M_{\theta\theta}$-0.52±.09; $M_{\phi\phi}$-1.45±.09; $M_{r\theta}$-0.92±.25; $M_{\phi\phi}$0.83±.06; $M_{\theta r}$0.08±.17; Best double couple: $M_0$2.15400×10^{16} NP1:ϕ_s166.00000°, δ40.00000°, λ118.00000°. NP2: ϕ_s312.00000°, δ55.00000°, λ69.00000°. Principal axes: T 2.2900, Plg71.0000°, Azm171.0000°; N -0.2640, Plg17.0000°, Azm324.0000°; P -2.0170, Plg8.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 01:27:08.8±0.9, 19°.07N±0°.04×96°.10E±0°.03, h20km±3km, n582, σ1°.29/613, mb5.0/186, MS4.0/33, 125C-58D, Fault plane solution: NP1:ϕ_s136.29715°, δ55.84701°, λ95.22178°. NP2:ϕ_s307.05115°, δ34.50193°, λ82.35909°. Principal axes: T Plg78.4369°, Azm65.0240°; N Plg4.3193°, Azm313.3600°; P Plg10.7054°, Azm222.5419°; **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	**Maesarieng**	**1.95 117**		P	**Pn**	**01 27 38.7**	**-2.1**
MHMT	**Maesarieng**	**1.95 117**		P	**Pn**	**01 27 38.9**	**-1.9**
CHTO	**Chiang Mai**	**2.70 95**		P	**Pn**	**01 27 49.5**	**-1.7**
CHTO						01 28 18.1	
CHTO	**Chiang Mai**	**2.70 95**		P	**Pn**	**01 27 49.2**	**-2.0**
CHTO	**Chiang Mai**	**2.70 95**		Pn	**Pn**	**01 27 49.5**	**-1.7**
CHTO				Sn	**Sn**	**01 28 18.1**	**-5.2**
CMMT	**Chiang Mai**	**2.71 95**		P	**Pn**	**01 27 49.2**	**-2.0**
CM13	**Chiang Mai Arr**	**2.73 103**		P	**Pn**	**01 27 50.7**	**-0.9**
CM13	**Chiang Mai Arr**	**2.73 103**		P	**Pn**	**01 27 49.6**	**-2.0**
CM15	**Chiang Mai Arr**	**2.74 102**		P	**Pn**	**01 27 50.9**	**-0.8**
CM31	**Chiang Mai Arr**	**2.76 102**			**Pn**	**01 27 49.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**2.76 102**		Pn	**Pn**	**01 27 50.1**	**-1.8**
7.8nm,0.3s,baz=276,slow=14,SNR=84							
CMAR				Pg	**Pb**	**01 27 56.6**	**-0.9**
123nm,0.3s,baz=279,slow=18,SNR=91							
CMAR				LR	LR	01 28 27.0	
comp=Z,913nm,18.9s,baz=120,slow=30							
CMAR				Lg	Lg	01 28 30.8	
578nm,0.3s,baz=286,slow=31,SNR=17							
CMAR	**Chiang Mai Arr**	**2.76 102**	*i*	P	**Pn**	**01 27 50.2**	**-1.8**
CMAR				pmax	pmax		
comp=Z,42nm,0.6s							
CM02	**Chiang Mai Arr**	**2.77 103**		P	**Pn**	**01 27 51.1**	**-1.0**
CM05	**Chiang Mai Arr**	**2.77 103**		P	**Pn**	**01 27 51.2**	**-1.0**
CM05	**Chiang Mai Arr**	**2.77 103**		P	**Pn**	**01 27 50.5**	**-1.6**
CM01	**Chiang Mai Arr**	**2.78 103**		P	**Pn**	**01 27 51.3**	**-1.0**
CM04	**Chiang Mai Arr**	**2.81 103**		P	**Pn**	**01 27 51.7**	**-0.9**
CM04	**Chiang Mai Arr**	**2.81 103**		P	**Pn**	**01 27 50.9**	**-1.7**
CM09	**Chiang Mai Arr**	**2.81 102**		P	**Pn**	**01 27 51.8**	**-0.8**
LAMP	**Lampang**	**3.39 99**		P	**Pn**	**01 27 59.7**	**-0.9**
LAMP	**Lampang**	**3.39 99**		P	**Pn**	**01 27 59.5**	**-1.1**
UMPA	**Umpang Tak**	**3.87 137**		P	**Pn**	**01 28 08.0**	**+0.7**
UMPA	**Umpang Tak**	**3.87 137**		P	**Pn

PBA eS Sn 01 30 30.0 -5.2
PBA Port Blair 8.05 204 Pn Pn 01 29 05.5 +0.8
KMI Kunming 8.61 44 ⇓P **Pn 01 29 15.3 +2.7**
KMI S **Sn 01 30 50.9 +1.6**
KMI smax smax
comp=Z,160nm,1.7s
KMI smax smax
comp=Z,180nm,1.6s
BOK Bokaro 10.61 298 ex **Sn 01 31 34.0 -4.2**
BOK IAmb IAmb 01 31 40.2
comp=Z,33nm,0.8s
LSA Lhasa 11.51 338 P **Pn 01 29 53.3 +0.9**
LSA pmax pmax
comp=Z,59nm,0.7s
LSA Lhasa 11.51 338 P **Pn 01 29 52.8 +0.3**
LSA Lhasa 11.51 338 Pn 01 29 52.8 +0.3
RAMN Ramite 11.75 314 eP **Pn 01 29 56.0 +0.4**
comp=Z,85nm,0.3s
GYA Guiyang 12.20 51 eP P 01 30 07.9 -6.2
GYA S Sn 01 32 26.3 +9.0
GYA SS **SnSn 01 32 39.6 +10**
GYA pmax pmax
comp=Z,3.0nm,1.0s
GYA LR LR
comp=Z,290nm,6.9s
GYA LR LR
comp=Z,310nm,5.9s
GYA LR LR
comp=Z,460nm,6.4s
JIRN Jiri 12.48 315 eP **Pn 01 30 05.6 -0.2**
PKI Pulchoki 12.96 313 eP **Pn 01 30 11.3 -0.9**
comp=Z,81nm,0.6s
PKIN Phulchoki 12.97 313 eP **Pn 01 30 11.4 -1.0**
comp=Z,48nm,0.4s
QIZ Qiongzhong 12.99 88 P **Pn 01 30 11.8 -0.6**
QIZ S **Sn 01 32 35.0 -1.5**
QIZ LR LR
comp=Z,3μm,13.7s
QIZ LR LR
comp=Z,2μm,9.0s
QIZ LR LR
comp=Z,2μm,8.0s
KKN Kakani 13.19 313 eP **Pn 01 30 14.0 -1.2**
DMN Daman 13.20 312 eP **Pn 01 30 14.9 -0.5**
comp=Z,20nm,0.3s
CD2 Chengdu 13.68 29 P **Pn 01 30 23.1 +1.4**
CD2 S **Sn 01 32 53.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,4μm,8.0s
CD2 LR LR
comp=Z,6μm,8.0s
CD2 LR LR
comp=Z,8μm,8.0s
GKN Gorkha 13.76 312 eP **Pn 01 30 21.9 -1.2**
comp=Z,56nm,0.5s
KOLN Koldanda 14.37 309 eP **Pn 01 30 30.2 -1.2**
comp=Z,77nm,0.7s
DANN Dangsing 14.59 312 eP **Pn 01 30 32.3 -2.2**
comp=Z,169nm,0.6s
PYUN Piuthan 15.00 309 eP **Pn 01 30 38.2 -1.8**
comp=Z,75nm,0.6s
PSI Prapat 16.40 170 P **P 01 30 59.9 -0.9**
PSI pmax pmax
comp=Z,23nm,0.8s
ENH Enshi 16.49 45 Pn **Pn 01 30 57.3 -1.7**
RPSI Rantau Prapat 16.50 170 P **Pn 01 30 59.9 +0.6**
HYB Hyderabad 16.75 267 i P **P 01 31 08.0 +3.4**
HYB eSP **pP 01 31 11.0 +0.7**
HYB eS **S 01 34 24.0 +5.1**
HYB Hyderabad 16.75 267 eP **P 01 31 07.4 +2.8**
BHPL Bhopal 17.91 287 eP **P 01 31 21.8 +4.4**
LZH Lanzhou 18.28 20 ⇓P **P 01 31 24.8 +3.3**
LZH pP sP 01 31 29.9 +0.2
LZH sP pP 01 31 34.1 +7.0
LZH PP **PnPn 01 31 41.0 +8.0**
LZH eS **Sn 01 34 47.3 +2.2**
LZH sS sS 01 34 55.6 -3.1
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,310nm,4.9s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,3μm,11.4s
LZH LR LR
comp=Z,2μm,13.0s
MNSI Mandailing Nat 18.48 169 P **Pn 01 31 24.0 +0.2**
comp=Z,28nm,0.9s
XAN Xi'an 18.78 35 P **Pn 01 31 30.4 +2.9**
XAN S **Sn 01 34 50.6 -6.6**
XAN pmax pmax
comp=Z,26nm,0.8s
XAN pmax pmax
comp=Z,390nm,5.5s
XAN LR LR
comp=Z,1μm,8.8s
XAN LR LR
comp=Z,1μm,10.8s
XAN LR LR
comp=Z,2μm,10.0s
XAN Xi'an 18.78 35 P **Pn 01 31 28.1 +0.6**
XAN Xi'an 18.78 35 P **Pn 01 31 28.1 +0.6**
DDI Dehra Dun 19.83 308 eP **Pn 01 31 39.4 -0.7**
DDI IAmb IAmb 01 31 40.5
comp=Z,50nm,0.8s
WHN Wuhan 20.09 52 P Pn 01 31 45.8 +2.7
WHN S Sn 01 35 33.8 +5.1
WHN LR LR
comp=Z,750nm,4.2s
WHN LR LR
comp=Z,3μm,4.9s
WHN LR LR
comp=Z,3μm,8.8s
GTA Gaotai 20.53 8 ⇑P **P 01 31 47.0 +1.0**
GTA pP sP 01 31 54.6 +0.4
GTA sP pP 01 31 58.3 +6.7
GTA S **S 01 35 34.0 -1.0**
GTA pmax pmax
comp=Z,12nm,1.5s
GTA pmax pmax
comp=Z,200nm,5.5s
GTA LR LR
comp=Z,460nm,13.1s
GTA LR LR
comp=Z,520nm,15.6s
GTA LR LR
comp=Z,310nm,15.6s
SMLA Simla 20.90 309 eP **P 01 31 50.6 +0.6**
SMLA IAmb IAmb 01 31 54.4
comp=Z,184nm,0.8s
PPBI Pangkal Pinang 23.29 154 P P 01 32 02.5 -13
LHSI Lahat 23.89 161 P **P 01 32 26.7 +5.3**
comp=Z,2μmcomp=Z,44nm,0.9s
STKI Sintang 24.17 140 P **P 01 32 26.3 +2.3**
comp=Z,16nm,0.6s
NJ2 Nanjing 24.20 53 eP **P 01 32 23.8 -0.3**
BTO Baotou 24.57 26 eP **P 01 32 28.3 +0.8**
MDSI Maura Dua 24.72 160 P **P 01 32 28.1 -0.8**
comp=Z,768nmcomp=Z,22nm,0.9s
NIL Nilore 25.02 310 P **P 01 32 31.9 +0.2**
NIL pmax pmax
comp=Z,122nm,0.8s
NIL Nilore 25.02 310 P **P 01 32 31.9 +0.2**
HHC Hu-ho-hao-te 25.43 28 eP **P 01 32 36.5 +1.1**
HHC S **S 01 37 02.8 +1.4**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,280nm,4.0s
HHC LR LR
comp=Z,2μm,10.1s
HHC LR LR
comp=Z,680nm,10.6s
HHC LR LR
comp=Z,910nm,10.0s
SSE Sheshan 25.62 57 P **P 01 32 35.4 -1.6**
SSE S **S 01 37 02.6 -1.7**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,230nm,3.6s
SSE LR LR
comp=Z,270nm,16.0s
SSE LR LR
comp=Z,190nm,12.3s
WMQ Urumqi 25.67 346 eP **P 01 32 39.0 +1.5**
WMQ pP pP 01 32 43.6 +0.1
WMQ sP sP 01 32 49.8 +3.9
WMQ pmax pmax
comp=Z,40nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ Urumqi 25.67 346 P **P 01 32 39.5 +2.0**
WMQ Urumqi 25.67 346 P **P 01 32 39.5 +2.0**
KSH Kashi 26.78 324 P **P 01 32 46.9 -0.8**
KSH sP sP 01 33 01.0 +4.9
KSH pmax pmax
comp=Z,160nm,5.1s
KSH LR LR
comp=Z,490nm,18.2s
KSH LR LR
comp=Z,640nm,18.7s
KSH LR LR
comp=Z,790nm,17.3s
BJI Beijing 27.12 35 P **P 01 32 52.1 +1.7**
BJI S **S 01 37 32.3 +4.6**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI pmax pmax
comp=Z,170nm,5.5s
BJI LR LR
comp=Z,510nm,13.6s
BJI LR LR
comp=Z,580nm,15.2s
BJI LR LR
comp=Z,580nm,10.1s
TARG Taragay, Kyrgy 27.44 329 P **P 01 32 53.9 0.0**
SHLS Shalkode 27.82 333 eP **P 01 32 53.3 -3.6**
baz=334
SHLS eS **S 01 37 34.7 -4.3**
baz=334
SHLS Shalkode 27.82 333 eP **P 01 32 53.3 -3.6**
SHLS eS **S 01 37 34.7 -4.3**
UZB Uzynbulak 28.00 333 eP **P 01 32 56.9 -1.7**
baz=333
UZB Uzynbulak 28.00 333 eP **P 01 32 56.8 -1.7**
KDJ Kajisay 28.05 329 P **P 01 32 58.8 -0.3**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 28.05 329 P **P 01 32 58.8 -0.3**
SATY Saty 28.20 332 eP **P 01 32 59.2 -1.2**
baz=332
SATY Saty 28.20 332 eP **P 01 32 59.1 -1.2**
KPKS Kokpek 28.40 333 eP **P 01 33 01.2 -0.8**
baz=333
KPKS Kokpek 28.40 333 eP **P 01 33 01.2 -0.8**
KBL Kabul 28.53 308 P **P 01 33 03.8 +0.3**
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 28.53 308 P **P 01 33 03.8 +0.3**
KBL IAmb IAmb 01 33 08.2
comp=Z,23nm,0.8s
KPJI Karang Pucung 29.12 153 P **P 01 33 09.9 +1.4**
comp=Z,51nm,1.0s
CHKK Chushkaly 29.46 331 eP **P 01 33 09.4 -2.0**
baz=331
CHKK Chushkaly 29.46 331 eP **P 01 33 09.4 -2.0**
ZSN Zaisan 29.76 345 eP **P 01 33 12.7 -1.3**
baz=344
ZSN Zaisan 29.76 345 eP **P 01 33 12.7 -1.3**
AAK Ala-Archa 29.77 327 P **P 01 33 14.3 0.0**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 29.77 327 P **P 01 33 14.3 0.0**
KUU Kurty 29.79 331 eP **P 01 33 12.8 -1.5**
baz=330
KUU Kurty 29.79 331 eP **P 01 33 12.8 -1.5**
GAR Garm 29.88 317 P **P 01 33 15.2 0.0**
GAR IAmb IAmb 01 33 16.1
comp=Z,26nm,0.9s
MK31 Makanchi Array 29.89 341 P **P 01 33 15.2 0.0**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 29.89 341 P **P 01 33 15.2 0.0**
MKAR Makanchi Array 29.89 341 P **P 01 33 15.3 +0.1**
comp=Z,9.2nm,0.6s,baz=144,slow=9.6,SNR=112
MKAR LR LR 01 48 59.0
comp=Z,119nm,18.2s,baz=146,slow=44
MKAR Makanchi Array 29.89 341 P **P 01 33 15.5 +0.3**
SONM Songino Array 29.90 14 P **P 01 33 15.8 +0.5**
comp=Z,5.2nm,0.9s,baz=200,slow=8.8,SNR=17
SONM PcP **PcP 01 36 18.2 +0.2**
comp=Z,0.6nm,0.6s,baz=219,slow=1.8,SNR=2.2
SONM LR LR 01 46 21.3
comp=Z,431nm,18.1s,baz=194,slow=39
SONM Songino Array 29.90 14 P **P 01 33 14.9 -0.4**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 29.90 14 P **P 01 33 14.8 -0.4**
MAKZ Makanchi 30.00 340 P **P 01 33 16.3 +0.1**
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 30.00 340 P **P 01 33 16.3 +0.1**
TOLI2 Tolitoli 30.06 124 P **P 01 33 14.2 -2.7**
TOLI2 IAmb IAmb 01 33 21.4
comp=Z,15nm,0.9s
ULN Ulaanbaatar 30.08 15 P **P 01 33 16.0 -1.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 30.08 15 P **P 01 33 15.9 -1.0**
BTK Batken 30.17 319 P **P 01 33 16.6 -1.2**
BTK pmax pmax
comp=Z,11nm,1.1s
BTK Batken 30.17 319 P **P 01 33 16.6 -1.2**
SGDS Sogindy 30.29 328 eP **P 01 33 17.5 -1.2**
baz=328
SGDS Sogindy 30.29 328 eP **P 01 33 17.5 -1.2**
CHGR Chuyangaron 30.44 316 P **P 01 33 18.9 -1.3**
MRSI Marisa 31.36 123 P **P 01 33 30.6 +2.2**
comp=Z,23nm,0.8s
ZAK Zakamensk 31.77 9 eP **P 01 33 32.6 +0.9**
ZAK pmax pmax
comp=Z,13nm,1.0s
TTSI Tana Toraja 32.05 131 P **P 01 33 36.4 +1.9**
comp=Z,18nm,0.8s
KK31 Karatay Array 32.24 324 P **P 01 33 35.5 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 32.24 324 P **P 01 33 35.5 -0.4**
KKAR Karatay Array 32.24 324 P **P 01 33 35.6 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 32.24 324 P **P 01 33 35.4 -0.5**
KKAR Karatay Array 32.24 324 P **P 01 33 35.6 -0.3**
KKAR IAmb IAmb 01 33 40.8
comp=Z,2.4nm,0.7s
TJN Taejon 32.41 51 ⇑eP **P 01 33 36.1 -1.3**
MOY Mondy 32.76 6 eP **P 01 33 41.7 +1.2**
MOY pmax pmax
comp=Z,19nm,2.0s
KSRS Korea Array 33.26 50 P **P 01 33 43.6 -1.2**
comp=Z,1.5nm,0.7s,baz=242,slow=8.6,SNR=7.9
KSRS PcP **PcP 01 36 27.1 +0.1**
comp=Z,1.4nm,0.7s,baz=251,slow=4.1,SNR=5.3
KSRS LR LR 01 49 27.4
comp=Z,191nm,18.3s,baz=258,slow=40
DGAR Diego Garcia 35.15 224 ⇓eP **P 01 34 02.3 +0.8**
HIA Hailar 35.62 27 P **P 01 34 04.8 -0.4**
HIA pmax pmax
comp=Z,29nm,1.2s
HIA Hailar 35.62 27 P **P 01 34 04.8 -0.4**
HIA IAmb IAmb 01 34 07.3
comp=Z,29nm,1.2s
ZAA0 Zalesovo Array 35.89 349 P **P 01 34 07.2 -0.1**
ZAA0 IAmb IAmb 01 34 12.0
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 35.89 349 P **P 01 34 07.5 +0.2**
comp=Z,7.7nm,0.5s,baz=172,slow=8.5,SNR=36
ZALV LR LR 01 51 37.7
comp=Z,85nm,18.7s,baz=170,slow=41
ZALV Zalesovo Beam 35.89 349 P **P 01 34 07.8 +0.4**
BRZS Berezniki 36.08 334 eP **P 01 34 07.8 -1.4**
comp=Z,5.8nm,0.7s,baz=334
BRZS Berezniki 36.08 334 eP **P 01 34 07.7 -1.4**
BRZS pmax pmax
comp=Z,6.0nm,0.7s
GEYT Alibeck 37.98 308 P **P 01 34 26.9 +1.5**
comp=Z,14nm,0.6s,baz=181,slow=12,SNR=19
GEYT PcP **PcP 01 36 41.8 +0.8**
comp=Z,2.6nm,0.7s,baz=182,slow=7.2,SNR=2.5
GEYT LR LR 01 55 01.0
comp=Z,106nm,19.1s,baz=145,slow=44
GYA0 ALIBECK ARRAY 37.98 308 P **P 01 34 27.3 +1.8**
GYA0B ALIBECK ARRAY 37.98 308 P **P 01 34 26.3 +0.8**
GYA0B IAmb IAmb 01 34 28.1
comp=Z,43nm,1.3s
USRK Ussuriysk Ar. 39.04 42 P **P 01 34 33.8 -0.4**
comp=Z,3.7nm,0.7s,baz=248,slow=8.0,SNR=7.4
USRK LR LR 01 52 28.2
comp=Z,274nm,18.3s,baz=236,slow=39
BRVK Borovoye 39.40 336 c iP **P 01 34 36.4 -0.7**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 39.40 336 P **P 01 34 36.5 -0.6**
SOEI Soe 39.89 133 P **P 01 34 40.8 -1.0**
SOEI Soe 39.89 133 P **P 01 34 44.0 +2.2**
comp=Z,111nm,1.0s
MJAR Matsushiro Arr 40.75 56 P **P 01 34 47.9 -0.7**
comp=Z,16nm,0.4s,baz=261,slow=11,SNR=5.2
MJAR PcP **PcP 01 36 50.0 +0.2**
comp=Z,2.8nm,0.6s,baz=241,slow=2.8,SNR=8.7
MJAR LR LR 01 53 41.2
comp=Z,49nm,19.3s,baz=260,slow=39
BOD Bodaibo 40.89 15 eP **P 01 34 49.6 +0.2**
BOD pmax pmax
comp=Z,9.0nm,1.5s
JSD Sado 41.16 54 P **P 01 34 50.8 -1.1**
KLR Kul'dur 41.49 35 ⇑eP **P 01 34 54.2 -0.3**
KLR pmax pmax
comp=Z,6.0nm,1.2s
FAKI Fak Fak 41.73 118 P **P 01 34 58.4 +1.6**
comp=Z,57nm,1.7s
ABKAR Akbulak array 41.79 325 P **P 01 34 57.1 +0.2**
ABKAR Akbulak array 41.79 325 P **P 01 34 57.3 +0.4**
ABKAR IAmb IAmb 01 34 57.5
comp=Z,8.8nm,0.7s
ZEA Zeya 42.09 27 eP **P 01 35 00.3 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=N,200nm,10.0s
ZEA MLR MLR
comp=Z,200nm,10.0s
JTM Tenmabayashi 43.99 51 P **P 01 35 11.7 -3.3**
QRN Al-Qurain 44.84 292 eP **P 01 35 21.1 -0.7**
LKRN Lenkeran, Azer 45.27 306 P **P 01 35 26.2 +1.1**
MIB Mutribah 45.38 293 eP **P 01 35 26.1 -0.1**
RST Umm Al-Ruwaisa 45.66 293 eP **P 01 35 27.7 -0.7**
SVE Sverdlovsk 45.99 334 d iP **P 01 35 30.7 +0.1**
SVE pmax pmax
comp=Z,67nm,0.8s
PSA00 Pilbara Seismi 46.60 149 P **P 01 35 35.6 -0.1**
PSA00 IAmb IAmb 01 35 40.1
comp=Z,20nm,1.4s
ARU Arti 46.64 332 c iP **P 01 35 35.1 -0.5**
ARU 01 37 23.4
ARU S **S 01 42 23.7 0.0**
ARU SS **SS 01 45 47.9 -2.0**
ARU pmax pmax
comp=Z,21nm,0.6s
ARU MLR MLR
comp=Z,86nm,14.0s
ARU Arti 46.64 332 P **P 01 35 35.3 -0.3**
MNGR Mingechevir, A 46.97 308 P **P 01 35 39.0 +0.5**
SEKA Sheki 46.99 309 P **P 01 35 38.7 0.0**
YSS Yuzh-Sakhalins 47.05 43 eP **P 01 35 36.8 -2.2**
YSS pmax pmax
comp=Z,30nm,1.4s
YSS pmax pmax
comp=Z,200nm,6.6s
YSS MLR MLR
comp=Z,300nm,10.0s
YSS MLR MLR
comp=E,300nm,11.0s
ZKTA Zakatala 47.50 309 P **P 01 35 43.1 +0.4**
GANJ Ganja 47.52 308 P **P 01 35 43.2 +0.4**
LGD Lagodekhi 47.82 310 P **P 01 35 47.1 +1.9**
DDFL Dedoflistskaro 47.83 309 P P 01 35 50.7 +5.4
NAX Nakhchivan 47.87 306 P **P 01 35 46.9 +1.3**
YAK Yakutsk 48.86 20 ⇓eP **P 01 35 52.8 0.0**
YAK pmax pmax
comp=Z,32nm,1.3s
ZEI Tsey 49.72 310 eP **P 01 36 00.1 +0.1**
ZEI pmax pmax
comp=Z,50nm,1.3s
KARS Kars 49.94 307 P **P 01 36 01.3 -0.3**
KARS pmax pmax
comp=Z,86nm,0.8s
KARS Kars 49.94 307 P **P 01 36 01.3 -0.3**
ONI Oni 50.01 310 P **P 01 36 02.7 +0.7**
ONI pmax pmax
comp=Z,14nm,0.8s
ONI Oni 50.01 310 P **P 01 36 02.7 +0.7**
ONI IAmb IAmb 01 36 11.6
comp=Z,14nm,0.8s
NCK Nalchik 50.09 311 ⇑eP **P 01 36 03.0 +0.5**
NCK pmax pmax
comp=Z,8.0nm,0.5s
GURO Guroymak-BITLI 50.45 305 P **P 01 36 06.0 +0.5**
GURO IAmb IAmb 01 36 09.3
comp=Z,24nm,0.8s
NRIK Noril'sk 50.54 356 P **P 01 36 05.1 -0.4**
comp=Z,3.1nm,0.5s,baz=155,slow=5.2,SNR=5.1
KBZ Khabaz 50.63 311 P **P 01 36 06.2 -0.4**
comp=Z,8.1nm,0.9s,baz=113,slow=6.8,SNR=16
KBZ LR LR 02 03 25.6
comp=Z,59nm,18.4s,baz=88,slow=43
NEY Neytrino 50.66 311 ⇑eP **P 01 36 07.8 +0.8**
NEY pmax pmax
comp=Z,6.0nm,0.8s
KIV Kislovodsk 50.82 312 eP **P 01 36 08.8 +0.7**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV Kislovodsk 50.82 312 P **P 01 36 08.9 +0.7**
MARD Mardin 51.32 303 P **P 01 36 12.1 0.0**
KOPT Kop Dagi 51.81 306 P **P 01 36 17.7 +1.8**
SOC Sochi 52.88 311 eP **P 01 36 22.4 -0.9**
SOC e 01 38 17.7
SOC ePPP PPP 01 39 28.0
SOC eS **S 01 43 50.7 -0.6**
SOC eSS **SS 01 47 30.6 +0.4**
SOC eSSS SSS 01 49 13.7
SOC pmax pmax
comp=Z,4.0nm,0.2s
VRH Novokhopyorsk 53.21 320 eP **P 01 36 24.2 -1.4**
VRH pmax pmax
comp=Z,20nm,0.6s
MALT Malatya 53.25 304 P **P 01 36 28.1 +1.7**
WB0 Warramunga Arr 53.84 134 P **P 01 36 30.4 -0.3**
WB0 IAmb IAmb 01 36 35.1
comp=Z,24nm,1.4s
WRA Warramunga Arr 53.93 134 P **P 01 36 31.0 -0.3**
comp=Z,11nm,1.1s,baz=322,slow=7.4,SNR=22
WRA PcP **PcP 01 37 36.6 -0.1**
comp=Z,3.6nm,0.8s,baz=318,slow=3.7,SNR=10
WRA Warramunga Arr 53.93 134 i P **P 01 36 31.0 -0.3**
WRA pmax pmax
comp=Z,12nm,1.0s
WRA Warramunga Arr 53.93 134 P **P 01 36 30.2 -1.1**
WRAB Tennant Creek 53.93 134 ⇑eP **P 01 36 31.1 -0.3**
WRAB pmax pmax
comp=Z,22nm,1.3s
WB2 Warramunga Arr 53.94 134 P **P 01 36 31.0 -0.4**
WB2 IAmb IAmb 01 36 35.8
comp=Z,27nm,1.3s
WR0 Warramunga Arr 54.08 134 P **P 01 36 32.0 -0.4**
WR0 IAmb IAmb 01 36 33.2
comp=Z,9.6nm,0.9s
GAZ Gaziantep 54.15 302 P **P 01 36 33.5 +0.6**
GAZ IAmb IAmb 01 36 34.0
comp=Z,11nm,0.7s
VORD Divnogorie 54.62 320 eP **P 01 36 34.1 -1.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 55.25 321 eP **P 01 36 39.4 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
BNN Bunyan 55.30 304 P **P 01 36 41.2 -0.1**
BNN IAmb IAmb 01 36 43.0
comp=Z,26nm,1.1s

MA2 Magadan 56.09 30⇑ *e*P P 01 36 46.7 +0.3
MA2 pmax pmax
comp=Z,15nm,1.0s
ASAR Alice Springs 56.25 137 P **P 01 36 48.0 0.0**
comp=Z,3.0nm,0.9s,baz=319,slow=7.1,SNR=15
ASAR PcP **PcP 01 37 46.0 +0.4**
comp=Z,3.1nm,0.9s,baz=326,slow=4.0,SNR=9.6
ASAR Alice Springs 56.25 137 P **P 01 36 47.8 -0.3**
ASAR Alice Springs 56.25 137 P **P 01 36 47.8 -0.3**
MOS Moscow 56.81 325 *e*P **P 01 36 49.5 -2.1**
BR131 Keskin Array S 57.05 305 P **P 01 36 53.5 -0.3**
BR131 pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 57.05 305 P **P 01 36 53.5 -0.3**
BR131 IAmb IAmb 01 36 54.3
comp=Z,9.6nm,0.9s
BRTR Keskin Array B 57.05 305 P **P 01 36 53.8 -0.1**
comp=Z,4.5nm,0.8s,baz=120,slow=8.1,SNR=31
BRTR PcP **PcP 01 37 49.0 +0.3**
comp=Z,1.4nm,0.7s,baz=142,slow=6.2,SNR=3.7
OBN Obninsk 57.23 324 *e*P **P 01 36 55.0 +0.4**
OBN *e* 01 37 49.4
OBN *e*PPP PPP 01 40 18.5
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,60nm,19.0s
CSS Mathiatis 57.27 300 P **P 01 36 55.1 -0.2**
CSS IAmb IAmb 01 36 56.3
comp=Z,12nm,0.8s
KLMR Klimovskoe 57.44 331 *e*P **P 01 36 54.1 -1.9**
KLMR *e* 01 37 46.7
KLMR *e* 01 39 02.4
KLMR pmax pmax
comp=Z,14nm,0.8s
KLMR Klimovskoe 57.44 331 *e*P **P 01 36 54.2 -1.8**
KLMR AMP 01 36 55.8
comp=Z,14nm,0.8s
KLMR *e*PcP **PcP 01 37 46.8 -2.8**
KLMR *e*PP **PP 01 39 02.5 -0.9**
LEF Lefka 57.63 300 ⇓P **P 01 36 58.2 +0.4**
ANTO Ankara 57.70 306 P **P 01 36 58.6 +0.3**
ANTO pmax pmax
comp=Z,16nm,0.8s
ANTO Ankara 57.70 306 P **P 01 36 58.6 +0.3**
ANTO IAmb IAmb 01 37 00.1
comp=Z,16nm,0.8s
PETK Petropavlovsk- 57.97 39 LR LR 02 03 56.5
comp=Z,155nm,19.2s,baz=258,slow=38
MDUB Mudurnu 58.94 306 P **P 01 37 07.2 +0.3**
ELL Elmali 59.99 302 P **P 01 37 14.9 +0.5**
ELL Elmali 59.99 302 P **P 01 37 14.9 +0.5**
PURM Purcari 60.13 313 ⇑P **P 01 37 14.9 0.0**
TLCR 60.80 312 ⇑P **P 01 37 19.0 -0.6**
KIBK Kibwezi 60.87 256 P **P 01 37 20.8 +0.2**
KIBK IAmb IAmb 01 37 23.3
comp=Z,8.9nm,1.1s
AKASG Malin Array Be 60.87 318 P **P 01 37 19.0 -0.9**
comp=Z,6.3nm,0.5s,baz=79,slow=6.3,SNR=24
AKASG Malin Array Be 60.87 318 P **P 01 37 19.1 -0.8**
AKBB Malin Array Si 60.87 318 P **P 01 37 19.2 -0.7**
AKBB pmax pmax
comp=Z,12nm,0.6s
AKBB Malin Array Si 60.87 318 P **P 01 37 19.2 -0.7**
AKBB IAmb IAmb 01 37 19.5
comp=Z,12nm,0.6s
TIRR Tirgusor 61.07 311 ⇑P **P 01 37 21.9 +0.5**
TPGR Topolog 61.07 311 ⇑P **P 01 37 20.6 -0.9**
KMBO Kilima Mbogo 61.13 258 P **P 01 37 23.8 +1.2**
comp=Z,10.0nm,1.0s,baz=55,slow=11,SNR=18
KMBO LR LR 02 01 21.4
comp=Z,132nm,21.9s,baz=90,slow=34
KMBO Kilima Mbogo 61.13 258 *i* P **P 01 37 23.7 +1.1**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
SORM Soroca 61.25 315 ⇑P **P 01 37 21.8 -0.7**
LODK Lodwar 61.27 263 P **P 01 37 23.9 +0.6**
LODK IAmb IAmb 01 37 25.9
comp=Z,9.6nm,1.1s
CFR Carcaliu 61.28 312 ⇓P **P 01 37 22.7 -0.1**
TLBR Topalu 61.33 311 ⇑P **P 01 37 22.4 -0.8**
HARR Harsova 61.42 311 ⇑P **P 01 37 24.4 +0.6**
ICOR Ion Corvin 61.50 310 ⇑P **P 01 37 25.1 +0.8**
PATS Pohnpei 61.56 93 P **P 01 37 24.3 -0.9**
VASR Vaslui 61.56 313 ⇑P **P 01 37 24.8 0.0**
MNK Minsk 62.07 322 *i* P **P 01 37 27.1 -0.8**
MNK *i* 01 39 43.9
MNK *i* PPP PPP 01 41 10.6
MNK *i* S **S 01 45 51.7 0.0**
MNK *i* SS **SS 01 49 52.8 -1.4**
MNK *i* SSS SSS 01 52 43.3
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=Z,32nm,0.9s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=N,235nm,24.0s
MNK MLR MLR
comp=Z,122nm,18.0s
MNK MLR MLR
comp=E,10.0nm,18.0s
MNK Minsk 62.07 322 *i* P **P 01 37 27.2 -0.8**
comp=E,3.0nm,1.0s
MNK *i* P **P 01 37 27.2 -0.8**
comp=N,7.0nm,1.0s
MNK *i* P **P 01 37 27.2 -0.8**
comp=Z,32nm,0.9s,baz=276
MNK *i* PP **PP 01 39 44.0 -0.5**
MNK *i* PPP PPP 01 41 10.6
MNK *i* S **S 01 45 51.8 +0.1**
MNK *i* SS **SS 01 49 52.8 -1.4**
MNK *i* SSS SSS 01 52 43.3
MNK *i* LQ LQ 01 58 09.1
MNK *i* LR LR 02 03 35.9
MNK *i* LRM MLR 02 06 09.0
comp=N,235nm,23.9s
MNK *i* LRM MLR 02 06 26.4
comp=Z,122nm,17.8s
MNK *i* LRM MLR 02 06 47.0
comp=E,10.0nm,18.1s
VRI Vrincioaia 62.28 312 ⇑P **P 01 37 30.3 +0.7**
KARP Karpathos 62.28 301 P **P 01 37 30.1 +0.3**
PLOR Plostina 62.34 312 ⇑P **P 01 37 31.0 +1.0**
TESR Tescani 62.35 313 ⇑P **P 01 37 30.0 0.0**
IDID Didziasalis 62.81 323 *e*P **P 01 37 33.4 +0.6**
MLR Muntele Rosu 62.83 312 ⇓P **P 01 37 34.5 +1.1**
MLR Muntele Rosu 62.83 312 P **P 01 37 34.0 +0.6**
MLR pmax pmax
comp=Z,29nm,0.9s
MLR Muntele Rosu 62.83 312 P **P 01 37 34.0 +0.6**
ALN Alexandroupoli 62.85 307 P **P 01 37 33.7 +0.2**
ALN pmax pmax
comp=Z,12nm,0.8s
ALN Alexandroupoli 62.85 307 P **P 01 37 33.7 +0.2**
ALN IAmb IAmb 01 37 34.2
comp=Z,12nm,0.8s
OZUR 62.94 313 ⇓P **P 01 37 33.7 -0.3**
IIGN Ignalina 63.10 323 *e*P **P 01 37 35.4 +0.6**
VOI Vohitsoka 63.12 232 P **P 01 37 36.3 +0.8**
VSU Vasula 63.17 327 *e*P **P 01 37 35.2 0.0**
VSU Vasula 63.17 327 *c e*P **P 01 37 34.5 -0.7**
VSU pmax pmax
comp=Z,28nm,0.8s
ISAL Salakas 63.18 323 *e*P **P 01 37 35.9 +0.5**
DOPR Dopca 63.22 312 ⇓P **P 01 37 36.1 +0.3**
BURAR Bucovina Array 63.34 314 ⇑P **P 01 37 37.1 +0.4**
BURAR Bucovina Array 63.34 314 P **P 01 37 36.8 +0.1**
BURAR IAmb IAmb 01 37 37.8
comp=Z,8.8nm,0.8s
THAS Thassos island 63.87 307 P **P 01 37 39.9 -0.3**
FIA1 FINESS Array S 63.89 330 P **P 01 37 39.7 -0.3**
FIA1 IAmb IAmb 01 37 40.2
comp=Z,10.0nm,0.8s
FINES FINESS Array B 63.90 330 P **P 01 37 39.6 -0.4**
comp=Z,7.7nm,0.7s,baz=104,slow=7.8,SNR=29
FINES LR LR 02 08 11.5
comp=Z,102nm,19.2s,baz=103,slow=39
FINES FINESS Array B 63.90 330 P **P 01 37 39.8 -0.1**
ARCR ARCALIA 63.93 314 ⇑P **P 01 37 41.0 +0.5**
KAVA Kavala 64.00 307 P **P 01 37 41.0 -0.1**
LVV L'vov 64.15 317 *e*P **P 01 37 41.5 -0.4**
IDI Anoyia 64.16 301 ⇑P **P 01 37 42.5 +0.2**
IDI Anoyia 64.16 301 P **P 01 37 41.9 -0.4**
IDI Anoyia 64.16 301 P **P 01 37 42.3 0.0**
PABE Paberze 64.40 323 *e*P **P 01 37 43.7 +0.4**
PABE Paberze 64.40 323 P **P 01 37 43.5 +0.1**
OUR Ouranopolis 64.45 306 P **P 01 37 43.9 -0.1**
MEF Metsahovi 64.56 328 *e*P **P 01 37 44.5 +0.2**
SRS Serrai 64.69 307 P **P 01 37 45.2 -0.4**
VAM Vamos 64.70 301 P **P 01 37 46.4 +0.6**
PAIG Paliouri 64.71 306 P **P 01 37 45.7 0.0**
MTSE Matsula 64.71 327 *e*P **P 01 37 44.3 -1.0**
SUW Suwalki 64.78 321 *e*P **P 01 37 46.0 0.0**
SUW Suwalki 64.78 321 P **P 01 37 45.9 0.0**
SUW pmax pmax
comp=Z,40nm,0.9s
SUW Suwalki 64.78 321 P **P 01 37 45.9 0.0**
PLG Polygyros 64.86 306 P **P 01 37 46.4 -0.3**
VTS Vitosha 64.87 309 ⇑P **P 01 37 46.3 -0.7**
VTS Vitosha 64.87 309 P **P 01 37 46.9 0.0**
VTS pmax pmax
comp=Z,6.0nm,0.7s
VTS Vitosha 64.87 309 P **P 01 37 46.9 0.0**
VTS IAmb IAmb 01 37 47.7
comp=Z,6.2nm,0.7s
IMMV Iera Moni Meta 64.88 301 P **P 01 37 47.4 +0.5**
KWP Kalwaria Pacla 65.01 317 *e*P **P 01 37 47.8 +0.2**
KWP Kalwaria Pacla 65.01 317 P **P 01 37 47.7 +0.2**
KWP Kalwaria Pacla 65.01 317 P **P 01 37 47.7 +0.2**
DRGR 65.06 313 ⇑P **P 01 37 48.2 +0.2**
GZR Gura Zlata 65.06 312 ⇓P **P 01 37 47.8 -0.2**
BILL Bilibino 65.07 23 *e*P **P 01 37 47.6 +0.1**
BILL *e* 01 38 18.3
BILL pmax pmax
comp=Z,21nm,1.7s
XOR Xorichti 65.13 305 P **P 01 37 47.7 -0.8**
KNDR Palaiochora Ch 65.14 301 P **P 01 37 48.9 +0.3**
KNT Kendrikon 65.21 307 P **P 01 37 48.5 -0.5**
UZH Uzhgorod 65.30 315 *e*P **P 01 37 49.7 +0.3**
UZH *e* 01 37 57.9
KOLS Kolonicke sedl 65.30 316 *e*P **P 01 37 49.7 +0.2**
KOLS Kolonicke sedl 65.30 316 *e*P **P 01 37 49.7 +0.2**
HERR Herculane 65.34 311 ⇑P **P 01 37 50.3 +0.5**
VAY Valandovo 65.45 307 *i* P **P 01 37 50.2 -0.3**
ARA0 ARCESS Array S 65.51 339 *e*P **P 01 37 50.2 -0.2**
ARCES ARCESS Array B 65.51 339 P **P 01 37 50.1 -0.3**
comp=Z,1.6nm,0.5s,baz=91,slow=6.8,SNR=23
GRG Griva 65.60 307 P **P 01 37 50.9 -0.7**
LIT Litokhoron 65.61 306 P **P 01 37 50.8 -0.8**
LIT Litokhoron 65.61 306 P **P 01 37 50.9 -0.7**
LIT Litokhoron 65.61 306 P **P 01 37 50.9 -0.7**
STIP Stip 65.71 308 *i* P **P 01 37 50.4 -1.8**
AGG Agios Georgios 65.83 305 P **P 01 37 51.5 -1.5**
AGG Agios Georgios 65.83 305 P **P 01 37 52.1 -1.0**
AGG pmax pmax
comp=Z,10.0nm,0.8s
AGG Agios Georgios 65.83 305 P **P 01 37 52.1 -1.0**
AGG IAmb IAmb 01 37 52.6
comp=Z,10nm,0.8s
CRVS Cervenica-Dubn 65.84 316 *e*P **P 01 37 53.9 +1.0**
CRVS pmax pmax
comp=Z,34nm,1.3s
CRVS Cervenica-Dubn 65.84 316 *e*P **P 01 37 53.9 +1.0**
MDVR Moldovita 65.84 311 ⇑P **P 01 37 53.6 +0.5**
BZS Buzias 65.87 312 ⇑P **P 01 37 53.3 +0.2**
RAF Rauma 65.92 329 *e*P **P 01 37 54.9 +1.8**
THL Klokotos Trika 66.02 306 P **P 01 37 52.6 -1.6**
KLV Kalavryta, Ach 66.06 304 P **P 01 37 52.8 -1.8**
LAKA Lakka 66.18 304 P **P 01 37 53.7 -1.6**
ANX Ano Chora 66.19 305 P **P 01 37 54.1 -1.4**
KTK1 Kautokeino 66.22 338 *e*P **P 01 37 55.0 +0.1**
EVR Evrytania 66.24 305 P **P 01 37 54.6 -1.2**
SKO Skopje 66.24 308 *i* P **P 01 37 55.0 -0.7**
HAMF Hammerfest 66.33 340 *e*P **P 01 37 55.5 -0.2**
ITM Ithomi 66.34 303 P **P 01 37 55.3 -1.0**
ITM Ithomi 66.34 303 P **P 01 37 55.7 -0.6**
FNA Florina 66.39 307 P **P 01 37 55.8 -0.9**
FNA pmax pmax
comp=Z,13nm,0.8s
FNA Florina 66.39 307 P **P 01 37 55.8 -0.9**
FNA IAmb IAmb 01 37 56.7
comp=Z,12nm,0.8s
AMT Artemida-Makis 66.47 303 P **P 01 37 54.6 -2.6**
AAL Aland 66.75 328 *e*P **P 01 37 57.8 -0.7**
STKA Stephens Creek 66.83 139 P **P 01 37 59.4 0.0**
comp=Z,5.1nm,0.7s,baz=318,slow=7.2,SNR=8.0
KBN Korca 66.85 307 P **P 01 37 58.4 -1.3**
KBN pmax pmax
comp=Z,14nm,1.2s
KBN Korca 66.85 307 P **P 01 37 58.4 -1.3**
KBN IAmb IAmb 01 38 03.9
comp=Z,14nm,1.2s
OJC Ojcow 66.88 317 *e*P **P 01 37 59.5 -0.1**
OJC Ojcow 66.88 317 P **P 01 37 59.8 +0.3**
OJC pmax pmax
comp=Z,10.0nm,1.1s
OJC Ojcow 66.88 317 P **P 01 37 59.8 +0.3**
OJC IAmb IAmb 01 38 00.1
comp=Z,9.9nm,1.1s
MBAR Mbarara 66.99 261 P **P 01 38 01.5 +0.4**
MBAR pmax pmax
comp=Z,12nm,0.8s
MBAR Mbarara 66.99 261 P **P 01 38 01.5 +0.4**
MBAR IAmb IAmb 01 38 03.5
comp=Z,12nm,0.8s
DIVS Divibare 67.12 311 P **P 01 38 01.2 -0.1**
DIVS IAmb IAmb 01 38 01.9
comp=Z,5.8nm,0.9s
NYDR Nydri-Lefkada 67.13 305 P **P 01 37 59.8 -1.5**
LTHK Lithakia 67.14 304 P **P 01 38 00.3 -1.1**
LKD2 Lefkada island 67.15 305 P **P 01 37 59.8 -1.7**
EVGI Lefkada island 67.17 305 P **P 01 38 00.2 -1.4**
FSK Fiskardo 67.26 304 P **P 01 38 00.7 -1.5**
PUK Puka 67.38 308 P **P 01 38 01.3 -1.7**
PUK IAmb IAmb 01 38 02.7
comp=Z,10.0nm,0.9s
DMLN Damoulianata-K 67.44 304 P **P 01 38 02.2 -1.1**
KEF3 Kipouria, Keph 67.46 304 P **P 01 38 01.9 -1.5**
BUD Budapest 67.54 314 *e*P **P 01 38 06.2 +2.5**
TRO Tromso 67.81 338 *e*P **P 01 38 04.5 -0.5**
PDG Podgorica 67.81 309 ⇑P **P 01 38 05.1 -0.5**
PDG Podgorica 67.81 309 P **P 01 38 05.1 -0.5**
PDG IAmb IAmb 01 38 08.7
comp=Z,11nm,0.9s
MORH Mrgy, Hungar 67.90 313 ⇓P **P 01 38 05.7 -0.3**
MORH Mrgy, Hungar 67.90 313 *e*P **P 01 38 05.3 -0.7**
UPP Uppsala 67.93 328 *e*P **P 01 38 06.2 +0.2**
KOVH Kovagotottos 68.28 313 *e*P **P 01 38 08.1 -0.4**
JAVC Velka Javorina 68.34 316 *e*P **P 01 38 09.7 +0.8**
MORC Moravsky Berou 68.36 317 *e*P **P 01 38 09.1 +0.2**
MPLH Magyarpolny 68.57 314 *e*P **P 01 38 10.7 +0.4**
MODS Modra-Piesok 68.64 315 *e*P **P 01 38 10.0 -0.7**
MODS Modra-Piesok 68.64 315 *e*P **P 01 38 10.0 -0.7**
KRLC Kraliky 68.82 317 *e*P **P 01 38 12.1 +0.3**
KRLC Kraliky 68.82 317 *e*P **P 01 38 12.1 +0.3**
VRAC Vranov 69.01 316 *e*P **P 01 38 13.3 +0.3**
FAUS Fauske 69.03 336 *e*P **P 01 38 12.6 -0.1**
STEI Steigen 69.06 336 *e*P **P 01 38 12.5 -0.3**
KSP Ksiaz 69.07 318 *e*P **P 01 38 13.8 +0.5**
DPC Dobruska-Polom 69.09 318 *e*P **P 01 38 14.0 +0.5**
DPC MLR MLR
comp=Z,100nm,20.1s
DPC Dobruska-Polom 69.09 318 *e*P **P 01 38 14.0 +0.5**
DPC AMS AMS 02 15 10.0
comp=Z,100nm,20.1s
OSTC Ostas 69.14 318 *e*P **P 01 38 14.5 +0.7**
KRUC Moravsky 69.16 316 *e*P **P 01 38 13.7 -0.2**
SOP Sopron 69.19 315 *e*P **P 01 38 14.6 +0.6**
CHVC Chvalec 69.24 318 *e*P **P 01 38 15.1 +0.7**
CHVC AMS AMS 02 12 30.0
comp=Z,100nm,17.4s
SPA0 Spitsbergen Ar 69.36 347 *e*P **P 01 38 13.3 -1.4**
KOGS Kog 69.53 313 *i* P **P 01 38 16.4 +0.2**
CONA Conrad Observa 69.63 315 *e*P **P 01 38 17.0 0.0**
comp=Z,11nm,1.6s
LOF Lofoten 69.70 337 *e*P **P 01 38 16.2 -0.6**
KONS Konsvik 69.89 335 *e*P **P 01 38 18.1 0.0**
ARSA Arzberg 69.93 314 *e*P **P 01 38 18.1 -0.6**
comp=Z,5.6nm,1.0s
CRES Cresnjev 70.15 313 *i* P **P 01 38 20.5 +0.4**
PVCC Panska Ves 70.19 318 *e*P **P 01 38 20.9 +0.7**
PVCC MLR MLR
comp=Z,100nm,20.9s
PVCC Panska Ves 70.19 318 *e*P **P 01 38 20.9 +0.7**
PVCC AMS AMS 02 13 20.0
comp=Z,100nm,20.9s
PRU Pruhonice 70.27 317 *e*P **P 01 38 21.0 +0.3**
PRU MLR MLR
comp=Z,100nm,14.3s
PRU Pruhonice 70.27 317 *e*P **P 01 38 21.0 +0.3**
PRU AMS AMS 02 11 20.0
comp=Z,100nm,14.3s
SOKA Soboth 70.33 314 *e*P **P 01 38 21.4 +0.1**
comp=Z,5.2nm,0.8s
LUNU Lund 70.37 323 *i* P **P 01 38 21.4 +0.3**
NSS Namsos 70.45 333 *e*P **P 01 38 21.1 -0.4**
BRG Berggiesshubel 70.55 318 *i* P **P 01 38 22.9 +0.5**
BRG Amp 01 38 24.0
comp=Z,12nm,0.9s
BRG *i* x x 02 20 05.2
BRG Amp 02 20 07.4
comp=Z,3.2nm,0.8s
CKRC Cesky Krumlov 70.55 316 *e*P **P 01 38 22.9 +0.4**
BJUU Bjuv 70.56 324 *i* P **P 01 38 21.9 -0.4**
PBCC Pribram 70.66 317 *e*P **P 01 38 23.7 +0.6**
OBKA Obir 70.68 314 *e*P **P 01 38 23.6 +0.2**
comp=Z,6.0nm,0.9s
MOA Molln 70.70 315 *e*P **P 01 38 23.3 -0.2**
comp=Z,7.2nm,0.8s
NC405 NORSAR Array S 70.81 329 P **P 01 38 22.9 -0.9**
CEL Celeste 70.92 305 P **P 01 38 24.6 -0.4**
NC602 NORSAR Array S 70.92 329 *e*P **P 01 38 23.9 -0.5**
NC602 NORSAR Array S 70.92 329 P **P 01 38 24.4 -0.1**
GEC2 GERESS Array S 70.95 316 P **P 01 38 25.2 +0.2**
GEC2 IAmb IAmb 01 38 26.4
comp=Z,10nm,0.8s
GERES GERESS Array B 70.95 316 P **P 01 38 25.4 +0.4**
comp=Z,6.8nm,0.7s,baz=80,slow=6.3,SNR=78
GERES LR LR 02 15 31.4
comp=Z,34nm,18.9s,baz=48,slow=41
GERES GERESS Array B 70.95 316 P **P 01 38 25.2 +0.2**
GERES GERESS Array B 70.95 316 P **P 01 38 25.2 +0.2**
NC303 NORSAR Array S 70.96 329 P **P 01 38 24.5 -0.3**
KHC Kasperske Hory 70.99 316 *e*P **P 01 38 25.3 +0.1**
KHC Kasperske Hory 70.99 316 *e*P **P 01 38 25.3 +0.1**
KHC Kasperske Hory 70.99 316 P **P 01 38 25.3 +0.1**
NB201 NORSAR Array S 71.02 329 P **P 01 38 24.3 -0.8**
NB2 NORSAR Subarra 71.05 329 P **P 01 38 24.5 -0.8**
comp=Z,10nm,0.7s,baz=84,slow=6.5
NB2 NORSAR Subarra 71.05 329 P **P 01 38 24.5 -0.8**
baz=84,slow=6.5
NOA NORSAR Array B 71.05 329 P **P 01 38 24.8 -0.6**
comp=Z,9.2nm,0.7s,baz=85,slow=6.0,SNR=79
NOA LR LR 02 15 19.8
comp=Z,38nm,18.0s,baz=100,slow=41
CLL Collm 71.09 319 *i* P **P 01 38 25.5 -0.2**
comp=Z,7.0nm,1.1s
CLL *i* pP **pP 01 38 28.3 -3.8**
comp=Z,12nm,1.2s
CLL Lm MLR 02 14 00.0
comp=Z,100nm,18.6s
CLL Collm 71.09 319 *i* P **P 01 38 25.5 -0.2**
CLL *i* 01 38 28.3
CLL pmax pmax
comp=Z,7.0nm,1.1s
NAO01 NORSAR Array S 71.23 329 P **P 01 38 26.3 -0.1**
NC204 NORSAR Array S 71.25 329 P **P 01 38 26.8 +0.2**
MYKA Terra Mystica 71.29 314 *e*P **P 01 38 27.0 -0.1**
comp=Z,1.2nm,0.4s
OSL Oslo 71.40 328 *e*P **P 01 38 27.7 +0.3**
KBA Koelnbreinsper 71.43 314 *e*P **P 01 38 27.7 -0.4**
comp=Z,6.7nm,1.0s
ROBS Robic 71.43 313 *i* P **P 01 38 27.1 -0.8**
NKC Novy Kostel 71.58 318 *e*P **P 01 38 29.1 +0.4**
NKC Novy Kostel 71.58 318 *e*P **P 01 38 29.1 +0.4**
INTR Introdacqua 71.81 309 P **P 01 38 30.0 -0.3**
INTR IAmb IAmb 01 38 41.5
comp=Z,11nm,1.1s
DOMB Dombas 71.98 330 *e*P **P 01 38 30.7 -0.2**
KONO Kongsberg 72.00 328 *e*P **P 01 38 30.7 -0.3**
ABTA Abfaltersbach 72.04 314 *e*P **P 01 38 31.1 -0.5**
comp=Z,4.6nm,0.8s
AQU L'Aquila 72.12 309 P **P 01 38 32.4 +0.3**
AQU pmax pmax
comp=Z,22nm,1.2s
AQU L'Aquila 72.12 309 P **P 01 38 32.4 +0.3**
AQU IAmb IAmb 01 38 33.6
comp=Z,22nm,1.2s
NRCA Norcia 72.25 310 P **P 01 38 32.5 -0.4**
GRFO Grafenberg 72.44 317 P **P 01 38 34.3 +0.5**
GRFO pmax pmax
comp=Z,12nm,1.1s
GRFO Grafenberg 72.44 317 P **P 01 38 34.3 +0.5**
GRFO IAmb IAmb 01 38 35.2
comp=Z,12nm,1.1s
SKAR Skarslia 72.51 329 *e*P **P 01 38 34.6 +0.5**
WTTA Wattenberg 72.55 315 *e*P **P 01 38 34.2 -0.6**
comp=Z,12nm,1.2s
WATA Walderalm 72.58 315 *e*P **P 01 38 34.3 -0.6**
comp=Z,6.7nm,0.9s
MURB Monte Urbino 72.60 310 P **P 01 38 35.4 +0.4**
MOL Molde 72.61 331 *e*P **P 01 38 34.9 +0.3**
MUD Monsted U'grnd 72.65 324 ⇑*i*P **P 01 38 35.8 +0.8**
MUD IAmb IAmb 01 38 36.5
comp=Z,19nm,0.8s
MUD Monsted U'grnd 72.65 324 ⇑*i*P **P 01 38 35.7 +0.8**
MUD pmax pmax
comp=Z,19nm,0.8s
CTI Castel Tesino 72.74 313 P **P 01 38 35.6 -0.2**
CTI pmax pmax
comp=Z,6.0nm,0.9s
CTI Castel Tesino 72.74 313 P **P 01 38 35.6 -0.2**
SQTA Sankt Quirin 72.84 315 *e*P **P 01 38 35.9 -0.6**
comp=Z,8.4nm,0.7s
MOTA Moosalm 72.89 315 *e*P **P 01 38 36.3 -0.5**
comp=Z,11nm,0.8s
AKN Aaknes 72.92 331 *e*P **P 01 38 37.8 +1.3**
RETA Reutte 73.10 315 *e*P **P 01 38 37.5 -0.4**
comp=Z,12nm,0.7s
FETA Feichten 73.20 315 *e*P **P 01 38 38.0 -0.6**
comp=Z,7.3nm,0.8s
SNART Snartemo 73.41 327 *i* P **P 01 38 39.2 -0.2**
SNART Snartemo 73.41 327 *e*P **P 01 38 39.7 +0.3**
ODD1 Odda 73.45 328 *e*P **P 01 38 39.9 +0.2**
HYA Hoyanger 73.46 330 *e*P **P 01 38 39.9 +0.3**
OSSC Osservatorio P 73.47 311 P **P 01 38 39.9 -0.2**
OSSC IAmb IAmb 01 38 40.8
comp=Z,11nm,1.1s
ZCCA Zocca 73.51 312 P **P 01 38 40.7 +0.4**
ZCCA IAmb IAmb 01 38 52.8
comp=Z,27nm,1.1s
SALO Salr 73.59 313 P **P 01 38 41.1 +0.3**
BLS5 Blasjo 73.62 328 *e*P **P 01 38 40.8 +0.1**
DAVA Damuels 73.72 315 *e*P **P 01 38 41.2 -0.5**
comp=Z,14nm,0.9s
FOO Floro 73.93 330 *e*P **P 01 38 42.6 +0.3**
BER Bergen 74.01 329 *e*P **P 01 38 43.1 +0.3**
ASK Askoy 74.06 329 *e*P **P 01 38 42.8 -0.3**
SUE Sulen 74.16 330 *e*P **P 01 38 43.1 -0.6**
TUE Stuetta 74.24 314 P **P 01 38 44.7 0.0**
TUE IAmb IAmb 01 38 52.8
comp=Z,14nm,0.8s
KMY Karmoy 74.27 328 *e*P **P 01 38 45.1 +0.7**
LSZ Lusaka 75.04 248 P **P 01 38 49.5 -0.2**
LSZ Lusaka 75.04 248 P **P 01 38 49.5 -0.2**
LSZ IAmb IAmb 01 38 51.6
comp=Z,13nm,0.8s
SENIN Lac Senin/Sane 75.64 314 P **P 01 38 53.1 +0.2**
SENIN IAmb IAmb 01 38 55.2
comp=Z,12nm,0.8s
VSL Villasalto 75.67 307 P **P 01 38 53.2 +0.3**
VSL IAmb IAmb 01 38 53.9
comp=Z,12nm,0.9s
WLF Walferdange 75.68 318 P **P 01 38 53.5 +0.7**
WLF pmax pmax
comp=Z,24nm,1.1s
WLF Walferdange 75.68 318 P **P 01 38 53.5 +0.7**
WLF IAmb IAmb 01 38 55.1
comp=Z,24nm,1.1s
BNI Bardonecchia 76.36 313 P **P 01 38 57.2 +0.2**
BNI pmax pmax
comp=Z,6.0nm,0.7s
BNI Bardonecchia 76.36 313 P **P 01 38 57.1 +0.2**
KEST Kesra 76.57 303 P **P 01 38 58.8 +0.6**
comp=Z,15nm,0.9s,baz=29,slow=0.6,SNR=15
KEST Kesra 76.57 303 P **P 01 38 58.5 +0.3**
KEST IAmb IAmb 01 38 60.0
comp=Z,21nm,1.1s

DAG	Danmarks Havn	77.01	348	⇑ *i* P		P	01 38 59.0	-0.9
DAG				IAmb	IAmb		01 39 00.2	
comp=Z,2.5nm,0.7s								
DAG	Danmarks Havn	77.01	348	⇑ *i* P		P	01 38 58.9	-0.9
DAG				pmax	pmax			
comp=Z,3.0nm,0.7s								
SSB	Saint Sauveur	77.77	314	P		P	01 39 05.3	+0.5
SSB				pmax	pmax			
comp=Z,8.0nm,0.9s								
SSB	Saint Sauveur	77.77	314	P		P	01 39 05.3	+0.5
SSB				IAmb	IAmb		01 39 05.9	
comp=Z,8.2nm,0.9s								
CLF	Chambon-Foret	78.57	317	P		P	01 39 09.5	+0.4
CLF				IAmb	IAmb		01 39 10.5	
comp=Z,22nm,0.8s								
LFF	La Frestale	80.46	314	*e*P		P	01 39 19.5	+0.1
LFF				pmax	pmax			
comp=Z,15nm,1.0s								
IMAR	Indian Mountai	80.62	23	P		P	01 39 20.2	+0.3
TOLK	Toolik Lake Re	80.83	20	P		P	01 39 21.0	0.0
TOLK				IAmb	IAmb		01 39 23.7	
comp=Z,13nm,0.8s								
EUNU	Eureka	81.06	0	P		P	01 39 22.4	+0.4
EUNU				IAmb	IAmb		01 39 23.4	
comp=Z,10.0nm,0.9s								
LBTB	Lobatse	81.38	240	P		P	01 39 24.9	+0.1
LBTB				pmax	pmax			
comp=Z,12nm,0.7s								
LBTB	Lobatse	81.38	240	P		P	01 39 24.9	+0.1
LBTB				IAmb	IAmb		01 39 26.8	
comp=Z,12nm,0.7s								
NEEM	North Greenlan	81.78	353	⇑ *i* P		P	01 39 26.1	-0.1
NEEM				IAmb	IAmb		01 39 26.4	
comp=Z,10nm,0.8s								
MLY	Manley	82.18	23	P		P	01 39 28.5	+0.3
BPAW	Bear Paw Mtn.	82.53	24	P		P	01 39 30.1	0.0
BPAW				IAmb	IAmb		01 39 34.9	
comp=Z,9.1nm,0.7s								
I23K	Minto, Yukon-K	82.63	23	P		P	01 39 30.7	+0.2
NEA2	Nenana	83.02	23	P		P	01 39 32.5	0.0
NEA2				IAmb	IAmb		01 39 36.1	
comp=Z,5.9nm,0.7s								
BMAR	Burnt Mountain	83.06	20	P		P	01 39 33.1	+0.3
MDM	Murphy Dome	83.14	23	P		P	01 39 33.5	+0.3
MDM				IAmb	IAmb		01 39 37.6	
comp=Z,18nm,1.0s								
BOSA	Boshof	83.22	237	P		P	01 39 34.7	+0.5
comp=Z,13nm,0.7s,baz=68,slow=3.3,SNR=36								
BOSA				LR	LR		02 15 26.9	
comp=Z,56nm,18.3s,baz=24,slow=35								
SKT	Skwentna	83.32	26	P		P	01 39 33.9	-0.2
SKT				IAmb	IAmb		01 39 34.6	
comp=Z,8.2nm,0.8s								
FYU	Fort Yukon	83.33	21	P		P	01 39 34.5	+0.5
FYU				IAmb	IAmb		01 39 38.9	
comp=Z,7.3nm,0.9s								
WRH	Wood River Hil	83.44	23	P		P	01 39 34.6	-0.1
CCB	Clear Creek Bu	83.46	23	P		P	01 39 34.3	-0.5
MCK	McKinley	83.50	24	P		P	01 39 34.6	-0.5
MCK				pmax	pmax			
comp=Z,7.0nm,0.8s								
MCK	McKinley	83.50	24	P		P	01 39 34.6	-0.5
MCK				IAmb	IAmb		01 39 35.9	
comp=Z,7.1nm,0.8s								
SUMG	Summit	83.70	348	*i* P		P	01 39 36.0	-0.4
SUMG				IAmb	IAmb		01 39 36.5	
comp=Z,8.6nm,0.7s								
SUMG	Summit	83.70	348	P		P	01 39 36.0	-0.4
SUMG				pmax	pmax			
comp=Z,10.0nm,0.8s								
SUMG	Summit	83.70	348	P		P	01 39 36.0	-0.4
SUMG				IAmb	IAmb		01 39 39.8	
comp=Z,9.8nm,0.8s								
IL31		83.73	23	P		P	01 39 35.4	-0.7
ILAR	Eielson Array	83.73	23	P		P	01 39 34.9	-1.3
comp=Z,2.4nm,0.7s,baz=302,slow=4.6,SNR=23								
ILAR				LR	LR		02 19 04.0	
comp=Z,85nm,18.3s,baz=298,slow=37								
ILAR	Eielson Array	83.73	23	P		P	01 39 34.4	-1.7
ILAR	Eielson Array	83.73	23	P		P	01 39 34.4	-1.7
PRP	Porcupine Dome	83.81	22	P		P	01 39 36.4	-0.3
PRP				IAmb	IAmb		01 39 41.6	
comp=Z,19nm,1.1s								
SUA	Susitna One	83.90	26	P		P	01 39 36.9	-0.4
SUA				IAmb	IAmb		01 39 38.2	
comp=Z,6.2nm,0.8s								
RC01	Rabbit Creek A	84.51	26	P		P	01 39 39.7	-0.5
RC01				IAmb	IAmb		01 39 40.7	
comp=Z,8.6nm,0.9s								
SML	Sawmill	84.73	25	P		P	01 39 41.1	-0.3
SML				IAmb	IAmb		01 39 45.6	
comp=Z,19nm,1.4s								
RIDG	Independent Ri	85.04	23	P		P	01 39 42.4	-0.5
RIDG				IAmb	IAmb		01 39 43.4	
comp=Z,9.2nm,0.8s								
PWL	Port Wells	85.22	26	P		P	01 39 43.6	-0.1
PWL				IAmb	IAmb		01 39 44.7	
comp=Z,12nm,0.8s								
SCRK	Sand Creek	85.22	23	P		P	01 39 44.0	+0.1
SCRK				IAmb	IAmb		01 39 47.7	
comp=Z,8.5nm,0.8s								
DOT	Dot Lake	85.38	23	P		P	01 39 44.7	+0.1
ESBB	Sonseca Array	85.47	310	P		P	01 39 46.0	+0.4
ESDC	Sonseca Array	85.47	310	P		P	01 39 46.0	+0.4
comp=Z,3.7nm,0.9s,baz=55,slow=4.7,SNR=35								
ESDC	Sonseca Array	85.47	310	P		P	01 39 45.8	+0.2
EGAK	Eagle	85.74	21	P		P	01 39 46.5	+0.2
INK	Inuvik	85.78	16	P		P	01 39 46.7	+0.3
INK				pmax	pmax			
comp=Z,27nm,1.3s								
INK	Inuvik	85.78	16	P		P	01 39 46.7	+0.3
CASY	Casey	85.78	174	P		P	01 39 46.9	+0.8
CASY				IAmb	IAmb		01 39 47.1	
comp=Z,8.2nm,0.9s								
PAB	San Pablo	85.80	310	P		P	01 39 47.4	+0.2
PAB				pmax	pmax			
comp=Z,8.0nm,1.1s								
PAB	San Pablo	85.80	310	P		P	01 39 47.4	+0.2
PAB				IAmb	IAmb		01 39 48.8	
comp=Z,7.8nm,1.1s								
K27K	Chicken	85.87	22	P		P	01 39 47.5	+0.5
K27K				IAmb	IAmb		01 39 51.8	
comp=Z,10nm,0.8s								
MENT	Mentasta	85.91	23	P		P	01 39 47.4	+0.1
MENT				IAmb	IAmb		01 39 50.3	
comp=Z,8.8nm,0.7s								
EPYK	Eagle Plains	86.17	19	P		P	01 39 48.6	+0.1
EPYK				IAmb	IAmb		01 39 48.9	
comp=Z,7.1nm,0.8s								
N25K	Chitina, Valde	86.33	25	P		P	01 39 49.3	-0.1
N25K				IAmb	IAmb		01 39 51.2	
comp=Z,9.2nm,0.8s								
L27K	Beaver Creek,	86.54	23	P		P	01 39 50.5	+0.1
BCAR	Beaver Creek A	86.55	23	P		P	01 39 50.6	+0.2
ICESG	Greenland Ices	86.57	345	*i* P		P	01 39 50.7	0.0
ICESG				IAmb	IAmb		01 39 51.7	
comp=Z,7.7nm,0.8s								
PBRG	Braganca	86.65	313	*e*P		P	01 39 51.9	+0.6
comp=Z,14nm,1.8s								
BMRM	Bremner River	86.69	25	P		P	01 39 51.3	+0.1
GLB	Gilahina Butte	86.74	25	P		P	01 39 51.4	+0.1
GLB				IAmb	IAmb		01 39 52.4	
comp=Z,5.7nm,0.9s								
DAWY	Dawson	86.79	21	P		P	01 39 51.8	+0.2
VRDI	Verde Repeater	87.00	25	P		P	01 39 52.6	-0.2
VRDI				IAmb	IAmb		01 39 53.9	
comp=Z,6.0nm,0.8s								
MVO	Moncorvo	87.09	313	*e*P		P	01 39 54.6	+1.1
comp=Z,15nm,1.4s								
TGL	Tana Glacier	87.52	25	P		P	01 39 55.2	-0.1
PVRL	Vila Real	87.53	313	*e*P		P	01 39 56.4	+0.8
POLO	Lamas de Olo	87.54	313	*e*P		P	01 39 56.7	+0.9
comp=Z,8.2nm,1.9s								
PCAB	Cabril	87.57	313	*e*P		P	01 39 56.9	+1.1
MTE	Manteigas	87.75	312	*e*P		P	01 39 58.4	+1.7
comp=Z,24nm,1.3s								
MTE	Manteigas	87.75	312	P		P	01 39 56.9	+0.2
PVIS	Viseu	87.87	312	*e*P		P	01 39 58.2	+0.9
comp=Z,16nm,1.6s								
PCBR	Castelo Branco	87.92	312	*e*P		P	01 39 58.5	+1.0
comp=Z,15nm,1.6s								
CTGM	Chitina Glacie	87.99	24	P		P	01 39 57.4	-0.2
PMRV	Marv??o	88.03	311	*e*P		P	01 39 58.9	+0.9
comp=Z,16nm,1.1s								
PBAR	Barrancos	88.26	310	*e*P		P	01 40 00.2	+1.1
comp=Z,20nm,1.8s								
PCAS	Casmilo, Conde	88.56	312	*e*P		P	01 40 01.6	+1.1
comp=Z,15nm,1.7s								
PMTG	Montargil	88.76	311	*e*P		P	01 40 02.4	+1.0
comp=Z,14nm,1.5s								
EVO	Evora	88.82	310	*e*P		P	01 40 03.0	+1.3
comp=Z,17nm,2.0s								
PBEJ	Beja	88.92	310	*e*P		P	01 40 03.4	+1.2
comp=Z,10nm,1.6s								
PVAQ	Vaqueiros	89.06	309	*e*P		P	01 40 04.0	+1.1
MESJ	Messejana	89.25	310	*e*P		P	01 40 04.6	+0.9
MESJ				IAmb	IAmb		01 40 06.4	
comp=Z,29nm,1.3s								
MESJ	Messejana	89.25	310	*e*P		P	01 40 04.6	+0.9
MESJ				pmax	pmax			
comp=Z,29nm,1.3s								
MESJ	Messejana	89.25	310	*e*P		P	01 40 05.0	+1.3
comp=Z,21nm,1.2s								
PBDV	Barranco-do-Ve	89.28	309	*e*P		P	01 40 05.5	+1.6
comp=Z,39nm,1.5s								
PNCL	Nicolau / Gran	89.36	310	*e*P		P	01 40 05.4	+1.1
HYT	Haines Junctio	89.54	23	P		P	01 40 04.9	+0.1
PMAFR	Mafra	89.56	311	*e*P		P	01 40 06.8	+1.6
comp=Z,67nm,1.9s								
PTEO	Sao Teotonio	89.73	310	*e*P		P	01 40 07.8	+1.8
comp=Z,75nm,1.8s								
MORF	Marmelete	89.78	310	*e*P		P	01 40 07.0	+0.7
MORF				IAmb	IAmb		01 40 08.5	
comp=Z,25nm,1.3s								
MORF	Marmelete	89.78	310	*e*P		P	01 40 07.0	+0.7
MORF				pmax	pmax			
comp=Z,25nm,1.3s								
MORF	Marmelete	89.78	310	*e*P		P	01 40 08.4	+2.1
MAW	Mawson	89.81	192	LR	LR		02 17 11.0	
comp=Z,42nm,18.5s,baz=63,slow=33								
TORD	Torodi Ar. Bea	89.85	284	P		P	01 40 06.9	-0.1
comp=Z,2.6nm,0.9s,baz=69,slow=4.5,SNR=12								
TORD	Torodi Ar. Bea	89.85	284	P		P	01 40 07.1	+0.1
PFVI	Vila Bisbo	89.97	309	*e*P		P	01 40 08.9	+1.7
comp=Z,91nm,1.8s								
DY2G	Dye2	90.19	346	⇑ *i* P		P	01 40 07.8	-0.1
DY2G				IAmb	IAmb		01 40 09.7	
comp=Z,10nm,0.8s								
YKA	Yellowknife Ar	95.16	14	P		P	01 40 29.5	-1.1
comp=Z,1.2nm,0.7s,baz=355,slow=3.3,SNR=3.3								
YKA				LR	LR		02 27 55.9	
comp=Z,43nm,19.2s,baz=0.0,slow=38								
ANMO	Albuquerque	122.17	22	PKP		PKPdf	01 46 01.9	-1.0
comp=Z,0.9nm,0.7s,baz=76,slow=4.0,SNR=5.0								
ANMO	Albuquerque	122.17	22	PKIKP		PKPdf	01 46 02.1	-0.9
ANMO	Albuquerque	122.17	22	PKPdf		PKPdf	01 46 02.1	-0.9
BDFB	Brasília	145.62	270	PKPbc		PKPab	01 46 48.0	+0.7
comp=Z,18nm,0.8s,baz=86,slow=3.5,SNR=27								
BDFB	Brasília	145.62	270	PKP2		PKPdf	01 46 46.8	0.0
BDFB	Brasília	145.62	270			PKPdf	01 46 46.8	0.0
SPB	Sao Paulo	145.79	256			PKPbc	01 46 47.0	-0.2
CNGN	Cerro Negro	148.51	5			PKPdf	01 46 50.7	-1.0
ESPN	Las Esperanzas	148.93	1			PKPbc	01 46 55.3	-0.9
CPUP	Villa Florida	154.48	249	PKPbc		PKPbc	01 47 08.2	-0.5
comp=Z,2.8nm,0.7s,baz=106,slow=5.0,SNR=4.9								
CPUP				PKPab		PKPab	01 47 23.4	+0.3
comp=Z,5.5nm,0.6s,baz=111,slow=5.5,SNR=10								
CPUP	Villa Florida	154.48	249	PKIKP		PKPbc	01 47 08.3	-0.4
CPUP	Villa Florida	154.48	249			PKPbc	01 47 08.3	-0.4
LPAZ	La Paz	164.72	278	PKPab		PKPab	01 48 07.7	-1.0
comp=Z,1.0nm,0.7s,baz=170,slow=6.6,SNR=3.9								

UCR ***21*** *01:38:18.4±1.5, 8°.62N×43°.31W, h10km±5km, MW3.9*
UPA ***21*** *01:38:18.2±1.5, 8°.66N×43°.27W, h10km±4km, MW3.8*
ISC 21 01:38:18.5±0.9, **8°.64N**±0°.03×**43°.29W**±0°.03, **h12**km±8km,
n39, σ0°**82**/64, **5C-3D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.24	191	⇑ *i* P	Pg	01 38 23.0	-0.6
PIRO				*i* S	Sg	01 38 28.1	+1.1
PIRO	Carate, Puerto	0.24	191	*e*P	Pg	01 38 23.0	-0.6
PIRO				*e*S	Sg	01 38 28.2	+1.2
EDPN	Palmar Norte	0.36	332	⇑ *i* P	Pg	01 38 25.8	+0.2
EDPN				*e*S	Sb	01 38 32.3	-0.1
EDSV	San Vito	0.36	61	*e*P	Pb	01 38 26.5	-0.3
EDSV				*e*S	Sb	01 38 33.8	+1.2
CDITO	Canoas	0.42	100	⇑ *i* P	Pg	01 38 26.3	-0.4
CDITO				*e*S	Sb	01 38 33.3	-0.8
LPLA	Las Palmas La	0.47	36	⇓ *e*P	Pb	01 38 28.2	-0.6
LPLA				*e*S	Sb	01 38 36.5	+0.6
SBAR3	San Bartolo, C	0.52	129	*e*P	Pb	01 38 29.2	-0.2
SBAR3				*e*S	Sb	01 38 37.2	+0.2
EDBA	Buenos Aires	0.52	1	*e*P	Pb	01 38 29.1	-0.4
EDBA				*e*S	Sb	01 38 37.9	+0.9
LESP3	La Esperanza,	0.55	116	*e*P	Pg	01 38 28.5	-0.6
BRU2	Volcan	0.61	76	⇓ *i* P	Pg	01 38 30.2	-0.3
BRU2				*e*S	Sb	01 38 39.1	-0.7
BRU2	Volcan	0.61	76	*e*P	Pg	01 38 30.1	-0.3
DRK0	Durika	0.62	4	⇑ *i* P	Pg	01 38 30.6	+0.1
DRK0				*i* S	Sb	01 38 40.3	+0.3
DRK0	Durika	0.62	4	*e*P	Pg	01 38 30.4	-0.1
DRK0				*e*S	Sb	01 38 40.3	+0.3
BC3P	Paso Ancho	0.69	76	⇑ *i* P	Pg	01 38 31.5	-0.5
BC3P				*e*S	Sb	01 38 43.6	+1.4
BCO2	Palmira	0.76	84	⇓ *i* P	Pg	01 38 32.5	-0.7
BCO2				*e*S	Sg	01 38 43.4	+0.4
BAGA3	Bagala, Chiriq	0.77	103	*e*P	Pg	01 38 33.4	0.0
BAGA3				*e*S	Sb	01 38 45.0	+0.6
PTAR3	Potrerillos Ar	0.79	86	*e*P	Pg	01 38 33.1	-0.6
PTAR3				*e*S	Sb	01 38 45.5	+0.7
PEZE	Perez Zeledon,	0.83	332	*e*P	Pg	01 38 33.8	-0.7
LNBQ3	Los Naranjos,	0.85	80	*e*P	Pg	01 38 34.0	-0.9
LNBQ3				*e*S	Sb	01 38 46.5	-0.3
DVD	David	0.85	104	*e*P	Pg	01 38 34.2	-0.8
DVD				*e*S	Sb	01 38 46.6	-0.1
LOMA3	Las Lomas, Chi	0.91	103	*e*P	Pn	01 38 37.2	+0.1
PSOM3	Paja de Sombre	0.96	87	*e*P	Pg	01 38 35.5	-1.4
PSOM3				*e*S	Sg	01 38 49.2	-0.2
GUAL3	Gualaca, Chiri	0.99	96	*e*P	Pg	01 38 36.1	-1.3
GUAL3				*e*S	Sn	01 38 51.4	-0.6
CDM	Cerro de Muert	1.02	333	*e*P	Pg	01 38 37.2	-0.9
RGM0	Gandoca	1.16	36	*e*P	Pn	01 38 41.0	+0.5
RGM0				*e*S	Sn	01 38 56.4	+0.1
RGM0	Gandoca	1.16	36	*e*P	Pn	01 38 41.2	+0.7
RIMA	Rio Macho	1.25	333	*e*P	Pn	01 38 40.4	-1.7
LCR2	La Lucha 2	1.30	327	*e*P	Pn	01 38 41.5	-1.2
OCM	Ochomogo	1.41	332	*e*P	Pn	01 38 43.2	-1.0
CVTR	Volcan Turrial	1.44	341	*e*P	Pn	01 38 44.2	-0.6
BATAN	Batan	1.45	357	*e*P	Pn	01 38 44.8	+0.2
BATAN				*e*S	Sb	01 39 04.2	+0.4
HDC	Heredia	1.58	329	*e*P	Pn	01 38 46.2	-0.2
HDC				*e*S	Sg	01 39 08.8	-0.4
HDC	Heredia	1.58	329	*e*P	Pn	01 38 46.4	0.0
GMAL	Guarumal, Vera	2.21	113	*e*P	Pn	01 38 54.2	-0.9
GMAL				*e*S	Sn	01 39 23.4	+1.0
JTS	Las Juntas de	2.32	315	*e*P	Pn	01 38 58.1	+1.5
JTS				*e*S	Sn	01 39 25.9	+0.9
JTS	Las Juntas de	2.32	315	*e*P	Pn	01 38 57.4	+0.8
GRZA	Playa Garza	2.64	299	*e*P	Pn	01 39 00.2	-0.7
CACAO	El Cacao, Vera	2.73	118	*e*P	Pn	01 39 01.7	-0.4
CACAO				*e*S	Sn	01 39 37.7	+2.6
SAJU	San Juanillo,	2.78	301	*e*P	Pn	01 39 01.7	-1.1

ISK ***21*** *01:39:44.9, 42°.51N×43°.58E, h6km, ML2.4/4*
MOS ***21*** *01:39:45.4±0.0, 42°.47N×43°.39E, h14km, MPVA3.4*
NORS ***21*** *01:39:45.1±0.0, 42°.49N×43°.41E, h5km, MPVA3.4*
TIF ***21*** *01:39:45.2, 42°.51N×43°.44E, h16km*
DDA ***21*** *01:39:46.0, 42°.46N×43°.31E, h7km±1km, ML2.3*
ISC 21 01:39:45.7±0.9, **42°.49N**±0°.02×**43°.41E**±0°.02, **h11**km±6km,
n38, σ0°**72**/73, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.11	18	P	Pg	01 39 49.0	+0.4
ONI				S	Sg	01 39 51.0	+0.4
TKB	Tkibuli	0.33	246	P	Pb	01 39 53.4	-0.3
TKB				S	Sb	01 39 58.6	-0.5
DIGR	Digorskoe uzhe	0.43	17	*i* Pg	Pg	01 39 53.7	-0.5
DIGR				*e*Sg	Sg	01 39 60.0	0.0
ZEI	Tsey	0.47	50	*e*Pg	Pg	01 39 54.6	-0.4
ZEI				*e*Sg	Sg	01 40 01.2	-0.1
BKRG	Bakuriani	0.73	173	P	Pb	01 40 00.3	-0.3
BKRG				S	Sb	01 40 11.4	+0.7
LACR	Lac	0.74	62	*e*Pg	Pg	01 39 59.3	-0.7
LACR				*e*Sg	Sg	01 40 09.1	-0.6
GUDG	Gudauri	0.79	91	P	Pb	01 40 01.7	0.0
GUDG				S	Sb	01 40 12.0	-0.5
LSNR	Lesken	0.85	21	*e*Pg	Pb	01 40 01.9	-0.6
LSNR				*e*Sg	Sb	01 40 13.8	-0.1
ABS	Abastumani	0.85	211	P	Pb	01 40 02.6	0.0
ABS				S	Sb	01 40 15.0	+0.9
MTEO	Meteo	0.85	77	P	Pg	01 40 01.6	-0.6
MTEO				S	Sg	01 40 12.4	-1.0
PNSH	Pansheti	0.91	80	P	Pg	01 40 02.3	-0.8
PNSH				S	Sg	01 40 13.7	-1.3
NEY	Neytrino	0.91	327	*e*Pg	Pb	01 40 03.2	-0.5
NEY				*e*Sg	Sb	01 40 15.7	-0.2
BRNG	Burnasheti	0.92	160	P	Pb	01 40 04.0	+0.2
BRNG				S	Sb	01 40 16.8	+0.8
CHVG	Ch'k'valeri	1.00	284	P	Pn	01 40 05.6	-0.1
CHVG				S	Sn	01 40 19.5	-0.4
STDR	Stavd-Durt	1.00	28	*e*Pg	Pn	01 40 06.0	+0.2
STDR				*e*Sg	Sn	01 40 20.5	+0.5
NCK	Nalchik	1.02	8	*e*Pg	Pn	01 40 05.8	-0.2
NCK				*e*Sg	Sn	01 40 20.5	+0.2
AKH	Akhalkalaki	1.08	177	P	Pb	01 40 06.5	0.0
AKH				S	Sn	01 40 21.7	-0.3
AKH	Akhalkalaki	1.08	177	PN	Pb	01 40 06.5	0.0
AKH				SN	Sn	01 40 21.9	-0.1
TRLG	Trialeti	1.08	151	P	Pg	01 40 06.1	-0.3
TRLG				S	Sn	01 40 21.5	-0.5
VLKR	Vladikavkaz	1.09	59	*e*Pg	Pn	01 40 06.8	-0.2
VLKR				*e*Sg	Sn	01 40 23.1	+1.0
EPOS	Posof	1.10	207	*i* P	Pb	01 40 07.0	+0.1
EPOS				*i* S	Sn	01 40 23.1	+0.5
BTKR	Batakoyurt	1.22	43	*e*Pg	Pg	01 40 10.4	+1.4
BTKR				*e*Sg	Sn	01 40 29.3	+4.1
BGD	Bogdanovka	1.23	173	P	Pb	01 40 08.6	-0.5
BGD				S	Sn	01 40 25.9	+0.1
DMNI	Dmanisi	1.30	153	P	Pn	01 40 09.5	-0.3
DMNI				S	Sg	01 40 26.9	-0.5
BTNK	Botanikuri	1.31	127	P	Pn	01 40 09.8	-0.2
SHA1	Shidzhatmaz	1.37	337	*e*Pg	Pg	01 40 11.8	-0.1
SHA1				*e*Sg	Sg	01 40 29.2	-0.4
KIV0	Kislovodsk Arr	1.56	341	*e*Pg	Pg	01 40 15.0	-0.6
KIV0				*e*Sg	Sg	01 40 35.5	-0.3
KIV	Kislovodsk	1.56	341	PN	Pb	01 40 14.2	-0.4
KIV				SN	Sg	01 40 35.6	-0.3
KIV	Kislovodsk	1.56	341	*e*Pg	Pg	01 40 15.3	-0.3
KIV				*e*Sg	Sg	01 40 35.5	-0.3
DBOC	Borcka	1.73	229	*i* P	Pb	01 40 17.3	-0.1
DBOC				*i* S	Sg	01 40 40.9	-0.4
DBOC				IAML		01 40 43.0	
comp=E,36nm,0.4s							
DAGI	Agillar	1.80	219	*i* P	Pb	01 40 19.1	+0.5
DAGI				*i* S	Sg	01 40 43.9	+0.5
DAGI				IAML		01 40 45.0	
comp=E,21nm,0.4s							
DAGI				IAML		01 40 46.0	
comp=N,19nm,0.4s							
EAK	Akyaka	1.81	175	*i* P	Pb	01 40 18.9	0.0
EAK				IAML		01 40 43.0	
comp=E,28nm,0.4s							
EAK				*i* S	Sg	01 40 43.3	-0.4
EAK				IAML		01 40 58.0	
comp=N,20nm,0.6s							
KARS	Kars	1.87	188	PN	Pb	01 40 19.3	-0.7
KARS				SN	Sb	01 40 44.2	+0.7
DBAD	Bademkaya	1.95	222	*i* P	Pb	01 40 21.3	0.0
DBAD				*i* S	Sg	01 40 48.0	-0.3
DBAD				IAML		01 40 48.0	
comp=E,37nm,0.6s							
DBAD				IAML		01 40 51.0	
comp=N,44nm,0.5s							
DDEM	Demirkent	2.02	218	*i* P	Pb	01 40 22.5	+0.1
DDEM				*i* S	Sg	01 40 51.0	+0.5
DDEM				IAML		01 40 54.0	
comp=E,37nm,0.4s							
SENK	Senkaya-Erzuru	2.08	203	PN	Pb	01 40 22.6	-1.0
LGD	Lagodekhi	2.21	106	P	Pb	01 40 25.1	-0.5
LGD				S	Sb	01 40 54.0	+1.1
GNI	Garni	2.54	156	PN	Pn	01 40 27.5	+0.5

DDA ***21*** *01:55:17.9, 42°.52N×43°.41E, h15km±1km, ML2.4*
NORS ***21*** *01:55:18.4±0.0, 42°.50N×43°.38E, h4km, MPVA3.3*
TIF ***21*** *01:55:18.3, 42°.51N×43°.45E, h17km*
MOS ***21*** *01:55:19.0±0.0, 42°.50N×43°.36E, h13km, MPVA3.3*
ISC 21 01:55:18.7±1.1, **42°.46N**±0°.02×**43°.41E**±0°.02, **h2**km±10km,
n35, σ0°**64**/72, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	Oni	0.13	13	P	Pg	01 55 22.1	+0.9
ONI				S	Sg	01 55 23.9	+1.0
TKB	Tkibuli	0.33	250	P	Pb	01 55 26.5	-0.8
T

comp=E,34nm,0.4s
EAK *i* S **Sg** **01 56 16.4 +0.5**
EAK IAML 01 56 17.0
comp=N,21nm,0.4s
DBAD Bademkaya 1.93 222 *i* P **Pb** **01 55 54.1 -0.6**
DBAD *i* S **Sg** **01 56 20.9 +0.1**
DBAD IAML 01 56 21.0
comp=E,49nm,0.6s
DBAD IAML 01 56 24.0
comp=N,48nm,0.4s
DDEM Demirkent 2.00 219 *i* P **Pb** **01 55 55.8 -0.1**
DDEM *i* S **Sg** **01 56 23.9 +0.9**
DIGO Kars 2.05 181 *i* P **Pb** **01 55 57.2 +0.4**
DIGO *i* S **Sg** **01 56 24.2 -0.2**
LGD Lagodekhi 2.20 106 P **Pb** **01 55 58.0 -1.1**
LGD S **Sb** **01 56 27.2 +0.4**

*IDC **21** 02:01:14.3±1.6,20°.97S×178°.06W,h496km±17km,mb3.5/9, mb1 3.8/12,mb1mx3.5/33,mbtmp4.4/12,Error ellipse: s-maj=22.8km s-min=16.5km az=147.0*
*NEIC **21** 02:01:14.4±1.2,21°.0S±0°.1×178°.0W±0°.2,h497km±8km, mb4.1/16,Error ellipse: s-maj=21.5km s-min=19.9km az=97.0*
ISC 21 02:01:13.9±0.5,20°.92S±0°.10×178°.0W±0°.1,h495km,n69, σ1s06/71,mb4.0/16,1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.89**	**310**	P	**P**	**02 02 39.0**	**-0.8**
	27nm,0.3s,baz=192,slow=23,SNR=60						
RAO	**Raoul Island**	**8.30**	**179**	P	**P**	**02 03 14.5**	**+1.3**
	364nm,0.3s,baz=81,slow=21,SNR=6.8						
RAO	**Raoul Island**	**8.30**	**179**	P	**P**	**02 03 14.7**	**+1.5**
PINNC	**Pines Island,**	**13.62**	**260**	P	**P**	**02 04 10.6**	**+0.8**
DZM	**Mont Dzumac**	**14.52**	**263**	P	**P**	**02 04 19.5**	**+0.2**
	0.7nm,0.3s,baz=120,slow=19,SNR=5.1						
DZM	**Mont Dzumac**	**14.52**	**263**	P	**P**	**02 04 19.8**	**+0.5**
URZ	**Urewera**	**17.79**	**193**	P	**P**	**02 04 51.1**	**-1.4**
	1.0nm,0.3s,baz=314,slow=5.9,SNR=1.9						
URZ	**Urewera**	**17.79**	**193**	P	**P**	**02 04 50.9**	**-1.5**
CTAO	**Charters Tower**	**33.44**	**265**	P	**P**	**02 07 11.0**	**-0.3**
CTAO				IAmb	IAmb	02 07 16.0	
	comp=Z,8.1nm,1.1s						
WR0	**Warramunga Arr**	**44.35**	**262**	P	**P**	**02 08 39.3**	**-0.5**
ASAR	**Alice Springs**	**44.42**	**257**	P	**P**	**02 08 40.1**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=93,slow=8.3,SNR=42						
ASAR	**Alice Springs**	**44.42**	**257**	P	**P**	**02 08 39.0**	**-1.2**
WB0	**Warramunga Arr**	**44.52**	**263**	P	**P**	**02 08 40.5**	**-0.5**
WB2	**Warramunga Arr**	**44.52**	**262**	P	**P**	**02 08 40.7**	**-0.5**
WB2				IAmb	IAmb	02 08 41.4	
	comp=Z,8.8nm,1.1s						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**02 08 40.9**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=95,slow=7.7,SNR=65						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**02 08 40.6**	**-0.6**
VNDA	**Vanda**	**57.50**	**185**	P	**P**	**02 10 14.2**	**-0.5**
MJAR	**Matsushiro Arr**	**70.54**	**324**	P	**P**	**02 11 38.9**	**+0.4**
	comp=Z,13nm,0.7s,baz=97,slow=13,SNR=5.0						
JSD	**Sado**	**71.60**	**325**	P	**P**	**02 11 45.0**	**+0.4**
JSD				IAmb	IAmb	02 11 47.1	
	comp=Z,7.0nm,0.9s						
PETK	**Petropavlovsk-**	**76.67**	**345**	P	**P**	**02 12 13.8**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=114,slow=7.2,SNR=7.4						
USRK	**Ussuriysk Ar.**	**79.30**	**326**	P	**P**	**02 12 28.7**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=130,slow=3.9,SNR=5.9						
USRK	**Ussuriysk Ar.**	**79.30**	**326**	P	**P**	**02 12 27.6**	**+0.2**
YBH	**Yreka Blue Hor**	**80.62**	**39**	P	**P**	**02 12 35.9**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=214,slow=5.5,SNR=8.6						
YBH	**Yreka Blue Hor**	**80.62**	**39**	P	**P**	**02 12 35.0**	**+0.4**
YBH				IAmb	IAmb	02 12 36.6	
	comp=Z,2.9nm,0.7s						
NVAR	**Mina Array Bea**	**81.33**	**43**	P	**P**	**02 12 39.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=232,slow=6.3,SNR=9.5						
NVAR	**Mina Array Bea**	**81.33**	**43**	P	**P**	**02 12 38.9**	**+0.3**
NV11	**Mina Array Sit**	**81.43**	**43**	P	**P**	**02 12 39.2**	**+0.3**
KVN	**Kaiserville**	**81.82**	**43**	P	**P**	**02 12 41.6**	**+0.6**
PINE	**Pine Mountain**	**82.92**	**38**	P	**P**	**02 12 47.1**	**+0.7**
PINE				IAmb	IAmb	02 12 48.6	
	comp=Z,5.3nm,0.8s						
U15A	**North Rim**	**84.25**	**48**	P	**P**	**02 12 53.2**	**-0.1**
U15A				IAmb	IAmb	02 12 55.3	
	comp=Z,3.0nm,0.8s						
G08A	**Pilot Rock**	**84.95**	**37**	P	**P**	**02 12 57.0**	**+0.6**
G08A				IAmb	IAmb	02 12 57.9	
	comp=Z,4.0nm,1.0s						
WRH	**Wood River Hil**	**88.21**	**12**	P	**P**	**02 13 10.8**	**-0.5**
WRH				IAmb	IAmb	02 13 11.4	
	comp=Z,2.7nm,0.9s						
HDA	**Harding Lake**	**88.39**	**13**	P	**P**	**02 13 11.8**	**-0.3**
CCB	**Clear Creek Bu**	**88.42**	**13**	P	**P**	**02 13 11.6**	**-0.7**
ILAR	**Eielson Array**	**88.72**	**13**	P	**P**	**02 13 13.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=229,slow=4.4,SNR=5.4						
ILAR	**Eielson Array**	**88.72**	**13**	P	**P**	**02 13 14.1**	**+0.4**
PDAR	**Pinedale Array**	**89.27**	**43**	P	**P**	**02 13 17.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=215,slow=4.3,SNR=9.0						
435B	**Jarrell**	**92.69**	**58**	P	**P**	**02 13 30.7**	**-2.1**
MKAR	**Makanchi Array**	**111.48**	**313**	PKiKP	**PKiKP**	**02 18 51.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=67,slow=0.7,SNR=2.5						
ARCES	**ARCESS Array B**	**129.33**	**350**	PKP	**PKPdf**	**02 19 24.5**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=52,slow=1.5,SNR=11						
ARCES	**ARCESS Array B**	**129.33**	**350**	PKPdf	**PKPdf**	**02 19 25.2**	**+0.3**
FINES	**FINESS Array B**	**136.17**	**344**	PKP	**PKPdf**	**02 19 39.0**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=57,slow=7.0,SNR=4.7						
FINES	**FINESS Array B**	**136.17**	**344**		**PKPdf**	**02 19 38.0**	**0.0**
NOA	**NORSAR Array B**	**139.39**	**353**	PKhKP	PKPpre	02 19 36.7	
	comp=Z,0.3nm,0.6s,baz=15,slow=5.0,SNR=3.6						
HFS	**Hagfors**	**139.95**	**351**	PKhKP	PKPpre	02 19 39.3	
	comp=Z,1.2nm,0.4s,baz=66,slow=3.7,SNR=9.4						
AKASG	**Malin Array Be**	**143.37**	**331**	PKP	PKPab	02 19 49.0	-0.4
	comp=Z,4.6nm,0.4s,baz=43,slow=4.3,SNR=24						
EKA	**Eskdalemuir Ar**	**145.42**	**5**	PKPbc	**PKPdf**	**02 19 55.0**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=343,slow=2.6,SNR=4.6						
BRTR	**Keskin Array B**	**147.11**	**312**	PKPbc	**PKPbc**	**02 20 01.1**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=132,slow=4.9,SNR=8.6						
MMAI	**Mount Meron Ar**	**148.01**	**299**	PKPbc	**PKPbc**	**02 20 03.6**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=248,slow=1.6,SNR=6.2						
OSTC	**Ostas**	**148.36**	**343**	*e*PKP	**PKPbc**	**02 20 04.8**	**+0.8**
CLL	**Collm**	**148.46**	**347**	↓*i*PKPbc	**PKPbc**	**02 20 04.3**	**+0.1**
	comp=Z,6.0nm,0.8s						
CLL				*i* PKiKP	**PKiKP**	**02 20 06.1**	**+0.7**
	comp=Z,5.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	**02 20 09.7**	**+0.3**
DPC	**Dobruska-Polom**	**148.52**	**342**	*e*PKP	**PKPbc**	**02 20 04.9**	**+0.5**
MLR	**Muntele Rosu**	**148.57**	**327**	PKPbc	**PKPbc**	**02 20 04.3**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=315,slow=7.1,SNR=6.4						
MLR	**Muntele Rosu**	**148.57**	**327**		**PKPbc**	**02 20 04.6**	**-0.3**
KRLC	**Kraliky**	**148.63**	**342**	*e*PKP	**PKPbc**	**02 20 05.1**	**+0.4**
PVCC	**Panska Ves**	**148.83**	**344**	*e*PKP	**PKPbc**	**02 20 05.8**	**+0.7**
PRU	**Pruhonice**	**149.33**	**344**	*e*PKP	**PKPbc**	**02 20 06.8**	**+0.5**
KHC	**Kasperske Hory**	**150.36**	**345**	*e*PKP	**PKPbc**	**02 20 09.2**	**+0.3**
KHC				*ex*	x	02 20 18.3	
CKRC	**Cesky Krumlov**	**150.46**	**343**	*e*PKP	**PKPbc**	**02 20 09.2**	**+0.1**
GERES	**GERESS Array B**	**150.60**	**344**	PKPbc	**PKPbc**	**02 20 09.6**	**0.0**
	comp=Z,1.2nm,0.6s,baz=45,slow=2.3,SNR=11						
CONA	**Conrad Observa**	**150.82**	**341**	*e*P	**PKPbc**	**02 20 10.2**	**+0.2**
	comp=Z,1.9nm,0.6s						
SOKA	**Soboth**	**152.19**	**341**	*e*P	**PKPdf**	**02 20 08.9**	**+3.0**
	comp=Z,2.7nm,1.3s						
WATA	**Walderalm**	**152.52**	**346**	*e*P	**PKPbc**	**02 20 10.8**	**-3.1**
RETA	**Reutte**	**152.56**	**347**	*e*P	**PKPab**	**02 20 23.6**	**-3.1**
	comp=Z,2.6nm,1.2s						
WTTA	**Wattenberg**	**152.57**	**346**	*e*P	**PKPbc**	**02 20 13.1**	**-1.0**
	comp=Z,2.6nm,0.9s						
WTTA				*e*P	**PKPab**	**02 20 28.4**	**+1.5**
	comp=Z,1.7nm,0.6s						
ABTA	**Abfaltersbach**	**152.84**	**344**	*e*P	**PKPbc**	**02 20 13.1**	**-1.5**
	comp=Z,2.6nm,0.6s						
ABTA				*e*P	**PKPab**	**02 20 28.6**	**+0.7**
	comp=Z,2.1nm,0.6s						
DAVA	**Damuels**	**152.93**	**348**	*e*P	**PKPab**	**02 20 25.5**	**-2.9**
	comp=Z,2.7nm,1.1s						
FETA	**Feichten**	**153.01**	**347**	*e*P	**PKPbc**	**02 20 13.1**	**-1.9**
	comp=Z,2.0nm,0.9s						
FETA				*e*P	**PKPab**	**02 20 30.0**	**+1.3**
	comp=Z,2.5nm,1.0s						
DAVOX	**Davos/Dischmat**	**153.41**	**348**	PKPbc	**PKPbc**	**02 20 16.1**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=218,slow=9.3,SNR=7.5						

*TUL **21** 02:10:21.4±1.1,36°.85N±0°.04×98°.26W±0°.04,h4km±7km, ML3.4,mb_Lg3.1/99(NEIC),Error ellipse: s-maj=6.0km s-min=4.7km az=168.0*
*ANF **21** 02:10:21.8±0.4,36°.84N×98°.26W,h0km,ML4.0/11,Error ellipse: s-maj=5.5km s-min=4.2km az=16.0*

*NEIC **21** 02:10:21.8±0.7,36°.84N±0°.01×98°.25W±0°.03,h5km±2km, Error ellipse: s-maj=3.9km s-min=3.0km az=105.0*
ISC 21 02:10:21.8±0.9,36°.83N±0°.02×98°.26W±0°.03,h7km±6km, n94,σ0s63/77,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.05**	**122**		**Pg**	**02 10 23.2**	**-0.2**
OK032				Sg	**Sg**	**02 10 24.4**	**-0.2**
KAN10	**Anthony SW Sta**	**0.32**	**25**		**Pg**	**02 10 27.9**	**-0.3**
KAN10				Sg	**Sg**	**02 10 32.4**	**-0.1**
GC02	**Grant County #**	**0.32**	**86**		**Pg**	**02 10 28.1**	**-0.1**
GC02				Sg	**Sg**	**02 10 32.7**	**+0.2**
CROK	**Carrier**	**0.40**	**145**		**Pg**	**02 10 29.6**	**+0.1**
CROK				Sg	**Sg**	**02 10 35.3**	**+0.6**
KAN05	**Bluff City Nor**	**0.42**	**48**		**Pg**	**02 10 29.8**	**-0.2**
KAN05				Sg	**Sg**	**02 10 35.5**	**0.0**
KAN17	**Caldwell West**	**0.45**	**62**		**Pg**	**02 10 30.3**	**-0.3**
KAN17				Sg	**Sg**	**02 10 36.6**	**0.0**
KAN08	**Anthony NE Sta**	**0.46**	**30**		**Pg**	**02 10 30.5**	**-0.3**
KAN08				Sg	**Sg**	**02 10 36.8**	**-0.1**
KAN09	**Caldwell North**	**0.60**	**59**		**Pg**	**02 10 33.1**	**-0.3**
KAN09				Sg	**Sg**	**02 10 40.9**	**-0.4**
KAN13	**South Haven SW**	**0.66**	**74**		**Pg**	**02 10 34.1**	**-0.4**
KAN13				Sg	**Sg**	**02 10 42.8**	**-0.2**
KS20	**Mayfield South**	**0.69**	**55**		**Pg**	**02 10 34.8**	**-0.4**
KS20				Sg	**Sg**	**02 10 43.9**	**-0.4**
U32A	**Winter Ranch,**	**0.74**	**233**	Pg	**Pg**	**02 10 35.8**	**-0.3**
U32A	**Winter Ranch,**	**0.74**	**233**	P		02 10 36.0	
	baz=52,SNR=20						
U32A				S		02 10 46.6	
	baz=52						
BLOK	**Blackwell**	**0.84**	**94**		**Pg**	**02 10 37.4**	**-0.7**
BLOK				Sg	**Sg**	**02 10 48.5**	**-0.5**
OK029	**Liberty Lake**	**1.22**	**147**		**Pg**	**02 10 44.4**	**-0.9**
BCOK	**Bluff Creek, N**	**1.28**	**156**		**Pg**	**02 10 45.4**	**-1.1**
T35A	**Sooner Cattle**	**1.41**	**86**		**Pn**	**02 10 47.2**	**-0.7**
T35B	**Sooner Cattle**	**1.41**	**86**	P		02 10 47.4	
	baz=267,SNR=102						
T35B				S		02 11 05.8	
	baz=267						
QUOK	**Quay**	**1.42**	**117**		**Pn**	**02 10 47.5**	**-0.4**
OK009	**Oakdale Elemen**	**1.42**	**151**	Pn	**Pn**	**02 10 48.0**	**0.0**
OK031	**S. Brethren Rd**	**1.44**	**127**		**Pn**	**02 10 48.0**	**-0.4**
OK025	**Westminster Rd**	**1.45**	**149**		**Pn**	**02 10 48.3**	**-0.2**
OKCSW	**OKLAHOMA CITY**	**1.57**	**155**		**Pn**	**02 10 50.3**	**+0.2**
R32A	**Long Quarter,**	**1.63**	**348**		**Pn**	**02 10 50.5**	**-0.4**
R32A	**Long Quarter,**	**1.63**	**348**	P		02 10 51.3	
	baz=167,SNR=180						
R32A				S		02 11 13.1	
	baz=167						
FNO	**Franklin**	**1.72**	**156**		**Pn**	**02 10 51.9**	**-0.2**
WMOK	**Wichita Mounta**	**2.13**	**192**	P	**Pn**	**02 10 58.3**	**+0.5**
	baz=11						
WMOK	**Wichita Mounta**	**2.13**	**192**		**Pn**	**02 10 57.9**	**0.0**
WMOK	**Wichita Mounta**	**2.13**	**192**	P		02 10 58.1	
	baz=11,SNR=137						
TUL1	**Leonard**	**2.19**	**114**	P	**Pn**	**02 11 00.3**	**+1.5**
	baz=296						
TUL1				S	**Sb**	**02 11 29.6**	**+0.3**
	baz=296						
TUL1	**Leonard**	**2.19**	**114**	P		02 10 59.1	
	baz=296,SNR=15						
TUL1				S		02 11 29.9	
	baz=296						
X34A	**Smith Ranch, M**	**2.25**	**171**		**Pn**	**02 10 59.9**	**+0.4**
CBKS	**Cedar Bluff**	**2.30**	**330**	S	**Sb**	**02 11 32.4**	**+0.1**
	baz=149						
CBKS	**Cedar Bluff**	**2.30**	**330**		**Pn**	**02 10 59.6**	**-0.6**
CBKS	**Cedar Bluff**	**2.30**	**330**	P		02 11 00.6	
	baz=149,SNR=35						
CBKS				S		02 11 30.1	
	baz=149						
KSU1	**Kansas State U**	**2.62**	**29**		**Pn**	**02 11 04.1**	**-0.4**
KSU1				IAmb_Lg		02 11 50.7	
	comp=Z,66nm,0.7s						
LOOK	**Love County**	**2.97**	**162**		**Pn**	**02 11 09.4**	**+0.1**
LOOK				IAmb_Lg		02 12 01.0	
	comp=Z,41nm,0.7s						
U38A	**Gravette**	**3.14**	**96**		**Pn**	**02 11 11.7**	**0.0**
U38A				IAmb_Lg		02 12 06.4	
	comp=Z,60nm,0.7s						
U38A	**Gravette**	**3.14**	**96**	P		02 11 12.2	
	baz=278						
X37A	**Clayton**	**3.25**	**133**		**Pn**	**02 11 13.1**	**0.0**
X37A				IAmb_Lg		02 12 07.1	
	comp=Z,65nm,1.0s						
X37A	**Clayton**	**3.25**	**133**	P		02 11 13.6	
	baz=315,SNR=46						
AMTX	**Amarillo**	**3.39**	**236**	Pb	**Pb**	**02 11 23.4**	**+1.2**
	baz=54						
AMTX				Sb	**Sg**	**02 12 08.9**	**-1.8**
	baz=54						
AMTX	**Amarillo**	**3.39**	**236**	Pn	**Pn**	**02 11 15.4**	**+0.2**
AMTX				IAmb_Lg		02 12 18.6	
	comp=Z,60nm,0.8s						
HHAR	**Hobbs**	**3.52**	**98**		**Pn**	**02 11 17.1**	**+0.1**
HHAR				IAmb_Lg		02 12 19.0	
	comp=Z,42nm,0.7s						
Z35A	**Perchaven, San**	**3.59**	**166**		**Pn**	**02 11 18.1**	**+0.2**
Z35A	**Perchaven, San**	**3.59**	**166**	P		02 11 18.6	
	baz=347,SNR=9.3						
Z35A				S		02 12 01.9	
	baz=347						
N33A	**J Bar K, Exete**	**3.95**	**9**	Pn	**Pn**	**02 11 22.2**	**-0.7**
N33A				IAmb_Lg		02 12 26.2	
	comp=Z,32nm,0.8s						
W39A	**Magazine**	**3.98**	**113**	P	**Pn**	**02 11 24.0**	**+0.8**
	baz=296						
W39A				Sb	**Sg**	**02 12 26.5**	**-3.1**
	baz=296						
W39A	**Magazine**	**3.98**	**113**		**Pn**	**02 11 23.4**	**+0.1**
W39A	**Magazine**	**3.98**	**113**	P		02 11 24.0	
	baz=296,SNR=15						
KSCO	**Kaye Shedlock'**	**4.08**	**304**	Pn	**Pn**	**02 11 25.5**	**+0.7**
ABTX	**Abilene, Hawle**	**4.35**	**196**	Pn	**Pn**	**02 11 28.4**	**+0.1**
ABTX				IAmb_Lg		02 12 41.7	
	comp=Z,38nm,1.1s						
U40A	**Yellville**	**4.38**	**95**	P	**Pn**	**02 11 28.8**	**0.0**
	baz=278						
U40A				S	**Sn**	**02 12 20.6**	**+0.6**
	baz=278						
U40A	**Yellville**	**4.38**	**95**	Pn	**Pn**	**02 11 28.6**	**-0.2**
U40A				IAmb_Lg		02 12 39.2	
	comp=Z,45nm,0.8s						
U40A	**Yellville**	**4.38**	**95**	P		02 11 28.8	
	baz=278						
U40A				P		02 11 28.8	
	baz=278						
MIAR	**Mount Ida**	**4.44**	**119**	P	**Pn**	**02 11 30.4**	**+0.8**
	baz=302						
MIAR	**Mount Ida**	**4.44**	**119**	Pn	**Pn**	**02 11 29.8**	**+0.2**
MIAR				IAmb_Lg		02 12 48.0	
	comp=Z,33nm,0.8s						
MIAR	**Mount Ida**	**4.44**	**119**	P		02 11 30.5	
	baz=302,SNR=17						
Z38A	**Mt. Pleasant**	**4.46**	**142**	Pn	**Pn**	**02 11 29.8**	**-0.1**
Z38A				IAmb_Lg		02 12 48.9	
	comp=Z,52nm,0.7s						
Z38A	**Mt. Pleasant**	**4.46**	**142**	P		02 11 30.2	
	baz=324						
BGNE	**Belgrade**	**4.57**	**1**	P	**Pn**	**02 11 31.7**	**+0.3**
	baz=181						
BGNE	**Belgrade**	**4.57**	**1**		**Pn**	**02 11 31.0**	**-0.4**
BGNE	**Belgrade**	**4.57**	**1**	P		02 11 31.6	
	baz=181,SNR=23						
P38A	**Dawn**	**4.65**	**52**	Pn	**Pn**	**02 11 32.9**	**+0.4**
P38A				IAmb_Lg		02 12 57.2	
	comp=Z,42nm,0.9s						
MSTX	**Muleshoe**	**4.66**	**234**	Pn	**Pn**	**02 11 32.4**	**-0.3**
MSTX				IAmb_Lg		02 12 51.0	
	comp=Z,33nm,0.9s						
MGMO	**Mountain Grove**	**4.81**	**84**		**Pn**	**02 11 34.9**	**+0.3**
WHTX	**Lake Whitney,**	**4.87**	**172**	P	**Pn**	**02 11 35.8**	**+0.3**
	baz=352						
WHTX	**Lake Whitney,**	**4.87**	**172**	Pn	**Pn**	**02 11 35.6**	**+0.1**
WHTX				IAmb_Lg		02 13 08.6	
	comp=Z,22nm,0.9s						
WHTX	**Lake Whitney,**	**4.87**	**172**	P		02 11 35.8	
	baz=352,SNR=7.5						
T25A	**Trinidad**	**4.93**	**275**	Pn	**Pn**	**02 11 36.4**	**-0.1**
R40A	**Maddies Statio**	**4.98**	**71**		**Pn**	**02 11 36.8**	**-0.2**
X40A	**Basin Creek Fa**	**5.00**	**116**	P	**Pn**	**02 11 38.1**	**+0.8**
	baz=300						
X40A	**Basin Creek Fa**	**5.00**	**116**		**Pn**	**02 11 37.1**	**-0.2**
X40A				IAmb_Lg		02 13 03.5	
	comp=Z,23nm,0.7s						
X40A	**Basin Creek Fa**	**5.00**	**116**	P		02 11 38.1	
	baz=300,SNR=15						
X40A				P		02 11 38.1	
	baz=300,SNR=15						
OGNE	**Ogallala**	**5.05**	**326**	Pn	**Pn**	**02 11 39.4**	**+1.3**
WHAR	**Wooly Hollow**	**5.08**	**106**	Pn	**Pn**	**02 11 38.2**	**-0.2**
WHAR				IAmb_Lg		02 13 07.6	
	comp=Z,30nm,0.8s						
W41B	**Gary Mavity, V**	**5.15**	**107**	P	**Pn**	**02 11 39.2**	**-0.1**
	baz=291						
W41B	**Gary Mavity, V**	**5.15**	**107**	P		02 11 39.2	
	baz=291,SNR=11						
237A	**Washetta, Mont**	**5.23**	**156**		**Pn**	**02 11 40.2**	**-0.2**
237A				IAmb_Lg		02 13 18.5	
	comp=Z,40nm,1.0s						
237A	**Washetta, Mont**	**5.23**	**156**	P		02 11 40.0	
	baz=338,SNR=7.3						
WLAR	**White Oak Lake**	**5.25**	**125**		**Pn**	**02 11 40.5**	**-0.2**
WLAR				IAmb_Lg		02 13 21.1	
	comp=Z,24nm,0.7s						
L34A	**Svendsen Farm,**	**5.33**	**15**	IAmb_Lg		02 13 12.6	
	comp=Z,45nm,0.8s						
CCM	**Cathedral Cave**	**5.72**	**76**	IAmb_Lg		02 13 31.2	
	comp=Z,30nm,0.8s						
NATX	**Nacogdoches**	**5.87**	**148**	IAmb_Lg		02 13 41.9	
	comp=Z,17nm,0.8s						
CCAR	**Cane Creek**	**6.05**	**117**	IAmb_Lg		02 13 46.2	
	comp=Z,34nm,1.0s						
HBAR	**Harrisburg**	**6.28**	**99**	IAmb_Lg		02 13 54.1	
	comp=Z,38nm,0.7s						
PBMO	**Poplar Bluff**	**6.29**	**88**	IAmb_Lg		02 13 49.2	
	comp=Z,30nm,0.8s						
143A	**Socs Landing,**	**6.99**	**124**	IAmb_Lg		02 14 14.0	
	comp=Z,15nm,0.8s						
PHWY	**Pilot Hill**	**7.16**	**311**	IAmb_Lg		02 14 13.1	
	comp=Z,15nm,0.7s						
S44A	**Carbondale**	**7.24**	**80**	IAmb_Lg		02 14 10.1	
	comp=Z,24nm,0.8s						
SIUC	**Southern Illin**	**7.27**	**80**	IAmb_Lg		02 14 16.9	
	comp=Z,26nm,0.8s						
W45A	**Hickory Valley**	**7.54**	**100**	IAmb_Lg		02 14 35.1	
	comp=Z,28nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.60**	**71**	IAmb_Lg		02 14 30.6	
	comp=Z,24nm,0.7s						
Y45A	**Yeager Farm, C**	**7.71**	**110**	IAmb_Lg		02 14 29.9	
	comp=Z,15nm,0.8s						
I37A	**Lemond, Waseca**	**8.08**	**26**	IAmb_Lg		02 14 52.3	
	comp=Z,15nm,0.8s						
OLIL	**Olney**	**8.27**	**74**	IAmb_Lg		02 14 42.0	
	comp=Z,25nm,0.9s						
O44A	**Mansfield**	**8.37**	**64**	IAmb_Lg		02 14 46.9	
	comp=Z,28nm,0.8s						
L42A	**Oliver, Polo**	**8.42**	**50**	IAmb_Lg		02 14 48.3	
	comp=Z,24nm,0.7s						
RWWY	**Rawlins**	**8.47**	**308**	IAmb_Lg		02 15 01.5	
	comp=Z,13nm,1.1s						
PLAL	**Pickwick Lake**	**8.47**	**100**	IAmb_Lg		02 14 59.3	
	comp=Z,13nm,1.2s						
RSSD	**Black Hills**	**8.51**	**331**	IAmb_Lg		02 14 58.7	
	comp=Z,16nm,0.9s						
K22A	**Casper**	**8.62**	**315**	IAmb_Lg		02 15 09.7	
	comp=Z,16nm,0.8s						
JFWS	**Jewell Farm**	**8.65**	**43**	IAmb_Lg		02 14 59.1	
	comp=Z,26nm,0.8s						
T47A	**Sharon Grove**	**8.94**	**86**	IAmb_Lg		02 15 12.6	
	comp=Z,15nm,1.0s						
F33A	**5 Mile Ranch,**	**9.12**	**9**	IAmb_Lg		02 15 14.5	
	comp=Z,9.9nm,0.8s						
I40A	**Norwalk**	**9.15**	**37**	IAmb_Lg		02 15 27.1	
	comp=Z,17nm,1.0s						
M44A	**Midewin, Midew**	**9.15**	**57**	IAmb_Lg		02 15 18.6	
	comp=Z,20nm,1.0s						
V48A	**Smith Brothers**	**9.30**	**93**	IAmb_Lg		02 15 22.2	
	comp=Z,9.5nm,1.0s						
SFIN	**Lafayette**	**9.43**	**65**	IAmb_Lg		02 15 26.0	
	comp=Z,19nm,0.9s						
X48A	**Hartselle**	**9.43**	**101**	IAmb_Lg		02 15 23.8	
	comp=Z,11nm,1.2s						
BLO	**Bloomington**	**9.56**	**72**	IAmb_Lg		02 15 28.8	
	comp=Z,22nm,0.8s						
WCI	**Wyandotte Cave**	**9.61**	**78**	IAmb_Lg		02 15 35.5	
	comp=Z,11nm,0.8s						
K43A	**Burlington**	**9.63**	**49**	IAmb_Lg		02 15 33.5	
	comp=Z,23nm,0.9s						

*SOME **21** 02:11:08.2,42°.03N×81°.83E,h20km*
*NNC **21** 02:11:09.8±2.0,42°.07N×81°.78E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=14.4km s-min=9.3km az=165.0*
**ISC 21 02:11:

CHKK	**Chushkaly**	**3.93 299**	*eP*	**Pb**	**02 12 20.2**	**-1.5**
	3.7nm,0.2s					
CHKK			*eS*	**Sb**	**02 13 12.0**	**+3.1**
	8.0nm,0.3s					
CHKK	**Chushkaly**	**3.93 299**	Pg	**Pb**	**02 12 20.2**	**-1.5**
	3.7nm,0.2s					
CHKK			Lg	Lg	02 13 12.0	
	8.0nm,0.3s					
KTBS	**Karatobe**	**4.08 296**	*eP*	**Pb**	**02 12 23.5**	**-0.6**
	2.7nm,0.6s					
KTBS			*eS*	**Sb**	**02 13 17.3**	**+4.3**
	11nm,0.5s					
KUU	**Kurty**	**4.38 297**	*eP*	**Pb**	**02 12 28.1**	**-1.1**
	1.5nm,0.4s					
KUU			*eS*	**Sb**	**02 13 25.5**	**+3.9**
	6.9nm,0.3s					
KUU	**Kurty**	**4.38 297**	Pg	**Pb**	**02 12 28.1**	**-1.1**
	1.5nm,0.4s					
KUU			Lg	Lg	02 13 25.5	
	6.9nm,0.3s					
DGS	**Degeres**	**4.57 287**	*eP*	**Pb**	**02 12 33.2**	**+0.7**
	2.7nm,0.5s					
DGS			*eS*	**Sb**	**02 13 33.9**	**+6.7**
	5.0nm,0.6s					
TKM2	**Tokmak 2**	**4.63 283**	⇓Pg	**Pb**	**02 12 34.4**	**+0.7**
	3.1nm,0.9s					
TKM2			⇑Lg	Lg	02 13 39.7	
	4.8nm,0.6s					
MK31	**Makanchi Array**	**4.77 5**	⇑Pn	**Pn**	**02 12 22.5**	**-0.9**
	0.4nm,0.3s,baz=192,slow=13,SNR=28					
MK31			Sn	**Sn**	**02 13 19.1**	**+1.3**
	0.4nm,0.3s,baz=288,slow=3.9,SNR=5.7					
MK31			⇓Lg	Lg	02 13 37.6	
	0.9nm,0.3s,baz=166,slow=27,SNR=4.2					
MAKZ	**Makanchi**	**4.77 2**	⇑Pn	**Pn**	**02 12 22.7**	**-0.7**
	1.0nm,0.3s					
MAKZ			⇑Sn	**Sn**	**02 13 20.3**	**+2.4**
	0.8nm,0.3s					
MAKZ			⇓Lg	Lg	02 13 39.4	
	5.0nm,1.1s					

NIED ***21*** *02:37:15.9, 41°.87N×143°.13E, h45km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=1.49; Mθθ=1.08; Mφφ=0.41; Mrθ=0.67; Mθφ=-1.55; Mφr=0.99; Fault plane solution: M0=2.36000×10^14 NP1: φs=160.00000°, δ=57.00000°, λ=-44.00000°. NP2: φs=278.00000°, δ=54.00000°, λ=-138.00000°.*

JMA 21 02:37:15.9±0.1, 41°.87N×143°.13E, h45km±1km, M3.5, 3C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.15**	**8**	⇓P	Pn	02 37 23.2	-0.2
JEM				*eS*	Sn	02 37 28.6	0.0
JTHR	**Tokachihiroo**	**0.44**	**17**	⇓P	Pn	02 37 26.0	-0.1
JTHR				S	Sn	02 37 33.5	+0.2
JNBK	**Urakawa-nobuka**	**0.50**	**326**	⇓P	Pn	02 37 26.8	0.0
JSHD	**Hidakashinhida**	**0.73**	**318**	⇓P	Pn	02 37 30.3	+0.4
JCH	**Churui**	**0.76**	**13**	⇑P	Pn	02 37 30.2	-0.1
JCH				*eS*	Sn	02 37 41.1	+0.3
JBT2	**Biratori 2**	**1.07**	**328**	⇓P	Pn	02 37 34.8	+0.3
JOB	**Onbets**	**1.16**	**27**	⇑P	Pn	02 37 35.8	+0.2
JFR	**Furan**	**1.35**	**343**	P	Pn	02 37 38.1	-0.2
JAR	**Ashorobuto**	**1.50**	**18**	⇑P	Pn	02 37 39.9	-0.5
JAR				*eS*	Sn	02 37 58.7	-0.1

IDC ***21*** *02:53:15.9±2.4, 2°.12N×127°.06E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.8/3, Error ellipse: s-maj=211.3km s-min=24.6km az=66.0*
DJA ***21*** *02:53:22.6±1.2, 2°N±3°×12°6E± °, h38km±28km, M3.5/6, mb3.6/1, MLv3.5/6*

ISC 21 02:53:23.0±1.0, 1.77N±0°.07×126°.47E±0°.10, h47km, n8, σ0.95/10, mb3.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**138**	P	**Pn**	**02 53 45.0**	**-0.3**
TNTI				S	**Sn**	**02 54 02.4**	**+0.5**
SGSI	**Sangihe**	**2.12**	**334**	P	**Pn**	**02 53 55.7**	**-0.4**
SGSI				S	**Sn**	**02 54 21.5**	**+0.2**
GTOI	**Gorontalo**	**3.64**	**252**	P	**Pn**	**02 54 16.9**	**+0.1**
SANI	**Sanana**	**3.82**	**187**	P	**Pn**	**02 54 18.5**	**-0.9**
WRA	**Warramunga Arr**	**22.92**	**161**	P	**P**	**02 58 22.5**	**-0.7**
	2.7nm,0.4s,baz=341,slow=11,SNR=53						
ASAR	**Alice Springs**	**26.30**	**164**	P	**P**	**02 58 55.6**	**+1.2**
	0.3nm,0.4s,baz=347,slow=13,SNR=6.5						
MKAR	**Makanchi Array**	**59.02**	**326**	P	**P**	**03 03 17.1**	**-1.0**
	0.5nm,0.5s,baz=130,slow=8.5,SNR=6.6						
DBIC	**Dimbokro**	**130.70**	**280**	PKP	**PKiKP**	**03 12 32.4**	**+1.5**
	3.2nm,0.8s,baz=108,slow=3.2,SNR=6.0						

TRN ***21*** *02:56:05.0, 13°.90N×58°.54W, h95km, MD3.6*

ISC 21 02:56:05.9±2.5, 13°.99N±0°.05×58°.7W±0°.1, h10km, n18, σ1.09/30, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.17**	**221**	*eP*	**Pn**	**02 56 27.9**	**-0.4**
BBSP				*eS*	**Sn**	**02 56 46.6**	**+2.3**
BBGH	**Gun Hill**	**1.21**	**226**	*eP*	**Pb**	**02 56 28.8**	**-0.1**
BBGH				*eS*	**Sn**	**02 56 47.0**	**+1.6**
MPOM	**Morne Pois Mar**	**2.18**	**282**	*eP*	**Pn**	**02 56 41.9**	**-0.4**
MPOM				*eS*	**Sn**	**02 57 09.5**	**+0.2**
MCLT	**Moule a Chique**	**2.23**	**263**	*eP*	**Pn**	**02 56 45.4**	**+2.4**
MCLT				*eS*	**Sn**	**02 57 11.9**	**+1.3**
SLBI	**Saint Lucia, B**	**2.24**	**271**	*e*	**Pn**	**02 56 43.0**	**-0.1**
SLBI	**Saint Lucia, B**	**2.24**	**271**	*eP*	**Pn**	**02 56 43.0**	**-0.1**
SLBI				*eS*	**Sn**	**02 57 10.8**	**-0.1**
SLB	**Belfond**	**2.31**	**266**	*eS*	**Sn**	**02 57 13.6**	**+0.9**
BIM	**Bigot**	**2.39**	**283**	*eP*	**Pn**	**02 56 44.9**	**-0.4**
BIM				*eS*	**Sn**	**02 57 13.6**	**-1.0**
SVB	**Belmont**	**2.62**	**255**	*eP*	**Pn**	**02 56 48.4**	**+0.1**
SVB				*eS*	**Sn**	**02 57 19.8**	**-0.3**
DSLB	**Salisbury**	**3.03**	**299**	*eP*	**Pn**	**02 56 54.6**	**+0.6**
DSLB				*eS*	**Sn**	**02 57 30.8**	**+0.3**
GCMP	**Grenada, Carri**	**3.08**	**241**	*eP*	**Pn**	**02 56 54.6**	**0.0**
GCMP				*eS*	**Sn**	**02 57 29.6**	**-1.8**
MAGL	**Barre de l'ile**	**3.20**	**308**	*eP*	**Pn**	**02 56 57.3**	**+1.0**
MAGL				*eS*	**Sn**	**02 57 34.9**	**+0.4**
GRGR	**Grenville**	**3.45**	**238**	*eP*	**Pn**	**02 56 58.9**	**-0.8**
GRGR				*eS*	**Sn**	**02 57 38.5**	**-2.2**
CBE	**Ff, Capester**	**3.52**	**306**	*eP*	**Pn**	**02 57 01.4**	**+0.7**
CBE				*eS*	**Sn**	**02 57 42.7**	**+0.2**
ANBD	**Bethesda, Anti**	**4.27**	**316**	*eP*	**Pn**	**02 57 11.3**	**+0.4**
ANBD	**Bethesda, Anti**	**4.27**	**316**	*eS*	**Sn**	**02 58 00.0**	**-0.8**
BPA	**Boggy Peak**	**4.33**	**315**	*eP*	**Pn**	**02 57 11.7**	**-0.2**
BPA	**Boggy Peak**	**4.33**	**315**	*eS*	**Sn**	**02 58 00.9**	**-1.5**

KMA 21 03:06:12.9±2.2, 37°.39N×129°.15E, h0km±26km, Error ellipse: s-maj=30.4km s-min=3.2km az=312.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMWB	**Imwonan-gil**	**0.21**	**134**	P	Pg	03 06 24.7	+7.8
KSDGY	**Daegwallycong**	**0.48**	**309**	P	Pg	03 06 21.5	-0.7
	SNR=15						
KSDGY	**Daegwallycong**	**0.48**	**309**	P	Pg	03 06 21.5	-0.7
	SNR=15						
KSDGY	**Daegwallycong**	**0.48**	**309**	P	Pg	03 06 21.5	-0.7
	SNR=15						
KSJMJ	**Jumunjin**	**0.58**	**328**	P	Pg	03 06 23.7	-0.5
	SNR=13						
KSJMJ	**Jumunjin**	**0.58**	**328**	P	Pg	03 06 23.7	-0.5
	SNR=13						
KSJMJ	**Jumunjin**	**0.58**	**328**	P	Pg	03 06 23.7	-0.5
	SNR=13						
KSULJ	**Uljin**	**0.71**	**163**	P	Pn	03 06 35.0	+4.8
	SNR=8.4						
KSSKC	**Sokcho**	**1.03**	**331**	P	Pg	03 06 32.7	0.0
	SNR=7.7						
KSSKC	**Sokcho**	**1.03**	**331**	P	Pg	03 06 32.7	0.0
	SNR=7.7						
KSSKC	**Sokcho**	**1.03**	**331**	P	Pg	03 06 32.7	0.0
	SNR=7.7						
KSCHC	**Chuncheon**	**1.13**	**291**	P	Pg	03 06 34.9	+0.3
	SNR=11						
KSCHC	**Chuncheon**	**1.13**	**291**	P	Pg	03 06 34.9	+0.3
	SNR=11						
KSCHC	**Chuncheon**	**1.13**	**291**	P	Pg	03 06 34.9	+0.3
	SNR=11						
SEHB	**SEOHWA**	**1.13**	**321**	P	Pg	03 06 34.6	0.0
	SNR=12						
SEHB	**SEOHWA**	**1.13**	**321**	P	Pg	03 06 34.6	0.0
	SNR=12						
SEHB	**SEOHWA**	**1.13**	**321**	P	Pg	03 06 34.6	0.0
	SNR=12						
KSDAG	**Daegu**	**1.63**	**187**	P	Pn	03 06 42.9	+0.1
	SNR=14						

IDC ***21*** *03:08:31.0±0.6, 62°.39N×149°.97W, h54km±5km, mb3.6/16, mb1 3.9/20, mb1mx3.8/37, mbtmp4.0/20, MS3.2/7, Ms1 3.2/7, ms1mx2.9/36, Error ellipse: s-maj=10.9km s-min=8.2km az=102.0*
NEIC ***21*** *03:08:32.2±1.1, 62°.34N±0°.03×149°.70W±0°.06, h56km±3km, Error ellipse: s-maj=4.1km s-min=3.7km az=110.0*
ANF ***21*** *03:08:32.2±0.1, 62°.33N×149°.70W, h54km±3km, ML4.8/63, ML4.8/63, Error ellipse: s-maj=1.6km s-min=1.3km az=140.0*
AEIC ***21*** *03:08:32±1.0, 62°.34N±0°.03×149°.70W±0°.06, h52km±4km, ML4.4, mb4.2/30(NEIC), ML4.6/127(NEIC), Mwr4.2/75(NEIC), Error ellipse: s-maj=4.1km s-min=3.7km az=110.0*
NEIC ***21*** *03:08:32.1, 62°.35N×149°.68W, h57km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=1.12; Mθθ=1.06; Mφφ=2.18; Mrθ=1.36; Mθφ=0.42; Mφr=0.26; Fault plane solution: M0=2.38000×10^15 NP1: φs=207.60000°, δ=52.67000°, λ=-30.15000°. NP2: φs=317.00000°, δ=66.46000°, λ=-138.59000°. Principal axes: T 2.2953, Plg8.0000°, Azm79.0000°; N 0.1577, Plg43.0000°, Azm341.0000°; P -2.4530, Plg45.0000°, Azm178.0000°;*

ISC 21 03:08:31.6±0.5, 62°.35N±0°.02×149°.68W±0°.02, h57km±4km, n345, σ0.95/350, mb4.0/31, MS3.3/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.28**	**282**	P	**Pn**	**03 08 41.6**	**+0.5**
	baz=104,SNR=1000						
CUT				S	**Sn**	**03 08 49.2**	**+1.2**
	baz=104						
CUT	**Chulitna**	**0.28**	**282**		**Pn**	**03 08 41.7**	**+0.5**
CUT					**Sn**	**03 08 49.3**	**+1.2**
CUT	**Chulitna**	**0.28**	**282**	IAML		03 08 49.5	
	comp=E,241μm,0.3s						
CUT				IAML		03 08 49.6	
	comp=N,157μm,0.5s						
WAT7	**Susitna Watana**	**0.62**	**38**		**Pn**	**03 08 45.2**	**+0.4**
WAT7					**Sn**	**03 08 55.2**	**+0.8**
HUR	**Hurricane**	**0.63**	**2**		**Pn**	**03 08 45.5**	**+0.7**
WAT1	**Susitna Watana**	**0.71**	**47**	P	**Pn**	**03 08 46.2**	**+0.4**
	baz=228						
WAT1				S	**Sn**	**03 08 57.0**	**+0.8**
	baz=228						
WAT1	**Susitna Watana**	**0.71**	**47**		**Pn**	**03 08 46.1**	**+0.4**
WAT1					**Sn**	**03 08 57.0**	**+0.8**
SML	**Sawmill**	**0.84**	**130**	P	**Pn**	**03 08 47.6**	**+0.1**
	baz=310,SNR=1000						
SML				S	**Sn**	**03 08 59.4**	**+0.3**
	baz=310						
SML	**Sawmill**	**0.84**	**130**		**Pn**	**03 08 47.5**	**+0.1**
SML					**Sn**	**03 08 59.5**	**+0.5**
SML	**Sawmill**	**0.84**	**130**	IAML		03 09 02.9	
	comp=E,19μm,0.4s						
SML				IAML		03 09 03.4	
	comp=N,27μm,0.3s						
WAT6	**Susitna Watana**	**0.93**	**75**	P	**Pn**	**03 08 49.0**	**+0.2**
	baz=256,SNR=1000						
WAT6				S	**Sn**	**03 09 01.7**	**+0.3**
	baz=256						
WAT6	**Susitna Watana**	**0.93**	**75**		**Pn**	**03 08 48.9**	**+0.2**
WAT6					**Sn**	**03 09 01.8**	**+0.4**
SKT	**Skwentna**	**0.94**	**248**	P	**Pn**	**03 08 48.8**	**+0.1**
	baz=66,SNR=1000						
SKT				S	**Sn**	**03 09 02.4**	**+1.0**
	baz=66						
SKT	**Skwentna**	**0.94**	**248**		**Pn**	**03 08 48.6**	**-0.1**
SKT	**Skwentna**	**0.94**	**248**	IAML		03 09 05.4	
	comp=E,11μm,0.2s						
SKT				IAML		03 09 05.7	
	comp=N,14μm,0.2s						
SUA	**Susitna One**	**1.02**	**210**	P	**Pn**	**03 08 50.2**	**+0.3**
	baz=29,SNR=1000						
SUA				S	**Sn**	**03 09 04.0**	**+0.6**
	baz=29						
SUA	**Susitna One**	**1.02**	**210**		**Pn**	**03 08 50.1**	**+0.3**
SUA					**Sn**	**03 09 04.0**	**+0.6**
SUA	**Susitna One**	**1.02**	**210**	IAML		03 09 06.7	
	comp=N,17μm,0.5s						
SUA				IAML		03 09 07.4	
	comp=E,18μm,0.5s						
KNK	**Knik Glacier**	**1.10**	**148**	P	**Pn**	**03 08 51.5**	**+0.6**
	baz=328,SNR=950						
KNK	**Knik Glacier**	**1.10**	**148**		**Pn**	**03 08 51.5**	**+0.6**
KNK	**Knik Glacier**	**1.10**	**148**	IAML		03 09 08.9	
	comp=N,20μm,0.5s						
RND	**Reindeer**	**1.13**	**19**		**Pn**	**03 08 51.9**	**+0.6**
RND					**Sn**	**03 09 06.2**	**+0.4**
TRF	**Thorofare Moun**	**1.14**	**346**	P	**Pn**	**03 08 52.3**	**+0.8**
	baz=166,SNR=1000						
TRF				S	**Sn**	**03 09 07.2**	**+1.0**
	baz=166						
TRF	**Thorofare Moun**	**1.14**	**346**		**Pn**	**03 08 52.3**	**+0.8**
TRF					**Sn**	**03 09 06.8**	**+0.6**
SCM	**Sheep Creek Mo**	**1.22**	**114**		**Pn**	**03 08 52.9**	**+0.4**
SCM	**Sheep Creek Mo**	**1.22**	**114**	IAML		03 09 12.1	
	comp=N,15μm,0.7s						
SCM				IAML		03 09 14.0	
	comp=E,13μm,0.6s						
FIS	**Fire Island**	**1.24**	**192**		**Pn**	**03 08 53.9**	**+1.4**
FIS	**Fire Island**	**1.24**	**192**	IAML		03 09 17.0	
	comp=E,13μm,0.5s						
RC01	**Rabbit Creek A**	**1.27**	**181**	P	**Pn**	**03 08 53.3**	**+0.3**
	baz=0.8,SNR=1000						
RC01	**Rabbit Creek A**	**1.27**	**181**		**Pn**	**03 08 53.3**	**+0.3**
RC01					**Sn**	**03 09 10.7**	**+1.7**
PPLA	**Purkeypile**	**1.28**	**296**	P	**Pn**	**03 08 53.7**	**+0.4**
	baz=115,SNR=241						
PPLA				S	**Sn**	**03 09 09.8**	**+0.2**
	baz=115						
PPLA	**Purkeypile**	**1.28**	**296**		**Pn**	**03 08 53.7**	**+0.4**
STLK	**Strandline Lak**	**1.33**	**231**		**Pn**	**03 08 54.1**	**+0.2**
KTH	**Kantishna Hill**	**1.33**	**335**		**Pn**	**03 08 54.8**	**+0.9**
KTH					**Sn**	**03 09 11.9**	**+1.2**
KTH	**Kantishna Hill**	**1.33**	**335**	IAML		03 09 12.4	
	comp=N,8μm,0.6s						
KTH				IAML		03 09 12.7	
	comp=E,10μm,0.6s						
MCK	**McKinley**	**1.43**	**13**	P	**Pn**	**03 08 56.3**	**+1.1**
	baz=194,SNR=1000						
MCK				S	**Sn**	**03 09 14.1**	**+1.1**
	baz=194						
MCK	**McKinley**	**1.43**	**13**		**Pn**	**03 08 56.3**	**+1.1**
MCK	**McKinley**	**1.43**	**13**	IAML		03 09 15.7	
	comp=N,6μm,0.9s						
SPCG	**Spurr Capps Gl**	**1.54**	**227**		**Pn**	**03 08 56.8**	**+0.1**
SPCP	**Crater Peak Br**	**1.60**	**228**		**Pn**	**03 08 57.8**	**+0.1**
PWL	**Port Wells**	**1.63**	**156**		**Pn**	**03 08 58.2**	**+0.3**
PWL					**Sn**	**03 09 18.8**	**+1.0**
PWL	**Port Wells**	**1.63**	**156**	IAML		03 09 25.4	
	comp=E,7μm,0.8s						
PWL				IAML		03 09 25.7	
	comp=N,7μm,0.5s						
SPCN	**Chakachatna No**	**1.64**	**228**		**Pn**	**03 08 58.9**	**+0.8**
M24K	**Tolsona, Glenn**	**1.66**	**97**	P	**Pn**	**03 09 00.1**	**+1.7**
	baz=280,SNR=1000						
M24K	**Tolsona, Glenn**	**1.66**	**97**		**Pn**	**03 09 00.1**	**+1.7**
M24K	**Tolsona, Glenn**	**1.66**	**97**	IAML		03 09 24.7	
	comp=N,7μm,0.6s						
M24K				IAML		03 09 31.0	
	comp=E,9μm,0.8s						
SPCR	**Spurr Chakacha**	**1.67**	**227**	P	**Pn**	**03 08 58.6**	**+0.1**
	baz=45,SNR=270						
SPCR				S	**Sn**	**03 09 19.8**	**+1.1**
	baz=45						
SPCR	**Spurr Chakacha**	**1.67**	**227**		**Pn**	**03 08 58.9**	**+0.4**
SPBG	**Spurr Blockage**	**1.68**	**231**		**Pn**	**03 08 59.3**	**+0.6**
M20K	**Styx River**	**1.69**	**255**	P	**Pn**	**03 08 59.5**	**+0.7**
	baz=73						
M20K				S	**Sn**	**03 09 20.7**	**+1.4**
	baz=73						
M20K	**Styx River**	**1.69**	**255**		**Pn**	**03 08 59.4**	**+0.7**
M20K					**Sn**	**03 09 20.7**	**+1.4**
CAPN	**Captain Cook N**	**1.74**	**205**	P	**Pn**	**03 09 01.3**	**+2.0**
	baz=23,SNR=31						
CAPN	**Captain Cook N**	**1.74**	**205**		**Pn**	**03 09 01.4**	**+2.1**
SPNN	**North Nagishla**	**1.74**	**237**		**Pn**	**03 08 59.9**	**+0.4**
SPNN					**Sn**	**03 09 22.8**	**+2.2**
BWN	**Browne**	**1.83**	**3**		**Pn**	**03 09 01.7**	**+1.0**
BWN	**Browne**	**1.83**	**3**	IAML		03 09 29.0	
	comp=E,4μm,0.8s						
BWN				IAML		03 09 29.7	
	comp=N,4μm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.85**	**342**	P	**Pn**	**03 09 01.4**	**+0.5**
	baz=161,SNR=861						
BPAW				S	**Sn**	**03 09 23.1**	**-0.2**
	baz=161						
BPAW	**Bear Paw Mtn.**	**1.85**	**342**		**Pn**	**03 09 01.3**	**+0.3**
SLKM	**Skilak Lake**	**1.87**	**188**		**Pn**	**03 09 01.0**	**-0.1**
O22K	**Cooper Landing**	**1.88**	**181**	P	**Pn**	**03 09 01.2**	**0.0**
	baz=0.3						
O22K	**Cooper Landing**	**1.88**	**181**		**Pn**	**03 09 01.2**	**0.0**
GLI	**Glacier Island**	**1.93**	**139**	P	**Pn**	**03 09 02.5**	**+0.5**
	baz=321,SNR=432						
GLI	**Glacier Island**	**1.93**	**139**		**Pn**	**03 09 02.5**	**+0.5**
GLI	**Glacier Island**	**1.93**	**139**	IAML		03 09 33.1	
	comp=N,7μm,0.3s						
CHUM	**Lake Minchumin**	**1.95**	**323**	P	**Pn**	**03 09 03.1**	**+0.8**
	baz=141,SNR=414						
CHUM				S	**Sn**	**03 09 25.5**	**0.0**
	baz=141						
CHUM	**Lake Minchumin**	**1.95**	**323**		**Pn**	**03 09 03.0**	**+0.8**
JPK	**Jack Peak**	**1.96**	**130**		**Pn**	**03 09 02.8**	**+0.4**
KLU	**Klutina**	**1.98**	**114**	P	**Pn**	**03 09 03.5**	**+0.8**
	baz=297,SNR=1000						
KLU	**Klutina**	**1.98**	**114**		**Pn**	**03 09 03.5**	**+0.8**
KLU					**Sn**	**03 09 27.0**	**+0.6**
KLU	**Klutina**	**1.98**	**114**	IAML		03 09 32.1	
	comp=N,5μm,0.4s						
KLU				IAML		03 09 33.1	
	comp=E,4μm,0.5s						
PS11	**TAPS Pump St11**	**1.99**	**96**		**Pn**	**03 09 04.9**	**+2.1**
VMT	**TAPS Tl Valdez**	**2.03**	**127**		**Pn**	**03 09 03.6**	**+0.3**
PAX	**Paxson**	**2.04**	**70**	P	**Pn**	**03 09 04.9**	**+1.3**
	baz=254,SNR=539						
PAX	**Paxson**	**2.04**	**70**		**Pn**	**03 09 03.5**	**-0.1**
HARP	**HAARP**	**2.11**	**87**	P	**Pn**	**03 09 06.3**	**+1.9**
	baz=270,SNR=1000						
HARP	**HAARP**	**2.11**	**87**		**Pn**	**03 09 06.4**	**+1.9**
FID	**Port Fidalgo**	**2.22**	**135**		**Pn**	**03 09 06.1**	**+0.2**
FID					**Sn**	**03 09 33.1**	**+0.9**
FID	**Port Fidalgo**	**2.22**	**135**	IAML		03 09 41.6	
	comp=N,5μm,0.4s						
FID				IAML		03 09 43.1	
	comp=E,5μm,0.6s						
DIV	**Divide**	**2.23**	**122**		**Pn**	**03 09 06.2**	**+0.1**
DIV					**Sn**	**03 09 32.3**	**-0.2**
WRH	**Wood River Hil**	**2.25**	**18**		**Pn**	**03 09 06.9**	**+0.7**
K20K	**Telida**	**2.25**	**299**	P	**Pn**	**03 09 06.8**	**+0.4**
	baz=115,SNR=258						
K20K	**Telida**	**2.25**	**299**		**Pn**	**03 09 06.8**	**+0.4**
M19K	**Big River Lodg**	**2.26**	**261**	P	**Pn**	**03 09 06.7**	**+0.3**
	baz=77						
M19K				S	**Sn**	**03 09 34.5**	**+1.4**
	baz=77						
M19K	**Big River Lodg**	**2.26**	**261**		**Pn**	**03 09 06.7**	**+0.3**
SEW	**Seward**	**2.26**	**177**	P	**Pn**	**03 09 06.0**	**-0.4**
	baz=357,SNR=147						
SEW	**Seward**	**2.26**	**177**		**Pn**	**03 09 05.9**	**-0.5**
NEA2	**Nenana**	**2.27**	**7**	P	**Pn**	**03 09 07.1**	**+0.5**
	baz=187,SNR=648						
NEA2				S	**Sn**	**03 09 32.1**	**-1.3**
	baz=187						
NEA2	**Nenana**	**2.27**	**7**		**Pn**	**03 09 07.0**	**+0.5**
NEA2					**Sn**	**03 09 32.3**	**-1.1**
DFR	**Drift River**	**2.28**	**221**		**Pn**	**03 09 07.5**	**+0.7**
PS12	**TAPS Pump St12**	**2.32**	**110**		**Pn**	**03 09 08.0**	**+0.7**
NCT	**North Crescent**	**2.38**	**222**		**Pn**	**03 09 09.3**	**+1.2**
PS09	**TAPS Pump Stn9**	**2.38**	**47**		**Pn**	**03 09 11.2**	**+3.0**
RSO	**Redoubt South**	**2.40**	**219**		**Pn**	**03 09 08.8**	**+0.2**
HDA	**Harding Lake**	**2.41**	**30**	P	**Pn**	**03 09 09.4**	**+0.9**
	baz=212,SNR=838						
HDA				S	**Sn**	**03 09 36.9**	**+0.1**
	baz=212						
HDA				S	**Sn**	**03 09 36.9**	**+0.1**
	baz=212						
HDA	**Harding Lake**	**2.41**	**30**		**Pn**	**03 09 09.3**	**+0.9**
HDA	**Harding Lake**	**2.41**	**30**	IAML		03 09 42.0	
	comp=E,3μm,0.4s						
HDA				IAML		03 09 43.5	
	comp=N,3μm,0.4s						
RDWB	**Redoubt West**	**2.41**	**220**		**Pn**	**03 09 09.4**	**+0.8**
L19K	**White Mountain**	**2.42**	**268**	P	**Pn**	**03 09 09.0**	**+0.2**
	baz=84,SNR=485						
L19K				S	**Sn**	**03 09 37.3**	**+0.1**
	baz=84						
L19K	**White Mountain**	**2.42**	**268**		**Pn**	**03 09 08.9**	**+0.2**
RED	**Redoubt Volcan**	**2.44**	**219**		**Pn**	**03 09 09.7**	**+0.7**
CCB	**Clear Creek Bu**	**2.46**	**19**		**Pn**	**03 09 09.6**	**+0.5**
HIN	**Hinchinbrook I**	**2.49**	**141**		**Pn**	**03 09 09.8**	**+0.1**
N25K	**Chitina, Valde**	**2.52**	**105**	P	**Pn**	**03 09 10.9**	**+0.9**
	baz=289,SNR=1000						
N25K	**Chitina, Valde**	**2.52**	**105**		**Pn**	**03 09 10.8**	**+0.9**
N25K	**Chitina, Valde**	**2.52**	**105**	IAML		03 09 49.7	
	comp=N,3μm,0.5s						
N25K				IAML		03 09 51.0	
	comp=E,2μm,0.5s						
PS08	**TAPS Pump Stn8**	**2.55**	**29**		**Pn**	**03 09 11.2**	**+0.8**
RIDG	**Independent Ri**	**2.61**	**56**	P	**Pn**	**03 09 13.3**	**+2.1**
	baz=240,SNR=1000						
RIDG	**Independent Ri**	**2.61**	**56**		**Pn**	**03 09 13.4**	**+2.1**
EYAK	**Cordova Ski Ar**	**2.62**	**132**	P	**Pn**	**03 09 11.7**	**+0.4**
	baz=315						
EYAK	**Cordova Ski Ar**	**2.62**	**132**		**Pn**	**03 09 11.9**	**+0.6**
BRLK	**Bradley Lake**	**2.66**	**193**	Pn	**Pn**	**03 09 12.2**	**+0.2**
BRLK				IAML		03 09 53.0	
	comp=N,2μm,0.7s						
TCOL	**CIGO, UAF Yank**	**2.66**	**17**	P

comp=E,2μm,0.6s
CNPM China Poot 2.93 196 Pn 03 09 15.9 +0.2
CNPM China Poot 2.93 196 IAML 03 09 59.2
comp=E,2μm,0.7s
CNPM IAML 03 10 02.2
comp=N,2μm,0.6s
POKR Poker Plat Res 2.95 19 P **Pn 03 09 16.9 +1.0**
baz=201,SNR=142
POKR Poker Plat Res 2.95 19 Pn 03 09 16.9 +1.0
TTA Tatalina 2.98 284 P **Pn 03 09 16.4 0.0**
baz=99
TTA Tatalina 2.98 284 Pn 03 09 16.5 +0.2
TT01 Tatalina 2.98 284 Pn 03 09 16.3 0.0
L26K Log Cabin Wild 3.00 74 P **Pn 03 09 18.2 +1.6**
baz=260,SNR=346
L26K Log Cabin Wild 3.00 74 Pn 03 09 18.3 +1.7
I21K Tanana 3.02 341 P **Pn 03 09 17.6 +0.8**
baz=159,SNR=258
I21K Tanana 3.02 341 Pn 03 09 17.6 +0.8
PS07 TAPS Pump Stn7 3.04 11 Pn 03 09 18.1 +1.1
SCRK Sand Creek 3.06 55 P **Pn 03 09 18.7 +1.2**
baz=240,SNR=802
SCRK Sand Creek 3.06 55 Pn 03 09 18.6 +1.2
SCRK Sand Creek 3.06 55 IAML 03 09 57.8
comp=N,2μm,0.6s
SCRK IAML 03 09 57.8
comp=E,1μm,0.7s
SVW2 Sparrevohn 3.08 248 Pn 03 09 17.8 +0.2
O19K Port Alsworth 3.11 228 P **Pn 03 09 18.6 +0.5**
baz=44
M26K Nabesna, AK 3.12 86 P **Pn 03 09 19.1 +0.9**
baz=272,SNR=294
M26K Nabesna, AK 3.12 86 Pn 03 09 19.1 +0.9
VRDI Verde Repeater 3.17 108 Pn 03 09 19.4 +0.3
VRDI Verde Repeater 3.17 108 IAML 03 10 06.3
comp=N,2μm,0.6s
VRDI IAML 03 10 09.1
comp=E,2μm,0.7s
OPT Oil Point 3.21 214 Pn 03 09 20.6 +1.2
P19K Oil Pt 3.21 214 P **Pn 03 09 20.4 +0.9**
baz=31,SNR=111
P19K Oil Pt 3.21 214 Pn 03 09 20.4 +0.9
MCARA McCarthy VSAT 3.30 104 P **Pn 03 09 21.5 +0.9**
baz=290,SNR=314
HMT Hamilton 3.30 125 Pn 03 09 20.6 -0.1
MID Middleton Isla 3.36 149 Pn 03 09 21.4 0.0
MID Middleton Isla 3.36 149 IAML 03 10 31.1
comp=E,937nm,1.1s
N18K Kilae Creek 3.41 243 P **Pn 03 09 22.4 +0.2**
baz=58,SNR=71
N18K Kilae Creek 3.41 243 Pn 03 09 22.4 +0.2
NICHA Nichawak Mount 3.48 125 Pn 03 09 23.3 +0.2
AU22 Augustine Moun 3.49 213 Pn 03 09 24.2 +0.9
H23K Yukon River 3.49 1 P **Pn 03 09 24.1 +0.8**
baz=181,SNR=164
H23K Yukon River 3.49 1 Pn 03 09 24.1 +0.8
AUL Augustine Lava 3.50 213 Pn 03 09 24.1 +0.7
AGU Augustine-Summ 3.52 213 Pn 03 09 24.9 +1.2
CRQM Cirque 3.52 114 Pn 03 09 24.5 +0.7
AUCH Augustine Cone 3.52 213 Pn 03 09 24.9 +1.2
AUW Augustine West 3.52 213 Pn 03 09 24.5 +0.8
PS06 TAPS Pump Stn6 3.52 360 Pn 03 09 24.4 +0.8
CRQE Cirque 3.54 114 P **Pn 03 09 24.0 -0.1**
baz=300,SNR=190
H24K Noodor Dome 3.59 12 P **Pn 03 09 25.6 +0.9**
baz=194,SNR=231
H24K Noodor Dome 3.59 12 Pn 03 09 25.5 +0.8
PTPK Patty Peak 3.62 106 Pn 03 09 25.9 +0.7
KHIT Khitrov Hills 3.64 119 Pn 03 09 25.7 +0.3
M27K Edge Creek, AK 3.64 86 P **Pn 03 09 27.1 +1.7**
baz=273,SNR=155
M27K Edge Creek, AK 3.64 86 Pn 03 09 27.2 +1.7
TGL Tana Glacier 3.65 113 Pn 03 09 25.7 +0.2
SUCK Suckling Hills 3.66 126 Pn 03 09 25.6 0.0
SUCK Suckling Hills 3.66 126 IAML 03 10 21.6
comp=N,1μm,0.8s
SUCK IAML 03 10 29.9
comp=E,1μm,0.5s
O18K Koktuh Hills 3.67 229 P **Pn 03 09 26.3 +0.6**
baz=45,SNR=72
O18K Koktuh Hills 3.67 229 Pn 03 09 26.3 +0.6
PRP Porcupine Dome 3.67 28 P **Pn 03 09 27.0 +1.1**
baz=212,SNR=435
PRP Porcupine Dome 3.67 28 Pn 03 09 26.9 +1.1
PRP Porcupine Dome 3.67 28 IAML 03 10 14.8
comp=E,976nm,0.6s
PRP IAML 03 10 15.7
comp=N,1μm,0.4s
L27K Beaver Creek, 3.69 75 P **Pn 03 09 27.0 +0.9**
baz=262,SNR=160
L27K Beaver Creek, 3.69 75 Pn 03 09 26.9 +0.9
GRIN Grindle Hills 3.71 121 Pn 03 09 26.5 +0.2
BC03 3.71 75 Pn 03 09 27.2 +1.0
BCAR Beaver Creek A 3.71 75 Pn 03 09 27.1 +0.8
BALM Baldy 3.74 107 Pn 03 09 26.9 +0.1
KIAG Kiagna River 3.78 109 Pn 03 09 27.2 -0.1
WAX Waxell Ridge 3.80 117 Pn 03 09 27.8 +0.2
K27K Chicken 3.84 61 P **Pn 03 09 28.9 +0.9**
baz=247
K27K Chicken 3.84 61 Pn 03 09 28.9 +0.9
ISLE Juniper Island 3.94 113 Pn 03 09 29.5 0.0
ISLE Juniper Island 3.94 113 IAML 03 10 34.3
comp=E,1μm,0.5s
ISLE IAML 03 10 35.2
comp=N,1μm,0.7s
KULT Kultieth River 3.96 119 Pn 03 09 30.2 +0.4
BARN Barnard Glacie 4.03 105 Pn 03 09 31.6 +0.7
BARN Barnard Glacie 4.03 105 IAML 03 10 35.9
comp=E,754nm,0.5s
BARN IAML 03 10 36.7
comp=N,826nm,0.6s
IMAR Indian Mountai 4.06 336 Pn **Pn 03 09 31.4 +0.4**
BAGL Bagley Icefiel 4.10 114 Pn 03 09 31.7 +0.2
BVCY Beaver Creek 4.11 85 Pn 03 09 33.1 +1.4
YUK2 White River 4.20 94 Pn 03 09 34.0 +1.0
CTG Chitna Glacier 4.21 106 P **Pn 03 09 33.9 +0.6**
baz=293,SNR=31
CTGM Chitina Glacie 4.22 106 Pn 03 09 33.9 +0.6
CTGM Chitina Glacie 4.22 106 IAML 03 10 38.1
comp=N,895nm,0.5s
CTGM IAML 03 10 38.6
comp=E,478nm,0.9s
YUK1 Sand Pete Hill 4.29 89 Pn 03 09 35.9 +1.6
YAH Yahtse 4.31 114 Pn 03 09 34.7 0.0
YAH Yahtse 4.31 114 IAML 03 10 40.6
comp=E,640nm,0.7s
YAH IAML 03 10 42.2
comp=N,892nm,0.8s
MESA MESA 4.32 117 P **Pn 03 09 35.1 +0.2**
baz=304,SNR=17
MESA MESA 4.32 117 Pn 03 09 35.2 +0.4
MESA MESA 4.32 117 IAML 03 10 43.6
comp=E,1μm,0.7s
YUK3 Moose Creek 4.38 93 Pn 03 09 36.7 +1.1
KAPH Katmai Pasha 4.42 214 Pn 03 09 36.8 +0.8
LOGN Logan Glacier 4.42 106 Pn 03 09 36.6 +0.4
LOGN Logan Glacier 4.42 106 IAML 03 10 45.1
comp=N,715nm,0.7s
LOGN IAML 03 10 46.2
comp=E,450nm,0.6s
PS05 TAPS Pump Stn5 4.50 355 Pn 03 09 38.1 +1.1
RKAV Rock Avalanche 4.51 113 Pn 03 09 37.6 +0.2
EGAK Eagle 4.52 54 P **Pn 03 09 38.4 +1.0**
baz=241,SNR=272
EGAK Eagle 4.52 54 Pn 03 09 38.4 +1.0
EGAK Eagle 4.52 54 IAML 03 10 49.3
comp=E,860nm,0.8s
EGAK IAML 03 10 53.6
comp=E,844nm,0.7s
TABL Table Mountain 4.53 111 Pn 03 09 37.7 0.0
TABL Table Mountain 4.53 111 IAML 03 10 51.1
comp=E,563nm,0.8s
TABL IAML 03 10 58.0
comp=N,512nm,0.8s
FYU Fort Yukon 4.65 23 Pn 03 09 40.7 +1.6
FYU Fort Yukon 4.65 23 IAML 03 10 40.5
comp=N,396nm,0.6s
FYU IAML 03 10 47.4
comp=E,407nm,0.7s
KAWH Katmai 4.72 215 Pn 03 09 41.0 +0.8
CHX Chaix Hills 4.74 115 Pn 03 09 40.7 +0.3
KDAK Kodiak Island 4.81 199 P **Pn 03 09 40.1 -1.1**
comp=E,14nm,0.3s,baz=58,slow=8.1,SNR=851
KDAK S **Sn 03 10 32.9 -2.7**
comp=E,52nm,0.3s,baz=304,slow=22,SNR=14
KDAK LR LR 03 11 54.2
comp=E,322nm,20.9s,baz=50,slow=42
KDAK Kodiak Island 4.81 199 P **Pn 03 09 40.2 -1.1**
baz=16
KDAK Kodiak Island 4.81 199 IAML 03 10 35.3
comp=E,368nm,0.3s
SAMH Samovar Hills 4.84 113 Pn 03 09 42.9 +1.0
KVTA Katmai Vly 10 4.86 217 Pn 03 09 43.1 +1.1
KCE Katmai Mt Cerb 4.94 216 Pn 03 09 44.4 +1.1
KABU Katmai Buttres 4.95 217 Pn 03 09 43.9 +0.6
DAWY Dawson 4.97 65 Pn 03 09 44.4 +0.9
DAWY Dawson 4.97 65 IAML 03 10 46.3
comp=E,281nm,0.5s
DAWY IAML 03 11 12.2
comp=N,268nm,1.0s
KABR Katmai Barrier 4.98 214 Pn 03 09 44.3 +0.6
ANCK Angle Creek 5.07 217 Pn 03 09 45.5 +0.6
PCA Pinnacle 5.08 112 Pn 03 09 45.3 +0.1
PINM Pinnacle 5.09 112 P **Pn 03 09 45.2 0.0**
baz=300,SNR=12
CAHL Cahill 5.14 216 Pn 03 09 46.9 +0.9
KJL Kejulik 5.21 217 Pn 03 09 47.8 +0.9
BCPM Bancas Point 5.43 112 Pn 03 09 49.6 -0.2
OHAK Old Harbor 5.46 201 P **Pn 03 09 48.6 -1.5**
baz=18,SNR=11
OHAK Old Harbor 5.46 201 Pn 03 09 48.6 -1.5
BM03 Burnt Mountain 5.53 21 Pn 03 09 52.1 +0.9
BMAR Burnt Mountain 5.54 21 Pn **Pn 03 09 51.8 +0.5**
YUK6 Outpost Mounta 5.58 100 Pn 03 09 52.3 +0.2
PNL Peninsula 5.68 114 Pn 03 09 53.4 +0.2
PLK1 Peulik 1 5.73 220 Pn 03 09 54.7 +0.8
HYT Haines Junctio 6.01 99 Pn 03 09 57.9 0.0
SII Sitkinak Islan 6.24 204 P **Pn 03 09 59.8 -1.2**
baz=20
SII Sitkinak Islan 6.24 204 Pn 03 09 59.7 -1.2
TOLK Toolik Lake Re 6.32 0 P **Pn 03 10 03.7 +1.8**
baz=180,SNR=124
TOLK Toolik Lake Re 6.32 0 Pn 03 10 03.9 +1.9
EPYK Eagle Plains 6.92 49 P **Pn 03 10 11.5 +1.3**
baz=240,SNR=61
EPYK Eagle Plains 6.92 49 Pn 03 10 11.5 +1.3
PLBC Pleasant Camp 7.11 108 Pn 03 10 13.8 +0.9
CHIR Chirikof Islan 7.22 208 Pn 03 10 12.7 -1.7
ANM Nome 7.37 294 P **Pn 03 10 17.2 +1.0**
baz=100
ANM Nome 7.37 294 Pn 03 10 17.3 +1.0
SKAG Skagway 7.57 106 P **Pn 03 10 19.7 +0.6**
baz=299,SNR=22
SKAG Skagway 7.57 106 Pn 03 10 19.7 +0.6
RDOG Red Dog Mine 7.96 322 P **Pn 03 10 28.2 +3.7**
baz=130,SNR=6.7
BESE Bessie Mountai 8.24 111 Pn 03 10 28.2 -0.1
JIS Juneau Island 8.62 111 Pn 03 10 33.4 +0.1
TNA Tin City 8.63 300 P **Pn 03 10 35.1 +1.5**
baz=104
TNA Tin City 8.63 300 Pn 03 10 34.7 +1.1
SIT Sitka 8.98 120 P **Pn 03 10 37.8 -0.5**
baz=312
INK Inuvik 8.99 41 P **Pn 03 10 39.0 +0.5**
comp=N,2.5nm,0.3s,baz=246,slow=14,SNR=29
INK S **Sn 03 12 17.4 -0.7**
comp=N,6.3nm,0.3s,baz=107,slow=28,SNR=6.9
INK LR LR 03 14 26.3
comp=N,110nm,21.7s,baz=293,slow=39
INK Inuvik 8.99 41 P **Pn 03 10 39.1 +0.6**
baz=236,SNR=21
INK Inuvik 8.99 41 Pn 03 10 39.2 +0.7
DLBC Dease Lake 10.47 103 P **Pn 03 10 58.5 -0.2**
comp=N,1.5nm,0.3s,baz=299,slow=10,SNR=15
DLBC LR LR 03 15 18.9
comp=N,127nm,19.9s,baz=291,slow=38
DLBC Dease Lake 10.47 103 Pn 03 10 58.8 0.0
C36M Paulatuk 12.52 45 P **Pn 03 11 25.1 -1.4**
baz=248,SNR=6.2
C36M Paulatuk 12.52 45 Pn **Pn 03 11 26.6 0.0**
YKA Yellowknife Ar 16.13 74 P **P 03 12 15.7 -0.7**
comp=N,0.6nm,0.3s,baz=294,slow=12,SNR=8.7
YKA LR LR 03 18 39.5
comp=N,64nm,20.0s,baz=0.0,slow=38
ADK Adak 17.87 246 P 03 12 36.0 +0.3
PGC Sidney 20.02 121 P **P 03 12 59.9 +0.6**
PGC IAmb IAmb 03 13 16.6
comp=Z,12nm,0.8s
EDM Edmonton 21.14 99 P **P 03 13 12.1 +0.7**
EDM IAmb IAmb 03 13 31.5
comp=Z,8.2nm,0.8s
NEW Newport 22.96 113 P **P 03 13 31.6 +0.8**
comp=Z,1.2nm,0.5s,baz=358,slow=7.2,SNR=4.3
NEW Newport 22.96 113 P **P 03 13 31.4 +0.6**
HUMO Hull Mountain 25.28 129 P **P 03 13 53.1 +0.9**
HUMO IAmb IAmb 03 13 55.5
comp=Z,6.4nm,0.9s
SEY Seymchan 25.86 297 P **P 03 13 56.3 -1.0**
comp=Z,1.8nm,0.6s,baz=65,slow=6.8,SNR=8.0
YBH Yreka Blue Hor 26.13 130 P **P 03 14 01.8 +1.8**
comp=Z,2.6nm,0.9s,baz=318,slow=3.8,SNR=5.9
ELK Elko 29.84 120 P **P 03 14 34.9 +1.6**
comp=Z,0.7nm,0.5s,baz=300,slow=7.3,SNR=4.4
ELK Elko 29.84 120 P **P 03 14 34.1 +0.7**
PDAR Pinedale Array 30.56 111 P **P 03 14 40.9 +1.2**
comp=Z,0.2nm,0.4s,baz=316,slow=4.1,SNR=4.3
PDAR pP **pP 03 14 54.1 -0.1**
comp=Z,1.1nm,0.8s,baz=347,slow=6.1,SNR=7.2
PDAR LR LR 03 27 43.4
comp=Z,61nm,19.4s,baz=274,slow=38
PDAR Pinedale Array 30.56 111 P **P 03 14 40.0 +0.4**
NVAR Mina Array Bea 30.65 127 P **P 03 14 42.3 +1.9**
comp=Z,1.4nm,0.6s,baz=318,slow=9.2,SNR=10
NVAR Mina Array Bea 30.65 127 P **P 03 14 41.1 +0.7**
NV11 Mina Array Sit 30.70 126 P **P 03 14 41.6 +0.7**
NV11 IAmb IAmb 03 14 43.7
comp=Z,2.9nm,1.0s
MDPB Devils Postpil 31.07 128 P **P 03 14 44.3 +0.1**
RSSD Black Hills 31.95 103 P **P 03 14 52.9 +1.1**
RSSD IAmb IAmb 03 15 12.3
comp=Z,2.3nm,0.6s
PSUT Pine Spring 32.28 121 P **P 03 14 56.5 +1.7**
MVU Marysvale 32.98 119 P **P 03 15 01.7 +0.8**
MSU Marysvale 32.98 119 P **P 03 15 02.9 +2.0**
SRU San Rafael Swe 33.16 116 P **P 03 15 03.8 +1.4**
SRU IAmb IAmb 03 15 04.8
comp=Z,2.8nm,0.7s
CCUT Cedar City 33.33 121 P **P 03 15 04.5 +0.5**
CCUT IAmb IAmb 03 15 06.4
comp=Z,2.1nm,0.6s
SZCU Shurtz Canyon 33.40 121 P **P 03 15 05.2 +0.6**
SZCU IAmb IAmb 03 15 06.8
comp=Z,6.2nm,1.4s
LCMT Little Creek M 33.84 121 P **P 03 15 09.5 +1.2**
LCMT IAmb IAmb 03 15 10.8
comp=Z,2.4nm,1.1s
GSC Goldstone, Bar 33.97 127 P **P 03 15 11.0 +1.6**
GSC IAmb IAmb 03 15 21.1
comp=Z,6.5nm,1.4s
KNB Kanab 34.01 121 P **P 03 15 10.5 +0.7**
KNB IAmb IAmb 03 15 12.1
comp=Z,2.5nm,0.7s
U15A North Rim 34.73 121 P **P 03 15 17.3 +1.1**
EYMN Ely 34.91 87 P **P 03 15 18.7 +1.5**
EYMN IAmb IAmb 03 15 35.1
comp=Z,6.4nm,0.8s
WUAZ Wupatki 35.88 120 P **P 03 15 26.7 +0.7**
WUAZ IAmb IAmb 03 15 28.4
comp=Z,4.1nm,0.6s
T25A Trinidad 37.43 111 P **P 03 15 38.7 -0.4**
T25A IAmb IAmb 03 15 45.0
comp=Z,2.5nm,1.2s
SUMG Summit 37.58 27 P **P 03 15 40.8 +0.6**
FNO Franklin 42.11 105 P **P 03 16 18.7 +0.9**
MWH Moku'aweowe 43.02 188 P **P 03 16 27.1 +1.2**
TXAR Lajitas Array 44.44 116 P **P 03 16 38.1 +1.5**
comp=Z,0.7nm,0.6s,baz=331,slow=6.4,SNR=9.5
TXAR LR LR 03 37 05.7
comp=Z,48nm,20.5s,baz=0.0,slow=38
TXAR Lajitas Array 44.44 116 P **P 03 16 37.0 +0.3**
ARCES ARCESS Array B 48.36 2 P **P 03 17 07.3 +0.5**
comp=Z,3.4nm,1.0s,baz=9.9,slow=7.8,SNR=6.5
ARCES pP **pP 03 17 20.1 -1.8**
comp=Z,1.0nm,0.5s,baz=358,slow=8.3,SNR=2.4
ARCES PcP **PcP 03 18 31.7 -0.7**
comp=Z,0.6nm,0.4s,baz=332,slow=5.1,SNR=4.6
KSRS Korea Array 54.21 283 P **P 03 17 51.0 +0.1**
comp=Z,0.7nm,0.5s,baz=32,slow=7.4,SNR=4.6
KSRS LR LR 03 43 29.9
comp=Z,18nm,20.6s,baz=128,slow=39
SONM Songino Array 54.69 307 P **P 03 17 54.9 +0.4**
comp=Z,0.5nm,0.4s,baz=31,slow=7.2,SNR=5.2
SONM Songino Array 54.69 307 P **P 03 17 54.7 +0.2**
ZALV Zalesovo Beam 56.41 325 P **P 03 18 04.5 -1.9**
comp=Z,1.5nm,0.5s,baz=26,slow=8.0,SNR=6.2
ZALV pP **pP 03 18 20.9 -1.0**
comp=Z,1.0nm,0.5s,baz=9.3,slow=7.7,SNR=2.7
FINES FINESS Array B 56.48 2 P **P 03 18 04.8 -2.1**
comp=Z,1.7nm,0.9s,baz=16,slow=6.5,SNR=1.5
FINES pP **pP 03 18 21.4 -1.1**
comp=Z,1.0nm,0.5s,baz=14,slow=7.1,SNR=2.6
FINES FINESS Array B 56.48 2 P **P 03 18 07.8 +0.9**
MK31 Makanchi Array 63.56 323 P **P 03 18 55.4 -0.3**
MKAR Makanchi Array 63.56 323 P **P 03 18 53.3 -2.4**
comp=Z,0.8nm,0.5s,baz=45,slow=7.5,SNR=12
MKAR pP **pP 03 19 10.4 -0.9**
comp=Z,0.5nm,0.4s,baz=34,slow=8.4,SNR=3.8
MKAR Makanchi Array 63.56 323 P **P 03 18 53.4 -2.3**
AKASG Malin Array Be 67.29 1 P **P 03 19 17.8 -1.8**
comp=Z,0.3nm,0.3s,baz=5.3,slow=6.5,SNR=4.2
GERES GERESS Array B 68.36 12 pP pP 03 19 41.9 -0.5
comp=Z,0.5nm,0.6s,baz=343,slow=4.2,SNR=3.5
MTE Manteigas 73.16 29 P **P 03 19 56.0 +0.2**
MTE IAmb IAmb 03 20 11.7
comp=Z,9.7nm,1.3s
DRK Karamyk 73.16 328 P **P 03 19 55.5 -0.6**
KBZ Khabaz 73.79 351 P **P 03 19 59.1 -0.1**
comp=Z,0.8nm,0.5s,baz=346,slow=4.2,SNR=3.9
ESDC Sonseca Array 74.64 27 P **P 03 20 04.5 +0.2**
comp=Z,0.9nm,0.8s,baz=341,slow=5.7,SNR=9.0
BOSA Boshof 146.10 8 PKPbc **PKPdf 03 28 04.1 +0.4**
comp=Z,6.8nm,0.9s,baz=355,slow=3.2,SNR=11
QSPA South Pole Qui 152.16 180 PKPbc **PKPbc 03 28 18.3 -0.5**
comp=Z,1.3nm,0.6s,baz=219,slow=1.0,SNR=5.8

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*SIGU **21** 03:08:55.3, 48.04N×23.71E, h4km*
*KRSZO **21** 03:08:55.6±1.1, 48.06N×23.64E, h5km±8km, ML2.6/12,*
Error ellipse: s-maj=5.4km s-min=4.0km az=39.0
*BUC **21** 03:08:55.5±0.6, 48.12N×23.65E, h6km±2km, ml2.5/9,*
Error ellipse: s-maj=3.8km s-min=2.3km az=179.0
ISC 21 03:08:55.5±1.1, 48.08N±0.02×23.63E±0.02, h2km±10km,
n59, σ0°76/82, 19C-13D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KORU	**Korolevo**	**0.34**	**283**	*i* Pg		**Pb**	**03 09 03.7**	**-0.7**
KORU					Pm		03 09 05.2	
KORU				*i* Sg		**Sb**	**03 09 10.0**	**-0.3**
KORU					Sm		03 09 14.5	
KORU					m		03 09 27.4	
RAKU	**Rahkiv**	**0.36**	**98**	*e*Pg		**Pg**	**03 09 01.7**	**-0.8**
RAKU					Pm		03 09 02.5	
RAKU					m		03 09 02.5	
RAKU				*i* Sg		**Sg**	**03 09 06.5**	**-0.7**
RAKU					Sm		03 09 07.6	
BMR	**Baia Mare**	**0.42**	**193**	⇓P		**Pg**	**03 09 04.1**	**+0.5**
BMR				⇑S		**Sg**	**03 09 10.2**	**+1.3**
BMR	**Baia Mare**	**0.42**	**193**	⇓P		**Pg**	**03 09 04.1**	**+0.5**
BMR				⇑S		**Sg**	**03 09 10.2**	**+1.3**
BMR	**Baia Mare**	**0.42**	**193**	Pg		**Pg**	**03 09 04.0**	**+0.5**
	comp=Z,0.8nm,SNR=24							
BMR					Sg	**Sg**	**03 09 09.4**	**+0.6**
MEZ	**Mezhgor'ye**	**0.44**	**350**	⇓*i*Pg		**Pb**	**03 09 05.4**	**-0.7**
MEZ				*i* Sg		**Sb**	**03 09 13.0**	**-0.2**
MEZ					m		03 09 14.7	
TRSU	**Trosnyk**	**0.45**	**272**	⇑*i*Pg		**Pb**	**03 09 05.9**	**-0.4**
TRSU					Pm		03 09 07.0	
TRSU				*i* Sg		**Sb**	**03 09 13.6**	**+0.1**
TRSU					Sm		03 09 14.6	
TRSU					m		03 10 04.2	
BRIU	**Brid**	**0.48**	**303**	*i* Pg		**Pb**	**03 09 06.7**	**-0.1**
BRIU					Pm		03 09 07.0	
BRIU				*i* Sg		**Sb**	**03 09 15.1**	**+0.7**
BRIU					m		03 09 16.8	
BRIU					Sm		03 09 19.5	
NSLU	**Nyzhne Selyshc**	**0.56**	**78**	*e*Pg		Pg	03 09 00.2	-6.2
NSLU					Pm		03 09 01.6	
NSLU				*i* Sg		Sg	03 09 03.9	-10
NSLU					Sm		03 09 05.3	
NSLU					m		03 09 06.0	
BERU	**Beregovo**	**0.68**	**284**	P		**Pg**	**03 09 07.0**	**-1.5**
BERU					Pm		03 09 11.5	
BERU				*i* Sg		**Sn**	**03 09 21.8**	**-1.6**
BERU					m		03 09 25.6	
BERU					Sm		03 09 27.2	
MUKU	**Mukachevo**	**0.73**	**301**	*e*Pg		**Pb**	**03 09 11.2**	**+0.1**
MUKU					Pm		03 09 12.8	
MUKU				*i* Sg		**Sn**	**03 09 23.7**	**-1.0**
MUKU					Sm		03 09 25.5	
MUKU					m		03 09 25.6	
TRPA	**Tarpa**	**0.73**	**274**	*e*P		**Pb**	**03 09 10.8**	**-0.3**
TRPA	**Tarpa**	**0.73**	**274**	Pg		**Pb**	**03 09 10.8**	**-0.3**
	comp=Z,15nm,SNR=8.3							
STNU	**Starunia**	**0.86**	**42**	*e*Pg		**Pb**	**03 09 12.6**	**-0.6**
STNU				*i* Sg		**Sb**	**03 09 25.7**	**+0.6**
HOLU	**Holmets**	**0.95**	**299**	*i* Pg		**Pn**	**03 09 15.4**	**-0.5**
HOLU				*i* Sg		**Sn**	**03 09 31.1**	**+1.1**
KSV	**Kosov**	**0.99**	**76**	⇑*i*Pg		**Pg**	**03 09 14.6**	**+0.1**
KSV					Pm		03 09 20.0	
KSV				*i* Sg		**Sb**	**03 09 28.9**	**0.0**
KSV					m		03 09 42.6	
KSV					Sm		03 09 48.1	
MESR	**Meseseni**	**1.04**	**207**	⇓P		**Pn**	**03 09 16.8**	**-0.3**
MESR				⇓S		**Sn**	**03 09 31.3**	**-0.9**
MESR	**Meseseni**	**1.04**	**207**	⇓P		**Pn**	**03 09 16.8**	**-0.3**
UZH	**Uzhgorod**	**1.05**	**302**	*i* Pg		**Pn**	**03 09 18.0**	**+0.7**
UZH					Pm		03 09 19.2	
UZH				⇑*i*Sg		**Sn**	**03 09 34.7**	**+2.2**
UZH					Sm		03 09 36.4	
UZH					m		03 09 40.7	
MORS	**Morshin**	**1.07**	**9**	*i* Pg		**Pn**	**03 09 17.9**	**+0.3**
MORS				*i* Sg		**Sn**	**03 09 34.4**	**+1.4**
ARCR	**ARCALIA**	**1.11**	**154**	⇑P		**Pn**	**03 09 17.8**	**-0.3**
ARCR				⇑S		**Sn**	**03 09 32.8**	**-1.1**
ARCR	**ARCALIA**	**1.11**	**154**	⇑P		**Pn**	**03 09 17.8**	**-0.3**
ARCR	**ARCALIA**	**1.11**	**154**	Pg		**Pg**	**03 09 16.6**	**-0.1**
	comp=Z,0.4nm,SNR=6.8							
ARCR					Sn	**Sn**	**03 09 33.7**	**-0.3**
BURAR	**Bucovina Array**	**1.16**	**113**	⇓S		**Sb**	**03 09 33.3**	**-0.7**
BURAR	**Bucovina Array**	**1.16**	**113**	⇓S		**Sb**	**03 09 33.3**	**-0.7**
BURAR	**Bucovina Array**	**1.16**	**113**	Lg		Lg	03 09 34.7	
KOLS	**Kolonicke sedl**	**1.25**	**314**	Pg		**Pn**	**03 09 20.1**	**+0.1**
	comp=Z,27nm,SNR=40							
KOLS					Sn	**Sn**	**03 09 38.1**	**+0.6**
KOLS	**Kolonicke sedl**	**1.25**	**314**	*e*PG		**Pn**	**03 09 20.1**	**+0.1**
KOLS				*e*SG		**Sn**	**03 09 38.0**	**+0.6**
CBBR	**Cluj-Babes-Bol**	**1.31**	**182**	⇓P		**Pn**	**03 09 20.9**	**0.0**
CBBR	**Cluj-Babes-Bol**	**1.31**	**182**	⇓P		**Pn**	**03 09 20.9**	**0.0**
LTVH	**Ltavrtes, Hu**	**1.36**	**240**	⇑S		**Sn**	**03 09 40.4**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.36**	**240**	⇑S		**Sn**	**03 09 40.4**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.36**	**240**	*e*P		**Pb**	**03 09 22.2**	**+0.5**
LTVH	**Ltavrtes, Hu**	**1.36**	**240**	Pg		**Pb**	**03 09 22.2**	**+0.5**
	comp=Z,0.2nm,SNR=3.9							
CJR	**Cluj-Napoca**	**1.37**	**181**	⇑P		**Pb**	**03 09 22.0**	**+0.1**
CJR				⇓S		**Sn**	**03 09 41.1**	**+0.6**
CJR	**Cluj-Napoca**	**1.37**	**181**	⇑P		**Pb**	**03 09 22.0**	**+0.1**
CJR	**Cluj-Napoca**	**1.37**	**181**	Pg		**Pb**	**03 09 21.9**	**0.0**
	comp=Z,0.4nm,SNR=4.8							
DRGR		**1.43**	**206**	⇑P		**Pn**	**03 09 22.0**	**-0.7**
DRGR				⇑S		**Sn**	**03 09 42.4**	**+0.3**
DRGR		**1.43**	**206**	⇑P		**Pn**	**03 09 22.0**	**-0.7**
DRGR		**1.43**	**206**	Pn		**Pn**	**03 09 21.9**	**-0.7**
	comp=Z,0.2nm,SNR=8.0							
CRVS	**Cervenica-Dubn**	**1.66**	**301**	Pn		**Pn**	**03 09 26.1**	**+0.4**
	SNR=4.0							
CRVS	**Cervenica-Dubn**	**1.66**	**301**	*e*PN		**Pb**	**03 09 27.0**	**+0.1**
KMPD	**K-Podol'skiy**	**1.95**	**75**	*i* Pn		**Pb**	**03 09 32.1**	**+0.4**
KMPD				*i* Sn		**Sg**	**03 09 58.7**	**+0.6**
KECS	**Kecovo**	**2.14**	**282**	*e*PN		**Pn**	**03 09 32.0**	**-0.3**
HORU	**Horodok**	**2.17**	**57**	*e*Pn		**Pg**	**03 09 36.5**	**-0.7**
HORU				*i* Sn		**Sg**	**03 10 06.2**	**+0.9**
SIRR	**Siria**	**2.26**	**217**	⇑S		**Sb**	**03 10 04.0**	**-1.4**
SIRR	**Siria**	**2.26**	**217**	⇑S		**Sb**	**03 10 04.0**	**-1.4**
SIRR	**Siria**	**2.26**	**217**	Pn		**Pn**	**03 09 33.6**	**-0.3**
	comp=Z,0.1nm,SNR=6.1							
PSZ	**Piszkesteto**	**2.52**	**268**	⇑P		**Pn**	**03 09 36.7**	**-0.8**
PSZ	**Piszkesteto**	**2.52**	**268**	⇑P		**Pn**	**03 09 36.7**	**-0.8**
PSZ	**Piszkesteto**	**2.52**	**268**	*e*P		**Pn**	**03 09 36.9**	**-0.7**
PSZ	**Piszkesteto**	**2.52**	**268**	Pg		**Pn**	**03 09 36.9**	**-0.7**
	SNR=2.6							

NDNU	Novodnistrovsk	2.54 77	*i* Sn	Sg	03 10 16.8	-0.4
VOIR		2.82 159	⇓S	Sn	03 10 17.6	+1.4
VOIR		2.82 159	⇓S	Sn	03 10 17.6	+1.4
LANS	Liptovska Anna	2.96 293	Pn	Pn	03 09 44.5	+0.8
SNR=5.2						
LANS	Liptovska Anna	2.96 293	*e*PN	Pn	03 09 44.4	+0.8
VYHS	Vyhne	3.23 279	Pn	Pn	03 09 47.0	-0.4
SNR=1.9						
VYHS	Vyhne	3.23 279	*e*PN	Pn	03 09 46.9	-0.4
VYHS			*e*SN	Sn	03 10 27.4	+1.1

NNC 21 03:15:24.3±5.4, 37°.61N×72°.06E, h99km±94km, mb3.1, mpv3.6, 4C-3D, Error ellipse: s-maj=46.6km s-min=37.9km az=24.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.36	20	⇑P	Pn	03 16 42.5	+0.5
4.6nm,0.4s							
AAK				⇓S	Sn	03 17 43.4	+1.0
7.0nm,0.7s							
KK31	Karatay Array	5.61	348	⇑P	Pn	03 16 45.3	0.0
3.6nm,0.5s,baz=157,slow=11,SNR=42							
KK31				⇑S	Sn	03 17 48.5	+0.2
2.3nm,0.3s,baz=148,slow=22,SNR=9.0							
TKM2	Tokmak 2	5.95	26	⇑P	Pn	03 16 49.1	-1.0
3.2nm,0.8s							
KURBB	Kurchatov Arra	13.80	18	⇓P	Pn	03 18 37.0	+1.5
0.6nm,0.5s							
AB31	Akbulak array	14.57	327	P	Pn	03 18 45.0	-0.4
0.2nm,0.3s,baz=146,slow=12,SNR=13							
AKTO	Aktyubinsk	16.28	326	⇓P	Pn	03 19 06.1	-0.8
1.2nm,0.6s							

IDC 21 04:11:32.6±2.4, 1°.54N×127°.02E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=181.5km s-min=28.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.52	162	P	P	04 16 34.6	+0.4
0.8nm,0.4s,baz=341,slow=11,SNR=17							
ASAR	Alice Springs	25.93	165	P	P	04 17 06.3	-0.5
0.2nm,0.3s,baz=344,slow=7.9,SNR=1.9							
MKAR	Makanchi Array	59.52	326	P	P	04 21 37.8	0.0
0.1nm,0.4s,baz=136,slow=5.2,SNR=1.8							

*IDC **21** 04:19:32.1±0.9, 30°.10N×94°.96E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/42, mbtmp3.8/13, ML3.4/2, Error ellipse: s-maj=33.8km s-min=19.4km az=56.0*
*NEIC **21** 04:19:38.1±1.6, 30°.31N±0°.04×95°.1E±0°.1, h40km±7km, mb4.1/24, Error ellipse: s-maj=12.8km s-min=6.4km az=93.0*

ISC 21 04:19:37.3±0.6, 30°.31N±0°.07×95°.09E±0°.08, h35km, n43, σ19°35/46, mb3.9/17, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.47	261	Pn	Pn	04 20 29.8	+0.5
LSA				Sn	Sn	04 21 11.5	+2.1
SHL	Shillong	5.51	212	Pn	Pn	04 20 57.1	+0.1
SHL				Sn	Sn	04 22 00.9	+1.6
CMAR	Chiang Mai Arr	12.31	163	Pn	Pn	04 22 34.2	+4.1
0.2nm,0.3s,baz=336,slow=11,SNR=4.8							
CMAR	Chiang Mai Arr	12.31	163		Pn	04 22 29.0	-1.2
TARG	Taragay, Kyrgy	18.00	314	Pn	Pn	04 23 42.1	-3.0
TARG				IAmb	IAmb	04 23 49.7	
comp=Z,9.4nm,1.0s							
KDJ	Kajisay	18.61	314	P	P	04 23 49.9	-2.0
KDJ				IAmb	IAmb	04 23 54.8	
comp=Z,4.8nm,0.6s							
NIL	Nilore	18.82	286	P	P	04 23 50.2	-3.9
NIL				IAmb	IAmb	04 24 02.4	
comp=Z,15nm,1.2s							
MK31	Makanchi Array	19.22	332	P	P	04 23 58.0	-0.3
MKAR	Makanchi Array	19.22	332	P	P	04 23 58.3	0.0
comp=Z,0.1nm,0.3s,baz=135,slow=14,SNR=13							
MKAR	Makanchi Array	19.22	332	P	P	04 23 57.6	-0.7
MAKZ	Makanchi	19.36	332	P	P	04 24 00.1	+0.3
SONM	Songino Array	19.54	23	P	Pn	04 24 04.3	+0.9
comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=25							
SONM	Songino Array	19.54	23	Pn	Pn	04 24 03.3	0.0
BOOM	Boomskoye usch	19.58	314	P	Pn	04 24 03.5	-0.4
BOOM				IAmb	IAmb	04 24 06.7	
comp=Z,10nm,1.1s							
ULN	Ulaanbaatar	19.80	24	P	P	04 24 04.9	+0.2
AAK	Ala-Archa	20.57	312	P	P	04 24 13.6	+0.4
AAK				IAmb	IAmb	04 24 18.4	
comp=Z,19nm,1.3s							
BTK	Batken	22.04	303	P	P	04 24 29.0	+0.1
BTK				IAmb	IAmb	04 24 34.4	
comp=Z,19nm,1.2s							
GAR	Garm	22.10	300	P	P	04 24 28.6	-1.0
KBL	Kabul	22.36	288	P	P	04 24 32.1	-0.5
CHGR	Chuyangaron	22.89	298	P	P	04 24 37.2	-0.8
KK31	Karatay Array	23.38	310	P	P	04 24 41.4	-1.4
KK31				IAmb	IAmb	04 24 45.8	
comp=Z,4.9nm,1.3s							
KKAR	Karatay Array	23.38	310	P	P	04 24 42.4	-0.4
KKAR	Karatay Array	23.38	310	P	P	04 24 41.9	-0.9
KKAR				IAmb	IAmb	04 24 45.8	
comp=Z,4.9nm,1.3s							
KURBB	Kurchatov Arra	23.78	333	P	P	04 24 47.1	+0.6
comp=Z,4.6nm,1.1s,baz=144,slow=9.7,SNR=15							
KURBB				PcP	PcP	04 28 27.6	-1.7
comp=Z,0.2nm,0.4s,baz=122,slow=3.4,SNR=1.8							
KURK	Kurchatov	23.82	333	P	P	04 24 47.1	+0.2
KURK					PcP	04 28 27.6	-1.7
ZAA0	Zalesovo Array	24.77	345	P	P	04 24 54.4	-1.2
ZAA0				IAmb	IAmb	04 25 00.3	
comp=Z,5.0nm,1.2s							
ZALV	Zalesovo Beam	24.77	345	P	P	04 24 56.3	+0.8
comp=Z,0.7nm,0.4s,baz=169,slow=8.5,SNR=4.3							
ZALV	Zalesovo Beam	24.77	345	P	P	04 24 56.4	+0.9
BRVK	Borovoye	29.05	329	P	P	04 25 33.5	-0.5
BRVK				IAmb	IAmb	04 25 38.6	
comp=Z,4.9nm,0.9s							
ONI	Oni	42.70	301	P	P	04 27 31.9	+1.0
ONI				IAmb	IAmb	04 27 36.0	
comp=Z,8.0nm,1.0s							
AKASG	Malin Array Be	52.24	313	P	P	04 28 44.6	-0.1
comp=Z,2.8nm,0.9s,baz=77,slow=6.9,SNR=8.0							
AKASG	Malin Array Be	52.24	313	P	P	04 28 45.7	+0.9
FINES	FINESS Array B	53.90	326	P	P	04 28 58.0	+1.1
comp=Z,1.2nm,0.7s,baz=94,slow=7.6,SNR=7.4							
NOA	NORSAR Array B	61.08	326	P	P	04 29 46.9	-0.6
comp=Z,0.3nm,0.6s,baz=79,slow=6.9,SNR=2.5							
WRA	Warramunga Arr	62.63	138	P	P	04 29 56.4	-1.9
comp=Z,0.5nm,1.1s,baz=306,slow=13,SNR=2.2							
WRA	Warramunga Arr	62.63	138	P	P	04 29 57.8	-0.6
WB2	Warramunga Arr	62.63	138	P	P	04 29 58.3	-0.1
ASAR	Alice Springs	65.33	141	P	P	04 30 16.4	+0.3
comp=Z,0.7nm,0.8s,baz=326,slow=6.5,SNR=4.3							
ILAR	Eielson Array	73.77	23	P	P	04 31 09.3	+1.8
comp=Z,0.3nm,0.3s,baz=297,slow=6.0,SNR=6.1							
INK	Inuvik	75.31	17	P	P	04 31 19.5	+3.1
comp=Z,0.6nm,0.3s,baz=351,slow=6.7,SNR=3.2							
ESDC	Sonseca Array	77.63	309	P	P	04 31 32.3	+2.1
comp=Z,0.7nm,1.0s,baz=49,slow=6.7,SNR=5.5							
ESDC	Sonseca Array	77.63	309	P	P	04 31 29.7	-0.6
ESDC				IAmb	IAmb	04 31 32.7	
comp=Z,2.0nm,1.3s							
TORD	Torodi Ar. Bea	86.35	283	P	P	04 32 17.3	+0.9
comp=Z,1.7nm,1.0s,baz=46,slow=3.8,SNR=5.0							

*ANF **21** 05:00:04.1±0.7, 41°.84N×119°.66W, h2km±6km, ML3.2/14, Error ellipse: s-maj=5.3km s-min=2.8km az=80.0*
*REN **21** 05:00:04.4±2.2, 41°.86N±0°.04×119°.64W±0°.05, h9km±5km, ML3.4/4, ML3.5/5(SEA), ML2.9/70(NEIC), Error ellipse: s-maj=5.9km s-min=4.8km az=221.0*
*NEIC **21** 05:00:05.5±2.2, 41°.90N±0°.04×119°.68W±0°.06, h12km±7km, Error ellipse: s-maj=6.5km s-min=5.7km az=215.0*
*SEA **21** 05:00:05.3±2.9, 41°.80N±0°.04×119°.68W±0°.05, h0km±7km, Error ellipse: s-maj=5.9km s-min=4.8km az=223.0*

ISC 21 05:00:04.2±1.3, 41°.88N±0°.03×119°.66W±0°.03, h2km±12km, n60, σ19°10/73, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	Modoc Plateau	0.48	273		Sb	05 00 21.6	-1.5
MOD	Modoc Plateau	0.48	273	Pg	Pg	05 00 14.4	+0.9
MOD	Modoc Plateau	0.48	273		IAML	05 00 21.9	
comp=E,3μm,0.5s							
MOD					IAML	05 00 25.4	
comp=N,1μm,0.5s							
LKVW	Lakeview	0.62	304		Pg	05 00 16.9	+0.6
WVOR	Wild Horse Val	0.94	53	Pg	Pg	05 00 22.1	-0.3
K05A	Summer Lake	1.25	313		Pb	05 00 28.5	-0.2
K05A					Sn	05 00 46.2	-0.2
HOG	Hogback Mounta	1.56	284		Pn	05 00 33.3	0.0
M04C	Macdoel	1.63	267	P	Pn	05 00 33.4	-0.7
baz=86,SNR=72							
M04C				S	Sg	05 00 57.4	+0.8
baz=86							
M04C	Macdoel	1.63	267		Pn	05 00 33.4	-0.7
J08A	Circle Bar Ran	1.72	30		Pb	05 00 36.9	+0.2
J08A					Sg	05 01 00.5	+0.9
K04D	Chiloquin, OR	1.72	296	P	Pn	05 00 35.3	-0.1
baz=115,SNR=18							
K04D				S	Sg	05 00 59.4	-0.2
baz=115							
J05D	Fort Rock, OR	1.82	321	P	Pn	05 00 36.8	0.0
baz=140,SNR=135							
J05D				Sb	Sg	05 01 03.6	+0.7
baz=140							
J05D	Fort Rock, OR	1.82	321		Pb	05 00 38.5	0.0
L04D	Klamath Falls	2.00	281	P	Pn	05 00 38.4	-0.8
baz=99,SNR=34							
L04D				Sb	Sg	05 01 08.5	+0.1
baz=99							
BEKR	Beckworth	2.08	195	Pg	Pb	05 00 42.0	-0.8
BEKR				IAML		05 01 11.9	
comp=E,106nm,0.7s							
BEKR				IAML		05 01 12.7	
comp=N,51nm,0.7s							
PINE	Pine Mountain	2.13	334	Pg	Pb	05 00 43.3	-0.5
PINE				IAML		05 01 16.2	
comp=N,98nm,1.0s							
PAHR	Pah Rah Range	2.18	174		Pn	05 00 42.2	+0.5
I07A	Izee	2.21	3	Pg	Pb	05 00 44.8	-0.2
I07A				IAML		05 01 15.7	
comp=N,58nm,0.6s							
I07A				IAML		05 01 16.2	
comp=E,46nm,0.5s							
O03E	Paynes Creek	2.26	226	P	Pn	05 00 42.2	-0.5
baz=45							
O03E				S	Sb	05 01 12.3	-2.0
baz=45							
J04D	Umpqua Nationa	2.27	308	Pb	Pb	05 00 46.5	+0.5
baz=126							
J04D				Sb	Sg	05 01 17.5	+0.5
baz=126							
YBH	Yreka Blue Hor	2.28	267	Pn	Pn	05 00 42.2	-0.9
YBH				IAML		05 01 27.7	
comp=N,42nm,1.1s							
M02C	Callahan	2.44	260	P	Pn	05 00 44.4	-0.8
baz=78,SNR=8.2							
N02D	Trinity Center	2.46	250	P	Pn	05 00 45.7	+0.2
baz=68,SNR=16							
N02D				Sb	Sb	05 01 21.5	+1.5
baz=68							
WDC	Whiskeytown Da	2.53	240	Pn	Pn	05 00 45.7	-0.6
WDC				IAML		05 01 33.8	
comp=E,32nm,0.8s							
HUMO	Hull Mountain	2.55	288	Pn	Pn	05 00 45.9	-0.9
HUMO				IAML		05 01 33.9	
comp=E,57nm,1.2s							
HUMO				IAML		05 01 34.6	
comp=N,56nm,1.3s							
VCNR	Virginia City	2.58	180	Pn	Pn	05 00 48.2	+1.0
VCNR				IAML		05 01 27.9	
comp=E,86nm,0.8s							
ORV	Oroville	2.71	212	Pn	Pn	05 00 47.4	-1.4
I05D	Terrebonne, OR	2.75	334	Pb	Pb	05 00 54.5	+0.3
baz=153							
I05D				Sb	Sg	05 01 31.9	-0.7
baz=153							
PNTR	Pine Nut	2.78	179	Pn	Pn	05 00 50.0	-0.1
PNTR				IAML		05 01 35.5	
comp=E,67nm,1.0s							
PNTR				IAML		05 01 38.5	
comp=N,49nm,0.8s							
RUBR	Rubicon Trail	2.85	188	Pn	Pn	05 00 49.7	-1.2
RUBR				IAML		05 01 36.6	
comp=N,34nm,0.7s							
RUBR				IAML		05 01 36.8	
comp=E,32nm,1.1s							
YERR	Yerington	2.91	174	Pn	Pn	05 00 52.8	+1.1
YERR				IAML		05 01 45.3	
comp=E,56nm,0.9s							
YERR				IAML		05 01 45.6	
comp=N,53nm,0.9s							
O02D	Mt. Diablo Mer	2.91	235	Pb	Pb	05 00 56.5	-0.4
baz=54							
O02D				Sb	Sb	05 01 35.1	+2.0
baz=54							
L02E	Cave Junction	2.95	277	P	Pn	05 00 52.8	+0.6
baz=94,SNR=18							
L02E				Sb	Sg	05 01 36.6	-2.4
baz=94							
KVN	Kaiserville	3.06	157		Pn	05 00 54.9	+1.0
KVN				IAML		05 01 46.4	
comp=E,22nm,1.1s							
KVN				IAML		05 01 50.1	
comp=N,28nm,0.7s							
K02D	Willamette Mer	3.08	287	P	Pn	05 00 54.7	+0.7
baz=104,SNR=58							
K02D				Sb	Sb	05 01 40.4	+2.4
baz=104							
AFDM	Forest Hills D	3.09	199	Pn	Pn	05 00 56.0	+1.9
KRMB	Red Mountain	3.20	265	Pn	Pn	05 00 54.1	-1.6
KRMB				IAML		05 01 16.3	
comp=E,22nm,2.6s							
KRMB				IAML		05 02 13.4	
comp=N,20nm,3.2s							
MFID	Camas Ranch	3.22	60		Pn	05 00 55.8	-0.2
KHMM	Horse Mountain	3.22	253	Pn	Pn	05 00 56.2	+0.2
KHMM				IAML		05 02 02.6	
comp=E,29nm,1.8s							
KHMM				IAML		05 02 03.8	
comp=N,24nm,2.0s							
I03D	Drain, OR	3.27	305	Pb	Pb	05 01 04.3	+1.4
baz=123							
I03D				Sb	Sg	05 01 46.6	-2.6
baz=123							
H04A	Detroit Lake	3.36	328	Pn	Pn	05 00 56.4	-1.4
RYN	Ryan	3.36	165	Pn	Pn	05 00 58.8	+0.9
RYN				IAML		05 01 55.8	
comp=E,30nm,0.8s							
RYN				IAML		05 01 57.5	
comp=N,25nm,0.8s							
BUCK	Buck Mountain	3.37	315	Pn	Pn	05 00 56.9	-1.0
BUCK				IAML		05 01 57.6	
comp=N,38nm,2.2s							
BUCK				IAML		05 02 23.7	
comp=E,24nm,1.6s							
WAKR	Walker	3.37	177	Pn	Pn	05 00 57.4	-0.7
WAKR				IAML		05 02 01.4	
comp=E,18nm,3.8s							
KBO	Bosley Butte	3.42	277	Pn	Pn	05 00 58.3	-0.3
BMO	Blue Mountains	3.44	29	Pn	Pn	05 01 00.0	+1.1
BMO				IAML		05 02 04.2	
comp=E,19nm,2.1s							
G08A	Pilot Rock	3.45	8	Pn	Pn	05 01 00.1	+0.9
JCC	Jacoby Creek,	3.45	254	Pn	Pn	05 00 59.9	+0.9
JCC				IAML		05 02 05.9	
comp=E,23nm,2.4s							
JCC				IAML		05 02 23.2	
comp=N,24nm,4.2s							
ELK	Elko	3.52	107		Pn	05 01 01.2	+1.0
ELK				IAML		05 01 57.8	
comp=N,17nm,0.5s							
G05D	Wamic, OR	3.57	341	Sb	Sg	05 01 56.2	-2.8
baz=160							
NVAR	Mina Array Bea	3.60	163	Pn	Pn	05 01 02.7	+1.4
KEBM	Edson Butte	3.60	288	Pn	Pn	05 01 01.1	0.0
CMB	Columbia Colle	3.88	188	Pn	Pn	05 01 03.8	-1.2
F10A	Beach Ranch, E	4.46	22	Pn	Pn	05 01 12.7	-0.3
F10A				IAML		05 02 36.2	
comp=E,8.6nm,0.6s							
F10A				IAML		05 02 42.6	
comp=N,8.0nm,1.1s							
SPR3	Spring Creek 3	4.98	123		Pn	05 01 20.5	+0.1
BGU	Big Grassy Mou	5.08	99	Pn	Pn	05 01 20.2	-1.3
BGU				IAML		05 02 54.7	
comp=N,7.7nm,1.3s							
BGU				IAML		05 03 05.4	
comp=E,9.7nm,1.0s							
SPUT	South Promonto	5.44	94	Pn	Pn	05 01 24.6	-1.9
DUG	Dugway, Tooele	5.45	106	Pn	Pn	05 01 27.2	+0.6
PRN	Pahroc Range	5.71	140		Pn	05 01 29.5	-0.7
MSO	Missoula	6.43	38	Pn	Pn	05 01 39.5	-0.5

*NEIC **21** 05:02:04.6±1.1, 36°.58N±0°.02×97°.69W±0°.06, h5km±2km, Error ellipse: s-maj=8.2km s-min=3.1km az=248.0*
*TUL **21** 05:02:04.4±1.6, 36°.60N±0°.02×97°.69W±0°.05, h6km±7km, ML3.3, mb_Lg3.0/96(NEIC), Error ellipse: s-maj=6.4km s-min=2.3km az=71.0*
*ANF **21** 05:02:06.1±1.4, 36°.63N×97°.67W, h17km±10km, ML3.9/9, Error ellipse: s-maj=4.3km s-min=3.6km az=127.0*

ISC 21 05:02:04.8±0.9, 36°.58N±0°.02×97°.70W±0°.02, h11km±9km, n96, σ19°91/63, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.24	253		Pg	05 02 09.7	+0.1
CROK				Sg	Sg	05 02 13.5	+0.5
GC02	Grant County #	0.30	336		Pg	05 02 10.4	-0.5
GC02				Sg	Sg	05 02 14.7	-0.3
BLOK	Blackwell	0.43	65		Pg	05 02 12.8	-0.6
BLOK				Sg	Sg	05 02 18.5	-0.5
OK032	Salt Plains WL	0.47	299		Pg	05 02 13.6	-0.4
OK032				Sg	Sg	05 02 20.3	+0.2
KAN17	Caldwell West	0.47	354		Pg	05 02 13.4	-0.5
KAN13	South Haven SW	0.47	23		Pg	05 02 13.4	-0.6
KAN05	Bluff City Nor	0.55	346		Pg	05 02 14.9	-0.6
KAN09	Caldwell North	0.56	7		Pg	05 02 15.1	-0.7
KAN10	Anthony SW Sta	0.63	330		Pg	05 02 16.3	-0.7
KS20	Mayfield South	0.66	10	Pg	Pg	05 02 16.8	-0.9
KAN08	Anthony NE Sta	0.68	342		Pg	05 02 17.5	-0.6
KAN12	Harper NE Stat	0.76	342		Pg	05 02 18.8	-0.6
OK029	Liberty Lake	0.80	165		Pg	05 02 20.0	-0.3
QUOK	Quay	0.90	116		Pg	05 02 21.4	-0.7
BCOK	Bluff Creek, N	0.92	175		Pg	05 02 22.2	-0.3
OK031	S. Brethren Rd	0.94	131		Pg	05 02 22.2	-0.6
T35A	Sooner Cattle	1.01	70		Pg	05 02 23.3	-1.0
T35B	Sooner Cattle	1.02	70	P		05 02 23.3	
baz=251							
T35B				S		05 02 36.6	
baz=251							
OK025	Westminster Rd	1.04	163		Pg	05 02 24.2	-0.5
U32A	Winter Ranch,	1.06	260		Pg	05 02 24.6	-0.6
U32A	Winter Ranch,	1.06	260	P		05 02 24.6	
baz=79							
U32A				S		05 02 39.5	
baz=79							
OKCSW	OKLAHOMA CITY	1.19	169		Pg	05 02 26.9	-0.7
FNO	Franklin	1.34	169		Pn	05 02 29.5	+0.1
TUL1	Leonard	1.68	113	P	Pn	05 02 34.7	+0.6
baz=294							
TUL1				S	Sb	05 02 57.2	+0.3
baz=294							
TUL1	Leonard	1.68	113	P		05 02 34.7	
baz=294							
TUL1				S		05 02 57.3	
baz=294							
X34A	Smith Ranch, M	1.97	183		Pn	05 02 39.9	+1.7
R32A	Long Quarter,	2.01	337		Pn	05 02 40.1	+1.4
R32A	Long Quarter,	2.01	337	P		05 02 39.4	
baz=156							
R32A				S		05 03 06.4	
baz=156							
WMOK	Wichita Mounta	2.03	206	P	Pn	05 02 39.9	+0.9
baz=25							
WMOK				S	Sb	05 03 07.1	+0.1
baz=25							
WMOK	Wichita Mounta	2.03	206		Pn	05 02 39.8	+0.9
WMOK	Wichita Mounta	2.03	206	P		05 02 39.9	
baz=25							
WMOK				S		05 03 07.4	
baz=25							
KSU1	Kansas State U	2.67	19	Pb	Pb	05 02 52.4	-0.1
baz=199							
KSU1				Sb	Sb	05 03 26.1	+0.8
baz=199							
KSU1	Kansas State U	2.67	19	Pn	Pn	05 02 49.3	+1.7
KSU1	Kansas State U	2.67	19	P		05 02 49.4	
baz=199							
U38A	Gravette	2.68	92	Pn	Pn	05 02 49.0	+1.2
X37A	Clayton	2.75	136	Pn	Pn	05 02 50.1	+1.3
X37A				IAmb_Lg		05 03 35.4	
comp=Z,56nm,0.8s							
X37A	Clayton	2.75	136	S		05 03 24.2	
baz=317							
CBKS	Cedar Bluff	2.75	325	Sb	Sb	05 03 29.0	+1.1
baz=144							
CBKS	Cedar Bluff	2.75	325	Pn	Pn	05 02 49.8	+0.9
CBKS	Cedar Bluff	2.75	325	P		05 02 49.4	
baz=144							
HHAR	Hobbs	3.05	94	Pn	Pn	05 02 54.0	+1.1
Z35A	Perchaven, San	3.26	173	Pn	Pn	05 02 56.6	+0.7
Z35A	Perchaven, San	3.26	173	P		05 02 56.2	
baz=354							
W39A	Magazine	3.47	112	Pb	Pb	05 03 07.3	+1.1
baz=295							
W39A	Magazine	3.47	112	Pn	Pn	05 03 00.4	+1.7
W39A				IAmb_Lg		05 03 57.9	
comp=Z,37nm,0.8s							
AMTX	Amarillo	3.65	244	Sb	Sg	05 03 59.3	-2.6
baz=61							
AMTX	Amarillo	3.65	244	IAmb_Lg		05 04 04.1	
comp=Z,33nm,0.7s							
U40A	Yellville	3.92	92	Pn	Pn	05 03 05.5	+0.7
U40A				IAmb_Lg		05 04 08.9	
comp=Z,50nm,0.8s							
MIAR	Mount Ida	3.93	120	Pn	Pn	05 03 06.4	+1.4
MIAR				IAmb_Lg		05 04 10.7	
comp=Z,50nm,0.9s							
N33A	J Bar K, Exete	4.16	3	Pn	Pn	05 03 07.1	-1.2
ABTX	Abilene, Hawle	4.25	203	Pn	Pn	05 03 09.6	+0.1
MGMO	Mountain Grove	4.40	81		Pn	05 03 12.2	+0.7
MGMO				IAmb_Lg		05 04 24.4	
comp=Z,52nm,0.9s							
P38A	Dawn	4.48	46	IAmb_Lg		05 04 26.7	
comp=Z,33nm,0.7s							
X40A	Basin Creek Fa	4.48	116	Pn	Pn	05 03 14.2	+1.6
X40A				IAmb_Lg		05 04 27.2	
comp=Z,26nm,0.7s							
FCAR	Ozark Folk Cen	4.56	97	IAmb_Lg		05 04 31.1	
comp=Z,24nm,1.0s							
N35A	Tabor	4.57	20	Pn	Pn	05 03 14.1	+0.2
WHTX	Lake Whitney,	4.58	177	P	Pn	05 03 14.9	+0.9
baz=358							
WHTX	Lake Whitney,	4.58	177	Pn	Pn	05 03 14.6	+0.6
WHTX	Lake Whitney,	4.58	177	P		05 03 14.8	
baz=358							
KSCO	Kaye Shedlock'	4.59	303	Pn	Pn	05 03 13.8	-0.5
KSCO				IAmb_Lg		05 04 32.9	
comp=Z,18nm,0.8s							
R40A	Maddies Statio	4.65	67	Pn	Pn	05 03 15.8	+0.8
R40A				IAmb_Lg		05 04 34.3	
comp=Z,26nm,0.7s							
WLAR	White Oak Lake	4.74	126	IAmb_Lg		05 04 45.2	
comp=Z,35nm,1.1s							
237A	Washetta, Mont	4.83	160	IAmb_Lg		05 04 34.3	
comp=Z,22nm,1.2s							
BGNE	Belgrade	4.84	356	P	Pn	05 03 17.9	+0.3
baz=176							
B

	comp=Z,19nm,0.9s					
435B	Jarrell	5.78	179	IAmb_Lg		05 05 19.2
	comp=Z,24nm,0.7s					
LPAR	Lepanto	6.07	97	IAmb_Lg		05 05 29.7
	comp=Z,35nm,0.7s					
JCT	Junction City	6.33	197	IAmb_Lg		05 05 31.8
	comp=Z,32nm,1.1s					
SDCO	Great Sand Dun	6.34	283	Pn	Pn	05 03 38.6 +0.3
SCIA	State Center	6.36	32	IAmb_Lg		05 05 30.8
	comp=Z,22nm,0.7s					
N41A	Harden Midland	6.76	50	IAmb_Lg		05 05 46.4
	comp=Z,31nm,0.8s					
ISCO	Idaho Springs	7.01	300	Pn	Pn	05 03 48.0 +0.4
W45A	Hickory Valley	7.06	99	IAmb_Lg		05 05 47.1
	comp=Z,15nm,0.8s					
OXF	Oxford	7.07	105	IAmb_Lg		05 05 55.7
	comp=Z,13nm,0.7s					
K38A	Parkersburg	7.16	31	IAmb_Lg		05 05 59.6
	comp=Z,23nm,0.8s					
ECSD	EROS Data Cent	7.20	6	P	Pn	05 03 50.3 +0.3
	baz=187					
ECSD	EROS Data Cent	7.20	6	Pn	Pn	05 03 50.5 +0.6
L40A	Anamosa	7.43	41	IAmb_Lg		05 06 04.3
	comp=Z,29nm,1.2s					
PHWY	Pilot Hill	7.67	310	IAmb_Lg		05 06 20.3
	comp=Z,12nm,0.9s					
SUSD	Miller	7.92	353	IAmb_Lg		05 06 22.0
	comp=Z,17nm,0.8s					
O44A	Mansfield	8.09	61	IAmb_Lg		05 06 19.8
	comp=Z,18nm,0.7s					
USIN	University of	8.12	77	IAmb_Lg		05 06 38.7
	comp=Z,19nm,0.8s					
L42A	Oliver, Polo	8.26	47	IAmb_Lg		05 06 27.2
	comp=Z,18nm,0.8s					
JFWS	Jewell Farm	8.54	40	IAmb_Lg		05 06 39.4
	comp=Z,12nm,0.8s					
V48A	Smith Brothers	8.84	92	IAmb_Lg		05 06 44.9
	comp=Z,13nm,1.2s					
X48A	Hartselle	8.95	101	IAmb_Lg		05 06 46.8
	comp=Z,9.2nm,1.1s					
RSSD	Black Hills	8.95	329	IAmb_Lg		05 06 59.7
	comp=Z,12nm,1.0s					
RWWY	Rawlins	8.98	308	IAmb_Lg		05 06 54.0
	comp=Z,12nm,1.0s					
K22A	Casper	9.11	314	IAmb_Lg		05 07 15.6
	comp=Z,22nm,1.2s					
SFIN	Lafayette	9.14	62	IAmb_Lg		05 06 57.2
	comp=Z,18nm,0.7s					
CLTN	Cedars of Leba	9.19	90	IAmb_Lg		05 07 07.4
	comp=Z,7.9nm,0.9s					
WCI	Wyandotte Cave	9.23	76	IAmb_Lg		05 07 04.4
	comp=Z,11nm,0.8s					
121A	Cookes Peak, D	9.24	247	IAmb_Lg		05 07 02.8
	comp=Z,10nm,1.1s					
K43A	Burlington	9.47	47	IAmb_Lg		05 07 09.3
	comp=Z,18nm,0.8s					
U49A	Red Boiling Sp	9.60	87	IAmb_Lg		05 07 06.3
	comp=Z,11nm,1.1s					
SWET	Sewanee	9.65	95	IAmb_Lg		05 07 16.8
	comp=Z,7.7nm,0.9s					

*GUC **21** 05:25:19.2±0.6, 23°.90S×67°.06W, h240km±9km, ML4.0*
*IDC **21** 05:25:21.9±8.4, 23°.67S×66°.67W, h224km±63km, mb2.5/1, mb1 3.2/3, mb1mx3.0/21, mbtmp3.5/3, Error ellipse: s-maj=86.9km s-min=25.4km az=21.0*

ISC 21 05:25:18.9±1.1, 23°.90S±0°.07×66°.82W±0°.08, h200km, n17, σ0°79/30, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.31	303	⇑iP	Pn	05 26 02.4	+1.3
LVC				i S	Sn	05 26 35.1	+1.2
PB15	IPOC Station P	2.52	285	⇑iP	Pn	05 26 04.5	+1.1
PB15				i S	Sn	05 26 38.2	+0.3
PB06	IPOC Station P	2.79	295	⇑iP	Pn	05 26 07.4	+1.0
PB06				i S	Sn	05 26 43.5	+0.2
PB06				IAML		05 26 45.0	
	comp=N,212nm,0.4s						
GO02	Mina Guanaco	2.82	243	⇑eP	Pn	05 26 07.2	+0.5
GO02				eS	Sn	05 26 43.7	-0.3
PB03	IPOC Station P	3.27	304	⇑iP	Pn	05 26 12.6	+0.6
PB03				i S	Sn	05 26 52.8	-0.6
PB03				IAML		05 26 55.2	
	comp=N,136nm,0.5s						
PB05	IPOC Station P	3.27	288	eP	Pn	05 26 12.3	+0.3
PB05				i S	Sn	05 26 52.2	-1.2
PB05				IAML		05 26 56.1	
	comp=E,93nm,0.3s						
PB04	IPOC Station P	3.44	296	⇑iP	Pn	05 26 14.4	+0.4
PB04				i S	Sn	05 26 56.1	-0.9
PB04				IAML		05 26 57.9	
	comp=N,143nm,0.6s						
PB10	IPOC Station P	3.44	276	eP	Pn	05 26 14.1	+0.3
PB10				i S	Sn	05 26 56.0	-0.9
PB10				IAML		05 26 59.4	
	comp=E,160nm,0.3s						
PB07	IPOC Station P	3.56	307	⇑eP	Pn	05 26 15.9	+0.4
PB07				eS	Sn	05 26 58.6	-1.1
PB07				IAML		05 27 01.3	
	comp=E,166nm,0.5s						
PB01	IPOC Station P	3.76	319	⇑iP	Pn	05 26 18.2	+0.3
PB01				i S	Sn	05 27 03.6	-0.5
PB02	IPOC Station P	3.83	312	eP	Pn	05 26 19.2	+0.5
PB02				i S	Sn	05 27 04.3	-1.3
PB08	IPOC Station P	4.32	330	eP	Pn	05 26 26.2	+1.1
PB08				eS	Sn	05 27 17.4	+0.3
PB08				IAML		05 27 20.7	
	comp=E,54nm,0.3s						
LPAZ	La Paz	7.67	351	P	Pn	05 27 09.1	+0.5
	comp=E,0.7nm,0.3s,baz=160,slow=6.3,SNR=26						
LPAZ				S	Sn	05 28 34.7	-0.9
	comp=E,0.1nm,0.3s,baz=53,slow=20,SNR=1.4						
BDFB	Brasilia	19.50	69	P	P	05 29 30.5	-0.7
	comp=E,0.3nm,0.3s,baz=266,slow=9.6,SNR=5.7						
TXAR	Lajitas Array	63.69	324	P	P	05 35 29.5	+0.2
	comp=E,0.1nm,0.4s,baz=156,slow=8.9,SNR=1.8						
WRA	Warramunga Arr	131.79	207	PKP	PKPdf	05 44 08.7	-0.3
	comp=E,0.9nm,1.1s,baz=163,slow=1.7,SNR=1.8						
MKAR	Makanchi Array	146.34	40	PKPbc	PKPdf	05 44 34.5	-0.1
	comp=E,0.4nm,0.5s,baz=328,slow=2.3,SNR=5.5						

IDC 21 05:33:51.4±4.2, 5°.82S×102°.72E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/27, mbtmp3.6/3, Error ellipse: s-maj=166.8km s-min=31.7km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	Diego Garcia H	30.07	265	T	T	06 12 03.4	
	baz=89,slow=75,SNR=23						
H08S3	Diego Garcia H	30.08	265	T	T	06 12 02.1	
	baz=89,slow=75,SNR=19						
H08S1	Diego Garcia H	30.09	265	T	T	06 12 02.9	
	baz=89,slow=75,SNR=22						
WRA	Warramunga Arr	33.78	117	P	P	05 40 36.0	+0.8
	0.5nm,0.9s,baz=288,slow=10,SNR=4.6						
SONM	Songino Array	53.52	3	P	P	05 43 14.0	+0.1
	1.0nm,0.7s,baz=187,slow=8.7,SNR=5.3						
MKAR	Makanchi Array	55.43	343	P	P	05 43 28.4	+0.7
	0.6nm,0.6s,baz=156,slow=8.5,SNR=7.4						
TXAR	Lajitas Array	145.83	44	PKPbc	PKPdf	05 53 30.9	-2.1
	0.6nm,0.7s,baz=264,slow=0.9,SNR=10.0						

LJU 21 05:42:33.8, 46°.16N×14°.89E, h0km, ML0.5, 2C, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	Podkum	0.13	143	⇑iPg	Pg	05 42 36.3	+0.1
PDKS				IAML		05 42 39.4	
	comp=Z,7.0nm,0.1s						
VNDS	Vrh nad Dolski	0.14	245	⇑iPg	Pg	05 42 36.6	+0.1
MOZS	Mozjanca	0.34	293	i Pg	Pg	05 42 40.5	+0.3
CRNS	Crni Vrh	0.44	260	i Pg	Pg	05 42 42.6	+0.3
CRNS				eSg	Sg	05 42 48.4	+0.3
CRNS				IAML		05 42 50.8	
	comp=Z,2.2nm,0.1s						

VIE 21 05:42:51.8±0.2, 48°.01N×15°.47E, h0km, mb1.5/3, ml1.3/5, Error ellipse: s-maj=2.8km s-min=1.2km az=138.0 9 km N of Trnitz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	Conrad Observa	0.27	107	ePg	Pg	05 42 57.1	+0.1
ARSA	Arzberg	0.76	177	ePg	Pg	05 43 06.1	-0.2
	0.7nm,0.2s						
ARSA				eSg	Sg	05 43 16.5	+0.4
	1.6nm,0.2s						
MOA	Molln	0.83	259	ePg	Pg	05 43 07.5	0.0
	0.6nm,0.2s						
MOA				eSg	Sg	05 43 18.8	+0.6
	1.6nm,0.2s						
KRUC	Moravsky	1.22	30	ePG	Pn	05 43 17.0	+0.9
KRUC				eSG	Sb	05 43 31.8	-0.2
KBA	Koelnbreinsper	1.71	238	ePg	Pn	05 43 22.7	-0.3
	0.6nm,0.2s						
KBA				eSg	Sg	05 43 49.1	+2.2
	0.9nm,0.2s						

*KRNET **21** 05:49:53.5±0.1, 42°.12N×76°.75E, h19km, mb3.0*
*SOME **21** 05:49:54.1, 42°.15N×76°.73E, h15km*
*NNC **21** 05:49:54.3±0.5, 42°.18N×76°.73E, h0km, mb3.1, mpv3.5, Error ellipse: s-maj=3.7km s-min=2.0km az=179.0*

ISC 21 05:49:53.3±1.0, 42°.13N±0°.03×76°.70E±0°.02, h11km±9km, n62, σ1°.02/114, 35C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	Kajisay	0.36	90	⇑iP	Pg	05 50 00.4	0.0
	baz=89						
KDJ				⇑iS	Sg	05 50 04.9	-0.3
	baz=89						
ULHL	Ulahol	0.36	289	⇑iP	Pg	05 50 01.6	+1.1
	baz=88						
ULHL				⇑iS	Sb	05 50 07.3	-0.3
	baz=88						
BOOM	Boomskoye usch	0.67	303	⇑iP	Pg	05 50 06.9	+0.6
	baz=2.0						
BOOM				⇑iS	Sb	05 50 16.3	-0.1
	baz=2.0						
IZV	Izvestkoviy	0.91	356	⇓eP	Pg	05 50 10.8	+0.1
	baz=54						
IZV				⇓eS	Sb	05 50 22.9	-0.4
	baz=54						
IZV	Izvestkoviy	0.91	356	⇓eP	Pg	05 50 10.8	+0.1
	21nm,0.2s						
IZV				eS	Sb	05 50 22.9	-0.4
	76nm,0.1s						
IZV	Izvestkoviy	0.91	356	P	Pg	05 50 10.8	+0.1
	21nm,0.2s						
IZV				S	Sb	05 50 22.9	-0.4
	76nm,0.1s						
TARG	Taragay, Kyrgy	0.92	116	⇑iP	Pg	05 50 10.2	-0.8
	baz=16						
TARG				⇑iS	Sg	05 50 21.8	-1.2
	baz=16						
TNSS	Tian-Shan	0.92	11	P	Pg	05 50 11.3	+0.1
	19nm,0.2s						
TNSS				S	Sb	05 50 23.4	-0.6
	88nm,0.2s						
ANVS	Anan'yevo	0.97	47	⇑iP	Pg	05 50 10.9	-1.0
	baz=45						
ANVS				⇑iS	Sg	05 50 23.9	-0.6
	baz=45						
KST	Kastek	1.06	329	⇓eP	Pb	05 50 13.9	+0.2
	baz=28						
KST				⇓eS	Sb	05 50 28.1	+0.4
	baz=28						
KST	Kastek	1.06	329	⇓eP	Pb	05 50 13.9	+0.2
	15nm,0.1s						
KST				eS	Sb	05 50 28.1	+0.4
	64nm,0.3s						
KST	Kastek	1.06	329	P	Pb	05 50 13.9	+0.2
	15nm,0.1s						
KST				S	Sb	05 50 28.1	+0.4
	64nm,0.3s						
AAA	Alma-Ata	1.09	8	eP	Pb	05 50 14.4	+0.3
	baz=6.0						
AAA				eS	Sn	05 50 29.1	-0.6
	baz=6.0						
AAA	Alma-Ata	1.09	8	eP	Pb	05 50 14.4	+0.3
	51nm,0.1s						
AAA				eS	Sn	05 50 29.1	-0.6
	126nm,0.1s						
AAA	Alma-Ata	1.09	8	P	Pb	05 50 14.4	+0.3
	51nm,0.1s						
AAA				S	Sn	05 50 29.1	-0.6
	126nm,0.1s						
TKM2	Tokmak 2	1.14	314	⇑iP	Pg	05 50 15.1	0.0
	baz=13						
TKM2				⇑iS	Sn	05 50 30.8	-0.2
	baz=13						
TKM2	Tokmak 2	1.14	314	⇑P	Pg	05 50 14.9	-0.2
	1.3nm,0.2s						
TKM2				⇑S	Sn	05 50 30.8	-0.2
	14nm,0.3s						
DGS	Degeres	1.30	329	eP	Pg	05 50 18.3	-0.1
	baz=27						
DGS				eS	Sn	05 50 35.7	+0.7
	baz=27						
DGS	Degeres	1.30	329	eP	Pg	05 50 18.3	-0.1
	10.0nm,0.2s						
DGS				eS	Sn	05 50 35.7	+0.7
	29nm,0.1s						
DGS	Degeres	1.30	329	P	Pg	05 50 18.3	-0.1
	10.0nm,0.2s						
DGS				S	Sn	05 50 35.7	+0.7
	29nm,0.1s						
PRZ	Przheval'sk	1.31	74	⇓iP	Pn	05 50 17.2	-0.4
	baz=72						
PRZ				⇓iS	Sb	05 50 34.2	-0.6
	baz=72						
KBK	Karagaybulak	1.40	293	⇑iP	Pb	05 50 19.9	+0.4
	baz=92						
KBK				⇑iS	Sg	05 50 39.2	+0.8
	baz=92						
SATY	Saty	1.56	53	⇑iP	Pb	05 50 22.2	-0.1
	baz=52						
SATY				⇑eS	Sb	05 50 42.4	+0.3
	baz=52						
SATY	Saty	1.56	53	⇑iP	Pb	05 50 22.2	-0.1
	6.7nm,0.1s						
SATY				eS	Sb	05 50 42.4	+0.3
	93nm,0.1s						
SATY	Saty	1.56	53	P	Pb	05 50 22.2	-0.1
	6.7nm,0.1s						
SATY				S	Sb	05 50 42.4	+0.3
	93nm,0.1s						
KTBS	Karatobe	1.58	359	eP	Pb	05 50 22.8	+0.3
	baz=58						
KTBS				eS	Sg	05 50 43.3	-0.7
	baz=58						
KTBS	Karatobe	1.58	359	eP	Pb	05 50 22.8	+0.3
	16nm,0.3s						
KTBS				eS	Sg	05 50 43.4	-0.7
	42nm,0.2s						
KTBS	Karatobe	1.58	359	P	Pb	05 50 22.8	+0.3
	16nm,0.3s						
KTBS				S	Sg	05 50 43.4	-0.7
	42nm,0.2s						
CHMS	Chumysh	1.68	302	⇑iP	Pb	05 50 24.8	+0.6
	baz=1.0						
CHMS				⇑iS	Sg	05 50 47.4	+0.1
	baz=1.0						
AAK	Ala-Archa	1.71	288	⇑iP	Pb	05 50 25.4	+0.6
	baz=88						
AAK				⇑iS	Sg	05 50 48.6	+0.3
	baz=88						
AAK	Ala-Archa	1.71	288	⇓Sn	Sg	05 50 48.9	+0.6
	5.8nm,0.3s						
KURS	Kuram	1.73	38	eP	Pb	05 50 25.3	+0.2
	baz=37						
KURS				eS	Sb	05 50 47.7	+0.7
	baz=37						
KURS	Kuram	1.73	38	eP	Pb	05 50 25.3	+0.2
	4.3nm,0.2s						
KURS				eS	Sb	05 50 47.7	+0.7
	11nm,0.2s						
KURS	Kuram	1.73	38	P	Pb	05 50 25.3	+0.2
	4.3nm,0.2s						
KURS				S	Sb	05 50 47.7	+0.7
	11nm,0.2s						
KRBS	Karabastau	1.74	335	eP	Pb	05 50 25.9	+0.7
	baz=34						
KRBS				eS	Sg	05 50 48.7	-0.4
	baz=34						
KRBS	Karabastau	1.74	335	eP	Pb	05 50 25.9	+0.7
	31nm,0.1s						
KRBS				eS	Sg	05 50 48.7	-0.4
	36nm,0.3s						
KRBS	Karabastau	1.74	335	P	Pb	05 50 25.9	+0.7
	31nm,0.1s						
KRBS				S	Sg	05 50 48.7	-0.4
	36nm,0.3s						
KUU	Kurty	1.78	352	⇑iP	Pb	05 50 26.6	+0.7
	baz=50						
KUU				⇑iS	Sg	05 50 50.0	-0.5
	baz=50						
KUU	Kurty	1.78	352	⇑iP	Pb	05 50 26.6	+0.7
	20nm,0.2s						
KUU				⇑iS	Sg	05 50 50.0	-0.5
	28nm,0.2s						
KUU	Kurty	1.78	352	P	Pb	05 50 26.6	+0.7
	20nm,0.2s						
KUU				S	Sg	05 50 50.0	-0.5
	28nm,0.2s						
ARLS	Aral	1.79	262	⇓iP	Pb	05 50 26.6	+0.4
	baz=62						
ARLS				⇓iS	Sb	05 50 50.5	+1.7
	baz=62						
KPKS	Kokpek	1.98	47	eP	Pb	05 50 29.1	-0.2
	baz=46						
KPKS				eS	Sb	05 50 54.4	+0.4
	baz=46						
KPKS	Kokpek	1.98	47	eP	Pb	05 50 29.1	-0.2
	13nm,0.1s						
KPKS				eS	Sb	05 50 54.4	+0.4
	104nm,0.2s						
UZB	Uzynbulak	1.99	59	⇑iP	Pb	05 50 29.5	-0.1
	baz=58						
UZB				⇓iS	Sb	05 50 55.0	+0.5
	baz=58						
UZB	Uzynbulak	1.99	59	⇑iP	Pb	05 50 29.5	-0.1
	5.2nm,0.2s						
UZB				⇓iS	Sb	05 50 55.0	+0.5
	33nm,0.3s						
UZB	Uzynbulak	1.99	59	P	Pb	05 50 29.5	-0.1
	5.2nm,0.2s						
UZB				S	Sb	05 50 55.0	+0.5
	33nm,0.3s						
SGDS	Sogindy	2.02	312	Pg	Pb	05 50 30.9	+1.0
	25nm,0.1s						
SGDS				Lg	Lg	05 50 57.4	
	21nm,0.2s						
EKS2	Erkin-Say	2.23	285	⇑iP	Pb	05 50 32.8	-0.8
	baz=85						
EKS2				⇑iS	Sb	05 51 01.2	-0.1
	baz=85						
AML	Almayashu	2.24	271	⇑iP	Pb	05 50 33.1	-0.8
	baz=71						
AML				⇑iS	Sb	05 51 01.8	0.0
	baz=71						
ARXS	Arharly	2.24	21	eP	Pb	05 50 34.2	+0.4
	17nm,0.2s						
ARXS				eS	Sg	05 51 03.0	-2.1
	36nm,0.3s						
ARXS	Arharly	2.24	21	Pg	Pb	05 50 34.2	+0.4
	17nm,0.2s						
ARXS				Lg	Lg	05 51 03.1	
	36nm,0.3s						
SHLS	Shalkode	2.28	62	eP	Pg	05 50 39.3	+2.4
	3.8nm,0.1s						
SHLS				eS	Sg	05 51 12.0	+5.5
	30nm,0.4s						
SHLS	Shalkode	2.28	62	Pg	Pg	05 50 39.3	+2.4
	3.8nm,0.1s						
SHLS				Lg	Lg	05 51 12.0	
	30nm,0.4s						
PDGK	Podgornoye	2.38	59	Pg	Pb	05 50 36.1	0.0
	1.6nm,0.1s						
PDGK				Lg	Lg	05 51 06.2	
	13nm,0.3s						
PDGK	Podgornoye	2.38	59	⇓Pn	Pb	05 50 35.1	-1.1
	2.2nm,0.5s						
PDGK				⇑Lg	Lg	05 51 05.7	
	25nm,0.7s						
MRKS	Merke	2.65	285	eP	Pg	05 50 43.4	-0.6
	3.4nm,0.2s						
MRKS				eS	Sg	05 51 18.7	+0.5
	23nm,0.2s						
MRKS	Merke	2.65	285	Pg	Pg	05 50 43.4	-0.6
	3.4nm,0.2s						
MRKS				Lg	Lg	05 51 18.7	
	23nm,0.2s						
DJR	Jarkent	3.15	45	eP	Pb	05 50 50.7	+1.4
	2.2nm,0.2s						
DJR				eS	Sg	05 51 31.2	-3.3
	12nm,0.2s						
DJR	Jarkent	3.15	45	Pg	Pb	05 50 50.7	+1.4
	2.2nm,0.2s						
DJR				Lg	Lg	05 51 31.2	
	12nm,0.2s						
KAPS	Kapalarasan	3.69	31	eP	Pb	05 51 00.5	+2.0
	3.6nm,0.2s						
KAPS				eS	Sg	05 51 48.0	-3.8
	8.5nm,0.2s						
KAPS	Kapalarasan	3.69	31	Pg	Pb	05 51 00.5	+2.0
	3.6nm,0.2s						
KAPS				Lg	Lg	05 51 48.0	
	8.5nm,0.2s						
KK31	Karatay Array	4.67	284	⇑Pg	Pg	05 51 20.9	-1.8
	0.3nm,0.4s						
KK31				Lg	Lg	05 52 20.8	
	0.9nm,0.5s,baz=103,slow=26,SNR=7.7						

*IDC **21** 05:50:32.9±1.2, 19°.06N×95°.86E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, ML4.4/1, Error ellipse: s-maj=50.1km s-min=19.9km az=37.0*

ISC 21 05:50:37.6±1.0, 18°.9N±0°.2×95°.8E±0°.1, h35km, n37, σ1°.45/38, mb3.8/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHMT	Maesarieng	2.13	109	P	Pn	05 51 09.1	-1.6
	4.5nm13μm1μm,0.6s						
MHMT	Maesarieng	2.13	109	P	Pn	05 51 09.0	-1.6
CM32	Chiang Mai Arr	2.88	94	P	Pn	05 51 20.0	-1.0
CHTO	Chiang Mai	2.96	91	P	Pn	05 51 21.5	-0.7
	1.2nm3μm54nm,0.6s						
CM33	Chiang Mai Arr	2.96	91	P	Pn	05 51 19.0	-3.2
CMMT	Chiang Mai	2.96	91	P	Pn	05 51 21.4	-0.8
	1.1nm4μm54nm,0.5s						
CMMT	Chiang Mai	2.96	91	P	Pn	05 51 21.5	-0.8
CM13	Chiang Mai Arr	2.97	99	P	Pn	05 51 22.4	+0.2
	0.5nm2μm133nm,0.7s						
CM13	Chiang Mai Arr	2.97	99	P	Pn	05 51 22.4	+0.2
CM15	Chiang Mai Arr	2.98	98	P	Pn	05 51 20.2	-2.2
	1.0nm5μm86nm,0.6s						
CM15	Chiang Mai Arr	2.98	98	P	Pn	05 51 20.0	-2.4
CM31	Chiang Mai Arr	2.99	98	P	Pn	05 51 22.0	-0.6
CMAR	Chiang Mai Arr	2.99	98	Pn	Pn	05 51 23.0	+0.4
	13nm,0.3s,baz=278,slow=18,SNR=45						
CMAR				Sn	Sn	05 51 57.4	0.0
	34nm,0.3s,baz=20,slow=27,SNR=7.5						
CM02	Chiang Mai Arr	3.00	98	P	Pn	05 51 22.7	0.0
	0.8nm2μm111nm,0.8s						
CM02	Chiang Mai Arr	3.00	98	P	Pn	05 51 22.8	0.0
CM05	Chiang Mai Arr	3.00	99	P	Pn	05 51 22.7	0.0
	0.9nm4μm87nm,0.7s						
CM05	Chiang Mai Arr	3.00	99	P	Pn	05 51 22.8	0.0
CM01	Chiang Mai Arr	3.02	98	P	Pn	05 51 23.2	+0.3
	1.0nm3μm92nm,0.6s						
CM01	Chiang Mai Arr	3.02	98	P	Pn	05 51 23.2	+0.3
CM04	Chiang Mai Arr	3.04	99	P	Pn	05 51 21.5	-1.7
	1.0nm3μm102nm,0.7s						
CM04	Chiang Mai Arr	3.04	99	P	Pn	05 51 21.0	-2.2
CM09	Chiang Mai Arr	3.04	98	P	Pn	05 51 23.0	-0.3
	0.9nm3μm123nm,0.7s						
CM09	Chiang Mai Arr	3.04	98	P	Pn	05 51 23.0	-0.3
CM36	Chiang Mai Arr	3.13	96	P	Pn	05 51 25.0	+0.5
CM34	Chiang Mai Arr	3.15	90	P	Pn	05 51 24.0	-0.8
CM35	Chiang Mai Arr	3.17	93	P	Pn	05 51 25.0	0.0
LAMP	Lampang	3.63	95	P	Pn	05 51 35.5	+4.1
LAMP	Lampang	3.63	95	P	Pn	05 51 35.0	+3.6
MKAR	Makanchi Array	29.96	341	P	P	05 56 42.6	0.0
	0.7nm,0.6s,baz=132,slow=12,SNR=6.8						
KURBB	Kurchatov Arra	34.52	340	P	P	05 57 21.3	-1.1
	4.2nm,0.3s,baz=151,slow=8.3,SNR=12						
WRA	Warramunga Arr	54.00	134	P	P	05 59 58.9	+0.3
	0.6nm,1.0s,baz=321,slow=7.7,SNR=2.1						
AKASG	Malin Array Be	60.82	318	P	P	06 00 46.0	-0.2
	0.3nm,0.4s,baz=93,slow=5.8,SNR=5.5						
FINES	F

GERES	GERESS Array B	70.89 316	P	P	06 01 51.9	+0.6
	0.4nm,0.2s,baz=72,slow=4.3,SNR=4.1					
NB2	NORSAR Subarra	71.06 329	P	P	06 01 52.0	0.0
	comp=Z,0.4nm,0.6s,baz=83,slow=6.5					
NOA	NORSAR Array B	71.06 329	P	P	06 01 50.8	-1.2
	comp=Z,0.6nm,0.7s,baz=90,slow=5.9,SNR=4.2					
BDFB	Brasilia	145.35 270	PKPbc	PKPab	06 10 14.3	+1.5
	comp=Z,1.5nm,0.7s,baz=98,slow=7.1,SNR=3.2					

*IDC **21** 06:10:22.5±1.7, 17°.84S×178°.52W, h569km±19km, mb4.1/14, mb1 4.3/16, mb1mx4.0/27, mbtmp5.0/16, Error ellipse: s-maj=29.1km s-min=11.4km az=151.0*
*NEIC **21** 06:10:22.6±1.9, 18°.0S±0°.1×178°.4W±0°.1, h574km±7km, mb4.5/194, Error ellipse: s-maj=19.8km s-min=13.4km az=140.0*
*NOU **21** 06:10:23.3, 17°.78S×178°.42W, h600km, MLv4.9, Fiji Islands Region*

ISC 21 06:10:22.7±0.4, **17°.95S**±0°.09×**178°.44W**±0°.07, **h579**km, **n377**, σ0**81**/330, **mb4.5**/117, **52C-58D, Fault plane solution: NP1:**ϕ_s324.06485°, δ84.77145°, λ-46.79139°. **NP2:**ϕ_s59.60595°, δ43.46182°, λ-172.38710°. **Principal axes:** T Plg26.6669°, Azm21.2619°; N Plg42.9851°, Azm139.1722°; P Plg35.2875°, Azm270.4421°; **Fault plane solution: NP1:**ϕ_s134.39862°, δ87.05697°, λ101.83135°. **NP2:**ϕ_s238.17007°, δ12.18683°, λ14.07646°. **Principal axes:** T Plg46.6753°, Azm56.5971°; N Plg11.8155°, Azm313.7824°; P Plg40.9095°, Azm213.3387°; **Fault plane solution: NP1:** ϕ_s186.42233°, δ82.02076°, λ130.78339°. **NP2:** ϕ_s285.56357°, δ41.42229°, λ12.11151°. **Principal axes:** T Plg38.9309°, Azm132.8461°; N Plg40.3066°, Azm359.5936°; P Plg25.5990°, Azm245.6148°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.35	273	P	P	06 11 44.9	+2.5
	34nm,0.3s,baz=132,slow=3.4,SNR=170						
MSVF	Nonsavu	3.35	273	P	P	06 11 44.8	+2.5
MSVF	Nonsavu	3.35	273	P	P	06 11 44.9	+2.5
AFI	Afiamalu	7.56	59	P	P	06 12 16.1	-1.1
	3.9nm,0.3s,baz=123,slow=12,SNR=4.9						
AFI	Afiamalu	7.56	59	P	P	06 12 17.5	+0.2
MARNC	Mare, Loyalty	13.22	252	P	P	06 13 13.5	-0.3
LIFNC	LIFOU	13.81	256	P	P	06 13 18.6	-1.3
SANVU	Saraoutou	13.98	278	P	P	06 13 22.0	+0.3
SANVU	Saraoutou	13.98	278	P	P	06 13 22.0	+0.3
PINNC	Pines Island,	14.03	248	P	P	06 13 21.9	-0.2
DZM	Mont Dzumac	14.79	251	P	P	06 13 29.3	-0.3
	2.6nm,0.3s,baz=82,slow=18,SNR=21						
DZM	Mont Dzumac	14.79	251	P	P	06 13 29.5	-0.1
DZM	Mont Dzumac	14.79	251	P	P	06 13 30.1	+0.5
NOUC	Port Laguerre	14.92	251	P	P	06 13 31.3	+0.5
KNTN	Kanton	16.45	24	P	P	06 13 44.2	-1.1
KNTN	Kanton	16.45	24	P	P	06 13 44.3	-1.1
OUZ	Omahuta	18.61	201	P	P	06 14 05.5	+0.9
HNR	Honiara	22.62	289	P	P	06 14 39.9	-1.2
EIDS	Eidsvold	29.23	250	P	P	06 15 38.7	-0.3
ARMA	Armidale	29.90	240	P	P	06 15 45.5	+0.7
KWAJ	Kwajalein Atol	29.94	331	P	P	06 15 45.6	+0.4
CTAO	Charters Tower	33.41	261	P	P	06 16 14.7	0.0
CAN	Canberra	33.66	233	P	P	06 16 16.7	+0.1
PMG	Port Moresby	34.44	280	P	P	06 16 23.4	0.0
JOHN	Johnston Islan	35.56	15	P	P	06 16 32.8	+0.3
MANU	Manus Island	37.09	291	P	P	06 16 46.2	+1.0
TOO	Toolangi	37.12	231	P	P	06 16 45.5	+0.3
STKA	Stephens Creek	38.59	241	P	P	06 16 57.8	+0.7
	23nm,0.6s,baz=92,slow=10,SNR=42						
STKA	Stephens Creek	38.59	241	P	P	06 16 57.5	+0.4
KHU	Kahuku	43.23	32	P	P	06 17 33.6	-0.7
BBOO	Buckleboo	43.36	241	P	P	06 17 35.1	+0.2
KHLU	Kahalu`u	43.38	32	P	P	06 17 35.0	-0.2
AIN	Ainahou	43.41	32	P	P	06 17 36.1	+0.5
MLOA	Mauna Loa Obse	43.49	32	P	P	06 17 36.8	+0.3
MLH	Mauna Loa	43.55	32	P	P	06 17 37.2	+0.4
HMH	Humu'ula Sheep	43.59	32	P	P	06 17 38.0	+0.8
POHA	Pohakuloa	43.70	32	P	P	06 17 38.5	+0.6
HPAH	Hawaii Prepara	43.85	32	P	P	06 17 39.1	+0.3
DHH	Diamond Head	43.90	28	P	P	06 17 39.1	0.0
WMR	Waimanalo Ridg	44.01	28	P	P	06 17 39.9	-0.1
HLK	Haleakala	44.19	30	P	P	06 17 41.3	-0.4
WR0	Warramunga Arr	44.41	260	P	P	06 17 42.4	-0.9
WR0				IAmb	IAmb	06 17 46.4	
	comp=Z,9.9nm,0.5s						
WB0	Warramunga Arr	44.57	260	P	P	06 17 43.5	-0.9
WB2	Warramunga Arr	44.59	260	P	P	06 17 43.8	-0.8
WRAB	Tennant Creek	44.59	260	P	P	06 17 43.5	-1.1
WRA	Warramunga Arr	44.60	260	P	P	06 17 43.7	-1.0
	comp=Z,17nm,0.5s,baz=94,slow=7.3,SNR=533						
WRA	Warramunga Arr	44.60	260	P	P	06 17 42.9	-1.8
AS31	Alice Springs	44.75	254	P	P	06 17 45.8	-0.1
ASAR	Alice Springs	44.76	254	P	P	06 17 46.0	+0.1
	comp=Z,130nm,0.6s,baz=88,slow=8.6,SNR=1498						
ASAR				ScP	ScP	06 22 13.8	+0.8
	comp=Z,1.2nm,0.8s,baz=100,slow=4.8,SNR=4.1						
ASAR				S	S	06 23 39.0	-2.6
	comp=Z,1.1nm,0.8s,baz=85,slow=16,SNR=6.1						
ASAR	Alice Springs	44.76	254	P	P	06 17 46.0	+0.1
GUMO	Guam	47.88	308	P	P	06 18 09.9	+0.5
	comp=Z,50nm,0.7s,baz=151,slow=10,SNR=6.1						
GUMO	Guam	47.88	308	IAmb	IAmb	06 18 10.6	
	comp=Z,51nm,0.8s						
MTN	Manton Dam	48.77	268	P	P	06 18 15.5	-0.6
FORT	Forrest	49.97	245	P	P	06 18 23.9	-0.8
KNRA	Kununurra	50.46	264	P	P	06 18 28.2	-0.3
FAKI	Fak Fak	50.56	281	P	P	06 18 29.1	-0.2
SWI	Sorong	52.23	283	P	P	06 18 41.5	+0.3
	comp=Z,1μmcomp=Z,108nm,0.8s						
SOEI	Soe	56.05	270	P	P	06 19 08.2	0.0
	comp=Z,8μmcomp=Z,84nm,1.0s						
PSA00	Pilbara Seismi	57.87	255	P	P	06 19 19.4	-1.0
EDFI	Ende, Flores	58.76	271	P	P	06 19 26.0	-0.6
	comp=Z,14nm,0.8s						
NWAO	Narrogin (SRO)	59.17	242	P	P	06 19 28.3	-0.6
NWAO				IAmb	IAmb	06 19 37.1	
	comp=Z,52nm,1.4s						
MORW	Morawa	60.44	246	P	P	06 19 36.7	-0.8
MORW				IAmb	IAmb	06 19 37.3	
	comp=Z,16nm,0.8s						
GTOI	Gorontalo	60.45	281	P	P	06 19 39.2	+1.5
	comp=Z,16nm,0.9s						
TOLI2	Tolitoli	62.70	281	P	P	06 19 52.1	-0.2
TOLI2				IAmb	IAmb	06 19 52.8	
	comp=Z,8.9nm,0.8s						
GIRL	Giralia	62.86	253	P	P	06 19 53.9	+0.6
MPSI	Mapaga	63.26	280	P	P	06 19 56.1	+0.2
	comp=Z,24nm,0.9s						
TWSI	Taliwang, Sumb	63.34	269	P	P	06 19 56.5	0.0
CASY	Casey	66.09	205	P	P	06 20 12.8	0.0
MTKI	Muara Teweh, K	67.54	277	P	P	06 20 33.9	+11
MJAR	Matsushiro Arr	67.92	323	P	P	06 20 24.5	-0.1
	comp=Z,20nm,0.4s,baz=106,slow=11,SNR=4.8						
MAT	Matsushiro	67.92	323	P	P	06 20 24.3	-0.3
UGM	Wanagama	69.62	268	P	P	06 20 35.1	-0.2
JHS	Saijyo	69.91	319	P	P	06 20 36.9	+0.3
JHS				IAmb	IAmb	06 20 41.7	
	comp=Z,35nm,1.4s						
ATKA	Atka Island	69.95	3	P	P	06 20 35.4	-0.8
SMY	Shemya	70.68	355	P	P	06 20 39.6	-0.9
PETK	Petropavlovsk-	73.71	345	P	P	06 20 58.2	+0.1
	comp=Z,3.1nm,0.6s,baz=124,slow=7.9,SNR=7.6						
SDPT	Sand Point	74.58	11	P	P	06 21 01.4	-1.5
CHIR	Chirikof Islan	75.97	13	P	P	06 21 09.7	-0.9
SCZ2	Santa Cruz Isl	76.16	47	P	P	06 21 13.3	+1.0
	baz=237						
SAO	San Andreas Ge	76.47	44	P	P	06 21 14.6	+0.7
SAO				IAmb	IAmb	06 21 15.8	
	comp=Z,14nm,0.8s						
PKM	Mcpherson Peak	76.52	46	P	P	06 21 15.7	+1.3
	baz=237						
SMMC	Simmler	76.63	46	P	P	06 21 16.3	+1.5
	baz=236						
SII	Sitkinak Islan	76.97	13	P	P	06 21 16.0	-0.2
SII				IAmb	IAmb	06 21 33.7	
	comp=Z,29nm,1.0s						
KMRM	Mail Ridge	77.06	40	P	P	06 21 18.7	+1.6
KMRM				IAmb	IAmb	06 21 19.4	
	comp=Z,18nm,0.8s						
ARVC	Arvin	77.33	46	P	P	06 21 19.3	+0.8
	baz=237						
MWC	Mount Wilson	77.39	48	IAmb	IAmb	06 21 20.6	
	comp=Z,13nm,0.7s						
CBX	Cerro Bola	77.39	50	P	P	06 21 20.5	+1.4
VES	Vestal, Richgr	77.54	46	P	P	06 21 20.2	+0.5
	baz=237,SNR=7.7						
O02D	Mt. Diablo Mer	77.60	40	P	P	06 21 21.5	+1.5
	baz=234						
MURC	Murrieta	77.67	48	P	P	06 21 21.2	+0.7
	baz=239						
BFSC	Mount Baldy Ra	77.67	48	P	P	06 21 21.0	+0.4
	baz=238,SNR=6.5						
KRMB	Red Mountain	77.73	39	P	P	06 21 21.7	+1.0
KRMB				IAmb	IAmb	06 21 33.4	
	comp=Z,19nm,1.3s						
OHAK	Old Harbor	77.78	14	P	P	06 21 20.5	+0.1
	baz=204						
OHAK	Old Harbor	77.78	14	P	P	06 21 21.0	+0.6
OHAK				IAmb	IAmb	06 21 39.0	
	comp=Z,17nm,1.2s						
EDW2	Edwards Air Fo	77.78	47	P	P	06 21 22.0	+0.9
	baz=238,SNR=14						
MONP2	Monument Peak	77.86	49	P	P	06 21 22.8	+1.0
	baz=239,SNR=25						
ISA	Isabella, Lake	77.86	46	P	P	06 21 22.5	+0.9
	baz=237,SNR=14						
ISA	Isabella, Lake	77.86	46	P	P	06 21 22.5	+0.9
ISA				IAmb	IAmb	06 21 23.5	
	comp=Z,13nm,0.9s						
CMB	Columbia Colle	77.89	43	P	P	06 21 21.7	+0.2
NJ2	Nanjing	77.94	309	eP	P	06 21 23.1	+1.2
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
IKP	In-Ko-Pah, Jac	77.96	50	P	P	06 21 23.1	+0.9
	baz=240,SNR=7.0						
WDC	Whiskeytown Da	77.99	40	P	P	06 21 23.0	+1.0
AFDM	Forest Hills D	78.03	42	P	P	06 21 23.0	+0.7
ORV	Oroville	78.04	41	P	P	06 21 22.4	+0.1
N02D	Trinity Center	78.12	40	P	P	06 21 24.0	+1.2
	baz=234						
PFO	Pinyon Flats O	78.20	49	P	P	06 21 24.2	+0.8
	baz=239						
PFO	Pinyon Flats O	78.20	49	P	P	06 21 24.2	+0.8
TPFO	Pinon Flats	78.20	49	P	P	06 21 24.1	+0.7
	baz=239						
O03E	Paynes Creek	78.28	41	P	P	06 21 24.2	+0.5
	baz=234						
M02C	Callahan	78.28	39	P	P	06 21 24.7	+1.1
	baz=233						
L02E	Cave Junction	78.30	38	P	P	06 21 24.4	+0.8
	baz=233						
SWSC	Sam W. Stewart	78.34	50	P	P	06 21 24.9	+0.9
	baz=240,SNR=5.6						
KDAK	Kodiak Island	78.45	14	P	P	06 21 24.0	0.0
	baz=205						
KDAK	Kodiak Island	78.45	14	P	P	06 21 23.8	-0.1
KDAK				IAmb	IAmb	06 21 41.7	
	comp=Z,12nm,1.1s						
MDPB	Devils Postpil	78.52	44	P	P	06 21 26.1	+0.8
MDPB				IAmb	IAmb	06 21 27.0	
	comp=Z,13nm,0.8s						
YBH	Yreka Blue Hor	78.57	39	P	P	06 21 26.4	+1.2
	comp=Z,8.4nm,0.6s,baz=203,slow=2.1,SNR=35						
YBH	Yreka Blue Hor	78.57	39	P	P	06 21 26.4	+1.2
YBH				IAmb	IAmb	06 21 27.3	
	comp=Z,9.6nm,0.8s						
K02D	Willamette Mer	78.59	38	P	P	06 21 25.6	+0.4
	baz=232						
SLBS	Sierra La Lagu	78.60	60	P	P	06 21 27.5	+1.7
SLBS				IAmb	IAmb	06 21 39.6	
	comp=Z,19nm,1.2s						
J01E	Myrtle Point	78.72	37	P	P	06 21 26.7	+0.9
	baz=232						
BELC	Belle Mtn. Jos	78.73	49	P	P	06 21 27.1	+0.9
	baz=239,SNR=7.9						
WAKR	Walker	78.77	43	IAmb	IAmb	06 21 28.6	
	comp=Z,14nm,0.9s						
GSC	Goldstone, Bar	78.83	47	P	P	06 21 27.5	+0.8
	baz=239						
HEC	Hector,Ludlow	78.91	48	P	P	06 21 27.9	+0.7
	baz=239						
BEKR	Beckworth	78.94	42	IAmb	IAmb	06 21 28.5	
	comp=Z,9.6nm,0.5s						
HUMO	Hull Mountain	78.95	38	P	P	06 21 28.0	+0.9
HUMO				IAmb	IAmb	06 21 29.3	
	comp=Z,14nm,1.1s						
PNTR	Pine Nut	78.99	43	P	P	06 21 28.3	+0.6
PNTR				IAmb	IAmb	06 21 29.6	
	comp=Z,23nm,0.9s						
GLA	Glamis	79.10	50	P	P	06 21 29.4	+1.3
	baz=240						
L04D	Klamath Falls	79.10	39	P	P	06 21 29.0	+0.9
	baz=234						
M04C	Macdoel	79.13	39	P	P	06 21 29.2	+1.0
	baz=234						
YERR	Yerington	79.16	43	IAmb	IAmb	06 21 30.2	
	comp=Z,24nm,1.2s						
LHV	Little Huntoon	79.24	44	P	P	06 21 29.8	+1.2
LHV				IAmb	IAmb	06 21 31.0	
	comp=Z,17nm,1.0s						
GRAC	Grapevine Rang	79.33	45	P	P	06 21 30.5	+1.2
	baz=238,SNR=15						
GMRC	Granite Mounta	79.37	48	P	P	06 21 30.4	+0.8
	baz=239						
I03D	Drain, OR	79.38	37	P	P	06 21 30.2	+0.9
	baz=232						
IRM	Iron Mountain	79.42	49	P	P	06 21 30.6	+0.8
	baz=240						
PAHR	Pah Rah Range	79.47	42	P	P	06 21 30.4	+0.4
PAHR				IAmb	IAmb	06 21 31.8	
	comp=Z,14nm,1.2s						
NVAR	Mina Array Bea	79.47	44	P	P	06 21 31.1	+0.8
	comp=Z,7.1nm,0.7s,baz=224,slow=8.9,SNR=71						
SHOC	Shoshone, Teco	79.51	47	P	P	06 21 31.2	+1.0
	baz=239						
TUQ	Turquoise Moun	79.51	47	P	P	06 21 30.9	+0.5
	baz=239,SNR=9.6						
O18K	Koktuh Hills	79.80	12	P	P	06 21 30.9	-0.2
	baz=202,SNR=13						
J04D	Umpqua Nationa	79.83	38	P	P	06 21 33.0	+1.1
	baz=234						
BUCK	Buck Mountain	79.89	37	P	P	06 21 33.2	+1.1
BUCK				IAmb	IAmb	06 21 34.6	
	comp=Z,32nm,1.2s						
I04A	Tendick Farm,	79.98	38	P	P	06 21 32.8	+0.3
	baz=233						
TPH	Tonopah	80.00	45	P	P	06 21 33.5	+0.5
P19K	Oil Pt	80.01	13	P	P	06 21 32.0	-0.3
	baz=204						
214A	Organ Pipe Nat	80.06	52	P	P	06 21 34.5	+1.4
	baz=242						
214A	Organ Pipe Nat	80.06	52	P	P	06 21 34.0	+0.8
TPNV	Topopah Spring	80.07	46	P	P	06 21 34.3	+1.0
	baz=239,SNR=10						
TPNV	Topopah Spring	80.07	46	P	P	06 21 33.0	-0.3
MOD	Modoc Plateau	80.13	40	P	P	06 21 33.9	+0.4
MOD				IAmb	IAmb	06 21 35.2	
	comp=Z,14nm,0.7s						
PDMCI	Parker Dam,Lak	80.21	49	P	P	06 21 35.1	+1.2
	baz=240						
H04D	Lebanon	80.23	37	P	P	06 21 34.5	+0.8
	baz=233						
K05A	Summer Lake	80.25	39	IAmb	IAmb	06 21 35.8	
	comp=Z,17nm,0.6s						
O19K	Port Alsworth	80.29	12	P	P	06 21 33.1	-0.5
	baz=203						
G03D	McMinnville, O	80.35	36	P	P	06 21 35.8	+1.4
	baz=232						
J05D	Fort Rock, OR	80.37	39	P	P	06 21 35.9	+1.2
	baz=234						
N18K	Kilae Creek	80.44	11	P	P	06 21 33.8	-0.7
	baz=202						
O20K	Slope Mountain	80.53	13	P	P	06 21 34.2	-0.8
	baz=205						
SHPR	Sheep Range	80.59	47	P	P	06 21 36.0	0.0
BRSE	Bradley Lake S	80.63	14	P	P	06 21 35.2	-0.2
	baz=207						
H04A	Detroit Lake	80.64	37	P	P	06 21 36.0	+0.1
H04A				IAmb	IAmb	06 21 36.7	
	comp=Z,12nm,0.5s						
N19K	Bonanza Creek	80.83	12	P	P	06 21 35.7	-0.8
	baz=203						
PINE	Pine Mountain	80.84	38	P	P	06 21 37.8	+0.7
PINE				IAmb	IAmb	06 21 39.3	
	comp=Z,17nm,0.8s						
I05D	Terrebonne, OR	80.92	38	P	P	06 21 38.1	+0.7
	baz=234						
PRN	Pahroc Range	81.12	46	P	P	06 21 38.4	-0.3
PRN				IAmb	IAmb	06 21 41.0	
	comp=Z,14nm,0.9s						
R11A	Troy Canyon, C	81.24	45	P	P	06 21 39.6	+0.2
	baz=239,SNR=5.8						
G05D	Wamic, OR	81.47	37	P	P	06 21 40.5	+0.4
	baz=234						
E04D	Cinebar	81.55	35	P	P	06 21 41.4	+0.9
	baz=233						
TUC	Tucson	81.75	52	P	P	06 21 43.3	+1.4
	baz=243						
TUC	Tucson	81.75	52	P	P	06 21 42.7	+0.8
TUC				IAmb	IAmb	06 21 44.6	
	comp=Z,12nm,1.1s						
F05D	White Salmon	81.77	36	P	P	06 21 42.1	+0.4
	baz=234						
M19K	Big River Lodg	81.85	11	P	P	06 21 41.2	-0.5
	baz=203						
I07A	Izee	81.85	39	IAmb	IAmb	06 21 44.1	
	comp=Z,14nm,0.8s						
D03D	Eldon	81.86	34	P	P	06 21 42.6	+0.5
	baz=232						
L19K	White Mountain	82.02	11	P	P	06 21 42.5	0.0
	baz=203						
RC01	Rabbit Creek A	82.06	14	P	P	06 21 42.0	-0.7
	baz=208						
J08A	Circle Bar Ran	82.07	40	P	P	06 21 43.7	+0.4
J08A				IAmb	IAmb	06 21 45.1	
	comp=Z,19nm,1.1s						
M20K	Styx River	82.07	12	P	P	06 21 41.7	-1.2
	baz=204						
LCMT	Little Creek M	82.18	47	P	P	06 21 44.8	+0.7
LCMT				IAmb	IAmb	06 21 46.0	
	comp=Z,9.3nm,0.9s						
SUA	Susitna One	82.18	13	P	P	06 21 42.5	-1.0
	baz=207,SNR=7.9						
SUA	Susitna One	82.18	13	P	P	06 21 42.6	-0.9
SUA				IAmb	IAmb	06 21 43.6	
	comp=Z,12nm,0.8s						
PWL	Port Wells	82.18	14	IAmb	IAmb	06 21 43.6	
	comp=Z,13nm,0.8s						
CCUT	Cedar City	82.36	47	IAmb	IAmb	06 21 47.3	
	comp=Z,7.6nm,0.9s						
SPR3	Spring Creek 3	82.42	45	P	P	06 21 45.0	-0.4
KNB	Kanab	82.47	47	IAmb	IAmb	06 21 47.8	
	comp=Z,9.7nm,0.9s						
SKT	Skwentna	82.48	12	P	P	06 21 43.5	-1.4
	baz=206						
GLI	Glacier Island	82.50	15	P	P	06 21 44.0	-1.0
	baz=210,SNR=5.9						
PSUT	Pine Spring	82.50	46	IAmb	IAmb	06 21 47.4	
	comp=Z,8.1nm,0.7s						
U15A	North Rim	82.56	48	IAmb	IAmb	06 21 48.5	
	comp=Z,19nm,0.8s						
KNK	Knik Glacier	82.64	14	P	P	06 21 45.0	-0.7
	baz=209						
WUAZ	Wupatki	82.79	49	P	P	06 21 48.1	+0.9
	baz=242						
B05A	Bryant	82.84	34	P	P	06 21 47.3	+0.4
	baz=233						
G08A	Pilot Rock	82.86	38	P	P	06 21 47.4	+0.1
G08A				IAmb	IAmb	06 21 48.9	
	comp=Z,21nm,1.4s						
LTY	Liberty	83.02	35	P	P	06 21 47.5	-0.4
LTY				IAmb	IAmb	06 21 49.1	
	comp=Z,8.7nm,1.0s						
SML	Sawmill	83.02	14	P	P	06 21 46.9	-0.7
	baz=209						
PKCU	Pink Cliffs	83.04	47	IAmb	IAmb	06 21 51.5	
	comp=Z,13nm,0.9s						
CUT	Chulitna	83.12	13	P	P	06 21 47.6	-0.4
	baz=207						
HAWA	Hanford	83.15	37	IAmb	IAmb	06 21 49.9	
	comp=Z,11nm,0.7s						
PPLA	Purkeypile	83.18	12	P	P	06 21 48.2	-0.3
	baz=205						
BMRM	Bremner River	83.20	16	P	P	06 21 48.3	-0.2
	baz=212						
BMRM	Bremner River	83.20	16	IAmb	IAmb	06 21 49.1	
	comp=Z,15nm,1.2s						
K20K	Telida	83.25	11	P	P	06 21 48.4	-0.2
	baz=203,SNR=9.5						
MESA	MESA	83.27	17	P	P	06 21 49.1	+0.1
	baz=215						
SCM	Sheep Creek Mo	83.27	14	P	P	06 21 47.5	-1.4
KLU	Klutina	83.32	15	P	P	06 21 48.7	-0.5
	baz=211						
X18A	Snowflake	83.37	51	P	P	06 21 50.5	+0.3
MTPU	Mount Pierson	83.41	47	IAmb	IAmb	06 21 53.2	
	comp=Z,8.3nm,0.9s						
CRQM	Cirque	83.42	17	IAmb	IAmb	06 21 50.6	
	comp=Z,12nm,0.9s						
CRQE	Cirque	83.42	17	P	P	06 21 50.0	+0.3
	baz=214						
YAH	Yahtse	83.48	17	P	P	06 21 49.1	-1.0
YAH				IAmb	IAmb	06 21 51.2	
	comp=Z,13nm,0.7s						
E08A	Dider Farm, El	83.48	37	IAmb	IAmb	06 21 51.7	
	comp=Z,9.7nm,0.7s						
WRAK	Wrangell Islan	83.56	24	P	P	06 21 50.6	+0.4
	baz=224						
BMO	Blue Mountains	83.59	39	P	P	06 21 49.8	-1.1
TABL	Table Mountain	83.71	18	P	P	06 21 50.7	-0.6
TABL				IAmb	IAmb	06 21 52.1	
	comp=Z,13nm,0.7s						
MFID	Camas Ranch	83.72	41	P	P	06 21 51.5	-0.1
MFID				IAmb	IAmb	06 21 53.3	
	comp=Z,8.7nm,1.1s						
N25K	Chitina, Valde	83.75	16	P	P	06 21 51.0	-0.3
	baz=212,SNR=14						
N25K	Chitina, Valde	83.75	16	P	P	06 21 50.9	-0.4
N25K				IAmb	IAmb	06 21 52.0	
	comp=Z,13nm,0.7s						
M24K	Tolsona, Glenn	83.78	15	P	P	06 21 51.6	+0.2
	baz=211						
M24K	Tolsona, Glenn	83.78	15	P	P	06 21 51.3	-0.1
SEY	Seymchan	83.81	347	P	P	06 21 51.0	-0.4
	comp=Z,4.7nm,0.6s,baz=154,slow=6.2,SNR=14						
GLB	Gilahina Butte	83.81	16	P	P	06 21 50.9	-0.6
GLB				IAmb	IAmb	06 21 52.1	
	comp=Z,9.9nm,0.6s						
WAT6	Susitna Watana	83.83	14	P	P	06 21 51.3	-0.5
	baz=209,SNR=14						
WAT1	Susitna Watana	83.87	13	P	P	06 21 51.0	-0.8
	baz=208						
D08A	Wollman Farm,	83.88	36	P	P	06 21 52.7	+0.6
D08A				IAmb	IAmb	06 21 53.8	
	comp=Z,11nm,0.9s						
MCARA	McCarthy VSAT	83.97	16	P	P	06 21 51.9	-0.4
	baz=214						
J20K	Nowinta River	83.99	10	P	P	06 21 52.1	-0.2
	baz=203,SNR=6.0						
KTH	Kantishna Hill	84.02	12	IAmb	I

M26K	Nabesna, AK	84.83	16	P	P	06 21 56.5	0.0
	baz=214						
SRU	San Rafael Swe	85.06	46	IAmb	IAmb	06 21 59.9	
	comp=Z,6.4nm,0.7s						
M27K	Edge Creek, AK	85.08	16	P	P	06 21 58.1	+0.2
	baz=215						
L26K	Log Cabin Wild	85.26	15	P	P	06 21 58.4	-0.1
	baz=213						
I21K	Tanana	85.29	11	P	P	06 21 58.6	0.0
	baz=205						
MLY	Manley	85.39	11	P	P	06 21 57.8	-1.3
	baz=206,SNR=5.7						
WRH	Wood River Hil	85.41	13	P	P	06 21 57.3	-1.9
WRH				IAmb	IAmb	06 22 00.0	
	comp=Z,8.2nm,0.9s						
RIDG	Independent Ri	85.50	14	P	P	06 21 59.1	-0.6
	baz=212						
RIDG	Independent Ri	85.50	14	IAmb	IAmb	06 22 00.3	
	comp=Z,6.9nm,1.0s						
HWUT	Hardware Ranch	85.54	44	P	P	06 22 00.1	-0.5
NEW	Newport	85.56	36	P	P	06 21 60.0	-0.4
	baz=237,SNR=6.2						
NEW	Newport	85.56	36	IAmb	IAmb	06 22 01.2	
	comp=Z,5.0nm,0.8s						
HDA	Harding Lake	85.60	13	P	P	06 21 59.4	-0.7
	baz=210,SNR=6.6						
HDA	Harding Lake	85.60	13	IAmb	IAmb	06 22 00.2	
	comp=Z,9.2nm,1.1s						
DOT	Dot Lake	85.61	15	IAmb	IAmb	06 22 00.7	
	comp=Z,4.6nm,0.8s						
MNTX	Cornudas Mount	85.62	55	P	P	06 22 01.9	+0.9
	baz=246						
MNTX	Cornudas Mount	85.62	55	P	P	06 22 00.9	-0.1
MNTX				IAmb	IAmb	06 22 02.5	
	comp=Z,3.8nm,0.7s						
MVCO	Mesa Verde	85.62	49	P	P	06 22 01.1	0.0
	baz=244						
CCB	Clear Creek Bu	85.63	13	P	P	06 21 58.6	-1.6
CCB				IAmb	IAmb	06 21 59.6	
	comp=Z,6.2nm,0.5s						
L27K	Beaver Creek,	85.68	16	P	P	06 22 00.2	-0.3
	baz=215						
IMAR	Indian Mountai	85.72	10	P	P	06 21 59.2	-1.4
I23K	Minto, Yukon-K	85.75	12	P	P	06 21 59.7	-1.0
	baz=208						
PV14	Lion Creek, Pa	85.77	48	P	P	06 22 01.5	-0.4
PV14				IAmb	IAmb	06 22 05.5	
	comp=Z,5.8nm,0.9s						
MDM	Murphy Dome	85.81	12	IAmb	IAmb	06 22 01.0	
	comp=Z,6.1nm,1.0s						
PV04	Paradox Valley	85.86	48	P	P	06 22 01.5	-0.7
PV12	Saucer Basin,	85.90	48	P	P	06 22 02.7	+0.2
SCRK	Sand Creek	85.91	14	P	P	06 22 01.3	-0.4
	baz=213						
ILAR	Eielson Array	85.93	13	P	P	06 22 00.7	-1.0
	comp=Z,2.9nm,0.4s,baz=227,slow=5.2,SNR=19						
TX32	Lajitas Array	86.04	58	IAmb	IAmb	06 22 05.9	
	comp=Z,13nm,0.9s						
TXAR	Lajitas Array	86.04	58	P	P	06 22 04.8	+1.6
	comp=Z,9.5nm,0.8s,baz=219,slow=6.1,SNR=147						
POKR	Poker Flat Res	86.12	13	P	P	06 22 01.1	-1.5
	baz=210						
ANMO	Albuquerque	86.14	52	P	P	06 22 04.0	+0.3
	baz=245						
ANMO	Albuquerque	86.14	52	P	P	06 22 03.2	-0.5
XAN	Xi'an	86.26	307	P	P	06 22 05.0	+1.0
XAN				pP	pP	06 24 11.3	+2.5
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MCMT	McKenzie Canyo	86.29	40	P	P	06 22 04.6	+0.5
H23K	Yukon River	86.32	12	P	P	06 22 02.7	-0.8
	baz=208						
K27K	Chicken	86.42	15	P	P	06 22 04.2	+0.2
	baz=214						
GDL2	Guadalupe Moun	86.61	55		pP	06 24 06.4	-3.4
MSO	Missoula	86.63	38	P	P	06 22 04.6	-0.9
	baz=239,SNR=6.6						
MSO	Missoula	86.63	38	IAmb	IAmb	06 22 07.1	
	comp=Z,3.5nm,0.6s						
H24K	Noodor Dome	86.66	12	P	P	06 22 03.7	-1.5
	baz=209						
DLMT	Dillon	86.70	40	P	P	06 22 06.3	+0.3
DLMT				IAmb	IAmb	06 22 07.3	
	comp=Z,6.1nm,0.7s						
TPAW	Teton Pass	86.83	42	IAmb	IAmb	06 22 08.7	
	comp=Z,8.4nm,1.1s						
REDW	Red Top Meadow	86.84	42	IAmb	IAmb	06 22 08.6	
	comp=Z,15nm,1.1s						
PRP	Porcupine Dome	86.87	13	P	P	06 22 05.5	-0.7
	baz=211						
JTMT	Jette	86.90	37	P	P	06 22 04.4	-2.4
SNOW	Snow King Moun	86.94	42	IAmb	IAmb	06 22 09.2	
	comp=Z,21nm,1.2s						
IMW	Indian Meadow	87.03	42	P	P	06 22 07.1	-0.6
IMW				IAmb	IAmb	06 22 09.7	
	comp=Z,11nm,0.8s						
S22A	4UR Ranch, Cre	87.05	49	P	P	06 22 08.8	+0.8
	baz=245						
O20A	White River Ci	87.10	46	P	P	06 22 08.5	+0.5
	baz=244						
O20A	White River Ci	87.10	46	P	P	06 22 08.0	0.0
O20A				IAmb	IAmb	06 22 11.9	
	comp=Z,7.5nm,1.1s						
LOHW	Long Hollow	87.11	42	P	P	06 22 07.9	-0.1
LOHW				IAmb	IAmb	06 22 09.2	
	comp=Z,4.8nm,0.7s						
DAWY	Dawson	87.13	16	P	P	06 22 07.6	+0.2
DAWY				IAmb	IAmb	06 22 08.4	
	comp=Z,7.7nm,1.3s						
EGAK	Eagle	87.26	15	P	P	06 22 07.6	-0.3
	baz=215,SNR=6.1						
EGAK	Eagle	87.26	15	IAmb	IAmb	06 22 08.7	
	comp=Z,6.3nm,1.1s						
FLWY	Flagg Ranch	87.27	42	IAmb	IAmb	06 22 10.9	
	comp=Z,11nm,0.9s						
YHB	Horse Butte	87.28	41	IAmb	IAmb	06 22 13.1	
	comp=Z,10nm,0.9s						
HHC	Hu-ho-hao-te	87.28	314	eP	P	06 22 09.0	+0.3
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,50nm,6.5s						
BW06	Boulder Array	87.40	43	P	P	06 22 09.3	-0.1
	baz=243						
BW06	Boulder Array	87.40	43	IAmb	IAmb	06 22 10.5	
	comp=Z,6.1nm,0.7s						
PD31	Pinedale Array	87.40	43	P	P	06 22 08.9	-0.5
PD31				IAmb	IAmb	06 22 10.5	
	comp=Z,5.4nm,0.7s						
PDAR	Pinedale Array	87.40	43	P	P	06 22 09.6	+0.2
	comp=Z,5.1nm,0.6s,baz=218,slow=3.1,SNR=58						
PDAR				PP	PP	06 25 43.0	-2.3
	comp=Z,0.5nm,0.8s,baz=240,slow=5.0,SNR=4.6						
PDAR	Pinedale Array	87.40	43	P	P	06 22 09.0	-0.5
BOZ	Bozeman (W)	87.41	40	P	P	06 22 09.7	+0.4
	baz=241,SNR=5.1						
BOZ	Bozeman (W)	87.41	40	IAmb	IAmb	06 22 11.2	
	comp=Z,6.3nm,1.1s						
H17A	Grant Village	87.50	42	P	P	06 22 11.6	+1.7
	baz=242						
H17A	Grant Village	87.50	42	P	P	06 22 10.2	+0.3
H17A				IAmb	IAmb	06 22 12.8	
	comp=Z,7.1nm,0.8s						
YHH	Holmes Hill	87.51	41	P	P	06 22 10.8	+0.8
WALA	Waterton Lakes	87.78	36	IAmb	IAmb	06 22 12.1	
	comp=Z,3.8nm,0.7s						
HRY	Holter Researc	87.83	39	P	P	06 22 11.3	+0.1
SDCO	Great Sand Dun	88.01	49	P	P	06 22 13.0	+0.6
	baz=246						
YNE	Yellowstone No	88.14	41	P	P	06 22 12.1	-0.7
YNE				IAmb	IAmb	06 22 15.0	
	comp=Z,10nm,1.2s						
RWWY	Rawlins	88.48	45	IAmb	IAmb	06 22 15.3	
	comp=Z,5.2nm,0.6s						
MSTX	Muleshoe	88.54	54	P	P	06 22 15.0	+0.2
	baz=247						
MSTX	Muleshoe	88.54	54	IAmb	IAmb	06 22 16.0	
	comp=Z,9.3nm,0.8s						
T25A	Trinidad	88.55	50	P	P	06 22 15.2	+0.3
	baz=246						
RLMT	Red Lodge	88.66	41	P	P	06 22 16.1	+0.9
	baz=243						
RLMT	Red Lodge	88.66	41	P	P	06 22 14.9	-0.3
RLMT				IAmb	IAmb	06 22 17.2	
	comp=Z,5.6nm,0.9s						
Q24A	Divide	88.76	48	P	P	06 22 16.5	+0.6
	baz=246						
ISCO	Idaho Springs	88.78	47	P	P	06 22 16.3	+0.3
	baz=245						
TOLK	Toolik Lake Re	88.83	10	P	P	06 22 15.2	0.0
	baz=207						
CMAR	Chiang Mai Arr	88.87	290	P	P	06 22 17.7	+1.2
	comp=Z,1.2nm,0.3s,baz=112,slow=2.7,SNR=7.3						
N23A	Red Feather La	89.00	46	P	P	06 22 17.5	+0.5
	baz=245						
K22A	Casper	89.35	45	P	P	06 22 18.7	+0.3
	baz=245						
JCT	Junction City	89.58	58	P	P	06 22 19.9	+0.3
	baz=249						
JCT	Junction City	89.58	58	IAmb	IAmb	06 22 20.8	
	comp=Z,6.4nm,0.8s						
EPYK	Eagle Plains	89.65	16	P	P	06 22 19.4	+0.4
	baz=219						
EPYK	Eagle Plains	89.65	16	IAmb	IAmb	06 22 19.7	
	comp=Z,5.0nm,0.8s						
AMTX	Amarillo	89.72	53	IAmb	IAmb	06 22 21.3	
	comp=Z,6.5nm,0.9s						
A21K	Barrow	90.30	7	P	P	06 22 23.9	+2.0
	baz=201						
ABTX	Abilene, Hawle	90.47	56	P	P	06 22 24.0	+0.4
	baz=249						
SNAA	Sanae	90.56	179	P	P	06 22 23.0	-0.4
VNA3	Neumayer Olymp	90.70	176	P	P	06 22 23.8	-0.2
VNA2	Neumayer--Watz	91.14	177	P	P	06 22 26.4	+0.3
RSSD	Black Hills	91.61	44	P	P	06 22 28.7	-0.1
	baz=246						
RSSD	Black Hills	91.61	44	P	P	06 22 28.5	-0.4
RSSD				IAmb	IAmb	06 22 29.8	
	comp=Z,6.2nm,1.0s						
INK	Inuvik	91.93	15	P	P	06 22 29.2	-0.2
	baz=222						
CBKS	Cedar Bluff	92.61	50	P	P	06 22 33.0	-0.4
	baz=249						
R32A	Long Quarter,	93.22	51	P	P	06 22 36.5	+0.4
YKA	Yellowknife Ar	94.38	25	P	P	06 22 40.5	-0.3
	comp=Z,0.8nm,0.5s,baz=230,slow=4.2,SNR=7.5						
ARCES	ARCESS Array B	126.35	350	PKP	PKPdf	06 28 19.1	-0.6
	comp=Z,2.5nm,1.0s,baz=29,slow=2.8,SNR=5.9						
FINES	FINESS Array B	133.22	344	PKP	PKPdf	06 28 32.7	-0.1
	comp=Z,0.6nm,0.5s,baz=29,slow=4.4,SNR=4.6						
AKASG	Malin Array Be	140.58	332	PKP	PKPdf	06 28 45.4	-1.3
	comp=Z,0.4nm,0.3s,baz=34,slow=0.3,SNR=6.4						
BRTR	Keskin Array B	144.79	315	PKP	PKPbc	06 28 55.2	-0.1
	comp=Z,0.4nm,0.3s,baz=142,slow=4.2,SNR=3.0						
KOLS	Kolonicke sedl	144.83	336	ePKP	PKPab	06 28 55.4	-0.4
CRVS	Cervenica-Dubn	145.16	337	ePKP	PKPab	06 28 56.8	-0.3
OSTC	Ostas	145.42	343	ePKP	PKPab	06 28 57.4	-0.6
CLL	Collm	145.50	347	i PKPbc	PKPbc	06 28 56.7	-0.1
	comp=Z,11nm,0.9s						
CLL	Collm	145.50	347		PKPdf	06 28 54.7	-0.7
DPC	Dobruska-Polom	145.58	343	ePKP	PKPbc	06 28 57.7	+0.6
LANS	Liptovska Anna	145.67	339	ePKP	PKPab	06 28 58.6	-0.5
KRLC	Kraliky	145.70	343	ePKP	PKPbc	06 28 57.9	+0.4
BRG	Berggiesshubel	145.70	346	ePKP	PKPbc	06 28 56.8	-0.5
BRG				Amp		06 28 58.4	
	comp=Z,11nm,1.4s						
PRU	Pruhonice	146.38	345	ePKP	PKPbc	06 28 59.7	+0.4
KHC	Kasperske Hory	147.41	345	ePKP	PKPbc	06 29 02.5	+0.4
CKRC	Cesky Krumlov	147.51	344	ePKP	PKPbc	06 29 02.2	-0.2
GERES	GERESS Array B	147.64	345	PKPbc	PKPbc	06 29 02.8	0.0
	comp=Z,2.7nm,0.5s,baz=29,slow=3.0,SNR=24						
CONA	Conrad Observa	147.89	342	eP	PKPbc	06 29 03.4	0.0
	comp=Z,3.3nm,0.7s						
MOA	Molln	148.42	344	eP	PKPbc	06 29 05.1	+0.4
	comp=Z,5.3nm,1.1s						
BFO	Black Forest	149.20	351		PKPbc	06 29 06.7	+0.2
SOKA	Soboth	149.26	342	eP	PKPbc	06 29 06.0	-0.8
	comp=Z,2.9nm,0.9s						
KBA	Koelnbreinsper	149.37	344	eP	PKPbc	06 29 06.9	-0.3
	comp=Z,4.4nm,1.0s						
WATA	Walderalm	149.56	347	eP	PKPbc	06 29 07.3	-0.3
	comp=Z,4.4nm,0.6s						
WTTA	Wattenberg	149.61	346	eP	PKPbc	06 29 07.6	-0.2
	comp=Z,7.6nm,0.6s						
MOTA	Moosalm	149.65	347	eP	PKPbc	06 29 07.5	-0.3
	comp=Z,6.9nm,1.0s						
MYKA	Terra Mystica	149.71	343	eP	PKPdf	06 29 04.2	+1.7
	comp=Z,2.7nm,0.5s						
ABTA	Abfaltersbach	149.89	345	eP	PKPbc	06 29 07.6	-0.8
	comp=Z,5.6nm,0.6s						
DAVA	Damuels	149.95	349	eP	PKiKP	06 29 09.2	0.0
	comp=Z,7.3nm,0.8s						
CRNS	Crni Vrh	150.03	342	i PKPbc	PKPbc	06 29 07.9	-0.8
FETA	Feichten	150.04	347	eP	PKPbc	06 29 08.8	0.0
	comp=Z,4.5nm,0.8s						
BOJS	Bojanci	150.25	340	i PKPbc	PKPbc	06 29 09.1	0.0
ESDC	Sonseca Array	157.82	11	PKPab	PKPab	06 29 50.2	-0.3
	comp=Z,0.2nm,0.3s,baz=334,slow=4.1,SNR=5.2						

*NEIC **21** 06:11:21.7±1.1,56°.79N±0°.03×152°.84W±0°.06,h18km±6km*
Error ellipse: s-maj=6.2km s-min=1.8km az=135.0
*IDC **21** 06:11:22.2±5.0,57°.01N×153°.55W,h0km,mb3.8/3,*
mb1 3.7/4,mb1mx3.4/36,mbtmp3.6/4,ML3.0/1,Error
ellipse: s-maj=106.2km s-min=13.5km az=138.0
*AEIC **21** 06:11:23±1.6,56°.81N±0°.05×153°.0W±0°.1,h23km±6km,*
ML3.1,ML3.3/34(NEIC),Error ellipse: s-maj=9.7km
s-min=5.0km az=127.0

ISC 21 06:11:21.7±1.0,56°.76N±0°.05×152°.87W±0°.06,h21km,n83,
σ0°80/81,mb3.9/3,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	0.52	334	P	Pb	06 11 32.0	-0.2
	baz=158						
OHAK				S	Sb	06 11 38.1	-1.0
	baz=158						
OHAK	Old Harbor	0.52	334		Pb	06 11 32.0	-0.2
OHAK					Sb	06 11 38.1	-1.0
OHAK	Old Harbor	0.52	334	IAML		06 11 38.6	
	comp=N,5μm,0.4s						
OHAK				IAML		06 11 38.7	
	comp=E,4μm,0.3s						
SII	Sitkinak Islan	0.75	255	P	Pn	06 11 37.0	-0.1
	baz=69						
SII				S	Sn	06 11 48.3	+0.4
	baz=69						
SII	Sitkinak Islan	0.75	255		Pn	06 11 37.0	-0.1
SII					Sn	06 11 48.3	+0.4
SII	Sitkinak Islan	0.75	255	IAML		06 11 54.7	
	comp=E,2μm,0.8s						
KDAK	Kodiak Island	1.04	9	Pg	Pb	06 11 40.6	-0.3
	comp=E,68nm,0.3s,baz=218,slow=5.7,SNR=4850						
KDAK				LR	LR	06 11 42.9	
	comp=E,24nm,21.3s,baz=216,slow=22						
KDAK				Lg	Lg	06 11 53.5	
	comp=E,66nm,0.3s,baz=314,slow=23,SNR=44						
KDAK	Kodiak Island	1.04	9	S	Sb	06 11 53.7	-0.4
	baz=192						
KDAK	Kodiak Island	1.04	9	IAML		06 11 56.2	
	comp=E,526nm,0.6s						
KDAK				IAML		06 11 57.0	
	comp=E,808nm,0.6s						
KABR	Katmai Barrier	1.78	321		Pn	06 11 50.9	-0.4
CHIR	Chirikof Islan	1.80	240	P	Pb	06 11 53.2	-0.7
	baz=55						
CHIR				S	Sn	06 12 12.7	-1.0
	baz=55						
CHIR	Chirikof Islan	1.80	240		Pb	06 11 53.2	-0.7
CHIR					Sn	06 12 12.7	-1.0
CAHL	Cahill	1.85	316		Pn	06 11 52.2	-0.1
KAWH	Katmai	1.93	328		Pn	06 11 53.2	-0.2
KCE	Katmai Mt Cerb	1.94	321		Pn	06 11 54.3	+0.7
KABU	Katmai Buttres	2.00	320		Pn	06 11 54.4	+0.1
ANCK	Angle Creek	2.02	317		Pn	06 11 55.4	+0.8
PLK3	Peulik 3	2.07	298		Pn	06 11 55.3	+0.1
KELA	Mount Kelaz	2.29	319		Pn	06 11 58.1	-0.2
AGU	Augustine-Summ	2.62	354		Pn	06 12 03.8	+0.9
AU22	Augustine Moun	2.63	355		Pn	06 12 04.0	+1.1
CNPM	China Poot	2.91	17		Pn	06 12 07.0	+0.2
CNPM	China Poot	2.91	17	IAML		06 13 06.5	
	comp=E,70nm,0.7s						
OPT	Oil Point	2.91	356	P	Pn	06 12 07.5	+0.8
	baz=177						
OPT	Oil Point	2.91	356		Pn	06 12 07.5	+0.8
P19K	Oil Pt	2.91	356	P	Pn	06 12 07.5	+0.8
	baz=177						
P19K	Oil Pt	2.91	356		Pn	06 12 07.5	+0.8
HOM	Homer	2.98	12	Pn	Pn	06 12 06.5	-1.2
BRLK	Bradley Lake	3.19	18		Pn	06 12 10.4	-0.3
BRLK				IAML		06 13 09.7	
	comp=E,96nm,0.3s						
BRSE	Bradley Lake S	3.20	20	P	Pn	06 12 10.4	-0.3
	baz=203						
BRSE	Bradley Lake S	3.20	20		Pn	06 12 10.4	-0.3
IVE	Iliamna Volcan	3.27	359		Pn	06 12 12.2	+0.4
O20K	Slope Mountain	3.33	2	P	Pn	06 12 13.4	+0.7
	baz=183						
O20K	Slope Mountain	3.33	2		Pn	06 12 13.4	+0.7
O18K	Koktuh Hills	3.34	339	P	Pn	06 12 12.7	+0.1
	baz=158						
O18K	Koktuh Hills	3.34	339		Pn	06 12 12.7	+0.1
RED	Redoubt Volcan	3.67	1		Pn	06 12 17.4	+0.1
RSO	Redoubt South	3.71	1		Pn	06 12 18.7	+0.7
RDWB	Redoubt West	3.74	0		Pn	06 12 18.3	0.0
SEW	Seward	3.81	27	Pn	Pn	06 12 18.0	-1.1
SLKM	Skilak Lake	4.01	19		Pn	06 12 21.5	-0.3
N19K	Bonanza Creek	4.15	349	P	Pn	06 12 24.2	+0.3
	baz=168						
N19K	Bonanza Creek	4.15	349		Pn	06 12 24.2	+0.3
N18K	Kilae Creek	4.24	339	P	Pn	06 12 25.2	+0.2
	baz=157						
N18K	Kilae Creek	4.24	339		Pn	06 12 25.2	+0.2
CHNA	Chernabura Isl	4.26	246	P	Pn	06 12 25.7	+0.5
	baz=59						
CNBA	Chernabura Isl	4.26	246		Pn	06 12 25.7	+0.4
CNBA	Chernabura Isl	4.26	246	IAML		06 13 46.8	
	comp=E,39nm,2.5s						
CNBA				IAML		06 14 02.7	
	comp=N,38nm,1.3s						
SDPT	Sand Point	4.49	255	P	Pn	06 12 29.9	+1.4
	baz=68						
SDPT	Sand Point	4.49	255		Pn	06 12 29.9	+1.4
SVW2	Sparrevohn	4.57	343		Pn	06 12 29.5	-0.1
SVW2	Sparrevohn	4.57	343	IAML		06 13 51.6	
	comp=E,23nm,1.5s						
RC01	Rabbit Creek A	4.64	19	Pn	Pn	06 12 30.1	-0.4
PWL	Port Wells	4.74	28		Pn	06 12 31.4	-0.5
PWL	Port Wells	4.74	28	IAML		06 13 20.8	
	comp=N,29nm,1.0s						
PWL				IAML		06 13 21.2	
	comp=E,31nm,0.7s						
STLK	Strandline Lak	4.78	6		Pn	06 12 32.7	+0.1
SUA	Susitna One	4.84	12		Pn	06 12 32.9	-0.5
HIN	Hinchinbrook I	4.94	40		Pn	06 12 33.9	-0.8
HIN	Hinchinbrook I	4.94	40	IAML		06 13 33.0	
	comp=N,18nm,1.4s						
HIN				IAML		06 13 34.5	
	comp=E,17nm,1.7s						
GLI	Glacier Island	5.11	34	Pn	Pn	06 12 36.5	-0.4
GLI				IAML		06 14 12.6	
	comp=N,13nm,1.0s						
GLI				IAML		06 14 23.5	
	comp=E,14nm,2.0s						
FID	Port Fidalgo	5.20	37	Pn	Pn	06 12 37.0	-1.3
FID				IAML		06 13 41.5	
	comp=E,13nm,1.1s						
M19K	Big River Lodg	5.22	352	P	Pn	06 12 38.6	+0.2
	baz=171						
M19K	Big River Lodg	5.22	352		Pn	06 12 38.6	+0.2
SKT	Skwentna	5.28	7	Pn	Pn	06 12 38.9	-0.5
SKT				IAML		06 14 15.1	
	comp=N,11nm,1.2s						
SKT				IAML		06 14 28.6	
	comp=E,14nm,1.2s						
SML	Sawmill	5.57	23	Pn	Pn	06 12 41.6	-1.7
HMT	Hamilton	5.76	48	Pn	Pn	06 12 46.1	+0.2
SUCK	Suckling Hills	5.82	51	Pn	Pn	06 12 48.4	+1.7
SCM	Sheep Creek Mo	5.83	27		Pn	06 12 46.8	0.0
KLU	Klutina	5.94	34	Pn	Pn	06 12 48.8	+0.4
BMRM	Bremner River	6.01	42	Pn	Pn	06 12 49.7	+0.3
PPLA	Purkeypile	6.17	3	Pn	Pn	06 12 51.5	-0.1
M24K	Tolsona, Glenn	6.36	30	Pn	Pn	06 12 55.2	+1.1
TT01	Tatalina	6.37	347		Pn	06 12 54.2	0.0
N25K	Chitina, Valde	6.45	38	Pn	Pn	06 12 55.4	-0.1
GLB	Gilahina Butte	6.62	41	Pn	Pn	06 12 57.4	-0.3
K20K	Telida	6.65	355	P	Pn	06 12 58.0	-0.1
	baz=175						
K20K	Telida	6.65	355		Pn	06 12 58.0	-0.1
PAX	Paxson	7.25	28		Pn	06 13 04.6	-1.9
BPAW	Bear Paw Mtn.	7.42	6	Pn	Pn	06 13 08.4	-0.3
ILAR	Eielson Array	8.55	17	Pn	Pn	06 13 20.8	-3.4
	comp=E,0.2nm,0.3s,baz=193,slow=16,SNR=3.4						
SONM	Songino Array	56.79	308	P	P	06 21 05.2	+1.1
	comp=E,0.9nm,0.7s,baz=47,slow=8.7,SNR=4.7						
ZALV	Zalesovo Beam	60.05	325	P	P	06 21 27.6	+1.1
	comp=E,0.7nm,0.5s,baz=20,slow=4.6,SNR=3.7						
MKAR	Makanchi Array	67.03	322	P	P	06 22 12.9	+0.1
	comp=E,0.3nm,0.5s,baz=31,slow=5.6,SNR=5.5						

*TUL **21** 06:33:58±1.5,36°.80N±0°.04×98°.20W±0°.05,h8km±7km,*
ML2.9,mb_Lg2.7/64(NEIC),Error ellipse: s-maj=6.2km
s-min=5.3km az=117.0

NEIC 21 06:33:58.1±1.1,36°.82N±0°.04×98°.23W±0°.05,h8km±7km,
Error ellipse: s-maj=6.2km s-min=5.8km az=139.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.02	137	Pg	Pg	06 33 59.2	-0.5
GC02	Grant County #	0.30	84	Pg	Pg	06 34 04.3	+0.3
KAN10	Anthony SW Sta	0.32	20	Pg	Pg	06 34 04.0	-0.5
CROK	Carrier	0.37	148		Pg	06 34 05.5	+0.1
KAN05	Bluff City Nor	0.41	45	Pg	Pg	06 34 05.8	-0.3
KAN17	Caldwell West	0.43	59	Pg	Pg	06 34 06.4	-0.2
KAN08	Anthony NE Sta	0.46	27	Pg	Pg	06 34 06.6	-0.4
KAN12	Harper NE Stat	0.51	21	Pg	Pg	06 34 07.5	-0.5
KAN09	Caldwell North	0.58	57	Pg	Pg	06 34 09.1	-0.3
KAN13	South Haven SW	0.63	72		Pg	06 34 10.2	-0.1
KS20	Mayfield South	0.68	53	Pg	Pg	06 34 11.1	-0.1
BLOK	Blackwell	0.82	94		Pg	06 34 13.4	-0.4
OK029	Liberty Lake	1.20	148		Pb	06 34 20.4	-0.7
BCOK	Bluff Creek, N	1.27	156		Pn	06 34 21.4	-0.7
T35A	Sooner Cattle	1.38	86		Pn	06 34 23.6	-0.1
QUOK	Quay	1.39	117		Pn	06

comp=Z,11nm,1.0s
R40A Maddies Statio 4.96 71 Pn Pn 06 35 12.7 -0.2
T25A Trinidad 4.96 276 IAmb_Lg 06 36 35.0
comp=Z,18nm,0.9s
X40A Basin Creek Fa 4.97 116 Pn 06 35 12.9 -0.2
237A Washetta, Mont 5.21 157 IAmb_Lg 06 36 47.3
comp=Z,16nm,0.8s
P40A Paris 5.57 59 IAmb_Lg 06 36 57.9
comp=Z,17nm,0.8s
CCM Cathedral Cave 5.69 75 IAmb_Lg 06 37 00.3
comp=Z,9.1nm,0.8s
LCAR Lake Charles 5.75 95 IAmb_Lg 06 37 04.6
comp=Z,8.6nm,0.8s
435B Jarrell 6.05 175 IAmb_Lg 06 37 25.0
comp=Z,15nm,0.8s
PBMO Poplar Bluff 6.26 88 IAmb_Lg 06 37 18.5
comp=Z,15nm,0.8s
N41A Harden Midland 6.95 54 IAmb_Lg 06 37 40.2
comp=Z,12nm,0.7s
S44A Carbondale 7.21 80 IAmb_Lg 06 37 55.8
comp=Z,8.5nm,0.8s
SIUC Southern Illin 7.24 80 IAmb_Lg 06 37 52.2
comp=Z,10nm,0.8s
SUSD Miller 7.63 356 IAmb_Lg 06 38 17.6
comp=Z,9.2nm,0.8s
O44A Mansfield 8.35 64 IAmb_Lg 06 38 39.1
comp=Z,10nm,0.7s
RSSD Black Hills 8.53 331 IAmb_Lg 06 38 35.3
comp=Z,5.6nm,0.9s
JFWS Jewell Farm 8.64 43 IAmb_Lg 06 38 33.9
comp=Z,8.6nm,0.8s
K22A Casper 8.64 315 IAmb_Lg 06 38 55.7
comp=Z,7.1nm,0.9s
T47A Sharon Grove 8.91 86 IAmb_Lg 06 38 41.0
comp=Z,6.9nm,1.0s
F33A 5 Mile Ranch, 9.13 9 IAmb_Lg 06 38 47.9
comp=Z,4.7nm,0.9s

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*NNC **21** 06:36:10.6±2.6, 54.°76N×86.°85E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=58.1km s-min=15.0km az=151.0, Suspected Mining explosion.*

IDC 21 06:36:15.0±3.0, 54.°29N×86.°97E, h0km, mb1 3.1/2, mb1mx3.0/52, mbtmp3.1/2, ML2.3/2, 4C-3D, Error ellipse: s-maj=27.0km s-min=19.0km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**256**	*i*		06 44 20.0	
	baz=74,slow=304,SNR=2.0						
ZAA0	**Zalesovo Array**	**1.31**	**256**	⇑P	Pg	06 36 36.9	-3.2
	1.7nm,0.9s						
ZAA0				⇑S	Sg	06 36 57.1	0.0
	5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**1.31**	**256**	Pg	Pg	06 36 39.5	-0.6
	1.6nm,0.3s,baz=70,slow=17,SNR=27						
ZALV				Lg	Lg	06 36 56.8	
	1.5nm,0.3s,baz=70,slow=21,SNR=5.9						
KURBB	**Kurchatov Arra**	**6.33**	**238**	Pn	Pn	06 37 50.5	+1.1
	0.1nm,0.3s,baz=54,slow=14,SNR=21						
KURBB				Lg	Lg	06 39 34.6	
	0.1nm,0.3s,baz=55,slow=32,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.33**	**238**	⇓Pn	Pn	06 37 49.1	-0.3
	3.8nm,0.7s						
KURBB				⇓Sn	Sn	06 39 02.3	0.0
	2.7nm,0.5s						
KURBB				⇓Lg	Lg	06 39 36.5	
	15nm,1.0s						
MK31	**Makanchi Array**	**8.07**	**204**	⇑Pn	Pn	06 38 15.4	+2.0
	0.9nm,0.8s,baz=18,slow=11,SNR=6.1						
MK31				⇑Lg	Lg	06 40 37.2	
	5.7nm,1.1s,baz=33,slow=31,SNR=6.5						
MKAR	**Makanchi Array**	**8.07**	**204**	Pn	Pn	06 38 13.8	+0.5
	0.1nm,0.3s,baz=26,slow=14,SNR=6.3						
MKAR				Lg	Lg	06 40 30.9	
	0.1nm,0.3s,baz=29,slow=33,SNR=2.6						

PGC 21 06:46:27.3±1.1, 51.°52N×131.°03W, h10km, MLSn3.0/17, Mw3.6/17, 199km Sse of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HG4B	**Hotspring**	**0.78**	**352**	P	Pg	06 46 41.3	-0.9
HG4B				S	Sg	06 46 51.1	-1.4
BNB	**Barry Inlet**	**1.15**	**337**	P	Pb	06 46 47.3	-1.9
BNB				S	Sb	06 47 00.6	-3.6
HG1B	**Mitchell Dam**	**1.57**	**335**	Pn	Pn	06 46 53.2	-2.0
HG1B				Sg	Sb	06 47 16.6	+0.5
MOBC	**Moresby Island**	**1.72**	**341**	Pn	Pn	06 46 55.8	-1.5
MOBC				Sg	Sb	06 47 20.3	-0.5
DIB	**Dawson Inlet,**	**1.90**	**333**	Pn	Pn	06 46 57.9	-1.9
DIB				Sg	Sb	06 47 26.6	+0.8
BBB	**Bella Bella**	**1.93**	**69**	Pn	Pn	06 46 58.7	-1.4
BBB				Sn	Sn	06 47 20.6	-3.7
BNKB	**Banks Island**	**1.94**	**20**	Pn	Pn	06 46 57.9	-2.4
BNKB				Sg	Sn	06 47 23.8	-0.9
BNAB	**Bonilla**	**1.99**	**7**	Pn	Pn	06 46 58.7	-2.2
BNAB				Sg	Sn	06 47 26.1	+0.3
HOLB	**Holberg**	**2.03**	**115**	Pn	Pn	06 46 59.5	-2.0
HOLB				Sn	Sn	06 47 23.1	-3.9
BUTB	**Butedale**	**2.21**	**45**	Pn	Pn	06 47 01.8	-2.2
BUTB				Sn	Sn	06 47 26.2	-5.2
HWKB	**Hawksbury Isla**	**2.37**	**28**	Pn	Pn	06 47 03.9	-2.4
PHC	**Port Hardy**	**2.41**	**108**	Pn	Pn	06 47 03.7	-3.0
PHC				Sn	Sn	06 47 32.8	-3.4
GRNB	**Grenville Isla**	**2.42**	**15**	Pn	Pn	06 47 05.2	-1.6
GRNB				Sg	Sn	06 47 38.5	+2.0
PACB	**Port Alice, BC**	**2.49**	**115**	Pn	Pn	06 47 05.9	-1.9
PACB				Sn	Sn	06 47 33.2	-4.9
MAYB	**Maynard**	**2.68**	**113**	Pn	Pn	06 47 08.5	-2.1
TLCB	**Telegraph Cove**	**2.82**	**109**	Pn	Pn	06 47 09.6	-2.8
RUBB	**Prince Rupert**	**2.85**	**9**	Pn	Pn	06 47 10.8	-1.9
RUBB				Sg	Sb	06 47 52.3	-0.7
KITB	**Kitimat**	**2.94**	**29**	Pn	Pn	06 47 11.7	-2.3
KITB				Sg	Sb	06 47 54.0	-1.7
WOSB	**Woss**	**3.14**	**114**	Pn	Pn	06 47 15.3	-1.5
NCRB	**Newcastle Ridg**	**3.34**	**108**	Pn	Pn	06 47 18.2	-1.4
GDR	**Gold River**	**3.63**	**117**	Pn	Pn	06 47 22.6	-0.8
CBB	**Campbell River**	**3.89**	**110**	Pn	Pn	06 47 25.7	-1.4
CBB				Sn	Sn	06 48 08.6	-4.2
BTB	**Buttle Lake**	**4.07**	**118**	Pn	Pn	06 47 28.9	-0.8
OZB	**Mount Ozzard**	**4.38**	**124**	Pn	Pn	06 47 34.2	+0.3
UBRB	**Upper Baezaeko**	**4.49**	**69**	Pn	Pn	06 47 33.9	-1.5
UBRB				Sg	Sb	06 48 43.4	+3.1
MGB	**Mount Grey**	**4.79**	**119**	Pn	Pn	06 47 38.4	-1.1
FSB	**Fort Saint Jam**	**5.01**	**51**	Pn	Pn	06 47 40.8	-1.8

IDC 21 06:50:17.4±2.4, 34.°98S×54.°90E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/45, mbtmp3.8/3, Error ellipse: s-maj=71.5km s-min=48.6km az=121.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**55.20**	**180**	P	P	06 59 51.6	-0.1
	2.0nm,1.0s,baz=269,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**68.20**	**104**	P	P	07 01 19.8	-0.1
	0.5nm,0.8s,baz=238,slow=5.3,SNR=2.4						
WRA	**Warramunga Arr**	**70.42**	**101**	P	P	07 01 33.9	+0.2
	1.2nm,0.8s,baz=238,slow=5.6,SNR=5.9						
ILAR	**Eielson Array**	**147.40**	**17**	PKPbc	PKPbc	07 10 01.5	-0.7
	0.2nm,0.7s,baz=332,slow=5.1,SNR=2.2						

KMA 21 07:00:40.6±3.4, 34.°72N×128.°95E, h14km±11km, Error ellipse: s-maj=35.1km s-min=4.2km az=139.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUJA	**Jangpyeong**	**0.33**	**301**	P	Pg	07 00 47.3	0.0
EURB	**Uiryeong-eup**	**0.81**	**318**	P	Pn	07 00 57.5	-0.1
	SNR=6.1						
EURB	**Uiryeong-eup**	**0.81**	**318**	P	Pn	07 00 57.5	-0.1
	SNR=6.1						
KSUSN	**Ulsan**	**0.99**	**8**	P	Pb	07 00 59.6	0.0
	SNR=13						
KSUSN	**Ulsan**	**0.99**	**8**	P	Pb	07 00 59.6	0.0
	SNR=13						
KSUSN	**Ulsan**	**0.99**	**8**	P	Pb	07 00 59.6	0.0
	SNR=13						
KSDAG	**Daegu**	**1.05**	**358**	P	Pb	07 01 00.5	0.0
	SNR=6.7						
KSDAG	**Daegu**	**1.05**	**358**	P	Pb	07 01 00.5	0.0
	SNR=6.7						
KSDAG	**Daegu**	**1.05**	**358**	P	Pb	07 01 00.5	0.0
	SNR=6.7						
GWYB	**Gwangyang**	**1.06**	**283**	P	Pb	07 00 59.9	-0.7
	SNR=9.6						
GWYB	**Gwangyang**	**1.06**	**283**	P	Pb	07 00 59.9	-0.7
	SNR=9.6						
HAMB	**Hamyang**	**1.26**	**309**	P	Pn	07 01 03.9	0.0
	SNR=7.4						
HAMB	**Hamyang**	**1.26**	**309**	P	Pn	07 01 03.9	0.0
	SNR=7.4						
HAMB	**Hamyang**	**1.26**	**309**	P	Pn	07 01 03.9	0.0
	SNR=7.4						
KOHB	**KOHEUNG**	**1.38**	**266**	P	Pn	07 01 05.4	-0.1
	SNR=13						
KOHB	**KOHEUNG**	**1.38**	**266**	P	Pn	07 01 05.4	-0.1
	SNR=13						
KOHB	**KOHEUNG**	**1.38**	**266**	P	Pn	07 01 05.4	-0.1
	SNR=13						
BOSB	**Boseong-gun**	**1.43**	**272**	P	Pn	07 01 06.1	0.0
	SNR=35						
BOSB	**Boseong-gun**	**1.43**	**272**	P	Pn	07 01 06.1	0.0
	SNR=35						
BOSB	**Boseong-gun**	**1.43**	**272**	P	Pn	07 01 06.1	0.0
	SNR=35						
KSKWJ	**Gwangju**	**1.67**	**286**	P	Pb	07 01 10.5	-0.6
	SNR=13						
KSJEU	**Jeongeup**	**1.82**	**296**	P	Pb	07 01 13.8	+0.1
	SNR=6.7						
IMWB	**Imwonan-gil**	**2.54**	**7**	P	Pn	07 01 22.0	+0.6
	SNR=5.8						

NNC 21 07:01:42.2±4.0, 37.°00N×71.°19E, h151km±72km, mb2.9, mpv3.7, 4C-1D, Error ellipse: s-maj=36.4km s-min=23.3km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**355**	P	Pn	07 03 09.7	-0.8
	1.5nm,0.3s,baz=176,slow=12,SNR=35						
KK31				S	Sn	07 04 20.9	+1.2
	3.6nm,0.4s,baz=184,slow=24,SNR=10						
AAK	**Ala-Archa**	**6.18**	**23**	⇑P	Pn	07 03 12.2	+0.8
	2.8nm,0.3s						
AAK				⇑S	Sn	07 04 21.8	+0.5
	16nm,0.8s						
TKM2	**Tokmak 2**	**6.81**	**28**	⇓P	Pn	07 03 19.8	-0.1
	5.1nm,0.5s						
TKM2				⇑S	Sn	07 04 36.0	-0.6
	2.8nm,0.9s						
MK31	**Makanchi Array**	**12.80**	**37**	P	Pn	07 04 39.6	+0.9
	1.0nm,0.7s,baz=207,slow=11,SNR=11						
AB31	**Akbulak array**	**14.73**	**330**	⇑P	Pn	07 05 02.3	-0.8
	0.2nm,0.3s,baz=262,slow=35,SNR=18						

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*BJI **21** 07:14:45.1±0.0, 34.°91S×53.°90E, h16km, mB5.3/31, mb5.0/44, Ms5.1/33, Ms7 4.8/34*

*IDC **21** 07:14:46.6±0.4, 34.°82S×54.°64E, h0km, mb4.8/32, mb1 4.8/33, mb1mx4.7/42, mbtmp4.8/33, ML4.3/1, MS4.7/21, Ms1 4.7/21, ms1mx4.6/29, Error ellipse: s-maj=14.1km s-min=11.8km az=47.0*

*MOS **21** 07:14:47.6±0.9, 34.°63S×54.°67E, h10km, mb5.6/62, MS4.6/7, Error ellipse: s-maj=14.4km s-min=5.9km az=98.7*

*GCMT **21** 07:14:49.0±0.1, 34.°68S±0.°01×54.°52E±0.°01, h12km, MW5.3/146, Moment Tensor Solution. s73,c100; s146,c255; Duration: 1ꝏ1 Moment tensor: Scale 10^{17} Nm; M_{rr}=-1.11±.01; $M_{\theta\theta}$ 1.06±.01; $M_{\phi\phi}$ 0.04±.01; $M_{r\theta}$ 0.03±.04; $M_{\theta\phi}$ 0.07±.01; $M_{\phi r}$ 0.24±.05; Best double couple: M_0=1.11100×10^{17} NP1:ϕ_s=97.00000°, δ=45.00000°, λ=-74.00000°. NP2:ϕ_s=255.00000°, δ=47.00000°, λ=-105.00000°. Principal axes: T 1.0660, Plg1.0000°, Azm356.0000°; N 0.0820, Plg11.0000°, Azm265.0000°; P -1.1570, Plg79.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 07:14:50.0±1.7, 34.°62S±0.°06×54.°6E±0.°1, h10km±1km, mb5.4/88 Error ellipse: s-maj=17.2km s-min=9.5km az=79.0*

ISC 21 07:14:47.4±0.4, 34.°79S±0.°05×54.°55E±0.°06, h4km±2km, h5km:pP-P, n872, σ1ꝏ27/948, mb5.3/142, MS4.8/52, 30C-12D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**13.62**	**5**	Pn	**Pn**	**07 17 59.7**	**-1.8**
VOI	**Vohitsoka**	**14.53**	**330**	Pn	**Pn**	**07 18 12.6**	**-1.5**
ABPO	**Ambohimpanom**	**17.01**	**336**	P	**P**	**07 18 46.3**	**-2.0**
ABPO				pmax	pmax		
	comp=Z,86nm,1.2s						
ABPO	**Ambohimpanom**	**17.01**	**336**	Pn	**P**	**07 18 46.3**	**-2.0**
OPO	**Ambohidratompo**	**17.43**	**336**	P	**P**	**07 18 52.1**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=152,slow=12,SNR=9.5						
OPO				LR	LR	07 24 04.7	
	comp=Z,3μm,19.3s,baz=22,slow=32						
BOSA	**Boshof**	**25.62**	**276**	P	**P**	**07 20 17.9**	**-0.3**
	comp=Z,25nm,1.1s,baz=118,slow=11,SNR=11						
BOSA				LR	LR	07 28 31.2	
	comp=Z,753nm,21.0s,baz=118,slow=32						
BOSA	**Boshof**	**25.62**	**276**	P	**P**	**07 20 18.1**	**0.0**
BOSA				pmax	pmax		
	comp=Z,88nm,1.3s						
BOSA	**Boshof**	**25.62**	**276**	P	**P**	**07 20 18.1**	**0.0**
BOSA				IAmb	IAmb	07 20 25.1	
	comp=Z,88nm,1.2s						
LBTB	**Lobatse**	**26.85**	**283**	P	**P**	**07 20 28.5**	**-0.7**
	comp=Z,27nm,1.1s,baz=133,slow=6.9,SNR=14						
LBTB				LR	LR	07 29 56.8	
	comp=Z,937nm,18.1s,baz=116,slow=34						
LBTB	**Lobatse**	**26.85**	**283**	P	**P**	**07 20 28.7**	**-0.5**
LBTB				pmax	pmax		
	comp=Z,65nm,1.3s						
LBTB	**Lobatse**	**26.85**	**283**	P	**P**	**07 20 28.7**	**-0.5**
MATP	**Matopo**	**27.06**	**295**	P	**P**	**07 20 30.3**	**-0.9**
	comp=Z,15nm,1.0s,baz=115,slow=10.0,SNR=12						
MATP				LR	LR	07 29 56.9	
	comp=Z,2μm,18.7s,baz=126,slow=34						
SUR	**Sutherland**	**28.14**	**265**	P	**P**	**07 20 41.2**	**+0.3**
	comp=Z,17nm,0.9s,baz=158,slow=6.5,SNR=3.6						
SUR				LR	LR	07 30 13.2	
	comp=Z,987nm,18.8s,baz=119,slow=33						
H08S1	**Diego Carcia H**	**31.65**	**36**	T	T	07 54 10.6	
	baz=208,slow=76,SNR=256						
H08S2	**Diego Garcia H**	**31.66**	**36**	T	T	07 54 10.6	
	baz=208,slow=76,SNR=88						
H08S3	**Diego Garcia H**	**31.67**	**36**	T	T	07 54 11.9	
	baz=208,slow=76,SNR=293						
MAW	**Mawson**	**33.20**	**174**	P	**P**	**07 21 24.2**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=327,slow=11,SNR=2.5						
MAW				LR	LR	07 31 21.6	
	comp=Z,4μm,21.1s,baz=25,slow=30						
MAW	**Mawson**	**33.20**	**174**	P	P	07 21 29.4	+4.5
	baz=34,SNR=5.6						
MAW	**Mawson**	**33.20**	**174**	P	**P**	**07 21 27.6**	**+2.7**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MAW	**Mawson**	**33.20**	**174**	P	**P**	**07 21 27.6**	**+2.7**
SYO	**Syowa Base**	**35.28**	**189**	‖*eP*	**P**	**07 21 45.5**	**+2.7**
SYO	**Syowa Base**	**35.28**	**189**	‖*ep*	pP	07 21 49.0	+6.0
TSUM	**Tsumeb**	**36.18**	**286**	P	**P**	**07 21 51.3**	**-0.1**
	comp=Z,11nm,1.0s,baz=97,slow=7.4,SNR=7.1						
TSUM	**Tsumeb**	**36.18**	**286**	P	**P**	**07 21 51.7**	**+0.4**
KMBO	**Kilima Mbogo**	**37.18**	**331**	P	**P**	**07 22 01.6**	**+1.6**
	comp=Z,4.5nm,1.0s,baz=143,slow=8.9,SNR=6.7						
KMBO				LR	LR	07 34 59.9	
	comp=Z,2μm,21.7s,baz=146,slow=33						
KMBO	**Kilima Mbogo**	**37.18**	**331**	*i* P	**P**	**07 22 02.0**	**+2.0**
MBAR	**Mbarara**	**40.64**	**322**	P	**P**	**07 22 27.4**	**-1.5**
	comp=Z,2.8nm,0.2s,baz=104,slow=8.9,SNR=4.8						
MBAR	**Mbarara**	**40.64**	**322**	*i* P	**P**	**07 22 27.6**	**-1.3**
LODK	**Lodwar**	**42.08**	**331**	P	**P**	**07 22 41.4**	**+0.8**
CASY	**Casey**	**45.11**	**152**	P	**P**	**07 23 07.0**	**+2.6**
SNAA	**Sanae**	**47.22**	**201**	P	**P**	**07 23 21.6**	**+0.6**
SNAA	**Sanae**	**47.22**	**201**	P	**P**	**07 23 20.1**	**-0.9**
	comp=Z,13nm,1.2s,baz=87,slow=6.6,SNR=17						
SNAA	**Sanae**	**47.22**	**201**	*i* P	**P**	**07 23 21.5**	**+0.5**
SNAA				pmax	pmax		
	comp=Z,26nm,1.1s						
SNAA	**Sanae**	**47.22**	**201**	P	**P**	**07 23 23.1**	**+2.0**
SNAA				IAmb	IAmb	07 23 28.1	
	comp=Z,24nm,1.0s						
ATD	**Arta Tunnel**	**47.39**	**344**	P	**P**	**07 23 22.2**	**-0.7**
ATD				IAmb	IAmb	07 23 31.3	
	comp=Z,63nm,1.2s						
H01W2	**Cape Leeuwin H**	**48.24**	**108**	T	T	08 15 11.6	
	baz=251,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**48.24**	**108**	T	T	08 15 09.0	
	baz=251,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**48.26**	**108**	T	T	08 15 12.9	
	baz=251,slow=75,SNR=34						
VNA1	**Neumayer--Stat**	**48.63**	**203**	P	**P**	**07 23 33.6**	**+1.8**
VNA3	**Neumayer Olymp**	**49.21**	**203**	P	**P**	**07 23 36.9**	**+0.5**
PDSI	**Padang**	**54.44**	**62**	P	**P**	**07 24 15.9**	**-0.2**
	comp=Z,23nm,1.3s						
MEEK	**Meekatharra**	**54.86**	**100**	P	**P**	**07 24 18.7**	**-0.4**
	baz=55,SNR=4.0						
MNSI	**Mandalling Nat**	**54.98**	**60**	P	**P**	**07 24 21.6**	**+1.6**
QSPA	**South Pole Qui**	**55.39**	**180**	P	**P**	**07 24 21.1**	**-1.4**
	comp=Z,12nm,0.8s,baz=253,slow=3.0,SNR=38						
BKNI	**Bangkinang**	**55.70**	**61**	P	**P**	**07 24 25.5**	**+0.3**
BKNI	**Bangkinang**	**55.70**	**61**	P	**P**	**07 24 25.0**	**-0.2**
	comp=Z,1μmcomp=Z,102nm,1.5s						
PSA00	**Pilbara Seismi**	**58.14**	**95**	P	**P**	**07 24 42.1**	**-0.4**
PSA00				IAmb	IAmb	07 24 44.5	
	comp=Z,79nm,2.0s						
VNDA	**Vanda**	**59.92**	**166**	P	**P**	**07 24 54.2**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=266,slow=7.7,SNR=12						
VNDA				LR	LR	07 48 30.3	
	comp=Z,2μm,19.1s,baz=240,slow=34						
VNDA	**Vanda**	**59.92**	**166**	P	**P**	**07 24 56.1**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,15nm,1.2s						
VNDA	**Vanda**	**59.92**	**166**	P	**P**	**07 24 56.1**	**+2.1**
SBA	**Scott Base**	**60.71**	**167**	P	**P**	**07 25 01.4**	**+2.0**
SBA				pmax	pmax		
	comp=Z,80nm,1.8s						
SBA	**Scott Base**	**60.71**	**167**	P	**P**	**07 25 01.4**	**+2.0**
SBA				IAmb	IAmb	07 25 23.0	
	comp=Z,80nm,1.8s						
WRKA	**Warakurna**	**63.38**	**103**	P	**P**	**07 25 18.6**	**+0.4**
	baz=63,SNR=15						
UTHA	**Uthaitani**	**65.76**	**48**	P	**P**	**07 25 36.0**	**+2.3**
	comp=Z,253nmcomp=Z,3.2nm,0.9s						
EDFI	**Ende, Flores**	**66.30**	**84**	P	**P**	**07 25 37.1**	**-0.3**
	comp=Z,440nmcomp=Z,12nm,1.8s						
EIL	**Elat**	**66.73**	**341**	LR	LR	07 51 45.9	
	comp=Z,707nm,20.6s,baz=150,slow=33						
CM05	**Chiang Mai Arr**	**67.66**	**46**	P	**P**	**07 25 47.0**	**+1.3**
	comp=Z,152nmcomp=Z,18nm,1.0s						
CM04	**Chiang Mai Arr**	**67.67**	**46**	P	**P**	**07 25 47.6**	**+1.8**
	comp=Z,193nmcomp=Z,17nm,1.0s						
CM01	**Chiang Mai Arr**	**67.68**	**46**	P	**P**	**07 25 47.6**	**+1.8**
	comp=Z,204nmcomp=Z,24nm,1.0s						
CM02	**Chiang Mai Arr**	**67.68**	**46**	P	**P**	**07 25 47.6**	**+1.7**
	comp=Z,203nmcomp=Z,24nm,1.0s						
CM15	**Chiang Mai Arr**	**67.68**	**46**	P	**P**	**07 25 47.7**	**+1.8**
	comp=Z,21nm,0.9s						
CM31	**Chiang Mai Arr**	**67.70**	**46**	P	**P**	**07 25 48.1**	**+2.1**
	comp=Z,570nm,0.9s						
CMAR	**Chiang Mai Arr**	**67.70**	**46**	P	**P**	**07 25 45.8**	**-0.3**
	comp=Z,14nm,0.9s,baz=228,slow=6.3,SNR=31						
CMAR	**Chiang Mai Arr**	**67.70**	**46**	*i* P	**P**	**07 25 45.5**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**67.70**	**46**	P	**P**	**07 25 44.9**	**-1.1**
CM09	**Chiang Mai Arr**	**67.72**	**46**	P	**P**	**07 25 48.0**	**+1.9**
	comp=Z,341nmcomp=Z,19nm,1.0s						
CM09	**Chiang Mai Arr**	**67.72**	**46**	P	**P**	**07 25 48.0**	**+1.9**
	comp=Z,341nmcomp=Z,19nm,1.0s						
CM32	**Chiang Mai Arr**	**67.79**	**46**	P	**P**	**07 25 49.0**	**+2.4**
CM36	**Chiang Mai Arr**	**67.83**	**46**	P	**P**	**07 25 48.0**	**+1.1**
CMMT	**Chiang Mai**	**67.98**	**46**	P	**P**	**07 25 49.7**	**+1.9**
	comp=Z,15nm,1.8s						
CM33	**Chiang Mai Arr**	**67.98**	**46**	P	**P**	**07 25 49.0**	**+1.2**
KNRA	**Kununurra**	**68.39**	**94**	P	**P**	**07 25 50.1**	**-0.4**
ASAR	**Alice Springs**	**68.52**	**104**	P	**P**	**07 25 49.8**	**-1.6**
	comp=Z,10nm,1.0s,baz=235,slow=5.4,SNR=59						
ASAR	**Alice Springs**	**68.52**	**104**	P	**P**	**07 25 50.9**	**-0.4**
ASAR	**Alice Springs**	**68.52**	**104**	P	**P**	**07 25 50.9**	**-0.4**
AS31	**Alice Springs**	**68.52**	**104**	P	**P**	**07 25 50.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**69.17**	**304**	P	**P**	**07 25 55.2**	**0.0**
	comp=Z,16nm,1.0s,baz=117,slow=3.3,SNR=34						
TORD				LR	LR	07 56 18.0	
	comp=Z,922nm,18.2s,baz=105,slow=36						
TORD	**Torodi Ar. Bea**	**69.17**	**304**	P	**P**	**07 25 54.9**	**-0.4**
TORD				IAmb	IAmb	07 25 58.5	
	comp=Z,51nm,1.3s						
HRA	**Herat**	**69.19**	**7**	P	**P**	**07 25 55.5**	**+0.2**
KIC	**Kosan Boka**	**69.19**	**294**	*e*P	**P**	**07 25 57.8**	**+2.3**
	comp=Z,245nm,1.9s						
LIC	**Lamto**	**69.32**	**294**	*e*P	**P**	**07 25 58.5**	**+2.2**
	comp=Z,158nm,1.8s						
TIC	**Toumodi**	**69.59**	**294**	*e*P	P	07 26 01.3	+3.3
SHL	**Shillong**	**69.68**	**36**	P	**P**	**07 25 58.4**	**0.0**
SHL				pmax	pmax		
	comp=Z,129nm,1.9s						
SHL	**Shillong**	**69.68**	**36**	P	**P**	**07 25 58.4**	**0.0**
MMAI	**Mount Meron Ar**	**69.81**	**343**	LR	LR	07 53 49.9	
	comp=Z,774nm,20.2s,baz=35,slow=34						
KBL	**Kabul**	**70.29**	**13**	P	**P**	**07 26 02.7**	**+0.6**
KBL				pmax	pmax		
	comp=Z,25nm,1.1s						
KBL	**Kabul**	**70.29**	**13**	P	**P**	**07 26 02.7**	**+0.6**
KBL				IAmb	IAmb	07 26 11.1	
	comp=Z,25nm,1.1s						
STKA	**Stephens Creek**	**70.45**	**116**	P	**P**	**07 26 02.8**	**-0.3**
	comp=Z,8.9nm,0.8s,baz=294,slow=5.8,SNR=4.5						
STKA				LR	LR	07 50 52.8	
	comp=Z,629nm,20.1s,baz=216,slow=31						
WRA	**Warramunga Arr**	**70.74**	**101**	P	**P**	**07 26 03.8**	**-1.3**
	comp=Z,21nm,0.9s,baz=235,slow=5.5,SNR=73						
WRA	**Warramunga Arr**	**70.74**	**101**	P	**P**	**07 26 05.3**	**+0.2**
WRA				pm

QIZ LR LR
comp=Z,360nm,19.6s
QIZ LR LR
comp=Z,350nm,36.3s
KMI Kunming 75.08 44 ⇊P **P 07 26 31.9 +1.1**
KMI pmax pmax
comp=Z,14nm,2.2s
KMI LR LR
comp=Z,410nm,20.3s
KMI LR LR
comp=Z,400nm,19.4s
KMI LR LR
comp=Z,560nm,21.1s
GNI Garni 75.12 352 *ce*P **P 07 26 32.3 +1.7**
GNI pmax pmax
comp=Z,74nm,1.7s
GNI Garni 75.12 352 P **P 07 26 31.1 +0.5**
GNI IAmb IAmb 07 26 33.9
comp=Z,76nm,1.4s
BNN Bunyan 75.30 345 P **P 07 26 32.0 +0.4**
KOPT Kop Dagi 75.56 349 P **P 07 26 33.5 +0.2**
DRK Karamyk 75.60 14 P **P 07 26 33.4 -0.2**
BTK Batken 75.98 13 P **P 07 26 35.7 +0.3**
BTK pmax pmax
comp=Z,90nm,1.6s
BTK Batken 75.98 13 P **P 07 26 35.7 +0.3**
AKT Akhty 76.16 355 *i* P **P 07 26 37.0 +0.6**
DDFL Dedoflistskaro 76.26 353 P P 07 26 42.6 +5.6
AKH Akhalkalaki 76.51 351 ⇑P **P 07 26 39.3 +0.8**
KSH Kashi 76.55 17 P **P 07 26 35.1 -3.6**
KSH sP pwP 07 26 45.9 +2.7
KSH S **S 07 36 23.8 -1.5**
KSH pmax pmax
comp=Z,26nm,0.8s
KSH pmax pmax
comp=Z,270nm,3.4s
KSH LR LR
comp=Z,940nm,22.0s
KSH LR LR
comp=Z,650nm,22.0s
KSH LR LR
comp=Z,290nm,13.7s
BRTR Keskin Array B 76.62 344 P **P 07 26 38.3 -0.9**
comp=Z,16nm,0.9s,baz=168,slow=6.3,SNR=38
BRTR Keskin Array B 76.62 344 P **P 07 26 38.8 -0.3**
BR131 Keskin Array S 76.62 344 P **P 07 26 38.4 -0.8**
BR131 pmax pmax
comp=Z,42nm,1.1s
BR131 Keskin Array S 76.62 344 P **P 07 26 38.4 -0.8**
BR131 IAmb IAmb 07 26 46.1
comp=Z,42nm,1.1s
MANT Manisa 76.80 339 P **P 07 26 40.6 +0.3**
ANTO Ankara 76.96 343 P **P 07 26 40.8 -0.2**
ANTO pmax pmax
comp=Z,34nm,1.1s
ANTO Ankara 76.96 343 P **P 07 26 40.8 -0.2**
ANTO IAmb IAmb 07 26 48.3
comp=Z,34nm,1.1s
MAK Makhachkala 77.65 355 *e*P **P 07 26 39.9 -4.7**
MAK *e* 07 29 36.0
MAK *e*S **S 07 36 28.4 -8.4**
MAK *e*SSS SSS 07 44 56.2
MAK pmax pmax
comp=Z,253nm,1.6s
MAK MLR MLR
comp=Z,337nm,16.0s
ONI Oni 77.68 352 P **P 07 26 45.8 +0.9**
ONI pmax pmax
comp=Z,43nm,1.4s
ONI Oni 77.68 352 P **P 07 26 45.8 +0.9**
ONI IAmb IAmb 07 26 48.7
comp=Z,43nm,1.4s
ZEI Tsey 77.82 352 *e*P **P 07 26 45.3 -0.6**
ZEI pmax pmax
comp=Z,22nm,1.0s
ILGA Ilgaz 77.87 344 P **P 07 26 46.1 -0.2**
CHVG Ch'k'valeri 77.98 351 ⇑P **P 07 26 46.8 +0.3**
CHVG Ch'k'valeri 77.98 351 ⇑P **P 07 26 46.8 +0.3**
GROC Groznyy 78.03 353 *e*P **P 07 26 43.3 -3.5**
GROC *e* 07 26 53.7
GROC pmax pmax
comp=Z,30nm,0.4s
BALB Balikesir 78.06 339 P **P 07 26 47.6 +0.7**
DIKM Dikmen 78.11 345 ⇑P **P 07 26 49.2 +2.0**
GYA Guiyang 78.38 46 *e*P **P 07 26 50.5 +1.2**
GYA pmax pmax
comp=Z,3.0nm,1.5s
GYA LR LR
comp=Z,100nm,24.2s
ARMA Armidale 78.55 119 P **P 07 26 50.7 +0.3**
DZA Taraz 78.82 12 *e*P **P 07 26 50.1 -1.1**
baz=12
DZA Taraz 78.82 12 *e*P **P 07 26 50.1 -1.1**
KBZ Khabaz 78.87 351 P **P 07 26 51.8 +0.4**
comp=Z,7.4nm,1.0s,baz=162,slow=3.8,SNR=22
KBZ LR LR 07 59 49.4
comp=Z,764nm,20.9s,baz=149,slow=34
KKAR Karatay Array 78.88 12 P **P 07 26 51.3 -0.2**
KKAR pmax pmax
comp=Z,49nm,1.4s
KKAR Karatay Array 78.88 12 P **P 07 26 51.3 -0.2**
KKAR Karatay Array 78.88 12 P **P 07 26 51.5 0.0**
KKAR IAmb IAmb 07 26 59.3
comp=Z,49nm,1.4s
SHA1 Shidzhatmaz 78.91 351 *i* P **P 07 26 51.2 -0.7**
TARG Taragay, Kyrgy 79.08 18 P **P 07 26 53.1 0.0**
KIV Kislovodsk 79.12 351 ⇑P **P 07 26 52.3 -0.6**
KIV Kislovodsk 79.12 351 *e*P **P 07 26 53.9 +1.0**
KIV *e*S **S 07 36 54.1 +1.3**
KIV *e*SS **SS 07 42 00.9 +1.2**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 79.12 351 P **P 07 26 53.0 +0.1**
KIV IAmb IAmb 07 27 00.7
comp=Z,71nm,1.6s
KVAR Kislovodsk Arr 79.12 351 LR LR 07 59 53.0
comp=Z,372nm,20.4s,baz=72,slow=34
SOC Sochi 79.17 349 *e*P **P 07 26 52.7 -0.3**
SOC *e* 07 29 49.3
SOC *e*PPP PPP 07 31 38.6
SOC *e*S **S 07 36 54.6 +1.4**
SOC *e*SS **SS 07 41 56.4 -3.8**
SOC *e*SSS SSS 07 45 20.3
SOC pmax pmax
comp=Z,11nm,0.6s
SOC MLR MLR
comp=Z,216nm,20.0s
AAK Ala-Archa 79.19 15 P **P 07 26 53.7 +0.3**
comp=Z,12nm,0.8s,baz=200,slow=5.2
AAK LR LR 07 59 51.4
comp=Z,361nm,19.3s,baz=132,slow=34
AAK Ala-Archa 79.19 15 P **P 07 26 54.1 +0.7**
AAK pmax pmax
comp=Z,99nm,1.5s
AAK Ala-Archa 79.19 15 P **P 07 26 54.1 +0.7**
AGG Agios Georgios 79.27 335 P **P 07 26 55.0 +1.2**
AGG pmax pmax
comp=Z,49nm,1.1s
AGG Agios Georgios 79.27 335 P **P 07 26 55.0 +1.2**
AGG IAmb IAmb 07 27 01.2
comp=Z,48nm,1.1s
KDJ Kajisay 79.31 17 P **P 07 26 53.8 -0.3**
KDJ pmax pmax
comp=Z,43nm,1.0s
KDJ Kajisay 79.31 17 P **P 07 26 53.8 -0.3**
KDJ IAmb IAmb 07 27 02.0
comp=Z,43nm,0.9s
BOOM Boomskoye usch 79.36 16 P **P 07 26 54.4 0.0**
BOOM pmax pmax
comp=Z,47nm,1.4s
BOOM Boomskoye usch 79.36 16 P **P 07 26 54.4 0.0**
BOOM IAmb IAmb 07 27 02.4
comp=Z,47nm,1.4s
ALN Alexandroupoli 79.76 338 P **P 07 26 56.2 -0.1**
ALN pmax pmax
comp=Z,23nm,1.0s
ALN Alexandroupoli 79.76 338 P **P 07 26 56.2 -0.1**
SGDS Sogindy 80.00 15 *e*P **P 07 26 56.1 -1.6**
comp=Z,15nm,1.6s,baz=15
SGDS Sogindy 80.00 15 *e*P **P 07 26 56.0 -1.6**
SGDS pmax pmax
comp=Z,15nm,1.6s
CD2 Chengdu 80.11 41 P **P 07 26 59.5 +1.0**
CD2 S **S 07 37 05.6 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,220nm,5.1s
CD2 LR LR
comp=Z,520nm,18.6s
CD2 LR LR
comp=Z,480nm,25.5s
CTA Charters Tower 80.16 108 LR LR 07 59 07.1
comp=Z,516nm,19.2s,baz=208,slow=33
GOF Gofitskoye 80.16 352⇑ *e*P **P 07 26 58.4 0.0**
GOF pmax pmax
comp=Z,41nm,0.6s
SATY Saty 80.49 17 *e*P **P 07 26 59.2 -1.2**
comp=Z,32nm,1.8s,baz=17
SATY Saty 80.49 17 *e*P **P 07 26 59.2 -1.2**
SATY pmax pmax
comp=Z,32nm,1.8s
UZB Uzynbulak 80.72 18 *e*P **P 07 27 00.6 -1.2**
comp=Z,37nm,2.0s,baz=18
UZB Uzynbulak 80.72 18 *e*P **P 07 27 00.5 -1.2**
UZB pmax pmax
comp=Z,37nm,2.0s
ANN Anapa 80.73 348 *e*P **P 07 26 59.3 -2.1**
ANN *e**PP **sP 07 27 02.8 +1.0**
ANN *e* 07 30 04.5
ANN *e*S **S 07 37 08.8 -0.7**
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=Z,452nm,19.0s
KUU Kurty 80.79 16 *e*P **P 07 26 60.0 -1.9**
comp=Z,47nm,1.8s,baz=16
KUU Kurty 80.79 16 *e*P **P 07 26 59.9 -1.9**
KUU pmax pmax
comp=Z,47nm,1.8s
RAFF Raffo Rosso 80.81 329 P **P 07 27 02.5 +0.4**
RAFF IAmb IAmb 07 27 11.0
comp=Z,51nm,1.1s
SHLS Shalkode 80.84 18 *e*P **P 07 27 01.6 -0.7**
comp=Z,36nm,1.6s,baz=18
SHLS Shalkode 80.84 18 *e*P **P 07 27 01.6 -0.7**
SHLS pmax pmax
comp=Z,36nm,1.6s
CHKK Chushkaly 80.90 16 *e*P **P 07 27 01.7 -0.7**
baz=16
CHKK Chushkaly 80.90 16 *e*P **P 07 27 01.7 -0.7**
KPKS Kokpek 80.94 18 *e*P **P 07 27 01.4 -1.3**
comp=Z,42nm,2.0s,baz=18
KPKS Kokpek 80.94 18 *e*P **P 07 27 01.4 -1.3**
KPKS pmax pmax
comp=Z,42nm,2.0s
FNA Florina 81.17 335 P **P 07 27 03.9 -0.1**
FNA Florina 81.17 335 P **P 07 27 03.9 -0.1**
KBN Korca 81.23 335 P **P 07 27 05.0 +0.6**
KBN pmax pmax
comp=Z,86nm,1.3s
KBN Korca 81.23 335 P **P 07 27 05.0 +0.6**
VAY Valandovo 81.25 336 *i* P **P 07 27 04.0 -0.3**
VAY Valandovo 81.25 336 *i* P **P 07 27 04.0 -0.3**
VAY Valandovo 81.25 336 *i* P **P 07 27 04.0 -0.3**
ARXS Arharly 81.44 17 *e*P **P 07 27 04.3 -1.1**
OHR Ohrid 81.66 335 *i* P **P 07 27 05.3 -1.4**
OHR Ohrid 81.66 335 *i* P **P 07 27 05.2 -1.4**
OHR Ohrid 81.66 335 *i* P **P 07 27 05.2 -1.4**
STIP Stip 81.71 336 *i* P **P 07 27 05.8 -1.0**
STIP Stip 81.71 336 *i* P **P 07 27 06.2 -0.6**
STIP Stip 81.71 336 *i* P **P 07 27 06.2 -0.6**
CORL Corleone 81.83 328 P **P 07 27 07.8 +0.2**
CORL IAmb IAmb 07 27 18.6
comp=Z,39nm,1.1s
KEST Kesra 81.86 324 P **P 07 27 09.7 +1.8**
comp=Z,7.3nm,0.9s,baz=74,slow=8.4,SNR=11
KEST Kesra 81.86 324 P **P 07 27 07.9 +0.1**
VTS Vitosha 82.20 337 ⇊P **P 07 27 10.4 +0.9**
VTS Vitosha 82.20 337 P **P 07 27 09.7 +0.2**
VTS pmax pmax
comp=Z,31nm,1.3s
VTS Vitosha 82.20 337 P **P 07 27 09.7 +0.2**
VTS IAmb IAmb 07 27 16.9
comp=Z,31nm,1.3s
SKO Skopje 82.21 336 *i* P **P 07 27 09.3 -0.1**
SKO Skopje 82.21 336 *i* P **P 07 27 09.4 0.0**
SKO Skopje 82.21 336 *i* P **P 07 27 09.4 0.0**
TIRR Tirgusor 82.38 341 ⇑P **P 07 27 10.2 0.0**
TIRR Tirgusor 82.38 341 ⇑P **P 07 27 10.2 0.0**
PUK Puka 82.80 335 P **P 07 27 12.5 -0.1**
ENH Enshi 82.87 46 P **P 07 27 12.7 -0.4**
ENH IAmb IAmb 07 27 20.6
comp=Z,36nm,1.1s
CFR Carcaliu 83.12 342 ⇑P **P 07 27 13.9 -0.1**
CFR Carcaliu 83.12 342 ⇑P **P 07 27 13.9 -0.1**
PDG Podgorica 83.37 334 ⇊P **P 07 27 16.1 +0.8**
PDG Podgorica 83.37 334 P **P 07 27 15.8 +0.5**
PDG IAmb IAmb 07 27 23.5
comp=Z,26nm,1.1s
ABKAR Akbulak array 83.81 4 P **P 07 27 17.1 -0.4**
ABKAR Akbulak array 83.81 4 P **P 07 27 17.1 -0.4**
ABKAR IAmb IAmb 07 27 19.8
comp=Z,60nm,1.6s
WMQ Urumqi 83.86 23 P **P 07 27 18.9 +0.9**
WMQ pP pwP 07 27 24.4 +1.9
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,290nm,5.9s
WMQ LR LR
comp=Z,730nm,19.1s
WMQ LR LR
comp=Z,630nm,19.9s
WMQ LR LR
comp=Z,600nm,15.9s
MLR Muntele Rosu 84.00 340 ⇑P **P 07 27 18.5 -0.3**
MLR Muntele Rosu 84.00 340 ⇑P **P 07 27 18.5 -0.3**
MLR Muntele Rosu 84.00 340 P **P 07 27 18.4 -0.3**
GHRR 84.13 341 ⇊P **P 07 27 18.6 -0.6**
VRI Vrincioaia 84.13 341 ⇑P **P 07 27 19.2 -0.1**
VRI Vrincioaia 84.13 341 ⇑P **P 07 27 19.2 -0.1**
PLOR Plostina 84.14 341 ⇑P **P 07 27 19.1 -0.2**
PLOR Plostina 84.14 341 ⇑P **P 07 27 19.1 -0.2**
LZH Lanzhou 84.16 38 *e*P **P 07 27 19.9 0.0**
LZH pP pwP 07 27 24.1 -0.3
LZH sP PcP 07 27 25.9 +2.2
LZH *e*S **S 07 37 43.8 -1.7**
LZH SS **SS 07 43 18.5 +3.2**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,170nm,7.5s
LZH LR LR
comp=Z,420nm,16.5s
LZH LR LR
comp=Z,410nm,16.4s
LZH LR LR
comp=Z,480nm,18.2s
VOIR 84.20 340 ⇊P **P 07 27 18.8 -0.9**
VOIR 84.20 340 ⇊P **P 07 27 18.8 -0.9**
HERR Herculane 84.49 338 ⇑P **P 07 27 21.4 +0.4**
DIVS Divibare 84.58 336 P **P 07 27 21.6 -0.1**
DIVS IAmb IAmb 07 27 29.9
comp=Z,34nm,1.3s
OZUR 84.60 340 ⇑P **P 07 27 20.7 -0.9**
MDVR Moldovita 84.62 337 ⇑P **P 07 27 22.3 +0.5**
GZR Gura Zlata 84.84 338 ⇑P **P 07 27 23.4 +0.5**
GZR Gura Zlata 84.84 338 ⇑P **P 07 27 23.4 +0.5**
GTA Gaotai 84.86 34 ⇊P **P 07 27 23.1 -0.2**
GTA pP pwP 07 27 27.4 -0.4
GTA sP PcP 07 27 30.6 +4.0
GTA S **S 07 37 53.6 +1.3**
GTA SS **SS 07 43 28.9 +3.5**
GTA pmax pmax
comp=Z,25nm,2.0s
GTA pmax pmax
comp=Z,190nm,5.8s
GTA LR LR
comp=Z,380nm,20.0s
GTA LR LR
comp=Z,330nm,20.4s
GTA LR LR
comp=Z,680nm,21.1s
VSL Villasalto 84.89 327 P **P 07 27 24.3 +1.1**
MAKZ Makanchi 84.89 19 P **P 07 27 22.9 -0.2**
MAKZ pmax pmax
comp=Z,38nm,1.2s
MAKZ Makanchi 84.89 19 P **P 07 27 22.9 -0.2**
MAKZ IAmb IAmb 07 27 25.5
comp=Z,38nm,1.2s
AKTO Aktyubinsk 84.91 2 P **P 07 27 22.4 -0.6**
comp=Z,3.0nm,0.9s,baz=163,slow=6.0,SNR=14
AKTO LR LR 08 03 04.0
comp=Z,313nm,21.1s,baz=173,slow=34
MKAR Makanchi Array 84.96 19 P **P 07 27 23.3 -0.1**
comp=Z,7.6nm,0.9s,baz=211,slow=4.3,SNR=32
MKAR Makanchi Array 84.96 19 P **P 07 27 23.5 0.0**
MKAR Makanchi Array 84.96 19 P **P 07 27 23.5 0.0**
MK31 Makanchi Array 84.97 19 P **P 07 27 23.5 0.0**
MK31 pmax pmax
comp=Z,24nm,1.3s
MK31 Makanchi Array 84.97 19 P **P 07 27 23.5 0.0**
MK31 IAmb IAmb 07 27 25.7
comp=Z,24nm,1.2s
INTR Introdacqua 85.03 331 P **P 07 27 23.9 0.0**
XAN Xi'an 85.32 43 P **P 07 27 24.9 -0.7**
XAN pP pwP 07 27 29.4 -0.7
XAN S **S 07 37 53.1 -3.8**
XAN SS **SS 07 43 31.3 -0.8**
XAN pmax pmax
comp=Z,28nm,2.1s
XAN pmax pmax
comp=Z,35nm,4.1s
XAN LR LR
comp=Z,300nm,20.6s
XAN LR LR
comp=Z,340nm,20.6s
XAN LR LR
comp=Z,430nm,23.9s
BZS Buzias 85.40 337 ⇊P **P 07 27 25.0 -0.6**
BZS Buzias 85.40 337 ⇊P **P 07 27 25.0 -0.6**
SORM Soroca 85.82 343 ⇑P **P 07 27 26.5 -1.1**
SORM Soroca 85.82 343 ⇑P **P 07 27 26.5 -1.1**
ARCR ARCALIA 85.91 340 ⇊P **P 07 27 27.0 -1.1**
BRZS Berezniki 85.92 12 *e*P **P 07 27 27.1 -1.1**
comp=Z,29nm,1.8s,baz=12
BRZS Berezniki 85.92 12 *e*P **P 07 27 27.0 -1.1**
BRZS pmax pmax
comp=Z,29nm,1.8s
SIRR Siria 85.97 338 ⇑P **P 07 27 27.5 -0.9**
WHN Wuhan 85.99 48 ⇑P **P 07 27 28.6 -0.3**
NRCA Norcia 86.04 331 P **P 07 27 29.1 +0.1**
BURAR Bucovina Array 86.15 341 P **P 07 27 29.1 -0.4**
ZSN Zaisan 86.27 20 *e*P **P 07 27 29.2 -0.7**
baz=20
ZSN Zaisan 86.27 20 *e*P **P 07 27 29.2 -0.7**
VRH Novokhopyorsk 86.37 352 *e*P **P 07 27 29.9 -0.3**
VRH pmax pmax
comp=Z,60nm,1.4s
MORH Mrgy, Hungar 86.90 336 ⇑P **P 07 27 33.5 +0.5**
CASP Castiglione de 86.93 329 P **P 07 27 33.3 0.0**
CASP IAmb IAmb 07 27 36.0
comp=Z,39nm,1.3s
CRES Cresnjev 87.67 334 *i* P **P 07 27 37.7 +0.9**
CRES *i* pP **pwP 07 27 43.1 +1.8**
SEM Semipalatinsk 87.82 16 *e*P **P 07 27 36.3 -1.3**
baz=16
SEM Semipalatinsk 87.82 16 *e*P **P 07 27 36.3 -1.3**
UZH Uzhgorod 87.90 339 *e*P **P 07 27 36.9 -0.8**
UZH *e* 07 38 17.7
KOGS Kog 87.92 335 *i* P **P 07 27 38.8 +0.8**
KOGS *i* pP **pwP 07 27 44.4 +1.9**
PSZ Piszkesteto 87.99 337 ⇑P **P 07 27 38.3 -0.1**
PSZ Piszkesteto 87.99 337 P **P 07 27 38.5 +0.1**
PSZ pmax pmax
comp=Z,27nm,1.0s
PSZ Piszkesteto 87.99 337 P **P 07 27 38.5 +0.1**
PSZ IAmb IAmb 07 27 41.0
comp=Z,27nm,1.0s
AKASG Malin Array Be 88.01 344 P **P 07 27 37.6 -0.6**
comp=Z,13nm,0.9s,baz=173,slow=4.3,SNR=28
AKASG Malin Array Be 88.01 344 P **P 07 27 38.0 -0.2**
AKASG pmax pmax
comp=Z,20nm,1.4s
AKASG Malin Array Be 88.01 344 P **P 07 27 38.0 -0.2**
AKASG IAmb IAmb 07 27 39.9
comp=Z,20nm,1.4s
AKBB Malin Array Si 88.01 344 P **P 07 27 38.0 -0.3**
AKBB pmax pmax
comp=Z,33nm,1.1s
AKBB Malin Array Si 88.01 344 P **P 07 27 38.0 -0.3**
AKBB IAmb IAmb 07 27 45.1
comp=Z,33nm,1.1s
LPSR Galich'ya Gora 88.09 351 *e*P **P 07 27 37.9 -0.7**
LPSR pmax pmax
comp=Z,40nm,1.2s
KOLS Kolonicke sedl 88.17 339 *e*P **P 07 27 39.3 +0.2**
KOLS Kolonicke sedl 88.17 339 *e*P **P 07 27 39.3 +0.2**
KECS Kecovo 88.31 338 *e*P **P 07 27 40.1 +0.4**
KECS pmax pmax
comp=Z,14nm,1.1s
KECS Kecovo 88.31 338 *e*P **P 07 27 40.1 +0.4**
CRVS Cervenica-Dubn 88.39 339 *e*P **P 07 27 40.4 +0.3**
CRVS pmax pmax
comp=Z,83nm,1.4s
CRVS Cervenica-Dubn 88.39 339 *e*P **P 07 27 40.4 +0.3**
LVV L'vov 88.48 341 *e*P P 07 27 29.8 -11
BVAR Borovoye Array 88.53 9 P **P 07 27 40.0 -0.7**
comp=Z,4.0nm,1.0s,baz=206,slow=19,SNR=12
BRVK Borovoye 88.55 9 P **P 07 27 41.6 +0.8**
BRVK pmax pmax
comp=Z,21nm,1.5s
BRVK Borovoye 88.55 9 P **P 07 27 41.6 +0.8**
SOKA Soboth 88.56 334 *i* P **P 07 27 41.4 +0.3**
comp=Z,24nm,1.3s,SNR=16
OBKA Obir 88.59 334 *i* P **P 07 27 41.8 +0.6**
comp=Z,23nm,1.4s,SNR=8.6
CADS Cadrg 88.65 333 *i* P **P 07 27 42.0 +0.5**
CADS *e*pP **pwP 07 27 47.6 +1.6**
VYHS Vyhne 88.83 337 *e*P **P 07 27 42.6 +0.4**
VYHS pmax pmax
comp=Z,33nm,1.2s
VYHS Vyhne 88.83 337 *e*P **P 07 27 42.6 +0.4**
ARSA Arzberg 88.87 335 *i* P **P 07 27 43.3 +0.9**
comp=Z,17nm,1.3s,SNR=8.0
MYKA Terra Mystica 89.03 333 *e*P **P 07 27 45.0 +1.7**
comp=Z,6.4nm,1.1s
STAL STALIGIAL 89.06 332 P **P 07 27 43.3 -0.1**
ZST Bratislava 89.14 336 *e*P **P 07 27 44.3 +0.7**
ZST pmax pmax
comp=Z,64nm,1.2s
ZST Bratislava 89.14 336 *e*P **P 07 27 44.3 +0.7**
LANS Liptovska Anna 89.21 338 *e*P **P 07 27 44.8 +0.8**
LANS pmax pmax
comp=Z,15nm,1.3s
LANS Liptovska Anna 89.21 338 *e*P **P 07 27 44.8 +0.8**
ZOU Zoufplan 89.21 333 P **P 07 27 45.3 +1.0**
ZOU IAmb IAmb 07 27 52.5
comp=Z,49nm,1.8s
MODS Modra-Piesok 89.24 336 *e*P **P 07 27 45.5 +1.4**
MODS pmax pmax
comp=Z,43nm,1.5s
MODS Modra-Piesok 89.24 336 *e*P **P 07 27 45.5 +1.4**
CTI Castel Tesino 89.30 332 P **P 07 27 46.3 +1.7**
CTI pmax pmax
comp=Z,59nm,1.6s
CTI Castel Tesino 89.30 332 P **P 07 27 46.3 +1.7**
SMOL Smolenice 89.31 336 *e*P **P 07 27 44.6 +0.2**
SMOL pmax pmax
comp=Z,13nm,1.7s
SMOL Smolenice 89.31 336 *e*P **P 07 27 44.6 +0.2**
CONA Conrad Observa 89.33 335 *i* P **P 07 27 44.8 +0.1**
comp=Z,22nm,1.3s,SNR=18
PLCA Paso Flores 89.45 218 LR LR 08 00 52.3
comp=Z,506nm,21.8s,baz=141,slow=31
KBA Koelnbreinsper 89.51 333 *i* P **P 07 27 45.8 +0.2**
comp=Z,8.2nm,1.2s,SNR=6.4
JAVC Velka Javorina 89.53 337 *e*P **P 07 27 45.7 +0.2**
ABTA Abfaltersbach 89.55 333 *i* P **P 07 27 46.6 +0.8**
comp=Z,23nm,1.3s,SNR=11
NJ2 Nanjing 89.82 50 *e*P **P 07 27 48.0 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.5s
MOA Molln 89.83 334 *i* P **P 07 27 47.5 +0.6**
comp=Z,18nm,1.4s,SNR=5.7
OJC Ojcow 90.05 339 P **P 07 27 48.1 +0.2**
OJC pmax pmax
comp=Z,53nm,1.6s
OJC Ojcow 90.05 339 P **P 07 27 48.1 +0.2**
OJC IAmb IAmb 07 27 50.9
comp=Z,53nm,1.6s
KRUC Moravsky 90.12 336 *e*P **P 07 27 47.8 -0.4**

OKC	Ostrava-Krasne	90.23	337	AMS	AMS	08 14 50.0
	comp=Z,200nm,17.3s					
VRAC	Vranov	90.27	336	eP	P	07 27 49.0 +0.1
WTTA	Wattenberg	90.31	332	i P	P	07 27 51.7 +2.3
	comp=Z,13nm,1.2s,SNR=6.1					
MORC	Moravsky Berou	90.37	337	P	P	07 27 49.6 +0.2
MORC				pmax	pmax	
	comp=Z,19nm,1.4s					
MORC	Moravsky Berou	90.37	337	P	P	07 27 49.6 +0.2
MORC	Moravsky Berou	90.37	337	eP	P	07 27 49.6 +0.2
WATA	Walderalm	90.39	332	eP	P	07 27 50.6 +0.8
	comp=Z,7.3nm,0.8s					
SQTA	Sankt Quirin	90.44	332	eP	P	07 27 52.1 +2.2
	comp=Z,3.6nm,0.5s					
FETA	Feichten	90.46	332	eP	P	07 27 51.7 +1.6
	comp=Z,12nm,1.2s					
BNI	Bardonecchia	90.54	328	P	P	07 27 51.0 +0.5
BNI				pmax	pmax	
	comp=Z,20nm,1.1s					
BNI	Bardonecchia	90.54	328	P	P	07 27 51.0 +0.5
BNI				IAmb	IAmb	07 28 06.5
	comp=Z,20nm,1.1s					
TUE	Stuetta	90.56	331	P	P	07 27 51.3 +0.7
TUE				IAmb	IAmb	07 28 06.6
	comp=Z,32nm,1.4s					
MOTA	Moosalm	90.58	332	eP	P	07 27 50.5 -0.1
	comp=Z,10nm,1.6s					
TREC	Trest	90.63	336	AMS	AMS	08 14 00.0
	comp=Z,400nm,15.8s					
CKRC	Cesky Krumlov	90.63	335	eSKS	S	07 38 45.9 -0.9
CKRC				AMS	AMS	08 17 00.0
	comp=Z,200nm,17.5s					
RETA	Reutte	90.83	332	i P	P	07 27 53.1 +1.4
	comp=Z,14nm,1.3s,SNR=5.3					
OBN	Obninsk	90.87	350	eP	P	07 27 52.3 +0.8
OBN				e		07 31 29.9
OBN				ePPP	PPP	07 33 23.9
OBN				pmax	pmax	
	comp=Z,7.0nm,1.0s					
OBN				MLR	MLR	
	comp=Z,273nm,16.0s					
GERES	GERESS Array B	90.87	334	P	P	07 27 51.8 -0.1
	comp=Z,0.3nm,0.2s,baz=140,slow=11,SNR=4.4					
GERES	GERESS Array B	90.87	334	P	P	07 27 51.9 +0.1
GERES	GERESS Array B	90.87	334	P	P	07 27 51.9 +0.1
KRLC	Kraliky	90.87	337	AMS	AMS	08 14 00.0
	comp=Z,300nm,18.3s					
ARU	Arti	90.93	2	P	P	07 27 51.6 -0.2
	comp=Z,2.8nm,0.2s,baz=181,slow=4.0,SNR=9.2					
ARU				LR	LR	08 02 08.3
	comp=Z,60nm,21.7s,baz=159,slow=31					
ARU	Arti	90.93	2d	i P	P	07 27 51.6 -0.2
ARU						07 31 26.8
ARU				S	SKSac	07 38 22.9 -1.0
ARU				SP	SPn	07 39 58.8 +1.5
ARU				pmax	pmax	
	comp=Z,33nm,1.8s					
ARU	Arti	90.93	2	P	P	07 27 52.0 +0.2
ARU				IAmb	IAmb	07 27 54.0
	comp=Z,51nm,1.7s					
DAVA	Damuels	91.01	331	eP	P	07 27 52.6 0.0
	comp=Z,12nm,1.5s					
KHC	Kasperske Hory	91.16	334	eP	P	07 27 53.5 +0.4
KHC				MLR	MLR	
	comp=Z,300nm,17.5s					
KHC	Kasperske Hory	91.16	334	eP	P	07 27 53.5 +0.4
KHC				AMS	AMS	08 12 00.0
	comp=Z,300nm,17.5s					
BDFB	Brasilia	91.17	250	P	P	07 27 56.1 +1.9
	comp=Z,6.9nm,1.0s,baz=80,slow=12,SNR=5.0					
BDFB				LR	LR	08 02 29.4
	comp=Z,231nm,18.4s,baz=127,slow=31					
BDFB	Brasilia	91.17	250	P	P	07 27 54.7 +0.5
BDFB				pmax	pmax	
	comp=Z,39nm,1.6s					
BDFB	Brasilia	91.17	250	P	P	07 27 54.7 +0.5
BDFB				IAmb	IAmb	07 28 01.9
	comp=Z,39nm,1.6s					
DPC	Dobruska-Polom	91.26	337	eP	P	07 27 54.1 +0.5
DPC				MLR	MLR	
	comp=Z,200nm,18.3s					
DPC	Dobruska-Polom	91.26	337	eP	P	07 27 54.1 +0.5
DPC				eSKS	SKSac	07 38 32.4 +6.2
DPC				AMS	AMS	08 15 30.0
	comp=Z,200nm,18.3s					
OSTC	Ostas	91.47	337	AMS	AMS	08 09 30.0
	comp=Z,300nm,22.4s					
UPC	Upice	91.50	337	eSKS	SKSac	07 38 33.2 +5.8
UPC				AMS	AMS	08 09 30.0
	comp=Z,300nm,22.0s					
PRU	Pruhonice	91.55	335	AMS	AMS	08 10 00.0
	comp=Z,300nm,23.1s					
CHVC	Chvalec	91.55	337	AMS	AMS	08 09 40.0
	comp=Z,300nm,19.9s					
ESBB	Sonseca Array	91.69	319	P	P	07 27 56.3 +0.4
ESBB				IAmb	IAmb	07 28 04.4
	comp=Z,45nm,1.7s					
ESDC	Sonseca Array	91.69	319	P	P	07 27 56.7 +0.9
	comp=Z,3.9nm,1.0s,baz=137,slow=3.5,SNR=22					
ESDC	Sonseca Array	91.69	319	P	P	07 27 55.9 0.0
ESDC				IAmb	IAmb	07 28 04.3
	comp=Z,50nm,1.8s					
HHC	Hu-ho-hao-te	91.73	40	eP	P	07 27 56.3 +0.2
HHC				PP	PP	07 31 37.6 +2.4
HHC				S	S	07 38 46.0 -11
HHC				pmax	pmax	
	comp=Z,25nm,1.3s					
HHC				pmax	pmax	
	comp=Z,110nm,7.6s					
HHC				LR	LR	
	comp=Z,340nm,19.1s					
HHC				LR	LR	
	comp=Z,290nm,17.4s					
HHC				LR	LR	
	comp=Z,300nm,18.6s					
PAB	San Pablo	91.81	319	P	P	07 27 56.6 +0.2
PAB				pmax	pmax	
	comp=Z,39nm,1.7s					
PAB	San Pablo	91.81	319	P	P	07 27 56.6 +0.2
PAB				IAmb	IAmb	07 28 04.9
	comp=Z,39nm,1.7s					
MNK	Minsk	91.86	345	i P	P	07 28 00.2 +4.1
MNK				i		07 28 00.9
MNK				i		07 31 37.2
MNK				i PPP	PPP	07 33 40.7
MNK				i S	SKSac	07 38 33.5 +4.3
MNK				i SS	SS	07 45 13.0 +6.4
MNK				pmax	pmax	
	comp=Z,16nm,1.4s					
MNK				pmax	pmax	
	comp=N,17nm,0.9s					
MNK				pmax	pmax	
	comp=E,2.0nm,1.4s					
MNK				MLR	MLR	
	comp=N,1µm,28.0s					
MNK				MLR	MLR	
	comp=E,50nm,23.0s					
MNK				MLR	MLR	
	comp=Z,243nm,20.0s					
MNK	Minsk	91.86	345	i P	P	07 28 00.2 +4.1
	comp=E,2.0nm,1.4s					
MNK				i P	P	07 28 00.2 +4.1
	comp=N,17nm,0.9s					
MNK				i P	P	07 28 00.2 +4.1
	comp=Z,16nm,1.4s,baz=158					
MNK				i PcP	pwP	07 28 00.9 +0.3
MNK				i PP	PP	07 31 37.3 +1.5
MNK				i PPP	PPP	07 33 40.7
MNK				i S	SKSac	07 38 33.5 +4.3
MNK				i SS	SS	07 45 13.1 +6.5
MNK				i SSS	SSS	07 48 53.6
MNK				i LQ	LQ	07 56 52.5
MNK				i LR	LR	08 00 52.8
MNK				i LRM	MLR	08 08 24.3
	comp=N,1µm,27.5s					
MNK				i LRM	MLR	08 08 27.2
	comp=E,50nm,22.6s					
MNK				i LRM	MLR	08 09 42.5
	comp=Z,243nm,20.3s					
PVCC	Panska Ves	91.99	336	AMS	AMS	08 11 00.0
	comp=Z,200nm,18.6s					
ZALV	Zalesovo Beam	92.18	17	P	P	07 27 57.0 -0.6
	comp=Z,0.7nm,0.4s,baz=217,slow=6.9,SNR=2.5					
ZALV	Zalesovo Beam	92.18	17	P	P	07 27 58.8 +1.1
ZALV	Zalesovo Beam	92.18	17	P	P	07 27 58.8 +1.1
PVAQ	Vaqueiros	92.21	315	ePP	PP	07 31 45.6 +6.6
PVAQ	Vaqueiros	92.21	315	eLR	LR	07 58 29.4
	comp=Z,521nm,20.0s					
BFO	Black Forest	92.47	331	P	P	07 27 59.7 +0.5
BFO				pmax	pmax	
	comp=Z,23nm,1.3s					
BFO	Black Forest	92.47	331	P	P	07 27 59.7 +0.5
BFO				IAmb	IAmb	07 28 02.1
	comp=Z,23nm,1.3s					
NKC	Novy Kostel	92.48	334	AMS	AMS	08 13 20.0
	comp=Z,300nm,17.0s					
BRG	Berggiesshubel	92.50	336	eP	P	07 27 59.4 +0.2
BRG				Amp		07 28 02.9
	comp=Z,17nm,1.5s					
CLL	Collm	93.19	335	eP	P	07 28 03.0 +0.6
	comp=Z,16nm,1.3s					
CLL				i		07 28 08.8
CLL				ePP	PP	07 31 48.0 +1.7
CLL				ePPP	PPP	07 33 54.0
CLL				eS	S	07 39 10.0 +0.4
CLL				e		07 40 06.0
CLL				ePS	PS	07 40 30.0 +7.1
CLL				eSS	SS	07 45 27.0 +1.2
CLL				eSSS	SSS	07 49 06.0
CLL				e		07 52 54.0
CLL				LmH		08 14 00.0
	comp=Z,200nm,19.7s					
CLL				LmV		08 15 00.0
	comp=Z,300nm,18.4s					
CLL	Collm	93.19	335	eP	P	07 28 03.0 +0.6
CLL				i		07 28 08.8
CLL				eS	S	07 39 10.0 +0.4
CLL				pmax	pmax	
	comp=Z,16nm,1.3s					
CLL				MLR	MLR	
	comp=Z,300nm,18.4s					
PMRV	Marv??o	93.41	317	eS	S	07 39 20.6 +8.3
PMRV				eSS	SS	07 45 38.2 +8.7
PMRV	Marv??o	93.41	317	eLR	LR	07 59 33.1
	comp=Z,592nm,22.0s					
DZM	Mont Dzumac	94.15	120	eLR	LR	07 58 30.6
	comp=Z,1µm,25.6s					
MTE	Manteigas	94.16	317	ePP	PP	07 32 01.9 +7.6
MTE				eS	S	07 39 27.5 +8.6
MTE				eSS	SS	07 45 48.5 +8.2
MTE	Manteigas	94.16	317	eLR	LR	07 59 57.4
	comp=Z,786nm,18.0s					
MVO	Moncorvo	94.40	318	eSS	SS	07 45 52.5 +8.8
MVO	Moncorvo	94.40	318	eLR	LR	08 00 08.0
	comp=Z,855nm,18.0s					
SONM	Songino Array	94.42	32	P	P	07 28 08.3 -0.1
	comp=Z,0.3nm,0.3s,baz=211,slow=4.5,SNR=3.0					
SONM	Songino Array	94.42	32	P	P	07 28 07.7 -0.7
SONM	Songino Array	94.42	32	P	P	07 28 07.7 -0.7
PMOZ	Porto Moniz, M	95.13	307	eLR	LR	08 07 41.5
	comp=Z,551nm,20.0s					
PGAV	Gavieira, Arco	95.63	318	eLR	LR	08 00 32.7
	comp=Z,595nm,18.0s					
KLMR	Klimovskoe	96.10	353	eP	P	07 28 14.1 -1.4
KLMR				e		07 32 04.0
KLMR				pmax	pmax	
	comp=Z,19nm,1.5s					
KLMR	Klimovskoe	96.10	353	eP	P	07 28 14.1 -1.4
KLMR				AMP		07 28 21.5
	comp=Z,19nm,1.5s					
KLMR				ePP	PP	07 32 04.0 -4.8
KSRS	Korea Array	99.00	51	P	Pdif	07 28 28.2 -1.0
	comp=Z,0.6nm,0.3s,baz=228,slow=4.7,SNR=4.3					
TBI	Tubuai	117.85	155	eLR	LR	08 09 29.3
	comp=Z,478nm,34.0s					
PPT2	Papeete2	123.08	152	eLR	LR	08 11 51.3
	comp=Z,461nm,24.0s					
OTAV	Otavalo	124.31	242	PKIKP	PKPdf	07 33 47.2 -1.6
OTAV	Otavalo	124.31	242		PKPdf	07 33 47.2 -1.6
BILL	Bilibino	129.86	27c	i PKIKP	PKiKP	07 33 59.1 +1.2
BILL				e		07 36 12.6
BILL				pmax	pmax	
	comp=Z,7.0nm,1.4s					
O56A	Blue Knob Stat	142.76	293	P	PKPdf	07 34 19.7 -2.2
	baz=97					
TOLK	Toolik Lake Re	143.49	15	P	PKPdf	07 34 21.1 -1.2
	baz=326					
TOLK	Toolik Lake Re	143.49	15	PKPdf	PKiKP	07 34 22.7 -3.0
U56A	King	143.56	286		PKPdf	07 34 21.9 -1.5
JSC	Jenkinsville	143.82	282	PKIKP	PKPdf	07 34 22.6 -1.3
JSC	Jenkinsville	143.82	282		PKPdf	07 34 22.6 -1.3
KMSC	Kings Mountain	144.07	284	P	PKPbc	07 34 21.7 -0.6
	baz=102					
KMSC	Kings Mountain	144.07	284		PKPdf	07 34 22.8 -1.5
V55A	Taylorsville	144.12	285		PKPdf	07 34 22.4 -2.0
O54A	Avella	144.13	292		PKPdf	07 34 23.5 -0.8
255A	Hazlehurst	144.13	278		PKPdf	07 34 24.1 -0.5
Q54A	Coxs Mills	144.34	290		PKPdf	07 34 23.0 -1.6
PAULI	Pauline	144.39	283		PKPdf	07 34 23.3 -1.5
M53A	WI Miller and	144.47	294	P	PKPbc	07 34 22.4 -1.0
	baz=94					
M53A	WI Miller and	144.47	294		PKPdf	07 34 24.1 -0.7
N53A	Lisbon	144.54	293		PKPdf	07 34 24.2 -0.7
S54A	Dingess, Beckl	144.55	288		PKPdf	07 34 23.8 -1.3
IMAR	Indian Mountai	144.57	20	PKPdf	PKPdf	07 34 23.0 -1.2
HODGE	Hodges	144.61	282		PKPdf	07 34 23.9 -1.3
U54A	Nelsons Funny	144.73	286		PKPdf	07 34 23.9 -1.6
O53A	New Philadelph	144.78	292	P	PKPdf	07 34 24.7 -0.7
	baz=95					
O53A	New Philadelph	144.78	292		PKPdf	07 34 24.1 -1.3
P53A	Whipple	144.83	291	PKPdf	PKPdf	07 34 24.5 -1.0
154A	Montrose	144.90	279		PKPdf	07 34 24.3 -1.5
TIGA	Tifton	144.96	277	P	PKPdf	07 34 25.3 -0.6
	baz=107					
TIGA	Tifton	144.96	277		PKPdf	07 34 24.6 -1.4
R53A	Hurricane	145.12	289		PKPab	07 34 24.2 -1.4
O52A	Adamsville	145.24	292		PKPab	07 34 24.6 -1.4
BG3	Lake Jocassee	145.32	283		PKPdf	07 34 25.6 -0.9
V53A	Saluda	145.36	284		PKPab	07 34 25.2 -1.5
GOGA	Godfrey	145.39	280	PKP2	PKPbc	07 34 25.1 -1.5
GOGA	Godfrey	145.39	280	P	PKPab	07 34 25.8 -1.0
	baz=104					
GOGA	Godfrey	145.39	280		PKPbc	07 34 25.1 -1.5
P52A	Corning	145.42	291	P	PKPab	07 34 25.8 -0.9
	baz=96					
P52A	Corning	145.42	291		PKPab	07 34 25.1 -1.5
Q52A	Bidwell	145.45	290		PKPab	07 34 26.1 -0.7
BMAR	Burnt Mountain	145.50	13		PKPab	07 34 25.2 -1.0
UNV	Unalaska Valle	145.62	44	P	PKPab	07 34 26.2 -0.7
	baz=287					
I21K	Tanana	145.66	20	P	PKPab	07 34 26.4 -0.3
	baz=319,SNR=25					
N51A	Ashland	145.71	293	PKPdf	PKPab	07 34 26.2 -1.5
J20K	Nowinta River	145.77	22	P	PKPab	07 34 27.0 -0.1
	baz=315,SNR=21					
H23K	Yukon River	145.79	17	P	PKPab	07 34 27.1 -0.2
	baz=323,SNR=33					
K50A	Casco	145.98	297		PKPab	07 34 27.8 -0.8
Y52A	Lilburn	145.98	280		PKPbc	07 34 27.0 -1.4
V52A	Sevierville	146.02	284		PKPbc	07 34 27.1 -1.4
352A	Blakely	146.07	276		PKPab	07 34 28.0 -1.3
TZTN	Tazewell	146.11	285	P	PKPbc	07 34 27.5 -1.3
	baz=100					
TZTN	Tazewell	146.11	285		PKPab	07 34 28.2 -1.2
MLY	Manley	146.12	19	P	PKPab	07 34 27.4 -1.1
	baz=321,SNR=17					
MLY	Manley	146.12	19		PKPab	07 34 27.5 -1.0
P51A	Williamsport	146.12	291		PKPab	07 34 28.1 -1.2
ACSO	Alum Creek Sta	146.12	292	P	PKPab	07 34 28.2 -1.2
	baz=94					
ACSO	Alum Creek Sta	146.12	292		PKPab	07 34 28.1 -1.2
INK	Inuvik	146.12	5	PKPbc	PKPab	07 34 27.6 -0.8
	comp=Z,8.0nm,0.7s,baz=353,slow=4.5,SNR=22					
INK	Inuvik	146.12	5	PKP2	PKPab	07 34 26.9 -1.5
INK	Inuvik	146.12	5	P	PKPab	07 34 27.3 -1.1
	baz=348					
INK	Inuvik	146.12	5	PKPdf	PKPab	07 34 26.9 -1.5
TKL	Tuckaleechee C	146.13	284	PKP2	PKPab	07 34 28.1 -1.4
TKL	Tuckaleechee C	146.13	284		PKPab	07 34 28.1 -1.4
FYU	Fort Yukon	146.13	14	PKPdf	PKPab	07 34 28.0 -0.5
W52A	Murphy	146.14	283		PKPab	07 34 28.1 -1.4
H24K	Noodor Dome	146.18	16	P	PKPab	07 34 27.2 -1.6
	baz=326,SNR=8.2					
152A	Waverly Hall	146.22	278		PKPab	07 34 28.5 -1.4
M50A	Fremont	146.24	294		PKPab	07 34 28.5 -1.2
Q51A	Peebles	146.29	290		PKPbc	07 34 27.3 -1.9
S51A	Beattyville	146.31	287		PKPbc	07 34 27.8 -1.5
K20K	Telida	146.38	23	P	PKPab	07 34 29.0 -0.6
	baz=315,SNR=12					
I23K	Minto, Yukon-K	146.38	18	P	PKPab	07 34 28.5 -0.9
	baz=323,SNR=19					
I23K	Minto, Yukon-K	146.38	18		PKPbc	07 34 27.4 -1.2
CHUM	Lake Minchumin	146.54	21	P	PKPab	07 34 28.3 -1.8
	baz=318					
V51A	Loudon	146.62	284		PKPbc	07 34 28.5 -1.7
CPCT	Cooper Cave	146.69	283		PKPbc	07 34 29.1 -1.4
Z51A	Franklin	146.75	279		PKPdf	07 34 28.3 -0.7
BPAW	Bear Paw Mtn.	146.77	20	P	PKPbc	07 34 28.7 -1.1
	baz=320					
X51A	Calhoun	146.78	281		PKPbc	07 34 28.8 -2.0
MDM	Murphy Dome	146.82	18		PKPbc	07 34 28.1 -1.9
POKR	Poker Plat Res	146.88	17	P	PKPbc	07 34 28.9 -1.2
	baz=326					
NEA2	Nenana	146.90	18	P	PKPbc	07 34 29.2 -0.9
	baz=323					
NEA2	Nenana	146.90	18		PKPbc	07 34 28.4 -1.7
L19K	White Mountain	146.93	25	P	PKPbc	07 34 29.0 -1.4
	baz=312					
R50A	Paris	146.97	288		PKPbc	07 34 29.5 -1.7
PRP	Porcupine Dome	146.98	15	P	PKPbc	07 34 29.0 -1.6
	baz=329,SNR=22					
PRP	Porcupine Dome	146.98	15		PKPbc	07 34 28.4 -2.2
E46A	Sault Ste Mari	147.03	303	PKPdf	PKPbc	07 34 30.0 -1.1
N49A	Columbus Grove	147.08	293		PKPab	07 34 31.2 -1.8
BWN	Browne	147.13	19		PKPbc	07 34 29.8 -1.1
O49A	Covington	147.15	292		PKPbc	07 34 30.0 -1.6
CCB	Clear Creek Bu	147.18	18		PKPbc	07 34 29.0 -1.9
KTH	Kantishna Hill	147.20	21		PKPbc	07 34 29.9 -1.2
T50A	Nancy	147.21	286	PKPdf	PKPbc	07 34 30.4 -1.5
WRH	Wood River Hil	147.25	18		PKPbc	07 34 29.2 -1.9
W50A	Signal Mountai	147.27	282	PKPdf	PKPbc	07 34 30.5 -1.7
M19K	Big River Lodg	147.28	25	P	PKPbc	07 34 29.9 -1.4
	baz=313					
IL31		147.30	17		PKPbc	07 34 30.0 -1.2
ILAR	Eielson Array	147.30	17	PKPbc	PKPbc	07 34 29.9 -1.4
	comp=Z,3.2nm,0.7s,baz=312,slow=3.0,SNR=22					
ILAR	Eielson Array	147.30	17	PKIKP	PKPbc	07 34 29.1 -2.2
ILAR	Eielson Array	147.30	17	PKPdf	PKPbc	07 34 29.1 -2.2
L48A	N Adams	147.30	295		PKPab	07 34 32.4 -1.4
250A	Grady	147.30	276		PKPbc	07 34 30.1 -2.2
PPLA	Purkeypile	147.31	22	P	PKPbc	07 34 29.8 -1.7
	baz=317					
PPLA	Purkeypile	147.31	22		PKPab	07 34 31.3 -2.1
GLMI	Grayling	147.38	300	P	PKPdf	07 34 29.3 -0.3
	baz=86					
SVW2	Sparrevohn	147.38	27		PKPab	07 34 31.6 -1.9
FPAL	Fort Paine	147.38	281		PKPbc	07 34 30.2 -2.3
P49A	Miami Univ. Ec	147.40	291	P	PKPbc	07 34 29.7 -2.6
	baz=94					
P49A	Miami Univ. Ec	147.40	291	PKPdf	PKPbc	07 34 30.8 -1.6
TRF	Thorofare Moun	147.46	21	P	PKPbc	07 34 29.9 -2.1
	baz=320					
N18K	Kilae Creek	147.53	28	P	PKPbc	07 34 29.7 -2.4
	baz=309					
HDA	Harding Lake	147.59	17	P	PKPbc	07 34 30.1 -2.0
	baz=326					
J47A	Sunmer	147.59	297		PKPab	07 34 33.6 -1.4
MCK	McKinley	147.62	19	PKP2	PKiKP	07 34 32.2 -2.1
MCK	McKinley	147.62	19	P	PKPbc	07 34 30.0 -2.2
	baz=322					
MCK	McKinley	147.62	19		PKiKP	07 34 32.2 -2.1
R49A	Shelbyville	147.63	288		PKPbc	07 34 31.1 -1.9
EPYK	Eagle Plains	147.69	8	P	PKPbc	07 34 31.0 -1.4
	baz=342,SNR=13					
EPYK	Eagle Plains	147.69	8		PKPdf	07 34 27.9 -1.7
BRAL	Brewton	147.72	275	P	PKPbc	07 34 30.7 -2.7
	baz=107					
SWET	Sewanee	147.78	282		PKPdf	07 34 30.2 -0.5
U49A	Red Boiling Sp	147.88	285		PKPdf	07 34 30.6 -0.1
Y49A	Blount Mountai	147.88	280		PKPbc	07 34 32.8 -1.0
RNU	Reindeer	147.91	20	PKP2	PKPbc	07 34 32.4 -0.7
RND	Reindeer	147.91	20		PKPbc	07 34 32.4 -0.7
P48A	Milroy	147.94	290		PKPdf	07 34 29.4 -1.3
N19K	Bonanza Creek	147.97	27	P	PKPbc	07 34 31.5 -1.9
	baz=311					
LRAL	Lakeview Retre	148.17	278	P	PKPbc	07 34 33.2 -1.5
	baz=104					
LRAL	Lakeview Retre	148.17	278	PKPdf	PKPbc	07 34 31.7 -2.9
SKT	Skwentna	148.19	23	P	PKPbc	07 34 31.3 -2.5
	baz=317					
N47A	Urbana	148.22	293	PKPdf	PKPbc	07 34 31.4 -3.1
CLTN	Cedars of Leba	148.25	284	PKPdf	PKPbc	07 34 31.6 -3.1
CUT	Chulitna	148.27	22	P	PKPbc	07 34 32.7 -1.2
	baz=319					
O18K	Koktuh Hills	148.32	28	P	PKPbc	07 34 33.2 -1.0
	baz=309					
SDPT	Sand Point	148.34	39	P	PKPbc	07 34 33.5 -0.8
	baz=296					
O19K	Port Alsworth	148.44	27	P	PKPbc	07 34 33.4 -1.0
	baz=311					
WAT1	Susitna Watana	148.45	20	P	PKPbc	07 34 32.8 -1.6
	baz=322					
WCI	Wyandotte Cave	148.50	288	PKP2	PKPbc	07 34 34.2 -1.1
WCI	Wyandotte Cave	148.50	288	P	PKPbc	07 34 33.9 -1.4
	baz=96					
WCI	Wyandotte Cave	148.50	288		PKPbc	07 34 34.2 -1.1
EGAK	Eagle	148.51	13	P	PKPbc	07 34 32.9 -1.6
	baz=335					
EGAK	Eagle	148.51	13		PKiKP	07 34 34.1 -2.0
SPCR	Spurr Chakacha	148.52	25	P	PKPbc	07 34 33.7 -1.1
	baz=315					
X48A	Hartselle	148.52	281	PKPdf	PKPdf	07 34 32.1 +0.2
V48A	Smith Brothers	148.58	283		PKPdf	07 34 31.7 -0.3
SPU	Mount Spurr	148.59	25		PKPbc	07 34 32.2 -2.7
SCRK	Sand Creek	148.65	16	P	PKPbc	07 34 33.3 -1.8
	baz=330					
SCRK	Sand Creek	148.65	16	PKPdf	PKPbc	07 34 31.9 -3.1
RIDG	Independent Ri	148.66	17	P	PKPbc	07 34 33.5 -1.5
	baz=328					
L46A	Eue Claire	148.69	295		PKiKP	07 34 35.4 -1.8
BLO	Bloomington	148.76	290	PKIKP	PKPdf	07 34 32.2 +0.1
BLO	Bloomington	148.76	290		PKPdf	07 34 32.2 +0.1
SUA	Susitna One	148.82	23	P	PKPbc	07 34 34.2 -1.3
	baz=317					
SUA	Susitna One	148.82	23		PKPdf	07 34 31.6 -0.1
WAT6	Susitna Watana	148.87	20	P	PKPbc	07 34 34.6 -1.1
	baz=323					
E43A	Lone Tree Farm	148.88	304		PKiKP	07 34 35.7 -1.7
DOT	Dot Lake	148.91	16		PKiKP	07 34 34.9 -2.0
T47A	Sharon Grove	149.00	285		PKPbc	07 34 35.3 -1.4
K27K	Chicken	149.00	14	P	PKPbc	07 34 34.5 -1.3
	baz=333					
K27K	Chicken	149.00	14		PKPbc	07 34 34.3 -1.5
CHNA	Chernabura Isl	149.03	39	P	PKiKP	07 34 35.3 -2.1
	baz=296					
Z47A	Carrollton	149.08	278		PKPdf	07 34 32.8 0.0
PAX	Paxson	149.16	18	PKP2	PKiKP	07 34 36.0 -1.5
PAX	Paxson	149.16	18	P	PKPbc	07 34 35.3 -1.0
	baz=327					
PAX	Paxson	149.16	18		PKiKP	07 34 36.0 -1.5
CAPN	Captain Cook N	149.19	25	P	PKiKP	07 34 36.0 -1.5
	baz=316					
P19K	Oil Pt	149.21	28

L27K	Beaver Creek,	149.92	15		PKiKP	07 34 38.3	-0.8
BCAR	Beaver Creek A	149.92	15		PKPdf	07 34 33.1	-0.2
OLIL	Olney	149.96	289		PKPdf	07 34 34.6	+0.6
M44A	Midewin, Midew	150.00	294		PKPbc	07 34 37.3	-1.7
BRSE	Bradley Lake S	150.07	26	P	PKiKP	07 34 38.1	-1.4
	baz=315						
K43A	Burlington	150.18	297		PKPbc	07 34 38.2	-1.2
M26K	Nabesna, AK	150.24	16	P	PKiKP	07 34 39.0	-0.8
	baz=330						
SEW	Seward	150.25	24	P	PKiKP	07 34 38.8	-1.0
	baz=318						
KLU	Klutina	150.26	20	P	PKiKP	07 34 39.2	-0.7
	baz=325						
O44A	Mansfield	150.31	291		PKPbc	07 34 38.6	-1.1
W45A	Hickory Valley	150.39	281		PKPbc	07 34 38.7	-1.4
COWI	Conover	150.39	303		PKiKP	07 34 39.4	-1.2
GLI	Glacier Island	150.41	21	P	PKiKP	07 34 39.4	-0.7
	baz=322						
Y45A	Yeager Farm, C	150.43	279		PKPbc	07 34 38.9	-1.3
OXF	Oxford	150.45	280	PKIKP	PKiKP	07 34 39.2	-1.8
OXF	Oxford	150.45	280	P	PKiKP	07 34 39.4	-1.6
	baz=101						
OXF	Oxford	150.45	280		PKiKP	07 34 39.2	-1.8
I42A	Draeger Farm,	150.52	299		PKPbc	07 34 38.6	-1.6
N25K	Chitina, Valde	150.52	19	P	PKiKP	07 34 40.1	-0.3
	baz=327						
N25K	Chitina, Valde	150.52	19		PKiKP	07 34 39.3	-1.1
M27K	Edge Creek, AK	150.53	16	P	PKiKP	07 34 39.6	-0.9
	baz=332						
HICK	Hickman	150.63	284	PKPdf	PKPdf	07 34 34.5	-0.6
HICK				PKPbc	PKiKP	07 34 40.1	-1.2
HICK					pPKPab	07 34 47.4	-0.4
Q44A	Meyer Farm, Va	150.69	289		PKiKP	07 34 40.5	-0.8
OHAK	Old Harbor	150.75	31	P	PKiKP	07 34 40.5	-0.4
	baz=308						
SIUC	Southern Illin	150.75	286		PKPdf	07 34 34.5	-0.9
SII	Sitkinak Islan	150.76	33	P	PKiKP	07 34 40.2	-0.7
	baz=306						
344A	Westbrook Farm	150.82	273		PKiKP	07 34 41.4	-0.4
VBMS	Vicksburg	150.85	275	P	PKiKP	07 34 41.0	-0.8
	baz=104						
VBMS	Vicksburg	150.85	275		PKPdf	07 34 35.9	+0.3
HDIL	Hopedale	150.95	292	P	PKiKP	07 34 41.0	-0.8
	baz=90						
HDIL	Hopedale	150.95	292		PKiKP	07 34 40.6	-1.3
BMRM	Bremner River	151.06	19	P	PKiKP	07 34 41.0	-0.5
	baz=326						
EYAK	Cordova Ski Ar	151.08	21	P	PKiKP	07 34 41.3	-0.1
	baz=324						
P43A	Skaggs, Pawnee	151.11	290		PKiKP	07 34 41.4	-0.8
MCARA	McCarthy VSAT	151.11	18	P	PKiKP	07 34 41.1	-0.4
	baz=329						
MCARA	McCarthy VSAT	151.11	18		PKiKP	07 34 41.5	0.0
GNAR	Gosnell	151.18	283		PKiKP	07 34 41.2	-1.2
L42A	Oliver, Polo	151.20	295		PKiKP	07 34 41.4	-0.9
G40A	Rib Lake	151.26	302		PKiKP	07 34 41.2	-1.1
G40A				PKPab	PKPab	07 34 49.5	-0.4
YKA	Yellowknife Ar	151.45	349	PKPbc	PKiKP	07 34 41.1	-1.0
	comp=Z,6.1nm,0.8s,baz=35,slow=1.8,SNR=20						
JFWS	Jewell Farm	151.58	297	PKIKP	PKiKP	07 34 41.7	-1.4
JFWS	Jewell Farm	151.58	297	P	PKiKP	07 34 42.1	-1.0
	baz=85						
JFWS	Jewell Farm	151.58	297		PKiKP	07 34 41.7	-1.4
EYMN	Ely	151.58	308	P	PKiKP	07 34 42.1	-0.9
	baz=75						
EYMN	Ely	151.58	308		PKiKP	07 34 42.0	-0.9
PBMO	Poplar Bluff	151.62	284		PKiKP	07 34 42.3	-1.1
CRQE	Cirque	151.64	18	P	PKiKP	07 34 41.9	-0.9
	baz=328						
143A	Socs Landing,	151.69	276		PKiKP	07 34 43.7	+0.1
BARN	Barnard Glacie	151.72	17		PKiKP	07 34 42.9	-0.2
I40A	Norwalk	151.75	299		PKiKP	07 34 42.4	-1.0
CTG	Chitna Glacier	151.88	16	P	PKiKP	07 34 43.1	-0.2
	baz=332						
CTGM	Chitina Glacie	151.88	16		PKiKP	07 34 42.4	-0.9
LOGN	Logan Glacier	152.09	16		PKiKP	07 34 43.1	-0.6
342A	Flagon Creek P	152.11	272	PKPdf	PKPdf	07 34 37.0	-0.6
342A				PKPbc	PKiKP	07 34 43.7	-0.8
342A					PKPab	07 34 52.5	-1.3
LCAR	Lake Charles	152.11	283		PKiKP	07 34 42.8	-1.6
N41A	Harden Midland	152.14	293		PKiKP	07 34 43.5	-0.7
CCM	Cathedral Cave	152.38	287	PKIKP	PKPdf	07 34 36.1	-1.7
CCM	Cathedral Cave	152.38	287	P	PKiKP	07 34 44.0	-0.9
	baz=93						
CCM	Cathedral Cave	152.38	287		PKPdf	07 34 36.1	-1.7
CCM				PKPbc	PKiKP	07 34 43.8	-1.1
MESA	MESA	152.42	18	P	PKiKP	07 34 44.3	-0.3
	baz=330						
HYT	Haines Junctio	152.81	13		PKiKP	07 34 45.3	+0.1
W41B	Gary Mavity, V	152.86	280	P	PKiKP	07 34 45.4	-0.6
	baz=98						
FCAR	Ozark Folk Cen	152.87	282		PKiKP	07 34 44.4	-1.6
B35A	Bob, Littlefor	152.89	310		PKiKP	07 34 44.5	-1.1
PINM	Pinnacle	152.91	16	P	PKiKP	07 34 45.0	-0.4
	baz=333						
Z41A	Richland Creek	152.96	276	P	PKiKP	07 34 45.8	-0.4
	baz=102						
P40A	Paris	153.06	290		PKiKP	07 34 44.8	-1.4
SPMN	Marine on St.	153.08	303	P	PKiKP	07 34 44.7	-1.4
	baz=78						
SPMN	Marine on St.	153.08	303		PKiKP	07 34 45.0	-1.1
MGMO	Mountain Grove	153.12	285		PKPdf	07 34 37.8	-1.1
R40A	Maddies Statio	153.20	287	PKPdf	PKPdf	07 34 38.8	-0.1
X40A	Basin Creek Fa	153.23	279	P	PKiKP	07 34 45.8	-1.0
	baz=100						
X40A	Basin Creek Fa	153.23	279	PKPdf	PKPdf	07 34 39.0	-0.1
X40A					pPKPbc	07 34 46.7	-0.1
F36A	Milaca	153.44	304		PKiKP	07 34 46.0	-0.9
U40A	Yellville	153.51	283	P	PKiKP	07 34 46.7	-0.6
	baz=96						
U40A	Yellville	153.51	283	PKPdf	PKPdf	07 34 39.5	0.0
ULM	Lac du Bonnet	153.51	315	PKP	PKPdf	07 34 40.7	+1.7
	comp=Z,3.6nm,0.9s,baz=346,slow=3.7,SNR=3.9						
ULM				PKPbc	pPKPbc	07 34 47.3	+0.3
	comp=Z,5.7nm,1.0s,baz=46,slow=4.1,SNR=4.1						
ULM	Lac du Bonnet	153.51	315	PKIKP	PKPdf	07 34 37.9	-1.1
ULM	Lac du Bonnet	153.51	315		PKPdf	07 34 37.9	-1.1
MIAR	Mount Ida	153.84	279	PKIKP	PKPdf	07 34 39.4	-0.6
MIAR	Mount Ida	153.84	279	P	PKiKP	07 34 47.9	-0.1
	baz=99						
MIAR	Mount Ida	153.84	279	PKPdf	PKPdf	07 34 39.4	-0.6
SCIA	State Center	153.85	295	P	PKiKP	07 34 47.5	-0.3
	baz=84						
W39A	Magazine	154.11	280	P	PKPab	07 35 00.7	-1.5
	baz=98						
NATX	Nacogdoches	154.13	272	P	PKPab	07 35 00.3	-2.1
	baz=105						
P38A	Dawn	154.21	290		PKiKP	07 34 48.0	-0.7
FFC	Flin Flon	154.24	328	PKP2	PKPab	07 35 03.2	+1.2
FFC	Flin Flon	154.24	328		PKPab	07 35 03.2	+1.2
AGMN	Agassiz Nation	154.26	311	P	PKPab	07 35 02.1	-0.3
	baz=69						
HHAR	Hobbs	154.37	282		PKiKP	07 34 48.4	-0.7
SKAG	Skagway	154.48	12	P	PKPab	07 35 03.1	+0.2
	baz=341						
SKAG	Skagway	154.48	12		PKiKP	07 34 48.1	-0.3
SKAG				PKPab	pPKPab	07 35 02.9	-0.2
X37A	Clayton	155.31	278		PKPdf	07 34 49.3	+7.2
X37A					pPKPab	07 35 07.2	-0.3
TUL1	Leonard	155.82	281	P	PKPab	07 35 08.4	-1.1
	baz=96						
ECSD	EROS Data Cent	156.05	301	P	PKPab	07 35 09.0	-1.2
	baz=78						
ECSD	EROS Data Cent	156.05	301	PKPdf	PKPdf	07 34 41.9	-0.9
ECSD					pPKPab	07 35 11.0	+0.5
435B	Jarrell	156.27	268	P	PKPab	07 35 12.2	+0.7
	baz=107						
WHTX	Lake Whitney,	156.49	271	P	PKPab	07 35 12.5	+0.1
	baz=104						
KSU1	Kansas State U	156.60	289	P	PKPab	07 35 12.4	-0.4
	baz=88						
ZAIG	Zacatecas	156.70	245	PKPdf	PKPdf	07 34 43.0	-1.6
ZAIG				PKPab	PKPab	07 35 13.6	-0.3
MDND	Maddock	156.74	312	P	PKPab	07 35 13.3	+0.2
	baz=65						
MDND	Maddock	156.74	312	PKPab	PKPab	07 35 13.7	+0.6
SIT	Sitka	156.74	14	P	PKPab	07 35 13.3	+0.7
	baz=339						
SUSD	Miller	157.52	303	P	PKPab	07 35 16.5	0.0
	baz=73						
BGNE	Belgrade	157.58	295	P	PKPab	07 35 16.6	-0.3
	baz=81						
BGNE	Belgrade	157.58	295		PKPab	07 35 17.0	+0.1
WRAK	Wrangell Islan	157.86	10	P	PKPab	07 35 18.1	+0.7
	baz=345						
E28A	Huff	157.94	310		PKPab	07 35 18.3	0.0
JCT	Junction City	158.00	266	PKP2	PKPab	07 35 19.6	+0.5
JCT						08 34 45.8	
JCT	Junction City	158.00	266	P	PKPab	07 35 18.6	-0.5
	baz=108						
JCT	Junction City	158.00	266	PKPdf	PKPdf	07 34 45.8	0.0
JCT				PKPab	PKPab	07 35 19.6	+0.5
WMOK	Wichita Mounta	158.11	278	PKIKP	PKPdf	07 34 45.4	-0.3
WMOK	Wichita Mounta	158.11	278	P	PKPab	07 35 19.7	+0.2
	baz=97						
WMOK	Wichita Mounta	158.11	278		PKPdf	07 34 45.4	-0.3
R32A	Long Quarter,	158.26	287	PKPdf	PKPdf	07 34 45.1	-0.7
R32A				PKPab	pPKPab	07 35 19.9	-0.3
ABTX	Abilene, Hawle	158.44	272	P	PKPab	07 35 20.8	-0.1
	baz=102						
CRAG	Craig	158.65	12	P	PKPab	07 35 21.8	+1.0
	baz=342						
CBKS	Cedar Bluff	159.05	289	P	PKPab	07 35 22.9	-0.5
	baz=86						
OGNE	Ogallala	160.55	295	P	PKPab	07 35 30.3	+0.4
	baz=79						
TXAR	Lajitas Array	160.77	260	PKP	PKPdf	07 34 49.2	+0.2
	comp=Z,1.7nm,1.0s,baz=121,slow=2.2,SNR=10						
TXAR				PKPab	sPKPab	07 35 32.7	+1.2
	comp=Z,0.8nm,0.9s,baz=114,slow=4.2,SNR=2.6						
TXAR	Lajitas Array	160.77	260	PKIKP	PKPdf	07 34 48.3	-0.7
TXAR	Lajitas Array	160.77	260	PKPdf	PKPdf	07 34 48.3	-0.7
TX31	Lajitas Ar. Si	160.77	260		PKPdf	07 34 49.2	+0.1
TX32	Lajitas Array	160.77	260		PKPdf	07 34 49.0	-0.1
RSSD	Black Hills	161.07	306	P	PKPab	07 35 31.3	-0.9
	baz=67						
MSTX	Muleshoe	161.27	274	P	PKPab	07 35 34.0	+0.7
	baz=98						
MSTX	Muleshoe	161.27	274	PKPdf	PKPdf	07 34 49.0	-0.5
MSTX				PKPab	pPKPab	07 35 33.5	0.0
HPIG		161.32	251	PKPdf	PKPdf	07 34 49.4	-0.5
HPIG					pPKPab	07 35 34.1	+0.1
EGMT	Eagleton	162.35	323	P	PKPab	07 35 37.7	+0.2
	baz=47						
EGMT	Eagleton	162.35	323		PKPdf	07 34 50.2	+0.2
EGMT				PKPab	pPKPab	07 35 37.2	-0.5
T25A	Trinidad	162.81	284	P	PKPab	07 35 40.0	-0.1
	baz=88						
MNTX	Cornudas Mount	162.94	265	P	PKPab	07 35 40.5	-0.1
	baz=105						
MNTX	Cornudas Mount	162.94	265		PKPdf	07 34 49.6	-1.5
Q24A	Divide	163.24	290	P	PKPab	07 35 42.0	0.0
	baz=81						
K22A	Casper	163.30	304	P	PKPab	07 35 41.9	0.0
	baz=68						
K22A	Casper	163.30	304		PKPdf	07 34 50.5	-0.8
K22A				PKPab	PKPab	07 35 40.4	-1.6
WALA	Waterton Lakes	163.39	333	PKPdf	PKPdf	07 34 50.6	-0.5
WALA				PKPab	pPKPab	07 35 41.5	-0.8
N23A	Red Feather La	163.45	297	P	PKPab	07 35 42.3	-0.5
	baz=74						
ISCO	Idaho Springs	163.45	293	PKIKP	PKPdf	07 34 50.9	-0.8
ISCO						07 35 43.1	
ISCO	Idaho Springs	163.45	293	P	PKPab	07 35 43.0	+0.1
	baz=78						
ISCO	Idaho Springs	163.45	293		PKPdf	07 34 50.9	-0.8
ISCO				PKPab	pPKPab	07 35 43.1	-0.1
SDCO	Great Sand Dun	163.65	286	P	PKPab	07 35 43.5	-0.4
	baz=85						
SDCO	Great Sand Dun	163.65	286		PKPdf	07 34 49.8	-2.1
SDCO					pPKPab	07 35 43.7	-0.4
RLMT	Red Lodge	163.90	315	P	PKPab	07 35 44.6	0.0
	baz=55						
YNE	Yellowstone No	164.39	315		PKPdf	07 34 52.0	-0.3
YNE				PKPab	pPKPab	07 35 47.5	+0.4
ANMO	Albuquerque	164.41	276	PKP	PKPdf	07 34 52.7	+0.2
	comp=Z,0.2nm,0.3s,baz=153,slow=3.5,SNR=6.2						
ANMO	Albuquerque	164.41	276	PKP2	PKPab	07 35 47.7	+0.5
ANMO						08 34 52.0	
ANMO	Albuquerque	164.41	276	P	PKPab	07 35 46.5	-0.6
	baz=94						
ANMO	Albuquerque	164.41	276		PKPdf	07 34 52.0	-0.5
ANMO				PKPab	PKPab	07 35 47.7	+0.5
JTMT	Jette	164.60	331		PKPdf	07 34 51.6	-0.7
JTMT				PKPab	pPKPab	07 35 48.1	+0.4
SMCO	Snowmass	164.61	292		PKPdf	07 34 52.0	-0.9
SMCO				PKPab	PKPab	07 35 46.5	-1.7
S22A	4UR Ranch, Cre	164.70	287	P	PKPab	07 35 47.2	-1.3
	baz=84						
BOZ	Bozeman (W)	164.93	320	PKIKP	PKPdf	07 34 52.0	-0.6
BOZ						07 35 47.6	
BOZ	Bozeman (W)	164.93	320		PKPdf	07 34 52.0	-0.6
BOZ				PKPab	PKPab	07 35 47.6	-1.3
YHH	Holmes Hill	165.00	316		PKPdf	07 34 52.5	-0.4
YHH				PKPab	PKPab	07 35 49.0	-0.5
H17A	Grant Village	165.07	314		PKPdf	07 34 52.5	-0.4
H17A				PKPab	PKPab	07 35 48.6	-1.2
121A	Cookes Peak, D	165.12	266	P	PKPdf	07 34 52.8	-0.4
	baz=103						
YMR	Madison River	165.14	316		PKPdf	07 34 53.5	+0.6
YMR				PKPab	pPKPab	07 35 50.7	+0.4
MSO	Missoula	165.17	328	P	PKPdf	07 34 51.7	-1.1
	baz=39						
MSO	Missoula	165.17	328		PKPdf	07 34 52.0	-0.8
NEW	Newport	165.18	338	PKPab	PKPab	07 35 50.0	+0.2
	comp=Z,6.3nm,1.0s,baz=31,slow=4.4,SNR=9.9						
NEW	Newport	165.18	338	PKIKP	PKPdf	07 34 52.0	-0.6
NEW	Newport	165.18	338	P	PKPdf	07 34 51.6	-1.1
	baz=27						
NEW	Newport	165.18	338		PKPdf	07 34 52.0	-0.6
NEW				PKPab	pPKPab	07 35 50.5	+0.4
LRM	Limekiln Ridge	165.20	322		PKPdf	07 34 51.8	-1.2
YHB	Horse Butte	165.22	317		PKPdf	07 34 53.1	+0.1
YPP	Pitchstone Pla	165.28	314		PKPdf	07 34 53.6	+0.5
YPP				PKPab	PKPab	07 35 50.4	-0.4
BW06	Boulder Array	165.29	307	P	PKPdf	07 34 52.2	-1.0
	baz=62						
BW06	Boulder Array	165.29	307		PKPdf	07 34 52.0	-1.1
BW06				PKPab	PKPab	07 35 49.4	-1.3
PD31	Pinedale Array	165.29	307		PKPdf	07 34 52.0	-1.1
PD31				PKPab	PKPab	07 35 49.9	-0.9
PDAR	Pinedale Array	165.29	307	PKP	PKPdf	07 34 52.0	-1.1
	comp=Z,0.8nm,0.7s,baz=95,slow=1.6,SNR=9.2						
PDAR				PKPab	pPKPab	07 35 51.5	+0.5
	comp=Z,1.8nm,1.0s,baz=57,slow=5.5,SNR=4.0						
PDAR				PP	PP	07 39 36.5	-1.3
	comp=Z,1.3nm,1.0s,baz=60,slow=8.8,SNR=7.5						
QLMT	Earthquake Lak	165.31	317		PKPdf	07 34 52.3	-0.8
QLMT				PKPab	PKPab	07 35 49.9	-0.9
FLWY	Flagg Ranch	165.32	314		PKPdf	07 34 53.2	+0.1
FLWY				PKPab	PKPab	07 35 50.1	-0.8
O20A	White River Ci	165.34	296	P	PKPdf	07 34 53.0	-0.2
	baz=73						
LOHW	Long Hollow	165.53	312		PKPdf	07 34 52.1	-1.2
LOHW				PKPab	PKPab	07 35 49.8	-1.9
IMW	Indian Meadow	165.57	313		PKPdf	07 34 53.0	-0.5
IMW				PKPab	PKPab	07 35 51.0	-1.1
DLMT	Dillon	165.59	321		PKPdf	07 34 52.8	-0.5
DLMT				PKPab	pPKPab	07 35 51.4	-0.8
SNOW	Snow King Moun	165.70	312		PKPdf	07 34 53.5	0.0
SNOW				PKPab	PKPab	07 35 51.3	-1.3
TPAW	Teton Pass	165.80	312		PKPdf	07 34 52.9	-0.7
TPAW				PKPab	PKPab	07 35 52.1	-0.9
REDW	Red Top Meadow	165.81	311		PKPdf	07 34 52.7	-0.8
REDW				PKPab	PKPab	07 35 52.6	-0.5
A04D	Lummi Island	165.94	353	P	PKPdf	07 34 52.3	-0.8
	baz=9.0						
PV01	Paradox Valley	166.01	289		PKPdf	07 34 52.3	-1.6
PV01				PKPab	pPKPab	07 35 54.6	+0.1
MVCO	Mesa Verde	166.07	285	P	PKPdf	07 34 53.5	-0.4
	baz=84						
MVCO	Mesa Verde	166.07	285	PKPdf	PKPdf	07 34 53.1	-0.8
MVCO				PKPab	pPKPab	07 35 54.3	-0.4
MCMT	McKenzie Canyo	166.08	320	PKPdf	PKPdf	07 34 52.7	-1.1
MCMT				PKPab	PKPab	07 35 53.0	-1.2
RDMU	Red Mountain	166.17	299		PKPdf	07 34 53.2	-0.7
RDMU				PKPab	pPKPab	07 35 54.6	-0.4
B05A	Bryant	166.31	351	P	PKPdf	07 34 53.5	+0.1
	baz=11						
BCYI	Bear Canyon	166.72	319		PKPdf	07 34 54.1	-0.1
BCYI				PKPab	pPKPab	07 35 56.6	-0.6
LTY	Liberty	167.04	345		PKPdf	07 34 53.8	-0.4
LTY				PKPab	PKPab	07 35 56.4	-1.6
E09A	Wood Farm, Sta	167.05	337		PKPdf	07 34 53.4	-0.7
E09A				PKPab	pPKPab	07 35 58.0	-0.3
HWUT	Hardware Ranch	167.14	306		PKPdf	07 34 53.9	-0.7
HWUT				PKPab	pPKPab	07 35 59.4	+0.2
D03D	Eldon	167.15	353	P	PKPdf	07 34 54.4	+0.2
	baz=8.4						
F10A	Beach Ranch, E	167.20	333	PKPdf	PKPdf	07 34 53.3	-1.1
F10A				PKPab	pPKPab	07 35 59.6	+0.5
X18A	Snowflake	167.24	273		PKPdf	07 34 54.2	-0.7
P17A	Butcher Ranch,	167.37	296	PKPdf	PKPdf	07 34 54.0	-0.8
P17A					pPKPab	07 35 59.7	-0.6
TUC	Tucson	167.52	263	PKIKP	PKPdf	07 34 54.7	-0.3
TUC						07 36 01.2	
TUC	Tucson	167.52	263	P	PKPdf	07 34 55.6	+0.6
	baz=105						
TUC	Tucson	167.52	263		PKPdf	07 34 54.7	-0.3
TUC				PKPab	pPKPab	07 36 01.2	+0.1
CTU	Camp Tracy	167.67	303		PKPdf	07 34 54.1	-0.9
TMUT	Trail Mountain	167.77	296		PKPdf	07 34 55.3	0.0
TMUT					PKPab	07 36 01.6	-0.4
BMO	Blue Mountains	168.17	331	PKIKP	PKPdf	07 34 54.5	-0.6
BMO						07 36 03.0	
BMO	Blue Mountains	168.17	331	PKPdf	PKPdf	07 34 54.5	-0.6
BMO					pPKPab	07 36 03.0	-0.5
NLU	North Lily Min	168.18	300		PKPdf	07 34 54.8	-0.6
G08A	Pilot Rock	168.40	337		PKPdf	07 34 55.6	+0.4
G08A					pPKPab	07 36 04.5	+0.1
BGU	Big Grassy Mou	168.44	306		PKPdf	07 34 55.2	-0.3
BGU				PKPab	PKPab	07 36 04.1	-0.6
WUAZ	Wupatki	168.46	278	P	PKPdf	07 34 56.2	+0.5
	baz=90						
DUG	Dugway, Tooele	168.61	302	PKIKP	PKPdf	07 34 56.0	+0.4
DUG	Dugway, Tooele	168.61	302	P	PKPdf	07 34 56.0	+0.4
	baz=65						
DUG	Dugway, Tooele	168.61	302		PKPdf	07 34 56.0	+0.4
MSU	Marysvale	168.71	293	PKIKP	PKPdf	07 34 55.8	0.0
MSU						07 36 05.6	
MSU	Marysvale	168.71	293		PKPdf	07 34 55.8	0.0
MSU					PKPab	07 36 05.6	-0.5
MVU	Marysvale	168.74	293		PKPdf	07 34 55.0	-0.8
MVU					PKPab	07 36 05.4	-0.9
MTPU	Mount Pierson	168.83	291		PKPdf	07 34 56.1	0.0
MTPU					PKPab	07 36 06.5	-0.4
TCRU	Three Creeks R	168.89	294	PKPdf	PKPdf	07 34 55.3	-0.7
TCRU				PKPab	pPKPab	07 36 07.5	+0.3
214A	Organ Pipe Nat	169.06	259	PKPab	PKPab	07 36 07.5	-0.1
I07A	Izee	169.65	335		PKPdf	07 34 55.9	-0.2
I07A				PKPab	pPKPab	07 36 09.6	-0.4
LCMT	Little Creek M	169.86	286		PKPdf	07 34 56.2	-0.3
J08A	Circle Bar Ran	169.88	330		PKPdf	07 34 55.4	-0.9
J08A				PKPab	pPKPab	07 36 11.2	+0.2
I05D	Terrebonne, OR	169.96	343	P	PKPdf	07 34 56.6	+0.4
	baz=19						
PSUT	Pine Spring	169.97	295		PKPdf	07 34 56.1	-0.4
PSUT				PKPab	PKPab	07 36 11.3	-0.4
ELK	Elko	169.97	309	PKP	PKPdf	07 34 57.4	+0.9
	comp=Z,2.2nm,1.0s,baz=95,slow=2.8,SNR=3.5						
ELK				PKPab	pPKPab	07 36 12.1	+0.2
	comp=Z,2.2nm,1.1s,baz=48,slow=5.6,SNR=3.9						
ELK				PP	PP	07 40 00.1	-1.6
	comp=Z,0.7nm,0.7s,baz=58,slow=2.5,SNR=5.0						
ELK	Elko	169.97	309	PKIKP	PKPdf	07 34 56.0	-0.5
ELK						07 36 10.8	
ELK	Elko	169.97	309		PKPdf	07 34 56.0	-0.5
ELK				PKPab	PKPab	07 36 10.8	-0.7
SPR3	Spring Creek 3	170.16	298		PKPdf	07 34 55.8	-1.0
SPR3				PKPab	PKPab	07 36 11.7	-0.9
PINE	Pine Mountain	170.36	340		PKPdf	07 34 56.8	+0.2
PINE				PKPab	PKPab	07 36 11.9	-1.0
PDMCI	Parker Dam,Lak	170.66	270	P	PKPdf	07 34 57.6	+0.8
	baz=95						
I04A	Tendick Farm,	170.71	346	P	PKPdf	07 34 56.5	-0.1
	baz=15						
J05D	Fort Rock, OR	170.91	340	P	PKPdf	07 34 57.5	+0.7
	baz=22						
PRN	Pahroc Range	171.19	290		PKPdf	07 34 56.8	-0.4
PRN				PKPab	pPKPab	07 36 16.7	-0.6
R11A	Troy Canyon, C	171.31	297	P	PKPdf	07 34 57.7	+0.4
	baz=68						
R11A	Troy Canyon, C	171.31	297		PKPdf	07 34 56.8	-0.5
R11A					pPKPab	07 36 17.8	0.0
K05A	Summer Lake	171.32	337		PKPdf	07 34 57.3	+0.2
K05A				PKPab	pPKPab	07 36 17.3	-0.2
SHPR	Sheep Range	171.45	284		PKPdf	07 34 56.8	-0.6
IRM	Iron Mountain	171.47	269	P	PKPdf	07 34 58.1	+0.8
	baz=96						
J01E	Myrtle Point	171.56	352	P	PKPdf	07 34 57.3	+0.4
	baz=8.0						
MOD	Modoc Plateau	171.83	332		PKPdf	07 34 56.

ISA	Isabella, Lake	174.23 281	PKIKP	PKPdf	07 34 57.9	-0.5
ISA					07 36 30.4	
ISA	Isabella, Lake	174.23 281	P	PKPdf	07 34 59.3	+0.8
	baz=82					
ISA	Isabella, Lake	174.23 281		PKPdf	07 34 57.9	-0.5
ISA			PKPab	pPKPab	07 36 30.4	-0.4
ORV	Oroville	174.30 328	PKIKP	PKPdf	07 34 57.1	-1.1
ORV					07 36 30.0	
ORV	Oroville	174.30 328	PKPdf	PKPdf	07 34 57.1	-1.1
ORV				pPKPab	07 36 29.9	-0.7
AFDM	Forest Hills D	174.52 320		PKPdf	07 34 58.0	-0.3
AFDM			PKPab	PKPab	07 36 30.9	-0.5
VES	Vestal, Richgr	174.69 283	P	PKPdf	07 34 59.7	+1.3
	baz=78					
CMB	Columbia Colle	174.79 310	PKIKP	PKPdf	07 34 58.3	-0.2
CMB					07 36 32.3	
CMB	Columbia Colle	174.79 310		PKPdf	07 34 58.3	-0.2
CMB			PKPab	PKPab	07 36 32.3	-0.5
VOG	Valley Oaks Go	174.83 289	P	PKPdf	07 34 59.8	+1.3
	baz=73					
SNCC	San Nicolas Is	174.85 254	P	PKPdf	07 35 00.3	+1.7
	baz=107					

IDC 21 07:17:12.0±4.4, 34°.31S×56°.01E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.7/35, mbtmp4.2/3, Error ellipse: s-maj=130.7km s-min=56.4km az=59.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	66.50	45	P	P	07 28 03.7	0.0
	1.2nm,0.3s,baz=238,slow=7.4,SNR=4.5						
ASAR	Alice Springs	67.47	104	P	P	07 28 09.9	-0.2
	1.1nm,0.8s,baz=235,slow=6.1,SNR=4.4						
WRA	Warramunga Arr	69.65	101	P	P	07 28 23.9	+0.2
	3.2nm,0.8s,baz=236,slow=5.5,SNR=7.8						
ILAR	Eielson Array	146.48	18	PKPbc	PKPdf	07 36 53.5	+0.6
	0.4nm,0.7s,baz=309,slow=4.3,SNR=1.8						

*NNC **21** 07:17:34.1±1.5, 53°.89N×88°.24E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=23.3km s-min=8.2km az=23.0, Suspected Mining explosion.*
*IDC **21** 07:17:35.5±3.0, 53°.77N×88°.11E, h0km, mb1 3.2/2, mb1mx3.0/43, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=26.6km s-min=17.0km az=60.0*
ISC 21 07:17:35.7±4.3, 53°.8N±0°.2×88°.1E±0°.2, h0km, n7, σ0°43/8, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.93	275	*i*		07 30 03.9	
	baz=92,slow=302,SNR=1.9						
ZAA0	Zalesovo Array	1.93	275	⇑P	Pn	07 18 09.5	-0.2
	1.8nm,0.5s						
ZAA0				⇑S	Sb	07 18 36.5	+0.3
	5.0nm,0.5s						
ZALV	Zalesovo Beam	1.93	275	Pn	Pn	07 18 09.6	-0.1
	3.8nm,0.3s,baz=91,slow=12,SNR=34						
ZALV				Lg	Lg	07 18 38.1	
	11nm,0.3s,baz=95,slow=28,SNR=27						
ZALV				*i*		07 30 08.0	
	0.9nm,0.3s,baz=70,slow=39,SNR=5.5						
KURBB	Kurchatov Arra	6.67	245	Pn	Pn	07 19 15.3	+0.5
	0.3nm,0.3s,baz=62,slow=14,SNR=13						
KURBB				Lg	Lg	07 21 03.5	
	baz=64,slow=33,SNR=1.3						
KURBB	Kurchatov Arra	6.67	245	⇓Pn	Pn	07 19 15.0	+0.2
	1.8nm,0.3s						
MK31	Makanchi Array	7.94	210	⇑Pn	Pn	07 19 32.4	0.0
	0.3nm,0.6s,baz=30,slow=13,SNR=9.4						
MKAR	Makanchi Array	7.94	210	Pn	Pn	07 19 32.7	+0.4
	0.1nm,0.3s,baz=31,slow=13,SNR=7.2						
MKAR				Sn	Sn	07 21 02.2	-0.6
	0.3nm,0.3s,baz=37,slow=24,SNR=8.2						
MKAR				Lg	Lg	07 21 38.6	
	0.7nm,0.3s,baz=331,slow=27,SNR=9.5						

*TUL **21** 07:38:28.9±1.3, 36°.28N±0°.01×97°.46W±0°.02, h1km±7km, ML3.0, mb_Lg3.0/79(NEIC), Error ellipse: s-maj=2.4km s-min=1.6km az=74.0*
*NEIC **21** 07:38:29.3±1.3, 36°.28N±0°.01×97°.457W±0°.006, h5km±7km, Error ellipse: s-maj=1.6km s-min=0.5km az=163.0*
*ANF **21** 07:38:30.7±1.1, 36°.27N×97°.42W, h16km±9km, ML3.6/15, Error ellipse: s-maj=3.7km s-min=3.4km az=159.0*
ISC 21 07:38:29.3±1.0, 36°.28N±0°.02×97°.46W±0°.02, h10km±8km, n123, σ1°05/141, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.48	298	Pg	Pg	07 38 38.7	+0.1
CROK				Sg	Sg	07 38 45.3	+0.4
OK029	Liberty Lake	0.49	180	Pg	Pg	07 38 38.6	-0.1
OK029				Sg	Sg	07 38 45.2	0.0
BLOK	Blackwell	0.52	22	Pg	Pg	07 38 39.4	+0.1
BLOK				Sg	Sg	07 38 46.6	+0.5
OK031	S. Brethren Rd	0.60	123	Pg	Pg	07 38 40.8	-0.1
OK031				Sg	Sg	07 38 48.9	+0.1
QUOK	Quay	0.62	100	Pg	Pg	07 38 41.1	-0.2
QUOK				Sg	Sg	07 38 49.3	-0.1
BCOK	Bluff Creek, N	0.64	191	Pg	Pg	07 38 41.4	-0.2
BCOK				Sg	Sg	07 38 50.2	+0.2
GC02	Grant County #	0.65	330		Pg	07 38 41.9	-0.1
GC02				Sg	Sg	07 38 50.8	+0.3
OK005	Luther M Schoo	0.67	161	Pg	Pg	07 38 41.3	-0.8
OK025	Westminster Rd	0.71	172	Pg	Pg	07 38 42.8	-0.2
OK025				Sg	Sg	07 38 52.3	+0.1
KAN13	South Haven SW	0.73	359		Pg	07 38 43.3	-0.1
KAN13				Sg	Sg	07 38 53.4	+0.5
KAN17	Caldwell West	0.80	342		Pg	07 38 44.5	-0.2
KAN17				Sg	Sg	07 38 55.3	+0.2
OK032	Salt Plains WL	0.80	311	Pg	Pg	07 38 44.5	-0.2
OK032				Sg	Sg	07 38 55.0	-0.1
KAN09	Caldwell North	0.86	352		Pg	07 38 45.5	-0.3
KAN09				Sg	Sg	07 38 57.2	+0.1
OKCSW	OKLAHOMA CITY	0.88	179	Pg	Pg	07 38 45.8	-0.4
OKCSW				Sg	Sg	07 38 57.7	+0.1
KAN05	Bluff City Nor	0.89	338		Pg	07 38 46.1	-0.3
KAN05				Sg	Sg	07 38 57.9	-0.1
KS20	Mayfield South	0.95	355		Pg	07 38 47.2	-0.3
KS20				Sg	Sg	07 38 59.6	-0.2
KAN10	Anthony SW Sta	0.98	329		Pg	07 38 47.8	-0.3
KAN10				Sg	Sg	07 39 00.8	-0.2
T35A	Sooner Cattle	0.99	50	Pg	Pg	07 38 48.2	-0.2
T35A				Sg	Sg	07 39 00.9	-0.3
T35B	Sooner Cattle	0.99	50	P		07 38 48.0	
	baz=230						
T35B				S		07 39 01.0	
	baz=230						
FNO	Franklin	1.03	177		Pg	07 38 48.4	-0.7
FNO				IAmb_Lg		07 39 00.6	
	comp=Z,164nm,1.1s						
FNO				Sg	Sg	07 39 01.9	-0.4
KAN08	Anthony NE Sta	1.03	337		Pg	07 38 48.6	-0.4
KAN08				Sg	Sg	07 39 02.4	0.0
KAN12	Harper NE Stat	1.10	337	Pg	Pg	07 38 49.6	-0.8
KAN12				Sg	Sg	07 39 04.6	-0.2
U32A	Winter Ranch,	1.25	275	Pg	Pg	07 38 52.5	-0.8
U32A				Sg	Sg	07 39 09.3	-0.2
U32A	Winter Ranch,	1.25	275	P		07 38 52.5	
	baz=94,SNR=23						
TUL1	Leonard	1.40	105	P	Pn	07 38 54.5	-0.4
	baz=286						
TUL1				S	Sb	07 39 13.6	+0.1
	baz=286						
TUL1	Leonard	1.40	105	P		07 38 54.5	
	baz=286						
TUL1				S		07 39 13.6	
	baz=286						
X34A	Smith Ranch, M	1.71	190		Pb	07 39 00.6	-0.1
X34A				IAmb_Lg		07 39 26.7	
	comp=Z,74nm,0.9s						
WMOK	Wichita Mounta	1.88	215	P	Pn	07 39 02.4	+0.8
	baz=34,SNR=36						
WMOK				S	Sb	07 39 27.4	0.0
	baz=34						
WMOK	Wichita Mounta	1.88	215		Pn	07 39 02.5	+0.9
WMOK	Wichita Mounta	1.88	215	P		07 39 02.3	
	baz=34,SNR=92						
WMOK				S		07 39 27.8	
	baz=34						
LOOK	Love County	2.30	174		Pn	07 39 09.3	+2.0
R32A	Long Quarter,	2.36	335	Pn	Pb	07 39 10.8	-1.1
R32A	Long Quarter,	2.36	335	P		07 39 09.0	
	baz=155,SNR=21						
R32A				S		07 39 38.7	
	baz=155						
X37A	Clayton	2.40	134		Pn	07 39 09.9	+1.2
X37A				IAmb_Lg		07 39 48.1	
	comp=Z,73nm,0.8s						
X37A	Clayton	2.40	134	P		07 39 09.8	
	baz=315,SNR=36						
X37A				Sb		07 39 44.5	
	baz=315						
U38A	Gravette	2.49	86		Pn	07 39 12.0	+2.1
U38A	Gravette	2.49	86	P		07 39 11.5	
	baz=267,SNR=44						
HHAR	Hobbs	2.84	89		Pn	07 39 16.8	+2.0
KSU1	Kansas State U	2.89	13	Pb	Pb	07 39 22.5	+1.5
	baz=194						
KSU1	Kansas State U	2.89	13		Pn	07 39 17.1	+1.6
Z35A	Perchaven, San	2.95	177	P		07 39 17.0	
	baz=357						
Z35A				S		07 39 53.6	
	baz=357						
CBKS	Cedar Bluff	3.11	325	P	Pn	07 39 19.7	+1.3
	baz=144						
CBKS				Sb	Sg	07 40 06.8	-2.3
	baz=144						
CBKS	Cedar Bluff	3.11	325		Pn	07 39 20.6	+2.1
W39A	Magazine	3.18	109	P	Pn	07 39 19.6	+0.2
	baz=291						
W39A	Magazine	3.18	109		Pn	07 39 20.0	+0.6
MIAR	Mount Ida	3.62	118	P	Pn	07 39 26.1	+0.7
	baz=300,SNR=8.1						
MIAR				S	Sn	07 40 09.2	+1.0
	baz=300						
MIAR	Mount Ida	3.62	118		Pn	07 39 26.6	+1.3
MIAR				IAmb_Lg		07 40 27.2	
	comp=Z,24nm,0.8s						
MIAR	Mount Ida	3.62	118	P		07 39 26.5	
	baz=300,SNR=34						
Z38A	Mt. Pleasant	3.64	145	Pn	Pn	07 39 26.8	+1.0
AMTX	Amarillo	3.71	249	Pb	Pb	07 39 35.6	+0.5
	baz=67						
AMTX				Sb	Sb	07 40 24.1	+4.0
	baz=67						
AMTX	Amarillo	3.71	249		Pn	07 39 26.4	-0.4
U40A	Yellville	3.72	88	P	Pn	07 39 27.8	+0.9
	baz=270						
U40A	Yellville	3.72	88	Pn	Pn	07 39 28.5	+1.6
U40A				IAmb_Lg		07 40 34.4	
	comp=Z,23nm,0.8s						
U40A	Yellville	3.72	88	P		07 39 28.1	
	baz=270,SNR=9.1						
U40A				P		07 39 28.1	
	baz=270,SNR=9.1						
ABTX	Abilene, Hawle	4.07	207	Pb	Pb	07 39 40.8	-0.3
	baz=26						
ABTX				Sb	Sb	07 40 33.7	+3.2
	baz=26						
ABTX	Abilene, Hawle	4.07	207	Pn	Pn	07 39 31.2	-0.5
X40A	Basin Creek Fa	4.18	114	P	Pn	07 39 34.4	+1.2
	baz=297						
X40A	Basin Creek Fa	4.18	114		Pn	07 39 34.8	+1.6
X40A				IAmb_Lg		07 40 43.0	
	comp=Z,23nm,0.8s						
MGMO	Mountain Grove	4.26	77		Pn	07 39 36.6	+2.3
MGMO				IAmb_Lg		07 40 43.6	
	comp=Z,33nm,0.9s						
WHTX	Lake Whitney,	4.28	180	P	Pn	07 39 35.9	+1.3
	baz=360						
WHTX				Sb	Sb	07 40 39.8	+3.3
	baz=360						
WHTX	Lake Whitney,	4.28	180	Pn	Pn	07 39 35.0	+0.5
FCAR	Ozark Folk Cen	4.34	94		Pn	07 39 35.4	+0.1
W41B	Gary Mavity, V	4.38	103	P	Pn	07 39 35.9	0.0
	baz=286						
W41B				S	Sn	07 40 26.8	-0.2
	baz=286						
WLAR	White Oak Lake	4.41	125	Pn	Pn	07 39 36.6	+0.3
WLAR				IAmb_Lg		07 40 57.2	
	comp=Z,24nm,0.8s						
N33A	J Bar K, Exete	4.45	0	Pn	Pn	07 39 36.3	-0.5
237A	Washetta, Mont	4.49	162	Pn	Pn	07 39 37.6	+0.3
P38A	Dawn	4.56	42		Pn	07 39 40.5	+2.2
P38A				IAmb_Lg		07 40 54.2	
	comp=Z,21nm,0.7s						
R40A	Maddies Statio	4.60	63	Pn	Pn	07 39 39.5	+0.6
R40A	Maddies Statio	4.60	63	P		07 39 40.3	
	baz=246,SNR=7.5						
N35A	Tabor	4.79	17		Pn	07 39 43.4	+1.9
Z41A	Richland Creek	4.88	127	P	Pn	07 39 43.0	+0.2
	baz=310						
Z41A				S	Sn	07 40 38.5	-0.8
	baz=310						
KSCO	Kaye Shedlock'	4.92	305		Pn	07 39 45.7	+2.2
KSCO				IAmb_Lg		07 41 18.3	
	comp=Z,31nm,0.8s						
MSTX	Muleshoe	4.93	244	Pn	Pn	07 39 44.4	+0.8
LCAR	Lake Charles	5.11	91	Pn	Pn	07 39 46.4	+0.6
LCAR				IAmb_Lg		07 41 08.4	
	comp=Z,18nm,1.1s						
BGNE	Belgrade	5.14	354	P	Pn	07 39 46.7	+0.3
	baz=174						
BGNE				S	Sn	07 40 45.7	-0.3
	baz=174						
BGNE	Belgrade	5.14	354	Pn	Pn	07 39 47.1	+0.6
BGNE				IAmb_Lg		07 41 20.0	
	comp=Z,19nm,0.8s						
CCAR	Cane Creek	5.23	115	IAmb_Lg		07 41 25.1	
	comp=Z,32nm,0.8s						
CCM	Cathedral Cave	5.27	69	S	Sn	07 40 48.4	-0.5
	baz=252						
CCM	Cathedral Cave	5.27	69		Pn	07 39 49.7	+1.6
CCM				IAmb_Lg		07 41 15.6	
	comp=Z,16nm,0.8s						
P40A	Paris	5.37	51	Pn	Pn	07 39 48.5	-0.9
P40A				IAmb_Lg		07 41 25.3	
	comp=Z,26nm,0.7s						
435B	Jarrell	5.49	181	Pn	Pn	07 39 50.6	-0.6
HBAR	Harrisburg	5.57	96	Pn	Pn	07 39 51.3	-0.9
N38A	Joes South For	5.59	35	Pn	Pn	07 39 53.3	+0.8
T25A	Trinidad	5.65	281	P	Pn	07 39 55.1	+1.6
	baz=97						
T25A	Trinidad	5.65	281		Pn	07 39 55.2	+1.6
PBMO	Poplar Bluff	5.68	83		Pn	07 39 55.7	+1.9
PBMO				IAmb_Lg		07 41 39.5	
	comp=Z,16nm,0.8s						
L34A	Svendsen Farm,	5.74	8	Pn	Pn	07 39 52.8	-1.8
L34A				IAmb_Lg		07 41 44.5	
	comp=Z,31nm,0.7s						
OGNE	Ogallala	5.87	324	Pn	Pn	07 39 57.4	+0.9
OGNE				IAmb_Lg		07 41 44.6	
	comp=Z,19nm,0.8s						
GNAR	Gosnell	6.03	91	IAmb_Lg		07 41 47.7	
	comp=Z,28nm,0.8s						
JCT	Junction City	6.11	199	Pb	Pb	07 40 15.3	-0.6
	baz=18						
JCT	Junction City	6.11	199		Pn	07 40 00.6	+0.9
JCT				IAmb_Lg		07 41 47.2	
	comp=Z,26nm,1.0s						
SLM	Saint Louis	6.21	66	Pn	Pn	07 40 01.8	+0.8
PARMO	Parma	6.22	84	IAmb_Lg		07 41 51.1	
	comp=Z,31nm,0.7s						
SCIA	State Center	6.51	29	IAmb_Lg		07 41 59.3	
	comp=Z,30nm,0.7s						
SDCO	Great Sand Dun	6.60	285	Pn	Pn	07 40 07.6	+0.9
GLAT	Glass	6.60	88	Pn	Pn	07 40 07.0	+0.5
HICK	Hickman	6.64	85	Pn	Pn	07 40 06.9	-0.1
HICK				IAmb_Lg		07 42 16.3	
	comp=Z,26nm,0.8s						
S44A	Carbondale	6.72	75	IAmb_Lg		07 42 01.9	
	comp=Z,24nm,0.8s						
SIUC	Southern Illin	6.75	75	Pn	Pn	07 40 09.4	+0.9
N41A	Harden Midland	6.81	48	Pn	Pn	07 40 08.9	-0.3
OXF	Oxford	6.81	103	Pn	Pn	07 40 08.9	-0.3
W45A	Hickory Valley	6.82	97	Pn	Pn	07 40 08.9	-0.5
W45A				IAmb_Lg		07 42 11.6	
	comp=Z,20nm,1.0s						
P43A	Skaggs, Pawnee	7.11	60	Pn	Pn	07 40 14.8	+1.4
P43A				IAmb_Lg		07 42 19.5	
	comp=Z,27nm,0.8s						
Q44A	Meyer Farm, Va	7.19	66	Pn	Pn	07 40 13.4	-1.1
K38A	Parkersburg	7.32	28	Pn	Pn	07 40 17.2	+1.0
K38A				IAmb_Lg		07 42 31.7	
	comp=Z,22nm,0.8s						
ISCO	Idaho Springs	7.33	301	Pn	Pn	07 40 15.9	-0.8
ANMO	Albuquerque	7.45	262	Pn	Pn	07 40 19.0	+0.8
ECSD	EROS Data Cent	7.47	5	Pn	Pn	07 40 17.6	-0.7
L40A	Anamosa	7.53	38	Pn	Pn	07 40 18.3	-0.9
L40A				IAmb_Lg		07 42 36.0	
	comp=Z,13nm,0.8s						
HDIL	Hopedale	7.70	54	Pn	Pn	07 40 21.6	+0.1
PLAL	Pickwick Lake	7.75	97	Pn	Pn	07 40 22.9	+0.7
PLAL				IAmb_Lg		07 42 41.9	
	comp=Z,11nm,1.1s						
WVT	Waverly	7.79	88	Pn	Pn	07 40 21.3	-1.4
BNM	Barren Site	7.80	257	Pn	Pn	07 40 23.0	-0.1
OLIL	Olney	7.83	69	Pn	Pn	07 40 23.9	+0.6
USIN	University of	8.00	75	IAmb_Lg		07 42 45.8	
	comp=Z,21nm,1.1s						
PHWY	Pilot Hill	8.00	311	Pn	Pn	07 40 25.8	-0.1
PHWY				IAmb_Lg		07 42 56.9	
	comp=Z,12nm,0.8s						
MNTX	Cornudas Mount	8.01	237	Pn	Pn	07 40 25.2	-0.6
MNTX				IAmb_Lg		07 42 53.4	
	comp=Z,10nm,1.2s						
O44A	Mansfield	8.06	59	Pn	Pn	07 40 27.5	+1.0
O44A				IAmb_Lg		07 42 59.1	
	comp=Z,22nm,0.8s						
SUSD	Miller	8.23	352	IAmb_Lg		07 42 56.6	
	comp=Z,12nm,0.9s						
I37A	Lemond, Waseca	8.32	21	IAmb_Lg		07 43 15.5	
	comp=Z,18nm,1.1s						
T47A	Sharon Grove	8.35	82	Pn	Pn	07 40 31.2	+0.8
JFWS	Jewell Farm	8.65	38	Pn	Pn	07 40 34.6	+0.2
JFWS				IAmb_Lg		07 43 12.1	
	comp=Z,13nm,0.7s						
TXAR	Lajitas Array	8.68	219	Pn	Pn	07 40 35.2	+0.2
TX31	Lajitas Ar. Si	8.68	219	Pn	Pn	07 40 34.1	-0.9
TX32	Lajitas Array	8.68	219	Pn	Pn	07 40 33.9	-1.1
P46A	Rosedale	8.76	65	Pn	Pn	07 40 36.5	+0.6
M44A	Midewin, Midew	8.94	52	IAmb_Lg		07 43 07.9	
	comp=Z,18nm,1.0s						
SFIN	Lafayette	9.11	60	IAmb_Lg		07 43 24.5	
	comp=Z,20nm,0.8s						
WCI	Wyandotte Cave	9.11	74	IAmb_Lg		07 43 17.6	
	comp=Z,10.0nm,0.7s						
BLO	Bloomington	9.13	68	IAmb_Lg		07 43 17.6	
	comp=Z,18nm,0.9s						
K22A	Casper	9.46	315	IAmb_Lg		07 43 52.3	
	comp=Z,14nm,1.1s						
F36A	Milaca	10.02	16	Pn	Pn	07 40 53.9	+0.6
G40A	Rib Lake	10.52	29	Pn	Pn	07 40 59.3	-0.9
S51A	Beattyville	11.18	79	Pn	Pn	07 41 07.6	-1.6

IDC 21 07:39:01.8±2.3, 5°.67S×151°.90E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/43, mbtmp3.4/3, Error ellipse: s-maj=144.9km s-min=30.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.20	229	P	P	07 43 59.3	-0.7
	0.5nm,0.4s,baz=53,slow=9.9,SNR=12						
ASAR	Alice Springs	24.91	222	P	P	07 44 27.3	+0.5
	0.4nm,0.5s,baz=59,slow=9.3,SNR=10						
ILAR	Eielson Array	83.29	22	P	P	07 51 30.4	+0.2
	0.2nm,0.5s,baz=235,slow=6.4,SNR=2.2						
TORD	Torodi Ar. Bea	149.70	286	PKPbc	PKPbc	07 58 54.0	-0.7
	1.2nm,0.7s,baz=89,slow=2.9,SNR=5.6						

*THR **21** 07:40:10.7±0.5, 32°.76N×46°.64E, h15km, ML3.1*
*ISN **21** 07:40:12.0±1.4, 32°.73N×46°.91E, h10km±6km, ML2.7*
*TEH **21** 07:40:13.1, 32°.82N×46°.93E, h11km, ML3.2*
ISC 21 07:40:14.6±1.0, 32°.76N±0°.04×46°.86E±0°.04, h22km, n33, σ1°17/37, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	Badra	0.86	294	*e*Pg	Pb	07 40 29.0	-1.8
IBDR				*e*Sg	Sn	07 40 43.0	-0.2
IBDR				AML	AML	07 41 08.4	
	comp=N,228nm,0.7s						
IBDR				AML	AML	07 41 09.3	
	comp=E,257nm,0.9s						
IKFM	Kafar-mosalman	1.12	47	*e*Pg	Pn	07 40 33.1	-1.9
IKFM				*e*		07 40 57.3	
	comp=Z,6μm,0.4s						
IDOB	Doab	1.50	47	*e*Pg	Pn	07 40 40.2	-0.2
KCHF	Cheshme Sefid,	1.52	6	*e*Pg	Pb	07 40 41.3	-0.8
KCHF				*e*		07 41 04.6	
	comp=Z,5μm,0.4s						
IGHG	Ghaleghazi	1.58	351	*e*Pg	Pb	07 40 42.6	-0.7
IGHG				*e*		07 41 09.6	
	comp=Z,4μm,0.6s						
KER	Kermanshah	1.64	8	*e*Pg	Pb	07 40 43.1	-1.0
SHGR	Shooshtar-Gavs	1.76	111	*e*Pn	Pb	07 40 45.0	-1.2
SHGR				IAML		07 41 15.9	
	comp=N,145nm,0.4s						
SHGR	Shooshtar-Gavs	1.76	111	*e*Pn	Pb	07 40 45.0	-1.2
NSR	Nassriya	1.85	200	*e*Pn	Pn	07 40 45.0	0.0
NSR				*e*Sn	Sn	07 41 09.0	+1.3
BMDN	Meydan	1.88	61	*e*Pn	Pn	07 40 46.0	+0.5
BMDN				*e*		07 40 50.9	
	comp=Z,2μm,0.2s						
IBZA	Bozab	1.90	26	*e*Pn	Pn	07 40 46.8	+0.9
IBZA				*e*		07 41 20.0	
	comp=Z,1μm,0.4s						
IDHR	Dehrash	1.97	349	*e*Pn	Pn	07 40 47.5	+0.6
IDHR				*e*		07 41 19.9	
	comp=Z,2μm,0.3s						
HSAM	Samen	2.05	45	*e*Pn	Pn	07 40 48.5	+0.5
BHD	Baghdad	2.15	284	*e*Pn	Pn	07 40 50.0	+1.0
BHD				*e*Sn	Sb	07 41 17.5	-1.4
ILIN	Lien	2.15	2	*e*Pn	Pn	07 40 50.0	+0.6
ILIN				*e*		07 40 52.9	
	comp=Z,741nm,0.5s						
IALM	Almabolaq	2.36	27	*e*Pn	Pn	07 40 53.3	+1.1
SNGE	Sanandaj	2.36	10	*e*Pn	Pn	07 40 51.6	-0.6
SNGE	Sanandaj	2.36	10	*e*Pn	Pn	07 40 51.6	-0.6
KHMZ	Khomeyn	2.77	69	*e*Pn	Pn	07 40 59.5	+1.6
KHMZ	Khomeyn	2.77	69	*e*Pn	Pn	07 40 59.5	+1.6
HAGD	Aghdareh	2.80	42	*e*Pn	Pn	07 40 59.1	+0.9
HAGD				*e*		07 41 35.8	
	comp=Z,1μm,0.3s						
ASAO	Ashtian	3.18	55	*e*Pn	Pn	07 41 04.3	+0.7
ASAO	Ashtian	3.18	55	*e*Pn	Pn	07 41 04.3	+0.7
IKRK	Kirkuk	3.36	322	*e*Pn	Pn	07 41 07.0	+1.2
IKRK				*e*Sn	Sn	07 41 48.5	+3.5
IPIR	Pirpir	3.40	90	*e*		07 41 51.4	
	comp=Z,499nm,0.4s						
IPIR				*e*Pn	Pn	07 41 07.6	+1.1
IRAZ	Razeghan	3.66	43	*e*Pn	Pn	07 41 11.0	+0.9
QABG	Abgarm-Qazvin	3.70	37	*e*Pn	Pn	07 41 10.6	-0.1
IKLH	Kolahrood	4.00	81	*e*Pn	Pn

2.4nm,1.1s
KURBB ⇑Lg Lg 07 50 39.9
4.9nm,0.7s
MK31 Makanchi Array 9.08 198 Pn Pn 07 49 14.1 -0.3
0.6nm,0.7s,baz=20,slow=13,SNR=4.4
MK31 ⇓Lg Lg 07 51 51.9
1.3nm,0.8s
MKAR Makanchi Array 9.08 198 Pn Pn 07 49 14.6 +0.1
0.1nm,0.3s,baz=19,slow=9.2,SNR=4.1
MKAR Lg Lg 07 51 47.2
0.1nm,0.3s,baz=21,slow=25,SNR=2.6

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*TUL **21** 08:07:31±1.4, 36°.07N±0°.01×96°.88W±0°.02, h5km±6km, ML2.5, mb_Lg2.5/37(NEIC), Error ellipse: s-maj=2.9km s-min=1.9km az=106.0*

NEIC 21 08:07:31.0±1.2, 36°.08N±0°.01×96°.88W±0°.02, h5km±7km, Error ellipse: s-maj=3.0km s-min=1.9km az=103.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.13**	**166**		Pg	08 07 33.9	+0.2
OK031				Sg	Sg	08 07 35.6	+0.1
QUOK	**Quay**	**0.16**	**58**		Pg	08 07 34.7	+0.5
QUOK				Sg	Sg	08 07 37.2	+0.8
OK005	**Luther M Schoo**	**0.50**	**211**	Pg	Pg	08 07 40.6	+0.1
OK029	**Liberty Lake**	**0.55**	**239**		Pg	08 07 41.7	+0.2
OK029				Sg	Sg	08 07 49.0	+0.4
OK025	**Westminster Rd**	**0.62**	**217**		Pg	08 07 43.0	+0.1
OK025				Sg	Sg	08 07 49.7	-1.4
BLOK	**Blackwell**	**0.73**	**338**		Pb	08 07 45.6	-0.6
BLOK				Sg	Sg	08 07 54.5	0.0
BCOK	**Bluff Creek, N**	**0.73**	**235**		Pg	08 07 45.0	0.0
BCOK				Sg	Sg	08 07 55.0	+0.5
OKCSW	**OKLAHOMA CITY**	**0.82**	**214**		Pg	08 07 46.3	-0.3
OKCSW				Sg	Sg	08 07 57.5	+0.2
T35A	**Sooner Cattle**	**0.88**	**19**		Pg	08 07 47.8	-0.1
T35A				Sg	Sg	08 07 59.2	-0.2
FNO	**Franklin**	**0.93**	**207**		Pg	08 07 48.0	-0.7
FNO				Sg	Sg	08 08 01.4	+0.6
CROK	**Carrier**	**0.99**	**296**		Pg	08 07 49.8	-0.1
CROK				Sg	Sg	08 08 02.1	-0.6
KAN13	**South Haven SW**	**1.04**	**333**	Pg	Pg	08 07 51.1	0.0
KAN13				Sg	Sg	08 08 04.5	-0.1
GC02	**Grant County #**	**1.10**	**314**		Pg	08 07 51.8	-0.3
GC02				Sg	Sg	08 08 06.7	+0.3
KAN17	**Caldwell West**	**1.20**	**324**		Pg	08 07 53.6	-0.3
KAN17				Sg	Sg	08 08 09.0	-0.4
KAN09	**Caldwell North**	**1.21**	**331**	Pg	Pg	08 07 53.8	-0.3
KAN09				Sg	Sg	08 08 09.4	-0.3
KS20	**Mayfield South**	**1.27**	**335**	Pg	Pg	08 07 55.0	-0.3
KS20				Sg	Sg	08 08 11.3	-0.4
OK032	**Salt Plains WL**	**1.29**	**304**		Pn	08 07 55.0	-0.7
KAN05	**Bluff City Nor**	**1.30**	**322**		Pn	08 07 55.5	-0.3
KAN10	**Anthony SW Sta**	**1.43**	**317**		Pn	08 07 57.4	-0.2
KAN08	**Anthony NE Sta**	**1.44**	**323**		Pn	08 07 57.8	0.0
KAN12	**Harper NE Stat**	**1.51**	**324**		Pn	08 07 58.9	+0.2
X34A	**Smith Ranch, M**	**1.67**	**208**		Pn	08 08 00.7	-0.2
X34A				IAmb_Lg		08 08 26.0	
comp=Z,20nm,0.8s							
U32A	**Winter Ranch,**	**1.74**	**280**		Pb	08 08 02.7	-0.8
U32A				IAmb_Lg		08 08 29.8	
comp=Z,20nm,0.7s							
X37A	**Clayton**	**1.94**	**140**		Pn	08 08 05.2	+0.7
U38A	**Gravette**	**2.05**	**79**		Pn	08 08 06.0	-0.1
WMOK	**Wichita Mounta**	**2.05**	**230**		Pn	08 08 06.9	+0.7
LOOK	**Love County**	**2.10**	**187**		Pn	08 08 07.5	+0.6
HHAR	**Hobbs**	**2.38**	**84**		Pn	08 08 12.4	+1.6
W39A	**Magazine**	**2.67**	**108**	Pn	Pn	08 08 14.8	+0.1
W39A				IAmb_Lg		08 09 01.1	
comp=Z,13nm,1.0s							
R32A	**Long Quarter,**	**2.75**	**328**	Pn	Pn	08 08 15.4	-0.4
KSU1	**Kansas State U**	**3.02**	**4**		Pn	08 08 17.4	-2.1
MIAR	**Mount Ida**	**3.11**	**119**		Pn	08 08 20.7	+0.1
Z38A	**Mt. Pleasant**	**3.22**	**150**	Pn	Pn	08 08 22.0	-0.2
Z38A				IAmb_Lg		08 09 17.7	
comp=Z,9.9nm,0.8s							
U40A	**Yellville**	**3.27**	**84**		Pn	08 08 21.9	-1.0
CBKS	**Cedar Bluff**	**3.55**	**321**		Pn	08 08 26.8	0.0
CBKS				IAmb_Lg		08 09 30.9	
comp=Z,10nm,0.8s							
X40A	**Basin Creek Fa**	**3.67**	**115**		Pn	08 08 28.3	-0.2
MGMO	**Mountain Grove**	**3.86**	**73**		Pn	08 08 31.8	+0.8
MGMO				IAmb_Lg		08 09 38.2	
comp=Z,11nm,0.8s							
FCAR	**Ozark Folk Cen**	**3.86**	**91**		Pn	08 08 32.6	+1.6
WLAR	**White Oak Lake**	**3.91**	**127**	Pn	Pn	08 08 31.1	-0.6
AMTX	**Amarillo**	**4.10**	**254**	Pn	Pn	08 08 36.5	+2.1
AMTX				IAmb_Lg		08 09 43.3	
comp=Z,8.6nm,0.7s							
R40A	**Maddies Statio**	**4.29**	**58**		Pn	08 08 37.3	+0.4
R40A				IAmb_Lg		08 09 46.7	
comp=Z,9.3nm,0.9s							
P38A	**Dawn**	**4.42**	**36**	Pn	Pn	08 08 38.7	0.0
LCAR	**Lake Charles**	**4.64**	**88**	Pn	Pn	08 08 43.1	+1.4
N35A	**Tabor**	**4.87**	**11**	Pn	Pn	08 08 44.3	-0.6
N35A				IAmb_Lg		08 10 17.0	
comp=Z,9.5nm,0.7s							
CCM	**Cathedral Cave**	**4.92**	**65**	Pn	Pn	08 08 43.6	-2.0
CCM				IAmb_Lg		08 10 14.4	
comp=Z,12nm,0.9s							
P40A	**Paris**	**5.14**	**47**	Pn	Pn	08 08 47.8	-0.8
P40A				IAmb_Lg		08 10 19.9	
comp=Z,7.7nm,0.8s							
PBMO	**Poplar Bluff**	**5.25**	**81**	IAmb_Lg		08 10 23.1	
comp=Z,7.0nm,0.7s							
MSTX	**Muleshoe**	**5.28**	**248**	Pn	Pn	08 08 49.5	-1.1
BGNE	**Belgrade**	**5.41**	**350**	IAmb_Lg		08 10 31.2	
comp=Z,10nm,0.8s							
N38A	**Joes South For**	**5.50**	**30**	IAmb_Lg		08 10 27.2	
comp=Z,5.5nm,0.8s							
L34A	**Svendsen Farm,**	**5.89**	**4**	IAmb_Lg		08 10 51.0	
comp=Z,6.3nm,0.8s							
T25A	**Trinidad**	**6.15**	**282**	Pn	Pn	08 09 03.7	+1.0
S44A	**Carbondale**	**6.32**	**73**	Pn	Pn	08 09 05.6	+0.8
S44A				IAmb_Lg		08 10 55.0	
comp=Z,10nm,0.8s							
SIUC	**Southern Illin**	**6.35**	**73**	Pn	Pn	08 09 03.2	-2.0
SIUC				IAmb_Lg		08 10 50.5	
comp=Z,9.6nm,0.7s							
SDCO	**Great Sand Dun**	**7.10**	**286**	Pn	Pn	08 09 15.3	-0.5
WVT	**Waverly**	**7.33**	**87**	Pn	Pn	08 09 17.9	-0.7
HDIL	**Hopedale**	**7.45**	**51**	IAmb_Lg		08 11 32.3	
comp=Z,9.3nm,0.8s							
WCI	**Wyandotte Cave**	**8.72**	**73**	IAmb_Lg		08 12 09.2	
comp=Z,5.4nm,0.7s							

JMA 21 08:16:39.4±0.1, 29°.66N×142°.51E, h33km±4km, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.57**	**186**	P	Pn	08 17 20.2	+1.5
CBIJ				S	Sn	08 17 50.6	+1.7
JHCJ	**Hachijojimakas**	**4.12**	**326**	*e*S	Sn	08 18 29.5	+2.5
JHJ2	**Mitsune**	**4.14**	**327**	P	Pn	08 17 42.5	+2.2
JHJ2				S	Sn	08 18 30.0	+2.4
BSO1	**Boso 1**	**5.14**	**346**	*e*S	Sn	08 18 54.7	+3.1
BSO3	**Boso 3**	**5.40**	**342**	P	Pn	08 18 00.6	+3.2
BSO3				*e*S	Sn	08 19 01.3	+3.1
BSO4	**Boso 4**	**5.62**	**341**	*e*S	Sn	08 19 07.1	+3.1
JHU	**Hanno**	**6.75**	**337**	P	Pn	08 18 18.8	+2.7
JHU				*e*S	Sn	08 19 34.4	+2.6
JRY	**Ryogami san**	**7.03**	**335**	P	Pn	08 18 23.2	+3.2
JAG	**Ashikaga**	**7.22**	**340**	P	Pn	08 18 25.4	+2.8

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*NEIC **21** 08:21:38.0±0.6, 24°.0N±0°.2×93°.7E±0°.2, h60km±5km, mb4.2/9, Error ellipse: s-maj=39.8km s-min=10.3km az=52.0*

*IDC **21** 08:21:39.0±2.8, 24°.06N×93°.77E, h74km±31km, mb3.8/4, mb1 4.0/6, mb1mx3.3/58, mbtmp4.0/6, Error ellipse: s-maj=24.4km s-min=18.4km az=70.0*

*NDI **21** 08:21:41.6±5.3, 24°.40N×93°.69E, h54km±60km, ML3.7, mb4.2(NEIC)*

ISC 21 08:21:38.2±1.1, 24°.20N±0°.06×93°.76E±0°.06, h61km±10km, n29, σ1$55/35, mb4.2/9, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.65**	**15**	*e*P	**Pn**	**08 21 52.0**	**0.0**
IMP				*e*S	**Sn**	**08 22 02.1**	**0.0**
IMP				IAML		08 22 04.8	
comp=N,1μm,0.1s							
IMP				IAML		08 22 04.9	
comp=E,2μm,0.4s							
SILR	**SILCHAR**	**1.05**	**304**	*e*P	**Pn**	**08 21 59.4**	**+2.5**
KOHI	**KOHIMA**	**1.54**	**12**	*e*P	**Pn**	**08 22 03.4**	**-0.3**
KOHI				*e*S	**Sn**	**08 22 22.8**	**0.0**
SHL	**Shillong**	**2.18**	**309**	*e*P	**Pn**	**08 22 11.7**	**-0.6**
SHL				*e*S	**Sn**	**08 22 36.1**	**-2.2**
SHL				IAML		08 22 37.3	
comp=E,533nm,0.1s							
SHL				IAML		08 22 38.0	
comp=N,1μm,0.1s							
SHL	**Shillong**	**2.18**	**309**	Pn	**Pn**	**08 22 11.6**	**-0.7**
AGT	**Agartala**	**2.32**	**263**	*e*S	**Sn**	**08 22 43.0**	**+1.6**
AGT				IAML		08 22 44.2	
comp=N,672nm,0.5s							
AGT				IAML		08 22 44.4	
comp=E,454nm,0.2s							
BRDH	**Bariadhala**	**2.47**	**232**	P	**Pn**	**08 22 16.0**	**-0.1**
comp=E,56nm,0.3s,baz=73,slow=4.1,SNR=14							
BRDH				S	**Sn**	**08 22 45.0**	**-0.1**
comp=E,197nm,0.3s,baz=224,slow=18,SNR=16							
ITAN	**ITANAGAR**	**2.93**	**359**	*e*P	**Pn**	**08 22 21.9**	**-0.5**
ITAN				*e*S	**Sn**	**08 22 54.6**	**-1.8**
ITAN				IAML		08 22 55.6	
comp=E,516nm,0.3s							
ITAN				IAML		08 22 57.8	
comp=N,733nm,0.5s							
GTK	**Tadong**	**5.59**	**305**	*ex*	x	08 22 40.6	
GTK				*e*S	**Sn**	**08 23 59.7**	**-2.2**
BOK	**Bokaro**	**7.21**	**268**	*e*P	**Pn**	**08 23 21.5**	**+0.4**
BOK				*e*S	**Sn**	**08 24 36.9**	**-4.7**
CMAR	**Chiang Mai Arr**	**7.48**	**139**	P	**Pn**	**08 23 24.4**	**-0.4**
comp=N,0.7nm,0.3s,baz=320,slow=14,SNR=7.2							
MK31	**Makanchi Array**	**24.35**	**341**	P	**P**	**08 26 51.1**	**+0.8**
MK31				IAmb	IAmb	08 27 05.4	
comp=Z,2.4nm,1.3s							
MKAR	**Makanchi Array**	**24.35**	**341**	P	**P**	**08 26 51.0**	**+0.7**
comp=Z,0.5nm,0.4s,baz=158,slow=11,SNR=14							
MKAR	**Makanchi Array**	**24.35**	**341**	P	**P**	**08 26 50.6**	**+0.3**
MAKZ	**Makanchi**	**24.45**	**340**	P	**P**	**08 26 52.4**	**+1.1**
MAKZ				IAmb	IAmb	08 27 18.2	
comp=Z,4.1nm,1.4s							
SONM	**Songino Array**	**25.63**	**20**	P	**P**	**08 27 03.0**	**+0.9**
comp=Z,1.2nm,0.7s,baz=206,slow=10.0,SNR=6.5							
SONM	**Songino Array**	**25.63**	**20**	P	**P**	**08 27 01.8**	**-0.3**
ABKAR	**Akbulak array**	**36.39**	**322**	P	**P**	**08 28 37.7**	**+1.2**
WB0	**Warramunga Arr**	**58.96**	**134**	P	**P**	**08 31 30.0**	**-1.7**
WB0				IAmb	IAmb	08 31 30.6	
comp=Z,6.6nm,0.8s							
WRA	**Warramunga Arr**	**59.05**	**134**	P	**P**	**08 31 30.7**	**-1.6**
comp=Z,4.1nm,0.6s,baz=322,slow=7.5,SNR=97							
WRA	**Warramunga Arr**	**59.05**	**134**	P	**P**	**08 31 30.6**	**-1.7**
WRAB	**Tennant Creek**	**59.05**	**134**	P	**P**	**08 31 30.9**	**-1.4**
WB2	**Warramunga Arr**	**59.06**	**134**	P	**P**	**08 31 30.9**	**-1.5**
WR0	**Warramunga Arr**	**59.20**	**134**	P	**P**	**08 31 31.6**	**-1.7**
WR0				IAmb	IAmb	08 31 36.1	
comp=Z,8.0nm,1.4s							
AS31	**Alice Springs**	**61.49**	**138**	P	**P**	**08 31 47.4**	**-1.5**
AS31				IAmb	IAmb	08 31 48.3	
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**61.49**	**138**	P	**P**	**08 31 47.6**	**-1.3**
comp=Z,2.7nm,0.6s,baz=322,slow=7.0,SNR=42							
ASAR	**Alice Springs**	**61.49**	**138**	P	**P**	**08 31 47.4**	**-1.5**
BMAR	**Burnt Mountain**	**78.98**	**20**	P	**P**	**08 33 37.0**	**+1.8**
BCAR	**Beaver Creek A**	**82.66**	**22**	P	**P**	**08 33 55.7**	**+0.8**

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*JMA **21** 08:32:15.1±0.1, 38°.11N×134°.27E, h428km±2km, M4.0*

*NIED **21** 08:32:15.2, 38°.11N×134°.27E, h428km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.40; $M_{\theta\theta}$-2.59; $M_{\phi\phi}$2.19; $M_{r\theta}$0.71; $M_{\theta\phi}$3.57; $M_{\phi r}$-3.95; Fault plane solution: $M_0$5.88000×10^{15} NP1: ϕ_s162.00000°, δ86.00000°, λ137.00000°. NP2: ϕ_s256.00000°, δ47.00000°, λ5.00000°.*

*BJI **21** 08:32:15.0±0.0, 38°.08N×134°.21E, h417km, mB4.6/19, mb4.7/34*

*NEIC **21** 08:32:16.9±1.2, 38°.06N±0°.08×134°.20E±0°.10, h408km±2km, mb4.3/155, Error ellipse: s-maj=12.5km s-min=10.4km az=147.0*

*IDC **21** 08:32:16.4±0.5, 38°.08N×134°.20E, h409km±5km, mb3.5/24, mb1 3.7/31, mb1mx3.6/64, mbtmp4.4/31, Error ellipse: s-maj=8.2km s-min=7.7km az=65.0*

ISC 21 08:32:16.0±0.3, 38°.08N±0°.05×134°.26E±0°.04, h407km, n523, σ1$25/544, mb4.3/126, 2C, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**1.96**	**205**	P	**P**	**08 33 13.6**	**+1.2**
JHG	**Hegura jima**	**2.11**	**95**	P	**P**	**08 33 14.8**	**+1.6**
JHG				S	**S**	**08 34 01.7**	**+2.1**
JKG	**Kaga**	**2.44**	**137**	P	**P**	**08 33 16.9**	**+1.4**
JKG				*e*S	**S**	**08 34 05.4**	**+1.7**
JSZ	**Suzu**	**2.54**	**103**	P	**P**	**08 33 17.6**	**+1.5**
JSZ				S	**S**	**08 34 06.7**	**+1.9**
JWT	**Wachi**	**2.94**	**161**	P	**P**	**08 33 20.6**	**+1.3**
JWT				*e*S	**S**	**08 34 12.0**	**+1.5**
JWT	**Wachi**	**2.94**	**161**	Pn	**P**	**08 33 20.5**	**+1.3**
JSD	**Sado**	**3.16**	**89**	P	**P**	**08 33 22.0**	**+1.1**
JSD				S	**S**	**08 34 13.9**	**+0.3**
JSD	**Sado**	**3.16**	**89**	Pn	**P**	**08 33 21.6**	**+0.7**
JHS	**Saijyo**	**3.21**	**197**	P	**P**	**08 33 22.8**	**+1.3**
JHS				S	**S**	**08 34 15.6**	**+1.0**
JHS	**Saijyo**	**3.21**	**197**	Pn	**P**	**08 33 22.3**	**+0.8**
MJB9	**Matsu-Tunnel**	**3.49**	**115**		**P**	**08 33 24.3**	**+0.5**
MAJO	**Matsushiro**	**3.50**	**115**		**P**	**08 33 24.3**	**+0.4**
MAT	**Matsushiro**	**3.50**	**115**	P	**P**	**08 33 24.8**	**+0.9**
MAT				S	**S**	**08 34 20.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.50**	**115**	P	**P**	**08 33 24.5**	**+0.6**
1.9nm,0.3s,baz=298,slow=9.8,SNR=107							
MJAR				S	**S**	**08 34 19.7**	**+0.6**
1.0nm,0.3s,baz=296,slow=19,SNR=4.4							
JGF	**Kuroka**	**3.50**	**134**	Pn	**P**	**08 33 25.0**	**+1.0**
INU	**Inuyama**	**3.51**	**140**		**P**	**08 33 24.3**	**+0.4**
KSULJ	**Uljin**	**4.10**	**252**	P	**P**	**08 33 30.4**	**+1.1**
SNR=29							
KSULJ	**Uljin**	**4.10**	**252**	P	**P**	**08 33 30.4**	**+1.1**
SNR=29							
KSULJ				S	**S**	**08 34 29.7**	**+0.6**
KSULJ	**Uljin**	**4.10**	**252**	P	**P**	**08 33 30.4**	**+1.1**
SNR=29							
JIE	**Ise**	**4.17**	**151**	P	**P**	**08 33 31.7**	**+1.6**
JRY	**Ryogami san**	**4.24**	**118**	P	**P**	**08 33 31.4**	**+0.7**
JMN	**Monobe**	**4.35**	**184**	Pn	**P**	**08 33 33.2**	**+1.4**
KSSKC	**Sokcho**	**4.53**	**274**	P	**P**	**08 33 34.4**	**+1.0**
SNR=22							
KSSKC	**Sokcho**	**4.53**	**274**	P	**P**	**08 33 34.4**	**+1.0**
SNR=22							
KSSKC	**Sokcho**	**4.53**	**274**	P	**P**	**08 33 34.4**	**+1.0**
SNR=22							
KSYOC	**YEONGCHEON**	**4.74**	**245**	P	**P**	**08 33 36.8**	**+1.2**
SNR=44							
KSYOC	**YEONGCHEON**	**4.74**	**245**	P	**P**	**08 33 36.8**	**+1.2**
SNR=44							
KSYOC	**YEONGCHEON**	**4.74**	**245**	P	**P**	**08 33 36.8**	**+1.2**
SNR=44							
KSYOC	**YEONGCHEON**	**4.74**	**245**	P	**P**	**08 33 36.8**	**+1.2**
SNR=44							
SEHB	**SEOHWA**	**4.74**	**274**	P	**P**	**08 33 36.9**	**+1.4**
SNR=22							
SEHB	**SEOHWA**	**4.74**	**274**	P	**P**	**08 33 36.9**	**+1.4**
SNR=22							
SEHB	**SEOHWA**	**4.74**	**274**	P	**P**	**08 33 36.9**	**+1.4**
SNR=22							
KSUSN	**Ulsan**	**4.75**	**242**	P	**P**	**08 33 36.7**	**+1.0**
SNR=28							
KSUSN	**Ulsan**	**4.75**	**242**	P	**P**	**08 33 36.7**	**+1.0**
SNR=28							
KSUSN	**Ulsan**	**4.75**	**242**	P	**P**	**08 33 36.7**	**+1.0**
SNR=28							
KSUSN	**Ulsan**	**4.75**	**242**	P	**P**	**08 33 36.7**	**+1.0**
SNR=28							
JOD2	**Odawara 2**	**4.79**	**124**	P	**P**	**08 33 37.0**	**+0.9**
JOD2				*e*S	**S**	**08 34 41.3**	**-0.2**
KSDAG	**Daegu**	**4.88**	**243**	P	**P**	**08 33 38.0**	**+1.1**
SNR=11							
KSDAG	**Daegu**	**4.88**	**243**	P	**P**	**08 33 38.0**	**+1.1**
SNR=11							
KSWJU	**Wonju**	**4.97**	**264**	P	**P**	**08 33 39.4**	**+1.6**
SNR=7.4							
KSWJU	**Wonju**	**4.97**	**264**	P	**P**	**08 33 39.4**	**+1.6**
SNR=7.4							
KSWJU	**Wonju**	**4.97**	**264**	P	**P**	**08 33 39.4**	**+1.6**
SNR=7.4							
KSBUS	**Busan**	**5.01**	**237**	P	**P**	**08 33 39.5**	**+1.3**
SNR=15							
KSBUS	**Busan**	**5.01**	**237**	P	**P**	**08 33 39.5**	**+1.3**
SNR=15							
KSBUS	**Busan**	**5.01**	**237**	P	**P**	**08 33 39.5**	**+1.3**
SNR=15							
KSBUS	**Busan**	**5.01**	**237**	P	**P**	**08 33 39.5**	**+1.3**
SNR=15							
KSRS	**Korea Array**	**5.06**	**265**	P	**P**	**08 33 40.8**	**+2.0**
18nm,0.3s,baz=79,slow=10,SNR=942							
KSRS				S	**S**	**08 34 48.9**	**+2.6**
baz=79,slow=21,SNR=5.1							
JYT	**Yasato**	**5.08**	**109**	Pn	**P**	**08 33 38.7**	**-0.3**
KSAR	**Wonju Array Be**	**5.09**	**265**		**P**	**08 33 40.3**	**+1.2**
KS19	**Wonju Array Si**	**5.10**	**265**		**P**	**08 33 40.3**	**+1.2**
KSCHC	**Chuncheon**	**5.11**	**269**	P	**P**	**08 33 41.0**	**+1.8**
SNR=13							
KSMGY	**Mungyeong**	**5.14**	**256**	P	**P**	**08 33 41.0**	**+1.4**
SNR=39							
KSMGY	**Mungyeong**	**5.14**	**256**	P	**P**	**08 33 41.0**	**+1.4**
SNR=39							
KSCHJ	**Chungju**	**5.14**	**258**	P	**P**	**08 33 41.1**	**+1.5**
SNR=34							
KSCHJ	**Chungju**	**5.14**	**258**	P	**P**	**08 33 41.1**	**+1.5**
SNR=32							
KSCHJ	**Chungju**	**5.14**	**258**	P	**P**	**08 33 41.1**	**+1.5**
SNR=34							
KSCHJ	**Chungju**	**5.14**	**258**	P	**P**	**08 33 41.1**	**+1.5**
SNR=32							
KSSAJ	**Sangju**	**5.15**	**253**	P	**P**	**08 33 40.9**	**+1.2**
SNR=12							
KSSAJ	**Sangju**	**5.15**	**253**	P	**P**	**08 33 40.9**	**+1.2**
SNR=12							
KSBSA	**Busan_acc**	**5.15**	**236**	P	**P**	**08 33 41.1**	**+1.4**
SNR=7.7							
KSBSA	**Busan_acc**	**5.15**	**236**	P	**P**	**08 33 41.1**	**+1.4**
SNR=7.7							
JMM	**Marumori**	**5.16**	**90**	Pn	**P**	**08 33 39.9**	**+0.2**
JTU	**Tsushima**	**5.29**	**229**	P	**P**	**08 33 41.6**	**+0.4**
KSGIC	**Gimchen**	**5.31**	**250**	P	**P**	**08 33 42.8**	**+1.5**
SNR=6.7							
KSGIC	**Gimchen**	**5.31**	**250**	P	**P**	**08 33 42.8**	**+1.5**
SNR=6.7							
JTO	**Tosashimizu**	**5.34**	**193**	P	**P**	**08 33 43.1**	**+1.4**
KSCPR	**CHUPUNGNYEONG**	**5.36**	**252**	P	**P**	**08 33 43.1**	**+1.3**
SNR=13							
KSCPR	**CHUPUNGNYEONG**	**5.36**	**252**	P	**P**	**08 33 43.1**	**+1.3**
SNR=13							
KSBON	**Boeun**	**5.39**	**255**	P	**P**	**08 33 43.4**	**+1.2**
SNR=27							
KSBON	**Boeun**	**5.39**	**255**	P	**P**	**08 33 43.4**	**+1.2**
SNR=27							
KSMAS	**Masan**	**5.42**	**239**	P	**P**	**08 33 44.1**	**+1.6**
SNR=8.9							
KSMAS	**Masan**	**5.42**	**239**	P	**P**	**08 33 44.1**	**+1.6**
SNR=8.9							
OKCB	**Cheongsan-myeo**	**5.44**	**253**	P	**P**	**08 33 44.1**	**+1.4**
SNR=17							
OKCB	**Cheongsan-myeo**	**5.44**	**253**	P	**P**	**08 33 44.1**	**+1.4**
SNR=17							
KSICN	**Icheon**	**5.49**	**264**	P	**P**	**08 33 44.7**	**+1.6**
SNR=33							
KSICN	**Icheon**	**5.49**	**264**	P	**P**	**08 33 44.7**	**+1.6**
SNR=33							
JMK	**Ichinoseki**	**5.53**	**79**	P	**P**	**08 33 43.7**	**+0.2**
EURB	**Uiryeong-eup**	**5.53**	**242**	P	**P**	**08 33 45.1**	**+1.5**
SNR=9.0							
EURB	**Uiryeong-eup**	**5.53**	**242**	P	**P**	**08 33 45.1**	**+1.5**
SNR=9.0							
KSKCH	**Geochang**	**5.65**	**246**	P	**P**	**08 33 46.4**	**+1.4**
SNR=11							
JOSM	**Okushiri--Mats**	**5.66**	**43**	P	**P**	**08 33 45.9**	**+1.1**
JNU	**Nakatsue**	**5.66**	**210**	P	**P**	**08 33 47.1**	**+2.0**
5.0nm,0.3s,baz=18,slow=2.6,SNR=32							
JNU				S	**S**	**08 35 00.0**	**+1.9**
baz=145,slow=14,SNR=3.7							
JNU	**Nakatsue**	**5.66**	**210**	Pn	**P**	**08 33 45.4**	**+0.3**
KSDDC	**Dongducheon**	**5.69**	**270**	P	**P**	**08 33 46.9**	**+1.6**
SNR=6.6							
KSDDC	**Dongducheon**	**5.69**	**270**	P	**P**	**08 33 46.9**	**+1.6**
SNR=6.6							
KSCEA	**Cheonan**	**5.71**	**259**	P	**P**	**08 33 47.2**	**+1.6**
SNR=79							
KSCEA	**Cheonan**	**5.71**	**259**	P	**P**	**08 33 47.2**	**+1.6**
SNR=79							
PYTK	**Pyeongtaek**	**5.79**	**261**	P	**P**	**08 33 48.3**	**+1.9**
SNR=8.6							
PYTK	**Pyeongtaek**	**5.79**	**261**	P	**P**	**08 33 48.3**	**+1.9**
SNR=8.6							
YNCB	**YEONCHEON**	**5.79**	**272**	P	**P**	**08 33 47.9**	**+1.6**
SNR=41							
YNCB	**YEONCHEON**	**5.79**	**272**	P	**P**	**08 33 47.9**	**+1.6**
SNR=41							
HAMB	**Hamyang**	**5.82**	**246**	P	**P**	**08 33 48.1**	**+1.4**
SNR=16							
KSSWO	**Suwon**	**5.84**	**264**	P	**P**	**08 33 48.4**	**+1.5**
SNR=12							
KSSWO	**Suwon**	**5.84**	**264**	P	**P**	**08 33 48.5**	**+1.6**
SNR=16							
KSSEO	**Seoul**	**5.85**	**266**	P	**P**	**08 33 48.5**	**+1.6**
SNR=10							
KSSEO	**Seoul**	**5.85**	**266**	P	**P**	**08 33 48.5**	**+1.6**
SNR=10							
**K

JHJ2 Mitsune 6.71 136 Pn **P** 08 33 57.7 +0.6
KSGBI Gyogryolbido 7.08 261 P **P** 08 34 02.2 +1.0
SNR=8.9
JEW Eniwo 7.25 47 P **P** 08 34 02.5 -0.4
JSJ Shimokoshiki 7.39 212 P **P** 08 34 05.2 +0.4
KSBAR Backryungdo 7.54 272 P **P** 08 34 07.3 +1.1
SNR=11
DACB Daecheong-do R 7.55 271 P **P** 08 34 07.2 +0.8
SNR=16
ERM Erimo 7.87 57 **P** 08 34 09.4 -0.4
JHR Hokuryu 8.00 43 P **P** 08 34 11.6 +0.5
JCH Churui 8.29 54 P **P** 08 34 13.8 -0.6
ASAJ Asahikawa 8.71 44 P **P** 08 34 19.2 +0.2
83nm,0.3s,baz=235,slow=9.7,SNR=411
ASAJ S **S** 08 35 52.6 -7.5
baz=155,slow=33,SNR=7.0
JKA Kamikawa-asahi 8.71 44 P **P** 08 34 18.8 -0.2
CN2 Changchun 8.78 313 *e*P **P** 08 34 20.3 +0.5
CN2 *e*S **S** 08 35 59.8 -1.7
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
JWK2 Keihoku 9.21 36 P **P** 08 34 25.7 +1.2
JTKR Abashiri--Toko 9.37 48 P **P** 08 34 25.1 -1.1
JTKR S **S** 08 36 09.6 -4.0
DL2 Dalian 9.94 279 P **P** 08 34 34.1 +1.4
DL2 S **S** 08 36 26.8 +1.3
DL2 pmax pmax
comp=Z,44nm,0.7s
YSS Yuzh-Sakhalins 10.85 32 P **P** 08 34 42.9 +0.3
KLR Kul'dur 11.30 352 P **P** 08 34 47.8 +0.2
1.0nm,0.3s,baz=160,slow=8.2,SNR=47
KLR S **S** 08 36 51.1 -1.5
0.0nm,0.3s,baz=195,slow=22,SNR=11
JOW Kunigami 12.29 206 P **P** 08 34 56.2 -2.7
4.0nm,0.3s,baz=86,slow=13,SNR=7.8
JCJ Chichijima 12.82 146 S **S** 08 37 17.6 -6.3
20nm,0.3s,baz=278,slow=21,SNR=6.3
TIA Tai'an 13.80 267 P **P** 08 35 16.0 +0.8
TIA pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 14.20 283 P **P** 08 35 19.4 0.0
HHC Hu-ho-hao-te 17.74 286 *e*P **P** 08 35 56.4 -1.1
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.7s
XAN Xi'an 20.86 267 P **P** 08 36 26.6 -1.2
XAN sP sP 08 38 19.8 -0.2
XAN pmax pmax
comp=Z,19nm,0.7s
ENH Enshi 21.88 257 P **P** 08 36 36.2 -1.0
SONM Songino Array 22.50 305 P **P** 08 36 42.5 -0.2
1.7nm,0.6s,baz=110,slow=9.6,SNR=9.0
LZH Lanzhou 24.30 275 ⇑P **P** 08 36 58.5 -0.6
LZH pmax pmax
comp=Z,17nm,1.3s
SEY Seymchan 27.22 18 P **P** 08 37 25.3 +0.9
1.4nm,0.6s,baz=195,slow=5.6,SNR=5.6
SLVN Son La 31.02 246 P **P** 08 37 57.7 -0.6
NONG Nongkai 33.69 242 P **P** 08 38 21.6 +0.4
988nm86nm,0.7s
NONG Nongkai 33.69 242 P **P** 08 38 21.6 +0.4
KHON Khomkaen 35.10 241 P **P** 08 38 33.5 +0.4
75nm,0.6s
WMQ Urumqi 35.27 294 *e*P **P** 08 38 35.9 +1.6
UTTA Uttaradit 35.74 245 P **P** 08 38 38.8 +0.4
204nm19nm,0.7s
UTTA Uttaradit 35.74 245 P **P** 08 38 38.9 +0.4
0.0nm51nm4.8nm,0.7s
LAMP Lampang 35.90 247 P **P** 08 38 40.6 +0.8
590nm35nm,0.8s
CHAI Chaiyaphum 35.98 241 P **P** 08 38 40.4 -0.1
631nm27nm,0.7s
CM34 Chiang Mai Arr 36.04 248 P **P** 08 38 41.0 0.0
CM35 Chiang Mai Arr 36.15 248 P **P** 08 38 42.0 +0.1
CMMT Chiang Mai 36.21 248 P **P** 08 38 42.5 +0.1
28nm,0.7s
CMMT Chiang Mai 36.21 248 P **P** 08 38 42.6 +0.1
0.1nm28nm,0.7s
CHTO Chiang Mai 36.21 248 P **P** 08 38 42.5 0.0
28nm,0.7s
CHTO Chiang Mai 36.21 248 P **P** 08 38 42.4 -0.1
CM36 Chiang Mai Arr 36.29 247 P **P** 08 38 43.0 -0.1
CM32 Chiang Mai Arr 36.39 248 P **P** 08 38 45.0 +1.1
CM09 Chiang Mai Arr 36.41 247 P **P** 08 38 45.9 +1.8
11nm,0.5s
CM09 Chiang Mai Arr 36.41 247 P **P** 08 38 46.0 +1.8
0.0nm11nm,0.5s
CM31 Chiang Mai Arr 36.44 248 P **P** 08 38 45.0 +0.7
3.1nm371nm,0.4s
CMAR Chiang Mai Arr 36.44 248 P **P** 08 38 44.6 +0.3
6.0nm,0.6s,baz=45,slow=7.9,SNR=24
CMAR Chiang Mai Arr 36.44 248 P **P** 08 38 44.3 -0.1
CM04 Chiang Mai Arr 36.45 247 P **P** 08 38 45.2 +0.8
12nm,0.7s
CM04 Chiang Mai Arr 36.45 247 P **P** 08 38 45.2 +0.8
0.0nm12nm,0.7s
CM01 Chiang Mai Arr 36.45 247 P **P** 08 38 46.3 +1.9
110nm14nm,0.7s
CM01 Chiang Mai Arr 36.45 247 P **P** 08 38 46.4 +2.0
0.0nm110nm14nm,0.7s
CM02 Chiang Mai Arr 36.45 247 P P 08 38 49.6 +5.2
9.8nm,0.7s
CM02 Chiang Mai Arr 36.45 247 P P 08 38 49.6 +5.2
0.0nm9.8nm,0.7s
CM15 Chiang Mai Arr 36.46 248 P **P** 08 38 45.5 +1.0
10nm,0.7s
CM15 Chiang Mai Arr 36.46 248 P **P** 08 38 45.0 +0.5
0.0nm10nm,0.7s
CM05 Chiang Mai Arr 36.47 247 P **P** 08 38 45.4 +0.8
104nm11nm,0.7s
CM05 Chiang Mai Arr 36.47 247 P **P** 08 38 45.0 +0.4
0.0nm104nm11nm,0.7s
CM13 Chiang Mai Arr 36.49 247 P **P** 08 38 45.4 +0.7
87nm8.4nm,0.8s
CM13 Chiang Mai Arr 36.49 247 P **P** 08 38 45.5 +0.7
ZALV Zalesovo Beam 37.00 312 ScP **ScP** 08 44 05.1 -1.5
1.7nm,0.7s,baz=104,slow=3.1,SNR=4.9
SHL Shillong 37.80 263 P **P** 08 38 54.4 -1.4
SHL IAmb IAmb 08 38 55.2
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 38.72 300 P **P** 08 39 02.5 -0.4
MKAR Makanchi Array 38.72 300 P **P** 08 39 02.2 -0.6
comp=Z,1.4nm,0.6s,baz=89,slow=10,SNR=19
MKAR ScP **ScP** 08 44 12.0 -1.4
comp=Z,0.7nm,0.7s,baz=81,slow=5.1,SNR=5.5
MKAR Makanchi Array 38.72 300 P **P** 08 39 02.8 -0.1
TOLI2 Tolitoli 38.82 202 P **P** 08 39 03.5 -0.5
TOLI2 IAmb IAmb 08 39 04.8
comp=Z,9.4nm,0.8s
TAPN Taplejung 40.24 269 *e*P **P** 08 39 15.1 -0.7
comp=Z,9.7nm,0.6s
ODAN Odare 40.72 268 *e*P **P** 08 39 19.0 -0.6
comp=Z,9.9nm,0.4s
FAKI Fak Fak 40.83 183 P **P** 08 39 20.7 +0.4
KURBB Kurchatov Arra 40.84 306 P **P** 08 39 19.3 -0.7
comp=Z,3.1nm,0.8s,baz=86,slow=8.6,SNR=16
KURBB pP **pP** 08 40 37.0 +0.2
comp=Z,0.6nm,0.7s,baz=87,slow=8.8,SNR=2.2
JIRN Jiri 41.29 270 *e*P **P** 08 39 24.5 +0.1
comp=Z,8.4nm,0.4s
GUN Gumba 41.42 271 *e*P **P** 08 39 25.5 +0.1
comp=Z,18nm,0.6s
PKIN Phulchoki 41.96 270 *e*P **P** 08 39 29.3 -0.3
comp=Z,9.3nm,0.5s
TNA Tin City 42.83 31 P **P** 08 39 36.5 +0.9
baz=259
DANN Dangsing 42.90 272 *e*P **P** 08 39 36.9 -0.2
comp=Z,41nm,0.7s
PYUN Piuthan 43.62 273 *e*P **P** 08 39 42.4 -0.3
comp=Z,27nm,0.4s
ANM Nome 43.74 33 P **P** 08 39 44.1 +1.3
baz=263
KSH Kashi 44.76 291 *e*P **P** 08 39 55.0 +3.7
KSH pmax pmax
comp=Z,74nm,4.7s
KAPI Kappang 44.94 201 P **P** 08 39 52.6 -0.2
comp=Z,7.8nm,0.6s,baz=296,slow=1.6,SNR=4.7
KAPI Kappang 44.94 201 P **P** 08 39 52.2 -0.6
RDOG Red Dog Mine 45.20 28 P **P** 08 39 56.7 +2.5
baz=262
RDOG Red Dog Mine 45.20 28 P **P** 08 39 56.3 +2.1
RDOG IAmb IAmb 08 39 59.1
comp=Z,24nm,1.7s

SDPT Sand Point 46.15 46 P **P** 08 40 02.9 +1.3
baz=276
KKAR Karatay Array 47.64 297 P **P** 08 40 12.5 -0.7
A21K Barrow 47.78 24 P **P** 08 40 14.9 +1.1
baz=265
N18K Kilae Creek 48.05 38 P **P** 08 40 17.0 +1.0
baz=275
L19K White Mountain 48.42 36 P **P** 08 40 19.9 +1.1
baz=275
O18K Koktuh Hills 48.47 39 P **P** 08 40 20.8 +1.5
baz=276
J20K Nowinta River 48.60 34 P **P** 08 40 21.9 +1.8
baz=274,SNR=6.8
M19K Big River Lodg 48.66 37 P **P** 08 40 21.7 +1.1
baz=275
K20K Telida 48.69 35 P **P** 08 40 22.3 +1.5
baz=274,SNR=9.8
N19K Bonanza Creek 48.73 38 P **P** 08 40 22.7 +1.4
baz=276
M20K Styx River 49.26 37 P **P** 08 40 26.6 +1.4
baz=276
CHUM Lake Minchumin 49.43 34 P **P** 08 40 28.3 +2.1
baz=275,SNR=6.0
I21K Tanana 49.46 32 P **P** 08 40 28.3 +1.8
baz=274,SNR=7.4
SII Sitkinak Islan 49.48 44 P **P** 08 40 28.8 +2.0
baz=280
P19K Oil Pt 49.49 40 P **P** 08 40 28.1 +1.3
baz=278
PPLA Purkeypile 49.59 35 P **P** 08 40 29.2 +1.6
baz=276,SNR=5.1
PPLA Purkeypile 49.59 35 P **P** 08 40 27.8 +0.2
RSO Redoubt South 49.62 38 P **P** 08 40 29.8 +1.8
GSI Gunungsitoli 49.72 232 P **P** 08 40 28.6 -0.5
O20K Slope Mountain 49.73 39 P **P** 08 40 29.4 +0.7
baz=278
OHAK Old Harbor 49.85 43 P **P** 08 40 30.1 +0.7
baz=280
BPAW Bear Paw Mtn. 49.99 34 P **P** 08 40 31.8 +1.3
baz=276,SNR=5.7
BPAW Bear Paw Mtn. 49.99 34 P **P** 08 40 31.9 +1.4
SKT Skwentna 50.00 36 P **P** 08 40 31.8 +1.2
baz=278
MLY Manley 50.00 32 P **P** 08 40 32.2 +1.7
baz=276,SNR=10
CHGR Chuyangaron 50.05 292 P **P** 08 40 31.0 -0.4
KTH Kantishna Hill 50.08 34 P **P** 08 40 32.4 +1.2
KTH IAmb IAmb 08 40 33.9
comp=Z,14nm,0.8s
KDAK Kodiak Island 50.12 42 P **P** 08 40 31.5 0.0
baz=280
TOLK Toolik Lake Re 50.16 28 P **P** 08 40 32.2 +0.4
baz=274
TOLK Toolik Lake Re 50.16 28 P **P** 08 40 32.1 +0.4
TRF Thorofare Moun 50.38 34 P **P** 08 40 34.2 +0.6
baz=277
TRF Thorofare Moun 50.38 34 P **P** 08 40 34.4 +0.8
H23K Yukon River 50.42 31 P **P** 08 40 35.6 +2.0
baz=276,SNR=26
SUA Susitna One 50.44 37 P **P** 08 40 35.7 +1.7
baz=279,SNR=8.6
SUA Susitna One 50.44 37 P **P** 08 40 35.3 +1.3
SUA IAmb IAmb 08 40 37.0
comp=Z,15nm,0.8s
I23K Minto, Yukon-K 50.57 32 P **P** 08 40 36.3 +1.6
baz=277,SNR=6.6
I23K Minto, Yukon-K 50.57 32 P **P** 08 40 35.8 +1.1
BWN Browne 50.65 33 P **P** 08 40 36.4 +1.2
BRLK Bradley Lake 50.65 39 P **P** 08 40 37.1 +1.7
BRLK IAmb IAmb 08 40 38.2
comp=Z,11nm,0.8s
BRSE Bradley Lake S 50.73 39 P **P** 08 40 36.7 +0.7
baz=280
NEA2 Nenana 50.76 33 P **P** 08 40 37.7 +1.6
baz=278,SNR=11
NEA2 Nenana 50.76 33 P **P** 08 40 36.8 +0.6
NEA2 IAmb IAmb 08 40 38.6
comp=Z,12nm,1.2s
MCK McKinley 50.94 34 P **P** 08 40 38.3 +0.8
baz=278
MCK McKinley 50.94 34 P **P** 08 40 37.9 +0.5
MCK IAmb IAmb 08 40 39.4
comp=Z,7.9nm,0.8s
RC01 Rabbit Creek A 50.98 37 P **P** 08 40 38.3 +0.5
baz=280
RC01 Rabbit Creek A 50.98 37 P **P** 08 40 37.7 -0.1
RC01 IAmb IAmb 08 40 39.3
comp=Z,11nm,1.1s
RND Reindeer 51.02 34 P **P** 08 40 39.2 +1.1
RND IAmb IAmb 08 40 39.9
comp=Z,17nm,1.1s
MDM Murphy Dome 51.07 32 P **P** 08 40 39.4 +1.0
MDM IAmb IAmb 08 40 41.0
comp=Z,17nm,1.1s
H24K Noodor Dome 51.09 31 P **P** 08 40 40.6 +1.9
baz=278,SNR=10.0
WRH Wood River Hil 51.20 33 P **P** 08 40 40.0 +0.7
WAT1 Susitna Watana 51.25 35 P **P** 08 40 40.2 +0.4
baz=279
CCB Clear Creek Bu 51.29 33 P **P** 08 40 40.8 +0.8
SEW Seward 51.30 39 P **P** 08 40 40.5 +0.4
baz=281,SNR=5.2
SEW Seward 51.30 39 P **P** 08 40 40.6 +0.6
SEW IAmb IAmb 08 40 41.4
comp=Z,9.5nm,0.7s
POKR Poker Plat Res 51.38 32 P **P** 08 40 42.3 +1.6
baz=278,SNR=5.5
POKR Poker Plat Res 51.38 32 P **P** 08 40 42.4 +1.7
POKR IAmb IAmb 08 40 43.4
comp=Z,17nm,0.8s
SML Sawmill 51.52 36 P **P** 08 40 42.7 +1.0
baz=280,SNR=5.4
SML Sawmill 51.52 36 P **P** 08 40 42.8 +1.0
SML IAmb IAmb 08 40 44.2
comp=Z,10nm,0.7s
KNK Knik Glacier 51.53 37 P **P** 08 40 42.7 +0.8
baz=281
KNK Knik Glacier 51.53 37 P **P** 08 40 42.5 +0.6
KNK IAmb IAmb 08 40 43.8
comp=Z,14nm,0.8s
WAT6 Susitna Watana 51.66 35 P **P** 08 40 43.4 +0.5
baz=280
IL31 51.66 32 P **P** 08 40 43.1 +0.4
ILAR Eielson Array 51.66 32 P **P** 08 40 43.2 +0.5
comp=Z,3.6nm,0.7s,baz=263,slow=5.1,SNR=38
ILAR pP **pP** 08 42 05.1 +0.9
comp=Z,0.5nm,0.4s,baz=281,slow=7.5,SNR=2.8
ILAR Eielson Array 51.66 32 P **P** 08 40 42.7 0.0
HDA Harding Lake 51.70 33 P **P** 08 40 43.5 +0.5
baz=280,SNR=14
HDA Harding Lake 51.70 33 P **P** 08 40 42.8 -0.2
HDA IAmb IAmb 08 40 44.3
comp=Z,12nm,0.7s
PWL Port Wells 51.70 37 P **P** 08 40 43.5 +0.4
PWL IAmb IAmb 08 40 44.6
comp=Z,9.6nm,0.8s
ARU Arti 51.76 317 P **P** 08 40 43.0 -0.6
comp=Z,1.9nm,0.2s,baz=109,slow=6.0,SNR=4.3
SCM Sheep Creek Mo 51.99 36 P **P** 08 40 45.9 +0.7
FYU Fort Yukon 52.05 30 P **P** 08 40 46.9 +1.4
FYU IAmb IAmb 08 40 48.5
comp=Z,8.8nm,0.7s
PRP Porcupine Dome 52.11 31 P **P** 08 40 47.2 +1.1
baz=280,SNR=16
PRP Porcupine Dome 52.11 31 P **P** 08 40 47.3 +1.1
PRP IAmb IAmb 08 40 48.6
comp=Z,8.7nm,0.7s
BMAR Burnt Mountain 52.17 29 P **P** 08 40 48.0 +1.6
GLI Glacier Island 52.29 37 P **P** 08 40 47.7 +0.3
baz=282
M24K Tolsona, Glenn 52.47 36 P **P** 08 40 49.6 +0.9
baz=282
HIN Hinchinbrook I 52.68 38 P **P** 08 40 51.3 +1.1
KLU Klutina 52.71 36 P **P** 08 40 51.6 +1.1
baz=283,SNR=5.0
KLU Klutina 52.71 36 P **P** 08 40 51.4 +0.9
KLU IAmb IAmb 08 40 52.5
comp=Z,17nm,1.3s
RIDG Independent Ri 52.73 34 P **P** 08 40 51.0 +0.4
baz=282,SNR=5.3
RIDG Independent Ri 52.73 34 P **P** 08 40 50.9 +0.4
ABKAR Abkulak array 52.86 308 P **P** 08 40 50.9 -0.8
ABKAR Abkulak array 52.86 308 P **P** 08 40 51.0 -0.7
ABKAR IAmb IAmb 08 40 51.7
comp=Z,3.8nm,0.7s
HARP HAARP 52.87 35 P **P** 08 40 52.7 +1.1
baz=282
EYAK Cordova Ski Ar 53.01 38 P **P** 08 40 53.5 +1.0
baz=283
SCRK Sand Creek 53.05 33 P **P** 08 40 53.4 +0.5
baz=282,SNR=29
SCRK Sand Creek 53.05 33 P **P** 08 40 53.2 +0.3
SCRK IAmb IAmb 08 40 54.5
comp=Z,15nm,0.7s
DOT Dot Lake 53.09 34 P **P** 08 40 52.9 -0.2
N25K Chitina, Valde 53.30 36 P **P** 08 40 56.1 +1.4
baz=284
N25K Chitina, Valde 53.30 36 P **P** 08 40 56.2 +1.4
N25K IAmb IAmb 08 40 58.2
comp=Z,7.8nm,0.7s
MENT Mentasta 53.40 34 P **P** 08 40 56.7 +1.4
MENT IAmb IAmb 08 40 57.9
comp=Z,14nm,0.8s
BMRM Bremner River 53.45 37 P **P** 08 40 57.0 +1.2
baz=284
BMRM Bremner River 53.45 37 P **P** 08 40 57.0 +1.2
BMRM IAmb IAmb 08 40 58.1
comp=Z,11nm,0.8s
L26K Log Cabin Wild 53.54 34 P **P** 08 40 57.9 +1.5
baz=284,SNR=5.7
AKTO Aktyubinsk 53.69 310 P **P** 08 40 56.6 -1.0
comp=Z,1.1nm,0.6s,baz=86,slow=14,SNR=5.1
GLB Gilahina Butte 53.71 36 P **P** 08 40 58.9 +1.2
M26K Nabesna, AK 53.85 35 P **P** 08 41 00.1 +1.5
baz=284,SNR=23
K27K Chicken 53.86 33 P **P** 08 40 59.9 +1.3
baz=284
EGAK Eagle 54.06 32 P **P** 08 41 00.9 +0.9
baz=284,SNR=7.9
EGAK Eagle 54.06 32 P **P** 08 41 01.0 +0.9
MCARA McCarthy VSAT 54.09 36 P **P** 08 41 01.5 +1.2
baz=285
MCARA McCarthy VSAT 54.09 36 P **P** 08 41 01.7 +1.4
MCARA IAmb IAmb 08 41 02.9
comp=Z,14nm,0.8s
CRQM Cirque 54.20 37 P **P** 08 41 02.7 +1.4
L27K Beaver Creek, 54.20 34 P **P** 08 41 02.9 +1.8
baz=285,SNR=23
L27K Beaver Creek, 54.20 34 P **P** 08 41 02.5 +1.4
L27K IAmb IAmb 08 41 03.9
comp=Z,13nm,0.8s
BCAR Beaver Creek A 54.22 34 P **P** 08 41 03.1 +1.9
CRQE Cirque 54.23 37 P **P** 08 41 02.7 +1.3
baz=285,SNR=5.6
TGL Tana Glacier 54.35 37 P **P** 08 41 03.2 +0.9
TGL IAmb IAmb 08 41 04.4
comp=Z,15nm,0.8s
BARN Barnard Glacie 54.81 36 P **P** 08 41 06.3 +0.6
CTG Chitna Glacier 54.99 36 P **P** 08 41 08.2 +1.4
baz=287,SNR=6.1
DAWY Dawson 54.99 32 P **P** 08 41 07.8 +1.1
CTGM Chitina Glacie 54.99 36 P **P** 08 41 08.5 +1.6
CTGM IAmb IAmb 08 41 09.1
comp=Z,12nm,0.8s
EPYK Eagle Plains 55.42 29 P **P** 08 41 10.9 +1.2
baz=287,SNR=9.0
EPYK Eagle Plains 55.42 29 P **P** 08 41 10.5 +0.8
EPYK IAmb IAmb 08 41 11.4
comp=Z,11nm,0.6s
PINM Pinnacle 55.76 37 P **P** 08 41 13.2 +1.0
baz=288
INK Inuvik 56.03 27 P **P** 08 41 14.6 +0.8
baz=288
HYT Haines Junctio 56.82 36 P **P** 08 41 21.1 +1.5
HYT IAmb IAmb 08 41 22.6
comp=Z,11nm,0.8s
WB0 Warramunga Arr 57.53 180 P **P** 08 41 24.6 -0.3
WRA Warramunga Arr 57.71 180 P **P** 08 41 25.7 -0.4
comp=Z,4.3nm,0.4s,baz=354,slow=7.6,SNR=111
WRA Warramunga Arr 57.71 180 P **P** 08 41 25.7 -0.4
WR0 Warramunga Arr 57.73 180 P **P** 08 41 25.9 -0.3
SKAG Skagway 58.32 37 P **P** 08 41 31.4 +1.6
baz=292
SKAG Skagway 58.32 37 P **P** 08 41 30.7 +0.9
SIT Sitka 59.25 39 P **P** 08 41 37.4 +1.3
baz=293
ARCES ARCESS Array B 60.94 338 P **P** 08 41 47.9 +0.6
comp=Z,0.9nm,0.7s,baz=62,slow=8.5,SNR=4.1
AS31 Alice Springs 61.41 180 P **P** 08 41 50.3 -0.7
ASAR Alice Springs 61.42 180 P **P** 08 41 51.1 +0.1
comp=Z,3.8nm,0.7s,baz=2.8,slow=8.9,SNR=46
ASAR Alice Springs 61.42 180 P **P** 08 41 51.3 +0.3
DAG Danmarks Havn 64.16 353 *i* P P 08 42 17.3 +9.1
DAG IAmb IAmb 08 42 17.7
comp=Z,1.6nm,0.7s
NEEM North Greenlan 64.70 1⇑ *i*P **P** 08 42 12.5 +0.5
NEEM IAmb IAmb 08 42 13.1
comp=Z,6.4nm,0.6s
FINES FINESS Array B 65.15 330 P **P** 08 42 14.4 -0.3
comp=Z,2.0nm,0.7s,baz=87,slow=4.3,SNR=5.9
YKA Yellowknife Ar 65.68 28 P **P** 08 42 18.5 +0.5
comp=Z,1.6nm,0.7s,baz=300,slow=6.8,SNR=7.9
KBZ Khabaz 65.83 307 P **P** 08 42 19.3 0.0
comp=Z,0.8nm,0.4s,baz=55,slow=7.9,SNR=2.2
SUMG Summit 69.53 358 *i* P **P** 08 42 43.1 +1.0
SUMG IAmb IAmb 08 42 43.7
comp=Z,5.4nm,0.6s
SUMG Summit 69.53 358 P **P** 08 42 41.8 -0.3
SUMG IAmb IAmb 08 42 43.9
comp=Z,5.4nm,0.8s
AKASG Malin Array Be 69.89 319 P **P** 08 42 42.9 -1.3
comp=Z,1.4nm,0.3s,baz=44,slow=7.1,SNR=7.2
D03D Eldon 70.45 45 P **P** 08 42 48.7 +1.1
baz=305
B05A Bryant 70.58 44 P **P** 08 42 49.8 +1.5
baz=306
HFS Hagfors 70.68 333 P **P** 08 42 48.2 -0.5
comp=Z,1.2nm,0.5s,baz=103,slow=4.7,SNR=6.0
NOA NORSAR Array B 70.91 334 P **P** 08 42 49.6 -0.5
comp=Z,0.6nm,0.8s,baz=44,slow=12,SNR=1.9
E04D Cinebar 71.31 45 P **P** 08 42 53.6 +0.9
baz=306
B08A Colville Reser 72.00 42 P **P** 08 42 57.5 +0.7
I03D Drain, OR 72.54 48 P **P** 08 43 01.1 +1.1
baz=306
H04A Detroit Lake 72.63 47 P **P** 08 43 01.5 +1.0
H04A IAmb IAmb 08 43 02.5
comp=Z,7.5nm,0.9s
K02D Willamette Mer 72.95 49 P **P** 08 43 03.8 +1.4
baz=306
D08A Wollman Farm, 73.02 43 P **P** 08 43 03.5 +0.8
D08A IAmb IAmb 08 43 04.6
comp=Z,4.5nm,0.8s
I04A Tendick Farm, 73.03 47 P **P** 08 43 04.3 +1.4
baz=307
HAWA Hanford 73.09 44 P **P** 08 43 04.4 +1.3
HAWA IAmb IAmb 08 43 05.3
comp=Z,6.3nm,0.8s
NEW Newport 73.23 41 P **P** 08 43 05.0 +1.1
baz=309
E08A Dider Farm, El 73.29 44 P **P** 08 43 05.3 +1.1
E08A IAmb IAmb 08 43 06.4
comp=Z,5.1nm,0.7s
I05D Terrebonne, OR 73.33 47 P **P** 08 43 05.5 +0.9
baz=307
BRTR Keskin Array B 73.81 308 P **P** 08 43 08.2 +0.6
comp=Z,0.8nm,0.8s,baz=103,slow=5.6,SNR=3.8
PINE Pine Mountain 73.89 47 P **P** 08 43 08.9 +0.9
J05D Fort Rock, OR 74.02 47 P **P** 08 43 09.9 +1.1
baz=308
L04D Klamath Falls 74.04 49 P **P** 08 43 09.9 +1.0
baz=307
M02C Callahan 74.21 50 P **P** 08 43 11.1 +1.4
baz=307
WALA Waterton Lakes 74.36 39 P **P** 08 43 11.5 +1.0
WALA IAmb IAmb 08 43 12.5
comp=Z,4.0nm,0.8s
I07A Izee 74.53 46 P **P** 08 43 12.6 +1.1
N02D Trinity Center 74.55 50 P **P** 08 43 12.7 +1.0
baz=307
K05A Summer Lake 74.56 48 P **P** 08 43 12.8 +0.9
K05A IAmb IAmb 08 43 14.6
comp=Z,7.0nm,0.8s
M04C Macdoel 74.58 49 P **P** 08 43 13.0 +1.0
baz=308
F10A Beach Ranch, E 74.61 43 P **P** 08 43 12.4 +0.5
WDC Whiskeytown Da 74.89 50 P **P** 08 43 13.8 +0.3
O02D Mt. Diablo Mer 74.98 51 P **P** 08 43 15.8 +1.7
baz=307
JTMT Jette 75.03 41 P **P** 08 43 15.4 +1.1
JTMT IAmb IAmb 08 43 16.6
comp=Z,6.1nm,0.8s

BMO	Blue Mountains	75.27	44	P	P	08 43 16.6 +0.9
BMO				IAmb	IAmb	08 43 17.9
	comp=Z,5.3nm,0.8s					
MOD	Modoc Plateau	75.41	48	P	P	08 43 17.3 +0.6
O03E	Paynes Creek	75.51	50	P	P	08 43 17.9 +0.8
	baz=308					
J08A	Circle Bar Ran	75.56	46	P	P	08 43 19.1 +1.7
FFC	Flin Flon	75.77	30	P	P	08 43 18.5 +0.3
MSO	Missoula	75.80	41	P	P	08 43 19.1 +0.4
	baz=311					
MSO	Missoula	75.80	41	P	P	08 43 19.1 +0.4
PLID	Pearl Lake	75.84	43	P	P	08 43 19.9 +0.9
ORV	Oroville	76.14	51	P	P	08 43 20.7 +0.1
ORV				IAmb	IAmb	08 43 22.0
	comp=Z,3.5nm,0.8s					
BEKR	Beckworth	76.64	50	P	P	08 43 24.4 +0.9
BEKR				IAmb	IAmb	08 43 25.5
	comp=Z,7.0nm,0.8s					
AFDM	Forest Hills D	76.84	51	P	P	08 43 25.5 +1.1
HRY	Holter Researc	76.96	40	P	P	08 43 25.8 +0.6
MFID	Camas Ranch	77.01	45	P	P	08 43 26.6 +1.1
EGMT	Eagleton	77.11	38	P	P	08 43 26.6 +0.8
	baz=313					
EGMT	Eagleton	77.11	38	P	P	08 43 26.1 +0.3
EGMT				IAmb	IAmb	08 43 27.3
	comp=Z,4.8nm,0.7s					
LRM	Limekiln Ridge	77.24	41	P	P	08 43 27.5 +0.7
PAHR	Pah Rah Range	77.33	49	P	P	08 43 28.6 +1.3
PAHR				IAmb	IAmb	08 43 29.9
	comp=Z,6.6nm,0.9s					
VCNR	Virginia City	77.43	50	P	P	08 43 29.4 +1.5
VCNR				IAmb	IAmb	08 43 30.2
	comp=Z,4.6nm,0.8s					
DLMT	Dillon	77.47	42	P	P	08 43 28.8 +0.8
PNTR	Pine Nut	77.59	50	P	P	08 43 29.1 +0.2
PNTR				IAmb	IAmb	08 43 31.2
	comp=Z,7.0nm,0.8s					
MCMT	McKenzie Canyo	77.70	42	P	P	08 43 30.2 +0.9
CMB	Columbia Colle	77.77	51	P	P	08 43 30.3 +0.7
BOZ	Bozeman (W)	77.82	41	P	P	08 43 31.0 +1.1
	baz=313,SNR=5.5					
YERR	Yerington	77.87	50	P	P	08 43 31.1 +0.8
QLMT	Earthquake Lak	78.44	41	P	P	08 43 34.4 +1.0
KVN	Kaiserville	78.51	49	P	P	08 43 34.9 +1.0
RYN	Ryan	78.53	50	P	P	08 43 34.7 +0.9
RYN				IAmb	IAmb	08 43 36.2
	comp=Z,5.0nm,1.0s					
GCMT	Greycliff	78.69	40	P	P	08 43 35.1 +0.5
YHH	Holmes Hill	78.77	41	P	P	08 43 36.0 +0.8
YHH				IAmb	IAmb	08 43 37.5
	comp=Z,5.3nm,1.1s					
LHV	Little Huntoon	78.78	50	P	P	08 43 35.9 +0.9
LHV				IAmb	IAmb	08 43 38.0
	comp=Z,7.5nm,1.0s					
NVAR	Mina Array Bea	78.79	50	P	P	08 43 37.0 +1.7
	comp=Z,2.5nm,0.6s,baz=294,slow=5.0,SNR=30					
YMR	Madison River	78.80	41	P	P	08 43 35.5 +0.2
YMR				IAmb	IAmb	08 43 37.4
	comp=Z,4.8nm,0.7s					
NV11	Mina Array Sit	78.88	50	P	P	08 43 36.6 +0.9
NV11				IAmb	IAmb	08 43 38.0
	comp=Z,4.0nm,0.9s					
YNE	Yellowstone No	79.06	41	P	P	08 43 37.5 +0.8
ELK	Elko	79.09	46	P	P	08 43 37.9 +1.0
LKWY	Lake	79.16	41	P	P	08 43 39.8 +2.5
H17A	Grant Village	79.18	41	P	P	08 43 40.3 +2.9
	baz=314,SNR=13					
FLWY	Flagg Ranch	79.33	42	P	P	08 43 39.7 +1.5
FLWY				IAmb	IAmb	08 43 41.5
	comp=Z,7.5nm,1.1s					
IMW	Indian Meadow	79.34	42	P	P	08 43 40.1 +1.9
IMW				IAmb	IAmb	08 43 41.1
	comp=Z,6.1nm,0.8s					
RLMT	Red Lodge	79.36	40	P	P	08 43 39.3 +1.1
	baz=314,SNR=6.3					
RLMT	Red Lodge	79.36	40	P	P	08 43 38.9 +0.7
RLMT				IAmb	IAmb	08 46 42.3
	comp=Z,3.8nm,0.8s					
TPAW	Teton Pass	79.61	42	P	P	08 43 40.5 +0.8
TPAW				IAmb	IAmb	08 43 42.4
	comp=Z,4.2nm,0.8s					
TPH	Tonopah	79.67	50	P	P	08 43 40.8 +0.8
LOHW	Long Hollow	79.71	42	P	P	08 43 41.7 +1.5
SNOW	Snow King Moun	79.73	42	P	P	08 43 40.9 +0.6
SNOW				IAmb	IAmb	08 43 43.0
	comp=Z,4.3nm,0.7s					
REDW	Red Top Meadow	79.75	42	P	P	08 43 41.8 +1.4
REDW				IAmb	IAmb	08 43 42.9
	comp=Z,5.5nm,1.0s					
LAO	LASA Array	79.76	38	P	P	08 43 41.8 +1.7
	baz=316					
VES	Vestal, Richgr	79.96	52	P	P	08 43 42.2 +0.9
	baz=310					
GRAC	Grapevine Rang	80.28	50	P	P	08 43 44.5 +1.5
	baz=311,SNR=6.1					
ISA	Isabella, Lake	80.46	52	P	P	08 43 44.6 +0.5
	baz=310					
R11A	Troy Canyon, C	80.46	48	P	P	08 43 45.2 +1.0
	baz=311					
HWUT	Hardware Ranch	80.56	44	P	P	08 43 46.2 +1.5
HWUT				IAmb	IAmb	08 43 47.1
	comp=Z,7.2nm,0.9s					
SPR3	Spring Creek 3	80.77	47	P	P	08 43 47.5 +1.5
DUG	Dugway, Tooele	80.83	46	P	P	08 43 47.2 +1.1
	baz=313,SNR=5.2					
DUG	Dugway, Tooele	80.83	46	P	P	08 43 47.3 +1.3
DUG				IAmb	IAmb	08 43 48.4
	comp=Z,5.1nm,0.9s					
BW06	Boulder Array	80.84	42	P	P	08 43 46.6 +0.4
	baz=314,SNR=9.2					
BW06	Boulder Array	80.84	42	P	P	08 43 46.3 +0.1
BW06				IAmb	IAmb	08 43 47.7
	comp=Z,4.8nm,0.9s					
PD31	Pinedale Array	80.84	42	P	P	08 43 46.8 +0.6
PD31				IAmb	IAmb	08 43 47.7
	comp=Z,4.3nm,0.9s					
PDAR	Pinedale Array	80.84	42	P	P	08 43 46.8 +0.6
	comp=Z,3.3nm,0.8s,baz=311,slow=1.0,SNR=36					
PDAR				pP	pP	08 45 19.5 +2.1
	comp=Z,0.2nm,0.7s,baz=298,slow=1.9,SNR=2.5					
PDAR	Pinedale Array	80.84	42	P	P	08 43 46.1 -0.1
FURC	Furnace Creek,	80.93	51	P	P	08 43 47.5 +1.2
	baz=311,SNR=14					
TPNV	Topopah Spring	80.99	50	P	P	08 43 48.0 +1.1
	baz=311,SNR=10					
TPNV	Topopah Spring	80.99	50	P	P	08 43 48.0 +1.1
TPNV				IAmb	IAmb	08 43 48.7
	comp=Z,5.3nm,0.7s					
LRMC	Laurel Mtn Rad	81.07	52	P	P	08 43 48.3 +0.9
	baz=311					
EDW2	Edwards Air Fo	81.26	52	P	P	08 43 49.2 +0.9
	baz=311,SNR=6.1					
PSUT	Pine Spring	81.35	47	P	P	08 43 50.2 +1.4
PSUT				IAmb	IAmb	08 43 51.1
	comp=Z,5.3nm,0.8s					
PRN	Pahroc Range	81.40	49	P	P	08 43 50.5 +1.5
NLU	North Lily Min	81.41	45	P	P	08 43 50.5 +1.4
ULM	Lac du Bonnet	81.60	30	P	P	08 43 49.8 +0.2
	comp=Z,5.9nm,0.7s,baz=316,slow=6.2,SNR=7.4					
ULM	Lac du Bonnet	81.60	30	P	P	08 43 49.9 +0.3
MPU	Maple Canyon	81.62	45	P	P	08 43 51.0 +0.8
MPU				IAmb	IAmb	08 43 52.4
	comp=Z,3.9nm,0.9s					
SHOC	Shoshone, Teco	81.66	51	P	P	08 43 51.5 +1.3
	baz=311					
GSC	Goldstone, Bar	81.73	51	P	P	08 43 51.4 +0.7
	baz=311					
GSC	Goldstone, Bar	81.73	51	P	P	08 43 51.8 +1.1
GSC				IAmb	IAmb	08 43 52.8
	comp=Z,8.1nm,1.1s					
MDND	Maddock	81.92	33	P	P	08 43 52.4 +1.0
	baz=320					
SHPR	Sheep Range	81.94	50	P	P	08 43 53.3 +1.4
SHPR				IAmb	IAmb	08 43 54.4
	comp=Z,5.1nm,0.9s					
TCRU	Three Creeks R	82.11	47	P	P	08 43 54.6 +1.8
TUQ	Turquoise Moun	82.18	51	P	P	08 43 54.2 +1.1
	baz=312,SNR=8.4					
MVU	Marysvale	82.32	47	P	P	08 43 55.2 +1.3
HEC	Hector,Ludlow	82.33	52	P	P	08 43 55.0 +1.2
	baz=312					
MSU	Marysvale	82.33	47	P	P	08 43 55.3 +1.4
BBRC	Big Bear Solar	82.34	52	P	P	08 43 54.9 +0.9
	baz=311					
RDMU	Red Mountain	82.37	44	P	P	08 43 54.6 +0.6
RDMU				IAmb	IAmb	08 43 56.2
	comp=Z,7.6nm,1.1s					
MTPU	Mount Pierson	82.65	47	P	P	08 43 56.8 +1.0
MTPU				IAmb	IAmb	08 43 58.8
	comp=Z,6.6nm,0.9s					
RSSD	Black Hills	82.68	38	P	P	08 43 56.7 +1.1
	baz=318					
RSSD	Black Hills	82.68	38	P	P	08 43 57.1 +1.5
RSSD				IAmb	IAmb	08 43 58.0
	comp=Z,3.8nm,0.7s					
LCMT	Little Creek M	82.74	48	P	P	08 43 56.9 +1.0
GMRC	Granite Mounta	82.77	51	P	P	08 43 57.5 +1.3
	baz=312					
KNB	Kanab	82.98	48	P	P	08 43 58.9 +1.7
KNB				IAmb	IAmb	08 44 00.1
	comp=Z,5.9nm,1.1s					
PKCU	Pink Cliffs	82.99	47	P	P	08 43 59.0 +1.6
PFO	Pinyon Flats O	83.05	53	P	P	08 43 58.3 +0.8
	baz=312					
TPFO	Pinon Flats	83.06	53	P	P	08 43 58.2 +0.7
	baz=312					
BELC	Belle Mtn. Jos	83.08	52	P	P	08 43 58.6 +0.9
	baz=312					
AGMN	Agassiz Nation	83.15	31	P	P	08 43 57.5 0.0
	baz=322					
O20A	White River Ci	83.40	43	P	P	08 44 00.1 +0.8
	baz=315					
O20A	White River Ci	83.40	43	P	P	08 43 59.6 +0.3
O20A				IAmb	IAmb	08 44 01.0
	comp=Z,5.1nm,0.8s					
IRM	Iron Mountain	83.51	51	P	P	08 44 00.9 +1.1
	baz=312,SNR=5.6					
W13A	Hualapai Mount	83.64	50	P	P	08 44 01.4 +0.8
W13A				IAmb	IAmb	08 44 02.8
	comp=Z,5.7nm,1.3s					
U15A	North Rim	83.69	48	P	P	08 44 02.4 +1.5
B35A	Bob, Littlefor	83.95	30	P	P	08 44 01.8 +0.2
PDMCI	Parker Dam,Lak	84.03	51	P	P	08 44 03.1 +0.8
	baz=313					
PHWY	Pilot Hill	84.03	41	P	P	08 44 03.2 +0.7
N23A	Red Feather La	84.07	41	P	P	08 44 03.5 +0.8
	baz=317					
GLA	Glamis	84.44	52	P	P	08 44 05.7 +1.3
	baz=312					
PV13	Radium Mtn., P	84.48	45	P	P	08 44 05.3 +0.6
PV13				IAmb	IAmb	08 44 07.5
	comp=Z,2.9nm,0.7s					
CPBX	Cerro Prieto	84.57	53	P	P	08 44 06.5 +1.6
PV01	Paradox Valley	84.63	45	P	P	08 44 06.8 +1.3
PV01				IAmb	IAmb	08 44 07.6
	comp=Z,3.6nm,0.7s					
SMCO	Snowmass	84.77	43	P	P	08 44 06.8 +0.5
SMCO				IAmb	IAmb	08 44 08.5
	comp=Z,4.2nm,0.8s					
SUSD	Miller	84.83	35	P	P	08 44 07.2 +1.1
	baz=321					
SUSD	Miller	84.83	35	P	P	08 44 07.2 +1.1
WUAZ	Wupatki	84.86	48	P	P	08 44 07.9 +1.4
	baz=314					
WUAZ	Wupatki	84.86	48	P	P	08 44 08.0 +1.4
WUAZ				IAmb	IAmb	08 44 09.1
	comp=Z,4.1nm,1.1s					
ISCO	Idaho Springs	85.04	42	P	P	08 44 08.7 +1.1
	baz=317					
ISCO	Idaho Springs	85.04	42	P	P	08 44 08.6 +1.0
ISCO				IAmb	IAmb	08 44 09.6
	comp=Z,2.8nm,0.8s					
EYMN	Ely	85.16	29	P	P	08 44 08.3 +0.7
	baz=326					
MVCO	Mesa Verde	85.33	45	P	P	08 44 09.9 +1.0
	baz=315					
MVCO	Mesa Verde	85.33	45	P	P	08 44 10.0 +1.0
MVCO				IAmb	IAmb	08 44 11.2
	comp=Z,4.1nm,1.0s					
S22A	4UR Ranch, Cre	85.87	44	P	P	08 44 12.7 +1.0
	baz=316					
ECSD	EROS Data Cent	86.44	34	P	P	08 44 14.9 +1.1
	baz=322					
SDCO	Great Sand Dun	86.60	43	P	P	08 44 15.9 +0.8
	baz=317					
SDCO	Great Sand Dun	86.60	43	P	P	08 44 14.9 -0.2
SPMN	Marine on St.	86.87	31	P	P	08 44 16.6 +0.7
	baz=325					
TUC	Tucson	87.43	50	P	P	08 44 20.1 +1.2
	baz=314					
BGNE	Belgrade	87.56	37	P	P	08 44 20.4 +1.2
	baz=321					
T25A	Trinidad	87.63	43	P	P	08 44 20.9 +1.0
	baz=318					
T25A	Trinidad	87.63	43	P	P	08 44 20.2 +0.3
T25A				IAmb	IAmb	08 44 21.3
	comp=Z,2.8nm,0.7s					
G40A	Rib Lake	87.87	30	P	P	08 44 21.5 +0.9
ANMO	Albuquerque	88.10	46	P	P	08 44 23.7 +1.6
	comp=Z,0.7nm,0.8s,baz=291,slow=8.6,SNR=4.0					
ANMO	Albuquerque	88.10	46	P	P	08 44 23.4 +1.3
	baz=317					
ANMO	Albuquerque	88.10	46	P	P	08 44 23.6 +1.6
Y22D	IRIS PASSCAL I	88.47	47	P	P	08 44 23.5 -0.3
	baz=316					
CHGQ	Chibougamau	88.81	18	P	P	08 44 25.4 +0.5
	baz=338					
LSQQ	Lebel-sur-Quev	88.93	20	P	P	08 44 25.7 +0.3
	baz=336					
N35A	Tabor	89.16	35	P	P	08 44 25.8 -0.9
JFWS	Jewell Farm	89.82	31	P	P	08 44 29.6 -0.1
	baz=326					
KSU1	Kansas State U	90.10	37	P	P	08 44 31.9 +0.8
	baz=322					
AMTX	Amarillo	90.78	43	P	P	08 44 35.2 +0.7
	baz=319					
P38A	Dawn	91.11	35	P	P	08 44 36.4 +0.7
TX31	Lajitas Ar. Si	93.81	48	P	P	08 44 48.9 +0.4
TX32	Lajitas Array	93.81	48	P	P	08 44 49.4 +0.9
TXAR	Lajitas Array	93.82	48	P	P	08 44 49.7 +1.2
	comp=Z,1.3nm,0.7s,baz=295,slow=3.1,SNR=20					
U40A	Yellville	94.07	36	P	P	08 44 49.9 +0.5
	baz=325					
G64A	Maxfield	94.49	16	P	P	08 44 51.7 +0.6
	baz=342					
MIAR	Mount Ida	95.20	38	P	P	08 44 54.9 +0.4
	baz=324					
O56A	Blue Knob Stat	96.43	25	P	P	08 44 58.7 -1.4
	baz=335					
OXF	Oxford	97.18	35	P	P	08 45 02.4 -1.1
	baz=327					
BRAL	Brewton	101.06	35	P	Pdif	08 45 19.6 -1.2
	baz=328					
BATAN	Batan	120.56	44		PKPdf	08 50 20.1 -0.6
LPAZ	La Paz	150.69	48	PKPbc	PKiKP	08 51 22.4 -0.1
	comp=Z,2.5nm,0.8s,baz=28,slow=11,SNR=8.9					

*DDA **21** 08:32:40.9,39°.17N×29°.38E,h7km±2km,ML2.1*

ISK 21 08:32:40.6,39°.19N×29°.41E,h5km,ML2.5/14,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.12	149	*i* P	Pg	08 32 43.8	+0.8
GDZ				*i* S	Sg	08 32 45.9	+1.2
SHAP	Saphane-Kutahy	0.22	221	PG	Pg	08 32 45.4	+0.5
SHAP				SG	Sg	08 32 48.9	+1.1
TVSB	Tavsanli	0.27	9	PG	Pg	08 32 46.4	+0.6
TVSB				SG	Sg	08 32 49.8	+0.5
SMAA	Simav-Kutahya	0.34	255	PG	Pg	08 32 47.8	+0.5
SMAA				SG	Sb	08 32 53.4	-1.6
DEMI	Demirci	0.56	255	*i* P	Pg	08 32 52.0	+0.8
DEMI				*i* S	Sg	08 32 59.8	+1.3
USAK	Uak-Merkez	0.56	213	*i* P	Pg	08 32 51.9	+0.5
USAK				*i* S	Sg	08 32 59.4	+0.7
DURS	Dursunbey	0.83	300	*i* P	Pg	08 32 57.0	+0.5
DURS				*i* S	Sn	08 33 12.3	+0.6
PASA	Karahalli, USA	0.84	176	*i* P	Pg	08 32 56.7	0.0
PASA				*i* S	Sg	08 33 07.2	-0.4
AUBOZ	BOZOYUK	0.87	34	PG	Pb	08 32 57.9	-0.3
KULA	Kula-Manisa	0.89	221	PG	Pg	08 32 57.7	0.0
MANT	Manisa	0.96	224	*i* P	Pg	08 32 59.1	+0.1
MANT				*i* S	Sg	08 33 11.5	0.0
ULDT	Uludag	0.97	348	*i* P	Pg	08 32 59.6	+0.2
ULDT				*i* S	Sn	08 33 16.3	+0.9
ULDT				IAML		08 33 17.0	
	comp=N,58nm,0.2s						
BORA	Eskisehir	1.06	49	PG	Pg	08 33 01.1	+0.1
CAVI	Cavuskoy	1.07	18	PG	Pn	08 33 01.9	-0.3
BALB	Balikesir	1.27	291	PN	Pb	08 33 05.6	+0.7
ADVT	Abdulvahap	1.27	12	PN	Pb	08 33 05.4	+0.4
SRCK	Saricakaya, Es	1.27	47	PN	Pb	08 33 05.5	+0.5
KCTX	Karacabey (Bur	1.35	323	PN	Pg	08 33 06.7	+0.3
GULT	Gulveren	1.51	34	PN	Pb	08 33 09.1	0.0
GONE	Gonen-Balikesi	1.58	303	PN	Pb	08 33 10.1	-0.2
AUMIH	MIHALICIK	1.74	66	PN	Pn	08 33 12.4	+0.8
SILT	Sile	1.97	5	PN	Pn	08 33 15.6	+1.0

*NOU **21** 08:44:56.8,40°.17S×175°.52E,h75km,ML3.8,North Island, New Zealand*

WEL 21 08:44:58.0,40°.5±2°.×17°.5E±°,h44km±5km,M3.5/84, ML3.8/85,MLv3.5/84,Error ellipse: s-maj=0.0km s-min=0.0km az=46.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	Ohakea	0.15	222	P	Pn	08 45 05.5	+0.2
OHWZ				S	Sn	08 45 11.8	+1.3
POWZ	Post Office Ro	0.39	141	P	Pn	08 45 07.6	+0.1
POWZ				S	Sn	08 45 15.2	+0.9
TSZ	Takapari Road	0.40	85	P	Pn	08 45 07.8	+0.1
TSZ				S	Sn	08 45 15.6	+1.1
WAZ	Wanganui	0.49	313	P	Pn	08 45 09.1	+0.3
WAZ				S	Sn	08 45 17.6	+1.1
MRZ	Mangatainoka R	0.58	170	P	Pn	08 45 10.0	+0.1
MRZ				S	Sn	08 45 19.3	+0.8
DVHZ	Dannevirke	0.59	111	P	Pn	08 45 10.4	+0.3
DVHZ				S	Sn	08 45 20.4	+1.7
PNHZ	Pukenui	0.61	73	P	Pn	08 45 10.5	+0.2
PNHZ				S	Sn	08 45 20.8	+1.7
PRWZ	Pori Road	0.61	139	P	Pn	08 45 10.9	+0.5
PRWZ				S	Sn	08 45 20.9	+1.6
MTVZ	Mangateitei	0.71	1	P	Pn	08 45 11.7	0.0
MTVZ				S	Sn	08 45 22.2	+0.7
MOVZ	Moawhango	0.72	19	P	Pn	08 45 11.4	-0.5
MOVZ				S	Sn	08 45 22.1	+0.1
OGWZ	Otaki Gorge	0.75	196	P	Pn	08 45 12.5	+0.3
OGWZ				S	Sn	08 45 23.5	+0.9
TIWZ	Tintock	0.76	154	P	Pn	08 45 12.9	+0.5
TIWZ				S	Sn	08 45 23.9	+1.1
WPHZ	Waipukurau	0.76	88	P	Pn	08 45 12.9	+0.5
WPHZ				S	Sn	08 45 25.4	+2.6
BHHZ	Black Hill Sta	0.77	38	P	Pn	08 45 12.4	-0.1
BHHZ				S	Sn	08 45 23.6	+0.6
WNVZ	Wahianoa	0.77	9	P	Pn	08 45 12.5	-0.2
WNVZ				S	Sn	08 45 23.8	+0.6
TRVZ	Turoa	0.80	6	P	Pn	08 45 13.0	0.0
TRVZ				S	Sn	08 45 24.4	+0.5
HOWZ	Holdsworth Sta	0.81	176	P	Pn	08 45 13.1	+0.1
HOWZ				S	Sn	08 45 25.4	+1.5
PKVZ	Pokaka	0.81	354	P	Pn	08 45 12.9	-0.1
PKVZ				S	Sn	08 45 24.5	+0.6
WHVZ	Whangaehu Hut	0.82	8	P	Pn	08 45 13.3	0.0
WHVZ				S	Sn	08 45 24.7	+0.3
DRZ	Dome Shelter	0.82	6	P	Pn	08 45 13.5	+0.1
DRZ				S	Sn	08 45 25.2	+0.5
TUVZ	Tukino	0.84	11	P	Pn	08 45 13.6	+0.1
TUVZ				S	Sn	08 45 25.8	+0.9
FWVZ	Far West T-bar	0.84	6	P	Pn	08 45 13.6	-0.1
FWVZ				S	Sn	08 45 25.3	+0.3
KRHZ	Kereru	0.84	58	P	Pn	08 45 14.1	+0.6
KRHZ				S	Sn	08 45 27.1	+2.4
BFZ	Birch Farm	0.85	134	P	Pn	08 45 13.3	-0.3
ANWZ	Angora Road	0.87	115	P	Pn	08 45 14.0	+0.1
ANWZ				S	Sn	08 45 27.1	+1.7
KIW	Kapiti Island	0.87	208	P	Pn	08 45 14.1	+0.2
KIW				S	Sn	08 45 26.0	+0.5
SNVZ	South Ngauruho	0.92	9	P	Pn	08 45 14.9	+0.2
SNVZ				S	Sn	08 45 28.3	+1.5
NGZ	Ngauruhoe	0.92	7	P	Pn	08 45 15.1	+0.3
NGZ				S	Sn	08 45 28.3	+1.4
PRHZ	Porangahau	0.93	101	P	Pn	08 45 14.9	+0.3
OTVZ	Oturere	0.94	10	P	Pn	08 45 15.3	+0.3
NNVZ	North Ngauruho	0.97	8	P	Pn	08 45 15.8	+0.4
WTVZ	West Tongariro	0.98	7	P	Pn	08 45 15.8	+0.3
TMVZ	Te Maari	1.00	12	P	Pn	08 45 16.0	+0.3
TMVZ				S	Sn	08 45 29.1	+0.5
KWHZ	Kaweka Forest	1.01	49	P	Pn	08 45 16.5	+0.8
KRVZ	Karewarewa	1.01	9	P	Pn	08 45 16.3	+0.5
NTVZ	North Tongarir	1.01	10	P	Pn	08 45 16.3	+0.4
NTVZ				S	Sn	08 45 30.4	+1.5
TWVZ	Taurewa	1.02	360	P	Pn	08 45 15.9	-0.1
TWVZ				S	Sn	08 45 30.0	+0.8
LREZ	Lake Rotokare	1.02	308	P	Pn	08 45 16.4	+0.5
LREZ				S	Sn	08 45 30.6	+1.6
CAW	Cannon Point	1.05	196	P	Pn	08 45 16.3	-0.1
CAW				S	Sn	08 45 30.0	+0.1
MTW	Mount Morrison	1.06	178	P	Pn	08 45 16.3	-0.2
TMWZ	Te Maipa	1.07	162	P	Pn	08 45 18.1	+1.5
PXZ	Pawanui	1.09	87	P	Pn	08 45 17.3	+0.5
VRZ	Vera Road	1.10	331	P	Pn	08 45 17.0	0.0
KAHZ	Kahuranaki	1.14	75	P	Pn	08 45 17.7	+0.2
RITZ	Rihia Road	1.16	16	P	Pn	08 45 18.9	+1.1
MCHZ	McNeill Hill	1.16	56	P	Pn	08 45 18.5	+0.7
BKZ	Black Stump Fm	1.23	41	P	Pn	08 45 19.3	+0.5
PREZ	Palmer Road	1.24	307	P	Pn	08 45 20.2	+1.2
RATZ	Rangitukua	1.25	12	P	Pn	08 45 20.6	+1.5
PAWZ	Paruwai Farm	1.29	181	P	Pn	08 45 19.0	-0.6
WEL	Wellington	1.30	203	P	Pn	08 45 19.4	-0.3
TRWZ	Traveller	1.32	172	P	Pn	08 45 20.5	+0.5
DREZ	Durham Road	1.32	313	P	Pn	08 45 20.8	+0.8
NEZ	North Egmont	1.33	308	P	Pn	08 45 21.1	+0.9
MSWZ	Moikau Station	1.33	186	P	Pn	08 45 19.4	-0.7
MHEZ	Mangahewa	1.34	319	P	Pn	08 45 21.1	+0.9
DUWZ	D'Urville Isla	1.36	238	P	Pn	08 45 20.4	-0.2
KHEZ	Kahui Hut	1.36	305	P	Pn	08 45 21.8	+1.2
BHW	Baring Head	1.39	198	P	Pn	08 45 20.2	-0.6
NMEZ	Namu Road	1.39	299	P	Pn	08 45 21.9	+1.0
WATZ	Wairara	1.40	9	P	Pn	08 45 21.9	+0.8
TCW	Tory Channel	1.43	218	P	Pn	08 45 21.1	-0.4
PKE	Pukeiti	1.44	308	P	Pn	08 45 22.8	+1.2
NMHZ	Naumai	1.45	47	P	Pn	08 45 22.4	+0.6
MRHZ	Matea Rd	1.47	31	P	Pn	08 45 22.4	+0.4
NBEZ	Newall Road No	1.47	304	P	Pn	08 45 23.2	+1.2
PLWZ	Palliser	1.48	186	P	Pn	08 45 21.3	-1.0
KUTZ	Kaahu Road	1.63	10	P	Pn	08 45 26.0	+1.7
HIZ	Hauiti	1.64	344

*TUL **21** 08:46:54.1±1.3,36°.28N±0°.01×97°.64W±0°.02,h3^{km}±6^{km}, ML3.4,mb_Lg3.4/138(NEIC),Mwr3.2/14(SLM),Error ellipse: s-maj=2.2km s-min=1.6km az=71.0*

*NEIC **21** 08:46:54.1,36°.29N×97°.61W,h3^{km},Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-5.73; $M_{\theta\theta}$8.12; $M_{\phi\phi}$-2.39; $M_{r\theta}$0.66; $M_{\theta\phi}$0.67; $M_{r\phi}$3.81; Fault plane solution: $M_0$8.22000×10^{13} NP1:ϕ_s115.00000°, δ50.00000°,λ-45.00000°. NP2:ϕ_s238.00000°,δ57.00000°, λ-130.00000°. Principal axes: T 8.2273, Plg4.0000°, Azm355.0000°; N -0.0051, Plg33.0000°, Azm262.0000°; P -8.2221, Plg57.0000°, Azm91.0000°;*

*NEIC **21** 08:46:54.4±1.3,36°.29N±0°.01×97°.63W±0°.02,h5^{km}±2^{km} Error ellipse: s-maj=3.3km s-min=3.0km az=248.0*

*ANF **21** 08:46:55.8±0.6,36°.29N×97°.62W,h17^{km}±4^{km},ML4.4/17, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0*

ISC 21 08:46:54.5±0.9,36°.29N±0°.02×97°.63W±0°.02,h9^{km}±8^{km}, n207,σ0°71/235,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.36**	**307**		**Pg**	**08 47 01.4**	**-0.2**
CROK				Sg	**Sg**	**08 47 06.4**	**0.0**
OK029	**Liberty Lake**	**0.51**	**164**		**Pg**	**08 47 04.2**	**-0.2**
OK029				Sg	**Sg**	**08 47 11.1**	**0.0**
BLOK	**Blackwell**	**0.58**	**35**		**Pg**	**08 47 05.8**	**+0.1**
BLOK				Sg	**Sg**	**08 47 14.0**	**+0.7**
GC02	**Grant County #**	**0.59**	**342**		**Pg**	**08 47 05.7**	**-0.3**
GC02				Sg	**Sg**	**08 47 14.2**	**+0.4**
BCOK	**Bluff Creek, N**	**0.63**	**179**		**Pg**	**08 47 06.3**	**-0.4**
BCOK				Sg	**Sg**	**08 47 14.8**	**-0.1**
OK032	**Salt Plains WL**	**0.69**	**318**		**Pg**	**08 47 07.4**	**-0.6**
OK032				Sg	**Sg**	**08 47 16.7**	**-0.3**
OK031	**S. Brethren Rd**	**0.72**	**117**		**Pg**	**08 47 08.3**	**-0.1**
OK031				Sg	**Sg**	**08 47 17.8**	**-0.1**
OK009	**Oakdale Elemen**	**0.72**	**167**		**Pg**	**08 47 08.5**	**0.0**
OK009				Sg	**Sg**	**08 47 18.1**	**+0.2**
KAN13	**South Haven SW**	**0.73**	**9**		**Pg**	**08 47 08.6**	**-0.1**
KAN13				Sg	**Sb**	**08 47 19.1**	**-0.5**
OK025	**Westminster Rd**	**0.74**	**161**		**Pg**	**08 47 08.5**	**-0.3**
OK025				Sg	**Sg**	**08 47 18.7**	**+0.1**
QUOK	**Quay**	**0.75**	**99**		**Pg**	**08 47 08.9**	**-0.1**
QUOK				Sg	**Sg**	**08 47 19.1**	**+0.3**
KAN17	**Caldwell West**	**0.76**	**352**		**Pg**	**08 47 09.0**	**-0.2**
KAN17					**Sg**	**08 47 18.4**	**-0.8**
KAN05	**Bluff City Nor**	**0.84**	**347**		**Pg**	**08 47 10.4**	**-0.3**
KAN05					**Sg**	**08 47 21.8**	**+0.1**
KAN09	**Caldwell North**	**0.85**	**1**		**Pg**	**08 47 10.5**	**-0.3**
KAN09					**Sg**	**08 47 21.1**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**0.90**	**170**		**Pg**	**08 47 11.1**	**-0.6**
OKCSW				Sg	**Sg**	**08 47 23.5**	**+0.2**
KAN10	**Anthony SW Sta**	**0.91**	**336**		**Pg**	**08 47 11.4**	**-0.7**
KAN10				Sg	**Sg**	**08 47 24.2**	**+0.2**
KS20	**Mayfield South**	**0.94**	**4**		**Pg**	**08 47 12.2**	**-0.4**
KS20				Sg	**Sg**	**08 47 24.5**	**-0.3**
KAN08	**Anthony NE Sta**	**0.98**	**344**		**Pg**	**08 47 12.8**	**-0.5**
KAN08					**Sg**	**08 47 25.8**	**-0.2**
FNO	**Franklin**	**1.05**	**170**		**Pg**	**08 47 13.9**	**-0.7**
FNO				IAmb_Lg		08 47 28.2	
	comp=Z,612nm,0.9s						
FNO				Sg	**Sg**	**08 47 28.2**	**0.0**
KAN12	**Harper NE Stat**	**1.05**	**344**		**Pg**	**08 47 14.1**	**-0.6**
KAN12					**Sb**	**08 47 29.9**	**+1.1**
T35A	**Sooner Cattle**	**1.09**	**55**	Pg	**Pg**	**08 47 15.2**	**-0.3**
T35A				Sg	**Sg**	**08 47 29.7**	**-0.1**
T35B	**Sooner Cattle**	**1.09**	**55**	P		08 47 15.2	
	baz=235,SNR=194						
T35B				S		08 47 30.0	
	baz=235						
OK011	**Prague**	**1.11**	**136**	Pg	**Pg**	**08 47 15.3**	**-0.5**
OK011				Sg	**Sg**	**08 47 30.0**	**-0.2**
U32A	**Winter Ranch,**	**1.11**	**275**	Pg	**Pg**	**08 47 14.8**	**-1.0**
U32A				IAmb_Lg		08 47 30.3	
	comp=Z,250nm,0.9s						
U32A	**Winter Ranch,**	**1.11**	**275**	P		08 47 14.9	
	baz=95						
U32A				S		08 47 30.3	
	baz=95						
TUL1	**Leonard**	**1.54**	**104**	P	**Pn**	**08 47 22.1**	**0.0**
	baz=284,SNR=242						
TUL1				S	**Sg**	**08 47 43.6**	**-0.2**
	baz=284						
TUL1	**Leonard**	**1.54**	**104**	P		08 47 22.2	
	baz=284,SNR=289						
TUL1				S		08 47 43.4	
	baz=284						
X34A	**Smith Ranch, M**	**1.69**	**186**	Pn	**Pn**	**08 47 25.3**	**+1.0**
WMOK	**Wichita Mounta**	**1.81**	**212**	P	**Pn**	**08 47 26.1**	**+0.2**
	baz=31,SNR=131						
WMOK				S	**Sn**	**08 47 50.1**	**+1.2**
	baz=31						
WMOK	**Wichita Mounta**	**1.81**	**212**		**Pn**	**08 47 26.0**	**+0.2**
WMOK				IAmb_Lg		08 47 54.5	
	comp=Z,244nm,0.8s						
WMOK	**Wichita Mounta**	**1.81**	**212**	P		08 47 26.0	
	baz=31,SNR=301						
WMOK				S		08 47 50.5	
	baz=31						
R32A	**Long Quarter,**	**2.30**	**338**	Pn	**Pn**	**08 47 33.3**	**+0.7**
R32A				IAmb_Lg		08 48 12.5	
	comp=Z,124nm,0.9s						
R32A	**Long Quarter,**	**2.30**	**338**	P		08 47 33.4	
	baz=158,SNR=56						
LOOK	**Love County**	**2.32**	**171**		**Pn**	**08 47 32.8**	**0.0**
X37A	**Clayton**	**2.50**	**132**	Pn	**Pn**	**08 47 36.8**	**+1.4**
X37A				IAmb_Lg		08 48 16.4	
	comp=Z,103nm,0.8s						
X37A	**Clayton**	**2.50**	**132**	P		08 47 36.5	
	baz=313,SNR=174						
U38A	**Gravette**	**2.62**	**86**		**Pn**	**08 47 37.9**	**+0.8**
U38A				IAmb_Lg		08 48 22.0	
	comp=Z,155nm,0.7s						
U38A	**Gravette**	**2.62**	**86**	P		08 47 37.9	
	baz=268,SNR=98						
KSU1	**Kansas State U**	**2.92**	**16**	P	**Pn**	**08 47 42.1**	**+1.0**
	baz=196,SNR=11						
KSU1				S	**Sn**	**08 48 18.0**	**+1.6**
	baz=196						
KSU1	**Kansas State U**	**2.92**	**16**	Pn	**Pn**	**08 47 42.3**	**+1.2**
KSU1	**Kansas State U**	**2.92**	**16**	P		08 47 42.1	
	baz=196,SNR=34						
Z35A	**Perchaven, San**	**2.97**	**174**		**Pn**	**08 47 41.3**	**-0.4**
HHAR	**Hobbs**	**2.98**	**89**		**Pn**	**08 47 42.7**	**+0.7**
HHAR	**Hobbs**	**2.98**	**89**	P		08 47 42.7	
	baz=271						
CBKS	**Cedar Bluff**	**3.03**	**327**	P	**Pn**	**08 47 43.1**	**+0.4**
	baz=146,SNR=29						
CBKS				Sb	**Sb**	**08 48 28.7**	**+3.0**
	baz=146						
CBKS	**Cedar Bluff**	**3.03**	**327**		**Pn**	**08 47 41.5**	**-1.1**
W39A	**Magazine**	**3.31**	**108**	Pb	**Pb**	**08 47 53.9**	**+0.5**
	baz=290,SNR=23						
W39A	**Magazine**	**3.31**	**108**		**Pn**	**08 47 46.1**	**-0.4**
W39A				IAmb_Lg		08 48 41.2	
	comp=Z,206nm,1.2s						
AMTX	**Amarillo**	**3.59**	**248**	Pb	**Pb**	**08 47 58.7**	**+0.5**
	baz=66						
AMTX	**Amarillo**	**3.59**	**248**		**Pn**	**08 47 51.5**	**+1.1**
AMTX				IAmb_Lg		08 48 55.9	
	comp=Z,99nm,0.8s						
Z38A	**Mt. Pleasant**	**3.72**	**143**	Pn	**Pn**	**08 47 53.1**	**+0.9**
Z38A	**Mt. Pleasant**	**3.72**	**143**	P		08 47 53.1	
	baz=325,SNR=5.2						
MIAR	**Mount Ida**	**3.74**	**117**	P	**Pn**	**08 47 52.9**	**+0.5**
	baz=299,SNR=27						
MIAR				S	**Sn**	**08 48 37.9**	**+1.4**
	baz=299						
MIAR	**Mount Ida**	**3.74**	**117**	Pn	**Pn**	**08 47 53.2**	**+0.9**
MIAR				IAmb_Lg		08 49 01.7	
	comp=Z,135nm,1.1s						
MIAR	**Mount Ida**	**3.74**	**117**	P		08 47 53.4	
	baz=299,SNR=84						
U40A	**Yellville**	**3.86**	**88**	P	**Pn**	**08 47 54.1**	**+0.1**
	baz=270,SNR=59						
U40A	**Yellville**	**3.86**	**88**		**Pn**	**08 47 54.6**	**+0.6**
U40A				IAmb_Lg		08 49 05.5	
	comp=Z,91nm,0.7s						
U40A	**Yellville**	**3.86**	**88**	P		08 47 54.0	
	baz=270,SNR=23						
U40A				P		08 47 54.0	
	baz=270,SNR=23						
ABTX	**Abilene, Hawle**	**4.02**	**205**	Pb	**Pb**	**08 48 06.2**	**+0.8**
	baz=24,SNR=14						
ABTX				S	**Sn**	**08 48 44.2**	**+0.8**
	baz=24						
ABTX	**Abilene, Hawle**	**4.02**	**205**	Pn	**Pn**	**08 47 57.4**	**+1.1**
ABTX				IAmb_Lg		08 49 03.1	
	comp=Z,62nm,0.7s						
WHTX	**Lake Whitney,**	**4.29**	**178**	P	**Pn**	**08 48 00.4**	**+0.5**
	baz=358						
WHTX	**Lake Whitney,**	**4.29**	**178**		**Pn**	**08 48 00.0**	**+0.1**
WHTX	**Lake Whitney,**	**4.29**	**178**	P		08 48 00.6	
	baz=358,SNR=12						
X40A	**Basin Creek Fa**	**4.31**	**113**	P	**Pn**	**08 48 01.3**	**+1.1**
	baz=296						
X40A				S	**Sn**	**08 48 51.6**	**+1.0**
	baz=296						
X40A	**Basin Creek Fa**	**4.31**	**113**	Pn	**Pn**	**08 48 01.6**	**+1.4**
X40A				IAmb_Lg		08 49 14.6	
	comp=Z,101nm,0.8s						
MGMO	**Mountain Grove**	**4.39**	**77**		**Pn**	**08 48 02.6**	**+1.2**
MGMO				IAmb_Lg		08 49 15.6	
	comp=Z,94nm,0.7s						
N33A	**J Bar K, Exete**	**4.45**	**2**		**Pn**	**08 48 01.8**	**-0.3**
N33A				IAmb_Lg		08 49 28.1	
	comp=Z,107nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.48**	**93**		**Pn**	**08 48 02.6**	**+0.1**
FCAR				IAmb_Lg		08 49 21.5	
	comp=Z,55nm,0.8s						
W41B	**Gary Mavity, V**	**4.52**	**103**	P	**Pn**	**08 48 03.5**	**+0.4**
	baz=286,SNR=6.2						
W41B				S	**Sn**	**08 48 56.1**	**+0.5**
	baz=286						
W41B	**Gary Mavity, V**	**4.52**	**103**	P		08 48 03.1	
	baz=286,SNR=32						
WLAR	**White Oak Lake**	**4.53**	**124**		**Pn**	**08 48 03.2**	**0.0**
WLAR				IAmb_Lg		08 49 20.6	
	comp=Z,127nm,0.7s						
237A	**Washetta, Mont**	**4.54**	**160**		**Pn**	**08 48 03.7**	**+0.4**
237A				IAmb_Lg		08 49 30.2	
	comp=Z,72nm,0.9s						
237A	**Washetta, Mont**	**4.54**	**160**	P		08 48 03.6	
	baz=341,SNR=14						
237A				S		08 48 55.9	
	baz=341						
P38A	**Dawn**	**4.64**	**43**		**Pn**	**08 48 05.9**	**+1.1**
P38A				IAmb_Lg		08 49 25.1	
	comp=Z,120nm,0.8s						
P38A	**Dawn**	**4.64**	**43**	P		08 48 05.2	
	baz=225						
R40A	**Maddes Statio**	**4.72**	**63**	Pn	**Pn**	**08 48 06.5**	**+0.6**
R40A				IAmb_Lg		08 49 21.0	
	comp=Z,92nm,0.7s						
R40A	**Maddes Statio**	**4.72**	**63**	P		08 48 06.6	
	baz=246,SNR=23						
KSCO	**Kaye Shedlock'**	**4.81**	**306**	P	**Pn**	**08 48 08.2**	**+1.0**
	baz=123						
KSCO				S	**Sn**	**08 49 03.6**	**+0.6**
	baz=123						
KSCO	**Kaye Shedlock'**	**4.81**	**306**		**Pn**	**08 48 06.4**	**-0.8**
KSCO				IAmb_Lg		08 49 32.8	
	comp=Z,66nm,0.8s						
MSTX	**Muleshoe**	**4.81**	**243**	P	**Pn**	**08 48 07.6**	**+0.4**
	baz=60						
MSTX	**Muleshoe**	**4.81**	**243**		**Pn**	**08 48 07.4**	**+0.2**
N35A	**Tabor**	**4.82**	**18**		**Pn**	**08 48 07.8**	**+0.6**
N35A	**Tabor**	**4.82**	**18**	P		08 48 07.8	
	baz=200,SNR=9.2						
Z41A	**Richland Creek**	**4.99**	**126**	P	**Pn**	**08 48 09.7**	**+0.2**
	baz=309,SNR=5.7						
Z41A				S	**Sn**	**08 49 07.0**	**-0.3**
	baz=309						
BGNE	**Belgrade**	**5.13**	**356**	P	**Pn**	**08 48 11.1**	**-0.3**
	baz=175,SNR=5.9						
BGNE				S	**Sn**	**08 49 11.6**	**+0.8**
	baz=175						
BGNE	**Belgrade**	**5.13**	**356**		**Pn**	**08 48 11.2**	**-0.3**
BGNE				IAmb_Lg		08 49 46.0	
	comp=Z,138nm,0.8s						
BGNE	**Belgrade**	**5.13**	**356**	P		08 48 11.2	
	baz=175,SNR=18						
NATX	**Nacogdoches**	**5.14**	**151**	Pn	**Pn**	**08 48 11.4**	**-0.3**
NATX				IAmb_Lg		08 49 48.5	
	comp=Z,41nm,0.8s						
LCAR	**Lake Charles**	**5.24**	**90**		**Pn**	**08 48 12.1**	**-0.9**
LCAR				IAmb_Lg		08 49 48.3	
	comp=Z,67nm,1.0s						
T42A	**Van Buren**	**5.31**	**80**		**Pn**	**08 48 14.3**	**+0.4**
T42A				IAmb_Lg		08 49 53.1	
	comp=Z,56nm,0.7s						
CCM	**Cathedral Cave**	**5.39**	**69**	P	**Pn**	**08 48 15.4**	**+0.2**
	baz=253						
CCM				S	**Sn**	**08 49 17.0**	**-0.4**
	baz=253						
CCM	**Cathedral Cave**	**5.39**	**69**	Pn	**Pn**	**08 48 15.7**	**+0.6**
CCM				IAmb_Lg		08 49 51.2	
	comp=Z,101nm,0.8s						
CCM	**Cathedral Cave**	**5.39**	**69**	P		08 48 15.2	
	baz=253,SNR=12						
P40A	**Paris**	**5.47**	**52**		**Pn**	**08 48 16.4**	**+0.3**
P40A				IAmb_Lg		08 49 52.9	
	comp=Z,121nm,1.0s						
435B	**Jarrell**	**5.49**	**180**	S	**Sn**	**08 49 19.7**	**-0.1**
	baz=360						
435B	**Jarrell**	**5.49**	**180**		**Pn**	**08 48 16.4**	**-0.1**
435B				IAmb_Lg		08 49 51.6	
	comp=Z,65nm,0.8s						
T25A	**Trinidad**	**5.51**	**281**	P	**Pn**	**08 48 17.2**	**+0.3**
	baz=97						
T25A	**Trinidad**	**5.51**	**281**		**Pn**	**08 48 17.6**	**+0.6**
T25A				IAmb_Lg		08 49 57.3	
	comp=Z,57nm,0.9s						
N38A	**Joes South For**	**5.66**	**36**		**Pn**	**08 48 19.3**	**+0.5**
L34A	**Svendsen Farm,**	**5.75**	**9**	Pn	**Pn**	**08 48 19.3**	**-0.7**
OGNE	**Ogallala**	**5.79**	**325**	P	**Pn**	**08 48 21.2**	**+0.5**
	baz=142						
OGNE				S	**Sn**	**08 49 27.5**	**+0.4**
	baz=142						
OGNE	**Ogallala**	**5.79**	**325**		**Pn**	**08 48 20.8**	**+0.2**
PBMO	**Poplar Bluff**	**5.82**	**83**	Pn	**Pn**	**08 48 21.1**	**+0.1**
PBMO				IAmb_Lg		08 50 07.0	
	comp=Z,82nm,0.7s						
LPAR	**Lepanto**	**5.99**	**94**	IAmb_Lg		08 50 11.3	
	comp=Z,113nm,1.0s						
JCT	**Junction City**	**6.07**	**198**	P	**Pn**	**08 48 24.8**	**+0.3**
	baz=17						
JCT	**Junction City**	**6.07**	**198**		**Pn**	**08 48 24.5**	**+0.1**
JCT				IAmb_Lg		08 50 15.9	
	comp=Z,78nm,0.7s						
GNAR	**Gosnell**	**6.17**	**91**	Pn	**Pn**	**08 48 26.6**	**+0.8**
GNAR				IAmb_Lg		08 50 27.3	
	comp=Z,110nm,0.9s						
143A	**Socs Landing,**	**6.26**	**123**	Pn	**Pn**	**08 48 27.1**	**+0.1**
143A				IAmb_Lg		08 50 13.7	
	comp=Z,39nm,0.8s						
SLM	**Saint Louis**	**6.33**	**66**	Pn	**Pn**	**08 48 27.3**	**-0.6**
PARMO	**Parma**	**6.36**	**84**	Pn	**Pn**	**08 48 28.6**	**+0.2**
MET	**Memphis--Engin**	**6.37**	**98**	Pn	**Pn**	**08 48 29.1**	**+0.6**
K31A	**O'Neill**	**6.38**	**353**		**Pn**	**08 48 29.1**	**+0.3**
PENMO	**Penman**	**6.46**	**86**	Pn	**Pn**	**08 48 29.1**	**-0.6**
PENMO				IAmb_Lg		08 50 22.8	
	comp=Z,91nm,0.7s						
SDCO	**Great Sand Dun**	**6.46**	**285**	P	**Pn**	**08 48 30.9**	**+0.7**
	baz=101,SNR=5.7						
SDCO	**Great Sand Dun**	**6.46**	**285**		**Pn**	**08 48 30.8**	**+0.7**
SDCO				IAmb_Lg		08 50 23.7	
	comp=Z,29nm,0.9s						
SCIA	**State Center**	**6.58**	**30**	S	**Sn**	**08 49 45.6**	**-0.8**
	baz=213						
SCIA	**State Center**	**6.58**	**30**	Pn	**Pn**	**08 48 32.6**	**+1.3**
LNXT	**Lenox**	**6.58**	**89**	Pn	**Pn**	**08 48 31.6**	**+0.2**
441A	**DeRidder**	**6.65**	**145**	Pn	**Pn**	**08 48 33.1**	**+0.7**
HALT	**Halls**	**6.72**	**91**	Pn	**Pn**	**08 48 33.1**	**-0.2**
HALT				IAmb_Lg		08 50 43.5	
	comp=Z,53nm,0.8s						
GLAT	**Glass**	**6.74**	**88**	Pn	**Pn**	**08 48 32.9**	**-0.7**
HICK	**Hickman**	**6.78**	**85**	Pn	**Pn**	**08 48 33.8**	**-0.3**
S44A	**Carbondale**	**6.85**	**76**	Pn	**Pn**	**08 48 35.9**	**+0.9**
S44A				IAmb_Lg		08 50 42.9	
	comp=Z,54nm,0.8s						
SIUC	**Southern Illin**	**6.88**	**76**	Pn	**Pn**	**08 48 36.3**	**+0.8**
SIUC				IAmb_Lg		08 50 37.4	
	comp=Z,55nm,0.9s						
GDL2	**Guadalupe Moun**	**6.91**	**236**	Pn	**Pn**	**08 48 35.5**	**-0.5**
OXF	**Oxford**	**6.94**	**102**	P	**Pn**	**08 48 35.4**	**-0.9**
	baz=287						
OXF	**Oxford**	**6.94**	**102**	Pn	**Pn**	**08 48 36.0**	**-0.4**
OXF				IAmb_Lg		08 50 53.8	
	comp=Z,48nm,0.9s						
W45A	**Hickory Valley**	**6.96**	**97**	Pn	**Pn**	**08 48 36.4**	**-0.2**
W45A				IAmb_Lg		08 50 44.4	
	comp=Z,91nm,0.8s						
ISCO	**Idaho Springs**	**7.21**	**301**	P	**Pn**	**08 48 40.3**	**0.0**
	baz=117,SNR=8.8						
ISCO	**Idaho Springs**	**7.21**	**301**	Pn	**Pn**	**08 48 40.1**	**-0.3**
P43A	**Skaggs, Pawnee**	**7.22**	**60**	Pn	**Pn**	**08 48 40.7**	**+0.5**
P43A				IAmb_Lg		08 50 49.2	
	comp=Z,76nm,0.8s						
T45A	**Paducah**	**7.26**	**82**	Pn	**Pn**	**08 48 40.3**	**-0.4**
Q44A	**Meyer Farm, Va**	**7.32**	**67**	Pn	**Pn**	**08 48 42.2**	**+0.7**
K38A	**Parkersburg**	**7.38**	**29**	Pn	**Pn**	**08 48 42.3**	**0.0**
735A	**Kenedy**	**7.41**	**181**	Pn	**Pn**	**08 48 43.2**	**+0.4**
735A				IAmb_Lg		08 51 09.0	
	comp=Z,66nm,1.1s						
ECSD	**EROS Data Cent**	**7.48**	**6**	P	**Pn**	**08 48 42.6**	**-1.1**
	baz=186						
ECSD				S	**Sn**	**08 50 05.8**	**-2.8**
	baz=186						
ECSD	**EROS Data Cent**	**7.48**	**6**	Pn	**Pn**	**08 48 43.8**	**0.0**
ECSD				IAmb_Lg		08 51 02.7	
	comp=Z,39nm,1.2s						
ECSD	**EROS Data Cent**	**7.48**	**6**	P		08 48 42.8	
	baz=186,SNR=13						
344A	**Westbrook Farm**	**7.49**	**128**	Pn	**Pn**	**08 48 44.7**	**+0.7**
344A				IAmb_Lg		08 51 11.1	
	comp=Z,28nm,1.2s						
L40A	**Anamosa**	**7.61**	**39**	Pn	**Pn**	**08 48 44.7**	**-0.8**
BNM	**Barren Site**	**7.67**	**256**	Pn	**Pn**	**08 48 47.3**	**+0.7**
HDIL	**Hopedale**	**7.80**	**54**	P	**Pn**	**08 48 47.8**	**-0.4**
	baz=240						
HDIL	**Hopedale**	**7.80**	**54**	Pn	**Pn**	**08 48 48.7**	**+0.5**
PLAL	**Pickwick Lake**	**7.89**	**97**	Pn	**Pn**	**08 48 49.9**	**+0.6**
PLAL				IAmb_Lg		08 51 14.9	
	comp=Z,31nm,0.9s						
MNTX	**Cornudas Mount**	**7.90**	**237**	P	**Pn**	**08 48 50.1**	**+0.5**
	baz=52						
MNTX	**Cornudas Mount**	**7.90**	**237**		**Pn**	**08 48 50.6**	**+1.0**
PHWY	**Pilot Hill**	**7.90**	**312**		**Pn**	**08 48 49.8**	**0.0**
PHWY				IAmb_Lg		08 51 15.7	
	comp=Z,38nm,0.7s						
Y22D	**IRIS PASSCAL I**	**7.92**	**257**	IAmb_Lg		08 51 16.4	
	comp=Z,39nm,0.8s						
WVT	**Waverly**	**7.92**	**88**	P	**Pn**	**08 48 50.3**	**+0.5**
	baz=274						
WVT	**Waverly**	**7.92**	**88**	Pn	**Pn**	**08 48 49.8**	**0.0**
WVT				IAmb_Lg		08 51 08.0	
	comp=Z,28nm,1.1s						
SMCO	**Snowmass**	**7.95**	**294**	Pn	**Pn**	**08 48 50.7**	**+0.2**
OLIL	**Olney**	**7.96**	**69**	Pn	**Pn**	**08 48 50.1**	**-0.2**
OLIL				IAmb_Lg		08 51 20.0	
	comp=Z,71nm,0.9s						
146A	**Union**	**7.96**	**115**	Pn	**Pn**	**08 48 50.0**	**-0.3**
146A				IAmb_Lg		08 51 25.4	
	comp=Z,29nm,1.0s						
N23A	**Red Feather La**	**7.97**	**308**	P	**Pn**	**08 48 51.5**	**+0.8**
	baz=123,SNR=11						
USIN	**University of**	**8.13**	**75**	IAmb_Lg		08 51 18.4	
	comp=Z,39nm,0.9s						
O44A	**Mansfield**	**8.18**	**59**	Pn	**Pn**	**08 48 54.0**	**+0.7**
O44A				IAmb_Lg		08 51 19.4	
	comp=Z,56nm,0.7s						
SUSD	**Miller**	**8.21**	**353**	P	**Pn**	**08 48 53.3**	**-0.5**
	baz=173						
SUSD	**Miller**	**8.21**	**353**	Pn	**Pn**	**08 48 53.0**	**-0.8**
SUSD				IAmb_Lg		08 51 22.8	
	comp=Z,59nm,1.0s						
I37A	**Lemond, Waseca**	**8.37**	**21**	Pn	**Pn**	**08 48 55.5**	**-0.5**
I37A				IAmb_Lg		08 51 31.1	
	comp=Z,38nm,0.9s						
L42A	**Oliver, Polo**	**8.41**	**45**	Pn	**Pn**	**08 48 57.6**	**+1.1**
Z47A	**Carrollton**	**8.45**	**109**	Pn	**Pn**	**08 48 57.4**	**+0.4**
Z47A				IAmb_Lg		08 51 41.3	
	comp=Z,23nm,0.8s						
T47A	**Sharon Grove**	**8.49**	**82**	Pn	**Pn**	**08 48 58.0**	**+0.4**
TXAR	**Lajitas Array**	**8.60**	**218**	Pn	**Pn**	**08 48 59.3**	**+0.1**
TX31	**Lajitas Ar. Si**	**8.60**	**218**	Pn	**Pn**	**08 48 58.6**	**-0.6**
TX32	**Lajitas Array**	**8.60**	**218**	Pn	**Pn**	**08 48 58.5**	**-0.7**
JFWS	**Jewell Farm**	**8.73**	**38**	P	**Pn**	**08 49 00.4**	**-0.5**
	baz=223						
JFWS	**Jewell Farm**	**8.73**	**38**	Pn	**Pn**	**08 49 00.8**	**-0.1**
V48A	**Smith Brothers**	**8.77**	**90**	IAmb_Lg		08 51 48.8	
	comp=Z,22nm,0.9s						
X48A	**Hartselle**	**8.84**	**99**	IAmb_Lg		08 51 45.1	
	comp=Z,21nm,0.7s						
M44A	**Midewin, Midew**	**9.04**	**53**	Pn	**Pn**	**08 49 06.3**	**+1.1**
CLTN	**Cedars of Leba**	**9.14**	**88**	Pn	**Pn**	**08 49 06.4**	**-0.1**
CLTN				IAmb_Lg		08 52 03.5	
	comp=Z,19nm,0.8s						
PV03	**Paradox Valley**	**9.16**	**286**	Pn	**Pn**	**08 49 07.5**	**+0.6**
RWWY	**Rawlins**	**9.20**	**309**	Pn	**Pn**	**08 49 08.4**	**+0.8**
RWWY				IAmb_Lg		08 52 12.4	
	comp=Z,28nm,1.1s						
PV16	**Nyswonger Mesa**	**9.22**	**286**	Pn	**Pn**	**08 49 08.6**	**+0.8**
PV04	**Paradox Valley**	**9.22**	**287**	IAmb_Lg		08 51 57.5	
	comp=Z,27nm,1.2s						
SFIN	**Lafayette**	**9.23**	**61**	P	**Pn**	**08 49 07.4**	**-0.3**
	baz=247						
SFIN	**Lafayette**	**9.23**	**61**	IAmb_Lg		08 51 52.4	
	comp=Z,55nm,0.9s						
RSSD	**Black Hills**	**9.23**	**330**	P	**Pn**	**08 49 08.3**	**+0.4**
	baz=146						
RSSD	**Black Hills**	**9.23**	**330**	Pn	**Pn**	**08 49 08.8**	**+0.9**
RSSD				IAmb_Lg		08 51 52.8	

EYMN	Ely	12.50	19	Pn	Pn	08 49 52.2	-0.3
P52A	Corning	12.68	70	P	Pn	08 49 53.8	-1.1
	baz=260						
P52A	Corning	12.68	70	Pn	Pn	08 49 54.4	-0.5
IMW	Indian Meadow	12.70	311	Pn	Pn	08 49 55.9	+0.4
U54A	Nelsons Funny	12.74	84	Pn	Pn	08 49 56.0	+0.1
N51A	Ashland	12.79	64	Pn	Pn	08 49 55.8	-0.7
YNE	Yellowstone No	12.80	317	Pn	Pn	08 49 55.3	-1.6
E43A	Lone Tree Farm	12.85	35	Pn	Pn	08 49 57.6	+0.4
E46A	Sault Ste Mari	14.18	41	Pn	Pn	08 50 14.1	-1.3
T57A	Hurt	14.77	82	Pn	Pn	08 50 23.0	-0.5

IDC 21 08:47:22.2±25.0, 11°27'S×164°28'E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/46, mbtmp3.8/4, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=443.6km s-min=50.1km az=45.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.94	169	Pn	Pn	08 49 59.5	-0.6
	1.2nm,0.3s,baz=56,slow=18,SNR=7.5						
DZM				LR	LR	08 53 44.7	
	comp=Z,215nm,18.2s,baz=75,slow=35						
STKA	Stephens Creek	29.30	222	P	P	08 53 28.0	+1.6
	4.7nm,1.1s,baz=54,slow=17,SNR=3.2						
WRA	Warramunga Arr	30.05	250	P	P	08 53 33.6	+0.2
	0.4nm,0.9s,baz=83,slow=8.8,SNR=1.6						
ASAR	Alice Springs	31.41	243	P	P	08 53 44.0	-1.3
	0.4nm,0.5s,baz=65,slow=10,SNR=6.9						

IDC 21 09:04:49.5±3.5, 53°63'N×87°99'E, h0km, mb1 3.2/2, mb1mx3.0/44, mbtmp3.2/2, ML2.5/2, Error ellipse: s-maj=32.9km s-min=18.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.91	281	*i*		09 16 45.0	
	baz=97,slow=303,SNR=3.5						
ZALV	Zalesovo Beam	1.91	281	Pn	Pn	09 05 23.1	-0.2
	0.7nm,0.3s,baz=99,slow=17,SNR=8.2						
ZALV				Lg	Lg	09 05 49.8	
	1.7nm,0.3s,baz=100,slow=27,SNR=7.4						
KURBB	Kurchatov Arra	6.55	246	Pn	Pn	09 06 27.8	+0.7
	0.1nm,0.3s,baz=59,slow=14,SNR=1.6						
MKAR	Makanchi Array	7.75	210	Pn	Pn	09 06 44.8	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=5.0						
MKAR				Lg	Lg	09 08 55.0	
	0.1nm,0.3s,baz=31,slow=34,SNR=4.4						

*ANF **21** 09:08:41.8±1.7, 36°83N×98°26W, h0km±12km, ML4.2/12, Error ellipse: s-maj=5.5km s-min=4.2km az=47.0*
*TUL **21** 09:08:41.6±1.3, 36°83N±0°01×98°25W±0°03, h5km±6km, ML3.5, mb_Lg3.2/116(NEIC), Error ellipse: s-maj=4.2km s-min=1.3km az=113.0*
*NEIC **21** 09:08:42.1±1.1, 36°817N±0°007×98°24W±0°03, h5km±2km, Error ellipse: s-maj=4.5km s-min=3.0km az=85.0*

ISC 21 09:08:41.9±0.9, 36°82N±0°02×98°25W±0°02, h11km±7km, n100, σ1°32/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.03	111	Pg	Pg	09 08 43.3	-0.6
GC02	Grant County #	0.31	83	Pg	Pg	09 08 48.1	-0.1
GC02				Sg	Sg	09 08 52.6	+0.2
KAN10	Anthony SW Sta	0.33	22	Pg	Pg	09 08 48.3	-0.3
KAN10				Sg	Sg	09 08 52.8	-0.2
CROK	Carrier	0.38	146	Pg	Pg	09 08 49.5	+0.2
CROK				Sg	Sg	09 08 55.2	+0.9
KAN05	Bluff City Nor	0.42	46	Pg	Pg	09 08 50.0	-0.2
KAN05				Sg	Sg	09 08 55.6	-0.1
KAN17	Caldwell West	0.45	59	Pg	Pg	09 08 50.5	-0.2
KAN17				Sg	Sg	09 08 56.6	-0.1
KAN08	Anthony NE Sta	0.47	28	Pg	Pg	09 08 50.8	-0.3
KAN08				Sg	Sg	09 08 57.1	-0.1
KAN12	Harper NE Stat	0.52	22	Pg	Pg	09 08 51.6	-0.5
KAN12				Sg	Sg	09 08 59.0	0.0
KAN09	Caldwell North	0.60	57	Pg	Pg	09 08 53.1	-0.4
KAN09				Sg	Sg	09 09 01.3	-0.1
KAN13	South Haven SW	0.65	72	Pg	Pg	09 08 54.1	-0.4
KAN13				Sg	Sg	09 09 02.8	-0.1
KS20	Mayfield South	0.69	53	Pg	Pg	09 08 55.0	-0.3
U32A	Winter Ranch,	0.75	235	Pg	Pg	09 08 56.2	-0.1
U32A	Winter Ranch,	0.75	235	P		09 08 56.0	
	baz=55,SNR=36						
U32A				S		09 09 06.4	
	baz=55						
BLOK	Blackwell	0.83	93	Pg	Pg	09 08 57.4	-0.5
BLOK				Sg	Sg	09 09 08.8	+0.1
OK029	Liberty Lake	1.20	148	Pg	Pg	09 09 04.2	-0.8
OK029				Sg	Sg	09 09 20.5	-0.1
BCOK	Bluff Creek, N	1.27	156		Pg	09 09 05.2	-1.0
BCOK				Sn	Sg	09 09 22.7	+0.1
T35A	Sooner Cattle	1.40	85		Pn	09 09 07.1	-0.3
T35A				Sn	Sb	09 09 25.6	-0.2
T35B	Sooner Cattle	1.40	85	P		09 09 07.5	
	baz=266,SNR=101						
T35B				S		09 09 26.2	
	baz=266						
QUOK	Quay	1.40	117		Pn	09 09 07.5	+0.2
QUOK				Sn	Sb	09 09 26.5	+0.7
OK031	S. Brethren Rd	1.43	127		Pn	09 09 07.9	+0.2
OK031				Sn	Sb	09 09 26.6	-0.1
OK025	Westminster Rd	1.43	149		Pn	09 09 08.3	+0.4
OKCSW	OKLAHOMA CITY	1.55	155		Pn	09 09 10.2	+0.7
R32A	Long Quarter,	1.65	347	Pn	Pn	09 09 11.6	+0.8
R32A	Long Quarter,	1.65	347	P		09 09 11.4	
	baz=167,SNR=138						
R32A				S		09 09 33.5	
	baz=167						
FNO	Franklin	1.70	156		Pn	09 09 12.5	+1.0
FNO				IAmb_Lg		09 09 36.6	
	comp=Z,120nm,0.7s						
WMOK	Wichita Mounta	2.12	192	P	Pn	09 09 18.3	+1.0
	baz=12						
WMOK				S	Sb	09 09 47.7	+1.1
	baz=12						
WMOK	Wichita Mounta	2.12	192	Pn	Pn	09 09 18.1	+0.8
WMOK				IAmb_Lg		09 09 53.8	
	comp=Z,81nm,0.7s						
WMOK	Wichita Mounta	2.12	192	P		09 09 18.3	
	baz=12,SNR=62						
TUL1	Leonard	2.18	114	P	Pn	09 09 19.1	+1.0
	baz=295						
TUL1				S	Sb	09 09 49.5	+1.2
	baz=295						
TUL1	Leonard	2.18	114	P		09 09 19.1	
	baz=295,SNR=67						
TUL1				S		09 09 49.6	
	baz=295						
X34A	Smith Ranch, M	2.23	171		Pn	09 09 20.6	+1.7
CBKS	Cedar Bluff	2.32	330	P	Pn	09 09 21.6	+1.5
	baz=149						
CBKS				S	Sb	09 09 51.0	-1.5
	baz=149						
CBKS	Cedar Bluff	2.32	330	Pn	Pn	09 09 21.3	+1.2
CBKS	Cedar Bluff	2.32	330	P		09 09 21.0	
	baz=149,SNR=51						
CBKS				S		09 09 50.7	
	baz=149						
KSU1	Kansas State U	2.62	29	P	Pn	09 09 25.7	+1.4
	baz=210						
KSU1				S	Sb	09 10 01.7	+0.5
	baz=210						
KSU1	Kansas State U	2.62	29	Pn	Pn	09 09 25.1	+0.8
KSU1				IAmb_Lg		09 10 09.0	
	comp=Z,79nm,0.7s						
LOOK	Love County	2.95	162		Pn	09 09 30.3	+1.6
LOOK				IAmb_Lg		09 10 19.9	
	comp=Z,56nm,0.9s						
U38A	Gravette	3.13	96		Pn	09 09 32.8	+1.6
U38A				IAmb_Lg		09 10 29.8	
	comp=Z,43nm,0.7s						
U38A	Gravette	3.13	96	P		09 09 32.1	
	baz=278,SNR=33						
X37A	Clayton	3.23	133		Pn	09 09 34.3	+1.8
X37A				IAmb_Lg		09 10 27.1	
	comp=Z,59nm,0.8s						
X37A	Clayton	3.23	133	P		09 09 33.4	
	baz=315,SNR=62						
AMTX	Amarillo	3.39	236	P	Pn	09 09 36.8	+1.9
	baz=54						
AMTX	Amarillo	3.39	236	Pn	Pn	09 09 36.8	+1.9
AMTX	Amarillo	3.39	236	P		09 09 36.6	
	baz=54,SNR=15						
HHAR	Hobbs	3.51	97		Pn	09 09 37.5	+1.1
HHAR				IAmb_Lg		09 10 41.5	
	comp=Z,77nm,0.7s						
HHAR	Hobbs	3.51	97	P		09 09 37.5	
	baz=280						
Z35A	Perchaven, San	3.57	167		Pn	09 09 37.8	+0.6
Z35A				IAmb_Lg		09 10 43.9	
	comp=Z,48nm,1.0s						
Z35A	Perchaven, San	3.57	167	P		09 09 38.5	
	baz=347,SNR=12						
Z35A				S		09 10 21.9	
	baz=347						
W39A	Magazine	3.96	113	Pb	Pb	09 09 52.5	+0.7
W39A				Sb	Sg	09 10 46.7	-2.5
	baz=296						
W39A	Magazine	3.96	113	Pn	Pn	09 09 44.6	+2.0
W39A	Magazine	3.96	113	P		09 09 44.0	
	baz=296,SNR=6.7						
N33B	J Bar K, Exete	3.96	9	P		09 09 42.3	
	baz=189,SNR=14						
N33A	J Bar K, Exete	3.97	9	Pn	Pn	09 09 42.6	-0.1
KSCO	Kaye Shedlock'	4.10	304	P	Pn	09 09 46.1	+1.4
	baz=121						
KSCO	Kaye Shedlock'	4.10	304	Pn	Pn	09 09 46.2	+1.5
KSCO				IAmb_Lg		09 10 54.2	
	comp=Z,41nm,0.7s						
KSCO	Kaye Shedlock'	4.10	304	P		09 09 46.1	
	baz=121						
ABTX	Abilene, Hawle	4.34	196		Pn	09 09 51.0	+3.2
U40A	Yellville	4.37	94		Pn	09 09 48.7	+0.5
U40A				IAmb_Lg		09 11 08.6	
	comp=Z,61nm,0.8s						
MIAR	Mount Ida	4.42	119	Pn	Pn	09 09 50.4	+1.4
MIAR				IAmb_Lg		09 11 07.2	
	comp=Z,38nm,0.7s						
MIAR	Mount Ida	4.42	119	S		09 10 42.8	
	baz=302						
Z38A	Mt. Pleasant	4.44	142		Pn	09 09 50.1	+0.8
Z38A				IAmb_Lg		09 11 11.2	
	comp=Z,70nm,0.7s						
N35A	Tabor	4.52	26	Pn	Pn	09 09 50.8	+0.5
BGNE	Belgrade	4.59	1	P	Pn	09 09 51.7	+0.5
	baz=181						
BGNE	Belgrade	4.59	1	Pn	Pn	09 09 51.8	+0.5
BGNE	Belgrade	4.59	1	P		09 09 51.7	
	baz=181,SNR=32						
P38A	Dawn	4.65	51	Pn	Pn	09 09 52.0	-0.2
P38A				IAmb_Lg		09 11 21.0	
	comp=Z,36nm,0.8s						
P38A	Dawn	4.65	51	P		09 09 52.8	
	baz=234,SNR=16						
MSTX	Muleshoe	4.66	234	Sb	Sg	09 11 06.3	-5.2
	baz=51						
MSTX	Muleshoe	4.66	234	Pn	Pn	09 09 53.9	+1.5
MSTX				IAmb_Lg		09 11 10.9	
	comp=Z,50nm,1.1s						
MGMO	Mountain Grove	4.80	84	IAmb_Lg		09 11 23.4	
	comp=Z,35nm,0.7s						
WHTX	Lake Whitney,	4.86	172	P	Pn	09 09 55.7	+0.7
	baz=353						
WHTX	Lake Whitney,	4.86	172	Pn	Pn	09 09 55.9	+1.0
WHTX				IAmb_Lg		09 11 28.3	
	comp=Z,28nm,0.9s						
WHTX	Lake Whitney,	4.86	172	P		09 09 55.5	
	baz=353,SNR=6.8						
R40A	Maddies Statio	4.97	71	Pn	Pn	09 09 58.1	+1.6
R40A				IAmb_Lg		09 11 26.2	
	comp=Z,52nm,1.1s						
R40A	Maddies Statio	4.97	71	P		09 09 56.9	
	baz=254						
X40A	Basin Creek Fa	4.98	116	P	Pn	09 09 58.2	+1.6
	baz=300						
X40A	Basin Creek Fa	4.98	116	Pn	Pn	09 09 58.2	+1.6
X40A				IAmb_Lg		09 11 24.2	
	comp=Z,55nm,0.7s						
X40A	Basin Creek Fa	4.98	116	P		09 09 58.1	
	baz=300,SNR=9.4						
X40A				P		09 09 58.1	
	baz=300,SNR=9.4						
FCAR	Ozark Folk Cen	5.03	99	IAmb_Lg		09 11 22.1	
	comp=Z,50nm,0.9s						
OGNE	Ogallala	5.07	326	IAmb_Lg		09 11 35.7	
	comp=Z,53nm,0.7s						
W41B	Gary Mavity, V	5.13	107	Sb	Sg	09 11 22.4	-4.3
	baz=290						
237A	Washetta, Mont	5.21	157		Pn	09 10 00.6	+0.8
237A				IAmb_Lg		09 11 41.4	
	comp=Z,38nm,0.9s						
237A	Washetta, Mont	5.21	157	P		09 09 60.0	
	baz=338,SNR=9.8						
237A				S		09 10 58.7	
	baz=338						
WLAR	White Oak Lake	5.23	125	Pn	Pn	09 09 57.9	-2.2
WLAR				IAmb_Lg		09 11 41.4	
	comp=Z,49nm,0.9s						
N38A	Joes South For	5.58	43	P		09 10 05.0	
	baz=226						
P40A	Paris	5.58	59	IAmb_Lg		09 11 37.0	
	comp=Z,37nm,0.8s						
Z41A	Richland Creek	5.70	127	S	Sn	09 11 10.7	-1.3
	baz=310						
CCM	Cathedral Cave	5.71	75	IAmb_Lg		09 11 49.1	
	comp=Z,28nm,0.7s						
T42A	Van Buren	5.74	86	IAmb_Lg		09 11 58.6	
	comp=Z,29nm,0.8s						
LCAR	Lake Charles	5.77	95	IAmb_Lg		09 11 47.1	
	comp=Z,23nm,0.7s						
CCAR	Cane Creek	6.03	117	IAmb_Lg		09 12 08.0	
	comp=Z,39nm,0.8s						
SCIA	State Center	6.41	36	IAmb_Lg		09 12 05.7	
	comp=Z,47nm,0.7s						
N41A	Harden Midland	6.96	54	IAmb_Lg		09 12 25.5	
	comp=Z,35nm,0.8s						
143A	Socs Landing,	6.97	124	IAmb_Lg		09 12 38.4	
	comp=Z,27nm,0.9s						
ECSD	EROS Data Cent	7.02	10	IAmb_Lg		09 12 30.0	
	comp=Z,17nm,0.9s						
PHWY	Pilot Hill	7.18	311	IAmb_Lg		09 12 30.9	
	comp=Z,17nm,0.8s						
S44A	Carbondale	7.22	80	IAmb_Lg		09 12 35.5	
	comp=Z,28nm,0.8s						
SIUC	Southern Illin	7.26	80	IAmb_Lg		09 12 39.5	
	comp=Z,31nm,0.8s						
342A	Flagon Creek P	7.32	136	IAmb_Lg		09 12 40.1	
	comp=Z,20nm,1.0s						
OXF	Oxford	7.55	105	IAmb_Lg		09 13 00.1	
	comp=Z,34nm,1.1s						
HDIL	Hopedale	7.94	59	IAmb_Lg		09 12 57.6	
	comp=Z,36nm,0.8s						
I37A	Lemond, Waseca	8.08	26	IAmb_Lg		09 13 05.7	
	comp=Z,23nm,0.8s						
OLIL	Olney	8.26	74	IAmb_Lg		09 13 11.5	
	comp=Z,26nm,0.9s						
O44A	Mansfield	8.36	64	IAmb_Lg		09 13 04.2	
	comp=Z,30nm,0.8s						
L42A	Oliver, Polo	8.42	49	IAmb_Lg		09 13 10.8	
	comp=Z,25nm,0.8s						
PLAL	Pickwick Lake	8.45	99	IAmb_Lg		09 13 26.9	
	comp=Z,16nm,0.9s						
RWWY	Rawlins	8.48	308	IAmb_Lg		09 13 19.7	
	comp=Z,21nm,1.1s						
USIN	University of	8.50	79	IAmb_Lg		09 13 17.4	
	comp=Z,24nm,0.9s						
PV11	David Mesa, Pa	8.57	283	IAmb_Lg		09 13 22.8	
	comp=Z,14nm,0.9s						
K22A	Casper	8.64	315	IAmb_Lg		09 13 30.3	
	comp=Z,19nm,0.9s						
JFWS	Jewell Farm	8.65	43	IAmb_Lg		09 13 18.0	
	comp=Z,29nm,0.8s						
T47A	Sharon Grove	8.93	86	IAmb_Lg		09 13 37.8	
	comp=Z,21nm,0.8s						
Z47A	Carrollton	9.09	110	IAmb_Lg		09 13 37.6	
	comp=Z,14nm,0.9s						
P46A	Rosedale	9.13	69	IAmb_Lg		09 13 49.0	
	comp=Z,20nm,0.8s						
F33A	5 Mile Ranch,	9.13	9	IAmb_Lg		09 13 31.6	
	comp=Z,12nm,0.7s						
I40A	Norwalk	9.15	37	IAmb_Lg		09 13 42.2	
	comp=Z,15nm,0.9s						
V48A	Smith Brothers	9.29	93	IAmb_Lg		09 13 40.2	
	comp=Z,15nm,1.0s						
SPMN	Marine on St.	9.35	24	IAmb_Lg		09 13 39.9	
	comp=Z,14nm,0.8s						
X48A	Hartselle	9.42	101	IAmb_Lg		09 13 40.7	
	comp=Z,12nm,0.9s						
SFIN	Lafayette	9.43	64	IAmb_Lg		09 13 46.7	
	comp=Z,21nm,0.8s						
WCI	Wyandotte Cave	9.60	78	IAmb_Lg		09 13 49.6	
	comp=Z,21nm,0.9s						
E28A	Huff	9.92	350	IAmb_Lg		09 14 10.3	
	comp=Z,15nm,1.0s						

*ISK **21** 09:09:15.4, 39°25N×39°89E, h13km, ML2.6/9*
*DDA **21** 09:09:16.4, 39°24N×39°83E, h7km±2km, ML2.2*

ISC 21 09:09:16.1±1.1, 39°25N±0°03×39°90E±0°03, h11km±9km, n19, σ1°03/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNCL	Tunceli-Merkez	0.31	245	*i* P	Pg	09 09 22.3	-0.1
TNCL				*i* S	Sg	09 09 26.7	+0.1
TNCL				IAML		09 09 27.0	
	comp=N,563nm,0.2s						
TNCL				IAML		09 09 28.0	
	comp=E,903nm,0.4s						
YEDI	Yedisu-Bingol	0.53	69	PG	Pg	09 09 26.8	+0.3
KOVA	Elazig, Kovanc	0.55	187	*i* P	Pg	09 09 26.9	+0.1
KOVA				*i* S	Sb	09 09 34.7	-0.9
KOVA				IAML		09 09 35.0	
	comp=N,113nm,0.2s						
KOVA				IAML		09 09 35.0	
	comp=E,91nm,0.5s						
BNGB	Bingl	0.66	113	PG	Pg	09 09 29.0	+0.1
BNGB				SG	Sg	09 09 38.5	+1.0
KARO	Karliova-Bingo	0.89	86	PG	Pg	09 09 32.9	-0.4
REFA	Refahiye_ERZN	0.89	280	*i* P	Pn	09 09 35.4	+0.5
REFA				*i* S	Sn	09 09 52.0	+4.2
KOPT	Kop Dagi	0.90	31	*i* P	Pg	09 09 33.6	+0.2
KOPT				*i* S	Sn	09 09 48.2	+0.1
HANI	Diyarbakir_Han	0.92	155	*i* P	Pn	09 09 35.9	+0.9
HANI				*i* S	Sn	09 09 49.5	+1.2
HANI				IAML		09 09 53.0	
	comp=E,42nm,0.4s						
SVRC	Sivrice-ELAZID	0.98	208	PG	Pb	09 09 34.9	-0.4
KELT	Kelkit	1.03	331	*i* P	Pg	09 09 35.4	-0.5
KELT				*i* S	Sb	09 09 49.4	-0.3
ELZG	Elazig	1.04	224	*i* P	Pb	09 09 35.8	-0.4
ELZG				*i* S	Sn	09 09 50.6	-0.8
ELZG				IAML		09 09 55.0	
	comp=N,87nm,0.4s						
ELZG				IAML		09 09 57.0	
	comp=E,103nm,0.9s						
BAYB	BAYBURT	1.05	15	*i* P	Pg	09 09 35.2	-1.1
BAYB				*i* S	Sn	09 09 52.1	+0.4
ILIC	ilic-Erzincan	1.05	282	PG	Pb	09 09 35.9	-0.6
ILIC				SG	Sn	09 09 50.8	-1.0
KEMA	Kemaliye	1.09	272	*i* P	Pb	09 09 36.7	-0.4
KEMA				*i* S	Sb	09 09 51.0	-0.4
KEMA				IAML		09 09 56.0	
	comp=N,48nm,0.4s						
KEMA				IAML		09 09 56.0	
	comp=E,51nm,0.3s						
ARPR	Arapgir-MALATY	1.23	263	PN	Pb	09 09 38.8	-0.6
MALT	Malatya	1.48	231	PN	Pn	09 09 42.5	-0.4
SVAN	Silvan-Diyarba	1.49	137	PN	Pn	09 09 42.6	-0.3
SUSE	Susehri	1.62	307	*i* P	Pg	09 09 47.3	0.0
SUSE				*i* S	Sg	09 10 09.4	+1.0
SUSE				IAML		09 10 12.0	
	comp=N,21nm,0.4s						
MAZI	Mazidag	1.84	166	PN	Pn	09 09 46.8	-0.9

*IDC **21** 09:09:23.4±1.9, 2°26N×97°06W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.1/35, mbtmp4.1/11, MS3.8/12, Ms1 3.8/12, ms1mx3.6/34, Error ellipse: s-maj=87.6km s-min=16.9km az=50.0*
*NEIC **21** 09:09:27.6±1.4, 2°4N±0°1×96°8W±0°2, h10km±2km, mb4.4/67, Error ellipse: s-maj=31.8km s-min=20.2km az=232.0*

ISC 21 09:09:25.4±1.3, 2°3N±0°2×97°0W±0°2, h10km, n96, σ0°95/80, mb4.3/41, MS3.9/11, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	Las Juntas de	14.33	56	LR	LR	09 16 43.6	
	comp=Z,296nm,19.9s,baz=323,slow=30						
OTAV	Otavalo	18.61	96	P	P	09 13 42.4	-1.2
ATAH	Atahualpa	20.75	117	P	P	09 14 07.4	+0.4
	1.8nm,0.6s,baz=34,slow=11,SNR=1.7						
ATAH				LR	LR	09 20 17.2	
	comp=Z,170nm,19.9s,baz=290,slow=31						
ZAIG	Zacatecas	21.08	345	P	P	09 14 11.0	+0.7
ZAIG				IAmb	IAmb	09 14 20.1	
	comp=Z,16nm,1.2s						
RUSC	La Rusia	24.07	81	P	P	09 14 40.1	-1.7
RUSC				IAmb	IAmb	09 15 00.1	
	comp=Z,10.0nm,1.3s						
SOR	Soroa	24.47	32	P	P	09 14 43.4	-1.3
SOR				IAmb	IAmb	09 14 54.9	
	comp=Z,11nm,1.4s						
NNA	Nana	24.51	126	LR	LR	09 22 25.0	
	comp=Z,91nm,21.2s,baz=284,slow=32						
LPIG	La Paz	25.24	330	LR	LR	09 22 22.9	
	comp=Z,436nm,20.3s,baz=168,slow=31						
HPIG		25.89	342	P	P	09 14 57.6	-0.2
HPIG				IAmb	IAmb	09 15 15.3	
	comp=Z,9.3nm,1.4s						
TXAR	Lajitas Array	27.65	347	P	P	09 15 14.4	+0.9
	comp=Z,1.9nm,1.0s,baz=161,slow=8.6,SNR=2.0						
TXAR				PcP	PcP	09 18 29.4	-1.5
	comp=Z,0.3nm,0.6s,baz=157,slow=5.9,SNR=3.5						
TXAR				LR	LR	09 25 10.0	
	comp=Z,238nm,18.2s,baz=0.0,slow=34						
TXAR	Lajitas Array	27.65	347	P	P	09 15 14.7	+1.1
JCT	Junction City	28.17	355	P	P	09 15 18.9	+0.7
JCT				IAmb	IAmb	09 15 23.2	
	comp=Z,6.5nm,0.9s						
346A	Big Creek Wild	29.80	13	P	P	09 15 31.5	-1.1
RPN	Rapa Nui	31.59	201	LR	LR	09 25 06.4	
	comp=Z,255nm,19.4s,baz=46,slow=30						
MSTX	Muleshoe	31.99	351	P	P	09 15 52.4	+0.5
X34A	Smith Ranch, M	32.16	359	P	P	09 15 55.2	+1.8
BNM	Barren Site	32.96	345	P	P	09 16 01.8	+1.1
LPAZ	La Paz	33.93	124	P	P	09 16 11.1	+1.3
	comp=Z,4.6nm,1.1s,baz=302,slow=8.8,SNR=6.2						
LPAZ				LR	LR	09 28 15.2	
	comp=Z,117nm,21.7s,baz=284,slow=33						
LPAZ	La Paz	33.93	124	P	P	09 16 11.1	+1.3
LPAZ				IAmb	IAmb	09 16 12.8	
	comp=Z,13nm,1.5s						
CDVI	St. Croix	35.13	62	P	P	09 16 20.8	+1.4
T25A	Trinidad	35.36	350	P	P	09 16 22.2	+0.8
T25A				IAmb	IAmb	09 16 27.1	
	comp=Z,15nm,1.5s						
WUAZ	Wupatki	35.67	340	P	P	09 16 25.3	+1.2
WUAZ				IAmb	IAmb	09 16 30.4	
	comp=Z,13nm,1.4s						
PFO	Pinyon Flats O	36.12	332	P	P	09 16 28.9	+1.0
	comp=Z,1.2nm,0.9s,baz=139,slow=7.2,SNR=3.9						
PFO	Pinyon Flats O	36.12	332	IAmb	IAmb	09 16 36.5	
	comp=Z,7.7nm,1.5s						
SDCO	Great Sand Dun	36.15	348	P	P	09 16 29.4	+1.0
SDCO				IAmb	IAmb	09 16 33.7	
	comp=Z,4.9nm,1.2s						
MVCO	Mesa Verde	36.34	344	P	P	09 16 30.6	+0.6

comp=Z,6.8nm,1.2s
ISCO Idaho Springs 38.16 349 P P 09 16 46.4 +1.0
MTPU Mount Pierson 38.23 340 P P 09 16 47.5 +1.5
P48A Milroy 38.46 14 P P 09 16 47.0 -0.5
P48A IAmb IAmb 09 16 56.1
comp=Z,18nm,1.4s
O44A Mansfield 38.47 10 P P 09 16 48.1 +0.5
O44A IAmb IAmb 09 16 48.8
comp=Z,7.7nm,0.9s
N38A Joes South For 38.48 5 P P 09 16 48.2 +0.5
MSU Marysvale 38.65 341 P P 09 16 50.6 +1.1
MVU Marysvale 38.66 341 P P 09 16 50.6 +1.1
HDIL Hopedale 38.72 9 P P 09 16 51.0 +1.3
HDIL IAmb IAmb 09 16 54.6
comp=Z,18nm,1.2s
ISA Isabella, Lake 38.74 331 P P 09 16 50.7 +0.6
OGNE Ogallala 38.76 354 P P 09 16 50.9 +0.8
OGNE IAmb IAmb 09 16 51.9
comp=Z,14nm,0.9s
T59A Double "B" Far 38.87 25 P P 09 16 51.9 +0.9
T59A IAmb IAmb 09 16 55.5
comp=Z,9.7nm,1.1s
TMUT Trail Mountain 39.06 342 P P 09 16 53.7 +0.7
P51A Williamsport 39.12 17 P P 09 16 52.9 -0.2
P51A IAmb IAmb 09 17 04.7
comp=Z,16nm,1.4s
H03N2 Juan Fernandez 39.40 156 T T 09 58 52.9
baz=334,slow=77,SNR=86
H03N1 Juan Fernandez 39.41 156 T T 09 58 56.4
baz=334,slow=77,SNR=139
H03N3 Juan Fernandez 39.41 156 T T 09 58 55.5
baz=334,slow=77,SNR=105
SPR3 Spring Creek 3 39.83 339 P P 09 16 59.8 +0.4
SIV San Ignacio 39.84 118 P P 09 16 59.5 0.0
comp=Z,2.9nm,1.0s,baz=315,slow=9.8,SNR=5.4
MPU Maple Canyon 39.85 342 P P 09 17 00.3 +0.9
NLU North Lily Min 39.93 342 P P 09 17 01.2 +1.1
RWWY Rawlins 40.30 348 P P 09 17 05.0 +1.8
RWWY IAmb IAmb 09 17 09.4
comp=Z,9.2nm,1.2s
DUG Dugway, Tooele 40.38 341 P P 09 17 05.2 +1.4
DUG IAmb IAmb 09 17 13.7
comp=Z,7.5nm,1.2s
NVAR Mina Array Bea 40.94 334 P P 09 17 08.8 +0.4
comp=Z,1.8nm,1.0s,baz=154,slow=8.8,SNR=11
NVAR PcP **PcP 09 19 07.5 -1.4**
comp=Z,1.2nm,1.2s,baz=158,slow=2.6,SNR=3.5
NVAR Mina Array Bea 40.94 334 P P 09 17 09.0 +0.6
ECSD EROS Data Cent 41.27 0 P P 09 17 10.9 0.0
ECSD IAmb IAmb 09 17 15.0
comp=Z,13nm,1.2s
HWUT Hardware Ranch 41.30 343 P P 09 17 12.0 +0.7
HWUT IAmb IAmb 09 17 17.1
comp=Z,11nm,1.1s
KVN Kaiserville 41.37 335 P P 09 17 12.9 +1.0
WAKR Walker 41.50 333 P P 09 17 14.7 +1.6
PD31 Pinedale Array 41.85 346 P P 09 17 15.9 0.0
PDAR Pinedale Array 41.85 346 P P 09 17 15.4 -0.5
comp=Z,2.2nm,0.8s,baz=153,slow=8.0,SNR=12
PDAR LR LR 09 34 11.6
comp=Z,193nm,19.0s,baz=186,slow=36
PDAR Pinedale Array 41.85 346 P P 09 17 15.9 0.0
BW06 Boulder Array 41.85 346 P P 09 17 16.2 +0.3
SUSD Miller 42.02 358 P P 09 17 16.9 0.0
RSSD Black Hills 42.13 352 P P 09 17 17.5 -0.6
RSSD IAmb IAmb 09 17 23.2
comp=Z,9.6nm,1.2s
SNOW Snow King Moun 42.80 345 P P 09 17 25.1 +1.5
SNOW IAmb IAmb 09 17 32.4
comp=Z,7.6nm,1.1s
LOHW Long Hollow 42.90 345 P P 09 17 24.8 +0.3
LOHW IAmb IAmb 09 17 29.0
comp=Z,10.0nm,1.4s
IMW Indian Meadow 43.26 345 P P 09 17 27.6 +0.2
IMW IAmb IAmb 09 17 31.8
comp=Z,6.8nm,1.2s
L56A Greenwood 43.32 21 P P 09 17 27.6 -0.1
L56A IAmb IAmb 09 17 45.2
comp=Z,8.1nm,0.8s
YNE Yellowstone No 44.08 347 P P 09 17 33.9 0.0
YNE IAmb IAmb 09 17 41.8
comp=Z,4.9nm,1.1s
E28A Huff 44.23 356 P P 09 17 35.2 +0.3
BCYI Bear Canyon 44.31 343 P P 09 17 36.6 +0.8
J56A Wolcott 44.57 21 P P 09 17 38.3 +0.7
MCMT McKenzie Canyo 44.63 344 P P 09 17 39.2 +0.9
MOD Modoc Plateau 44.67 335 P P 09 17 39.3 +0.7
MOD IAmb IAmb 09 17 43.7
comp=Z,5.0nm,1.1s
D32A Dogwood Acres, 44.67 360 P P 09 17 38.1 -0.3
GCMT Greycliff 44.74 347 P P 09 17 39.3 +0.2
AGMN Agassiz Nation 45.85 1 P P 09 17 47.6 0.0
CPUP Villa Florida 47.69 129 LR LR 09 38 32.6
comp=Z,51nm,18.1s,baz=253,slow=37
ULM Lac du Bonnet 47.80 1 P P 09 18 02.2 -0.7
comp=Z,5.1nm,0.8s,baz=164,slow=4.1,SNR=4.5
ULM Lac du Bonnet 47.80 1 IAmb IAmb 09 18 03.0
comp=Z,8.5nm,1.0s
PLCA Paso Flores 49.13 153 LR LR 09 34 05.4
comp=Z,155nm,19.0s,baz=318,slow=30
YKA Yellowknife Ar 61.50 351 P P 09 19 40.8 -1.4
comp=Z,2.3nm,1.1s,baz=151,slow=7.2,SNR=5.3
YKA LR LR 09 46 17.4
comp=Z,112nm,18.1s,baz=0.0,slow=36
DLBC Dease Lake 61.70 341 LR LR 09 46 55.0
comp=Z,147nm,19.2s,baz=147,slow=36
INK Inuvik 70.42 346 P P 09 20 39.2 -0.2
comp=Z,4.5nm,0.9s,baz=108,slow=3.8,SNR=5.5
INK Inuvik 70.42 346 P P 09 20 39.8 +0.3
ILAR Eielson Array 71.85 340 P P 09 20 47.0 -1.2
comp=Z,1.8nm,0.8s,baz=155,slow=5.2,SNR=13
H11N3 WAKE ISLAND Hy 95.01 290 T T 11 08 00.5
baz=86,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 95.02 290 T T 11 08 01.2
baz=86,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 95.03 290 T T 11 08 01.7
baz=86,slow=75,SNR=14
H11S2 WAKE ISLAND Hy 95.29 289 T T 11 08 20.8
baz=86,slow=74,SNR=9.0
H11S1 WAKE ISLAND Hy 95.30 289 T T 11 08 20.6
baz=86,slow=74,SNR=5.2
H11S3 WAKE ISLAND Hy 95.31 289 T T 11 08 22.0
baz=86,slow=74,SNR=4.7

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*BJI **21** 09:16:45.5±0.0, 37.°85N×141.°72E, h54km, mB4.8/47, mb5.0/70, Ms4.1/40, Ms7 3.9/39*
*MOS **21** 09:16:48.9±0.9, 38.°09N×141.°64E, h65km, mb5.2/82, Error ellipse: s-maj=5.1km s-min=3.7km az=100.2*
*NEIC **21** 09:16:49.4±1.9, 37.°84N±0.°06×141.°76E±0.°09, h58km±5km, mb5.0/347, Mwr4.8/15, Error ellipse: s-maj=10.9km s-min=7.7km az=113.0*
*NIED **21** 09:16:49.5, 37.°84N×141.°70E, h65km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.22; $M_{\theta\theta}$0.39; $M_{\phi\phi}$-1.61; $M_{r\theta}$0.99; $M_{\theta\phi}$0.47; $M_{\phi r}$-0.42; Fault plane solution: $M_0$1.87000×10^{16} NP1: ϕ_s139.00000°, δ64.00000°, λ56.00000°. NP2: ϕ_s16.00000°, δ42.00000°, λ139.00000°.*
*NEIC **21** 09:16:49.3, 37.°84N×141.°76E, h62km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.03; $M_{\theta\theta}$1.10; $M_{\phi\phi}$-2.14; $M_{r\theta}$1.04; $M_{\theta\phi}$0.70; $M_{\phi r}$-0.49; Fault plane solution: $M_0$2.29000×10^{16} NP1: ϕ_s132.83000°, δ70.42000°, λ42.01000°. NP2: ϕ_s26.04000°, δ50.91000°, λ154.43000°. Principal axes: T 2.1114, Plg43.0000°, Azm357.0000°; N 0.3172, Plg44.0000°, Azm153.0000°; P -2.4286, Plg12.0000°, Azm255.0000°;*
*JMA **21** 09:16:49.4, 37.°84N×141.°70E, h65km±1km, M4.9*
JMA Felt III J1.
*IDC **21** 09:16:50.2±0.5, 37.°83N×141.°58E, h72km±4km, mb4.5/33, mb1 4.6/40, mb1mx4.6/44, mbtmp4.8/40, MS3.6/23, Ms1 3.6/23, ms1mx3.5/51, Error ellipse: s-maj=11.0km s-min=8.8km az=122.0*
*GCMT **21** 09:16:52.5±0.3, 37.°92N±0.°02×141.°59E±0.°03, h62km±2km, MW4.9/84, Moment Tensor Solution. s24,c29; s84,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.32±.13; $M_{\theta\theta}$0.77±.10; $M_{\phi\phi}$-2.10±.09; $M_{r\theta}$1.39±.06; $M_{\theta\phi}$0.82±.08; $M_{\phi r}$-0.45±.07; Best double couple: $M_0$2.48600×10^{16} NP1: ϕ_s132.00000°, δ46.00000°, λ148.00000°. NP2: ϕ_s132.00000°, δ68.00000°, λ49.00000°. Principal axes: T 2.4700, Plg50.0000°, Azm356.0000°; N 0.0240,*

Plg37.0000°, Azm150.0000°; P -2.5010, Plg13.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 21 09:16:49.2±0.3, 37.°94N±0.°03×141.°73E±0.°03, h62km±2km, h61km: pP-P, n1092, σ1.°50/1118, mb5.0/297, 184C-49D, Fault plane solution: NP1: ϕ_s121.17201°, δ61.24787°, λ54.14560°. **NP2:** ϕ_s357.52350°, δ44.71790°, λ136.87117°. **Principal axes:** T Plg57.4145°, Azm340.9042°; N Plg30.8981°, Azm140.3404°; P Plg9.3417°, Azm235.9901°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.42**	**331**	P	**Pn**	**09 17 02.0**	**+1.5**
JIKH				S	**Sn**	**09 17 11.0**	**+2.3**
JIO	**Ouri**	**0.59**	**330**	P	**Pn**	**09 17 03.9**	**+1.6**
JIO				S	**Sn**	**09 17 14.0**	**+2.2**
JMST	**Minamisoumatoc**	**0.70**	**252**	P	**Pn**	**09 17 03.5**	**0.0**
JMST				S	**Sn**	**09 17 13.6**	**-0.3**
JMM	**Marumori**	**0.74**	**265**	P	**Pn**	**09 17 04.3**	**+0.3**
JMM				S	**Sn**	**09 17 15.1**	**+0.2**
JMM	**Marumori**	**0.74**	**265**		**Pn**	**09 17 04.3**	**+0.3**
JFK	**Kawauchi**	**0.89**	**230**	*i* P	**Pn**	**09 17 05.1**	**-0.8**
JFK				S	**Sn**	**09 17 16.6**	**-1.6**
JOU	**Okura**	**0.94**	**297**	P	**Pn**	**09 17 07.5**	**+1.0**
JOU				S	**Sn**	**09 17 21.1**	**+1.8**
JMK	**Ichinoseki**	**1.08**	**339**	P	**Pn**	**09 17 10.1**	**+1.7**
JMK				S	**Sn**	**09 17 25.4**	**+2.7**
JFT	**Otama**	**1.18**	**249**	P	**Pn**	**09 17 09.8**	**+0.2**
JFT				S	**Sn**	**09 17 25.3**	**+0.4**
JYS	**Shiratake**	**1.34**	**283**	P	**Pn**	**09 17 12.8**	**+1.0**
JYS				S	**Sn**	**09 17 30.6**	**+1.9**
JYK	**Kaneyama**	**1.45**	**313**	P	**Pn**	**09 17 14.8**	**+1.6**
JYK				S	**Sn**	**09 17 34.0**	**+2.7**
JOM	**Ohasama**	**1.57**	**348**	P	**Pn**	**09 17 16.4**	**+1.6**
JOM				*e*S	**Sn**	**09 17 36.9**	**+2.8**
JRG	**Rokugo**	**1.69**	**330**	P	**Pn**	**09 17 18.4**	**+2.0**
JFY	**Yanaizu**	**1.69**	**252**	P	**Pn**	**09 17 16.7**	**+0.2**
JFY				S	**Sn**	**09 17 37.2**	**+0.1**
JYA	**Atsumi**	**1.71**	**293**	P	**Pn**	**09 17 17.7**	**+0.9**
JYA				S	**Sn**	**09 17 41.2**	**+3.6**
JNS	**Sasagawa**	**1.91**	**267**	P	**Pn**	**09 17 20.0**	**+0.6**
JYT	**Yasato**	**2.10**	**216**	Pn	**Pn**	**09 17 20.5**	**-1.6**
JSD	**Sado**	**2.74**	**273**	Pn	**Pn**	**09 17 30.7**	**0.0**
JTM	**Tenmabayashi**	**2.89**	**350**	Pn	**Pn**	**09 17 34.5**	**+1.8**
MJAR	**Matsushiro Arr**	**3.13**	**245**	P	**Pn**	**09 17 36.2**	**0.0**
	25nm,0.3s,baz=352,slow=17,SNR=550						
MJAR				S	Sn	09 17 57.4	-15
	22nm,0.3s,baz=68,slow=14,SNR=14						
MJAR				LR	LR	09 19 09.7	
	comp=Z,3μm,21.4s,baz=65,slow=47						
MJAR	**Matsushiro Arr**	**3.13**	**245**		**Pn**	**09 17 35.9**	**-0.2**
MAJO	**Matsushiro**	**3.13**	**245**	P	**Pn**	**09 17 37.3**	**+1.1**
MAJO	**Matsushiro**	**3.13**	**245**		**Pn**	**09 17 37.2**	**+1.1**
MAT	**Matsushiro**	**3.13**	**245**	P	**Pn**	**09 17 37.1**	**+0.9**
MAT				*e*S	**Sn**	**09 18 16.0**	**+3.6**
MJB9	**Matsu-Tunnel**	**3.14**	**245**		**Pn**	**09 17 37.2**	**+1.0**
JGF	**Kuroka**	**4.21**	**238**	Pn	**Pn**	**09 17 51.9**	**+1.0**
ERM	**Erimo**	**4.22**	**15**	*c*eP	**Pn**	**09 17 51.1**	**+0.2**
ERM				pmax	pmax		
	comp=Z,228nm,0.8s						
ERM	**Erimo**	**4.22**	**15**	Pn	**Pn**	**09 17 51.0**	**+0.2**
JSG	**Sagara**	**4.33**	**222**		**Pn**	**09 17 52.9**	**+0.3**
INU	**Inuyama**	**4.58**	**237**		**Pn**	**09 17 56.4**	**+0.4**
JEW	**Eniwo**	**4.90**	**358**	Pn	**Pn**	**09 18 01.1**	**+0.9**
JHJ2	**Mitsune**	**5.06**	**198**	Pn	**Pn**	**09 18 00.2**	**-2.4**
JHJ	**Hachijo jima 2**	**5.06**	**199**	P	**Pn**	**09 18 00.4**	**-2.2**
	comp=Z,398nm,0.3s,baz=344,slow=9.2,SNR=232						
JHJ				S	**Sn**	**09 18 53.8**	**-6.0**
	comp=Z,753nm,0.3s,baz=55,slow=23,SNR=17						
JWT	**Wachi**	**5.74**	**244**	Pn	**Pn**	**09 18 12.7**	**+0.9**
ASAJ	**Asahikawa**	**6.21**	**6**	P	**Pn**	**09 18 18.2**	**+0.1**
	comp=Z,36nm,0.3s,baz=223,slow=9.2,SNR=206						
ASAJ				S	**Sn**	**09 19 22.7**	**-5.0**
	comp=Z,14nm,0.3s,baz=271,slow=32,SNR=3.9						
JKA	**Kamikawa-asahi**	**6.21**	**6**	Pn	**Pn**	**09 18 18.2**	**+0.1**
NMR	**Nemuro--Hokkai**	**6.22**	**28**	⇓*i*P	**Pn**	**09 18 17.0**	**-1.3**
NMR				*i* S	**Sn**	**09 19 22.0**	**-5.9**
GLVR	**Golovnino**	**6.47**	**25**	*e*P	**Pn**	**09 18 20.8**	**-0.9**
GLVR				*e*S	**Sn**	**09 19 30.6**	**-3.4**
GLVR				pmax	pmax		
	comp=Z,518nm,0.6s						
GLVR				pmax	pmax		
	comp=N,460nm,0.4s						
GLVR				pmax	pmax		
	comp=E,471nm,0.4s						
RUSJ	**Misakicho**	**6.71**	**22**	*e*P	**Pn**	**09 18 24.9**	**-0.1**
RUSJ				*e*S	**Sn**	**09 19 37.5**	**-2.4**
GRPR	**Tuman**	**6.78**	**26**	⇑*i*P	**Pn**	**09 18 25.1**	**-0.8**
GRPR				*e*S	**Sn**	**09 19 36.6**	**-5.0**
GRPR				pmax	pmax		
	comp=Z,304nm,0.2s						
GRPR				pmax	pmax		
	comp=N,131nm,0.4s						
GRPR				pmax	pmax		
	comp=E,228nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.84**	**26**	*e*P	**Pn**	**09 18 25.9**	**-0.9**
YUK				*e*S	**Sn**	**09 19 37.0**	**-6.3**
YUK				pmax	pmax		
	comp=N,351nm,0.3s						
YUK				pmax	pmax		
	comp=E,263nm,0.3s						
YUK				pmax	pmax		
	comp=Z,535nm,0.3s						
JHS	**Saijyo**	**7.53**	**250**	Pn	**Pn**	**09 18 37.4**	**+1.1**
JMN	**Monobe**	**7.63**	**239**		**Pn**	**09 18 37.8**	**+0.1**
ULDB	**Ullung-do Bore**	**8.59**	**270**	P	**Pn**	**09 18 53.3**	**+2.4**
	SNR=7.8						
ULDB	**Ullung-do Bore**	**8.59**	**270**	P	**Pn**	**09 18 53.3**	**+2.4**
	SNR=7.8						
KUR	**Kuril'sk**	**8.62**	**30**	*e*P	**Pn**	**09 18 50.5**	**-0.6**
KUR				*e*S	**Sn**	**09 20 21.3**	**-5.3**
KUR				pmax	pmax		
	comp=E,73nm,0.5s						
KUR				pmax	pmax		
	comp=Z,99nm,0.5s						
KUR				pmax	pmax		
	comp=N,87nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.04**	**4**	*c*eP	**Pn**	**09 18 56.8**	**0.0**
YSS				*e*S	**Sn**	**09 20 34.9**	**-2.1**
YSS				pmax	pmax		
	comp=Z,150nm,0.7s						
YSS				smax	smax		
	comp=E,300nm,3.7s						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.04**	**4**	Pn	**Pn**	**09 18 56.8**	**0.0**
VLA	**Vladivostok**	**9.10**	**308**	*i* P	**Pn**	**09 18 58.5**	**+0.8**
MSHR	**Mys Shultsa**	**9.31**	**303**	*e*P	**Pn**	**09 19 00.2**	**-0.4**
USA0B	**Ussuriysk Arra**	**9.65**	**313**	P	**Pn**	**09 19 07.3**	**+2.1**
USA0B	**Ussuriysk Arra**	**9.65**	**313**		**Pn**	**09 19 07.3**	**+2.1**
USRK	**Ussuriysk Ar.**	**9.65**	**313**	P	**Pn**	**09 19 07.5**	**+2.4**
	baz=117,slow=14,SNR=24						
USRK				LR	LR	09 22 58.0	
	comp=Z,250nm,18.3s,baz=121,slow=38						
USRK	**Ussuriysk Ar.**	**9.65**	**313**	Pn	**Pn**	**09 19 07.4**	**+2.2**
UJN	**ULJIN**	**9.84**	**268**	P	**Pn**	**09 19 10.9**	**+3.1**
	SNR=8.8						
UJN	**ULJIN**	**9.84**	**268**	P	**Pn**	**09 19 10.9**	**+3.1**
	SNR=8.8						
IMWB	**Imwonan-gil**	**9.86**	**270**	P	**Pn**	**09 19 11.0**	**+2.9**
	SNR=8.3						
IMWB	**Imwonan-gil**	**9.86**	**270**	P	**Pn**	**09 19 11.0**	**+2.9**
	SNR=8.3						
KSULJ	**Uljin**	**9.89**	**267**	P	**Pn**	**09 19 11.1**	**+2.6**
	SNR=12						
KSULJ	**Uljin**	**9.89**	**267**	P	**Pn**	**09 19 11.1**	**+2.6**
	SNR=12						
KSPHA	**Pohang**	**10.03**	**264**	P	**Pn**	**09 19 13.1**	**+2.7**
	SNR=10.0						
KSPHA	**Pohang**	**10.03**	**264**	P	**Pn**	**09 19 13.1**	**+2.7**
	SNR=10.0						
JNU	**Nakatsue**	**10.06**	**245**	P	**Pn**	**09 19 11.3**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=50,slow=8.9,SNR=34						
JNU	**Nakatsue**	**10.06**	**245**	Pn	**Pn**	**09 19 10.7**	**-0.2**
KSTBA	**Taebaek**	**10.18**	**269**	P	**Pn**	**09 19 15.6**	**+3.1**
	SNR=13						
KSTBA	**Taebaek**	**10.18**	**269**	P	**Pn**	**09 19 15.6**	**+3.1**
	SNR=13						
KSJMJ	**Jumunjin**	**10.25**	**274**	P	**Pn**	**09 19 15.8**	**+2.3**
	SNR=6.7						
KSJMJ	**Jumunjin**	**10.25**	**274**	P	**Pn**	**09 19 15.8**	**+2.3**
	SNR=6.7						
KSADO	**Andong**	**10.31**	**265**	P	**Pn**	**09 19 17.0**	**+2.8**
	SNR=24						
KSADO	**Andong**	**10.31**	**265**	P	**Pn**	**09 19 17.0**	**+2.8**
	SNR=24						
KSDGY	**Daegwallycong**	**10.33**	**273**	P	**Pn**	**09 19 17.1**	**+2.5**
	SNR=11						
KSDGY	**Daegwallycong**	**10.33**	**273**	P	**Pn**	**09 19 17.1**	**+2.5**
	SNR=11						
KSUSN	**Ulsan**	**10.35**	**261**	P	**Pn**	**09 19 16.9**	**+2.1**
	SNR=21						
KSUSN	**Ulsan**	**10.35**	**261**	P	**Pn**	**09 19 16.9**	**+2.1**
	SNR=21						
KSYOC	**YEONGCHEON**	**10.41**	**263**	P	**Pn**	**09 19 18.2**	**+2.5**
	SNR=6.0						
KSYOC	**YEONGCHEON**	**10.41**	**263**	P	**Pn**	**09 19 18.2**	**+2.5**
	SNR=6.0						
KSSKC	**Sokcho**	**10.41**	**276**	P	**Pn**	**09 19 19.0**	**+3.4**
	SNR=9.2						
KSSKC	**Sokcho**	**10.41**	**276**	P	**Pn**	**09 19 19.0**	**+3.4**
	SNR=9.2						
KSBUS	**Busan**	**10.49**	**259**	P	**Pn**	**09 19 19.4**	**+2.6**
	SNR=8.0						
KSBUS	**Busan**	**10.49**	**259**	P	**Pn**	**09 19 20.0**	**+3.2**
	SNR=8.0						
KSBUS	**Busan**	**10.49**	**259**	P	**Pn**	**09 19 19.4**	**+2.6**
	SNR=8.0						
KSBUS	**Busan**	**10.49**	**259**	P	**Pn**	**09 19 20.0**	**+3.2**
	SNR=8.0						
KSDAG	**Daegu**	**10.51**	**262**	P	**Pn**	**09 19 19.2**	**+2.2**
	SNR=11						
KSDAG	**Daegu**	**10.51**	**262**	P	**Pn**	**09 19 19.2**	**+2.2**
	SNR=11						
JTU	**Tsushima**	**10.52**	**255**	Pn	**Pn**	**09 19 17.5**	**+0.3**
KSEUS	**ULSEONG**	**10.53**	**265**	P	**Pn**	**09 19 20.0**	**+2.7**
	SNR=13						
KSEUS	**ULSEONG**	**10.53**	**265**	P	**Pn**	**09 19 20.0**	**+2.7**
	SNR=13						
KSYOW	**Yeongwol**	**10.56**	**270**	P	**Pn**	**09 19 20.9**	**+3.1**
	SNR=22						
KSYOW	**Yeongwol**	**10.56**	**270**	P	**Pn**	**09 19 20.9**	**+3.1**
	SNR=22						
SEHB	**SEOHWA**	**10.62**	**276**	P	**Pn**	**09 19 21.2**	**+2.6**
	SNR=15						
SEHB	**SEOHWA**	**10.62**	**276**	P	**Pn**	**09 19 21.2**	**+2.6**
	SNR=15						
KSIJA	**INJE**	**10.75**	**274**	P	**Pn**	**09 19 23.6**	**+3.2**
	SNR=22						
KSIJA	**INJE**	**10.75**	**274**	P	**Pn**	**09 19 23.6**	**+3.2**
	SNR=22						
JCJ	**Chichijima**	**10.82**	**178**	P	Pn	09 19 16.4	-4.9
	comp=Z,30nm,0.3s,baz=353,slow=22,SNR=20						
JCJ				S	Sn	09 21 05.4	-15
	comp=Z,26nm,0.3s,baz=270,slow=20,SNR=4.6						
JCJ	**Chichijima**	**10.82**	**178**	Pn	Pn	09 19 15.6	-5.7
KSWJU	**Wonju**	**10.85**	**271**	P	**Pn**	**09 19 25.0**	**+3.2**
	SNR=29						
KSWJU	**Wonju**	**10.85**	**271**	P	**Pn**	**09 19 25.0**	**+3.2**
	SNR=29						
KSMAS	**Masan**	**10.94**	**259**	P	**Pn**	**09 19 25.0**	**+2.2**
	SNR=12						
KSMAS	**Masan**	**10.94**	**259**	P	**Pn**	**09 19 25.0**	**+2.2**
	SNR=12						
KSSAJ	**Sangju**	**10.94**	**266**	P	**Pn**	**09 19 26.3**	**+3.4**
	SNR=6.0						
KSSAJ	**Sangju**	**10.94**	**266**	P	**Pn**	**09 19 26.3**	**+3.4**
	SNR=6.0						
KSRS	**Korea Array**	**10.95**	**272**	P	**Pn**	**09 19 26.0**	**+3.0**
	comp=Z,4.0nm,0.3s,baz=84,slow=14,SNR=138						
KSRS				LR	LR	09 23 13.3	
	comp=Z,578nm,20.9s,baz=79,slow=35						
KSMGY	**Mungyeong**	**10.96**	**267**	P	**Pn**	**09 19 25.9**	**+2.6**
	SNR=13						
KSMGY	**Mungyeong**	**10.96**	**267**	P	**Pn**	**09 19 25.9**	**+2.6**
	SNR=13						
KSAR	**Wonju Array Be**	**10.98**	**272**	P	**Pn**	**09 19 25.8**	**+2.4**
KSAR	**Wonju Array Be**	**10.98**	**272**	Pn	**Pn**	**09 19 25.8**	**+2.4**
KS19	**Wonju Array Si**	**10.99**	**272**	Pn	**Pn**	**09 19 26.3**	**+2.7**
KSCHJ	**Chungju**	**10.99**	**269**	P	**Pn**	**09 19 26.7**	**+3.1**
	SNR=21						
KSCHJ	**Chungju**	**10.99**	**269**	P	**Pn**	**09 19 26.0**	**+2.4**
	SNR=20						
KSCHJ	**Chungju**	**10.99**	**269**	P	**Pn**	**09 19 26.7**	**+3.1**
	SNR=21						
KSCHJ	**Chungju**	**10.99**	**269**	P	**Pn**	**09 19 26.0**	**+2.4**
	SNR=20						
KSCHC	**Chuncheon**	**11.00**	**273**	P	**Pn**	**09 19 28.0**	**+4.2**
	SNR=11						
EURB	**Uiryeong-eup**	**11.11**	**260**	P	**Pn**	**09 19 28.0**	**+2.8**
	SNR=12						
EURB	**Uiryeong-eup**	**11.11**	**260**	P	**Pn**	**09 19 28.0**	**+2.8**
	SNR=12						
KSCPR	**CHUPUNGNYEONG**	**11.12**	**265**	P	**Pn**	**09 19 29.2**	**+3.8**
	SNR=12						
KSCPR	**CHUPUNGNYEONG**	**11.12**	**265**	P	**Pn**	**09 19 29.2**	**+3.8**
	SNR=12						
KSBON	**Boeun**	**11.20**	**267**	P	**Pn**	**09 19 28.4**	**+1.9**
	SNR=30						
KSBON	**Boeun**	**11.20**	**267**	P	**Pn**	**09 19 28.4**	**+1.9**
	SNR=30						
KSCWO	**Cheorwon**	**11.21**	**275**	P	**Pn**	**09 19 29.0**	**+2.3**
	SNR=14						
KSCWO	**Cheorwon**	**11.21**	**275**	P	**Pn**	**09 19 29.3**	**+2.7**
	SNR=5.8						
OKCB	**Cheongsan-myeo**	**11.23**	**266**	P	**Pn**	**09 19 31.0**	**+4.1**
	SNR=14						
OKCB	**Cheongsan-myeo**	**11.23**	**266**	P	**Pn**	**09 19 31.0**	**+4.1**
	SNR=14						
JSU	**Suzuyama**	**11.27**	**239**	Pn	**Pn**	**09 19 28.3**	**+0.8**
KSICN	**Icheon**	**11.37**	**271**	P	**Pn**	**09 19 31.5**	**+2.7**
	SNR=12						
KSICN	**Icheon**	**11.37**	**271**	P	**Pn**	**09 19 31.5**	**+2.7**
	SNR=12						
HAMB	**Hamyang**	**11.48**	**262**	P	**Pn**	**09 19 33.0**	**+2.7**
	SNR=13						
HAMB	**Hamyang**	**11.48**	**262**	P	**Pn**	**09 19 33.0**	**+2.7**
	SNR=13						
KSCEA	**Cheonan**	**11.57**	**269**	P	**Pn**	**09 19 34.5**	**+3.1**
	SNR=20						
TJN	**Taejon**	**11.57**	**267**	*i* P	**Pn**	**09 19 32.7**	**+1.2**
YNCB	**YEONCHEON**	**11.68**	**275**	P	**Pn**	**09 19 34.7**	**+1.7**
	SNR=14						
YNCB	**YEONCHEON**	**11.68**	**275**	P	**Pn**	**09 19 34.7**	**+1.7**
	SNR=14						
KSSWO	**Suwon**	**11.73**	**271**	P	**Pn**	**09 19 36.2**	**+2.6**
	SNR=6.2						
KSSWO	**Suwon**	**11.73**	**271**	P	**Pn**	**09 19 36.3**	**+2.6**
	SNR=7.1						
NAWB	**Namwon**	**11.78**	**262**	P	**Pn**	**09 19 37.0**	**+2.6**
	SNR=16						
NAWB	**Namwon**	**11.78**	**262**	P	**Pn**	**09 19 37.0**	**+2.6**
	SNR=16						
KSMUS	**Musan**	**11.82**	**274**	P	**Pn**	**09 19 36.8**	**+1.8**
	SNR=5.0						
HAWB	**

comp=Z,0.8nm,0.3s,baz=127,slow=11,SNR=21
KLR LR LR 09 24 51.7
comp=Z,236nm,21.5s,baz=170,slow=36
KLR Kul'dur 13.39 331 P **Pn 09 19 56.0 -0.2**
KSBAR Backryungdo 13.43 275 P **Pn 09 19 59.1 +2.4**
SNR=5.7
DACB Daecheong-do R 13.45 275 P **Pn 09 19 59.1 +2.1**
SNR=15
CN2 Changchun 13.63 301 *e*P **Pn 09 20 00.8 +1.3**
CN2 *e*S **Sn 09 22 31.4 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,7.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
DL2 Dalian 15.78 280 P **Pn 09 20 27.1 -0.4**
DL2 sP **pP 09 20 44.3 +1.0**
DL2 S **Sn 09 23 23.1 +1.7**
DL2 pmax pmax
comp=Z,77nm,1.0s
DL2 pmax pmax
comp=Z,140nm,4.2s
DL2 LR LR
comp=Z,190nm,13.0s
DL2 LR LR
comp=Z,290nm,15.3s
DL2 LR LR
comp=Z,330nm,17.4s
JOW Kunigami 15.85 230 P **Pn 09 20 25.5 -2.9**
comp=Z,1.0nm,0.3s,baz=63,slow=10,SNR=2.4
JOW LR LR 09 26 26.7
comp=Z,197nm,21.1s,baz=100,slow=37
JOW Kunigami 15.85 230 Pn **Pn 09 20 25.7 -2.7**
SSE Sheshan 18.23 254 P **P 09 20 56.1 -1.3**
SSE S **Sn 09 24 19.4 -1.3**
SSE pmax pmax
comp=Z,13nm,0.6s
SSE pmax pmax
comp=Z,180nm,3.8s
SSE LR LR
comp=Z,150nm,16.6s
SSE LR LR
comp=Z,180nm,19.7s
ZEA Zeya 18.68 332 *e*P **P 09 21 00.9 -1.3**
ZEA *e*S Sn 09 24 15.5 -16
ZEA MLR MLR
comp=Z,100nm,17.0s
PEA0B Petropavlovsk- 18.78 31 P **Pn 09 21 04.2 -0.2**
PEA0B pmax pmax
comp=Z,34nm,0.9s
PEA0B Petropavlovsk- 18.78 31 **Pn 09 21 04.2 -0.2**
PETK Petropavlovsk- 18.78 31 P **Pn 09 21 04.3 0.0**
comp=Z,0.6nm,0.3s,baz=206,slow=13,SNR=29
PETK LR LR 09 29 30.7
comp=Z,112nm,19.0s,baz=218,slow=40
PETK Petropavlovsk- 18.78 31 **P 09 21 03.9 +0.6**
PET Petropavlovsk 19.12 32 *e*P **Pn 09 21 09.0 +0.7**
PET *e*S **S 09 24 37.5 -2.8**
PET pmax pmax
comp=Z,400nm,4.1s
PET pmax pmax
comp=Z,71nm,1.1s
PET pmax pmax
comp=Z,100nm,8.7s
PET MLR MLR
comp=Z,200nm,22.0s
PET Petropavlovsk 19.12 32 P **Pn 09 21 08.8 +0.6**
NJ2 Nanjing 19.62 259 *e*P **P 09 21 10.8 -1.7**
NJ2 pP **pP 09 21 25.5 -0.2**
NJ2 sP **sP 09 21 30.3 -3.2**
NJ2 pmax pmax
comp=Z,29nm,1.0s
NJ2 pmax pmax
comp=Z,310nm,4.0s
NJ2 LR LR
comp=Z,340nm,11.4s
NJ2 LR LR
comp=Z,470nm,12.8s
NJ2 LR LR
comp=Z,520nm,12.0s
TIA Tai'an 19.70 273 P **P 09 21 11.8 -1.6**
TIA S **S 09 24 53.8 +1.6**
TIA pmax pmax
comp=Z,25nm,0.9s
TIA LR LR
comp=Z,220nm,15.1s
TIA LR LR
comp=Z,200nm,20.2s
TIA LR LR
comp=Z,310nm,19.8s
BJI Beijing 19.95 284 P **P 09 21 14.0 -2.1**
BJI sP **sP 09 21 36.6 -0.5**
BJI S **S 09 24 53.5 -3.7**
BJI pmax pmax
comp=Z,25nm,1.1s
BJI pmax pmax
comp=Z,100nm,4.0s
BJI LR LR
comp=Z,200nm,15.1s
BJI LR LR
comp=Z,150nm,19.0s
BJT Baijiatuau 19.96 284 P **P 09 21 14.9 -1.3**
BJT pmax pmax
comp=Z,19nm,0.7s
BJT Baijiatuau 19.96 284 P **P 09 21 14.9 -1.3**
NACB Ninganchiao 21.98 237 P **P 09 21 35.8 -2.2**
MA2 Magadan 22.42 12 P **P 09 21 43.0 +0.5**
comp=Z,39nm,0.7s,baz=196,slow=8.9,SNR=24
MA2 Magadan 22.42 12 *ceP* **P 09 21 42.2 -0.3**
MA2 pmax pmax
comp=Z,70nm,1.3s
MA2 Magadan 22.42 12 P **P 09 21 42.8 +0.4**
MA2 IAmb IAmb 09 21 45.2
comp=Z,44nm,0.7s
SSLB Suanglung 22.67 237 P **P 09 21 42.2 -3.3**
SSLB IAmb IAmb 09 21 55.8
comp=Z,48nm,1.2s
YULB Yu-li 22.71 236 P **P 09 21 44.2 -1.8**
YULB IAmb IAmb 09 21 55.9
comp=Z,87nm,1.6s
TPUB Ta-pu 23.22 237 P **P 09 21 48.5 -2.5**
HHC Hu-ho-hao-te 23.43 287 *e*P **P 09 21 50.1 -2.9**
HHC S **S 09 26 00.6 -1.1**
HHC SS **SnSn 09 26 46.4 +3.9**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,150nm,4.1s
HHC LR LR
comp=Z,200nm,12.3s
HHC LR LR
comp=Z,170nm,12.2s
HHC LR LR
comp=Z,170nm,11.3s
WHN Wuhan 23.75 260 ⇑P **P 09 21 54.8 -1.0**
WHN S **S 09 26 06.6 -0.1**
WHN LR LR
comp=Z,1μm,22.4s
CIT Chita 24.21 315 *e*P **P 09 22 00.5 +0.6**
CIT *e* 09 22 17.1
CIT *e* 09 22 21.3
CIT pmax pmax
comp=Z,194nm,1.2s
GUMO Guam 24.41 173 P **P 09 22 04.6 +2.7**
GUMO pmax pmax
comp=Z,157nm,1.4s
GUMO Guam 24.41 173 P **P 09 22 04.6 +2.7**
YAK Yakutsk 25.24 347 P **P 09 22 09.9 +0.8**
comp=Z,92nm,0.6s,baz=73,slow=0.2,SNR=30
YAK LR LR 09 32 28.8
comp=Z,252nm,19.7s,baz=96,slow=37
YAK Yakutsk 25.24 347 *c iP* **P 09 22 09.0 -0.1**
YAK *e**PP **pP 09 22 21.5 -2.5**
YAK *e* 09 25 41.9
YAK *e*S **S 09 26 30.5 +0.5**
YAK *e**SS **sS 09 26 56.4 +0.9**
YAK *e*SS **SnSn 09 27 25.9 -0.3**
YAK *e* 09 33 05.1
YAK pmax pmax
comp=Z,213nm,0.9s
YAK pmax pmax
comp=E,19nm,1.0s
YAK pmax pmax
comp=N,59nm,0.9s
YAK smax smax
comp=N,209nm,1.8s
YAK smax smax
comp=E,93nm,1.4s
YAK Yakutsk 25.24 347 P **P 09 22 09.2 +0.1**
SEY Seymchan 25.86 11 P **P 09 22 16.4 +1.7**
comp=E,73nm,1.0s,baz=192,slow=8.2,SNR=74
XAN Xi'an 26.75 272 P **P 09 22 22.3 -0.8**
XAN pP pP 09 22 36.8 -1.2
XAN S **S 09 26 55.6 +1.1**
XAN pmax pmax
comp=E,52nm,0.5s
XAN LR LR
comp=E,230nm,19.5s
XAN LR LR
comp=E,170nm,21.7s
XAN LR LR
comp=E,250nm,19.5s
XAN Xi'an 26.75 272 P **P 09 22 22.6 -0.5**
XAN Xi'an 26.75 272 P **P 09 22 22.6 -0.5**
BOD Bodaibo 26.90 327 *e*P **P 09 22 23.8 -0.4**
BOD pmax pmax
comp=Z,31nm,0.8s
ULN Ulaanbaatar 27.06 303 P **P 09 22 26.9 +1.0**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 27.06 303 P **P 09 22 26.9 +1.0**
SONM Songino Array 27.50 302 P **P 09 22 30.3 +0.5**
comp=Z,6.4nm,0.7s,baz=108,slow=10,SNR=20
ENH Enshi 27.67 264 P **P 09 22 30.2 -1.1**
H11N2 WAKE ISLAND Hy 28.41 123 T T 09 52 58.0
baz=315,slow=75,SNR=3750
H11N1 WAKE ISLAND Hy 28.42 123 T T 09 52 58.7
baz=315,slow=75,SNR=228
H11N3 WAKE ISLAND Hy 28.43 123 T T 09 52 59.5
baz=315,slow=75,SNR=2727
H11S1 WAKE ISLAND Hy 29.16 125 T T 09 53 54.5
baz=317,slow=76,SNR=283
H11S3 WAKE ISLAND Hy 29.16 125 T T 09 53 57.1
baz=317,slow=76,SNR=479
H11S2 WAKE ISLAND Hy 29.17 125 T T 09 53 56.4
baz=317,slow=76,SNR=282
ZAK Zakamensk 29.91 307 *e*P **P 09 22 50.2 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TLY Talaya 29.93 310 P **P 09 22 52.2 +1.0**
comp=Z,1.5nm,0.4s,baz=105,slow=5.1,SNR=9.6
LZH Lanzhou 30.17 278 *e*P **P 09 22 53.4 -0.3**
LZH pP pP 09 23 07.8 -1.0
LZH sP sP 09 23 15.6 -0.4
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,260nm,13.1s
LZH LR LR
comp=Z,260nm,13.2s
LZH LR LR
comp=Z,250nm,14.8s
MOY Mondy 31.55 309 *e*P **P 09 23 05.9 +0.3**
GYA Guiyang 31.63 259 ⇑P **P 09 23 05.4 -1.1**
GYA sP sP 09 23 28.3 -0.5
GYA pmax pmax
comp=Z,4.0nm,1.0s
CD2 Chengdu 31.93 269 P **P 09 23 07.8 -1.3**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,200nm,5.0s
GTA Gaotai 32.54 286 ⇑P **P 09 23 13.9 -0.6**
GTA pP pP 09 23 28.6 -1.0
GTA sP sP 09 23 36.3 -0.5
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA pmax pmax
comp=Z,25nm,4.4s
GTA LR LR
comp=Z,170nm,17.1s
GTA LR LR
comp=Z,160nm,16.7s
GTA LR LR
comp=Z,170nm,19.6s
BILL Bilibino 33.09 17 *e*P **P 09 23 18.8 +0.1**
BILL *e**PP **pP 09 23 34.9 +1.1**
BILL *e**SP **sP 09 23 42.8 +1.8**
BILL *e* 09 24 30.9
BILL *e* 09 26 00.3
BILL pmax pmax
comp=Z,22nm,1.3s
QIZ Qiongzhong 33.53 245 P **P 09 23 25.1 +2.0**
QIZ S **S 09 28 42.1 +1.2**
QIZ LR LR
comp=Z,220nm,16.2s
QIZ LR LR
comp=Z,220nm,15.2s
QIZ LR LR
comp=Z,310nm,27.9s
ATKA Atka Island 33.68 51 P **P 09 23 24.8 +0.7**
TIXI Tiksi 34.42 353 P **P 09 23 30.3 +0.1**
comp=Z,13nm,0.6s,baz=137,slow=7.1,SNR=18
TIXI Tiksi 34.42 353 *ceP* **P 09 23 29.8 -0.4**
TIXI Tiksi 34.42 353 P **P 09 23 30.8 +0.6**
TIXI IAmb IAmb 09 23 31.1
comp=Z,16nm,0.5s
KMI Kunming 35.35 260 ⇑P **P 09 23 39.8 +0.8**
KMI pP pP 09 23 54.0 -0.3
KMI sP sP 09 24 00.9 -0.6
KMI pmax pmax
comp=Z,22nm,1.0s
KMI LR LR
comp=Z,180nm,5.8s
KMI LR LR
comp=Z,170nm,15.0s
KMI LR LR
comp=Z,240nm,25.1s
SLVN Son La 36.51 254 P **P 09 23 48.2 -0.6**
SLVN IAmb IAmb 09 23 52.3
comp=Z,20nm,1.4s
NIKH Nikolski High 37.00 50 P **P 09 23 53.8 +1.3**
baz=266
GAMB Gambell 37.81 32 P **P 09 24 00.8 +1.6**
baz=249
NONG Nongkai 39.04 250 P **P 09 24 12.8 +2.7**
comp=Z,37nm,0.9s
TNA Tin City 39.95 30 P **P 09 24 18.7 +1.7**
baz=251
TNA Tin City 39.95 30 P **P 09 24 18.8 +1.7**
TNA IAmb IAmb 09 24 20.3
comp=Z,33nm,1.0s
DGZ Jazzator, Alta 40.07 305 *c iP* **P 09 24 19.7 +1.2**
DGZ pmax pmax
comp=Z,24nm,1.0s
KHON Khomkaen 40.37 249 P P 09 24 27.2 +6.1
comp=Z,47nm,0.9s
WMQ Urumqi 40.66 296 *e*P **P 09 24 24.8 +1.4**
WMQ pP pP 09 24 41.3 +2.4
WMQ sP sP 09 24 45.1 -0.9
WMQ pmax pmax
comp=Z,33nm,1.1s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ LR LR
comp=Z,530nm,21.1s
WMQ LR LR
comp=Z,300nm,23.5s
WMQ LR LR
comp=Z,220nm,22.3s
ANM Nome 40.70 32 P **P 09 24 25.4 +2.1**
baz=255
UTTA Uttaradit 41.18 252 P **P 09 24 32.5 +4.7**
comp=Z,12nm,0.9s
CHAI Chaiyaphum 41.26 249 P **P 09 24 31.3 +2.8**
comp=Z,24nm,0.7s
TOLI2 Tolitoli 41.40 213 P **P 09 24 27.4 -2.2**
LAMP Lampang 41.41 254 P **P 09 24 32.1 +2.4**
comp=Z,22nm,0.7s
ZAA0 Zalesovo Array 41.49 312 P **P 09 24 30.5 +0.5**
ZAA0 IAmb IAmb 09 24 31.0
comp=Z,21nm,1.1s
ZALV Zalesovo Beam 41.49 312 P **P 09 24 29.7 -0.2**
comp=Z,7.8nm,0.6s,baz=90,slow=7.4,SNR=29
ZALV LR LR 09 42 38.5
comp=Z,62nm,18.4s,baz=68,slow=37
ZALV Zalesovo Beam 41.49 312 *i P* **P 09 24 30.2 +0.3**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
ZALV Zalesovo Beam 41.49 312 P **P 09 24 30.3 +0.3**
FAKI Fak Fak 41.59 194 P **P 09 24 29.7 -1.4**
FAKI IAmb IAmb 09 24 48.6
comp=Z,39nm,0.8s
CMMT Chiang Mai 41.76 255 P **P 09 24 34.2 +1.6**
CHTO Chiang Mai 41.76 255 P **P 09 24 32.0 -0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 41.76 255 P **P 09 24 34.2 +1.6**
comp=Z,7.5nm,0.6s
CHTO Chiang Mai 41.76 255 P **P 09 24 32.0 -0.6**
CMAR Chiang Mai Arr 41.97 255 P **P 09 24 33.7 -0.6**
comp=Z,3.2nm,0.6s,baz=45,slow=7.1,SNR=11
CMAR LR LR 09 44 11.0
comp=Z,88nm,18.5s,baz=101,slow=39
CMAR Chiang Mai Arr 41.97 255 P **P 09 24 33.3 -1.0**
SDPT Sand Point 41.99 46 P **P 09 24 36.0 +2.0**
baz=270
SDPT Sand Point 41.99 46 P **P 09 24 32.5 -1.5**
ZSN Zaisan 42.01 302 *e*P **P 09 24 34.1 -0.2**
comp=Z,14nm,0.6s,baz=301
ZSN Zaisan 42.01 302 *e*P **P 09 24 34.1 -0.2**
ZSN pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 42.38 274 P **P 09 24 39.4 +1.3**
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 42.38 274 P **P 09 24 39.4 +1.3**
CHNA Chernabura Isl 42.51 47 P **P 09 24 38.5 +0.3**
baz=272
CNBA Chernabura Isl 42.51 47 P **P 09 24 38.5 +0.2**
NRIK Noril'sk 42.55 335 P **P 09 24 37.6 -0.7**
comp=Z,5.0nm,0.4s,baz=103,slow=7.5,SNR=8.1
NRIK LR LR 09 43 19.5
comp=Z,74nm,18.5s,baz=109,slow=37
NRIK Noril'sk 42.55 335 P **P 09 24 38.7 +0.3**
NRIK pmax pmax
comp=Z,27nm,1.5s
NRIK Noril'sk 42.55 335 P **P 09 24 38.6 +0.3**
RDOG Red Dog Mine 42.59 27 P **P 09 24 41.6 +2.9**
baz=254
RDOG Red Dog Mine 42.59 27 P **P 09 24 41.9 +3.2**
RDOG IAmb IAmb 09 24 43.0
comp=Z,52nm,1.4s
SHL Shillong 43.67 269 P **P 09 24 48.6 +0.4**
SHL pmax pmax
comp=Z,33nm,0.5s
SHL Shillong 43.67 269 P **P 09 24 48.5 +0.4**
MK31 Makanchi Array 43.85 301 P **P 09 24 49.2 0.0**
MK31 pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 43.85 301 P **P 09 24 49.2 0.0**
MKAR Makanchi Array 43.85 301 P **P 09 24 49.3 +0.1**
comp=Z,5.8nm,0.5s,baz=85,slow=9.4,SNR=49
MKAR LR LR 09 45 38.1
comp=Z,34nm,18.5s,baz=64,slow=39
MKAR Makanchi Array 43.85 301 P **P 09 24 48.8 -0.5**
MAKZ Makanchi 44.06 301 P **P 09 24 50.2 -0.7**
MAKZ pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 44.06 301 P **P 09 24 50.2 -0.7**
N18K Kilae Creek 44.49 38 P **P 09 24 55.8 +1.7**
baz=268,SNR=7.4
TTA Tatalina 44.54 35 P **P 09 24 55.8 +1.2**
baz=266
SEM Semipalatinsk 44.59 307 *e*P **P 09 24 53.3 -2.0**
baz=306
SEM *e*S **S 09 31 23.1 -3.7**
baz=306
SEM Semipalatinsk 44.59 307 *e*P **P 09 24 53.3 -2.0**
SEM *e*S **S 09 31 23.1 -3.7**
SVW2 Sparrevohn 44.65 38 P **P 09 24 56.8 +1.4**
SVW2 IAmb IAmb 09 24 58.9
comp=Z,39nm,1.4s
CHIR Chirikof Islan 44.73 45 P **P 09 24 58.1 +2.0**
baz=274
O18K Koktuh Hills 44.82 40 P **P 09 24 58.5 +1.8**
baz=270,SNR=8.2
PHET Kaeng Krachan 44.93 248 P **P 09 25 02.2 +4.1**
comp=Z,48nm,0.9s
L19K White Mountain 45.03 36 P **P 09 25 00.1 +1.7**
baz=268
N19K Bonanza Creek 45.18 38 P **P 09 25 01.4 +1.7**
baz=270
M19K Big River Lodg 45.24 37 P **P 09 25 02.0 +1.9**
baz=268
O19K Port Alsworth 45.27 39 P **P 09 25 02.2 +2.0**
baz=270
K20K Telida 45.44 35 P **P 09 25 03.5 +1.9**
baz=267,SNR=13
J20K Nowinta River 45.45 34 P **P 09 25 03.5 +1.8**
baz=266,SNR=12
SII Sitkinak Islan 45.48 44 P **P 09 25 03.7 +1.7**
baz=274
A21K Barrow 45.53 23 P **P 09 25 03.6 +1.5**
baz=257,SNR=14
A21K Barrow 45.53 23 P **P 09 25 03.2 +1.1**
KURK Kurchatov 45.57 307 P **P 09 25 03.3 +0.5**
KURK Kurchatov 45.57 307 P **P 09 25 03.3 +0.5**
KURBB Kurchatov Arra 45.65 307 P **P 09 25 03.3 -0.1**
comp=Z,18nm,0.4s,baz=82,slow=8.2,SNR=61
IMAR Indian Mountai 45.75 31 P **P 09 25 05.5 +1.5**
P19K Oil Pt 45.82 40 P **P 09 25 06.1 +1.4**
baz=272
M20K Styx River 45.84 37 P **P 09 25 06.8 +1.9**
baz=270
OHAK Old Harbor 45.92 43 P **P 09 25 05.7 +0.3**
baz=274,SNR=6.5
OHAK Old Harbor 45.92 43 P **P 09 25 05.5 0.0**
OHAK IAmb IAmb 09 25 07.1
comp=Z,24nm,0.9s
RSO Redoubt South 46.04 39 P **P 09 25 07.7 +1.1**
O20K Slope Mountain 46.12 39 P **P 09 25 08.2 +1.1**
baz=272
TAPN Taplejung 46.13 273 *e*P **P 09 25 09.8 +1.9**
comp=Z,22nm,0.5s
CHUM Lake Minchumin 46.24 34 P **P 09 25 10.0 +2.1**
baz=268,SNR=10
KDAK Kodiak Island 46.26 43 P **P 09 25 08.9 +0.8**
comp=Z,25nm,0.7s,baz=309,slow=4.7,SNR=38
KDAK pP **sP 09 25 27.8 -2.9**
comp=Z,13nm,0.7s,baz=278,slow=6.3,SNR=5.9
KDAK Kodiak Island 46.26 43 P **P 09 25 09.2 +1.1**
KDAK pmax pmax
comp=Z,21nm,0.8s
KDAK Kodiak Island 46.26 43 P **P 09 25 08.7 +0.6**
baz=274
KDAK Kodiak Island 46.26 43 P **P 09 25 09.2 +1.1**
KDAK IAmb IAmb 09 25 09.8
comp=Z,21nm,0.8s
PPLA Purkeypile 46.28 35 P **P 09 25 10.3 +1.9**
baz=270,SNR=5.2
PPLA Purkeypile 46.28 35 P **P 09 25 10.3 +1.9**
SPCR Spurr Chakacha 46.29 38 P **P 09 25 10.1 +1.7**
baz=271,SNR=5.4
I21K Tanana 46.43 32 P **P 09 25 11.1 +1.8**
baz=268,SNR=8.6
SKT Skwentna 46.60 37 P **P 09 25 11.7 +1.0**
baz=271,SNR=5.5
SKT Skwentna 46.60 37 P **P 09 25 11.9 +1.2**
ODAN Odare 46.61 273 *e*P **P 09 25 13.5 +1.9**
comp=Z,20nm,0.5s
HOM Homer 46.63 40 P **P 09 25 11.6 +0.6**
baz=273
SHLS Shalkode 46.64 297 *e*P **P 09 25 07.9 -3.6**
baz=296
SHLS Shalkode 46.64 297 *e*P **P 09 25 07.9 -3.6**
CAPN Captain Cook N 46.82 38 P **P 09 25 12.0 -0.3**
baz=272
BPAW Bear Paw Mtn. 46.83 34 P **P 09 25 14.0 +1.5**
baz=270,SNR=9.1
BPAW Bear Paw Mtn. 46.83 34 P **P 09 25 13.7 +1.1**
CNPM China Poot 46.84 40 P **P 09 25 13.3 +0.6**
KTH Kantishna Hill 46.86 34 P **P 09 25 13.9 +1.1**
KTH IAmb IAmb 09 25 15.9
comp=Z,45nm,1.4s
MLY Manley 46.95 32 P **P 09 25 15.3 +1.8**
baz=269,SNR=22
MLY Manley 46.95 32 P **P 09 25 15.3 +1.8**
MLY IAmb IAmb 09 25 16.6
comp=Z,29nm,1.3s
UZB Uzynbulak 46.95 297 *e*P **P 09 25 12.9 -1.1**
comp=Z,9.0nm,0.9s,baz=297
UZB *e*S **S 09 31 58.8 -2.1**

comp=Z,14nm,2.2s,baz=297
UZB Uzynbulak 46.95 297 *e*P **P** **09 25 12.8 -1.1**
UZB *e*S **S** **09 31 58.7 -2.1**
UZB pmax pmax
comp=Z,9.0nm,0.9s
UZB smax smax
comp=E,14nm,2.2s
SUA Susitna One 46.99 37 P **P** **09 25 15.4 +1.5**
baz=272,SNR=7.1
BRSE Bradley Lake S 47.08 40 P **P** **09 25 16.7 +2.2**
baz=274
KPKS Kokpek 47.10 298 *e*P **P** **09 25 14.3 -0.7**
comp=E,6.5nm,0.5s,baz=297
KPKS *e*S **S** **09 32 01.1 -1.7**
baz=297
KPKS Kokpek 47.10 298 *e*P **P** **09 25 14.3 -0.7**
KPKS *e*S **S** **09 32 01.1 -1.7**
KPKS pmax pmax
comp=Z,7.0nm,0.5s
TRF Thorofare Moun 47.15 35 P **P** **09 25 15.4 +0.3**
baz=271,SNR=5.2
TRF Thorofare Moun 47.15 35 P **P** **09 25 15.9 +0.7**
TRF IAmb IAmb 09 26 47.2
comp=Z,21nm,1.0s
CUT Chulitna 47.18 36 P **P** **09 25 15.8 +0.6**
baz=272
JIRN Jiri 47.19 275 *e*P **P** **09 25 19.1 +2.9**
comp=Z,29nm,0.4s
RAMN Ramite 47.19 273 *e*P **P** **09 25 18.0 +1.9**
comp=Z,19nm,0.4s
GUN Gumba 47.32 275 *e*P **P** **09 25 20.3 +3.1**
comp=Z,102nm,0.4s
KAPI Kappang 47.37 210 P **P** **09 25 17.2 0.0**
KAPI pmax pmax
comp=Z,50nm,1.1s
KAPI Kappang 47.37 210 P **P** **09 25 17.2 0.0**
SATY Saty 47.41 297 *e*P **P** **09 25 16.9 -0.7**
baz=297
SATY *e*S **S** **09 32 06.4 -0.9**
baz=297
SATY Saty 47.41 297 *e*P **P** **09 25 16.8 -0.7**
SATY *e*S **S** **09 32 06.3 -0.9**
H23K Yukon River 47.46 31 P **P** **09 25 19.5 +2.1**
baz=269,SNR=34
RC01 Rabbit Creek A 47.49 38 P **P** **09 25 18.5 +0.8**
baz=273,SNR=6.8
ARXS Arharly 47.50 299 *e*P **P** **09 25 18.1 0.0**
BWN Browne 47.50 34 P **P** **09 25 18.5 +0.8**
I23K Minto, Yukon-K 47.54 32 P **P** **09 25 19.8 +1.9**
baz=270,SNR=13
I23K Minto, Yukon-K 47.54 32 P **P** **09 25 19.6 +1.7**
I23K IAmb IAmb 09 25 21.9
comp=Z,41nm,1.6s
O22K Cooper Landing 47.54 39 P **P** **09 25 19.0 +1.0**
baz=274
TOLK Toolik Lake Re 47.55 28 P **P** **09 25 20.0 +1.9**
baz=267,SNR=32
TOLK Toolik Lake Re 47.55 28 P **P** **09 25 19.3 +1.2**
TOLK IAmb IAmb 09 25 21.2
comp=Z,24nm,0.8s
NEA2 Nenana 47.66 33 P **P** **09 25 20.6 +1.6**
baz=271,SNR=20
NEA2 Nenana 47.66 33 P **P** **09 25 19.7 +0.7**
NEA2 IAmb IAmb 09 25 21.9
comp=Z,35nm,1.3s
SEW Seward 47.70 39 P **P** **09 25 19.8 +0.5**
baz=274
SEW Seward 47.70 39 P **P** **09 25 19.7 +0.4**
MCK McKinley 47.74 34 P **P** **09 25 20.5 +0.9**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 47.74 34 P **P** **09 25 20.6 +1.0**
baz=272
MCK McKinley 47.74 34 P **P** **09 25 20.5 +0.9**
MCK IAmb IAmb 09 25 21.3
comp=Z,10nm,0.8s
RND Reindeer 47.79 35 P **P** **09 25 21.1 +1.0**
RND pmax pmax
comp=Z,50nm,1.5s
RND Reindeer 47.79 35 P **P** **09 25 21.1 +1.0**
GHO Glory Hole Cre 47.84 37 P **P** **09 25 21.5 +1.0**
PKI Pulchoki 47.84 275 *e*P **P** **09 25 24.0 +2.7**
comp=Z,18nm,0.5s
KKN Kakani 47.85 275 *e*P **P** **09 25 23.3 +2.1**
comp=Z,51nm,0.5s
PKIN Phulchoki 47.85 275 *e*P **P** **09 25 24.3 +3.0**
comp=Z,17nm,0.4s
WAT1 Susitna Watana 47.95 35 P **P** **09 25 22.1 +0.8**
baz=273
MDM Murphy Dome 48.02 33 P **P** **09 25 23.5 +1.8**
KNK Knik Glacier 48.09 37 P **P** **09 25 23.3 +1.0**
baz=274
KNK Knik Glacier 48.09 37 P **P** **09 25 22.9 +0.6**
WRH Wood River Hil 48.09 33 P **P** **09 25 23.4 +1.2**
WRH IAmb IAmb 09 26 50.0
comp=Z,8.3nm,0.8s
SML Sawmill 48.12 37 P **P** **09 25 23.6 +1.0**
baz=274,SNR=7.9
SML Sawmill 48.12 37 P **P** **09 25 23.8 +1.2**
SML IAmb IAmb 09 25 24.8
comp=Z,23nm,0.8s
H24K Noodor Dome 48.15 31 P **P** **09 25 24.6 +1.8**
baz=271,SNR=20
TCOL CIGO, UAF Yank 48.18 33 P **P** **09 25 24.4 +1.5**
baz=272
TCOL CIGO, UAF Yank 48.18 33 P **P** **09 25 24.8 +1.9**
TCOL IAmb IAmb 09 25 46.8
comp=Z,16nm,0.9s
CHKK Chushkaly 48.18 299 *e*P **P** **09 25 22.3 -1.0**
baz=298
CHKK Chushkaly 48.18 299 *e*P **P** **09 25 22.3 -1.0**
COLA College 48.18 33 P **P** **09 25 24.9 +2.0**
COLA pmax pmax
comp=Z,15nm,0.9s
COLA College 48.18 33 P **P** **09 25 24.4 +1.5**
baz=272
COLA College 48.18 33 P **P** **09 25 24.9 +2.0**
COLA IAmb IAmb 09 25 47.2
comp=Z,15nm,0.8s
PWL Port Wells 48.19 38 P **P** **09 25 24.0 +0.8**
CCB Clear Creek Bu 48.21 33 P **P** **09 25 23.7 +0.5**
CCB IAmb IAmb 09 25 27.2
comp=Z,18nm,1.5s
TARG Taragay, Kyrgy 48.23 296 P **P** **09 25 25.1 +0.9**
TARG IAmb IAmb 09 25 27.8
comp=Z,22nm,0.7s
WAT6 Susitna Watana 48.34 36 P **P** **09 25 25.3 +0.9**
baz=274
POKR Poker Plat Res 48.35 32 P **P** **09 25 26.1 +1.8**
baz=272,SNR=10
POKR Poker Plat Res 48.35 32 P **P** **09 25 25.7 +1.4**
KDJ Kajisay 48.55 296 P **P** **09 25 26.9 +0.6**
KDJ pmax pmax
comp=Z,10.0nm,0.6s
KDJ Kajisay 48.55 296 P **P** **09 25 26.9 +0.6**
KDJ IAmb IAmb 09 25 29.6
comp=Z,10nm,0.6s
HDA Harding Lake 48.59 33 P **P** **09 25 26.6 +0.5**
baz=273,SNR=12
HDA Harding Lake 48.59 33 P **P** **09 25 26.6 +0.5**
HDA IAmb IAmb 09 25 27.9
comp=Z,31nm,1.2s
SCM Sheep Creek Mo 48.59 37 P **P** **09 25 26.4 +0.1**
SCM pmax pmax
comp=Z,35nm,0.6s
SCM Sheep Creek Mo 48.59 37 P **P** **09 25 26.4 +0.1**
ILAR Eielson Array 48.60 33 P **P** **09 25 27.2 +1.0**
comp=Z,9.8nm,0.7s,baz=265,slow=6.0,SNR=79
ILAR pP **pP** **09 25 45.9 +3.9**
comp=Z,9.2nm,0.9s,baz=275,slow=7.2,SNR=7.8
KUU Kurty 48.62 299 *e*P **P** **09 25 24.9 -1.8**
baz=298
KUU *e*S **S** **09 32 22.4 -1.7**
baz=298
KUU Kurty 48.62 299 *e*P **P** **09 25 24.9 -1.8**
KUU *e*S **S** **09 32 22.3 -1.7**
DANN Dangsing 48.79 277 *e*P **P** **09 25 30.4 +1.9**
comp=Z,113nm,0.5s
GLI Glacier Island 48.79 38 P **P** **09 25 29.3 +1.6**
baz=276
FID Port Fidalgo 49.11 38 P **P** **09 25 29.7 -0.4**
FID IAmb IAmb 09 26 20.8
comp=Z,26nm,1.0s
M24K Tolsona, Glenn 49.11 36 P **P** **09 25 32.1 +1.9**
baz=276
M24K Tolsona, Glenn 49.11 36 P **P** **09 25 32.6 +2.4**

PRP Porcupine Dome 49.13 32 P **P** **09 25 31.6 +1.1**
baz=273,SNR=17
PRP Porcupine Dome 49.13 32 P **P** **09 25 31.5 +1.1**
PRP IAmb IAmb 09 25 33.2
comp=Z,26nm,1.3s
HIN Hinchinbrook I 49.14 39 P **P** **09 25 32.1 +1.7**
KOLN Koldanda 49.18 276 *e*P **P** **09 25 33.4 +2.0**
comp=Z,19nm,0.4s
FYU Fort Yukon 49.20 30 P **P** **09 25 33.1 +2.3**
KLU Klutina 49.29 37 P **P** **09 25 33.1 +1.5**
baz=276,SNR=8.8
KLU Klutina 49.29 37 P **P** **09 25 33.4 +1.8**
BOOM Boomskoye usch 49.31 297 P **P** **09 25 33.1 +0.9**
BOOM pmax pmax
comp=Z,14nm,0.6s
BOOM Boomskoye usch 49.31 297 P **P** **09 25 33.1 +0.9**
BOOM IAmb IAmb 09 25 41.9
comp=Z,14nm,0.6s
PAX Paxson 49.35 35 P **P** **09 25 32.7 +0.6**
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 49.35 35 P **P** **09 25 33.4 +1.3**
baz=275
PAX Paxson 49.35 35 P **P** **09 25 32.7 +0.6**
BMAR Burnt Mountain 49.42 29 P **P** **09 25 35.0 +2.5**
BRZS Berezniki 49.45 307 *e*P **P** **09 25 30.9 -2.0**
baz=307
BRZS Berezniki 49.45 307 *e*P **P** **09 25 30.9 -2.0**
EYAK Cordova Ski Ar 49.49 38 P **P** **09 25 34.6 +1.6**
baz=277
EYAK Cordova Ski Ar 49.49 38 P **P** **09 25 34.6 +1.6**
EYAK IAmb IAmb 09 25 35.8
comp=Z,28nm,1.1s
PYUN Piuthan 49.51 277 *e*P **P** **09 25 35.9 +2.0**
comp=Z,70nm,0.4s
HARP HAARP 49.55 36 P **P** **09 25 35.0 +1.5**
baz=276
RIDG Independent Ri 49.56 34 P **P** **09 25 33.9 +0.3**
baz=275
RIDG Independent Ri 49.56 34 P **P** **09 25 34.8 +1.2**
RIDG IAmb IAmb 09 25 58.6
comp=Z,8.7nm,0.8s
N25K Chitina, Valde 49.91 37 P **P** **09 25 37.9 +1.6**
baz=277
N25K Chitina, Valde 49.91 37 P **P** **09 25 38.5 +2.2**
N25K IAmb IAmb 09 26 36.5
comp=Z,13nm,0.6s
DOT Dot Lake 49.91 34 P **P** **09 25 36.4 +0.1**
SCRK Sand Creek 49.91 34 P **P** **09 25 37.2 +0.8**
baz=276,SNR=19
SCRK Sand Creek 49.91 34 P **P** **09 25 37.7 +1.3**
SGDS Sogindy 49.93 299 *e*P **P** **09 25 35.8 -0.9**
baz=296
SGDS Sogindy 49.93 299 *e*P **P** **09 25 35.8 -0.9**
BMRM Bremner River 49.99 38 P **P** **09 25 38.6 +1.7**
baz=278,SNR=7.6
BMRM Bremner River 49.99 38 P **P** **09 25 38.7 +1.7**
BMRM IAmb IAmb 09 25 42.4
comp=Z,24nm,1.0s
MENT Mentasta 50.15 35 P **P** **09 25 40.5 +2.4**
MENT IAmb IAmb 09 25 41.2
comp=Z,26nm,1.2s
BRVK Borovoye 50.20 312 *ce*P **P** **09 25 38.6 0.0**
BRVK pmax pmax
comp=Z,23nm,2.5s
BRVK Borovoye 50.20 312 P **P** **09 25 38.3 -0.3**
BRVK IAmb IAmb 09 25 57.4
comp=Z,7.3nm,0.7s
HMT Hamilton 50.25 38 P **P** **09 25 40.7 +1.9**
HMT IAmb IAmb 09 27 05.7
comp=Z,14nm,1.0s
KSH Kashi 50.27 293 P **P** **09 25 42.9 +3.5**
KSH S **S** **09 32 53.5 +6.0**
KSH sS sS 09 33 15.5 +1.2
KSH SS **SS** **09 36 24.6 +3.3**
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,110nm,5.3s
KSH LR LR
comp=Z,220nm,7.3s
AAK Ala-Archa 50.28 298 P **P** **09 25 38.9 -0.6**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 50.28 298 P **P** **09 25 38.9 -0.6**
AAK IAmb IAmb 09 25 43.1
comp=Z,6.9nm,0.7s
GLB Gilahina Butte 50.30 37 P **P** **09 25 41.2 +2.0**
GLB IAmb IAmb 09 26 54.4
comp=Z,17nm,0.9s
L26K Log Cabin Wild 50.31 35 P **P** **09 25 40.9 +1.6**
baz=277,SNR=12
VRDI Verde Repeater 50.51 37 P **P** **09 25 43.1 +2.1**
VRDI IAmb IAmb 09 25 43.7
comp=Z,20nm,1.1s
SUCK Suckling Hills 50.53 39 P **P** **09 25 43.5 +2.6**
SUCK IAmb IAmb 09 26 27.5
comp=Z,40nm,1.4s
M26K Nabesna, AK 50.55 36 P **P** **09 25 43.0 +1.9**
baz=278,SNR=7.5
MCARA McCarthy VSAT 50.69 37 P **P** **09 25 44.0 +1.9**
baz=279
CRQM Cirque 50.73 38 P **P** **09 25 42.7 0.0**
K27K Chicken 50.74 34 P **P** **09 25 44.0 +1.5**
baz=277
K27K Chicken 50.74 34 P **P** **09 25 44.0 +1.5**
K27K IAmb IAmb 09 25 45.4
comp=Z,18nm,1.0s
CRQE Cirque 50.75 38 P **P** **09 25 44.4 +1.6**
baz=279,SNR=8.4
WAX Waxell Ridge 50.92 38 P **P** **09 25 45.6 +1.7**
WAX IAmb IAmb 09 25 46.3
comp=Z,13nm,0.6s
L27K Beaver Creek, 50.99 35 P **P** **09 25 46.3 +1.9**
baz=278,SNR=26
L27K Beaver Creek, 50.99 35 P **P** **09 25 46.5 +2.1**
L27K IAmb IAmb 09 25 47.6
comp=Z,24nm,1.1s
BCAR Beaver Creek A 51.01 35 P **P** **09 25 46.5 +2.0**
EGAK Eagle 51.04 32 P **P** **09 25 45.6 +0.9**
baz=278,SNR=7.9
EGAK Eagle 51.04 32 P **P** **09 25 45.6 +0.9**
EGAK IAmb IAmb 09 26 09.2
comp=Z,8.8nm,0.8s
BARN Barnard Glacie 51.39 37 P **P** **09 25 48.4 +0.7**
BARN IAmb IAmb 09 25 50.3
comp=Z,16nm,1.2s
MESA MESA 51.41 38 P **P** **09 25 49.3 +1.5**
baz=280
YAH Yahtse 51.48 38 P **P** **09 25 49.8 +1.5**
YAH IAmb IAmb 09 25 51.1
comp=Z,16nm,0.9s
MTN Manton Dam 51.48 193 P **P** **09 25 47.2 -1.3**
CTG Chitna Glacier 51.56 37 P **P** **09 25 49.5 +0.7**
baz=280
CTGM Chitina Glacie 51.56 37 P **P** **09 25 49.9 +1.0**
CTGM IAmb IAmb 09 25 51.6
comp=Z,22nm,1.2s
DAWY Dawson 51.91 33 P **P** **09 25 52.7 +1.5**
PINM Pinnacle 52.26 38 P **P** **09 25 54.7 +0.7**
baz=282
EPYK Eagle Plains 52.62 30 P **P** **09 25 58.4 +2.0**
baz=280,SNR=43
EPYK Eagle Plains 52.62 30 P **P** **09 25 58.6 +2.2**
KK31 Karatay Array 52.89 300 P **P** **09 25 58.4 -0.4**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 52.89 300 P **P** **09 25 58.4 -0.4**
KKAR Karatay Array 52.89 300 P **P** **09 25 58.3 -0.5**
KKAR Karatay Array 52.89 300 P **P** **09 25 58.3 -0.5**
HYT Haines Junctio 53.42 37 P **P** **09 26 04.9 +2.3**
INK Inuvik 53.47 27 P **P** **09 26 04.2 +1.6**
comp=Z,14nm,0.5s,baz=287,slow=6.6,SNR=42
INK Inuvik 53.47 27 P **P** **09 26 03.4 +0.8**
INK pmax pmax
comp=Z,18nm,0.7s
INK Inuvik 53.47 27 P **P** **09 26 04.0 +1.4**
baz=281,SNR=15
INK Inuvik 53.47 27 P **P** **09 26 03.4 +0.8**
INK IAmb IAmb 09 26 04.6
comp=Z,18nm,0.7s
BTK Batken 53.77 296 P **P** **09 26 06.6 +1.2**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 53.77 296 P **P** **09 26 06.6 +1.2**

GAR Garm 54.54 295 P **P** **09 26 10.2 -0.9**
SVE Sverdlovsk 54.63 318 *de*P **P** **09 26 12.0 +0.7**
SVE pmax pmax
comp=Z,35nm,1.1s
KNRA Kununurra 54.70 195 P **P** **09 26 11.8 -0.3**
SKAG Skagway 54.83 38 P **P** **09 26 14.7 +2.1**
baz=286,SNR=5.8
SKAG Skagway 54.83 38 P **P** **09 26 14.9 +2.3**
SKAG IAmb IAmb 09 26 16.2
comp=Z,18nm,1.2s
BESE Bessie Mountai 55.32 39 P **P** **09 26 17.8 +1.5**
BESE IAmb IAmb 09 26 19.6
comp=Z,22nm,1.2s
CHGR Chuyangaron 55.51 295 P **P** **09 26 18.0 0.0**
SIT Sitka 55.54 41 P **P** **09 26 19.7 +1.9**
baz=288
JIS Juneau Island 55.65 40 P **P** **09 26 20.9 +2.4**
JIS IAmb IAmb 09 26 22.0
comp=Z,32nm,1.2s
ARU Arti 55.85 318 LR LR 09 52 45.2
comp=Z,104nm,18.2s,baz=92,slow=39
ARU Arti 55.85 318 *c i*P **P** **09 26 20.0 0.0**
ARU *PP **pP** **09 26 37.2 +1.0**
ARU 09 27 17.0
ARU 09 28 21.1
ARU S **S** **09 34 04.5 +2.0**
ARU SS **SS** **09 37 45.3 -3.0**
ARU pmax pmax
comp=Z,49nm,1.1s
ARU MLR MLR
comp=Z,109nm,20.0s
ARU Arti 55.85 318 P **P** **09 26 19.9 -0.1**
C36M Paulatuk 56.50 25 P **P** **09 26 25.6 +1.1**
baz=289
CRAG Craig 57.22 42 P **P** **09 26 31.3 +1.5**
baz=290
KBL Kabul 57.33 291 P **P** **09 26 30.3 -0.8**
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 57.33 291 P **P** **09 26 30.3 -0.8**
KBL IAmb IAmb 09 26 51.0
comp=Z,14nm,1.1s
ABKAR Akbulak array 57.55 310 P **P** **09 26 32.0 -0.2**
ABKAR IAmb IAmb 09 26 32.4
comp=Z,10.0nm,0.6s
DLBC Dease Lake 57.76 38 P **P** **09 26 36.2 +2.6**
comp=Z,8.7nm,0.8s,baz=286,slow=8.0,SNR=16
DLBC Dease Lake 57.76 38 P **P** **09 26 35.6 +1.9**
DLBC IAmb IAmb 09 26 39.0
comp=Z,14nm,1.0s
WB0 Warramunga Arr 57.81 188 P **P** **09 26 33.2 -1.1**
FUNA Funafuti 57.96 135 P **P** **09 26 34.6 -0.8**
WRAB Tennant Creek 57.98 188 *i* P **P** **09 26 33.9 -1.5**
WRAB pmax pmax
comp=Z,52nm,1.4s
WRAB Tennant Creek 57.98 188 P **P** **09 26 33.9 -1.5**
WR0 Warramunga Arr 57.99 188 P **P** **09 26 34.5 -1.0**
WB2 Warramunga Arr 57.99 188 P **P** **09 26 34.3 -1.2**
WRA Warramunga Arr 57.99 188 P **P** **09 26 34.4 -1.1**
comp=Z,4.7nm,0.6s,baz=4.9,slow=7.1,SNR=81
WRA pP **pP** **09 26 52.1 +0.4**
comp=Z,19nm,0.8s,baz=6.1,slow=7.4,SNR=15
WRA Warramunga Arr 57.99 188 P **P** **09 26 34.1 -1.4**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 57.99 188 P **P** **09 26 34.1 -1.4**
EUNU Eureka 59.26 9 P **P** **09 26 43.7 0.0**
EUNU IAmb IAmb 09 26 45.2
comp=Z,14nm,0.8s
SPA0 Spitsbergen Ar 59.68 349 *e*P **P** **09 26 47.0 +0.4**
KBS Kingsbay 59.81 350 *ce*P **P** **09 26 47.3 -0.1**
KBS pmax pmax
comp=Z,32nm,2.5s
KBS Kingsbay 59.81 350 *e*P **P** **09 26 48.8 +1.4**
KBS Kingsbay 59.81 350 P **P** **09 26 48.3 +0.9**
KBS IAmb IAmb 09 26 49.5
comp=Z,16nm,0.8s
PRGR Permogore 60.14 327 *e*P **P** **09 26 49.2 -0.7**
PRGR pmax pmax
comp=Z,21nm,0.6s
NOR Nord 60.16 356 ⇑ *i*P **P** **09 26 50.3 +0.5**
NOR IAmb IAmb 09 26 50.7
comp=Z,9.4nm,0.9s
NOR Nord 60.16 356 ⇑ *i*P **P** **09 26 50.3 +0.5**
NOR pmax pmax
comp=Z,9.0nm,0.9s
HSPB Hornsund (broa 60.61 348 *e*P **P** **09 26 53.8 +0.8**
HSPB Hornsund (broa 60.61 348 *e*P **P** **09 26 53.5 +0.6**
BBB Bella Bella 61.24 45 LR LR 09 50 37.1
comp=Z,28nm,20.2s,baz=319,slow=33
RES Resolute Bay 61.66 15 P **P** **09 27 00.5 +0.5**
RES pmax pmax
comp=Z,15nm,0.7s
RES Resolute Bay 61.66 15 P **P** **09 27 00.5 +0.5**
RES IAmb IAmb 09 27 01.0
comp=Z,15nm,0.7s
AS31 Alice Springs 61.72 188 P **P** **09 27 00.3 -0.8**
ASAR Alice Springs 61.72 188 P **P** **09 27 00.3 -0.8**
comp=Z,2.0nm,0.7s,baz=6.2,slow=6.1,SNR=18
ASAR pP **pP** **09 27 18.6 +1.1**
comp=Z,11nm,0.8s,baz=9.2,slow=6.3,SNR=18
ASAR LR LR 09 52 41.7
comp=Z,56nm,21.3s,baz=6.0,slow=35
ASAR Alice Springs 61.72 188 P **P** **09 27 00.0 -1.0**
APA Apatity 61.97 336 ⇓ *i*P **P** **09 27 00.7 -1.5**
APA *i* 09 29 15.0
APA *i* PPP PPP 09 30 46.0
APA pmax pmax
comp=Z,8.0nm,0.9s
APA MLR MLR
comp=Z,500nm,16.0s
YKA Yellowknife Ar 62.90 30 P **P** **09 27 09.4 +0.9**
comp=Z,6.9nm,0.8s,baz=308,slow=8.1,SNR=32
YKA pP **pP** **09 27 28.5 +3.6**
comp=Z,2.4nm,0.8s,baz=305,slow=6.5,SNR=4.2
YKA Yellowknife Ar 62.90 30 *i* P **P** **09 27 09.1 +0.6**
YKA pmax pmax
comp=Z,5.0nm,0.7s
HAMF Hammerfest 63.05 341 *e*P **P** **09 27 09.5 +0.1**
KLMR Klimovskoe 63.12 328 *e*P **P** **09 27 07.4 -2.6**
KLMR *e* 09 29 26.9
KLMR pmax pmax
comp=Z,30nm,1.6s
KLMR Klimovskoe 63.12 328 *e*P **P** **09 27 07.5 -2.6**
KLMR AMP 09 27 11.1
comp=Z,30nm,1.6s
KLMR *e*PP **PP** **09 29 26.9 -2.1**
ARA0 ARCESS Array S 63.24 339 *e*P **P** **09 27 11.4 +0.7**
ARCES ARCESS Array B 63.24 339 P **P** **09 27 11.1 +0.4**
comp=Z,3.1nm,0.8s,baz=45,slow=7.9,SNR=15
ARCES LR LR 09 58 37.0
comp=Z,40nm,20.7s,baz=30,slow=40
ARCES ARCESS Array B 63.24 339 P **P** **09 27 11.1 +0.4**
ARCES IAmb IAmb 09 27 12.3
comp=Z,49nm,1.9s
GEYT Alibeck 63.62 299 P **P** **09 27 13.8 0.0**
comp=Z,2.4nm,0.5s,baz=108,slow=5.3,SNR=4.3
GEYT Alibeck 63.62 299 IAmb IAmb 09 27 22.4
comp=Z,213nm,1.2s
DZM Mont Dzumac 64.06 154 LR LR 09 56 40.8
comp=Z,60nm,18.1s,baz=10.0,slow=37
KTK1 Kautokeino 64.20 339 *e*P **P** **09 27 17.3 +0.3**
JETT Jettan, Norway 64.61 341 *e*P **P** **09 27 19.9 +0.2**
NEEM North Greenlan 64.61 3 ⇑ *i*P **P** **09 27 20.3 +0.4**
NEEM IAmb IAmb 09 27 21.2
comp=Z,30nm,1.0s
DAG Danmarks Havn 64.89 355 ⇑ *i*P **P** **09 27 21.6 +0.1**
DAG IAmb IAmb 09 27 22.3
comp=Z,18nm,0.9s
DAG Danmarks Havn 64.89 355 ⇑ *i*P **P** **09 27 21.5 +0.1**
DAG pmax pmax
comp=Z,18nm,0.9s
TRO Tromso 64.94 341 *e*P **P** **09 27 22.2 +0.4**
JOF Joensuu 65.28 332 P **P** **09 27 23.6 -0.5**
JOF pmax pmax
comp=Z,12nm,1.0s
LLLB Lillooet 65.43 44 P **P** **09 27 26.8 +1.4**
LLLB IAmb IAmb 09 27 27.8
comp=Z,15nm,1.0s
NLWA Neilton Lookou 65.92 48 P **P** **09 27 30.1 +1.6**
NLWA IAmb IAmb 09 27 31.9
comp=Z,22nm,0.9s
D03D Eldon 66.31 47 P **P** **09 27 32.9 +1.9**
baz=301,SNR=6.6
B05A Bryant 66.50 46 P **P** **09 27 33.5 +1.3**

baz=301,SNR=5.1
MOS Moscow 66.67 323 *e*P **P 09 27 32.3 -0.8**
MOS *e* 09 27 44.9
MOS *e* 09 27 59.7
MOS pmax pmax
comp=Z,42nm,0.7s
B06A Marblemount 66.72 46 P **P 09 27 33.6 0.0**
B06A IAmb IAmb 09 27 35.9
comp=Z,19nm,1.1s
STEI Steigen 67.09 341 *e*P **P 09 27 35.8 +0.1**
E04D Cinebar 67.12 48 P **P 09 27 37.1 +0.9**
baz=301,SNR=5.8
D05A Enumclaw 67.12 47 P **P 09 27 38.0 +1.8**
SUF Sumiainen 67.29 333 P **P 09 27 37.0 +0.1**
SUF pmax pmax
comp=Z,27nm,1.5s
LOF Lofoten 67.38 341 *e*P **P 09 27 37.8 +0.3**
DBG Daneborg 67.38 355 *i* P **P 09 27 36.7 -0.6**
G03D McMinnville, O 67.40 50 P **P 09 27 39.5 +1.5**
baz=301
LON Longmire 67.46 48 P **P 09 27 38.8 +0.4**
LON pmax pmax
comp=Z,4.0nm,1.0s
LON Longmire 67.46 48 P **P 09 27 38.8 +0.4**
FAUS Fauske 67.48 340 *e*P **P 09 27 38.5 +0.4**
OBN Obninsk 67.52 323 LR LR 09 59 31.4
comp=Z,13nm,20.8s,baz=12,slow=38
OBN Obninsk 67.52 323 *e*P **P 09 27 38.0 -0.5**
OBN *e* 09 28 03.0
OBN *e* 09 30 06.7
OBN pmax pmax
comp=Z,24nm,1.3s
I02D Swisshome 67.62 51 P **P 09 27 40.1 +0.8**
baz=302
LTY Liberty 67.85 47 P **P 09 27 41.3 +0.4**
LTY IAmb IAmb 09 27 43.1
comp=Z,17nm,1.5s
B08A Colville Reser 68.02 45 P **P 09 27 42.8 +0.9**
H04D Lebanon 68.08 50 P **P 09 27 43.8 +1.5**
baz=302
F05D White Salmon 68.12 48 P **P 09 27 43.6 +1.1**
baz=302
FIA1 FINESS Array S 68.13 332 P **P 09 27 42.2 0.0**
FIA1 IAmb IAmb 09 27 43.3
comp=Z,25nm,0.9s
FINES FINESS Array B 68.13 332 P **P 09 27 42.3 0.0**
comp=Z,16nm,0.8s,baz=47,slow=8.4,SNR=32
FINES LR LR 10 00 03.6
comp=Z,78nm,18.7s,baz=64,slow=38
FINES FINESS Array B 68.13 332 P **P 09 27 42.2 -0.1**
I03D Drain, OR 68.14 51 P **P 09 27 43.8 +1.1**
baz=302
H04A Detroit Lake 68.33 50 P **P 09 27 45.2 +1.3**
H04A IAmb IAmb 09 27 46.4
comp=Z,16nm,1.0s
EDM Edmonton 68.48 39 P **P 09 27 45.5 +0.8**
EDM pmax pmax
comp=Z,38nm,1.2s
EDM Edmonton 68.48 39 P **P 09 27 45.5 +0.8**
EDM IAmb IAmb 09 27 46.6
comp=Z,38nm,1.2s
G05D Wamic, OR 68.55 49 P **P 09 27 45.5 +0.2**
baz=302
I04A Tendick Farm, 68.67 51 P **P 09 27 46.9 +0.9**
baz=302,SNR=6.9
L02E Cave Junction 68.81 53 P **P 09 27 47.9 +1.0**
baz=302
D08A Wollman Farm, 68.96 46 P **P 09 27 48.9 +1.1**
HAWA Hanford 68.98 47 P **P 09 27 49.6 +1.7**
F07A Phinny Hill Vi 69.02 48 P **P 09 27 46.9 -1.1**
I05D Terrebonne, OR 69.03 50 P **P 09 27 49.1 +0.9**
baz=303,SNR=5.4
J04D Umpqua Nationa 69.15 51 P **P 09 27 50.9 +1.6**
baz=303,SNR=7.0
NEW Newport 69.31 44 P **P 09 27 50.6 +0.7**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 69.31 44 P **P 09 27 50.7 +0.7**
baz=304,SNR=11
NEW Newport 69.31 44 P **P 09 27 50.6 +0.7**
NEW IAmb IAmb 09 27 52.1
comp=Z,12nm,0.9s
STKA Stephens Creek 69.46 180 P **P 09 27 51.0 +0.2**
comp=Z,2.5nm,0.9s,baz=356,slow=14,SNR=1.6
STKA pP **pP 09 28 08.8 +1.4**
comp=Z,11nm,0.6s,baz=344,slow=5.7,SNR=10
STKA LR LR 09 57 48.6
comp=Z,39nm,21.8s,baz=28,slow=36
STKA Stephens Creek 69.46 180 P **P 09 27 50.3 -0.5**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 69.46 180 P **P 09 27 50.3 -0.5**
MEF Metsahovi 69.56 332 *e*P **P 09 27 50.7 -0.4**
PINE Pine Mountain 69.56 50 P **P 09 27 52.8 +1.0**
PINE IAmb IAmb 09 27 54.8
comp=Z,32nm,0.8s
L04D Klamath Falls 69.58 52 P **P 09 27 52.8 +1.0**
baz=303,SNR=8.2
YBH Yreka Blue Hor 69.59 53 P **P 09 27 53.2 +1.3**
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 69.59 53 P **P 09 27 53.2 +1.3**
J05D Fort Rock, OR 69.66 51 P **P 09 27 54.1 +1.8**
baz=303,SNR=9.2
GOF Gofitskoye 69.68 312⇑ *e*P **P 09 27 52.6 +0.4**
GOF pmax pmax
comp=Z,24nm,0.6s
M02C Callahan 69.69 53 P **P 09 27 53.7 +1.3**
baz=303
E09A Wood Farm, Sta 69.71 46 P **P 09 27 53.5 +1.1**
E09A IAmb IAmb 09 27 54.8
comp=Z,26nm,1.5s
SUMG Summit 69.78 0⇑ *i*P **P 09 27 53.8 +0.9**
SUMG IAmb IAmb 09 27 54.7
comp=Z,27nm,1.1s
SUMG Summit 69.78 0⇑ *i*P **P 09 27 53.7 +0.9**
SUMG pmax pmax
comp=Z,27nm,1.1s
SUMG Summit 69.78 0 P **P 09 27 53.2 +0.4**
SUMG IAmb IAmb 09 27 54.9
comp=Z,33nm,1.2s
VSU Vasula 69.80 329 *e*P **P 09 27 53.3 +0.7**
VSU Vasula 69.80 329 *i* P **P 09 27 52.7 +0.1**
VSU pmax pmax
comp=Z,44nm,1.0s
RAF Rauma 69.97 333 *e*P **P 09 27 55.9 +2.2**
N02D Trinity Center 70.01 53 P **P 09 27 55.9 +1.5**
baz=303
M04C Macdoel 70.11 52 P **P 09 27 56.3 +1.2**
baz=303,SNR=10
K05A Summer Lake 70.18 51 P **P 09 27 57.0 +1.4**
K05A IAmb IAmb 09 27 58.6
comp=Z,29nm,1.0s
NCK Nalchik 70.21 310 *i* P **P 09 27 56.1 +0.6**
NCK pmax pmax
comp=Z,7.0nm,0.7s
O02D Mt. Diablo Mer 70.39 54 P **P 09 27 57.7 +0.9**
baz=303
ZEI Tsey 70.42 309 *e*P **P 09 27 55.3 -1.7**
ZEI pmax pmax
comp=Z,5.0nm,0.5s
KBZ Khabaz 70.50 311 P **P 09 27 56.8 -0.5**
comp=Z,10nm,0.9s,baz=56,slow=3.7,SNR=21
KBZ LR LR 10 03 36.8
comp=Z,66nm,18.7s,baz=24,slow=40
KIV Kislovodsk 70.50 311 ⇑P **P 09 27 57.8 +0.4**
KIV Kislovodsk 70.50 311 *e*P **P 09 27 57.3 0.0**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,51nm,18.0s
KIV Kislovodsk 70.50 311 P **P 09 27 57.4 0.0**
KIV IAmb IAmb 09 27 59.5
comp=Z,29nm,1.1s
NSS Namsos 70.52 339 *e*P **P 09 27 57.4 +0.4**
WALA Waterton Lakes 70.60 42 IAmb IAmb 09 28 00.2
comp=Z,15nm,0.8s
SHA1 Shidzhatmaz 70.64 311 *i* P **P 09 27 58.5 +0.1**
MTSE Matsula 70.78 331 *e*P **P 09 27 56.6 -2.1**
ONI Oni 70.80 309 P **P 09 28 00.1 +0.9**
ONI pmax pmax
comp=Z,10.0nm,1.2s
ONI Oni 70.80 309 P **P 09 28 00.1 +0.9**
O03E Paynes Creek 70.96 54 P **P 09 28 00.9 +0.7**
baz=304,SNR=7.5

JTMT Jette 71.17 44 IAmb IAmb 09 28 03.8
comp=Z,16nm,0.9s
J08A Circle Bar Ran 71.29 49 IAmb IAmb 09 28 05.0
comp=Z,25nm,1.2s
GNI Garni 71.36 307 *i* P **P 09 28 03.1 +0.3**
GNI pmax pmax
comp=Z,16nm,1.3s
AKH Akhalkalaki 71.44 308 ⇑P **P 09 28 03.8 +0.6**
AKH Akhalkalaki 71.44 308 P **P 09 28 03.8 +0.6**
ORV Oroville 71.56 54 P **P 09 28 03.6 -0.2**
ORV pmax pmax
comp=Z,14nm,1.3s
ORV Oroville 71.56 54 P **P 09 28 03.6 -0.2**
WVOR Wild Horse Val 71.72 50 P **P 09 28 05.7 +0.9**
WVOR pmax pmax
comp=Z,19nm,1.4s
WVOR Wild Horse Val 71.72 50 P **P 09 28 05.7 +0.9**
WVOR IAmb IAmb 09 28 07.4
comp=Z,19nm,1.4s
PLID Pearl Lake 71.75 47 IAmb IAmb 09 28 07.0
comp=Z,22nm,1.7s
MNK Minsk 71.89 326 *i* P **P 09 28 02.6 -2.8**
MNK *i* *PP **pP 09 28 20.4 -1.7**
MNK *i* *SP **sP 09 28 27.5 -1.5**
MNK *i* 09 30 43.1
MNK *i* S **S 09 37 17.9 -3.4**
MNK *i* *SS **sS 09 37 47.8 -1.9**
MNK *i* SSS SSS 09 45 04.4
MNK pmax pmax
comp=Z,4.0nm,0.6s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=E,33nm,26.0s
MNK MLR MLR
comp=N,551nm,26.0s
MNK MLR MLR
comp=Z,155nm,25.0s
MNK Minsk 71.89 326 *i* P **P 09 28 02.7 -2.7**
comp=E,1.0nm,0.6s
MNK *i* P **P 09 28 02.7 -2.7**
comp=N,15nm,0.9s
MNK *i* P **P 09 28 02.7 -2.7**
comp=Z,4.0nm,0.6s,baz=229
MNK *i* pP **pP 09 28 20.4 -1.7**
MNK *i* sP **sP 09 28 27.5 -1.4**
MNK *i* PP **PP 09 30 43.1 -1.9**
MNK *i* PPP PPP 09 32 18.5
MNK *i* S **S 09 37 17.9 -3.3**
MNK *i* sS **sS 09 37 47.9 -1.8**
MNK *i* SS **SS 09 41 50.5 -7.2**
MNK *i* SSS SSS 09 45 04.5
MNK *i* LQ LQ 09 54 30.7
MNK *i* LR LR 09 57 30.4
MNK *i* LRM MLR 10 01 01.4
comp=E,33nm,26.4s
MNK *i* LRM MLR 10 01 17.3
comp=N,551nm,25.6s
MNK *i* LRM MLR 10 01 27.1
comp=Z,155nm,24.6s
MSO Missoula 71.90 44 P **P 09 28 06.2 +0.4**
baz=306,SNR=7.7
ISAL Salakas 71.95 327 *e*P **P 09 28 06.8 +1.1**
IIGN Ignalina 72.05 327 *e*P **P 09 28 07.3 +0.9**
BEKR Beckworth 72.11 53 P **P 09 28 08.0 +0.7**
BEKR IAmb IAmb 09 28 09.4
comp=Z,13nm,0.9s
AFDM Forest Hills D 72.25 54 P **P 09 28 07.4 -0.5**
UPP Uppsala 72.25 334 *e*P **P 09 28 07.5 +0.1**
SOC Sochi 72.48 312 *e*P **P 09 28 08.1 -1.0**
SOC *e* 09 30 48.1
SOC *e*PPP PPP 09 32 34.1
SOC *e*S **S 09 37 28.8 +0.4**
SOC *e*SS **SS 09 42 09.8 +2.5**
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC MLR MLR
comp=Z,85nm,22.0s
FFC Flin Flon 72.81 33 P **P 09 28 11.6 +0.7**
FFC pmax pmax
comp=Z,20nm,0.9s
FFC Flin Flon 72.81 33 P **P 09 28 11.6 +0.7**
FFC IAmb IAmb 09 28 12.6
comp=Z,20nm,0.9s
PAHR Pah Rah Range 72.82 53 P **P 09 28 12.4 +0.9**
MFID Camas Ranch 72.83 48 P **P 09 28 12.3 +0.9**
MFID IAmb IAmb 09 28 13.8
comp=Z,15nm,1.1s
PABE Paberze 72.90 328 *e*P **P 09 28 11.9 +0.5**
CMB Columbia Colle 73.14 55 P **P 09 28 14.4 +1.1**
CMB pmax pmax
comp=Z,22nm,1.4s
CMB Columbia Colle 73.14 55 P **P 09 28 14.4 +1.1**
CMB IAmb IAmb 09 28 15.5
comp=Z,22nm,1.4s
NC405 NORSAR Array S 73.24 337 P **P 09 28 12.7 -0.6**
NC303 NORSAR Array S 73.26 337 P **P 09 28 13.8 +0.4**
NC303 IAmb IAmb 09 28 14.8
comp=Z,26nm,1.2s
ICESG Greenland Ices 73.28 1 *i* P **P 09 28 14.6 +0.7**
DOMB Dombas 73.29 339 *e*P **P 09 28 13.9 +0.2**
YERR Yerington 73.33 53 P **P 09 28 16.0 +1.5**
YERR IAmb IAmb 09 28 17.0
comp=Z,17nm,1.1s
NC204 NORSAR Array S 73.40 338 P **P 09 28 14.7 +0.3**
NB201 NORSAR Array S 73.42 337 P **P 09 28 14.8 +0.3**
EGMT Eagleton 73.43 42 P **P 09 28 15.4 +0.5**
baz=308,SNR=11
EGMT Eagleton 73.43 42 P **P 09 28 15.8 +1.0**
EGMT IAmb IAmb 09 28 16.9
comp=Z,24nm,1.1s
NB2 NORSAR Subarra 73.45 337 P **P 09 28 14.4 -0.2**
comp=Z,23nm,1.0s,baz=37,slow=5.9
NB2 NORSAR Subarra 73.45 337 P **P 09 28 14.4 -0.2**
baz=37,slow=5.9
NOA NORSAR Array B 73.45 337 P **P 09 28 14.3 -0.2**
comp=Z,8.4nm,0.8s,baz=39,slow=5.8,SNR=28
WAKR Walker 73.48 54 P **P 09 28 17.1 +1.7**
DLMT Dillon 73.53 45 P **P 09 28 17.2 +1.7**
DLMT IAmb IAmb 09 28 17.8
comp=Z,18nm,0.8s
NC602 NORSAR Array S 73.58 337 *e*P **P 09 28 15.2 -0.1**
NB000 NORSAR Array S 73.59 337 P **P 09 28 14.7 -0.7**
NAO01 NORSAR Array S 73.70 337 P **P 09 28 16.4 +0.3**
NAO01 IAmb IAmb 09 28 16.7
comp=Z,29nm,0.9s
AKASG Malin Array Be 73.73 322 P **P 09 28 16.1 -0.3**
comp=Z,9.3nm,0.5s,baz=46,slow=6.0,SNR=43
AKASG LR LR 10 03 59.2
comp=Z,44nm,18.0s,baz=295,slow=38
AKBB Malin Array Si 73.73 322 P **P 09 28 15.8 -0.6**
AKBB pmax pmax
comp=Z,55nm,1.7s
AKBB Malin Array Si 73.73 322 P **P 09 28 15.8 -0.6**
AKBB IAmb IAmb 09 28 17.0
comp=Z,55nm,1.6s
BOZ Bozeman (W) 73.92 44 P **P 09 28 19.1 +1.3**
BOZ pmax pmax
comp=Z,14nm,0.9s
BOZ Bozeman (W) 73.92 44 P **P 09 28 18.8 +1.0**
baz=308,SNR=11
BOZ Bozeman (W) 73.92 44 P **P 09 28 19.1 +1.3**
BOZ IAmb IAmb 09 28 20.1
comp=Z,14nm,0.8s
RYN Ryan 73.99 53 P **P 09 28 19.8 +1.4**
KVN Kaiserville 74.01 53 P **P 09 28 19.7 +1.1**
KVN pmax pmax
comp=Z,18nm,1.1s
KVN Kaiserville 74.01 53 P **P 09 28 19.7 +1.1**
KVN IAmb IAmb 09 28 21.0
comp=Z,18nm,1.1s
MDPB Devils Postpil 74.22 55 P **P 09 28 21.1 +1.2**
LHV Little Huntoon 74.22 54 P **P 09 28 21.3 +1.8**
LHV IAmb IAmb 09 28 22.6
comp=Z,22nm,1.0s
NVAR Mina Array Bea 74.25 53 P **P 09 28 21.4 +1.4**
comp=Z,7.4nm,0.8s,baz=286,slow=6.0,SNR=59
NVAR Mina Array Bea 74.25 53 P **P 09 28 20.8 +0.8**
NV11 Mina Array Sit 74.34 53 P **P 09 28 21.1 +0.7**
OSL Oslo 74.47 337 *e*P **P 09 28 21.0 +0.5**
QLMT Earthquake Lak 74.50 45 P **P 09 28 22.6 +1.2**
PAGB Antelope Grade 74.56 57 P **P 09 28 22.0 +0.4**

PAGB IAmb IAmb 09 28 23.6
comp=Z,22nm,0.9s
SKAR Skarslia 74.60 338 *e*P **P 09 28 22.2 +0.8**
FOO Floro 74.77 340 *e*P **P 09 28 22.5 +0.3**
HYA Hoyanger 74.81 339 *e*P **P 09 28 23.1 +0.6**
YHH Holmes Hill 74.85 45 P **P 09 28 23.9 +0.5**
YMR Madison River 74.86 45 IAmb IAmb 09 28 26.1
comp=Z,12nm,0.8s
GCMT Greycliff 74.88 43 P **P 09 28 24.6 +1.3**
SMMC Simmler 74.97 57 P **P 09 28 25.4 +1.4**
baz=306
KONO Kongsberg 75.04 337 *e*P **P 09 28 24.1 +0.3**
LKWY Lake 75.24 45 IAmb IAmb 09 28 31.1
comp=Z,15nm,1.0s
H17A Grant Village 75.25 45 P **P 09 28 28.5 +2.8**
baz=309,SNR=32
H17A Grant Village 75.25 45 P **P 09 28 28.9 +3.2**
H17A IAmb IAmb 09 28 29.9
comp=Z,26nm,0.8s
VES Vestal, Richgr 75.27 56 P **P 09 28 25.8 +0.2**
baz=306,SNR=7.1
SUE Sulen 75.30 340 *e*P **P 09 28 25.7 +0.4**
PKM Mcpherson Peak 75.34 57 P **P 09 28 27.5 +1.2**
baz=306
IMW Indian Meadow 75.36 45 P **P 09 28 27.7 +1.3**
IMW IAmb IAmb 09 28 29.4
comp=Z,19nm,0.8s
FLWY Flagg Ranch 75.38 45 P **P 09 28 28.2 +1.8**
FLWY IAmb IAmb 09 28 30.0
comp=Z,20nm,1.2s
RLMT Red Lodge 75.52 44 P **P 09 28 28.4 +1.2**
baz=310,SNR=12
RLMT Red Lodge 75.52 44 P **P 09 28 27.5 +0.3**
RLMT IAmb IAmb 09 28 29.9
comp=Z,29nm,1.5s
TPAW Teton Pass 75.61 46 IAmb IAmb 09 28 30.7
comp=Z,11nm,0.8s
ASK Askoy 75.65 339 *e*P **P 09 28 27.9 +0.6**
GRAC Grapevine Rang 75.70 54 P **P 09 28 29.3 +1.2**
baz=307,SNR=8.6
BER Bergen 75.70 339 *e*P **P 09 28 28.1 +0.6**
ODD1 Odda 75.72 338 *e*P **P 09 28 27.9 +0.2**
LOHW Long Hollow 75.73 46 P **P 09 28 29.1 +0.7**
DY2G Dye2 75.73 3⇑ *i*P **P 09 28 28.7 +0.7**
DY2G IAmb IAmb 09 28 29.3
comp=Z,12nm,0.8s
SNOW Snow King Moun 75.74 46 P **P 09 28 29.4 +0.9**
SNOW IAmb IAmb 09 28 31.4
comp=Z,11nm,0.8s
REDW Red Top Meadow 75.75 46 IAmb IAmb 09 28 31.3
comp=Z,13nm,1.0s
ISA Isabella, Lake 75.77 56 P **P 09 28 28.4 -0.2**
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA Isabella, Lake 75.77 56 P **P 09 28 28.6 0.0**
baz=306
ISA Isabella, Lake 75.77 56 P **P 09 28 28.4 -0.2**
SORM Soroca 75.85 321 ⇑P **P 09 28 28.3 -0.3**
SORM Soroca 75.85 321 ⇑P **P 09 28 28.3 -0.3**
ARVC Arvin 75.86 56 P **P 09 28 29.9 +0.9**
baz=306
SCZ2 Santa Cruz Isl 75.99 58 P **P 09 28 30.2 +0.4**
baz=306
R11A Troy Canyon, C 76.01 52 P **P 09 28 31.3 +1.2**
baz=307,SNR=28
R11A Troy Canyon, C 76.01 52 P **P 09 28 30.9 +0.9**
R11A IAmb IAmb 09 28 32.5
comp=Z,18nm,1.3s
LAO LASA Array 76.13 41 P **P 09 28 31.4 +1.0**
baz=311
DIKM Dikmen 76.27 312 ⇑P **P 09 28 31.8 +0.6**
FURC Furnace Creek, 76.34 54 P **P 09 28 32.7 +1.0**
baz=307,SNR=20
SPR3 Spring Creek 3 76.39 51 IAmb IAmb 09 28 35.4
comp=Z,33nm,1.9s
LRMC Laurel Mtn Rad 76.40 56 P **P 09 28 32.9 +0.7**
baz=307,SNR=5.4
MALT Malatya 76.41 308 P **P 09 28 34.1 +1.9**
HWUT Hardware Ranch 76.44 48 P **P 09 28 32.9 +0.5**
HWUT IAmb IAmb 09 28 35.1
comp=Z,20nm,1.1s
TPNV Topopah Spring 76.44 54 P **P 09 28 33.6 +1.1**
TPNV pmax pmax
comp=Z,17nm,1.1s
TPNV Topopah Spring 76.44 54 P **P 09 28 33.5 +1.1**
baz=307,SNR=23
TPNV Topopah Spring 76.44 54 P **P 09 28 33.6 +1.1**
TPNV IAmb IAmb 09 28 34.6
comp=Z,17nm,1.1s
SNCC San Nicolas Is 76.51 58 P **P 09 28 33.5 +0.8**
baz=307
EDW2 Edwards Air Fo 76.55 56 P **P 09 28 34.2 +1.1**
baz=307,SNR=11
DUG Dugway, Tooele 76.58 49 P **P 09 28 33.5 +0.3**
DUG pmax pmax
comp=Z,11nm,0.7s
DUG Dugway, Tooele 76.58 49 P **P 09 28 34.6 +1.4**
baz=308,SNR=15
DUG Dugway, Tooele 76.58 49 P **P 09 28 33.5 +0.3**
DUG IAmb IAmb 09 28 35.2
comp=Z,11nm,0.7s
KMY Karmoy 76.69 339 *e*P **P 09 28 34.4 +1.2**
LVV L'vov 76.79 324 *e*P **P 09 28 32.5 -1.5**
BZK Bozkurt 76.80 313 ⇓P **P 09 28 34.3 +0.1**
SNART Snartemo 76.83 337 *e*P **P 09 28 33.3 -0.8**
BW06 Boulder Array 76.86 46 P **P 09 28 35.3 +0.5**
baz=310,SNR=17
BW06 Boulder Array 76.86 46 IAmb IAmb 09 28 36.5
comp=Z,8.3nm,0.8s
PD31 Pinedale Array 76.86 46 P **P 09 28 35.1 +0.2**
PDAR Pinedale Array 76.86 46 P **P 09 28 35.5 +0.7**
comp=Z,6.3nm,0.6s,baz=270,slow=2.2,SNR=86
PDAR Pinedale Array 76.86 46 P **P 09 28 35.4 +0.6**
MWC Mount Wilson 76.90 57 P **P 09 28 35.5 +0.3**
MWC pmax pmax
comp=Z,53nm,1.9s
MWC Mount Wilson 76.90 57 P **P 09 28 35.5 +0.3**
MWC IAmb IAmb 09 28 37.7
comp=Z,53nm,1.9s
PRN Pahroc Range 76.92 53 P **P 09 28 36.3 +1.1**
SHOC Shoshone, Teco 77.06 55 P **P 09 28 36.6 +0.8**
baz=308,SNR=5.8
GSC Goldstone, Bar 77.08 55 P **P 09 28 36.8 +0.8**
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 77.08 55 P **P 09 28 36.7 +0.8**
baz=307,SNR=6.8
GSC Goldstone, Bar 77.08 55 P **P 09 28 36.8 +0.8**
BFSC Mount Baldy Ra 77.16 57 P **P 09 28 36.9 +0.4**
baz=307
MPU Maple Canyon 77.39 49 IAmb IAmb 09 28 40.2
comp=Z,11nm,0.7s
SHPR Sheep Range 77.40 54 P **P 09 28 39.4 +1.5**
SHPR IAmb IAmb 09 28 40.4
comp=Z,11nm,0.9s
TUQ Turquoise Moun 77.57 55 P **P 09 28 39.7 +0.9**
baz=308,SNR=15
BBRC Big Bear Solar 77.63 56 P **P 09 28 39.5 +0.2**
baz=308
NUUK Nuuk 77.66 6 *i* P **P 09 28 39.5 +0.9**
NUUK IAmb IAmb 09 28 40.2
comp=Z,19nm,0.8s
BNN Bunyan 77.67 310 P **P 09 28 39.9 +0.6**
BNN IAmb IAmb 09 28 40.9
comp=Z,26nm,0.9s
HEC Hector,Ludlow 77.67 55 P **P 09 28 40.2 +0.9**
baz=308,SNR=8.5
BURAR Bucovina Array 77.75 322 P **P 09 28 39.9 +0.3**
TCRU Three Creeks R 77.79 50 P **P 09 28 41.9 +1.8**
TESR Tescani 77.80 320 ⇑P **P 09 28 39.9 +0.1**
MURC Murrieta 77.85 57 P **P 09 28 40.5 +0.2**
baz=308
TPGR Topolog 78.00 318 ⇑P **P 09 28 41.3 +0.4**
MSU Marysvale 78.01 50 P **P 09 28 42.9 +1.6**
MSU Marysvale 78.01 50 P **P 09 28 42.9 +1.6**
TMUT Trail Mountain 78.10 49 P **P 09 28 43.0 +1.1**
TMUT IAmb IAmb 09 28 44.5
comp=Z,23nm,1.6s
GMRC Granite Mounta 78.14 55 P **P 09 28 42.5 +0.5**
baz=308,SNR=7.7
VRI Vrincioaia 78.20 320 ⇑P **P 09 28 41.8 -0.1**
VRI Vrincioaia 78.20 320 ⇑P **P 09 28 41.8 -0.1**
PLOR Plostina 78.25 320 ⇑P **P 09 28 42.8 +0.5**
PLOR Plostina 78.25 320 ⇑P **P 09 28 42.8 +0.5**
RDMU Red Mountain 78.26 47 IAmb IAmb 09 28 45.0

comp=Z,38nm,1.2s
P17A Butcher Ranch, 78.27 49 P P 09 28 44.2 +1.5
P17A IAmb IAmb 09 28 44.7
comp=Z,15nm,0.7s
LCMT Little Creek M 78.30 52 P P 09 28 43.8 +1.0
LCMT IAmb IAmb 09 28 45.5
comp=Z,13nm,1.0s
MTPU Mount Pierson 78.30 51 IAmb IAmb 09 28 45.6
comp=Z,9.6nm,0.7s
PFO Pinyon Flats O 78.33 57 P P 09 28 43.7 +0.7
PFO pmax pmax
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 78.33 57 P P 09 28 43.4 +0.3
baz=308
PFO Pinyon Flats O 78.33 57 P P 09 28 43.7 +0.7
TPFO Pinon Flats 78.34 57 P P 09 28 43.3 +0.2
baz=308
109C Camp Elliot, M 78.34 57 P P 09 28 43.2 +0.3
baz=308
BELC Belle Mtn. Jos 78.40 56 P P 09 28 43.4 -0.1
baz=308
OJC Ojcow 78.43 326 *e*P **P 09 28 43.7 +0.6**
OJC Ojcow 78.43 326 P **P 09 28 43.7 +0.6**
OJC pmax pmax
comp=Z,29nm,1.2s
OJC Ojcow 78.43 326 P P 09 28 43.6 +0.6
OJC IAmb IAmb 09 28 44.8
comp=Z,29nm,1.2s
BR131 Keskin Array S 78.44 312 P P 09 28 43.5 0.0
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 78.44 312 P P 09 28 43.5 0.0
BRTR Keskin Array B 78.44 312 P P 09 28 43.5 -0.1
comp=Z,3.7nm,0.9s,baz=97,slow=4.1,SNR=15
BRTR Keskin Array B 78.44 312 P P 09 28 43.2 -0.4
KNB Kanab 78.56 52 IAmb IAmb 09 28 47.2
comp=Z,24nm,1.4s
ULM Lac du Bonnet 78.61 34 P P 09 28 44.2 +0.1
comp=Z,8.5nm,0.8s,baz=304,slow=7.3,SNR=8.2
ULM Lac du Bonnet 78.61 34 IAmb IAmb 09 28 45.3
comp=Z,16nm,1.1s
K22A Casper 78.63 44 P P 09 28 45.1 +0.5
baz=312,SNR=7.2
K22A Casper 78.63 44 IAmb IAmb 09 28 46.4
comp=Z,14nm,1.1s
MDND Maddock 78.64 37 P P 09 28 45.1 +0.8
baz=315,SNR=10
BAR Barrett 78.76 57 P P 09 28 45.5 +0.2
MONP2 Monument Peak 78.80 57 P P 09 28 46.2 +0.4
baz=308
DOPR Dopca 78.81 320 ⇑P **P 09 28 46.1 +0.8**
MLR Muntele Rosu 78.85 320 P P 09 28 46.7 +1.0
MLR pmax pmax
comp=Z,19nm,1.5s
MLR Muntele Rosu 78.85 320 P P 09 28 46.7 +1.0
IRM Iron Mountain 78.86 55 P P 09 28 46.8 +1.0
baz=308,SNR=6.6
RWWY Rawlins 78.88 45 IAmb IAmb 09 28 48.0
comp=Z,14nm,0.9s
RSSD Black Hills 78.99 42 P P 09 28 47.1 +0.5
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 78.99 42 P P 09 28 46.8 +0.2
baz=313
RSSD Black Hills 78.99 42 P P 09 28 47.1 +0.5
E28A Huff 79.00 39 IAmb IAmb 09 28 48.0
comp=Z,15nm,0.8s
IKP In-Ko-Pah, Jac 79.15 57 P P 09 28 48.2 +0.7
baz=308
SWSC Sam W. Stewart 79.18 57 P P 09 28 48.5 +0.9
baz=308
RMX La Rumorosa 79.20 57 IAmb IAmb 09 28 50.3
comp=Z,5.4nm,0.4s
U15A North Rim 79.26 52 P P 09 28 49.8 +1.5
U15A IAmb IAmb 09 28 51.0
comp=Z,24nm,1.4s
O20A White River Ci 79.31 47 P P 09 28 49.1 +0.6
baz=311,SNR=10
VOIR 79.35 320 ⇑P **P 09 28 48.2 -0.2**
VOIR 79.35 320 ⇑P **P 09 28 48.2 -0.2**
PDMCI Parker Dam,Lak 79.42 55 P P 09 28 49.7 +0.8
baz=309,SNR=5.6
KSP Ksiaz 79.46 328 *e*P **P 09 28 49.4 +0.7**
MORC Moravsky Berou 79.74 327 ⇑P **P 09 28 50.9 +0.5**
MORC Moravsky Berou 79.74 327 ⇑P **P 09 28 50.9 +0.5**
MORC Moravsky Berou 79.74 327 *e*P **P 09 28 50.7 +0.4**
GLA Glamis 79.75 56 P P 09 28 51.5 +0.7
baz=309
CHVC Chvalec 79.75 328 *e*P **P 09 28 50.9 +0.5**
DPC Dobruska-Polom 79.82 328 *e*P **P 09 28 51.4 +0.6**
DPC MLR MLR
comp=Z,100nm,23.5s
DPC Dobruska-Polom 79.82 328 *e*P **P 09 28 51.4 +0.6**
DPC AMS AMS 10 07 00.0
comp=Z,100nm,23.5s
KRLC Kraliky 79.84 328 *e*P **P 09 28 51.4 +0.5**
KRLC Kraliky 79.84 328 *e*P **P 09 28 51.4 +0.5**
PV14 Lion Creek, Pa 80.00 49 IAmb IAmb 09 28 54.6
comp=Z,39nm,1.2s
PV22 Blue Mesa, Par 80.04 49 P P 09 28 53.9 +1.5
PV22 IAmb IAmb 09 28 55.7
comp=Z,13nm,1.0s
AGMN Agassiz Nation 80.05 35 P P 09 28 51.9 -0.1
baz=317
AGMN Agassiz Nation 80.05 35 P P 09 28 52.0 -0.1
PV20 West Nyswonger 80.06 49 IAmb IAmb 09 28 54.8
comp=Z,19nm,0.9s
PV04 Paradox Valley 80.06 49 IAmb IAmb 09 28 54.9
comp=Z,17nm,1.1s
PSZ Piszkesteto 80.06 325 *e*P **P 09 28 51.0 -1.2**
PV19 Morning Glory 80.07 49 IAmb IAmb 09 28 54.9
comp=Z,24nm,0.8s
PV17 East Wray Mesa 80.10 49 IAmb IAmb 09 28 55.1
comp=Z,30nm,1.0s
PV16 Nyswonger Mesa 80.11 49 IAmb IAmb 09 28 54.6
comp=Z,12nm,0.8s
N23A Red Feather La 80.12 45 P P 09 28 54.3 +1.4
baz=312,SNR=12
PHWY Pilot Hill 80.12 45 P P 09 28 52.6 -0.3
PV11 David Mesa, Pa 80.14 49 IAmb IAmb 09 28 56.0
comp=Z,14nm,0.7s
PV05 Paradox Valley 80.15 49 IAmb IAmb 09 28 55.5
comp=Z,26nm,1.0s
PV18 Skein Mesa, Pa 80.15 49 P P 09 28 54.1 +1.1
PV18 IAmb IAmb 09 28 55.3
comp=Z,38nm,1.4s
PV12 Saucer Basin, 80.17 49 IAmb IAmb 09 28 55.8
comp=Z,44nm,1.7s
PV13 Radium Mtn., P 80.26 49 IAmb IAmb 09 28 56.0
comp=Z,17nm,0.8s
PV02 Paradox Valley 80.28 49 IAmb IAmb 09 28 56.8
comp=Z,13nm,1.0s
PV15 Paradox Valley 80.34 49 P P 09 28 54.9 +0.8
JAVC Velka Javorina 80.37 326 *e*P **P 09 28 55.2 +1.4**
D32A Dogwood Acres, 80.37 36 P P 09 28 53.8 +0.1
D32A IAmb IAmb 09 28 54.6
comp=Z,30nm,0.9s
BRG Berggiesshubel 80.40 329 *e*P **P 09 28 54.1 +0.3**
BRG Amp 09 28 55.8
comp=Z,13nm,1.3s
WUAZ Wupatki 80.41 52 P P 09 28 55.7 +1.3
baz=310,SNR=14
WUAZ Wupatki 80.41 52 P P 09 28 55.0 +0.6
WUAZ IAmb IAmb 09 28 56.9
comp=Z,14nm,0.9s
CLL Collm 80.44 330 ⇑*i*P **P 09 28 53.9 -0.1**
comp=Z,21nm,1.1s
CLL *i* 09 28 57.0
CLL Collm 80.44 330 ⇑*i*P **P 09 28 53.9 -0.1**
CLL pmax pmax
comp=Z,21nm,1.1s
CLL Collm 80.44 330 P P 09 28 53.6 -0.4
VRAC Vranov 80.50 327 ⇑P **P 09 28 54.9 +0.5**
VRAC Vranov 80.50 327 ⇑P **P 09 28 54.9 +0.5**
VRAC Vranov 80.50 327 *e*P **P 09 28 54.9 +0.5**
GZR Gura Zlata 80.52 321 ⇑P **P 09 28 54.9 +0.3**
GZR Gura Zlata 80.52 321 ⇑P **P 09 28 54.9 +0.3**
SMCO Snowmass 80.68 47 P P 09 28 56.5 +0.4
SMCO IAmb IAmb 09 28 58.4
comp=Z,31nm,1.9s
KRUC Moravsky 80.77 327 *e*P **P 09 28 56.3 +0.5**
PRU Pruhonice 80.84 329 *e*P **P 09 28 56.9 +0.7**
PRU MLR MLR
comp=Z,100nm,23.1s
PRU Pruhonice 80.84 329 *e*P **P 09 28 56.9 +0.7**
PRU AMS AMS 10 08 50.0
comp=Z,100nm,23.1s
B35A Bob, Littlefor 80.96 34 P P 09 28 56.2 -0.7
B35A IAmb IAmb 09 28 57.9
comp=Z,13nm,0.9s
SFX San Felipe 80.99 58 P P 09 28 57.8 +0.5
ISCO Idaho Springs 81.04 46 P P 09 28 58.2 +0.3
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 81.04 46 P P 09 28 59.0 +1.1
baz=312,SNR=7.3
ISCO Idaho Springs 81.04 46 P P 09 28 58.2 +0.3
MVCO Mesa Verde 81.08 50 P P 09 28 58.9 +0.9
baz=311,SNR=11
MVCO Mesa Verde 81.08 50 P P 09 28 58.3 +0.3
SUSD Miller 81.38 39 P P 09 28 59.6 +0.4
baz=316,SNR=8.5
SUSD Miller 81.38 39 P P 09 28 59.5 +0.4
MDVR Moldovita 81.48 321 ⇑P **P 09 28 59.3 -0.4**
MMAI Mount Meron Ar 81.64 305 LR LR 10 07 42.1
comp=Z,36nm,21.9s,baz=5.0,slow=37
F33A 5 Mile Ranch, 81.66 37 P P 09 29 00.6 0.0
F33A IAmb IAmb 09 29 02.1
comp=Z,33nm,1.1s
W18A Petrified Fore 81.69 52 P P 09 29 02.3 +1.1
baz=311
S22A 4UR Ranch, Cre 81.72 48 P P 09 29 02.7 +1.2
baz=312,SNR=12
214A Organ Pipe Nat 81.76 56 P P 09 29 02.4 +1.0
baz=310
214A Organ Pipe Nat 81.76 56 P P 09 29 01.9 +0.4
CKRC Cesky Krumlov 81.84 328 *e*P **P 09 29 02.0 +0.5**
CONA Conrad Observa 81.86 327 *i*P **P 09 29 02.6 +0.9**
comp=Z,9.9nm,1.0s,SNR=6.4
Q24A Divide 81.87 46 P P 09 29 03.0 +0.7
baz=313
MORH Mrgy, Hungar 81.90 324 ⇑P **P 09 29 01.6 -0.3**
KHC Kasperske Hory 81.90 329 *e*P **P 09 29 02.1 +0.2**
KHC Kasperske Hory 81.90 329 *e*P **P 09 29 02.1 +0.2**
KHC Kasperske Hory 81.90 329 IAmb IAmb 09 30 22.9
comp=Z,18nm,1.1s
X18A Snowflake 81.94 52 IAmb IAmb 09 29 04.9
comp=Z,23nm,1.7s
GEC2 GERESS Array S 82.07 328 P P 09 29 02.9 +0.1
GERES GERESS Array B 82.07 328 P P 09 29 02.8 -0.1
comp=Z,3.9nm,0.6s,baz=38,slow=5.0,SNR=20
GERES GERESS Array B 82.07 328 P P 09 29 02.5 -0.4
FRGS Fruska Gora 82.13 323 ⇑P **P 09 29 03.6 +0.4**
EYMN Ely 82.24 33 P P 09 29 03.7 0.0
baz=320,SNR=8.0
EYMN Ely 82.24 33 P P 09 29 03.6 0.0
EYMN IAmb IAmb 09 29 04.8
comp=Z,13nm,0.8s
OGNE Ogallala 82.25 43 P P 09 29 03.9 0.0
baz=314
VTS Vitosha 82.26 319 ⇑P **P 09 29 05.0 +0.9**
VTS Vitosha 82.26 319 ⇑P **P 09 29 05.0 +0.9**
VTS Vitosha 82.26 319 P P 09 29 04.1 0.0
BOVS Bovan 82.31 321 ⇑P **P 09 29 03.3 -0.7**
SDCO Great Sand Dun 82.50 47 P P 09 29 06.6 +1.1
baz=313,SNR=10
SDCO Great Sand Dun 82.50 47 P P 09 29 06.4 +0.9
ARSA Arzberg 82.53 326 *e*P **P 09 29 05.3 +0.1**
comp=Z,2.8nm,0.7s
ELL Elmali 82.60 311 P P 09 29 05.9 0.0
ELL pmax pmax
comp=Z,32nm,0.7s
ELL Elmali 82.60 311 P P 09 29 05.9 0.0
MOA Molln 82.61 327 *e*P **P 09 29 06.0 +0.4**
comp=Z,3.9nm,0.6s
TUC Tucson 82.85 54 P P 09 29 08.4 +1.2
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 82.85 54 P P 09 29 07.8 +0.6
baz=311
TUC Tucson 82.85 54 P P 09 29 08.4 +1.2
ECSD EROS Data Cent 83.05 38 P P 09 29 08.2 +0.2
baz=317,SNR=18
ECSD EROS Data Cent 83.05 38 P P 09 29 08.2 +0.2
ECSD IAmb IAmb 09 29 09.2
comp=Z,12nm,0.8s
GROS Grobnik 83.14 326 *i*P **P 09 29 08.3 -0.1**
SOKA Soboth 83.18 326 *i*P **P 09 29 08.7 +0.1**
comp=Z,11nm,0.6s,SNR=5.6
E38A The Farm, Brul 83.25 34 P P 09 29 08.9 0.0
KSCO Kaye Shedlock' 83.27 45 P P 09 29 09.8 +0.5
baz=314
OBKA Obir 83.52 326 *e*P **P 09 29 10.5 +0.1**
comp=Z,4.4nm,0.6s
T25A Trinidad 83.54 47 P P 09 29 11.8 +1.0
baz=313,SNR=14
T25A Trinidad 83.54 47 P P 09 29 11.0 +0.1
T25A IAmb IAmb 09 29 12.9
comp=Z,12nm,0.8s
BTNL Ternell 83.59 333 *d*P **P 09 29 10.7 +0.1**
KBA Koelnbreinsper 83.60 327 *i*P **P 09 29 11.2 +0.3**
comp=Z,10nm,0.8s,SNR=5.9
PDKS Podkum 83.67 326 *i*P **P 09 29 10.8 -0.4**
SPMN Marine on St. 83.75 35 P P 09 29 11.3 -0.1
baz=320
BSTI Sart Tilman 83.79 334 *d*P **P 09 29 12.3 +0.8**
ANMO Albuquerque 83.81 50 P P 09 29 13.6 +1.3
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 83.81 50 P P 09 29 13.3 +1.1
baz=312
ANMO Albuquerque 83.81 50 P P 09 29 13.6 +1.3
ANMO IAmb IAmb 09 29 14.8
comp=Z,11nm,1.1s
MYKA Terra Mystica 83.82 327 *e*P **P 09 29 11.3 -0.6**
comp=Z,7.3nm,0.6s
BGNE Belgrade 83.98 41 P P 09 29 12.7 0.0
baz=317,SNR=5.5
BGNE Belgrade 83.98 41 P P 09 29 12.8 0.0
BCLA Clavier 84.02 334 *d*P **P 09 29 12.8 0.0**
WATA Walderalm 84.14 328 *e*P **P 09 29 13.0 -0.6**
comp=Z,5.9nm,0.5s
ZOU Zoufplan 84.17 327 IAmb IAmb 09 29 13.8
comp=Z,24nm,1.7s
WTTA Wattenberg 84.17 328 *e*P **P 09 29 14.2 +0.3**
comp=Z,2.8nm,0.5s
CEY Cerknica 84.17 326 *i*P **P 09 29 13.2 -0.5**
ABTA Abfaltersbach 84.22 328 *e*P **P 09 29 13.4 -0.5**
comp=Z,3.9nm,0.6s
SNF Seneffe 84.30 334 *d*P **P 09 29 13.7 -0.4**
BMRD Maredsous 84.31 334 *d*P **P 09 29 14.1 -0.1**
MOTA Moosalm 84.33 329 *i*P **P 09 29 14.4 -0.2**
comp=Z,11nm,1.0s,SNR=5.0
RETA Reutte 84.35 329 *i*P **P 09 29 14.6 0.0**
comp=Z,11nm,0.6s,SNR=9.1
SQTA Sankt Quirin 84.38 329 *e*P **P 09 29 14.9 0.0**
comp=Z,4.4nm,0.4s
I37A Lemond, Waseca 84.39 36 P P 09 29 15.3 +0.6
PDG Podgorica 84.42 321 ⇓P **P 09 29 14.6 -0.3**
PDG Podgorica 84.42 321 P P 09 29 14.8 -0.1
DOU Dourbes 84.54 334 *d*P **P 09 29 11.4 -4.0**
FNA Florina 84.55 319 P P 09 29 15.6 -0.1
FNA Florina 84.55 319 P P 09 29 15.6 -0.1
121A Cookes Peak, D 84.61 53 P P 09 29 17.4 +1.1
baz=312,SNR=7.3
121A Cookes Peak, D 84.61 53 P P 09 29 16.6 +0.3
121A IAmb IAmb 09 29 18.7
comp=Z,14nm,1.1s
BFO Black Forest 84.64 331 P P 09 29 15.4 -0.6
BFO pmax pmax
comp=Z,18nm,0.9s
BFO Black Forest 84.64 331 P P 09 29 15.4 -0.6
BFO IAmb IAmb 09 29 17.0
comp=Z,18nm,0.9s
FETA Feichten 84.74 329 *e*P **P 09 29 16.4 -0.3**
comp=Z,7.2nm,0.7s
DAVA Damuels 84.87 329 *i*P **P 09 29 17.5 +0.2**
comp=Z,12nm,0.7s,SNR=5.2
G40A Rib Lake 84.88 34 IAmb IAmb 09 29 18.4
comp=Z,18nm,0.8s
KBN Korca 84.97 319 P P 09 29 17.9 0.0
KBN pmax pmax
comp=Z,45nm,1.3s
KBN Korca 84.97 319 P P 09 29 17.9 0.0
CBKS Cedar Bluff 85.00 44 P P 09 29 18.1 +0.1
CBKS pmax pmax
comp=Z,14nm,1.1s
CBKS Cedar Bluff 85.00 44 P P 09 29 17.9 -0.1
baz=316
CBKS Cedar Bluff 85.00 44 P P 09 29 18.1 +0.1
CBKS IAmb IAmb 09 29 18.9
comp=Z,14nm,1.1s
ECH Echery 85.18 331 P P 09 29 18.7 0.0
ECH pmax pmax
comp=Z,17nm,1.0s
ECH Echery 85.18 331 P P 09 29 18.7 0.0
ECH IAmb IAmb 09 29 19.4
comp=Z,17nm,1.0s
N35A Tabor 85.66 40 P P 09 29 21.7 +0.5
TUE Stuetta 85.75 329 P P 09 29 21.7 -0.1
I40A Norwalk 85.77 35 P P 09 29 21.9 +0.2
I40A IAmb IAmb 09 29 22.8
comp=Z,24nm,1.1s
MATQ Matagami 86.01 24 P P 09 29 22.4 -0.3
baz=330
SCIA State Center 86.08 38 P P 09 29 23.5 +0.3
baz=320
KSU1 Kansas State U 86.47 42 P P 09 29 25.0 -0.2
baz=318
KSU1 Kansas State U 86.47 42 P P 09 29 25.4 +0.2
H43A Windswept, Lux 86.57 33 P P 09 29 26.0 +0.4
MNTX Cornudas Mount 86.68 52 P P 09 29 26.8 +0.4
baz=313,SNR=8.1
MNTX Cornudas Mount 86.68 52 P P 09 29 26.8 +0.4
MSTX Muleshoe 86.70 49 P P 09 29 26.6 0.0
baz=314
MSTX Muleshoe 86.70 49 P P 09 29 26.5 0.0
AMTX Amarillo 86.70 47 P P 09 29 27.1 +0.6
baz=315
AMTX Amarillo 86.70 47 P P 09 29 27.2 +0.6
AMTX IAmb IAmb 09 29 28.5
comp=Z,14nm,0.8s
JFWS Jewell Farm 86.70 35 P P 09 29 26.3 0.0
JFWS pmax pmax
comp=Z,18nm,1.1s
JFWS Jewell Farm 86.70 35 P P 09 29 26.0 -0.3
baz=321
JFWS Jewell Farm 86.70 35 P P 09 29 26.2 0.0
JFWS IAmb IAmb 09 29 27.1
comp=Z,18nm,1.1s
LSQQ Lebel-sur-Quev 86.83 24 P P 09 29 26.8 0.0
baz=330
CHGQ Chibougamau 86.90 22 P P 09 29 27.0 -0.1
baz=332,SNR=6.9
L40A Anamosa 86.91 37 P P 09 29 27.2 -0.1
L40A IAmb IAmb 09 29 28.4
comp=Z,19nm,1.0s
NRCA Norcia 87.03 325 P P 09 29 27.7 -0.3
OK032 Salt Plains WL 87.29 44 P P 09 29 29.9 +0.6
KAN17 Caldwell West 87.36 44 IAmb IAmb 09 29 31.3
comp=Z,23nm,1.4s
GLMI Grayling 87.61 31 P P 09 29 30.6 -0.1
baz=325
P38A Dawn 87.66 39 P P 09 29 31.5 +0.5
P38A IAmb IAmb 09 29 32.4
comp=Z,20nm,1.0s
L44A Lake County Fo 88.34 35 P P 09 29 33.7 -0.4
baz=323
P40A Paris 88.47 39 P P 09 29 34.8 0.0
WMOK Wichita Mounta 88.47 46 P P 09 29 35.5 +0.6
baz=316
HDIL Hopedale 88.99 36 P P 09 29 37.6 +0.4
baz=322,SNR=5.6
HDIL Hopedale 88.99 36 P P 09 29 37.8 +0.6
ALGO Algonquin Park 89.16 27 P P 09 29 38.0 +0.1
baz=330
TUL1 Leonard 89.27 43 P P 09 29 39.0 +0.4
baz=318
R40A Maddies Statio 89.31 40 P P 09 29 38.7 -0.1
R40A IAmb IAmb 09 29 40.0
comp=Z,13nm,1.1s
TX31 Lajitas Ar. Si 89.37 53 P P 09 29 40.0 +0.6
TX32 Lajitas Array 89.37 53 P P 09 29 40.0 +0.6
TX32 IAmb IAmb 09 29 40.9
comp=Z,6.0nm,0.6s
TXAR Lajitas Array 89.37 53 P P 09 29 40.0 +0.6
comp=Z,5.1nm,0.5s,baz=297,slow=2.9,SNR=148
ABTX Abilene, Hawle 89.50 48 P P 09 29 40.4 +0.6
baz=316
U38A Gravette 89.62 42 P P 09 29 40.3 0.0
U38A IAmb IAmb 09 29 41.0
comp=Z,5.8nm,0.8s
LATQ La Tuque 89.63 23 P P 09 29 39.6 -0.5
baz=333
HPIG 89.74 56 P P 09 29 41.8 +0.6
D58A Chemin du LacG 89.86 23 P P 09 29 40.9 -0.3
baz=333
HHAR Hobbs 89.98 42 P P 09 29 42.0 0.0
HHAR IAmb IAmb 09 29 42.4
comp=Z,4.7nm,0.6s
CCM Cathedral Cave 90.00 39 P P 09 29 41.9 -0.1
CCM pmax pmax
comp=Z,20nm,1.2s
CCM Cathedral Cave 90.00 39 P P 09 29 42.3 +0.2
baz=321
CCM Cathedral Cave 90.00 39 P P 09 29 41.9 -0.1
L48A N Adams 90.05 33 P P 09 29 42.8 +0.6
AAM Ann Arbor 90.08 32 P P 09 29 42.4 +0.2
baz=326
SFIN Lafayette 90.15 35 P P 09 29 43.1 +0.5
baz=324,SNR=5.5
SFIN Lafayette 90.15 35 P P 09 29 43.3 +0.7
MGMO Mountain Grove 90.18 40 P P 09 29 43.2 +0.3
MGMO IAmb IAmb 09 29 43.8
comp=Z,9.9nm,1.1s
D59A Saint-Raymond 90.25 22 P P 09 29 42.9 -0.1
baz=334
Z35A Perchaven, San 90.36 46 P P 09 29 44.2 +0.4
N47A Urbana 90.37 34 P P 09 29 44.1 +0.4
U40A Yellville 90.49 41 P P 09 29 44.6 +0.2
baz=320,SNR=12
DELO Deloro Mine 90.55 27 IAmb IAmb 09 29 45.7
comp=Z,12nm,1.0s
D61A St Aubert, Com 90.56 21 P P 09 29 44.5 +0.1
baz=335
D60A Saint Jean D'O 90.61 22 P P 09 29 45.2 +0.5
baz=335
T42A Van Buren 90.87 40 P P 09 29 46.4 +0.3
T42A IAmb IAmb 09 29 47.5
comp=Z,14nm,1.4s
JCT Junction City 90.94 49 P P 09 29 46.7 +0.1
baz=316,SNR=5.2
JCT Junction City 90.94 49 IAmb IAmb 09 29 47.7
comp=Z,6.5nm,0.6s
E60A Ste Agathe de 90.95 22 P P 09 29 46.6 +0.4
baz=334
D62A Allapoint, All 90.99 20 P P 09 29 46.6 +0.2
baz=336
E61A Lac Etchemin 91.17 22 P P 09 29 47.3 0.0
baz=335
FCAR Ozark Folk Cen 91.22 41 P P 09 29 47.7 -0.1
FCAR IAmb IAmb 09 29 48.1
comp=Z,6.6nm,0.6s
WHTX Lake Whitney, 91.22 47 P P 09 29 48.3 +0.5
baz=317
E62A Clayton Lake 91.28 21 P P 09 29 47.9 +0.1
baz=336
D63A Stockholm 91.29 20 P P 09 29 47.6 -0.2
baz=337
H57A Richville 91.38 26 P P 09 29 48.6 +0.4
baz=332
PBMO Poplar Bluff 91.40 39 P P 09 29 49.0 +0.5
F61A St Evariste 91.44 22 P P 09 29 49.6 +1.0
baz=335,SNR=5.8
MIAR Mount Ida 91.48 43 P P 09 29 49.4 +0.4
MIAR pmax pmax
comp=Z,19nm,1.2s
MIAR Mount Ida 91.48 43 P P 09 29 49.6 +0.6
baz=320,SNR=11
MIAR Mount Ida 91.48 43 P P 09 29 49.4 +0.4
LONY Lake Ozonia 91.51 25 P P 09 29 48.8 -0.1
baz=332
MOQ Mont Orford 91.65 23 P P 09 29 50.5 +0.8
W41B Gary Mavity, V 91.71 42 P P 09 29 50.1 +0.1
baz=320
I57A Carthage 91.75 26 P P 09 29 50.1 +0.1
baz=331
E63A Oxbow 91.77 20 P P 09 29 49.9 -0.1
baz=337
H59A Cadyville 91.79 24 P P 09 29 49.7 -0.5
baz=333
F62A Pittston Farm, 91.81 22 P P 09 29 50.5 +0.2
baz=335
H58A Gabriels 91.83 25 P P 09 29 50.6 +0.2
baz=332
P49A Miami Univ. Ec 91.90 34 P P 09 29 50.7 -0.1
baz=325

G61A	St-Isidore-de-	91.90	23	P		P	09 29 50.8 +0.1
	baz=334,SNR=7.8						
X40A	Basin Creek Fa	91.92	42	P		P	09 29 51.2 +0.2
	baz=320						
E64A	Bridgewater	91.93	20	P		P	09 29 50.6 -0.2
	baz=337						
M53A	Wt Miller and	92.02	30	P		P	09 29 51.7 +0.3
	baz=328						
ACSO	Alum Creek Sta	92.08	33	P		P	09 29 51.5 -0.1
	baz=326						
ACSO	Alum Creek Sta	92.08	33	IAmb		IAmb	09 29 52.9
	comp=Z,9.3nm,0.8s						
J57A	Williamstown	92.09	26	P		P	09 29 52.3 +0.7
H60A	Morristown	92.18	24	P		P	09 29 52.5 +0.4
	baz=333						
I58A	Old Forge	92.20	26	P		P	09 29 52.4 +0.3
	baz=332						
WCI	Wyandotte Cave	92.25	36	P		P	09 29 52.2 -0.2
	baz=324						
F64A	Sherman	92.30	21	P		P	09 29 52.3 -0.2
	baz=337						
M54A	Oil Creek Stat	92.36	30	P		P	09 29 53.2 +0.3
	baz=328						
VT1	Waterbury	92.37	24	P		P	09 29 52.6 -0.3
J58A	Remsen	92.38	26	P		P	09 29 52.9 0.0
	baz=332						
H61A	Lyndonville	92.45	23	P		P	09 29 53.3 +0.1
	baz=334						
I59A	Olmsteadville	92.48	25	P		P	09 29 53.6 +0.2
	baz=333						
J59A	Piesco	92.56	26	P		P	09 29 53.9 +0.1
J59A				IAmb		IAmb	09 29 55.2
	comp=Z,7.8nm,0.9s						
PKME	Peaks-Kenny Pk	92.58	21	P		P	09 29 54.3 +0.5
	baz=336						
G63A	Kingsbury	92.62	22	P		P	09 29 54.8 +0.8
	baz=336						
I60A	Shoreham	92.63	25	P		P	09 29 54.9 +0.8
	baz=333						
H62A	Milan	92.65	23	P		P	09 29 55.1 +0.9
	baz=335						
N54A	Moraine State	92.70	30	P		P	09 29 55.0 +0.5
	baz=328						
G64A	Maxfield	92.75	21	P		P	09 29 54.9 +0.3
	baz=336						
O53A	New Philadelph	92.81	31	P		P	09 29 54.8 -0.2
	baz=327						
T47A	Sharon Grove	92.86	37	P		P	09 29 55.2 -0.1
T47A				IAmb		IAmb	09 29 56.7
	comp=Z,6.6nm,0.8s						
P52A	Corning	92.94	32	P		P	09 29 55.3 -0.3
	baz=327						
J60A	Lant Hill Farm	93.12	25	P		P	09 29 56.6 +0.2
	baz=333						
G65A	Princeton	93.13	20	P		P	09 29 57.0 +0.7
	baz=337						
BINY	Binghamton	93.15	27	P		P	09 29 56.8 +0.3
	baz=331						
H64A	Troy	93.17	22	P		P	09 29 56.9 +0.3
	baz=336						
WVT	Waverly	93.20	38	P		P	09 29 57.5 +0.7
	baz=323						
I63A	Otisfield	93.30	23	P		P	09 29 58.4 +1.2
	baz=335						
L58A	Harry Jones Me	93.34	27	P		P	09 29 57.2 -0.2
	baz=331						
H65A	Eastbrook	93.40	21	P		P	09 29 58.0 +0.5
	baz=337						
H66A	Whiting	93.58	20	P		P	09 29 59.2 +0.8
	baz=337						
K61A	Williamstown	93.68	25	P		P	09 29 59.6 +0.6
	baz=333						
OXF	Oxford	93.69	40	P		P	09 29 59.9 +0.8
	baz=322						
O56A	Blue Knob Stat	93.86	30	P		P	09 30 00.1 +0.2
	baz=329						
MCWV	Mont Chateau	93.87	31	P		P	09 30 00.1 +0.3
	baz=328						
U49A	Red Boiling Sp	93.87	37	P		P	09 29 59.9 -0.1
U49A				IAmb		IAmb	09 30 01.2
	comp=Z,7.0nm,1.1s						
T50A	Nancy	93.90	36	P		P	09 30 00.7 +0.6
T50A				IAmb		IAmb	09 30 01.2
	comp=Z,6.4nm,0.8s						
KEST	Kesra	94.45	323	P		P	09 30 02.3 -0.5
	comp=Z,3.0nm,0.9s,baz=344,slow=7.0,SNR=3.8						
TZTN	Tazewell	94.88	35	P		P	09 30 04.4 -0.2
	baz=326						
BLA	Blacksburg	95.70	33	P		P	09 30 08.5 +0.2
	baz=328						
ESDC	Sonseca Array	96.59	334	P		P	09 30 11.6 -0.7
	comp=Z,0.8nm,0.8s,baz=20,slow=4.9,SNR=3.2						
ESDC				LR		LR	10 17 23.9
	comp=Z,66nm,21.2s,baz=260,slow=38						
KMSC	Kings Mountain	97.04	34	P		P	09 30 14.0 -0.4
	baz=327						
VNDA	Vanda	115.86	175	PKP		PKPdf	09 35 22.6 -0.8
	comp=Z,0.3nm,0.5s,baz=240,slow=1.1,SNR=1.7						
TORD	Torodi Ar. Bea	116.86	315	PKP		PKPdf	09 35 25.8 -1.5
	comp=Z,0.9nm,1.1s,baz=46,slow=1.5,SNR=4.3						
TORD				PP		PP	09 36 32.5 -3.2
	comp=Z,2.4nm,1.1s,baz=352,slow=5.1,SNR=3.8						
TORD	Torodi Ar. Bea	116.86	315			PKPdf	09 35 25.5 -1.8
SDV	Santo Domingo	124.47	40	eP		PKPdf	09 35 40.9 -1.3
CZSB	Cruzeiro do Su	136.73	55	eP		PKPdf	09 36 05.6 +0.5
MCPB	Macapa, AP	140.51	22	eP		PKPdf	09 36 13.1 +1.0
MALB	Monte Alegre	141.20	26	eP		PKPdf	09 36 14.1 +0.8
SNAA	Sanae	141.69	197	PKPdf		PKPdf	09 36 08.8 -3.7
ETMB	Extrema	142.38	49	eP		PKiKP	09 36 17.5 -0.9
ITTB	Itaituba	142.97	30	eP		PKPdf	09 36 17.5 +1.1
VNA2	Neumayer--Watz	143.26	196	PKPdf		PKPbc	09 36 12.2 -0.3
SAML	Samuel	143.43	44	eP		PKPdf	09 36 18.9 +1.7
TMAB	Tom-Au,PA,Br	143.47	17	eP		PKPdf	09 36 17.8 +0.5
VNA3	Neumayer Olymp	143.50	195	PKPdf		PKPbc	09 36 12.6 -0.5
VNA1	Neumayer--Stat	143.66	196	PKPdf		PKPab	09 36 12.7 +0.1
NBMO	Morrinhos-CE	145.50	3	eP		PKPdf	09 36 20.5 -0.3
NPGB	Novo Progresso	145.56	31	eP		PKPab	09 36 21.4 -0.1
LPAZ	La Paz	146.02	59	PKPbc		PKPbc	09 36 23.1 -0.1
	comp=Z,8.8nm,0.7s,baz=330,slow=3.4,SNR=30						
LPAZ	La Paz	146.02	59			PKPbc	09 36 22.9 -0.3
LPAZ	La Paz	146.02	59	eP		PKPdf	09 36 22.1 -0.2
NBCL	Cascavel-CE	146.44	0	eP		PKPdf	09 36 23.0 +0.6
NBPS	Pedro II - PI	146.49	6	eP		PKPdf	09 36 22.4 -0.2
PRPB	Paraiapebas	146.68	21	eP		PKPbc	09 36 24.4 -0.2
NBPA	Parau_RN	147.94	358	eP		PKPdf	09 36 24.7 -0.3
RCBR	Riachuelo	147.96	356	eP		PKPdf	09 36 24.2 -0.8
VILB	Vilhena	148.37	44	eP		PKPdf	09 36 26.0 +0.4
NBPV	Pedro Velho	148.50	354	eP		PKPdf	09 36 25.6 -0.3
LVC	Limon Verde	149.62	69	eP		PKPdf	09 36 27.4 -0.5
SMTB	Santa Maria do	149.85	19	eP		PKPdf	09 36 29.1 +1.1
SNDB	Serra Nova Dou	151.64	28	eP		PKPdf	09 36 29.9 -0.9
NBAN	Anadia - AL	151.79	356	eP		PKPdf	09 36 33.3 +2.3
PEXB	Peixe	152.76	22	eP		PKPdf	09 36 32.4 0.0
PP1B	Ponte de Pedra	155.05	40	eP		PKPdf	09 36 36.4 +0.9
GDU01	Guandu, BA	155.85	3	eP		PKPdf	09 36 38.5 +1.8
GUA01	Guaratinga, BA	158.68	4	eP		PKPdf	09 36 39.0 -1.3
TRQA	Tornquist	161.32	98	eP		PKPdf	09 36 44.5 +1.9
ESAR	Angra dos Reis	164.22	21	eP		PKPdf	09 36 47.4 +1.6
TIJ01	Guaruva-PR	164.47	39	eP		PKPdf	09 36 47.6 +1.4
CPSB	Cacapava Do Su	165.38	64	eP		PKPdf	09 36 48.8 +2.1
PLTB	Pedras Altas	165.99	68	eP		PKPdf	09 36 49.1 +1.9

TEH 21 09:27:03.5,28°.50N×51°.57E,h8km,ML3.2,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ1	Kazerun	1.13	3	ePg	Pg	09 27 25.2	+0.1
KAZ1				e		09 27 48.5	
	comp=Z,6μm,0.7s						
QIR1	Qir	1.30	91	ePg	Pg	09 27 28.4	0.0
QIR1				e		09 27 55.9	
	comp=Z,7μm,0.4s						
SHI	Shiraz	1.41	36	ePg	Pg	09 27 30.5	-0.1
SHI				e		09 27 36.3	
	comp=Z,3μm,0.3s						
JHRM	Jahrom	1.77	89	ePn	Pg	09 27 38.1	+0.7
LMD1	Lamerd	1.82	129	ePg	Pg	09 27 38.2	-0.3
KLNJ	Kolanjah	2.50	0	ePn	Pn	09 27 45.1	+0.2
IRAM	Ramesheh	3.38	12	ePn	Pn	09 27 57.5	+0.8
IMEH	Mehriz	3.91	42	e		09 28 06.6	
	comp=Z,279nm,0.3s						
IMEH				ePn	Pn	09 28 06.1	+2.0
MIB	Mutribah	3.92	290	eP	Pn	09 28 03.1	-1.0

IDC 21 09:39:05.0±2.4,27°.83N×139°.42E,h422km±112km, mb2.8/5,mb1 2.9/6,mb1mx2.7/51,mbtmp3.6/6,Error ellipse: s-maj=263.4km s-min=17.2km az=68.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.56	106	P	P	09 40 08.4	+1.7
	23nm,0.3s,baz=9.2,slow=18,SNR=14						
JCJ				S	S	09 40 56.5	-0.1
	44nm,0.3s,baz=288,slow=21,SNR=12						
SONM	Songino Array	32.49	317	P	P	09 44 59.2	+0.4
	0.6nm,0.5s,baz=119,slow=9.4,SNR=3.8						
WRA	Warramunga Arr	47.74	186	P	P	09 47 02.1	+0.1
	0.2nm,0.3s,baz=3.0,slow=7.5,SNR=4.7						
MKAR	Makanchi Array	48.11	309	P	P	09 47 04.6	-0.1
	0.3nm,0.4s,baz=87,slow=10,SNR=7.9						
KURBB	Kurchatov Arra	50.77	314	P	P	09 47 23.6	-0.7
	0.8nm,0.4s,baz=91,slow=7.1,SNR=4.4						
ASAR	Alice Springs	51.47	186	P	P	09 47 29.4	-0.3
	0.2nm,0.8s,baz=360,slow=4.3,SNR=6.0						

*IDC **21** 09:41:12.1±1.2,37°.43N×121°.94W,h0km,mb3.9/3, mb1 3.8/9,mb1mx3.6/57,mbtmp3.5/9,ML3.4/6,MS3.1/8, Ms1 3.1/8,ms1mx2.9/49,Error ellipse: s-maj=16.5km s-min=10.2km az=45.0*

*NEIC **21** 09:41:14.6±1.1,37°.565N±0°.004×122°.00W±0°.02, h16km±1km,Error ellipse: s-maj=2.3km s-min=0.4km az=77.0*

*ANF **21** 09:41:14.8±1.0,37°.48N×122°.04W,h16km±9km,ML4.2/26, Error ellipse: s-maj=12.1km s-min=2.6km az=59.0*

*NCEDC **21** 09:41:14.5±1.0,37°.577N±0°.008×121°.97W±0°.01, h8km±2km,Mwr4.0/4,mb4.2/1(NEIC),ML3.8/76(NEIC),Error ellipse: s-maj=1.5km s-min=1.2km az=73.0*

*NEIC **21** 09:41:14.4,37°.58N×121°.98W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.39; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-0.06; $M_{r\theta}$0.25; $M_{\theta\phi}$0.96; $M_{r\phi}$0.44; Fault plane solution: $M_0$1.15000×10^{15} NP1:φs350.51000°, δ69.35000°,λ151.23000°. NP2:φs91.47000°,δ63.23000°, λ23.27000°. Principal axes: T 1.1163, Plg35.0000°, Azm309.0000°; N 0.0593, Plg55.0000°, Azm138.0000°; P -1.1756, Plg4.0000°, Azm42.0000°;*

ISC 21 09:41:14.4±1.0,37°.54N±0°.02×122°.00W±0°.03,h11km±7km, n161,σ1§14/165,mb3.9/3,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C055	Cottonwood Ave	0.15	324		Pg	09 41 17.7	-0.2
WENL	Wente Vineyard	0.21	66		Pg	09 41 18.8	-0.1
JRSC	Jasper Ridge	0.23	235		Pg	09 41 20.2	+1.0
SCCB	Santa Clara Co	0.27	157		Pb	09 41 20.8	-0.4
CMCM	Mills College	0.28	330		Pg	09 41 19.9	-0.3
MHC	Mount Hamilton	0.34	124		Pg	09 41 21.7	+0.4
BKS	Berkeley--Byer	0.39	331		Pg	09 41 22.1	0.0
BL67	Building 67, L	0.39	329		Pg	09 41 22.1	-0.2
VAK	Adit at Lawren	0.39	330		Pg	09 41 22.2	0.0
BL88	Building 88, L	0.40	329		Pg	09 41 22.2	-0.1
BRK	Berkeley--Havi	0.40	328		Pg	09 41 22.0	-0.2
BDM	Black Diamond	0.43	14		Pg	09 41 23.1	+0.3
J061	Lakeshore Driv	0.44	296		Pg	09 41 23.3	+0.2
RFSB	Richmond Field	0.46	325		Pg	09 41 23.3	-0.2
COSM	Mount Oso	0.50	93		Pg	09 41 24.3	+0.2
HERB	Hercules	0.52	336		Pg	09 41 24.5	-0.1
CMPM	Mikes Peak	0.57	108		Pg	09 41 25.6	+0.1
GHS	Gilroy Hot Spr	0.62	135		Pg	09 41 26.7	+0.3
FARB	Farallon Islan	0.81	282		Pg	09 41 29.9	-0.1
HSFM	Saint Francis	0.83	151		Pb	09 41 30.8	+0.1
SAO	San Andreas Ge	0.89	150		Pg	09 41 31.2	-0.3
SAO				Sg	Sb	09 41 43.9	+0.2
MCCM	Marconi Confer	0.93	311		Pg	09 41 31.4	-0.8
MCCM				Sg	Sg	09 41 44.3	0.0
BLRM	Lewis Ranch	1.04	146		Pb	09 41 33.9	-0.6
SCZ	Santa Cruz	1.05	153		Pb	09 41 33.3	-1.2
BJCM	Johnson Can.	1.10	154		Pb	09 41 34.1	-1.3
HAST	Hastings Reser	1.20	162		Pn	09 41 35.8	-1.3
BSMM	Soledad Missio	1.24	158		Pn	09 41 36.4	-1.3
BBNM	San Benito	1.26	144		Pn	09 41 37.2	-0.8
GCRM	Castle Rock Sp	1.36	336		Pn	09 41 37.5	-1.9
LRV	Little Rabbit	1.36	144		Pn	09 41 38.6	-0.7
CMB	Columbia Colle	1.37	68		Pn	09 41 37.7	-1.8
CMB				Sn	Sb	09 41 55.4	-2.2
MNRC	McLaughlin Min	1.39	346		Pn	09 41 38.3	-1.4
GDXM	Geysers	1.42	334		Pn	09 41 38.2	-2.0
GDXM				IAML		09 42 02.5	
	comp=E,1μm,0.6s						
GSGM	Seigler Mounta	1.44	337		Pn	09 41 38.9	-1.5
GPMM	Pine Mountain	1.51	331		Pn	09 41 39.6	-1.8
AFDM	Forest Hills D	1.62	30	Pn	Pn	09 41 41.0	-2.0
AFDM				Sn	Sn	09 42 03.0	-0.9
AFDM				IAML		09 42 03.9	
	comp=N,906nm,0.5s						
AFDM				IAML		09 42 14.0	
	comp=E,1μm,1.3s						
PMPB	Monarch Peak	1.63	144		Pn	09 41 42.9	-0.2
HOPS	Hopland Field	1.68	330		Pn	09 41 42.0	-1.7
HOPS	Hopland Field	1.68	330	IAML		09 42 23.3	
	comp=E,1μm,1.3s						
HOPS				IAML		09 42 23.4	
	comp=N,1μm,1.5s						
PAPM	Alder Peak	1.70	162		Pn	09 41 43.2	-0.9
SUTB	Sutter Butte	1.70	6		Pn	09 41 41.4	-2.6
PDRM	Domengine Ranc	1.77	132		Pn	09 41 44.4	-0.6
PKD	Bear Valley Ra	1.97	143		Pn	09 41 47.2	-0.6
ORV	Oroville	2.05	11		Pn	09 41 47.2	-1.6
ORV				Sn	Sn	09 42 12.2	-2.3
ORV				IAML		09 42 15.5	
	comp=E,513nm,0.7s						
GNAM	Navarro Ridge	2.10	323		Pn	09 41 47.9	-1.5
RUBR	Rubicon Trail	2.10	43	Pn	Pn	09 41 49.4	-0.3
RUBR				Sn	Sn	09 42 15.4	-0.4
RAMR	Ramage Ranch	2.10	154		Pn	09 41 48.8	-0.7
GASB	Alder Springs	2.19	345		Pn	09 41 50.1	-0.8
WAKR	Walker	2.24	64	Pn	Pn	09 41 52.2	+0.6
WAKR				IAML		09 42 32.2	
	comp=E,698nm,0.8s						
WAKR				IAML		09 42 36.5	
	comp=N,612nm,0.7s						
TCHL	Shandon	2.25	145		Pn	09 41 50.6	-0.9
PAGB	Antelope Grade	2.29	141		Pn	09 41 51.8	-0.2
PAGB				IAML		09 42 40.6	
	comp=N,580nm,0.8s						
THIS	South End of C	2.30	141		Pn	09 41 52.2	-0.1
TRAM	Private Proper	2.32	143		Pn	09 41 52.2	-0.3
MDPB	Devils Postpil	2.32	87		Pn	09 41 52.9	+0.1
MDPB				IAML		09 42 25.9	
	comp=N,808nm,0.7s						
MRDM	Red Cones	2.34	88		Pn	09 41 53.5	+0.5
MDCM	Deadman Creek	2.35	85		Pn	09 41 53.4	+0.1
TSCN	Private Proper	2.39	146		Pn	09 41 53.3	-0.2
VOG	Valley Oaks Go	2.42	119	P	Pn	09 41 52.7	-1.1
VOG	baz=302			S	Sn	09 42 22.6	-0.9
	baz=302						
PNTR	Pine Nut	2.44	50	Pn	Pn	09 41 54.9	+0.5
KCPM	Cahto Peak	2.48	330	Pn	Pn	09 41 54.2	-0.6
KCPM				IAML		09 42 51.0	
	comp=N,332nm,1.4s						
KCPM				IAML		09 42 51.0	
	comp=E,374nm,1.2s						
MLAC	Mammoth, Mammo	2.52	87	P	Pn	09 41 56.3	+0.9
	baz=270						
HELL	Mitchell Peak,	2.53	109		Pn	09 41 55.0	-0.4
VCNR	Virginia City	2.55	46	Pn	Pn	09 41 56.2	+0.4
YERR	Yerington	2.61	55	Pn	Pn	09 41 56.7	+0.1
LCMM	Colby Mountain	2.63	8		Pn	09 41 56.8	-0.2
BEKR	Beckworth	2.66	28	Pn	Pn	09 41 57.3	0.0
BEKR				IAML		09 42 34.2	
	comp=N,349nm,0.9s						
LTCM	Tuscan Springs	2.67	358		Pn	09 41 55.8	-1.5
KBSM	Bell Springs	2.69	333		Pn	09 41 57.5	-0.1
O02D	Mt. Diablo Mer	2.71	347	P	Pn	09 41 57.0	-0.9
	baz=166,SNR=20						
O02D				S	Sn	09 42 31.1	+0.4
	baz=166						
MTUM	Tungsten Hills	2.74	93		Pn	09 41 59.5	+1.0
SMMC	Simmler	2.74	143	P	Pn	09 41 57.7	-0.7
	baz=326						
O03E	Paynes Creek	2.76	3	P	Pn	09 41 57.0	-1.6
	baz=183,SNR=399						
LHV	Little Huntoon	2.86	74		Pn	09 42 01.0	+1.2
VES	Vestal, Richgr	2.89	125	P	Pn	09 41 59.5	-0.8
VES	baz=308			S	Sn	09 42 35.3	+0.3
	baz=308						
RYN	Ryan	2.95	67	Pn	Pn	09 42 01.3	0.0
RYN				IAML		09 42 52.9	
	comp=N,296nm,1.0s						
RYN				IAML		09 42 58.5	
	comp=E,428nm,1.0s						
PAHR	Pah Rah Range	2.98	43		Pn	09 42 01.5	-0.3
PAHR				IAML		09 42 50.3	
	comp=E,350nm,1.1s						
PAHR				IAML		09 42 50.9	
	comp=N,301nm,1.1s						
KMRM	Mail Ridge	3.00	334	Pn	Pn	09 42 01.4	-0.5
KMRM				IAML		09 43 12.2	
	comp=E,251nm,1.7s						
KMRM				IAML		09 43 15.2	
	comp=N,202nm,1.4s						
NVAR	Mina Array Bea	3.05	72	Pn	Pn	09 42 02.8	0.0
	comp=N,4.7nm,0.3s,baz=250,slow=15,SNR=25						
NVAR				Lg	Lg	09 42 50.4	
	comp=N,37nm,0.3s,baz=250,slow=21,SNR=9.0						
WDC	Whiskeytown Da	3.07	352	Pn	Pn	09 42 00.5	-2.3
NV11	Mina Array Sit	3.17	72		Pn	09 42 04.0	-0.3
NV11				IAML		09 43 02.9	
	comp=E,222nm,1.6s						
NV11				IAML		09 43 03.2	
	comp=N,364nm,1.6s						
PKM	Mcpherson Peak	3.18	146	P	Pn	09 42 03.9	-0.6
PKM	baz=328,SNR=18			S	Sn	09 42 42.3	-0.2
	baz=328						
HATC	Hat Creek Radi	3.30	7		Pn	09 42 06.4	+0.3
ISA	Isabella, Lake	3.40	122	P	Pn	09 42 07.3	-0.1
	baz=305,SNR=64						
ISA				S	Sn	09 42 48.0	+0.3
	baz=305						
ISA	Isabella, Lake	3.40	122	Pn	Pn	09 42 07.4	+0.1
ISA				IAML		09 43 09.5	
	comp=N,194nm,1.4s						
ISA				IAML		09 43 10.0	
	comp=E,270nm,0.8s						
KVN	Kaiserville	3.42	63	Pn	Pn	09 42 07.0	-0.9
KVN				IAML		09 43 07.2	
	comp=N,212nm,1.0s						
KVN				IAML		09 43 11.1	
	comp=E,244nm,0.9s						
N02D	Trinity Center	3.48	351	P	Pn	09 42 06.7	-1.8
N02D	baz=170,SNR=23			S	Sn	09 42 50.4	+0.7
	baz=170						
ARVC	Arvin	3.51	132	P	Pn	09 42 07.4	-1.5
ARVC	baz=315,SNR=13			S	Sn	09 42 51.2	+0.8
	baz=315						
KHMM	Horse Mountain	3.59	339	Pn	Pn	09 42 10.7	+0.6
SBC	Santa Barbara	3.60	148	P	Pn	09 42 09.2	-0.9
	baz=330						
JCC	Jacoby Creek,	3.64	335		Pn	09 42 11.1	+0.5
M02C	Callahan	3.91	351	P	Pn	09 42 13.7	-0.7
	baz=170,SNR=52						
OSI	Osito Audit: C	3.94	137		Pn	09 42 16.9	+2.1
OSI				IAML		09 43 46.0	
	comp=E,154nm,1.6s						
OSI				IAML		09 43 49.2	
	comp=N,149nm,1.0s						
SCZ2	Santa Cruz Isl	4.02	151	P	Pn	09 42 14.4	-1.6
SCZ2	baz=333			S	Sn	09 43 01.8	-1.3
	baz=333						
EDW2	Edwards Air Fo	4.18	128	P	Pn	09 42 18.5	+0.3
	baz=311,SNR=16						
YBH	Yreka Blue Hor	4.23	353	Pn	Pn	09 42 20.4	+1.6
	comp=N,3.9nm,0.3s,baz=167,slow=6.5,SNR=44						
YBH				Sn	Sn	09 43 13.0	+4.9
	comp=N,1.4nm,0.3s,baz=136,slow=9.3,SNR=6.3						
YBH				LR	LR	09 44 23.2	
	comp=N,180nm,18.4s,baz=172,slow=44						
YBH	Yreka Blue Hor	4.23	353	Pn	Pn	09 42 18.9	+0.1
YBH	Yreka Blue Hor	4.23	353	IAML		09 43 19.3	
	comp=N,36nm,0.9s						
YBH				IAML		09 43 38.5	
	comp=E,30nm,1.1s						
M04C	Macdoel	4.24	2	P	Pn	09 42 19.5	+0.5
	baz=182,SNR=47						
KRMB	Red Mountain	4.25	340		Pn	09 42 19.7	+0.6
MOD	Modoc Plateau	4.55	16		Pn	09 42 23.7	+0.4
MOD				IAML		09 43 55.4	
	comp=E,109nm,1.5s						
MOD				IAML		09 44 00.3	
	comp=N,120nm,1.2s						
PASC	Pasadena Art C	4.57	136		Pn	09 42 26.0	+2.6
MWC	Mount Wilson	4.60	135		Pn	09 42 25.3	+1.3
MWC				IAML		09 43 48.4	
	comp=N,67nm,1.6s						
TPNV	Topopah Spring	4.62	96	P	Pn	09 42 24.5	+0.1
	baz=280						
TPNV	Topopah Spring	4.62	96	Pn	Pn	09 42 23.4	-0.9
L04D	Klamath Falls	4.68	357	P	Pn	09 42 25.4	+0.3
	baz=177,SNR=15						
SNCC	San Nicolas Is	4.73	154	Pn	Pn	09 42 25.2	-0.4
SNCC				IAML		09 44 19.4	
	comp=N,97nm,4.8s						
SNCC				IAML		09 44 30.1	
	comp=E,65nm,4.5s						
GSC	Goldstone, Bar	4.74	116	P	Pn	09 42 26.0	+0.1
	baz=300,SNR=13						
GSC	Goldstone, Bar	4.74	116	Pn	Pn	09 42 26.0	+0.1
GSC				IAML		09 43 55.0	
	comp=E,111nm,2.0s						
GSC				IAML		09 43 57.4	
	comp=N,73nm,1.3s						
L02E	Cave Junction	4.78	346	P	Pn	09 42 28.5	+2.2
	baz=164,SNR=81						
BFSC	Mount Baldy Ra	4.82	132	P	Pn	09 42 26.7	-0.3
	baz=315,SNR=9.6						
BFSC				S	Sn	09 43 21.4	-1.5
	baz=315						
RRX	Edison Barstow	4.84	122	P	Pn	09 42 27.2	0.0
	baz=305						
CIS	Catalina Islan	5.06	144	P	Pn	09 42 29.2	-1.0
	baz=326						
CIS				S	Sn	09 43 25.7	-2.8
	baz=326						
HUMO	Hull Mountain	5.12	352	Pn	Pn	09 42 33.2	+2.3
K05A	Summer Lake	5.25	9	Pn	Pn	09 42 34.4	+1.4
K05A				IAML		09 44 12.5	
	comp=E,46nm,1.8s						
K05A				IAML		09 44 22.1	
	comp=

ELK	Elko	6.15	57	Pn	Pn	09 42 44.8	-0.6
	comp=N,0.4nm,0.3s,baz=258,slow=14,SNR=4.1						
ELK				Lg	Lg	09 44 16.6	
	comp=N,0.6nm,0.3s,baz=96,slow=11,SNR=3.1						
ELK				LR	LR	09 45 57.3	
	comp=N,59nm,19.9s,baz=251,slow=46						
I03D	Drain, OR	6.24	351	P	Pn	09 42 48.1	+1.8
	baz=170						
I04A	Tendick Farm,	6.26	357	P	Pn	09 42 47.7	+1.0
	baz=177,SNR=6.7						
PINE	Pine Mountain	6.30	7	Pn	Pn	09 42 48.3	+0.9
MONP2	Monument Peak	6.50	134	P	Pn	09 42 49.8	-0.4
	baz=318						
IRM	Iron Mountain	6.51	119	P	Pn	09 42 49.4	-0.7
	baz=304,SNR=9.5						
BAR	Barrett	6.52	136	Pn	Pn	09 42 52.2	+2.0
H04D	Lebanon	7.00	356	P	Pn	09 42 58.1	+1.2
	baz=175						
GLA	Glamis	7.37	125	P	Pn	09 43 01.7	-0.3
	baz=310						
DUG	Dugway, Tooele	7.64	67	P	Pn	09 43 06.0	+0.2
	baz=253						
G05D	Wamic, OR	7.72	4	P	Pn	09 43 08.2	+1.6
	baz=184						
G03D	McMinnville, O	7.73	353	P	Pn	09 43 08.1	+1.4
	baz=172						
PDAR	Pinedale Array	10.86	57	Pn	Pn	09 43 51.5	+1.5
	comp=N,0.1nm,0.3s,baz=248,slow=14,SNR=3.2						
PDAR				LR	LR	09 48 17.3	
	comp=N,72nm,19.4s,baz=238,slow=39						
ANMO	Albuquerque	12.81	97	LR	LR	09 48 33.7	
	comp=N,37nm,18.6s,baz=290,slow=35						
LPIG	La Paz	16.72	140	LR	LR	09 51 51.3	
	comp=N,90nm,18.4s,baz=292,slow=38						
TXAR	Lajitas Array	17.33	113	P	Pn	09 45 16.1	-0.3
	comp=N,0.0nm,0.3s,baz=311,slow=17,SNR=3.5						
DLBC	Dease Lake	21.56	348	P	P	09 46 06.0	+2.3
	comp=N,2.5nm,0.8s,baz=180,slow=5.1,SNR=4.9						
DLBC	Dease Lake	21.56	348	IAmb	IAmb	09 46 54.5	
	comp=Z,16nm,1.6s						
KDAK	Kodiak Island	28.49	325	LR	LR	09 56 32.5	
	comp=Z,66nm,18.3s,baz=215,slow=32						
ILAR	Eielson Array	31.00	339	P	P	09 47 33.2	+1.8
	comp=Z,1.7nm,0.6s,baz=153,slow=7.7,SNR=16						
I21K	Tanana	32.79	337	P	P	09 47 47.3	+0.1
	baz=133,SNR=5.9						
TOLK	Toolik Lake Re	34.65	343	P	P	09 48 03.5	+0.1
	baz=140,SNR=5.4						
MA2	Magadan	57.20	323	LR	LR	10 11 52.2	
	comp=Z,32nm,20.3s,baz=115,slow=32						
H11N3	WAKE ISLAND Hy	63.50	275	T	T	11 00 13.5	
	baz=57,slow=75,SNR=39						
H11N2	WAKE ISLAND Hy	63.51	275	T	T	11 00 11.2	
	baz=57,slow=75,SNR=38						
H11N1	WAKE ISLAND Hy	63.52	275	T	T	11 00 14.7	
	baz=57,slow=75,SNR=40						
H11S1	WAKE ISLAND Hy	64.33	274	T	T	11 01 06.6	
	baz=55,slow=75,SNR=14						
H11S2	WAKE ISLAND Hy	64.33	274	T	T	11 01 07.4	
	baz=55,slow=75,SNR=8.0						
H11S3	WAKE ISLAND Hy	64.34	274	T	T	11 01 06.0	
	baz=55,slow=75,SNR=8.8						
KURBB	Kurchatov Arra	90.37	347	P	P	09 54 15.0	-0.5
	comp=Z,0.5nm,0.7s,baz=11,slow=4.6,SNR=3.6						

*NOU **21** 09:42:15.2,38°.44S×178°.68E, h0km, ML4.1, Off E. Coast of N. Island, N.Z.*

WEL 21 09:42:25.2,38°S±2°.×17°8E±°, h20km±2km, M3.6/76, ML3.9/76, MLv3.6/76, Error ellipse: s-maj=0.0km s-min=0.0km az=83.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKGZ	Te Karaka	0.07	230	P	Pg	09 42 29.2	+0.2
TKGZ				S	Sg	09 42 33.0	+1.6
TWGZ	Tauwhareparae	0.22	13	P	Pg	09 42 31.2	+0.5
TWGZ				S	Sg	09 42 36.6	+2.2
CNGZ	Carnagh Statio	0.24	112	P	Pg	09 42 31.6	+0.6
CNGZ				S	Sg	09 42 40.8	+5.8
MWZ	Matawai	0.31	281	P	Pb	09 42 32.4	+0.3
MWZ				S	Sg	09 42 37.7	+0.8
RIGZ	Rimuhau	0.34	201	P	Pb	09 42 33.4	+0.8
RIGZ				S	Sn	09 42 40.5	-0.9
RAGZ	Rawiri	0.41	255	P	Pb	09 42 34.3	+0.5
RAGZ				S	Sn	09 42 41.6	-1.5
PUZ	Puketiti	0.42	40	P	Pb	09 42 34.3	+0.4
PUZ				S	Sn	09 42 41.6	-1.6
RUGZ	Raukumara Rang	0.47	336	P	Pg	09 42 34.9	0.0
RUGZ				S	Sb	09 42 42.2	+0.8
PKGZ	Pakihiroa	0.52	14	P	Pg	09 42 36.2	+0.5
PKGZ				S	Sn	09 42 44.6	-1.3
PRGZ	Paritu Road	0.53	183	P	Pg	09 42 36.4	+0.5
SNGZ	Shannon Statio	0.60	229	P	Pn	09 42 38.0	-0.6
HAZ	Te Kaha	0.65	350	P	Pb	09 42 37.7	-0.1
URZ	Urewera	0.65	282	P	Pg	09 42 38.2	+0.1
URZ				S	Sn	09 42 48.0	-0.9
KNZ	Kokohu	0.66	197	P	Pb	09 42 38.0	0.0
KNZ				S	Sn	09 42 49.0	-0.1
WMGZ	Waiomatatini S	0.69	34	P	Pg	09 42 39.2	+0.2
WMGZ				S	Sn	09 42 51.8	+1.8
MHGZ	Mahia Peninsul	0.76	181	P	Pb	09 42 39.7	-0.1
RTZ	Ruatahuna	0.77	253	P	Pg	09 42 40.5	+0.2
RTZ				S	Sn	09 42 53.0	+0.9
RAHZ	Arahi	0.83	231	P	Pb	09 42 41.2	+0.2
WHHZ	Waihua	0.87	218	P	Pb	09 42 41.7	+0.1
MXZ	Matakaoa Point	0.88	20	P	Pb	09 42 42.1	+0.3
MXZ				S	Sn	09 42 56.9	+2.1
MUGZ	Murupara	0.91	264	P	Pn	09 42 42.7	-0.1
WHRZ	Whale Island	0.92	305	P	Pg	09 42 43.4	+0.3
MTHZ	Maungataniwha	0.96	241	P	Pb	09 42 43.4	+0.2
EDRZ	Edgecumbe	0.97	287	P	Pg	09 42 44.3	+0.1
WIZ	White Island	1.04	326	P	Pn	09 42 44.6	0.0
MARZ	Manawahe	1.06	292	P	Pg	09 42 45.5	-0.3
RRRZ	Republican Roa	1.10	272	P	Pb	09 42 46.0	+0.3
NMHZ	Naumai	1.12	231	P	Pn	09 42 45.4	-0.4
TARZ	Mount Tarawera	1.12	278	P	Pg	09 42 46.5	-0.5
ARHZ	Aropaoanui	1.13	219	P	Pn	09 42 45.8	-0.1
MKRZ	Makatiti	1.17	282	P	Pg	09 42 48.5	+0.6
PRRZ	Plateau Road	1.20	264	P	Pb	09 42 47.2	-0.1
OPRZ	Ohinepanea	1.21	297	P	Pn	09 42 46.4	-0.5
HLRZ	Highlands Stat	1.24	276	P	Pb	09 42 48.1	+0.2
ALRZ	Allen Road	1.25	262	P	Pn	09 42 47.8	+0.2
OMRZ	Omania	1.25	283	P	Pn	09 42 47.8	+0.2
MRHZ	Matea Rd	1.26	249	P	Pn	09 42 47.8	+0.1
HRRZ	Handcock Road	1.28	270	P	Pn	09 42 48.3	+0.2
HSRZ	Hossack Road	1.32	273	P	Pb	09 42 49.1	-0.2
BKZ	Black Stump Fm	1.36	235	P	Pn	09 42 48.6	-0.5
KARZ	Kaharoa	1.37	285	P	Pn	09 42 49.4	+0.2
UTU	Utuhina	1.38	279	P	Pb	09 42 50.4	+0.2
WPRZ	Whakapapatarin	1.39	264	P	Pb	09 42 49.9	-0.5
NGRZ	Ngongotaha	1.39	282	P	Pb	09 42 50.6	0.0
MCHZ	McNeill Hill	1.42	222	P	Pn	09 42 49.2	-0.6
GRRZ	Galatos Road	1.42	271	P	Pb	09 42 50.6	-0.5
TGRZ	Tauranga	1.47	296	P	Pn	09 42 50.4	-0.1
HATZ	Hinemaiaia	1.51	250	P	Pb	09 42 52.1	-0.5
KWHZ	Kaweka Forest	1.56	228	P	Pn	09 42 51.0	-0.9
KAHZ	Kahuranaki	1.62	210	P	Pn	09 42 51.1	-1.6
KUTZ	Kaahu Road	1.65	266	P	Pn	09 42 53.3	+0.3
KMRZ	Kaimai	1.65	289	P	Pn	09 42 52.9	-0.2
RITZ	Rihia Road	1.71	249	P	Pb	09 42 55.1	-1.0
MYRZ	Mayor Island	1.73	309	P	Pn	09 42 54.2	0.0
KRHZ	Kereru	1.74	224	P	Pn	09 42 53.2	-1.1
WATZ	Wairara	1.74	259	P	Pn	09 42 54.7	+0.4
RATZ	Rangitukua	1.75	254	P	Pn	09 42 55.3	+0.9
BHHZ	Black Hill Sta	1.81	232	P	Pn	09 42 54.5	-0.9
KATZ	Kakaramea	1.83	251	P	Pg	09 42 59.7	-0.8
TLZ	Tolley Road	1.87	271	P	Pn	09 42 56.7	+0.5
TMVZ	Te Maari	1.88	247	P	Pn	09 42 57.1	+0.8
NTVZ	North Tongarir	1.89	247	P	Pn	09 42 57.3	+0.8
KRVZ	Karewarewa	1.91	248	P	Pn	09 42 57.5	+0.7
OTVZ	Oturere	1.92	246	P	Pb	09 43 00.1	+0.4
NNVZ	North Ngauruho	1.95	247	P	Pb	09 42 59.3	-0.8
WTVZ	West Tongariro	1.96	248	P	Pb	09 42 59.9	-0.4
MOVZ	Moawhango	1.97	238	P	Pn	09 42 57.4	-0.2
NGZ	Ngauruhoe	1.97	246	P	Pb	09 43 01.4	+0.9
TOZ	Tahuroa Road	2.02	288	P	Pn	09 42 57.9	-0.2
PNHZ	Pukenui	2.02	221	P	Pn	09 42 56.1	-2.1
WHVZ	Whangaehu Hut	2.02	243	P	Pn	09 42 59.2	+0.8
WPHZ	Waipukurau	2.02	214	P	Pn	09 42 56.0	-2.2
FWVZ	Far West T-bar	2.04	244	P	Pb	09 43 00.4	-1.3
WNVZ	Wahianoa	2.04	242	P	Pn	09 42 58.3	-0.3
DRZ	Dome Shelter	2.04	244	P	Pg	09 43 04.4	-0.1
TRVZ	Turoa	2.06	243	P	Pn	09 43 00.0	+1.1
PKVZ	Pokaka	2.20	245	P	Pb	09 43 05.2	+0.8
TSZ	Takapari Road	2.25	222	P	Pn	09 42 58.9	-2.5
DVHZ	Dannevirke	2.34	215	P	Pn	09 42 59.8	-2.7
ANWZ	Angora Road	2.35	208	P	Pn	09 43 00.0	-2.6
KUZ	Kuaotunu	2.40	313	P	Pn	09 43 02.5	-0.9
HIZ	Hauiti	2.41	266	P	Pn	09 43 04.3	+0.9
VRZ	Vera Road	2.58	253	P	Pn	09 43 06.7	+0.9
POWZ	Post Office Ro	2.60	219	P	Pn	09 43 03.6	-2.5
PRWZ	Pori Road	2.63	214	P	Pn	09 43 04.1	-2.5
WAZ	Wanganui	2.66	238	P	Pn	09 43 07.3	+0.4
WIAZ	Waiheke Island	2.73	305	P	Pn	09 43 08.0	+0.1
ETAZ	East Tamaki Re	2.77	300	P	Pn	09 43 09.0	+0.5
MHEZ	Mangahewa	2.89	255	P	Pb	09 43 13.6	-2.5
MBAZ	Motutapu North	2.90	303	P	Pn	09 43 10.5	+0.3
AWAZ	Awhitu Peninsu	2.92	296	P	Pn	09 43 11.0	+0.6
LREZ	Lake Rotokare	2.94	248	P	Pn	09 43 11.8	+0.9
NEZ	North Egmont	3.11	252	P	Pn	09 43 15.1	+1.8
KHEZ	Kahui Hut	3.18	252	P	Pn	09 43 15.7	+1.5
NBEZ	Newall Road No	3.28	253	P	Pn	09 43 17.7	+2.2
WCZ	Waipu Caves	3.76	310	P	Pn	09 43 22.4	+0.3
OUZ	Omahuta	4.70	311	P	Pn	09 43 35.6	+0.6
CTZ	Chatham Island	6.75	144	P	Pn	09 44 01.5	-1.5

IDC 21 09:48:07.4±3.1, 54°.37N×86°.93E, h0km, mb1 2.8/2, mb1mx2.8/43, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=25.2km s-min=20.5km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.31	252	*i*		09 56 25.0	
	baz=73,slow=301,SNR=4.9						
ZALV	Zalesovo Beam	1.31	252	Pg	Pg	09 48 31.4	-1.0
	2.3nm,0.3s,baz=71,slow=16,SNR=13						
ZALV				Lg	Lg	09 48 50.5	
	1.7nm,0.3s,baz=79,slow=29,SNR=8.6						
KURBB	Kurchatov Arra	6.36	237	Pn	Pn	09 49 42.1	-0.1
	0.1nm,0.3s,baz=54,slow=14,SNR=4.6						
KURBB				Sn	Sn	09 50 53.8	-1.6
	0.0nm,0.3s,baz=45,slow=21,SNR=1.3						
KURBB				Lg	Lg	09 51 29.4	
	0.0nm,0.3s,baz=60,slow=33,SNR=4.1						
MKAR	Makanchi Array	8.14	203	Pn	Pn	09 50 08.7	+2.0
	0.1nm,0.3s,baz=26,slow=13,SNR=3.7						
MKAR				Lg	Lg	09 52 27.1	
	0.0nm,0.3s,baz=28,slow=28,SNR=3.2						

*IDC **21** 09:59:49.6±4.4, 36°.44N×71°.30E, h63km±40km, mb3.3/5, mb1 3.5/10, mb1mx3.3/56, mbtmp3.7/10, ML3.6/6, Error ellipse: s-maj=33.0km s-min=24.0km az=4.0*
*NNC **21** 09:59:53.0±4.2, 37°.03N×71°.14E, h0km, mb4.1, mpv4.9, Error ellipse: s-maj=36.6km s-min=29.7km az=147.0*

ISC 21 09:59:53.3±1.1, 36°.72N±0°.10×71°.09E±0°.08, h100km, n23, σ1§52/27, mb3.5/5, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.77	20	P	Pn	10 01 17.4	+0.7
	SNR=29						
EKS2	Erkin-Say	6.29	18	P	Pn	10 01 24.9	+1.4
	SNR=13						
KK31	Karatay Array	6.39	356	P	Pn	10 01 25.8	+0.9
	5.1nm,0.5s,baz=182,slow=12,SNR=55						
KK31				⇑S	Sn	10 02 36.2	-0.2
	1.6nm,0.3s,baz=188,slow=25,SNR=6.0						
AAK	Ala-Archa	6.47	23	P	Pn	10 01 27.2	+1.2
	SNR=6.7						
AAK	Ala-Archa	6.47	23	⇑P	Pn	10 01 27.0	+1.0
	7.9nm,0.4s						
AAK				⇑S	Sn	10 02 37.9	-0.5
	8.8nm,0.6s						
CHMS	Chumysh	6.88	23	P	Pn	10 01 32.3	+0.9
	SNR=9.4						
USP	Ospenovka	7.04	21	P	Pn	10 01 34.2	+0.5
	SNR=6.3						
TKM2	Tokmak 2	7.10	28	P	Pn	10 01 35.2	+0.6
	SNR=8.0						
TKM2	Tokmak 2	7.10	28	⇓P	Pn	10 01 35.1	+0.5
	349nm,0.1s						
TKM2				⇑S	Sn	10 02 52.2	-1.6
	3.2nm,0.5s						
GEYT	Alibeck	10.41	281	P	Pn	10 02 18.8	-0.7
	1.2nm,0.3s,baz=118,slow=12,SNR=4.4						
GEYT				S	Sn	10 04 10.5	-3.6
	0.6nm,0.3s,baz=56,slow=21,SNR=2.2						
MK31	Makanchi Array	13.07	36	⇓P	Pn	10 02 53.7	-1.2
	1.1nm,0.8s,baz=223,slow=13,SNR=5.1						
MKAR	Makanchi Array	13.07	36	P	Pn	10 02 54.4	-0.6
	0.1nm,0.3s,baz=224,slow=13,SNR=7.1						
KURBB	Kurchatov Arra	14.89	19	P	P	10 03 20.4	-1.2
	0.1nm,0.3s,baz=207,slow=10,SNR=10.0						
AB31	Akbulak array	14.93	331	P	Pn	10 03 17.9	-1.0
	0.7nm,0.3s,baz=136,slow=12,SNR=41						
BVAR	Borovoye Array	16.32	358	P	P	10 03 37.7	+0.4
	0.4nm,0.3s,baz=206,slow=16,SNR=5.5						
AKTO	Aktyubinsk	16.63	330	P	P	10 03 42.2	+1.3
	0.5nm,0.3s,baz=142,slow=12,SNR=8.5						
AKTO	Aktyubinsk	16.63	330	⇓P	P	10 03 42.2	+1.3
	5.4nm,0.8s						
ZALV	Zalesovo Beam	19.69	25	P	Pn	10 04 14.5	-2.1
	1.1nm,0.3s,baz=215,slow=9.4,SNR=6.2						
FINES	FINESS Array B	37.34	326	P	P	10 06 59.0	+3.4
	1.0nm,0.7s,baz=141,slow=9.0,SNR=2.1						
NOA	NORSAR Array B	44.25	323	P	P	10 07 54.4	+2.0
	0.2nm,0.4s,baz=96,slow=7.8,SNR=2.3						
TORD	Torodi Ar. Bea	65.80	269	P	P	10 10 29.5	+1.4
	0.3nm,0.5s,baz=46,slow=6.3,SNR=4.1						
WRA	Warramunga Arr	82.04	122	P	P	10 12 01.3	-1.3
	0.3nm,0.6s,baz=328,slow=5.0,SNR=0.7						
ASAR	Alice Springs	84.32	125	P	P	10 12 13.8	-0.5
	0.4nm,0.6s,baz=304,slow=5.1,SNR=5.7						

*IDC **21** 10:17:31.9±0.9, 33°.13N×86°.86E, h0km, mb3.5/9, mb1 3.6/12, mb1mx3.5/42, mbtmp3.5/12, ML2.6/2, MS3.3/13, Ms1 3.3/13, ms1mx3.1/41, Error ellipse: s-maj=30.2km s-min=17.6km az=51.0*

ISC 21 10:17:32.8±0.8, 33°.1N±0°.1×87°.0E±0°.1, h10km, n23, σ1§74/13, mb3.6/7, MS3.3/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	4.94	133	Pn	Pb	10 18 56.0	-3.7
LSA				Sn	Sb	10 20 02.1	+2.7
LSA				smax	smax		
	comp=N,42nm,1.4s						
LSA				smax	smax		
	comp=E,82nm,2.0s						
MKAR	Makanchi Array	14.10	347	Pn	Pn	10 20 51.4	-1.2
	comp=E,0.0nm,0.3s,baz=153,slow=14,SNR=1.9						
MKAR				Sn	Sn	10 23 11.9	-17
	comp=E,0.1nm,0.3s,baz=146,slow=26,SNR=1.7						
MKAR				LR	LR	10 27 32.4	
	comp=E,124nm,19.4s,baz=141,slow=43						
CMAR	Chiang Mai Arr	18.13	141	P	P	10 21 45.0	-0.1
	baz=327,slow=11,SNR=1.2						
KURBB	Kurchatov Arra	18.55	343	P	Pn	10 21 50.4	+0.7
	comp=E,0.0nm,0.3s,baz=157,slow=12,SNR=2.2						
SONM	Songino Array	20.74	39	P	Pn	10 22 15.6	-0.4
	comp=E,0.7nm,0.8s,baz=230,slow=11,SNR=2.2						
ZALV	Zalesovo Beam	20.86	356	P	P	10 22 14.6	-0.1
	comp=E,0.6nm,0.3s,baz=188,slow=8.7,SNR=1.4						
ZALV				LR	LR	10 31 31.4	
	comp=E,96nm,20.2s,baz=166,slow=40						
TLY	Talaya	22.15	28	LR	LR	10 31 50.3	
	comp=E,60nm,19.5s,baz=216,slow=39						
BVAR	Borovoye Array	23.18	334	P	P	10 22 37.9	-1.5
	comp=E,0.3nm,0.4s,baz=116,slow=9.8,SNR=2.2						
AKTO	Aktyubinsk	27.41	318	LR	LR	10 34 14.6	
	comp=E,39nm,18.7s,baz=120,slow=37						
KSRS	Korea Array	33.51	71	P	P	10 24 13.4	+1.0
	comp=E,0.4nm,0.5s,baz=274,slow=9.6,SNR=1.5						
KBZ	Khabaz	35.74	300	LR	LR	10 40 12.2	
	comp=E,52nm,21.0s,baz=268,slow=38						
NRIK	Noril'sk	36.26	0	LR	LR	10 41 37.7	
	comp=E,64nm,18.1s,baz=196,slow=40						
BRTR	Keskin Array B	42.89	295	P	P	10 25 31.5	-0.1
	comp=E,0.8nm,0.8s,baz=83,slow=6.0,SNR=1.8						
AKASG	Malin Array Be	45.21	311	LR	LR	10 46 29.5	
	comp=E,44nm,18.0s,baz=350,slow=38						
FINES	FINESS Array B	47.69	325	LR	LR	10 47 27.3	
	comp=E,31nm,20.8s,baz=142,slow=38						
MA2	Magadan	48.94	37	LR	LR	10 48 11.2	
	comp=E,33nm,19.3s,baz=253,slow=38						
KAPI	Kappang	49.03	134	LR	LR	10 53 01.5	
	comp=E,18nm,18.5s,baz=281,slow=43						
SEY	Seymchan	49.94	33	LR	LR	10 47 14.8	
	comp=E,99nm,21.3s,baz=146,slow=36						
SIJI	Sorong	53.67	120	LR	LR	10 50 52.5	
	comp=E,33nm,18.5s,baz=92,slow=37						
NOA	NORSAR Array B	54.85	325	P	P	10 27 04.0	+1.0
	comp=E,0.8nm,0.8s,baz=122,slow=7.7,SNR=2.3						
NOA				LR	LR	10 51 28.3	
	comp=E,35nm,18.6s,baz=295,slow=37						
WRA	Warramunga Arr	69.50	132	P	P	10 28 43.0	+1.3
	comp=E,0.7nm,0.6s,baz=327,slow=6.7,SNR=16						
ASAR	Alice Springs	72.05	135	P	P	10 28 58.3	+1.1
	comp=E,0.8nm,1.0s,baz=324,slow=5.7,SNR=2.2						
TORD	Torodi Ar. Bea	79.04	279	P	P	10 29 37.9	+0.3
	comp=E,0.3nm,0.7s,baz=51,slow=5.8,SNR=1.6						

DJA 21 10:48:08.0±0.4, 4°S±4°.×13°0E±°, h194km±5km, M3.9/12, mb3.6/2, MLv4.0/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.41	95	P	Pn	10 48 34.8	+0.7
BNDI				S	Sn	10 48 55.7	+1.6
MSAI	Masohi	1.27	333	P	Pn	10 48 39.5	+0.3
NLAI	Namlea	2.70	297	P	Pn	10 48 54.0	+0.2
NLAI				S	Sn	10 49 29.9	+0.4
FAKI	Fak Fak	3.16	60	P	Pn	10 48 59.6	+0.4
SAUI	Saumlaki	3.90	153	P	Pn	10 49 09.2	+0.8
SWI	Sorong	4.01	26	P	Pn	10 49 09.7	0.0
SANI	Sanana	4.26	305	P	Pn	10 49 12.7	-0.2
KMPI	Kaimana, Papua	4.27	79	P	Pn	10 49 13.4	+0.4
EDFI	Ende, Flores	8.84	241	P	Pn	10 50 12.6	+0.2

*TUL **21** 11:16:13.8±1.3, 36°.84N±0°.02×98°.25W±0°.04, h5km±7km, mb_Lg3.4/132(NEIC), Mwr3.1/12(SLM), Error ellipse: s-maj=5.0km s-min=2.7km az=95.0*
*IDC **21** 11:16:13.6±1.0, 36°.90N×98°.28W, h0km, mb3.5/1, mb1 3.7/7, mb1mx3.5/62, mbtmp3.4/7, ML3.4/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/39, Error ellipse: s-maj=14.1km s-min=11.5km az=110.0*
*NEIC **21** 11:16:14.2, 36°.82N×98°.25W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-5.32; $M_{\theta\theta}$4.99; $M_{\phi\phi}$0.33; $M_{r\theta}$2.03; $M_{\theta\phi}$2.12; $M_{\phi r}$-1.01; Fault plane solution: $M_0$6.03000×10^{13} NP1:ϕ_s53.00000°, δ40.00000°, λ-116.00000°. NP2:ϕ_s265.00000°, δ55.00000°, λ-70.00000°. Principal axes: T 6.0234, Plg8.0000°, Azm341.0000°; N 0.0019, Plg16.0000°, Azm73.0000°; P -6.0253, Plg72.0000°, Azm226.0000°;*
*NEIC **21** 11:16:14.8±1.7, 36.82N±0.03×98.20W±0.04, h9km±6km Error ellipse: s-maj=5.4km s-min=3.9km az=119.0*
*ANF **21** 11:16:15.8±0.8, 36.85N×98.27W, h20km±6km, ML4.5/17, Error ellipse: s-maj=2.3km s-min=2.0km az=163.0*

ISC 21 11:16:14.4±0.8, 36°.83N±0°.02×98°.23W±0°.02, h8km±5km, n151, σ0§98/152, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.03	146		Pg	11 16 15.5	-0.4
OK032				Sg	Sg	11 16 16.4	-0.6
GC02	Grant County #	0.30	86		Pg	11 16 20.3	0.0
GC02				Sg	Sg	11 16 24.9	+0.5
KAN10	Anthony SW Sta	0.31	21		Pg	11 16 20.4	-0.2
KAN10				Sg	Sg	11 16 25.1	+0.3
CROK	Carrier	0.38	148		Pg	11 16 21.8	-0.1
CROK				Sg	Sg	11 16 27.3	+0.4
KAN17	Caldwell West	0.43	60		Pg	11 16 22.7	-0.1
KAN17				Sg	Sg	11 16 28.9	+0.4
KAN08	Anthony NE Sta	0.45	28		Pg	11 16 22.9	-0.2
KAN08				Sg	Sg	11 16 29.3	+0.3
KAN12	Harper NE Stat	0.50	22		Pg	11 16 23.9	-0.3
KAN12				Sg	Sg	11 16 31.0	+0.3
KAN09	Caldwell North	0.58	58		Pg	11 16 25.4	-0.2
KAN09				Sg	Sg	11 16 33.5	+0.3
KAN13	South Haven SW	0.63	73		Pg	11 16 26.3	-0.3
KAN13				Sg	Sg	11 16 34.9	0.0
KS20	Mayfield South	0.67	53		Pg	11 16 27.1	-0.3
KS20				Sg	Sg	11 16 36.3	+0.1
U32A	Winter Ranch,	0.77	234	Pg	Pg	11 16 28.3	-0.8
U32A	Winter Ranch,	0.77	234	P		11 16 28.4	
	baz=54,SNR=96						
U32A				S		11 16 38.9	
	baz=54						
BLOK	Blackwell	0.82	95		Pg	11 16 29.6	-0.6
BLOK				Sg	Sg	11 16 41.0	+0.1
OK029	Liberty Lake	1.21	148		Pn	11 16 36.5	-1.1
OK029				Sg	Sb	11 16 52.7

AMTX	Amarillo	3.41	236	P			11 17 08.8
	baz=54,SNR=20						
HHAR	Hobbs	3.50	98			Pn	11 17 09.7 +0.5
HHAR				IAmb_Lg			11 18 12.4
	comp=Z,111nm,0.8s						
HHAR	Hobbs	3.50	98	P			11 17 09.8
	baz=280						
Z35A	Perchaven, San	3.58	167			Pn	11 17 10.6 +0.3
Z35A				IAmb_Lg			11 18 16.3
	comp=Z,86nm,0.9s						
Z35A	Perchaven, San	3.58	167	P			11 17 10.8
	baz=347,SNR=16						
Z35A				S			11 17 54.0
	baz=347						
N33B	J Bar K, Exete	3.95	9	P			11 17 14.6
	baz=189,SNR=15						
N33A	J Bar K, Exete	3.95	9			Pn	11 17 14.8 -0.5
N33A				IAmb_Lg			11 18 29.9
	comp=Z,66nm,0.7s						
W39A	Magazine	3.96	113	P		Pn	11 17 15.7 +0.3
	baz=296,SNR=5.5						
W39A				Sb		Sb	11 18 17.4 +4.9
	baz=296						
W39A	Magazine	3.96	113			Pn	11 17 15.9 +0.5
W39A				IAmb_Lg			11 18 28.1
	comp=Z,139nm,0.8s						
W39A	Magazine	3.96	113	P			11 17 15.3
	baz=296,SNR=19						
KSCO	Kaye Shedlock'	4.10	303	P		Pn	11 17 17.0 -0.5
	baz=121						
KSCO				S		Sn	11 18 04.7 -1.1
	baz=121						
KSCO	Kaye Shedlock'	4.10	303	Pn		Pn	11 17 17.2 -0.4
ABTX	Abilene, Hawle	4.35	196	P		Pn	11 17 20.4 -0.5
	baz=15,SNR=7.1						
ABTX				Sb		Sb	11 18 27.1 +3.2
	baz=15						
ABTX	Abilene, Hawle	4.35	196	Pn		Pn	11 17 21.8 +0.9
ABTX	Abilene, Hawle	4.35	196	P			11 17 20.9
	baz=15,SNR=8.3						
U40A	Yellville	4.35	95	P		Pn	11 17 21.1 +0.2
	baz=278,SNR=11						
U40A				S		Sn	11 18 11.5 -0.3
	baz=278						
U40A	Yellville	4.35	95	Pn		Pn	11 17 21.0 +0.1
U40A				IAmb_Lg			11 18 33.9
	comp=Z,128nm,0.9s						
U40A	Yellville	4.35	95	P			11 17 21.0
	baz=278,SNR=27						
U40A				P			11 17 21.0
	baz=278,SNR=27						
MIAR	Mount Ida	4.42	120	P		Pn	11 17 22.5 +0.7
	baz=302						
MIAR				S		Sn	11 18 14.1 +0.6
	baz=302						
MIAR	Mount Ida	4.42	120	Pn		Pn	11 17 22.5 +0.7
MIAR				IAmb_Lg			11 18 42.2
	comp=Z,108nm,1.0s						
MIAR	Mount Ida	4.42	120	P			11 17 22.6
	baz=302,SNR=27						
Z38A	Mt. Pleasant	4.45	142	Pn		Pn	11 17 22.4 +0.2
N35A	Tabor	4.50	26	Pn		Pn	11 17 22.5 -0.5
BGNE	Belgrade	4.57	1	P		Pn	11 17 23.8 -0.1
	baz=181,SNR=5.7						
BGNE				S		Sn	11 18 16.1 -1.1
	baz=181						
BGNE	Belgrade	4.57	1	Pn		Pn	11 17 24.0 +0.1
BGNE				IAmb_Lg			11 18 47.1
	comp=Z,128nm,0.7s						
BGNE	Belgrade	4.57	1	P			11 17 24.0
	baz=181,SNR=15						
P38A	Dawn	4.63	52			Pn	11 17 25.6 +0.8
P38A				IAmb_Lg			11 18 51.3
	comp=Z,103nm,1.0s						
P38A	Dawn	4.63	52	P			11 17 25.1
	baz=234,SNR=21						
MSTX	Muleshoe	4.68	234	P		Pn	11 17 25.0 -0.4
	baz=51						
MSTX				Sb		Sb	11 18 38.2 +4.9
	baz=51						
MSTX	Muleshoe	4.68	234	Pn		Pn	11 17 25.7 +0.2
MSTX				IAmb_Lg			11 18 51.3
	comp=Z,55nm,0.8s						
MGMO	Mountain Grove	4.79	84			Pn	11 17 27.5 +0.7
MGMO				IAmb_Lg			11 18 45.4
	comp=Z,89nm,1.1s						
WHTX	Lake Whitney,	4.87	172	P		Pn	11 17 27.9 -0.1
	baz=352						
WHTX				S		Sn	11 18 23.1 -1.5
	baz=352						
WHTX	Lake Whitney,	4.87	172			Pn	11 17 27.9 -0.1
WHTX				IAmb_Lg			11 19 01.9
	comp=Z,64nm,0.9s						
WHTX	Lake Whitney,	4.87	172	P			11 17 28.0
	baz=352,SNR=17						
T25A	Trinidad	4.96	275	P		Pn	11 17 29.1 -0.3
	baz=92,SNR=8.0						
T25A				S		Sn	11 18 25.7 -1.3
	baz=92						
T25A	Trinidad	4.96	275			Pn	11 17 29.5 +0.1
R40A	Maddies Statio	4.96	71	Pn		Pn	11 17 29.0 -0.1
R40A				IAmb_Lg			11 18 56.8
	comp=Z,46nm,0.7s						
X40A	Basin Creek Fa	4.98	116	P		Pn	11 17 30.2 +0.7
	baz=299,SNR=16						
X40A				S		Sn	11 18 26.9 -0.4
	baz=299						
X40A	Basin Creek Fa	4.98	116			Pn	11 17 30.3 +0.9
X40A				IAmb_Lg			11 18 56.0
	comp=Z,89nm,0.8s						
X40A	Basin Creek Fa	4.98	116	P			11 17 30.2
	baz=299,SNR=23						
X40A				P			11 17 30.2
	baz=299,SNR=23						
FCAR	Ozark Folk Cen	5.02	99	Pn		Pn	11 17 30.6 +0.6
FCAR				IAmb_Lg			11 18 57.4
	comp=Z,46nm,0.7s						
OGNE	Ogallala	5.07	325	P		Pn	11 17 31.5 +0.8
	baz=143,SNR=14						
OGNE				S		Sn	11 18 28.3 -1.3
	baz=143						
OGNE	Ogallala	5.07	325			Pn	11 17 31.7 +0.9
OGNE				IAmb_Lg			11 18 53.0
	comp=Z,96nm,0.8s						
OGNE	Ogallala	5.07	325	P			11 17 32.0
	baz=143,SNR=13						
W41B	Gary Mavity, V	5.13	107	P		Pn	11 17 31.5 0.0
	baz=290						
W41B				S		Sn	11 18 29.3 -1.5
	baz=290						
W41B	Gary Mavity, V	5.13	107	P			11 17 31.5
	baz=290,SNR=14						
237A	Washetta, Mont	5.22	157			Pn	11 17 32.2 -0.6
237A				IAmb_Lg			11 19 02.9
	comp=Z,91nm,1.0s						
237A	Washetta, Mont	5.22	157	P			11 17 32.2
	baz=338,SNR=9.1						
237A				S			11 18 30.8
	baz=338						
WLAR	White Oak Lake	5.23	125	Pn		Pn	11 17 34.4 +1.4
WLAR				IAmb_Lg			11 19 09.8
	comp=Z,84nm,0.8s						
L34A	Svendsen Farm,	5.33	15	Pn		Pn	11 17 34.4 +0.1
N38A	Joes South For	5.56	43	Pn		Pn	11 17 37.6 +0.2
P40A	Paris	5.57	59	Pn		Pn	11 17 38.3 +0.8
P40A				IAmb_Lg			11 19 12.3
	comp=Z,83nm,1.0s						
CCM	Cathedral Cave	5.69	75	P		Pn	11 17 39.5 +0.2
	baz=260						
CCM				S		Sn	11 18 46.2 +1.4
	baz=260						
CCM	Cathedral Cave	5.69	75			Pn	11 17 39.3 0.0
CCM				IAmb_Lg			11 19 19.5
	comp=Z,62nm,0.9s						
Z41A	Richland Creek	5.70	127	P		Pn	11 17 39.4 0.0
	baz=310						
Z41A				S		Sn	11 18 42.7 -2.4
	baz=310						
T42A	Van Buren	5.72	86	Pn		Pn	11 17 41.6 +1.9
T42A				IAmb_Lg			11 19 19.8
	comp=Z,60nm,0.9s						
LCAR	Lake Charles	5.76	95	IAmb_Lg			11 19 20.5
	comp=Z,55nm,1.0s						
NATX	Nacogdoches	5.86	149	IAmb_Lg			11 19 36.0
	comp=Z,42nm,0.8s						
SDCO	Great Sand Dun	5.87	281	P		Pn	11 17 42.1 +0.1
	baz=97,SNR=7.3						
SDCO	Great Sand Dun	5.87	281	Pn		Pn	11 17 43.0 +1.0
Q24A	Divide	5.87	293	P		Pn	11 17 41.9 -0.1
	baz=109						
Q24A				S		Sn	11 18 47.8 -1.9
	baz=109						
CCAR	Cane Creek	6.03	117	IAmb_Lg			11 19 37.8
	comp=Z,67nm,0.7s						
PBMO	Poplar Bluff	6.26	88	IAmb_Lg			11 19 38.6
	comp=Z,70nm,0.7s						
ISCO	Idaho Springs	6.52	299	IAmb_Lg			11 19 47.5
	comp=Z,37nm,0.7s						
SLM	Saint Louis	6.59	72	IAmb_Lg			11 19 44.7
	comp=Z,63nm,0.8s						
GNAR	Gosnell	6.68	95			Pn	11 17 50.6 -2.2
GDL2	Guadalupe Moun	6.85	229	Pn		Pn	11 17 56.0 +0.7
ANMO	Albuquerque	6.94	257	Pn		Pn	11 17 56.8 +0.3
	comp=Z,0.1nm,0.3s,baz=92,slow=17,SNR=2.6						
ANMO				Pg		Pb	11 18 16.1 +0.8
	comp=Z,0.4nm,0.3s,baz=87,slow=17,SNR=6.6						
ANMO				Lg	Lg		11 19 45.5
	comp=Z,0.8nm,0.3s,baz=83,slow=19,SNR=1.8						
143A	Socs Landing,	6.96	124	IAmb_Lg			11 20 07.7
	comp=Z,57nm,1.0s						
ECSD	EROS Data Cent	7.01	10	P		Pn	11 17 56.1 -1.2
	baz=191						
ECSD	EROS Data Cent	7.01	10			Pn	11 17 55.7 -1.6
ECSD				IAmb_Lg			11 20 11.4
	comp=Z,32nm,1.0s						
ECSD	EROS Data Cent	7.01	10	P			11 17 55.9
	baz=191,SNR=14						
PHWY	Pilot Hill	7.18	311	IAmb_Lg			11 20 14.8
	comp=Z,44nm,0.9s						
S44A	Carbondale	7.21	80	Pn		Pn	11 18 01.8 +1.7
S44A				IAmb_Lg			11 20 02.1
	comp=Z,47nm,0.8s						
HALT	Halls	7.23	95	IAmb_Lg			11 20 21.8
	comp=Z,56nm,0.7s						
SIUC	Southern Illin	7.24	80	IAmb_Lg			11 20 07.2
	comp=Z,56nm,0.7s						
BNM	Barren Site	7.35	251	Pn		Pn	11 18 03.3 +1.0
W45A	Hickory Valley	7.52	100	IAmb_Lg			11 20 16.7
	comp=Z,66nm,0.7s						
L40A	Anamosa	7.53	44	Pn		Pn	11 18 04.3 -0.2
L40A				IAmb_Lg			11 20 16.1
	comp=Z,64nm,0.8s						
OXF	Oxford	7.54	105	P		Pn	11 18 04.6 -0.1
	baz=290						
OXF	Oxford	7.54	105	Pn		Pn	11 18 05.0 +0.3
OXF				IAmb_Lg			11 20 19.7
	comp=Z,38nm,0.8s						
Q44A	Meyer Farm, Va	7.58	71	Pn		Pn	11 18 05.9 +0.7
Q44A				IAmb_Lg			11 20 20.1
	comp=Z,66nm,1.0s						
SUSD	Miller	7.62	356	IAmb_Lg			11 20 19.6
	comp=Z,39nm,0.7s						
Y45A	Yeager Farm, C	7.69	110	IAmb_Lg			11 20 31.3
	comp=Z,61nm,1.0s						
MNTX	Cornudas Mount	7.82	231	P		Pn	11 18 07.9 -0.6
	baz=47						
MNTX	Cornudas Mount	7.82	231	Pn		Pn	11 18 08.2 -0.4
MNTX				IAmb_Lg			11 20 31.8
	comp=Z,29nm,0.8s						
MNTX	Cornudas Mount	7.82	231	P			11 18 08.2
	baz=47,SNR=22						
HDIL	Hopedale	7.92	59	P		Pn	11 18 10.1 +0.3
	baz=245						
HDIL	Hopedale	7.92	59	Pn		Pn	11 18 09.8 0.0
HDIL	Hopedale	7.92	59	P			11 18 09.9
	baz=245,SNR=6.6						
I37A	Lemond, Waseca	8.07	26	IAmb_Lg			11 20 38.2
	comp=Z,39nm,0.8s						
OLIL	Olney	8.25	74	IAmb_Lg			11 20 47.3
	comp=Z,48nm,1.0s						
O44A	Mansfield	8.34	64	IAmb_Lg			11 20 38.8
	comp=Z,50nm,0.8s						
L42A	Oliver, Polo	8.40	49	Pn		Pn	11 18 16.8 +0.4
L42A				IAmb_Lg			11 20 55.4
	comp=Z,36nm,0.8s						
WVT	Waverly	8.41	92	P		Pn	11 18 17.0 +0.4
	baz=278						
PLAL	Pickwick Lake	8.45	100	IAmb_Lg			11 20 59.6
	comp=Z,24nm,0.9s						
RWWY	Rawlins	8.48	308	IAmb_Lg			11 20 54.1
	comp=Z,30nm,0.8s						
O20A	White River Ci	8.51	296	IAmb_Lg			11 20 59.6
	comp=Z,31nm,1.2s						
RSSD	Black Hills	8.52	331	P		Pn	11 18 18.3 +0.1
	baz=147						
RSSD	Black Hills	8.52	331	Pn		Pn	11 18 19.5 +1.2
RSSD				IAmb_Lg			11 20 54.5
	comp=Z,26nm,1.0s						
PV12	Saucer Basin,	8.52	283	IAmb_Lg			11 21 01.0
	comp=Z,22nm,1.1s						
PV11	David Mesa, Pa	8.58	283	IAmb_Lg			11 20 54.1
	comp=Z,25nm,1.0s						
JFWS	Jewell Farm	8.63	43	P		Pn	11 18 19.7 0.0
	baz=228						
JFWS	Jewell Farm	8.63	43	Pn		Pn	11 18 20.2 +0.6
JFWS				IAmb_Lg			11 21 05.2
	comp=Z,44nm,0.7s						
TX31	Lajitas Ar. Si	8.75	213	Pn		Pn	11 18 20.4 -1.0
TX32	Lajitas Array	8.75	213	Pn		Pn	11 18 20.9 -0.5
TXAR	Lajitas Array	8.75	213	Pn		Pn	11 18 20.2 -1.2
	comp=Z,0.6nm,0.3s,baz=31,slow=10,SNR=39						
TXAR				Lg	Lg		11 20 46.5
	comp=Z,0.9nm,0.3s,baz=33,slow=28,SNR=3.4						
TXAR	Lajitas Array	8.75	213	Pn		Pn	11 18 20.6 -0.8
T47A	Sharon Grove	8.91	86	IAmb_Lg			11 21 01.4
	comp=Z,26nm,0.8s						
Z47A	Carrollton	9.09	111	IAmb_Lg			11 21 21.2
	comp=Z,25nm,0.8s						
F33A	5 Mile Ranch,	9.12	9	Pn		Pn	11 18 25.2 -1.1
I40A	Norwalk	9.13	37	IAmb_Lg			11 21 03.5
	comp=Z,23nm,0.8s						
V48A	Smith Brothers	9.28	93	IAmb_Lg			11 21 11.5
	comp=Z,23nm,0.9s						
SPMN	Marine on St.	9.33	24	P		Pn	11 18 29.6 +0.4
	baz=208						
SPMN	Marine on St.	9.33	24	Pn		Pn	11 18 28.4 -0.8
SPMN				IAmb_Lg			11 21 21.4
	comp=Z,25nm,0.8s						
SFIN	Lafayette	9.41	64	P		Pn	11 18 30.6 +0.3
	baz=251						
SFIN	Lafayette	9.41	64	IAmb_Lg			11 21 19.3
	comp=Z,34nm,0.7s						
X48A	Hartselle	9.41	101	IAmb_Lg			11 21 13.0
	comp=Z,21nm,0.9s						
WCI	Wyndotte Cave	9.59	78	IAmb_Lg			11 21 21.8
	comp=Z,25nm,0.8s						
E28A	Huff	9.91	350	IAmb_Lg			11 21 46.2
	comp=Z,26nm,0.8s						
I42A	Draeger Farm,	10.01	42	Pn		Pn	11 18 37.5 -0.9
Y49A	Blount Mountai	10.10	104	Pn		Pn	11 18 39.2 -0.5
G40A	Rib Lake	10.38	33	Pn		Pn	11 18 44.3 +0.8
P48A	Milroy	10.42	72	Pn		Pn	11 18 43.7 -0.4
PDAR	Pinedale Array	10.53	308	Pn		Pn	11 18 45.2 -0.7
	comp=Z,0.1nm,0.3s,baz=113,slow=18,SNR=3.6						
PDAR				Pg			11 19 26.4
	comp=Z,0.3nm,0.3s,baz=120,slow=15,SNR=3.7						
PDAR				Lg	Lg		11 21 41.1
	comp=Z,0.9nm,0.3s,baz=105,slow=35,SNR=4.7						
BW06	Boulder Array	10.54	308	Pn		Pn	11 18 45.5 -0.4
TCRU	Three Creeks R	11.40	283	Pn		Pn	11 18 56.8 -0.9
COWI	Conover	11.49	34	Pn		Pn	11 18 58.3 -0.6
TKL	Tuckaleechee C	11.73	91	Pn		Pn	11 19 01.7 -0.5
	comp=Z,0.7nm,0.3s,baz=235,slow=11,SNR=6.8						
TKL				Lg	Lg		11 22 14.5
	comp=Z,0.9nm,0.3s,baz=35,slow=14,SNR=3.9						
ULM	Lac du Bonnet	13.52	6	Pn		Pn	11 19 20.9 -5.6
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=2.0						
ULM				Sn	Sn		11 21 44.0 -13
	comp=Z,0.4nm,0.3s,baz=314,slow=0.9,SNR=3.1						
NVAR	Mina Array Bea	15.98	282	Pn		Pn	11 19 59.8 0.0
	comp=Z,0.0nm,0.3s,baz=100,slow=16,SNR=2.3						
JTS	Las Juntas de	29.02	152	LR	LR		11 35 58.8
	comp=Z,45nm,19.2s,baz=188,slow=41						
ILAR	Eielson Array	39.97	330	P		P	11 23 49.8 +0.8
	comp=Z,0.5nm,0.6s,baz=102,slow=6.4,SNR=4.6						

IDC 21 11:38:21.4±1.5, 34°.68S×54°.51E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/48, mbtmp3.7/5, Error ellipse: s-maj=50.0km s-min=31.3km az=118.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	31.58	36	T	T	12 17 44.0	
	baz=207,slow=76						
H08S2	Diego Garcia H	31.59	36	T	T	12 17 50.6	
	baz=207						
H08S3	Diego Garcia H	31.60	36	T	T	12 17 45.8	
	baz=207,slow=76						
SNAA	Sanae	47.31	201	P	P	11 46 56.6	+0.2
	0.6nm,0.7s,baz=86,slow=14,SNR=2.2						
QSPA	South Pole Qui	55.50	180	P	P	11 47 57.3	-0.6
	1.7nm,1.0s,baz=268,slow=1.8,SNR=7.0						
ASAR	Alice Springs	68.58	105	P	P	11 49 26.3	-0.1
	0.5nm,0.6s,baz=228,slow=6.0,SNR=6.4						
WRA	Warramunga Arr	70.79	101	P	P	11 49 40.4	+0.3
	1.1nm,0.8s,baz=239,slow=5.5,SNR=9.7						
MKAR	Makanchi Array	84.87	19	P	P	11 50 57.1	-0.6
	0.3nm,0.7s,baz=198,slow=4.2,SNR=2.6						
ILAR	Eielson Array	147.21	17	PKPbc	PKPbc	11 58 05.6	-0.1
	0.2nm,0.7s,baz=302,slow=2.0,SNR=1.7						

IDC 21 11:41:22.9±0.6, 34°.71S×54°.57E, h0km, mb4.0/11, mb1 4.2/11, mb1mx3.9/39, mbtmp4.0/11, MS3.4/10, Ms1 3.4/10, ms1mx3.1/48, Error ellipse: s-maj=23.1km s-min=18.9km az=76.0

NEIC 21 11:41:25.9±1.8, 34°.80S±0°.10×54°.64E±0°.07, h10km±1km, mb4.4/10, Error ellipse: s-maj=17.1km s-min=9.6km az=14.0

ISC 21 11:41:24.6±0.6, 34°.78S±0°.09×54°.6E±0°.1, h10km, n38, σ1 9°02/23, mb4.2/12, MS3.4/10, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRZF	Crozet Islands	11.82	189	Pn	Pn	11 44 11.3	-1.8
VOI	Vohitsoka	14.53	330	Pn	Pn	11 44 52.0	+1.6
ABPO	Ambohimpanom	17.00	336	Pn	Pn	11 45 22.2	-0.4
ABPO				IAmb	IAmb	11 45 27.5	
	comp=Z,11nm,0.8s						
LBTB	Lobatse	26.85	283	P	P	11 47 04.3	-1.2
	comp=Z,1.8nm,0.7s,baz=197,slow=13,SNR=1.7						
LBTB				LR	LR	11 55 18.9	
	comp=Z,88nm,20.9s,baz=144,slow=31						
MATP	Matopo	27.07	295	LR	LR	11 57 10.9	
	comp=Z,82nm,18.5s,baz=178,slow=35						
SUR	Sutherland	28.15	265	LR	LR	11 58 00.9	
	comp=Z,24nm,18.8s,baz=160,slow=35						
H08S1	Diego Carcia H	31.63	36	T	T	12 20 48.3	
	baz=208,slow=76,SNR=26						
H08S2	Diego Garcia H	31.64	36	T	T	12 20 49.0	
	baz=208,slow=76,SNR=9.3						
H08S3	Diego Garcia H	31.65	36	T	T	12 20 49.8	
	baz=208,slow=76,SNR=29						
MAW	Mawson	33.22	174	P	P	11 48 02.4	+1.1
	comp=Z,2.0nm,0.8s,baz=152,slow=20,SNR=4.0						
MAW				LR	LR	11 57 22.2	
	comp=Z,102nm,21.7s,baz=48,slow=29						
MAW	Mawson	33.22	174	IAmb	IAmb	11 48 04.1	
	comp=Z,1.2nm,1.0s						
KMBO	Kilima Mbogo	37.17	330	LR	LR	12 01 38.6	
	comp=Z,44nm,21.2s,baz=106,slow=33						
SNAA	Sanae	47.24	201	P	P	11 49 58.0	+0.5
	comp=Z,1.3nm,0.8s,baz=90,slow=7.0,SNR=5.3						
SNAA	Sanae	47.24	201	P	P	11 49 58.6	+1.2
SNAA				IAmb	IAmb	11 50 06.8	
	comp=Z,3.5nm,1.1s						
H01W2	Cape Leeuwin H	48.23	108	T	T	12 41 50.7	
	baz=251						
H01W3	Cape Leeuwin H	48.24	108	T	T	12 41 54.5	
	baz=251						
H01W1	Cape Leeuwin H	48.25	108	T	T	12 41 53.2	
	baz=251						
QSPA	South Pole Qui	55.41	180	P	P	11 50 58.7	-0.2
	comp=Z,5.2nm,0.8s,baz=265,slow=2.6,SNR=21						
QSPA	South Pole Qui	55.41	180	P	P	11 51 00.2	+1.3
QSPA				IAmb	IAmb	11 51 01.0	
	comp=Z,7.3nm,0.9s						
VNDA	Vanda	59.94	166	P	P	11 51 31.1	+0.8
	comp=Z,0.6nm,0.8s,baz=13,slow=9.0,SNR=2.4						
VNDA				LR	LR	12 15 26.0	
	comp=Z,55nm,18.0s,baz=293,slow=34						
VNDA	Vanda	59.94	166	IAmb	IAmb	11 51 40.2	
	comp=Z,3.9nm,1.3s						
BRDH	Bariadhala	67.11	37	LR	LR	12 18 02.5	
	comp=Z,47nm,20.6s,baz=128,slow=33						
CMAR	Chiang Mai Arr	67.68	46	P	P	11 52 21.5	-0.6
	comp=Z,0.5nm,0.3s,baz=249,slow=7.4,SNR=4.8						
CMAR				LR	LR	12 19 35.7	
	comp=Z,16nm,18.2s,baz=275,slow=34						
SOEI	Soe	67.84	87	P	P	11 52 23.6	+0.1
ASAR	Alice Springs	68.51	104	P	P	11 52 26.7	-0.9
	comp=Z,1.3nm,0.7s,baz=233,slow=5.8,SNR=15						
TORD	Torodi Ar. Bea	69.17	304	P	P	11 52 31.6	+0.1
	comp=Z,1.2nm,0.8s,baz=129,slow=6.3,SNR=4.8						
TORD	Torodi Ar. Bea	69.17	304	IAmb	IAmb	11 52 41.2	
	comp=Z,3.0nm,1.1s						
WRA	Warramunga Arr	70.73	101	P	P	11 52 41.8	+0.6
	comp=Z,3.4nm,0.8s,baz=238,slow=5.5,SNR=37						
WB2	Warramunga Arr	70.74	101	P	P	11 52 42.1	+0.9
WB0	Warramunga Arr	70.86	101	P	P	11 52 42.7	+0.6
WB0				IAmb	IAmb	11 52 46.2	
	comp=Z,5.6nm,0.8s						
BRTR	Keskin Array B	76.61	344	P	P	11 53 15.2	-0.1
	comp=Z,0.6nm,0.6s,baz=165,slow=5.1,SNR=3.9						
KBZ	Khabaz	78.85	351	LR	LR	12 29 40.3	
	comp=Z,22nm,18.1s,baz=90,slow=37						
MKAR	Makanchi Array	84.94	19	P	P	11 53 59.4	-0.2
	comp=Z,0.6nm,0.8s,baz=194,slow=4.4,SNR=5.4						
MKAR	Makanchi Array	84.94	19	P	P	11 53 58.2	-1.4
ESDC	Sonseca Array	91.68	319	LR	LR	12 37 56.5	
	comp=Z,26nm,18.1s,baz=290,slow=37						
INK	Inuvik	146.11	5	PKPbc	PKPdf	12 01 03.5	+0.6
	comp=Z,1.9nm,0.9s,baz=56,slow=0.4,SNR=1.8						
ILAR	Eielson Array	147.28	17	PKPbc	PKPbc	12 01 07.5	0.0
	comp=Z,0.5nm,0.7s,baz=316,slow=3.4,SNR=5.2						
YKA	Yellowknife Ar	151.43	349	PKPbc	PKPbc	12 01 16.1	-1.8
	comp=Z,0.7nm,0.8s,baz=35,slow=2.3,SNR=2.1						

IDC 21 11:46:39.6±1.3, 23°.94N×125°.69E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.4/40, mbtmp3.6/5, ML3.2/1, MS2.8/2, Ms1 2.9/2, ms1mx2.4/46, Error ellipse: s-maj=43.8km s-min=25.4km az=71.0

JMA 21 11:46:40.9±0.2, 23°.75N×125°.89E, h43km, M3.6

ISC 21 11:46:41.1±2.0, 23°.86N±0°.07×125°.81E±0°.05, h12km±11km, n19, σ1 9°04/28, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.97	338	P	Pb	11 47 00.3	+0.3
JOGS				eS	Sb	11 47 14.7	+1.9
JMJ2	Miyako jima3	0.98	334	P	Pg	11 47 00.3	+0.1
JMJ2				eS	Sb	11 47 15.0	+1.9
JIRB	Irabujima	1.13	329	P	Pg

*KRNET **21** 12:00:18.4±0.1, 41°.10N×69°.49E, mb2.7*
ISC 21 12:00:22.5±1.7, 41°.02N±0°.05×69.7E±0.1, h30km±22km, n6, σ2§33/11, 10C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	1.22	65	⇑iP	Pn	12 00 43.5	-0.2
	baz=73						
TRKS				⇑iS	Sb	12 01 02.1	+1.4
	baz=73						
BTK	Batken	1.30	137	⇑iP	Pn	12 00 46.0	+1.2
	baz=35						
BTK				⇑iS	Sb	12 01 06.0	+3.1
	baz=35						
GAR	Garm	2.08	166	⇑iP	Pb	12 00 58.0	-1.7
	baz=63						
GAR				⇑iS	Sb	12 01 27.5	+2.3
	baz=63						
KK31	Karatay Array	2.17	17	Pg	Pb	12 01 02.4	+1.2
	1.4nm,0.5s,baz=197,slow=15,SNR=12						
KK31				Lg	Lg	12 01 32.3	
	2.7nm,0.3s,baz=193,slow=30,SNR=13						
CHGR	Chuyangaron	2.39	190	⇑eP	Pb	12 01 03.0	-2.0
	baz=86						
CHGR				⇑iS	Sb	12 01 33.9	-0.2
	baz=86						
MNAS	Manas	2.58	55	⇑iP	Pb	12 01 04.9	-3.3
	baz=57						
MNAS				⇑iS	Sb	12 01 39.4	-0.1
	baz=57						

*IDC **21** 12:07:01.8±1.8, 33°.07N×86°.75E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.5/67, mbtmp3.6/8, ML2.9/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/43, Error ellipse: s-maj=48.2km s-min=20.7km az=62.0*
ISC 21 12:07:06.8±1.5, 33°.2N±0°.1×86°.8E±0°.2, h35km, n15, σ1§42/10, mb3.7/3, MS3.1/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.10	132	Pn	Pn	12 08 22.4	+1.3
LSA				Sn	Sn	12 09 33.9	+15
LSA				smax	smax		
	comp=N,28nm,0.8s						
LSA				smax	smax		
	comp=E,38nm,0.9s						
WMQ	Urumqi	10.63	4	eP	Pn	12 09 43.3	+6.7
MKAR	Makanchi Array	14.01	347	Pn	Pn	12 10 21.8	-0.9
	comp=E,0.0nm,0.3s,baz=164,slow=11,SNR=1.5						
MKAR				LR	LR	12 17 05.5	
	comp=E,132nm,18.2s,baz=154,slow=43						
CMAR	Chiang Mai Arr	18.28	140	P	P	12 11 16.0	-1.6
	baz=319,slow=11,SNR=0.9						
XAN	Xi'an	18.44	81	P	P	12 11 17.3	-2.1
XAN				pP	Pn	12 11 20.3	+0.6
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
XAN				LR	LR		
	comp=N,240nm,14.1s						
XAN				LR	LR		
	comp=E,170nm,10.8s						
XAN				LR	LR		
	comp=Z,280nm,10.8s						
KURBB	Kurchatov Arra	18.45	343	P	P	12 11 20.3	+1.1
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=6.1						
SONM	Songino Array	20.79	40	P	P	12 11 45.1	+0.1
	comp=Z,2.9nm,0.9s,baz=232,slow=11,SNR=10						
ZALV	Zalesovo Beam	20.79	357	P	P	12 11 46.3	+1.6
	comp=Z,2.1nm,0.7s,baz=171,slow=10,SNR=9.3						
ZALV				LR	LR	12 21 03.2	
	comp=Z,115nm,18.2s,baz=174,slow=40						
TLY	Talaya	22.17	29	LR	LR	12 21 10.5	
	comp=Z,51nm,18.3s,baz=221,slow=38						
BVAR	Borovoye Array	23.05	334	P	P	12 12 09.1	+0.2
	comp=Z,0.4nm,0.5s,baz=172,slow=12,SNR=1.5						
PALK	Pallekele	26.41	194	LR	LR	12 23 08.9	
	comp=Z,40nm,18.5s,baz=117,slow=37						
KSRS	Korea Array	33.63	71	P	P	12 13 44.9	+1.0
	comp=Z,0.7nm,0.7s,baz=276,slow=9.8,SNR=5.2						
KSRS				LR	LR	12 27 41.8	
	comp=Z,34nm,18.3s,baz=280,slow=37						
BRTR	Keskin Array B	42.73	295	LR	LR	12 36 39.1	
	comp=Z,23nm,20.5s,baz=145,slow=42						
FINES	FINESS Array B	47.55	325	LR	LR	12 36 45.8	
	comp=Z,38nm,18.2s,baz=84,slow=38						
WRA	Warramunga Arr	69.65	132	P	P	12 18 12.9	0.0
	comp=Z,1.0nm,1.0s,baz=318,slow=7.8,SNR=7.7						

*TIR **21** 12:24:17.3, 42°.64N×20°.08E, h0km±4km, Md3.0*
*PDG **21** 12:24:18.4±0.1, 42°.55N×19°.87E, h5km, MD3.0/7, ML2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*BEO **21** 12:24:18.7±0.3, 42°.53N×19°.88E, h2km±2km, ML2.8/10*
*RHSSO **21** 12:24:18.0±0.5, 42°.53N×19°.96E, h4km±2km, ML2.9/12*
*IASPEI **21** 12:24:18.7±1.2, 42°.57N±0°.02×19°.86E±0°.02, h0km±11km, Error ellipse: s-maj=2.8km s-min=2.7km az=128.5, G75 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*THE **21** 12:24:20.3, 42°.54N×19°.88E, h0km±3km, ML2.6/4, Error ellipse: s-maj=4.8km s-min=2.3km az=323.0*
ISC 21 12:24:18.6±1.0, 42°.57N±0°.01×19°.87E±0°.01, h2km±9km, n77, σ1§29/143, 8C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.07	68	ePg	Pg	12 24 20.1	+0.1
PVY				iSg	Sg	12 24 21.6	+0.6
BCI	Bajram Curri	0.25	145	P	Pg	12 24 23.5	+0.1
	baz=183						
BCI				S	Sg	12 24 27.6	+1.1
	baz=183						
IVA	Berane	0.30	3	⇑iPg	Pg	12 24 24.4	-0.1
IVA				iSg	Sg	12 24 29.4	+1.0
KOME	Kolasin	0.39	317	ePg	Pg	12 24 25.8	-0.2
KOME				iSg	Sg	12 24 32.0	+0.9
PDG	Podgorica	0.48	253	ePg	Pg	12 24 26.8	-1.0
PDG				eSg	Sg	12 24 33.6	-0.4
PDG	Podgorica	0.48	253	⇑iPg	Pg	12 24 27.0	-0.7
PDG				eSg	Sg	12 24 34.6	+0.6
TTG	Podgorica	0.48	253	ePg	Pg	12 24 27.1	-0.7
TTG				iSg	Sg	12 24 34.5	+0.6
DRME	Dracevica, Mon	0.64	233	⇑iPg	Pg	12 24 29.8	-1.0
DRME				eSg	Sg	12 24 39.8	+0.7
DRME	Dracevica, Mon	0.64	233	⇓iPg	Pg	12 24 30.0	-0.8
DRME				iSg	Sg	12 24 39.8	+0.7
NKY	Niksic	0.69	291	ePg	Pg	12 24 31.3	-0.6
NKY				iSg	Sg	12 24 42.3	+1.4
SJES	Sjenica	0.70	6	ePg	Pg	12 24 31.8	-0.2
SJES				eSg	Sg	12 24 41.4	+0.4
CEME	Cevo	0.71	269	ePg	Pg	12 24 31.2	-0.9
CEME				iSg	Sg	12 24 42.5	+1.2
NKME	Niksic	0.71	287	⇑iPg	Pg	12 24 31.5	-0.7
NKME				iSg	Sg	12 24 42.6	+1.3
ULC	Ulcinj	0.76	218	ePg	Pg	12 24 32.3	-0.9
ULC				iSg	Sb	12 24 44.0	-1.5
BUM	Brajici-Budva	0.77	250	⇑iPg	Pg	12 24 32.6	-0.8
BUM				iSg	Sb	12 24 44.5	-1.3
PLE	Pljevlja	0.84	335	⇑iPg	Pg	12 24 34.2	-0.5
PLE				iSg	Sb	12 24 47.5	-0.3
UPM	Unac-Piva	0.95	312	ePg	Pg	12 24 36.9	0.0
UPM				eSg	Sg	12 24 50.5	+1.2
UPM	Unac-Piva	0.95	312	⇓iPg	Pg	12 24 36.2	-0.7
UPM				iSg	Sb	12 24 51.3	+0.2
PHP	Peshkopia	0.98	154	P	Pg	12 24 36.9	-0.4
PHP				S	Sn	12 24 52.0	-1.9
PHP	Peshkopia	0.98	154	P	Pg	12 24 36.9	-0.4
	baz=164						
PHP				S	Sn	12 24 52.5	-1.3
	baz=164						
HCY	Herceg Novi	1.03	264	ePg	Pg	12 24 37.8	-0.5
HCY				eSg	Sb	12 24 52.3	-0.8
HCY	Herceg Novi	1.03	264	ePg	Pg	12 24 37.3	-1.0
HCY				iSg	Sb	12 24 53.4	+0.3
IVAS	Ivanjica	1.03	11	ePg	Pg	12 24 37.3	-1.0
IVAS				eSg	Sg	12 24 52.3	+0.7
BRY	Bratogost	1.04	289	ePg	Pg	12 24 37.7	-0.8
BRY				eSg	Sb	12 24 53.4	-0.1
BRY	Bratogost	1.04	289	⇓iPg	Pg	12 24 37.6	-0.9
BRY				iSg	Sb	12 24 54.0	+0.5
RUDO	Rudo	1.11	341	ePg	Pg	12 24 38.7	-1.2
RUDO				eSg	Sg	12 24 55.3	+1.0
SELS	Selova	1.12	54	ePg	Pg	12 24 39.4	-0.7
SELS				eSg	Sb	12 24 56.3	+0.5
TREB	Trebinje	1.14	278	ePg	Pg	12 24 38.9	-1.4
TREB				eSg	Sb	12 24 56.6	+0.5
TREB	Trebinje	1.14	278	ePg	Pg	12 24 39.2	-1.1
TREB				eSg	Sb	12 24 56.4	+0.3
TIR	Tirane	1.22	180	P	Pn	12 24 43.2	+0.5
TIR				S	Sn	12 25 00.0	+0.3
	300nm,0.4s						
TIR	Tirane	1.22	180	P	Pn	12 24 42.8	+0.1
	baz=188						
TIR				S	Sn	12 25 02.9	+3.2
	baz=188						
SKO	Skopje	1.31	117	iPg	Pn	12 24 44.7	+0.8
SKO				iSg	Sn	12 25 02.7	+0.8
BBLS	Lazići	1.34	345	ePg	Pn	12 24 43.2	-1.2
BBLS				eSg	Sn	12 25 03.2	+0.3
BBLS	Lazići	1.34	345	⇑iPg	Pn	12 24 43.2	-1.2
BBLS				eSg	Sg	12 25 02.3	+0.6
BARS	Barje	1.45	80	ePg	Pn	12 24 43.9	-2.0
BARS				eSg	Sn	12 25 05.3	-0.2
GRUS	Gruza	1.46	25	ePg	Pn	12 24 46.1	+0.2
GRUS				eSg	Sb	12 25 05.8	+0.4
DIVS	Divibare	1.53	3	ePn	Pn	12 24 47.1	+0.1
DIVS				eSn	Sn	12 25 08.0	+0.4
DIVS	Divibare	1.53	3	⇑iPn	Pn	12 24 46.9	-0.1
DIVS				eSn	Sn	12 25 07.1	-0.5
OHR	Ohrid	1.61	154	iPg	Pg	12 24 50.5	+1.1
OHR				iSg	Sg	12 25 12.4	+2.0
PRVS	Prvonek	1.63	91	ePn	Pn	12 24 48.5	+0.2
PRVS				eSn	Sg	12 25 10.5	-0.4
HAPS	Han Pijesak,Bl	1.66	336	ePn	Pn	12 24 49.4	+0.6
HAPS				eSn	Sn	12 25 11.5	+0.7
HAPS	Han Pijesak,Bl	1.66	336	ePn	Pn	12 24 48.7	-0.1
HAPS				eSn	Sn	12 25 10.8	0.0
TRUS	Trudelj	1.70	13	ePn	Pb	12 24 50.5	-0.1
TRUS				eSn	Sn	12 25 12.3	+0.7
BOVS	Bovan	1.71	51	ePn	Pn	12 24 48.9	-0.5
BOVS				eSn	Sb	12 25 13.0	+0.2
BOSS	Bosilegrad	1.93	91	ePg	Pn	12 24 52.6	+0.2
BOSS				eSn	Sn	12 25 16.2	-1.0
STIP	Stip	1.93	116	ePn	Pn	12 24 52.4	0.0
STIP				iSg	Sg	12 25 24.7	+4.1
SVIS	Svilajnac	1.96	29	ePn	Pn	12 24 53.5	+0.7
SVIS				eSn	Sn	12 25 18.3	+0.4
KBN	Korca	2.06	160	P	Pg	12 25 02.2	+4.1
	baz=165						
FNA	Florina	2.11	147	P	Pb	12 24 56.5	-1.1
FNA				S	Sb	12 25 24.2	0.0
	162nm,0.4s						
FNA	Florina	2.11	147	P	Pb	12 24 56.9	-0.6
	baz=151						
FNA				S	Sg	12 25 26.2	-0.1
	baz=151						
ZAGS	Zajecar	2.13	53	ePn	Pn	12 24 55.6	+0.5
ZAGS	Zajecar	2.13	53	ePg	Pb	12 24 56.7	-1.1
ZAPS	Zavoj	2.15	70	eSn	Sn	12 25 22.9	+0.2
LSTV	Lastovo	2.21	276	ePn	Pn	12 24 57.4	+1.1
LSTV				Sn	Sn	12 25 24.6	+0.5
RICI	Ricice	2.21	296	ePn	Pb	12 24 58.8	-0.5
RICI				Sn	Sg	12 25 29.4	-0.2
KUBS	Kucevo	2.26	35	ePn	Pn	12 24 57.7	+0.7
VAY	Valandovo	2.37	121	ePn	Pg	12 25 03.8	-0.1
VAY				iSg	Sg	12 25 35.4	+0.8
FRGS	Fruska Gora	2.59	359	ePn	Pn	12 25 02.6	+1.1
FRGS	Fruska Gora	2.59	359	ePn	Pn	12 25 01.3	-0.2
FRGS				eSn	Sn	12 25 34.0	+0.4
HVAR	Hvar	2.59	285	ePn	Pn	12 25 02.9	+1.4
HVAR				Sn	Sb	12 25 36.7	-1.3
SRN	Sarande	2.69	178	P	Pn	12 25 03.5	+0.7
SRN				S	Sb	12 25 38.1	-2.7
MGRS	Mrkonjic Grad	2.75	313	ePn	Pn	12 25 03.3	-0.4
MGRS				eSn	Sn	12 25 37.7	+0.3
KEK	Kerkira	2.85	181	P	Pn	12 25 06.6	+1.5
KEK				S	Sn	12 25 41.4	+1.3
	52nm,0.3s						
KIJV	Kijevo	2.91	301	ePn	Pb	12 25 09.4	-1.8
KIJV				Sn	Sb	12 25 47.3	0.0
BLY	Banja Luka	2.93	319	ePn	Pn	12 25 06.8	+0.7
BLY				eSn	Sn	12 25 42.4	+0.6
IGT	Igoumenitsa	3.05	173	P	Pn	12 25 09.0	+1.1
IGT				S	Sb	12 25 47.7	-3.6
	28nm,0.7s						
ZIRJ	Zirje	3.28	291	ePn	Pn	12 25 12.9	+1.9
ZIRJ				Sn	Sn	12 25 53.8	+3.2
MORI	Morici	3.31	294	ePn	Pn	12 25 14.2	+2.8
MORI				Sn	Sb	12 25 55.5	-3.2
MORH	Mrgy, Hungar	3.75	347	ePn	Pn	12 25 17.3	-0.1
DUGI	Dugi Otok	3.79	294	ePn	Pn	12 25 20.2	+2.1
DUGI				Sn	Sn	12 26 06.7	+3.5
NVLJ	Novalja	4.15	300	ePn	Pn	12 25 25.6	+2.7
NVLJ				Sn	Sn	12 26 16.4	+4.5
RABC	Rab	4.29	302	ePn	Pn	12 25 28.5	+3.6
BOJS	Bojanci	4.44	313	ePn	Pn	12 25 26.1	-0.8
CRES	Cresnjev	4.55	317	ePn	Pn	12 25 28.0	-0.4
CRES				eSn	Sn	12 26 21.6	-0.3
CSKK	Cskako	4.93	347	eP	Pn	12 25 35.9	+2.3
CEY	Cerknica	5.04	311	ePn	Pn	12 25 35.3	+0.1
CEY				eSn	Sn	12 26 32.7	-1.3
SKDS	Skadanscina	5.17	307	ePn	Pn	12 25 35.5	-1.4
SKDS				eSn	Sn	12 26 35.0	-2.1

IDC 21 12:46:38.6±604.0, 53°.94N×37°.58E, h0km, Error ellipse: s-maj=218.9km s-min=52.2km az=170.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	2.79	356	i		13 05 00.0	
	baz=175,slow=328,SNR=2.0						
I26DE	FREYUNG INFRAS	15.71	261	i		14 24 30.0	
	baz=61,slow=321,SNR=1.2						
I37NO	I37NO	17.53	337	i		14 33 00.0	
	baz=141,slow=325,SNR=0.7						

*TUL **21** 13:10:54.0±0.7, 36°.28N±0°.02×97°.64W±0°.02, h4km±7km, ML3.0, mb_Lg2.9/84(NEIC), Error ellipse: s-maj=2.5km s-min=2.3km az=73.0*
NEIC 21 13:10:53.9±0.7, 36°.28N±0°.02×97°.64W±0°.02, h4km±7km, Error ellipse: s-maj=2.6km s-min=2.4km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.35	309	Pg	Pg	13 11 01.1	+0.4
OK029	Liberty Lake	0.51	163		Pg	13 11 04.1	+0.5
BLOK	Blackwell	0.59	36	Pg	Pg	13 11 05.5	+0.3
GC02	Grant County #	0.59	343	Pg	Pg	13 11 05.4	+0.1
BCOK	Bluff Creek, N	0.63	178		Pg	13 11 06.2	+0.3
OK032	Salt Plains WL	0.69	319	Pg	Pg	13 11 07.1	-0.1
OK031	S. Brethren Rd	0.73	117		Pg	13 11 08.0	+0.2
KAN13	South Haven SW	0.74	10	Pg	Pg	13 11 08.2	+0.1
OK025	Westminster Rd	0.74	161		Pg	13 11 08.3	+0.2
QUOK	Quay	0.76	98		Pg	13 11 08.5	0.0
QUOK				Sg	Sg	13 11 18.4	0.0
KAN17	Caldwell West	0.77	352	Pg	Pg	13 11 08.7	+0.1
KAN05	Bluff City Nor	0.84	347	Pg	Pg	13 11 09.9	-0.2
KAN09	Caldwell North	0.85	1	Pg	Pg	13 11 10.2	0.0
OKCSW	OKLAHOMA CITY	0.89	169		Pg	13 11 10.9	-0.1
KAN10	Anthony SW Sta	0.92	337	Pg	Pg	13 11 10.8	-0.6
KS20	Mayfield South	0.95	4	Pg	Pg	13 11 11.9	-0.2
KAN08	Anthony NE Sta	0.98	344	Pg	Pg	13 11 12.4	-0.2
FNO	Franklin	1.04	169		Pg	13 11 13.6	-0.3
KAN12	Harper NE Stat	1.05	344	Pg	Pg	13 11 13.8	-0.2
U32A	Winter Ranch,	1.10	275	Pg	Pg	13 11 14.7	-0.4
T35A	Sooner Cattle	1.10	55		Pg	13 11 14.8	-0.2
X34A	Smith Ranch, M	1.69	185		Pb	13 11 25.1	-0.4
WMOK	Wichita Mounta	1.80	211	Pn	Pn	13 11 25.8	0.0
WMOK				lAmb_Lg		13 11 54.4	
	comp=Z,76nm,0.9s						
R32A	Long Quarter,	2.30	339	Pn	Pn	13 11 34.3	+1.6
LOOK	Love County	2.32	171		Pn	13 11 34.4	+1.6
X37A	Clayton	2.51	132	Pn	Pn	13 11 36.0	+0.5
X37A				lAmb_Lg		13 12 16.1	
	comp=Z,26nm,0.8s						
U38A	Gravette	2.63	86		Pn	13 11 37.6	+0.5
U38A				lAmb_Lg		13 12 22.0	
	comp=Z,35nm,0.8s						
Z35A	Perchaven, San	2.96	174	Pn	Pn	13 11 41.4	-0.3
HHAR	Hobbs	2.99	89		Pn	13 11 41.9	-0.2
CBKS	Cedar Bluff	3.03	327		Pn	13 11 42.0	-0.7
W39A	Magazine	3.32	108	Pn	Pn	13 11 46.3	-0.3
W39A				lAmb_Lg		13 12 42.8	
	comp=Z,35nm,0.8s						
AMTX	Amarillo	3.58	248	Pn	Pn	13 11 49.4	-0.8
AMTX				lAmb_Lg		13 12 56.2	
	comp=Z,30nm,0.8s						
Z38A	Mt. Pleasant	3.72	143	Pn	Pn	13 11 51.6	-0.6
MIAR	Mount Ida	3.74	116	Pn	Pn	13 11 52.3	-0.2
MIAR				lAmb_Lg		13 13 01.4	
	comp=Z,25nm,1.1s						
U40A	Yellville	3.87	88	Pn	Pn	13 11 54.4	+0.2
U40A				lAmb_Lg		13 12 55.5	
	comp=Z,25nm,0.9s						
ABTX	Abilene, Hawle	4.01	205	lAmb_Lg		13 13 06.0	
	comp=Z,39nm,1.2s						
X40A	Basin Creek Fa	4.32	113	Pn	Pn	13 12 00.5	+0.1
X40A				lAmb_Lg		13 13 14.2	
	comp=Z,24nm,0.8s						
MGMO	Mountain Grove	4.40	77	lAmb_Lg		13 13 15.2	
	comp=Z,21nm,0.7s						
WLAR	White Oak Lake	4.53	124	lAmb_Lg		13 13 29.7	
	comp=Z,42nm,0.9s						
237A	Washetta, Mont	4.53	160	lAmb_Lg		13 13 30.1	
	comp=Z,23nm,0.8s						
P38A	Dawn	4.65	43	lAmb_Lg		13 13 21.7	
	comp=Z,25nm,0.7s						
R40A	Maddies Statio	4.73	63	Pn	Pn	13 12 06.3	+0.3
R40A				lAmb_Lg		13 13 20.7	
	comp=Z,42nm,1.1s						
KSCO	Kaye Shedlock'	4.80	306	lAmb_Lg		13 13 32.0	
	comp=Z,21nm,0.8s						
LCAR	Lake Charles	5.25	90	lAmb_Lg		13 13 44.6	
	comp=Z,13nm,0.8s						
T42A	Van Buren	5.32	80	lAmb_Lg		13 13 45.9	
	comp=Z,13nm,0.8s						
CCAR	Cane Creek	5.36	114	lAmb_Lg		13 13 43.6	
	comp=Z,30nm,0.7s						
CCM	Cathedral Cave	5.40	69	Pn	Pn	13 12 14.9	-0.4
CCM				lAmb_Lg		13 13 55.1	
	comp=Z,21nm,0.7s						
P40A	Paris	5.48	52	lAmb_Lg		13 13 52.0	
	comp=Z,30nm,0.9s						
435B	Jarrell	5.49	180	lAmb_Lg		13 13 50.0	
	comp=Z,24nm,1.0s						
T25A	Trinidad	5.51	281	lAmb_Lg		13 13 49.5	
	comp=Z,13nm,0.9s						
OGNE	Ogallala	5.79	325	Pn	Pn	13 12 19.9	-0.8
OGNE				lAmb_Lg		13 14 07.8	
	comp=Z,33nm,0.8s						
PBMO	Poplar Bluff	5.83	83	lAmb_Lg		13 14 00.7	
	comp=Z,30nm,0.7s						
JCT	Junction City	6.06	198	lAmb_Lg		13 14 15.8	
	comp=Z,24nm,0.8s						
SCIA	State Center	6.58	30	lAmb_Lg		13 14 37.3	
	comp=Z,27nm,0.8s						
S44A	Carbondale	6.86	76	lAmb_Lg		13 14 42.9	
	comp=Z,15nm,0.8s						
SIUC	Southern Illin	6.89	76	lAmb_Lg		13 14 35.8	
	comp=Z,12nm,0.7s						
P43A	Skaggs, Pawnee	7.24	60	lAmb_Lg		13 14 56.6	
	comp=Z,17nm,0.8s						
L40A	Anamosa	7.62	39	lAmb_Lg		13 14 57.8	
	comp=Z,18nm,0.7s						
PLAL	Pickwick Lake	7.89	97	lAmb_Lg		13 15 13.4	
	comp=Z,14nm,1.2s						
PHWY	Pilot Hill	7.90	312	lAmb_Lg		13 15 17.5	
	comp=Z,12nm,1.0s						
SUSD	Miller	8.21	353	lAmb_Lg		13 15 22.0	
	comp=Z,17nm,0.8s						
L42A	Oliver, Polo	8.42	45	lAmb_Lg		13 15 21.4	
	comp=Z,16nm,0.7s						
RWWY	Rawlins	9.20	309	lAmb_Lg		13 16 12.2	
	comp=Z,9.3nm,1.1s						
SFIN	Lafayette	9.24	61	lAmb_Lg		13 15 43.5	
	comp=Z,12nm,0.8s						
WCI	Wyandotte Cave	9.25	75	lAmb_Lg		13 15 48.4	
	comp=Z,9.9nm,0.8s						
BLO	Bloomington	9.27	69	lAmb_Lg		13 15 57.5	
	comp=Z,16nm,0.8s						
Y49A	Blount Mountai	9.52	101	lAmb_Lg		13 15 54.9	
	comp=Z,7.5nm,1.1s						
SPMN	Marine on St.	9.65	21	lAmb_Lg		13 16 14.7	
	comp=Z,8.1nm,0.9s						

*IDC **21** 13:19:21.9±2.0, 24°.31S×179°.88E, h494km±17km, mb3.5/9, mb1 3.7/11, mb1mx3.4/21, mbtmp4.3/11, Error ellipse: s-maj=33.0km s-min=17.2km az=133.0*
*NEIC **21** 13:19:23.3±1.2, 24°.34S±0°.08×179°.8E±0°.1, h508km±7km, mb4.4/34, Error ellipse: s-maj=15.0km s-min=10.6km az=75.0*
ISC 21 13:19:23.5±0.5, 24°.38S±0°.08×179°.86E±0°.08, h517km, n52, σ1§06/55, mb4.3/26, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.83	345	P	P	13 21 07.0	-1.8
	3.6nm,0.3s,baz=150,slow=14,SNR=14						
NIUE	Niue	10.86	63	P	P	13 21 49.8	-0.3
DZM	Mont Dzumac	12.55	278	P	P	13 22 07.8	-0.2
URZ	Urewera	14.03	189	P	P	13 22 22.0	-1.1
	0.6nm,0.3s,baz=38,slow=20,SNR=1.3						
URZ				S	S	13 24 48.5	-2.7
	0.3nm,0.3s,baz=359,slow=18,SNR=2.8						
BKZ	Black Stump Fm	15.01	190	P	P	13 22 33.5	+0.1
THZ	Tophouse	18.27	197	P	P	13 23 04.5	-0.9
THZ				lAmb	lAmb	13 23 23.6	
	comp=Z,45nm,1.4s						
ARMA	Armidale	25.73	250	P	P	13 24 13.7	+1.0
ARMA				lAmb	lAmb	13 24 19.2	
	comp=Z,12nm,1.4s						
EIDS	Eidsvold	26.11	262	P	P	13 24 16.6	+0.7
EIDS				lAmb	lAmb	13 24 32.1	
	comp=Z,25nm,1.4s						
CAN	Canberra	28.79	241	P	P	13 24 40.5	+1.1
CAN				lAmb	lAmb	13 25 07.9	
	comp=Z,16nm,1.4s						
CTAO	Charters Tower	31.35	271	P	P	13 25 02.3	+0.6
CTAO				lAmb	lAmb	13 25 03.2	
	comp=Z,22nm,0.6s						
TOO	Toolangi	32.08	238	P	P	13 25 08.5	+0.8
TOO				lAmb	lAmb	13 25 17.1	
	comp=Z,34nm,1.5s						
STKA	Stephens Creek	34.42	249	P	P	13 25 28.1	+0.5

GUMO	**Guam**	**50.91 314**	P	**P**	**13 27 36.5**	**-0.4**
GUMO			IAmb	IAmb	13 27 45.3	
comp=Z,54nm,1.4s						
SBA	**Scott Base**	**53.89 183**	P	**P**	**13 27 58.2**	**+0.8**
VNDA	**Vanda**	**53.89 185**	P	**P**	**13 27 58.8**	**+1.4**
PSA00	**Pilbara Seismi**	**54.95 260**	P	**P**	**13 28 04.8**	**-1.0**
MORW	**Morawa**	**56.59 250**	P	**P**	**13 28 16.6**	**-0.5**
MORW			IAmb	IAmb	13 28 21.9	
comp=Z,14nm,1.1s						
CASY	**Casey**	**59.62 206**	P	**P**	**13 28 36.6**	**-0.3**
GIRL	**Giralia**	**59.68 257**	P	**P**	**13 28 39.2**	**+1.1**
TOLI2	**Tolitoli**	**62.57 285**	P	**P**	**13 28 57.4**	**+0.2**
TOLI2			IAmb	IAmb	13 28 58.6	
comp=Z,4.1nm,0.6s						
QSPA	**South Pole Qui**	**65.70 180**	P	**P**	**13 29 17.3**	**+0.9**
QSPA			IAmb	IAmb	13 29 23.3	
comp=Z,5.5nm,1.3s						
MJAR	**Matsushiro Arr**	**72.22 326**	P	**P**	**13 29 54.9**	**-1.1**
comp=Z,13nm,0.7s,baz=119,slow=9.6,SNR=4.2						
JMN	**Monobe**	**72.47 321**	P	**P**	**13 29 57.2**	**-0.3**
JSD	**Sado**	**73.35 327**	P	**P**	**13 30 02.0**	**-0.4**
KSRS	**Korea Array**	**78.53 320**	P	**P**	**13 30 31.9**	**+0.9**
comp=Z,0.9nm,0.6s,baz=129,slow=5.9,SNR=7.9						
PEA0B	**Petropavlovsk-**	**79.54 347**	P	**P**	**13 30 36.2**	**+0.2**
PEA0B			IAmb	IAmb	13 31 00.9	
comp=Z,6.8nm,0.9s						
PETK	**Petropavlovsk-**	**79.54 347**	P	**P**	**13 30 35.6**	**-0.4**
comp=Z,1.0nm,0.6s,baz=128,slow=6.3,SNR=6.9						
PETK	**Petropavlovsk-**	**79.54 347**	P	**P**	**13 30 35.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**81.10 327**	P	**P**	**13 30 45.3**	**+0.9**
comp=Z,0.7nm,0.4s,baz=116,slow=4.4,SNR=2.6						
USRK	**Ussuriysk Ar.**	**81.10 327**	P	**P**	**13 30 44.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**89.57 290**	P	**P**	**13 31 27.8**	**+1.7**
comp=Z,1.2nm,0.9s,baz=133,slow=3.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**89.57 290**	P	**P**	**13 31 26.4**	**+0.3**
TXAR	**Lajitas Array**	**90.80 58**	P	**P**	**13 31 32.4**	**+0.7**
comp=Z,0.5nm,0.7s,baz=209,slow=6.3,SNR=6.8						
ARCES	**ARCESS Array B**	**132.33 348**	PKP	**PKPdf**	**13 37 37.5**	**-0.4**
comp=Z,3.0nm,1.1s,baz=15,slow=3.8,SNR=2.1						
FINES	**FINESS Array B**	**138.86 341**	PKP	**PKPdf**	**13 37 50.6**	**+0.5**
comp=Z,2.0nm,0.9s,baz=90,slow=4.7,SNR=3.5						
AKASG	**Malin Array Be**	**145.30 327**	PKPbc	**PKPdf**	**13 38 02.0**	**+0.1**
comp=Z,1.4nm,0.4s,baz=45,slow=4.1,SNR=2.6						
BRTR	**Keskin Array B**	**147.76 306**	PKPbc	**PKPbc**	**13 38 09.8**	**-0.5**
comp=Z,1.2nm,0.6s,baz=125,slow=3.5,SNR=4.1						

IDC ***21*** *13:54:22.4±3.3,* **6°.69S×156°.53E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/27, mbtmp3.5/3, Error ellipse: s-maj=109.8km s-min=43.1km az=116.0,**
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.25**	**236**	P	P	13 59 50.6	+0.2
1.0nm,0.4s,baz=61,slow=9.7,SNR=16							
H11S3	**WAKE ISLAND Hy**	**26.96**	**22**	T	T	14 29 02.6	
baz=202,slow=75,SNR=37							
H11S2	**WAKE ISLAND Hy**	**26.96**	**22**	T	T	14 29 00.7	
baz=202,slow=75,SNR=47							
H11S1	**WAKE ISLAND Hy**	**26.97**	**22**	T	T	14 29 03.6	
baz=202,slow=75,SNR=13							
ASAR	**Alice Springs**	**27.52**	**230**	P	P	14 00 10.8	-0.2
0.4nm,0.8s,baz=60,slow=9.4,SNR=24							
ASAR				PcP	PcP	14 03 28.5	-1.0
0.2nm,0.6s,baz=71,slow=2.1,SNR=1.6							
H11N1	**WAKE ISLAND Hy**	**28.15**	**21**	T	T	14 30 37.0	
baz=203							
H11N3	**WAKE ISLAND Hy**	**28.16**	**21**	T	T	14 30 30.9	
baz=203							
H11N2	**WAKE ISLAND Hy**	**28.17**	**21**	T	T	14 30 36.9	
baz=203							
MKAR	**Makanchi Array**	**84.19**	**318**	P	P	14 06 56.4	+0.6
0.3nm,0.7s,baz=111,slow=6.4,SNR=3.1							

NNC 21 14:33:05.9±11.0, 60°.07N×60°.59E, h0km, mb3.9, mpv3.8, 3C-2D, Error ellipse: s-maj=96.2km s-min=57.6km az=147.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**8.82**	**138**	⇓Pn	Pn	14 35 14.7	+0.2
2.8nm,0.7s							
BRVK				⇑Sn	Sn	14 36 56.6	+2.0
4.6nm,1.0s							
BVA1	**Borovoye Array**	**8.89**	**138**	Pn	Pn	14 35 15.5	+0.1
baz=292,slow=15							
AKTO	**Aktyubinsk**	**9.76**	**190**	⇓Sn	Sn	14 37 18.9	+1.2
1.9nm,0.8s							
AKTO				⇑Lg	Lg	14 38 16.1	
3.8nm,1.1s							
AB31	**Akbulak array**	**10.84**	**182**	Pn	Pn	14 35 40.6	-1.6
0.7nm,0.5s,baz=13,slow=12,SNR=9.6							
AB31				⇑Lg	Lg	14 38 49.5	
1.7nm,0.7s,baz=20,slow=30,SNR=4.8							

NEIC ***21*** *14:53:24.8±0.8, 18°.8N±0°.1×145°.5E±0°.1, h190km±9km, mb4.2/21, Error ellipse: s-maj=18.1km s-min=15.6km az=107.0*
IDC ***21*** *14:53:28.3±2.9, 18°.71N×145°.54E, h229km±29km, mb3.2/9, mb1 3.5/10, mb1mx3.2/53, mbtmp3.7/10, MS3.1/1, Ms1 3.1/1, ms1mx2.3/19, Error ellipse: s-maj=27.0km s-min=15.3km az=96.0*
ISC 21 14:53:25.1±0.7, 18°.71N±0°.07×145°.6E±0°.2, h200km, n39, σ1§19/39, **mb3.9**/19, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**2.36**	**177**	Pn	**Pn**	**14 54 04.5**	**-3.0**
GUMO	**Guam**	**5.14**	**188**	P	**Pn**	**14 54 45.0**	**+3.7**
1.5nm,0.3s,baz=45,slow=4.3,SNR=7.5							
GUMO				S	**Sn**	**14 55 40.5**	**-1.0**
3.8nm,0.3s,baz=345,slow=23,SNR=2.4							
GUMO	**Guam**	**5.14**	**188**		**Pn**	**14 54 41.5**	**+0.2**
MANU	**Manus Island**	**20.70**	**175**	P	**P**	**14 57 50.3**	**+0.3**
MANU				IAmb	IAmb	14 57 52.7	
comp=Z,15nm,1.4s							
YHNB	**Yeheng**	**23.24**	**289**	P	**P**	**14 58 13.5**	**-1.3**
KSRS	**Korea Array**	**24.24**	**324**	P	**P**	**14 58 25.3**	**+1.7**
comp=Z,0.3nm,0.5s,baz=138,slow=8.8,SNR=2.3							
MTN	**Manton Dam**	**34.44**	**205**	P	**P**	**14 59 53.9**	**0.0**
MTN				IAmb	IAmb	15 00 15.8	
comp=Z,8.8nm,1.1s							
PETK	**Petropavlovsk-**	**35.60**	**13**	LR	LR	15 13 31.9	
comp=Z,32nm,19.6s,baz=138,slow=34							
WB0	**Warramunga Arr**	**39.78**	**197**	P	**P**	**15 00 38.9**	**+0.1**
WB0				IAmb	IAmb	15 00 39.8	
comp=Z,6.8nm,0.8s							
WR0	**Warramunga Arr**	**39.92**	**196**	P	**P**	**15 00 40.3**	**+0.3**
WR0				IAmb	IAmb	15 00 41.6	
comp=Z,12nm,1.2s							
WRAB	**Tennant Creek**	**39.95**	**197**	P	**P**	**15 00 40.5**	**+0.3**
WB2	**Warramunga Arr**	**39.96**	**197**	P	**P**	**15 00 40.7**	**+0.4**
WB2				IAmb	IAmb	15 00 41.4	
comp=Z,6.5nm,0.7s							
WRA	**Warramunga Arr**	**39.96**	**197**	P	**P**	**15 00 40.5**	**+0.2**
comp=Z,3.7nm,0.6s,baz=16,slow=8.6,SNR=57							
WRA	**Warramunga Arr**	**39.96**	**197**	P	**P**	**15 00 40.9**	**+0.6**
AS31	**Alice Springs**	**43.63**	**196**	P	**P**	**15 01 10.2**	**+0.3**
ASAR	**Alice Springs**	**43.63**	**196**	P	**P**	**15 01 10.3**	**+0.3**
comp=Z,0.8nm,0.6s,baz=12,slow=6.5,SNR=20							
ASAR	**Alice Springs**	**43.63**	**196**	P	**P**	**15 01 10.1**	**+0.1**
MKAR	**Makanchi Array**	**58.37**	**314**	P	**P**	**15 02 59.6**	**+0.1**
comp=Z,0.2nm,0.5s,baz=96,slow=8.7,SNR=2.9							
KURK	**Kurchatov**	**61.18**	**318**	P	**P**	**15 03 18.1**	**-0.5**
KURBB	**Kurchatov Arra**	**61.23**	**318**	P	**P**	**15 03 18.1**	**-0.8**
comp=Z,0.2nm,0.2s,baz=98,slow=7.1,SNR=4.6							
GHO	**Glory Hole Cre**	**62.14**	**29**	P	**P**	**15 03 24.9**	**+0.1**
GHO				IAmb	IAmb	15 03 53.4	
comp=Z,4.5nm,1.0s							
MLY	**Manley**	**62.16**	**25**	P	**P**	**15 03 25.8**	**+0.9**
PWL	**Port Wells**	**62.22**	**30**	P	**P**	**15 03 23.7**	**-1.7**
I23K	**Minto, Yukon-K**	**62.75**	**26**	P	**P**	**15 03 29.4**	**+0.7**
MDM	**Murphy Dome**	**63.17**	**26**	P	**P**	**15 03 32.3**	**+0.8**
MDM				IAmb	IAmb	15 03 44.2	
comp=Z,3.3nm,1.4s							
IL31		**63.69**	**26**	P	**P**	**15 03 33.0**	**-1.8**
IL31				IAmb	IAmb	15 03 46.8	
comp=Z,5.5nm,1.5s							
ILAR	**Eielson Array**	**63.69**	**26**	P	**P**	**15 03 34.5**	**-0.4**
comp=Z,0.7nm,0.6s,baz=259,slow=4.9,SNR=6.9							
ILAR	**Eielson Array**	**63.69**	**26**	P	**P**	**15 03 32.7**	**-2.2**
DOT	**Dot Lake**	**64.69**	**28**	P	**P**	**15 03 41.6**	**+0.1**
DOT				IAmb	IAmb	15 03 42.7	
comp=Z,1.5nm,0.7s							
SCRK	**Sand Creek**	**64.78**	**27**	P	**P**	**15 03 42.6**	**+0.5**
BMAR	**Burnt Mountain**	**65.15**	**24**	P	**P**	**15 03 45.8**	**+1.3**
BCAR	**Beaver Creek A**	**65.63**	**29**	P	**P**	**15 03 47.9**	**+0.3**
TABL	**Table Mountain**	**65.67**	**31**	P	**P**	**15 03 48.5**	**+0.5**
HYT	**Haines Junctio**	**67.48**	**31**	P	**P**	**15 03 59.8**	**+0.4**
HYT				IAmb	IAmb	15 04 02.1	
comp=Z,2.0nm,0.7s							
ABKAR	**Akbulak array**	**73.25**	**317**	P	**P**	**15 04 33.0**	**-1.4**
YKA	**Yellowknife Ar**	**78.03**	**28**	P	**P**	**15 05 01.4**	**+0.1**
comp=Z,0.4nm,0.4s,baz=291,slow=4.7,SNR=2.2							
PINE	**Pine Mountain**	**79.74**	**47**	P	**P**	**15 05 12.6**	**+1.4**
PINE				IAmb	IAmb	15 05 13.6	
comp=Z,3.7nm,0.8s							
NVAR	**Mina Array Bea**	**83.22**	**52**	P	**P**	**15 05 30.4**	**+0.7**
comp=Z,1.6nm,0.6s,baz=266,slow=6.0,SNR=18							
PDAR	**Pinedale Array**	**87.90**	**45**	P	**P**	**15 05 52.6**	**+0.1**
comp=Z,0.1nm,0.3s,baz=256,slow=3.4,SNR=0.7							

BJI ***21*** *15:10:15.7±0.0, 30°.32N×94°.88E, h8km, mB4.6/25, mb4.5/35, ML3.8/10, Ms3.8/20, Ms7 3.6/20*
IDC ***21*** *15:10:15.1±0.6, 30°.31N×94°.89E, h0km, mb4.2/26, mb1 4.3/29, mb1mx4.2/47, mbtmp4.2/29, ML3.5/3, MS3.5/3, Ms1 3.5/3, ms1mx2.7/40, Error ellipse: s-maj=17.3km s-min=12.5km az=34.0*
MOS ***21*** *15:10:16.0±1.1, 30°.35N×94°.85E, h18km, mb4.9/42, Error ellipse: s-maj=7.2km s-min=4.1km az=118.7*
NEIC ***21*** *15:10:20.5±1.5, 30°.34N±0°.10×94°.84E±0°.10, h34km±5km, mb4.7/83, Error ellipse: s-maj=14.4km s-min=11.9km az=202.0*
NDI ***21*** *15:10:22.1±3.9, 30°.50N×94°.32E, h33km, mb4.4, mb4.7(NEIC)*
ISC 21 15:10:18.3±0.3, 30°.37N±0°.04×94°.78E±0°.03, h23km, n277, σ1§53/264, **mb4.7**/84, **MS3.8**/7, **3C-1D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.89**	**178**	*eP*	**Pb**	**15 11 09.1**	**-0.1**
LSA	**Lhasa**	**3.21**	**259**	Pn	**Pb**	**15 11 11.6**	**-3.3**
LSA				Sn	**Sb**	**15 11 56.6**	**+2.8**
LSA				smax	smax		
comp=N,340nm,1.6s							
LSA				smax	smax		
comp=E,180nm,1.6s							
LSA	**Lhasa**	**3.21**	**259**	P	**Pn**	**15 11 10.1**	**+2.3**
LSA	**Lhasa**	**3.21**	**259**		**Pn**	**15 11 10.1**	**+2.3**
ITAN	**ITANAGAR**	**3.34**	**196**	*eP*	**Pb**	**15 11 13.2**	**-3.6**
KOHI	**KOHIMA**	**4.67**	**187**	*eP*	Pn	15 11 31.4	+3.9
SHL	**Shillong**	**5.42**	**209**	P	**Pn**	**15 11 38.3**	**+0.4**
SHL	**Shillong**	**5.42**	**209**	*eP*	**Pn**	**15 11 38.4**	**+0.4**
SHL	**Shillong**	**5.42**	**209**	Pn	**Pn**	**15 11 38.3**	**+0.4**
SILR	**SILCHAR**	**5.83**	**198**	*eP*	Pb	15 12 06.2	+7.0
GTK	**Tadong**	**6.21**	**242**	*eP*	**Pn**	**15 11 50.0**	**+1.3**
TAPN	**Taplejung**	**6.89**	**246**	*eP*	Pn	15 12 02.6	+4.5
36nm,0.9s							
ODAN	**Odare**	**7.37**	**244**	*eP*	**Pn**	**15 12 07.4**	**+2.7**
42nm,0.6s							
CD2	**Chengdu**	**7.76**	**84**	Pn	**Pn**	**15 12 10.6**	**+0.8**
CD2				Sn	**Sn**	**15 13 36.3**	**-0.7**
CD2				LR	LR		
comp=N,590nm,7.1s							
CD2				LR	LR		
comp=E,420nm,7.3s							
CD2				LR	LR		
comp=Z,440nm,8.2s							
JIRN	**Jiri**	**7.99**	**252**	*eP*	**Pn**	**15 12 15.1**	**+1.8**
PKI	**Pulchoki**	**8.66**	**254**	*eP*	**Pn**	**15 12 24.0**	**+1.5**
46nm,1.0s							
PKIN	**Phulchoki**	**8.67**	**254**	*eP*	**Pn**	**15 12 23.9**	**+1.3**
43nm,0.9s							
KKN	**Kakani**	**8.70**	**255**	*eP*	**Pn**	**15 12 23.8**	**+0.9**
57nm,0.9s							
DMN	**Daman**	**8.90**	**254**	*eP*	**Pn**	**15 12 27.6**	**+1.8**
20nm,0.4s							
GKN	**Gorkha**	**9.17**	**258**	*eP*	**Pn**	**15 12 30.3**	**+1.0**
LZH	**Lanzhou**	**9.50**	**51**	*eP*	**Pn**	**15 12 36.0**	**+2.2**
LZH				pP		15 12 43.1	
LZH				PP	**PnPn**	**15 12 45.6**	**+4.1**
LZH				sP		15 12 47.1	
LZH				pmax	pmax		
comp=Z,24nm,1.0s							
LZH				pmax	pmax		
comp=Z,97nm,4.6s							
LZH				LR	LR		
comp=N,320nm,10.2s							
LZH				LR	LR		
comp=E,260nm,10.3s							
LZH				LR	LR		
comp=Z,290nm,12.5s							
DANN	**Dangsing**	**9.82**	**261**	*eP*	**Pn**	**15 12 39.0**	**+0.6**
55nm,0.8s							
GTA	**Gaotai**	**9.93**	**23**	*eP*	Pn	15 12 50.6	+11
GTA				pP		15 13 00.0	
GTA				sP		15 13 03.9	
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
GTA				pmax	pmax		
comp=Z,76nm,4.0s							
GTA				LR	LR		
comp=N,190nm,11.3s							
GTA				LR	LR		
comp=E,140nm,10.5s							
GTA				LR	LR		
comp=Z,190nm,11.3s							
KOLN	**Koldanda**	**10.12**	**258**	*eP*	**Pn**	**15 12 42.8**	**+0.5**
comp=Z,121nm,0.9s							
BOK	**Bokaro**	**10.27**	**233**	*eP*	**Pn**	**15 12 44.1**	**-0.2**
GYA	**Guiyang**	**11.16**	**107**	⇑P	**Pn**	**15 12 57.3**	**+0.7**
GYA				pmax	pmax		
comp=Z,4.0nm,1.0s							
CHTO	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**15 13 10.5**	**+1.1**
CHTO	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**15 13 11.7**	**+2.3**
comp=Z,11nm,1.3s							
CHTO	**Chiang Mai**	**12.11**	**161**	Pn	**Pn**	**15 13 10.5**	**+1.1**
CMMT	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**15 13 11.7**	**+2.2**
comp=Z,383nmcomp=Z,10nm,1.3s							
CMMT	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**15 13 11.0**	**+1.5**
comp=Z,383nmcomp=Z,10nm,1.3s							
CM34	**Chiang Mai Arr**	**12.13**	**160**	P	Pn	15 13 13.0	+3.2
CM32	**Chiang Mai Arr**	**12.23**	**161**	P	Pn	15 13 15.0	+3.8
CM35	**Chiang Mai Arr**	**12.30**	**160**	P	P	15 13 18.0	-6.1
CM36	**Chiang Mai Arr**	**12.43**	**161**	P	**P**	**15 13 24.0**	**-1.6**
CM15	**Chiang Mai Arr**	**12.45**	**161**	P	P	15 13 31.3	+5.5
CM15	**Chiang Mai Arr**	**12.45**	**161**	P	P	15 13 31.0	+5.2
CMAR	**Chiang Mai Arr**	**12.45**	**161**	Pn	**Pn**	**15 13 13.6**	**-0.5**
comp=Z,0.1nm,0.3s,baz=335,slow=13,SNR=13							
CM02	**Chiang Mai Arr**	**12.47**	**161**	P	P	15 13 18.6	-7.4
comp=Z,8.4nm,1.0s							
CM02	**Chiang Mai Arr**	**12.47**	**161**	P	P	15 13 18.0	-8.0
comp=Z,8.4nm,1.0s							
CM05	**Chiang Mai Arr**	**12.50**	**161**	P	P	15 13 30.3	+3.9
XAN	**Xi'an**	**12.53**	**69**	P	**P**	**15 13 23.9**	**-2.7**
XAN				pP	Pn	15 13 26.1	+11
XAN				pmax	pmax		
comp=Z,6.0nm,1.3s							
XAN				LR	LR		
comp=N,200nm,13.0s							
XAN				LR	LR		
comp=E,120nm,9.8s							
XAN				LR	LR		
comp=Z,220nm,9.6s							
UTTA	**Uttaradit**	**13.62**	**156**	P	P	15 13 44.6	+5.8
UTTA	**Uttaradit**	**13.62**	**156**	P	P	15 13 44.7	+5.9
NONG	**Nongkai**	**14.42**	**146**	P	**P**	**15 13 49.6**	**+1.9**
comp=Z,25nm,1.0s							
NONG	**Nongkai**	**14.42**	**146**	P	**P**	**15 13 49.6**	**+1.9**
comp=Z,25nm,1.0s							
WMQ	**Urumqi**	**14.56**	**339**	*eP*	**P**	**15 13 45.5**	**-3.7**
WMQ				pP	Pn	15 13 51.8	+8.9
WMQ				pmax	pmax		
comp=Z,23nm,0.7s							
WMQ				pmax	pmax		
comp=Z,85nm,4.7s							
SMLA	**Simla**	**15.16**	**277**	*eP*	**Pn**	**15 13 49.2**	**-1.8**
SMLA				IAmb	IAmb	15 13 57.3	
comp=Z,14nm,0.8s							
SKNT	**Sakolnakorn**	**15.76**	**146**	P	**P**	**15 14 03.8**	**+1.2**
comp=Z,44nm,1.0s							
KHON	**Khomkaen**	**15.79**	**150**	P	**P**	**15 14 04.3**	**+1.4**
KHON	**Khomkaen**	**15.79**	**150**	P	**P**	**15 14 04.0**	**+1.1**
CHAI	**Chaiyaphum**	**15.84**	**154**	P	**P**	**15 14 05.2**	**+1.7**
comp=Z,14nm,1.4s							
CHAI	**Chaiyaphum**	**15.84**	**154**	P	**P**	**15 14 05.0**	**+1.5**
comp=Z,3.6nm,1.4s							
BHPL	**Bhopal**	**17.03**	**250**	*eP*	**Pn**	**15 14 10.9**	**-4.1**
BHPL				IAmb	IAmb	15 14 17.9	
comp=Z,34nm,1.1s							
HHC	**Hu-ho-hao-te**	**17.17**	**48**	*eP*	**P**	**15 14 19.8**	**+1.6**
HHC				pmax	pmax		
comp=Z,26nm,1.0s							
HHC				pmax	pmax		
comp=Z,97nm,4.3s							
HHC				LR	LR		
comp=Z,160nm,10.3s							
HHC				LR	LR		
comp=Z,140nm,9.2s							
HHC				LR	LR		
comp=Z,130nm,10.8s							
SHLS	**Shalkode**	**17.67**	**320**	*eP*	**Pn**	**15 14 20.3**	**-2.7**
baz=321							
SHLS	**Shalkode**	**17.67**	**320**	*eP*	**Pn**	**15 14 20.2**	**-2.7**
QIZ	**Qiongzhong**	**17.72**	**126**		**P**	**15 14 23.9**	**-0.5**
KSH	**Kashi**	**17.89**	**306**	P	**P**	**15 14 29.8**	**+3.6**
KSH				sP	sP	15 14 43.6	+6.1
KSH				pmax	pmax		
comp=Z,150nm,1.2s							
KSH				pmax	pmax		
comp=Z,68nm,3.9s							
UZB	**Uzynbulak**	**17.91**	**320**	*eP*	**Pn**	**15 14 24.9**	**-1.0**
baz=320							
UZB	**Uzynbulak**	**17.91**	**320**	*eP*	**Pn**	**15 14 24.9**	**-1.0**
SATY	**Saty**	**18.20**	**319**	*eP*	**P**	**15 14 29.4**	**-0.3**
baz=318							
SATY	**Saty**	**18.20**	**319**	*eP*	**P**	**15 14 29.3**	**-0.3**
KPKS	**Kokpek**	**18.30**	**320**	*eP*	**Pn**	**15 14 30.2**	**-0.5**
KDJ	**Kajisay**	**18.38**	**315**	P	**Pn**	**15 14 32.7**	**+1.0**
KDJ				pmax	pmax		
comp=Z,42nm,1.3s							
KDJ	**Kajisay**	**18.38**	**315**		**Pn**	**15 14 32.7**	**+1.0**
CHCP	**Chirah Chowk**	**18.53**	**286**	P	**Pn**	**15 14 32.6**	**-0.9**
ZSN	**Zaisan**	**18.70**	**339**	*eP*	**Pn**	**15 14 36.1**	**+0.8**
baz=338							
ZSN	**Zaisan**	**18.70**	**339**	*eP*	**Pn**	**15 14 36.1**	**+0.8**
MK31	**Makanchi Array**	**19.05**	**333**	P	**Pn**	**15 14 38.2**	**-1.4**
MK31				pmax	pmax		
comp=Z,8.0nm,1.2s							
MK31	**Makanchi Array**	**19.05**	**333**	P	**Pn**	**15 14 38.2**	**-1.4**
MKAR	**Makanchi Array**	**19.05**	**333**	P	**Pn**	**15 14 38.5**	**-1.2**
comp=Z,0.3nm,0.3s,baz=140,slow=14,SNR=41							
MKAR	**Makanchi Array**	**19.05**	**333**	*i* P	**Pn**	**15 14 40.0**	**+0.4**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**19.05**	**333**	P	**Pn**	**15 14 38.1**	**-1.6**
MAKZ	**Makanchi**	**19.18**	**332**	P	**Pn**	**15 14 41.1**	**-0.2**
MAKZ				pmax	pmax		
comp=Z,23nm,1.2s							
MAKZ	**Makanchi**	**19.18**	**332**	P	**Pn**	**15 14 41.1**	**-0.2**
ARXS	**Arharly**	**19.26**	**321**	*eP*	**Pn**	**15 14 43.7**	**+1.4**
BOOM	**Boomskoye usch**	**19.34**	**314**	P	**Pn**	**15 14 42.7**	**-0.7**
BOOM				pmax	pmax		
comp=Z,42nm,1.3s							
BOOM	**Boomskoye usch**	**19.34**	**314**		**Pn**	**15 14 42.7**	**-0.7**
BOOM				IAmb	IAmb	15 15 06.1	
comp=Z,42nm,1.3s							
CHKK	**Chushkaly**	**19.50**	**319**	*eP*	**P**	**15 14 43.2**	**-0.6**
baz=318							
CHKK	**Chushkaly**	**19.50**	**319**	*eP*	**P**	**15 14 43.2**	**-0.6**
TIA	**Tai'an**	**19.55**	**67**	⇓P	**Pn**	**15 14 47.8**	**+2.0**
TIA				pmax	pmax		
comp=Z,11nm,0.9s							
SONM	**Songino Array**	**19.60**	**24**	P	**Pn**	**15 14 45.9**	**-0.5**
comp=Z,0.1nm,0.3s,baz=213,slow=10,SNR=35							
SONM				LR	LR	15 23 06.1	
comp=Z,51nm,19.5s,baz=216,slow=39							
HYB	**Hyderabad**	**19.62**	**233**	*i* P	**P**	**15 14 43.5**	**-1.8**
CEP	**Cherat**	**19.67**	**286**	P	**Pn**	**15 14 45.9**	**-1.4**
THW	**Thamme Wali**	**19.77**	**283**	P	**P**	**15 14 46.2**	**-0.6**
ULN	**Ulaanbaatar**	**19.86**	**25**	P	**Pn**	**15 14 48.3**	**-1.2**
ULN				pmax	pmax		
comp=Z,10.0nm,1.1s							
ULN	**Ulaanbaatar**	**19.86**	**25**		**Pn**	**15 14 48.3**	**-1.2**
KUU	**Kurty**	**19.90**	**318**	*eP*	**P**	**15 14 47.5**	**-0.6**
baz=318							
KUU	**Kurty**	**19.90**	**318**	*eP*	**P**	**15 14 47.5**	**-0.6**
BJT	**Baijiatuau**	**19.92**	**55**	P	**Pn**	**15 14 48.9**	**-1.2**
BJT				pmax	pmax		
comp=Z,5.0nm,0.6s							
BJT	**Baijiatuau**	**19.92**	**55**	P	**Pn**	**15 14 48.9**	**-1.2**
BJI	**Beijing**	**19.93**	**55**	P	**Pn**	**15 14 51.5**	**+1.3**
BJI				pmax	pmax		
comp=Z,9.0nm,1.2s							
BJI				pmax	pmax		
comp=Z,93nm,4.4s							
BJI				LR	LR		
comp=Z,190nm,16.9s							
BJI				LR	LR		
comp=Z,210nm,16.0s							
BJI				LR	LR		
comp=Z,260nm,12.6s							
DGZ	**Jazzator, Alta**	**20.10**	**346**	*i* P	Pn	15 14 53.6	+1.4
AAK	**Ala-Archa**	**20.33**	**313**	P	Pn	15 14 55.2	+0.1
comp=Z,51nm,1.2s,baz=128,slow=8.1,SNR=28							
AAK	**Ala-Archa**	**20.33**	**313**	P	Pn	15 14 54.5	-0.6
AAK				pmax	pmax		
comp=Z,80nm,1.3s							
AAK	**Ala-Archa**	**20.33**	**313**	P	Pn

comp=Z,10.0nm,0.9s
TJN Taejon 27.78 69 *i* P **P 15 16 06.4 +0.9**
KSRS Korea Array 28.30 67 P **P 15 16 09.6 -0.5**
comp=Z,0.4nm,0.8s,baz=254,slow=9.3,SNR=2.4
KSRS LR LR 15 28 11.1
comp=Z,28nm,18.0s,baz=166,slow=38
BVAR Borovoye Array 28.80 329 P **P 15 16 15.9 +1.5**
comp=Z,7.1nm,1.2s,baz=199,slow=13,SNR=15
BRVK Borovoye 28.87 329 P **P 15 16 16.0 +1.1**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 28.87 329 P **P 15 16 16.0 +1.1**
BRVK IAmb IAmb 15 16 19.0
comp=Z,15nm,1.1s
GEYT Alibeck 31.11 294 P **P 15 16 37.6 +2.6**
comp=Z,41nm,0.4s,baz=116,slow=5.1,SNR=6.6
ABKAR Akbulak array 32.35 316 P **P 15 16 46.5 +0.8**
USRK Ussuriysk Ar. 32.38 54 P **P 15 16 46.0 0.0**
USRK Ussuriysk Ar. 32.38 54 P **P 15 16 46.0 0.0**
ZEA Zeya 33.09 36 *e*P **P 15 16 54.2 +2.0**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 33.65 45 P **P 15 16 57.2 +0.2**
comp=Z,1.7nm,0.6s,baz=248,slow=9.2,SNR=7.9
SVE Sverdlovsk 35.57 328 *e*P **P 15 17 11.4 -2.2**
SVE pmax pmax
comp=Z,23nm,1.3s
ARU Arti 36.33 326 P **P 15 17 21.2 +1.1**
comp=Z,0.5nm,0.3s,baz=131,slow=9.3
ARU Arti 36.33 326*c i*P **P 15 17 21.3 +1.1**
ARU 15 18 38.8
ARU S **S 15 23 04.9 +5.3**
ARU SS **SnSn 15 25 31.0 +3.5**
ARU pmax pmax
comp=Z,20nm,1.4s
ARU Arti 36.33 326 P **P 15 17 20.8 +0.6**
ARU IAmb IAmb 15 17 23.4
comp=Z,21nm,1.3s
YAK Yakutsk 38.95 25 P **P 15 17 43.0 +0.9**
comp=Z,2.9nm,0.3s,baz=19,slow=2.9,SNR=4.0
YAK Yakutsk 38.95 25 *e*P **P 15 17 42.6 +0.5**
YAK *e**PP **pP 15 17 45.7 -4.9**
YAK *e* 15 19 12.2
YAK *e* 15 19 52.9
YAK *e*S **S 15 23 41.4 +2.3**
YAK *e**SS **sS 15 23 50.0 -2.8**
YAK *e* 15 27 43.4
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=Z,46nm,4.3s
YAK pmax pmax
comp=N,31nm,4.3s
YAK pmax pmax
comp=E,20nm,4.1s
YAK smax smax
comp=E,33nm,3.0s
YAK smax smax
comp=N,8.0nm,1.3s
YAK MLR MLR
comp=Z,60nm,21.0s
YAK MLR MLR
comp=N,85nm,23.0s
NRIK Noril'sk 39.24 356 P **P 15 17 44.7 +0.2**
comp=N,3.4nm,0.9s,baz=210,slow=1.2,SNR=5.0
NRIK Noril'sk 39.24 356 P **P 15 17 44.5 0.0**
NRIK pmax pmax
comp=Z,9.0nm,1.2s
NRIK Noril'sk 39.24 356 P **P 15 17 44.5 0.0**
ASAJ Asahikawa 39.92 56 P **P 15 17 50.5 -0.1**
comp=Z,6.5nm,1.0s,baz=229,slow=4.4,SNR=4.7
YSS Yuzh-Sakhalins 40.29 52 *e*P **P 15 17 51.7 -1.9**
YSS MLR MLR
comp=Z,100nm,16.0s
GROC Groznyy 40.72 302 *e*P **P 15 17 56.1 -1.1**
GROC *e* 15 19 52.8
GROC pmax pmax
comp=Z,23nm,0.5s
GNI Garni 41.53 298 *i* P **P 15 18 06.6 +2.5**
GNI pmax pmax
comp=Z,36nm,1.7s
GNI Garni 41.53 298 P **P 15 18 05.5 +1.4**
GNI IAmb IAmb 15 18 11.2
comp=Z,13nm,0.8s
KZRT Kazreti 41.75 299 P **P 15 18 09.0 +3.2**
ZEI Tsey 42.11 302 *e*P **P 15 18 09.0 +0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.5s
YUK Yuzh-Kuril'sk 42.27 57 *i* P **P 15 18 10.6 +0.8**
AKH Akhalkalaki 42.43 300 P P 15 18 15.6 +4.1
ONI Oni 42.44 301 P **P 15 18 13.5 +2.2**
ONI pmax pmax
comp=Z,31nm,1.1s
ONI Oni 42.44 301 P **P 15 18 13.5 +2.2**
ONI IAmb IAmb 15 18 17.4
comp=Z,31nm,1.1s
KBZ Khabaz 42.84 303 P **P 15 18 16.7 +2.2**
comp=Z,1.2nm,0.6s,baz=80,slow=8.9,SNR=4.2
KIV Kislovodsk 42.99 303 *e*P **P 15 18 17.6 +1.7**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,15nm,16.0s
KIV Kislovodsk 42.99 303 P **P 15 18 18.1 +2.3**
KIV IAmb IAmb 15 18 20.6
comp=Z,19nm,1.2s
SHA1 Shidzhatmaz 43.01 303 *i* P **P 15 18 17.9 +1.7**
SOC Sochi 45.15 303 *e*P **P 15 18 32.4 -0.7**
SOC *e* 15 20 19.0
SOC *e*PPP PPP 15 21 00.6
SOC *e*S **S 15 25 15.2 +3.9**
SOC *e*SS **ScS 15 28 30.0 +1.4**
SOC *e*SSS SSS 15 29 21.6
SOC pmax pmax
comp=Z,22nm,1.1s
TIXI Tiksi 45.27 14 P **P 15 18 33.6 0.0**
comp=Z,2.5nm,0.8s,baz=256,slow=6.1,SNR=4.3
TIXI Tiksi 45.27 14 IAmb IAmb 15 18 35.9
comp=Z,6.4nm,1.1s
MALT Malatya 46.58 296 P P 15 18 49.5 +4.9
MOS Moscow 47.16 320 *e*P **P 15 18 50.0 +1.3**
MOS pmax pmax
comp=Z,58nm,1.4s
KLMR Klimovskoe 47.18 327 *e*P **P 15 18 45.8 -2.9**
KLMR *e* 15 20 37.1
KLMR pmax pmax
comp=Z,35nm,1.3s
KLMR Klimovskoe 47.18 327 *e*P **P 15 18 45.9 -2.8**
KLMR AMP 15 18 51.8
comp=Z,35nm,1.3s
KLMR *e*PP **PP 15 20 37.1 -2.5**
MA2 Magadan 47.23 35*ce*P **P 15 18 50.1 +0.9**
MA2 pmax pmax
comp=Z,4.0nm,1.3s
MA2 Magadan 47.23 35 P **P 15 18 49.8 +0.6**
MA2 IAmb IAmb 15 18 51.6
comp=Z,13nm,1.2s
OBN Obninsk 47.68 319 *e*P **P 15 18 53.6 +0.9**
OBN pmax pmax
comp=Z,34nm,1.7s
BNN Bunyan 48.51 297 P **P 15 19 00.7 +1.1**
SEY Seymchan 48.77 31 P **P 15 19 02.2 +1.2**
comp=Z,1.2nm,0.8s,baz=270,slow=15,SNR=2.4
BRTR Keskin Array B 50.06 298 P **P 15 19 12.1 +0.6**
comp=Z,2.2nm,0.9s,baz=101,slow=6.4,SNR=11
BRTR Keskin Array B 50.06 298 *i* P **P 15 19 13.0 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 50.06 298 P **P 15 19 10.7 -0.8**
ANTO Ankara 50.68 299 P **P 15 19 17.3 +1.2**
ANTO pmax pmax
comp=Z,30nm,1.3s
ANTO Ankara 50.68 299 P **P 15 19 17.3 +1.2**
MDUB Mudurnu 51.79 300 P **P 15 19 25.0 +0.6**
AKASG Malin Array Be 52.00 313 P **P 15 19 25.6 0.0**
comp=Z,6.5nm,0.9s,baz=78,slow=6.9,SNR=17
AKASG Malin Array Be 52.00 313 *i* P **P 15 19 26.8 +1.2**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 52.00 313 P **P 15 19 26.3 +0.7**
AKBB Malin Array Si 52.00 313 P **P 15 19 26.2 +0.5**
AKBB pmax pmax
comp=Z,16nm,1.2s
AKBB Malin Array Si 52.00 313 P **P 15 19 26.2 +0.5**
AKBB IAmb IAmb 15 19 28.1
comp=Z,16nm,1.1s
MNK Minsk 52.67 318 *i* P P 15 19 25.4 -5.2
MNK *i* 15 20 35.8
MNK *i* 15 21 25.9
MNK *i* S **S 15 26 52.3 -4.4**
MNK *i* SS **SS 15 30 33.7 -1.2**
MNK *i* SSS SSS 15 32 16.0
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=Z,4.0nm,0.9s
MNK MLR MLR
comp=E,12nm,18.0s
MNK MLR MLR
comp=Z,106nm,25.0s
MNK MLR MLR
comp=N,259nm,27.0s
MNK Minsk 52.67 318 *i* P P 15 19 25.5 -5.1
comp=E,1.0nm,0.6s
MNK *i* P P 15 19 25.5 -5.1
comp=N,21nm,0.9s
MNK *i* P P 15 19 25.5 -5.1
comp=Z,4.0nm,0.9s,baz=269
MNK *i* PcP **PcP 15 20 35.8 -4.4**
MNK *i* PP **PP 15 21 26.0 -3.6**
MNK *i* PPP PPP 15 22 26.2
MNK *i* S **S 15 26 52.3 -4.4**
MNK *i* SS **SS 15 30 33.8 -1.1**
MNK *i* SSS SSS 15 32 16.1
MNK *i* LQ LQ 15 35 45.6
MNK *i* LR LR 15 41 04.0
MNK *i* LRM MLR 15 45 57.8
comp=E,12nm,18.1s
MNK *i* LRM MLR 15 46 09.4
comp=Z,106nm,24.6s
MNK *i* LRM MLR 15 46 18.1
comp=N,259nm,27.0s
TIRR Tirgusor 53.19 305 P **P 15 19 35.4 +0.9**
TIRR pmax pmax
comp=Z,67nm,1.3s
TIRR Tirgusor 53.19 305 P **P 15 19 35.4 +0.9**
ELL Elmali 53.52 295 P **P 15 19 37.8 +0.5**
ELL Elmali 53.52 295 P **P 15 19 37.8 +0.5**
FINES FINESS Array B 53.70 326 P **P 15 19 38.7 +0.6**
comp=Z,1.3nm,0.7s,baz=94,slow=4.2,SNR=4.5
VRI Vrincioaia 54.16 307 P **P 15 19 44.1 +2.4**
VRI pmax pmax
comp=Z,16nm,1.4s
ARCES ARCESS Array B 54.66 336 P **P 15 19 47.2 +2.2**
comp=Z,2.3nm,1.1s,baz=69,slow=4.9,SNR=3.6
MLR Muntele Rosu 54.76 307 P **P 15 19 47.2 +1.0**
MLR pmax pmax
comp=Z,24nm,1.1s
MLR Muntele Rosu 54.76 307 P **P 15 19 47.2 +1.0**
PABE Paberze 54.88 319 P **P 15 19 46.8 +0.1**
BURAR Bucovina Array 54.93 309 P **P 15 19 47.2 -0.1**
BILL Bilibino 55.30 26 *e*P **P 15 19 49.2 -0.4**
BILL *e* 15 20 55.0
BILL *e* 15 21 57.8
BILL *e*PPP PPP 15 23 05.8
BILL pmax pmax
comp=Z,11nm,1.8s
LVV L'vov 55.40 312 *e*P **P 15 19 52.2 +1.6**
VTS Vitosha 57.23 304 P **P 15 20 04.9 +1.0**
VTS pmax pmax
comp=Z,12nm,1.2s
VTS Vitosha 57.23 304 P **P 15 20 04.9 +1.0**
VTS IAmb IAmb 15 20 06.7
comp=Z,12nm,1.2s
OJC Ojcow 58.04 313 P **P 15 20 10.3 +1.0**
OJC pmax pmax
comp=Z,9.0nm,1.3s
OJC Ojcow 58.04 313 P **P 15 20 10.3 +1.0**
OJC IAmb IAmb 15 20 13.8
comp=Z,9.4nm,1.3s
PSZ Piszkesteto 58.41 310 P **P 15 20 12.3 +0.2**
PSZ pmax pmax
comp=Z,10.0nm,1.4s
PSZ Piszkesteto 58.41 310 P **P 15 20 12.3 +0.2**
PSZ IAmb IAmb 15 20 15.8
comp=Z,9.5nm,1.4s
AGG Agios Georgios 58.77 300 P **P 15 20 13.6 -1.0**
AGG pmax pmax
comp=Z,17nm,1.1s
AGG Agios Georgios 58.77 300 P **P 15 20 13.6 -1.0**
KBS Kingsbay 59.05 347 P **P 15 20 15.9 0.0**
KBS pmax pmax
comp=Z,19nm,1.0s
KBS Kingsbay 59.05 347 P **P 15 20 15.9 0.0**
DIVS Divibare 59.19 306 P **P 15 20 17.0 -0.6**
DIVS IAmb IAmb 15 20 21.7
comp=Z,6.3nm,1.2s
JAVC Velka Javorina 59.66 312 *e*P **P 15 20 22.8 +2.1**
PUK Puka 59.77 304 P **P 15 20 21.2 -0.3**
PDG Podgorica 60.13 304 P **P 15 20 24.2 +0.3**
PDG IAmb IAmb 15 20 25.4
comp=Z,15nm,1.3s
VRAC Vranov 60.26 312 *e*P **P 15 20 26.3 +1.6**
KRUC Moravsky 60.44 312 *e*P **P 15 20 27.0 +1.1**
NC405 NORSAR Array S 60.63 326 P **P 15 20 26.7 -0.4**
NB2 NORSAR Subarra 60.88 326 P **P 15 20 28.1 -0.7**
comp=Z,11nm,1.4s,baz=80,slow=7.4
NOA NORSAR Array B 60.88 326 P **P 15 20 28.7 -0.1**
comp=Z,2.3nm,1.0s,baz=80,slow=6.8,SNR=4.3
GROS Grobnik 61.66 309 *i* P **P 15 20 35.4 +1.0**
CLL Collm 62.02 315 *e*P **P 15 20 38.0 +1.4**
comp=Z,7.0nm,1.4s
CLL Collm 62.02 315 *e*P **P 15 20 38.0 +1.4**
CLL pmax pmax
comp=Z,7.0nm,1.4s
LODK Lodwar 62.04 257 P **P 15 20 38.0 +0.6**
GEC2 GERESS Array S 62.21 312 P **P 15 20 38.8 +0.7**
GEC2 IAmb IAmb 15 20 40.7
comp=Z,5.6nm,1.1s
GERES GERESS Array B 62.21 312 P **P 15 20 39.5 +1.4**
comp=Z,1.5nm,0.8s,baz=55,slow=7.0,SNR=11
GERES GERESS Array B 62.21 312 P **P 15 20 38.8 +0.7**
VISS Visnje 62.28 309 *i* P **P 15 20 39.9 +1.4**
WRAB Tennant Creek 62.85 138 P **P 15 20 41.7 -0.8**
WRAB pmax pmax
comp=Z,16nm,1.5s
WRAB Tennant Creek 62.85 138 P **P 15 20 41.7 -0.8**
WRAB IAmb IAmb 15 20 57.9
comp=Z,16nm,1.4s
WRA Warramunga Arr 62.85 138 P **P 15 20 41.8 -0.7**
comp=Z,2.1nm,0.9s,baz=324,slow=7.2,SNR=10
WRA Warramunga Arr 62.85 138 P **P 15 20 41.9 -0.6**
WB2 Warramunga Arr 62.86 138 P **P 15 20 41.2 -1.3**
WB2 IAmb IAmb 15 20 58.0
comp=Z,10nm,1.4s
WR0 Warramunga Arr 62.98 138 P **P 15 20 42.4 -0.9**
CEL Celeste 63.81 301 P **P 15 20 49.7 +0.9**
CTI Castel Tesino 64.34 310 P **P 15 20 52.7 +0.4**
CTI pmax pmax
comp=Z,4.0nm,0.8s
CTI Castel Tesino 64.34 310 P **P 15 20 52.7 +0.4**
CTI IAmb IAmb 15 20 53.8
comp=Z,4.3nm,0.8s
NRCA Norcia 64.35 306 P **P 15 20 52.7 +0.4**
NRCA IAmb IAmb 15 20 53.9
comp=Z,4.8nm,0.9s
MURB Monte Urbino 64.62 307 P **P 15 20 55.0 +0.9**
SALO Salr 65.23 310 P **P 15 20 58.6 +0.7**
ASAR Alice Springs 65.55 141 P **P 15 20 59.9 -0.3**
comp=Z,1.4nm,0.7s,baz=323,slow=6.1,SNR=26
WLF Walferdange 66.68 315 P **P 15 21 08.3 +1.1**
WLF pmax pmax
comp=Z,16nm,1.1s
WLF Walferdange 66.68 315 P **P 15 21 08.3 +1.1**
WLF IAmb IAmb 15 21 10.5
comp=Z,16nm,1.1s
SENIN Lac Senin/Sane 67.09 311 P **P 15 21 11.3 +1.2**
SENIN IAmb IAmb 15 21 12.3
comp=Z,5.3nm,0.9s
LPL La Plagne 67.77 311 *e*P **P 15 21 16.0 +1.6**
LPL pmax pmax
comp=Z,9.0nm,0.9s
KEST Kesra 69.61 300 P **P 15 21 27.6 +1.7**
comp=Z,7.4nm,1.0s,baz=6.6,slow=6.1,SNR=6.1
KEST Kesra 69.61 300 P **P 15 21 26.5 +0.6**
KEST IAmb IAmb 15 21 29.0
comp=Z,10nm,1.1s
TOLK Toolik Lake Re 70.67 20 P **P 15 21 32.9 +1.0**
TOLK IAmb IAmb 15 21 34.1
comp=Z,9.0nm,1.2s
CAF Calviac 71.04 311 *e*P **P 15 21 36.1 +1.7**
CAF pmax pmax
comp=Z,6.0nm,1.0s
LFF La Frestale 71.89 312 *e*P **P 15 21 42.6 +3.1**
LFF pmax pmax
comp=Z,3.0nm,0.4s
MLY Manley 72.34 24 P **P 15 21 43.3 +1.4**
MLY IAmb IAmb 15 21 44.7
comp=Z,7.0nm,1.2s
I23K Minto, Yukon-K 72.75 23 P **P 15 21 44.7 +0.5**
BPAW Bear Paw Mtn. 72.78 25 P **P 15 21 45.3 +0.8**
BMAR Burnt Mountain 72.91 20 P **P 15 21 46.5 +1.3**
KTH Kantishna Hill 73.11 25 P **P 15 21 47.2 +0.7**
KTH IAmb IAmb 15 21 49.2
comp=Z,16nm,1.4s
MDM Murphy Dome 73.25 23 P **P 15 21 48.2 +0.9**
MDM IAmb IAmb 15 21 49.9
comp=Z,10nm,1.2s
BWN Browne 73.28 24 P **P 15 21 48.5 +1.0**
BWN IAmb IAmb 15 21 59.5
comp=Z,16nm,1.0s
POKR Poker Plat Res 73.43 23 P **P 15 21 49.7 +1.4**
POKR IAmb IAmb 15 21 51.0
comp=Z,8.0nm,1.1s
ILAR Eielson Array 73.82 23 P **P 15 21 50.7 +0.1**
comp=Z,1.5nm,0.8s,baz=290,slow=5.6,SNR=9.2
ILAR Eielson Array 73.82 23 P **P 15 21 50.3 -0.3**
SUA Susitna One 74.38 27 P **P 15 21 54.3 +0.2**
SUA IAmb IAmb 15 21 59.8
comp=Z,8.2nm,1.1s
SML Sawmill 75.11 26 P **P 15 21 59.2 +1.0**
SML IAmb IAmb 15 22 00.6
comp=Z,16nm,1.2s
SCRK Sand Creek 75.30 23 P **P 15 21 59.5 +0.1**
SCRK IAmb IAmb 15 22 00.9
comp=Z,13nm,1.4s
INK Inuvik 75.33 17 P **P 15 21 59.1 -0.2**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 75.33 17 P **P 15 21 59.0 -0.2**
INK IAmb IAmb 15 22 01.9
comp=Z,9.2nm,1.2s
EGAK Eagle 75.70 21 P **P 15 22 02.4 +1.0**
EGAK IAmb IAmb 15 22 03.9
comp=Z,10nm,1.4s
KLU Klutina 76.21 26 P **P 15 22 05.0 +0.4**
KLU IAmb IAmb 15 22 07.2
comp=Z,7.9nm,1.2s
CART Cartagena 76.33 306 P **P 15 22 05.1 -0.5**
CART IAmb IAmb 15 22 29.2
comp=Z,16nm,0.9s
L27K Beaver Creek, 76.64 23 P **P 15 22 07.4 +0.5**
L27K IAmb IAmb 15 22 10.3
comp=Z,6.8nm,1.1s
BCAR Beaver Creek A 76.65 23 P **P 15 22 07.8 +0.8**
ESBB Sonseca Array 77.38 309 P **P 15 22 11.9 +0.4**
ESDC Sonseca Array 77.38 309 P **P 15 22 12.6 +1.1**
comp=Z,3.6nm,1.2s,baz=49,slow=6.0,SNR=15
ESDC Sonseca Array 77.38 309 P **P 15 22 11.9 +0.3**
ESDC IAmb IAmb 15 22 14.1
comp=Z,7.4nm,1.4s
YKA Yellowknife Ar 84.50 13 P **P 15 22 49.0 +0.1**
comp=Z,1.1nm,0.9s,baz=338,slow=4.7,SNR=3.5
TORD Torodi Ar. Bea 86.08 283 P **P 15 22 59.0 +1.2**
comp=Z,3.5nm,1.1s,baz=40,slow=5.2,SNR=10
TORD Torodi Ar. Bea 86.08 283 P **P 15 22 58.0 +0.2**
TORD IAmb IAmb 15 23 00.1
comp=Z,8.5nm,1.2s
LBTB Lobatse 86.15 238 P **P 15 22 57.8 -0.1**
LBTB pmax pmax
comp=Z,24nm,1.3s
LBTB Lobatse 86.15 238 P **P 15 22 57.8 -0.1**
AFI Afiamalu 99.82 100 LR LR 16 03 36.3
comp=Z,118nm,19.4s,baz=197,slow=32
TXAR Lajitas Array 118.08 18 PKP **PKiKP 15 29 04.8 +0.9**
comp=Z,0.1nm,0.6s,baz=225,slow=0.2,SNR=3.6

IDC 21 15:24:11.8±9.7, 29°.94S×179°.03W, h415^{km}±103^{km}, mb2.5/2, mb1 2.9/3, mb1mx2.7/18, mbtmp3.5/3, Error ellipse: s-maj=92.1km s-min=55.3km az=21.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.89**	**200**	P	P	15 26 17.8	+1.1
	0.7nm,0.3s,baz=344,slow=20,SNR=7.1						
URZ				S	S	15 27 58.1	-1.5
	0.3nm,0.3s,baz=38,slow=2.1,SNR=7.1						
ASAR	**Alice Springs**	**42.24**	**267**	P	P	15 31 27.4	+0.4
	0.5nm,1.0s,baz=102,slow=7.5,SNR=5.3						
WRA	**Warramunga Arr**	**43.19**	**272**	P	P	15 31 33.8	-0.7
	0.5nm,0.9s,baz=107,slow=7.9,SNR=2.2						
FINES	**FINESS Array B**	**144.41**	**339**	PKP	PKPbc	15 42 57.9	-0.5
	1.0nm,0.6s,baz=54,slow=7.3,SNR=4.0						

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*MOS **21** 15:58:02.6±0.9, 20°.54S×175°.15W, h10^{km}, mb5.2/48, Error ellipse: s-maj=10.1km s-min=7.6km az=56.2*
*BJI **21** 15:58:03.2±0.0, 20°.50S×175°.10W, h15^{km}, mB5.3/16, mb5.1/29, Ms4.8/6, Ms7 4.6/5*
*NEIC **21** 15:58:04.2±2.0, 20°.67S±0°.09×175°.03W±0°.10, h10^{km}±1^{km}, mb5.2/192, Error ellipse: s-maj=16.5km s-min=14.5km az=134.0*
*NOU **21** 15:58:06.1, 20°.20S×176°.06W, h17^{km}, MLv5.5, Fiji Islands Region*
*IDC **21** 15:58:08.2±3.6, 20°.49S×175°.22W, h33^{km}±26^{km}, mb4.5/26, mb1 4.7/27, mb1mx4.6/38, mbtmp4.7/27, ML4.6/1, MS3.8/24, Ms1 3.8/24, ms1mx3.7/31, Error ellipse: s-maj=17.2km s-min=11.8km az=148.0*
*GCMT **21** 15:58:15.2±0.2, 20°.38S±0°.02×174°.70W±0°.01, h12^{km}, MW5.3/105, Moment Tensor Solution. s47,c58; s105,c146; Duration: 1^{s}0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.44±.10; $M_{\theta\theta}$-0.22±.10; $M_{\phi\phi}$0.66±.08; $M_{r\theta}$2.47±.22; $M_{\theta\phi}$1.09±.06; $M_{\phi r}$-9.33±.19; Best double couple: $M_0$9.72500×10^{16} NP1:φ_s249.00000°, δ7.00000°, λ-7.00000°. NP2:φ_s346.00000°, δ89.00000°, λ-97.00000°. Principal axes: T 9.5420, Plg44.0000°, Azm82.0000°; N 0.3670, Plg7.0000°, Azm346.0000°; P -9.9090, Plg45.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:58:04.9±0.3, 20°.51S±0°.07×175°.21W±0°.07, h10^{km}, n686, $n_2$9^{s}21/578, mb5.1/153, MS3.9/29, 30C-38D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.17**	**75**	P	Pn	15 59 20.1	-2.3
	baz=5.1,SNR=23						
NIUE				S	Sn	16 00 09.0	-13
	baz=5.1						
NIUE	**Niue**	**5.17**	**75**	Pn	Pn	15 59 19.9	-2.6
MSVF	**Nonsavu**	**6.95**	**292**	Pn	Pb	16 00 00.1	-5.7
	6.1nm,0.3s,baz=136,slow=15,SNR=16						
AFI	**Afiamalu**	**7.34**	**27**	Pn	**Pn**	**15 59 52.7**	**+0.5**
	9.3nm,0.3s,baz=243,slow=9.0,SNR=16						
AFI				Sn	Sn	16 01 07.1	-8.6
	23nm,0.3s,baz=68,slow=19,SNR=4.3						
AFI	**Afiamalu**	**7.34**	**27**	P	**Pn**	**15 59 53.6**	**+1.4**
RAR	**Rarotonga**	**14.45**	**96**	Pn	Pn	16 01 22.7	-6.8
	5.5nm,0.3s,baz=193,slow=14,SNR=3.4						
RAR				Sn	Sn	16 03 50.0	-20
	15nm,0.3s,baz=135,slow=17,SNR=4.1						
RAR				LR	LR	16 06 00.8	
	comp=Z,281nm,18.3s,baz=280,slow=33						
RAR	**Rarotonga**	**14.45**	**96**	P	Pn	16 01 22.9	-6.7
RAR	**Rarotonga**	**14.45**	**96**	Pn	Pn	16 01 22.9	-6.7
RAR	**Rarotonga**	**14.45**	**96**	P	**P**	**16 01 41.2**	**+4.8**
MARNC	**Mare, Loyalty**	**15.68**	**263**	Pn	Pn	16 01 36.8	-9.3
MARNC	**Mare, Loyalty**	**15.68**	**263**	P	Pn	16 01 36.7	-9.4
PINNC	**Pines Island,**	**16.27**	**259**	Pn	Pn	16 01 43.0	-11
PINNC				IAmb	IAmb	16 01 52.9	
	comp=Z,114nm,0.6s						
PINNC	**Pines Island,**	**16.27**	**259**	P	Pn	16 01 43.2	-10
PINNC	**Pines Island,**	**16.27**	**259**	P	Pn	16 01 43.2	-10

LIFNC LIFOU 16.43 266 Pn Pn 16 01 48.4 -7.3
LIFNC IAmb IAmb 16 02 05.8
comp=Z,314nm,1.2s
LIFNC LIFOU 16.43 266 P Pn 16 01 45.9 -10
YATNC Mamie plateau, 16.75 262 P Pn 16 01 49.7 -10
YATNC Mamie plateau, 16.75 262 P Pn 16 01 50.2 -10
OUENC Ouen Island, N 16.82 260 Pn Pn 16 01 49.8 -11
OUENC Ouen Island, N 16.82 260 P Pn 16 01 50.6 -10
OUENC Ouen Island, N 16.82 260 P Pn 16 01 51.0 -10
DZM Mont Dzumac 17.17 262 *e*P **P** **16 02 11.2 +4.4**
comp=Z,208nm,1.0s
DZM *e*LQ LQ 16 05 28.9
comp=Z,1µm,25.2s
DZM *e*LR LR 16 06 12.0
comp=Z,2µm,28.4s
DZM Mont Dzumac 17.17 262 LR LR 16 08 05.9
comp=Z,691nm,18.1s,baz=101,slow=35
DZM Mont Dzumac 17.17 262 Pn Pn 16 01 55.8 -9.4
DZM Mont Dzumac 17.17 262 P Pn 16 01 55.8 -9.3
DZM Mont Dzumac 17.17 262 P Pn 16 01 56.2 -8.9
ONTNC Ouen Toro 17.17 261 Pn Pn 16 01 55.8 -9.3
ONTNC Ouen Toro 17.17 261 P Pn 16 01 56.6 -8.4
ONTNC Ouen Toro 17.17 261 P Pn 16 01 57.5 -7.5
NOUC Port Laguerre 17.30 261 P Pn 16 01 58.2 -8.5
NOUC Port Laguerre 17.30 261 P Pn 16 01 57.9 -8.8
URZ Urewera 18.90 199 P **P** **16 02 23.5 -2.0**
comp=Z,9.3nm,0.3s,baz=14,slow=4.2,SNR=28
URZ S Sn 16 05 38.1 -20
comp=Z,1.2nm,0.3s,baz=122,slow=23,SNR=1.9
URZ Urewera 18.90 199 P **P** **16 02 25.7 +0.1**
HIZ Hauiti 19.89 203 P **P** **16 02 39.7 +3.2**
BKZ Black Stump Fm 19.92 199 P **P** **16 02 34.6 -2.2**
KWHZ Kaweka Forest 20.18 199 P **P** **16 02 39.5 -0.2**
WHVZ Whangaehu Hut 20.32 201 P **P** **16 02 41.8 +0.5**
BHHZ Black Hill Sta 20.35 200 P **P** **16 02 40.7 -0.8**
WNVZ Wahianoa 20.36 201 P **P** **16 02 40.1 -1.6**
MOVZ Moawhango 20.38 200 P **P** **16 02 41.3 -0.5**
KAHZ Kahuranaki 20.39 198 P **P** **16 02 43.5 +1.6**
MTVZ Mangateitei 20.45 201 P **P** **16 02 40.7 -1.9**
VRZ Vera Road 20.47 203 P **P** **16 02 43.7 +1.0**
PNHZ Pukenui 20.70 199 P **P** **16 02 44.3 -1.0**
NEZ North Egmont 20.84 204 P **P** **16 02 50.8 +3.9**
TSZ Takapari Road 20.90 199 P **P** **16 02 46.5 -1.0**
WAZ Wanganui 20.95 202 P **P** **16 02 49.4 +1.5**
DVHZ Dannevirke 21.06 199 P **P** **16 02 50.4 +1.3**
ANWZ Angora Road 21.12 198 P **P** **16 02 53.4 +3.6**
BFZ Birch Farm 21.39 198 P **P** **16 02 54.0 +1.4**
MRZ Mangatainoka R 21.57 199 P **P** **16 02 53.0 -1.6**
OGWZ Otaki Gorge 21.84 200 P **P** **16 02 56.2 -1.3**
MTW Mount Morrison 22.05 199 P **P** **16 03 00.7 +0.9**
CAW Cannon Point 22.14 200 P **P** **16 02 59.6 -1.1**
DUWZ D'Urville Isla 22.25 202 P **P** **16 03 00.8 -1.2**
PLWZ Palliser 22.50 199 P **P** **16 03 04.6 0.0**
QRZ Quartz Range 22.79 205 P **P** **16 03 07.5 -0.2**
QRZ IAmb IAmb 16 03 18.0
comp=Z,55nm,0.8s
QRZ Quartz Range 22.79 205 P **P** **16 03 08.5 +0.8**
TUWZ Tuamarina 22.80 201 P **P** **16 03 05.1 -2.7**
NNZ Nelson 22.81 203 P **P** **16 03 05.8 -2.1**
BSWZ Blackbirch Sta 23.07 201 P **P** **16 03 10.9 +0.3**
THZ Tophouse 23.46 203 P **P** **16 03 14.6 0.0**
KHZ Kahutara 23.81 201 P **P** **16 03 18.0 +0.1**
KHZ IAmb IAmb 16 03 23.9
comp=Z,65nm,1.1s
DSZ Denniston Nort 23.86 205 P **P** **16 03 19.4 +0.9**
TBI Tubuai 24.04 101 *e*P **P** **16 03 20.7 +0.4**
comp=Z,301nm,1.4s
TBI *e*LQ LQ 16 08 04.4
comp=Z,840nm,28.0s
TBI *e*LR LR 16 08 54.5
comp=Z,1µm,31.5s,baz=274
TBI Tubuai 24.04 101 *e*T T 16 27 28.7
comp=Z,31nm,0.3s
PAE Paea 24.38 88 *e*P **P** **16 03 23.3 -0.2**
comp=Z,34nm,1.2s
PAE Paea 24.38 88 *e*T T 16 28 00.5
comp=Z,13nm,0.3s
PPT2 Papeete2 24.39 88 *e*P **P** **16 03 24.0 +0.3**
comp=Z,156nm,1.3s
PPT2 *e*LQ LQ 16 07 53.6
comp=Z,935nm,25.8s
PPT2 *e*LR LR 16 09 01.6
comp=Z,2µm,29.8s,baz=261
PPT2 Papeete2 24.39 88 *e*T T 16 28 09.0
comp=Z,12nm,0.3s
PPT Papeete 24.40 87 P **P** **16 03 23.9 +0.2**
comp=Z,96nm,1.0s,baz=195,slow=3.2,SNR=6.6
PPT LR LR 16 12 09.1
comp=Z,108nm,18.8s,baz=290,slow=34
PPTF Pamatai, Papee 24.41 88 P **P** **16 03 22.4 -1.4**
LTZ Lake Taylor 24.58 203 P **P** **16 03 23.9 -1.2**
TIAR Tiarei 24.62 88 *e*P **P** **16 03 26.0 +0.3**
comp=Z,25nm,1.1s
TIAR Tiarei 24.62 88 *e*T T 16 28 24.1
comp=Z,3.6nm,0.3s
OXZ Oxford 25.13 202 P **P** **16 03 29.0 -1.1**
OXZ IAmb IAmb 16 03 35.2
comp=Z,54nm,0.7s
MEH Mehetia 25.76 89 *e*T T 16 29 36.9
comp=Z,105nm,0.3s
HNR Honiara 26.36 291 LR LR 16 13 38.5
comp=Z,239nm,18.8s,baz=146,slow=35
PMOR Pomariorio Ree 26.56 83 *e*T T 16 30 36.5
comp=Z,5.9nm,0.3s
MLZ Mavora Lakes 28.35 205 P P 16 03 57.2 -1.8
MLZ IAmb IAmb 16 04 18.4
comp=Z,57nm,1.4s
EIDS Eidsvold 31.37 255 P **P** **16 04 26.8 +0.8**
baz=32,SNR=6.0
EIDS Eidsvold 31.37 255 P **P** **16 04 26.2 +0.2**
EIDS IAmb IAmb 16 04 51.3
comp=Z,32nm,1.5s
ARMA Armidale 31.43 245 P **P** **16 04 27.1 +0.5**
baz=32,SNR=5.4
ARMA Armidale 31.43 245 P **P** **16 04 27.5 +0.9**
RMQ Roma 33.50 253 P **P** **16 04 45.7 +1.0**
baz=34,SNR=6.9
CNB Canberra Magne 34.40 237 P **P** **16 04 53.5 +1.0**
baz=34,SNR=5.7
TAOE Nuku Hiva Isla 35.75 76 *e*LR LR 16 14 27.6
comp=Z,1µm,27.6s
CTA Charters Tower 36.09 264 P **P** **16 05 07.6 +0.4**
comp=Z,9.8nm,0.4s,baz=89,slow=9.9,SNR=22
CTA LR LR 16 18 52.2
comp=Z,380nm,21.3s,baz=98,slow=34
CTAO Charters Tower 36.09 264 P **P** **16 05 07.5 +0.4**
CTAO pmax pmax
comp=Z,14nm,0.6s
CTAO Charters Tower 36.09 264 P **P** **16 05 07.5 +0.3**
CTAO IAmb IAmb 16 05 11.6
comp=Z,14nm,0.6s
CMSA Cobar Meteorol 36.64 244 P **P** **16 05 11.1 -0.6**
baz=37,SNR=21
QLP Quilpie 37.55 253 P **P** **16 05 19.5 0.0**
baz=38,SNR=4.5
PMG Port Moresby 37.90 281 LR LR 16 18 30.4
comp=Z,198nm,20.1s,baz=126,slow=32
PMG Port Moresby 37.90 281 *ce*P **P** **16 05 25.0 +2.4**
PMG pmax pmax
comp=Z,33nm,1.3s
TOO Toolangi 38.02 235 P **P** **16 05 22.9 -0.4**
baz=38,SNR=6.2
TOO Toolangi 38.02 235 P P 16 05 21.7 -1.7
TOO pmax pmax
comp=Z,11nm,0.9s
TOO Toolangi 38.02 235 P P 16 05 21.7 -1.7
TAU Tasmania Unive 38.48 226 P **P** **16 05 26.4 -0.7**
TAU pmax pmax
comp=Z,36nm,1.2s
TAU Tasmania Unive 38.48 226 P **P** **16 05 26.4 -0.7**
STKA Stephens Creek 40.14 245 P **P** **16 05 40.8 -0.4**
comp=Z,6.0nm,0.5s,baz=94,slow=10,SNR=38
STKA LR LR 16 19 54.4
comp=Z,302nm,20.5s,baz=42,slow=32
STKA Stephens Creek 40.14 245 P **P** **16 05 40.5 -0.8**
MANU Manus Island 40.86 292 P **P** **16 05 49.4 +2.0**
HPAH Hawaii Prepara 44.59 27 P **P** **16 06 16.7 -0.8**
WR0 Warramunga Arr 47.00 261 P P 16 06 34.7 -1.9
AS31 Alice Springs 47.06 256 P **P** **16 06 35.8 -1.4**
ASAR Alice Springs 47.06 256 P **P** **16 06 35.6 -1.5**
comp=Z,7.6nm,0.8s,baz=90,slow=8.6,SNR=57
ASAR PcP **PcP** **16 08 08.5 -0.7**
comp=Z,2.9nm,0.7s,baz=104,slow=4.1,SNR=5.7
ASAR ScP **ScP** **16 11 59.4 -4.0**
comp=Z,2.3nm,1.1s,baz=89,slow=5.0,SNR=4.5
ASAR S S 16 13 19.9 -10
comp=Z,0.8nm,0.9s,baz=96,slow=14,SNR=4.6
ASAR LR LR 16 25 31.4
comp=Z,226nm,19.8s,baz=98,slow=35
ASAR Alice Springs 47.06 256 P P 16 06 35.4 -1.8
WB2 Warramunga Arr 47.18 261 P **P** **16 06 36.5 -1.6**
WRAB Tennant Creek 47.18 261 *ce*P **P** **16 06 36.9 -1.2**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 47.18 261 P P 16 06 36.4 -1.7
WRA Warramunga Arr 47.19 261 P P 16 06 36.2 -1.9
comp=Z,3.7nm,0.6s,baz=99,slow=8.2,SNR=46
WRA PcP **PcP** **16 08 08.8 -0.9**
comp=Z,3.4nm,0.8s,baz=96,slow=3.6,SNR=3.5
WRA LR LR 16 27 01.1
comp=Z,139nm,18.3s,baz=125,slow=37
WRA Warramunga Arr 47.19 261 P P 16 06 36.0 -2.2
KDU Kakadu 50.57 270 P **P** **16 07 03.4 -0.7**
baz=51,SNR=13
FORT Forrest 51.69 247 P P 16 07 10.5 -1.9
FORT IAmb IAmb 16 07 15.8
comp=Z,27nm,0.9s
MTN Manton Dam 51.78 270 P **P** **16 07 12.5 -0.7**
baz=52,SNR=13
MTN Manton Dam 51.78 270 P **P** **16 07 12.2 -1.1**
MTN IAmb IAmb 16 07 18.7
comp=Z,17nm,0.7s
GUMO Guam 51.85 307 P **P** **16 07 14.2 +0.5**
comp=Z,17nm,0.6s,baz=180,slow=7.0,SNR=5.3
GUMO Guam 51.85 307 P **P** **16 07 13.8 +0.1**
GUMO pmax pmax
comp=Z,29nm,0.8s
GUMO Guam 51.85 307 P **P** **16 07 13.8 +0.1**
GUMO IAmb IAmb 16 07 37.1
comp=Z,29nm,0.8s
WRKA Warakurna 51.98 254 P **P** **16 07 13.3 -1.4**
baz=52,SNR=7.9
KNRA Kununurra 53.27 265 P **P** **16 07 23.6 -0.6**
baz=53,SNR=18
KNRA Kununurra 53.27 265 P **P** **16 07 23.4 -0.9**
KNRA IAmb IAmb 16 07 27.1
comp=Z,16nm,0.8s
FAKI Fak Fak 54.06 282 P **P** **16 07 29.8 -0.3**
FAKI IAmb IAmb 16 07 57.9
comp=Z,33nm,1.3s
SWI Sorong 55.78 283 P **P** **16 07 42.3 -0.3**
comp=Z,51nm,0.8s
SBA Scott Base 58.05 184 P **P** **16 07 57.4 -0.3**
SBA pmax pmax
comp=Z,11nm,1.0s
SBA Scott Base 58.05 184 P **P** **16 07 57.4 -0.3**
VNDA Vanda 58.15 186 P **P** **16 08 00.1 +1.7**
comp=Z,3.6nm,0.9s,baz=355,slow=4.5,SNR=14
VNDA LR LR 16 29 03.9
comp=Z,24nm,21.4s,baz=25,slow=32
VNDA Vanda 58.15 186 P **P** **16 07 58.9 +0.5**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 58.15 186 P **P** **16 07 58.9 +0.5**
SOEI Soe 59.12 271 P **P** **16 08 06.7 +0.4**
comp=Z,71nm,1.0s
BATI Baumata 59.54 270 P **P** **16 08 12.1 +3.0**
comp=Z,16nm,0.7s
MORW Morawa 62.24 247 P **P** **16 08 25.7 -1.6**
baz=62,SNR=4.6
CASY Casey 65.08 205 P **P** **16 08 44.7 -0.6**
TOLI2 Tolitoli 66.17 281 P **P** **16 08 52.2 -1.0**
MPSI Mapaga 66.69 280 P **P** **16 09 00.0 +3.4**
JHJ Hachijo jima 2 68.48 320 LR LR 16 32 39.8
comp=Z,47nm,19.9s,baz=134,slow=30
MJAR Matsushiro Arr 71.80 322 P **P** **16 09 27.4 -0.4**
comp=Z,94nm,0.9s,baz=155,slow=6.4,SNR=12
MAJO Matsushiro 71.80 322 *e*P **P** **16 09 28.0 +0.2**
MAJO pmax pmax
comp=Z,5.0nm,0.8s
MAT Matsushiro 71.80 322 P **P** **16 09 26.8 -1.0**
JHS Saijyo 73.84 318 P **P** **16 09 39.8 -0.1**
JHS IAmb IAmb 16 09 43.4
comp=Z,16nm,0.8s
JEW Eniwo 74.61 328 P **P** **16 09 45.0 +0.9**
YOJ Yonaguni jima 74.90 304 P **P** **16 09 45.5 -0.8**
YOJ pmax pmax
comp=Z,181nm,1.3s
YOJ Yonaguni jima 74.90 304 P **P** **16 09 45.5 -0.8**
SNCC San Nicolas Is 75.36 46 P **P** **16 09 48.9 +0.1**
baz=233
TWG Pinlang 75.60 301 P **P** **16 09 49.1 -1.3**
TWG IAmb IAmb 16 10 12.2
comp=Z,21nm,1.0s
YULB Yu-li 75.71 302 P **P** **16 09 49.9 -1.1**
SCZ2 Santa Cruz Isl 75.73 45 P **P** **16 09 50.9 0.0**
baz=233
SCI2 San Clemente I 75.86 46 P **P** **16 09 51.4 -0.2**
baz=234
PKM Mcpherson Peak 76.15 44 P **P** **16 09 53.5 0.0**
baz=232,SNR=7.0
SSLB Suanglung 76.18 302 P P 16 09 51.8 -1.9
SSLB IAmb IAmb 16 09 56.7
comp=Z,33nm,1.3s
TPUB Ta-pu 76.19 302 P P 16 09 51.9 -1.9
CIS Catalina Islan 76.20 46 P **P** **16 09 53.5 -0.1**
baz=234
PMPB Monarch Peak 76.33 43 P **P** **16 09 53.8 -0.6**
PMPB IAmb IAmb 16 09 55.4
comp=Z,39nm,1.3s
SDPT Sand Point 76.59 9 P **P** **16 09 56.9 +1.7**
baz=194
PET Petropavlovsk 76.66 344 *ce*P P 16 09 53.3 -2.4
PET pmax pmax
comp=Z,7.0nm,1.0s
OSI Osito Audit: C 76.71 45 P **P** **16 09 56.5 0.0**
baz=233
CBX Cerro Bola 76.77 48 P P 16 09 55.1 -1.9
PASC Pasadena Art C 76.80 46 P **P** **16 09 56.3 -0.7**
PASC IAmb IAmb 16 10 15.2
comp=Z,12nm,0.4s
MWC Mount Wilson 76.92 46 P P 16 09 55.5 -2.4
MWC pmax pmax
comp=Z,11nm,1.1s
MWC Mount Wilson 76.92 46 P P 16 09 55.5 -2.4
ARVC Arvin 76.94 44 P **P** **16 09 57.5 -0.2**
baz=233
BAR Barrett 76.97 48 P P 16 09 56.4 -1.6
PEA0B Petropavlovsk- 76.98 344 P **P** **16 09 57.2 -0.4**
PEA0B pmax pmax
comp=Z,31nm,1.0s
PEA0B Petropavlovsk- 76.98 344 P **P** **16 09 57.2 -0.4**
PETK Petropavlovsk- 76.98 344 P **P** **16 09 57.5 -0.1**
comp=Z,11nm,0.8s,baz=111,slow=8.1,SNR=20
PETK LR LR 16 37 31.7
comp=Z,30nm,20.5s,baz=146,slow=31
PETK Petropavlovsk- 76.98 344 P **P** **16 09 56.6 -1.0**
YSS Yuzh-Sakhalins 77.10 332 *e*P **P** **16 09 59.3 +1.0**
YSS *e* 16 19 36.8
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,100nm,15.0s
YSS Yuzh-Sakhalins 77.10 332 P **P** **16 09 58.6 +0.3**
KMRM Mail Ridge 77.13 38 P **P** **16 09 57.5 -1.3**
MURC Murrieta 77.14 47 P **P** **16 09 58.7 -0.2**
baz=234
BFSC Mount Baldy Ra 77.20 46 P **P** **16 09 58.8 -0.5**
baz=234
VES Vestal, Richgr 77.20 44 P **P** **16 09 58.8 -0.3**
baz=233,SNR=6.1
MONP2 Monument Peak 77.26 48 P **P** **16 09 59.3 -0.5**
baz=235,SNR=12
RMX La Rumorosa 77.34 48 P P 16 09 58.3 -2.0
RMX IAmb IAmb 16 10 01.4
comp=Z,21nm,1.1s
IKP In-Ko-Pah, Jac 77.34 48 P **P** **16 10 00.0 -0.2**
baz=235,SNR=7.5
EDW2 Edwards Air Fo 77.35 45 P **P** **16 09 59.8 -0.3**
baz=234,SNR=16
ISA Isabella, Lake 77.49 44 P **P** **16 10 00.1 -0.8**
ISA pmax pmax
comp=Z,43nm,1.3s
ISA Isabella, Lake 77.49 44 P **P** **16 10 00.9 0.0**
baz=233,SNR=15
ISA Isabella, Lake 77.49 44 P **P** **16 10 00.1 -0.8**
SPIA Saint Paul Isl 77.50 3 P **P** **16 10 02.9 +2.6**
baz=185
KHMM Horse Mountain 77.55 37 P P 16 09 59.2 -2.0
KHMM IAmb IAmb 16 10 02.8
comp=Z,28nm,1.4s
O02D Mt. Diablo Mer 77.63 38 P **P** **16 10 02.0 +0.4**
baz=229,SNR=6.3
PFO Pinyon Flats O 77.65 47 P **P** **16 10 01.3 -0.6**
comp=Z,8.8nm,1.1s,baz=235,slow=5.1,SNR=10.0
PFO Pinyon Flats O 77.65 47 P P 16 10 00.0 -1.9
PFO pmax pmax
comp=Z,26nm,1.4s
PFO Pinyon Flats O 77.65 47 P **P** **16 10 01.5 -0.4**
baz=235,SNR=7.1
PFO Pinyon Flats O 77.65 47 P P 16 10 00.0 -1.9
PFO IAmb IAmb 16 10 03.0
comp=Z,26nm,1.4s
TPFO Pinon Flats 77.65 47 P **P** **16 10 01.5 -0.4**
baz=235,SNR=7.3
CMB Columbia Colle 77.72 41 P **P** **16 10 01.4 -0.7**
CMB pmax pmax
comp=Z,17nm,1.2s
CMB Columbia Colle 77.72 41 P **P** **16 10 01.4 -0.7**
CMB IAmb IAmb 16 10 03.1
comp=Z,17nm,1.1s
SWSC Sam W. Stewart 77.72 48 P **P** **16 10 02.0 -0.2**
baz=235
CPBX Cerro Prieto 77.78 48 P P 16 10 00.7 -1.8
CPBX IAmb IAmb 16 10 03.8
comp=Z,36nm,1.2s
CHIR Chirikof Islan 77.83 11 P **P** **16 10 03.8 +1.6**
baz=199
LRMC Laurel Mtn Rad 77.91 45 P **P** **16 10 03.0 -0.3**
baz=234,SNR=15
AFDM Forest Hills D 77.93 40 P **P** **16 10 02.3 -0.9**
AFDM IAmb IAmb 16 10 04.1
comp=Z,19nm,1.3s
ORV Oroville 77.99 40 P **P** **16 10 02.2 -1.3**
ORV pmax pmax
comp=Z,17nm,1.4s
ORV Oroville 77.99 40 P **P** **16 10 02.2 -1.3**
WDC Whiskeytown Da 78.04 38 P **P** **16 10 02.7 -1.0**
WDC pmax pmax
comp=Z,36nm,1.4s
WDC Whiskeytown Da 78.04 38 P **P** **16 10 02.7 -1.0**
WDC IAmb IAmb 16 10 05.8
comp=Z,36nm,1.4s
BELC Belle Mtn. Jos 78.18 47 P **P** **16 10 04.8 -0.1**
baz=235,SNR=13
N02D Trinity Center 78.20 38 P **P** **16 10 04.9 +0.2**
baz=229,SNR=7.1
O03E Paynes Creek 78.28 39 P **P** **16 10 04.7 -0.5**
baz=230,SNR=8.0
MDPB Devils Postpil 78.29 42 P **P** **16 10 04.5 -1.0**
MDPB IAmb IAmb 16 10 07.3
comp=Z,20nm,1.1s
GSC Goldstone, Bar 78.38 45 P **P** **16 10 05.0 -0.9**
GSC pmax pmax
comp=Z,29nm,1.3s
GSC Goldstone, Bar 78.38 45 P **P** **16 10 05.5 -0.4**
baz=234,SNR=9.9
GSC Goldstone, Bar 78.38 45 P **P** **16 10 05.0 -0.9**
GSC IAmb IAmb 16 10 07.0
comp=Z,29nm,1.3s
M02C Callahan 78.38 37 P **P** **16 10 05.6 -0.1**
baz=229,SNR=5.8
HEC Hector,Ludlow 78.43 46 P **P** **16 10 05.5 -0.6**
baz=235,SNR=11
GLA Glamis 78.46 48 P **P** **16 10 05.7 -0.6**
GLA pmax pmax
comp=Z,47nm,1.5s
GLA Glamis 78.46 48 P **P** **16 10 06.3 0.0**
baz=236
GLA Glamis 78.46 48 P **P** **16 10 05.7 -0.6**
GLA IAmb IAmb 16 10 08.6
comp=Z,47nm,1.5s
L02E Cave Junction 78.47 36 P **P** **16 10 06.3 +0.2**
baz=228
TIN Tinemaha, Big 78.48 43 P **P** **16 10 06.4 0.0**
baz=233
WAKR Walker 78.59 41 P **P** **16 10 06.6 -0.5**
WAKR IAmb IAmb 16 10 08.6
comp=Z,40nm,1.2s
KSRS Korea Array 78.65 317 P **P** **16 10 07.7 +0.5**
comp=Z,2.2nm,0.9s,baz=140,slow=5.9,SNR=11
KSRS LR LR 16 41 40.9
comp=Z,29nm,19.6s,baz=128,slow=33
KSAR Wonju Array Be 78.67 317 P **P** **16 10 07.4 +0.1**
KSAR Wonju Array Be 78.67 317 P **P** **16 10 07.4 +0.1**
YBH Yreka Blue Hor 78.69 37 P **P** **16 10 07.7 +0.3**
comp=Z,16nm,1.2s,baz=148,slow=3.4,SNR=11
YBH Yreka Blue Hor 78.69 37 P **P** **16 10 07.0 -0.4**
YBH pmax pmax
comp=Z,21nm,1.2s
YBH Yreka Blue Hor 78.69 37 P **P** **16 10 07.0 -0.4**
YBH IAmb IAmb 16 10 09.0
comp=Z,21nm,1.1s
K02D Willamette Mer 78.79 36 P **P** **16 10 07.8 -0.1**
baz=228
SII Sitkinak Islan 78.79 12 P **P** **16 10 09.4 +1.8**
baz=200
PNTR Pine Nut 78.85 41 P **P** **16 10 07.8 -0.8**
IRM Iron Mountain 78.86 47 P **P** **16 10 08.3 -0.2**
baz=236,SNR=19
GMRC Granite Mounta 78.86 46 P **P** **16 10 08.5 0.0**
baz=235,SNR=12
BEKR Beckworth 78.87 40 P **P** **16 10 07.7 -0.9**
BEKR IAmb IAmb 16 10 09.7
comp=Z,19nm,1.2s
VCNR Virginia City 78.95 41 P **P** **16 10 07.9 -1.2**
VCNR IAmb IAmb 16 10 10.4
comp=Z,18nm,1.0s
J01E Myrtle Point 78.95 36 P **P** **16 10 08.6 -0.1**
baz=228
GRAC Grapevine Rang 79.00 44 P **P** **16 10 09.3 0.0**
baz=234,SNR=35
YERR Yerington 79.01 41 P **P** **16 10 08.6 -0.8**
YERR IAmb IAmb 16 10 10.5
comp=Z,27nm,1.1s
FURC Furnace Creek, 79.02 44 P **P** **16 10 09.2 0.0**
baz=234
LHV Little Huntoon 79.02 42 P **P** **16 10 08.8 -0.4**
LHV IAmb IAmb 16 10 10.9
comp=Z,39nm,1.2s
TUQ Turquoise Moun 79.05 46 P **P** **16 10 09.6 0.0**
baz=235,SNR=13
113A Mohawk Valley, 79.05 49 P **P** **16 10 08.5 -1.0**
113A IAmb IAmb 16 10 10.6
comp=Z,22nm,1.3s
SHOC Shoshone, Teco 79.08 45 P **P** **16 10 09.2 -0.5**
baz=235,SNR=7.1
HUMO Hull Mountain 79.12 36 P **P** **16 10 09.2 -0.6**
HUMO IAmb IAmb 16 10 11.4
comp=Z,21nm,1.2s
M04C Macdoel 79.22 38 P **P** **16 10 10.3 -0.1**
baz=230,SNR=8.5
L04D Klamath Falls 79.23 37 P **P** **16 10 10.2 -0.2**
baz=229,SNR=8.4
RYN Ryan 79.24 42 P **P** **16 10 10.0 -0.6**
RYN IAmb IAmb 16 10 11.9
comp=Z,31nm,1.3s
NVAR Mina Array Bea 79.26 42 P **P** **16 10 10.7 -0.1**
comp=Z,14nm,0.9s,baz=225,slow=9.2,SNR=72
NVAR LR LR 16 37 22.3
comp=Z,72nm,21.2s,baz=259,slow=30
NVAR Mina Array Bea 79.26 42 P **P** **16 10 10.1 -0.7**
214A Organ Pipe Nat 79.30 50 P **P** **16 10 11.0 +0.1**
baz=237
214A Organ Pipe Nat 79.30 50 P **P** **16 10 09.9 -1.0**
214A IAmb IAmb 16 10 12.2
comp=Z,24nm,1.2s
NV11 Mina Array Sit 79.35 42 P **P** **16 10 10.3 -0.9**
NV11 IAmb IAmb 16 10 12.4
comp=Z,37nm,1.2s
PAHR Pah Rah Range 79.36 40 P **P** **16 10 10.3 -1.0**
PAHR IAmb IAmb 16 10 12.4
comp=Z,25nm,1.2s
NEE2 Needles Airpor 79.56 47 P **P** **16 10 12.2 -0.1**
baz=236
OHAK Old Harbor 79.58 12 P **P** **16 10 12.7 +0.9**
baz=201
OHAK Old Harbor 79.58 12 P **P** **16 10 11.4 -0.4**
I03D Drain, OR 79.62 35 P **P** **16 10 13.4 +1.1**
baz=228
I02D Swisshome 79.62 35 P **P** **16 10 12.7 +0.4**
baz=228
PDMCI Parker Dam,Lak 79.63 47 P **P** **16 10 12.3 -0.3**
baz=236,SNR=5.9
TPNV Topopah Spring 79.70 44 P **P** **16 10 12.2 -1.0**
TPNV pmax pmax
comp=Z,19nm,1.1s

TPNV	**Topopah Spring**	79.70	44	P	P	16 10 13.2	0.0	
	baz=234,SNR=16							
TPNV	**Topopah Spring**	79.70	44	P	P	16 10 12.2	-1.0	
TPH	**Tonopah**	79.73	43	P	P	16 10 12.3	-1.1	
TPH				pmax	pmax			
	comp=Z,148nm,1.3s							
TPH	**Tonopah**	79.73	43	P	P	16 10 12.3	-1.1	
KVN	**Kaiserville**	79.76	42	P	P	16 10 12.7	-0.8	
KVN				pmax	pmax			
	comp=Z,23nm,1.2s							
KVN	**Kaiserville**	79.76	42	P	P	16 10 12.7	-0.8	
KVN				IAmb	IAmb	16 10 14.5		
	comp=Z,23nm,1.2s							
MSHR	**Mys Shultsa**	79.88	323	*ce*P	P	16 10 14.3	+0.5	
MSHR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
J04D	**Umpqua Nationa**	80.00	36	P	P	16 10 14.3	-0.4	
	baz=229,SNR=6.9							
SHPR	**Sheep Range**	80.17	45	P	P	16 10 14.4	-1.3	
SHPR				IAmb	IAmb	16 10 17.2		
	comp=Z,24nm,1.2s							
MOD	**Modoc Plateau**	80.18	38	P	P	16 10 14.8	-0.9	
MOD				IAmb	IAmb	16 10 16.7		
	comp=Z,22nm,1.1s							
I04A	**Tendick Farm,**	80.20	36	P	P	16 10 15.5	-0.1	
	baz=229							
Y14A	**Wickenburg**	80.22	48	P	P	16 10 14.5	-1.4	
W13A	**Hualapai Mount**	80.24	47	P	P	16 10 13.7	-2.5	
KDAK	**Kodiak Island**	80.25	12	P	P	16 10 15.4	+0.1	
	comp=Z,6.7nm,0.6s,baz=267,slow=3.7,SNR=9.3							
KDAK	**Kodiak Island**	80.25	12	P	P	16 10 15.1	-0.3	
KDAK				pmax	pmax			
	comp=Z,26nm,1.3s							
KDAK	**Kodiak Island**	80.25	12	P	P	16 10 15.1	-0.3	
KDAK				IAmb	IAmb	16 10 42.8		
	comp=Z,26nm,1.2s							
K05A	**Summer Lake**	80.36	37	P	P	16 10 16.2	-0.5	
K05A				IAmb	IAmb	16 10 18.1		
	comp=Z,38nm,1.1s							
USA0B	**Ussuriysk Arra**	80.47	324	P	P	16 10 16.8	-0.1	
USA0B				pmax	pmax			
	comp=Z,15nm,1.3s							
USA0B	**Ussuriysk Arra**	80.47	324	P	P	16 10 16.8	-0.1	
USRK	**Ussuriysk Ar.**	80.47	324	P	P	16 10 17.4	+0.4	
	comp=Z,3.1nm,0.8s,baz=101,slow=3.9,SNR=15							
USRK				LR	LR	16 40 39.4		
	comp=Z,62nm,21.2s,baz=124,slow=32							
USRK	**Ussuriysk Ar.**	80.47	324	P	P	16 10 17.0	+0.1	
H04D	**Lebanon**	80.50	35	P	P	16 10 17.0	-0.1	
	baz=229							
J05D	**Fort Rock, OR**	80.52	37	P	P	16 10 17.4	0.0	
	baz=230,SNR=20							
G03D	**McMinnville, O**	80.67	34	P	P	16 10 18.1	+0.1	
	baz=228							
PRN	**Pahroc Range**	80.75	44	P	P	16 10 18.3	-0.5	
PRN				IAmb	IAmb	16 10 20.6		
	comp=Z,44nm,1.3s							
H04A	**Detroit Lake**	80.90	35	P	P	16 10 18.3	-1.0	
H04A				IAmb	IAmb	16 10 20.0		
	comp=Z,17nm,1.0s							
R11A	**Troy Canyon, C**	80.94	43	P	P	16 10 19.2	-0.7	
	baz=235,SNR=7.1							
R11A	**Troy Canyon, C**	80.94	43	P	P	16 10 18.1	-1.8	
TUC	**Tucson**	80.94	51	P	P	16 10 18.6	-1.3	
TUC				pmax	pmax			
	comp=Z,19nm,1.2s							
TUC	**Tucson**	80.94	51	P	P	16 10 20.1	+0.2	
	baz=239							
TUC	**Tucson**	80.94	51	P	P	16 10 18.6	-1.3	
TUC				IAmb	IAmb	16 10 21.5		
	comp=Z,19nm,1.1s							
PINE	**Pine Mountain**	81.01	37	P	P	16 10 19.8	-0.4	
I05D	**Terrebonne, OR**	81.14	36	P	P	16 10 20.4	-0.2	
	baz=230							
X16A	**Lo Mia Camp, P**	81.57	49	P	P	16 10 22.6	-0.8	
X16A				IAmb	IAmb	16 10 25.1		
	comp=Z,25nm,1.1s							
O18K	**Koktuh Hills**	81.72	10	P	P	16 10 22.9	-0.4	
	baz=199							
LCMT	**Little Creek M**	81.73	46	P	P	16 10 23.1	-1.0	
G05D	**Wamic, OR**	81.73	35	P	P	16 10 23.8	+0.1	
	baz=230							
P19K	**Oil Pt**	81.87	11	P	P	16 10 24.7	+0.6	
	baz=201							
NJ2	**Nanjing**	81.92	308	*e*P	P	16 10 25.3	+0.4	
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
E04D	**Cinebar**	81.93	34	P	P	16 10 24.9	+0.3	
	baz=229							
CCUT	**Cedar City**	81.94	45	P	P	16 10 24.3	-0.9	
CCUT				IAmb	IAmb	16 10 27.0		
	comp=Z,25nm,1.3s							
I07A	**Izee**	82.00	37	P	P	16 10 24.6	-0.7	
I07A				IAmb	IAmb	16 10 26.5		
	comp=Z,25nm,1.1s							
KNB	**Kanab**	82.01	46	P	P	16 10 25.2	-0.3	
KNB				pmax	pmax			
	comp=Z,24nm,1.3s							
KNB	**Kanab**	82.01	46	P	P	16 10 25.2	-0.3	
KNB				IAmb	IAmb	16 10 26.6		
	comp=Z,24nm,1.3s							
MDJ	**Mudanjiang**	82.05	324	P	P	16 10 25.8	+0.5	
MDJ				IAmb	IAmb	16 10 27.3		
	comp=Z,14nm,0.8s							
U15A	**North Rim**	82.05	46	P	P	16 10 25.4	-0.5	
SPR3	**Spring Creek 3**	82.11	43	P	P	16 10 24.8	-1.4	
SPR3				IAmb	IAmb	16 10 27.0		
	comp=Z,25nm,1.5s							
J08A	**Circle Bar Ran**	82.14	38	P	P	16 10 25.0	-1.0	
J08A				IAmb	IAmb	16 10 27.1		
	comp=Z,25nm,1.2s							
SZCU	**Shurtz Canyon**	82.15	45	P	P	16 10 25.5	-0.8	
SZCU				IAmb	IAmb	16 10 28.0		
	comp=Z,31nm,1.3s							
PSUT	**Pine Spring**	82.16	44	P	P	16 10 25.4	-1.0	
O19K	**Port Alsworth**	82.19	10	P	P	16 10 24.3	-1.4	
	baz=200							
WUAZ	**Wupatki**	82.20	48	P	P	16 10 26.6	0.0	
	baz=238							
WUAZ	**Wupatki**	82.20	48	P	P	16 10 25.7	-0.9	
WUAZ				IAmb	IAmb	16 10 28.2		
	comp=Z,34nm,1.3s							
D04E	**Lakebay**	82.23	33	P	P	16 10 26.7	+0.5	
	baz=228							
D03D	**Eldon**	82.31	33	P	P	16 10 26.5	-0.1	
	baz=228							
O20K	**Slope Mountain**	82.39	11	P	P	16 10 26.0	-0.9	
	baz=201							
N18K	**Kilae Creek**	82.40	9	P	P	16 10 25.7	-1.1	
	baz=198							
BRLK	**Bradley Lake**	82.42	12	P	P	16 10 25.5	-1.5	
BRLK				IAmb	IAmb	16 10 27.3		
	comp=Z,17nm,1.0s							
BRSE	**Bradley Lake S**	82.43	12	P	P	16 10 26.1	-0.8	
	baz=203							
MAW	**Mawson**	82.43	199	P	P	16 10 26.8	-0.2	
	comp=Z,2.6nm,0.5s,baz=120,slow=6.4,SNR=5.4							
MAW				LR	LR	16 46 46.2		
	comp=Z,53nm,18.6s,baz=64,slow=35							
LON	**Longmire**	82.45	34	P	P	16 10 26.4	-1.0	
LON				pmax	pmax			
	comp=Z,10.0nm,1.1s							
LON	**Longmire**	82.45	34	P	P	16 10 26.4	-1.0	
ELK	**Elko**	82.53	42	P	P	16 10 27.8	-0.5	
	comp=Z,7.9nm,1.1s,baz=211,slow=4.2,SNR=19							
ELK	**Elko**	82.53	42	P	P	16 10 27.2	-1.1	
ELK				pmax	pmax			
	comp=Z,17nm,1.3s							
ELK	**Elko**	82.53	42	P	P	16 10 27.2	-1.1	
ELK				IAmb	IAmb	16 10 29.3		
	comp=Z,17nm,1.2s							
PKCU	**Pink Cliffs**	82.59	46	P	P	16 10 28.8	0.0	
D05A	**Enumclaw**	82.64	33	P	P	16 10 28.2	-0.2	
X18A	**Snowflake**	82.68	49	P	P	16 10 28.3	-0.8	
N19K	**Bonanza Creek**	82.75	10	P	P	16 10 27.3	-1.4	
	baz=199							
SEW	**Seward**	83.02	13	P	P	16 10 28.6	-1.4	
	baz=204							
G08A	**Pilot Rock**	83.05	36	P	P	16 10 30.1	-0.6	
W18A	**Petrified Fore**	83.13	49	P	P	16 10 31.1	-0.4	
MVU	**Marysvale**	83.22	45	P	P	16 10 31.5	-0.4	
121A	**Cookes Peak, D**	83.25	52	P	P	16 10 31.1	-1.0	
MSU	**Marysvale**	83.25	45	P	P	16 10 31.4	-0.6	
MSU	**Marysvale**	83.25	45	P	P	16 10 31.4	-0.6	
A04D	**Lummi Island**	83.29	32	P	P	16 10 30.6	-1.0	
	baz=228							
B05A	**Bryant**	83.29	33	P	P	16 10 31.2	-0.4	
	baz=229							
E07A	**Sunnyside**	83.36	35	P	P	16 10 31.7	-0.4	
HAWA	**Hanford**	83.43	35	P	P	16 10 31.8	-0.6	
SPCR	**Spurr Chakacha**	83.51	11	P	P	16 10 31.0	-1.6	
	baz=202							
BMO	**Blue Mountains**	83.72	37	P	P	16 10 32.8	-1.3	
BMO				pmax	pmax			
	comp=Z,23nm,1.3s							
BMO	**Blue Mountains**	83.72	37	P	P	16 10 32.8	-1.3	
BMO				IAmb	IAmb	16 10 34.9		
	comp=Z,23nm,1.2s							
MFID	**Camas Ranch**	83.72	39	P	P	16 10 33.2	-1.0	
E08A	**Dider Farm, El**	83.75	35	P	P	16 10 33.3	-0.8	
E08A				IAmb	IAmb	16 10 35.2		
	comp=Z,26nm,1.2s							
DUG	**Dugway, Tooele**	83.75	43	P	P	16 10 32.7	-1.8	
DUG				pmax	pmax			
	comp=Z,19nm,1.5s							
DUG	**Dugway, Tooele**	83.75	43	P	P	16 10 33.3	-1.2	
	baz=236							
DUG	**Dugway, Tooele**	83.75	43	P	P	16 10 32.7	-1.8	
DUG				IAmb	IAmb	16 10 35.4		
	comp=Z,19nm,1.4s							
H03S2	**Juan Fernandez**	83.82	124	T	T	17 42 57.5		
	baz=248,slow=75,SNR=2094							
H03S1	**Juan Fernandez**	83.83	124	T	T	17 42 58.5		
	baz=248,slow=75,SNR=3353							
H03S3	**Juan Fernandez**	83.84	124	T	T	17 42 54.8		
	baz=248,slow=75,SNR=2713							
RC01	**Rabbit Creek A**	83.87	12	P	P	16 10 33.2	-1.2	
	baz=204							
CN2	**Changchun**	83.92	321	*e*P	P	16 10 35.3	+0.2	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PWL	**Port Wells**	83.94	13	P	P	16 10 33.2	-1.5	
H03N2	**Juan Fernandez**	83.95	123	T	T	17 42 58.4		
	baz=257,slow=72,SNR=636							
H03N3	**Juan Fernandez**	83.95	123	T	T	17 42 57.3		
	baz=257,slow=72,SNR=236							
H03N1	**Juan Fernandez**	83.97	123	T	T	17 42 56.8		
	baz=257,slow=72,SNR=231							
L19K	**White Mountain**	83.99	9	P	P	16 10 34.0	-1.0	
	baz=199							
SUA	**Susitna One**	84.02	12	P	P	16 10 34.6	-0.7	
	baz=203							
SUA	**Susitna One**	84.02	12	P	P	16 10 33.8	-1.5	
SUA				IAmb	IAmb	16 10 36.8		
	comp=Z,13nm,0.8s							
TLIG	**Tlapa**	84.14	69	P	P	16 10 34.4	-2.5	
TLIG				IAmb	IAmb	16 10 37.8		
	comp=Z,15nm,1.1s							
D08A	**Wollman Farm,**	84.17	35	P	P	16 10 34.8	-1.5	
GLI	**Glacier Island**	84.22	13	P	P	16 10 34.8	-1.4	
	baz=206							
GLI	**Glacier Island**	84.22	13	P	P	16 10 34.8	-1.4	
E09A	**Wood Farm, Sta**	84.26	36	P	P	16 10 35.4	-1.3	
TMUT	**Trail Mountain**	84.31	44	P	P	16 10 37.0	-0.6	
SKT	**Skwentna**	84.35	11	P	P	16 10 34.6	-2.3	
	baz=202							
MPU	**Maple Canyon**	84.42	44	P	P	16 10 37.0	-0.9	
MPU				IAmb	IAmb	16 10 39.1		
	comp=Z,20nm,1.3s							
KNK	**Knik Glacier**	84.42	13	P	P	16 10 36.1	-1.1	
	baz=205							
F10A	**Beach Ranch, E**	84.43	36	P	P	16 10 36.6	-1.1	
MA2	**Magadan**	84.51	343	*ce*P	P	16 10 37.0	-0.7	
MA2				pmax	pmax			
	comp=Z,23nm,1.6s							
MA2	**Magadan**	84.51	343	P	P	16 10 36.5	-1.2	
MA2				IAmb	IAmb	16 10 37.8		
	comp=Z,13nm,1.0s							
MNTX	**Coudas Mount**	84.64	53	P	P	16 10 38.7	-0.4	
	baz=242							
MNTX	**Cornudas Mount**	84.64	53	P	P	16 10 37.7	-1.3	
MNTX				IAmb	IAmb	16 10 40.2		
	comp=Z,20nm,1.2s							
WRAK	**Wrangell Islan**	84.71	22	P	P	16 10 37.9	-0.8	
	baz=220							
B08A	**Colville Reser**	84.77	34	P	P	16 10 37.7	-1.6	
B08A				IAmb	IAmb	16 10 39.6		
	comp=Z,18nm,1.0s							
SML	**Sawmill**	84.80	12	P	P	16 10 39.1	-0.1	
	baz=205							
MESA	**MESA**	84.83	16	P	P	16 10 39.4	-0.2	
	baz=211							
MESA	**MESA**	84.83	16	P	P	16 10 38.6	-0.9	
WAX	**Waxell Ridge**	84.83	15	P	P	16 10 38.3	-1.1	
BMRM	**Bremner River**	84.86	14	P	P	16 10 38.8	-0.7	
	baz=208,SNR=7.6							
BMRM	**Bremner River**	84.86	14	P	P	16 10 38.5	-1.0	
BMRM				IAmb	IAmb	16 10 40.0		
	comp=Z,19nm,1.0s							
TX31	**Lajitas Ar. Si**	84.87	56	P	P	16 10 38.2	-2.1	
TX32	**Lajitas Array**	84.87	56	P	P	16 10 38.1	-2.2	
TX32				IAmb	IAmb	16 10 41.5		
	comp=Z,22nm,1.2s							
TXAR	**Lajitas Array**	84.87	56	P	P	16 10 40.0	-0.4	
	comp=Z,11nm,1.1s,baz=216,slow=6.2,SNR=45							
TXAR				LR	LR	16 40 29.2		
	comp=Z,51nm,21.8s,baz=0.0,slow=30							
TXAR	**Lajitas Array**	84.87	56	P	P	16 10 39.7	-0.6	
TXAR	**Lajitas Array**	84.87	56	P	P	16 10 39.7	-0.6	
BNM	**Barren Site**	84.88	51	P	P	16 10 39.1	-1.4	
CUT	**Chulitna**	84.97	11	P	P	16 10 38.2	-1.7	
	baz=203							
KLU	**Klutina**	85.03	14	P	P	16 10 39.7	-0.7	
	baz=207							
KLU	**Klutina**	85.03	14	P	P	16 10 39.1	-1.3	
SCM	**Sheep Creek Mo**	85.03	13	P	P	16 10 39.1	-1.2	
SCM				pmax	pmax			
	comp=Z,19nm,0.9s							
SCM	**Sheep Creek Mo**	85.03	13	P	P	16 10 39.1	-1.2	
SCM				IAmb	IAmb	16 10 40.7		
	comp=Z,19nm,0.9s							
CRQE	**Cirque**	85.04	15	P	P	16 10 40.5	0.0	
	baz=210							
YAH	**Yahtse**	85.04	16	P	P	16 10 39.2	-1.4	
YAH				IAmb	IAmb	16 10 41.5		
	comp=Z,20nm,0.9s							
PPLA	**Purkeypile**	85.09	10	P	P	16 10 41.2	+0.4	
	baz=201							
ISLE	**Juniper Island**	85.10	16	P	P	16 10 39.0	-1.8	
ISLE				IAmb	IAmb	16 10 41.3		
	comp=Z,13nm,0.9s							
TGL	**Tana Glacier**	85.11	15	P	P	16 10 40.0	-0.8	
TGL				IAmb	IAmb	16 10 42.0		
	comp=Z,24nm,1.2s							
PINM	**Pinnacle**	85.21	17	P	P	16 10 40.7	-0.5	
	baz=212							
K20K	**Telida**	85.22	9	P	P	16 10 40.3	-0.9	
	baz=200,SNR=9.6							
PV20	**West Nyswonger**	85.31	46	P	P	16 10 41.0	-1.5	
VRDI	**Verde Repeater**	85.36	15	P	P	16 10 41.0	-1.1	
VRDI				IAmb	IAmb	16 10 42.6		
	comp=Z,17nm,1.1s							
ANMO	**Albuquerque**	85.38	50	*i*P	P	16 10 42.7	-0.2	
ANMO	**Albuquerque**	85.38	50	P	P	16 10 42.4	-0.5	
	baz=241							
N25K	**Chitina, Valde**	85.43	14	P	P	16 10 41.6	-0.8	
	baz=208,SNR=13							
N25K	**Chitina, Valde**	85.43	14	P	P	16 10 41.4	-0.9	
N25K				IAmb	IAmb	16 10 42.9		
	comp=Z,15nm,0.9s							
GLB	**Gilahina Butte**	85.47	15	P	P	16 10 41.4	-1.1	
GLB				IAmb	IAmb	16 10 42.9		
	comp=Z,15nm,1.0s							
M24K	**Tolsona, Glenn**	85.52	13	P	P	16 10 42.6	-0.2	
	baz=207,SNR=7.9							
M24K	**Tolsona, Glenn**	85.52	13	P	P	16 10 42.4	-0.4	
MCARA	**McCarthy VSAT**	85.60	15	P	P	16 10 42.5	-0.7	
	baz=210							
WAT6	**Susitna Watana**	85.62	12	P	P	16 10 42.5	-0.9	
	baz=206,SNR=13							
LOGN	**Logan Glacier**	85.63	16	P	P	16 10 42.5	-0.9	
LOGN				IAmb	IAmb	16 10 44.0		
	comp=Z,17nm,1.0s							
BARN	**Barnard Glacie**	85.66	16	P	P	16 10 42.0	-1.7	
BARN				IAmb	IAmb	16 10 44.3		
	comp=Z,15nm,0.9s							
CTG	**Chitna Glacier**	85.66	16	P	P	16 10 43.0	-0.6	
	baz=211,SNR=5.6							
CTGM	**Chitina Glacie**	85.66	16	P	P	16 10 42.3	-1.4	
CTGM				IAmb	IAmb	16 10 44.1		
	comp=Z,12nm,0.9s							
BCYI	**Bear Canyon**	85.67	39	P	P	16 10 43.4	-0.8	
WAT1	**Susitna Watana**	85.69	12	P	P	16 10 42.9	-0.7	
	baz=205							
NEW	**Newport**	85.87	35	P	P	16 10 43.5	-1.3	
	comp=Z,3.1nm,0.7s,baz=242,slow=5.3,SNR=7.6							
NEW	**Newport**	85.87	35	P	P	16 10 43.6	-1.3	
NEW				pmax	pmax			
	comp=Z,15nm,1.4s							
NEW	**Newport**	85.87	35	P	P	16 10 43.4	-1.5	
	baz=233							
NEW	**Newport**	85.87	35	P	P	16 10 43.6	-1.2	
KTH	**Kantishna Hill**	85.92	11	P	P	16 10 42.7	-2.0	
KTH				IAmb	IAmb	16 10 44.1		
	comp=Z,14nm,1.0s							
TRF	**Thorofare Moun**	85.94	11	P	P	16 10 43.4	-1.5	
	baz=203,SNR=21							
TRF	**Thorofare Moun**	85.94	11	P	P	16 10 43.1	-1.9	
TRF				IAmb	IAmb	16 10 44.6		
	comp=Z,19nm,0.8s							
J20K	**Nowinta River**	85.98	9	P	P	16 10 44.3	-0.7	
	baz=200,SNR=14							
HARP	**HAARP**	86.00	14	P	P	16 10 44.4	-0.8	
	baz=208							
RND	**Reindeer**	86.16	12	P	P	16 10 44.2	-1.7	
RND				pmax	pmax			
	comp=Z,32nm,1.0s							
RND	**Reindeer**	86.16	12	P	P	16 10 44.2	-1.7	
MCMT	**McKenzie Canyo**	86.29	39	P	P	16 10 44.9	-2.3	
BPAW	**Bear Paw Mtn.**	86.41	10	P	P	16 10 46.2	-1.0	
	baz=202							
MCK	**McKinley**	86.44	11	P	P	16 10 45.4	-1.9	
MCK				pmax	pmax			
	comp=Z,26nm,1.0s							
MCK	**McKinley**	86.44	11	P	P	16 10 46.1	-1.2	
	baz=204,SNR=8.0							
MCK	**McKinley**	86.44	11	P	P	16 10 45.4	-1.9	
PAX	**Paxson**	86.44	13	P	P	16 10 45.5	-1.9	
PAX				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PAX	**Paxson**	86.44	13	P	P	16 10 46.1	-1.2	
	baz=208,SNR=5.8							
PAX	**Paxson**	86.44	13	P	P	16 10 45.5	-1.8	
M26K	**Nabesna, AK**	86.49	14	P	P	16 10 46.8	-0.8	
	baz=210,SNR=15							
HYT	**Haines Junctio**	86.57	17	P	P	16 10 46.3	-1.8	
O20A	**White River Ci**	86.70	45	P	P	16 10 48.2	-1.2	
	baz=240							
BWN	**Browne**	86.75	11	P	P	16 10 47.4	-1.3	
MSO	**Missoula**	86.78	37	P	P	16 10 48.2	-1.3	
	baz=235							
MENT	**Mentasta**	86.80	14	P	P	16 10 48.3	-0.7	
L26K	**Log Cabin Wild**	86.96	14	P	P	16 10 49.9	+0.1	
	baz=210							
DLBC	**Dease Lake**	87.06	22	P	P	16 10 50.4	-0.1	
	comp=Z,4.4nm,1.0s,baz=184,slow=6.6,SNR=5.0							
SMCO	**Snowmass**	87.08	46	P	P	16 10 48.3	-3.1	
LC01	**Cunco**	87.18	131	P	P	16 10 48.8	-2.8	
LC01				IAmb	IAmb	16 10 51.6		
	comp=Z,26nm,1.1s							
BW06	**Boulder Array**	87.19	42	P	P	16 10 50.7	-1.0	
	baz=238							
PDAR	**Pinedale Array**	87.19	42	P	P	16 10 50.8	-0.9	
	comp=Z,2.7nm,1.0s,baz=204,slow=3.3,SNR=4.2							
PDAR				LR	LR	16 41 52.3		
	comp=Z,60nm,20.9s,baz=247,slow=30							
NEA2	**Nenana**	87.20	11	P	P	16 10 49.6	-1.4	
	baz=204							
NEA2	**Nenana**	87.20	11	P	P	16 10 48.5	-2.4	
RIDG	**Independent Ri**	87.26	13	P	P	16 10 50.3	-1.0	
	baz=208,SNR=6.7							
RIDG	**Independent Ri**	87.26	13	P	P	16 10 49.4	-1.9	
RIDG				IAmb	IAmb	16 10 51.6		
	comp=Z,13nm,1.1s							
I21K	**Tanana**	87.26	10	P	P	16 10 50.1	-1.0	
	baz=202							
WRH	**Wood River Hil**	87.27	11	P	P	16 10 49.3	-1.9	
MLY	**Manley**	87.32	10	P	P	16 10 49.7	-1.8	
	baz=203,SNR=8.9							
MLY	**Manley**	87.32	10	P	P	16 10 49.3	-2.3	
L27K	**Beaver Creek,**	87.34	15	P	P	16 10 50.9	-0.7	
	baz=211,SNR=7.3							
L27K	**Beaver Creek,**	87.34	15	P	P	16 10 50.2	-1.5	
DOT	**Dot Lake**	87.34	13	P	P	16 10 50.3	-1.4	
DOT				IAmb	IAmb	16 10 52.0		
	comp=Z,12nm,0.9s							
BCAR	**Beaver Creek A**	87.35	15	P	P	16 10 50.2	-1.6	
PLCA	**Paso Flores**	87.36	133	P	P	16 10 52.1	-0.5	
	comp=Z,4.7nm,1.0s,baz=258,slow=7.8,SNR=5.6							
PLCA				LR	LR	16 40 20.8		
	comp=Z,54nm,22.0s,baz=250,slow=29							
PLCA	**Paso Flores**	87.36	133	P	P	16 10 50.1	-2.4	
PLCA				pmax	pmax			
	comp=Z,31nm,1.5s							
PLCA	**Paso Flores**	87.36	133	P	P	16 10 50.1	-2.4	
PLCA				IAmb	IAmb	16 10 53.3		
	comp=Z,31nm,1.5s							
HDA	**Harding Lake**	87.43	12	P	P	16 10 50.9	-1.2	
	baz=206,SNR=5.8							
HDA	**Harding Lake**	87.43	12	P	P	16 10 50.6	-1.4	
BOZ	**Bozeman (W)**	87.43	39	P	P	16 10 51.8	-0.9	
	baz=237							
CCB	**Clear Creek Bu**	87.48	11	P	P	16 10 50.5	-1.7	
CCB				IAmb	IAmb	16 10 52.8		
	comp=Z,17nm,1.1s							
MSTX	**Muleshoe**	87.63	52	P	P	16 10 53.0	-0.9	
	baz=243							
MSTX	**Muleshoe**	87.63	52	P	P	16 10 52.2	-1.7	
MSTX				IAmb	IAmb	16 10 54.4		
	comp=Z,14nm,1.0s							
SCRK	**Sand Creek**	87.65	13	P	P	16 10 52.4	-0.9	
	baz=209,SNR=7.1							
SCRK	**Sand Creek**	87.65	13	P	P	16 10 51.8	-1.4	
I23K	**Minto, Yukon-K**	87.66	11	P	P	16 10 53.0	0.0	
	baz=204,SNR=5.7							
I23K	**Minto, Yukon-K**	87.66	11	P	P	16 10 51.1	-2.0	
I23K				IAmb	IAmb	16 10 53.8		
	comp=Z,15nm,1.5s							
COLA	**College**	87.68	11	*i*P	P	16 10 52.3	-0.9	
COLA				pmax	pmax	

ZEA					pmax	pmax		
	comp=Z,10.0nm,1.2s							
EGAK	**Eagle**	**88.96**	**14**	P	**P**	**P**	**16 10 58.7**	**-0.6**
	baz=212							
EGAK	**Eagle**	**88.96**	**14**	P	**P**	**P**	**16 10 58.1**	**-1.2**
EGAK					IAmb	IAmb	16 10 60.0	
	comp=Z,10.0nm,1.1s							
K22A	**Casper**	**89.07**	**43**	P	**P**	**P**	**16 10 59.4**	**-1.2**
	baz=241							
BILL	**Bilibino**	**89.33**	**353**	⇓*e*P		**P**	**16 11 01.0**	**0.0**
BILL					pmax	pmax		
	comp=Z,10.0nm,1.9s							
ABTX	**Abilene, Hawle**	**89.41**	**55**	P	**P**	**P**	**16 11 01.0**	**-1.2**
	baz=245							
ABTX	**Abilene, Hawle**	**89.41**	**55**	P	P		16 11 00.3	-1.9
XAN	**Xi'an**	**90.23**	**306**	P	P	**P**	**16 11 06.6**	**+0.6**
XAN					pP	PcP	16 11 09.5	+2.3
XAN					pmax	pmax		
	comp=Z,8.0nm,1.2s							
BMAR	**Burnt Mountain**	**90.57**	**11**	P	**P**	**P**	**16 11 06.4**	**-0.4**
TOLK	**Toolik Lake Re**	**90.83**	**9**	P	**P**	**P**	**16 11 07.3**	**-0.7**
	baz=204							
WHTX	**Lake Whitney,**	**90.84**	**56**	P	P		16 11 07.3	-1.6
	baz=246							
WMOK	**Wichita Mounta**	**90.94**	**53**	P	**P**	**P**	**16 11 08.8**	**-0.5**
	baz=246							
LAO	**LASA Array**	**91.22**	**40**	P	**P**	**P**	**16 11 09.5**	**-0.8**
	baz=241							
HHC	**Hu-ho-hao-te**	**91.24**	**313**	*e*P		**P**	**16 11 11.0**	**+0.3**
HHC					S	S	16 22 02.3	-7.2
HHC					pmax	pmax		
	comp=Z,21nm,1.3s							
HHC					pmax	pmax		
	comp=Z,75nm,7.2s							
EPYK	**Eagle Plains**	**91.32**	**15**	P	**P**	**P**	**16 11 09.5**	**-0.8**
	baz=216							
EPYK	**Eagle Plains**	**91.32**	**15**	P	**P**	**P**	**16 11 09.3**	**-1.0**
EPYK					IAmb	IAmb	16 11 10.9	
	comp=Z,12nm,1.1s							
RSSD	**Black Hills**	**91.36**	**43**	P	P	P	16 11 09.5	-1.8
RSSD					pmax	pmax		
	comp=Z,20nm,1.2s							
RSSD	**Black Hills**	**91.36**	**43**	P	**P**	**P**	**16 11 10.0**	**-1.3**
	baz=242							
RSSD	**Black Hills**	**91.36**	**43**	P	P	P	16 11 09.5	-1.8
X34A	**Smith Ranch, M**	**91.60**	**54**	P	P	P	16 11 10.2	-2.2
FNO	**Franklin**	**92.19**	**53**	P	P	P	16 11 12.8	-2.3
CMAR	**Chiang Mai Arr**	**92.59**	**289**	P	P	**P**	**16 11 17.5**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=116,slow=2.7,SNR=10							
CMAR					LR	LR	16 51 18.7	
	comp=Z,26nm,19.0s,baz=184,slow=34							
CMAR	**Chiang Mai Arr**	**92.59**	**289**	P	P	P	16 11 15.5	-1.8
KAN17	**Caldwell West**	**92.63**	**51**	P	P	**P**	**16 11 15.6**	**-1.5**
KAN13	**South Haven SW**	**92.83**	**52**	P	P	P	16 11 16.4	-1.6
KS20	**Mayfield South**	**92.86**	**51**	P	P	**P**	**16 11 17.2**	**-0.9**
CD2	**Chengdu**	**93.01**	**302**	*e*P		**P**	**16 11 18.5**	**-0.5**
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
YAK	**Yakutsk**	**93.12**	**337**	*ce*P		P	16 11 16.3	-2.3
YAK					pmax	pmax		
	comp=Z,7.0nm,0.6s							
T35A	**Sooner Cattle**	**93.50**	**52**	P	P	P	16 11 18.8	-2.3
T35A					IAmb	IAmb	16 11 21.3	
	comp=Z,18nm,1.2s							
INK	**Inuvik**	**93.61**	**14**	P	**P**	**P**	**16 11 20.2**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=210,slow=3.6,SNR=4.3							
INK	**Inuvik**	**93.61**	**14**	P	**P**	**P**	**16 11 19.4**	**-1.4**
INK					pmax	pmax		
	comp=Z,7.0nm,1.1s							
INK	**Inuvik**	**93.61**	**14**	P	**P**	**P**	**16 11 19.8**	**-1.0**
	baz=218							
INK	**Inuvik**	**93.61**	**14**	P	**P**	**P**	**16 11 19.4**	**-1.4**
JTS	**Las Juntas de**	**93.78**	**80**	*i* P		P	16 11 21.3	-1.6
JTS					pmax	pmax		
	comp=Z,9.0nm,1.0s							
MIAR	**Mount Ida**	**94.82**	**55**	P	**P**	**P**	**16 11 26.2**	**-1.0**
	baz=248							
LZH	**Lanzhou**	**94.86**	**307**	*e*P		**P**	**16 11 27.3**	**-0.3**
LZH					pP	PcP	16 11 29.5	+1.6
LZH					sP	pP	16 11 32.0	+1.6
LZH					pmax	pmax		
	comp=Z,21nm,1.4s							
W39A	**Magazine**	**94.90**	**54**	P	**P**	**P**	**16 11 26.0**	**-1.5**
	baz=248							
YKA	**Yellowknife Ar**	**95.44**	**24**	P	**P**	**P**	**16 11 28.5**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=231,slow=4.2,SNR=12							
YKA					LR	LR	16 47 13.4	
	comp=Z,39nm,21.8s,baz=0.0,slow=31							
MDND	**Maddock**	**95.77**	**41**	P	**P**	**P**	**16 11 29.8**	**-1.4**
	baz=246							
ECSD	**EROS Data Cent**	**96.06**	**46**	P	**P**	**P**	**16 11 31.3**	**-1.4**
	baz=247							
R40A	**Maddies Statio**	**97.14**	**52**	P	P	P	16 11 35.5	-2.2
R40A					IAmb	IAmb	16 11 37.3	
	comp=Z,9.5nm,1.2s							
SONM	**Songino Array**	**97.49**	**318**	P	**P**	**P**	**16 11 39.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=128,slow=2.4,SNR=5.5							
ULM	**Lac du Bonnet**	**98.95**	**40**	LR	LR	LR	16 49 38.8	
	comp=Z,101nm,21.6s,baz=294,slow=31							
GTA	**Gaotai**	**99.01**	**309**	*e*P		Pdif	16 11 50.9	+4.7
GTA					pP	pwP	16 11 58.4	+7.2
GTA					sP	sP	16 12 01.3	+11
GTA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
LPAZ	**La Paz**	**99.63**	**111**	LR	LR	LR	16 46 11.5	
	comp=Z,42nm,20.0s,baz=288,slow=29							
ZALV	**Zalesovo Beam**	**112.14**	**321**	PKiKP	**PKiKP**	**16 16 38.4**	**-2.1**	
	comp=Z,1.4nm,0.7s,baz=63,slow=2.3,SNR=6.4							
MKAR	**Makanchi Array**	**113.11**	**313**	PKiKP	**PKiKP**	**16 16 40.6**	**-1.9**	
	comp=Z,0.7nm,0.5s,baz=135,slow=0.4,SNR=13							
MKAR					PKKPbc	**PKKPbc**	**16 27 27.8**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=236,slow=1.0,SNR=4.6							
MKAR	**Makanchi Array**	**113.11**	**313**	*i* PKIKP	**PKiKP**	**16 16 39.8**	**-2.7**	
MKAR	**Makanchi Array**	**113.11**	**313**		**PKiKP**	**16 16 39.8**	**-2.7**	
KSH	**Kashi**	**117.04**	**305**	*e*P	PKPdif	16 16 42.8	-7.7	
KSH					pP	pPKPdf	16 16 55.8	+2.3
KSH					pmax	pmax		
	comp=Z,4.0nm,2.8s							
KSH					pmax	pmax		
	comp=Z,52nm,4.0s							
BRVK	**Borovoye**	**120.82**	**320**	*c i* PKIKP	**PKPdf**	**16 16 55.9**	**-1.2**	
BRVK					pmax	pmax		
	comp=Z,8.0nm,2.5s							
BRVK	**Borovoye**	**120.82**	**320**		**PKPdf**	**16 16 55.0**	**-2.1**	
ARU	**Arti**	**126.68**	**326**	*i* PKIKP	**PKPdf**	**16 17 07.0**	**-1.3**	
ARU						16 19 04.2		
ARU						16 24 18.1		
ARU	**Arti**	**126.68**	**326**		**PKPdf**	**16 17 06.9**	**-1.4**	
ARCES	**ARCESS Array B**	**129.38**	**351**	PKP	**PKPdf**	**16 17 12.0**	**-1.1**	
	comp=Z,2.0nm,0.8s,baz=3.4,slow=0.9,SNR=6.4							
ARCES	**ARCESS Array B**	**129.38**	**351**	PKIKP	**PKPdf**	**16 17 12.0**	**-1.1**	
FINES	**FINESS Array B**	**136.48**	**345**	PKhKP	PKPpre	16 17 17.7		
	comp=Z,1.9nm,0.9s,baz=102,slow=3.4,SNR=1.7							
FINES					PKP	**PKPdf**	**16 17 26.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=88,slow=4.6,SNR=5.1							
OBN	**Obninsk**	**137.98**	**333**	*e*PKIKP	**PKPdf**	**16 17 28.4**	**-1.1**	
OBN					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KIV	**Kislovodsk**	**140.82**	**315**	*i* PKIKP	**PKPdf**	**16 17 36.0**	**+0.7**	
KIV					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,23nm,24.0s							
MNK	**Minsk**	**141.80**	**338**	*i* PKIKP	**PKPdf**	**16 17 33.6**	**-2.9**	
MNK				*i*		16 20 38.0		
MNK				*i* PPP	PPP	16 23 45.1		
MNK				*i*		16 24 45.1		
MNK				*i* SS	SS	16 39 10.3	-1.7	
MNK				*i* SSS	SSS	16 44 31.3		
MNK					pmax	pmax		
	comp=E,2.0nm,0.9s							
MNK					pmax	pmax		
	comp=Z,4.0nm,0.6s							
MNK					pmax	pmax		
	comp=N,9.0nm,0.8s							
MNK					MLR	MLR		
	comp=E,10.0nm,19.0s							
MNK					MLR	MLR		
	comp=N,332nm,24.0s							
MNK					MLR	MLR		
	comp=Z,97nm,23.0s							
MNK	**Minsk**	**141.80**	**338**	*i* PKP	**PKPdf**	**16 17 33.7**	**-2.9**	
	comp=E,2.0nm,0.9s							
MNK				*i* PKP	**PKPdf**	**16 17 33.7**	**-2.9**	
	comp=N,9.0nm,0.8s							
MNK				*i* PKP	**PKPdf**	**16 17 33.7**	**-2.9**	
	comp=Z,4.0nm,0.6s,baz=216							
MNK				*i* PP	**PP**	**16 20 38.1**	**-2.5**	
MNK				*i* PPP	PPP	16 23 45.2		
MNK				*i* SKS	**SKSdf**	**16 24 45.2**	**-1.3**	
MNK				*i* SS	**SS**	**16 39 10.3**	**-1.7**	
MNK				*i* SSS	SSS	16 44 31.4		
MNK				*i* LQ	LQ	17 09 29.6		
MNK				*i* LR	LR	17 11 26.2		
MNK				*i* LRM	MLR	17 18 50.9		
	comp=E,10.0nm,19.3s							
MNK				*i* LRM	MLR	17 19 05.1		
	comp=N,332nm,24.5s							
MNK				*i* LRM	MLR	17 19 45.1		
	comp=Z,97nm,23.2s							
AKASG	**Malin Array Be**	**144.24**	**333**	PKP	**PKPab**	**16 17 37.6**	**-1.2**	
	comp=Z,9.6nm,0.7s,baz=41,slow=4.5,SNR=32							
AKASG	**Malin Array Be**	**144.24**	**333**		**PKPab**	**16 17 37.3**	**-1.5**	
AKBB	**Malin Array Si**	**144.24**	**333**	PKIKP	**PKPab**	**16 17 37.5**	**-1.3**	
AKBB	**Malin Array Si**	**144.24**	**333**		**PKPab**	**16 17 37.5**	**-1.3**	
LODK	**Lodwar**	**145.72**	**244**		**PKPdf**	**16 17 44.0**	**-0.8**	
SORM	**Soroca**	**146.53**	**331**	⇓P	**PKPdf**	**16 17 45.3**	**+0.3**	
SORM	**Soroca**	**146.53**	**331**	⇓PKP2	**PKPdf**	**16 17 45.3**	**+0.3**	
LVV	**L'vov**	**146.99**	**337**	*e*PKP2	**PKPdf**	**16 17 46.2**	**+0.5**	
BNN	**Bunyan**	**147.63**	**311**		**PKPdf**	**16 17 48.9**	**+1.5**	
OJC	**Ojcow**	**148.05**	**342**	PKIKP	**PKPdf**	**16 17 45.8**	**-1.7**	
OJC	**Ojcow**	**148.05**	**342**	PKPdf	**PKPdf**	**16 17 45.8**	**-1.7**	
BUR08	**Bucovina Ar. S**	**148.28**	**333**		**PKPdf**	**16 17 50.5**	**+2.4**	
BURAR	**Bucovina Array**	**148.30**	**333**	⇓P	**PKPdf**	**16 17 51.3**	**+3.2**	
BURAR	**Bucovina Array**	**148.30**	**333**	⇓PKP2	**PKPdf**	**16 17 51.3**	**+3.2**	
BURAR	**Bucovina Array**	**148.30**	**333**		**PKPdf**	**16 17 50.5**	**+2.4**	
CLL	**Collm**	**148.59**	**350**	*i* PKPbc	**PKPdf**	**16 17 51.1**	**+2.8**	
	comp=Z,23nm,0.9s							
CLL				*i* PKPab	**pPKPdf**	**16 17 54.5**	**+3.2**	
	comp=Z,12nm,0.8s							
CLL				*i* pPKiKP	**sPKPdf**	**16 17 55.9**	**+3.6**	
CLL				*i*		16 18 02.3		
CLL				*i*		16 18 10.7		
	comp=Z,31nm,1.2s							
CLL	**Collm**	**148.59**	**350**	*i* PKP2	**PKPdf**	**16 17 51.1**	**+2.8**	
CLL				pmax	pmax			
	comp=Z,23nm,0.9s							
CLL	**Collm**	**148.59**	**350**		**PKPdf**	**16 17 50.8**	**+2.4**	
UZH	**Uzhgorod**	**148.62**	**337**	⇑*i* PKP2	**PKPdf**	**16 17 51.6**	**+3.2**	
CRVS	**Cervenica-Dubn**	**148.68**	**339**	*e*PKP2	**PKPdf**	**16 17 52.3**	**+3.7**	
CRVS	**Cervenica-Dubn**	**148.68**	**339**	*e*PKP	**PKPdf**	**16 17 52.3**	**+3.7**	
OSTC	**Ostas**	**148.68**	**346**	⇑*e*PKP	**PKPdf**	**16 17 52.1**	**+3.5**	
BR131	**Keskin Array S**	**148.75**	**314**	PKP2	**PKPdf**	**16 17 51.5**	**+2.3**	
BR131	**Keskin Array S**	**148.75**	**314**		**PKPdf**	**16 17 51.5**	**+2.3**	
BRTR	**Keskin Array B**	**148.75**	**314**	PKPbc	**PKPdf**	**16 17 51.5**	**+2.3**	
	comp=Z,3.0nm,0.6s,baz=142,slow=3.7,SNR=12							
BRTR	**Keskin Array B**	**148.75**	**314**		**PKPdf**	**16 17 51.3**	**+2.1**	
CFR	**Carcaliu**	**148.75**	**327**	⇓P	**PKPdf**	**16 17 51.9**	**+3.2**	
CFR	**Carcaliu**	**148.75**	**327**	⇓PKP2	**PKPdf**	**16 17 51.9**	**+3.2**	
UPC	**Upice**	**148.78**	**346**	*e*PKP2	**PKPdf**	**16 17 52.3**	**+3.6**	
UPC	**Upice**	**148.78**	**346**	⇑*e*PKP	**PKPdf**	**16 17 52.3**	**+3.6**	
TPGR	**Topolog**	**148.83**	**327**	⇓P	**PKPdf**	**16 17 52.4**	**+3.5**	
BRG	**Berggiesshubel**	**148.85**	**349**	*e*PKP	**PKPdf**	**16 17 48.6**	**-0.2**	
BRG				Amp		16 17 50.2		
	comp=Z,6.9nm,1.5s							
BRG	**Berggiesshubel**	**148.85**	**349**	*i* P	**PKPdf**	**16 17 52.4**	**+3.6**	
BRG				Amp		16 17 53.1		
	comp=Z,12nm,0.9s							
DPC	**Dobruska-Polom**	**148.85**	**346**	*e*PKP2	**PKPdf**	**16 17 52.8**	**+3.9**	
DPC	**Dobruska-Polom**	**148.85**	**346**	⇑*e*PKP	**PKPdf**	**16 17 52.8**	**+3.9**	
DPC				*e*PKPAB	**PKPbc**	**16 17 56.4**	**+3.6**	
DPC				*ex*	x	16 18 12.5		
OKC	**Ostrava-Krasne**	**148.87**	**343**	*e*PKP2	**PKPdf**	**16 17 52.4**	**+3.6**	
OKC	**Ostrava-Krasne**	**148.87**	**343**	⇑*e*PKP	**PKPdf**	**16 17 52.4**	**+3.6**	
VRI	**Vrincioaia**	**148.95**	**330**	⇓P	**PKPdf**	**16 17 52.1**	**+3.0**	
VRI	**Vrincioaia**	**148.95**	**330**	⇓PKP2	**PKPdf**	**16 17 52.1**	**+3.0**	
BMR	**Baia Mare**	**148.95**	**335**	⇑P	**PKPdf**	**16 17 52.5**	**+3.4**	
BMR	**Baia Mare**	**148.95**	**335**	⇑PKP2	**PKPdf**	**16 17 52.5**	**+3.4**	
KRLC	**Kraliky**	**149.00**	**345**	*e*PKP2	**PKPdf**	**16 17 52.7**	**+3.6**	
KRLC	**Kraliky**	**149.00**	**345**	⇑*e*PKP	**PKPdf**	**16 17 52.7**	**+3.6**	
PLOR	**Plostina**	**149.00**	**330**	⇑P	**PKPdf**	**16 17 52.1**	**+2.9**	
PLOR	**Plostina**	**149.00**	**330**	⇑PKP2	**PKPdf**	**16 17 52.1**	**+2.9**	
MORC	**Moravsky Berou**	**149.08**	**344**	⇓P	**PKPdf**	**16 17 53.1**	**+3.8**	
MORC	**Moravsky Berou**	**149.08**	**344**	⇓PKP2	**PKPdf**	**16 17 53.1**	**+3.8**	
MORC	**Moravsky Berou**	**149.08**	**344**		**PKPdf**	**16 17 52.2**	**+3.0**	
MORC	**Moravsky Berou**	**149.08**	**344**	*e*PKP	**PKPdf**	**16 17 52.4**	**+3.1**	
LANS	**Liptovska Anna**	**149.10**	**341**	*e*PKP2	**PKPdf**	**16 17 54.0**	**+4.7**	
LANS	**Liptovska Anna**	**149.10**	**341**	*e*PKP	**PKPdf**	**16 17 54.0**	**+4.7**	
DOPR	**Dopca**	**149.50**	**331**	⇓P	**PKPdf**	**16 17 54.6**	**+4.6**	
PRU	**Pruhonice**	**149.58**	**348**	*e*PKP2	**PKPdf**	**16 17 54.0**	**+4.0**	
PRU	**Pruhonice**	**149.58**	**348**	⇑*e*PKP	**PKPdf**	**16 17 54.0**	**+4.0**	
PRU				*ex*	x	16 18 14.3		
MLR	**Muntele Rosu**	**149.60**	**330**	⇑P	**PKPdf**	**16 17 54.8**	**+4.4**	
MLR	**Muntele Rosu**	**149.60**	**330**	PKP2	**PKPdf**	**16 17 53.3**	**+3.0**	
MLR	**Muntele Rosu**	**149.60**	**330**		**PKPdf**	**16 17 53.3**	**+3.0**	
NKC	**Novy Kostel**	**149.72**	**350**	*e*PKP2	**PKPdf**	**16 17 54.3**	**+4.1**	
NKC	**Novy Kostel**	**149.72**	**350**	⇑*e*PKP	**PKPdf**	**16 17 54.3**	**+4.1**	
NKC				*ex*	x	16 18 15.0		
VRAC	**Vranov**	**149.75**	**345**	⇓P	**PKPdf**	**16 17 55.2**	**+4.9**	
VRAC	**Vranov**	**149.75**	**345**	⇓PKP2	**PKPdf**	**16 17 55.2**	**+4.9**	
VRAC	**Vranov**	**149.75**	**345**	*e*PKP	**PKPdf**	**16 17 54.0**	**+3.7**	
VYHS	**Vyhne**	**149.88**	**341**	*e*PKP2	**PKPdf**	**16 17 54.9**	**+4.4**	
VYHS	**Vyhne**	**149.88**	**341**	*e*PKP	**PKPdf**	**16 17 54.9**	**+4.4**	
JAVC	**Velka Javorina**	**149.88**	**343**	*e*PKP	**PKPdf**	**16 17 55.7**	**+5.1**	
KOLL	**Kolacno**	**149.93**	**342**	*e*PKP	**PKPdf**	**16 17 55.4**	**+4.8**	
MEM	**Membach**	**149.95**	**358**	*d*PKiKP	**PKPdf**	**16 17 54.6**	**+4.1**	
MEM				*dx*	x	16 18 14.8		
MDUB	**Mudurnu**	**149.96**	**317**		**PKPdf**	**16 17 54.6**	**+3.6**	
BTNL	**Ternell**	**149.97**	**358**	*d*PKiKP	**PKPdf**	**16 17 54.4**	**+3.8**	
BTNL				*dx*	x	16 18 14.6		
BSTI	**Sart Tilman**	**149.98**	**359**	*d*PKiKP	**PKPdf**	**16 17 55.0**	**+4.4**	
BSTI				*dx*	x	16 18 14.9		
KRUC	**Moravsky**	**150.03**	**345**	*e*PKP	**PKPdf**	**16 17 54.7**	**+4.0**	
PSZ	**Piszkesteto**	**150.05**	**339**	⇓P	**PKPdf**	**16 17 54.5**	**+3.6**	
PSZ	**Piszkesteto**	**150.05**	**339**	⇑*e*PKP	**PKPdf**	**16 17 54.2**	**+3.3**	
PSZ	**Piszkesteto**	**150.05**	**339**	*e*P	**PKPdf**	**16 17 55.4**	**+4.5**	
PSZ	**Piszkesteto**	**150.05**	**339**	⇓PKIKP	**PKPdf**	**16 17 54.5**	**+3.6**	
PSZ	**Piszkesteto**	**150.05**	**339**		**PKPdf**	**16 17 54.5**	**+3.6**	
VOIR		**150.05**	**331**	⇓P	**PKPdf**	**16 17 55.6**	**+4.6**	
VOIR		**150.05**	**331**	⇓PKIKP	**PKPdf**	**16 17 55.6**	**+4.6**	
BCLA	**Clavier**	**150.15**	**359**	*ds*PKiKP	**PKiKP**	**16 18 00.8**	**+4.0**	
BMRD	**Maredsous**	**150.27**	**0**	*d*PKiKP	**PKPdf**	**16 17 55.7**	**+4.7**	
BMRD				*d*PKPab	**PKiKP**	**16 18 00.4**	**+3.4**	
BMRD				*dx*	x	16 18 15.7		
GHAJ	**Ghor Haditha**	**150.40**	**298**		**PKPdf**	**16 17 56.1**	**+4.3**	
MODS	**Modra-Piesok**	**150.44**	**343**	*e*PKIKP	**PKPbc**	**16 17 57.7**	**+1.0**	
MODS	**Modra-Piesok**	**150.44**	**343**	*e*PKP	**PKPbc**	**16 17 57.7**	**+1.0**	
KHC	**Kasperske Hory**	**150.59**	**348**	*e*PKIKP	**PKPdf**	**16 17 56.7**	**+5.0**	
KHC	**Kasperske Hory**	**150.59**	**348**	⇑*e*PKP	**PKPdf**	**16 17 56.7**	**+5.0**	
KHC				*ex*	x	16 18 16.0		
KHC	**Kasperske Hory**	**150.59**	**348**		**PKPdf**	**16 17 56.1**	**+4.5**	
CKRC	**Cesky Krumlov**	**150.74**	**347**	⇑*e*PKP	**PKPdf**	**16 17 57.1**	**+5.2**	
CKRC				*ex*	x	16 18 16.6		
SIRR	**Siria**	**150.83**	**336**	⇓P	**PKPdf**	**16 17 57.0**	**+4.9**	
GERES	**GERESS Array B**	**150.84**	**348**	PKPbc	**PKPdf**	**16 17 57.1**	**+5.0**	
	comp=Z,7.3nm,0.8s,baz=36,slow=2.5,SNR=50							
GERES	**GERESS Array B**	**150.84**	**348**		**PKPdf**	**16 17 56.4**	**+4.3**	
WLF	**Walferdange**	**150.89**	**358**	*d*PKiKP	**PKPdf**	**16 17 57.0**	**+4.9**	
WLF				*dx*	x	16 18 17.5		
WLF	**Walferdange**	**150.89**	**358**	PKIKP	**PKPdf**	**16 17 56.9**	**+4.9**	
WLF	**Walferdange**	**150.89**	**358**		**PKPdf**	**16 17 56.9**	**+4.9**	
GZR	**Gura Zlata**	**151.09**	**333**	⇓P	**PKPdf**	**16 17 57.3**	**+4.7**	
GZR	**Gura Zlata**	**151.09**	**333**	⇓PKIKP	**PKPdf**	**16 17 57.3**	**+4.7**	
CONA	**Conrad Observa**	**151.22**	**344**	*e*P	**PKPdf**	**16 17 57.9**	**+5.2**	
	comp=Z,12nm,0.8s,SNR=10							
BZS	**Buzias**	**151.38**	**335**	⇓P	**PKPdf**	**16 17 58.2**	**+5.3**	
BZS	**Buzias**	**151.38**	**335**	⇓PKIKP	**PKPdf**	**16 17 58.2**	**+5.3**	
MPLH	**Magyarpolny**	**151.45**	**342**	⇑*e*PKP	**PKPdf**	**16 17 57.8**	**+4.8**	
MPLH	**Magyarpolny**	**151.45**	**342**	*e*P	**PKPdf**	**16 17 58.5**	**+5.5**	
TIH	**Tihany**	**151.59**	**341**	*e*P	**PKPbc**	**16 18 01.0**	**+1.7**	
HERR	**Herculane**	**151.65**	**333**	⇓P	**PKPdf**	**16 17 58.8**	**+5.4**	
MOA	**Molln**	**151.67**	**346**	*e*P	**PKPdf**	**16 17 58.2**	**+4.9**	
	comp=Z,4.5nm,0.8s,SNR=5.8							
MORH	**Mrgy, Hungar**	**151.96**	**339**	⇑P	**PKPdf**	**16 17 59.3**	**+5.6**	
MORH	**Mrgy, Hungar**	**151.96**	**339**	*e*PKPDF	**PKPdf**	**16 17 52.3**	**-1.4**	
MORH	**Mrgy, Hungar**	**151.96**	**339**	⇑*e*PKP	**PKPdf**	**16 17 58.8**	**+5.0**	
MORH	**Mrgy, Hungar**	**151.96**	**339**	*e*P	**PKPdf**	**16 17 59.2**	**+5.5**	
BFO	**Black Forest**	**152.10**	**355**	PKIKP	**PKPdf**	**16 17 58.9**	**+4.9**	
BFO	**Black Forest**	**152.10**	**355**		**PKPdf**	**16 17 58.9**	**+4.9**	
KOVH	**Kovagotottos**	**152.25**	**340**	⇑*e*PKP	**PKPdf**	**16 17 59.1**	**+4.9**	
KOVH	**Kovagotottos**	**152.25**	**340**	*e*P	**PKPdf**	**16 17 60.0**	**+5.8**	
SOKA	**Soboth**	**152.59**	**345**	*e*P	**PKPdf**	**16 18 00.2**	**+5.4**	
	comp=Z,5.6nm,0.9s,SNR=5.1							
KBA	**Koelnbreinsper**	**152.59**	**347**	*e*P	**PKPdf**	**16 18 00.8**	**+5.8**	
	comp=Z,4.5nm,0.9s							
RETA	**Reutte**	**152.65**	**351**	*e*P	**PKPdf**	**16 18 00.7**	**+5.9**	
	comp=Z,4.2nm,0.9s							
WATA	**Walderalm**	**152.68**	**350**	*e*P	**PKPdf**	**16 18 00.5**	**+5.5**	
	comp=Z,4.7nm,0.9s							
WTTA	**Wattenberg**	**152.74**	**350**	*e*P	**PKPdf**	**16 18 01.0**	**+5.8**	
	comp=Z,9.9nm,0.6s,SNR=5.9							
MOTA	**Moosalm**	**152.74**	**351**	*e*P	**PKPdf**	**16 18 01.0**	**+5.8**	
	comp=Z,7.4nm,0.9s							
SQTA	**Sankt Quirin**	**152.85**	**350**	*e*P	**PKPdf**	**16 18 01.2**	**+6.0**	
	comp=Z,8.9nm,1.0s							
OBKA	**Obir**	**152.86**	**345**	*e*P	**PKPdf**	**16 18 01.0**	**+5.7**	
	comp=Z,2.9nm,0.9s							
MYKA	**Terra Mystica**	**152.96**	**347**	*e*P	**PKPdf**	**16 18 00.9**	**+5.5**	
	comp=Z,4.5nm,0.8s							
DAVA	**Damuels**	**152.97**	**352**	*e*P	**PKPbc**	**16 18 02.6**	**-0.1**	
	comp=Z,11nm,1.0s							
VTS	**Vitosha**	**153.04**	**329**	⇑P	**PKPdf**	**16 18 01.4**	**+5.7**	
VTS	**Vitosha**	**153.04**	**329**	PKIKP	**PKPdf**	**16 18 01.1**	**+5.4**	
VTS	**Vitosha**	**153.04**	**329**	PKPdf	**PKPdf**	**16 17 54.6**	**-1.1**	
VTS					**PKPdf**	**16 18 01.1**	**+5.4**	
ABTA	**Abfaltersbach**	**153.08**	**348**	*e*P	**PKPdf**	**16 18 01.4**	**+5.8**	
	comp=Z,8.0nm,0.8s							
FETA	**Feichten**	**153.11**	**351**	*e*P	**PKPdf**	**16 18 01.9**	**+6.2**	
	comp=Z,6.2nm,0.9s							
DIVS	**Divibare**	**153.29**	**335**	PKPbc	**PKPdf**	**16 18 02.0**	**+6.1**	
DIVS					**PKPab**	**16 18 14.8**	**-0.4**	
STAL	**STALIGIAL**	**153.51**	**348**		**PKPdf**	**16 18 02.3**	**+6.2**	
TUE	**Stuetta**	**153.84**	**353**		**PKPdf**	**16 18 03.2**	**+6.4**	
TUE				PKPab	**PKPab**	**16 18 16.4**	**-1.2**	
NRCA	**Norcia**	**156.67**	**344**		**PKPab**	**16 18 28.8**	**-0.8**	
PAB	**San Pablo**	**159.47**	**20**	PKIKP	**PKPdf**	**16 18 03.0**	**-1.1**	
PAB	**San Pablo**	**159.47**	**20**		**PKPdf**	**16 18 03.0**	**-1.1**	
ESDC

GULN MERSIN_Gulnar 1.55 19 *i* P Pn **16 29 42.3 -1.5**
GULN *i* S Sn **16 30 02.4 -1.0**
TISA Tisan-Mersin 1.57 23 PN Pn **16 29 42.7 -1.3**
TEPK Tepekoy-MERSIN 1.59 18 PN Pn **16 29 43.1 -1.2**
YESI Yesilovacik-Me 1.59 21 PN Pn **16 29 42.9 -1.4**
GAZI Gazipasa 1.60 342 *i* P Pn **16 29 43.4 -1.0**
GAZI *i* S Sn **16 30 04.8 +0.2**
GAZI Gazipasa 1.60 342 PN Pn **16 29 44.1 -0.3**
KARG Kargicak-Mersi 1.62 23 PN Pn **16 29 43.6 -1.1**
IKL Isikli 1.64 22 PN Pn **16 29 43.4 -1.6**
BERE Bereket-Mersin 1.65 8 PN Pn **16 29 43.8 -1.4**
OSC2 CSNet OBS 4 1.72 199 P Pn **16 29 45.4 -0.7**
OSC2 S Sb **16 30 09.7 +0.3**
TEVE Tevekalti-Mers 1.77 14 PN Pn **16 29 45.8 -1.0**
OSC1 CSNet OBS 1 1.82 229 P Pn **16 29 47.5 0.0**
OSC1 S Sn **16 30 12.3 +2.1**
SILI Silifke-Mersin 1.84 26 PN Pn **16 29 46.7 -1.0**
KEBE Keben-Mersin 1.84 20 PN Pn **16 29 46.6 -1.3**
ERMK Ermenek 1.92 360 *i* P Pn **16 29 49.1 0.0**
ERMK *i* S Sn **16 30 12.1 -0.8**
KIZK Mersin 2.02 29 *i* P Pn **16 29 49.5 -0.8**
KIZK *i* S Sn **16 30 13.0 -2.1**
KIZK Mersin 2.02 29 PN Pn **16 29 49.3 -0.9**
BEYL Beirut 2.29 111 *eP* Pn **16 29 52.4 -1.4**
BHL Bhannes 2.40 109 *eP* Pn **16 29 54.2 -1.3**
BHL *eS* Sn **16 30 22.6 -2.0**
DQRL Deir Qamar 2.41 114 *eP* Pn **16 29 54.3 -1.4**
DQRL *eS* Sn **16 30 23.2 -1.7**
KEPZ Antalya-Kepez 2.43 334 *i* P Pn **16 29 56.9 +1.0**
KEPZ *i* S Sn **16 30 24.1 -1.1**
KRMN Karaman 2.47 6 PN Pn **16 29 55.9 -0.6**
HNTI Hanita 2.48 130 Pn Pn **16 29 56.9 +0.4**
KKBE Karaman, Kazim 2.50 0 *i* P Pn **16 29 59.3 +2.4**
KKBE *i* S Sn **16 30 28.5 +1.4**
MERS Mersin 2.51 31 PN Pn **16 29 56.3 -0.7**
HWQ Hawqa 2.54 99 *eP* Pn **16 29 56.5 -0.9**
HWQ *eS* Sn **16 30 26.7 -1.2**
QRWL Qaraoun 2.57 116 *eP* Pn **16 29 58.3 +0.5**
AKUM Antalya-Kumluc 2.65 308 *i* P Pn **16 30 01.7 +2.9**
AKUM *i* S Sb **16 30 36.4 +0.4**
MMA0B Mount Meron ar 2.67 129 Pn Pn **16 29 59.2 0.0**
MMA0B Sn Sn **16 30 30.4 -0.8**
MMAI Mount Meron Ar 2.67 129 Pn Pn **16 29 57.4 -1.8**
69nm,0.3s,baz=308,slow=11,SNR=105
MMAI Sn Sn **16 30 28.0 -3.2**
356nm,0.3s,baz=315,slow=20,SNR=21
MMAI LR LR 16 31 24.4
comp=Z,843nm,18.4s,baz=340,slow=49
OFRI `Ofer 2.71 140 Pn Pn **16 29 59.8 +0.2**
OFRI Sn Sn **16 30 31.2 -0.8**
OFRI `Ofer 2.71 140 P Pn **16 30 00.3 +0.7**
RCY Rachaya 2.71 116 *eP* Pn **16 29 59.4 -0.3**
DED Mersin 2.71 34 *i* P Pn **16 30 01.8 +2.1**
KRTS Karatas 2.73 46 PN Pn **16 29 59.1 -0.8**
GEM Giv'at Ha'Em 2.73 123 Pn Pn **16 29 59.8 -0.1**
GEM Sn Sn **16 30 30.6 -1.9**
BLGI Bet Lehem HaGe 2.73 136 Pn Pn **16 30 00.5 +0.5**
BLGI Sn Sn **16 30 32.8 +0.1**
NATI Neve Ativ 2.75 121 Pn Pn **16 30 00.2 0.0**
NATI Sn Sn **16 30 32.1 -0.9**
SEYD Seydisehir-KON 2.83 342 PN Pn **16 30 01.7 +0.3**
ANTB Antalya 2.86 320 PN Pn **16 30 02.6 +0.9**
KERG Konya-Eregli 2.87 20 *i* P Pn **16 30 04.4 +2.4**
KERG *i* S Sn **16 30 38.6 +2.6**
SEDI Konya, Seydise 2.89 341 *i* P Pn **16 30 05.3 +3.0**
SEDI *i* S Sb **16 30 40.9 -2.3**
YAYL Yayladag 2.92 62 *i* P Pn **16 30 02.0 -0.6**
YAYL *i* S Sn **16 30 34.3 -3.0**
YAYL Yayladag 2.92 62 PN Pn **16 30 01.7 -0.9**
GULE Gulek 2.97 30 *i* P Pn **16 30 04.8 +1.3**
GULE *i* S Sn **16 30 41.2 +2.4**
MMLI Mount Malkishu 3.08 137 Pn Pn **16 30 05.2 +0.3**
MMLI Sn Sn **16 30 41.5 +0.2**
MMLI Mount Malkishu 3.08 137 PN Pn **16 30 05.4 +0.6**
MMLI Mount Malkishu 3.08 137 P Pn **16 30 05.7 +0.9**
KORT Korkueli 3.09 318 *i* P Pb **16 30 09.3 -2.2**
KORT *i* S Sb **16 30 47.3 -1.7**
KORT Korkueli 3.09 318 PN Pn **16 30 06.1 +1.0**
AKAS Kas 3.10 300 *i* P Pn **16 30 05.9 +0.7**
AKAS Kas 3.10 300 PN Pn **16 30 06.2 +1.0**
YESY Yesilyurt 3.13 12 PN Pn **16 30 05.1 -0.5**
TAHT Tahtakopru-Hat 3.13 57 PN Pn **16 30 04.8 -0.7**
ELL Elmali 3.18 310 P Pn **16 30 05.8 -0.5**
ELL Elmali 3.18 310 PN Pn **16 30 07.5 +1.2**
ELL Elmali 3.18 310 Pn Pn **16 30 05.8 -0.5**
BUCA Burdur, Bucak- 3.23 324 *i* P Pn **16 30 10.7 +3.7**
BUCA *i* S Sn **16 30 47.9 +2.8**
CEYT Ceyhan 3.24 44 PN Pn **16 30 06.5 -0.5**
KONT Konya--Tatoy 3.26 352 *i* P Pn **16 30 10.3 +3.1**
KONT *i* S Sn **16 30 47.9 +2.3**
KONT Konya--Tatoy 3.26 352 PN Pn **16 30 07.5 +0.3**
HMDT Nahal Hemdat 3.28 138 Pn Pn **16 30 08.1 +0.6**
HMDT Nahal Hemdat 3.28 138 P Pn **16 30 08.9 +1.4**
BCK Bucak 3.33 326 PN Pn **16 30 09.2 +0.9**
CMRD Camardi-Nigde 3.38 29 PN Pn **16 30 08.7 -0.4**
AKO Adana 3.42 36 *i* P Pn **16 30 11.3 +1.8**
AKO *i* S Sn **16 30 50.5 +0.9**
LADK Ladik-KONYA 3.51 353 PN Pn **16 30 11.2 +0.4**
SULT Sultanhani-AKS 3.51 8 PN Pn **16 30 10.6 -0.2**
DOGA KONYA_Doganhis 3.53 344 *i* P Pn **16 30 12.9 +1.7**
DOGA *i* S Sn **16 30 52.8 +0.2**
ALIN Konya, Altinte 3.58 359 *i* P Pn **16 30 12.7 +1.0**
ALIN *i* S Sn **16 30 54.9 +1.3**
AMAZ Amatzia 3.59 152 Pn Pn **16 30 12.9 +1.1**
AMAZ Sn Sn **16 30 54.7 +1.0**
NIDE Nigde/Merkez-G 3.60 24 *i* P Pn **16 30 14.0 +1.9**
NIDE *i* S Sn **16 30 52.8 -1.5**
KOZT Kozan 3.63 40 PN Pn **16 30 12.3 0.0**
NIG Nigde 3.65 21 PN Pn **16 30 12.6 -0.3**
ISP Isparta 3.66 329 P Pn **16 30 13.9 +1.1**
ISP Isparta 3.66 329 PN Pn **16 30 13.6 +0.8**
ISP Isparta 3.66 329 Pn Pn **16 30 13.9 +1.1**
FETY Fethiye 3.67 303 P Pn **16 30 13.8 +1.0**
FETY S Sn **16 30 54.8 -0.9**
FETY Fethiye 3.67 303 PN Pn **16 30 13.9 +1.1**
CAME Cameli-Denizli 3.69 308 PN Pn **16 30 14.9 +1.6**
BAGO Egridir - ISPA 3.69 333 *i* P Pn **16 30 16.8 +3.5**
BAGO *i* S Sn **16 31 00.1 +3.6**
GOLH Golhisar 3.71 314 *i* P Pn **16 30 16.1 +2.6**
GOLH *i* S Sn **16 30 58.7 +1.8**
DSI Dead Sea 3.75 146 Pn Pn **16 30 14.9 +0.9**
DSI Sn Sn **16 30 58.1 +0.3**
BRDR BURDUR-Merkez 3.77 323 *i* P Pn **16 30 18.9 +4.6**
GULA Gulagac 3.77 16 PN Pn **16 30 14.3 -0.1**
CAEL Denizli, Camel 3.79 310 *i* P Pn **16 30 18.8 +4.2**
YVAC Isparta, Yalva 3.80 340 *i* P Pn **16 30 18.5 +3.7**
YVAC *i* S Sn **16 31 04.1 +5.0**
YTIR Yattir 3.82 151 P Pn **16 30 17.2 +2.2**
KDHN Kadinhani 3.85 351 *i* P Pn **16 30 18.7 +3.2**
CHBY Cihanbeyli 3.86 360 PN Pn **16 30 15.9 +0.3**
YAHY KAYSERI_Yahyal 3.91 30 *i* P Pn **16 30 18.3 +2.1**
YAHY *i* S Sn **16 31 04.8 +3.1**
KAMA Osmaniye 3.91 50 *i* P Pn **16 30 16.7 +0.4**
BASM Basmaki-Afyon 3.95 325 PN Pn **16 30 18.2 +1.4**
KUZU Kuzuini 3.95 57 *i* P Pn **16 30 16.7 -0.1**
KUZU *i* S Sn **16 31 01.4 -1.4**
MDBI Mazsada 3.96 148 P Pn **16 30 18.6 +1.8**
ANDN Andirin 3.98 43 *i* P Pn **16 30 18.4 +1.1**
ANDN *i* S Sn **16 31 04.5 +0.9**
AKSY AKSARAY - Alti 3.98 9 *i* P Pn **16 30 17.6 +0.3**
KZIT Kziot 4.00 161 Pn Pn **16 30 19.1 +1.7**
KZIT Kziot 4.00 161 P Pn **16 30 18.8 +1.5**
DALY Dalyan (Mula) 4.06 302 *i* P Pn **16 30 19.3 +1.1**
DALY Dalyan (Mula) 4.06 302 PN Pn **16 30 18.8 +0.7**
GHAJ Ghor Haditha 4.06 146 Pn Pn **16 30 19.6 +1.4**
GHAJ Ghor Haditha 4.06 146 Pn Pn **16 30 18.1 -0.2**
GHAJ Ghor Haditha 4.06 146 P Pn **16 30 20.4 +2.2**
SAIM ADANA 4.13 37 *i* P Pn **16 30 20.6 +1.3**
HCB Kahramanmara 4.16 50 *i* P Pn **16 30 20.0 +0.3**
KZIL AFYON_Kizioren 4.19 328 *i* P Pn **16 30 21.9 +1.9**
ARG Arkhangelos 4.19 292 P Pn **16 30 19.6 -0.4**
ARG S Sn **16 31 06.2 -2.4**
252nm,0.7s
KIZT Kizilcal 4.24 349 PN Pn **16 30 21.8 +1.0**
TAVA DENIZLI_Tavas 4.25 311 *i* P Pn **16 30 21.2 +0.3**
SERE Sereflikochisa 4.25 7 PN Pn **16 30 21.4 +0.4**
GAZ Gaziantep 4.26 54 PN Pn **16 30 21.2 +0.2**
GAZ Gaziantep 4.26 54 Pn Pn **16 30 20.1 -0.9**
KMRS Kahramanmaras 4.26 48 PN Pn **16 30 21.5 +0.5**
YAYX Yaylak 4.28 9 PN Pn **16 30 21.5 +0.2**

SHUT Suhut-Afyon 4.28 334 PN Pn **16 30 22.2 +0.8**
KULU Kulu 4.32 1 PN Pn **16 30 22.3 +0.4**
TURN Turunc 4.33 300 *i* P Pn **16 30 22.2 +0.3**
AVNS Nevsehir-Avano 4.37 20 *i* P Pn **16 30 24.8 +2.2**
KKUL Konya-Kulu 4.45 360 *i* P Pn **16 30 26.2 +2.5**
KIRS Kırehir-Merke 4.48 10 *i* P Pn **16 30 24.8 +0.7**
KIRS *i* S Sn **16 31 20.4 +4.6**
MULA Mugla, Merkez- 4.51 306 *i* P Pn **16 30 23.1 -1.4**
MULA *i* S Sn **16 31 13.0 -3.6**
PASA Karahalli, USA 4.56 324 *i* P Pn **16 30 26.4 +1.2**
PASA *i* S Sn **16 31 17.5 -0.3**
AFYO Afyonkarahisar 4.58 333 *i* P Pn **16 30 28.8 +3.4**
GZT Gaziantep 4.59 54 *i* P Pn **16 30 27.8 +2.1**
GZT *i* S Sn **16 31 17.4 -1.3**
SARI SarD1z-Kayseri 4.64 36 PN Pn **16 30 26.3 0.0**
PRNI Paran 4.69 157 P Pn **16 30 30.5 +3.5**
GUNE Kayseri 4.71 27 *i* P Pn **16 30 29.2 +1.9**
BNN Bunyan 4.75 29 Pn Pn **16 30 27.3 -0.5**
DAT Datca 4.79 296 P Pn **16 30 28.7 +0.4**
DAT S Sn **16 31 21.9 -1.6**
DAT Datca 4.79 296 *i* P Pn **16 30 28.8 +0.4**
DAT *i* S Sn **16 31 19.2 -4.3**
KARP Karpathos 4.79 282 P Pn **16 30 28.2 -0.2**
KARP S Sn **16 31 21.1 -2.4**
438nm,0.9s
KARP Karpathos 4.79 282 Pn Pn **16 30 27.9 -0.5**
HHAG Hagoal 4.80 189 P Pn **16 30 29.1 +0.7**
baz=188
HHAG AMP 16 31 00.0
baz=188
KRMI Paran Flat 4.83 161 Pn Pn **16 30 29.9 +1.0**
SUZ Suez 4.86 181 P Pn **16 30 30.1 +0.9**
baz=179
KOT Kottamia 4.86 191 P Pn **16 30 30.4 +1.1**
baz=190
KOT S Sn **16 31 22.0 -3.2**
baz=190
SIRC Yozgat 4.95 20 *i* P Pn **16 30 31.2 +0.7**
ELBS KAHRAMANMARAS 4.95 42 *i* P Pn **16 30 31.6 +1.0**
ELBS *i* S Sn **16 31 21.9 -5.5**
HRFI Mount Harif 5.00 158 Pn Pn **16 30 32.5 +1.3**
HRFI Sn Sn **16 31 28.3 -0.2**
HRFI Mount Harif 5.00 158 PN Pn **16 30 32.4 +1.3**
AYDN Tasoluk 5.03 307 *i* P Pn **16 30 30.7 -0.9**
AYDN *i* S Sn **16 31 27.1 -2.2**
BDRM Kayabasi 5.03 299 *i* P Pn **16 30 31.0 -0.6**
BDRM *i* S Sn **16 31 24.0 -5.2**
BR131 Keskin Array S 5.03 6 P Pn **16 30 31.8 +0.1**
BR131 Keskin Array S 5.03 6 Pn **16 30 31.8 +0.1**
BRTR Keskin Array B 5.03 6 Pn Pn **16 30 33.2 +1.5**
0.9nm,0.3s,baz=177,slow=15,SNR=54
BRTR Sn Sn **16 31 31.4 +1.8**
0.7nm,0.3s,baz=168,slow=26,SNR=5.1
BRTR Keskin Array B 5.03 6 P Pn **16 30 33.2 +1.5**
BRTR 16 31 31.4
BRTR Keskin Array B 5.03 6 Pn Pn **16 30 32.4 +0.6**
CDAG Cicekdag 5.04 13 *i* P Pn **16 30 34.4 +2.6**
NIS1 Nisyros Isl. 5.04 294 P Pn **16 30 31.5 -0.2**
USAK Uak-Merkez 5.08 323 *i* P Pn **16 30 33.2 +0.9**
USAK *i* S Sn **16 31 26.1 -4.4**
ANTO Ankara 5.15 359 P Pn **16 30 34.0 +0.8**
ANTO Ankara 5.15 359 Pn **16 30 34.0 +0.8**
GDZ Gediz 5.16 329 *i* P Pn **16 30 33.7 +0.2**
GDZ *i* S Sn **16 31 28.9 -3.9**
HSAF As Saff 5.21 193 P Pn **16 30 35.0 +0.8**
baz=192
HMYD Mayadein 5.22 201 P Pn **16 30 33.6 -0.6**
baz=199
EIL Elat 5.32 161 Pn Pn **16 30 36.8 +1.3**
8.3nm,0.3s,baz=265,slow=1.5,SNR=61
EIL Sn Sn **16 31 35.7 -0.7**
41nm,0.3s,baz=71,slow=16,SNR=12
EIL LR LR 16 33 20.0
comp=Z,243nm,18.5s,baz=298,slow=46
EIL Elat 5.32 161 Pn Pn **16 30 36.8 +1.3**
EIL Sn Sn **16 31 36.5 +0.2**
EIL Elat 5.32 161 P Pn **16 30 37.4 +1.9**
DELI KIRIKKALE 5.33 8 *i* P Pn **16 30 38.1 +2.2**
HNAT Natroun 5.43 202 P Pn **16 30 37.5 +0.4**
baz=200
ZKR Zakros 5.52 276 P Pn **16 30 37.9 -0.5**
ZKR S Sn **16 31 37.7 -3.8**
170nm,0.9s
HBST Basata 5.69 164 P Pn **16 30 42.5 +1.8**
baz=163
MALT Malatya 5.71 49 P Pn **16 30 43.5 +2.6**
NUB Nuweibaa 5.86 165 P Pn **16 30 44.2 +1.3**
baz=164
MDUB Mudurnu 5.91 347 Pn Pn **16 30 45.6 +1.9**
HRDS Abu Rudays 5.99 177 P Pn **16 30 46.1 +1.3**
baz=175
NPS Neapolis 6.03 277 P Pn **16 30 44.6 -0.7**
NPS S Sn **16 31 49.8 -4.0**
170nm,0.5s
LAST Lasithi 6.13 276 P Pn **16 30 45.6 -1.2**
LAST S Sn **16 31 52.2 -4.3**
150nm,0.8s
HDHB Dhahab 6.15 166 P Pn **16 30 48.1 +1.2**
baz=165
NBNS Bani Suef 6.23 193 P Pn **16 30 48.5 +0.5**
baz=192
HKAT Jabal Katrina 6.24 171 P Pn **16 30 49.7 +1.3**
baz=170
TR2 Tor 2 6.35 174 P Pn **16 30 50.5 +0.8**
baz=172
GRB Gharib 6.42 181 P Pn **16 30 52.0 +1.2**
baz=181
IDI Anoyia 6.62 277 Pn Pn **16 30 53.0 -0.5**
1.8nm,0.3s,baz=69,slow=15,SNR=11
IDI Sn Sn **16 32 05.0 -3.5**
2.8nm,0.3s,baz=14,slow=17,SNR=5.4
IDI LR LR 16 34 37.0
comp=Z,197nm,19.7s,baz=86,slow=49
IDI Anoyia 6.62 277 P Pn **16 30 52.5 -0.9**
IDI S Sn **16 32 04.3 -4.2**
90nm,0.6s
IDI Anoyia 6.62 277 Pn Pn **16 30 52.8 -0.6**
TR1 Tor 1 6.75 172 P Pn **16 30 56.4 +1.2**
baz=171
TAMRE El Minia 7.22 194 P Pn **16 31 02.1 +0.5**
baz=194
BZK Bozkurt 7.28 6 Pn Pn **16 31 04.7 +2.2**
HHRG Al Ghardaqah 7.49 176 P Pn **16 31 08.2 +2.8**
baz=174
ALN Alexandroupoli 8.23 321 P Pn **16 31 17.5 +2.1**
ALN Alexandroupoli 8.23 321 Pn Pn **16 31 17.5 +2.1**
GURO Guroymak-BITLI 8.26 60 Pn Pn **16 31 16.2 +0.2**
SWA2 8.36 231 P Pn **16 31 17.2 -0.1**
baz=230
HFRF Wahat Farafira 8.52 209 P Pn **16 31 19.6 +0.1**
baz=208
ITM Ithomi 9.25 289 Pn Pn **16 31 30.8 +1.3**
SIM Simferopol' 10.26 5 *i* P Pn 16 31 52.3 +9.0
SOC Sochi 10.30 29 *eP* Pn **16 31 42.9 -1.0**
SOC *e* 16 33 40.6
SOC pmax pmax
comp=Z,8.0nm,0.5s
SOC MLR MLR
comp=Z,216nm,17.0s
GNI Garni 10.85 57 LR LR 16 36 40.4
comp=Z,176nm,20.8s,baz=262,slow=41
GNI Garni 10.85 57 *i* P Pn **16 31 52.1 +0.6**
GNI pmax pmax
comp=Z,23nm,1.1s
FNA Florina 10.96 307 P Pn **16 31 53.8 +0.8**
FNA Florina 10.96 307 Pn Pn **16 31 53.8 +0.8**
KBN Korca 11.28 305 P Pn **16 31 59.2 +1.9**
KBN Korca 11.28 305 Pn **16 31 59.1 +1.9**
SHA1 Shidzhatmaz 11.75 37 *i* P Pn **16 32 05.8 +1.9**
ZEI Tsey 11.76 43 *eP* Pn 16 32 09.2 +5.2
ZEI pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 11.86 38 Pn Pn **16 32 09.2 +4.0**
comp=Z,0.2nm,0.3s,baz=294,slow=1.9,SNR=4.1
KBZ LR LR 16 37 31.5
comp=Z,173nm,18.1s,baz=229,slow=42
KBZ Khabaz 11.86 38 P Pn **16 32 09.2 +4.0**
KIV Kislovodsk 11.92 36 *eP* Pn **16 32 07.0 +0.9**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,43nm,11.0s
MLR Muntele Rosu 12.01 336 Pn Pn **16 32 09.6 +2.2**
comp=Z,0.2nm,0.3s,baz=184,slow=18,SNR=1.7

MLR LR LR 16 37 47.6
comp=Z,275nm,18.2s,baz=160,slow=43
MLR Muntele Rosu 12.01 336 P Pn **16 32 09.6 +2.2**
MLR Muntele Rosu 12.01 336 Pn Pn **16 32 07.9 +0.5**
NCK Nalchik 12.06 40 *i* P Pn **16 32 10.3 +2.4**
PYA1 Pyatigorsk 12.20 37 *i* P Pn **16 32 11.3 +1.4**
MAK Makhachkala 14.02 50 *eP* Pn 16 32 29.8 -4.9
MAK *eS* Sn **16 35 05.6 -4.2**
MAK pmax pmax
comp=Z,126nm,1.0s
MAK MLR MLR
comp=Z,248nm,14.0s
BURAR Bucovina Array 14.12 338 P **16 32 45.1 +1.4**
BUR08 Bucovina Ar. S 14.15 338 P P **16 32 44.9 +0.8**
MORH Mrgy, Hungar 15.78 321 *eP* Pn **16 33 00.4 +2.2**
KOVH Kovagotottos 15.99 320 *eP* Pn **16 33 02.8 +1.9**
UZH Uzhgorod 15.99 334 *eP* Pn **16 32 58.8 -2.1**
CORL Corleone 16.13 287 Pn **16 33 05.0 +2.2**
CORL IAmb IAmb 16 33 16.4
comp=Z,43nm,1.3s
AKASG Malin Array Be 16.20 352 Pn Pn **16 33 03.6 0.0**
comp=Z,1.1nm,0.3s,baz=171,slow=11,SNR=14
AKASG Malin Array Be 16.20 352 *i* P P **16 33 05.8 -0.9**
AKASG pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 16.20 352 Pn **16 33 05.1 +1.5**
AKBB Malin Array Si 16.20 352 P Pn **16 33 05.3 +1.7**
AKBB pmax pmax
comp=Z,20nm,0.9s
AKBB Malin Array Si 16.20 352 Pn **16 33 05.3 +1.7**
AKBB IAmb IAmb 16 33 06.9
comp=Z,20nm,0.8s
KOLS Kolonicke sedl 16.25 334 *eP* P **16 33 07.9 +0.7**
KOLS Kolonicke sedl 16.25 334 *eP* P **16 33 07.9 +0.7**
PSZ Piszkesteto 16.39 328 *eP* Pn **16 33 06.4 +0.2**
PSZ Piszkesteto 16.39 328 P Pn **16 33 07.6 +1.4**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 16.39 328 Pn Pn **16 33 07.6 +1.4**
LVV L'vov 16.45 339 *eP* P **16 33 08.9 -0.5**
CRVS Cervenica-Dubn 16.52 333 *eP* P **16 33 10.7 +0.4**
CRVS Cervenica-Dubn 16.52 333 *eP* P **16 33 10.7 +0.4**
INTR Introdacqua 16.58 302 P P **16 33 10.8 -0.3**
VORD Divnogorie 16.89 14 *eP* Pn **16 33 13.0 +0.7**
VORD pmax pmax
comp=Z,5.0nm,0.9s
MPLH Magyarpolny 16.99 322 *eP* Pn **16 33 13.3 -0.3**
VSR Storozhevoye 17.10 13 *eP* Pn **16 33 15.8 +0.8**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VYHS Vyhne 17.30 327 *eP* P **16 33 18.9 +0.1**
VYHS Vyhne 17.30 327 *eP* P **16 33 18.9 +0.1**
VRH Novokhopyorsk 17.67 18 *eP* Pn **16 33 22.7 +0.7**
VRH pmax pmax
comp=Z,20nm,0.6s
MURB Monte Urbino 17.98 304 P P **16 33 28.4 +1.9**
MURB IAmb IAmb 16 33 35.5
comp=Z,20nm,1.1s
SOKA Soboth 18.03 317 P Pn **16 33 27.2 +0.6**
comp=Z,3.2nm,0.9s
OBKA Obir 18.21 316 *eP* Pn **16 33 28.9 +0.1**
comp=Z,15nm,1.1s,SNR=8.9
CONA Conrad Observa 18.34 321 *eP* Pn **16 33 31.0 +0.5**
comp=Z,2.7nm,0.9s
LPSR Galich'ya Gora 18.39 12 *eP* P **16 33 30.4 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.8s
MYKA Terra Mystica 18.80 315 *eP* P **16 33 36.1 +0.6**
comp=Z,6.4nm,0.8s
VRAC Vranov 18.91 325 P P **16 33 36.4 -0.2**
comp=Z,0.3nm,0.3s,baz=124,slow=13,SNR=3.0
VRAC Vranov 18.91 325 P P **16 33 36.4 -0.2**
MOA Molln 19.14 319 *eP* P **16 33 38.7 -0.4**
comp=Z,3.9nm,1.0s
ZOU Zoufplan 19.15 314 P P **16 33 38.9 -0.6**
KBA Koelnbreinsper 19.21 316 *eP* P **16 33 39.7 -0.5**
comp=Z,12nm,1.0s
KEST Kesra 19.28 280 P Pn **16 33 43.0 +1.0**
comp=Z,0.1nm,0.3s,baz=94,slow=5.5,SNR=6.3
KEST Kesra 19.28 280 Pn **16 33 42.8 +0.8**
KEST IAmb IAmb 16 33 44.8
comp=Z,17nm,1.2s
VSL Villasalto 19.36 291 P P **16 33 42.5 +0.9**
TEOL Teolo 19.38 310 P P **16 33 41.2 -0.6**
TEOL IAmb IAmb 16 33 42.6
comp=Z,16nm,0.7s
ABTA Abfaltersbach 19.52 314 *eP* Pn **16 33 48.8 +4.1**
comp=Z,4.9nm,1.0s
CTI Castel Tesino 19.70 311 P P **16 33 44.6 -0.9**
CTI pmax pmax
comp=Z,9.0nm,0.7s
CTI Castel Tesino 19.70 311 P P **16 33 44.5 -0.9**
CTI IAmb IAmb 16 33 45.5
comp=Z,9.3nm,0.7s
CKRC Cesky Krumlov 19.71 321 *eP* P **16 33 45.2 -0.2**
CKRC *ep*P **pP** **16 33 50.2 -0.2**
DPC Dobruska-Polom 19.77 327 *eP* P **16 33 45.9 -0.2**
DPC Dobruska-Polom 19.77 327 *eP* P **16 33 45.9 -0.2**
OSTC Ostas 19.97 328 *eP* P **16 33 47.5 -0.7**
UPC Upice 20.02 327 *eP* P **16 33 48.3 -0.5**
UPC Upice 20.02 327 *eP* P **16 33 48.3 -0.5**
GERES GERESS Array B 20.04 321 P P **16 33 48.2 -0.8**
comp=Z,4.1nm,0.7s,baz=124,slow=11,SNR=31
GERES GERESS Array B 20.04 321 P P **16 33 48.3 -0.8**
GERES GERESS Array B 20.04 321 P P **16 33 48.0 -1.1**
CHVC Chvalec 20.06 327 *eP* P **16 33 48.6 -0.6**
MNK Minsk 20.10 351 *i* P Pn 16 33 51.6 +0.2
MNK *i* 16 34 09.3
MNK *i* S Sn 16 37 40.0 +3.1
MNK *i* SS **SnSn** **16 37 56.0 +4.5**
MNK pmax pmax
comp=E,2.0nm,1.0s
MNK pmax pmax
comp=N,13nm,1.0s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK MLR MLR
comp=N,162nm,17.0s
MNK MLR MLR
comp=E,5.0nm,16.0s
MNK MLR MLR
comp=Z,93nm,14.0s
MNK Minsk 20.10 351 *i* P Pn 16 33 51.6 +0.2
comp=E,2.0nm,1.0s
MNK *i* P Pn 16 33 51.6 +0.2
comp=N,13nm,1.0s
MNK *i* P Pn 16 33 51.6 +0.2
comp=Z,14nm,1.0s,baz=168
MNK *i* PP **PnPn** **16 34 09.3 +3.5**
MNK *i* S Sn 16 37 40.1 +3.1
MNK *i* SS **SnSn** **16 37 56.0 +4.5**
MNK *i* LQ LQ 16 39 27.1
MNK *i* LR LR 16 41 13.4
MNK *i* LRM MLR 16 44 02.6
comp=N,162nm,16.7s
MNK *i* LRM MLR 16 44 12.4
comp=E,5.0nm,15.7s
MNK *i* LRM MLR 16 44 15.7
comp=Z,93nm,14.2s
KHC Kasperske Hory 20.28 321 P P **16 33 49.7 -1.9**
KHC pmax pmax
comp=Z,10.0nm,0.7s
KHC Kasperske Hory 20.28 321 *eP* P **16 33 50.6 -1.0**
KHC *ep*P **pP** **16 33 56.1 -0.6**
KHC Kasperske Hory 20.28 321 P P **16 33 49.6 -1.9**
KHC IAmb IAmb 16 33 52.2
comp=Z,9.6nm,0.7s
WTTA Wattenberg 20.30 315 *eP* P **16 33 51.3 -0.8**
comp=Z,5.0nm,0.6s
PRU Pruhonice 20.35 324 *eP* P **16 33 51.6 -0.7**
PRU Pruhonice 20.35 324 *eP* P **16 33 51.6 -0.7**
WATA Walderalm 20.37 315 *eP* P **16 33 52.4 -0.3**
comp=Z,12nm,1.0s
PBCC Pribram 20.42 323 *eP* P **16 33 51.8 -1.3**
SQTA Sankt Quirin 20.53 314 *eP* Pn 16 33 57.5 +0.8
comp=Z,18nm,1.5s
GEYT Alibeck 20.54 74 P P **16 33 55.8 +1.3**
comp=Z,3.9nm,0.7s,baz=232,slow=26,SNR=6.4
GYA0B ALIBECK ARRAY 20.54 74 P P **16 33 55.4 +1.0**
GYA0B IAmb IAmb 16 34 07.9
comp=Z,29nm,1.4s
OBN Obninsk 20.55 6 P Pn 16 33 56.1 -0.6
comp=Z,3.0nm,0.5s,baz=221,slow=9.3,SNR=4.4
OBN LR LR 16 43 24.5
comp=Z,22nm,20.2s,baz=24,slow=41

OBN Obninsk 20.55 6 *eP* **P 16 33 55.2 +0.8**
OBN *e* 16 34 04.3
OBN *e*PPP PPP 16 34 22.6
OBN pmax pmax
comp=Z,12nm,0.6s
BELG Belogornoye 20.56 26 P **P 16 33 54.2 -0.4**
comp=Z,24nm,0.6s,baz=296,slow=6.4,SNR=7.6
BELG LR LR 16 44 02.8
comp=Z,94nm,19.6s,baz=315,slow=43
BELG Belogornoye 20.56 26 P **P 16 33 54.2 -0.4**
MOTA Moosalm 20.66 314 *eP* **P 16 33 55.1 -0.7**
comp=Z,11nm,0.9s,SNR=6.9
FETA Feichten 20.72 313 *eP* **P 16 33 55.2 -1.3**
comp=Z,3.6nm,0.9s
RETA Reutte 20.93 314 *eP* **P 16 33 58.1 -0.5**
comp=Z,8.1nm,0.8s,SNR=4.7
DAVOX Davos/Dischmat 21.13 312 P **P 16 34 00.0 -1.0**
comp=Z,4.5nm,0.7s,baz=156,slow=15,SNR=7.8
DAVOX Davos/Dischmat 21.13 312 P **P 16 34 00.0 -1.0**
BRG Berggiesshubel 21.23 325 *eP* **P 16 34 00.6 -1.2**
BRG Amp 16 34 02.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 21.23 325 P **P 16 34 05.7 +3.9**
BRG Amp 16 34 07.3
comp=Z,8.0nm,1.1s
MOS Moscow 21.27 7 *eP* **P 16 34 02.2 0.0**
MOS *e* 16 34 22.9
MOS pmax pmax
comp=Z,42nm,1.0s
DAVA Damuels 21.36 313 *eP* **P 16 34 01.9 -1.5**
comp=Z,3.5nm,0.6s
PABE Paberze 21.69 346 P **P 16 34 08.6 +1.9**
CLL Collm 21.96 325 *eP* **P 16 34 08.0 -1.6**
CLL *es*P **pP 16 34 12.0 -2.7**
CLL *e* 16 34 20.0
CLL *e*PPP PPP 16 34 40.0
CLL Collm 21.96 325 *eP* **P 16 34 08.0 -1.6**
CLL *e* 16 34 12.0
MOX Moxa 22.21 322 P **P 16 34 11.9 -0.5**
MOX pmax pmax
comp=Z,20nm,0.9s
BNI Bardonecchia 22.54 305 P **P 16 34 14.8 -1.3**
BNI pmax pmax
comp=Z,5.0nm,1.0s
BNI Bardonecchia 22.54 305 P **P 16 34 14.8 -1.3**
SENIN Lac Senin/Sane 22.58 309 P **P 16 34 15.0 -1.6**
SENIN IAmb IAmb 16 34 27.2
comp=Z,7.3nm,0.8s
LPL La Plagne 22.65 306 *eP* **P 16 34 17.7 +0.3**
LPL pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 22.77 314 P **P 16 34 17.1 -1.3**
BFO pmax pmax
comp=Z,14nm,0.9s
BFO Black Forest 22.77 314 P **P 16 34 17.1 -1.3**
BFO IAmb IAmb 16 34 19.6
comp=Z,14nm,0.9s
ECH Echery 23.42 313 P **P 16 34 23.1 -1.9**
ECH pmax pmax
comp=Z,6.0nm,0.9s
ECH Echery 23.42 313 P **P 16 34 23.1 -1.9**
ECH IAmb IAmb 16 34 24.4
comp=Z,5.6nm,0.9s
SSB Saint Sauveur 24.05 305 P **P 16 34 32.0 +0.8**
SSB pmax pmax
comp=Z,7.0nm,1.2s
SSB Saint Sauveur 24.05 305 P **P 16 34 32.0 +0.8**
AKTO Aktyubinsk 24.09 42 P **P 16 34 30.1 -1.3**
comp=Z,4.0nm,0.6s,baz=241,slow=10,SNR=15
AKTO LR LR 16 46 31.2
comp=Z,59nm,18.9s,baz=249,slow=43
AKTO Aktyubinsk 24.09 42 P **P 16 34 30.1 -1.3**
VSU Vasula 24.11 352 *i* P **P 16 34 33.5 +2.1**
HRA Herat 24.12 82 P **P 16 34 33.1 +1.1**
HRA IAmb IAmb 16 34 34.4
comp=Z,10.0nm,1.2s
ABKAR Akbulak array 24.62 46 P **P 16 34 34.9 -1.3**
ABKAR Akbulak array 24.62 46 P **P 16 34 35.0 -1.3**
ABKAR IAmb IAmb 16 34 36.9
comp=Z,5.4nm,0.9s
ATD Arta Tunnel 24.79 156 LR LR 16 44 27.4
comp=Z,36nm,20.8s,baz=320,slow=37
CAF Calviac 25.66 303 *eP* **P 16 34 45.6 -0.2**
CAF pmax pmax
comp=Z,11nm,1.4s
KIRV Kirov 26.28 20 P **P 16 34 52.0 +0.9**
comp=Z,14nm,0.8s,baz=277,slow=6.8,SNR=6.0
KIRV Kirov 26.28 20 P **P 16 34 52.0 +0.9**
KLMR Klimovskoe 26.50 7 *eP* **P 16 34 49.5 -3.5**
KLMR pmax pmax
comp=Z,29nm,1.0s
KLMR Klimovskoe 26.50 7 *eP* **P 16 34 49.6 -3.5**
KLMR AMP 16 34 56.8
comp=Z,29nm,1.0s
FINES FINESS Array B 27.10 353 P **P 16 34 57.0 -1.6**
comp=Z,2.3nm,0.5s,baz=159,slow=10,SNR=21
FINES LR LR 16 46 49.5
comp=Z,66nm,21.2s,baz=194,slow=39
FINES FINESS Array B 27.10 353 P **P 16 34 56.2 -2.3**
FINES FINESS Array B 27.10 353 P **P 16 34 56.2 -2.3**
FIA1 FINESS Array S 27.11 353 P **P 16 34 56.4 -2.1**
ARU Arti 27.88 31 LR LR 16 48 35.1
comp=Z,57nm,19.3s,baz=206,slow=42
ARU Arti 27.88 31 *d i*P **P 16 35 09.2 +3.7**
ARU 16 35 59.0
ARU S **S 16 39 58.3 +10**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU Arti 27.88 31 P **P 16 35 08.0 +2.5**
PRGR Permogore 28.13 13 *eP* **P 16 35 04.4 -3.3**
PRGR pmax pmax
comp=Z,6.0nm,1.0s
HFS Hagfors 28.35 340 P **P 16 35 10.1 +0.4**
comp=Z,2.9nm,0.9s,baz=161,slow=14,SNR=2.0
HFS LR LR 16 48 03.8
comp=Z,54nm,18.8s,baz=164,slow=40
HFS Hagfors 28.35 340 P **P 16 35 10.1 +0.4**
SVE Sverdlovsk 29.02 32 *eP* **P 16 35 20.3 +4.6**
SVE pmax pmax
comp=Z,18nm,1.0s
ESBB Sonseca Array 29.66 291 P **P 16 35 21.1 -0.5**
ESBB IAmb IAmb 16 35 22.5
comp=Z,3.3nm,0.9s
ESDC Sonseca Array 29.66 291 P **P 16 35 21.3 -0.3**
comp=Z,1.9nm,0.9s,baz=85,slow=9.3,SNR=14
ESDC Sonseca Array 29.66 291 P **P 16 35 20.4 -1.2**
NC405 NORSAR Array S 29.71 339 P **P 16 35 21.6 -0.2**
NB2 NORSAR Subarra 29.80 339 P **P 16 35 21.0 -1.7**
comp=Z,3.2nm,0.9s,baz=142,slow=9.3
NOA NORSAR Array B 29.80 339 P **P 16 35 21.4 -1.3**
comp=Z,0.7nm,0.7s,baz=145,slow=8.7,SNR=3.0
NOA NORSAR Array B 29.80 339 P **P 16 35 21.4 -1.3**
KK31 Karatay Array 30.22 63 P **P 16 35 26.6 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.8s
KK31 Karatay Array 30.22 63 P **P 16 35 26.6 +0.1**
KK31 IAmb IAmb 16 35 27.9
comp=Z,5.3nm,0.8s
KKAR Karatay Array 30.22 63 P **P 16 35 26.4 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 30.22 63 P **P 16 35 26.4 -0.2**
KKAR Karatay Array 30.22 63 P **P 16 35 26.6 0.0**
KKAR IAmb IAmb 16 35 27.9
comp=Z,5.3nm,0.8s
BRVK Borovoye 32.09 44 *ceP* **P 16 35 42.9 0.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 33.14 64 P **P 16 35 52.6 +0.3**
comp=Z,1.8nm,0.3s,baz=246,slow=6.0,SNR=4.7
AAK Ala-Archa 33.14 64 P **P 16 35 52.6 +0.3**
AAK Ala-Archa 33.14 64 IAmb IAmb 16 35 54.3
comp=Z,4.4nm,0.8s
BOOM Boomskoye usch 34.21 64 P **P 16 36 02.7 +1.0**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 34.21 64 P **P 16 36 02.7 +1.0**
BOOM IAmb IAmb 16 36 05.8
comp=Z,5.1nm,0.9s
KSH Kashi 34.42 69 *eP* **P 16 36 07.0 +3.5**
KSH pmax pmax
comp=Z,5.0nm,2.8s
KSH pmax pmax
comp=Z,76nm,4.2s
ARCES ARCESS Array B 35.12 355 P **P 16 36 07.8 -1.2**
comp=Z,2.1nm,0.7s,baz=163,slow=8.9,SNR=8.6
ARCES ARCESS Array B 35.12 355 P **P 16 36 08.0 -1.0**
ARCES pmax pmax
comp=Z,17nm,1.5s
ARCES ARCESS Array B 35.12 355 P **P 16 36 08.0 -1.0**
KDJ Kajisay 35.14 64 P **P 16 36 10.9 +1.1**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
KDJ Kajisay 35.14 64 P **P 16 36 10.9 +1.1**
TORD Torodi Ar. Bea 35.48 240 P **P 16 36 12.9 +0.2**
comp=Z,2.8nm,0.8s,baz=62,slow=7.0,SNR=9.0
TORD LR LR 16 52 35.4
comp=Z,53nm,21.8s,baz=30,slow=40
MAKZ Makanchi 38.48 56 P **P 16 36 37.8 -0.2**
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
MAKZ Makanchi 38.48 56 P **P 16 36 37.8 -0.2**
MK31 Makanchi Array 38.70 57 P **P 16 36 39.6 -0.2**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 38.70 57 P **P 16 36 39.6 -0.2**
MKAR Makanchi Array 38.70 57 P **P 16 36 39.9 +0.1**
comp=Z,1.7nm,0.8s,baz=277,slow=5.7,SNR=22
MKAR PcP **PcP 16 38 50.8 -0.6**
comp=Z,0.5nm,0.8s,baz=249,slow=3.9,SNR=2.8
MKAR Makanchi Array 38.70 57 *ceP* **P 16 36 40.2 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 38.70 57 P **P 16 36 39.4 -0.4**
KOWA Kowa 38.85 248 P **P 16 36 42.2 +0.8**
KOWA IAmb IAmb 16 36 42.8
comp=Z,8.0nm,0.9s
ZAA0 Zalesovo Array 40.73 45 P **P 16 36 55.9 -0.6**
ZAA0 IAmb IAmb 16 37 03.8
comp=Z,3.5nm,0.8s
ZALV Zalesovo Beam 40.73 45 P **P 16 36 55.8 -0.8**
comp=Z,2.1nm,0.6s,baz=260,slow=9.4,SNR=6.9
ZALV Zalesovo Beam 40.73 45 *i* P **P 16 36 58.7 +2.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 40.73 45 P **P 16 36 55.6 -0.9**
DGZ Jazzator, Alta 42.12 52 *i* P **P 16 37 08.6 +0.3**
DGZ pmax pmax
comp=Z,10.0nm,1.5s
WMQ Urumqi 42.68 61 *eP* **P 16 37 14.6 +1.8**
SPITS Spitsbergen Ar 44.15 355 P **P 16 37 23.5 -0.6**
SPITS pmax pmax
comp=Z,30nm,1.2s
NRIK Noril'sk 45.63 24 LR LR 17 00 31.4
comp=Z,41nm,20.2s,baz=148,slow=41
SHL Shillong 51.17 83 P **P 16 38 18.2 -1.3**
SHL pmax pmax
comp=Z,17nm,0.4s
SHL Shillong 51.17 83 P **P 16 38 18.2 -1.3**
ZAK Zakamensk 52.21 50 *eP* **P 16 38 25.9 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
GTA Gaotai 52.49 64 ⇑P **P 16 38 29.0 -0.1**
GTA pP pP 16 38 34.6 0.0
GTA sP sP 16 38 37.8 +1.0
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,29nm,4.7s
GTA LR LR
comp=N,54nm,13.8s
GTA LR LR
comp=E,56nm,14.9s
GTA LR LR
comp=Z,69nm,14.5s
SONM Songino Array 54.77 52 P **P 16 38 45.9 +0.2**
comp=Z,1.4nm,0.7s,baz=293,slow=7.7,SNR=10.0
SONM Songino Array 54.77 52 P **P 16 38 45.7 0.0**
SONM pmax pmax
comp=Z,5.0nm,1.4s
SONM Songino Array 54.77 52 P **P 16 38 45.7 0.0**
SONM IAmb IAmb 16 38 59.2
comp=Z,4.5nm,1.4s
CMAR Chiang Mai Arr 60.25 87 P **P 16 39 24.1 -0.5**
comp=Z,2.4nm,0.9s,baz=296,slow=8.1,SNR=10
CMAR LR LR 17 12 58.5
comp=Z,14nm,18.3s,baz=165,slow=44
CMAR Chiang Mai Arr 60.25 87 *i* P **P 16 39 24.3 -0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 60.25 87 P **P 16 39 23.9 -0.7**
HHC Hu-ho-hao-te 60.50 59 *eP* **P 16 39 26.6 +0.5**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,110nm,6.2s
XAN Xi'an 61.23 67 P **P 16 39 31.0 -0.1**
XAN pP pP 16 39 34.4 -2.3
XAN pmax pmax
comp=Z,7.0nm,1.2s
HIA Hailar 62.72 47 *i* P **P 16 39 41.8 +0.9**
HIA pmax pmax
comp=Z,3.0nm,1.0s
USA0B Ussuriysk Arra 72.51 48 P **P 16 40 44.2 +1.5**
USA0B pmax pmax
comp=Z,3.0nm,1.0s
USA0B Ussuriysk Arra 72.51 48 P **P 16 40 44.2 +1.5**
USA0B IAmb IAmb 16 40 53.5
comp=Z,2.5nm,1.0s
USRK Ussuriysk Ar. 72.51 48 P **P 16 40 41.8 -0.9**
comp=Z,0.8nm,0.7s,baz=332,slow=5.7,SNR=2.7
USRK LR LR 17 16 12.4
comp=Z,46nm,19.3s,baz=108,slow=39
USRK Ussuriysk Ar. 72.51 48 P **P 16 40 44.0 +1.3**
USRK Ussuriysk Ar. 72.51 48 P **P 16 40 44.0 +1.3**
KSAR Wonju Array Be 73.35 56 P **P 16 40 46.9 -0.9**
KSAR Wonju Array Be 73.35 56 P **P 16 40 46.9 -0.9**
KSRS Korea Array 73.37 56 P **P 16 40 47.4 -0.5**
comp=Z,1.2nm,0.8s,baz=316,slow=5.1,SNR=7.8
KSRS Korea Array 73.37 56 P **P 16 40 47.4 -0.5**
COCO West Island 76.39 115 *i* P **P 16 41 03.2 -2.4**
TOLK Toolik Lake Re 76.94 1 P **P 16 41 07.9 -0.1**
TOLK IAmb IAmb 16 41 09.0
comp=Z,3.2nm,1.1s
BMAR Burnt Mountain 78.16 359 P **P 16 41 15.3 +0.5**
TRNY Table Rock, Ra 79.16 313 P **P 16 41 21.5 +0.8**
IMAR Indian Mountai 79.49 3 P **P 16 41 22.2 +0.1**
YKA Yellowknife Ar 79.66 345 P **P 16 41 23.6 +0.5**
comp=Z,0.4nm,0.7s,baz=36,slow=5.4,SNR=1.6
YKA Yellowknife Ar 79.66 345 P **P 16 41 23.6 +0.5**
PETK Petropavlovsk- 80.27 30 LR LR 17 22 09.1
comp=Z,30nm,19.3s,baz=129,slow=40
COLA College 80.74 0 *i* P **P 16 41 29.1 +0.3**
COLA pmax pmax
comp=Z,3.0nm,1.0s
ILAR Eielson Array 80.84 360 P **P 16 41 30.1 +0.7**
comp=Z,0.5nm,0.8s,baz=306,slow=3.0,SNR=5.9
ILAR Eielson Array 80.84 360 P **P 16 41 30.1 +0.7**

*IDC **21** 17:02:19.4±1.0, 67°.09N×20°.64E, h0km, mb1 2.8/3, mb1mx2.7/30, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=10.8km s-min=5.5km az=150.0*
*HEL **21** 17:02:20.5±0.4, 67°.05N×20°.86E, h0km, ML2.1, Explosion*
*NAO **21** 17:02:20.5±0.8, 67°.07N×21°.41E, ML2.2*
*BER **21** 17:02:22.2±5.3, 67°.02N×21°.24E, h0km, ML1.7, ML2.2(NAO), Suspected explosion*

ISC 21 17:02:18.5±0.8, 67°.05N±0°.03×20°.79E±0°.04, h0km, n29, σ1°39/54, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.75**	**131**	*eP*	**Pg**	**17 02 33.1**	**+0.3**
ERTU				*eS*	**Sg**	**17 02 43.6**	**+1.2**
PAJU	**Pajala**	**0.91**	**91**	*eP*	**Pg**	**17 02 35.7**	**-0.3**
PAJU				*eS*	**Sg**	**17 02 47.9**	**+0.1**
LANU	**Lannavaara**	**1.10**	**24**	*eP*	**Pg**	**17 02 39.8**	**+0.2**
LANU				*eS*	**Sb**	**17 02 54.8**	**-0.5**
KLF	**Kolari**	**1.25**	**80**	*eP*	**Pg**	**17 02 41.9**	**-0.6**
TOF	**Tornio**	**1.72**	**123**	*eP*	**Pn**	**17 02 50.5**	**+0.9**
TOF				*eS*	**Sb**	**17 03 12.9**	**0.0**
HEF	**Hetta**	**1.75**	**37**	Pn	**Pn**	**17 02 50.4**	**+0.4**
HEF				Sn	**Sn**	**17 03 12.8**	**-0.2**
HEF	**Hetta**	**1.75**	**37**	Pn	**Pn**	**17 02 50.4**	**+0.4**
HEF				Sn	**Sn**	**17 03 12.8**	**-0.2**
HEF	**Hetta**	**1.75**	**37**	*eP*	**Pn**	**17 02 50.7**	**+0.7**
HEF				*eS*	**Sb**	**17 03 13.1**	**-0.8**
HEF				MSG		17 03 18.4	
	comp=Z,11nm,0.1s						
KIF	**Kilpisjarvi**	**1.96**	**0**	Pn	**Pb**	**17 02 55.4**	**+0.4**
KIF				Sn	**Sg**	**17 03 22.3**	**+0.9**
KIF	**Kilpisjarvi**	**1.96**	**0**	Pn	**Pb**	**17 02 55.4**	**+0.4**
KIF				Sn	**Sg**	**17 03 22.3**	**+0.9**
KIF	**Kilpisjarvi**	**1.96**	**0**	*eP*	**Pb**	**17 02 55.9**	**+0.9**
KIF				*eS*	**Sg**	**17 03 21.7**	**+0.3**
KIF				MSG		17 03 28.2	
	comp=Z,15nm,0.2s						
RNF	**Rovaniemi**	**2.11**	**100**	*eP*	**Pb**	**17 02 56.6**	**-1.0**
RNF				*eS*	**Sb**	**17 03 23.7**	**-0.7**
RNF				MSG		17 03 29.1	
	comp=Z,10nm,0.2s						
KTK1	**Kautokeino**	**2.17**	**24**	Pn	**Pb**	**17 02 58.2**	**-0.5**
KTK1				Sn	**Sb**	**17 03 25.8**	**-0.3**
KTK1	**Kautokeino**	**2.17**	**24**	*eP*	**Pb**	**17 02 58.1**	**-0.5**
KTK1				*eS*	**Sb**	**17 03 25.8**	**-0.3**
KTK1				IAML		17 03 28.2	
	comp=Z,9.9nm,0.3s						
I37NO	**I37NO**	**2.19**	**339**	*i*		17 15 45.8	
	baz=159,slow=326,SNR=6.1						
JETT	**Jettan, Norway**	**2.52**	**357**	Pn	**Pb**	**17 03 04.3**	**-0.2**
JETT				Sn	**Sb**	**17 03 34.9**	**-1.1**
JETT				Sg	**Sg**	**17 03 40.2**	**+0.9**
ARA0	**ARCESS Array S**	**3.05**	**33**	Pn	**Pn**	**17 03 08.9**	**+1.0**
	baz=221,slow=14						
ARA0				Sn	**Sn**	**17 03 44.1**	**-0.9**
	baz=206,slow=28						
ARA0				Lg	Lg	17 03 48.8	
	baz=206,slow=28						
ARA0	**ARCESS Array S**	**3.05**	**33**	Pn	**Pn**	**17 03 08.9**	**+1.0**
	baz=221,slow=14						
ARA0				Sn	**Sn**	**17 03 44.1**	**-0.9**
	baz=206,slow=28						
ARA0				Sg	**Sb**	**17 03 48.8**	**-2.4**
	baz=206,slow=28						
ARCES	**ARCESS Array B**	**3.05**	**33**	Pn	**Pn**	**17 03 08.9**	**+1.0**
	baz=219,slow=12,SNR=21						
ARCES				Sn	**Sn**	**17 03 45.2**	**+0.2**
	baz=217,slow=22,SNR=8.2						
APA0	**Apatity Array**	**4.75**	**78**	Pn	**Pn**	**17 03 31.2**	**-0.1**
	baz=252,slow=7.4						
APA0				Sn	**Sn**	**17 04 24.8**	**-2.2**
	baz=285,slow=28						
APA0				Lg	Lg	17 04 43.8	
	baz=270,slow=28						
APA0	**Apatity Array**	**4.75**	**78**	Pn	**Pn**	**17 03 31.2**	**-0.1**
	baz=252,slow=7.4						
APA0				Sn	**Sn**	**17 04 24.8**	**-2.2**
	baz=285,slow=28						
APA0				Sg	**Sb**	**17 04 43.8**	**+3.5**
	baz=270,slow=28						
FIA0	**FINESS Array S**	**6.08**	**155**	Pn	**Pn**	**17 03 51.6**	**+2.1**
	baz=348,slow=16						
FIA0	**FINESS Array S**	**6.08**	**155**	Pn	**Pn**	**17 03 51.6**	**+2.1**
	baz=348,slow=16						
FINES	**FINESS Array B**	**6.08**	**155**	Pn	**Pn**	**17 03 51.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=9.5						
FINES				Sn	**Sn**	**17 04 58.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=342,slow=25,SNR=2.1						
FINES				Lg	Lg	17 05 31.5	
	comp=Z,0.1nm,0.3s,baz=340,slow=28,SNR=1.7						
NB2	**NORSAR Subarra**	**7.34**	**219**	Pn	**Pn**	**17 04 09.2**	**+2.3**
	baz=27,slow=14						
NB2	**NORSAR Subarra**	**7.34**	**219**	Pn	**Pn**	**17 04 09.2**	**+2.3**
	baz=27,slow=14						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**17 04 11.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=23,slow=11,SNR=5.5						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**17 04 12.0**	**+1.3**
	baz=25,slow=14						
HFS				Sn	**Sn**	**17 05 38.7**	**+1.0**
	baz=22,slow=37						
HFS				Lg	Lg	17 06 18.2	
	baz=45,slow=22						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**17 04 12.0**	**+1.3**
	baz=25,slow=14						
HFS				Sn	**Sn**	**17 05 38.7**	**+1.0**
	baz=22,slow=37						
HFS				Sg	**Sg**	**17 06 18.2**	**-4.9**
	baz=45,slow=22						

IDC 21 17:02:52.1±2.6, 11°.37S×162°.37E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.6/5, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=52.6km s-min=36.6km az=89.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.06**	**309**	Pn	Pn	17 03 43.0	+1.2
	18nm,0.3s,baz=195,slow=9.9,SNR=8.9						
HNR				Sn	Sn	17 04 19.9	+0.7
	35nm,0.3s,baz=178,slow=12,SNR=7.0						
PMG	**Port Moresby**	**15.09**	**276**	LR	LR	17 12 18.8	
	comp=Z,69nm,19.2s,baz=132,slow=38						
WRA	**Warramunga Arr**	**28.27**	**249**	P	P	17 08 47.4	0.0
	0.5nm,1.0s,baz=75,slow=9.1,SNR=1.7						
ASAR	**Alice Springs**	**29.70**	**242**	P	P	17 08 59.8	-0.4
	0.4nm,0.9s,baz=62,slow=10,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**29.98**	**8**	T	T	17 39 55.7	
	baz=188,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**29.98**	**8**	T	T	17 39 58.8	
	baz=188,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.99**	**8**	T	T	17 39 56.6	
	baz=188,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**31.20**	**8**	T	T	17 41 32.1	
	baz=188,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**31.21**	**8**	T	T	17 41 32.0	
	baz=188,slow=76,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**31.22**	**8**	T	T	17 41 32.0	
	baz=188,slow=76,SNR=5.7						
SONM	**Songino Array**	**77.00**	**325**	P	P	17 14 47.0	0.0
	0.5nm,0.7s,baz=142,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**91.50**	**317**	P	P	17 16 00.5	-0.2
	0.2nm,0.7s,baz=94,slow=5.3,SNR=3.8						

IDC 21 17:15:02.3±5.2, 60°.13S×153°.33E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.6/14, mbtmp3.4/3, ML2.5/1, Error ellipse: s-maj=358.8km s-min=36.4km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.70**	**174**	P	Pn	17 19 09.8	+0.1
	0.0nm,0.3s,baz=345,slow=9.8,SNR=2.2						
H01W1	**Cape Leeuwin H**	**35.71**	**297**	T	T	18 00 20.8	
	baz=146,slow=76,SNR=8.4						
H01W2	**Cape Leeuwin H**	**35.72**	**297**	T	T	18 00 18.5	
	baz=146,slow=76,SNR=7.0						
H01W3	**Cape Leeuwin H**	**35.73**	**297**	T	T	18 00 17.5	
	baz=146,slow=76,SNR=6.4						
ASAR	**Alice Springs**	**38.89**	**331**	P	P	17 22 29.4	0.0
	0.4nm,0.8s,baz=159,slow=9.1,SNR=6.3						
WRA	**Warramunga Arr**	**42.37**	**333**	P	P	17 22 57.8	-0.3
	0.6nm,0.8s,baz=166,slow=7.2,SNR=3.1						
H03S2	**Juan Fernandez**	**77.01**	**138**	T	T	18 51 54.1	
	baz=202,slow=74,SNR=7.2						
H03S1	**Juan Fernandez**	**77.01**	**138**	T	T	18 51 53.6	
	baz=202,slow=74,SNR=6.9						
H03S3	**Juan Fernandez**	**77.02**	**138**	T	T	18 51 50.9	
	baz=202,slow=74,SNR=7.1						
H08S2	**Diego Garcia H**	**78.85**	**274**	T	T	18 54 27.2	
	baz=150						
H08S1	**Diego Garcia H**	**78.86**	**274**	T	T	18 54 29.3	
	baz=150,slow=74						
H08S3	**Diego Garcia H**	**78.87**	**274**	T	T	18 54 25.5	
	baz=150,slow=74						

*ATH **21** 17:25:50.0, 38°.22N×20°.40E, h14km, ML2.7/4, Error ellipse: s-maj=1.9km s-min=0.9km az=260.0*
*THE **21** 17:25:50.3, 38°.22N×20°.42E, h12km, ML2.7/8, Error ellipse: s-maj=0.9km s-min=0.3km az=261.0*

ISC 21 17:25:49.1±0.9, 38°.21N±0°.02×20°.37E±0°.04, h18km±3km, n38, σ0°90/69, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.02**	**246**	P	**Pg**	**17 25 52.6**	**+0.4**
KEF3				S	**Sg**	**17 25 54.1**	**-0.3**
KEF3	**Kipouria, Keph**	**0.02**	**246**	P	**Pg**	**17 25 52.6**	**+0.4**
KEF3				S	**Sg**	**17 25 54.0**	**-0.3**
DMLN	**Damoulianata-K**	**0.03**	**5**	P	**Pg**	**17 25 52.6**	**+0.3**
DMLN				S	**Sg**	**17 25 54.4**	**-0.1**
	9μm,0.1s						

LXRA	**Lixouri, Kepha**	**0.05**	**101**	P	**Pg**	**17 25 52.5 +0.1**
LXRA				S	**Sg**	**17 25 54.2 -0.3**
KEF4	**Livadi, Kephal**	**0.06**	**42**	P	**Pg**	**17 25 52.7 +0.2**
KEF4				S	**Sg**	**17 25 54.6 -0.1**
KEF4	**Livadi, Kephal**	**0.06**	**42**	P	**Pg**	**17 25 52.6 +0.1**
KEF4				S	**Sg**	**17 25 54.5 -0.1**
ARGA	**Argostoli. Kep**	**0.09**	**111**	P	**Pg**	**17 25 53.3 +0.6**
ARGA				S	**Sg**	**17 25 55.2 +0.1**
ARG2	**Argostoli**	**0.10**	**109**	P	**Pg**	**17 25 52.8 +0.1**
ARG2				S	**Sg**	**17 25 54.5 -0.6**
KEF5	**Kardakata, Kep**	**0.10**	**49**	P	**Pg**	**17 25 52.9 +0.1**
KEF5				S	**Sg**	**17 25 54.2 -1.1**
KEF5	**Kardakata, Kep**	**0.10**	**49**	P	**Pg**	**17 25 52.9 +0.1**
KEF5				S	**Sg**	**17 25 54.7 -0.6**
VLS	**Valsamata**	**0.18**	**101**	P	**Pg**	**17 25 53.6 -0.1**
VLS				S	**Sg**	**17 25 56.0 -0.8**
	7μm,0.1s					
VLS	**Valsamata**	**0.18**	**101**	P	**Pg**	**17 25 53.6 -0.1**
VLS				S	**Sg**	**17 25 56.2 -0.6**
VLS				AML	AML	17 25 56.3
	comp=N,17076μm,0.1s					
VLS				AML	AML	17 25 56.6
	comp=E,8077μm,0.1s					
FSK	**Fiskardo**	**0.29**	**31**	P	**Pg**	**17 25 56.0 +0.5**
FSK				S	**Sg**	**17 26 00.3 +0.5**
	comp=E,1μm,0.1s					
FSK	**Fiskardo**	**0.29**	**31**	P	**Pg**	**17 25 55.9 +0.5**
FSK				S	**Sg**	**17 26 00.1 +0.3**
FSK				AML	AML	17 26 01.0
	comp=E,4663μm,0.1s					
FSK				AML	AML	17 26 01.5
	comp=N,2054μm,0.1s					
VLMS	**Volimes, Zakyn**	**0.41**	**145**	P	**Pg**	**17 25 57.8 +0.3**
VLMS				S	**Sb**	**17 26 04.2 +0.5**
	comp=N,2μm,0.2s					
VLMS	**Volimes, Zakyn**	**0.41**	**145**	P	**Pg**	**17 25 57.7 +0.2**
VLMS				S	**Sg**	**17 26 04.0 +0.8**
VLMS				AML	AML	17 26 05.7
	comp=E,2918μm,0.2s					
VLMS				AML	AML	17 26 06.6
	comp=N,4019μm,0.3s					
EVGI	**Lefkada island**	**0.47**	**29**	P	**Pg**	**17 25 58.6 0.0**
EVGI				S	**Sb**	**17 26 05.8 +0.3**
	comp=N,1μm,0.1s					
EVGI	**Lefkada island**	**0.47**	**29**	P	**Pg**	**17 25 58.1 -0.5**
EVGI				S	**Sg**	**17 26 05.3 +0.3**
DRAG	**Dragano-Lefkad**	**0.50**	**19**	P	**Pg**	**17 25 59.5 +0.3**
DRAG				S	**Sb**	**17 26 07.0 +0.6**
	comp=N,1μm,0.2s					
NYDR	**Nydri-Lefkada**	**0.56**	**27**	P	**Pg**	**17 26 00.5 +0.1**
NYDR				S	**Sb**	**17 26 08.7 +0.5**
	comp=N,195nm,0.3s					
LKD2	**Lefkada island**	**0.62**	**21**	P	**Pg**	**17 26 02.0 +0.6**
LKD2				S	**Sb**	**17 26 10.7 +0.9**
LKD2	**Lefkada island**	**0.62**	**21**	P	**Pg**	**17 26 01.3 -0.1**
LTHK	**Lithakia**	**0.62**	**143**	P	**Pg**	**17 26 01.4 0.0**
LTHK				S	**Sb**	**17 26 10.6 +0.9**
	comp=N,598nm,0.2s					
LTHK	**Lithakia**	**0.62**	**143**	P	**Pg**	**17 26 01.1 -0.3**
LTHK				S	**Sb**	**17 26 10.7 +0.9**
TSLK	**Tsoukalades, L**	**0.65**	**20**	P	**Pg**	**17 26 02.3 +0.3**
TSLK				S	**Sb**	**17 26 11.5 +0.7**
TSLK	**Tsoukalades, L**	**0.65**	**20**	P	**Pg**	**17 26 02.2 +0.1**
TSLK				S	**Sg**	**17 26 11.3 +0.6**
RLS	**Riolos of Patr**	**0.88**	**100**	P	**Pg**	**17 26 06.2 -0.1**
PVO	**Paravola**	**0.99**	**66**	P	**Pb**	**17 26 08.0 +0.2**
LAKA	**Lakka**	**1.27**	**88**	P	**Pn**	**17 26 12.6 +0.6**
LAKA				AML	AML	17 26 32.4
	comp=N,405μm,0.4s					
LAKA				AML	AML	17 26 36.6
	comp=E,379μm,0.5s					
SERG	**Sergoula**	**1.34**	**81**	P	**Pn**	**17 26 13.7 +0.7**
TRIZ	**Trizonia**	**1.35**	**83**	P	**Pn**	**17 26 13.7 +0.6**
KLV	**Kalavryta, Ach**	**1.41**	**96**	P	**Pn**	**17 26 14.7 +0.7**
LSTV	**Lastovo**	**5.27**	**331**	*e*Pn	**Pn**	**17 27 07.3 +0.4**
LSTV				Sn	**Sn**	**17 28 04.4 -2.7**
RICI	**Ricice**	**5.82**	**336**	*e*Pn	**Pn**	**17 27 15.8 +1.2**
RICI				Sn	**Sn**	**17 28 18.9 -1.9**
ZIRJ	**Zirje**	**6.51**	**328**	*e*Pn	**Pn**	**17 27 24.9 +0.9**
ZIRJ				Sn	**Sn**	**17 28 36.1 -1.6**
KIJV	**Kijevo**	**6.52**	**334**	*e*Pn	**Pn**	**17 27 25.9 +1.8**
KIJV				Sn	**Sn**	**17 28 36.1 -1.9**
MORI	**Morici**	**6.66**	**330**	*e*Pn	**Pn**	**17 27 27.7 +1.7**
MORI				Sn	**Sn**	**17 28 39.0 -2.4**
DUGI	**Dugi Otok**	**7.03**	**327**	*e*Pn	**Pn**	**17 27 32.3 +1.1**
DUGI				Sn	**Sn**	**17 28 47.9 -2.7**

*INET **21** 17:26:59.4, 10°.62N×86°.24W, h3km, MW2.8*
UCR 21 17:27:02.2±1.7, 10°.29N×86°.23W, h3km±13km, MW4.0, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.56**	**113**	⇑*e*P	Pb	17 27 14.2	-0.4
SAJU				*e*S	Sb	17 27 22.5	-0.6
GRZA	**Playa Garza**	**0.69**	**122**	*e*P	Pb	17 27 16.4	-0.6
GBS3	**Finca Las Img**	**0.91**	**57**	*i* P	Pg	17 27 19.6	0.0
GBS3				*i* S	Sb	17 27 33.1	-0.1
BUEV	**Buena Vista**	**0.95**	**58**	*e*P	Pg	17 27 20.6	+0.1
BUEV				*e*S	Sb	17 27 34.9	+0.3
GB1A	**Borinquen Arri**	**0.97**	**57**	*i* P	Pg	17 27 20.6	-0.3
GB1A				*i* S	Sb	17 27 35.3	+0.1
GPS2	**Hotel Rincn d**	**0.98**	**62**	⇑*i*P	Pg	17 27 20.9	-0.2
GPS2				*e*S	Sg	17 27 34.2	+0.5
LIM1	**Limonal**	**1.04**	**67**	*i* P	Pg	17 27 21.6	-0.6
BUAI	**Buenos Aires**	**1.06**	**56**	*i* P	Pg	17 27 21.7	-0.8
CUI	**Cuipilapa**	**1.11**	**71**	*i* P	Pg	17 27 23.0	-0.6
ACAL	**Aguas Claras**	**1.23**	**74**	⇑*i*P	Pg	17 27 24.7	-1.0
ACAL				*i* S	Sn	17 27 43.8	+0.3
JTS	**Las Juntas de**	**1.26**	**90**	⇑*e*P	Pg	17 27 24.6	-1.7
JTS				*e*S	Sn	17 27 44.5	+0.2
ARE1	**Arenal 1**	**1.50**	**83**	⇑*e*P	Pn	17 27 29.3	-0.8
COVE	**Coope Vega, Sa**	**1.85**	**76**	*e*P	Pn	17 27 34.1	-0.8
LCR2	**La Lucha 2**	**2.26**	**104**	*e*P	Pn	17 27 40.0	-0.8
RIMA	**Rio Macho**	**2.39**	**102**	*e*P	Pn	17 27 42.5	0.0
CVTR	**Volcan Turrial**	**2.45**	**96**	*e*P	Pn	17 27 45.0	+1.5

*GII **21** 17:28:07.7±0.0, 34°.90N×33°.04E, h20km, Mm2.2/2*
*ISK **21** 17:28:08.8, 34°.73N×32°.99E, h22km, ML2.8/15*
*NIC **21** 17:28:09.5±0.0, 34°.73N×32°.99E, h21km, Ml2.8/5*
*DDA **21** 17:28:10.7, 34°.96N×32°.85E, h12km±2km, ML2.3*
ISC 21 17:28:09.7±0.9, 34°.74N±0°.03×32°.98E±0°.03, h20km±4km, n44, σ1°.05/63, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.08**	**279**	P	**Pb**	**17 28 13.5**	**-0.1**
SZAC				S	**Sb**	**17 28 16.7**	**+0.4**
SZAC				AML	AML	17 28 16.9	
	36nm,0.3s						
SZAC				AML	AML	17 28 16.9	
	36nm,0.3s						
SZAC				AML	AML	17 28 17.9	
	15nm,0.2s						
SZAC				AML	AML	17 28 17.9	
	15nm,0.2s						
ASGA	**Asgata**	**0.23**	**79**	P	**Pb**	**17 28 15.2**	**-0.2**
ASGA				S	**Sb**	**17 28 19.4**	**+0.1**
ASGA				AML	AML	17 28 20.8	
	27nm,0.4s						
ASGA				AML	AML	17 28 20.8	
	27nm,0.4s						
ASGA				AML	AML	17 28 20.9	
	17nm,0.2s						
ASGA				AML	AML	17 28 20.9	
	17nm,0.2s						
NATA	**Nata**	**0.34**	**276**	P	**Pb**	**17 28 16.7**	**-0.3**
NATA				AML	AML	17 28 27.1	
	4.0nm,0.5s						
NATA				AML	AML	17 28 27.9	
	6.7nm,0.8s						
CSS	**Mathiatis**	**0.36**	**53**	PG	**Pb**	**17 28 16.9**	**-0.6**
CSS				SG	**Sb**	**17 28 23.1**	**+0.4**
CSS	**Mathiatis**	**0.36**	**53**	P	**Pb**	**17 28 17.1**	**-0.4**
CSS				S	**Sb**	**17 28 23.2**	**+0.4**
LEF	**Lefka**	**0.38**	**349**	PG	**Pb**	**17 28 17.3**	**-0.5**
LEF				SG	**Sb**	**17 28 24.5**	**+1.3**
AKIN	**Akıncılar- Kıb**	**0.48**	**56**	PG	**Pb**	**17 28 19.5**	**-0.1**
ALFC	**Alefka**	**0.52**	**323**	P	**Pb**	**17 28 20.1**	**0.0**
ALFC				AML	AML	17 28 28.9	
	1.3nm,0.6s						
ALFC				AML	AML	17 28 31.6	
	2.2nm,0.6s						
AKDN	**Akdeniz- Kıbrı**	**0.55**	**359**	PG	**Pb**	**17 28 20.8**	**0.0**
AKDN				SG	**Sb**	**17 28 29.2**	**+0.9**
AKMS	**Akamas**	**0.60**	**298**	P	**Pb**	**17 28 21.4**	**-0.1**
AKMS				AML	AML	17 28 38.6	
	1.0nm,0.4s						
AKMS				AML	AML	17 28 39.0	
	1.0nm,0.5s						
MVOU	**Mavrovouni**	**0.60**	**63**	P	**Pb**	**17 28 20.9**	**-0.7**
MVOU				S	**Sn**	**17 28 32.3**	**0.0**
LFK	**Lefkose**	**0.70**	**40**	PG	**Pb**	**17 28 23.3**	**0.0**
PARAL	**Paralimni**	**0.91**	**74**	P	**Pn**	**17 28 28.6**	**+1.3**
EREN	**Erenkoy**	**1.25**	**51**	*i* P	**Pb**	**17 28 34.1**	**+1.4**
EREN				*i* S	**Sb**	**17 28 50.9**	**+2.6**
EREN				IAML		17 28 57.0	
	comp=N,65nm,0.5s						
EREN				IAML		17 29 00.0	
	comp=E,70nm,0.7s						
EREN	**Erenkoy**	**1.25**	**51**	PN	**Pn**	**17 28 32.0**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.49**	**18**	PN	**Pn**	**17 28 34.6**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.51**	**18**	*i* P	**Pn**	**17 28 35.5**	**-0.2**
GAZI	**Gazipasa**	**1.58**	**340**	*i* P	**Pn**	**17 28 37.0**	**+0.3**
GAZI				*i* S	**Sn**	**17 28 54.8**	**-1.8**
GAZI				IAML		17 28 59.0	
	comp=N,44nm,0.6s						
IKL	**Isikli**	**1.60**	**21**	PN	**Pn**	**17 28 36.0**	**-0.9**
BERE	**Bereket-Mersin**	**1.61**	**7**	PN	**Pn**	**17 28 36.9**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.73**	**12**	PN	**Pn**	**17 28 38.5**	**-0.3**
KEBE	**Keben-Mersin**	**1.80**	**19**	PN	**Pn**	**17 28 39.6**	**-0.1**
ERMK	**Ermenek**	**1.90**	**358**	*i* P	**Pn**	**17 28 42.4**	**+1.3**
ERMK				*i* S	**Sn**	**17 29 05.9**	**+1.3**
ERMK				IAML		17 29 17.0	
	comp=E,26nm,0.6s						
KIZK	**Mersin**	**1.98**	**28**	*i* P	**Pn**	**17 28 42.3**	**+0.3**
KIZK				*i* S	**Sn**	**17 29 06.9**	**+0.6**
KIZK				IAML		17 29 15.0	
	comp=E,17nm,0.4s						
KEPZ	**Antalya-Kepez**	**2.43**	**333**	*i* P	**Pn**	**17 28 49.6**	**+1.3**
KEPZ				*i* S	**Sn**	**17 29 17.0**	**-0.4**
KRMN	**Karaman**	**2.44**	**5**	PN	**Pn**	**17 28 48.6**	**+0.1**
MERS	**Mersin**	**2.46**	**30**	PN	**Pn**	**17 28 48.8**	**0.0**
KKBE	**Karaman, Kazim**	**2.47**	**359**	*i* P	**Pb**	**17 28 51.9**	**-1.6**
KKBE				*i* S	**Sb**	**17 29 21.5**	**-2.0**
MMA0B	**Mount Meron ar**	**2.65**	**130**	Pn	**Pn**	**17 28 50.0**	**-1.4**
DED	**Mersin**	**2.66**	**33**	*i* P	**Pn**	**17 28 51.1**	**-0.4**
DED				IAML		17 29 31.0	
	comp=E,14nm,0.7s						
DED				IAML		17 29 31.0	
	comp=N,9.2nm,0.7s						
OFRI	**`Ofer**	**2.70**	**141**	Pn	**Pn**	**17 28 51.0**	**-1.0**
GEM	**Giv'at Ha'Em**	**2.70**	**124**	Pn	**Pn**	**17 28 50.7**	**-1.3**
GEM				Sn	**Sn**	**17 29 23.5**	**-0.7**
NATI	**Neve Ativ**	**2.73**	**122**	Pn	**Pn**	**17 28 51.2**	**-1.1**
NATI				Sn	**Sn**	**17 29 24.3**	**-0.4**
SEYD	**Seydisehir-KON**	**2.81**	**341**	PN	**Pn**	**17 28 53.9**	**+0.2**
KERG	**Konya-Eregli**	**2.82**	**19**	*i* P	**Pn**	**17 28 56.1**	**+2.3**
KERG				*i* S	**Sb**	**17 29 30.9**	**-2.9**
KERG				IAML		17 29 38.0	
	comp=E,13nm,0.5s						
KERG				IAML		17 29 38.0	
	comp=N,17nm,0.5s						
YAYL	**Yayladag**	**2.86**	**62**	*i* P	**Pb**	**17 28 58.6**	**-1.6**
YAYL				IAML		17 29 35.0	
	comp=E,20nm,0.4s						
YAYL				IAML		17 29 36.0	
	comp=N,33nm,1.2s						
SLTI	**Sal'it**	**3.03**	**145**	Pn	**Pn**	**17 28 56.2**	**-0.4**
MMLI	**Mount Malkishu**	**3.07**	**138**	PN	**Pn**	**17 28 57.8**	**+0.7**
HMDT	**Nahal Hemdat**	**3.27**	**139**	Pn	**Pn**	**17 28 59.5**	**-0.3**
HMDT				Sn	**Sn**	**17 29 38.6**	**+0.5**
CMRD	**Camardi-Nigde**	**3.34**	**29**	PN	**Pn**	**17 29 01.1**	**+0.2**
AKO	**Adana**	**3.37**	**36**	*i* P	**Pn**	**17 29 03.6**	**+2.4**
DSI	**Dead Sea**	**3.75**	**147**	Pn	**Pn**	**17 29 06.4**	**0.0**
DSI				Sn	**Sn**	**17 29 51.6**	**+1.6**
HRFI	**Mount Harif**	**5.00**	**159**	Pn	**Pn**	**17 29 24.0**	**+0.3**
HRFI				Sn	**Sn**	**17 30 22.1**	**+1.1**
EIL	**Elat**	**5.33**	**161**	Pn	**Pn**	**17 29 28.5**	**+0.4**

IDC 21 17:34:22.9±1.8, 6°.92S×129°.28E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=69.6km s-min=29.2km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.33**	**18**	Pn	Pn	17 35 58.9	+1.2
	0.6nm,0.3s,baz=166,slow=22,SNR=1.4						
SIJI				Sn	Sn	17 37 06.1	-4.6
	1.0nm,0.3s,baz=229,slow=22,SNR=2.4						
WRA	**Warramunga Arr**	**13.85**	**160**	Pn	Pn	17 37 39.8	-0.9
	0.2nm,0.3s,baz=344,slow=12,SNR=22						
WRA				Sn	Sn	17 40 00.1	-15
	0.2nm,0.3s,baz=342,slow=21,SNR=1.6						
ASAR	**Alice Springs**	**17.23**	**166**	P	P	17 38 26.3	-0.6
	0.1nm,0.3s,baz=344,slow=9.7,SNR=12						
ASAR				S	Sn	17 41 27.3	-10
	0.1nm,0.3s,baz=346,slow=25,SNR=1.6						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	17 45 22.2	-0.3
	0.1nm,0.3s,baz=113,slow=8.1,SNR=4.6						

*IDC **21** 17:45:12.0±6.1, 6°.44S×127°.99E, h298km±75km, mb2.8/3, mb1 3.1/6, mb1mx3.0/26, mbtmp3.7/6, Error ellipse: s-maj=121.8km s-min=18.6km az=82.0*
ISC 21 17:45:11.7±1.0, 6°.48S±0°.08×128°.4E±0°.2, h300km, n6, σ2°.24/9, mb3.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.27**	**28**	P	**Pn**	**17 46 46.7**	**+2.3**
	0.3nm,0.3s,baz=221,slow=19,SNR=1.9						
SIJI				S	**S**	**17 47 56.8**	**-2.4**
	0.6nm,0.3s,baz=57,slow=24,SNR=2.2						
WRA	**Warramunga Arr**	**14.59**	**157**	P	**P**	**17 48 26.1**	**+1.8**
	0.8nm,0.3s,baz=331,slow=12,SNR=57						
WRA				S	**S**	**17 51 02.1**	**-2.3**
	0.1nm,0.3s,baz=334,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**17.90**	**163**	P	**P**	**17 49 02.5**	**+2.1**
	0.9nm,0.3s,baz=344,slow=11,SNR=77						
ASAR				S	**S**	**17 52 08.0**	**-2.3**
	0.1nm,0.3s,baz=340,slow=19,SNR=3.4						
KSRS	**Korea Array**	**43.70**	**359**	P	**P**	**17 52 47.2**	**-0.5**
	0.3nm,0.5s,baz=177,slow=10,SNR=4.5						
SONM	**Songino Array**	**57.45**	**343**	P	**P**	**17 54 29.8**	**0.0**
	0.6nm,1.1s,baz=157,slow=7.7,SNR=1.4						
MKAR	**Makanchi Array**	**66.91**	**327**	P	**P**	**17 55 31.2**	**-1.0**
	0.2nm,0.5s,baz=134,slow=7.2,SNR=4.8						

*IDC **21** 18:00:46.8±1.6, 27°.94N×86°.32E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/37, mbtmp3.5/7, ML3.6/1, MS2.7/1, Ms1 2.9/1, ms1mx2.2/44, Error ellipse: s-maj=60.7km s-min=22.3km az=64.0*
ISC 21 18:00:52.1±1.6, 28°.0N±0°.2×86°.3E±0°.4, h35km, n8, σ0°.79/7, mb3.6/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.96**	**127**	LR	LR	18 12 24.4	
	comp=Z,27nm,18.5s,baz=196,slow=47						
MKAR	**Makanchi Array**	**19.05**	**351**	P	**P**	**18 05 10.6**	**-0.7**
	0.2nm,0.3s,baz=164,slow=10,SNR=10.0						
KURBB	**Kurchatov Arra**	**23.38**	**347**	P	**P**	**18 05 57.6**	**+0.2**
	0.6nm,0.8s,baz=157,slow=9.1,SNR=4.2						
SONM	**Songino Array**	**25.24**	**33**	P	**P**	**18 06 15.1**	**+0.2**
	0.5nm,0.9s,baz=221,slow=7.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**25.97**	**358**	P	**P**	**18 06 21.0**	**-0.2**
	1.0nm,0.5s,baz=177,slow=9.5,SNR=5.9						
FINES	**FINESS Array B**	**51.67**	**328**	P	**P**	**18 09 55.5**	**+0.3**
	0.6nm,0.3s,baz=109,slow=7.5,SNR=6.7						
WRA	**Warramunga Arr**	**66.52**	**130**	P	**P**	**18 11 39.5**	**+0.9**
	0.9nm,1.2s,baz=324,slow=6.4,SNR=2.2						
ASAR	**Alice Springs**	**68.85**	**133**	P	**P**	**18 11 52.3**	**-1.0**
	0.5nm,1.1s,baz=325,slow=7.4,SNR=2.2						

*IDC **21** 18:12:41.8±1.5, 39°.11N×72°.14E, h0km, mb3.7/6, mb1 3.7/11, mb1mx3.4/55, mbtmp3.6/11, ML2.9/5, MS2.5/2, Ms1 2.5/2, ms1mx2.1/43, Error ellipse: s-maj=25.5km s-min=15.6km az=142.0*
*SOME **21** 18:12:44.7, 39°.43N×72°.13E, h10km*

*KRNET **21** 18:12:46.6±0.1, 39°.37N×72°.15E, h7km, mb3.2*
*NNC **21** 18:12:52.5±4.0, 39°.64N×72°.45E, h2km±20km, mb3.9, mpv3.6, Error ellipse: s-maj=29.2km s-min=19.5km az=5.0*
ISC 21 18:12:44.1±0.8, 39°.36N±0°.06×72°.24E±0°.03, h10km, n66, σ2°.43/85, mb3.7/6, 26C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.37**	**290**	⇑*i*P	**Pb**	**18 12 52.6**	**-0.3**
	baz=93						
DRK				⇑*i*S	**Sb**	**18 12 56.6**	**-2.2**
	baz=93						
OHH	**Osh**	**1.24**	**19**	⇑*i*P	**Pg**	**18 13 10.4**	**+2.4**
	baz=23						
OHH				⇑*i*S	**Sn**	**18 13 28.1**	**+3.6**
	baz=23						
BTK	**Batken**	**1.30**	**303**	⇓*i*P	**Pg**	**18 13 10.3**	**+1.1**
	baz=4.0						
BTK				⇓*i*S	**Sn**	**18 13 27.5**	**+1.4**
	baz=4.0						
TRKS	**Terek-Say**	**2.33**	**339**	⇑*i*P	**Pg**	**18 13 26.7**	**-2.1**
	baz=41						
TRKS				⇑*i*S	**Sg**	**18 13 56.3**	**-2.7**
	baz=41						
ARLS	**Aral**	**2.96**	**32**	⇓*i*P	**Pb**	**18 13 37.4**	**+0.3**
	baz=33						
ARLS				⇓*i*S	**Sb**	**18 14 14.7**	**+1.3**
	baz=33						
AML	**Almayashu**	**2.98**	**21**	⇑*i*P	**Pb**	**18 13 37.8**	**+0.2**
	baz=23						
AML				⇑*i*S	**Sb**	**18 14 15.4**	**+1.1**
	baz=23						
AML	**Almayashu**	**2.98**	**21**	P	**Pb**	**18 13 38.2**	**+0.6**
	SNR=134						
MNAS	**Manas**	**3.14**	**4**	⇓*i*P	**Pb**	**18 13 39.4**	**-0.6**
	baz=5.0						
MNAS				⇓*i*S	**Sb**	**18 14 18.2**	**-0.2**
	baz=5.0						
MRKS	**Merke**	**3.47**	**12**	*e*P	**Pb**	**18 13 45.2**	**-0.4**
	9.1nm,0.3s						
MRKS				*e*S	**Sb**	**18 14 29.1**	**+1.2**
	64nm,0.7s						
MRKS	**Merke**	**3.47**	**12**	Pg	**Pb**	**18 13 45.2**	**-0.4**
	9.1nm,0.3s						
MRKS				Lg	Lg	18 14 29.1	
	64nm,0.7s						
EKS2	**Erkin-Say**	**3.50**	**19**	⇑*e*P	**Pb**	**18 13 44.7**	**-1.6**
	baz=20						
EKS2				⇑*i*S	**Sb**	**18 14 27.2**	**-1.7**
	baz=20						
EKS2	**Erkin-Say**	**3.50**	**19**	P	**Pb**	**18 13 47.2**	**+0.9**
	SNR=19						
DZA	**Taraz**	**3.60**	**349**	*e*P	**Pb**	**18 13 48.0**	**+0.1**
	29nm,0.1s						
DZA				*e*S	**Sb**	**18 14 33.2**	**+1.5**
	168nm,0.4s						
DZA	**Taraz**	**3.60**	**349**	Pg	**Pb**	**18 13 48.0**	**+0.1**
	29nm,0.1s						
DZA				Lg	Lg	18 14 33.2	
	168nm,0.4s						
AAK	**Ala-Archa**	**3.69**	**27**	Pn	**Pb**	**18 13 47.3**	**-2.3**
	1.5nm,0.3s,baz=222,slow=9.7,SNR=2.1						
AAK				Sn	**Sb**	**18 14 35.0**	**+0.5**
	2.8nm,0.3s,baz=344,slow=19,SNR=6.3						
KBK	**Karagaybulak**	**3.88**	**31**	⇑*i*P	**Pb**	**18 13 50.4**	**-2.4**
	baz=32						
KBK				⇑*i*S	**Sb**	**18 14 36.6**	**-3.3**
	baz=32						
FRU1	**Bishkek**	**3.90**	**27**	⇑*i*P	**Pb**	**18 13 50.5**	**-2.4**
	baz=27						
FRU1				⇑*i*S	**Sb**	**18 14 37.2**	**-2.9**
	baz=27						
KK31	**Karatay Array**	**3.97**	**341**	⇑Pn	**Pb**	**18 13 50.8**	**-3.3**
	2.0nm,0.2s,baz=146,slow=12,SNR=69						
KK31				⇑Sn	**Sb**	**18 14 37.8**	**-4.4**
	14nm,0.6s,baz=142,slow=28,SNR=3.9						
CHMS	**Chumysh**	**4.10**	**27**	P	**Pb**	**18 13 54.0**	**-2.4**
	SNR=6.2						
ULHL	**Ulahol**	**4.19**	**45**	P	**Pb**	**18 13 54.9**	**-3.1**
	SNR=6.2						
BOOM	**Boomskoye usch**	**4.20**	**41**	⇑*i*P	**Pb**	**18 13 54.9**	**-3.3**
	baz=41						
BOOM				⇑*i*S	**Sb**	**18 14 44.8**	**-4.3**
	baz=41						
USP	**Ospenovka**	**4.26**	**23**	P	**Pb**	**18 13 56.0**	**-3.1**
	SNR=13						
SGDS	**Sogindy**	**4.47**	**23**	Pg	**Pg**	**18 14 08.2**	**-1.5**
	6.2nm,0.4s						
SGDS				Lg	Lg	18 15 08.3	
	7.7nm,0.4s						
KST	**Kastek**	**4.63**	**36**	*e*P	**Pg**	**18 14 11.4**	**-1.4**
	4.0nm,0.7s						
KST				*e*S	**Sg**	**18 15 14.0**	**+1.2**
	17nm,0.6s						
KST	**Kastek**	**4.63**	**36**	Pg	**Pg**	**18 14 11.4**	**-1.4**
	4.0nm,0.7s						
KST				Lg	Lg	18 15 14.0	
	17nm,0.6s						
KDJ	**Kajisay**	**4.66**	**52**	⇑*i*P	Pn	18 14 01.1	+6.3
	baz=53						
KDJ				⇑*i*S	**Sn**	**18 14 55.7**	**+6.7**
	baz=53						
DGS	**Degeres**	**4.71**	**33**	*e*P	**Pg**	**18 14 12.6**	**-1.6**
	5.9nm,0.4s						
DGS				*e*S	**Sg**	**18 15 16.1**	**+0.9**
	19nm,0.7s						
DGS	**Degeres**	**4.71**	**33**	Pg	**Pg**	**18 14 12.6**	**-1.6**
	5.9nm,0.4s						
DGS				Lg	Lg	18 15 16.1	
	19nm,0.7s						
IZV	**Izvestkoviy**	**4.94**	**40**	*e*P	**Pg**	**18 14 17.7**	**-1.0**
	4.7nm,0.4s						
IZV				*e*S	**Sg**	**18 15 24.1**	**+1.4**
	27n

CHKK					Lg	Lg	18 15 50.1	
	11nm,0.6s							
SATY	**Saty**	**5.94**	**49**	*e*P		**Pg**	**18 14 35.0**	**-2.9**
	3.6nm,0.7s							
SATY				*e*S		**Sg**	**18 15 53.8**	**-1.0**
	16nm,0.9s							
SATY	**Saty**	**5.94**	**49**	Pg		**Pg**	**18 14 35.0**	**-2.9**
	3.6nm,0.7s							
SATY				Lg		Lg	18 15 53.8	
	16nm,0.9s							
KPKS	**Kokpek**	**6.35**	**48**	*e*P		Pg	18 14 41.4	-4.2
	4.7nm,0.5s							
KPKS				*e*S		**Sg**	**18 16 05.8**	**-2.1**
	11nm,0.8s							
SHLS	**Shalkode**	**6.63**	**53**	*e*P		**Pg**	**18 14 52.4**	**+1.2**
	4.4nm,1.2s							
SHLS				*e*S		**Sg**	**18 16 23.8**	**+6.8**
	14nm,0.8s							
SHLS	**Shalkode**	**6.63**	**53**	Pg		**Pg**	**18 14 52.4**	**+1.2**
	4.4nm,1.2s							
SHLS				Lg		Lg	18 16 23.8	
	14nm,0.8s							
PDGK	**Podgornoye**	**6.74**	**52**	Pg		Pg	18 14 48.9	-4.3
	1.0nm,0.6s							
PDGK				Lg		Lg	18 16 17.8	
	3.3nm,1.1s							
PDGK	**Podgornoye**	**6.74**	**52**	⇓Pn		Pn	18 14 28.5	+5.2
	1.8nm,0.8s							
PDGK				⇓Pg		**Pg**	**18 14 50.0**	**-3.3**
	3.1nm,0.7s							
PDGK				⇓Lg		Lg	18 16 17.9	
	13nm,1.1s							
MK31	**Makanchi Array**	**10.45**	**41**	Pn		Pn	18 15 19.5	+5.6
	0.7nm,0.8s,baz=220,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**10.45**	**41**	Pn		**Pn**	**18 15 18.3**	**+4.4**
	0.1nm,0.3s,baz=228,slow=13,SNR=5.8							
GEYT	**Alibeck**	**11.14**	**267**	LR		LR	18 19 25.4	
	comp=Z,26nm,20.4s,baz=190,slow=36							
KURBB	**Kurchatov Arra**	**12.11**	**19**	Pn		**Pn**	**18 15 38.6**	**+2.0**
	0.0nm,0.3s,baz=215,slow=12,SNR=2.7							
AB31	**Akbulak array**	**13.23**	**322**	⇑Pn		P	18 15 56.6	-5.3
	1.1nm,0.5s							
AKTO	**Aktyubinsk**	**14.95**	**322**	Pn		**Pn**	**18 16 14.4**	**-1.0**
	0.1nm,0.3s,baz=135,slow=7.5,SNR=1.6							
AKTO	**Aktyubinsk**	**14.95**	**322**	⇑Pn		**P**	**18 16 22.3**	**+1.3**
	3.9nm,0.9s							
ZALV	**Zalesovo Beam**	**16.92**	**26**	P		**P**	**18 16 42.7**	**-0.1**
	0.2nm,0.3s,baz=205,slow=11,SNR=3.1							
GNI	**Garni**	**21.13**	**281**	LR		LR	18 28 01.4	
	comp=Z,14nm,21.4s,baz=123,slow=44							
BELG	**Belogornoye**	**21.41**	**316**	P		**P**	**18 17 32.9**	**+1.1**
	2.3nm,0.6s,baz=190,slow=2.3,SNR=3.6							
AKASG	**Malin Array Be**	**32.02**	**305**	P		**P**	**18 19 09.0**	**-1.4**
	0.1nm,0.3s,baz=93,slow=9.7,SNR=1.7							
FINES	**FINESS Array B**	**35.72**	**324**	P		**P**	**18 19 43.5**	**+1.0**
	2.8nm,1.1s,baz=134,slow=5.5,SNR=4.3							
ARCES	**ARCESS Array B**	**38.91**	**336**	P		**P**	**18 20 09.8**	**+0.2**
	0.9nm,0.8s,baz=113,slow=9.3,SNR=6.8							
TORD	**Torodi Ar. Bea**	**66.78**	**268**	P		**P**	**18 23 34.4**	**-1.7**
	0.6nm,1.0s,baz=46,slow=6.0,SNR=2.0							
WRA	**Warramunga Arr**	**82.69**	**123**	P		**P**	**18 25 07.0**	**-1.1**
	0.5nm,1.0s,baz=318,slow=3.8,SNR=1.6							
PMG	**Port Moresby**	**84.46**	**107**	LR		LR	19 07 16.2	
	comp=Z,96nm,18.1s,baz=138,slow=39							

*ISK **21** 18:19:39.4,34.°75N×33.°01E,h23km,ML2.5/14*
*DDA **21** 18:19:39.2,34.°71N×32.°95E,h29km±2km,ML2.2*
*NIC **21** 18:19:40.1±0.0,34.°76N×32.°99E,h20km,Ml2.6/5*
ISC 21 18:19:40.2±1.0,34.°79N±0.°04×32.°98E±0.°03,h18km±5km, n33,σ1°07/48,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.09**	**249**	P	**Pg**	**18 19 43.9**	**+0.1**
SZAC				S	**Sg**	**18 19 47.0**	**+0.8**
SZAC				AML	AML	18 19 47.2	
	10nm,0.3s						
SZAC				AML	AML	18 19 47.2	
	10nm,0.3s						
SZAC				AML	AML	18 19 47.7	
	6.1nm,0.2s						
SZAC				AML	AML	18 19 47.7	
	6.1nm,0.2s						
ASGA	**Asgata**	**0.22**	**90**	P	**Pg**	**18 19 45.5**	**0.0**
ASGA				S	**Sg**	**18 19 49.8**	**+0.7**
ASGA				AML	AML	18 19 50.9	
	7.8nm,0.2s						
ASGA				AML	AML	18 19 50.9	
	7.8nm,0.2s						
ASGA				AML	AML	18 19 51.2	
	4.1nm,0.2s						
ASGA				AML	AML	18 19 51.2	
	4.1nm,0.2s						
NATA	**Nata**	**0.34**	**269**	P	**Pb**	**18 19 47.7**	**0.0**
NATA				AML	AML	18 19 55.7	
	3.6nm,0.5s						
NATA				AML	AML	18 19 59.0	
	1.8nm,0.6s						
CSS	**Mathiatis**	**0.34**	**59**	PG	**Pg**	**18 19 47.3**	**-0.1**
CSS				SG	**Sg**	**18 19 52.9**	**+0.6**
CSS	**Mathiatis**	**0.34**	**59**	P	**Pg**	**18 19 47.4**	**0.0**
CSS				S	**Sg**	**18 19 53.2**	**+0.9**
LEF	**Lefka**	**0.34**	**348**	*i* P	**Pg**	**18 19 47.9**	**+0.5**
LEF				*i* S	**Sb**	**18 19 55.1**	**+2.2**
LEF				IAML		18 19 59.0	
	comp=E,210nm,0.4s						
LEF				IAML		18 19 59.0	
	comp=N,201nm,0.6s						
LEF	**Lefka**	**0.34**	**348**	PG	**Pg**	**18 19 47.8**	**+0.4**
LEF				SG	**Sb**	**18 19 54.9**	**+2.0**
AKIN	**Akıncılar- Kıb**	**0.46**	**60**	PG	**Pg**	**18 19 49.6**	**0.0**
ALFC	**Alefka**	**0.48**	**320**	P	**Pg**	**18 19 50.1**	**+0.1**
ALFC				AML	AML	18 20 00.2	
	comp=N,2.1nm,0.4s						
ALFC				AML	AML	18 20 04.0	
	comp=N,2.0nm,0.5s						
AKDN	**Akdeniz- Kıbrı**	**0.51**	**359**	PG	**Pb**	**18 19 51.1**	**+0.4**
AKMS	**Akamas**	**0.58**	**294**	P	**Pb**	**18 19 51.7**	**-0.1**
AKMS				S	**Sn**	**18 20 02.5**	**-0.2**
AKMS				AML	AML	18 20 04.7	
	comp=N,0.6nm,0.4s						
AKMS				AML	AML	18 20 04.7	
	comp=N,0.6nm,0.4s						
AKMS				AML	AML	18 20 07.5	
	comp=N,0.5nm,0.3s						
AKMS				AML	AML	18 20 07.5	
	comp=N,0.5nm,0.3s						
MVOU	**Mavrovouni**	**0.58**	**67**	P	**Pg**	**18 19 51.4**	**-0.5**
MVOU				S	**Sg**	**18 20 00.2**	**+0.6**
LFK	**Lefkose**	**0.67**	**43**	PG	**Pb**	**18 19 53.5**	**+0.1**
PARAL	**Paralimni**	**0.90**	**76**	S	Sn	18 20 35.5	+25
EREN	**Erenkoy**	**1.23**	**52**	*i* P	**Pg**	**18 20 04.5**	**+0.6**
EREN				*i* S	**Sg**	**18 20 20.5**	**+0.5**
EREN				IAML		18 20 29.0	
	comp=E,47nm,0.8s						
EREN	**Erenkoy**	**1.23**	**52**	PN	**Pn**	**18 20 01.8**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.36**	**5**	PN	**Pn**	**18 20 03.8**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.45**	**19**	PN	**Pn**	**18 20 05.0**	**-0.5**
GULN	**MERSIN_Gulnar**	**1.47**	**18**	*i* P	**Pn**	**18 20 06.1**	**+0.2**
GULN				*i* S	**Sn**	**18 20 25.6**	**+1.0**
GAZI	**Gazipasa**	**1.54**	**340**	*i* P	**Pn**	**18 20 07.2**	**+0.4**
GAZI				*i* S	**Sn**	**18 20 26.6**	**+0.1**
GAZI				IAML		18 20 31.0	
	comp=E,28nm,0.7s						
IKL	**Isikli**	**1.56**	**22**	PN	**Pn**	**18 20 06.7**	**-0.4**
BERE	**Bereket-Mersin**	**1.57**	**7**	PN	**Pn**	**18 20 07.3**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.69**	**13**	PN	**Pn**	**18 20 08.7**	**-0.2**
KEBE	**Keben-Mersin**	**1.76**	**20**	PN	**Pn**	**18 20 09.8**	**-0.1**
KIZK	**Mersin**	**1.94**	**29**	*i* P	**Pn**	**18 20 14.1**	**+1.8**
KIZK				*i* S	**Sb**	**18 20 39.0**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.39**	**333**	*i* P	**Pn**	**18 20 15.9**	**-2.6**
KEPZ				*i* S	**Sn**	**18 20 49.6**	**+2.2**
KEPZ				IAML		18 20 59.0	
	comp=N,14nm,1.2s						
KRMN	**Karaman**	**2.39**	**5**	PN	**Pn**	**18 20 18.8**	**+0.1**
KKBE	**Karaman, Kazim**	**2.43**	**359**	*i* P	**Pb**	**18 20 21.9**	**-1.6**
KKBE				*i* S	**Sb**	**18 20 52.1**	**-1.0**
SEYD	**Seydisehir-KON**	**2.77**	**341**	PN	**Pn**	**18 20 24.3**	**+0.4**
KERG	**Konya-Eregli**	**2.78**	**19**	*i* P	**Pb**	**18 20 27.4**	**-2.2**
KERG				*i* S	**Sb**	**18 21 02.0**	**-1.3**
KERG				IAML		18 21 12.0	
	comp=E,8.6nm,0.5s						
SEDI	**Konya, Seydise**	**2.84**	**340**	*i* P	**Pb**	**18 20 28.4**	**-2.0**
SEDI				*i* S	**Sb**	**18 21 02.4**	**-2.5**
SEDI				IAML		18 21 09.0	
	comp=E,10nm,0.5s						
SEDI				IAML		18 21 16.0	
	comp=N,9.4nm,0.7s						
MMLI	**Mount Malkishu**	**3.10**	**138**	PN	**Pn**	**18 20 28.2**	**-0.2**
CMRD	**Camardi-Nigde**	**3.30**	**29**	PN	**Pn**	**18 20 31.5**	**+0.4**

*ANF **21** 18:24:08.7±0.3,36.°84N×98.°28W,h0km,ML4.3/9,Error ellipse: s-maj=3.4km s-min=3.3km az=105.0*
*TUL **21** 18:24:08.2±1.4,36.°84N±0.°02×98.°25W±0.°04,h5km±5km, ML3.5,mb_Lg3.3/124(NEIC),Error ellipse: s-maj=4.9km s-min=2.7km az=106.0*
*NEIC **21** 18:24:09.3±1.5,36.°82N±0.°03×98.°19W±0.°04,h9km±5km, Error ellipse: s-maj=5.1km s-min=3.1km az=132.0*
ISC 21 18:24:08.9±0.8,36.°82N±0.°02×98.°20W±0.°03,h6km±5km, n130,σ0°84/130,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.02**	**220**		**Pg**	**18 24 09.8**	**-0.3**
OK032				Sg	**Sg**	**18 24 10.8**	**-0.1**
GC02	**Grant County #**	**0.27**	**83**		**Pg**	**18 24 14.6**	**+0.3**
GC02				Sg	**Sg**	**18 24 19.1**	**+1.2**
KAN10	**Anthony SW Sta**	**0.32**	**15**		**Pg**	**18 24 14.8**	**-0.4**
KAN10				Sg	**Sg**	**18 24 19.4**	**+0.1**
CROK	**Carrier**	**0.36**	**151**		**Pg**	**18 24 16.1**	**+0.2**
CROK				Sg	**Sg**	**18 24 21.6**	**+1.1**
KAN05	**Bluff City Nor**	**0.39**	**42**		**Pg**	**18 24 16.5**	**0.0**
KAN05				Sg	**Sg**	**18 24 22.2**	**+0.5**
KAN17	**Caldwell West**	**0.41**	**57**		**Pg**	**18 24 17.0**	**0.0**
KAN17				Sg	**Sg**	**18 24 22.8**	**+0.4**
KAN08	**Anthony NE Sta**	**0.45**	**24**		**Pg**	**18 24 17.3**	**-0.3**
KAN08				Sg	**Sg**	**18 24 23.4**	**0.0**
KAN12	**Harper NE Stat**	**0.51**	**18**		**Pg**	**18 24 18.2**	**-0.5**
KAN12				Sg	**Sg**	**18 24 25.4**	**+0.1**
KAN09	**Caldwell North**	**0.56**	**55**		**Pg**	**18 24 19.7**	**-0.1**
KAN09				Sg	**Sg**	**18 24 27.6**	**+0.5**
KAN13	**South Haven SW**	**0.61**	**71**		**Pg**	**18 24 20.6**	**0.0**
KAN13				Sg	**Sg**	**18 24 29.2**	**+0.6**
KS20	**Mayfield South**	**0.66**	**51**		**Pg**	**18 24 21.4**	**-0.2**
KS20				Sg	**Sg**	**18 24 30.5**	**+0.3**
U32A	**Winter Ranch,**	**0.78**	**236**		**Pg**	**18 24 22.7**	**-1.3**
U32A	**Winter Ranch,**	**0.78**	**236**	P		18 24 22.6	
	baz=56,SNR=59						
U32A				S		18 24 32.9	
	baz=56						
BLOK	**Blackwell**	**0.79**	**94**		**Pg**	**18 24 23.9**	**-0.2**
BLOK				Sg	**Sg**	**18 24 34.8**	**+0.4**
OK029	**Liberty Lake**	**1.18**	**149**	Pg	**Pg**	**18 24 30.6**	**-1.0**
OK029				Sg	**Sg**	**18 24 47.2**	**+0.3**
BCOK	**Bluff Creek, N**	**1.25**	**158**		**Pn**	**18 24 31.7**	**-1.2**
BCOK				Sg	**Sg**	**18 24 49.3**	**+0.1**
T35A	**Sooner Cattle**	**1.35**	**85**	Pn	**Pn**	**18 24 33.9**	**-0.5**
T35A				Sg	**Sb**	**18 24 52.2**	**-0.1**
T35B	**Sooner Cattle**	**1.35**	**85**	P		18 24 34.0	
	baz=267						
T35B				S		18 24 52.2	
	baz=267						
QUOK	**Quay**	**1.36**	**118**	Pn	**Pn**	**18 24 34.1**	**-0.4**
QUOK				Sn	**Sb**	**18 24 52.8**	**+0.4**
OK031	**S. Brethren Rd**	**1.39**	**128**		**Pn**	**18 24 34.5**	**-0.4**
OK031				Sn	**Sb**	**18 24 53.9**	**+0.5**
OK025	**Westminster Rd**	**1.42**	**150**	Pn	**Pn**	**18 24 34.9**	**-0.3**
OK025				Sn	**Sb**	**18 24 54.5**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**1.54**	**156**		**Pn**	**18 24 36.6**	**-0.2**
R32A	**Long Quarter,**	**1.65**	**346**	Pn	**Pn**	**18 24 38.2**	**-0.3**
R32A	**Long Quarter,**	**1.65**	**346**	P		18 24 38.1	
	baz=165,SNR=111						
R32A				S		18 24 60.0	
	baz=165						
FNO	**Franklin**	**1.69**	**157**	Pn	**Pn**	**18 24 38.9**	**-0.1**
FNO				IAmb_Lg		18 25 03.6	
	comp=Z,215nm,0.7s						
WMOK	**Wichita Mounta**	**2.13**	**193**	P	**Pn**	**18 24 45.7**	**+0.7**
	baz=13						
WMOK				S	**Sb**	**18 25 14.3**	**-0.2**
	baz=13						
WMOK	**Wichita Mounta**	**2.13**	**193**		**Pn**	**18 24 44.9**	**-0.2**
WMOK				IAmb_Lg		18 25 16.4	
	comp=Z,139nm,1.0s						
WMOK	**Wichita Mounta**	**2.13**	**193**	S		18 25 14.1	
	baz=13						
TUL1	**Leonard**	**2.14**	**114**	P	**Pn**	**18 24 46.6**	**+1.4**
	baz=296						
TUL1				S	**Sb**	**18 25 15.9**	**+1.0**
	baz=296						
TUL1	**Leonard**	**2.14**	**114**	Sb		18 25 16.3	
	baz=296						
X34A	**Smith Ranch, M**	**2.23**	**172**		**Pn**	**18 24 46.8**	**+0.4**
X34A				IAmb_Lg		18 25 25.0	
	comp=Z,193nm,0.7s						
CBKS	**Cedar Bluff**	**2.34**	**329**	P	**Pn**	**18 24 48.7**	**+0.8**
	baz=148						
CBKS				S	**Sn**	**18 25 17.1**	**+0.1**
	baz=148						
CBKS	**Cedar Bluff**	**2.34**	**329**		**Pn**	**18 24 48.2**	**+0.3**
CBKS	**Cedar Bluff**	**2.34**	**329**	P		18 24 48.0	
	baz=148						
CBKS				S		18 25 17.1	
	baz=148						
KSU1	**Kansas State U**	**2.60**	**28**	P	**Pn**	**18 24 52.0**	**+0.5**
	baz=209						
KSU1				S	**Sb**	**18 25 27.9**	**-0.3**
	baz=209						
KSU1	**Kansas State U**	**2.60**	**28**		**Pn**	**18 24 52.0**	**+0.5**
KSU1	**Kansas State U**	**2.60**	**28**	P		18 24 51.3	
	baz=209						
LOOK	**Love County**	**2.94**	**163**		**Pn**	**18 24 56.8**	**+0.7**
LOOK				IAmb_Lg		18 25 46.5	
	comp=Z,66nm,0.9s						
U38A	**Gravette**	**3.09**	**96**		**Pn**	**18 24 58.4**	**+0.2**
U38A				IAmb_Lg		18 25 54.6	
	comp=Z,86nm,0.7s						
X37A	**Clayton**	**3.20**	**133**		**Pn**	**18 24 59.9**	**+0.2**
X37A				IAmb_Lg		18 25 56.4	
	comp=Z,65nm,0.8s						
X37A	**Clayton**	**3.20**	**133**	P		18 25 00.1	
	baz=315,SNR=11						
AMTX	**Amarillo**	**3.42**	**237**	Pb	**Pb**	**18 25 10.1**	**0.0**
	baz=55						
AMTX				Sb	**Sb**	**18 25 53.3**	**+1.3**
	baz=55						
AMTX	**Amarillo**	**3.42**	**237**		**Pn**	**18 25 03.1**	**+0.1**
AMTX	**Amarillo**	**3.42**	**237**	P		18 25 03.4	
	baz=55						
HHAR	**Hobbs**	**3.47**	**98**		**Pn**	**18 25 04.0**	**+0.5**
HHAR				IAmb_Lg		18 26 05.2	
	comp=Z,85nm,0.7s						
Z35A	**Perchaven, San**	**3.56**	**167**		**Pn**	**18 25 05.8**	**+1.1**
Z35A				IAmb_Lg		18 26 08.8	
	comp=Z,76nm,1.1s						
Z35A	**Perchaven, San**	**3.56**	**167**	S		18 25 48.2	
	baz=348						
W39A	**Magazine**	**3.93**	**113**	P	**Pn**	**18 25 10.4**	**+0.7**
	baz=296						
W39A				Sb	**Sg**	**18 26 13.1**	**-1.9**
	baz=296						
W39A	**Magazine**	**3.93**	**113**		**Pn**	**18 25 10.4**	**+0.7**
W39A				IAmb_Lg		18 26 18.5	
	comp=Z,127nm,1.0s						
W39A	**Magazine**	**3.93**	**113**	P		18 25 10.5	
	baz=296,SNR=10						
N33A	**J Bar K, Exete**	**3.96**	**8**	Pn	**Pn**	**18 25 09.1**	**-1.1**
N33A				IAmb_Lg		18 26 22.9	
	comp=Z,64nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.13**	**303**		**Pn**	**18 25 12.7**	**0.0**
KSCO				IAmb_Lg		18 26 22.6	
	comp=Z,66nm,0.7s						
U40A	**Yellville**	**4.32**	**95**		**Pn**	**18 25 15.2**	**0.0**
U40A				IAmb_Lg		18 26 31.0	
	comp=Z,69nm,0.7s						
U40A	**Yellville**	**4.32**	**95**	P		18 25 15.2	
	baz=278,SNR=16						
U40A				P		18 25 15.2	
	baz=278,SNR=16						
ABTX	**Abilene, Hawle**	**4.35**	**196**		**Pn**	**18 25 14.8**	**-0.8**
MIAR	**Mount Ida**	**4.39**	**120**		**Pn**	**18 25 16.6**	**+0.5**
MIAR				IAmb_Lg		18 26 31.6	
	comp=Z,63nm,0.9s						
Z38A	**Mt. Pleasant**	**4.42**	**142**		**Pn**	**18 25 15.9**	**-0.6**
Z38A				IAmb_Lg		18 26 36.7	
	comp=Z,84nm,0.7s						
N35A	**Tabor**	**4.50**	**25**		**Pn**	**18 25 18.0**	**+0.3**
BGNE	**Belgrade**	**4.58**	**0**	P	**Pn**	**18 25 18.2**	**-0.5**
	baz=180						
BGNE	**Belgrade**	**4.58**	**0**		**Pn**	**18 25 18.3**	**-0.5**
BGNE	**Belgrade**	**4.58**	**0**	P		18 25 18.3	
	baz=180,SNR=10						
P38A	**Dawn**	**4.62**	**51**		**Pn**	**18 25 19.9**	**+0.6**
P38A				IAmb_Lg		18 26 48.3	
	comp=Z,47nm,0.7s						
MSTX	**Muleshoe**	**4.70**	**234**	Sb	**Sb**	**18 26 33.1**	**+4.6**
	baz=51						
MSTX	**Muleshoe**	**4.70**	**234**		**Pn**	**18 25 19.8**	**-0.6**
MSTX				IAmb_Lg		18 26 39.9	
	comp=Z,47nm,0.9s						
MSTX	**Muleshoe**	**4.70**	**234**	P		18 25 20.1	
	baz=51						
MGMO	**Mountain Grove**	**4.76**	**84**		**Pn**	**18 25 21.8**	**+0.6**
MGMO				IAmb_Lg		18 26 44.5	
	comp=Z,39nm,0.8s						
WHTX	**Lake Whitney,**	**4.85**	**173**		**Pn**	**18 25 22.2**	**-0.2**
WHTX	**Lake Whitney,**	**4.85**	**173**	P		18 25 22.3	
	baz=353,SNR=19						
R40A	**Maddies Statio**	**4.93**	**71**		**Pn**	**18 25 23.8**	**+0.2**
R40A				IAmb_Lg		18 26 53.0	
	comp=Z,43nm,0.7s						
X40A	**Basin Creek Fa**	**4.95**	**116**	P	**Pn**	**18 25 24.6**	**+0.9**
	baz=300						
X40A	**Basin Creek Fa**	**4.95**	**116**		**Pn**	**18 25 24.6**	**+0.9**
X40A				IAmb_Lg		18 26 51.1	
	comp=Z,76nm,0.8s						
X40A	**Basin Creek Fa**	**4.95**	**116**	P		18 25 24.6	
	baz=300,SNR=7.5						
X40A				P		18 25 24.6	
	baz=300,SNR=7.5						
T25A	**Trinidad**	**4.99**	**276**		**Pn**	**18 25 23.5**	**-1.0**
FCAR	**Ozark Folk Cen**	**4.99**	**99**	Pn	**Pn**	**18 25 25.3**	**+1.0**
OGNE	**Ogallala**	**5.09**	**325**	Pn	**Pn**	**18 25 26.2**	**+0.4**
OGNE				IAmb_Lg		18 27 03.0	
	comp=Z,88nm,0.8s						
237A	**Washetta, Mont**	**5.19**	**157**		**Pn**	**18 25 26.7**	**-0.4**
237A				IAmb_Lg		18 27 07.2	
	comp=Z,61nm,0.9s						
WLAR	**White Oak Lake**	**5.20**	**125**	Pn	**Pn**	**18 25 27.4**	**+0.2**
WLAR				IAmb_Lg		18 27 02.8	
	comp=Z,57nm,0.8s						
L34A	**Svendsen Farm,**	**5.33**	**15**		**Pn**	**18 25 27.5**	**-1.6**
N38A	**Joes South For**	**5.55**	**43**		**Pn**	**18 25 31.3**	**-0.7**
P40A	**Paris**	**5.55**	**59**		**Pn**	**18 25 31.1**	**-0.9**
P40A				IAmb_Lg		18 27 07.2	
	comp=Z,58nm,0.8s						
CCM	**Cathedral Cave**	**5.67**	**75**		**Pn**	**18 25 33.5**	**-0.2**
CCM				IAmb_Lg		18 27 16.0	
	comp=Z,38nm,0.8s						
T42A	**Van Buren**	**5.70**	**86**	IAmb_Lg		18 27 11.2	
	comp=Z,34nm,0.8s						
LCAR	**Lake Charles**	**5.73**	**95**	Pn	**Pn**	**18 25 34.8**	**+0.3**
K31A	**O'Neill**	**5.81**	**356**	Pn	**Pn**	**18 25 36.0**	**+0.3**
SDCO	**Great Sand Dun**	**5.90**	**281**		**Pn**	**18 25 36.9**	**-0.2**
CCAR	**Cane Creek**	**5.99**	**117**	Pn	**Pn**	**18 25 36.9**	**-1.2**
CCAR				IAmb_Lg		18 27 27.8	
	comp=Z,65nm,0.9s						
435B	**Jarrell**	**6.04**	**175**	IAmb_Lg		18 27 33.0	
	comp=Z,58nm,0.8s						
PBMO	**Poplar Bluff**	**6.23**	**88**	Pn	**Pn**	**18 25 41.4**	**0.0**
PBMO				IAmb_Lg		18 27 26.5	
	comp=Z,63nm,0.7s						
SCIA	**State Center**	**6.38**	**36**	Pn	**Pn**	**18 25 44.5**	**+1.1**
JCT	**Junction City**	**6.46**	**192**		**Pn**	**18 25 42.7**	**-1.9**
ISCO	**Idaho Springs**	**6.55**	**299**		**Pn**	**18 25 44.7**	**-1.3**
ISCO				IAmb_Lg		18 27 37.0	
	comp=Z,28nm,0.8s						
SLM	**Saint Louis**	**6.56**	**72**	IAmb_Lg		18 27 36.3	
	comp=Z,68nm,0.8s						
PARMO	**Parma**	**6.78**	**89**	Pn	**Pn**	**18 25 49.2**	**+0.3**
GDL2	**Guadalupe Moun**	**6.86**	**230**		**Pn**	**18 25 49.2**	**-1.0**
N41A	**Harden Midland**	**6.93**	**54**		**Pn**	**18 25 50.8**	**-0.1**
143A	**Socs Landing,**	**6.93**	**124**	IAmb_Lg		18 28 07.7	
	comp=Z,38nm,0.8s						
ANMO	**Albuquerque**	**6.96**	**257**		**Pn**	**18 25 52.6**	**+1.0**
ECSD	**EROS Data Cent**	**7.01**	**9**	Pn	**Pn**	**18 25 50.8**	**-1.4**
K38A	**Parkersburg**	**7.17**	**34**		**Pn**	**18 25 54.4**	**+0.1**
S44A	**Carbondale**	**7.18**	**80**	Pn	**Pn**	**18 25 54.4**	**-0.1**
S44A				IAmb_Lg		18 28 00.8	
	comp=Z,38nm,0.8s						
GLAT	**Glass**	**7.19**	**92**	Pn	**Pn**	**18 25 55.6**	**+1.0**
PHWY	**Pilot Hill**	**7.21**	**311**		**Pn**	**18 25 54.8**	**-0.3**
PHWY				IAmb_Lg		18 28 05.0	
	comp=Z,46nm,1.0s						
SIUC	**Southern Illin**	**7.22**	**80**	IAmb_Lg		18 27 57.0	
	comp=Z,51nm,0.8s						
SMCO	**Snowmass**	**7.32**	**291**		**Pn**	**18 25 56.3**	**-0.5**
BNM	**Barren Site**	**7.37**	**251**		**Pn**	**18 25 57.5**	**+0.2**
P43A	**Skaggs, Pawnee**	**7.39**	**65**		**Pn**	**18 25 57.4**	**+0.2**
OXF	**Oxford**	**7.51**	**105**	Pn	**Pn**	**18 25 58.0**	**-1.0**
OXF				IAmb_Lg		18 28 14.1	
	comp=Z,37nm,0.8s						
L40A	**Anamosa**	**7.52**	**44**	Pn	**Pn**	**18 25 58.2**	**-0.9**
L40A				IAmb_Lg		18 28 16.9	
	comp=Z,51nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.55**	**71**	Pn	**Pn**	**18 26 00.0**	**+0.5**
Q44A				IAmb_Lg		18 28 14.4	
	comp=Z,53nm,0.9s						
Y45A	**Yeager Farm, C**	**7.66**	**110**	IAmb_Lg		18 28 34.8	
	comp=Z,44nm,1.0s						
MNTX	**Cornudas Mount**	**7.84**	**231**	Pn	**Pn**	**18 26 02.6**	**-0.9**
MNTX				IAmb_L

comp=Z,24nm,0.9s
LRAL Lakeview Retre 9.94 109 IAmb_Lg 18 29 29.1
comp=Z,18nm,1.2s
S51A Beattyville 11.67 82 Pn 18 26 56.6 +0.7

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*GUC **21** 18:54:20.9±0.5, 19°.58S×70°.43W, h38km±1km, ML3.8*
*IDC **21** 18:54:25.5±4.3, 19°.61S×70°.13W, h78km±28km, mb3.5/1, mb1 3.8/5, mb1mx3.4/26, mbtmp3.9/5, Error ellipse: s-maj=66.5km s-min=17.7km az=93.0*
ISC 21 18:54:19.6±1.8, 19°.60S±0°.05×70°.51W±0°.09, h29km±10km, n22, σ1°44/37, 4C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.36**	**90**	*eP*	**Pb**	**18 54 27.8**	**-0.1**
PSGC				*i* S	**Sb**	**18 54 33.6**	**0.0**
TA02	**Huaiquique**	**0.76**	**152**	⇑*eP*	**Pb**	**18 54 34.1**	**-0.1**
TA02				*e*S	**Sb**	**18 54 44.2**	**0.0**
TA02				IAML		18 54 44.9	
comp=E,14μm,0.1s							
PB11	**IPOC Station P**	**0.82**	**101**	⇓*iP*	**Pb**	**18 54 34.7**	**-0.7**
PB11				*e*S	**Sb**	**18 54 44.9**	**-1.2**
PB11				IAML		18 54 46.6	
comp=E,5μm,0.2s							
MNMC	**Minye Minye**	**0.98**	**62**	⇓*iP*	**Pn**	**18 54 37.4**	**-0.3**
MNMC				*e*S	**Sn**	**18 54 49.8**	**-1.0**
MNMC				IAML		18 54 52.3	
comp=E,6μm,0.1s							
TA01	**Diego Aracena**	**1.01**	**162**	⇑*iP*	**Pn**	**18 54 38.1**	**+0.3**
TA01				*e*S	**Sn**	**18 54 51.4**	**+0.3**
PB08	**IPOC Station P**	**1.39**	**113**	⇑*eP*	**Pn**	**18 54 43.4**	**+0.1**
PB08				*i* S	**Sn**	**18 55 01.3**	**+0.4**
PB01	**IPOC Station P**	**1.73**	**146**	*eP*	**Pn**	**18 54 48.3**	**+0.6**
PB01				*i* S	**Sn**	**18 55 09.8**	**+0.8**
PB01				IAML		18 55 16.9	
comp=E,1μm,0.2s							
PB02	**IPOC Station P**	**1.81**	**162**	*eP*	**Pn**	**18 54 49.6**	**+0.7**
PB02				*e*S	**Sn**	**18 55 11.9**	**+1.0**
PB02				IAML		18 55 21.9	
comp=E,3μm,0.4s							
PB07	**IPOC Station P**	**2.19**	**165**	*eP*	**Pn**	**18 54 55.2**	**+0.9**
PB07				*e*S	**Sn**	**18 55 21.5**	**+0.9**
PB07				IAML		18 55 34.7	
comp=E,656nm,0.3s							
PB09	**IPOC Station P**	**2.49**	**152**	*eP*	**Pn**	**18 55 00.3**	**+2.0**
PB09				*i* S	**Sn**	**18 55 29.6**	**+1.8**
PB09				IAML		18 55 45.0	
comp=E,675nm,0.5s							
PB03	**IPOC Station P**	**2.54**	**164**	*eP*	**Pn**	**18 54 59.9**	**+0.9**
PB03				*i* S	**Sn**	**18 55 28.3**	**-0.7**
PB03				IAML		18 55 44.5	
comp=E,482nm,0.5s							
PB04	**IPOC Station P**	**2.74**	**173**	*eP*	**Pn**	**18 55 01.9**	**+0.1**
PB04				*e*S	**Sn**	**18 55 30.5**	**-3.6**
PB06	**IPOC Station P**	**3.21**	**164**	*eP*	**Pn**	**18 55 08.4**	**+0.1**
PB05	**IPOC Station P**	**3.25**	**175**	*eP*	**Pn**	**18 55 08.1**	**-0.6**
LVC	**Limon Verde**	**3.35**	**154**	P	**Pn**	**18 55 12.3**	**+2.0**
comp=E,15nm,0.3s,baz=338,slow=9.7,SNR=20							
LVC				S	**Sn**	**18 55 52.1**	**+2.8**
comp=E,8.1nm,0.3s,baz=275,slow=12,SNR=1.7							
LVC	**Limon Verde**	**3.35**	**154**	*eP*	**Pn**	**18 55 11.8**	**+1.5**
LVC				⇓*e*S	**Sn**	**18 55 50.9**	**+1.6**
PB15	**IPOC Station P**	**3.72**	**165**	⇑*eP*	**Pn**	**18 55 15.5**	**+0.2**
PB15				*e*S	**Sn**	**18 55 59.4**	**+1.2**
LPAZ	**La Paz**	**4.00**	**35**	P	**Pn**	**18 55 23.7**	**+4.2**
comp=E,3.2nm,0.3s,baz=226,slow=7.3,SNR=41							
SIV	**San Ignacio**	**9.68**	**70**	P	**Pn**	**18 56 36.3**	**-0.7**
comp=E,1.4nm,0.3s,baz=266,slow=9.2,SNR=12							
CPUP	**Villa Florida**	**13.86**	**121**	P	**Pn**	**18 57 34.8**	**+0.6**
comp=E,0.2nm,0.3s,baz=298,slow=13,SNR=4.0							
TORD	**Torodi Ar. Bea**	**78.15**	**71**	P	**P**	**19 06 14.9**	**-1.8**
comp=E,0.6nm,0.6s,baz=260,slow=6.2,SNR=3.6							
MKAR	**Makanchi Array**	**144.93**	**33**	PKP	**PKPab**	**19 13 53.0**	**-0.2**
comp=E,0.3nm,0.4s,baz=325,slow=3.7,SNR=6.8							

DJA 21 19:06:18.6±0.5, 0°N±3°×12°0E±°, h10km, M3.9/7, mb4.1/2, mB4.3/1, MLv3.9/7, Mw(mB)3.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.06**	**131**	P	Pg	19 06 20.8	+0.1
MPSI				S	Sg	19 06 22.9	+0.6
MRSI	**Marisa**	**2.09**	**87**	P	Pn	19 06 53.5	-0.2
APSI	**Ampana**	**2.21**	**125**	P	Pn	19 06 55.4	+0.1
APSI				S	Sn	19 07 24.1	+1.4
GTOI	**Gorontalo**	**3.17**	**85**	P	Pn	19 07 08.8	+0.2
GTOI				S	Sb	19 07 52.0	-1.8
TTSI	**Tana Toraja**	**3.40**	**181**	P	Pn	19 07 11.9	+0.1
BNSI	**Bone**	**4.76**	**177**	P	Pn	19 07 30.4	0.0
KBKI	**Kotabaru**	**5.19**	**225**	P	Pn	19 07 36.0	-0.3
0.1nm322nm26nm,0.8s							
BKSI	**Bulukumba**	**5.67**	**177**	P	Pn	19 07 42.8	-0.2

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*IDC **21** 19:21:26.0±0.5, 38°.60N×69°.84E, h0km, mb4.5/29, mb1 4.5/38, mb1mx4.4/49, mbtmp4.5/38, ML3.9/8, MS3.5/18, Ms1 3.5/18, ms1mx3.3/46, Error ellipse: s-maj=10.9km s-min=8.2km az=163.0*
*MOS **21** 19:21:27.7±1.0, 38°.97N×69°.86E, h10km, mb4.8/22, Error ellipse: s-maj=5.4km s-min=3.9km az=125.3*
*BJI **21** 19:21:28.3±0.0, 38°.98N×69°.82E, h20km, mB4.6/28, mb4.6/40, ML4.2/4, Ms4.0/20, Ms7 3.7/19*
*NEIC **21** 19:21:29.3±2.1, 38°.88N±0°.04×69°.79E±0°.06, h10km±3km, mb4.8/128, Error ellipse: s-maj=7.6km s-min=6.2km az=118.0*
*NNC **21** 19:21:30.8±1.8, 38°.97N×69°.63E, h18km±10km, mb4.9, mpv4.8, Error ellipse: s-maj=12.1km s-min=8.0km az=155.0*
*SOME **21** 19:21:30.4, 39°.13N×69°.78E, h10km*
*KRNET **21** 19:21:31.4±0.1, 39°.01N×69°.93E, mb4.8*
ISC 21 19:21:28.0±0.5, 38°.90N±0°.03×69°.85E±0°.02, h8km±3km, n536, σ1°75/575, mb4.7/131, MS3.7/27, 47C-26D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.38**	**74**	Pg	**Pb**	**19 21 37.4**	**+0.2**
GAR				Sg	**Sb**	**19 21 42.9**	**-0.4**
CHGR	**Chuyangaron**	**0.59**	**246**	Pg	**Pb**	**19 21 40.1**	**-0.5**
CHGR				Sg	**Sg**	**19 21 47.9**	**+0.8**
BTK	**Batken**	**1.38**	**33**	⇑*iP*	**Pg**	**19 21 55.5**	**+0.9**
baz=33							
BTK				⇑*i*S	**Sn**	**19 22 12.5**	**+0.1**
baz=33							
BTK	**Batken**	**1.38**	**33**	PG	**Pg**	**19 21 55.8**	**+1.2**
BTK						19 22 15.2	
BTK	**Batken**	**1.38**	**33**	Pn	**Pg**	**19 21 55.8**	**+1.2**
BTK				Sn	**Sg**	**19 22 15.2**	**+2.6**
DRK	**Karamyk**	**1.63**	**68**	⇑*iP*	**Pg**	**19 22 00.3**	**+1.0**
baz=71							
DRK				⇑*i*S	**Sg**	**19 22 21.2**	**+0.8**
baz=71							
DRK	**Karamyk**	**1.63**	**68**		**Pg**	**19 21 59.7**	**+0.4**
OHH	**Osh**	**2.79**	**53**	⇓*iP*	**Pb**	**19 22 18.0**	**-0.2**
baz=55							
OHH				⇓*i*S	**Sb**	**19 22 52.0**	**-0.6**
baz=55							
TRKS	**Terek-Say**	**2.81**	**20**	⇓*iP*	**Pb**	**19 22 17.5**	**-1.2**
baz=21							
TRKS				⇓*i*S	**Sb**	**19 22 50.8**	**-2.5**
baz=21							
MNAS	**Manas**	**4.12**	**29**	⇓*iP*	Pn	19 22 36.2	+4.7
baz=29							
MNAS				⇓*i*S	**Sn**	**19 23 23.1**	**+3.2**
baz=29							
KK31	**Karatay Array**	**4.24**	**7**	Pn	**Pn**	**19 22 35.9**	**+3.0**
158nm,0.7s,baz=204,slow=16,SNR=1159							
KK31				Pg	**Pg**	**19 22 46.6**	**-2.6**
201nm,0.7s,baz=191,slow=16,SNR=12							
KK31				⇑Lg	Lg	19 23 43.6	
393nm,0.7s,baz=188,slow=28,SNR=4.9							
KK31	**Karatay Array**	**4.24**	**7**	PN	**Pn**	**19 22 37.0**	**+4.1**
KK31	**Karatay Array**	**4.24**	**7**	Pn	**Pn**	**19 22 37.0**	**+4.1**
KKAR	**Karatay Array**	**4.24**	**7**	PN	**Pn**	**19 22 36.9**	**+4.0**
KKAR	**Karatay Array**	**4.24**	**7**	Pn	**Pn**	**19 22 36.8**	**+4.0**
KKAR	**Karatay Array**	**4.24**	**7**		**Pn**	**19 22 36.9**	**+4.0**
AML	**Almayashu**	**4.37**	**41**	P	**Pn**	**19 22 38.8**	**+3.7**
SNR=112							
KBL	**Kabul**	**4.39**	**189**	PN	**Pn**	**19 22 38.0**	**+2.7**
KBL	**Kabul**	**4.39**	**189**		**Pn**	**19 22 38.0**	**+2.7**
ARLS	**Aral**	**4.52**	**48**	⇑*iP*	**Pn**	**19 22 40.9**	**+3.9**
baz=48							
ARLS				⇑*i*S	**Sn**	**19 23 33.3**	**+3.4**
baz=48							
MRKS	**Merke**	**4.62**	**33**	*eP*	**Pg**	**19 22 54.5**	**-2.1**
109nm,0.5s							
MRKS				*e*S	**Sg**	**19 23 55.2**	**-1.2**
449nm,0.6s							
KSH	**Kashi**	**4.80**	**81**	Pn	**Pn**	**19 22 38.8**	**-2.0**
KSH				Sn	**Sn**	**19 23 29.3**	**-7.4**
KSH				smax	smax		
comp=N,350nm,0.5s							
KSH				smax	smax		
comp=E,360nm,0.5s							
AAK	**Ala-Archa**	**5.14**	**42**	Pn	Pn	19 22 50.3	+4.8
17nm,0.3s,baz=217,slow=8.7,SNR=26							
AAK				Sn	**Sn**	**19 23 51.9**	**+6.7**
20nm,0.3s,baz=185,slow=14,SNR=2.1							
AAK				LR	LR	19 25 08.4	
comp=Z,640nm,18.9s,baz=234,slow=41							
AAK	**Ala-Archa**	**5.14**	**42**	P	Pb	19 22 52.9	-5.4
SNR=23							
AAK	**Ala-Archa**	**5.14**	**42**		**Pn**	**19 22 49.2**	**+3.7**
CEP	**Cherat**	**5.33**	**161**	P	**Pn**	**19 22 50.7**	**+2.6**
FRU1	**Bishkek**	**5.33**	**41**	PN	**Pn**	**19 22 52.1**	**+4.0**
FRU1	**Bishkek**	**5.33**	**41**		**Pn**	**19 22 52.1**	**+4.0**
KBK	**Karagaybulak**	**5.40**	**44**	P	**Pn**	**19 22 53.4**	**+4.4**
SNR=51							
CHMS	**Chumysh**	**5.53**	**41**	P	**Pn**	**19 22 54.6**	**+3.9**
SNR=81							
USP	**Ospenovka**	**5.61**	**37**	P	**Pn**	**19 22 55.2**	**+3.4**
SNR=25							
BOOM	**Boomskoye usch**	**5.86**	**50**	PN	**Pn**	**19 22 58.1**	**+2.7**
BOOM	**Boomskoye usch**	**5.86**	**50**	Pn	**Pn**	**19 22 58.1**	**+2.7**
ULHL	**Ulahol**	**5.91**	**53**	P	**Pn**	**19 22 59.6**	**+3.5**
SNR=20							
CHCP	**Chirah Chowk**	**5.91**	**151**	P	**Pn**	**19 22 59.4**	**+3.4**
TKM2	**Tokmak 2**	**5.93**	**45**	P	**Pn**	**19 23 00.1**	**+3.8**
SNR=14							
KST	**Kastek**	**6.21**	**46**	*eP*	Pg	19 23 22.0	-5.0
40nm,0.5s							
KST				*e*S	**Sg**	**19 24 42.3**	**-5.2**
108nm,1.0s							
DGS	**Degeres**	**6.24**	**44**	*eP*	**Pg**	**19 23 25.1**	**-2.4**
56nm,0.6s							
DGS				*e*S	**Sg**	**19 24 46.3**	**-2.0**
149nm,0.7s							
DGS	**Degeres**	**6.24**	**44**	*eP**	**Pg**	**19 23 25.1**	**-2.4**
THW	**Thamme Wali**	**6.28**	**165**	P	**Pn**	**19 23 02.8**	**+1.7**
KDJ	**Kajisay**	**6.46**	**58**	PN	**Pn**	**19 23 07.7**	**+4.1**
KDJ	**Kajisay**	**6.46**	**58**	Pn	**Pn**	**19 23 07.7**	**+4.1**
KRBS	**Karabastau**	**6.50**	**41**	*eP*	Pg	19 23 27.2	-5.3
31nm,0.8s							
KRBS				*e*S	**Sg**	**19 24 48.7**	**-8.0**
85nm,0.5s							
HRA	**Herat**	**7.59**	**236**	Pn	**Pn**	**19 23 19.0**	**-0.2**
UZB	**Uzynbulak**	**8.13**	**56**	*eP*	**Pn**	**19 23 30.2**	**+3.6**
SHLS	**Shalkode**	**8.42**	**57**	*eP*	Pn	19 23 38.3	+7.8
PDGK	**Podgornoye**	**8.52**	**56**	⇑Pn	**Pn**	**19 23 34.5**	**+2.6**
28nm,0.9s							
PDGK				⇑Lg	Lg	19 26 05.3	
122nm,1.0s							
PDGK	**Podgornoye**	**8.52**	**56**	P	**Pn**	**19 23 34.5**	**+2.6**
GEYT	**Alibeck**	**9.26**	**268**	Pn	**Pn**	**19 23 39.7**	**-2.2**
1.8nm,0.3s,baz=132,slow=8.1,SNR=14							
GEYT				Sn	**Sn**	**19 25 20.9**	**-5.4**
4.2nm,0.3s,baz=72,slow=9.7,SNR=2.2							
GEYT				LR	LR	19 28 09.7	
comp=Z,157nm,19.3s,baz=200,slow=44							
GEYT	**Alibeck**	**9.26**	**268**	Pn	**Pn**	**19 23 41.9**	**0.0**
GYA0	**ALIBECK ARRAY**	**9.26**	**268**	P	**Pn**	**19 23 41.3**	**-0.6**
GYA0				SN	**Sn**	**19 25 23.5**	**-2.8**
GYA0B	**ALIBECK ARRAY**	**9.26**	**268**	⇑Pn	**Pn**	**19 23 41.3**	**-0.6**
GYA0B				⇑Sn	**Sn**	**19 25 23.5**	**-2.8**
GYA0B	**ALIBECK ARRAY**	**9.26**	**268**	Pn	**Pn**	**19 23 40.5**	**-1.4**
OTUK	**Ortayu**	**9.52**	**10**	⇑Pn	**Pn**	**19 23 45.6**	**+0.1**
14nm,0.6s							
OTUK				⇓Sn	**Sn**	**19 25 33.1**	**+0.5**
34nm,0.6s							
OTUK				⇑Lg	Lg	19 26 31.0	
159nm,0.8s							
OTUK	**Ortayu**	**9.52**	**10**	P	**Pn**	**19 23 45.6**	**+0.1**
OTUK				SN	**Sn**	**19 25 33.7**	**+1.1**
SMLA	**Simla**	**9.80**	**140**	*eP*	**Pn**	**19 23 50.3**	**+1.0**
SMLA				*e*S	**Sn**	**19 25 31.8**	**-7.7**
SMLA				IAML		19 25 36.7	
comp=N,152nm,0.7s							
SMLA				IAML		19 25 37.1	
comp=E,201nm,0.5s							
DDI	**Dehra Dun**	**10.90**	**139**	*eP*	**Pn**	**19 24 02.2**	**-2.2**
DDI				*e*S	**Sn**	**19 25 59.0**	**-7.6**
MAKZ	**Makanchi**	**11.90**	**44**	⇑Pn	**Pn**	**19 24 19.8**	**+1.8**
comp=E,9.3nm,0.8s							
MAKZ				⇑Lg	Lg	19 27 50.4	
comp=E,25nm,0.9s							
MAKZ	**Makanchi**	**11.90**	**44**	P	**Pn**	**19 24 19.8**	**+1.8**
MAKZ	**Makanchi**	**11.90**	**44**		**Pn**	**19 24 19.8**	**+1.8**
MK31	**Makanchi Array**	**12.06**	**45**	⇓Pn	**Pn**	**19 24 22.2**	**+2.0**
comp=E,5.2nm,0.6s,baz=231,slow=11,SNR=56							
MK31				⇓Lg	Lg	19 27 57.5	
comp=E,22nm,0.8s							
MK31	**Makanchi Array**	**12.06**	**45**	P	**Pn**	**19 24 22.1**	**+1.8**
MK31	**Makanchi Array**	**12.06**	**45**	Pn	**Pn**	**19 24 22.1**	**+1.8**
MKAR	**Makanchi Array**	**12.06**	**45**	Pn	**Pn**	**19 24 23.2**	**+3.0**
comp=E,0.8nm,0.3s,baz=228,slow=13,SNR=69							
MKAR				Lg	Lg	19 27 54.2	
comp=E,0.5nm,0.3s,baz=241,slow=28,SNR=3.1							
MKAR				LR	LR	19 29 25.0	
comp=E,240nm,18.8s,baz=237,slow=39							
MKAR	**Makanchi Array**	**12.06**	**45**	Pn	**Pn**	**19 24 21.9**	**+1.6**
AB31	**Akbulak array**	**12.56**	**329**	⇑Pn	**Pn**	**19 24 26.2**	**-0.7**
comp=E,20nm,0.5s							
AB31				⇑Sn	**Sn**	**19 26 44.1**	**-2.8**
comp=E,34nm,0.5s							
AB31	**Akbulak array**	**12.56**	**329**	P	**Pn**	**19 24 26.2**	**-0.7**
AB31				SN	**Sn**	**19 26 44.9**	**-2.0**
ABKAR	**Akbulak array**	**12.56**	**329**	Pn	**Pn**	**19 24 26.0**	**-0.9**
ABKAR	**Akbulak array**	**12.56**	**329**		**Pn**	**19 24 26.4**	**-0.5**
KURBB	**Kurchatov Arra**	**13.24**	**25**	Pn	**Pn**	**19 24 35.6**	**-0.6**
comp=E,0.1nm,0.3s,baz=214,slow=12,SNR=11							
KURBB				Lg	Lg	19 28 25.7	
comp=E,0.2nm,0.3s,baz=354,slow=27,SNR=2.6							
KURBB	**Kurchatov Arra**	**13.24**	**25**	⇑Pn	**Pn**	**19 24 37.5**	**+1.3**
comp=E,11nm,0.8s							
KURBB				⇓Lg	Lg	19 28 30.4	
comp=E,157nm,1.2s							
KURK	**Kurchatov**	**13.35**	**25**	P	**Pn**	**19 24 35.6**	**-2.1**
KURK	**Kurchatov**	**13.35**	**25**		**Pn**	**19 24 35.6**	**-2.1**
BVAR	**Borovoye Array**	**14.14**	**1**	Pn	**Pn**	**19 24 49.0**	**+0.5**
comp=E,1.6nm,0.3s,baz=181,slow=25,SNR=33							
BVAR				Sn	**Sn**	**19 27 22.7**	**-2.8**
comp=E,2.2nm,0.3s,baz=186,slow=28,SNR=4.2							
BRVK	**Borovoye**	**14.17**	**1**	⇑Pn	**Pn**	**19 24 49.0**	**0.0**
comp=E,29nm,0.7s							
BRVK				⇑Sn	**Sn**	**19 27 25.0**	**-1.2**
comp=E,19nm,0.7s							
BRVK	**Borovoye**	**14.17**	**1**	P	**Pn**	**19 24 48.9**	**0.0**
BRVK				SN	**Sn**	**19 27 25.4**	**-0.9**
BRVK	**Borovoye**	**14.17**	**1**	Pn	**Pn**	**19 24 48.9**	**-0.1**
AKTO	**Aktyubinsk**	**14.26**	**328**	Pn	**Pn**	**19 24 50.5**	**+0.2**
comp=E,1.6nm,0.3s,baz=128,slow=15,SNR=20							
AKTO				Sn	**Sn**	**19 27 24.9**	**-3.7**
comp=E,1.8nm,0.3s,baz=47,slow=16,SNR=4.8							
AKTO				LR	LR	19 30 40.4	
comp=E,224nm,18.4s,baz=143,slow=38							
AKTO	**Aktyubinsk**	**14.26**	**328**	⇑Pn	**Pn**	**19 24 50.5**	**+0.2**
comp=E,77nm,0.6s							
AKTO				⇑Sn	**Sn**	**19 27 27.1**	**-1.4**
comp=E,37nm,0.7s							
WMQ	**Urumqi**	**14.28**	**64**	*eP*	**P**	**19 24 54.4**	**-3.5**
WMQ				LR	LR		
comp=E,490nm,14.5s							
WMQ				LR	LR		
comp=E,240nm,13.1s							
GKN	**Gorkha**	**16.42**	**127**	*eP*	**P**	**19 25 22.3**	**+0.4**
comp=E,144nm,0.4s							
DGZ	**Jazzator, Alta**	**16.55**	**44**	*i P*	**Pn**	**19 25 20.2**	**-0.3**
BHPL	**Bhopal**	**16.89**	**155**	*eP*	**P**	**19 25 27.6**	**+0.6**
BHPL				*ex*	x	19 28 19.7	
KKN	**Kakani**	**16.97**	**126**	*eP*	**P**	**19 25 28.0**	**-0.1**
comp=E,27nm,0.5s							
DMN	**Daman**	**16.99**	**127**	*eP*	**P**	**19 25 28.0**	**-0.3**
comp=E,65nm,0.5s							
AKT	**Akhty**	**17.09**	**286**	*i P*	**P**	**19 25 29.0**	**-0.2**
PKIN	**Phulchoki**	**17.20**	**126**	*eP*	**P**	**19 25 30.7**	**+0.1**
comp=E,30nm,0.5s							
PKI	**Pulchoki**	**17.21**	**126**	*eP*	**P**	**19 25 30.9**	**+0.1**
comp=E,33nm,0.5s							
MAK	**Makhachkala**	**17.35**	**291**	*eP*	**Pn**	**19 25 25.3**	**-5.2**
MAK				*e*S	**Sn**	**19 28 37.2**	**-6.5**
MAK				pmax	pmax		
comp=Z,144nm,1.1s							
MAK				MLR	MLR		
comp=Z,408nm,11.0s							
JIRN	**Jiri**	**17.64**	**125**	*eP*	**P**	**19 25 36.2**	**+0.6**
comp=Z,87nm,0.6s							
UOSS	**Minazif**	**18.07**	**224**		**Pn**	**19 25 39.4**	**-0.1**
ZAA0	**Zalesovo Array**	**18.20**	**29**	⇑Pn	**Pn**	**19 25 40.8**	**-0.1**
comp=Z,2.5nm,0.5s							
ZAA0	**Zalesovo Array**	**18.20**	**29**	P	**P**	**19 25 41.4**	**+0.2**
ZALV	**Zalesovo Beam**	**18.20**	**29**	P	**P**	**19 25 41.2**	**0.0**
comp=Z,6.0nm,0.3s,baz=224,slow=13,SNR=66							
ZALV				LR	LR	19 33 15.9	
comp=Z,152nm,19.5s,baz=170,slow=38							
ZALV	**Zalesovo Beam**	**18.20**	**29**	P	**Pn**	**19 25 40.8**	**0.0**
BTLR	**Botlikh**	**18.27**	**289**	*i P*	**P**	**19 25 42.5**	**+0.4**
DDFL	**Dedoflistskaro**	**18.30**	**286**	P	**P**	**19 25 47.2**	**+4.7**
RAMN	**Ramite**	**18.40**	**125**	*eP*	**Pn**	**19 25 42.5**	**-1.3**
comp=Z,36nm,0.4s							
GROC	**Groznyy**	**18.62**	**291**	*eP*	**P**	**19 25 44.6**	**-1.3**
GROC				*e*S	**Sn**	**19 29 09.3**	**-5.2**
GROC				pmax	pmax		
comp=Z,44nm,0.7s							
SVE	**Sverdlovsk**	**18.95**	**344**	*eP*	**Pn**	**19 25 50.3**	**+0.3**
SVE				*e*S	**Sn**	**19 29 14.4**	**-7.7**
SVE				pmax	pmax		
comp=Z,29nm,0.9s							
SVE				MLR	MLR		
comp=Z,478nm,12.0s							
ODAN	**Odare**	**18.97**	**124**	*eP*	**P**	**19 25 49.7**	**-0.4**
comp=Z,42nm,0.6s							
ARU	**Arti**	**19.07**	**341**	P	**P**	**19 25 51.2**	**+0.4**
comp=Z,0.0nm,0.3s,baz=168,slow=8.1,SNR=22							
ARU				S	**Sn**	**19 29 15.1**	**-10**
comp=Z,0.0nm,0.3s,baz=150,slow=19,SNR=2.8							
ARU				LR	LR	19 34 06.7	
comp=Z,236nm,21.7s,baz=158,slow=39							
ARU	**Arti**	**19.07**	**341**	*d iP*	**P**	**19 25 50.7**	**-0.1**
ARU				S	**Sn**	**19 29 23.4**	**-1.8**
ARU				pmax	pmax		
comp=Z,18nm,1.0s							
ARU				MLR	MLR		
comp=Z,531nm,13.0s							
ARU	**Arti**	**19.07**	**341**	P	**Pn**	**19 25 51.3**	**-0.2**
ARU				IAmb	IAmb	19 26 02.0	
comp=Z,26nm,0.7s							
GNI	**Garni**	**19.39**	**282**	P	**P**	**19 25 53.8**	**-0.9**
comp=Z,0.4nm,0.3s,baz=75,slow=20,SNR=3.3							
GNI				LR	LR	19 35 02.1	
comp=Z,63nm,19.1s,baz=83,slow=42							
GNI	**Garni**	**19.39**	**282**	*ceP*	**Pn**	**19 25 57.1**	**+1.4**
GNI				pmax	pmax		
comp=Z,10.0nm,0.8s							
GNI	**Garni**	**19.39**	**282**		**Pn**	**19 25 56.3**	**+0.6**
LSA	**Lhasa**	**19.81**	**111**	P	**Pn**	**19 26 02.3**	**+1.2**
LSA				pmax	pmax		
comp=Z,85nm,0.8s							
LSA	**Lhasa**	**19.81**	**111**	P	**Pn**	**19 26 01.3**	**+0.2**
LSA				pmax	pmax		
comp=Z,17nm,0.8s							
LSA	**Lhasa**	**19.81**	**111**	P	**Pn**	**19 26 01.3**	**+0.2**
ZEI	**Tsey**	**19.98**	**290**	*eP*	**P**	**19 26 01.9**	**+0.8**
ZEI				pmax	pmax		
comp=Z,9.0nm,0.6s							
NCK	**Nalchik**	**20.25**	**292**	*i P*	Pn	19 26 05.6	-0.1
NCK				pmax	pmax		
comp=Z,81nm,1.5s							
AKH	**Akhalkalaki**	**20.27**	**286**	P	Pn	19 26 07.2	+1.0
ONI	**Oni**	**20.30**	**289**	P	Pn	19 26 07.1	+0.7
ONI				pmax	pmax		
comp=Z,31nm,0.8s							
ONI	**Oni**	**20.30**	**289**		Pn	19 26 07.1	+0.6
ONI				IAmb	IAmb	19 26 14.1	
comp=Z,31nm,0.8s							
BOK	**Bokaro**	**20.31**	**133**	*ex*	**P**	**19 26 04.3**	**-0.2**
BELG	**Belogornoye**	**20.47**	**318**	P	**P**	**19 26 06.4**	**+0.4**
comp=Z,74nm,0.7s,baz=353,slow=1.0,SNR=35							
BELG				LR	LR	19 35 15.8	
comp=Z,101nm,18.6s,baz=157,slow=40							
KARS	**Kars**	**20.63**	**283**	P	Pn	19 26 10.2	-0.1
KARS				pmax	pmax		
comp=Z,69nm,1.2s							
KARS	**Kars**	**20.63**	**283**	P	Pn	19 26 10.2	-0.1
KARS				IAmb	IAmb	19 26 13.2	
comp=Z,69nm,1.2s							
KBZ	**Khabaz**	**20.77**	**292**	P	**P**	**19 26 09.8**	**+0.5**
comp=Z,6.3nm,0.8s,baz=130,slow=8.6,SNR=14							
GOF	**Gofitskoye**	**20.80**	**296**	⇑*eP*	Pn	19 26 12.0	-0.2
GOF				pmax	pmax		
comp=Z,32nm,0.5s							
KVAR	**Kislovodsk Arr**	**20.93**	**293**	P	**P**	**19 26 10.4**	**-0.9**
comp=Z,2.4nm,0.3

comp=Z,12nm,0.8s
LZH Lanzhou 27.03 85 *e*P **P 19 27 11.8 +0.8**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,96nm,5.4s
LZH LR LR
comp=Z,170nm,12.6s
LZH LR LR
comp=Z,220nm,13.0s
LZH LR LR
comp=Z,130nm,15.2s
PRGR Permogore 27.22 335 *e*P **P 19 27 12.0 -0.1**
PRGR pmax pmax
comp=Z,10.0nm,0.5s
MOS Moscow 27.24 319 *e*P **P 19 27 12.9 +0.5**
BZK Bozkurt 27.33 288 P **P 19 27 14.9 +1.5**
OBN Obninsk 27.54 317 P **P 19 27 14.9 -0.2**
comp=Z,2.3nm,0.4s,baz=90,slow=23,SNR=3.7
OBN Obninsk 27.54 317 *e*P **P 19 27 15.7 +0.6**
OBN *e* 19 28 00.0
OBN *e* 19 30 33.8
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,56nm,15.0s
OBN Obninsk 27.54 317 P **P 19 27 14.6 -0.5**
OBN IAmb IAmb 19 27 35.6
comp=Z,19nm,1.0s
SONM Songino Array 27.81 59 P **P 19 27 18.6 +0.8**
comp=Z,1.6nm,0.5s,baz=268,slow=9.5,SNR=19
SONM PcP **PcP 19 30 33.7 -0.1**
comp=Z,0.6nm,0.6s,baz=254,slow=3.1,SNR=4.3
SONM LR LR 19 39 32.9
comp=Z,88nm,19.8s,baz=276,slow=39
SONM Songino Array 27.81 59 P **P 19 27 18.1 +0.3**
SONM pmax pmax
comp=Z,9.0nm,1.8s
SONM Songino Array 27.81 59 P **P 19 27 18.1 +0.3**
BR131 Keskin Array S 27.91 283 P **P 19 27 19.5 +0.7**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 27.91 283 P **P 19 27 19.5 +0.7**
BRTR Keskin Array B 27.91 283 P **P 19 27 19.8 +1.0**
comp=Z,2.9nm,0.9s,baz=97,slow=6.3,SNR=16
BRTR Keskin Array B 27.91 283 *ce*P **P 19 27 20.2 +1.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 27.91 283 P **P 19 27 19.4 +0.7**
ULN Ulaanbaatar 28.26 59 P **P 19 27 22.2 +0.4**
ULN pmax pmax
comp=Z,3.0nm,0.7s
ULN Ulaanbaatar 28.26 59 P **P 19 27 22.2 +0.4**
MMAI Mount Meron Ar 28.38 269 LR LR 19 40 23.4
comp=Z,30nm,18.1s,baz=65,slow=40
ANTO Ankara 28.53 284 P **P 19 27 24.2 0.0**
ANTO pmax pmax
comp=Z,6.0nm,0.7s
ANTO Ankara 28.53 284 P **P 19 27 24.2 0.0**
CD2 Chengdu 28.81 96 *e*P **P 19 27 28.0 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KLMR Klimovskoe 28.95 329 *e*P **P 19 27 26.8 -0.8**
KLMR *e* 19 28 20.0
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR Klimovskoe 28.95 329 *e*P **P 19 27 26.8 -0.8**
KLMR AMP 19 27 28.9
comp=Z,12nm,1.4s
KLMR *e*PP **PnPn 19 28 20.0 +1.1**
AKASG Malin Array Be 30.77 306 P **P 19 27 44.0 +0.3**
comp=Z,6.3nm,0.7s,baz=79,slow=7.3,SNR=30
AKASG PcP **PcP 19 30 40.2 -0.8**
comp=Z,0.3nm,0.3s,baz=70,slow=3.0,SNR=4.3
AKASG Malin Array Be 30.77 306 P **P 19 27 44.1 +0.3**
AKBB Malin Array Si 30.77 306 P **P 19 27 43.5 -0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 30.77 306 P **P 19 27 43.5 -0.3**
AKBB IAmb IAmb 19 27 45.0
comp=Z,6.9nm,0.8s
CFR Carcaliu 31.34 295 ⇓P **P 19 27 50.3 +1.4**
CFR Carcaliu 31.34 295 ⇓P **P 19 27 50.3 +1.4**
ELL Elmali 31.45 279 P **P 19 27 51.9 +1.7**
ELL pmax pmax
comp=Z,33nm,1.2s
ELL Elmali 31.45 279 P **P 19 27 51.9 +1.7**
XAN Xi'an 31.63 87 P **P 19 27 51.8 +0.2**
XAN pP sP 19 27 55.4 -0.2
XAN pmax pmax
comp=Z,11nm,0.6s
XAN LR LR
comp=Z,120nm,17.4s
XAN LR LR
comp=Z,170nm,18.4s
XAN LR LR
comp=Z,160nm,18.4s
HHC Hu-ho-hao-te 31.86 73 *e*P **P 19 27 53.3 -0.4**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,82nm,4.3s
NRIK Noril'sk 31.96 12 P **P 19 27 54.5 +0.4**
comp=Z,4.1nm,0.7s,baz=192,slow=8.0,SNR=4.5
NRIK LR LR 19 43 29.8
comp=Z,76nm,18.1s,baz=204,slow=41
NRIK Noril'sk 31.96 12 P **P 19 27 54.2 +0.1**
NRIK IAmb IAmb 19 27 55.8
comp=Z,5.1nm,0.7s
MNK Minsk 32.18 313 *i* P **P 19 27 56.9 +0.7**
MNK *i* 19 29 02.5
MNK *i* 19 30 41.9
MNK *i* S **S 19 33 13.2 +4.2**
MNK *i* SS **SnSn 19 35 01.7 +2.5**
MNK pmax pmax
comp=Z,10.0nm,1.1s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK MLR MLR
comp=N,548nm,22.0s
MNK MLR MLR
comp=E,13nm,19.0s
MNK MLR MLR
comp=Z,178nm,19.0s
MNK Minsk 32.18 313 *i* P **P 19 27 56.9 +0.7**
comp=E,1.0nm,0.8s
MNK *i* P **P 19 27 56.9 +0.7**
comp=N,9.0nm,0.9s
MNK *i* P **P 19 27 56.9 +0.7**
comp=Z,10.0nm,1.1s,baz=282
MNK *i* PP **PnPn 19 29 02.6 +0.8**
MNK *i* PcP **PcP 19 30 42.0 -2.8**
MNK *i* S **S 19 33 13.3 +4.3**
MNK *i* ScP **ScP 19 34 29.4 +0.7**
MNK *i* PcS **PcS 19 34 30.5 +1.2**
MNK *i* SS **SnSn 19 35 01.7 +2.5**
MNK *i* LQ LQ 19 38 30.1
MNK *i* LR LR 19 40 56.9
MNK *i* LRM MLR 19 41 41.7
comp=N,548nm,22.1s
MNK *i* LRM MLR 19 43 12.2
comp=E,13nm,18.7s
MNK *i* LRM MLR 19 43 18.0
comp=Z,178nm,19.2s
BALB Balikesir 32.29 285 P **P 19 27 58.4 +1.1**
BALB IAmb IAmb 19 28 02.5
comp=Z,11nm,0.8s
VRI Vrincioaia 32.29 297 ⇑P **P 19 27 59.6 +2.3**
VRI Vrincioaia 32.29 297 ⇑P **P 19 27 59.6 +2.3**
PLOR Plostina 32.34 297 ⇓P **P 19 28 00.5 +2.7**
PLOR Plostina 32.34 297 ⇓P **P 19 28 00.5 +2.7**
CMAR Chiang Mai Arr 32.43 121 P **P 19 27 56.6 -2.1**
comp=Z,0.4nm,0.5s,baz=306,slow=9.5,SNR=2.5
ISR Istrita 32.47 295 ⇑P **P 19 28 02.5 +3.6**
ISR Istrita 32.47 295 ⇑P **P 19 28 02.5 +3.6**
MLR Muntele Rosu 32.86 296 P **P 19 28 04.6 +2.1**
comp=Z,12nm,0.9s,baz=126,slow=0.6,SNR=16
MLR Muntele Rosu 32.86 296 ⇓P **P 19 28 05.5 +3.1**
MLR Muntele Rosu 32.86 296 P **P 19 28 03.8 +1.4**
MLR pmax pmax
comp=Z,18nm,1.0s
MLR Muntele Rosu 32.86 296 P **P 19 28 03.8 +1.4**
MLR IAmb IAmb 19 28 06.2
comp=Z,18nm,1.0s
IDID Didziasalis 32.99 314 *e*P **P 19 28 04.6 +1.3**
DOPR Dopca 33.22 297 ⇓P **P 19 28 07.8 +2.4**
BURAR Bucovina Array 33.26 300 ⇑P **P 19 28 06.7 +0.8**
BURAR Bucovina Array 33.26 300 ⇑P **P 19 28 06.7 +0.8**
BURAR Bucovina Array 33.26 300 P **P 19 28 06.6 +0.8**
BUR08 Bucovina Ar. S 33.27 300 P **P 19 28 06.0 +0.1**
IIGN Ignalina 33.29 314 *e*P **P 19 28 07.5 +1.7**
JOF Joensuu 33.34 329 P **P 19 28 07.5 +1.2**
JOF pmax pmax
comp=Z,13nm,1.0s
ISAL Salakas 33.38 314 *e*P **P 19 28 07.9 +1.2**
VOIR 33.49 296 ⇓P **P 19 28 09.7 +1.8**
VOIR 33.49 296 ⇓P **P 19 28 09.7 +1.8**
ENH Enshi 33.54 93 P **P 19 28 08.6 +0.2**
ENH IAmb IAmb 19 28 10.4
comp=Z,9.5nm,1.0s
VSU Vasula 33.76 320 *e*P **P 19 28 10.6 +0.7**
KARP Karpathos 33.93 278 P **P 19 28 12.1 +0.3**
SLVN Son La 34.01 111 P **P 19 28 13.3 +0.7**
LVV L'vov 34.03 304 *e*P **P 19 28 13.5 +1.1**
BOD Bodaibo 34.12 42 *e*P **P 19 28 13.3 +0.2**
BOD pmax pmax
comp=Z,19nm,0.7s
PABE Paberze 34.58 314 *e*P **P 19 28 18.3 +1.3**
PABE Paberze 34.58 314 P **P 19 28 17.5 +0.5**
PABE IAmb IAmb 19 28 18.8
comp=Z,15nm,0.8s
KWP Kalwaria Pacla 34.89 304 P **P 19 28 21.1 +1.2**
KWP Kalwaria Pacla 34.89 304 P **P 19 28 21.1 +1.2**
LVZ Lovozero 34.90 338 P **P 19 28 20.5 +0.7**
LVZ pmax pmax
comp=Z,13nm,1.0s
LVZ Lovozero 34.90 338 P **P 19 28 20.5 +0.7**
LVZ IAmb IAmb 19 28 45.9
comp=Z,13nm,1.0s
FIA1 FINESS Array S 34.99 325 P **P 19 28 21.5 +0.9**
FIA1 IAmb IAmb 19 28 22.3
comp=Z,11nm,0.6s
FINES FINESS Array B 35.00 325 P **P 19 28 21.4 +0.8**
comp=Z,5.9nm,0.4s,baz=119,slow=9.6,SNR=51
FINES LR LR 19 43 41.4
comp=Z,50nm,20.9s,baz=90,slow=38
FINES FINESS Array B 35.00 325 P **P 19 28 21.1 +0.5**
TRPA Tarpa 35.04 301 ⇑P **P 19 28 22.9 +1.8**
APA Apatity 35.08 337 ⇑*i*P **P 19 28 19.7 -1.5**
APA pmax pmax
comp=Z,7.0nm,0.8s
APA MLR MLR
comp=Z,400nm,13.0s
GZR Gura Zlata 35.09 296 ⇑P **P 19 28 23.6 +1.9**
VTS Vitosha 35.16 291 ⇓P **P 19 28 24.8 +2.3**
VTS Vitosha 35.16 291 P **P 19 28 23.7 +1.2**
VTS pmax pmax
comp=Z,8.0nm,0.8s
VTS Vitosha 35.16 291 P **P 19 28 23.7 +1.2**
VTS IAmb IAmb 19 28 25.3
comp=Z,8.1nm,0.8s
UZH Uzhgorod 35.18 302 *e*P **P 19 28 23.2 +0.8**
UZH *e* 19 28 27.8
KOLS Kolonicke sedl 35.19 302 *e*P **P 19 28 23.9 +1.4**
KOLS Kolonicke sedl 35.19 302 *e*P **P 19 28 23.9 +1.4**
MTSE Matsula 35.30 319 *e*P **P 19 28 24.1 +0.9**
MEF Metsahovi 35.40 322 *e*P **P 19 28 25.5 +1.4**
SUF Sumiainen 35.41 327 P **P 19 28 25.3 +1.1**
SUF pmax pmax
comp=Z,17nm,0.8s
CRVS Cervenica-Dubn 35.72 302 *e*P **P 19 28 29.0 +1.9**
CRVS Cervenica-Dubn 35.72 302 *e*P **P 19 28 29.0 +1.9**
IDI Anoyia 35.77 279 P **P 19 28 27.7 0.0**
IDI IAmb IAmb 19 28 51.1
comp=Z,42nm,1.5s
PBUR Paburge 35.80 315 *e*P **P 19 28 28.6 +1.1**
BZS Buzias 35.88 297 ⇓P **P 19 28 30.7 +2.3**
BZS Buzias 35.88 297 ⇓P **P 19 28 30.7 +2.3**
BOVS Bovan 36.09 293 ⇑P **P 19 28 31.9 +1.6**
STIP Stip 36.10 290 *i* P **P 19 28 30.0 -0.3**
ATD Arta Tunnel 36.33 229 P **P 19 28 34.3 +1.7**
ATD IAmb IAmb 19 29 11.4
comp=Z,17nm,1.1s
SKO Skopje 36.59 291 *i* P **P 19 28 35.7 +1.2**
AGG Agios Georgios 36.61 286 P **P 19 28 35.8 +1.0**
AGG pmax pmax
comp=Z,25nm,0.6s
AGG Agios Georgios 36.61 286 P **P 19 28 35.8 +1.0**
OJC Ojcow 36.76 305 *e*P **P 19 28 36.9 +1.0**
OJC Ojcow 36.76 305 P **P 19 28 36.2 +0.3**
OJC pmax pmax
comp=Z,11nm,0.7s
OJC Ojcow 36.76 305 P **P 19 28 36.2 +0.3**
OJC IAmb IAmb 19 28 37.7
comp=Z,11nm,0.7s
PSZ Piszkesteto 36.83 301 P **P 19 28 38.0 +1.4**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 36.83 301 P **P 19 28 38.0 +1.4**
RAF Rauma 36.87 323 *e*P **P 19 28 40.9 +4.2**
FNA Florina 36.89 289 P **P 19 28 37.8 +0.6**
FNA pmax pmax
comp=Z,12nm,0.7s
FNA Florina 36.89 289 P **P 19 28 37.8 +0.6**
FNA IAmb IAmb 19 28 38.7
comp=Z,12nm,0.7s
SKNT Sakolnakorn 36.91 117 P **P 19 28 37.7 +0.2**
comp=Z,17nm,1.0s
FRGS Fruska Gora 37.20 296 ⇓P **P 19 28 41.8 +2.1**
DIVS Divibare 37.24 294 P **P 19 28 41.5 +1.3**
DIVS IAmb IAmb 19 28 42.6
comp=Z,17nm,0.8s
MORH Mrgy, Hungar 37.86 298 ⇑P **P 19 28 47.1 +1.9**
MORH Mrgy, Hungar 37.86 298 *e*P **P 19 28 46.3 +1.1**
MORH *e*PP **sP 19 28 51.1 +1.6**
PDG Podgorica 38.08 292 ⇑P **P 19 28 47.0 -0.1**
PDG Podgorica 38.08 292 P **P 19 28 48.4 +1.3**
JAVC Velka Javorina 38.22 303 *e*P **P 19 28 50.4 +2.0**
MORC Moravsky Berou 38.23 304 P **P 19 28 49.5 +1.0**
MORC pmax pmax
comp=Z,4.0nm,0.9s
MORC Moravsky Berou 38.23 304 P **P 19 28 49.5 +1.0**
MORC Moravsky Berou 38.23 304 *e*P **P 19 28 49.4 +1.0**
KEV Kevo 38.24 338 P **P 19 28 49.1 +0.9**
KEV pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 38.24 338 P **P 19 28 49.1 +0.9**
KOVH Kovagotottos 38.25 298 *e*P **P 19 28 49.6 +1.0**
MPLH Magyarpolny 38.49 300 *e*P **P 19 28 51.7 +1.1**
ARA0 ARCESS Array S 38.59 337 *e*P **P 19 28 52.1 +1.0**
ARCES ARCESS Array B 38.59 337 P **P 19 28 52.0 +0.9**
comp=Z,7.1nm,0.7s,baz=113,slow=7.9,SNR=38
ARCES LR LR 19 45 53.1
comp=Z,203nm,19.9s,baz=115,slow=38
ARCES ARCESS Array B 38.59 337 P **P 19 28 52.0 +0.9**
ARCES ARCESS Array B 38.59 337 P **P 19 28 52.0 +0.9**
UPP Uppsala 38.63 320 *e*P **P 19 28 52.9 +1.3**
KRLC Kraliky 38.70 305 *e*P **P 19 28 53.5 +1.1**
KRLC Kraliky 38.70 305 *e*P **P 19 28 53.5 +1.1**
VRAC Vranov 38.89 303 ⇑P **P 19 28 55.6 +1.7**
VRAC Vranov 38.89 303 ⇑P **P 19 28 55.6 +1.7**
VRAC Vranov 38.89 303 *e*P **P 19 28 55.2 +1.3**
DPC Dobruska-Polom 38.98 305 *e*P **P 19 28 56.0 +1.3**
DPC Dobruska-Polom 38.98 305 *e*P **P 19 28 56.0 +1.3**
KRUC Moravsky 39.04 303 *e*P **P 19 28 56.5 +1.3**
KTK1 Kautokeino 39.06 335 *e*P **P 19 28 55.7 +0.6**
CHVC Chvalec 39.13 305 *e*P **P 19 28 58.0 +2.0**
BLEU Blekinge 39.23 314 *i* P **P 19 28 57.1 +0.5**
CONA Conrad Observa 39.52 301 *e*P **P 19 28 59.9 +0.6**
comp=Z,5.0nm,0.7s
HAMF Hammerfest 39.67 338 *e*P **P 19 29 01.5 +1.4**
BSD Bornholm Skovb 39.70 313 *i* P **P 19 29 01.0 +0.5**
BSD IAmb IAmb 19 29 01.9
comp=Z,2.8nm,0.4s
BSD Bornholm Skovb 39.70 313 *i* P **P 19 29 01.0 +0.5**
BSD pmax pmax
comp=Z,3.0nm,0.4s
QIZ Qiongzhong 39.81 108 P **P 19 29 02.9 +1.0**
QIZ IAmb IAmb 19 29 04.7
comp=Z,69nm,1.7s
NJ2 Nanjing 40.10 84 *e*P **P 19 29 04.8 +0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
CRES Cresnjev 40.11 298 *i* P **P 19 29 05.5 +1.3**
PRU Pruhonice 40.15 305 *e*P **P 19 29 05.9 +1.5**
PRU Pruhonice 40.15 305 *e*P **P 19 29 05.9 +1.5**
JETT Jettan, Norway 40.20 336 *e*P **P 19 29 06.3 +1.7**
SOKA Soboth 40.26 299 P **P 19 29 07.0 +1.5**
comp=Z,3.7nm,0.7s
BOJS Bojanci 40.31 298 *i* P **P 19 29 07.2 +1.4**
DEL Delary 40.31 315 *i* P **P 19 29 06.0 +0.4**
DEL *i* P **pP 19 29 06.3 -2.6**
BRG Berggiesshubel 40.45 306 *e*P **P 19 29 08.1 +1.2**
BRG Amp 19 29 09.2
comp=Z,6.1nm,0.8s
BRG Berggiesshubel 40.45 306 P P 19 29 13.6 +6.7
BRG Amp 19 29 15.9
comp=Z,6.1nm,0.8s
LUNU Lund 40.54 313 *i* P **P 19 29 08.7 +1.2**
OBKA Obir 40.62 299 P **P 19 29 07.0 -1.4**
comp=Z,4.4nm,1.2s
TRO Tromso 40.71 335 *e*P **P 19 29 09.5 +0.8**
LJU Ljubljana 40.71 299 *i* P **P 19 29 10.9 +1.8**
BJUU Bjuv 40.78 314 *i* P **P 19 29 10.5 +1.0**
SGRT San Giovanni R 40.78 292 P **P 19 29 10.8 +1.0**
SGRT IAmb IAmb 19 29 11.2
comp=Z,22nm,0.7s
GERES GERESS Array B 40.83 303 P **P 19 29 11.0 +0.9**
comp=Z,1.5nm,0.6s,baz=66,slow=8.4,SNR=14
GERES GERESS Array B 40.83 303 P **P 19 29 12.1 +2.0**
GERES GERESS Array B 40.83 303 P **P 19 29 12.1 +2.0**
KHC Kasperske Hory 40.87 303 P **P 19 29 11.5 +1.1**
KHC pmax pmax
comp=Z,4.0nm,0.8s
KHC Kasperske Hory 40.87 303 *e*P **P 19 29 12.0 +1.5**
KHC AMS AMS 19 49 30.0
comp=Z,100nm,13.6s
KHC Kasperske Hory 40.87 303 P **P 19 29 11.5 +1.1**
BORU Boraas 40.95 316 *i* P **P 19 29 11.7 +0.8**
FABU Falkenberg 40.96 315 *i* P **P 19 29 11.7 +0.7**
CLL Collm 41.00 307 ⇓*i*P **P 19 29 12.4 +1.0**
comp=Z,6.0nm,0.8s
CLL *i* 19 29 17.1
CLL Lm MLR 19 48 00.0
comp=Z,100nm,19.5s
CLL Collm 41.00 307 ⇓*i*P **P 19 29 12.4 +1.0**
CLL *i* 19 29 17.1
CLL pmax pmax
comp=Z,6.0nm,0.8s
ZEA Zeya 41.17 49 *e*P **P 19 29 13.7 +0.9**
MYKA Terra Mystica 41.21 300 *e*P **P 19 29 13.6 +0.3**
comp=Z,1.6nm,0.5s
FAUS Fauske 41.26 331 *e*P **P 19 29 14.3 +1.0**
MOR8 Moi Rana 41.29 330 *e*P **P 19 29 13.6 0.0**
KBA Koelnbreinsper 41.34 300 P **P 19 29 13.4 -1.0**
comp=Z,1.1nm,0.4s
STEI Steigen 41.43 332 *e*P **P 19 29 15.7 +1.0**
NC405 NORSAR Array S 41.69 322 P **P 19 29 16.6 -0.3**
NC602 NORSAR Array S 41.75 321 *e*P **P 19 29 17.8 +0.4**
NC602 NORSAR Array S 41.75 321 P **P 19 29 17.8 +0.4**
NC602 IAmb IAmb 19 29 19.4
comp=Z,8.5nm,0.7s
STRU Stroemstad 41.83 319 *i* P **P 19 29 18.9 +0.8**
NC303 NORSAR Array S 41.87 322 P **P 19 29 19.4 +1.0**
KONS Konsvik 41.88 330 *e*P **P 19 29 19.1 +0.7**
NB201 NORSAR Array S 41.89 322 P **P 19 29 19.2 +0.5**
NB2 NORSAR Subarra 41.93 322 P **P 19 29 18.7 -0.3**
comp=Z,11nm,0.5s,baz=94,slow=8.6
NB2 NORSAR Subarra 41.93 322 P **P 19 29 18.7 -0.3**
baz=94,slow=8.6
NOA NORSAR Array B 41.93 322 P **P 19 29 19.1 +0.1**
comp=Z,15nm,0.6s,baz=90,slow=7.7,SNR=79
NOA LR LR 19 47 03.3
comp=Z,35nm,18.6s,baz=100,slow=36
NSS Namsos 41.99 327 *e*P **P 19 29 19.2 -0.1**
INTR Introdacqua 42.04 293 P **P 19 29 20.3 +0.1**
NAO01 NORSAR Array S 42.07 321 P **P 19 29 20.1 0.0**
LOF Lofoten 42.10 332 *e*P **P 19 29 21.0 +0.9**
OSL Oslo 42.10 320 *e*P **P 19 29 20.8 +0.5**
NBO00 NORSAR Array S 42.14 322 P **P 19 29 20.1 -0.6**
NC204 NORSAR Array S 42.16 322 P **P 19 29 21.3 +0.4**
AQU L'Aquila 42.31 293 P **P 19 29 23.3 +1.0**
AQU pmax pmax
comp=Z,8.0nm,0.7s
AQU L'Aquila 42.31 293 P **P 19 29 23.3 +1.0**
AQU IAmb IAmb 19 29 26.0
comp=Z,8.5nm,0.7s
GRA1 Grafenberg Arr 42.32 305 P **P 19 29 23.4 +1.1**
GRF Grafenberg Arr 42.32 305 P **P 19 29 23.4 +1.1**
GRF pmax pmax
comp=Z,8.0nm,1.0s
GRFO Grafenberg 42.32 305 P **P 19 29 23.3 +1.0**
GRFO pmax pmax
comp=Z,7.0nm,1.0s
GRFO Grafenberg 42.32 305 P **P 19 29 23.3 +1.0**
NRCA Norcia 42.40 294 P **P 19 29 23.7 +0.6**
NRCA IAmb IAmb 19 29 25.3
comp=Z,10nm,0.9s
WTTA Wattenberg 42.45 301 P **P 19 29 22.6 -0.9**
comp=Z,4.4nm,1.2s
HOPEN Hopen 42.46 346 *e*P **P 19 29 23.4 +0.4**
YAK Yakutsk 42.58 37 P **P 19 29 24.4 +0.2**
comp=Z,10nm,0.4s,baz=72,slow=0.8,SNR=11
YAK Yakutsk 42.58 37 *e*P **P 19 29 24.2 +0.1**
YAK *e**PP **sP 19 29 28.8 +0.7**
YAK *e* 19 31 16.0
YAK *e*S **S 19 35 44.8 -1.9**
YAK *e**SS **pS 19 35 50.0 -0.3**
YAK *e*SS **SS 19 38 54.3 -1.8**
YAK *e* 19 39 24.6
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,21nm,2.2s
YAK smax smax
comp=E,10.0nm,1.8s
YAK MLR MLR
comp=Z,193nm,12.0s
YAK MLR MLR
comp=E,106nm,9.0s
YAK Yakutsk 42.58 37 P **P 19 29 24.4 +0.2**
KONO Kongsberg 42.66 319 P **P 19 29 25.1 +0.2**
KONO pmax pmax
comp=Z,15nm,0.7s
KONO Kongsberg 42.66 319 *e*P **P 19 29 25.6 +0.7**
KONO Kongsberg 42.66 319 P **P 19 29 25.1 +0.2**
KONO IAmb IAmb 19 29 26.0
comp=Z,15nm,0.7s
MURB Monte Urbino 42.71 295 P **P 19 29 25.1 -0.4**
MURB IAmb IAmb 19 29 29.4
comp=Z,32nm,1.2s
BJO1 Bjornoya 42.71 342 *e*P **P 19 29 25.1 0.0**
SQTA Sankt Quirin 42.74 301 P **P 19 29 25.2 -0.7**
comp=Z,1.0nm,0.5s
MOTA Moosalm 42.79 301 *e*P **P 19 29 25.6 -0.7**
comp=Z,4.1nm,0.8s
TEOL Teolo 42.81 298 P **P 19 29 27.1 +0.8**
TEOL IAmb IAmb 19 29 28.2
comp=Z,9.4nm,0.7s
DOMB Dombas 43.02 323 *e*P **P 19 29 29.1 +1.2**
HOMB Homborsund 43.23 317 *e*P **P 19 29 29.2 -0.3**
HOMB Homborsund 43.23 317 *e*P **P 19 29 30.3 +0.9**
SKAR Skarslia 43.33 321 *e*P **P 19 29 31.6 +1.3**
DAVA Damuels 43.62 301 P **P 19 29 32.5 -0.5**
comp=Z,7.1nm,1.1s
SNART Snartemo 43.91 318 *i* P **P 19 29 36.0 +1.1**
SNART IAmb IAmb 19 29 37.4
comp=Z,4.5nm,0.4s
SNART Snartemo 43.91 318 *e*P **P 19 29 36.0 +1.1**
AKN Aaknes 44.00 323 *e*P **P 19 29 37.4 +1.7**
TUE Stuetta 44.15 300 P **P 19 29 37.7 +0.3**
BLS5 Blasjo 44.26 319 *e*P **P 19 29 39.3 +1.4**
HYA Hoyanger 44.37 322 *e*P **P 19 29 39.9 +1.3**
KLR Kul'dur 44.51 56 P **P 19 29 40.4 +0.4**
comp=Z,2.5nm,0.5s,baz=284,slow=8.8,SNR=7.5
BER Bergen 44.80 320 *e*P **P 19 29 43.1 +1.1**
ASK Askoy 44.87 321 *e*P **P 19 29 43.6 +1.0**
FOO Floro 44.92 322 *e*P **P 19 29 43.7 +0.7**
SPA0 Spitsbergen Ar 44.95 346 *e*P **P 19 29 44.6 +1.4**
SPITS Spitsbergen Ar 44.95 346 P **P 19 29 43.6 +0.4**
comp=Z,1.3nm,0.5s,baz=128,slow=11,SNR=9.1
SPITS Spitsbergen Ar 44.95 346 P **P 19 29 44.5 +1.4**
SPITS pmax pmax
comp=Z,54nm,1.6s
KSAR Wonju Array Be 44.98 73 P **P 19 29 45.3 +1.5**
KSAR Wonju Array Be 44.98 73 P **P 19 29 45.3 +1.5**
KSRS Korea Array 45.01 73 P **P 19 29 43.7 -0.3**
comp=Z,2.5nm,0.8s,baz=284,slow=6.0,SNR=17

KSRS				LR	LR	19 51 16.0	
	comp=Z,50nm,18.4s,baz=251,slow=40						
SENIN	**Lac Senin/Sane**	**45.55**	**301**	P	**P**	**19 29 48.5**	**0.0**
SENIN				IAmb	IAmb	19 29 58.6	
	comp=Z,5.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**45.84**	**62**	LR	LR	19 50 49.8	
	comp=Z,91nm,19.0s,baz=86,slow=38						
KBS	**Kingsbay**	**46.08**	**347**	P	**P**	**19 29 52.8**	**+0.8**
KBS				pmax	pmax		
	comp=Z,13nm,0.9s						
KBS	**Kingsbay**	**46.08**	**347**	P	**P**	**19 29 52.8**	**+0.8**
KBS				IAmb	IAmb	19 29 53.9	
	comp=Z,13nm,0.9s						
BNI	**Bardonecchia**	**46.31**	**299**	P	**P**	**19 29 54.7**	**+0.3**
BNI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BNI	**Bardonecchia**	**46.31**	**299**	P	**P**	**19 29 54.6**	**+0.3**
KEST	**Kesra**	**47.45**	**286**	P	**P**	**19 30 03.8**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=346,slow=2.6,SNR=6.6						
KEST	**Kesra**	**47.45**	**286**	P	**P**	**19 30 04.7**	**+1.3**
KEST				IAmb	IAmb	19 30 11.5	
	comp=Z,15nm,1.4s						
SSB	**Saint Sauveur**	**47.70**	**300**	P	**P**	**19 30 06.1**	**+0.9**
SSB				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SSB	**Saint Sauveur**	**47.70**	**300**	P	**P**	**19 30 06.1**	**+0.9**
SSB				IAmb	IAmb	19 30 12.6	
	comp=Z,6.4nm,1.2s						
JNU	**Nakatsue**	**48.91**	**77**	P	**P**	**19 30 15.1**	**+0.4**
JHS	**Saijyo**	**49.82**	**74**	P	**P**	**19 30 20.8**	**-0.7**
ESK	**Eskdalemuir**	**49.97**	**314**	P	**P**	**19 30 22.6**	**+0.2**
ESK				pmax	pmax		
	comp=Z,83nm,1.8s						
ESK	**Eskdalemuir**	**49.97**	**314**	P	**P**	**19 30 22.6**	**+0.2**
JWT	**Wachi**	**51.41**	**72**	P	**P**	**19 30 34.4**	**+0.8**
JWT				IAmb	IAmb	19 30 34.9	
	comp=Z,7.4nm,0.6s						
DAG	**Danmarks Havn**	**52.18**	**343⇑**	*i*P	**P**	**19 30 39.4**	**+0.7**
DAG				IAmb	IAmb	19 30 40.1	
	comp=Z,10nm,0.6s						
DAG	**Danmarks Havn**	**52.18**	**343⇑**	*i*P	**P**	**19 30 39.4**	**+0.7**
DAG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**52.22**	**56**	P	**P**	**19 30 39.7**	**+0.3**
YSS				IAmb	IAmb	19 30 41.1	
	comp=Z,27nm,1.3s						
JSD	**Sado**	**52.38**	**68**	P	**P**	**19 30 39.9**	**-0.9**
JSD				IAmb	IAmb	19 30 40.7	
	comp=Z,7.0nm,0.9s						
JEW	**Eniwo**	**52.79**	**61**	P	**P**	**19 30 43.7**	**0.0**
MAT	**Matsushiro**	**52.95**	**70**	P	**P**	**19 30 44.1**	**-0.9**
MJAR	**Matsushiro Arr**	**52.96**	**70**	P	**P**	**19 30 44.5**	**-0.5**
	comp=Z,173nm,0.9s,baz=291,slow=8.0,SNR=6.2						
MJAR	**Matsushiro Arr**	**52.96**	**70**	P	**P**	**19 30 45.9**	**+0.8**
MJAR	**Matsushiro Arr**	**52.96**	**70**	P	**P**	**19 30 45.9**	**+0.8**
MBAR	**Mbarara**	**53.20**	**232**	*ce*P	**P**	**19 30 48.7**	**+1.5**
JTM	**Tenmabayashi**	**53.30**	**64**	P	**P**	**19 30 46.5**	**-1.0**
JTM				IAmb	IAmb	19 30 47.2	
	comp=Z,11nm,0.8s						
ERM	**Erimo**	**54.27**	**62**	P	**P**	**19 30 54.0**	**-0.5**
ERM				pmax	pmax		
	comp=Z,23nm,1.4s						
ERM	**Erimo**	**54.27**	**62**	P	**P**	**19 30 54.0**	**-0.5**
ERM				IAmb	IAmb	19 31 05.5	
	comp=Z,23nm,1.4s						
JMM	**Marumori**	**54.28**	**67**	P	**P**	**19 30 54.1**	**-0.6**
JMM				IAmb	IAmb	19 30 55.5	
	comp=Z,19nm,1.1s						
ESBB	**Sonseca Array**	**55.56**	**296**	P	**P**	**19 31 04.2**	**+0.2**
ESDC	**Sonseca Array**	**55.56**	**296**	P	**P**	**19 31 04.4**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=57,slow=7.2,SNR=33						
ESDC	**Sonseca Array**	**55.56**	**296**	P	**P**	**19 31 04.3**	**+0.4**
PAB	**San Pablo**	**55.88**	**296**	P	**P**	**19 31 06.8**	**+0.4**
PAB	**San Pablo**	**55.88**	**296**	P	**P**	**19 31 06.8**	**+0.4**
BILL	**Bilibino**	**56.87**	**27**	*e*P	**P**	**19 31 13.6**	**+0.7**
BILL				*e*		19 32 09.1	
BILL				*e*		19 33 20.6	
BILL				*e*PPP	PPP	19 34 36.9	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,66nm,14.0s						
SUMG	**Summit**	**58.50**	**340⇑**	*i*P	**P**	**19 31 26.1**	**+1.3**
SUMG				IAmb	IAmb	19 31 26.9	
	comp=Z,13nm,0.8s						
SUMG	**Summit**	**58.50**	**340⇑**	*i*P	**P**	**19 31 26.1**	**+1.3**
SUMG				pmax	pmax		
	comp=Z,13nm,0.8s						
SUMG	**Summit**	**58.50**	**340**	P	**P**	**19 31 25.9**	**+1.1**
SUMG				IAmb	IAmb	19 31 27.1	
	comp=Z,15nm,0.9s						
ICESG	**Greenland Ices**	**60.65**	**337⇑**	*i*P	**P**	**19 31 40.5**	**+0.9**
ICESG				IAmb	IAmb	19 31 41.4	
	comp=Z,7.2nm,0.9s						
ANGG	**Ammassalik, Gr**	**61.86**	**333**	P	**P**	**19 31 48.4**	**+1.0**
KAPI	**Kappang**	**63.49**	**122**	P	**P**	**19 31 59.2**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,12nm,1.3s						
KAPI	**Kappang**	**63.49**	**122**	P	**P**	**19 31 59.2**	**+0.3**
KAPI				IAmb	IAmb	19 32 03.4	
	comp=Z,12nm,1.2s						
ILULI	**Ilulissat**	**63.84**	**340**	P	**P**	**19 32 01.6**	**+1.1**
ILULI				pmax	pmax		
	comp=Z,12nm,0.7s						
ILULI	**Ilulissat**	**63.84**	**340**	P	**P**	**19 32 01.6**	**+1.1**
DY2G	**Dye2**	**64.22**	**336⇑**	*i*P	**P**	**19 32 04.4**	**+1.1**
DY2G				IAmb	IAmb	19 32 04.9	
	comp=Z,20nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.90**	**267**	P	**P**	**19 32 07.5**	**-0.8**
	comp=Z,5.8nm,0.6s,baz=48,slow=6.3,SNR=40						
TORD	**Torodi Ar. Bea**	**64.90**	**267**	P	**P**	**19 32 07.5**	**-0.8**
TORD				IAmb	IAmb	19 32 08.3	
	comp=Z,5.0nm,0.8s						
A21K	**Barrow**	**65.24**	**15**	P	**P**	**19 32 10.4**	**+0.8**
	baz=322						
A21K	**Barrow**	**65.24**	**15**	P	**P**	**19 32 09.4**	**-0.2**
KOWA	**Kowa**	**68.55**	**272**	P	**P**	**19 32 30.2**	**-1.4**
TOLK	**Toolik Lake Re**	**68.84**	**14**	P	**P**	**19 32 33.4**	**+0.8**
	baz=328,SNR=17						
TOLK	**Toolik Lake Re**	**68.84**	**14**	P	**P**	**19 32 33.6**	**+1.0**
IMAR	**Indian Mountai**	**70.17**	**17**	P	**P**	**19 32 40.9**	**+0.1**
H23K	**Yukon River**	**71.25**	**16**	P	**P**	**19 32 48.5**	**+1.1**
	baz=329						
I21K	**Tanana**	**71.25**	**17**	P	**P**	**19 32 47.9**	**+0.5**
	baz=327						
J20K	**Nowinta River**	**71.56**	**19**	P	**P**	**19 32 49.7**	**+0.4**
	baz=325						
C36M	**Paulatuk**	**71.58**	**5**	P	**P**	**19 32 49.4**	**+0.1**
	baz=349						
C36M	**Paulatuk**	**71.58**	**5**	P	**P**	**19 32 49.6**	**+0.3**
H24K	**Noodor Dome**	**71.59**	**15**	P	**P**	**19 32 50.4**	**+0.9**
	baz=330						
MLY	**Manley**	**71.66**	**17**	P	**P**	**19 32 50.4**	**+0.5**
	baz=328,SNR=7.3						
MLY	**Manley**	**71.66**	**17**	P	**P**	**19 32 50.2**	**+0.3**
MLY				IAmb	IAmb	19 32 51.3	
	comp=Z,3.8nm,0.7s						
INK	**Inuvik**	**71.69**	**9**	P	**P**	**19 32 50.8**	**+0.8**
INK				pmax	pmax		
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**71.69**	**9**	P	**P**	**19 32 50.7**	**+0.8**
	baz=341,SNR=7.2						
INK	**Inuvik**	**71.69**	**9**	P	**P**	**19 32 50.8**	**+0.8**
INK				IAmb	IAmb	19 32 51.6	
	comp=Z,14nm,1.1s						
I23K	**Minto, Yukon-K**	**71.87**	**16**	P	**P**	**19 32 51.8**	**+0.7**
	baz=329						
I23K	**Minto, Yukon-K**	**71.87**	**16**	P	**P**	**19 32 52.1**	**+1.0**
I23K				IAmb	IAmb	19 32 52.9	
	comp=Z,7.2nm,0.8s						
K20K	**Telida**	**72.26**	**19**	P	**P**	**19 32 54.2**	**+0.7**
	baz=326						
MDM	**Murphy Dome**	**72.28**	**16**	P	**P**	**19 32 54.5**	**+0.9**
MDM				IAmb	IAmb	19 32 55.3	
	comp=Z,15nm,1.3s						
POKR	**Poker Plat Res**	**72.31**	**16**	P	**P**	**19 32 54.6**	**+0.8**
	baz=330						
POKR	**Poker Plat Res**	**72.31**	**16**	P	**P**	**19 32 55.0**	**+1.2**
PRP	**Porcupine Dome**	**72.34**	**15**	P	**P**	**19 32 54.8**	**+0.6**
	baz=332						
BPAW	**Bear Paw Mtn.**	**72.39**	**18**	P	**P**	**19 32 54.4**	**+0.1**
	baz=328,SNR=5.2						
BPAW	**Bear Paw Mtn.**	**72.39**	**18**	P	**P**	**19 32 54.4**	**+0.1**
BPAW				IAmb	IAmb	19 32 55.3	
	comp=Z,7.0nm,1.0s						
NEA2	**Nenana**	**72.41**	**17**	P	**P**	**19 32 54.6**	**+0.1**
	baz=329						
NEA2	**Nenana**	**72.41**	**17**	P	**P**	**19 32 54.5**	**+0.1**
NEA2				IAmb	IAmb	19 32 55.5	
	comp=Z,9.4nm,0.8s						
TCOL	**CIGO, UAF Yank**	**72.43**	**16**	P	**P**	**19 32 55.1**	**+0.6**
	baz=330						
TCOL	**CIGO, UAF Yank**	**72.43**	**16**	P	**P**	**19 32 55.0**	**+0.6**
COLA	**College**	**72.43**	**16**	P	**P**	**19 32 55.0**	**+0.5**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
COLA	**College**	**72.43**	**16**	P	**P**	**19 32 54.7**	**+0.3**
	baz=330						
COLA	**College**	**72.43**	**16**	P	**P**	**19 32 55.0**	**+0.5**
CCB	**Clear Creek Bu**	**72.64**	**16**	P	**P**	**19 32 55.7**	**0.0**
IL31		**72.72**	**16**	P	**P**	**19 32 56.1**	**-0.1**
IL31				IAmb	IAmb	19 32 57.5	
	comp=Z,5.6nm,1.0s						
ILAR	**Eielson Array**	**72.72**	**16**	P	**P**	**19 32 56.0**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=322,slow=5.1,SNR=33						
ILAR	**Eielson Array**	**72.72**	**16**	P	**P**	**19 32 56.0**	**-0.3**
KTH	**Kantishna Hill**	**72.87**	**18**	P	**P**	**19 32 57.2**	**0.0**
KTH				IAmb	IAmb	19 32 58.4	
	comp=Z,7.9nm,0.8s						
L19K	**White Mountain**	**73.02**	**20**	P	**P**	**19 32 58.8**	**+0.7**
	baz=325						
EPYK	**Eagle Plains**	**73.09**	**11**	P	**P**	**19 32 58.6**	**+0.2**
	baz=339						
TRF	**Thorofare Moun**	**73.11**	**18**	P	**P**	**19 32 59.7**	**+0.9**
	baz=328						
PPLA	**Purkeypile**	**73.12**	**19**	P	**P**	**19 32 58.9**	**0.0**
	baz=327						
MCK	**McKinley**	**73.18**	**17**	P	**P**	**19 32 59.0**	**0.0**
	baz=329						
EGAK	**Eagle**	**73.83**	**13**	P	**P**	**19 33 02.8**	**0.0**
	baz=335						
EGAK	**Eagle**	**73.83**	**13**	P	**P**	**19 33 03.0**	**+0.3**
N18K	**Kilae Creek**	**73.96**	**22**	P	**P**	**19 33 04.5**	**+0.8**
	baz=325						
CUT	**Chulitna**	**74.01**	**18**	P	**P**	**19 33 03.2**	**-0.6**
	baz=329						
SCRK	**Sand Creek**	**74.02**	**15**	P	**P**	**19 33 04.5**	**+0.3**
	baz=333						
SCRK	**Sand Creek**	**74.02**	**15**	P	**P**	**19 33 04.4**	**+0.3**
SCRK				IAmb	IAmb	19 33 05.5	
	comp=Z,7.7nm,0.8s						
WAT1	**Susitna Watana**	**74.05**	**17**	P	**P**	**19 33 03.4**	**-0.7**
	baz=330						
SKT	**Skwentna**	**74.06**	**19**	P	**P**	**19 33 03.9**	**-0.3**
	baz=328						
SKT	**Skwentna**	**74.06**	**19**	P	**P**	**19 33 03.7**	**-0.4**
SKT				IAmb	IAmb	19 33 04.8	
	comp=Z,14nm,0.8s						
RIDG	**Independent Ri**	**74.06**	**15**	P	**P**	**19 33 04.1**	**-0.1**
	baz=333						
RIDG	**Independent Ri**	**74.06**	**15**	P	**P**	**19 33 04.2**	**0.0**
RIDG				IAmb	IAmb	19 33 05.1	
	comp=Z,8.4nm,1.1s						
N19K	**Bonanza Creek**	**74.25**	**21**	P	**P**	**19 33 06.2**	**+0.8**
	baz=326						
DOT	**Dot Lake**	**74.30**	**15**	P	**P**	**19 33 05.7**	**+0.1**
WAT6	**Susitna Watana**	**74.45**	**17**	P	**P**	**19 33 06.8**	**+0.1**
	baz=330						
PAX	**Paxson**	**74.61**	**16**	P	**P**	**19 33 07.3**	**-0.2**
	baz=332						
SUA	**Susitna One**	**74.69**	**19**	P	**P**	**19 33 07.8**	**-0.2**
	baz=328						
SUA	**Susitna One**	**74.69**	**19**	P	**P**	**19 33 07.8**	**-0.2**
SUA				IAmb	IAmb	19 33 08.8	
	comp=Z,10nm,1.2s						
DAWY	**Dawson**	**74.80**	**13**	P	**P**	**19 33 08.8**	**+0.3**
DAWY				IAmb	IAmb	19 33 09.9	
	comp=Z,5.4nm,0.9s						
O18K	**Koktuh Hills**	**74.83**	**22**	P	**P**	**19 33 09.1**	**+0.4**
	baz=325						
SML	**Sawmill**	**74.99**	**18**	P	**P**	**19 33 09.7**	**0.0**
	baz=330						
SML	**Sawmill**	**74.99**	**18**	P	**P**	**19 33 09.7**	**0.0**
HARP	**HAARP**	**75.19**	**16**	P	**P**	**19 33 11.5**	**+0.8**
	baz=332						
SCM	**Sheep Creek Mo**	**75.20**	**17**	P	**P**	**19 33 11.1**	**+0.2**
SCM				pmax	pmax		
	comp=Z,12nm,0.7s						
SCM	**Sheep Creek Mo**	**75.20**	**17**	P	**P**	**19 33 11.1**	**+0.2**
SCM				IAmb	IAmb	19 33 11.9	
	comp=Z,12nm,0.7s						
M24K	**Tolsona, Glenn**	**75.22**	**17**	P	**P**	**19 33 11.9**	**+0.8**
	baz=332						
M24K	**Tolsona, Glenn**	**75.22**	**17**	P	**P**	**19 33 11.6**	**+0.6**
RC01	**Rabbit Creek A**	**75.27**	**19**	P	**P**	**19 33 11.3**	**+0.1**
	baz=329						
L27K	**Beaver Creek,**	**75.27**	**14**	P	**P**	**19 33 12.3**	**+1.1**
	baz=335,SNR=9.8						
L27K	**Beaver Creek,**	**75.27**	**14**	P	**P**	**19 33 12.0**	**+0.8**
L27K				IAmb	IAmb	19 33 13.1	
	comp=Z,5.7nm,0.8s						
BCAR	**Beaver Creek A**	**75.28**	**14**	P	**P**	**19 33 12.1**	**+0.8**
PWL	**Port Wells**	**75.81**	**18**	P	**P**	**19 33 14.3**	**0.0**
PWL				IAmb	IAmb	19 33 15.3	
	comp=Z,7.9nm,0.8s						
KLU	**Klutina**	**75.82**	**17**	P	**P**	**19 33 15.0**	**+0.5**
	baz=332						
KLU	**Klutina**	**75.82**	**17**	P	**P**	**19 33 15.6**	**+1.1**
KLU				IAmb	IAmb	19 33 16.6	
	comp=Z,7.0nm,0.9s						
GLI	**Glacier Island**	**76.09**	**18**	P	**P**	**19 33 16.0**	**0.0**
	baz=331						
GLI	**Glacier Island**	**76.09**	**18**	P	**P**	**19 33 16.1**	**+0.1**
BMRM	**Bremner River**	**76.58**	**16**	P	**P**	**19 33 19.4**	**+0.6**
	baz=333						
CRQE	**Cirque**	**77.11**	**16**	P	**P**	**19 33 22.2**	**+0.3**
	baz=334						
CTG	**Chitna Glacier**	**77.28**	**15**	P	**P**	**19 33 23.3**	**+0.5**
	baz=336						
CTGM	**Chitina Glacie**	**77.28**	**15**	P	**P**	**19 33 23.2**	**+0.4**
CTGM				IAmb	IAmb	19 33 24.7	
	comp=Z,8.8nm,1.0s						
KDAK	**Kodiak Island**	**77.32**	**22**	P	**P**	**19 33 23.7**	**+0.8**
	baz=327						
LOGN	**Logan Glacier**	**77.47**	**15**	P	**P**	**19 33 24.5**	**+0.6**
OHAK	**Old Harbor**	**77.59**	**22**	P	**P**	**19 33 24.7**	**+0.4**
	baz=327						
YAH	**Yahtse**	**77.75**	**15**	P	**P**	**19 33 26.1**	**+0.5**
YAH				IAmb	IAmb	19 33 28.8	
	comp=Z,9.1nm,0.5s						
HYT	**Haines Junctio**	**78.14**	**13**	P	**P**	**19 33 28.8**	**+1.2**
HYT				IAmb	IAmb	19 33 29.8	
	comp=Z,5.2nm,0.8s						
WHY	**Whitehorse**	**78.75**	**12**	P	**P**	**19 33 30.8**	**-0.1**
	baz=341						
YKA	**Yellowknife Ar**	**78.89**	**2**	P	**P**	**19 33 31.9**	**+0.4**
	comp=Z,5.1nm,0.7s,baz=354,slow=5.3,SNR=21						
BOSA	**Boshof**	**79.01**	**219**	P	**P**	**19 33 29.4**	**-3.3**
	comp=Z,5.1nm,1.1s,baz=30,slow=8.1,SNR=2.2						
SCHQ	**Schefferville**	**79.54**	**336**	P	**P**	**19 33 35.5**	**+0.2**
	comp=Z,8.1nm,0.7s,baz=48,slow=7.1,SNR=8.2						
SCHQ	**Schefferville**	**79.54**	**336**	P	**P**	**19 33 35.6**	**+0.4**
SCHQ				IAmb	IAmb	19 33 36.4	
	comp=Z,10nm,0.8s						
SIT	**Sitka**	**82.08**	**14**	P	**P**	**19 33 48.8**	**+0.1**
	baz=340						
WRAK	**Wrangell Islan**	**83.20**	**12**	P	**P**	**19 33 53.9**	**-0.7**
	baz=343						
WRA	**Warramunga Arr**	**84.03**	**121**	P	**P**	**19 33 58.0**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=323,slow=4.7,SNR=26						
CHGQ	**Chibougamau**	**86.11**	**338**	P	**P**	**19 34 10.1**	**+0.6**
	baz=27						
ASAR	**Alice Springs**	**86.37**	**124**	P	**P**	**19 34 10.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=310,slow=4.7,SNR=15						
MATQ	**Matagami**	**87.18**	**340**	P	**P**	**19 34 15.2**	**+0.5**
	baz=25						
LSQQ	**Lebel-sur-Quev**	**87.63**	**339**	P	**P**	**19 34 17.5**	**+0.7**
	baz=25						
ULM	**Lac du Bonnet**	**90.35**	**351**	P	**P**	**19 34 29.5**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=6.6,slow=4.1,SNR=4.4						
ULM	**Lac du Bonnet**	**90.35**	**351**	P	**P**	**19 34 29.2**	**-0.4**
ULM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULM	**Lac du Bonnet**	**90.35**	**351**	P	**P**	**19 34 29.2**	**-0.4**
ULM				IAmb	IAmb	19 34 30.3	
	comp=Z,5.8nm,0.9s						
LONY	**Lake Ozonia**	**90.89**	**335**	P	**P**	**19 34 32.5**	**+0.2**
	baz=27						
EYMN	**Ely**	**91.96**	**348**	P	**P**	**19 34 37.4**	**+0.2**
	baz=14						
L58A	**Harry Jones Me**	**93.61**	**335**	P	**P**	**19 34 44.9**	**0.0**
	baz=26						
ERPA	**Erie**	**94.83**	**338**	P	**P**	**19 34 50.4**	**-0.1**
	baz=23						
I02D	**Swisshome**	**96.46**	**10**	P	**P**	**19 34 57.1**	**-0.7**
	baz=349						
ECSD	**EROS Data Cent**	**96.84**	**350**	P	**P**	**19 34 59.8**	**+0.1**
	baz=11						
PDAR	**Pinedale Array**	**98.72**	**360**	LR	LR	20 24 18.8	
	comp=Z,28nm,18.1s,baz=272,slow=38						
W41B	**Gary Mavity, V**	**104.46**	**345**	P	**Pdif**	**19 35 33.2**	**-0.6**
	baz=14						
GMRC	**Granite Mounta**	**106.51**	**5**	P	**PKiKP**	**19 39 53.0**	**-1.0**
	baz=356						
CIS	**Catalina Islan**	**107.66**	**7**	P	**PKiKP**	**19 39 56.6**	**+0.6**
	baz=353						
LPAZ	**La Paz**	**136.97**	**290**	PKP	**PKPdf**	**19 40 51.7**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=164,slow=2.4,SNR=3.5						
PLCA	**Paso Flores**	**149.70**	**254**	PKPbc	**PKPbc**	**19 41 17.6**	**-0.7**
	comp=Z,4.7nm,1.1s,baz=50,slow=2.6,SNR=5.3						

*TUL **21** 19:36:03.8±1.3, 36°.29N±0°.01×96°.85W±0°.02, h4km±6km, ML2.7, mb_Lg2.4/19(NEIC), Error ellipse: s-maj=2.6km s-min=1.8km az=74.0*

NEIC 21 19:36:03.9±2.0, 36°.33N±0°.01×96°.83W±0°.03, h13km±2km, Error ellipse: s-maj=3.4km s-min=1.1km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.18**	**147**		Pg	19 36 07.7	-0.3
QUOK				Sg	Sg	19 36 10.2	-0.6
OK031	**S. Brethren Rd**	**0.37**	**181**		Pg	19 36 10.8	-0.5
OK031				Sg	Sg	19 36 15.6	-0.8
BLOK	**Blackwell**	**0.53**	**325**		Pg	19 36 14.5	+0.2
BLOK				Sg	Sg	19 36 21.9	+0.4
T35A	**Sooner Cattle**	**0.64**	**23**		Pb	19 36 16.9	-0.1
T35A				Sg	Sb	19 36 25.9	0.0
OK029	**Liberty Lake**	**0.73**	**224**		Pg	19 36 17.2	-0.8
OK029				Sg	Sg	19 36 26.6	-1.0
OK025	**Westminster Rd**	**0.85**	**209**		Pg	19 36 19.2	-1.0
OK025				Sg	Sg	19 36 30.4	-1.0
KAN13	**South Haven SW**	**0.86**	**323**		Pg	19 36 18.8	-1.7
KAN13				Sg	Sb	19 36 32.2	0.0
BCOK	**Bluff Creek, N**	**0.92**	**224**	Pg	Pg	19 36 20.9	-0.7
BCOK				Sg	Sg	19 36 32.6	-0.9
CROK	**Carrier**	**0.95**	**281**		Pg	19 36 21.6	-0.6
CROK				Sg	Sg	19 36 34.2	-0.3
GC02	**Grant County #**	**0.98**	**303**		Pb	19 36 22.4	-0.3
GC02				Sg	Sg	19 36 35.3	-0.3
KAN09	**Caldwell North**	**1.03**	**322**	Pg	Pb	19 36 23.6	0.0
KAN09				Sg	Sg	19 36 37.1	0.0
KAN17	**Caldwell West**	**1.04**	**314**	Pg	Pb	19 36 22.9	-0.9
KAN17				Sg	Sg	19 36 37.4	-0.1
KS20	**Mayfield South**	**1.07**	**327**		Pg	19 36 24.5	-0.1
KS20				Sg	Sn	19 36 39.0	-0.4
KAN05	**Bluff City Nor**	**1.15**	**313**	Pg	Pn	19 36 25.7	0.0
KAN05				Sg	Sb	19 36 40.6	+0.2
FNO	**Franklin**	**1.16**	**204**		Pb	19 36 24.2	-1.6
FNO				Sg	Sb	19 36 40.0	-0.8
OK032	**Salt Plains WL**	**1.21**	**294**		Pn	19 36 26.5	0.0
OK032				Sg	Sb	19 36 42.2	+0.1
KAN08	**Anthony NE Sta**	**1.28**	**315**	Pn	Pg	19 36 28.5	-0.1
KAN10	**Anthony SW Sta**	**1.29**	**308**		Pb	19 36 28.2	+0.2
KAN12	**Harper NE Stat**	**1.35**	**316**		Pb	19 36 29.3	+0.3
U32A	**Winter Ranch,**	**1.75**	**272**	Pn	Pb	19 36 35.3	-0.6
X34A	**Smith Ranch, M**	**1.91**	**206**	Pn	Pn	19 36 37.1	+1.1
U38A	**Gravette**	**1.98**	**86**		Pb	19 36 39.2	-0.5
X37A	**Clayton**	**2.10**	**145**	Pn	Pn	19 36 40.2	+1.5
X37A				IAmb_Lg		19 37 14.4	
	comp=Z,12nm,0.8s						
WMOK	**Wichita Mounta**	**2.25**	**226**	Pn	Pn	19 36 41.9	+1.1
HHAR	**Hobbs**	**2.33**	**90**		Pn	19 36 43.0	+1.0
W39A	**Magazine**	**2.72**	**114**		Pn	19 36 47.8	+0.5
MIAR	**Mount Ida**	**3.20**	**123**	Pn	Pn	19 36 55.3	+1.5
U40A	**Yellville**	**3.21**	**88**	Pn	Pn	19 36 55.9	+1.9
X40A	**Basin Creek Fa**	**3.74**	**118**	Pn	Pn	19 37 02.9	+1.5
X40A				IAmb_Lg		19 38 04.8	
	comp=Z,5.3nm,0.7s						
MGMO	**Mountain Grove**	**3.76**	**76**	IAmb_Lg		19 38 14.8	
	comp=Z,5.4nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.83**	**95**	Pn	Pn	19 37 03.1	+0.5
R40A	**Maddies Statio**	**4.13**	**60**	Pn	Pn	19 37 06.6	-0.1
R40A				IAmb_Lg		19 38 18.3	
	comp=Z,5.7nm,0.9s						
T42A	**Van Buren**	**4.67**	**80**	IAmb_Lg		19 38 33.5	
	comp=Z,6.6nm,1.1s						
CCM	**Cathedral Cave**	**4.78**	**67**	IAmb_Lg		19 38 34.8	
	comp=Z,4.9nm,0.8s						
P40A	**Paris**	**4.95**	**48**	Pn	Pn	19 37 20.8	+2.8
P40A				IAmb_Lg		19 38 47.1	
	comp=Z,6.3nm,0.8s						
143A	**Socs Landing,**	**5.75**	**127**	IAmb_Lg		19 39 22.6	
	comp=Z,19nm,0.8s						
N41A	**Harden Midland**	**6.41**	**45**	IAmb_Lg		19 39 34.1	
	comp=Z,8.1nm,0.8s						
R49A	**Shelbyville**	**9.49**	**75**	IAmb_Lg		19 41 09.3	
	comp=Z,12nm,0.9s						
T50A	**Nancy**	**9.66**	**82**	IAmb_Lg		19 41 17.9	
	comp=

MAT Matsushiro 7.83 350 P **Pn 20 00 02.2 +0.2**
MAT *eS* **S 20 01 32.5 -1.9**
MJB9 Matsu-Tunnel 7.83 350 **P 20 00 02.8 +0.2**
JMZ Minamidaito 2 8.21 251 **Pn 20 00 06.0 -0.6**
JHS Saijyo 8.40 319 P **P 20 00 11.2 +2.1**
JHS Saijyo 8.40 319 P **P 20 00 11.0 +1.9**
JSU Suzuyama 8.55 291 **P 20 00 12.3 +1.5**
JNU Nakatsue 8.80 301 P **P 20 00 14.1 +0.5**
0.5nm,0.3s,baz=87,slow=6.2,SNR=4.1
JNU Nakatsue 8.80 301 **P 20 00 14.4 +0.8**
JMM Marumori 9.07 5 P **P 20 00 17.1 +0.7**
JSD Sado 9.29 352 **Pn 20 00 18.8 -0.1**
JOW Kunigami 10.42 262 P **Pn 20 00 32.6 +0.5**
5.8nm,0.3s,baz=72,slow=12,SNR=8.7
JOW Kunigami 10.42 262 P **P 20 00 31.0 -0.6**
JTU Tsushima 10.55 305 P **Pn 20 00 33.6 +0.1**
KSRS Korea Array 13.17 314 P **Pn 20 01 03.2 -0.7**
0.5nm,0.3s,baz=130,slow=12,SNR=17
KSRS ScP **ScP 20 08 54.1 -1.9**
0.1nm,0.3s,baz=178,slow=0.8,SNR=5.2
ERM Erimo 13.45 11 P **Pn 20 01 07.7 +0.7**
ERM Erimo 13.45 11 P **Pn 20 01 07.7 +0.7**
JEW Eniwo 14.06 5 P **Pn 20 01 15.0 +1.2**
ASAJ Asahikawa 15.44 8 P **Pn 20 01 28.7 -0.8**
0.2nm,0.3s,baz=271,slow=34,SNR=2.6
JKA Kamikawa-asahi 15.44 8 **Pn 20 01 30.3 +0.8**
JKA IAmb IAmb 20 02 03.7
comp=Z,19nm,1.6s
YOJ Yonaguni jima 15.65 258 P **P 20 01 28.9 0.0**
YOJ pmax pmax
comp=Z,175nm,1.2s
YOJ Yonaguni jima 15.65 258 P **P 20 01 28.9 0.0**
GUMO Guam 15.86 162 P **Pn 20 01 33.2 -1.5**
comp=Z,4.2nm,0.3s,baz=10,slow=21,SNR=4.9
GUMO Guam 15.86 162 P **Pn 20 01 33.4 -1.3**
GUMO pmax pmax
comp=Z,25nm,0.8s
GUMO Guam 15.86 162 P **Pn 20 01 33.4 -1.3**
GUMO IAmb IAmb 20 01 41.5
comp=Z,25nm,0.8s
USRK Ussuriysk Ar. 16.59 340 P **P 20 01 40.2 +1.4**
baz=143,slow=11,SNR=55
USRK Ussuriysk Ar. 16.59 340 P **P 20 01 40.0 +1.2**
USA0B Ussuriysk Arra 16.59 340 P **P 20 01 39.9 +1.1**
USA0B pmax pmax
comp=Z,19nm,0.7s
USA0B Ussuriysk Arra 16.59 340 P **P 20 01 39.9 +1.1**
USA0B IAmb IAmb 20 01 40.8
comp=Z,19nm,0.7s
TATO Taipei 16.80 261 P **P 20 01 39.6 -1.7**
NACB Ninganchiao 16.96 258 P **P 20 01 40.8 -2.2**
NACB IAmb IAmb 20 01 55.2
comp=Z,34nm,1.0s
YHNB Yeheng 16.99 260 P **P 20 01 42.0 -1.4**
YULB Yu-li 17.49 256 P **P 20 01 47.8 -0.9**
SSLB Suanglung 17.64 258 P **P 20 01 50.0 -0.3**
MDJ Mudanjiang 17.76 335 P **P 20 01 51.8 +0.6**
TWG Pinlang 17.90 255 P **P 20 01 51.8 -1.2**
TPUB Ta-pu 18.09 257 P **P 20 01 53.8 -1.3**
KNMB Chin-men Tao 19.64 262 P **P 20 02 10.1 -0.7**
SZP Santa 21.01 242 P **P 20 02 21.8 -1.6**
KLR Kul'dur 21.31 345 P **P 20 02 26.8 +1.0**
comp=Z,3.4nm,0.6s,baz=156,slow=6.2,SNR=9.8
WHN Wuhan 22.19 281 ⇓P **P 20 02 34.1 +0.1**
WHN pmax pmax
comp=Z,54nm,0.9s
HHC Hu-ho-hao-te 26.01 305 *e*P **P 20 03 11.3 +3.0**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,98nm,4.7s
ENH Enshi 26.40 281 P **P 20 03 11.2 -0.6**
ZEA Zeya 26.56 343 *e*P **P 20 03 13.8 +1.0**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 26.82 289 P **P 20 03 15.0 -0.5**
XAN pP PP 20 04 26.9 +0.7
XAN pmax pmax
comp=Z,23nm,0.5s
LZH Lanzhou 31.09 293 *e*P **P 20 03 53.0 0.0**
LZH pP pP 20 05 05.8 +1.7
LZH pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 31.65 316 P **P 20 03 57.8 +0.1**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 31.65 316 P **P 20 03 57.8 +0.1**
SONM Songino Array 32.04 316 P **P 20 04 01.2 +0.2**
comp=Z,2.7nm,0.9s,baz=122,slow=7.8,SNR=18
SONM PcP **PcP 20 06 40.2 +0.5**
comp=Z,0.5nm,0.4s,baz=123,slow=3.0,SNR=6.7
SONM ScP **ScP 20 09 44.3 -0.8**
comp=Z,0.3nm,0.5s,baz=154,slow=3.2,SNR=4.2
SONM Songino Array 32.04 316 P **P 20 04 01.2 +0.2**
FAKI Fak Fak 32.38 194 P **P 20 04 03.7 -0.4**
FAKI IAmb IAmb 20 04 16.1
comp=Z,34nm,1.1s
KWAJ Kwajalein Atol 32.83 122 P **P 20 04 08.9 +0.8**
KWAJ pmax pmax
comp=Z,31nm,0.7s
KWAJ Kwajalein Atol 32.83 122 P **P 20 04 08.9 +0.8**
KWAJ IAmb IAmb 20 04 24.7
comp=Z,31nm,0.7s
KMI Kunming 33.17 272 ⇑P **P 20 04 11.4 +0.2**
KMI pmax pmax
comp=Z,11nm,1.0s
SLVN Son La 33.28 265 P **P 20 04 11.3 -0.7**
SLVN IAmb IAmb 20 04 13.1
comp=Z,11nm,0.9s
GTA Gaotai 34.53 298 ⇓P **P 20 04 21.8 -0.6**
GTA pP pP 20 05 34.3 -0.6
GTA sP sP 20 06 19.9 +0.1
GTA pmax pmax
comp=Z,9.0nm,0.9s
SKNT Sakolnakorn 34.93 258 P **P 20 04 26.7 +0.8**
comp=Z,10.0nm,0.9s
ZAK Zakamensk 34.95 318 *e*P **P 20 04 24.8 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
NONG Nongkai 35.19 260 P **P 20 04 28.6 +0.5**
comp=Z,32nm,1.1s
CHAI Chaiyaphum 37.12 258 P **P 20 04 44.0 -0.2**
comp=Z,610nmcomp=Z,65nm,0.8s
CMMT Chiang Mai 38.54 264 P **P 20 04 56.0 0.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 38.54 264 P **P 20 04 55.6 -0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 38.54 264 P **P 20 04 56.0 0.0**
comp=Z,11nm,0.8s
CHTO Chiang Mai 38.54 264 P **P 20 04 55.6 -0.4**
CHTO IAmb IAmb 20 04 56.4
comp=Z,7.8nm,0.8s
CM31 Chiang Mai Arr 38.68 264 P **P 20 04 56.4 -0.7**
CMAR Chiang Mai Arr 38.68 264 P **P 20 04 57.1 0.0**
comp=Z,2.1nm,0.7s,baz=73,slow=5.1,SNR=24
CMAR PcP **PcP 20 07 00.2 +0.4**
comp=Z,1.1nm,0.7s,baz=103,slow=0.9,SNR=7.3
CMAR Chiang Mai Arr 38.68 264 P **P 20 04 56.7 -0.4**
KIWB Kanaga Island 39.28 42 P **P 20 05 03.8 +2.2**
ADK Adak 39.57 42 P **P 20 05 05.7 +1.8**
ADK pmax pmax
comp=Z,59nm,1.4s
ADK Adak 39.57 42 P **P 20 05 05.7 +1.8**
ADK IAmb IAmb 20 05 06.3
comp=Z,59nm,1.4s
GSTR Great Sitkin T 40.00 42 P **P 20 05 09.5 +2.1**
ATKA Atka Island 41.13 42 P **P 20 05 18.3 +1.8**
SOEI Soe 41.18 204 P **P 20 05 16.9 -0.6**
SOEI IAmb IAmb 20 05 35.2
comp=Z,44nm,1.3s
BILL Bilibino 42.29 14 *e*P **P 20 05 25.1 -0.4**
BILL *e* 20 07 14.5
BILL pmax pmax
comp=Z,3.0nm,0.5s
WMQ Urumqi 43.89 304 *e*P **P 20 05 41.1 +2.4**
NIKH Nikolski High 44.48 42 P **P 20 05 44.2 +1.2**
NIKH PcP **PcP 20 07 17.2 -1.3**
DGZ Jazzator, Alta 44.58 313 *d i*P **P 20 05 44.5 +0.4**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
KNRA Kununurra 45.50 195 P **P 20 05 51.0 -0.4**

UGM Wanagama 46.17 222 P **P 20 05 56.5 -0.1**
AKUT Akutan 46.51 41 P **P 20 06 00.3 +1.6**
ZAA0 Zalesovo Array 46.83 318 P **P 20 06 00.8 -0.3**
ZAA0 PcP **PcP 20 07 26.3 -0.5**
ZALV Zalesovo Beam 46.83 318 P **P 20 06 00.9 -0.3**
comp=Z,2.0nm,0.4s,baz=87,slow=8.1,SNR=12
ZALV PcP **PcP 20 07 26.4 -0.4**
comp=Z,2.1nm,0.4s,baz=115,slow=3.6,SNR=10
ZALV Zalesovo Beam 46.83 318 P **P 20 06 01.0 -0.1**
ZALV **PcP 20 07 26.5 -0.3**
MK31 Makanchi Array 47.78 308 P **P 20 06 08.5 -0.1**
MK31 20 07 30.7
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MK31 Makanchi Array 47.78 308 P **P 20 06 08.5 -0.1**
MK31 IAmb IAmb 20 06 08.8
comp=Z,5.2nm,0.5s
MK31 PcP **PcP 20 07 30.7 +0.2**
MKAR Makanchi Array 47.78 308 P **P 20 06 08.4 -0.1**
comp=Z,4.6nm,0.4s,baz=87,slow=10,SNR=134
MKAR PcP **PcP 20 07 30.5 +0.1**
comp=Z,1.2nm,0.4s,baz=83,slow=11,SNR=7.7
MKAR ScP **ScP 20 10 44.6 -1.7**
comp=Z,0.7nm,0.6s,baz=87,slow=5.6,SNR=7.1
MKAR Makanchi Array 47.78 308 *ce*P **P 20 06 08.3 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.3s
MAKZ Makanchi 47.99 308 P **P 20 06 10.2 0.0**
MAKZ 20 07 31.4
MAKZ pmax pmax
comp=Z,10.0nm,0.4s
MAKZ Makanchi 47.99 308 P **P 20 06 10.2 0.0**
MAKZ IAmb IAmb 20 06 10.5
comp=Z,10nm,0.4s
MAKZ PcP **PcP 20 07 31.4 +0.2**
MNAI Manna 48.41 233 P **P 20 06 13.1 -0.6**
GSI Gunungsitoli 48.68 244 P **P 20 06 15.2 -0.6**
GSI IAmb IAmb 20 06 16.1
comp=Z,35nm,0.9s
GSI PcP **PcP 20 07 34.9 +0.8**
WRAB Tennant Creek 48.75 187 P **P 20 06 16.1 0.0**
WRAB IAmb IAmb 20 06 17.4
comp=Z,9.2nm,1.1s
WRAB PcP **PcP 20 07 35.3 +1.2**
WR0 Warramunga Arr 48.75 187 P **P 20 06 15.7 -0.5**
WR0 IAmb IAmb 20 06 46.8
comp=Z,16nm,1.5s
WR0 PcP **PcP 20 07 35.5 +1.3**
WB2 Warramunga Arr 48.76 187 P **P 20 06 16.4 +0.2**
WB2 IAmb IAmb 20 06 17.2
comp=Z,14nm,1.3s
WB2 PcP **PcP 20 07 35.3 +1.1**
WRA Warramunga Arr 48.76 187 P **P 20 06 15.9 -0.2**
comp=Z,4.0nm,0.3s,baz=4.2,slow=7.7,SNR=120
WRA PcP **PcP 20 07 35.1 +0.9**
comp=Z,1.1nm,0.4s,baz=359,slow=4.0,SNR=5.1
WRA ScP **ScP 20 10 49.6 -1.0**
comp=Z,0.9nm,0.6s,baz=359,slow=4.3,SNR=9.3
WRA Warramunga Arr 48.76 187 P **P 20 06 15.7 -0.5**
WRA PcP **PcP 20 07 34.8 +0.6**
CTAO Charters Tower 49.01 172 P **P 20 06 18.8 +0.8**
CTAO pmax pmax
comp=Z,30nm,1.5s
CTAO Charters Tower 49.01 172 P **P 20 06 18.8 +0.8**
CTAO IAmb IAmb 20 06 51.6
comp=Z,30nm,1.4s
SDPT Sand Point 49.72 40 P **P 20 06 23.1 +0.1**
SDPT IAmb IAmb 20 06 25.2
comp=Z,35nm,1.0s
CNBA Chernabura Isl 50.17 41 P **P 20 06 25.3 -1.0**
CNBA IAmb IAmb 20 06 31.2
comp=Z,67nm,1.3s
NRIK Noril'sk 50.30 339 P **P 20 06 27.2 +0.2**
comp=Z,5.1nm,0.4s,baz=107,slow=5.4,SNR=7.6
NRIK Noril'sk 50.30 339 P **P 20 06 26.5 -0.5**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 50.30 339 P **P 20 06 26.5 -0.5**
KURK Kurchatov 50.30 314 P **P 20 06 27.5 +0.2**
KURK Kurchatov 50.30 314 P **P 20 06 27.4 +0.2**
KURBB Kurchatov Arra 50.35 313 P **P 20 06 27.4 -0.2**
comp=Z,12nm,0.4s,baz=91,slow=7.8,SNR=47
KDJ Kajisay 51.66 303 P **P 20 06 37.5 -0.2**
KDJ pmax pmax
comp=Z,13nm,1.4s
KDJ Kajisay 51.66 303 P **P 20 06 37.5 -0.2**
KDJ IAmb IAmb 20 07 14.6
comp=Z,13nm,1.4s
AS31 Alice Springs 52.48 187 P **P 20 06 43.5 -0.1**
ASAR Alice Springs 52.48 187 P **P 20 06 43.6 0.0**
comp=Z,2.6nm,0.5s,baz=1.5,slow=5.8,SNR=80
ASAR PcP **PcP 20 07 49.5 +1.4**
comp=Z,1.3nm,0.8s,baz=11,slow=4.1,SNR=5.7
ASAR ScP **ScP 20 11 05.8 -1.0**
comp=Z,0.5nm,0.6s,baz=3.4,slow=4.7,SNR=7.1
ASAR Alice Springs 52.48 187 P **P 20 06 42.8 -0.8**
ASAR **PcP 20 07 49.1 +1.0**
BOOM Boomskoye usch 52.53 303 P **P 20 06 44.4 +0.4**
BOOM IAmb IAmb 20 06 44.8
comp=Z,8.8nm,0.6s
BOOM PcP **PcP 20 07 48.0 -0.3**
KSH Kashi 52.92 299 P **P 20 06 50.3 +3.5**
KSH pmax pmax
comp=Z,9.0nm,0.5s
SVW2 Sparrevohn 52.99 33 P **P 20 06 49.5 +2.7**
PSA00 Pilbara Seismi 53.67 203 P **P 20 06 51.5 -0.7**
PSA00 IAmb IAmb 20 07 14.1
comp=Z,30nm,1.6s
PSA00 Pilbara Seismi 53.67 203 P **P 20 06 51.6 -0.6**
PSA00 IAmb IAmb 20 06 52.6
comp=Z,3.5nm,0.8s
PSA00 PcP **PcP 20 07 51.9 -0.7**
OHAK Old Harbor 53.86 38 P **P 20 06 53.6 +0.5**
OHAK IAmb IAmb 20 07 25.1
comp=Z,27nm,1.3s
KDAK Kodiak Island 54.26 38 P **P 20 06 56.7 +0.8**
comp=Z,5.4nm,0.7s,baz=242,slow=2.6,SNR=6.8
KDAK Kodiak Island 54.26 38 P **P 20 06 57.4 +1.5**
KDAK IAmb IAmb 20 07 02.4
comp=Z,19nm,1.4s
KDAK PcP **PcP 20 07 56.1 +1.8**
IMAR Indian Mountai 54.47 27 P **P 20 06 58.6 +1.3**
EIDS Eidsvold 54.95 168 P **P 20 06 59.9 -1.3**
EIDS IAmb IAmb 20 07 14.8
comp=Z,14nm,1.2s
SKT Skwentna 55.00 32 P **P 20 07 01.6 +0.5**
CNPM China Poot 55.02 35 P **P 20 07 02.4 +1.0**
CNPM IAmb IAmb 20 07 30.3
comp=Z,18nm,1.3s
CAPN Captain Cook N 55.11 34 P **P 20 07 02.5 +0.6**
SUA Susitna One 55.34 33 P **P 20 07 04.8 +1.1**
BVAR Borovoye Array 55.37 317 P **P 20 07 02.9 -1.0**
comp=Z,4.9nm,0.5s,baz=187,slow=7.5,SNR=47
KTH Kantishna Hill 55.40 31 P **P 20 07 05.5 +1.5**
BPAW Bear Paw Mtn. 55.41 30 P **P 20 07 06.4 +2.4**
BRVK Borovoye 55.43 317 *ce*P **P 20 07 03.9 -0.4**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 55.43 317 P **P 20 07 04.4 +0.1**
BRVK IAmb IAmb 20 07 05.3
comp=Z,8.6nm,0.8s
TRF Thorofare Moun 55.67 31 P **P 20 07 05.5 -0.6**
RC01 Rabbit Creek A 55.82 34 P **P 20 07 06.8 -0.1**
SEW Seward 55.94 35 P **P 20 07 09.0 +1.3**
SEW IAmb IAmb 20 07 15.6
comp=Z,24nm,1.4s
KK31 Karatay Array 56.40 305 P **P 20 07 11.6 +0.3**
KK31 pmax pmax
comp=Z,24nm,0.7s
KK31 Karatay Array 56.40 305 P **P 20 07 11.6 +0.3**
KK31 IAmb IAmb 20 07 12.1
comp=Z,24nm,0.7s
KKAR Karatay Array 56.40 305 P **P 20 07 11.6 +0.3**
KKAR pmax pmax
comp=Z,24nm,0.7s
KKAR Karatay Array 56.40 305 P **P 20 07 11.6 +0.3**
KKAR IAmb IAmb 20 07 12.2
comp=Z,24nm,0.7s
KKAR Karatay Array 56.40 305 P **P 20 07 11.5 +0.3**
PWL Port Wells 56.50 34 P **P 20 07 11.9 +0.3**
WMR Waimanalo Ridg 56.55 82 P **P 20 07 11.8 -0.8**
MDM Murphy Dome 56.66 29 P **P 20 07 15.0 +2.3**
BTK Batken 56.73 301 P **P 20 07 13.7 0.0**
BTK pmax pmax
comp=Z,9.0nm,1.2s
BTK Batken 56.73 301 P **P 20 07 13.7 0.0**
BTK IAmb IAmb 20 07 14.5
comp=Z,9.4nm,1.1s
SCM Sheep Creek Mo 56.98 33 P **P 20 07 17.0 +1.9**
SCM pmax pmax
comp=Z,16nm,1.6s
SCM Sheep Creek Mo 56.98 33 P **P 20 07 17.0 +1.9**
SCM IAmb IAmb 20 07 53.8
comp=Z,16nm,1.6s
GLI Glacier Island 57.10 34 P **P 20 07 16.9 +1.1**
GLI IAmb IAmb 20 07 35.8
comp=Z,12nm,1.4s
ILAR Eielson Array 57.22 29 P **P 20 07 17.1 +0.5**
comp=Z,0.3nm,0.5s,baz=260,slow=5.4,SNR=2.5
GAR Garm 57.33 300 P **P 20 07 18.2 +0.3**
HIN Hinchinbrook I 57.41 34 P **P 20 07 19.7 +1.8**
HIN IAmb IAmb 20 07 52.2
comp=Z,38nm,1.4s
FID Port Fidalgo 57.41 34 P **P 20 07 19.2 +1.3**
FID IAmb IAmb 20 07 22.4
comp=Z,10nm,1.2s
RIDG Independent Ri 58.11 30 P **P 20 07 24.4 +1.6**
CHGR Chuyangaron 58.28 300 P **P 20 07 24.7 +0.2**
DOT Dot Lake 58.46 31 P **P 20 07 24.8 -0.3**
SCRK Sand Creek 58.49 30 P **P 20 07 26.0 +0.6**
KBL Kabul 59.40 295 P **P 20 07 32.2 -0.1**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 59.40 295 P **P 20 07 32.2 -0.1**
KBL IAmb IAmb 20 07 32.9
comp=Z,7.1nm,0.8s
PUH Pauahi 59.42 83 P **P 20 07 31.9 -0.5**
ARMA Armidale 59.97 168 P **P 20 07 37.2 +1.4**
ARMA IAmb IAmb 20 08 09.6
comp=Z,30nm,1.6s
FORT Forrest 60.31 192 P **P 20 07 38.5 +0.5**
FORT IAmb IAmb 20 08 07.5
comp=Z,28nm,1.1s
STKA Stephens Creek 60.38 178 P **P 20 07 38.8 +0.4**
comp=Z,2.1nm,0.8s,baz=13,slow=8.3,SNR=4.9
STKA Stephens Creek 60.38 178 P **P 20 07 39.1 +0.7**
STKA pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 60.38 178 P **P 20 07 39.0 +0.7**
SVE Sverdlovsk 60.59 322 *e*P **P 20 07 39.5 -0.1**
SVE pmax pmax
comp=Z,15nm,0.9s
EPYK Eagle Plains 61.37 27 P **P 20 07 46.8 +2.1**
HYT Haines Junctio 61.78 33 P **P 20 07 48.7 +1.1**
ARU Arti 61.79 321 P **P 20 07 47.5 -0.1**
comp=Z,5.4nm,0.3s,baz=84,slow=3.3,SNR=35
ARU Arti 61.79 321 *d i*P **P 20 07 47.3 -0.3**
ARU *PP **pwP 20 09 13.6 -1.2**
ARU 20 10 06.4
ARU S **S 20 15 38.9 +0.2**
ARU SS **SS 20 19 51.0 +2.8**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 61.79 321 P **P 20 07 47.2 -0.3**
ARU IAmb IAmb 20 07 48.2
comp=Z,17nm,0.8s
MORW Morawa 61.88 204 P **P 20 07 48.2 -0.3**
MORW IAmb IAmb 20 07 54.7
comp=Z,26nm,1.4s
INK Inuvik 62.34 25 P **P 20 07 52.0 +1.1**
comp=Z,2.3nm,0.9s,baz=105,slow=16,SNR=1.8
INK Inuvik 62.34 25 P **P 20 07 52.2 +1.3**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 62.34 25 P **P 20 07 52.2 +1.3**
ABKAR Akbulak array 62.41 313 P **P 20 07 51.4 -0.3**
ABKAR Akbulak array 62.41 313 P **P 20 07 51.6 -0.1**
ABKAR IAmb IAmb 20 07 52.3
comp=Z,12nm,0.6s
AKTO Aktyubinsk 63.35 315 P **P 20 07 57.3 -0.5**
comp=Z,6.2nm,0.5s,baz=91,slow=8.7,SNR=22
HRA Herat 64.81 297 P **P 20 08 08.0 +0.2**
HRA IAmb IAmb 20 08 09.0
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 65.04 201 P **P 20 08 08.5 -0.3**
NWAO pmax pmax
comp=Z,73nm,1.7s
NWAO Narrogin (SRO) 65.04 201 P **P 20 08 08.5 -0.3**
KIRV Kirov 66.10 325 P **P 20 08 15.5 +0.3**
comp=Z,16nm,0.6s,baz=57,slow=3.6,SNR=8.3
GEYT Alibeck 66.83 302 P **P 20 08 20.4 +0.1**
comp=Z,5.2nm,0.7s,baz=37,slow=0.7,SNR=9.9
GYA0 ALIBECK ARRAY 66.83 302 P **P 20 08 20.4 +0.2**
GYA0 pmax pmax
comp=Z,7.0nm,0.7s
GYA0B ALIBECK ARRAY 66.83 302 P **P 20 08 20.4 +0.2**
GYA0B IAmb IAmb 20 08 21.4
comp=Z,7.0nm,0.7s
PRGR Permogore 67.01 329 *e*P **P 20 08 20.2 -0.6**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
SPITS Spitsbergen Ar 68.32 349 P **P 20 08 29.5 +0.8**
comp=Z,6.2nm,0.9s,baz=99,slow=18,SNR=1.9
EUNU Eureka 68.49 8 P **P 20 08 30.3 +0.5**
EUNU IAmb IAmb 20 09 03.7
comp=Z,15nm,1.4s
BELG Belogornoye 69.01 319 P **P 20 08 33.4 +0.1**
comp=Z,11nm,0.4s,baz=281,slow=0.6,SNR=26
LVZ Lovozero 69.09 337 P **P 20 08 33.9 +0.3**
LVZ pmax pmax
comp=Z,16nm,1.2s
LVZ Lovozero 69.09 337 P **P 20 08 33.9 +0.3**
LVZ IAmb IAmb 20 08 44.1
comp=Z,16nm,1.2s
KLMR Klimovskoe 70.05 329 *e*P **P 20 08 37.4 -2.0**
KLMR pmax pmax
comp=Z,5.0nm,0.5s
KLMR Klimovskoe 70.05 329 *e*P **P 20 08 37.4 -2.0**
KLMR AMP 20 08 39.7
comp=Z,5.0nm,0.5s
KEV Kevo 70.67 340 P **P 20 08 43.4 +0.4**
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 70.67 340 P **P 20 08 43.4 +0.4**
KEV IAmb IAmb 20 08 44.5
comp=Z,6.9nm,0.6s
HAMF Hammerfest 71.15 342 *e*P **P 20 08 46.4 +0.6**
ARA0 ARCESS Array S 71.23 340 *e*P **P 20 08 47.4 +1.0**
ARCES ARCESS Array B 71.23 340 P **P 20 08 47.1 +0.8**
comp=Z,4.7nm,0.5s,baz=70,slow=8.3,SNR=56
ARCES ARCESS Array B 71.23 340 P **P 20 08 47.0 +0.7**
ARCES IAmb IAmb 20 08 47.9
comp=Z,5.3nm,0.7s
KTK1 Kautokeino 72.20 340 *e*P **P 20 08 53.2 +1.1**
JETT Jettan, Norway 72.70 341 *e*P **P 20 08 55.6 +0.6**
VRH Novokhopyorsk 72.85 319 *e*P **P 20 08 55.2 -0.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
TRO Tromso 73.06 342 *e*P **P 20 08 57.6 +0.6**
UOSS Minazif 73.17 290 P **P 20 08 58.5 0.0**
LPSR Galich'ya Gora 73.82 321 *e*P **P 20 09 01.1 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 73.93 324 *e*P **P 20 09 02.5 +0.2**
OBN *e* 20 09 15.9
OBN *e* 20 11 53.4
OBN pmax pmax
comp=Z,6.0nm,1.2s
VSR Storozhevoye 74.30 320 *e*P **P 20 09 04.2 -0.3**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 74.34 320 *e*P **P 20 09 03.2 -1.5**
VORD pmax pmax
comp=Z,20nm,0.5s
ZEI Tsey 75.06 311 *e*P **P 20 09 07.8 -1.5**
ZEI pmax pmax
comp=Z,9.0nm,0.6s
STEI Steigen 75.19 341 *e*P **P 20 09 09.5 +0.3**
KBZ Khabaz 75.32 312 P **P 20 09 11.3 +0.9**
comp=Z,16nm,0.8s,baz=91,slow=4.4,SNR=38
KVAR Kislovodsk Arr 75.35 312 P **P 20 09 11.6 +0.9**
comp=Z,4.0nm,0.7s,baz=61,slow=19,SNR=3.4
KIV Kislovodsk 75.36 312 *e*P **P 20 09 12.1 +1.4**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 75.36 312 P **P 20 09 10.7 0.0**
KIV IAmb IAmb 20 09 13.2
comp=Z,10.0nm,0.9s
ONI Oni 75.44 311 P **P 20 09 11.5 +0.3**

ONI			pmax	pmax		
	comp=Z,7.0nm,0.9s					
ONI	**Oni**	**75.44 311**	P	**P**	**20 09 11.5**	**+0.3**
ONI			IAmb	IAmb	20 09 14.2	
	comp=Z,7.3nm,0.9s					
FIA1	**FINESS Array S**	**75.48 333**	P	**P**	**20 09 11.0**	**0.0**
FIA1			IAmb	IAmb	20 09 36.1	
	comp=Z,16nm,1.4s					
FINES	**FINESS Array B**	**75.48 333**	P	**P**	**20 09 11.1**	**+0.1**
	comp=Z,4.6nm,0.3s,baz=64,slow=4.8,SNR=86					
FINES	**FINESS Array B**	**75.48 333**	P	**P**	**20 09 11.2**	**+0.2**
FINES	**FINESS Array B**	**75.48 333**	P	**P**	**20 09 11.2**	**+0.2**
FAUS	**Fauske**	**75.54 341**	*eP*	**P**	**20 09 11.3**	**+0.1**
GNI	**Garni**	**75.62 308**	P	**P**	**20 09 13.2**	**+0.8**
	comp=Z,4.1nm,0.5s,baz=16,slow=20,SNR=1.9					
MOR8	**Moi Rana**	**76.61 340**	*eP*	**P**	**20 09 16.4**	**-0.8**
KONS	**Konsvik**	**76.77 341**	*eP*	**P**	**20 09 17.8**	**-0.2**
MEF	**Metsahovi**	**76.86 332**	*eP*	**P**	**20 09 18.8**	**+0.2**
VSU	**Vasula**	**76.88 330**	*eP*	**P**	**20 09 18.6**	**-0.2**
STOK	**Stokkvaagen**	**76.92 341**	*eP*	**P**	**20 09 19.4**	**+0.6**
RAF	**Rauma**	**77.42 334**	*eP*	**P**	**20 09 23.5**	**+1.8**
SOC	**Sochi**	**77.44 313**	*eP*	**P**	**20 09 21.6**	**-0.6**
SOC			*e**SP	**sP**	**20 11 33.7**	**+3.3**
SOC			*e*		20 12 20.5	
SOC			*e*PPP	PPP	20 14 12.2	
SOC			*e*S	**S**	**20 18 40.5**	**+0.8**
SOC			*e*SSS	SSS	20 27 14.2	
SOC			pmax	pmax		
	comp=Z,13nm,0.6s					
MTSE	**Matsula**	**77.99 331**	*eP*	**P**	**20 09 22.9**	**-2.0**
UMR	**Umm Al-Rimmam**	**78.05 297**	*eP*	**P**	**20 09 25.1**	**-0.7**
MIB	**Mutribah**	**78.23 298**	*eP*	**P**	**20 09 26.4**	**-0.4**
QRN	**Al-Qurain**	**78.25 296**	*eP*	**P**	**20 09 26.6**	**-0.3**
RDF	**Al-Radifah**	**78.46 297**	*eP*	**P**	**20 09 27.7**	**-0.3**
NSS	**Namsos**	**78.50 340**	*eP*	**P**	**20 09 27.5**	**0.0**
UPP	**Uppsala**	**79.75 334**	*eP*	**P**	**20 09 34.3**	**0.0**
PABE	**Paberze**	**79.83 329**	*eP*	**P**	**20 09 34.8**	**-0.1**
PABE	**Paberze**	**79.83 329**	P	**P**	**20 09 34.4**	**-0.4**
PABE			IAmb	IAmb	20 09 35.8	
	comp=Z,16nm,0.9s					
AKASG	**Malin Array Be**	**80.00 323**	P	**P**	**20 09 35.2**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=52,slow=5.5,SNR=9.3					
AKASG	**Malin Array Be**	**80.00 323**	*ceP*	**P**	**20 09 35.5**	**-0.3**
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.4s					
NC405	**NORSAR Array S**	**81.02 337**	P	**P**	**20 09 39.8**	**-1.2**
HFS	**Hagfors**	**81.02 336**	P	**P**	**20 09 40.7**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=93,slow=3.0,SNR=51					
NVAR	**Mina Array Bea**	**81.08 51**	P	**P**	**20 09 43.7**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=275,slow=5.7,SNR=8.4					
DOMB	**Dombas**	**81.21 339**	*eP*	**P**	**20 09 41.4**	**-0.6**
NB2	**NORSAR Subarra**	**81.24 337**	P	**P**	**20 09 41.5**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=47,slow=5.1					
NB2	**NORSAR Subarra**	**81.24 337**	P	**P**	**20 09 41.5**	**-0.7**
	baz=47,slow=5.1					
NOA	**NORSAR Array B**	**81.24 337**	P	**P**	**20 09 42.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=54,slow=6.6,SNR=15					
GAZ	**Gaziantep**	**82.22 308**	P	**P**	**20 09 48.2**	**+0.4**
BNN	**Bunyan**	**82.30 310**	P	**P**	**20 09 48.9**	**+0.6**
LVV	**L'vov**	**83.23 324**	*eP*	**P**	**20 09 51.3**	**-1.2**
BR131	**Keskin Array S**	**83.31 312**	P	**P**	**20 09 53.4**	**+0.1**
BR131			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BR131	**Keskin Array S**	**83.31 312**	P	**P**	**20 09 53.4**	**+0.1**
BR131			IAmb	IAmb	20 09 54.3	
	comp=Z,5.4nm,0.8s					
BRTR	**Keskin Array B**	**83.31 312**	P	**P**	**20 09 53.5**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=104,slow=4.0,SNR=13					
BUR08	**Bucovina Ar. S**	**83.92 322**	P	**P**	**20 09 55.7**	**-0.5**
HOMB	**Homborsund**	**84.22 336**	*eP*	**P**	**20 09 58.0**	**+0.8**
MLR	**Muntele Rosu**	**84.79 320**	P	**P**	**20 09 59.6**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=359,slow=8.9,SNR=4.6					
MLR	**Muntele Rosu**	**84.79 320**	IAmb	IAmb	20 10 18.2	
	comp=Z,4.5nm,1.3s					
DPC	**Dobruska-Polom**	**86.69 328**	*eP*	**P**	**20 10 09.6**	**0.0**
DPC	**Dobruska-Polom**	**86.69 328**	*eP*	**P**	**20 10 09.6**	**0.0**
PV14	**Lion Creek, Pa**	**87.28 47**	P	**P**	**20 10 11.8**	**-1.1**
CKRC	**Cesky Krumlov**	**88.69 327**	*eP*	**P**	**20 10 18.6**	**-0.4**
KHC	**Kasperske Hory**	**88.82 328**	P	**P**	**20 10 18.7**	**-0.9**
KHC			pmax	pmax		
	comp=Z,2.0nm,0.6s					
KHC	**Kasperske Hory**	**88.82 328**	*eP*	**P**	**20 10 19.2**	**-0.4**
KHC	**Kasperske Hory**	**88.82 328**	P	**P**	**20 10 18.6**	**-0.9**
KHC			IAmb	IAmb	20 10 20.2	
	comp=Z,1.7nm,0.6s					
GERES	**GERESS Array B**	**88.96 328**	P	**P**	**20 10 19.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=43,slow=5.3,SNR=12					
EKA	**Eskdalemuir Ar**	**90.40 340**	P	**P**	**20 10 26.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=69,slow=2.4,SNR=7.2					
DAVOX	**Davos/Dischmat**	**92.23 328**	P	**P**	**20 10 35.1**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=55,slow=6.8,SNR=5.4					
TORD	**Torodi Ar. Bea**	**121.89 310**	PKP	**PKPdf**	**20 16 17.0**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=22,slow=2.5,SNR=13					
SRBA	**San Rafael, Bu**	**123.73 54**		PKPpre	20 16 11.0	
DRK0	**Durika**	**123.79 54**		PKPpre	20 16 11.7	

*TUL **21** 20:07:02±1.1, 36°28N±0°01×97°64W±0°02, h4km±5km, ML2.8, mb_Lg3.0/75(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=67.0*

NEIC 21 20:07:02.1±1.2, 36°28N±0°01×97°64W±0°02, h5km±6km, Error ellipse: s-maj=2.0km s-min=1.6km az=63.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.35**	**309**		Pg	20 07 09.2	+0.2
CROK				Sg	Sg	20 07 14.3	+0.6
OK029	**Liberty Lake**	**0.51**	**163**		Pg	20 07 12.2	+0.2
OK029				Sg	Sg	20 07 19.2	+0.7
BLOK	**Blackwell**	**0.59**	**36**	Pg	Pg	20 07 13.7	+0.3
BLOK				Sg	Sg	20 07 22.0	+0.9
GC02	**Grant County #**	**0.59**	**343**		Pg	20 07 13.6	0.0
GC02				Sg	Sg	20 07 22.0	+0.7
BCOK	**Bluff Creek, N**	**0.62**	**178**	Pg	Pg	20 07 14.1	0.0
BCOK				Sg	Sg	20 07 22.7	+0.5
OK032	**Salt Plains WL**	**0.69**	**319**		Pg	20 07 15.3	-0.1
OK032				Sg	Sg	20 07 24.8	+0.3
OK031	**S. Brethren Rd**	**0.73**	**117**		Pg	20 07 16.3	+0.1
OK031				Sg	Sg	20 07 26.1	+0.5
KAN13	**South Haven SW**	**0.74**	**10**		Pg	20 07 16.4	0.0
KAN13				Sg	Sg	20 07 26.7	+0.6
OK025	**Westminster Rd**	**0.74**	**160**		Pg	20 07 16.5	+0.1
OK025				Sg	Sg	20 07 26.6	+0.6
QUOK	**Quay**	**0.76**	**98**		Pg	20 07 16.9	+0.1
QUOK				Sg	Sg	20 07 26.9	+0.2
KAN17	**Caldwell West**	**0.77**	**353**		Pg	20 07 16.9	0.0
KAN05	**Bluff City Nor**	**0.84**	**347**		Pg	20 07 18.2	-0.2
KAN05				Sg	Sb	20 07 30.8	-0.2
OKCSW	**OKLAHOMA CITY**	**0.89**	**169**		Pg	20 07 19.1	-0.2
OKCSW				Sg	Sg	20 07 31.4	+0.6
KAN10	**Anthony SW Sta**	**0.92**	**337**		Pg	20 07 19.3	-0.4
KAN10				Sg	Sg	20 07 31.7	+0.1
KS20	**Mayfield South**	**0.95**	**4**		Pg	20 07 20.1	-0.3
KS20				Sg	Sb	20 07 33.5	-0.4
KAN08	**Anthony NE Sta**	**0.98**	**344**		Pg	20 07 20.7	-0.2
KAN08				Sg	Sb	20 07 34.3	-0.5
FNO	**Franklin**	**1.04**	**169**	Pg	Pg	20 07 21.8	-0.3
FNO				IAmb_Lg		20 07 36.1	
	comp=Z,133nm,0.9s						
FNO				Sg	Sb	20 07 36.4	-0.3
KAN12	**Harper NE Stat**	**1.05**	**344**		Pg	20 07 22.0	-0.4
KAN12				Sg	Sg	20 07 36.4	+0.4
U32A	**Winter Ranch,**	**1.10**	**275**		Pg	20 07 22.7	-0.6
U32A				Sg	Sb	20 07 38.0	-0.4
T35A	**Sooner Cattle**	**1.11**	**55**		Pg	20 07 23.2	-0.2
T35A				Sg	Sg	20 07 37.8	+0.1
X34A	**Smith Ranch, M**	**1.69**	**185**		Pb	20 07 33.2	-0.5
X34A				Sg	Sg	20 07 56.6	+0.3
WMOK	**Wichita Mounta**	**1.80**	**211**		Pn	20 07 33.8	0.0
WMOK				Sg	Sb	20 07 58.5	0.0
WMOK				IAmb_Lg		20 08 02.3	
	comp=Z,63nm,0.9s						
R32A	**Long Quarter,**	**2.30**	**339**		Pn	20 07 40.1	-0.6
LOOK	**Love County**	**2.32**	**170**		Pn	20 07 40.7	-0.2
X37A	**Clayton**	**2.51**	**132**		Pn	20 07 44.5	+0.9
U38A	**Gravette**	**2.63**	**86**		Pn	20 07 46.2	+0.9
KSU1	**Kansas State U**	**2.93**	**16**		Pn	20 07 49.3	-0.1
Z35A	**Perchaven, San**	**2.96**	**174**	Pn	Pn	20 07 51.2	+1.4
HHAR	**Hobbs**	**2.99**	**89**	Pn	Pn	20 07 50.6	+0.4
CBKS	**Cedar Bluff**	**3.03**	**327**		Pn	20 07 50.7	-0.1
W39A	**Magazine**	**3.32**	**108**		Pn	20 07 55.0	+0.3
W39A				IAmb_Lg		20 08 55.2	
	comp=Z,42nm,0.8s						
AMTX	**Amarillo**	**3.58**	**248**		Pn	20 07 58.9	+0.6
AMTX				IAmb_Lg		20 09 03.8	
	comp=Z,24nm,0.8s						
Z38A	**Mt. Pleasant**	**3.73**	**143**		Pn	20 08 00.1	-0.2
MIAR	**Mount Ida**	**3.75**	**116**	Pn	Pn	20 08 01.2	+0.6
MIAR				IAmb_Lg		20 09 09.5	
	comp=Z,30nm,1.0s						
U40A	**Yellville**	**3.87**	**87**		Pn	20 08 02.1	-0.2
U40A				IAmb_Lg		20 09 04.0	
	comp=Z,22nm,0.7s						
ABTX	**Abilene, Hawle**	**4.01**	**205**		Pn	20 08 05.2	+1.0
ABTX				IAmb_Lg		20 09 15.5	
	comp=Z,22nm,1.0s						
WHTX	**Lake Whitney,**	**4.28**	**178**	Pn	Pn	20 08 07.4	-0.6
X40A	**Basin Creek Fa**	**4.32**	**113**		Pn	20 08 09.1	+0.7
MGMO	**Mountain Grove**	**4.40**	**77**	Pn	Pn	20 08 10.6	+1.0
MGMO				IAmb_Lg		20 09 31.1	
	comp=Z,23nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.49**	**93**	Pn	Pn	20 08 10.8	+0.1
WLAR	**White Oak Lake**	**4.53**	**124**	Pn	Pn	20 08 11.2	-0.2
WLAR				IAmb_Lg		20 09 37.5	
	comp=Z,29nm,0.9s						
P38A	**Dawn**	**4.66**	**43**		Pn	20 08 12.9	-0.2
P38A				IAmb_Lg		20 09 32.9	
	comp=Z,23nm,0.7s						
R40A	**Maddies Statio**	**4.73**	**63**		Pn	20 08 14.5	+0.4
R40A				IAmb_Lg		20 09 28.8	
	comp=Z,18nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.80**	**306**	Pn	Pn	20 08 16.0	+0.8
N35A	**Tabor**	**4.83**	**18**	IAmb_Lg		20 09 42.7	
	comp=Z,39nm,0.8s						
BGNE	**Belgrade**	**5.13**	**356**	IAmb_Lg		20 09 59.0	
	comp=Z,34nm,0.8s						
LCAR	**Lake Charles**	**5.25**	**90**	Pn	Pn	20 08 21.7	+0.4
CCAR	**Cane Creek**	**5.36**	**114**	IAmb_Lg		20 10 00.1	
	comp=Z,26nm,0.9s						
CCM	**Cathedral Cave**	**5.41**	**69**	Pn	Pn	20 08 21.9	-1.5
CCM				IAmb_Lg		20 09 57.7	
	comp=Z,20nm,0.7s						
P40A	**Paris**	**5.48**	**52**	Pn	Pn	20 08 22.3	-2.2
P40A				IAmb_Lg		20 10 00.7	
	comp=Z,25nm,1.0s						
435B	**Jarrell**	**5.49**	**179**	IAmb_Lg		20 09 58.3	
	comp=Z,16nm,0.8s						
T25A	**Trinidad**	**5.50**	**281**		Pn	20 08 24.8	-0.1
N38A	**Joes South For**	**5.67**	**36**	Pn	Pn	20 08 24.8	-2.3
L34A	**Svendsen Farm,**	**5.76**	**9**	IAmb_Lg		20 10 15.5	
	comp=Z,34nm,0.9s						
OGNE	**Ogallala**	**5.79**	**325**	Pn	Pn	20 08 27.9	-0.8
OGNE				IAmb_Lg		20 10 15.9	
	comp=Z,32nm,0.9s						
PBMO	**Poplar Bluff**	**5.83**	**83**	IAmb_Lg		20 10 09.2	
	comp=Z,29nm,0.9s						
JCT	**Junction City**	**6.06**	**198**	IAmb_Lg		20 10 23.7	
	comp=Z,19nm,0.7s						
SLM	**Saint Louis**	**6.34**	**66**	IAmb_Lg		20 10 23.2	
	comp=Z,28nm,0.7s						
S44A	**Carbondale**	**6.86**	**76**	IAmb_Lg		20 10 41.5	
	comp=Z,12nm,0.7s						
SIUC	**Southern Illin**	**6.89**	**76**	IAmb_Lg		20 10 50.0	
	comp=Z,13nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.24**	**60**	IAmb_Lg		20 11 12.2	
	comp=Z,16nm,0.8s						
L40A	**Anamosa**	**7.63**	**39**	IAmb_Lg		20 11 05.6	
	comp=Z,15nm,0.7s						
HDIL	**Hopedale**	**7.82**	**54**	IAmb_Lg		20 11 23.9	
	comp=Z,24nm,0.7s						
PHWY	**Pilot Hill**	**7.89**	**312**	IAmb_Lg		20 11 20.1	
	comp=Z,8.8nm,0.8s						
WVT	**Waverly**	**7.93**	**88**	IAmb_Lg		20 11 17.1	
	comp=Z,19nm,0.8s						
L42A	**Oliver, Polo**	**8.43**	**45**	IAmb_Lg		20 11 42.0	
	comp=Z,15nm,0.8s						
T47A	**Sharon Grove**	**8.50**	**82**	IAmb_Lg		20 11 51.2	
	comp=Z,15nm,0.9s						
JFWS	**Jewell Farm**	**8.74**	**38**	IAmb_Lg		20 11 53.2	
	comp=Z,12nm,0.8s						
V48A	**Smith Brothers**	**8.79**	**90**	IAmb_Lg		20 11 39.9	
	comp=Z,8.1nm,0.9s						
X48A	**Hartselle**	**8.85**	**99**	IAmb_Lg		20 11 42.8	
	comp=Z,8.6nm,1.0s						
SFIN	**Lafayette**	**9.24**	**61**	IAmb_Lg		20 11 50.2	
	comp=Z,13nm,0.9s						
WCI	**Wyandotte Cave**	**9.26**	**74**	IAmb_Lg		20 12 11.3	
	comp=Z,12nm,1.1s						
I40A	**Norwalk**	**9.31**	**33**	IAmb_Lg		20 12 02.1	
	comp=Z,10nm,1.0s						
K22A	**Casper**	**9.36**	**316**	IAmb_Lg		20 12 15.0	
	comp=Z,15nm,1.1s						
K43A	**Burlington**	**9.63**	**45**	IAmb_Lg		20 12 35.8	
	comp=Z,13nm,0.8s						

*IDC **21** 20:13:51.8±4.1, 14°02N×90°79W, h0km, mb3.6/2, mb1 4.0/4, mb1mx3.6/49, mbtmp3.7/4, ML3.4/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=206.3km s-min=30.1km az=40.0*

*GCG **21** 20:13:58.8±0.4, 13°77N×91°45W, h12km±999km, MD4.2*

*SNET **21** 20:13:58.6±1.2, 13°70N×91°32W, h10km, ML3.6*

*UCR **21** 20:13:58.8±1.1, 13°70N×91°31W, h10km, ML3.6*

ISC 21 20:13:56.0±2.6, 13°7N±0°1×91°47W±0°08, h13km±14km, n33, σ1°13/37, MS3.3/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.99**	**38**	*eP*	**Pb**	**20 14 15.7**	**+0.4**
PCG	**Pacaya**	**1.11**	**49**	*eP*	**Pn**	**20 14 18.0**	**+0.4**
NBG	**Las Nubes**	**1.43**	**50**	*eP*	**Pg**	**20 14 23.5**	**-0.1**
NBG				*e*S	**Sn**	**20 14 42.5**	**+1.8**
SLOZ	**Alcaldia de Sa**	**1.68**	**77**	*eP*	**Pn**	**20 14 25.6**	**+0.4**
SLOZ				*e*S	**Sb**	**20 14 46.7**	**-1.2**
SLOZ				IAML		20 14 57.3	
	comp=Z,944nm,0.4s						
RTR	**El Retiro**	**1.79**	**82**	*eP*	**Pn**	**20 14 27.0**	**+0.2**
RTR	**El Retiro**	**1.79**	**82**	*eP*	**Pn**	**20 14 27.0**	**+0.2**
MTO3	**Montecristo**	**2.18**	**70**	*eP*	**Pn**	**20 14 32.7**	**+0.5**
MTO3				*e*S	**Sb**	**20 15 00.2**	**-2.2**
MTO3	**Montecristo**	**2.18**	**70**	*eP*	**Pn**	**20 14 32.7**	**+0.5**
MTO3				*e*S	**Sb**	**20 15 00.2**	**-2.2**
ESQI	**Esquipulas**	**2.25**	**66**	*eP*	**Pn**	**20 14 34.9**	**+1.8**
ESQI				IAML		20 15 09.3	
	comp=Z,446nm,0.6s						
LFRS	**El Faro**	**2.34**	**91**	*eP*	**Pn**	**20 14 34.8**	**+0.5**
LFRS	**El Faro**	**2.34**	**91**	*eP*	**Pn**	**20 14 34.8**	**+0.5**
LBRS	**Las Brisas**	**2.36**	**88**	*eP*	**Pn**	**20 14 35.5**	**+1.0**
LBRS	**Las Brisas**	**2.36**	**88**	*eP*	**Pn**	**20 14 35.5**	**+1.0**
SJTE	**Alcalda de S**	**2.40**	**91**	*eP*	**Pn**	**20 14 36.2**	**+1.2**
SJTE				*e*S	**Sn**	**20 15 04.4**	**+0.1**
SJTE	**Alcalda de S**	**2.40**	**91**	*eP*	**Pn**	**20 14 36.2**	**+1.2**
SJTE				*e*S	**Sn**	**20 15 04.4**	**+0.1**
PAVA	**Las Pavas**	**2.46**	**88**	*eP*	**Pn**	**20 14 36.9**	**+0.9**
PAVA	**Las Pavas**	**2.46**	**88**	*eP*	**Pn**	**20 14 36.9**	**+0.9**
COEG	**Centro de Oper**	**2.52**	**91**	*eP*	**Pn**	**20 14 37.8**	**+1.0**
COEG				*e*S	**Sn**	**20 15 08.5**	**+1.1**
COEG	**Centro de Oper**	**2.52**	**91**	*eP*	**Pn**	**20 14 37.8**	**+1.0**
COEG				*e*S	**Sn**	**20 15 08.5**	**+1.1**
COEB	**Comit de Eme**	**2.86**	**93**	*eP*	**Pn**	**20 14 42.2**	**+0.7**
COEB				*e*S	**Sn**	**20 15 17.4**	**+1.4**
COEB	**Comit de Eme**	**2.86**	**93**	*eP*	**Pn**	**20 14 42.2**	**+0.7**
COEB				*e*S	**Sn**	**20 15 17.4**	**+1.4**
LCND	**La Caada**	**3.50**	**95**	*eP*	**Pn**	**20 14 51.3**	**+1.1**
LCND	**La Caada**	**3.50**	**95**	*eP*	**Pn**	**20 14 51.3**	**+1.1**
CNCH	**Conchagua**	**3.56**	**96**	*eP*	**Pn**	**20 14 51.5**	**+0.4**
CNCH	**Conchagua**	**3.56**	**96**	*eP*	**Pn**	**20 14 51.5**	**+0.4**
JTS	**Las Juntas de**	**7.20**	**117**	Pn	Pn	20 15 35.0	-6.1
	comp=Z,0.7nm,0.3s,baz=298,slow=15,SNR=1.2						
JTS				Lg	Lg	20 17 24.3	
	comp=Z,1.9nm,0.3s,baz=319,slow=20,SNR=1.7						
TXAR	**Lajitas Array**	**19.26**	**326**	P	**P**	**20 18 20.8**	**+0.3**
	baz=156,slow=12,SNR=8.9						
TKL	**Tuckaleechee C**	**22.98**	**16**	LR	LR	20 28 41.5	
	comp=Z,41nm,19.9s,baz=154,slow=40						
SADO	**Sadowa**	**32.74**	**16**	LR	LR	20 34 37.1	
	comp=Z,53nm,18.4s,baz=147,slow=39						
SCHQ	**Schefferville**	**45.36**	**20**	LR	LR	20 41 56.3	
	comp=Z,38nm,18.7s,baz=56,slow=38						
ILAR	**Eielson Array**	**63.35**	**337**	P	P	20 24 21.6	-3.1
	comp=Z,0.3nm,0.4s,baz=123,slow=5.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**89.96**	**77**	P	P	20 26 49.5	-6.4
	comp=Z,0.5nm,0.9s,baz=298,slow=6.2,SNR=1.6						
CMAR	**Chiang Mai Arr**	**146.47**	**342**	PKPbc	**PKPdf**	**20 33 34.5**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.9,SNR=4.5						

IDC 21 20:14:32.2±59.0, 19°58S×178°33W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/29, mbtmp3.6/3, Error ellipse: s-maj=1075.0km s-min=165.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.91**	**243**	P	P	20 21 51.1	-0.3
	2.0nm,0.9s,baz=84,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**44.42**	**261**	P	P	20 22 45.6	+0.4
	0.1nm,0.2s,baz=96,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**44.43**	**256**	P	P	20 22 44.6	-0.6
	0.3nm,0.5s,baz=93,slow=7.9,SNR=6.8						

*NEIC **21** 20:17:56.6±2.0, 41°02N±0°05×112°76W±0°06, h0km±2km, ML2.0/42, Error ellipse: s-maj=8.3km s-min=7.3km az=35.0*

*IDC **21** 20:17:56.4±1.0, 41°36N×113°03W, h0km, mb1 2.7/2, mb1mx2.7/56, mbtmp2.2/2, Error ellipse: s-maj=53.7km s-min=5.5km az=155.0*

ISC 21 20:17:56.2±1.0, 41°04N±0°03×112°81W±0°03, h0km, n29, σ1°08/29, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.20**	**236**		**Pg**	**20 18 00.3**	**+0.3**
BGU				IAML		20 18 09.1	
	comp=E,193nm,0.5s						
SPUT	**South Promonto**	**0.38**	**45**		**Pg**	**20 18 03.4**	**-0.1**
SPUT				IAML		20 18 15.6	
	comp=N,79nm,0.4s						
DUG	**Dugway, Tooele**	**0.84**	**180**		**Pb**	**20 18 14.2**	**+0.5**
DUG				IAML		20 18 29.9	
	comp=N,31nm,0.5s						
DUG				IAML		20 18 34.7	
	comp=N,51nm,0.5s						
CTU	**Camp Tracy**	**0.87**	**113**		**Pb**	**20 18 14.9**	**+0.6**
CTU				IAML		20 18 31.8	
	comp=N,33nm,0.5s						
CTU				IAML		20 18 32.5	
	comp=E,28nm,0.6s						
HWUT	**Hardware Ranch**	**1.10**	**58**		**Pg**	**20 18 16.8**	**-0.4**
NLU	**North Lily Min**	**1.22**	**152**		**Pn**	**20 18 20.7**	**0.0**
MPU	**Maple Canyon**	**1.36**	**138**	Pn	**Pg**	**20 18 21.8**	**-0.4**
ELK	**Elko**	**1.86**	**262**	Pg	**Pn**	**20 18 28.7**	**-0.9**
	comp=E,2.0nm,0.3s,baz=74,slow=11,SNR=7.7						
ELK				Lg	Lg	20 18 53.2	
	comp=E,2.5nm,0.3s,baz=184,slow=22,SNR=7.8						
ELK	**Elko**	**1.86**	**262**		**Pn**	**20 18 28.7**	**-0.9**
ELK				IAML		20 19 42.2	
	comp=E,27nm,0.3s						
TMUT	**Trail Mountain**	**2.13**	**144**		**Pn**	**20 18 32.2**	**-1.1**
TMUT				IAML		20 19 14.6	
	comp=N,9.6nm,0.7s						
TMUT				IAML		20 19 16.2	
	comp=E,12nm,0.6s						
P17A	**Butcher Ranch,**	**2.23**	**134**	Pn	**Pn**	**20 18 33.2**	**-1.3**
TCRU	**Three Creeks R**	**2.44**	**173**		**Pn**	**20 18 35.0**	**-2.5**
TCRU				IAML		20 19 01.1	
	comp=E,13nm,0.4s						
MSU	**Marysvale**	**2.57**	**169**	Pn	**Pn**	**20 18 39.5**	**+0.2**
MVU	**Marysvale**	**2.57**	**169**	Pn	**Pn**	**20 18 39.5**	**+0.1**
SRU	**San Rafael Swe**	**2.60**	**137**	Pn	**Pn**	**20 18 40.8**	**+1.1**
SRU				IAML		20 19 25.0	
	comp=N,3.8nm,0.7s						
SRU				IAML		20 19 43.8	
	comp=E,3.5nm,2.1s						
PSUT	**Pine Spring**	**2.63**	**198**	Pn	**Pn**	**20 18 40.3**	**+0.2**
PSUT				IAML		20 19 25.1	
	comp=N,4.0nm,0.9s						
PSUT				IAML		20 20 10.3	
	comp=E,5.7nm,0.6s						
REDW	**Red Top Meadow**	**2.74**	**31**	Pn	**Pn**	**20 18 41.6**	**-0.1**
REDW				IAML		20 19 31.0	
	comp=E,6.3nm,0.5s						
REDW				IAML		20 19 31.7	
	comp=E,6.7nm,0.5s						
BW06	**Boulder Array**	**2.98**	**53**		**Pn**	**20 18 45.2**	**+0.2**
BW06				IAML		20 19 29.2	
	comp=E,2.8nm,4.0s						
BW06				IAML		20 19 33.6	
	comp=E,3.4nm,0.5s						
PD31	**Pinedale Array**	**2.98**	**53**		**Pn**	**20 18 44.8**	**-0.2**
PDAR	**Pinedale Array**	**2.98**	**53**	P

KSP eSg **Sb** **20 35 54.7 -0.4**
CHVC Chvalec 1.63 291 ePG **Pn** **20 35 33.6 -0.3**
CHVC eSG **Sn** **20 35 55.2 -0.5**
UPC Upice 1.64 288 ePG **Pn** **20 35 34.0 +0.1**
UPC eSG **Sb** **20 35 55.8 -0.3**
comp=Z,45nm,0.5s
KRUC Moravsky 1.66 235 ePn **Pn** **20 35 34.1 -0.1**
baz=52
KRUC eSg **Sb** **20 35 56.6 -0.2**
23nm,0.4s,baz=52
KRUC Moravsky 1.66 235 ePN **Pn** **20 35 34.1 -0.1**
KRUC eSG **Sb** **20 35 56.7 -0.1**
SMOL Smolenice 1.67 204 ePN **Pn** **20 35 33.7 -0.7**
SMOL eSN **Sg** **20 35 57.9 +0.5**
MODS Modra-Piesok 1.84 205 ePN **Pb** **20 35 38.0 -0.4**
MODS eSN **Sb** **20 36 01.5 -0.4**
MODS eLG Lg 20 36 12.7
STHS Stebnicka Huta 1.91 108 ePN **Pg** **20 35 40.1 -0.5**
STHS eSN **Sg** **20 36 07.8 +2.4**
ZST Bratislava 2.05 206 ePN **Pn** **20 35 39.3 -0.3**
ZST eSN **Sn** **20 36 04.7 -1.1**
ZST eLG Lg 20 36 07.0
KECS Kecovo 2.05 139 eSN **Sg** **20 36 09.3 -0.4**
TREC Trest 2.07 250 ePG **Pn** **20 35 40.4 +0.5**
TREC eSG **Sb** **20 36 08.7 +0.2**
comp=Z,25nm,0.5s
CRVS Cervenica-Dubn 2.27 119 ePN **Pb** **20 35 46.1 +0.4**
CRVS eSN **Sg** **20 36 16.6 -0.1**
PSZ Piszkesteto 2.33 155 eP **Pn** **20 35 43.3 -0.2**
PRU Pruhonice 2.52 270 ePG **Pb** **20 35 49.1 -1.0**
PRU eSG **Sb** **20 36 22.0 +0.4**
comp=Z,20nm,0.7s
PVCC Panska Ves 2.54 283 ePG **Pb** **20 35 50.4 +0.1**
PVCC eSG **Sg** **20 36 24.7 -0.7**
comp=Z,41nm,0.6s
CONA Conrad Observa 2.72 220 ePn **Pn** **20 35 48.3 -0.6**
1.8nm,0.3s
KOLS Kolonicke sedl 2.73 113 ePG **Pg** **20 35 56.8 +0.7**
MPLH Magyarpolny 2.94 192 eP **Pn** **20 35 50.6 -1.2**
CKRC Cesky Krumlov 2.97 247 ePN **Pn** **20 35 52.5 +0.2**
CKRC ePG **Pb** **20 35 58.4 +0.8**
CKRC eSG **Sb** **20 36 36.2 +1.8**
comp=Z,16nm,0.6s
BRG Berggiesshubel 3.00 288 Pg **Pb** **20 35 59.4 +1.2**
BRG Sg **Sb** **20 36 37.5 +2.1**
BRG Amp 20 36 45.1
comp=Z,16nm,0.7s
KHC Kasperske Hory 3.30 256 ePN **Pn** **20 35 56.0 -0.8**
KHC ePG **Pb** **20 36 04.3 +1.0**
KHC eSG **Sb** **20 36 46.5 +2.5**
comp=Z,17nm,0.6s
ARSA Arzberg 3.40 216 ePn **Pn** **20 35 58.5 +0.3**
comp=Z,1.7nm,0.3s
CLL Collm 3.69 292 ePg **Pg** **20 36 14.0 -0.6**
CLL eSg **Sb** **20 36 58.0 +2.8**
comp=Z,9.0nm,0.7s
MORH Mrgy, Hungar 3.83 178 eP **Pn** **20 36 03.9 -0.1**

IDC 21 21:06:37.1±6.0, 7°41S×129°43E, h84km±78km, mb3.1/1, mb1 3.1/4, mb1mx3.0/28, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=121.6km s-min=21.1km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.75**	**16**	P	Pn	21 08 15.0	+1.5
	0.5nm,0.3s,baz=195,slow=20,SNR=7.4						
SIJI				S	Sn	21 09 28.4	-0.6
	0.4nm,0.3s,baz=187,slow=22,SNR=1.0						
WRA	**Warramunga Arr**	**13.34**	**160**	P	Pn	21 09 41.1	-2.0
	0.1nm,0.3s,baz=340,slow=13,SNR=10						
WRA				S	Sn	21 12 01.2	-8.6
	0.3nm,0.3s,baz=340,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.73**	**166**	P	P	21 10 28.2	+0.9
	0.1nm,0.3s,baz=351,slow=13,SNR=2.0						
ASAR				S	Sn	21 13 22.2	-10
	0.1nm,0.3s,baz=78,slow=23,SNR=1.7						
MKAR	**Makanchi Array**	**68.26**	**327**	P	P	21 17 29.0	-0.1
	0.4nm,1.0s,baz=132,slow=8.0,SNR=2.8						

*IDC **21** 21:23:25.7±0.9, 14°.01N×58°.44W, h0km, mb3.6/12, mb1 4.0/14, mb1mx3.8/44, mbtmp3.7/14, ML4.1/2, MS3.1/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=23.1km s-min=20.3km az=174.0*
*NEIC **21** 21:23:27.3±1.2, 13°.92N±0°.06×58°.46W±0°.08, h10km±2km, mb4.3/7, Error ellipse: s-maj=13.6km s-min=10.3km az=101.0*
*TRN **21** 21:23:29.4, 13°.95N×58°.67W, h94km, MD4.2*
ISC 21 21:23:28.2±1.4, 13°.96N±0°.03×58°.55W±0°.06, h18km±6km, n96, σ1§50/108, mb3.7/13, MS3.3/4, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.23**	**226**	eP	**Pg**	**21 23 51.3**	**-0.6**
BBSP				eS	**Sb**	**21 24 07.9**	**+1.5**
BBGH	**Gun Hill**	**1.27**	**231**	eP	**Pg**	**21 23 52.4**	**-0.4**
BBGH				eS	**Sn**	**21 24 10.0**	**+2.2**
BBGH	**Gun Hill**	**1.27**	**231**	Pn	**Pg**	**21 23 52.6**	**-0.3**
BBGH				Sn	**Sb**	**21 24 08.7**	**+1.0**
BCHC	**Barbados, Cave**	**1.33**	**232**	eP	**Pg**	**21 23 53.7**	**-0.3**
MPOM	**Morne Pois Mar**	**2.29**	**282**	eP	**Pn**	**21 24 05.3**	**+0.1**
SLW	**Petit Monier**	**2.32**	**272**	eP	**Pn**	**21 24 05.6**	**0.0**
SLW				eS	**Sn**	**21 24 32.8**	**-1.0**
MCLT	**Moule a Chique**	**2.34**	**264**	eP	**Pn**	**21 24 04.9**	**-0.9**
MCLT				eS	**Sn**	**21 24 33.7**	**-0.3**
MCLT	**Moule a Chique**	**2.34**	**264**	Pn	**Pn**	**21 24 03.3**	**-2.5**
MVM	**Montagne Vaucl**	**2.35**	**285**	eP	**Pn**	**21 24 06.1**	**+0.1**
SLBI	**Saint Lucia, B**	**2.36**	**272**	eP	**Pn**	**21 24 05.4**	**-0.6**
SLBI				eS	**Sn**	**21 24 33.1**	**-1.3**
SLCP	**Castries, St.**	**2.37**	**272**	eS	**Sn**	**21 24 33.6**	**-1.3**
ILAM	**Ilet Lapin Mar**	**2.40**	**290**	eP	**Pn**	**21 24 06.8**	**+0.2**
LPMF	**Morne Lapointe**	**2.42**	**285**	eP	**Pn**	**21 24 06.9**	**0.0**
SLB	**Belfond**	**2.42**	**267**	eP	**Pn**	**21 24 06.3**	**-0.8**
SLB				eS	**Sn**	**21 24 34.5**	**-1.8**
ZAM	**Aeronautique**	**2.48**	**285**	eP	**Pn**	**21 24 07.9**	**+0.2**
TRMF	**Trois Ilets**	**2.50**	**284**	eP	**Pn**	**21 24 08.1**	**+0.1**
BIM	**Bigot**	**2.51**	**283**	eP	**Pn**	**21 24 08.1**	**-0.1**
FDF	**Fort de France**	**2.64**	**287**	eP	**Pn**	**21 24 09.8**	**-0.1**
FDF				eS	**Sn**	**21 24 39.9**	**-1.7**
FDF	**Fort de France**	**2.64**	**287**		**Pn**	**21 24 09.9**	**0.0**
SSV	**Crater Summit**	**2.65**	**257**	eP	**Pn**	**21 24 09.8**	**-0.3**
BAMF	**Morne Balai**	**2.66**	**289**	eP	**Pn**	**21 24 10.8**	**+0.5**
GBMF	**Grand Be**	**2.67**	**289**	eP	**Pn**	**21 24 10.8**	**+0.4**
SVV	**Soufriere Volc**	**2.67**	**257**	eP	**Pn**	**21 24 09.9**	**-0.5**
CXM	**Morne La Croix**	**2.68**	**289**	eP	**Pn**	**21 24 10.9**	**+0.3**
PML	**Morne Lenard**	**2.68**	**288**	eP	**Pn**	**21 24 11.1**	**+0.5**
SVN	**Savane Anatole**	**2.69**	**289**	eP	**Pn**	**21 24 11.3**	**+0.7**
SVB	**Belmont**	**2.72**	**256**	eP	**Pn**	**21 24 10.8**	**-0.2**
SVB				eS	**Sn**	**21 24 41.2**	**-2.2**
SVB	**Belmont**	**2.72**	**256**		**Pn**	**21 24 10.9**	**-0.1**
PCM	**Pelee Case Pet**	**2.72**	**289**	eP	**Pn**	**21 24 11.7**	**+0.7**
DLPL	**La Plaine**	**2.95**	**298**	eP	**Pn**	**21 24 14.1**	**-0.1**
DLPL	**La Plaine**	**2.95**	**298**	e	**Pg**	**21 24 26.3**	**+1.5**
DLPL				eS	**Sn**	**21 24 47.1**	**-2.1**
DLPL	**La Plaine**	**2.95**	**298**	Pn	**Pn**	**21 24 15.7**	**+1.5**
DSLB	**Salisbury**	**3.15**	**298**	eP	**Pn**	**21 24 16.9**	**0.0**
DSLB	**Salisbury**	**3.15**	**298**	e	**Pg**	**21 24 28.4**	**-0.1**
DSLB				eS	**Sn**	**21 24 52.4**	**-1.7**
GCMP	**Grenada, Carri**	**3.16**	**243**	eP	**Pn**	**21 24 17.2**	**0.0**
GCMP				eS	**Sn**	**21 24 51.8**	**-2.7**
TOSP	**Speyside**	**3.28**	**216**	eP	**Pn**	**21 24 19.4**	**+0.6**
TOSP	**Speyside**	**3.28**	**216**	e	**Pg**	**21 24 28.4**	**-2.7**
TOSP				eS	**Sn**	**21 24 54.7**	**-2.6**
TOSP	**Speyside**	**3.28**	**216**	Pn	**Pn**	**21 24 19.3**	**+0.6**
MAGL	**Barre de l'ile**	**3.30**	**307**	eP	**Pn**	**21 24 19.3**	**+0.2**
MAGL				eS	**Sn**	**21 24 55.8**	**-2.1**
TDBA	**Terre de Bas,**	**3.53**	**303**	eP	**Pn**	**21 24 21.9**	**-0.3**
TDBA				eS	**Sn**	**21 25 00.6**	**-2.9**
GRGR	**Grenville**	**3.53**	**239**	eP	**Pn**	**21 24 22.5**	**+0.3**
GRGR	**Grenville**	**3.53**	**239**	e	Pg	21 24 48.0	+12
GRGR	**Grenville**	**3.53**	**239**	Pn	**Pn**	**21 24 22.6**	**+0.3**
TBG	**Guadaloupe-3**	**3.54**	**303**	e	**Pn**	**21 24 22.9**	**+0.6**
CBE	**Ff, Capester**	**3.63**	**306**	eP	**Pn**	**21 24 24.1**	**+0.5**
CBE				eS	**Sn**	**21 25 03.2**	**-2.7**
ABD	**La Joyeuse, An**	**3.78**	**312**	eP	**Pn**	**21 24 25.6**	**-0.1**
ABD				eS	**Sn**	**21 25 06.8**	**-2.9**
TRN	**Trinidad (W)**	**4.31**	**221**	eP	**Pn**	**21 24 34.1**	**+1.1**
TRN				eS	**Sn**	**21 25 18.9**	**-3.9**
ANBD	**Bethesda, Anti**	**4.37**	**315**	eP	**Pn**	**21 24 33.5**	**-0.1**
ANBD	**Bethesda, Anti**	**4.37**	**315**	eS	**Sn**	**21 25 20.7**	**-3.4**
BPA	**Boggy Peak**	**4.43**	**314**	eP	**Pn**	**21 24 34.6**	**+0.1**
BPA	**Boggy Peak**	**4.43**	**314**	eS	**Sn**	**21 25 22.5**	**-3.2**
ANWB	**Willy Bob**	**4.83**	**320**	eS	**Sn**	**21 25 32.0**	**-3.5**
SKI	**Saint Kitts**	**5.25**	**310**	Pn	**Pn**	**21 24 47.5**	**+1.6**
PLCV	**Puerto La Cruz**	**7.01**	**238**		**Pn**	**21 25 11.1**	**+1.0**
PCRV	**Puerto La Cruz**	**7.04**	**238**	Pn	**Pn**	**21 25 11.1**	**+0.6**
	5.2nm,0.3s,baz=47,slow=18,SNR=16						
PCRV				Sn	Sn	21 26 22.7	-7.5
	baz=195,slow=23,SNR=0.7						
CUPR	**Culebra, Puert**	**7.78**	**305**	Pn	**Pn**	**21 25 21.6**	**+0.9**
SJG	**San Juan**	**8.39**	**300**	Pn	**Pn**	**21 25 28.8**	**-0.2**
	1.7nm,0.3s,baz=140,slow=14,SNR=4.0						
SJG	**San Juan**	**8.39**	**300**		**Pn**	**21 25 29.7**	**+0.7**
GCPR	**Guaynabo City**	**8.44**	**302**	Pn	**Pn**	**21 25 30.8**	**+1.2**
AOPR	**Arecibo Observ**	**9.01**	**300**		**Pn**	**21 25 38.5**	**+0.9**
MLPR	**Magueyes Islan**	**9.09**	**297**	Pn	**Pn**	**21 25 37.8**	**-0.8**
MDP	**Montagnes des**	**10.55**	**146**	Pn	Pn	21 25 52.0	-6.7
	1.8nm,0.3s,baz=346,slow=15,SNR=14						
MDP				Sn	Sn	21 27 39.8	-17
	5.5nm,0.3s,baz=55,slow=20,SNR=14						
MDP				LR	LR	21 30 50.0	
	comp=Z,104nm,18.5s,baz=322,slow=42						
SDDR	**Presa de Saban**	**13.20**	**294**		**Pn**	**21 26 35.3**	**+0.4**
SMLC	**San Martn de**	**16.05**	**253**	eP	**Pn**	**21 27 11.4**	**-1.9**
BARC	**Barichara**	**16.15**	**245**	eP	**P**	**21 27 19.9**	**+2.1**
RUSC	**La Rusia**	**16.40**	**242**	Pn	**Pn**	**21 27 18.3**	**+0.2**
RUSC				IAmb	IAmb	21 27 28.2	
	comp=Z,13nm,0.6s						
RUSC	**La Rusia**	**16.40**	**242**	eP	**P**	**21 27 27.4**	**+6.5**
SJCC	**San Jacinto, C**	**16.77**	**258**	Pn	**Pn**	**21 27 22.6**	**+0.3**
SJCC				IAmb	IAmb	21 27 35.1	
	comp=Z,9.0nm,0.9s						
ZARC	**Zaragoza, Cauc**	**17.26**	**250**	eP	**Pn**	**21 27 27.3**	**-1.2**
NORC	**Norcasia**	**18.11**	**244**	eP	**P**	**21 27 39.8**	**+0.4**
HELC	**Santa Helena**	**18.40**	**247**	eP	**P**	**21 27 42.2**	**-0.7**
DBBC	**Dabeiba**	**18.68**	**250**	eP	**P**	**21 27 43.9**	**-1.7**
GUY2C	**Guyana, Caldas**	**18.70**	**244**	eP	**P**	**21 27 46.0**	**-0.3**
CBOC	**Ciudad Bolivar**	**18.98**	**247**	eP	**P**	**21 27 48.4**	**-0.7**
PLMC	**San Jos del P**	**19.66**	**244**	eP	**P**	**21 27 54.9**	**-1.5**
SAML	**Samuel**	**23.22**	**192**	P	**P**	**21 28 33.8**	**-0.6**
JTS	**Las Juntas de**	**26.07**	**265**	LR	LR	21 41 23.7	
	comp=Z,13nm,19.4s,baz=216,slow=41						
LPAZ	**La Paz**	**31.51**	**198**	P	**P**	**21 29 50.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=69,slow=2.1,SNR=2.0						
TXAR	**Lajitas Array**	**44.36**	**298**	P	**P**	**21 31 38.3**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=98,slow=11,SNR=5.7						
TXAR	**Lajitas Array**	**44.36**	**298**	P	**P**	**21 31 37.9**	**+0.1**
MSTX	**Muleshoe**	**44.64**	**304**	P	**P**	**21 31 40.4**	**+0.3**
MNTX	**Cornudas Mount**	**46.25**	**301**		**P**	**21 31 53.5**	**+0.7**
MNTX				IAmb	IAmb	21 31 56.2	
	comp=Z,3.7nm,0.8s						
ULM	**Lac du Bonnet**	**47.20**	**328**	LR	LR	21 52 35.7	
	comp=Z,35nm,19.9s,baz=43,slow=37						
ANMO	**Albuquerque**	**47.84**	**305**	P	**P**	**21 32 07.0**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=169,slow=9.7,SNR=2.0						
PDAR	**Pinedale Array**	**52.27**	**314**	P	**P**	**21 32 39.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=125,slow=13,SNR=2.4						
PDAR	**Pinedale Array**	**52.27**	**314**	P	**P**	**21 32 39.5**	**+0.6**
ESDC	**Sonseca Array**	**54.08**	**51**	P	**P**	**21 32 52.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=313,slow=1.4,SNR=3.3						
PLCA	**Paso Flores**	**55.54**	**191**	P	**P**	**21 33 04.0**	**+1.6**
	comp=Z,1.6nm,1.0s,baz=302,slow=14,SNR=1.8						
NVAR	**Mina Array Bea**	**57.83**	**307**	P	**P**	**21 33 19.4**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=83,slow=14,SNR=2.8						
TORD	**Torodi Ar. Bea**	**58.43**	**83**	P	**P**	**21 33 21.0**	**-2.4**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.1,SNR=1.4						
YKA	**Yellowknife Ar**	**62.39**	**334**	P	**P**	**21 33 49.1**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=76,slow=3.3,SNR=3.9						
GERES	**GERESS Array B**	**67.95**	**43**	P	**P**	**21 34 25.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=258,slow=14,SNR=2.3						
NOA	**NORSAR Array B**	**68.11**	**29**	LR	LR	21 59 01.3	
	comp=Z,24nm,21.5s,baz=295,slow=31						
ARCES	**ARCESS Array B**	**74.94**	**21**	LR	LR	21 59 24.7	
	comp=Z,19nm,21.5s,baz=5.0,slow=29						
ILAR	**Eielson Array**	**76.78**	**334**	P	**P**	**21 35 18.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=15,slow=3.9,SNR=2.3						
BRTR	**Keskin Array B**	**82.88**	**51**	P	**P**	**21 35 53.5**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=270,slow=2.3,SNR=2.5						

*DJA **21** 21:34:49.9±1.0, 8°S±3°×11°8E±°, h13km±9km, M4.4/17, mb4.5/4, mB4.7/1, MLv4.3/17, Mw(mB)3.9/1*
*IDC **21** 21:34:55.2±4.4, 7°94S×117°87E, h63km±38km, mb3.3/4, mb1 3.6/6, mb1mx3.3/44, mbtmp3.7/6, ML4.0/3, MS2.4/1, Ms1 2.4/1, ms1mx2.3/11, Error ellipse: s-maj=33.9km s-min=14.2km az=55.0*
ISC 21 21:34:51.7±0.8, 7°94S±0°.04×117°54E±0°.04, h35km, n24, σ1§59/28, mb3.8/4, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.91**	**165**	P	**Pn**	**21 35 08.3**	**+0.2**
PLAI				S	**Sn**	**21 35 21.2**	**+1.2**
TWSI	**Taliwang, Sumb**	**1.03**	**219**	P	**Pn**	**21 35 09.4**	**-0.3**
TWSI				S	**Sn**	**21 35 23.9**	**+1.0**
SRBI	**Singaraja**	**2.31**	**266**	P	**Pn**	**21 35 26.9**	**-0.4**
DNP	**Denpasar**	**2.42**	**252**	P	**Pn**	**21 35 29.0**	**+0.1**
WBSI	**Waikabubak, Su**	**2.49**	**133**	P	**Pn**	**21 35 30.6**	**+0.8**
ABJI	**Asem Bagus**	**3.28**	**272**	P	**Pn**	**21 35 40.3**	**-0.4**
JAGI	**Jajag, Banyuwa**	**3.40**	**261**	P	**Pn**	**21 35 42.6**	**+0.3**
BSSI	**Bau Bau, Buton**	**3.43**	**59**	P	**Pn**	**21 35 42.8**	**+0.1**
KAPI	**Kappang**	**3.64**	**37**	P	**Pn**	**21 35 45.3**	**-0.3**
	30nm,0.3s,baz=228,slow=8.7,SNR=58						
KAPI				S	**Sn**	**21 36 26.9**	**-0.6**
	8.8nm,0.3s,baz=229,slow=20,SNR=8.0						
KAPI				LR	LR	21 37 10.4	
	comp=Z,57nm,19.0s,baz=186,slow=39						
BKSI	**Bulukumba**	**3.65**	**45**	P	**Pn**	**21 35 45.5**	**-0.3**
KMMI	**Kalianget**	**3.66**	**284**	P	**Pn**	**21 35 46.2**	**+0.4**
EDFI	**Ende, Flores**	**4.18**	**101**	P	**Pn**	**21 35 54.1**	**+0.9**
BNSI	**Bone**	**4.34**	**36**	P	**Pn**	**21 35 57.5**	**+2.2**
MMRI	**Maumere**	**4.70**	**99**	P	**Pn**	**21 36 00.5**	**+0.3**
KBKI	**Kotabaru**	**4.81**	**343**	P	**Pn**	**21 36 02.3**	**+0.6**
BBKI	**Banjar Baru**	**5.20**	**329**	P	**Pn**	**21 36 05.3**	**-1.8**
	0.3nm56nm,1.0s						
TTSI	**Tana Toraja**	**5.36**	**25**	P	**Pn**	**21 36 10.8**	**+1.5**
	0.3nm660nm42nm,0.7s						
BATI	**Baumata**	**6.45**	**111**	P	**Pn**	**21 36 26.5**	**+2.2**
SIJI	**Sorong**	**15.37**	**63**	P	**Pn**	**21 38 23.7**	**-2.5**
	0.4nm,0.3s,baz=198,slow=20,SNR=1.0						
WRA	**Warramunga Arr**	**20.18**	**128**	P	**P**	**21 39 23.1**	**-0.3**
	0.3nm,0.3s,baz=298,slow=12,SNR=20						
WRA				S	**S**	**21 43 02.5**	**-5.7**
	0.0nm,0.3s,baz=300,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**22.15**	**137**	P	**P**	**21 39 45.0**	**+0.3**
	3.4nm,0.7s,baz=308,slow=9.1,SNR=43						
SONM	**Songino Array**	**56.40**	**351**	P	**P**	**21 44 31.0**	**+1.3**
	0.2nm,0.3s,baz=185,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**62.87**	**334**	P	**P**	**21 45 15.2**	**+1.0**
	0.5nm,0.6s,baz=146,slow=6.2,SNR=5.9						
ZALV	**Zalesovo Beam**	**67.55**	**340**	P	**P**	**21 45 45.5**	**+1.2**
	0.3nm,0.4s,baz=146,slow=5.4,SNR=1.5						

*IDC **21** 21:42:13.7±1.5, 41°.27N×19°.56E, h0km, mb3.7/5, mb1 3.8/10, mb1mx3.5/44, mbtmp3.7/10, ML3.2/5, MS2.4/1, Ms1 2.4/1, ms1mx1.9/52, Error ellipse: s-maj=23.2km s-min=16.5km az=177.0*
*TIR **21** 21:42:16.4, 41°.49N×19°.58E, h2km±1km, Md3.2, Ml3.3*
*ATH **21** 21:42:16.4, 41°.47N×19°.48E, h10km±2km, ML3.0/9, Error ellipse: s-maj=4.9km s-min=1.8km az=15.0*
*THE **21** 21:42:17.6, 41°.51N×19°.57E, h3km±1km, ML2.9/7, Error ellipse: s-maj=2.0km s-min=0.9km az=18.0*
*SKO **21** 21:42:17.5, 41°.42N×19°.48E, h12km*
*PRU **21** 21:42:17.8±0.0, 41°.29N×19°.55E, h9km*
*PDG **21** 21:42:18.4±0.2, 41°.55N×19°.63E, h8km, MD3.5/7, ML3.4/14, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0*
*LDG **21** 21:42:18.5±0.1, 41°.51N×19°.61E, h10km, Ml3.6/9, Error ellipse: s-maj=3.3km s-min=2.0km az=35.0*
*BEO **21** 21:42:19.6±0.3, 41°.53N×19°.79E, h6km±2km, ML2.9/17*
ISC 21 21:42:17.5±0.8, 41°.49N±0°.01×19°.59E±0°.02, h19km±2km, n176, σ1§95/244, mb3.8/4, 19C-21D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.25**	**124**	ePg	**Pg**	**21 42 22.6**	**-0.6**
TIR				eSg	**Sb**	**21 42 27.0**	**+0.2**
TIR	**Tirane**	**0.25**	**124**	⇑P	**Pg**	**21 42 22.7**	**-0.6**
TIR				⇑S	**Sg**	**21 42 27.5**	**+0.3**
TIR	**Tirane**	**0.25**	**124**	P	**Pg**	**21 42 22.8**	**-0.5**
TIR				S	**Sb**	**21 42 27.0**	**+0.2**
	9μm,0.5s						
TIR	**Tirane**	**0.25**	**124**	P	**Pg**	**21 42 22.7**	**-0.5**
TIR				S	**Sb**	**21 42 26.7**	**-0.1**
TIR				AML	AML	21 42 27.8	
	comp=N,29785μm,0.5s						
TIR				AML	AML	21 42 27.8	
	comp=E,58351μm,0.4s						
TIR	**Tirane**	**0.25**	**124**	P	**Pg**	**21 42 22.7**	**-0.5**
	baz=123						
TIR				S	**Sb**	**21 42 27.1**	**+0.2**
	baz=123						
TIR				AMP			
	comp=E,45nm,0.4s,baz=123						
TIR	**Tirane**	**0.25**	**124**	*i* Pg	**Pg**	**21 42 22.7**	**-0.5**
ULC	**Ulcinj**	**0.55**	**331**	*i* Pg	**Pb**	**21 42 29.0**	**+0.5**
ULC	**Ulcinj**	**0.55**	**331**	ePg	**Pg**	**21 42 27.4**	**-1.1**
ULC				*i* Sg	**Sg**	**21 42 35.5**	**-0.4**
PUK	**Puka**	**0.60**	**22**	P	**Pb**	**21 42 29.5**	**+0.2**
	baz=23						
PHP	**Peshkopia**	**0.67**	**72**	P	**Pb**	**21 42 30.0**	**-0.5**
PHP				S	**Sg**	**21 42 40.6**	**+1.0**
PHP	**Peshkopia**	**0.67**	**72**	P	**Pb**	**21 42 29.9**	**-0.5**
	baz=73						
PHP				S	**Sn**	**21 42 41.0**	**-0.9**
	baz=73						
PHP				AMP			
	comp=N,6.7nm,0.4s,baz=73						
DRME	**Dracevica, Mon**	**0.77**	**337**	ePn	**Pn**	**21 42 33.6**	**+0.3**
DRME	**Dracevica, Mon**	**0.77**	**337**	ePg	**Pb**	**21 42 31.5**	**-0.7**
DRME				*i* Sg	**Sg**	**21 42 42.8**	**+0.1**
BCI	**Bajram Curri**	**0.95**	**22**	P	**Pb**	**21 42 35.5**	**+0.1**
	baz=22						
BCI				S	**Sn**	**21 42 50.7**	**+1.8**
	baz=22						
BCI				AMP			
	comp=E,3.9nm,0.4s,baz=22						
BUM	**Brajici-Budva**	**0.97**	**328**	ePg	**Pb**	**21 42 35.5**	**-0.2**
BUM				*i* Sg	**Sn**	**21 42 49.8**	**+0.4**
PDG	**Podgorica**	**0.98**	**345**	ePg	**Pg**	**21 42 37.3**	**+0.8**
PDG				eSg	**Sn**	**21 42 51.3**	**+1.8**
PDG	**Podgorica**	**0.98**	**345**	⇑P	**Pg**	**21 42 37.4**	**+0.8**
PDG				⇑S	**Sn**	**21 42 51.3**	**+1.8**
PDG	**Podgorica**	**0.98**	**345**	ePn	**Pg**	**21 42 38.3**	**+1.8**
TTG	**Podgorica**	**0.98**	**345**	ePg	**Pb**	**21 42 35.5**	**-0.3**
TTG				*i* Sg	**Sn**	**21 42 49.7**	**+0.2**
OHR	**Ohrid**	**0.98**	**112**	*i* Pg	**Pb**	**21 42 35.3**	**-0.7**
OHR				*i* Sg	**Sn**	**21 42 51.3**	**+1.6**
OHR				eLg	Lg	21 42 52.6	
	comp=N,564nm,0.9s						
OHR				eLg	Lg	21 42 53.2	
	comp=E,370nm,0.6s						
VLO	**Vlora**	**1.02**	**184**	P	**Pg**	**21 42 38.4**	**+1.1**
	baz=184						
VLO				S	**Sg**	**21 42 53.5**	**+2.8**
	baz=184						
VLO				AMP			
	comp=N,6.6nm,0.6s,baz=184						
PVY	**Plav**	**1.14**	**14**	ePg	**Pn**	**21 42 38.4**	**-0.2**
PVY				*i* Sg	**Sg**	**21 42 54.9**	**+0.2**
CEME	**Cevo**	**1.17**	**335**	ePg	**Pb**	**21 42 39.4**	**+0.2**
CEME				*i* Sg	**Sg**	**21 42 56.6**	**+0.9**
KBN	**Korca**	**1.25**	**133**	P	**Pg**	**21 42 42.0**	**+0.3**
	baz=133						
KBN				S	**Sg**	**21 43 00.2**	**+2.2**
	baz=133						
HCY	**Herceg Novi**	**1.26**	**320**	ePn	**Pg**	**21 42 42.3**	**+0.3**
HCY	**Herceg Novi**	**1.26**	**320**	⇓*i*Pg	**Pb**	**21 42 41.2**	**+0.5**
HCY				*i* Sg	**Sg**	**21 42 59.9**	**+1.4**
KOME	**Kolasin**	**1.36**	**358**	⇓*i*Pg	**Pb**	**21 42 42.8**	**+0.3**
KOME				*i* Sg	**Sg**	**21 43 02.6**	**+0.8**
NKME	**Niksic**	**1.37**	**340**	⇑*i*Pg	**Pb**	**21 42 43.0**	**+0.5**
NKME				*i* Sg	**Sg**	**21 43 03.0**	**+1.2**
NKY	**Niksic**	**1.40**	**342**	ePg	**Pb**	**21 42 43.6**	**+0.5**
NKY				*i* Sg	**Sg**	**21 43 04.0**	**+1.1**
IVA	**Berane**	**1.40**	**9**	ePg	**Pb**	**21 42 43.4**	**+0.2**
IVA				*i* Sg	**Sg**	**21 43 03.7**	**+0.7**
SKO	**Skopje**	**1.46**	**70**	*i* Pg	**Pg**	**21 42 45.2**	**-0.6**
SKO				*i* Sg	**Sg**	**21 43 07.5**	**+2.6**
FNA	**Florina**	**1.52**	**

KPRO AML AML 21 43 43.9
comp=E,366μm,0.9s
JAN Janina 2.06 152 P **Pb 21 42 53.4 -0.9**
JAN AML AML 21 43 35.0
comp=E,430μm,1.0s
JAN AML AML 21 43 36.3
comp=N,325μm,0.5s
SELS Selova 2.07 33 *e*Pn **Pn 21 42 53.0 +1.8**
SELS *e*Sn **Sb 21 43 18.7 -1.1**
PRVS Prvonek 2.11 60 *e*Pn **Pb 21 42 54.0 -1.2**
PRVS *e*Sn **Sn 21 43 18.2 +0.6**
BARS Barje 2.12 50 *e*Pn **Pn 21 42 52.3 +0.4**
BARS Barje 2.12 50 *i* Pn **Pn 21 42 52.5 +0.6**
IVAS Ivanjica 2.13 11 *e*Pn **Pb 21 42 54.5 -1.0**
IVAS *e*Sg **Sg 21 43 25.5 -0.6**
RUDO Rudo 2.14 356 *e*Pn **Pb 21 42 55.7 +0.1**
GRG Griva 2.18 103 ⇓*i* Pn **Pn 21 42 54.8 +2.0**
VAY Valandovo 2.25 93 *e*Pn **Pb 21 42 56.2 -1.2**
VAY *e*Sn **Sn 21 43 21.2 +0.4**
VAY Valandovo 2.25 93 *e*Pn **Pb 21 42 56.9 -0.5**
MATE Matera 2.34 250 ⇓P **Pn 21 42 56.7 +1.8**
MATE Matera 2.34 250 ⇓S **Sb 21 43 29.5 +2.0**
BOSS Bosilegrad 2.38 64 *e*Pn **Pn 21 42 57.3 +1.8**
BOSS *e*Sg **Sb 21 43 29.3 +0.7**
BBLS Lazići 2.38 357 *e*Pn **Pb 21 42 58.6 -1.2**
BBLS Lazići 2.38 357 *e*Pn **Pn 21 42 57.0 +1.4**
GRUS Gruza 2.54 19 *e*Pn **Pn 21 43 00.2 +2.5**
GRUS *e*Sn **Sb 21 43 31.7 -1.6**
DIVS Divibare 2.63 6 *e*Pn **Pn 21 43 01.4 +2.4**
DIVS *e*Sn **Sn 21 43 33.0 +2.6**
DIVS Divibare 2.63 6 *e*Pn **Pn 21 43 00.4 +1.4**
HAPS Han Pijesak,Bl 2.64 350 *e*Sn **Pb 21 43 03.3 -1.0**
HAPS Han Pijesak,Bl 2.64 350 *e*Pn **Sb 21 43 35.0 -1.4**
HAPS Han Pijesak,Bl 2.64 350 *e*Pn **Pb 21 43 05.1 +0.8**
BOVS Bovan 2.66 35 *e*Pn **Pn 21 43 01.8 +2.6**
BOVS *e*Sn **Sn 21 43 32.6 +1.7**
BOVS Bovan 2.66 35 ⇓P **Pn 21 43 01.9 +2.6**
BOVS Bovan 2.66 35 ⇓S **Sb 21 43 34.1 -2.5**
RICI Ricice 2.71 319 *e*Pn **Pn 21 43 01.7 +1.6**
RICI Sn **Sn 21 43 34.0 +1.7**
TRUS Trudelj 2.80 12 *e*Pn **Pn 21 43 03.9 +2.6**
TRUS *e*Sn **Sn 21 43 37.5 +3.0**
ZAPS Zavoj 2.88 51 *e*Pn **Pn 21 43 05.0 +2.7**
ZAPS *e*Sn **Sn 21 43 36.2 -0.2**
HVAR Hvar 2.88 307 *e*Pn **Pn 21 43 03.2 +0.8**
HVAR Sn **Sn 21 43 37.7 +1.2**
VTS Vitosha 2.94 66 *e*Pn **Pn 21 43 05.3 +2.0**
VTS *e*Sn **Sn 21 43 37.9 -0.2**
VTS Vitosha 2.94 66 ⇑P **Pn 21 43 05.4 +2.0**
VTS Vitosha 2.94 66 ⇓S **Sn 21 43 40.5 +2.4**
VTS Vitosha 2.94 66 *i* Pn **Pn 21 43 05.5 +2.1**
ZAGS Zajecar 3.03 39 *e*Pn **Pn 21 43 06.6 +2.1**
ZAGS *e*Sn **Sn 21 43 42.3 +2.1**
KUBS Kucevo 3.30 27 *e*Pn **Pn 21 43 09.4 +1.3**
KIJV Kijevo 3.44 318 *e*Pn **Pn 21 43 12.1 +2.0**
KIJV Sn **Sn 21 43 52.0 +1.6**
MGRS Mrkonjic Grad 3.46 329 *e*Pn **Pn 21 43 08.4 -2.0**
ZIRJ Zirje 3.63 308 *e*Pn **Pn 21 43 13.8 +1.1**
ZIRJ Sn **Sn 21 43 55.8 +0.7**
MDVR Moldovita 3.64 24 ⇑P **Pn 21 43 15.1 +2.2**
MDVR Moldovita 3.64 24 ⇓S **Sn 21 43 58.0 +2.7**
FRGS Fruska Gora 3.67 2 *e*Pn **Pn 21 43 15.7 +2.4**
FRGS Fruska Gora 3.67 2 ⇑P **Pn 21 43 15.7 +2.4**
FRGS Fruska Gora 3.67 2 *e*Pn **Pn 21 43 15.4 +2.1**
BLY Banja Luka 3.71 332 *e*Pn **Pn 21 43 15.3 +1.6**
HERR Herculane 3.97 30 ⇑P **Pn 21 43 19.5 +2.2**
HERR Herculane 3.97 30 ⇓S **Sn 21 44 06.3 +3.0**
UDBI Udbina 4.14 319 *e*Pn **Pn 21 43 22.2 +2.5**
UDBI Sn **Sn 21 44 08.6 +1.0**
DUGI Dugi Otok 4.17 308 *e*Pn **Pn 21 43 21.5 +1.4**
DUGI Sn **Sn 21 44 08.7 +0.2**
BZS Buzias 4.38 19 ⇓P **Pn 21 43 25.0 +2.0**
BZS Buzias 4.38 19 ⇓S **Sn 21 44 15.7 +2.2**
GZR Gura Zlata 4.54 30 ⇑P **Pn 21 43 28.3 +3.0**
GZR Gura Zlata 4.54 30 ⇑S **Sn 21 44 20.7 +3.2**
MOSL Moslavina 4.61 334 *e*Pn **Pn 21 43 27.8 +1.6**
NVLJ Novalja 4.63 313 *e*Pn **Pn 21 43 28.2 +1.8**
AQU L'Aquila 4.70 283 *e*Pn **Pn 21 43 24.6 -2.8**
KOVH Kovagotottos 4.73 347 *e*P **Pn 21 43 29.8 +2.1**
MORH Mrgy, Hungar 4.78 352 ⇑P **Pn 21 43 30.5 +2.1**
MORH Mrgy, Hungar 4.78 352 ⇓S **Sn 21 44 26.8 +3.6**
MORH Mrgy, Hungar 4.78 352 *e*Pn **Pn 21 43 30.1 +1.7**
RABC Rab 4.80 314 *e*Pn **Pn 21 43 29.9 +1.2**
RABC Sn **Sn 21 44 24.1 +0.3**
LOT Lotru 4.99 36 ⇑P **Pn 21 43 32.8 +1.3**
LOT Lotru 4.99 36 ⇓S **Sn 21 44 31.2 +2.5**
SIRR Siria 5.01 17 ⇑P **Pn 21 43 33.6 +2.0**
SIRR Siria 5.01 17 ⇓S **Sn 21 44 32.1 +3.1**
OZLJ Ozalj 5.10 325 *e*Pn **Pn 21 43 34.2 +1.4**
BOJS Bojanci 5.11 323 *e*Pn **Pn 21 43 34.8 +1.8**
PTJ Puntijarka 5.14 330 *e*Pn **Pn 21 43 35.2 +1.7**
KALN Kalnik 5.17 335 *e*Pn **Pn 21 43 35.1 +1.3**
CRES Cresnjev 5.28 327 *e*Pn **Pn 21 43 36.9 +1.6**
VOIR 5.60 43 ⇑P **Pn 21 43 42.0 +2.2**
VOIR 5.60 43 ⇑S **Sn 21 44 47.1 +3.4**
CEY Cerknica 5.67 320 *e*Pn **Pn 21 43 42.5 +1.8**
SKDS Skadanscina 5.74 317 *e*Pn **Pn 21 43 41.2 -0.5**
DRGR 5.76 22 ⇓P **Pn 21 43 44.6 +2.6**
DRGR 5.76 22 ⇓S **Sn 21 44 49.7 +2.2**
LJU Ljubljana 5.85 323 *e*Pn **Pn 21 43 44.1 +0.9**
MLR Muntele Rosu 6.11 47 Pn **Pn 21 43 50.2 +3.3**
comp=N,1.1nm,0.3s,baz=189,slow=10.0,SNR=13
MLR Sn **Sn 21 45 00.5 +4.2**
comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=1.6
MLR Muntele Rosu 6.11 47 ⇓P **Pn 21 43 49.7 +2.8**
MLR Muntele Rosu 6.11 47 ⇓S **Sn 21 44 59.8 +3.5**
SOKA Soboth 6.14 329 *e*Pn **Pn 21 43 48.7 +1.5**
comp=N,1.2nm,0.5s
SOKA *e*Sn **Sn 21 44 55.7 -1.3**
comp=N,3.3nm,0.8s
OBKA Obir 6.20 326 *e*Pn **Pn 21 43 49.7 +1.6**
comp=N,0.7nm,0.2s
ARSA Arzberg 6.46 335 *e*Pn **Pn 21 43 54.8 +3.3**
comp=N,1.3nm,0.3s
MYKA Terra Mystica 6.69 322 *e*Pn **Pn 21 43 56.5 +1.6**
comp=N,0.9nm,0.3s
VRI Vrincioaia 6.78 47 ⇑P **Pn 21 43 58.3 +2.4**
CONA Conrad Observa 6.97 339 *e*Pn Pn 21 44 03.4 +4.8
comp=N,0.9nm,0.4s
KBA Koelnbreinsper 7.17 323 *e*Pn **Pn 21 44 03.0 +1.6**
comp=N,0.8nm,0.3s
ABTA Abfaltersbach 7.32 318 *e*Pn **Pn 21 44 05.2 +1.8**
comp=N,0.9nm,0.3s
IDI Anoyia 7.45 144 Pn Pn 21 44 00.3 -5.0
comp=N,0.1nm,0.3s,baz=267,slow=15,SNR=3.0
IDI Sn **Sn 21 45 23.3 -6.0**
comp=N,0.2nm,0.3s,baz=360,slow=22,SNR=1.7
KOLS Kolonicke sedl 7.68 13 *e*PN Pn 21 44 15.1 +6.8
PGF Pioggiola 7.96 281 *e*Pn **Pn 21 44 13.5 +1.3**
MOTA Moosalm 8.44 317 *e*Pn **Pn 21 44 20.5 +1.7**
comp=N,0.7nm,0.4s
MOTA *e*Sn **Sn 21 45 54.0 +0.5**
comp=N,2.3nm,0.3s
GERES GERESS Array B 8.45 333 Pn **Pn 21 44 21.2 +2.2**
comp=N,0.1nm,0.3s,baz=159,slow=13,SNR=5.1
GERES Sn **Sn 21 45 51.5 -2.3**
comp=N,0.1nm,0.3s,baz=156,slow=19,SNR=1.7
RETA Reutte 8.71 317 *e*Pn **Pn 21 44 24.6 +2.2**
comp=N,0.2nm,0.2s
KHC Kasperske Hory 8.74 333 *e*SN **Sn 21 46 01.3 +0.5**
DAVOX Davos/Dischmat 8.76 310 Pn **Pn 21 44 24.7 +1.5**
comp=N,0.2nm,0.3s,baz=135,slow=11,SNR=3.0
DAVOX Sn **Sn 21 46 02.8 +1.2**
comp=N,0.6nm,0.3s,baz=185,slow=19,SNR=4.6
SBF Sospel 9.27 289 *e*Pn **Pn 21 44 30.8 +0.7**
SBF Sospel 9.27 289 *e*Pg Pn 21 45 08.4 +38
SBF *e*Sn **Sn 21 46 09.0 -4.8**
comp=N,4.5nm,0.5s
FRF La Foret Royal 9.78 287 *e*Pn **Pn 21 44 38.8 +1.7**
LMR La Mourre 9.85 285 *e*Pn **Pn 21 44 37.1 -1.0**
LMR La Mourre 9.85 285 *e*Pg Pn 21 45 18.5 +40
MBDF Montbardon 9.92 293 *e*Pn **Pn 21 44 38.7 -0.4**
MBDF *e*Sn **Sn 21 46 24.1 -5.9**
comp=N,1.1nm,0.3s
LPG La Plagne 10.16 298 *e*Pn **Pn 21 44 43.1 +0.6**
LPG *e*Sn **Sn 21 46 30.0 -5.9**
comp=N,2.6nm,0.4s
LPL La Plagne 10.17 298 *e*Pn **Pn 21 44 43.9 +1.2**
LPL *e*Sn **Sn 21 46 30.5 -5.8**
comp=N,4.1nm,0.4s
ORIF Oris-en-Rattie 10.58 293 *e*Pn **Pn 21 44 49.3 +1.1**
ORIF *e*Sn **Sn 21 46 40.6 -5.5**
comp=N,5.1nm,0.8s
SMRF Simiane la Rot 10.61 288 *e*Pg Pn 21 45 33.2 +45
BRTR Keskin Array B 10.82 95 LR LR 21 49 54.7
comp=N,21nm,20.2s,baz=240,slow=43
HINF Hinteralfeld 11.06 309 *e*Pn **Pn 21 44 54.4 -0.2**
HINF *e*Sn **Sn 21 46 51.1 -6.6**
comp=N,1.4nm,0.3s
VIVF Saint-Julien-l 11.40 292 *e*Pn **Pn 21 44 58.8 -0.5**
HAU Haudompre 11.45 309 *e*Pn **Pn 21 45 00.8 +0.2**
SMF Signal de Mont 12.44 300 *e*Pn **Pn 21 45 12.8 -0.7**
SMF *e*Sn **Sn 21 47 23.9 -7.6**
comp=N,2.3nm,0.4s
LOR Lormes 12.65 302 *e*Pn **Pn 21 45 16.8 +0.5**
LOR *e*Sn **Sn 21 47 29.6 -6.9**
comp=N,1.8nm,0.4s
AVF Avril sur Loir 12.81 300 *e*Pn **Pn 21 45 17.4 -1.1**
BGF Bois d'Agland 13.07 298 *e*Pn **Pn 21 45 20.6 -1.5**
TCF Toulx Ste Croi 13.42 297 *e*P **P 21 45 32.7 -3.5**
HFS Hagfors 19.02 351 P **P 21 46 38.5 +0.5**
comp=N,0.1nm,0.3s,baz=142,slow=5.4,SNR=1.1
FINES FINESS Array B 20.37 9 P **P 21 46 52.5 -0.2**
comp=N,1.1nm,0.3s,baz=188,slow=10,SNR=20
ZALV Zalesovo Beam 44.08 50 P **P 21 50 23.8 -0.2**
comp=N,1.6nm,0.6s,baz=267,slow=9.9,SNR=6.5
MKAR Makanchi Array 44.25 61 P **P 21 50 26.0 +0.4**
comp=N,0.7nm,0.6s,baz=278,slow=6.2,SNR=11
NVAR Mina Array Bea 91.68 328 P **P 21 55 24.2 +0.3**
comp=N,0.2nm,0.5s,baz=5.7,slow=0.9,SNR=1.6
TXAR Lajitas Array 92.19 313 P **P 21 55 26.6 +0.4**
comp=N,0.4nm,0.8s,baz=114,slow=4.0,SNR=2.5

TEH ***21*** *21:44:52.9,32°.64N×48°.14E,h9km,ML3.2*
THR ***21*** *21:44:53.6±0.3,32°.65N×48°.14E,h14km±4km,ML3.0*
KISR ***21*** *21:44:55.8±0.7,32°.05N×47°.89E,h209km±36km,ML3.4*
ISC 21 21:44:52.4±1.2,32°.56N±0°.02×47°.94E±0°.04,h17km±11km,
n45,σ1°51/51,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHL1	**Dehloran**	**0.57**	**283**	*e*Sg	**Sn**	**21 45 17.9**	**+3.0**
DHL1				*e*Pg	**Pn**	**21 45 06.2**	**+0.3**
SHGR	**Shooshtar-Gavs**	**0.85**	**121**	*e*Pg	**Pn**	**21 45 08.4**	**-1.3**
SHGR	**Shooshtar-Gavs**	**0.85**	**121**	*e*Pg	**Pn**	**21 45 08.4**	**-1.3**
IKFM	**Kaar-mosalman**	**0.97**	**355**	*e*Pg	**Pg**	**21 45 10.2**	**-1.1**
IDOB	**Doab**	**1.24**	**9**	*e*Pg	**Pn**	**21 45 14.8**	**-0.5**
BMDN	**Meydan**	**1.33**	**33**	*e*Pg	**Pn**	**21 45 16.0**	**-0.5**
BMDN				*e*		21 45 38.4	
comp=Z,6μm,0.5s							
AHWZ	**Ahwaz**	**1.36**	**154**	*e*Pg	**Pg**	**21 45 19.8**	**+1.1**
AHWZ				*e*Sg	**Sg**	**21 45 39.4**	**+3.0**
HSAM	**Samen**	**1.74**	**18**	*e*Pg	**Pb**	**21 45 24.1**	**0.0**
HSAM				*e*		21 45 49.6	
comp=Z,2μm,0.3s							
KCHF	**Cheshme Sefid,**	**1.87**	**336**	*e*Pn	**Pg**	**21 45 27.8**	**-0.7**
KCHF				*e*		21 45 29.1	
comp=Z,3μm,0.4s							
IBZA	**Bozab**	**1.91**	**358**	*e*Pn	**Pb**	**21 45 27.0**	**0.0**
IBZA				*e*		21 45 31.3	
comp=Z,1μm,0.3s							
KER	**Kermanshah**	**1.95**	**340**	*e*Pn	**Pb**	**21 45 27.7**	**+0.1**
IGHG	**Ghaleghazi**	**2.11**	**327**	*e*Pn	**Pg**	**21 45 31.8**	**-1.2**
IGHG				*e*		21 46 14.3	
comp=Z,1μm,0.8s							
IALM	**Almabolaq**	**2.31**	**5**	*e*Pn	**Pb**	**21 45 32.7**	**-1.1**
HAGD	**Aghdareh**	**2.47**	**23**	*e*Pn	**Pb**	**21 45 34.2**	**-2.3**
HAGD				*e*		21 46 09.2	
comp=Z,3μm,0.4s							
IPIR	**Pirpir**	**2.49**	**86**	*e*Pn	**Pn**	**21 45 33.9**	**+1.4**
IPIR				*e*		21 46 09.4	
comp=Z,1μm,0.5s							
ILIN	**Lien**	**2.49**	**341**	*e*Pn	**Pb**	**21 45 37.0**	**0.0**
ILIN				*e*		21 45 40.7	
comp=Z,1μm,0.3s							
SHK1	**Shahrekord**	**2.50**	**94**	*e*Pn	**Pn**	**21 45 33.2**	**+0.7**
SHK1				*e*		21 46 09.6	
comp=Z,1μm,0.4s							
IDHR	**Dehrash**	**2.50**	**329**	*e*Pn	**Pb**	**21 45 35.3**	**-1.8**
IDHR				*e*		21 45 42.0	
comp=Z,1μm,0.3s							
SNGE	**Sanandaj**	**2.58**	**349**	*e*Pn	**Pb**	**21 45 36.4**	**-2.0**
SNGE	**Sanandaj**	**2.58**	**349**	*e*Pn	**Pb**	**21 45 36.4**	**-2.0**
ASAO	**Ashtian**	**2.64**	**41**	*e*Pn	**Pn**	**21 45 35.5**	**+1.0**
ASAO				*e*Sg	**Sb**	**21 46 10.9**	**-0.8**
ASAO				IAML		21 46 16.8	
comp=N,69nm,0.4s							
ASAO				IAML		21 46 17.4	
comp=E,70nm,0.7s							
ASAO	**Ashtian**	**2.64**	**41**	*e*Pn	**Pn**	**21 45 35.5**	**+1.0**
MIB	**Mutribah**	**2.79**	**191**	*e*P	**Pb**	**21 45 40.7**	**-1.2**
MIB				*e*S	**Sb**	**21 46 14.0**	**-1.9**
UMR	**Umm Al-Rimmam**	**3.00**	**184**	*e*P	**Pb**	**21 45 42.9**	**-2.5**
UMR				*e*S	**Sb**	**21 46 18.6**	**-3.2**
UMR				IAML		21 46 31.2	
comp=Z,88nm,0.5s							
QAMS	**Qamsar**	**3.13**	**67**	*e*Pn	**Pn**	**21 45 43.0**	**+1.8**
QAMS				*e*		21 45 54.0	
comp=Z,848nm,0.4s							
IKLH	**Kolahrood**	**3.15**	**75**	*e*Pn	**Pn**	**21 45 42.8**	**+1.3**
IKLH				*e*		21 46 35.5	
comp=Z,510nm,0.4s							
IRAZ	**Razeghan**	**3.29**	**30**	*e*Pn	**Pn**	**21 45 45.4**	**+2.0**
GHVR	**GHOM**	**3.39**	**55**	*e*Pn	**Pn**	**21 45 45.2**	**+0.5**
GHVR	**GHOM**	**3.39**	**55**	*e*Pn	**Pn**	**21 45 45.2**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.42**	**23**	*e*Pn	**Pn**	**21 45 46.5**	**+1.2**
IQOM	**Qom**	**3.46**	**48**	*e*Pn	**Pn**	**21 45 46.7**	**+0.9**
IGAR	**Gharneh**	**3.47**	**91**	*e*Pn	**Pn**	**21 45 46.6**	**+0.7**
KLNJ	**Kolanjah**	**3.47**	**115**	*e*Pn	**Pn**	**21 45 46.8**	**+0.8**
KLNJ				*e*		21 46 57.3	
comp=Z,665nm,0.9s							
IZEF	**Zefreh**	**3.71**	**84**	*e*Pn	**Pn**	**21 45 50.5**	**+1.2**
KRSH	**Karshahi**	**3.78**	**67**	*e*Pn	**Pn**	**21 45 51.2**	**+1.0**
QRN	**Al-Qurain**	**3.80**	**180**	*e*P	**Pn**	**21 45 53.0**	**+2.7**
QRN				*e*S	**Sn**	**21 46 35.0**	**+0.5**
QRN				IAML		21 46 36.6	
comp=Z,74nm,0.4s							
IRAM	**Ramesheh**	**3.84**	**100**	*e*Pn	**Pn**	**21 45 51.1**	**+0.2**
IVRN	**Varamin**	**3.98**	**51**	*e*Pn	**Pn**	**21 45 53.9**	**+1.1**
ISFB	**Sefidab**	**4.01**	**62**	*e*Pn	**Pn**	**21 45 53.5**	**+0.2**
QSDN	**Sirdan**	**4.07**	**14**	*e*Pn	**Pn**	**21 45 56.4**	**+2.3**
ISAD	**Sadrabad**	**4.91**	**96**	*e*Pn	**Pn**	**21 46 06.1**	**+0.4**
ILAS	**Lasjerd**	**5.03**	**55**	*e*Pn	**Pn**	**21 46 08.9**	**+1.5**
IFIR	**Firoozkooh**	**5.04**	**51**	*e*Pn	**Pn**	**21 46 07.9**	**+0.4**
IPRN	**Peran**	**5.17**	**43**	*e*Pn	**Pn**	**21 46 11.2**	**+2.0**
ISHM	**Shahmirzad**	**5.49**	**52**	*e*Pn	**Pn**	**21 46 14.4**	**+0.7**

NAO ***21*** *21:52:21.5±2.0,79°.68N×3°.22E,ML3.5*
IDC ***21*** *21:52:24.3±1.5,79°.38N×3°.14E,h0km,mb3.7/3,mb1 3.8/9,*
mb1mx3.5/42,mbtmp3.8/9,ML3.3/5,MS3.3/5,Ms1 3.2/5,
ms1mx2.7/41,Error ellipse: s-maj=24.6km s-min=23.1km
az=22.0
BER ***21*** *21:52:24.3±2.7,79°.44N×3°.15E,h10km,ML2.7,*
ML2.8(DNK),Confirmed Earthquake
IEPN ***21*** *21:52:28.0,79°.20N×4°.06E,h10km*
ISC 21 21:52:22.7±0.7,79°.34N±0°.07×2°.81E±0°.04,h12km,n51,
σ3°21/72,mb3.7/3,MS3.2/5,1C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.78**	**99**	Pn	**Pn**	**21 52 52.5**	**-0.7**
KBS				Sn	**Sn**	**21 53 11.5**	**-4.1**
KBS	**Kingsbay**	**1.78**	**99**	*e*P	**Pn**	**21 52 52.3**	**-0.9**
KBS				*e*S	**Sn**	**21 53 11.6**	**-4.1**
KBS				IAML		21 53 21.9	
comp=Z,279nm,0.2s							
KBS	**Kingsbay**	**1.78**	**99**	P	**Pn**	**21 52 52.2**	**-1.0**
KBS				*i* S	**Sn**	**21 53 10.2**	**-5.5**
BRBA	**Barentsburg A**	**2.58**	**114**	Pn	**Pn**	**21 53 04.5**	**+0.3**
BRBA				Sn	**Sn**	**21 53 32.9**	**-2.5**
BRBA	**Barentsburg A**	**2.58**	**114**	*e*P	**Pn**	**21 53 05.6**	**+1.3**
BRBA				*e*S	**Sn**	**21 53 32.7**	**-2.8**
BRBA				IAML		21 53 40.6	
comp=Z,128nm,0.4s							
SPA0	**Spitsbergen Ar**	**2.90**	**107**	Pn	**Pn**	**21 53 08.9**	**+0.4**
baz=312,slow=12							
SPA0				Sn	**Sn**	**21 53 40.1**	**-3.1**
SPA0	**Spitsbergen Ar**	**2.90**	**107**	Pn	**Pn**	**21 53 08.9**	**+0.4**
baz=312,slow=12							
SPA0				Sn	**Sn**	**21 53 40.1**	**-3.1**
SPITS	**Spitsbergen Ar**	**2.90**	**107**	Pn	**Pn**	**21 53 08.9**	**+0.4**
baz=305,slow=9.0,SNR=1033							
SPITS				Sn	**Sn**	**21 53 39.8**	**-3.4**
baz=308,slow=7.0,SNR=2.8							
HSPB	**Hornsund (broa**	**3.51**	**125**	Pn	**Pn**	**21 53 17.8**	**+0.9**
HSPB				Sn	**Sn**	**21 53 55.9**	**-2.3**
HSPB	**Hornsund (broa**	**3.51**	**125**	*e*P	**Pn**	**21 53 17.8**	**+0.9**
HSPB				*e*S	**Sn**	**21 53 55.0**	**-3.2**
HSPB				IAML		21 54 00.0	
comp=Z,84nm,0.6s							
HSPB	**Hornsund (broa**	**3.51**	**125**	⇑*i* P	**Pn**	**21 53 17.2**	**+0.3**
HSPB				*e*S	**Sn**	**21 53 53.8**	**-4.4**
NOR	**Nord**	**3.94**	**314**	*i* P	**Pn**	**21 53 21.7**	**-1.1**
NOR	**Nord**	**3.94**	**314**	Pn	**Pn**	**21 53 21.6**	**-1.3**
NOR	**Nord**	**3.94**	**314**	*i* P	**Pn**	**21 53 21.7**	**-1.1**
DAG	**Danmarks Havn**	**5.12**	**251**	*i* P	**Pn**	**21 53 39.0**	**0.0**
DAG				*i* P	**Pn**	**21 53 39.9**	**+0.9**
DAG				*i* S	**Sn**	**21 54 34.0**	**-3.9**
DAG				IAML		21 54 36.9	
comp=Z,7.7nm,0.4s							
DAG	**Danmarks Havn**	**5.12**	**251**	*i* P	**Pn**	**21 53 39.9**	**+0.9**
DAG				*i* S	**Sn**	**21 54 34.0**	**-3.9**
DAG				IAML		21 54 36.9	
comp=Z,7.7nm,0.4s							
HOPEN	**Hopen**	**5.42**	**110**	Pn	**Pn**	**21 53 43.2**	**0.0**
HOPEN				Sn	**Sn**	**21 54 40.1**	**-5.2**
HOPEN	**Hopen**	**5.42**	**110**	*e*P	**Pn**	**21 53 43.4**	**+0.3**
HOPEN				*e*S	**Sn**	**21 54 40.7**	**-4.6**
HOPEN				IAML		21 54 45.1	
comp=Z,37nm,0.3s							
HOPEN	**Hopen**	**5.42**	**110**	*e*P	**Pn**	**21 53 43.1**	**0.0**
HOPEN				*e*S	**Sn**	**21 54 39.5**	**-5.8**
BJO1	**Bjornoya**	**6.06**	**135**	Pn	**Pn**	**21 53 54.0**	**+2.1**
BJO1				Sn	**Sn**	**21 54 57.3**	**-3.7**
BJO1	**Bjornoya**	**6.06**	**135**	*e*P	**Pn**	**21 53 53.2**	**+1.3**
BJO1				IAML		21 54 49.0	
comp=Z,18nm,0.9s							
BJO1				*e*S	**Sn**	**21 54 55.5**	**-5.5**
BJO1	**Bjornoya**	**6.06**	**135**	*e*P	**Pn**	**21 53 53.7**	**+1.9**
BJO1				*e*S	**Sn**	**21 54 57.1**	**-3.8**
DBG	**Daneborg**	**7.22**	**238**	*i* P	**Pn**	**21 54 09.8**	**+1.9**
DBG				*i* S	**Sn**	**21 55 25.2**	**-4.4**
DBG				IAML		21 55 31.2	
comp=Z,3.8nm,0.4s							
DBG	**Daneborg**	**7.22**	**238**	Pn	**Pn**	**21 54 09.4**	**+1.5**
DBG				Sn	**Sn**	**21 55 24.5**	**-5.1**
DBG	**Daneborg**	**7.22**	**238**	*i* P	**Pn**	**21 54 09.8**	**+1.9**
DBG				*i* S	**Sn**	**21 55 25.2**	**-4.4**
DBG				IAML		21 55 31.2	
comp=Z,3.8nm,0.4s							
ZFI2	**Zemlya Franca-**	**7.71**	**58**	*e*P	**Pn**	**21 54 12.6**	**-2.0**
ZFI2				*e*S	Sn	21 55 31.6	-10
comp=Z,24nm,0.6s							
JMIC	**Jan Mayen**	**8.85**	**205**	Pn	**Pn**	**21 54 32.6**	**+2.4**
baz=317,slow=18,SNR=1.9							
HAMF	**Hammerfest**	**10.16**	**138**	Pn	**Pn**	**21 54 50.4**	**+2.2**
HAMF	**Hammerfest**	**10.16**	**138**	Pn	**Pn**	**21 54 50.4**	**+2.2**
NEEM	**North Greenlan**	**10.67**	**287**	*i* P	**Pn**	**21 54 53.4**	**-1.9**
ARA0	**ARCESS Array S**	**11.43**	**137**	Pn	**Pn**	**21 55 07.2**	**+1.8**
baz=354,slow=12							
ARA0				Sn	**Sn**	**21 57 05.9**	**-6.9**
baz=343,slow=16							
ARA0	**ARCESS Array S**	**11.43**	**137**	Pn	**Pn**	**21 55 07.2**	**+1.8**
baz=354,slow=12							
ARA0				Sn	**Sn**	**21 57 05.9**	**-6.9**
baz=343,slow=16							
ARCES	**ARCESS Array B**	**11.43**	**137**	Pn	**Pn**	**21 55 05.1**	**-0.3**
baz=341,slow=12,SNR=12							
ARCES				Sn	**Sn**	**21 57 05.9**	**-6.9**
baz=350,slow=14,SNR=1.3							
SUMG	**Summit**	**11.75**	**257**	*i* P	**Pn**	**21 55 10.8**	**+0.6**
SUMG	**Summit**	**11.75**	**257**	*i* P	**Pn**	**21 55 10.8**	**+0.6**
FIA0	**FINESS Array S**	**19.29**	**145**	P	**Pn**	**21 56 50.9**	**+3.0**
baz=343,slow=9.3							
FIA0	**FINESS Array S**	**19.29**	**145**	P	**Pn**	**21 56 50.9**	**+3.0**
baz=343,slow=9.3							
FINES	**FINESS Array B**	**19.29**	**145**	P	**Pn**	**21 56 50.6**	**+2.7**
comp=Z,0.1nm,0.3s,baz=0.7,slow=12,SNR=5.5							
HFS	**Hagfors**	**19.59**	**164**	P	**Pn**	**21 56 54.7**	**+3.2**
comp=Z,0.2nm,0.3s,baz=7.8,slow=12,SNR=6.6							
HFS	**Hagfors**	**19.59**	**164**	P	**Pn**	**21 56 55.3**	**+3.8**
baz=4.6,slow=9.3							
HFS	**Hagfors**	**19.59**	**164**	P	**Pn**	**21 56 55.3**	**+3.8**
baz=4.6,slow=9.3							
RES	**Resolute Bay**	**19.86**	**309**	P	**Pn**	**21 56 55.6**	**+1.0**
comp=Z,0.4nm,0.3s,baz=49,slow=11,SNR=2.4							
PRGR	**Permogore**	**21.80**	**119**	P	**P**	**21 57 09.2**	**-4.8**
INK	**Inuvik**	**30.46**	**330**	LR	LR	22 14 05.4	
comp=Z,46nm,18.1s,baz=160,slow=43							
GERES	**GERESS Array B**	**30.86**	**166**	LR	LR	22 12 18.1	
comp=Z,54nm,19.6s,baz=48,slow=39							
SCHQ	**Schefferville**	**32.98**	**265**	LR	LR	22 12 18.6	
comp=Z,38nm,19.2s,baz=56,slow=36							
ESDC	**Sonseca Array**	**39.87**	**188**	P	**P**	**22 00 00.3**	**+4.6**
comp=Z,1.0nm,1.2s,baz=357,slow=9.4,SNR=3.0							
MKAR	**Makanchi Array**	**42.50**	**89**	P	**P**	**22 00 20.6**	**+3.2**
comp=Z,1.7nm,0.6s,baz=339,slow=7.3,SNR=29							
SONM	**Songino Array**	**45.85**	**66**	P	**P**	**22 00 47.3**	**+3

U40A				IAmb_Lg		22 00 28.8	
	comp=Z,9.9nm,0.8s						
N35A	**Tabor**	**4.20**	**24**	IAmb_Lg		22 00 33.9	
	comp=Z,19nm,0.7s						
MIAR	**Mount Ida**	**4.32**	**124**	IAmb_Lg		22 00 32.3	
	comp=Z,6.8nm,0.9s						
X40A	**Basin Creek Fa**	**4.86**	**120**	IAmb_Lg		22 00 54.9	
	comp=Z,4.6nm,0.7s						
L34A	**Svendsen Farm,**	**5.06**	**13**		Sg	22 00 55.4	-1.1
L34A				IAmb_Lg		22 01 03.9	
	comp=Z,9.4nm,0.9s						
T25A	**Trinidad**	**5.19**	**273**	IAmb_Lg		22 01 06.8	
	comp=Z,4.6nm,0.8s						
PBMO	**Poplar Bluff**	**6.00**	**90**	IAmb_Lg		22 01 27.6	
	comp=Z,3.8nm,0.8s						

*INET **21** 22:03:26.0, 12.°02N×88.°53W, h21km, MW3.3*
*SNET **21** 22:03:31.8±1.3, 12.°13N×88.°51W, h13km±8km, ML3.6*
*UCR **21** 22:03:31.9±1.2, 12.°13N×88.°51W, h13km±8km, ML3.5*
ISC 21 22:03:29.9±3.9, 12.°1N±0.°2×88.°44W±0.°08, h0km±29km, n21, σ0°41/32, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**1.14**	**9**	*eP*	**Pb**	**22 03 52.4**	**0.0**
JUCU				*eS*	**Sb**	**22 04 07.8**	**0.0**
JUCU				IAML		22 04 16.2	
	comp=Z,1μm,0.3s						
JUCU	**Jucuarın**	**1.14**	**9**	*eP*	**Pb**	**22 03 52.4**	**0.0**
JUCU				*eS*	**Sb**	**22 04 07.8**	**0.0**
JUCU				IAML		22 04 16.2	
	comp=Z,1μm,0.3s						
CNCH	**Conchagua**	**1.29**	**27**	*eP*	**Pn**	**22 03 54.8**	**-0.4**
CNCH	**Conchagua**	**1.29**	**27**	*eP*	**Pn**	**22 03 54.8**	**-0.4**
LCND	**La Caada**	**1.29**	**24**	*eP*	**Pn**	**22 03 54.7**	**-0.5**
LCND	**La Caada**	**1.29**	**24**	*eP*	**Pn**	**22 03 54.7**	**-0.5**
COEB	**Comit de Eme**	**1.37**	**356**	*eP*	**Pn**	**22 03 55.9**	**-0.3**
COEB	**Comit de Eme**	**1.37**	**356**	*eP*	**Pn**	**22 03 55.9**	**-0.3**
PQSS	**Presa 15 de Se**	**1.49**	**355**	⇓*eP*	**Pb**	**22 03 58.5**	**+0.1**
PQSS				*eS*	**Sn**	**22 04 17.8**	**-0.4**
COEG	**Centro de Oper**	**1.55**	**344**	*eP*	**Pn**	**22 03 58.2**	**-0.5**
COEG				*eS*	**Sn**	**22 04 19.8**	**+0.3**
COEG	**Centro de Oper**	**1.55**	**344**	*eP*	**Pn**	**22 03 58.2**	**-0.5**
COEG				*eS*	**Sn**	**22 04 19.8**	**+0.3**
SJTE	**Alcalda de S**	**1.58**	**340**	*eP*	**Pn**	**22 03 58.5**	**-0.7**
SJTE				*eS*	**Sn**	**22 04 20.7**	**+0.3**
SJTE	**Alcalda de S**	**1.58**	**340**	*eP*	**Pn**	**22 03 58.5**	**-0.7**
SJTE				*eS*	**Sn**	**22 04 20.7**	**+0.3**
LFRS	**El Faro**	**1.61**	**338**	*eP*	**Pn**	**22 03 59.3**	**-0.3**
LFRS	**El Faro**	**1.61**	**338**	*eP*	**Pn**	**22 03 59.3**	**-0.3**
PAVA	**Las Pavas**	**1.65**	**343**	*eP*	**Pn**	**22 04 00.0**	**-0.2**
PAVA				*eS*	**Sb**	**22 04 22.9**	**+0.3**
PAVA				IAML		22 04 31.5	
	comp=Z,549nm,0.5s						
PAVA	**Las Pavas**	**1.65**	**343**	*eP*	**Pn**	**22 04 00.0**	**-0.2**
PAVA				*eS*	**Sb**	**22 04 22.9**	**+0.3**
PAVA				IAML		22 04 31.5	
	comp=Z,549nm,0.5s						
TGUH	**Tegucigalpa,Un**	**2.23**	**30**	*eP*	**Pn**	**22 04 08.7**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.23**	**30**	*eP*	**Pn**	**22 04 08.7**	**+0.5**
MTO3	**Montecristo**	**2.43**	**338**	*eP*	**Pn**	**22 04 11.6**	**+0.5**
MTO3				*eS*	**Sn**	**22 04 41.2**	**-0.4**
MTO3	**Montecristo**	**2.43**	**338**	*eP*	**Pn**	**22 04 11.6**	**+0.5**
MTO3				*eS*	**Sn**	**22 04 41.2**	**-0.4**

*ATH **21** 22:08:58.4, 38.°22N×20.°41E, h13km, ML2.3/12, Error ellipse: s-maj=1.8km s-min=0.9km az=253.0*
*THE **21** 22:08:58.5, 38.°21N×20.°42E, h12km, ML2.5/9, Error ellipse: s-maj=0.8km s-min=0.3km az=260.0*
ISC 21 22:08:58.1±0.9, 38.°21N±0.°02×20.°41E±0.°04, h14km±4km, n42, σ0°40/68, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXRA	**Lixouri, Kepha**	**0.03**	**112**	P	**Pg**	**22 09 00.6**	**0.0**
LXRA				S	**Sg**	**22 09 02.5**	**+0.2**
DMLN	**Damoulianata-K**	**0.04**	**318**	P	**Pg**	**22 09 00.8**	**+0.1**
DMLN				S	**Sg**	**22 09 02.4**	**-0.1**
	14μm,0.2s						
KEF3	**Kipouria, Keph**	**0.05**	**261**	P	**Pg**	**22 09 00.7**	**0.0**
KEF3				S	**Sg**	**22 09 02.3**	**-0.3**
KEF3	**Kipouria, Keph**	**0.05**	**261**	P	**Pg**	**22 09 00.7**	**0.0**
KEF3				S	**Sg**	**22 09 02.2**	**-0.3**
KEF4	**Livadi, Kephal**	**0.05**	**17**	P	**Pg**	**22 09 00.8**	**0.0**
KEF4				S	**Sg**	**22 09 02.7**	**+0.1**
KEF4	**Livadi, Kephal**	**0.05**	**17**	P	**Pg**	**22 09 00.8**	**0.0**
KEF4				S	**Sg**	**22 09 02.3**	**-0.2**
ARGA	**Argostoli. Kep**	**0.07**	**120**	P	**Pg**	**22 09 01.8**	**+0.9**
ARGA				S	**Sg**	**22 09 03.5**	**+0.8**
ARG2	**Argostoli**	**0.07**	**116**	P	**Pg**	**22 09 00.8**	**-0.1**
ARG2				S	**Sg**	**22 09 02.6**	**-0.2**
KEF5	**Kardakata, Kep**	**0.08**	**36**	P	**Pg**	**22 09 01.0**	**-0.1**
KEF5				S	**Sg**	**22 09 02.7**	**-0.4**
KEF5	**Kardakata, Kep**	**0.08**	**36**	P	**Pg**	**22 09 01.0**	**-0.1**
KEF5				S	**Sg**	**22 09 02.9**	**-0.3**
VLS	**Valsamata**	**0.15**	**103**	P	**Pg**	**22 09 01.8**	**-0.1**
VLS				S	**Sg**	**22 09 04.1**	**-0.4**
	6μm,0.1s						
VLS	**Valsamata**	**0.15**	**103**	P	**Pg**	**22 09 01.7**	**-0.1**
VLS				S	**Sg**	**22 09 03.8**	**-0.6**
VLS				AML	AML	22 09 04.4	
	comp=E,13431μm,0.1s						
VLS				AML	AML	22 09 04.5	
	comp=N,10904μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.17**	**124**	P	**Pg**	**22 09 02.2**	**0.0**
PSDA	**Pessada-Kefalo**	**0.17**	**124**	P	**Pg**	**22 09 02.2**	**0.0**
PSDA				S	**Sg**	**22 09 05.1**	**+0.2**
FSK	**Fiskardo**	**0.28**	**26**	P	**Pg**	**22 09 04.1**	**+0.1**
FSK				S	**Sg**	**22 09 08.3**	**+0.3**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.28**	**26**	P	**Pg**	**22 09 04.1**	**+0.1**
FSK				S	**Sg**	**22 09 08.4**	**+0.5**
FSK				AML	AML	22 09 08.8	
	comp=N,2761μm,0.3s						
FSK				AML	AML	22 09 09.0	
	comp=E,5309μm,0.1s						
VLMS	**Volimes, Zakyn**	**0.39**	**149**	P	**Pg**	**22 09 06.0**	**0.0**
VLMS				S	**Sb**	**22 09 12.5**	**-0.1**
	comp=E,2μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.39**	**149**	P	**Pg**	**22 09 06.0**	**0.0**
VLMS				S	**Sb**	**22 09 12.6**	**-0.1**
VLMS				AML	AML	22 09 13.0	
	comp=N,6158μm,0.3s						
VLMS				AML	AML	22 09 16.4	
	comp=E,3824μm,0.3s						
EVGI	**Lefkada island**	**0.46**	**25**	P	**Pg**	**22 09 07.1**	**-0.1**
EVGI				S	**Sb**	**22 09 14.2**	**-0.3**
	comp=E,2μm,0.1s						
EVGI	**Lefkada island**	**0.46**	**25**	P	**Pg**	**22 09 07.0**	**-0.2**
EVGI				S	**Sb**	**22 09 14.2**	**-0.3**
DRAG	**Dragano-Lefkad**	**0.49**	**16**	P	**Pg**	**22 09 07.8**	**0.0**
DRAG				S	**Sg**	**22 09 15.2**	**+0.8**
	comp=E,1μm,0.2s						
NYDR	**Nydri-Lefkada**	**0.55**	**24**	P	**Pg**	**22 09 08.7**	**-0.3**
NYDR				S	**Sg**	**22 09 16.9**	**+0.5**
	comp=E,195nm,0.2s						
LTHK	**Lithakia**	**0.60**	**146**	P	**Pg**	**22 09 09.5**	**-0.4**
LTHK				S	**Sb**	**22 09 18.8**	**0.0**
LTHK	**Lithakia**	**0.60**	**146**	P	**Pg**	**22 09 09.6**	**-0.4**
LTHK				S	**Sg**	**22 09 18.5**	**+0.5**
LTHK				AML	AML	22 09 20.2	
	comp=N,1660μm,0.2s						
LTHK				AML	AML	22 09 20.9	
	comp=E,1097μm,0.1s						
LKD2	**Lefkada island**	**0.61**	**19**	P	**Pg**	**22 09 09.8**	**-0.3**
LKD2				S	**Sb**	**22 09 18.9**	**-0.2**
	comp=E,148nm,0.4s						
LKD2	**Lefkada island**	**0.61**	**19**	P	**Pg**	**22 09 09.6**	**-0.5**
LKD2				AML	AML	22 09 25.0	
	comp=E,306μm,0.2s						
LKD2				AML	AML	22 09 27.8	
	comp=N,317μm,0.3s						
TSLK	**Tsoukalades, L**	**0.64**	**18**	P	**Pg**	**22 09 10.5**	**-0.2**
TSLK				S	**Sb**	**22 09 20.6**	**+0.6**
	comp=N,178nm,0.4s						
TSLK	**Tsoukalades, L**	**0.64**	**18**	P	**Pg**	**22 09 10.3**	**-0.4**
TSLK				AML	AML	22 09 26.2	
	comp=N,280μm,0.4s						
TSLK				AML	AML	22 09 27.0	
	comp=E,416μm,0.5s						
VTN	**Vitineika**	**0.68**	**115**	P	**Pg**	**22 09 11.2**	**-0.2**
RLS	**Riolos of Patr**	**0.85**	**100**	P	**Pg**	**22 09 13.8**	**-0.8**
RLS				S	**Sb**	**22 09 27.0**	**+1.2**
RLS				AML	AML	22 09 32.3	
	comp=N,159μm,0.5s						
RLS				AML	AML	22 09 37.5	
	comp=E,144μm,0.6s						
PVO	**Paravola**	**0.97**	**65**	P	**Pb**	**22 09 16.7**	**0.0**
EFP	**Efpalio**	**1.20**	**79**	P	**Pn**	**22 09 19.6**	**-0.9**
EFP				AML	AML	22 09 48.9	
	comp=E,119μm,0.6s						
EFP				AML	AML	22 09 50.3	
	comp=N,84μm,0.5s						
AMT	**Artemida-Makis**	**1.23**	**123**	P	**Pg**	**22 09 22.3**	**+0.5**
AMT				AML	AML	22 09 48.1	
	comp=E,229μm,0.5s						
AMT				AML	AML	22 09 49.5	
	comp=N,185μm,0.5s						
LAKA	**Lakka**	**1.24**	**88**	P	**Pn**	**22 09 20.8**	**-0.3**
LAKA				AML	AML	22 09 47.6	
	comp=N,297μm,0.5s						
LAKA				AML	AML	22 09 48.6	
	comp=E,274μm,0.6s						
ANX	**Ano Chora**	**1.25**	**72**	P	**Pn**	**22 09 20.8**	**-0.4**
ANX				AML	AML	22 09 46.8	
	comp=E,113μm,0.5s						
ANX				AML	AML	22 09 53.2	
	comp=N,169μm,0.6s						
EVR	**Evrytania**	**1.31**	**57**	P	**Pn**	**22 09 22.1**	**+0.1**
SERG	**Sergoula**	**1.31**	**81**	P	**Pn**	**22 09 21.4**	**-0.7**
TRIZ	**Trizonia**	**1.32**	**83**	P	**Pn**	**22 09 21.6**	**-0.5**
IGT	**Igoumenitsa**	**1.32**	**358**	P	**Pb**	**22 09 23.1**	**+0.4**
IGT				AML	AML	22 09 48.8	
	comp=E,58μm,0.3s						
IGT				AML	AML	22 09 52.8	
	comp=N,66μm,0.5s						
KLV	**Kalavryta, Ach**	**1.39**	**96**	P	**Pn**	**22 09 23.3**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.57**	**59**	P	**Pb**	**22 09 27.5**	**+0.5**
AGG	**Agios Georgios**	**1.71**	**61**	P	**Pb**	**22 09 29.3**	**0.0**

ATH 21 22:12:05.6, 40.°37N×25.°80E, h14km±2km, ML1.4/1, Error ellipse: s-maj=2.5km s-min=1.0km az=328.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.23**	**296**	P	Pg	22 12 10.5	-0.2
SMTH				S	Sg	22 12 14.1	+0.1
SMTH				AML	AML	22 12 14.3	
	comp=N,430μm,0.1s						
SMTH				AML	AML	22 12 14.5	
	comp=E,185μm,0.1s						
ALN	**Alexandroupoli**	**0.56**	**20**	P	Pg	22 12 16.3	-0.4
ALN				S	Sg	22 12 24.3	+0.2
LIA	**Limnos Island**	**0.67**	**225**	P	Pg	22 12 18.3	-0.3
LIA				S	Sb	22 12 27.8	-0.4
RDO	**Rodhopi**	**0.80**	**346**	P	Pg	22 12 20.7	-0.4
RDO				S	Sb	22 12 31.9	-0.1
THAS	**Thassos island**	**0.85**	**286**	P	Pg	22 12 22.1	-0.1
THAS				S	Sg	22 12 33.3	-0.1
SIGR	**SIGRI**	**1.16**	**178**	P	Pn	22 12 26.8	-0.6

*ISK **21** 22:12:36.7, 39.°12N×27.°32E, h13km, ML2.6/25*
*DDA **21** 22:12:36.9, 39.°12N×27.°29E, h7km±3km, ML2.1*
ISC 21 22:12:37.0±0.9, 39.°12N±0.°02×27.°30E±0.°02, h14km±8km, n41, σ0°55/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEDA	**zmir-Bergama**	**0.23**	**229**	*i* P	**Pg**	**22 12 42.5**	**+0.6**
ZEDA				*i* S	**Sg**	**22 12 45.3**	**0.0**
ZEDA				IAML		22 12 46.0	
	comp=N,399nm,0.5s						
DKL	**Dikili**	**0.31**	**262**	PG	**Pb**	**22 12 43.8**	**-0.5**
DKL				SG	**Sb**	**22 12 48.7**	**-0.5**
STEP	**BALIKESIR_Sava**	**0.42**	**51**	*i* P	**Pg**	**22 12 45.5**	**+0.1**
STEP				*i* S	**Sg**	**22 12 51.0**	**-0.1**
STEP				IAML		22 12 52.0	
	comp=E,272nm,0.3s						
STEP				IAML		22 12 52.0	
	comp=N,238nm,0.3s						
BUHA	**Balikesir, Bur**	**0.42**	**336**	*i* P	**Pb**	**22 12 45.8**	**-0.5**
BUHA				*i* S	**Sg**	**22 12 50.9**	**-0.2**
AKHS	**Akhisar**	**0.47**	**120**	*i* P	**Pg**	**22 12 46.4**	**+0.1**
AYVA	**Ayvalik**	**0.51**	**292**	*i* P	**Pb**	**22 12 47.5**	**-0.2**
AYVA				*i* S	**Sb**	**22 12 54.5**	**-0.6**
AYVA				IAML		22 12 55.0	
	comp=N,141nm,0.1s						
BALY	**Balya**	**0.67**	**22**	*i* P	**Pg**	**22 12 50.2**	**+0.1**
BALY				*i* S	**Sg**	**22 12 58.7**	**-0.3**
BALY				IAML		22 13 04.0	
	comp=E,72nm,0.2s						
BALY				IAML		22 13 05.0	
	comp=N,100nm,0.3s						
BALB	**Balikesir**	**0.69**	**41**	PG	**Pg**	**22 12 50.4**	**-0.1**
BALB				SG	**Sg**	**22 12 59.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.85**	**317**	*i* P	**Pn**	**22 12 54.6**	**-0.1**
BAYC				IAML		22 13 08.0	
	comp=E,101nm,0.2s						
BAYC				IAML		22 13 09.0	
	comp=N,79nm,0.3s						
URLA	**Izmir**	**0.93**	**216**	*i* P	**Pg**	**22 12 55.0**	**0.0**
URLA				*i* S	**Sn**	**22 13 10.4**	**+1.4**
URLA				IAML		22 13 13.0	
	comp=N,50nm,0.6s						
URLA	**Izmir**	**0.93**	**216**	PG	**Pb**	**22 12 55.2**	**+0.2**
URLA				SG	**Sn**	**22 13 09.3**	**+0.3**
GONE	**Gonen-Balikesi**	**0.98**	**18**	PG	**Pb**	**22 12 56.1**	**+0.3**
KOCA	**Canakkale, Ayv**	**0.98**	**294**	*i* P	**Pb**	**22 12 56.1**	**+0.3**
KOCA				*i* S	**Sb**	**22 13 08.6**	**0.0**
KOCA				IAML		22 13 11.0	
	comp=N,57nm,0.3s						
DURS	**Dursunbey**	**1.03**	**62**	*i* P	**Pg**	**22 12 56.6**	**-0.4**
DURS				*i* S	**Sg**	**22 13 09.8**	**-0.7**
DURS				IAML		22 13 13.0	
	comp=E,56nm,0.2s						
EZN	**Ezine**	**1.03**	**314**	PG	**Pb**	**22 12 57.3**	**+0.6**
ZEYE	**Izmir, Urla-Ze**	**1.07**	**216**	*i* P	**Pg**	**22 12 56.5**	**-1.1**
ZEYE				*i* S	**Sb**	**22 13 12.2**	**+1.0**
ZEYE				IAML		22 13 16.0	
	comp=E,86nm,0.4s						
ZEYE				IAML		22 13 17.0	
	comp=N,52nm,0.4s						
GMLD	**Gumuldur**	**1.08**	**196**	PN	**Pg**	**22 12 57.3**	**-0.5**
DEMI	**Demirci**	**1.11**	**93**	*i* P	**Pg**	**22 12 57.8**	**-0.6**
DGB	**zmir**	**1.11**	**197**	*i* P	**Pg**	**22 12 57.4**	**-1.0**
DGB				*i* S	**Sg**	**22 13 12.2**	**-0.7**
SIGR	**SIGRI**	**1.12**	**275**	PN	**Pb**	**22 12 58.7**	**+0.4**
DST	**Dursunbey**	**1.14**	**64**	PN	**Pg**	**22 12 58.5**	**-0.4**
MANT	**Manisa**	**1.17**	**122**	*i* P	**Pg**	**22 12 59.2**	**-0.3**
MANT				*i* S	**Sg**	**22 13 14.0**	**-0.7**
MANT				IAML		22 13 15.0	
	comp=E,42nm,0.3s						
MANT				IAML		22 13 17.0	
	comp=N,32nm,0.4s						
BOZC	**Bozcaada**	**1.21**	**307**	*i* P	**Pn**	**22 13 00.5**	**+1.0**
BOZC				*i* S	**Sg**	**22 13 14.5**	**-1.5**
BOZC				IAML		22 13 18.0	
	comp=N,33nm,0.3s						
BOZC	**Bozcaada**	**1.21**	**307**	PN	**Pg**	**22 12 59.7**	**-0.5**
CHOS	**Chios island**	**1.21**	**234**	PN	**Pg**	**22 12 59.9**	**-0.5**
KULA	**Kula-Manisa**	**1.22**	**119**	PN	**Pg**	**22 12 59.7**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.26**	**158**	PN	**Pn**	**22 13 00.2**	**-0.1**
KRBG	**Karabiga-Canak**	**1.28**	**0**	PN	**Pn**	**22 13 00.6**	**+0.1**
EDC	**Edincik**	**1.31**	**19**	PN	**Pn**	**22 13 00.9**	**0.0**
GCAM	**G?zelcaml?**	**1.41**	**182**	*i* P	**Pb**	**22 13 03.5**	**+0.3**
GCAM	**G?zelcaml?**	**1.41**	**182**	PN	**Pn**	**22 13 02.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.43**	**334**	PN	**Pn**	**22 13 02.6**	**0.0**
MRMT	**Marmara Adasi**	**1.50**	**9**	PN	**Pn**	**22 13 03.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.57**	**357**	PN	**Pn**	**22 13 04.8**	**+0.2**
MAR3	**Marsite Statio**	**1.63**	**360**	PN	**Pn**	**22 13 05.5**	**+0.2**
ERIK	**Erikli-Kesan**	**1.67**	**339**	PN	**Pn**	**22 13 06.2**	**+0.4**
TVSB	**Tavsanli**	**1.71**	**78**	PN	**Pn**	**22 13 06.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.75**	**44**	PN	**Pn**	**22 13 07.1**	**+0.1**
ENEZ	**Enez**	**1.84**	**332**	PN	**Pn**	**22 13 08.7**	**+0.4**
ARMT	**Armutlu**	**1.89**	**39**	PN	**Pn**	**22 13 09.1**	**+0.2**
ALN	**Alexandroupoli**	**2.02**	**332**	PN	**Pn**	**22 13 11.2**	**+0.5**

SKO 21 22:15:34.2, 41.°94N×22.°95E, h1km, Northwestern Balkan Peninsula

IDC 21 22:30:27.1±1.8, 26.°07S×70.°93E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/26, mbtmp3.7/4, Error ellipse: s-maj=60.1km s-min=35.0km az=71.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**18.39**	**5**	T	T	22 53 39.0	
	baz=186,slow=76,SNR=9.6						
H08S2	**Diego Garcia H**	**18.39**	**5**	T	T	22 53 42.3	
	baz=186,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**18.41**	**5**	T	T	22 53 41.3	
	baz=186,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**38.02**	**114**	T	T	23 18 06.4	
	baz=271,slow=75,SNR=5.2						
H01W3	**Cape Leeuwin H**	**38.02**	**114**	T	T	23 18 11.8	
	baz=271,slow=75,SNR=5.4						
H01W1	**Cape Leeuwin H**	**38.04**	**114**	T	T	23 18 03.5	
	baz=271,slow=75,SNR=4.7						
ASAR	**Alice Springs**	**56.69**	**102**	P	P	22 40 13.0	+0.2
	0.3nm,0.5s,baz=252,slow=5.9,SNR=4.5						
WRA	**Warramunga Arr**	**58.20**	**98**	P	P	22 40 23.4	-0.1
	0.6nm,1.0s,baz=253,slow=7.0,SNR=4.8						
VNDA	**Vanda**	**64.94**	**166**	P	P	22 41 07.8	-0.3
	0.7nm,0.8s,baz=246,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**73.25**	**8**	P	P	22 41 59.7	-0.2
	0.5nm,0.6s,baz=199,slow=5.8,SNR=8.1						
YKA	**Yellowknife Ar**	**143.40**	**4**	PKP	PKPdf	22 50 04.2	+1.3
	0.3nm,0.6s,baz=336,slow=4.3,SNR=1.7						

*GUC **21** 22:58:50.1±0.5, 21.°12S×68.°95W, h113km±2km, ML3.7*
*IDC **21** 22:58:51.7±1.2, 21.°27S×68.°13W, h98km±16km, mb3.9/2, mb1 3.8/5, mb1mx3.4/28, mbtmp4.1/5, Error ellipse: s-maj=39.5km s-min=15.6km az=109.0*
*VAO **21** 22:59:01.7±1.9, 20.°41S×68.°03W, h140km±9km, mb4.3*
ISC 21 22:58:49.4±0.7, 21.°09S±0.°03×68.°93W±0.°07, h113km±8km, n36, σ1°21/52, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.53**	**274**	⇑*iP*	**Pn**	**22 59 06.9**	**0.0**
PB01				*eS*	**Sn**	**22 59 19.8**	**-0.2**
PB09	**IPOC Station P**	**0.77**	**202**	*eP*	**Pn**	**22 59 09.2**	**+0.4**
PB09				*i* S	**Sn**	**22 59 23.9**	**+0.4**
PB09				IAML		22 59 26.6	
	comp=E,2μm,0.5s						
PB02	**IPOC Station P**	**0.93**	**255**	⇑*iP*	**Pn**	**22 59 10.4**	**+0.1**
PB02				*eS*	**Sn**	**22 59 25.7**	**-0.4**
PB08	**IPOC Station P**	**0.96**	**347**	⇓*iP*	**Pn**	**22 59 11.8**	**+0.9**
PB08				*eS*	**Sn**	**22 59 28.2**	**+1.0**
PB08				IAML		22 59 29.7	
	comp=E,3μm,0.5s						
PB07	**IPOC Station P**	**1.10**	**234**	*eP*	**Pn**	**22 59 11.9**	**-0.1**
PB07				*eS*	**Sn**	**22 59 28.5**	**-0.7**
PB07				IAML		22 59 30.4	
	comp=N,3μm,0.1s						
PB03	**IPOC Station P**	**1.23**	**219**	⇑*iP*	**Pn**	**22 59 13.3**	**-0.1**
PB03				*eS*	**Sn**	**22 59 30.9**	**-0.8**
PB03				IAML		22 59 32.1	
	comp=E,2μm,0.3s						
TA02	**Huaiquique**	**1.39**	**306**	*eP*	**Pn**	**22 59 15.1**	**0.0**
TA02				*i* S	**Sn**	**22 59 34.4**	**-0.2**
TA02				IAML		22 59 37.5	
	comp=N,3μm,0.1s						
PB11	**IPOC Station P**	**1.48**	**332**	⇓*iP*	**Pn**	**22 59 16.8**	**+0.4**
PB11				*eS*	**Sn**	**22 59 37.3**	**+0.4**
PB11				IAML		22 59 38.3	
	comp=E,2μm,0.2s						
LVC	**Limon Verde**	**1.52**	**179**	P	**Pn**	**22 59 17.4**	**+0.5**
	comp=E,25nm,0.3s,baz=37,slow=10,SNR=559						
LVC				S	**Sn**	**22 59 38.5**	**+0.6**
	comp=E,71nm,0.3s,baz=88,slow=2.4,SNR=9.8						
LVC	**Limon Verde**	**1.52**	**179**	*eP*	**Pn**	**22 59 17.3**	**+0.3**
LVC				*eS*	**Sn**	**22 59 38.3**	**+0.4**
PB04	**IPOC Station P**	**1.68**	**222**	⇑*eP*	**Pn**	**22 59 18.6**	**-0.2**
PB04				*eS*	**Sn**	**22 59 40.0**	**-1.1**
PB04				IAML		22 59 46.3	
	comp=N,877nm,0.5s						
PB06	**IPOC Station P**	**1.72**	**200**	*eP*	**Pn**	**22 59 19.3**	**0.0**
PB06				*eS*	**Sn**	**22 59 41.5**	**-0.4**
PB06				IAML		22 59 43.7	
	comp=E,1μm,0.4s						
PSGC	**Pisagua**	**1.86**	**323**	*eP*	**Pn**	**22 59 20.5**	**-0.4**
PSGC				*eS*	**Sn**	**22 59 44.0**	**-0.8**
PSGC				IAML		22 59 45.6	
	comp=N,457nm,0.2s						
MNMC	**Minye Minye**	**2.04**	**342**	*eP*	**Pn**	**22 59 24.0**	**+0.6**
MNMC				*eS*	**Sn**	**22 59 50.1**	**+0.8**
PB05	**IPOC Station P**	**2.12**	**214**	*eP*	**Pn**	**22 59 23.7**	**-0.5**
PB05				*eS*	**Sn**	**22 59 48.9**	**-1.9**
PB05				IAML		22 59 51.9	
	comp=E,323nm,0.3s						
PB15	**IPOC Station P**	**2.17**	**193**	*eP*	**Pn**	**22 59 25.0**	**+0.1**
PB15				*eS*	**Sn**	**22 59 51.7**	**-0.4**
LPAZ	**La Paz**	**4.83**	**9**	P	**Pn**	**23 00 02.9**	**+2.3**
	comp=E,3.0nm,0.3s,baz=184,slow=5.4,SNR=41						
LPAZ				S	**Sn**	**23 00 52.8**	**-3.0**
	comp=E,0.5nm,0.3s,baz=229,slow=5.3,SNR=5.0						
LPAZ	**La Paz**	**4.83**	**9**	*eP*	**Pn**	**23 00 03.0**	**+2.4**
SIV	**San Ignacio**	**9.01**	**57**	P	**Pn**	**23 00 54.0**	**-2.6**
	comp=E,3.7nm,0.3s,baz=246,slow=13,SNR=70						
PTLB	**Pontes e Lacer**	**10.86**	**61**	*eP*	**Pn**	**23 01 18.9**	**-2.7**
VILB	**Vilhena**	**11.62**	**47**

COEG	**Centro de Oper**	**1.65 320**	*eP*	**Pn**	**22 59 27.8 +0.2**
COEG			IAML		22 59 52.0
comp=Z,720nm,0.2s					
SJTE	**Alcalda de S**	**1.73 317**	⇑*iP*	**Pn**	**22 59 28.8 +0.2**
SJTE	**Alcalda de S**	**1.73 317**	⇑*iP*	**Pn**	**22 59 28.8 +0.2**
LFRS	**El Faro**	**1.77 316**	*eP*	**Pn**	**22 59 29.4 +0.2**
LFRS	**El Faro**	**1.77 316**	*eP*	**Pn**	**22 59 29.4 +0.2**
TGUH	**Tegucigalpa,Un**	**1.77 17**	⇑*iP*	**Pn**	**22 59 29.0 -0.2**
TGUH	**Tegucigalpa,Un**	**1.77 17**	⇑*iP*	**Pn**	**22 59 29.0 -0.2**

IDC 21 23:01:17.7±2.7, 16°.25S×174°.11W, h586km±31km, mb3.1/5, mb1 3.5/6, mb1mx3.0/42, mbtmp4.1/6, Error ellipse: s-maj=56.6km s-min=25.9km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.64**	**258**	P	P	23 03 12.9	-0.4
2.3nm,0.3s,baz=107,slow=5.3,SNR=12							
RAO	**Raoul Island**	**13.41**	**194**	P	P	23 04 10.7	0.0
570nm,0.3s,baz=73,slow=19,SNR=9.0							
WRA	**Warramunga Arr**	**48.99**	**258**	P	P	23 09 12.5	+0.3
0.9nm,0.4s,baz=95,slow=6.9,SNR=49							
ASAR	**Alice Springs**	**49.20**	**253**	P	P	23 09 13.8	0.0
1.8nm,0.5s,baz=91,slow=8.2,SNR=31							
PDAR	**Pinedale Array**	**83.35**	**42**	P	P	23 12 44.1	-0.2
0.3nm,0.4s,baz=238,slow=5.1,SNR=2.1							
ILAR	**Eielson Array**	**83.41**	**11**	P	P	23 12 44.5	+0.6
0.4nm,0.4s,baz=215,slow=6.8,SNR=5.0							
CMAR	**Chiang Mai Arr**	**92.23**	**288**	P	P	23 13 24.6	-1.8
0.7nm,0.4s,baz=100,slow=5.1,SNR=4.3							

*FUNV **21** 23:02:46.4, 10°.16N×69°.99W, h5km, MW3.8*
ISC 21 23:02:45.3±0.9, 10°.13N±0°.03×69°.96W±0°.03, h9km±7km, n50, σ1°.22/68, 1C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.12**	**183**	⇓*iP*	**Pg**	**23 02 48.2**	**+0.1**
CURV				*eS*	**Sg**	23 02 50.3	+0.2
SIQV	**Siquisique**	**0.53**	**16**	⇑*eP*	**Pb**	23 02 56.2	-0.6
SIQV				*eS*	**Sg**	23 03 03.0	+0.3
DABV	**Dabajuro**	**1.03**	**320**	⇓*eP*	**Pb**	23 03 05.2	-0.2
DABV	**Dabajuro**	**1.03**	**320**	⇓*iP*	**Pb**	23 03 05.2	-0.2
DABV				*eS*	**Sn**	23 03 19.1	-1.4
SDV	**Santo Domingo**	**1.41**	**208**	*eP*	**Pn**	23 03 11.1	-0.2
SDV	**Santo Domingo**	**1.41**	**208**	*eP*	**Pn**	23 03 11.4	+0.2
JACV	**Jacura**	**1.46**	**49**	*eP*	**Pg**	23 03 13.4	+0.1
JACV				*eS*	**Sg**	23 03 32.6	+0.3
MAPV	**Macapo**	**1.51**	**101**	*eP*	**Pg**	23 03 14.5	+0.3
MAPV				*eS*	**Sg**	23 03 35.4	+1.6
MONV	**Montecano**	**1.81**	**360**	*eP*	**Pn**	23 03 16.8	+0.1
MONV				*eS*	**Sn**	23 03 39.7	-0.1
SOCV	**Socops**	**2.04**	**206**	*eP*	**Pn**	23 03 20.4	+0.5
SOCV	**Socops**	**2.04**	**206**	*eP*	**Pn**	23 03 20.3	+0.5
SOCV				*eS*	**Sn**	23 03 46.4	+1.0
TURV	**Turiamo**	**2.11**	**81**	*eP*	**Pn**	23 03 21.5	+0.8
TURV				*eS*	**Sn**	23 03 48.3	+1.3
BAUV	**El Baul**	**2.23**	**122**	*eP*	**Pn**	23 03 23.8	+1.4
BAUV				*eS*	**Sn**	23 03 52.0	+2.0
HATO	**Hato, Curacao**	**2.26**	**26**	*eP*	**Pn**	23 03 23.2	+0.4
BENV	**Beln**	**2.33**	**94**	*eP*	**Pn**	23 03 25.9	+2.0
BENV				*eS*	**Sn**	23 03 54.8	+2.2
URIC	**Uribia, Colomb**	**2.54**	**308**	*eP*	**Pn**	23 03 25.5	-1.2
MCQV	**Machiques**	**2.54**	**268**	*eP*	**Pn**	23 03 27.2	+0.5
MCQV				*eS*	**Sn**	23 03 58.1	+0.3
TACV	**Tcata**	**2.88**	**90**	*eS*	**Sn**	23 04 07.1	+0.8
ELOV	**Elorza**	**3.15**	**171**	*eP*	**Pn**	23 03 36.7	+1.7
ELOV	**Elorza**	**3.15**	**171**	*eP*	**Pn**	23 03 35.9	+0.9
ELOV				*eS*	**Sn**	23 04 13.6	+0.9
CAPV	**Capacho**	**3.24**	**226**	*eP*	**Pn**	23 03 37.2	+0.7
CAPV				*eS*	**Sn**	23 04 16.6	+1.2
LL2C	**La Loma 2 Cana**	**3.48**	**261**	*eP*	**Pn**	23 03 40.5	+0.9
LL1C	**La Loma 1 Cana**	**3.59**	**261**	*eP*	**Pn**	23 03 41.5	+0.3
BIRV	**Birongo**	**3.64**	**84**	*eP*	**Pn**	23 03 43.0	+1.1
BIRV				*eS*	**Sn**	23 04 25.3	+0.3
MERV	**Las Mercedes**	**3.71**	**103**	*eP*	**Pn**	23 03 43.3	+0.5
MERV				*eS*	**Sn**	23 04 25.5	-1.2
OCAC	**Ocana**	**3.82**	**241**	*eP*	**Pn**	23 03 45.1	+0.7
PAMC	**Pamplona, Colo**	**3.88**	**225**	*eP*	**Pn**	23 03 46.6	+1.1
CACV	**CAICARA DEL OR**	**4.23**	**127**	*eP*	**Pb**	23 03 57.1	-2.8
CACV				*eS*	**Sb**	23 04 48.9	-2.2
ARGC	**Ariguani, Magd**	**4.24**	**267**	*eP*	**Pn**	23 03 48.6	-1.4
SMLC	**San Martn de**	**4.27**	**252**	*eP*	**Pn**	23 03 50.3	-0.2
SMRC	**Santa Marta, M**	**4.32**	**284**	*eP*	**Pn**	23 03 49.6	-1.6
BARC	**Barichara**	**4.75**	**222**	*eP*	**Pn**	23 03 58.5	+1.2
SJCC	**San Jacinto, C**	**5.15**	**268**	*eP*	**Pn**	23 04 03.4	+0.7
PAYV	**Puerto Ayacuch**	**5.21**	**154**	*eP*	**Pn**	23 04 03.3	-0.1
PAYV				*eS*	**Sn**	23 05 00.9	-2.7
RUSC	**La Rusia**	**5.23**	**217**	*eP*	**Pn**	23 04 04.6	+0.5
RUSC	**La Rusia**	**5.23**	**217**	*eP*	**Pn**	23 04 03.8	-0.3
PCRV	**Puerto La Cruz**	**5.24**	**89**	*eP*	**Pn**	23 04 05.0	+1.2
PCRV				*eS*	**Sn**	23 05 03.9	-0.5
ZARC	**Zaragoza, Cauc**	**5.51**	**242**	*eP*	**Pn**	23 04 07.4	-0.2
MOTC	**Monteria, Cord**	**5.79**	**257**	*eP*	**Pn**	23 04 11.8	+0.4
CHIC	**Chingaza**	**6.63**	**215**	*eP*	**Pn**	23 04 23.9	+0.6
HELC	**Santa Helena**	**6.76**	**235**	*eP*	**Pn**	23 04 26.1	+1.0
DBBC	**Dabeiba**	**6.92**	**244**	*eP*	**Pn**	23 04 30.6	+3.6
VILC	**Villavicencio,**	**7.04**	**212**	*eP*	**Pn**	23 04 30.5	+1.8
GUY2C	**Guyana, Caldas**	**7.25**	**228**	*eP*	**Pn**	23 04 33.2	+1.4
CBOC	**Ciudad Bolivar**	**7.34**	**235**	*eP*	**Pn**	23 04 34.6	+1.7
TOLC	**Tolima**	**7.66**	**224**	*eP*	**Pn**	23 04 39.2	+1.8
ORTC	**Ortega, Tolima**	**8.11**	**221**	*eP*	**Pn**	23 04 43.3	0.0
PLMC	**San Jos del P**	**8.14**	**231**	*eP*	**Pn**	23 04 44.6	+0.8
MACC	**Macarena, Meta**	**8.83**	**206**	*eP*	**Pn**	23 04 54.3	+1.1
GARC	**Garzon, Huila**	**9.62**	**215**	*eP*	**Pn**	23 05 04.7	+0.4

*STR **21** 23:07:20.6±0.9, 44°.N±5°.×1°.1E±°, h10km, mb3.5/1, mB4.3/1, MLv3.2/8, Mw(mB)3.4/1, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **21** 23:07:24.8, 44°.10N×11°.00E, h56km*
*IASPEI **21** 23:07:25.7±1.3, 44°.03N±0°.03×10°.97E±0°.02, h54km±6km, Error ellipse: s-maj=4.1km s-min=3.4km az=26.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ROM **21** 23:07:25.1±0.1, 44°.042N±0°.006×10°.968E±0°.007, h56km±1km, ML3.1/119, Error ellipse: s-maj=0.7km s-min=0.2km az=24.0*
*GEN **21** 23:07:25.9, 43°.98N×10°.95E, h54km±2km, Ml3.1*
*PRU **21** 23:07:26.5±0.0, 44°.18N×11°.08E, h48km*
ISC 21 23:07:23.4±1.1, 44°.10N±0°.02×11°.01E±0°.02, h69km±4km, n259, σ1°.77/369, 39C-47D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTCR	**Monte La Croce**	**0.07**	**187**	⇓P	**Pn**	**23 07 33.9**	**+0.2**
MTCR				S	**Sn**	23 07 40.2	-1.0
FNVD	**Fontana Vidola**	**0.11**	**50**	⇓P	**Pn**	23 07 34.8	+1.1
FNVD				S	**Sn**	23 07 41.8	+0.6
FNVD				AML	AML		
comp=E,4665μm,0.7s							
FNVD				AML	AML		
comp=N,4680μm,0.3s							
POPM	**Popiglio**	**0.19**	**254**	P	**Pn**	23 07 34.3	+0.4
POPM				S	**Sn**	23 07 40.8	-0.8
POPM	**Popiglio**	**0.19**	**254**	P	**Pn**	23 07 34.3	+0.4
POPM				S	**Sn**	23 07 40.6	-1.0
POPM				AML	AML		
comp=E,14745μm,0.4s							
POPM				AML	AML		
comp=E,14780μm,0.4s							
POPM				AML	AML		
comp=N,15050μm,0.1s							
SEI	**Scarperia**	**0.25**	**100**	⇓P	**Pn**	**23 07 34.9**	**+0.6**
SEI				S	**Sn**	23 07 41.3	-0.9
SEI				AML	AML		
comp=E,3830μm,0.3s							
SEI				AML	AML		
comp=N,5750μm,0.4s							
ZCCA	**Zocca**	**0.25**	**355**	⇑P	**Pn**	**23 07 36.3**	**+1.9**
ZCCA				AML	AML		
comp=E,4085μm,0.3s							
ZCCA				AML	AML		
comp=N,8245μm,0.9s							
ZCCA				AML	AML		
comp=E,4080μm,0.3s							
ZCCA				AML	AML		
comp=N,8235μm,0.9s							
ZCCA				AML	AML		
comp=E,4085μm,0.3s							
ZCCA				AML	AML		
comp=N,7945μm,0.5s							
ZCCA				AML	AML		
comp=E,4545μm,0.4s							
ZCCA				AML	AML		
comp=N,8215μm,0.9s							
BDI	**Bagni Di Lucca**	**0.30**	**263**	⇑P	**Pn**	**23 07 34.8**	**+0.2**
BDI				S	**Sn**	23 07 41.5	-1.3
BDI				AML	AML		
comp=E,6445μm,0.3s							
BDI				AML	AML		
comp=E,6120μm,0.3s							
BDI				AML	AML		
comp=N,3640μm,0.3s							
BDI				AML	AML		
comp=N,5880μm,0.1s							
CRMI	**Carmignano**	**0.31**	**185**	⇓P	**Pn**	**23 07 34.9**	**+0.3**
CRMI				S	**Sn**	23 07 41.6	-1.2
FIR	**Firenze**	**0.37**	**151**	⇓P	**Pn**	23 07 35.6	+0.6
FIR				S	**Sn**	23 07 42.8	-0.6
CARD	**Cardoso**	**0.39**	**259**	P	**Pn**	23 07 35.4	+0.2
CARD				S	**Sn**	23 07 42.3	-1.5
CARD	**Cardoso**	**0.39**	**259**	⇑P	**Pn**	23 07 35.4	+0.2
CARD				S	**Sn**	23 07 42.5	-1.3
CARD				AML	AML		
comp=E,8745μm,0.1s							
CARD				AML	AML		
comp=N,15350μm,0.4s							
CARD				AML	AML		
comp=N,15350μm,0.4s							
CARD				AML	AML		
comp=E,8750μm,0.1s							
MAIM	**Mastiano**	**0.42**	**244**	P	**Pn**	**23 07 35.6**	**+0.3**
MAIM				S	**Sn**	23 07 42.8	-1.4
MAIM	**Mastiano**	**0.42**	**244**	⇑P	**Pn**	23 07 35.7	+0.3
MAIM				S	**Sn**	23 07 42.7	-1.4
MAIM				AML	AML		
comp=E,3890μm,0.7s							
MAIM				AML	AML		
comp=N,2610μm,0.5s							
MTRZ	**Monterenzio**	**0.43**	**50**	⇑P	**Pn**	**23 07 37.5**	**+1.9**
MTRZ				AML	AML		
comp=N,5795μm,0.6s							
MTRZ				AML	AML		
comp=E,10800μm,0.5s							
MTRZ				AML	AML		
comp=N,5980μm,0.6s							
MTRZ				AML	AML		
comp=E,10180μm,0.5s							
RUFI	**Rufina**	**0.44**	**125**	⇓P	**Pn**	**23 07 36.3**	**+0.6**
RUFI				S	**Sn**	23 07 43.8	-0.8
RUFI				AML	AML		
comp=E,781μm,0.2s							
RUFI				AML	AML		
comp=N,3890μm,0.4s							
RUFI				AML	AML		
comp=E,782μm,0.2s							
RUFI				AML	AML		
comp=N,3885μm,0.4s							
SARO	**Sassorosso**	**0.45**	**281**	P	**Pn**	**23 07 36.4**	**+0.6**
SARO				S	**Sn**	23 07 44.4	-0.5
SARO	**Sassorosso**	**0.45**	**281**	⇑P	**Pn**	23 07 36.4	+0.6
SARO				S	**Sn**	23 07 44.4	-0.5
SARO				AML	AML		
comp=E,502μm,0.4s							
SARO				AML	AML		
comp=N,576μm,0.4s							
VLC	**Villacollemand**	**0.45**	**278**	⇑P	**Pn**	**23 07 36.4**	**+0.7**
VLC				S	**Sn**	23 07 44.4	-0.4
VLC				AML	AML		
comp=E,608μm,1.3s							
VLC				AML	AML		
comp=N,885μm,0.3s							
VLC				AML	AML		
comp=E,628μm,1.3s							
VLC				AML	AML		
comp=N,913μm,0.3s							
VLC				AML	AML		
comp=N,884μm,0.3s							
VLC				AML	AML		
comp=E,608μm,1.3s							
LMD	**Lutirano**	**0.50**	**92**	⇓P	**Pn**	**23 07 37.4**	**+1.2**
LMD				AML	AML		
comp=E,1460μm,0.3s							
LMD				AML	AML		
comp=N,1705μm,0.4s							
PII	**Pisa**	**0.51**	**223**	⇑P	**Pn**	**23 07 36.9**	**+0.6**
PII				S	**Sn**	23 07 44.7	-1.0
PII				AML	AML		
comp=N,14750μm,0.2s							
PII				AML	AML		
comp=E,12600μm,0.2s							
MODE	**Modena**	**0.53**	**355**	P	**Pn**	**23 07 38.8**	**+2.3**
EQUI	**Equi**	**0.62**	**277**	P	**Pn**	23 07 38.2	+0.8
EQUI				S	**Sn**	23 07 47.1	-0.6
EQUI	**Equi**	**0.62**	**277**	⇑P	**Pn**	23 07 38.2	+0.8
EQUI				S	**Sn**	23 07 47.0	-0.6
EQUI				AML	AML		
comp=E,878μm,0.5s							
EQUI				AML	AML		
comp=N,982μm,0.3s							
SFI	**Santa Sofia**	**0.63**	**107**	⇓P	**Pn**	**23 07 38.5**	**+0.9**
SFI				S	**Sn**	23 07 48.0	0.0
SFI				AML	AML		
comp=E,1155μm,0.5s							
SFI				AML	AML		
comp=N,1066μm,1.2s							
SFI				AML	AML		
comp=E,1246μm,0.4s							
SFI				AML	AML		
comp=N,800μm,0.7s							
SFI				AML	AML		
comp=E,1241μm,0.4s							
ASQU	**Asqua**	**0.64**	**118**	⇓P	**Pn**	**23 07 38.4**	**+0.8**
ASQU				S	**Sn**	23 07 47.9	-0.2
ASQU				AML	AML		
comp=N,1152μm,1.4s							
ASQU				AML	AML		
comp=E,1225μm,0.2s							
FIU	**Minerbio Fiu**	**0.64**	**32**	⇑P	**Pn**	**23 07 39.6**	**+2.0**
FIU				S	**Sn**	23 07 51.1	+3.1
FIU				AML	AML		
comp=N,2605μm,0.4s							
FIU				AML	AML		
comp=E,3305μm,0.3s							
FIVI	**Fivizzano**	**0.65**	**283**	⇑P	**Pn**	**23 07 39.0**	**+1.3**
FIVI				AML	AML		
comp=E,4455μm,0.2s							
FIVI				AML	AML		
comp=E,4450μm,0.2s							
FIVI				AML	AML		
comp=N,4400μm,1.2s							
RAVA	**Ravarino**	**0.66**	**7**	P	**Pn**	**23 07 40.0**	**+2.2**
RAVA				S	**Sn**	23 07 51.4	+3.0
RAVA				AML	AML		
comp=E,3815μm,0.2s							
RAVA				AML	AML		
comp=E,3820μm,0.2s							
RAVA				AML	AML		
comp=N,5330μm,0.8s							
CAVE	**Cavezzo**	**0.77**	**360**	P	**Pn**	**23 07 40.7**	**+1.7**
CAVE				S	**Sn**	23 07 52.3	+1.8
CAVE				AML	AML		
comp=N,2025μm,1.1s							
CAVE				AML	AML		
comp=N,2030μm,1.1s							
CAVE				AML	AML		
comp=E,1735μm,1.4s							
GRAM	**Graiana**	**0.78**	**300**	P	**Pn**	**23 07 42.0**	**+2.7**
GRAM				S	**Sn**	23 07 55.7	+4.6
GRAM	**Graiana**	**0.78**	**300**	⇑P	**Pn**	**23 07 42.1**	**+2.7**
GRAM				AML	AML		
comp=N,2875μm,1.4s							
GRAM				AML	AML		
comp=E,3650μm,0.8s							
CRE	**Caprese Michel**	**0.83**	**125**	⇓P	**Pn**	**23 07 41.1**	**+1.2**
CRE				S	**Sn**	23 07 52.5	+0.4
CRE				AML	AML		
comp=E,1320μm,0.3s							
CRE				AML	AML		
comp=N,1975μm,0.7s							
PRMA	**PARMA**	**0.83**	**323**	P	**Pn**	**23 07 42.1**	**+2.3**
PLMA	**Palmaria, Port**	**0.84**	**267**	⇑P	**Pn**	**23 07 40.5**	**+0.7**
PLMA				S	**Sn**	23 07 51.4	-0.6
PLMA				AML	AML		
comp=N,714μm,1.1s							
PLMA				AML	AML		
comp=E,548μm,0.2s							
FROS	**Frosini**	**0.90**	**173**	⇓P	**Pn**	**23 07 41.4**	**+0.8**
FROS				S	**Sn**	23 07 53.0	-0.3
FROS				AML	AML		
comp=E,1044μm,0.5s							
FROS				AML	AML		
comp=E,1044μm,0.4s							
FROS				AML	AML		
comp=N,926μm,1.3s							
SERM	**Sermide**	**0.93**	**13**	⇑P	**Pn**	**23 07 42.4**	**+1.4**
SERM				S	**Sn**	23 07 55.5	+1.4
SERM				AML	AML		
comp=E,1130μm,0.2s							
SERM				AML	AML		
comp=N,752μm,0.6s							
SSP9	**Sansepolcro**	**0.97**	**122**	P	**Pn**	**23 07 42.8**	**+1.3**
SSP9				S	**Sn**	23 07 56.2	+1.4
TRIF	**Trifonti**	**0.99**	**185**	P	**Pn**	**23 07 42.8**	**+1.1**
TRIF				S	**Sn**	23 07 56.0	+0.7
TRIF				AML	AML		
comp=E,797μm,0.7s							
TRIF				AML	AML		
comp=N,826μm,0.2s							
TRIF				AML	AML		
comp=E,797μm,0.8s							
CPGN	**Carpegna, Ital**	**0.99**	**107**	P	**Pn**	**23 07 44.6**	**+2.7**
CPGN				AML	AML		
comp=E,732μm,0.6s							
CPGN				AML	AML		
comp=N,898μm,0.4s							
PARC	**Parchiule**	**1.00**	**116**	P	**Pn**	**23 07 43.3**	**+1.5**
PARC				AML	AML		
comp=N,592μm,0.4s							
PARC				AML	AML		
comp=E,623μm,1.5s							
CAFI	**Castiglion Fio**	**1.03**	**138**	⇓P	**Pn**	**23 07 43.6**	**+1.3**
CAFI				S	**Sn**	23 07 56.6	+0.2
CAFI				AML	AML		
comp=E,393μm,0.7s							
CAFI				AML	AML		
comp=N,395μm,0.4s							
GROG	**Isola di Gorgo**	**1.05**	**231**	⇑P	**Pn**	**23 07 43.4**	**+0.9**
GROG				S	**Sn**	23 07 56.2	-0.5
GROG				AML	AML		
comp=E,844μm,0.6s							
GROG				AML	AML		
comp=E,844μm,0.6s							
GROG				AML	AML		
comp=N,626μm,0.6s							
BLLA	**Bellaria**	**1.05**	**87**	P	**Pn**	**23 07 46.7**	**+4.2**
RSM	**Repubblica di**	**1.05**	**99**	P	**Pn**	**23 07 45.5**	**+3.0**
BADI	**Badiali**	**1.07**	**123**	P	**Pn**	**23 07 43.7**	**+1.0**
BADI				S	**Sn**	23 07 57.4	+0.2
BADI				AML	AML		
comp=N,959μm,0.3s							
BADI				AML	AML		
comp=E,764μm,0.4s							
BADI				AML	AML		
comp=N,958μm,0.3s							
MSSA	**Maissana**	**1.09**	**282**	P	**Pn**	**23 07 44.6**	**+1.4**
MSSA				S	**Sn**	23 07 58.7	+0.8
MSSA				AML	AML		
comp=E,511μm,1.2s							
MSSA				AML	AML		
comp=N,702μm,0.1s							
PE3	**Peglio**	**1.15**	**110**	⇓P	**Pn**	**23 07 46.4**	**+2.6**
PE3				AML	AML		
comp=E,2075μm,0.6s							
PE3				AML	AML		
comp=N,2065μm,0.3s							
APEC	**Apecchio**	**1.16**	**117**	P	**Pn**	**23 07 45.6**	**+1.8**
APEC				AML	AML		
comp=E,612μm,1.5s							
APEC				AML	AML		
comp=N,574μm,0.4s							
ATMI	**Monte Miggiano**	**1.19**	**129**	P	**Pn**	**23 07 45.4**	**+1.1**
ATMI				AML	AML		
comp=E,1008μm,1.5s							
ATMI				AML	AML		
comp=N,1255μm,0.3s							
ATPI	**Pietralunga -**	**1.20**	**122**	P	**Pn**	**23 07 45.6**	**+1.1**
ATPI				S	**Sn**	23 08 00.9	+0.7
ATPI				AML	AML		
comp=N,652μm,0.4s							
ATPI				AML	AML		
comp=E,392μm,0.6s							
PIEI	**Pieia**	**1.24**	**116**	⇓P	**Pn**	**23 07 46.5**	**+1.5**
PIEI				AML	AML		
comp=E,543μm,0.8s							
PIEI				AML	AML		
comp=N,270μm,0.4s							
ATVO	**AVT- Monte Val**	**1.24**	**125**	⇓P	**Pn**	**23 07 46.1**	**+1.1**
ATVO				AML	AML		
comp=E,555μm,0.9s							
ATVO				AML	AML		
comp=N,420μm,0.6s							
ARCI	**Arcidosso**	**1.29**	**165**	⇓P	**Pn**	**23 07 46.8**	**+1.1**
ARCI				S	**Sn**	23 08 02.3	-0.1
ARCI				AML	AML		
comp=N,186μm,0.4s							
ARCI				AML	AML		
comp=E,160μm,1.3s							
BOB	**Bobbio (Coli)**	**1.30**	**301**	⇓P	**Pn**	**23 07 49.0**	**+3.1**
BOB				AML	AML		
comp=E,1340μm,0.4s							
BOB				AML	AML		
comp=N,1285μm,0.6s							
BOB				AML	AML		
comp=E,1380μm,0.4s							
BOB				AML	AML		
comp=N,1420μm,0.5s							
CASP	**Castiglione de**	**1.31**	**185**	⇓P	**Pn**	**23 07 47.1**	**+1.2**
CASP				S	**Sn**	23 08 02.6	-0.1
CASP				AML	AML		
comp=N,2135μm,0.5s							
CASP				AML	AML		
comp=E,648μm,0.4s							
PESA	**Pesaro**	**1.33**	**96**	P	**Pn**	**23 07 48.2**	**+2.1**
PESA				AML	AML		
comp=E,1630μm,0.2s							
PESA				AML	AML		
comp=N,1148μm,1.3s							
GORR	**Gorreto**	**1.33**	**293**	P	**Pn**	**23 07 48.7**	**+2.5**
GORR				AML	AML		
comp=E,1220μm,0.3s							
GORR				AML	AML		
comp=N,1760μm,0.5s							
TEOL	**Teolo**	**1.35**	**20**	P	**Pn**	**23 07 46.6**	**+0.3**
TEOL				AML	AML		
comp=E,1915μm,1.2s							
TEOL				AML	AML		
comp=N,1365μm,0.3s							
ATFO	**Monte Foce - G**	**1.35**	**122**	P	**Pn**	**23 07 47.6**	**+1.2**
ATFO				AML	AML		
comp=N,458μm,0.3s							
ATFO				AML	AML		
comp=E,528μm,1.2s							
MPAG	**Monte Paganucc**	**1.35**	**110**	P	**Pn**	**23 07 48.8**	**+2.3**
FRON	**Frontone**	**1.37**	**114**	P	**Pn**	**23 07 48.6**	**+1.9**
FRON				AML	AML		
comp=N,532μm,0.5s							
FRON				AML	AML		
comp=E,400μm,0.6s							
MURB	**Monte Urbino**	**1.38**	**127**	⇓P	**Pn**	**23 07 48.1**	**+1.3**
MURB				S	**Sn**	23 08 05.2	+0.8
MURB				AML	AML		
comp=E,1680μm,0.2s							
MURB				AML	AML		
comp=N,2255μm,0.2s							
SACS	**San Casciano d**	**1.41**	**152**	P	**Pn**	**23 07 48.7**	**+1.4**
SACS				AML	AML		
comp=E,101μm,0.8s							
SACS				AML	AML		
comp=N,140μm,0.4s							
TREG	**Tregnago**	**1.43**	**4**	P	**Pn**	**23 07 47.9**	**+0.5**
MGAB	**Montegabbione**	**1.43**	**146**	⇓P	**Pn**	**23 07 48.9**	**+1.4**
MGAB				AML	AML		
comp=E,362μm,0.3s							
MGAB				AML	AML		
comp=N,329μm,0.2s							

SSFR	**Montelago di S**	**1.45 117**	P	**Pn**	**23 07 49.5 +1.8**	
SSFR			AML	AML		
	comp=E,1034µm,0.2s					
SSFR			AML	AML		
	comp=N,1080µm,0.2s					
SSFR			AML	AML		
	comp=N,1027µm,0.2s					
SSFR			AML	AML		
	comp=E,932µm,0.3s					
CELB	**S.Piero in Cam**	**1.47 204**	⇑P	**Pn**	**23 07 49.0 +1.0**	
CELB			S	**Sn**	**23 08 05.8 -0.7**	
CELB			AML	AML		
	comp=N,2290µm,0.7s					
CELB			AML	AML		
	comp=E,2210µm,0.3s					
CTL8	**Castelleone**	**1.48 323**	⇑P	**Pn**	**23 07 51.2 +3.2**	
CTL8			AML	AML		
	comp=N,144µm,0.3s					
CTL8			AML	AML		
	comp=E,176µm,0.4s					
ATCC	**AVT- Casa Cast**	**1.50 127**	P	**Pn**	**23 07 49.5 +1.2**	
ATCC			AML	AML		
	comp=E,486µm,0.4s					
ATCC			AML	AML		
	comp=N,479µm,0.6s					
FOSV	**Fossato di Vic**	**1.50 122**	P	**Pn**	**23 07 49.9 +1.4**	
FOSV			AML	AML		
	comp=E,227µm,0.9s					
FOSV			AML	AML		
	comp=N,218µm,0.4s					
ARVD	**Arcevia**	**1.52 113**	P	**Pn**	**23 07 51.1 +2.5**	
ARVD			AML	AML		
	comp=E,368µm,0.3s					
ARVD			AML	AML		
	comp=N,274µm,0.7s					
ROVR	**Rover Verones**	**1.55 2**	⇓P	**Pn**	**23 07 49.5 +0.3**	
SALO	**Salr**	**1.56 347**	P	**Pn**	**23 07 50.3 +1.2**	
SALO			AML	AML		
	comp=N,502µm,1.1s					
SALO			AML	AML		
	comp=E,465µm,0.5s					
ASSB	**Assisi San Ben**	**1.60 131**	⇓P	**Pn**	**23 07 50.6 +0.9**	
ASSB			AML	AML		
	comp=N,283µm,0.4s					
ASSB			AML	AML		
	comp=E,288µm,0.5s					
SNTG	**Esanatoglia**	**1.64 120**	P	**Pn**	**23 07 51.9 +1.7**	
SNTG			AML	AML		
	comp=N,372µm,0.3s					
SNTG			AML	AML		
	comp=E,244µm,0.3s					
MAON	**Monte Argentar**	**1.67 177**	⇓P	**Pn**	**23 07 52.2 +1.5**	
MAON			AML	AML		
	comp=N,270µm,0.7s					
MAON			AML	AML		
	comp=E,213µm,0.5s					
MAGA	**Magasa**	**1.70 351**	P	**Pn**	**23 07 51.6 +0.4**	
MAGA			AML	AML		
	comp=E,1006µm,0.5s					
MAGA			AML	AML		
	comp=N,806µm,0.5s					
EL6	**Elcito**	**1.70 116**	P	**Pn**	**23 07 53.6 +2.5**	
EL6			AML	AML		
	comp=E,510µm,1.6s					
EL6			AML	AML		
	comp=N,595µm,0.3s					
MOMA	**Monte Martano**	**1.72 138**	P	**Pn**	**23 07 52.8 +1.4**	
MOMA			AML	AML		
	comp=N,319µm,0.2s					
MOMA			AML	AML		
	comp=E,280µm,0.6s					
CESI	**CESI - Serrava**	**1.76 128**	P	**Pn**	**23 07 53.1 +1.2**	
CESI			AML	AML		
	comp=E,101µm,0.5s					
CESI			AML	AML		
	comp=N,80µm,1.1s					
PCP	**Piancastagn**	**1.82 285**	⇑P	**Pn**	**23 07 53.7 +1.0**	
PCP			S	**Sn**	**23 08 15.6 +0.7**	
PCP			AML	AML		
	comp=E,146µm,1.5s					
PCP			AML	AML		
	comp=N,212µm,1.4s					
FDMO	**Fiordimonte**	**1.85 124**	P	**Pn**	**23 07 54.6 +1.6**	
FDMO			AML	AML		
	comp=E,170µm,0.3s					
FDMO			AML	AML		
	comp=N,148µm,1.6s					
CGRP	**Cima Grappa**	**1.87 17**	P	**Pn**	**23 07 53.7 +0.2**	
CESX	**Cesi**	**1.88 142**	P	**Pn**	**23 07 55.4 +2.0**	
CESX			AML	AML		
	comp=N,196µm,1.4s					
CESX			AML	AML		
	comp=E,204µm,0.3s					
MDI	**Monti di Nese**	**1.92 332**	P	**Pn**	**23 07 54.9 +0.9**	
MDI			AML	AML		
	comp=N,190µm,0.4s					
MDI			AML	AML		
	comp=E,239µm,1.5s					
QLNO	**Quiliano**	**1.93 278**	P	**Pn**	**23 07 55.1 +1.0**	
QLNO			S	**Sn**	**23 08 17.4 0.0**	
QLNO			AML	AML		
	comp=E,378µm,0.9s					
QLNO			AML	AML		
	comp=N,385µm,0.7s					
NRCA	**Norcia**	**1.99 129**	P	**Pn**	**23 07 56.5 +1.5**	
NRCA			AML	AML		
	comp=N,156µm,1.2s					
NRCA			AML	AML		
	comp=E,167µm,1.3s					
ARRO	**Arrone**	**1.99 139**	⇑P	**Pn**	**23 07 57.4 +2.5**	
ARRO			AML	AML		
	comp=E,116µm,1.4s					
ARRO			AML	AML		
	comp=N,164µm,1.1s					
MABI	**Malga Bissina**	**1.99 350**	P	**Pn**	**23 07 55.8 +0.8**	
MABI			AML	AML		
	comp=N,137µm,1.0s					
MABI			AML	AML		
	comp=E,176µm,0.3s					
CTI	**Castel Tesino**	**2.00 13**	AML	AML		
	comp=N,1210µm,0.9s					
CTI			AML	AML		
	comp=E,1635µm,0.2s					
ROTM	**Rocchetta Tana**	**2.04 292**	P	**Pn**	**23 07 59.0 +3.4**	
ROTM			AML	AML		
	comp=E,676µm,1.2s					
ROTM			AML	AML		
	comp=N,682µm,1.5s					
LNSS	**Leonessa**	**2.10 135**	P	**Pn**	**23 07 58.2 +1.6**	
LNSS			AML	AML		
	comp=E,356µm,1.0s					
LNSS			AML	AML		
	comp=N,282µm,0.6s					
RORO	**Rocca Rossa**	**2.12 271**	P	**Pn**	**23 07 57.5 +0.8**	
RORO			AML	AML		
	comp=N,264µm,0.2s					
RORO			AML	AML		
	comp=E,188µm,1.1s					
PGF	**Pioggiola**	**2.13 224**	*e*Pn	**Pn**	**23 07 58.1 +1.2**	
PGF			*e*Sn	**Sn**	**23 08 22.1 -0.4**	
	comp=E,105nm,0.4s					
TOLF	**Tolfa**	**2.16 160**	P	**Pn**	**23 07 59.1 +1.9**	
TOLF			AML	AML		
	comp=E,34µm,1.4s					
TOLF			AML	AML		
	comp=N,33µm,1.1s					
CORF	**Corte**	**2.25 218**	P	**Pn**	**23 08 00.2 +1.7**	
CORF	**Corte**	**2.25 218**	AML	AML		
	comp=E,73µm,0.3s					
CORF			AML	AML		
	comp=N,64µm,1.0s					
IMI	**Imperia**	**2.26 266**	⇑P	**Pn**	**23 07 59.4 +0.8**	
IMI			S	**Sn**	**23 08 24.9 -0.5**	
IMI			AML	AML		
	comp=N,299µm,0.2s					
IMI			AML	AML		
	comp=E,167µm,1.1s					
RM33	**Pellescritta (**	**2.26 134**	P	**Pn**	**23 08 00.5 +1.9**	
RM33			AML	AML		
	comp=E,164µm,0.4s					
RM33			AML	AML		
	comp=N,143µm,0.4s					
OFFI	**Offida**	**2.27 120**	⇑P	**Pn**	**23 08 03.3 +4.7**	
GBOS	**Grotte di Boss**	**2.29 275**	P	**Pn**	**23 08 00.3 +1.4**	
GBOS			S	**Sn**	**23 08 27.0 +0.9**	
GBOS			AML	AML		
	comp=E,99µm,0.4s					
GBOS			AML	AML		
	comp=N,84µm,0.4s					
MUGIO	**Muggio**	**2.30 323**	⇓P	**Pn**	**23 07 59.9 +0.8**	
MUGIO			AML	AML		
	comp=N,103µm,0.4s					
MUGIO			AML	AML		
	comp=E,103µm,0.2s					
AGOR	**Agordo**	**2.31 18**	P	**Pn**	**23 08 00.4 +1.3**	
AGOR			AML	AML		
	comp=E,184µm,0.3s					
AGOR			AML	AML		
	comp=N,222µm,0.3s					
MGRO	**Montegrosso**	**2.31 270**	⇑P	**Pn**	**23 08 00.5 +1.2**	
MGRO			AML	AML		
	comp=N,270µm,0.2s					
MGRO			AML	AML		
	comp=E,352µm,0.2s					
CAMP	**Campotosto**	**2.35 131**	⇑P	**Pn**	**23 08 02.1 +2.2**	
CAMP			AML	AML		
	comp=E,73µm,0.6s					
CAMP			AML	AML		
	comp=N,86µm,1.4s					
SMPL	**Sampolo**	**2.37 213**	⇑P	**Pn**	**23 08 02.4 +2.3**	
SMPL			AML	AML		
	comp=E,68µm,0.5s					
SMPL			AML	AML		
	comp=N,63µm,0.6s					
VARE	**Varese**	**2.38 319**	⇓P	**Pn**	**23 08 01.2 +0.9**	
VARE			AML	AML		
	comp=E,130µm,0.4s					
VARE			AML	AML		
	comp=N,146µm,1.3s					
KOSI	**Kohlern**	**2.38 6**	⇑P	**Pn**	**23 08 01.7 +1.4**	
KOSI			AML	AML		
	comp=E,408µm,0.2s					
KOSI			AML	AML		
	comp=N,308µm,0.4s					
FIAM	**Fiamignano**	**2.39 139**	⇑P	**Pn**	**23 08 02.9 +2.5**	
FIAM			AML	AML		
	comp=N,65µm,0.8s					
FIAM			AML	AML		
	comp=E,77µm,1.6s					
BOSI	**Bolzano**	**2.41 5**	⇑P	**Pn**	**23 08 02.5 +2.0**	
BOSI			AML	AML		
	comp=N,690µm,0.4s					
BOSI			AML	AML		
	comp=E,516µm,0.6s					
MONC	**Moncucco Torin**	**2.41 295**	P	**Pn**	**23 08 03.7 +3.1**	
MONC			AML	AML		
	comp=N,160µm,0.8s					
MONC			AML	AML		
	comp=E,172µm,1.4s					
BERNI	**Berninapass**	**2.42 344**	⇓P	**Pn**	**23 08 03.1 +2.2**	
BERNI			AML	AML		
	comp=E,86µm,0.4s					
BERNI			AML	AML		
	comp=N,94µm,0.4s					
BRMO	**Bormio**	**2.42 350**	⇓P	**Pn**	**23 08 02.6 +1.8**	
BRMO			AML	AML		
	comp=E,85µm,0.4s					
BRMO			AML	AML		
	comp=N,68µm,0.2s					
AQU	**L'Aquila**	**2.47 134**	*e*Pn	**Pn**	**23 08 03.2 +1.8**	
STAL	**STALIGIAL**	**2.47 28**	⇑P	**Pn**	**23 08 01.9 +0.4**	
STAL			S	**Sn**	**23 08 31.0 +0.4**	
STAL			AML	AML		
	comp=E,1465µm,0.2s					
STAL			AML	AML		
	comp=N,1300µm,1.1s					
STAL			AML	AML		
	comp=N,1755µm,0.2s					
STAL			AML	AML		
	comp=E,1470µm,0.2s					
SAOF	**Saorge**	**2.49 269**	⇓P	**Pn**	**23 08 03.5 +1.7**	
SAOF			S	**Sn**	**23 08 33.0 +1.9**	
SAOF			AML	AML		
	comp=N,206µm,0.9s					
SAOF			AML	AML		
	comp=E,223µm,0.8s					
BURY	**Giardini Botan**	**2.51 264**	P	**Pn**	**23 08 02.8 +0.9**	
BURY			S	**Sn**	**23 08 32.0 +0.5**	
MOSI	**Grossmontoni**	**2.54 353**	⇓P	**Pn**	**23 08 05.0 +2.5**	
MOSI			AML	AML		
	comp=E,314µm,0.4s					
MOSI			AML	AML		
	comp=N,494µm,0.7s					
SKDS	**Skadanscina**	**2.58 55**	*e*Pn	**Pn**	**23 08 02.5 -0.4**	
SKDS	**Skadanscina**	**2.58 55**	*i* Pn	**Pn**	**23 08 02.7 -0.2**	
SKDS			*e*Sn	**Sn**	**23 08 32.0 -1.2**	
SKDS			IAML		23 08 34.1	
	comp=Z,38nm,0.1s					
ENR	**Entracque**	**2.59 274**	⇓P	**Pn**	**23 08 05.0 +1.9**	
ENR			S	**Sn**	**23 08 35.0 +1.5**	
ENR			AML	AML		
	comp=N,193µm,0.2s					
ENR			AML	AML		
	comp=E,122µm,0.3s					
SBF	**Sospel**	**2.59 266**	*e*Pn	**Pn**	**23 08 04.4 +1.3**	
SBF			*e*Sn	**Sn**	**23 08 33.0 -0.5**	
	comp=E,129nm,0.2s					
MON	**Monaco**	**2.62 263**	Pn	**Pn**	**23 08 04.7 +1.3**	
MON			Sn	**Sn**	**23 08 33.6 -0.4**	
SABO	**M.te Sabotino**	**2.63 43**	⇑P	**Pn**	**23 08 04.1 +0.5**	
SABO			S	**Sn**	**23 08 35.0 +0.6**	
SABO			AML	AML		
	comp=E,864µm,0.8s					
SABO			AML	AML		
	comp=N,744µm,0.7s					
ABSI	**Aberstueckl**	**2.64 5**	⇑P	**Pn**	**23 08 05.3 +1.4**	
ABSI			AML	AML		
	comp=N,373µm,0.4s					
ABSI			AML	AML		
	comp=E,384µm,0.6s					
TUE	**Stuetta**	**2.65 334**	⇓P	**Pn**	**23 08 05.8 +1.8**	
TUE			AML	AML		
	comp=E,97µm,1.5s					
TUE			AML	AML		
	comp=N,117µm,1.4s					
TUE			AML	AML		
	comp=E,112µm,0.2s					
TUE			AML	AML		
	comp=N,144µm,0.4s					
STV	**Sant Anna di V**	**2.66 274**	⇑P	**Pn**	**23 08 06.0 +2.0**	
STV			AML	AML		
	comp=E,136µm,0.3s					
STV			AML	AML		
	comp=N,85µm,1.4s					
LAV9	**Lanuvio**	**2.72 152**	⇑P	**Pn**	**23 08 05.1 +0.3**	
TRAV	**Traversella**	**2.72 302**	⇓P	**Pn**	**23 08 04.9 0.0**	
AJAC	**Base Areonaval**	**2.72 218**	P	**Pn**	**23 08 06.3 +1.5**	
AJAC			AML	AML		
	comp=E,170µm,0.6s					
AJAC			AML	AML		
	comp=N,143µm,0.2s					
RIY	**Rijeka**	**2.76 62**	*e*Pn	**Pn**	**23 08 05.8 +0.4**	
RIY			Sn	**Sn**	**23 08 35.5 -2.1**	
RABC	**Rab**	**2.78 75**	*e*Pn	**Pn**	**23 08 06.4 +0.8**	
RABC			Sn	**Sn**	**23 08 35.8 -2.2**	
ROBS	**Robic**	**2.78 39**	*e*Pn	**Pn**	**23 08 06.0 +0.4**	
ROBS			*i* Sn	**Sn**	**23 08 37.7 -0.3**	
ROBS			IAML		23 08 38.6	
	comp=Z,54nm,0.1s					
BHB	**Bricherasio**	**2.78 287**	⇓P	**Pn**	**23 08 06.4 +0.7**	
BHB			AML	AML		
	comp=E,43µm,0.3s					
BHB			AML	AML		
	comp=N,44µm,0.8s					
DAVOX	**Davos/Dischmat**	**2.80 344**	⇓P	**Pn**	**23 08 08.7 +2.7**	
DAVOX			AML	AML		
	comp=N,91µm,0.6s					
DAVOX			AML	AML		
	comp=E,52µm,0.3s					
VOJS	**Vojsko**	**2.81 45**	*i* Pn	**Pn**	**23 08 06.3 +0.2**	
VOJS			*e*Sn	**Sn**	**23 08 38.4 -0.5**	
VOJS			IAML		23 08 40.4	
	comp=Z,55nm,0.1s					
NVLJ	**Novalja**	**2.81 79**	*e*Pn	**Pn**	**23 08 06.7 +0.8**	
NVLJ			Sn	**Sn**	**23 08 36.8 -1.9**	
JAVS	**Javornik**	**2.81 49**	*i* Pn	**Pn**	**23 08 06.1 -0.1**	
JAVS			*e*Sn	**Sn**	**23 08 37.9 -1.1**	
JAVS			IAML		23 08 40.1	
	comp=Z,63nm,0.2s					
PZZ	**Stroppo**	**2.83 280**	⇑P	**Pn**	**23 08 07.8 +1.4**	
PZZ			S	**Sn**	**23 08 41.0 +1.7**	
PZZ			AML	AML		
	comp=E,121µm,0.2s					
PZZ			AML	AML		
	comp=N,86µm,0.8s					
PTCC	**Patocco-Chiusa**	**2.84 35**	⇓P	**Pn**	**23 08 07.1 +0.6**	
PTCC			S	**Sn**	**23 08 40.0 +0.4**	
PTCC			AML	AML		
	comp=N,178µm,0.5s					
PTCC			AML	AML		
	comp=E,224µm,0.3s					
ROSI	**Rosskopf**	**2.84 6**	⇑P	**Pn**	**23 08 08.2 +1.5**	
ROSI			AML	AML		
	comp=N,285µm,0.3s					
ROSI			AML	AML		
	comp=E,298µm,0.6s					
SATI	**Passo dei Sala**	**2.85 310**	P	**Pn**	**23 08 07.4 +0.6**	
SATI			AML	AML		
	comp=N,51µm,0.6s					
SATI			AML	AML		
	comp=E,57µm,1.2s					
ABTA	**Abfaltersbach**	**2.85 21**	*e*Pn	**Pn**	**23 08 08.1 +1.4**	
	comp=E,2.3nm,0.1s,SNR=28					
ABTA			*e*Sn	**Sn**	**23 08 40.5 +0.5**	
	comp=E,46nm,0.3s					
CIRO	**Champorcher**	**2.87 303**	⇓P	**Pn**	**23 08 06.5 -0.6**	
CIRO			AML	AML		
	comp=N,60µm,0.7s					
CIRO			AML	AML		
	comp=E,52µm,0.4s					
RSP	**Reno Superiore**	**2.87 293**	⇓P	**Pn**	**23 08 06.8 -0.1**	
CADS	**Cadrg**	**2.87 41**	*e*Pn	**Pn**	**23 08 07.1 +0.2**	
CADS			*e*Sn	**Sn**	**23 08 39.8 -0.6**	
FUSIO	**Fusio**	**2.88 326**	⇓P	**Pn**	**23 08 08.2 +1.1**	
FUSIO			S	**Sn**	**23 08 41.0 +0.3**	
FUSIO			AML	AML		
	comp=N,68µm,0.3s					
FUSIO			AML	AML		
	comp=E,83µm,0.4s					
MMK	**Mattmark**	**2.91 313**	⇓P	**Pn**	**23 08 07.8 +0.2**	
MMK			AML	AML		
	comp=E,74µm,0.5s					
MMK			AML	AML		
	comp=N,66µm,1.0s					
DUGI	**Dugi Otok**	**2.92 91**	*e*Pn	**Pn**	**23 08 08.4 +0.9**	
DUGI			Sn	**Sn**	**23 08 39.0 -2.4**	
CEY	**Cerknica**	**2.93 55**	*e*Pn	**Pn**	**23 08 07.1 -0.6**	
FETA	**Feichten**	**2.93 356**	*e*Pn	**Pn**	**23 08 10.2 +2.4**	
	comp=N,4.0nm,0.3s,SNR=26					
FETA			Sn	**Sn**	**23 08 43.8 +1.9**	
	comp=N,17nm,0.5s					
RISI	**Rein**	**2.95 14**	⇑P	**Pn**	**23 08 10.6 +2.6**	
RISI			S	**Sn**	**23 08 43.0 +0.6**	
RISI			AML	AML		
	comp=E,778µm,0.6s					
RISI			AML	AML		
	comp=N,1046µm,0.5s					
LATB	**Latina**	**2.97 150**	S	**Sn**	**23 08 43.0 +0.3**	
ACOM	**Acomizza, Ital**	**3.02 35**	⇓P	**Pn**	**23 08 10.0 +0.9**	
ACOM			AML	AML		
	comp=N,328µm,0.5s					
ACOM			AML	AML		
	comp=E,425µm,0.6s					
GORS	**Gorjuse**	**3.06 43**	*e*Pn	**Pn**	**23 08 09.9 +0.4**	
GORS			IAML		23 08 46.0	
	comp=Z,26nm,0.1s					
LSD	**Lago del Serru**	**3.08 298**	⇓P	**Pn**	**23 08 09.4 -0.4**	
LSD			AML	AML		
	comp=N,28µm,1.3s					
LSD			AML	AML		
	comp=E,34µm,1.2s					
EMBD	**Embd, Matterta**	**3.09 314**	Pn	**Pn**	**23 08 10.9 +1.0**	
MBDF	**Montbardon**	**3.10 283**	*e*Pn	**Pn**	**23 08 11.6 +1.5**	
MBDF			*e*Sn	**Sn**	**23 08 45.2 -0.9**	
	comp=E,7.2nm,0.2s					
SQTA	**Sankt Quirin**	**3.13 2**	*e*Pn	**Pn**	**23 08 12.9 +2.4**	
	comp=E,37nm,0.3s,SNR=34					
SQTA			*e*Sn	**Sn**	**23 08 47.5 +0.8**	
	comp=E,20nm,0.4s					
MYKA	**Terra Mystica**	**3.14 35**	*e*Pn	**Pn**	**23 08 11.6 +1.0**	
	comp=E,1.8nm,0.2s,SNR=5.5					
MYKA			*e*Sn	**Sn**	**23 08 46.1 -0.8**	
	comp=E,31nm,0.3s					
LJU	**Ljubljana**	**3.16 51**	*e*Pn	**Pn**	**23 08 10.7 -0.1**	
LJU	**Ljubljana**	**3.16 51**	⇑P	**Pn**	**23 08 11.6 +0.8**	
LJU			AML	AML		
	comp=E,1905µm,0.4s					
LJU			AML	AML		
	comp=N,2430µm,0.6s					
PLONS	**Plons/SG**	**3.17 339**	⇑P	**Pn**	**23 08 14.2 +3.3**	
PLONS			AML	AML		
	comp=E,131µm,0.5s					
PLONS			AML	AML		
	comp=N,70µm,0.7s					
WTTA	**Wattenberg**	**3.20 8**	*i* Pn	**Pn**	**23 08 13.8 +2.4**	
	comp=N,9.8nm,0.2s,SNR=27					
WTTA			*e*Sn	**Sn**	**23 08 49.1 +0.7**	
	comp=N,29nm,0.4s					
WTTA	**Wattenberg**	**3.20 8**	⇓P	**Pn**	**23 08 13.6 +2.2**	
WTTA			AML	AML		
	comp=E,188µm,0.5s					
WTTA			AML	AML		
	comp=N,186µm,0.4s					
FRF	**La Foret Royal**	**3.20 262**	*e*Pn	**Pn**	**23 08 12.8 +1.5**	
FRF			*e*Sn	**Sn**	**23 08 47.5 -0.8**	
	comp=N,63nm,0.2s					
REMY	**Saint-Rhmy-en**	**3.24 304**	⇓P	**Pn**	**23 08 12.5 +0.4**	
REMY			AML	AML		
	comp=N,85µm,1.1s					
REMY			AML	AML		
	comp=E,80µm,0.6s					
MOTA	**Moosalm**	**3.25 1**	*i* Pn	**Pn**	**23 08 14.7 +2.6**	
	comp=E,11nm,0.3s,SNR=32					
MOTA			*e*Sn	**Sn**	**23 08 51.4 +1.7**	
	comp=E,87nm,0.6s					
WATA	**Walderalm**	**3.26 7**	*i* Pn	**Pn**	**23 08 14.8 +2.5**	
	comp=E,9.3nm,0.2s,SNR=20					
WATA			*e*Sn	**Sn**	**23 08 53.5 +3.5**	
	comp=E,76nm,0.3s					
MRGE	**Morge**	**3.26 302**	⇓P	**Pn**	**23 08 13.5 +1.2**	
MRGE			AML	AML		
	comp=E,34µm,0.7s					
MRGE			AML	AML		
	comp=N,43µm,0.7s					
DAVA	**Damuels**	**3.29 346**	*i* Pn	**Pn**	**23 08 15.4 +2.7**	
	comp=N,12nm,0.2s,SNR=28					
DAVA			*e*Sn	**Sn**	**23 08 52.7 +2.1**	
	comp=N,29nm,0.4s					
BNALP	**Bannalp**	**3.31 328**	⇑P	**Pn**	**23 08 15.6 +2.6**	
BNALP			AML	AML		
	comp=N,114µm,0.6s					
BNALP			AML	AML		
	comp=E,70µm,0.9s					
BOJS	**Bojanci**	**3.33 64**	*e*Pn	**Pn**	**23 08 13.7 +0.6**	
BOJS	**Bojanci**	**3.33 64**	P	**Pn**	**23 08 13.2 +0.1**	
BOJS			AML	AML		
	comp=N,169µm,0.2s					
BOJS			AML	AML		
	comp=E,172µm,1.5s					
LPG	**La Plagne**	**3.34 296**	*e*Pn	**Pn**	**23 08 14.0 +0.5**	
LMR	**La Mourre**	**3.35 258**	*e*Pn	**Pn**	**23 08 14.6 +1.2**	
LMR			*e*Sn	**Sn**	**23 08 51.1 -0.8**	
	comp=E,44nm,0.2s					
LPL	**La Plagne**	**3.36 296**	*e*Pn	**Pn**	**23 08 14.4 +0.7**	
LPL			*e*Sn	**Sn**	**23 08 51.6 -0.9**	
	comp=E,19nm,0.4s					
ZIRJ	**Zirje**	**3.38 96**	*e*Pn	**Pn**	**23 08 14.8 +1.0**	
ZIRJ			Sn	**Sn**	**23 08 50.4 -2.2**	
RETA	**Reutte**	**3.39 357**	*i* Pn	**Pn**	**23 08 16.3 +2.3**	
	comp=E,27nm,0.2s,SNR=94					
RETA			*e*Sn	**Sn**	**23 08 55.0 +1.9**	
	comp=E,45nm,0.5s					
KBA	**Koelnbreinsper**	**3.40 28**	*e*Pn	**Pn**	**23 08 16.3 +2.1**	
	comp=E,2.8nm,0.2s					
KBA			*e*Sn	**Sn**	**23 08 52.7 -0.7**	
	comp=E,19nm,0.2s					
OBKA	**Obir**	**3.47 45**	*i* Pn	**Pn**	**23 08 15.6 +0.6**	
	comp=E,0.8nm,0.2s,SNR=6.3					
OBKA			*e*Sn	**Sn**	**23 08 53.8 -1.2**	
	comp=E,13nm,0.2s					
CRES	**Cresnjev**	**3.60 60**	*e*Pn	**Pn**	**23 08 16.5 -0.2**	
ZUR	**Degenried**	**3.69 333**	Pn	**Pn**	**23 08 19.6 +1.6**	
ZUR	**Degenried**	**3.69 333**	Sn	**Sn**	**23 08 59.9 -0.3**	
ORIF	**Oris-en-Rattie**	**3.76 284**	*e*Pn	**Pn**	**23 08 21.8 +2.8**	
ORIF			*e*Sn	**Sn**	**23 09 01.0 -1.1**	
	comp=E,7.7nm,0.3s					
PTRJ	**Pietraroja**	**3.77 135**	S	**Sn**	**23 09 07.0 +4.7**	

SOKA Soboth 3.83 46 *i* Pn **Pn 23 08 18.9 -1.1**
comp=E,0.4nm,0.3s
SOKA *e*Sn **Sn 23 09 03.0 -0.9**
comp=E,6.4nm,0.3s
MELA Melanico ??? S 3.85 127 ⇓P **Pn 23 08 23.4 +3.1**
KIJV Kijevo 3.89 90 *e*Pn **Pn 23 08 21.9 +1.2**
KIJV Sn **Sn 23 09 03.6 -1.6**
SMRF Simiane la Rot 3.92 270 *e*Pn **Pn 23 08 23.8 +2.6**
SMRF *e*Sn **Sn 23 09 04.3 -1.7**
comp=E,5.3nm,0.3s
PTJ Puntijarka 3.96 61 *e*Pn **Pn 23 08 21.9 +0.3**
SULZ Cheisacher 3.98 330 Pn **Pn 23 08 22.9 +0.9**
BALST Balsthal 3.98 326 Sn **Sn 23 09 04.5 -3.0**
BALST Balsthal 3.98 326 Pn **Pn 23 08 22.8 +0.8**
HVAR Hvar 4.05 101 *e*Pn **Pn 23 08 23.9 +0.9**
HVAR Sn **Sn 23 09 06.9 -2.3**
SLE Schleitheim 4.07 335 Pn **Pn 23 08 23.9 +0.8**
LOBO Lobor 4.13 58 *e*Pn **Pn 23 08 24.7 +0.7**
LOBO Sn **Sn 23 09 08.8 -2.1**
GUT Gutenstein 4.19 342 Pn **Pn 23 08 25.5 +0.7**
GUT Gutenstein 4.19 342 Sn **Sn 23 09 10.4 -2.0**
SGRT San Giovanni R 4.19 122 ⇑P **Pn 23 08 27.6 +2.7**
SGRT AML AML
comp=N,35μm,1.0s
SGRT AML AML
comp=E,40μm,0.8s
BOURR Bourrignon 4.23 323 Pn **Pn 23 08 26.5 +1.2**
BRANT Les Verrieres 4.27 313 Pn **Pn 23 08 27.5 +1.6**
BRANT Les Verrieres 4.27 313 Sn **Sn 23 09 14.3 -0.3**
CABF La Chapelle 4.28 308 *e*Pn **Pn 23 08 27.5 +1.3**
CABF *e*Sn **Sn 23 09 13.2 -1.7**
comp=E,8.0nm,0.4s
MSAG Monte S. Angel 4.32 122 ⇓P **Pn 23 08 29.5 +2.8**
MOSL Moslavina 4.36 68 *e*Pn **Pn 23 08 27.8 +0.7**
MGRS Mrkonjic Grad 4.38 84 *e*Pn **Pn 23 08 29.3 +1.9**
MOA Molln 4.38 30 *i* Pn **Pn 23 08 29.1 +1.6**
comp=E,1.5nm,0.3s,SNR=6.2
MOA *e*Sn **Sn 23 09 17.7 +0.5**
comp=E,25nm,0.3s
ARSA Arzberg 4.47 44 *e*Pn **Pn 23 08 30.1 +1.5**
comp=E,1.4nm,0.2s
ARSA *e*Sn **Sn 23 09 16.5 -2.8**
comp=E,4.0nm,0.5s
ARSA Arzberg 4.47 44 ⇓P **Pn 23 08 30.5 +1.9**
ARSA AML AML
comp=N,18μm,0.8s
ARSA AML AML
comp=E,13μm,0.6s
BLY Banja Luka 4.47 79 *e*Pn **Pn 23 08 28.9 +0.3**
RICI Ricice 4.47 96 *e*Pn **Pn 23 08 30.1 +1.4**
RICI Sn **Sn 23 09 17.8 -1.6**
LSTV Lastovo 4.49 105 *e*Pn **Pn 23 08 29.3 +0.5**
VIVF Saint-Julien-I 4.60 282 *e*Pn **Pn 23 08 31.9 +1.5**
VIVF *e*Sn **Sn 23 09 20.8 -1.7**
comp=E,1.7nm,0.2s
HINF Hinteralfeld 4.71 324 *e*Pn **Pn 23 08 32.7 +0.7**
HINF *e*Sn **Sn 23 09 22.3 -3.1**
comp=E,8.2nm,0.2s
ECH Echery 4.91 328 Pn **Pn 23 08 35.3 +0.6**
ECH Sn **Sn 23 09 28.9 -1.3**
WLS Welschbruch 5.00 331 Pn **Pn 23 08 36.7 +0.7**
CDF Champ du Feu 5.03 330 *e*Pn **Pn 23 08 36.9 +0.5**
CDF *e*Sn **Sn 23 09 30.5 -2.7**
comp=E,5.4nm,0.2s
HAU Haudompre 5.08 322 *e*Pn **Pn 23 08 37.9 +0.9**
HAU *e*Sn **Sn 23 09 31.8 -2.5**
comp=E,12nm,0.3s
CONA Conrad Observa 5.11 40 *i* Pn **Pn 23 08 38.7 +1.3**
comp=E,0.4nm,0.2s
CONA *e*Sn **Sn 23 09 33.8 -1.2**
comp=E,6.0nm,0.2s
LASF Ste Croix 5.15 272 *e*Pn **Pn 23 08 39.8 +1.8**
LASF *e*Sn **Sn 23 09 33.6 -2.5**
comp=E,1.7nm,0.3s
CKRC Cesky Krumlov 5.24 25 *e*PN **Pn 23 08 40.3 +1.1**
CKRC *e*SN **Sn 23 09 36.0 -2.3**
KHC Kasperske Hory 5.34 18 *e*PN **Pn 23 08 41.3 +0.8**
KHC *e*SN **Sn 23 09 37.4 -3.2**
TREB Trebinje 5.52 102 *e*Pn **Pn 23 08 41.2 -1.8**
BRY Bratogost 5.61 100 *e*Pn **Pn 23 08 45.5 +1.2**
SMF Signal de Mont 5.66 299 *e*Pn **Pn 23 08 45.5 +0.7**
SMF *e*Sn **Sn 23 09 45.4 -3.0**
comp=E,4.2nm,0.3s
PAGF Fort de Pagny 5.77 322 *e*Pn **Pn 23 08 47.7 +1.4**
baz=148
PAGF *e*Sn **Sn 23 09 48.1 -3.0**
comp=E,3.4nm,0.2s
MORH Mrgy, Hungar 5.80 66 *e*Pn **Pn 23 08 45.8 -1.0**
UPM Unac-Piva 5.80 96 *e*Pn **Pn 23 08 49.7 +2.7**
SFTF Sexfontaines 5.84 317 *e*Pn **Pn 23 08 48.3 +1.0**
baz=132
SFTF *e*Sn **Sn 23 09 50.1 -2.7**
comp=E,2.5nm,0.2s
ZST Bratislava 5.89 44 *e*PN **Pn 23 08 48.6 +0.6**
ZST *e*SN **Sn 23 09 50.9 -3.2**
LOR Lormes 5.93 305 *e*Pn **Pn 23 08 49.1 +0.5**
baz=127
LOR *e*Sn **Sn 23 09 52.8 -2.2**
comp=E,5.9nm,0.3s
AVF Avril sur Loir 6.02 299 *e*Pn **Pn 23 08 50.6 +0.8**
AVF *e*Sn **Sn 23 09 54.6 -2.7**
comp=E,1.4nm,0.3s
MEZF Maizieres J'vi 6.04 319 *e*Pn **Pn 23 08 50.9 +0.9**
baz=136
TREC Trest 6.04 29 *e*SN **Sn 23 09 54.4 -3.4**
BBLS Lazići 6.06 89 *e*Pn **Pn 23 08 49.6 -0.9**
RUDO Rudo 6.06 92 *e*Pn **Pn 23 08 54.3 +3.9**
SAVF Savonnieres en 6.08 320 *e*Pn **Pn 23 08 51.6 +1.0**
baz=141
SAVF *e*Sn **Sn 23 09 55.7 -3.1**
comp=E,4.2nm,0.5s
MODS Modra-Piesok 6.10 43 *e*PN **Pn 23 08 52.7 +1.8**
MODS *e*SN **Sn 23 09 56.5 -2.7**
KRUC Moravsky 6.20 35 *e*PN **Pn 23 08 52.7 +0.5**
KRUC *e*SN **Sn 23 09 58.0 -3.6**
NKC Novy Kostel 6.22 9 *e*SN **Sn 23 09 57.6 -4.5**
ABH Alteburg 6.25 339 Pn **Pn 23 08 54.3 +1.4**
BGF Bois d'Agland 6.26 296 *e*Pn **Pn 23 08 53.8 +0.7**
BGF *e*Sn **Sn 23 10 00.5 -2.6**
comp=E,4.0nm,0.3s
SMOL Smolenice 6.27 43 *e*SN **Sn 23 09 59.7 -3.6**
DRME Dracevica, Mon 6.28 105 *e*Pn **Pn 23 08 54.1 +0.7**
PRU Pruhonice 6.37 21 *e*SN **Sn 23 10 01.8 -3.9**
CAF Calviac 6.45 280 *e*Pn **Pn 23 08 57.3 +1.6**
VRAC Vranov 6.47 34 *e*PN **Pn 23 08 56.8 +0.8**
VRAC *e*SN **Sn 23 10 04.7 -3.6**
TCF Toulx Ste Croi 6.59 292 *e*Sn **Sn 23 10 08.2 -3.1**
comp=E,1.2nm,0.2s
HYF Humbligny 6.66 301 *e*Pn **Pn 23 08 59.0 +0.4**
PVCC Panska Ves 6.87 19 *e*SN **Sn 23 10 14.4 -3.7**
VYHS Vyhne 6.98 48 *e*SN **Sn 23 10 16.4 -4.4**
BRG Berggiesshubel 7.06 15 Sg **Sn 23 10 18.9 -3.9**
BRG Amp 23 10 19.7
comp=Z,2.5nm,0.5s
KRLC Kraliky 7.16 31 *e*SN **Sn 23 10 21.8 -3.4**
DPC Dobruska-Polom 7.22 28 *e*SN **Sn 23 10 21.3 -5.5**
CLL Collm 7.34 10 *e*Pn **Pn 23 09 08.0 +0.2**
CLL *e*Sn **Sn 23 10 25.0 -4.5**
CHVC Chvalec 7.34 26 *e*SN **Sn 23 10 24.9 -4.7**
BAIF Baives 7.55 325 *e*Pn **Pn 23 09 12.6 +1.9**
EPF Esparros 7.82 266 *e*Pn **Pn 23 09 16.3 +1.8**

*IDC **21** 23:09:18.1±1.0, 54°.83S×127°.29W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/23, mbtmp4.0/6, Error ellipse: s-maj=29.7km s-min=25.4km az=34.0*
*NEIC **21** 23:09:21.2±1.7, 54°.8S±0°.2×127°.5W±0°.3, h10km±1km, mb4.6/6, Error ellipse: s-maj=38.1km s-min=14.7km az=316.0*

ISC 21 23:09:20.4±0.8, 54°.8S±0°.2×127°.4W±0°.1, h10km, n34, σ1§14/15, mb4.4/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**32.00**	**134**	P	**P**	**23 15 46.4**	**+0.1**
	4.8nm,0.7s,baz=225,slow=16,SNR=3.7						
PMSA	**Palmer Station**	**32.00**	**134**	P	**P**	**23 15 47.5**	**+1.2**
PMSA				IAmb	IAmb	23 15 59.4	
	comp=Z,7.5nm,0.9s						
VNDA	**Vanda**	**33.13**	**202**	P	**P**	**23 15 56.6**	**+0.5**
	comp=Z,1.3nm,1.1s,baz=70,slow=7.1,SNR=4.2						
VNDA	**Vanda**	**33.13**	**202**	P	**P**	**23 15 57.5**	**+1.4**
QSPA	**South Pole Qui**	**35.37**	**180**	P	**P**	**23 16 13.9**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=77,slow=3.9,SNR=6.1						
QSPA	**South Pole Qui**	**35.37**	**180**	P	**P**	**23 16 15.8**	**0.0**
QSPA				IAmb	IAmb	23 16 25.1	
	comp=Z,8.3nm,1.4s						
TBI	**Tubuai**	**35.47**	**323**	*e*LR	LR	23 25 52.6	
	comp=Z,320nm,26.0s						
TBI	**Tubuai**	**35.47**	**323**	*e*T	T	23 53 51.3	
	comp=Z,12nm,0.3s						
H03S2	**Juan Fernandez**	**39.52**	**78**	T	T	23 58 48.3	
	baz=220,slow=74,SNR=51						
H03S1	**Juan Fernandez**	**39.52**	**78**	T	T	23 58 47.9	
	baz=220,slow=74,SNR=49						
H03S3	**Juan Fernandez**	**39.53**	**78**	T	T	23 58 48.5	
	baz=220,slow=74,SNR=54						
H03N3	**Juan Fernandez**	**39.80**	**78**	T	T	23 59 13.5	
	baz=223,slow=72,SNR=84						
H03N2	**Juan Fernandez**	**39.80**	**78**	T	T	23 59 11.4	
	baz=223,slow=72,SNR=111						
H03N1	**Juan Fernandez**	**39.82**	**78**	T	T	23 59 06.0	
	baz=223,slow=72,SNR=104						
PPT2	**Papeete2**	**40.87**	**327**	*e*LR	LR	23 28 21.8	
	comp=Z,409nm,25.2s						
RAR	**Rarotonga**	**41.46**	**311**	P	**P**	**23 17 07.9**	**+0.7**
	comp=Z,58nm,0.8s,baz=220,slow=7.9,SNR=4.7						
VAH	**Vaihoa**	**42.50**	**330**	*e*T	T	00 02 37.9	
	comp=Z,26nm,0.3s						
LVC	**Limon Verde**	**53.75**	**78**	P	**P**	**23 18 43.0**	**-0.1**
LPAZ	**La Paz**	**59.24**	**74**	P	**P**	**23 19 20.8**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=219,slow=3.5,SNR=5.8						
LPAZ	**La Paz**	**59.24**	**74**	P	**P**	**23 19 23.1**	**+0.5**
LPAZ				IAmb	IAmb	23 19 24.3	
	comp=Z,7.4nm,1.2s						
SAML	**Samuel**	**67.98**	**74**	P	**P**	**23 20 19.4**	**-0.2**
SAML				IAmb	IAmb	23 20 19.9	
	comp=Z,7.5nm,1.4s						
ASAR	**Alice Springs**	**75.81**	**249**	P	**P**	**23 21 06.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=139,slow=7.3,SNR=2.5						
ASAR	**Alice Springs**	**75.81**	**249**	P	**P**	**23 21 06.9**	**+0.3**
H01W1	**Cape Leeuwin H**	**76.25**	**228**	T	T	00 45 47.3	
	baz=148,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**76.26**	**228**	T	T	00 45 37.3	
	baz=148,slow=76,SNR=13						
H01W3	**Cape Leeuwin H**	**76.27**	**228**	T	T	00 45 38.4	
	baz=148,slow=76,SNR=14						
WRA	**Warramunga Arr**	**78.57**	**252**	P	**P**	**23 21 20.2**	**-1.9**
	comp=Z,1.1nm,1.1s,baz=151,slow=5.4,SNR=3.0						
H11S2	**WAKE ISLAND Hy**	**91.88**	**300**	T	T	01 04 37.9	
	baz=148						
H11S3	**WAKE ISLAND Hy**	**91.89**	**300**	T	T	01 04 45.9	
	baz=148						
H11S1	**WAKE ISLAND Hy**	**91.89**	**300**	T	T	01 04 38.4	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**92.81**	**301**	T	T	01 05 58.7	
	baz=153,slow=76						
H11N1	**WAKE ISLAND Hy**	**92.82**	**301**	T	T	01 05 48.7	
	baz=153,slow=76						
H11N2	**WAKE ISLAND Hy**	**92.83**	**301**	T	T	01 05 57.2	
	baz=153,slow=76						
SONM	**Songino Array**	**146.41**	**281**	PKPbc	**PKPdf**	**23 28 59.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=122,slow=1.9,SNR=6.6						

IDC 21 23:13:16.0±1.6, 29°.50N×138°.36E, h369km±52km, mb2.7/2, mb1 2.9/5, mb1mx2.6/36, mbtmp3.7/5, Error ellipse: s-maj=108.0km s-min=19.1km az=60.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.81**	**18**	P	Pn	23 14 23.9	-0.2
	5.7nm,0.3s,baz=145,slow=24,SNR=9.0						
JCJ	**Chichijima**	**4.14**	**124**	P	Pn	23 14 28.0	+0.4
	7.7nm,0.3s,baz=301,slow=16,SNR=0.8						
JCJ				S	S	23 15 25.8	+0.3
	10.0nm,0.3s,baz=311,slow=21,SNR=1.6						
KSRS	**Korea Array**	**11.78**	**315**	P	Pn	23 15 54.5	-0.2
	0.5nm,0.3s,baz=120,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**49.31**	**185**	P	P	23 21 28.9	-0.4
	0.3nm,0.3s,baz=0.7,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**53.03**	**185**	P	P	23 21 56.9	+0.3
	0.1nm,0.3s,baz=14,slow=9.7,SNR=1.3						

*IDC **21** 23:13:25.5±0.7, 54°.95S×127°.17W, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.1/22, mbtmp4.0/7, MS4.3/16, Ms1 4.3/16, ms1mx4.3/18, Error ellipse: s-maj=25.4km s-min=22.8km az=111.0*
*NEIC **21** 23:13:28.8±2.3, 55°.0S±0°.2×127°.33W±0°.07, h10km±1km, mb4.7/20, Error ellipse: s-maj=28.0km s-min=4.3km az=168.0*
*GCMT **21** 23:13:31.8±0.2, 55°.10S±0°.01×127°.24W±0°.02, h18km±1km, MW5.0/107, Moment Tensor Solution. s35,c41; s107,c154; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.26±.14; Mθθ=2.11±.13; Mφφ=-1.85±.12; Mrθ=0.19±.28; Mrφ=3.71±.09; Mθφ=1.09±.30; Best double couple: Mo=4.35100×10^16 NP1:φs=104.00000°, δ75.00000°, λ=-2.00000°. NP2:φs=194.00000°, δ88.00000°, λ=-165.00000°. Principal axes: T 4.4490, Plg9.0000°, Azm328.0000°; N -0.1940, Plg75.0000°, Azm202.0000°; P -4.2530, Plg12.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 23:13:28.2±0.6, 55°.0S±0°.1×127°.2W±0°.1, h10km, n72, σ1§64/40, mb4.6/16, MS4.5/19, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.96**	**202**	P	**P**	**23 20 03.9**	**+1.4**
	0.9nm,0.9s,baz=87,slow=7.8,SNR=5.9						
VNDA				LR	LR	23 29 33.7	
	comp=Z,180nm,21.1s,baz=82,slow=29						
VNDA	**Vanda**	**32.96**	**202**	P	**P**	**23 20 06.4**	**+4.0**
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**23 20 22.0**	**+0.4**
	5.1nm,1.0s,baz=94,slow=1.7,SNR=9.2						
QSPA	**South Pole Qui**	**35.13**	**180**	P	**P**	**23 20 23.6**	**+2.0**
QSPA				IAmb	IAmb	23 20 28.3	
	comp=Z,10nm,1.2s						
TBI	**Tubuai**	**35.73**	**323**	*e*LR	LR	23 29 48.3	
	comp=Z,1μm,26.0s,baz=163						
TBI	**Tubuai**	**35.73**	**323**	*e*T	T	23 57 57.7	
	comp=Z,32nm,0.3s						
H03S2	**Juan Fernandez**	**39.46**	**78**	T	T	00 03 05.0	
	baz=220,slow=74,SNR=78						
H03S1	**Juan Fernandez**	**39.47**	**78**	T	T	00 03 05.2	
	baz=220,slow=74,SNR=98						
PLCA	**Paso Flores**	**39.47**	**93**	LR	LR	23 33 17.1	
	comp=Z,369nm,19.4s,baz=230,slow=30						
H03S3	**Juan Fernandez**	**39.48**	**78**	T	T	00 03 10.0	
	baz=220,slow=74,SNR=98						
H03N3	**Juan Fernandez**	**39.74**	**77**	T	T	00 03 01.4	
	baz=223,slow=72,SNR=139						
H03N2	**Juan Fernandez**	**39.75**	**77**	T	T	00 03 15.4	
	baz=223,slow=72,SNR=37						
H03N1	**Juan Fernandez**	**39.76**	**77**	T	T	00 03 01.0	
	baz=223,slow=72,SNR=155						
PPT2	**Papeete2**	**41.13**	**326**	*e*LR	LR	23 32 17.9	
	comp=Z,2μm,26.0s,baz=168						
PPT	**Papeete**	**41.15**	**327**	LR	LR	23 33 25.3	
	comp=Z,694nm,22.0s,baz=162,slow=29						
RAR	**Rarotonga**	**41.69**	**311**	P	**P**	**23 21 17.2**	**+0.2**
	comp=Z,32nm,0.8s,baz=86,slow=23,SNR=1.6						
VAH	**Vaihoa**	**42.76**	**330**	*e*T	T	00 06 51.2	
	comp=Z,58nm,0.2s						
TRQA	**Tornquist**	**46.18**	**97**	P	**P**	**23 21 54.1**	**+1.2**
TRQA				IAmb	IAmb	23 22 15.9	
	comp=Z,9.8nm,1.4s						
VNA3	**Neumayer Olymp**	**46.55**	**157**	P	**P**	**23 21 55.7**	**+0.3**
VNA2	**Neumayer--Watz**	**47.29**	**157**	P	**P**	**23 21 59.1**	**-2.1**
VNA1	**Neumayer--Stat**	**47.30**	**157**	P	**P**	**23 22 02.6**	**+1.5**
SNAA	**Sanae**	**47.70**	**159**	P	**P**	**23 22 01.5**	**-2.9**
SNAA	**Sanae**	**47.70**	**159**	P	**P**	**23 22 02.8**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=222,slow=6.6,SNR=5.7						
SNAA	**Sanae**	**47.70**	**159**	P	**P**	**23 22 03.5**	**-0.9**
AC02	**Maricunga**	**50.27**	**80**	P	**P**	**23 22 26.0**	**+0.9**
AC02				IAmb	IAmb	23 22 27.9	
	comp=Z,11nm,1.2s						
LVC	**Limon Verde**	**53.69**	**77**	P	**P**	**23 22 51.5**	**+1.0**
PB07	**IPOC Station P**	**53.85**	**76**	P	**P**	**23 22 51.6**	**+0.2**
SYO	**Syowa Base**	**55.88**	**174**	*e*P	**P**	**23 23 02.6**	**-2.7**
MNMC	**Minye Minye**	**56.09**	**74**	P	**P**	**23 23 07.9**	**+0.1**
CPUP	**Villa Florida**	**57.42**	**90**	LR	LR	23 44 32.8	
	comp=Z,818nm,18.3s,baz=228,slow=32						
MAW	**Mawson**	**57.44**	**185**	LR	LR	23 47 09.2	
	comp=Z,99nm,18.6s,baz=181,slow=35						
DZM	**Mont Dzumac**	**58.69**	**276**	*e*LR	LR	23 40 21.5	
	comp=Z,300nm,24.1s						
LPAZ	**La Paz**	**59.20**	**74**	P	**P**	**23 23 28.9**	**-1.3**
	comp=Z,7.8nm,1.0s,baz=202,slow=6.1,SNR=14						
LPAZ				LR	LR	23 42 41.2	
	comp=Z,319nm,21.4s,baz=214,slow=30						
LPAZ	**La Paz**	**59.20**	**74**	P	**P**	**23 23 30.6**	**+0.5**
STKA	**Stephens Creek**	**65.20**	**250**	LR	LR	23 46 39.6	
	comp=Z,222nm,21.5s,baz=194,slow=31						
SAML	**Samuel**	**67.95**	**73**	P	**P**	**23 24 26.7**	**-0.5**
SAML				IAmb	IAmb	23 24 28.1	
	comp=Z,11nm,1.2s						
BDFB	**Brasilia**	**71.15**	**90**	LR	LR	23 53 07.2	
	comp=Z,488nm,18.9s,baz=222,slow=34						
ROSC	**El Rosal**	**73.89**	**56**	LR	LR	23 51 16.3	
	comp=Z,322nm,19.5s,baz=226,slow=31						
ASAR	**Alice Springs**	**75.83**	**249**	P	**P**	**23 25 12.8**	**-1.8**
	comp=Z,0.6nm,0.7s,baz=140,slow=5.8,SNR=6.2						
ASAR				LR	LR	23 54 17.6	
	comp=Z,250nm,19.0s,baz=159,slow=32						
ASAR	**Alice Springs**	**75.83**	**249**	P	**P**	**23 25 13.6**	**-1.0**
H01W1	**Cape Leeuwin H**	**76.18**	**228**	T	T	00 49 51.8	
	baz=148,slow=76,SNR=53						
H01W2	**Cape Leeuwin H**	**76.18**	**228**	T	T	00 49 56.4	
	baz=148,slow=76,SNR=49						
H01W3	**Cape Leeuwin H**	**76.19**	**228**	T	T	00 49 53.0	
	baz=148,slow=76,SNR=47						
WR0	**Warramunga Arr**	**78.48**	**252**	P	**P**	**23 25 30.9**	**+1.4**
WB2	**Warramunga Arr**	**78.59**	**252**	P	**P**	**23 25 30.0**	**-0.1**
WB2				IAmb	IAmb	23 25 39.3	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**78.60**	**252**	P	**P**	**23 25 28.3**	**-1.8**
	comp=Z,1.8nm,1.0s,baz=134,slow=5.4,SNR=9.6						
WRA				LR	LR	23 56 24.3	
	comp=Z,152nm,20.4s,baz=115,slow=33						
WRA	**Warramunga Arr**	**78.60**	**252**	P	**P**	**23 25 29.6**	**-0.5**
WRAB	**Tennant Creek**	**78.60**	**252**	P	**P**	**23 25 29.6**	**-0.6**
WRAB				IAmb	IAmb	23 25 38.5	
	comp=Z,5.3nm,0.9s						
WB0	**Warramunga Arr**	**78.71**	**252**	P	**P**	**23 25 29.9**	**-0.8**
TXAR	**Lajitas Array**	**86.44**	**20**	P	**P**	**23 26 08.8**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=219,slow=48,SNR=2.8						
TUC	**Tucson**	**88.14**	**14**	P	**P**	**23 26 20.6**	**+1.9**
TUC				IAmb	IAmb	23 26 38.1	
	comp=Z,3.5nm,1.1s						
SHPR	**Sheep Range**	**91.77**	**10**	P	**P**	**23 26 39.1**	**+3.3**
SHPR				IAmb	IAmb	23 26 40.6	
	comp=Z,5.6nm,1.3s						
U15A	**North Rim**	**92.00**	**12**	P	**P**	**23 26 39.0**	**+2.0**
U15A				IAmb	IAmb	23 26 45.9	
	comp=Z,4.2nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**92.09**	**300**	T	T	01 08 47.2	
	baz=148,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**92.10**	**300**	T	T	01 08 59.7	
	baz=148,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**92.11**	**300**	T	T	01 08 56.2	
	baz=148,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**93.03**	**301**	T	T	01 09 48.0	
	baz=148,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**93.03**	**301**	T	T	01 09 51.1	
	baz=148,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**93.04**	**301**	T	T	01 09 49.1	
	baz=148,slow=76,SNR=14						
BOSA	**Boshof**	**93.39**	**156**	LR	LR	00 04 42.5	
	comp=Z,245nm,20.0s,baz=195,slow=33						
NVAR	**Mina Array Bea**	**93.42**	**7**	LR	LR	23 59 32.2	
	comp=Z,162nm,19.8s,baz=147,slow=30						
YBH	**Yeka Blue Hor**	**96.48**	**3**	LR	LR	00 00 53.3	
	comp=Z,185nm,19.4s,baz=167,slow=30						
PDAR	**Pinedale Array**	**98.59**	**13**	LR	LR	00 03 44.2	
	comp=Z,124nm,19.1s,baz=200,slow=31						
GUMO	**Guam**	**99.83**	**280**	LR	LR	00 05 58.1	
	comp=Z,23nm,20.7s,baz=126,slow=32						
ILAR	**Eielson Array**	**120.44**	**350**	PKP	**PKPdf**	**23 32 17.1**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=202,slow=2.7,SNR=7.2						
ILAR	**Eielson Array**	**120.44**	**350**		**PKiKP**	**23 32 18.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.47**	**116**	PKP	**PKPdf**	**23 32 22.9**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=185,slow=0.7,SNR=1.3						
ESDC	**Sonseca Array**	**139.77**	**88**	PKP	**PKPdf**	**23 32 52.8**	**-2.9**
	comp=Z,0.3nm,0.8s,baz=259,slow=2.0,SNR=2.1						
TIXI	**Tiksi**	**145.04**	**328**	PKP	**PKPbc**	**23 33 01.8**	**-1.7**
	comp=Z,24nm,0.9s,baz=105,slow=3.5,SNR=23						
TIXI	**Tiksi**	**145.04**	**328**		**PKPab**	**23 33 03.6**	**+0.2**
SONM	**Songino Array**	**146.56**	**280**	PKPbc	**PKPdf**	**23 33 07.3**	**-0.2**
	comp=Z,5.2nm,1.0s,baz=136,slow=2.7,SNR=18						
SONM	**Songino Array**	**146.56**	**280**	PKPdf	**PKPdf**	**23 33 08.0**	**+0.5**

*IDC **21** 23:30:32.6±0.9, 8°.63S×110°.28E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.0/46, mbtmp4.1/14, MS3.6/9, Ms1 3.6/9, ms1mx3.3/33, Error ellipse: s-maj=40.0km s-min=15.0km az=58.0*
*DJA **21** 23:30:36.9±1.4, 9°.S±4°.×11°.0E±°, h20km±14km, M4.6/19, mb4.5/5, mB4.8/3, MLv4.6/19, Mw(mB)4.1/3*
*NEIC **21** 23:30:37.9±2.8, 9°.03S±0°.06×109°.80E±0°.06, h35km±2km, mb4.3/15, Error ellipse: s-maj=10.6km s-min=9.1km az=312.0*

ISC 21 23:30:37.4±0.5, 9°.09S±0°.06×109°.90E±0°.06, h35km, n72, σ1§96/69, mb4.2/20, MS3.6/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.32**	**28**		**Pn**	**23 30 59.1**	**-0.3**
UGM				Sn	**Sn**	**23 31 15.2**	**-0.6**
UGM	**Wanagama**	**1.32**	**28**	P	**Pn**	**23 30 59.5**	**+0.1**
YOGI	**Yogyakarta**	**1.32**	**17**	P	**Pn**	**23 30 59.8**	**+0.4**
YOGI				S	**Sn**	**23 31 15.6**	**-0.3**
PCJI	**Pacitan**	**1.54**	**55**	P	**Pn**	**23 31 03.4**	**+1.0**
PCJI				S	**Sn**	**23 31 21.9**	**+0.6**
KPJI	**Karang Pucung**	**1.99**	**331**	P	**Pn**	**23 31 11.3**	**+2.7**
SMRI	**Semarang**	**2.10**	**15**		**Pn**	**23 31 12.9**	**+2.8**
SMRI	**Semarang**	**2.10**	**15**	P	**Pn**	**23 31 13.2**	**+3.1**
SMRI				S	**Sn**	**23 31 39.3**	**+4.3**
PWJI	**Pagerwojo**	**2.16**	**61**	P	**Pn**	**23 31 11.8**	**+0.9**
TBJI	**Tambak Boyo**	**2.97**	**41**	P	**Pn**	**23 31 23.6**	**+1.5**
LEM	**Lembang**	**3.19**	**315**	P	**Pn**	**23 31 28.3**	**+3.1**
CNJI	**Cibinong**	**3.26**	**303**	P	**Pn**	**23 31 27.2**	**+1.1**
DBJI	**Dramaga**	**4.01**	**309**	P	**Pn**	**

comp=Z,1.4nm,0.5s,baz=299,slow=9.1,SNR=13
ASAR PcP **PcP** **23 39 38.5 +0.7**
comp=Z,0.6nm,0.7s,baz=316,slow=2.0,SNR=4.1
CMAR Chiang Mai Arr 29.43 338 P **P** **23 36 36.7 -1.3**
comp=Z,0.8nm,0.3s,baz=183,slow=7.8,SNR=1.5
CMAR LR LR 23 49 49.4
comp=Z,126nm,18.7s,baz=178,slow=40
H08S2 Diego Garcia H 37.03 269 T T 00 16 57.9
baz=94,slow=75,SNR=5.4
H08S3 Diego Garcia H 37.04 269 T T 00 16 57.5
baz=94,slow=75,SNR=19
H08S1 Diego Carcia H 37.05 269 T T 00 16 54.4
baz=94,slow=75,SNR=16
STKA Stephens Creek 37.12 132 P **P** **23 37 45.8 +1.0**
comp=Z,2.1nm,0.5s,baz=319,slow=9.5,SNR=7.3
STKA Stephens Creek 37.12 132 P **P** **23 37 46.1 +1.3**
DZM Mont Dzumac 55.69 110 LR LR 00 02 59.3
comp=Z,107nm,21.0s,baz=324,slow=35
WMQ Urumqi 56.39 341 *eP* **P** **23 40 17.5 +2.1**
USRK Ussuriysk Ar. 56.69 19 P **P** **23 40 13.2 -4.1**
comp=Z,1.6nm,0.6s,baz=212,slow=10,SNR=3.2
USRK Ussuriysk Ar. 56.69 19 P **P** **23 40 15.8 -1.5**
SONM Songino Array 56.76 357 P **P** **23 40 16.1 -1.9**
comp=Z,0.6nm,0.6s,baz=156,slow=7.9,SNR=1.4
SONM LR LR 00 08 06.3
comp=Z,39nm,19.1s,baz=130,slow=40
MK31 Makanchi Array 60.84 339 P **P** **23 40 45.2 -1.1**
MK31 IAmb IAmb 23 41 04.7
comp=Z,3.1nm,1.5s
MKAR Makanchi Array 60.84 339 P **P** **23 40 44.9 -1.4**
comp=Z,0.5nm,0.4s,baz=154,slow=7.3,SNR=10
KLR Kul'dur 61.16 16 P **P** **23 40 46.1 -2.2**
comp=Z,3.1nm,0.6s,baz=215,slow=4.4,SNR=11
KURBB Kurchatov Arra 65.41 339 P **P** **23 41 14.7 -1.8**
comp=Z,0.4nm,0.4s,baz=153,slow=6.2,SNR=4.9
KURK Kurchatov 65.45 339 P **P** **23 41 14.7 -2.1**
ZAA0 Zalesovo Array 66.29 344 P **P** **23 41 20.5 -1.6**
ZALV Zalesovo Beam 66.29 344 P **P** **23 41 19.7 -2.3**
comp=Z,0.9nm,0.3s,baz=158,slow=5.6,SNR=5.2
ZALV LR LR 00 11 49.9
comp=Z,23nm,19.4s,baz=125,slow=38
ZALV Zalesovo Beam 66.29 344 P **P** **23 41 20.4 -1.6**
ABKAR Abkulak array 72.68 328 P **P** **23 42 00.1 -1.6**
VNDA Vanda 73.41 170 P **P** **23 42 06.5 +1.0**
comp=Z,0.4nm,0.5s,baz=305,slow=6.0,SNR=3.2
VNDA Vanda 73.41 170 P **P** **23 42 06.8 +1.3**
VNDA IAmb IAmb 23 42 10.6
comp=Z,4.0nm,1.5s
PETK Petropavlovsk- 74.05 28 P **P** **23 42 05.2 -4.4**
comp=Z,2.8nm,0.9s,baz=248,slow=7.6,SNR=2.1
PETK LR LR 00 16 38.9
comp=Z,193nm,20.2s,baz=123,slow=38
PETK Petropavlovsk- 74.05 28 P **P** **23 42 08.2 -1.5**
QSPA South Pole Qui 80.91 180 P **P** **23 42 49.2 +1.2**
QSPA IAmb IAmb 23 42 50.4
comp=Z,4.1nm,1.1s
TIXI Tiksi 81.55 6 P **P** **23 42 48.3 -2.7**
comp=Z,3.9nm,0.8s,baz=170,slow=4.4,SNR=6.1
TIXI Tiksi 81.55 6 P **P** **23 42 50.0 -1.0**
TIXI IAmb IAmb 23 42 50.3
comp=Z,4.6nm,0.9s
BRTR Keskin Array B 85.35 311 P **P** **23 43 13.8 +2.4**
comp=Z,1.1nm,0.7s,baz=145,slow=7.0,SNR=7.7
BRTR Keskin Array B 85.35 311 P **P** **23 43 13.7 +2.2**
OBN Obninsk 88.03 327 LR LR 00 29 10.6
comp=Z,7.0nm,18.8s,baz=184,slow=40
SNAA Sanae 88.39 197 LR LR 00 19 42.9
comp=Z,55nm,18.9s,baz=66,slow=33
TXAR Lajitas Array 142.66 53 PKP **PKPdf** **23 50 09.0 +1.3**
comp=Z,0.2nm,0.5s,baz=226,slow=4.8,SNR=1.9

*IDC **21** 23:34:57.7±0.7, 32°.96N×87°.04E, h0km, mb3.8/16, mb1 3.9/19, mb1mx3.8/48, mbtmp3.8/19, ML3.6/3, MS3.4/14, Ms1 3.4/4, ms1mx3.3/40, Error ellipse: s-maj=20.3km s-min=15.4km az=42.0*
*NEIC **21** 23:35:05.3±2.8, 33°.1N±0°.1×86°.8E±0°.1, h44km±6km, mb4.1/19, Error ellipse: s-maj=16.7km s-min=11.7km az=209.0*
ISC 21 23:35:00.6±0.5, 33°.11N±0°.07×86°.95E±0°.06, h10km, n63, σ1§53/57, mb4.1/23, MS3.4/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.95**	**132**	Pn	**Pn**	**23 36 19.4**	**+4.0**
LSA				Sn	**Sb**	**23 37 27.6**	**+0.3**
LSA				smax	smax		
	comp=N,71nm,1.4s						
LSA				smax	smax		
	comp=E,66nm,1.5s						
LSA	**Lhasa**	**4.95**	**132**	Pn	**Pn**	**23 36 18.7**	**+3.3**
SMLA	**Simla**	**8.53**	**259**	*eP*	Pn	23 37 00.4	-3.7
WMQ	**Urumqi**	**10.71**	**3**	*eP*	**Pn**	**23 37 34.9**	**+0.8**
TARG	**Taragay, Kyrgy**	**11.26**	**322**		**Pn**	**23 37 41.7**	**-0.1**
NIL	**Nilore**	**11.46**	**276**	Pn	**Pn**	**23 37 43.2**	**-1.2**
AAK	**Ala-Archa**	**13.67**	**318**	LR	LR	23 43 44.3	
	comp=E,106nm,19.6s,baz=142,slow=38						
MK31	**Makanchi Array**	**14.12**	**347**		**Pn**	**23 38 19.9**	**-0.7**
MKAR	**Makanchi Array**	**14.12**	**347**	Pn	**Pn**	**23 38 20.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=157,slow=14,SNR=12						
MKAR				LR	LR	23 44 58.3	
	comp=E,151nm,19.7s,baz=160,slow=42						
MKAR	**Makanchi Array**	**14.12**	**347**	Pn	**Pn**	**23 38 20.4**	**-0.2**
MAKZ	**Makanchi**	**14.20**	**346**	Pn	**Pn**	**23 38 21.0**	**-0.6**
GAR	**Garm**	**14.67**	**298**	P	Pn	23 38 34.3	+6.0
BTK	**Batken**	**14.69**	**303**	P	**P**	**23 38 36.3**	**+1.6**
KBL	**Kabul**	**14.95**	**280**	Pn	**Pn**	**23 38 30.6**	**-1.6**
CHGR	**Chuyangaron**	**15.44**	**296**	P	**Pn**	**23 38 40.0**	**+1.5**
CHGR				IAmb	IAmb	23 38 52.2	
	comp=Z,14nm,0.7s						
KK31	**Karatay Array**	**16.31**	**312**	P	**Pn**	**23 38 51.7**	**+2.1**
KKAR	**Karatay Array**	**16.31**	**312**	P	**Pn**	**23 38 51.7**	**+2.1**
CMAR	**Chiang Mai Arr**	**18.13**	**141**	P	**Pn**	**23 39 09.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=326,slow=12,SNR=1.6						
XAN	**Xi'an**	**18.34**	**81**	P	**Pn**	**23 39 13.4**	**-1.7**
XAN				S	**Sn**	**23 42 35.5**	**-4.4**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,160nm,8.2s						
XAN				LR	LR		
	comp=N,200nm,10.8s						
XAN				LR	LR		
	comp=E,390nm,10.8s						
XAN				LR	LR		
	comp=Z,330nm,13.7s						
KURBB	**Kurchatov Arra**	**18.57**	**343**	P	**P**	**23 39 16.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=14						
HRA	**Herat**	**20.57**	**280**	P	**P**	**23 39 39.4**	**-0.4**
HRA				IAmb	IAmb	23 39 44.9	
	comp=Z,4.3nm,0.8s						
SONM	**Songino Array**	**20.78**	**39**	P	**P**	**23 39 42.6**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=228,slow=12,SNR=23						
SONM	**Songino Array**	**20.78**	**39**	P	**P**	**23 39 42.9**	**+1.1**
ZAA0	**Zalesovo Array**	**20.89**	**356**	P	**P**	**23 39 42.4**	**-0.3**
ZAA0				IAmb	IAmb	23 39 43.4	
	comp=Z,6.3nm,1.0s						
ZALV	**Zalesovo Beam**	**20.89**	**356**	P	**P**	**23 39 42.1**	**-0.6**
	comp=Z,2.5nm,0.5s,baz=171,slow=10,SNR=16						
ZALV				LR	LR	23 48 56.8	
	comp=Z,160nm,18.6s,baz=170,slow=40						
ULN	**Ulaanbaatar**	**21.15**	**40**	P	**P**	**23 39 46.1**	**+0.3**
ULN				IAmb	IAmb	23 39 50.6	
	comp=Z,7.5nm,0.8s						
BVAR	**Borovoye Array**	**23.19**	**334**	P	**P**	**23 40 08.9**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=167,slow=12,SNR=6.7						
BRVK	**Borovoye**	**23.25**	**334**	P	**P**	**23 40 08.9**	**+1.0**
BRVK				IAmb	IAmb	23 40 16.8	
	comp=Z,7.4nm,1.2s						
GEYT	**Alibeck**	**23.90**	**290**	P	**P**	**23 40 15.1**	**+0.6**
	comp=Z,49nm,0.7s,baz=75,slow=11,SNR=4.1						
GEYT				LR	LR	23 51 31.2	
	comp=Z,63nm,21.1s,baz=175,slow=41						
GYA0B	**ALIBECK ARRAY**	**23.90**	**290**	P	**P**	**23 40 15.7**	**+1.2**
GYA0B				IAmb	IAmb	23 40 16.9	
	comp=Z,9.8nm,1.3s						
BJT	**Baijiatuau**	**24.39**	**65**		**P**	**23 40 22.7**	**+3.6**
BJT				IAmb	IAmb	23 40 25.0	
	comp=Z,6.6nm,1.2s						
ABKAR	**Abkulak array**	**25.75**	**317**	P	**P**	**23 40 31.3**	**+0.1**
KSRS	**Korea Array**	**33.54**	**71**	P	**P**	**23 41 39.9**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=273,slow=9.8,SNR=7.0						
KSRS				LR	LR	23 56 32.8	
	comp=Z,40nm,18.7s,baz=255,slow=39						
KBZ	**Khabaz**	**35.73**	**300**	LR	LR	23 59 01.5	
	comp=Z,37nm,18.1s,baz=82,slow=40						
NRIK	**Noril'sk**	**36.28**	**0**	P	**P**	**23 42 03.3**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=167,slow=6.6,SNR=5.0						
NRIK				LR	LR	23 59 01.8	
	comp=Z,98nm,19.3s,baz=173,slow=40						
KLR	**Kul'dur**	**36.78**	**50**	LR	LR	23 57 26.0	
	comp=Z,55nm,21.0s,baz=270,slow=37						
YAK	**Yakutsk**	**39.64**	**30**	LR	LR	23 59 53.8	
	comp=Z,45nm,20.8s,baz=270,slow=38						
BRTR	**Keskin Array B**	**42.87**	**295**	P	**P**	**23 42 59.4**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=85,slow=6.2,SNR=4.3						
BRTR				LR	LR	00 05 58.7	
	comp=Z,34nm,18.3s,baz=124,slow=43						
BRTR	**Keskin Array B**	**42.87**	**295**		**P**	**23 42 59.1**	**-0.1**
ASAJ	**Asahikawa**	**44.09**	**59**	LR	LR	00 01 45.4	
	comp=Z,76nm,19.1s,baz=277,slow=36						
AKASG	**Malin Array Be**	**45.20**	**311**	P	**P**	**23 43 17.5**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=78,slow=7.2,SNR=1.3						
AKASG				LR	LR	00 03 43.5	
	comp=Z,65nm,18.9s,baz=40,slow=38						
FINES	**FINESS Array B**	**47.69**	**325**	P	**P**	**23 43 36.0**	**-0.9**
	comp=Z,2.8nm,1.1s,baz=96,slow=8.5,SNR=1.7						
FINES				LR	LR	00 04 40.7	
	comp=Z,70nm,18.2s,baz=115,slow=37						
NB2	**NORSAR Subarra**	**54.86**	**325**	P	**P**	**23 44 30.1**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=84,slow=7.4						
NOA	**NORSAR Array B**	**54.86**	**325**	P	**P**	**23 44 29.6**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=85,slow=7.0,SNR=4.6						
NOA				LR	LR	00 08 04.4	
	comp=Z,43nm,18.4s,baz=75,slow=36						
GERES	**GERESS Array B**	**55.39**	**310**	P	**P**	**23 44 36.5**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=64,slow=9.1,SNR=4.8						
GERES	**GERESS Array B**	**55.39**	**310**	P	**P**	**23 44 35.9**	**+1.0**
KMBO	**Kilima Mbogo**	**57.84**	**244**	P	**P**	**23 44 52.1**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=45,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**69.50**	**132**	P	**P**	**23 46 07.3**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=326,slow=6.8,SNR=8.7						
WRA	**Warramunga Arr**	**69.50**	**132**	P	**P**	**23 46 10.5**	**+1.0**
WB2	**Warramunga Arr**	**69.51**	**132**	P	**P**	**23 46 08.0**	**-1.6**
WR0	**Warramunga Arr**	**69.64**	**132**	P	**P**	**23 46 11.4**	**+1.1**
TOLK	**Toolik Lake Re**	**70.35**	**19**	P	**P**	**23 46 14.6**	**+0.5**
TOLK				IAmb	IAmb	23 46 19.8	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**72.05**	**135**	P	P	23 46 21.9	-3.0
	comp=Z,0.3nm,0.7s,baz=323,slow=6.0,SNR=3.5						
ASAR	**Alice Springs**	**72.05**	**135**	P	**P**	**23 46 24.2**	**-0.8**
BMAR	**Burnt Mountain**	**72.55**	**18**	P	**P**	**23 46 28.4**	**+1.0**
BPAW	**Bear Paw Mtn.**	**72.98**	**23**	P	**P**	**23 46 31.9**	**+1.9**
BPAW				IAmb	IAmb	23 46 47.5	
	comp=Z,3.2nm,1.3s						
ILAR	**Eielson Array**	**73.81**	**21**	P	**P**	**23 46 33.8**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=311,slow=4.8,SNR=6.6						
ILAR	**Eielson Array**	**73.81**	**21**	P	**P**	**23 46 34.1**	**-0.8**
SKT	**Skwentna**	**74.22**	**25**	P	**P**	**23 46 37.5**	**+0.2**
SKT				IAmb	IAmb	23 46 38.2	
	comp=Z,3.8nm,1.1s						
SUA	**Susitna One**	**74.84**	**25**	P	**P**	**23 46 41.8**	**+0.8**
SCRK	**Sand Creek**	**75.25**	**21**	P	**P**	**23 46 43.1**	**-0.4**
SCRK				IAmb	IAmb	23 46 43.5	
	comp=Z,5.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**79.01**	**279**	P	**P**	**23 47 04.2**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=51,slow=6.0,SNR=2.2						
YKA	**Yellowknife Ar**	**83.16**	**10**	P	**P**	**23 47 25.4**	**-1.1**
	comp=Z,0.2nm,0.2s,baz=196,slow=30,SNR=3.7						

*TUL **21** 23:43:47.6±1.2, 35°.75N±0°.01×97°.36W±0°.01, h6km±4km, ML2.5, mb_Lg2.0/14(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=182.0*
NEIC 21 23:43:47.8±0.6, 35°.757N±0°.005×97°.36W±0°.01, h8km±3km, Error ellipse: s-maj=1.7km s-min=0.7km az=101.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.09**	**296**		Pg	23 43 50.0	-0.1
OK029				Sg	Sg	23 43 51.8	+0.1
OK005	**Luther M Schoo**	**0.17**	**127**	Pg	Pg	23 43 51.2	-0.2
OK005				Sg	Sg	23 43 53.8	+0.1
OK025	**Westminster Rd**	**0.18**	**175**		Pg	23 43 51.2	-0.3
OK025				Sg	Sg	23 43 53.9	0.0
BCOK	**Bluff Creek, N**	**0.23**	**244**		Pg	23 43 52.2	-0.2
BCOK				Sg	Sg	23 43 55.8	+0.3
OKCSW	**OKLAHOMA CITY**	**0.36**	**191**	Pg	Pg	23 43 54.5	-0.3
OKCSW				Sg	Sg	23 43 59.7	+0.2
OK031	**S. Brethren Rd**	**0.46**	**65**		Pg	23 43 56.9	+0.1
OK031				Sg	Sg	23 44 03.3	+0.4
FNO	**Franklin**	**0.50**	**184**		Pg	23 43 57.1	-0.4
FNO				Sg	Sg	23 44 04.2	+0.1
QUOK	**Quay**	**0.67**	**52**		Pg	23 44 00.6	-0.1
QUOK				Sg	Sg	23 44 09.5	0.0
CROK	**Carrier**	**0.90**	**326**	Pg	Pg	23 44 04.9	-0.2
BLOK	**Blackwell**	**1.01**	**7**		Pg	23 44 06.5	-0.6
GC02	**Grant County #**	**1.17**	**340**		Pb	23 44 09.5	-0.7
X34A	**Smith Ranch, M**	**1.22**	**199**	Pn	Pb	23 44 10.6	-0.5
KAN13	**South Haven SW**	**1.26**	**356**	Pn	Pn	23 44 11.6	0.0
KAN17	**Caldwell West**	**1.32**	**346**	Pn	Pn	23 44 12.5	-0.1
T35A	**Sooner Cattle**	**1.34**	**30**	Pn	Pn	23 44 12.4	-0.4
KAN05	**Bluff City Nor**	**1.41**	**343**	Pn	Pn	23 44 14.0	+0.2
KS20	**Mayfield South**	**1.48**	**354**	IAmb_Lg		23 44 34.5	
	comp=Z,5.1nm,0.9s						
KAN08	**Anthony NE Sta**	**1.55**	**342**	IAmb_Lg		23 44 38.1	
	comp=Z,6.8nm,0.7s						
WMOK	**Wichita Mounta**	**1.55**	**229**		Pn	23 44 15.5	-0.1
KAN12	**Harper NE Stat**	**1.62**	**342**	Pn	Pn	23 44 17.0	+0.4
LOOK	**Love County**	**1.77**	**175**	Pn	Pn	23 44 19.2	+0.6
X37A	**Clayton**	**2.00**	**125**	Pn	Pn	23 44 22.8	+1.0
X37A				IAmb_Lg		23 44 52.8	
	comp=Z,7.5nm,0.8s						
W39A	**Magazine**	**2.97**	**100**	Pn	Pn	23 44 35.2	+0.1
W39A				IAmb_Lg		23 45 27.2	
	comp=Z,5.6nm,0.7s						
MIAR	**Mount Ida**	**3.33**	**110**	Pn	Pn	23 44 40.9	+0.8
U40A	**Yellville**	**3.70**	**79**	IAmb_Lg		23 45 46.6	
	comp=Z,3.4nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.25**	**87**	IAmb_Lg		23 46 01.5	
	comp=Z,3.4nm,0.8s						
P38A	**Dawn**	**4.91**	**37**	IAmb_Lg		23 46 32.6	
	comp=Z,3.2nm,0.8s						
T25A	**Trinidad**	**5.85**	**286**	IAmb_Lg		23 47 00.1	
	comp=Z,3.3nm,1.0s						

*NEIC **22** 00:01:08.6±1.4, 25°.72S±0°.09×179°.7E±0°.1, h502km±8km, mb4.4/18, Error ellipse: s-maj=20.5km s-min=9.9km az=65.0*
*IDC **22** 00:01:11.6±5.4, 25°.57S×179°.52E, h541km±58km, mb3.6/6, mb1 3.8/7, mb1mx3.3/32, mbtmp4.5/7, Error ellipse: s-maj=33.6km s-min=24.7km az=67.0*
ISC 22 00:01:08.7±0.8, 25°.7S±0°.1×179°.6E±0°.1, h507km, n40, σ0§66/36, mb4.4/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.02**	**349**	P	**P**	**00 03 05.1**	**-0.6**
PINNC	**Pines Island,**	**11.53**	**283**	P	**P**	**00 03 42.6**	**+0.3**
DZM	**Mont Dzumac**	**12.58**	**284**	P	**P**	**00 03 54.4**	**+0.8**
	0.4nm,0.3s,baz=78,slow=17,SNR=5.3						
DZM	**Mont Dzumac**	**12.58**	**284**	P	**P**	**00 03 54.1**	**+0.6**
QRZ	**Quartz Range**	**16.24**	**200**	P	**P**	**00 04 30.5**	**-1.0**
ARMA	**Armidale**	**25.14**	**253**	P	**P**	**00 05 54.8**	**+1.7**
ARMA				IAmb	IAmb	00 06 06.7	
	comp=Z,27nm,1.5s						
EIDS	**Eidsvold**	**25.75**	**264**	P	**P**	**00 05 58.6**	**+0.1**
EIDS				IAmb	IAmb	00 05 59.2	
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**31.19**	**273**	P	**P**	**00 06 46.6**	**+0.5**
	comp=Z,4.8nm,0.4s,baz=98,slow=10,SNR=10.0						
CTAO	**Charters Tower**	**31.19**	**273**	P	**P**	**00 06 46.4**	**+0.3**
TOO	**Toolangi**	**31.24**	**239**	P	**P**	**00 06 47.2**	**+0.9**
TOO				IAmb	IAmb	00 06 48.5	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**33.79**	**250**	P	**P**	**00 07 08.2**	**+0.2**
	comp=Z,5.2nm,0.4s,baz=97,slow=11,SNR=22						
STKA	**Stephens Creek**	**33.79**	**250**	P	**P**	**00 07 08.3**	**+0.3**
BBOO	**Buckleboo**	**38.48**	**249**	P	**P**	**00 07 46.1**	**-0.7**
BBOO				IAmb	IAmb	00 07 50.1	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**41.45**	**263**	P	**P**	**00 08 10.7**	**-0.2**
AS31				IAmb	IAmb	00 08 11.7	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**41.45**	**263**	P	**P**	**00 08 10.5**	**-0.4**
	comp=Z,5.9nm,0.4s,baz=91,slow=7.5,SNR=139						
ASAR	**Alice Springs**	**41.45**	**263**	P	**P**	**00 08 10.3**	**-0.5**
WR0	**Warramunga Arr**	**41.80**	**268**	P	**P**	**00 08 12.9**	**-0.8**
WR0				IAmb	IAmb	00 08 14.0	
	comp=Z,10.0nm,1.2s						
WB2	**Warramunga Arr**	**41.97**	**268**	P	**P**	**00 08 14.6**	**-0.4**
WB2				IAmb	IAmb	00 08 15.4	
	comp=Z,9.6nm,0.8s						
WRAB	**Tennant Creek**	**41.98**	**268**	P	**P**	**00 08 14.5**	**-0.5**
WRAB				IAmb	IAmb	00 08 14.9	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**41.98**	**268**	P	**P**	**00 08 14.6**	**-0.5**
	comp=Z,9.2nm,0.5s,baz=99,slow=6.6,SNR=180						
WRA	**Warramunga Arr**	**41.98**	**268**	P	**P**	**00 08 14.7**	**-0.5**
WB0	**Warramunga Arr**	**41.99**	**268**	P	**P**	**00 08 14.5**	**-0.6**
WB0				IAmb	IAmb	00 08 15.0	
	comp=Z,9.7nm,0.7s						
FORT	**Forrest**	**45.41**	**251**	P	**P**	**00 08 41.2**	**-0.4**
MTN	**Manton Dam**	**47.28**	**276**	P	**P**	**00 08 55.2**	**-0.8**
MTN				IAmb	IAmb	00 09 04.4	
	comp=Z,7.4nm,0.9s						
KNRA	**Kununurra**	**48.37**	**271**	P	**P**	**00 09 04.2**	**0.0**
PSA00	**Pilbara Seismi**	**54.54**	**261**	P	**P**	**00 09 48.1**	**-0.8**
QSPA	**South Pole Qui**	**64.44**	**180**	P	**P**	**00 10 54.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=35,slow=3.6,SNR=13						
QSPA	**South Pole Qui**	**64.44**	**180**	P	**P**	**00 10 54.8**	**+0.3**
NVAR	**Mina Array Bea**	**86.24**	**44**	P	**P**	**00 12 56.7**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=225,slow=9.2,SNR=5.1						
NVAR	**Mina Array Bea**	**86.24**	**44**	P	**P**	**00 12 56.6**	**+0.1**
MOQ	**Mont Orford**	**120.21**	**51**	PKPdf	**PKiKP**	**00 19 02.5**	**+0.6**
NC303	**NORSAR Array S**	**143.55**	**350**	PKPdf	PKPab	00 19 42.8	-0.4
NB2	**NORSAR Subarra**	**143.75**	**350**	PKP	PKPab	00 19 43.1	-1.0
	comp=Z,1.0nm,0.6s,baz=18,slow=3.2						
NOA	**NORSAR Array B**	**143.75**	**350**	PKP	PKPab	00 19 43.5	-0.6
	comp=Z,2.1nm,0.8s,baz=22,slow=3.8,SNR=8.1						
HFS	**Hagfors**	**144.19**	**348**	PKP	PKPbc	00 19 44.3	-1.1
	comp=Z,2.3nm,0.4s,baz=72,slow=4.8,SNR=27						
BRTR	**Keskin Array B**	**148.33**	**305**	PKPbc	**PKPbc**	**00 19 57.5**	**-0.3**
BUR08	**Bucovina Ar. S**	**150.20**	**324**	PKPbc	**PKiKP**	**00 20 03.6**	**+1.0**
BURAR	**Bucovina Array**	**150.21**	**324**	PKPbc	**PKiKP**	**00 20 03.5**	**+0.9**
EKA	**Eskdalemuir Ar**	**150.28**	**3**	PKPbc	**PKPbc**	**00 20 01.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=356,slow=3.0,SNR=7.7						
OJC	**Ojcow**	**150.95**	**333**	PKPbc	**PKPbc**	**00 20 03.4**	**-0.1**

*SJA **22** 00:04:13.8±0.8, 32°.23S×72°.23W, h0km±362km, ML4.2, MW4.3*
*IDC **22** 00:04:16.4±0.9, 32°.17S×71°.96W, h0km, mb4.1/4, mb1 4.0/9, mb1mx3.9/30, mbtmp3.9/9, ML3.8/5, MS3.5/3, Ms1 3.4/3, ms1mx3.1/18, Error ellipse: s-maj=36.2km s-min=16.7km az=98.0*
*NEIC **22** 00:04:19.6±2.1, 32°.24S±0°.04×72°.01W±0°.10, h20km±2km, Error ellipse: s-maj=12.1km s-min=5.5km az=88.0*
*GUC **22** 00:04:19.8±0.7, 32°.22S×71°.71W, h31km±4km, ML4.0*
*NEIC **22** 00:04:19, 32°.22S×71°.70W, h29km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.98; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-0.50; $M_{r\theta}$-0.12; $M_{\theta\phi}$-0.06; $M_{r\phi}$-1.21; Fault plane solution: $M_0$1.49000×10^{15} NP1:ϕ_s187.64000°, δ74.19000°, λ87.55000°. NP2:ϕ_s16.55000°, δ16.00000°, λ98.57000°. Principal axes: T 1.6611, Plg61.0000°, Azm94.0000°; N -0.4606, Plg2.0000°, Azm188.0000°; P -1.2005, Plg29.0000°, Azm280.0000°;*
ISC 22 00:04:16.6±1.4, 32°.17S±0°.02×71°.91W±0°.05, h3km±8km, n111, σ1§37/114, mb4.3/6, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.88**	**165**	*eP*	**Pb**	**00 04 35.7**	**+1.3**
VA01				*i* S	**Sb**	**00 04 47.0**	**+0.5**
VA01	**Torpederas**	**0.88**	**165**		**Pb**	**00 04 35.2**	**+0.8**
VA01				Sg	**Sb**	**00 04 46.2**	**-0.4**
ROCH	**El Roble**	**1.10**	**137**	⇓*iP*	**Pb**	**00 04 38.3**	**-0.1**
ROCH				*i* S	**Sb**	**00 04 51.5**	**-1.7**
ROCH				IAML		00 04 53.7	
	comp=N,6μm,0.3s						
CO02	**Combarbal**	**1.24**	**39**	⇓*iP*	**Pn**	**00 04 42.1**	**+1.2**
CO02				*i* S	**Sn**	**00 04 58.2**	**0.0**
CO02				IAML		00 04 59.9	
	comp=E,12μm,0.4s						
CO02	**Combarbal**	**1.24**	**39**		**Pn**	**00 04 42.1**	**+1.2**
MT02	**Curacav**	**1.26**	**149**	⇓*iP*	**Pg**	**00 04 40.8**	**-0.1**
MT02				*i* S	**Sg**	**00 04 56.1**	**-1.1**
MT02	**Curacav**	**1.26**	**149**	Pn	**Pg**	**00 04 40.8**	**-0.1**
VA03	**San Esteban**	**1.29**	**117**	⇓*iP*	**Pb**	**00 04 41.0**	**-0.6**
VA03				*i* S	**Sb**	**00 04 56.8**	**-1.9**
VA03				IAML		00 04 58.9	
	comp=N,11μm,0.6s						
VA03	**San Esteban**	**1.29**	**117**		**Pb**	**00 04 41.0**	**-0.6**
VA03	**San Esteban**	**1.29**	**117**	*i* P	**Pb**	**00 04 40.9**	**-0.6**
VA03				IAML		00 05 02.9	
	comp=Z,4μm,0.6s

ACCO	Cerro Coronel	2.90	58	*i* P		Pb	00 05 08.6	-0.6
ACCO				IAML			00 05 54.4	
comp=Z,811nm,0.5s								
ACDV	Cuesta del Vie	3.12	51	*i* P		Pb	00 05 10.9	-1.8
ACDV				IAML			00 06 05.6	
comp=Z,414nm,0.6s								
LAMA	Las Malvinas	3.56	141	*i* P		Pn	00 05 16.4	+3.6
ML02	Panimavida	3.60	174			Pn	00 05 13.9	+0.5
AC04	Llanos de Chal	4.02	11	Pn		Pn	00 05 20.2	+1.1
AVFE	Valle Fertil	4.10	70	*i* P		Pn	00 05 23.3	+3.1
AVFE				IAML			00 06 20.5	
comp=Z,311nm,0.6s								
BI02	San Fabin de	4.51	173	Pn		Pn	00 05 26.5	+0.6
BI02	San Fabin de	4.51	173	*i* P		Pn	00 05 26.9	+1.1
ACHE	Chepes	4.59	79	*i* P		Pn	00 05 31.4	+4.4
VCA	Vinchina	4.69	44	*i* P		Pn	00 05 32.9	+4.5
VCA				IAML			00 07 05.8	
comp=Z,538nm,0.8s								
GO03	Copiap	4.79	18			Pn	00 05 31.2	+1.5
GO03	Copiap	4.79	18	*i* P		Pn	00 05 31.1	+1.4
APLL	PUNTA DE LOS L	4.94	70	*i* P		Pn	00 05 35.7	+4.0
APLL				IAML			00 06 39.4	
comp=Z,370nm,2.2s								
MRA	San Martin	5.25	94	*i* P		Pn	00 05 37.5	+1.4
MRA				IAML			00 07 11.7	
comp=Z,56nm,1.3s								
AC02	Maricunga	5.84	25	Pn		Pn	00 05 46.1	+1.4
H03N1	Juan Fernandez	6.03	256	T		T	00 12 26.7	
baz=85,slow=73,SNR=1156								
H03N3	Juan Fernandez	6.04	256	T		T	00 12 21.4	
baz=85,slow=73,SNR=1548								
H03N2	Juan Fernandez	6.04	256	T		T	00 12 24.6	
baz=85,slow=73,SNR=1196								
H03S3	Juan Fernandez	6.11	252	T		T	00 12 25.3	
baz=81,slow=75,SNR=20								
H03S1	Juan Fernandez	6.11	252	T		T	00 12 30.5	
baz=81,slow=75,SNR=16								
H03S2	Juan Fernandez	6.12	252	T		T	00 12 30.2	
baz=81,slow=75,SNR=22								
CYA	Choya	6.46	56	*i* P		Pn	00 05 55.5	+2.8
CYA				IAML			00 07 43.5	
comp=Z,98nm,1.0s								
LC01	Cunco	6.71	180			Pn	00 05 56.0	-0.1
LC01	Cunco	6.71	180	*i* P		Pn	00 05 55.7	-0.3
LC01				IAML			00 07 42.4	
comp=Z,19nm,3.8s								
GO02	Mina Guanaco	7.28	17	Pn		Pn	00 06 03.2	-0.8
FSA	Cafayete	7.96	42	*i* P		Pn	00 06 20.6	+7.2
PLCA	Paso Flores	8.61	173	Pn		Pn	00 06 23.3	+1.1
comp=Z,0.7nm,0.3s,baz=334,slow=12,SNR=10								
PLCA				Sn		Sn	00 08 01.0	+1.2
comp=Z,0.0nm,0.3s,baz=10,slow=20,SNR=1.6								
PLCA				LR		LR	00 09 46.8	
comp=Z,152nm,20.3s,baz=328,slow=38								
PLCA	Paso Flores	8.61	173	Pn		Pn	00 06 23.2	+1.0
PLCA	Paso Flores	8.61	173	*i* P		Pn	00 06 23.2	+1.0
LVC	Limon Verde	9.89	16	Pn		Pn	00 06 39.6	-0.5
comp=Z,0.2nm,0.3s,baz=234,slow=7.3,SNR=1.4								
LVC				Sn		Sn	00 08 31.6	-0.2
comp=Z,0.6nm,0.3s,baz=210,slow=4.8,SNR=2.0								
LVC	Limon Verde	9.89	16			Pn	00 06 39.8	-0.3
TRQA	Tornquist	10.03	129	Pn		Pn	00 06 43.4	+1.8
CPUP	Villa Florida	13.99	69	Pn		Pn	00 07 37.9	+2.1
comp=Z,0.2nm,0.3s,baz=202,slow=17,SNR=1.7								
CPUP				Sn		Sn	00 10 13.4	+1.7
comp=Z,0.1nm,0.3s,baz=178,slow=12,SNR=1.6								
CPUP				LR		LR	00 13 20.5	
comp=Z,144nm,20.6s,baz=248,slow=39								
PLTB	Pedras Altas	15.55	93			Pn	00 07 57.5	+0.7
LPAZ	La Paz	16.18	13	Pn		Pn	00 08 07.5	+1.9
comp=Z,0.1nm,0.3s,baz=175,slow=6.6,SNR=8.8								
LPAZ	La Paz	16.18	13	P		Pn	00 08 07.1	+1.4
SIV	San Ignacio	18.88	34	P		Pn	00 08 40.5	+1.7
comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=5.3								
ROSC	El Rosal	36.88	356	LR		LR	00 27 16.5	
comp=Z,152nm,18.2s,baz=328,slow=37								
VNA3	Neumayer Olymp	51.01	158	P		P	00 13 19.7	+0.4
VNA1	Neumayer--Stat	51.31	158	P		P	00 13 22.3	+0.7
VNA2	Neumayer--Watz	51.65	158	P		P	00 13 24.4	+0.2
baz=294,slow=6.3								
SNAA	Sanae	53.23	158	P		P	00 13 36.2	+0.2
SNAA	Sanae	53.23	158	P		P	00 13 36.4	+0.4
comp=Z,2.3nm,0.6s,baz=273,slow=8.6,SNR=9.8								
SNAA	Sanae	53.23	158	P		P	00 13 36.2	+0.2
QSPA	South Pole Qui	58.06	180	P		P	00 14 11.8	+1.0
comp=Z,3.5nm,0.8s,baz=142,slow=1.7,SNR=12								
QSPA	South Pole Qui	58.06	180	P		P	00 14 11.6	+0.8
QSPA				IAmb		IAmb	00 14 12.3	
comp=Z,2.6nm,0.8s								
TXAR	Lajitas Array	68.20	330	P		P	00 15 19.4	+1.0
comp=Z,0.3nm,0.8s,baz=114,slow=6.3,SNR=2.6								
TXAR	Lajitas Array	68.20	330	P		P	00 15 18.7	+0.3
TX31	Lajitas Ar. Si	68.20	330	P		P	00 15 18.6	+0.2
TX31				IAmb		IAmb	00 15 29.8	
comp=Z,5.1nm,1.1s								
TX32	Lajitas Array	68.20	330	P		P	00 15 18.9	+0.4
TX32				IAmb		IAmb	00 15 29.9	
comp=Z,1.6nm,1.1s								
TORD	Torodi Ar. Bea	83.49	70	P		P	00 16 45.9	-0.2
comp=Z,3.2nm,0.8s,baz=260,slow=4.0,SNR=12								
TORD	Torodi Ar. Bea	83.49	70	P		P	00 16 45.6	-0.5
TORD				IAmb		IAmb	00 16 46.5	
comp=Z,2.8nm,0.8s								
WRA	Warramunga Arr	122.40	210	PKP		PKPdf	00 23 12.3	-1.6
comp=Z,0.8nm,0.8s,baz=161,slow=1.6,SNR=4.6								
WRA	Warramunga Arr	122.40	210			PKPdf	00 23 12.7	-1.2
H11S2	WAKE ISLAND Hyd	25.89	270	T		T	02 42 23.7	
baz=118,slow=75,SNR=75								
H11S1	WAKE ISLAND Hyd	25.90	270	T		T	02 42 24.6	
baz=118,slow=75,SNR=82								
H11S3	WAKE ISLAND Hyd	25.90	270	T		T	02 42 24.1	
baz=118,slow=75,SNR=67								
H11N3	WAKE ISLAND Hyd	26.25	272	T		T	02 42 45.6	
baz=116,slow=75,SNR=14								
H11N1	WAKE ISLAND Hyd	26.27	272	T		T	02 42 51.5	
baz=116,slow=75,SNR=4.5								
H11N2	WAKE ISLAND Hyd	26.27	272	T		T	02 42 46.8	
baz=116,slow=75,SNR=27								
PEA0B	Petropavlovsk-	138.94	316	PKPdf		PKPdf	00 23 41.0	-3.0
NRIK	Noril'sk	141.01	11	PKPdf		PKPdf	00 23 45.3	-1.9
KK31	Karatay Array	148.55	59	PKPbc		PKPdf	00 24 01.5	+0.4
KKAR	Karatay Array	148.55	59			PKPbc	00 24 04.0	-0.8
GAR	Garm	148.70	67	PKPdf		PKPdf	00 23 58.9	-2.8
ZAA0	Zalesovo Array	152.62	31	PKPbc		PKPbc	00 24 14.2	+0.2
ZALV	Zalesovo Beam	152.62	31	PKPbc		PKPbc	00 24 14.3	+0.3
comp=Z,3.6nm,0.5s,baz=291,slow=3.1,SNR=11								
ZALV				PKPab		PKPab	00 24 24.2	-0.3
comp=Z,1.6nm,0.6s,baz=306,slow=3.7,SNR=4.5								
MKAR	Makanchi Array	155.45	46	PKPab		PKPab	00 24 37.0	0.0
comp=Z,1.3nm,0.8s,baz=292,slow=3.8,SNR=7.8								
MKAR	Makanchi Array	155.45	46	PKPab		PKPab	00 24 37.4	+0.4

IDC ***22*** *00:12:01.9±1.0, 2°.14N×96°.04E, h0km, mb4.4/15, mb1 4.4/16, mb1mx4.1/52, mbtmp4.4/16, ML4.2/1, MS3.6/3, Ms1 3.7/3, ms1mx3.1/32, Error ellipse: s-maj=37.7km s-min=17.2km az=49.0*

DJA ***22*** *00:12:04.5±0.8, 2°.N±6°.×.9°.6E±°., h91km±22km, M4.6/7, mb4.7/6, mbB4.9/1, MLv4.5/7, Mw(mB)4.2/1*

BJI ***22*** *00:12:04.1±0.0, 1°.84N×96°.25E, h46km, mB4.8/28, mb4.8/42, Ms4.3/16, Ms7 4.0/15*

NEIC ***22*** *00:12:06.6±1.3, 2°.30N±0°.07×96°.2E±0°.1, h23km±5km, mb4.6/41, Error ellipse: s-maj=16.2km s-min=10.1km az=75.0*

ISC 22 00:12:06.0±0.6, 2°.15N±0°.07×96°.07E±0°.07, h27km, n131, σ0°.99/124, mb4.6/50, MS4.0/7, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		1.56	45	P	Pn	00 12 29.4	-2.6
TPTI				S	Sb	00 12 54.9	+1.3
GSI	Gunungsitoli	1.72	119		Pn	00 12 33.9	-0.3
GSI	Gunungsitoli	1.72	119	P	Pn	00 12 33.9	-0.3
TSI	Tuntungan	2.83	62	P	Pn	00 12 49.7	+0.3
MNSI	Mandailing Nat	3.76	111	P	Pn	00 13 02.5	+0.3
MNSI				S	Sn	00 13 46.9	+1.4
BKNI	Bangkinang	5.29	110	Pn	Pn	00 13 22.5	-0.7
BKNI	Bangkinang	5.29	110	P	Pn	00 13 23.2	0.0
0.6nm97nm,1.0s							
SKLT	Songkhla	6.74	42	P	Pn	00 13 43.3	+0.1
SKLT	Songkhla	6.74	42	P	Pn	00 13 43.4	+0.1
0.2nm2μm57nm,1.0s							
KRAB	Krabi	6.79	27	P	Pn	00 13 44.5	+0.7
0.6nm4μm133nm,0.6s							
MNAI	Manna	9.44	133	Pn	Pn	00 14 20.4	+0.1
MNAI	Manna	9.44	133	P	Pn	00 14 19.6	-0.7
163nm,1.1s							
MDSI	Maura Dua	10.44	129	P	Pn	00 14 33.7	-0.3
CHAI	Chaiyaphum	14.86	23	P	P	00 15 40.4	+0.5
15nm,0.7s							
PHIT	Phitsanulok	15.54	16	P	P	00 15 46.6	-0.9
75nm,0.8s							
PHIT	Phitsanulok	15.54	16	P	P	00 15 46.6	-0.9
19nm,0.8s							
KHON	Khomkaen	15.59	25	P	P	00 15 47.0	-1.0
77nm,0.9s							
KHON	Khomkaen	15.59	25	P	P	00 15 47.0	-1.0
19nm,0.9s							
PALK	Pallekele	16.14	289	Sn	Sn	00 18 35.3	-14
1.2nm,0.3s,baz=125,slow=18,SNR=5.6							
PALK				LR	LR	00 21 54.9	
comp=Z,178nm,18.0s,baz=218,slow=37							
CM05	Chiang Mai Arr	16.40	10	P	Pn	00 15 55.9	+1.6
8.0nm,0.9s							
CM05	Chiang Mai Arr	16.40	10	P	Pn	00 15 56.0	+1.6
8.0nm,0.9s							
CM04	Chiang Mai Arr	16.40	10	P	Pn	00 15 55.9	+1.5
10nm,1.1s							
CM04	Chiang Mai Arr	16.40	10	P	Pn	00 15 56.0	+1.5
10nm,1.1s							
CM13	Chiang Mai Arr	16.41	10	P	Pn	00 15 55.9	+1.4
9.0nm,0.8s							
CM13	Chiang Mai Arr	16.41	10	P	Pn	00 15 55.9	+1.4
9.0nm,0.8s							
CM01	Chiang Mai Arr	16.42	10	P	P	00 15 58.4	+1.2
11nm,0.9s							
CM01	Chiang Mai Arr	16.42	10	P	P	00 15 58.5	+1.2
11nm,0.9s							
CM02	Chiang Mai Arr	16.43	10	P	P	00 15 58.3	+1.0
8.4nm,0.9s							
CM02	Chiang Mai Arr	16.43	10	P	P	00 15 58.4	+1.0
8.4nm,0.9s							
CM15	Chiang Mai Arr	16.44	10	P	P	00 15 58.5	+1.0
CM09	Chiang Mai Arr	16.45	10	P	P	00 15 56.8	-0.7
13nm,0.9s							
CM09	Chiang Mai Arr	16.45	10	P	Pn	00 15 56.0	+1.0
13nm,0.9s							
CM31	Chiang Mai Arr	16.45	10	P	Pn	00 15 55.9	+0.8
CMAR	Chiang Mai Arr	16.45	10	Pn	Pn	00 15 55.8	+0.7
0.3nm,0.3s,baz=198,slow=10,SNR=23							
CMAR				LR	LR	00 22 56.7	
comp=Z,235nm,19.3s,baz=234,slow=40							
CMAR	Chiang Mai Arr	16.45	10	P	Pn	00 15 55.4	+0.4
LAMP	Lampang	16.64	12	P	P	00 16 00.2	+0.5
14nm,0.8s							
LAMP	Lampang	16.64	12	P	P	00 16 00.0	+0.3
3.6nm,0.8s							
CHTO	Chiang Mai	16.80	9	P	Pn	00 15 59.4	-0.1
NONG	Nongkai	17.27	23	P	P	00 16 07.2	+0.6
13nm,0.8s							
NONG	Nongkai	17.27	23	P	P	00 16 07.2	+0.6
SLVN	Son La	20.54	21		P	00 16 41.1	-1.5
SLVN				IAmb	IAmb	00 16 43.2	
comp=Z,15nm,0.9s							
HYB	Hyderabad	22.94	313	*eP*	P	00 17 06.7	-1.6
SHL	Shillong	23.63	351	*eP*	P	00 17 12.6	-2.7
SHL				IAmb	IAmb	00 17 17.1	
comp=Z,10nm,0.4s							
BOK	Bokaro	23.67	336	*eP*	P	00 17 14.2	-1.3
KMI	Kunming	23.73	15	⇑P	P	00 17 16.9	+0.6
KMI				pmax	pmax		
comp=Z,12nm,0.8s							
KMI				LR	LR		
comp=Z,280nm,12.4s							
KMI				LR	LR		
comp=Z,140nm,12.9s							
KMI				LR	LR		
comp=Z,340nm,14.9s							
KAPI	Kappang	24.70	107	P	P	00 17 24.6	-0.5
KAPI				IAmb	IAmb	00 17 26.3	
comp=Z,14nm,0.9s							
TOLI2	Tolitoli	24.72	92	P	P	00 17 24.8	-0.6
TOLI2				IAmb	IAmb	00 17 27.5	
comp=Z,14nm,1.0s							
H08S2	Diego Garcia H	25.45	247	T	T	00 44 07.2	
baz=68,slow=75,SNR=9869							
H08S3	Diego Garcia H	25.46	247	T	T	00 44 07.3	
baz=68,slow=75,SNR=9052							
H08S1	Diego Garcia H	25.47	247	T	T	00 44 08.5	
baz=68,slow=75,SNR=9329							
ODAN	Odare	25.94	342	*eP*	P	00 17 37.3	+0.8
comp=Z,28nm,0.7s							
GYA	Guiyang	26.23	22	*eP*	P	00 17 38.0	-0.9
GYA				pmax	pmax		
comp=Z,4.0nm,0.7s							
RAMN	Ramite	26.28	341	*eP*	P	00 17 41.7	+2.1
comp=Z,16nm,0.4s							
TAPN	Taplejung	26.31	343	*eP*	P	00 17 40.6	+0.7
comp=Z,46nm,0.9s							
JIRN	Jiri	27.07	340	*eP*	P	00 17 47.5	+0.6
comp=Z,51nm,0.7s							
PKI	Pulchoki	27.26	339	*eP*	P	00 17 49.3	+0.8
comp=Z,24nm,0.9s							
PKIN	Phulchoki	27.27	339	*eP*	P	00 17 50.8	+2.3
KKN	Kakani	27.51	339	*eP*	P	00 17 51.3	+0.7
comp=Z,24nm,0.7s							
LSA	Lhasa	27.80	351	P	P	00 17 52.9	-0.5
LSA				pmax	pmax		
comp=Z,77nm,0.9s							
LSA	Lhasa	27.80	351	P	P	00 17 53.2	-0.2
LSA				IAmb	IAmb	00 17 54.6	
comp=Z,18nm,1.0s							
GKN	Gorkha	27.94	338	*eP*	P	00 17 55.3	+0.9
comp=Z,25nm,0.6s							
KOLN	Koldanda	28.13	336	*eP*	P	00 17 57.2	+1.0
comp=Z,34nm,0.8s							
DANN	Dangsing	28.58	337	*eP*	P	00 18 00.1	-0.2
comp=Z,20nm,0.6s							
ENH	Enshi	30.73	23	P	P	00 18 16.9	-2.1
SMLA	Simla	33.91	330	*eP*	P	00 18 46.6	-0.2
SMLA				IAmb	IAmb	00 18 55.7	
comp=Z,10nm,0.4s							
XAN	Xi'an	33.92	19	P	P	00 18 45.3	-1.7
XAN				pmax	pmax		
comp=Z,57nm,0.8s							
XAN				pmax	pmax		
comp=Z,100nm,3.6s							
XAN				LR	LR		
comp=Z,130nm,17.3s							
XAN				LR	LR		
comp=Z,180nm,16.3s							
XAN				LR	LR		
comp=Z,220nm,16.3s							
LZH	Lanzhou	34.53	11	*eP*	P	00 18 51.5	-0.8
LZH				pmax	pmax		
comp=Z,22nm,1.3s							
LZH				pmax	pmax		
comp=Z,75nm,4.6s							
LZH				LR	LR		
comp=Z,190nm,13.0s							
LZH				LR	LR		
comp=Z,210nm,13.2s							
LZH				LR	LR		
comp=Z,180nm,14.6s							
NJ2	Nanjing	36.67	33	*eP*	P	00 19 10.4	-0.2
NJ2				pmax	pmax		
comp=Z,9.0nm,0.6s							
GTA	Gaotai	37.24	5	⇓P	P	00 19 14.5	-1.0
GTA				pmax	pmax		
comp=Z,14nm,1.0s							
GTA				pmax	pmax		
comp=Z,30nm,4.7s							
GTA				LR	LR		
comp=Z,91nm,16.7s							
GTA				LR	LR		
comp=Z,87nm,17.1s							
GTA				LR	LR		
comp=Z,120nm,17.1s							
MTN	Manton Dam	37.86	114	P	P	00 19 19.7	-1.2
MTN				IAmb	IAmb	00 19 29.8	
comp=Z,18nm,1.4s							
H01W3	Cape Leeuwin H	40.55	157	T	T	01 02 56.9	
baz=332,slow=76,SNR=618							
H01W2	Cape Leeuwin H	40.56	157	T	T	01 02 57.8	
baz=332,slow=76,SNR=620							
H01W1	Cape Leeuwin H	40.56	157	T	T	01 02 58.0	
baz=332,slow=76,SNR=722							
HHC	Hu-ho-hao-te	40.99	18	*eP*	P	00 19 47.3	+0.5
HHC				pmax	pmax		
comp=Z,17nm,0.9s							
HHC				pmax	pmax		
comp=Z,76nm,4.1s							
HHC				LR	LR		
comp=Z,120nm,12.2s							
HHC				LR	LR		
comp=Z,250nm,13.4s							
HHC				LR	LR		
comp=Z,160nm,13.3s							
BJT	Baijiatuau	41.88	23	P	P	00 19 53.6	-0.3
BJI	Beijing	41.90	23	P	P	00 19 53.5	-0.6
BJI				pmax	pmax		
comp=Z,6.0nm,0.5s							
BJI				pmax	pmax		
comp=Z,64nm,4.1s							
WMQ	Urumqi	42.16	351	*eP*	P	00 19 58.0	+1.7
TARG	Taragay, Kyrgy	42.69	340	P	P	00 20 01.2	+0.1
TARG				IAmb	IAmb	00 20 05.6	
comp=Z,7.5nm,0.9s							
DRK	Karamyk	43.23	332	P	P	00 20 06.4	+1.1
KDJ	Kajisay	43.27	339	P	P	00 20 06.5	+1.0
KDJ				IAmb	IAmb	00 20 07.3	
comp=Z,10nm,0.8s							
WB0	Warramunga Arr	43.46	122	P	P	00 20 06.9	-0.2
WB0				IAmb	IAmb	00 20 25.3	
comp=Z,13nm,1.4s							
WRA	Warramunga Arr	43.49	122	P	P	00 20 07.4	0.0
comp=Z,2.2nm,0.8s,baz=300,slow=9.2,SNR=17							
WRA	Warramunga Arr	43.49	122	P	P	00 20 06.8	-0.6
WRAB	Tennant Creek	43.50	122	P	P	00 20 07.5	+0.1
WB2	Warramunga Arr	43.50	122	P	P	00 20 07.5	+0.1
WB2				IAmb	IAmb	00 20 25.9	
comp=Z,9.5nm,1.2s							
GAR	Garm	43.56	331	P	P	00 20 07.8	0.0
GAR				IAmb	IAmb	00 20 08.6	
comp=Z,14nm,0.9s							
WR0	Warramunga Arr	43.67	122	P	P	00 20 08.5	-0.3
WR0				IAmb	IAmb	00 20 19.1	
comp=Z,16nm,1.4s							
BOOM	Boomskoye usch	44.02	339	P	P	00 20 11.6	+0.1
BOOM				IAmb	IAmb	00 20 12.8	
comp=Z,4.5nm,0.8s							
BTK	Batken	44.15	332	P	P	00 20 13.3	+0.8
FORT	Forrest	44.72	140	P	P	00 20 19.7	+2.6
ASAR	Alice Springs	44.86	127	P	P	00 20 18.5	+0.1
comp=Z,1.4nm,0.5s,baz=300,slow=7.9,SNR=25							
ASAR	Alice Springs	44.86	127	P	P	00 20 19.0	+0.7
AS31	Alice Springs	44.86	127	P	P	00 20 19.1	+0.7
KSAR	Wonju Array Be	45.70	36	P	P	00 20 24.1	-0.6
KS19	Wonju Array Si	45.73	36	P	P	00 20 23.4	-1.6
MK31	Makanchi Array	46.06	347	P	P	00 20 27.0	-0.5
MK31				IAmb	IAmb	00 20 28.7	
comp=Z,9.7nm,1.0s							
MKAR	Makanchi Array	46.06	347	P	P	00 20 27.3	-0.2
comp=Z,8.9nm,0.8s,baz=162,slow=7.8,SNR=70							
MKAR	Makanchi Array	46.06	347	P	P	00 20 27.0	-0.5
MAKZ	Makanchi	46.15	347	P	P	00 20 27.7	-0.5
MAKZ				IAmb	IAmb	00 20 29.2	
comp=Z,12nm,1.1s							
SONM	Songino Array	46.38	10	P	P	00 20 29.4	-0.7
comp=Z,4.2nm,0.4s,baz=189,slow=9.4,SNR=28							
SONM	Songino Array	46.38	10	P	P	00 20 29.6	-0.5
SONM				IAmb	IAmb	00 20 31.0	
comp=Z,6.1nm,1.1s							
ULN	Ulaanbaatar	46.52	10	P	P	00 20 29.5	-1.7
ULN				IAmb	IAmb	00 20 31.8	
comp=Z,6.9nm,1.3s							
KK31	Karatay Array	46.72	334	P	P	00 20 33.1	+0.5
KK31				IAmb	IAmb	00 20 34.1	
comp=Z,3.3nm,0.8s							
KKAR	Karatay Array	46.72	334	P	P	00 20 33.0	+0.3
GEYT	Alibeck	49.77	320	P	P	00 20 57.2	+0.8
comp=Z,3.3nm,0.7s,baz=80,slow=11,SNR=5.2							
GYA0B	ALIBECK ARRAY	49.77	320	P	P	00 20 56.9	+0.6
GYA0B				IAmb	IAmb	00 21 05.1	
comp=Z,5.2nm,0.7s							
ZAA0	Zalesovo Array	52.46	352	P	P	00 21 16.1	0.0
ZALV	Zalesovo Beam	52.46	352	P	P	00 21 15.9	-0.2
comp=Z,11nm,0.6s,baz=178,slow=7.2,SNR=46							
ZALV	Zalesovo Beam	52.46	352	P	P	00 21 16.0	-0.2
USRK	Ussuriysk Ar.	52.56	32	P	P	00 21 17.6	+0.4
comp=Z,0.8nm,0.5s,baz=223,slow=6.5,SNR=4.5							
USRK	Ussuriysk Ar.	52.56	32	P	P	00 21 17.4	+0.2
STKA	Stephens Creek	54.83	132	LR	LR	00 49 08.6	
comp=Z,54nm,18.5s,baz=24,slow=41							
ABKAR	Akbulak array	56.15	332	P	P	00 21 42.2	-1.0
AKTO	Aktyubinsk	57.87	332	P	P	00 21 55.0	-0.4
comp=Z,1.0nm,0.6s,baz=118,slow=7.2,SNR=4.1							
ARU	Arti	61.88	337	P	P	00 22 22.0	-0.7
comp=Z,0.2nm,0.3s,baz=128,slow=4.1,SNR=3.6							
ARU	Arti	61.88	337	P	P	00 22 21.7	-1.1
ARU				IAmb	IAmb	00 22 23.2	
comp=Z,4.2nm,1.2s							
YAK	Yakutsk	64.84	17	P	P	00 22 40.9	-1.3
NRIK	Noril'sk	67.32	357	P	P	00 23 00.3	+2.2
comp=Z,2.9nm,0.7s,baz=177,slow=7.3,SNR=3.6							
NRIK	Noril'sk	67.32	357	P	P	00 22 57.0	-1.1
NRIK				IAmb	IAmb	00 22 58.7	
comp=Z,4.5nm,1.0s							
BRTR	Keskin Array B	67.64	312	P	P	00 23 00.7	-0.2
comp=Z,0.8nm,0.8s,baz=144,slow=7.9,SNR=6.3							
BURAR	Bucovina Array	75.57	319	P	P	00 23 49.2	+0.7
BUR08	Bucovina Ar. S	75.59	319	P	P	00 23 48.5	-0.1
FIA1	FINESS Array S	78.64	333	P	P	00 24 05.5	+0.3
FINES	FINESS Array B	78.64	333	P	P	00 24 05.3	0.0
comp=Z,2.9nm,0.7s,baz=103,slow=4.3,SNR=10							
ARCES	ARCESS Array B	81.27	340	P	P	00 24 19.8	+0.5
comp=Z,1.0nm,0.4s,baz=93,slow=5.5,SNR=17							
ARCES	ARCESS Array B	81.27	340	P	P	00 24 19.9	+0.5
ARCES				IAmb	IAmb	00 24 32.3	
comp=Z,10nm,1.3s							
GERES	GERESS Array B	83.36	319

SJTE			*e*S	Sn	00 16 09.3	+0.4
SJTE	**Alcalda de S**	**1.86 323**	*e*P	Pn	00 15 46.2	-0.3
SJTE			*e*S	Sn	00 16 09.3	+0.4
LFRS	**El Faro**	**1.90 322**	*e*P	Pn	00 15 46.7	-0.4
LFRS	**El Faro**	**1.90 322**	*e*P	Pn	00 15 46.7	-0.4
PAVA	**Las Pavas**	**1.90 327**	*e*P	Pn	00 15 47.4	+0.3
PAVA			*e*S	Sn	00 16 10.6	+0.7
PAVA	**Las Pavas**	**1.90 327**	*e*P	Pn	00 15 47.4	+0.3
PAVA			*e*S	Sn	00 16 10.6	+0.7
TGUH	**Tegucigalpa,Un**	**2.02 17**	*e*P	Pn	00 15 48.9	+0.2
TGUH	**Tegucigalpa,Un**	**2.02 17**	*e*P	Pn	00 15 48.9	+0.2
MTO3	**Montecristo**	**2.70 327**	*e*P	Pn	00 15 58.2	+0.1
MTO3	**Montecristo**	**2.70 327**	*e*P	Pn	00 15 58.2	+0.1

*BJI **22** 00:51:51.0±0.0, 38.°07N×120.°33E, h8km, mB4.3/10, mb4.2/14, ML4.5/18, Ms4.0/17, Ms7 3.7/17*
*IDC **22** 00:51:53.2±0.9, 38.°10N×120.°38E, h0km, mb3.8/12, mb1 4.0/16, mb1mx3.8/44, mbtmp3.8/16, ML3.4/4, MS3.4/14, Ms1 3.4/14, ms1mx3.2/38, Error ellipse: s-maj=23.6km s-min=14.9km az=6.0*
*NEIC **22** 00:51:53.9±2.1, 37.°9N±0.°1×120.°3E±0.°1, h11km±5km, mb4.2/11, Error ellipse: s-maj=17.1km s-min=10.6km az=202.0*
ISC 22 00:51:52.8±0.5, 38.°06N±0.°03×120.°30E±0.°03, h10km, n79, σ2s04/75, mb4.0/18, MS3.6/10, 2C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.34**	**50**	⇓*i*Pg	**Pg**	**00 52 16.8**	**-1.8**
DL2				Sg	**Sg**	**00 52 33.3**	**-2.7**
DL2				smax	smax		
	comp=N,13μm,0.5s						
DL2				smax	smax		
	comp=E,16μm,0.4s						
TIA	**Tai'an**	**3.14**	**235**	Pn	**Pn**	**00 52 42.3**	**0.0**
TIA				Pg	**Pg**	**00 52 51.8**	**-1.1**
TIA				Sg	**Sg**	**00 53 31.5**	**-2.1**
TIA				smax	smax		
	comp=N,550nm,0.8s						
TIA				smax	smax		
	comp=E,490nm,0.6s						
KSBAR	**Backryungdo**	**3.49**	**90**	P	**Pn**	**00 52 46.7**	**-0.4**
	SNR=42						
KSBAR	**Backryungdo**	**3.49**	**90**	P	**Pn**	**00 52 46.7**	**-0.4**
	SNR=42						
DACB	**Daecheong-do R**	**3.49**	**92**	P	**Pn**	**00 52 46.6**	**-0.5**
	SNR=29						
DACB	**Daecheong-do R**	**3.49**	**92**	P	**Pn**	**00 52 46.6**	**-0.5**
	SNR=29						
DACB				S	**Sg**	**00 53 40.2**	**-4.7**
BJT	**Baijiatuau**	**3.77**	**303**		**Pn**	**00 52 51.0**	**+0.1**
BJI	**Beijing**	**3.77**	**303**	Pn	**Pn**	**00 52 50.8**	**-0.2**
BJI				Pg	**Pg**	**00 53 01.4**	**-3.7**
BJI				Sn	**Sn**	**00 53 33.1**	**-2.4**
BJI				smax	smax		
	comp=N,4μm,1.0s						
BJI				smax	smax		
	comp=E,3μm,0.7s						
KSGBI	**Gyogryolbido**	**4.43**	**107**	P	**Pn**	**00 52 59.6**	**-0.5**
	SNR=19						
KSGBI	**Gyogryolbido**	**4.43**	**107**	P	**Pn**	**00 52 59.6**	**-0.5**
	SNR=19						
SNY	**Shenyang**	**4.53**	**33**	⇑Pn	**Pn**	**00 53 00.8**	**-0.6**
SNY				Pg	Pg	00 53 14.3	-5.3
SNY				Sn	**Sn**	**00 53 50.9**	**-3.2**
SNY				Sg	**Sg**	**00 54 10.8**	**-7.4**
SNY				smax	smax		
	comp=N,1μm,0.5s						
SNY				smax	smax		
	comp=E,690nm,0.9s						
YNCB	**YEONCHEON**	**5.23**	**88**	P	**Pn**	**00 53 09.7**	**-1.3**
	SNR=9.5						
YNCB	**YEONCHEON**	**5.23**	**88**	P	**Pn**	**00 53 09.7**	**-1.3**
	SNR=9.5						
HUK2	**Heuksan-myeon**	**5.34**	**127**	P	**Pn**	**00 53 12.3**	**-0.4**
	SNR=11						
HUK2	**Heuksan-myeon**	**5.34**	**127**	P	**Pn**	**00 53 12.3**	**-0.4**
	SNR=11						
KSCWO	**Cheorwon**	**5.69**	**88**	P	**Pn**	**00 53 18.6**	**+1.2**
	SNR=6.1						
GOCB	**Gochang-gun**	**5.74**	**116**	P	**Pn**	**00 53 17.3**	**-0.7**
	SNR=15						
GOCB	**Gochang-gun**	**5.74**	**116**	P	**Pn**	**00 53 17.3**	**-0.7**
	SNR=15						
KSJEU	**Jeongeup**	**5.90**	**114**	P	**Pn**	**00 53 19.6**	**-0.7**
	SNR=17						
EMSB	**Eumseong**	**5.92**	**98**	P	**Pn**	**00 53 22.0**	**+1.4**
	SNR=6.8						
KSCHC	**Chuncheon**	**5.95**	**90**	P	**Pn**	**00 53 20.4**	**-0.5**
	SNR=13						
KS19	**Wonju Array Si**	**6.02**	**93**		**Pn**	**00 53 21.3**	**-0.6**
KSAR	**Wonju Array Be**	**6.04**	**94**	Pn	**Pn**	**00 53 23.4**	**+1.2**
KSRS	**Korea Array**	**6.07**	**93**	Pn	**Pn**	**00 53 21.4**	**-1.2**
	3.2nm,0.3s,baz=276,slow=13,SNR=21						
KSRS				Sn	**Sn**	**00 54 31.1**	**-1.0**
	5.2nm,0.3s,baz=262,slow=29,SNR=6.2						
KSRS				Lg	Lg	00 54 59.7	
	7.3nm,0.3s,baz=281,slow=26,SNR=6.1						
KSRS				LR	LR	00 56 10.1	
	comp=Z,182nm,19.4s,baz=281,slow=43						
NJ2	**Nanjing**	**6.11**	**192**	*e*Pg	Pg	00 53 44.1	-5.7
NJ2				Sn	**Sn**	**00 54 31.3**	**-1.8**
NJ2				Sg	**Sg**	**00 55 02.3**	**-6.6**
NJ2				smax	smax		
	comp=N,230nm,0.9s						
NJ2				smax	smax		
	comp=E,280nm,0.7s						
NJ2				LR	LR		
	comp=N,680nm,4.3s						
NJ2				LR	LR		
	comp=E,990nm,3.9s						
NJ2				LR	LR		
	comp=Z,460nm,4.3s						
KSIJA	**INJE**	**6.17**	**88**	P	**Pn**	**00 53 23.7**	**-0.3**
	SNR=17						
KSBON	**Boeun**	**6.18**	**102**	P	**Pn**	**00 53 23.3**	**-0.8**
	SNR=16						
OKCB	**Cheongsan-myeo**	**6.22**	**104**	P	**Pn**	**00 53 25.0**	**+0.3**
	SNR=8.6						
KSJMJ	**Jumunjin**	**6.68**	**89**	P	**Pn**	**00 53 30.8**	**-0.2**
	SNR=11						
HHC	**Hu-ho-hao-te**	**7.31**	**295**	*e*Pg	**Pg**	**00 54 11.5**	**-1.3**
HHC				Sg	**Sg**	**00 55 43.4**	**-4.1**
HHC				smax	smax		
	comp=N,55nm,0.7s						
HHC				smax	smax		
	comp=E,86nm,0.8s						
JTU	**Tsushima**	**8.15**	**113**	Pn	**Pn**	**00 53 49.8**	**-1.3**
BTO	**Baotou**	**8.36**	**291**	*e*P	Pn	00 53 48.5	-5.7
WHN	**Wuhan**	**8.96**	**215**	⇑P	**Pn**	**00 54 01.9**	**-0.4**
WHN				S	**Sn**	**00 55 40.9**	**-2.4**
WHN				LR	LR		
	comp=E,2μm,9.9s						
WHN				LR	LR		
	comp=E,2μm,7.2s						
WHN				LR	LR		
	comp=E,850nm,9.8s						
XAN	**Xi'an**	**10.05**	**250**	P	**Pn**	**00 54 18.3**	**+1.1**
USA0B	**Ussuriysk Arra**	**10.74**	**51**	Pn	**Pn**	**00 54 27.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.74**	**51**	Pn	**Pn**	**00 54 27.5**	**+0.9**
	baz=235,slow=14,SNR=9.4						
USRK				Lg	Lg	00 57 28.7	
	baz=240,slow=26,SNR=22						
KLR	**Kul'dur**	**13.89**	**33**	Pn	P	00 55 12.2	-5.7
	comp=E,0.2nm,0.3s,baz=227,slow=11,SNR=5.0						
KLR				Lg	Lg	00 59 12.1	
	comp=E,0.7nm,0.3s,baz=132,slow=18,SNR=10.0						
SONM	**Songino Array**	**14.09**	**318**	Pn	**Pn**	**00 55 12.4**	**-0.1**
	comp=E,0.2nm,0.3s,baz=133,slow=15,SNR=2.5						
SONM				Lg	Lg	00 59 17.5	
	comp=E,0.2nm,0.3s,baz=275,slow=18,SNR=3.2						
SONM				LR	LR	01 00 51.8	
	comp=E,79nm,19.4s,baz=131,slow=38						
SONM	**Songino Array**	**14.09**	**318**	P	**P**	**00 55 16.9**	**-3.5**
MJAR	**Matsushiro Arr**	**14.34**	**91**	LR	LR	01 00 15.2	
	comp=E,101nm,20.7s,baz=310,slow=35						
ASAJ	**Asahikawa**	**17.84**	**63**	LR	LR	01 01 54.6	
	comp=E,56nm,18.2s,baz=272,slow=34						
TLY	**Talaya**	**17.96**	**325**	LR	LR	01 03 59.7	
	comp=E,111nm,18.2s,baz=150,slow=40						
YAK	**Yakutsk**	**24.69**	**11**	LR	LR	01 06 20.3	
	comp=E,45nm,21.1s,baz=268,slow=35						
YAK	**Yakutsk**	**24.69**	**11**	P	**P**	**00 57 14.0**	**+0.3**
WMQ	**Urumqi**	**25.19**	**294**	*e*P	**P**	**00 57 19.5**	**+1.0**
WMQ				LR	LR		
	comp=E,270nm,15.9s						
CMAR	**Chiang Mai Arr**	**27.00**	**230**	LR	LR	01 08 46.8	
	comp=E,68nm,19.4s,baz=66,slow=37						
BRDH	**Bariadhala**	**28.94**	**246**	LR	LR	01 09 40.9	
	comp=E,120nm,18.8s,baz=2.0,slow=37						
MA2	**Magadan**	**28.99**	**32**	LR	LR	01 09 00.6	
	comp=E,65nm,18.4s,baz=230,slow=36						
MKAR	**Makanchi Array**	**29.15**	**300**	P	**P**	**00 57 55.9**	**+1.9**
	comp=E,0.4nm,0.6s,baz=90,slow=11,SNR=4.3						
MKAR				PcP	**PcP**	**01 01 04.0**	**+2.6**
	comp=E,0.4nm,0.6s,baz=83,slow=0.9,SNR=4.6						
MKAR	**Makanchi Array**	**29.15**	**300**	P	**P**	**00 57 55.0**	**+1.0**
KURK	**Kurchatov**	**31.93**	**307**	P	**P**	**00 58 20.8**	**+2.3**
KURBB	**Kurchatov Arra**	**31.98**	**307**	P	**P**	**00 58 20.8**	**+1.9**
	comp=E,3.6nm,0.8s,baz=96,slow=9.4,SNR=31						
NRIK	**Noril'sk**	**35.95**	**341**	LR	LR	01 15 26.0	
	comp=E,116nm,18.1s,baz=156,slow=39						
BRVK	**Borovoye**	**37.29**	**310**	P	**P**	**00 59 05.9**	**+1.1**
BRVK				IAmb	IAmb	00 59 08.0	
	comp=Z,3.4nm,0.8s						
KK31	**Karatay Array**	**37.70**	**294**	P	**P**	**00 59 09.4**	**+1.0**
KK31				IAmb	IAmb	00 59 11.5	
	comp=Z,1.5nm,0.8s						
KKAR	**Karatay Array**	**37.70**	**294**	P	**P**	**00 59 08.9**	**+0.5**
KKAR				IAmb	IAmb	00 59 11.5	
	comp=Z,1.5nm,0.8s						
CHGR	**Chuyangaron**	**39.68**	**287**	P	**P**	**00 59 27.2**	**+2.0**
CHGR				IAmb	IAmb	00 59 46.6	
	comp=Z,9.8nm,0.8s						
ABKAR	**Akbulak array**	**43.98**	**305**	P	**P**	**01 00 01.4**	**+1.3**
ARU	**Arti**	**44.10**	**315**	P	P	01 00 04.3	+3.3
	comp=Z,0.9nm,0.6s,baz=132,slow=9.9,SNR=5.5						
ARU	**Arti**	**44.10**	**315**	P	**P**	**01 00 03.5**	**+2.5**
ARU				IAmb	IAmb	01 00 20.0	
	comp=Z,3.8nm,1.0s						
ARCES	**ARCESS Array B**	**56.53**	**335**	LR	LR	01 31 30.9	
	comp=Z,44nm,18.7s,baz=345,slow=42						
BMAR	**Burnt Mountain**	**57.38**	**27**	P	**P**	**01 01 42.3**	**+1.4**
ILAR	**Eielson Array**	**57.45**	**31**	P	**P**	**01 01 43.3**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=298,slow=5.8,SNR=1.8						
WRA	**Warramunga Arr**	**59.18**	**165**	P	**P**	**01 01 56.2**	**+2.2**
	comp=Z,0.8nm,1.0s,baz=350,slow=7.6,SNR=3.2						
FIA1	**FINESS Array S**	**59.31**	**326**	P	P	01 01 58.0	+3.7
FINES	**FINESS Array B**	**59.31**	**326**	P	**P**	**01 01 57.4**	**+3.0**
	comp=Z,1.2nm,0.7s,baz=78,slow=13,SNR=2.4						
FINES	**FINESS Array B**	**59.31**	**326**	P	P	01 01 58.2	+3.8
PSA00	**Pilbara Seismi**	**59.31**	**180**	P	**P**	**01 01 54.5**	**-0.3**
AKASG	**Malin Array Be**	**62.33**	**314**	P	**P**	**01 02 15.8**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=56,slow=6.6,SNR=7.1						
AKASG				LR	LR	01 30 26.9	
	comp=Z,53nm,18.8s,baz=50,slow=37						
BRTR	**Keskin Array B**	**64.77**	**302**	P	**P**	**01 02 32.6**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=87,slow=4.2,SNR=2.7						
BRTR	**Keskin Array B**	**64.77**	**302**	P	**P**	**01 02 33.0**	**+1.3**
NC303	**NORSAR Array S**	**65.59**	**330**	P	**P**	**01 02 37.2**	**+0.7**
NC303				IAmb	IAmb	01 03 01.4	
	comp=Z,2.6nm,0.9s						
NOA	**NORSAR Array B**	**65.75**	**330**	P	**P**	**01 02 39.1**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=55,slow=6.5,SNR=2.3						
NOA				LR	LR	01 34 42.1	
	comp=Z,30nm,18.1s,baz=45,slow=39						
YKA	**Yellowknife Ar**	**70.55**	**24**	P	**P**	**01 03 09.8**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=323,slow=5.1,SNR=7.4						
CLL	**Collm**	**70.70**	**321**	*e*(P)	P	01 03 14.0	+5.3
CLL				LmH		01 31 00.0	
	comp=N,100nm,20.7s						
CLL				LmH		01 31 00.0	
	comp=E,200nm,19.7s						
CLL				LmV		01 37 00.0	
	comp=Z,100nm,18.0s						
GERES	**GERESS Array B**	**71.83**	**318**	P	**P**	**01 03 17.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=9.9,SNR=2.2						
NRCA	**Norcia**	**75.86**	**314**	P	**P**	**01 03 41.1**	**+1.7**
NRCA				IAmb	IAmb	01 03 45.7	
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**86.73**	**42**	P	P	01 04 40.4	+3.1
	comp=Z,0.1nm,0.3s,baz=280,slow=5.3,SNR=4.0						
ESDC	**Sonseca Array**	**87.29**	**320**	LR	LR	01 49 19.4	
	comp=Z,21nm,18.4s,baz=245,slow=40						

*MOS **22** 01:03:08.8±1.2, 42.°30N×144.°18E, h59km, mb4.5/1, Error ellipse: s-maj=27.4km s-min=11.9km az=72.3*
*JMA **22** 01:03:11.5±0.1, 42.°58N×144.°09E, h60km±2km, M3.3*
*SKHL **22** 01:03:11.8±0.2, 42.°60N×144.°10E, h67km±3km, mb4.8/5*
*IDC **22** 01:03:20.7±1.5, 45.°22N×143.°21E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, Error ellipse: s-maj=43.9km s-min=17.9km az=107.0*
ISC 22 01:03:11.5±1.0, 42.°51N±0.°06×144.°16E±0.°03, h51km±9km, n41, σ0s82/61, mb3.4/4, 3C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	**Onbets**	**0.46**	**329**	⇓P	**Pn**	**01 03 22.4**	**+0.2**
JOB				*e*S	**Sn**	**01 03 30.1**	**+0.1**
JCH	**Churui**	**0.59**	**280**	⇓P	**Pn**	**01 03 24.0**	**+0.1**
JAK	**Akkeshi**	**0.63**	**39**	P	**Pn**	**01 03 24.3**	**0.0**
JAK				*e*S	**Sn**	**01 03 34.1**	**+0.6**
JTHR	**Tokachihiroo**	**0.67**	**251**	P	**Pn**	**01 03 25.3**	**+0.5**
JTHR				*e*S	**Sn**	**01 03 35.4**	**+0.9**
AKK	**Akkeshi**	**0.71**	**45**	*i* P	**Pn**	**01 03 25.5**	**+0.1**
AKK				*i* S	**Sn**	**01 03 35.8**	**+0.3**
JAR	**Ashorobuto**	**0.83**	**340**	⇓P	**Pn**	**01 03 26.7**	**-0.3**
JAR				*e*S	**Sn**	**01 03 37.2**	**-1.1**
JEM	**Erimo**	**0.89**	**236**	P	**Pn**	**01 03 28.1**	**+0.4**
JKHN	**Kushirohamanak**	**0.93**	**52**	⇓P	**Pn**	**01 03 28.5**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.06**	**258**	P	**Pn**	**01 03 29.6**	**-0.4**
JNK	**Nakash**	**1.15**	**21**	⇑P	**Pn**	**01 03 30.8**	**-0.4**
JNK				*e*S	**Sn**	**01 03 44.9**	**-1.0**
JFR	**Furan**	**1.32**	**300**	⇓P	**Pn**	**01 03 33.0**	**-0.5**
JFR				*e*S	**Sn**	**01 03 48.9**	**-1.1**
JBT2	**Biratori 2**	**1.35**	**282**	⇓P	**Pn**	**01 03 32.9**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.44**	**53**	⇑*i*PN	**Pn**	**01 03 34.7**	**-0.3**
NMR				*i* S	**Sn**	**01 03 52.8**	**0.0**
NMR	**Nemuro--Hokkai**	**1.44**	**53**	*i* P	**Pn**	**01 03 34.8**	**-0.3**
NMR				*i* S	**Sn**	**01 03 52.0**	**-0.8**
NEM2	**Nemuro 2**	**1.44**	**53**	P	**Pn**	**01 03 34.6**	**-0.6**
NEM2				*e*S	**Sn**	**01 03 51.2**	**-1.8**
JTKR	**Abashiri--Toko**	**1.47**	**353**	⇑P	**Pn**	**01 03 35.9**	**+0.4**
JTKR				*e*S	**Sn**	**01 03 53.3**	**-0.3**
GLVR	**Golovnino**	**1.58**	**39**	*e*PN	**Pn**	**01 03 37.2**	**+0.2**
GLVR				*e*S	**Sn**	**01 03 56.5**	**+0.2**
GLVR				pmax	pmax		
	comp=Z,235nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,559nm,1.7s						
GLVR				smax	smax		
	comp=E,1μm,0.3s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR	**Golovnino**	**1.58**	**39**	*e*P	**Pn**	**01 03 37.2**	**+0.2**
GLVR				AMB	AMB	01 03 39.0	
	comp=N,240nm,0.1s						
GLVR				AMB	AMB	01 03 40.0	
	comp=N,560nm,1.7s						
GLVR				*e*S	**Sn**	**01 03 56.5**	**+0.2**
GLVR				A	A	01 03 59.0	
	comp=N,2μm,0.2s						
GLVR				A	A	01 03 59.0	
	comp=N,1μm,0.3s						
JRA	**Rausu**	**1.59**	**26**	P	**Pn**	**01 03 37.3**	**+0.1**
JRA				*e*S	**Sn**	**01 03 56.5**	**0.0**
JMP	**Maruseppu**	**1.60**	**339**	P	**Pn**	**01 03 37.4**	**0.0**
JMP				*e*S	**Sn**	**01 03 56.7**	**-0.2**
JKK2	**Kamakawa 2**	**1.70**	**323**	P	**Pn**	**01 03 39.6**	**+0.8**
JAB	**Ashibetsu**	**1.73**	**306**	P	**Pn**	**01 03 40.0**	**+0.9**
RUSJ	**Misakicho**	**1.78**	**26**	*e*PN	**Pn**	**01 03 40.5**	**+0.7**
RUSJ				*e*S	**Sn**	**01 04 02.0**	**+0.8**
GRPR	**Tuman**	**1.89**	**38**	PN	**Pn**	**01 03 42.2**	**+0.9**
GRPR				*e*S	**Sn**	**01 04 03.1**	**-0.9**
GRPR				pmax	pmax		
	comp=Z,114nm,0.4s						
GRPR				pmax	pmax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR	**Tuman**	**1.89**	**38**	*e*P	**Pn**	**01 03 42.2**	**+0.9**
GRPR				AMB	AMB	01 03 45.0	
	comp=E,1μm,0.3s						
GRPR				AMB	AMB	01 03 45.0	
	comp=E,110nm,0.4s						
GRPR				*e*S	**Sn**	**01 04 03.1**	**-0.9**
GRPR				A	A	01 04 06.0	
	comp=E,2μm,0.3s						
GRPR				A	A	01 04 06.0	
	comp=E,1μm,0.3s						
JKA	**Kamikawa-asahi**	**1.96**	**325**	*e*P	**Pn**	**01 03 43.5**	**+1.2**
ASAJ	**Asahikawa**	**1.96**	**325**	Pg	**Pn**	**01 03 43.5**	**+1.2**
	comp=E,7.1nm,0.3s,baz=170,slow=9.3,SNR=18						
ASAJ				Lg	Lg	01 04 07.0	
	comp=E,14nm,0.3s,baz=102,slow=19,SNR=9.3						
ASAJ	**Asahikawa**	**1.96**	**325**	PN	**Pn**	**01 03 43.5**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**1.97**	**39**	*e*PN	**Pn**	**01 03 43.3**	**+1.0**
YUK				*e*S	**Sn**	**01 04 05.7**	**-0.1**
YUK				pmax	pmax		
	comp=N,20nm,0.2s						
YUK				pmax	pmax		
	comp=Z,187nm,0.2s						
YUK				smax	smax		
	comp=N,875nm,0.3s						
YUK				smax	smax		
	comp=E,527nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.97**	**39**	*i* P	**Pn**	**01 03 43.3**	**+1.0**
YUK				AMB	AMB	01 03 44.0	
	comp=E,20nm,0.2s						
YUK				AMB	AMB	01 03 44.0	
	comp=E,190nm,0.2s						
YUK				*i* S	**Sn**	**01 04 06.1**	**+0.3**
YUK				A	A	01 04 11.0	
	comp=E,880nm,0.3s						
YUK				A	A	01 04 11.0	
	comp=E,530nm,0.3s						
KUR	**Kuril'sk**	**3.82**	**43**	*e*S	**Sn**	**01 04 50.4**	**-0.9**
KUR				A	A	01 05 02.4	
	comp=E,60nm,0.3s						
KUR				A	A	01 05 02.4	
	comp=E,90nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.55**	**348**	*e*P	**Pn**	**01 04 18.7**	**+1.0**
YSS				AMB	AMB	01 04 19.2	
	comp=E,20nm,0.3s						
EKMR	**Ekimchan**	**12.95**	**328**	*e*P	**Pn**	**01 06 11.4**	**-1.3**
EKMR				AMB	AMB	01 06 14.2	
	comp=E,30nm,0.5s						
SONM	**Songino Array**	**26.95**	**294**	P	**P**	**01 08 48.8**	**+0.7**
	comp=E,0.3nm,0.5s,baz=88,slow=10,SNR=2.6						
SONM	**Songino Array**	**26.95**	**294**	P	**P**	**01 08 48.8**	**+0.7**
ILAR	**Eielson Array**	**43.77**	**35**	P	**P**	**01 11 12.9**	**+1.3**
	comp=E,0.3nm,0.5s,baz=260,slow=7.9,SNR=4.9						
ILAR	**Eielson Array**	**43.77**	**35**	P	**P**	**01 11 12.9**	**+1.3**
FINES	**FINESS Array B**	**64.96**	**332**	P	**P**	**01 13 43.6**	**-1.8**
	comp=E,0.8nm,0.5s,baz=52,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**64.96**	**332**	P	**P**	**01 13 43.6**	**-1.8**
NOA	**NORSAR Array B**	**69.94**	**338**	P	**P**	**01 14 16.6**	**-0.3**
	comp=E,0.7nm,0.9s,baz=32,slow=6.6,SNR=1.9						
NOA	**NORSAR Array B**	**69.94**	**338**	P	**P**	**01 14 16.6**	**-0.3**

*TUL **22** 01:19:30.8±1.3, 36.°85N±0.°02×98.°23W±0.°04, h0km±7km, ML3.2, mb_Lg3.0/94(NEIC), Error ellipse: s-maj=4.9km s-min=2.7km az=97.0*
NEIC 22 01:19:31.6±1.2, 36.°82N±0.°01×98.°23W±0.°03, h5km±2km, Error ellipse: s-maj=4.1km s-min=3.0km az=90.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.02**	**130**		Pg	01 19 32.6	0.0
OK032				Sg	Sg	01 19 33.8	+0.4
GC02	**Grant County #**	**0.30**	**84**	Pg	Pg	01 19 37.4	-0.1
GC02				Sg	Sg	01 19 41.8	+0.3
KAN10	**Anthony SW Sta**	**0.32**	**20**	Pg	Pg	01 19 37.3	-0.6
KAN10				Sg	Sg	01 19 41.8	-0.4
CROK	**Carrier**	**0.37**	**147**		Pg	01 19 39.1	+0.2
CROK				Sg	Sg	01 19 44.8	+1.0
KAN05	**Bluff City Nor**	**0.41**	**45**	Pg	Pg	01 19 39.1	-0.4
KAN05				Sg	Sg	01 19 44.8	-0.1
KAN17	**Caldwell West**	**0.44**	**59**	Pg	Pg	01 19 39.8	-0.3
KAN17				Sg	Sb	01 19 48.6	-0.2
KAN08	**Anthony NE Sta**	**0.46**	**27**		Pg	01 19 39.9	-0.6
KAN08				Sg	Sg	01 19 46.1	-0.3
KAN12	**Harper NE Stat**	**0.51**	**21**		Pg	01 19 40.8	-0.7
KAN12				Sg	Sg	01 19 47.9	-0.4
KAN13	**South Haven SW**	**0.64**	**72**		Pg	01 19 43.4	-0.5
KAN13					Sg	01 19 52.1	0.0
KS20	**Mayfield South**	**0.68**	**53**		Pg	01 19 44.1	-0.7
KS20					Sg	01 19 53.5	-0.1
U32A	**Winter Ranch,**	**0.76**	**235**		Pg	01 19 46.0	-0.2
U32A	**Winter Ranch,**	**0.76**	**235**	P		01 19 46.1	
	baz=53,SNR=12						
U32A				S		01 19 55.8	
	baz=53						
BLOK	**Blackwell**	**0.82**	**94**	Pg	Pg	01 19 46.9	-0.5
BLOK				Sg	Sg	01 19 57.6	-0.4
OK029	**Liberty Lake**	**1.20**	**148**		Pg	01 19 53.8	-0.8
OK029				Sg	Sg	01 20 10.3	+0.1
BCOK	**Bluff Creek, N**	**1.27**	**156**	Pg	Pg	01 19 54.7	-1.2
BCOK				Sg	Sg	01 20 12.4	+0.1
T35A	**Sooner Cattle**	**1.38**	**85**	Pn	Pn	01 19 56.8	-0.8
T35B	**Sooner Cattle**	**1.38**	**85**	P		01 19 56.9	
	baz=268,SNR=78						
T35B				S		01 20 15.2	
	baz=268						
QUOK	**Quay**	**1.39**	**117**		Pn	01 19 57.3	-0.4
OK031	**S. Brethren Rd**	**1.42**	**127**		Pn	01 19 57.5	-0.6
OK025	**Westminster Rd**	**1.43**	**149**	Pn	Pn	01 19 57.8	-0.5
OKCSW	**OKLAHOMA CITY**	**1.55**	**155**	Pn	Pn	01 19 59.7	-0.2
R32A	**Long Quarter,**	**1.64**	**347**	Pn	Pn	01 20 00.7

ABTX				IAmb_Lg		01 21 51.2	
	comp=Z,24nm,1.1s						
U40A	**Yellville**	**4.35**	**94**		Pn	01 20 38.2	-0.2
U40A	**Yellville**	**4.35**	**94**	P		01 20 38.2	
	baz=278,SNR=11						
U40A				P		01 20 38.2	
	baz=278,SNR=11						
MIAR	**Mount Ida**	**4.42**	**120**	Pn	Pn	01 20 39.6	+0.3
MIAR				IAmb_Lg		01 21 50.9	
	comp=Z,27nm,0.8s						
MIAR	**Mount Ida**	**4.42**	**120**	P		01 20 39.8	
	baz=303,SNR=9.6						
Z38A	**Mt. Pleasant**	**4.44**	**142**	Pn	Pn	01 20 39.2	-0.4
BGNE	**Belgrade**	**4.58**	**1**	Pn	Pn	01 20 41.1	-0.5
BGNE	**Belgrade**	**4.58**	**1**	P		01 20 41.1	
	baz=181,SNR=12						
P38A	**Dawn**	**4.64**	**51**	Pn	Pn	01 20 43.1	+0.7
P38A				IAmb_Lg		01 22 01.9	
	comp=Z,23nm,0.7s						
MSTX	**Muleshoe**	**4.67**	**234**	Pn	Pn	01 20 43.1	+0.2
MSTX				IAmb_Lg		01 22 00.6	
	comp=Z,22nm,1.0s						
MGMO	**Mountain Grove**	**4.79**	**84**		Pn	01 20 44.6	+0.2
MGMO				IAmb_Lg		01 22 05.0	
	comp=Z,27nm,0.8s						
WHTX	**Lake Whitney,**	**4.86**	**172**	Pn	Pn	01 20 45.4	-0.1
WHTX	**Lake Whitney,**	**4.86**	**172**	P		01 20 45.3	
	baz=353,SNR=7.6						
T25A	**Trinidad**	**4.96**	**276**	IAmb_Lg		01 22 11.1	
	comp=Z,38nm,0.7s						
R40A	**Maddies Statio**	**4.96**	**71**	Pn	Pn	01 20 46.2	-0.6
X40A	**Basin Creek Fa**	**4.97**	**116**	Pn	Pn	01 20 47.6	+0.6
X40A				IAmb_Lg		01 22 21.1	
	comp=Z,23nm,0.8s						
X40A	**Basin Creek Fa**	**4.97**	**116**	P		01 20 47.5	
	baz=300,SNR=7.3						
X40A				P		01 20 47.5	
	baz=300,SNR=7.3						
FCAR	**Ozark Folk Cen**	**5.02**	**99**	Pn	Pn	01 20 48.9	+1.3
FCAR				IAmb_Lg		01 22 10.0	
	comp=Z,20nm,0.7s						
OGNE	**Ogallala**	**5.08**	**325**	Pn	Pn	01 20 49.0	+0.6
237A	**Washetta, Mont**	**5.21**	**157**		Pn	01 20 49.6	-0.6
237A				IAmb_Lg		01 22 27.9	
	comp=Z,36nm,1.1s						
WLAR	**White Oak Lake**	**5.23**	**125**	Pn	Pn	01 20 50.8	+0.4
WLAR				IAmb_Lg		01 22 18.3	
	comp=Z,20nm,0.8s						
L34A	**Svendsen Farm,**	**5.34**	**15**	IAmb_Lg		01 22 24.6	
	comp=Z,34nm,0.8s						
N38A	**Joes South For**	**5.56**	**43**	Pn	Pn	01 20 54.2	-0.9
N38A				IAmb_Lg		01 22 37.8	
	comp=Z,29nm,0.7s						
P40A	**Paris**	**5.57**	**59**	IAmb_Lg		01 22 29.5	
	comp=Z,23nm,0.7s						
CCM	**Cathedral Cave**	**5.70**	**75**	Pn	Pn	01 20 56.8	-0.1
T42A	**Van Buren**	**5.72**	**86**	IAmb_Lg		01 22 42.5	
	comp=Z,18nm,0.9s						
LCAR	**Lake Charles**	**5.76**	**95**	Pn	Pn	01 20 58.0	+0.2
LCAR				IAmb_Lg		01 22 35.5	
	comp=Z,23nm,0.9s						
K31A	**O'Neill**	**5.81**	**356**	IAmb_Lg		01 22 36.0	
	comp=Z,31nm,0.7s						
CCAR	**Cane Creek**	**6.02**	**117**	Pn	Pn	01 21 01.8	+0.4
CCAR				IAmb_Lg		01 22 52.8	
	comp=Z,26nm,0.8s						
PBMO	**Poplar Bluff**	**6.26**	**88**	Pn	Pn	01 21 03.5	-1.1
SCIA	**State Center**	**6.40**	**36**	IAmb_Lg		01 23 06.1	
	comp=Z,24nm,0.7s						
ISCO	**Idaho Springs**	**6.52**	**299**	Pn	Pn	01 21 09.2	+0.7
ECSD	**EROS Data Cent**	**7.02**	**10**	Pn	Pn	01 21 14.1	-0.9
K38A	**Parkersburg**	**7.18**	**34**	IAmb_Lg		01 23 23.9	
	comp=Z,24nm,0.9s						
PHWY	**Pilot Hill**	**7.18**	**311**	Pn	Pn	01 21 19.2	+1.6
PHWY				IAmb_Lg		01 23 27.5	
	comp=Z,13nm,1.0s						
S44A	**Carbondale**	**7.21**	**80**	IAmb_Lg		01 23 34.5	
	comp=Z,21nm,0.7s						
SIUC	**Southern Illin**	**7.25**	**80**	Pn	Pn	01 21 17.4	-0.7
SIUC				IAmb_Lg		01 23 26.2	
	comp=Z,20nm,0.9s						
OXF	**Oxford**	**7.54**	**105**	Pn	Pn	01 21 21.5	-0.8
OXF				IAmb_Lg		01 23 41.8	
	comp=Z,14nm,0.7s						
Q44A	**Meyer Farm, Va**	**7.58**	**71**	Pn	Pn	01 21 23.2	+0.4
Q44A				IAmb_Lg		01 23 36.2	
	comp=Z,22nm,1.0s						
Y45A	**Yeager Farm, C**	**7.69**	**110**	IAmb_Lg		01 23 53.0	
	comp=Z,15nm,0.9s						
MNTX	**Cornudas Mount**	**7.82**	**231**	Pn	Pn	01 21 25.1	-1.0
HDIL	**Hopedale**	**7.92**	**59**	Pn	Pn	01 21 27.2	-0.2
O44A	**Mansfield**	**8.35**	**64**	IAmb_Lg		01 23 57.5	
	comp=Z,16nm,0.7s						
L42A	**Oliver, Polo**	**8.41**	**49**	IAmb_Lg		01 24 05.6	
	comp=Z,15nm,0.8s						
RWWY	**Rawlins**	**8.49**	**308**	IAmb_Lg		01 24 09.3	
	comp=Z,11nm,1.1s						
RSSD	**Black Hills**	**8.53**	**331**	Pn	Pn	01 21 35.9	0.0
RSSD				IAmb_Lg		01 24 10.2	
	comp=Z,9.0nm,0.8s						
K22A	**Casper**	**8.64**	**315**	IAmb_Lg		01 24 26.9	
	comp=Z,12nm,0.9s						
JFWS	**Jewell Farm**	**8.64**	**43**	Pn	Pn	01 21 37.1	-0.2
JFWS				IAmb_Lg		01 24 13.2	
	comp=Z,16nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.74**	**213**	Pn	Pn	01 21 38.1	-0.7
TX32	**Lajitas Array**	**8.74**	**213**	Pn	Pn	01 21 38.6	-0.3
T47A	**Sharon Grove**	**8.92**	**86**	IAmb_Lg		01 24 14.0	
	comp=Z,9.7nm,0.8s						
SFIN	**Lafayette**	**9.41**	**64**	IAmb_Lg		01 24 33.8	
	comp=Z,11nm,0.9s						
W18A	**Petrified Fore**	**9.48**	**263**	IAmb_Lg		01 24 31.5	
	comp=Z,11nm,0.8s						
WCI	**Wyandotte Cave**	**9.59**	**78**	IAmb_Lg		01 24 43.0	
	comp=Z,10.0nm,0.8s						
LRAL	**Lakeview Retre**	**9.97**	**109**	Pn	Pn	01 21 54.5	-1.0
I42A	**Draeger Farm,**	**10.02**	**42**	IAmb_Lg		01 24 50.2	
	comp=Z,9.9nm,1.1s						

*NEIC **22** 02:19:28.8±1.2, 19°.60N±0°.10×65°.47W±0°.06, h38km±46km, Error ellipse: s-maj=15.1km s-min=6.0km az=204.0*
*RSPR **22** 02:19:29.6, 19°.62N×65°.53W, h52km±10km, MD3.2/9*
ISC 22 02:19:26.8±2.2, 19°.52N±0°.09×65°.56W±0°.05, h7km±11km, n36, σ0s86/43, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.23**	**167**	⇑*eP*	**Pg**	**02 19 50.6**	**+0.2**
CUPR	**Culebra, Puert**	**1.23**	**167**	*eS*	**Sg**	**02 20 07.3**	**+0.9**
CUPR	**Culebra, Puert**	**1.23**	**167**		**Pg**	**02 19 50.4**	**0.0**
CUPR					**Sg**	**02 20 07.4**	**+1.0**
CBYP	**Canovanas**	**1.27**	**193**		**Pg**	**02 19 50.7**	**-0.4**
CBYP				IAML		02 20 14.4	
	comp=N,218nm,0.2s						
CBYP				IAML		02 20 22.0	
	comp=E,198nm,0.2s						
STVI	**Saint Thomas**	**1.29**	**153**	⇑*eP*	**Pg**	**02 19 51.8**	**+0.2**
STVI	**Saint Thomas**	**1.29**	**153**	*eS*	**Sg**	**02 20 09.0**	**+0.6**
STVI	**Saint Thomas**	**1.29**	**153**	Pn	**Pg**	**02 19 50.8**	**-0.8**
GCPR	**Guaynabo City**	**1.30**	**202**	⇑*eP*	**Pg**	**02 19 51.5**	**-0.2**
GCPR	**Guaynabo City**	**1.30**	**202**	*eS*	**Sb**	**02 20 09.3**	**+0.9**
GCPR	**Guaynabo City**	**1.30**	**202**		**Pg**	**02 19 51.2**	**-0.4**
GCPR				Sn	**Sn**	**02 20 08.0**	**-1.0**
EMPR	**Esperanza - Ma**	**1.38**	**222**	⇑*eP*	**Pg**	**02 19 53.2**	**0.0**
EMPR	**Esperanza - Ma**	**1.38**	**222**	*eS*	**Sn**	**02 20 10.9**	**-0.1**
EMPR	**Esperanza - Ma**	**1.38**	**222**	Pn	**Pg**	**02 19 52.6**	**-0.6**
EMPR					**Sg**	**02 20 12.1**	**+1.0**
EMPR				IAML		02 20 16.3	
	comp=N,124nm,1.0s						
EMPR				IAML		02 20 20.8	
	comp=E,195nm,0.9s						
HUMP	**Col San Antoni**	**1.39**	**191**	⇑*eP*	**Pg**	**02 19 52.9**	**-0.6**
HUMP	**Col San Antoni**	**1.39**	**191**	*eS*	**Sb**	**02 20 11.6**	**+0.4**
HUMP	**Col San Antoni**	**1.39**	**191**		**Pb**	**02 19 52.7**	**-0.5**
HUMP					**Sb**	**02 20 11.6**	**+0.4**
HUMP				IAML		02 20 13.2	
	comp=N,58nm,0.4s						
HUMP				IAML		02 20 21.4	
	comp=E,58nm,0.2s						
SJG	**San Juan**	**1.50**	**202**		**Pb**	**02 19 54.6**	**-0.5**
SJG				IAML		02 20 21.6	
	comp=E,56nm,0.5s						
SJG				IAML		02 20 21.6	
	comp=E,57nm,0.8s						
AOPR	**Arecibo Observ**	**1.62**	**224**	⇑*eP*	**Pb**	**02 19 56.4**	**-0.6**
AOPR	**Arecibo Observ**	**1.62**	**224**	*eS*	**Sn**	**02 20 16.6**	**-0.4**
AOPR	**Arecibo Observ**	**1.62**	**224**		**Pb**	**02 19 56.5**	**-0.5**
IGPR	**InterUniversit**	**1.63**	**199**	⇑*eP*	**Pb**	**02 19 56.3**	**-0.8**
IGPR	**InterUniversit**	**1.63**	**199**	*eS*	**Sn**	**02 20 17.1**	**0.0**
CELP	**Cerrillos**	**1.73**	**214**	⇑*eP*	**Pb**	**02 19 57.9**	**-1.0**
CELP	**Cerrillos**	**1.73**	**214**	*eS*	**Sn**	**02 20 20.0**	**+0.4**
CELP	**Cerrillos**	**1.73**	**214**		**Pb**	**02 19 57.9**	**-1.0**
CELP					**Sn**	**02 20 20.0**	**+0.4**
OBIP	**Obispado Ponce**	**1.77**	**214**	⇑*eP*	**Pb**	**02 19 58.4**	**-1.1**
OBIP				*eS*	**Sn**	**02 20 20.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.77**	**214**		**Pb**	**02 19 58.3**	**-1.3**
OBIP				IAML		02 20 27.3	
	comp=N,39nm,0.7s						
OBIP				IAML		02 20 29.2	
	comp=E,38nm,0.8s						
AGPR	**Aguadilla, PR**	**1.80**	**235**		**Pb**	**02 19 59.4**	**-0.7**
AGPR				IAML		02 20 25.7	
	comp=E,76nm,2.1s						
AGPR				IAML		02 20 44.8	
	comp=N,88nm,1.9s						
ICMP	**Isla Caja de M**	**1.86**	**210**		**Pb**	**02 20 00.1**	**-1.0**
ICMP				IAML		02 20 34.8	
	comp=E,53nm,1.2s						
ICMP				IAML		02 20 35.3	
	comp=N,50nm,1.9s						
CDVI	**St. Croix**	**1.91**	**157**	Pn	**Pb**	**02 20 00.8**	**-1.2**
MPR	**Mayaguez**	**1.98**	**229**	Pn	**Pb**	**02 20 01.4**	**-1.7**
MLPR	**Magueyes Islan**	**2.08**	**223**	⇑*eP*	**Pb**	**02 20 02.5**	**-2.4**
MLPR	**Magueyes Islan**	**2.08**	**223**	*eS*	**Sn**	**02 20 28.6**	**+0.2**
MLPR	**Magueyes Islan**	**2.08**	**223**	Pn	**Pn**	**02 20 01.5**	**-0.6**
MLPR					**Sn**	**02 20 28.3**	**-0.1**
MLPR				IAML		02 20 42.9	
	comp=E,29nm,0.7s						
PCDR	**Punta Cana, DR**	**2.85**	**250**	Pn	**Pn**	**02 20 13.2**	**+0.5**
SDDR	**Presa de Saban**	**5.43**	**265**	Pn	**Pn**	**02 20 49.9**	**+1.5**

*IDC **22** 02:38:26.6±2.9, 5°.30S×152°.10E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/40, mbtmp3.6/5, ML2.0/1, Error ellipse: s-maj=89.0km s-min=25.0km az=114.0*
ISC 22 02:38:31.2±2.5, 5°.5S±0°.3×152°.3E±0°.4, h40km, n6, σ0s73/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.44**	**233**	Pn	**Pn**	**02 40 03.8**	**+0.3**
	1.9nm,0.3s,baz=47,slow=6.4,SNR=4.0						
PMG				Sn	**Sn**	**02 41 15.8**	**-0.1**
	1.5nm,0.3s,baz=0.0,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**22.64**	**229**	P	**P**	**02 43 28.2**	**-0.9**
	0.9nm,0.4s,baz=52,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.33**	**223**	P	**P**	**02 43 55.2**	**+0.7**
	2.9nm,0.9s,baz=57,slow=8.9,SNR=24						
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**02 49 17.9**	**-0.2**
	0.2nm,0.4s,baz=131,slow=4.4,SNR=2.3						
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**02 50 40.1**	**+0.6**
	0.2nm,0.5s,baz=99,slow=5.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**150.08**	**287**	PKPbc	**PKPbc**	**02 58 18.1**	**-0.7**
	0.8nm,0.9s,baz=64,slow=1.6,SNR=3.2						

*NCEDC **22** 02:55:53.1±2.5, 38°.82N±0°.02×122°.76W±0°.03, h3km±5km, ML3.1/44, ML2.8/53(NEIC), Error ellipse: s-maj=3.3km s-min=2.4km az=67.0*
NEIC 22 02:55:53.2±2.8, 38°.82N±0°.02×122°.69W±0°.03, h4km±7km, Error ellipse: s-maj=2.9km s-min=2.5km az=64.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSGM	**Seigler Mounta**	**0.05**	**338**		Pg	02 55 55.0	+0.5
GCRM	**Castle Rock Sp**	**0.05**	**206**		Pg	02 55 54.4	-0.1
GDXM	**Geysers**	**0.09**	**262**	Pg	Pg	02 55 53.8	-1.3
GDXM				Sg	Sg	02 55 54.7	-1.7
MNRC	**McLaughlin Min**	**0.20**	**73**		Pg	02 55 59.0	+1.9
GPMM	**Pine Mountain**	**0.20**	**278**		Pg	02 55 56.4	-0.9
HOPS	**Hopland Field**	**0.35**	**300**	Pg	Pg	02 55 59.5	-0.5
FTR	**Fort Ross**	**0.48**	**232**		Pg	02 56 02.2	-0.1
CVS	**Carmenet Viney**	**0.51**	**159**		Pg	02 56 03.5	+0.5
MCCM	**Marconi Confer**	**0.69**	**193**	Pg	Pg	02 56 06.9	+0.4
MCCM				IAML		02 56 17.5	
	comp=E,795nm,0.7s						
MCCM				IAML		02 56 24.6	
	comp=N,638nm,0.9s						
SUTB	**Sutter Butte**	**0.81**	**59**		Pb	02 56 09.6	-0.3
GNAM	**Navarro Ridge**	**0.83**	**297**		Pg	02 56 09.2	0.0
GASB	**Alder Springs**	**0.83**	**358**		Pn	02 56 11.4	-0.5
VAK	**Adit at Lawren**	**1.00**	**160**		Pg	02 56 12.4	-0.1
BL67	**Building 67, L**	**1.00**	**160**		Pg	02 56 12.3	-0.2
BRK	**Berkeley--Havi**	**1.00**	**160**		Pg	02 56 12.5	0.0
BKS	**Berkeley--Byer**	**1.01**	**159**		Pg	02 56 12.4	-0.2
BDM	**Black Diamond**	**1.08**	**143**		Pg	02 56 13.3	-0.6
KCPM	**Cahto Peak**	**1.11**	**321**	Pg	Pg	02 56 14.1	-0.4
KCPM				IAML		02 56 36.8	
	comp=E,366nm,0.6s						
KCPM				IAML		02 56 40.8	
	comp=N,346nm,0.7s						
CMCM	**Mills College**	**1.11**	**159**		Pg	02 56 13.6	-1.0
FARB	**Farallon Islan**	**1.15**	**193**		Pg	02 56 14.3	-0.9
ORV	**Oroville**	**1.18**	**51**		Pg	02 56 14.8	-1.1
ORV	**Oroville**	**1.18**	**51**	Pg	Pg	02 56 14.2	-1.6
KBSM	**Bell Springs**	**1.30**	**328**		Pb	02 56 18.9	+0.5
AFDM	**Forest Hills D**	**1.34**	**84**	Pn	Pn	02 56 17.1	-1.7
JRSC	**Jasper Ridge**	**1.46**	**166**		Pn	02 56 18.6	-1.7
KMRM	**Mail Ridge**	**1.61**	**331**		Pg	02 56 24.7	+0.6
KMRM				IAML		02 56 30.6	
	comp=E,97nm,0.7s						
KMRM				IAML		02 56 32.4	
	comp=N,103nm,0.8s						
COSM	**Mount Oso**	**1.67**	**141**		Pn	02 56 22.4	-0.9
MHC	**Mount Hamilton**	**1.69**	**151**		Pn	02 56 22.5	-1.2
WDC	**Whiskeytown Da**	**1.76**	**4**	Pn	Pn	02 56 24.4	-0.1
CMB	**Columbia Colle**	**1.97**	**113**	Pn	Pn	02 56 26.3	-1.2
CMB				IAML		02 56 57.5	
	comp=N,51nm,0.5s						
GHS	**Gilroy Hot Spr**	**1.98**	**150**		Pn	02 56 25.9	-1.7
RUBR	**Rubicon Trail**	**1.99**	**83**		Pn	02 56 28.2	+0.4
RUBR				IAML		02 57 04.6	
	comp=E,120nm,0.6s						
BEKR	**Beckworth**	**2.08**	**59**	Pn	Pn	02 56 29.5	+0.3
BEKR				IAML		02 57 06.5	
	comp=E,42nm,0.7s						
SAO	**San Andreas Ge**	**2.27**	**154**	Pn	Pn	02 56 29.9	-1.7
VCNR	**Virginia City**	**2.41**	**78**		Pn	02 56 34.7	+1.0
VCNR				IAML		02 57 17.4	
	comp=N,51nm,0.7s						
VCNR				IAML		02 57 25.6	
	comp=E,57nm,1.0s						
PNTR	**Pine Nut**	**2.42**	**83**	Pn	Pn	02 56 35.0	+1.1
BJCM	**Johnson Can.**	**2.49**	**155**		Pn	02 56 32.3	-2.3
WAKR	**Walker**	**2.56**	**96**	Pn	Pn	02 56 37.7	+1.9
WAKR				IAML		02 57 15.8	
	comp=N,30nm,1.1s						
WAKR				IAML		02 57 24.1	
	comp=E,47nm,0.7s						
HAST	**Hastings Reser**	**2.59**	**159**		Pn	02 56 33.6	-2.4
YERR	**Yerington**	**2.69**	**85**		Pn	02 56 38.4	+0.8
PAHR	**Pah Rah Range**	**2.71**	**70**	Pn	Pn	02 56 38.4	+0.6
KRMB	**Red Mountain**	**2.86**	**341**	Pn	Pn	02 56 41.3	+1.6
KRMB				IAML		02 56 56.5	
	comp=E,29nm,2.6s						
KRMB				IAML		02 57 19.6	
	comp=N,32nm,2.8s						
YBH	**Yreka Blue Hor**	**2.91**	**360**	Pn	Pn	02 56 38.5	-1.9
PMPB	**Monarch Peak**	**3.00**	**149**	Pn	Pn	02 56 40.5	-1.1
MDPB	**Devils Postpil**	**3.08**	**112**	Pn	Pn	02 56 44.0	+1.1
MDPB				IAML		02 57 28.6	
	comp=E,36nm,0.6s						
RYN	**Ryan**	**3.26**	**92**		Pn	02 56 45.6	+0.3
RYN				IAML		02 57 47.5	
	comp=E,22nm,1.6s						
RYN				IAML		02 57 56.7	
	comp=N,19nm,1.2s						
LHV	**Little Huntoon**	**3.33**	**99**		Pn	02 56 47.8	+1.7
LHV				IAML		02 57 15.9	
	comp=E,32nm,0.8s						
LHV				IAML		02 57 51.2	
	comp=N,34nm,1.1s						
NVAR	**Mina Array Bea**	**3.45**	**95**		Pn	02 56 49.1	+1.1
NV11	**Mina Array Sit**	**3.57**	**95**		Pn	02 56 50.1	+0.6
NV11				IAML		02 57 54.3	
	comp=E,13nm,1.8s						
NV11				IAML		02 57 58.5	
	comp=N,17nm,1.2s						
KVN	**Kaiserville**	**3.58**	**85**	Pn	Pn	02 56 49.8	0.0
KVN				IAML		02 57 52.6	
	comp=N,10nm,1.5s						
PAGB	**Antelope Grade**	**3.65**	**147**	Pn	Pn	02 56 49.8	-0.6
ISA	**Isabella, Lake**	**4.61**	**132**	Pn	Pn	02 57 05.3	+1.5
ISA				IAML		02 58 14.2	
	comp=N,6.2nm,2.7s						
ISA				IAML		02 58 26.4	
	comp=E,7.5nm,1.6s						
TPNV	**Topopah Spring**	**5.42**	**108**	Pn	Pn	02 57 18.2	+3.1

NEIC 22 03:17:41.2±0.7, 37°.03N±0°.02×97°.93W±0°.05, h7km±2km, Error ellipse: s-maj=6.3km s-min=1.7km az=111.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.10**	**31**		Pg	03 17 43.3	-0.1
KAN05				Sg	Sg	03 17 45.0	-0.1
KAN17	**Caldwell West**	**0.14**	**83**		Pg	03 17 44.1	0.0
KAN17				Sg	Sg	03 17 46.5	+0.3
KAN10	**Anthony SW Sta**	**0.16**	**307**		Pg	03 17 44.4	-0.1
KAN10				Sg	Sg	03 17 46.9	0.0
GC02	**Grant County #**	**0.18**	**161**		Pg	03 17 44.9	0.0
GC02				Sg	Sg	03 17 47.8	+0.2
KAN08	**Anthony NE Sta**	**0.20**	**351**		Pg	03 17 45.3	0.0
KAN08				Sg	Sg	03 17 48.6	+0.6
KAN06	**Argonia West S**	**0.23**	**15**		Pg	03 17 45.8	0.0
KAN06					Sg	03 17 49.2	+0.3
KAN12	**Harper NE Stat**	**0.28**	**349**		Pg	03 17 46.6	-0.1
OK032	**Salt Plains WL**	**0.32**	**225**		Pg	03 17 47.2	-0.2
OK032				Sg	Sg	03 17 51.9	+0.3
KS21	**Milan North St**	**0.34**	**40**		Pg	03 17 47.8	-0.1
KS21					Sg	03 17 52.6	+0.3
KS20	**Mayfield South**	**0.36**	**56**		Pg	03 17 48.3	0.0
KS20					Sg	03 17 53.0	-0.1
KAN13	**South Haven SW**	**0.36**	**92**		Pg	03 17 48.3	0.0
KAN13					Sg	03 17 53.3	+0.1
CROK	**Carrier**	**0.52**	**184**		Pg	03 17 51.0	-0.3
BLOK	**Blackwell**	**0.63**	**115**		Pg	03 17 53.2	-0.2
U32A	**Winter Ranch,**	**1.07**	**233**		Pg	03 18 01.0	-0.8
U32A	**Winter Ranch,**	**1.07**	**233**	P		03 18 01.1	
	baz=53						
T35A	**Sooner Cattle**	**1.14**	**95**		Pg	03 18 02.5	-0.7
T35B	**Sooner Cattle**	**1.14**	**95**	P		03 18 02.3	
	baz=276						
T35B				S		03 18 17.3	
	baz=276						
OK029	**Liberty Lake**	**1.29**	**162**		Pn	03 18 04.7	-0.9
QUOK	**Quay**	**1.30**	**131**		Pn	03 18 05.2	-0.6
OK031	**S. Brethren Rd**	**1.39**	**140**		Pn	03 18 06.5	-0.4
BCOK	**Bluff Creek, N**	**1.39**	**169**		Pn	03 18 06.6	-0.4
OK025	**Westminster Rd**	**1.52**	**161**		Pn	03 18 08.5	-0.3
R32A	**Long Quarter,**	**1.52**	**336**		Pn	03 18 08.9	+0.1
R32A	**Long Quarter,**	**1.52**	**336**	P		03 18 09.0	
	baz=156,SNR=90						
R32A				S		03 18 28.9	
	baz=156						
OKCSW	**OKLAHOMA CITY**	**1.67**	**166**		Pn	03 18 10.8	0.0
FNO	**Franklin**	**1.82**	**166**		Pn	03 18 12.8	0.0
FNO				IAmb_Lg		03 18 39.1	
	comp=Z,61nm,0.8s						
TUL1	**Leonard**	**2.06**	**122**	P		03 18 17.0	
	baz=304,SNR=37						
TUL1				S		03 18 45.1	
	baz=304						
CBKS	**Cedar Bluff**	**2.28**	**322**	Pn	Pn	03 18 19.7	+0.4
CBKS	**Cedar Bluff**	**2.28**	**322**	P		03 18 19.8	
	baz=141,SNR=23						
CBKS				S		03 18 51.7	
	baz=141						
KSU1	**Kansas State U**	**2.32**	**26**		Pn	03 18 20.1	+0.4
KSU1	**Kansas State U**	**2.32**	**26**	P		03 18 20.6	
	baz=207,SNR=11						
WMOK	**Wichita Mounta**	**2.39**	**197**		Pn	03 18 20.4	-0.3
WMOK	**Wichita Mounta**	**2.39**	**197**	P		03 18 20.8	
	baz=16,SNR=46						
X34A	**Smith Ranch, M**	**2.42**	**178**	Pn	Pn	03 18 20.6	-0.6
LOOK	**Love County**	**3.09**	**168**	Pn	Pn	03 18 30.9	+0.6
LOOK				IAmb_Lg		03 19 24.9	
	comp=Z,22nm,0.9s						
X37A	**Clayton**	**3.20**	**139**		Pn	03 18 31.6	-0.2
X37A				IAmb_Lg		03 19 27.0	
	comp=Z,33nm,0.8s						
X37A	**Clayton**	**3.20**	**139**	P		03 18 32.6	
	baz=320,SNR=28						
HHAR	**Hobbs**	**3.30**	**102**		Pn	03 18 33.5	+0.3
HHAR				IAmb_Lg		03 19 27.7	
	comp=Z,21nm,0.7s						
AMTX	**Amarillo**	**3.72**	**236**	Pn	Pn	03 18 39.2	+0.1
N33A	**J Bar K, Exete**	**3.73**	**6**	IAmb_Lg		03 19 48.9	
	comp=Z,32nm,0.9s						
Z35A	**Perchaven, San**	**3.73**	**171**	IAmb_Lg		03 19 44.9	
	comp=Z,20nm,1.1s						
W39A	**Magazine**	**3.82**	**117**		Pn	03 18 40.4	-0.1
U40A	**Yellville**	**4.14**	**98**		Pn	03 18 45.0	+0.2
U40A				IAmb_Lg		03 19 56.7	
	comp=Z,28nm,0.8s					

	comp=Z,6.6nm,0.8s				
K22A	Casper	8.67	313	IAmb_Lg	03 22 31.9
	comp=Z,10nm,1.0s				
I40A	Norwalk	8.83	37	IAmb_Lg	03 22 46.5
	comp=Z,5.4nm,0.8s				
F33A	5 Mile Ranch,	8.89	7	IAmb_Lg	03 22 22.9
	comp=Z,5.8nm,1.0s				
V48A	Smith Brothers	9.05	95	IAmb_Lg	03 22 37.9
	comp=Z,5.7nm,0.9s				
SFIN	Lafayette	9.11	65	IAmb_Lg	03 22 28.3
	comp=Z,11nm,0.7s				
BLO	Bloomington	9.25	73	IAmb_Lg	03 22 34.4
	comp=Z,10nm,0.8s				

*TRN **22** 03:26:29.1, 13°.86N×58°.57W, h105km, MD3.9*
ISC 22 03:26:28.0±2.3, 13°.95N±0°.04×58°.6W±0°.1, h10km, n36, σ1§21/50, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.22	226	eP	Pn	03 26 52.1	+0.9
BBSP				eS	Sn	03 27 10.5	+2.7
BBGH	Gun Hill	1.27	231	eP	Pg	03 26 52.5	0.0
BBGH				eS	Sn	03 27 11.1	+2.1
MPOM	Morne Pois Mar	2.29	283	eP	Pn	03 27 06.3	+0.4
SLW	Petit Monier	2.32	272	eP	Pn	03 27 08.1	+1.8
SLW				eS	Sn	03 27 34.8	-0.1
MCLT	Moule a Chique	2.33	264	eP	Pn	03 27 08.1	+1.5
MCLT				eS	Sn	03 27 35.1	-0.2
MVM	Montagne Vaucl	2.35	285	eP	Pn	03 27 07.2	+0.5
SLBI	Saint Lucia, B	2.35	272	eP	Pn	03 27 08.9	+2.2
SLBI				eS	Sn	03 27 35.6	-0.2
SLCP	Castries, St.	2.37	272	eP	Pn	03 27 08.7	+1.7
SLCP				eS	Sn	03 27 34.8	-1.3
LPMF	Morne Lapointe	2.42	285	eP	Pn	03 27 08.3	+0.6
SLB	Belfond	2.42	267	eP	Pn	03 27 09.6	+1.9
SLB				eS	Sn	03 27 36.0	-1.5
TRMF	Trois Ilets	2.49	284	eP	Pn	03 27 09.5	+0.8
BIM	Bigot	2.51	283	eP	Pn	03 27 09.2	+0.3
FDF	Fort de France	2.64	287	eP	Pn	03 27 10.9	+0.3
FDF				eS	Sn	03 27 43.7	+0.9
SSV	Crater Summit	2.64	257	eP	Pn	03 27 10.6	-0.2
SSV				eS	Sn	03 27 41.0	-2.0
BAMF	Morne Balai	2.66	289	eP	Pn	03 27 07.4	-3.6
SVV	Soufriere Volc	2.67	257	eS	Sn	03 27 41.3	-2.2
GBMF	Grand Be	2.67	289	eP	Pn	03 27 12.1	+0.9
CXM	Morne La Croix	2.68	289	eP	Pn	03 27 12.2	+0.8
PML	Morne Lenard	2.68	288	eP	Pn	03 27 12.3	+1.0
SVB	Belmont	2.71	256	eP	Pn	03 27 12.0	+0.3
SVB				eS	Sn	03 27 42.9	-1.8
PCM	Pelee Case Pet	2.72	289	eP	Pn	03 27 12.9	+1.1
DSLB	Salisbury	3.15	298	eP	Pn	03 27 18.4	+0.7
DSLB				eS	Sn	03 27 53.6	-1.7
GCMP	Grenada, Carri	3.16	243	eP	Pn	03 27 17.4	-0.4
GCMP				eS	Sn	03 27 53.9	-1.7
TOSP	Speyside	3.27	216	eP	Pn	03 27 19.0	-0.4
MAGL	Barre de l'ile	3.30	307	eP	Pn	03 27 20.2	+0.4
MAGL				eS	Sn	03 27 59.7	+0.5
GRGR	Grenville	3.52	239	eP	Pn	03 27 22.7	-0.2
TDBA	Terre de Bas,	3.53	303	eP	Pn	03 27 24.8	+1.8
TDBA				eS	Sn	03 28 04.2	-0.6
TBG	Guadaloupe-3	3.54	303	eP	Pn	03 27 23.7	+0.6
TBG				eS	Sn	03 28 05.0	+0.1
CBE	Ff, Capester	3.63	306	eP	Pn	03 27 24.9	+0.6
ABD	La Joyeuse, An	3.78	312	eP	Pn	03 27 26.9	+0.5
TRN	Trinidad (W)	4.31	221	eP	Pn	03 27 32.7	-0.9
ANBD	Bethesda, Anti	4.37	315	eP	Pn	03 27 35.3	+0.9
ANBD	Bethesda, Anti	4.37	315	eS	Sn	03 28 24.6	-0.8
BPA	Boggy Peak	4.43	314	eP	Pn	03 27 35.8	+0.4
BPA	Boggy Peak	4.43	314	eS	Sn	03 28 25.6	-1.4
ANWB	Willy Bob	4.83	320	eP	Pn	03 27 40.4	-0.4

*NEIC **22** 03:32:56.9±0.6, 19°.62N±0°.05×65°.95W±0°.04, h33km±12km, Error ellipse: s-maj=8.5km s-min=3.4km az=144.0*
*RSPR **22** 03:32:57.3, 19°.41N×65°.91W, h107km±3km, MD3.6/11*
ISC 22 03:32:55.2±2.0, 19°.57N±0°.10×65°.92W±0°.04, h14km, n40, σ0§41/46, 8C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.23	208	⇓eP	Pg	03 33 19.0	+0.2
EMPR	Esperanza - Ma	1.23	208	eS	Sg	03 33 36.1	+1.3
EMPR	Esperanza - Ma	1.23	208		Pg	03 33 19.0	+0.2
EMPR					Sg	03 33 36.1	+1.3
EMPR	Esperanza - Ma	1.23	208	IAML		03 33 55.2	
	comp=N,114nm,1.6s						
EMPR				IAML		03 33 55.7	
	comp=E,111nm,1.1s						
CBYP	Canovanas	1.29	177	⇑eP	Pb	03 33 19.2	-0.1
CBYP	Canovanas	1.29	177	eS	Sg	03 33 36.4	-0.4
CBYP	Canovanas	1.29	177		Pb	03 33 19.2	-0.1
CBYP					Sg	03 33 36.4	-0.4
CUPR	Culebra, Puert	1.39	154	⇓eP	Pb	03 33 20.8	-0.1
CUPR	Culebra, Puert	1.39	154	eS	Sb	03 33 38.8	+0.2
CUPR	Culebra, Puert	1.39	154		Pb	03 33 20.8	-0.1
CUPR					Sb	03 33 38.8	+0.2
HUMP	Col San Antoni	1.42	177	⇑eP	Pn	03 33 20.6	0.0
HUMP	Col San Antoni	1.42	177	eS	Sb	03 33 39.0	-0.4
HUMP	Col San Antoni	1.42	177		Pn	03 33 20.6	0.0
HUMP					Sb	03 33 39.0	-0.4
HUMP	Col San Antoni	1.42	177	IAML		03 33 42.2	
	comp=E,45nm,0.2s						
HUMP				IAML		03 33 50.9	
	comp=N,33nm,0.4s						
AOPR	Arecibo Observ	1.45	213	⇑eP	Pb	03 33 21.4	-0.6
AOPR	Arecibo Observ	1.45	213	eS	Sb	03 33 40.4	+0.2
AOPR	Arecibo Observ	1.45	213		Pb	03 33 21.4	-0.6
AOPR					Sb	03 33 40.4	+0.2
SJG	San Juan	1.46	189		Pb	03 33 21.8	-0.4
SJG				Sn	Sb	03 33 41.2	+0.5
SJG				IAML		03 33 43.8	
	comp=N,54nm,0.6s						
SJG				IAML		03 33 51.2	
	comp=N,55nm,0.3s						
STVI	Saint Thomas	1.52	143	⇓eP	Pb	03 33 22.7	-0.4
STVI	Saint Thomas	1.52	143	eS	Sb	03 33 42.2	0.0
STVI	Saint Thomas	1.52	143		Pb	03 33 22.7	-0.4
STVI					Sb	03 33 42.2	0.0
STVI	Saint Thomas	1.52	143	IAML		03 33 46.6	
	comp=N,44nm,0.5s						
STVI				IAML		03 33 51.5	
	comp=E,31nm,0.9s						
IGPR	InterUniversit	1.60	186	⇑eP	Pn	03 33 23.2	+0.1
IGPR	InterUniversit	1.60	186	eS	Sn	03 33 43.2	-0.3
CELP	Cerrillos	1.61	203	⇑eP	Pn	03 33 23.2	0.0
CELP	Cerrillos	1.61	203	eS	Sn	03 33 43.8	0.0
CELP	Cerrillos	1.61	203		Pn	03 33 23.2	0.0
CELP					Sn	03 33 43.8	0.0
OBIP	Obispado Ponce	1.65	203	⇑eP	Pn	03 33 23.9	+0.1
OBIP	Obispado Ponce	1.65	203	eS	Sn	03 33 44.5	-0.2
OBIP	Obispado Ponce	1.65	203		Pn	03 33 23.9	+0.1
OBIP					Sn	03 33 44.5	-0.2
OBIP	Obispado Ponce	1.65	203	IAML		03 33 54.3	
	comp=E,26nm,0.6s						
LSP	Las Mesas	1.77	219	⇑eP	Pn	03 33 25.5	+0.1
LSP	Las Mesas	1.77	219		Pn	03 33 25.5	+0.1
VGBI	Virgin Gorda,	1.79	126	⇓eP	Pn	03 33 26.1	+0.3
VGBI	Virgin Gorda,	1.79	126	eS	Sn	03 33 48.2	-0.1
VGBI	Virgin Gorda,	1.79	126		Pn	03 33 26.1	+0.3
VGBI					Sn	03 33 48.2	-0.1
MLPR	Magueyes Islan	1.91	214	⇑eP	Pn	03 33 27.3	-0.1
MLPR	Magueyes Islan	1.91	214	eS	Sn	03 33 50.4	-0.8
MLPR	Magueyes Islan	1.91	214		Pn	03 33 27.3	-0.1
MLPR					Sn	03 33 50.4	-0.8
MLPR	Magueyes Islan	1.91	214	IAML		03 33 55.3	
	comp=E,21nm,1.3s						

*TUL **22** 03:40:26.3±1.0, 36°.838N±0°.009×98°.25W±0°.02, h5km±6km, ML2.6, mb_Lg2.3/22(NEIC), Error ellipse: s-maj=2.6km s-min=1.0km az=107.0*
NEIC 22 03:40:26.8±1.0, 36°.82N±0°.02×98°.23W±0°.02, h11km±4km, Error ellipse: s-maj=2.7km s-min=1.7km az=133.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.03	137		Pg	03 40 28.0	-0.8
OK032				Sg	Sg	03 40 29.1	-1.1
GC02	Grant County #	0.30	85		Pg	03 40 32.7	-0.2
GC02				Sg	Sg	03 40 37.3	+0.3
KAN10	Anthony SW Sta	0.32	20		Pg	03 40 32.9	-0.4
KAN10				Sg	Sg	03 40 37.6	0.0
CROK	Carrier	0.38	148		Pg	03 40 34.0	-0.3
CROK				Sg	Sg	03 40 39.8	+0.5
KAN05	Bluff City Nor	0.41	46		Pg	03 40 34.7	-0.2
KAN05				Sg	Sg	03 40 40.3	0.0
KAN17	Caldwell West	0.44	60		Pg	03 40 34.9	-0.5
KAN17				Sg	Sg	03 40 41.1	-0.1
KAN08	Anthony NE Sta	0.45	28	Pg	Pg	03 40 34.9	-0.8
KAN08				Sg	Sg	03 40 41.7	0.0
KAN12	Harper NE Stat	0.51	22		Pg	03 40 36.3	-0.5
KAN12				Sg	Sg	03 40 43.6	+0.1
KAN13	South Haven SW	0.64	73	Pg	Pg	03 40 38.8	-0.4
KAN13				Sg	Sg	03 40 47.3	-0.2
KS20	Mayfield South	0.68	53		Pg	03 40 39.5	-0.4
KS20				Sg	Sg	03 40 48.4	-0.5
U32A	Winter Ranch,	0.76	235	Pg	Pg	03 40 40.8	-0.7
BLOK	Blackwell	0.82	94		Pg	03 40 42.4	-0.3
OK029	Liberty Lake	1.20	148		Pn	03 40 49.0	-0.7
BCOK	Bluff Creek, N	1.27	156	Pn	Pn	03 40 50.0	-0.5
T35A	Sooner Cattle	1.38	86		Pn	03 40 52.2	+0.1
QUOK	Quay	1.39	117		Pn	03 40 52.4	+0.1
OK031	S. Brethren Rd	1.42	127	Pn	Pn	03 40 52.8	+0.1
OK025	Westminster Rd	1.44	149		Pn	03 40 53.1	+0.2
OK025				IAmb_Lg		03 41 15.4	
	comp=Z,28nm,0.7s						
R32A	Long Quarter,	1.64	347		Pn	03 40 56.3	+0.6
FNO	Franklin	1.70	156	Pn	Pn	03 40 57.2	+0.6
WMOK	Wichita Mounta	2.13	192		Pn	03 41 02.6	+0.2
X34A	Smith Ranch, M	2.24	172	Pn	Pb	03 41 05.7	-1.7
X34A				IAmb_Lg		03 41 43.2	
	comp=Z,12nm,0.7s						
CBKS	Cedar Bluff	2.32	330	Pn	Pn	03 41 06.5	+1.6
X37A	Clayton	3.23	133	Pn	Pn	03 41 18.5	+1.0
X37A				IAmb_Lg		03 42 13.9	
	comp=Z,7.5nm,1.1s						
AMTX	Amarillo	3.40	236	Pn	Pn	03 41 21.1	+1.1
AMTX				IAmb_Lg		03 42 13.3	
	comp=Z,6.8nm,1.1s						
W39A	Magazine	3.96	113	IAmb_Lg		03 42 42.3	
	comp=Z,6.5nm,0.9s						
KSCO	Kaye Shedlock'	4.10	303	IAmb_Lg		03 42 39.2	
	comp=Z,7.2nm,0.7s						
P38A	Dawn	4.64	52	IAmb_Lg		03 42 50.8	
	comp=Z,4.7nm,1.1s						
T25A	Trinidad	4.96	275	IAmb_Lg		03 43 04.1	
	comp=Z,10nm,0.9s						
FCAR	Ozark Folk Cen	5.02	99	IAmb_Lg		03 43 05.1	
	comp=Z,4.1nm,0.7s						
P40A	Paris	5.57	59	IAmb_Lg		03 43 27.5	
	comp=Z,5.2nm,0.9s						
SCIA	State Center	6.39	36	IAmb_Lg		03 44 00.1	
	comp=Z,6.3nm,0.8s						
JCT	Junction City	6.46	192	IAmb_Lg		03 44 08.6	
	comp=Z,4.5nm,0.8s						

*TUL **22** 04:28:48±0.8, 36°.84N±0°.02×98°.26W±0°.04, h4km±7km, ML2.7, mb_Lg2.5/44(NEIC), Error ellipse: s-maj=4.7km s-min=2.3km az=82.0*
NEIC 22 04:28:48.2±0.7, 36°.84N±0°.02×98°.28W±0°.04, h5km±2km, Error ellipse: s-maj=5.8km s-min=3.1km az=81.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.07	128	Pg	Pg	04 28 49.8	+0.1
OK032				Sg	Sg	04 28 50.9	+0.1
KAN10	Anthony SW Sta	0.31	27		Pg	04 28 54.4	+0.2
KAN10				Sg	Sg	04 28 59.2	+0.7
GC02	Grant County #	0.33	89		Pg	04 28 54.6	0.0
GC02				Sg	Sg	04 28 59.4	+0.4
CROK	Carrier	0.41	145		Pg	04 28 55.8	-0.3
CROK				Sg	Sg	04 29 01.9	+0.4
KAN05	Bluff City Nor	0.42	51		Pg	04 28 56.3	+0.1
KAN05				Sg	Sg	04 29 01.3	-0.4
KAN08	Anthony NE Sta	0.45	32		Pg	04 28 56.8	-0.1
KAN08				Sg	Sg	04 29 03.4	+0.6
KAN17	Caldwell West	0.46	64		Pg	04 28 56.8	-0.1
KAN17				Sg	Sg	04 29 03.1	+0.2
KAN12	Harper NE Stat	0.50	26		Pg	04 28 57.7	-0.2
KAN12				Sg	Sg	04 29 04.1	-0.3
KAN13	South Haven SW	0.66	75		Pg	04 29 00.7	-0.1
KS20	Mayfield South	0.69	56		Pg	04 29 01.3	-0.2
U32A	Winter Ranch,	0.75	232	Pg	Pg	04 29 02.7	+0.2
BLOK	Blackwell	0.85	95		Pg	04 29 04.1	-0.4
OK029	Liberty Lake	1.24	147		Pg	04 29 11.1	-0.8
BCOK	Bluff Creek, N	1.30	155		Pn	04 29 12.0	-1.0
T35A	Sooner Cattle	1.42	87	Pn	Pn	04 29 14.1	-0.5
QUOK	Quay	1.43	118		Pn	04 29 14.4	-0.4
OK031	S. Brethren Rd	1.46	127		Pn	04 29 13.6	-1.6
OK025	Westminster Rd	1.47	149		Pn	04 29 15.0	-0.3
OKCSW	OKLAHOMA CITY	1.59	154		Pn	04 29 16.6	-0.3
R32A	Long Quarter,	1.61	348	Pn	Pn	04 29 17.1	-0.3
FNO	Franklin	1.73	156		Pn	04 29 18.8	-0.1
FNO				IAmb_Lg		04 29 41.7	
	comp=Z,23nm,0.7s						
WMOK	Wichita Mounta	2.14	191		Pn	04 29 24.6	0.0
X34A	Smith Ranch, M	2.27	171		Pn	04 29 26.2	0.0
CBKS	Cedar Bluff	2.28	330		Pn	04 29 26.6	+0.1
KSU1	Kansas State U	2.61	30	Pn	Pn	04 29 30.6	-0.4
X37A	Clayton	3.26	133		Pn	04 29 40.3	+0.3
X37A				IAmb_Lg		04 30 31.8	
	comp=Z,11nm,0.8s						
AMTX	Amarillo	3.39	236	Pn	Pn	04 29 41.9	+0.1
AMTX				IAmb_Lg		04 30 40.6	
	comp=Z,11nm,0.7s						
HHAR	Hobbs	3.53	98		Pn	04 29 43.1	-0.6
Z35A	Perchaven, San	3.60	166	IAmb_Lg		04 30 43.2	
	comp=Z,9.3nm,0.9s						
W39A	Magazine	3.99	113	Pn	Pn	04 29 50.6	+0.6
W39A				IAmb_Lg		04 31 02.5	
	comp=Z,16nm,0.9s						
KSCO	Kaye Shedlock'	4.07	303	Pn	Pn	04 29 51.0	-0.1
KSCO				IAmb_Lg		04 31 04.4	
	comp=Z,10nm,0.7s						
U40A	Yellville	4.39	95	Pn	Pn	04 29 55.2	-0.3
U40A				IAmb_Lg		04 31 10.9	
	comp=Z,11nm,0.7s						
MIAR	Mount Ida	4.46	120	Pn	Pn	04 29 57.1	+0.7
MIAR				IAmb_Lg		04 31 10.6	
	comp=Z,9.0nm,0.9s						
Z38A	Mt. Pleasant	4.48	142	IAmb_Lg		04 31 12.8	
	comp=Z,15nm,0.8s						
P38A	Dawn	4.65	52	IAmb_Lg		04 31 24.2	
	comp=Z,9.4nm,0.9s						
MSTX	Muleshoe	4.66	233	IAmb_Lg		04 31 17.9	
	comp=Z,9.2nm,1.1s						
MGMO	Mountain Grove	4.82	85	Pn	Pn	04 30 01.9	+0.5
MGMO				IAmb_Lg		04 31 28.9	
	comp=Z,11nm,1.1s						
T25A	Trinidad	4.92	275	IAmb_Lg		04 31 25.6	
	comp=Z,9.9nm,0.8s						
X40A	Basin Creek Fa	5.01	116	IAmb_Lg		04 31 36.1	
	comp=Z,6.3nm,0.7s						
OGNE	Ogallala	5.04	326	Pn	Pn	04 30 04.2	-0.2
OGNE				IAmb_Lg		04 31 29.3	
	comp=Z,15nm,0.7s						
WLAR	White Oak Lake	5.27	125	IAmb_Lg		04 31 44.6	
	comp=Z,6.8nm,0.8s						
L34A	Svendsen Farm,	5.32	15	IAmb_Lg		04 31 41.5	
	comp=Z,13nm,0.7s						
P40A	Paris	5.59	59	IAmb_Lg		04 31 47.2	
	comp=Z,10.0nm,0.7s						
CCM	Cathedral Cave	5.72	76	IAmb_Lg		04 31 50.1	
	comp=Z,8.2nm,1.1s						
435B	Jarrell	6.07	174	IAmb_Lg		04 32 05.0	
	comp=Z,11nm,0.8s						
PBMO	Poplar Bluff	6.29	88	IAmb_Lg		04 32 16.2	
	comp=Z,7.7nm,0.7s						
RDMU	Red Mountain	9.58	296	IAmb_Lg		04 34 00.3	
	comp=Z,3.5nm,0.9s						

*IDC **22** 04:33:08.5±0.7, 27°.26N×140°.36E, h362km±7km, mb3.1/9, mb1 3.3/12, mb1mx3.0/37, mbtmp3.8/12, Error ellipse: s-maj=23.0km s-min=12.1km az=71.0*
ISC 22 04:33:07.5±0.8, 27°.2N±0°.1×140°.1E±0°.1, h350km, n15, σ1§77/19, mb3.5/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.82	93	P	Pn	04 34 00.3	+2.7
	27nm,0.3s,baz=86,slow=20,SNR=5.4						
JCJ				S	S	04 34 38.7	+0.9
	61nm,0.3s,baz=289,slow=22,SNR=14						
JHJ	Hachijo jima 2	5.92	357	P	Pn	04 34 39.3	+2.0
	11nm,0.3s,baz=264,slow=20,SNR=5.6						
JHJ				S	S	04 35 50.0	-0.1
	10nm,0.3s,baz=67,slow=22,SNR=1.6						
KSRS	Korea Array	14.53	318	P	P	04 36 18.7	+1.9
	baz=130,slow=11,SNR=5.1						
USRK	Ussuriysk Ar.	18.20	341	P	P	04 36 57.5	+1.1
	baz=166,slow=13,SNR=9.7						
KLR	Kul'dur	22.94	346	P	P	04 37 43.0	+0.9
	1.2nm,0.4s,baz=179,slow=9.4,SNR=7.2						
SONM	Songino Array	33.40	317	P	P	04 39 15.0	+0.5
	0.3nm,0.4s,baz=122,slow=7.4,SNR=2.2						
WRA	Warramunga Arr	47.19	187	P	P	04 41 07.2	+0.8
	0.5nm,0.4s,baz=7.1,slow=7.3,SNR=24						
WRA				ScP	ScP	04 45 48.5	-2.9
	0.3nm,0.7s,baz=5.2,slow=4.3,SNR=4.9						
MKAR	Makanchi Array	49.01	310	P	P	04 41 20.4	+0.4
	0.3nm,0.6s,baz=99,slow=7.5,SNR=4.3						
MKAR				ScP	ScP	04 45 55.9	-3.0
	0.4nm,0.5s,baz=89,slow=5.2,SNR=4.8						
ILAR	Eielson Array	58.50	29	P	P	04 42 26.1	-1.7
	0.5nm,0.8s,baz=282,slow=6.6,SNR=4.1						
ARCES	ARCESS Array B	72.85	340	P	P	04 43 58.4	-0.1
	1.4nm,0.6s,baz=73,slow=8.1,SNR=15						
YKA	Yellowknife Ar	72.91	28	P	P	04 43 58.0	-0.9
	0.7nm,0.6s,baz=294,slow=5.3,SNR=3.5						
FINES	FINESS Array B	77.05	333	P	P	04 44 21.6	-0.8
	3.7nm,0.3s,baz=66,slow=4.7,SNR=56						
NVAR	Mina Array Bea	81.88	51	P	P	04 44 48.9	-0.1
	0.5nm,0.6s,baz=295,slow=4.9,SNR=6.0						
NB2	NORSAR Subarra	82.84	338	P	P	04 44 50.4	-2.8
	comp=Z,1.5nm,0.7s,baz=46,slow=5.1						
NOA	NORSAR Array B	82.84	338	P	P	04 44 51.9	-1.4
	comp=Z,0.9nm,0.6s,baz=46,slow=4.8,SNR=5.6						

*NEIC **22** 04:35:46.9±1.4, 37°.31N±0°.02×8°.51W±0°.02, h12km±3km, Error ellipse: s-maj=2.5km s-min=1.8km az=187.0*
*SFS **22** 04:35:47.0, 37°.37N×8°.59W, ML3.5, MONCHITE (PORTUGAL)*
*INMG **22** 04:35:47.9±2.0, 37°.35N×8°.55W, h3km±2km, MD3.1, ML3.4, Error ellipse: s-maj=2.1km s-min=1.5km az=103.0*
*MDD **22** 04:35:47.7±0.2, 37°.34N×8°.56W, h11km, mbLg3.5/37, Error ellipse: s-maj=2.4km s-min=1.9km az=141.0, PRXIMO*
*CNRM **22** 04:35:48.1, 37°.21N×8°.50W, h29km, ml3.3, Hypocentre not reviewed by the ISC*
*LDG **22** 04:35:48.4±0.2, 37°.37N×8°.60W, h15km, Ml3.4/4, Error ellipse: s-maj=3.6km s-min=2.9km az=41.0*
*IGIL **22** 04:35:48.4, 37°.34N×8°.54W, h4km, ML3.4*
ISC 22 04:35:46.5±0.7, 37°.35N±0°.01×8°.55W±0°.02, h13km, n157, σ2§01/291, 16C-7D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALJ	Aljezur	0.20	260	ePg	Pg	04 35 51.7	+0.8
PALJ				eSg	Sg	04 35 54.7	+0.7
PALJ				A	A	04 35 56.1	
	5μm,0.3s						
PPOR	Portimao	0.22	177	⇑ePg	Pg	04 35 51.8	+0.6
PPOR				eSg	Sg	04 35 54.7	+0.3
PPOR				A	A	04 35 55.6	
	7μm,0.2s						
PTEO	Sao Teotonio	0.24	324	Pg	Pg	04 35 52.7	+1.1
PTEO				Lg	Lg	04 35 56.3	
	902nm,0.5s						
PTEO	Sao Teotonio	0.24	324	⇓iPg	Pg	04 35 52.7	+1.1
PTEO				eSg	Sg	04 35 56.3	+1.3
PTEO				A	A	04 35 59.3	
	2μm,0.5s						
PTEO	Sao Teotonio	0.24	324	Pg	Pg	04 35 52.8	+1.1
PLAGO	Lagos	0.28	204	⇑ePg	Pg	04 35 53.0	+0.7
PLAGO				eSg	Sg	04 35 56.8	+0.6
PLAGO				A	A	04 35 58.0	
	2μm,0.2s						
PFVI	Vila Bisbo	0.31	226	⇑Pg	Pg	04 35 53.3	+0.4
	474nm,0.3s,SNR=18						
PFVI				Lg	Lg	04 35 57.4	
	2μm,0.2s,SNR=12						
PFVI	Vila Bisbo	0.31	226	⇑iPg	Pg	04 35 53.3	+0.4
PFVI				eSg	Sg	04 35 57.4	+0.2
PFVI				A	A	04 35 58.5	
	1μm,0.1s						
PFVI	Vila Bisbo	0.31	226	Pg	Pg	04 35 52.8	0.0
PFVI				Sg	Sg	04 35 58.2	+1.1
PFVI	Vila Bisbo	0.31	226	P		04 35 53.3	
PFVI				S		04 35 57.6	
PALBU	Albufeira	0.35	137	⇓ePg	Pg	04 35 54.1	+0.6
PALBU				eSg	Sg	04 35 59.2	+0.9
PALBU				A	A	04 36 00.6	
	1μm,0.1s						
PSVI	Cabo S. Vicent	0.49	228	ePg	Pg	04 35 56.3	+0.3
PSVI				eSg	Sg	04 36 02.7	+0.2
PSVI				A	A	04 36 03.2	
	503nm,0.3s						
PCVE	Castro Verde	0.49	55	Pg	Pg	04 35 57.4	+1.3
PCVE				Lg	Lg	04 36 03.6	
	442nm,0.2s						
PCVE	Castro Verde	0.49	55	⇑iPg	Pg	04 35 57.4	+1.3
PCVE				eSg	Sg	04 36 03.6	+0.9
PCVE				A	A	04 36 08.0	
	442nm,0.2s						
PCVE	Castro Verde	0.49	55	Pg	Pg	04 35 57.1	+1.0
PCVE				Sg	Sg	04 36 03.6	+0.9
PBDV	Barranco-do-Ve	0.50	102	Pg	Pg	04 35 57.0	+0.6
PBDV				Lg	Lg	04 36 03.9	
	1μm,0.6s						
PBDV	Barranco-do-Ve	0.50	102	⇓eP

PBEJ	**Beja**	**0.86**	**39**		**Pg**	**Pn**	**04 36 04.1 +0.9**
PBEJ				Sg	**Sb**	**04 36 17.3 +2.6**
EGRO	**El Granado**	**0.87**	**78**	⇓Pg	**Pg**	**04 36 03.6 +0.4**
	comp=N,118nm,0.3s,SNR=18					
EGRO				Lg	Lg	04 36 14.9
	comp=N,2µm,0.1s,SNR=32					
EVO	**Evora**	**1.25**	**20**	P	**Pn**	**04 36 10.1 +0.4**
EVO				S	**Sb**	**04 36 26.6 +0.7**
EVO	**Evora**	**1.25**	**20**	*e*P	**Pn**	**04 36 10.1 +0.4**
EVO				*e*S	**Sb**	**04 36 26.6 +0.7**
EVO	**Evora**	**1.25**	**20⇑**	*e*P	**Pn**	**04 36 10.1 +0.4**
EVO				*e*S	**Sb**	**04 36 26.7 +0.7**
EVO				A	A	04 36 29.0
	comp=N,555nm,0.1s					
LIS	**Lisbon**	**1.44**	**341**	*e*S	**Sn**	**04 36 31.8 +0.8**
LIS				IAML		04 36 37.7
	comp=N,995nm,0.5s					
LIS	**Lisbon**	**1.44**	**341**	Pg	**Pg**	**04 36 15.5 +1.3**
LIS				Lg	Lg	04 36 33.8
	comp=N,440nm,0.4s					
LIS	**Lisbon**	**1.44**	**341**	*e*Pg	**Pg**	**04 36 15.5 +1.3**
LIS				*e*Sg	**Sb**	**04 36 33.8 +2.4**
LIS				A	A	04 36 41.4
	comp=N,440nm,0.4s					
PBAR	**Barrancos**	**1.45**	**55**	Pn	**Pn**	**04 36 12.7 +0.3**
PBAR				Sn	**Sn**	**04 36 32.3 +1.0**
	comp=N,238nm,0.3s					
PBAR	**Barrancos**	**1.45**	**55⇑**	*e*Pn	**Pn**	**04 36 12.7 +0.3**
PBAR				*e*Sn	**Sn**	**04 36 32.3 +1.0**
PBAR				A	A	04 36 36.3
	comp=N,238nm,0.3s					
PBAR	**Barrancos**	**1.45**	**55**	Pn	**Pn**	**04 36 12.7 +0.3**
PBAR				Sg	**Sb**	**04 36 33.2 +1.6**
ARNO	**Arenosillo**	**1.47**	**99**	Pn	**Pn**	**04 36 14.8 +2.1**
ARNO				Sn	**Sb**	**04 36 34.6 +2.4**
ARNO	**Arenosillo**	**1.47**	**99**	*e*P	**Pn**	**04 36 14.8 +2.1**
ARNO				*e*S	**Sb**	**04 36 34.6 +2.4**
PMST	**Lisbon--Monsan**	**1.47**	**340**	*e*Pn	**Pn**	**04 36 13.8 +1.1**
PMST				*e*Sg	**Sg**	**04 36 34.9 +1.1**
PMST				A	A	04 36 40.0
	comp=N,375nm,0.4s					
PMST	**Lisbon--Monsan**	**1.47**	**340**	Pn	**Pn**	**04 36 13.8 +1.1**
PMST				Sg	**Sg**	**04 36 35.1 +1.3**
EMIN	**Mina Concepcio**	**1.55**	**74**	⇑Pn	**Pn**	**04 36 13.9 +0.2**
	comp=N,17nm,0.1s,SNR=18					
EMIN				Pg	**Pb**	**04 36 15.9 +0.9**
	comp=N,32nm,0.1s,SNR=7.9					
EMIN				Sn	**Sn**	**04 36 32.5 -1.1**
	comp=N,114nm,0.3s,SNR=7.9					
EMIN				Lg	Lg	04 36 35.7
	comp=N,304nm,0.2s,SNR=33					
PESTR	**Estremoz**	**1.69**	**26**	*e*Pn	**Pn**	**04 36 15.8 +0.1**
PESTR	**Estremoz**	**1.69**	**26**	*e*Pg	**Pb**	**04 36 19.1 +1.7**
PESTR				*e*Sn	**Sn**	**04 36 38.3 +1.1**
PESTR				*e*Sg	**Sb**	**04 36 40.6 +2.0**
PESTR				A	A	04 36 41.9
	comp=N,208nm,0.4s					
PESTR	**Estremoz**	**1.69**	**26**		**Pn**	**04 36 15.8 +0.1**
PESTR	**Estremoz**	**1.69**	**26**	P		04 36 15.9
PESTR				S		04 36 40.0
PMAFR	**Mafra**	**1.70**	**340**	Pg	**Pn**	**04 36 17.0 +1.2**
	comp=N,47nm,0.3s,SNR=33					
PMAFR				Lg	Lg	04 36 40.0
	comp=N,446nm,0.2s,SNR=5.0					
PMAFR	**Mafra**	**1.70**	**340⇑**	*e*Pn	**Pn**	**04 36 16.9 +1.0**
PMAFR				*e*Sn	**Sn**	**04 36 38.2 +0.7**
PMAFR				*e*Sg	**Sg**	**04 36 42.7 +1.5**
PMAFR				A	A	04 36 44.6
	comp=N,511nm,0.2s					
PMAFR	**Mafra**	**1.70**	**340**	Pn	**Pn**	**04 36 16.9 +1.0**
PMAFR				Sg	**Sg**	**04 36 42.1 +0.9**
PMTG	**Montargil**	**1.73**	**8**	Pn	**Pn**	**04 36 16.8 +0.6**
PMTG				Pg	**Pb**	**04 36 19.9 +1.8**
PMTG				Lg	Lg	04 36 41.3
	comp=N,492nm,0.3s					
PMTG	**Montargil**	**1.73**	**8⇑**	*e*Pn	**Pn**	**04 36 16.8 +0.6**
PMTG	**Montargil**	**1.73**	**8**	*e*Pg	**Pb**	**04 36 19.9 +1.8**
PMTG				*e*Sg	**Sb**	**04 36 41.3 +1.5**
PMTG				A	A	04 36 42.4
	comp=N,492nm,0.3s					
PMTG	**Montargil**	**1.73**	**8**	Pn	**Pn**	**04 36 16.9 +0.6**
PMTG				Sg	**Sb**	**04 36 42.2 +2.4**
EBAD	**Badajoz**	**1.85**	**40**	Pn	**Pn**	**04 36 18.0 +0.1**
	comp=N,23nm,0.2s,SNR=108					
EBAD				Pg	**Pb**	**04 36 21.4 +1.2**
	comp=N,55nm,0.1s,SNR=7.9					
EBAD				Sn	**Sn**	**04 36 40.9 -0.2**
	comp=N,137nm,0.2s,SNR=7.9					
EBAD				Lg	Lg	04 36 45.5
	comp=N,436nm,0.2s,SNR=11					
PSBE	**So Bento**	**2.17**	**355**	*e*Pn	**Pn**	**04 36 23.3 +1.0**
PSBE	**So Bento**	**2.17**	**355**	*e*Pg	**Pg**	**04 36 28.7 +0.7**
PSBE				*e*Sg	**Sb**	**04 36 53.7 +1.3**
PSBE				A	A	04 36 59.3
	comp=N,272nm,0.7s					
PSBE	**So Bento**	**2.17**	**355**	Pn	**Pn**	**04 36 23.4 +1.1**
PSBE				Sg	**Sb**	**04 36 55.8 +3.4**
ESPR	**Espera**	**2.21**	**102**	Pn	**Pn**	**04 36 23.5 +0.7**
	comp=N,48nm,0.3s,SNR=20					
ESPR				Sn	**Sn**	**04 36 50.6 +0.8**
	comp=N,121nm,0.2s,SNR=7.9					
ESPR				Lg	Lg	04 36 59.2
	comp=N,172nm,0.2s,SNR=8.9					
PMRV	**Marv??o**	**2.26**	**23**	Pn	**Pn**	**04 36 24.0 +0.4**
PMRV				Pg	**Pb**	**04 36 28.5 +1.3**
PMRV				Sn	**Sn**	**04 36 52.5 +1.1**
PMRV				Lg	Lg	04 36 56.5
	comp=N,392nm,0.5s					
PMRV	**Marv??o**	**2.26**	**23⇑**	*e*Pn	**Pn**	**04 36 24.0 +0.4**
PMRV	**Marv??o**	**2.26**	**23**	*e*Pg	**Pb**	**04 36 28.5 +1.3**
PMRV				*e*Sn	**Sn**	**04 36 52.5 +1.1**
PMRV				*e*Sg	**Sb**	**04 36 56.5 +1.4**
PMRV				A	A	04 36 59.9
	comp=N,392nm,0.5s					
ECAB	**El Cabril**	**2.58**	**73**	Pn	**Pn**	**04 36 28.3 +0.3**
	comp=N,10.0nm,0.3s,SNR=11					
ECAB				Sn	**Sn**	**04 36 57.4 -1.9**
	comp=N,21nm,0.3s,SNR=10					
ECAB				Lg	Lg	04 37 06.3
	comp=N,182nm,0.3s,SNR=10.0					
PCBR	**Castelo Branco**	**2.62**	**18**	Pn	**Pn**	**04 36 29.1 +0.6**
PCBR				Sn	**Sn**	**04 37 00.3 +0.1**
PCBR				Lg	Lg	04 37 08.3
	comp=N,84nm,0.8s					
PCBR	**Castelo Branco**	**2.62**	**18⇑**	*e*Pn	**Pn**	**04 36 29.1 +0.6**
PCBR				*e*Sn	**Sn**	**04 37 00.3 +0.1**
PCBR				*e*Sg	**Sb**	**04 37 08.3 +2.9**
PCBR				A	A	04 37 12.2
	comp=N,167nm,0.8s					
PCBR	**Castelo Branco**	**2.62**	**18**	Pn	**Pn**	**04 36 29.1 +0.6**
EJIF	**Jimena Fronter**	**2.63**	**109**	Pn	**Pn**	**04 36 29.8 +1.2**
	SNR=7.9					
EJIF				Sn	**Sn**	**04 36 59.1 -1.2**
	SNR=7.9					
EJIF				Lg	Lg	04 37 12.1
	SNR=7.9					
PCAS	**Casmilo, Conde**	**2.70**	**1**	Pn	**Pn**	**04 36 30.6 +1.0**
PCAS				Pg	**Pb**	**04 36 37.6 +3.0**
PCAS				Sn	**Sn**	**04 37 02.5 +0.5**
PCAS				Lg	Lg	04 37 12.1
	comp=N,209nm,0.4s					
PCAS	**Casmilo, Conde**	**2.70**	**1**	*e*Pn	**Pn**	**04 36 30.6 +1.0**
PCAS	**Casmilo, Conde**	**2.70**	**1**	*e*Pg	**Pb**	**04 36 37.6 +3.0**
PCAS				*e*Sn	**Sn**	**04 37 02.5 +0.5**
PCAS				*e*Sg	**Sb**	**04 37 12.1 +4.5**
PCAS				A	A	04 37 17.4
	comp=N,209nm,0.4s					
PCAS	**Casmilo, Conde**	**2.70**	**1**	Pn	**Pn**	**04 36 30.6 +1.0**
COI	**Coimbra**	**2.85**	**2**	Pn	**Pn**	**04 36 32.9 +1.2**
COI				Pg	**Pg**	**04 36 41.2 +0.1**
COI				Lg	Lg	04 37 17.9
	comp=N,76nm,0.4s					
COI	**Coimbra**	**2.85**	**2**	*e*Pn	**Pn**	**04 36 32.9 +1.2**
COI	**Coimbra**	**2.85**	**2**	*e*Pg	**Pg**	**04 36 41.2 +0.1**
COI				*e*Sg	**Sg**	**04 37 17.9 -0.2**
COI				A	A	04 37 20.4
	comp=N,153nm,0.4s					
COI	**Coimbra**	**2.85**	**2**	Pn	**Pn**	**04 36 32.1 +0.4**
CEU	**Ceuta**	**2.94**	**119**	Pn	**Pn**	**04 36 34.7 +1.9**
CEU				Sn	**Sn**	**04 37 11.1 +3.2**
CEU	**Ceuta**	**2.94**	**119**	*e*P	**Pn**	**04 36 34.7 +1.9**
CEU				*e*S	**Sn**	**04 37 11.1 +3.2**
SMIR	**Smir Dam**	**3.05**	**122**	P		04 36 35.3
SMIR				S		04 37 05.9

EMIJ	**Mijas**	**3.12**	**103**	Pn	**Pn**	**04 36 35.8 +0.4**
	comp=N,3.7nm,0.3s,SNR=9.2					
EMIJ				Sn	**Sn**	**04 37 10.9 -1.7**
	comp=N,25nm,0.4s,SNR=5.0					
MTE	**Manteigas**	**3.14**	**14**	Pn	**Pn**	**04 36 36.2 +0.5**
MTE				Sn	**Sn**	**04 37 12.3 -0.8**
MTE				Lg	Lg	04 37 24.3
	comp=N,95nm,0.7s					
MTE	**Manteigas**	**3.14**	**14⇑**	*e*Pn	**Pn**	**04 36 36.2 +0.5**
MTE				*e*Sn	**Sn**	**04 37 12.3 -0.8**
MTE				*e*Sg	**Sb**	**04 37 24.3 +3.9**
MTE				A	A	04 37 31.9
	comp=N,190nm,0.7s					
MTE	**Manteigas**	**3.14**	**14**	Pn	**Pn**	**04 36 35.7 0.0**
EADA	**Adamuz**	**3.25**	**74**	Pn	**Pn**	**04 36 37.5 +0.3**
	comp=N,3.1nm,0.3s,SNR=50					
EADA				Sn	**Sn**	**04 37 14.2 -1.6**
	comp=N,63nm,0.4s,SNR=15					
EADA				Lg	Lg	04 37 28.4
	comp=N,51nm,0.2s,SNR=12					
EPLA	**Plasencia**	**3.33**	**35**	Pn	**Pn**	**04 36 38.5 +0.3**
	comp=N,8.5nm,0.3s,SNR=41					
EPLA				Sn	**Sn**	**04 37 16.6 -1.0**
	comp=N,75nm,0.3s,SNR=27					
EPLA				Lg	Lg	04 37 28.6
	comp=N,105nm,0.4s,SNR=12					
EMAL	**Malaga-Limoner**	**3.35**	**99**	Pn	**Pn**	**04 36 40.8 +2.3**
EMAL				Sn	**Sn**	**04 37 16.3 -1.7**
EMAL	**Malaga-Limoner**	**3.35**	**99**	*e*P	**Pn**	**04 36 40.8 +2.3**
EMAL				*e*S	**Sn**	**04 37 16.3 -1.7**
PVIS	**Viseu**	**3.40**	**8**	Pn	**Pn**	**04 36 39.6 +0.4**
PVIS				Pg	**Pg**	**04 36 52.4 +0.9**
PVIS				Sn	**Sn**	**04 37 18.7 -0.7**
PVIS				Lg	Lg	04 37 34.6
	comp=N,39nm,0.2s					
PVIS	**Viseu**	**3.40**	**8⇓**	*e*Pn	**Pn**	**04 36 39.6 +0.4**
PVIS	**Viseu**	**3.40**	**8**	*e*Pg	**Pg**	**04 36 52.4 +0.9**
PVIS				*e*Sn	**Sn**	**04 37 18.7 -0.7**
PVIS				*e*Sg	**Sg**	**04 37 34.6 -0.9**
PVIS				A	A	04 37 35.5
	comp=N,78nm,0.2s					
CHEFC	**Chefchaouen**	**3.43**	**130**	P		04 36 40.9
CHEFC				S		04 37 16.8
EGOR	**Sierra Gorda,**	**3.55**	**93**	Pn	**Pn**	**04 36 42.9 +1.5**
	comp=N,1.9nm,0.2s,SNR=7.9					
EGOR				Sn	**Sn**	**04 37 22.7 -0.6**
	comp=N,13nm,0.3s,SNR=7.9					
EGOR				Lg	Lg	04 37 41.9
	comp=N,51nm,0.4s,SNR=7.9					
PAB	**San Pablo**	**3.96**	**55**	Pn	**Pn**	**04 36 47.4 +0.5**
	comp=N,8.8nm,0.2s,SNR=7.9					
PAB				Sn	**Sn**	**04 37 31.6 -1.6**
	comp=N,11nm,0.1s,SNR=7.9					
PAB				Lg	Lg	04 37 53.6
	comp=N,30nm,0.2s,SNR=7.9					
PAB	**San Pablo**	**3.96**	**55**	Pn	**Pn**	**04 36 47.4 +0.5**
PAB	**San Pablo**	**3.96**	**55**	P		04 36 47.3
ELGU	**Los Guajares,**	**3.96**	**96**	Pn	**Pn**	**04 36 48.9 +1.9**
	comp=N,2.6nm,0.1s,SNR=7.9					
ELGU				Sn	**Sn**	**04 37 33.4 +0.1**
	comp=N,6.6nm,0.2s,SNR=7.9					
PVRL	**Vila Real**	**3.97**	**9**	Pn	**Pn**	**04 36 47.5 +0.4**
PVRL				Sn	**Sn**	**04 37 31.3 -2.2**
PVRL				Lg	Lg	04 37 52.4
	comp=N,35nm,0.6s					
PVRL	**Vila Real**	**3.97**	**9**	*e*Pn	**Pn**	**04 36 47.5 +0.4**
PVRL				*e*Sn	**Sn**	**04 37 31.3 -2.2**
PVRL				*e*Sg	**Sg**	**04 37 52.4 -1.5**
PVRL				A	A	04 37 56.0
	comp=N,69nm,0.6s					
MVO	**Moncorvo**	**3.98**	**17**	Pn	**Pn**	**04 36 47.4 +0.1**
	comp=N,8.8nm,0.1s,SNR=7.9					
MVO				Sn	**Sn**	**04 37 32.3 -1.6**
	comp=N,33nm,0.2s,SNR=7.9					
MVO				Lg	Lg	04 37 52.3
	comp=N,93nm,0.4s,SNR=7.9					
MVO	**Moncorvo**	**3.98**	**17⇓**	*e*Pn	**Pn**	**04 36 47.5 +0.1**
MVO				*e*Sn	**Sn**	**04 37 32.5 -1.4**
MVO				*e*Sg	**Sg**	**04 37 52.9 -1.5**
MVO				A	A	04 37 58.8
	comp=N,75nm,0.4s					
POLO	**Lamas de Olo**	**4.06**	**8**	Pn	**Pn**	**04 36 48.9 +0.6**
POLO				Sn	**Sn**	**04 37 32.7 -3.1**
POLO				Lg	Lg	04 37 53.0
	comp=N,34nm,0.6s					
POLO	**Lamas de Olo**	**4.06**	**8⇑**	*e*Pn	**Pn**	**04 36 48.9 +0.6**
POLO				*e*Sn	**Sn**	**04 37 32.7 -3.1**
POLO				*e*Sg	**Sb**	**04 37 53.0 +6.2**
POLO				A	A	04 38 04.5
	comp=N,34nm,0.6s					
EQUE	**Quentar**	**4.08**	**91**	Pn	**Pn**	**04 36 49.9 +1.4**
	comp=N,2.9nm,0.3s,SNR=12					
EQUE				Sn	**Sn**	**04 37 35.7 -0.6**
	comp=N,8.9nm,0.3s,SNR=7.2					
EQUE				Lg	Lg	04 37 57.3
	comp=N,30nm,0.4s,SNR=5.0					
ZHG	**ZHG**	**4.20**	**158**	P		04 36 50.6
ZHG				S		04 37 36.1
ESDC	**Sonseca Array**	**4.28**	**56**	Pn	**Pn**	**04 36 51.3 0.0**
	comp=N,3.3nm,0.3s,baz=242,slow=13,SNR=50					
ESDC				Sn	**Sn**	**04 37 40.0 -1.2**
	comp=N,15nm,0.3s,baz=241,slow=23,SNR=51					
ESDC				Lg	Lg	04 38 01.0
	comp=N,4.3nm,0.3s,baz=235,slow=28,SNR=4.7					
ESDC	**Sonseca Array**	**4.28**	**56**	Pn	**Pn**	**04 36 51.2 -0.1**
ESBB	**Sonseca Array**	**4.28**	**56**		**Pn**	**04 36 51.5 +0.1**
PALE	**Palemas**	**4.29**	**118**	P		04 36 51.1
PALE				S		04 37 37.8
PCAB	**Cabril**	**4.37**	**5**	Pn	**Pn**	**04 36 53.2 +0.6**
PCAB				Sn	**Sn**	**04 37 40.5 -2.9**
PCAB				Lg	Lg	04 38 04.9
	comp=N,28nm,0.5s					
PCAB	**Cabril**	**4.37**	**5**	*e*Pn	**Pn**	**04 36 53.2 +0.6**
PCAB				*e*Sn	**Sn**	**04 37 40.5 -2.9**
PCAB				*e*Sg	**Sg**	**04 38 04.9 -1.9**
PCAB				A	A	04 38 08.9
	comp=N,57nm,0.5s					
EQES	**Quesada**	**4.37**	**82**	Pn	**Pn**	**04 36 53.3 +0.6**
	comp=N,5.0nm,0.6s,SNR=60					
EQES				Sn	**Sn**	**04 37 42.8 -0.8**
	comp=N,27nm,0.4s,SNR=5.0					
EQES				Lg	Lg	04 38 05.5
	comp=N,32nm,0.4s,SNR=8.2					
GORA	**Gorafe**	**4.38**	**87**	Pn	**Pn**	**04 36 53.3 +0.5**
	comp=N,11nm,0.2s,SNR=7.9					
GORA				Sn	**Sn**	**04 37 43.2 -0.6**
	comp=N,23nm,0.3s,SNR=7.9					
GORA				Lg	Lg	04 38 07.1
	comp=N,138nm,0.5s,SNR=7.9					
ELOB	**Lobios**	**4.53**	**5**	⇑Pn	**Pn**	**04 36 55.1 +0.4**
	comp=N,21nm,0.2s,SNR=18					
ELOB				Sn	**Sn**	**04 37 44.2 -3.0**
	comp=N,13nm,0.3s,SNR=6.5					
ELOB				Lg	Lg	04 38 08.6
	comp=N,43nm,0.5s					
EBER	**Berja**	**4.54**	**94**	Pn	**Pn**	**04 36 56.7 +1.7**
	comp=N,3.9nm,0.5s,SNR=10					
EBER				Sn	**Sn**	**04 37 43.4 -4.5**
	comp=N,23nm,0.5s,SNR=5.0					
EBER				Lg	Lg	04 38 09.3
	comp=N,47nm,0.6s,SNR=7.9					
PGAV	**Gavieira, Arco**	**4.61**	**3**	Pn	**Pn**	**04 36 56.6 +0.7**
PGAV				Sn	**Sn**	**04 37 47.1 -2.3**
PGAV				Lg	Lg	04 38 12.3
	comp=N,32nm,0.4s					
PGAV	**Gavieira, Arco**	**4.61**	**3**	*e*Pn	**Pn**	**04 36 56.6 +0.7**
PGAV				*e*Sn	**Sn**	**04 37 47.1 -2.3**
PGAV				*e*Sg	**Sg**	**04 38 12.3 -2.2**
PGAV				A	A	04 38 17.6
	comp=N,32nm,0.4s					
EALB	**Alboran**	**4.65**	**106**	Pn	**Pn**	**04 36 58.0 +1.6**
	comp=N,1.3nm,0.2s,SNR=7.9					
EALB				Sn	**Sn**	**04 37 49.0 -1.2**
	comp=N,3.2nm,0.2s,SNR=7.9					
PBRG	**Braganca**	**4.66**	**17**	Pn	**Pn**	**04 36 56.9 +0.3**
PBRG				Sn	**Sn**	**04 37 48.1 -2.4**
PBRG				Lg	Lg	04 38 13.2
	comp=N,22nm,0.6s					
PBRG	**Braganca**	**4.66**	**17**	*e*Pn	**Pn**	**04 36 56.9 +0.3**
PBRG				*e*Sn	**Sn**	**04 37 48.1 -2.4**
PBRG				*e*Sg	**Sg**	**04 38 13.2 -2.9**
PBRG				A	A	04 38 16.8
	comp=N,44nm,0.6s					
LCRM	**LCR**	**4.74**	**139**	P		04 36 56.6
LCRM				S		04 37 49.1

IFR	**Ifrane**	**4.74**	**143**	*e*P	**Pn**	**04 36 58.5 +0.7**
IFR				*e*S	**Sn**	**04 37 51.0 -1.7**
GUD	**Guadarrama**	**4.74**	**45**	Pn	**Pn**	**04 36 57.7 -0.1**
	comp=N,3.4nm,0.3s,SNR=42					
GUD				Sn	**Sn**	**04 37 49.9 -2.8**
	comp=N,8.3nm,0.3s,SNR=7.6					
GUD				Lg	Lg	04 38 16.0
	comp=N,28nm,0.3s,SNR=7.2					
ECAL	**Calabor**	**4.79**	**16**	Pn	**Pn**	**04 36 58.5 +0.1**
	comp=N,22nm,0.3s,SNR=76					
ECAL				Sn	**Sn**	**04 37 51.7 -2.0**
	comp=N,20nm,0.4s,SNR=4.8					
ECAL				Lg	Lg	04 38 18.2
	comp=N,154nm,0.5s,SNR=14					
EZAM	**Zamans**	**4.79**	**359**	Pn	**Pn**	**04 36 59.1 +0.7**
	comp=N,8.5nm,0.2s,SNR=7.9					
EZAM				Sn	**Sn**	**04 37 49.9 -3.9**
	comp=N,7.3nm,0.2s,SNR=7.9					
EZAM				Lg	Lg	04 38 16.6
	comp=N,28nm,0.4s,SNR=7.9					
SESP	**Santiago Espad**	**4.82**	**79**	Pn	**Pn**	**04 36 59.5 +0.6**
	comp=N,3.1nm,0.2s,SNR=7.9					
SESP				Sn	**Sn**	**04 37 52.1 -2.5**
	comp=N,15nm,0.2s,SNR=7.9					
SESP				Lg	Lg	04 38 18.0
	comp=N,62nm,0.4s,SNR=7.9					
GOG	**Mont Gurugu**	**4.96**	**114**	P		04 36 59.9
GOG				S		04 37 55.1
ENIJ	**Nijar**	**5.08**	**92**	Pn	**Pn**	**04 37 03.7 +1.4**
	comp=N,1.6nm,0.3s,SNR=7.9					
ENIJ				Sn	**Sn**	**04 37 59.8 -1.0**
	comp=N,3.8nm,0.2s,SNR=7.9					
UCM	**Universidad Co**	**5.08**	**53**	Pn	**Pn**	**04 37 03.1 +0.7**
UCM				Sn	**Sn**	**04 37 58.6 -2.4**
UCM	**Universidad Co**	**5.08**	**53**	*e*P	**Pn**	**04 37 03.1 +0.7**
UCM				*e*S	**Sn**	**04 37 58.6 -2.4**
CZD	**Col de Zad**	**5.18**	**145**	P		04 37 03.4
CZD				S		04 38 00.1
MD31	**MD31**	**5.45**	**144**	P		04 37 06.4
MD31				S		04 38 05.4
MDT	**Midelt**	**5.56**	**143**	P		04 37 07.9
MDT				S		04 38 08.3
EMAZ	**Mazaricos**	**5.60**	**357**	Pn	**Pn**	**04 37 09.7 +0.3**
	comp=N,4.7nm,0.1s,SNR=7.9					
EMAZ				Sn	**Sn**	**04 38 08.6 -5.0**
	comp=N,4.0nm,0.1s,SNR=7.9					
ETOB	**Tobarra**	**5.68**	**75**	Pn	**Pn**	**04 37 10.1 -0.5**
	comp=N,1.3nm,0.3s,SNR=15					
ETOB				Sn	**Sn**	**04 38 13.2 -2.4**
	comp=N,4.8nm,0.3s,SNR=4.8					
ETOB				Lg	Lg	04 38 45.2
	comp=N,21nm,0.4s,SNR=7.9					
JBK	**JBK**	**5.71**	**120**	P		04 37 10.0
JBK				S		04 38 13.7
EAH	**EAH**	**5.75**	**189**	P		04 37 10.1
EAH				S		04 38 12.8
EMUR	**La Murta**	**5.82**	**83**	Pn	**Pn**	**04 37 12.8 +0.3**
	comp=N,2.5nm,0.3s,SNR=7.4					
EMUR				Sn	**Sn**	**04 38 16.9 -2.3**
	comp=N,1.1nm,0.3s,SNR=7.9					
EMUR				Lg	Lg	04 38 50.2
	comp=N,18nm,0.5s,SNR=7.9					
CART	**Cartagena**	**6.01**	**85**	Pn	**Pn**	**04 37 14.0 -1.0**
CART	**Cartagena**	**6.01**	**85**	P		04 37 14.0
CART				S		04 38 18.9
EPON	**Pontenova**	**6.06**	**10**	Pn	**Pn**	**04 37 16.1 +0.3**
	comp=N,1.7nm,0.3s,SNR=10					
EPON				Sn	**Sn**	**04 38 21.9 -3.2**
	comp=N,2.1nm,0.3s,SNR=5.3					
EPON				Lg	Lg	04 38 56.5
	comp=N,23nm,0.5s,SNR=7.9					
ETOR	**Torete**	**6.12**	**54**	⇓Pn	**Pn**	**04 37 16.9 +0.2**
	comp=N,27nm,0.3s,SNR=18					
ETOR				Sn	**Sn**	**04 38 22.1 -4.5**
	comp=N,12nm,0.4s,SNR=7.1					
ETOR				Lg	Lg	04 39 01.2
	comp=N,43nm,0.6s					
OUK	**Oukaimeden**	**6.16**	**175**	P		04 37 17.3
OUK				S		04 38 24.0
AFON	**Font Roja**	**6.46**	**76**	Pn	**Pn**	**04 37 22.1 +0.8**
	comp=N,0.7nm,0.1s,SNR=7.9					
AFON				Lg	Lg	04 39 10.5
	comp=N,32nm,0.5s,SNR=7.9					
EARI	**Arriondas**	**6.46**	**22**	Pn	**Pn**	**04 37 21.7 +0.3**
	comp=N,3.9nm,0.7s,SNR=16					
EARI				Sn	**Sn**	**04 38 31.6 -3.4**
	comp=N,2.6nm,0.7s,SNR=6.5					
EARI				Lg	Lg	04 39 11.0
	comp=N,63nm,1.1s,SNR=7.9					
EBEN2	**Beniarda presa**	**6.73**	**76**	Pn	**Pn**	**04 37 24.9 0.0**
	comp=N,1.2nm,0.1s,SNR=7.9					
EBEN2				Sn	**Sn**	**04 38 38.3 -3.1**
	comp=N,2.7nm,0.2s,SNR=7.9					
EBEN2				Lg	Lg	04 39 20.1
	comp=N,69nm,1.1s,SNR=7.9					
TTIG	**Tnine Tigouga,**	**6.79**	**179**	P		04 37 22.2
TDRA	**Tendrara**	**6.85**	**127**	P		04 37 25.6
TDRA				S		04 38 42.4
EMOS	**Mosqueruela**	**6.98**	**62**	Pn	**Pn**	**04 37 29.7 +1.1**
	comp=N,4.6nm,0.7s,SNR=6.6					
EMOS				Sn	**Sn**	**04 38 41.9 -6.0**
	comp=N,0.8nm,0.1s,SNR=7.9					
EMOS				Lg	Lg	04 39 27.1
	comp=N,9.2nm,0.5s,SNR=7.9					
TZRR	**Tazzarine**	**7.00**	**158**	P		04 37 28.8
TZRR				S		04 38 47.0
ELAN	**Lanestosa**	**7.05**	**32**	Pn	**Pn**	**04 37 29.6 +0.2**
	comp=N,9.6nm,0.5s,SNR=5.0					
ELAN				Sn	**Sn**	**04 38 45.7 -3.8**
	comp=N,7.4nm,0.4s,SNR=4.7					
ELAN				Lg	Lg	04 39 31.9
	comp=N,32nm,1.1s,SNR=7.9

RJF					*e*Sn	Sn	04 40 17.5	-7.9
	comp=N,1.3nm,0.3s								
CAF	**Calviac**	**11.01**	**43**	Pn		**Pn**	**04 38 22.0**	**-1.6**
CAF					Sn	Sn	04 40 19.0	-7.5
	comp=N,0.6nm,0.4s								
CAF	**Calviac**	**11.01**	**43**	*e*Pn		**Pn**	**04 38 22.0**	**-1.6**
CAF					*e*Sn	Sn	04 40 19.0	-7.5
	comp=N,1.2nm,0.4s								
QUIF	**Quistinic**	**11.27**	**19**	Pn		**Pn**	**04 38 25.3**	**-1.9**
QUIF	**Quistinic**	**11.27**	**19**	*e*Pn		**Pn**	**04 38 25.3**	**-1.9**
ROSF	**Rostrenen**	**11.64**	**18**	Pn		**Pn**	**04 38 30.2**	**-1.9**
ROSF	**Rostrenen**	**11.64**	**18**	*e*Pn		**Pn**	**04 38 30.2**	**-1.9**
SGMF	**Saint Gilles**	**11.74**	**20**	*e*Pn		**Pn**	**04 38 31.8**	**-1.8**

BJI ***22*** *04:51:28.1±0.0, 33°.61N×141°.69E, h32km, mB4.8/56, mb4.8/74, Ms4.5/73, Ms7 4.4/66*

MOS ***22*** *04:51:33.9±1.1, 33°.59N×141°.03E, h37km, mb5.4/82, Error ellipse: s-maj=6.9km s-min=3.7km az=116.7*

NEIC ***22*** *04:51:35.8±1.1, 33°.61N±0°.05×141°.16E±0°.07, h36km±5km, mb5.1/329, Mwr4.9/33, Error ellipse: s-maj=8.9km s-min=7.6km az=107.0*

NIED ***22*** *04:51:35.8, 33°.70N×141°.08E, h57km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr3.04; Mθθ 1.20; Mφφ -4.24; Mrθ -1.52; Mφθ 0.28; Mφr -0.51; Fault plane solution: M0 4.11000×10^16^ NP1: φs=203.00000°, δ=55.00000°, λ=127.00000°. NP2: φs=331.00000°, δ=49.00000°, λ=49.00000°.*

NEIC ***22*** *04:51:35.5, 33°.60N×141°.13E, h39km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr=1.46; Mθθ=1.22; Mφφ=-2.68; Mrθ=-0.81; Mφθ=0.34; Mφr=-0.16; Fault plane solution: M0=2.49000×10^16^ NP1: φs=321.47000°, δ=56.83000°, λ=38.03000°. NP2: φs=208.30000°, δ=58.96000°, λ=140.31000°. Principal axes: T 2.1864, Plg=49.0000°, Azm=174.0000°; N 0.5212, Plg=41.0000°, Azm=356.0000°; P -2.7076, Plg=1.0000°, Azm=265.0000°;*

JMA ***22*** *04:51:35.7±0.1, 33°.70N×141°.08E, h57km±4km, M5.0*

JMA Felt I J1.

GCMT ***22*** *04:51:36.8±0.3, 33°.56N±0°.02×141°.13E±0°.02, h43km±1km, MW5.0/109, Moment Tensor Solution. s36,c47; s109,c162; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.66±.22; Mθθ=2.73±.16; Mφφ=-4.39±.14; Mrθ=-1.78±.14; Mφφ=-0.19±.10; Mφr=-1.13±.14; Best double couple: M0=4.35900×10^16^ NP1: φs=322.00000°, δ=55.00000°, λ=21.00000°. NP2: φs=220.00000°, δ=73.00000°, λ=143.00000°. Principal axes: T 4.0870, Plg=38.0000°, Azm=175.0000°; N 0.5450, Plg=50.0000°, Azm=18.0000°; P -4.6310, Plg=11.0000°, Azm=274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***22*** *04:51:37.1±0.4, 33°.56N×141°.05E, h53km±3km, mb4.7/38, mb1 4.8/41, mb1mx4.7/48, mbtmp5.0/41, MS4.1/35, Ms1 4.1/35, ms1mx4.0/38 Error ellipse: s-maj=7.9km s-min=5.6km az=125.0*

ISC 22 04:51:36.7±0.3, 33°.59N±0°.03×141°.14E±0°.03, h50km±2km, h50km:pP-P, n1022, c1961/1030, mb5.1/306, MS4.3/67, 72C-136D, Fault plane solution: NP1: φs=297.35205°, δ=53.54334°, λ=-0.68452°. **NP2:** φs=27.75881°, δ=89.44944°, λ=-143.54138°. **Principal axes:** T Plg=24.4173°, Azm=156.4101°; N Plg=53.5378°, Azm=28.5039°; P Plg=25.2753°, Azm=258.7879°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.07**	**353**	⇑P	**Pn**	**04 51 53.3**	**-1.6**
JHJ2	**Mitsune**	**1.21**	**247**	⇓P	**Pn**	**04 51 56.8**	**-0.4**
JHJ2				*e*S	**Sn**	**04 52 12.1**	**-0.4**
JHJ2	**Mitsune**	**1.21**	**247**	Pn	**Pn**	**04 51 56.8**	**-0.4**
JHJ2				Sn	**Sn**	**04 52 11.7**	**-0.8**
JHJ	**Hachijo jima 2**	**1.23**	**248**	P	**Pn**	**04 51 56.9**	**-0.7**
	9μm,0.3s,baz=111,slow=3.9,SNR=2059						
JHJ				S	**Sn**	**04 52 11.8**	**-1.3**
	11μm,0.3s,baz=68,slow=23,SNR=10						
JHJ				LR	LR	04 52 21.5	
	comp=Z,4μm,21.4s,baz=55,slow=39						
JHCJ	**Hachijojimakas**	**1.24**	**246**	⇓P	**Pn**	**04 51 57.0**	**-0.7**
JHCJ				S	**Sn**	**04 52 12.6**	**-0.7**
BSO3	**Boso 3**	**1.32**	**337**	⇑P	**Pn**	**04 51 56.9**	**-1.6**
JMKN	**Mikurajimanish**	**1.33**	**284**	⇓P	**Pn**	**04 51 57.7**	**-1.2**
JMKN				S	**Sn**	**04 52 13.5**	**-2.0**
BSO4	**Boso 4**	**1.55**	**335**	⇑P	**Pn**	**04 52 00.3**	**-1.5**
JAOM	**Aogashimamukai**	**1.61**	**226**	P	**Pn**	**04 52 02.7**	**-0.1**
JAOM				*e*S	**Sn**	**04 52 23.8**	**+1.4**
JIM2	**Oshima 3**	**1.81**	**309**	⇓P	**Pn**	**04 52 03.6**	**-1.9**
JIM2				*e*S	**Sn**	**04 52 24.6**	**-2.7**
JIZS	**Izushimoda**	**2.19**	**302**	⇓P	**Pn**	**04 52 09.6**	**-1.1**
JIZS				*e*S	**Sn**	**04 52 34.5**	**-2.1**
AJI	**Ajiro2**	**2.23**	**311**	⇓P	**Pn**	**04 52 09.6**	**-1.7**
JHTM	**Izuhatsuma**	**2.23**	**308**	⇓P	**Pn**	**04 52 09.7**	**-1.6**
JOD2	**Odawara 2**	**2.38**	**315**	⇓P	**Pn**	**04 52 11.6**	**-1.7**
JOD2				S	**Sn**	**04 52 38.6**	**-2.7**
JSGW	**Sagamiharawaka**	**2.57**	**322**	P	**Pn**	**04 52 14.0**	**-1.8**
JFNN	**Fujinakano**	**2.59**	**309**	⇓P	**Pn**	**04 52 15.4**	**-0.7**
JFNN				S	**Sn**	**04 52 44.4**	**-1.9**
JSG	**Sagara**	**2.68**	**295**	⇓P	**Pn**	**04 52 17.6**	**+0.2**
JSG	**Sagara**	**2.68**	**295**		**Pn**	**04 52 17.4**	**0.0**
JSG				Sn	**Sn**	**04 52 49.2**	**+0.6**
JYT	**Yasato**	**2.75**	**344**		**Pn**	**04 52 16.9**	**-1.4**
TK04	**Tokai 4**	**2.83**	**287**	⇓P	**Pn**	**04 52 19.3**	**0.0**
TK04				S	**Sn**	**04 52 51.5**	**-0.6**
SHZ3	**Shizuoka 3**	**2.84**	**302**	P	**Pn**	**04 52 19.5**	**-0.1**
TK02	**Tokai 2**	**2.84**	**278**	⇓P	**Pn**	**04 52 18.5**	**-0.9**
TK02				S	**Sn**	**04 52 51.0**	**-1.3**
JYN	**Shimob**	**2.87**	**312**	P	**Pn**	**04 52 19.1**	**-0.9**
JYN				*e*S	**Sn**	**04 52 51.4**	**-2.0**
JRY	**Ryogami san**	**3.04**	**323**	P	**Pn**	**04 52 20.9**	**-1.5**
JRY				*e*S	**Sn**	**04 52 55.6**	**-2.0**
HMMJ	**Hamamatsu 2**	**3.10**	**295**	⇓P	**Pn**	**04 52 22.7**	**-0.5**
JYZW	**Yoshizawa**	**3.15**	**297**	P	**Pn**	**04 52 23.5**	**-0.3**
JNY	**Yasuok**	**3.23**	**304**	⇓P	**Pn**	**04 52 25.3**	**+0.2**
JSSY	**Shinshiroyabe**	**3.29**	**295**	⇓P	**Pn**	**04 52 25.4**	**-0.3**
JNT	**Takato**	**3.37**	**314**	⇓P	**Pn**	**04 52 27.0**	**+0.1**
JAA	**Atsumi**	**3.48**	**289**	P	**Pn**	**04 52 27.8**	**-0.5**
JGF	**Kuroka**	**3.71**	**304**	⇓P	**Pn**	**04 52 32.4**	**+0.8**
JGF	**Kuroka**	**3.71**	**304**		**Pn**	**04 52 32.1**	**+0.5**
JGF				Sn	**Sn**	**04 53 12.9**	**-1.2**
JNG	**Nsakai**	**3.76**	**319**	⇓P	**Pn**	**04 52 32.3**	**0.0**
JIE	**Ise**	**3.77**	**283**	⇓P	**Pn**	**04 52 31.8**	**-0.5**
MJAR	**Matsushiro Arr**	**3.81**	**322**	P	**Pn**	**04 52 31.4**	**-1.4**
	30nm,0.3s,baz=145,slow=11,SNR=661						
MJAR				S	**Sn**	**04 53 16.2**	**-0.1**
	16nm,0.3s,baz=141,slow=22,SNR=7.0						
MJAR				LR	LR	04 54 12.5	
	comp=Z,4μm,21.1s,baz=150,slow=42						
MJAR	**Matsushiro Arr**	**3.81**	**322**	P	**Pn**	**04 52 31.4**	**-1.4**
MJAR				S	**Sn**	**04 53 16.2**	**-0.1**
MJAR	**Matsushiro Arr**	**3.81**	**322**		**Pn**	**04 52 32.1**	**-0.7**
MAJO	**Matsushiro**	**3.81**	**322**	*d*iP	**Pn**	**04 52 32.5**	**-0.3**
MAJO	**Matsushiro**	**3.81**	**322**	Pn	**Pn**	**04 52 32.1**	**-0.8**
MAT	**Matsushiro**	**3.81**	**322**	P	**Pn**	**04 52 32.4**	**-0.4**
MAT				S	**Sn**	**04 53 14.8**	**-1.5**
MAT	**Matsushiro**	**3.81**	**322**	P	**Pn**	**04 52 32.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**3.81**	**322**	Pn	**Pn**	**04 52 32.0**	**-0.9**
INU	**Inuyama**	**3.83**	**298**	Pn	**Pn**	**04 52 32.9**	**-0.3**
TSUJ	**Tsu 2**	**4.07**	**287**	⇓P	**Pn**	**04 52 36.3**	**-0.2**
JKN2	**Miekihoku**	**4.10**	**280**	⇓P	**Pn**	**04 52 36.6**	**-0.3**
JYTA	**Yamagatataniai**	**4.15**	**300**	⇓P	**Pn**	**04 52 37.9**	**+0.4**
JMMH	**Miemihama**	**4.27**	**275**	P	**Pn**	**04 52 38.8**	**-0.4**
JMM	**Marumori**	**4.28**	**356**	⇑P	**Pn**	**04 52 37.3**	**-2.0**
JMM	**Marumori**	**4.28**	**356**		**Pn**	**04 52 37.0**	**-2.2**
JIKH	**Ishinomakikobu**	**4.72**	**3**	⇑P	**Pn**	**04 52 42.4**	**-2.9**
JOU	**Okura**	**4.78**	**355**	P	**Pn**	**04 52 44.5**	**-1.7**
JSD	**Sado**	**5.02**	**333**	⇓P	**Pn**	**04 52 47.8**	**-1.6**
JSD	**Sado**	**5.02**	**333**	Pn	**Pn**	**04 52 47.9**	**-1.5**
JWT	**Wachi**	**5.04**	**291**	Pn	**Pn**	**04 52 48.8**	**-0.9**
JYA	**Atsumi**	**5.13**	**347**	P	**Pn**	**04 52 50.1**	**-0.8**
JAD	**Aida**	**5.93**	**285**	P	**Pn**	**04 53 02.1**	**+0.1**
JMN	**Monobe**	**6.06**	**273**	Pn	**Pn**	**04 53 02.9**	**-0.9**
JCJ	**Chichijima**	**6.53**	**172**	P	**Pn**	**04 53 08.6**	**-1.7**
	376nm,0.3s,baz=346,slow=6.9,SNR=107						
JCJ				S	**Sn**	**04 54 18.5**	**-4.9**
	167nm,0.3s,baz=104,slow=21,SNR=6.1						
JCJ	**Chichijima**	**6.53**	**172**	Pn	**Pn**	**04 53 08.3**	**-1.9**
JJG	**Jouge**	**6.71**	**281**	⇓P	**Pn**	**04 53 13.2**	**+0.5**
JHS	**Saijyo**	**6.79**	**284**	Pn	**Pn**	**04 53 13.8**	**0.0**
JTM	**Tenmabayashi**	**7.19**	**360**	Pn	**Pn**	**04 53 16.4**	**-2.7**
JKD	**Kudamatsu**	**7.73**	**276**	P	**Pn**	**04 53 28.0**	**+1.4**
ERM	**Erimo**	**8.56**	**10**	P	**Pn**	**04 53 34.5**	**-3.5**
ERM	**Erimo**	**8.56**	**10**	Pn	**Pn**	**04 53 34.5**	**-3.5**
JNU	**Nakatsue**	**8.60**	**270**	P	**Pn**	**04 53 40.4**	**+1.8**
	4.4nm,0.3s,baz=88,slow=7.8,SNR=12						
JNU	**Nakatsue**	**8.60**	**270**	Pn	**Pn**	**04 53 37.6**	**-1.0**
JEW	**Eniwo**	**9.24**	**1**		**Pn**	**04 53 45.7**	**-1.5**
KSULJ	**Uljin**	**10.10**	**291**	P	**Pn**	**04 54 01.0**	**+1.9**
	SNR=20						
KSULJ	**Uljin**	**10.10**	**291**	P	**Pn**	**04 54 01.0**	**+1.9**
	SNR=20						
KSULJ	**Uljin**	**10.10**	**291**	P	**Pn**	**04 54 01.0**	**+1.9**
	SNR=20						
KSUSN	**Ulsan**	**10.12**	**285**	P	**Pn**	**04 54 00.8**	**+1.4**
	SNR=9.8						
KSUSN	**Ulsan**	**10.12**	**285**	P	**Pn**	**04 54 00.8**	**+1.4**
	SNR=9.8						
KSUSN	**Ulsan**	**10.12**	**285**	P	**Pn**	**04 54 00.8**	**+1.4**
	SNR=9.8						
IMWB	**Imwonan-gil**	**10.30**	**294**	P	**Pn**	**04 54 03.0**	**+1.3**
	SNR=18						
IMWB	**Imwonan-gil**	**10.30**	**294**	P	**Pn**	**04 54 03.0**	**+1.3**
	SNR=18						
IMWB	**Imwonan-gil**	**10.30**	**294**	P	**Pn**	**04 54 03.0**	**+1.3**
	SNR=18						
KSDAG	**Daegu**	**10.32**	**286**	P	**Pn**	**04 54 04.0**	**+1.9**
	SNR=7.3						
KSDAG	**Daegu**	**10.32**	**286**	P	**Pn**	**04 54 04.0**	**+1.9**
	SNR=7.3						
KSDAG	**Daegu**	**10.32**	**286**	P	**Pn**	**04 54 04.0**	**+1.9**
	SNR=7.3						
KSADO	**Andong**	**10.39**	**289**	P	**Pn**	**04 54 05.1**	**+2.0**
	SNR=24						
KSADO	**Andong**	**10.39**	**289**	P	**Pn**	**04 54 05.1**	**+2.0**
	SNR=24						
KSADO	**Andong**	**10.39**	**289**	P	**Pn**	**04 54 05.1**	**+2.0**
	SNR=24						
NMR	**Nemuro--Hokkai**	**10.40**	**19**	⇑*i*P	Pn	04 53 58.4	-4.7
KSTBA	**Taebaek**	**10.56**	**293**	P	**Pn**	**04 54 07.2**	**+1.8**
	SNR=32						
KSTBA	**Taebaek**	**10.56**	**293**	P	**Pn**	**04 54 07.2**	**+1.8**
	SNR=32						
KSTBA	**Taebaek**	**10.56**	**293**	P	**Pn**	**04 54 07.2**	**+1.8**
	SNR=32						
JKA	**Kamikawa-asahi**	**10.57**	**6**		**Pn**	**04 54 02.1**	**-3.3**
ASAJ	**Asahikawa**	**10.57**	**6**	P	**Pn**	**04 54 02.1**	**-3.3**
	11nm,0.3s,baz=223,slow=10,SNR=21						
ASAJ				LR	LR	04 59 19.0	
	comp=Z,933nm,20.6s,baz=188,slow=44						
ASAJ	**Asahikawa**	**10.57**	**6**	P	**Pn**	**04 54 02.2**	**-3.3**
KSEUS	**ULSEONG**	**10.59**	**289**	P	**Pn**	**04 54 07.7**	**+2.0**
	SNR=6.3						
KSEUS	**ULSEONG**	**10.59**	**289**	P	**Pn**	**04 54 07.7**	**+2.0**
	SNR=6.3						
KSEUS	**ULSEONG**	**10.59**	**289**	P	**Pn**	**04 54 07.7**	**+2.0**
	SNR=6.3						
GLVR	**Golovnino**	**10.69**	**17**	*e*P	**Pn**	**04 54 06.2**	**-0.9**
GLVR				pmax	pmax		
	comp=Z,334nm,0.2s						
KSDGY	**Daegwallycong**	**10.94**	**295**	P	**Pn**	**04 54 12.7**	**+2.0**
	SNR=22						
KSDGY	**Daegwallycong**	**10.94**	**295**	P	**Pn**	**04 54 12.7**	**+2.0**
	SNR=22						
KSDGY	**Daegwallycong**	**10.94**	**295**	P	**Pn**	**04 54 12.7**	**+2.0**
	SNR=22						
KSYOW	**Yeongwol**	**10.96**	**293**	P	**Pn**	**04 54 13.0**	**+2.2**
	SNR=15						
KSYOW	**Yeongwol**	**10.96**	**293**	P	**Pn**	**04 54 13.0**	**+2.2**
	SNR=15						
KSYOW	**Yeongwol**	**10.96**	**293**	P	**Pn**	**04 54 13.0**	**+2.2**
	SNR=15						
RUSJ	**Misakicho**	**10.97**	**16**	*e*P	**Pn**	**04 54 09.6**	**-1.4**
GRPR	**Tuman**	**11.00**	**18**	*e*P	**Pn**	**04 54 07.9**	**-3.4**
GRPR				pmax	pmax		
	comp=N,121nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,230nm,0.4s						
GRPR				pmax	pmax		
	comp=E,112nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**11.06**	**18**	*e*P	**Pn**	**04 54 07.8**	**-4.3**
YUK				pmax	pmax		
	comp=Z,250nm,0.3s						
KSCPR	**CHUPUNGNYEONG**	**11.13**	**287**	P	**Pn**	**04 54 15.1**	**+1.9**
	SNR=15						
KSCPR	**CHUPUNGNYEONG**	**11.13**	**287**	P	**Pn**	**04 54 15.1**	**+1.9**
	SNR=15						
KSCPR	**CHUPUNGNYEONG**	**11.13**	**287**	P	**Pn**	**04 54 15.1**	**+1.9**
	SNR=15						
KSMGY	**Mungyeong**	**11.14**	**290**	P	**Pn**	**04 54 15.2**	**+1.9**
	SNR=12						
KSMGY	**Mungyeong**	**11.14**	**290**	P	**Pn**	**04 54 15.2**	**+1.9**
	SNR=12						
KSMGY	**Mungyeong**	**11.14**	**290**	P	**Pn**	**04 54 15.2**	**+1.9**
	SNR=12						
KSCHJ	**Chungju**	**11.26**	**291**	P	**Pn**	**04 54 17.0**	**+2.2**
	SNR=12						
KSCHJ	**Chungju**	**11.26**	**291**	P	**Pn**	**04 54 17.0**	**+2.2**
	SNR=12						
KSCHJ	**Chungju**	**11.26**	**291**	P	**Pn**	**04 54 17.0**	**+2.2**
	SNR=12						
OKCB	**Cheongsan-myeo**	**11.29**	**288**	P	**Pn**	**04 54 18.0**	**+2.6**
	SNR=15						
OKCB	**Cheongsan-myeo**	**11.29**	**288**	P	**Pn**	**04 54 18.0**	**+2.6**
	SNR=15						
OKCB	**Cheongsan-myeo**	**11.29**	**288**	P	**Pn**	**04 54 18.0**	**+2.6**
	SNR=15						
KSBON	**Boeun**	**11.32**	**289**	P	**Pn**	**04 54 18.0**	**+2.3**
	SNR=19						
KSBON	**Boeun**	**11.32**	**289**	P	**Pn**	**04 54 18.0**	**+2.3**
	SNR=19						
KSBON	**Boeun**	**11.32**	**289**	P	**Pn**	**04 54 18.0**	**+2.3**
	SNR=19						
KSWJU	**Wonju**	**11.33**	**293**	P	**Pn**	**04 54 18.1**	**+2.3**
	SNR=24						
KSWJU	**Wonju**	**11.33**	**293**	P	**Pn**	**04 54 18.1**	**+2.3**
	SNR=24						
KSWJU	**Wonju**	**11.33**	**293**	P	**Pn**	**04 54 18.1**	**+2.3**
	SNR=24						
KSRS	**Korea Array**	**11.44**	**293**	P	**Pn**	**04 54 18.9**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=111,slow=14,SNR=66						
KSRS				LR	LR	04 58 40.9	
	comp=Z,2μm,18.7s,baz=104,slow=37						
KSRS				ScP	**ScP**	**05 03 35.6**	**0.0**
	comp=Z,0.3nm,0.3s,baz=156,slow=2.2,SNR=5.7						
KSRS	**Korea Array**	**11.44**	**293**	P	**Pn**	**04 54 18.9**	**+1.5**
SEHB	**SEOHWA**	**11.44**	**298**	P	**Pn**	**04 54 18.8**	**+1.4**
	SNR=18						
SEHB	**SEOHWA**	**11.44**	**298**	P	**Pn**	**04 54 18.8**	**+1.4**
	SNR=18						
SEHB	**SEOHWA**	**11.44**	**298**	P	**Pn**	**04 54 18.8**	**+1.4**
	SNR=18						
KSIJA	**INJE**	**11.46**	**296**	P	**Pn**	**04 54 20.1**	**+2.6**
	SNR=18						
KSIJA	**INJE**	**11.46**	**296**	P	**Pn**	**04 54 20.1**	**+2.6**
	SNR=18						
KSIJA	**INJE**	**11.46**	**296**	P	**Pn**	**04 54 20.1**	**+2.6**
	SNR=18						
KSAR	**Wonju Array Be**	**11.47**	**293**	P	**Pn**	**04 54 17.1**	**-0.7**
KSAR	**Wonju Array Be**	**11.47**	**293**	Pn	**Pn**	**04 54 17.1**	**-0.7**
KS19	**Wonju Array Si**	**11.50**	**294**		**Pn**	**04 54 17.8**	**-0.3**
EMSB	**Eumseong**	**11.55**	**291**	P	**Pn**	**04 54 21.0**	**+2.1**
	SNR=12						
EMSB	**Eumseong**	**11.55**	**291**	P	**Pn**	**04 54 21.0**	**+2.1**
	SNR=12						
EMSB	**Eumseong**	**11.55**	**291**	P	**Pn**	**04 54 21.0**	**+2.1**
	SNR=12						
JMZ	**Minamidaito 2**	**11.59**	**231**		**Pn**	**04 54 20.7**	**+1.3**
TJN	**Taejon**	**11.64**	**288**	*ce*P	**Pn**	**04 54 21.2**	**+1.1**
KSICN	**Icheon**	**11.79**	**292**	P	**Pn**	**04 54 24.6**	**+2.4**
	SNR=20						
KSICN	**Icheon**	**11.79**	**292**	P	**Pn**	**04 54 24.6**	**+2.4**
	SNR=20						
KSCEA	**Cheonan**	**11.81**	**290**	P	**Pn**	**04 54 24.4**	**+2.0**
	SNR=12						
KSCEA	**Cheonan**	**11.81**	**290**	P	**Pn**	**04 54 24.4**	**+2.0**
	SNR=12						
KSCEA	**Cheonan**	**11.81**	**290**	P	**Pn**	**04 54 24.4**	**+2.0**
	SNR=12						
MSHR	**Mys Shultsa**	**11.93**	**322**	*ce*P	**Pn**	**04 54 21.1**	**-2.9**
MSHR				pmax	pmax		
	comp=Z,12nm,0.8s						
VLA	**Vladivostok**	**11.96**	**325**	*i*P	**Pn**	**04 54 24.1**	**-0.4**
KSSWO	**Suwon**	**12.13**	**292**	P	**Pn**	**04 54 29.4**	**+2.6**
	SNR=16						
KSSWO	**Suwon**	**12.13**	**292**	P	**Pn**	**04 54 29.4**	**+2.6**
	SNR=16						
HAWB	**Hwaseong-si**	**12.24**	**291**	P	**Pn**	**04 54 31.0**	**+2.7**
	SNR=15						
HAWB	**Hwaseong-si**	**12.24**	**291**	P	**Pn**	**04 54 31.0**	**+2.7**
	SNR=15						
KSSES	**Seosan**	**12.44**	**289**	P	**Pn**	**04 54 33.0**	**+2.0**
	SNR=14						
KSSES	**Seosan**	**12.44**	**289**	P	**Pn**	**04 54 33.0**	**+2.0**
	SNR=14						
INCN	**Inchon**	**12.44**	**292**	P	**Pn**	**04 54 31.6**	**+0.5**
INCN	**Inchon**	**12.44**	**292**		**Pn**	**04 54 31.6**	**+0.5**
KUR	**Kuril'sk**	**12.73**	**22**	*e*P	**Pn**	**04 54 37.5**	**+2.6**
KUR				pmax	pmax		
	comp=Z,79nm,0.3s						
KUR				pmax	pmax		
	comp=N,30nm,0.1s						
KUR				pmax	pmax		
	comp=E,22nm,0.1s						
USA0B	**Ussuriysk Arra**	**12.76**	**329**	P	**Pn**	**04 54 32.7**	**-2.6**
USA0B	**Ussuriysk Arra**	**12.76**	**329**		**Pn**	**04 54 32.7**	**-2.6**
USRK	**Ussuriysk Ar.**	**12.76**	**329**	P	**Pn**	**04 54 32.8**	**-2.5**
	baz=146,slow=12,SNR=21						
USRK				LR	LR	04 59 16.4	
	comp=E,557nm,20.3s,baz=136,slow=36						
USRK	**Ussuriysk Ar.**	**12.76**	**329**	P	**Pn**	**04 54 32.6**	**-2.8**
USRK	**Ussuriysk Ar.**	**12.76**	**329**	Pn	**Pn**	**04 54 32.6**	**-2.8**
KSDEI	**Deokjeokdo**	**12.80**	**291**	P	**Pn**	**04 54 38.9**	**+3.0**
	SNR=25						
KSDEI	**Deokjeokdo**	**12.80**	**291**	P	**Pn**	**04 54 38.9**	**+3.0**
	SNR=25						
JOW	**Kunigami**	**13.00**	**242**	LR	LR	04 59 11.8	
	comp=E,1μm,21.3s,baz=123,slow=35						
KSGBI	**Gyogryolbido**	**13.12**	**288**	P	**Pn**	**04 54 42.7**	**+2.4**
	SNR=26						
KSGBI	**Gyogryolbido**	**13.12**	**288**	P	**Pn**	**04 54 42.7**	**+2.4**
	SNR=26						
YSS	**Yuzh-Sakhalins**	**13.41**	**5**	*e*P	**Pn**	**04 54 40.7**	**-3.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
YSS				MLR	MLR		
	comp=N,600nm,16.0s						
YSS	**Yuzh-Sakhalins**	**13.41**	**5**		**Pn**	**04 54 40.3**	**-3.9**
MDJ	**Mudanjiang**	**14.19**	**324**	P	**Pn**	**04 54 52.8**	**-1.9**
MDJ				pP	P	04 55 00.8	-0.1
MDJ				sP		04 55 05.3	
MDJ				S	**Sn**	**04 57 32.8**	**+2.2**
MDJ				sS	S	04 57 46.8	-2.4
MDJ				pmax	pmax		
	comp=N,18nm,0.7s						
MDJ				pmax	pmax		
	comp=N,170nm,5.4s						
MDJ				LR	LR		
	comp=N,730nm,16.7s						
MDJ				LR	LR		
	comp=N,1μm,21.6s						
MDJ	**Mudanjiang**	**14.19**	**324**		**Pn**	**04 54 52.7**	**-2.1**
UGL	**Uglegorsk**	**15.49**	**2**	*e*P	**P**	**04 55 19.5**	**+4.1**
UGL				pmax	pmax		
	comp=Z,90nm,0.8s						
CN2	**Changchun**	**15.92**	**314**	*e*P	**Pn**	**04 55 14.3**	**-3.0**
CN2				*e*PP	**PnPn**	**04 55 27.3**	**+0.7**
CN2				*e*S	**Sn**	**04 58 11.6**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=Z,810nm,13.0s						
CN2				LR	LR		
	comp=Z,570nm,13.0s						
CN2				LR	LR		
	comp=Z,780nm,13.0s						
SNY	**Shenyang**	**16.13**	**306**	⇓P	**Pn**	**04 55 18.9**	**-1.1**
SNY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SNY				pmax	pmax		
	comp=Z,170nm,7.2s						
SNY				LR	LR		
	comp=Z,460nm,14.6s						
SNY				LR	LR		
	comp=Z,510nm,14.3s						
SNY				LR	LR		
	comp=Z,840nm,21.4s						
DL2	**Dalian**	**16.61**	**294**	P	**Pn**	**04 55 26.4**	**+0.4**
DL2				S	**Sn**	**04 58 31.8**	**+2.4**
DL2				pmax	pmax		
	comp=Z,44nm,0.9s						
DL2				pmax	pmax		
	comp=Z,540nm,7.7s						
DL2				LR	LR		
	comp=Z,760nm,15.0s						
DL2				LR	LR		
	comp=Z,1μm,17.1s						
DL2				LR	LR		
	comp=Z,1μm,17.2s						
SSE	**Sheshan**	**17.05**	**267**	P	**Pn**	**04 55 31.4**	**-0.2**
SSE				S	**Sn**	**04 58 41.6**	**+1.4**
SSE				pmax	pmax		
	comp=Z,20nm,0.6s						
SSE				pmax	pmax		
	comp=Z,130nm,4.3s						
SSE		

TIA pmax pmax
comp=Z,97nm,4.4s
TIA LR LR
comp=Z,460nm,15.7s
TIA LR LR
comp=Z,1μm,18.2s
TIA LR LR
comp=Z,1μm,18.0s
YULB Yu-li 20.15 245 P **P 04 56 05.7 -1.2**
SSLB Suanglung 20.20 246 P **P 04 56 06.5 -0.9**
SSLB IAmb IAmb 04 56 07.4
comp=Z,55nm,1.0s
GUMO Guam 20.20 169 P **P 04 56 08.5 +1.1**
comp=Z,361nm,0.8s,baz=210,slow=1.6,SNR=28
GUMO LR LR 05 01 24.5
comp=Z,96nm,21.1s,baz=7.5,slow=29
GUMO Guam 20.20 169 P **P 04 56 08.1 +0.7**
GUMO pmax pmax
comp=Z,997nm,1.2s
GUMO Guam 20.20 169 P **P 04 56 08.1 +0.7**
SKR Severo-Kuril's 20.31 28 *e*P Pn 04 56 13.2 +2.5
SKR *e*S **S 04 59 55.7 +2.6**
SKR pmax pmax
comp=Z,200nm,2.4s
SKR pmax pmax
comp=Z,100nm,3.7s
SKR MLR MLR
comp=Z,100nm,17.0s
SKR MLR MLR
comp=Z,200nm,14.0s
BJI Beijing 20.97 295 P **P 04 56 15.4 -0.1**
BJI S **S 05 00 08.8 +2.5**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,68nm,4.2s
BJI LR LR
comp=Z,560nm,16.5s
BJI LR LR
comp=Z,550nm,20.1s
BJI LR LR
comp=Z,930nm,24.0s
BJT Baijiatuau 20.97 295 P **P 04 56 15.4 -0.2**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 20.97 295 P **P 04 56 15.4 -0.2**
HIA Hailar 22.31 321 P **P 04 56 29.8 -0.1**
HIA pmax pmax
comp=Z,48nm,0.8s
HIA Hailar 22.31 321 P **P 04 56 29.8 -0.1**
HIA IAmb IAmb 04 56 46.9
comp=Z,48nm,0.8s
ZEA Zeya 22.43 338 *e*P **P 04 56 29.6 -1.6**
ZEA *e* 04 56 36.1
ZEA *e* 04 57 05.0
ZEA *e*S **S 05 00 36.9 +2.8**
ZEA pmax pmax
comp=N,100nm,0.8s
ZEA pmax pmax
comp=Z,100nm,0.7s
ZEA pmax pmax
comp=N,100nm,0.8s
ZEA pmax pmax
comp=Z,180nm,0.6s
ZEA smax smax
comp=N,200nm,10.1s
ZEA smax smax
comp=E,200nm,9.5s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,300nm,17.0s
ZEA MLR MLR
comp=Z,400nm,17.0s
PEA0B Petropavlovsk- 22.82 26 P **P 04 56 35.4 +0.1**
PEA0B pmax pmax
comp=Z,36nm,1.1s
PEA0B Petropavlovsk- 22.82 26 P **P 04 56 35.4 +0.1**
PETK Petropavlovsk- 22.82 26 P **P 04 56 36.0 +0.7**
comp=Z,13nm,0.8s,baz=210,slow=13,SNR=12
PETK LR LR 05 07 02.5
comp=Z,252nm,19.7s,baz=215,slow=40
PETK Petropavlovsk- 22.82 26 P **P 04 56 36.0 +0.7**
PETK Petropavlovsk- 22.82 26 P **P 04 56 35.3 0.0**
WHN Wuhan 22.89 270 ⇑P **P 04 56 34.8 -1.3**
WHN pP pP 04 56 39.3 -7.9
WHN sP **pwP 04 56 43.4 -6.4**
WHN S **S 05 00 39.6 -2.6**
WHN pmax pmax
comp=Z,52nm,0.7s
WHN LR LR
comp=Z,720nm,10.4s
WHN LR LR
comp=Z,890nm,12.4s
WHN LR LR
comp=Z,2μm,16.6s
PET Petropavlovsk 23.12 28 *e*P **P 04 56 38.3 +0.1**
PET *e*S **S 05 00 42.1 -3.5**
PET pmax pmax
comp=Z,38nm,1.6s
PET pmax pmax
comp=Z,400nm,6.9s
PET pmax pmax
comp=Z,200nm,6.7s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,300nm,18.0s
PET Petropavlovsk 23.12 28 P **P 04 56 38.8 +0.6**
TIY Taiyuan 23.65 288 *e*P **P 04 56 43.8 +0.2**
TIY pP **pP 04 56 55.4 +0.2**
TIY sP **pwP 04 56 58.8 +0.3**
TIY S **S 05 00 51.9 -2.9**
TIY LR LR
comp=Z,210nm,8.8s
TIY LR LR
comp=Z,620nm,13.9s
TIY LR LR
comp=Z,630nm,15.3s
HHC Hu-ho-hao-te 24.57 296 *e*P **P 04 56 50.0 -2.0**
HHC S **S 05 01 11.0 +1.4**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.2s
HHC LR LR
comp=Z,470nm,14.9s
HHC LR LR
comp=Z,490nm,14.1s
HHC LR LR
comp=Z,680nm,12.9s
BTO Baotou 25.70 295 *e*P **P 04 57 01.6 -0.7**
XAN Xi'an 26.72 280 P **P 04 57 09.0 -2.5**
XAN pP pP 04 57 18.8 -4.8
XAN S **S 05 01 40.8 -2.9**
XAN pmax pmax
comp=Z,38nm,1.0s
XAN pmax pmax
comp=Z,180nm,3.9s
XAN LR LR
comp=Z,940nm,18.4s
XAN LR LR
comp=Z,660nm,21.7s
XAN LR LR
comp=Z,890nm,15.2s
H11N2 WAKE ISLAND Hy 26.74 115 T T 05 26 10.1
baz=306,slow=75,SNR=65
H11N1 WAKE ISLAND Hy 26.75 115 T T 05 26 16.8
baz=306,slow=75,SNR=95
H11N3 WAKE ISLAND Hy 26.76 115 T T 05 26 25.6
baz=306,slow=75,SNR=66
MA2 Magadan 26.77 11 P **P 04 57 13.1 +1.5**
comp=Z,16nm,0.7s,baz=162,slow=7.0,SNR=8.7
MA2 LR LR 05 09 23.4
comp=Z,181nm,19.0s,baz=204,slow=40
MA2 Magadan 26.77 11 *ce*P **P 04 57 11.2 -0.4**
MA2 pmax pmax
comp=Z,33nm,1.3s
MA2 Magadan 26.77 11 P **P 04 57 12.4 +0.8**
MA2 IAmb IAmb 04 57 31.8
comp=Z,48nm,0.9s
ENH Enshi 27.02 272 P **P 04 57 11.6 -2.6**
ENH IAmb IAmb 04 57 30.0
comp=Z,34nm,1.0s
CIT Chita 27.12 321 *e*P **P 04 57 14.7 -0.2**
CIT *e* 04 57 27.8
CIT *e* 04 57 30.6
CIT pmax pmax
comp=Z,114nm,1.6s
H11S3 WAKE ISLAND Hy 27.33 117 T T 05 26 52.7
baz=307,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 27.33 117 T T 05 26 55.8
baz=307,slow=75,SNR=8.7
H11S2 WAKE ISLAND Hy 27.35 117 T T 05 26 59.9
baz=307,slow=75,SNR=9.3
ULN Ulaanbaatar 29.24 309 P **P 04 57 34.2 +0.2**
ULN pmax pmax
comp=Z,38nm,0.8s
ULN Ulaanbaatar 29.24 309 P **P 04 57 34.2 +0.2**
ULN IAmb IAmb 04 57 35.2
comp=Z,38nm,0.8s
YAK Yakutsk 29.39 349 P **P 04 57 34.8 -0.1**
comp=Z,15nm,0.5s,baz=121,slow=1.4,SNR=1.9
YAK LR LR 05 09 24.3
comp=Z,940nm,21.9s,baz=124,slow=36
YAK Yakutsk 29.39 349 *e*P **P 04 57 34.1 -0.8**
YAK *e**PP **pP 04 57 41.9 -4.8**
YAK *e*S **S 05 02 26.3 +1.3**
YAK *e**SS **sS 05 02 41.0 -4.0**
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=E,42nm,2.1s
YAK smax smax
comp=N,42nm,2.2s
YAK MLR MLR
comp=Z,1μm,22.0s
YAK MLR MLR
comp=N,587nm,19.0s
YAK MLR MLR
comp=E,260nm,23.0s
YAK Yakutsk 29.39 349 P **P 04 57 34.6 -0.3**
SONM Songino Array 29.66 309 P **P 04 57 37.6 -0.1**
comp=E,19nm,0.8s,baz=114,slow=9.0,SNR=95
SONM LR LR 05 09 53.5
comp=E,751nm,19.5s,baz=110,slow=37
SONM Songino Array 29.66 309 P **P 04 57 37.4 -0.2**
SONM pmax pmax
comp=Z,23nm,0.8s
SONM Songino Array 29.66 309 P **P 04 57 37.4 -0.2**
SONM IAmb IAmb 04 57 53.5
comp=Z,23nm,0.8s
SEY Seymchan 30.21 10 LR LR 05 11 20.4
comp=Z,306nm,19.5s,baz=167,slow=39
GYA Guiyang 30.59 266 *e*P **P 04 57 45.3 -0.8**
GYA pmax pmax
comp=Z,2.0nm,1.0s
GYA LR LR
comp=Z,46nm,17.4s
GYA LR LR
comp=Z,80nm,16.9s
GYA LR LR
comp=Z,120nm,18.0s
LZH Lanzhou 30.60 285 *e*P **P 04 57 45.5 -0.6**
LZH pP pP 04 57 52.3 -6.1
LZH sP pwP 04 57 57.3 -3.7
LZH *e*S **S 05 02 41.9 -3.0**
LZH sS sS 05 03 00.5 -4.4
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,170nm,5.0s
LZH LR LR
comp=Z,500nm,13.2s
LZH LR LR
comp=Z,850nm,13.1s
LZH LR LR
comp=Z,760nm,16.5s
PATS Pohnpei 31.01 145 P **P 04 57 49.3 -0.4**
QIZ Qiongzhong 31.44 250 P **P 04 57 53.8 +0.3**
QIZ S **S 05 03 00.3 +2.4**
QIZ LR LR
comp=Z,310nm,20.8s
QIZ LR LR
comp=Z,340nm,29.0s
CD2 Chengdu 31.62 276 P **P 04 57 52.4 -2.7**
CD2 S **S 05 02 59.8 -1.0**
CD2 LR LR
comp=Z,1μm,21.1s
CD2 LR LR
comp=Z,700nm,16.2s
CD2 LR LR
comp=Z,1μm,14.2s
ZAK Zakamensk 32.34 313 *e*P **P 04 58 00.7 -0.5**
ZAK pmax pmax
comp=Z,32nm,1.3s
GTA Gaotai 33.51 292 *e*P **P 04 58 10.6 -1.0**
GTA pP pP 04 58 21.5 -2.3
GTA sP pwP 04 58 25.8 -1.1
GTA PcP **PcP 05 00 52.3 +0.7**
GTA S **S 05 03 29.8 -0.3**
GTA ScP **ScP 05 04 31.4 -0.5**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,90nm,4.7s
GTA LR LR
comp=Z,430nm,18.9s
GTA LR LR
comp=Z,270nm,20.0s
GTA LR LR
comp=Z,390nm,20.4s
MOY Mondy 34.09 314 *e*P **P 04 58 16.5 0.0**
MOY pmax pmax
comp=Z,47nm,1.4s
KMI Kunming 34.36 266 ⇓P **P 04 58 16.5 -2.8**
KMI pP pP 04 58 27.4 -4.2
KMI sP pwP 04 58 32.8 -1.3
KMI S **S 05 03 35.8 -8.0**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI LR LR
comp=Z,430nm,16.7s
KMI LR LR
comp=Z,500nm,19.4s
KMI LR LR
comp=Z,620nm,17.6s
TNTI Ternate 35.11 204 P **P 04 58 24.8 -0.6**
TNTI Ternate 35.11 204 P **P 04 58 24.6 -0.9**
comp=Z,2μcomp=Z,84nm,1.2s
SWI Sorong 35.51 197 P **P 04 58 28.4 -0.5**
SIJI Sorong 35.51 197 P **P 04 58 27.2 -1.7**
comp=Z,61nm,0.8s,baz=48,slow=5.8,SNR=14
GENI Genyem 36.00 182 P **P 04 58 34.1 +1.1**
comp=Z,398nm,0.9s
GTOI Gorontalo 36.94 211 P **P 04 58 39.3 -1.8**
comp=Z,251nmcomp=Z,30nm,1.2s
FAKI Fak Fak 37.27 195 P **P 04 58 42.3 -1.6**
FAKI IAmb IAmb 04 58 45.0
comp=Z,39nm,0.9s
FAKI Fak Fak 37.27 195 P **P 04 58 43.2 -0.7**
comp=Z,52nm,0.9s
NONG Nongkai 37.30 255 P **P 04 58 43.7 -0.4**
comp=Z,4μcomp=Z,31nm,0.8s
NONG Nongkai 37.30 255 P **P 04 58 43.8 -0.4**
comp=Z,4μcomp=Z,31nm,0.8s
BILL Bilibino 37.39 15 ⇑*e*P **P 04 58 45.7 +1.3**
BILL *e* 05 00 11.1
BILL *e* 05 01 01.6
BILL pmax pmax
comp=Z,12nm,0.8s
BILL MLR MLR
comp=Z,194nm,17.0s
TOLI2 Tolitoli 37.53 215 P **P 04 58 43.7 -2.4**
TOLI2 IAmb IAmb 04 58 45.4
comp=Z,37nm,1.0s
MRSI Marisa 37.55 213 P **P 04 58 45.6 -0.7**
comp=Z,1μcomp=Z,148nm,1.2s
SANI Sanana 38.22 205 P **P 04 58 49.6 -2.3**
comp=Z,962nmcomp=Z,127nm,0.7s
KHON Khomkaen 38.49 253 P P 04 59 06.7 +12
MPSI Mapaga 38.63 215 P **P 04 58 53.9 -1.5**
comp=Z,469nmcomp=Z,15nm,0.9s
APSI Ampana 38.91 212 P **P 04 58 56.3 -1.4**
comp=Z,982nmcomp=Z,112nm,1.2s
NLAI Namlea 38.96 203 P **P 04 58 56.2 -1.9**
comp=Z,56nm,1.2s
LAMP Lampang 39.92 259 P **P 04 59 06.8 +0.6**
CMMT Chiang Mai 40.33 259 P **P 04 59 09.0 -0.6**
comp=Z,14nm,0.8s
CMMT Chiang Mai 40.33 259 P **P 04 59 09.0 -0.6**
comp=Z,14nm,0.8s
CHTO Chiang Mai 40.34 259 P **P 04 59 07.9 -1.7**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 40.34 259 P **P 04 59 09.0 -0.6**
comp=Z,14nm,0.9s
CHTO Chiang Mai 40.34 259 P **P 04 59 07.9 -1.7**
CM09 Chiang Mai Arr 40.48 259 P **P 04 59 14.5 +3.7**
comp=Z,8.8nm,0.4s
CM09 Chiang Mai Arr 40.48 259 P **P 04 59 14.6 +3.7**
comp=Z,8.8nm,0.4s
CM04 Chiang Mai Arr 40.52 259 P **P 04 59 13.5 +2.4**
comp=Z,13nm,0.9s
CM04 Chiang Mai Arr 40.52 259 P **P 04 59 13.6 +2.4**
comp=Z,13nm,0.9s
CM31 Chiang Mai Arr 40.52 259 P **P 04 59 15.2 +4.0**
comp=Z,353nm,0.9s
CM31 Chiang Mai Arr 40.52 259 P **P 04 59 09.8 -1.3**
CMAR Chiang Mai Arr 40.52 259 P **P 04 59 09.9 -1.2**
comp=Z,5.9nm,0.7s,baz=50,slow=7.5,SNR=18
CMAR ScP **ScP 05 04 59.2 +1.0**
comp=Z,0.6nm,0.3s,baz=72,slow=2.9,SNR=1.4
CMAR LR LR 05 16 53.5
comp=Z,190nm,18.9s,baz=100,slow=38
CMAR Chiang Mai Arr 40.52 259 *i* P **P 04 59 10.1 -1.0**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CM01 Chiang Mai Arr 40.52 259 P **P 04 59 12.9 +1.8**
comp=Z,13nm,0.8s
CM01 Chiang Mai Arr 40.52 259 P **P 04 59 13.0 +1.8**
comp=Z,13nm,0.8s
CM02 Chiang Mai Arr 40.52 259 P **P 04 59 12.3 +1.1**
comp=Z,103nmcomp=Z,15nm,0.9s
CM02 Chiang Mai Arr 40.52 259 P **P 04 59 12.3 +1.1**
comp=Z,103nmcomp=Z,15nm,0.9s
CM15 Chiang Mai Arr 40.53 259 P **P 04 59 12.9 +1.7**
comp=Z,502nmcomp=Z,10nm,0.5s
CM15 Chiang Mai Arr 40.53 259 P **P 04 59 13.0 +1.7**
comp=Z,502nmcomp=Z,10nm,0.5s
CM05 Chiang Mai Arr 40.54 259 P **P 04 59 12.8 +1.5**
comp=Z,7.8nm,0.9s
CM05 Chiang Mai Arr 40.54 259 P **P 04 59 12.0 +0.7**
comp=Z,7.8nm,0.9s
CM13 Chiang Mai Arr 40.56 259 P **P 04 59 12.9 +1.4**
comp=Z,9.8nm,0.9s
CM13 Chiang Mai Arr 40.56 259 P **P 04 59 12.0 +0.5**
comp=Z,9.8nm,0.9s
SBUM Sibu 41.12 227 P **P 04 59 15.0 -1.1**
TTSI Tana Toraja 41.63 213 P **P 04 59 18.3 -1.9**
comp=Z,1μcomp=Z,19nm,0.8s
WMQ Urumqi 42.29 300 *e*P **P 04 59 25.8 +0.3**
WMQ pP pP 04 59 28.9 -9.0
WMQ sP pwP 04 59 39.9 -1.4
WMQ S **S 05 05 42.4 -0.3**
WMQ pmax pmax
comp=Z,78nm,0.9s
WMQ pmax pmax
comp=Z,210nm,3.7s
WMQ LR LR
comp=Z,2μm,22.7s
WMQ LR LR
comp=Z,2μm,22.7s
WMQ LR LR
comp=Z,200nm,29.1s
DGZ Jazzator, Alta 42.31 309 *d i*P **P 04 59 25.9 +0.3**
DGZ pmax pmax
comp=Z,103nm,0.7s
BNSI Bone 42.70 212 P **P 04 59 28.2 -0.8**
comp=Z,839nmcomp=Z,85nm,1.1s
PHET Kaeng Krachan 42.97 251 P P 04 59 43.9 +13
PHET Kaeng Krachan 42.97 251 P P 04 59 43.9 +13
KSM Kuching 43.07 229 P **P 04 59 31.0 -0.9**
PMG Port Moresby 43.14 171 P **P 04 59 31.8 -0.7**
comp=Z,11nm,0.3s,baz=340,slow=8.7,SNR=4.2
PMG Port Moresby 43.14 171 *ce*P **P 04 59 31.5 -1.0**
PMG pmax pmax
comp=Z,47nm,1.7s
PMG Port Moresby 43.14 171 P **P 04 59 31.4 -1.0**
PMG IAmb IAmb 04 59 33.9
comp=Z,35nm,1.0s
KAPI Kappang 43.41 212 P **P 04 59 33.1 -1.6**
comp=Z,28nm,1.1s,baz=88,slow=8.6,SNR=12
KAPI PcP **PcP 05 01 23.3 +0.9**
comp=Z,13nm,0.6s,baz=246,slow=4.6,SNR=5.8
KAPI Kappang 43.41 212 P **P 04 59 33.6 -1.1**
KAPI pmax pmax
comp=Z,67nm,1.2s
KAPI Kappang 43.41 212 P **P 04 59 33.6 -1.1**
KAPI IAmb IAmb 04 59 35.9
comp=Z,67nm,1.2s
BKSI Bulukumba 43.52 211 P **P 04 59 34.2 -1.3**
comp=Z,30nm,1.1s
ZSN Zaisan 44.03 306 ⇓*e*P **P 04 59 39.1 -0.3**
comp=Z,17nm,0.9s,baz=306
ZSN Zaisan 44.03 306 *de*P **P 04 59 39.1 -0.3**
ZSN pmax pmax
comp=Z,17nm,0.9s
ZAA0 Zalesovo Array 44.13 315 P **P 04 59 39.6 -0.4**
ZAA0 IAmb IAmb 04 59 55.0
comp=Z,40nm,0.9s
ZALV Zalesovo Beam 44.13 315 P **P 04 59 39.2 -0.9**
comp=Z,22nm,0.7s,baz=95,slow=6.7,SNR=33
ZALV pP **pP 04 59 53.7 +1.4**
comp=Z,39nm,0.9s,baz=92,slow=6.7,SNR=8.0
ZALV PcP **PcP 05 01 24.0 -0.3**
comp=Z,9.0nm,0.5s,baz=111,slow=3.2,SNR=4.7
ZALV ScP **ScP 05 05 11.2 -0.9**
comp=Z,0.9nm,0.4s,baz=64,slow=3.4,SNR=2.5
ZALV LR LR 05 17 38.0
comp=Z,222nm,21.8s,baz=92,slow=35
ZALV Zalesovo Beam 44.13 315 *i* P **P 04 59 39.5 -0.6**
ZALV pmax pmax
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 44.13 315 P **P 04 59 39.5 -0.6**
MK31 Makanchi Array 45.83 305 P **P 04 59 53.4 -0.4**
MK31 pmax pmax
comp=Z,34nm,0.9s
MK31 Makanchi Array 45.83 305 P **P 04 59 53.4 -0.4**
MK31 IAmb IAmb 05 00 00.0
comp=Z,34nm,0.9s
MKAR Makanchi Array 45.83 305 P **P 04 59 53.3 -0.5**
comp=Z,28nm,0.8s,baz=91,slow=9.7,SNR=244
MKAR pP **pP 05 00 06.9 +0.5**
comp=Z,35nm,0.9s,baz=92,slow=7.9,SNR=8.2
MKAR ScP **ScP 05 05 18.1 -1.2**
comp=Z,1.2nm,0.8s,baz=72,slow=6.4,SNR=3.5
MKAR Makanchi Array 45.83 305 *i* P **P 04 59 53.2 -0.5**
MKAR pmax pmax
comp=Z,28nm,0.8s
MKAR Makanchi Array 45.83 305 P **P 04 59 53.6 -0.2**
CNBA Chernabura Isl 45.90 44 P **P 04 59 54.4 +0.3**
CNBA IAmb IAmb 05 00 04.4
comp=Z,25nm,0.8s
EDFI Ende, Flores 45.99 207 P **P 04 59 53.6 -1.7**
comp=Z,25nm,0.9s
SOEI Soe 46.00 203 P **P 04 59 53.5 -1.9**
SOEI Soe 46.00 203 P **P 04 59 53.7 -1.7**
comp=Z,2μcomp=Z,148nm,0.9s
MAKZ Makanchi 46.05 305 P **P 04 59 55.3 -0.2**
MAKZ pmax pmax
comp=Z,74nm,1.4s
MAKZ Makanchi 46.05 305 P **P 04 59 55.3 -0.2**
TAPN Taplejung 46.05 277 *e*P **P 04 59 54.5 -1.6**
comp=Z,10nm,0.5s
NRIK Noril'sk 46.32 337 P **P 04 59 57.2 0.0**
comp=Z,11nm,0.6s,baz=99,slow=11,SNR=10
NRIK LR LR 05 20 22.2
comp=Z,225nm,18.3s,baz=111,slow=37
NRIK Noril'sk 46.32 337 P **P 04 59 57.2 0.0**
NRIK Noril'sk 46.32 337 P **P 04 59 57.2 0.0**
NRIK IAmb IAmb 05 00 15.3
comp=Z,26nm,0.7s
ODAN Odare 46.50 277 *e*P **P 04 59 57.5 -2.0**
comp=Z,13nm,0.5s
JRMM Jerantut 46.58 239 P **P 05 00 01.0 +1.1**
BATI Baumata 46.62 204 P **P 04 59 57.7 -2.5**
comp=Z,39nm,1.1s
SEM Semipalatinsk 46.92 310 *e*P **P 05 00 00.4 -2.1**
baz=310
SEM Semipalatinsk 46.92 310 *e*P **P 05 00 00.4 -2.1**
KULM Kulim 46.96 242 P **P 05 00 04.0 +1.1**
MYKOM Kota Tinggi 47.09 236 P **P 05 00 05.0 +1.1**
RAMN Ramite 47.12 277 *e*P **P 05 00 03.5 -0.9**

comp=Z,22nm,0.4s
MTN Manton Dam 47.15 193 P **P 05 00 04.3 +0.1**
JIRN Jiri 47.20 278 *eP* **P 05 00 04.1 -1.0**
comp=Z,37nm,0.4s
IPM Ipoh 47.22 241 P **P 05 00 03.0 -2.0**
GUN Gumba 47.37 279 *eP* **P 05 00 05.0 -1.4**
comp=Z,58nm,0.8s
PLAI Plampang 47.67 212 P **P 05 00 06.2 -2.2**
comp=Z,63nm,1.0s
PKI Pulchoki 47.88 278 *eP* **P 05 00 08.8 -1.5**
comp=Z,25nm,0.7s
PKIN Phulchoki 47.88 278 *eP* **P 05 00 08.8 -1.5**
comp=Z,30nm,0.6s
KKN Kakani 47.90 279 *eP* **P 05 00 09.5 -0.9**
comp=Z,49nm,0.8s
KURK Kurchatov 47.94 311 P **P 05 00 09.3 -0.8**
KURK *PP **pP 05 00 23.7 +1.1**
TWSI Taliwang, Sumb 47.99 213 P **P 05 00 08.9 -2.0**
comp=Z,31nm,1.1s
KURBB Kurchatov Arra 48.01 310 P **P 05 00 09.3 -1.2**
comp=Z,32nm,0.8s,baz=84,slow=7.5,SNR=147
KURBB pP **pP 05 00 23.7 +0.6**
comp=Z,98nm,1.1s,baz=89,slow=7.8,SNR=13
SHLS Shalkode 48.31 300‖ *eP* **P 05 00 09.7 -3.6**
comp=Z,17nm,0.8s,baz=300
SHLS *eS* **S 05 07 03.9 -5.9**
comp=Z,30nm,1.6s,baz=300
SHLS Shalkode 48.31 300 *deP* **P 05 00 09.7 -3.6**
SHLS *eS* **S 05 07 03.9 -5.9**
SHLS pmax pmax
comp=Z,17nm,0.8s
SHLS smax smax
comp=N,30nm,1.6s
GKN Gorkha 48.36 279 *eP* **P 05 00 12.6 -1.2**
comp=N,42nm,0.7s
O18K Koktuh Hills 48.52 37 P **P 05 00 15.5 +1.1**
baz=267
UZB Uzynbulak 48.63 300‖ *eP* **P 05 00 14.6 -1.2**
comp=N,8.2nm,0.7s,baz=300
UZB *eS* **S 05 07 14.7 +0.3**
baz=300
UZB Uzynbulak 48.63 300 *deP* **P 05 00 14.5 -1.2**
UZB *eS* **S 05 07 14.6 +0.3**
UZB pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 48.82 301 *eP* **P 05 00 15.7 -1.4**
baz=301
KPKS *eS* **S 05 07 15.4 -1.5**
baz=301
KPKS Kokpek 48.82 301 *eP* **P 05 00 15.7 -1.4**
KPKS *eS* **S 05 07 15.3 -1.5**
L19K White Mountain 48.86 34 P **P 05 00 17.6 +0.5**
baz=265
DANN Dangsing 48.95 280 *eP* **P 05 00 17.7 -0.9**
comp=Z,213nm,0.8s
M19K Big River Lodg 49.05 34 P **P 05 00 19.0 +0.5**
baz=266
SATY Saty 49.09 300 *eP* **P 05 00 16.7 -2.5**
baz=300
SATY Saty 49.09 300 *eP* **P 05 00 16.7 -2.5**
ARXS Arharly 49.29 302 *eP* **P 05 00 20.0 -0.7**
KOLN Koldanda 49.30 279 *eP* **P 05 00 20.1 -1.0**
comp=Z,32nm,0.6s
K20K Telida 49.32 33 P **P 05 00 22.0 +1.5**
baz=265,SNR=14
J20K Nowinta River 49.37 31 P **P 05 00 22.4 +1.5**
baz=264
OHAK Old Harbor 49.47 41 P **P 05 00 23.4 +1.7**
baz=271
M20K Styx River 49.65 35 P **P 05 00 24.6 +1.5**
baz=267
PYUN Piuthan 49.68 280 *eP* **P 05 00 23.3 -0.7**
comp=Z,91nm,0.4s
IMAR Indian Mountai 49.74 29 P **P 05 00 24.6 +0.9**
TARG Taragay, Kyrgy 49.80 299 P **P 05 00 24.9 -0.1**
KDAK Kodiak Island 49.84 40 P **P 05 00 24.9 +0.4**
comp=Z,7.9nm,0.7s,baz=295,slow=7.2,SNR=4.5
KDAK Kodiak Island 49.84 40 P **P 05 00 25.2 +0.7**
KDAK pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 49.84 40 P **P 05 00 25.6 +1.1**
baz=271
KDAK Kodiak Island 49.84 40 P **P 05 00 25.2 +0.7**
KDAK IAmb IAmb 05 00 40.5
comp=Z,13nm,0.8s
PWJI Pagerwojo 49.89 219 P **P 05 00 23.1 -2.2**
comp=Z,55nm,0.8s
CHKK Chushkaly 49.95 302 *eP* **P 05 00 24.4 -1.2**
baz=302
CHKK Chushkaly 49.95 302 *eP* **P 05 00 24.4 -1.2**
SPCR Spurr Chakacha 50.06 35 P **P 05 00 27.3 +1.0**
baz=268
AAA Alma-Ata 50.13 301 *eP* **P 05 00 26.5 -0.6**
PPLA Purkeypile 50.14 33 P **P 05 00 28.2 +1.3**
baz=267
PPLA Purkeypile 50.14 33 P **P 05 00 26.8 -0.1**
PPLA IAmb IAmb 05 00 39.5
comp=Z,12nm,0.8s
KDJ Kajisay 50.17 299 P **P 05 00 27.0 -0.5**
KDJ pmax pmax
comp=Z,20nm,0.7s
KDJ Kajisay 50.17 299 P **P 05 00 27.0 -0.5**
KDJ IAmb IAmb 05 00 34.5
comp=Z,20nm,0.7s
I21K Tanana 50.39 30 P **P 05 00 29.9 +1.3**
baz=265
KNRA Kununurra 50.39 196 P **P 05 00 29.4 +0.3**
KUU Kurty 50.41 302‖ *eP* **P 05 00 27.9 -1.2**
comp=Z,20nm,0.6s,baz=302
KUU Kurty 50.41 302 *deP* **P 05 00 27.9 -1.2**
KUU pmax pmax
comp=Z,20nm,0.6s
SKT Skwentna 50.41 34 P **P 05 00 29.7 +0.8**
baz=268
SKT Skwentna 50.41 34 P **P 05 00 29.2 +0.4**
UGM Wanagama 50.48 221 P **P 05 00 28.4 -1.5**
BPAW Bear Paw Mtn. 50.74 32 P **P 05 00 32.4 +1.1**
baz=267
BPAW Bear Paw Mtn. 50.74 32 P **P 05 00 31.6 +0.3**
KTH Kantishna Hill 50.74 32 P **P 05 00 31.7 +0.3**
KTH IAmb IAmb 05 00 47.1
comp=Z,14nm,1.1s
SUA Susitna One 50.77 35 P **P 05 00 32.7 +1.1**
baz=269
SUA Susitna One 50.77 35 P **P 05 00 31.6 -0.1**
SUA IAmb IAmb 05 00 43.5
comp=Z,15nm,0.8s
ULHL Ulahol 50.82 300 P **P 05 00 32.6 +0.1**
SNR=10.0
KPJI Karang Pucung 50.90 223 P **P 05 00 31.0 -2.0**
MLY Manley 50.90 30 P **P 05 00 34.1 +1.5**
baz=266,SNR=12
MLY Manley 50.90 30 P **P 05 00 33.2 +0.6**
BOOM Boomskoye usch 50.98 300 P **P 05 00 34.1 +0.4**
BOOM pmax pmax
comp=Z,54nm,1.4s
BOOM Boomskoye usch 50.98 300 P **P 05 00 34.1 +0.4**
TRF Thorofare Moun 51.02 33 P **P 05 00 34.4 +0.8**
baz=268
TKM2 Tokmak 2 51.14 301 P **P 05 00 35.1 +0.2**
SNR=19
LEM Lembang 51.25 225 P **P 05 00 34.8 -1.0**
comp=Z,34nm,0.9s
RC01 Rabbit Creek A 51.26 36 P **P 05 00 35.6 +0.4**
baz=270
O22K Cooper Landing 51.27 36 P **P 05 00 35.6 +0.3**
baz=271
SEW Seward 51.41 37 P **P 05 00 37.5 +1.1**
SEW IAmb IAmb 05 00 47.3
comp=Z,34nm,1.2s
H23K Yukon River 51.45 30 P **P 05 00 37.9 +1.3**
baz=267
LHSI Lahat 51.45 231 P **P 05 00 36.8 -0.4**
comp=Z,62nm,0.9s
I23K Minto, Yukon-K 51.49 30 P **P 05 00 36.8 -0.1**
baz=268
I23K Minto, Yukon-K 51.49 30 P **P 05 00 37.6 +0.8**
MDSI Maura Dua 51.53 230 P **P 05 00 36.6 -1.1**
comp=Z,30nm,0.9s
NEA2 Nenana 51.60 31 P **P 05 00 38.9 +1.1**
baz=268,SNR=18
NEA2 Nenana 51.60 31 P **P 05 00 38.8 +1.1**
NEA2 IAmb IAmb 05 00 58.0
comp=Z,23nm,1.0s
MCK McKinley 51.64 32 P **P 05 00 38.9 +0.9**
MCK pmax pmax
comp=Z,11nm,0.9s
MCK McKinley 51.64 32 P **P 05 00 38.6 +0.6**
baz=269
MCK McKinley 51.64 32 P **P 05 00 38.9 +0.9**
MCK IAmb IAmb 05 00 47.3
comp=Z,11nm,0.9s
GHO Glory Hole Cre 51.64 35 P **P 05 00 38.7 +0.5**
GHO IAmb IAmb 05 00 47.5
comp=Z,28nm,1.1s
TOLK Toolik Lake Re 51.65 26 P **P 05 00 39.3 +1.3**
baz=265
TOLK Toolik Lake Re 51.65 26 P **P 05 00 38.9 +0.8**
TOLK IAmb IAmb 05 00 57.7
comp=Z,19nm,0.8s
KBK Karagaybulak 51.66 301 P **P 05 00 38.8 +0.1**
SNR=15
RND Reindeer 51.67 33 P **P 05 00 38.8 +0.4**
RND pmax pmax
comp=Z,12nm,0.8s
RND Reindeer 51.67 33 P **P 05 00 38.8 +0.4**
RND IAmb IAmb 05 00 56.4
comp=Z,12nm,0.8s
KSH Kashi 51.68 297 P **P 05 00 41.9 +3.1**
KSH pP pwP 05 00 55.8 +0.7
KSH S **S 05 08 02.8 +6.0**
KSH SS **SS 05 11 36.6 +3.3**
KSH pmax pmax
comp=Z,17nm,0.6s
KSH pmax pmax
comp=Z,140nm,3.7s
KSH LR LR
comp=Z,190nm,12.8s
KSH LR LR
comp=Z,370nm,18.9s
KSH LR LR
comp=Z,440nm,24.6s
SGDS Sogindy 51.71 302 *eP* **P 05 00 37.6 -1.4**
baz=302
SGDS *eS* **S 05 07 56.5 -0.6**
baz=302
SGDS Sogindy 51.71 302 *eP* **P 05 00 37.6 -1.4**
SGDS *eS* **S 05 07 56.4 -0.6**
WAT1 Susitna Watana 51.80 33 P **P 05 00 40.2 +0.9**
baz=270
BRZS Berezniki 51.81 310‖ *eP* **P 05 00 38.2 -1.3**
comp=Z,15nm,0.9s,baz=310
BRZS Berezniki 51.81 310 *deP* **P 05 00 38.2 -1.3**
BRZS pmax pmax
comp=Z,15nm,0.9s
USP Ospenovka 51.84 301 P **P 05 00 39.4 -0.5**
SNR=13
FRU1 Bishkek 51.85 301 P **P 05 00 39.9 -0.2**
FRU1 pmax pmax
comp=Z,86nm,1.3s
FRU1 Bishkek 51.85 301 P **P 05 00 39.9 -0.2**
KNK Knik Glacier 51.87 35 P **P 05 00 40.4 +0.6**
baz=271
KNK Knik Glacier 51.87 35 P **P 05 00 40.3 +0.5**
KNK IAmb IAmb 05 00 47.6
comp=Z,26nm,1.0s
GSI Gunungsitoli 51.90 241 P **P 05 00 38.5 -2.1**
GSI Gunungsitoli 51.90 241 P **P 05 00 39.0 -1.5**
comp=Z,64nm,0.9s
SML Sawmill 51.92 35 P **P 05 00 41.0 +0.7**
baz=271
SML Sawmill 51.92 35 P **P 05 00 40.9 +0.7**
SML IAmb IAmb 05 00 48.0
comp=Z,22nm,0.9s
PWL Port Wells 51.95 36 P **P 05 00 40.3 -0.1**
PWL IAmb IAmb 05 00 44.9
comp=Z,21nm,1.1s
MDM Murphy Dome 51.97 31 P **P 05 00 41.0 +0.5**
MDM IAmb IAmb 05 01 00.3
comp=Z,16nm,0.8s
AAK Ala-Archa 51.99 301 P **P 05 00 41.1 -0.1**
AAK pmax pmax
comp=Z,21nm,0.9s
AAK Ala-Archa 51.99 301 P **P 05 00 41.1 -0.1**
AAK IAmb IAmb 05 00 46.4
comp=Z,21nm,0.9s
WRH Wood River Hil 52.02 31 P **P 05 00 41.2 +0.4**
COLA College 52.12 31 *d iP* **P 05 00 40.8 -0.8**
COLA pmax pmax
comp=Z,12nm,1.2s
H24K Noodor Dome 52.13 30 P **P 05 00 42.9 +1.2**
baz=268
CCB Clear Creek Bu 52.14 31 P **P 05 00 41.6 -0.1**
WAT6 Susitna Watana 52.18 34 P **P 05 00 42.7 +0.4**
baz=271
POKR Poker Plat Res 52.31 30 P **P 05 00 44.0 +1.0**
baz=269
SCM Sheep Creek Mo 52.40 35 P **P 05 00 44.3 +0.5**
SCM pmax pmax
comp=Z,20nm,0.9s
SCM Sheep Creek Mo 52.40 35 P **P 05 00 44.3 +0.5**
SCM IAmb IAmb 05 00 51.5
comp=Z,20nm,0.9s
EKS2 Erkin-Say 52.50 301 P **P 05 00 45.1 +0.2**
SNR=8.9
HDA Harding Lake 52.51 31 P **P 05 00 44.6 +0.1**
baz=270
HDA Harding Lake 52.51 31 P **P 05 00 44.5 +0.1**
HDA IAmb IAmb 05 01 03.1
comp=Z,10nm,0.8s
IL31 52.54 31 P **P 05 00 44.5 -0.1**
ILAR Eielson Array 52.54 31 P **P 05 00 44.4 -0.3**
comp=Z,3.5nm,0.8s,baz=270,slow=6.2,SNR=18
ILAR LR LR 05 24 15.6
comp=Z,63nm,20.5s,baz=288,slow=37
ILAR Eielson Array 52.54 31 P **P 05 00 44.8 +0.1**
ILAR Eielson Array 52.54 31 P **P 05 00 44.8 +0.1**
GLI Glacier Island 52.55 36 P **P 05 00 45.2 +0.4**
baz=273
AML Almayashu 52.69 300 P **P 05 00 46.9 +0.3**
SNR=41
BVAR Borovoye Array 52.77 314 P **P 05 00 45.8 -0.8**
comp=Z,9.5nm,0.6s,baz=174,slow=16,SNR=23
BVAR pP **pP 05 01 00.3 +1.1**
comp=Z,12nm,0.7s,baz=26,slow=3.8,SNR=8.0
BVAR Borovoye Array 52.77 314 P **P 05 00 45.8 -0.8**
BVAR *PP **pP 05 01 00.3 +1.1**
BRVK Borovoye 52.83 314 *ceP* **P 05 00 46.5 -0.5**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye 52.83 314 P **P 05 00 46.2 -0.8**
FID Port Fidalgo 52.86 36 P **P 05 00 47.3 +0.2**
FID IAmb IAmb 05 01 05.2
comp=Z,15nm,0.9s
M24K Tolsona, Glenn 52.93 34 P **P 05 00 47.7 0.0**
baz=273
KLU Klutina 53.08 35 P **P 05 00 49.9 +1.1**
baz=274
KLU Klutina 53.08 35 P **P 05 00 49.1 +0.2**
KLU IAmb IAmb 05 01 02.1
comp=Z,19nm,1.0s
PAX Paxson 53.21 33 P **P 05 00 50.5 +0.7**
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 53.21 33 P **P 05 00 48.9 -0.9**
baz=273
PAX Paxson 53.21 33 P **P 05 00 50.5 +0.7**
FYU Fort Yukon 53.22 29 P **P 05 00 50.1 +0.5**
FYU IAmb IAmb 05 01 09.3
comp=Z,47nm,1.5s
EYAK Cordova Ski Ar 53.23 36 P **P 05 00 50.5 +0.7**
baz=274
HARP HAARP 53.39 34 P **P 05 00 52.1 +1.2**
baz=274
WB0 Warramunga Arr 53.45 188 P **P 05 00 51.7 -0.1**
RIDG Independent Ri 53.45 32 P **P 05 00 51.0 -0.5**
baz=273
BMAR Burnt Mountain 53.47 28 P **P 05 00 52.5 +1.0**
CTAO Charters Tower 53.60 174 P **P 05 00 53.3 +0.4**
CTAO pmax pmax
comp=Z,28nm,1.0s
CTAO Charters Tower 53.60 174 P **P 05 00 53.3 +0.4**
CTAO IAmb IAmb 05 00 57.7
comp=Z,28nm,0.9s
WRAB Tennant Creek 53.62 188 P **P 05 00 53.1 +0.1**
WRAB Tennant Creek 53.62 188 P **P 05 00 53.1 +0.1**
WR0 Warramunga Arr 53.62 188 P **P 05 00 53.1 0.0**
WB2 Warramunga Arr 53.62 188 P **P 05 00 53.2 +0.1**
WRA Warramunga Arr 53.62 188 P **P 05 00 52.9 -0.2**
comp=Z,153nm,0.5s,baz=5.1,slow=7.6,SNR=1338
WRA S **S 05 08 21.0 -2.2**
comp=Z,2.2nm,1.0s,baz=2.2,slow=13,SNR=6.0
WRA LR LR 05 21 07.6
comp=Z,169nm,22.0s,baz=15,slow=33
WRA Warramunga Arr 53.62 188 P **P 05 00 52.9 -0.2**
WRA S **S 05 08 21.0 -2.2**
WRA Warramunga Arr 53.62 188 P **P 05 00 52.5 -0.6**
BMRM Bremner River 53.76 36 P **P 05 00 55.0 +1.2**
baz=275
DOT Dot Lake 53.81 32 P **P 05 00 53.4 -0.7**
SCRK Sand Creek 53.82 32 P **P 05 00 54.8 +0.5**
baz=273
SCRK Sand Creek 53.82 32 P **P 05 00 54.7 +0.4**
SCRK IAmb IAmb 05 01 12.1
comp=Z,12nm,1.0s
GLB Gilahina Butte 54.10 35 P **P 05 00 56.0 -0.3**
L26K Log Cabin Wild 54.17 33 P **P 05 00 58.0 +1.3**
baz=275
M26K Nabesna, AK 54.39 34 P **P 05 00 59.5 +1.1**
baz=275
MCARA McCarthy VSAT 54.48 35 P **P 05 01 00.1 +1.1**
baz=276
CRQE Cirque 54.52 36 P **P 05 01 00.5 +1.1**
baz=276
K27K Chicken 54.66 32 P **P 05 01 01.3 +1.1**
baz=275
K27K Chicken 54.66 32 P **P 05 01 01.0 +0.8**
KKAR Karatay Array 54.71 302 P **P 05 01 00.6 -0.4**
KKAR pmax pmax
comp=Z,67nm,1.1s
KKAR Karatay Array 54.71 302 P **P 05 01 01.0 0.0**
KKAR Karatay Array 54.71 302 P **P 05 01 00.6 -0.4**
SANVU Saraoutou 54.73 149 P **P 05 01 01.8 +0.6**
DRK Karamyk 54.79 298 P **P 05 01 01.6 -0.3**
L27K Beaver Creek, 54.86 33 P **P 05 01 02.9 +1.1**
baz=276
L27K Beaver Creek, 54.86 33 P **P 05 01 02.5 +0.8**
BCAR Beaver Creek A 54.88 33 P **P 05 01 02.6 +0.7**
M27K Edge Creek, AK 54.91 34 P **P 05 01 03.2 +1.0**
baz=276
EGAK Eagle 54.99 31 P **P 05 01 03.0 +0.4**
baz=275
EGAK Eagle 54.99 31 P **P 05 01 03.4 +0.8**
CTG Chitna Glacier 55.34 35 P **P 05 01 06.1 +0.8**
baz=278
BTK Batken 55.34 299 P **P 05 01 05.1 -0.6**
BTK pmax pmax
comp=Z,19nm,1.0s
BTK Batken 55.34 299 P **P 05 01 05.1 -0.6**
BTK IAmb IAmb 05 01 21.6
comp=Z,19nm,1.0s
NIL Nilore 55.55 290 P **P 05 01 07.0 -0.1**
NIL pmax pmax
comp=Z,56nm,0.8s
NIL Nilore 55.55 290 P **P 05 01 07.0 -0.1**
DAWY Dawson 55.83 32 P **P 05 01 09.4 +0.7**
GAR Garm 56.03 297 P **P 05 01 10.4 -0.2**
EPYK Eagle Plains 56.64 29 P **P 05 01 15.9 +1.5**
baz=278,SNR=17
EPYK Eagle Plains 56.64 29 P **P 05 01 15.6 +1.2**
CHGR Chuyangaron 57.00 297 P **P 05 01 17.4 -0.1**
HYT Haines Junctio 57.21 35 P **P 05 01 19.0 +0.3**
HYT IAmb IAmb 05 01 36.9
comp=Z,12nm,1.0s
AS31 Alice Springs 57.35 188 P **P 05 01 20.0 +0.1**
ASAR Alice Springs 57.35 188 P **P 05 01 19.7 -0.2**
comp=Z,48nm,0.6s,baz=17,slow=11,SNR=387
ASAR PcP **PcP 05 02 14.6 +1.1**
comp=Z,18nm,0.8s,baz=7.4,slow=4.5,SNR=5.6
ASAR S **S 05 09 11.1 -1.8**
comp=Z,0.8nm,0.9s,baz=5.7,slow=11,SNR=3.5
ASAR LR LR 05 25 40.9
comp=Z,66nm,21.3s,baz=14,slow=36
ASAR PKP2bc 05 31 19.7
comp=Z,0.5nm,0.8s,baz=159,slow=2.8,SNR=3.7
ASAR Alice Springs 57.35 188 P **P 05 01 19.7 -0.2**
ASAR 05 02 14.6
ASAR S **S 05 09 11.1 -1.8**
ASAR Alice Springs 57.35 188 P **P 05 01 20.1 +0.3**
INK Inuvik 57.56 26 P **P 05 01 21.6 +0.8**
comp=Z,4.0nm,0.6s,baz=289,slow=6.8,SNR=7.4
INK Inuvik 57.56 26 P **P 05 01 21.2 +0.4**
INK pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 57.56 26 P **P 05 01 21.9 +1.1**
baz=280
INK Inuvik 57.56 26 P **P 05 01 21.2 +0.4**
INK IAmb IAmb 05 01 39.8
comp=Z,12nm,0.8s
SVE Sverdlovsk 57.61 320‖ *eP* **P 05 01 22.0 +0.6**
SVE pmax pmax
comp=Z,31nm,0.7s
HYB Hyderabad 57.95 270 *i* P **P 05 01 22.0 -2.4**
HYB *es*P **pwP 05 01 39.5 -1.0**
PSA00 Pilbara Seismi 58.49 203 P **P 05 01 28.1 +0.2**
PSA00 Pilbara Seismi 58.49 203 P **P 05 01 27.7 -0.2**
PSA00 IAmb IAmb 05 01 28.8
comp=Z,39nm,0.8s
KBL Kabul 58.49 293 P **P 05 01 27.5 -0.7**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 58.49 293 P **P 05 01 27.4 -0.7**
KBL IAmb IAmb 05 01 28.4
comp=Z,14nm,0.8s
WHY Whitehorse 58.51 35 P **P 05 01 29.4 +1.6**
baz=283
WHY Whitehorse 58.51 35 P **P 05 01 27.4 -0.3**
WHY IAmb IAmb 05 01 36.4
comp=Z,14nm,0.9s
ARU Arti 58.82 320 P **P 05 01 29.4 -0.4**
comp=Z,14nm,0.5s,baz=61,slow=5.1,SNR=40
ARU pP **pP 05 01 43.7 +1.0**
comp=Z,16nm,0.6s,baz=28,slow=2.9,SNR=6.8
ARU Arti 58.82 320 *c iP* **P 05 01 29.2 -0.6**
ARU 05 02 15.8
ARU 05 03 36.8
ARU S **S 05 09 34.8 +3.4**
ARU SS **SS 05 13 26.7 +1.9**
ARU pmax pmax
comp=Z,47nm,0.7s
ARU MLR MLR
comp=Z,332nm,19.0s
ARU Arti 58.82 320 P **P 05 01 29.4 -0.4**
SIT Sitka 59.16 39 P **P 05 01 32.5 +0.3**
baz=285
EIDS Eidsvold 59.39 170 P **P 05 01 34.5 +0.5**
ABKAR Akbulak array 60.02 312 P **P 05 01 37.6 -0.6**
ABKAR Akbulak array 60.02 312 P **P 05 01 37.6 -0.6**
DZM Mont Dzumac 60.38 153 *eP* **P 05 01 43.3 +2.3**
comp=Z,106nm,1.2s
DZM Mont Dzumac 60.38 153 *e*LR LR 05 19 25.1
comp=Z,394nm,23.8s
DZM Mont Dzumac 60.38 153 P **P 05 01 41.3 +0.3**
C36M Paulatuk 60.65 24 P **P 05 01 43.2 +1.1**
baz=287
CRAG Craig 60.79 41 P **P 05 01 42.8 -0.6**
baz=288
AKTO Aktyubinsk 60.84 313 P **P 05 01 43.1 -0.7**
comp=Z,17nm,0.7s,baz=80,slow=13,SNR=33
AKTO Aktyubinsk 60.84 313 P **P 05 01 43.1 -0.7**
DLBC Dease Lake 61.49 37 LR LR 05 28 18.4
comp=Z,54nm,19.7s,baz=280,slow=36
DLBC Dease Lake 61.49 37 P **P 05 01 48.6 +0.4**
DLBC IAmb IAmb 05 02 04.2
comp=Z,15nm,1.1s
KIRV Kirov 62.88 324 P **P 05 01 57.4 +0.1**
comp=Z,22nm,0.5s,baz=332,slow=1.8,SNR=12
KIRV Kirov 62.88 324 P **P 05 01 57.4 +0.1**
PRGR Permogore 63.55 328 *eP* **P 05 02 01.4 -0.3**
PRGR *e**SP **pP 05 02 15.5 +1.1**
PRGR pmax pmax
comp=Z,17nm,0.6s
HRA Herat 63.74 295 P **P 05 02 03.8 +0.1**
HRA IAmb IAmb 05 02 09.4
comp=Z,28nm,1.0s
SPA0 Spitsbergen Ar 63.85 349 *eP* **P 05 02 05.0 +1.5**
SPITS Spitsbergen Ar 63.85 349 pP **pP 05 02 18.2 +2.1**
comp=Z,29nm,1.0s,baz=67,slow=9.1,SNR=4.8
SPITS LR LR 05 31 17.1
comp=Z,278nm,21.9s,baz=325,slow=37
KBS Kingsbay 64.01 350 P **P 05 02 05.2 +0.7**
KBS pmax pmax
comp=Z,32nm,0.9s
KBS Kingsbay 64.01 350 P **P 05 02 05.2 +0.7**
ARMA Armidale 64.43 170 P **P 05 02 08.3 +0.4**
ARMA IAmb IAmb 05 02 17.6
comp=Z,10nm,0.7s

HSPB Hornsund (broa 64.77 348 *e*P **P 05 02 11.0 +1.5**
STKA Stephens Creek 65.12 180 P **P 05 02 12.8 +0.6**
comp=Z,30nm,0.7s,baz=348,slow=7.8,SNR=24
STKA LR LR 05 29 49.3
comp=Z,131nm,21.5s,baz=21,slow=35
STKA Stephens Creek 65.12 180 P **P 05 02 12.7 +0.5**
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 65.12 180 P **P 05 02 12.7 +0.5**
LVZ Lovozero 65.17 336 *i* P **P 05 02 12.9 +0.7**
LVZ pmax pmax
comp=Z,14nm,1.0s
FORT Forrest 65.20 192 P **P 05 02 13.5 +0.7**
GEYT Alibeck 65.34 300 P **P 05 02 14.0 +0.1**
comp=Z,3.5nm,0.5s,baz=191,slow=6.0,SNR=3.8
GEYT pP **pP 05 02 27.8 +1.0**
comp=Z,5.7nm,0.7s,baz=197,slow=3.6,SNR=4.0
GEYT LR LR 05 33 37.2
comp=Z,213nm,18.1s,baz=80,slow=39
BJO1 Bjornoya 65.73 346 *e*P **P 05 02 17.2 +1.4**
APA Apatity 65.74 336⇑*i*P **P 05 02 14.9 -1.0**
APA *i* 05 04 38.0
APA *i* S **S 05 10 53.0 -5.1**
APA *i* 05 12 02.0
APA pmax pmax
comp=Z,14nm,0.9s
RES Resolute Bay 65.99 14 P **P 05 02 17.9 +0.5**
RES pmax pmax
comp=Z,23nm,1.1s
RES Resolute Bay 65.99 14 P **P 05 02 17.9 +0.5**
RES IAmb IAmb 05 02 26.3
comp=Z,23nm,1.1s
BELG Belogornoye 66.19 318 P **P 05 02 18.6 -0.4**
comp=Z,27nm,0.8s,baz=70,slow=6.3,SNR=8.3
BELG pP **pP 05 02 33.2 +1.1**
comp=Z,75nm,0.9s,baz=61,slow=2.0,SNR=10
BELG Belogornoye 66.19 318 P **P 05 02 18.6 -0.4**
BELG *PP **pP 05 02 33.2 +1.1**
BBOO Buckleboo 66.22 185 P **P 05 02 19.7 +0.4**
KLMR Klimovskoe 66.56 328 *e*P **P 05 02 20.0 -1.2**
KLMR *e* 05 04 46.2
KLMR pmax pmax
comp=Z,39nm,0.8s
KLMR Klimovskoe 66.56 328 *e*P **P 05 02 20.0 -1.2**
KLMR AMP 05 02 38.7
comp=Z,39nm,0.8s
KLMR *e*PP **PP 05 04 46.2 -1.6**
KEV Kevo 66.58 340 P **P 05 02 21.5 +0.2**
KEV pmax pmax
comp=Z,17nm,1.0s
KEV Kevo 66.58 340 P **P 05 02 21.5 +0.2**
KEV IAmb IAmb 05 02 37.1
comp=Z,17nm,1.0s
MORW Morawa 66.70 204 P **P 05 02 22.5 0.0**
YKA Yellowknife Ar 66.90 29 P **P 05 02 23.5 +0.1**
comp=Z,2.7nm,0.8s,baz=294,slow=5.8,SNR=7.0
YKA LR LR 05 35 42.4
comp=Z,41nm,18.9s,baz=0.0,slow=40
YKA Yellowknife Ar 66.90 29 P **P 05 02 23.5 +0.1**
HAMF Hammerfest 67.00 341 *e*P **P 05 02 25.3 +1.4**
ARA0 ARCESS Array S 67.14 340 *e*P **P 05 02 25.9 +1.0**
ARCES ARCESS Array B 67.14 340 P **P 05 02 24.9 0.0**
comp=Z,4.5nm,0.8s,baz=60,slow=8.7,SNR=12
ARCES pP **pP 05 02 39.8 +2.1**
comp=Z,13nm,0.8s,baz=54,slow=6.6,SNR=8.8
ARCES LR LR 05 34 53.2
comp=Z,270nm,21.9s,baz=95,slow=39
ARCES ARCESS Array B 67.14 340 P **P 05 02 24.9 0.0**
ARCES *PP **pP 05 02 39.8 +2.1**
ARCES ARCESS Array B 67.14 340 P **P 05 02 25.8 +0.9**
ARCES IAmb IAmb 05 02 42.4
comp=Z,20nm,1.1s
KTK1 Kautokeino 68.11 340 *e*P **P 05 02 31.9 +1.0**
JETT Jettan, Norway 68.55 341 *e*P **P 05 02 35.2 +1.4**
TRO Tromso 68.90 341 *e*P **P 05 02 36.2 +0.4**
CAN Canberra 68.94 173 P **P 05 02 36.8 +0.3**
CAN pmax pmax
comp=Z,61nm,1.4s
CAN Canberra 68.94 173 P **P 05 02 36.8 +0.3**
NEEM North Greenlan 68.97 3 *i* P **P 05 02 37.0 +0.4**
DAG Danmarks Havn 69.18 355 *i* P **P 05 02 37.5 0.0**
DAG IAmb IAmb 05 02 47.0
comp=Z,12nm,0.8s
DAG Danmarks Havn 69.18 355 *i* P **P 05 02 37.5 0.0**
DAG pmax pmax
comp=Z,12nm,0.8s
D03D Eldon 69.63 46 P **P 05 02 40.7 -0.1**
baz=298
B05A Bryant 69.88 45 P **P 05 02 43.7 +1.4**
baz=298
NWAO Narrogin (SRO) 69.89 201 P **P 05 02 42.9 +0.6**
NWAO pmax pmax
comp=Z,48nm,0.6s
NWAO Narrogin (SRO) 69.89 201 P **P 05 02 42.9 +0.6**
MOS Moscow 69.89 324 *e*P **P 05 02 41.3 -0.9**
MOS *e* 05 02 56.2
MOS pmax pmax
comp=Z,100nm,0.8s
MOS pmax pmax
comp=Z,45nm,0.7s
VRH Novokhopyorsk 70.00 319 *e*P **P 05 02 42.3 -0.6**
VRH pmax pmax
comp=Z,30nm,0.7s
B06A Marblemount 70.12 45 P **P 05 02 43.9 +0.2**
B06A IAmb IAmb 05 02 50.9
comp=Z,19nm,1.1s
E04D Cinebar 70.40 47 P **P 05 02 46.3 +0.8**
baz=298
MAK Makhachkala 70.43 309 *e*P **P 05 02 41.9 -3.8**
MAK *e*S **S 05 11 53.9 -0.9**
MAK pmax pmax
comp=Z,179nm,1.2s
OBN Obninsk 70.73 324 P **P 05 02 47.8 +0.5**
comp=Z,4.0nm,0.4s,baz=38,slow=15,SNR=4.8
OBN Obninsk 70.73 324⇓*i*P **P 05 02 47.5 +0.2**
OBN *i* 05 03 02.1
OBN *e* 05 05 23.7
OBN *i* S **S 05 12 01.4 +3.5**
OBN *e*SS **SS 05 16 36.0 +6.2**
OBN pmax pmax
comp=Z,35nm,1.3s
OBN MLR MLR
comp=Z,224nm,19.0s
OBN Obninsk 70.73 324 P **P 05 02 47.6 +0.3**
LPSR Galich'ya Gora 70.81 321 *e*P **P 05 02 46.5 -1.4**
LPSR pmax pmax
comp=Z,30nm,1.1s
TOO Toolangi 70.91 176 P **P 05 02 49.2 +0.7**
TOO pmax pmax
comp=Z,37nm,1.1s
TOO Toolangi 70.91 176 P **P 05 02 49.2 +0.7**
TOO IAmb IAmb 05 02 55.1
comp=Z,37nm,1.1s
STEI Steigen 71.05 341 *e*P **P 05 02 50.0 +1.1**
H04D Lebanon 71.27 49 P **P 05 02 53.1 +2.2**
baz=299
I03D Drain, OR 71.28 50 P **P 05 02 51.7 +0.8**
baz=299
LOF Lofoten 71.35 342 *e*P **P 05 02 52.5 +1.6**
GROC Groznyy 71.41 310 *e*P **P 05 02 52.0 +0.3**
GROC *e* 05 03 12.4
GROC pmax pmax
comp=Z,35nm,0.5s
FAUS Fauske 71.42 341 *e*P **P 05 02 52.2 +0.9**
B08A Colville Reser 71.45 44 P **P 05 02 52.3 +0.4**
H04A Detroit Lake 71.53 48 P **P 05 02 52.6 +0.1**
H04A IAmb IAmb 05 02 58.5
comp=Z,12nm,0.8s
FINES FINESS Array B 71.76 333 P **P 05 02 53.2 -0.2**
comp=Z,10nm,0.7s,baz=41,slow=6.1,SNR=30
FINES pP **pP 05 03 08.2 +1.6**
comp=Z,24nm,0.9s,baz=64,slow=8.7,SNR=8.7
FINES LR LR 05 37 28.6
comp=Z,268nm,19.7s,baz=44,slow=38
FINES FINESS Array B 71.76 333 P **P 05 02 53.2 -0.2**
FINES *PP **pP 05 03 08.2 +1.6**
LGD Lagodekhi 71.78 308 P **P 05 02 54.9 +0.9**
G05D Wamic, OR 71.80 47 P **P 05 02 55.4 +1.3**
baz=300
I04A Tendick Farm, 71.83 49 P **P 05 02 55.9 +1.6**
baz=299
DDFL Dedoflistskaro 72.05 308 P **P 05 02 59.9 +4.2**
I05D Terrebonne, OR 72.23 48 P **P 05 02 57.7 +1.0**
baz=300
GOF Gofitskoye 72.24 313⇑*e*P **P 05 02 56.6 0.0**
GOF pmax pmax
comp=Z,104nm,0.8s
J04D Umpqua Nationa 72.29 50 P **P 05 02 57.8 +0.5**
baz=300
MOR8 Moi Rana 72.52 340 *e*P **P 05 02 57.2 -0.7**
KONS Konsvik 72.65 341 *e*P **P 05 02 60.0 +1.3**
L04D Klamath Falls 72.67 51 P **P 05 03 00.3 +0.9**
baz=300
NCK Nalchik 72.67 311 *i* P **P 05 02 59.4 +0.1**
NCK pmax pmax
comp=Z,17nm,0.5s
UOSS Minazif 72.67 289 P **P 05 02 59.6 0.0**
UOSS IAmb IAmb 05 03 02.8
comp=Z,25nm,0.9s
M02C Callahan 72.72 52 P **P 05 03 01.8 +2.1**
baz=300
PINE Pine Mountain 72.75 49 IAmb IAmb 05 03 17.4
comp=Z,39nm,1.3s
NEW Newport 72.77 43 P **P 05 03 00.5 +0.7**
baz=301
J05D Fort Rock, OR 72.82 49 P **P 05 03 02.1 +1.7**
baz=300
ZEI Tsey 72.83 310 *e*P **P 05 02 59.7 -0.8**
ZEI pmax pmax
comp=Z,15nm,0.7s
KBZ Khabaz 72.99 311 P **P 05 03 01.9 +0.8**
comp=Z,33nm,0.8s,baz=68,slow=4.1,SNR=32
KBZ pP **PcP 05 03 16.7 -1.1**
comp=Z,67nm,0.9s,baz=69,slow=2.8,SNR=15
KBZ LR LR 05 35 50.2
comp=Z,158nm,20.1s,baz=61,slow=36
KBZ Khabaz 72.99 311 P **P 05 03 01.9 +0.8**
KBZ *PP **PcP 05 03 16.7 -1.1**
KIV Kislovodsk 73.01 312 *e*P **P 05 03 01.6 +0.2**
KIV *e*S **S 05 12 26.9 +2.2**
KIV *e*SS **SS 05 17 09.4 +3.9**
KIV pmax pmax
comp=Z,70nm,1.0s
KIV pmax pmax
comp=Z,33nm,4.8s
KIV MLR MLR
comp=Z,126nm,18.0s
KIV Kislovodsk 73.01 312 P **P 05 03 02.0 +0.6**
N02D Trinity Center 73.03 52 P **P 05 03 02.5 +1.0**
baz=300
E09A Wood Farm, Sta 73.08 45 P **P 05 03 02.1 +0.5**
E09A IAmb IAmb 05 03 07.7
comp=Z,18nm,1.2s
SHA1 Shidzhatmaz 73.14 311 *d i* P **P 05 03 02.4 +0.1**
MEF Metsahovi 73.17 332 *e*P **P 05 03 03.6 +1.7**
M04C Macdoel 73.19 51 P **P 05 03 04.0 +1.5**
baz=300
KZRT Kazreti 73.21 309 P P 05 03 07.7 +5.2
ONI Oni 73.21 310 P **P 05 03 02.8 +0.2**
ONI pmax pmax
comp=Z,25nm,1.2s
ONI Oni 73.21 310 P **P 05 03 02.8 +0.2**
ONI IAmb IAmb 05 03 08.6
comp=Z,25nm,1.2s
VSU Vasula 73.31 330 *e*P **P 05 03 04.0 +1.2**
VSU Vasula 73.31 330 *i* P **P 05 03 03.1 +0.4**
VSU pmax pmax
comp=Z,79nm,1.2s
K05A Summer Lake 73.32 50 IAmb IAmb 05 03 11.8
comp=Z,24nm,1.1s
O02D Mt. Diablo Mer 73.37 53 P **P 05 03 04.5 +1.0**
baz=300
GNI Garni 73.60 307 *i* P **P 05 03 06.4 +1.4**
GNI pmax pmax
comp=Z,30nm,1.0s
GNI Garni 73.60 307 P **P 05 03 05.2 +0.2**
GNI IAmb IAmb 05 03 17.7
comp=Z,29nm,0.9s
RAF Rauma 73.65 334 *e*P **P 05 03 07.7 +3.0**
AKH Akhalkalaki 73.78 309 P **P 05 03 07.6 +1.5**
O03E Paynes Creek 73.96 52 P **P 05 03 07.7 +0.7**
baz=301
SUMG Summit 74.12 360 *i* P **P 05 03 09.4 +1.6**
SUMG *i* 05 03 25.0
SUMG Summit 74.12 360 *i* P **P 05 03 09.3 +1.6**
SUMG *i* 05 03 24.9
SUMG Summit 74.12 360 IAmb IAmb 05 03 27.0
comp=Z,18nm,0.7s
MTSE Matsula 74.35 331 *e*P **P 05 03 08.1 -0.7**
NSS Namsos 74.42 340 *e*P **P 05 03 07.2 -1.9**
BMO Blue Mountains 74.44 46 IAmb IAmb 05 03 15.9
comp=Z,16nm,1.2s
J08A Circle Bar Ran 74.52 48 IAmb IAmb 05 03 18.3
comp=Z,20nm,1.1s
ORV Oroville 74.54 53 P **P 05 03 11.2 +0.9**
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 74.54 53 P **P 05 03 11.2 +0.9**
SOC Sochi 75.04 313 *e*P **P 05 03 12.7 -0.4**
SOC *e*S **S 05 12 52.7 +5.3**
SOC *e*SS **SS 05 17 37.3 +1.2**
SOC pmax pmax
comp=Z,16nm,0.6s
SOC MLR MLR
comp=Z,124nm,17.0s
AFDM Forest Hills D 75.20 53 P **P 05 03 14.4 +0.2**
MNK Minsk 75.23 326 *i* P **P 05 03 15.3 +1.4**
MNK *i* 05 03 28.3
MNK *i* 05 06 03.9
MNK *i* PPP PPP 05 07 50.1
MNK *i* S **S 05 12 51.0 +2.0**
MNK *i* SS **SS 05 17 43.1 +4.8**
MNK pmax pmax
comp=Z,22nm,0.9s
MNK pmax pmax
comp=N,2.0nm,0.6s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK MLR MLR
comp=Z,118nm,18.0s
MNK MLR MLR
comp=N,215nm,20.0s
MNK MLR MLR
comp=E,4.0nm,15.0s
MNK Minsk 75.23 326 *i* P **P 05 03 15.4 +1.4**
comp=E,1.0nm,0.6s
MNK *i* P **P 05 03 15.4 +1.4**
comp=N,2.0nm,0.6s
MNK *i* P **P 05 03 15.4 +1.4**
comp=Z,22nm,0.9s,baz=232
MNK *i* PcP **pP 05 03 28.3 +1.2**
MNK *i* PP **PP 05 06 03.9 +1.7**
MNK *i* PPP PPP 05 07 50.1
MNK *i* S **S 05 12 51.1 +2.1**
MNK *i* SS **SS 05 17 43.2 +4.9**
MNK *i* SSS SSS 05 21 06.0
MNK *i* LQ LQ 05 31 27.6
MNK *i* LR LR 05 36 26.3
MNK *i* LRM MLR 05 38 36.6
comp=Z,118nm,17.9s
MNK *i* LRM MLR 05 38 44.1
comp=N,215nm,20.4s
MNK *i* LRM MLR 05 39 09.9
comp=E,4.0nm,15.3s
MSO Missoula 75.36 43 P **P 05 03 15.4 +0.4**
baz=304
ISAL Salakas 75.36 328 *e*P **P 05 03 15.8 +1.1**
IIGN Ignalina 75.46 328 *e*P **P 05 03 16.4 +1.1**
SCO Scoresbysund 75.51 354 *i* P **P 05 03 15.9 +0.6**
SCO IAmb IAmb 05 03 17.7
comp=Z,27nm,1.2s
SCO Scoresbysund 75.51 354 *i* P **P 05 03 15.9 +0.6**
SCO pmax pmax
comp=Z,27nm,1.2s
SCO Scoresbysund 75.51 354 IAmb IAmb 05 03 33.5
comp=Z,26nm,0.9s
ANN Anapa 75.77 314 *e*P **P 05 03 14.9 -2.3**
ANN *e*PP **PcP 05 03 24.8 -4.9**
ANN *e*PPP PPP 05 07 51.3
ANN *e*S **S 05 12 54.6 -0.7**
ANN *e*SSS SSS 05 21 10.8
ANN pmax pmax
comp=Z,30nm,0.7s
UPP Uppsala 75.95 334 *e*P **P 05 03 18.2 +0.2**
PNTR Pine Nut 76.04 52 IAmb IAmb 05 03 41.2
comp=Z,25nm,1.4s
MFID Camas Ranch 76.11 47 IAmb IAmb 05 03 25.6
comp=Z,14nm,0.9s
PABE Paberze 76.35 329 *e*P **P 05 03 21.1 +0.8**
FFC Flin Flon 76.73 32 P **P 05 03 23.1 +0.6**
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 76.73 32 P **P 05 03 23.1 +0.6**
FFC IAmb IAmb 05 03 41.5
comp=Z,13nm,0.8s
AKASG Malin Array Be 76.89 323 P **P 05 03 22.8 -0.7**
comp=Z,11nm,0.7s,baz=49,slow=6.0,SNR=20
AKASG pP **pP 05 03 37.9 +1.2**
comp=Z,20nm,0.6s,baz=49,slow=5.7,SNR=13
AKASG LR LR 05 40 30.0
AKASG Malin Array Be 76.89 323 P **P 05 03 22.8 -0.7**
AKASG *PP **pP 05 03 37.9 +1.2**
AKASG Malin Array Be 76.89 323 IAmb IAmb 05 03 40.4
comp=Z,24nm,0.8s
DLMT Dillon 76.95 44 IAmb IAmb 05 03 44.5
comp=Z,16nm,0.8s
EGMT Eagleton 77.01 41 P **P 05 03 23.9 -0.5**
baz=306
NC303 NORSAR Array S 77.09 338 IAmb IAmb 05 03 40.3
comp=Z,25nm,0.9s
DOMB Dombas 77.17 339 *e*P **P 05 03 25.3 +0.4**
MOL Molde 77.20 340 *e*P **P 05 03 26.1 +1.1**
LHV Little Huntoon 77.21 53 IAmb IAmb 05 03 35.4
comp=Z,12nm,1.0s
NVAR Mina Array Bea 77.25 52 P **P 05 03 27.6 +1.6**
comp=Z,3.7nm,0.8s,baz=285,slow=5.5,SNR=18
NVAR LR LR 05 36 07.0
comp=Z,91nm,18.1s,baz=285,slow=34
NB2 NORSAR Subarra 77.28 338 P **P 05 03 25.1 -0.4**
comp=Z,23nm,0.8s,baz=41,slow=5.9
NB2 NORSAR Subarra 77.28 338 P **P 05 03 25.1 -0.4**
baz=41,slow=5.9
NOA NORSAR Array B 77.28 338 P **P 05 03 25.5 0.0**
comp=Z,7.8nm,0.6s,baz=41,slow=5.7,SNR=32
NOA pP **pP 05 03 40.3 +1.5**
comp=Z,4.9nm,0.7s,baz=62,slow=6.4,SNR=7.5
NOA LR LR 05 42 17.3
comp=Z,181nm,18.9s,baz=30,slow=39
NOA NORSAR Array B 77.28 338 P **P 05 03 25.5 0.0**
NOA *PP **pP 05 03 40.3 +1.5**
MLAC Mammoth, Mammo 77.32 53 P **P 05 03 26.4 -0.1**
baz=303
BOZ Bozeman (W) 77.38 43 P **P 05 03 27.4 +0.9**
baz=305
BOZ Bozeman (W) 77.38 43 IAmb IAmb 05 03 33.8
comp=Z,12nm,1.0s
PAGB Antelope Grade 77.38 56 IAmb IAmb 05 03 40.5
comp=Z,14nm,0.9s
NC602 NORSAR Array S 77.40 337 *e*P **P 05 03 27.4 +1.3**
ICESG Greenland Ices 77.63 0 *i* P **P 05 03 29.1 +1.4**
SIM Simferopol' 77.64 316 *e*P **P 05 03 27.9 +0.1**
SIM pmax pmax
comp=Z,42nm,0.7s
SUW Suwalki 77.67 328 *e*P **P 05 03 27.8 0.0**
SMMC Simmler 77.78 56 P **P 05 03 30.5 +1.6**
baz=303
TIN Tinemaha, Big 78.04 53 P **P 05 03 32.2 +1.8**
baz=303
VES Vestal, Richgr 78.12 55 P **P 05 03 31.5 +0.8**
baz=303
PKM Mcpherson Peak 78.13 56 P **P 05 03 33.0 +2.0**
baz=303
OSL Oslo 78.27 337 *e*P **P 05 03 31.5 +0.6**
YMR Madison River 78.30 44 IAmb IAmb 05 03 34.9
comp=Z,22nm,1.2s
SKAR Skarslia 78.46 338 *e*P **P 05 03 33.5 +1.3**
ISA Isabella, Lake 78.63 55 P **P 05 03 34.0 +0.4**
baz=303
GRAC Grapevine Rang 78.65 53 P **P 05 03 35.5 +1.9**
baz=304
ARVC Arvin 78.68 55 P **P 05 03 34.9 +1.1**
baz=303
H17A Grant Village 78.68 44 P **P 05 03 37.3 +3.3**
baz=306
YMP Mirror Lake Pl 78.72 43 IAmb IAmb 05 03 56.0
comp=Z,30nm,1.5s
IMW Indian Meadow 78.77 45 IAmb IAmb 05 03 42.7
comp=Z,14nm,0.9s
FLWY Flagg Ranch 78.80 44 IAmb IAmb 05 03 38.3
comp=Z,14nm,0.9s
KONO Kongsberg 78.86 337 *e*P **P 05 03 35.7 +1.5**
SORM Soroca 78.92 321⇑P **P 05 03 34.7 -0.1**
TPAW Teton Pass 79.00 45 IAmb IAmb 05 03 56.2
comp=Z,9.3nm,0.7s
RLMT Red Lodge 79.00 43 P **P 05 03 37.3 +1.6**
baz=307
R11A Troy Canyon, C 79.07 51 P **P 05 03 37.5 +1.4**
baz=304
SNOW Snow King Moun 79.13 45 IAmb IAmb 05 03 45.9
comp=Z,11nm,0.8s
SNCC San Nicolas Is 79.22 57 P **P 05 03 38.2 +1.4**
baz=303
LRMC Laurel Mtn Rad 79.27 55 P **P 05 03 37.8 +0.7**
baz=304
FURC Furnace Creek, 79.28 53 P **P 05 03 38.6 +1.6**
baz=304,SNR=12
EDW2 Edwards Air Fo 79.39 55 P **P 05 03 39.2 +1.5**
baz=304,SNR=14
TPNV Topopah Spring 79.42 53 P **P 05 03 39.3 +1.3**
baz=304,SNR=16
TPNV Topopah Spring 79.42 53 IAmb IAmb 05 03 47.1
comp=Z,17nm,0.9s
ASK Askoy 79.55 340 *e*P **P 05 03 38.9 +0.9**
LAO LASA Array 79.73 40 P **P 05 03 40.7 +1.3**
baz=308,SNR=9.3
LAO LASA Array 79.73 40 IAmb IAmb 05 03 46.6
comp=Z,15nm,0.9s
HWUT Hardware Ranch 79.73 47 IAmb IAmb 05 03 42.6
comp=Z,18nm,1.0s
DUG Dugway, Tooele 79.79 48 P **P 05 03 41.1 +1.2**
baz=306
DUG Dugway, Tooele 79.79 48 IAmb IAmb 05 03 55.2
comp=Z,14nm,1.1s
CIS Catalina Islan 79.91 57 P **P 05 03 41.1 +0.5**
baz=304
GSC Goldstone, Bar 79.97 54 P **P 05 03 42.1 +1.2**
baz=304,SNR=8.4
GSC Goldstone, Bar 79.97 54 IAmb IAmb 05 03 43.3
comp=Z,14nm,1.1s
BFSC Mount Baldy Ra 79.97 56 P **P 05 03 42.1 +1.1**
baz=304,SNR=5.7
SHOC Shoshone, Teco 79.99 54 P **P 05 03 42.3 +1.4**
baz=304
LVV L'vov 80.03 324 *e*P **P 05 03 41.0 +0.2**
DY2G Dye2 80.09 3⇑*i*P **P 05 03 41.9 +0.7**
DY2G IAmb IAmb 05 03 42.8
comp=Z,13nm,0.9s
NNZ Nelson 80.14 156 P **P 05 03 42.2 +0.9**
BW06 Boulder Array 80.25 45 P **P 05 03 43.5 +1.0**
baz=307
PDAR Pinedale Array 80.25 45 P **P 05 03 43.2 +0.7**
comp=Z,4.4nm,0.9s,baz=277,slow=2.9,SNR=29
PDAR LR LR 05 39 34.8
comp=Z,27nm,18.5s,baz=306,slow=36
BSD Bornholm Skovb 80.37 332 *e*P **P 05 03 42.5 -0.1**
BSD IAmb IAmb 05 03 43.9
comp=Z,17nm,1.1s
BSD Bornholm Skovb 80.37 332 *e*P **P 05 03 42.4 -0.1**
BSD pmax pmax
comp=Z,17nm,1.1s
SHPR Sheep Range 80.39 53 IAmb IAmb 05 04 03.2
comp=Z,16nm,1.2s
TUQ Turquoise Moun 80.49 54 P **P 05 03 45.2 +1.4**
baz=304,SNR=13
HEC Hector,Ludlow 80.55 55 P **P 05 03 45.4 +1.4**
baz=304,SNR=5.5
MPU Maple Canyon 80.63 48 IAmb IAmb 05 03 47.3
comp=Z,19nm,1.3s
MURC Murrieta 80.65 56 P **P 05 03 45.3 +0.8**
baz=304
JURR Jurilovca 80.73 318⇑P **P 05 03 44.7 +0.1**
BUR08 Bucovina Ar. S 80.87 322 IAmb IAmb 05 04 01.5
comp=Z,13nm,0.9s
BURAR Bucovina Array 80.88 322⇑P **P 05 03 46.6 +1.0**
BURAR Bucovina Array 80.88 322 IAmb IAmb 05 04 03.8
comp=Z,20nm,0.8s
CFR Carcaliu 80.88 319⇑P **P 05 03 45.5 0.0**
TPGR Topolog 80.92 318⇑P **P 05 03 46.0 +0.3**
TCRU Three Creeks R 80.94 50 IAmb IAmb 05 03 53.3
comp=Z,16nm,1.1s
BR131 Keskin Array S 80.97 312 IAmb IAmb 05 04 05.3
comp=Z,38nm,1.0s
BRTR Keskin Array B 80.97 312 P **P 05 03 46.2 -0.1**
comp=Z,12nm,0.9s,baz=120,slow=3.5,SNR=39
BRTR PKKPbc **PKKPbc 05 22 23.6 +0.9**
comp=Z,0.9nm,0.8s,baz=176,slow=3.6,SNR=4.0

BRTR LR LR 05 43 54.2
comp=Z,111nm,18.3s,baz=49,slow=39
BRTR Keskin Array B 80.97 312 P **P 05 03 46.2 -0.1**
GMRC Granite Mounta 81.03 54 P **P 05 03 48.1 +1.4**
baz=305,SNR=14
109C Camp Elliot, M 81.11 56 P **P 05 03 47.8 +0.9**
baz=304
PFO Pinyon Flats O 81.15 56 P **P 05 03 47.5 +0.2**
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 81.15 56 P **P 05 03 48.4 +1.1**
baz=304,SNR=12
PFO Pinyon Flats O 81.15 56 P **P 05 03 47.5 +0.2**
PFO IAmb IAmb 05 03 49.5
comp=Z,19nm,1.1s
MVU Marysvale 81.15 50 IAmb IAmb 05 04 07.6
comp=Z,38nm,1.1s
TPFO Pinon Flats 81.16 56 P **P 05 03 48.4 +1.0**
baz=304,SNR=14
TIRR Tirgusor 81.18 318 IAmb IAmb 05 04 04.2
comp=Z,36nm,1.0s
VRI Vrincioaia 81.21 320 ⇓P **P 05 03 47.7 +0.5**
BELC Belle Mtn. Jos 81.25 55 P **P 05 03 48.8 +0.9**
baz=305,SNR=11
PLOR Plostina 81.26 320 ⇓P **P 05 03 47.9 +0.4**
HARR Harsova 81.30 318 ⇑P **P 05 03 48.9 +1.2**
LCMT Little Creek M 81.36 51 IAmb IAmb 05 03 51.2
comp=Z,13nm,0.9s
ANTO Ankara 81.41 312 P **P 05 03 48.8 +0.3**
ANTO pmax pmax
comp=Z,21nm,0.7s
ANTO Ankara 81.41 312 P **P 05 03 48.8 +0.3**
ANTO IAmb IAmb 05 04 06.4
comp=Z,21nm,0.7s
BISRR Bisoca 81.42 320 ⇓P **P 05 03 49.3 +0.8**
KOLS Kolonicke sedl 81.48 324 *e*P **P 05 03 49.2 +0.6**
KOLS Kolonicke sedl 81.48 324 *e*P **P 05 03 49.1 +0.5**
KOLS *e* 05 36 25.7
P17A Butcher Ranch, 81.50 48 IAmb IAmb 05 03 51.9
comp=Z,22nm,1.1s
RDMU Red Mountain 81.56 47 IAmb IAmb 05 03 52.3
comp=Z,24nm,1.2s
OZUR 81.56 321 ⇑P **P 05 03 50.5 +1.3**
MONP2 Monument Peak 81.58 56 P **P 05 03 50.7 +1.0**
baz=305,SNR=9.7
OXZ Oxford 81.59 158 IAmb IAmb 05 03 50.4
comp=Z,33nm,1.0s
KNB Kanab 81.63 51 IAmb IAmb 05 03 52.9
comp=Z,20nm,0.9s
UZH Uzhgorod 81.67 324 *e*P **P 05 03 47.2 -2.4**
UZH *i* 05 03 55.5
UZH *i* 05 04 02.4
IRM Iron Mountain 81.74 54 P **P 05 03 51.4 +1.1**
baz=305
OJC Ojcow 81.78 326 *e*P **P 05 03 50.5 +0.3**
OJC Ojcow 81.78 326 IAmb IAmb 05 04 06.8
comp=Z,33nm,1.1s
ISR Istrita 81.79 319 ⇓P **P 05 03 51.3 +0.9**
SRU San Rafael Swe 81.85 48 IAmb IAmb 05 03 58.1
comp=Z,19nm,0.8s
DOPR Dopca 81.86 321 ⇑P **P 05 03 52.1 +1.4**
MLR Muntele Rosu 81.87 320 ⇓P **P 05 03 52.2 +1.3**
MLR Muntele Rosu 81.87 320 IAmb IAmb 05 03 57.6
comp=Z,9.9nm,0.7s
CRVS Cervenica-Dubn 81.89 325 *e*P **P 05 03 51.8 +1.0**
CRVS pmax pmax
comp=Z,93nm,2.2s
CRVS Cervenica-Dubn 81.89 325 *e*P **P 05 03 51.8 +1.0**
IKP In-Ko-Pah, Jac 81.94 56 P **P 05 03 52.4 +1.0**
baz=305
SWSC Sam W. Stewart 81.98 56 P **P 05 03 52.1 +0.6**
baz=305
NUUK Nuuk 82.03 6 *i* P **P 05 03 52.1 +1.0**
NUUK IAmb IAmb 05 03 53.0
comp=Z,20nm,0.8s
K22A Casper 82.08 44 P **P 05 03 51.8 -0.3**
baz=309
K22A Casper 82.08 44 IAmb IAmb 05 04 13.0
comp=Z,16nm,1.2s
PDMCI Parker Dam,Lak 82.33 54 P **P 05 03 54.8 +1.4**
baz=306
VOIR 82.39 320 ⇑P **P 05 03 54.6 +1.1**
MDND Maddock 82.40 36 P **P 05 03 53.6 +0.2**
baz=313
ULM Lac du Bonnet 82.50 33 P **P 05 03 54.0 +0.1**
comp=Z,4.7nm,0.9s,baz=309,slow=6.1,SNR=7.2
ULM Lac du Bonnet 82.50 33 IAmb IAmb 05 04 12.7
comp=Z,17nm,1.2s
RSSD Black Hills 82.55 41 P **P 05 03 54.8 +0.2**
baz=310
GLA Glamis 82.59 55 P **P 05 03 55.6 +0.8**
baz=305
O20A White River Ci 82.63 46 P **P 05 03 56.2 +1.1**
baz=308,SNR=7.5
O20A White River Ci 82.63 46 IAmb IAmb 05 04 12.2
comp=Z,25nm,1.5s
LANS Liptovska Anna 82.67 326 *e*P **P 05 03 56.4 +1.5**
LANS pmax pmax
comp=Z,14nm,1.7s
LANS Liptovska Anna 82.67 326 *e*P **P 05 03 56.4 +1.5**
DRGR 82.70 322 ⇓P **P 05 03 56.0 +0.8**
ODZ Otahua Downs 82.72 159 IAmb IAmb 05 03 57.5
comp=Z,26nm,0.9s
OKC Ostrava-Krasne 82.80 327 AMS AMS 05 43 40.0
comp=Z,200nm,21.3s
PMOR Pomariorio Ree 83.02 113 *e*T T 06 35 16.4
comp=Z,3.8nm,0.2s
LOT Lotru 83.06 321 ⇑P **P 05 03 57.8 +0.8**
MORC Moravsky Berou 83.12 327 ⇓P **P 05 03 57.7 +0.5**
MORC Moravsky Berou 83.12 327 IAmb IAmb 05 04 13.3
comp=Z,17nm,1.1s
MORC Moravsky Berou 83.12 327 *e*P **P 05 03 57.9 +0.7**
OSTC Ostas 83.15 328 AMS AMS 05 45 50.0
comp=Z,200nm,14.6s
CHVC Chvalec 83.20 328 AMS AMS 05 45 50.0
comp=Z,200nm,17.2s
KRLC Kraliky 83.25 328 *e*P **P 05 03 58.2 +0.3**
KRLC MLR MLR
comp=Z,200nm,17.6s
KRLC Kraliky 83.25 328 *e*P **P 05 03 58.2 +0.3**
KRLC AMS AMS 05 44 40.0
comp=Z,200nm,17.6s
DPC Dobruska-Polom 83.25 328 *e*P **P 05 03 58.9 +1.0**
DPC MLR MLR
comp=Z,200nm,17.6s
DPC Dobruska-Polom 83.25 328 *e*P **P 05 03 58.9 +1.0**
DPC *e*PCP **PcP 05 04 01.9 -0.4**
DPC AMS AMS 05 45 00.0
comp=Z,200nm,17.6s
UPC Upice 83.28 328 AMS AMS 05 45 50.0
comp=Z,200nm,15.8s
PV22 Blue Mesa, Par 83.28 48 IAmb IAmb 05 04 19.1
comp=Z,39nm,1.5s
PV20 West Nyswonger 83.29 48 IAmb IAmb 05 04 01.1
comp=Z,26nm,0.9s
PV04 Paradox Valley 83.30 48 IAmb IAmb 05 04 01.3
comp=Z,23nm,1.1s
PPT Papeete 83.31 116 LR LR 05 42 51.9
comp=Z,73nm,18.8s,baz=324,slow=37
PPT2 Papeete2 83.32 116 *e*LR LR 05 30 02.8
comp=Z,257nm,24.2s
PSZ Piszkesteto 83.33 325 *e*P **P 05 03 59.4 +1.0**
PV16 Nyswonger Mesa 83.34 48 IAmb IAmb 05 04 01.4
comp=Z,23nm,1.0s
PV12 Saucer Basin, 83.41 48 IAmb IAmb 05 04 02.0
comp=Z,23nm,1.1s
PV03 Paradox Valley 83.42 48 IAmb IAmb 05 04 01.8
comp=Z,25nm,1.0s
PV07 Paradox Valley 83.43 48 IAmb IAmb 05 04 17.4
comp=Z,15nm,1.4s
VYHS Vyhne 83.43 326 *e*P **P 05 03 58.9 +0.1**
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS Vyhne 83.43 326 *e*P **P 05 03 58.9 +0.1**
WUAZ Wupatki 83.46 52 P **P 05 04 00.3 +0.9**
baz=307,SNR=8.1
WUAZ Wupatki 83.46 52 IAmb IAmb 05 04 02.0
comp=Z,14nm,1.1s
PV13 Radium Mtn., P 83.49 48 IAmb IAmb 05 04 02.1
comp=Z,27nm,1.0s
PV02 Paradox Valley 83.51 48 IAmb IAmb 05 04 02.3
comp=Z,20nm,1.0s
N23A Red Feather La 83.53 45 P **P 05 04 00.8 +1.0**
baz=309,SNR=8.6
PHWY Pilot Hill 83.55 44 IAmb IAmb 05 04 02.2
comp=Z,16nm,1.4s
PV15 Paradox Valley 83.59 48 IAmb IAmb 05 04 16.9
comp=Z,10nm,1.0s
SIRR Siria 83.59 323 ⇑P **P 05 04 00.1 +0.4**
GZR Gura Zlata 83.61 321 ⇑P **P 05 04 00.2 +0.4**
PV01 Paradox Valley 83.66 48 IAmb IAmb 05 04 03.0
comp=Z,19nm,1.0s
JAVC Velka Javorina 83.72 326 *e*P **P 05 04 01.4 +1.1**
VRAC Vranov 83.89 327 *e*P **P 05 04 01.4 +0.3**
PVCC Panska Ves 83.89 329 AMS AMS 05 45 00.0
comp=Z,200nm,21.0s
AGMN Agassiz Nation 83.89 34 P **P 05 04 01.3 +0.2**
baz=315
AGMN Agassiz Nation 83.89 34 IAmb IAmb 05 04 18.7
comp=Z,11nm,1.3s
BRG Berggiesshubel 83.90 330 *e*P **P 05 04 01.5 +0.4**
BRG Amp 05 04 04.1
comp=Z,9.6nm,1.1s
BRG Berggiesshubel 83.90 330 P P 05 04 16.7 +16
BRG Amp 05 04 18.8
comp=Z,7.7nm,1.0s
BRG PP **PP 05 07 19.1 +4.8**
BRG Amp 05 07 30.5
comp=Z,8.3nm,1.2s
BRG Amp 05 44 42.0
comp=E,0.2nm,20.8s
BRG Amp 05 44 48.0
comp=Z,0.2nm,16.3s
CLL Collm 83.97 330 *i* P **P 05 04 01.0 -0.5**
comp=Z,20nm,1.1s
CLL *i* sP **pP 05 04 16.4 +1.6**
CLL *i* sPcP 05 04 21.2
CLL *e* 05 04 43.0
CLL *e*PP **PP 05 07 12.0 -2.9**
CLL *e*PPP PPP 05 09 12.0
CLL *e*S **S 05 14 21.0 -0.5**
CLL *e*(SP) 05 15 06.0
CLL *e*PPS PPS 05 15 36.0
CLL *e*SS **SS 05 19 48.0 -1.1**
CLL *e*SSS SSS 05 23 18.0
CLL *e* 05 25 36.0
CLL LmV 05 48 00.0
comp=Z,100nm,19.5s
CLL Collm 83.97 330 *i* P **P 05 04 01.0 -0.5**
CLL *e*S **S 05 14 13.0 -8.5**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 83.97 330 IAmb IAmb 05 04 02.8
comp=Z,15nm,0.9s
SMCO Snowmass 83.99 46 IAmb IAmb 05 04 05.1
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 84.07 52 IAmb IAmb 05 04 05.3
comp=Z,9.8nm,1.1s
SMOL Smolenice 84.08 326 *e*P **P 05 04 03.3 +1.2**
SMOL pmax pmax
comp=Z,11nm,1.0s
SMOL Smolenice 84.08 326 *e*P **P 05 04 03.3 +1.2**
KRUC Moravsky 84.16 327 *e*P **P 05 04 02.4 -0.1**
MODS Modra-Piesok 84.25 326 *e*P **P 05 04 04.6 +1.6**
MODS pmax pmax
comp=Z,25nm,1.3s
MODS Modra-Piesok 84.25 326 *e*P **P 05 04 04.6 +1.6**
MVCO Mesa Verde 84.28 49 P **P 05 04 03.5 -0.1**
baz=308,SNR=7.3
MVCO Mesa Verde 84.28 49 IAmb IAmb 05 04 06.0
comp=Z,12nm,1.1s
PRA Prague 84.29 329 AMS AMS 05 47 30.0
comp=Z,200nm,15.8s
PRU Pruhonice 84.30 329 *e*P **P 05 04 03.5 +0.3**
PRU *e* 05 04 18.5
PRU MLR MLR
comp=Z,200nm,20.6s
PRU Pruhonice 84.30 329 *e*P **P 05 04 03.5 +0.3**
PRU *e*pP **pP 05 04 18.5 +2.0**
PRU AMS AMS 05 45 10.0
comp=Z,200nm,20.6s
TREC Trest 84.39 328 AMS AMS 05 45 30.0
comp=Z,200nm,17.5s
ISCO Idaho Springs 84.42 45 P **P 05 04 05.8 +1.5**
baz=310,SNR=8.1
ZST Bratislava 84.46 326 *e*P **P 05 04 04.8 +0.8**
ZST Bratislava 84.46 326 *e*P **P 05 04 04.8 +0.8**
214A Organ Pipe Nat 84.61 55 P **P 05 04 06.2 +1.1**
baz=306
S22A 4UR Ranch, Cre 84.98 48 P **P 05 04 08.9 +1.7**
baz=309,SNR=16
MPLH Magyarpolny 84.99 325 *e*P **P 05 04 07.6 +0.9**
NKC Novy Kostel 85.01 330 AMS AMS 05 45 50.0
comp=Z,100nm,13.4s
SUSD Miller 85.06 39 P **P 05 04 07.6 +0.4**
baz=314
SOP Sopron 85.08 326 *e*P **P 05 04 09.2 +2.1**
MORH Mrgy, Hungar 85.13 324 *e*P **P 05 04 07.5 +0.1**
CONA Conrad Observa 85.22 327 *e*P **P 05 04 08.3 +0.3**
comp=Z,11nm,1.1s,SNR=11
Q24A Divide 85.23 46 P **P 05 04 08.2 -0.2**
baz=310
VTS Vitosha 85.23 319 ⇓P **P 05 04 08.6 +0.4**
VTS Vitosha 85.23 319 IAmb IAmb 05 04 25.1
comp=Z,16nm,0.9s
CKRC Cesky Krumlov 85.27 328 *e*P **P 05 04 07.7 -0.4**
KHC Kasperske Hory 85.36 329 *e*P **P 05 04 09.1 +0.5**
KHC MLR MLR
comp=Z,200nm,27.3s
KHC Kasperske Hory 85.36 329 *e*P **P 05 04 09.1 +0.5**
KHC *e*PCP **PcP 05 04 12.0 +0.4**
KHC AMS AMS 05 43 20.0
comp=Z,200nm,27.3s
KHC Kasperske Hory 85.36 329 IAmb IAmb 05 04 25.2
comp=Z,26nm,1.3s
F33A 5 Mile Ranch, 85.43 36 IAmb IAmb 05 04 25.5
comp=Z,16nm,1.0s
KOVH Kovagotottos 85.49 324 *e*P **P 05 04 09.9 +0.7**
GERES GERESS Array B 85.52 328 P **P 05 04 08.8 -0.6**
comp=Z,3.8nm,0.6s,baz=38,slow=5.0,SNR=16
GERES pP **pP 05 04 24.3 +1.5**
comp=Z,4.4nm,0.6s,baz=23,slow=4.8,SNR=8.0
GERES PP **PP 05 07 31.5 +3.8**
comp=Z,0.8nm,0.7s,baz=50,slow=7.2,SNR=3.8
GERES GERESS Array B 85.52 328 P **P 05 04 08.9 -0.6**
GERES *PP **pP 05 04 24.3 +1.5**
GERES GERESS Array B 85.52 328 P **P 05 04 08.5 -1.0**
OGNE Ogallala 85.75 43 P **P 05 04 10.5 -0.2**
baz=312
OGNE Ogallala 85.75 43 IAmb IAmb 05 04 12.4
comp=Z,14nm,0.9s
TUC Tucson 85.78 54 P **P 05 04 11.2 +0.1**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 85.78 54 P **P 05 04 12.3 +1.3**
baz=307
TUC Tucson 85.78 54 P **P 05 04 11.2 +0.1**
SDCO Great Sand Dun 85.79 47 P **P 05 04 12.2 +1.0**
baz=310,SNR=13
ARSA Arzberg 85.88 326 *e*P **P 05 04 11.3 +0.1**
comp=Z,8.4nm,1.4s
DIVS Divibare 85.94 322 IAmb IAmb 05 04 27.8
comp=Z,12nm,0.9s
MOA Molln 86.01 327 *e*P **P 05 04 12.0 +0.2**
comp=Z,7.5nm,1.1s
EYMN Ely 86.15 32 P **P 05 04 12.9 +0.4**
baz=318
EYMN Ely 86.15 32 IAmb IAmb 05 04 18.2
comp=Z,7.6nm,0.9s
GROS Grobnik 86.47 326 *i* P **P 05 04 13.7 -0.5**
PERS Pernice 86.52 326 *e*P **P 05 04 14.0 -0.4**
SOKA Soboth 86.53 326 *e*P **P 05 04 14.0 -0.5**
comp=Z,18nm,1.6s,SNR=8.3
KSCO Kaye Shedlock' 86.69 44 P **P 05 04 15.7 +0.3**
baz=312
ECSD EROS Data Cent 86.76 38 P **P 05 04 16.0 +0.4**
baz=315
ECSD EROS Data Cent 86.76 38 IAmb IAmb 05 04 21.5
comp=Z,8.9nm,0.8s
T25A Trinidad 86.85 47 P **P 05 04 17.4 +1.0**
baz=311
TBI Tubuai 86.96 121 *e*LR LR 05 31 41.8
comp=Z,205nm,25.2s
ANMO Albuquerque 86.98 50 *i* P **P 05 04 13.5 -3.5**
ANMO pmax pmax
comp=Z,12nm,2.1s
ANMO Albuquerque 86.98 50 P **P 05 04 18.7 +1.7**
baz=310
ANMO Albuquerque 86.98 50 P **P 05 04 17.0 -0.1**
KBA Koelnbreinsper 87.00 327 *e*P **P 05 04 17.2 +0.4**
comp=Z,1.3nm,0.4s
E38A The Farm, Brul 87.13 33 IAmb IAmb 05 04 18.3
comp=Z,14nm,0.9s
MYKA Terra Mystica 87.20 327 *e*P **P 05 04 17.3 -0.4**
comp=Z,2.3nm,0.6s
BEBN Eben Emael 87.25 334 *d*P **P 05 04 17.4 -0.4**
BEBN *d*sP **pP 05 04 32.5 +1.3**
BTNL Ternell 87.25 333 *d*P **P 05 04 17.6 -0.3**
BTNL *d*sP **pP 05 04 32.8 +1.5**
VISS Visnje 87.26 326 *e*P **P 05 04 17.2 -0.8**
MEM Membach 87.28 333 *d*P **P 05 04 16.9 -1.0**
MEM *d*sP **pP 05 04 32.8 +1.5**
BSTI Sart Tilman 87.47 333 *d*sP sP 05 04 34.0 -3.4
BHOU Houvegnez 87.49 333 *d*PcP **P 05 04 19.6 +0.6**
BHOU *d*sP **pP 05 04 33.1 +0.7**
ZOU Zoufplan 87.56 327 IAmb IAmb 05 04 29.4
comp=Z,16nm,1.4s
SPMN Marine on St. 87.57 35 P **P 05 04 20.2 +0.7**
baz=318
SPMN Marine on St. 87.57 35 IAmb IAmb 05 04 20.8
comp=Z,6.9nm,0.9s
WTTA Wattenberg 87.62 328 *e*P **P 05 04 19.4 -0.4**
comp=Z,1.4nm,0.6s
BCLA Clavier 87.70 334 *d*P **P 05 04 18.8 -1.1**
BCLA *d*sP **pP 05 04 34.8 +1.5**
MOTA Moosalm 87.79 329 *e*P **P 05 04 18.4 -2.3**
comp=Z,2.5nm,0.9s
BGES Gesves 87.81 334 *d*PcP **PcP 05 04 23.3 +1.0**
BGES *d*sP **pP 05 04 35.3 +1.4**
RETA Reutte 87.83 329 *e*P **P 05 04 22.1 +1.4**
comp=Z,4.7nm,0.6s
STAL STALIGIAL 87.91 327 IAmb IAmb 05 04 35.3
comp=Z,23nm,1.4s
WLF Walferdange 87.99 333 *d*P **P 05 04 21.7 +0.4**
WLF *d*sP **pP 05 04 36.6 +1.8**
BMRD Maredsous 87.99 334 *d*P **P 05 04 20.7 -0.6**
BMRD *d*sP **pP 05 04 36.3 +1.5**
SNF Seneffe 88.00 334 *d*P **P 05 04 21.1 -0.2**
SNF *d*sP **pP 05 04 35.9 +1.1**
BFO Black Forest 88.19 331 P **P 05 04 22.1 -0.3**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest 88.19 331 P **P 05 04 22.1 -0.3**
BFO IAmb IAmb 05 04 38.9
comp=Z,6.4nm,0.7s
FETA Feichten 88.20 329 *e*P **P 05 04 21.9 -0.7**
comp=Z,3.2nm,1.2s
DOU Dourbes 88.23 334 *d*P **P 05 04 21.3 -1.1**
DAVA Damuels 88.36 329 *e*P **P 05 04 21.3 -2.1**
comp=Z,6.5nm,1.0s
CBKS Cedar Bluff 88.49 43 P **P 05 04 23.8 -0.2**
baz=313
COWI Conover 88.61 32 IAmb IAmb 05 04 30.2
comp=Z,8.8nm,1.0s
SCHQ Schefferville 88.70 16 P **P 05 04 25.4 +0.8**
comp=Z,3.8nm,0.7s,baz=346,slow=8.3,SNR=3.2
SCHQ LR LR 05 47 02.8
comp=Z,35nm,19.9s,baz=16,slow=38
G40A Rib Lake 88.76 33 IAmb IAmb 05 04 42.7
comp=Z,10nm,0.8s
TUE Stuetta 89.23 329 IAmb IAmb 05 04 44.8
comp=Z,7.4nm,0.7s
E43A Lone Tree Farm 89.33 31 IAmb IAmb 05 04 45.4
comp=Z,14nm,0.8s
MNTX Cornudas Mount 89.74 51 P **P 05 04 30.1 +0.2**
baz=310
AMTX Amarillo 90.00 47 IAmb IAmb 05 04 33.3
comp=Z,11nm,0.8s
MATQ Matagami 90.16 24 P **P 05 04 31.4 -0.2**
baz=328
KAN12 Harper NE Stat 90.53 43 IAmb IAmb 05 04 35.1
comp=Z,14nm,1.1s
KAN08 Anthony NE Sta 90.59 43 IAmb IAmb 05 04 51.4
comp=Z,7.3nm,0.8s
N38A Joes South For 90.62 38 IAmb IAmb 05 04 35.4
comp=Z,14nm,1.0s
KAN05 Bluff City Nor 90.73 43 IAmb IAmb 05 04 36.3
comp=Z,9.7nm,0.7s
OK032 Salt Plains WL 90.75 44 IAmb IAmb 05 04 36.4
comp=Z,13nm,1.0s
KS20 Mayfield South 90.83 43 IAmb IAmb 05 04 52.9
comp=Z,7.1nm,0.8s
KAN17 Caldwell West 90.84 43 IAmb IAmb 05 04 36.8
comp=Z,11nm,1.2s
LSQQ Lebel-sur-Quev 90.99 24 P **P 05 04 34.9 -0.5**
baz=329
KAN13 South Haven SW 91.02 43 IAmb IAmb 05 04 37.5
comp=Z,21nm,1.3s
CHGQ Chibougamau 91.10 22 P **P 05 04 36.0 +0.1**
baz=331
P38A Dawn 91.32 39 IAmb IAmb 05 04 43.2
comp=Z,9.5nm,0.8s
BNI Bardonecchia 91.49 330 IAmb IAmb 05 04 55.0
comp=Z,7.5nm,0.9s
GLMI Grayling 91.58 31 P **P 05 04 37.7 -0.5**
baz=323
T35A Sooner Cattle 91.64 43 IAmb IAmb 05 04 56.7
comp=Z,9.6nm,0.9s
WMOK Wichita Mounta 91.84 45 P **P 05 04 40.4 +0.7**
baz=314
WMOK Wichita Mounta 91.84 45 IAmb IAmb 05 04 41.3
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 92.40 52 P **P 05 04 43.6 +1.2**
comp=Z,6.6nm,0.9s,baz=292,slow=3.1,SNR=56
TXAR pP **pwP 05 04 59.0 -2.5**
comp=Z,4.5nm,0.7s,baz=291,slow=3.5,SNR=6.2
TXAR LR LR 05 44 37.6
comp=Z,94nm,18.9s,baz=0.0,slow=34
TXAR Lajitas Array 92.40 52 P **P 05 04 43.6 +1.2**
TXAR *PP **pwP 05 04 59.0 -2.5**
TUL1 Leonard 92.76 43 P **P 05 04 44.0 +0.1**
baz=316
ABTX Abilene, Hawle 92.77 48 P **P 05 04 44.7 +0.7**
baz=313
HDIL Hopedale 92.78 36 P **P 05 04 43.9 +0.1**
baz=320
U38A Gravette 93.17 42 IAmb IAmb 05 04 47.0
comp=Z,7.7nm,1.1s
HHAR Hobbs 93.53 42 IAmb IAmb 05 04 54.2
comp=Z,4.9nm,1.0s
CCM Cathedral Cave 93.68 39 P **P 05 04 48.4 +0.4**
CCM pmax pmax
comp=Z,6.0nm,0.9s
CCM Cathedral Cave 93.68 39 P **P 05 04 48.4 +0.4**
baz=319
CCM Cathedral Cave 93.68 39 P **P 05 04 48.4 +0.4**
CCM IAmb IAmb 05 04 49.2
comp=Z,6.4nm,0.9s
MGMO Mountain Grove 93.81 40 IAmb IAmb 05 05 06.3
comp=Z,7.1nm,0.9s
U40A Yellville 94.08 41 P **P 05 04 50.3 +0.3**
baz=318
U40A Yellville 94.08 41 IAmb IAmb 05 04 51.0
comp=Z,6.4nm,0.9s
JCT Junction City 94.13 49 P **P 05 04 50.4 +0.1**
baz=313
JCT Junction City 94.13 49 IAmb IAmb 05 04 51.4
comp=Z,6.1nm,0.8s
T42A Van Buren 94.53 39 IAmb IAmb 05 05 09.9
comp=Z,5.3nm,0.9s
MIAR Mount Ida 95.00 43 P **P 05 04 54.5 +0.3**
baz=317
MIAR Mount Ida 95.00 43 IAmb IAmb 05 05 12.1
comp=Z,7.9nm,0.9s
PBMO Poplar Bluff 95.06 39 IAmb IAmb 05 05 12.5
comp=Z,10nm,1.2s
KEST Kesra 97.61 322 LR LR 05 53 34.2
comp=Z,149nm,18.8s,baz=344,slow=38
ESDC Sonseca Array 100.27 333 PP **PP 05 09 23.1 -0.1**
comp=Z,0.8nm,0.8s,baz=24,slow=8.5,SNR=4.3
VNDA Vanda 111.57 175 PKIKP **PKiKP 05 10 04.7 +0.4**
comp=Z,1.1nm,0.9s,baz=325,slow=6.0,SNR=6.2
VNDA Vanda 111.57 175 *i* PKIKP **PKiKP 05 10 04.7 +0.4**
MAW Mawson 116.33 205 PP PP 05 11 18.1 -2.8
comp=Z,4.4nm,0.8s,baz=62,slow=14,SNR=5.6
TORD Torodi Ar. Bea 119.56 313 PKP **PKPdf 05 10 20.7 -0.9**
comp=Z,1.0nm,0.6s,baz=64,slow=2.5,SNR=8.1
TORD PP **PP 05 11 44.6 +1.2**
comp=Z,1.8nm,0.9s,baz=27,slow=9.0,SNR=4.0
TORD PKKPab **PKKPbc 05 20 33.7 +2.0**
comp=Z,1.5nm,0.9s,baz=248,slow=3.5,SNR=5.2
AZU Azuero 123.10 51 *e*P PKiKP 05 10 41.1 +12
LCBC Los crdobas, 124.76 47 *e*P PKiKP 05 10 46.4 +14
BOSA Boshof 125.65 257 PKP **PKPdf 05 10 33.3 +0.3**
comp=Z,5.7nm,1.0s,baz=26,slow=4.2,SNR=3.1
BOSA Boshof 125.65 257 PKIKP **PKPdf 05 10 33.3 +0.3**
UREC San Jos de Ur 126.13 47 *e*P **PKPdf 05 10 34.1 -0.2**
PLMC San Jos del P 127.86 50 *e*P **PKiKP 05 10 38.1 -0.1**

GUY2C	Guyana, Caldas	128.20	49	eP	PKiKP	05 10 40.3	+0.9
YOTC	Yotoco, Valle	128.52	51	eP	PKPdf	05 10 37.1	-1.8
ORTC	Ortega, Tolima	129.28	50	eP	PKPdf	05 10 40.0	-0.3
POPC	Popayan, Colom	129.38	52	eP	PKPdf	05 10 30.7	-10
BBAC	Balboa, Cauca	129.39	53	eP	PKPdf	05 10 39.3	-1.4
SOTA	Rioblanco	129.73	53	eP	PKPdf	05 10 36.6	-5.2
GCUF	Volcan Galeras	129.91	54	eP	PKPdf	05 10 42.1	+0.1
SNAA	Sanae	137.39	196	PKPdf	PKPdf	05 10 41.3	-12
SNAA	Sanae	137.39	196	PP	PP	05 13 39.0	-0.8
BOAV	Boa Vista	138.78	34	eP	PKiKP	05 11 01.8	+1.6
VNA2	Neumayer--Watz	138.95	195	PKPdf	PKPdf	05 10 47.7	-8.9
VNA2	Neumayer--Watz	138.95	195	PKiKP	PKiKP	05 10 59.3	+0.5
VNA2	Neumayer--Watz	138.95	195	PP	PP	05 13 45.8	-3.6
VNA3	Neumayer Olymp	139.18	194	PKPdf	PKPdf	05 10 46.8	-10
VNA3	Neumayer Olymp	139.18	194	PKiKP	PKiKP	05 10 59.0	-0.3
VNA1	Neumayer--Stat	139.35	195	PKPdf	PKPdf	05 10 51.2	-6.1
TMAB	Tom-Au,PA,Br	147.76	18	eP	PKPbc	05 11 17.4	+0.8
LPAZ	La Paz	148.51	64	PKP	PKPdf	05 11 16.7	+1.0
	comp=Z,17nm,0.8s,baz=337,slow=3.5,SNR=36						
LPAZ				PKPbc	PKiKP	05 11 20.4	-0.5
	comp=Z,16nm,0.8s,baz=322,slow=2.4,SNR=43						
LPAZ	La Paz	148.51	64	PKIKP	PKPdf	05 11 16.7	+1.0
LPAZ						05 11 20.4	
LPAZ	La Paz	148.51	64	eP	PKiKP	05 11 20.3	-0.5
LPAZ	La Paz	148.51	64	eP	PKPdf	05 11 16.9	+1.3
ROSB	Rosrio	149.07	10	eP	PKPbc	05 11 19.7	-0.4
NPGB	Novo Progresso	149.48	34	eP	PKPbc	05 11 20.6	-0.5
NBMO	Morrinhos-CE	149.86	2	eP	PKPbc	05 11 20.7	-1.3
NBCL	Cascavel-CE	150.78	359	eP	PKPbc	05 11 23.3	-0.9
NBPS	Pedro II - PI	150.85	5	eP	PKPbc	05 11 22.5	-2.0
PRPB	Parauapebas	150.88	23	eP	PKPbc	05 11 22.6	-1.9
LVC	Limon Verde	151.42	75	eP	PKPbc	05 11 23.1	-2.8
VILB	Vilhena	151.72	48	eP	PKPbc	05 11 23.8	-2.6
NBPB	Pedra_Branca-C	152.09	2	eP	PKPbc	05 11 25.6	-1.6
CLDB	Colider	152.57	38	eP	PKPbc	05 11 25.1	-3.2
PLCA	Paso Flores	153.85	115	PKP	PKPdf	05 11 23.0	+0.5
	comp=Z,1.0nm,0.5s,baz=226,slow=7.6,SNR=3.4						
PLCA				PKPbc	PKPbc	05 11 30.6	+0.1
	comp=Z,2.1nm,0.9s,baz=249,slow=3.7,SNR=4.1						
PLCA	Paso Flores	153.85	115	PKIKP	PKPdf	05 11 23.0	+0.5
PLCA						05 11 30.6	
PLCA	Paso Flores	153.85	115		PKPdf	05 11 23.1	+0.5
PLCA	Paso Flores	153.85	115	eP	PKPdf	05 11 26.3	+3.8
NBMA	Muriti-CE	153.91	360	eP	PKPdf	05 11 27.3	+4.0
NBRF	Rio Formoso -	154.97	351	eP	PKPdf	05 11 27.9	+3.1
SNDB	Serra Nova Dou	155.66	31	eP	PKPdf	05 11 29.4	+3.8

NNC 22 05:11:51.4±2.6, 37°24N×71°37E, h183km±53km, mb2.9, mpv3.9, 2C-3D Error ellipse: s-maj=28.5km s-min=18.1km az=6.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.89	354	P		Pn	05 13 16.7	-0.2
	6.1nm,0.3s,baz=179,slow=11,SNR=62						
KK31				⇓S		Sn	05 14 24.9	+0.5
	1.7nm,0.3s,baz=170,slow=24,SNR=6.3						
AAK	Ala-Archa	5.90	23	⇓P		Pn	05 13 16.9	-0.2
	5.8nm,0.5s						
AAK				⇓S		Sn	05 14 25.7	+0.9
	6.7nm,0.6s						
TKM2	Tokmak 2	6.53	28	⇑P		Pn	05 13 25.9	+0.4
	3.4nm,0.6s						
TKM2				⇑S		Sn	05 14 39.7	-0.1
	5.4nm,0.8s						
AB31	Akbulak array	14.59	329	P		Pn	05 15 09.2	+0.1
	0.5nm,0.3s,baz=160,slow=11,SNR=35						

*BER **22** 05:23:49.2±0.6, 71°03N×7°75W, h0km±132km, ML2.5, ML2.3(DNK), Confirmed Earthquake*
*DNK **22** 05:23:49.6±1.9, 70°78N×8°69W, h64km±252km, ML2.3*
ISC 22 05:23:49.4±1.1, 71°23N±0°04×8°20W±0°10, h19km, n11, σ1§25/24, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.21	201	⇓iP		Pg	05 23 54.9	+0.2
JNW				eS		Sg	05 23 58.9	+0.7
JNW				IAML			05 24 04.7	
	comp=Z,1μm,0.4s						
JNE	Jan Mayen East	0.24	188	⇓iP		Pb	05 23 54.4	-0.5
JNE				eS		Sb	05 23 57.8	-0.7
JNE				IAML			05 24 00.6	
	comp=Z,2μm,0.1s						
JMIC	Jan Mayen	0.26	203	⇓iP		Pg	05 23 55.1	-0.3
JMIC				eS		Sg	05 23 59.7	+0.2
JMIC				IAML			05 24 01.4	
	comp=Z,528nm,0.4s						
JMI	Jan Mayen	0.35	210	⇓iP		Pg	05 23 56.7	-0.1
JMI				eS		Sb	05 24 02.5	+0.3
JMI				IAML			05 24 04.9	
	comp=Z,489nm,0.2s						
DBG	Daneborg	4.72	316	i P		Pn	05 25 00.7	+1.2
DBG				i S		Sn	05 25 52.2	-1.3
DBG				IAML			05 26 05.8	
	comp=Z,2.2nm,0.4s						
DBG	Daneborg	4.72	316	i P		Pn	05 25 00.7	+1.2
DBG				i S		Sn	05 25 52.2	-1.3
DBG				IAML			05 26 05.8	
	comp=Z,2.2nm,0.4s						
DAG	Danmarks Havn	6.26	337	e		Pn	05 25 21.1	+0.6
	baz=147,slow=18						
DAG				i P		Pn	05 25 21.9	+1.4
DAG				i P		Pn	05 25 22.0	+1.4
DAG				i S		Sn	05 26 30.4	-1.1
DAG				IAML			05 26 31.9	
	comp=Z,1.2nm,0.3s						
DAG	Danmarks Havn	6.26	337	e		Pn	05 25 21.1	+0.6
	baz=147,slow=18						
DAG				i P		Pn	05 25 21.9	+1.4
DAG				i S		Sn	05 26 30.4	-1.1
DAG				IAML			05 26 31.9	
	comp=Z,1.2nm,0.3s						
KBS	Kingsbay	9.23	25	i P		Pn	05 26 02.0	+0.8
NOR	Nord	10.60	353	i P		Pn	05 26 21.8	+2.0
NOR				i S		Sn	05 28 15.8	-2.0
NOR	Nord	10.60	353	i P		Pn	05 26 21.8	+2.0
NOR				i S		Sn	05 28 15.8	-2.0

*TUL **22** 05:24:29±1.6, 36°75N±0°02×98°12W±0°06, h6km±7km, ML2.7, mb_Lg2.4/29(NEIC), Error ellipse: s-maj=6.4km s-min=2.7km az=93.0*
NEIC 22 05:24:28.8±1.1, 36°71N±0°02×98°09W±0°03, h5km±2km, Error ellipse: s-maj=4.4km s-min=3.0km az=281.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.14	313	Pg	Pg	05 24 31.2	-0.4
OK032				Sg	Sg	05 24 32.9	-0.6
CROK	Carrier	0.22	158		Pg	05 24 34.1	+1.0
GC02	Grant County #	0.23	52	Pg	Pg	05 24 33.8	+0.4
GC02				Sg	Sg	05 24 37.1	+0.7
KAN10	Anthony SW Sta	0.41	359	Pg	Pg	05 24 36.4	-0.4
KAN10				Sg	Sg	05 24 41.9	-0.4
KAN17	Caldwell West	0.42	37	Pg	Pg	05 24 36.8	-0.2
KAN05	Bluff City Nor	0.43	23	Pg	Pg	05 24 37.1	-0.1
KAN05				Sg	Sg	05 24 42.9	0.0
KAN08	Anthony NE Sta	0.53	10	Pg	Pg	05 24 38.6	-0.3
KAN13	South Haven SW	0.57	58		Pg	05 24 39.9	0.0
KAN12	Harper NE Stat	0.59	7	Pg	Pg	05 24 39.8	-0.4
BLOK	Blackwell	0.70	86	Pg	Pg	05 24 42.1	-0.1
U32A	Winter Ranch,	0.81	246	Pg	Pg	05 24 43.9	-0.4
OK029	Liberty Lake	1.04	151		Pg	05 24 48.9	0.0
BCOK	Bluff Creek, N	1.12	160	Pg	Pg	05 24 50.1	-0.2
QUOK	Quay	1.23	115		Pg	05 24 52.3	-0.1
OK031	S. Brethren Rd	1.26	126		Pg	05 24 52.7	-0.2
OK025	Westminster Rd	1.28	152		Pg	05 24 53.2	-0.1
T35A	Sooner Cattle	1.28	80		Pg	05 24 52.8	-0.6
OKCSW	OKLAHOMA CITY	1.40	158	Pn	Pn	05 24 54.9	-0.1
FNO	Franklin	1.55	159		Pb	05 24 57.6	-0.4
R32A	Long Quarter,	1.78	344	Pn	Pn	05 25 00.6	+0.3
WMOK	Wichita Mounta	2.05	196		Pn	05 25 04.8	+0.9
X34A	Smith Ranch, M	2.11	174		Pb	05 25 06.2	-1.4
CBKS	Cedar Bluff	2.48	329	Pn	Pn	05 25 11.0	+1.1
U38A	Gravette	2.99	94	IAmb_Lg		05 26 10.0	
	comp=Z,16nm,0.7s						
X37A	Clayton	3.06	133	Pn	Pn	05 25 19.1	+1.3
AMTX	Amarillo	3.44	239	Pn	Pn	05 25 24.7	+1.5
W39A	Magazine	3.80	112	IAmb_Lg		05 26 34.8	
	comp=Z,8.1nm,0.8s						
U40A	Yellville	4.23	93	Pn	Pn	05 25 34.7	+0.8
U40A				IAmb_Lg		05 26 43.2	
	comp=Z,13nm,0.9s						
MIAR	Mount Ida	4.26	119	IAmb_Lg		05 26 49.0	
	comp=Z,6.3nm,0.9s						
KSCO	Kaye Shedlock'	4.27	304	IAmb_Lg		05 26 45.9	
	comp=Z,7.6nm,0.7s						
N35A	Tabor	4.56	24		Pn	05 25 37.1	-1.4
P38A	Dawn	4.62	50	IAmb_Lg		05 27 07.8	
	comp=Z,6.9nm,0.7s						
MGMO	Mountain Grove	4.68	83	IAmb_Lg		05 27 09.5	
	comp=Z,7.8nm,1.2s						
X40A	Basin Creek Fa	4.82	116	IAmb_Lg		05 27 05.0	
	comp=Z,8.9nm,0.7s						
R40A	Maddies Statio	4.89	69	IAmb_Lg		05 27 06.1	
	comp=Z,5.1nm,0.8s						
T25A	Trinidad	5.09	277	IAmb_Lg		05 27 12.6	
	comp=Z,9.6nm,1.0s						
OGNE	Ogallala	5.23	325	Pn	Pn	05 25 49.1	+1.3
P40A	Paris	5.53	58	IAmb_Lg		05 27 29.9	
	comp=Z,6.1nm,0.8s						
N38A	Joes South For	5.57	41	IAmb_Lg		05 27 37.3	
	comp=Z,8.7nm,0.9s						
CCM	Cathedral Cave	5.61	74	IAmb_Lg		05 27 29.1	
	comp=Z,4.4nm,0.8s						
PBMO	Poplar Bluff	6.15	87	IAmb_Lg		05 27 56.3	
	comp=Z,6.1nm,0.8s						
SIUC	Southern Illin	7.15	79	IAmb_Lg		05 28 36.5	
	comp=Z,5.1nm,0.7s						

*IDC **22** 05:27:24.0±1.9, 1°26N×125°34E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.8/3, Error ellipse: s-maj=175.8km s-min=24.4km az=64.0*
*DJA **22** 05:27:29.6±1.6, 2°N±5°×12°6E±°, h14km±14km, M3.5/6, MLv3.5/6*
ISC 22 05:27:30.4±1.1, 1°68N±0°09×126°4E±0°1, h47km, n6, σ1§80/7, mb3.9/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.30	134	P		Pn	05 27 53.6	+1.4
SGSI	Sangihe	2.19	336	P		Pn	05 28 04.4	+0.2
SGSI				S		Sn	05 28 32.4	+2.3
GTOI	Gorontalo	3.56	253	P		Pn	05 28 24.2	+1.0
WRA	Warramunga Arr	22.85	161	P		P	05 32 28.4	-1.4
	1.5nm,0.3s,baz=335,slow=10,SNR=43						
ASAR	Alice Springs	26.22	164	P		P	05 33 00.5	-0.6
	0.6nm,0.4s,baz=344,slow=7.8,SNR=19						
MKAR	Makanchi Array	59.06	326	P		P	05 37 24.3	-1.5
	0.4nm,0.4s,baz=115,slow=7.8,SNR=6.9						

*BJI **22** 05:35:38.3±0.0, 4°81N×94°65E, h52km, mB5.2/55, mb5.5/81, Ms4.9/77, Ms7 4.8/71*
*NEIC **22** 05:35:39.4±2.1, 5°06N±0°07×94°72E±0°07, h24km±3km, mb5.6/200, Ms_20 4.8/130, Mww5.2, Mwc5.2(GCMT), Error ellipse: s-maj=10.5km s-min=10.0km az=220.0*
*MOS **22** 05:35:39.4±1.0, 5°11N×94°76E, h40km, mb5.8/96, Error ellipse: s-maj=6.7km s-min=3.6km az=115.9*
*DJA **22** 05:35:41.4±0.3, 5°N±2°×9°5E±°, h48km±3km, M5.3/48, mB5.7/36, mb5.4/48, MLv5.6/9, Mw(mB)5.2/36, MwMwp5.0/3, Mwp5.3/3*
*KLM **22** 05:35:41, 4°95N×94°58E, h46km, mb5.3*
*IDC **22** 05:35:42.7±0.5, 5°15N×94°83E, h51km±3km, mb5.0/39, mb1 5.0/40, mb1mx5.0/40, mbtmp5.2/40, MS4.3/33, Ms1 4.3/33, ms1mx4.1/49, Error ellipse: s-maj=11.6km s-min=9.6km az=54.0*
*GCMT **22** 05:35:42.4±0.2, 4°88N±0°01×94°62E±0°01, h42km, MW5.2/109, Moment Tensor Solution. s86,c128; s109,c171; Duration: 0 Moment tensor: Scale 1016Nm; Mrr5.62±.19; Mθθ-2.78±.13; Mφφ-2.84±.15; Mrθ3.67±.13; Mrφ3.38±.10; Mθf-2.27±.13; Best double couple: M0 7.32100×1016 NP1:φs325.00000°, δ28.00000°, λ106.00000°. NP2:φs127.00000°, δ63.00000°, λ82.00000°. Principal axes: T 7.1000, Plg71.0000°, Azm19.0000°; N 0.4400, Plg7.0000°, Azm131.0000°; P -7.5410, Plg18.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 05:35:43, 4°81N×94°57E, h47km, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr5.61; Mθθ-2.80; Mφφ-2.81; Mrθ3.25; Mφφ3.84; Mφr-1.89; Fault plane solution: M0 7.24000×1016 NP1:φs326.00000°, δ30.00000°, λ107.00000°. NP2:φs126.00000°, δ61.00000°, λ80.00000°. Principal axes: T 6.7577, Plg72.0000°, Azm13.0000°; N 0.8914, Plg8.0000°, Azm131.0000°; P -7.6491, Plg15.0000°, Azm223.0000°;*
*NEIC **22** 05:35:49, 4°82N×95°07E, h46km, Moment Tensor Solution. Moment tensor: Scale 1016Nm; Mrr4.34; Mθθ-2.53; Mφφ-1.81; Mrθ6.25; Mφφ3.17; Mφr-4.07; Fault plane solution: M0 8.94000×1016 NP1:φs323.00000°, δ17.00000°, λ108.00000°. NP2:φs124.00000°, δ74.00000°, λ84.00000°. Principal axes: T 8.4465, Plg61.0000°, Azm26.0000°; N 0.9178, Plg5.0000°, Azm126.0000°; P -9.3643, Plg28.0000°, Azm218.0000°;*
ISC 22 05:35:42.3±0.3, 5°04N±0°03×94°71E±0°04, h53km±2km, h54km:pP-P, n1288, σ1§38/1297, mb5.5/278, MS4.7/134, 395C-56D, Fault plane solution: NP1:φs104.74523°, δ65.25668°, λ62.39358°. NP2:φs336.07141°, δ36.40945°, λ135.15686°. Principal axes: T Plg59.8871°, Azm333.9685°; N Plg24.8884°, Azm117.0911°; P Plg15.8497°, Azm214.6599°; Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	1.86	114	P		Pn	05 36 11.7	-0.1
MLSI				S		Sn	05 36 35.6	+1.4
LHMI	Lhok Sumawe	2.24	85			Pn	05 36 18.0	+1.0
LHMI	Lhok Sumawe	2.24	85	P		Pn	05 36 18.0	+1.0
TPTI		3.04	126	P		Pn	05 36 27.0	-0.9
TSI	Tuntungan	4.14	112	P		Pn	05 36 43.6	+0.5
PKDT	Phuket	4.58	52	P		Pn	05 36 50.3	+1.1
PKDT	Phuket	4.58	52	P		Pn	05 36 50.0	+0.8
	9.8nm35μm1μm,0.7s						
GSI	Gunungsitoli	4.69	142	Pn		Pn	05 36 48.5	-2.2
GSI	Gunungsitoli	4.69	142	P		Pn	05 36 48.8	-1.8
PSI	Prapat	4.76	118	P		Pn	05 36 52.2	+0.5
RPSI	Rantau Prapat	4.81	119			Pn	05 36 52.2	0.0
KRAB	Krabi	5.47	54	P		Pn	05 37 02.7	+1.4
	45nm161μm8μm,0.6s						
KRAB	Krabi	5.47	54	P		Pn	05 37 02.7	+1.4
	11nm40μm2μm,0.6s						
KULM	Kulim	5.92	87	P		Pn	05 37 08.0	+0.4
PBSI	Pulau Batu	6.20	145	P		Pn	05 37 09.4	-1.9
	3.0nm6μm258nm,0.6s						
SKLT	Songkhla	6.25	70	P		Pn	05 37 12.9	+0.9
	1.4nm4μm431nm,0.9s						
SKLT	Songkhla	6.25	70	P		Pn	05 37 12.9	+0.9
	1.4nm4μm431nm,0.9s						
IPM	Ipoh	6.32	95	P		Pn	05 37 13.0	-0.1
MNSI	Mandailing Nat	6.44	131	P		Pn	05 37 13.9	-0.7
	2.0nm6μm247nm,0.7s						
JRMM	Jerantut	7.83	98	P		Pn	05 37 33.0	-0.7
BKNI	Bangkinang	7.87	126	Pn		Pn	05 37 32.8	-1.5
BKNI	Bangkinang	7.87	126	P		Pn	05 37 33.6	-0.7
	1.9nm3μm492nm,0.9s						
PDSI	Padang	8.25	136	P		Pn	05 37 38.2	-1.3
	1μm158nm,0.9s						
PHET	Kaeng Krachan	9.21	32	P		Pn	05 37 55.8	+3.2
	2μm162nm,0.7s						
PHET	Kaeng Krachan	9.21	32	P		Pn	05 37 55.9	+3.3
	529nm42nm,0.7s						
RGRI	Rengat	9.31	125	P		Pn	05 37 53.1	-0.9
KRJI	Kerinci	9.79	136	P		Pn	05 38 00.1	-0.5
	6μm500nm,1.0s						
PATY	Pattaya	9.91	37	P		Pn	05 38 07.3	+5.1
	13μm160nm,0.7s						
PATY	Pattaya	9.91	37	P		Pn	05 38 07.4	+5.2
	3μm42nm,0.7s						
SRDT	SRDT	10.22	25	P		Pn	05 38 11.5	+5.1
	88nm,0.8s						
SRDT	SRDT	10.22	25	P		Pn	05 38 11.6	+5.1
	88nm,0.8s						
JMBI	JAMBI	11.12	126	P		Pn	05 38 19.0	+0.2
UTHA	Uthaitani	11.44	24	P		Pn	05 38 26.0	+2.9
	268nm31nm,1.0s						
KSI	Kapahiang	11.69	137	P		Pn	05 38 22.7	-3.9
	146nm,0.8s						
UMPA	Umpang Tak	11.82	20	P		Pn	05 38 31.5	+3.2
	5μm160nm,0.7s						
UMPA	Umpang Tak	11.82	20	P		Pn	05 38 31.5	+3.2
	1μm40nm,0.7s						
MNAI	Manna	12.46	138	Pn		Pn	05 38 33.8	-3.2
MNAI	Manna	12.46	138	P		Pn	05 38 34.7	-2.3
	227nm,1.1s						
LHSI	Lahat	12.46	135	P		Pn	05 38 35.8	-1.2
	134nm,0.9s						
PHIT	Phitsanulok	13.30	24	P		Pn	05 38 51.8	+3.2
	4μm557nm,0.7s						
PHIT	Phitsanulok	13.30	24	P		Pn	05 38 51.8	+3.2
	1μm138nm,0.7s						
MDSI	Maura Dua	13.38	135	P		Pn	05 38 46.6	-3.1
	943nm44nm,0.8s						
MHMT	Maesarieng	13.43	13	P		Pn	05 38 54.0	+3.7
	2μm311nm,0.8s						
MHMT	Maesarieng	13.43	13	P		Pn	05 38 54.0	+3.7
	2μm311nm,0.8s						
KHON	Khomkaen	13.76	35	P		P	05 39 03.5	+1.7
KHON	Khomkaen	13.76	35	P		P	05 39 03.6	+1.7
CM05	Chiang Mai Arr	13.91	17	P		P	05 39 00.2	-3.2
	1μm187nm,0.9s						
CM05	Chiang Mai Arr	13.91	17	P		P	05 39 00.2	-3.2
	1μm187nm,0.9s						
CM13	Chiang Mai Arr	13.92	17	P		P	05 39 00.4	-3.1
	1μm158nm,1.0s						
CM13	Chiang Mai Arr	13.92	17	P		Pn	05 39 00.0	+3.1
	1μm158nm,1.0s						
CM04	Chiang Mai Arr	13.92	17	P		P	05 39 00.2	-3.3
	2μm232nm,0.9s						
CM04	Chiang Mai Arr	13.92	17	P		P	05 39 00.2	-3.3
	2μm232nm,0.9s						
CM01	Chiang Mai Arr	13.93	17	P		P	05 39 00.6	-3.1
	2μm227nm,0.9s						
CM01	Chiang Mai Arr	13.93	17	P		Pn	05 39 00.0	+2.9
	2μm227nm,0.9s						
CM02	Chiang Mai Arr	13.94	17	P		P	05 39 00.6	-3.2
	2μm217nm,1.0s						
CM02	Chiang Mai Arr	13.94	17	P		Pn	05 39 00.0	+2.8
	2μm217nm,1.0s						
CM15	Chiang Mai Arr	13.95	17	P		P	05 39 01.0	-2.9
	1μm182nm,0.9s						
CM15	Chiang Mai Arr	13.95	17	P		P	05 39 01.1	-2.9
	1μm182nm,0.9s						
CM31	Chiang Mai Arr	13.96	17	P		P	05 39 01.3	-2.7
	49μm5μm,0.9s						
CM31	Chiang Mai Arr	13.96	17			Pn	05 38 59.1	+1.6
CMAR	Chiang Mai Arr	13.96	17	P		Pn	05 38 57.9	+0.4
	3.2nm,0.3s,baz=217,slow=12,SNR=75						
CMAR				LR		LR	05 44 10.7	
	comp=Z,1μm,21.4s,baz=248,slow=37						
CMAR				ScP		ScP	05 47 46.2	+0.9
	baz=229,slow=3.2,SNR=23						
CMAR	Chiang Mai Arr	13.96	17	Pn		Pn	05 38 58.9	+1.4
CM09	Chiang Mai Arr	13.96	17	P		P	05 39 00.9	-3.1
	2μm245nm,1.0s						
CM09	Chiang Mai Arr	13.96	17	P		P	05 39 01.0	-3.1
	2μm245nm,1.0s						
CM36	Chiang Mai Arr	14.06	17	P		P	05 39 02.0	-3.2
PALK	Pallekele	14.10	280	P		Pn	05 38 58.8	-0.6
	5.3nm,0.3s,baz=210,slow=16,SNR=15						
PALK				S		Sn	05 41 21.3	-13
	27nm,0.3s,baz=284,slow=5.7,SNR=21						
PALK				LR		LR	05 43 49.1	
	comp=Z,2μm,20.4s,baz=209,slow=34						
PALK	Pallekele	14.10	280	P		Pn	05 38 59.4	0.0
PALK	Pallekele	14.10	280	Pn		Pn	05 38 59.4	0.0
CM32	Chiang Mai Arr	14.12	16	P		Pn	05 39 02.0	+2.4
CM35	Chiang Mai Arr	14.23	17	P		Pn	05 39 04.0	+2.9
LAMP	Lampang	14.24	19	P		P	05 39 05.0	-2.1
	3μm443nm,0.8s						
LAMP	Lampang	14.24	19	P		P	05 39 05.1	-2.1
	767nm111nm,0.8s						
CHTO	Chiang Mai	14.30	16	P		Pn	05 39 03.7	+1.7
CHTO	Chiang Mai	14.30	16	P		Pn	05 39 03.8	+1.7
	2μm230nm,1.0s						
CHTO	Chiang Mai	14.30	16			Pn	05 39 03.7	+1.7
CMMT	Chiang Mai	14.30	16	P		Pn	05 39 03.8	+1.8
	2μm231nm,1.0s						
CMMT	Chiang Mai	14.30	16	P		Pn	05 39 03.8	+1.8
	2μm231nm,1.0s						
CM33	Chiang Mai Arr	14.30	16	P		Pn	05 39 03.0	+0.9
KASI	Kota Agung	14.34	137	P		Pn	05 39 01.2	-1.4
	2μm167nm,1.2s						
CM34	Chiang Mai Arr	14.39	17	P		Pn	05 39 06.0	+2.7
BLSI	Bandar Lampung	14.76	134	P		Pn	05 39 08.4	+0.4
	58nm,1.2s						
NONG	Nongkai	15.35	32	P		P	05 39 17.6	-1.8
	191nm,1.0s						
NONG	Nongkai	15.35	32	P		Pn	05 39 17.0	+1.3
	194nm,1.0s						
KSM	Kuching	15.97	102	P		P	05 39 26.0	-0.4
DBJI	Dramaga	16.65	134	P		Pn	05 39 31.2	-1.1
	39um60nm,1.0s						
COCO	West Island	17.25	173	P		Pn	05 39 38.3	-1.4
COCO				pmax		pmax		
	comp=Z,324nm,1.2s						
COCO	West Island	17.25	173	Pn		Pn	05 39 38.3	-1.4
STKI	Sintang	17.46	106	P		P	05 39 42.7	-0.2
	comp=Z,10μmcomp=Z,112nm,0.9s						
SBUM	Sibu	17.66	98	P		P	05 39 46.0	+0.9
BRDH	Bariadhala	17.78	351	LR		LR	05 47 42.2	
	comp=Z,2μm,22.0s,baz=182,slow=41						
SLVN	Son La	18.49	28	P		Pn	05 39 54.7	-0.2
PBKI	Pangkalan Bun	18.61	114	P		Pn	05 39 57.4	+1.0
	comp=Z,221nm,1.0s						
KPJI	Karang Pucung	18.78	131	P		Pn	05 39 58.0	-0.3
	comp=Z,45nm,0.8s						
SMRI	Semarang	19.77	127	P		P	05 40 06.3	-1.9
SMRI	Semarang	19.77	127	P		P

comp=Z,145nm,0.7s
PKIN Phulchoki 24.10 339 *e*P **P 05 40 52.5 -0.9**
comp=Z,147nm,0.7s
GYA Guiyang 24.17 27 ⇓P **P 05 40 54.5 +0.6**
GYA pP pP 05 41 08.8 +1.6
GYA S **S 05 45 05.3 -3.3**
GYA pmax pmax
comp=Z,64nm,0.7s
GUN Gumba 24.24 341 *e*P **P 05 40 54.3 -0.5**
comp=Z,356nm,0.8s
GUN Gumba 24.24 341 *e*P **P 05 40 55.3 +0.5**
SRBI Singaraja 24.26 122 P **P 05 40 55.8 +1.1**
comp=Z,5μmcomp=Z,556nm,1.2s
KKN Kakani 24.34 339 *e*P **P 05 40 54.9 -0.6**
comp=Z,189nm,0.8s
KKN Kakani 24.34 339 *e*P **P 05 40 55.9 +0.4**
POO Poona 24.38 305 *e*P **P 05 40 55.0 -0.8**
comp=Z,60nm,1.0s
POO *i*S **S 05 45 21.0 +9.0**
BHPL Bhopal 24.61 319 *e*P **P 05 41 00.3 +2.5**
BHPL IAmb IAmb 05 41 00.7
comp=Z,63nm,0.7s
LSA Lhasa 24.76 353 P **P 05 40 59.3 -0.3**
LSA S **S 05 45 11.8 -6.8**
LSA LR LR
comp=Z,3μm,23.5s
LSA LR LR
comp=Z,2μm,22.8s
LSA LR LR
comp=Z,3μm,23.5s
LSA Lhasa 24.76 353 P **P 05 40 58.8 -0.8**
LSA pmax pmax
comp=Z,137nm,0.7s
LSA Lhasa 24.76 353 P **P 05 40 58.8 -0.8**
LSA IAmb IAmb 05 41 01.6
comp=Z,138nm,0.7s
GKN Gorkha 24.76 338 *e*P **P 05 41 00.1 +0.8**
comp=Z,520nm,0.9s
GKN Gorkha 24.76 338 *e*P **P 05 41 00.1 +0.8**
comp=Z,473nm,0.8s
DANN Dangsing 25.41 337 *e*P **P 05 41 05.9 +0.6**
comp=Z,800nm,0.7s
H08S3 Diego Garcia H 25.49 241 T T 06 06 53.9
baz=60,slow=75,SNR=1190
H08S2 Diego Garcia H 25.50 241 T T 06 07 10.5
baz=60,slow=75,SNR=1184
H08S1 Diego Carcia H 25.51 241 T T 06 07 11.8
baz=60,slow=75,SNR=1337
MPSI Mapaga 25.59 100 P **P 05 41 07.4 +0.6**
comp=Z,1μmcomp=Z,119nm,0.9s
TWSI Taliwang, Sumb 26.01 122 P **P 05 41 13.4 +2.8**
comp=Z,689nmcomp=Z,66nm,1.2s
TOLI2 Tolitoli 26.32 98 P **P 05 41 12.0 -1.5**
TTSI Tana Toraja 26.34 107 P **P 05 41 13.0 -0.6**
comp=Z,1μmcomp=Z,84nm,1.0s
KAPI Kappang 26.93 111 P **P 05 41 18.8 -0.1**
comp=Z,18nm,0.7s,baz=299,slow=8.4,SNR=12
KAPI Kappang 26.93 111 P **P 05 41 18.3 -0.7**
KAPI pmax pmax
comp=Z,147nm,1.5s
KAPI MLR MLR
comp=Z,700nm,21.0s
KAPI Kappang 26.93 111 P **P 05 41 18.3 -0.7**
KAPI IAmb IAmb 05 41 20.0
comp=Z,147nm,1.5s
BNSI Bone 27.05 110 P **P 05 41 21.7 +1.7**
comp=Z,986nmcomp=Z,92nm,1.2s
CD2 Chengdu 27.11 17 P **P 05 41 19.8 -0.6**
CD2 sP sP 05 41 39.6 -0.2
CD2 S **S 05 45 53.0 -2.0**
CD2 pmax pmax
comp=Z,170nm,1.0s
CD2 LR LR
comp=Z,1μm,18.6s
CD2 LR LR
comp=Z,2μm,18.6s
CD2 LR LR
comp=Z,1μm,16.7s
BKSI Bulukumba 27.39 112 P **P 05 41 23.5 +0.4**
comp=Z,1μmcomp=Z,127nm,0.9s
APSI Ampana 27.55 102 P **P 05 41 24.6 +0.1**
comp=Z,860nmcomp=Z,104nm,1.1s
MRSI Marisa 27.57 99 P **P 05 41 25.0 +0.3**
comp=Z,709nmcomp=Z,78nm,0.8s
SZP Santa 28.09 62 P **P 05 41 29.3 0.0**
RCP Roxas 28.47 75⇑*e*P **P 05 41 33.9 +1.2**
WBSI Waikabubak, Su 28.60 121 P **P 05 41 33.4 -0.5**
comp=Z,901nmcomp=Z,73nm,1.2s
GTOI Gorontalo 28.60 98 P **P 05 41 33.5 -0.4**
comp=Z,447nmcomp=Z,42nm,0.7s
LUWI Luwuk 28.68 101 P **P 05 41 34.0 -0.6**
ENH Enshi 28.71 27 P **P 05 41 33.6 -1.0**
ENH IAmb IAmb 05 41 35.0
comp=Z,68nm,0.7s
ENH IAMs_20 IAMs_20 05 54 07.8
comp=Z,3μm,18.0s
KMSI Cibinong 29.57 98 P **P 05 41 43.4 +0.9**
comp=Z,11μmcomp=Z,457nm,0.4s
DDI Dehra Dun 29.64 330 *e*P **P 05 41 44.0 +1.0**
SMLA Simla 30.74 330 *e*P **P 05 41 53.0 +0.4**
TPUB Ta-pu 30.90 52 IAMs_20 IAMs_20 05 54 58.6
comp=Z,2μm,19.0s
WHN Wuhan 31.40 34 ⇑P **P 05 41 59.1 +0.7**
WHN sP **sP 05 42 19.3 +1.4**
WHN S **S 05 47 02.5 +0.2**
WHN pmax pmax
comp=Z,230nm,1.0s
WHN LR LR
comp=Z,3μm,13.2s
WHN LR LR
comp=Z,3μm,13.6s
WHN LR LR
comp=Z,7μm,14.8s
SSLB Suanglung 31.41 51 IAMs_20 IAMs_20 05 55 23.1
comp=Z,2μm,20.0s
YULB Yu-li 31.47 52 P **P 05 41 59.7 +0.5**
XAN Xi'an 31.73 23 P **P 05 42 00.5 -0.9**
XAN pP pP 05 42 13.9 -0.5
XAN PP **PnPn 05 43 09.6 +2.4**
XAN S **S 05 47 04.8 -2.8**
XAN pmax pmax
comp=Z,290nm,0.9s
XAN pmax pmax
comp=Z,370nm,4.3s
XAN LR LR
comp=Z,1μm,17.4s
XAN LR LR
comp=Z,1μm,17.3s
XAN LR LR
comp=Z,3μm,16.5s
LZH Lanzhou 32.02 14 ⇑P **P 05 42 03.3 -0.7**
LZH pP pP 05 42 16.3 -1.1
LZH sP sP 05 42 23.4 -0.2
LZH PP **PnPn 05 43 09.3 -1.7**
LZH PcP **PcP 05 44 54.1 +1.2**
LZH S **S 05 47 07.4 -4.8**
LZH sS sS 05 47 32.5 -1.5
LZH SS **SnSn 05 49 07.9 +2.0**
LZH pmax pmax
comp=Z,85nm,1.3s
LZH pmax pmax
comp=Z,220nm,5.1s
LZH LR LR
comp=Z,1μm,13.5s
LZH LR LR
comp=Z,960nm,13.2s
LZH LR LR
comp=Z,970nm,16.3s
SANI Sanana 32.04 102 P **P 05 42 04.1 -0.1**
comp=Z,688nmcomp=Z,78nm,1.0s
NACB Ninganchiao 32.11 51 IAMs_20 IAMs_20 05 55 47.7
comp=Z,1μm,19.0s
SOEI Soe 32.92 117 P **P 05 42 09.3 -2.8**
GTA Gaotai 34.52 7 ⇑P **P 05 42 25.5 -0.3**
GTA pP pP 05 42 38.4 -0.5
GTA sP pwP 05 42 42.9 +1.7
GTA PcP **PcP 05 45 01.1 +1.3**
GTA sS sS 05 48 10.9 -1.9
GTA ScP **ScP 05 48 42.0 +1.2**
GTA PcS **PcS 05 48 46.8 +0.4**
GTA ScS **ScS 05 52 43.9 +0.2**
GTA pmax pmax
comp=Z,97nm,0.9s
GTA pmax pmax
comp=Z,210nm,5.5s
GTA LR LR
comp=Z,430nm,18.9s
GTA LR LR
comp=Z,440nm,18.5s
GTA LR LR
comp=Z,560nm,19.6s
NIL Nilore 34.76 328 P **P 05 42 27.4 -0.4**
NIL pmax pmax
comp=Z,60nm,0.8s
NIL MLR MLR
comp=Z,400nm,20.0s
NIL Nilore 34.76 328 P **P 05 42 27.4 -0.4**
NIL IAmb IAmb 05 42 28.6
comp=Z,60nm,0.8s
NJ2 Nanjing 35.11 37⇑*i*P **P 05 42 31.5 +0.7**
NJ2 pP **pP 05 42 43.3 -0.9**
NJ2 sP **sP 05 42 52.8 +2.4**
NJ2 PP **PP 05 43 54.8 +3.5**
NJ2 S **S 05 48 06.5 +6.6**
NJ2 sS **sS 05 48 26.4 +4.6**
NJ2 pmax pmax
comp=Z,100nm,0.9s
NJ2 pmax pmax
comp=Z,250nm,4.3s
NJ2 LR LR
comp=Z,1μm,13.7s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,2μm,15.2s
SSE Sheshan 35.93 41 P **P 05 42 38.8 +1.0**
SSE S **S 05 48 14.1 +1.7**
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax
comp=Z,170nm,4.0s
SSE LR LR
comp=Z,380nm,15.7s
SSE LR LR
comp=Z,380nm,15.6s
PSAA2 Pilbara Seismi 36.14 138 IAMs_20 IAMs_20 05 58 57.8
comp=Z,2μm,22.0s
PSA00 Pilbara Seismi 36.15 138 P **P 05 42 38.7 -1.1**
PSA00 Pilbara Seismi 36.15 138 P **P 05 42 38.9 -0.9**
PSA00 IAmb IAmb 05 42 40.7
comp=Z,25nm,1.2s
PSAC3 Pilbara Seismi 36.17 138 IAMs_20 IAMs_20 05 58 41.5
comp=Z,1μm,20.0s
TIY Taiyuan 36.32 24 *e*P **P 05 42 41.1 -0.1**
TIY pP **pP 05 42 56.3 +1.9**
TIY sP **sP 05 43 02.9 +2.4**
TIY S **S 05 48 19.8 +1.3**
TIY pmax pmax
comp=Z,35nm,0.9s
TIY LR LR
comp=Z,3μm,19.2s
TIY LR LR
comp=Z,2μm,18.9s
TIY LR LR
comp=Z,2μm,18.1s
SWI Sorong 36.98 98 P **P 05 42 46.7 -0.3**
comp=Z,1μmcomp=Z,190nm,0.9s
TIA Tai'an 37.24 31 ⇑P **P 05 42 49.1 +0.2**
TIA pmax pmax
comp=Z,100nm,0.8s
TIA pmax pmax
comp=Z,220nm,4.4s
TIA LR LR
comp=Z,920nm,16.9s
TIA LR LR
comp=Z,830nm,14.9s
TIA LR LR
comp=Z,2μm,15.5s
KBL Kabul 37.77 324 P **P 05 42 53.6 -0.1**
KBL pmax pmax
comp=Z,22nm,1.2s
KBL Kabul 37.77 324 P **P 05 42 53.6 -0.1**
BTO Baotou 37.99 19 *e*P **P 05 42 55.3 0.0**
KSH Kashi 38.27 336 P **P 05 42 56.1 -1.6**
KSH pP pP 05 43 11.3 +0.5
KSH S **S 05 48 47.4 -0.8**
KSH SS **SnSn 05 51 29.4 -7.6**
KSH pmax pmax
comp=Z,51nm,0.5s
KSH pmax pmax
comp=Z,220nm,3.1s
KSH LR LR
comp=Z,410nm,19.2s
KSH LR LR
comp=Z,320nm,21.6s
KSH LR LR
comp=Z,250nm,17.8s
FAKI Fak Fak 38.33 101 P **P 05 42 56.9 -1.5**
FAKI IAmb IAmb 05 42 58.5
comp=Z,84nm,1.0s
JOW Kunigami 38.66 52 P **P 05 43 01.9 +0.9**
JOW IAmb IAmb 05 43 02.8
comp=Z,74nm,0.8s
HHC Hu-ho-hao-te 38.73 21 *e*P **P 05 43 02.0 +0.5**
HHC pP pP 05 43 15.1 +0.2
HHC PP **PP 05 44 39.8 +8.7**
HHC S **S 05 48 53.8 -1.2**
HHC sS sS 05 49 15.6 -1.5
HHC pmax pmax
comp=Z,79nm,1.0s
HHC pmax pmax
comp=Z,380nm,5.0s
HHC LR LR
comp=Z,1μm,14.7s
HHC LR LR
comp=Z,650nm,13.1s
HHC LR LR
comp=Z,1μm,15.0s
MEEK Meekatharra 39.09 145 P **P 05 43 04.7 +0.2**
baz=39,SNR=3.8
WMQ Urumqi 39.11 352⇑*i*P **P 05 43 05.6 +1.0**
WMQ pP pP 05 43 18.0 +0.2
WMQ sP sP 05 43 23.3 -0.4
WMQ pmax pmax
comp=Z,73nm,1.3s
WMQ pmax pmax
comp=Z,91nm,3.8s
WMQ LR LR
comp=Z,940nm,17.1s
WMQ LR LR
comp=Z,1μm,26.3s
WSAR Wadi Sarin 39.21 301 P **P 05 43 08.8 +3.2**
KNRA Kununurra 39.51 122 P **P 05 43 06.6 -1.6**
baz=40,SNR=7.3
KNRA Kununurra 39.51 122 P **P 05 43 05.5 -2.6**
TARG Taragay, Kyrgy 39.52 340 P **P 05 43 09.9 +1.4**
TARG IAmb IAmb 05 43 12.0
comp=Z,106nm,0.8s
SMDO Samad 39.64 300 P **P 05 43 10.5 +1.1**
BIDO Bidbid 39.74 301 P **P 05 43 13.5 +3.4**
BJT Baijiatuau 39.83 26 IAmb IAmb 05 43 13.1
comp=Z,132nm,0.9s
BJI Beijing 39.86 26 P **P 05 43 12.1 +1.3**
BJI S **S 05 49 14.3 +2.6**
BJI pmax pmax
comp=Z,200nm,0.9s
BJI pmax pmax
comp=Z,360nm,3.5s
BJI LR LR
comp=Z,640nm,20.1s
BJI LR LR
comp=Z,500nm,19.4s
BJI LR LR
comp=Z,1μm,23.8s
DRK Karamyk 40.05 332 P **P 05 43 13.9 +1.1**
KDJ Kajisay 40.10 340 P **P 05 43 14.0 +1.0**
KDJ pmax pmax
comp=Z,128nm,1.0s
KDJ Kajisay 40.10 340 P **P 05 43 14.0 +1.0**
KDJ IAmb IAmb 05 43 16.5
comp=Z,128nm,0.9s
KDJ Kajisay 40.10 340⇑*i*P **P 05 43 14.5 +1.5**
baz=1.0
BSY Bisya 40.26 300 P **P 05 43 17.7 +3.2**
SNR=6.5
SHLS Shalkode 40.29 343⇑*e*P **P 05 43 11.9 -2.6**
comp=Z,110nm,0.7s,baz=343
SHLS *e*S **S 05 49 18.0 -0.4**
baz=343
SHLS Shalkode 40.29 343*ce*P **P 05 43 11.8 -2.6**
SHLS *e*S **S 05 49 17.9 -0.4**
SHLS pmax pmax
comp=Z,110nm,0.7s
MTN Manton Dam 40.32 116 P **P 05 43 13.2 -1.8**
baz=40,SNR=12
MTN Manton Dam 40.32 116 P **P 05 43 13.3 -1.7**
GAR Garm 40.39 330 P **P 05 43 14.8 -0.6**
GAR IAmb IAmb 05 43 43.5
comp=Z,70nm,0.9s
UZB Uzynbulak 40.41 342⇑*e*P **P 05 43 13.0 -2.6**
comp=Z,93nm,0.8s,baz=342
UZB *e*S **S 05 49 20.1 -0.1**
baz=342
UZB Uzynbulak 40.41 342*ce*P **P 05 43 12.9 -2.6**
UZB *e*S **S 05 49 20.1 -0.1**
UZB pmax pmax
comp=Z,93nm,0.8s
HOQ Hoqain 40.46 301 P **P 05 43 19.0 +2.9**
SATY Saty 40.52 342⇑*i*P **P 05 43 17.8 +1.4**
comp=Z,114nm,1.0s,baz=342
SATY *e*S **S 05 49 23.4 +1.6**
baz=342
SATY Saty 40.52 342*c i*P **P 05 43 17.8 +1.4**
SATY *e*S **S 05 49 23.3 +1.5**
SATY pmax pmax
comp=Z,114nm,1.0s
ULHL Ulahol 40.53 339 P **P 05 43 17.7 +1.1**
SNR=14
CHGR Chuyangaron 40.71 329 P **P 05 43 17.6 -0.4**
CHGR IAmb IAmb 05 43 18.4
comp=Z,95nm,0.9s
KPKS Kokpek 40.80 342⇑*i*P **P 05 43 19.9 +1.2**
comp=Z,125nm,0.8s,baz=342
KPKS *e*S **S 05 49 26.0 0.0**
baz=342
KPKS Kokpek 40.80 342*c i*P **P 05 43 19.9 +1.2**
KPKS *e*S **S 05 49 26.0 0.0**
KPKS pmax pmax
comp=Z,125nm,0.8s
BTK Batken 40.97 332 P **P 05 43 20.8 +0.7**
BTK pmax pmax
comp=Z,116nm,1.1s
BTK Batken 40.97 332 P **P 05 43 20.8 +0.7**
BTK IAmb IAmb 05 43 25.2
comp=Z,116nm,1.1s
ARQ Araqi 41.05 300 P **P 05 43 24.5 +3.5**
AAA Alma-Ata 41.14 340 *e*P **P 05 43 21.1 -0.3**
baz=340
AAA *e*S **S 05 49 30.2 -0.8**
baz=340
AAA Alma-Ata 41.14 340 *e*P **P 05 43 21.1 -0.3**
AAA *e*S **S 05 49 30.1 -0.8**
SOHO SOHO 41.32 301 P **P 05 43 25.7 +2.6**
TKM2 Tokmak 2 41.35 339 P **P 05 43 24.5 +1.1**
SNR=35
KBK Karagaybulak 41.36 338 P **P 05 43 25.4 +1.9**
SNR=27
AML Almayashu 41.40 336 P **P 05 43 25.3 +1.3**
SNR=12
AML Almayashu 41.40 336 P **P 05 43 25.4 +1.4**
KDU Kakadu 41.46 115 P **P 05 43 22.9 -1.4**
baz=42,SNR=6.8
AAK Ala-Archa 41.52 337 P **P 05 43 25.4 +0.7**
comp=Z,56nm,0.8s,baz=161,slow=4.9,SNR=53
AAK LR LR 06 03 39.5
comp=Z,329nm,19.3s,baz=152,slow=40
AAK Ala-Archa 41.52 337 P **P 05 43 26.7 +2.0**
SNR=22
AAK Ala-Archa 41.52 337 P **P 05 43 25.7 +1.0**
AAK pmax pmax
comp=Z,54nm,0.8s
AAK MLR MLR
comp=Z,400nm,19.0s
AAK Ala-Archa 41.52 337 P **P 05 43 25.7 +1.0**
AAK Ala-Archa 41.52 337 P **P 05 43 25.9 +1.2**
DL2 Dalian 41.62 32⇑*i*P **P 05 43 26.1 +0.8**
DL2 pP **pP 05 43 40.1 +1.1**
DL2 S **S 05 49 37.9 0.0**
DL2 pmax pmax
comp=Z,200nm,0.8s
DL2 pmax pmax
comp=Z,320nm,4.0s
DL2 LR LR
comp=Z,730nm,15.8s
DL2 LR LR
comp=Z,580nm,16.9s
DL2 LR LR
comp=Z,1μm,16.6s
CHKK Chushkaly 41.69 341 *e*P **P 05 43 24.6 -1.3**
baz=341
CHKK Chushkaly 41.69 341 *e*P **P 05 43 24.6 -1.3**
CHMS Chumysh 41.73 338 P **P 05 43 27.1 +0.8**
SNR=12
ARXS Arharly 41.74 342 *e*P **P 05 43 27.2 +0.8**
EKS2 Erkin-Say 41.82 337 P **P 05 43 28.3 +1.2**
SNR=53
DOK Doka 41.82 292 P **P 05 43 29.3 +2.0**
HRA Herat 41.91 318 P **P 05 43 28.3 +0.3**
HATD Hatta, Dubai 41.91 302 P **P 05 43 30.6 +2.5**
ASHO Ashiyiah 41.93 302 P **P 05 43 31.4 +3.2**
KUU Kurty 41.94 340⇑*i*P **P 05 43 28.4 +0.4**
comp=Z,170nm,1.4s,baz=340
KUU *e*S **S 05 49 42.4 -0.4**
baz=340
KUU Kurty 41.94 340*c i*P **P 05 43 28.3 +0.4**
KUU *e*S **S 05 49 42.3 -0.4**
KUU pmax pmax
comp=Z,170nm,1.4s
ALNE Al Ain 41.96 301 P **P 05 43 31.1 +2.6**
SNR=7.9
WHFO Wadi Hawf 41.99 291 P **P 05 43 32.4 +3.6**
USP Ospenovka 42.05 338 P **P 05 43 30.0 +1.1**
SNR=93
SRPI Serui, Papua 42.06 98 P **P 05 43 27.6 -1.7**
comp=Z,144nm,0.4s
MASF Masafi 42.09 303 P **P 05 43 32.2 +2.7**
SGDS Sogindy 42.16 338⇑*i*P **P 05 43 30.2 +0.3**
baz=338
SGDS Sogindy 42.16 338*c i*P **P 05 43 30.1 +0.3**
TDK Taldyqorghan 42.28 343 *e*P **P 05 43 30.1 -0.6**
baz=343
TDK *e*S **S 05 49 47.6 0.0**
baz=343
TDK Taldyqorghan 42.28 343 *e*P **P 05 43 30.1 -0.6**
TDK *e*S **S 05 49 47.6 0.0**
ASUD Al Ashush, Dub 42.52 301 P **P 05 43 36.1 +3.2**
SNR=14
AJN Ajban 42.79 301 P **P 05 43 38.2 +3.1**
SNR=7.7
MKAR Makanchi Array 42.96 347 P **P 05 43 36.5 +0.3**
comp=Z,124nm,0.7s,baz=167,slow=8.2,SNR=940
MK31 Makanchi Array 42.96 347 IAmb IAmb 05 43 37.7
comp=Z,102nm,0.8s
DZA Taraz 43.01 335 *e*S **S 05 49 58.0 -0.5**
baz=335
MAKZ Makanchi 43.04 347 P **P 05 43 37.0 +0.2**
MAKZ Makanchi 43.04 347 P **P 05 43 37.0 +0.2**
ZSN Zaisan 43.09 350⇑*i*P **P 05 43 37.9 +0.7**
comp=Z,28nm,0.6s,baz=350
ZSN Zaisan 43.09 350*c i*P **P 05 43 37.9 +0.7**
ZSN pmax pmax
comp=Z,28nm,0.6s
TJN Taejon 43.25 39*ce*P **P 05 43 38.2 -0.4**
NWAO Narrogin (SRO) 43.39 152 LR LR 06 02 17.2
comp=Z,212nm,19.5s,baz=291,slow=37
INCN Inchon 43.49 38 IAMs_20 IAMs_20 06 03 32.9
comp=Z,1μm,20.0s
KK31 Karatay Array 43.53 334 P **P 05 43 41.7 +0.8**
KK31 pmax pmax
comp=Z,60nm,0.9s
KK31 Karatay Array 43.53 334 P **P 05 43 41.7 +0.8**
KK31 IAmb IAmb 05 43 42.5
comp=Z,60nm,0.8s
KKAR Karatay Array 43.53 334 P **P 05 43 41.5 +0.6**
KKAR Karatay Array 43.53 334 P **P 05 43 41.5 +0.6**
KKAR Karatay Array 43.53 334 IAmb IAmb 05 43 42.5
comp=Z,60nm,0.8s
H01W3 Cape Leeuwin H 43.73 157 T T 06 30 51.4
baz=331,slow=76,SNR=4.1
H01W2 Cape Leeuwin H 43.74 157 T T 06 30 45.8
baz=331,slow=76,SNR=4.1
H01W1 Cape Leeuwin H 43.74 157 T T 06 30 51.0
baz=331,slow=76,SNR=28
JNU Nakatsue 43.75 46 LR LR 06 04 30.2
comp=Z,802nm,18.7s,baz=262,slow=40
JNU Nakatsue 43.75 46 P **P 05 43 42.0 -0.8**
JNU IAmb IAmb 05 43 44.0
comp=Z,70nm,0.9s

SONM Songino Array 43.80 11 P **P 05 43 42.6 -0.4**
comp=Z,47nm,0.7s,baz=191,slow=8.7,SNR=253
SONM pP **pP 05 43 55.6 -1.1**
comp=Z,30nm,0.9s,baz=188,slow=6.0,SNR=9.3
SONM PcP **PcP 05 45 29.4 +0.6**
comp=Z,24nm,0.8s,baz=198,slow=3.5,SNR=10
SONM pPcP 05 45 43.7
comp=Z,12nm,0.7s,baz=190,slow=4.5,SNR=4.1
SONM ScP **ScP 05 49 16.2 -0.1**
comp=Z,5.6nm,1.1s,baz=197,slow=4.5,SNR=6.0
SONM LR LR 06 04 23.3
comp=Z,655nm,18.0s,baz=192,slow=39
ULN Ulaanbaatar 43.96 12 P **P 05 43 44.0 -0.4**
ULN MLR MLR
comp=Z,800nm,18.0s
ULN Ulaanbaatar 43.96 12 P **P 05 43 44.0 -0.4**
ULN Ulaanbaatar 43.96 12 IAMs_20 IAMs_20 06 04 23.3
comp=Z,834nm,18.0s
KSAR Wonju Array Be 44.23 39 P **P 05 43 46.1 -0.5**
KSAR Wonju Array Be 44.23 39 P **P 05 43 46.1 -0.5**
KS19 Wonju Array Si 44.26 39 P **P 05 43 46.8 0.0**
KS19 IAmb IAmb 05 43 48.1
comp=Z,44nm,0.8s
KSRS Korea Array 44.27 39 P **P 05 43 46.3 -0.5**
comp=Z,36nm,0.8s,baz=218,slow=8.9,SNR=162
KSRS ScP **ScP 05 49 17.4 -0.8**
comp=Z,1.5nm,1.0s,baz=218,slow=4.4,SNR=5.5
KSRS LR LR 06 03 46.2
comp=Z,309nm,19.1s,baz=230,slow=38
WRKA Warakurna 44.27 134 P **P 05 43 46.7 -0.4**
baz=44,SNR=14
SNY Shenyang 44.77 31 ⇑P **P 05 43 49.9 -0.8**
SNY pmax pmax
comp=Z,50nm,1.3s
SNY pmax pmax
comp=Z,210nm,3.5s
SNY LR LR
comp=Z,740nm,17.2s
SNY LR LR
comp=Z,630nm,19.9s
SNY LR LR
comp=Z,1μm,18.0s
DGZ Jazzator, Alta 44.93 353*c i*P **P 05 43 52.7 +0.7**
DGZ pmax pmax
comp=Z,28nm,0.6s
ZAK Zakamensk 45.76 8 *e*P **P 05 43 57.6 -1.0**
ZAK *e* 05 45 35.0
ZAK pmax pmax
comp=Z,31nm,1.2s
GENI Genyem 46.05 98 P **P 05 44 00.6 -0.7**
comp=Z,63nm,0.9s
WB0 Warramunga Arr 46.16 124 P **P 05 44 01.9 -0.2**
WRA Warramunga Arr 46.20 124 P **P 05 44 02.2 -0.2**
comp=Z,150nm,1.0s,baz=302,slow=9.1,SNR=580
WRA ScP **ScP 05 49 25.6 -1.0**
comp=Z,1.2nm,0.8s,baz=312,slow=3.6,SNR=4.8
WRA S **S 05 50 41.5 -3.8**
comp=Z,3.1nm,1.1s,baz=267,slow=15,SNR=4.6
WRA LR LR 06 04 31.4
comp=Z,343nm,21.8s,baz=305,slow=38
WRAB Tennant Creek 46.20 124*c i*P **P 05 44 02.5 +0.1**
WRAB pmax pmax
comp=Z,181nm,0.9s
WRAB Tennant Creek 46.20 124 P **P 05 44 02.6 +0.1**
WB2 Warramunga Arr 46.21 124 P **P 05 44 02.3 -0.2**
JMN Monobe 46.22 47 P **P 05 44 01.7 -0.8**
JMN IAMs_20 IAMs_20 06 04 52.5
comp=Z,1μm,20.0s
JHS Saijyo 46.32 45 P **P 05 44 03.4 +0.3**
WR9 Warramunga Arr 46.35 124 IAMs_20 IAMs_20 06 03 02.0
comp=Z,972nm,19.0s
WR0 Warramunga Arr 46.37 124 P **P 05 44 03.6 -0.2**
SHMA Al-Shehemyia 46.66 301 P **P 05 44 07.8 +1.9**
GEYT Alibeck 46.69 320 P **P 05 44 07.4 +1.3**
comp=Z,83nm,0.6s,baz=148,slow=8.7,SNR=90
GEYT LR LR 06 06 04.7
comp=Z,147nm,19.9s,baz=45,slow=39
GEYT Alibeck 46.69 320 P **P 05 44 06.6 +0.5**
SEM Semipalatinsk 46.82 347⇑*i*P **P 05 44 07.0 -0.1**
comp=Z,126nm,1.3s,baz=347
SEM Semipalatinsk 46.82 347*c i*P **P 05 44 06.9 -0.1**
SEM pmax pmax
comp=Z,126nm,1.3s
SAKB Bahrain 47.06 301 P **P 05 44 11.1 +2.1**
TLY Talaya 47.08 8⇑*i*P **P 05 44 09.2 +0.4**
TLY pmax pmax
comp=Z,41nm,0.8s
TLY Talaya 47.08 8 P **P 05 44 08.8 0.0**
TLY IAmb IAmb 05 44 10.3
comp=Z,36nm,0.7s
CN2 Changchun 47.14 30 *e*P **P 05 44 08.9 -0.5**
CN2 pP pP 05 44 21.4 -1.9
CN2 PP **PP 05 45 59.6 -1.2**
CN2 S **S 05 50 57.6 -0.5**
CN2 sS sS 05 51 18.8 -1.9
CN2 SS **SS 05 54 18.5 -7.4**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 LR LR
comp=Z,520nm,18.0s
CN2 LR LR
comp=Z,720nm,18.0s
CN2 LR LR
comp=Z,640nm,20.0s
KURBB Kurchatov Arra 47.41 346 P **P 05 44 12.2 +0.8**
comp=Z,96nm,0.7s,baz=170,slow=6.9,SNR=982
KURBB PcP **PcP 05 45 41.8 +0.6**
comp=Z,26nm,1.0s,baz=157,slow=3.4,SNR=4.4
KURBB S **S 05 51 01.5 -0.1**
comp=Z,1.4nm,0.8s,baz=152,slow=15,SNR=4.5
KURK Kurchatov 47.48 346 P **P 05 44 12.2 +0.3**
KURK 05 45 41.8
KURK Kurchatov 47.48 346 P **P 05 44 12.2 +0.3**
KURK **S 05 51 01.5 -1.1**
AS31 Alice Springs 47.70 128 P **P 05 44 14.1 0.0**
ASAR Alice Springs 47.70 128 P **P 05 44 13.8 -0.3**
comp=Z,30nm,0.8s,baz=299,slow=7.8,SNR=224
ASAR PcP **PcP 05 45 43.0 +0.2**
comp=Z,11nm,0.9s,baz=303,slow=4.3,SNR=5.4
ASAR pPcP 05 45 58.8
comp=Z,6.9nm,0.7s,baz=307,slow=3.6,SNR=4.1
ASAR ScP **ScP 05 49 31.8 -1.0**
comp=Z,3.0nm,0.9s,baz=307,slow=3.9,SNR=6.3
ASAR S **S 05 51 05.4 -1.3**
comp=Z,3.2nm,1.0s,baz=295,slow=13,SNR=9.6
ASAR LR LR 06 05 01.3
comp=Z,210nm,21.2s,baz=308,slow=37
FORT Forrest 47.80 140 P **P 05 44 15.5 +0.8**
baz=48,SNR=6.2
FORT Forrest 47.80 140 P **P 05 44 13.4 -1.2**
FORT IAmb IAmb 05 44 41.7
comp=Z,49nm,0.8s
JWT Wachi 48.08 46 P **P 05 44 16.3 -0.5**
JWT IAMs_20 IAMs_20 06 06 06.6
comp=Z,772nm,20.0s
BRZS Berezniki 48.48 341⇑*i*P **P 05 44 20.5 +0.7**
comp=Z,51nm,1.2s,baz=341
BRZS *e*S **S 05 51 18.1 +1.1**
baz=341
BRZS Berezniki 48.48 341*c i*P **P 05 44 20.4 +0.7**
BRZS *e*S **S 05 51 18.1 +1.1**
BRZS pmax pmax
comp=Z,51nm,1.2s
HIA Hailar 48.91 22 IAmb IAmb 05 44 24.0
comp=Z,42nm,0.7s
INU Inuyama 49.27 47 P **P 05 44 25.2 -0.7**
INU IAmb IAmb 05 44 26.8
comp=Z,77nm,0.8s
INU IAMs_20 IAMs_20 06 07 15.5
comp=Z,748nm,20.0s
ZALV Zalesovo Beam 49.42 352 P **P 05 44 27.1 +0.4**
comp=Z,93nm,0.6s,baz=184,slow=6.6,SNR=387
ZALV pP **pP 05 44 40.2 -0.3**
comp=Z,74nm,0.9s,baz=166,slow=6.9,SNR=9.8
ZALV ScP **ScP 05 49 39.0 -0.4**
comp=Z,0.8nm,0.4s,baz=191,slow=3.9,SNR=3.8
ZALV LR LR 06 09 22.2
comp=Z,169nm,20.4s,baz=182,slow=41
JGF Kuroka 49.63 46 P **P 05 44 28.4 -0.4**
JGF IAmb IAmb 05 44 29.5
comp=Z,46nm,0.7s
MDJ Mudanjiang 49.86 32 P **P 05 44 30.9 +0.6**
MDJ pP pP 05 44 44.4 +0.1
MDJ sP sP 05 44 50.8 +0.4
MDJ S **S 05 51 38.3 +2.0**
MDJ pmax pmax
comp=Z,77nm,1.2s
MDJ pmax pmax
comp=Z,170nm,5.0s
MDJ LR LR
comp=Z,720nm,15.6s
MDJ LR LR
comp=Z,490nm,14.6s
MDJ LR LR
comp=Z,910nm,22.8s
VLA Vladivostok 50.16 35*c i*P **P 05 44 33.1 +0.5**
VLA pmax pmax
comp=Z,70nm,0.8s
JHJ Hachijo jima 2 50.37 50 LR LR 06 05 05.3
comp=Z,186nm,21.4s,baz=104,slow=35
MAJO Matsushiro 50.68 46 P **P 05 44 36.8 +0.2**
MAJO MLR MLR
comp=Z,700nm,20.0s
MAJO Matsushiro 50.68 46 P **P 05 44 36.8 +0.2**
MAT Matsushiro 50.68 46 P **P 05 44 35.7 -1.0**
MAT *e*S **S 05 51 55.2 +7.1**
MJAR Matsushiro Arr 50.68 46 P **P 05 44 36.2 -0.5**
comp=Z,34nm,0.7s,baz=238,slow=7.4,SNR=28
MJAR PcP **PcP 05 45 53.3 -0.1**
comp=Z,2.3nm,0.7s,baz=232,slow=3.1,SNR=5.1
MJAR pPcP 05 46 08.0
comp=Z,6.6nm,0.9s,baz=244,slow=3.3,SNR=5.2
MJAR LR LR 06 07 45.3
comp=Z,605nm,19.9s,baz=260,slow=38
QIS Mount Isa 50.89 122 P **P 05 44 38.3 -0.2**
baz=51,SNR=11
USRK Ussuriysk Ar. 50.90 34 P **P 05 44 38.1 0.0**
comp=Z,14nm,0.6s,baz=238,slow=6.7,SNR=47
USRK LR LR 06 08 55.4
comp=Z,892nm,18.1s,baz=212,slow=39
USRK Ussuriysk Ar. 50.90 34 P **P 05 44 38.5 +0.4**
USRK Ussuriysk Ar. 50.90 34 P **P 05 44 38.5 +0.4**
ANA2 Anatahan 51.23 73 P **P 05 44 42.3 +1.2**
ANA2 Anatahan 51.23 73 P **P 05 44 42.7 +1.6**
JSD Sado 51.42 44 IAmb IAmb 05 44 42.6
comp=Z,58nm,0.9s
BVAR Borovoye Array 51.84 342 P **P 05 44 44.3 -0.7**
comp=Z,46nm,0.8s,baz=190,slow=16,SNR=204
BVAR pP **pP 05 44 58.3 -0.3**
comp=Z,33nm,0.9s,baz=170,slow=13,SNR=8.3
BVAR S **S 05 52 01.4 -2.0**
comp=Z,1.3nm,0.4s,baz=218,slow=31,SNR=2.6
BRVK Borovoye 51.90 342 P **P 05 44 46.0 +0.5**
BRVK pmax pmax
comp=Z,97nm,0.9s
BRVK MLR MLR
comp=Z,200nm,19.0s
BRVK Borovoye 51.90 342 P **P 05 44 46.0 +0.5**
BRVK IAmb IAmb 05 44 46.8
comp=Z,97nm,0.9s
BRVK Borovoye 51.90 342 P **P 05 44 45.5 +0.1**
JYT Yasato 51.97 47 IAmb IAmb 05 44 46.6
comp=Z,34nm,0.6s
ABKAR Akbulak array 52.98 332 P **P 05 44 54.1 +0.6**
ABKAR IAmb IAmb 05 44 55.3
comp=Z,118nm,1.0s
JMM Marumori 53.12 45 IAmb IAmb 05 44 55.6
comp=Z,78nm,0.9s
LKRN Lenkeran, Azer 53.38 316 P **P 05 44 56.6 -0.1**
KLR Kul'dur 54.04 29 P **P 05 45 01.7 +0.4**
comp=Z,25nm,1.0s,baz=247,slow=6.7,SNR=56
KLR pP **pP 05 45 15.2 -0.1**
comp=Z,15nm,0.9s,baz=227,slow=6.2,SNR=7.9
KLR LR LR 06 09 56.2
comp=Z,637nm,19.4s,baz=216,slow=38
PMG Port Moresby 54.21 105*ce*P **P 05 45 04.8 +1.7**
PMG pmax pmax
comp=Z,43nm,1.0s
PMG Port Moresby 54.21 105 P **P 05 45 02.5 -0.6**
PMG IAmb IAmb 05 45 06.7
comp=Z,48nm,0.9s
PMG Port Moresby 54.21 105 P **P 05 45 02.7 -0.4**
PMG Port Moresby 54.21 105 P **P 05 45 02.8 -0.4**
BBOO Buckleboo 54.36 137 P **P 05 45 03.7 -0.3**
BBOO IAmb IAmb 05 45 03.9
comp=Z,41nm,1.1s
AKTO Aktyubinsk 54.69 332 P **P 05 45 06.2 +0.1**
comp=Z,28nm,0.7s,baz=129,slow=7.6,SNR=84
AKTO pP **pP 05 45 20.9 +1.1**
comp=Z,53nm,0.9s,baz=108,slow=9.1,SNR=11
ZEA Zeya 55.31 23 *e*P **P 05 45 10.4 0.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
SEKA Sheki 55.60 318 P **P 05 45 12.6 -0.2**
JEW Eniwo 55.86 40 P **P 05 45 14.7 +0.1**
NAX Nakhchivan 55.89 315 P **P 05 45 14.8 -0.2**
GANJ Ganja 55.94 317 P **P 05 45 15.4 +0.1**
ZKTA Zakatala 56.18 318 P **P 05 45 17.3 +0.4**
MAK Makhachkala 56.21 320 *e*P **P 05 45 14.8 -2.3**
MAK *e*PPP PPP 05 48 34.5
MAK *e*S **S 05 52 59.8 -3.0**
MAK *e*SS **SS 05 56 48.4 -1.7**
MAK pmax pmax
comp=Z,392nm,1.6s
DDFL Dedoflistskaro 56.43 317 P **P 05 45 22.0 +3.2**
CTAO Charters Tower 56.47 118 P **P 05 45 18.8 -0.5**
CTAO pmax pmax
comp=Z,59nm,1.1s
CTAO Charters Tower 56.47 118 P **P 05 45 18.8 -0.5**
CTAO IAmb IAmb 05 45 20.1
comp=Z,59nm,1.1s
LGD Lagodekhi 56.52 318 P **P 05 45 19.9 +0.6**
ERM Erimo 56.59 42 P **P 05 45 20.3 +0.5**
ERM pmax pmax
comp=Z,39nm,1.2s
ERM MLR MLR
comp=Z,600nm,20.0s
ERM Erimo 56.59 42 P **P 05 45 20.3 +0.5**
ERM Erimo 56.59 42 IAMs_20 IAMs_20 06 10 27.0
comp=Z,622nm,20.0s
GNI Garni 56.82 315*ce*P **P 05 45 22.3 +0.5**
GNI pmax pmax
comp=Z,82nm,1.3s
GNI Garni 56.82 315 P **P 05 45 22.2 +0.5**
ASAJ Asahikawa 57.20 39 P **P 05 45 24.6 +0.5**
comp=Z,38nm,1.0s,baz=248,slow=12,SNR=15
ASAJ LR LR 06 09 34.5
comp=Z,349nm,21.8s,baz=282,slow=36
ASAJ Asahikawa 57.20 39 P **P 05 45 24.0 -0.1**
ASAJ pmax pmax
comp=Z,213nm,1.8s
JKA Kamikawa-asahi 57.20 39 P **P 05 45 23.9 -0.2**
QLP Quilpie 57.31 126 P **P 05 45 25.6 +0.5**
baz=57,SNR=8.9
GRNR Gornyy 57.34 30 *e*P **P 05 45 25.2 +0.2**
GRNR MLR MLR
comp=N,370nm,17.0s
GRNR MLR MLR
comp=Z,410nm,15.0s
GROC Groznyy 57.43 319 *e*P **P 05 45 25.1 -0.6**
GROC *e**PP **pP 05 45 39.1 -0.4**
GROC *e* 05 46 19.7
GROC *e* 05 47 42.4
GROC pmax pmax
comp=Z,108nm,0.8s
KZRT Kazreti 57.57 317 P **P 05 45 27.4 +0.6**
KMBO Kilima Mbogo 57.72 265 P **P 05 45 31.2 +2.6**
comp=Z,5.8nm,0.9s,baz=56,slow=10,SNR=7.9
KMBO Kilima Mbogo 57.72 265 *i* P **P 05 45 31.0 +2.5**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
STKA Stephens Creek 57.77 133 P **P 05 45 28.1 -0.1**
comp=Z,26nm,1.1s,baz=306,slow=7.0,SNR=16
STKA LR LR 06 13 04.7
comp=Z,167nm,20.1s,baz=327,slow=39
STKA Stephens Creek 57.77 133 P **P 05 45 27.7 -0.6**
STKA pmax pmax
comp=Z,7.0nm,1.1s
STKA Stephens Creek 57.77 133 P **P 05 45 27.7 -0.6**
AKH Akhalkalaki 58.20 316 P **P 05 45 32.5 +1.1**
SVE Sverdlovsk 58.23 339*d i*P **P 05 45 31.5 +0.5**
SVE *e*S **S 05 53 30.5 +1.6**
SVE pmax pmax
comp=Z,128nm,1.1s
ZEI Tsey 58.50 318 *e*P **P 05 45 32.9 -0.6**
ZEI pmax pmax
comp=Z,27nm,0.7s
YSS Yuzh-Sakhalins 58.68 37 *e*P **P 05 45 34.8 +0.4**
YSS *e**PP **pP 05 45 48.2 -0.5**
YSS *e**SP **sP 05 45 52.6 -2.1**
YSS *e* 05 47 49.2
YSS *e*S **S 05 53 41.7 +6.6**
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS MLR MLR
comp=E,400nm,16.0s
ARU Arti 58.70 337 P **P 05 45 34.2 -0.1**
comp=E,7.6nm,0.6s,baz=145,slow=4.5,SNR=53
ARU pP **pP 05 45 48.0 -0.2**
comp=E,5.3nm,0.2s,baz=150,slow=6.7,SNR=5.5
ARU Arti 58.70 337*d i*P **P 05 45 34.3 -0.1**
ARU 05 47 41.7
ARU S **S 05 53 38.4 +3.3**
ARU SS **SS 05 57 27.5 -1.3**
ARU pmax pmax
comp=Z,69nm,1.0s
ARU MLR MLR
comp=Z,172nm,16.0s
ARU Arti 58.70 337 P **P 05 45 33.9 -0.4**
ARU IAmb IAmb 05 45 50.3
comp=Z,77nm,1.1s
ONI Oni 58.72 318 P **P 05 45 36.0 +1.2**
ONI pmax pmax
comp=Z,17nm,0.9s
ONI Oni 58.72 318 P **P 05 45 36.0 +1.2**
UGL Uglegorsk 59.37 34 *e*P **P 05 45 40.6 +1.5**
UGL *e* 05 46 30.9
BATM Batumi 59.52 316 P **P 05 45 40.9 +0.6**
KBZ Khabaz 59.56 319 P **P 05 45 40.6 +0.1**
comp=Z,30nm,0.9s,baz=106,slow=6.2,SNR=50
KBZ pP **pP 05 45 54.8 +0.5**
comp=Z,21nm,0.9s,baz=148,slow=5.9,SNR=8.1
KBZ LR LR 06 15 02.9
comp=Z,51nm,19.9s,baz=118,slow=40
SHA1 Shidzhatmaz 59.72 319*c i*P **P 05 45 42.2 +0.2**
KVAR Kislovodsk Arr 59.79 319 LR LR 06 14 00.6
comp=Z,97nm,21.5s,baz=109,slow=38
KIV Kislovodsk 59.79 319 *e*P **P 05 45 42.3 0.0**
KIV *e*S **S 05 53 51.7 +1.8**
KIV pmax pmax
comp=Z,74nm,1.1s
KIV pmax pmax
comp=Z,21nm,3.5s
KIV MLR MLR
comp=Z,58nm,17.0s
KIV Kislovodsk 59.79 319 P **P 05 45 42.6 +0.3**
TYV Tymovskoe 60.63 33 *e*P **P 05 45 48.6 +0.8**
TYV pmax pmax
comp=Z,200nm,2.8s
TYV pmax pmax
comp=Z,18nm,0.8s
CMSA Cobar Meteorol 60.66 130 P **P 05 45 48.8 +0.5**
baz=61,SNR=47
RMQ Roma 60.96 124 P **P 05 45 51.7 +1.2**
baz=61,SNR=8.0
SOC Sochi 61.62 317 *e*P **P 05 45 53.3 -1.3**
SOC *e* 05 48 08.5
SOC *e*S **S 05 54 14.8 +1.8**
SOC *e*SS **SS 05 58 13.2 -1.9**
SOC pmax pmax
comp=Z,72nm,1.0s
YAK Yakutsk 62.49 18 P **P 05 45 59.0 -1.0**
comp=Z,42nm,0.6s,baz=354,slow=0.1,SNR=16
YAK LR LR 06 14 40.4
comp=Z,728nm,21.9s,baz=264,slow=38
YAK Yakutsk 62.49 18 *e*P **P 05 45 58.9 -1.2**
YAK *e**PP **pP 05 46 09.4 -5.1**
YAK *e* 05 46 38.0
YAK *e*S **S 05 54 25.3 +2.0**
YAK *e**SS **pS 05 54 36.4 -4.3**
YAK *e*SS **SS 05 58 36.0 +8.0**
YAK pmax pmax
comp=Z,105nm,0.8s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,29nm,1.1s
YAK smax smax
comp=E,26nm,1.9s
YAK smax smax
comp=N,27nm,2.0s
YAK MLR MLR
comp=Z,768nm,22.0s
YAK MLR MLR
comp=N,944nm,19.0s
YAK Yakutsk 62.49 18 P **P 05 45 58.5 -1.6**
YAK IAMs_20 IAMs_20 06 15 13.5
comp=Z,654nm,19.0s
BNN Bunyan 62.82 311 P **P 05 46 03.4 +0.5**
PATS Pohnpei 63.25 85 P **P 05 46 04.0 -2.0**
TOO Toolangi 63.42 136 P **P 05 46 08.4 +1.7**
baz=64,SNR=4.6
TOO Toolangi 63.42 136 P **P 05 46 06.6 -0.2**
TOO pmax pmax
comp=Z,62nm,1.3s
TOO Toolangi 63.42 136 P **P 05 46 06.6 -0.2**
TOO IAmb IAmb 05 46 09.2
comp=Z,62nm,1.2s
VRH Novokhopyorsk 63.57 326 *e*P **P 05 46 05.8 -1.6**
VRH *e**SP **pP 05 46 20.4 -0.9**
VRH pmax pmax
comp=Z,110nm,0.7s
ANN Anapa 63.59 318 *e*P P 05 46 02.6 -5.1
ANN *e**PP pP 05 46 12.9 -8.7
ANN *e*S **S 05 54 32.0 -5.7**
ANN *e*SS **SS 05 58 47.5 +1.6**
ANN pmax pmax
comp=Z,51nm,1.2s
CSS Mathiatis 63.78 307 P **P 05 46 10.1 +0.9**
CSS IAmb IAmb 05 46 27.6
comp=Z,74nm,1.0s
KIRV Kirov 63.80 335 P **P 05 46 08.8 0.0**
comp=Z,40nm,1.0s,baz=108,slow=3.1,SNR=21
KIRV pP **pP 05 46 23.2 +0.5**
comp=Z,70nm,0.8s,baz=163,slow=2.4,SNR=10
YNG Young 63.94 132 P **P 05 46 10.9 +0.7**
baz=64,SNR=10
MBAR Mbarara 64.13 267 IAMs_20 IAMs_20 06 09 29.6
comp=Z,610nm,21.0s
SNOP Sinop 64.22 315 P **P 05 46 11.6 -0.3**
NRIK Noril'sk 64.38 357 P **P 05 46 12.3 -0.1**
comp=Z,79nm,0.8s,baz=157,slow=5.9,SNR=70
NRIK Noril'sk 64.38 357 P **P 05 46 11.6 -0.8**
NRIK pmax pmax
comp=Z,97nm,0.9s
NRIK Noril'sk 64.38 357 P **P 05 46 11.6 -0.8**
BR131 Keskin Array S 64.71 312 P **P 05 46 15.1 -0.2**
SNR=27
BRTR Keskin Array B 64.71 312 P **P 05 46 15.1 -0.2**
comp=Z,28nm,0.7s,baz=131,slow=7.3,SNR=126
BRTR LR LR 06 15 14.0
comp=Z,141nm,21.7s,baz=119,slow=37
BRTR Keskin Array B 64.71 312 P **P 05 46 14.5 -0.8**
ARMA Armidale 64.81 127 P **P 05 46 17.6 +1.5**
baz=65,SNR=9.0
ARMA Armidale 64.81 127 P **P 05 46 15.2 -0.9**
ARMA IAmb IAmb 05 46 18.8
comp=Z,47nm,1.2s
VORD Divnogorie 64.84 325 *e*P **P 05 46 14.3 -1.4**
VORD *e**SP **pP 05 46 28.8 -0.9**
VORD pmax pmax
comp=Z,70nm,0.8s
CAN Canberra 64.84 133 P **P 05 46 16.0 -0.1**
CAN pmax pmax
comp=Z,57nm,1.2s
CAN Canberra 64.84 133 P **P 05 46 15.9 -0.1**
CAN IAmb IAmb 05 46 17.9
comp=Z,57nm,1.2s
BZK Bozkurt 65.06 314⇓P **P 05 46 17.7 +0.4**
BZK Bozkurt 65.06 314 P **P 05 46 17.3 0.0**
CNB Canberra Magne 65.10 133 P **P 05 46 18.5 +0.7**
baz=65,SNR=6.2
ANTO Ankara 65.37 312 P **P 05 46 18.8 -0.7**
ANTO pmax pmax
comp=Z,100nm,1.3s

ANTO MLR MLR
comp=Z,100nm,18.0s
ANTO Ankara 65.37 312 P **P 05 46 18.8 -0.7**
BR231 Keskin MP Arra 65.38 312 P **P 05 46 19.6 -0.1**
LPSR Galich'ya Gora 65.74 326 *eP* **P 05 46 20.5 -1.0**
LPSR *e**SP **pP 05 46 34.9 -0.6**
LPSR pmax pmax
comp=Z,80nm,0.9s
SIM Simferopol' 65.87 317*c i*P **P 05 46 21.7 -0.9**
SIM pmax pmax
comp=Z,101nm,1.1s
ISP Isparta 66.62 309 P **P 05 46 27.8 +0.1**
ISP pmax pmax
comp=Z,123nm,1.3s
ISP MLR MLR
comp=Z,200nm,19.0s
ISP Isparta 66.62 309 P **P 05 46 27.8 +0.1**
MDUB Mudurnu 66.71 312 P **P 05 46 28.2 +0.1**
ELL Elmali 66.88 308 P **P 05 46 29.6 +0.3**
ELL pmax pmax
comp=Z,573nm,1.0s
ELL Elmali 66.88 308 P **P 05 46 29.6 +0.3**
PRGR Permogore 67.15 337 *eP* **P 05 46 28.4 -2.0**
PRGR *e**SP **pP 05 46 43.6 -0.8**
PRGR *e* 05 46 59.5
PRGR pmax pmax
comp=Z,19nm,0.6s
FETY Fethiye 67.50 308 P **P 05 46 32.7 -0.5**
MOS Moscow 67.78 329 *eP* **P 05 46 31.6 -2.9**
MOS *e* 05 46 47.4
MOS *e*S **S 05 55 24.6 -3.7**
MOS pmax pmax
comp=Z,126nm,1.5s
MOS pmax pmax
comp=Z,200nm,1.6s
OBN Obninsk 68.06 328*c i*P **P 05 46 36.1 -0.1**
OBN *e* 05 46 50.1
OBN *e*S **S 05 55 32.1 +0.4**
OBN pmax pmax
comp=Z,153nm,1.7s
OBN MLR MLR
comp=Z,141nm,19.0s
YER Yerkesik 68.23 308 P P 05 46 48.7 +11
SKR Severo-Kuril's 68.25 37*ceP* **P 05 46 38.1 +0.6**
DAT Datca 68.71 307 P **P 05 46 40.8 -0.1**
KARP Karpathos 68.85 306 P **P 05 46 41.8 +0.1**
LSZ Lusaka 68.89 252 P **P 05 46 41.0 -1.3**
LSZ pmax pmax
comp=Z,42nm,1.2s
LSZ Lusaka 68.89 252 P **P 05 46 41.0 -1.3**
LSZ IAmb IAmb 05 47 00.7
comp=Z,42nm,1.2s
MA2 Magadan 69.01 27 LR LR 06 18 31.2
comp=Z,132nm,21.2s,baz=244,slow=37
MA2 Magadan 69.01 27*ceP* **P 05 46 41.7 -0.4**
MA2 pmax pmax
comp=Z,42nm,0.8s
MA2 Magadan 69.01 27 P **P 05 46 41.3 -0.8**
MA2 IAmb IAmb 05 46 42.9
comp=Z,45nm,0.9s
KLMR Klimovskoe 69.23 335 *eP* **P 05 46 39.6 -3.8**
KLMR pmax pmax
comp=Z,64nm,1.1s
KLMR Klimovskoe 69.23 335 *eP* **P 05 46 39.6 -3.8**
KLMR AMP 05 46 45.0
comp=Z,64nm,1.1s
KLMR *e*PP **PP 05 49 11.2 -5.7**
JURR Jurilovca 69.40 316 ⇓P **P 05 46 44.9 +0.1**
TIRR Tirgusor 69.65 316 ⇑P **P 05 46 46.9 +0.6**
TPGR Topolog 69.74 316 ⇓P **P 05 46 47.0 +0.1**
TIXI Tiksi 69.89 11 P **P 05 46 46.2 -1.1**
comp=Z,59nm,0.7s,baz=201,slow=3.6,SNR=88
TIXI Tiksi 69.89 11 P **P 05 46 45.5 -1.8**
PETK Petropavlovsk- 69.98 35 P **P 05 46 46.9 -1.3**
comp=Z,7.7nm,1.0s,baz=207,slow=13,SNR=6.3
PETK LR LR 06 17 51.3
comp=Z,393nm,21.7s,baz=241,slow=36
PETK Petropavlovsk- 69.98 35 P **P 05 46 45.6 -2.6**
KIS Kishinev 69.99 318⇑*iP* **P 05 46 47.9 -0.5**
comp=Z,70nm,1.6s
KIS Kishinev 69.99 318*c i*P **P 05 46 47.9 -0.5**
KIS pmax pmax
comp=Z,70nm,1.6s
CFR Carcaliu 70.01 316 ⇑P **P 05 46 49.1 +0.6**
HARR Harsova 70.04 316 ⇑P **P 05 46 48.9 +0.2**
PRK Paraskevi 70.16 310 P **P 05 46 50.2 +0.6**
CHOS Chios island 70.19 309 P **P 05 46 48.9 -1.0**
THR8 Santorini-Mono 70.33 307 P P 05 47 03.6 +13
SANT Santorini 70.34 307 ⇑P **P 05 46 49.6 -1.2**
SANT Santorini 70.34 307 P **P 05 46 50.4 -0.5**
THR3 Thira Island, 70.39 307 P P 05 47 03.6 +13
THR5 Thira Island, 70.44 307 P P 05 47 05.8 +14
PET Petropavlovsk 70.50 35⇓*iP* **P 05 46 50.6 -0.7**
PET *e**PP **pP 05 47 03.8 -1.9**
PET *e*S **S 05 55 59.1 -1.4**
PET *e*SS **SS 06 00 30.6 -1.9**
PET pmax pmax
comp=Z,82nm,0.9s
PET pmax pmax
comp=Z,100nm,9.2s
PET MLR MLR
comp=Z,500nm,18.0s
PET MLR MLR
comp=Z,400nm,19.0s
PET Petropavlovsk 70.50 35 P **P 05 46 49.3 -2.0**
PET IAmb IAmb 05 46 51.4
comp=Z,44nm,0.8s
SORM Soroca 70.58 319 ⇓P **P 05 46 51.7 -0.2**
VASR Vaslui 70.59 318 ⇑P **P 05 46 52.3 +0.3**
ALN Alexandroupoli 70.63 312 P **P 05 46 51.4 -1.0**
ALN Alexandroupoli 70.63 312 P **P 05 46 52.6 +0.2**
ALN pmax pmax
comp=Z,81nm,1.2s
ALN Alexandroupoli 70.63 312 P **P 05 46 52.6 +0.2**
ALN IAmb IAmb 05 46 54.0
comp=Z,81nm,1.2s
IDI Anoyia 70.65 306 ⇑P **P 05 46 53.3 +0.5**
IDI Anoyia 70.65 306 P **P 05 46 52.9 +0.1**
IDI Anoyia 70.65 306 P **P 05 46 53.5 +0.7**
IDI IAmb IAmb 05 47 10.2
comp=Z,63nm,0.9s
SIVA Sivas 70.67 305 P P 05 47 06.3 +13
AKASG Malin Array Be 70.72 322 P **P 05 46 51.9 -0.9**
comp=Z,22nm,0.6s,baz=91,slow=4.7,SNR=80
AKASG Malin Array Be 70.72 322 *i P* **P 05 46 52.0 -0.7**
AKASG pmax pmax
comp=Z,22nm,0.6s
AKASG Malin Array Be 70.72 322 IAmb IAmb 05 46 52.6
comp=Z,26nm,0.7s
AKBB Malin Array Si 70.72 322 P **P 05 46 51.1 -1.6**
AKBB pmax pmax
comp=Z,25nm,0.7s
AKBB Malin Array Si 70.72 322 P **P 05 46 51.1 -1.6**
AKBB IAmb IAmb 05 46 52.5
comp=Z,25nm,0.7s
RAZG Razgrad 70.80 314 ⇑P **P 05 46 54.1 +0.6**
SMTH Samothraki Isl 70.94 311 P **P 05 46 53.1 -1.2**
BISRR Bisoca 71.07 316 ⇓P **P 05 46 56.7 +1.6**
ISR Istrita 71.09 316 ⇑P **P 05 46 56.7 +1.5**
VRI Vrincioaia 71.13 317 ⇓P **P 05 46 56.2 +0.8**
PLOR Plostina 71.18 317 ⇓P **P 05 46 56.9 +1.2**
VAM Vamos 71.22 306 P **P 05 46 56.0 -0.2**
GVDS Gavdos 71.24 305 P **P 05 46 56.3 0.0**
TESR Tescani 71.32 317 ⇓P **P 05 46 57.2 +0.7**
IMMV Iera Moni Meta 71.41 306 P **P 05 46 57.6 +0.3**
SECR 71.41 316 ⇑P **P 05 46 57.2 +0.1**
MLR Muntele Rosu 71.58 316 ⇑P **P 05 46 59.2 +0.9**
DION Dionisos Attik 71.79 308 P **P 05 46 58.7 -0.9**
PRAR RASCA 71.79 318 ⇑P **P 05 46 59.7 +0.3**
ANKY Antikythira Is 72.00 306 P **P 05 47 00.0 -0.8**
DOPR Dopca 72.06 317 ⇓P **P 05 47 01.7 +0.6**
CASY Casey 72.07 173 P **P 05 47 02.0 +1.5**
CASY **sP 05 47 19.8 -0.5**
CASY Casey 72.07 173 IAMs_20 IAMs_20 06 10 45.9
comp=Z,635nm,20.0s
VOIR 72.19 316 ⇓P **P 05 47 01.9 0.0**
PAIG Paliouri 72.25 310 P **P 05 47 00.0 -2.2**
KRND KRANIDI 72.31 308 P **P 05 47 00.5 -2.2**
NVR Nevrokopi 72.33 312 P **P 05 47 00.8 -1.9**
SRS Serrai 72.49 311 P **P 05 47 01.0 -2.7**
BURAR Bucovina Array 72.52 318 ⇓P **P 05 47 04.8 +1.0**
BURAR Bucovina Array 72.52 318 IAmb IAmb 05 47 05.6
comp=Z,32nm,0.7s
BUR08 Bucovina Ar. S 72.53 318 P **P 05 47 04.4 +0.5**
BUR08 IAmb IAmb 05 47 06.0
comp=Z,75nm,1.4s
MNK Minsk 72.57 326 *i* P **P 05 47 03.9 +0.1**
MNK *i* 05 47 21.1
MNK *i* 05 49 45.3
MNK *i* PPP PPP 05 51 29.8
MNK *i* S **S 05 56 26.8 +2.4**
MNK pmax pmax
comp=Z,73nm,1.1s
MNK pmax pmax
comp=N,29nm,1.1s
MNK pmax pmax
comp=E,7.0nm,1.3s
MNK MLR MLR
comp=Z,177nm,20.0s
MNK MLR MLR
comp=N,569nm,20.0s
MNK MLR MLR
comp=E,18nm,23.0s
MNK Minsk 72.57 326 *i* P **P 05 47 04.0 +0.2**
comp=E,7.0nm,1.3s
MNK *i* P **P 05 47 04.0 +0.2**
comp=N,29nm,1.1s
MNK *i* P **P 05 47 04.0 +0.2**
comp=Z,73nm,1.1s,baz=286
MNK *i* PcP **PcP 05 47 21.2 0.0**
MNK *i* PP **PP 05 49 45.4 -0.3**
MNK *i* PPP PPP 05 51 29.9
MNK *i* S **S 05 56 26.9 +2.5**
MNK *i* SS SS 06 01 21.5 +17
MNK *i* SSS SSS 06 04 27.9
MNK *i* LQ LQ 06 14 05.8
MNK *i* LR LR 06 19 37.3
MNK *i* LRM MLR 06 22 17.1
comp=Z,177nm,20.4s
MNK *i* LRM MLR 06 22 24.7
comp=N,569nm,20.4s
MNK *i* LRM MLR 06 22 57.8
comp=E,18nm,22.9s
HORT Hortiatis 72.79 311 P **P 05 47 03.5 -2.0**
THE Thessaloniki 72.89 311 P P 05 46 59.4 -6.6
ARCR ARCALIA 72.98 318 ⇓P **P 05 47 07.0 +0.6**
VTS Vitosha 72.99 313 ⇑P **P 05 47 07.0 +0.2**
VTS Vitosha 72.99 313 P **P 05 47 05.7 -1.1**
VTS pmax pmax
comp=Z,54nm,1.1s
VTS Vitosha 72.99 313 P **P 05 47 05.7 -1.1**
VTS IAmb IAmb 05 47 08.1
comp=Z,54nm,1.1s
KNT Kendrikon 73.02 311 P **P 05 47 05.4 -1.4**
LOT Lotru 73.08 316 ⇓P **P 05 47 06.9 -0.3**
AGG Agios Georgios 73.16 309 P **P 05 47 05.0 -2.7**
KLV Kalavryta, Ach 73.18 308 P **P 05 47 05.0 -2.9**
ITM Ithomi 73.26 307 P **P 05 47 06.8 -1.5**
ITM Ithomi 73.26 307 P **P 05 47 07.6 -0.7**
ITM IAmb IAmb 05 47 25.2
comp=Z,77nm,0.9s
VAY Valandovo 73.29 312 *i* P **P 05 47 08.0 -0.4**
GRG Griva 73.36 311 P **P 05 47 07.7 -1.2**
PYL PYLOS 73.37 307 P **P 05 47 06.0 -3.0**
LBTB Lobatse 73.41 242 P **P 05 47 10.6 +1.1**
LBTB pmax pmax
comp=Z,103nm,1.5s
LBTB Lobatse 73.41 242 P **P 05 47 10.6 +1.1**
LBTB IAmb IAmb 05 47 27.1
comp=Z,103nm,1.4s
CJR Cluj-Napoca 73.42 317 ⇓P **P 05 47 10.7 +1.5**
IDID Didziasalis 73.42 326 *eP* **P 05 47 09.6 +0.8**
THL Klokotos Trika 73.47 310 P **P 05 47 06.8 -2.7**
STIP Stip 73.62 312 *i* P **P 05 47 08.7 -1.7**
IIGN Ignalina 73.72 326 *eP* **P 05 47 11.5 +0.9**
LVV L'vov 73.74 320 *eP* **P 05 47 10.8 0.0**
DEV Deva 73.75 316 ⇑P **P 05 47 12.4 +1.4**
GZR Gura Zlata 73.76 316 ⇑P **P 05 47 11.8 +0.7**
ISAL Salakas 73.83 327 *eP* **P 05 47 12.1 +0.8**
HERR Herculane 73.93 315 ⇓P **P 05 47 12.6 +0.5**
DRGR 74.04 317 ⇑P **P 05 47 13.6 +0.9**
DRGR 74.04 317 P **P 05 47 13.2 +0.4**
FNA Florina 74.11 311 P **P 05 47 09.5 -3.8**
FNA Florina 74.11 311 P **P 05 47 11.8 -1.5**
FNA Florina 74.11 311 P **P 05 47 11.8 -1.5**
LTHK Lithakia 74.18 308 P **P 05 47 13.3 -0.3**
SKO Skopje 74.21 312 *i* P **P 05 47 13.4 -0.4**
BOVS Bovan 74.25 314 ⇓P **P 05 47 13.7 -0.2**
VSU Vasula 74.30 330 *eP* **P 05 47 14.2 +0.3**
VLMS Volimes, Zakyn 74.33 308 P **P 05 47 13.1 -1.5**
JAN Janina 74.38 319 P **P 05 47 13.6 -1.2**
LVZ Lovozero 74.40 340*ceP* **P 05 47 14.0 -0.4**
LVZ pmax pmax
comp=Z,34nm,0.8s
LVZ Lovozero 74.40 340 P **P 05 47 13.6 -0.8**
LVZ IAmb IAmb 05 47 29.5
comp=Z,50nm,0.8s
MDVR Moldovita 74.41 315 ⇓P **P 05 47 15.3 +0.3**
LKD2 Lefkada island 74.43 309 P **P 05 47 14.5 -0.6**
KEF5 Kardakata, Kep 74.52 308 P P 05 47 07.0 -8.7
KWP Kalwaria Pacla 74.54 320 *eP* **P 05 47 16.4 +0.8**
KWP Kalwaria Pacla 74.54 320 P **P 05 47 15.9 +0.4**
KWP Kalwaria Pacla 74.54 320 P **P 05 47 15.9 +0.4**
BOSA Boshof 74.58 239 P **P 05 47 17.9 +1.6**
comp=Z,13nm,0.8s,baz=96,slow=5.6,SNR=18
BOSA LR LR 06 14 20.2
comp=Z,363nm,21.6s,baz=72,slow=31
BOSA Boshof 74.58 239 P **P 05 47 17.6 +1.3**
BOSA pmax pmax
comp=Z,41nm,0.9s
BOSA Boshof 74.58 239 P **P 05 47 17.6 +1.3**
BOSA IAmb IAmb 05 47 38.0
comp=Z,41nm,0.8s
OHR Ohrid 74.58 311 *i* P **P 05 47 15.0 -1.1**
SANVU Saroutou 74.58 107 P **P 05 47 17.6 +1.2**
BZS Buzias 74.60 316 ⇑P **P 05 47 16.8 +0.8**
KEF3 Kipouria, Keph 74.61 308 P P 05 47 08.2 -8.0
UZH Uzhgorod 74.63 319⇑*iP* **P 05 47 17.0 +0.9**
UZH *i* 05 47 25.5
UZH *e* 05 47 34.0
SIRR Siria 74.67 317 ⇑P **P 05 47 17.0 +0.6**
APA Apatity 74.68 340⇑*iP* **P 05 47 14.8 -1.1**
APA *i* 05 47 28.2
APA *i* S **S 05 56 43.0 -4.8**
APA pmax pmax
comp=Z,44nm,0.9s
KOLS Kolonicke sedl 74.70 319 *eP* **P 05 47 17.6 +1.1**
KOLS Kolonicke sedl 74.70 319 *eP* **P 05 47 17.6 +1.1**
KOLS *e* 06 18 52.1
IGT Igoumenitsa 74.76 309 P **P 05 47 15.1 -1.9**
NOUC Port Laguerre 74.99 114 P **P 05 47 19.8 +1.2**
PABE Paberze 75.00 326 *eP* **P 05 47 18.6 +0.6**
PABE Paberze 75.00 326 P **P 05 47 17.5 -0.6**
PABE IAmb IAmb 05 47 35.5
comp=Z,73nm,0.8s
DZM Mont Dzumac 75.11 114 *eP* **P 05 47 20.3 +0.8**
comp=Z,85nm,1.1s
DZM Mont Dzumac 75.11 114 *eLR* LR 06 10 34.4
comp=Z,365nm,22.8s
DZM Mont Dzumac 75.11 114 P **P 05 47 20.5 +1.0**
SUW Suwalki 75.12 325 *eP* **P 05 47 18.5 -0.3**
SUW Suwalki 75.12 325 *eP* **P 05 47 19.0 +0.2**
SUW Suwalki 75.12 325 P **P 05 47 17.3 -1.4**
SUW pmax pmax
comp=Z,143nm,0.9s
SUW Suwalki 75.12 325 P **P 05 47 17.3 -1.4**
KEK Kerkira 75.19 310 P **P 05 47 17.8 -1.7**
CRVS Cervenica-Dubn 75.22 319 *eP* **P 05 47 20.6 +1.1**
CRVS pmax pmax
comp=Z,145nm,1.2s
CRVS Cervenica-Dubn 75.22 319 *eP* **P 05 47 20.6 +1.1**
STHS Stebnicka Huta 75.45 320 *eP* **P 05 47 21.6 +0.8**
STHS Stebnicka Huta 75.45 320 *eP* **P 05 47 21.6 +0.8**
FIA1 FINESS Array S 75.46 332 IAmb IAmb 05 47 36.9
comp=Z,88nm,1.5s
FINES FINESS Array B 75.46 332 P **P 05 47 20.4 -0.2**
comp=Z,13nm,0.6s,baz=97,slow=6.2,SNR=54
FINES pP **pP 05 47 35.0 +0.1**
comp=Z,17nm,0.6s,baz=98,slow=7.2,SNR=11
YATNC Mamie plateau, 75.52 114 P **P 05 47 23.4 +1.7**
DIVS Divibare 75.54 314⇑*iP* **P 05 47 21.6 +0.1**
KECS Kecovo 75.79 319 *eP* **P 05 47 23.7 +0.9**
KECS pmax pmax
comp=Z,38nm,0.8s
KECS Kecovo 75.79 319 *eP* **P 05 47 23.7 +0.9**
FRGS Fruska Gora 75.80 315 ⇑P **P 05 47 23.1 +0.2**
FRGS Fruska Gora 75.80 315⇑*iP* **P 05 47 22.6 -0.3**
MTSE Matsula 75.84 329 *eP* **P 05 47 23.0 +0.3**
PDG Podgorica 75.88 312 ⇓P **P 05 47 22.8 -0.5**
PDG Podgorica 75.88 312⇑*iP* **P 05 47 22.7 -0.7**
PDG Podgorica 75.88 312 P **P 05 47 22.5 -0.8**
PDG IAmb IAmb 05 47 24.1
comp=Z,55nm,1.1s
MAW Mawson 75.90 192 P **P 05 47 25.2 +2.4**
comp=Z,2.7nm,0.7s,baz=352,slow=8.7,SNR=6.4
MAW LR LR 06 17 35.3
comp=Z,232nm,18.0s,baz=50,slow=33
MAW Mawson 75.90 192 P **P 05 47 23.8 +1.0**
DRME Dracevica, Mon 75.91 312⇑*iP* **P 05 47 23.2 -0.3**
MEF Metsahovi 75.92 331 *eP* **P 05 47 23.1 -0.1**
RUDO Rudo 75.93 314 *eP* **P 05 47 23.5 -0.1**
BBLS Lazići 75.93 314⇑*iP* **P 05 47 24.2 +0.5**
PSZ Piszkesteto 76.10 318 ⇑P **P 05 47 25.1 +0.4**
PSZ Piszkesteto 76.10 318 *eP* **P 05 47 24.8 +0.2**
PSZ Piszkesteto 76.10 318 P **P 05 47 24.9 +0.2**
PSZ pmax pmax
comp=Z,63nm,0.9s
PSZ Piszkesteto 76.10 318 P **P 05 47 24.9 +0.2**
PSZ IAmb IAmb 05 47 26.4
comp=Z,63nm,0.9s
BEL Belsk 76.13 322 *eP* **P 05 47 25.4 +0.8**
UPM Unac-Piva 76.22 313 *eP* **P 05 47 24.9 -0.6**
PBUR Paburge 76.24 326 *eP* **P 05 47 25.9 +0.8**
SCTE Santa Cesarea 76.24 310 P **P 05 47 24.1 -1.4**
SCTE IAmb IAmb 05 47 26.3
comp=Z,60nm,0.9s
HCY Herceg Novi 76.44 312 *eP* **P 05 47 25.4 -1.2**
BRY Bratogost 76.45 313⇑*iP* **P 05 47 26.4 -0.4**
OJC Ojcow 76.50 320 *eP* **P 05 47 27.6 +0.8**
OJC Ojcow 76.50 320 P **P 05 47 27.4 +0.7**
OJC pmax pmax
comp=Z,110nm,0.7s
OJC Ojcow 76.50 320 P **P 05 47 27.4 +0.7**
LANS Liptovska Anna 76.56 319 *eP* **P 05 47 28.2 +1.1**
LANS pmax pmax
comp=Z,13nm,0.8s
LANS Liptovska Anna 76.56 319 *eP* **P 05 47 28.1 +1.0**
TREB Trebinje 76.57 313 *eP* **P 05 47 26.8 -0.5**
BUD Budapest 76.63 318 *eP* **P 05 47 27.4 -0.1**
MORH Mrgy, Hungar 76.74 316 ⇓P **P 05 47 28.9 +0.8**
MORH Mrgy, Hungar 76.74 316 *eP* **P 05 47 28.1 0.0**
MORH Mrgy, Hungar 76.74 316⇑*iP* **P 05 47 28.4 +0.3**
VYHS Vyhne 76.88 319 *eP* **P 05 47 29.7 +0.7**
VYHS pmax pmax
comp=Z,93nm,1.4s
VYHS Vyhne 76.88 319 *eP* **P 05 47 29.7 +0.7**
KOVH Kovagotottos 77.10 316 *eP* **P 05 47 30.1 -0.1**
SRO Srobarova 77.15 318 *eP* **P 05 47 32.0 +1.6**
SRO Srobarova 77.15 318 *eP* **P 05 47 32.0 +1.6**
TIH Tihany 77.33 317 *eP* **P 05 47 31.9 +0.5**
RAF Rauma 77.38 332 *eP* **P 05 47 29.4 -2.0**
OKC Ostrava-Krasne 77.50 320 *eP* **P 05 47 33.2 +0.9**
OKC Ostrava-Krasne 77.50 320 *eP* **P 05 47 33.2 +0.9**
MPLH Magyarpolny 77.60 317 *eP* **P 05 47 33.8 +0.8**
BLY Banja Luka 77.61 315⇑*iP* **P 05 47 33.5 +0.4**
MGRS Mrkonjic Grad 77.65 314⇑*iP* **P 05 47 33.5 +0.1**
KEV Kevo 77.68 341 P **P 05 47 31.8 -1.1**
KEV pmax pmax
comp=Z,47nm,0.8s
KEV Kevo 77.68 341 P **P 05 47 31.8 -1.1**
KEV IAmb IAmb 05 47 48.8
comp=Z,47nm,0.8s
JAVC Velka Javorina 77.69 319 *eP* **P 05 47 35.1 +1.6**
EGYH Egyhazaskeszo 77.76 317 *eP* **P 05 47 31.0 -2.9**
SMOL Smolenice 77.81 318 *eP* **P 05 47 34.9 +0.7**
SMOL pmax pmax
comp=Z,12nm,1.0s
SMOL Smolenice 77.81 318 *eP* **P 05 47 34.9 +0.7**
MORC Moravsky Berou 77.88 320 ⇑P **P 05 47 35.7 +1.1**
MORC Moravsky Berou 77.88 320 P **P 05 47 35.4 +0.9**
MORC pmax pmax
comp=Z,137nm,1.4s
MORC Moravsky Berou 77.88 320 P **P 05 47 35.4 +0.9**
MORC Moravsky Berou 77.88 320 *eP* **P 05 47 35.5 +0.9**
MODS Modra-Piesok 77.90 318 *eP* **P 05 47 36.7 +2.0**
MODS pmax pmax
comp=Z,194nm,1.9s
MODS Modra-Piesok 77.90 318 *eP* **P 05 47 36.7 +2.0**
ZST Bratislava 78.00 318 *eP* **P 05 47 36.5 +1.3**
ZST pmax pmax
comp=Z,350nm,1.0s
ZST Bratislava 78.00 318 *eP* **P 05 47 36.5 +1.3**
AAL Aland 78.06 330 *eP* **P 05 47 35.1 -0.1**
ARA0 ARCESS Array S 78.10 340 *eP* **P 05 47 35.8 +0.5**
ARCES ARCESS Array B 78.10 340 P **P 05 47 35.6 +0.3**
comp=Z,33nm,0.9s,baz=88,slow=6.1,SNR=74
ARCES pP **pP 05 47 50.6 +1.0**
comp=Z,38nm,0.9s,baz=86,slow=5.0,SNR=11
ARCES PP **PP 05 50 32.7 +0.5**
comp=Z,14nm,1.0s,baz=98,slow=9.1,SNR=6.1
ARCES ARCESS Array B 78.10 340 IAmb IAmb 05 47 52.0
comp=Z,62nm,1.0s
CEL Celeste 78.11 308 IAmb IAmb 05 47 54.5
comp=Z,90nm,1.0s
SOP Sopron 78.31 318 *eP* **P 05 47 37.4 +0.5**
KRLC Kraliky 78.40 320 *eP* **P 05 47 38.4 +1.0**
KRLC Kraliky 78.40 320 *eP* **P 05 47 38.4 +1.0**
KOGS Kog 78.41 316 *i* P **P 05 47 38.3 +0.8**
VRAC Vranov 78.44 319 ⇑P **P 05 47 38.4 +0.8**
VRAC Vranov 78.44 319 *eP* **P 05 47 38.4 +0.8**
GKP Gorka Klasztor 78.48 323 *eP* **P 05 47 37.9 +0.2**
BILL Bilibino 78.50 21*d iP* **P 05 47 37.2 -0.4**
BILL *i* 05 47 50.7
BILL pmax pmax
comp=Z,35nm,1.3s
BILL MLR MLR
comp=Z,812nm,17.0s
BILL Bilibino 78.50 21 P **P 05 47 37.1 -0.4**
KRUC Moravsky 78.55 319 *eP* **P 05 47 38.8 +0.6**
DPC Dobruska-Polom 78.72 320 *eP* **P 05 47 40.3 +1.1**
DPC Dobruska-Polom 78.72 320 *eP* **P 05 47 40.3 +1.1**
KTK1 Kautokeino 78.73 340 *eP* **P 05 47 38.7 -0.1**
KSP Ksiaz 78.79 321 *eP* **P 05 47 40.7 +1.2**
GCIS Gornji Cirnik 78.79 316 *i* P **P 05 47 40.4 +0.8**
CONA Conrad Observa 78.80 318 *i* P **P 05 47 40.1 +0.4**
comp=Z,34nm,1.0s,SNR=21
OSTC Ostas 78.81 320 *eP* **P 05 47 40.8 +1.1**
CRES Cresnjev 78.91 316⇑*iP* **P 05 47 40.7 +0.4**
CHVC Chvalec 78.92 320 *eP* **P 05 47 41.3 +1.1**
UPC Upice 78.94 320 *eP* **P 05 47 41.3 +1.0**
UPC Upice 78.94 320 *eP* **P 05 47 41.3 +1.0**
ARSA Arzberg 78.97 317 *eP* **P 05 47 41.5 +0.9**
comp=Z,90nm,1.2s,SNR=32
HAMF Hammerfest 79.03 341 *eP* **P 05 47 40.8 +0.4**
BOJS Bojanci 79.03 315⇑*iP* **P 05 47 41.5 +0.6**
TREC Trest 79.17 319 *eP* **P 05 47 42.5 +0.9**
TREC Trest 79.17 319 *eP* **P 05 47 42.5 +0.9**
SOKA Soboth 79.27 316 *eP* **P 05 47 43.3 +1.0**
comp=Z,93nm,1.0s,SNR=90
LJU Ljubljana 79.57 316⇑*iP* **P 05 47 44.9 +1.0**
LJU Ljubljana 79.57 316 *i* P **P 05 47 45.0 +1.2**
SMY Shemya 79.58 37 P **P 05 47 43.2 -0.5**
SMY pmax pmax
comp=Z,136nm,0.8s
SMY Shemya 79.58 37 P **P 05 47 43.2 -0.5**
OBKA Obir 79.59 316 *i* P **P 05 47 44.9 +0.8**
comp=Z,46nm,0.9s,SNR=37
CEY Cerknica 79.62 315⇑*iP* **P 05 47 44.4 +0.2**
GBAS Gorenja Brezov 79.62 316 *i* P **P 05 47 44.8 +0.6**
BLEU Blekinge 79.66 326 *i* P **P 05 47 44.0 -0.1**
PRU Pruhonice 79.83 320 *eP* **P 05 47 45.9 +0.7**
PRU Pruhonice 79.83 320 *eP* **P 05 47 45.9 +0.7**
JETT Jettan, Norway 79.84 340 *eP* **P 05 47 46.2 +1.3**
PVCC Panska Ves 79.86 320 *eP* **P 05 47 46.4 +1.1**
PVCC Panska Ves 79.86 320 *eP* **P 05 47 46.4 +1.1**
MOA Molln 79.86 318 *eP* **P 05 47 45.9 +0.4**
comp=Z,32nm,0.9s,SNR=23
CKRC Cesky Krumlov 79.90 319 *eP* **P 05 47 46.5 +0.9**
SKDS Skadanscina 79.90 315⇑*iP* **P 05 47 45.4 -0.3**
BSD Bornholm Skovb 80.04 325 *eP* **P 05 47 46.4 +0.3**
BSD Bornholm Skovb 80.04 325⇑*iP* **P 05 47 45.7 -0.5**
BSD IAmb IAmb 05 47 46.3
comp=Z,28nm,0.8s
BSD Bornholm Skovb 80.04 325⇑*iP* **P 05 47 45.7 -0.5**
BSD pmax pmax
comp=Z,28nm,0.8s
CORL Corleone 80.14 307 P **P 05 47 47.3 +0.1**
CORL IAmb IAmb 05 48 04.2
comp=Z,80nm,1.2s

PBCC Pribram 80.16 319 *eP* **P 05 47 47.8 +0.8**
AQU L'Aquila 80.20 312 P **P 05 47 47.9 +0.5**
AQU pmax pmax
comp=Z,69nm,0.9s
AQU L'Aquila 80.20 312⇑ *iP* **P 05 47 47.9 +0.5**
AQU L'Aquila 80.20 312 P **P 05 47 47.9 +0.5**
AQU IAmb IAmb 05 47 49.3
comp=Z,69nm,0.9s
CLTB Caltabellotta 80.20 307 IAmb IAmb 05 48 05.6
comp=Z,43nm,0.9s
MYKA Terra Mystica 80.22 316 *i* P **P 05 47 47.9 +0.5**
comp=Z,66nm,1.5s,SNR=19
BRG Berggiesshubel 80.28 321⇑ *iP* **P 05 47 48.5 +1.0**
BRG Amp 05 47 49.7
comp=Z,71nm,1.4s
BRG Berggiesshubel 80.28 321 P P 05 47 59.5 +12
BRG Amp 05 48 00.2
comp=Z,17nm,1.1s
GERES GERESS Array B 80.30 319 P **P 05 47 48.8 +0.9**
comp=Z,77nm,0.8s,baz=90,slow=5.6,SNR=312
GERES GERESS Array B 80.30 319 P **P 05 47 48.4 +0.5**
TRO Tromso 80.36 340 *eP* **P 05 47 47.7 +0.1**
KHC Kasperske Hory 80.40 319 P **P 05 47 48.7 +0.3**
KHC pmax pmax
comp=Z,33nm,0.9s
KHC Kasperske Hory 80.40 319 *eP* **P 05 47 48.6 +0.3**
KHC Kasperske Hory 80.40 319 P **P 05 47 48.7 +0.3**
HOPEN Hopen 80.44 347 *eP* **P 05 47 48.7 +0.7**
KBA Koelnbreinsper 80.44 317 *eP* **P 05 47 48.8 0.0**
comp=Z,32nm,0.8s,SNR=43
ZOU Zoufplan 80.67 316 P **P 05 47 49.9 -0.2**
DEL Delary 80.75 326 *iP* **P 05 47 49.0 -1.0**
DEL *iP* **P 05 47 50.0 0.0**
STAL STALIGIAL 80.84 316 P **P 05 47 50.8 0.0**
MURB Monte Urbino 80.87 313 IAmb IAmb 05 48 08.0
comp=Z,70nm,1.0s
CLL Collm 80.90 321⇑ *iP* **P 05 47 51.2 +0.3**
comp=Z,43nm,1.0s
CLL *e* 05 48 06.0
CLL *e*PP **PP 05 51 00.0 +4.2**
CLL *e*SS SS 06 03 30.0 +20
CLL *e*SSS SSS 06 06 42.0
CLL *e* 06 09 54.0
CLL LmV 06 30 00.0
comp=Z,100nm,20.2s
CLL Collm 80.90 321⇑ *iP* **P 05 47 51.2 +0.3**
CLL *e**PP **pP 05 48 06.0 +0.7**
CLL pmax pmax
comp=Z,43nm,1.0s
CLL Collm 80.90 321 IAmb IAmb 05 47 52.4
comp=Z,38nm,1.0s
ABTA Abfaltersbach 81.00 316 *eP* **P 05 47 51.6 0.0**
comp=Z,34nm,0.9s,SNR=22
N2IH Innhavet 81.14 338 *eP* **P 05 47 52.1 +0.4**
NKC Novy Kostel 81.19 320 *eP* **P 05 47 53.2 +0.7**
NKC Novy Kostel 81.19 320 *eP* **P 05 47 53.2 +0.7**
BJUU Bjuv 81.19 326 *i P* **P 05 47 52.5 +0.2**
FAUS Fauske 81.30 337 *eP* **P 05 47 52.9 +0.3**
BJO1 Bjornoya 81.36 345 *eP* **P 05 47 52.3 -0.6**
N2TV TVrnvik 81.39 338 *eP* **P 05 47 53.2 +0.1**
STEI Steigen 81.39 338 *eP* **P 05 47 53.9 +0.8**
FABU Falkenberg 81.43 327 *eP* **P 05 47 53.6 +0.1**
MOR8 Moi Rana 81.48 336 *eP* **P 05 47 53.2 -0.5**
TEOL Teolo 81.54 315 P **P 05 47 54.8 +0.3**
TEOL IAmb IAmb 05 47 56.3
comp=Z,98nm,1.2s
NBB08 Skaug oppvekst 81.55 337 *eP* **P 05 47 54.6 +0.7**
WTTA Wattenberg 81.62 317 *eP* **P 05 47 55.0 0.0**
comp=Z,80nm,0.8s,SNR=38
WATA Walderalm 81.66 317 *i P* **P 05 47 54.9 -0.3**
comp=Z,65nm,1.1s,SNR=23
NBB05 Inndyr 81.74 337 *eP* **P 05 47 55.1 +0.2**
NBB17 Glomfjord BVr 81.75 337 *eP* **P 05 47 55.2 +0.2**
N2VI Vinje 81.83 338 *eP* **P 05 47 55.4 0.0**
NBB30 Finnes 81.85 337 *eP* **P 05 47 55.8 +0.3**
ONAU Onsala 81.89 327 *i P* **P 05 47 56.2 +0.3**
SQTA Sankt Quirin 81.91 317 *eP* **P 05 47 56.5 0.0**
comp=Z,67nm,0.7s,SNR=16
GRA1 Grafenberg Arr 81.96 319 IAmb IAmb 05 47 58.8
comp=Z,70nm,0.9s
GRFO Grafenberg 81.97 319 P **P 05 47 57.5 +0.9**
GRFO pmax pmax
comp=Z,79nm,1.0s
GRFO Grafenberg 81.97 319 P **P 05 47 57.5 +0.9**
GRFO IAmb IAmb 05 47 58.8
comp=Z,79nm,1.0s
NBB13 Alf Garage 81.97 337 *eP* **P 05 47 56.3 +0.1**
MOTA Moosalm 81.98 317 *i P* **P 05 47 56.8 -0.1**
comp=Z,67nm,0.8s,SNR=37
LOF Lofoten 82.05 338 *eP* **P 05 47 56.8 +0.2**
CASP Castiglione de 82.08 312 P **P 05 47 56.1 -1.2**
CASP IAmb IAmb 05 47 58.7
comp=Z,82nm,1.7s
NBB40 Tonnes 82.09 336 *eP* **P 05 47 57.5 +0.7**
RETA Reutte 82.22 317 *eP* **P 05 47 58.2 +0.2**
comp=Z,40nm,0.6s,SNR=41
NC405 NORSAR Array S 82.22 331 P **P 05 47 55.7 -2.0**
NC405 IAmb IAmb 05 48 44.2
comp=Z,140nm,1.7s
FETA Feichten 82.23 317 *i P* **P 05 47 58.4 +0.2**
comp=Z,46nm,0.8s,SNR=35
NC602 NORSAR Array S 82.28 331 P **P 05 47 56.4 -1.6**
NC602 IAmb IAmb 05 48 01.1
comp=Z,163nm,1.9s
NSS Namsos 82.35 334 *eP* **P 05 47 58.3 +0.1**
SALO Salr 82.35 315 P **P 05 47 58.2 -0.5**
VLC Villacollemand 82.44 314 P **P 05 47 58.7 -0.6**
VLC IAmb IAmb 05 48 24.6
comp=Z,44nm,1.2s
NB2 NORSAR Subarra 82.46 331 P **P 05 47 58.4 -0.6**
comp=Z,21nm,1.0s,baz=97,slow=5.3
NB2 NORSAR Subarra 82.46 331 P **P 05 47 58.4 -0.6**
baz=97,slow=5.3
NOA NORSAR Array B 82.46 331 P **P 05 47 58.5 -0.4**
comp=Z,9.0nm,0.8s,baz=94,slow=5.4,SNR=27
NOA pP **pP 05 48 14.3 +0.9**
comp=Z,4.6nm,0.7s,baz=95,slow=5.0,SNR=5.6
NOA LR LR 06 27 49.9
comp=Z,98nm,21.6s,baz=95,slow=38
N2RO R st 82.53 337 *eP* **P 05 47 58.7 -0.4**
NAO01 NORSAR Array S 82.61 331 P **P 05 47 59.2 -0.5**
NAO01 IAmb IAmb 05 48 00.6
comp=Z,53nm,1.1s
OSL Oslo 82.65 330 *eP* **P 05 48 00.6 +0.8**
NBO00 NORSAR Array S 82.67 331 IAmb IAmb 05 48 00.2
comp=Z,54nm,1.1s
HSPB Hornsund (broa 82.68 347 *eP* **P 05 47 59.6 -0.2**
HSPB Hornsund (broa 82.68 347 *eP* **P 05 48 00.3 +0.5**
NC204 NORSAR Array S 82.69 331 P **P 05 48 00.2 0.0**
SPA0 Spitsbergen Ar 82.71 348 *eP* **P 05 47 59.6 -0.3**
SPITS Spitsbergen Ar 82.71 348 P **P 05 47 59.6 -0.3**
SPITS pmax pmax
comp=Z,68nm,1.0s
DAVA Damuels 82.81 317 *eP* **P 05 48 01.7 +0.5**
comp=Z,64nm,1.0s,SNR=26
SYO Syowa Base 82.89 197⇓ *eP* **P 05 48 02.0 +1.2**
SYO Syowa Base 82.89 197⇑ *e*PcP **PcP 05 48 06.1 +0.6**
MSSA Maissana 83.06 314 P **P 05 48 01.6 -0.9**
MSSA IAmb IAmb 05 48 03.4
comp=Z,96nm,1.3s
TUE Stuetta 83.18 316 P **P 05 48 03.3 +0.1**
TUE IAmb IAmb 05 48 07.8
comp=Z,51nm,0.8s
KONO Kongsberg 83.20 329 P **P 05 48 02.8 0.0**
KONO pmax pmax
comp=Z,48nm,1.3s
KONO Kongsberg 83.20 329 *eP* **P 05 48 03.2 +0.4**
KONO Kongsberg 83.20 329 P **P 05 48 02.8 0.0**
KONO IAmb IAmb 05 48 04.1
comp=Z,48nm,1.2s
VSL Villasalto 83.22 309 IAmb IAmb 05 48 20.1
comp=Z,58nm,1.0s
KEST Kesra 83.32 305 P **P 05 48 05.5 +1.5**
comp=Z,32nm,0.9s,baz=66,slow=1.0,SNR=43
KEST pP **pwP 05 48 20.4 -1.5**
comp=Z,91nm,1.1s,baz=333,slow=2.0,SNR=17
MUD Monsted U'grnd 83.36 326 *i P* **P 05 48 04.7 +1.0**
MUD IAmb IAmb 05 48 05.5
comp=Z,23nm,0.8s
MUD Monsted U'grnd 83.36 326 *i P* **P 05 48 04.6 +1.0**
MUD pmax pmax
comp=Z,23nm,0.8s
DOMB Dombas 83.53 332 *eP* **P 05 48 04.8 +0.3**
KBS Kingsbay 83.69 349 *i P* **P 05 48 04.5 -0.5**
KBS IAmb IAmb 05 48 05.2
comp=Z,70nm,1.1s
KBS Kingsbay 83.69 349 *eP* **P 05 48 05.2 +0.3**
KBS pmax pmax
comp=Z,31nm,1.3s
KBS Kingsbay 83.69 349 *eP* **P 05 48 04.5 -0.5**
KBS Kingsbay 83.69 349 P **P 05 48 04.6 -0.4**
KBS IAmb IAmb 05 48 20.2
comp=Z,73nm,1.2s
BFO Black Forest 83.86 318 P **P 05 48 06.1 -0.3**
BFO pmax pmax
comp=Z,36nm,0.8s
BFO Black Forest 83.86 318 P **P 05 48 06.1 -0.3**
BFO IAmb IAmb 05 48 07.7
comp=Z,36nm,0.8s
SKAR Skarslia 83.87 330 *eP* **P 05 48 07.2 +0.9**
MOL Molde 84.25 332 *eP* **P 05 48 08.7 +0.6**
SNART Snartemo 84.43 328 *eP* **P 05 48 09.6 +0.6**
AKN Aaknes 84.50 332 *eP* **P 05 48 10.3 +0.9**
SENIN Lac Senin/Sane 84.59 316 P **P 05 48 10.9 +0.5**
SENIN IAmb IAmb 05 48 13.2
comp=Z,40nm,0.8s
ECH Echery 84.64 318 P **P 05 48 09.7 -0.7**
ECH pmax pmax
comp=Z,25nm,0.9s
ECH Echery 84.64 318 P **P 05 48 09.7 -0.7**
ECH IAmb IAmb 05 48 11.8
comp=Z,24nm,0.9s
BLS5 Blasjo 84.80 329 *eP* **P 05 48 11.9 +1.0**
ABSA Djebel Ababsia 84.82 306 P **P 05 48 13.2 +1.5**
CMAH Djebel Manchou 84.85 306 P **P 05 48 13.2 +1.4**
HYA Hoyanger 84.90 331 *eP* **P 05 48 12.1 +0.8**
LPL La Plagne 85.02 315 *eP* **P 05 48 12.5 -0.1**
LPL pmax pmax
comp=Z,72nm,0.9s
BNI Bardonecchia 85.07 315 IAmb IAmb 05 48 17.1
comp=Z,41nm,1.1s
MSVF Nonsavu 85.20 108 LR LR 06 26 16.0
comp=Z,96nm,20.6s,baz=172,slow=36
ADK Adak 85.21 38 P **P 05 48 12.0 -1.1**
ADK pmax pmax
comp=Z,121nm,1.4s
ADK Adak 85.21 38 P **P 05 48 12.0 -1.1**
BTNL Ternell 85.24 320 *dP* **P 05 48 13.9 +0.5**
comp=Z,33nm,1.1s
WLF Walferdange 85.26 319 *dP* **P 05 48 14.8 +1.3**
comp=Z,39nm,1.5s
WLF Walferdange 85.26 319 IAmb IAmb 05 48 15.6
comp=Z,48nm,1.1s
MEM Membach 85.31 320 *dP* **P 05 48 14.2 +0.5**
comp=Z,32nm,1.0s
BHOU Houvegnez 85.33 320 *dP* **P 05 48 14.6 +0.9**
CKFL Kef-Lekhel 85.42 306 P **P 05 48 16.1 +1.4**
BSTI Sart Tilman 85.59 320 *dP* **P 05 48 15.7 +0.6**
CTEI Djebel Teioual 85.69 306 P **P 05 48 19.0 +2.9**
BCLA Clavier 85.77 320 *dP* **P 05 48 15.7 -0.2**
comp=Z,20nm,1.2s
BGES Gesves 85.91 320 *bP* **P 05 48 17.0 +0.4**
comp=Z,21nm,1.1s
DFRA Djebel Bou Aff 86.09 306 P **P 05 48 19.9 +1.9**
BMRD Maredsous 86.12 320 *bP* **P 05 48 18.1 +0.4**
comp=Z,19nm,1.1s
DOU Dourbes 86.24 320 *bP* **P 05 48 18.8 +0.5**
comp=Z,24nm,1.3s
SNF Seneffe 86.42 320 *dP* **P 05 48 19.6 +0.4**
comp=Z,42nm,1.0s
SET Setif 86.50 306 P P 05 48 15.0 -5.0
SSB Saint Sauveur 86.57 315 P **P 05 48 19.8 -0.3**
SSB pmax pmax
comp=Z,40nm,1.0s
SSB Saint Sauveur 86.57 315 P **P 05 48 19.8 -0.3**
SSB IAmb IAmb 05 48 21.8
comp=Z,40nm,1.0s
GAMB Gambell 87.11 26 P **P 05 48 22.1 -0.1**
baz=275
CLF Chambon-Foret 87.93 318 P **P 05 48 24.9 -1.6**
NOR Nord 88.11 352⇑ *iP* **P 05 48 26.2 -0.5**
NOR IAmb IAmb 05 48 27.2
comp=Z,36nm,0.9s
NOR *i* 05 48 40.0
NOR Nord 88.11 352⇑ *iP* **P 05 48 26.2 -0.5**
NOR *i* 05 48 40.0
NOR pmax pmax
comp=Z,36nm,0.9s
CAF Calviac 88.35 315 *eP* **P 05 48 29.0 +0.4**
CAF pmax pmax
comp=Z,25nm,1.2s
TNA Tin City 88.50 24 P **P 05 48 28.8 0.0**
baz=279
TNA Tin City 88.50 24 P **P 05 48 28.3 -0.5**
TNA IAmb IAmb 05 48 29.6
comp=Z,28nm,1.0s
WACR West Acre 88.50 323 *eP* **P 05 48 29.6 +0.5**
WACR IAmb IAmb 05 48 32.0
comp=Z,140nm,0.9s
SPIA Saint Paul Isl 88.54 33 P **P 05 48 29.2 0.0**
baz=277
LMK Market Rasen 88.98 323 *eP* **P 05 48 32.5 +1.2**
LMK IAmb IAmb 05 48 33.8
comp=Z,185nm,1.0s
LFF La Frestale 89.28 315 *eP* **P 05 48 33.5 +0.5**
LFF pmax pmax
comp=Z,47nm,1.3s
HPK Haverah Park 89.68 324 *eP* **P 05 48 35.5 +0.8**
HPK IAmb IAmb 05 48 36.4
comp=Z,97nm,0.9s
ANM Nome 89.73 25 P **P 05 48 34.8 +0.1**
baz=281
ANM Nome 89.73 25 IAMs_20 IAMs_20 06 31 12.7
comp=Z,280nm,20.0s
EDMD Edmundbyers 89.76 325 *eP* **P 05 48 35.8 +0.8**
EDMD IAmb IAmb 05 48 36.5
comp=Z,59nm,0.8s
WOL Wolverton 89.81 321 *eP* **P 05 48 36.5 +1.2**
LBWR Ladybower, Pea 89.82 323 *eP* **P 05 48 36.0 +0.7**
LBWR IAmb IAmb 05 48 37.4
comp=Z,102nm,0.9s
RDOG Red Dog Mine 89.97 22 P **P 05 48 37.2 +1.5**
baz=283
RDOG Red Dog Mine 89.97 22 P **P 05 48 36.6 +0.9**
RDOG IAmb IAmb 05 48 37.9
comp=Z,24nm,0.8s
MLA1 Latheron 89.98 328 *eP* **P 05 48 36.9 +1.0**
VNDA Vanda 90.06 168 P **P 05 48 36.6 +0.8**
comp=Z,3.4nm,1.0s,baz=314,slow=6.1,SNR=6.5
VNDA LR LR 06 26 07.1
comp=Z,208nm,18.4s,baz=302,slow=34
EBL Broad Law 90.22 326 *eP* **P 05 48 38.0 +0.9**
BIGH Upper Bighouse 90.23 329 *eP* **P 05 48 38.1 +1.1**
BIGH IAmb IAmb 05 48 39.2
comp=Z,131nm,0.8s
DAG Danmarks Havn 90.34 348⇑ *iP* **P 05 48 36.6 -0.7**
DAG IAmb IAmb 05 48 37.0
comp=Z,14nm,0.7s
DAG Danmarks Havn 90.34 348⇑ *iP* **P 05 48 36.5 -0.7**
DAG pmax pmax
comp=Z,14nm,0.7s
ESK Eskdalemuir 90.39 326 *eP* **P 05 48 38.5 +0.6**
ESK IAmb IAmb 05 48 39.1
comp=Z,28nm,0.8s
ESK Eskdalemuir 90.39 326 P **P 05 48 37.9 0.0**
ESK pmax pmax
comp=Z,28nm,0.8s
ESK Eskdalemuir 90.39 326 P **P 05 48 37.9 0.0**
ESK IAmb IAmb 05 48 39.3
comp=Z,28nm,0.8s
KESW Keswick, Cumbr 90.45 325 *eP* **P 05 48 38.9 +0.7**
OLDB Oldbury-Upon-S 90.58 322 *eP* **P 05 48 39.5 +0.7**
OLDB IAmb IAmb 05 48 40.3
comp=Z,66nm,1.0s
HLM1 Long Mynd 90.64 323 *eP* **P 05 48 40.0 +0.8**
HLM1 IAmb IAmb 05 48 40.9
comp=Z,34nm,1.0s
MDO Dochfour 90.66 328 *eP* **P 05 48 39.1 0.0**
FOEL Foel Wylfa 90.78 323 *eP* **P 05 48 40.4 +0.6**
FOEL IAmb IAmb 05 48 41.5
comp=Z,44nm,1.0s
MCH1 Michaelchurch 90.80 322 *eP* **P 05 48 40.2 +0.4**
MCH1 IAmb IAmb 05 48 40.9
comp=Z,25nm,1.0s
KAC Achnashellach 91.14 328 *eP* **P 05 48 41.9 +0.5**
A21K Barrow 91.15 18 P **P 05 48 41.0 -0.1**
baz=289
SBA Scott Base 91.16 168 P **P 05 48 42.9 +1.9**
SBA pmax pmax
comp=Z,18nm,1.4s
SBA Scott Base 91.16 168 P **P 05 48 42.9 +1.9**
YLL Llanberis 91.31 323 *eP* **P 05 48 42.8 +0.6**
IOMK Kirk Michael 91.34 325 *eP* **P 05 48 43.4 +1.1**
IOMK IAmb IAmb 05 48 44.2
comp=Z,96nm,1.2s
KPL Plockton 91.36 328 *eP* **P 05 48 43.3 +1.0**
KPL IAmb IAmb 05 48 43.7
comp=Z,42nm,1.1s
WIM Isle of Man 91.43 325 *eP* **P 05 48 43.9 +1.2**
DBG Daneborg 91.73 346 *i P* **P 05 48 42.2 -1.6**
TORD Torodi Ar. Bea 91.79 283 P **P 05 48 46.0 +0.8**
comp=Z,8.7nm,1.1s,baz=70,slow=4.2,SNR=20
TORD PKKPbc **PKKPbc 06 06 04.1 +0.8**
comp=Z,0.3nm,0.5s,baz=298,slow=2.8,SNR=4.4
TORD LR LR 06 29 14.9
comp=Z,167nm,19.1s,baz=150,slow=35
TORD Torodi Ar. Bea 91.79 283 P **P 05 48 45.8 +0.5**
ESBB Sonseca Array 93.46 310 P **P 05 48 52.7 +0.1**
ESBB IAmb IAmb 05 49 10.3
comp=Z,31nm,1.6s
ESDC Sonseca Array 93.46 310 P **P 05 48 53.5 +1.0**
comp=Z,2.9nm,0.7s,baz=60,slow=4.3,SNR=17
ESDC pP **pP 05 49 08.6 +1.5**
comp=Z,4.7nm,0.6s,baz=59,slow=4.1,SNR=9.5
ESDC PP **PP 05 52 36.1 -1.2**
comp=Z,1.6nm,1.1s,baz=75,slow=8.3,SNR=4.1
ESDC PKKPbc **PKKPbc 06 05 59.6 -0.3**
comp=Z,1.1nm,0.8s,baz=294,slow=3.3,SNR=6.7
ESDC LR LR 06 35 26.3
comp=Z,60nm,18.8s,baz=25,slow=38
PAB San Pablo 93.78 310 P **P 05 48 54.2 +0.1**
PAB pmax pmax
comp=Z,12nm,1.3s
PAB San Pablo 93.78 310 P **P 05 48 54.2 +0.1**
SCO Scoresbysund 93.90 342⇑ *iP* **P 05 48 55.0 +1.1**
SCO IAmb IAmb 05 48 55.9
comp=Z,10.0nm,0.9s
SCO *i* 05 49 10.1
SCO Scoresbysund 93.90 342⇑ *iP* **P 05 48 54.9 +1.1**
SCO *i* 05 49 10.0
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 93.90 342 P **P 05 48 54.1 +0.3**
SDPT Sand Point 94.23 34 P **P 05 48 55.2 -0.4**
baz=285
TOLK Toolik Lake Re 94.42 19 P **P 05 48 56.7 +0.3**
baz=296,SNR=15
TOLK Toolik Lake Re 94.42 19 P **P 05 48 56.4 0.0**
TOLK IAmb IAmb 05 48 57.8
comp=Z,21nm,0.9s
J20K Nowinta River 94.53 24 P **P 05 48 57.7 +0.8**
baz=291,SNR=29
K20K Telida 94.86 25 P **P 05 48 59.1 +0.7**
baz=291,SNR=46
L19K White Mountain 94.94 26 P **P 05 48 59.1 +0.3**
baz=290,SNR=17
N18K Kilae Creek 94.98 28 P **P 05 48 59.5 +0.4**
baz=289
SVW2 Sparrevohn 94.99 27 P **P 05 48 59.6 +0.6**
EUNU Eureka 95.00 0 P **P 05 48 59.1 +0.2**
EUNU IAmb IAmb 05 49 00.3
comp=Z,15nm,0.9s
I21K Tanana 95.01 23 P **P 05 48 59.6 +0.6**
baz=293,SNR=9.9
M19K Big River Lodg 95.24 26 P **P 05 49 00.8 +0.6**
baz=291,SNR=7.6
CHUM Lake Minchumin 95.39 24 P **P 05 49 01.4 +0.7**
baz=293,SNR=6.4
NEEM North Greenlan 95.45 353 *i P* **P 05 49 01.6 +0.4**
NEEM IAmb IAmb 05 49 01.9
comp=Z,25nm,0.8s
MLY Manley 95.55 23 P **P 05 49 01.5 -0.1**
baz=294,SNR=10
MLY Manley 95.55 23 P **P 05 49 01.2 -0.3**
MLY IAmb IAmb 05 49 03.1
comp=Z,41nm,1.9s
MLY IAMs_20 IAMs_20 06 35 45.2
comp=Z,241nm,20.0s
O18K Koktuh Hills 95.58 28 P **P 05 49 01.8 0.0**
baz=290,SNR=9.3
N19K Bonanza Creek 95.59 27 P **P 05 49 02.3 +0.4**
baz=291,SNR=24
H23K Yukon River 95.66 22 P **P 05 49 02.4 +0.4**
baz=296,SNR=7.3
M20K Styx River 95.81 26 P **P 05 49 03.1 +0.3**
baz=292
PPLA Purkeypile 95.82 25 P **P 05 49 02.8 -0.1**
baz=293
PPLA Purkeypile 95.82 25 P **P 05 49 02.5 -0.5**
PPLA IAmb IAmb 05 49 18.2
comp=Z,29nm,1.6s
BPAW Bear Paw Mtn. 95.83 24 P **P 05 49 02.8 -0.1**
baz=294,SNR=24
BPAW Bear Paw Mtn. 95.83 24 IAmb IAmb 05 49 05.0
comp=Z,21nm,1.0s
BPAW IAMs_20 IAMs_20 06 36 45.9
comp=Z,353nm,19.0s
O19K Port Alsworth 95.88 28 P **P 05 49 03.1 0.0**
baz=291
I23K Minto, Yukon-K 96.03 22 P **P 05 49 03.6 -0.1**
baz=296,SNR=6.8
I23K Minto, Yukon-K 96.03 22 P **P 05 49 03.7 +0.1**
BORG Borgarnes 96.24 337 LR LR 06 37 50.7
comp=Z,58nm,18.0s,baz=67,slow=39
H24K Noodor Dome 96.27 22 P **P 05 49 04.9 +0.1**
baz=297
NEA2 Nenana 96.38 23 P **P 05 49 05.3 0.0**
baz=296
NEA2 Nenana 96.38 23 P **P 05 49 04.8 -0.6**
NEA2 IAMs_20 IAMs_20 06 34 33.3
comp=Z,274nm,21.0s
TRF Thorofare Moun 96.39 24 P **P 05 49 05.1 -0.5**
baz=295
TRF Thorofare Moun 96.39 24 P **P 05 49 05.6 0.0**
BWN Browne 96.41 23 IAMs_20 IAMs_20 06 35 38.8
comp=Z,322nm,22.0s
SKT Skwentna 96.47 26 P **P 05 49 04.9 -0.9**
baz=293,SNR=12
SKT Skwentna 96.47 26 P **P 05 49 04.7 -1.0**
SKT IAmb IAmb 05 49 06.1
comp=Z,22nm,1.0s
SPCR Spurr Chakacha 96.47 27 P **P 05 49 05.3 -0.6**
baz=293
MDM Murphy Dome 96.54 22 P **P 05 49 05.5 -0.6**
BMAR Burnt Mountain 96.65 20 P **P 05 49 06.3 -0.3**
O20K Slope Mountain 96.72 28 P **P 05 49 06.9 -0.1**
baz=292
POKR Poker Plat Res 96.77 22 IAMs_20 IAMs_20 06 39 12.5
comp=Z,325nm,18.0s
MCK McKinley 96.81 24 P **P 05 49 06.3 -1.0**
baz=296
MCK McKinley 96.81 24 IAMs_20 IAMs_20 06 33 19.7
comp=Z,255nm,22.0s
WRH Wood River Hil 96.81 23 P **P 05 49 07.0 -0.3**
WRH IAMs_20 IAMs_20 06 36 43.7
comp=Z,264nm,20.0s
CCB Clear Creek Bu 96.84 23 IAMs_20 IAMs_20 06 34 21.5
comp=Z,265nm,22.0s
FYU Fort Yukon 96.87 20 P **P 05 49 08.1 +0.6**
FYU IAmb IAmb 05 49 41.6
comp=Z,51nm,1.8s
RND Reindeer 96.99 24 IAMs_20 IAMs_20 06 37 40.3
comp=Z,376nm,19.0s
SUMG Summit 97.01 347 *i P* Pdif 05 49 08.7 +0.2
SUMG IAmb IAmb 05 49 09.2
comp=Z,13nm,1.1s
SUMG Summit 97.01 347 *i P* Pdif 05 49 08.7 +0.1
SUMG pmax pmax
comp=Z,13nm,1.1s
SUMG Summit 97.01 347 P **P 05 49 07.7 -0.8**
SUA Susitna One 97.02 26 P **P 05 49 07.5 -0.8**
baz=294,SNR=6.2
SUA Susitna One 97.02 26 P **P 05 49 08.0 -0.4**
SUA IAmb IAmb 05 49 09.9
comp=Z,11nm,0.8s
ILAR Eielson Array 97.14 22 P **P 05 49 06.7 -2.0**
comp=Z,1.9nm,0.8s,baz=287,slow=3.9,SNR=15
ILAR PP **PP 05 53 00.8 -4.1**
comp=Z,1.1nm,0.8s,baz=292,slow=5.5,SNR=5.1
ILAR LR LR 06 39 25.4
comp=Z,138nm,18.1s,baz=308,slow=39
ILAR Eielson Array 97.14 22 P **P 05 49 06.5 -2.2**
HDA Harding Lake 97.28 23 P **P 05 49 08.4 -1.0**
baz=298
OHAK Old Harbor 97.46 31 P **P 05 49 09.6 -0.7**
baz=291

KDAK	Kodiak Island	97.60	30	P	P	05 49 10.3	-0.6	
	baz=292							
RC01	Rabbit Creek A	97.62	26	P	P	05 49 10.1	-0.8	
	baz=295							
RC01	Rabbit Creek A	97.62	26	P	P	05 49 09.0	-2.0	
RC01				IAmb	IAmb	05 49 11.5		
	comp=Z,24nm,1.3s							
BRLK	Bradley Lake	97.64	28	IAmb	IAmb	05 49 11.2		
	comp=Z,20nm,1.0s							
BRSE	Bradley Lake S	97.72	28	P	P	05 49 10.1	-1.4	
	baz=294							
WAT6	Susitna Watana	97.81	24	P	P	05 49 11.3	-0.8	
	baz=297							
O22K	Cooper Landing	97.88	27	IAMs_20	IAMs_20	06 40 21.1		
	comp=Z,353nm,19.0s							
SML	Sawmill	97.91	25	P	P	05 49 11.8	-0.5	
	baz=296,SNR=7.5							
SML	Sawmill	97.91	25	P	P	05 49 10.8	-1.5	
KNK	Knik Glacier	98.03	26	P	P	05 49 11.6	-1.2	
	baz=296							
KNK	Knik Glacier	98.03	26	P	P	05 49 11.8	-1.1	
KNK				IAmb	IAmb	05 49 14.0		
	comp=Z,46nm,1.7s							
SEW	Seward	98.16	27	P	P	05 49 11.7	-1.7	
	baz=295							
SCM	Sheep Creek Mo	98.33	25	IAMs_20	IAMs_20	06 39 43.8		
	comp=Z,317nm,18.0s							
PWL	Port Wells	98.33	26	P	P	05 49 13.8	-0.4	
RIDG	Independent Ri	98.42	23	P	P	05 49 13.1	-1.5	
	baz=300,SNR=5.7							
RIDG	Independent Ri	98.42	23	P	P	05 49 13.7	-0.9	
PAX	Paxson	98.55	24	P	P	05 49 14.4	-0.8	
	baz=299							
SCRK	Sand Creek	98.63	22	P	P	05 49 15.0	-0.7	
	baz=301,SNR=8.7							
SCRK	Sand Creek	98.63	22		P	05 49 14.9	-0.7	
SCRK				IAMs_20	IAMs_20	06 40 10.6		
	comp=Z,254nm,19.0s							
VNA2	Neumayer--Watz	98.69	199	Pdiff	P	05 49 15.2	-0.3	
DOT	Dot Lake	98.77	23	P	P	05 49 15.2	-0.9	
GLI	Glacier Island	98.86	26	P	P	05 49 15.5	-1.0	
	baz=297							
KLU	Klutina	99.08	25	P	Pdif	05 49 16.9	-0.8	
	baz=298							
FID	Port Fidalgo	99.19	26	P	Pdif	05 49 17.8	-0.3	
FID				IAmb	IAmb	05 49 38.5		
	comp=Z,41nm,1.8s							
FID				IAMs_20	IAMs_20	06 40 49.7		
	comp=Z,348nm,22.0s							
EGAK	Eagle	99.24	21	IAMs_20	IAMs_20	06 38 28.8		
	comp=Z,342nm,20.0s							
K27K	Chicken	99.32	22	P	Pdif	05 49 18.3	-0.2	
	baz=302							
K27K	Chicken	99.32	22	IAMs_20	IAMs_20	06 40 57.8		
	comp=Z,299nm,20.0s							
L26K	Log Cabin Wild	99.36	23	P	Pdif	05 49 18.8	+0.1	
	baz=301,SNR=6.3							
INK	Inuvik	99.54	16	P	Pdif	05 49 18.9	-0.4	
	comp=Z,7.4nm,1.0s,baz=306,slow=4.9,SNR=5.9							
INK	Inuvik	99.54	16	P	Pdif	05 49 18.5	-0.8	
INK				pmax	pmax			
	comp=Z,13nm,1.3s							
INK	Inuvik	99.54	16	P	Pdif	05 49 19.0	-0.4	
	baz=311							
INK	Inuvik	99.54	16		Pdif	05 49 18.5	-0.8	
N25K	Chitina, Valde	99.58	25	P	Pdif	05 49 19.7	-0.2	
	baz=300							
EPYK	Eagle Plains	99.82	19	P	Pdif	05 49 20.0	-0.8	
	baz=308							
M26K	Nabesna, AK	99.83	24	P	Pdif	05 49 20.4	-0.5	
	baz=301,SNR=6.1							
BMRM	Bremner River	99.89	25	P	Pdif	05 49 21.2	-0.1	
	baz=300,SNR=6.0							
L27K	Beaver Creek,	99.93	23	P	Pdif	05 49 21.6	+0.3	
	baz=302							
L27K	Beaver Creek,	99.93	23	IAMs_20	IAMs_20	06 40 02.1		
	comp=Z,312nm,20.0s							
BCAR	Beaver Creek A	99.95	23	Pdif	Pdif	05 49 21.3	-0.1	
GLB	Gilahina Butte	99.99	25	IAMs_20	IAMs_20	06 39 05.7		
	comp=Z,346nm,19.0s							
VRDI	Verde Repeater	100.25	25	IAMs_20	IAMs_20	06 39 16.5		
	comp=Z,348nm,20.0s							
M27K	Edge Creek, AK	100.29	23	P	Pdif	05 49 22.7	-0.4	
	baz=302							
MCARA	McCarthy VSAT	100.34	24	P	Pdif	05 49 23.2	0.0	
	baz=301							
MCARA	McCarthy VSAT	100.34	24	IAMs_20	IAMs_20	06 39 31.1		
	comp=Z,331nm,20.0s							
CRQM	Cirque	100.62	25	IAMs_20	IAMs_20	06 40 56.0		
	comp=Z,322nm,20.0s							
WAX	Waxell Ridge	100.90	25	IAMs_20	IAMs_20	06 41 07.9		
	comp=Z,378nm,20.0s							
ISLE	Juniper Island	101.04	25	IAMs_20	IAMs_20	06 38 55.4		
	comp=Z,251nm,20.0s							
C36M	Paulatuk	101.18	13	P	Pdif	05 49 26.7	+0.1	
	baz=320							
C36M	Paulatuk	101.18	13	IAMs_20	IAMs_20	06 43 00.6		
	comp=Z,248nm,19.0s							
CTG	Chitna Glacier	101.26	24	P	Pdif	05 49 27.5	+0.1	
	baz=303							
CTGM	Chitina Glacie	101.26	24	IAMs_20	IAMs_20	06 40 06.3		
	comp=Z,401nm,20.0s							
MESA	MESA	101.42	25	P	Pdif	05 49 27.8	-0.4	
	baz=302							
LOGN	Logan Glacier	101.47	24	IAMs_20	IAMs_20	06 40 14.9		
	comp=Z,342nm,20.0s							
TABL	Table Mountain	101.62	25	IAMs_20	IAMs_20	06 39 36.0		
	comp=Z,322nm,21.0s							
BCPM	Bancas Point	102.52	25	IAMs_20	IAMs_20	06 39 58.7		
	comp=Z,327nm,21.0s							
WHY	Whitehorse	104.01	23	P	Pdif	05 49 39.5	-0.1	
	baz=309							
SIT	Sitka	106.05	26	P	PKiKP	05 54 00.4	0.0	
	baz=307							
YKA	Yellowknife Ar	109.03	14	PP	PP	05 54 29.0	-4.4	
	comp=Z,1.3nm,0.7s,baz=330,slow=7.5,SNR=3.6							
TBI	Tubuai	115.68	113	eLR	LR	06 29 20.6		
	comp=Z,182nm,23.8s							
PPT2	Papeete2	116.01	107	eLR	LR	06 29 23.6		
	comp=Z,135nm,23.5s							
B05A	Bryant	117.91	27	P	PKPdf	05 54 22.8	-0.4	
	baz=318							
D03D	Eldon	117.98	28	P	PKiKP	05 54 23.4	+0.1	
	baz=316							
D04E	Lakebay	118.39	28	P	PKPdf	05 54 24.1	0.0	
	baz=316							
SCHQ	Schefferville	118.39	348	PKP	PKPdf	05 54 23.9	0.0	
	comp=Z,3.0nm,0.5s,baz=256,slow=3.2,SNR=8.4							
SCHQ				PP	PP	05 55 35.4	-4.5	
	comp=Z,5.8nm,1.0s,baz=354,slow=7.0,SNR=3.6							
SCHQ	Schefferville	118.39	348		PKPdf	05 54 23.0	-1.0	
FFC	Flin Flon	118.84	11	PKIKP	PKPdf	05 54 24.6	-0.2	
FFC				MLR	MLR			
	comp=Z,200nm,18.0s							
FFC	Flin Flon	118.84	11	PKPdf	PKPdf	05 54 24.6	-0.2	
FFC	Flin Flon	118.84	11	IAMs_20	IAMs_20	06 47 46.5		
	comp=Z,227nm,18.0s							
E04D	Cinebar	118.94	29	P	PKiKP	05 54 25.5	+0.2	
	baz=316							
B08A	Colville Reser	119.05	25	PKPdf	PKPdf	05 54 24.6	-0.8	
LON	Longmire	119.15	28	PKIKP	PKPdf	05 54 25.1	-0.6	
LON	Longmire	119.15	28		PKPdf	05 54 25.1	-0.6	
NEW	Newport	120.04	24	P	PKPdf	05 54 27.3	0.0	
	baz=323							
I02D	Swisshome	120.04	31	P	PKPdf	05 54 26.8	-0.6	
	baz=314							
H04D	Lebanon	120.31	30	P	PKPdf	05 54 27.9	0.0	
	baz=316							
HAWA	Hanford	120.46	27	PKPdf	PKPdf	05 54 28.2	0.0	
H04A	Detroit Lake	120.47	30	PKPdf	PKiKP	05 54 28.4	+0.1	
G05D	Wamic, OR	120.49	29	P	PKiKP	05 54 28.5	+0.1	
	baz=317							
I03D	Drain, OR	120.59	31	P	PKiKP	05 54 28.8	+0.2	
	baz=314							
J01E	Myrtle Point	120.66	32	P	PKiKP	05 54 29.2	+0.4	
	baz=314							
I04A	Tendick Farm,	121.00	31	P	PKiKP	05 54 29.4	0.0	
	baz=316							
I05D	Terrebonne, OR	121.14	30	P	PKiKP	05 54 29.7	0.0	
	baz=317							
L02E	Cave Junction	121.52	33	P	PKPdf	05 54 30.3	0.0	
	baz=314							
J04D	Umpqua Nationa	121.55	31	P	PKPdf	05 54 30.4	-0.3	
	baz=316							
HUMO	Hull Mountain	121.56	32	PKPdf	PKiKP	05 54 30.5	0.0	
PINE	Pine Mountain	121.74	30	PKPdf	PKPdf	05 54 30.7	-0.2	
F10A	Beach Ranch, E	121.81	26		PKPdf	05 54 30.7	-0.2	
J05D	Fort Rock, OR	121.96	30	P	PKPdf	05 54 31.1	-0.2	
	baz=316							
L04D	Klamath Falls	122.17	32	P	PKPdf	05 54 31.7	-0.1	
	baz=315							
M02C	Callahan	122.46	33	P	PKiKP	05 54 32.6	+0.1	
	baz=314							
MSO	Missoula	122.47	23	P	PKPdf	05 54 32.0	-0.2	
	baz=326							
MSO	Missoula	122.47	23	PKPdf	PKPdf	05 54 31.2	-1.0	
MSO				IAMs_20	IAMs_20	06 53 14.0		
	comp=Z,314nm,21.0s							
M04C	Macdoel	122.72	32	P	PKPdf	05 54 32.9	0.0	
	baz=315							
N02D	Trinity Center	122.83	33	P	PKiKP	05 54 33.3	+0.1	
	baz=314							
EGMT	Eagleton	122.96	19	P	PKPdf	05 54 32.9	-0.1	
	baz=331							
EGMT	Eagleton	122.96	19		PKPdf	05 54 32.5	-0.5	
EGMT				IAMs_20	IAMs_20	06 51 28.8		
	comp=Z,228nm,21.0s							
PLID	Pearl Lake	123.03	26	PKPdf	PKPdf	05 54 32.8	-0.6	
O02D	Mt. Diablo Mer	123.33	34	P	PKiKP	05 54 34.3	0.0	
	baz=314							
MOD	Modoc Plateau	123.44	31	PKPdf	PKPdf	05 54 33.6	-0.6	
O03E	Paynes Creek	123.79	33	P	PKPdf	05 54 34.5	-0.3	
	baz=314							
WVOR	Wild Horse Val	123.88	29	PKIKP	PKPdf	05 54 32.4	-2.6	
WVOR	Wild Horse Val	123.88	29		PKPdf	05 54 32.4	-2.6	
LRM	Limekiln Ridge	123.88	23		PKPdf	05 54 34.2	-0.9	
ULM	Lac du Bonnet	124.17	8	PKP	PKPdf	05 54 34.9	-0.3	
	comp=Z,9.5nm,0.7s,baz=342,slow=2.7,SNR=14							
ULM	Lac du Bonnet	124.17	8	PKPdf	PKPdf	05 54 33.1	-2.1	
DLMT	Dillon	124.20	23		PKPdf	05 54 35.6	0.0	
BOZ	Bozeman (W)	124.38	22	P	PKPdf	05 54 35.9	-0.1	
	baz=328							
BOZ	Bozeman (W)	124.38	22	IAMs_20	IAMs_20	06 51 01.6		
	comp=Z,252nm,21.0s							
MFID	Camas Ranch	124.43	27	PKPdf	PKPdf	05 54 35.5	-0.6	
CHGQ	Chibougamau	124.46	351	P	PKPdf	05 54 35.3	-0.5	
	baz=13							
MCMT	McKenzie Canyo	124.55	24	PKPdf	PKiKP	05 54 36.8	+0.1	
BCYI	Bear Canyon	124.75	24		PKPdf	05 54 36.7	-0.1	
GCMT	Greycliff	124.93	21		PKPdf	05 54 37.0	0.0	
MATQ	Matagami	125.02	354	P	PKPdf	05 54 36.2	-0.6	
	baz=9.2							
LAO	LASA Array	125.25	18	P	PKiKP	05 54 38.2	+0.4	
	baz=334,SNR=15							
PAHR	Pah Rah Range	125.51	32	PKPdf	PKPdf	05 54 37.3	-1.0	
RLMT	Red Lodge	125.65	21	P	PKPdf	05 54 38.6	+0.1	
	baz=330,SNR=10							
H17A	Grant Village	125.79	22	P	PKiKP	05 54 39.9	+0.7	
	baz=328							
MDND	Maddock	125.85	12	P	PKPdf	05 54 37.9	-0.6	
	baz=342,SNR=6.4							
FLWY	Flagg Ranch	126.01	22	IAMs_20	IAMs_20	06 52 18.8		
	comp=Z,264nm,22.0s							
AGMN	Agassiz Nation	126.08	9	P	PKPdf	05 54 38.9	+0.1	
	baz=347							
AGMN	Agassiz Nation	126.08	9	IAMs_20	IAMs_20	06 57 15.8		
	comp=Z,271nm,20.0s							
D62A	Allapoint, All	126.15	346	P	PKPdf	05 54 38.9	-0.1	
	baz=20							
D61A	St Aubert, Com	126.29	347	P	PKPdf	05 54 39.0	-0.3	
	baz=19							
WAKR	Walker	126.35	33	PKPdf	PKPdf	05 54 39.7	-0.3	
TPAW	Teton Pass	126.42	23	IAMs_20	IAMs_20	06 57 19.6		
	comp=Z,278nm,20.0s							
E64A	Bridgewater	126.47	345	P	PKPdf	05 54 39.6	0.0	
	baz=22							
SNOW	Snow King Moun	126.52	23		PKPdf	05 54 40.0	-0.2	
REDW	Red Top Meadow	126.56	23	PKPdf	PKPdf	05 54 39.9	-0.4	
E63A	Oxbow	126.61	346	P	PKPdf	05 54 39.9	-0.1	
	baz=21							
LATQ	La Tuque	126.64	349	P	PKPdf	05 54 40.2	+0.2	
	baz=16							
KVN	Kaiserville	126.67	32	PKIKP	PKPdf	05 54 40.6	0.0	
KVN	Kaiserville	126.67	32	PKPdf	PKPdf	05 54 40.6	0.0	
E62A	Clayton Lake	126.69	346	P	PKPdf	05 54 39.8	-0.3	
	baz=20							
D60A	Saint Jean D'O	126.73	348	P	PKPdf	05 54 40.0	-0.1	
	baz=18							
D58A	Chemin du LacG	126.94	349	P	PKiKP	05 54 41.0	-0.1	
	baz=15							
EYMN	Ely	126.95	5	P	PKPdf	05 54 40.5	-0.1	
	baz=352,SNR=14							
EYMN	Ely	126.95	5	PKPdf	PKPdf	05 54 40.4	-0.2	
NVAR	Mina Array Bea	127.02	32	PKP	PKiKP	05 54 42.1	+0.4	
	comp=Z,6.1nm,0.8s,baz=273,slow=1.7,SNR=41							
NVAR				SKP		05 58 14.6		
	comp=Z,1.4nm,0.8s,baz=278,slow=1.7,SNR=3.9							
NVAR	Mina Array Bea	127.02	32		PKiKP	05 54 41.7	-0.1	
E61A	Lac Etchemin	127.09	347	P	PKiKP	05 54 41.3	-0.1	
	baz=18							
F64A	Sherman	127.12	345	P	PKPdf	05 54 41.0	+0.1	
	baz=21							
F63A	Nahmakanta, Br	127.45	346	P	PKPdf	05 54 41.5	-0.1	
	baz=20							
F62A	Pittston Farm,	127.48	347	P	PKPdf	05 54 41.3	-0.4	
	baz=19							
BW06	Boulder Array	127.57	22	P	PKPdf	05 54 41.7	-0.5	
	baz=329,SNR=17							
PDAR	Pinedale Array	127.57	22	PKP	PKPdf	05 54 41.5	-0.8	
	comp=Z,6.6nm,0.9s,baz=45,slow=2.3,SNR=50							
F61A	St Evariste	127.64	347	P	PKPdf	05 54 41.7	-0.2	
	baz=18							
G64A	Maxfield	127.79	345	P	PKPdf	05 54 41.6	-0.6	
	baz=21							
H66A	Whiting	127.84	344	P	PKPdf	05 54 42.2	-0.1	
	baz=23							
PKME	Peaks-Kenny Pk	127.91	346	P	PKiKP	05 54 43.0	-0.1	
	baz=20							
EMMW	East Machias	127.95	344	IAMs_20	IAMs_20	06 55 59.8		
	comp=Z,250nm,18.0s							
G63A	Kingsbury	128.13	346	P	PKPdf	05 54 43.0	+0.1	
	baz=20							
H65A	Eastbrook	128.18	345	P	PKiKP	05 54 43.5	-0.1	
	baz=22							
RSSD	Black Hills	128.23	17	PKIKP	PKPdf	05 54 42.2	-1.2	
RSSD	Black Hills	128.23	17	P	PKPdf	05 54 42.8	-0.7	
	baz=336							
RSSD	Black Hills	128.23	17	PKPdf	PKPdf	05 54 42.2	-1.2	
G62A	West of Eustis	128.25	347	P	PKPdf	05 54 43.0	-0.2	
	baz=19							
DUG	Dugway, Tooele	128.36	27	PKIKP	PKPdf	05 54 43.8	+0.1	
DUG	Dugway, Tooele	128.36	27	P	PKPdf	05 54 43.2	-0.5	
	baz=324,SNR=15							
DUG	Dugway, Tooele	128.36	27	PKPdf	PKPdf	05 54 43.8	+0.1	
G61A	St-Isidore-de-	128.41	348	P	PKiKP	05 54 43.8	-0.3	
	baz=18							
VES	Vestal, Richgr	128.45	35	P	PKPdf	05 54 44.0	+0.2	
	baz=315							
R11A	Troy Canyon, C	128.49	30	P	PKPdf	05 54 44.2	+0.1	
	baz=320,SNR=5.1							
H63A	New Sharon	128.66	346	P	PKiKP	05 54 44.4	-0.2	
	baz=20							
PKM	Mcpherson Peak	128.68	37	P	PKPdf	05 54 44.3	-0.2	
	baz=314							
K22A	Casper	128.76	20	P	PKPdf	05 54 43.8	-0.6	
	baz=332,SNR=8.3							
F36A	Milaca	128.79	7	PKPdf	PKPdf	05 54 42.5	-1.7	
E46A	Sault Ste Mari	128.81	359	PKPdf	PKPdf	05 54 43.4	-0.8	
ALGO	Algonquin Park	128.82	354	P	PKiKP	05 54 44.9	0.0	
	baz=9.2							
NLU	North Lily Min	128.88	26		PKPdf	05 54 44.6	-0.2	
ISA	Isabella, Lake	128.92	35	P	PKPdf	05 54 45.0	+0.2	
	baz=316							
COWI	Conover	128.97	3	IAMs_20	IAMs_20	06 58 18.1		
	comp=Z,276nm,20.0s							
H62A	Milan	129.00	347	P	PKPdf	05 54 44.7	+0.1	
	baz=18							
TPNV	Topopah Spring	129.21	32	P	PKPdf	05 54 44.9	-0.5	
	baz=319							
H61A	Lyndonville	129.21	348	P	PKPdf	05 54 45.0	0.0	
	baz=17							
SUSD	Miller	129.23	13	P	PKPdf	05 54 44.8	-0.3	
	baz=342							
SUSD	Miller	129.23	13		PKPdf	05 54 45.0	-0.1	
FURC	Furnace Creek,	129.24	33	P	PKPdf	05 54 45.3	+0.1	
	baz=318							
I64A	Boothbay	129.26	345	P	PKiKP	05 54 45.4	-0.4	
	baz=20							
H60A	Morristown	129.34	348	P	PKPdf	05 54 45.5	+0.3	
	baz=16							
I63A	Otisfield	129.37	346	P	PKPdf	05 54 45.2	0.0	
	baz=19							
SCZ2	Santa Cruz Isl	129.41	37	P	PKPdf	05 54 45.7	0.0	
	baz=313							
H59A	Cadyville	129.45	349	P	PKPdf	05 54 45.1	-0.3	
	baz=15							
LBNH	Lisbon	129.49	348	P	PKPdf	05 54 45.0	-0.6	
	baz=17							
SPMN	Marine on St.	129.51	7	P	PKPdf	05 54 45.1	-0.5	
	baz=350							
SPMN	Marine on St.	129.51	7		PKPdf	05 54 45.0	-0.6	
LONY	Lake Ozonia	129.64	350	P	PKPdf	05 54 45.3	-0.5	
	baz=14							
I62A	Tamworth	129.71	347	P	PKPdf	05 54 45.6	-0.3	
	baz=18							
EDW2	Edwards Air Fo	129.75	35	P	PKPdf	05 54 46.2	-0.2	
	baz=316							
H58A	Gabriels	129.76	350	P	PKPdf	05 54 46.1	0.0	
	baz=14							
SHOC	Shoshone, Teco	129.97	33	P	PKPdf	05 54 46.2	-0.5	
	baz=318							
GSC	Goldstone, Bar	130.12	34	P	PKPdf	05 54 46.4	-0.7	
	baz=317							
I60A	Shoreham	130.15	349	P	PKPdf	05 54 46.2	-0.6	
	baz=16							
I59A	Olmsteadville	130.31	349	P	PKPdf	05 54 46.7	-0.4	
	baz=15							
O20A	White River Ci	130.33	23	P	PKPdf	05 54 47.5	-0.1	
	baz=329,SNR=23							
O20A	White River Ci	130.33	23		PKPdf	05 54 46.0	-1.6	
GLMI	Grayling	130.36	359	P	PKPdf	05 54 47.2	0.0	
	baz=0.8							
ECSD	EROS Data Cent	130.38	11	P	PKPdf	05 54 47.0	-0.3	
	baz=345							
ECSD	EROS Data Cent	130.38	11	IAMs_20	IAMs_20	06 55 04.8		
	comp=Z,204nm,21.0s							
BFSC	Mount Baldy Ra	130.41	36	P	PKPdf	05 54 47.4	-0.3	
	baz=316							
J62A	Henniker	130.43	347	P	PKPdf	05 54 47.3	0.0	
	baz=18							
J61A	Chester	130.48	348	P	PKPdf	05 54 47.7	+0.3	
	baz=17							
I57A	Carthage	130.48	351	P	PKPdf	05 54 47.1	-0.4	
	baz=12							
TUQ	Turquoise Moun	130.51	33	P	PKPdf	05 54 47.5	-0.4	
	baz=318,SNR=5.9							
N23A	Red Feather La	130.52	21	P	PKPdf	05 54 47.5	-0.5	
	baz=332,SNR=5.7							
CIS	Catalina Islan	130.55	37	P	PKPdf	05 54 47.2	-0.7	
	baz=314							
I58A	Old Forge	130.60	350	P	PKPdf	05 54 47.8	+0.1	
	baz=14							
HEC	Hector,Ludlow	130.73	34	P	PKPdf	05 54 47.7	-0.6	
	baz=317							
J60A	Lant Hill Farm	130.75	349	P	PKPdf	05 54 47.9	0.0	
	baz=16							
K63A	Dunstable	130.88	347	P	PKPdf	05 54 47.9	-0.2	
	baz=18							
J58A	Remsen	130.98	350	P	PKPdf	05 54 48.1	-0.3	
	baz=13							
K31A	O'Neill	131.01	13	PKPdf	PKPdf	05 54 47.5	-1.0	
HRV	Adam Dziewonsk	131.06	347	P	PKPdf	05 54 48.8	+0.2	
	baz=18							
I40A	Norwalk	131.06	5		PKPdf	05 54 46.0	-2.6	
K62A	Royalston	131.06	347	P	PKPdf	05 54 48.7	+0.1	
	baz=17							
MURC	Murrieta	131.13	36	P	PKPdf	05 54 49.4	+0.4	
	baz=316							
GMRC	Granite Mounta	131.14	34	P	PKPdf	05 54 49.2	+0.1	
	baz=318							
K61A	Williamstown	131.27	348	P	PKPdf	05 54 48.9	0.0	
	baz=16							
L61B	Northampton	131.36	348	P	PKPdf	05 54 49.1	0.0	
	baz=17							
BELC	Belle Mtn. Jos	131.53	35	P	PKPdf	05 54 49.7	-0.2	
	baz=317							
PFO	Pinyon Flats O	131.55	35	P	PKPdf	05 54 49.6	-0.3	
	baz=316							
TPFO	Pinon Flats	131.56	35	P	PKPdf	05 54 49.8	-0.1	
	baz=316							
ISCO	Idaho Springs	131.61	21	PKIKP	PKPdf	05 54 48.6	-1.5	
ISCO	Idaho Springs	131.61	21	P	PKPdf	05 54 50.0	-0.1	
	baz=332							
ISCO	Idaho Springs	131.61	21	PKPdf	PKPdf	05 54 48.6	-1.5	
OGNE	Ogallala	131.73	17	P	PKPdf	05 54 49.7	-0.3	
	baz=337							
M64A	Tiverton	131.88	346	P	PKPdf	05 54 50.3	+0.2	
	baz=19							
IRM	Iron Mountain	131.89	34	P	PKPdf	05 54 50.5	0.0	
	baz=318							
K56A	Middlesex	131.94	352	P	PKPdf	05 54 50.3	0.0	
	baz=11							
K38A	Parkersburg	132.05	7		PKPdf	05 54 49.5	-0.9	
JFWS	Jewell Farm	132.06	5	PKIKP	PKPdf	05 54 49.0	-1.5	
JFWS	Jewell Farm	132.06	5	P	PKPdf	05 54 49.9	-0.6	
	baz=353							
JFWS	Jewell Farm	132.06	5		PKPdf	05 54 49.0	-1.5	
MONP2	Monument Peak	132.09	36	P	PKPdf	05 54 51.5	+0.4	
	baz=316							
BINY	Binghamton	132.22	351	P	PKPdf	05 54 50.8	0.0	
	baz=12							
BGNE	Belgrade	132.30	13	P	PKPdf	05 54 51.4	+0.4	
	baz=342							
PDMCI	Parker Dam,Lak	132.33	33	P	PKPdf	05 54 51.5	+0.3	
	baz=320							
L58A	Harry Jones Me	132.35	350	P	PKPdf	05 54 51.4	+0.4	
	baz=13							
SWSC	Sam W. Stewart	132.41	35	P	PKPdf	05 54 51.6	+0.2	
	baz=317							
IKP	In-Ko-Pah, Jac	132.44	36	P	PKPdf	05 54 51.5	-0.1	
	baz=316							
Q24A	Divide	132.51	21	P	PKPdf	05 54 51.0	-0

baz=0.7
P49A Miami Univ. Ec 135.64 359 IAMs_20 IAMs_20 07 06 23.8
comp=Z,230nm,19.0s
TUC Tucson 135.64 31 P **PKPdf 05 54 58.3 +0.7**
baz=322
BNM Barren Site 136.12 26 PKPdf **PKPdf 05 54 58.7 +0.1**
CBN Corbin Frederi 136.35 351 IAMs_20 IAMs_20 07 06 58.7
comp=Z,202nm,19.0s
CCM Cathedral Cave 136.77 7 PKIKP **PKiKP 05 55 00.3 -0.9**
CCM Cathedral Cave 136.77 7 P **PKPdf 05 54 59.1 -0.3**
baz=351
CCM Cathedral Cave 136.77 7 PKPdf **PKiKP 05 55 00.3 -0.9**
WCI Wyandotte Cave 136.94 1 PKIKP **PKPdf 05 54 59.2 -0.5**
WCI Wyandotte Cave 136.94 1 P **PKPdf 05 54 59.5 -0.2**
baz=358
WCI Wyandotte Cave 136.94 1 PKPdf **PKPdf 05 54 59.2 -0.5**
121A Cookes Peak, D 136.95 28 P **PKPdf 05 54 60.0 -0.2**
baz=326
SIUC Southern Illin 137.31 5 PKPdf **PKPdf 05 54 59.1 -1.3**
AMTX Amarillo 137.39 20 P **PKPdf 05 55 00.8 0.0**
baz=336
MSTX Muleshoe 137.83 22 P **PKPdf 05 55 01.7 0.0**
baz=334
BCOK Bluff Creek, N 137.90 15 PKPdf **PKPdf 05 55 00.4 -1.2**
TUL1 Leonard 138.09 13 P **PKPdf 05 55 01.3 -0.6**
baz=344
T47A Sharon Grove 138.15 2 **PKPdf 05 54 58.3 -3.7**
U40A Yellville 138.21 9 P **PKPdf 05 55 02.0 -0.1**
baz=349
FNO Franklin 138.33 15 PKPpre 05 54 52.6
WMOK Wichita Mounta 138.44 17 P **PKPdf 05 55 02.3 -0.3**
baz=340
WMOK Wichita Mounta 138.44 17 IAMs_20 IAMs_20 07 02 06.4
comp=Z,256nm,22.0s
TZTN Tazewell 138.60 358 IAMs_20 IAMs_20 06 58 25.0
comp=Z,195nm,20.0s
MNTX Cornudas Mount 138.75 26 P **PKPdf 05 55 03.4 +0.1**
baz=329
WVT Waverly 138.98 3 PKHKP PKPpre 05 54 55.0
WVT Waverly 138.98 3 P **PKPdf 05 55 03.1 -0.4**
baz=356
WVT Waverly 138.98 3 PKPpre 05 54 55.0
WVT IAMs_20 IAMs_20 07 05 32.0
comp=Z,217nm,20.0s
W39A Magazine 139.19 11 **PKPdf 05 55 00.6 -3.3**
W41B Gary Mavity, V 139.47 9 P **PKPdf 05 55 04.0 -0.4**
baz=349
KMSC Kings Mountain 139.86 355 P **PKPdf 05 55 05.0 -0.2**
baz=6.0
MIAR Mount Ida 139.86 11 P **PKPdf 05 55 05.1 -0.1**
baz=347
PLAL Pickwick Lake 140.10 4 IAMs_20 IAMs_20 07 06 06.8
comp=Z,225nm,19.0s
OXF Oxford 140.47 5 P **PKPdf 05 55 06.2 -0.1**
baz=354
OXF Oxford 140.47 5 IAMs_20 IAMs_20 07 07 22.5
comp=Z,172nm,20.0s
WLAR White Oak Lake 140.78 10 PKPpre 05 54 59.8
Z41A Richland Creek 141.25 10 P **PKPdf 05 55 07.8 +0.1**
baz=348
TX31 Lajitas Ar. Si 141.53 26 PKPpre 05 55 02.1
TXAR Lajitas Array 141.53 26 PKhKP PKPpre 05 55 02.3
comp=Z,2.3nm,0.6s,baz=260,slow=1.0,SNR=19
TXAR PP **PP 05 58 10.4 -0.4**
comp=Z,1.3nm,0.9s,baz=274,slow=3.4,SNR=4.1
TXAR SKPbc **SKPbc 05 58 41.4 0.0**
comp=Z,3.4nm,0.9s,baz=268,slow=2.0,SNR=6.1
BDFB Brasilia 141.91 251 PKP **PKPdf 05 55 10.6 +1.2**
comp=Z,5.6nm,0.9s,baz=328,slow=3.7,SNR=5.6
JCT Junction City 142.05 21 P **PKPdf 05 55 09.4 +0.1**
baz=336
PLCA Paso Flores 142.08 198 PKhKP PKPpre 05 55 04.8
comp=Z,2.8nm,0.8s,baz=210,slow=1.7,SNR=5.9
TIGA Tifton 143.69 358 PKPab 05 55 08.9 +0.1
833A Chaparral WMA, 144.15 22 P **PKPdf 05 55 12.7 -0.3**
baz=336
LC01 Cunco 144.17 198 PKPdf PKPbc 05 55 11.2 +0.3
ARAG Araguaiana, MT 145.46 250 *eP* **PKPab 05 55 16.1 +0.2**
SNDB Serra Nova Dou 145.70 256 *eP* **PKPab 05 55 17.6 +0.8**
CPUP Villa Florida 145.91 229 PKPbc **PKPab 05 55 17.4 +0.1**
comp=Z,15nm,0.9s,baz=106,slow=3.0,SNR=15
MCPB Macapa, AP 146.49 277 *eP* **PKPbc 05 55 19.0 +0.1**
AQDB Aquidauana 147.41 239 *eP* **PKPbc 05 55 20.6 -0.7**
BO02 Sierra Bellavi 147.49 203 **PKPbc 05 55 20.6 -0.6**
ZAIG Zacatecas 147.61 31 **PKPdf 05 55 20.7 +1.3**
ANBD Bethesda, Anti 148.03 314 *eP* **PKPab 05 55 28.7 +3.0**
ANBD *eS* PKPab 05 55 39.6 +14
MT01 Popeta 148.49 203 **PKPbc 05 55 23.7 0.0**
SEUS St. Eustatius 148.59 316 IAMs_20 IAMs_20 06 43 42.5
comp=Z,178nm,20.0s
SABA Saba 148.68 316 IAMs_20 IAMs_20 07 03 27.8
comp=Z,188nm,20.0s
TDBA Terre de Bas, 148.71 312 *eP* **PKPab 05 55 27.6 -0.9**
TDBA *eS* PKPab 05 55 37.3 +8.9
DSLB Salisbury 148.80 311 *eP* **PKPab 05 55 31.7 +2.8**
DSLB *eS* PKPab 05 55 45.1 +16
MALB Monte Alegre 148.87 275 *eP* **PKPdf 05 55 22.4 +1.1**
SALV Santo Antonio 149.00 247 *eP* **PKPdf 05 55 22.6 +1.1**
CUPR Culebra, Puert 149.54 320 PKPdf **PKPdf 05 55 23.2 +1.0**
CBYP Canovanas 149.93 321 **PKPdf 05 55 23.0 0.0**
GCPR Guaynabo City 150.04 321 **PKPdf 05 55 23.4 +0.4**
NPGB Novo Progresso 150.17 265 *eP* **PKPdf 05 55 24.6 +1.2**
SJG San Juan 150.23 321 *eP* **PKiKP 05 55 29.0 -0.3**
AOPR Arecibo Observ 150.43 322 **PKPbc 05 55 27.2 -1.8**
GCMP Grenada, Carri 150.57 306 *eP* PKPdf 05 55 14.7 -9.3
ICMP Isla Caja de M 150.64 321 **PKPbc 05 55 28.1 -1.4**
MLPR Magueyes Islan 150.90 322 **PKPbc 05 55 28.6 -1.4**
GRGR Grenville 150.95 306 *eP* PKPdf 05 55 13.4 -11
PTLB Pontes e Lacer 152.30 246 *eP* **PKPdf 05 55 27.1 +0.6**
SDDR Presa de Saban 152.43 330 *eP* **PKiKP 05 55 34.4 +0.5**
LCO Las Campanas 152.44 208 PKIKP **PKiKP 05 55 34.3 +0.3**
LCO Las Campanas 152.44 208 **PKiKP 05 55 34.3 +0.3**
TLIG Tlapa 154.00 30 PKPdf **PKPdf 05 55 28.9 -0.3**
TLIG PKPbc **PKiKP 05 55 37.9 +0.6**
TLIG **PKPab 05 55 51.0 +0.5**
VILB Vilhena 154.02 251 *eP* **PKPdf 05 55 29.8 +0.6**
CCIG Comitan 157.76 18 PKPdf **PKPdf 05 55 32.4 -1.8**
LPAZ La Paz 159.79 235 PKP **PKPdf 05 55 38.2 +1.0**
comp=Z,4.9nm,1.0s,baz=59,slow=1.5,SNR=14
RUSC La Rusia 163.67 312 *eP* **PKPdf 05 55 40.3 -0.9**
ZARC Zaragoza, Cauc 163.77 320 *eP* **PKPdf 05 55 45.0 +4.3**
UREC San Jos de Ur 163.99 322 *eP* **PKPdf 05 55 39.8 -1.0**
DBBC Dabeiba 164.98 323 *eP* **PKPdf 05 55 41.4 -0.4**
ROSC El Rosal 165.29 312 PKP **PKPdf 05 55 42.9 +0.5**
comp=Z,9.1nm,0.5s,baz=76,slow=3.2,SNR=8.0
CBOC Ciudad Bolivar 165.74 319 *eP* **PKPdf 05 55 45.7 +3.1**
TOLC Tolima 166.19 314 *eP* **PKPdf 05 55 44.0 +0.9**
ANIL Santa Ana 166.31 314 *eP* **PKPdf 05 55 43.0 -0.2**
ORTC Ortega, Tolima 166.59 311 *eP* **PKPdf 05 55 42.4 -0.7**
PLMC San Jos del P 166.63 318 *eP* **PKPdf 05 55 42.7 -0.4**
YOTC Yotoco, Valle 167.34 315 *eP* **PKPdf 05 55 43.4 -0.4**
OTAV Otavalo 171.38 307 *eP* **PKPdf 05 55 45.3 -1.4**

KRNET 22 05:43:01.2±0.1, 42°.27N×76°.26E, h20km, mb1.4, 7C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.02**	**207**	⇑*iP*	Pb	05 43 05.0	0.0
	baz=7.0						
ULHL				⇑*iS*	Sb	05 43 07.6	0.0
	baz=7.0						
BOOM	**Boomskoye usch**	**0.32**	**314**	⇑*iP*	Pb	05 43 08.1	-0.3
	baz=14						
BOOM				⇑*iS*	Sb	05 43 13.1	-0.2
	baz=14						
KDJ	**Kajisay**	**0.70**	**101**	⇑*iS*	Sb	05 43 24.9	+0.7
	baz=1.0						
TKM2	**Tokmak 2**	**0.81**	**324**	⇑*iP*	Pb	05 43 17.0	+0.1
	baz=24						
TKM2				⇑*iS*	Sb	05 43 28.0	+0.5
	baz=24						

ISC 22 05:51:43.6±1.4, 49°.17N±0°.06×18°.83E±0°.05, h7km±13km, n5, σ1°.26/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.42**	**93**	*ePG*	**Pg**	**05 51 51.7**	**0.0**
LANS				*eSG*	**Sg**	**05 51 57.6**	**+0.5**
LANS				*eLG*	Lg	05 52 00.8	
KOLL	**Kolacno**	**0.66**	**206**	*ePG*	**Pg**	**05 51 55.5**	**-0.7**
KOLL				*eSG*	**Sb**	**05 52 08.0**	**+1.3**
VYHS	**Vyhne**	**0.68**	**180**	*ePG*	**Pn**	**05 51 59.3**	**-0.3**
VYHS				*eSG*	**Sn**	**05 52 09.2**	**-1.2**
JAVC	**Velka Javorina**	**0.83**	**248**	*ePG*	**Pn**	**05 52 01.3**	**-0.4**
JAVC				*eSG*	**Sn**	**05 52 16.1**	**+1.9**
MORC	**Moravsky Berou**	**1.04**	**306**	*ePG*	**Pg**	**05 52 03.4**	**-0.1**
MORC				*eSG*	**Sn**	**05 52 18.1**	**-1.3**

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*IDC **22** 05:59:01.9±2.4, 54°.10N×86°.39E, h0km, mb1 3.3/2, mb1mx3.1/46, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=19.4km s-min=11.9km az=57.0*
ISC 22 05:59:02.4±4.8, 54°.2N±0°.2×86°.3E±0°.2, h10km, n6, σ1°.57/8, 1C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**254**	*i*		06 05 20.0	
	baz=78,slow=297,SNR=2.7						
ZALV	**Zalesovo Beam**	**0.93**	**254**	Pg	**Pg**	**05 59 18.7**	**-1.5**
	2.0nm,0.3s,baz=78,slow=17,SNR=15						
ZALV				Lg	Lg	05 59 33.3	
	3.9nm,0.3s,baz=84,slow=28,SNR=15						
ZALV				Rg	Rg	05 59 38.5	
	13nm,0.5s,baz=73,slow=25,SNR=16						
KURBB	**Kurchatov Arra**	**5.97**	**236**	Pn	**Pn**	**06 00 32.2**	**+1.4**
	0.3nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Lg	Lg	06 02 12.1	
	0.1nm,0.3s,baz=53,slow=29,SNR=5.6						
KURBB	**Kurchatov Arra**	**5.97**	**236**	⇓Pn	**Pn**	**06 00 32.0**	**+1.2**
	2.2nm,0.5s						
KURBB				⇓Sn	**Sn**	**06 01 40.0**	**+0.8**
	5.8nm,0.7s						
KURBB				⇓Lg	Lg	06 02 13.7	
	5.9nm,0.6s						
MK31	**Makanchi Array**	**7.86**	**201**	Pn	**Pn**	**06 00 56.9**	**+0.1**
	0.2nm,0.4s,baz=24,slow=13,SNR=14						
MK31				Sn	**Sn**	**06 02 27.6**	**+1.8**
	0.4nm,0.5s,baz=21,slow=28,SNR=6.3						
MK31				⇑Lg	Lg	06 03 09.7	
	1.3nm,0.8s,baz=30,slow=31,SNR=3.5						
MKAR	**Makanchi Array**	**7.86**	**201**	Pn	**Pn**	**06 00 57.1**	**+0.3**
	0.3nm,0.3s,baz=26,slow=14,SNR=12						
MKAR				Sn	**Sn**	**06 02 24.2**	**-1.6**
	0.2nm,0.3s,baz=26,slow=27,SNR=6.2						
MKAR				Lg	Lg	06 03 05.5	
	0.0nm,0.3s,baz=26,slow=30,SNR=1.8						

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*MOS **22** 06:03:57.0±0.9, 44°.49N×147°.99E, h115km, mb3.9/2, Error ellipse: s-maj=16.9km s-min=10.3km az=147.8*
*SKHL **22** 06:03:58.2±0.8, 44°.60N×147°.90E, h114km±4km, mb5.1/14, msha5.8/4*
*JMA **22** 06:03:59.7±0.5, 44°.22N×147°.91E, h100km, M4.0*
*IDC **22** 06:04:00.2±3.0, 44°.65N×147°.87E, h118km±30km, mb3.3/11, mb1 3.5/14, mb1mx3.4/43, mbtmp3.7/14, Error ellipse: s-maj=47.4km s-min=19.2km az=174.0*
ISC 22 06:03:56.6±1.0, 44°.30N±0°.07×148°.08E±0°.08, h106km±8km, n72, σ1°.87/80, mb3.7/13, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**351**	*d iP*	**Pn**	**06 04 16.6**	**-0.2**
KUR				*i* S	**Sn**	**06 04 30.3**	**-1.8**
KUR				pmax	pmax		
	comp=Z,591nm,0.4s						
KUR				pmax	pmax		
	comp=E,107nm,0.2s						
KUR				pmax	pmax		
	comp=N,105nm,0.3s						
KUR				smax	smax		
	comp=N,3μm,1.4s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,987nm,0.2s						
KUR	**Kuril'sk**	**0.95**	**351**	*eP*	**Pn**	**06 04 16.6**	**-0.2**
KUR				AMB	AMB	06 04 17.0	
	comp=E,100nm,0.3s						
KUR				AMB	AMB	06 04 17.0	
	comp=E,110nm,0.3s						
KUR				AMB	AMB	06 04 17.0	
	comp=E,600nm,0.3s						
KUR				*i* S	**Sn**	**06 04 30.2**	**-1.8**
KUR				A	A	06 04 31.2	
	comp=E,3μm,1.4s						
KUR				A	A	06 04 31.7	
	comp=E,2μm,0.3s						
KUR				A	A	06 04 31.7	
	comp=E,990nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**261**	*ePN*	**Pn**	**06 04 26.0**	**+1.5**
YUK				*eS*	**Sn**	**06 04 46.5**	**+0.7**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.62**	**261**	*eP*	**Pn**	**06 04 26.0**	**+1.5**
YUK				AMB	AMB	06 04 26.9	
	comp=N,1μm,0.3s						
YUK				*eS*	**Sn**	**06 04 46.5**	**+0.7**
YUK				A	A	06 04 49.4	
	comp=N,2μm,0.5s						
YUK				A	A	06 04 49.4	
	comp=N,3μm,0.5s						
GRPR	**Tuman**	**1.69**	**260**	*ePN*	**Pn**	**06 04 26.7**	**+1.3**
GRPR				*eS*	**Sn**	**06 04 47.7**	**+0.3**
GRPR				pmax	pmax		
	comp=N,155nm,0.2s						
GRPR				pmax	pmax		
	comp=E,236nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,355nm,0.2s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR	**Tuman**	**1.69**	**260**	*eP*	**Pn**	**06 04 26.7**	**+1.3**
GRPR				AMB	AMB	06 04 29.0	
	comp=N,160nm,0.2s						
GRPR				AMB	AMB	06 04 29.0	
	comp=N,240nm,0.2s						
GRPR				AMB	AMB	06 04 29.0	
	comp=N,360nm,0.2s						
GRPR				*eS*	**Sn**	**06 04 47.7**	**+0.3**
GRPR				A	A	06 04 50.0	
	comp=N,2μm,0.4s						
GRPR				A	A	06 04 50.0	
	comp=N,1μm,0.4s						
GLVR	**Golovnino**	**1.93**	**254**	*ePN*	**Pn**	**06 04 30.2**	**+1.8**
GLVR				*eS*	**Sn**	**06 04 54.1**	**+1.4**
GLVR				pmax	pmax		
	comp=N,21nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,293nm,0.1s						
GLVR				smax	smax		
	comp=N,2μm,0.2s						
GLVR				smax	smax		
	comp=E,769nm,0.2s						
GLVR	**Golovnino**	**1.93**	**254**	*eP*	**Pn**	**06 04 30.2**	**+1.8**
GLVR				AMB	AMB	06 04 31.4	
	comp=E,20nm,0.2s						
GLVR				AMB	AMB	06 04 31.4	
	comp=E,290nm,0.2s						
GLVR				*eS*	**Sn**	**06 04 54.1**	**+1.4**
GLVR				A	A	06 04 56.3	
	comp=E,2μm,0.3s						
GLVR				A	A	06 04 56.3	
	comp=E,770nm,0.3s						
NEM2	**Nemuro 2**	**1.93**	**242**	P	**Pn**	**06 04 29.8**	**+1.4**
NEM2				*eS*	**Sn**	**06 04 53.2**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.94**	**242**	⇑*iPN*	**Pn**	**06 04 29.8**	**+1.3**
NMR				*eS*	**Sn**	**06 04 53.2**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.94**	**242**	*i* P	**Pn**	**06 04 29.9**	**+1.4**
NMR				*eS*	**Sn**	**06 04 53.5**	**+0.6**
RUSJ	**Misakicho**	**2.05**	**266**	*ePN*	**Pn**	**06 04 31.6**	**+1.7**
RUSJ				*eS*	**Sn**	**06 04 59.2**	**+3.8**
JRA	**Rausu**	**2.16**	**261**	P	**Pn**	**06 04 33.3**	**+1.9**
JNSB	**Nemuroshibetsu**	**2.28**	**258**	P	**Pn**	**06 04 35.1**	**+2.2**
JKHN	**Kushirohamanak**	**2.44**	**241**	P	**Pn**	**06 04 36.7**	**+1.7**
JKHN				*eS*	**Sn**	**06 05 04.8**	**+0.3**
JNK	**Nakash**	**2.53**	**255**	P	**Pn**	**06 04 38.0**	**+1.8**
AKK	**Akkeshi**	**2.68**	**243**	*i* P	**Pn**	**06 04 39.4**	**+1.3**
AKK				*i* S	**Sn**	**06 05 09.8**	**-0.3**
JAK	**Akkeshi**	**2.78**	**243**	P	**Pn**	**06 04 40.9**	**+1.4**
JAK				*eS*	**Sn**	**06 05 12.1**	**-0.4**
JTKR	**Abashiri--Toko**	**3.02**	**265**	P	**Pn**	**06 04 44.6**	**+1.9**
JAR	**Ashorobuto**	**3.28**	**254**	P	**Pn**	**06 04 48.6**	**+2.5**
JCH	**Churui**	**3.83**	**246**	P	**Pn**	**06 04 54.9**	**+1.5**
JCH				*eS*	**Sn**	**06 05 38.0**	**+0.5**
JKK2	**Kamakawa 2**	**3.87**	**266**	P	**Pn**	**06 04 56.3**	**+2.3**
JKA	**Kamikawa-asahi**	**3.94**	**269**	*eP*	**Pn**	**06 04 57.6**	**+2.6**
ASAJ	**Asahikawa**	**3.95**	**269**	P	**Pn**	**06 04 57.5**	**+2.5**
	comp=E,7.6nm,0.3s,baz=78,slow=19,SNR=18						
JSE	**Soyaes**	**3.98**	**281**	P	**Pn**	**06 04 57.0**	**+1.5**
JFR	**Furan**	**4.13**	**256**	P	**Pn**	**06 05 00.1**	**+2.5**
ERM	**Erimo**	**4.26**	**239**	*e i* PN	**Pn**	**06 05 02.1**	**+2.8**
ERM				*i* S	**Sn**	**06 05 50.4**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.38**	**244**	P	**Pn**	**06 05 01.7**	**+0.8**
JNBK				*eS*	**Sn**	**06 05 50.4**	**-0.5**
JWK2	**Keihoku**	**4.52**	**285**	P	**Pn**	**06 05 05.5**	**+2.8**
YSS	**Yuzh-Sakhalins**	**4.58**	**307**	*i* PN	Pn	06 04 55.1	-8.5
YSS	**Yuzh-Sakhalins**	**4.58**	**307**	*eP*	**Pn**	**06 05 01.3**	**-2.3**
YSS				AMB	AMB	06 05 01.5	
	comp=E,30nm,0.2s						
JHR	**Hokuryu**	**4.62**	**265**	P	**Pn**	**06 05 07.2**	**+3.1**
JKB	**Kayabe**	**5.69**	**247**	P	**Pn**	**06 05 20.0**	**+1.3**
JKB				*eS*	**Sn**	**06 06 20.1**	**-2.6**
JOT	**Ohata**	**5.93**	**243**	P	**Pn**	**06 05 22.4**	**+0.5**
JOT				*eS*	**Sn**	**06 06 23.9**	**-4.6**
JANG	**Nango**	**6.25**	**233**	P	**Pn**	**06 05 26.4**	**+0.2**
JANG				*eS*	**Sn**	**06 06 31.8**	**-4.4**
JOSM	**Okushiri--Mats**	**6.67**	**254**	P	**Pn**	**06 05 33.0**	**+1.1**
TYV	**Tymovskoe**	**7.52**	**333**	*eP*	**Pn**	**06 05 41.9**	**-1.5**
TYV				AMB	AMB	06 05 43.9	
	comp=E,20nm,0.7s						
SKR	**Severo-Kuril's**	**8.39**	**38**	*eP*	**Pn**	**06 05 55.6**	**+0.5**
SKR				AMB	AMB	06 05 57.6	
	comp=E,60nm,0.8s						
PAU	**Pauzhetka**	**9.26**	**36**	*eP*	**Pn**	**06 06 07.7**	**+0.7**
PAU				AMB	AMB	06 06 08.7	
	comp=E,10.0nm,0.4s						
OKH	**Okha**	**9.86**	**342**	*eP*	**Pn**	**06 06 14.4**	**-0.6**
OKH				AMB	AMB	06 06 18.6	
	comp=E,50nm,0.6s						
NKL	**Nikolayevsk**	**10.11**	**334**	*eP*	**Pn**	**06 06 16.0**	**-2.5**
NKL				AMB	AMB	06 06 16.7	
	comp=E,30nm,0.5s						
MAJO	**Matsushiro**	**10.79**	**228**	⇑*iPN*	**Pn**	**06 06 29.1**	**+1.1**
PET	**Petropavlovsk**	**11.17**	**35**	*e*PN	Pn	06 06 26.5	-6.4
PET	**Petropavlovsk**	**11.17**	**35**	*eP*	**Pn**	**06 06 32.7**	**-0.2**
PET				AMB	AMB	06 06 33.9	
	comp=E,10.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**11.55**	**275**	P	**Pn**	**06 06 38.5**	**+0.6**
	baz=91,slow=13,SNR=10						
EKMR	**Ekimchan**	**13.28**	**317**	*eP*	**Pn**	**06 06 57.0**	**-3.7**
MA2	**Magadan**	**15.39**	**5**	⇑*iP*	Pn	06 07 16.8	-11
KSRS	**Korea Array**	**16.69**	**253**	P	**P**	**06 07 45.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=60,slow=11,SNR=4.2						
TJN	**Taejon**	**17.63**	**250**	⇑*iP*	**P**	**06 07 50.4**	**-4.5**
BILL	**Bilibino**	**25.65**	**16**	*eP*	P	06 09 07.5	-8.5
SONM	**Songino Array**	**28.88**	**292**	P	**P**	**06 09 46.6**	**+1.3**
	comp=E,0.5nm,0.7s,baz=64,slow=6.6,SNR=2.2						
TIXI	**Tiksi**	**28.98**	**348**	⇑*eP*	P	06 09 36.2	-9.3
H11N2	**WAKE ISLAND Hy**	**29.09**	**141**	T	T	06 40 51.1	
	baz=333,slow=76,SNR=109						
H11N1	**WAKE ISLAND Hy**	**29.11**	**141**	T	T	06 40 54.2	
	baz=333,slow=76,SNR=85						
H11N3	**WAKE ISLAND Hy**	**29.11**	**141**	T	T	06 40 52.5	
	baz=333,slow=76,SNR=84						
H11S1	**WAKE ISLAND Hy**	**30.08**	**143**	T	T	06 42 07.6	
	baz=333,slow=76,SNR=83						
H11S3	**WAKE ISLAND Hy**	**30.09**	**143**	T	T	06 42 04.1	
	baz=333,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**30.10**	**143**	T	T	06 42 07.1	
	baz=333,slow=76,SNR=57						
COLA	**College**	**40.23**	**36**	*eP*	P	06 11 15.0	-7.4
COLA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**40.65**	**37**	P	**P**	**06 11 26.6**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=270,slow=8.5,SNR=7.5						
DGZ	**Jazzator, Alta**	**40.73**	**300**	⇑*iP*	P	06 11 18.8	-8.1
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.93**	**297**	P	**P**	**06 12 01.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=82,slow=8.7,SNR=5.0						
MKAR				PcP	**PcP**	**06 13 41.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=63,slow=6.6,SNR=3.0						
INK	**Inuvik**	**45.59**	**31**	P	**P**	**06 12 06.6**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=300,slow=6.9,SNR=1.8						
BRVK	**Borovoye**	**49.72**	**309**	*eP*	P	06 12 27.4	-10
ARCES	**ARCESS Array B**	**58.97**	**340**	P	**P**	**06 13 43.5**	**-0.8**
	comp=Z,3.9nm,1.1s,baz=56,slow=8.1,SNR=1.4						
FINES	**FINESS Array B**	**64.69**	**333**	P	**P**	**06 14 21.9**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=45,slow=8.4,SNR=7.6						
NVAR	**Mina Array Bea**	**66.72**	**59**	P	**P**	**06 14 38.7**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=297,slow=6.0,SNR=2.2						
PDAR	**Pinedale Array**	**69.04**	**50**	P	**P**	**06 14 52.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=79,slow=0.8,SNR=3.9						
NOA	**NORSAR Array B**	**69.33**	**339**	P	**P**	**06 14 51.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=6.5,SNR=5.3						
AKASG	**Malin Array Be**	**71.53**	**324**	P	**P**	**06 15 05.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=30,slow=6.4,SNR=4.1						
COCO	**West Island**	**72.93**	**233**	*i* P	**P**	**06 15 11.4**	**-3.0**
TXAR	**Lajitas Array**	**81.79**	**57**	P	**P**	**06 16 05.7**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=298,slow=4.6,SNR=7.1						

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*IDC **22** 06:17:39.6±7.7, 21°.87S×176°.93W, h308km±77km, mb3.3/5, mb1 3.7/7, mb1mx3.4/24, mbtmp4.2/7, Error ellipse: s-maj=45.2km s-min=25.3km az=180.0*
*NEIC **22** 06:17:45.1±2.0, 21°.8S±0°.2×176°.9W±0°.2, h365km±10km, mb4.6/39, Error ellipse: s-maj=29.6km s-min=17.2km az=128.0*
ISC 22 06:17:44.2±0.6, 21°.6S±0°.1×177°.1W±0°.1, h350km, n55, σ1°.76/50, mb4.5/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.63**	**185**	Pn	**Pn**	**06 19 37.9**	**+4.0**
PINNC	**Pines Island,**	**14.32**	**263**	P	**P**	**06 20 51.3**	**-0.2**
DZM	**Mont Dzumac**	**15.25**	**265**	P	**P**	**06 21 02.3**	**+0.6**
	1.5nm,0.3s,baz=64,slow=20,SNR=13						
DZM	**Mont Dzumac**	**15.25**	**265**	IAmb	IAmb	06 21 27.0	
	comp=Z,44nm,1.4s						
URZ	**Urewera**	**17.31**	**195**	P	**P**	**06 21 18.4**	**-5.3**
	comp=Z,4.1nm,0.3s,baz=297,slow=2.7,SNR=24						
BKZ	**Black Stump Fm**	**18.32**	**196**	P	**P**	**06 21 27.9**	**-6.6**
BKZ				IAmb	IAmb	06 21 35.1	
	comp=Z,39nm,1.5s						
MSWZ	**Moikau Station**	**20.76**	**196**	P	**P**	**06 21 57.1**	**-1.9**
QRZ	**Quartz Range**	**21.06**	**202**	P	**P**	**06 21 58.5**	**-3.2**
QRZ				IAmb	IAmb	06 22 03

BYL	Byron's Ledge	46.05	29	P		P	06 25 34.2	-0.3
UWB	Uwekahuna B	46.06	29	P		P	06 25 34.8	+0.2
HATHI	Halema'uma'u T	46.06	29	P		P	06 25 33.6	-1.0
SBLHI	Steaming Bluff	46.06	29	P		P	06 25 35.1	+0.5
RSD	Rainshed	46.09	29	P		P	06 25 34.4	-0.5
FORT	Forrest	49.60	247	P		P	06 26 01.4	+0.1
FORT				IAmb	IAmb		06 26 17.1	
	comp=Z,38nm,1.3s							
GLI	Glacier Island	85.72	14	P		P	06 29 43.4	-0.6
GLI				IAmb	IAmb		06 29 44.5	
	comp=Z,9.0nm,0.6s							
GHO	Glory Hole Cre	86.12	13	P		P	06 29 45.8	-0.2
GHO				IAmb	IAmb		06 29 46.7	
	comp=Z,13nm,0.5s							
TGL	Tana Glacier	86.66	16			pP	06 31 11.7	+2.4
N25K	Chitina, Valde	86.95	15	P		P	06 29 50.1	+0.1
N25K				IAmb	IAmb		06 29 51.1	
	comp=Z,4.3nm,0.8s							
TXAR	Lajitas Array	86.98	57	P		P	06 29 52.1	+1.2
	comp=Z,0.5nm,0.7s,baz=212,slow=7.5,SNR=8.3							
TRF	Thorofare Moun	87.37	12	P		P	06 29 51.5	-0.6
TRF				IAmb	IAmb		06 29 52.3	
	comp=Z,8.2nm,0.8s							
RND	Reindeer	87.61	12	P		P	06 29 52.9	-0.2
RND				IAmb	IAmb		06 29 54.2	
	comp=Z,8.2nm,0.9s							
RDMU	Red Mountain	88.10	45	P		P	06 29 53.6	-2.5
RDMU				IAmb	IAmb		06 29 53.7	
	comp=Z,3.0nm,0.6s							
WRH	Wood River Hil	88.72	12	P		P	06 29 57.8	-0.3
WRH				IAmb	IAmb		06 29 58.6	
	comp=Z,4.3nm,0.7s							
L27K	Beaver Creek,	88.87	15	P		P	06 29 59.1	+0.2
HDA	Harding Lake	88.89	13	P		P	06 29 58.3	-0.6
HDA				IAmb	IAmb		06 29 59.4	
	comp=Z,5.9nm,0.5s							
CCB	Clear Creek Bu	88.93	12	P		P	06 29 58.2	-0.9
CCB				IAmb	IAmb		06 29 59.3	
	comp=Z,7.1nm,0.5s							
MDM	Murphy Dome	89.13	12	P		P	06 29 59.4	-0.6
IL31		89.22	12	P		P	06 29 59.6	-0.8
ILAR	Eielson Array	89.22	12	P		P	06 30 00.0	-0.5
	comp=Z,1.7nm,0.7s,baz=222,slow=5.9,SNR=28							
K27K	Chicken	89.63	15	P		P	06 30 02.9	+0.6
DAWY	Dawson	90.31	16	IAmb	IAmb		06 30 07.0	
	comp=Z,4.3nm,0.8s							
EGAK	Eagle	90.48	15	IAmb	IAmb		06 30 07.5	
	comp=Z,4.0nm,0.8s							
ARCES	ARCESS Array B	130.16	350	PKP		PKPdf	06 36 13.0	+0.7
	comp=Z,0.7nm,0.6s,baz=59,slow=0.9,SNR=6.1							
AKASG	Malin Array Be	144.38	331	PKP		PKPbc	06 36 37.8	-0.4
	comp=Z,0.6nm,0.3s,baz=43,slow=4.2,SNR=4.7							
CLL	Collm	149.33	347	*i* PKPbc		PKPbc	06 36 53.1	+1.3
	comp=Z,4.0nm,0.8s							
CLL				*e*PKPab		PKPab	06 36 59.0	+1.3
GERES	GERESS Array B	151.49	345	PKPbc		PKPbc	06 36 58.4	+1.3
	comp=Z,0.3nm,0.2s,baz=53,slow=5.3,SNR=3.8							

IDC ***22*** *06:45:16.3±1.3,8°.25S×156°.22E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/29, mbtmp4.1/8, ML4.6/1, MS3.2/7, Ms1 3.3/7, ms1mx3.0/25, Error ellipse: s-maj=35.0km s-min=22.3km az=102.0*

ISC 22 06:45:19.6±0.9, 8°.3S±0°.2×156°.3E±0°.1, h21km, n19, σ1°12/9, mb4.2/8, MS3.2/6, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.80	108	Pn	Pn	06 46 16.7	-0.2
	41nm,0.3s,baz=239,slow=7.0,SNR=3.3						
HNR				LR	LR	06 47 45.3	
	comp=Z,238nm,20.7s,baz=86,slow=38						
WRA	Warramunga Arr	24.20	239	P	P	06 50 34.0	-0.9
	2.1nm,0.9s,baz=60,slow=9.2,SNR=18						
GUMO	Guam	24.51	332	LR	LR	06 58 46.1	
	comp=Z,17nm,21.9s,baz=160,slow=33						
SIJI	Sorong	25.99	285	LR	LR	07 01 22.9	
	comp=Z,40nm,19.2s,baz=332,slow=37						
ASAR	Alice Springs	26.33	232	P	P	06 50 53.8	-0.5
	0.6nm,0.8s,baz=66,slow=9.2,SNR=3.0						
STKA	Stephens Creek	27.16	208	P	P	06 51 02.7	+1.1
	3.1nm,0.7s,baz=30,slow=4.7,SNR=5.3						
H11S3	WAKE ISLAND Hy	28.52	21	T	T	07 19 43.4	
	baz=201,slow=75,SNR=31						
H11S2	WAKE ISLAND Hy	28.52	21	T	T	07 19 50.3	
	baz=201,slow=75,SNR=31						
H11S1	WAKE ISLAND Hy	28.54	21	T	T	07 19 44.7	
	baz=201,slow=75,SNR=15						
H11N1	WAKE ISLAND Hy	29.72	20	T	T	07 21 09.7	
	baz=212,slow=79,SNR=5.4						
H11N3	WAKE ISLAND Hy	29.73	21	T	T	07 21 11.4	
	baz=212,slow=79,SNR=7.1						
H11N2	WAKE ISLAND Hy	29.74	20	T	T	07 21 08.5	
	baz=212,slow=79,SNR=4.6						
KSRS	Korea Array	52.67	332	P	P	06 54 32.3	-0.1
	2.0nm,0.8s,baz=150,slow=8.3,SNR=9.6						
KSRS				LR	LR	07 13 38.6	
	comp=Z,23nm,21.9s,baz=120,slow=32						
USRK	Ussuriysk Ar.	56.68	339	P	P	06 55 01.7	+0.3
	2.4nm,0.9s,baz=141,slow=9.3,SNR=4.5						
USRK				LR	LR	07 17 21.2	
	comp=Z,39nm,20.5s,baz=309,slow=34						
PETK	Petropavlovsk-	61.16	1	LR	LR	07 17 43.7	
	comp=Z,24nm,22.0s,baz=149,slow=32						
SONM	Songino Array	71.11	327	P	P	06 56 37.3	+0.8
	1.4nm,0.7s,baz=141,slow=6.3,SNR=7.2						
MK31	Makanchi Array	85.21	318	Pn	P	06 57 55.2	+0.6
	3.1nm,0.9s,baz=105,slow=6.0,SNR=17						
MK31				⇑Lg	Lg	07 00 04.7	
	3.9nm,0.8s,baz=34,slow=30,SNR=5.4						
MKAR	Makanchi Array	85.21	318	P	P	06 57 52.6	-2.0
	2.6nm,0.9s,baz=108,slow=6.1,SNR=15						
NVAR	Mina Array Bea	91.52	52	LR	LR	07 32 11.6	
	comp=Z,67nm,20.8s,baz=138,slow=31						

SJA ***22*** *06:50:09.9±0.5, 22°.36S×66°.54W, h250km, ML4.2, MW4.1*
IDC ***22*** *06:50:13.9±0.9, 22°.74S×66°.35W, h216km±9km, mb3.8/7, mb1 4.0/15, mb1mx3.8/29, mbtmp4.4/15, Error ellipse: s-maj=15.1km s-min=12.2km az=14.0*
NEIC ***22*** *06:50:14.0±2.2, 22°.75S±0°.08×66°.37W±0°.04, h219km±9km, mb4.4/49, Md4.2(SJA), Error ellipse: s-maj=11.7km s-min=5.3km az=177.0*
VAO ***22*** *06:50:15.4±0.3, 22°.56S×66°.44W, h242km±3km, mb4.5*

ISC 22 06:50:13.3±0.4, 22°.77S±0°.04×66°.44W±0°.05, h222km, n192, σ1°48/187, mb4.4/31, 1C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	2.12	156	*i* P	Pn	06 50 58.5	+3.7
LVC	Limon Verde	2.29	274	P	Pn	06 50 58.9	+2.2
	32nm,0.3s,baz=91,slow=5.4,SNR=305						
LVC				S	S	06 51 32.1	+1.6
	26nm,0.3s,baz=348,slow=23,SNR=18						
LVC	Limon Verde	2.29	274	Pn	Pn	06 50 58.5	+1.7
LVC	Limon Verde	2.29	274	*e*P	Pn	06 50 59.1	+2.3
PB09	IPOC Station P	2.77	290		Pn	06 51 03.3	+1.6
PB15	IPOC Station P	2.83	261		Pn	06 51 04.1	+1.7
PB06	IPOC Station P	2.89	271		Pn	06 51 04.2	+1.2
PB01	IPOC Station P	3.31	301		Pn	06 51 09.4	+1.6
FSA	Cafayete	3.35	173	*i* P	Pn	06 51 11.6	+3.2
PB07	IPOC Station P	3.36	287		Pn	06 51 08.5	+0.1
PB04	IPOC Station P	3.46	277		Pn	06 51 10.8	+1.3
PB08	IPOC Station P	3.64	316		Pn	06 51 14.1	+2.1
GO02	Mina Guanaco	3.74	230	Pn	Pn	06 51 15.0	+2.0
PB10	IPOC Station P	3.86	258	Pn	Pn	06 51 15.4	+1.2
PB14	IPOC Station P	4.07	242	Pn	Pn	06 51 18.5	+1.4
TA01	Diego Aracena	4.11	302	Pn	Pn	06 51 18.6	+1.3
TA01					S	06 52 05.1	-2.5
PB11	IPOC Station P	4.24	314	Pn	Pn	06 51 19.4	+0.3
TA02	Huaiquique	4.24	305		Pn	06 51 19.9	+1.0
PSGCX	Pisagua	4.67	312	Pn	Pn	06 51 24.4	+0.1
MNMC	Minye Minye	4.67	320		Pn	06 51 25.2	+0.8
AC02	Maricunga	4.73	211	Pn	Pn	06 51 26.8	+1.5
CYA	Choya	5.67	174	*i* P	Pn	06 51 39.9	+3.1
CYA				⇓*i*S	S	06 52 46.1	+3.1
CYA				IAML		06 52 47.1	
	comp=Z,37nm,1.2s						
GO03	Copiap	5.90	215	Pn	Pn	06 51 39.6	-0.1
VCA	Vinchina	6.15	195	*i* P	Pn	06 51 45.5	+2.6
VCA				IAML		06 53 05.5	
	comp=Z,34nm,0.6s						
ACLC	CERRO LA CRUZ	6.64	184	*i* P	Pn	06 51 50.4	+1.2
ACLC				*i* S	S	06 53 04.8	-0.8
LPAZ	La Paz	6.64	346	P	Pn	06 51 51.0	+1.2
	comp=Z,3.1nm,0.3s,baz=152,slow=8.7,SNR=137						
LPAZ				S	S	06 53 06.8	+0.3
	comp=Z,0.8nm,0.3s,baz=326,slow=14,SNR=17						
LPAZ	La Paz	6.64	346	Pn	Pn	06 51 50.6	+0.8
LPAZ	La Paz	6.64	346	*e*P	Pn	06 51 49.4	-0.4
AC04	Llanos de Chal	6.84	217	Pn	Pn	06 51 50.8	-0.8
LCO	Las Campanas	7.30	211	Pn	Pn	06 51 57.2	-0.6
APLL	PUNTA DE LOS L	7.59	181	*i* P	Pn	06 52 01.4	+0.1
APLL				*i* S	S	06 53 24.5	-3.2
ACDV	Cuesta del Vie	7.75	197	*i* P	Pn	06 52 05.3	+1.9
ACDV				*e*S	S	06 53 31.8	+0.3
ACDV				IAML		06 53 35.4	
	comp=Z,21nm,1.3s						
AROD	Rodeo	7.85	200	*i* P	Pn	06 52 07.0	+2.2
ACHE	Chepes	8.36	181	*i* P	Pn	06 52 11.1	-0.1
ACHE				*i* S	S	06 53 40.4	-5.4
SIV	San Ignacio	8.43	38	P	Pn	06 52 11.3	-1.0
	comp=Z,6.9nm,0.3s,baz=227,slow=11,SNR=176						
ZON	Zonda	8.96	192	Pn	Pn	06 52 19.1	+0.2
CPUP	Villa Florida	9.02	115	P	Pn	06 52 20.1	+0.4
	comp=Z,0.3nm,0.3s,baz=306,slow=11,SNR=5.9						
CPUP	Villa Florida	9.02	115	Pn	Pn	06 52 20.6	+1.0
CPUP	Villa Florida	9.02	115	*e*P	P	06 52 24.4	-3.8
RTCV	Cerro Valdivia	9.24	191	*i* P	Pn	06 52 23.4	+0.8
RTCV				IAML		06 54 37.6	
	comp=Z,8.8nm,2.4s						
CO02	Combarbal	9.33	205	Pn	Pn	06 52 23.6	0.0
PTLB	Pontes e Lacer	10.03	45	*e*P	Pn	06 52 32.4	-0.3
AQDB	Aquidauana	10.25	79	Pn	Pn	06 52 34.9	-0.5
AQDB	Aquidauana	10.25	79	*e*P	Pn	06 52 36.1	+0.6
VA03	San Esteban	10.60	199		Pn	06 52 41.8	+1.9
ITQB	Itaqui	11.17	130	*e*P	P	06 52 50.6	-1.7
VILB	Vilhena	11.43	32	*e*P	Pn	06 52 50.4	-0.1
MT09	Talagante	11.67	199	Pn	Pn	06 52 54.3	+0.8
MT01	Popeta	11.83	200		Pn	06 52 55.7	+0.3
PP1B	Ponte de Pedra	12.01	67	*e*P	Pn	06 52 57.3	-0.5
SALV	Santo Antonio	12.23	58	*e*P	Pn	06 53 00.4	-0.2
BO01	Tunca	12.27	198	Pn	P	06 53 02.8	-1.6
TRCB	Terra Rica	12.74	93		P	06 53 08.1	-1.8
TRCB	Terra Rica	12.74	93	*e*P	P	06 53 08.5	-1.3
ETMB	Extrema	12.88	1	*e*P	Pn	06 53 08.1	-0.7
GO05	Huala	13.10	200	Pn	P	06 53 12.8	-0.9
ML02	Panimavida	13.65	197		Pn	06 53 18.4	+0.3
CPSB	Cacapava Do Su	13.89	126	*e*P	P	06 53 25.3	+2.8
SAML	Samuel	14.10	13	P	Pn	06 53 23.7	0.0
SAML	Samuel	14.10	13	*e*P	Pn	06 53 23.8	0.0
PCMB	Pacaembu	14.11	88	*e*P	P	06 53 24.1	-0.9
PLTB	Pedras Altas	14.50	131	*e*P	P	06 53 32.0	+2.8
NNA	Nana	14.61	316	P	P	06 53 32.0	+1.4
	comp=Z,0.9nm,0.3s,baz=164,slow=13,SNR=4.3						
ITRB	Iturama	15.30	81	*e*P	Pn	06 53 39.3	+0.9
ARAG	Araguaiana, MT	15.49	66	*e*P	Pn	06 53 41.1	+0.5
FRTB	Fartura	15.55	95	*e*P	Pn	06 53 42.2	+0.9
CLDB	Colider	15.60	42	*e*P	P	06 53 40.7	-0.9
TRQA	Tornquist	15.71	167	*e*P	Pn	06 53 44.5	+1.4
CZSB	Cruzeiro do Su	16.12	337	*e*P	P	06 53 46.2	-1.2
TIJ01	Guaruva-PR	16.13	103	*e*P	Pn	06 53 48.8	+0.4
TER01	Tubaro-SC	16.62	114	*e*P	Pn	06 53 54.6	+0.5
BB19B	Bebedouro	16.71	88	*e*P	Pn	06 53 55.3	+0.1
RCLB	Rio Claro- Sao	17.47	92	*e*P	Pn	06 54 03.1	-0.9
SPB	Sao Paulo	17.50	96	*e*P	Pn	06 54 03.7	-0.6
PET01	Itanhaem-SP	17.64	99	*e*P	Pn	06 54 05.0	-1.0
IPMB	Ipameri, GO	17.74	78	*e*P	Pn	06 54 05.9	-1.4
VAO	Valinhos	17.95	95	*e*P	P	06 54 08.0	+0.7
SNDB	Serra Nova Dou	17.99	56	*e*P	P	06 54 07.4	-0.3
PLCA	Paso Flores	18.24	190	P	Pn	06 54 12.2	-0.8
	comp=Z,0.1nm,0.3s,baz=12,slow=15,SNR=3.3						
PLCA	Paso Flores	18.24	190	*e*P	Pn	06 54 13.0	0.0
BDFB	Brasilia	18.78	71	P	P	06 54 17.2	+0.9
	comp=Z,2.8nm,0.3s,baz=248,slow=12,SNR=57						
BDFB	Brasilia	18.78	71	P	P	06 54 17.2	+0.9
NPGB	Novo Progresso	18.93	36	*e*P	P	06 54 16.1	-1.8
PARB	Paraibuna	19.17	96	*e*P	P	06 54 20.9	+0.5
ATAH	Atahualpa	19.34	322	P	Pn	06 54 25.2	-1.4
	comp=Z,0.4nm,0.3s,baz=95,slow=12,SNR=5.2						
BSCB	Bom Sucesso	20.18	89	*e*P	P	06 54 30.7	-0.7
ESAR	Angra dos Reis	20.27	95	*e*P	P	06 54 33.0	+0.9
PEXB	Peixe	20.27	61	*e*P	P	06 54 31.9	-0.4
MACA	Manacapuru-AM	20.28	17	*e*P	P	06 54 30.8	-1.5
ITTB	Itaituba	21.02	31	*e*P	P	06 54 38.5	-1.7
VAS01	Vassouras-RJ	21.25	93	*e*P	P	06 54 44.1	+1.6
DIAM	Diamantina, MG	21.77	82	*e*P	P	06 54 48.3	+0.4
MC01	Montes Claros	22.01	78	*e*P	P	06 54 49.4	-0.5
DUB01	Friburgo-RJ	22.25	93	*e*P	P	06 54 52.5	+0.3
JANB	Januaria	22.28	74	*e*P	P	06 54 52.0	-0.5
SMTB	Santa Maria do	22.77	56	*e*P	P	06 54 56.2	-0.7
SDBA	SAO DESIDERIO	22.94	67	*e*P	P	06 54 57.7	-0.7
CAM01	Campos-RJ	22.95	92	*e*P	P	06 54 59.0	+0.6
PRPB	Parauapebas	23.01	47	*e*P	P	06 54 57.3	-1.7
MALB	Monte Alegre	23.92	31	*e*P	P	06 55 05.7	-1.5
ALF01	Guarapari-ES	23.98	90	*e*P	P	06 55 08.5	+0.7
BSFB	Barra de Sao F	24.23	85	*e*P	P	06 55 09.9	-0.2
RIB01	Linhares ES	24.54	87	*e*P	P	06 55 12.5	-0.3
NAN01	Guarapari, ES	25.14	84	*e*P	P	06 55 17.9	-0.5
BOAV	Boa Vista	25.67	14	*e*P	P	06 55 21.8	-1.3
OTAV	Otavalo	25.69	331	*e*P	P	06 55 21.3	-2.4
GUA01	Guaratinga, BA	25.80	81	*e*P	P	06 55 24.2	-0.1
GUVC	San Jose del G	25.88	346	*e*P	P	06 55 23.5	-1.4
GCUF	Volcan Galeras	26.11	335	*e*P	P	06 55 32.0	+4.4
MCPB	Macapa, AP	26.31	34	*e*P	P	06 55 28.2	-0.6
GARC	Garzon, Huila	26.33	339	*e*P	P	06 55 29.8	+0.6
CMO01	Camacan, BA	26.46	79	*e*P	P	06 55 30.2	0.0
SOTA	Rioblanco	26.67	337	*e*P	P	06 55 33.0	+0.4
NBIT	Itapeh - BA	26.69	78	*e*P	P	06 55 31.8	-0.4
BBAC	Balboa, Cauca	26.80	335	*e*P	P	06 55 34.4	+1.0
TMAB	Tom-Au,PA,Br	26.98	44	*e*P	P	06 55 35.2	+0.4
GDU01	Guandu, BA	27.02	75	*e*P	P	06 55 34.1	-1.0
POPC	Popayan, Colom	27.07	337	*e*P	P	06 55 28.4	-7.4
NBPN	Ponto Novo - B	27.72	69	*e*P	P	06 55 40.4	-1.0
ORTC	Ortega, Tolima	27.88	341	*e*P	P	06 55 43.0	+0.3
YOTC	Yotoco, Valle	28.30	339	*e*P	P	06 55 50.5	+3.9
MALC	Bahia Malaga	28.67	337	*e*P	P	06 55 46.2	-3.5
PLMC	San Jos del P	29.14	340	*e*P	P	06 55 53.1	-0.9
RUSC	La Rusia	29.22	346	P	P	06 55 55.1	0.0
RUSC				IAmb	IAmb	06 56 03.5	
	comp=Z,10nm,1.1s						
RUSC	La Rusia	29.22	346	*e*P	P	06 55 54.9	-0.3
ELOV	Elorza	29.74	354	*e*P	P	06 55 58.6	-0.6
NBPS	Pedro II - PI	30.30	57	*e*P	P	06 56 03.3	-1.0
NBMA	Muriti-CE	30.71	64	*e*P	P	06 56 07.2	-0.6
NBPB	Pedra_Branca-C	31.07	61	*e*P	P	06 56 10.5	-0.4
ZARC	Zaragoza, Cauc	31.19	344	*e*P	P	06 56 09.7	-2.2
NBAN	Anadia - AL	31.68	71	*e*P	P	06 56 15.3	-1.0
NBMO	Morrinhos-CE	32.06	57	*e*P	P	06 56 18.6	-1.0
SMLC	San Martn de	32.26	346	*e*P	P	06 56 18.2	-3.0
NBLV	Livramento - P	32.26	66	*e*P	P	06 56 21.3	-0.1
NBCL	Cascavel-CE	32.88	60	*e*P	P	06 56 26.6	-0.2
NBPA	Parau_RN	32.97	64	*e*P	P	06 56 27.1	-0.4
NBRF	Rio Formoso -	33.14	70	*e*P	P	06 56 28.0	-1.0
RCBR	Riachuelo	33.93	65	*e*P	P	06 56 36.1	+0.2
NBPV	Pedro Velho	34.13	66	*e*P	P	06 56 37.5	0.0
URIC	Uribia, Colomb	34.69	350	*e*P	P	06 56 39.1	-3.1
MTO3	Montecristo	43.23	327	P	P	06 57 54.4	+1.2
CCIG	Comitan	46.25	325	P	P	06 58 17.2	+0.3
VNA2	Neumayer--Watz	58.70	161	P	P	06 59 45.7	-1.6
V55A	Taylorsville	59.96	346	P	P	06 59 57.5	+1.3
X48A	Hartselle	60.19	340	IAmb	IAmb	06 59 58.8	
	comp=Z,7.2nm,0.8s						
SNAA	Sanae	60.34	161	P	P	06 59 60.0	+1.5
SWET	Sewanee	60.56	342	IAmb	IAmb	07 00 01.3	
	comp=Z,8.7nm,0.7s						
PLAL	Pickwick Lake	61.00	340	IAmb	IAmb	07 00 03.7	
	comp=Z,7.4nm,1.0s						
V48A	Smith Brothers	61.31	341	IAmb	IAmb	07 00 05.8	
	comp=Z,6.3nm,0.8s						
WLAR	White Oak Lake	61.63	335	P	P	07 00 08.4	+0.9
JCT	Junction City	61.88	327	IAmb	IAmb	07 00 11.0	
	comp=Z,6.6nm,0.9s						
WVT	Waverly	61.98	340	P	P	07 00 09.5	-0.3
WVT				IAmb	IAmb	07 00 10.3	
	comp=Z,11nm,0.9s						
HPIG		62.30	320	IAmb	IAmb	07 00 14.7	
	comp=Z,4.7nm,0.6s						
T47A	Sharon Grove	62.55	341	IAmb	IAmb	07 00 14.2	
	comp=Z,9.1nm,0.9s						
MIAR	Mount Ida	62.56	335	P	P	07 00 13.6	-0.1
TX31	Lajitas Ar. Si	62.99	324	IAmb	IAmb	07 00 40.5	
	comp=Z,8.7nm,1.4s						
TXAR	Lajitas Array	62.99	324	P	P	07 00 17.7	+0.9
	comp=Z,1.0nm,0.7s,baz=152,slow=8.1,SNR=17						
PBMO	Poplar Bluff	63.41	339	IAmb	IAmb	07 00 20.2	
	comp=Z,8.9nm,0.8s						
CCM	Cathedral Cave	64.84	339	P	P	07 00 28.6	+0.1
R40A	Maddies Statio	65.40	338	IAmb	IAmb	07 00 32.5	
	comp=Z,4.3nm,0.8s						
MNTX	Cornudas Mount	65.75	324	P	P	07 00 34.1	-0.5
MSTX	Muleshoe	66.18	327	P	P	07 00 38.2	+0.9
MSTX				IAmb	IAmb	07 00 39.3	
	comp=Z,10nm,0.8s						
AMTX	Amarillo	66.38	329	P	P	07 00 39.2	+0.7
AMTX				IAmb	IAmb	07 00 40.6	
	comp=Z,7.4nm,1.0s						
LIC	Lamto	66.57	72	*e*P	P	07 00 41.0	+0.9
	comp=Z,20nm,0.8s						
TIC	Toumodi	66.77	72	*e*P	P	07 00 43.3	+1.9
KIC	Kosan Boka	66.89	72	*e*P	P	07 00 43.8	+1.7
	comp=Z,11nm,0.4s						
P38A	Dawn	67.03	338	P	P	07 00 41.9	-0.6
319A	Douglas	67.70	321	P	P	07 00 49.3	+2.4
319A				IAmb	IAmb	07 00 49.8	
	comp=Z,9.2nm,0.9s						
121A	Cookes Peak, D	67.71	323	P	P	07 00 48.5	+1.5
121A				IAmb	IAmb	07 00 50.3	
	comp=Z,9.7nm,1.1s						
ANMO	Albuquerque	68.82	325	P	P	07 00 55.8	+1.9
JFWS	Jewell Farm	68.94	341	IAmb	IAmb	07 00 55.2	
	comp=Z,7.2nm,0.6s						
TUC	Tucson	69.25	321	P	P	07 00 58.8	+2.3
SDCO	Great Sand Dun	70.52	328	P	P	07 01 05.2	+0.9
SDCO				IAmb	IAmb	07 01 07.1	
	comp=Z,8.4nm,1.3s						
MVCO	Mesa Verde	71.62	326	P	P	07 01 12.8	+1.9
MVCO				IAmb	IAmb	07 01 13.8	
	comp=Z,7.9nm,1.1s						
ECSD	EROS Data Cent	71.74	337	P	P	07 01 11.4	+0.2
ECSD				IAmb	IAmb	07 01 12.4	
	comp=Z,7.6nm,1.4s						
WUAZ	Wupatki	71.91	323	P	P	07 01 12.4	-0.2
WUAZ				IAmb	IAmb	07 01 16.0	
	comp=Z,5.8nm,0.9s						
F36A	Milaca	72.61	341	P	P	07 01 16.2	0.0
U15A	North Rim	73.09	323	P	P	07 01 22.6	+3.0
U15A				IAmb	IAmb	07 01 23.2	
	comp=Z,5.3nm,0.9s						
SHPR	Sheep Range	74.77	321	P	P	07 01 32.0	+2.7
TORD	Torodi Ar. Bea	75.65	69	P	P	07 01 34.0	-0.5
	comp=Z,6.8nm,0.4s,baz=257,slow=5.7,SNR=57						
TORD	Torodi Ar. Bea	75.65	69	P	P	07 01 32.6	-1.9
TORD				IAmb	IAmb	07 01 36.8	
	comp=Z,3.6nm,0.6s						
PDAR	Pinedale Array	76.36	329	P	P	07 01 39.5	+1.3
	comp=Z,0.7nm,0.6s,baz=128,slow=6.7,SNR=8.2						
ULM	Lac du Bonnet	77.23	341	P	P	07 01 43.0	+0.5
	comp=Z,2.7nm,0.5s,baz=186,slow=5.9,SNR=5.7						
ULM	Lac du Bonnet	77.23	341	IAmb	IAmb	07 01 43.3	
	comp=Z,3.4nm,0.7s						
NVAR	Mina Array Bea	77.91	321	P	P	07 01 48.9	+2.0
	comp=Z,2.2nm,0.9s,baz=148,slow=6.3,SNR=14						
ESDC	Sonseca Array	85.16	43	P	P	07 02 25.8	+1.3
	comp=Z,1.2nm,0.8s,baz=236,slow=4.6,SNR=6.7						
YKA	Yellowknife Ar	93.16	340	P	P	07 03 02.6	+1.0
	comp=Z,1.3nm,0.8s,baz=136,slow=5.3,SNR=5.5						
ASAR	Alice Springs	129.78	205	PKP	PKiKP	07 08 57.9	+0.2
	comp=Z,9.6nm,0.3s,baz=146,slow=2.3,SNR=8.0						
WRA	Warramunga Arr	132.95	207	PKP	PKiKP	07 09 04.3	+0

RUGZ			S	Sn	07 19 24.4	-1.6
PUZ	**Puketiti**	**2.91 185**	P	Pn	07 18 50.6	-0.5
PUZ			S	Sn	07 19 24.9	-1.5
TWGZ	**Tauwhareparae**	**3.04 189**	P	Pn	07 18 53.4	+0.6
TWGZ			S	Sn	07 19 31.1	+1.6
MWZ	**Matawai**	**3.27 195**	P	Pn	07 18 56.0	+0.1
MWZ			S	Sn	07 19 35.3	+0.5
URZ	**Urewera**	**3.31 201**	P	Pn	07 18 56.1	-0.2
URZ			S	Sn	07 19 37.2	+1.7
TKGZ	**Te Karaka**	**3.32 190**	P	Pn	07 18 55.8	-0.6
TKGZ			S	Sn	07 19 36.1	+0.3
CNGZ	**Carnagh Statio**	**3.32 185**	P	Pn	07 18 56.1	-0.3
MUGZ	**Murupara**	**3.61 203**	P	Pn	07 19 00.2	-0.1
MUGZ			S	Sn	07 19 42.3	-0.3
MTHZ	**Maungataniwha**	**3.94 200**	P	Pn	07 19 04.0	-0.5
MTHZ			S	Sn	07 19 50.8	+0.5
NMHZ	**Naumai**	**4.17 200**	P	Pn	07 19 06.2	-1.5
NMHZ			S	Sn	07 19 57.0	+1.0
BKZ	**Black Stump Fm**	**4.33 202**	P	Pn	07 19 08.5	-1.3
BKZ			S	Sn	07 19 58.2	-1.5
KWHZ	**Kaweka Forest**	**4.59 202**	P	Pn	07 19 10.7	-2.5
KWHZ			S	Sn	07 20 05.1	-0.8
OTVZ	**Oturere**	**4.62 210**	P	Pn	07 19 13.1	-0.6
FWVZ	**Far West T-bar**	**4.75 210**	P	Pn	07 19 14.8	-0.7
BHHZ	**Black Hill Sta**	**4.76 204**	P	Pn	07 19 13.6	-2.0
BHHZ			S	Sn	07 20 07.6	-2.4
WNVZ	**Wahianoa**	**4.79 209**	P	Pn	07 19 15.0	-1.0
WNVZ			S	Sn	07 20 14.0	+3.2
KRHZ	**Kereru**	**4.80 201**	P	Pn	07 19 13.2	-2.8
KRHZ			S	Sn	07 20 07.9	-3.1
KAHZ	**Kahuranaki**	**4.81 196**	P	Pn	07 19 12.7	-3.5
KAHZ			S	Sn	07 20 09.0	-2.2
PNHZ	**Pukenui**	**5.10 201**	P	Pn	07 19 16.7	-3.3
PNHZ			S	Sn	07 20 14.2	-3.9
TSZ	**Takapari Road**	**5.31 202**	P	Pn	07 19 19.5	-3.3
TSZ			S	Sn	07 20 19.6	-3.5
BFZ	**Birch Farm**	**5.81 198**	P	Pn	07 19 25.6	-3.8
BFZ			S	Sn	07 20 28.5	-6.5
MRZ	**Mangatainoka R**	**5.98 203**	P	Pn	07 19 27.3	-4.4
MRZ			S	Sn	07 20 31.7	-7.4
TIWZ	**Tintock**	**5.99 200**	P	Pn	07 19 28.1	-3.8
TIWZ			S	Sn	07 20 33.6	-5.9
HOWZ	**Holdsworth Sta**	**6.21 202**	P	Pn	07 19 30.1	-4.8
HOWZ			S	Sn	07 20 36.4	-8.4
OGWZ	**Otaki Gorge**	**6.25 205**	P	Pn	07 19 31.0	-4.4
OGWZ			S	Sn	07 20 40.1	-5.6
TMWZ	**Te Maipa**	**6.30 199**	P	Pn	07 19 31.1	-5.0
TMWZ			S	Sn	07 20 39.9	-6.9
KIW	**Kapiti Island**	**6.38 206**	P	Pn	07 19 33.4	-3.8
KIW			S	Sn	07 20 42.3	-6.6
MTW	**Mount Morrison**	**6.46 201**	P	Pn	07 19 33.2	-4.9
MTW			S	Sn	07 20 42.8	-7.8
CAW	**Cannon Point**	**6.55 204**	P	Pn	07 19 34.2	-5.1
CAW			S	Sn	07 20 45.0	-7.7
TUWZ	**Tuamarina**	**7.24 209**	P	Pn	07 19 44.2	-4.5
TUWZ			S	Sn	07 21 01.2	-8.2

*NOU **22** 07:24:02.6, 38.°66S×178.°74E, h0km, ML4.0, Off E. Coast of N. Island, N.Z.*

WEL 22 07:24:01.5±0.7, 38.°S±3.°×17.°9E±.°, h20km±5km, M3.6/54, ML3.9/54, MLv3.6/54, Error ellipse: s-maj=0.0km s-min=0.0km az=64.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.59 295**		P	Pg	07 24 13.5	+0.1
PUZ				S	Sg	07 24 22.7	+1.2
CNGZ	**Carnagh Statio**	**0.60 255**		P	Pn	07 24 14.9	+0.1
WMGZ	**Waiomatatini S**	**0.66 321**		P	Pg	07 24 14.6	+0.1
WMGZ				S	Sg	07 24 24.1	+0.8
TWGZ	**Tauwhareparae**	**0.77 281**		P	Pg	07 24 16.7	0.0
TWGZ				S	Sn	07 24 28.0	-0.4
PKGZ	**Pakihiroa**	**0.81 302**		P	Pb	07 24 17.0	+0.1
PKGZ				S	Sg	07 24 28.4	+0.2
TKGZ	**Te Karaka**	**0.86 262**		P	Pg	07 24 18.5	+0.1
TKGZ				S	Sn	07 24 30.9	+0.3
MXZ	**Matakaoa Point**	**0.91 327**		P	Pb	07 24 18.8	+0.1
MXZ				S	Sn	07 24 31.6	-0.2
RIGZ	**Rimuhau**	**1.00 247**		P	Pn	07 24 20.7	+0.2
RIGZ				S	Sg	07 24 34.7	+0.6
PRGZ	**Paritu Road**	**1.02 234**		P	Pn	07 24 21.0	+0.3
RUGZ	**Raukumara Rang**	**1.06 290**		P	Pb	07 24 20.6	-0.6
RUGZ				S	Sb	07 24 34.1	-0.5
HAZ	**Te Kaha**	**1.08 302**		P	Pb	07 24 20.7	-0.7
HAZ				S	Sb	07 24 34.4	-0.6
MWZ	**Matawai**	**1.11 269**		P	Pn	07 24 21.8	-0.2
MWZ				S	Sb	07 24 35.9	-0.2
MHGZ	**Mahia Peninsul**	**1.15 224**		P	Pb	07 24 23.0	+0.3
KNZ	**Kokohu**	**1.21 235**		P	Pn	07 24 23.2	-0.1
KNZ				S	Sn	07 24 39.3	+0.2
RAGZ	**Rawiri**	**1.21 262**		P	Pb	07 24 24.0	+0.2
RAGZ				S	Sn	07 24 39.7	+0.5
SNGZ	**Shannon Statio**	**1.33 250**		P	Pn	07 24 25.0	0.0
SNGZ				S	Sb	07 24 42.4	-0.1
URZ	**Urewera**	**1.44 272**		P	Pn	07 24 26.7	+0.3
URZ				S	Sn	07 24 45.1	+0.3
WHHZ	**Waihua**	**1.53 240**		P	Pb	07 24 28.7	-0.4
WHHZ				S	Sb	07 24 47.9	-0.3
RTZ	**Ruatahuna**	**1.56 259**		P	Pb	07 24 29.4	-0.4
RAHZ	**Arahi**	**1.57 247**		P	Pb	07 24 29.5	-0.3
MUGZ	**Murupara**	**1.71 264**		P	Pn	07 24 30.8	+0.6
MTHZ	**Maungataniwha**	**1.73 252**		P	Pn	07 24 30.9	+0.5
ARHZ	**Aropaoanui**	**1.78 238**		P	Pn	07 24 32.0	+0.8
NMHZ	**Naumai**	**1.84 245**		P	Pn	07 24 33.0	+1.0
NMHZ				S	Sn	07 24 54.5	-0.2
RRRZ	**Republican Roa**	**1.91 269**		P	Pn	07 24 33.7	+0.8
OPRZ	**Ohinepanea**	**1.94 284**		P	Pn	07 24 33.8	+0.5
MRHZ	**Matea Rd**	**2.04 255**		P	Pn	07 24 35.3	+0.5
ALRZ	**Allen Road**	**2.05 263**		P	Pn	07 24 35.6	+0.7
MCHZ	**McNeill Hill**	**2.08 237**		P	Pn	07 24 35.7	+0.5
BKZ	**Black Stump Fm**	**2.09 246**		P	Pn	07 24 35.7	+0.3
KAHZ	**Kahuranaki**	**2.17 227**		P	Pn	07 24 36.6	0.0
TGRZ	**Tauranga**	**2.20 285**		P	Pn	07 24 37.0	+0.1
KWHZ	**Kaweka Forest**	**2.25 240**		P	Pn	07 24 37.8	+0.1
PXZ	**Pawanui**	**2.35 223**		P	Pn	07 24 38.2	-0.9
KRHZ	**Kereru**	**2.40 236**		P	Pn	07 24 39.2	-0.4
BHHZ	**Black Hill Sta**	**2.53 242**		P	Pn	07 24 41.6	+0.1
WPHZ	**Waipukurau**	**2.60 227**		P	Pn	07 24 41.8	-0.7
PRHZ	**Porangahau**	**2.64 222**		P	Pn	07 24 41.8	-1.1
PNHZ	**Pukenui**	**2.66 233**		P	Pn	07 24 42.5	-0.7
NTVZ	**North Tongarir**	**2.67 252**		P	Pn	07 24 43.8	+0.4
TLZ	**Tolley Road**	**2.68 269**		P	Pn	07 24 44.9	+1.4
KRVZ	**Karewarewa**	**2.69 252**		P	Pn	07 24 43.9	+0.1
OTVZ	**Oturere**	**2.69 251**		P	Pn	07 24 44.2	+0.3
MOVZ	**Moawhango**	**2.71 246**		P	Pn	07 24 44.1	+0.1
SNVZ	**South Ngauruho**	**2.72 251**		P	Pn	07 24 44.4	+0.3
WTVZ	**West Tongariro**	**2.74 252**		P	Pn	07 24 44.6	+0.2
WHVZ	**Whangaehu Hut**	**2.79 249**		P	Pn	07 24 45.6	+0.4
WNVZ	**Wahianoa**	**2.79 248**		P	Pn	07 24 45.4	+0.2
FWVZ	**Far West T-bar**	**2.80 250**		P	Pn	07 24 45.9	+0.4
TRVZ	**Turoa**	**2.82 249**		P	Pn	07 24 46.0	+0.4
ANWZ	**Angora Road**	**2.86 221**		P	Pn	07 24 44.9	-1.1
TSZ	**Takapari Road**	**2.89 232**		P	Pn	07 24 45.4	-1.0
DWHZ	**Dannevirke**	**2.92 227**		P	Pn	07 24 45.6	-1.2
KUZ	**Kuaotunu**	**3.01 301**		P	Pn	07 24 47.0	-0.9
BFZ	**Birch Farm**	**3.14 221**		P	Pn	07 24 48.1	-1.8
PRWZ	**Pori Road**	**3.20 225**		P	Pn	07 24 49.5	-1.1
POWZ	**Post Office Ro**	**3.21 229**		P	Pn	07 24 49.8	-1.0
HIZ	**Hauiti**	**3.21 265**		P	Pn	07 24 52.0	+1.2
VRZ	**Vera Road**	**3.37 255**		P	Pn	07 24 53.7	+0.8
WAZ	**Wanganui**	**3.39 244**		P	Pn	07 24 54.1	+0.8
MRZ	**Mangatainoka R**	**3.49 227**		P	Pn	07 24 53.0	-1.7
MBAZ	**Motutapu North**	**3.57 295**		P	Pn	07 24 56.4	+0.7
TMWZ	**Te Maipa**	**3.64 219**		P	Pn	07 24 54.3	-2.4
HOWZ	**Holdsworth Sta**	**3.69 225**		P	Pn	07 24 55.5	-1.9
OGWZ	**Otaki Gorge**	**3.83 228**		P	Pn	07 24 57.4	-1.9
NEZ	**North Egmont**	**3.90 255**		P	Pn	07 25 01.9	+1.6
KHEZ	**Kahui Hut**	**3.97 254**		P	Pn	07 25 03.0	+1.7
PKE	**Pukeiti**	**3.97 256**		P	Pn	07 25 02.5	+1.2
KIW	**Kapiti Island**	**4.01 230**		P	Pn	07 24 59.8	-2.0
WCZ	**Waipu Caves**	**4.38 302**		P	Pn	07 25 06.9	+0.1
CTZ	**Chatham Island**	**6.36 150**		P	Pn	07 25 36.0	+2.0
GVZ	**Greta Valley S**	**6.45 222**		P	Pn	07 25 33.2	-2.2

WEL 22 07:35:12.8±1.2, 34.°S±15.°×17.°9W±2.°5, h33km, M4.3/13, mB4.8/2, ML4.4/13, MLv4.3/13, Mw(mB)4.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=119.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.07 206**		P	Pn	07 36 10.6	-2.1
WMGZ	**Waiomatatini S**	**4.26 204**		P	Pn	07 36 12.0	-3.3
HAZ	**Te Kaha**	**4.44 210**		P	Pn	07 36 16.9	-0.9
HAZ				S	Sn	07 37 11.6	+3.4
PKGZ	**Pakihiroa**	**4.44 206**		P	Pn	07 36 19.1	+1.2
PUZ	**Puketiti**	**4.54 204**		P	Pn	07 36 20.1	+0.9
RUGZ	**Raukumara Rang**	**4.66 209**		P	Pn	07 36 21.2	+0.2
RUGZ				S	Sn	07 37 14.7	+0.7
TWGZ	**Tauwhareparae**	**4.73 206**		P	Pn	07 36 24.0	+2.2
CNGZ	**Carnagh Statio**	**4.93 202**		P	Pn	07 36 24.8	+0.2
TKGZ	**Te Karaka**	**5.01 205**		P	Pn	07 36 25.6	0.0
TKGZ				S	Sn	07 37 21.6	-0.7
MWZ	**Matawai**	**5.04 208**		P	Pn	07 36 27.1	+1.0
MWZ				S	Sn	07 37 25.1	+2.0
URZ	**Urewera**	**5.15 212**		P	Pn	07 36 26.5	-1.0
URZ				S	Sn	07 37 22.3	-3.5
TGRZ	**Tauranga**	**5.16 221**		P	Pn	07 36 28.0	+0.3
MUGZ	**Murupara**	**5.48 213**		P	Pn	07 36 33.4	+1.3
MUGZ				S	Sn	07 37 34.0	0.0
TOZ	**Tahuroa Road**	**5.60 226**		P	Pn	07 36 34.2	+0.5
RAHZ	**Arahi**	**5.71 208**		P	Pn	07 36 34.9	-0.4
RAHZ				S	Sn	07 37 43.3	+3.6

*TEH **22** 07:49:33.1, 28.°87N×58.°67E, h14km, ML3.4*
*THR **22** 07:49:33.4±0.8, 28.°92N×58.°76E, h14km±7km, ML3.5*
*OMAN **22** 07:49:36.3±4.7, 28.°61N×59.°20E, h20km, mb5.1/2, ml3.4/4, Error ellipse: s-maj=52.9km s-min=14.5km az=18.0*

ISC 22 07:49:34.8±1.0, 28.°89N±0.°04×58.°73E±0.°04, h15km, n36, σ1§58/43, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**0.34 315**		*e*Pg	**Pg**	**07 49 40.6**	**-1.3**
KBAM				*e*Sg	**Sg**	**07 49 45.3**	**-1.5**
KHNJ	**Kahnooj**	**1.30 224**		*e*Pg	**Pn**	**07 49 55.6**	**-2.9**
CHMN	**Cheshme madani**	**1.42 313**		*e*Pg	**Pn**	**07 49 59.6**	**-0.8**
CHMN				*e*		07 50 21.7	
comp=Z,7μm,0.2s							
ZHDN	**Zahedan**	**1.89 74**		*e*Pn	**Pn**	**07 50 07.0**	**+0.3**
NGRK	**Negar Kerman**	**1.90 294**		*e*		07 50 40.2	
comp=Z,3μm,0.3s							
NGRK				*e*Pg	**Pn**	**07 50 07.7**	**+0.7**
ZHSF	**Zahedan**	**1.93 68**		*e*Pn	**Pn**	**07 50 07.3**	**+0.1**
ZHSF				*e*Sg	**Sb**	**07 50 33.3**	**-0.4**
ZHSF	**Zahedan**	**1.93 68**		*e*Pn	**Pn**	**07 50 07.3**	**+0.1**
KRBR	**Kerman**	**2.03 303**		*e*Pn	**Pn**	**07 50 10.1**	**+1.3**
KRBR				*e*Sg	**Sb**	**07 50 37.9**	**+1.1**
KRBR				IAML		07 50 42.4	
comp=E,279nm,0.2s							
KRBR	**Kerman**	**2.03 303**		*e*Pn	**Pn**	**07 50 10.1**	**+1.3**
TVBK	**TV Kerman**	**2.03 303**		*e*		07 50 40.2	
comp=Z,6μm,0.2s							
TVBK				*e*Pn	**Pn**	**07 50 09.4**	**+0.6**
KHGB	**Koh Gabri**	**2.45 308**		*e*Pn	**Pn**	**07 50 15.6**	**+1.1**
KHGB				*e*		07 50 52.6	
comp=Z,1μm,0.2s							
GENO	**Geno**	**2.70 237**		*e*Pn	**Pn**	**07 50 18.0**	**+0.1**
GENO				*e*		07 51 12.3	
comp=Z,1μm,0.5s							
BNDS	**Bandar-Abbas**	**2.70 237**		*e*Pn	**Pn**	**07 50 18.9**	**+1.0**
BNDS	**Bandar-Abbas**	**2.70 237**		*e*Pn	**Pn**	**07 50 18.9**	**+1.0**
NHDN	**Nehbandan**	**2.74 24**		*e*Pn	**Pn**	**07 50 19.3**	**+0.9**
BSRN	**Basiran**	**3.08 6**		*e*Pn	**Pn**	**07 50 23.0**	**-0.1**
BSRN	**Basiran**	**3.08 6**		*e*Pn	**Pn**	**07 50 23.0**	**-0.1**
IKOO	**Kooshah**	**3.53 4**		*e*Pn	**Pn**	**07 50 29.3**	**0.0**
SRVN	**Saravan**	**3.56 114**		*e*Pn	**Pn**	**07 50 32.0**	**+2.2**
SHME	**Shamm**	**3.65 220**		P	**Pn**	**07 50 32.0**	**+1.3**
SHME				S	**Sn**	**07 51 14.3**	**+0.8**
BANOM	**Banah** SNR=13	**3.66 217**		P	**Pn**	**07 50 31.4**	**+0.4**
BANOM				S	**Sn**	**07 51 14.9**	**+0.9**
ITEG	**Tejag**	**3.99 0**		*e*Pn	**Pn**	**07 50 35.9**	**+0.2**
MASF	**Masafi**	**4.19 214**		P	**Pn**	**07 50 38.7**	**+0.5**
IMON	**Monand**	**4.36 10**		*e*Pn	**Pn**	**07 50 41.9**	**+1.1**
TPRV	**Parvadeh(Tabas**	**4.48 337**		*e*Pn	**Pn**	**07 50 42.6**	**+0.3**
UOSS	**Minazif**	**4.53 210**		P	**Pn**	**07 50 43.9**	**+1.0**
UOSS				S	**Sn**	**07 51 33.4**	**-1.9**
ASHO	**Ashiyiah**	**4.82 210**		P	**Pn**	**07 50 49.1**	**+2.1**
ASHO				S	**Sn**	**07 51 48.1**	**+5.5**
TKDS	**Koohdasht(Taba**	**4.90 344**		*e*Pn	**Pn**	**07 50 48.2**	**+0.1**
TABS	**Tabas**	**4.94 344**		*e*Pn	**Pn**	**07 50 49.2**	**+0.6**
TABS	**Tabas**	**4.94 344**		*e*Pn	**Pn**	**07 50 49.2**	**+0.6**
WSAR	**Wadi Sarin** SNR=6.7	**5.63 181**		P	**Pn**	**07 50 56.0**	**-2.0**
SMDO	**Samad**	**5.84 186**		P	**Pn**	**07 50 59.6**	**-1.4**
ARQ	**Araqi** SNR=11	**5.88 200**		P	**Pn**	**07 51 01.3**	**-0.2**
WBK	**Wadi Bani Khal** SNR=15	**6.26 178**		P	**Pn**	**07 51 03.9**	**-2.8**
BSY	**Bisya**	**6.28 193**		P	**Pn**	**07 51 06.3**	**-0.6**
JLN	**Jalan Bani Buh**	**6.74 175**		P	**Pn**	**07 51 09.7**	**-3.6**

*JMA **22** 08:13:35.9±0.2, 39.°84N×143.°46E, h22km±4km, M4.5*
*NIED **22** 08:13:35.9, 39.°84N×143.°46E, h22km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.96; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-1.95; $M_{r\theta}$1.53; $M_{\theta\phi}$-0.87; $M_{\phi r}$2.51; Fault plane solution: $M_0$3.63000×10^{15} NP1:ϕ_s30.00000°, δ72.00000°, λ96.00000°. NP2:ϕ_s190.00000°, δ19.00000°, λ71.00000°.*
*MOS **22** 08:13:35.2±1.1, 39.°79N×143.°47E, h17km, mb4.7/23 Error ellipse: s-maj=8.0km s-min=5.4km az=96.0*
*IDC **22** 08:13:35.1±0.7, 39.°77N×143.°28E, h0km, mb4.2/19, mb1 4.3/23, mb1mx4.2/43, mbtmp4.2/23, ML3.5/4, MS3.6/17, Ms1 3.7/17, ms1mx3.4/37, Error ellipse: s-maj=18.4km s-min=15.0km az=98.0*
*NEIC **22** 08:13:40.2±2.2, 39.°78N±0.°06×143.°15E±0.°07, h27km±4km, mb4.5/21, Error ellipse: s-maj=10.2km s-min=5.5km az=140.0*

ISC 22 08:13:35.8±0.5, 39.°86N±0.°05×143.°37E±0.°05, h6km, n139, σ1§92/149, mb4.5/48, MS4.0/19, 10C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.16 274**		P	**Pg**	**08 13 57.9**	**-0.2**
JTH				*e*S	**Sb**	**08 14 14.2**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.23 257**		P	**Pg**	**08 13 58.9**	**-0.5**
JKEN	**Kujiedanarisaw**	**1.32 286**		P	**Pn**	**08 14 00.1**	**-0.7**
JANG	**Nango**	**1.51 290**		P	**Pn**	**08 14 03.1**	**-0.3**
JOM	**Ohasama**	**1.65 257**		P	**Pn**	**08 14 05.6**	**+0.3**
JOM				*e*S	**Sn**	**08 14 27.0**	**+0.2**
JMK	**Ichinoseki**	**1.90 242**		P	**Pn**	**08 14 08.2**	**-0.5**
JTM	**Tenmabayashi**	**1.99 299**		P	**Pn**	**08 14 10.9**	**+0.9**
JTM	**Tenmabayashi**	**1.99 299**		Pn	**Pn**	**08 14 11.0**	**+1.1**
ERM	**Erimo**	**2.16 356**		*ce*P	**Pn**	**08 14 14.0**	**+1.7**
ERM				*i* S	**Sb**	**08 14 42.0**	**-0.3**
ERM				pmax	pmax		
comp=Z,33nm,1.0s							
ERM	**Erimo**	**2.16 356**			**Pb**	**08 14 14.3**	**-1.0**
JOT	**Ohata**	**2.33 311**		P	**Pn**	**08 14 15.4**	**+0.7**
JYK	**Kaneyama**	**2.52 249**		P	**Pn**	**08 14 17.5**	**+0.3**
JCH	**Churui**	**2.75 360**		P	**Pn**	**08 14 21.6**	**+1.1**
JCH				*e*S	**Sn**	**08 14 53.8**	**-0.2**
JMM	**Marumori**	**2.83 226**		Pn	**Pn**	**08 14 21.6**	**+0.1**
JEW	**Eniwo**	**3.31 335**			**Pn**	**08 14 30.7**	**+2.6**
NMR	**Nemuro--Hokkai**	**3.93 26**		*e*P	**Pn**	**08 14 36.1**	**-0.5**
NMR				*e*S	**Sn**	**08 15 19.9**	**-3.1**
JKA	**Kamikawa-asahi**	**4.29 353**		Pn	**Pn**	**08 14 43.1**	**+1.4**
ASAJ	**Asahikawa**	**4.29 353**		Pn	**Pn**	**08 14 43.5**	**+1.9**
comp=Z,2.7nm,0.3s,baz=198,slow=16,SNR=32							
JSD	**Sado**	**4.38 247**		Pn	**Pn**	**08 14 42.9**	**+0.1**
JYT	**Yasato**	**4.41 216**		Pn	**Pn**	**08 14 42.7**	**-0.5**
RUSJ	**Misakicho**	**4.47 18**		*e*P	**Pn**	**08 14 45.2**	**+1.2**
RUSJ				*e*S	**Sn**	**08 15 36.2**	**-0.1**
GRPR	**Tuman**	**4.50 23**		*e*P	**Pn**	**08 14 45.0**	**+0.5**
GRPR				*e*S	**Sn**	**08 15 34.4**	**-2.7**
GRPR				pmax	pmax		
comp=Z,280nm,0.4s							
GRPR				pmax	pmax		
comp=N,276nm,0.1s							
GRPR				pmax	pmax		
comp=E,176nm,0.1s							
GRPR				smax	smax		
comp=E,309nm,0.5s							
GRPR				smax	smax		
comp=N,759nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**4.57 23**		*e*P	**Pn**	**08 14 46.4**	**+1.0**
YUK				*e*S	**Sn**	**08 15 36.6**	**-2.1**
YUK				pmax	pmax		
comp=Z,154nm,0.2s							
YUK				smax	smax		
comp=E,705nm,0.6s							
YUK				smax	smax		
comp=N,774nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**5.22 232**		*e*P	**Pn**	**08 14 55.8**	**+1.4**
MJAR	**Matsushiro Arr**	**5.24 232**		Pn	**Pn**	**08 14 55.1**	**+0.4**
comp=N,0.7nm,0.3s,baz=42,slow=12,SNR=34							
MJAR				LR	LR	08 17 08.2	
comp=N,500nm,19.4s,baz=40,slow=42							
MJB9	**Matsu-Tunnel**	**5.24 233**			**Pn**	**08 14 54.9**	**+0.2**
MAJO	**Matsushiro**	**5.24 232**		P	**Pn**	**08 14 55.5**	**+0.8**
MAJO	**Matsushiro**	**5.24 232**		Pn	**Pn**	**08 14 55.5**	**+0.8**
MAT	**Matsushiro**	**5.24 232**		P	**Pn**	**08 14 55.4**	**+0.7**
MAT				*e*S	**Sn**	**08 15 57.8**	**+2.3**
KUR	**Kuril'sk**	**6.31 30**		*e*P	**Pn**	**08 15 10.4**	**+1.1**
KUR				*e*S	**Sn**	**08 16 19.6**	**-2.1**
KUR				pmax	pmax		
comp=Z,105nm,0.4s							
KUR				smax	smax		
comp=N,194nm,0.6s							
KUR				smax	smax		
comp=E,199nm,0.6s							
JGF	**Kuroka**	**6.38 230**			**Pn**	**08 15 09.8**	**-0.6**
INU	**Inuyama**	**6.76 230**		Pn	**Pn**	**08 15 15.4**	**-0.1**
YSS	**Yuzh-Sakhalins**	**7.11 357**		*e*P	**Pn**	**08 15 22.9**	**+2.7**
YSS				*e*S	**Sn**	**08 16 45.1**	**+3.8**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS				smax	smax		
comp=E,20nm,0.8s							
YSS				MLR	MLR		
comp=Z,600nm,13.0s							
YSS				MLR	MLR		
comp=N,400nm,12.0s							
JHJ	**Hachijo jima 2**	**7.32 204**		Pn	**Pn**	**08 15 20.4**	**-2.8**
comp=N,5.2nm,0.3s,baz=211,slow=22,SNR=1.4							
JWT	**Wachi**	**7.80 237**		Pn	**Pn**	**08 15 29.8**	**-0.1**
JHS	**Saijyo**	**9.49 242**		Pn	**Pn**	**08 15 53.7**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.51 301**		P	**Pn**	**08 15 55.3**	**+2.0**
USA0B	**Ussuriysk Arra**	**9.51 301**			**Pn**	**08 15 55.3**	**+2.0**
USRK	**Ussuriysk Ar.**	**9.51 301**		Pn	**Pn**	**08 15 56.0**	**+2.7**
baz=98,slow=14,SNR=27							
USRK				LR	LR	08 19 36.7	
comp=N,465nm,18.2s,baz=84,slow=38							
USRK	**Ussuriysk Ar.**	**9.51 301**		P	**Pn**	**08 15 55.5**	**+2.2**
USRK	**Ussuriysk Ar.**	**9.51 301**		Pn	**Pn**	**08 15 55.5**	**+2.2**
MSHR	**Mys Shultsa**	**9.60 290**		*ce*P	**Pn**	**08 15 58.0**	**+3.6**
MSHR				pmax	pmax		
comp=Z,9.0nm,0.8s							
MDJ	**Mudanjiang**	**11.26 299**			**Pn**	**08 16 17.3**	**+0.1**
KSRS	**Korea Array**	**12.31 264**		Pn	**Pn**	**08 16 34.1**	**+2.5**
comp=Z,0.3nm,0.3s,baz=82,slow=13,SNR=19							
KSRS				LR	LR	08 20 59.0	
comp=Z,380nm,18.4s,baz=78,slow=36							
KSRS	**Korea Array**	**12.31 264**		*e*P	**Pn**	**08 16 36.1**	**+4.5**
KLR	**Kul'dur**	**12.50 322**		Pn	**Pn**	**08 16 35.6**	**+1.6**
comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=9.2							
KLR				LR	LR	08 21 37.3	
comp=Z,338nm,20.6s,baz=132,slow=38							
TJN	**Taejon**	**13.07 260**		⇑*i*P	**Pn**	**08 16 44.1**	**+2.1**
PETK	**Petropavlovsk-**	**16.48 32**		LR	LR	08 25 01.7	
comp=Z,109nm,18.1s,baz=212,slow=41							
ZEA	**Zeya**	**17.67 327**		*e*P	**Pn**	**08 17 41.0**	**-1.4**
ZEA				pmax	pmax		
comp=Z,20nm,0.8s							
ZEA				MLR	MLR		
comp=E,100nm,13.0s							
ZEA				MLR	MLR		
comp=N,300nm,12.0s							
ZEA				MLR	MLR		
comp=Z,200nm,15.0s							
MA2	**Magadan**	**20.28 11**		P	**P**	**08 18 12.7**	**+0.8**
comp=Z,14nm,0.7s,baz=174,slow=10,SNR=7.8	

comp=Z,0.9nm,0.4s,baz=76,slow=6.1,SNR=2.0
ZALV LR LR 08 39 15.1
comp=Z,96nm,20.2s,baz=110,slow=37
CMAR Chiang Mai Arr 43.73 254 P **P** **08 21 41.9 -0.1**
comp=Z,0.6nm,0.3s,baz=60,slow=5.3,SNR=1.4
CMAR LR LR 08 41 17.2
comp=Z,38nm,18.6s,baz=42,slow=38
MK31 Makanchi Array 43.98 300 P **P** **08 21 42.8 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 43.98 300 P **P** **08 21 42.8 -0.9**
MKAR Makanchi Array 43.98 300 P **P** **08 21 43.4 -0.4**
comp=Z,4.0nm,0.8s,baz=86,slow=8.7,SNR=26
MKAR LR LR 08 41 09.0
comp=Z,176nm,18.1s,baz=70,slow=38
MAKZ Makanchi 44.19 300 P **P** **08 21 44.6 -0.8**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 44.19 300 P **P** **08 21 44.6 -0.8**
MAKZ IAmb IAmb 08 21 46.7
comp=Z,7.2nm,1.0s
KURK Kurchatov 45.45 306 P **P** **08 21 56.1 +0.7**
KURK Kurchatov 45.45 306 P **P** **08 21 56.1 +0.7**
RND Reindeer 45.49 36 P **P** **08 21 59.8 +4.2**
RND pmax pmax
comp=Z,5.0nm,1.2s
RND Reindeer 45.49 36 P **P** **08 21 59.8 +4.2**
RND IAmb IAmb 08 22 08.6
comp=Z,5.3nm,1.2s
KURBB Kurchatov Arra 45.53 306 P **P** **08 21 56.1 +0.1**
comp=Z,6.9nm,0.8s,baz=80,slow=8.2,SNR=38
COLA College 45.88 34⇓ *eP* **P** **08 21 57.6 -0.9**
COLA pmax pmax
comp=Z,1.0nm,0.4s
ILAR Eielson Array 46.29 34 P **P** **08 22 02.1 +0.3**
comp=Z,1.0nm,0.7s,baz=263,slow=6.7,SNR=12
ILAR LR LR 08 43 14.3
comp=Z,28nm,19.4s,baz=240,slow=38
BCAR Beaver Creek A 48.70 36 P **P** **08 22 23.8 +3.1**
BVAR Borovoye Array 49.85 311 P **P** **08 22 29.0 -0.5**
comp=Z,0.7nm,0.3s,baz=32,slow=47,SNR=5.8
BVAR Borovoye Array 49.85 311 P **P** **08 22 29.0 -0.5**
AAK Ala-Archa 50.54 297⇑ *iP* **P** **08 22 35.4 +0.3**
AAK pmax pmax
comp=Z,16nm,1.4s
HYT Haines Junctio 51.12 38 IAmb IAmb 08 22 53.2
comp=Z,6.5nm,0.8s
KKAR Karatay Array 53.07 299 P **P** **08 22 53.1 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 53.07 299 P **P** **08 22 53.2 -0.6**
KKAR Karatay Array 53.07 299 P **P** **08 22 53.1 -0.7**
ARU Arti 55.29 318 P **P** **08 23 10.2 +0.5**
comp=Z,1.9nm,0.2s,baz=30,slow=7.7,SNR=8.1
ARU Arti 55.29 318*c iP* **P** **08 23 10.5 +0.8**
ARU S **S** **08 30 56.6 +2.9**
ARU SS **SS** **08 34 33.9 -3.4**
ARU pmax pmax
comp=Z,11nm,1.1s
ARU MLR MLR
comp=Z,253nm,16.0s
ABKAR Akbulak array 57.32 309 P **P** **08 23 23.5 -0.8**
ABKAR IAmb IAmb 08 23 34.1
comp=Z,3.8nm,0.8s
KBL Kabul 57.86 290 P **P** **08 23 27.8 -0.9**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 57.86 290 P **P** **08 23 27.8 -0.9**
WRA Warramunga Arr 60.08 190 P **P** **08 23 42.5 -1.2**
comp=Z,1.3nm,0.7s,baz=6.7,slow=6.8,SNR=15
WRA Warramunga Arr 60.08 190 *i P* **P** **08 23 41.7 -2.1**
WRA pmax pmax
comp=Z,1.0nm,0.7s
LVZ Lovozero 60.17 336 *eP* **P** **08 23 44.5 +0.6**
LVZ pmax pmax
comp=Z,27nm,1.9s
ARCES ARCESS Array B 61.90 339 LR LR 08 53 31.8
comp=Z,64nm,21.3s,baz=55,slow=39
KLMR Klimovskoe 62.20 327 P **P** **08 23 53.2 -4.5**
KLMR pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 62.20 327 P **P** **08 23 53.2 -4.5**
KLMR AMP 08 23 58.1
comp=Z,6.0nm,1.0s
ASAR Alice Springs 63.81 190 P **P** **08 24 08.9 +0.1**
comp=Z,0.6nm,0.6s,baz=12,slow=5.5,SNR=7.5
GEYT Alibeck 63.83 299 P **P** **08 24 09.2 +0.2**
comp=Z,7.2nm,0.8s,baz=264,slow=14,SNR=3.5
FINES FINESS Array B 67.03 332 P **P** **08 24 29.5 +0.3**
comp=Z,2.6nm,0.8s,baz=134,slow=5.5,SNR=5.6
FINES LR LR 08 56 41.6
comp=Z,128nm,18.0s,baz=29,slow=39
FINES FINESS Array B 67.03 332 *eP* **P** **08 24 30.1 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.8s
SUMG Summit 67.86 1 *i P* **P** **08 24 36.0 +1.2**
SUMG IAmb IAmb 08 24 36.6
comp=Z,5.7nm,0.9s
SUMG Summit 67.86 1 *i P* **P** **08 24 36.0 +1.2**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
BEKR Beckworth 69.95 55 P **P** **08 24 50.9 +2.8**
BEKR IAmb IAmb 08 25 00.3
comp=Z,5.4nm,0.9s
KIV Kislovodsk 70.22 311 *eP* **P** **08 24 50.7 +1.1**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,85nm,18.0s
KBZ Khabaz 70.23 311 P **P** **08 24 50.8 +1.3**
comp=Z,3.8nm,0.9s,baz=322,slow=1.0,SNR=8.7
MNK Minsk 71.01 326 *i P* **P** **08 24 50.8 -3.3**
MNK *i* 08 27 28.2
MNK *i* S **S** **08 34 03.7 -6.6**
MNK *i* SS **SS** **08 38 41.9 -0.4**
MNK pmax pmax
comp=N,1.0nm,0.3s
MNK pmax pmax
comp=Z,1.0nm,0.3s
MNK pmax pmax
comp=E,1.0nm,0.5s
MNK MLR MLR
comp=N,691nm,20.0s
MNK MLR MLR
comp=Z,108nm,20.0s
MNK MLR MLR
comp=E,33nm,23.0s
MNK Minsk 71.01 326 *i* P **P** **08 24 50.8 -3.3**
comp=E,1.0nm,0.5s
MNK *i P* **P** **08 24 50.8 -3.3**
comp=N,1.0nm,0.3s
MNK *i P* **P** **08 24 50.8 -3.3**
comp=Z,1.0nm,0.2s,baz=47
MNK *i* PP **PP** **08 27 28.2 -2.6**
MNK *i* PPP PPP 08 28 54.6
MNK *i* S **S** **08 34 03.8 -6.6**
MNK *i* SS **SS** **08 38 41.9 -0.3**
MNK *i* SSS SSS 08 42 01.0
MNK *i* LQ LQ 08 50 15.6
MNK *i* LR LR 08 55 48.9
MNK *i* LRM MLR 08 58 13.9
comp=N,691nm,20.4s
MNK *i* LRM MLR 08 58 21.6
comp=Z,108nm,20.4s
MNK *i* LRM MLR 08 58 31.7
comp=E,33nm,22.9s
KVN Kaiserville 71.84 54 P **P** **08 25 02.8 +3.1**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 71.84 54 P **P** **08 25 02.8 +3.1**
KVN IAmb IAmb 08 25 12.3
comp=Z,7.0nm,1.1s
LHV Little Huntoon 72.07 55 P **P** **08 25 02.5 +1.8**
NVAR Mina Array Bea 72.08 55 P **P** **08 25 03.9 +2.8**
comp=Z,1.4nm,1.0s,baz=290,slow=8.4,SNR=6.0
NVAR Mina Array Bea 72.08 55 P **P** **08 25 03.4 +2.2**
NB2 NORSAR Subarra 72.17 338 P **P** **08 25 01.2 +0.2**
comp=Z,1.3nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 72.17 338 P **P** **08 25 01.6 +0.5**
comp=Z,2.6nm,0.8s,baz=38,slow=6.0,SNR=9.9
NOA LR LR 09 02 31.0
comp=Z,52nm,18.0s,baz=40,slow=41
TPNV Topopah Spring 74.28 55 P **P** **08 25 16.7 +2.6**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 74.28 55 P **P** **08 25 16.7 +2.6**
TPNV IAmb IAmb 08 25 26.6
comp=Z,7.1nm,1.0s
PDAR Pinedale Array 74.60 47 P **P** **08 25 16.8 +0.8**
comp=Z,0.3nm,0.6s,baz=354,slow=1.5,SNR=3.9
SHPR Sheep Range 75.24 55 P **P** **08 25 23.5 +3.8**
SHPR IAmb IAmb 08 25 32.0
comp=Z,4.4nm,1.0s
LCMT Little Creek M 76.11 53 P **P** **08 25 27.5 +2.9**
LCMT IAmb IAmb 08 25 37.0
comp=Z,4.5nm,0.9s
PFO Pinyon Flats O 76.21 58 *eP* **P** **08 25 24.2 -1.0**
BRTR Keskin Array B 78.12 312 P **P** **08 25 35.7 -0.2**
comp=Z,0.4nm,0.4s,baz=354,slow=2.5,SNR=4.1
BRTR LR LR 09 05 25.6
comp=Z,55nm,19.1s,baz=36,slow=40
BRTR Keskin Array B 78.12 312 *eP* **P** **08 25 37.4 +1.5**
CLL Collm 79.40 331 *i P* **P** **08 25 43.0 +0.5**
comp=Z,6.0nm,1.1s
KHC Kasperske Hory 80.92 329 *eP* **P** **08 25 49.9 -0.9**
KHC Kasperske Hory 80.92 329 *eP* **P** **08 25 49.9 -0.9**
KHC *ex* x 08 26 09.8
GERES GERESS Array B 81.10 329 P **P** **08 25 52.1 +0.3**
comp=Z,0.5nm,0.5s,baz=26,slow=4.7,SNR=4.6
ESDC Sonseca Array 95.41 335 LR LR 09 15 37.7
comp=Z,48nm,20.1s,baz=125,slow=39

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*TRN **22** 08:15:03.8, 13.°84N×58.°58W, h72km, MD4.2*
ISC 22 08:15:01.9±2.2, 13.°88N±0.°04×58.°6W±0.°1, h10km, n44, σ1§47/60, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.17**	**229**	*eP*	**Pn**	**08 15 26.1**	**+1.8**
BBSP				*eS*	**Sn**	**08 15 40.7**	**+0.4**
BBGH	**Gun Hill**	**1.22**	**233**	*eP*	**Pg**	**08 15 26.5**	**+1.1**
BBGH				*eS*	**Sb**	**08 15 41.3**	**+0.4**
BCHC	**Barbados, Cave**	**1.28**	**235**	*eP*	**Pb**	**08 15 27.4**	**+1.3**
BCHC				*eS*	**Sb**	**08 15 42.7**	**0.0**
MPOM	**Morne Pois Mar**	**2.31**	**284**	*eP*	**Pn**	**08 15 40.6**	**+0.6**
MCLT	**Moule a Chique**	**2.33**	**266**	*eP*	**Pn**	**08 15 41.3**	**+1.0**
MCLT				*eS*	**Sn**	**08 16 08.3**	**-0.7**
SLBI	**Saint Lucia, B**	**2.36**	**274**	*eP*	**Pn**	**08 15 40.2**	**-0.5**
SLBI				*eS*	**Sn**	**08 16 08.3**	**-1.4**
MVM	**Montagne Vaucl**	**2.37**	**287**	*eP*	**Pn**	**08 15 41.8**	**+0.9**
SLCP	**Castries, St.**	**2.37**	**273**	*eP*	**Pn**	**08 15 41.6**	**+0.8**
SLCP				*eS*	**Sn**	**08 16 09.6**	**-0.4**
LPMF	**Morne Lapointe**	**2.44**	**287**	*eP*	**Pn**	**08 15 42.6**	**+0.7**
ZAM	**Aeronautique**	**2.50**	**286**	*eP*	**Pn**	**08 15 43.4**	**+0.7**
TRMF	**Trois Ilets**	**2.51**	**285**	*eP*	**Pn**	**08 15 43.4**	**+0.6**
BIM	**Bigot**	**2.52**	**285**	*eP*	**Pn**	**08 15 43.9**	**+0.8**
SSV	**Crater Summit**	**2.63**	**258**	*eP*	**Pn**	**08 15 44.6**	**+0.1**
SSV				*eS*	**Sn**	**08 16 16.0**	**-0.5**
SVV	**Soufriere Volc**	**2.65**	**258**	*eP*	**Pn**	**08 15 45.1**	**+0.4**
SVV				*eS*	**Sn**	**08 16 15.9**	**-1.0**
FDF	**Fort de France**	**2.66**	**289**	*eP*	**Pn**	**08 15 45.8**	**+0.9**
FDF				*eS*	**Sn**	**08 16 17.1**	**-0.2**
BAMF	**Morne Balai**	**2.68**	**291**	*eP*	**Pn**	**08 15 45.9**	**+0.7**
GBMF	**Grand Be**	**2.69**	**290**	*eP*	**Pn**	**08 15 46.2**	**+0.8**
SVB	**Belmont**	**2.69**	**257**	*eP*	**Pn**	**08 15 45.8**	**+0.4**
SVB				*eS*	**Sn**	**08 16 16.6**	**-1.4**
CXM	**Morne La Croix**	**2.70**	**290**	*eP*	**Pn**	**08 15 46.6**	**+1.1**
PML	**Morne Lenard**	**2.71**	**290**	*eP*	**Pn**	**08 15 46.6**	**+1.1**
SVN	**Savane Anatole**	**2.71**	**291**	*eP*	**Pn**	**08 15 46.6**	**+1.0**
PCM	**Pelee Case Pet**	**2.74**	**290**	*eP*	**Pn**	**08 15 47.1**	**+1.1**
GCMP	**Grenada, Carri**	**3.12**	**244**	*eP*	**Pn**	**08 15 51.3**	**0.0**
GCMP				*eS*	**Sn**	**08 16 26.0**	**-2.6**
DSLB	**Salisbury**	**3.18**	**300**	*eP*	**Pn**	**08 15 52.9**	**+0.8**
DSLB				*eS*	**Sn**	**08 16 28.9**	**-1.2**
TOSP	**Speyside**	**3.21**	**217**	*eP*	**Pn**	**08 15 52.2**	**-0.2**
TOSP				*eS*	**Sn**	**08 16 28.1**	**-2.7**
MAGL	**Barre de l'ile**	**3.35**	**308**	*eP*	**Pn**	**08 15 55.7**	**+1.4**
MAGL				*eS*	**Sn**	**08 16 33.3**	**-1.0**
GRGR	**Grenville**	**3.48**	**241**	*eP*	**Pn**	**08 15 56.5**	**+0.3**
GRGR				*eS*	**Sn**	**08 16 35.3**	**-2.3**
TBG	**Guadaloupe-3**	**3.58**	**304**	*eP*	**Pn**	**08 15 58.4**	**+0.9**
TBG				*eS*	**Sn**	**08 16 38.1**	**-1.8**
ABD	**La Joyeuse, An**	**3.83**	**313**	*eP*	**Pn**	**08 16 03.0**	**+2.0**
TRN	**Trinidad (W)**	**4.25**	**221**	*eP*	**Pn**	**08 16 07.4**	**+0.7**
TRN	**Trinidad (W)**	**4.25**	**221**	*eS*	**Sn**	**08 16 53.3**	**-3.2**
ANBD	**Bethesda, Anti**	**4.42**	**316**	*eP*	**Pn**	**08 16 10.2**	**+1.1**
ANBD	**Bethesda, Anti**	**4.42**	**316**	*eS*	**Sn**	**08 16 59.6**	**-1.1**
BPA	**Boggy Peak**	**4.48**	**315**	*eP*	**Pn**	**08 16 10.1**	**+0.1**
BPA	**Boggy Peak**	**4.48**	**315**	*eS*	**Sn**	**08 16 59.5**	**-2.7**
ANDO	**Antigua, Disas**	**4.51**	**316**	*eP*	**Pn**	**08 16 11.9**	**+1.6**
ANDO	**Antigua, Disas**	**4.51**	**316**	*eS*	**Sn**	**08 16 59.8**	**-3.1**
ANOC	**Antigua Open C**	**4.52**	**316**	*eP*	**Pn**	**08 16 11.2**	**+0.8**
ANOC	**Antigua Open C**	**4.52**	**316**	*eS*	**Sn**	**08 17 00.6**	**-2.4**
ANWB	**Willy Bob**	**4.89**	**321**	*eP*	**Pn**	**08 16 16.1**	**+0.6**
ANWB	**Willy Bob**	**4.89**	**321**	*eS*	**Sn**	**08 17 09.8**	**-2.4**
SKI	**Saint Kitts**	**5.30**	**311**	*eS*	**Sn**	**08 17 20.2**	**-2.2**
BAUV	**El Baul**	**10.51**	**243**	*eP*	**Pn**	**08 17 32.1**	**-0.7**
BAUV	**El Baul**	**10.51**	**243**	*eS*	**Sn**	**08 19 26.6**	**-4.1**

IDC 22 08:19:36.2±3.6, 54.°29N×87.°41E, h0km, mb1 2.9/2, mb1mx2.9/43, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=33.1km s-min=20.0km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**259**	*i*		08 28 10.0	
	baz=76,slow=313,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.56**	**259**	Pg	Pn	08 20 02.8	-2.4
	0.9nm,0.3s,baz=81,slow=18,SNR=9.6						
ZALV				Lg	Lg	08 20 26.5	
	1.4nm,0.3s,baz=79,slow=24,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.55**	**240**	Pn	Pn	08 21 14.3	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	08 21 37.5	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=5.4						

MAN 22 08:23:44.0, 9.°98N×127.°26E, h38km, mb4.7, ML3.6, MS3.4, Philippine Islands region

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*JMA **22** 08:31:03.9±0.2, 39.°85N×143.°53E, h18km, M4.4*
*NIED **22** 08:31:04.0, 39.°85N×143.°53E, h18km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.94; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-2.13; $M_{r\theta}$1.15; $M_{\theta\phi}$-0.94; $M_{r\phi}$1.69; Fault plane solution: $M_0$3.02000×10^{15} NP1:ϕ_s31.00000°, δ67.00000°, λ101.00000°. NP2:ϕ_s185.00000°, δ25.00000°, λ66.00000°.*
*MOS **22** 08:31:06.1±0.9, 39.°77N×143.°47E, h30km, mb4.6/13 Error ellipse: s-maj=8.9km s-min=5.6km az=89.8*
*NEIC **22** 08:31:09.0±2.5, 39.°68N±0.°06×143.°36E±0.°09, h30km±5km, mb4.5/11, Error ellipse: s-maj=12.3km s-min=6.1km az=132.0*
*IDC **22** 08:31:09.2±2.8, 39.°69N×143.°43E, h38km±23km, mb3.7/13, mb1 4.0/19, mb1mx3.8/44, mbtmp4.0/19, ML3.3/6, MS3.5/9, Ms1 3.5/9, ms1mx3.2/36, Error ellipse: s-maj=22.8km s-min=15.1km az=99.0*
ISC 22 08:31:07.0±2.4, 39.°76N±0.°05×143.°55E±0.°06, h25km±17km, n99, σ1§56/101, mb4.3/27, MS3.7/6, 4C-3D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.31**	**278**	P	**Pn**	**08 31 27.0**	**-2.7**
JTH				*eS*	**Sn**	**08 31 43.2**	**-3.2**
MIYJ	**Miyakonagasawa**	**1.35**	**263**	P	**Pn**	**08 31 28.1**	**-2.1**
JKEN	**Kujiedanarisaw**	**1.48**	**288**	P	**Pn**	**08 31 29.2**	**-2.8**
JKEN				*eS*	**Sn**	**08 31 47.9**	**-2.7**
JANG	**Nango**	**1.68**	**292**	P	**Pn**	**08 31 32.2**	**-2.5**
JOM	**Ohasama**	**1.77**	**261**	P	**Pn**	**08 31 34.8**	**-1.2**
JOM				*eS*	**Sn**	**08 31 57.3**	**-0.4**
JMK	**Ichinoseki**	**1.98**	**247**	P	**Pn**	**08 31 37.5**	**-1.4**
JTM	**Tenmabayashi**	**2.15**	**299**	P	**Pn**	**08 31 39.8**	**-1.5**
JTM				*eS*	**Sn**	**08 32 05.9**	**-1.3**
ERM	**Erimo**	**2.27**	**353**	P	**Pn**	**08 31 43.6**	**+0.7**
ERM	**Erimo**	**2.27**	**353**		**Pn**	**08 31 43.6**	**+0.7**
JOT	**Ohata**	**2.50**	**311**	P	**Pn**	**08 31 44.8**	**-1.2**
JYK	**Kaneyama**	**2.61**	**252**	P	**Pn**	**08 31 46.7**	**-0.9**
JCH	**Churui**	**2.85**	**357**	P	**Pn**	**08 31 50.5**	**-0.4**
JCH				*eS*	**Sn**	**08 32 22.8**	**-1.6**
JMM	**Marumori**	**2.87**	**230**		**Pn**	**08 31 49.4**	**-1.7**
JEW	**Eniwo**	**3.46**	**333**		**Pn**	**08 32 02.8**	**+3.6**
NMR	**Nemuro--Hokkai**	**3.96**	**24**	*eP*	**Pn**	**08 32 05.5**	**-0.6**
NMR				*i* S	**Sn**	**08 32 49.2**	**-2.4**
JKA	**Kamikawa-asahi**	**4.41**	**351**	Pn	**Pn**	**08 32 12.5**	**+0.2**
ASAJ	**Asahikawa**	**4.41**	**351**	Pn	**Pn**	**08 32 12.8**	**+0.6**
	2.7nm,0.3s,baz=226,slow=14,SNR=17						
JSD	**Sado**	**4.47**	**249**	Pn	**Pn**	**08 32 11.9**	**-1.3**
RUSJ	**Misakicho**	**4.52**	**16**	*eP*	**Pn**	**08 32 14.2**	**+0.4**
RUSJ				*eS*	**Sn**	**08 33 05.7**	**+0.2**
GRPR	**Tuman**	**4.54**	**21**	*eP*	**Pn**	**08 32 15.0**	**+0.9**
GRPR				*eS*	**Sn**	**08 33 03.4**	**-2.6**
GRPR				pmax	pmax		
	comp=Z,149nm,0.3s						
GRPR				smax	smax		
	comp=N,847nm,0.5s						
GRPR				smax	smax		
	comp=E,416nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.60**	**21**	*i* P	**Pn**	**08 32 16.1**	**+1.2**
MJA0	**Matsu Arr-Jizo**	**5.27**	**234**	*eP*	**Pn**	**08 32 24.5**	**+0.3**
MJA0				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MJAR	**Matsushiro Arr**	**5.30**	**234**	Pn	**Pn**	**08 32 23.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=42,slow=12,SNR=23						
MJAR				LR	LR	08 34 38.4	
	comp=Z,325nm,19.4s,baz=45,slow=40						
MAJO	**Matsushiro**	**5.30**	**234**	*d iP*	**Pn**	**08 32 24.4**	**-0.1**
MAJO	**Matsushiro**	**5.30**	**234**	Pn	**Pn**	**08 32 23.2**	**-1.3**
MAT	**Matsushiro**	**5.30**	**234**	P	**Pn**	**08 32 24.7**	**+0.2**
MAT				*eS*	**Sn**	**08 33 28.6**	**+3.8**
MJB9	**Matsu-Tunnel**	**5.30**	**234**		**Pn**	**08 32 23.2**	**-1.4**
KUR	**Kuril'sk**	**6.33**	**29**	*eP*	**Pn**	**08 32 39.6**	**+1.0**
KUR				*eS*	**Sn**	**08 33 48.8**	**-1.3**
KUR				pmax	pmax		
	comp=Z,67nm,0.5s						
KUR				pmax	pmax		
	comp=N,39nm,0.2s						
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				smax	smax		
	comp=E,178nm,0.5s						
KUR				smax	smax		
	comp=N,96nm,0.3s						
KUR				smax	smax		
	comp=Z,530nm,15.0s						
JGF	**Kuroka**	**6.43**	**232**		**Pn**	**08 32 39.0**	**-1.2**
YSS	**Yuzh-Sakhalins**	**7.21**	**356**⇑	*eP*	**Pn**	**08 32 51.4**	**+0.7**
YSS				*eS*	**Sn**	**08 34 09.5**	**-2.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
JHJ2	**Mitsune**	**7.29**	**206**	Pn	**Pn**	**08 32 51.6**	**-0.2**
JHJ	**Hachijo jima 2**	**7.29**	**206**	Pn	**Pn**	**08 32 52.1**	**+0.2**
	comp=E,3.4nm,0.3s,baz=40,slow=14,SNR=1.4						
JHJ				Sn	**Sn**	**08 34 09.9**	**-4.0**
	comp=E,4.4nm,0.3s,baz=70,slow=23,SNR=1.4						
JWT	**Wachi**	**7.87**	**238**	Pn	**Pn**	**08 33 01.0**	**+1.2**
USA0B	**Ussuriysk Arra**	**9.68**	**301**	P	**Pn**	**08 33 26.4**	**+1.8**
USA0B	**Ussuriysk Arra**	**9.68**	**301**		**Pn**	**08 33 26.4**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.68**	**301**	Pn	**Pn**	**08 33 25.4**	**+0.8**
	baz=96,slow=18,SNR=15						
USRK				LR	LR	08 37 07.0	
	comp=E,317nm,18.6s,baz=96,slow=37						
USRK	**Ussuriysk Ar.**	**9.68**	**301**	P	**Pn**	**08 33 26.1**	**+1.5**
USRK	**Ussuriysk Ar.**	**9.68**	**301**	Pn	**Pn**	**08 33 26.1**	**+1.5**
KSRS	**Korea Array**	**12.44**	**264**	Pn	**Pn**	**08 34 04.4**	**+2.0**
	comp=E,0.3nm,0.3s,baz=83,slow=14,SNR=11						
KSRS				LR	LR	08 38 29.3	
	comp=E,252nm,18.8s,baz=77,slow=36						
KLR	**Kul'dur**	**12.65**	**322**	Pn	**Pn**	**08 34 06.8**	**+1.5**
	comp=E,0.1nm,0.3s,baz=129,slow=13,SNR=9.2						
KLR				LR	LR	08 39 07.7	
	comp=E,244nm,20.6s,baz=134,slow=38						
TJN	**Taejon**	**13.19**	**260**	*eP*	**Pn**	**08 34 12.7**	**0.0**
PETK	**Petropavlovsk-**	**16.49**	**31**	LR	LR	08 40 52.1	
	comp=E,66nm,20.8s,baz=200,slow=35						
ZEA	**Zeya**	**17.83**	**327**	*eP*	**Pn**	**08 35 11.4**	**-1.8**
ZEA				pmax	pmax		
	comp=N,20nm,0.4s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.6s						
ZEA				MLR	MLR		
	comp=E,100nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,100nm,14.0s						
MA2	**Magadan**	**20.35**	**11**	P	Pn	08 35 43.4	0.0
	comp=Z,9.3nm,0.7s,baz=211,slow=7.3,SNR=4.5						
MA2	**Magadan**	**20.35**	**11**	IAmb	IAmb	08 35 44.1	
	comp=Z,9.6nm,0.8s						
YAK	**Yakutsk**	**23.84**	**344**⇑	*iP*	**P**	**08 36 17.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,27nm,1.1s						
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**08 36 53.6**	**-0.4**
	comp=Z,4.5nm,0.9s,baz=88,slow=8.1,SNR=16						
SONM				LR	LR	08 48 32.4	
	comp=Z,231nm,19.1s,baz=69,slow=38						
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**08 36 52.9**	**-1.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**27.79**	**299**	P	**P**	**08 36 52.9**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**28.30**	**128**	T	T	09 08 05.4	
	baz=318,slow=75,SNR=262						
H11N1	**WAKE ISLAND Hy**	**28.31**	**128**	T	T	09 08 07.0	
	baz=318,slow=75,SNR=189						
H11N3	**WAKE ISLAND Hy**	**28.32**	**128**	T	T	09 07 56.3	
	baz=318,slow=75,SNR=202						
H11S1	**WAKE ISLAND Hy**	**29.13**	**130**	T	T	09 08 02.7	
	baz=324,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.13**	**130**	T	T	09 08 03.3	
	baz=324,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.14**	**130**	T	T	09 08 39.6	
	baz=324,slow=74						
ENH	**Enshi**	**29.31**	**262**	P	**P**	**08 37 06.0**	**-1.6**
ZAK	**Zakamensk**	**30.01**	**304**	*eP*	**P**	**08 37 13.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	**Bilibino**	**30.94**	**16**⇓	*iP*	**P**	**08 37 22.9**	**+1.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TIXI	**Tiksi**	**32.81**	**351**⇑	*eP*	**P**	**08 37 37.4**	**-0.5**
DGZ	**Jazzator, Alta**	**40.22**	**303**⇓	*iP*	**P**	**08 38 42.4**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	**41.38**	**310**	P	**P**	**08 38 50.7**	**-0.1**
	comp=Z,3.8nm,0.4s,baz=98,slow=8.5,SNR=12						
ZALV				LR	LR	08 56 53.6	
	comp=Z,72nm,18.3s,baz=86,slow=37						
ZALV	**Zalesovo Beam**	**41.38**	**310**	P	**P**	**08 38 50.3**	**-0.5**
IMAR	**Indian Mountai**	**43.45**	**32**	P	**P**	**08 39 11.2**	**+3.7**
CMAR	**Chiang Mai Arr**	**43.83**	**254**	P	**P**	**08 39 11.5**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=49,slow=7.3,SNR=1.9						
CMAR				LR	LR	08 57 06.2	
	comp=Z,21nm,19.5s,baz=55,slow=36						
MK31	**Makanchi Array**	**44.15**	**300**	P	**P**	**08 39 12.9**	**-0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**44.15**	**300**	P	**P**	**08 39 12.9**	**-0.5**
MK31				IAmb	IAmb	08 39 13.9	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**44.15**	**300**	P	**P**	**08 39 13.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=85,slow=9.5,SNR=19						
COLA	**College**	**45.88**	**34**	*i P*	**P**	**08 39 27.1**	**+0.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**46.30**	**34**	P	**P**	**08 39 32.0

WB0 Warramunga Arr 59.83 190 P P 08 41 10.6 +0.2
WB0 IAmb IAmb 08 41 21.5
comp=Z,4.9nm,1.1s
WR0 Warramunga Arr 60.00 190 P P 08 41 13.0 +1.5
WR0 IAmb IAmb 08 41 28.4
comp=Z,5.2nm,1.1s
WRAB Tennant Creek 60.00 190 P P 08 41 13.9 +2.4
WRAB pmax pmax
comp=Z,3.0nm,1.0s
WRAB Tennant Creek 60.00 190 P P 08 41 13.9 +2.4
WRAB IAmb IAmb 08 41 34.5
comp=Z,3.2nm,0.9s
WB2 Warramunga Arr 60.01 190 P P 08 41 12.3 +0.8
WB2 IAmb IAmb 08 41 25.9
comp=Z,7.6nm,1.2s
WRA Warramunga Arr 60.01 190 P P 08 41 11.4 -0.1
comp=Z,0.5nm,0.6s,baz=6.9,slow=7.0,SNR=7.9
WRA Warramunga Arr 60.01 190 *eP* **P 08 41 13.4 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 62.03 339 LR LR 09 10 50.2
comp=Z,57nm,20.7s,baz=70,slow=38
KLMR Klimovskoe 62.35 328 *eP* **P 08 41 28.2 +1.2**
KLMR pmax pmax
comp=Z,11nm,1.6s
KLMR Klimovskoe 62.35 328 *eP* **P 08 41 28.2 +1.2**
KLMR AMP 08 41 30.4
comp=Z,11nm,1.6s
POO Poona 62.94 272 *ex* x 08 41 45.0
ASAR Alice Springs 63.74 190 P **P 08 41 35.7 -0.9**
comp=Z,0.2nm,0.6s,baz=356,slow=4.8,SNR=1.8
FINES FINESS Array B 67.18 332 P **P 08 41 58.6 +0.2**
comp=Z,2.4nm,0.9s,baz=50,slow=11,SNR=5.1
KIV Kislovodsk 70.38 311 *eP* **P 08 42 18.0 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,62nm,17.0s
KBZ Khabaz 70.39 311 P **P 08 42 19.5 +0.7**
comp=Z,2.3nm,0.8s,baz=81,slow=3.3,SNR=5.2
KBZ Khabaz 70.39 311 *eP* **P 08 42 18.5 -0.2**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
GNI Garni 71.42 307 *i* P **P 08 42 25.3 0.0**
GNI pmax pmax
comp=Z,2.0nm,0.3s
NB2 NORSAR Subarra 72.31 338 P **P 08 42 30.4 +0.3**
comp=Z,1.1nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 72.31 338 P **P 08 42 30.7 +0.6**
comp=Z,1.3nm,0.7s,baz=38,slow=6.0,SNR=5.4
AKASG Malin Array Be 73.16 323 P **P 08 42 35.2 0.0**
comp=Z,0.6nm,0.4s,baz=40,slow=6.0,SNR=1.7
PDAR Pinedale Array 74.57 47 P **P 08 42 44.9 +0.9**
comp=Z,0.3nm,0.7s,baz=280,slow=6.3,SNR=2.9

SJA ***22*** *08:37:20.5±0.4, 33.°77S×72.°71W, h11km, ML4.1, MW4.2*
IDC ***22*** *08:37:23.7±0.6, 33.°80S×72.°10W, h0km, mb4.3/8, mb1 4.4/10, mb1mx4.2/28, mbtmp4.3/10, ML4.4/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/26, Error ellipse: s-maj=23.0km s-min=16.2km az=101.0*
NEIC ***22*** *08:37:23.8, 33.°82S×72.°23W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.02; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-1.10; $M_{r\theta}$0.63; $M_{r\phi}$-0.37; $M_{\theta\phi}$-1.45; Fault plane solution: $M_0$1.94000×10^{15} NP1:ϕ_s166.17000°, δ74.14000°, λ70.35000°. NP2:ϕ_s38.74000°, δ25.05000°, λ139.80000°. Principal axes: T 2.0319, Plg56.0000°, Azm51.0000°; N -0.1965, Plg19.0000°, Azm172.0000°; P -1.8354, Plg27.0000°, Azm272.0000°;*
VAO ***22*** *08:37:25.0±1.4, 33.°86S×72.°17W, h16km±9km, mb4.5*
NEIC ***22*** *08:37:26.1±2.0, 33.°86S±0.°04×72.°13W±0.°10, h15km±2km, Error ellipse: s-maj=11.6km s-min=5.8km az=100.0*
GUC ***22*** *08:37:27.1±0.6, 33.°86S×72.°19W, h32km±3km, ML4.2*
ISC 22 08:37:24.3±1.3, 33.°84S±0.°02×72.°21W±0.°04, h10km±8km, n140, σ1°50/159, mb4.4/7, 2C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.69**	**162**	⇓*iP*	**Pb**	**08 37 39.0**	**+0.6**
BO03				*i* S	**Sb**	**08 37 48.4**	**+0.5**
BO03				IAML		08 37 50.6	
comp=E,15μm,0.2s							
MT01	**Popeta**	**0.80**	**92**	⇓*iP*	**Pn**	**08 37 40.9**	**-0.8**
MT01				*i* S	**Sn**	**08 37 51.6**	**-2.1**
MT01				IAML		08 37 53.5	
comp=E,10μm,0.4s							
MT01	**Popeta**	**0.80**	**92**		**Pn**	**08 37 40.9**	**-0.8**
VA01	**Torpederas**	**0.94**	**30**	*eP*	**Pn**	**08 37 43.9**	**+0.3**
VA01				*i* S	**Sn**	**08 37 56.1**	**-1.0**
VA01	**Torpederas**	**0.94**	**30**		**Pn**	**08 37 43.9**	**+0.3**
MT09	**Talagante**	**1.02**	**87**	⇓*iP*	**Pn**	**08 37 44.3**	**-0.5**
MT09				*i* S	**Sn**	**08 37 57.9**	**-1.3**
MT09				IAML		08 38 00.0	
comp=N,13μm,0.3s							
MT09	**Talagante**	**1.02**	**87**		**Pn**	**08 37 44.4**	**-0.5**
MT02	**Curacav**	**1.07**	**57**	⇓*iP*	**Pg**	**08 37 45.2**	**+0.3**
MT02				*i* S	**Sg**	**08 37 59.0**	**+0.2**
MT02	**Curacav**	**1.07**	**57**	Pn	**Pg**	**08 37 45.2**	**+0.3**
BO01	**Tunca**	**1.08**	**121**	⇓*iP*	**Pb**	**08 37 44.7**	**-0.4**
BO01				*i* S	**Sg**	**08 37 59.0**	**-0.3**
BO01	**Tunca**	**1.08**	**121**		**Pb**	**08 37 44.8**	**-0.4**
GO05	**Huala**	**1.19**	**169**	⇑*iP*	**Pg**	**08 37 47.2**	**+0.1**
GO05				*i* S	**Sb**	**08 38 02.1**	**-0.3**
GO05				IAML		08 38 07.5	
comp=E,9μm,0.7s							
GO05	**Huala**	**1.19**	**169**		**Pg**	**08 37 47.5**	**+0.3**
GO05	**Huala**	**1.19**	**169**	*i* P	**Pg**	**08 37 47.3**	**+0.1**
GO05				*eS*	**Sn**	**08 38 02.7**	**-0.6**
MT05	**Renca**	**1.31**	**70**	*eP*	**Pb**	**08 37 48.9**	**-0.1**
MT05				*i* S	**Sg**	**08 38 06.2**	**-0.3**
MT05				IAML		08 38 14.5	
comp=E,8μm,0.1s							
MT05	**Renca**	**1.31**	**70**		**Pb**	**08 37 48.9**	**-0.1**
ROCH	**El Roble**	**1.33**	**50**	⇓*iP*	**Pb**	**08 37 49.6**	**+0.2**
ROCH				*i* S	**Sg**	**08 38 07.2**	**+0.1**
ROCH				IAML		08 38 17.5	
comp=N,6μm,0.5s							
MT03	**Universidad Ad**	**1.46**	**77**	⇓*iP*	**Pb**	**08 37 51.4**	**-0.3**
MT03				*i* S	**Sb**	**08 38 10.1**	**-0.3**
MT03				IAML		08 38 12.3	
comp=E,7μm,0.4s							
MT03	**Universidad Ad**	**1.46**	**77**		**Pb**	**08 37 51.4**	**-0.3**
MT03	**Universidad Ad**	**1.46**	**77**	*i* P	**Pb**	**08 37 51.4**	**-0.3**
MT03				*eS*	**Sg**	**08 38 14.7**	**+3.3**
MT03				IAML		08 38 15.5	
comp=Z,4μm,0.3s							
BO02	**Sierra Bellavi**	**1.52**	**129**	⇓*iP*	**Pb**	**08 37 51.9**	**-0.7**
BO02				*i* S	**Sb**	**08 38 11.4**	**-0.5**
BO02				IAML		08 38 18.1	
comp=N,12μm,0.2s							
BO02	**Sierra Bellavi**	**1.52**	**129**		**Pb**	**08 37 51.9**	**-0.7**
VA03	**San Esteban**	**1.76**	**53**	⇑*iP*	**Pb**	**08 37 56.4**	**-0.3**
VA03				*i* S	**Sb**	**08 38 18.5**	**-0.4**
VA03	**San Esteban**	**1.76**	**53**		**Pb**	**08 37 56.4**	**-0.3**
ML02	**Panimavida**	**2.02**	**161**		**Pb**	**08 37 59.7**	**-1.5**
LAMA	**Las Malvinas**	**2.71**	**115**	*i* P	**Pb**	**08 38 11.8**	**-1.1**
CO02	**Combarbal**	**2.82**	**22**		**Pn**	**08 38 10.5**	**+0.9**
BI02	**San Fabin de**	**2.92**	**165**	Pn	**Pn**	**08 38 12.6**	**+1.7**
BI02	**San Fabin de**	**2.92**	**165**	*i* P	**Pn**	**08 38 12.2**	**+1.3**
BI02				*eS*	**Sg**	**08 38 55.8**	**-2.3**
ARCO	**CERRO ARCO**	**2.92**	**71**	*i* P	**Pb**	**08 38 15.6**	**-1.0**
ARCO				IAML		08 39 01.3	
comp=Z,676nm,0.6s							
AAGR	**Agrelo**	**2.93**	**76**	*i* P	**Pb**	**08 38 15.0**	**-1.7**
AAGR				IAML		08 39 05.0	
comp=Z,293nm,0.7s							
EDS3	**Malargue**	**3.01**	**131**	*i* P	**Pb**	**08 38 17.0**	**-1.1**
ASAL	**Salagasta**	**3.09**	**67**	*i* P	**Pb**	**08 38 17.5**	**-2.0**
ASAL				*eS*	**Sg**	**08 39 02.5**	**-1.3**
ASAL				IAML		08 39 15.8	
comp=Z,290nm,0.7s							
RTLS	**Leoncito**	**3.19**	**51**	*i* P	**Pb**	**08 38 18.2**	**-3.0**
RTLS				IAML		08 39 15.3	
comp=Z,317nm,0.8s							
RFA	**San Rafael**	**3.24**	**108**	*i* P	**Pb**	**08 38 18.2**	**-3.7**
RFA				*eS*	**Sg**	**08 39 09.8**	**+1.5**
RFA				IAML		08 39 15.1	
comp=Z,253nm,0.7s							
CO03	**El Pedregal**	**3.26**	**24**		**Pn**	**08 38 16.7**	**+1.1**
CO03	**El Pedregal**	**3.26**	**24**	*i* P	**Pn**	**08 38 16.7**	**+1.1**
CO03				*eS*	**Sg**	**08 39 08.4**	**-0.7**
CO03				IAML		08 39 14.2	
comp=Z,537nm,0.7s							
RTCV	**Cerro Valdivia**	**3.67**	**58**	*i* P	**Pn**	**08 38 24.2**	**+3.1**
RTCV				IAML		08 39 25.0	
comp=Z,89nm,0.5s							
ZON	**Zonda**	**3.76**	**53**		**Pn**	**08 38 25.6**	**+3.2**
ZON	**Zonda**	**3.76**	**53**	*i* P	**Pn**	**08 38 26.2**	**+3.8**
ZON				*eS*	**Sg**	**08 39 30.8**	**+5.8**
ZON				IAML		08 39 33.0	
comp=Z,261nm,2.4s							
GO04	**Tololo Observa**	**3.85**	**19**	Pn	**Pn**	**08 38 24.5**	**+0.7**
GO04	**Tololo Observa**	**3.85**	**19**	*i* P	**Pn**	**08 38 24.5**	**+0.7**
CANA	**Caviahue**	**4.14**	**167**	*i* P	**Pn**	**08 38 32.1**	**+4.4**
CANA				IAML		08 39 52.2	
comp=Z,148nm,1.3s							
ACCO	**Cerro Coronel**	**4.20**	**40**	*i* P	**Pn**	**08 38 31.9**	**+3.1**
ACCO				IAML		08 39 48.3	
comp=Z,276nm,0.7s							
AROD	**Rodeo**	**4.34**	**33**	*i* P	**Pn**	**08 38 33.9**	**+3.3**
ACDV	**Cuesta del Vie**	**4.51**	**36**	*i* P	**Pn**	**08 38 35.8**	**+3.1**
ACDV				IAML		08 39 55.8	
comp=Z,151nm,0.9s							
LCO	**Las Campanas**	**4.99**	**15**	Pn	**Pn**	**08 38 39.7**	**+0.3**
LC01	**Cunco**	**5.05**	**177**	Pn	**Pn**	**08 38 39.9**	**-0.2**
LC01	**Cunco**	**5.05**	**177**	*i* P	**Pn**	**08 38 40.3**	**+0.2**
LC01				IAML		08 40 14.4	
comp=Z,73nm,1.2s							
AVFE	**Valle Fertil**	**5.13**	**53**	*i* P	**Pn**	**08 38 43.2**	**+2.0**
AVFE				IAML		08 39 57.8	
comp=Z,125nm,1.3s							
ACHE	**Chepes**	**5.40**	**62**	*i* P	**Pn**	**08 38 46.4**	**+1.4**
H03S1	**Juan Fernandez**	**5.57**	**268**	Pn	**Pn**	**08 38 47.2**	**+0.3**
H03S1	baz=308,slow=27,SNR=4.6			T	T	08 44 43.9	
baz=90,slow=75,SNR=6735							
H03S3	**Juan Fernandez**	**5.57**	**268**	Pn	**Pn**	**08 38 47.6**	**+0.6**
H03S3	baz=308,slow=27,SNR=7.7			T	T	08 44 44.1	
baz=90,slow=75,SNR=6871							
H03S2	**Juan Fernandez**	**5.59**	**268**	Pn	**Pn**	**08 38 47.1**	**-0.1**
H03S2	baz=308,slow=27,SNR=8.7			T	T	08 44 36.6	
baz=90,slow=75,SNR=8642							
H03N1	**Juan Fernandez**	**5.60**	**272**	Pn	**Pn**	**08 38 49.5**	**+2.1**
H03N1	baz=8.9,slow=26,SNR=6.8			T	T	08 44 45.9	
baz=98,slow=74,SNR=91							
H03N3	**Juan Fernandez**	**5.61**	**272**	Pn	**Pn**	**08 38 49.7**	**+2.1**
H03N3	baz=8.9,slow=26,SNR=5.9			T	T	08 44 48.1	
baz=98,slow=74,SNR=61							
H03N2	**Juan Fernandez**	**5.62**	**272**	Pn	**Pn**	**08 38 50.0**	**+2.4**
H03N2	baz=8.9,slow=26,SNR=4.9			T	T	08 44 51.5	
baz=98,slow=74,SNR=98							
MRA	**San Martin**	**5.63**	**77**	*i* P	**Pn**	**08 38 50.8**	**+2.7**
MRA				IAML		08 40 33.7	
comp=Z,28nm,0.6s							
AC04	**Llanos de Chal**	**5.70**	**10**	Pn	**Pn**	**08 38 48.4**	**-0.7**
APLL	**PUNTA DE LOS L**	**5.92**	**56**	*i* P	**Pn**	**08 38 52.9**	**+0.8**
VCA	**Vinchina**	**6.14**	**35**	*i* P	**Pn**	**08 38 57.3**	**+2.1**
VCA				IAML		08 40 36.0	
comp=Z,246nm,0.8s							
ACLC	**CERRO LA CRUZ**	**6.29**	**47**	*i* P	**Pn**	**08 38 57.9**	**+0.7**
ACLC				IAML		08 40 26.6	
comp=Z,154nm,0.9s							
GO03	**Copiap**	**6.46**	**16**	Pn	**Pn**	**08 38 59.0**	**-0.4**
GO03	**Copiap**	**6.46**	**16**	*i* P	**Pn**	**08 38 59.3**	**-0.2**
PLCA	**Paso Flores**	**7.00**	**170**	Pn	**Pn**	**08 39 08.7**	**+1.7**
comp=Z,1.2nm,0.3s,baz=333,slow=12,SNR=18							
PLCA				LR	LR	08 42 02.9	
comp=Z,274nm,19.2s,baz=348,slow=40							
PLCA	**Paso Flores**	**7.00**	**170**	Pn	**Pn**	**08 39 07.6**	**+0.6**
PLCA	**Paso Flores**	**7.00**	**170**	*eP*	**Pn**	**08 39 07.0**	**0.0**
PLCA	**Paso Flores**	**7.00**	**170**	*i* P	**Pn**	**08 39 08.9**	**+1.9**
PLCA				IAML		08 41 07.5	
comp=Z,15nm,1.6s							
AC02	**Maricunga**	**7.47**	**22**	Pn	**Pn**	**08 39 13.8**	**-0.1**
CYA	**Choya**	**7.69**	**47**	*i* P	**Pn**	**08 39 15.2**	**-1.2**
CYA				IAML		08 41 23.7	
comp=Z,40nm,0.6s							
GO02	**Mina Guanaco**	**8.95**	**15**	Pn	**Pn**	**08 39 31.6**	**-2.3**
TRQA	**Tornquist**	**9.30**	**120**		**Pn**	**08 39 40.1**	**+1.7**
TRQA	**Tornquist**	**9.30**	**120**	*eP*	**Pn**	**08 39 38.0**	**-0.4**
PB15	**IPOC Station P**	**10.87**	**14**		**Pn**	**08 39 57.3**	**-2.8**
LVC	**Limon Verde**	**11.56**	**15**	Pn	**Pn**	**08 40 05.8**	**-3.9**
comp=Z,0.8nm,0.3s,baz=169,slow=10,SNR=7.0							
LVC	**Limon Verde**	**11.56**	**15**	*eP*	**Pn**	**08 40 08.7**	**-1.1**
LVC	**Limon Verde**	**11.56**	**15**	*i* P	**Pn**	**08 40 05.8**	**-3.9**
ITQB	**Itaqui**	**13.90**	**77**	*eP*	**Pn**	**08 40 40.6**	**-0.8**
CPUP	**Villa Florida**	**14.89**	**64**	LR	LR	08 47 02.3	
comp=Z,238nm,20.5s,baz=237,slow=39							
CPUP	**Villa Florida**	**14.89**	**64**	*eP*	**Pn**	**08 40 54.1**	**-0.8**
CPSB	**Cacapava Do Su**	**16.27**	**83**	*eP*	**Pn**	**08 41 11.6**	**-1.3**
LPAZ	**La Paz**	**17.86**	**13**	P	**P**	**08 41 35.3**	**+1.0**
comp=Z,0.9nm,0.3s,baz=197,slow=7.7,SNR=29							
LPAZ	**La Paz**	**17.86**	**13**	*eP*	**Pn**	**08 41 33.2**	**-0.4**
AQDB	**Aquidauana**	**19.79**	**52**	*eP*	**P**	**08 41 53.9**	**-0.9**
TRCB	**Terra Rica**	**20.41**	**62**	*eP*	**P**	**08 42 01.3**	**-0.3**
SIV	**San Ignacio**	**20.42**	**32**	P	**P**	**08 42 01.6**	**-0.1**
comp=Z,4.4nm,0.7s,baz=227,slow=12,SNR=7.9							
SIV				LR	LR	08 51 29.5	
comp=Z,163nm,19.9s,baz=280,slow=42							
PTLB	**Pontes e Lacer**	**21.79**	**36**	*eP*	**P**	**08 42 15.7**	**-0.8**
TIJ01	**Guaruva-PR**	**21.86**	**73**	*eP*	**P**	**08 42 16.6**	**-0.8**
PCMB	**Pacaembu**	**22.14**	**62**	*eP*	**P**	**08 42 19.3**	**-0.9**
FRTB	**Fartura**	**22.42**	**68**	*eP*	**P**	**08 42 23.6**	**+0.3**
PP1B	**Ponte de Pedra**	**22.43**	**48**	*eP*	**P**	**08 42 22.7**	**-0.6**
SALV	**Santo Antonio**	**23.26**	**44**	*eP*	**P**	**08 42 31.1**	**-0.9**
VILB	**Vilhena**	**23.50**	**31**	*eP*	**P**	**08 42 33.9**	**-0.5**
PET01	**Itanhaem-SP**	**23.73**	**73**	*eP*	**P**	**08 42 35.9**	**-0.8**
SPB	**Sao Paulo**	**23.96**	**71**	*eP*	**P**	**08 42 37.5**	**-1.3**
ITRB	**Iturama**	**23.99**	**60**	*eP*	**P**	**08 42 38.5**	**-0.7**
RCLB	**Rio Claro- Sao**	**24.50**	**69**	*eP*	**P**	**08 42 43.1**	**-0.8**
BB19B	**Bebedouro**	**24.50**	**65**	*eP*	**P**	**08 42 43.7**	**-0.2**
VAO	**Valinhos**	**24.63**	**71**	*eP*	**P**	**08 42 44.7**	**-0.4**
PARB	**Paraibuna**	**25.52**	**73**	*eP*	**P**	**08 42 54.1**	**+0.9**
ARAG	**Araguaiana, MT**	**25.78**	**51**	*eP*	**P**	**08 42 54.9**	**-0.5**
SAML	**Samuel**	**26.13**	**21**	*eP*	**P**	**08 42 58.7**	**+0.1**
IPMB	**Ipameri, GO**	**26.65**	**60**	*eP*	**P**	**08 43 01.1**	**-2.3**
CLDB	**Colider**	**27.36**	**37**	*eP*	**P**	**08 43 10.1**	**+0.3**
BSCB	**Bom Sucesso**	**27.42**	**69**	*eP*	**P**	**08 43 11.0**	**+0.7**
BDFB	**Brasilia**	**28.37**	**56**	P	**P**	**08 43 18.1**	**-0.8**
comp=Z,2.3nm,0.6s,baz=201,slow=8.0,SNR=3.8							
SNDB	**Serra Nova Dou**	**28.95**	**46**	*eP*	**P**	**08 43 23.8**	**-0.2**
DIAM	**Diamantina, MG**	**29.82**	**66**	*eP*	**P**	**08 43 31.9**	**+0.1**
MC01	**Montes Claros**	**30.59**	**63**	*eP*	**P**	**08 43 38.3**	**-0.2**
PEXB	**Peixe**	**30.72**	**51**	*eP*	**P**	**08 43 40.6**	**+1.0**
NPGB	**Novo Progresso**	**30.89**	**34**	*eP*	**P**	**08 43 40.4**	**-0.7**
BSFB	**Barra de Sao F**	**31.68**	**70**	*eP*	**P**	**08 43 47.9**	**-0.2**
MACA	**Macaepuru-AM**	**32.37**	**22**	*eP*	**P**	**08 43 53.1**	**-1.0**
NAN01	**Guarapari, ES**	**32.81**	**69**	*eP*	**P**	**08 43 57.2**	**-0.8**
GUA01	**Guaratinga, BA**	**33.79**	**68**	*eP*	**P**	**08 44 06.1**	**-0.5**
CMC01	**Camacan, BA**	**34.75**	**66**	*eP*	**P**	**08 44 13.8**	**-1.1**
NBIT	**Itapeh - BA**	**35.08**	**66**	*eP*	**P**	**08 44 17.4**	**-0.3**
GDU01	**Guandu, BA**	**35.73**	**64**	*eP*	**P**	**08 44 22.3**	**-1.1**
MALB	**Monte Alegre**	**35.98**	**32**	*eP*	**P**	**08 44 24.4**	**-1.0**
NBPN	**Ponto Novo - B**	**37.16**	**60**	*eP*	**P**	**08 44 35.1**	**-0.5**
BOAV	**Boa Vista**	**37.69**	**19**	*eP*	**P**	**08 44 40.6**	**+0.6**
MCPB	**Macapa, AP**	**38.30**	**34**	*eP*	**P**	**08 44 43.9**	**-1.3**
NBMA	**Muriti-CE**	**40.59**	**57**	*eP*	**P**	**08 45 03.5**	**-0.9**
NBAN	**Anadia - AL**	**40.81**	**62**	*eP*	**P**	**08 45 05.8**	**-0.4**
NBRF	**Rio Formoso -**	**42.31**	**62**	*eP*	**P**	**08 45 17.8**	**-0.6**
MDP	**Montagnes des**	**42.93**	**29**	P	**P**	**08 45 23.4**	**0.0**
comp=Z,8.5nm,1.0s,baz=211,slow=5.9,SNR=4.6							
VNA3	**Neumayer Olymp**	**49.56**	**158**	P	**P**	**08 46 15.9**	**+0.9**
VNA2	**Neumayer--Watz**	**50.21**	**157**	P	**P**	**08 46 21.7**	**+1.7**
baz=307,slow=7.2							
VNA2	**Neumayer--Watz**	**50.21**	**157**	PKiKP	**PKiKP**	**08 54 20.0**	**-4.0**
VNA2	**Neumayer--Watz**	**50.21**	**157**	pP	pP	08 46 26.0	+3.1
SNAA	**Sanae**	**51.78**	**158**	P	**P**	**08 46 32.3**	**+0.4**
SNAA	**Sanae**	**51.78**	**158**	P	**P**	**08 46 33.2**	**+1.4**
comp=Z,3.1nm,0.7s,baz=277,slow=9.9,SNR=12							
QSPA	**South Pole Qui**	**56.39**	**180**	P	**P**	**08 47 07.4**	**+1.8**
comp=Z,3.0nm,0.9s,baz=146,slow=2.4,SNR=13							
TXAR	**Lajitas Array**	**69.53**	**331**	P	**P**	**08 48 34.9**	**+1.6**
comp=Z,0.8nm,0.7s,baz=154,slow=9.1,SNR=12							
MAW	**Mawson**	**73.37**	**164**	P	**P**	**08 48 57.0**	**+1.1**
comp=Z,1.6nm,0.4s,baz=208,slow=6.5,SNR=6.0							
TORD	**Torodi Ar. Bea**	**84.29**	**70**	P	**P**	**08 49 57.1**	**+0.4**
comp=Z,5.2nm,0.7s,baz=281,slow=6.3,SNR=22							
WRA	**Warramunga Arr**	**120.83**	**209**	PKP	**PKPdf**	**08 56 17.2**	**-0.1**
comp=Z,0.5nm,0.5s,baz=159,slow=1.8,SNR=20							
ARCES	**ARCESS Array B**	**123.93**	**25**	PKP	**PKiKP**	**08 56 23.3**	**+1.4**
comp=Z,1.7nm,0.8s,baz=291,slow=2.5,SNR=3.6							
ZALV	**Zalesovo Beam**	**154.17**	**32**	PKP	**PKPdf**	**08 57 15.9**	**+0.2**
comp=Z,1.0nm,0.8s,baz=191,slow=1.5,SNR=1.8							
ZALV				PKPbc	**PKiKP**	**08 57 24.4**	**+0.4**
comp=Z,3.6nm,0.5s,baz=308,slow=2.6,SNR=12							
ZALV				PKPab	**PKPab**	**08 57 38.3**	**+0.7**
comp=Z,1.3nm,0.8s,baz=323,slow=4.7,SNR=4.4							
MKAR	**Makanchi Array**	**156.77**	**49**	PKPab	**PKPab**	**08 57 49.5**	**+0.4**
comp=Z,1.0nm,0.5s,baz=287,slow=2.8,SNR=9.4							

IDC ***22*** *08:37:32.7±1.9, 20.°94S×178.°53W, h592km±20km, mb3.2/6, mb1 3.5/8, mb1mx3.2/27, mbtmp4.1/8, Error ellipse: s-maj=32.7km s-min=18.6km az=142.0*
ISC 22 08:37:31.6±1.0, 21.°05±0.°2×178.°4W±0.°2, h579km, n11, σ0°90/11, mb3.8/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**314**	P	**P**	**08 39 01.6**	**+1.1**
4.3nm,0.3s,baz=289,slow=24,SNR=13							
URZ	**Urewera**	**17.64**	**192**	P	**P**	**08 41 05.2**	**+0.6**
1.1nm,0.3s,baz=238,slow=3.6,SNR=7.4							
ASAR	**Alice Springs**	**44.01**	**257**	P	**P**	**08 44 48.8**	**-0.3**
3.4nm,0.5s,baz=97,slow=7.6,SNR=64							
ASAR				PcP	**PcP**	**08 46 21.7**	**0.0**
0.6nm,0.6s,baz=102,slow=4.0,SNR=5.7							
WRA	**Warramunga Arr**	**44.13**	**263**	P	**P**	**08 44 49.1**	**-0.9**
2.0nm,0.5s,baz=97,slow=7.7,SNR=49							
NVAR	**Mina Array Bea**	**81.66**	**44**	P	**P**	**08 48 51.3**	**+0.9**
0.3nm,0.6s,baz=222,slow=8.9,SNR=4.8							
ILAR	**Eielson Array**	**88.88**	**13**	P	**P**	**08 49 23.2**	**-1.2**
0.5nm,0.5s,baz=224,slow=5.5,SNR=7.7							
PDAR	**Pinedale Array**	**89.59**	**43**	P	**P**	**08 49 28.8**	**+0.3**
0.3nm,0.6s,baz=245,slow=3.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**08 49 30.7**	**+0.5**
0.8nm,0.3s,baz=114,slow=2.2,SNR=4.2							
AKASG	**Malin Array Be**	**143.24**	**330**	PKP	PKPab	08 55 57.1	-1.4
2.9nm,0.4s,baz=43,slow=4.3,SNR=16							
BRTR	**Keskin Array B**	**146.86**	**311**	PKPbc	**PKPbc**	**08 56 08.9**	**-1.1**
0.9nm,0.6s,baz=135,slow=6.3,SNR=4.4							
GERES	**GERESS Array B**	**150.55**	**344**	PKPbc	**PKPbc**	**08 56 18.4**	**-0.3**
0.3nm,0.4s,baz=22,slow=1.4,SNR=5.9							

IDC 22 08:58:15.2±8.5, 7.°10S×106.°48W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/29, mbtmp3.6/5, MS3.5/9, Ms1 3.5/9, ms1mx3.3/26, Error ellipse: s-maj=253.7km s-min=120.9km az=119.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**27.53**	**51**	LR	LR	09 12 45.2	
comp=Z,36nm,19.6s,baz=282,slow=32							
ATAH	**Atahualpa**	**27.87**	**92**	LR	LR	09 11 07.6	
comp=Z,38nm,21.5s,baz=274,slow=28							
NNA	**Nana**	**29.62**	**102**	LR	LR	09 13 15.2	
comp=Z,122nm,19.7s,baz=244,slow=30							
TXAR	**Lajitas Array**	**36.32**	**4**	P	P	09 05 20.8	-0.1
0.5nm,1.0s,baz=192,slow=12,SNR=2.7							
H03N2	**Juan Fernandez**	**36.57**	**140**	T	T	09 45 23.0	
baz=313,slow=77,SNR=42							
H03N1	**Juan Fernandez**	**36.59**	**140**	T	T	09 45 27.1	
baz=313,slow=77,SNR=37							
H03N3	**Juan Fernandez**	**36.59**	**140**	T	T	09 45 28.7	
baz=313,slow=77,SNR=70							
LPAZ	**La Paz**	**38.59**	**107**	LR	LR	09 18 28.9	
comp=Z,74nm,21.8s,baz=252,slow=32							
PLCA	**Paso Flores**	**46.33**	**142**	LR	LR	09 21 39.7	
comp=Z,148nm,20.6s,baz=326,slow=30							
NVAR	**Mina Array Bea**	**46.61**	**347**	P	P	09 06 45.5	+0.1
0.3nm,0.8s,baz=180,slow=9.0,SNR=3.9							
ELK	**Elko**	**48.28**	**351**	LR	LR	09 22 58.1	
comp=Z,98nm,18.4s,baz=182,slow=31							
PDAR	**Pinedale Array**	**49.71**	**357**	P	P	09 07 09.0

R32A	Long Quarter,	1.61 347		Pb	09 40 38.8	-0.3
R32A			IAmb_Lg		09 41 00.8	
	comp=Z,8.6nm,0.9s					
FNO	Franklin	1.73 156	Pn	Pn	09 40 39.5	+0.1
WMOK	Wichita Mounta	2.14 191		Pn	09 40 45.7	+0.6
X34A	Smith Ranch, M	2.27 171	Pn	Pn	09 40 46.9	+0.1
X34A			IAmb_Lg		09 41 26.2	
	comp=Z,9.7nm,1.1s					
CBKS	Cedar Bluff	2.29 330	Pn	Pn	09 40 47.4	+0.3
LOOK	Love County	2.98 162	Pn	Pn	09 40 57.7	+1.1
U38A	Gravette	3.15 96		Pn	09 40 58.7	-0.2
X37A	Clayton	3.26 133	Pn	Pn	09 41 00.9	+0.5
X37A			IAmb_Lg		09 42 00.5	
	comp=Z,8.7nm,1.1s					
HHAR	Hobbs	3.53 98	IAmb_Lg		09 42 09.8	
	comp=Z,4.2nm,0.9s					
KSCO	Kaye Shedlock'	4.07 303	IAmb_Lg		09 42 18.5	
	comp=Z,3.9nm,0.7s					
U40A	Yellville	4.38 95	IAmb_Lg		09 42 31.4	
	comp=Z,5.1nm,0.8s					
MGMO	Mountain Grove	4.81 85	Pn	Pn	09 41 22.4	+0.6
CCM	Cathedral Cave	5.71 76	IAmb_Lg		09 43 15.3	
	comp=Z,3.4nm,0.8s					
JCT	Junction City	6.48 192	IAmb_Lg		09 43 37.3	
	comp=Z,4.7nm,1.0s					

*IDC **22** 10:04:50.7±2.2,2°.22N×96°.10E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/41, mbtmp3.9/7, ML4.1/1, MS2.9/3, Ms1 3.0/3, ms1mx2.7/37, Error ellipse: s-maj=90.0km s-min=21.2km az=59.0*

*NEIC **22** 10:04:57.0±1.2,2°.3N±0°.1×96°.3E±0°.2, h31km±10km, mb4.2/14, Error ellipse: s-maj=38.2km s-min=7.5km az=57.0*

ISC 22 10:04:55.8±1.3, 2°.3N±0°.1×96°.3E±0°.2, h30km, n34, σ0=53/26, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.62 128			Pn	10 05 22.8	+0.4
CMAR	Chiang Mai Arr	16.25	9	Pn	Pn	10 08 42.6	+0.5
	0.2nm,0.3s,baz=198,slow=10,SNR=6.9						
CMAR				LR	LR	10 14 22.7	
	comp=Z,49nm,19.7s,baz=205,slow=35						
CMAR	Chiang Mai Arr	16.25	9	Pn	Pn	10 08 41.8	-0.2
PALK	Pallekele	16.31 288		LR	LR	10 13 30.3	
	comp=Z,34nm,22.0s,baz=214,slow=32						
SLVN	Son La	20.30	21	P	P	10 09 30.0	+0.6
H08S2	Diego Garcia H	25.74	247	T	T	10 36 55.7	
	baz=68,slow=76,SNR=818						
H08S3	Diego Garcia H	25.74	247	T	T	10 36 55.8	
	baz=68,slow=76,SNR=1124						
H08S1	Diego Carcia H	25.76	247	T	T	10 36 52.7	
	baz=68,slow=76,SNR=1077						
LSA	Lhasa	27.67	350	P	P	10 10 42.5	+0.7
LSA				IAmb	IAmb	10 10 43.4	
	comp=Z,7.6nm,1.0s						
DAV	Davao City (W)	29.54	80	P	P	10 10 57.2	-0.9
ENH	Enshi	30.48	23	P	P	10 11 06.2	-0.1
H01W3	Cape Leeuwin H	40.61	157	T	T	10 55 46.4	
	baz=332,slow=76,SNR=111						
H01W2	Cape Leeuwin H	40.62	157	T	T	10 55 47.6	
	baz=332,slow=76,SNR=117						
H01W1	Cape Leeuwin H	40.63	157	T	T	10 55 45.4	
	baz=332,slow=76,SNR=105						
DRK	Karamyk	43.19	332	P	P	10 12 55.5	+1.0
WB0	Warramunga Arr	43.35	122	P	P	10 12 55.7	0.0
WB0				IAmb	IAmb	10 13 23.5	
	comp=Z,5.3nm,1.4s						
WRA	Warramunga Arr	43.38	122	P	P	10 12 56.3	+0.3
	comp=Z,0.6nm,0.8s,baz=299,slow=8.8,SNR=4.7						
WRA	Warramunga Arr	43.38	122	P	P	10 12 56.9	+0.9
WRAB	Tennant Creek	43.39	122	P	P	10 12 56.3	+0.3
WRAB				IAmb	IAmb	10 12 56.9	
	comp=Z,5.9nm,1.4s						
WB2	Warramunga Arr	43.39	122	P	P	10 12 56.2	+0.1
WB2				IAmb	IAmb	10 13 19.0	
	comp=Z,8.4nm,1.5s						
WR0	Warramunga Arr	43.56	122	P	P	10 12 57.5	+0.1
ASAR	Alice Springs	44.78	127	P	P	10 13 07.3	+0.1
	comp=Z,0.3nm,0.6s,baz=298,slow=7.6,SNR=7.3						
ASAR	Alice Springs	44.78	127	P	P	10 13 06.5	-0.6
KSRS	Korea Array	45.45	36	LR	LR	10 32 31.9	
	comp=Z,18nm,18.2s,baz=200,slow=36						
MK31	Makanchi Array	45.95	347	P	P	10 13 16.1	0.0
MK31				IAmb	IAmb	10 13 18.5	
	comp=Z,1.9nm,0.9s						
MKAR	Makanchi Array	45.95	347	P	P	10 13 16.4	+0.3
	comp=Z,2.8nm,0.9s,baz=159,slow=7.3,SNR=12						
MKAR	Makanchi Array	45.95	347	P	P	10 13 15.4	-0.7
SONM	Songino Array	46.17	9	P	P	10 13 17.6	-0.3
	comp=Z,1.2nm,0.4s,baz=188,slow=9.7,SNR=8.4						
SONM	Songino Array	46.17	9	P	P	10 13 18.0	0.0
SONM				IAmb	IAmb	10 13 19.7	
	comp=Z,2.2nm,1.1s						
KKAR	Karatay Array	46.67	334	P	P	10 13 21.5	-0.3
PMG	Port Moresby	51.98	104	P	P	10 14 03.0	+0.2
ZAA0	Zalesovo Array	52.32	351	P	P	10 14 04.7	+0.1
ZAA0				IAmb	IAmb	10 14 05.5	
	comp=Z,2.6nm,0.8s						
ZALV	Zalesovo Beam	52.32	351	P	P	10 14 04.8	+0.1
	comp=Z,2.9nm,0.5s,baz=179,slow=6.9,SNR=9.4						
ARCES	ARCESS Array B	81.19	340	P	P	10 17 07.4	-1.0
	comp=Z,1.0nm,0.8s,baz=90,slow=8.5,SNR=4.0						

NNC 22 10:06:14.6±3.9, 51°.57N×75°.62E, h0km, mb3.7, mpv3.3, 1C-3D, Error ellipse: s-maj=69.8km s-min=25.9km az=27.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.06 116		⇑Pg	Pb	10 06 52.6	-0.3
	8.0nm,0.3s,baz=299,slow=13						
KURBB				⇓Lg	Lg	10 07 19.8	
	27nm,0.3s						
BVB5	Borovoye Array	3.54 296		⇓Lg	Lg	10 08 06.6	
	4.1nm,0.4s						
MK31	Makanchi Array	6.47 135		⇓Lg	Lg	10 09 35.1	
	1.6nm,0.5s,baz=336,slow=26,SNR=3.6						

*IDC **22** 10:24:39.4±7.6, 16°.45N×93°.82W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/36, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=207.7km s-min=116.4km az=44.0*

*MEX **22** 10:25:04.9±1.2, 17°.37N×94°.70W, h146km±11km, MD4.1*

ISC 22 10:25:04.0±0.9, 17°.33N±0°.08×94°.70W±0°.04, h140km±11km, n15, σ0=95/26, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		1.61 110		eP	Pn	10 25 34.3	+0.2
TGIG				eS	Sn	10 25 56.1	-0.9
VHO	Vista Hermosa	1.96 263		eP	Pn	10 25 39.4	+1.1
VHO				eS	Sn	10 26 05.7	+1.3
HUIG	Huatulco	2.06 221		eP	Pn	10 25 38.3	-0.9
HUIG				eS	Sn	10 26 07.2	+0.9
TOIG	Toxpalan	2.38 289		eP	Pn	10 25 44.2	+1.0
TOIG				eS	Sn	10 26 13.3	0.0
CCIG	Comitan	2.67 113		eP	Pn	10 25 47.2	+0.3
CCIG				eS	Sn	10 26 18.8	-1.2
PEIG	Puerto Escondi	2.69 241		eP	Pn	10 25 45.6	-1.5
PEIG				eS	Sn	10 26 20.1	-0.2
TPIG	Tehuac#an	2.75 294		eP	Pn	10 25 49.3	+1.3
TPIG				eS	Sn	10 26 21.6	-0.2
YOIG	Yosondua	2.76 261		eP	Pn	10 25 48.4	+0.2
YOIG				eS	Sn	10 26 22.3	+0.1
HLIG	Huajuapan de L	3.00 280		eP	Pn	10 25 52.0	+0.8
HLIG				eS	Sn	10 26 26.7	-0.9
THIG		3.36 135		eP	Pn	10 25 56.0	+0.4
THIG				eS	Sn	10 26 35.9	+0.3
PPM	Popocatepetl	4.11 295		eP	Pn	10 26 08.4	+2.5
PPM				eS	Sn	10 26 45.8	-8.1
TXAR	Lajitas Array	14.50 327		Pn	P	10 28 24.1	-1.3
	0.1nm,0.3s,baz=146,slow=16,SNR=5.7						
ANMO	Albuquerque	20.44 331		P	P	10 29 31.4	+0.9
	0.9nm,0.9s,baz=163,slow=15,SNR=3.7						
NVAR	Mina Array Bea	29.46 320		P	P	10 30 56.7	+1.8
	0.9nm,0.7s,baz=135,slow=9.3,SNR=11						
ILAR	Eielson Array	58.77 337		P	P	10 34 46.3	-0.7
	0.3nm,0.3s,baz=132,slow=5.3,SNR=2.3						

IDC 22 10:25:20.3±9.6, 10°.93S×167°.35E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.6/3, Error ellipse: s-maj=292.2km s-min=58.2km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.00	250	P	P	10 31 57.2	-0.2
	0.5nm,1.0s,baz=82,slow=8.9,SNR=2.3						
ASAR	Alice Springs	34.25	244	P	P	10 32 08.3	+0.1
	0.4nm,0.8s,baz=71,slow=9.6,SNR=4.8						
MKAR	Makanchi Array	94.52	317	P	P	10 38 42.7	-0.1
	0.4nm,0.5s,baz=101,slow=6.3,SNR=4.1						

*INET **22** 10:25:35.1, 12°.07N×87°.59W, h33km, ML4.0, MW3.4*

SNET 22 10:25:40.9±0.7, 12°.26N×87°.63W, h26km±4km, ML3.1, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.03 349		eP	Pn	10 25 59.6	-0.2
CNCH				eS	Sn	10 26 14.7	+1.1
LCND	La Caada	1.07 346		⇑iP	Pn	10 26 00.1	-0.2
LCND				eS	Sb	10 26 15.3	+0.8
LCND				IAML		10 26 17.4	
	comp=Z,698nm,0.3s						
TECA	Tecapa	1.49 325		eP	Pn	10 26 06.3	0.0
PQSS	Presa 15 de Se	1.63 326		⇑iP	Pn	10 26 08.6	+0.6
TECO	Alcaldia de Te	1.70 319		eP	Pn	10 26 08.8	-0.1
UESV	Universidad de	1.77 321		eP	Pn	10 26 10.4	+0.4
TGUH	Tegucigalpa,Un	1.82 11		eP	Pn	10 26 10.3	-0.4
COEG	Centro de Oper	1.82 318		eP	Pn	10 26 10.6	-0.1
COEG				eS	Sn	10 26 33.9	+0.9
COEG				IAML		10 26 38.4	
	comp=Z,248nm,0.3s						
SJTE	Alcalda de S	1.90 315		⇓iP	Pn	10 26 12.0	+0.2
SJTE				IAML		10 26 41.0	
	comp=Z,91nm,0.3s						
LFRS	El Faro	1.95 314		eP	Pn	10 26 12.7	+0.2
LFRS				eS	Sn	10 26 37.5	+1.4

*TUL **22** 10:48:27.3±1.1, 36°.600N±0°.008×97°.69W±0°.01, h6km±7km, ML3.2, mb_Lg2.9/74(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=118.0*

NEIC 22 10:48:27.3±0.7, 36°.58N±0°.01×97°.69W±0°.02, h5km±7km, Error ellipse: s-maj=2.3km s-min=1.7km az=221.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.25	253		Pg	10 48 32.6	+0.4
GC02	Grant County #	0.31	333		Pg	10 48 33.3	0.0
GC02				Sg	Sg	10 48 37.5	+0.2
BLOK	Blackwell	0.42	64	Pg	Pg	10 48 35.6	+0.1
BLOK				Sg	Sg	10 48 41.4	+0.4
KAN13	South Haven SW	0.47	21		Pg	10 48 36.2	-0.2
KAN13				Sg	Sg	10 48 42.4	0.0
KAN17	Caldwell West	0.47	352		Pg	10 48 36.2	-0.2
KAN17				Sg	Sg	10 48 42.5	0.0
OK032	Salt Plains WL	0.48	298		Pg	10 48 36.5	0.0
OK032				Sg	Sg	10 48 43.2	+0.5
KAN05	Bluff City Nor	0.55	344		Pg	10 48 37.8	-0.2
KAN10	Anthony SW Sta	0.64	329		Pg	10 48 39.3	-0.2
KAN10				Sg	Sg	10 48 47.8	0.0
KS20	Mayfield South	0.66	9		Pg	10 48 39.6	-0.4
KS20				Sg	Sg	10 48 48.3	-0.3
KAN08	Anthony NE Sta	0.69	341		Pg	10 48 40.4	-0.1
KAN08				Sg	Sg	10 48 49.5	0.0
KAN12	Harper NE Stat	0.76	341		Pg	10 48 41.6	-0.3
KAN12				Sg	Sg	10 48 51.7	-0.1
OK029	Liberty Lake	0.80	166		Pg	10 48 42.8	+0.1
QUOK	Quay	0.89	117		Pg	10 48 44.3	-0.1
BCOK	Bluff Creek, N	0.92	176	Pg	Pg	10 48 45.0	0.0
OK031	S. Brethren Rd	0.93	132		Pg	10 48 45.1	0.0
OK031				Sg	Sg	10 48 57.5	+0.4
T35A	Sooner Cattle	1.00	70		Pg	10 48 46.1	-0.5
T35B	Sooner Cattle	1.00	70	P		10 48 46.0	
	baz=251						
T35B				S		10 48 59.4	
	baz=251						
OK025	Westminster Rd	1.03	164		Pg	10 48 47.1	-0.1
U32A	Winter Ranch,	1.08	260	Pg	Pg	10 48 47.5	-0.6
U32A	Winter Ranch,	1.08	260	P		10 48 47.4	
	baz=79,SNR=12						
U32A				S		10 49 02.2	
	baz=79						
OKCSW	OKLAHOMA CITY	1.19	170		Pg	10 48 49.8	-0.3
FNO	Franklin	1.34	170		Pn	10 48 52.3	-0.4
TUL1	Leonard	1.67	113	P		10 48 57.5	
	baz=294,SNR=88						
TUL1				S		10 49 20.0	
	baz=294						
X34A	Smith Ranch, M	1.98	183		Pn	10 49 02.5	+1.0
R32A	Long Quarter,	2.01	336		Pn	10 49 03.1	+1.1
R32A	Long Quarter,	2.01	336	P		10 49 03.0	
	baz=156,SNR=16						
R32A				S		10 49 28.6	
	baz=156						
WMOK	Wichita Mounta	2.04	206		Pn	10 49 02.6	+0.2
WMOK	Wichita Mounta	2.04	206	P		10 49 02.6	
	baz=25,SNR=172						
WMOK				S		10 49 30.1	
	baz=25						
LOOK	Love County	2.61	171		Pn	10 49 10.3	0.0
KSU1	Kansas State U	2.66	18		Pn	10 49 11.4	+0.5
U38A	Gravette	2.66	92		Pn	10 49 10.9	0.0
X37A	Clayton	2.74	136		Pn	10 49 12.3	+0.4
X37A				IAmb_Lg		10 49 58.5	
	comp=Z,64nm,1.1s						
X37A	Clayton	2.74	136	P		10 49 13.2	
	baz=317,SNR=16						
CBKS	Cedar Bluff	2.76	325		Pn	10 49 12.1	-0.3
CBKS				IAmb_Lg		10 49 59.2	
	comp=Z,29nm,0.8s						
CBKS	Cedar Bluff	2.76	325	P		10 49 13.1	
	baz=143,SNR=7.9						
HHAR	Hobbs	3.04	94		Pn	10 49 16.9	+0.8
W39A	Magazine	3.46	112		Pn	10 49 22.1	+0.3
W39A				IAmb_Lg		10 50 22.8	
	comp=Z,34nm,0.8s						
AMTX	Amarillo	3.66	244		Pn	10 49 24.3	-0.4
U40A	Yellville	3.90	92	Pn	Pn	10 49 27.9	-0.1
U40A				IAmb_Lg		10 50 36.1	
	comp=Z,27nm,0.8s						
MIAR	Mount Ida	3.92	120		Pn	10 49 27.9	-0.3
MIAR				IAmb_Lg		10 50 33.4	
	comp=Z,33nm,0.9s						
MGMO	Mountain Grove	4.38	81	IAmb_Lg		10 50 48.5	
	comp=Z,37nm,0.8s						
P38A	Dawn	4.47	46	IAmb_Lg		10 50 49.9	
	comp=Z,28nm,0.8s						
X40A	Basin Creek Fa	4.47	116	IAmb_Lg		10 50 59.0	
	comp=Z,17nm,0.9s						
WHTX	Lake Whitney,	4.58	178	Pn	Pn	10 49 37.1	-0.2
WHTX	Lake Whitney,	4.58	178	P		10 49 37.5	
	baz=358,SNR=21						
R40A	Maddies Statio	4.64	67	IAmb_Lg		10 51 01.0	
	comp=Z,15nm,0.8s						
BGNE	Belgrade	4.84	356	IAmb_Lg		10 51 12.4	
	comp=Z,35nm,0.7s						
LCAR	Lake Charles	5.30	94	IAmb_Lg		10 51 17.9	
	comp=Z,17nm,0.8s						
T42A	Van Buren	5.31	83	IAmb_Lg		10 51 23.0	
	comp=Z,15nm,0.9s						
P40A	Paris	5.34	55	IAmb_Lg		10 51 25.9	
	comp=Z,17nm,0.9s						
CCM	Cathedral Cave	5.34	72	IAmb_Lg		10 51 19.7	
	comp=Z,21nm,0.8s						
T25A	Trinidad	5.42	278	IAmb_Lg		10 51 26.8	
	comp=Z,20nm,0.8s						
N38A	Joes South For	5.46	38	IAmb_Lg		10 51 31.5	
	comp=Z,29nm,0.9s						
L34A	Svendsen Farm,	5.48	10	IAmb_Lg		10 51 18.8	
	comp=Z,16nm,0.7s						
OGNE	Ogallala	5.53	323	IAmb_Lg		10 51 25.0	
	comp=Z,17nm,0.8s						
435B	Jarrell	5.78	179	IAmb_Lg		10 51 44.9	
	comp=Z,19nm,0.8s						
PBMO	Poplar Bluff	5.84	86	IAmb_Lg		10 51 36.2	
	comp=Z,20nm,0.7s						
GNAR	Gosnell	6.23	93	IAmb_Lg		10 51 57.2	
	comp=Z,31nm,0.7s						
JCT	Junction City	6.33 197		Pn	Pn	10 50 01.2	-0.2
JCT				IAmb_Lg		10 51 55.0	
	comp=Z,21nm,1.2s						
SDCO	Great Sand Dun	6.35 283		Pn	Pn	10 50 03.1	+1.3
SCIA	State Center	6.35 32		IAmb_Lg		10 52 01.2	
	comp=Z,14nm,0.8s						
N41A	Harden Midland	6.75 50		IAmb_Lg		10 52 09.2	
	comp=Z,20nm,0.7s						
ISCO	Idaho Springs	7.02 300		Pn	Pn	10 50 11.3	+0.2
W45A	Hickory Valley	7.05 99		IAmb_Lg		10 52 09.9	
	comp=Z,15nm,0.9s						
ECSD	EROS Data Cent	7.19 6		Pn	Pn	10 50 10.4	-2.8
L40A	Anamosa	7.42 40		IAmb_Lg		10 52 24.8	
	comp=Z,15nm,1.1s						
SMCO	Snowmass	7.79 292		Pn	Pn	10 50 21.1	-0.7
Y22D	IRIS PASSCAL I	7.95 254		IAmb_Lg		10 52 48.6	
	comp=Z,20nm,0.9s						
O44A	Mansfield	8.07 61		IAmb_Lg		10 52 48.4	
	comp=Z,17nm,0.8s						
L42A	Oliver, Polo	8.24 46		IAmb_Lg		10 52 47.6	
	comp=Z,13nm,0.8s						
T47A	Sharon Grove	8.50 84		IAmb_Lg		10 53 00.3	
	comp=Z,8.5nm,0.8s						
JFWS	Jewell Farm	8.53 40		IAmb_Lg		10 53 01.0	
	comp=Z,10.0nm,0.7s						
TX31	Lajitas Ar. Si	8.80 217		Pn	Pn	10 50 34.8	-0.5
TXAR	Lajitas Array	8.80 216		Pn	Pn	10 50 35.2	-0.1
RSSD	Black Hills	8.96 329		IAmb_Lg		10 53 22.5	
	comp=Z,7.8nm,1.0s						
I40A	Norwalk	9.08 34		IAmb_Lg		10 53 27.0	
	comp=Z,6.7nm,1.0s						
K22A	Casper	9.12 314		IAmb_Lg		10 53 39.0	
	comp=Z,9.3nm,1.0s						
SFIN	Lafayette	9.13 62		IAmb_Lg		10 53 19.9	
	comp=Z,11nm,0.7s						
WCI	Wyandotte Cave	9.22 76		IAmb_Lg		10 53 28.7	
	comp=Z,9.2nm,0.8s						
F33A	5 Mile Ranch,	9.31 6		IAmb_Lg		10 53 20.4	
	comp=Z,6.1nm,0.8s						
K43A	Burlington	9.46 47		IAmb_Lg		10 53 24.7	
	comp=Z,14nm,0.9s						

*TUL **22** 11:23:20.3±0.6, 36°.85N±0°.01×98°.24W±0°.04, h5km±5km, ML2.7, mb_Lg2.4/25(NEIC), Error ellipse: s-maj=4.1km s-min=1.7km az=101.0*

NEIC 22 11:23:20.6±0.8, 36°.84N±0°.02×98°.26W±0°.04, h9km±5km, Error ellipse: s-maj=5.0km s-min=2.1km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.05	132		Pg	11 23 21.9	-0.5
OK032				Sg	Sg	11 23 23.1	-0.7
KAN10	Anthony SW Sta	0.31	25		Pg	11 23 26.7	-0.2
KAN10				Sg	Sg	11 23 31.2	+0.2
GC02	Grant County #	0.32	88		Pg	11 23 26.7	-0.2
GC02				Sg	Sg	11 23 31.2	0.0
CROK	Carrier	0.40	146		Pg	11 23 28.4	-0.1
CROK				Sg	Sg	11 23 34.1	+0.4
KAN05	Bluff City Nor	0.41	49		Pg	11 23 28.5	-0.1
KAN05				Sg	Sg	11 23 34.2	+0.1
KAN17	Caldwell West	0.45	63		Pg	11 23 29.1	-0.2
KAN17				Sg	Sg	11 23 35.1	-0.1
KAN08	Anthony NE Sta	0.45	31		Pg	11 23 29.2	-0.2
KAN08				Sg	Sg	11 23 35.5	+0.1
KAN12	Harper NE Stat	0.50	24		Pg	11 23 30.2	-0.2
KAN12				Sg	Sg	11 23 37.2	+0.2
KAN13	South Haven SW	0.65	74		Pg	11 23 32.7	-0.5
KAN13				Sg	Sg	11 23 41.5	-0.2
KS20	Mayfield South	0.69	55		Pg	11 23 33.4	-0.4
U32A	Winter Ranch,	0.75	233	Pg	Pg	11 23 35.1	0.0
BLOK	Blackwell	0.84	95		Pg	11 23 36.1	-0.7
OK029	Liberty Lake	1.23	148		Pb	11 23 43.3	-0.7
BCOK	Bluff Creek, N	1.29	156	Pn	Pn	11 23 44.2	-0.7
T35A	Sooner Cattle	1.40	86		Pn	11 23 46.1	-0.3
QUOK	Quay	1.42	118		Pn	11 23 46.5	-0.1
OK031	S. Brethren Rd	1.45	127	Pn	Pn	11 23 47.0	0.0
OK025	Westminster Rd	1.46	149		Pn	11 23 47.3	+0.1
R32A	Long Quarter,	1.62	347		Pn	11 23 49.9	+0.5
FNO	Franklin	1.73	156	Pn	Pn	11 23 51.5	+0.7
WMOK	Wichita Mounta	2.14	192		Pn	11 23 57.4	+0.8
CBKS	Cedar Bluff	2.29	330	IAmb_Lg		11 24 35.1	
	comp=Z,23nm,0.8s						
LOOK	Love County	2.97	162	Pn	Pn	11 24 08.5	+0.5
U38A	Gravette	3.14	96	Pn	Pn	11 24 10.6	+0.3
X37A	Clayton	3.25	133	Pn	Pn	11 24 12.3	+0.5
X37A				IAmb_Lg		11 25 09.8	
	comp=Z,9.2nm,0.8s						
AMTX	Amarillo	3.40	236	IAmb_Lg		11 25 17.2	
	comp=Z,9.8nm,0.7s						
HHAR	Hobbs	3.52	98	Pn	Pn	11 24 15.7	+0.1
W39A	Magazine	3.98	113	IAmb_Lg		11 25 31.7	
	comp=Z,7.9nm,0.9s						
KSCO	Kaye Shedlock'	4.08	303	IAmb_Lg		11 25 38.3	
	comp=Z,7.0nm,0.7s						
U40A	Yellville	4.38	95		Pn	11 24 27.7	+0.4
U40A				IAmb_Lg		11 25 40.7	
	comp=Z,7.7nm,1.0s						
MGMO	Mountain Grove	4.81	84	Pn	Pn	11 24 33.5	+0.2
MGMO				IAmb_Lg		11 26 04.5	
	comp=Z,5.9nm,1.1s						
T25A	Trinidad	4.93	275	IAmb_Lg		11 26 10.3	
	comp=Z,6.1nm,0.9s						
R40A	Maddies Statio	4.97	71	IAmb_Lg		11 25 59.2	
	comp=Z,5.0nm,0.8s						
X40A	Basin Creek Fa	5.00	116	IAmb_Lg		11 26 02.5	
	comp=Z,6.7nm,0.8s						
L34A	Svendsen Farm,	5.32	15	IAmb_Lg		11 26 12.6	
	comp=Z,7.0nm,0.8s						
N38A	Joes South For	5.57	43	IAmb_Lg		11 26 28.3	
	comp=Z,8.7nm,0.7s						
PBMO	Poplar Bluff	6.28	88	IAmb_Lg		11 26 50.7	
	comp=Z,5.1nm,0.9s						

*TUL **22** 11:25:48±0.8, 36°.285N±0°.004×97°.51W±0°.02, h8km±7km, ML2.9, mb_Lg2.9/56(NEIC), Error ellipse: s-maj=1.8km s-min=0.3km az=76.0*

NEIC 22 11:25:48.0±0.9, 36°.285N±0°.004×97°.52W±0°.02, h2km±7km, Error ellipse: s-maj=1.9km s-min=0.3km az=75.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.44	300	Pg	Pg	11 25 56.5	+0.1
CROK				Sg	Sg	11 26 02.7	+0.7
OK029	Liberty Lake	0.49	174		Pg	11 25 57.5	+0.1
OK029				Sg	Sg	11 26 04.3	+0.6
BLOK	Blackwell	0.53	27	Pg	Pg	11 25 58.4	+0.2

Z35A	**Perchaven, San**	**2.96 176**	Pn	Pn	11 26 35.4	-0.6
W39A	**Magazine**	**3.22 109**	IAmb_Lg		11 27 34.3	
	comp=Z,43nm,0.8s					
MIAR	**Mount Ida**	**3.66 117**	IAmb_Lg		11 27 52.7	
	comp=Z,20nm,0.9s					
AMTX	**Amarillo**	**3.67 249**	IAmb_Lg		11 27 50.7	
	comp=Z,23nm,0.7s					
U40A	**Yellville**	**3.77 88**	IAmb_Lg		11 27 47.9	
	comp=Z,30nm,0.8s					
X40A	**Basin Creek Fa**	**4.22 114**	IAmb_Lg		11 28 06.5	
	comp=Z,23nm,0.7s					
WHTX	**Lake Whitney,**	**4.28 179**		Pn	11 26 53.7	-0.6
MGMO	**Mountain Grove**	**4.30 77**	Pn	Pn	11 26 54.0	-0.6
MGMO			IAmb_Lg		11 28 09.8	
	comp=Z,22nm,0.9s					
P38A	**Dawn**	**4.58 42**	IAmb_Lg		11 28 24.3	
	comp=Z,18nm,0.8s					
KSCO	**Kaye Shedlock'**	**4.88 305**	IAmb_Lg		11 28 28.1	
	comp=Z,16nm,0.8s					
BGNE	**Belgrade**	**5.14 355**	IAmb_Lg		11 28 35.6	
	comp=Z,18nm,0.7s					
T42A	**Van Buren**	**5.22 80**	IAmb_Lg		11 28 38.4	
	comp=Z,20nm,1.1s					
CCM	**Cathedral Cave**	**5.31 69**	IAmb_Lg		11 28 44.7	
	comp=Z,22nm,0.8s					
P40A	**Paris**	**5.40 52**	IAmb_Lg		11 28 42.7	
	comp=Z,22nm,0.8s					
T25A	**Trinidad**	**5.61 281**	IAmb_Lg		11 28 53.5	
	comp=Z,11nm,1.0s					
N38A	**Joes South For**	**5.61 35**	IAmb_Lg		11 28 46.7	
	comp=Z,20nm,0.7s					
OGNE	**Ogallala**	**5.84 324**	IAmb_Lg		11 29 00.2	
	comp=Z,18nm,0.8s					
S44A	**Carbondale**	**6.76 76**	IAmb_Lg		11 29 27.4	
	comp=Z,19nm,0.9s					
SIUC	**Southern Illin**	**6.79 75**	IAmb_Lg		11 29 19.3	
	comp=Z,14nm,0.8s					
W45A	**Hickory Valley**	**6.87 97**	IAmb_Lg		11 29 29.8	
	comp=Z,21nm,0.8s					
L40A	**Anamosa**	**7.56 38**	IAmb_Lg		11 29 56.3	
	comp=Z,14nm,0.8s					
OLIL	**Olney**	**7.87 69**	IAmb_Lg		11 30 09.5	
	comp=Z,17nm,0.9s					
PHWY	**Pilot Hill**	**7.97 311**	IAmb_Lg		11 30 06.7	
	comp=Z,8.8nm,0.7s					
O44A	**Mansfield**	**8.10 59**	IAmb_Lg		11 30 18.5	
	comp=Z,15nm,0.8s					
T47A	**Sharon Grove**	**8.40 82**	IAmb_Lg		11 30 19.0	
	comp=Z,11nm,0.9s					
JFWS	**Jewell Farm**	**8.67 38**	IAmb_Lg		11 30 20.9	
	comp=Z,11nm,0.7s					
SFIN	**Lafayette**	**9.15 60**	IAmb_Lg		11 30 35.6	
	comp=Z,13nm,0.9s					
K22A	**Casper**	**9.43 315**	IAmb_Lg		11 31 09.5	
	comp=Z,10nm,1.0s					
K43A	**Burlington**	**9.56 45**	IAmb_Lg		11 30 51.8	
	comp=Z,14nm,0.9s					

PRU ***22*** *12:11:46.9±0.0, 51°.54N×16°.11E, h0km*
VIE ***22*** *12:11:46.5±0.8, 51°.54N×16°.12E, h0km, mb2.5/6, ml2.7/6, Error ellipse: s-maj=6.1km s-min=4.6km az=50.0 80 km NW of Wroclaw Suspected Mining induced.*
IDC ***22*** *12:11:47.8±1.4, 51°.58N×15°.90E, h0km, mb1 3.3/3, mb1mx3.1/28, mbtmp3.1/3, ML2.0/2, Error ellipse: s-maj=29.5km s-min=10.8km az=129.0*
ISC 22 12:11:45.2±0.8, 51°.64N±0°.04×16°.10E±0°.03, h0km, n30, σ1.9 27/59, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.81**	**171**	*e*Pg	**Pg**	**12 12 00.6**	**0.0**
KSP				*e*Sg	**Sg**	**12 12 10.3**	**-0.7**
CHVC	**Chvalec**	**1.05**	**181**	*e*PG	**Pg**	**12 12 05.0**	**-0.3**
CHVC				*e*SG	**Sg**	**12 12 17.9**	**-1.0**
	comp=Z,42nm,0.4s						
OSTC	**Ostas**	**1.08**	**176**	*e*PG	**Pg**	**12 12 05.5**	**-0.5**
OSTC				*e*SG	**Sg**	**12 12 19.1**	**-0.9**
	comp=Z,38nm,0.5s						
UPC	**Upice**	**1.13**	**183**	*e*PG	**Pg**	**12 12 06.8**	**-0.1**
UPC				*e*SG	**Sg**	**12 12 20.5**	**-1.1**
	comp=Z,70nm,0.4s						
DPC	**Dobruska-Polom**	**1.30**	**174**	*e*PG	**Pg**	**12 12 09.5**	**-0.5**
DPC				*e*SG	**Sg**	**12 12 25.2**	**-1.6**
	comp=Z,35nm,0.5s						
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG	**Pn**	**12 12 13.2**	**+0.3**
PVCC				*e*SG	**Sn**	**12 12 32.8**	**-0.1**
	comp=Z,167nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**241**	Pg	**Pn**	**12 12 15.4**	**+1.3**
BRG				Sg	**Sn**	**12 12 35.8**	**+0.9**
BRG				Amp		12 12 37.5	
	comp=Z,62nm,0.5s						
KRLC	**Kraliky**	**1.62**	**164**	*e*PG	**Pn**	**12 12 14.4**	**-0.7**
KRLC				*e*SG	**Sg**	**12 12 35.0**	**-2.3**
	comp=Z,16nm,0.4s						
PRU	**Pruhonice**	**1.92**	**211**	*e*PG	**Pn**	**12 12 19.6**	**+0.4**
PRU				*e*SG	**Sb**	**12 12 45.2**	**-0.4**
	comp=Z,43nm,0.8s						
CLL	**Collm**	**1.96**	**262**	*e*Pg	**Pb**	**12 12 23.0**	**+1.2**
CLL				*e*		12 12 27.0	
CLL				*e*Sg	**Sb**	**12 12 49.0**	**+2.2**
	comp=Z,18nm,0.5s						
MORC	**Moravsky Berou**	**2.08**	**153**	*e*PN	**Pn**	**12 12 20.5**	**-0.9**
MORC				*e*SG	**Sb**	**12 12 49.2**	**-1.0**
VRAC	**Vranov**	**2.35**	**172**	*e*PN	**Pn**	**12 12 25.5**	**+0.4**
VRAC				*e*SG	**Sb**	**12 12 57.4**	**-0.7**
PBCC	**Pribram**	**2.37**	**215**	*e*PG	**Pb**	**12 12 29.0**	**+0.3**
PBCC				*e*SG	**Sg**	**12 12 59.9**	**-1.3**
KRUC	**Moravsky**	**2.59**	**176**	*e*PN	**Pn**	**12 12 28.3**	**0.0**
KRUC				*e*SG	**Sb**	**12 13 04.4**	**-0.3**
NKC	**Novy Kostel**	**2.70**	**240**	*e*SG	**Sg**	**12 13 12.4**	**+0.4**
	comp=Z,38nm,0.4s						
OJC	**Ojcow**	**2.74**	**120**	*e*Pg	**Pb**	**12 12 36.4**	**+1.4**
OJC				*e*Sg	**Sg**	**12 13 12.4**	**-0.7**
JAVC	**Velka Javorina**	**2.96**	**159**	*e*PN	**Pn**	**12 12 33.4**	**-0.1**
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**12 12 34.3**	**+0.5**
KHC				*e*PG	**Pb**	**12 12 39.6**	**+0.4**
KHC				*e*SN	**Sn**	**12 13 09.0**	**-1.2**
KHC				*e*SG	**Sg**	**12 13 18.9**	**-2.0**
	comp=Z,7.4nm,0.3s						
CKRC	**Cesky Krumlov**	**3.04**	**203**	*e*PN	**Pn**	**12 12 35.2**	**+0.6**
CKRC				*e*SG	**Sg**	**12 13 20.4**	**-2.6**
GERES	**GERESS Array B**	**3.19**	**210**	Pn	**Pn**	**12 12 37.4**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=9.1						
GERES				Pg	**Pb**	**12 12 43.6**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=34,slow=17,SNR=17						
GERES				Lg	Lg	12 13 26.2	
	comp=Z,3.3nm,0.3s,baz=24,slow=28,SNR=11						
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG	**Pg**	**12 12 50.4**	**+0.9**
MODS				*e*SG	**Sn**	**12 13 22.8**	**+3.4**
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PN	**Pg**	**12 12 51.2**	**+1.7**
MODS				*e*SN	**Sg**	**12 13 36.3**	**+3.4**
CONA	**Conrad Observa**	**3.72**	**182**	*e*Pn	**Pn**	**12 12 44.4**	**+0.5**
	comp=Z,0.5nm,0.1s						
CONA				*e*Sn	**Sn**	**12 13 28.5**	**+0.1**
	comp=Z,7.0nm,0.4s						
MOA	**Molln**	**3.97**	**198**	*e*Pn	**Pn**	**12 12 47.7**	**+0.3**
	comp=Z,3.1nm,0.3s						
MOA				*e*Sn	**Sn**	**12 13 35.1**	**+0.4**
	comp=Z,1.2nm,0.1s						
ARSA	**Arzberg**	**4.41**	**185**	*e*Pn	**Pn**	**12 12 53.0**	**-0.3**
	comp=Z,1.2nm,0.2s						
ARSA				*e*Sn	**Sn**	**12 13 47.5**	**+2.1**
	comp=Z,1.3nm,0.4s						
BLEU	**Blekinge**	**4.68**	**358**	*e*	**Pn**	**12 12 57.3**	**+0.3**
	baz=186,slow=11						
BLEU				*i* P	**Pn**	**12 12 58.0**	**+1.0**
BLEU				*i* S	**Sn**	**12 13 49.5**	**-2.4**
KBA	**Koelnbreinsper**	**4.90**	**203**	*e*Pn	**Pn**	**12 13 00.1**	**-0.2**
	comp=Z,0.4nm,0.2s						
KBA				*e*Sn	**Sn**	**12 13 57.5**	**-0.3**
	comp=Z,0.4nm,0.2s						
DEL	**Delary**	**5.02**	**346**	*i* P	**Pn**	**12 13 01.9**	**+0.3**
DEL				*i* S	**Sn**	**12 13 57.5**	**-2.7**
DEL				IAML		12 14 01.7	
	comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**8.31**	**91**	Pn	**Pn**	**12 13 47.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=278,slow=12,SNR=2.3						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**12 14 26.4**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=209,slow=11,SNR=1.7						

ISK ***22*** *12:25:23.8, 42°.49N×43°.43E, h5km, ML3.0/1*
TIF ***22*** *12:25:24.9, 42°.50N×43°.45E, h14km*

MOS ***22*** *12:25:25.1±0.0, 42°.48N×43°.37E, h10km, MPVA3.6*
NORS ***22*** *12:25:25.4±0.0, 42°.59N×43°.42E, h10km, MPVA3.4*
DDA ***22*** *12:25:27.0, 42°.37N×43°.24E, h10km±14km, ML2.4*
ISC 22 12:25:25.2±0.8, 42°.48N±0°.02×43°.42E±0°.02, h11km±5km, n35, σ0.76/74, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.11**	**14**	P	**Pg**	**12 25 28.5**	**+0.3**
ONI				S	**Sg**	**12 25 30.4**	**+0.1**
ONI	**Oni**	**0.11**	**14**	*e*Pg	**Pg**	**12 25 28.6**	**+0.4**
ONI				*e*Sg	**Sg**	**12 25 30.5**	**+0.1**
TKB	**Tkibuli**	**0.34**	**247**	P	**Pb**	**12 25 32.9**	**-0.5**
TKB				S	**Sb**	**12 25 38.4**	**-0.4**
DIGR	**Digorskoe uzhe**	**0.43**	**16**	*i* Pg	**Pg**	**12 25 33.2**	**-0.6**
DIGR				*e*Sg	**Sg**	**12 25 39.5**	**-0.1**
ZEI	**Tsey**	**0.47**	**49**	*e*Pg	**Pg**	**12 25 34.1**	**-0.4**
ZEI				*e*Sg	**Sg**	**12 25 40.7**	**-0.1**
BKRG	**Bakuriani**	**0.73**	**174**	P	**Pb**	**12 25 39.9**	**-0.1**
BKRG				S	**Sb**	**12 25 50.9**	**+0.8**
LACR	**Lac**	**0.73**	**62**	*e*Pg	**Pg**	**12 25 38.9**	**-0.6**
LACR				*e*Sg	**Sg**	**12 25 48.8**	**-0.3**
KORR	**Kora**	**0.77**	**38**	*e*Pg	**Pg**	**12 25 39.9**	**-0.2**
KORR				*e*Sg	**Sb**	**12 25 51.4**	**+0.2**
MTEO	**Meteo**	**0.85**	**76**	P	**Pg**	**12 25 41.2**	**-0.5**
MTEO				S	**Sg**	**12 25 52.5**	**-0.3**
LSNR	**Lesken**	**0.85**	**21**	*i* Pg	**Pg**	**12 25 41.4**	**-0.2**
LSNR				*i* Sg	**Sb**	**12 25 53.8**	**+0.3**
ABS	**Abastumani**	**0.85**	**212**	P	**Pb**	**12 25 42.2**	**0.0**
ABS				S	**Sb**	**12 25 54.9**	**+1.2**
PNSH	**Pansheti**	**0.90**	**80**	P	**Pg**	**12 25 41.9**	**-0.7**
PNSH				S	**Sg**	**12 25 53.1**	**-1.2**
NEY	**Neytrino**	**0.92**	**327**	*e*Pg	**Pg**	**12 25 42.8**	**-0.2**
NEY				*e*Sg	**Sb**	**12 25 55.2**	**-0.5**
ARNR	**Ardon**	**0.94**	**42**	*e*Pg	**Pn**	**12 25 44.1**	**-0.4**
ARNR				*e*Sg	**Sn**	**12 25 58.1**	**+0.2**
STDR	**Stavd-Durt**	**1.00**	**28**	*e*Pg	**Pn**	**12 25 45.9**	**+0.6**
STDR				*e*Sg	**Sn**	**12 26 00.7**	**+1.3**
CHVG	**Ch'k'valeri**	**1.01**	**284**	P	**Pn**	**12 25 45.2**	**-0.1**
CHVG				S	**Sn**	**12 25 59.8**	**+0.2**
NCK	**Nalchik**	**1.02**	**7**	*e*Pg	**Pn**	**12 25 45.2**	**-0.3**
NCK				*e*Sg	**Sn**	**12 25 59.9**	**+0.1**
TRLG	**Trialeti**	**1.07**	**151**	P	**Pg**	**12 25 45.9**	**0.0**
TRLG				S	**Sn**	**12 26 01.3**	**0.0**
AKH	**Akhalkalaki**	**1.07**	**177**	P	**Pb**	**12 25 46.2**	**+0.3**
AKH				S	**Sn**	**12 26 01.5**	**+0.2**
AKH	**Akhalkalaki**	**1.07**	**177**	PN	**Pg**	**12 25 45.5**	**-0.4**
AKH				SN	**Sn**	**12 26 01.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.09**	**58**	*e*Pg	**Pb**	**12 25 46.0**	**-0.1**
VLKR				*e*Sg	**Sn**	**12 26 03.0**	**+1.5**
BTKR	**Batakoyurt**	**1.21**	**43**	*e*Pg	**Pg**	**12 25 49.7**	**+1.1**
BTKR				*e*Sg	**Sn**	**12 26 08.8**	**+4.2**
BGD	**Bogdanovka**	**1.23**	**174**	P	**Pg**	**12 25 48.7**	**-0.1**
BGD				S	**Sn**	**12 26 05.8**	**+0.7**
DMNI	**Dmanisi**	**1.29**	**153**	P	**Pn**	**12 25 49.2**	**-0.1**
DMNI				S	**Sn**	**12 26 06.8**	**+0.3**
SHA1	**Shidzhatmaz**	**1.37**	**336**	*i* Pg	**Pg**	**12 25 51.2**	**-0.4**
SHA1				*i* Sg	**Sg**	**12 26 09.4**	**0.0**
BATM	**Batumi**	**1.56**	**236**	PN	**Pb**	**12 25 53.9**	**-0.1**
BATM				SN	**Sg**	**12 26 15.9**	**+0.6**
KIV0	**Kislovodsk Arr**	**1.56**	**341**	*i* Pg	**Pb**	**12 25 54.5**	**+0.3**
KIV0				*i* Sg	**Sg**	**12 26 14.8**	**-0.8**
KIV	**Kislovodsk**	**1.56**	**340**	PN	**Pb**	**12 25 53.8**	**-0.5**
KIV				SN	**Sg**	**12 26 15.8**	**+0.2**
KIV	**Kislovodsk**	**1.56**	**340**	*e*Pg	**Pb**	**12 25 54.5**	**+0.3**
KIV				*i* Sg	**Sg**	**12 26 14.7**	**-0.9**
DBOC	**Borcka**	**1.73**	**230**	*i* P	**Pb**	**12 25 56.8**	**-0.3**
DBOC				*i* S	**Sb**	**12 26 19.6**	**+0.8**
DBOC				IAML		12 26 22.0	
	comp=E,51nm,0.5s						
DAGI	**Agillar**	**1.80**	**219**	*i* P	**Pb**	**12 25 58.5**	**+0.2**
DAGI				*i* S	**Sg**	**12 26 23.5**	**+0.5**
DAGI				IAML		12 26 25.0	
	comp=E,32nm,0.4s						
DAGI				IAML		12 26 27.0	
	comp=N,28nm,0.6s						
DBAD	**Bademkaya**	**1.95**	**222**	*i* P	**Pb**	**12 26 00.7**	**-0.1**
DBAD				*i* S	**Sb**	**12 26 26.6**	**+1.4**
DBAD				IAML		12 26 30.0	
	comp=N,61nm,0.7s						
DBAD				IAML		12 26 30.0	
	comp=E,58nm,0.5s						
DDEM	**Demirkent**	**2.02**	**219**	*i* P	**Pb**	**12 26 02.5**	**+0.5**
DDEM				*i* S	**Sg**	**12 26 29.6**	**-0.6**
DDEM				IAML		12 26 34.0	
	comp=N,114nm,0.4s						
DDEM				IAML		12 26 36.0	
	comp=E,57nm,0.4s						
LGD	**Lagodekhi**	**2.20**	**106**	P	**Pb**	**12 26 04.9**	**-0.1**
LGD				S	**Sg**	**12 26 34.7**	**-1.2**
MNK	**Minsk**	**15.79**	**325**	*i* P	**Pn**	**12 29 07.0**	**-0.2**
	comp=E,2.0nm,0.6s						
MNK				*i* P	**Pn**	**12 29 07.0**	**-0.2**
	comp=N,6.0nm,0.5s						
MNK				*i* P	**Pn**	**12 29 07.0**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=133						
MNK				*i* PP	**pP**	**12 29 14.0**	**-0.7**
MNK				*i* S	**Sn**	**12 32 01.9**	**-0.2**
MNK				*i* SS	**S**	**12 32 16.0**	**-0.7**
MNK				*i* LR	LR	12 34 54.5	

KRSC 22 12:42:23.1±2.0, 49°.81N×157°.12E, h16km±23km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.09**	**324**	*e*P	Pb	12 42 41.9	-1.6
SKR				*e*S	Sb	12 42 55.8	-1.7
PAU	**Pauzhetka**	**1.67**	**353**	*e*P	Pb	12 42 52.8	-0.7
PAU				*e*S	Sb	12 43 14.7	+0.4
KDTR	**Khodutka, Kamc**	**2.09**	**16**	*e*P	Pn	12 42 58.8	+1.3
KDTR				*e*S	Sb	12 43 26.2	-0.2
MTVR	**Mutnovka**	**2.76**	**14**	*e*P	Pn	12 43 08.4	+1.6
MTVR				*e*S	Sb	12 43 43.1	-2.7
RUS	**Russkaya**	**2.77**	**18**	*e*P	Pb	12 43 09.6	-2.6
GRL	**Gorelyy**	**2.81**	**12**	*e*P	Pb	12 43 10.6	-2.4
DALK	**Dalny**	**3.39**	**17**	*e*P	Pn	12 43 18.3	+3.1
DALK				*e*S	Sb	12 44 00.4	-3.1
UGLR	**Uglovaya**	**3.57**	**17**	*e*P	Pn	12 43 20.9	+3.1
AVH	**Avacha**	**3.61**	**16**	*e*P	Pb	12 43 22.9	-3.6
KOK	**Koryaka**	**3.62**	**15**	*e*P	Pb	12 43 23.6	-3.0
KRER	**Koryakskii**	**3.65**	**16**	*e*P	Pb	12 43 23.5	-3.7
KRX	**Arik**	**3.68**	**14**	P	Pn	12 43 23.2	+3.8
SPN	**Mys Shipunski**	**3.76**	**28**	*e*P	Pn	12 43 22.6	+2.2
SPN				*e*S	Sn	12 44 06.8	+2.5
GNL	**Ganaly**	**3.93**	**7**	*e*P	Pb	12 43 27.9	-4.0
MKZ	**Mys Kozlova**	**5.54**	**29**	*e*P	Pn	12 43 48.3	+3.6
TUMR	**Tumrok**	**5.79**	**17**	*e*P	Pn	12 43 53.0	+4.7

STR ***22*** *12:57:42.1±1.2, 44°.N±8°×1°.1E±°, h10km, mb4.9/1, mB4.9/1, MLv4.1/14, Mw(mB)4.2/1, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
ROM ***22*** *12:57:43.9±0.1, 44°.156N±0°.004×10°.894E±0°.005, h22km, ML3.7/72, Mw3.7, Error ellipse: s-maj=0.4km s-min=0.2km az=20.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.25; $M_{\theta\theta}$1.46; $M_{\phi\phi}$-0.21; $M_{r\theta}$-0.43; $M_{\theta\phi}$-2.64; $M_{\phi r}$-2.71; Fault plane solution: $M_0$4.02520×10^{14} NP1:ϕ_s89.00000°, δ48.00000°, λ-160.00000°. NP2:ϕ_s346.00000°, δ75.00000°, λ-44.00000°.*
LDG ***22*** *12:57:43.8±0.1, 44°.18N×10°.99E, h10km, Md3.9/1, Ml3.8/35*
GEN ***22*** *12:57:44, 44°.16N×10°.89E, h10km±4km, Ml3.8*
PRU ***22*** *12:57:44.2±0.0, 44°.26N×10°.90E, h10km, M3.6*
MED_RC ***22*** *12:57:44.0±0.7, 44°.16N×10°.89E, h10km, MW3.9/5, Moment Tensor Solution.Mantle waves: s5,c6; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.28±.10; $M_{\theta\theta}$0.33±.12; $M_{\phi\phi}$-0.05±.13; $M_{r\theta}$-0.61±.27; $M_{\theta\phi}$-0.78±.07; $M_{\phi r}$-0.13±.27; Best double couple: $M_0$1.04000×10^{15} NP1:ϕ_s349.00000°, δ51.00000°, λ-15.00000°. NP2: ϕ_s88.00000°, δ79.00000°, λ-140.00000°. Principal axes: T 1.0700, Plg18.0000°, Azm213.0000°; N -0.0600, Plg48.0000°, Azm102.0000°; P -1.0200, Plg36.0000°, Azm317.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***22*** *12:57:44.2±3.0, 44°.20N±0°.05×10°.94E±0°.06, h9km±6km*

Error ellipse: s-maj=7.7km s-min=5.5km az=219.0
IDC ***22*** *12:57:46.9±2.6, 44°.24N×10°.90E, h30km±20km, mb3.7/8, mb1 3.9/17, mb1mx3.7/49, mbtmp3.8/17, ML3.7/8, MS2.8/14, Ms1 2.8/14, ms1mx2.7/51, Error ellipse: s-maj=14.3km s-min=11.6km az=126.0*
ISC 22 12:57:44.1±0.6, 44°.18N±0°.01×10°.88E±0°.01, h19km±1km, n382, σ1.97/502, mb3.8/8, MS3.1/6, 34C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POPM	**Popiglio**	**0.16**	**215**	P	**Pg**	**12 57 48.7**	**0.0**
POPM				S	**Sg**	**12 57 52.3**	**+0.7**
POPM	**Popiglio**	**0.16**	**215**	P	**Pg**	**12 57 48.6**	**0.0**
POPM				S	**Sg**	**12 57 52.2**	**+0.5**
POPM				AML	AML		
POPM				AML	AML		
	comp=N,7605μm,0.4s						
FNVD	**Fontana Vidola**	**0.17**	**93**	⇓P	**Pb**	**12 57 47.8**	**-0.1**
FNVD				S	**Sb**	**12 57 50.9**	**+0.6**
FNVD				AML	AML		
FNVD				AML	AML		
FNVD				AML	AML		
MTCR	**Monte La Croce**	**0.17**	**151**	P	**Pg**	**12 57 48.5**	**-0.3**
MTCR				S	**Sg**	**12 57 51.9**	**-0.2**
MTCR				AML	AML		
MTCR				AML	AML		
	comp=N,92000μm,0.3s						
MTCR				AML	AML		
	comp=N,91850μm,0.3s						
MTCR				AML	AML		
	comp=N,91700μm,0.3s						
MTCR				AML	AML		
MTCR				AML	AML		
	comp=N,91700μm,0.3s						
ZCCA	**Zocca**	**0.18**	**21**		**Pb**	**12 57 48.6**	**+0.3**
ZCCA	**Zocca**	**0.18**	**21**	⇑P	**Pg**	**12 57 48.7**	**-0.3**
ZCCA				S	**Sg**	**12 57 53.2**	**+0.9**
ZCCA				AML	AML		
	comp=E,74250μm,0.3s						
ZCCA				AML	AML		
ZCCA				AML	AML		
	comp=E,71950μm,1.0s						
ZCCA				AML	AML		
ZCCA				AML	AML		
	comp=E,74300μm,0.3s						
ZCCA				AML	AML		
	comp=E,71950μm,1.0s						
ZCCA				AML	AML		
	comp=E,74300μm,0.3s						
ZCCA				AML	AML		
BDI	**Bagni Di Lucca**	**0.24**	**241**	⇑P	**Pb**	**12 57 49.8**	**+0.1**
BDI				S	**Sg**	**12 57 54.3**	**+0.7**
BDI				AML	AML		
	comp=E,32050μm,1.4s						
BDI				AML	AML		
	comp=N,45100μm,0.3s						
BDI				AML	AML		
	comp=E,32050μm,1.4s						
BDI				AML	AML		
	comp=N,40300μm,0.4s						
BDI				AML	AML		
	comp=E,32500μm,0.4s						
BDI				AML	AML		
	comp=N,40300μm,0.4s						
BDI				AML	AML		
	comp=N,45100μm,0.3s						
BDI				AML	AML		
	comp=E,32050μm,1.4s						
CARD	**Cardoso**	**0.33**	**242**	P	**Pg**	**12 57 51.0**	**-0.2**
CARD				S	**Sb**	**12 57 57.0**	**+0.6**
CARD	**Cardoso**	**0.33**	**242**	⇑P	**Pg**	**12 57 51.0**	**-0.2**
CARD				S	**Sb**	**12 57 57.0**	**+0.6**
CARD				AML	AML		
	comp=E,28400μm,0.9s						
CARD				AML	AML		
	comp=N,28750μm,1.1s						
CARD				AML	AML		
	comp=N,28700μm,1.1s						
CARD				AML	AML		
	comp=E,28400μm,0.9s						
SARO	**Sassorosso**	**0.35**	**271**	P	**Pg**	**12 57 51.5**	**-0.1**
SARO				S	**Sb**	**12 57 57.4**	**+0.3**
SARO	**Sassorosso**	**0.35**	**271**	⇑P	**Pg**	**12 57 51.5**	**-0.1**
SARO				S	**Sb**	**12 57 57.5**	**+0.4**
SARO				AML	AML		
	comp=N,29600μm,0.7s						
SARO				AML	AML		
	comp=E,39500μm,0.5s						
SARO				AML	AML		
	comp=E,39500μm,0.5s						
SARO				AML	AML		
	comp=N,29600μm,0.7s						
VLC	**Villacollemand**	**0.36**	**267**		**Pg**	**12 57 51.5**	**-0.2**
VLC	**Villacollemand**	**0.36**	**267**	⇑P	**Pg**	**12 57 51.7**	**-0.1**
VLC				S	**Sb**	**12 57 57.5**	**+0.1**
VLC				AML	AML		
	comp=E,37800μm,0.7s						
VLC				AML	AML		
	comp=E,39100μm,0.7s						
VLC				AML	AML		
	comp=E,37750μm,0.7s						
VLC				AML	AML		
	comp=N,34800μm,0.6s						
VLC				AML	AML		
	comp=N,33400μm,0.6s						
VLC				AML	AML		
	comp=E,39100μm,0.7s						
VLC				AML	AML		
	comp=N,33400μm,0.6s						
VLC				AML	AML		
	comp=E,37750μm,0.7s						
VLC				AML	AML		
	comp=N,34800μm,0.6s						
SEI	**Scarperia**	**0.36**	**110**	P	**Pg**	**12 57 50.9**	**-1.0**
SEI				S	**Sb**	**12 57 57.3**	**-0.2**
SEI				AML	AML		
SEI				AML	AML		
MAIM	**Mastiano**	**0.39**	**227**	P	**Pg**	**12 57 52.0**	**-0.2**
MAIM				S	**Sb**	**12 57 58.5**	**+0.3**
MAIM	**Mastiano**	**0.39**	**227**	⇑P	**Pg**	**12 57 52.0**	**-0.2**
MAIM				AML	AML		
	comp=N,10015μm,0.4s						
MAIM				AML	AML		
	comp=E,6870μm,0.3s						
CRMI	**Carmignano**	**0.39**	**171**	P	**Pg**	**12 57 52.1**	**-0.3**
CRMI				S	**Sb**	**12 57 58.3**	**

MTRZ				AML	AML	
	comp=N,65350µm,0.7s					
PII	**Pisa**	**0.53**	**210**	P	**Pg**	**12 57 54.6 -0.1**
PII				AML	AML	
	comp=E,19800µm,0.4s					
PII				AML	AML	
	comp=N,26000µm,0.4s					
EQUI	**Equi**	**0.53**	**269**	P	**Pg**	**12 57 54.1 -0.6**
EQUI				S	**Sg**	**12 58 02.0 +0.1**
EQUI	**Equi**	**0.53**	**269**	P	**Pg**	**12 57 54.2 -0.5**
EQUI				S	**Sg**	**12 58 01.9 +0.1**
EQUI				AML	AML	
	comp=E,6700µm,1.5s					
EQUI				AML	AML	
	comp=N,9730µm,1.0s					
FIVI	**Fivizzano**	**0.55**	**277**	P	**Pb**	**12 57 54.9 -0.2**
FIVI				S	**Sb**	**12 58 03.1 +0.5**
RUFI	**Rufina**	**0.56**	**127**	P	**Pb**	**12 57 54.7 -0.7**
RUFI				S	**Sb**	**12 58 03.1 +0.1**
RUFI				AML	AML	
	comp=E,14400µm,1.0s					
RUFI				AML	AML	
	comp=N,17600µm,0.9s					
RUFI				AML	AML	
	comp=N,17650µm,0.9s					
RUFI				AML	AML	
	comp=N,17650µm,0.9s					
RUFI				AML	AML	
	comp=E,14400µm,1.0s					
LMD	**Lutirano**	**0.60**	**99**	P	**Pb**	**12 57 55.2 -0.8**
LMD				AML	AML	
	comp=N,6720µm,0.8s					
LMD				AML	AML	
	comp=E,7285µm,1.4s					
RAVA	**Ravarino**	**0.60**	**16**	P	**Pg**	**12 57 56.4 +0.3**
RAVA				AML	AML	
	comp=E,28300µm,0.5s					
RAVA				AML	AML	
	comp=N,24900µm,0.6s					
RAVA				AML	AML	
	comp=N,24900µm,0.6s					
RAVA				AML	AML	
	comp=E,28300µm,0.5s					
RAVA				AML	AML	
	comp=N,24900µm,0.6s					
FIU	**Minerbio Fiu**	**0.63**	**43**	P	**Pg**	**12 57 57.1 +0.4**
GRAM	**Graiana**	**0.67**	**298**	P	**Pb**	**12 57 56.8 -0.4**
GRAM				S	**Sn**	**12 58 08.0 -0.7**
GRAM	**Graiana**	**0.67**	**298**	⇓P	**Pb**	**12 57 56.8 -0.4**
GRAM				S	**Sg**	**12 58 07.1 +0.9**
GRAM				AML	AML	
	comp=E,26700µm,0.3s					
GRAM				AML	AML	
	comp=E,26700µm,0.3s					
GRAM				AML	AML	
	comp=N,28250µm,0.3s					
CAVE	**Cavezzo**	**0.69**	**7**	P	**Pg**	**12 57 57.9 +0.1**
CAVE				AML	AML	
	comp=E,29450µm,1.3s					
CAVE				AML	AML	
	comp=E,29450µm,1.3s					
CAVE				AML	AML	
	comp=N,19600µm,0.9s					
PRMA	**PARMA**	**0.71**	**325**		**Pg**	**12 57 58.5 +0.3**
PRMA	**PARMA**	**0.71**	**325**	P	**Pn**	**12 57 58.8 -0.5**
SFI	**Santa Sofia**	**0.75**	**111**	P	**Pb**	**12 57 57.6 -0.9**
SFI				S	**Sg**	**12 58 08.9 +0.1**
SFI				AML	AML	
	comp=E,10345µm,1.3s					
SFI				AML	AML	
	comp=N,10420µm,0.6s					
SFI				AML	AML	
	comp=N,9140µm,1.1s					
SFI				AML	AML	
	comp=E,9445µm,0.4s					
PLMA	**Palmaria, Port**	**0.76**	**261**	⇑P	**Pb**	**12 57 58.5 -0.1**
PLMA				S	**Sb**	**12 58 08.6 0.0**
PLMA				AML	AML	
	comp=E,8620µm,0.4s					
PLMA				AML	AML	
	comp=N,10410µm,0.7s					
ASQU	**Asqua**	**0.76**	**120**	P	**Pb**	**12 57 58.0 -0.7**
ASQU				AML	AML	
	comp=N,12450µm,0.4s					
ASQU				AML	AML	
	comp=E,8690µm,0.3s					
FERS	**Ferrara-Casagl**	**0.86**	**33**	P	**Pn**	**12 58 01.1 -0.2**
FERS				AML	AML	
	comp=E,41100µm,0.5s					
FERS				AML	AML	
	comp=N,33250µm,0.6s					
FERS				AML	AML	
	comp=N,33250µm,0.6s					
FERS				AML	AML	
	comp=E,41100µm,0.5s					
SBPO	**S.Benedetto Po**	**0.87**	**2**	P	**Pn**	**12 58 01.7 +0.3**
SBPO				AML	AML	
	comp=E,36150µm,0.7s					
SBPO				AML	AML	
	comp=N,37900µm,0.7s					
SBPO				AML	AML	
	comp=E,36150µm,0.7s					
SBPO				AML	AML	
	comp=N,37900µm,0.7s					
SERM	**Sermide**	**0.88**	**19**	P	**Pb**	**12 58 00.9 +0.1**
SERM				S	**Sn**	**12 58 14.7 +0.8**
SERM				AML	AML	
	comp=E,8895µm,0.6s					
SERM				AML	AML	
	comp=E,11970µm,0.6s					
SERM				AML	AML	
	comp=N,8080µm,0.7s					
SERM				AML	AML	
	comp=N,4535µm,0.5s					
SERM				AML	AML	
	comp=E,11970µm,0.6s					
CRE	**Caprese Michel**	**0.95**	**126**	P	**Pb**	**12 58 02.0 -0.2**
CRE				AML	AML	
	comp=E,4000µm,1.2s					
CRE				AML	AML	
	comp=N,6905µm,1.0s					
CRE				AML	AML	
	comp=N,6910µm,1.0s					
FROS	**Frosini**	**0.99**	**168**	P	**Pb**	**12 58 02.4 -0.3**
FROS				AML	AML	
	comp=E,6105µm,0.6s					
FROS				AML	AML	
	comp=N,7250µm,0.5s					
FROS				AML	AML	
	comp=E,6105µm,0.6s					
MSSA	**Maissana**	**0.99**	**278**		**Pn**	**12 58 03.3 +0.1**
MSSA	**Maissana**	**0.99**	**278**	P	**Pb**	**12 58 02.9 +0.1**
MSSA				S	**Sb**	**12 58 15.9 +0.4**
MSSA				AML	AML	
	comp=E,5080µm,1.0s					
MSSA				AML	AML	
	comp=N,8375µm,0.6s					
GROG	**Isola di Gorgo**	**1.04**	**224**	P	**Pb**	**12 58 03.4 -0.2**
GROG				S	**Sb**	**12 58 17.3 +0.5**
GROG				AML	AML	
	comp=E,3125µm,0.9s					
GROG				AML	AML	
	comp=N,2250µm,1.5s					
TRIF	**Trifonti**	**1.06**	**179**	P	**Pb**	**12 58 03.9 0.0**
TRIF				AML	AML	
	comp=N,2910µm,0.6s					
TRIF				AML	AML	
	comp=E,3820µm,0.6s					
SSP9	**Sansepolcro**	**1.09**	**123**	P	**Pb**	**12 58 04.2 -0.2**
SSP9				AML	AML	
	comp=E,3275µm,0.9s					
SSP9				AML	AML	
	comp=N,4010µm,0.8s					
SSP9				AML	AML	
	comp=N,3995µm,1.1s					
SSP9				AML	AML	
	comp=E,3270µm,0.9s					
CPGN	**Carpegna, Ital**	**1.10**	**109**	P	**Pn**	**12 58 04.8 +0.1**
CPGN				AML	AML	
	comp=N,4245µm,0.7s					
CPGN				AML	AML	
	comp=E,3995µm,1.4s					
CPGN				AML	AML	
	comp=N,5970µm,0.6s					
CPGN				AML	AML	
	comp=E,5245µm,1.1s					
PARC	**Parchiule**	**1.11**	**118**	P	**Pn**	**12 58 04.3 -0.5**
PARC				AML	AML	
	comp=N,2655µm,0.5s					
PARC				AML	AML	
	comp=E,2860µm,0.5s					
BLLA	**Bellaria**	**1.14**	**91**	P	**Pn**	**12 58 04.7 -0.4**
BLLA				AML	AML	
	comp=E,6165µm,1.4s					
BLLA				AML	AML	
	comp=N,6255µm,0.5s					
OPPE	**Oppeano**	**1.15**	**10**	P	**Pg**	**12 58 06.0 -0.4**
OPPE				AML	AML	
	comp=E,19650µm,0.8s					
OPPE				AML	AML	
	comp=N,12100µm,1.4s					
OPPE				AML	AML	
	comp=E,19650µm,0.8s					
CAFI	**Castiglion Fio**	**1.16**	**137**	P	**Pn**	**12 58 05.1 -0.3**
CAFI				AML	AML	
	comp=E,2395µm,0.7s					
CAFI				AML	AML	
	comp=N,2480µm,0.4s					
CAFI				AML	AML	
	comp=E,2525µm,0.7s					
CAFI				AML	AML	
	comp=N,2390µm,0.5s					
RSM	**Repubblica di**	**1.16**	**102**	AML	AML	
	comp=E,6330µm,1.2s					
RSM				AML	AML	
	comp=N,7740µm,0.6s					
BOB	**Bobbio (Coli)**	**1.19**	**300**	P	**Pg**	**12 58 06.8 -0.3**
BOB				AML	AML	
	comp=E,6795µm,0.9s					
BOB				AML	AML	
	comp=N,6545µm,0.9s					
BOB				AML	AML	
	comp=E,6870µm,0.9s					
BOB				AML	AML	
	comp=N,5555µm,0.9s					
BADI	**Badiali**	**1.19**	**124**	P	**Pn**	**12 58 05.3 -0.5**
BADI				AML	AML	
	comp=N,3040µm,0.6s					
BADI				AML	AML	
	comp=E,2670µm,1.4s					
GORR	**Gorreto**	**1.22**	**291**	P	**Pg**	**12 58 07.5 -0.2**
GORR	**Gorreto**	**1.22**	**291**	P	**Pb**	**12 58 07.2 +0.5**
GORR				AML	AML	
	comp=N,4425µm,1.4s					
GORR				AML	AML	
	comp=E,7055µm,0.6s					
APEC	**Apecchio**	**1.27**	**119**	P	**Pn**	**12 58 07.2 +0.2**
APEC				AML	AML	
	comp=E,3160µm,0.7s					
APEC				AML	AML	
	comp=N,5210µm,0.6s					
TEOL	**Teolo**	**1.31**	**25**		**Pn**	**12 58 07.0 -0.4**
TEOL	**Teolo**	**1.31**	**25**	P	**Pn**	**12 58 07.2 -0.3**
TEOL				AML	AML	
	comp=E,14950µm,0.9s					
TEOL				AML	AML	
	comp=N,9755µm,1.6s					
TEOL				AML	AML	
	comp=E,14950µm,0.9s					
ATMI	**Monte Miggiano**	**1.31**	**130**	AML	AML	
	comp=E,5080µm,0.7s					
ATMI				AML	AML	
	comp=N,6480µm,0.5s					
ATPI	**Pietralunga -**	**1.32**	**123**	P	**Pn**	**12 58 06.9 -0.7**
ATPI				AML	AML	
	comp=E,2240µm,1.4s					
ATPI				AML	AML	
	comp=N,2390µm,1.2s					
PIEI	**Pieia**	**1.36**	**118**	P	**Pn**	**12 58 08.1 -0.1**
PIEI				AML	AML	
	comp=E,1760µm,0.8s					
PIEI				AML	AML	
	comp=N,1253µm,1.5s					
CTL8	**Castelleone**	**1.36**	**324**	AML	AML	
	comp=N,1345µm,1.2s					
CTL8				AML	AML	
	comp=E,1855µm,1.0s					
CTL8				AML	AML	
	comp=N,5915µm,0.5s					
CTL8				AML	AML	
	comp=E,6335µm,0.5s					
ATVO	**AVT- Monte Val**	**1.36**	**125**	P	**Pn**	**12 58 07.6 -0.6**
ATVO				AML	AML	
	comp=E,2710µm,0.6s					
ATVO				AML	AML	
	comp=N,3750µm,1.0s					
CASP	**Castiglione de**	**1.39**	**181**	Pn	**Pn**	**12 58 07.8 -0.7**
CASP	**Castiglione de**	**1.39**	**181**	P	**Pn**	**12 58 07.8 -0.7**
CASP				AML	AML	
	comp=E,1625µm,1.2s					
CASP				AML	AML	
	comp=N,1168µm,0.5s					
LEOD	**Capriano del C**	**1.39**	**337**	S	**Sb**	**12 58 27.0 +0.1**
ARCI	**Arcidosso**	**1.39**	**162**	P	**Pn**	**12 58 08.2 -0.5**
ARCI				AML	AML	
	comp=E,706µm,1.2s					
ARCI				AML	AML	
	comp=N,674µm,0.7s					
RNCA	**Ronca, Sant'Ol**	**1.42**	**283**	P	**Pb**	**12 58 09.9 -0.1**
PESA	**Pesaro**	**1.43**	**99**	P	**Pb**	**12 58 10.2 0.0**
PESA				AML	AML	
	comp=N,2965µm,1.3s					
PESA				AML	AML	
	comp=E,3090µm,1.3s					
MPAG	**Monte Paganucc**	**1.46**	**111**	P	**Pb**	**12 58 10.4 -0.5**
MPAG				AML	AML	
	comp=N,1465µm,0.9s					
MPAG				AML	AML	
	comp=E,2075µm,0.9s					
MPAG				AML	AML	
	comp=E,2075µm,0.9s					
MPAG				AML	AML	
	comp=N,1405µm,0.7s					
SALO	**Salr**	**1.46**	**350**		**Pb**	**12 58 10.5 -0.4**
SALO	**Salr**	**1.46**	**350**	P	**Pb**	**12 58 10.4 -0.4**
SALO				AML	AML	
	comp=E,6090µm,0.4s					
SALO				AML	AML	
	comp=N,9255µm,0.6s					
SALO				AML	AML	
	comp=N,8760µm,0.6s					
SALO				AML	AML	
	comp=E,6065µm,0.5s					
ATFO	**Monte Foce - G**	**1.47**	**123**	P	**Pn**	**12 58 09.0 -0.7**
ATFO				AML	AML	
	comp=E,2480µm,0.9s					
ATFO				AML	AML	
	comp=N,2500µm,0.6s					
ROVR	**Rover Verones**	**1.48**	**5**	P	**Pn**	**12 58 09.7 -0.2**
ROVR				S	**Sn**	**12 58 28.8 +0.1**
ROVR				AML	AML	
	comp=N,2400µm,0.5s					
ROVR				AML	AML	
	comp=N,5730µm,0.5s					
ROVR				AML	AML	
	comp=E,1705µm,0.6s					
ROVR				AML	AML	
	comp=E,4115µm,0.6s					
FRON	**Frontone**	**1.49**	**116**	P	**Pn**	**12 58 09.9 0.0**
FRON				AML	AML	
	comp=E,1835µm,0.8s					
FRON				AML	AML	
	comp=N,2900µm,0.5s					
MURB	**Monte Urbino**	**1.50**	**127**		**Pn**	**12 58 09.9 -0.3**
MURB	**Monte Urbino**	**1.50**	**127**	P	**Pn**	**12 58 09.4 -0.7**
MURB				AML	AML	
	comp=E,4855µm,0.3s					
MURB				AML	AML	
	comp=E,5425µm,0.3s					
MURB				AML	AML	
	comp=N,4715µm,0.5s					
MURB				AML	AML	
	comp=N,4525µm,0.5s					
CELB	**S.Piero in Cam**	**1.51**	**199**	P	**Pn**	**12 58 09.7 -0.7**
CELB				AML	AML	
	comp=N,992µm,0.5s					
CELB				AML	AML	
	comp=E,836µm,0.5s					
MCIV	**Monte Civitell**	**1.51**	**157**	P	**Pb**	**12 58 11.0 -0.6**
MCIV				AML	AML	
	comp=E,470µm,0.8s					
MCIV				AML	AML	
	comp=N,488µm,0.4s					
SACS	**San Casciano d**	**1.52**	**150**	P	**Pn**	**12 58 09.7 -0.8**
SACS				AML	AML	
	comp=E,793µm,1.3s					
SACS				AML	AML	
	comp=N,1151µm,0.8s					
MAGA	**Magasa**	**1.61**	**354**	P	**Pn**	**12 58 11.8 +0.1**
MAGA				AML	AML	
	comp=N,6950µm,0.4s					
MAGA				AML	AML	
	comp=E,11950µm,0.6s					
ATCC	**AVT- Casa Cast**	**1.61**	**127**	P	**Pn**	**12 58 11.1 -0.6**
ATCC				AML	AML	
	comp=E,2820µm,0.9s					
ATCC				AML	AML	
	comp=N,2485µm,1.4s					
ARVD	**Arcevia**	**1.64**	**114**	P	**Pn**	**12 58 12.6 +0.6**
ARVD				AML	AML	
	comp=E,1655µm,0.7s					
ARVD				AML	AML	
	comp=N,1285µm,0.5s					
PCP	**Piancastagn**	**1.72**	**283**	P	**Pn**	**12 58 13.2 +0.1**
PCP	**Piancastagn**	**1.72**	**283**	P	**Pn**	**12 58 13.2 +0.1**
PCP				AML	AML	
	comp=E,1280µm,0.9s					
PCP				AML	AML	
	comp=N,1085µm,0.7s					
ASSB	**Assisi San Ben**	**1.72**	**131**	P	**Pn**	**12 58 12.1 -1.0**
ASSB				AML	AML	
	comp=E,1115µm,0.9s					
ASSB				AML	AML	
	comp=N,1245µm,1.0s					
MAON	**Monte Argentar**	**1.76**	**174**	P	**Pn**	**12 58 13.3 -0.4**
MAON				AML	AML	
	comp=E,423µm,0.7s					
MAON				AML	AML	
	comp=N,477µm,0.6s					
MDI	**Monti di Nese**	**1.80**	**333**	P	**Pn**	**12 58 14.8 +0.5**
MDI				AML	AML	
	comp=E,1505µm,0.4s					
MDI				AML	AML	
	comp=N,1740µm,0.5s					
EL6	**Elcito**	**1.82**	**117**	P	**Pn**	**12 58 15.4 +0.9**
EL6				AML	AML	
	comp=N,2140µm,0.7s					
EL6				AML	AML	
	comp=E,2094µm,0.7s					
CGRP	**Cima Grappa**	**1.82**	**21**	P	**Pn**	**12 58 13.9 -0.8**
CGRP				AML	AML	
	comp=E,3410µm,0.6s					
CGRP				AML	AML	
	comp=N,3575µm,0.6s					
QLNO	**Quiliano**	**1.83**	**275**	P	**Pn**	**12 58 15.0 +0.3**
QLNO				AML	AML	
	comp=E,2140µm,0.6s					
QLNO				AML	AML	
	comp=N,3280µm,0.9s					
MOMA	**Monte Martano**	**1.84**	**138**	P	**Pn**	**12 58 14.5 -0.4**
MOMA				AML	AML	
	comp=E,1216µm,0.8s					
MOMA				AML	AML	
	comp=N,1195µm,1.0s					
CING	**Cingoli**	**1.86**	**115**	AML	AML	
	comp=E,954µm,0.6s					
CING				AML	AML	
	comp=N,1088µm,1.0s					
CESI	**CESI - Serrava**	**1.88**	**128**	P	**Pn**	**12 58 14.8 -0.5**
CESI				AML	AML	
	comp=E,510µm,0.7s					
CESI				AML	AML	
	comp=N,568µm,0.9s					
MABI	**Malga Bissina**	**1.90**	**352**	P	**Pn**	**12 58 15.9 +0.2**
MABI				AML	AML	
	comp=E,981µm,0.3s					
MABI				AML	AML	
	comp=N,740µm,0.4s					
CTI	**Castel Tesino**	**1.95**	**16**	Pn	**Pn**	**12 58 16.3 -0.1**
CTI	**Castel Tesino**	**1.95**	**16**	P	**Pn**	**12 58 15.8 -0.5**
CTI				AML	AML	
	comp=N,3625µm,0.4s					
CTI				AML	AML	
	comp=E,3720µm,0.4s					
FDMO	**Fiordimonte**	**1.97**	**125**	P	**Pn**	**12 58 15.8 -0.7**
FDMO				AML	AML	
	comp=N,722µm,0.5s					
FDMO				AML	AML	
	comp=E,876µm,1.1s					
CESX	**Cesi**	**2.00**	**141**	P	**Pn**	**12 58 17.0 +0.1**
CESX				AML	AML	
	comp=E,858µm,0.5s					
CESX				AML	AML	
	comp=N,1025µm,1.0s					
RORO	**Rocca Rossa**	**2.03**	**269**	P	**Pn**	**12 58 17.0 -0.3**
RORO				AML	AML	
	comp=N,524µm,0.5s					
RORO				AML	AML	
	comp=E,532µm,0.6s					
PGF	**Pioggiola**	**2.13**	**221**	*e*Pn	**Pn**	**12 58 19.2 +0.3**
PGF	**Pioggiola**	**2.13**	**221**	*e*Pg	**Pg**	**12 58 24.3 -0.8**
PGF				*e*Sn	**Sn**	**12 58 43.1 -1.8**
	comp=E,201nm,0.3s					
IMI	**Imperia**	**2.17**	**264**	P	**Pn**	**12 58 18.7 -0.7**
IMI				AML	AML	
	comp=E,762µm,1.1s					
IMI				AML	AML	
	comp=N,1236µm,0.9s					
MUGIO	**Muggio**	**2.18**	**324**	P	**Pn**	**12 58 19.8 +0.3**
MUGIO				AML	AML	
	comp=E,1083µm,0.5s					
MUGIO				AML	AML	
	comp=N,738µm,0.7s					
GBOS	**Grotte di Boss**	**2.19**	**273**	P	**Pn**	**12 58 19.7 0.0**
GBOS				AML	AML	
	comp=E,652µm,0.5s					
GBOS				AML	AML	
	comp=N,726µm,0.5s					
MGRO	**Montegrosso**	**2.22**	**268**	P	**Pn**	**12 58 20.0 -0.1**
MGRO				AML	AML	
	comp=E,1370µm,1.0s					
MGRO				AML	AML	
	comp=N,1555µm,0.6s					
VARE	**Varese**	**2.26**	**319**	P	**Pn**	**12 58 20.8 +0.2**
VARE				AML	AML	
	comp=E,1205µm,0.7s					
VARE				AML	AML	
	comp=N,1115µm,0.7s					
AGOR	**Agordo**	**2.26**	**21**	P	**Pn**	**12 58 21.2 +0.6**
AGOR				AML	AML	
	comp=N,978µm,1.0s					
AGOR				AML	AML	
	comp=E,1018µm,0.6s					
MONC	**Moncucco Torin**	**2.29**	**294**	⇑P	**Pg**	**12 58 29.0 +0.8**
KOSI	**Kohlern**	**2.31**	**8**	P	**Pn**	**12 58 21.6 +0.2**
KOSI				AML	AML	
	comp=E,1495µm,1.1s					
KOSI				AML	AML	
	comp=N,1295µm,0.8s					
RM33	**Pellescritta (**	**2.38**	**134**	P	**Pn**	**12 58 21.9 -0.4**
RM33				AML	AML	
	comp=E,920µm,0.4s					
RM33				AML	AML	
	comp=N,578µm,1.4s					
SAOF	**Saorge**	**2.41**	**267**	Pn	**Pn**	**12 58 23.1 +0.5**
SAOF				Sn	**Sn**	**12 58 51.6 0.0**
SAOF	**Saorge**	**2.41**	**267**	P	**Pn**	**12 58 22.8 +0.3**
SAOF				S	**Sn**	**12 58 51.0 -0.6**
SAOF	**Saorge**	**2.41**	**267**	AML	AML	
	comp=E,1955µm,0.7s					
SAOF				AML	AML	
	comp=N,1345µm,0.6s					
MOSI	**Grossmontoni**	**2.45**	**355**	P	**Pn**	**12 58 24.8 +1.4**
MOSI				AML	AML	
	comp=N,3265µm,0.8s					
MOSI				AML	AML	
	comp=E,2385µm,0.5s					
STAL	**STALIGIAL**	**2.45**	**31**		**Pn**	**12 58 22.5 -0.7**
STAL	**STALIGIAL**	**2.45**	**31**	P	**Pn**	**12 58 22.6 -0.6**
STAL				AML	AML	
	comp=E,1110µm,1.4s					
STAL				AML	AML	
	comp=N,2025µm,0.3s					
STAL				AML	AML	
	comp=E,1670µm,0.3s					
STAL				AML	AML	
	comp=N,1995µm,0.3s					
ENR	**Entracque**	**2.49**	**272**	P	**Pn**	**12 58 24.5 +0.7**
ENR				AML	AML	

comp=E,416µm,0.6s
ENR AML AML
comp=N,867µm,0.6s
SBF Sospel 2.51 264 *e*Pn **Pn 12 58 23.7 -0.3**
SBF *e*Sn **Sn 12 58 52.3 -1.8**
comp=N,678nm,0.6s
FIAM Fiamignano 2.51 139 AML AML
comp=N,576µm,0.8s
FIAM AML AML
comp=E,680µm,0.7s
TURF col de Turini 2.52 267 Pn **Pn 12 58 25.1 +0.7**
TURF Sn **Sn 12 58 54.6 -0.1**
TUE Stuetta 2.54 335 Pn **Pn 12 58 25.8 +1.2**
STV Sant Anna di V 2.56 273 P **Pn 12 58 25.4 +0.7**
STV AML AML
comp=E,681µm,0.4s
STV AML AML
comp=N,455µm,0.7s
AQU L'Aquila 2.59 134 *e*Pn **Pn 12 58 23.7 -1.4**
AQU L'Aquila 2.59 134 **Pn 12 58 24.3 -0.8**
SKDS Skadanscina 2.61 57⇑*i*Pn **Pn 12 58 24.3 -1.1**
SKDS Skadanscina 2.61 57 *i*Pn **Pn 12 58 24.4 -1.0**
SABO M.te Sabotino 2.64 46 P **Pn 12 58 25.4 -0.4**
SABO AML AML
comp=N,1710µm,0.9s
SABO AML AML
comp=E,1825µm,1.5s
DAVOX Davos/Dischmat 2.70 345 Pn **Pn 12 58 28.6 +1.8**
comp=E,14nm,0.3s,baz=169,slow=20,SNR=121
DAVOX Lg Lg 12 59 12.3
comp=E,36nm,0.3s,baz=310,slow=9.2,SNR=7.8
DAVOX LR LR 12 59 37.3
comp=E,42nm,20.4s,baz=240,slow=42
DAVOX Davos/Dischmat 2.70 345 P **Pn 12 58 28.1 +1.3**
DAVOX AML AML
comp=N,626µm,1.5s
DAVOX AML AML
comp=E,503µm,0.6s
PZZ Stroppo 2.72 278 P **Pn 12 58 27.9 +0.9**
PZZ AML AML
comp=N,672µm,0.7s
PZZ AML AML
comp=E,601µm,0.4s
AJAC Base Areonaval 2.73 215 P **Pn 12 58 26.7 -0.3**
AJAC Base Areonaval 2.73 215 AML AML
comp=N,414µm,0.2s
AJAC AML AML
comp=E,409µm,0.6s
ISO Isola 2.76 271 Pn **Pn 12 58 28.5 +1.1**
ISO Sn **Sn 12 59 01.2 +0.9**
RSP Reno Superiore 2.76 292 P **Pn 12 58 27.5 0.0**
RSP AML AML
comp=E,322µm,1.5s
RSP AML AML
comp=N,314µm,1.0s
FUSIO Fusio 2.76 326 P **Pn 12 58 28.3 +0.7**
FUSIO AML AML
comp=N,405µm,0.4s
FUSIO AML AML
comp=E,970µm,0.8s
ROSI Rosskopf 2.77 7 P **Pn 12 58 27.8 0.0**
ROSI AML AML
comp=N,2190µm,0.6s
ROSI AML AML
comp=E,1685µm,1.6s
ZOU Zoufplan 2.80 31 **Pn 12 58 27.6 -0.5**
RIY Rijeka 2.81 65 *e*Pn **Pn 12 58 27.4 -0.6**
RIY Sn **Sn 12 58 56.6 -4.8**
ABTA Abfaltersbach 2.81 23 *e*Pn **Pn 12 58 28.9 +0.7**
comp=E,35nm,0.3s,SNR=37
ABTA *e*Sn **Sn 12 59 04.1 +2.4**
comp=E,277nm,0.6s
ABTA Abfaltersbach 2.81 23 **Pn 12 58 28.9 +0.7**
ABTA **Sn 12 59 04.1 +2.4**
VOJS Vojsko 2.82 48⇑*i*Pn **Pn 12 58 27.7 -0.6**
VOJS *e*Sn **Sn 12 59 01.2 -0.7**
VOJS IAML 12 59 03.3
comp=Z,281nm,0.4s
PTCC Patocco-Chiusa 2.83 37 P **Pn 12 58 27.6 -0.8**
PTCC AML AML
comp=E,460µm,0.4s
PTCC AML AML
comp=N,488µm,0.4s
FETA Feichten 2.84 358 *e*Pn **Pn 12 58 30.7 +2.0**
comp=N,6.1nm,0.5s,SNR=64
FETA *e*Sn **Sn 12 59 05.2 +2.6**
comp=N,43nm,0.4s
FETA Feichten 2.84 358 **Pn 12 58 30.7 +2.0**
FETA **Sn 12 59 05.2 +2.6**
RABC Rab 2.85 77 *e*Pn **Pn 12 58 28.8 +0.2**
RABC Sn **Sn 12 58 59.0 -3.4**
CADS Cadrg 2.88 44⇑*i*Pn **Pn 12 58 28.4 -0.6**
CADS *e*Sn **Sn 12 59 02.5 -0.7**
CADS IAML 12 59 05.0
comp=Z,256nm,0.5s
T0110 Collepietro 2.88 132 P **Pn 12 58 30.0 +0.9**
T0110 AML AML
comp=E,678µm,0.6s
T0110 AML AML
comp=N,776µm,0.5s
NVLJ Novalja 2.88 81 *e*Pn **Pn 12 58 29.4 +0.4**
NVLJ Sn **Sn 12 58 59.4 -3.8**
CALF Calern 2.89 263 Pn **Pn 12 58 29.5 +0.2**
RISI Rein 2.89 16 P **Pn 12 58 30.4 +1.0**
RISI AML AML
comp=E,2145µm,0.5s
RISI AML AML
comp=N,2785µm,0.4s
SURF Saint Ours 2.94 277 Pn **Pn 12 58 30.7 +0.7**
CEY Cerknica 2.96 57⇑*i*Pn **Pn 12 58 29.1 -1.1**
EMBD Embd, Matterta 2.97 314 Pn **Pn 12 58 33.2 +2.8**
MBDF Montbardon 3.00 282 *e*P **Pn 12 58 33.0 +2.2**
MBDF *e*Sn **Sn 12 59 04.2 -2.1**
comp=N,282nm,0.8s
ACOM Acomizza, Ital 3.01 37 P **Pn 12 58 30.8 -0.2**
ACOM AML AML
comp=N,924µm,0.7s
ACOM AML AML
comp=E,1230µm,1.0s
DUGI Dugi Otok 3.01 92 *i*Pn **Pn 12 58 31.5 +0.7**
DUGI Sn **Sn 12 59 04.6 -1.9**
RRL Rocca Remolon 3.02 286 P **Pn 12 58 32.3 +1.1**
RRL AML AML
comp=E,306µm,0.9s
RRL AML AML
comp=N,286µm,0.5s
SQTA Sankt Quirin 3.05 4 *i*Pn **Pn 12 58 33.5 +1.9**
comp=N,119nm,0.2s,SNR=24
SQTA *e*Sn **Sn 12 59 09.9 +2.3**
comp=N,425nm,0.5s
SQTA Sankt Quirin 3.05 4 **Pn 12 58 33.5 +1.9**
SQTA **Sn 12 59 09.9 +2.3**
CRNS Crni Vrh 3.06 50⇑*i*Pn **Pn 12 58 31.1 -0.4**
CRNS *e*Sn **Sn 12 59 05.6 -1.9**
CRNS IAML 12 59 09.6
comp=Z,217nm,0.4s
PLONS Plons/SG 3.06 340 P **Pn 12 58 33.1 +1.5**
PLONS AML AML
comp=N,276µm,0.6s
PLONS AML AML
comp=E,322µm,0.7s
GBAS Gorenja Brezov 3.07 54 *i*Pn **Pn 12 58 31.0 -0.7**
GBAS IAML 12 59 08.8
comp=Z,74nm,0.3s
INTR Introdacqua 3.10 133 Pn **Pn 12 58 32.9 +0.8**
GBRS Gornja Briga 3.10 63⇑*i*Pn **Pn 12 58 31.9 -0.3**
GBRS IAML 12 59 11.5
comp=Z,51nm,0.3s
DIX Grande Dixence 3.11 309 Pn **Pn 12 58 33.8 +1.3**
DIX Grande Dixence 3.11 309 P **Pn 12 58 33.0 +0.6**
REMY Saint-Rhmy-en 3.12 303 P **Pn 12 58 32.8 +0.2**
REMY AML AML
comp=E,530µm,1.6s
REMY AML AML
comp=N,668µm,0.9s
FRF La Foret Royal 3.13 260 *e*Pn **Pn 12 58 32.4 0.0**
FRF La Foret Royal 3.13 260 *e*P **Pb 12 58 36.1 -3.0**
FRF *e*Sn **Sn 12 59 06.9 -2.4**
comp=N,217nm,0.4s
BNI Bardonecchia 3.13 288 Pn **Pn 12 58 34.4 +1.8**
MYKA Terra Mystica 3.13 37 *i*Pn **Pn 12 58 32.6 +0.1**
comp=N,27nm,0.3s,SNR=22
MYKA *e*Sn **Sn 12 59 09.8 +0.4**
comp=N,30nm,0.3s
MYKA Terra Mystica 3.13 37 **Pn 12 58 32.6 +0.1**
MYKA **Sn 12 59 09.8 +0.4**
WTTA Wattenberg 3.13 9 *i*Pn **Pn 12 58 34.6 +1.9**
comp=N,26nm,0.2s,SNR=32
WTTA *e*Sn **Sb 12 59 15.5 -1.6**
comp=N,191nm,0.5s
WTTA Wattenberg 3.13 9 **Pn 12 58 34.6 +1.9**
WTTA **Sb 12 59 15.5 -1.6**
WTTA Wattenberg 3.13 9 P **Pn 12 58 33.5 +0.8**
WTTA AML AML
comp=E,1396µm,1.2s
WTTA AML AML
comp=N,923µm,1.3s
MRGE Morge 3.15 302 P **Pn 12 58 33.9 +1.0**
MRGE AML AML
comp=N,471µm,0.7s
MRGE AML AML
comp=E,577µm,0.7s
MOTA Moosalm 3.17 3 *i*Pn **Pn 12 58 35.1 +1.9**
comp=E,19nm,0.3s,SNR=41
MOTA *e*Sn **Sn 12 59 13.7 +3.1**
comp=E,85nm,0.6s
MOTA Moosalm 3.17 3 **Pn 12 58 35.1 +1.9**
MOTA **Sn 12 59 13.7 +3.1**
LJU Ljubljana 3.18 53⇑*i*Pn **Pn 12 58 33.0 -0.2**
LJU Ljubljana 3.18 53 P **Pn 12 58 33.1 -0.2**
LJU AML AML
comp=E,3595µm,0.7s
LJU AML AML
comp=N,8355µm,0.4s
DAVA Damuels 3.19 348 *i*Pn **Pn 12 58 35.8 +2.4**
comp=N,48nm,0.3s,SNR=43
DAVA *e*Sn **Sb 12 59 16.1 -2.7**
comp=N,146nm,0.4s
DAVA Damuels 3.19 348 **Pn 12 58 35.8 +2.4**
DAVA **Sb 12 59 16.1 -2.7**
WATA Walderalm 3.19 8 *i*Pn **Pn 12 58 35.9 +2.4**
comp=N,57nm,0.3s,SNR=41
WATA *e*Sn **Sb 12 59 15.3 -3.7**
comp=N,507nm,0.8s
WATA Walderalm 3.19 8 **Pn 12 58 35.9 +2.4**
WATA **Sb 12 59 15.3 -3.7**
LPG La Plagne 3.22 296 *e*P **Pn 12 58 35.3 +1.3**
LPG *e*Sn **Sn 12 59 09.9 -2.1**
comp=N,194nm,0.7s
LPL La Plagne 3.24 296 *e*P **Pn 12 58 36.9 +2.7**
LPL *e*Sn **Sn 12 59 10.0 -2.4**
comp=N,82nm,0.4s
LMR La Mourre 3.28 257 *e*Pn **Pn 12 58 34.3 -0.2**
LMR La Mourre 3.28 257 *e*P **Pn 12 58 38.1 +3.6**
LMR *e*Sn **Sn 12 59 10.4 -2.6**
comp=N,70nm,0.3s
RETA Reutte 3.31 359 *i*Pn **Pn 12 58 37.1 +2.1**
comp=N,47nm,0.3s,SNR=42
RETA *e*Sn **Sn 12 59 15.9 +2.0**
comp=N,116nm,0.8s
RETA Reutte 3.31 359 **Pn 12 58 37.1 +2.1**
RETA **Sn 12 59 15.9 +2.0**
SENIN Lac Senin/Sane 3.34 312 Pn **Pn 12 58 37.2 +1.6**
KBA Koelnbreinsper 3.38 30 *i*Pn **Pn 12 58 37.1 +1.1**
comp=N,6.8nm,0.2s,SNR=18
KBA *e*Sn **Sn 12 59 14.8 -0.8**
comp=N,115nm,0.7s
KBA Koelnbreinsper 3.38 30 **Pn 12 58 37.1 +1.1**
KBA **Sn 12 59 14.8 -0.8**
BOJS Bojanci 3.38 65⇑*i*Pn **Pn 12 58 35.9 0.0**
BOJS Bojanci 3.38 65⇑P **Pn 12 58 36.0 +0.1**
BOJS AML AML
comp=E,902µm,0.5s
BOJS AML AML
comp=N,958µm,1.0s
ZIRJ Zirje 3.48 97 *e*Pn **Pn 12 58 38.0 +0.7**
ZIRJ Sn **Sn 12 59 15.7 -2.2**
OBKA Obir 3.48 47 *i*Pn **Pn 12 58 37.4 0.0**
comp=N,8.2nm,0.2s,SNR=27
OBKA *e*Sn **Sn 12 59 18.8 +0.7**
comp=N,204nm,0.9s
OBKA Obir 3.48 47 **Pn 12 58 37.4 0.0**
OBKA **Sn 12 59 18.8 +0.7**
AIGLE Aigle 3.52 309 Pn **Pn 12 58 40.9 +3.0**
GDM Grand'Maison 3.55 288 Pn **Pn 12 58 42.4 +4.0**
OZLJ Ozalj 3.56 65 *e*Pn **Pn 12 58 38.2 -0.2**
OZLJ Sn **Sn 12 59 15.0 -4.9**
CRES Cresnjev 3.64 61⇑*i*Pn **Pn 12 58 39.2 -0.3**
ORIF Oris-en-Rattie 3.65 283 *e*P **Pn 12 58 42.7 +2.9**
ORIF *e*Sn **Sn 12 59 20.1 -2.3**
comp=N,142nm,0.6s
ORIF Oris-en-Rattie 3.65 283 Pn **Pn 12 58 42.6 +2.9**
ARTF Artigues 3.72 263 Pn **Pn 12 58 41.9 +1.3**
SMRF Simiane la Rot 3.83 269 *e*Pn **Pn 12 58 43.7 +1.5**
SMRF Simiane la Rot 3.83 269 *e*P **Pn 12 58 46.3 +4.1**
SMRF *e*Sn **Sn 12 59 24.4 -2.3**
comp=N,29nm,0.4s
SOKA Soboth 3.84 48 *i*Pn **Pn 12 58 42.5 +0.1**
comp=N,8.5nm,0.3s,SNR=28
SOKA *e*Sn **Sn 12 59 27.0 -0.1**
comp=N,29nm,0.6s
SOKA Soboth 3.84 48 **Pn 12 58 42.5 +0.1**
SOKA **Sn 12 59 27.0 -0.1**
BALST Balsthal 3.87 326 Pn **Pn 12 58 43.7 +1.0**
SULZ Cheisacher 3.87 331 Pn **Pn 12 58 43.4 +0.7**
OGSM Saint Maurice 3.95 293 Pn **Pn 12 58 46.4 +2.5**
SLE Schleitheim 3.96 336 Pn **Pn 12 58 44.3 +0.5**
TREM Isole Tremiti 3.96 120 P **Pn 12 58 46.1 +2.2**
TREM AML AML
comp=N,282µm,0.6s
TREM AML AML
comp=E,250µm,1.2s
GROS Grobnik 3.98 53 *i*Pn **Pn 12 58 43.7 -0.5**
KIJV Kijevo 3.98 91 *e*Pn **Pn 12 58 45.1 +0.9**
KIJV Sn **Sn 12 59 27.4 -2.9**
PTJ Puntijarka 4.00 63 *e*Pn **Pn 12 58 43.6 -0.9**
PTJ Sn **Sn 12 59 26.5 -4.3**
BOURR Bourrignon 4.11 323 Pn **Pn 12 58 46.9 +0.9**
BRANT Les Verrieres 4.15 313 Pn **Pn 12 58 48.4 +1.8**
HVAR Hvar 4.16 102 *e*Pn **Pn 12 58 47.3 +0.7**
HVAR Sn **Sn 12 59 33.8 -0.9**
CABF La Chapelle 4.16 307 *e*P **Pn 12 58 48.8 +2.0**
CABF *e*Sn **Sn 12 59 32.7 -2.3**
comp=E,59nm,0.5s
LOBO Lobor 4.17 60 *e*Pn **Pn 12 58 45.9 -0.8**
LOBO Sn **Sn 12 59 29.9 -5.0**
OG35 Corcelles 4.20 298 Pn **Pn 12 58 49.0 +1.8**
CHMF Charmoille 4.27 317 Pn **Pn 12 58 49.5 +1.3**
KIZ Kirchzarten 4.30 332 Pn **Pn 12 58 48.9 +0.3**
SGRT San Giovanni R 4.31 123 Pn **Pn 12 58 49.7 +0.9**
SGRT San Giovanni R 4.31 123⇓P **Pn 12 58 49.7 +0.9**
SGRT AML AML
comp=E,140µm,0.7s
SGRT AML AML
comp=N,116µm,1.1s
MOA Molln 4.36 31 *i*Pn **Pn 12 58 50.2 +0.8**
comp=N,22nm,0.4s,SNR=18
MOA *e*Sn **Sn 12 59 40.5 +0.7**
comp=N,34nm,0.5s
MOA Molln 4.36 31 **Pn 12 58 50.2 +0.8**
MOA **Sn 12 59 40.5 +0.7**
KALN Kalnik 4.40 62 *e*Pn **Pn 12 58 48.9 -1.1**
KALN Sn **Sn 12 59 35.6 -5.1**
MOSL Moslavina 4.41 69 *e*Pn **Pn 12 58 49.4 -0.7**
MOSL Sn **Sn 12 59 36.0 -5.0**
MSAG Monte S. Angel 4.44 122⇓P **Pn 12 58 51.2 +0.7**
MGRS Mrkonjic Grad 4.46 85 *e*Pn **Pn 12 58 52.0 +1.2**
ARSA Arzberg 4.47 45 *i*Pn **Pn 12 58 50.7 -0.2**
comp=N,28nm,0.2s,SNR=24
ARSA *e*Sn **Sn 12 59 40.0 -2.4**
comp=N,20nm,0.5s
ARSA Arzberg 4.47 45 **Pn 12 58 50.7 -0.2**
ARSA **Sn 12 59 40.0 -2.4**
VIVF Saint-Julien-I 4.49 281 *e*P **Pn 12 58 53.5 +2.2**
VIVF *e*Sn **Sn 12 59 40.1 -2.9**
comp=N,15nm,0.3s
BFO Black Forest 4.51 338 **Pn 12 58 51.5 0.0**
BLY Banja Luka 4.55 81 *e*Pn **Pn 12 58 52.2 +0.3**
RICI Ricice 4.57 96 *e*Pn **Pn 12 58 53.6 +1.3**
RICI Sn **Sn 12 59 42.4 -2.5**
HINF Hinteralfeld 4.60 324 *e*Pn **Pn 12 58 53.4 +0.7**
HINF *e*Sn **Sn 12 59 42.9 -2.7**
comp=N,40nm,0.3s
SSB Saint Sauveur 4.65 286 **Pn 12 58 55.1 +1.7**
OPP Oppenau 4.71 338 Pn **Pn 12 58 54.9 +0.7**
ECH Echery 4.79 329 Pn **Pn 12 58 55.9 +0.5**
ECH Echery 4.79 329 **Pn 12 58 55.6 +0.2**
VSL Villasalto 4.81 194 **Pn 12 58 57.1 +1.4**
VSL Villasalto 4.81 194⇑P **Pn 12 58 57.3 +1.7**
WLS Welschbruch 4.89 331 Pn **Pn 12 58 57.1 +0.4**
CDF Champ du Feu 4.92 331 *e*Pn **Pn 12 58 57.7 +0.6**
CDF *e*Sn **Sn 12 59 50.3 -3.2**
comp=N,42nm,0.4s
HAU Haudompre 4.96 322 *e*Pn **Pn 12 58 58.6 +0.9**
HAU *e*Sn **Sn 12 59 51.3 -3.2**
comp=N,138nm,0.4s
GEC2 GERESS Array S 5.06 22 Pn **Pn 12 58 58.5 -0.6**
GERES GERESS Array B 5.06 22 Pn **Pn 12 58 59.2 +0.2**
comp=N,6.0nm,0.3s,baz=194,slow=12,SNR=51
GERES Sn **Sn 12 59 55.4 -1.5**
comp=N,8.9nm,0.3s,baz=196,slow=18,SNR=4.1
GERES LR LR 13 01 10.9
comp=N,57nm,21.2s,baz=94,slow=41
GERES GERESS Array B 5.06 22 Pn **Pn 12 58 58.6 -0.4**
LASF Ste Croix 5.06 271 *e*Pn **Pn 12 58 59.7 +0.7**
LASF Ste Croix 5.06 271 *e*P **Pn 12 59 02.3 +3.3**
LASF *e*Sn **Sn 12 59 53.3 -3.7**
comp=N,32nm,0.6s
CONA Conrad Observa 5.11 41 *i*Pn **Pn 12 58 59.6 -0.1**
comp=N,31nm,0.5s,SNR=22
CONA *e*Sn **Sn 12 59 56.1 -2.1**
comp=N,68nm,0.7s
CONA Conrad Observa 5.11 41 **Pn 12 58 59.6 -0.1**
CONA **Sn 12 59 56.0 -2.1**
STON Ston 5.12 102 *e*Pn **Pn 12 59 00.6 +0.7**
STON Ston 5.12 102 *e*Pn **Pn 12 59 00.9 +1.1**
STON Sn **Sn 12 59 57.2 -1.3**
STON Ston 5.12 102 P **Pn 12 59 00.9 +1.1**
CKRC Cesky Krumlov 5.21 26 *e*PN **Pn 12 59 01.1 0.0**
CKRC *e*SN **Sn 12 59 58.1 -2.6**
SOP Sopron 5.29 46 *e*P **Pn 12 59 02.1 0.0**
KHC Kasperske Hory 5.29 20 *e*PN **Pn 12 59 01.9 -0.3**
KHC *e*SN **Sn 13 00 00.0 -2.6**
KHC AMS AMS 13 01 10.0
comp=N,200nm,11.5s
KHC Kasperske Hory 5.29 20 **Pn 12 59 01.9 -0.3**
KOVH Kovagotottos 5.45 67 *e*P **Pn 12 59 03.0 -1.4**
GRFO Grafenberg 5.52 2 Pn **Pn 12 59 04.5 -0.8**
GRA1 Grafenberg Arr 5.52 2 Pn **Pn 12 59 04.4 -0.9**
SMF Signal de Mont 5.54 299 *e*P **Pn 12 59 06.9 +1.3**
SMF *e*Sn **Sn 13 00 05.0 -3.7**
comp=N,77nm,0.6s
MPLH Magyarpolny 5.54 55 *e*P **Pn 12 59 03.7 -1.9**
MATE Matera 5.57 127⇑P **Pn 12 59 07.0 +1.0**
TREB Trebinje 5.63 102 *e*Pn **Pn 12 59 07.5 +0.7**
PAGF Fort de Pagny 5.65 323 *e*Pn **Pn 12 59 08.1 +1.0**
baz=143
PAGF *e*Sn **Sn 13 00 07.7 -3.7**
comp=N,55nm,0.5s
LTRZ Laterza 5.66 127⇑P **Pn 12 59 08.8 +1.5**
BRY Bratogost 5.71 100 *e*Pn **Pn 12 59 09.8 +1.7**
SFTF Sexfontaines 5.72 317 *e*Pn **Pn 12 59 08.9 +0.9**
baz=136
SFTF *e*Sn **Sn 13 00 09.3 -3.8**
comp=N,41nm,0.5s
HAPS Han Pijesak,Bl 5.81 88 *e*Pn **Pn 12 59 12.9 +3.5**
LOR Lormes 5.81 305 *e*P **Pn 12 59 10.4 +1.1**
baz=125
LOR *e*Sn **Sn 13 00 13.7 -1.7**
comp=N,58nm,0.4s
LOR Lormes 5.81 305 Pn **Pn 12 59 10.4 +1.1**
HCY Herceg Novi 5.81 105 *e*Pn **Pn 12 59 09.8 +0.4**
MORH Mrgy, Hungar 5.85 67⇑P **Pn 12 59 09.0 -0.8**
MORH Mrgy, Hungar 5.85 67 *e*P **Pn 12 59 08.2 -1.7**
MORH Mrgy, Hungar 5.85 67 *e*Pn **Pn 12 59 07.9 -1.9**
UPM Unac-Piva 5.90 97 *e*Pn **Pn 12 59 13.1 +2.4**
ZST Bratislava 5.90 45 *e*PN **Pn 12 59 09.7 -0.8**
ZST *e*SN **Sn 13 00 13.5 -4.0**
AVF Avril sur Loir 5.90 299 *e*P **Pn 12 59 12.3 +1.7**
AVF *e*Sn **Sn 13 00 13.5 -4.2**
comp=N,25nm,0.6s
PBCC Pribram 5.91 20 *e*PN **Pn 12 59 10.1 -0.5**
PBCC *e*SN **Sn 13 00 14.9 -2.9**
MEZF Maizieres J'vi 5.92 319 *e*Pn **Pn 12 59 11.6 +0.9**
baz=140
MEZF *e*Sn **Sn 13 00 13.9 -4.1**
comp=N,26nm,0.5s
SAVF Savonnieres en 5.96 320 *e*Pn **Pn 12 59 12.4 +1.0**
baz=140
SAVF *e*Sn **Sn 13 00 15.1 -4.0**
comp=N,47nm,0.6s
MODS Modra-Piesok 6.10 44 *e*PN **Pn 12 59 13.8 +0.5**
MODS *e*SN **Sn 13 00 19.7 -2.9**
BGF Bois d'Agland 6.14 296 *e*Pn **Pn 12 59 14.0 +0.1**
BGF *e*Sn **Sn 13 00 19.2 -4.4**
comp=N,51nm,0.4s
NKC Novy Kostel 6.15 9 *e*PN **Pn 12 59 13.0 -1.0**
NKC *e*SN **Sn 13 00 20.5 -3.3**
NKC AMS AMS 13 01 50.0
comp=N,100nm,13.6s
BBLS Lazići 6.15 90⇑*i*Pn **Pn 12 59 14.9 +0.8**
KRUC Moravsky 6.18 36 *e*PN **Pn 12 59 13.4 -1.0**
KRUC *e*SN Sn 13 00 12.9 -12
SMOL Smolenice 6.27 44 *e*PN **Pn 12 59 15.1 -0.5**
SMOL *e*SN **Sn 13 00 23.3 -3.4**
PRU Pruhonice 6.33 22 *e*PN **Pn 12 59 16.0 -0.4**
PRU *e*SN **Sn 13 00 25.1 -3.0**
PRU AMS AMS 13 01 40.0
comp=N,200nm,10.6s
CAF Calviac 6.35 280 *e*Pn **Pn 12 59 15.5 -1.2**
CAF Calviac 6.35 280 *e*P **Pn 12 59 20.5 +3.8**
CAF *e*Sn **Sn 13 00 24.3 -4.4**
comp=N,11nm,0.5s
CAF *e*Sg **Sg 13 01 05.7 -2.0**
PDG Podgorica 6.35 103⇑P **Pn 12 59 18.9 +2.1**
PDG Podgorica 6.35 103⇑S **Sn 13 00 29.8 +1.1**
PDG Podgorica 6.35 103 *e*Pn **Pn 12 59 18.8 +2.1**
PDG Podgorica 6.35 103 Pn **Pn 12 59 19.1 +2.4**
WLF Walferdange 6.37 331 Pn **Pn 12 59 15.9 -1.1**
DRME Dracevica, Mon 6.39 105⇑*i*Pn **Pn 12 59 18.5 +1.3**
VRAC Vranov 6.46 35 Pn **Pn 12 59 19.9 +1.7**
comp=N,0.6nm,0.3s,baz=243,slow=14,SNR=1.5
VRAC Sn **Sn 13 00 28.0 -3.3**
comp=N,2.0nm,0.3s,baz=143,slow=19,SNR=7.1
VRAC Vranov 6.46 35 *e*SN Sn 13 00 21.5 -10
TCF Toulx Ste Croi 6.48 292 *e*P **Pn 12 59 20.2 +1.7**
TCF *e*Sn **Sn 13 00 27.3 -4.6**
comp=N,20nm,0.5s
HYF Humbligny 6.55 301 *e*P **Pn 12 59 22.1 +2.7**
HYF *e*Sn **Sn 13 00 29.3 -4.2**
DIVS Divibare 6.55 88⇑*i*Pn **Pn 12 59 19.4 -0.2**
DIVS Divibare 6.55 88 **Pn 12 59 20.1 +0.5**
JAVC Velka Javorina 6.62 43 *e*PN **Pn 12 59 18.5 -2.0**
RJF Les Rejaudoux 6.77 283 *e*P **Pn 12 59 26.4 +4.0**
RJF *e*Sn **Sn 13 00 34.8 -4.2**
comp=N,11nm,0.6s
SCTE Santa Cesarea 6.97 123 Pn **Pn 12 59 27.3 +2.1**
VYHS Vyhne 6.99 49 *e*PN **Pn 12 59 24.4 -1.2**
VYHS *e*SN **Sn 13 00 39.3 -5.2**
BRG Berggiesshubel 7.01 16 Pn **Pn 12 59 25.4 -0.4**
BRG Amp 12 59 28.4
comp=Z,17nm,0.7s
BRG Berggiesshubel 7.01 16 P **Pg 12 59 58.1 -0.2**
BRG Amp 13 00 01.0
comp=Z,9.8nm,0.6s
BRG Berggiesshubel 7.01 16 Sn **Sn 13 00 40.0 -4.9**
BRG Amp 13 00 43.7
comp=Z,21nm,0.6s
BRG S **Sb 13 01 13.2 +4.7**
BRG Amp 13 01 33.1
comp=Z,27nm,1.2s
BRG Amp 13 02 34.0
comp=E,0.3nm,18.5s
BRG Amp 13 02 35.0
comp=Z,0.2nm,10.3s
KRLC Kraliky 7.14 32 *e*PN **Pn 12 59 26.6 -1.0**
KRLC *e*SN **Sn 13 00 44.1 -4.0**
KRLC AMS AMS 13 02 30.0
comp=Z,200nm,12.2s
MTTG Motta San Giov 7.16 148 P **Pb 12 59 43.8 -4.1**
TIR Tirane 7.19 110⇓P **Pn 12 59 29.5 +1.3**
TIR Tirane 7.19 110 **Pn 12 59 28.9 +0.7**
DPC Dobruska-Polom 7.20 29 *e*PN **Pn 12 59 27.1 -1.3**
DPC *e*SN **Sn 13 00 44.4 -5.2**
DPC AMS AMS 13 02 20.0
comp=Z,100nm,10.8s
MORC Moravsky Berou 7.22 37⇑P **Pn 12 59 24.4 -4.2**
MORC Moravsky Berou 7.22 37 **Pn 12 59 28.2 -0.4**
GIVF Givet 7.22 327 *e*Pn **Pn 12 59 28.9 +0.2**
GIVF *e*Sn **Sn 13 00 44.5 -5.6**
UPC Upice 7.22 27 *e*PN **Pn 12 59 27.5 -1.2**
UPC *e*SN **Sn 13 00 45.6 -4.6**

UPC AMS AMS 13 02 30.0
comp=Z,200nm,11.7s
CLL Collm 7.28 11 *e*Pn **Pn 12 59 29.0 -0.3**
CLL *e*Pg **Pg 13 00 01.0 -2.3**
CLL *e*Sn **Sn 13 00 47.0 -4.4**
CLL *e* 13 00 58.0
CLL *e*Sb **Sb 13 01 24.0 +7.9**
CLL *e*Sg **Sg 13 01 39.0 +1.6**
comp=Z,29nm,0.9s
CLL Collm 7.28 11 Pn 12 59 29.1 -0.3
LFF La Frestale 7.29 280 *e*P **Pn 12 59 33.5 +3.9**
LFF *e*Sn **Sn 13 00 49.0 -2.7**
LFF *e*Sg **Sg 13 01 32.7 -5.1**
PSZ Piszkesteto 7.30 56 ⇓P **Pn 12 59 28.5 -1.3**
CHVC Chvalec 7.31 27 *e*PN **Pn 12 59 28.7 -1.2**
CHVC *e*SN **Sn 13 00 47.6 -4.7**
CHVC AMS AMS 13 02 30.0
comp=Z,200nm,9.0s
OSTC Ostas 7.33 28 *e*PN **Pn 12 59 29.3 -0.9**
OSTC *e*SN **Sn 13 00 49.1 -3.8**
OSTC AMS AMS 13 02 20.0
comp=Z,200nm,9.7s
BAIF Baives 7.44 325 *e*Pn **Pn 12 59 32.1 +0.5**
BAIF Baives 7.44 325 *e*P Pn 12 59 37.7 +6.1
BAIF *e*Sn **Sn 13 00 51.9 -3.5**
comp=Z,14nm,0.7s
LANS Liptovska Anna 7.72 47 *e*PN **Pn 12 59 35.5 0.0**
LANS *e*SN **Sn 13 00 57.2 -5.2**
EPF Esparros 7.74 265 *e*P **Pn 12 59 39.6 +3.8**
EPF *e*Sn **Sn 13 00 57.5 -5.5**
BZS Buzias 7.76 76 ⇑P **Pn 12 59 37.1 +1.1**
MDVR Moldovita 7.77 82 ⇑P **Pn 12 59 36.3 +0.1**
MFF Saint Martin d 8.13 291 *e*P **Pn 12 59 44.4 +3.2**
HERR Herculane 8.27 81 ⇑P **Pn 12 59 44.2 +1.1**
ETSF Etsaut 8.41 265 *e*P **Pn 12 59 49.3 +4.2**
ETSF *e*Sn **Sn 13 01 13.7 -5.9**
comp=Z,1.8nm,0.4s
FNA Florina 8.46 110 Pn **Pn 12 59 47.5 +1.7**
KEST Kesra 8.52 188 Pn **Pn 12 59 48.9 +2.3**
comp=Z,0.6nm,0.3s,baz=302,slow=5.6,SNR=5.8
GZR Gura Zlata 8.55 78 ⇑P **Pn 12 59 46.6 -0.3**
STIP Stip 8.65 103 *i* Pn **Pn 12 59 51.0 +2.7**
DRGR 8.71 68 ⇑P **Pn 12 59 48.5 -0.7**
LDF La Druitiere 8.79 304 *e*P **Pn 12 59 53.8 +3.6**
LDF *e*Sn **Sn 13 01 22.8 -6.0**
comp=Z,4.5nm,0.4s
SJPF Ste Jean 8.85 267 *e*P **Pn 12 59 54.3 +3.3**
SJPF *e*Sn **Sn 13 01 23.6 -6.5**
comp=Z,2.3nm,0.5s
FLN La Foliniere 9.08 304 *e*P **Pn 12 59 56.6 +2.4**
baz=124
FLN *e*Sn **Sn 13 01 29.7 -6.1**
comp=Z,6.4nm,0.4s
VTS Vitosha 9.13 96 ⇑P **Pn 12 59 56.2 +1.2**
VTS Vitosha 9.13 96 Pn 12 59 55.5 +0.5
GRR Gorron 9.15 301 *e*Pn **Pn 12 59 53.5 -1.7**
GRR *e*Sn **Sn 13 01 33.1 -4.5**
VOIR 10.15 78 ⇓P **Pn 13 00 09.5 +0.7**
SGMF Saint Gilles 10.17 298 *e*Pn **Pn 13 00 07.7 -1.3**
QUIF Quistinic 10.46 296 *e*P **Pn 13 00 16.5 +3.5**
ROSF Rostrenen 10.65 298 *e*Pn **Pn 13 00 14.5 -1.1**
MLR Muntele Rosu 10.78 78 Pn **Pn 13 00 18.8 +1.3**
comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=3.2
ESDC Sonseca Array 11.94 253 Pn **Pn 13 00 34.1 +0.8**
comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=15
ESDC LR LR 13 04 40.7
comp=Z,50nm,21.4s,baz=300,slow=35
AKASG Malin Array Be 14.00 56 Pn **Pn 13 01 03.3 +1.9**
comp=Z,0.3nm,0.3s,baz=257,slow=11,SNR=1.6
EKA Eskdalemuir Ar 14.36 326 Pn **Pn 13 01 04.0 -2.2**
baz=141,slow=14,SNR=3.2
HFS Hagfors 16.07 5 Pn **P 13 01 31.2 -0.9**
comp=Z,0.3nm,0.3s,baz=200,slow=13,SNR=7.5
HFS LR LR 13 07 16.8
comp=Z,27nm,18.5s,baz=218,slow=36
MDT Midelt 16.58 232 LR LR 13 06 59.8
comp=Z,22nm,18.6s,baz=300,slow=33
NOA NORSAR Array B 16.89 1 Pn **P 13 01 42.0 +0.7**
comp=Z,0.0nm,0.3s,baz=182,slow=11,SNR=6.1
NOA LR LR 13 08 50.1
comp=Z,7.2nm,19.1s,baz=300,slow=39
BRTR Keskin Array B 17.48 97 P **P 13 01 50.0 +1.9**
baz=298,slow=9.5,SNR=3.7
BRTR LR LR 13 09 48.4
comp=Z,99nm,18.4s,baz=299,slow=41
FINES FINESS Array B 19.49 22 P **Pn 13 02 11.3 +0.2**
comp=Z,0.2nm,0.3s,baz=204,slow=9.9,SNR=6.2
FINES LR LR 13 10 31.9
comp=Z,46nm,20.6s,baz=210,slow=39
KBZ Khabaz 22.98 80 P **P 13 02 50.5 +3.0**
comp=Z,2.0nm,0.8s,baz=283,slow=12,SNR=5.4
ARCES ARCESS Array B 26.50 11 LR LR 13 13 36.2
comp=Z,18nm,19.6s,baz=50,slow=36
TORD Torodi Ar. Bea 31.91 197 P **P 13 04 09.5 +1.0**
comp=Z,0.6nm,0.8s,baz=357,slow=8.7,SNR=2.5
TORD Torodi Ar. Bea 31.91 197 IAmb IAmb 13 04 25.2
comp=Z,0.8nm,0.9s
KOWA Kowa 32.20 208 LR LR 13 18 24.9
comp=Z,42nm,18.2s,baz=225,slow=38
GEYT Alibeck 35.76 83 LR LR 13 21 57.0
comp=Z,16nm,21.0s,baz=80,slow=41
KURBB Kurchatov Arra 44.79 57 P **P 13 05 57.5 +1.1**
comp=Z,0.4nm,0.3s,baz=303,slow=8.0,SNR=4.9
KURK Kurchatov 44.81 57 P **P 13 05 57.5 +0.9**
ZALV Zalesovo Beam 47.32 51 LR LR 13 28 16.2
comp=Z,16nm,18.8s,baz=36,slow=39
MKAR Makanchi Array 48.53 60 P **P 13 06 26.9 +1.1**
comp=Z,0.6nm,0.6s,baz=284,slow=7.0,SNR=6.3
SONM Songino Array 62.18 49 LR LR 13 37 50.3
comp=Z,23nm,19.0s,baz=162,slow=39
YKA Yellowknife Ar 65.09 335 P **P 13 08 24.1 +1.1**
comp=Z,1.6nm,0.6s,baz=45,slow=6.4,SNR=7.1
ULM Lac du Bonnet 66.47 318 P **P 13 08 31.9 -0.2**
comp=Z,1.4nm,0.5s,baz=44,slow=11,SNR=3.2
ULM Lac du Bonnet 66.47 318 IAmb IAmb 13 08 32.8
comp=Z,3.1nm,0.8s
PDAR Pinedale Array 78.38 320 P **P 13 09 43.5 -0.1**
comp=Z,0.4nm,0.6s,baz=61,slow=7.0,SNR=4.2
KSRS Korea Array 80.78 46 LR LR 13 51 03.9
comp=Z,13nm,18.4s,baz=150,slow=40
TXAR Lajitas Array 85.56 307 P **P 13 10 22.9 +1.5**
comp=Z,0.9nm,0.6s,baz=69,slow=3.2,SNR=14
VNDA Vanda 144.56 170 PKP **PKPdf 13 17 17.8 -0.1**
comp=Z,0.7nm,0.9s,baz=294,slow=3.1,SNR=3.8

*IDC **22** 13:05:29.4±1.5,31.′29S×176.′87W,h0km,mb3.6/2, mb1 4.2/5,mb1mx3.8/29,mbtmp4.2/5,ML4.0/3,MS3.4/1, Ms1 3.4/1,ms1mx2.6/24,Error ellipse: s-maj=35.3km s-min=29.1km az=133.0*
*NEIC **22** 13:05:35±1.1,31.′0S±0.′1×176.′82W±0.′10,h35km±6km, mb4.3/10,Error ellipse: s-maj=20.3km s-min=11.4km az=164.0*
ISC 22 13:05:32.5±0.9,31.′27S±0.′06×177.′0W±0.′1,h35km,n45, σ2§42/60,mb4.3/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.15 338**		P	**Pn**	**13 06 05.7**	**-0.2**
GLKZ				S	**Sn**	**13 06 29.6**	**-1.8**
RAO	**Raoul Island**	**2.16 338**		Pn	**Pn**	**13 06 06.4**	**+0.4**
30nm,0.3s,baz=104,slow=22,SNR=1.4							
RAO				Sn	**Sn**	**13 06 31.4**	**-0.2**
198nm,0.3s,baz=84,slow=22,SNR=3.4							
RIZ	**Raoul Island**	**2.17 338**		P	**Pn**	**13 06 04.3**	**-1.9**
RIZ				S	**Sn**	**13 06 31.6**	**-0.3**
MXZ	**Matakaoa Point**	**7.37 210**		Pn	**Pn**	**13 07 18.1**	**+0.5**
MXZ	**Matakaoa Point**	**7.37 210**		P	**Pn**	**13 07 18.1**	**+0.5**
MXZ				S	**Sn**	**13 08 42.6**	**+2.6**
WMGZ	**Waiomatatini S**	**7.54 209**		P	**Pn**	**13 07 21.3**	**+1.3**
WMGZ				S	**Sn**	**13 08 46.6**	**+2.4**
PKGZ	**Pakihiroa**	**7.74 210**		P	**Pn**	**13 07 22.8**	**+0.1**
PKGZ				S	**Sn**	**13 08 51.6**	**+2.4**
HAZ	**Te Kaha**	**7.77 212**		P	**Pn**	**13 07 25.2**	**+2.2**
HAZ				S	**Sn**	**13 08 53.1**	**+3.5**
PUZ	**Puketiti**	**7.82 209**		P	**Pn**	**13 07 24.2**	**+0.3**
PUZ				S	**Sn**	**13 08 53.0**	**+1.8**
RUGZ	**Raukumara Rang**	**7.98 212**		P	**Pn**	**13 07 25.1**	**-1.0**
RUGZ				S	**Sn**	**13 08 58.6**	**+3.3**
URZ	**Urewera**	**8.48 213**		Pn	**Pn**	**13 07 33.2**	**+0.4**
1.2nm,0.3s,baz=247,slow=4.1,SNR=6.8							
URZ				Sn	**Sn**	**13 09 07.9**	**+0.6**
1.5nm,0.3s,baz=181,slow=20,SNR=8.8							
URZ	**Urewera**	**8.48 213**		P	**Pn**	**13 07 33.5**	**+0.7**
URZ				S	**Sn**	**13 09 08.3**	**+0.9**
SNGZ	**Shannon Statio**	**8.81 210**		P	**Pn**	**13 07 38.4**	**+1.1**
SNGZ				S	**Sn**	**13 09 16.1**	**+0.8**
NMHZ	**Naumai**	**9.30 211**		P	**Pn**	**13 07 44.3**	**+0.1**
NMHZ				S	**Sn**	**13 09 29.3**	**+1.7**
BKZ	**Black Stump Fm**	**9.50 212**			**Pn**	**13 07 46.0**	**-0.8**
BKZ	**Black Stump Fm**	**9.50 212**		P	**Pn**	**13 07 45.9**	**-1.0**
BKZ				S	**Sn**	**13 09 30.4**	**-1.9**
PXZ	**Pawanui**	**10.06 208**		S	**Sn**	**13 09 43.4**	**-2.6**
TUWZ	**Tuamarina**	**12.48 213**			**Pn**	**13 08 25.2**	**-2.3**
TUWZ	**Tuamarina**	**12.48 213**		P	**Pn**	**13 08 24.8**	**-2.7**
TUWZ				S	**Sn**	**13 10 39.5**	**-5.8**
NNZ	**Nelson**	**12.59 215**		P	**Pn**	**13 08 26.7**	**-2.3**
NNZ				S	**Sn**	**13 10 41.8**	**-6.1**
THZ	**Tophouse**	**13.23 215**		P	**Pn**	**13 08 35.9**	**-2.0**
THZ				S	Sn	13 10 54.7	-9.0
KHZ	**Kahutara**	**13.44 212**			**Pn**	**13 08 38.4**	**-2.3**
KHZ	**Kahutara**	**13.44 212**		P	**Pn**	**13 08 37.3**	**-3.4**
KHZ				S	Sn	13 10 58.6	-10
DSZ	**Denniston Nort**	**13.78 218**		P	**Pn**	**13 08 45.8**	**+0.5**
DSZ				S	Sn	13 11 08.9	-8.2
LTZ	**Lake Taylor**	**14.31 214**		P	**Pn**	**13 08 52.0**	**-0.6**
LTZ				S	Sn	13 11 18.9	-11
INZ	**Inchbonnie**	**14.67 216**		P	Pn	13 08 52.7	-4.8
INZ				S	Sn	13 11 28.8	-10
OXZ	**Oxford**	**14.84 213**		P	**Pn**	**13 08 58.5**	**-1.2**
OXZ				S	Sn	13 11 31.7	-11
WVZ	**Waitaha Valley**	**15.28 216**		P	**Pn**	**13 09 05.5**	**0.0**
RPZ	**Rata Peaks**	**15.60 214**		Pn	**Pn**	**13 09 07.5**	**-2.2**
RPZ				IAmb	IAmb	13 09 20.1	
comp=Z,22nm,1.3s							
RPZ	**Rata Peaks**	**15.60 214**		P	**Pn**	**13 09 08.8**	**-0.9**
RPZ				S	**Sn**	**13 11 52.9**	**-8.4**
ODZ	**Otahua Downs**	**16.80 212**		Pn	**Pn**	**13 09 24.4**	**-0.6**
WKZ	**Wanaka**	**17.41 215**		Pn	**Pn**	**13 09 30.0**	**-2.6**
RAR	**Rarotonga**	**18.40 61**		P	**Pn**	**13 09 45.0**	**+0.1**
comp=Z,8.6nm,0.3s,baz=184,slow=3.9,SNR=3.9							
RAR	**Rarotonga**	**18.40 61**		P	**P**	**13 09 43.3**	**-1.3**
WHZ	**Wether Hill Ro**	**18.70 214**			**Pn**	**13 09 48.6**	**+0.2**
WHZ				IAmb	IAmb	13 10 00.6	
comp=Z,35nm,1.4s							
PMG	**Port Moresby**	**39.75 295**		LR	LR	13 26 06.2	
comp=Z,51nm,18.2s,baz=242,slow=31							
ASAR	**Alice Springs**	**43.92 267**		P	**P**	**13 13 38.8**	**+2.7**
comp=Z,0.2nm,0.3s,baz=104,slow=7.8,SNR=5.6							
WR0	**Warramunga Arr**	**44.81 273**		P	**P**	**13 13 46.4**	**+3.2**
WR0				IAmb	IAmb	13 14 10.5	
comp=Z,6.5nm,1.3s							
WB2	**Warramunga Arr**	**44.98 272**		P	**P**	**13 13 47.4**	**+2.8**
WB2				IAmb	IAmb	13 13 51.4	
comp=Z,7.1nm,1.5s							
WRAB	**Tennant Creek**	**44.98 273**		P	**P**	**13 13 47.5**	**+2.9**
WRAB				IAmb	IAmb	13 13 59.1	
comp=Z,6.3nm,1.4s							
WRA	**Warramunga Arr**	**44.99 272**		P	**P**	**13 13 48.3**	**+3.6**
comp=Z,0.3nm,0.4s,baz=110,slow=8.1,SNR=4.9							
WRA	**Warramunga Arr**	**44.99 272**		P	**P**	**13 13 46.9**	**+2.2**
WB0	**Warramunga Arr**	**45.01 273**		P	**P**	**13 13 46.9**	**+2.0**
WB0				IAmb	IAmb	13 14 00.2	
comp=Z,5.7nm,1.2s							
FINES	**FINESS Array B**	**146.25 340**		PKPbc	**PKiKP**	**13 25 11.3**	**-0.4**
comp=Z,2.2nm,0.9s,baz=113,slow=2.1,SNR=2.0							
TORD	**Torodi Ar. Bea**	**161.92 176**		PKPab	**PKPab**	**13 26 17.7**	**+1.3**
comp=Z,0.5nm,0.7s,baz=198,slow=4.1,SNR=2.2							

*IDC **22** 13:13:07.8±2.7,17.′27S×174.′15W,h82km±25km,mb3.8/7, mb1 4.1/9,mb1mx3.7/32,mbtmp4.1/9,Error ellipse: s-maj=39.1km s-min=16.0km az=141.0*
*NEIC **22** 13:13:09.2±1.8,17.′1S±0.′1×174.′2W±0.′2,h83km±9km, mb4.4/15,Error ellipse: s-maj=28.5km s-min=6.9km az=129.0*
ISC 22 13:13:10.0±0.8,17.′0S±0.′2×174.′2W±0.′1,h100km,n28, σ1§51/24,mb4.3/14,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.88 37**		P	**Pn**	**13 14 07.3**	**-0.3**
29nm,0.3s,baz=201,slow=3.3,SNR=40							
AFI				S	**Sn**	**13 14 49.3**	**-3.0**
106nm,0.3s,baz=76,slow=23,SNR=14							
AFI	**Afiamalu**	**3.88 37**		Pn	**Pn**	**13 14 07.1**	**-0.5**
MSVF	**Nonsavu**	**7.44 263**		P	**Pn**	**13 14 54.5**	**-1.5**
0.4nm,0.3s,baz=90,slow=20,SNR=1.5							
SANVU	**Saraoutou**	**17.93 272**		Pn	**Pn**	**13 17 14.9**	**+1.9**
SANVU				IAmb	IAmb	13 17 33.2	
comp=Z,31nm,0.7s							
URZ	**Urewera**	**22.49 198**		P	**P**	**13 17 57.7**	**-3.5**
comp=Z,10nm,0.5s,baz=48,slow=2.3,SNR=9.4							
URZ	**Urewera**	**22.49 198**		IAmb	IAmb	13 18 01.4	
comp=Z,10nm,0.7s							
RPZ	**Rata Peaks**	**29.40 202**		P	**P**	**13 19 04.4**	**+0.6**
WRA	**Warramunga Arr**	**48.75 258**		P	**P**	**13 21 44.4**	**-0.7**
comp=Z,1.4nm,0.5s,baz=98,slow=6.7,SNR=66							
WRA	**Warramunga Arr**	**48.75 258**		IAmb	IAmb	13 21 44.9	
comp=Z,0.2nm,0.7s							
AS31	**Alice Springs**	**48.90 253**		P	**P**	**13 21 45.0**	**-1.1**
AS31				IAmb	IAmb	13 21 46.7	
comp=Z,2.6nm,0.7s							
ASAR	**Alice Springs**	**48.90 253**		P	**P**	**13 21 45.8**	**-0.4**
comp=Z,9.0nm,0.6s,baz=89,slow=8.6,SNR=152							
NVAR	**Mina Array Bea**	**76.04 42**		P	**P**	**13 24 47.9**	**+1.1**
comp=Z,0.4nm,0.6s,baz=220,slow=8.6,SNR=4.2							
TXAR	**Lajitas Array**	**82.15 56**		P	**P**	**13 25 21.4**	**+1.2**
comp=Z,0.9nm,1.1s,baz=224,slow=5.2,SNR=5.2							
TRF	**Thorofare Moun**	**82.35 11**		P	**P**	**13 25 21.5**	**+0.9**
TRF				IAmb	IAmb	13 25 22.4	
comp=Z,4.5nm,0.9s							
WRH	**Wood River Hil**	**83.68 11**		P	**P**	**13 25 28.5**	**+1.3**
WRH				IAmb	IAmb	13 25 29.7	
comp=Z,8.0nm,1.2s							
MLY	**Manley**	**83.74 10**		P	**P**	**13 25 28.4**	**+0.9**
HDA	**Harding Lake**	**83.84 12**		P	**P**	**13 25 29.5**	**+1.5**
HDA				IAmb	IAmb	13 25 30.8	
comp=Z,3.5nm,0.8s							
CCB	**Clear Creek Bu**	**83.89 11**		P	**P**	**13 25 29.6**	**+1.4**
CCB				IAmb	IAmb	13 25 30.4	
comp=Z,4.7nm,0.8s							
PDAR	**Pinedale Array**	**83.98 42**		P	**P**	**13 25 30.1**	**+0.5**
comp=Z,0.6nm,0.7s,baz=178,slow=4.2,SNR=6.5							
TCOL	**CIGO, UAF Yank**	**84.09 11**		P	**P**	**13 25 29.8**	**+0.6**
COLA	**College**	**84.09 11**		P	**P**	**13 25 29.9**	**+0.7**
MDM	**Murphy Dome**	**84.10 11**		P	**P**	**13 25 29.8**	**+0.5**
MDM				IAmb	IAmb	13 25 32.1	
comp=Z,5.9nm,1.2s							
ILAR	**Eielson Array**	**84.18 11**		P	**P**	**13 25 29.9**	**+0.1**
comp=Z,0.6nm,0.4s,baz=226,slow=5.3,SNR=9.4							
H03S2	**Juan Fernandez**	**84.94 124**		T	T	14 58 56.4	
baz=250,slow=75,SNR=13							
H03S1	**Juan Fernandez**	**84.96 124**		T	T	14 58 50.1	
baz=250,slow=75,SNR=14							
H03S3	**Juan Fernandez**	**84.96 124**		T	T	14 58 52.8	
baz=250,slow=75,SNR=10							
DAWY	**Dawson**	**85.17 15**		P	**P**	**13 25 36.8**	**+2.0**
EGAK	**Eagle**	**85.37 14**		P	**P**	**13 25 37.5**	**+1.8**
EGAK				IAmb	IAmb	13 25 48.3	
comp=Z,4.1nm,1.2s							

*IDC **22** 13:17:09.2±1.4,21.′67S×170.′39E,h0km,mb3.9/6, mb1 4.1/6,mb1mx3.9/26,mbtmp3.9/6,Error ellipse: s-maj=57.9km s-min=31.3km az=154.0*
*NEIC **22** 13:17:27.4±0.4,21.′32S±0.′07×169.′29E±0.′09,h73km±10km, mb4.3/7,Error ellipse: s-maj=13.0km s-min=9.6km az=109.0*
ISC 22 13:17:26.4±0.8,21.′35S±0.′09×169.′4E±0.′1,h100km,n43, σ1§91/43,mb4.2/13,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.24 264**			**Pn**	**13 17 48.4**	**-1.1**
LIFNC	**LIFOU**	**2.05 286**			**Pn**	**13 17 59.8**	**+0.2**
LIFNC				Sn	**Sn**	**13 18 22.8**	**-2.2**
PINNC	**Pines Island,**	**2.17 234**			**Pn**	**13 17 59.5**	**-1.7**
OUENC	**Ouen Island, N**	**2.56 245**		Pn	**Pn**	**13 18 06.4**	**+0.2**
ONTNC	**Ouen Toro**	**2.85 250**			**Pn**	**13 18 10.7**	**+0.5**
SANVU	**Saraoutou**	**6.21 341**		Pn	**Pn**	**13 18 55.6**	**0.0**
QRZ	**Quartz Range**	**19.61 173**		P	**Pn**	**13 21 50.5**	**+1.5**
QRZ				IAmb	IAmb	13 22 07.6	
comp=Z,35nm,1.3s							
NNZ	**Nelson**	**20.10 171**		Pn	Pn	13 21 57.5	+2.8
WR0	**Warramunga Arr**	**32.56 266**		P	**P**	**13 23 50.5**	**+2.1**
WR0				IAmb	IAmb	13 24 15.0	
WB0	**Warramunga Arr**	**32.73 266**		P	**P**	**13 23 52.0**	**+2.2**
WB0				IAmb	IAmb	13 24 19.6	
comp=Z,6.5nm,1.4s							
WB2	**Warramunga Arr**	**32.74 266**		P	**P**	**13 23 51.9**	**+2.0**
WB2				IAmb	IAmb	13 24 10.0	
comp=Z,7.8nm,1.4s							
WRAB	**Tennant Creek**	**32.74 266**		P	**P**	**13 23 51.9**	**+2.0**
WRAB				IAmb	IAmb	13 24 13.0	
comp=Z,6.0nm,1.3s							
WRA	**Warramunga Arr**	**32.75 266**		P	**P**	**13 23 51.9**	**+1.9**
comp=Z,0.6nm,0.5s,baz=98,slow=8.3,SNR=11							
WRA				PcP	**PcP**	**13 26 31.8**	**-1.5**
comp=Z,0.8nm,1.0s,baz=96,slow=3.6,SNR=4.8							
WRA	**Warramunga Arr**	**32.75 266**		P	**P**	**13 23 51.7**	**+1.7**
ASAR	**Alice Springs**	**32.78 259**		P	**P**	**13 23 52.6**	**+2.4**
comp=Z,1.2nm,0.8s,baz=85,slow=8.8,SNR=4.6							
ASAR				PcP	**PcP**	**13 26 31.8**	**-1.6**
comp=Z,0.3nm,0.5s,baz=82,slow=4.5,SNR=5.5							
ASAR	**Alice Springs**	**32.78 259**		P	**P**	**13 23 53.1**	**+2.9**
KSRS	**Korea Array**	**70.30 326**		P	**P**	**13 28 28.6**	**-0.4**
comp=Z,1.2nm,1.0s,baz=127,slow=5.4,SNR=6.3							
CMAR	**Chiang Mai Arr**	**79.46 295**		P	**P**	**13 29 25.1**	**+2.9**
comp=Z,0.7nm,0.4s,baz=135,slow=4.5,SNR=4.9							
XAN	**Xi'an**	**79.61 313**		P	**P**	**13 29 21.0**	**-1.8**
XAN				pP	PcP	13 29 37.1	+6.8
XAN				pmax	pmax		
comp=Z,5.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**81.88 320**		*e*P	**P**	**13 29 39.3**	**+4.5**
HHC				pmax	pmax		
comp=Z,16nm,1.4s							
HHC				pmax	pmax		
comp=Z,93nm,7.0s							
GTA	**Gaotai**	**88.64 313**		*e*P	**P**	**13 30 09.4**	**+0.8**
GTA				pP	PcP	13 30 15.8	+5.7
GTA				sP	pP	13 30 18.4	-15
GTA				pmax	pmax		
comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**88.96 323**		P	**P**	**13 30 09.5**	**-0.4**
comp=Z,0.7nm,0.5s,baz=131,slow=4.4,SNR=4.4							
NVAR	**Mina Array Bea**	**90.11 48**		P	P	13 30 09.7	-5.9
comp=Z,0.1nm,0.3s,baz=229,slow=8.2,SNR=1.7							
WMQ	**Urumqi**	**98.73 314**		*e*P	Pdif	13 30 59.4	+4.7
ARCES	**ARCESS Array B**	**127.12 345**		PKP	**PKPdf**	**13 36 15.0**	**-3.2**
comp=Z,2.4nm,0.9s,baz=5.0,slow=2.8,SNR=7.7							
FINES	**FINESS Array B**	**132.56 337**		PKP	**PKPdf**	**13 36 26.4**	**-2.3**
comp=Z,2.3nm,0.8s,baz=26,slow=3.5,SNR=4.2							
BRG	**Berggiesshubel**	**144.79 333**		*i* PKP	**PKPab**	**13 36 49.4**	**-1.2**
BRG				Amp		13 36 50.9	
comp=Z,7.5nm,0.5s							
CLL	**Collm**	**144.86 334**		*i* PKPbc	**PKPab**	**13 36 49.0**	**-1.8**
comp=Z,6.0nm,0.7s							
CONA	**Conrad Observa**	**145.98 328**		*e*P	**PKPdf**	**13 36 54.0**	**+0.4**
comp=Z,5.2nm,0.8s							
GERES	**GERESS Array B**	**146.38 331**		PKPbc	**PKPdf**	**13 36 54.3**	**0.0**
comp=Z,5.9nm,0.6s,baz=46,slow=3.9,SNR=49							
MOA	**Molln**	**146.82 329**		*e*P	**PKPdf**	**13 36 55.2**	**+0.2**
comp=Z,2.7nm,0.5s							
SOKA	**Soboth**	**147.24 327**		*e*P	**PKPdf**	**13 36 56.2**	**+0.4**
comp=Z,2.9nm,0.6s							
KBA	**Koelnbrreinsper**	**147.81 329**		*e*P	**PKPdf**	**13 36 57.3**	**+0.4**
comp=Z,5.2nm,1.1s							
MYKA	**Terra Mystica**	**147.97 328**		*e*P	**PKPdf**	**13 36 57.8**	**+0.8**
comp=Z,4.4nm,0.5s							
ABTA	**Abfaltersbach**	**148.44 329**		*e*P	**PKPdf**	**13 36 59.0**	**+1.3**
comp=Z,4.7nm,0.6s							
WATA	**Walderalm**	**148.46 331**		*e*P	**PKPdf**	**13 36 59.1**	**+1.2**
comp=Z,4.1nm,0.5s							
WTTA	**Wattenberg**	**148.48 330**		*e*P	**PKPdf**	**13 36 59.9**	**+1.9**
comp=Z,6.9nm,0.7s							
MOTA	**Moosalm**	**148.66 331**		*e*P	**PKPdf**	**13 36 60.0**	**+1.8**
comp=Z,6.0nm,0.6s							
SQTA	**Sankt Quirin**	**148.71 331**		*e*P	**PKPdf**	**13 37 00.4**	**+2.2**
comp=Z,7.8nm,0.6s							
RETA	**Reutte**	**148.71 332**		*e*P	**PKPdf**	**13 37 00.1**	**+1.9**
comp=Z,3.7nm,0.8s							
FETA	**Feichten**	**149.08 331**		*e*P	**PKPdf**	**13 37 01.5**	**+2.6**
comp=Z,7.7nm,1.0s							
DAVA	**Damuels**	**149.25 332**		*e*P	**PKPdf**	**13 37 02.0**	**+2.8**
comp=Z,3.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**165.67 237**		PKPab	**PKPab**	**13 38 17.3**	**-2.3**
comp=Z,0.4nm,0.5s,baz=146,slow=4.5,SNR=2.3							

*SOME **22** 13:39:00.1,44.′62N×82.′93E,h5km*
*NNC **22** 13:39:03.8±1.2,44.′68N×82.′76E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=11.9km s-min=4.9km az=129.0*
ISC 22 13:39:04.0±1.2,44.′63N±0.′05×82.′83E±0.′06,h17km,n38, σ2§54/53,6C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.15 237**		*e*P	**Pb**	**13 39 41.0**	**-1.4**
17nm,0.1s							
KTMS				*e*S	**Sg**	**13 40 11.1**	**-1.9**
398nm,0.3s							
KTMS	**Ketmen**	**2.15 237**		Pg	**Pb**	**13 39 43.4**	**+1.0**
17nm,0.1s							
KTMS				Lg	Lg	13 40 11.1	
398nm,0.3s							
MK31	**Makanchi Array**	**2.19 350**		Pn	**Pn**	**13 39 40.3**	**+0.7**
6.3nm,0.3s,baz=164,slow=17,SNR=357							
MK31				⇑Lg	Lg	13 40 10.4	
19nm,0.2s,baz=168,slow=29,SNR=16							
DJR	**Jarkent**	**2.20 263**		*e*P	**Pb**	**13 39 42.5**	**-0.8**
4.2nm,0.2s							
DJR				*e*S	**Sg**	**13 40 13.2**	**-1.5**
6.7nm,0.3s							
DJR

KURS	**Kuram**	**3.55 253**	*e*P		**Pb**	**13 40 05.7**	**-0.6**
	6.0nm,0.3s						
KURS			*e*S		**Sb**	**13 40 53.2**	**+4.0**
	29nm,0.5s						
KURS	**Kuram**	**3.55 253**	Pg		**Pb**	**13 40 08.1**	**+1.8**
	6.0nm,0.3s						
KURS			Lg		Lg	13 40 53.2	
	29nm,0.5s						
SATY	**Saty**	**3.57 245**	*e*P		**Pb**	**13 40 05.1**	**-1.5**
	3.2nm,0.1s						
SATY			*e*S		**Sb**	**13 40 51.7**	**+2.0**
	97nm,0.1s						
SATY	**Saty**	**3.57 245**	Pg		**Pb**	**13 40 07.3**	**+0.6**
	4.1nm,0.1s						
SATY			Lg		Lg	13 40 51.7	
	97nm,0.1s						
ARXS	**Arharly**	**3.61 265**	*e*P		**Pb**	**13 40 07.6**	**+0.2**
	41nm,0.3s						
ARXS			*e*S		**Sg**	**13 40 56.0**	**-3.9**
	59nm,0.5s						
ARXS	**Arharly**	**3.61 265**	Pg		**Pg**	**13 40 09.9**	**-3.2**
	41nm,0.3s						
ARXS			Lg		Lg	13 40 56.0	
	59nm,0.5s						
CHKK	**Chushkaly**	**4.27 262**	*e*P		**Pb**	**13 40 18.4**	**-0.2**
	6.4nm,0.2s						
CHKK			*e*S		**Sb**	**13 41 14.9**	**+5.1**
	42nm,0.2s						
CHKK	**Chushkaly**	**4.27 262**	Pg		**Pb**	**13 40 20.9**	**+2.4**
	6.4nm,0.2s						
CHKK			Lg		Lg	13 41 14.9	
	42nm,0.2s						
KTBS	**Karatobe**	**4.52 260**	*e*P		**Pb**	**13 40 22.5**	**-0.3**
	3.5nm,0.3s						
KTBS			*e*S		**Sb**	**13 41 22.1**	**+5.1**
	32nm,0.5s						
KTBS	**Karatobe**	**4.52 260**	Pg		**Pb**	**13 40 24.9**	**+2.0**
	6.1nm,0.4s						
KTBS			Lg		Lg	13 41 22.1	
	32nm,0.5s						
TNSS	**Tian-Shan**	**4.55 251**	Pg		**Pg**	**13 40 28.1**	**-2.9**
	11nm,0.4s						
TNSS			Lg		Lg	13 41 27.2	
	59nm,0.6s						
IZV	**Izvestkoviy**	**4.77 253**	*e*P		**Pb**	**13 40 28.9**	**+1.6**
	8.9nm,0.6s						
IZV			*e*S		**Sg**	**13 41 32.8**	**-4.4**
	29nm,0.4s						
IZV	**Izvestkoviy**	**4.77 253**	Pg		**Pg**	**13 40 31.4**	**-4.0**
	8.9nm,0.6s						
IZV			Lg		Lg	13 41 32.8	
	29nm,0.4s						
KST	**Kastek**	**5.22 255**	*e*P		**Pb**	**13 40 37.0**	**+2.3**
	8.8nm,0.4s						
KST			*e*S		**Sg**	**13 41 46.7**	**-4.7**
	30nm,0.5s						
KST	**Kastek**	**5.22 255**	Pg		**Pg**	**13 40 39.1**	**-4.7**
	8.8nm,0.4s						
KST			Lg		Lg	13 41 46.7	
	30nm,0.5s						
DGS	**Degeres**	**5.28 257**	*e*P		**Pb**	**13 40 38.7**	**+2.8**
	5.6nm,0.4s						
DGS			*e*S		**Sg**	**13 41 49.3**	**-4.2**
	29nm,0.7s						
DGS	**Degeres**	**5.28 257**	Pg		**Pg**	**13 40 40.9**	**-4.2**
	5.6nm,0.4s						
DGS			Lg		Lg	13 41 49.3	
	29nm,0.7s						
TKM2	**Tokmak 2**	**5.51 254**	⇑Pg		**Pg**	**13 40 48.3**	**-1.2**
	4.6nm,0.5s						
TKM2			⇓Lg		Lg	13 41 57.0	
	10nm,0.5s						
KURBB	**Kurchatov Arra**	**6.66 336**	⇑Lg		Lg	13 42 32.5	
	52nm,0.7s						

*ATH **22** 13:47:58.9, 38°.83N×21°.20E, h10km±1km, ML3.4/17, Error ellipse: s-maj=1.9km s-min=0.6km az=294.0*
*THE **22** 13:47:59.1, 38°.86N×21°.20E, h0km±1km, ML3.5/12, Error ellipse: s-maj=1.5km s-min=0.3km az=356.0*
*IDC **22** 13:48:02.9±3.4, 38°.67N×20°.98E, h66km±29km, mb3.3/6, mb1 3.4/9, mb1mx3.2/49, mbtmp3.6/9, ML3.7/3, MS2.6/1, Ms1 2.6/1, ms1mx1.9/26, Error ellipse: s-maj=52.6km s-min=18.2km az=59.0*

ISC 22 13:47:58.8±0.9, 38°.86N±0°.02×21°.18E±0°.02, h17km±7km, n116, σ1§87/156, mb3.5/6, 8C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSL	**Palaion Diasel**	**0.28 346**		P	**Pg**	**13 48 05.0**	**-0.1**
DSL				S	**Sb**	**13 48 10.1**	**+0.1**
PVO	**Paravola**	**0.36 132**		P	**Pb**	**13 48 06.2**	**-0.6**
PVO				S	**Sb**	**13 48 11.6**	**-0.6**
PVO	**Paravola**	**0.36 132**		P	**Pb**	**13 48 06.0**	**-0.8**
PVO				S	**Sg**	**13 48 10.1**	**-1.3**
NYDR	**Nydri-Lefkada**	**0.41 249**		P	**Pg**	**13 48 06.8**	**-0.3**
NYDR				S	**Sb**	**13 48 13.9**	**+0.5**
	3μm,0.3s						
TSLK	**Tsoukalades, L**	**0.41 266**		P	**Pb**	**13 48 07.4**	**-0.3**
TSLK	**Tsoukalades, L**	**0.41 266**		P	**Pb**	**13 48 07.2**	**-0.5**
TSLK				S	**Sg**	**13 48 13.3**	**+0.3**
TSLK				AML	AML	13 48 18.3	
	comp=N,10995μm,0.4s						
TSLK				AML	AML	13 48 20.6	
	comp=E,8945μm,0.4s						
LKD2	**Lefkada island**	**0.41 261**		P	**Pb**	**13 48 07.3**	**-0.5**
LKD2				S	**Sb**	**13 48 13.7**	**-0.1**
	comp=E,11μm,0.2s						
LKD2	**Lefkada island**	**0.41 261**		P	**Pb**	**13 48 07.3**	**-0.5**
LKD2				S	**Sb**	**13 48 13.5**	**-0.3**
LKD2				AML	AML	13 48 16.2	
	comp=E,21151μm,0.2s						
LKD2				AML	AML	13 48 16.3	
	comp=N,22238μm,0.3s						
EVGI	**Lefkada island**	**0.47 240**		P	**Pb**	**13 48 08.2**	**-0.5**
EVGI				S	**Sb**	**13 48 16.2**	**+0.7**
	comp=N,4μm,0.2s						
EVGI	**Lefkada island**	**0.47 240**		P	**Pg**	**13 48 08.0**	**-0.4**
EVR	**Evrytania**	**0.49 83**		P	**Pb**	**13 48 08.5**	**-0.6**
EVR				S	**Sb**	**13 48 15.9**	**-0.2**
	comp=N,4μm,0.4s						
EVR	**Evrytania**	**0.49 83**		P	**Pb**	**13 48 08.2**	**-1.0**
EVR				S	**Sb**	**13 48 15.0**	**-1.1**
EVR				AML	AML	13 48 18.0	
	comp=N,9092μm,0.3s						
EVR				AML	AML	13 48 19.3	
	comp=E,8392μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.51 250**		P	**Pg**	**13 48 08.6**	**-0.3**
DRAG				S	**Sb**	**13 48 16.5**	**+0.1**
	comp=E,16μm,0.2s						
FSK	**Fiskardo**	**0.63 231**		P	**Pg**	**13 48 10.6**	**-0.6**
FSK				S	**Sb**	**13 48 20.8**	**+1.0**
	comp=E,4μm,0.3s						
FSK	**Fiskardo**	**0.63 231**		P	**Pg**	**13 48 10.3**	**-0.9**
FSK				S	**Sb**	**13 48 20.0**	**+0.1**
FSK				AML	AML	13 48 22.1	
	comp=E,11057μm,0.3s						
FSK				AML	AML	13 48 23.0	
	comp=N,6442μm,0.4s						
ANX	**Ano Chora**	**0.64 114**		P	**Pb**	**13 48 10.6**	**-0.9**
ANX				S	**Sb**	**13 48 20.5**	**+0.3**
	comp=N,6μm,0.4s						
ANX	**Ano Chora**	**0.64 114**		P	**Pb**	**13 48 10.5**	**-1.1**
ANX				S	**Sb**	**13 48 19.6**	**-0.6**
ANX				AML	AML	13 48 25.0	
	comp=N,11462μm,0.4s						
ANX				AML	AML	13 48 25.1	
	comp=E,14822μm,0.3s						
EFP	**Efpalio**	**0.71 127**		P	**Pb**	**13 48 11.9**	**-0.9**
EFP				S	**Sn**	**13 48 23.3**	**-1.4**
	comp=E,11μm,0.3s						
EFP	**Efpalio**	**0.71 127**		P	**Pb**	**13 48 11.7**	**-1.0**
EFP				S	**Sb**	**13 48 21.9**	**-0.3**
EFP				AML	AML	13 48 26.6	
	comp=E,20980μm,0.3s						
EFP				AML	AML	13 48 27.9	
	comp=N,21333μm,0.4s						
UPR	**University Cam**	**0.74 140**		P	**Pn**	**13 48 13.5**	**-1.1**
MAKR	**Makrakomi, Fth**	**0.76 78**		P	**Pb**	**13 48 13.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.76 78**		P	**Pb**	**13 48 13.3**	**-0.3**
MAKR				S	**Sb**	**13 48 23.0**	**-0.6**
MAKR				AML	AML	13 48 27.5	
	comp=E,3284μm,0.3s						
MAKR				AML	AML	13 48 29.1	
	comp=N,3676μm,0.4s						

KEF5	**Kardakata, Kep**	**0.81 224**		P	**Pg**	**13 48 13.4**	**-1.1**
SERG	**Sergoula**	**0.82 123**		P	**Pb**	**13 48 14.4**	**-0.2**
SERG	**Sergoula**	**0.82 123**		P	**Pg**	**13 48 13.4**	**-1.3**
SERG				S	**Sb**	**13 48 24.7**	**-0.6**
SERG				AML	AML	13 48 30.5	
	comp=N,12685μm,0.3s						
SERG				AML	AML	13 48 32.0	
	comp=E,13333μm,0.4s						
VLS	**Valsamata**	**0.82 215**		P	**Pg**	**13 48 13.6**	**-1.3**
VLS				AML	AML	13 48 27.8	
	comp=E,4696μm,0.2s						
VLS				AML	AML	13 48 30.0	
	comp=N,5154μm,0.3s						
RLS	**Riolos of Patr**	**0.83 164**		P	**Pb**	**13 48 14.5**	**-0.3**
RLS	**Riolos of Patr**	**0.83 164**		P	**Pb**	**13 48 14.2**	**-0.6**
RLS				S	**Sb**	**13 48 25.5**	**-0.1**
RLS				AML	AML	13 48 32.7	
	comp=N,6230μm,0.4s						
RLS				AML	AML	13 48 34.6	
	comp=E,5525μm,0.3s						
JAN	**Janina**	**0.84 342**		P	**Pg**	**13 48 15.0**	**-0.2**
JAN				S	**Sb**	**13 48 26.7**	**+0.7**
JAN				AML	AML	13 48 31.4	
	comp=E,5122μm,0.8s						
JAN				AML	AML	13 48 34.8	
	comp=N,2728μm,0.5s						
KEF4	**Livadi, Kephal**	**0.84 225**		P	**Pg**	**13 48 14.0**	**-1.2**
TRIZ	**Trizonia**	**0.85 125**		P	**Pb**	**13 48 14.5**	**-0.7**
TRIZ				S	**Sn**	**13 48 27.5**	**-0.7**
	comp=N,6μm,0.5s						
TRIZ	**Trizonia**	**0.85 125**		P	**Pb**	**13 48 14.3**	**-0.9**
TRIZ				S	**Sb**	**13 48 25.8**	**-0.5**
ARGA	**Argostoli. Kep**	**0.88 219**		P	**Pb**	**13 48 15.6**	**0.0**
LAKA	**Lakka**	**0.88 134**		P	**Pn**	**13 48 15.6**	**-0.9**
LAKA				S	**Sn**	**13 48 28.6**	**-0.2**
	comp=N,8μm,0.5s						
LAKA	**Lakka**	**0.88 134**		P	**Pg**	**13 48 14.6**	**-1.3**
LAKA				AML	AML	13 48 31.3	
	comp=N,13965μm,0.5s						
LAKA				AML	AML	13 48 32.5	
	comp=E,19815μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.88 212**		P	**Pg**	**13 48 14.5**	**-1.4**
LXRA	**Lixouri, Kepha**	**0.88 222**		P	**Pg**	**13 48 15.1**	**-0.8**
AGG	**Agios Georgios**	**0.91 79**		P	**Pb**	**13 48 16.0**	**-0.2**
AGG				S	**Sn**	**13 48 29.1**	**-0.6**
	comp=E,2μm,0.3s						
AGG	**Agios Georgios**	**0.91 79**		P	**Pb**	**13 48 15.8**	**-0.4**
AGG				S	**Sn**	**13 48 29.0**	**-0.7**
AGG				AML	AML	13 48 34.1	
	comp=N,4034μm,0.4s						
AGG				AML	AML	13 48 35.3	
	comp=E,4125μm,0.7s						
KEF3	**Kipouria, Keph**	**0.93 225**		P	**Pg**	**13 48 14.9**	**-1.8**
VTN	**Vitineika**	**0.94 180**		P	**Pn**	**13 48 16.7**	**-0.6**
ALIK	**Aliki, Aigiali**	**0.94 129**		P	**Pn**	**13 48 17.0**	**-0.3**
ALIK				S	**Sn**	**13 48 30.5**	**+0.2**
IGT	**Igoumenitsa**	**0.94 316**		P	**Pg**	**13 48 16.9**	**-0.3**
IGT	**Igoumenitsa**	**0.94 316**		P	**Pg**	**13 48 16.7**	**-0.5**
IGT				S	**Sn**	**13 48 31.5**	**+1.0**
IGT				AML	AML	13 48 34.1	
	comp=E,2803μm,0.5s						
IGT				AML	AML	13 48 38.7	
	comp=N,2172μm,0.7s						
THL	**Klokotos Trika**	**0.96 42**		P	**Pg**	**13 48 16.6**	**-0.9**
THL	**Klokotos Trika**	**0.96 42**		P	**Pg**	**13 48 16.5**	**-0.9**
THL				S	**Sn**	**13 48 30.4**	**-0.3**
THL				AML	AML	13 48 35.2	
	comp=E,2694μm,0.6s						
THL				AML	AML	13 48 36.1	
	comp=N,2143μm,0.6s						
VLMS	**Volimes, Zakyn**	**1.06 203**		P	**Pb**	**13 48 17.7**	**-1.1**
VLMS				AML	AML	13 48 40.0	
	comp=E,7797μm,0.4s						
VLMS				AML	AML	13 48 42.7	
	comp=N,9220μm,0.4s						
DLFA	**Delphi**	**1.10 110**		P	**Pn**	**13 48 19.4**	**-0.1**
KPRO	**Kipourio**	**1.10 7**		P	**Pg**	**13 48 19.8**	**-0.4**
KPRO	**Kipourio**	**1.10 7**		P	**Pb**	**13 48 19.5**	**-0.1**
KPRO				S	**Sn**	**13 48 35.5**	**+1.0**
KLV	**Kalavryta, Ach**	**1.11 137**		P	**Pn**	**13 48 19.2**	**-0.5**
KLV				S	**Sn**	**13 48 36.5**	**+1.8**
KLV	**Kalavryta, Ach**	**1.11 137**		P	**Pb**	**13 48 18.8**	**-0.8**
KLV				S	**Sn**	**13 48 34.6**	**-0.1**
KLV				AML	AML	13 48 38.2	
	comp=E,3427μm,0.7s						
KLV				AML	AML	13 48 42.1	
	comp=N,3474μm,0.5s						
KEK	**Kerkira**	**1.37 309**		P	**Pg**	**13 48 24.8**	**-0.5**
KEK	**Kerkira**	**1.37 309**		P	**Pb**	**13 48 24.5**	**+0.5**
AMT	**Artemida-Makis**	**1.39 162**		P	**Pg**	**13 48 24.1**	**-1.5**
AMT				S	**Sg**	**13 48 45.2**	**+1.6**
	comp=N,3μm,0.8s						
AMT	**Artemida-Makis**	**1.39 162**		P	**Pg**	**13 48 23.9**	**-1.6**
THAL	**Thalero**	**1.42 125**		P	**Pg**	**13 48 25.0**	**-1.3**
LKR	**Lokris**	**1.44 98**		P	**Pg**	**13 48 25.4**	**-1.1**
LKR	**Lokris**	**1.44 98**		P	**Pg**	**13 48 25.0**	**-1.4**
NEST	**Nestorio**	**1.56 356**		P	**Pb**	**13 48 28.0**	**+0.6**
SMIA	**Simia**	**1.58 89**		P	**Pg**	**13 48 28.1**	**-1.2**
XOR	**Xorichti**	**1.64 71**		P	**Pb**	**13 48 28.7**	**0.0**
XOR	**Xorichti**	**1.64 71**		P	**Pb**	**13 48 27.9**	**-0.8**
ITM	**Ithomi**	**1.77 160**		P	**Pb**	**13 48 30.8**	**-0.1**
ITM	**Ithomi**	**1.77 160**		P	**Pg**	**13 48 31.0**	**-1.9**
EPID	**Epidavros**	**1.97 129**		P	**Pb**	**13 48 33.9**	**-0.3**
EREA	**Eretria**	**2.20 101**		P	**Pb**	**13 48 36.8**	**-1.3**
ATHU	**Athens Univers**	**2.23 113**		P	**Pb**	**13 48 37.4**	**-1.3**
OHR	**Ohrid**	**2.27 353**	*i* Pn		**Pg**	**13 48 41.8**	**-0.6**
VLY	**Voula,Athens**	**2.29 115**		P	**Pb**	**13 48 38.1**	**-1.5**
DION	**Dionisos Attik**	**2.29 109**		P	**Pb**	**13 48 38.4**	**-1.4**
VAY	**Valandovo**	**2.68 23**	*i* Pn		**Pb**	**13 48 44.3**	**-2.0**
TIR	**Tirane**	**2.68 338**	⇑P		**Pb**	**13 48 44.3**	**-2.2**
STIP	**Stip**	**2.94 15**	*i* Pn		**Pb**	**13 48 49.2**	**-1.5**
SKO	**Skopje**	**3.12 4**	*i* Pn		**Pb**	**13 48 51.2**	**-2.6**
DRME	**Dracevica, Mon**	**3.66 336**	*e*Pn		**Pn**	**13 48 55.9**	**+1.2**
PDG	**Podgorica**	**3.86 338**	⇑P		**Pn**	**13 48 59.9**	**+2.5**
PDG	**Podgorica**	**3.86 338**	*e*Pn		**Pn**	**13 49 01.2**	**+3.8**
APE	**Apeiranthos**	**3.87 116**	⇑P		**Pn**	**13 49 01.5**	**+3.8**
MATE	**Matera**	**3.89 299**	⇓P		**Pn**	**13 49 00.7**	**+2.9**
VTS	**Vitosha**	**4.07 22**	⇑P		**Pn**	**13 49 04.2**	**+3.8**
HCY	**Herceg Novi**	**4.13 331**	*e*Pn		**Pn**	**13 49 01.6**	**+0.5**
TREB	**Trebinje**	**4.41 332**	*e*Pn		**Pn**	**13 49 04.6**	**-0.4**
BRY	**Bratogost**	**4.51 334**	*e*Pn		**Pn**	**13 49 06.7**	**+0.2**
IDI	**Anoyia**	**4.63 139**	P		**Pn**	**13 49 09.9**	**+1.8**
	comp=N,1.1nm,0.3s,baz=311,slow=9.3,SNR=1.9						
IDI			S		**Sn**	**13 50 02.8**	**+1.2**
	comp=N,1.6nm,0.3s,baz=55,slow=20,SNR=1.5						
UPM	**Unac-Piva**	**4.67 339**	*e*Pn		**Pn**	**13 49 10.1**	**+1.4**
BOVS	**Bovan**	**4.79 5**	⇑P		**Pn**	**13 49 13.6**	**+3.5**
STON	**Ston**	**4.80 328**	*e*Pn		**Pn**	**13 49 09.7**	**-0.6**
STON	**Ston**	**4.80 328**	*e*Pn		**Pn**	**13 49 10.0**	**-0.3**
STON			Sn		**Sn**	**13 49 59.8**	**-5.7**
RUDO	**Rudo**	**4.95 345**	*e*Pn		**Pn**	**13 49 13.5**	**+1.1**
BBLS	**Lazići**	**5.18 346**	*e*Pn		**Pn**	**13 49 18.8**	**+3.2**
DIVS	**Divibare**	**5.31 351**	*e*Pn		**Pn**	**13 49 18.5**	**+1.0**
RICI	**Ricice**	**5.55 328**	*e*Pn		**Pn**	**13 49 20.7**	**+0.1**
RICI			Sn		**Sn**	**13 50 19.1**	**-4.9**
HVAR	**Hvar**	**5.61 322**	*e*Pn		**Pn**	**13 49 21.3**	**-0.1**
HVAR			Sn		**Sn**	**13 50 19.6**	**-5.8**
HERR	**Herculane**	**6.09 8**	⇑P		**Pn**	**13 49 32.2**	**+4.1**
KIJV	**Kijevo**	**6.27 327**	*e*Pn		**Pn**	**13 49 30.8**	**+0.2**
KIJV			Sn		**Sn**	**13 50 36.6**	**-5.2**
MGRS	**Mrkonjic Grad**	**6.35 332**	*e*Pn		**Pn**	**13 49 33.4**	**+1.8**
ZIRJ	**Zirje**	**6.35 321**	*e*Pn		**Pn**	**13 49 31.4**	**-0.3**
ZIRJ			Sn		**Sn**	**13 50 37.4**	**-6.4**
GZR	**Gura Zlata**	**6.64 10**	⇑P		**Pn**	**13 49 40.1**	**+4.5**
DUGI	**Dugi Otok**	**6.89 320**	*e*Pn		**Pn**	**13 49 39.2**	**+0.2**
DUGI			Sn		**Sn**	**13 50 51.3**	**-5.7**
NVLJ	**Novalja**	**7.40 322**	*e*Pn		**Pn**	**13 49 46.5**	**+0.5**
NVLJ			Sn		**Sn**	**13 51 03.5**	**-6.0**
MLR	**Muntele Rosu**	**7.51 27**	P		Pn	13 49 54.3	+6.6
	comp=N,0.9nm,0.3s,baz=188,slow=7.9,SNR=7.6						
MLR			LR		LR	13 53 59.7	
	comp=N,39nm,18.3s,baz=342,slow=46						
MLR	**Muntele Rosu**	**7.51 27**	⇓P		**Pn**	**13 49 52.4**	**+4.7**
BOJS	**Bojanci**	**7.97 328**	*e*Pn		**Pn**	**13 49 52.3**	**-1.5**
VRI	**Vrincioaia**	**8.12 29**	⇑P		**Pn**	**13 49 59.8**	**+4.0**
CRES	**Cresnjev**	**8.15 331**	*e*Pn		**Pn**	**13 49 53.1**	**-3.2**
CEY	**Cerknica**	**8.50 326**	*e*Pn		**Pn**	**13 50 01.6**	**+0.4**
LTVH	**Ltavrtes, Hu**	**8.54 3**	*e*P		**Pn**	**13 49 58.5**	**-3.1**
TRPA	**Tarpa**	**9.32 6**	*e*P		**Pn**	**13 50 12.5**	**+0.1**
BRTR	**Keskin Array B**	**9.70 81**	P		**Pn**	**13 50 21.4**	**+3.7**
	comp=N,0.2nm,0.3s,baz=270,slow=12,SNR=4.4						
HFS	**Hagfors**	**21.82 350**	P		**P**	**13 52 52.0**	**+2.1**
	comp=N,0.8nm,0.4s,baz=134,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**22.82 6**	P		**P**	**13 53 00.5**	**0.0**
	comp=N,1.4nm,0.8s,baz=165,slow=17,SNR=1.3						
NOA	**NORSAR Array B**	**23.06 348**	P		**P**	**13 53 04.1**	**+0.9**
	comp=N,0.2nm,0.5s,baz=169,slow=11,SNR=1.6						
KURBB	**Kurchatov Arra**	**41.41 54**	P		**P**	**13 55 45.8**	**+1.6**
	comp=N,0.1nm,0.3s,baz=280,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**44.51 59**	P		**P**	**13 56 09.0**	**-0.3**
	comp=N,0.3nm,0.4s,baz=275,slow=8.6,SNR=5.1						
ZALV	**Zalesovo Beam**	**44.85 49**	P		**P**	**13 56 11.8**	**-0.1**
	comp=N,2.6nm,0.4s,baz=276,slow=8.6,SNR=8.2						

*IDC **22** 14:25:18.7±12.0, 24°.83S×68°.58E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/35, mbtmp3.8/5, MS3.3/8, Ms1 3.3/8, ms1mx3.0/31, Error ellipse: s-maj=420.2km s-min=34.1km az=52.0*
*NEIC **22** 14:25:20.1±0.7, 24°.9S±0°.2×68°.4E±0°.2, h10km±1km, mb4.5/6, Error ellipse: s-maj=31.4km s-min=21.9km az=200.0*

ISC 22 14:25:19.5±0.9, 24°.9S±0°.2×68°.4E±0°.2, h10km, n23, σ0§51/11, mb4.0/9, MS3.3/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**17.61 13**		T	T	14 46 09.7	
	baz=190,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**17.61 13**		T	T	14 46 10.2	
	baz=190,slow=76,SNR=43						
H08S3	**Diego Garcia H**	**17.63 13**		T	T	14 46 10.7	
	baz=190,slow=76,SNR=29						
OPO	**Ambohidratompo**	**20.70 284**		LR	LR	14 35 09.5	
	comp=Z,91nm,19.5s,baz=54,slow=28						
PALK	**Pallekele**	**34.16 22**		LR	LR	14 41 52.5	
	comp=Z,85nm,19.7s,baz=316,slow=29						
BOSA	**Boshof**	**38.56 255**		LR	LR	14 45 34.4	
	comp=Z,86nm,20.1s,baz=181,slow=31						
LBTB	**Lobatse**	**38.70 261**		P	**P**	**14 32 43.9**	**-0.1**
CASY	**Casey**	**49.03 159**		P	**P**	**14 34 06.4**	**+0.1**
CASY				IAmb	IAmb	14 34 07.0	
	comp=Z,1.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.37 37**		LR	LR	14 52 00.5	
	comp=Z,21nm,21.8s,baz=204,slow=31						
ASAR	**Alice Springs**	**59.16 104**		P	**P**	**14 35 20.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=254,slow=6.1,SNR=9.8						
WRA	**Warramunga Arr**	**60.62 100**		P	**P**	**14 35 30.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=254,slow=7.0,SNR=5.0						
WB2	**Warramunga Arr**	**60.63 100**		P	**P**	**14 35 30.8**	**-0.3**
WB2				IAmb	IAmb	14 35 44.1	
	comp=Z,6.3nm,1.4s						
WRAB	**Tennant Creek**	**60.63 100**		P	**P**	**14 35 30.9**	**-0.2**
WRAB				IAmb	IAmb	14 35 50.6	
	comp=Z,8.8nm,1.4s						
WR0	**Warramunga Arr**	**60.79 100**		P	**P**	**14 35 32.2**	**0.0**
WR0				IAmb	IAmb	14 35 59.9	
	comp=Z,6.6nm,1.3s						
GEYT	**Alibeck**	**63.26 351**		LR	LR	14 59 59.5	
	comp=Z,25nm,18.2s,baz=85,slow=33						
MKAR	**Makanchi Array**	**72.47 10**		P	**P**	**14 36 45.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=198,slow=4.9,SNR=4.9						
MKAR	**Makanchi Array**	**72.47 10**		P	**P**	**14 36 45.1**	**-1.0**
TORD	**Torodi Ar. Bea**	**75.24 292**		LR	LR	15 09 24.4	
	comp=Z,28nm,18.5s,baz=255,slow=35						
ZALV	**Zalesovo Beam**	**79.81 10**		P	**P**	**14 37 28.0**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=172,slow=4.4,SNR=3.7						
SONM	**Songino Array**	**80.06 25**		P	**P**	**14 37 30.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=233,slow=6.9,SNR=3.1						
SONM	**Songino Array**	**80.06 25**		IAmb	IAmb	14 37 30.2	
	comp=Z,1.1nm,1.1s						
KSRS	**Korea Array**	**83.51 44**		LR	LR	15 13 32.3	
	comp=Z,6.8nm,19.2s,baz=230,slow=35						
NOA	**NORSAR Array B**	**97.28 336**		LR	LR	15 21 30.1	
	comp=Z,5.5nm,21.1s,baz=310,slow=35						

*IDC **22** 14:41:34.2±2.2, 9°.83N×125°.39E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/35, mbtmp3.6/4, Error ellipse: s-maj=220.3km s-min=24.4km az=67.0*
*MAN **22** 14:41:39.4, 10°.15N×126°.26E, h88km, mb4.8, ML3.7, MS3.6*

ISC 22 14:41:40.5±1.2, 10°.12N±0°.08×126°.22E±0°.10, h54km, n16, σ1§28/15, mb3.5/4, 1C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.34 271**	⇓*i*P		**Pn**	**14 42 01.0**	**-1.8**
MSLP			*i* S		**Sn**	**14 42 17.7**	**-1.9**
LLP	**Lapu-Lapu**	**2.22 275**	⇓*e*P		**Pn**	**14 42 15.5**	**+0.5**
LLP			*i* S		**Sn**	**14 42 43.2**	**+1.9**
CGP	**Cagayan de Oro**	**2.24 222**	⇓*e*P		**Pn**	**14 42 15.4**	**+0.3**
CGP			*e*S		**Sn**	**14 42 41.5**	**0.0**
BUKP	**Musuan**	**2.50 207**	⇓*i*P		**Pn**	**14 42 20.4**	**+1.6**
BUKP			*i* S		**Sn**	**14 42 46.5**	**-1.6**
SNPH	**Sibulan**	**3.04 256**	*e*P		**Pn**	**

WB0	**Warramunga Arr**	**45.66 268**	P	**P**	**15 09 34.5**	**-0.8**
WB0			IAmb	IAmb	15 09 43.0	
comp=Z,3.8nm,0.9s						
QSPA	**South Pole Qui**	**63.17 180**	P	**P**	**15 11 43.6**	**+1.5**
SNAA	**Sanae**	**81.57 178**	P	**P**	**15 13 32.8**	**+1.2**
KSRS	**Korea Array**	**82.75 318**	P	**P**	**15 13 37.5**	**-0.5**
comp=Z,0.4nm,0.6s,baz=129,slow=4.9,SNR=1.5						
KSRS			LR	LR	15 46 48.2	
comp=Z,8.6nm,19.6s,baz=105,slow=33						
NEW	**Newport**	**91.65 35**	LR	LR	15 47 15.6	
comp=Z,13nm,19.2s,baz=180,slow=30						
INK	**Inuvik**	**100.03 15**	LR	LR	15 55 30.7	
comp=Z,161nm,19.3s,baz=119,slow=33						
AKASG	**Malin Array Be**	**149.34 328**	PKPbc	**PKPbc**	**15 21 01.5**	**-1.2**
comp=Z,0.2nm,0.3s,baz=44,slow=3.0,SNR=4.0						
AKASG	**Malin Array Be**	**149.34 328**		**PKPbc**	**15 21 03.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**166.16 172**	PKPab	**PKPab**	**15 22 21.0**	**+0.5**
comp=Z,0.3nm,0.4s,baz=181,slow=3.7,SNR=2.0						

*JMA **22** 15:04:00.3±0.1,23°.99N×122°.27E,h25km±3km,M2.9*
*TAP **22** 15:04:00.8,24°.10N×122°.27E,h24km,ML3.3,D*
ISC 22 15:04:00.6±1.2,24°.03N±0°.02×122°.27E±0°.02,h21km±4km, n138,σ0°78/244,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.61**	**283**	*eP*	**Pn**	**15 04 13.4**	**-0.6**
	baz=260						
ETL				*eS*	**Sb**	**15 04 21.7**	**+0.8**
	baz=260						
HWA	**Hwalien**	**0.61**	**265**	*eP*	**Pn**	**15 04 13.4**	**-0.6**
	baz=245						
HWA				*eS*	**Sn**	**15 04 22.3**	**-1.0**
	baz=245						
EWUT	**Wuta**	**0.61**	**313**	P	**Pb**	**15 04 12.0**	**-0.7**
	baz=315						
EWUT				*eS*	**Sb**	**15 04 20.9**	**-0.1**
	baz=315						
TWD	**Chiawan**	**0.62**	**275**	*eP*	**Pb**	**15 04 13.3**	**+0.5**
	baz=255						
TWD				*eS*	**Sb**	**15 04 22.1**	**+0.9**
	baz=255						
NACB	**Ninganchiao**	**0.64**	**283**	P	**Pb**	**15 04 13.0**	**-0.1**
	baz=263						
NACB				*eS*	**Sn**	**15 04 22.7**	**-1.2**
	baz=263						
TEYL	**Yanliau Villag**	**0.64**	**256**	*eP*	**Pb**	**15 04 13.3**	**+0.2**
	baz=241						
TEYL				*eS*	**Sn**	**15 04 22.7**	**-1.2**
	baz=241						
TWC	**Suao**	**0.69**	**326**	P	**Pb**	**15 04 12.9**	**-1.2**
	baz=323						
TWC				*eS*	**Sb**	**15 04 21.2**	**-2.1**
	baz=323						
ETM	**Tongmen**	**0.71**	**265**	*eP*	**Pb**	**15 04 14.4**	**+0.1**
	baz=250						
ETM				*eS*	**Sb**	**15 04 24.6**	**+0.9**
	baz=250						
TEGC	**Jichi Village**	**0.74**	**245**	*eP*	**Pb**	**15 04 15.1**	**+0.3**
	baz=240						
TEGC				*eS*	**Sn**	**15 04 26.8**	**+0.3**
	baz=240						
ETLH	**Xiulin Townshi**	**0.74**	**284**	P	**Pb**	**15 04 15.2**	**+0.3**
	baz=266						
ETLH				*eS*	**Sn**	**15 04 25.5**	**-1.2**
	baz=266						
JYNG	**Yonagunijimaku**	**0.74**	**55**	P	**Pb**	**15 04 14.8**	**-0.1**
JYNG				*eS*	**Sb**	**15 04 24.5**	**-0.1**
NDS	**Dongshan**	**0.79**	**320**	P	**Pb**	**15 04 15.0**	**-0.6**
	baz=321						
ESL	**Shilin**	**0.80**	**255**	*eP*	**Pb**	**15 04 14.7**	**-1.0**
	baz=239						
YOJ	**Yonaguni jima**	**0.80**	**57**	P	**Pb**	**15 04 15.7**	**-0.1**
YOJ				S	**Sb**	**15 04 26.2**	**0.0**
YOJ	**Yonaguni jima**	**0.80**	**57**	P	**Pb**	**15 04 15.9**	**+0.1**
	baz=60						
YOJ				*eS*	**Sn**	**15 04 28.2**	**+0.3**
	baz=60						
EGFH	**Guangfu**	**0.85**	**245**	*eP*	**Pb**	**15 04 16.0**	**-0.7**
	baz=230						
TWE	**Neicheng**	**0.88**	**321**	*eP*	**Pb**	**15 04 16.8**	**-0.4**
	baz=319						
ENTT	**Nioudou**	**0.89**	**314**	P	**Pb**	**15 04 17.0**	**-0.3**
	baz=321						
ENTT				*eS*	**Sb**	**15 04 28.0**	**-0.7**
	baz=321						
NDT	**Datong Townshi**	**0.90**	**310**	P	**Pb**	**15 04 17.2**	**-0.2**
	baz=317						
NDT				S	**Sb**	**15 04 28.2**	**-0.8**
	baz=317						
NNSB	**Datong**	**0.90**	**296**	P	**Pb**	**15 04 17.4**	**-0.2**
	baz=292						
NNSB				*eS*	**Sn**	**15 04 30.1**	**-0.7**
	baz=292						
NNSH	**Datong**	**0.90**	**296**	P	**Pb**	**15 04 17.2**	**-0.5**
	baz=292						
NTC	**Toucheng**	**0.92**	**334**	*eP*	**Pb**	**15 04 17.4**	**-0.4**
	baz=343						
NTC				*eS*	**Sb**	**15 04 28.6**	**-0.9**
	baz=343						
NNS	**Nan Shan**	**0.92**	**297**	P	**Pb**	**15 04 17.7**	**-0.2**
	baz=292						
NNS				*eS*	**Sb**	**15 04 29.8**	**+0.1**
	baz=292						
WHF	**Hehuan Shan**	**0.93**	**277**	*eP*	**Pb**	**15 04 17.5**	**-0.7**
	baz=263						
WHF				*eS*	**Sb**	**15 04 30.8**	**+0.6**
	baz=263						
HGSD	**Ruisui**	**0.94**	**236**	*eP*	**Pb**	**15 04 17.8**	**-0.4**
	baz=233						
HGSD				*eS*	**Sb**	**15 04 30.6**	**+0.3**
	baz=233						
FUSS	**Fushou**	**0.96**	**283**	*eP*	**Pb**	**15 04 18.4**	**-0.3**
	baz=279						
FUSS				*eS*	**Sn**	**15 04 31.7**	**-0.6**
	baz=279						
CHGB	**Renai**	**1.00**	**272**	*eP*	**Pb**	**15 04 18.6**	**-0.8**
	baz=256						
CHGB				*eS*	**Sb**	**15 04 32.3**	**0.0**
	baz=256						
OWD	**Renai**	**1.00**	**266**	*eP*	**Pb**	**15 04 18.7**	**-0.7**
	baz=262						
TWB1	**Santiao Chiao**	**1.01**	**345**	*eP*	**Pb**	**15 04 18.7**	**-0.7**
	baz=343						
TWB1				*eS*	**Sb**	**15 04 32.5**	**+0.3**
	baz=343						
EHY	**Hungye**	**1.01**	**239**	*eP*	**Pb**	**15 04 19.2**	**-0.2**
	baz=228						
EHY				*eS*	**Sn**	**15 04 33.2**	**-0.1**
	baz=228						
NWLT	**Wulai**	**1.02**	**317**	P	**Pn**	**15 04 19.9**	**+0.1**
	baz=313						
TIPB	**Shuangxi**	**1.02**	**337**	*eP*	**Pb**	**15 04 19.2**	**-0.4**
	baz=334						
TIPB				S	**Sb**	**15 04 31.7**	**-0.9**
	baz=334						
TWT	**Tachien**	**1.03**	**283**	*eP*	**Pn**	**15 04 20.2**	**+0.3**
	baz=266						
ECBN	**Changbin**	**1.03**	**227**	*eP*	**Pb**	**15 04 19.2**	**-0.5**
	baz=225						
ECBN				*eS*	**Sb**	**15 04 32.4**	**-0.5**
	baz=225						
YHNB	**Yeheng**	**1.04**	**308**	P	**Pb**	**15 04 19.4**	**-0.5**
	baz=292						
YHNB				*eS*	**Sb**	**15 04 32.0**	**-1.1**
	baz=292						
TDCB	**Techi**	**1.04**	**283**	*eP*	**Pb**	**15 04 19.2**	**-0.8**
	baz=266						
NSK	**Sanguang**	**1.05**	**308**	P	**Pb**	**15 04 19.7**	**-0.4**
	baz=304						
NSK				*eS*	**Sb**	**15 04 33.4**	**-0.1**
	baz=304						
YULB	**Yu-li**	**1.09**	**235**	*eP*	**Pn**	**15 04 19.6**	**-1.1**
	baz=248						
YULB				*eS*	**Sn**	**15 04 35.0**	**-0.3**
	baz=248						
EYUL	**Yuli**	**1.11**	**232**	*eP*	**Pn**	**15 04 20.2**	**-0.7**
	baz=247						
EYUL				*eS*	**Sn**	**15 04 35.2**	**-0.3**
	baz=247						
TWF1	**Yuli**	**1.12**	**233**	*eP*	**Pn**	**15 04 20.2**	**-0.8**
	baz=247						
TWF1				*eS*	**Sb**	**15 04 35.5**	**+0.1**
	baz=247						
NWF	**Wu-fen Shan**	**1.13**	**337**	*eP*	**Pn**	**15 04 20.6**	**-0.7**
	baz=349						
NWF				*eS*	**Sb**	**15 04 35.2**	**-0.6**
	baz=349						
WFSB	**Wu-fen Shan**	**1.13**	**337**	P	**Pn**	**15 04 20.5**	**-0.7**
	baz=334						
WFSB				*eS*	**Sb**	**15 04 35.2**	**-0.5**
	baz=334						
TWA	**Mucha**	**1.14**	**327**	*eP*	**Pn**	**15 04 21.3**	**0.0**
	baz=323						
TWA				*eS*	**Sb**	**15 04 35.7**	**-0.1**
	baz=323						
NHDH	**Xindian Distri**	**1.15**	**324**	*eP*	**Pn**	**15 04 20.9**	**-0.6**
	baz=333						
NHDH				*eS*	**Sn**	**15 04 36.6**	**0.0**
	baz=333						
TATO	**Taipei**	**1.18**	**323**	*eP*	**Pn**	**15 04 21.7**	**-0.3**
	baz=319						
TATO				*eS*	**Sn**	**15 04 37.3**	**-0.1**
	baz=319						
NHY	**Taipei**	**1.19**	**328**	*eP*	**Pn**	**15 04 21.3**	**-0.8**
	baz=342						
TNOU	**National Taiwa**	**1.21**	**338**	*eP*	**Pn**	**15 04 21.7**	**-0.6**
	baz=347						
TNOU				*eS*	**Sb**	**15 04 37.4**	**-0.4**
	baz=347						
FULB	**Fuli**	**1.22**	**228**	P	**Pn**	**15 04 21.3**	**-1.1**
	baz=213						
FULB				*eS*	**Sb**	**15 04 37.3**	**-1.0**
	baz=213						
DPDB	**Guoxing**	**1.23**	**271**	*eP*	**Pn**	**15 04 22.3**	**-0.3**
	baz=259						
DPDB				*eS*	**Sb**	**15 04 38.2**	**-0.4**
	baz=259						
SSLB	**Suanglung**	**1.23**	**259**	*eP*	**Pn**	**15 04 22.6**	**-0.1**
	baz=244						
WHP	**Taichung City**	**1.24**	**282**	*eP*	**Pb**	**15 04 23.1**	**-0.2**
	baz=267						
WHP				*eS*	**Sb**	**15 04 38.8**	**0.0**
	baz=267						
CHKT	**Chengkung**	**1.24**	**222**	*eP*	**Pn**	**15 04 22.2**	**-0.5**
	baz=210						
CHKT				*eS*	**Sn**	**15 04 36.2**	**-2.7**
	baz=210						
WCS	**Beigang Elemen**	**1.24**	**272**	*eP*	**Pn**	**15 04 22.6**	**-0.2**
	baz=260						
WCS				*eS*	**Sb**	**15 04 39.2**	**+0.3**
	baz=260						
SMLT	**Sun Moon Lake**	**1.26**	**264**	P	**Pn**	**15 04 22.8**	**-0.3**
	baz=261						
SMLT				*eS*	**Sb**	**15 04 39.7**	**+0.1**
	baz=261						
YM01	**YM01**	**1.28**	**330**	*eP*	**Pn**	**15 04 22.8**	**-0.5**
	baz=343						
YM01				*eS*	**Sn**	**15 04 39.5**	**-0.5**
	baz=343						
NJD	**Zhudong**	**1.29**	**303**	*eP*	**Pn**	**15 04 23.1**	**-0.3**
	baz=300						
TYC	**Yuchr**	**1.30**	**265**	*eP*	**Pn**	**15 04 23.1**	**-0.5**
	baz=262						
LIOB	**Emei**	**1.30**	**298**	*eP*	**Pb**	**15 04 24.5**	**+0.2**
	baz=295						
LIOB				*eS*	**Sb**	**15 04 40.6**	**0.0**
	baz=295						
NSTT	**Nanjuang**	**1.31**	**298**	*eP*	**Pb**	**15 04 24.5**	**+0.1**
	baz=294						
NSTT				*eS*	**Sb**	**15 04 41.2**	**+0.4**
	baz=294						
YM08	**YM08**	**1.31**	**332**	*eP*	**Pn**	**15 04 23.4**	**-0.4**
	baz=328						
YM08				*eS*	**Sn**	**15 04 40.0**	**-0.7**
	baz=328						
NTY	**Taoyuan**	**1.31**	**318**	*eP*	**Pn**	**15 04 23.2**	**-0.5**
	baz=330						
TWS1	**Kuangyinshan**	**1.32**	**324**	*eP*	**Pn**	**15 04 23.2**	**-0.6**
	baz=332						
TWS1				*eS*	**Sb**	**15 04 42.3**	**+1.1**
	baz=332						
ECS	**Chishang**	**1.34**	**226**	*eP*	**Pn**	**15 04 24.4**	**+0.3**
	baz=214						
ECS				*eS*	**Sb**	**15 04 41.8**	**+0.1**
	baz=214						
WHYT	**Xinyi Township**	**1.34**	**256**	*eP*	**Pn**	**15 04 24.2**	**+0.1**
	baz=245						
WHYT				*eS*	**Sb**	**15 04 42.3**	**+0.5**
	baz=245						
ANP	**Anpu**	**1.34**	**329**	*eP*	**Pn**	**15 04 24.1**	**-0.1**
	baz=327						
NTST	**Danshui**	**1.36**	**327**	*eP*	**Pn**	**15 04 24.5**	**+0.2**
	baz=339						
NTST				*eS*	**Sn**	**15 04 41.4**	**-0.3**
	baz=339						
NCUH	**Zhongli**	**1.36**	**314**	*eP*	**Pn**	**15 04 24.0**	**-0.4**
	baz=310						
IRIF	**Iriomote-Funau**	**1.37**	**77**	P	**Pn**	**15 04 24.5**	**+0.1**
IRIF				S	**Sb**	**15 04 42.2**	**-0.3**
EDH	**Donghe**	**1.38**	**220**	*eP*	**Pn**	**15 04 23.7**	**-0.9**
	baz=210						
EDH				*eS*	**Sn**	**15 04 39.7**	**-2.4**
	baz=210						
TWY	**Chenhua**	**1.39**	**334**	*eP*	**Pn**	**15 04 24.5**	**-0.2**
	baz=331						
TWY				*eS*	**Sn**	**15 04 42.1**	**-0.3**
	baz=331						
HATJ	**Hateruma jima**	**1.40**	**89**	P	**Pb**	**15 04 25.6**	**-0.4**
TWQ1	**Liyutan**	**1.41**	**283**	*eP*	**Pb**	**15 04 25.8**	**-0.3**
	baz=281						
TWQ1				*eS*	**Sb**	**15 04 44.2**	**+0.6**
	baz=281						
ELDTW	**Lidau**	**1.42**	**234**	*eP*	**Pn**	**15 04 25.0**	**-0.3**
	baz=220						
ELDTW				*eS*	**Sn**	**15 04 42.2**	**-1.3**
	baz=220						
WJS	**Zhushan**	**1.43**	**262**	*eP*	**Pb**	**15 04 26.7**	**+0.2**
	baz=260						
WJS				*eS*	**Sb**	**15 04 45.8**	**+1.5**
	baz=260						
NSY	**Sanyi**	**1.43**	**286**	*eP*	**Pn**	**15 04 25.7**	**+0.3**
	baz=283						
ALS	**Alishan**	**1.44**	**249**	*eP*	**Pb**	**15 04 26.6**	**-0.3**
	baz=247						
ALS				*eS*	**Sb**	**15 04 44.8**	**-0.1**
	baz=247						
WWF	**Wufeng**	**1.44**	**271**	*eP*	**Pb**	**15 04 27.1**	**+0.4**
	baz=269						
WWF				*eS*	**Sb**	**15 04 46.1**	**+1.5**
	baz=269						
NMLH	**Miaoli**	**1.44**	**291**	*eP*	**Pb**	**15 04 26.1**	**-0.7**
	baz=288						
NMLH				*eS*	**Sb**	**15 04 45.5**	**+0.8**
	baz=288						
WNT	**Mingjian**	**1.46**	**264**	*eP*	**Pb**	**15 04 26.6**	**-0.5**
	baz=262						
WNT				*eS*	**Sb**	**15 04 45.5**	**+0.4**
	baz=262						
WNT1	**Nantou City**	**1.46**	**266**	*eS*	**Sb**	**15 04 47.5**	**+2.3**
	baz=249						
TCU	**Taichung**	**1.46**	**275**	*eP*	**Pb**	**15 04 27.0**	**-0.1**
	baz=273						
TCU				*eS*	**Sb**	**15 04 46.1**	**+0.8**
	baz=273						
CHN5	**Tsauling**	**1.52**	**254**	*eP*	**Pb**	**15 04 28.0**	**-0.2**
	baz=242						
CHN5				*eS*	**Sb**	**15 04 47.0**	**-0.1**
	baz=242						
LONT	**Longtian**	**1.53**	**223**	*eP*	**Pn**	**15 04 26.2**	**-0.6**
	baz=223						
LONT				*eS*	**Sn**	**15 04 44.5**	**-1.5**
	baz=223						
LDUT	**Ludao**	**1.54**	**209**	*eP*	**Pn**	**15 04 26.6**	**-0.2**
	baz=209						
LDUT				*eS*	**Sn**	**15 04 43.7**	**-2.4**
	baz=209						
WYL	**Yuanlin Townsh**	**1.55**	**268**	*eS*	**Sb**	**15 04 48.8**	**+1.0**
	baz=266						
WCHH	**Zhanghua**	**1.57**	**272**	*eS*	**Sb**	**15 04 48.4**	**+0.1**
	baz=270						
JKRS	**Kuro-shima**	**1.60**	**82**	P	**Pb**	**15 04 28.6**	**-0.8**
JKRS				*eS*	**Sn**	**15 04 48.3**	**+0.6**
WGK	**Gukeng**	**1.60**	**258**	*eP*	**Pb**	**15 04 28.8**	**-0.7**
	baz=256						
WGK				*eS*	**Sb**	**15 04 50.2**	**+0.9**
	baz=256						
PCYT	**Pengchaiyu**	**1.60**	**354**	*eP*	**Pn**	**15 04 27.9**	**+0.1**
	baz=351						
STYH	**Taoyuan**	**1.62**	**238**	*eP*	**Pn**	**15 04 28.1**	**+0.2**
	baz=237						
STYH				*eS*	**Sn**	**15 04 48.6**	**+0.5**
	baz=237						
WDLH	**Douliu**	**1.62**	**258**	*eP*	**Pb**	**15 04 29.3**	**-0.5**
	baz=244						
WDLH				*eS*	**Sb**	**15 04 50.5**	**+0.6**
	baz=244						
TWGBT	**Beinan**	**1.63**	**222**	*eP*	**Pn**	**15 04 27.1**	**-1.0**
	baz=234						
TWGBT				*eS*	**Sn**	**15 04 46.5**	**-2.0**
	baz=234						
TWG	**Pinlang**	**1.63**	**223**	*eP*	**Pn**	**15 04 27.7**	**-0.4**
	baz=234						
TWG				*eS*	**Sn**	**15 04 46.1**	**-2.4**
	baz=234						
STYT	**Tauyuan**	**1.64**	**239**	*eP*	**Pb**	**15 04 29.4**	**-0.7**
	baz=237						
STYT				*eS*	**Sb**	**15 04 49.8**	**-0.5**
	baz=237						
TPUB	**Ta-pu**	**1.67**	**245**	*eP*	**Pb**	**15 04 29.7**	**-1.0**
	baz=243						
TPUB				*eS*	**Sb**	**15 04 51.0**	**-0.3**
	baz=243						
CHN4	**Tsaushan**	**1.68**	**247**	*eP*	**Pb**	**15 04 30.2**	**-0.6**
	baz=245						
CHN4				*eS*	**Sb**	**15 04 51.9**	**+0.3**
	baz=245						
WTP	**Ta-pu**	**1.71**	**243**	*eP*	**Pb**	**15 04 30.7**	**-0.6**
	baz=242						
WTP				*eS*	**Sb**	**15 04 53.0**	**+0.7**
	baz=242						
CHN2	**Minshiung**	**1.72**	**254**	*eS*	**Sb**	**15 04 53.4**	**+0.8**
	baz=252						
WRL	**Guolierlin Hig**	**1.74**	**266**	*eP*	**Pb**	**15 04 30.7**	**-1.1**
	baz=264						
WRL				*eS*	**Sb**	**15 04 53.5**	**+0.4**
	baz=264						
JIJ	**Ishigaki jima**	**1.74**	**79**	P	**Pn**	**15 04 29.5**	**-0.1**
JIJ				S	**Sn**	**15 04 50.5**	**-0.7**
WTK	**Tuku**	**1.76**	**259**	*eP*	**Pn**	**15 04 30.4**	**+0.6**
	baz=245						
WTK				*eS*	**Sb**	**15 04 53.5**	**-0.2**
	baz=245						
CHY	**Chiayi**	**1.77**	**253**	*eP*	**Pb**	**15 04 31.5**	**-0.9**
	baz=251						
CHY				*eS*	**Sb**	**15 04 54.1**	**-0.1**
	baz=251						
TWK	**Hsinying**	**1.80**	**245**	*eP*	**Pb**	**15 04 32.5**	**-0.4**
	baz=244						
TWK				*eS*	**Sb**	**15 04 55.5**	**+0.4**
	baz=244						
CHN1	**Nanshi**	**1.81**	**243**	*eP*	**Pb**	**15 04 32.3**	**-0.7**
	baz=241						
CHN1				*eS*	**Sb**	**15 04 55.0**	**-0.2**
	baz=241						
SLGT	**Liugui**	**1.81**	**236**	*eP*	**Pb**	**15 04 32.0**	**-1.1**
	baz=226						
SLGT				*eS*	**Sb**	**15 04 54.8**	**-0.5**
	baz=226						
SGST	**Jiashian**	**1.81**	**239**	*eP*	**Pb**	**15 04 32.0**	**-1.1**
	baz=238						
SGST				*eS*	**Sb**	**15 04 55.4**	**0.0**
	baz=238						
SNST	**Tainan City**	**1.82**	**244**	*eP*	**Pb**	**15 04 32.5**	**-0.6**
	baz=243						
SNST				*eS*	**Sb**	**15 04 56.2**	**+0.8**
	baz=243						
ECL	**Taimali**	**1.87**	**221**	*eP*	**Pn**	**15 04 30.6**	**-0.8**
	baz=221						
ECL				*eS*	**Sn**	**15 04 52.8**	**-1.6**
	baz=221						
WSF	**Szhu**	**1.92**	**259**	*eS*	**Sb**	**15 04 57.9**	**-0.4**
	baz=257						
JISG	**Ishigakijimahi**	**1.94**	**73**	P	**Pn**	**15 04 32.2**	**-0.2**
JISG				S	**Sn**	**15 04 55.7**	**-0.4**
ICHU	**Yijhu**	**1.94**	**250**	*eP*	**Pb**	**15 04 34.2**	**-1.1**
	baz=249						
SSD	**Sandimen**	**1.98**	**230**	*eP*	**Pn**	**15 04 33.7**	**+0.8**
	baz=223						
SSD				*eS*	**Sn**	**15 04 58.1**	**+1.1**
	baz=223						
SCST	**Cishan**	**1.99**	**235**	*eP*	**Pb**	**15 04 35.2**	**-0.9**
	baz=223						
SCST				*eS*	**Sb**	**15 05 00.5**	**+0.1**
	baz=223						
TSMG	**Majia**	**1.99**	**229**	*eP*	**Pn**	**15 04 34.1**	**+1.0**
	baz=222						
TSMG				*eS*	**Sn**	**15 04 58.3**	**+0.9**
	baz=222						
CHN8	**Yiju**	**2.01**	**251**	*eP*	**Pb**	**15 04 35.0**	**-1.4**
	baz=249						
CHN8				*eS*	**Sb**	**15 05 00.2**	**-0.7**
	baz=249						
MASBT	**Mashibuluo**	**2.06**	**227**	*eP*	**Pn**	**15 04 35.0**	**+0.9**
	baz=220						
MASBT				*eS*	**Sn**	**15 05 00.4**	**+1.2**
	baz=220						
TWM1	**Shoushan**	**2.08**	**235**	*eP*	**Pb**	**15 04 36.8**	**-0.9**
	baz=234						
TWM1				*eS*	**Sb**	**15 05 04.2**	**+1.2**
	baz=234						
LAY	**Lan-yu**	**2.09**	**199**	*eS*	**Sn**	**15 04 59.0**	**-0.9**
	baz=209						
TAW	**Tawu**	**2.09**	**218**	*eP*	**Pn**	**15 04 34.2**	**-0.2**
	baz=218						
TAW				*eS*	**Sn**	**15 04 58.6**	**-1.2**
	baz=218						
EAST	**Anshuo**	**2.10**	**219**	*eP*	**Pn**	**15 04 33.9**	**-0.6**
	baz=219						
EAST				*eS*	**Sn**	**15 04 58.8**	**-1.2**
	baz=219						
SCZT	**Fangliau**	**2.24**	**223**	*eP*	**Pn**	**15 04 37.4**	**+0.9**
	baz=217						
SCZT				*eS*	**Sn**	**15 05 04.4**	**+0.8**
	baz=217						
SLIU	**Shizi**	**2.26**	**217**	*eP*	**Pn**	**15 04 37.2**	**+0.4**
	baz=218						
SLIU				*eS*	**Sn**	**15 05 04.6**	**+0.7**
	baz=218						
JTJ	**Tarama**	**2.30**	**74**	P	**Pn**	**15 04 38.3**	**+1.0**
JTJ				*eS*	**Sn**	**15 05 05.8**	**+0.8**
HEN	**Hengchun**	**2.46**	**215**	*eP*	**Pn**	**15 04 41.3**	**+1.8**
	baz=216						
HEN				*eS*	**Sn**	**15 05 09.5**	**+0.6**
	baz=216						
TSEB	**Hengchuen, Pin**	**2.47**	**211**	*eS*	**Sn**	**15 05 10.6**	**+1.5**
	baz=213						
TWKBT	**Hengchun**	**2.48**	**213**	*eP*	**Pn**	**15 04 40.0**	**+0.3**
	baz=215						
TWKBT				*eS*	**Sn**	**15 05 09.3**	**-0.1**
	baz=215						
TWK1	**Hengchun**	**2.48**	**213**	*eP*	**Pn**	**15 04 40.4**	**+0.6**
	baz=215						
TWK1				*eS*	**Sn**	**15 05 09.8**	**+0.4**
	baz=215						
WDGT	**Dungji**	**2.51**	**253**	*eP*	**Pn**	**15 04 40.5**	**+0.3**
	baz=240						
WDGT				*eS*	**Sn**	**15 05 11.7**	**+1.5**
	baz=240						
PHUB	**P'eng-hu**	**2.53**	**259**	*eS*	**Sn**	**15 05 10.7**	**+0.1**
	baz=258						
PNG	**Penghu**	**2.53**	**260**	*eS*	**Sn**	**15 05 11.3**	**+0.7**
	baz=259						
VCHM	**Qimei**	**2.73**	**253**	*eS*	**Sn**	**15 05 16.4**	**+0.7**
	baz=240						
VWUC	**VWUC**	**2.74**	**291**	*eS*	**Sn**	**15 05 14.7**	**-1.3**
	baz=289						
PTMZ	**Houxiangcun**	**3.04**	**290**	*eS*	**Sn**	**15 05 23.2**	**-0.1**
	baz=288						
LYJJ	**Jianjiangzhen**	**3.39**	**318**	*eP*	**Pn**	**15 04 53.0**	**+0.8**
	baz=316						
LYJJ				*eS*	**Sn**	**15 05 31.2**	**-0.6**
	baz=316						
XPSS	**Dashiqiu**	**3.45**	**327**	*eP*	**Pn**	**15 04 53.9**	**+0.8**
	baz=313						
XPSS				*eS*	**Sn**	**15 05 33.5**	**+0.2**
	baz=313						
KNMB	**Chin-men Tao**	**3.57**	**278**	*eP*	**Pn**	**15 04 55.5**	**+0.7**
	baz=277						
KNMB				*eS*	**Sn**	**15 05 35.6**	**-0.8**
	baz=277						
MHZQ	**Yeshan**	**3.59**	**306**	*eP*	**Pn**	**15 04 55.6**	**+0.5**
	baz=303						
MHZQ				*eS*	**Sn**	**15 05 36.5**	**-0.4**
	baz=303						
AXDP	**Jialang**	**4.01**	**283**	*eP*	**Pn**	**15 05 02.1**	**+1.2**
	baz=269						
AXDP				*eS*	**Sn**	**15 05 47.0**	**-0.4**
	baz=269						

*NEIC **22** 15:18:42.6±1.7,56°.2S

mb4.9/61, Error ellipse: s-maj=16.0km s-min=12.5km az=204.0

*IDC **22** 15:18:44.6±1.4, 56°.12S×27°.33W, h139km±11km, mb4.4/11, mb1 4.5/13, mb1mx4.2/35, mbtmp4.8/13, MS3.4/5, Ms1 3.4/5, ms1mx3.2/16, Error ellipse: s-maj=16.7km s-min=10.8km az=54.0*

*GCMT **22** 15:18:46.6±0.4, 56°.18S±0°.03×27°.23W±0°.05, h137km±4km, MW5.0/80, Moment Tensor Solution. s16,c16; s80,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.01±.15; Mθθ-2.40±.23; Mφφ0.38±.21; Mrθ-0.97±.14; Mθφ2.94±.15; Mφr-0.88±.10; Best double couple: M0 3.84000×10^16 NP1: φs=159.00000°, δ59.00000°, λ149.00000°. NP2: φs=266.00000°, δ64.00000°, λ35.00000°. Principal axes: T 3.4000, Plg42.0000°, Azm125.0000°; N 0.8760, Plg47.0000°, Azm298.0000°; P -4.2810, Plg3.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 15:18:43.1±1.2, 56°.21S±0°.07×27°.45W±0°.08, h131km±9km, n200, σ0°88/211, mb4.8/34, 1C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.52**	**287**		**Pn**	**15 20 01.9**	**-1.1**
VNA1	**Neumayer--Stat**	**16.71**	**158**	P	**P**	**15 22 29.0**	**0.0**
VNA1	**Neumayer--Stat**	**16.71**	**158**	ScP	**ScP**	**15 30 32.8**	**+1.3**
VNA3	**Neumayer Olymp**	**16.89**	**160**	P	**P**	**15 22 31.5**	**+0.4**
VNA3	**Neumayer Olymp**	**16.89**	**160**	ScP	**ScP**	**15 30 32.6**	**+0.6**
VNA2	**Neumayer--Watz**	**17.10**	**157**	P	**P**	**15 22 33.3**	**-0.1**
	baz=317,slow=12						
VNA2	**Neumayer--Watz**	**17.10**	**157**	ScP	**ScP**	**15 30 33.2**	**+0.9**
EFI	**East Falkland**	**18.49**	**271**		**P**	**15 22 48.5**	**-0.3**
SNAA	**Sanae**	**18.66**	**156**	P	**Pn**	**15 22 50.9**	**-1.4**
SNAA	**Sanae**	**18.66**	**156**	ScP	**ScP**	**15 30 36.6**	**+0.8**
SNAA	**Sanae**	**18.66**	**156**	P	**Pn**	**15 22 51.0**	**-1.4**
	14nm,0.3s,baz=305,slow=9.8,SNR=529						
SNAA				S	**S**	**15 26 12.8**	**-3.1**
	0.2nm,0.3s,baz=184,slow=22,SNR=2.6						
SNAA				PcP	**PcP**	**15 27 13.8**	**+1.1**
	0.2nm,0.3s,baz=198,slow=6.4,SNR=1.8						
SNAA				ScP	**ScP**	**15 30 36.6**	**+0.8**
	0.3nm,0.3s,baz=299,slow=6.1,SNR=14						
SNAA	**Sanae**	**18.66**	**156**	P	**Pn**	**15 22 51.0**	**-1.4**
SNAA				PcP	**PcP**	**15 27 13.4**	**+0.7**
PMSA	**Palmer Station**	**19.69**	**229**	P	**Pn**	**15 23 04.0**	**-0.3**
	4.9nm,0.3s,baz=64,slow=6.9,SNR=38						
PMSA	**Palmer Station**	**19.69**	**229**	P	**P**	**15 23 03.0**	**+1.4**
PMSA				IAmb	IAmb	15 23 07.9	
	comp=Z,36nm,0.7s						
MG02	**Cerro Sombrero**	**24.23**	**260**	P	**P**	**15 23 47.3**	**0.0**
GO09	**Cerro Castillo**	**26.63**	**262**	P	**P**	**15 24 07.7**	**-1.3**
GO09				IAmb	IAmb	15 24 31.6	
	comp=Z,48nm,1.5s						
TRQA	**Tornquist**	**29.25**	**294**	P	**P**	**15 24 32.1**	**-0.4**
TRQA				PcP	**PcP**	**15 27 36.6**	**+0.6**
COYC	**Coyhaique**	**29.59**	**272**	P	**P**	**15 24 34.8**	**-0.5**
PLTB	**Pedras Altas**	**30.49**	**312**	P	**P**	**15 24 43.7**	**+0.2**
SYO	**Syowa Base**	**31.55**	**141**	eP	**P**	**15 24 52.8**	**+0.4**
PLCA	**Paso Flores**	**31.89**	**281**	LR	LR	15 37 50.5	
	comp=Z,86nm,18.1s,baz=138,slow=36						
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**15 25 15.8**	**+1.5**
	comp=Z,11nm,0.6s,baz=208,slow=1.9,SNR=114						
QSPA				PcP	**PcP**	**15 27 49.0**	**+0.4**
	comp=Z,6.6nm,0.6s,baz=195,slow=2.3,SNR=4.6						
QSPA				ScP	**ScP**	**15 31 20.4**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=219,slow=0.8,SNR=9.0						
QSPA	**South Pole Qui**	**34.05**	**180**	P	**P**	**15 25 15.9**	**+1.6**
QSPA				IAmb	IAmb	15 25 16.3	
	comp=Z,15nm,0.7s						
QSPA				PcP	**PcP**	**15 27 49.2**	**+0.5**
BO02	**Sierra Bellavi**	**36.33**	**288**	P	**P**	**15 25 33.0**	**-1.2**
BO02				IAmb	IAmb	15 25 44.2	
	comp=Z,19nm,1.4s						
BO02				PcP	**PcP**	**15 27 56.5**	**+0.7**
GO05	**Huala**	**36.78**	**286**	P	**P**	**15 25 36.0**	**-1.9**
GO05				IAmb	IAmb	15 25 52.4	
	comp=Z,17nm,1.1s						
CPUP	**Villa Florida**	**36.81**	**312**	P	**P**	**15 25 38.0**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=167,slow=8.6,SNR=5.6						
CPUP				PcP	**PcP**	**15 27 57.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=133,slow=5.7,SNR=3.2						
CPUP				LR	LR	15 41 05.8	
	comp=Z,33nm,18.3s,baz=196,slow=36						
CPUP	**Villa Florida**	**36.81**	**312**	P	**P**	**15 25 37.8**	**-0.3**
CPUP				PcP	**PcP**	**15 27 57.9**	**+0.7**
MT09	**Talagante**	**37.22**	**288**	P	**P**	**15 25 39.8**	**-1.9**
MT09				IAmb	IAmb	15 25 47.5	
	comp=Z,16nm,1.1s						
MT01	**Popeta**	**37.29**	**288**	P	**P**	**15 25 40.1**	**-2.0**
MT01				IAmb	IAmb	15 25 49.1	
	comp=Z,29nm,1.4s						
MT02	**Curacav**	**37.70**	**289**	P	**P**	**15 25 44.1**	**-1.5**
MT02				IAmb	IAmb	15 26 03.0	
	comp=Z,32nm,1.4s						
ZON	**Zonda**	**37.76**	**293**	P	**P**	**15 25 45.0**	**-1.1**
ZON				IAmb	IAmb	15 25 46.2	
	comp=Z,9.2nm,0.6s						
VA03	**San Esteban**	**37.77**	**290**	P	**P**	**15 25 46.4**	**+0.1**
CO02	**Combarbal**	**39.23**	**291**	P	**P**	**15 25 57.7**	**-0.9**
CO02				IAmb	IAmb	15 26 26.7	
	comp=Z,24nm,1.1s						
CO03	**El Pedregal**	**39.36**	**292**	P	**P**	**15 25 59.7**	**+0.1**
CO03				IAmb	IAmb	15 26 14.1	
	comp=Z,24nm,1.5s						
GO04	**Tololo Observa**	**39.95**	**292**	P	**P**	**15 26 04.2**	**-0.4**
GO04				IAmb	IAmb	15 26 21.9	
	comp=Z,27nm,1.2s						
MAW	**Mawson**	**40.11**	**144**	P	**P**	**15 26 05.9**	**+0.7**
	comp=Z,15nm,0.8s,baz=226,slow=7.2,SNR=34						
MAW				PcP	**PcP**	**15 28 07.8**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=239,slow=5.9,SNR=2.9						
MAW				ScP	**ScP**	**15 31 43.2**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=261,slow=7.4,SNR=7.8						
MAW	**Mawson**	**40.11**	**144**	P	**P**	**15 26 06.0**	**+0.8**
MAW				PcP	**PcP**	**15 28 07.9**	**+1.1**
SUR	**Sutherland**	**40.82**	**75**	LR	LR	15 39 58.9	
	comp=Z,72nm,18.3s,baz=210,slow=31						
LCO	**Las Campanas**	**40.83**	**293**	P	**P**	**15 26 10.9**	**-1.1**
AQDB	**Aquidauana**	**41.42**	**318**	P	**P**	**15 26 15.5**	**-0.9**
AC04	**Llanos de Chal**	**41.68**	**294**	P	**P**	**15 26 18.2**	**-0.3**
AC04				IAmb	IAmb	15 26 19.0	
	comp=Z,24nm,0.7s						
AC02	**Maricunga**	**41.82**	**297**	P	**P**	**15 26 20.8**	**+0.5**
AC02				IAmb	IAmb	15 26 21.8	
	comp=Z,24nm,0.8s						
AC02				PcP	**PcP**	**15 28 15.4**	**+1.6**
GO02	**Mina Guanaco**	**43.44**	**298**	P	**P**	**15 26 33.1**	**0.0**
PB14	**IPOC Station P**	**44.29**	**297**	P	**P**	**15 26 39.0**	**-0.9**
PB15	**IPOC Station P**	**45.02**	**299**	P	**P**	**15 26 46.0**	**+0.4**
PB15				IAmb	IAmb	15 26 50.6	
	comp=Z,14nm,0.7s						
LVC	**Limon Verde**	**45.25**	**301**	P	**P**	**15 26 48.4**	**+0.8**
	comp=Z,25nm,0.6s,baz=154,slow=3.3,SNR=28						
LVC	**Limon Verde**	**45.25**	**301**	P	**P**	**15 26 48.5**	**+0.8**
LVC				IAmb	IAmb	15 26 51.1	
	comp=Z,31nm,0.9s						
PB10	**IPOC Station P**	**45.29**	**298**	P	**P**	**15 26 47.8**	**+0.3**
PB06	**IPOC Station P**	**45.49**	**300**	P	**P**	**15 26 49.1**	**-0.2**
PB06				IAmb	IAmb	15 26 50.2	
	comp=Z,22nm,1.0s						
SBA	**Scott Base**	**45.91**	**184**	P	**P**	**15 26 53.8**	**+2.1**
SBA				PcP	**PcP**	**15 28 28.3**	**+2.0**
PB04	**IPOC Station P**	**46.09**	**299**	P	**P**	**15 26 53.6**	**-0.4**
PB09	**IPOC Station P**	**46.11**	**301**	P	**P**	**15 26 55.0**	**+0.9**
PB09				IAmb	IAmb	15 26 56.1	
	comp=Z,26nm,0.8s						
BOSA	**Boshof**	**46.15**	**76**	LR	LR	15 43 15.0	
	comp=Z,75nm,19.7s,baz=200,slow=32						
BOSA	**Boshof**	**46.15**	**76**	P	**P**	**15 26 54.6**	**+0.3**
BOSA				IAmb	IAmb	15 27 12.9	
	comp=Z,23nm,1.4s						
VNDA	**Vanda**	**46.41**	**183**	P	**P**	**15 26 57.4**	**+1.7**
	comp=Z,9.2nm,0.7s,baz=187,slow=6.5,SNR=57						
VNDA	**Vanda**	**46.41**	**183**	P	**P**	**15 26 57.1**	**+1.4**
PB07	**IPOC Station P**	**46.48**	**300**	P	**P**	**15 26 57.0**	**0.0**
PB01	**IPOC Station P**	**46.87**	**301**	P	**P**	**15 27 00.3**	**+0.4**
PB08	**IPOC Station P**	**47.48**	**302**	P	**P**	**15 27 06.1**	**+1.0**
PB08				IAmb	IAmb	15 27 07.0	
	comp=Z,19nm,0.6s						
SIV	**San Ignacio**	**47.58**	**314**	P	**P**	**15 27 05.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=156,slow=8.0,SNR=7.2						
TA02	**Huaiquique**	**47.84**	**301**	P	**P**	**15 27 07.5**	**+0.2**
PB11	**IPOC Station P**	**48.05**	**302**	P	**P**	**15 27 09.3**	**+0.2**
H10S2	**ASCENSION HYDR**	**48.19**	**17**	T	T	16 19 13.9	
	baz=189,slow=74,SNR=4.0						
H10S3	**ASCENSION HYDR**	**48.19**	**17**	T	T	16 19 14.6	
	baz=31,slow=74,SNR=6.8						
PSGCX	**Pisagua**	**48.41**	**301**	P	**P**	**15 27 11.8**	**-0.1**
MNMC	**Minye Minye**	**48.56**	**302**	P	**P**	**15 27 13.9**	**+0.7**
LBTB	**Lobatse**	**49.19**	**73**	P	**P**	**15 27 17.9**	**+0.1**
	comp=Z,8.2nm,0.7s,baz=220,slow=7.0,SNR=8.3						
LBTB	**Lobatse**	**49.19**	**73**	P	**P**	**15 27 17.4**	**-0.4**
LBTB				IAmb	IAmb	15 27 18.7	
	comp=Z,11nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.31**	**17**	T	T	16 20 46.3	
	baz=189,slow=75,SNR=3.6						
H10N3	**ASCENSION HYDR**	**49.31**	**17**	T	T	16 20 46.4	
	baz=189,slow=75,SNR=4.9						
H10N2	**ASCENSION HYDR**	**49.31**	**17**	T	T	16 20 39.1	
	baz=189,slow=75,SNR=4.6						
LPAZ	**La Paz**	**50.35**	**306**	P	**P**	**15 27 28.0**	**+0.8**
	comp=Z,8.3nm,0.5s,baz=152,slow=5.4,SNR=31						
LPAZ				LR	LR	15 50 54.9	
	comp=Z,25nm,18.8s,baz=353,slow=38						
LPAZ	**La Paz**	**50.35**	**306**	P	**P**	**15 27 27.9**	**+0.7**
LPAZ				IAmb	IAmb	15 27 30.0	
	comp=Z,8.4nm,0.7s						
CASY	**Casey**	**53.81**	**160**	P	**P**	**15 27 51.8**	**+0.4**
CASY				IAmb	IAmb	15 27 53.8	
	comp=Z,15nm,0.9s						
SAML	**Samuel**	**54.81**	**315**	P	**P**	**15 27 58.7**	**-0.6**
ATAH	**Atahualpa**	**63.15**	**300**	P	**P**	**15 28 58.6**	**+1.3**
	comp=Z,5.7nm,0.6s,baz=174,slow=8.3,SNR=3.7						
VOI	**Vohitsoka**	**63.35**	**90**	P	**P**	**15 28 59.9**	**+1.6**
VOI				IAmb	IAmb	15 29 00.4	
	comp=Z,12nm,1.1s						
DBIC	**Dimbokro**	**65.37**	**25**	P	**P**	**15 29 10.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P	**P**	**15 30 00.3**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=201,slow=6.3,SNR=31						
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P	**P**	**15 30 00.1**	**+0.3**
MLZ	**Mavora Lakes**	**77.95**	**191**	P	**P**	**15 30 26.9**	**+0.6**
MLZ				IAmb	IAmb	15 30 31.8	
	comp=Z,26nm,1.3s						
ODZ	**Otahua Downs**	**77.98**	**193**	P	**P**	**15 30 26.9**	**+0.5**
ODZ				IAmb	IAmb	15 30 49.0	
	comp=Z,42nm,1.4s						
LBZ	**Lake Benmore**	**78.68**	**193**	P	**P**	**15 30 30.2**	**-0.1**
LBZ				IAmb	IAmb	15 30 42.3	
	comp=Z,30nm,1.5s						
MQZ	**McQueen's Vall**	**79.02**	**195**	P	**P**	**15 30 32.4**	**+0.3**
RPZ	**Rata Peaks**	**79.23**	**194**	P	**P**	**15 30 33.8**	**+0.5**
RPZ				IAmb	IAmb	15 30 55.0	
	comp=Z,25nm,1.4s						
LTZ	**Lake Taylor**	**79.98**	**195**	P	**P**	**15 30 38.3**	**+0.9**
LTZ				IAmb	IAmb	15 30 59.6	
	comp=Z,22nm,1.4s						
TAU	**Tasmania Unive**	**81.16**	**176**	P	**P**	**15 30 43.9**	**+0.4**
QRZ	**Quartz Range**	**81.86**	**195**	P	**P**	**15 30 45.7**	**-1.7**
ASAR	**Alice Springs**	**98.89**	**163**	P	Pdif	15 32 08.2	-0.1
	comp=Z,2.8nm,0.8s,baz=187,slow=4.1,SNR=58						
ASAR				PP	**PP**	**15 36 06.5**	**-4.0**
	comp=Z,1.1nm,0.8s,baz=189,slow=7.1,SNR=9.4						
ASAR				PKKPbc	**PKKPdf**	**15 48 33.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=358,slow=1.5,SNR=5.9						
ASAR	**Alice Springs**	**98.89**	**163**	P	**P**	**15 32 08.0**	**-0.3**
WRA	**Warramunga Arr**	**102.60**	**162**	P	**Pdif**	**15 32 24.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=196,slow=4.3,SNR=11						
WRA				PP	**PP**	**15 36 34.9**	**-3.7**
	comp=Z,0.9nm,0.8s,baz=190,slow=6.8,SNR=3.6						
WRA				PKKPbc	**PKKPbc**	**15 48 23.1**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=351,slow=2.8,SNR=6.5						
WRA	**Warramunga Arr**	**102.60**	**162**		**Pdif**	**15 32 24.2**	**-0.6**
FURC	**Furnace Creek,**	**119.09**	**293**	P	**PKiKP**	**15 37 16.9**	**+1.3**
	baz=140						
TPNV	**Topopah Spring**	**119.14**	**294**	P	**PKiKP**	**15 37 16.9**	**+1.0**
	baz=140						
ISA	**Isabella, Lake**	**119.31**	**291**	P	**PKiKP**	**15 37 17.2**	**+1.0**
	baz=140						
PKM	**Mcpherson Peak**	**119.42**	**289**	P	**PKiKP**	**15 37 17.6**	**+1.1**
	baz=140						
GRAC	**Grapevine Rang**	**119.75**	**293**	P	**PKiKP**	**15 37 18.3**	**+1.3**
	baz=140						
PDAR	**Pinedale Array**	**120.30**	**302**	PKP	**PKPdf**	**15 37 17.1**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=160,slow=2.9,SNR=2.7						
NVAR	**Mina Array Bea**	**121.33**	**293**	PKP	**PKiKP**	**15 37 21.0**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=141,slow=3.2,SNR=8.7						
NVAR	**Mina Array Bea**	**121.33**	**293**		**PKiKP**	**15 37 20.8**	**+0.6**
BOZ	**Bozeman (W)**	**123.42**	**303**	P	**PKiKP**	**15 37 24.6**	**+0.6**
	baz=138						
O03E	**Paynes Creek**	**124.52**	**292**	P	**PKiKP**	**15 37 26.8**	**+0.5**
	baz=138						
FINES	**FINESS Array B**	**124.59**	**28**	PKP	**PKiKP**	**15 37 25.0**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=155,slow=1.4,SNR=30						
FINES	**FINESS Array B**	**124.59**	**28**		**PKPdf**	**15 37 24.8**	**-0.5**
O02D	**Mt. Diablo Mer**	**124.94**	**291**	P	**PKiKP**	**15 37 27.8**	**+0.6**
	baz=137						
CMAR	**Chiang Mai Arr**	**125.15**	**111**	PKP	**PKiKP**	**15 37 27.9**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=237,slow=3.8,SNR=16						
MSO	**Missoula**	**125.41**	**303**	P	**PKiKP**	**15 37 28.6**	**+0.7**
	baz=137						
N02D	**Trinity Center**	**125.48**	**292**	P	**PKiKP**	**15 37 29.0**	**+0.8**
	baz=137						
M04C	**Macdoel**	**125.63**	**293**	P	**PKiKP**	**15 37 29.4**	**+0.9**
	baz=137						
M02C	**Callahan**	**125.86**	**292**	P	**PKiKP**	**15 37 29.7**	**+0.8**
	baz=137						
L04D	**Klamath Falls**	**126.18**	**294**	P	**PKiKP**	**15 37 30.4**	**+0.7**
	baz=136						
F10A	**Beach Ranch, E**	**126.36**	**300**		**PKiKP**	**15 37 30.3**	**+0.5**
J05D	**Fort Rock, OR**	**126.41**	**295**	P	**PKiKP**	**15 37 30.8**	**+0.8**
	baz=136						
G08A	**Pilot Rock**	**126.71**	**298**		**PKiKP**	**15 37 31.0**	**+0.5**
ABKAR	**Akbulak array**	**127.58**	**56**		**PKPdf**	**15 37 30.9**	**-0.5**
ABKAR	**Akbulak array**	**127.58**	**56**		**PKPdf**	**15 37 31.0**	**-0.5**
KKAR	**Karatay Array**	**128.41**	**68**		**PKPdf**	**15 37 32.5**	**-0.7**
ARCES	**ARCESS Array B**	**131.14**	**22**	PKP	**PKiKP**	**15 37 37.7**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=180,slow=1.2,SNR=14						
KMI	**Kunming**	**132.61**	**110**	PKP	PKPdf	15 37 32.9	-9.2
YKA	**Yellowknife Ar**	**136.19**	**318**	PKP	**PKPdf**	**15 37 47.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=123,slow=3.0,SNR=5.6						
YKA				SKPbc	**SKPbc**	**15 41 04.5**	**-2.3**
	comp=Z,1.7nm,0.8s,baz=121,slow=2.8,SNR=4.6						
MK31	**Makanchi Array**	**137.07**	**72**		**PKPdf**	**15 37 48.7**	**-0.7**
MKAR	**Makanchi Array**	**137.07**	**72**	PKhKP	PKPpre	15 37 39.9	
	comp=Z,0.2nm,0.5s,baz=187,slow=1.2,SNR=3.6						
MKAR				PKP	**PKPdf**	**15 37 48.2**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=235,slow=0.9,SNR=10						
MKAR				SKPbc	**SKPbc**	**15 41 08.7**	**-1.4**
	comp=Z,1.7nm,1.1s,baz=253,slow=1.5,SNR=6.6						
CD2	**Chengdu**	**137.76**	**106**	PKP	**PKPdf**	**15 37 51.5**	**+0.2**
ZALV	**Zalesovo Beam**	**142.57**	**64**	PKhKP	PKPpre	15 37 55.1	
	comp=Z,1.5nm,0.5s,baz=202,slow=4.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**142.57**	**64**		PKPpre	15 37 54.6	
HYT	**Haines Junctio**	**144.77**	**307**		**PKPdf**	**15 38 03.0**	**+0.1**
INK	**Inuvik**	**145.83**	**320**	PKPbc	**PKPab**	**15 38 05.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=94,slow=4.3,SNR=31						
INK				SKPbc	**SKPbc**	**15 41 30.5**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=78,slow=3.5,SNR=5.2						
INK	**Inuvik**	**145.83**	**320**	P	**PKPab**	**15 38 05.5**	**-0.4**
	baz=107,SNR=13						
INK	**Inuvik**	**145.83**	**320**		**PKPbc**	**15 38 05.2**	**0.0**
EPYK	**Eagle Plains**	**146.44**	**317**	P	**PKPbc**	**15 38 07.3**	**+0.1**
	baz=107,SNR=22						
MESA	**MESA**	**146.52**	**304**	P	**PKPbc**	**15 38 08.3**	**+0.5**
	baz=113						
CTG	**Chitna Glacier**	**146.55**	**306**	P	**PKPbc**	**15 38 08.3**	**+0.5**
	baz=112						
M27K	**Edge Creek, AK**	**147.28**	**308**	P	**PKPbc**	**15 38 09.9**	**+0.1**
	baz=110,SNR=9.1						
MCARA	**McCarthy VSAT**	**147.46**	**306**	P	**PKPbc**	**15 38 10.4**	**+0.3**
	baz=110						
BCAR	**Beaver Creek A**	**147.48**	**309**	PKPdf	**PKPbc**	**15 38 09.6**	**-0.6**
L27K	**Beaver Creek,**	**147.50**	**309**	P	**PKPbc**	**15 38 10.4**	**+0.2**
	baz=109,SNR=15						
L27K	**Beaver Creek,**	**147.50**	**309**		**PKPbc**	**15 38 10.3**	**+0.2**
KAIM	**Kayak Island**	**147.57**	**303**	P	**PKPbc**	**15 38 10.9**	**+0.5**
	baz=112						
VRDI	**Verde Repeater**	**147.60**	**306**	PKPdf	**PKPbc**	**15 38 10.1**	**-0.7**
HMT	**Hamilton**	**147.65**	**304**		**PKPbc**	**15 38 11.2**	**+0.5**
EGAK	**Eagle**	**147.74**	**313**	P	**PKPbc**	**15 38 10.4**	**-0.3**
	baz=107,SNR=5.9						
EGAK	**Eagle**	**147.74**	**313**	PKPdf	**PKPbc**	**15 38 10.0**	**-0.7**
BMRM	**Bremner River**	**148.03**	**305**	P	**PKPbc**	**15 38 12.0**	**+0.3**
	baz=110,SNR=5.3						
L26K	**Log Cabin Wild**	**148.14**	**309**	P	**PKPbc**	**15 38 12.4**	**+0.5**
	baz=108,SNR=7.7						
N25K	**Chitina, Valde**	**148.25**	**306**	P	**PKPbc**	**15 38 13.0**	**+0.7**
	baz=109,SNR=6.2						
EYAK	**Cordova Ski Ar**	**148.42**	**304**	P	**PKPbc**	**15 38 13.3**	**+0.7**
	baz=110						
SCRK	**Sand Creek**	**148.69**	**311**	P	**PKPbc**	**15 38 13.9**	**+0.4**
	baz=106,SNR=15						
SCRK	**Sand Creek**	**148.69**	**311**		**PKPbc**	**15 38 13.8**	**+0.4**
HARP	**HAARP**	**148.75**	**307**	P	**PKPbc**	**15 38 13.9**	**+0.4**
	baz=108						
KLU	**Klutina**	**148.81**	**305**	P	**PKiKP**	**15 38 14.7**	**-0.3**
	baz=108,SNR=7.2						
RIDG	**Independent Ri**	**149.00**	**310**	P	**PKiKP**	**15 38 14.9**	**-0.4**
	baz=106,SNR=30						
PAX	**Paxson**	**149.05**	**308**	P	**PKPbc**	**15 38 14.6**	**+0.3**
	baz=106,SNR=8.7						
M24K	**Tolsona, Glenn**	**149.11**	**307**	P	**PKiKP**	**15 38 15.3**	**-0.3**
	baz=107						
GLI	**Glacier Island**	**149.15**	**304**	P	**PKPbc**	**15 38 15.0**	**+0.5**
	baz=109						
KNK	**Knik Glacier**	**149.94**	**305**	P	**PKiKP**	**15 38 16.9**	**-0.4**
	baz=107						
WAT6	**Susitna Watana**	**149.95**	**307**	P	**PKiKP**	**15 38 17.1**	**-0.4**
	baz=106,SNR=12						
SML	**Sawmill**	**150.00**	**305**	P	**PKPbc**	**15 38 17.0**	**+0.4**
	baz=106,SNR=8.9						
SEW	**Seward**	**150.01**	**302**	P	**PKPbc**	**15 38 16.9**	**+0.4**
	baz=108						
ILAR	**Eielson Array**	**150.11**	**311**	PKPbc	**PKPbc**	**15 38 16.8**	**+0.1**
	comp=Z,15nm,0.8s,baz=136,slow=2.1,SNR=109						
ILAR	**Eielson Array**	**150.11**	**311**		**PKPbc**	**15 38 16.4**	**-0.3**
O22K	**Cooper Landing**	**150.26**	**302**	P	**PKPbc**	**15 38 17.5**	**+0.4**
	baz=108						
WAT1	**Susitna Watana**	**150.37**	**307**	P	**PKPbc**	**15 38 17.6**	**+0.1**
	baz=104						
POKR	**Poker Plat Res**	**150.41**	**312**	P	**PKPbc**	**15 38 17.2**	**-0.2**
	baz=101						
RC01	**Rabbit Creek A**	**150.44**	**304**	P	**PKiKP**	**15 38 18.2**	**0.0**
	baz=107,SNR=6.0						
BRSE	**Bradley Lake S**	**150.51**	**301**	P	**PKPbc**	**15 38 18.2**	**+0.4**
	baz=108,SNR=6.4						
H24K	**Noodor Dome**	**150.73**	**313**	P	**PKPbc**	**15 38 18.4**	**+0.2**
	baz=100,SNR=8.7						
MCK	**McKinley**	**150.76**	**309**	P	**PKiKP**	**15 38 18.8**	**-0.1**
	baz=103,SNR=9.7						
KDAK	**Kodiak Island**	**150.76**	**296**	P	**PKiKP**	**15 38 18.9**	**0.0**
	baz=111						
KDAK	**Kodiak Island**	**150.76**	**296**		**PKPbc**	**15 38 18.7**	**+0.3**
SONM	**Songino Array**	**150.88**	**87**	PKPbc	**PKiKP**	**15 38 19.2**	**-0.6**
	comp=Z,14nm,0.8s,baz=222,slow=2.7,SNR=61						
SONM	**Songino Array**	**150.88**	**87**		**PKiKP**	**15 38 18.9**	**-0.9**
OHAK	**Old Harbor**	**150.91**	**295**	P	**PKiKP**	**15 38 19.3**	**0.0**
	baz=111,SNR=6.5						
OHAK	**Old Harbor**	**150.91**	**295**		**PKPbc**	**15 38 19.0**	**+0.2**
HOM	**Homer**	**150.92**	**300**	P	**PKPbc**	**15 38 18.1**	**-0.7**
	baz=108						
NEA2	**Nenana**	**150.99**	**311**	P	**PKPbc**	**15 38 18.5**	**-0.3**
	baz=101,SNR=7.2						
SUA	**Susitna One**	**151.01**	**304**	P	**PKiKP**	**15 38 19.5**	**-0.1**
	baz=106						
SII	**Sitkinak Islan**	**151.12**	**293**	P	**PKiKP**	**15 38 19.7**	**-0.1**
	baz=112						
I23K	**Minto, Yukon-K**	**151.22**	**312**	P	**PKPbc**	**15 38 18.8**	**-0.4**
	baz=100,SNR=7.2						
ULN	**Ulaanbaatar**	**151.26**	**87**		**PKPbc**	**15 38 19.6**	**-0.5**
TRF	**Thorofare Moun**	**151.29**	**308**	P	**PKPbc**	**15 38 19.8**	**+0.1**
	baz=102,SNR=10						
H23K	**Yukon River**	**151.40**	**313**	P	**PKPbc**	**

comp=Z,0.6nm,0.8s,baz=195,slow=2.9,SNR=2.4
TORD Torodi Ar. Bea 162.95 177 PKPab 15 53 52.7 -0.4

*IDC **22** 15:39:35.2±4.1,30°.29N×30°.14E,h0km,mb3.4/4, mb1 3.5/8,mb1mx3.3/52,mbtmp3.4/8,ML3.2/4,Error ellipse: s-maj=72.6km s-min=18.0km az=24.0*
ISC 22 15:39:36.4±1.6,30°.4N±0°.1×30°.12E±0°.07,h10km,n34, σ1§11/37,mb3.4/3,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**4.25**	**98**	Pn	**Pn**	**15 40 41.2**	**+0.1**
	0.8nm,0.3s,baz=142,slow=12,SNR=12						
EIL				Sn	**Sn**	**15 41 30.5**	**-0.2**
	5.0nm,0.3s,baz=212,slow=20,SNR=4.6						
EIL				Lg	Lg	15 41 47.9	
	14nm,0.3s,baz=360,slow=21,SNR=8.0						
HRFI	**Mount Harif**	**4.27**	**93**	P	**Pb**	**15 40 50.3**	**-1.3**
MMLI	**Mount Malkishu**	**4.99**	**64**	P	**Pn**	**15 40 52.7**	**+1.3**
MMAI	**Mount Meron Ar**	**5.23**	**58**	Pn	**Pn**	**15 40 55.7**	**+1.0**
	3.9nm,0.3s,baz=236,slow=12,SNR=13						
MMAI				Sn	**Sn**	**15 41 54.6**	**-0.4**
	24nm,0.3s,baz=244,slow=29,SNR=16						
LEF	**Lefka**	**5.29**	**25**	*eP*	**Pn**	**15 40 54.6**	**-0.9**
CSS	**Mathiatis**	**5.33**	**30**	*eP*	**Pn**	**15 40 55.8**	**-0.3**
LFK	**Lefkose**	**5.69**	**29**	*eP*	**Pn**	**15 41 00.9**	**-0.1**
KARP	**Karpathos**	**5.75**	**335**	*eP*	**Pn**	**15 41 01.2**	**-0.6**
AKAS	**Kas**	**5.88**	**356**	*eP*	**Pn**	**15 41 02.5**	**-1.2**
ARG	**Arkhangelos**	**6.08**	**345**	*eP*	**Pn**	**15 41 05.2**	**-1.1**
GAZI	**Gazipasa**	**6.15**	**17**	*eP*	**Pn**	**15 41 06.3**	**-1.0**
TEKE	**Tekeli-Mersin**	**6.29**	**23**	*eP*	**Pn**	**15 41 08.6**	**-0.7**
FETY	**Fethiye**	**6.32**	**352**	*eP*	**Pn**	**15 41 08.2**	**-1.5**
AKKU	**Akkuyu-Mersin**	**6.46**	**25**	*eP*	**Pn**	**15 41 10.9**	**-0.7**
BERE	**Bereket-Mersin**	**6.52**	**23**	*eP*	**Pn**	**15 41 11.5**	**-1.0**
DALY	**Dalyan (Mula)**	**6.56**	**350**	*eP*	**Pn**	**15 41 11.5**	**-1.4**
IKL	**Isikli**	**6.58**	**26**	*eP*	**Pn**	**15 41 12.9**	**-0.3**
TURN	**Turunc**	**6.59**	**347**	*eP*	**Pn**	**15 41 12.2**	**-1.1**
IDI	**Anoyia**	**6.60**	**320**	Pn	**Pn**	**15 41 14.3**	**+0.7**
	0.6nm,0.3s,baz=132,slow=12,SNR=2.6						
IDI				Sn	**Sn**	**15 42 28.7**	**-0.2**
	0.9nm,0.3s,baz=309,slow=12,SNR=5.8						
IDI	**Anoyia**	**6.60**	**320**	*eP*	**Pn**	**15 41 14.0**	**+0.5**
CAME	**Cameli-Denizli**	**6.61**	**354**	*eP*	**Pn**	**15 41 12.1**	**-1.6**
KORT	**Korkueli**	**6.63**	**2**	*eP*	**Pn**	**15 41 12.3**	**-1.7**
TEVE	**Tevekalti-Mers**	**6.67**	**24**	*eP*	**Pn**	**15 41 13.6**	**-0.9**
DAT	**Datca**	**6.70**	**342**	*eP*	**Pn**	**15 41 13.4**	**-1.6**
GVDS	**Gavdos**	**6.78**	**313**	*eP*	**Pn**	**15 41 17.4**	**+1.5**
KEBE	**Keben-Mersin**	**6.78**	**25**	*eP*	**Pn**	**15 41 15.6**	**-0.4**
YER	**Yerkesik**	**6.93**	**348**	*eP*	**Pn**	**15 41 16.5**	**-1.6**
KIZK	**Mersin**	**6.97**	**28**	*eP*	**Pn**	**15 41 18.1**	**-0.5**
SEYD	**Seydisehir-KON**	**7.18**	**11**	*eP*	**Pn**	**15 41 19.9**	**-1.6**
BRTR	**Keskin Array B**	**9.78**	**16**	Pn	**Pn**	**15 41 59.1**	**+1.9**
	0.1nm,0.3s,baz=186,slow=13,SNR=1.6						
AKASG	**Malin Array Be**	**20.34**	**358**	P	**P**	**15 44 14.0**	**+1.4**
	0.6nm,0.5s,baz=175,slow=9.8,SNR=2.2						
GERES	**GERESS Array B**	**22.30**	**331**	P	**P**	**15 44 34.5**	**+0.6**
	0.4nm,0.6s,baz=138,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**39.31**	**357**	P	**P**	**15 47 05.4**	**+0.2**
	1.3nm,0.8s,baz=174,slow=9.1,SNR=5.2						
MKAR	**Makanchi Array**	**43.15**	**53**	P	**P**	**15 47 38.3**	**+1.2**
	0.4nm,0.5s,baz=266,slow=6.8,SNR=5.6						

*ANF **22** 15:51:54.0±0.2,36°.61N×116°.24W,h0km±2km,ML3.0/19, Error ellipse: s-maj=1.7km s-min=1.1km az=87.0*
*REN **22** 15:51:54.6±1.2,36°.62N±0°.03×116°.25W±0°.05,h7km±7km, ML3.0/14,ML2.9/72(NEIC),Error ellipse: s-maj=5.8km s-min=4.8km az=104.0*
*NEIC **22** 15:51:55.0±1.4,36°.63N±0°.02×116°.24W±0°.05,h6km±9km, Error ellipse: s-maj=5.8km s-min=2.4km az=86.0*
ISC 22 15:51:54.6±1.2,36°.62N±0°.02×116°.24W±0°.02,h2km±13km, n55,σ0§71/65,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPNV	**Topopah Spring**	**0.33**	**359**	P	**Pg**	**15 52 01.1**	**0.0**
	baz=180,SNR=1000						
TPNV				S	**Sg**	**15 52 05.8**	**+0.4**
	baz=180						
TPNV	**Topopah Spring**	**0.33**	**359**	Pg	**Pg**	**15 52 01.3**	**+0.2**
TPNV				Sg	**Sg**	**15 52 05.9**	**+0.4**
TPNV				IAML		15 52 06.9	
	2μm,0.5s						
TPNV				IAML		15 52 07.5	
	2μm,0.5s						
FURC	**Furnace Creek,**	**0.52**	**254**	P	**Pg**	**15 52 04.5**	**-0.2**
	baz=73,SNR=235						
FURC				S	**Sg**	**15 52 11.5**	**+0.1**
	baz=73						
SHOC	**Shoshone, Teco**	**0.72**	**182**	S	**Sg**	**15 52 18.4**	**+0.7**
	baz=1.8						
SHPR	**Sheep Range**	**0.88**	**97**		**Pg**	**15 52 11.1**	**-0.4**
SHPR				IAML		15 52 24.5	
	comp=E,345nm,0.4s						
GRAC	**Grapevine Rang**	**0.98**	**293**	P	**Pg**	**15 52 13.0**	**-0.4**
	baz=112,SNR=130						
GRAC				S	**Sg**	**15 52 26.3**	**+0.1**
	baz=112						
TUQ	**Turquoise Moun**	**1.21**	**168**	P	**Pg**	**15 52 17.4**	**-0.3**
	baz=348,SNR=34						
TUQ				S	**Sb**	**15 52 34.4**	**0.0**
	baz=348						
PRN	**Pahroc Range**	**1.24**	**50**		**Pg**	**15 52 18.3**	**-0.1**
GSC	**Goldstone, Bar**	**1.39**	**199**	P	**Pn**	**15 52 21.0**	**-0.2**
	baz=19,SNR=116						
GSC				S	**Sb**	**15 52 39.8**	**+0.1**
	baz=19						
GSC	**Goldstone, Bar**	**1.39**	**199**	Pn	**Pn**	**15 52 20.6**	**-0.6**
GSC				IAML		15 52 46.9	
	comp=E,201nm,1.3s						
LRMC	**Laurel Mtn Rad**	**1.63**	**226**	S	**Sb**	**15 52 46.9**	**+0.4**
	baz=45						
TPH	**Tonopah**	**1.65**	**332**		**Pn**	**15 52 24.5**	**-0.4**
TIN	**Tinemaha, Big**	**1.66**	**286**	S	**Sb**	**15 52 47.1**	**-0.2**
	baz=105						
HEC	**Hector,Ludlow**	**1.79**	**183**	Pb	**Pb**	**15 52 27.8**	**-0.4**
	baz=2.2						
HEC				S	**Sb**	**15 52 51.1**	**+0.1**
	baz=2.2						
R11A	**Troy Canyon, C**	**1.81**	**17**	P	**Pn**	**15 52 25.8**	**-1.2**
	baz=197						
R11A				S	**Sb**	**15 52 51.5**	**-0.2**
	baz=197						
R11A	**Troy Canyon, C**	**1.81**	**17**		**Pn**	**15 52 25.6**	**-1.4**
R11A				IAML		15 52 53.2	
	comp=E,149nm,0.4s						
R11A				IAML		15 52 55.6	
	comp=N,92nm,0.2s						
RRX	**Edison Barstow**	**1.84**	**200**	Sb	**Sg**	**15 52 54.1**	**+0.2**
	baz=19						
GMRC	**Granite Mounta**	**1.89**	**165**	P	**Pn**	**15 52 27.3**	**-0.7**
	baz=346,SNR=18						
GMRC				Sb	**Sg**	**15 52 55.8**	**+0.4**
	baz=346						
ISA	**Isabella, Lake**	**2.04**	**243**	Sb	**Sg**	**15 52 59.7**	**-0.6**
	baz=61						
ISA	**Isabella, Lake**	**2.04**	**243**	Pn	**Pn**	**15 52 29.4**	**-0.8**
EDW2	**Edwards Air Fo**	**2.24**	**220**	Sb	**Sb**	**15 53 05.8**	**+1.6**
	baz=39						
NEE2	**Needles Airpor**	**2.27**	**144**	Pg	**Pb**	**15 52 37.3**	**+0.9**
	baz=325						
NEE2				Sb	**Sg**	**15 53 06.6**	**-0.9**
	baz=325						
NV11	**Mina Array Sit**	**2.37**	**321**		**Pn**	**15 52 34.2**	**-0.4**
NV11				IAML		15 53 12.4	
	comp=N,55nm,0.8s						
VES	**Vestal, Richgr**	**2.43**	**252**	Sb	**Sb**	**15 53 11.3**	**+1.9**
	baz=70						
LHV	**Little Huntoon**	**2.43**	**313**	Pn	**Pn**	**15 52 35.6**	**+0.2**
LHV				IAML		15 53 22.3	
	comp=N,82nm,1.1s						
LCMT	**Little Creek M**	**2.44**	**80**		**Pn**	**15 52 35.6**	**0.0**
LCMT				IAML		15 53 12.8	
	comp=N,59nm,0.9s						
LCMT				IAML		15 53 14.0	
	comp=E,41nm,0.7s						
W13A	**Hualapai Mount**	**2.44**	**128**	Pn	**Pn**	**15 52 36.1**	**+0.4**
W13A				IAML		15 53 19.0	
	comp=E,61nm,0.6s						
NVAR	**Mina Array Bea**	**2.44**	**318**	Pn	**Pn**	**15 52 35.1**	**-0.6**
CCUT	**Cedar City**	**2.48**	**67**	Pn	**Pn**	**15 52 36.0**	**-0.4**
MDPB	**Devils Postpil**	**2.48**	**295**	Pn	**Pn**	**15 52 35.8**	**-0.6**
IRM	**Iron Mountain**	**2.61**	**160**	Pg	**Pg**	**15 52 44.2**	**-0.5**
	baz=340						
BELC	**Belle Mtn. Jos**	**2.62**	**176**	Pg	**Pg**	**15 52 44.2**	**-0.6**
	baz=356						
BFSC	**Mount Baldy Ra**	**2.64**	**206**	Pg	**Pg**	**15 52 45.0**	**-0.3**
	baz=25						
PSUT	**Pine Spring**	**2.69**	**44**	Pn	**Pn**	**15 52 38.4**	**-0.8**
PSUT				IAML		15 53 26.8	
	comp=N,77nm,0.8s						
PSUT				IAML		15 53 27.5	
	comp=E,61nm,0.7s						
SZCU	**Shurtz Canyon**	**2.70**	**68**	Pn	**Pn**	**15 52 39.0**	**-0.3**
SZCU				IAML		15 53 24.0	
	comp=E,75nm,0.3s						
SZCU				IAML		15 53 24.7	
	comp=N,48nm,0.5s						
RYN	**Ryan**	**2.70**	**319**	Pn	**Pn**	**15 52 39.2**	**-0.1**
RYN				IAML		15 53 24.2	
	comp=N,54nm,0.6s						
KNB	**Kanab**	**2.77**	**81**	Pn	**Pn**	**15 52 40.4**	**+0.1**
KNB				IAML		15 53 24.1	
	comp=N,50nm,0.5s						
KNB				IAML		15 53 24.2	
	comp=E,52nm,0.9s						
SPR3	**Spring Creek 3**	**2.82**	**32**	Pn	**Pn**	**15 52 39.2**	**-1.8**
SPR3				IAML		15 53 24.2	
	comp=N,42nm,0.6s						
SPR3				IAML		15 53 24.3	
	comp=E,34nm,0.3s						
KVN	**Kaiserville**	**2.84**	**329**	Pn	**Pn**	**15 52 40.6**	**-0.7**
KVN				IAML		15 53 30.6	
	comp=N,31nm,0.7s						
KVN				IAML		15 53 31.0	
	comp=E,32nm,0.6s						
PFO	**Pinyon Flats O**	**3.00**	**183**	Pn	**Pn**	**15 52 42.9**	**-0.5**
WAKR	**Walker**	**3.16**	**308**	Pn	**Pn**	**15 52 44.7**	**-0.9**
U15A	**North Rim**	**3.19**	**92**	Pn	**Pn**	**15 52 46.9**	**+0.8**
U15A				IAML		15 53 37.3	
	comp=N,38nm,1.0s						
U15A				IAML		15 53 39.1	
	comp=E,46nm,1.1s						
YERR	**Yerington**	**3.35**	**316**	Pn	**Pn**	**15 52 47.8**	**-0.5**
YERR				IAML		15 53 43.2	
	comp=N,29nm,0.6s						
MTPU	**Mount Pierson**	**3.53**	**65**	Pn	**Pn**	**15 52 50.9**	**0.0**
MTPU				IAML		15 53 52.9	
	comp=N,20nm,0.9s						
TCRU	**Three Creeks R**	**3.61**	**55**	Pn	**Pn**	**15 52 52.0**	**+0.1**
PNTR	**Pine Nut**	**3.63**	**314**	Pn	**Pn**	**15 52 52.2**	**+0.2**
PNTR				IAML		15 53 53.9	
	comp=N,35nm,0.9s						
MVU	**Marysvale**	**3.71**	**58**	Pn	**Pn**	**15 52 53.3**	**0.0**
MSU	**Marysvale**	**3.74**	**58**	Pn	**Pn**	**15 52 54.2**	**+0.6**
VCNR	**Virginia City**	**3.80**	**316**	Pn	**Pn**	**15 52 54.7**	**+0.3**
VCNR				IAML		15 54 01.5	
	comp=N,23nm,1.0s						
ELK	**Elko**	**4.20**	**10**	Pn	**Pn**	**15 52 58.6**	**-1.3**
ELK				IAML		15 54 08.7	
	comp=N,11nm,0.7s						
AFDM	**Forest Hills D**	**4.41**	**303**	Pn	**Pn**	**15 53 03.0**	**+0.3**
AFDM				IAML		15 54 39.2	
	comp=N,8.7nm,4.0s						
AFDM				IAML		15 55 45.0	
	comp=E,8.4nm,3.9s						
BEKR	**Beckworth**	**4.59**	**316**	Pn	**Pn**	**15 53 05.8**	**+0.6**
TMUT	**Trail Mountain**	**4.79**	**55**	Pn	**Pn**	**15 53 08.4**	**+0.2**
TMUT				IAML		15 54 33.9	
	comp=E,13nm,2.0s						
TMUT				IAML		15 54 41.7	
	comp=N,9.6nm,0.7s						
BGU	**Big Grassy Mou**	**4.98**	**29**	Pn	**Pn**	**15 53 10.4**	**-0.1**
BGU				IAML		15 54 39.0	
	comp=E,6.7nm,0.9s						
BGU				IAML		15 54 40.3	
	comp=N,6.5nm,1.0s						
PV04	**Paradox Valley**	**6.09**	**71**	Pn	**Pn**	**15 53 23.8**	**-2.1**

*IDC **22** 15:52:11.6±3.3,17°.10S×178°.75W,h570km±17km,mb3.7/2, mb1 3.9/3,mb1mx3.0/34,mbtmp4.6/3,Error ellipse: s-maj=144.6km s-min=34.4km az=148.0*
*NEIC **22** 15:52:12.8±1.4,17°.6S±0°.1×178°.7W±0°.1,h573km±8km, mb4.4/17,Error ellipse: s-maj=20.4km s-min=16.6km az=215.0*
ISC 22 15:52:11.8±1.2,17°.6S±0°.2×178°.6W±0°.1,h572km±11km, n28,σ0§89/36,mb4.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.17**	**266**	P	**P**	**15 53 30.0**	**+0.2**
	4.0nm,0.3s,baz=132,slow=9.0,SNR=22						
MSVF	**Nonsavu**	**3.17**	**266**	P	**P**	**15 53 29.8**	**0.0**
PINNC	**Pines Island,**	**14.02**	**247**	P	**P**	**15 55 11.7**	**+0.6**
PINNC				PcP	**PcP**	**15 59 47.2**	**+0.8**
OUZ	**Omahuta**	**18.91**	**200**	P	**P**	**15 55 57.5**	**+0.7**
OUZ				IAmb	IAmb	15 56 22.0	
	comp=Z,34nm,1.4s						
QRZ	**Quartz Range**	**24.42**	**196**	P	**P**	**15 56 46.0**	**-0.1**
THZ	**Tophouse**	**25.20**	**195**	P	**P**	**15 56 51.7**	**-1.4**
CTAO	**Charters Tower**	**33.30**	**260**	P	**P**	**15 58 03.4**	**0.0**
CTAO				IAmb	IAmb	15 58 28.0	
	comp=Z,20nm,1.4s						
CAN	**Canberra**	**33.76**	**232**	P	**P**	**15 58 07.0**	**0.0**
CAN				IAmb	IAmb	15 58 11.0	
	comp=Z,19nm,1.3s						
BBOO	**Buckleboo**	**43.40**	**241**	P	**P**	**15 59 24.5**	**-0.4**
BBOO				IAmb	IAmb	15 59 46.0	
	comp=Z,28nm,1.4s						
WR0	**Warramunga Arr**	**44.30**	**259**	P	**P**	**15 59 31.1**	**-0.9**
WB0	**Warramunga Arr**	**44.46**	**259**	P	**P**	**15 59 32.3**	**-0.9**
WB2	**Warramunga Arr**	**44.48**	**259**	P	**P**	**15 59 32.6**	**-0.8**
WB2				PcP	**PcP**	**16 01 04.1**	**-0.2**
WRAB	**Tennant Creek**	**44.48**	**259**	P	**P**	**15 59 32.3**	**-1.1**
WRAB				IAmb	IAmb	15 59 35.2	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**15 59 32.9**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=94,slow=6.8,SNR=94						
WRA				PcP	**PcP**	**16 01 03.6**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=104,slow=3.6,SNR=2.2						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**15 59 32.6**	**-0.9**
WRA					**PcP**	**16 01 03.7**	**-0.7**
AS31	**Alice Springs**	**44.69**	**254**	P	**P**	**15 59 34.8**	**-0.1**
AS31				IAmb	IAmb	15 59 35.3	
	comp=Z,5.5nm,0.7s						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**15 59 34.8**	**-0.2**
	comp=Z,16nm,0.5s,baz=89,slow=7.8,SNR=681						
ASAR				PcP	**PcP**	**16 01 04.2**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=104,slow=4.0,SNR=3.5						
ASAR				ScP	**ScP**	**16 04 05.5**	**+2.3**
	comp=Z,0.4nm,1.1s,baz=89,slow=4.9,SNR=1.9						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**15 59 34.8**	**-0.2**
ASAR					**PcP**	**16 01 04.7**	**-0.3**
PTCN	**Pitcairn Islan**	**45.64**	**108**	P	**P**	**15 59 43.3**	**+1.2**
PTCN				PcP	**PcP**	**16 01 06.2**	**-2.1**
FAKI	**Fak Fak**	**50.30**	**281**	P	**P**	**16 00 17.4**	**+0.3**
FAKI				IAmb	IAmb	16 00 21.4	
	comp=Z,25nm,1.3s						
SOEI	**Soe**	**55.86**	**270**	P	**P**	**16 00 57.2**	**+0.6**
SOEI				IAmb	IAmb	16 00 59.2	
	comp=Z,12nm,0.8s						
UGM	**Wanagama**	**69.45**	**268**	P	**P**	**16 02 24.0**	**0.0**
PEA0B	**Petropavlovsk-**	**73.28**	**345**	P	**P**	**16 02 45.4**	**0.0**
PEA0B				IAmb	IAmb	16 02 55.4	
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**73.28**	**345**	P	**P**	**16 02 45.7**	**+0.3**
BURAR	**Bucovina Array**	**144.20**	**332**		**PKPab**	**16 10 43.5**	**+0.2**
BRTR	**Keskin Array B**	**144.38**	**315**	PKP	**PKPdf**	**16 10 43.0**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=52,slow=2.4,SNR=2.6						
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc	**PKPdf**	**16 10 49.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=20,slow=3.1,SNR=5.6						
GERES	**GERESS Array B**	**147.21**	**345**		**PKPbc**	**16 10 50.2**	**-1.4**

*TRN **22** 15:57:08.7,13°.84N×58°.54W,h73km,MD4.2*
ISC 22 15:57:08.0±2.3,13°.86N±0°.04×58°.5W±0°.1,h30km±13km, n57,σ1§55/73,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.21**	**232**	*eS*	**Sb**	**15 57 47.0**	**+1.5**
BBGH	**Gun Hill**	**1.27**	**236**	*eP*	**Pb**	**15 57 31.1**	**-0.2**
BBGH				*eS*	**Sb**	**15 57 47.3**	**+0.1**
MPOM	**Morne Pois Mar**	**2.38**	**284**	*eP*	**Pn**	**15 57 45.4**	**+0.5**
MPOM	**Morne Pois Mar**	**2.38**	**284**	*e*	Pb	15 57 54.6	+4.5
MPOM				*eS*	**Sn**	**15 58 14.5**	**+1.3**
MCLT	**Moule a Chique**	**2.39**	**267**	*eP*	**Pb**	**15 57 47.4**	**-3.1**
MCLT				*eS*	**Sn**	**15 58 14.6**	**+1.0**
SLBI	**Saint Lucia, B**	**2.42**	**274**	*eP*	**Pn**	**15 57 45.9**	**+0.2**
SLBI				*eS*	**Sn**	**15 58 14.7**	**+0.4**
SLCP	**Castries, St.**	**2.44**	**274**	*eS*	**Sn**	**15 58 15.7**	**+1.0**
MVM	**Montagne Vaucl**	**2.44**	**287**	*eP*	**Pb**	**15 57 48.1**	**-3.1**
SLB	**Belfond**	**2.49**	**270**	*eP*	**Pb**	**15 57 49.7**	**-2.4**
SLB				*eS*	**Sn**	**15 58 16.8**	**+0.8**
ILAM	**Ilet Lapin Mar**	**2.49**	**292**	*eP*	**Pn**	**15 57 48.1**	**+1.5**
LPMF	**Morne Lapointe**	**2.51**	**287**	*eP*	**Pn**	**15 57 47.5**	**+0.7**
ZAM	**Aeronautique**	**2.57**	**286**	*eP*	**Pn**	**15 57 48.4**	**+0.8**
BIM	**Bigot**	**2.59**	**285**	*eP*	**Pn**	**15 57 48.8**	**+0.8**
BIM	**Bigot**	**2.59**	**285**	*e*	Pb	15 58 01.4	+7.5
BIM				*eS*	**Sn**	**15 58 16.7**	**-1.9**
SSV	**Crater Summit**	**2.69**	**259**	*eP*	**Pn**	**15 57 49.9**	**+0.5**
SSV				*eS*	**Sn**	**15 58 21.4**	**+0.4**
SVV	**Soufriere Volc**	**2.71**	**259**	*eP*	**Pn**	**15 57 50.5**	**+0.9**
SVV				*eS*	**Sn**	**15 58 21.3**	**-0.2**
FDF	**Fort de France**	**2.73**	**289**	*eP*	**Pn**	**15 57 51.1**	**+1.2**
FDF	**Fort de France**	**2.73**	**289**	*e*	**Pb**	**15 57 59.7**	**+3.5**
FDF				*eS*	**Sn**	**15 58 17.8**	**-4.1**
BAMF	**Morne Balai**	**2.75**	**291**	*eP*	**Pn**	**15 57 52.6**	**+2.4**
SVB	**Belmont**	**2.76**	**258**	*eP*	**Pn**	**15 57 52.5**	**+2.3**
SVB				*eS*	**Sn**	**15 58 22.7**	**+0.1**
CXM	**Morne La Croix**	**2.77**	**290**	*eP*	**Pn**	**15 57 52.8**	**+2.2**
PML	**Morne Lenard**	**2.77**	**290**	*eP*	**Pb**	**15 57 56.9**	**0.0**
SVN	**Savane Anatole**	**2.78**	**291**	*eP*	**Pn**	**15 57 52.7**	**+2.1**
PCM	**Pelee Case Pet**	**2.81**	**290**	*eP*	**Pn**	**15 57 52.8**	**+1.8**
DLPL	**La Plaine**	**3.05**	**299**	*eP*	**Pn**	**15 57 54.4**	**+0.1**
DLPL				*eS*	**Sn**	**15 58 30.0**	**+0.2**
GCMP	**Grenada, Carri**	**3.18**	**245**	*eP*	**Pn**	**15 57 56.0**	**0.0**
GCMP				*eS*	**Sn**	**15 58 32.1**	**-0.8**
TOSP	**Speyside**	**3.24**	**218**	*eP*	**Pn**	**15 57 57.4**	**+0.5**
TOSP				*eS*	**Sn**	**15 58 33.8**	**-0.7**
DSLB	**Salisbury**	**3.25**	**299**	*eP*	**Pn**	**15 57 58.9**	**+1.9**
DSLB				*eS*	**Sn**	**15 58 34.4**	**-0.3**
MAGL	**Barre de l'ile**	**3.41**	**308**	*eP*	**Pn**	**15 57 59.9**	**+0.7**
MAGL				*eS*	**Sn**	**15 58 38.6**	**-0.1**
GRGR	**Grenville**	**3.54**	**241**	*eP*	**Pn**	**15 58 02.3**	**+1.4**
GRGR				*eS*	**Sn**	**15 58 41.5**	**-0.3**
TDBA	**Terre de Bas,**	**3.63**	**303**	*eP*	**Pn**	**15 58 03.7**	**+1.4**
TDBA				*eS*	**Sn**	**15 58 44.5**	**+0.3**
TBG	**Guadaloupe-3**	**3.64**	**303**	*eP*	**Pn**	**15 58 03.9**	**+1.5**
TBG				*eS*	**Sn**	**15 58 44.0**	**-0.4**
CBE	**Ff, Capester**	**3.73**	**306**	*eP*	**Pn**	**15 58 05.5**	**+1.8**
CBE				*eS*	**Sn**	**15 58 45.5**	**-1.2**
ABD	**La Joyeuse, An**	**3.90**	**312**	*eP*	**Pn**	**15 58 06.9**	**+1.1**
ABD				*eS*	**Sn**	**15 58 50.1**	**-0.6**
TRN	**Trinidad (W)**	**4.28**	**222**	*eP*	**Pn**	**15 58 12.4**	**+1.2**
TRN	**Trinidad (W)**	**4.28**	**222**	*eS*	**Sn**	**15 58 58.4**	**-1.8**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*eP*	**Pn**	**15 58 14.7**	**+0.8**
ANBD	**Bethesda, Anti**	**4.48**	**315**	*eS*	**Sn**	**15 59 03.6**	**-1.4**
BPA	**Boggy Peak**	**4.54**	**315**	*eP*	**Pn**	**15 58 15.8**	**+1.0**
BPA	**Boggy Peak**	**4.54**	**315**	*eS*	**Sn**	**15 59 04.8**	**-1.8**
ANWB	**Willy Bob**	**4.95**	**320**	*eP*	**Pn**	**15 58 22.1**	**+1.8**
ANWB	**Willy Bob**	**4.95**	**320**	*eS*	**Sn**	**15 59 15.4**	**-1.2**
SKI	**Saint Kitts**	**5.36**	**311**	*eP*	**Pn**	**15 58 27.9**	**+1.8**
SKI	**Saint Kitts**	**5.36**	**311**	*eS*	**Sn**	**15 59 24.6**	**-2.3**
BAUV	**El Baul**	**10.57**	**243**	*eP*	**Pn**	**15 59 38.2**	**+0.6**
BAUV	**El Baul**	**10.57**	**243**	*eS*	Sn	16 01 25.6	-9.3
SMLC	**San Martn de**	**16.09**	**253**	*eP*	**Pn**	**16 00 51.7**	**-0.5**
BARC	**Barichara**	**16.16**	**245**	*eP*	**P**	**16 01 00.3**	**+4.0**
RUSC	**La Rusia**	**16.41**	**243**	*eP*	P	16 01 07.1	+7.8
ZARC	**Zaragoza, Cauc**	**17.29**	**250**	*eP*	**Pn**	**16 01 07.0**	**-0.3**
UREC	**San Jos de Ur**	**17.81**	**252**	*eP*	**P**	**16 01 14.7**	**+0.3**
NORC	**Norcasia**	**18.12**	**245**	*eP*	**Pn**	**16 01 16.6**	**-1.1**
HELC	**Santa Helena**	**18.42**	**247**	*eP*	**Pn**	**16 01 21.9**	**+0.2**
DBBC	**Dabeiba**	**18.70**	**250**	*eP*	**P**	**16 01 22.3**	**-2.0**
GUY2C	**Guayana, Caldas**	**18.72**	**244**	*eP*	**P**	**16 01 25.1**	**+0.2**
CBOC	**Ciudad Bolivar**	**19.00**	**247**	*eP*	**P**	**16 01 25.2**	**-2.4**
PLMC	**San Jos del P**	**19.67**	**245**	*eP*	**P**	**16 01 35.6**	**+0.7**

*IDC **22** 16:04:17.6±1.8,52°.12N×170°.26W,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.5/45,mbtmp3.7/10,ML3.1/1,MS3.3/2, Ms1 3.3/2,ms1mx2.6/43,Error ellipse: s-maj=46.5km s-min=22.4km az=0.0*
*AEIC **22** 16:04:19±1.3,51°.6N±0°.1×170°.2W

CNBA	Chernabura Isl	1.39	61		Pn	16 18 50.4	+0.4
ISNN	Isanotski Nort	1.39	300		Pn	16 18 50.4	+0.4
CHNA	Chernabura Isl	1.39	60	P	Pn	16 18 50.5	+0.5
	baz=243						
SSLS	Shishaldin Sou	1.46	293		Pn	16 18 51.3	+0.3
SSLN	Shishaldin Nor	1.50	297		Pn	16 18 52.3	+0.9
SSBA	Shishaldin	1.55	294		Pn	16 18 52.4	+0.2
WESP	Westdahl Peak	1.81	282		Pn	16 18 56.2	+0.4
WECS	Westdahl Cape	1.85	283		Pn	16 18 57.0	+0.7
AKSA	Akutan Strait	2.36	271		Pn	16 19 03.9	+0.6
AKUT	Akutan	2.40	271		Pn	16 19 04.5	+0.7
AKUT				IAML		16 19 33.2	
	comp=E,159nm,0.5s						
AKUT				IAML		16 19 39.9	
	comp=N,174nm,0.6s						
VNSG	Veniaminof 6	2.47	36		Pn	16 19 06.5	+1.7
AKBBA	Akutan Broad B	2.50	270		Pn	16 19 05.9	+0.7
AKLV	Akutan Long Va	2.51	272		Pn	16 19 06.0	+0.6
VNHG	Veniaminof 1	2.52	34		Pn	16 19 07.4	+1.8
AKGG	Akutan Green G	2.53	273		Pn	16 19 06.4	+0.8
AKMO	Akutan Morgan	2.54	270		Pn	16 19 06.7	+0.8
UNV	Unalaska Valle	2.86	266	P	Pn	16 19 10.6	+0.4
	baz=82						
UNV	Unalaska Valle	2.86	266		Pn	16 19 10.6	+0.4
MTBL	Makushin Table	2.95	268		Pn	16 19 12.2	+0.7
MNAT	Makushin Natee	2.96	267		Pn	16 19 11.9	+0.3
MSW	Makushin Switc	3.02	267		Pn	16 19 12.6	+0.3
CHIR	Chirikof Islan	3.87	62	Pn	Pn	16 19 25.7	+1.7
CHIR				IAML		16 20 35.0	
	comp=E,86nm,1.5s						
CHIR				IAML		16 20 48.3	
	comp=N,93nm,1.3s						
NIKH	Nikolski High	4.44	257	Pn	Pn	16 19 32.3	+0.5
PLK1	Peulik 1	4.63	36		Pn	16 19 35.9	+1.4
SII	Sitkinak Islan	4.91	58	P	Pn	16 19 39.0	+0.7
	baz=244						
SII	Sitkinak Islan	4.91	58		Pn	16 19 38.7	+0.4
SII				IAML		16 21 17.6	
	comp=N,52nm,1.0s						
SII				IAML		16 21 27.2	
	comp=E,55nm,1.2s						
ANCK	Angle Creek	5.32	38		Pn	16 19 45.5	+1.4
KABU	Katmai Buttres	5.45	38		Pn	16 19 47.4	+1.6
KABR	Katmai Barrier	5.47	41		Pn	16 19 47.2	+1.1
KVTA	Katmai Vly 10	5.53	38		Pn	16 19 48.3	+1.5
OHAK	Old Harbor	5.65	54	P	Pn	16 19 48.5	0.0
	baz=241						
OHAK	Old Harbor	5.65	54		Pn	16 19 48.8	+0.3
KDAK	Kodiak Island	6.26	51	Pn	Pn	16 19 56.8	-0.1
O18K	Koktuh Hills	6.71	29	P	Pn	16 20 05.1	+2.0
	baz=215						
O18K	Koktuh Hills	6.71	29		Pn	16 20 05.1	+2.0
SVW2	Sparrevohn	7.68	23	Pn	Pn	16 20 18.2	+1.9
N19K	Bonanza Creek	7.71	27	P	Pn	16 20 18.9	+2.1
	baz=214						
N19K	Bonanza Creek	7.71	27		Pn	16 20 18.9	+2.1
ATKA	Atka Island	7.77	260	Pn	Pn	16 20 17.9	+0.4
CNPM	China Poot	7.85	43	Pn	Pn	16 20 20.2	+1.5
SEW	Seward	8.92	43	Pn	Pn	16 20 33.8	+0.5
ADK	Adak	9.32	262	Pn	Pn	16 20 40.7	+1.9
SUA	Susitna One	9.35	34	Pn	Pn	16 20 39.7	+0.4
RC01	Rabbit Creek A	9.44	38	Pn	Pn	16 20 41.6	+1.2
KIWB	Kanaga Island	9.61	262	Pn	Pn	16 20 44.3	+1.6
PWL	Port Wells	9.82	42	Pn	Pn	16 20 46.0	+0.4
GHO	Glory Hole Cre	10.19	36	Pn	Pn	16 20 50.9	+0.2
HIN	Hinchinbrook I	10.31	47	Pn	Pn	16 20 51.3	-1.0
GLI	Glacier Island	10.32	43	Pn	Pn	16 20 51.6	-0.9
FID	Port Fidalgo	10.50	45	Pn	Pn	16 20 53.1	-1.9
EYAK	Cordova Ski Ar	10.71	47	Pn	Pn	16 20 57.2	-0.5
SCM	Sheep Creek Mo	10.80	39	Pn	Pn	16 20 57.8	-1.3
KTH	Kantishna Hill	10.92	26	Pn	Pn	16 21 01.7	+0.9
TRF	Thorofare Moun	11.01	28	Pn	Pn	16 21 02.2	+0.2
KAIM	Kayak Island	11.02	51	Pn	Pn	16 21 02.6	+0.6
RAGM	Ragged Mountai	11.10	49	Pn	Pn	16 21 03.0	-0.1
KLU	Klutina	11.14	42	Pn	Pn	16 21 03.0	-0.7
HMT	Hamilton	11.26	50	Pn	Pn	16 21 05.2	-0.2
SUCK	Suckling Hills	11.37	51	Pn	Pn	16 21 07.4	+0.5
RND	Reindeer	11.38	30	Pn	Pn	16 21 06.4	-0.7
M24K	Tolsona, Glenn	11.40	40	Pn	Pn	16 21 06.8	-0.5
N25K	Chitina, Valde	11.73	44	Pn	Pn	16 21 11.6	-0.2
CRQM	Cirque	11.94	49	Pn	Pn	16 21 15.2	+0.3
WAX	Waxell Ridge	11.95	51	Pn	Pn	16 21 14.8	0.0
GLB	Gilahina Butte	11.97	45	Pn	Pn	16 21 15.1	0.0
VRDI	Verde Repeater	12.02	47	Pn	Pn	16 21 16.2	+0.4
TGL	Tana Glacier	12.08	49	Pn	Pn	16 21 16.6	0.0
PAX	Paxson	12.19	37	Pn	Pn	16 21 18.6	+0.5
YAH	Yahtse	12.42	52	Pn	Pn	16 21 21.6	+0.3
IMAR	Indian Mountai	12.49	15	Pn	Pn	16 21 22.7	+0.6
TABL	Table Mountain	12.73	52	Pn	Pn	16 21 26.4	+0.9
CTGM	Chitina Glacie	12.84	50	Pn	Pn	16 21 27.3	+0.4
RIDG	Independent Ri	12.90	35	Pn	Pn	16 21 26.9	-0.9
LOGN	Logan Glacier	12.93	51	Pn	Pn	16 21 29.6	+1.3
DOT	Dot Lake	13.11	37	Pn	Pn	16 21 29.7	-0.9
BCPM	Bancas Point	13.29	55	Pn	Pn	16 21 33.4	+0.4
SCRK	Sand Creek	13.35	36	Pn	Pn	16 21 31.3	-2.6
L27K	Beaver Creek,	13.60	41	Pn	Pn	16 21 36.6	-0.7
BCAR	Beaver Creek A	13.62	41	Pn	Pn	16 21 36.9	-0.6
HYT	Haines Junctio	14.55	53	P	P	16 21 56.4	-0.2
FYU	Fort Yukon	14.79	26	P	P	16 21 60.0	+0.9
TOLK	Toolik Lake Re	15.59	17	P	P	16 22 08.3	+0.3
TOLK				IAmb	IAmb	16 22 37.0	
	comp=Z,8.8nm,1.4s						
WHY	Whitehorse	15.76	55	Pn	Pn	16 22 07.8	+1.5
EPYK	Eagle Plains	17.24	35		Pn	16 22 25.6	+0.7
EPYK				IAmb	IAmb	16 22 39.0	
	comp=Z,8.3nm,1.5s						
INK	Inuvik	19.34	32		P	16 22 49.6	+0.4
INK				IAmb	IAmb	16 23 00.1	
	comp=Z,5.1nm,1.4s						
PEA0B	Petropavlovsk-	23.88	284	P	P	16 23 36.0	-1.4
PETK	Petropavlovsk-	23.88	284	P	P	16 23 35.7	-1.6
MOD	Modoc Plateau	29.83	97	P	P	16 24 31.2	+0.1
MOD				IAmb	IAmb	16 24 31.9	
	comp=Z,2.1nm,0.8s						

IDC **22** *16:19:55.4±7.4, 1°.39N×98°.07E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/44, mbtmp3.2/3, Error ellipse: s-maj=382.8km s-min=32.2km az=55.0*

DJA **22** *16:20:00.6±1.7, 1°N±16°×9°7E±1°2, h56km±8km, M2.9/4, MLv2.9/4*

ISC 22 16:19:58.7±1.6**, 0°.9N**±0°.1×**97°.2E**±0°.1**, h50km, n12,** σ1s**06/8, mb3.1/3, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.56	45	P	Pn	16 20 11.1	+0.4
GSI				S	Sn	16 20 19.6	+0.3
TPTI		2.34	360	P	Pn	16 20 33.4	-1.4
MNSI	Mandailing Nat	2.40	93	P	Pn	16 20 35.5	0.0
MNSI				S	Sn	16 21 02.7	-1.0
H08S2	Diego Garcia H	26.05	251	T	T	16 52 12.2	
	baz=72,slow=75,SNR=354						
H08S3	Diego Garcia H	26.05	251	T	T	16 52 13.0	
	baz=72,slow=75,SNR=250						
H08S1	Diego Carcia H	26.07	251	T	T	16 52 11.7	
	baz=72,slow=75,SNR=270						
H01W3	Cape Leeuwin H	38.98	158	T	T	17 08 36.9	
	baz=332,slow=76,SNR=60						
H01W2	Cape Leeuwin H	38.99	158	T	T	17 08 37.0	
	baz=332,slow=66,SNR=66						
H01W1	Cape Leeuwin H	38.99	158	T	T	17 08 34.4	
	baz=332,slow=76,SNR=57						
WRA	Warramunga Arr	41.89	122	P	P	16 27 44.2	-0.4
	0.3nm,0.7s,baz=302,slow=8.2,SNR=2.0						
ASAR	Alice Springs	43.23	127	P	P	16 27 55.0	-0.5
	0.3nm,0.9s,baz=299,slow=7.9,SNR=5.3						
MKAR	Makanchi Array	47.52	346	P	P	16 28 30.5	+1.4
	0.3nm,0.6s,baz=162,slow=8.5,SNR=2.9						

ASIES **22** *16:26:12.7, 23°.85N×121°.53E, h20km, MW3.6*

JMA **22** *16:26:12.3, 23°.85N×121°.53E, h0km, M3.6*

NIED **22** *16:26:12.3, 23°.85N×121°.53E, h0km, MW3.8, Moment Tensor Solution. s1 Moment tensor: Scale 10^14Nm; Mrr=0.89; Mθθ=5.70; Mφφ=-4.81; Mrθ=1.00; Mθφ=0.87; Mφr=0.86; Fault plane solution: M0=5.50000×10^14 NP1: φs=50.00000°, δ=87.00000°, λ=-165.00000°. NP2: φs=319.00000°, δ=75.00000°, λ=-4.00000°.*

TAP **22** *16:26:13.8, 23°.86N×121°.50E, h11km, ML4.2, C*

IDC **22** *16:26:14.8±2.8, 24°.27N×121°.65E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/43, mbtmp3.8/7, ML3.8/1, MS2.0/1, Ms1 2.0/1, ms1mx2.0/47, Error ellipse: s-maj=62.0km s-min=23.6km az=166.0*

NEIC **22** *16:26:14.1±1.8, 23°.91N±0°.01×121°.47E±0°.04, h14km±4km, mb4.0/4, ML4.3(TAP), Error ellipse: s-maj=5.4km s-min=1.3km az=105.0*

ISC 22 16:26:14.3±0.7**, 23°.86N**±0°.01×**121°.53E**±0°.01**, h13**km±4km**, n180,** σ0s**96/291, mb3.8/8, 10C-32D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	Yanliau Villag	0.06	79	⇑iP	Pg	16 26 17.1	+0.3
	baz=61						
TEYL				S	Sg	16 26 19.6	+0.9
	baz=61						
ESL	Shilin	0.10	245	⇑iP	Pg	16 26 16.4	-0.9
	baz=230						
ESL				iS	Sg	16 26 17.8	-1.6
	baz=230						
ETM	Tongmen	0.12	342	⇓iP	Pg	16 26 16.9	-0.6
	baz=354						
ETM				iS	Sg	16 26 18.7	-1.1
	baz=354						
HWA	Hwalien	0.14	29	⇓iP	Pb	16 26 18.0	-0.8
	baz=32						
HWA				iS	Sg	16 26 20.8	+0.5
	baz=32						
TEGC	Jichi Village	0.15	177	⇑iP	Pb	16 26 18.0	-0.9
	baz=173						
TEGC				S	Sg	16 26 22.2	+1.8
	baz=173						
EGFH	Guangfu	0.21	207	P	Pg	16 26 18.3	-0.6
	baz=207						
EGFH				S	Sg	16 26 21.4	-0.6
	baz=207						
TWD	Chiawan	0.23	15	⇓iP	Pg	16 26 19.0	-0.3
	baz=12						
TWD				iS	Sg	16 26 22.1	-0.5
	baz=12						
ETL	Fush Village	0.31	15	⇓iP	Pg	16 26 20.3	-0.5
	baz=10.0						
ETL				iS	Sg	16 26 24.3	-0.8
	baz=10.0						
NACB	Ninganchiao	0.32	10	⇓iP	Pg	16 26 20.3	-0.6
	baz=13						
NACB				S	Sg	16 26 24.4	-0.9
	baz=13						
NACB	Ninganchiao	0.32	10	Pg	Pg	16 26 19.6	-1.3
NACB				Sg	Sg	16 26 24.2	-1.1
OWD	Renai	0.34	287	⇓iP	Pg	16 26 20.6	-0.7
	baz=296						
OWD				S	Sg	16 26 25.0	-1.0
	baz=296						
ETLH	Xiulin Townshi	0.35	352	⇓iP	Pg	16 26 20.9	-0.6
	baz=356						
ETLH				S	Sg	16 26 25.3	-1.1
	baz=356						
HGSD	Ruisui	0.38	195	P	Pg	16 26 21.8	-0.1
	baz=205						
HGSD				eS	Sb	16 26 30.5	+1.9
	baz=205						
WHF	Hehuan Shan	0.38	320	⇓iP	Pg	16 26 21.3	-0.8
	baz=312						
WHF				iS	Sg	16 26 26.2	-1.1
	baz=312						
CHGB	Renai	0.39	302	⇓iP	Pg	16 26 21.6	-0.5
	baz=311						
CHGB				S	Sg	16 26 26.8	-0.6
	baz=311						
EHY	Hungye	0.40	209	⇑iP	Pg	16 26 21.3	-1.0
	baz=206						
EHY				S	Sg	16 26 26.2	-1.5
	baz=206						
FUSS	Fushou	0.47	326	⇓iP	Pg	16 26 23.3	-0.4
	baz=328						
FUSS				S	Sg	16 26 29.5	-0.6
	baz=328						
EHP	Heping Village	0.49	23	eP	Pg	16 26 23.5	-0.5
	baz=23						
EHP				eS	Sg	16 26 30.2	-0.4
	baz=23						
YULB	Yu-li	0.51	205	⇑iP	Pg	16 26 23.3	-1.0
	baz=205						
YULB				S	Sg	16 26 29.8	-1.3
	baz=205						
YULB	Yu-li	0.51	205		Pg	16 26 23.4	-1.0
YULB				Sg	Sb	16 26 32.4	-0.2
TWT	Tachien	0.51	321	⇓iP	Pg	16 26 24.3	-0.2
	baz=312						
TWT				S	Sg	16 26 30.7	-0.6
	baz=312						
TDCB	Techi	0.52	319	⇓iP	Pg	16 26 24.3	-0.3
	baz=312						
TDCB				S	Sg	16 26 30.6	-1.1
	baz=312						
SSLB	Suanglung	0.53	263	⇓iP	Pg	16 26 24.1	-0.7
	baz=271						
SSLB				S	Sg	16 26 30.3	-1.7
	baz=271						
SSLB	Suanglung	0.53	263	Pg	Pg	16 26 23.6	-1.2
SSLB					Sg	16 26 30.1	-1.9
ECBN	Changbin	0.54	188	P	Pb	16 26 25.6	-0.2
	baz=194						
ECBN				eS	Sn	16 26 35.4	-1.4
	baz=194						
EYUL	Yuli	0.54	201	P	Pg	16 26 24.3	-0.7
	baz=209						
EYUL				eS	Sg	16 26 32.2	0.0
	baz=209						
TWF1	Yuli	0.55	203	⇓iP	Pg	16 26 24.0	-1.0
	baz=210						
TWF1				iS	Sg	16 26 30.9	-1.4
	baz=210						
SMLT	Sun Moon Lake	0.58	273	⇓iP	Pg	16 26 25.2	-0.6
	baz=273						
SMLT				iS	Sg	16 26 32.5	-0.9
	baz=273						
DPDB	Guoxing	0.58	288	P	Pg	16 26 25.4	-0.4
	baz=288						
DPDB				eS	Sg	16 26 33.4	-0.1
	baz=288						
NNSB	Datong	0.59	347	⇓iP	Pg	16 26 25.4	-0.5
	baz=348						
NNSB				S	Sg	16 26 32.4	-1.3
	baz=348						
NNSH	Datong	0.59	347	⇓iP	Pg	16 26 25.4	-0.5
	baz=348						
NNSH				S	Sg	16 26 32.5	-1.1
	baz=348						
NNS	Nan Shan	0.60	346	⇓iP	Pg	16 26 25.7	-0.4
	baz=348						
NNS				S	Sg	16 26 33.0	-1.1
	baz=348						
WCS	Beigang Elemen	0.60	290	⇓iP	Pg	16 26 25.7	-0.4
	baz=290						
WCS				eS	Sg	16 26 33.1	-1.0
	baz=290						
TYC	Yuchr	0.62	275	⇓iP	Pg	16 26 25.7	-0.7
	baz=275						
TYC				iS	Sg	16 26 33.4	-1.3
	baz=275						
EWUT	Wuta	0.63	21	⇓iP	Pg	16 26 26.1	-0.5
	baz=12						
EWUT				S	Sg	16 26 34.5	-0.5
	baz=12						
WHYT	Xinyi Township	0.64	256	eP	Pg	16 26 26.4	-0.4
	baz=263						
WHYT				eS	Sg	16 26 34.4	-1.0
	baz=263						
WHP	Taichung City	0.68	308	P	Pg	16 26 27.2	-0.5
	baz=309						
WHP				eS	Sb	16 26 36.6	-1.0
	baz=309						
FULB	Fuli	0.69	199	eP	Pb	16 26 28.1	-0.2
	baz=211						
FULB				eS	Sn	16 26 39.6	-0.8
	baz=211						
WJS	Zhushan	0.74	268	P	Pb	16 26 29.2	+0.2
	baz=272						
WJS				S	Sn	16 26 40.2	-1.4
	baz=272						
NDT	Datong Townshi	0.74	359	⇓iP	Pg	16 26 28.4	-0.4
	baz=352						
NDT				eS	Sg	16 26 37.3	-1.3
	baz=352						
ALS	Alishan	0.75	243	⇑iP	Pg	16 26 28.6	-0.3
	baz=242						
ALS				S	Sg	16 26 38.0	-0.9
	baz=242						
WNT	Mingjian	0.78	272	⇑iP	Pb	16 26 29.9	+0.1
	baz=276						
WNT				iS	Sn	16 26 41.5	-1.1
	baz=276						
ENTT	Nioudou	0.78	2	⇓iP	Pg	16 26 29.1	-0.4
	baz=3.0						
ENTT				S	Sg	16 26 39.4	-0.4
	baz=3.0						
WNT1	Nantou City	0.78	274	eP	Pn	16 26 30.2	-0.9
	baz=278						
WNT1				eS	Sn	16 26 42.1	-0.6
	baz=278						
WWF	Wufeng	0.79	284	P	Pb	16 26 30.1	+0.3
	baz=290						
WWF				eS	Sn	16 26 43.0	+0.2
	baz=290						
NDS	Dongshan	0.79	12	P	Pg	16 26 29.1	-0.6
	baz=19						
NDS				S	Sg	16 26 39.2	-1.0
	baz=19						
TWC	Suao	0.80	21	⇓iP	Pg	16 26 29.3	-0.6
	baz=13						
TWC				S	Sb	16 26 40.4	-0.6
	baz=13						
ECS	Chishang	0.81	201	eP	Pb	16 26 29.8	-0.5
	baz=201						
ELDTW	Lidau	0.81	216	P	Pg	16 26 28.7	-1.5
	baz=208						
ELDTW				eS	Sg	16 26 39.3	-1.6
	baz=208						
YHNB	Yeheng	0.82	350	P	Pg	16 26 29.8	-0.5
	baz=342						
YHNB				S	Sg	16 26 39.7	-1.4
	baz=342						
YHNB	Yeheng	0.82	350	Pg	Pg	16 26 29.6	-0.7
YHNB				Sg	Sg	16 26 39.1	-2.0
CHN5	Tsauling	0.82	252	⇓iP	Pb	16 26 30.4	-0.2
	baz=241						
CHN5				iS	Sb	16 26 41.6	0.0
	baz=241						
NSK	Sanguang	0.83	349	⇓iP	Pb	16 26 30.2	-0.6
	baz=341						
NSK				iS	Sg	16 26 40.3	-1.1
	baz=341						
TCU	Taichung	0.83	291	eP	Pn	16 26 31.1	-0.8
	baz=291						
TCU				eS	Sn	16 26 44.0	0.0
	baz=291						
TWQ1	Liyutan	0.85	305	P	Pb	16 26 30.8	-0.1
	baz=314						
TWQ1				eS	Sn	16 26 43.8	-0.6
	baz=314						
TWE	Neicheng	0.87	8	P	Pg	16 26 30.4	-0.8
	baz=15						
TWE				eS	Sg	16 26 42.0	-0.6
	baz=15						
WYL	Yuanlin Townsh	0.88	277	eP	Pb	16 26 31.5	0.0
	baz=277						
WYL				eS	Sn	16 26 45.2	+0.2
	baz=277						
NSY	Sanyi	0.90	309	P	Pn	16 26 32.4	-0.3
	baz=309						
NSY				S	Sn	16 26 46.1	+0.5
	baz=309						
EDH	Donghe	0.90	193	eP	Pg	16 26 31.2	-0.6
	baz=198						
EDH				eS	Sn	16 26 45.7	0.0
	baz=198						
WGK	Gukeng	0.91	259	⇓iP	Pn	16 26 32.3	-0.5
	baz=259						
WGK				iS	Sn	16 26 45.4	-0.3
	baz=259						
NSTT	Nanjuang	0.91	328	⇓iP	Pb	16 26 31.8	-0.3
	baz=329						
NSTT				S	Sg	16 26 43.3	-0.6
	baz=329						
LIOB	Emei	0.92	329	⇓iP	Pb	16 26 32.0	-0.1
	baz=330						
LIOB				eS	Sb	16 26 43.8	-0.5
	baz=330						
NWLT	Wulai	0.92	358	eP	Pg	16 26 31.6	-0.5
	baz=354						
NWLT				eS	Sg	16 26 42.1	-2.0
	baz=354						
WCHH	Zhanghua	0.92	284	eP	Pn	16 26 32.3	-0.7
	baz=284						
WCHH				eS	Sn	16 26 47.3	+1.2
	baz=284						
WDLH	Douliu	0.93	260	eP	Pn	16 26 32.5	-0.6
	baz=259						
WDLH				eS	Sn	16 26 45.8	-0.5
	baz=259						
WDJ	Dajia District	0.95	301	P	Pn	16 26 33.6	+0.2
	baz=308						
WDJ				eS	Sn	16 26 46.8	-0.1
	baz=308						
NMLH	Miaoli	0.96	315	P	Pn	16 26 33.4	-0.2
	baz=324						
NMLH				eS	Sn	16 26 46.8	-0.3
	baz=324						
NJD	Zhudong	0.96	335	eP	Pn	16 26 33.3	-0.3
	baz=345						
NJD				eS	Sb	16 26 45.8	+0.2
	baz=345						
STYH	Taoyuan	0.97	226	P	Pg	16 26 32.4	-0.7
	baz=225						
STYH				eS	Sg	16 26 44.7	-1.1
	baz=225						
STYT	Tauyuan	0.99	226	⇑iP	Pg	16 26 32.9	-0.5
	baz=225						
STYT				S	Sg	16 26 45.7	-0.7
	baz=225						
TPUB	Ta-pu	1.00	236	P	Pb	16 26 33.2	-0.2
	baz=237						
TPUB				eS	Sg	16 26 46.1	-0.5
	baz=237						
TPUB	Ta-pu	1.00	236		Pb	16 26 33.1	-0.4
TPUB				Sg	Sg	16 26 45.9	-0.7
CHN4	Tsaushan	1.00	240	⇓iP	Pn	16 26 33.9	-0.2
	baz=232						
CHN4				S	Sn	16 26 47.7	-0.3
	baz=232						
LONT	Longtian	1.01	201	eP	Pb	16 26 33.6	-0.2
	baz=187						
CHN2	Minshiung	1.02	252	eP	Pn	16 26 34.4	0.0
	baz=252						
CHN2				eS	Sn	16 26 49.0	+0.4
	baz=252						
NJN	Zhunan	1.02	324	eP	Pn	16 26 34.6	+0.2
	baz=324						
NJN				eS	Sn	16 26 48.6	0.0
	baz=324						
NTC	Toucheng	1.03	15	eP	Pg	16 26 33.4	-0.8
	baz=15						
WTP	Ta-pu	1.04	234	P	Pn	16 26 34.2	-0.4
	baz=234						
WTP				eS	Sb	16 26 47.7	-0.1
	baz=234						
SBCB	Hsinchu	1.06	332	eP	Pn	16 26 35.1	+0.2
	baz=340						
WRL	Guolierlin Hig	1.06	273	eP	Pn	16 26 34.6	-0.3
	baz=273						
WRL				eS	Sn	16 26 48.7	-0.8
	baz=273						
WTK	Tuku	1.06	261	eP	Pg	16 26 34.4	-0.4
	baz=261						
WTK				eS	Sn	16 26 49.3	-0.3
	baz=261						
HSN	Hsinchu	1.07	332	P	Pn	16 26 35.6	+0.5
	baz=343						
HSN				S	Sn	16 26 51.2	+1.3
	baz=343						
CHY	Chiayi	1.08	251	eP	Pg	16 26 34.5	-0.6
	baz=250						
CHY				eS	Sn	16 26 50.0	0.0
	baz=250						
NHDH	Xindian Distri	1.10	360	eP	Pn	16 26 35.1	-0.4
	baz=360						
NHDH				eS	Sb	16 26 48.9	-0.6
	baz=360						
TWG	Pinlang	1.11	202	eP	Pb	16 26 34.8	-0.7
	baz=189						
TWG	Pinlang	1.11	202	Pn	Pb	16 26 33.3	-2.2
TWGBT	Beinan	1.11	202	eP	Pb	16 26 33.9	-1.6
	baz=189						
TATO	Taipei	1.11	358	eP	Pb	16 26 34.9	-0.6
	baz=358						

TATO eS Sb 16 26 48.5 -1.4
baz=358
TATO Taipei 1.11 358 Pn Pb 16 26 34.9 -0.6
TWA Mucha 1.12 2 eP Pb 16 26 35.2 -0.4
baz=355
TWA eS Sb 16 26 49.0 -1.1
baz=355
TWK Hsinying 1.12 239 P Pn 16 26 35.7 -0.1
baz=238
TWK eS Sn 16 26 51.1 -0.1
baz=238
CHN1 Nanshi 1.14 234 P Pn 16 26 36.2 +0.2
baz=234
CHN1 S Sn 16 26 51.5 0.0
baz=234
BACT New Taipei Cit 1.14 356 eP Pn 16 26 35.9 -0.1
baz=7.0
SNST Tainan City 1.14 237 eP Pn 16 26 37.1 +1.1
baz=236
SNST eS Sn 16 26 51.6 +0.1
baz=236
TIPB Shuangxi 1.14 13 eP Pb 16 26 35.6 -0.4
baz=10.0
TIPB eS Sg 16 26 50.9 -0.4
baz=10.0
NCUH Zhongli 1.15 344 eP Pn 16 26 36.7 +0.5
baz=344
NCUH eS Sn 16 26 53.2 +1.3
baz=344
NCU National Centr 1.15 344 eP Pg 16 26 36.8 +0.2
baz=344
NCU eS Sn 16 26 52.7 +0.8
baz=344
TTN Taitung 1.15 198 eP Pb 16 26 34.0 -2.1
baz=198
SGST Jiashian 1.16 229⇑ iP Pb 16 26 35.7 -0.7
baz=220
SGST S Sn 16 26 51.8 -0.3
baz=220
TAP Taipei 1.18 359 eP Pg 16 26 36.4 -0.6
baz=359
TAP eS Sg 16 26 51.9 -0.5
baz=359
LDUT Ludao 1.18 183 eP Pb 16 26 34.2 -2.4
baz=200
SLGT Liugui 1.18 224 eP Pg 16 26 36.6 -0.6
baz=224
SLGT eS Sg 16 26 51.9 -0.7
baz=224
TWB1 Santiao Chiao 1.22 20 eP Pb 16 26 36.9 -0.4
baz=11
TWB1 eS Sb 16 26 52.4 -0.5
baz=11
WSF Szhu 1.22 260 eP Pn 16 26 36.8 -0.3
baz=260
WSF eS Sn 16 26 54.4 +0.9
baz=260
NWF Wu-fen Shan 1.23 11 eP Pg 16 26 37.3 -0.8
baz=9.0
NWF eS Sb 16 26 53.1 -0.2
baz=9.0
WFSB Wu-fen Shan 1.23 11 eP Pg 16 26 37.3 -0.7
baz=9.0
WFSB eS Sg 16 26 53.4 -0.7
baz=9.0
TWS1 Kuangyinshan 1.24 355 eP Pn 16 26 37.1 -0.3
baz=3.0
TWS1 eS Sn 16 26 55.0 +0.9
baz=3.0
ICHU Yijhu 1.25 247 eP Pg 16 26 37.8 -0.6
baz=246
ICHU eS Sn 16 26 55.1 +0.9
baz=246
YM01 YM01 1.28 2 eP Pb 16 26 38.0 -0.4
baz=1.0
NTST Danshui 1.30 357 eP Pg 16 26 39.3 -0.2
baz=9.0
NTST eS Sg 16 26 56.5 +0.1
baz=9.0
TNOU National Taiwa 1.31 10 eP Pg 16 26 39.4 -0.1
baz=9.0
CHN8 Yiju 1.31 248 P Pg 16 26 38.9 -0.8
baz=246
CHN8 S Sg 16 26 56.8 +0.1
baz=246
CHN3 Shinhua 1.32 234 eP Pg 16 26 40.3 +0.5
baz=236
ANP Anpu 1.32 360 eP Pb 16 26 38.6 -0.6
baz=19
YM08 YM08 1.33 2⇓ eP Pb 16 26 38.6 -0.6
baz=2.0
SCST Cishan 1.36 225 eP Pg 16 26 40.4 -0.1
baz=223
SCST eS Sg 16 26 59.0 +0.8
baz=223
ECL Taimali 1.36 203 eP Pn 16 26 38.3 -0.8
baz=190
SSD Sandimen 1.38 217 P Pb 16 26 39.4 -0.6
baz=216
SSD eS Sg 16 26 59.6 +0.7
baz=216
TSMG Majia 1.41 216 eP Pg 16 26 40.5 -0.9
baz=215
TSMG eS Sg 16 26 59.3 -0.3
baz=215
JYNG Yonaguni jima 1.42 65 P Pn 16 26 39.5 -0.4
JYNG eS Sb 16 26 58.7 0.0
TWM1 Shoushan 1.45 225 eP Pg 16 26 43.3 +1.1
baz=227
SGLT Jiouru 1.48 221 eP Pg 16 26 42.5 -0.2
baz=210
YOJ Yonaguni jima 1.48 66 P Pn 16 26 40.2 -0.5
YOJ eS Sb 16 27 00.4 0.0
YOJ Yonaguni jima 1.48 66 eP Pn 16 26 40.3 -0.3
baz=63
YOJ Yonaguni jima 1.48 66 Pn Pn 16 26 40.4 -0.3
MASBT Mashibuluo 1.49 214 eP Pn 16 26 40.9 +0.1
baz=204
SNJT Kaohsiung City 1.55 225 eP Pg 16 26 45.1 +0.9
baz=227
EAST Anshuo 1.60 203 eP Pb 16 26 43.2 -0.5
baz=192
TAW Tawu 1.60 202 eP Pn 16 26 42.3 -0.1
baz=190
SCZT Fangliau 1.70 210 eP Pb 16 26 44.7 -0.8
baz=204
SLIU Shizi 1.77 203 eP Pb 16 26 45.9 -0.7
baz=193
LAY Lan-yu 1.81 179 eP Pn 16 26 42.1 -3.1
baz=169
WDGT Dungji 1.82 251 eP Pn 16 26 45.3 0.0
baz=254
PHUB P'eng-hu 1.83 260 eP Pn 16 26 45.4 -0.1
baz=259
PHUB eS Sb 16 27 09.9 -0.6
baz=259
PNG Penghu 1.83 261 eP Pn 16 26 46.0 +0.4
baz=262
PNG eS Sn 16 27 09.4 +0.7
baz=262
WLCH Liuqiu 1.84 216 eP Pg 16 26 49.3 -0.3
baz=238
HEN Hengchun 1.98 202 eP Pb 16 26 50.7 +0.4
baz=194
TWKBT Hengchun 2.02 199 eP Pb 16 26 49.6 -1.3
baz=188
TSEB Hengchuen, Pin 2.03 197 eP Pb 16 26 50.3 -0.9
baz=187
VCHM Qimei 2.04 252 eP Pn 16 26 48.3 0.0
baz=254
IRIF Iriomote-Funau 2.06 76 P Pn 16 26 48.4 -0.3
IRIF eS Sn 16 27 15.0 +0.7
HATJ Hateruma jima 2.09 84 P Pn 16 26 48.2 -0.9
HATJ eS Sn 16 27 14.0 -0.9
JKRS Kuro-shima 2.30 80 P Pn 16 26 52.7 +0.8
JKRS S Sn 16 27 21.3 +1.2
JIJ Ishigaki jima 2.44 78 P Pn 16 26 53.1 -0.8
JIJ eS Sn 16 27 22.6 -1.0
PTMZ Houxiangcun 2.50 299 eP Pn 16 26 54.8 +0.1
baz=300
JISG Ishigakijimahi 2.64 73 P Pn 16 26 55.7 -0.9
JISG S Sn 16 27 28.5 0.0
QZH Quanzhou 2.89 293⇓ iPn Pn 16 26 59.6 -0.5
QZH Sn Sn 16 27 32.4 -2.4
QZH smax smax
comp=N,210nm,0.7s
QZH smax smax
comp=E,170nm,0.8s
KNMB Chin-men Tao 2.94 283 eP Pn 16 27 00.2 -0.5
baz=297
KNMB Chin-men Tao 2.94 283 Pn Pn 16 27 00.0 -0.7
JTJ Tarama 3.00 74 P Pn 16 27 01.6 0.0
JTJ eS Sn 16 27 37.8 +0.4
LYJJ Jianjiangzhen 3.13 329 eP Pn 16 27 02.4 -1.0
baz=331
MHZQ Yeshan 3.19 315 eP Pn 16 27 03.1 -1.0
baz=316
AXDP Jialang 3.41 288 eP Pn 16 27 06.8 -0.4
baz=289
JIRB Irabujima 3.46 73 P Pn 16 27 08.7 +0.8
JIRB eS Sn 16 27 48.3 -0.5
ZPLA Ao Xicun 3.46 272 eP Pn 16 27 07.2 -0.8
baz=273
JMJ2 Miyako jima3 3.57 75 P Pn 16 27 10.1 +0.6
JMJ2 eS Sn 16 27 51.1 -0.5
APYP Conner 5.97 183⇑ iP Pn 16 27 43.4 +0.9
APYP i S Sn 16 28 49.5 -1.3
JOW Kunigami 6.78 63 Pn Pn 16 27 52.1 -1.5
comp=E,4.2nm,0.3s,baz=151,slow=13,SNR=22
JOW Sn Sn 16 29 07.4 -3.3
baz=73,slow=19,SNR=1.9
KSRS Korea Array 14.62 21 Pn Pn 16 29 43.6 +2.7
comp=E,0.5nm,0.3s,baz=200,slow=12,SNR=17
KSRS LR LR 16 35 27.9
comp=E,5.9nm,18.4s,baz=220,slow=39
JMM Marumori 21.58 45 P P 16 31 01.6 -2.2
JMM IAmb IAmb 16 31 11.2
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 21.73 260 P P 16 31 10.0 +4.4
comp=Z,0.4nm,0.7s,baz=55,slow=7.8,SNR=3.4
USRK Ussuriysk Ar. 22.03 20 P P 16 31 04.7 -3.9
KLR Kul'dur 26.57 15 P P 16 31 51.4 -0.7
comp=Z,2.1nm,0.9s,baz=218,slow=6.8,SNR=5.3
WMQ Urumqi 34.11 314 eP P 16 33 00.3 +1.4
MK31 Makanchi Array 38.79 316 P P 16 33 40.6 +1.9
MKAR Makanchi Array 38.79 316 P P 16 33 40.1 +1.3
comp=Z,0.5nm,0.5s,baz=102,slow=10,SNR=7.9
MKAR Makanchi Array 38.79 316 P P 16 33 40.4 +1.6
PEA0B Petropavlovsk- 39.96 34 P P 16 33 51.4 +3.0
ZALV Zalesovo Beam 40.69 327 P P 16 33 53.3 -1.1
comp=Z,1.0nm,0.6s,baz=124,slow=7.7,SNR=4.2
ZALV Zalesovo Beam 40.69 327 P P 16 33 54.1 -0.3
H11N1 WAKE ISLAND Hy 42.19 87 T T 17 19 06.6
baz=283,slow=74,SNR=68
H11N2 WAKE ISLAND Hy 42.19 86 T T 17 19 06.5
baz=283,slow=74,SNR=65
H11N3 WAKE ISLAND Hy 42.20 87 T T 17 19 07.7
baz=283,slow=74,SNR=38
H11S3 WAKE ISLAND Hy 42.31 88 T T 17 19 10.7
baz=284,slow=74,SNR=158
H11S1 WAKE ISLAND Hy 42.32 88 T T 17 19 12.2
baz=284,slow=74,SNR=86
H11S2 WAKE ISLAND Hy 42.33 88 T T 17 19 12.9
baz=284,slow=74,SNR=56
KURK Kurchatov 42.55 320 P P 16 34 10.0 +0.3
KURBB Kurchatov Arra 42.56 320 P P 16 34 10.0 +0.2
comp=Z,0.6nm,0.3s,baz=111,slow=9.7,SNR=4.6
ABKAR Akbulak array 53.90 314 P P 16 35 35.6 -1.8
ABKAR IAmb IAmb 16 35 41.8
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 83.15 23 P P 16 38 39.6 -0.2
comp=Z,1.3nm,0.7s,baz=322,slow=5.0,SNR=3.5

*IDC **22** 16:29:25.9±1.9, 3°.20S×136°.05E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/29, mbtmp3.7/5, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=53.3km s-min=25.2km az=68.0*
*DJA **22** 16:29:26.7±0.7, 3°.S±11°.×13°.6E±°., h131km±14km, M4.0/5, mB4.7/1, mb3.9/2, MLv4.1/5, Mw(mB)3.9/1*
ISC 22 16:29:27.5±1.0, **3°.36S**±0°.07×**136°.34E**±0°.08, **h35**km, **n9,** σ2°**15**/14, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPI	**Serui, Papua**	**1.49**	**356**	P	**Pn**	**16 29 51.5**	**-0.3**
SRPI				S	**Sn**	**16 30 10.9**	**+0.9**
GENI	**Genyem**	**3.90**	**79**	P	**Pn**	**16 30 22.9**	**-2.1**
FAKI	**Fak Fak**	**4.10**	**276**	P	**Pn**	**16 30 29.9**	**+2.1**
FAKI				S	**Sn**	**16 31 15.6**	**+1.0**
SIJI	**Sorong**	**5.64**	**296**	Pn	**Pn**	**16 30 48.6**	**-0.4**
2.8nm,0.3s,baz=277,slow=23,SNR=22							
SIJI				Sn	**Sn**	**16 31 49.6**	**-2.9**
2.5nm,0.3s,baz=331,slow=23,SNR=10							
SIJI				LR	LR	16 33 24.0	
comp=Z,152nm,18.2s,baz=312,slow=45							
SWI	**Sorong**	**5.65**	**296**	P	**Pn**	**16 30 47.0**	**-2.0**
SWI				S	**Sn**	**16 31 50.8**	**-1.9**
WRA	**Warramunga Arr**	**16.59**	**187**	Pn	**P**	**16 33 19.6**	**-0.2**
0.2nm,0.3s,baz=5.1,slow=13,SNR=17							
WRA				Sn	**Sn**	**16 36 17.3**	**-3.6**
0.1nm,0.3s,baz=4.9,slow=25,SNR=2.7							
ASAR	**Alice Springs**	**20.32**	**186**	P	Pn	16 34 06.1	+3.2
8.0nm,0.8s,baz=12,slow=12,SNR=68							
ASAR				S	**S**	**16 37 48.5**	**+1.7**
0.5nm,0.8s,baz=4.6,slow=29,SNR=3.1							
MKAR	**Makanchi Array**	**68.88**	**323**	P	**P**	**16 40 31.4**	**+2.6**
0.4nm,0.6s,baz=120,slow=8.0,SNR=4.8							
KURBB	**Kurchatov Arra**	**72.91**	**326**	P	**P**	**16 40 53.9**	**+0.8**
0.4nm,0.7s,baz=117,slow=5.9,SNR=4.4							

*NEIC **22** 16:29:47.8±0.9, 27°.70N±0°.06×85°.3E±0°.3, h15km±7km, mb3.9/4, Error ellipse: s-maj=40.4km s-min=4.7km az=79.0.*
*IDC **22** 16:29:48.2±3.0, 27°.72N×85°.35E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.4/40, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=172.9km s-min=24.7km az=63.0*
*DMN **22** 16:29:49.1±0.1, 27°.73N×85°.33E, h6km, Ml4.6/4, Error ellipse: s-maj=2.4km s-min=1.0km az=20.0*
*NDI **22** 16:29:55.2±2.0, 27°.64N×85°.08E, h21km±21km, ML3.3, mb3.9(NEIC)*
ISC 22 16:29:49.3±0.8, **27°.75N**±0°.04×**85°.34E**±0°.02, **h10**km±5km, **n32,** σ1°**60**/51, **mb3.9**/5, **Nepal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKN	**Kakani**	**0.07**	**306**	ePg	**Pg**	**16 29 51.7**	**0.0**
KKN				eSg	**Sg**	**16 29 53.9**	**+0.4**
PKIN	**Phulchoki**	**0.18**	**164**	ePg	**Pg**	**16 29 52.8**	**-0.5**
PKIN				eSg	**Sg**	**16 29 55.6**	**-0.5**
PKI	**Pulchoki**	**0.19**	**161**	ePg	**Pg**	**16 29 52.9**	**-0.6**
PKI				eSg	**Sg**	**16 29 55.8**	**-0.6**
DMN	**Daman**	**0.25**	**236**	ePg	**Pg**	**16 29 54.1**	**-0.5**
DMN				eSg	**Sg**	**16 29 57.4**	**-0.7**
GKN	**Gorkha**	**0.67**	**292**	ePg	**Pg**	**16 30 01.9**	**-0.4**
GKN				eSg	**Sg**	**16 30 10.2**	**-1.0**
JIRN	**Jiri**	**0.76**	**97**	ePg	**Pb**	**16 30 04.4**	**-0.5**
JIRN				eSg	**Sg**	**16 30 14.0**	**0.0**
391nm,0.2s							
RAMN	**Ramite**	**1.38**	**125**	ePg	**Pb**	**16 30 15.0**	**-0.3**
RAMN				eSg	**Sb**	**16 30 31.4**	**-1.7**
DANN	**Dangsing**	**1.52**	**293**	ePg	**Pn**	**16 30 17.4**	**+0.6**
DANN				eSg	**Sn**	**16 30 37.2**	**+0.4**
DANN				eSg	**Sb**	**16 30 37.4**	**+0.2**
708nm,0.2s							
KOLN	**Koldanda**	**1.54**	**271**	ePg	**Pb**	**16 30 18.2**	**+0.1**
KOLN				eSg	**Sn**	**16 30 37.9**	**+0.6**
KOLN				eSg	**Sb**	**16 30 38.4**	**+0.6**
885nm,0.3s							
ODAN	**Odare**	**2.03**	**115**	ePg	**Pg**	**16 30 27.7**	**-0.6**
ODAN				eSg	**Sb**	**16 30 52.8**	**+0.9**
ODAN				eSg	**Sg**	**16 30 53.7**	**-0.9**
1μm,0.3s							
PYUN	**Piuthan**	**2.11**	**280**	ePg	**Pb**	**16 30 27.9**	**+0.1**
PYUN				eSg	**Sb**	**16 30 55.9**	**+1.8**
PYUN				eSg	**Sb**	**16 30 55.9**	**+1.8**
1μm,0.4s							
TAPN	**Taplejung**	**2.14**	**100**	ePg	**Pb**	**16 30 29.2**	**+0.8**
TAPN	**Taplejung**	**2.14**	**100**	ePg	**Pb**	**16 30 29.3**	**+0.8**
TAPN				eSg	**Sg**	**16 30 57.2**	**-1.0**
TAPN				eSg	**Sg**	**16 30 57.3**	**-1.0**
GTK	**Tadong**	**2.93**	**98**	eP	**Pg**	**16 30 44.2**	**-1.2**
GTK				eS	**Sb**	**16 31 19.5**	**+1.9**
LSA	**Lhasa**	**5.46**	**68**	Pn	**Pn**	**16 31 14.1**	**+3.0**
SMLA	**Simla**	**7.88**	**297**	eP	**Pn**	**16 31 45.8**	**+1.8**
SMLA				eS	**Sn**	**16 33 07.4**	**-5.8**
SMLA				IAML		16 33 17.9	
comp=N,16nm,0.5s							
SMLA				IAML		16 33 18.2	
comp=E,20nm,0.5s
MOKO MOKOCHONG 8.31 98 eP Pn 16 31 55.4 +5.4
MOKO eS **Sn** **16 33 25.9 +1.9**
BHPL Bhopal 8.44 240 eP **Pn** **16 31 53.6 +1.8**
BHPL eS Sn 16 33 16.9 -10
CHCP Chirah Chowk 11.94 302 P **Pn** **16 32 40.2 +0.5**
NIL Nilore 11.95 302 Pn **Pn** **16 32 37.7 -2.1**
THW Thamme Wali 12.78 296 P **Pn** **16 32 48.2 -2.9**
CEP Cherat 13.03 301 P **Pn** **16 32 51.0 -3.7**
PRZ Przheval'sk 15.75 341 Pn **Pn** **16 33 29.3 -2.0**
WMQ Urumqi 16.15 6 eP **Pn** **16 33 37.3 +0.9**
MK31 Makanchi Array 19.16 354 P **P** **16 34 10.0 -2.9**
MKAR Makanchi Array 19.16 354 P **Pn** **16 34 14.7 +0.9**
comp=E,0.2nm,0.3s,baz=175,slow=11,SNR=7.0
KURBB Kurchatov Arra 23.42 349 P **P** **16 34 58.3 -0.1**
comp=E,0.2nm,0.3s,baz=175,slow=11,SNR=1.3
KURK Kurchatov 23.50 349 P **P** **16 34 58.3 -0.9**
HHC Hu-ho-hao-te 25.19 52 eP **P** **16 35 15.3 +0.2**
HHC pmax pmax
comp=Z,27nm,0.8s
HHC pmax pmax
comp=Z,67nm,4.5s
ARCES ARCESS Array B 53.83 338 P **P** **16 39 12.7 +0.8**
comp=Z,1.2nm,0.7s,baz=107,slow=7.6,SNR=1.8
WRA Warramunga Arr 67.05 130 P **P** **16 40 43.3 +0.3**
comp=Z,0.7nm,0.8s,baz=322,slow=6.6,SNR=2.8
ASAR Alice Springs 69.34 133 P **P** **16 40 57.7 +0.4**
comp=Z,0.3nm,0.6s,baz=311,slow=7.1,SNR=2.1

*TUL **22** 16:29:58±1.3, 36°.267N±0°.002×97°.35W±0°.02, h7km±6km, ML2.7, mb_Lg2.6/31(NEIC), Error ellipse: s-maj=2.0km s-min=0.3km az=85.0*
NEIC 22 16:29:58.1±1.2, **36°.268N**±0°.010×**97°.36W**±0°.02, **h5**km±2km, **Error ellipse: s-maj=3.0km s-min=2.2km az=94.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.48**	**189**		Pg	16 30 07.2	0.0
OK029				Sg	Sg	16 30 13.8	+0.3
BLOK	**Blackwell**	**0.51**	**13**	Pg	Pg	16 30 07.7	-0.1
BLOK				Sg	Sg	16 30 15.0	+0.6
OK031	**S. Brethren Rd**	**0.53**	**127**	Pg	Pg	16 30 08.0	-0.2
OK031				Sg	Sg	16 30 15.3	+0.2
QUOK	**Quay**	**0.54**	**100**		Pg	16 30 08.2	-0.2
QUOK				Sg	Sg	16 30 15.5	+0.2
CROK	**Carrier**	**0.56**	**295**		Pg	16 30 08.8	0.0
CROK				Sg	Sg	16 30 16.5	+0.5
BCOK	**Bluff Creek, N**	**0.64**	**198**	Pg	Pg	16 30 10.3	-0.1
BCOK				Sg	Sg	16 30 19.1	+0.3
OK025	**Westminster Rd**	**0.69**	**179**		Pg	16 30 11.1	-0.2
OK025				Sg	Sg	16 30 20.6	+0.4
GC02	**Grant County #**	**0.71**	**325**		Pg	16 30 11.6	-0.1
KAN13	**South Haven SW**	**0.75**	**353**		Pg	16 30 12.3	-0.2
KAN13				Sg	Sg	16 30 22.6	+0.4
OK032	**Salt Plains WL**	**0.87**	**308**		Pg	16 30 14.3	-0.5
OK032				Sg	Sg	16 30 26.1	+0.1
KAN05	**Bluff City Nor**	**0.93**	**334**		Pg	16 30 15.5	-0.5
KAN05				Sg	Sg	16 30 28.4	+0.2
T35A	**Sooner Cattle**	**0.94**	**46**	Pg	Pg	16 30 15.6	-0.5
T35A				Sg	Sg	16 30 27.8	-0.5
KS20	**Mayfield South**	**0.97**	**351**		Pg	16 30 16.1	-0.7
KS20				Sg	Sg	16 30 29.3	0.0
FNO	**Franklin**	**1.01**	**182**	Pg	Pg	16 30 16.7	-0.8
FNO				IAmb_Lg		16 30 29.4	
comp=Z,48nm,1.0s							
FNO				Sg	Sg	16 30 30.5	0.0
KAN10	**Anthony SW Sta**	**1.04**	**326**		Pg	16 30 17.5	-0.5
KAN08	**Anthony NE Sta**	**1.07**	**333**		Pg	16 30 18.2	-0.5
KAN12	**Harper NE Stat**	**1.15**	**334**	Pg	Pg	16 30 19.4	-0.7
U32A	**Winter Ranch,**	**1.33**	**275**		Pn	16 30 22.8	-0.5
U32A					Sg	16 30 40.8	-0.1
U32A				IAmb_Lg		16 30 41.9	
comp=Z,33nm,0.9s							
X34A	**Smith Ranch, M**	**1.71**	**193**		Pn	16 30 29.2	+0.7
X34A				IAmb_Lg		16 30 54.8	
comp=Z,47nm,0.7s							
WMOK	**Wichita Mounta**	**1.92**	**218**		Pn	16 30 31.9	+0.5
X37A	**Clayton**	**2.33**	**135**	Pn	Pn	16 30 37.1	0.0
X37A				IAmb_Lg		16 31 15.0	
comp=Z,16nm,0.7s							
R32A	**Long Quarter,**	**2.41**	**334**	Pn	Pn	16 30 38.6	+0.4
U38A	**Gravette**	**2.41**	**85**	Pn	Pn	16 30 39.3	+1.1
HHAR	**Hobbs**	**2.76**	**89**	Pn	Pn	16 30 44.8	+1.7
W39A	**Magazine**	**3.10**	**109**	IAmb_Lg		16 31 43.0	
comp=Z,17nm,0.7s							
MIAR	**Mount Ida**	**3.54**	**118**	Pn	Pn	16 30 54.2	+0.6
U40A	**Yellville**	**3.64**	**87**	Pn	Pn	16 30 54.3	-0.8
AMTX	**Amarillo**	**3.78**	**250**	IAmb_Lg		16 32 04.2	
comp=Z,9.6nm,0.7s							
X40A	**Basin Creek Fa**	**4.10**	**114**	Pn	Pn	16 31 01.7	+0.3
X40A				IAmb_Lg		16 32 15.5	
comp=Z,8.7nm,0.8s							
N33A	**J Bar K, Exete**	**4.46**	**359**	Pn	Pn	16 31 06.3	-0.1
P38A	**Dawn**	**4.51**	**41**	Pn	Pn	16 31 06.8	-0.2
P38A				IAmb_Lg		16 32 30.0	
comp=Z,8.5nm,0.8s							
R40A	**Maddies Statio**	**4.53**	**62**	Pn	Pn	16 31 07.5	+0.1
R40A				IAmb_Lg		16 32 21.0	
comp=Z,7.6nm,0.7s							
N35A	**Tabor**	**4.78**	**16**	IAmb_Lg		16 32 38.3	
comp=Z,24nm,0.8s							
LCAR	**Lake Charles**	**5.02**	**90**	IAmb_Lg		16 32 36.6	
comp=Z,6.7nm,0.9s							
T42A	**Van Buren**	**5.10**	**80**	Pn	Pn	16 31 16.2	+1.1
BGNE	**Belgrade**	**5.17**	**353**	Pn	Pn	16 31 14.8	-1.3
CCM	**Cathedral Cave**	**5.20**	**68**	IAmb_Lg		16 32 52.2	
comp=Z,7.1nm,0.7s							
P40A	**Paris**	**5.31**	**51**	IAmb_Lg		16 32 44.0	
comp=Z,6.1nm,0.7s							
N38A	**Joes South For**	**5.55**	**34**	Pn	Pn	16 31 21.5	+0.1
L34A	**Svendsen Farm,**	**5.74**	**7**	IAmb_Lg		16 32 57.4	
comp=Z,13nm,0.8s							
JCT	**Junction City**	**6.12**	**200**	IAmb_Lg		16 33 16.2	
comp=Z,7.5nm,0.9s							
S44A	**Carbondale**	**6.64**	**75**	IAmb_Lg		16 33 39.6	
comp=Z,12nm,1.1s							
JFWS	**Jewell Farm**	**8.61**	**37**	IAmb_Lg		16 34 45.1	
comp=Z,10nm,0.7s							

IDC 22 16:46:26.1±5.9, **6°.92S×129°.23E, h100**km±74km, **mb3.1**/1, **mb1 3.0**/4, **mb1mx2.9**/39, **mbtmp3.3**/4, **ML2.9**/3, **Error ellipse: s-maj=118.5km s-min=26.8km az=82.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.34**	**19**	P	Pn	16 47 57.4	+0.3
0.3nm,0.3s,baz=142,slow=23,SNR=1.6							
SIJI				S	Sn	16 49 00.5	-7.6
0.6nm,0.3s,baz=177,slow=21,SNR=2.2							
WRA	**Warramunga Arr**	**13.87**	**160**	P	Pn	16 49 36.5	-1.9
0.0nm,0.3s,baz=338,slow=13,SNR=2.3							
WRA				S	Sn	16 52 03.4	-7.7
0.2nm,0.3s,baz=334,slow=22,SNR=6.6							
ASAR	**Alice Springs**	**17.25**	**165**	P	P	16 50 22.1	+1.3
0.1nm,0.3s,baz=347,slow=9.8,SNR=23							
ASAR				S	Sn	16 53 27.6	-5.2
0.0nm,0.3s,baz=356,slow=26,SNR=1.5							
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	16 57 12.9	-0.1
0.2nm,0.4s,baz=115,slow=6.8,SNR=2.3							

IDC 22 16:46:31.1±31.0, **22°.03S×69°.23E, h0**km, **mb3.5**/3, **mb1 3.6**/3, **mb1mx3.3**/58, **mbtmp3.5**/3, **MS3.3**/4, **Ms1 3.3**/4, **ms1mx3.0**/18, **Error ellipse: s-maj=1029.0km s-min=42.0km az=54.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**14.63**	**13**	T	T	17 05 06.6	
baz=193,slow=76,SNR=26							
H08S2	**Diego Garcia H**	**14.64**	**13**	T	T	17 05 06.3	
baz=193,slow=76,SNR=31							
H08S3	**Diego Garcia H**	**14.65**	**13**	T	T	17 05 10.2	
baz=193,slow=76,SNR=39							
BOSA	**Boshof**	**40.12**	**251**	LR	LR	17 06 56.8	
comp=Z,33nm,20.9s,baz=166,slow=31							
CMAR	**Chiang Mai Arr**	**49.64**	**38**	LR	LR	17 14 37.4	
comp=Z,23nm,18.4s,baz=205,slow=34							
ASAR	**Alice Springs**	**59.15**	**105**	P	P	16 56 34.0	-0.1
0.5nm,0.8s,baz=258,slow=6.4,SNR=5.1							

WRA	Warramunga Arr	60.41	101	P	P	16 56 42.8	0.0
	0.3nm,1.0s,baz=256,slow=5.5,SNR=1.4						
STKA	Stephens Creek	64.20	116	LR	LR	17 22 38.0	
	comp=Z,47nm,18.5s,baz=28,slow=34						
MKAR	Makanchi Array	69.50	10	P	P	16 57 41.4	0.0
	0.5nm,0.7s,baz=198,slow=7.3,SNR=5.8						
MJAR	Matsushiro Arr	87.30	49	LR	LR	17 39 29.6	
	comp=Z,13nm,18.1s,baz=140,slow=36						

IDC 22 16:50:03.2±39.0, 28°.92S×61°.36E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/58, mbtmp3.7/3, Error ellipse: s-maj=996.1km s-min=66.8km az=75.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	59.47	42	P	P	17 00 08.0	-0.2
	0.8nm,0.6s,baz=226,slow=7.5,SNR=3.0						
ASAR	Alice Springs	64.33	104	P	P	17 00 41.2	+0.1
	0.8nm,1.1s,baz=242,slow=6.5,SNR=3.6						
WRA	Warramunga Arr	66.14	100	P	P	17 00 52.8	0.0
	0.5nm,0.6s,baz=247,slow=5.9,SNR=3.9						

IDC 22 16:53:16.9±11.0, 6°.04S×117°.64E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/46, mbtmp3.7/3, Error ellipse: s-maj=240.1km s-min=152.1km az=29.0
DJA 22 16:54:06.1±0.6, 8°.5±15°.×11°.9E±°, h265km±9km, M3.8/6, mb4.1/3, MLv3.6/6

ISC 22 16:54:05.8±1.9, 7°.8S±0°.2×119°.52E±0°.07, h250km, n11, σ1§42/15, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.84	184	P	Pn	16 54 48.1	+1.2
WBSI				S	S	16 55 20.3	+0.9
PLAI	Plampang	2.01	239	P	Pn	16 54 49.8	+1.4
PLAI				S	S	16 55 23.7	+1.8
EDFI	Ende, Flores	2.35	114	P	Pn	16 54 52.9	+1.2
EDFI				S	S	16 55 30.2	+2.4
TWSI	Taliwang, Sumb	2.78	250	P	Pn	16 54 56.4	+0.5
TWSI				S	S	16 55 36.8	+1.3
BATI	Baumata	4.74	121	P	Pn	16 55 18.9	+0.4
SOEI	Soe	5.08	113	P	Pn	16 55 23.4	+0.7
	0.1nm18nm,1.6s						
JAGI	Jajag, Banyuwa	5.36	262	P	Pn	16 55 25.6	-0.4
	0.9nm256nm,0.9s						
PWJI	Pagerwojo	7.65	268	P	Pn	16 55 54.5	-0.2
WRA	Warramunga Arr	18.76	132	P	P	16 58 05.2	-1.5
	0.9nm,0.4s,baz=308,slow=11,SNR=22						
ASAR	Alice Springs	20.96	140	P	P	16 58 28.6	-1.6
	0.7nm,0.4s,baz=316,slow=8.9,SNR=33						
STKA	Stephens Creek	31.57	142	P	P	17 00 03.7	-1.5
	2.4nm,1.1s,baz=320,slow=10,SNR=2.0						

NEIC 22 17:21:46.9±0.5, 37°.02N±0°.01×97°.94W±0°.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=315.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	Bluff City Nor	0.10	29		Pg	17 21 49.0	-0.1
KAN05	Bluff City Nor	0.10	29	Sg	Sg	17 21 50.6	0.0
KAN17	Caldwell West	0.14	79		Pg	17 21 49.8	0.0
KAN17					Sg	17 21 52.0	+0.3
KAN10	Anthony SW Sta	0.17	310		Pg	17 21 50.1	-0.1
KAN10				Sg	Sg	17 21 52.4	-0.1
GC02	Grant County #	0.18	160		Pg	17 21 50.6	+0.2
KAN08	Anthony NE Sta	0.21	352		Pg	17 21 50.9	-0.2
KAN08				Sg	Sg	17 21 54.0	+0.1
KAN06	Argonia West S	0.24	15		Pg	17 21 51.4	-0.1
KAN06					Sg	17 21 54.8	+0.1
KAN12	Harper NE Stat	0.28	350		Pg	17 21 52.2	-0.2
OK032	Salt Plains WL	0.31	226		Pg	17 21 52.9	+0.1
OK032				Sg	Sg	17 21 57.3	+0.5
KS21	Milan North St	0.35	39		Pg	17 21 53.4	-0.2
KS21					Sg	17 21 58.2	0.0
KAN13	South Haven SW	0.37	90		Pg	17 21 54.0	0.0
KAN13	South Haven SW	0.37	90		Sg	17 21 59.0	+0.2
KS20	Mayfield South	0.37	55		Pg	17 21 53.9	-0.2
CROK	Carrier	0.51	184		Pg	17 21 56.8	0.0
BLOK	Blackwell	0.63	114	Pg	Pg	17 21 58.8	-0.3
U32A	Winter Ranch,	1.07	234		Pg	17 22 06.8	-0.6
T35A	Sooner Cattle	1.15	95	Pg	Pg	17 22 08.0	-0.9
OK029	Liberty Lake	1.28	162		Pg	17 22 10.5	-0.9
QUOK	Quay	1.30	130		Pn	17 22 11.0	-0.7
OK031	S. Brethren Rd	1.38	140		Pn	17 22 12.0	-0.8
BCOK	Bluff Creek, N	1.38	169		Pn	17 22 11.9	-1.0
OK025	Westminster Rd	1.51	161		Pn	17 22 14.6	0.0
R32A	Long Quarter,	1.53	337		Pn	17 22 14.5	-0.4
OKCSW	OKLAHOMA CITY	1.66	166		Pn	17 22 16.6	0.0
FNO	Franklin	1.81	166		Pn	17 22 18.6	-0.1
CBKS	Cedar Bluff	2.29	322		Pn	17 22 25.3	-0.1
KSU1	Kansas State U	2.33	26		Pn	17 22 26.2	+0.3
WMOK	Wichita Mounta	2.38	197		Pn	17 22 26.4	-0.1
X34A	Smith Ranch, M	2.41	178	Pn	Pn	17 22 27.1	+0.1
U38A	Gravette	2.91	100		Pn	17 22 33.8	-0.1
LOOK	Love County	3.08	168		Pn	17 22 35.3	-0.9
X37A	Clayton	3.20	139		Pn	17 22 38.0	+0.3
X37A				IAmb_Lg		17 23 32.6	
	comp=Z,29nm,0.8s						
HHAR	Hobbs	3.30	102	Pn	Pn	17 22 39.4	+0.2
AMTX	Amarillo	3.71	236	Pn	Pn	17 22 44.8	-0.2
N33A	J Bar K, Exete	3.73	6	Pn	Pn	17 22 45.3	+0.1
W39A	Magazine	3.82	117		Pn	17 22 46.6	+0.2
U40A	Yellville	4.14	98	Pn	Pn	17 22 49.8	-1.0
U40A				IAmb_Lg		17 23 59.2	
	comp=Z,14nm,0.7s						
KSCO	Kaye Shedlock'	4.21	300		Pn	17 22 52.5	+0.7
KSCO				IAmb_Lg		17 24 04.2	
	comp=Z,22nm,0.7s						
MIAR	Mount Ida	4.32	124	Pn	Pn	17 22 54.6	+1.4
MIAR				IAmb_Lg		17 24 05.0	
	comp=Z,12nm,0.7s						
P38A	Dawn	4.33	52	IAmb_Lg		17 24 05.5	
	comp=Z,11nm,0.9s						
BGNE	Belgrade	4.39	358	IAmb_Lg		17 24 14.6	
	comp=Z,20nm,0.7s						
MGMO	Mountain Grove	4.53	87		Pn	17 22 55.5	-0.7
R40A	Maddies Statio	4.67	73	Pn	Pn	17 22 55.1	-3.0
R40A				IAmb_Lg		17 24 18.2	
	comp=Z,12nm,0.8s						
X40A	Basin Creek Fa	4.86	120	IAmb_Lg		17 24 21.5	
	comp=Z,17nm,0.8s						
MSTX	Muleshoe	4.98	234	IAmb_Lg		17 24 28.2	
	comp=Z,10nm,1.2s						
OGNE	Ogallala	5.06	322		Pn	17 23 04.5	+1.0
OGNE				IAmb_Lg		17 24 37.2	
	comp=Z,14nm,0.7s						
T25A	Trinidad	5.18	273		Pn	17 23 03.5	-1.8
T25A				IAmb_Lg		17 24 36.3	
	comp=Z,12nm,1.0s						
N38A	Joes South For	5.26	43	IAmb_Lg		17 24 32.9	
	comp=Z,11nm,0.8s						
P40A	Paris	5.27	60	IAmb_Lg		17 24 33.0	
	comp=Z,12nm,0.7s						
CCM	Cathedral Cave	5.42	77	IAmb_Lg		17 24 44.9	
	comp=Z,16nm,1.1s						
LCAR	Lake Charles	5.54	98	IAmb_Lg		17 24 47.0	
	comp=Z,9.0nm,1.0s						
PBMO	Poplar Bluff	6.02	90	IAmb_Lg		17 25 02.3	
	comp=Z,11nm,0.7s						
JCT	Junction City	6.70	194	IAmb_Lg		17 25 34.9	
	comp=Z,6.0nm,0.8s						
S44A	Carbondale	6.95	82	IAmb_Lg		17 25 24.2	
	comp=Z,8.9nm,0.9s						
SIUC	Southern Illin	6.98	82	IAmb_Lg		17 25 37.7	
	comp=Z,10nm,0.9s						
L40A	Anamosa	7.23	44	IAmb_Lg		17 25 43.7	
	comp=Z,9.4nm,0.8s						
T47A	Sharon Grove	8.67	87	IAmb_Lg		17 26 36.9	
	comp=Z,6.8nm,1.0s						
K22A	Casper	8.67	313	IAmb_Lg		17 26 37.5	
	comp=Z,5.5nm,0.8s						
SFIN	Lafayette	9.11	65	IAmb_Lg		17 26 34.0	
	comp=Z,8.1nm,0.8s						

NIC 22 17:29:48.2±0.0, 34°.67N×33°.03E, h16km, Ml2.6/5
ISK 22 17:29:48.6, 34°.78N×32°.98E, h20km, ML2.3/13

ISC 22 17:29:49.1±0.9, 34°.78N±0°.05×32°.99E±0°.03, h17km±6km, n22, σ0§52/29, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni	0.10	256	P	Pg	17 29 52.4	-0.3
SZAC				S	Sg	17 29 55.6	+0.5
SZAC				AML	AML	17 29 55.7	
	24nm,0.3s						
SZAC				AML	AML	17 29 55.7	
	24nm,0.3s						
SZAC				AML	AML	17 29 56.2	
	6.6nm,0.1s						
SZAC				AML	AML	17 29 56.2	
	6.6nm,0.1s						
ASGA	Asgata	0.21	88	P	Pg	17 29 54.1	0.0
ASGA				S	Sg	17 29 57.1	-0.4
ASGA				AML	AML	17 29 59.7	
	12nm,0.4s						
ASGA				AML	AML	17 29 59.7	
	12nm,0.4s						
ASGA				AML	AML	17 30 00.1	
	7.6nm,0.3s						
ASGA				AML	AML	17 30 00.1	
	7.6nm,0.3s						
CSS	Mathiatis	0.33	56	PG	Pg	17 29 56.0	-0.1
CSS				SG	Sb	17 30 02.1	+0.5
CSS	Mathiatis	0.33	56	P	Pg	17 29 56.1	-0.1
CSS				S	Sb	17 30 02.1	+0.5
NATA	Nata	0.35	270	P	Pb	17 29 56.4	-0.5
NATA				S	Sb	17 30 02.4	+0.3
LEF	Lefka	0.35	346	PG	Pg	17 29 56.5	0.0
LEF				SG	Sg	17 30 02.3	+0.8
AKIN	Akıncılar- Kıb	0.46	59	PG	Pb	17 29 58.6	-0.1
AKDN	Akdeniz- Kıbrı	0.52	358	PG	Pb	17 29 59.5	-0.3
MVOU	Mavrovouni	0.58	65	P	Pb	17 29 59.8	-0.9
AKMS	Akamas	0.59	294	P	Pg	17 30 01.4	+0.5
AKMS				S	Sn	17 30 10.8	-1.1
AKMS				AML	AML	17 30 15.3	
	0.4nm,0.7s						
AKMS				AML	AML	17 30 15.3	
	0.4nm,0.7s						
AKMS				AML	AML	17 30 17.8	
	0.4nm,0.5s						
AKMS				AML	AML	17 30 17.8	
	0.4nm,0.5s						
LFK	Lefkose	0.67	41	PG	Pg	17 30 02.5	+0.2
EREN	Erenkoy	1.22	52	PN	Pb	17 30 11.3	-0.4
TEKE	Tekeli-Mersin	1.36	4	PN	Pn	17 30 13.2	-0.2
AKKU	Akkuyu-Mersin	1.45	18	PN	Pn	17 30 14.5	0.0
GAZI	Gazipasa	1.56	339	PN	Pn	17 30 15.8	-0.2
IKL	Isikli	1.56	21	PN	Pn	17 30 15.9	-0.2
BERE	Bereket-Mersin	1.58	7	PN	Pn	17 30 16.5	+0.1
TEVE	Tevekalti-Mers	1.69	12	PN	Pn	17 30 17.9	-0.1
KEBE	Keben-Mersin	1.77	19	PN	Pn	17 30 18.9	0.0
KIZK	Mersin	1.94	29	PN	Pn	17 30 21.5	+0.2
MMLI	Mount Malkishu	3.09	138	PN	Pn	17 30 37.9	+0.8
CMRD	Camardi-Nigde	3.30	29	PN	Pn	17 30 41.2	+1.1

IDC 22 17:43:39.1±3.5, 19°.74S×168°.72E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/24, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=155.9km s-min=47.1km az=154.0
NOU 22 17:43:44.8, 17°.66S×167°.66E, h0km, ML4.3, Vanuatu Islands

ISC 22 17:43:45.3±1.4, 17°.65S±0°.07×167°.7E±0°.2, h10km, n14, σ0§72/12, mb3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	2.23	349	P	Pn	17 44 23.1	+0.7
LIFNC	LIFOU	3.14	187	P	Pn	17 44 35.8	+1.0
MARNC	Mare, Loyalty	3.83	175	P	Pn	17 44 44.5	+0.2
KOUNC	Koumac, New Ca	4.30	227	P	Pn	17 44 51.2	+0.4
YATNC	Mamie plateau,	4.45	189	P	Pn	17 44 52.9	+0.1
NOUC	Port Laguerre	4.61	196	P	Pn	17 44 55.5	+0.5
ONTNC	Ouen Toro	4.77	194	P	Pn	17 44 58.3	+1.0
OUENC	Ouen Island, N	4.81	189	P	Pn	17 44 58.0	+0.2
PINNC	Pines Island,	4.94	182	P	Pn	17 45 00.2	+0.6
WRA	Warramunga Arr	31.60	261	P	P	17 50 08.3	-0.3
	0.4nm,1.0s,baz=92,slow=9.3,SNR=4.6						
ASAR	Alice Springs	32.10	254	P	P	17 50 12.8	-0.2
	0.4nm,0.4s,baz=82,slow=8.3,SNR=24						
GUMO	Guam	38.34	323	LR	LR	18 05 12.8	
	comp=Z,20nm,22.0s,baz=170,slow=32						
CMAR	Chiang Mai Arr	76.49	295	P	P	17 55 42.8	+6.9
	0.4nm,0.7s,baz=117,slow=5.2,SNR=3.3						
ARCES	ARCESS Array B	123.16	345	PKP	PKPdf	18 02 40.6	-1.1
	1.2nm,0.6s,baz=77,slow=1.2,SNR=7.7						

OTT 22 17:48:02.4±0.4, 72°.82N×67°.13W, h18km, ML3.6/3, Baffin Bay Seismic Zone. 268km northeast from Clyde River, Nu

ISC 22 17:47:59.6±1.2, 72°.79N±0°.05×67°.6W±0°.1, h10km, n5, σ2§94/9, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLRN	Clyde River	2.35	188	PN	Pb	17 48 41.2	-0.7
CLRN				SN	Sn	17 49 08.0	+1.1
CLRN				Trac		17 49 09.3	
	comp=Z,26nm,0.1s						
TULEG	Thule	3.79	356	PN	Pn	17 49 00.3	+2.5
TULEG				SN	Sn	17 49 40.3	-2.0
TULEG				Trac		17 49 42.8	
	comp=Z,28nm,0.2s						
TULEG	Thule	3.79	356	*i* S	Sn	17 49 40.8	-1.6
TULEG				IAML		17 49 42.8	
	comp=Z,23nm,0.3s						
RES	Resolute Bay	7.86	297	PN	Pn	17 49 56.3	+2.6
RES				SN	Sn	17 51 20.6	-1.9
RES				Trac		17 51 31.6	
	comp=Z,11nm,0.9s						
FRB	Frobisher Bay	9.09	183	PN	Pn	17 50 11.8	+1.2
FRB				SN	Sn	17 51 47.8	-5.0
FRB				Trac		17 51 50.7	
	comp=Z,2.9nm,0.1s						

IDC 22 18:49:35.5±0.8, 36°.44N×140°.87E, h0km, mb3.6/9, mb1 3.8/14, mb1mx3.6/45, mbtmp3.7/14, ML3.3/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/44, Error ellipse: s-maj=20.5km s-min=15.5km az=84.0
JMA 22 18:49:38.1, 36°.48N×140°.93E, h18km±1km, M4.3
JMA Felt II J1.
NIED 22 18:49:38.1, 36°.48N×140°.93E, h18km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=1.87; Mθθ=4.37; Mφφ6.24; Mrθ0.74; Mθφ=2.66; Mφr2.17; Fault plane solution: M06.37000×1014 NP1: φs=209.00000°, δ84.00000°, λ-23.00000°. NP2: φs=302.00000°, δ67.00000°, λ-174.00000°.

ISC 22 18:49:36.5±1.5, 36°.49N±0°.03×140°.94E±0°.05, h7km±10km, n33, σ0§84/37, mb3.7/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.32	292	P	Pb	18 49 44.7	+0.2
JHO				S	Sb	18 49 49.2	-0.6
JHYU	Hitachinakayam	0.32	242	P	Pb	18 49 44.6	+0.1
JHYU				S	Sb	18 49 49.5	-0.3
JIHU	Itakohorinouch	0.62	212	P	Pb	18 49 50.2	+0.6
JIHU				*e*S	Sb	18 49 58.4	-0.1
ONAJ	Iwakimizuishiy	0.62	350	P	Pb	18 49 50.0	+0.3
ONAJ				S	Sb	18 49 58.9	+0.3
JYT	Yasato	0.65	247	P	Pb	18 49 50.5	+0.3
JYT				S	Sb	18 49 59.3	-0.1
JFK	Kawauchi	0.88	357	P	Pg	18 49 53.7	+0.4
JFK				S	Sg	18 50 05.4	+0.7
JSMT	Sammumatsuo	0.93	205	P	Pb	18 49 55.3	+0.3
JSMT				S	Sb	18 50 07.7	+0.2
JSB	Shiboa	0.94	301	P	Pn	18 49 56.1	-0.1
JSB				S	Sb	18 50 08.5	+0.6
JFT	Otama	1.13	335	P	Pb	18 49 58.9	+0.5
JFT				S	Sg	18 50 13.1	+0.2
MJAR	Matsushiro Arr	2.20	272	Pn	Pn	18 50 13.4	0.0
	2.5nm,0.3s,baz=114,slow=9.0,SNR=106						
MJAR				Sn	Sn	18 50 42.2	+1.4
	7.8nm,0.3s,baz=234,slow=28,SNR=2.8						
MAT	Matsushiro	2.20	272	P	Pn	18 50 13.8	+0.4
MAT				S	Sb	18 50 43.9	-0.1
JHJ	Hachijo jima 2	3.49	196	Pn	Pn	18 50 31.6	+0.4
	27nm,0.3s,baz=97,slow=22,SNR=19						
JHJ				Sn	Sn	18 51 14.3	+1.5
	15nm,0.3s,baz=74,slow=23,SNR=1.4						
JHJ				LR	LR	18 52 03.6	
	comp=Z,110nm,21.6s,baz=70,slow=43						
ASAJ	Asahikawa	7.72	9	Pn	Pn	18 51 28.8	-0.5
	0.5nm,0.3s,baz=220,slow=16,SNR=5.6						
ASAJ				Sn	Sn	18 52 55.6	-1.3
	0.1nm,0.3s,baz=226,slow=34,SNR=1.3						
JCJ	Chichijima	9.43	173	Pn	Pn	18 51 50.4	-2.3
	12nm,0.3s,baz=304,slow=23,SNR=5.1						
KSRS	Korea Array	10.46	279	Pn	Pn	18 52 05.5	-1.2
	0.2nm,0.3s,baz=108,slow=13,SNR=4.8						
KSRS				LR	LR	18 56 06.3	
	comp=Z,26nm,21.0s,baz=88,slow=37						
SONM	Songino Array	27.77	305	P	P	18 55 25.9	-0.1
	0.4nm,0.7s,baz=107,slow=9.2,SNR=2.1						
H11N2	WAKE ISLAND Hy	28.21	119	T	T	19 24 54.4	
	baz=312,slow=75,SNR=230						
H11N1	WAKE ISLAND Hy	28.22	119	T	T	19 24 59.1	
	baz=312,slow=75,SNR=302						
H11N3	WAKE ISLAND Hy	28.23	119	T	T	19 24 55.7	
	baz=312,slow=75,SNR=235						
H11S1	WAKE ISLAND Hy	28.90	121	T	T	19 25 52.0	
	baz=314,slow=76,SNR=611						
H11S3	WAKE ISLAND Hy	28.90	121	T	T	19 25 47.5	
	baz=314,slow=76,SNR=483						
H11S2	WAKE ISLAND Hy	28.91	121	T	T	19 25 52.4	
	baz=314,slow=76,SNR=487						
ZALV	Zalesovo Beam	42.00	313	P	P	18 57 28.3	+0.2
	1.3nm,0.5s,baz=88,slow=8.8,SNR=5.1						
MKAR	Makanchi Array	44.08	303	P	P	18 57 45.0	-0.1
	0.2nm,0.6s,baz=78,slow=34,SNR=1.4						
ILAR	Eielson Array	50.16	32	P	P	18 58 33.8	+1.6
	0.6nm,0.7s,baz=263,slow=6.1,SNR=5.3						
WRA	Warramunga Arr	56.47	187	P	P	18 59 18.4	-0.7
	1.2nm,0.7s,baz=5.5,slow=7.3,SNR=14						
ASAR	Alice Springs	60.20	187	P	P	18 59 44.9	-0.2
	0.7nm,0.7s,baz=15,slow=6.3,SNR=12						
FINES	FINESS Array B	69.11	332	P	P	19 00 42.9	0.0
	1.8nm,1.0s,baz=39,slow=9.0,SNR=1.4						
AKASG	Malin Array Be	74.49	322	P	P	19 01 14.4	-0.9
	0.2nm,0.3s,baz=46,slow=5.9,SNR=2.0						
NVAR	Mina Array Bea	75.62	53	P	P	19 01 24.1	+1.7
	0.3nm,0.8s,baz=304,slow=6.4,SNR=1.5						
H03N2	Juan Fernandez	147.35	97	T	T	21 54 02.8	
	baz=291,slow=76,SNR=86						
H03N3	Juan Fernandez	147.36	97	T	T	21 54 04.0	
	baz=291,slow=76,SNR=84						
H03N1	Juan Fernandez	147.36	97	T	T	21 54 02.1	
	baz=291,slow=76,SNR=94						

JMA 22 19:02:07.6±0.4, 33°.24N×126°.79E, h0km, M3.2
KMA 22 19:02:13.9±0.3, 33°.25N×127°.06E, h19km, Error ellipse: s-maj=5.4km s-min=1.3km az=330.0

ISC 22 19:02:12.6±1.1, 33°.29N±0°.05×127°.19E±0°.03, h16km±12km, n26, σ0§68/31, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSSP	Seongsanpo	0.28	291	P	Pb	19 02 19.0	-0.2
	SNR=32						
KSSSP	Seongsanpo	0.28	291	P	Pb	19 02 19.0	-0.2
	SNR=32						
KSSSP	Seongsanpo	0.28	291	P	Pb	19 02 19.0	-0.2
	SNR=32						
KSSSP				S	Sg	19 02 22.5	-0.1
KSJJU	Jeju	0.56	285	P	Pg	19 02 23.6	0.0
	SNR=121						
KSJJU	Jeju	0.56	285	P	Pg	19 02 23.6	0.0
	SNR=121						
KSJJU	Jeju	0.56	285	P	Pg	19 02 23.6	0.0
	SNR=121						
HALB	Hallimjungang-	0.78	279	P	Pb	19 02 27.0	-0.7
	SNR=79						
HALB	Hallimjungang-	0.78	279	P	Pb	19 02 27.0	-0.7
	SNR=79						
HALB	Hallimjungang-	0.78	279	P	Pb	19 02 27.0	-0.7
	SNR=79						
GOS1	Gosan-ri	0.82	271	P	Pb	19 02 27.8	-0.7
	SNR=22						
KOHB	KOHEUNG	1.33	3	P	Pg	19 02 37.8	-0.5
	SNR=140						
KOHB	KOHEUNG	1.33	3	P	Pg	19 02 37.8	-0.5
	SNR=140						
KSJDO	Jindo	1.38	329	P	Pb	19 02 37.9	-0.2
	SNR=21						
KSJDO	Jindo	1.38	329	P	Pb	19 02 37.9	-0.2
	SNR=21						
JFU	Fukue jima 2	1.46	115	P	Pb	19 02 39.7	+0.4
JFU				S	Sg	19 03 01.0	+1.4
BOSB	Boseong-gun	1.47	1	P	Pg	19 02 40.5	-0.5
	SNR=60						
BOSB	Boseong-gun	1.47	1	P	Pg	19 02 40.5	-0.5
	SNR=60						
KSHAD	HADONG	1.85	15	P	Pb	19 02 45.6	-0.4
	SNR=28						
KSKWJ	Gwangju	1.87	355	P	Pb	19 02 47.0	+0.5
	SNR=31						
HUK2	Heuksan-myeon	2.01	314	P	Pn	19 02 46.1	+0.3
	SNR=12						
JTSM	Tsushimamitsus	2.11	60	P	Pb	19 02 49.3	-1.1
JTSM				*e*S	Sg	19 03 20.4	0.0
GOCB	Gochang-gun	2.11	347	P	Pb	19 02 51.0	+0.4
	SNR=28						
NAWB	Namwon	2.13	5	P	Pb	19 02 51.6	+0.7
	SNR=9.3						
JII	Iki	2.18	76	P	Pb	19 02 50.5	-1.2
JII				*e*S	Sg	19 03 23.8	+0.9
KSJEU	Jeongeup	2.21	355	P	Pb	19 02 52.8	+0.6
	SNR=11						
JTU	Tsushima	2.21	56	P	Pb	19 02 51.0	-1.2
JTU				*e*S	Sg	19 03 24.5	+0.7

IDC 22 19:30:58.4±0.6, 27°.33N×140°.54E, h471km±10km, mb3.2/8, mb1 3.3/11, mb1mx3.0/47, mbtmp4.1/11, Error ellipse: s-maj=33.8km s-min=11.4km az=77.0
JMA 22 19:31:01.7±0.2, 27°.69N×141°.04E, h467km±3km, M3.5

ISC 22 19:30:58.7±0.8, 27°.28N±0°.10×140°.3E±0°.1, h450km, n21, σ2§42/25, mb3.5/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.69	96	P	P	19 32 00.5	+2.9
CBIJ				*e*S	S	19 32 46.9	+1.6
JCJ	Chichijima	1.69	96	P	P	19 32 00.2	+2.6
	38nm,0.3s,baz=348,slow=20,SNR=72						
JCJ				S	S	19 32 47.0	+1.7
	29nm,0.3s,baz=133,slow=22,SNR=5.8						
JHH2	Haha-jima-NKT2	1.79	111	P	P	19 32 01.6	+3.5
JHJ	Hachijo jima 2	5.83	356	P	P	19 32 32.0	+0.8
	2.7nm,0.3s,baz=47,slow=23,SNR=1.2						
JHJ				S	S	19 33 45.6	-1.2
	3.7nm,0.3s,baz=55,slow=23,SN

TAP 22 19:40:45.9, 22°.75N×120°.88E, h4km, ML1.9, 5C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali** baz=154	**0.16**	**156**	⇑*i*P	Pg	19 40 50.4	+1.3
ECL	baz=154			*i* S	Sg	19 40 52.7	+1.4
TWG	**Pinlang** baz=69	**0.19**	**67**	⇑*i*P	Pg	19 40 51.0	+1.4
TWG	baz=69			*i* S	Sg	19 40 53.6	+1.5
TWGBT	**Beinan** baz=69	**0.19**	**69**	⇑P	Pg	19 40 50.9	+1.2
TWGBT	baz=69			S	Sg	19 40 54.7	+2.4
TSMG	**Majia** baz=259	**0.22**	**259**	*i* P	Pg	19 40 51.5	+1.2
TSMG	baz=259			*i* S	Sg	19 40 54.4	+1.3
SSD	**Sandimen** baz=268	**0.23**	**270**	⇑*i*P	Pg	19 40 51.4	+1.0
SSD	baz=268			*i* S	Sg	19 40 54.5	+1.1
TTN	**Taitung** baz=89	**0.24**	**89**	P	Pg	19 40 51.7	+1.1
TTN	baz=89			*e*S	Sg	19 40 56.6	+2.8
MASBT	**Mashibuluo** baz=239	**0.27**	**240**	⇑P	Pb	19 40 52.2	-1.0
MASBT	baz=239			S	Sg	19 40 55.7	+1.1
LONT	**Longtian** baz=55	**0.28**	**55**	*i* P	Pb	19 40 52.6	-0.7
LONT	baz=55			*i* S	Sg	19 40 56.5	+1.6
SGLT	**Jiouru** baz=266	**0.36**	**266**	P	Pb	19 40 54.7	-0.1
TSPT	**Pingtung City** baz=259	**0.36**	**259**	P	Pb	19 40 55.2	+0.3
EAST	**Anshuo** baz=183	**0.36**	**185**	P	Pb	19 40 54.4	-0.5
EAST	baz=183			*i* S	Sb	19 40 59.6	-1.3
SCST	**Cishan** baz=290	**0.38**	**291**	*e*P	Pb	19 40 55.5	+0.3
SCST	baz=290			*e*S	Sb	19 41 01.2	-0.3
TAW	**Tawu** baz=177	**0.39**	**178**	*e*P	Pb	19 40 55.2	-0.1
TAW	baz=177			S	Sb	19 41 01.9	+0.3
SSPT	**Xinbi** baz=227	**0.39**	**228**	*i* P	Pb	19 40 55.3	0.0
SSPT	baz=227			*i* S	Sb	19 41 01.7	0.0
TWM1	**Shoushan** baz=279	**0.43**	**280**	P	Pb	19 40 56.4	+0.4
TWM1	baz=279			S	Sb	19 41 02.2	-0.6
SGST	**Jiashian** baz=320	**0.43**	**320**	*e*S	Sb	19 41 02.5	-0.4
SCZT	**Fangliau** baz=212	**0.45**	**213**	*i* P	Pb	19 40 55.8	-0.5
SCZT	baz=212			*i* S	Sb	19 41 02.7	-0.6
EDH	**Donghe** baz=60	**0.45**	**60**	*e*P	Pb	19 40 56.3	0.0
EDH	baz=60			*i* S	Sb	19 41 03.6	+0.3
ELDTW	**Lidau** baz=16	**0.46**	**16**	S	Sb	19 41 03.4	-0.3
ECS	**Chishang** baz=41	**0.46**	**42**	*e*P	Pb	19 40 56.5	-0.1
ECS	baz=41			S	Sb	19 41 03.7	-0.1
SNJT	**Kaohsiung City** baz=270	**0.51**	**271**	*e*P	Pb	19 40 57.4	+0.2
SNJT	baz=270			*e*S	Sb	19 41 05.5	+0.5
SLIU	**Shizi** baz=188	**0.54**	**188**	*e*P	Pb	19 40 57.3	-0.4
SLIU	baz=188			*e*S	Sb	19 41 06.0	+0.2
CHN1	**Nanshi** baz=323	**0.54**	**323**	*e*S	Sb	19 41 06.4	+0.2
LDUT	**Ludao** baz=97	**0.55**	**98**	*e*P	Pb	19 40 57.5	-0.4
LDUT	baz=97			*e*S	Sb	19 41 06.5	+0.4
WTP	**Ta-pu** baz=334	**0.55**	**333**	*e*S	Sb	19 41 06.8	+0.4
KAU	**Kaohsiung** baz=250	**0.56**	**251**	*e*P	Pb	19 40 58.1	-0.1
KAU	baz=250			*e*S	Sb	19 41 06.4	-0.1
CHKT	**Chengkung** baz=52	**0.57**	**52**	P	Pb	19 40 58.6	+0.3
CHKT	baz=52			S	Sb	19 41 07.2	+0.5
CHN3	**Shinhua** baz=304	**0.58**	**304**	*e*S	Sb	19 41 07.6	+0.5
FULB	**Fuli** baz=40	**0.59**	**40**	*e*P	Pb	19 40 58.9	+0.2
FULB	baz=40			S	Sb	19 41 08.5	+1.1
SNST	**Tainan City** baz=322	**0.59**	**323**	P	Pb	19 40 58.9	+0.2
SNST	baz=322			*e*S	Sb	19 41 07.9	+0.5
TPUB	**Ta-pu** baz=336	**0.60**	**337**	*e*S	Sb	19 41 07.9	+0.2
TWK	**Hsinying** baz=325	**0.63**	**325**	*e*S	Sb	19 41 09.1	+0.4
CHN4	**Tsaushan** baz=336	**0.66**	**336**	*e*S	Sb	19 41 09.9	+0.6
TAI	**Tainan** baz=291	**0.68**	**291**	*e*S	Sb	19 41 11.2	+1.2
TWF1	**Yuli** baz=32	**0.71**	**32**	P	Pb	19 41 00.3	-0.5
TWF1	baz=32			*e*S	Sb	19 41 11.7	+0.7
EYUL	**Yuli** baz=33	**0.72**	**34**	*e*P	Pb	19 41 00.7	-0.3
EYUL	baz=33			*e*S	Sb	19 41 12.0	+0.8
YULB	**Yu-li** baz=30	**0.75**	**31**	P	Pb	19 41 01.1	-0.3
YULB	baz=30			*e*S	Sb	19 41 12.2	+0.2
HEN	**Hengchun** baz=189	**0.75**	**190**	*e*P	Pb	19 41 01.5	0.0
HEN	baz=189			*e*S	Sb	19 41 12.9	+0.9
ALS	**Alishan** baz=355	**0.76**	**355**	P	Pn	19 41 03.1	-0.6
ALS	baz=355			*e*S	Sb	19 41 13.1	+0.4
ECBN	**Changbin** baz=42	**0.77**	**43**	*e*S	Sb	19 41 13.5	+0.9
TWK1	**Hengchun** baz=184	**0.80**	**185**	*e*P	Pb	19 41 02.2	-0.2
TWK1	baz=184			*e*S	Sn	19 41 15.1	-1.2
TWKBT	**Hengchun** baz=184	**0.81**	**185**	*e*P	Pb	19 41 02.5	+0.2
TWKBT	baz=184			*e*S	Sb	19 41 14.4	+0.8
ICHU	**Yijhu** baz=317	**0.82**	**318**	*e*P	Pb	19 41 02.9	+0.2
ICHU	baz=317			*e*S	Sn	19 41 15.6	-1.2
TSEB	**Hengchuen, Pin** baz=181	**0.84**	**179**	*e*P	Pb	19 41 03.7	+0.7
TSEB	baz=181			*e*S	Sb	19 41 15.8	+1.1
EHY	**Hungye** baz=28	**0.86**	**28**	*e*P	Pb	19 41 03.4	+0.1
EHY	baz=28			*e*S	Sb	19 41 16.2	+1.1
CHN5	**Tsauling** baz=347	**0.87**	**347**	*e*P	Pb	19 41 04.1	+0.6
CHN5	baz=347			*e*S	Sb	19 41 16.2	+0.7
HGSD	**Ruisui** baz=33	**0.89**	**34**	*e*P	Pb	19 41 04.4	+0.5
SSLB	**Suanglung** baz=3.0	**1.04**	**4**	*e*P	Pb	19 41 06.5	+0.1
SSLB	baz=3.0			*e*S	Sn	19 41 21.7	-0.4
WJS	**Zhushan** baz=352	**1.08**	**352**	*e*P	Pn	19 41 07.8	+0.1
WJS	baz=352			*e*S	Sn	19 41 23.2	+0.1
TYC	**Yuchr** baz=359	**1.15**	**359**	*e*P	Pb	19 41 08.4	+0.2
TYC	baz=359			*e*S	Sn	19 41 24.6	-0.2

TAP 22 19:40:50.1, 23°.12N×120°.76E, h6km, ML1.7, 2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan** baz=7.0	**0.05**	**358**	⇓*i*P	Pg	19 40 52.3	+0.6
STYT	baz=7.0			*i* S	Sg	19 40 53.1	+0.3
STYH	**Taoyuan** baz=15	**0.06**	**16**	*i* P	Pg	19 40 52.6	+0.9
STYH	baz=15			S	Sg	19 40 53.5	+0.7
SLGT	**Liugui** baz=318	**0.16**	**220**	*i* P	Pg	19 40 53.4	-0.1
SLGT	baz=318			*i* S	Sg	19 40 57.4	+1.8
SLGT	**Liugui** baz=220	**0.16**	**220**	*i* P	Pg	19 40 53.4	0.0
SLGT	baz=220			*i* S	Sg	19 40 57.4	+1.8
SGST	**Jiashian** baz=257	**0.17**	**258**	*i* P	Pg	19 40 54.5	+0.9
SGST	baz=257			*i* S	Sg	19 40 57.1	+1.3
WTP	**Ta-pu** baz=315	**0.19**	**314**	⇓*i*P	Pg	19 40 54.7	+0.8
WTP	baz=315			*i* S	Sg	19 40 57.5	+1.0
TPUB	**Ta-pu** baz=326	**0.22**	**327**	P	Pg	19 40 55.6	+1.1
TPUB	baz=326			S	Sg	19 40 58.7	+1.2
CHN1	**Nanshi** baz=287	**0.22**	**288**	*i* P	Pg	19 40 56.2	+1.6
ELDTW	**Lidau** baz=74	**0.25**	**73**	*i* P	Pg	19 40 55.7	+0.7
ELDTW	**Lidau** baz=16	**0.25**	**73**	*i* P	Pg	19 40 55.7	+0.6
SNST	**Tainan City** baz=293	**0.26**	**293**	P	Pb	19 40 57.4	+0.1
CHN4	**Tsaushan** baz=326	**0.28**	**327**	*i* P	Pb	19 40 56.9	-0.6
TWK	**Hsinying** baz=301	**0.29**	**301**	*i* P	Pb	19 40 57.4	-0.4
SCST	**Cishan** baz=226	**0.34**	**227**	*e*P	Pg	19 40 57.5	+0.8
SCST	baz=226			*e*S	Sb	19 41 03.3	-0.8
CHN3	**Shinhua** baz=263	**0.36**	**264**	*e*P	Pg	19 40 58.1	+0.8
CHN3	baz=263			*e*S	Sb	19 41 04.3	-0.7
ALS	**Alishan** baz=7.0	**0.40**	**6**	*i* P	Pb	19 40 59.0	-0.7
LONT	**Longtian** baz=121	**0.40**	**121**	*e*P	Pb	19 40 59.4	-0.2
LONT	baz=121			*e*S	Sb	19 41 05.7	-0.3
TWG	**Pinlang** baz=135	**0.41**	**135**	*e*P	Pb	19 40 59.6	-0.2
TWGBT	**Beinan** baz=135	**0.42**	**135**	*e*P	Pb	19 40 59.2	-0.7
SGLT	**Jiouru** baz=211	**0.46**	**212**	*e*P	Pb	19 41 00.6	0.0
SGLT	baz=211			*e*S	Sb	19 41 07.7	0.0
SGLT	**Jiouru** baz=266	**0.46**	**212**	S	Pb	19 41 01.0	+0.3
CHN5	**Tsauling** baz=351	**0.48**	**351**	P	Pb	19 41 00.8	-0.3
CHN5	baz=351			*e*S	Sb	19 41 07.9	-0.6
CHN2	**Minshiung** baz=327	**0.49**	**328**	*e*P	Pb	19 41 01.3	+0.1
TAI1	**Yung-k'ang** baz=260	**0.49**	**261**	*e*P	Pb	19 41 01.1	-0.1
TAI1	baz=260			*e*S	Sb	19 41 09.0	+0.3
TSPT	**Pingtung City** baz=209	**0.50**	**209**	*e*P	Pb	19 41 01.1	-0.2
TSPT	baz=209			*e*S	Sb	19 41 08.2	-0.6
TSPT	**Pingtung City** baz=259	**0.50**	**209**	S	Pb	19 41 01.3	0.0

*IDC **22** 19:48:40.2±2.2, 27°.58N×100°.75E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/37, mbtmp3.3/4, ML3.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/23, Error ellipse: s-maj=70.1km s-min=24.7km az=96.0*

ISC 22 19:48:40.4±8.5, 27°.6N±0°.7×100°.0E±°, h10km, n11, σ1°37/8, MS2.7/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM33	**Chiang Mai Arr**	**8.88**	**189**	P	**Pg**	**19 51 29.0**	**-1.4**
CHTO	**Chiang Mai** 0.0nm7.2nm,1.0s	**8.88**	**189**	P	**Pg**	**19 51 29.6**	**-0.9**
CMMT	**Chiang Mai** 0.0nm7.9nm,1.2s	**8.88**	**189**	P	**Pg**	**19 51 29.6**	**-0.9**
CMMT	**Chiang Mai**	**8.88**	**189**	P	**Pg**	**19 51 29.0**	**-1.5**
CM35	**Chiang Mai Arr**	**8.99**	**188**	P	**Pg**	**19 51 34.0**	**+1.5**
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=4.5,slow=13,SNR=1.7	**9.23**	**189**	Pn	**Pn**	**19 50 54.8**	**+1.1**
CMAR	0.1nm,0.3s,baz=1.1,slow=18,SNR=13			Pg		19 51 33.4	
CMAR	baz=5.2,slow=31,SNR=6.0			Lg	Lg	19 53 34.8	
SONM	**Songino Array** 1.6nm,1.0s,baz=193,slow=12,SNR=6.3	**20.70**	**11**	P	Pn	19 53 22.3	-0.9
SONM	comp=Z,30nm,18.3s,baz=161,slow=39			LR	LR	20 02 12.1	
KSRS	**Korea Array** comp=Z,40nm,19.4s,baz=164,slow=40	**25.09**	**60**	LR	LR	20 05 20.7	
AAK	**Ala-Archa** comp=Z,25nm,20.6s,baz=128,slow=41	**25.82**	**312**	LR	LR	20 06 24.0	
WRA	**Warramunga Arr** 1.1nm,1.1s,baz=329,slow=7.6,SNR=5.7	**57.58**	**142**	P	**P**	**19 58 30.1**	**-0.5**
ASAR	**Alice Springs** 0.1nm,0.4s,baz=330,slow=7.1,SNR=5.3	**60.38**	**144**	P	**P**	**19 58 49.9**	**-0.1**

*NEIC **22** 19:58:05.6±0.9, 18°.89N±0°.06×67°.66W±0°.05, h31km±14km, Error ellipse: s-maj=9.2km s-min=5.5km az=155.0*
*OSPL **22** 19:58:06.2±0.3, 19°.01N×67°.57W, h25km±6km, ML2.3*
*RSPR **22** 19:58:07.1, 18°.91N×67°.66W, h24km±7km, MD3.2/7*

ISC 22 19:58:06.6±1.5, 18°.82N±0°.08×67°.61W±0°.04, h27km, n41, σ0°40/45, 7C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.45**	**163**	⇓*i*P	**Pn**	**19 58 17.0**	**-0.4**
IDE	**Isla Desecheo**	**0.45**	**163**	*e*S	**Sn**	**19 58 24.8**	**+0.2**
IDE	**Isla Desecheo**	**0.45**	**163**		**Pn**	**19 58 17.0**	**-0.4**
IDE					**Sn**	**19 58 24.8**	**+0.2**
AGPR	**Aguadilla, PR**	**0.59**	**127**	⇑*e*P	**Pb**	**19 58 18.7**	**+0.3**
AGPR	**Aguadilla, PR**	**0.59**	**127**		**Pb**	**19 58 18.7**	**+0.3**
AGPR					**Sn**	**19 58 27.8**	**-0.1**
AGPR	**Aguadilla, PR** comp=E,142nm,0.3s	**0.59**	**127**	IAML		19 58 29.1	
AGPR	comp=N,160nm,0.3s			IAML		19 58 29.1	
AGPR	**Aguadilla, PR**	**0.59**	**127**	*i* P	**Pn**	**19 58 18.8**	**-0.5**
AGPR				*e*S	**Sn**	**19 58 27.8**	**-0.1**
AGPR	comp=Z,82nm,0.2s			IAML		19 58 34.8	
MPR	**Mayaguez**	**0.75**	**144**	Pn	**Pn**	**19 58 21.3**	**-0.2**
MPR	comp=N,152nm,0.1s			IAML		19 58 56.0	
MPR	**Mayaguez**	**0.75**	**144**	*i* P	**Pn**	**19 58 21.7**	**+0.2**
PCDR	**Punta Cana, DR**	**0.79**	**248**	Pn	**Pn**	**19 58 21.6**	**-0.5**
PCDR	**Punta Cana, DR**	**0.79**	**248**	*i* P	**Pn**	**19 58 21.9**	**-0.2**
PCDR				*e*S	**Sn**	**19 58 33.7**	**+0.7**
PCDR	comp=Z,156nm,0.3s			IAML		19 58 37.9	
LSP	**Las Mesas**	**0.81**	**142**	⇓*e*P	**Pb**	**19 58 22.0**	**-0.2**
LSP	**Las Mesas**	**0.81**	**142**		**Pb**	**19 58 22.0**	**-0.2**
AOPR	**Arecibo Observ**	**0.94**	**120**	⇑*e*P	**Pn**	**19 58 23.6**	**-0.5**
AOPR	**Arecibo Observ**	**0.94**	**120**	*e*S	**Sb**	**19 58 36.5**	**+0.1**
AOPR	**Arecibo Observ**	**0.94**	**120**		**Pn**	**19 58 23.6**	**-0.5**
AOPR					**Sb**	**19 58 36.5**	**+0.1**
AOPR	**Arecibo Observ** comp=N,125nm,0.3s	**0.94**	**120**	IAML		19 58 48.8	
MLPR	**Magueyes Islan**	**1.00**	**148**	⇑*e*P	**Pn**	**19 58 24.7**	**-0.2**
MLPR	**Magueyes Islan**	**1.00**	**148**	*e*S	**Sn**	**19 58 38.6**	**+0.5**
MLPR	**Magueyes Islan**	**1.00**	**148**		**Pn**	**19 58 24.7**	**-0.2**
MLPR					**Sn**	**19 58 38.6**	**+0.5**
MLPR	**Magueyes Islan** comp=E,114nm,0.4s	**1.00**	**148**	IAML		19 58 43.3	
MLPR	comp=N,88nm,0.3s			IAML		19 58 44.2	
EMPR	**Esperanza - Ma**	**1.08**	**108**	⇑*e*P	**Pn**	**19 58 25.5**	**-0.5**
EMPR	**Esperanza - Ma**	**1.08**	**108**	*e*S	**Sn**	**19 58 40.0**	**-0.1**
EMPR	**Esperanza - Ma**	**1.08**	**108**		**Pn**	**19 58 25.5**	**-0.5**
EMPR					**Sn**	**19 58 40.0**	**-0.1**
EMPR	**Esperanza - Ma** comp=N,109nm,1.2s	**1.08**	**108**	IAML		19 58 54.0	
OBIP	**Obispado Ponce**	**1.23**	**129**	Pn	**Pn**	**19 58 28.3**	**+0.3**
CELP	**Cerrillos**	**1.23**	**127**	⇑*e*P	**Pn**	**19 58 27.9**	**-0.1**
CELP	**Cerrillos**	**1.23**	**127**	*e*S	**Sn**	**19 58 43.8**	**+0.1**
CELP	**Cerrillos**	**1.23**	**127**		**Pn**	**19 58 27.9**	**-0.1**
CELP					**Sn**	**19 58 43.8**	**+0.1**
ICMP	**Isla Caja de M**	**1.39**	**132**	Pn	**Pb**	**19 58 31.1**	**-0.7**
ICMP	comp=N,41nm,0.6s			IAML		19 58 57.5	
ICMP	comp=E,48nm,0.1s			IAML		19 59 25.9	
IGPR	**InterUniversit**	**1.66**	**121**	⇑*e*P	**Pn**	**19 58 33.9**	**-0.1**
IGPR	**InterUniversit**	**1.66**	**121**	*e*S	**Sn**	**19 58 54.8**	**+0.4**
PDPR	**Patillas Dam,**	**1.71**	**118**	Pn	**Pn**	**19 58 35.4**	**+0.8**
PDPR	comp=E,55nm,2.0s			IAML		19 59 13.7	
CBYP	**Canovanas**	**1.75**	**108**	Pn	**Pn**	**19 58 35.2**	**0.0**
HUMP	**Col San Antoni**	**1.80**	**112**	Pn	**Pn**	**19 58 37.0**	**+1.1**
HUMP	comp=N,27nm,0.3s			IAML		19 59 09.2	
HUMP	comp=E,34nm,0.2s			IAML		19 59 12.3	
MTP	**Monte Pirata**	**2.08**	**110**	⇑*e*P	**Pn**	**19 58 39.6**	**-0.2**
MTP	**Monte Pirata**	**2.08**	**110**	*e*S	**Sn**	**19 59 04.7**	**-0.1**
MTP	**Monte Pirata**	**2.08**	**110**		**Pn**	**19 58 39.6**	**-0.2**
MTP						19 59 12.9	
MTP	**Monte Pirata** comp=N,18nm,1.3s	**2.08**	**110**	IAML		19 59 04.7	
MTP	**Monte Pirata**	**2.08**	**110**		**Sn**	**19 59 04.7**	**-0.1**
MTP	**Monte Pirata**	**2.08**	**110**		**Pn**	**19 58 40.8**	**+1.0**
CUPR	**Culebra, Puert**	**2.27**	**103**	Pn	**Pn**	**19 58 42.4**	**+0.1**

*VAO **22** 20:05:55.0±0.8, 14°.84S×73°.04W, h111km±7km, mb4.0*
*IDC **22** 20:06:01.1±1.9, 15°.11S×72°.48W, h130km±20km, mb3.7/1, mb1 3.7/6, mb1mx3.4/36, mbtmp4.1/6, Error ellipse: s-maj=41.6km s-min=17.5km az=25.0*

ISC 22 20:05:58.9±0.8, 15°.11S±0°.09×72°.55W±0°.08, h100km, n26, σ2°04/28, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 3.3nm,0.3s,baz=295,slow=9.6,SNR=34	**4.41**	**106**	P	**Pn**	**20 07 07.7**	**+3.4**
LPAZ	0.6nm,0.3s,baz=205,slow=20,SNR=4.4			S	**Sn**	**20 07 56.9**	**+2.0**
LPAZ	**La Paz** 38nm,0.3s,baz=127,slow=11,SNR=37	**4.41**	**106**	*e*P	**Pn**	**20 07 07.3**	**+3.1**
NNA	**Nana** 15nm,0.3s,baz=233,slow=21,SNR=9.8	**5.21**	**306**	P	**Pn**	**20 07 17.7**	**+3.2**
NNA				S	**Sn**	**20 08 13.8**	**+0.4**
ETMB	**Extrema**	**8.12**	**50**	*e*P	**Pn**	**20 07 53.4**	**-0.6**
LVC	**Limon Verde** 1.4nm,0.3s,baz=350,slow=11,SNR=9.6	**8.22**	**156**	P	**Pn**	**20 07 56.7**	**+1.0**
LVC	1.5nm,0.3s,baz=110,slow=19,SNR=9.9			S	**Sn**	**20 09 23.8**	**-3.2**
LVC	**Limon Verde**	**8.22**	**156**	*e*P	**Pn**	**20 07 56.9**	**+1.2**
SIV	**San Ignacio** 0.4nm,0.3s,baz=281,slow=11,SNR=6.3	**11.09**	**96**	P	**Pn**	**20 08 33.6**	**-1.0**
PTLB	**Pontes e Lacer**	**12.94**	**93**	*e*P	**Pn**	**20 09 01.6**	**+2.5**
SALV	**Santo Antonio**	**16.26**	**95**	*e*P	**Pn**	**20 09 42.3**	**+0.8**
OTAV	**Otavalo**	**16.33**	**339**	*e*P	Pn	20 09 32.2	-11
CLDB	**Colider**	**16.85**	**78**	*e*P	**Pn**	**20 09 50.1**	**+1.2**
AQDB	**Aquidauana**	**16.90**	**111**	*e*P	**Pn**	**20 09 49.6**	**+0.3**
PP1B	**Ponte de Pedra**	**17.13**	**101**	*e*P	**Pn**	**20 09 52.2**	**0.0**
CPUP	**Villa Florida** 0.2nm,0.3s,baz=311,slow=9.8,SNR=3.2	**18.07**	**131**	P	**P**	**20 10 02.9**	**+0.3**
CPUP	**Villa Florida**	**18.07**	**131**	*e*P	**P**	**20 10 03.2**	**+0.6**
ITTB	**Itaituba**	**19.69**	**59**	*e*P	**P**	**20 10 19.3**	**-1.1**
ARAG	**Araguaiana, MT**	**20.00**	**94**	*e*P	**P**	**20 10 25.7**	**+2.0**
ITQB	**Itaqui**	**20.62**	**137**	*e*P	**P**	**20 10 32.9**	**+2.6**
SNDB	**Serra Nova Dou**	**20.89**	**84**	*e*P	**P**	**20 10 32.8**	**-0.5**
PCMB	**Pacaembu**	**21.20**	**111**	*e*P	**P**	**20 10 38.1**	**+1.5**
ITRB	**Iturama**	**21.65**	**105**	*e*P	**P**	**20 10 41.8**	**+0.3**
CPSB	**Cacapava Do Su**	**23.23**	**134**	*e*P	**P**	**20 10 58.9**	**+1.5**
IPMB	**Ipameri, GO**	**23.50**	**100**	*e*P	**P**	**20 10 59.0**	**-1.1**
SMTB	**Santa Maria do**	**25.17**	**79**	*e*P	**P**	**20 11 12.9**	**-2.3**
TORD	**Torodi Ar. Bea** 1.1nm,0.7s,baz=245,slow=5.9,SNR=3.5	**78.64**	**73**	P	**P**	**20 17 49.4**	**-1.1**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=48,slow=2.1,SNR=2.3	**142.08**	**28**	PKP	**PKPdf**	**20 25 14.9**	**-4.5**

IDC 22 20:06:46.6±6.0, 26°.00S×179°.40E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.4/2, Error ellipse: s-maj=300.4km s-min=74.2km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.2nm,0.4s,baz=100,slow=6.6,SNR=6.4	**41.20**	**263**	P	P	20 14 32.9	-0.4
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=105,slow=6.2,SNR=9.6	**41.77**	**269**	P	P	20 14 37.6	-0.4
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=27,slow=1.6,SNR=2.0	**148.36**	**304**	PKPbc	PKPbc	20 26 35.4	+0.2

IDC 22 20:17:19.9±2.4, 15°.48S×173°.77W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/39, mbtmp3.8/2, Error ellipse: s-maj=171.8km s-min=35.7km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 5.0nm,0.3s,baz=143,slow=19,SNR=1.5	**2.48**	**51**	Pn	Pn	20 17 53.9	-7.7
AFI	14nm,0.3s,baz=259,slow=22,SNR=4.7			Sn	Sn	20 18 15.0	-18
ASAR	**Alice Springs** 1.5nm,0.8s,baz=83,slow=9.0,SNR=13	**49.75**	**252**	P	P	20 26 14.2	-0.2
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=230,slow=5.9,SNR=4.2	**80.95**	**56**	P	P	20 29 36.7	0.0
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=43,slow=2.7,SNR=1.9	**146.00**	**321**	PKPbc	PKPab	20 37 02.4	-0.2
GERES	**GERESS Array B** 0.1nm,0.4s,baz=38,slow=1.7,SNR=4.5	**146.17**	**351**	PKPbc	PKPdf	20 37 00.7	-0.7

IDC 22 20:20:40.9±1.9, 6°.73S×128°.64E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.6/3, Error ellipse: s-maj=65.9km s-min=29.8km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 0.6nm,0.3s,baz=229,slow=20,SNR=2.2	**6.39**	**24**	Pn	Pn	20 22 17.1	+0.7
SIJI	0.7nm,0.3s,baz=245,slow=23,SNR=8.6			Sn	Sn	20 23 23.1	-7.0
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=341,slow=13,SNR=12	**14.25**	**158**	Pn	Pn	20 24 02.8	-1.4
WRA	0.2nm,0.3s,baz=343,slow=23,SNR=3.2			Sn	Sn	20 26 25.6	-18
ASAR	**Alice Springs** 0.2nm,0.3s,baz=350,slow=10,SNR=20	**17.58**	**164**	P	P	20 24 48.6	-0.1
ASAR	0.0nm,0.3s,baz=358,slow=25,SNR=1.8			S	Sn	20 27 49.8	-14
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=127,slow=7.3,SNR=2.2	**67.27**	**327**	P	P	20 31 37.1	-0.3

IDC 22 20:35:06.6±2.1, 8°.59S×124°.96E, h0km, mb3.2/1,

mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=183.1km s-min=33.2km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.48**	**142**	Pn	Pn	20 38 34.6	+1.6
	0.3nm,0.3s,baz=316,slow=12,SNR=13						
WRA				Sn	Sn	20 41 11.2	-3.3
	0.2nm,0.3s,baz=320,slow=26,SNR=4.0						
ASAR	**Alice Springs**	**17.26**	**151**	P	Pn	20 39 08.2	-1.2
	0.4nm,0.3s,baz=330,slow=13,SNR=24						
ASAR				S	Sn	20 42 18.1	-4.1
	0.0nm,0.3s,baz=229,slow=8.0,SNR=2.1						
MKAR	**Makanchi Array**	**66.94**	**330**	P	P	20 46 01.0	0.0
	0.3nm,1.1s,baz=116,slow=6.6,SNR=1.6						

NEIC ***22*** *20:45:42.7±2.0, 25°.60S±0°.05×176°.4W±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=20.5km s-min=7.9km az=87.0*

IDC ***22*** *20:45:43.9±1.5, 25°.14S×176°.86W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/30, mbtmp4.2/8, ML3.9/1, MS3.7/5, Ms1 3.6/5, ms1mx3.2/26, Error ellipse: s-maj=37.3km s-min=31.5km az=90.0*

ISC 22 20:45:42.6±0.9, 25°.59S±0°.07×176°.5W±0°.1, h10km, n38, σ0§94/26, mb4.3/12, MS3.5/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.88**	**199**	Pn	**Pn**	**20 46 41.9**	**-0.4**
RAO				Sn	**Sn**	**20 47 26.9**	**-1.0**
MSVF	**Nonsavu**	**9.34**	**326**	Pn	**Pn**	**20 47 56.5**	**-0.9**
	0.7nm,0.3s,baz=118,slow=17,SNR=1.4						
MSVF				LR	LR	20 51 04.0	
	comp=Z,545nm,18.1s,baz=194,slow=37						
AFI	**Afiamalu**	**12.42**	**22**	Pn	**Pn**	**20 48 39.0**	**-0.6**
OUZ	**Omahuta**	**12.87**	**219**	Pn	**Pn**	**20 48 47.1**	**+1.4**
URZ	**Urewera**	**13.76**	**202**	Pn	**P**	**20 49 05.2**	**-1.2**
	0.5nm,0.3s,baz=41,slow=2.4,SNR=1.6						
URZ				Sn	Sn	20 51 20.2	-11
	0.6nm,0.3s,baz=16,slow=16,SNR=1.7						
OUENC	**Ouen Island, N**	**15.59**	**278**	Pn	**Pn**	**20 49 22.0**	**-0.5**
OUENC				IAmb	IAmb	20 49 41.3	
	comp=Z,44nm,1.1s						
RAR	**Rarotonga**	**15.91**	**78**	LR	LR	20 55 28.4	
	comp=Z,140nm,19.1s,baz=287,slow=36						
PPT	**Papeete**	**26.20**	**78**	LR	LR	21 01 04.3	
	comp=Z,133nm,18.6s,baz=308,slow=35						
HNR	**Honiara**	**27.57**	**301**	LR	LR	21 01 08.4	
	comp=Z,132nm,18.9s,baz=126,slow=34						
CTA	**Charters Tower**	**34.73**	**271**	P	**P**	**20 52 33.8**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=90,slow=7.1,SNR=5.7						
STKA	**Stephens Creek**	**37.15**	**250**	P	**P**	**20 52 54.8**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=97,slow=12,SNR=7.7						
STKA				LR	LR	21 06 29.4	
	comp=Z,116nm,19.1s,baz=30,slow=34						
BBOO	**Buckleboo**	**41.80**	**249**	P	**P**	**20 53 32.5**	**-0.1**
AS31	**Alice Springs**	**44.96**	**261**	P	**P**	**20 53 58.3**	**0.0**
AS31				IAmb	IAmb	20 54 01.0	
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**44.96**	**261**	P	**P**	**20 53 58.5**	**+0.3**
	comp=Z,4.0nm,0.4s,baz=94,slow=7.4,SNR=93						
ASAR	**Alice Springs**	**44.96**	**261**	P	**P**	**20 53 58.1**	**-0.2**
WR0	**Warramunga Arr**	**45.34**	**267**	P	**P**	**20 54 00.6**	**-0.7**
WR0				IAmb	IAmb	20 54 08.1	
	comp=Z,10nm,1.5s						
WB2	**Warramunga Arr**	**45.51**	**267**	P	**P**	**20 54 01.7**	**-1.0**
WB2				IAmb	IAmb	20 54 12.0	
	comp=Z,8.8nm,1.4s						
WRAB	**Tennant Creek**	**45.51**	**267**	P	**P**	**20 54 01.9**	**-0.8**
WRA	**Warramunga Arr**	**45.52**	**267**	P	**P**	**20 54 01.7**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=104,slow=7.8,SNR=30						
WRA	**Warramunga Arr**	**45.52**	**267**	P	**P**	**20 54 01.0**	**-1.8**
WB0	**Warramunga Arr**	**45.52**	**267**	P	**P**	**20 54 01.4**	**-1.3**
WB0				IAmb	IAmb	20 54 06.2	
	comp=Z,10.0nm,1.5s						
VNDA	**Vanda**	**53.01**	**186**	P	P	20 55 05.0	+5.9
	comp=Z,0.7nm,0.7s,baz=9.5,slow=5.4,SNR=7.5						
VNDA	**Vanda**	**53.01**	**186**	IAmb	IAmb	20 55 08.1	
	comp=Z,2.3nm,1.1s						
QSPA	**South Pole Qui**	**64.51**	**180**	P	**P**	**20 56 19.6**	**+0.1**
QSPA				IAmb	IAmb	20 56 44.6	
	comp=Z,5.3nm,1.4s						
H03S2	**Juan Fernandez**	**81.97**	**124**	T	T	22 28 20.4	
	baz=243,slow=74,SNR=43						
H03S1	**Juan Fernandez**	**81.99**	**124**	T	T	22 28 21.5	
	baz=243,slow=74,SNR=59						
H03S3	**Juan Fernandez**	**81.99**	**124**	T	T	22 28 20.4	
	baz=243,slow=74,SNR=57						
H03N2	**Juan Fernandez**	**82.14**	**123**	T	T	22 28 33.8	
	baz=249,slow=73,SNR=16						
H03N3	**Juan Fernandez**	**82.14**	**123**	T	T	22 28 36.7	
	baz=249,slow=73,SNR=14						
H03N1	**Juan Fernandez**	**82.15**	**123**	T	T	22 28 37.2	
	baz=249,slow=73,SNR=10						
USRK	**Ussuriysk Ar.**	**83.95**	**325**	P	**P**	**20 58 13.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=122,slow=5.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**93.13**	**289**	P	**P**	**20 58 59.1**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=142,slow=2.7,SNR=7.5						
CMAR	**Chiang Mai Arr**	**93.13**	**289**	P	**P**	**20 58 56.9**	**-0.5**
NB2	**NORSAR Subarra**	**144.17**	**354**	PKP	PKPbc	21 05 17.0	+0.7
	comp=Z,0.9nm,0.8s,baz=12,slow=3.6						
NOA	**NORSAR Array B**	**144.17**	**354**	PKhKP	PKPpre	21 05 15.8	
	comp=Z,1.3nm,0.9s,baz=1.2,slow=2.3,SNR=5.3						
AKASG	**Malin Array Be**	**148.11**	**329**	PKPbc	**PKPbc**	**21 05 28.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=36,slow=3.1,SNR=5.4						
BRTR	**Keskin Array B**	**151.16**	**307**	PKPbc	**PKiKP**	**21 05 37.4**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=201,slow=2.4,SNR=4.1						
CLL	**Collm**	**153.32**	**347**	*e*PKPbc	**PKiKP**	**21 05 42.0**	**+1.1**
CLL				*e*		21 05 56.0	

IDC ***22*** *20:52:15.4±1.4, 1°.02N×125°.99E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/29, mbtmp3.8/4, MS2.6/2, Ms1 2.6/2, ms1mx2.4/28, Error ellipse: s-maj=168.6km s-min=22.2km az=65.0*

DJA ***22*** *20:52:20.2±0.3, 1°.N±4°×12°.6E±°, h10km, M3.8/6, mb4.5/1, mB4.5/1, MLv3.5/6, Mw(mB)3.6/1*

ISC 22 20:52:21.9±0.9, 1°.07N±0°.07×126°.31E±0°.06, h39km, n10, σ1§68/12, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**106**	P	**Pn**	**20 52 41.7**	**+0.9**
TNTI				S	**Sn**	**20 52 57.6**	**+2.9**
SGSI	**Sangihe**	**2.71**	**343**	P	**Pn**	**20 53 03.7**	**+0.7**
SGSI				S	**Sn**	**20 53 36.7**	**+2.1**
GTOI	**Gorontalo**	**3.33**	**263**	P	**Pn**	**20 53 12.8**	**+1.3**
APSI	**Ampana**	**5.06**	**247**	P	**Pn**	**20 53 37.2**	**+1.8**
SIJI	**Sorong**	**5.32**	**111**	LR	LR	20 55 59.6	
	comp=Z,70nm,21.5s,baz=214,slow=40						
KAPI	**Kappang**	**8.92**	**227**	LR	LR	20 57 52.8	
	comp=Z,30nm,18.2s,baz=104,slow=39						
WRA	**Warramunga Arr**	**22.32**	**160**	P	**P**	**20 57 15.2**	**-1.2**
	1.3nm,0.4s,baz=337,slow=11,SNR=26						
WRA				PcP	**PcP**	**21 01 10.8**	**-0.4**
	0.6nm,1.0s,baz=292,slow=2.4,SNR=2.5						
ASAR	**Alice Springs**	**25.68**	**164**	P	**P**	**20 57 48.1**	**-0.3**
	0.5nm,0.5s,baz=339,slow=6.6,SNR=11						
ASAR				PcP	**PcP**	**21 01 17.8**	**-0.7**
	0.2nm,0.8s,baz=355,slow=2.6,SNR=4.7						
STKA	**Stephens Creek**	**35.83**	**157**	P	**P**	**20 59 16.9**	**-1.0**
	1.8nm,0.8s,baz=321,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**59.50**	**326**	P	**P**	**21 02 19.5**	**-1.8**
	0.6nm,0.5s,baz=119,slow=7.9,SNR=12						

IDC ***22*** *21:38:23.9±1.4, 8°.81S×125°.05E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.6/26, mbtmp3.8/6, ML3.5/3, Error ellipse: s-maj=109.7km s-min=26.3km az=53.0*

DJA ***22*** *21:38:26.7±0.5, 10°.S±4°×12°.4E±°, h10km, M3.0/4, MLv3.0/4*

ISC 22 21:38:28.1±0.8, 9°.75S±0°.06×123°.83E±0°.05, h35km, n12, σ2§63/17, mb3.8/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.43**	**91**	P	**Pn**	**21 38 38.6**	**+0.7**
SOEI				S	**Sn**	**21 38 46.3**	**+1.7**
BATI	**Baumata**	**0.48**	**200**	P	**Pn**	**21 38 39.4**	**+0.8**
BATI				S	**Sn**	**21 38 47.0**	**+1.1**
MMRI	**Maumere**	**1.92**	**305**	P	**Pn**	**21 38 56.6**	**-1.8**
MMRI				S	**Sn**	**21 39 17.3**	**-4.1**
EDFI	**Ende, Flores**	**2.33**	**295**	P	**Pn**	**21 39 03.1**	**-1.0**
WBSI	**Waikabubak, Su**	**4.38**	**271**	P	**Pn**	**21 39 35.5**	**+3.3**
KAPI	**Kappang**	**6.20**	**319**	Pn	**Pn**	**21 40 00.9**	**+3.7**
	0.9nm,0.3s,baz=122,slow=18,SNR=1.5						
WRA	**Warramunga Arr**	**14.34**	**136**	Pn	**Pn**	**21 41 48.2**	**-0.5**
	0.2nm,0.3s,baz=321,slow=13,SNR=11						
WRA				Sn	**Sn**	**21 44 22.0**	**-4.6**
	0.1nm,0.3s,baz=318,slow=24,SNR=3.3						
ASAR	**Alice Springs**	**16.86**	**146**	P	**P**	**21 42 23.2**	**-0.2**
	0.3nm,0.3s,baz=318,slow=12,SNR=38						
ASAR				S	**Sn**	**21 45 24.3**	**-3.5**
	0.1nm,0.3s,baz=318,slow=22,SNR=7.6						
CMAR	**Chiang Mai Arr**	**37.27**	**319**	P	**P**	**21 45 38.4**	**+1.5**
	0.2nm,0.4s,baz=145,slow=5.4,SNR=4.6						
MKAR	**Makanchi Array**	**67.38**	**330**	P	**P**	**21 49 20.2**	**+0.4**
	1.0nm,0.6s,baz=134,slow=6.6,SNR=13						
ZALV	**Zalesovo Beam**	**71.52**	**337**	P	**P**	**21 49 43.5**	**-1.7**
	0.3nm,0.3s,baz=144,slow=5.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**123.29**	**279**	PKP	**PKiKP**	**21 57 25.3**	**+2.7**
	0.3nm,0.6s,baz=92,slow=1.1,SNR=2.0						

NEIC ***22*** *21:39:52.8±2.8, 11°.75S±0°.08×13°.7W±0°.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=17.4km s-min=13.2km az=262.0*

GCMT ***22*** *21:39:57.8±0.4, 11°.56S±0°.03×13°.34W±0°.02, h26km±1km, MW4.8/78, Moment Tensor Solution. s9,c10; s78,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21±.15; $M_{\theta\theta}$-0.99±.12; $M_{\phi\phi}$0.77±.12; $M_{r\theta}$-0.51±.21; $M_{r\phi}$1.95±.09; $M_{\theta\phi}$-0.80±.22; Best double couple: $M_0$2.34200×10^{16} NP1:ϕ_s260.00000°, δ74.00000°, λ163.00000°. NP2: ϕ_s165.00000°, δ74.00000°, λ163.00000°. Principal axes: T 2.4350, Plg23.0000°, Azm123.0000°; N -0.1860, Plg67.0000°, Azm303.0000°; P -2.2480, Plg0.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***22*** *21:40:01.0±1.7, 10°.73S×12°.94W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/32, mbtmp3.9/4, MS3.6/20, Ms1 3.6/20, ms1mx3.5/29 Error ellipse: s-maj=30.9km s-min=27.1km az=11.0*

ISC 22 21:39:54.0±0.9, 11°.69S±0°.09×13°.6W±0°.1, h20km, n35, σ1§75/21, mb4.0/6, MS3.7/20, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.90**	**339**	Pn	**Pn**	**21 40 39.9**	**+1.1**
H10S2				Sn	**Sn**	**21 41 12.0**	**-0.9**
H10S3	**ASCENSION HYDR**	**2.91**	**339**	Pn	**Pn**	**21 40 39.9**	**+0.9**
H10S3				Sn	**Sn**	**21 41 12.0**	**-1.3**
ASCN	**Ascension**	**3.81**	**349**	Pn	**Pn**	**21 40 49.6**	**-1.9**
H10N1	**ASCENSION HYDR**	**3.91**	**347**	Pn	**Pn**	**21 40 54.2**	**+1.4**
H10N1				Sn	**Sn**	**21 41 36.0**	**-2.0**
	SNR=35						
H10N3	**ASCENSION HYDR**	**3.92**	**347**	Pn	**Pn**	**21 40 54.9**	**+2.0**
	baz=73,slow=74,SNR=29						
H10N3				Sn	**Sn**	**21 41 35.5**	**-2.8**
H10N2	**ASCENSION HYDR**	**3.93**	**347**	Pn	**Pn**	**21 40 54.7**	**+1.7**
	baz=21,slow=74,SNR=38						
H10N2				Sn	**Sn**	**21 41 35.5**	**-3.0**
SHEL	**Horse Pasture**	**8.74**	**120**	Pn	**Pn**	**21 41 57.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**28.98**	**32**	P	**P**	**21 45 52.7**	**+0.2**
	1.9nm,0.8s,baz=209,slow=9.8,SNR=6.9						
TORD				LR	LR	21 55 29.8	
	comp=Z,113nm,21.2s,baz=20,slow=33						
TORD	**Torodi Ar. Bea**	**28.98**	**32**	P	**P**	**21 45 51.3**	**-1.2**
TORD				IAmb	IAmb	21 46 02.3	
	comp=Z,5.5nm,1.1s						
BOSA	**Boshof**	**39.97**	**121**	LR	LR	22 00 31.3	
	comp=Z,154nm,21.5s,baz=354,slow=31						
BOSA	**Boshof**	**39.97**	**121**	P	**P**	**21 47 27.4**	**-0.1**
CPUP	**Villa Florida**	**43.60**	**244**	P	P	21 48 15.9	+19
	comp=Z,0.7nm,0.4s,baz=82,slow=7.1,SNR=1.8						
CPUP				LR	LR	22 05 53.2	
	comp=Z,18nm,18.1s,baz=91,slow=35						
MBAR	**Mbarara**	**45.37**	**79**	P	**P**	**21 48 12.2**	**+0.4**
MBAR				IAmb	IAmb	21 48 15.8	
	comp=Z,6.1nm,1.1s						
HOPE	**Hope Point**	**46.19**	**198**	P	**P**	**21 48 16.0**	**-1.3**
ESDC	**Sonseca Array**	**51.88**	**9**	LR	LR	22 07 52.0	
	comp=Z,78nm,20.2s,baz=295,slow=33						
KEST	**Kesra**	**51.92**	**24**	P	**P**	**21 49 03.7**	**+2.1**
	comp=Z,1.9nm,1.0s,baz=180,slow=5.1,SNR=3.5						
KEST				LR	LR	22 10 40.9	
	comp=Z,88nm,18.5s,baz=310,slow=36						
H05S1	**Guadeloupe/Mar**	**53.51**	**298**	T	T	22 47 04.3	
	SNR=5.2						
H05N1	**Guadeloupe/Mar**	**54.55**	**300**	T	T	22 48 18.3	
	SNR=4.1						
ROSC	**El Rosal**	**62.57**	**282**	LR	LR	22 17 15.2	
	comp=Z,89nm,18.8s,baz=40,slow=35						
BRTR	**Keskin Array B**	**67.38**	**38**	LR	LR	22 22 30.3	
	comp=Z,20nm,18.8s,baz=254,slow=38						
AKASG	**Malin Array Be**	**72.46**	**27**	P	**P**	**21 51 21.1**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=221,slow=7.6,SNR=4.3						
AKASG				LR	LR	22 25 26.4	
	comp=Z,19nm,18.3s,baz=5.0,slow=38						
AKASG	**Malin Array Be**	**72.46**	**27**	P	**P**	**21 51 20.2**	**+1.3**
MAW	**Mawson**	**74.12**	**157**	LR	LR	22 20 06.3	
	comp=Z,47nm,18.8s,baz=230,slow=32						
NOA	**NORSAR Array B**	**75.12**	**12**	LR	LR	22 25 31.5	
	comp=Z,25nm,18.6s,baz=205,slow=37						
KBZ	**Khabaz**	**75.34**	**39**	LR	LR	22 25 14.8	
	comp=Z,15nm,19.6s,baz=266,slow=37						
QSPA	**South Pole Qui**	**78.45**	**180**	P	**P**	**21 51 53.6**	**+0.1**
QSPA				IAmb	IAmb	21 52 19.9	
	comp=Z,3.9nm,1.2s						
FINES	**FINESS Array B**	**79.30**	**18**	LR	LR	22 28 19.9	
	comp=Z,43nm,18.3s,baz=219,slow=37						
SCHQ	**Schefferville**	**79.91**	**332**	LR	LR	22 21 49.2	
	comp=Z,36nm,18.7s,baz=26,slow=32						
TKL	**Tuckaleechee C**	**81.15**	**309**	LR	LR	22 22 32.8	
	comp=Z,16nm,18.4s,baz=165,slow=32						
SADO	**Sadowa**	**81.50**	**319**	LR	LR	22 22 47.0	
	comp=Z,38nm,18.6s,baz=94,slow=32						
ARCES	**ARCESS Array B**	**85.48**	**13**	LR	LR	22 30 34.0	
	comp=Z,21nm,18.3s,baz=315,slow=36						
KIRV	**Kirov**	**86.49**	**28**	LR	LR	22 32 39.8	
	comp=Z,25nm,19.4s,baz=261,slow=37						
ARU	**Arti**	**90.05**	**32**	LR	LR	22 36 11.8	
	comp=Z,25nm,18.2s,baz=260,slow=38						
VNDA	**Vanda**	**90.91**	**179**	LR	LR	22 30 14.9	
	comp=Z,54nm,18.4s,baz=36,slow=33						
ULM	**Lac du Bonnet**	**94.00**	**320**	LR	LR	22 30 02.8	
	comp=Z,46nm,18.8s,baz=358,slow=32						

IDC ***22*** *22:00:33.3±0.5, 30°.32N×94°.84E, h0km, mb4.3/25, mb1 4.4/28, mb1mx4.3/44, mbtmp4.3/28, ML4.0/3, MS3.1/3, Ms1 3.2/3, ms1mx2.6/40, Error ellipse: s-maj=16.8km s-min=11.7km az=37.0*

MOS ***22*** *22:00:33.9±0.9, 30°.33N×94°.90E, h14km, mb4.9/27, Error ellipse: s-maj=7.7km s-min=4.5km az=127.7*

BJI ***22*** *22:00:34.4±0.0, 30°.36N×94°.87E, h8km, mB4.5/24, mb4.5/43, ML3.9/9, Ms3.8/23, Ms7 3.6/20*

NEIC ***22*** *22:00:35.5±0.9, 30°.34N±0°.09×94°.89E±0°.08, h10km±1km, mb4.7/84, Error ellipse: s-maj=15.8km s-min=12.2km az=187.0*

NDI ***22*** *22:00:43.6±4.1, 30°.34N×94°.01E, h39km±146km, mb4.4, ML3.6, mb4.7(NEIC)*

ISC 22 22:00:37.1±0.3, 30°.28N±0°.04×94°.82E±0°.04, h23km, n310, σ1§23/331, mb4.7/102, MS3.7/5, 29C-11D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.80**	**178**	*e*P	**Pb**	**22 01 27.4**	**+0.9**
LKP	**Lekhapani**	**3.07**	**163**	*e*P	**Pn**	**22 01 27.0**	**+2.8**
LSA	**Lhasa**	**3.23**	**261**	Pn	**Pn**	**22 01 29.8**	**+2.9**
LSA				Sn	**Sb**	**22 02 15.9**	**+2.6**
LSA				smax	smax		
	comp=E,120nm,0.8s						
LSA	**Lhasa**	**3.23**	**261**	P	**Pn**	**22 01 29.2**	**+2.3**
LSA	**Lhasa**	**3.23**	**261**		**Pn**	**22 01 29.2**	**+2.3**
ITAN	**ITANAGAR**	**3.27**	**197**	*e*P	**Pb**	**22 01 33.2**	**-1.3**
ITAN				IAML		22 01 45.9	
	comp=N,263nm,0.5s						
ITAN				IAML		22 01 46.6	
	comp=E,333nm,0.8s						
SHL	**Shillong**	**5.37**	**210**	*e*P	**Pn**	**22 01 56.6**	**+0.7**
TAPN	**Taplejung**	**6.88**	**247**	*e*P	**Pn**	**22 02 17.6**	**+0.7**
	comp=E,20nm,0.5s						
ODAN	**Odare**	**7.37**	**244**	*e*P	**Pn**	**22 02 24.3**	**+0.8**
	comp=E,63nm,0.7s						
CD2	**Chengdu**	**7.73**	**83**	Pn	**Pn**	**22 02 25.3**	**-3.0**
CD2				Sn	**Sn**	**22 03 54.3**	**-0.9**
CD2				LR	LR		
	comp=E,450nm,7.5s						
CD2				LR	LR		
	comp=E,300nm,5.9s						
CD2				LR	LR		
	comp=E,450nm,7.7s						
PKI	**Pulchoki**	**8.68**	**254**	*e*P	**Pn**	**22 02 41.5**	**0.0**
	comp=E,36nm,0.8s						
PKIN	**Phulchoki**	**8.68**	**254**	*e*P	**Pn**	**22 02 42.2**	**+0.6**
	comp=E,29nm,0.7s						
KMI	**Kunming**	**8.70**	**124**	⇓P	**Pn**	**22 02 43.8**	**+2.0**
KMI				smax	smax		
	comp=E,33nm,1.6s						
KMI				smax	smax		
	comp=E,18nm,1.4s						
KMI				LR	LR		
	comp=E,390nm,4.7s						
KMI				LR	LR		
	comp=E,360nm,4.1s						
KMI				LR	LR		
	comp=E,140nm,5.6s						
KKN	**Kakani**	**8.71**	**256**	*e*P	**Pn**	**22 02 41.7**	**-0.2**
	comp=E,54nm,0.8s						
GKN	**Gorkha**	**9.19**	**258**	*e*P	**Pn**	**22 02 47.9**	**-0.5**
	comp=E,22nm,0.5s						
LZH	**Lanzhou**	**9.52**	**50**	*e*P	**Pn**	**22 02 54.6**	**+1.6**
LZH				pP		22 02 56.3	
LZH				S	**Sn**	**22 04 41.5**	**+2.1**
LZH				pmax	pmax		
	comp=E,25nm,1.0s						
LZH				pmax	pmax		
	comp=E,110nm,5.2s						
LZH				LR	LR		
	comp=E,340nm,6.5s						
LZH				LR	LR		
	comp=E,220nm,6.2s						
LZH				LR	LR		
	comp=E,270nm,8.7s						
DANN	**Dangsing**	**9.84**	**261**	*e*P	**Pn**	**22 02 56.5**	**-1.0**
	comp=E,70nm,0.8s						
GTA	**Gaotai**	**9.99**	**23**	*e*P	**Pn**	**22 03 02.3**	**+3.0**
GTA				pmax	pmax		
	comp=E,3.0nm,0.9s						
GTA				pmax	pmax		
	comp=E,17nm,4.6s						
GTA				LR	LR		
	comp=E,150nm,9.8s						
GTA				LR	LR		
	comp=E,150nm,9.5s						
KOLN	**Koldanda**	**10.13**	**258**	*e*P	**Pn**	**22 03 00.6**	**-0.8**
	comp=E,132nm,0.8s						
PYUN	**Piuthan**	**10.56**	**261**	*e*P	**Pn**	**22 03 06.2**	**-1.1**
	comp=E,22nm,0.5s						
GYA	**Guiyang**	**11.10**	**107**	⇑P	**Pn**	**22 03 15.3**	**+0.7**
GYA				S	**Sn**	**22 05 19.5**	**+1.3**
GYA				pmax	pmax		
	comp=E,6.0nm,0.8s						
CM31	**Chiang Mai Arr**	**12.35**	**161**	Pn	**Pn**	**22 03 31.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**12.35**	**161**	Pn	**Pn**	**22 03 32.6**	**+1.0**
	comp=E,0.3nm,0.3s,baz=331,slow=12,SNR=9.7						
CMAR	**Chiang Mai Arr**	**12.35**	**161**	Pn	**Pn**	**22 03 31.7**	**+0.1**
CM02	**Chiang Mai Arr**	**12.38**	**161**	P	P	22 03 38.9	-4.9
	comp=E,5.3nm,0.9s						
XAN	**Xi'an**	**12.52**	**69**	P	**Pn**	**22 03 35.1**	**+1.1**
XAN				pP	P	22 03 38.6	-6.9
XAN				S	**Sn**	**22 05 55.8**	**+3.0**
XAN				pmax	pmax		
	comp=E,9.0nm,1.0s						
XAN				LR	LR		
	comp=E,220nm,11.9s						
XAN				LR	LR		
	comp=E,150nm,8.0s						
ENH	**Enshi**	**12.68**	**86**		**Pn**	**22 03 34.7**	**-1.4**
NONG	**Nongkai**	**14.33**	**146**	P	**P**	**22 04 08.3**	**+2.7**
	comp=E,5μmcomp=E,24nm,0.9s						
WMQ	**Urumqi**	**14.65**	**339**	*e*P	**P**	**22 04 09.8**	**+0.7**
WMQ				PP	**PnPn**	**22 04 13.1**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.7s						
WMQ				smax	smax		
	comp=N,17nm,0.5s						
WMQ				smax	smax		
	comp=E,12nm,0.7s						
SMLA	**Simla**	**15.21**	**278**	*e*P	**Pn**	**22 04 06.5**	**-3.9**
SMLA				IAmb	IAmb	22 04 14.8	
	comp=Z,7.5nm,0.8s						
SKNT	**Sakolnakorn**	**15.67**	**146**	P	**P**	**22 04 22.0**	**+1.5**
	comp=Z,43nm,1.0s						
WHN	**Wuhan**	**16.86**	**84**	⇓P	**Pn**	**22 04 31.0**	**-0.6**
WHN				sP	**pP**	**22 04 39.4**	**-1.5**
WHN				pmax	pmax		
	comp=Z,40nm,0.9s						
BHPL	**Bhopal**	**17.03**	**250**	*e*P	**Pn**	**22 04 31.2**	**-2.7**
BHPL				IAmb	IAmb	22 04 36.1	
	comp=Z,46nm,1.2s						
HHC	**Hu-ho-hao-te**	**17.20**	**48**	*e*P	**Pn**	**22 04 33.8**	**-2.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,63nm,4.0s						
HHC				LR	LR		
	comp=Z,120nm,12.3s						
HHC				LR	LR		
	comp=Z,130nm,10.4s						
HHC				LR	LR		
	comp=Z,110nm,10.9s						
TARG	**Taragay, Kyrgy**	**17.85**	**314**	P	**Pn**	**22 04 44.3**	**0.0**
PRZ	**Przheval'sk**	**17.94**	**317**	P	**P**	**22 04 45.7**	**0.0**
PRZ				pmax	pmax		
	comp=Z,71nm,1.0s						
**PRZ

comp=Z,20nm,1.6s
BJT Baijiatuau 19.94 55 P **P 22 05 06.8 -0.6**
DGZ Jazzator, Alta 20.19 346*d* *i*P **P 22 05 10.5 +0.3**
DGZ pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 20.42 313 P **P 22 05 11.6 -1.2**
comp=Z,10nm,0.6s,baz=135,slow=10,SNR=5.3
AAK Ala-Archa 20.42 313 P Pn 22 05 15.0 +0.1
SNR=9.1
AAK Ala-Archa 20.42 313 P **P 22 05 13.1 +0.4**
AAK IAmb IAmb 22 05 18.6
comp=Z,50nm,1.2s
FRU1 Bishkek 20.42 313 P **P 22 05 12.9 +0.2**
FRU1 pmax pmax
comp=Z,29nm,1.0s
FRU1 Bishkek 20.42 313 P **P 22 05 12.9 +0.2**
FRU1 IAmb IAmb 22 05 15.6
comp=Z,29nm,0.9s
CHMS Chumysh 20.44 314 P Pn 22 05 14.1 -0.9
SNR=16
NJ2 Nanjing 20.64 79 *e*P **P 22 05 13.3 -1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
USP Ospenovka 20.74 314 P **P 22 05 17.2 +1.1**
SNR=15
EKS2 Erkin-Say 20.89 312 P Pn 22 05 19.5 -0.8
SNR=9.6
DRK Karamyk 20.95 302 P **P 22 05 18.8 0.0**
DRK IAmb IAmb 22 05 20.7
comp=Z,18nm,0.7s
ZAK Zakamensk 21.06 15 *e*P **P 22 05 18.0 -1.6**
ZAK pmax pmax
comp=Z,18nm,0.9s
MOY Mondy 21.85 10 *e*P **P 22 05 29.0 +0.9**
MOY pmax pmax
comp=Z,23nm,1.8s
BTK Batken 21.85 303 P **P 22 05 28.3 +0.1**
BTK pmax pmax
comp=Z,45nm,1.2s
BTK Batken 21.85 303 P **P 22 05 28.3 +0.1**
BTK IAmb IAmb 22 05 31.2
comp=Z,45nm,1.1s
GAR Garm 21.91 300 P **P 22 05 28.0 -0.8**
GAR IAmb IAmb 22 05 30.2
comp=Z,60nm,1.1s
KBL Kabul 22.15 288 P **P 22 05 31.6 +0.1**
KBL pmax pmax
comp=Z,64nm,1.0s
KBL Kabul 22.15 288 P **P 22 05 31.6 +0.1**
CHGR Chuyangaron 22.69 298 P **P 22 05 36.3 -0.9**
IRK Irkutsk 23.03 15 *e*P **P 22 05 39.6 -0.8**
IRK pmax pmax
comp=Z,20nm,1.6s
KK31 Karatay Array 23.22 310 P **P 22 05 42.4 -0.1**
KK31 pmax pmax
comp=Z,13nm,1.2s
KK31 Karatay Array 23.22 310 P **P 22 05 42.4 -0.1**
KKAR Karatay Array 23.22 310 P **P 22 05 42.7 +0.2**
KKAR pmax pmax
comp=Z,13nm,1.2s
KKAR Karatay Array 23.22 310 P **P 22 05 42.5 0.0**
KKAR Karatay Array 23.22 310 P **P 22 05 42.7 +0.2**
TAS Tashkent 23.37 305 P **P 22 05 44.5 +0.5**
TAS pmax pmax
comp=Z,55nm,0.3s
TAS Tashkent 23.37 305 P **P 22 05 44.5 +0.5**
KURBB Kurchatov Arra 23.70 334 P **P 22 05 45.8 -1.3**
comp=Z,10.0nm,0.8s,baz=141,slow=11,SNR=94
KURBB PcP **PcP 22 09 30.3 -0.5**
comp=Z,1.5nm,0.9s,baz=159,slow=1.7,SNR=5.4
KURK Kurchatov 23.74 334 P **P 22 05 45.8 -1.7**
KURK 22 09 30.3
KURK Kurchatov 23.74 334 P **P 22 05 45.8 -1.7**
ZAA0 Zalesovo Array 24.74 346 P **P 22 05 56.1 -0.6**
ZALV Zalesovo Beam 24.74 346 P **P 22 05 56.1 -0.6**
comp=Z,9.2nm,0.7s,baz=162,slow=9.1,SNR=46
ZALV Zalesovo Beam 24.74 346 *i* P **P 22 05 56.5 -0.1**
ZALV pmax pmax
comp=Z,9.0nm,0.7s
ZALV Zalesovo Beam 24.74 346 P **P 22 05 56.3 -0.3**
CN2 Changchun 27.75 52 *e*P **P 22 06 23.9 -0.1**
CN2 sP pP 22 06 30.9 -1.3
CN2 PP **PnPn 22 07 12.1 +1.9**
CN2 S **S 22 11 03.3 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
HRA Herat 27.76 287 P **P 22 06 21.6 -2.9**
KS19 Wonju Array Si 28.26 66 P **P 22 06 26.3 -2.3**
KS19 IAmb IAmb 22 06 53.5
comp=Z,13nm,1.4s
KSRS Korea Array 28.30 66 P **P 22 06 28.4 -0.6**
comp=Z,0.6nm,0.5s,baz=263,slow=7.8,SNR=2.2
KSRS LR LR 22 18 29.3
comp=Z,20nm,18.5s,baz=260,slow=38
BVAR Borovoye Array 28.89 329 P **P 22 06 34.1 +0.1**
comp=Z,3.3nm,0.8s,baz=173,slow=26,SNR=18
BRVK Borovoye 28.96 329 P **P 22 06 34.3 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 28.96 329 P **P 22 06 34.3 -0.3**
BRVK IAmb IAmb 22 06 37.6
comp=Z,10nm,0.8s
GYA0 ALIBECK ARRAY 31.18 294 P **P 22 06 55.1 +0.6**
GYA0 pmax pmax
comp=Z,10.0nm,1.0s
GYA0B ALIBECK ARRAY 31.18 294 P **P 22 06 54.6 +0.1**
GYA0B IAmb IAmb 22 06 57.6
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 32.40 54 P **P 22 07 05.3 +0.2**
comp=Z,0.5nm,0.6s,baz=285,slow=5.7,SNR=2.1
ABKAR Akbulak array 32.44 316 P **P 22 07 05.5 +0.2**
ABKAR Akbulak array 32.44 316 P **P 22 07 05.7 +0.4**
ZEA Zeya 33.14 36 *e*P **P 22 07 11.7 +0.2**
ZEA pmax pmax
comp=E,10.0nm,0.4s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,10.0nm,0.9s
SVE Sverdlovsk 35.66 328 *e*P **P 22 07 34.7 +1.5**
SVE pmax pmax
comp=Z,19nm,0.8s
ARU Arti 36.42 326*c* *i*P **P 22 07 40.1 +0.4**
ARU 22 08 58.8
ARU 22 10 00.7
ARU S **S 22 13 24.3 +4.4**
ARU SS **SnSn 22 15 47.5 -1.0**
ARU pmax pmax
comp=Z,12nm,0.9s
ARU Arti 36.42 326 P **P 22 07 39.1 -0.6**
ARU IAmb IAmb 22 07 41.1
comp=Z,9.1nm,0.8s
MJAR Matsushiro Arr 36.52 68 P **P 22 07 40.2 -0.7**
comp=Z,51nm,0.6s,baz=288,slow=6.3,SNR=1.4
MJAR Matsushiro Arr 36.52 68 P **P 22 07 39.8 -1.1**
MJAR Matsushiro Arr 36.52 68 P **P 22 07 39.8 -1.1**
YAK Yakutsk 39.01 25⇑ *i*P **P 22 08 01.3 -0.2**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK Yakutsk 39.01 25 P **P 22 08 00.0 -1.5**
ASAJ Asahikawa 39.94 56 P **P 22 08 09.2 -0.4**
comp=Z,4.5nm,0.7s,baz=248,slow=8.5,SNR=7.4
ERM Erimo 40.27 59*c* *i*P **P 22 08 11.0 -1.3**
ERM pmax pmax
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 40.32 52*c* *i*P **P 22 08 13.4 +0.8**
YSS pmax pmax
comp=Z,10.0nm,0.5s
YSS Yuzh-Sakhalins 40.32 52 P **P 22 08 12.6 0.0**
YSS IAmb IAmb 22 08 14.0
comp=Z,17nm,0.5s
GROC Groznyy 40.80 302 *e*P **P 22 08 15.1 -1.6**
GROC *e* 22 09 52.9
GROC *e* 22 10 15.3
GROC pmax pmax
comp=Z,36nm,1.0s
GNI Garni 41.60 298*d* *i*P **P 22 08 24.7 +1.1**
GNI pmax pmax
comp=Z,10.0nm,1.2s
KZRT Kazreti 41.83 300 P **P 22 08 27.1 +1.9**
ZEI Tsey 42.18 302 *e*P **P 22 08 24.5 -3.8**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
AKH Akhalkalaki 42.51 300⇑ P **P 22 08 33.1 +2.2**
AKH Akhalkalaki 42.51 300 P **P 22 08 33.1 +2.2**

GOF Gofitskoye 42.84 305⇑ *e*P **P 22 08 34.6 +1.3**
GOF pmax pmax
comp=Z,49nm,1.1s
KARS Kars 42.85 299 P **P 22 08 34.4 +0.7**
KARS pmax pmax
comp=Z,50nm,1.2s
KARS Kars 42.85 299 P **P 22 08 34.4 +0.7**
KBZ Khabaz 42.92 303 P **P 22 08 34.6 +0.7**
comp=Z,3.1nm,0.9s,baz=127,slow=6.0,SNR=7.3
KIV Kislovodsk 43.07 303 *e*P **P 22 08 37.6 +2.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,11nm,16.0s
KIV Kislovodsk 43.07 303 P **P 22 08 35.3 0.0**
KIV IAmb IAmb 22 08 39.4
comp=Z,12nm,1.1s
CHVG Ch'k'valeri 43.52 302⇓ P **P 22 08 42.9 +4.0**
CHVG Ch'k'valeri 43.52 302⇓ P **P 22 08 42.9 +4.0**
GURO Guroymak-BITLI 43.81 296 P **P 22 08 42.0 +5.0**
GURO IAmb IAmb 22 08 45.7
comp=Z,11nm,1.3s
DOMR Dombai 43.85 302⇑ *i*P **P 22 08 44.3 +2.6**
DOMR pmax pmax
comp=Z,22nm,1.1s
BCA Borcka 43.91 300⇑ P **P 22 08 44.2 +2.1**
VRH Novokhopyorsk 44.21 314 *e*P **P 22 08 43.7 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
PRGR Permogore 44.70 329 *e*P **P 22 08 45.2 -2.8**
PRGR pmax pmax
comp=Z,6.0nm,1.0s
LPSR Galich'ya Gora 46.10 316 *e*P **P 22 08 59.1 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.9s
ANN Anapa 46.82 305 *e*P **P 22 09 00.8 -4.2**
ANN *e**PP **P 22 09 05.0 0.0**
ANN *e*PPP PPP 22 11 36.5
ANN *e*S **S 22 15 49.7 -4.4**
ANN pmax pmax
comp=Z,54nm,0.9s
MOS Moscow 47.25 320 *e*P **P 22 09 07.6 -0.6**
KLMR Klimovskoe 47.27 327 *e*P **P 22 09 07.6 -0.7**
KLMR *e* 22 10 59.1
KLMR pmax pmax
comp=Z,37nm,1.4s
KLMR Klimovskoe 47.27 327 *e*P **P 22 09 07.7 -0.6**
KLMR AMP 22 09 09.9
comp=Z,37nm,1.4s
KLMR *e*PP **PP 22 10 59.2 -0.1**
OBN Obninsk 47.77 319⇑ *i*P **P 22 09 11.5 -0.7**
OBN pmax pmax
comp=Z,11nm,1.1s
OBN Obninsk 47.77 319 P **P 22 09 11.7 -0.5**
BNN Bunyan 48.58 297 P **P 22 09 18.7 -0.3**
SOEI Soe 48.85 140 P **P 22 09 20.9 -0.3**
BR131 Keskin Array S 50.13 298 P **P 22 09 30.5 -0.4**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BR131 Keskin Array S 50.13 298 P **P 22 09 30.5 -0.4**
BRTR Keskin Array B 50.14 298 P **P 22 09 30.1 -0.8**
comp=Z,2.5nm,0.9s,baz=112,slow=8.4,SNR=10.0
BRTR Keskin Array B 50.14 298 *e*P **P 22 09 31.2 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 50.14 298 P **P 22 09 30.6 -0.2**
PETK Petropavlovsk- 50.36 44 P **P 22 09 31.4 -0.7**
comp=Z,3.2nm,0.8s,baz=244,slow=9.5,SNR=4.1
PETK Petropavlovsk- 50.36 44 P **P 22 09 31.8 -0.4**
PETK Petropavlovsk- 50.36 44 P **P 22 09 31.8 -0.4**
ANTO Ankara 50.76 299 P **P 22 09 36.0 +0.5**
ANTO pmax pmax
comp=Z,20nm,1.1s
ANTO Ankara 50.76 299 P **P 22 09 36.0 +0.5**
JOF Joensuu 51.49 328 P **P 22 09 41.3 +0.8**
JOF pmax pmax
comp=Z,11nm,1.0s
MDUB Mudurnu 51.86 300 P **P 22 09 43.8 0.0**
AKASG Malin Array Be 52.09 313 P **P 22 09 44.1 -1.0**
comp=Z,14nm,0.9s,baz=77,slow=7.1,SNR=31
AKASG Malin Array Be 52.09 313*c* *e*P **P 22 09 45.2 +0.1**
AKASG pmax pmax
comp=Z,14nm,0.9s
AKASG Malin Array Be 52.09 313 P **P 22 09 44.9 -0.3**
AKBB Malin Array Si 52.09 313 P **P 22 09 45.0 -0.1**
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB Malin Array Si 52.09 313 P **P 22 09 45.0 -0.1**
AKBB IAmb IAmb 22 09 46.8
comp=Z,15nm,1.1s
MNK Minsk 52.76 318 *i* P **P 22 09 48.7 -1.3**
MNK *i* 22 10 57.9
MNK *i* 22 11 45.5
MNK *i* PPP PPP 22 12 52.0
MNK *i* S **S 22 17 15.4 -1.3**
MNK *i* SS **SS 22 20 58.1 +3.0**
MNK *i* SSS SSS 22 22 44.7
MNK pmax pmax
comp=Z,9.0nm,0.8s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK MLR MLR
comp=Z,40nm,20.0s
MNK MLR MLR
comp=N,154nm,18.0s
MNK MLR MLR
comp=E,6.0nm,16.0s
MNK Minsk 52.76 318 *i* P **P 22 09 48.7 -1.3**
comp=E,2.0nm,0.9s
MNK *i* P **P 22 09 48.7 -1.3**
comp=N,7.0nm,1.0s
MNK *i* P **P 22 09 48.7 -1.3**
comp=Z,9.0nm,0.8s,baz=89
MNK *i* PcP **PcP 22 10 57.9 -1.5**
MNK *i* PP **PP 22 11 45.5 -3.7**
MNK *i* PPP PPP 22 12 52.1
MNK *i* S **S 22 17 15.5 -1.3**
MNK *i* SS **SS 22 20 58.1 +3.0**
MNK *i* SSS SSS 22 22 44.7
MNK *i* LR LR 22 30 01.2
MNK *i* LRM MLR 22 34 41.8
comp=Z,40nm,19.9s
MNK *i* LRM MLR 22 34 45.8
comp=N,154nm,17.9s
MNK *i* LRM MLR 22 35 03.7
comp=E,6.0nm,15.9s
CFR Carcaliu 53.35 306⇑ P **P 22 09 55.0 +0.4**
CFR Carcaliu 53.35 306⇑ P **P 22 09 55.0 +0.4**
IDID Didziasalis 53.40 319 *e*P **P 22 09 55.8 +1.1**
ELL Elmali 53.59 295 P **P 22 09 56.4 -0.3**
ELL pmax pmax
comp=Z,67nm,1.1s
ELL Elmali 53.59 295 P **P 22 09 56.4 -0.3**
IIGN Ignalina 53.69 319 *e*P **P 22 09 58.0 +1.0**
ISAL Salakas 53.74 319 *e*P **P 22 09 58.7 +1.4**
ICOR Ion Corvin 53.75 305⇑ P **P 22 09 57.4 -0.1**
FIA1 FINESS Array S 53.79 326 P **P 22 09 57.5 0.0**
FINES FINESS Array B 53.79 326 P **P 22 09 57.5 -0.1**
comp=Z,1.8nm,0.5s,baz=90,slow=8.3,SNR=16
FINES FINESS Array B 53.79 326 *i* P **P 22 09 57.9 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 53.79 326 P **P 22 09 57.6 +0.1**
TESR Tescani 54.20 308⇑ P **P 22 10 01.4 +0.6**
VRI Vrincioaia 54.24 307⇓ P **P 22 10 02.1 +1.0**
VRI Vrincioaia 54.24 307⇓ P **P 22 10 02.1 +1.0**
PLOR Plostina 54.29 307⇓ P **P 22 10 02.2 +0.6**
PLOR Plostina 54.29 307⇓ P **P 22 10 02.2 +0.6**
BISRR Bisoca 54.30 307⇑ P **P 22 10 02.0 +0.4**
ARCES ARCESS Array B 54.75 336 P **P 22 10 03.0 -1.5**
comp=Z,2.2nm,0.9s,baz=82,slow=6.5,SNR=4.1
ARCES ARCESS Array B 54.75 336 P **P 22 10 03.0 -1.5**
MLR Muntele Rosu 54.84 307⇑ P **P 22 10 06.5 +0.9**
MLR Muntele Rosu 54.84 307 P **P 22 10 06.3 +0.7**
MLR pmax pmax
comp=Z,20nm,1.0s
MLR Muntele Rosu 54.84 307 P **P 22 10 06.3 +0.7**
PABE Paberze 54.97 319 *e*P **P 22 10 06.5 +0.3**
BURAR Bucovina Array 55.01 309⇑ P **P 22 10 07.9 +1.1**
BURAR Bucovina Array 55.01 309 P **P 22 10 06.8 0.0**
BURAR pmax pmax
comp=Z,2.0nm,0.9s

BURAR Bucovina Array 55.01 309 P **P 22 10 06.8 0.0**
DOPR Dopca 55.14 307⇑ P **P 22 10 08.9 +1.2**
VOIR 55.47 307⇑ P **P 22 10 10.5 +0.4**
VOIR 55.47 307⇑ P **P 22 10 10.5 +0.4**
SUW Suwalki 55.54 317 *e*P **P 22 10 10.1 -0.2**
SUW Suwalki 55.54 317 P **P 22 10 10.1 -0.2**
SUW pmax pmax
comp=Z,17nm,0.9s
SUW Suwalki 55.54 317 P **P 22 10 10.1 -0.2**
ARCR ARCALIA 55.67 309⇑ P **P 22 10 13.3 +1.8**
RAF Rauma 55.88 326 *e*P **P 22 10 15.0 +2.4**
BMR Baia Mare 56.15 310⇑ P **P 22 10 16.3 +1.4**
BMR Baia Mare 56.15 310⇑ P **P 22 10 16.3 +1.4**
LOT Lotru 56.35 307⇑ P **P 22 10 16.4 0.0**
KWP Kalwaria Pacla 56.36 312 P **P 22 10 16.9 +0.5**
KWP Kalwaria Pacla 56.36 312 P **P 22 10 16.9 +0.5**
TRPA Tarpa 56.71 310⇑ P **P 22 10 19.9 +1.1**
KOLS Kolonicke sedl 56.75 311 *e*P **P 22 10 19.7 +0.6**
KOLS Kolonicke sedl 56.75 311 *e*P **P 22 10 19.7 +0.6**
UZH Uzhgorod 56.79 311 *e*P **P 22 10 17.4 -2.0**
GZR Gura Zlata 57.05 307⇑ P **P 22 10 21.2 -0.1**
CRVS Cervenica-Dubn 57.28 311 *e*P **P 22 10 24.9 +2.0**
CRVS Cervenica-Dubn 57.28 311 *e*P **P 22 10 24.9 +2.0**
VTS Vitosha 57.30 304⇓ P **P 22 10 20.8 -2.5**
VTS Vitosha 57.30 304 P **P 22 10 23.5 +0.2**
VTS pmax pmax
comp=Z,8.0nm,1.1s
VTS Vitosha 57.30 304 P **P 22 10 23.5 +0.2**
VTS IAmb IAmb 22 10 25.5
comp=Z,8.2nm,1.1s
OJC Ojcow 58.12 313 P **P 22 10 28.8 0.0**
OJC pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 58.12 313 P **P 22 10 28.8 0.0**
OJC IAmb IAmb 22 10 30.8
comp=Z,5.2nm,0.8s
DIVS Divibare 59.27 306 P **P 22 10 36.4 -0.6**
KBN Korca 59.57 302 P **P 22 10 38.5 -0.6**
KBN pmax pmax
comp=Z,20nm,1.1s
KBN Korca 59.57 302 P **P 22 10 38.5 -0.6**
MORC Moravsky Berou 59.63 313 *e*P **P 22 10 40.0 +0.7**
MORH Mrgy, Hungar 59.70 309⇑ P **P 22 10 38.8 -1.0**
JAVC Velka Javorina 59.75 312 *e*P **P 22 10 41.8 +1.7**
KRLC Kraliky 60.05 313 *e*P **P 22 10 42.8 +0.6**
KRLC Kraliky 60.05 313 *e*P **P 22 10 42.8 +0.6**
DPC Dobruska-Polom 60.28 314 *e*P **P 22 10 44.4 +0.6**
DPC Dobruska-Polom 60.28 314 *e*P **P 22 10 44.4 +0.6**
VRAC Vranov 60.34 312 *e*P **P 22 10 45.2 +1.1**
CHVC Chvalec 60.40 314 *e*P **P 22 10 45.2 +0.7**
KRUC Moravsky 60.52 312 *e*P **P 22 10 46.3 +0.9**
NC405 NORSAR Array S 60.72 326 P **P 22 10 45.2 -1.4**
NB2 NORSAR Subarra 60.98 326 P **P 22 10 47.9 -0.4**
comp=Z,5.8nm,0.8s,baz=79,slow=6.9
NOA NORSAR Array B 60.98 326 P **P 22 10 46.9 -1.4**
comp=Z,3.3nm,0.8s,baz=79,slow=6.6,SNR=15
CONA Conrad Observa 61.14 311 *i* P **P 22 10 50.4 +0.7**
comp=Z,7.9nm,1.0s,SNR=6.5
PRU Pruhonice 61.48 314 *e*P **P 22 10 52.2 +0.4**
PRU Pruhonice 61.48 314 *e*P **P 22 10 52.2 +0.4**
ARSA Arzberg 61.53 310 *e*P **P 22 10 52.8 +0.5**
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 61.64 315 *e*P **P 22 10 53.7 +0.8**
BRG Amp 22 10 54.4
comp=Z,4.4nm,0.8s
GROS Grobnik 61.75 310 *e*P **P 22 10 54.2 +0.4**
CKRC Cesky Krumlov 61.91 312 *e*P **P 22 10 54.9 +0.1**
SOKA Soboth 62.00 310 *i* P **P 22 10 55.9 +0.4**
comp=Z,3.6nm,0.8s,SNR=4.2
LODK Lodwar 62.06 257 P **P 22 10 56.2 -0.1**
CLL Collm 62.10 315 *e*P **P 22 10 57.0 +1.0**
CLL LmV 22 17 00.0
comp=Z,100nm,20.9s
PDKS Podkum 62.19 309 *e*P **P 22 10 57.4 +0.7**
MOA Molln 62.20 311 *e*P **P 22 10 57.6 +0.8**
comp=Z,4.3nm,0.9s
GEC2 GERESS Array S 62.30 313 P **P 22 10 57.1 -0.4**
GEC2 IAmb IAmb 22 10 59.0
comp=Z,4.0nm,0.9s
GERES GERESS Array B 62.30 313 P **P 22 10 58.2 +0.7**
comp=Z,1.5nm,0.6s,baz=72,slow=8.6,SNR=15
GERES GERESS Array B 62.30 313 P **P 22 10 57.6 +0.1**
KHC Kasperske Hory 62.30 313 *e*P **P 22 10 58.0 +0.6**
KHC Kasperske Hory 62.30 313 *e*P **P 22 10 58.0 +0.6**
OBKA Obir 62.37 310 *e*P **P 22 10 58.5 +0.5**
comp=Z,3.3nm,1.2s
WB0 Warramunga Arr 62.66 138 P **P 22 10 59.3 -0.7**
WB0 IAmb IAmb 22 11 02.5
comp=Z,3.1nm,0.8s
CEY Cerknica 62.66 309 *i* P **P 22 11 00.4 +0.5**
WRAB Tennant Creek 62.76 138⇑ *i*P **P 22 11 01.0 +0.2**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 62.76 138 P **P 22 11 00.2 -0.6**
comp=Z,2.0nm,0.8s,baz=329,slow=7.6,SNR=15
WRA Warramunga Arr 62.76 138 P **P 22 11 00.3 -0.5**
WB2 Warramunga Arr 62.77 138 P **P 22 11 00.4 -0.4**
WB2 IAmb IAmb 22 11 13.6
comp=Z,8.1nm,1.4s
ABTA Abfaltersbach 63.65 310 *e*P **P 22 11 06.2 -0.3**
STAL STALIGIAL 63.66 310 P **P 22 11 05.9 -0.6**
STAL IAmb IAmb 22 11 06.7
comp=Z,8.0nm,1.0s
WTTA Wattenberg 64.07 311 *e*P **P 22 11 09.4 0.0**
comp=Z,5.3nm,1.0s
SQTA Sankt Quirin 64.36 311 *e*P **P 22 11 11.3 +0.1**
comp=Z,3.4nm,0.8s
AQU L'Aquila 64.38 306 P **P 22 11 11.0 -0.3**
AQU pmax pmax
comp=Z,11nm,1.1s
AQU L'Aquila 64.38 306 P **P 22 11 11.0 -0.3**
AQU IAmb IAmb 22 11 29.1
comp=Z,11nm,1.1s
MOTA Moosalm 64.39 311 *e*P **P 22 11 11.1 -0.4**
comp=Z,6.2nm,1.1s
NRCA Norcia 64.43 306 P **P 22 11 11.3 -0.4**
NRCA IAmb IAmb 22 11 14.6
comp=Z,4.5nm,0.9s
RETA Reutte 64.57 312 *i* P **P 22 11 12.4 -0.1**
comp=Z,6.9nm,1.1s,SNR=4.6
FETA Feichten 64.73 311 *i* P **P 22 11 13.6 -0.1**
comp=Z,5.0nm,0.9s,SNR=6.0
DAVA Damuels 65.20 312 *e*P **P 22 11 16.8 0.0**
comp=Z,4.3nm,0.9s
ASAR Alice Springs 65.46 141 P **P 22 11 18.1 -0.3**
comp=Z,2.2nm,0.8s,baz=326,slow=6.5,SNR=19
ASAR Alice Springs 65.46 141 P **P 22 11 18.5 +0.1**
ASAR Alice Springs 65.46 141 P **P 22 11 18.5 +0.1**
TUE Stuetta 65.81 311 P **P 22 11 19.9 -0.9**
TUE IAmb IAmb 22 11 29.5
comp=Z,7.3nm,1.0s
SENIN Lac Senin/Sane 67.18 311 P **P 22 11 29.0 -0.5**
SENIN IAmb IAmb 22 11 31.0
comp=Z,6.2nm,1.0s
LPL La Plagne 67.85 311 *e*P **P 22 11 33.9 +0.1**
LPL pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 68.05 310 P **P 22 11 34.9 -0.1**
BNI pmax pmax
comp=Z,5.0nm,1.1s
BNI Bardonecchia 68.05 310 P **P 22 11 34.9 -0.1**
BNI IAmb IAmb 22 11 36.3
comp=Z,5.2nm,1.1s
MBAR Mbarara 68.11 256 P **P 22 11 36.0 +0.2**
MBAR pmax pmax
comp=Z,6.0nm,1.2s
MBAR Mbarara 68.11 256 P **P 22 11 36.0 +0.2**
MBAR IAmb IAmb 22 11 37.4
comp=Z,6.0nm,1.1s
KEST Kesra 69.68 300 P **P 22 11 45.6 +0.4**
comp=Z,4.7nm,1.0s,baz=186,slow=2.6,SNR=4.9
KEST Kesra 69.68 300 P **P 22 11 45.4 +0.2**
KEST IAmb IAmb 22 11 46.6
comp=Z,7.9nm,1.1s
CAF Calviac 71.12 311 *e*P **P 22 11 54.1 +0.3**
CAF pmax pmax
comp=Z,7.0nm,1.0s
MLY Manley 72.40 24 P **P 22 12 01.3 +0.2**
MLY IAmb IAmb 22 12 02.9
comp=Z,4.3nm,0.9s
SUMG Summit 72.56 347 P **P 22 12 03.0 +0.6**
SUMG pmax pmax
comp=Z,9.0nm,1.2s
SUMG Summit 72.56 347 P **P 22 12 03.0 +0.6**

SUMG				IAmb	IAmb	22 12 04.3	
	comp=Z,9.3nm,1.2s						
SVW2	**Sparrevohn**	**72.69**	**29**	P	**P**	**22 12 03.0**	**+0.2**
SVW2				IAmb	IAmb	22 12 05.1	
	comp=Z,12nm,1.3s						
BPAW	**Bear Paw Mtn.**	**72.84**	**25**	P	**P**	**22 12 03.2**	**-0.5**
BPAW				IAmb	IAmb	22 12 05.9	
	comp=Z,6.1nm,1.0s						
BMAR	**Burnt Mountain**	**72.97**	**20**	P	**P**	**22 12 04.8**	**+0.3**
PPLA	**Purkeypile**	**73.07**	**26**	P	**P**	**22 12 05.5**	**+0.3**
PPLA				IAmb	IAmb	22 12 07.1	
	comp=Z,8.7nm,0.9s						
FYU	**Fort Yukon**	**73.32**	**21**	P	**P**	**22 12 06.6**	**+0.2**
IL31		**73.89**	**23**	P	**P**	**22 12 09.2**	**-0.6**
ILAR	**Eielson Array**	**73.89**	**23**	P	**P**	**22 12 09.6**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=296,slow=5.5,SNR=17						
ILAR				LR	LR	22 48 14.7	
	comp=Z,35nm,19.4s,baz=158,slow=39						
ILAR	**Eielson Array**	**73.89**	**23**	P	**P**	**22 12 09.0**	**-0.9**
SML	**Sawmill**	**75.17**	**26**	P	**P**	**22 12 17.6**	**+0.2**
SML				IAmb	IAmb	22 12 18.8	
	comp=Z,14nm,1.0s						
RIDG	**Independent Ri**	**75.23**	**23**	P	**P**	**22 12 17.4**	**-0.3**
RIDG				IAmb	IAmb	22 12 18.4	
	comp=Z,8.8nm,1.3s						
SCRK	**Sand Creek**	**75.37**	**23**	P	**P**	**22 12 18.2**	**-0.4**
SCRK				IAmb	IAmb	22 12 19.7	
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**75.41**	**17**	P	**P**	**22 12 18.8**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=331,slow=7.4,SNR=9.7						
INK	**Inuvik**	**75.41**	**17**	P	**P**	**22 12 18.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**75.41**	**17**	P	**P**	**22 12 18.7**	**+0.2**
INK				IAmb	IAmb	22 12 19.9	
	comp=Z,4.9nm,0.9s						
EGAK	**Eagle**	**75.76**	**21**	P	**P**	**22 12 20.6**	**0.0**
KDAK	**Kodiak Island**	**75.78**	**31**	P	**P**	**22 12 20.5**	**-0.4**
	comp=Z,5.8nm,0.9s,baz=169,slow=5.0,SNR=2.7						
KDAK	**Kodiak Island**	**75.78**	**31**	P	**P**	**22 12 20.3**	**-0.6**
KDAK				pmax	pmax		
	comp=Z,11nm,1.2s						
KDAK	**Kodiak Island**	**75.78**	**31**	P	**P**	**22 12 20.3**	**-0.6**
KDAK				IAmb	IAmb	22 12 25.0	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**76.09**	**140**	P	**P**	**22 12 23.0**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=15,slow=3.3,SNR=4.7						
STKA	**Stephens Creek**	**76.09**	**140**	P	**P**	**22 12 23.2**	**+0.2**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
STKA	**Stephens Creek**	**76.09**	**140**	P	**P**	**22 12 23.2**	**+0.2**
L27K	**Beaver Creek,**	**76.70**	**23**	P	**P**	**22 12 26.3**	**+0.2**
L27K				IAmb	IAmb	22 12 28.5	
	comp=Z,4.9nm,0.9s						
BCAR	**Beaver Creek A**	**76.71**	**23**	P	**P**	**22 12 26.1**	**-0.1**
ESDC	**Sonseca Array**	**77.46**	**309**	P	**P**	**22 12 30.9**	**0.0**
	comp=Z,2.5nm,1.2s,baz=50,slow=6.8,SNR=9.4						
LSZ	**Lusaka**	**78.47**	**245**	P	**P**	**22 12 36.4**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LSZ	**Lusaka**	**78.47**	**245**	P	**P**	**22 12 36.4**	**-0.4**
LSZ				IAmb	IAmb	22 12 38.0	
	comp=Z,6.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.13**	**283**	P	**P**	**22 13 17.3**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=52,slow=5.4,SNR=14						
TORD	**Torodi Ar. Bea**	**86.13**	**283**	P	**P**	**22 13 16.9**	**0.0**
TORD				IAmb	IAmb	22 13 18.4	
	comp=Z,4.9nm,1.1s						
LBTB	**Lobatse**	**86.13**	**238**	P	**P**	**22 13 16.4**	**-0.2**
	comp=Z,4.8nm,0.7s,baz=64,slow=4.6,SNR=6.0						
LBTB	**Lobatse**	**86.13**	**238**	P	**P**	**22 13 16.3**	**-0.4**

*IDC **22** 22:07:05.6±0.8, 42°.00N×119°.60W, h0km, mb3.6/1, mb1 3.5/6, mb1mx3.3/43, mbtmp3.1/6, ML3.2/4, MS2.7/6, Ms1 2.7/6, ms1mx2.5/38, Error ellipse: s-maj=13.5km s-min=5.7km az=8.0*
*ANF **22** 22:07:06.3±1.0, 41°.82N×119°.54W, h7km±9km, ML3.8/17, Error ellipse: s-maj=6.9km s-min=4.1km az=96.0*
*NEIC **22** 22:07:07.6, 41°.89N×119°.63W, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-1.75; Mθθ-2.06; Mφφ3.81; Mrθ-2.05; Mφφ0.14; Mφr-5.29; Fault plane solution: M₀6.57000×10¹⁴ NP1:φ=23.61000°, δ79.15000°, λ-72.14000°. NP2:φ=143.91000°, δ20.81000°, λ-147.99000°. Principal axes: T 7.1621, Plg32.0000°, Azm99.0000°; N -1.4254, Plg18.0000°, Azm200.0000°; P -5.7368, Plg53.0000°, Azm315.0000°.*
*REN **22** 22:07:07.6±2.6, 41°.89N±0°.04×119°.63W±0°.05, h8km±6km, ML4.0/5, ML3.8/50(SEA), ML3.4/74(NEIC), Mwr3.8/58(NEIC) Error ellipse: s-maj=5.9km s-min=5.3km az=69.0*
*SEA **22** 22:07:08.0±2.7, 41°.85N±0°.04×119°.62W±0°.06, h0km±6km, Error ellipse: s-maj=6.5km s-min=5.1km az=57.0*
*NEIC **22** 22:07:08.4±1.8, 41°.92N±0°.01×119°.69W±0°.06, h7km±6km, Error ellipse: s-maj=6.1km s-min=1.5km az=94.0*

ISC 22 22:07:07.3±1.2, 41°.93N±0°.03×119°.67W±0°.02, h3km±11km, n89, σ1§04/104, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.48**	**267**	Pg	**Pg**	**22 07 17.5**	**+1.1**
MOD				Sg	**Sb**	**22 07 24.6**	**-1.3**
MOD				IAML		22 07 28.9	
	comp=N,4μm,0.7s						
LKVW	**Lakeview**	**0.60**	**300**		**Pb**	**22 07 19.9**	**-0.6**
LKVW					**Sb**	**22 07 29.6**	**+0.2**
WVOR	**Wild Horse Val**	**0.92**	**56**		**Pg**	**22 07 24.9**	**0.0**
WVOR				Sg	**Sg**	**22 07 37.4**	**+0.7**
K05A	**Summer Lake**	**1.21**	**312**		**Pn**	**22 07 31.4**	**+0.1**
K05A					**Sn**	**22 07 48.7**	**+0.4**
LASM	**Arnica Sink**	**1.47**	**258**		**Pn**	**22 07 34.5**	**-0.3**
HOG	**Hogback Mounta**	**1.55**	**282**		**Pn**	**22 07 36.1**	**+0.1**
LTIM	**Timbered Crate**	**1.56**	**242**		**Pn**	**22 07 35.9**	**-0.1**
M04C	**Macdoel**	**1.63**	**266**	P	**Pn**	**22 07 36.7**	**-0.3**
	baz=86,SNR=116						
M04C				S	**Sg**	**22 08 00.4**	**+0.8**
	baz=86						
M04C	**Macdoel**	**1.63**	**266**		**Pn**	**22 07 36.8**	**-0.3**
LBCM	**Butte Creek Ri**	**1.67**	**230**		**Pn**	**22 07 37.2**	**-0.4**
K04D	**Chiloquin, OR**	**1.70**	**295**	P	**Pn**	**22 07 38.2**	**+0.3**
	baz=114,SNR=36						
K04D				S	**Sg**	**22 08 02.7**	**+0.9**
	baz=114						
J05D	**Fort Rock, OR**	**1.78**	**320**	P	**Pn**	**22 07 39.4**	**+0.2**
	baz=139						
J05D				S	**Sg**	**22 08 05.1**	**+0.5**
	baz=139						
J05D	**Fort Rock, OR**	**1.78**	**320**		**Pg**	**22 07 41.3**	**-0.2**
L04D	**Klamath Falls**	**1.99**	**279**	P	**Pn**	**22 07 41.5**	**-0.5**
	baz=98,SNR=54						
L04D				S	**Sb**	**22 08 08.9**	**-0.5**
	baz=98						
L04D	**Klamath Falls**	**1.99**	**279**		**Pn**	**22 07 41.8**	**-0.1**
PINE	**Pine Mountain**	**2.08**	**334**		**Pb**	**22 07 44.4**	**-1.5**
PINE				IAML		22 08 23.7	
	comp=N,442nm,1.1s						
BEKR	**Beckworth**	**2.13**	**195**		**Pn**	**22 07 44.5**	**+0.6**
BEKR				IAML		22 08 17.0	
	comp=E,227nm,0.6s						
I07A	**Izee**	**2.16**	**3**		**Pb**	**22 07 45.5**	**-1.5**
I07A				IAML		22 08 18.1	
	comp=N,304nm,0.6s						
I07A				IAML		22 08 27.6	
	comp=E,314nm,1.9s						
PAHR	**Pah Rah Range**	**2.23**	**174**		**Pn**	**22 07 44.9**	**-0.4**
J04D	**Umpqua Nationa**	**2.23**	**307**	P	**Pn**	**22 07 45.4**	**+0.1**
	baz=126,SNR=31						
J04D				Sb	**Sg**	**22 08 21.0**	**+2.0**
	baz=126						
YBH	**Yreka Blue Hor**	**2.28**	**266**	Pn	**Pn**	**22 07 45.7**	**-0.3**
	comp=E,3.9nm,0.3s,baz=79,slow=11,SNR=50						
YBH				Lg	Lg	22 08 19.2	
	comp=E,25nm,0.3s,baz=31,slow=9.0,SNR=15						
YBH				LR	LR	22 08 35.6	
	comp=E,44nm,18.8s,baz=130,slow=38						
YBH	**Yreka Blue Hor**	**2.28**	**266**	Pn	**Pn**	**22 07 45.5**	**-0.5**
YBH				IAML		22 08 30.4	
	comp=N,164nm,1.4s						
M02C	**Callahan**	**2.45**	**258**	P	**Pn**	**22 07 47.3**	**-0.9**
	baz=77,SNR=9.0						
M02C				Sb	**Sg**	**22 08 25.0**	**-1.0**
	baz=77						
N02D	**Trinity Center**	**2.48**	**248**	Pb	**Pb**	**22 07 51.6**	**-0.8**
	baz=67,SNR=26						
N02D				Sb	**Sg**	**22 08 25.6**	**-1.2**
	baz=67						
HUMO	**Hull Mountain**	**2.54**	**287**		**Pn**	**22 07 48.9**	**-0.4**
HUMO				IAML		22 08 33.1	
	comp=E,164nm,0.7s						
HUMO				IAML		22 08 37.2	
	comp=N,221nm,1.1s						
WDC	**Whiskeytown Da**	**2.55**	**239**		**Pn**	**22 07 49.3**	**-0.3**
WDC				IAML		22 08 27.4	
	comp=N,107nm,0.5s						
VCNR	**Virginia City**	**2.63**	**180**		**Pn**	**22 07 50.9**	**+0.1**
VCNR				IAML		22 08 37.9	
	comp=N,174nm,1.0s						
VCNR				IAML		22 08 38.1	
	comp=E,213nm,0.8s						
I05D	**Terrebonne, OR**	**2.70**	**334**	Pb	**Pb**	**22 07 57.3**	**+1.0**
	baz=152,SNR=6.8						
I05D				Sb	**Sg**	**22 08 34.9**	**+0.8**
	baz=152						
I04A	**Tendick Farm,**	**2.75**	**314**	Pb	**Pb**	**22 07 58.0**	**+1.0**
	baz=132,SNR=27						
I04A				Sb	**Sg**	**22 08 35.9**	**+0.3**
	baz=132						
ORV	**Oroville**	**2.75**	**211**		**Pn**	**22 07 52.9**	**+0.6**
O02D	**Mt. Diablo Mer**	**2.94**	**234**	P	**Pn**	**22 07 53.7**	**-1.2**
	baz=53,SNR=14						
O02D				Sb	**Sb**	**22 08 37.8**	**+1.1**
	baz=53						
L02E	**Cave Junction**	**2.94**	**276**	P	**Pn**	**22 07 55.2**	**+0.2**
	baz=94,SNR=18						
L02E				Sb	**Sb**	**22 08 39.1**	**+2.4**
	baz=94						
YERR	**Yerington**	**2.96**	**174**		**Pn**	**22 07 56.1**	**+0.8**
YERR				IAML		22 08 49.0	
	comp=N,122nm,1.0s						
YERR				IAML		22 08 49.7	
	comp=E,138nm,1.3s						
K02D	**Willamette Mer**	**3.06**	**286**	P	**Pn**	**22 07 57.4**	**+0.7**
	baz=104,SNR=111						
K02D				S	**Sb**	**22 08 37.1**	**-3.2**
	baz=104						
KVN	**Kaiserville**	**3.11**	**157**	Pn	**Pn**	**22 07 58.1**	**+0.6**
MFID	**Camas Ranch**	**3.20**	**61**		**Pn**	**22 07 58.3**	**-0.2**
KRMB	**Red Mountain**	**3.20**	**264**		**Pn**	**22 07 59.1**	**+0.5**
KRMB				IAML		22 09 01.6	
	comp=N,77nm,1.9s						
KHMM	**Horse Mountain**	**3.23**	**252**		**Pn**	**22 07 58.6**	**-0.5**
KHMM				IAML		22 09 06.3	
	comp=N,111nm,1.4s						
KHMM				IAML		22 09 06.7	
	comp=E,125nm,1.9s						
I03D	**Drain, OR**	**3.24**	**304**	Sb	**Sg**	**22 08 50.1**	**-1.1**
	baz=122						
BUCK	**Buck Mountain**	**3.33**	**314**		**Pn**	**22 08 00.5**	**+0.2**
BUCK				IAML		22 09 02.7	
	comp=E,110nm,1.8s						
BUCK				IAML		22 09 09.5	
	comp=N,141nm,1.2s						
J01E	**Myrtle Point**	**3.38**	**293**	P	**Pn**	**22 08 02.0**	**+1.0**
	baz=110						
J01E				Sb	**Sg**	**22 08 55.2**	**-0.8**
	baz=110						
BMO	**Blue Mountains**	**3.39**	**30**		**Pn**	**22 08 01.7**	**+0.5**
BMO				IAML		22 09 02.5	
	comp=N,80nm,0.5s						
BMO				IAML		22 09 06.7	
	comp=N,86nm,2.0s						
KBO	**Bosley Butte**	**3.41**	**276**		**Pn**	**22 08 02.0**	**+0.6**
RYN	**Ryan**	**3.41**	**165**		**Pn**	**22 08 02.7**	**+1.2**
RYN				IAML		22 08 59.6	
	comp=N,74nm,1.0s						
RYN				IAML		22 09 03.6	
	comp=E,81nm,0.8s						
WAKR	**Walker**	**3.42**	**177**		**Pn**	**22 08 03.2**	**+1.4**
H04D	**Lebanon**	**3.43**	**320**	P	**Pn**	**22 08 02.4**	**+0.7**
	baz=138,SNR=10.0						
H04D				Sb	**Sg**	**22 08 56.8**	**-0.7**
	baz=138						
G05D	**Wamic, OR**	**3.52**	**341**	Sb	**Sg**	**22 08 58.8**	**-1.6**
	baz=159						
ELK	**Elko**	**3.54**	**108**	Pn	**Pn**	**22 08 02.7**	**-0.6**
	comp=E,3.7nm,0.3s,baz=292,slow=16,SNR=23						
ELK				Pg	**Pb**	**22 08 08.5**	**-2.1**
	comp=E,6.4nm,0.3s,baz=290,slow=17,SNR=33						
ELK				Lg	Lg	22 08 54.4	
	comp=E,13nm,0.3s,baz=26,slow=20,SNR=7.4						
ELK				LR	LR	22 08 59.6	
	comp=E,56nm,20.1s,baz=272,slow=32						
ELK	**Elko**	**3.54**	**108**		**Pn**	**22 08 03.0**	**-0.3**
ELK				IAML		22 09 03.1	
	comp=E,54nm,0.7s						
KEBM	**Edson Butte**	**3.58**	**287**		**Pn**	**22 08 04.5**	**+0.7**
NVAR	**Mina Array Bea**	**3.65**	**163**	Pn	**Pn**	**22 08 05.0**	**+0.2**
	comp=E,0.6nm,0.3s,baz=338,slow=12,SNR=11						
NVAR				Lg	Lg	22 09 02.0	
	comp=E,5.7nm,0.3s,baz=348,slow=31,SNR=2.3						
NVAR				LR	LR	22 09 54.1	
	comp=E,176nm,20.5s,baz=276,slow=45						
NVAR	**Mina Array Bea**	**3.65**	**163**		**Pn**	**22 08 05.5**	**+0.7**
NV11	**Mina Array Sit**	**3.68**	**161**		**Pn**	**22 08 04.5**	**-0.7**
NV11				IAML		22 09 11.4	
	comp=E,50nm,1.1s						
COR	**Corvallis**	**3.76**	**316**		**Pn**	**22 08 05.7**	**-0.4**
COR				IAML		22 09 14.0	
	comp=E,68nm,1.1s						
COR				IAML		22 09 20.5	
	comp=E,75nm,2.0s						
I02D	**Swisshome**	**3.76**	**307**	Sb	**Sg**	**22 09 06.9**	**-1.1**
	baz=124						
LHV	**Little Huntoon**	**3.78**	**166**		**Pn**	**22 08 07.1**	**+0.8**
LHV				IAML		22 09 13.7	
	comp=N,112nm,1.2s						
CMB	**Columbia Colle**	**3.93**	**188**		**Pn**	**22 08 08.5**	**0.0**
PLID	**Pearl Lake**	**4.13**	**39**		**Pn**	**22 08 11.0**	**-0.4**
PLID				IAML		22 09 26.4	
	comp=N,29nm,1.1s						
PLID				IAML		22 09 30.4	
	comp=N,37nm,1.6s						
TPH	**Tonopah**	**4.28**	**153**	Pn	**Pn**	**22 08 14.8**	**+1.3**
TPH	**Tonopah**	**4.28**	**153**	IAML		22 09 25.7	
	comp=E,46nm,1.1s						
TPH				IAML		22 09 33.4	
	comp=N,60nm,1.1s						
MDPB	**Devils Postpil**	**4.32**	**174**		**Pn**	**22 08 14.4**	**+0.4**
HAWA	**Hanford**	**4.46**	**1**	Pn	**Pn**	**22 08 16.6**	**+0.8**
HAWA				IAML		22 09 42.0	
	comp=N,28nm,1.3s						
HAWA				IAML		22 09 53.8	
	comp=N,24nm,1.2s						
R11A	**Troy Canyon, C**	**4.75**	**137**		**Pn**	**22 08 21.2**	**+1.3**
R11A				IAML		22 09 40.6	
	comp=E,46nm,1.5s						
R11A				IAML		22 09 41.0	
	comp=N,50nm,0.6s						
SPR3	**Spring Creek 3**	**5.01**	**124**	Pn	**Pn**	**22 08 26.0**	**+2.3**
BGU	**Big Grassy Mou**	**5.09**	**99**	Pn	**Pn**	**22 08 26.3**	**+1.7**
BGU				IAML		22 09 51.6	
	comp=N,46nm,1.3s						
BCYI	**Bear Canyon**	**5.16**	**60**		**Pn**	**22 08 26.1**	**+0.5**
LTY	**Liberty**	**5.38**	**353**		**Pn**	**22 08 30.1**	**+1.7**
DUG	**Dugway, Tooele**	**5.46**	**106**	Pn	**Pn**	**22 08 30.1**	**+0.4**
PSUT	**Pine Spring**	**5.59**	**125**	Pn	**Pn**	**22 08 32.7**	**+1.2**
TPNV	**Topopah Spring**	**5.63**	**151**	Pn	**Pn**	**22 08 33.9**	**+1.8**
PRN	**Pahroc Range**	**5.75**	**140**		**Pn**	**22 08 35.6**	**+2.0**
MCMT	**McKenzie Canyo**	**5.75**	**57**	Pn	**Pn**	**22 08 35.4**	**+1.7**
HWUT	**Hardware Ranch**	**6.07**	**90**	Pn	**Pn**	**22 08 38.3**	**+0.3**
NLU	**North Lily Min**	**6.08**	**106**		**Pn**	**22 08 38.8**	**+0.7**
LRM	**Limekiln Ridge**	**6.50**	**51**	Pn	**Pn**	**22 08 45.7**	**+1.6**
CCUT	**Cedar City**	**6.53**	**130**	Pn	**Pn**	**22 08 45.6**	**+1.1**
NEW	**Newport**	**6.58**	**15**	Lg	Lg	22 10 30.4	
	comp=N,0.1nm,0.3s,baz=266,slow=16,SNR=1.8						
BOZ	**Bozeman (W)**	**6.88**	**55**	Pn	**Pn**	**22 08 49.2**	**+0.1**
MTPU	**Mount Pierson**	**6.93**	**122**	Pn	**Pn**	**22 08 50.0**	**-0.1**
TMUT	**Trail Mountain**	**6.95**	**109**		**Pn**	**22 08 51.2**	**+1.0**
PD31	**Pinedale Array**	**7.54**	**80**		**Pn**	**22 09 00.2**	**+2.0**
PDAR	**Pinedale Array**	**7.54**	**80**	Pn	**Pn**	**22 08 59.5**	**+1.3**
	baz=268,slow=12,SNR=4.9						
PDAR				LR	LR	22 11 47.0	
	comp=N,37nm,20.4s,baz=235,slow=38						
PDAR	**Pinedale Array**	**7.54**	**80**		**Pn**	**22 09 00.3**	**+2.0**
PFO	**Pinyon Flats O**	**8.68**	**162**	LR	LR	22 13 00.7	
	comp=N,84nm,20.0s,baz=312,slow=41						
ANMO	**Albuquerque**	**12.47**	**120**	LR	LR	22 15 37.7	
	comp=N,70nm,20.7s,baz=295,slow=41						
TXAR	**Lajitas Array**	**18.05**	**129**	Pn	**Pn**	**22 11 18.2**	**-0.9**
	comp=N,0.0nm,0.3s,baz=315,slow=10,SNR=3.3						
P40A	**Paris**	**21.03**	**87**	P	**P**	**22 11 52.8**	**+0.7**
I40A	**Norwalk**	**21.32**	**75**	P	**P**	**22 11 55.9**	**+0.7**
ILAR	**Eielson Array**	**27.64**	**335**	P	**P**	**22 12 55.2**	**-0.6**
	comp=N,0.6nm,0.8s,baz=151,slow=8.3,SNR=5.1						

*IDC **22** 22:20:38.2±1.1, 2°.89S×128°.25E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.6/51, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=32.8km s-min=21.1km az=75.0*
*DJA **22** 22:20:40.5±0.3, 3°.5±2°.×12°.8E±°, h10km, M3.9/8, mb4.4/2, mB4.9/1, MLv3.7/8, Mw(mB)4.2/1*

ISC 22 22:20:44.2±0.8, 2°.91S±0°.08×128°.28E±0°.05, h51km, n11, σ1§12/17, mb3.8/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.78**	**124**	P	**Pn**	**22 20 58.1**	**-1.0**
MSAI				S	**Sn**	**22 21 09.2**	**-0.8**
NLAI	**Namlea**	**1.22**	**254**	P	**Pn**	**22 21 04.1**	**-0.9**
NLAI				S	**Sn**	**22 21 20.6**	**+0.2**
SWI	**Sorong**	**3.61**	**56**	P	**Pn**	**22 21 36.0**	**-1.7**
SWI				S	**Sn**	**22 22 19.7**	**+0.7**
SIJI	**Sorong**	**3.61**	**56**	Pn	**Pn**	**22 21 35.8**	**-1.9**
	6.5nm,0.3s,baz=234,slow=18,SNR=13						
SIJI				Sn	**Sn**	**22 22 19.5**	**+0.4**
	2.9nm,0.3s,baz=64,slow=21,SNR=7.0						
FAKI	**Fak Fak**	**3.97**	**90**	P	**Pn**	**22 21 42.4**	**-0.2**
APSI	**Ampana**	**6.91**	**287**	P	**Pn**	**22 22 21.1**	**-2.0**
WRA	**Warramunga Arr**	**17.94**	**161**	P	**Pn**	**22 24 49.6**	**-0.5**
	0.5nm,0.3s,baz=343,slow=13,SNR=9.9						
ASAR	**Alice Springs**	**21.34**	**166**	P	**P**	**22 25 27.9**	**+0.6**
	7.7nm,0.8s,baz=346,slow=11,SNR=34						
ASAR				S	**S**	**22 29 21.4**	**-0.3**
	0.6nm,0.8s,baz=351,slow=23,SNR=4.0						
ASAR				PcP	**PcP**	**22 29 31.2**	**+1.1**
	0.5nm,0.5s,baz=358,slow=2.0,SNR=6.2						
STKA	**Stephens Creek**	**31.43**	**158**	P	**P**	**22 27 01.4**	**+0.6**
	0.6nm,0.3s,baz=337,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**63.88**	**327**	P	**P**	**22 31 12.3**	**+0.5**
	0.2nm,0.5s,baz=128,slow=7.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**68.15**	**328**	P	**P**	**22 31 40.2**	**+1.2**
	0.3nm,0.3s,baz=133,slow=5.2,SNR=5.4						

*TUL **22** 22:20:59.9±0.9, 36°.39N±0°.01×97°.65W±0°.01, h5km±7km, ML2.5, mb_Lg2.5/24(NEIC), Error ellipse: s-maj=1.8km s-min=1.4km az=222.0*

NEIC 22 22:21:00.0±0.6, 36°.38N±0°.01×97°.649W±0°.007, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=313.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.30**	**294**		Pg	22 21 05.9	+0.2
CROK				Sg	Sg	22 21 10.4	+0.7
GC02	**Grant County #**	**0.50**	**340**		Pg	22 21 09.6	0.0
GC02				Sg	Sg	22 21 16.6	+0.5
BLOK	**Blackwell**	**0.51**	**43**	Pg	Pg	22 21 10.0	+0.1
BLOK				Sg	Sg	22 21 17.2	+0.6
OK029	**Liberty Lake**	**0.61**	**165**		Pg	22 21 11.7	0.0
OK029				Sg	Sg	22 21 20.2	+0.7
OK032	**Salt Plains WL**	**0.62**	**313**		Pg	22 21 11.7	-0.2
OK032				Sg	Sg	22 21 20.3	+0.4
KAN13	**South Haven SW**	**0.64**	**12**		Pg	22 21 12.3	-0.1
BCOK	**Bluff Creek, N**	**0.73**	**177**		Pg	22 21 13.8	-0.1
KAN05	**Bluff City Nor**	**0.75**	**346**	Pg	Pg	22 21 14.1	-0.2
OK031	**S. Brethren Rd**	**0.78**	**123**		Pg	22 21 15.0	-0.1
QUOK	**Quay**	**0.79**	**105**		Pg	22 21 15.1	-0.1
KAN10	**Anthony SW Sta**	**0.82**	**334**	Pg	Pg	22 21 15.4	-0.4
OK025	**Westminster Rd**	**0.84**	**162**		Pg	22 21 16.0	-0.1
KS20	**Mayfield South**	**0.85**	**5**	Pg	Pg	22 21 15.9	-0.4
KAN12	**Harper NE Stat**	**0.95**	**343**	Pg	Pg	22 21 18.3	0.0
T35A	**Sooner Cattle**	**1.06**	**59**		Pg	22 21 19.8	-0.5
U32A	**Winter Ranch,**	**1.09**	**270**		Pg	22 21 20.0	-1.0
FNO	**Franklin**	**1.14**	**170**	Pn	Pg	22 21 21.1	-0.8
X34A	**Smith Ranch, M**	**1.79**	**185**	Pn	Pb	22 21 32.7	-0.5
WMOK	**Wichita Mounta**	**1.88**	**210**		Pn	22 21 33.1	+0.2
X37A	**Clayton**	**2.58**	**133**		Pn	22 21 42.7	+0.3
X37A				IAmb_Lg		22 22 23.6	
	comp=Z,22nm,1.2s						
KSU1	**Kansas State U**	**2.83**	**17**	Pn	Pn	22 21 46.9	+0.9
AMTX	**Amarillo**	**3.61**	**247**	IAmb_Lg		22 22 56.6	
	comp=Z,9.6nm,0.7s						
MGMO	**Mountain Grove**	**4.39**	**78**	IAmb_Lg		22 23 19.2	
	comp=Z,14nm,1.1s						
P38A	**Dawn**	**4.59**	**44**	IAmb_Lg		22 23 29.0	
	comp=Z,9.8nm,0.8s						
R40A	**Maddies Statio**	**4.69**	**64**	IAmb_Lg		22 23 31.8	
	comp=Z,6.9nm,0.8s						
T42A	**Van Buren**	**5.31**	**81**	IAmb_Lg		22 23 55.0	
	comp=Z,5.3nm,0.8s						
CCM	**Cathedral Cave**	**5.38**	**70**	IAmb_Lg		22 23 58.2	
	comp=Z,11nm,0.8s						
P40A	**Paris**	**5.43**	**53**	IAmb_Lg		22 23 54.6	
	comp=Z,4.9nm,0.8s						
N38A	**Joes South For**	**5.60**	**37**	IAmb_Lg		22 24 10.6	
	comp=Z,9.0nm,0.9s						
PBMO	**Poplar Bluff**	**5.82**	**84**	IAmb_Lg		22 24 10.2	
	comp=Z,8.3nm,0.7s						
JCT	**Junction City**	**6.16**	**198**	IAmb_Lg		22 24 26.3	
	comp=Z,5.1nm,0.8s						
**SIU

MASF	**Masafi**	**3.71**	**158**	P		**Pn**	**22 37 56.3**	**+1.4**
MASF				S		**Sn**	**22 38 38.2**	**-0.5**
MDH	**Madha**	**3.83**	**157**	P		**Pn**	**22 37 57.5**	**+1.1**
MDH				S		**Sn**	**22 38 40.4**	**-1.0**
NAZ	**Nazwa, Dubai**	**3.95**	**166**	P		**Pn**	**22 37 59.6**	**+1.6**
NAZ				S		**Sb**	**22 38 49.6**	**-5.2**
UOSS	**Minazif**	**4.13**	**160**	P		**Pn**	**22 38 01.4**	**+0.9**
UOSS				S		**Sn**	**22 38 50.0**	**+1.1**
FAQ	**Al Faqa, Dubai**	**4.17**	**168**	P		**Pn**	**22 38 02.6**	**+1.5**
	SNR=6.6							
HATD	**Hatta, Dubai**	**4.22**	**161**	P		**Pn**	**22 38 03.9**	**+2.1**
HATD				S		**Sn**	**22 38 50.2**	**-0.9**
ASUD	**Al Ashush, Dub**	**4.24**	**171**	P		**Pn**	**22 38 03.6**	**+1.5**
ASHO	**Ashiyiah**	**4.33**	**163**	P		**Pn**	**22 38 05.0**	**+1.6**
	SNR=7.6							
ASHO				S		**Sn**	**22 38 55.7**	**+1.8**
SHMA	**Al-Shehemyia**	**4.41**	**229**	P		**Pn**	**22 38 05.4**	**+1.0**
SHMA				S		**Sn**	**22 38 51.5**	**-4.3**
TPRV	**Parvadeh(Tabas**	**4.53**	**22**	*e*Pn		**Pn**	**22 38 05.9**	**-0.3**
SOHO	**SOHO**	**4.99**	**160**	P		**Pn**	**22 38 13.3**	**+1.0**
SOHO				S		**Sn**	**22 39 08.2**	**-1.9**
IPIR	**Pirpir**	**5.00**	**321**	*e*Pn		**Pn**	**22 38 14.2**	**+1.4**
HOQ	**Hoqain**	**5.76**	**155**	P		**Pn**	**22 38 24.2**	**+1.2**
UMZA	**Um Al Zommool**	**6.12**	**175**	P		**Pn**	**22 38 28.5**	**+0.6**
UMZA				S		**Sn**	**22 39 36.9**	**-1.1**
BSY	**Bisya**	**6.50**	**159**	P		**Pn**	**22 38 34.2**	**+1.1**
SMDO	**Samad**	**6.53**	**151**	P		**Pn**	**22 38 34.6**	**+1.0**
SMDO				P		**Pn**	**22 38 34.7**	**+1.1**
SMDO				S		**Sn**	**22 39 48.8**	**+0.6**
SMDO				S		**Sn**	**22 39 48.9**	**+0.6**
JMDO	**Jabal Madar**	**7.16**	**153**	P		**Pn**	**22 38 44.0**	**+1.7**
	SNR=6.6							
JLN	**Jalan Bani Buh**	**7.94**	**146**	P		**Pn**	**22 38 54.3**	**+1.4**
WHFO	**Wadi Hawf**	**10.90**	**184**	P		**Pn**	**22 39 32.0**	**-1.5**
	SNR=14							

TUL ***22*** *22:37:05.8±0.9, 36°.85N±0°.03×98°.25W±0°.04, h4km±2km, ML2.8, mb_Lg2.5/32(NEIC), Error ellipse: s-maj=4.9km s-min=3.1km az=118.0*

NEIC 22 22:37:06.8±1.5, 36°.83N±0°.04×98°.22W±0°.05, h10km±7km, Error ellipse: s-maj=6.4km s-min=5.6km az=177.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.03**	**169**		Pg	22 37 07.5	-1.0
OK032				Sg	Sg	22 37 08.7	-1.1
GC02	**Grant County #**	**0.29**	**86**		Pg	22 37 12.3	-0.2
GC02				Sg	Sg	22 37 16.9	+0.5
KAN10	**Anthony SW Sta**	**0.31**	**19**		Pg	22 37 12.2	-0.8
KAN10				Sg	Sg	22 37 16.7	-0.4
CROK	**Carrier**	**0.38**	**150**		Pg	22 37 14.0	-0.2
CROK				Sg	Sg	22 37 19.7	+0.5
KAN05	**Bluff City Nor**	**0.39**	**45**		Pg	22 37 14.0	-0.5
KAN05				Sg	Sg	22 37 19.6	0.0
KAN17	**Caldwell West**	**0.42**	**60**		Pg	22 37 14.6	-0.4
KAN08	**Anthony NE Sta**	**0.44**	**27**		Pg	22 37 14.7	-0.7
KAN12	**Harper NE Stat**	**0.50**	**21**	Pg	Pg	22 37 15.7	-0.7
KAN12				Sg	Sg	22 37 22.8	-0.2
KAN09	**Caldwell North**	**0.57**	**58**	Pg	Pg	22 37 17.2	-0.5
KAN13	**South Haven SW**	**0.62**	**73**		Pg	22 37 18.2	-0.5
KS20	**Mayfield South**	**0.66**	**53**		Pg	22 37 18.9	-0.7
U32A	**Winter Ranch,**	**0.78**	**235**	Pg	Pg	22 37 20.4	-1.3
BLOK	**Blackwell**	**0.81**	**95**		Pg	22 37 21.7	-0.7
OK029	**Liberty Lake**	**1.20**	**149**		Pb	22 37 28.8	-0.9
BCOK	**Bluff Creek, N**	**1.27**	**157**		Pn	22 37 29.8	-0.9
T35A	**Sooner Cattle**	**1.37**	**86**	Pn	Pn	22 37 31.7	-0.4
QUOK	**Quay**	**1.38**	**118**		Pn	22 37 31.9	-0.3
OK031	**S. Brethren Rd**	**1.42**	**128**		Pn	22 37 32.8	+0.1
OK025	**Westminster Rd**	**1.44**	**150**		Pn	22 37 32.8	-0.1
OKCSW	**OKLAHOMA CITY**	**1.56**	**156**	Pn	Pn	22 37 34.9	+0.3
R32A	**Long Quarter,**	**1.63**	**346**		Pn	22 37 35.6	-0.1
FNO	**Franklin**	**1.71**	**157**	Pn	Pn	22 37 37.1	+0.4
FNO				IAmb_Lg		22 37 59.8	
	comp=Z,26nm,0.7s						
WMOK	**Wichita Mounta**	**2.14**	**193**		Pn	22 37 42.7	+0.1
X34A	**Smith Ranch, M**	**2.25**	**172**		Pn	22 37 45.3	+1.2
CBKS	**Cedar Bluff**	**2.31**	**329**	Pn	Pn	22 37 44.7	-0.4
KSU1	**Kansas State U**	**2.60**	**29**	IAmb_Lg		22 38 29.2	
	comp=Z,22nm,1.1s						
LOOK	**Love County**	**2.96**	**163**	Pn	Pn	22 37 54.5	+0.7
U38A	**Gravette**	**3.11**	**96**	IAmb_Lg		22 38 52.8	
	comp=Z,17nm,1.0s						
X37A	**Clayton**	**3.22**	**133**		Pn	22 37 58.2	+0.7
X37A				IAmb_Lg		22 38 57.0	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**3.42**	**236**	Pn	Pn	22 37 59.4	-0.9
AMTX				IAmb_Lg		22 39 03.2	
	comp=Z,13nm,0.7s						
HHAR	**Hobbs**	**3.49**	**98**	Pn	Pn	22 38 01.7	+0.6
Z35A	**Perchaven, San**	**3.58**	**167**	Pn	Pn	22 38 02.7	+0.3
N33A	**J Bar K, Exete**	**3.94**	**8**	Pn	Pn	22 38 06.6	-0.8
W39A	**Magazine**	**3.95**	**113**	Pn	Pn	22 38 08.1	+0.6
W39A				IAmb_Lg		22 39 13.9	
	comp=Z,12nm,1.1s						
KSCO	**Kaye Shedlock'**	**4.11**	**303**	Pn	Pn	22 38 10.5	+0.7
KSCO				IAmb_Lg		22 39 21.3	
	comp=Z,10nm,0.7s						
U40A	**Yellville**	**4.34**	**95**	Pn	Pn	22 38 13.8	+0.9
U40A				IAmb_Lg		22 39 25.2	
	comp=Z,10nm,0.7s						
ABTX	**Abilene, Hawle**	**4.36**	**196**	Pn	Pn	22 38 13.5	+0.4
P38A	**Dawn**	**4.62**	**52**	Pn	Pn	22 38 17.3	+0.5
P38A				IAmb_Lg		22 39 36.7	
	comp=Z,8.1nm,0.8s						
MSTX	**Muleshoe**	**4.69**	**234**	IAmb_Lg		22 39 34.9	
	comp=Z,9.4nm,1.1s						
MGMO	**Mountain Grove**	**4.77**	**84**	Pn	Pn	22 38 19.2	+0.4
WHTX	**Lake Whitney,**	**4.87**	**172**	Pn	Pn	22 38 20.0	-0.2
T25A	**Trinidad**	**4.97**	**275**	IAmb_Lg		22 39 46.1	
	comp=Z,8.2nm,0.7s						
X40A	**Basin Creek Fa**	**4.97**	**117**	Pn	Pn	22 38 22.4	+0.9
FCAR	**Ozark Folk Cen**	**5.01**	**99**	Pn	Pn	22 38 23.3	+1.3
WHAR	**Wooly Hollow**	**5.04**	**106**	Pn	Pn	22 38 23.2	+0.7
WHAR				IAmb_Lg		22 39 54.6	
	comp=Z,6.8nm,0.9s						
OGNE	**Ogallala**	**5.07**	**325**	Pn	Pn	22 38 23.7	+0.7
237A	**Washetta, Mont**	**5.21**	**157**	Pn	Pn	22 38 24.7	-0.1
L34A	**Svendsen Farm,**	**5.32**	**15**	Pn	Pn	22 38 25.7	-0.7
L34A				IAmb_Lg		22 39 59.0	
	comp=Z,10nm,0.9s						
N38A	**Joes South For**	**5.55**	**43**	Pn	Pn	22 38 29.2	-0.2
CCM	**Cathedral Cave**	**5.68**	**75**	Pn	Pn	22 38 31.4	+0.2
PBMO	**Poplar Bluff**	**6.25**	**88**	IAmb_Lg		22 40 25.6	
	comp=Z,7.0nm,0.8s						
N41A	**Harden Midland**	**6.93**	**54**	IAmb_Lg		22 40 48.1	
	comp=Z,7.5nm,0.7s						
S44A	**Carbondale**	**7.20**	**80**	IAmb_Lg		22 40 59.7	
	comp=Z,5.7nm,0.7s						

IDC ***22*** *23:14:29.2±0.8, 25°.15N×126°.73E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/44, mbtmp3.9/15, ML3.2/2, MS3.6/7, Ms1 3.6/7, ms1mx3.1/42, Error ellipse: s-maj=23.2km s-min=17.0km az=85.0*

NEIC ***22*** *23:14:31.1±1.5, 25°.08N±0°.08×127°.00E±0°.08, h18km±6km, mb4.2/11, Error ellipse: s-maj=13.9km s-min=8.3km az=143.0*

JMA ***22*** *23:14:32.8±0.1, 25°.12N×126°.97E, h39km, M3.6*

ISC 22 23:14:31.2±0.6, 25°.05N±0°.06×127°.04E±0°.04, h21km±4km, n66, σ1§22/74, mb4.1/20, MS3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.29**	**350**	P	**Pn**	**23 14 54.0**	**-0.1**
JKE				S	**Sn**	**23 15 09.3**	**-1.5**
JOGS	**Gusukube**	**1.51**	**259**	P	**Pb**	**23 14 58.1**	**-0.4**
JOGS				*e*S	**Sn**	**23 15 15.8**	**-0.3**
JAGN	**Aguni-jima**	**1.55**	**7**	P	**Pn**	**23 14 58.0**	**+0.4**
JMJ2	**Miyako jima3**	**1.58**	**259**	P	**Pn**	**23 14 58.1**	**0.0**
JMJ2				S	**Sn**	**23 15 17.0**	**-0.9**
JIKM	**Ikemajima**	**1.63**	**266**	P	**Pn**	**23 14 59.1**	**+0.4**
JIRB	**Irabujima**	**1.71**	**263**	P	**Pn**	**23 15 00.3**	**+0.5**
JIRB				*e*S	**Sn**	**23 15 21.1**	**+0.1**
JNTH	**Nagotoyohara**	**1.71**	**31**	P	**Pb**	**23 15 01.2**	**-0.8**
JOW	**Kunigami**	**2.10**	**32**	Pn	**Pn**	**23 15 06.7**	**+1.5**
	4.2nm,0.3s,baz=227,slow=14,SNR=23						
JOW				Sn	**Sb**	**23 15 36.4**	**+2.1**
	32nm,0.3s,baz=150,slow=30,SNR=5.5						
JOW	**Kunigami**	**2.10**	**32**	P	**Pn**	**23 15 06.4**	**+1.2**
JOW	**Kunigami**	**2.10**	**32**		**Pn**	**23 15 06.2**	**+1.0**
JOW				Sn	**Sn**	**23 15 29.2**	**-1.5**
JIH	**Iheya**	**2.15**	**23**	P	**Pn**	**23 15 06.4**	**+0.5**
JIH				*e*S	**Sn**	**23 15 32.0**	**+0.1**
JTJ	**Tarama**	**2.16**	**260**	P	**Pn**	**23 15 06.6**	**+0.6**
JTJ				*e*S	**Sn**	**23 15 31.7**	**-0.5**
JYRO	**Yoronjima**	**2.34**	**33**	P	**Pn**	**23 15 09.8**	**+1.2**
JISG	**Ishigakijimahi**	**2.52**	**260**	P	**Pn**	**23 15 10.7**	**-0.3**
JOKE	**Okinoerabujima**	**2.69**	**31**	P	**Pn**	**23 15 14.7**	**+1.4**
JOKE				*e*S	**Sn**	**23 15 44.7**	**-0.5**
JIJ	**Ishigaki jima**	**2.72**	**256**	P	**Pn**	**23 15 13.6**	**-0.1**
JIJ				*e*S	**Sn**	**23 15 43.9**	**-2.1**
JKRS	**Kuro-shima**	**2.87**	**254**	P	**Pn**	**23 15 17.2**	**+1.4**
YOJ	**Yonaguni jima**	**3.71**	**262**	Pn	**Pn**	**23 15 26.8**	**-0.5**
JMZ	**Minamidaito 2**	**3.86**	**78**	P	**Pn**	**23 15 28.7**	**-0.7**
JMZ				*e*S	**Sn**	**23 16 10.8**	**-3.3**
JMZ	**Minamidaito 2**	**3.86**	**78**	Pn	**Pn**	**23 15 28.6**	**-0.7**
JKDJ	**Kitadaitoujima**	**3.95**	**76**	P	**Pn**	**23 15 30.1**	**-0.6**
JKDJ				S	**Sn**	**23 16 12.3**	**-4.1**
NACB	**Ninganchiao**	**5.03**	**261**	Pn	**Pn**	**23 15 44.6**	**-0.9**
YHNB	**Yeheng**	**5.16**	**267**	Pn	**Pn**	**23 15 46.7**	**-0.6**
YULB	**Yu-li**	**5.49**	**254**	Pn	**Pn**	**23 15 49.5**	**-2.4**
SSLB	**Suanglung**	**5.69**	**259**	Pn	**Pn**	**23 15 53.6**	**-1.0**
TPUB	**Ta-pu**	**6.10**	**255**	Pn	**Pn**	**23 15 59.7**	**-0.6**
JSU	**Suzuyama**	**7.11**	**24**	Pn	**Pn**	**23 16 14.2**	**+0.2**
JNU	**Nakatsue**	**8.72**	**22**	Pn	**Pn**	**23 16 37.9**	**+1.8**
	0.7nm,0.3s,baz=35,slow=14,SNR=2.5						
JNU	**Nakatsue**	**8.72**	**22**		**Pn**	**23 16 36.5**	**+0.4**
JWT	**Wachi**	**12.50**	**33**	Pn	**Pn**	**23 17 27.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**26.87**	**261**	LR	LR	23 31 01.0	
	comp=Z,37nm,18.0s,baz=121,slow=37						
SONM	**Songino Array**	**27.99**	**330**	P	**P**	**23 20 19.4**	**-1.2**
	1.2nm,0.5s,baz=299,slow=41,SNR=4.1						
SONM				LR	LR	23 33 15.2	
	comp=Z,108nm,19.3s,baz=127,slow=41						
SONM	**Songino Array**	**27.99**	**330**	P	**P**	**23 20 19.2**	**-1.5**
SEY	**Seymchan**	**41.46**	**17**	P	**P**	**23 22 16.9**	**+0.6**
	0.9nm,0.6s,baz=198,slow=8.9,SNR=3.9						
MK31	**Makanchi Array**	**41.54**	**313**	P	**P**	**23 22 16.4**	**-0.8**
MK31				IAmb	IAmb	23 22 17.1	
	comp=Z,2.7nm,0.7s						
MKAR	**Makanchi Array**	**41.54**	**313**	P	**P**	**23 22 16.4**	**-0.8**
	comp=Z,4.1nm,0.6s,baz=98,slow=10,SNR=34						
MKAR	**Makanchi Array**	**41.54**	**313**	P	**P**	**23 22 16.2**	**-1.0**
ZALV	**Zalesovo Beam**	**42.55**	**324**	P	**P**	**23 22 24.1**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=93,slow=6.2,SNR=5.0						
ZALV				LR	LR	23 41 40.0	
	comp=Z,56nm,18.1s,baz=96,slow=38						
ZALV	**Zalesovo Beam**	**42.55**	**324**	P	**P**	**23 22 23.4**	**-1.9**
KDJ	**Kajisay**	**44.24**	**305**	P	**P**	**23 22 37.9**	**-1.5**
KDJ				IAmb	IAmb	23 22 40.6	
	comp=Z,5.3nm,0.9s						
KURK	**Kurchatov**	**44.95**	**318**	P	**P**	**23 22 43.9**	**-0.7**
KURBB	**Kurchatov Arra**	**44.98**	**318**	P	**P**	**23 22 43.9**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=107,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**45.28**	**170**	P	**P**	**23 22 49.6**	**+2.0**
	comp=Z,1.7nm,0.7s,baz=353,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**45.28**	**170**	P	**P**	**23 22 49.3**	**+1.7**
WR0	**Warramunga Arr**	**45.33**	**170**	P	**P**	**23 22 49.5**	**+1.5**
WR0				IAmb	IAmb	23 23 09.8	
	comp=Z,8.3nm,1.4s						
AAK	**Ala-Archa**	**46.27**	**306**	LR	LR	23 45 21.0	
	comp=Z,43nm,19.3s,baz=102,slow=40						
ASAR	**Alice Springs**	**48.88**	**172**	P	**P**	**23 23 18.1**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=357,slow=13,SNR=7.8						
KK31	**Karatay Array**	**49.23**	**306**	P	**P**	**23 23 17.9**	**-0.3**
KK31				IAmb	IAmb	23 23 19.6	
	comp=Z,1.5nm,0.8s						
KKAR	**Karatay Array**	**49.23**	**306**	P	**P**	**23 23 17.8**	**-0.4**
ABKAR	**Akbulak array**	**56.67**	**314**	P	**P**	**23 24 13.4**	**+0.4**
ABKAR	**Akbulak array**	**56.67**	**314**	P	**P**	**23 24 13.3**	**+0.2**
ARU	**Arti**	**57.66**	**322**	LR	LR	23 51 27.9	
	comp=Z,79nm,19.5s,baz=103,slow=39						
ARU	**Arti**	**57.66**	**322**	P	**P**	**23 24 19.1**	**-0.7**
ARU				IAmb	IAmb	23 24 46.0	
	comp=Z,5.4nm,1.4s						
ILAR	**Eielson Array**	**65.98**	**28**	P	**P**	**23 25 17.4**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=262,slow=4.5,SNR=4.5						
KBZ	**Khabaz**	**69.07**	**309**	P	**P**	**23 25 35.8**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=104,slow=4.5,SNR=4.5						
ARCES	**ARCESS Array B**	**70.71**	**339**	P	**P**	**23 25 45.4**	**+0.1**
	comp=Z,1.9nm,0.9s,baz=64,slow=7.1,SNR=3.7						
FIA1	**FINESS Array S**	**73.36**	**331**	P	**P**	**23 26 00.9**	**-0.4**
FINES	**FINESS Array B**	**73.36**	**331**	P	**P**	**23 26 01.0**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=54,slow=2.4,SNR=6.8						
FINES				LR	LR	00 02 09.8	
	comp=Z,31nm,19.3s,baz=26,slow=39						
FINES	**FINESS Array B**	**73.36**	**331**	P	**P**	**23 26 00.8**	**-0.5**
RAO	**Raoul Island**	**75.56**	**132**	LR	LR	23 55 06.2	
	comp=Z,158nm,21.6s,baz=162,slow=32						
AKASG	**Malin Array Be**	**75.73**	**319**	P	**P**	**23 26 15.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=63,slow=6.3,SNR=1.9						
AKASG	**Malin Array Be**	**75.73**	**319**	P	**P**	**23 26 15.1**	**-0.1**
AKASG				IAmb	IAmb	23 26 40.0	
	comp=Z,2.6nm,1.4s						
BURAR	**Bucovina Array**	**79.38**	**318**	P	**P**	**23 26 36.4**	**+0.5**
BURAR				IAmb	IAmb	23 26 52.3	
	comp=Z,0.9nm,1.1s						
NB2	**NORSAR Subarra**	**79.89**	**334**	P	**P**	**23 26 38.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**79.89**	**334**	P	**P**	**23 26 38.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=56,slow=5.5,SNR=4.9						
GERES	**GERESS Array B**	**85.48**	**323**	P	**P**	**23 27 08.2**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=56,slow=5.3,SNR=2.0						

NNC 22 23:17:26.1±1.5, 37°.70N×77°.70E, h0km, mb4.0, mpv3.6, 3C, Error ellipse: s-maj=15.2km s-min=10.0km az=86.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.36**	**354**	Pg	Pb	23 19 03.5	+2.6
	5.2nm,0.5s						
TNSS				Lg	Lg	23 20 16.3	
	7.7nm,0.5s						
SATY	**Saty**	**5.38**	**6**	Pg	Pb	23 19 04.3	+3.2
	5.7nm,0.7s						
SATY				Lg	Lg	23 20 17.8	
	3.1nm,0.3s						
MDOK	**Medeo**	**5.48**	**355**	Pg	Pb	23 19 05.0	+2.2
	5.0nm,0.8s						
MDOK				⇑Lg	Lg	23 20 18.7	
	6.4nm,0.6s						
MDOK	**Medeo**	**5.48**	**355**	Pg	Pb	23 19 05.2	+2.5
	4.7nm,0.4s						
MDOK				Lg	Lg	23 20 19.1	
	7.1nm,0.6s						
KST	**Kastek**	**5.50**	**347**	Pg	Pg	23 19 07.4	-4.1
	2.6nm,0.4s						
KST				Lg	Lg	23 20 22.9	
	3.5nm,0.6s						
AAK	**Ala-Archa**	**5.51**	**335**	⇑Pg	Pg	23 19 07.6	-4.0
	3.0nm,0.6s						
AAK				⇑Lg	Lg	23 20 21.1	
	5.6nm,0.7s						
KOTS	**Kotyrbulak**	**5.55**	**356**	Pg	Pb	23 19 06.7	+2.8
	3.8nm,0.3s						
KOTS				Lg	Lg	23 20 21.8	
	6.6nm,0.4s						
DGS	**Degeres**	**5.73**	**346**	Pg	Pb	23 19 10.9	+3.9
	3.0nm,0.6s						
DGS				Lg	Lg	23 20 29.2	
	2.9nm,0.6s						
PDGK	**Podgornoye**	**5.79**	**13**	Pg	Pg	23 19 13.2	-3.8
	1.3nm,0.4s						
PDGK				Lg	Lg	23 20 32.8	
	2.0nm,0.8s						
KURS	**Kuram**	**5.79**	**3**	Pg	Pg	23 19 12.7	-4.4
	5.4nm,0.6s						
KURS				Lg	Lg	23 20 32.2	
	4.2nm,0.4s						
KTBS	**Karatobe**	**6.06**	**353**	Pg	Pb	23 19 15.9	+3.4
	1.5nm,0.5s						
KTBS				Lg	Lg	23 20 37.6	
	6.2nm,0.6s						
KRBS	**Karabastau**	**6.18**	**346**	Pg	Pb	23 19 18.1	+3.4
	2.4nm,0.7s						
KRBS				Lg	Lg	23 20 41.2	
	2.2nm,0.9s						
KUU	**Kurty**	**6.27**	**351**	Pg	Pg	23 19 21.6	-4.7
	1.2nm,0.7s						
KUU				Lg	Lg	23 20 47.6	
	3.5nm,0.5s						
ARXS	**Arharly**	**6.51**	**1**	Pg	Pb	23 19 24.6	+4.4
	6.4nm,0.7s						
ARXS				Lg	Lg	23 20 52.8	
	2.9nm,0.6s						

IDC ***22*** *23:20:24.0±1.7, 39°.17N×143°.90E, h0km, mb3.8/7, mb1 3.9/13, mb1mx3.7/41, mbtmp3.8/13, ML3.2/6, MS2.9/2, Ms1 2.9/2, ms1mx2.4/45, Error ellipse: s-maj=38.9km s-min=21.6km az=89.0*

JMA ***22*** *23:20:25.6±0.2, 39°.16N×143°.63E, h14km, M4.1*

NIED ***22*** *23:20:25.6, 39°.16N×143°.63E, h14km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr7.47; Mθθ0.63; Mθφ-8.10; Mrθ-1.49; Mφφ-0.24; Mφr1.91; Fault plane solution: M0 8.17000×10^14 NP1: φs350.00000°, δ53.00000°, λ76.00000°. NP2: φs193.00000°, δ39.00000°, λ108.00000°.*

ISC 22 23:20:27.4±1.0, 39°.13N±0°.06×143°.69E±0°.09, h20km, n31, σ1§69/31, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.52**	**288**	P	**Pn**	**23 20 51.7**	**-1.7**
MIYJ				*e*S	**Sn**	**23 21 11.6**	**-0.9**
OFUJ	**Ofunato**	**1.57**	**269**	P	**Pn**	**23 20 52.8**	**-1.3**
JTH	**Tanohata**	**1.63**	**300**	P	**Pn**	**23 20 53.4**	**-1.5**
JTH				*e*S	**Sn**	**23 21 12.3**	**-3.0**
JOM	**Ohasama**	**1.89**	**281**	P	**Pn**	**23 20 57.6**	**-0.9**
JOM				*e*S	**Sn**	**23 21 19.5**	**-2.3**
JMK	**Ichinoseki**	**1.93**	**266**	P	**Pn**	**23 20 58.2**	**-0.9**
JIO	**Ouri**	**1.95**	**251**	P	**Pn**	**23 20 58.3**	**-1.0**
JANG	**Nango**	**2.09**	**307**	P	**Pn**	**23 20 59.9**	**-1.3**
JRG	**Rokugo**	**2.39**	**277**	P	**Pn**	**23 21 05.0**	**-0.3**
JOU	**Okura**	**2.49**	**253**	P	**Pn**	**23 21 06.3**	**-0.4**
JYK	**Kaneyama**	**2.60**	**266**	P	**Pn**	**23 21 08.0**	**-0.3**
JNBK	**Urakawa-nobuka**	**3.23**	**348**	P	**Pn**	**23 21 17.5**	**+0.6**
MJAR	**Matsushiro Arr**	**5.05**	**241**	Pn	**Pn**	**23 21 42.8**	**+0.8**
	0.6nm,0.3s,baz=57,slow=12,SNR=47						
ASAJ	**Asahikawa**	**5.05**	**351**	Pn	**Pn**	**23 21 42.1**	**+0.2**
	1.1nm,0.3s,baz=208,slow=11,SNR=5.2						
ASAJ				Sn	**Sn**	**23 22 37.5**	**-2.2**
	1.6nm,0.3s,baz=331,slow=16,SNR=5.4						
MAT	**Matsushiro**	**5.05**	**241**	P	**Pn**	**23 21 43.7**	**+1.7**
MAT				*e*S	**Sn**	**23 22 38.3**	**-1.4**
JHJ	**Hachijo jima 2**	**6.78**	**209**	Pn	**Pn**	**23 22 05.8**	**+0.2**
	4.4nm,0.3s,baz=65,slow=20,SNR=1.3						
JHJ				Sn	**Sn**	**23 23 17.5**	**-4.8**
	14nm,0.3s,baz=78,slow=23,SNR=2.0						
JHJ				LR	LR	23 24 05.2	
	comp=Z,51nm,19.5s,baz=88,slow=32						
USRK	**Ussuriysk Ar.**	**10.11**	**304**	Pn	**Pn**	**23 22 54.0**	**+2.7**
	baz=107,slow=13,SNR=5.0						
KSRS	**Korea Array**	**12.50**	**267**	Pn	**Pn**	**23 23 27.4**	**+3.3**
	0.2nm,0.3s,baz=68,slow=14,SNR=4.2						
KLR	**Kul'dur**	**13.23**	**324**	Pn	**Pn**	**23 23 33.9**	**0.0**
	0.1nm,0.3s,baz=105,slow=22,SNR=1.9						
KLR				LR	LR	23 28 50.2	
	comp=Z,74nm,19.2s,baz=147,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.83**	**127**	T	T	23 55 30.6	
	baz=319,slow=73,SNR=42						
H11N1	**WAKE ISLAND Hy**	**27.84**	**127**	T	T	23 55 31.2	
	baz=319,slow=73,SNR=29						
H11N3	**WAKE ISLAND Hy**	**27.85**	**127**	T	T	23 55 28.3	
	baz=319,slow=73,SNR=44						
SONM	**Songino Array**	**28.20**	**300**	P	**P**	**23 26 18.7**	**0.0**
	0.4nm,0.4s,baz=88,slow=13,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	23 56 23.3	
	baz=321,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	23 56 20.8	
	baz=321,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	23 56 21.6	
	baz=321,slow=76,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.87**	**311**	P	**P**	**23 28 15.5**	**-0.4**
	1.3nm,0.5s,baz=94,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**44.56**	**301**	P	**P**	**23 28 38.3**	**+0.5**
	0.8

PB07	**IPOC Station P**	**2.39**	**146**	⇓*iP*	**Pb**	**00 28 19.0**	**-0.1**
PB07				IAML		00 29 07.7	
	comp=E,265nm,0.5s						
PB04	**IPOC Station P**	**2.80**	**157**	⇓*iP*	**Pb**	**00 28 24.8**	**-1.3**
PB04				IAML		00 29 20.4	
	comp=N,205nm,0.6s						
LPAZ	**La Paz**	**4.60**	**42**	Pn	**Pb**	**00 28 55.0**	**-2.0**
	comp=N,0.6nm,0.3s,baz=233,slow=16,SNR=14						
LPAZ				Sn	**Sn**	**00 29 41.2**	**+2.5**
	comp=N,1.1nm,0.3s,baz=147,slow=12,SNR=3.6						
LPAZ				Lg	Lg	00 30 04.4	
	baz=283,slow=21,SNR=1.6						
H03N1	**Juan Fernandez**	**15.22**	**205**	T	T	00 47 49.6	
	baz=29						
H03N2	**Juan Fernandez**	**15.23**	**205**	T	T	00 47 51.9	
	baz=29,slow=74						
H03N3	**Juan Fernandez**	**15.24**	**205**	T	T	00 47 40.6	
	baz=29,slow=74						
TORD	**Torodi Ar. Bea**	**78.94**	**72**	P	P	00 39 50.9	+12
	comp=N,1.0nm,0.8s,baz=257,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**145.47**	**33**	PKPbc	PKiKP	00 47 28.3	+11
	comp=N,0.4nm,0.7s,baz=316,slow=4.0,SNR=6.0						

IDC 23 00:44:55.9±4.8, 5°.90S×132°.08E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=325.5km s-min=31.8km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.07**	**351**	Sn	Sn	00 46 54.5	-18
	1.1nm,0.3s,baz=167,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**14.13**	**171**	Pn	Pn	00 48 18.5	+1.0
	0.3nm,0.3s,baz=354,slow=12,SNR=25						
WRA				Sn	Sn	00 50 38.6	-17
	0.6nm,0.3s,baz=332,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**17.75**	**175**	P	Pn	00 49 04.0	-0.7
	0.1nm,0.3s,baz=347,slow=13,SNR=5.9						
ASAR				S	Sn	00 52 05.1	-18
	0.1nm,0.3s,baz=322,slow=21,SNR=1.7						
MKAR	**Makanchi Array**	**68.47**	**326**	P	P	00 55 60.0	0.0
	0.3nm,0.4s,baz=112,slow=7.8,SNR=6.8						

IDC 23 01:07:04.1±25.0, 24°.34S×68°.51E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, Error ellipse: s-maj=853.6km s-min=39.0km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**17.02**	**14**	T	T	01 27 31.9	
	baz=191,slow=76,SNR=70						
H08S2	**Diego Garcia H**	**17.03**	**14**	T	T	01 27 37.3	
	baz=191,slow=76,SNR=37						
H08S3	**Diego Garcia H**	**17.04**	**14**	T	T	01 27 33.6	
	baz=191,slow=76,SNR=65						
H01W2	**Cape Leeuwin H**	**40.73**	**116**	T	T	01 57 16.7	
	baz=273,slow=75,SNR=4.2						
H01W3	**Cape Leeuwin H**	**40.73**	**116**	T	T	01 57 16.7	
	baz=273,slow=75,SNR=5.2						
H01W1	**Cape Leeuwin H**	**40.75**	**116**	T	T	01 57 18.0	
	baz=273,slow=75,SNR=5.4						
ASAR	**Alice Springs**	**59.21**	**104**	P	P	01 17 08.0	+0.6
	0.3nm,0.8s,baz=241,slow=5.8,SNR=2.4						
WRA	**Warramunga Arr**	**60.63**	**100**	P	P	01 17 16.6	-0.7
	0.7nm,0.9s,baz=253,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**71.88**	**10**	P	P	01 18 28.6	-0.2
	0.5nm,0.6s,baz=209,slow=7.3,SNR=5.8						
ZALV	**Zalesovo Beam**	**79.22**	**10**	P	P	01 19 11.0	+0.4
	0.3nm,0.3s,baz=176,slow=4.3,SNR=1.8						

*TUL **23** 01:21:11.4±1.4, 36°.62N±0°.01×97°.81W±0°.02, h5km±6km, ML2.9, mb_Lg2.7/45(NEIC), Error ellipse: s-maj=2.1km s-min=1.7km az=204.0*

NEIC 23 01:21:11.6±1.0, 36°.61N±0°.01×97°.81W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=281.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.17**	**233**		Pg	01 21 15.3	+0.3
CROK				Sg	Sg	01 21 18.2	+0.9
GC02	**Grant County #**	**0.25**	**351**		Pg	01 21 16.3	-0.1
GC02				Sg	Sg	01 21 20.1	+0.4
OK032	**Salt Plains WL**	**0.37**	**302**		Pg	01 21 18.7	-0.2
OK032				Sg	Sg	01 21 24.2	+0.4
KAN17	**Caldwell West**	**0.44**	**5**		Pg	01 21 19.9	-0.2
KAN17				Sg	Sg	01 21 25.9	+0.1
KAN13	**South Haven SW**	**0.49**	**34**		Pg	01 21 20.9	-0.1
KAN13				Sg	Sg	01 21 27.5	+0.2
KAN05	**Bluff City Nor**	**0.50**	**355**		Pg	01 21 21.1	-0.2
BLOK	**Blackwell**	**0.50**	**72**	Pg	Pg	01 21 21.3	-0.1
BLOK				Sg	Sg	01 21 28.4	+0.5
KAN09	**Caldwell North**	**0.55**	**16**		Pg	01 21 22.0	-0.3
KAN09				Sg	Sg	01 21 29.5	+0.1
KAN10	**Anthony SW Sta**	**0.56**	**336**		Pg	01 21 22.2	-0.3
KAN10				Sg	Sg	01 21 29.8	0.0
KAN08	**Anthony NE Sta**	**0.63**	**348**		Pg	01 21 23.4	-0.3
KAN08				Sg	Sg	01 21 31.9	0.0
KS20	**Mayfield South**	**0.66**	**18**		Pg	01 21 23.9	-0.3
KS20				Sg	Sg	01 21 32.6	-0.1
KAN12	**Harper NE Stat**	**0.70**	**348**		Pg	01 21 24.7	-0.4
OK029	**Liberty Lake**	**0.86**	**160**		Pg	01 21 27.8	-0.3
BCOK	**Bluff Creek, N**	**0.96**	**170**		Pg	01 21 29.6	-0.5
BCOK				IAmb_Lg		01 21 42.2	
	comp=Z,46nm,0.8s						
U32A	**Winter Ranch,**	**0.98**	**257**	Pg	Pg	01 21 29.8	-0.7
QUOK	**Quay**	**0.99**	**116**		Pg	01 21 30.2	-0.5
OK031	**S. Brethren Rd**	**1.02**	**129**		Pg	01 21 30.7	-0.6
T35A	**Sooner Cattle**	**1.09**	**73**		Pg	01 21 31.9	-0.7
OK025	**Westminster Rd**	**1.09**	**159**		Pg	01 21 32.2	-0.4
OKCSW	**OKLAHOMA CITY**	**1.24**	**166**		Pg	01 21 34.2	-1.1
FNO	**Franklin**	**1.39**	**166**	Pn	Pn	01 21 37.2	-0.4
R32A	**Long Quarter,**	**1.95**	**339**	Pn	Pn	01 21 45.9	+0.5
X34A	**Smith Ranch, M**	**2.00**	**180**		Pn	01 21 46.9	+0.7
WMOK	**Wichita Mounta**	**2.02**	**203**		Pn	01 21 46.4	-0.1
WMOK				Sn	Sn	01 22 11.9	-0.2
WMOK				IAmb_Lg		01 22 18.9	
	comp=Z,28nm,1.1s						
LOOK	**Love County**	**2.66**	**169**	Pn	Pn	01 21 55.9	+0.8
KSU1	**Kansas State U**	**2.67**	**21**	Pn	Pn	01 21 55.4	+0.2
CBKS	**Cedar Bluff**	**2.68**	**326**	Pn	Pn	01 21 54.8	-0.6
U38A	**Gravette**	**2.77**	**92**	Pn	Pn	01 21 57.0	+0.4
X37A	**Clayton**	**2.83**	**135**	IAmb_Lg		01 22 47.6	
	comp=Z,18nm,0.8s						
HHAR	**Hobbs**	**3.14**	**95**	Pn	Pn	01 22 02.0	+0.2
W39A	**Magazine**	**3.56**	**112**	Pn	Pn	01 22 09.5	+2.0
W39A				IAmb_Lg		01 23 12.6	
	comp=Z,19nm,0.9s						
AMTX	**Amarillo**	**3.58**	**242**	IAmb_Lg		01 23 07.8	
	comp=Z,17nm,0.8s						
U40A	**Yellville**	**4.00**	**92**	Pn	Pn	01 22 13.7	0.0
ABTX	**Abilene, Hawle**	**4.25**	**201**	IAmb_Lg		01 23 29.9	
	comp=Z,21nm,1.3s						
MGMO	**Mountain Grove**	**4.48**	**81**		Pn	01 22 20.3	+0.1
KSCO	**Kaye Shedlock'**	**4.50**	**304**	Pn	Pn	01 22 21.0	+0.3
P38A	**Dawn**	**4.52**	**47**	Pn	Pn	01 22 21.2	+0.4
P38A				IAmb_Lg		01 23 33.3	
	comp=Z,12nm,0.7s						
X40A	**Basin Creek Fa**	**4.58**	**116**	IAmb_Lg		01 23 46.1	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**4.67**	**105**	Pn	Pn	01 22 22.6	-0.2
WHAR				IAmb_Lg		01 23 41.5	
	comp=Z,18nm,1.0s						
R40A	**Maddies Statio**	**4.72**	**67**	Pn	Pn	01 22 23.7	+0.2
R40A				IAmb_Lg		01 23 47.2	
	comp=Z,11nm,0.9s						
BGNE	**Belgrade**	**4.80**	**357**	IAmb_Lg		01 23 49.8	
	comp=Z,17nm,0.8s						
WLAR	**White Oak Lake**	**4.83**	**126**	IAmb_Lg		01 23 53.4	
	comp=Z,13nm,0.7s						
T25A	**Trinidad**	**5.32**	**278**	IAmb_Lg		01 24 14.8	
	comp=Z,8.9nm,1.0s						
P40A	**Paris**	**5.40**	**56**	IAmb_Lg		01 24 10.4	
	comp=Z,14nm,0.7s						
CCM	**Cathedral Cave**	**5.43**	**73**	IAmb_Lg		01 24 06.8	
	comp=Z,13nm,0.9s						
PBMO	**Poplar Bluff**	**5.94**	**86**	IAmb_Lg		01 24 25.3	
	comp=Z,9.9nm,0.9s						
JCT	**Junction City**	**6.33**	**196**	IAmb_Lg		01 24 39.6	
	comp=Z,12nm,1.1s						
SIUC	**Southern Illin**	**6.95**	**78**	IAmb_Lg		01 24 54.9	
	comp=Z,12nm,0.9s						
I37A	**Lemond, Waseca**	**8.13**	**23**	IAmb_Lg		01 25 42.9	
	comp=Z,7.3nm,1.0s						
JFWS	**Jewell Farm**	**8.58**	**40**	IAmb_Lg		01 25 47.8	
	comp=Z,7.1nm,0.7s						
K22A	**Casper**	**9.03**	**315**	IAmb_Lg		01 26 15.6	
	comp=Z,6.4nm,0.9s						
I40A	**Norwalk**	**9.12**	**35**	IAmb_Lg		01 26 03.0	
	comp=Z,5.6nm,0.9s						

*IDC **23** 01:24:04.5±3.7, 20°.66S×70°.72W, h0km, mb4.0/1, mb1 3.9/2, mb1mx3.5/20, mbtmp3.9/2, ML3.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=134.3km s-min=65.1km az=109.0*

*GUC **23** 01:24:08.9±0.7, 19°.68S×71°.14W, h28km±4km, ML3.6*

ISC 23 01:24:07.5±2.2, 19°.86S±0°.05×71°.03W±0°.09, h7km±12km, n20, σ1°.63/23, 5C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.89**	**73**	⇓*iP*	**Pg**	**01 24 25.1**	**+0.4**
PSGC				*i* S	**Sb**	**01 24 37.6**	**0.0**
PSGC				IAML		01 24 41.1	
	comp=E,2μm,0.4s						
TA02	**Huaiquique**	**0.94**	**116**	*i* S	**Sn**	**01 24 42.2**	**+1.2**
TA01	**Diego Aracena**	**1.07**	**132**	*eP*	**Pn**	**01 24 29.7**	**+0.7**
TA01				*i* S	**Sn**	**01 24 45.5**	**+1.3**
TA01				IAML		01 24 52.9	
	comp=E,2μm,0.5s						
PB11	**IPOC Station P**	**1.30**	**86**	⇑*iP*	**Pg**	**01 24 32.4**	**-0.1**
PB11				*i* S	**Sn**	**01 24 50.4**	**+0.3**
PB11				IAML		01 24 51.9	
	comp=N,3μm,0.3s						
MNMC	**Minye Minye**	**1.53**	**62**	⇑*iP*	**Pn**	**01 24 34.9**	**-0.8**
MNMC				*i* S	**Sg**	**01 24 55.2**	**-1.7**
PB08	**IPOC Station P**	**1.79**	**99**	⇑*iP*	**Pn**	**01 24 40.1**	**+0.8**
PB08				*i* S	**Sg**	**01 25 05.4**	**+0.2**
PB08				IAML		01 25 06.9	
	comp=N,639nm,0.5s						
PB02	**IPOC Station P**	**1.81**	**144**	⇑*iP*	**Pn**	**01 24 40.8**	**+1.5**
PB02				IAML		01 25 19.5	
	comp=E,983nm,0.4s						
PB01	**IPOC Station P**	**1.87**	**129**	⇑*iP*	**Pb**	**01 24 41.9**	**-0.2**
PB01				IAML		01 25 15.7	
	comp=E,483nm,0.3s						
PB07	**IPOC Station P**	**2.15**	**150**	*iP*	**Pn**	**01 24 45.5**	**+1.4**
PB03	**IPOC Station P**	**2.49**	**152**	*eP*	**Pn**	**01 24 50.1**	**+1.4**
PB03				IAML		01 25 47.4	
	comp=E,140nm,0.2s						
PB09	**IPOC Station P**	**2.56**	**139**	*eP*	**Pn**	**01 24 52.2**	**+2.5**
PB09				IAML		01 25 42.3	
	comp=E,366nm,0.5s						
PB04	**IPOC Station P**	**2.60**	**162**	*eP*	**Pn**	**01 24 51.0**	**+0.8**
PB04				IAML		01 25 44.8	
	comp=N,212nm,0.6s						
PB05	**IPOC Station P**	**3.08**	**166**	*eP*	**Pn**	**01 24 57.4**	**+0.6**
PB06	**IPOC Station P**	**3.15**	**155**	*eP*	**Pn**	**01 24 58.9**	**+1.1**
PB06				IAML		01 26 01.2	
	comp=N,126nm,0.6s						
LPAZ	**La Paz**	**4.49**	**38**	Pn	**Pn**	**01 25 21.4**	**+4.6**
	comp=N,1.0nm,0.3s,baz=210,slow=11,SNR=24						
LPAZ				Sn	**Sg**	**01 26 31.6**	**-0.5**
	baz=158,slow=19,SNR=1.6						
LPAZ				LR	LR	01 27 14.8	
	comp=N,112nm,20.7s,baz=279,slow=38						
H03N1	**Juan Fernandez**	**15.25**	**206**	T	T	01 44 10.0	
	baz=32,slow=72,SNR=10.0						
H03N2	**Juan Fernandez**	**15.25**	**206**	T	T	01 43 54.5	
	baz=32,slow=72,SNR=9.2						
H03N3	**Juan Fernandez**	**15.26**	**206**	T	T	01 43 58.5	
	baz=32,slow=72,SNR=8.5						
TORD	**Torodi Ar. Bea**	**78.70**	**72**	P	**P**	**01 36 09.1**	**-2.1**
	comp=N,0.9nm,0.6s,baz=257,slow=5.5,SNR=5.8						
MKAR	**Makanchi Array**	**145.41**	**33**	PKPbc	**PKPbc**	**01 43 45.1**	**-1.2**
	comp=N,0.5nm,0.6s,baz=311,slow=5.0,SNR=5.9						

*IDC **23** 01:24:41.6±0.8, 39°.33N×74°.98E, h0km, mb3.8/15, mb1 3.9/21, mb1mx3.8/52, mbtmp3.8/21, ML3.4/5, MS2.9/9, Ms1 2.9/9, ms1mx2.7/48, Error ellipse: s-maj=14.9km s-min=14.0km az=95.0*

*SOME **23** 01:24:41.8, 39°.67N×74°.93E, h5km*

*KRNET **23** 01:24:44.2±0.1, 39°.60N×75°.01E, mb4.3*

*NNC **23** 01:24:47.5±1.5, 39°.76N×74°.99E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=11.8km s-min=7.3km az=170.0*

*NEIC **23** 01:24:50.5±1.5, 39°.73N±0°.03×74°.78E±0°.06, h44km±12km, mb4.1/13, Error ellipse: s-maj=7.4km s-min=4.0km az=65.0*

ISC 23 01:24:44.3±1.3, 39°.57N±0°.03×74°.89E±0°.02, h5km±8km, n145, σ2°.51/195, mb4.0/18, MS2.8/5, 44C-24D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.88**	**301**	⇑*iP*	**Pb**	**01 25 20.7**	**+1.6**
OHH				⇑*iS*	**Sg**	**01 25 47.0**	**+2.4**
	baz=99						
ARLS	**Aral**	**2.33**	**350**	⇓*eP*	**Pn**	**01 25 25.9**	**+2.4**
ARLS				⇓*iS*	**Sb**	**01 25 55.5**	**-0.6**
	baz=47						
DRK	**Karamyk**	**2.39**	**269**	⇑*eP*	**Pb**	**01 25 28.9**	**+0.9**
DRK				⇑*iS*	**Sb**	**01 26 00.4**	**+2.5**
	baz=68						
DRK	**Karamyk**	**2.39**	**269**		**Pn**	**01 25 27.1**	**+2.7**
DRK				Sn	**Sn**	**01 25 53.3**	**-0.9**
AML	**Almayashu**	**2.72**	**341**	⇑*eP*	**Pn**	**01 25 31.8**	**+2.8**
AML				⇑*iS*	**Sb**	**01 26 06.0**	**-1.4**
	baz=39						
AML	**Almayashu**	**2.72**	**341**	P	**Pn**	**01 25 32.3**	**+3.3**
	SNR=55						
ULHL	**Ulahol**	**2.87**	**21**	⇑*eP*	**Pn**	**01 25 32.7**	**+1.9**
ULHL				⇑*iS*	**Sn**	**01 26 07.0**	**+1.2**
	baz=19						
ULHL	**Ulahol**	**2.87**	**21**	P	**Pn**	**01 25 33.1**	**+2.3**
	SNR=20						
BOOM	**Boomskoye usch**	**3.02**	**15**	⇑*eP*	**Pn**	**01 25 34.9**	**+1.9**
BOOM				⇑*iS*	**Sn**	**01 26 11.1**	**+1.4**
	baz=13						
BOOM	**Boomskoye usch**	**3.02**	**15**	Pn	**Pn**	**01 25 34.7**	**+1.7**
BOOM				Sn	**Sn**	**01 26 08.3**	**-1.4**
AAK	**Ala-Archa**	**3.08**	**355**	Pn	**Pn**	**01 25 37.7**	**+3.9**
	11nm,0.3s,baz=176,slow=10,SNR=50						
AAK				Sn	**Sb**	**01 26 19.8**	**+2.2**
	13nm,0.3s,baz=164,slow=20,SNR=5.8						
AAK				LR	LR	01 27 00.9	
	comp=Z,178nm,20.4s,baz=168,slow=42						
AAK	**Ala-Archa**	**3.08**	**355**	⇓*eP*	**Pn**	**01 25 36.4**	**+2.6**
	baz=53						
AAK				⇓*iS*	**Sn**	**01 26 13.5**	**+2.4**
	baz=53						
AAK	**Ala-Archa**	**3.08**	**355**	P	**Pn**	**01 25 37.7**	**+3.9**
	SNR=28						
AAK	**Ala-Archa**	**3.08**	**355**	⇑Pn	**Pn**	**01 25 37.5**	**+3.8**
	61nm,0.6s						
AAK				⇓Lg	Lg	01 26 19.4	
	122nm,0.8s						
AAK	**Ala-Archa**	**3.08**	**355**	Pn	**Pn**	**01 25 34.5**	**+0.8**
AAK				Sn	**Sn**	**01 26 09.9**	**-1.1**
KBK	**Karagaybulak**	**3.09**	**1**	⇓*iP*	**Pn**	**01 25 36.3**	**+2.5**
	baz=59						
KBK				⇓*iS*	**Sn**	**01 26 13.3**	**+2.1**
	baz=59						
KBK	**Karagaybulak**	**3.09**	**1**	P	**Pn**	**01 25 37.4**	**+3.5**
	SNR=87						
KDJ	**Kajisay**	**3.09**	**33**	⇑*eP*	**Pn**	**01 25 35.6**	**+1.6**
	baz=33						
KDJ				⇑*eS*	**Sn**	**01 26 12.3**	**+0.9**
	baz=33						
KDJ	**Kajisay**	**3.09**	**33**	Pn	**Pn**	**01 25 36.5**	**+2.6**
KDJ				Sn	**Sn**	**01 26 09.8**	**-1.6**
TARG	**Taragay, Kyrgy**	**3.10**	**45**	⇑*iP*	**Pn**	**01 25 35.3**	**+1.1**
	baz=44						
TARG				⇑*eS*	**Sn**	**01 26 11.9**	**+0.1**
	baz=44						
TARG	**Taragay, Kyrgy**	**3.10**	**45**	Sn	**Sn**	**01 26 11.8**	**0.0**
BTK	**Batken**	**3.17**	**280**	⇑*iP*	**Pn**	**01 25 39.1**	**+4.1**
	baz=79						
BTK				⇑*iS*	**Sb**	**01 26 18.8**	**-1.4**
	baz=79						
BTK	**Batken**	**3.17**	**280**	Pn	**Pn**	**01 25 36.3**	**+1.3**
BTK				Sn	**Sn**	**01 26 12.8**	**-0.4**
EKS2	**Erkin-Say**	**3.20**	**345**	⇑*eP*	**Pn**	**01 25 38.3**	**+2.9**
	baz=43						
EKS2				⇑*eS*	**Sn**	**01 26 16.6**	**+2.6**
	baz=43						
EKS2	**Erkin-Say**	**3.20**	**345**	P	**Pn**	**01 25 39.3**	**+3.9**
	SNR=56						
FRU1	**Bishkek**	**3.25**	**357**	⇑*iP*	**Pn**	**01 25 38.8**	**+2.9**
	baz=55						
FRU1				⇑*iS*	**Sn**	**01 26 17.6**	**+2.6**
	baz=55						
FRU1	**Bishkek**	**3.25**	**357**		**Pn**	**01 25 37.2**	**+1.3**
FRU1				Sn	**Sn**	**01 26 13.6**	**-1.4**
TKM2	**Tokmak 2**	**3.39**	**9**	⇓*eP*	**Pn**	**01 25 40.2**	**+2.1**
	baz=7.0						
TKM2				⇓*eS*	**Sn**	**01 26 20.2**	**+1.4**
	baz=7.0						
TKM2	**Tokmak 2**	**3.39**	**9**	P	**Pn**	**01 25 41.5**	**+3.4**
	SNR=199						
TKM2	**Tokmak 2**	**3.39**	**9**	⇑Pn	**Pn**	**01 25 41.2**	**+3.1**
	126nm,0.8s						
TKM2				⇓Lg	Lg	01 26 24.4	
	290nm,0.8s						
MRKS	**Merke**	**3.41**	**339**	*eP*	**Pb**	**01 25 43.6**	**-1.7**
	54nm,0.8s						
MRKS				*eS*	**Sb**	**01 26 28.4**	**+1.3**
	72nm,0.5s						
MRKS	**Merke**	**3.41**	**339**	Pg	**Pn**	**01 25 42.3**	**+4.0**
	54nm,0.8s						
MRKS				Lg	Lg	01 26 28.5	
	72nm,0.5s						
CHMS	**Chumysh**	**3.43**	**358**	⇓*eP*	**Pn**	**01 25 41.1**	**+2.7**
	baz=57						
CHMS				⇓*iS*	**Sn**	**01 26 21.5**	**+2.0**
	baz=57						
CHMS	**Chumysh**	**3.43**	**358**	P	**Pn**	**01 25 42.0**	**+3.6**
	SNR=47						
MNAS	**Manas**	**3.43**	**329**	⇑*eP*	**Pn**	**01 25 41.8**	**+3.3**
	baz=28						
MNAS				⇑*iS*	**Sn**	**01 26 23.2**	**+3.6**
	baz=28						
TRKS	**Terek-Say**	**3.46**	**306**	⇑*eP*	**Pn**	**01 25 41.9**	**+2.9**
	baz=4.0						
TRKS				⇑*eS*	**Sn**	**01 26 23.8**	**+3.3**
	baz=4.0						
KST	**Kastek**	**3.56**	**13**	*eP*	**Pn**	**01 25 44.1**	**+3.7**
	130nm,0.6s						
KST				*eS*	**Sb**	**01 26 30.4**	**-1.1**
	420nm,0.7s						
KST	**Kastek**	**3.56**	**13**	Pg	**Pn**	**01 25 44.1**	**+3.7**
	130nm,0.6s						
KST				Lg	Lg	01 26 30.4	
	420nm,0.7s						
GAR	**Garm**	**3.59**	**262**	Pn	**Pn**	**01 25 43.0**	**+2.2**
GAR				Sn	**Sn**	**01 26 24.4**	**+0.8**
IZV	**Izvestkoviy**	**3.70**	**20**	*eP*	**Pb**	**01 25 50.8**	**+0.6**
	52nm,0.6s						
IZV				*eS*	**Sg**	**01 26 41.3**	**-1.9**
	209nm,0.8s						
IZV	**Izvestkoviy**	**3.70**	**20**	Pg	**Pb**	**01 25 50.8**	**+0.6**
	52nm,0.6s						
IZV				Lg	Lg	01 26 41.3	
	209nm,0.8s						
USP	**Ospenovka**	**3.71**	**356**	⇓*eP*	**Pn**	**01 25 44.9**	**+2.6**
	baz=54						
USP				⇓*eS*	**Sn**	**01 26 28.4**	**+2.1**
	baz=54						
USP	**Ospenovka**	**3.71**	**356**	P	**Pn**	**01 25 46.1**	**+3.8**
	SNR=30						
DGS	**Degeres**	**3.73**	**10**	*eP*	Pn	01 25 47.3	+4.6
	235nm,0.8s						
DGS				*eS*	**Sb**	**01 26 35.1**	**-1.2**
	118nm,0.8s						
DGS	**Degeres**	**3.73**	**10**	Pg	Pn	01 25 47.3	+4.6
	235nm,0.8s						
DGS				Lg	Lg	01 26 35.1	
	118nm,0.8s						
ANVS	**Anan'yevo**	**3.83**	**32**	⇑*iP*	**Pn**	**01 25 45.9**	**+1.7**
	baz=31						
ANVS				⇑*iS*	**Sn**	**01 26 29.9**	**+0.2**
	baz=31						
PRZ	**Przheval'sk**	**3.94**	**41**	⇑*eP*	**Pn**	**01 25 47.0**	**+1.4**
	baz=40						
PRZ				⇑*eS*	**Sn**	**01 26 32.1**	**-0.2**
	baz=40						
PRZ	**Przheval'sk**	**3.94**	**41**	Pn	**Pn**	**01 25 47.2**	**+1.6**
MDOK	**Medeo**	**3.94**	**24**	*eP*	**Pb**	**01 25 54.2**	**-0.2**
	20nm,0.4s						
MDOK				*eS*	**Sg**	**01 26 47.7**	**-3.2**
	87nm,0.9s						
MDOK	**Medeo**	**3.94**	**24**	⇑Pn	**Pn**	**01 25 47.9**	**+2.3**
	37nm,0.8s						
MDOK				⇓Lg	Lg	01 26 47.2	
	124nm,0.6s						
MDOK	**Medeo**	**3.94**	**24**	Pg	**Pb**	**01 25 54.2**	**-0.2**
	20nm,0.4s						
MDOK				Lg	Lg	01 26 47.7	
	87nm,0.9s						
AAA	**Alma-Ata**	**3.94**	**22**	*eP*	**Pb**	**01 25 55.2**	**+0.8**
	49nm,0.3s						
AAA				*eS*	**Sg**	**01 26 48.8**	**-2.2**
	267nm,0.6s						
AAA	**Alma-Ata**	**3.94**	**22**	Pg	**Pb**	**01 25 55.2**	**+0.8**
	49nm,0.3s						
AAA				Lg	Lg	01 26 48.8	
	267nm,0.6s						
KNDC	**Almaty**	**3.97**	**23**	⇓Pg	**Pb**	**01 25 56.8**	**+2.1**
	58nm,0.5s						
KNDC				⇑Lg	Lg	01 26 49.6	
	636nm,1.1s						
KRBS	**Karabastau**	**4.17**	**8**	*eP*	**Pb**	**01 25 59.4**	**+1.2**
	62nm,0.4s						
KRBS				*eS*	**Sg**	**01 26 55.8**	**-2.3**
	58nm,0.5s						
KRBS	**Karabastau**	**4.17**	**8**	Pg	**Pb**	**01 25 59.3**	**+1.2**
	62nm,0.4s						
KRBS				Lg	Lg	01 26 55.8	
	58nm,0.5s						
DZA	**Taraz**	**4.27**	**322**	*eP*	Pn	01 25 55.2	+5.3
	305nm,0.1s						
DZA				*eS*	**Sb**	**01 26 48.8**	**-2.8**
	229nm,0.5s						
DZA	**Taraz**	**

TAS ⇑iS **Sn** **01 26 52.6 +3.9**
baz=93
KURS Kuram 4.63 31 eP **Pb** **01 26 06.8 +0.8**
34nm,0.9s
KURS eS **Sg** **01 27 09.1 -3.7**
48nm,1.0s
KURS Kuram 4.63 31 Pg **Pb** **01 26 06.8 +0.8**
34nm,0.9s
KURS Lg Lg 01 27 09.1
48nm,1.0s
UZB Uzynbulak 4.74 40 eP **Pb** **01 26 08.0 0.0**
16nm,0.9s
UZB eS **Sb** **01 27 11.0 +5.7**
48nm,1.0s
UZB Uzynbulak 4.74 40 Pg **Pb** **01 26 07.9 0.0**
16nm,0.9s
UZB Lg Lg 01 27 11.9
48nm,1.0s
KPKS Kokpek 4.83 35 eP **Pb** **01 26 09.2 -0.2**
136nm,0.9s
KPKS eS **Sb** **01 27 13.0 +5.2**
118nm,0.6s
KK31 Karatay Array 4.83 318 ⇑Pn **Pn** **01 26 00.1 +2.5**
6.6nm,0.6s,baz=125,slow=13,SNR=51
KK31 ⇓Pg **Pb** **01 26 13.1 +3.7**
5.4nm,0.4s,baz=149,slow=14,SNR=8.1
KK31 ⇓Sn **Sn** **01 26 57.5 +3.5**
30nm,0.7s,baz=137,slow=20,SNR=5.5
KK31 ⇓Lg Lg 01 27 18.5
19nm,0.5s,baz=125,slow=30,SNR=4.5
KK31 Karatay Array 4.83 318 Pn **Pn** **01 25 59.1 +1.4**
KKAR Karatay Array 4.83 318 Pn **Pn** **01 25 58.4 +0.7**
KKAR Karatay Array 4.83 318 **Pn** **01 25 59.4 +1.8**
SHLS Shalkode 4.97 42 eP **Pg** **01 26 18.6 -0.9**
58nm,0.9s
SHLS eS **Sg** **01 27 29.8 +5.9**
96nm,0.9s
SHLS Shalkode 4.97 42 Pg **Pg** **01 26 18.6 -0.9**
58nm,0.9s
SHLS Lg Lg 01 27 29.8
96nm,0.9s
PDGK Podgornoye 5.11 41 Pg **Pb** **01 26 17.0 +2.7**
12nm,1.1s
PDGK Lg Lg 01 27 26.7
24nm,0.8s
PDGK Podgornoye 5.11 41 ⇑Pn **Pn** **01 26 01.3 -0.2**
7.3nm,0.8s
PDGK ⇑Pg **Pb** **01 26 16.9 +2.7**
47nm,1.3s
PDGK ⇓Lg Lg 01 27 21.6
103nm,0.8s
ARXS Arharly 5.13 24 eP **Pb** **01 26 15.4 +0.8**
51nm,0.6s
ARXS eS **Sb** **01 27 23.4 +6.8**
58nm,0.7s
ARXS Arharly 5.13 24 Pg **Pb** **01 26 15.4 +0.8**
51nm,0.6s
ARXS Lg Lg 01 27 23.4
58nm,0.7s
KTMS Ketmen 5.64 45 eP **Pb** **01 26 25.2 +1.9**
20nm,0.8s
KTMS eS **Sg** **01 27 40.4 -5.0**
23nm,1.0s
KTMS Ketmen 5.64 45 Pg **Pb** **01 26 25.2 +1.9**
20nm,0.8s
KTMS Lg Lg 01 27 40.4
23nm,1.0s
DJR Jarkent 6.00 36 eP **Pb** **01 26 30.8 +1.4**
0.7nm,0.7s
DJR eS **Sb** **01 27 49.9 +8.4**
1.2nm,0.6s
DJR Jarkent 6.00 36 Pg **Pb** **01 26 30.8 +1.4**
0.7nm,0.7s
DJR Lg Lg 01 27 49.9
1.2nm,0.6s
TDK Taldyqorghan 6.02 25 eP **Pb** **01 26 33.7 +4.0**
58nm,0.5s
TDK eS **Sg** **01 27 55.8 -1.8**
80nm,0.5s
TDK Taldyqorghan 6.02 25 Pg **Pb** **01 26 33.7 +4.0**
58nm,0.5s
TDK Lg Lg 01 27 55.8
80nm,0.5s
CHCP Chirah Chowk 6.04 193 P **Pn** **01 26 18.9 +4.6**
NIL Nilore 6.05 193 **Pn** **01 26 18.1 +3.6**
KAPS Kapalarasan 6.60 29 eP **Pb** **01 26 42.7 +3.1**
0.8nm,0.8s
KAPS eS **Sg** **01 28 10.2 -5.9**
2.5nm,0.6s
KAPS Kapalarasan 6.60 29 Pg **Pb** **01 26 42.7 +3.1**
0.8nm,0.8s
KAPS Lg Lg 01 28 10.2
2.5nm,0.6s
KBL Kabul 6.86 225 Pn **Pn** **01 26 29.8 +4.1**
OTUK Ortayu 8.87 349 ⇑Pn **Pn** **01 26 54.7 +1.6**
4.6nm,0.9s
OTUK ⇑Lg Lg 01 29 22.7
26nm,0.9s
MAKZ Makanchi 8.89 33 ⇑Pn **Pn** **01 26 56.3 +2.9**
3.0nm,1.1s
MAKZ ⇓Pg Pg 01 27 29.7 -4.9
4.4nm,1.1s
MAKZ ⇑Lg Lg 01 29 25.3
7.6nm,1.2s
MAKZ Makanchi 8.89 33 **Pn** **01 26 54.5 +1.0**
MK31 Makanchi Array 9.02 34 ⇑Pn **Pn** **01 26 56.0 +0.9**
1.8nm,1.1s,baz=203,slow=11,SNR=5.0
MK31 ⇓Pg 01 27 30.8
1.7nm,0.6s,baz=223,slow=15,SNR=4.5
MK31 ⇓Lg Lg 01 29 24.9
3.3nm,0.8s,baz=86,slow=20,SNR=2.5
MK31 Makanchi Array 9.02 34 Pn **Pn** **01 26 56.0 +0.9**
MKAR Makanchi Array 9.02 34 Pn **Pn** **01 26 56.9 +1.7**
0.1nm,0.3s,baz=204,slow=12,SNR=6.5
MKAR Lg Lg 01 29 25.8
0.1nm,0.3s,baz=220,slow=28,SNR=2.2
MKAR LR LR 01 30 35.3
comp=Z,54nm,18.1s,baz=218,slow=38
MKAR Makanchi Array 9.02 34 **Pn** **01 26 57.3 +2.2**
KURBB Kurchatov Arra 11.35 12 Pn **Pn** **01 27 27.8 +0.8**
0.0nm,0.3s,baz=198,slow=11,SNR=4.5
KURBB Lg Lg 01 30 39.3
0.1nm,0.3s,baz=201,slow=30,SNR=9.8
KURBB Kurchatov Arra 11.35 12 ⇓Lg Lg 01 30 45.0
26nm,0.8s
GEYT Alibeck 13.20 268 Pn **Pn** **01 27 51.1 -1.2**
0.5nm,0.3s,baz=80,slow=13,SNR=1.9
GEYT Sn **Sn** **01 30 14.6 -4.9**
0.5nm,0.3s,baz=110,slow=22,SNR=1.8
BVAR Borovoye Array 13.81 349 Pn **P** **01 28 09.9 +0.7**
0.6nm,0.3s,baz=175,slow=17,SNR=6.1
BVAR Lg Lg 01 32 00.7
baz=175,slow=36,SNR=1.4
BRVK Borovoye 13.86 348 **Pn** **01 28 01.3 0.0**
ABKAR Akbulak array 14.39 317 Pn **Pn** **01 28 07.3 -1.3**
ZAA0 Zalesovo Array 15.89 22 Pn **Pn** **01 28 29.1 +0.6**
ZALV Zalesovo Beam 15.89 22 Pn **Pn** **01 28 29.3 +0.9**
0.2nm,0.3s,baz=213,slow=11,SNR=8.7
ZALV LR LR 01 34 51.7
comp=Z,32nm,21.5s,baz=344,slow=38
AKTO Aktyubinsk 16.10 318 Pn **Pn** **01 28 30.6 -0.7**
0.2nm,0.3s,baz=123,slow=13,SNR=6.5
AKTO Sn **Sn** **01 31 24.9 -5.1**
0.1nm,0.3s,baz=61,slow=17,SNR=1.8
AKTO LR LR 01 34 59.0
comp=Z,31nm,18.5s,baz=124,slow=38
ARU Arti 20.01 333 P **Pn** **01 29 20.2 +0.8**
1.3nm,0.6s,baz=160,slow=12,SNR=9.3
ARU LR LR 01 37 19.3
comp=Z,45nm,20.5s,baz=167,slow=37
ARU Arti 20.01 333 **P** **01 29 16.5 -1.2**
ARU IAmb IAmb 01 29 23.3
comp=Z,5.0nm,0.7s
GNI Garni 23.10 281 P **P** **01 29 50.1 -1.0**
comp=Z,2.1nm,0.5s,baz=90,slow=5.1,SNR=2.8
GNI Garni 23.10 281 P **P** **01 29 50.5 -0.7**
GNI IAmb IAmb 01 30 04.1
comp=Z,6.2nm,0.8s
SONM Songino Array 24.10 60 P **P** **01 29 59.0 -1.8**
comp=Z,0.4nm,0.4s,baz=246,slow=9.6,SNR=3.6
SONM LR LR 01 39 42.1
comp=Z,32nm,20.2s,baz=134,slow=37
SONM Songino Array 24.10 60 P **P** **01 30 01.3 +0.4**
KIV Kislovodsk 24.33 291 P **P** **01 30 02.1 -0.8**
CHTO Chiang Mai 29.31 128 P **P** **01 30 50.2 +2.4**
CHTO IAmb IAmb 01 31 04.6
comp=Z,7.0nm,1.4s

NRIK Noril'sk 30.59 9 P **P** **01 30 57.8 -0.9**
comp=Z,1.4nm,0.6s,baz=141,slow=6.3,SNR=2.7
BJT Baijiatuan 31.52 76 P **P** **01 31 09.6 +2.4**
BR131 Keskin Array S 31.56 284 P **P** **01 31 07.2 -0.6**
BR131 IAmb IAmb 01 31 10.3
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 31.56 284 P **P** **01 31 08.2 +0.4**
comp=Z,1.9nm,0.7s,baz=94,slow=6.8,SNR=14
BRTR Keskin Array B 31.56 284 P **P** **01 31 07.6 -0.1**
AKASG Malin Array Be 33.58 305 P **P** **01 31 26.1 +1.0**
comp=Z,0.7nm,0.6s,baz=79,slow=7.5,SNR=4.9
AKASG LR LR 01 45 34.6
comp=Z,23nm,20.2s,baz=60,slow=37
AKASG Malin Array Be 33.58 305 P **P** **01 31 23.7 -1.4**
AKBB Malin Array Si 33.58 305 P **P** **01 31 24.7 -0.4**
AKBB IAmb IAmb 01 31 26.3
comp=Z,2.6nm,0.8s
FIA1 FINESS Array S 36.77 323 P **P** **01 31 52.2 -0.2**
FINES FINESS Array B 36.77 323 P **P** **01 31 52.0 -0.5**
comp=Z,1.4nm,0.7s,baz=112,slow=11,SNR=10
FINES FINESS Array B 36.77 323 P **P** **01 31 51.5 -1.0**
ARCES ARCESS Array B 39.57 335 P **P** **01 32 15.4 -0.5**
comp=Z,1.7nm,0.9s,baz=108,slow=7.8,SNR=6.2
ARCES ARCESS Array B 39.57 335 P **P** **01 32 15.0 -0.9**
DIVS Divibare 40.52 295 P **P** **01 32 23.5 -0.8**
DIVS IAmb IAmb 01 32 27.1
comp=Z,1.8nm,0.7s
PUK Puka 41.10 292 P **P** **01 32 28.4 -0.6**
PUK IAmb IAmb 01 32 30.9
comp=Z,3.0nm,0.7s
GERES GERESS Array B 43.75 303 P **P** **01 32 51.0 +0.4**
comp=Z,1.2nm,0.8s,baz=79,slow=8.3,SNR=9.5
GERES GERESS Array B 43.75 303 P **P** **01 32 49.8 -0.8**
KHC Kasperske Hory 43.77 304 eP **P** **01 32 51.6 +0.9**
NB2 NORSAR Subarra 43.86 321 P **P** **01 32 49.7 -1.5**
comp=Z,1.9nm,0.8s,baz=91,slow=8.6
NOA NORSAR Array B 43.86 321 P **P** **01 32 50.2 -1.0**
comp=Z,0.5nm,0.6s,baz=91,slow=8.0,SNR=4.7
NOA LR LR 01 51 55.2
comp=Z,11nm,21.4s,baz=325,slow=37
ESDC Sonseca Array 56.75 298 P **P** **01 34 42.0 -1.3**
comp=Z,0.5nm,0.6s,baz=61,slow=6.9,SNR=7.7
TORD Torodi Ar. Bea 68.83 270 P **P** **01 35 47.6 -2.4**
comp=Z,0.6nm,0.4s,baz=45,slow=5.9,SNR=18
YKA Yellowknife Ar 78.00 4 P **P** **01 36 41.5 -1.7**
comp=Z,0.6nm,0.6s,baz=354,slow=5.2,SNR=2.6
WRA Warramunga Arr 81.11 125 P **P** **01 36 58.6 -2.2**
comp=Z,1.6nm,0.9s,baz=324,slow=5.1,SNR=13
ASAR Alice Springs 83.59 128 P **P** **01 37 10.9 -2.8**
comp=Z,0.7nm,0.6s,baz=304,slow=4.5,SNR=2.7
NEW Newport 91.90 8 LR LR 02 23 04.9
comp=Z,24nm,18.8s,baz=209,slow=38

*TRN **23** 01:40:02.2, 13°.83N×58°.58W, h92km, MD4.2*
ISC 23 01:39:59.4±2.4, 13°.91N±0°.04×58°.5W±0°.1, h10km, n38,
σ1§87/5, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.25**	**230**	eP	**Pn**	**01 40 24.4**	**+1.5**
BBSP				eS	**Sn**	**01 40 40.3**	**+0.5**
BBGH	**Gun Hill**	**1.30**	**235**	eP	**Pg**	**01 40 25.7**	**+1.3**
BBGH				eS	**Sn**	**01 40 42.2**	**+1.1**
MPOM	**Morne Pois Mar**	**2.38**	**283**	eP	**Pn**	**01 40 39.0**	**+0.5**
MPOM				eS	**Sn**	**01 41 08.3**	**+0.6**
MCLT	**Moule a Chique**	**2.41**	**266**	eP	**Pn**	**01 40 40.7**	**+1.7**
MCLT				eS	**Sn**	**01 41 07.2**	**-1.3**
SLBI	**Saint Lucia, B**	**2.43**	**273**	eP	**Pn**	**01 40 39.3**	**+0.1**
SLBI				eS	**Sn**	**01 41 08.1**	**-1.0**
MVM	**Montagne Vaucl**	**2.44**	**286**	eP	**Pn**	**01 40 41.0**	**+1.6**
SLCP	**Castries, St.**	**2.45**	**273**	eS	**Sn**	**01 41 07.5**	**-1.9**
ILAM	**Ilet Lapin Mar**	**2.48**	**291**	eP	**Pn**	**01 40 41.2**	**+1.2**
ILAM				eS	**Sn**	**01 41 08.8**	**-1.5**
LPMF	**Morne Lapointe**	**2.51**	**286**	eP	**Pn**	**01 40 41.1**	**+0.8**
ZAM	**Aeronautique**	**2.57**	**285**	eP	**Pn**	**01 40 41.8**	**+0.7**
TRMF	**Trois Ilets**	**2.58**	**284**	eP	**Pn**	**01 40 42.3**	**+1.1**
BIM	**Bigot**	**2.59**	**284**	eP	**Pn**	**01 40 42.3**	**+0.8**
BIM				eS	**Sn**	**01 41 09.1**	**-4.0**
FDF	**Fort de France**	**2.73**	**288**	eP	**Pn**	**01 40 44.7**	**+1.4**
FDF				eS	**Sn**	**01 41 14.8**	**-1.6**
BAMF	**Morne Balai**	**2.75**	**290**	eP	**Pn**	**01 40 45.6**	**+2.0**
CXM	**Morne La Croix**	**2.77**	**289**	eP	**Pn**	**01 40 47.9**	**+3.9**
PML	**Morne Lenard**	**2.77**	**289**	eP	**Pn**	**01 40 45.5**	**+1.6**
SVN	**Savane Anatole**	**2.77**	**290**	eP	**Pn**	**01 40 45.9**	**+1.8**
SVB	**Belmont**	**2.78**	**257**	eP	**Pn**	**01 40 44.7**	**+0.7**
SVB				eS	**Sn**	**01 41 15.5**	**-2.1**
PCM	**Pelee Case Pet**	**2.81**	**289**	eP	**Pn**	**01 40 46.5**	**+2.1**
DLPL	**La Plaine**	**3.04**	**298**	eS	**Sn**	**01 41 22.7**	**-1.4**
GCMP	**Grenada, Carri**	**3.21**	**244**	eP	**Pn**	**01 40 50.9**	**+1.0**
GCMP				eS	**Sn**	**01 41 25.9**	**-2.3**
DSLB	**Salisbury**	**3.24**	**298**	eP	**Pn**	**01 40 51.6**	**+1.3**
DSLB				eS	**Sn**	**01 41 27.0**	**-2.0**
TOSP	**Speyside**	**3.28**	**218**	eS	**Sn**	**01 41 27.0**	**-3.0**
MAGL	**Barre de l'ile**	**3.39**	**307**	eP	**Pn**	**01 40 54.0**	**+1.5**
MAGL				eS	**Sn**	**01 41 31.8**	**-1.0**
TDBA	**Terre de Bas,**	**3.62**	**303**	eP	**Pn**	**01 40 57.2**	**+1.6**
TBG	**Guadaloupe-3**	**3.63**	**303**	eP	**Pn**	**01 40 56.7**	**+1.0**
TBG				eS	**Sn**	**01 41 37.1**	**-1.5**
CBE	**Ff, Capester**	**3.72**	**306**	eP	**Pn**	**01 40 58.6**	**+1.7**
CBE				eS	**Sn**	**01 41 40.0**	**-0.9**
ABD	**La Joyeuse, An**	**3.88**	**312**	eP	**Pn**	**01 40 59.9**	**+0.8**
ABD				eS	**Sn**	**01 41 43.3**	**-1.4**
TRN	**Trinidad (W)**	**4.32**	**222**	eP	**Pn**	**01 41 05.2**	**0.0**
TRN	**Trinidad (W)**	**4.32**	**222**	eS	**Sn**	**01 41 51.0**	**-4.7**
ANBD	**Bethesda, Anti**	**4.46**	**315**	eP	**Pn**	**01 41 08.1**	**+1.0**
ANBD	**Bethesda, Anti**	**4.46**	**315**	eS	**Sn**	**01 41 57.0**	**-2.1**
BPA	**Boggy Peak**	**4.52**	**314**	eP	**Pn**	**01 41 08.9**	**+0.9**
BPA	**Boggy Peak**	**4.52**	**314**	eS	**Sn**	**01 41 58.1**	**-2.5**
ANWB	**Willy Bob**	**4.92**	**320**	eP	**Pn**	**01 41 13.9**	**+0.5**
ANWB	**Willy Bob**	**4.92**	**320**	eS	**Sn**	**01 42 08.2**	**-2.3**
SKI	**Saint Kitts**	**5.34**	**310**	eP	**Pn**	**01 41 20.9**	**+1.6**
SKI	**Saint Kitts**	**5.34**	**310**	eS	**Sn**	**01 42 17.1**	**-3.8**

IDC 23 01:55:53.9±2.4, 4°.14S×102°.10E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/35, mbtmp3.8/7, Error ellipse: s-maj=120.4km s-min=19.5km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.65**	**262**	T	T	02 31 31.3	
baz=87,slow=75							
H08S3	**Diego Garcia H**	**29.66**	**262**	T	T	02 32 36.8	
baz=87							
H08S1	**Diego Carcia H**	**29.67**	**262**	T	T	02 31 44.7	
baz=87,slow=75							
H01W3	**Cape Leeuwin H**	**32.56**	**161**	T	T	02 36 14.9	
baz=337,slow=76,SNR=8.8							
H01W2	**Cape Leeuwin H**	**32.58**	**161**	T	T	02 36 15.5	
baz=337,slow=76,SNR=11							
H01W1	**Cape Leeuwin H**	**32.58**	**161**	T	T	02 36 16.2	
baz=337,slow=76,SNR=7.8							
WRA	**Warramunga Arr**	**35.12**	**119**	P	P	02 02 49.2	-0.2
0.5nm,0.9s,baz=294,slow=8.5,SNR=6.8							
ASAR	**Alice Springs**	**36.31**	**125**	P	P	02 02 59.6	0.0
0.7nm,0.5s,baz=300,slow=8.0,SNR=16							
STKA	**Stephens Creek**	**46.17**	**131**	P	P	02 04 20.9	+0.3
1.6nm,0.5s,baz=333,slow=9.4,SNR=4.0							
SONM	**Songino Array**	**51.89**	**4**	P	P	02 05 06.0	+1.7
0.3nm,0.4s,baz=193,slow=5.9,SNR=2.2							
MKAR	**Makanchi Array**	**53.66**	**343**	P	P	02 05 15.3	-1.9
0.3nm,0.5s,baz=152,slow=10.0,SNR=7.6							
ZALV	**Zalesovo Beam**	**59.66**	**348**	P	P	02 06 00.2	+0.4
0.5nm,0.4s,baz=122,slow=7.4,SNR=1.4							
FINES	**FINESS Array B**	**86.97**	**332**	P	P	02 08 42.6	+1.9
1.6nm,0.9s,baz=77,slow=8.2,SNR=1.6							
TXAR	**Lajitas Array**	**145.01**	**41**	PKPbc	PKPbc	02 15 30.6	-2.7
0.3nm,0.7s,baz=307,slow=3.1,SNR=5.7							

*IDC **23** 02:20:33.6±0.8, 28°.18N×52°.93E, h0km, mb3.9/17, mb1 4.0/21, mb1mx3.9/43, mbtmp3.9/21, ML3.5/5, MS3.2/9, Ms1 3.2/9, ms1mx3.0/36, Error ellipse: s-maj=19.9km s-min=14.1km az=18.0*
*THR **23** 02:20:35.9±0.5, 28°.13N×52°.87E, h18km±8km, ML4.0*
*TEH **23** 02:20:36.0, 28°.20N×52°.87E, h19km, ML4.2*
*DSN **23** 02:20:36.2±1.0, 28°.18N×52°.85E, h10km, ML4.1/11, Error ellipse: s-maj=13.6km s-min=6.0km az=8.0*
*NEIC **23** 02:20:38.7±1.7, 28°.25N±0°.05×52°.99E±0°.03, h38km±10km, Error ellipse: s-maj=7.6km s-min=3.9km az=177.0*

*OMAN **23** 02:20:40.9±0.1, 27°.94N×53°.04E, h16km, mb5.4/9, ml4.3/13, Error ellipse: s-maj=1.5km s-min=0.7km az=3.0*
ISC 23 02:20:35.1±0.4, 28°.24N±0°.03×52°.95E±0°.03, h10km, n161,
σ1§71/190, mb3.9/21, MS3.2/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.61**	**65**	Pg	**Pg**	**02 20 47.8**	**+0.7**
JHRM	**Jahrom**	**0.61**	**65**	ePg	**Pb**	**02 20 48.5**	**+0.5**
JHRM				e		02 21 10.9	
comp=Z,53μm,0.4s							
LMD1	**Lamerd**	**0.92**	**168**	Pg	**Pb**	**02 20 54.3**	**+1.1**
LMD1				Sg	**Sn**	**02 21 08.4**	**+0.9**
LMD1	**Lamerd**	**0.92**	**168**	ePg	**Pg**	**02 20 53.7**	**+0.8**
LMD1				e		02 21 18.8	
comp=Z,42μm,0.7s							
LAR1	**LAR**	**1.39**	**114**	Pn	**Pg**	**02 21 03.2**	**+1.4**
LAR1	**LAR**	**1.39**	**114**	ePg	**Pg**	**02 21 03.5**	**+1.7**
SHI	**Shiraz**	**1.44**	**345**	ePg	**Pg**	**02 21 03.7**	**+0.8**
AHBU	**AHRAM**	**1.58**	**293**	ePg	**Pn**	**02 21 04.6**	**+1.4**
KAZ1	**Kazerun**	**1.79**	**320**	e		02 21 48.4	
comp=Z,30μm,0.6s							
KAZ1				ePn	**Pn**	**02 21 07.2**	**+1.0**
KHOR	**Al-Khor Airpor**	**2.91**	**206**	P	**Pn**	**02 21 24.8**	**+3.4**
KHOR				S	**Sn**	**02 21 58.8**	**+2.3**
BNDS	**Bandar-Abbas**	**2.98**	**106**	ePn	**Pn**	**02 21 25.1**	**+2.5**
BNDS				IAML		02 22 28.8	
comp=N,382nm,0.3s							
BNDS				IAML		02 22 37.5	
comp=E,385nm,0.6s							
BNDS	**Bandar-Abbas**	**2.98**	**106**	ePn	**Pn**	**02 21 25.1**	**+2.5**
GENO	**Geno**	**2.98**	**106**	Pn	**Pn**	**02 21 25.3**	**+2.7**
GENO	**Geno**	**2.98**	**106**	ePn	**Pn**	**02 21 25.1**	**+2.5**
GENO				e		02 22 36.1	
comp=Z,5μm,0.6s							
KLNJ	**Kolanjah**	**3.00**	**337**	ePn	**Pn**	**02 21 23.5**	**+0.4**
SAKB	**Bahrain**	**3.12**	**224**	P	**Pn**	**02 21 26.2**	**+1.8**
SAKB				S	**Sn**	**02 22 02.5**	**+0.9**
IMEH	**Mehriz**	**3.45**	**24**	ePn	**Pn**	**02 21 32.6**	**+3.4**
IRAM	**Ramesheh**	**3.59**	**352**	Pn	**Pn**	**02 21 32.7**	**+1.7**
IRAM	**Ramesheh**	**3.59**	**352**	ePn	**Pn**	**02 21 33.1**	**+2.1**
SHME	**Shamm**	**3.59**	**127**	P	**Pn**	**02 21 31.9**	**+1.1**
SHME				S	**Sn**	**02 22 16.1**	**+2.8**
SHME	**Shamm**	**3.59**	**127**	ePn	**Pn**	**02 21 32.4**	**+1.6**
SHME	**Shamm**	**3.59**	**127**	P	**Pn**	**02 21 34.1**	**+3.2**
SHME				S	**Sn**	**02 22 15.2**	**+1.9**
NGRK	**Negar Kerman**	**3.60**	**66**	Pn	**Pn**	**02 21 33.9**	**+2.6**
NGRK	**Negar Kerman**	**3.60**	**66**	ePn	**Pn**	**02 21 33.9**	**+2.6**
NGRK				e		02 22 47.4	
comp=Z,2μm,0.9s							
ISAD	**Sadrabad**	**3.71**	**10**	ePn	**Pn**	**02 21 35.4**	**+2.6**
KHGB	**Koh Gabri**	**3.74**	**55**	ePn	**Pn**	**02 21 36.3**	**+3.1**
KRBR	**Kerman**	**3.76**	**62**	IAML		02 22 46.1	
comp=E,211nm,0.7s							
TVBK	**TV Kerman**	**3.76**	**62**	ePn	**Pn**	**02 21 37.3**	**+3.8**
TVBK				e		02 22 49.8	
comp=Z,4μm,0.5s							
BANOM	**Banah**	**3.78**	**127**	iP	**Pn**	**02 21 35.2**	**+1.7**
SNR=35							
BANOM	**Banah**	**3.78**	**127**	ePn	**Pn**	**02 21 35.6**	**+2.1**
BANOM	**Banah**	**3.78**	**127**	P	**Pn**	**02 21 36.0**	**+2.5**
SNR=35							
BANOM				S	**Sn**	**02 22 18.2**	**+0.2**
TRNA	**Turayna**	**3.83**	**204**	P	**Pn**	**02 21 35.6**	**+1.5**
TRNA				S	**Sn**	**02 22 19.8**	**+0.7**
IBAF	**Bafgh**	**4.04**	**34**	ePn	**Pn**	**02 21 39.9**	**+2.7**
NAZ	**Nazwa, Dubai**	**4.05**	**143**	iP	**Pn**	**02 21 38.9**	**+1.7**
SNR=12							
NAZ	**Nazwa, Dubai**	**4.05**	**143**	ePn	**Pn**	**02 21 39.5**	**+2.3**
NAZ	**Nazwa, Dubai**	**4.05**	**143**	P	**Pn**	**02 21 39.5**	**+2.3**
SNR=12							
NAZ				S	**Sn**	**02 22 23.7**	**-1.0**
MASF	**Masafi**	**4.05**	**134**	P	**Pn**	**02 21 39.5**	**+2.2**
SNR=12							
MASF				S	**Sn**	**02 22 24.7**	**-0.2**
MSFE	**Esma-Masafi**	**4.06**	**134**	iP	**Pn**	**02 21 38.8**	**+1.4**
SNR=12							
MSFE	**Esma-Masafi**	**4.06**	**134**	ePn	**Pn**	**02 21 39.7**	**+2.3**
AJN	**Ajban**	**4.10**	**153**	ePn	**Pn**	**02 21 40.3**	**+2.5**
AJN	**Ajban**	**4.10**	**153**	P	**Pn**	**02 21 38.0**	**+0.2**
AJN				S	**Sn**	**02 22 25.7**	**-0.1**
ICHK	**Chekchek**	**4.18**	**17**	ePn	**Pn**	**02 21 42.0**	**+2.8**
ASUD	**Al Ashush, Dub**	**4.19**	**149**	iP	**Pn**	**02 21 40.2**	**+1.1**
SNR=18							
ASUD	**Al Ashush, Dub**	**4.19**	**149**	ePn	**Pn**	**02 21 41.1**	**+2.0**
ASUD	**Al Ashush, Dub**	**4.19**	**149**	P	**Pn**	**02 21 41.6**	**+2.5**
SNR=18							
ASUD				S	**Sn**	**02 22 25.0**	**-3.1**
MDH	**Madha**	**4.19**	**134**	iP	**Pn**	**02 21 40.9**	**+1.8**
SNR=7.3							
MDH	**Madha**	**4.19**	**134**	ePn	**Pn**	**02 21 41.2**	**+2.1**
MDH	**Madha**	**4.19**	**134**	P	**Pn**	**02 21 41.3**	**+2.1**
SNR=7.3							
MDH				S	**Sn**	**02 22 28.3**	**+0.1**
FAQ	**Al Faqa, Dubai**	**4.21**	**145**	P	**Pn**	**02 21 40.9**	**+1.5**
FAQ	**Al Faqa, Dubai**	**4.21**	**145**	ePn	**Pn**	**02 21 41.5**	**+2.0**
FAQ	**Al Faqa, Dubai**	**4.21**	**145**	P	**Pn**	**02 21 41.4**	**+2.0**
FAQ				S	**Sn**	**02 22 28.3**	**-0.4**
IGAR	**Gharneh**	**4.22**	**350**	ePn	**Pn**	**02 21 41.4**	**+1.7**
GHWR	**Ruwais**	**4.26**	**181**	P	**Pn**	**02 21 41.7**	**+1.6**
GHWR				S	**Sn**	**02 22 29.4**	**-0.5**
SLWR	**Sila**	**4.31**	**195**	ePn	**Pn**	**02 21 41.0**	**+0.3**
SLWR	**Sila**	**4.31**	**195**	P	**Pn**	**02 21 41.6**	**+0.8**
SLWR				S	**Sn**	**02 22 30.9**	**-0.2**
CHMN	**Cheshme madani**	**4.33**	**67**	ePn	**Pn**	**02 21 44.4**	**+3.0**
CHMN				e		02 23 12.3	
comp=Z,1μm,0.9s							
YZKH	**Yazd**	**4.37**	**19**	ePn	**Pn**	**02 21 45.3**	**+3.6**
YZKH				eSg	**Sg**	**02 22 55.6**	**+0.1**
YZKH	**Yazd**	**4.37**	**19**	ePn	**Pn**	**02 21 45.3**	**+3.6**
UOSS	**Minazif**	**4.39**	**138**	iP	**Pn**	**02 21 43.1**	**+1.2**
SNR=15							
UOSS	**Minazif**	**4.39**	**138**	Pn	**Pn**	**02 21 43.1**	**+1.2**
UOSS				Sn	**Sn**	**02 22 33.2**	**0.0**
UOSS	**Minazif**	**4.39**	**138**	ePn	**Pn**	**02 21 43.4**	**+1.5**
HATD	**Hatta, Dubai**	**4.44**	**139**	P	**Pn**	**02 21 43.8**	**+1.2**
HATD	**Hatta, Dubai**	**4.44**	**139**	ePn	**Pn**	**02 21 44.4**	**+1.8**
HATD	**Hatta, Dubai**	**4.44**	**139**	P	**Pn**	**02 21 44.5**	**+1.8**
HATD				S	**Sn**	**02 22 32.9**	**-1.5**
SHK1	**Shahrekord**	**4.44**	**337**	ePn	**Pn**	**02 21 44.4**	**+1.6**
ASHO	**Ashiyiah**	**4.51**	**141**	iP	**Pn**	**02 21 44.7**	**+1.1**
SNR=34							
ASHO	**Ashiyiah**	**4.51**	**141**	ePn	**Pn**	**02 21 45.3**	**+1.7**
ASHO	**Ashiyiah**	**4.51**	**141**	P	**Pn**	**02 21 45.1**	**+1.6**
SNR=34							
ASHO				P	Pb	02 21 45.2	-9.3
SNR=10							
ASHO				S	**Sn**	**02 22 35.7**	**-0.4**
IZEF	**Zefreh**	**4.67**	**354**	ePn	**Pn**	**02 21 47.2**	**+1.3**
ALNE	**Al Ain**	**4.87**	**148**	P	**Pn**	**02 21 49.9**	**+1.3**
ALNE	**Al Ain**	**4.87**	**148**	ePn	**Pn**	**02 21 50.8**	**+2.3**
ANAR	**Anarak**	**4.97**	**8**	ePn	**Pn**	**02 21 52.3**	**+2.2**
IKLH	**Kolahrood**	**5.19**	**347**	ePn	**Pn**	**02 21 54.1**	**+0.9**
SOHO	**SOHO**	**5.21**	**141**	iP	**Pn**	**02 21 53.8**	**+0.6**
SNR=18							

ZHDN	Zahedan	6.99	79	*e*Pn	Pn	02 22 20.1	+2.3
HSAM	Samen	7.02	329	*e*Pn	Pn	02 22 18.7	+0.5
WSAR	Wadi Sarin	7.15	133	Pn	Pn	02 22 20.7	+0.8
	comp=Z,4.4nm,0.3s,baz=306,slow=6.8,SNR=54						
WSAR				Sn	Sn	02 23 39.5	-1.6
	comp=Z,3.9nm,0.3s,baz=124,slow=17,SNR=6.3						
WSAR	Wadi Sarin	7.15	133	P	Pn	02 22 20.6	+0.8
	SNR=26						
WSAR				S	Sn	02 23 39.0	-2.1
HAGD	Aghdareh	7.32	335	*e*Pn	Pn	02 22 22.2	-0.1
AFRZ	Afriz	7.34	44	*e*Pn	Pn	02 22 23.9	+1.4
JMDO	Jabal Madar	7.48	140	P	Pn	02 22 24.8	+0.4
JMDO				S	Sn	02 23 45.9	-3.4
ISHM	Shahmirzad	7.55	2	*e*Pn	Pn	02 22 28.0	+2.5
IRAZ	Razeghan	7.59	341	*e*Pn	Pn	02 22 26.2	+0.2
WBK	Wadi Bani Khal	7.81	135	P	Pn	02 22 30.0	+1.0
	SNR=8.1						
WBK				S	Sn	02 23 55.3	-2.2
QABG	Abgarm-Qazvin	7.97	340	*e*Pn	Pn	02 22 30.2	-1.1
IGHG	Ghaleghazi	8.16	320	*e*Pn	Pn	02 22 35.4	+1.5
IGLO	Ghaloghah	8.27	5	*e*Pn	Pn	02 22 38.9	+3.6
QALM	Alamut, Qazvin	8.39	347	*e*Pn	Pn	02 22 37.3	+0.2
SRVN	Saravan	8.41	94	*e*Pn	Pn	02 22 39.1	+1.9
IDHR	Dehrash	8.53	321	*e*Pn	Pn	02 22 39.3	+0.4
MHTO	MHTO	8.55	147	P	Pn	02 22 39.8	+0.8
	SNR=33						
MHTO				S	Sn	02 24 12.0	-3.5
	SNR=6.8						
QSDN	Sirdan	8.83	340	*e*Pn	Pn	02 22 42.9	-0.2
GEYT	Alibeck	10.58	23	Pn	Pn	02 23 09.4	+2.4
	comp=Z,0.3nm,0.3s,baz=169,slow=16,SNR=3.2						
GEYT				LR	LR	02 26 58.6	
	comp=Z,27nm,20.0s,baz=225,slow=36						
KBL	Kabul	15.10	61	Pn	Pn	02 24 08.0	-0.8
KBL				IAmb	IAmb	02 24 19.0	
	comp=Z,12nm,1.2s						
EIL	Elat	15.82	279	Pn	Pn	02 24 19.5	+1.4
	comp=Z,0.1nm,0.3s,baz=91,slow=13,SNR=1.9						
KBZ	Khabaz	17.44	335	P	Pn	02 24 39.2	+0.7
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=2.2						
KIV	Kislovodsk	17.71	335		Pn	02 24 41.2	-0.7
GAR	Garm	17.98	49	Pn	Pn	02 24 42.2	-3.1
NIL	Nilore	18.22	68		Pn	02 24 47.6	-0.6
NIL				IAmb	IAmb	02 24 54.5	
	comp=Z,18nm,0.9s						
DRK	Karamyk	19.21	49	P	P	02 24 59.5	-0.1
DRK				IAmb	IAmb	02 25 08.2	
	comp=Z,18nm,1.1s						
BRTR	Keskin Array B	19.64	311	P	P	02 25 04.9	+0.8
	comp=Z,0.1nm,0.3s,baz=139,slow=12,SNR=6.8						
BRTR				LR	LR	02 33 33.0	
	comp=Z,51nm,18.2s,baz=144,slow=40						
BRTR	Keskin Array B	19.64	311	P	P	02 25 03.2	-1.0
KK31	Karatay Array	20.52	39	P	P	02 25 13.0	-0.4
KK31				IAmb	IAmb	02 25 20.7	
	comp=Z,12nm,1.1s						
KKAR	Karatay Array	20.52	39	P	P	02 25 13.6	+0.1
KKAR	Karatay Array	20.52	39	P	P	02 25 13.3	-0.2
KKAR				IAmb	IAmb	02 25 20.7	
	comp=Z,12nm,1.1s						
ABKAR	Akbulak array	21.66	12	P	P	02 25 24.9	-0.8
ABKAR	Akbulak array	21.66	12	P	P	02 25 25.0	-0.8
ABKAR				IAmb	IAmb	02 25 28.0	
	comp=Z,3.8nm,0.8s						
AKTO	Aktyubinsk	22.49	8	P	P	02 25 36.0	+1.4
	comp=Z,2.2nm,0.6s,baz=186,slow=13,SNR=9.2						
BOOM	Boomskoye usch	23.43	47	P	P	02 25 45.4	+0.7
BOOM				IAmb	IAmb	02 25 52.4	
	comp=Z,5.2nm,1.1s						
IDI	Anoyia	24.82	294	P	P	02 25 58.7	+1.1
	comp=Z,8.6nm,0.6s,baz=59,slow=12,SNR=9.3						
IDI	Anoyia	24.82	294	P	P	02 25 56.6	-1.0
TIRR	Tirgusor	25.40	316	P	P	02 26 03.1	+0.4
MLR	Muntele Rosu	27.43	316	P	P	02 26 21.5	+0.3
	comp=Z,1.7nm,0.6s,baz=130,slow=15,SNR=4.1						
MLR	Muntele Rosu	27.43	316	P	P	02 26 20.4	-0.8
MLR				IAmb	IAmb	02 26 34.2	
	comp=Z,9.5nm,1.5s						
BVAR	Borovoye Array	27.92	23	P	P	02 26 24.7	-0.7
	comp=Z,0.4nm,0.5s,baz=216,slow=19,SNR=2.0						
AKASG	Malin Array Be	28.72	328	P	P	02 26 31.7	-0.8
	comp=Z,0.4nm,0.4s,baz=128,slow=8.9,SNR=4.1						
MAKZ	Makanchi	29.31	43	P	P	02 26 37.8	0.0
MAKZ				IAmb	IAmb	02 26 40.6	
	comp=Z,2.4nm,0.7s						
MK31	Makanchi Array	29.49	43	P	P	02 26 38.5	-0.9
MK31				IAmb	IAmb	02 26 44.8	
	comp=Z,2.8nm,1.2s						
MKAR	Makanchi Array	29.49	43	P	P	02 26 40.4	+0.9
	comp=Z,0.5nm,0.5s,baz=228,slow=9.0,SNR=9.6						
MKAR				PcP	PcP	02 29 43.8	-0.9
	comp=Z,0.4nm,0.5s,baz=218,slow=2.6,SNR=3.6						
MKAR	Makanchi Array	29.49	43	P	P	02 26 38.5	-0.9
KURBB	Kurchatov Arra	29.57	34	P	P	02 26 41.0	+1.0
	comp=Z,0.2nm,0.3s,baz=231,slow=9.2,SNR=4.4						
KURK	Kurchatov	29.67	34	P	P	02 26 41.0	+0.1
ZAA0	Zalesovo Array	34.65	33	P	P	02 27 23.5	-1.1
ZALV	Zalesovo Beam	34.65	33	P	P	02 27 25.4	+0.9
	comp=Z,1.6nm,0.5s,baz=241,slow=8.3,SNR=9.1						
ZALV				LR	LR	02 43 05.3	
	comp=Z,39nm,20.6s,baz=224,slow=39						
ZALV	Zalesovo Beam	34.65	33	P	P	02 27 23.4	-1.2
NRCA	Norcia	35.19	305	P	P	02 27 29.2	-0.2
NRCA				IAmb	IAmb	02 27 36.1	
	comp=Z,2.9nm,0.8s						
KHC	Kasperske Hory	36.59	316	*e*P	P	02 27 40.6	-0.7
KHC	Kasperske Hory	36.59	316	P	P	02 27 41.3	0.0
CLL	Collm	37.72	319	*e*(P)	P	02 27 59.0	+8.2
FIA1	FINESS Array S	37.72	339	P	P	02 27 49.9	-0.8
FINES	FINESS Array B	37.72	339	P	P	02 27 50.4	-0.2
	comp=Z,1.9nm,0.5s,baz=144,slow=10,SNR=18						
FINES				LR	LR	02 46 29.6	
	comp=Z,34nm,18.9s,baz=136,slow=41						
FINES	FINESS Array B	37.72	339	P	P	02 27 49.6	-1.0
NB2	NORSAR Subarra	42.97	332	P	P	02 28 32.7	-1.6
	comp=Z,0.9nm,0.6s,baz=122,slow=8.6						
NOA	NORSAR Array B	42.97	332	P	P	02 28 33.0	-1.2
	comp=Z,0.5nm,0.6s,baz=120,slow=8.1,SNR=5.3						
NOA				LR	LR	02 47 59.7	
	comp=Z,19nm,18.1s,baz=0.0,slow=38						
CMAR	Chiang Mai Arr	43.12	93	P	P	02 28 37.2	+1.2
	comp=Z,0.7nm,0.4s,baz=287,slow=9.3,SNR=1.6						
CMAR				LR	LR	02 50 28.3	
	comp=Z,27nm,18.4s,baz=235,slow=42						
ARCES	ARCESS Array B	44.27	347	P	P	02 28 44.8	+0.2
	comp=Z,1.2nm,0.7s,baz=148,slow=7.1,SNR=5.3						
ARCES				LR	LR	02 48 15.0	
	comp=Z,32nm,18.4s,baz=305,slow=38						
ARCES	ARCESS Array B	44.27	347	P	P	02 28 43.5	-1.0
ESDC	Sonseca Array	47.85	299	P	P	02 29 15.1	+1.8
	comp=Z,0.3nm,0.6s,baz=59,slow=7.6,SNR=5.5						
TORD	Torodi Ar. Bea	49.89	263	P	P	02 29 28.2	-1.0
	comp=Z,1.9nm,0.6s,baz=58,slow=8.7,SNR=14						
TORD				LR	LR	02 51 51.0	
	comp=Z,34nm,18.6s,baz=220,slow=38						
KSRS	Korea Array	62.16	60	P	P	02 30 56.2	-0.5
	comp=Z,1.1nm,0.6s,baz=283,slow=6.4,SNR=4.4						
KSRS				LR	LR	03 01 38.5	
	comp=Z,44nm,18.0s,baz=128,slow=40						
WRA	Warramunga Arr	92.03	111	P	P	02 33 44.2	-0.6
	comp=Z,0.4nm,0.7s,baz=311,slow=4.2,SNR=2.5						
ASAR	Alice Springs	93.48	115	P	P	02 33 50.9	-0.5
	comp=Z,0.4nm,0.6s,baz=307,slow=4.2,SNR=4.8						
ASAR	Alice Springs	93.48	115	P	P	02 33 48.2	-3.2

NEIC ***23*** *02:37:55.8±1.7, 19°.40N±0°.08×64°.63W±0°.08, h40km±56km, Error ellipse: s-maj=12.3km s-min=10.8km az=223.0*
RSPR ***23*** *02:37:57.5, 19°.26N×64°.60W, h60km±9km, MD3.5/9*
ISC 23 02:37:58.3±1.9, 19°.2N±0°.1×64°.68W±0°.04, h42km, n53, σ0s78/59, 13C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	Anegada Island	0.60	147		Pn	02 38 09.5	-0.9
ABVI				Sn	Sn	02 38 19.6	+0.5
VGBI	Virgin Gorda,	0.79	161	⇑*e*P	Pn	02 38 11.9	-1.1
VGBI	Virgin Gorda,	0.79	161	*e*S	Sn	02 38 24.6	+0.9
VGBI	Virgin Gorda,	0.79	161		Pn	02 38 11.9	-1.1
VGBI					Sn	02 38 24.6	+0.9
TBVI	Tortola	0.82	176	⇑*i*P	Pn	02 38 12.4	-1.0
TBVI	Tortola	0.82	176	*e*S	Sn	02 38 25.2	+0.8
TBVI	Tortola	0.82	176		Pn	02 38 12.4	-1.0
TBVI					Sn	02 38 25.2	+0.8
STVI	Saint Thomas	0.92	197	⇑*e*P	Pn	02 38 13.8	-1.1
STVI	Saint Thomas	0.92	197	*e*S	Sn	02 38 27.7	+0.8
STVI	Saint Thomas	0.92	197		Pn	02 38 13.8	-1.1
STVI					Sn	02 38 27.7	+0.8
STVI	Saint Thomas	0.92	197	IAML		02 38 33.0	
	comp=E,198nm,0.5s						
STVI				IAML		02 38 33.6	
	comp=N,209nm,0.3s						
CUPR	Culebra, Puert	1.09	212	⇑*e*P	Pn	02 38 16.5	-0.6
CUPR	Culebra, Puert	1.09	212	*e*S	Sn	02 38 31.4	+0.3
CUPR	Culebra, Puert	1.09	212		Pn	02 38 16.5	-0.6
CUPR					Sn	02 38 31.4	+0.3
CUPR	Culebra, Puert	1.09	212	IAML		02 38 36.5	
	comp=N,190nm,0.4s						
CUPR				IAML		02 38 38.3	
	comp=E,145nm,0.5s						
MTP	Monte Pirata	1.41	216	⇑*e*P	Pn	02 38 20.6	-0.8
MTP	Monte Pirata	1.41	216	*e*S	Sn	02 38 39.5	+0.7
MTP	Monte Pirata	1.41	216		Pn	02 38 20.6	-0.8
MTP					Sn	02 38 39.5	+0.7
MTP	Monte Pirata	1.41	216	IAML		02 38 44.2	
	comp=E,146nm,0.2s						
MTP				IAML		02 38 45.1	
	comp=N,116nm,0.2s						
CBYP	Canovanas	1.48	229	⇑*e*P	Pn	02 38 21.7	-0.8
CBYP	Canovanas	1.48	229	*e*S	Sn	02 38 40.4	-0.2
CBYP	Canovanas	1.48	229		Pn	02 38 20.7	-1.8
CBYP	Canovanas	1.48	229		Sn	02 38 40.4	-0.2
CDVI	St. Croix	1.48	183		Pn	02 38 23.3	+0.9
HUMP	Col San Antoni	1.56	226	⇑*e*P	Pn	02 38 23.8	+0.2
HUMP	Col San Antoni	1.56	226	*e*S	Sn	02 38 43.1	+0.6
HUMP	Col San Antoni	1.56	226		Pn	02 38 21.6	-1.9
HUMP				IAML		02 38 50.6	
	comp=E,88nm,0.2s						
HUMP				IAML		02 38 51.7	
	comp=N,93nm,0.4s						
HUMP	Col San Antoni	1.56	226		Sn	02 38 43.1	+0.6
GCPR	Guaynabo City	1.62	235	⇑*e*P	Pn	02 38 24.0	-0.4
GCPR	Guaynabo City	1.62	235	*e*S	Sn	02 38 44.9	+0.8
GCPR	Guaynabo City	1.62	235		Pn	02 38 24.0	-0.4
GCPR					Sn	02 38 44.9	+0.8
PDPR	Patillas Dam,	1.76	227		Pn	02 38 25.8	-0.5
PDPR				IAML		02 38 57.0	
	comp=E,64nm,0.6s						
SJG	San Juan	1.79	231		Sn	02 38 47.0	-1.3
IGPR	InterUniversit	1.86	227	⇑*e*P	Pn	02 38 27.6	0.0
IGPR	InterUniversit	1.86	227	*e*S	Sn	02 38 49.9	+0.1
EMPR	Esperanza - Ma	1.91	247	⇑*e*P	Pn	02 38 28.2	-0.2
EMPR	Esperanza - Ma	1.91	247	*e*S	Sn	02 38 51.9	+0.7
EMPR	Esperanza - Ma	1.91	247		Pn	02 38 28.2	-0.2
EMPR					Sn	02 38 51.9	+0.7
EMPR	Esperanza - Ma	1.91	247	IAML		02 39 12.3	
	comp=E,111nm,1.1s						
EMPR				IAML		02 39 50.5	
	comp=N,126nm,1.3s						
CELP	Cerrillos	2.15	238	⇑*e*P	Pn	02 38 31.2	-0.4
CELP	Cerrillos	2.15	238	*e*S	Sn	02 38 57.5	+0.5
CELP	Cerrillos	2.15	238		Pn	02 38 31.2	-0.4
CELP					Sn	02 38 57.5	+0.5
AOPR	Arecibo Observ	2.16	246	⇑*e*P	Pn	02 38 31.6	-0.2
AOPR	Arecibo Observ	2.16	246	*e*P	Pn	02 38 37.1	+5.3
AOPR	Arecibo Observ	2.16	246		Pn	02 38 31.6	-0.2
AOPR	Arecibo Observ	2.16	246	IAML		02 39 03.2	
	comp=N,97nm,0.6s						
OBIP	Obispado Ponce	2.18	237	⇑*e*P	Pn	02 38 32.2	0.0
OBIP	Obispado Ponce	2.18	237	*e*S	Sn	02 38 58.4	+0.5
OBIP	Obispado Ponce	2.18	237		Pn	02 38 32.2	0.0
OBIP					Sn	02 38 58.4	+0.5
MLPR	Magueyes Islan	2.58	241	⇑*e*P	Pn	02 38 37.5	0.0
MLPR	Magueyes Islan	2.58	241		Pn	02 38 37.5	0.0
BPA	Boggy Peak	3.46	129	*e*P	Pn	02 38 48.3	-1.4
BPA				*e*S	Sn	02 39 30.9	+1.5
ANBD	Bethesda, Anti	3.52	128	*e*P	Pn	02 38 50.5	-0.1
ANBD				*e*S	Sn	02 39 31.4	+0.4

KRSC ***23*** *02:50:07.0±0.4, 54°.10N×168°.43E, h16km±10km, ML3.7*
IDC ***23*** *02:50:06.8±1.4, 53°.83N×169°.86E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.4/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/31, Error ellipse: s-maj=53.4km s-min=30.3km az=157.0*
ISC 23 02:50:06.6±1.2, 54°.3N±0°.1×168°.82E±0°.08, h10km, n20, σ1s11/14, mb3.4/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.87	299	P	Pn	02 50 38.5	-0.1
BKI				*e*S	Sn	02 51 01.3	-1.0
MKZ	Mys Kozlova	4.15	276	*e*P	Pn	02 51 10.5	+0.6
BZGR	Bezymyannyi-Gr	4.94	292	*e*S	Sn	02 52 18.9	+0.9
TUMD	Tumrok D	4.96	284	*e*S	Sn	02 52 18.8	+0.4
SPN	Mys Shipunski	5.37	260	P	Pn	02 51 26.9	+0.2
UGLR	Uglovaya	6.04	263	P	Pn	02 51 36.6	+0.6
KRER	Koryakskii	6.05	264	P	Pn	02 51 37.0	+0.7
KOK	Koryaka	6.12	264	*e*P	Pn	02 51 38.1	+0.9
RUS	Russkaya	6.45	257	*e*P	Pn	02 51 42.3	+0.7
RUS				S	Sn	02 52 52.5	-2.7
ILAR	Eielson Array	24.22	47	P	P	02 55 22.0	-1.1
	0.5nm,0.6s,baz=251,slow=7.3,SNR=5.8						
H11N2	WAKE ISLAND Hy	34.57	183	T	T	03 33 30.6	
	baz=1.9,slow=76,SNR=222						
H11N3	WAKE ISLAND Hy	34.58	183	T	T	03 33 28.9	
	baz=1.9,slow=76,SNR=168						
H11N1	WAKE ISLAND Hy	34.59	183	T	T	03 33 30.6	
	baz=1.9,slow=76,SNR=160						
H11S1	WAKE ISLAND Hy	35.79	183	T	T	03 35 01.0	
	baz=2.0,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	35.80	183	T	T	03 35 00.5	
	baz=2.0,slow=76,SNR=7.2						
H11S2	WAKE ISLAND Hy	35.81	183	T	T	03 34 57.1	
	baz=2.0,slow=76,SNR=17						
ZALV	Zalesovo Beam	46.38	306	LR	LR	03 19 21.1	
	comp=Z,15nm,18.1s,baz=324,slow=37						
MKAR	Makanchi Array	52.17	300	P	P	02 59 25.3	+8.2
	0.1nm,0.5s,baz=45,slow=9.2,SNR=2.2						
TXAR	Lajitas Array	65.34	74	P	P	03 00 49.1	+0.1
	0.4nm,0.5s,baz=304,slow=5.7,SNR=6.5						
WRA	Warramunga Arr	79.66	213	P	P	03 02 14.7	+0.6
	0.4nm,0.8s,baz=25,slow=6.5,SNR=2.8						

IDC ***23*** *03:14:08.5±2.8, 5°.25S×151°.45E, h166km±20km, mb3.1/4, mb1 3.3/5, mb1mx3.1/35, mbtmp3.6/5, Error ellipse: s-maj=75.5km s-min=16.8km az=127.0*
ISC 23 03:14:06.2±2.0, 5°.3S±0°.4×151°.6E±0°.5, h150km, n6, σ1s19/8, mb3.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.04	227	P	Pn	03 15 33.9	+0.4
	2.6nm,0.3s,baz=0.0,slow=10,SNR=2.5						
PMG				S	Sn	03 16 42.0	+0.2
	14nm,0.3s,baz=340,slow=20,SNR=9.5						
WRA	Warramunga Arr	22.26	228	P	P	03 18 51.4	+0.2
	0.5nm,0.3s,baz=53,slow=9.9,SNR=22						
WRA				S	S	03 22 43.0	-2.4
	0.3nm,0.6s,baz=43,slow=16,SNR=1.7						
ASAR	Alice Springs	25.02	221	P	P	03 19 17.4	+0.9
	0.4nm,0.6s,baz=55,slow=8.3,SNR=5.7						
MKAR	Makanchi Array	79.89	319	P	P	03 25 58.7	+0.3
	0.2nm,0.5s,baz=103,slow=5.5,SNR=2.8						
ILAR	Eielson Array	83.03	22	P	P	03 26 13.9	-0.6
	0.7nm,0.6s,baz=252,slow=5.6,SNR=4.5						
TORD	Torodi Ar. Bea	149.31	287	PKPbc	PKPbc	03 33 38.6	+0.3
	1.1nm,0.7s,baz=80,slow=2.5,SNR=5.9						

IDC ***23*** *03:17:40.1±1.0, 14°.85S×66°.61E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/37, mbtmp3.8/8, MS3.5/12, Ms1 3.6/12, ms1mx3.3/42, Error ellipse: s-maj=32.4km s-min=24.9km az=25.0*
NEIC ***23*** *03:17:42.9±0.2, 14°.8S±0°.1×66°.7E±0°.1, h17km±4km, mb4.6/6, Error ellipse: s-maj=20.1km s-min=16.6km az=156.0*
ISC 23 03:17:43.1±0.6, 14°.8S±0°.1×66°.6E±0°.1, h19km, n34, σ0s94/20, mb4.2/11, MS3.6/12, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.15	40	T	T	03 29 15.3	
	baz=218,slow=75,SNR=461						
H08S2	Diego Garcia H	9.16	40	T	T	03 29 14.9	
	baz=218,slow=75,SNR=483						
H08S3	Diego Garcia H	9.17	40	T	T	03 29 16.8	
	baz=218,slow=75,SNR=355						
MSEY	Mahe Island	14.87	311	Pn	Pn	03 21 12.2	-0.4
PALK	Pallekele	26.01	33	LR	LR	03 31 07.2	
	comp=Z,182nm,20.0s,baz=319,slow=31						
KMBO	Kilima Mbogo	32.02	292	LR	LR	03 34 42.4	
	comp=Z,32nm,21.8s,baz=98,slow=32						
MNAI	Manna	37.26	78	P	P	03 24 52.5	-1.5
BOSA	Boshof	40.59	243	P	P	03 25 22.4	+0.4
	2.4nm,0.9s,baz=106,slow=10,SNR=3.1						
BOSA				LR	LR	03 38 32.7	
	comp=Z,134nm,18.3s,baz=84,slow=31						
BOSA	Boshof	40.59	243	P	P	03 25 21.6	-0.4
BOSA				IAmb	IAmb	03 25 36.4	
	comp=Z,18nm,1.4s						
CMAR	Chiang Mai Arr	45.91	45	P	P	03 26 06.8	+1.9
	comp=Z,0.9nm,0.3s,baz=243,slow=10.0,SNR=0.9						
CMAR				LR	LR	03 42 54.3	
	comp=Z,77nm,20.4s,baz=203,slow=33						
H01W3	Cape Leeuwin H	47.05	124	T	T	04 16 22.4	
	baz=283,slow=75,SNR=22						
H01W2	Cape Leeuwin H	47.05	124	T	T	04 16 20.2	
	baz=283,slow=75,SNR=23						
H01W1	Cape Leeuwin H	47.06	124	T	T	04 16 19.5	
	baz=283,slow=75,SNR=23						
MAW	Mawson	52.82	182	LR	LR	03 43 45.7	
	comp=Z,54nm,21.3s,baz=56,slow=30						
GEYT	Alibeck	53.05	352	LR	LR	03 47 02.8	
	comp=Z,16nm,21.7s,baz=25,slow=33						
BRTR	Keskin Array B	62.34	332	P	P	03 28 03.9	-0.7
	comp=Z,0.8nm,0.9s,baz=162,slow=8.4,SNR=4.7						
BRTR	Keskin Array B	62.34	332	P	P	03 28 04.0	-0.6
MKAR	Makanchi Array	62.91	12	P	P	03 28 08.4	+0.3
	comp=Z,0.3nm,0.5s,baz=188,slow=4.4,SNR=2.9						
MKAR				LR	LR	03 54 59.8	
	comp=Z,38nm,18.9s,baz=226,slow=36						
ASAR	Alice Springs	63.67	109	P	P	03 28 13.2	-0.5
	comp=Z,0.9nm,0.8s,baz=270,slow=6.3,SNR=4.4						
WRA	Warramunga Arr	64.48	105	P	P	03 28 18.7	-0.3
	comp=Z,2.0nm,1.0s,baz=270,slow=5.9,SNR=9.3						
WRA	Warramunga Arr	64.48	105	P	P	03 28 17.8	-1.2
SNAA	Sanae	69.62	198	P	P	03 28 51.2	+0.3
SNAA				IAmb	IAmb	03 28 57.8	
	comp=Z,5.9nm,1.3s						
TORD	Torodi Ar. Bea	69.99	290	P	P	03 28 53.6	-0.4
TORD				IAmb	IAmb	03 29 09.6	
	comp=Z,2.7nm,1.4s						
SONM	Songino Array	71.75	27	P	P	03 29 04.2	0.0
	comp=Z,0.3nm,0.5s,baz=221,slow=5.7,SNR=1.4						
SONM				LR	LR	03 59 50.9	
	comp=Z,44nm,19.7s,baz=137,slow=35						
AKASG	Malin Array Be	72.97	336	P	P	03 29 12.3	+1.0
	comp=Z,0.1nm,0.3s,baz=140,slow=4.8,SNR=1.8						
QSPA	South Pole Qui	75.28	180	P	P	03 29 25.5	+0.7
QSPA				IAmb	IAmb	03 29 33.2	
	comp=Z,22nm,1.7s						
KSRS	Korea Array	77.55	46	LR	LR	04 01 10.5	
	comp=Z,23nm,21.9s,baz=194,slow=34						
KLR	Kul'dur	85.71	37	LR	LR	04 09 53.4	
	comp=Z,33nm,19.0s,baz=217,slow=36						
ASAJ	Asahikawa	90.43	44	LR	LR	04 12 09.5	
	comp=Z,30nm,18.3s,baz=101,slow=36						
YAK	Yakutsk	91.00	25	LR	LR	04 11 02.6	
	comp=Z,47nm,20.1s,baz=267,slow=35						
PDAR	Pinedale Array	151.94	354	PKPbc	PKiKP	03 37 38.8	+0.9
	comp=Z,0.6nm,0.6s,baz=90,slow=3.0,SNR=7.1						
PDAR	Pinedale Array	151.94	354		PKiKP	03 37 38.6	+0.8
TXAR	Lajitas Array	162.97	330	PKPab	PKPab	03 38 32.8	-1.5
	comp=Z,0.5nm,0.9s,baz=43,slow=4.1,SNR=3.1						
TXAR	Lajitas Array	162.97	330		PKPab	03 38 33.5	-0.7

NEIC ***23*** *03:46:29.2±1.0, 19°.37N±0°.02×64°.67W±0°.06, h35km±54km, Error ellipse: s-maj=8.1km s-min=1.0km az=108.0*
RSPR 23 03:46:29.8, 19°.38N×64°.64W, h25km±19km, MD3.0/3, 3C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	Anegada Island	0.71	156	Pn	Pb	03 46 42.3	-1.3
ABVI				Sn	Sn	03 46 54.0	-0.4
VGBI	Virgin Gorda,	0.91	166	⇑*i*P	Pb	03 46 44.6	-2.4
VGBI	Virgin Gorda,	0.91	166	*e*S	Sb	03 46 56.8	-2.0
VGBI	Virgin Gorda,	0.91	166		Pb	03 46 44.6	-2.4
VGBI					Sb	03 46 56.8	-2.0
STVI	Saint Thomas	1.06	196	Pn	Pn	03 46 48.9	-0.3
STVI				IAML		03 46 57.8	
	comp=N,20nm,1.7s						
STVI				Sn	Sn	03 47 03.5	+0.3
CUPR	Culebra, Puert	1

ASAR	Alice Springs	19.96 185	P	Pn	03 59 54.6	+0.1
TARA	Tarawa	37.50 83	P	P	04 02 35.5	+1.5
MK31	Makanchi Array	68.76 324	P	P	04 06 25.0	+1.3
MKAR	Makanchi Array	68.76 324	P	P	04 06 25.8	+2.0
	comp=Z,0.7nm,0.4s,baz=111,slow=8.2,SNR=13					
MKAR	Makanchi Array	68.76 324	P	P	04 06 24.3	+0.5
KURK	Kurchatov	72.82 326	P	P	04 06 48.9	+0.7
KURBB	Kurchatov Arra	72.82 326	P	P	04 06 48.9	+0.6
	comp=Z,0.3nm,0.6s,baz=118,slow=5.4,SNR=4.4					
KKAR	Karatay Array	74.75 316	P	P	04 07 00.9	+1.1
CPUP	Villa Florida	147.61 158	PKPbc	PKiKP	04 15 08.8	+2.0
	comp=Z,3.4nm,0.7s,baz=194,slow=8.3,SNR=6.9					
LPAZ	La Paz	149.18 131	PKPbc	PKPab	04 15 13.6	-0.6
	comp=Z,1.1nm,0.9s,baz=220,slow=7.9,SNR=4.5					

MOS ***23*** *03:56:50.9±0.9,0°.71S×21°.12W,h10km,mb5.3/66, MS4.7/35,Error ellipse: s-maj=9.6km s-min=4.4km az=56.9*

IDC ***23*** *03:56:51.2±0.4,0°.70S×21°.14W,h0km,mb4.5/51, mb1 4.6/51,mb1mx4.6/67,mbtmp4.5/51,MS4.7/30, Ms1 4.7/30,ms1mx4.7/30,Error ellipse: s-maj=12.4km s-min=9.1km az=141.0*

NEIC ***23*** *03:56:53.4±1.4,0°.69S±0°.08×21°.18W±0°.08,h9km±2km, mb5.1/204,Ms_20 4.9/626,Mwb5.5/33,Mwc5.6(GCMT), Error ellipse: s-maj=12.1km s-min=10.5km az=218.0*

NEIC ***23*** *03:56:54.3,0°.63S×21°.19W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.08; Mθθ=0.48; Mφφ=-0.40; Mrθ=0.11; Mθφ=-2.36; Mφr=0.18; Fault plane solution: M0=2.41000×10^17^ NP1:φs=264.69000°, δ85.69000°,λ177.90000°. NP2:φs=354.85000°,δ87.91000°, λ4.31000°. Principal axes: T 2.4592, Plg5.0000°, Azm220.0000°; N -0.0951, Plg85.0000°, Azm21.0000°; P -2.3641, Plg2.0000°, Azm130.0000°;*

GCMT ***23*** *03:56:56.4±0.1,0°.60S±0°.01×21°.05W±0°.01,h25km, MW5.6/153,Moment Tensor Solution. s138,c256; s153,c317; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr=0.26±.03; Mθθ1.15±.03; Mφφ-0.88±.03; Mrθ0.65±.07; Mθφ-3.20±.03; Mφr-0.20±.07; Best double couple: M0=3.42000×10^17^ NP1:φs=172.00000°,δ80.00000°, λ4.00000°. NP2:φs=81.00000°,δ86.00000°,λ170.00000°. Principal axes: T 3.5960, Plg9.0000°, Azm36.0000°; N -0.3500, Plg80.0000°, Azm241.0000°; P -3.2450, Plg4.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***23*** *03:56:58,0°.66S×21°.03W,h26km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=-0.37; Mθθ1.28; Mφφ-0.90; Mrθ0.21; Mθφ-3.34; Mφr0.12; Fault plane solution: M0=3.54000×10^17^ NP1:φs=171.00000°, δ86.00000°,λ-2.00000°. NP2:φs=261.00000°,δ88.00000°, λ-176.00000°. Principal axes: T 3.7037, Plg1.0000°, Azm36.0000°; N -0.3622, Plg86.0000°, Azm287.0000°; P -3.3416, Plg4.0000°, Azm126.0000°;*

ISC 23 03:56:52.7±0.3,0.72S±0°.05×21°.13W±0°.05,h10km,n935, σ1.9s66/763,mb5.1/225,MS4.9/372,39C-24D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	9.68	137	T	T	04 08 54.2	
	baz=316,slow=74,SNR=451						
H10N3	ASCENSION HYDR	9.68	137	T	T	04 08 54.5	
	baz=316,slow=74,SNR=568						
H10N1	ASCENSION HYDR	9.70	137	T	T	04 08 55.9	
	baz=316,slow=74,SNR=672						
H10S2	ASCENSION HYDR	10.42	142	T	T	04 09 48.7	
	baz=259,slow=74,SNR=576						
H10S2	ASCENSION HYDR	10.42	142	T	T	04 09 48.6	
	baz=321,slow=74,SNR=804						
MBO	M'Bour	15.58	15	Pn	Pn	04 00 29.1	-3.5
RCBR	Riachuelo	15.59	251	Pn	Pn	04 00 29.4	-3.4
	14nm,0.3s,baz=139,slow=5.8,SNR=98						
RCBR				Sn	Sn	04 03 05.7	-20
	3.3nm,0.3s,baz=316,slow=23,SNR=8.9						
RCBR				LR	LR	04 04 44.9	
	comp=Z,4μm,19.4s,baz=45,slow=30						
RCBR	Riachuelo	15.59	251	P	Pn	04 00 29.0	-3.8
RCBR				pmax	pmax		
	comp=Z,65nm,0.8s						
RCBR	Riachuelo	15.59	251	Pn	Pn	04 00 29.0	-3.8
RCBR				IAmb	IAmb	04 00 31.1	
	comp=Z,64nm,0.8s						
SACV	Santiago Islan	15.79	351	Pn	Pn	04 00 31.2	-4.0
NBPA	Parau_RN	16.71	252	eP	Pn	04 00 45.4	-1.8
LIC	Lamto	17.50	67	eP	P	04 00 59.2	+1.1
	comp=Z,344nm,1.0s						
TIC	Toumodi	17.67	65	eP	P	04 01 00.8	+0.7
KIC	Kosan Boka	17.81	66	eP	P	04 01 02.6	+1.0
	comp=Z,342nm,1.2s						
DBIC	Dimbokro	17.83	65	P	Pn	04 01 01.2	+0.1
DBIC	Dimbokro	17.83	65	P	Pn	04 01 01.2	+0.1
NBMA	Muriti-CE	18.78	249	eP	Pn	04 01 12.8	0.0
NBPB	Pedra_Branca-C	19.03	255	eP	P	04 01 15.3	+0.1
NBMO	Morrinhos-CE	19.07	262	eP	Pn	04 01 16.4	+0.1
NBPS	Pedro II - PI	20.61	259	eP	P	04 01 31.3	-1.2
NBPN	Ponto Novo - B	21.45	241	eP	P	04 01 40.1	-1.4
GDU01	Guandu, BA	22.36	234	eP	P	04 01 49.8	-1.4
KOWA	Kowa	22.71	48	P	P	04 01 54.1	-0.8
	comp=Z,276nm,1.1s,baz=230,slow=7.7,SNR=108						
KOWA				LR	LR	04 10 18.4	
	comp=Z,2μm,18.2s,baz=240,slow=36						
KOWA	Kowa	22.71	48	P	P	04 01 54.5	-0.4
KOWA				IAMs_20	IAMs_20	04 10 43.8	
	comp=Z,4μm,19.0s						
NBIT	Itapeh - BA	22.94	231	eP	P	04 01 57.5	+0.2
ROSB	Rosrio	23.08	264	eP	P	04 01 58.2	-0.7
CMC01	Camacan, BA	23.26	230	eP	P	04 01 60.0	-0.6
GUA01	Guaratinga, BA	24.23	228	eP	P	04 02 09.7	-0.2
NAN01	Guarapari, ES	25.26	227	eP	P	04 02 18.3	-1.0
SDBA	SAO DESIDERIO	26.28	243	eP	P	04 02 27.0	-1.6
RIB01	Linhares ES	26.41	224	eP	P	04 02 31.7	+1.9
BSFB	Barra de Sao F	26.42	226	eP	P	04 02 29.3	-0.5
TOC5	Torodi Ar. Sit	26.48	58	IAMs_20	IAMs_20	04 11 53.1	
	comp=Z,4μm,20.0s						
TOB4	Torodi Ar. Sit	26.49	58	IAMs_20	IAMs_20	04 11 53.4	
	comp=Z,3μm,20.0s						
TOB5	Torodi Ar. Sit	26.49	58	IAMs_20	IAMs_20	04 11 53.6	
	comp=Z,4μm,20.0s						
TOC4	Torodi Ar. Sit	26.49	58	IAMs_20	IAMs_20	04 11 53.6	
	comp=Z,4μm,21.0s						
TOC7	Torodi Ar. Sit	26.50	58	IAMs_20	IAMs_20	04 11 53.6	
	comp=Z,3μm,20.0s						
TOA3	Torodi Ar. Sit	26.50	58	IAMs_20	IAMs_20	04 11 53.7	
	comp=Z,3μm,20.0s						
TORD	Torodi Ar. Bea	26.50	58	P	P	04 02 29.6	-1.0
	comp=Z,79nm,1.0s,baz=231,slow=9.7,SNR=58						
TORD				LR	LR	04 12 07.1	
	comp=Z,3μm,18.1s,baz=235,slow=35						
TORD	Torodi Ar. Bea	26.50	58	P	P	04 02 29.8	-0.8
TOB3	Torodi Ar. Sit	26.50	58	IAMs_20	IAMs_20	04 11 53.9	
	comp=Z,3μm,20.0s						
TOA2	Torodi Ar. Sit	26.51	58	IAMs_20	IAMs_20	04 11 53.9	
	comp=Z,4μm,20.0s						
TOB1	Torodi Ar. Sit	26.51	58	IAMs_20	IAMs_20	04 11 53.9	
	comp=Z,3μm,20.0s						
TOC3	Torodi Ar. Sit	26.52	58	IAMs_20	IAMs_20	04 12 06.2	
	comp=Z,3μm,20.0s						
TOC1	Torodi Ar. Sit	26.52	58	IAMs_20	IAMs_20	04 11 53.3	
	comp=Z,4μm,20.0s						
TOC2	Torodi Ar. Sit	26.53	58	IAMs_20	IAMs_20	04 11 54.5	
	comp=Z,3μm,21.0s						
JANB	Januaria	26.96	237	eP	P	04 02 33.1	-1.7
TMAB	Tom-Au,PA,Br	27.00	266	eP	P	04 02 35.4	+0.2
MC01	Montes Claros	27.52	234	eP	P	04 02 39.1	-0.7
SMTB	Santa Maria do	27.55	252	eP	P	04 02 41.7	+1.5
DIAM	Diamantina, MG	28.20	230	eP	P	04 02 45.8	-0.1
CAM01	Campos-RJ	28.98	222	eP	P	04 02 52.6	-0.1
PRPB	Paraupebas	29.13	259	eP	P	04 02 54.4	+0.2
PEXB	Peixe	29.23	246	eP	P	04 02 55.1	0.0
DUB01	Friburgo-RJ	29.64	223	eP	P	04 02 58.3	-0.3
BDFB	Brasilia	30.39	239	P	P	04 03 04.8	-0.7
	comp=Z,6.0nm,0.8s,baz=132,slow=5.4,SNR=8.6						
BDFB				LR	LR	04 14 30.4	
	comp=Z,5μm,18.2s,baz=67,slow=35						
BDFB	Brasilia	30.39	239	P	P	04 03 04.3	-1.1
BDFB				pmax	pmax		
	comp=Z,15nm,1.1s						
BDFB				MLR	MLR		
	comp=Z,5μm,19.0s						
BDFB	Brasilia	30.39	239	P	P	04 03 04.3	-1.1
VAS01	Vassouras-RJ	30.51	224	eP	P	04 03 06.5	+0.2
BSCB	Bom Sucesso	30.64	227	eP	P	04 03 06.5	-1.1
MCPB	Macapa, AP	30.93	271	eP	P	04 03 09.9	-0.2
IPMB	Ipameri, GO	31.66	236	eP	P	04 03 17.1	+0.6
ESAR	Angra dos Reis	31.69	224	eP	P	04 03 16.7	+0.1
SNDB	Serra Nova Dou	31.95	248	eP	P	04 03 19.4	+0.3
MDP	Montagnes des	32.00	281	P	P	04 03 19.6	0.0
	comp=Z,27nm,1.1s,baz=115,slow=7.4,SNR=6.4						
PARB	Paraibuna	32.72	225	eP	P	04 03 26.8	+1.0
FUL	Funchal	33.43	6	eT	T	04 37 54.2	
VAO	Valinhos	33.47	227	eP	P	04 03 33.4	+1.0
PMAR	Madeira	33.51	6	eT	T	04 37 56.1	
BB19B	Bebedouro	33.52	231	eP	P	04 03 33.0	+0.2
PMOZ	Porto Moniz, M	33.57	6	eS	S	04 09 04.0	+8.3
PMOZ	Porto Moniz, M	33.57	6	eT	T	04 38 02.5	
ARAG	Araguaiana, MT	33.73	242	eP	P	04 03 35.0	+0.3
SPB	Sao Paulo	34.17	226	IAMs_20	IAMs_20	04 14 49.9	
	comp=Z,2μm,21.0s						
SPB	Sao Paulo	34.17	226	eP	P	04 03 37.9	-0.5
ITRB	Iturama	34.27	235	eP	P	04 03 39.9	+0.5
PET01	Itanhaem-SP	34.49	225	eP	P	04 03 41.3	+0.1
NPGB	Novo Progresso	34.70	259	eP	P	04 03 41.7	-1.4
ITTB	Itaituba	34.75	263	eP	P	04 03 42.5	-1.0
FRTB	Fartura	35.60	229	eP	P	04 03 51.3	+0.5
CLDB	Colider	35.88	252	eP	P	04 03 53.1	-0.2
PCMB	Paranambu	35.97	233	eP	P	04 03 54.4	+0.5
AVE	Averroes	36.23	20	eP	P	04 03 58.1	+2.1
AVE				eS	S	04 09 41.2	+4.9
TIJ01	Guaruva-PR	36.36	226	eP	P	04 03 57.8	+0.5
MDT	Midelt	36.83	24	P	P	04 04 02.8	+1.6
	comp=Z,11nm,0.9s,baz=285,slow=5.5,SNR=20						
H09W1	TRISTAN DA CUN	37.10	168	T	T	04 43 13.7	
	SNR=10						
IFR	Ifrane	37.24	22	eP	P	04 04 04.4	-0.5
IFR				eS	S	04 09 55.0	+2.8
SALV	Santo Antonio	37.27	244	eP	P	04 04 05.0	-0.1
TRCB	Terra Rica	37.67	232	eP	P	04 04 09.2	+0.8
PSMN	Pico do Norte,	37.71	355	eLQ	LQ	04 12 56.6	
TER01	Tubaro-SC	38.48	222	eP	P	04 04 16.2	+1.0
CMLA	Cha da Macela	38.51	354	eLQ	LQ	04 12 59.3	
PVLZ	Peæn de	39.02	22	eP	P	04 04 20.7	+1.1
PVLZ				eS	S	04 10 24.1	+5.3
AQDB	Aquidauana	39.07	238	eP	P	04 04 20.7	+0.5
CEU	Ceuta	39.28	20	eP	P	04 04 20.8	-0.9
CEU				eS	S	04 10 31.1	+8.4
BOAV	Boa Vista	39.50	275	eP	P	04 04 24.1	+0.1
SFS	San Fernando	39.52	19	eP	P	04 04 24.0	+0.3
SFS				eS	S	04 10 31.2	+5.1
MELI	Melilla	39.66	24	eP	P	04 04 25.5	+0.6
MELI				eS	S	04 10 27.0	-1.3
PAGU	Agualva, Azore	39.69	353	eLQ	LQ	04 13 09.9	
PBDV	Barranco-do-Ve	39.71	17	eP	P	04 04 26.6	+1.3
	comp=Z,54nm,1.8s						
PBDV	Barranco-do-Ve	39.71	17	ePP	PP	04 05 58.5	+1.9
ITAB	Concordia	39.75	226	IAMs_20	IAMs_20	04 18 22.8	
	comp=Z,2μm,22.0s						
PTEO	Sao Teotonio	39.77	15	eP	P	04 04 27.5	+1.7
	comp=Z,64nm,1.5s						
PVAQ	Vaqueiros	39.92	17	eP	P	04 04 28.5	+1.4
	comp=Z,50nm,1.7s						
PVAQ	Vaqueiros	39.92	17	ePP	PP	04 06 00.3	+1.4
PVAQ				eS	S	04 10 37.1	+4.9
PVAQ	Vaqueiros	39.92	17	P	P	04 04 27.7	+0.6
PVAQ				IAmb	IAmb	04 04 30.0	
	comp=Z,125nm,1.8s						
ARNO	Arenosillo	39.93	18	eP	P	04 04 24.4	-2.7
ARNO				eS	S	04 10 37.5	+5.2
PCVE	Castro Verde	40.04	16	eP	P	04 04 29.7	+1.6
	comp=Z,42nm,1.7s						
PGRA	Graciosa	40.06	352	eLQ	LQ	04 13 20.5	
MESJ	Messejana	40.18	16	eP	P	04 04 30.4	+1.2
MESJ				IAmb	IAmb	04 04 32.5	
	comp=Z,111nm,1.8s						
MESJ				eS	S	04 10 38.2	+2.0
MESJ	Messejana	40.18	16	eP	P	04 04 30.4	+1.2
MESJ				eS	S	04 10 38.1	+2.0
MESJ				pmax	pmax		
	comp=Z,111nm,1.8s						
MESJ	Messejana	40.18	16	eP	P	04 04 30.6	+1.4
	comp=Z,57nm,1.5s						
MESJ	Messejana	40.18	16	ePP	PP	04 06 02.5	+0.7
PNCL	Nicolau / Gran	40.36	15	eP	P	04 04 32.0	+1.3
EMAL	Malaga-Limoner	40.39	21	eP	P	04 04 30.9	-0.1
EMAL				eS	S	04 10 46.5	+7.2
PBEJ	Beja	40.46	16	eP	P	04 04 33.2	+1.7
	comp=Z,41nm,1.5s						
VILB	Vilhena	40.57	251	eP	P	04 04 33.6	+0.8
LIS	Lisbon	40.77	14	eP	P	04 04 35.2	+1.2
LIS				IAmb	IAmb	04 04 38.4	
	comp=Z,53nm,1.0s						
LIS	Lisbon	40.77	14	eP	P	04 04 35.2	+1.2
LIS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PBAR	Barrancos	40.83	17	eP	P	04 04 35.9	+1.3
	comp=Z,31nm,1.4s						
EVO	Evora	40.89	16	eP	P	04 04 34.4	-0.7
EVO				eS	S	04 10 51.7	+5.0
EVO	Evora	40.89	16	eP	P	04 04 36.9	+1.8
	comp=Z,48nm,1.6s						
EVO	Evora	40.89	16	ePP	PP	04 06 10.2	+0.7
H07S1	FLORES T-PHASE	40.97	348	eLQ	LQ	04 13 44.4	
PESTR	Estremoz	41.32	16	eP	P	04 04 40.2	+1.6
	comp=Z,31nm,1.5s						
PMTG	Montargil	41.34	15	eP	P	04 04 40.4	+1.7
	comp=Z,32nm,1.4s						
PMRV	Marv??o	41.90	16	eP	P	04 04 45.2	+1.8
	comp=Z,46nm,1.7s						
PMRV				eS	S	04 11 07.0	+5.4
TSUM	Tsumeb	42.15	118	P	P	04 04 46.6	+0.8
	comp=Z,8.2nm,1.0s,baz=260,slow=7.7,SNR=5.5						
TSUM	Tsumeb	42.15	118	P	P	04 04 46.1	+0.2
PCAS	Casmilo, Conde	42.19	14	eP	P	04 04 46.8	+1.0
	comp=Z,53nm,1.7s						
SIV	San Ignacio	42.20	247	P	P	04 04 46.6	+0.3
	comp=Z,2.9nm,0.9s,baz=90,slow=9.8,SNR=15						
CART	Cartagena	42.42	24	eP	P	04 04 46.7	-0.9
CART				eS	S	04 11 13.3	+4.0
CART	Cartagena	42.42	24	P	P	04 04 47.6	0.0
CART				IAmb	IAmb	04 04 49.2	
	comp=Z,30nm,0.7s						
CART				IAMs_20	IAMs_20	04 23 04.8	
	comp=Z,1μm,18.0s						
CPSB	Cacapava Do Su	42.57	223	eP	P	04 04 49.2	+0.2
SAML	Samuel	42.65	258	P	P	04 04 50.4	+0.5
SAML				pmax	pmax		
	comp=Z,12nm,1.1s						
SAML	Samuel	42.65	258	P	P	04 04 50.4	+0.5
SAML	Samuel	42.65	258	eP	P	04 04 49.7	-0.2
DLPL	La Plaine	42.73	294	IAMs_20	IAMs_20	04 20 26.3	
	comp=Z,1μm,19.0s						
MTE	Manteigas	42.76	15	eP	P	04 04 51.9	+1.4
	comp=Z,26nm,1.4s						
MTE	Manteigas	42.76	15	ePP	PP	04 06 30.9	+1.1
MTE				eS	S	04 11 20.2	+5.7
H05N1	Guadeloupe/Mar	42.88	295	T	T	04 50 46.7	
	SNR=18						
PAB	San Pablo	42.92	19	P	P	04 04 52.4	+0.6
PAB				pmax	pmax		
	comp=Z,27nm,1.6s						
PAB				MLR	MLR		
	comp=Z,700nm,18.0s						
PAB	San Pablo	42.92	19	P	P	04 04 52.4	+0.6
PVIS	Viseu	42.97	15	eP	P	04 04 53.4	+1.3
	comp=Z,29nm,1.7s						
CPUP	Villa Florida	43.14	231	P	P	04 04 54.7	+1.0
	comp=Z,4.7nm,0.9s,baz=70,slow=8.7,SNR=7.1						
CPUP				LR	LR	04 23 04.3	
	comp=Z,1μm,18.1s,baz=58,slow=36						
CPUP	Villa Florida	43.14	231	P	P	04 04 53.7	0.0
CPUP				pmax	pmax		
	comp=Z,50nm,1.7s						
CPUP	Villa Florida	43.14	231	P	P	04 04 53.7	0.0
CPUP				IAmb	IAmb	04 04 56.4	
	comp=Z,50nm,1.7s						
CPUP	Villa Florida	43.14	231	eP	P	04 04 54.1	+0.4
ESDC	Sonseca Array	43.17	19	P	P	04 04 55.0	+1.2
	comp=Z,8.5nm,0.8s,baz=203,slow=8.5,SNR=57						
ESDC				LR	LR	04 22 38.1	
	comp=Z,547nm,18.2s,baz=220,slow=36						
ESDC	Sonseca Array	43.17	19	P	P	04 04 54.4	+0.6
ESDC				IAmb	IAmb	04 04 56.8	
	comp=Z,49nm,1.6s						
ESBB	Sonseca Array	43.17	19	P	P	04 04 54.4	+0.7
PLTB	Pedras Altas	43.52	222	P	P	04 04 57.6	+0.9
PLTB				IAmb	IAmb	04 04 58.9	
	comp=Z,106nm,1.9s						
PLTB	Pedras Altas	43.52	222	eP	P	04 04 57.9	+1.1
MVO	Moncorvo	43.62	15	eP	P	04 04 58.8	+1.4
	comp=Z,45nm,1.2s						
MVO				eS	S	04 11 33.7	+6.7
UCM	Universidad Co	43.98	20	eP	P	04 05 01.8	+1.6
UCM				eS	S	04 11 36.6	+4.4
PGAV	Gavieira, Arco	44.06	14	eS	S	04 11 40.2	+6.8
SET	Setif	44.26	31	P	P	04 05 04.0	+1.4
PBRG	Braganca	44.29	15	eP	P	04 05 04.2	+1.4
	comp=Z,24nm,1.4s						
ITQB	Itaqui	44.38	226	P	P	04 05 03.5	-0.1
ITQB				IAmb	IAmb	04 05 05.4	
	comp=Z,36nm,1.0s						
ITQB	Itaqui	44.38	226	eP	P	04 05 04.0	+0.4
CKFL	Kef-Lekhel	45.10	32	P	P	04 05 10.0	+0.6
ABSA	Djebel Ababsia	45.41	33	P	P	04 05 12.2	+0.3
CMAH	Djebel Manchou	45.64	33	P	P	04 05 13.9	+0.3
ETMB	Extrema	45.74	257	eP	P	04 05 14.4	-0.2
KEST	Kesra	46.06	35	P	P	04 05 17.8	+0.8
	comp=Z,23nm,1.1s,baz=169,slow=3.7,SNR=20						
KEST				PP	PP	04 07 01.8	-3.3
	comp=Z,15nm,0.9s,baz=218,slow=4.1,SNR=3.1						
KEST				LR	LR	04 26 03.0	
	comp=Z,3μm,18.1s,baz=186,slow=38						
KEST	Kesra	46.06	35	P	P	04 05 17.7	+0.7
MAHO	Mahon	46.62	27	eP	P	04 05 19.7	-1.5
MAHO				eS	S	04 12 18.3	+8.1
MTP	Monte Pirata	47.52	295	P	P	04 05 28.3	-0.2
MTP				IAmb	IAmb	04 05 29.4	
	comp=Z,23nm,0.9s						
HUMP	Col San Antoni	47.80	295	P	P	04 05 30.9	+0.1
HUMP				IAmb	IAmb	04 05 31.6	
	comp=Z,24nm,0.9s						
PDPR	Patillas Dam,	47.91	295	P	P	04 05 31.5	-0.1
PDPR				IAmb	IAmb	04 05 32.4	
	comp=Z,11nm,0.9s						
LPA	La Plata	48.30	221	eP	P	04 05 33.0	-1.4
LPA				PP	PP	04 07 32.8	+5.8
LPA				S	S	04 12 35.2	+0.7
LPA				SS	SS	04 16 13.9	+10
LPA				SKIKS		04 21 02.6	
VSL	Villasalto	48.80	31	P	P	04 05 38.6	+0.4
VSL				IAmb	IAmb	04 05 40.7	
	comp=Z,30nm,0.9s						
VSL				IAMs_20	IAMs_20	04 28 46.1	
	comp=Z,942nm,18.0s						
LPAZ	La Paz	48.82	249	P	P	04 05 38.9	-0.5
	comp=Z,5.4nm,1.0s,baz=78,slow=6.4,SNR=15						
LPAZ				LR	LR	04 25 56.2	
	comp=Z,2μm,18.1s,baz=86,slow=36						
LPAZ	La Paz	48.82	249	P	P	04 05 39.3	-0.1
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LPAZ	La Paz	48.82	249	P	P	04 05 39.3	-0.1
LPAZ	La Paz	48.82	249	eP	P	04 05 38.6	-0.8
LPAZ	La Paz	48.82	249	eP	P	04 05 39.0	-0.4
LFF	La Frestale	49.44	20	eP	P	04 05 43.4	+0.5
LFF				pmax	pmax		
	comp=Z,114nm,1.8s						
CLTB	Caltabellotta	49.59	36	P	P	04 05 44.7	+0.4
CORL	Corleone	49.85	36	P	P	04 05 47.8	+1.5
CORL				IAMs_20	IAMs_20	04 26 29.1	
	comp=Z,2μm,21.0s						
CAF	Calviac	49.90	21	eP	P	04 05 46.7	+0.2
CAF				pmax	pmax		
	comp=Z,36nm,1.2s						
SDV	Santo Domingo	50.23	282	eP	P	04 05 50.2	+0.5
VAE	Valguarnera	50.23	37	P	P	04 05 49.5	+0.4
	comp=Z,3.6nm,0.4s,baz=231,slow=6.5,SNR=1.6						
SUR	Sutherland	50.51	133	P	P	04 05 51.4	-0.1
	comp=Z,12nm,0.9s,baz=299,slow=7.8,SNR=5.9						
LSZ	Lusaka	50.78	109	P	P	04 05 54.3	+0.6
LSZ				pmax	pmax		
	comp=Z,77nm,2.0s						
LSZ	Lusaka	50.78	109	P	P	04 05 54.3	+0.6
LSZ				IAmb	IAmb	04 06 10.2	
	comp=Z,77nm,2.0s						
SSB	Saint Sauveur	51.14	23	P	P	04 05 56.0	+0.1
SSB				pmax	pmax		
	comp=Z,21nm,1.1s						
SSB	Saint Sauveur	51.14	23	P	P	04 05 56.0	+0.1
SSB				IAmb	IAmb	04 05 57.8	
	comp=Z,21nm,1.1s						
LBTB	Lobatse	51.16	122	P	P	04 05 56.6	+0.1
	comp=Z,8.0nm,0.5s,baz=292,slow=8.3,SNR=25						
LBTB	Lobatse	51.16	122	P	P	04 05 56.0	-0.5
LBTB				pmax	pmax		
	comp=Z,17nm,0.7s						
LBTB	Lobatse	51.16	122	P	P	04 05 56.0	-0.5
LBTB				IAmb	IAmb	04 06 02.0	
	comp=Z,17nm,0.7s						
LVC	Limon Verde	51.27	241	eP	P	04 05 58.0	+0.4
TA02	Huaiquique	51.67	245	IAMs_20	IAMs_20	04 29 41.9	
	comp=Z,1μm,19.0s						
BNI	Bardonecchia	51.83	25	P	P	04 06 01.9	+0.8
BNI				pmax	pmax		
	comp=Z,41nm,1.1s						
BNI				MLR	MLR		
	comp=Z,1μm,20.0s						
BNI	Bardonecchia	51.83	25	P	P	04 06 01.9	+0.8
BNI				IAmb	IAmb	04 06 04.3	
	comp=Z,41nm,1.1s						
BNI				IAMs_20	IAMs_20	04 28 05.7	
	comp=Z,1μm,20.0s						
MBAR	Mbarara	51

ROSC El Rosal 53.42 277 P P 04 06 12.9 -0.9
ROSC pmax pmax
comp=Z,22nm,1.0s
ROSC El Rosal 53.42 277 P P 04 06 12.9 -0.9
ROSC IAmb IAmb 04 06 25.0
comp=Z,22nm,1.0s
ROSC El Rosal 53.42 277 *e*P **P 04 06 15.4 +1.6**
SMLC San Martn de 53.58 281 *e*P **P 04 06 10.6 -3.9**
NORC Norcasia 54.02 277 *e*P **P 04 06 16.0 -1.8**
TUE Stuetta 54.09 26 P **P 04 06 17.8 -0.1**
TUE IAMs_20 IAMs_20 04 28 22.8
comp=Z,890nm,20.0s
ZARC Zaragoza, Cauc 54.20 280 *e*P **P 04 06 16.9 -2.1**
ORTC Ortega, Tolima 54.27 275 *e*P **P 04 06 18.0 -1.6**
TEOL Teolo 54.29 28 P **P 04 06 18.5 -0.6**
SCTE Santa Cesarea 54.33 37 P **P 04 06 20.1 +0.6**
SCTE IAMs_20 IAMs_20 04 33 03.8
comp=Z,1μm,18.0s
TOLC Tolima 54.39 276 *e*P **P 04 06 19.2 -1.6**
GUY2C Guyana, Caldas 54.49 277 *e*P **P 04 06 20.3 -1.4**
DAVOX Davos/Dischmat 54.56 26 P **P 04 06 21.2 -0.1**
comp=Z,22nm,0.9s,baz=216,slow=6.1,SNR=33
ECH Echery 54.58 23 P **P 04 06 21.4 +0.1**
ECH pmax pmax
comp=Z,38nm,1.2s
ECH MLR MLR
comp=Z,500nm,18.0s
ECH Echery 54.58 23 P **P 04 06 21.4 +0.1**
ECH IAmb IAmb 04 06 27.9
comp=Z,38nm,1.2s
CTI Castel Tesino 54.80 27 P **P 04 06 23.4 +0.4**
CTI pmax pmax
comp=Z,178nm,2.0s
CTI Castel Tesino 54.80 27 P **P 04 06 23.4 +0.4**
ITM Ithomi 54.83 42 P **P 04 06 23.8 +0.5**
ITM IAmb IAmb 04 06 38.6
comp=Z,29nm,0.9s
UREC San Jos de Ur 54.89 280 *e*P **P 04 06 22.7 -1.4**
DAVA Damuels 54.95 25 *i* P **P 04 06 23.8 -0.3**
comp=Z,40nm,0.7s,SNR=29
FETA Feichten 55.12 26 *i* P **P 04 06 25.2 -0.1**
comp=Z,34nm,1.0s,SNR=13
BFO Black Forest 55.13 24 P **P 04 06 25.9 +0.7**
BFO pmax pmax
comp=Z,49nm,1.3s
BFO MLR MLR
comp=Z,600nm,18.0s
BFO Black Forest 55.13 24 P **P 04 06 25.9 +0.7**
CBOC Ciudad Bolivar 55.18 278 *e*P **P 04 06 24.2 -2.1**
VLO Vlora 55.19 37 IAMs_20 IAMs_20 04 29 29.6
comp=Z,890nm,19.0s
DOU Dourbes 55.21 20 *d*P **P 04 06 25.9 +0.2**
DOU *d*PcP **PcP 04 07 28.3 +1.6**
YOTC Yotoco, Valle 55.37 275 *e*P **P 04 06 24.7 -3.0**
PLMC San Jos del P 55.37 276 *e*P **P 04 06 25.2 -2.4**
WLF Walferdange 55.40 21 κP **P 04 06 28.0 +0.9**
comp=Z,24nm,2.2s
WLF Walferdange 55.40 21 P **P 04 06 28.1 +1.0**
WLF pmax pmax
comp=Z,81nm,1.9s
WLF MLR MLR
comp=Z,1μm,18.0s
WLF Walferdange 55.40 21 P **P 04 06 28.1 +1.0**
WLF IAMs_20 IAMs_20 04 29 46.1
comp=Z,1μm,18.0s
STAL STALIGIAL 55.45 28 P **P 04 06 28.1 +0.5**
SQTA Sankt Quirin 55.48 26 *i* P **P 04 06 27.6 -0.3**
comp=Z,58nm,1.3s,SNR=22
DBBC Dabeiba 55.48 279 *e*P **P 04 06 26.6 -1.9**
RETA Reutte 55.49 26 *i* P **P 04 06 27.2 -0.7**
comp=Z,22nm,1.0s,SNR=20
MOTA Moosalm 55.53 26 *i* P **P 04 06 27.9 -0.4**
comp=Z,32nm,1.5s,SNR=17
BGES Gesves 55.62 20 *d*P **P 04 06 29.0 +0.3**
BGES *d*x x 04 06 43.1
POPC Popayan, Colom 55.62 274 *e*P P 04 06 17.7 -12
WTTA Wattenberg 55.70 26 *i* P **P 04 06 29.6 0.0**
comp=Z,30nm,1.1s,SNR=14
ABTA Abfaltersbach 55.72 27 *i* P **P 04 06 30.1 +0.5**
comp=Z,75nm,1.8s,SNR=24
ABTA *e*P **PP 04 08 32.1 -1.9**
comp=Z,16nm,1.5s
BCLA Clavier 55.73 20 *d*P **P 04 06 29.8 +0.4**
BCLA *d*PcP **PcP 04 07 28.8 +0.1**
UCC Uccle 55.73 19 IAMs_20 IAMs_20 04 30 42.9
comp=Z,1μm,18.0s
WATA Walderalm 55.73 26 *i* P **P 04 06 29.7 0.0**
comp=Z,32nm,1.3s,SNR=9.9
ZOU Zoufplan 55.79 28 P **P 04 06 30.6 +0.4**
JAVS Javornik 55.83 29 *i* P **P 04 06 30.9 +0.5**
comp=Z,168nm,1.6s
JAVS *e*S **S 04 14 20.0 +2.3**
IDI Anoyia 55.89 45 P **P 04 06 32.3 +1.3**
comp=Z,12nm,0.6s,baz=253,slow=9.2,SNR=9.1
IDI Anoyia 55.89 45 ⇑P **P 04 06 32.3 +1.3**
IDI Anoyia 55.89 45 P **P 04 06 30.6 -0.4**
IDI IAMs_20 IAMs_20 04 34 16.7
comp=Z,889nm,19.0s
BHOU Houvegnez 55.92 21 *d*P **P 04 06 31.1 +0.3**
BHOU *d*x x 04 06 36.5
TIR Tirane 55.95 37 IAMs_20 IAMs_20 04 31 12.6
comp=Z,966nm,21.0s
KBN Korca 56.07 38 P **P 04 06 33.1 +0.9**
KBN pmax pmax
comp=Z,67nm,1.7s
KBN MLR MLR
comp=Z,1μm,22.0s
KBN Korca 56.07 38 P **P 04 06 33.1 +0.9**
KBN IAMs_20 IAMs_20 04 30 15.0
comp=Z,1μm,22.0s
MEM Membach 56.13 20 *d*P **P 04 06 33.5 +1.2**
comp=Z,22nm,1.9s
BTNL Ternell 56.16 21 *d*P **P 04 06 34.0 +1.5**
comp=Z,30nm,1.8s
BTNL *d*sP **pwP 04 06 38.7 -3.1**
BTNL *d*PcP **PcP 04 07 33.1 +2.8**
MYKA Terra Mystica 56.16 28 *i* P **P 04 06 33.9 +1.2**
comp=Z,39nm,1.4s,SNR=15
LJU Ljubljana 56.16 29 *i* P **P 04 06 33.6 +1.0**
comp=Z,205nm,2.0s
LJU *e*PP **PP 04 08 37.0 -0.9**
LJU *e* 04 09 50.4
LJU *e*S **S 04 14 24.4 +2.4**
BEBN Eben Emael 56.17 20 *d*P **P 04 06 33.4 +0.8**
PDG Podgorica 56.26 35 ⇑P **P 04 06 34.5 +1.1**
PDG Podgorica 56.26 35 P **P 04 06 34.3 +0.9**
KBA Koelnbreinsper 56.34 28 *e*P **P 04 06 34.6 +0.4**
comp=Z,6.6nm,0.7s
OHR Ohrid 56.37 37 *i* P **P 04 06 35.5 +1.2**
PUK Puka 56.39 36 P **P 04 06 34.9 +0.5**
PUK IAmb IAmb 04 06 37.0
comp=Z,36nm,1.4s
OBKA Obir 56.50 29 *i* P **P 04 06 36.0 +0.8**
comp=Z,10nm,1.1s,SNR=6.1
FNA Florina 56.52 38 P **P 04 06 36.2 +0.8**
FNA pmax pmax
comp=Z,24nm,1.0s
FNA Florina 56.52 38 P **P 04 06 36.2 +0.8**
FNA IAmb IAmb 04 06 37.4
comp=Z,24nm,1.0s
SOKA Soboth 56.86 29 *i* P **P 04 06 38.3 +0.6**
comp=Z,26nm,1.5s,SNR=25
KOGS Kog 57.30 30 *i* P **P 04 06 41.3 +0.6**
KOGS *e*PP **PP 04 08 46.5 -1.5**
KOGS *e*S **S 04 14 40.1 +3.2**
OTAV Otavalo 57.33 271 *e*P **P 04 06 42.2 +0.1**
MOA Molln 57.34 28 *i* P **P 04 06 40.2 -0.8**
comp=Z,15nm,1.1s,SNR=14
MOA *e*P **PP 04 08 46.1 -2.2**
comp=Z,14nm,1.4s
BO01 Tunca 57.38 229 P **P 04 06 41.0 -0.6**
GRFO Grafenberg 57.38 24 P **P 04 06 39.2 -2.0**
GRFO pmax pmax
comp=Z,19nm,0.9s
GRFO MLR MLR
comp=Z,600nm,18.0s
GRFO Grafenberg 57.38 24 P **P 04 06 39.2 -2.0**
GRFO IAmb IAmb 04 06 47.5
comp=Z,19nm,0.9s
GRA1 Grafenberg Arr 57.38 24 P **P 04 06 40.6 -0.7**
GRA1 IAmb IAmb 04 06 47.5
comp=Z,22nm,1.0s
GRF Grafenberg Arr 57.38 24 P **P 04 06 40.6 -0.7**
GRF pmax pmax
comp=Z,22nm,1.0s
GRF MLR MLR
comp=Z,500nm,18.0s
ARSA Arzberg 57.50 29 *i* P **P 04 06 42.4 +0.2**
comp=Z,15nm,1.3s,SNR=7.9
ARSA *e*P **PP 04 08 47.8 -2.1**
comp=Z,13nm,1.8s
STIP Stip 57.55 38 *i* P **P 04 06 44.7 +2.1**
KARP Karpathos 57.64 46 P **P 04 06 44.6 +1.2**
KARP IAMs_20 IAMs_20 04 30 12.1
comp=Z,816nm,19.0s
DIVS Divibare 57.73 34 P **P 04 06 44.7 +0.8**
DIVS IAmb IAmb 04 06 53.1
comp=Z,39nm,1.2s
EKA Eskdalemuir Ar 57.78 12 P **P 04 06 44.3 +0.4**
comp=Z,2.1nm,0.8s,baz=199,slow=6.4,SNR=4.6
GEC2 GERESS Array S 57.81 26 P **P 04 06 44.5 +0.1**
GEC2 IAmb IAmb 04 06 45.1
comp=Z,19nm,1.1s
GERES GERESS Array B 57.81 26 P **P 04 06 44.0 -0.4**
comp=Z,6.7nm,0.9s,baz=205,slow=5.9,SNR=46
GERES PP **PP 04 08 49.0 -3.6**
comp=Z,1.8nm,0.7s,baz=206,slow=8.7,SNR=3.1
GERES LR LR 04 31 03.2
comp=Z,600nm,18.9s,baz=228,slow=36
GERES GERESS Array B 57.81 26 P **P 04 06 44.7 +0.3**
GERES GERESS Array B 57.81 26 P **P 04 06 44.7 +0.3**
KHC Kasperske Hory 57.96 26 *e*P **P 04 06 45.2 -0.2**
KHC *e*S **S 04 14 41.5 -4.2**
KHC MLR MLR
comp=Z,900nm,17.9s
KHC Kasperske Hory 57.96 26 *e*P **P 04 06 45.2 -0.2**
KHC *e*S **S 04 14 41.5 -4.2**
KHC AMS AMS 04 30 40.0
comp=Z,900nm,17.9s
KHC Kasperske Hory 57.96 26 P **P 04 06 45.0 -0.4**
KHC IAmb IAmb 04 06 47.0
comp=Z,52nm,1.6s
KHC IAMs_20 IAMs_20 04 31 08.3
comp=Z,944nm,18.0s
KOVH Kovagotottos 57.99 31 *e*P **P 04 06 47.0 +1.4**
CKRC Cesky Krumlov 58.06 27 *e*P **P 04 06 45.7 -0.4**
CKRC *e*S **S 04 14 44.0 -3.0**
CONA Conrad Observa 58.14 28 *i* P **P 04 06 46.8 +0.1**
comp=Z,23nm,1.5s,SNR=14
CONA *e*P **PP 04 08 54.1 -1.5**
comp=Z,32nm,1.5s
GBN Guysborough 58.15 328 IAMs_20 IAMs_20 04 27 29.9
comp=Z,1μm,20.0s
GO05 Huala 58.27 228 IAMs_20 IAMs_20 04 30 31.9
comp=Z,1μm,19.0s
FRGS Fruska Gora 58.30 33 ⇑P **P 04 06 49.0 +1.3**
SOP Sopron 58.30 29 *e*P **P 04 06 49.0 +1.2**
NKC Novy Kostel 58.31 25 *e*P **P 04 06 48.2 +0.4**
NKC *e*S **S 04 14 49.5 -0.6**
NKC MLR MLR
comp=Z,600nm,12.2s
NKC Novy Kostel 58.31 25 *e*P **P 04 06 48.2 +0.4**
NKC *e*S **S 04 14 49.5 -0.6**
NKC AMS AMS 04 35 30.0
comp=Z,600nm,12.2s
MORH Mrgy, Hungar 58.36 31 ⇓P **P 04 06 48.9 +0.7**
MORH Mrgy, Hungar 58.36 31 *e*P **P 04 06 46.8 -1.3**
KMBO Kilima Mbogo 58.38 91 P **P 04 06 47.9 -1.4**
comp=Z,0.5nm,0.4s,baz=230,slow=7.9,SNR=1.9
KMBO LR LR 04 30 06.4
comp=Z,2μm,18.3s,baz=262,slow=34
BOVS Bovan 58.42 35 ⇑P **P 04 06 49.7 +1.1**
MPLH Magyarpolny 58.44 30 *e*P **P 04 06 48.1 -0.6**
BI02 San Fabin de 58.48 226 P **P 04 06 49.4 0.0**
BI02 IAmb IAmb 04 06 55.6
comp=Z,22nm,1.5s
BI02 IAMs_20 IAMs_20 04 33 29.7
comp=Z,1μm,18.0s
EGYH Egyhazaskeszo 58.50 30 *e*P **P 04 06 44.4 -4.7**
PBCC Pribram 58.56 26 *e*P **P 04 06 49.0 -0.5**
VTS Vitosha 58.72 37 ⇑P **P 04 06 52.0 +1.0**
VTS Vitosha 58.72 37 P **P 04 06 50.4 -0.6**
VTS pmax pmax
comp=Z,53nm,1.7s
VTS MLR MLR
comp=Z,600nm,18.0s
VTS Vitosha 58.72 37 P **P 04 06 50.4 -0.6**
ZST Bratislava 58.92 29 *e*P **P 04 06 52.8 +0.7**
ZST pmax pmax
comp=Z,149nm,1.5s
ZST Bratislava 58.92 29 *e*P **P 04 06 52.8 +0.7**
ZST *e*PP **PP 04 08 57.7 -4.7**
TREC Trest 58.94 27 *e*S **S 04 14 59.9 +1.5**
TREC AMS AMS 04 32 10.0
comp=Z,600nm,14.0s
PRU Pruhonice 59.02 26 *e*P **P 04 06 53.4 +0.7**
PRU *e*S **S 04 14 59.0 -0.4**
PRU MLR MLR
comp=Z,1μm,19.1s
PRU Pruhonice 59.02 26 *e*P **P 04 06 53.4 +0.7**
PRU *e*S **S 04 14 59.0 -0.4**
PRU AMS AMS 04 31 40.0
comp=Z,1μm,19.1s
PRA Prague 59.03 26 *e*P **P 04 06 53.0 +0.2**
PRA *e*S **S 04 15 02.0 +2.5**
PRA MLR MLR
comp=Z,800nm,19.5s
PRA Prague 59.03 26 *e*P **P 04 06 53.0 +0.2**
PRA *e*S **S 04 15 02.0 +2.5**
PRA AMS AMS 04 31 40.0
comp=Z,800nm,19.5s
MDVR Moldovita 59.12 34 ⇑P **P 04 06 54.5 +1.0**
MODS Modra-Piesok 59.13 29 *e*P **P 04 06 54.5 +1.0**
MODS pmax pmax
comp=Z,68nm,1.5s
MODS Modra-Piesok 59.13 29 *e*P **P 04 06 54.5 +1.0**
MODS *e*PP **PP 04 09 01.7 -2.6**
KRUC Moravsky 59.19 28 *e*P **P 04 06 53.4 -0.5**
KRUC *e*PP **PP 04 09 01.8 -3.0**
KRUC *e*S **S 04 15 01.9 +0.3**
SRO Srobarova 59.26 30 *e*P **P 04 06 55.4 +1.0**
SRO pmax pmax
comp=Z,62nm,1.7s
SRO Srobarova 59.26 30 *e*P **P 04 06 55.4 +1.0**
SMOL Smolenice 59.30 29 *e*P **P 04 06 54.6 -0.1**
SMOL pmax pmax
comp=Z,18nm,1.7s
SMOL Smolenice 59.30 29 *e*P **P 04 06 54.6 -0.1**
CLL Collm 59.35 24 ⇑*i*P **P 04 06 55.1 +0.1**
comp=Z,36nm,1.6s
CLL *e*PP **PP 04 09 05.0 -1.2**
CLL *e*PPP PPP 04 10 30.0
CLL *e*S **S 04 15 08.0 +4.4**
comp=N,1μm,25.5s
CLL *e*S **S 04 15 08.0 +4.4**
comp=E,1μm,23.9s
CLL *e*S **S 04 15 08.0 +4.4**
comp=Z,500nm,21.9s
CLL *e*SS **SS 04 19 00.0 +1.4**
CLL *e*SSS SSS 04 21 36.0
CLL Collm 59.35 24 ⇑*i*P **P 04 06 55.1 +0.1**
CLL *e*S **S 04 15 08.0 +4.4**
CLL pmax pmax
comp=Z,36nm,1.6s
CLL Collm 59.35 24 P **P 04 06 55.2 +0.2**
CLL IAmb IAmb 04 06 56.8
comp=Z,28nm,1.5s
BRG Berggiesshubel 59.42 25 *e*P **P 04 06 54.9 -0.6**
BRG Amp 04 06 57.7
comp=Z,19nm,1.4s
BRG Berggiesshubel 59.42 25 P P 04 07 04.5 +9.0
BRG Amp 04 07 07.9
comp=Z,17nm,1.5s
BRG PP **PP 04 09 05.3 -1.4**
BRG Amp 04 09 08.3
comp=Z,27nm,1.8s
BRG Berggiesshubel 59.42 25 S **S 04 15 10.0 +5.5**
BRG Amp 04 27 22.0
comp=Z,0.8nm,24.5s
BRG Amp 04 27 43.0
comp=E,0.9nm,28.4s
BRG Amp 04 28 00.0
comp=N,0.5nm,15.6s
PVCC Panska Ves 59.43 26 *e*P **P 04 06 55.6 +0.1**
PVCC *e*S **S 04 15 06.9 +2.3**
PVCC MLR MLR
comp=Z,700nm,19.2s
PVCC Panska Ves 59.43 26 *e*P **P 04 06 55.6 +0.1**
PVCC *e*S **S 04 15 06.9 +2.3**
PVCC AMS AMS 04 31 40.0
comp=Z,700nm,19.2s
VRAC Vranov 59.46 28 P **P 04 06 55.5 -0.2**
comp=Z,7.1nm,0.9s,baz=235,slow=7.7,SNR=16
VRAC PP **PP 04 09 04.5 -2.7**
comp=Z,2.5nm,0.6s,baz=240,slow=9.7,SNR=4.0
VRAC Vranov 59.46 28 *e*P **P 04 06 55.3 -0.5**
VRAC *e*PP **PP 04 09 04.0 -3.2**
VRAC *e*S **S 04 15 05.3 +0.2**
BZS Buzias 59.57 34 ⇑P **P 04 06 57.3 +0.7**
BZS Buzias 59.57 34 ⇑P **P 04 06 57.3 +0.7**
HERR Herculane 59.57 35 ⇓P **P 04 06 57.5 +0.8**
JAVC Velka Javorina 59.66 29 *e*P **P 04 06 57.4 +0.2**
JAVC *e*PP **PP 04 09 08.7 -0.3**
JAVC *e*S **S 04 15 10.5 +2.7**
PLCA Paso Flores 59.84 222 P **P 04 06 59.5 +0.8**
comp=Z,1.7nm,0.8s,baz=23,slow=7.7,SNR=3.1
PLCA LR LR 04 30 57.6
comp=Z,380nm,21.7s,baz=53,slow=34
PLCA Paso Flores 59.84 222 *e*P **P 04 06 59.8 +1.1**
LC01 Cunco 59.90 224 P **P 04 06 59.1 +0.1**
LC01 IAmb IAmb 04 07 04.9
comp=Z,24nm,1.2s
VYHS Vyhne 59.97 30 *e*P **P 04 06 59.8 +0.4**
VYHS pmax pmax
comp=Z,81nm,1.7s
VYHS Vyhne 59.97 30 *e*P **P 04 06 59.8 +0.4**
UPC Upice 60.05 26 *e*P **P 04 06 59.9 +0.1**
UPC *e*S **S 04 15 07.6 -5.0**
UPC MLR MLR
comp=Z,800nm,19.4s
UPC Upice 60.05 26 *e*P **P 04 06 59.9 +0.1**
UPC *e*S **S 04 15 07.6 -5.0**
UPC AMS AMS 04 31 50.0
comp=Z,800nm,19.4s
DPC Dobruska-Polom 60.07 27 *e*P **P 04 07 00.3 +0.3**
DPC *e*S **S 04 15 12.3 -0.8**
DPC MLR MLR
comp=Z,700nm,15.8s
DPC Dobruska-Polom 60.07 27 *e*P **P 04 07 00.3 +0.3**
DPC *e*S **S 04 15 12.3 -0.8**
DPC AMS AMS 04 34 10.0
comp=Z,700nm,15.8s
GZR Gura Zlata 60.09 34 ⇑P **P 04 07 01.0 +0.7**
GZR Gura Zlata 60.09 34 ⇑P **P 04 07 01.0 +0.7**
KRLC Kraliky 60.09 27 *e*P **P 04 06 59.6 -0.5**
KRLC *e*S **S 04 15 10.4 -2.9**
KRLC MLR MLR
comp=Z,600nm,18.8s
KRLC Kraliky 60.09 27 *e*P **P 04 06 59.6 -0.5**
KRLC *e*S **S 04 15 10.4 -2.9**
KRLC AMS AMS 04 36 30.0
comp=Z,600nm,18.8s
PSZ Piszkesteto 60.12 31 ⇓P **P 04 07 01.0 +0.6**
PSZ Piszkesteto 60.12 31 *e*P **P 04 06 59.9 -0.5**
PSZ Piszkesteto 60.12 31 P **P 04 07 01.1 +0.6**
PSZ pmax pmax
comp=Z,22nm,1.0s
PSZ MLR MLR
comp=Z,500nm,20.0s
PSZ Piszkesteto 60.12 31 P **P 04 07 01.1 +0.6**
PSZ IAmb IAmb 04 07 07.1
comp=Z,22nm,1.0s
CHVC Chvalec 60.12 26 *e*P **P 04 07 00.2 -0.2**
CHVC AMS AMS 04 32 30.0
comp=Z,700nm,17.4s
ELL Elmali 60.16 46 P **P 04 07 01.4 +0.3**
ELL pmax pmax
comp=Z,66nm,0.8s
ELL Elmali 60.16 46 P **P 04 07 01.4 +0.3**
OSTC Ostas 60.17 26 *e*P **P 04 07 00.9 +0.2**
OSTC *e*S **S 04 15 12.3 -2.0**
OSTC AMS AMS 04 32 30.0
comp=Z,700nm,18.3s
MORC Moravsky Berou 60.23 28 ⇓P **P 04 07 01.8 +0.7**
MORC Moravsky Berou 60.23 28 P **P 04 07 01.4 +0.3**
MORC pmax pmax
comp=Z,82nm,1.8s
MORC MLR MLR
comp=Z,500nm,19.0s
MORC Moravsky Berou 60.23 28 P **P 04 07 01.4 +0.3**
MORC Moravsky Berou 60.23 28 *e*P **P 04 07 01.1 0.0**
MORC *e*PP **PP 04 09 11.3 -2.7**
MORC *e*S **S 04 15 17.7 +2.6**
FURI Furi 60.34 79 IAMs_20 IAMs_20 04 29 53.5
comp=Z,793nm,19.0s
KSP Ksiaz 60.41 26 *e*P **P 04 07 02.5 +0.2**
OKC Ostrava-Krasne 60.55 28 *e*P **P 04 07 03.7 +0.4**
OKC *e*S **S 04 15 19.7 +0.6**
OKC MLR MLR
comp=Z,600nm,14.5s
OKC Ostrava-Krasne 60.55 28 *e*P **P 04 07 03.7 +0.4**
OKC *e*S **S 04 15 19.7 +0.6**
OKC AMS AMS 04 36 10.0
comp=Z,600nm,14.5s
KECS Kecovo 60.79 30 *e*P **P 04 07 05.8 +0.9**
KECS Kecovo 60.79 30 *e*P **P 04 07 05.8 +0.9**
DRGR 60.90 33 ⇑P **P 04 07 06.1 +0.3**
DRGR 60.90 33 ⇑P **P 04 07 06.1 +0.3**
CBCY The Bluff, Cay 60.91 293 P **P 04 07 06.2 -0.1**
EMMW East Machias 61.08 324 IAMs_20 IAMs_20 04 30 06.4
comp=Z,902nm,18.0s
EIL Elat 61.35 55 P **P 04 07 09.3 +0.2**
comp=Z,1.8nm,0.5s,baz=208,slow=4.1,SNR=14
M65A Busby, Falmout 61.39 319 IAMs_20 IAMs_20 04 27 22.7
comp=Z,811nm,21.0s
VOIR 61.41 35 ⇑P **P 04 07 10.2 +0.9**
VOIR 61.41 35 ⇑P **P 04 07 10.2 +0.9**
G65A Princeton 61.42 324 IAMs_20 IAMs_20 04 28 18.4
comp=Z,1μm,21.0s
CRVS Cervenica-Dubn 61.56 31 *e*P **P 04 07 10.8 +0.7**
CRVS pmax pmax
comp=Z,48nm,1.6s
CRVS Cervenica-Dubn 61.56 31 *e*P **P 04 07 10.8 +0.7**
CRVS *e*PP **PP 04 09 26.4 +0.7**
OJC Ojcow 61.60 29 *e*P **P 04 07 10.6 +0.3**
OJC Ojcow 61.60 29 P **P 04 07 09.6 -0.8**
OJC pmax pmax
comp=Z,76nm,1.8s
OJC MLR MLR
comp=Z,700nm,19.0s
OJC Ojcow 61.60 29 P **P 04 07 09.6 -0.8**
TRPA Tarpa 61.63 32 ⇓P **P 04 07 10.3 -0.2**
L64A Middleborough 61.70 320 IAMs_20 IAMs_20 04 30 38.9
comp=Z,867nm,19.0s
M64A Tiverton 61.75 319 IAMs_20 IAMs_20 04 29 34.2
comp=Z,753nm,19.0s
UZH Uzhgorod 61.81 31 ⇑*i*P **P 04 07 12.4 +0.6**
UZH *i* 04 07 15.3
UZH *i* S **S 04 15 33.0 -2.2**
UZH *i* 04 19 35.7
UZH MLR MLR
comp=N,200nm,14.0s
UZH MLR MLR
comp=E,150nm,14.0s
UZH MLR MLR
comp=Z,60nm,14.0s
MLR Muntele Rosu 61.96 36 P **P 04 07 12.7 -0.3**
comp=Z,8.3nm,0.9s,baz=276,slow=1.0,SNR=15
MLR PP **PP 04 09 28.5 -1.0**
comp=Z,23nm,1.2s,baz=287,slow=6.8,SNR=7.1
MLR Muntele Rosu 61.96 36 ⇑P **P 04 07 13.1 0.0**
MLR Muntele Rosu 61.96 36 P **P 04 07 13.0 0.0**
MLR pmax pmax
comp=Z,45nm,1.4s
MLR MLR MLR
comp=Z,700nm,18.0s
MLR Muntele Rosu 61.96 36 P **P 04 07 13.0 0.0**
MLR IAMs_20 IAMs_20 04 36 31.7
comp=Z,731nm,18.0s
KOLS Kolonicke sedl 61.99 31 *e*P **P 04 07 13.8 +0.8**
KOLS pmax pmax
comp=Z,179nm,1.8s
KOLS Kolonicke sedl 61.99 31 *e*P **P 04 07 13.8 +0.8**
BRYW Bryant College 62.14 319 IAMs_20 IAMs_20 04 30 52.6
comp=Z,845nm,18.0s
L63A North Scituate 62.16 319 IAMs_20 IAMs_20 04 27 45.2
comp=Z,808nm,20.0s
WES Weston 62.23 320 IAMs_20 IAMs_20 04 27 16.0
comp=Z,829nm,22.0s
F64A Sherman 62.25 325 P **P 04 07 15.2 +0.4**
baz=124
F64A Sherman 62.25 325 IAMs_20 IAMs_20 04 29 05.4
comp=Z,1μm,20.0s

E64A	Bridgewater	62.27	325		P	P	04 07 15.1	+0.2
	baz=125								
GHAJ	Ghor Haditha	62.39	54		IAMs_20	IAMs_20	04 37 14.4		
	comp=Z,1μm,20.0s								
HRV	Adam Dziewonsk	62.45	320		IAMs_20	IAMs_20	04 32 45.7		
	comp=Z,739nm,18.0s								
PKME	Peaks-Kenny Pk	62.47	324		IAMs_20	IAMs_20	04 32 18.3		
	comp=Z,872nm,18.0s								
PQI	Presque Isle	62.52	325		IAMs_20	IAMs_20	04 29 20.4		
	comp=Z,918nm,20.0s								
K63A	Dunstable	62.52	320		IAMs_20	IAMs_20	04 27 58.5		
	comp=Z,909nm,20.0s								
J63A	Strafford	62.53	321		P	P	04 07 17.6	+0.9
	baz=120								
PLOR	Plostina	62.57	36	⇑P		P	04 07 17.1	0.0
PLOR	Plostina	62.57	36	⇑P		P	04 07 17.1	0.0
F63A	Nahmakanta, Br	62.60	324		IAMs_20	IAMs_20	04 28 31.7		
	comp=Z,886nm,21.0s								
E63A	Oxbow	62.61	325		P	P	04 07 17.7	+0.6
	baz=124								
E63A	Oxbow	62.61	325		IAMs_20	IAMs_20	04 30 25.8		
	comp=Z,888nm,19.0s								
I63A	Otisfield	62.61	322		IAMs_20	IAMs_20	04 28 23.0		
	comp=Z,1μm,20.0s								
VRI	Vrincioaia	62.62	36	⇑P		P	04 07 17.4	0.0
VRI	Vrincioaia	62.62	36	⇑P		P	04 07 17.4	0.0
HARR	Harsova	62.71	37	⇑P		P	04 07 18.3	+0.4
HARR	Harsova	62.71	37	⇑P		P	04 07 18.3	+0.4
BURAR	Bucovina Array	62.76	33	⇓P		P	04 07 18.9	+0.5
BURAR	Bucovina Array	62.76	33	P		P	04 07 18.7	+0.3
MMAI	Mount Meron Ar	62.84	52	P		P	04 07 19.9	+0.7
	comp=Z,0.7nm,0.3s,baz=157,slow=4.5,SNR=7.0								
TESR	Tescani	62.94	35	⇓P		P	04 07 20.5	+1.0
K62A	Royalston	62.96	320		P	P	04 07 20.0	+0.3
	baz=119								
K62A	Royalston	62.96	320		IAMs_20	IAMs_20	04 33 01.2		
	comp=Z,782nm,18.0s								
J62A	Henniker	62.96	321		P	P	04 07 20.3	+0.7
	baz=120								
WSPT	Westport, CT	62.97	318		IAMs_20	IAMs_20	04 29 12.6		
	comp=Z,718nm,20.0s								
FFD	Franklin Falls	62.98	321		IAMs_20	IAMs_20	04 30 19.9		
	comp=Z,997nm,19.0s								
I62A	Tamworth	62.99	321		P	P	04 07 20.7	+0.8
	baz=120								
I62A	Tamworth	62.99	321		P	P	04 07 20.1	+0.3
I62A					IAmb	IAmb	04 07 21.2		
	comp=Z,14nm,0.8s								
I62A					IAMs_20	IAMs_20	04 30 21.0		
	comp=Z,1μm,19.0s								
V61A	Roper	63.01	311		IAMs_20	IAMs_20	04 28 48.0		
	comp=Z,845nm,20.0s								
R61A	Willards	63.12	314		IAMs_20	IAMs_20	04 27 31.6		
	comp=Z,859nm,21.0s								
L61B	Northampton	63.14	319		P	P	04 07 21.3	+0.4
	baz=119								
G62A	West of Eustis	63.19	323		P	P	04 07 21.2	0.0
	baz=122								
G62A	West of Eustis	63.19	323		IAMs_20	IAMs_20	04 30 50.3		
	comp=Z,729nm,20.0s								
F62A	Pittston Farm,	63.21	324		IAMs_20	IAMs_20	04 33 58.9		
	comp=Z,706nm,19.0s								
H62A	Milan	63.23	322		P	P	04 07 21.9	+0.5
	baz=121								
H62A	Milan	63.23	322		IAMs_20	IAMs_20	04 28 42.5		
	comp=Z,947nm,20.0s								
PAL	Palisades	63.28	318		P	P	04 07 22.2	+0.4
	baz=117								
P61A	Hammonton	63.30	316		IAMs_20	IAMs_20	04 31 26.4		
	comp=Z,950nm,18.0s								
D62A	Allapoint, All	63.33	325		P	P	04 07 21.7	-0.3
	baz=124								
D62A	Allapoint, All	63.33	325		P	P	04 07 20.8	-1.2
D62A					IAmb	IAmb	04 07 23.3		
	comp=Z,12nm,1.1s								
D62A					IAMs_20	IAMs_20	04 29 13.0		
	comp=Z,825nm,20.0s								
E62A	Clayton Lake	63.35	325		IAMs_20	IAMs_20	04 29 08.4		
	comp=Z,1μm,21.0s								
LVV	L'vov	63.44	31	*e*P		P	04 07 21.9	-0.8
LVV				*e*			04 07 53.1		
LVV				*e*S		S	04 15 50.3	-5.4
LVV				*e*SSS		SSS	04 22 43.9		
LVV				MLR		MLR			
	comp=E,400nm,19.0s								
LVV				MLR		MLR			
	comp=N,400nm,18.0s								
LVV				MLR		MLR			
	comp=Z,200nm,19.0s								
J61A	Chester	63.49	320		P	P	04 07 23.4	+0.2
	baz=119								
HNH	Hanover	63.50	321		IAMs_20	IAMs_20	04 30 45.5		
	comp=Z,896nm,19.0s								
LBNH	Lisbon	63.54	322		IAMs_20	IAMs_20	04 29 50.6		
	comp=Z,1μm,20.0s								
TRNY	Table Rock, Ra	63.56	318		P	P	04 07 24.1	+0.4
TRNY					IAMs_20	IAMs_20	04 28 17.2		
	comp=Z,705nm,21.0s								
ANTO	Ankara	63.57	44		P	P	04 07 24.2	+0.3
ANTO	Ankara	63.57	44		P	P	04 07 24.2	+0.3
T60A	Surry	63.65	313		IAMs_20	IAMs_20	04 28 49.8		
	comp=Z,980nm,19.0s								
F61A	St Evariste	63.86	324		P	P	04 07 25.8	+0.2
	baz=122								
TRY	Troy	63.92	319		IAMs_20	IAMs_20	04 28 03.6		
	comp=Z,836nm,22.0s								
P60A	Greenville	63.95	316		IAMs_20	IAMs_20	04 30 41.5		
	comp=Z,835nm,19.0s								
BR131	Keskin Array S	64.10	44		P	P	04 07 27.8	+0.4
BR131					pmax	pmax			
	comp=Z,16nm,0.8s								
BR131	Keskin Array S	64.10	44		P	P	04 07 27.8	+0.4
BR131					IAmb	IAmb	04 07 41.9		
	comp=Z,16nm,0.8s								
BRTR	Keskin Array B	64.10	44		P	P	04 07 27.4	0.0
	comp=Z,3.6nm,0.7s,baz=230,slow=6.1,SNR=17								
BRTR					LR	LR	04 37 19.4		
	comp=Z,455nm,18.6s,baz=204,slow=38								
BRTR	Keskin Array B	64.10	44		P	P	04 07 26.8	-0.7
LUPA	Lehigh Univers	64.10	317		P	P	04 07 27.2	0.0
LUPA					IAmb	IAmb	04 07 28.2		
	comp=Z,7.9nm,0.6s								
LUPA					IAMs_20	IAMs_20	04 32 01.5		
	comp=Z,675nm,19.0s								
VT1	Waterbury	64.10	321		IAMs_20	IAMs_20	04 31 04.3		
	comp=Z,991nm,19.0s								
U59A	Littleton	64.14	311		IAMs_20	IAMs_20	04 29 03.7		
	comp=Z,853nm,21.0s								
H60A	Morristown	64.18	322		P	P	04 07 28.4	+0.7
	baz=120								
T59A	Double "B" Far	64.19	312		IAMs_20	IAMs_20	04 29 06.1		
	comp=Z,1μm,20.0s								
I60A	Shoreham	64.20	321		P	P	04 07 28.0	+0.2
	baz=119								
ACCN	Adirondack Com	64.22	320		IAMs_20	IAMs_20	04 33 42.8		
	comp=Z,750nm,18.0s								
MOQ	Mont Orford	64.28	322		P	P	04 07 28.3	-0.1
E60A	Ste Agathe de	64.34	324		P	P	04 07 28.8	+0.2
	baz=122								
KIS	Kishinev	64.45	36	*e*P		P	04 07 28.0	-1.4
	comp=Z,50nm,2.2s								
KIS	Kishinev	64.45	36	*e*PcP		PcP	04 07 54.0	-10
KIS	Kishinev	64.45	36	*e*PP		PP	04 09 54.0	+2.8
KIS				*e*LR		LR	04 33 42.0	
	comp=Z,200nm,16.0s								
KIS	Kishinev	64.45	36	*e*P		P	04 07 28.0	-1.4
KIS				*e*			04 09 54.0	
KIS				*e*			04 16 19.0	
KIS				pmax		pmax		
	comp=Z,50nm,2.2s								
NRS	Narsarsuaq	64.47	347		IAMs_20	IAMs_20	04 28 18.9		
	comp=Z,678nm,20.0s								
N59A	State Game Lan	64.51	317		P	P	04 07 30.6	+0.6
	baz=116								
N59A	State Game Lan	64.51	317		P	P	04 07 30.3	+0.3
N59A					IAmb	IAmb	04 07 31.1		
	comp=Z,10.0nm,0.7s								
N59A					IAMs_20	IAMs_20	04 29 19.4		
	comp=Z,645nm,19.0s								
MVL	Millersville	64.52	316		IAMs_20	IAMs_20	04 31 19.8		
	comp=Z,790nm,19.0s								
SOR	Soroa	64.52	296		P	P	04 07 30.5	+0.1
SOR					pmax	pmax			
	comp=Z,15nm,1.2s								
SOR	Soroa	64.52	296		P	P	04 07 30.5	+0.1
SOR					IAmb	IAmb	04 07 33.0		
	comp=Z,15nm,1.2s								
CBN	Corbin Frederi	64.53	313		IAMs_20	IAMs_20	04 28 45.1		
	comp=Z,946nm,21.0s								
SDMD	Soldier's Deli	64.63	315		P	P	04 07 30.6	-0.1
JSRW	J. Sargeant Re	64.70	313		P	P	04 07 30.8	-0.4
SORM	Soroca	64.80	34	⇑P		P	04 07 30.5	-1.1
SORM	Soroca	64.80	34	⇑P		P	04 07 30.5	-1.1
R58B	Mineral	64.81	313		P	P	04 07 32.3	+0.4
R58B					IAmb	IAmb	04 07 33.0		
	comp=Z,7.5nm,0.8s								
R58B					IAMs_20	IAMs_20	04 28 31.4		
	comp=Z,1μm,22.0s								
KONO	Kongsberg	64.81	17	⇑*i*P		P	04 07 33.7	+2.3
KONO					pmax	pmax			
	comp=Z,19nm,1.2s								
KONO	Kongsberg	64.81	17		IAMs_20	IAMs_20	04 36 52.7		
	comp=Z,740nm,18.0s								
H59A	Cadyville	64.84	321		P	P	04 07 32.5	+0.5
	baz=119								
NCB	Newcomb	64.86	320		IAMs_20	IAMs_20	04 29 19.5		
	comp=Z,708nm,20.0s								
NHSC	New Hope	64.86	307		IAMs_20	IAMs_20	04 29 11.0		
	comp=Z,733nm,21.0s								
FRNY	Flat Rock	64.87	321		IAMs_20	IAMs_20	04 29 41.7		
	comp=Z,872nm,20.0s								
L58A	Harry Jones Me	65.05	318		P	P	04 07 34.3	+0.8
	baz=116								
N58A	Sunbury	65.13	316		P	P	04 07 34.2	+0.3
N58A					IAmb	IAmb	04 07 48.2		
	comp=Z,23nm,1.2s								
257A	Skidaway Islan	65.19	306		IAMs_20	IAMs_20	04 29 38.8		
	comp=Z,711nm,21.0s								
BINY	Binghamton	65.21	318		P	P	04 07 35.4	+0.9
	baz=116								
BINY	Binghamton	65.21	318		P	P	04 07 35.0	+0.5
BINY					IAmb	IAmb	04 07 37.4		
	comp=Z,28nm,1.1s								
BINY					IAMs_20	IAMs_20	04 29 20.9		
	comp=Z,683nm,20.0s								
J58A	Remsen	65.26	319		P	P	04 07 35.3	+0.5
	baz=117								
J58A	Remsen	65.26	319		P	P	04 07 34.9	+0.1
J58A					IAmb	IAmb	04 07 35.5		
	comp=Z,12nm,0.9s								
J58A					IAMs_20	IAMs_20	04 32 52.2		
	comp=Z,743nm,19.0s								
BNN	Bunyan	65.31	46		P	P	04 07 35.6	+0.2
LONY	Lake Ozonia	65.39	321		IAMs_20	IAMs_20	04 31 53.5		
	comp=Z,792nm,20.0s								
T57A	Hurt	65.47	312		IAMs_20	IAMs_20	04 29 32.9		
	comp=Z,866nm,20.0s								
P57A	Homestead Farm	65.49	315		IAMs_20	IAMs_20	04 28 42.4		
	comp=Z,693nm,21.0s								
S57A	Dark Hollow, R	65.52	313		IAMs_20	IAMs_20	04 29 46.3		
	comp=Z,1μm,21.0s								
M57A	Sunshine Farm,	65.62	317		P	P	04 07 37.7	+0.6
M57A					IAmb	IAmb	04 07 38.9		
	comp=Z,9.7nm,0.8s								
LATQ	La Tuque	65.64	324		P	P	04 07 37.2	+0.1
	baz=121								
LATQ	La Tuque	65.64	324		P	P	04 07 36.9	-0.2
SUW	Suwalki	65.66	27	*e*P		P	04 07 37.8	+0.7
GAZ	Gaziantep	65.69	48		P	P	04 07 37.7	-0.1
GAZ					IAmb	IAmb	04 07 53.0		
	comp=Z,23nm,0.9s								
I57A	Carthage	65.76	320		P	P	04 07 38.5	+0.5
	baz=117								
SSPA	Standing Stone	65.86	316		IAMs_20	IAMs_20	04 31 43.1		
	comp=Z,634nm,19.0s								
U56A	King	66.09	311		IAMs_20	IAMs_20	04 31 01.4		
	comp=Z,650nm,20.0s								
Q56A	Snyder Ridge,	66.16	314		P	P	04 07 39.8	-0.9
Q56A					IAmb	IAmb	04 07 55.8		
	comp=Z,16nm,1.1s								
Q56A					IAMs_20	IAMs_20	04 29 35.3		
	comp=Z,945nm,21.0s								
O56A	Blue Knob Stat	66.19	315		IAMs_20	IAMs_20	04 32 28.9		
	comp=Z,765nm,19.0s								
L56A	Greenwood	66.24	317		P	P	04 07 40.3	-0.8
L56A					IAmb	IAmb	04 07 42.0		
	comp=Z,13nm,0.8s								
NBO00	NORSAR Array S	66.28	16		P	P	04 07 41.1	+0.1
K56A	Middlesex	66.32	318		P	P	04 07 42.0	+0.4
	baz=115								
NB2	NORSAR Subarra	66.41	17		P	P	04 07 42.2	+0.3
	comp=Z,13nm,1.0s,baz=214,slow=6.9								
NOA	NORSAR Array B	66.41	17		P	P	04 07 42.8	+0.9
	comp=Z,7.8nm,1.2s,baz=214,slow=6.5,SNR=13								
NOA					LR	LR	04 38 02.6		
	comp=Z,364nm,18.9s,baz=220,slow=37								
BLA	Blacksburg	66.41	311		P	P	04 07 42.8	+0.4
	baz=110								
BLA	Blacksburg	66.41	311		IAMs_20	IAMs_20	04 30 33.0		
	comp=Z,883nm,20.0s								
HFS	Hagfors	66.42	18		P	P	04 07 42.5	+0.6
	comp=Z,4.6nm,0.6s,baz=190,slow=7.5,SNR=20								
PBUR	Paburge	66.44	25	*e*P		P	04 07 42.6	+0.6
V55A	Taylorsville	66.56	310		P	P	04 07 41.9	-1.4
V55A					IAmb	IAmb	04 07 44.4		
	comp=Z,10nm,1.0s								
PECO	Prince Edward	66.63	319		IAMs_20	IAMs_20	04 33 16.3		
	comp=Z,621nm,20.0s								
AKASG	Malin Array Be	66.67	32		P	P	04 07 42.9	-0.8
	comp=Z,5.2nm,0.7s,baz=236,slow=6.5,SNR=38								
AKASG					PP	PP	04 10 04.1	-6.5
	comp=Z,3.9nm,0.8s,baz=235,slow=8.5,SNR=4.9								
AKASG					LR	LR	04 37 42.7		
	comp=Z,233nm,19.7s,baz=235,slow=37								
AKASG	Malin Array Be	66.67	32		P	P	04 07 42.0	-1.6
AKBB	Malin Array Si	66.67	32		P	P	04 07 42.9	-0.8
AKBB					pmax	pmax			
	comp=Z,121nm,2.0s								
AKBB					MLR	MLR			
	comp=Z,400nm,18.0s								
AKBB	Malin Array Si	66.67	32		P	P	04 07 42.9	-0.8
MMNY	Mt. Morris Dam	66.72	318		P	P	04 07 44.0	-0.2
M55A	Ridgway	66.80	316		P	P	04 07 44.9	+0.2
M55A					IAMs_20	IAMs_20	04 34 01.9		
	comp=Z,772nm,18.0s								
SCHQ	Schefferville	66.81	333		P	P	04 07 43.7	-0.8
	comp=Z,6.5nm,0.6s,baz=96,slow=6.2,SNR=9.7								
SCHQ					LR	LR	04 31 57.6		
	comp=Z,883nm,21.3s,baz=132,slow=32								
SCHQ	Schefferville	66.81	333		IAMs_20	IAMs_20	04 31 46.8		
	comp=Z,977nm,21.0s								
MCWV	Mont Chateau	66.87	314		IAMs_20	IAMs_20	04 29 57.9		
	comp=Z,794nm,21.0s								
PABE	Paberze	66.97	26	*e*P		P	04 07 45.8	+0.3
MALT	Malatya	67.00	47		P	P	04 07 46.8	+0.6
154A	Montrose	67.06	306		IAMs_20	IAMs_20	04 30 45.3		
	comp=Z,827nm,21.0s								
PLVO	Plevna	67.16	320		IAMs_20	IAMs_20	04 30 27.4		
	comp=Z,913nm,21.0s								
U54A	Nelsons Funny	67.24	310		IAMs_20	IAMs_20	04 31 47.9		
	comp=Z,669nm,20.0s								
ANGG	Ammassalik, Gr	67.26	353		IAMs_20	IAMs_20	04 29 17.6		
	comp=Z,741nm,22.0s								
S54A	Dingess, Beckl	67.28	312		IAMs_20	IAMs_20	04 31 00.9		
	comp=Z,919nm,20.0s								
DELO	Deloro Mine	67.28	320		P	P	04 07 47.4	-0.3
DELO					IAmb	IAmb	04 07 49.8		
	comp=Z,20nm,1.3s								
DELO					IAMs_20	IAMs_20	04 30 19.7		
	comp=Z,920nm,22.0s								
Q54A	Coxs Mills	67.34	313		P	P	04 07 47.0	-1.2
Q54A					IAmb	IAmb	04 08 03.1		
	comp=Z,21nm,1.3s								
Q54A					IAMs_20	IAMs_20	04 30 44.4		
	comp=Z,1μm,21.0s								
M54A	Oil Creek Stat	67.43	316		IAMs_20	IAMs_20	04 34 31.8		
	comp=Z,758nm,19.0s								
O54A	Avella	67.44	315		P	P	04 07 49.4	+0.6
O54A					IAMs_20	IAMs_20	04 30 17.0		
	comp=Z,792nm,22.0s								
N54A	Moraine State	67.45	315		P	P	04 07 49.2	+0.3
	baz=112								
N54A	Moraine State	67.45	315		P	P	04 07 49.3	+0.4
N54A					IAmb	IAmb	04 07 49.7		
	comp=Z,10.0nm,0.8s								
N54A					IAMs_20	IAMs_20	04 33 55.3		
	comp=Z,643nm,18.0s								
UPP	Uppsala	67.50	20	*e*P		P	04 07 49.7	+1.0
BG3	Lake Jocassee	67.62	309		P	P	04 07 49.9	-0.1
BG3					IAmb	IAmb	04 08 07.8		
	comp=Z,8.8nm,0.8s								
ALLY	Alegheny Colle	67.82	316		IAMs_20	IAMs_20	04 34 43.1		
	comp=Z,865nm,18.0s								
CHGQ	Chibougamau	67.83	326		P	P	04 07 51.0	-0.1
	baz=120								
IIGN	Ignalina	67.88	27	*e*P		P	04 07 51.6	+0.4
ERPA	Erie	67.89	317		IAMs_20	IAMs_20	04 31 31.9		
	comp=Z,630nm,19.0s								
P53A	Whipple	67.92	314		IAMs_20	IAMs_20	04 30 29.7		
	comp=Z,949nm,21.0s								
R53A	Hurricane	67.94	312		IAMs_20	IAMs_20	04 30 41.3		
	comp=Z,1μm,22.0s								
ISAL	Salakas	67.97	27	*e*P		P	04 07 52.3	+0.6
N53A	Lisbon	67.99	315		P	P	04 07 52.5	+0.2
N53A					IAmb	IAmb	04 07 53.5		
	comp=Z,12nm,0.8s								
O53A	New Philadelph	68.06	314		IAMs_20	IAMs_20	04 30 35.4		
	comp=Z,773nm,21.0s								
IDID	Didziasalis	68.09	27	*e*P		P	04 07 53.3	+0.7
M53A	WI Miller and	68.11	316		IAMs_20	IAMs_20	04 35 09.8		
	comp=Z,813nm,18.0s								
MNK	Minsk	68.14	28	*i*P		P	04 07 52.7	-0.2
MNK				*i*			04 08 18.3	
MNK				*i*			04 10 22.8	
MNK				*i*PPP		PPP	04 12 01.0	
MNK				*i*S		S	04 16 53.5	+0.7
MNK				*i*			04 17 51.8	
MNK				*i*SS		SS	04 21 17.2	+1.6
MNK				pmax		pmax		
	comp=E,3.0nm,0.9s								
MNK				pmax		pmax		
	comp=N,10.0nm,0.9s								
MNK				pmax		pmax		
	comp=Z,11nm,0.7s								
MNK				MLR		MLR			
	comp=Z,334nm,18.0s								
MNK				MLR		MLR			
	comp=N,188nm,17.0s								
MNK	Minsk	68.14	28	*i*P		P	04 07 52.7	-0.2
	comp=E,3.0nm,0.9s								
MNK				*i*P		P	04 07 52.7	-0.2
	comp=N,10.0nm,0.8s								
MNK				*i*P		P	04 07 52.7	-0.2
	comp=Z,11nm,0.7s,baz=56								
MNK				*i*PcP		PcP	04 08 18.4	-0.4
MNK				*i*PP		PP	04 10 22.9	-0.4
MNK				*i*PPP		PPP	04 12 01.1	
MNK				*i*S		S	04 16 53.5	+0.7
MNK				*i*ScS		SKKSac	04 17 51.9	+0.3
MNK				*i*SS		SS	04 21 17.2	+1.6
MNK				*i*SSS		SSS	04 24 33.0	
MNK				*i*LQ		LQ	04 32 30.0	
MNK				*i*LR		LR	04 36 36.8	
MNK				*i*LRM		MLR	04 39 42.0	
	comp=Z,334nm,18.1s								
MNK				*i*LRM		MLR	04 39 54.4	
	comp=E,22nm,17.4s								
MNK				*i*LRM		MLR	04 39 58.7	
	comp=N,188nm,16.6s								
Y52A	Lilburn	68.18	307		IAMs_20	IAMs_20	04 30 60.0		
	comp=Z,717nm,22.0s								
SADO	Sadowa	68.38	319		P	P	04 07 54.4	-0.2
	comp=Z,5.4nm,0.9s,baz=104,slow=4.2,SNR=2.2								
SADO	Sadowa	68.38	319		IAMs_20	IAMs_20	04 36 22.6		
	comp=Z,894nm,18.0s								
Q52A	Bidwell	68.38	313		IAMs_20	IAMs_20	04 31 37.0		
	comp=Z,949nm,20.0s								
152A	Waverly Hall	68.38	306		IAMs_20	IAMs_20	04 32 25.3		
	comp=Z,680nm,20.0s								
O52A	Adamsville	68.46	314		IAMs_20	IAMs_20	04 31 09.0		
	comp=Z,823nm,20.0s								
TKL	Tuckaleechee C	68.47	309		P	P	04 07 55.7	+0.3
	comp=Z,3.8nm,0.8s,baz=144,slow=10,SNR=5.7								
TKL	Tuckaleechee C	68.47	309		P	P	04 07 55.2	-0.2
TKL					pmax	pmax			
	comp=Z,9.0nm,1.2s								
TKL					MLR	MLR			
	comp=Z,300nm,18.0s								
TKL	Tuckaleechee C	68.47	309		P	P	04 07 55.1	-0.2
P52A	Corning	68.51	313		P	P	04 07 55.7	+0.2
	baz=110								
P52A	Corning	68.51	313		IAMs_20	IAMs_20	04 31 20.3		
	comp=Z,920nm,21.0s								
M52A	Chesterland	68.62	316		IAMs_20	IAMs_20	04 35 25.4		
	comp=Z,782nm,18.0s								
ANN	Anapa	68.75	41	*c i*P		P	04 07 55.3	-1.6
ANN				*e*S		S	04 16 58.8	-1.6
ANN				pmax		pmax		
	comp=Z,53nm,1.4s								
ANN				MLR		MLR			
	comp=Z,275nm,13.0s								
LSQQ	Lebel-sur-Quev	68.91	324		P	P	04 07 57.8	0.0
	baz=118								
Z51A	Franklin	68.92	306		IAMs_20	IAMs_20	04 31 53.7		
	comp=Z,793nm,22.0s								
S51A	Beattyville	68.94	311		IAMs_20	IAMs_20	04 32 13.8		
	comp=Z,877nm,21.0s								
V51A	Loudon	68.97	309		P	P	04 07 59.3	+0.8
V51A					IAmb	IAmb	04 08 16.4		
	comp=Z,34nm,1.7s								
MTSE	Matsula	68.98	23	*e*P		P	04 08 02.0	+4.0
CPCT	Cooper Cave	69.00	309		P	P	04 07 58.4	-0.3
CPCT					IAmb	IAmb	04 08 16.8		
	comp=Z,21nm,1.7s								
N51A	Ashland	69.12	315		IAMs_20	IAMs_20	04 31 19.6		
	comp=Z,661nm,21.0s								
P51A	Williamsport	69.13	313		IAMs_20	IAMs_20	04 31 17.9		
	comp=Z,976nm,22.0s								
Q51A	Peebles	69.19	313		IAMs_20	IAMs_20	04 31 51.5		
	comp=Z,1μm,20.0s								
ACSO	Alum Creek Sta	69.33	314		P	P	04 08 00.7	+0.1
ACSO					IAmb	IAmb	04 08 15.2		
	comp=Z,15nm,0.9s								
ACSO					IAMs_20	IAMs_20	04 33 33.9		
	comp=Z,925nm,19.0s								
W50A	Signal

I49A Point Hope 70.50 318 IAMs_20 IAMs_20 04 34 31.8
comp=Z,625nm,20.0s
AAM Ann Arbor 70.50 316 IAMs_20 IAMs_20 04 37 16.9
comp=Z,692nm,18.0s
CLTN Cedars of Leba 70.59 309 P **P** **04 08 08.7 +0.2**
X48A Hartselle 70.72 307 IAmb IAmb 04 08 09.5
comp=Z,49nm,2.0s
X48A P **P** **04 08 09.8 +0.4**
X48A IAMs_20 IAMs_20 04 33 12.2
comp=Z,626nm,20.0s
ICESG Greenland Ices 70.81 353 *i* P P 04 08 14.6 +5.0
P48A Milroy 70.86 312 IAMs_20 IAMs_20 04 32 31.7
comp=Z,986nm,21.0s
L48A N Adams 70.92 315 P **P** **04 08 10.4 0.0**
L48A IAMs_20 IAMs_20 04 37 04.2
comp=Z,772nm,19.0s
DOMR Dombai 71.00 43⇑ *i P* **P** **04 08 12.5 +1.5**
DOMR pmax pmax
comp=Z,14nm,1.3s
PMSA Palmer Station 71.03 198 P **P** **04 08 11.3 +0.8**
comp=Z,3.4nm,0.5s,baz=153,slow=2.3,SNR=1.8
PMSA Palmer Station 71.03 198 *e*P **P** **04 08 11.4 +1.0**
WCI Wyandotte Cave 71.15 311 P **P** **04 08 12.0 +0.2**
WCI pmax pmax
comp=Z,12nm,1.1s
WCI Wyandotte Cave 71.15 311 P **P** **04 08 12.3 +0.4**
baz=107
WCI Wyandotte Cave 71.15 311 P **P** **04 08 12.0 +0.2**
WCI IAmb IAmb 04 08 13.5
comp=Z,12nm,1.1s
WCI Wyandotte Cave 71.15 311 IAMs_20 IAMs_20 04 33 31.4
comp=Z,772nm,20.0s
Z47A Carrollton 71.24 305 IAMs_20 IAMs_20 04 34 52.1
comp=Z,659nm,19.0s
T47A Sharon Grove 71.43 310 P **P** **04 08 13.6 0.0**
T47A IAmb IAmb 04 08 27.7
comp=Z,30nm,1.6s
N47A Urbana 71.49 314 P **P** **04 08 13.8 0.0**
N47A IAmb IAmb 04 08 15.8
comp=Z,20nm,1.1s
N47A IAMs_20 IAMs_20 04 35 37.2
comp=Z,787nm,20.0s
BLO Bloomington 71.59 312 IAMs_20 IAMs_20 04 33 46.0
comp=Z,968nm,20.0s
FINES FINESS Array B 71.62 22 P **P** **04 08 14.9 +0.9**
comp=Z,5.4nm,0.7s,baz=204,slow=3.3,SNR=20
FINES LR LR 04 40 27.7
comp=Z,182nm,18.2s,baz=238,slow=36
FINES FINESS Array B 71.62 22 P **P** **04 08 15.0 +0.9**
FIA1 FINESS Array S 71.62 22 P **P** **04 08 15.0 +0.9**
FIA1 IAmb IAmb 04 08 29.9
comp=Z,22nm,0.8s
J47A Sunmer 71.62 316 IAMs_20 IAMs_20 04 36 25.6
comp=Z,687nm,19.0s
PLAL Pickwick Lake 71.68 307 P **P** **04 08 14.3 -0.8**
PLAL IAmb IAmb 04 08 16.8
comp=Z,31nm,1.8s
PLAL IAMs_20 IAMs_20 04 33 10.5
comp=Z,718nm,22.0s
NEY Neytrino 71.74 44⇑ *e*P **P** **04 08 17.3 +1.8**
NEY pmax pmax
comp=Z,6.0nm,1.7s
WVT Waverly 71.77 308 P **P** **04 08 15.1 -0.5**
WVT pmax pmax
comp=Z,38nm,1.9s
WVT Waverly 71.77 308 P **P** **04 08 15.2 -0.4**
baz=105
WVT Waverly 71.77 308 P **P** **04 08 15.1 -0.5**
WVT IAmb IAmb 04 08 17.1
comp=Z,38nm,1.9s
SNAA Sanae 71.80 174 P **P** **04 08 15.9 +0.7**
comp=Z,0.9nm,0.4s,baz=7.6,slow=15,SNR=1.8
SNAA Sanae 71.80 174 *e*P **P** **04 08 18.4 +3.2**
SNAA *i* *PP **pwP** **04 08 21.3 -1.3**
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 71.80 174 P **P** **04 08 17.0 +1.8**
SHA1 Shidzhatmaz 71.85 43*c i*P **P** **04 08 16.7 +0.4**
SHA1 *i* *PP **sP** **04 08 20.7 +2.6**
KIV Kislovodsk 71.94 43 *e*P **P** **04 08 16.6 0.0**
KIV *e*S **S** **04 17 38.1 0.0**
KIV *e*SS **SS** **04 22 15.1 +0.3**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 71.94 43 P **P** **04 08 16.2 -0.4**
KIV IAmb IAmb 04 08 19.0
comp=Z,42nm,1.5s
KVAR Kislovodsk Arr 71.95 43 P **P** **04 08 15.3 -1.4**
comp=Z,2.0nm,0.5s,baz=90,slow=20,SNR=1.4
CCIG Comitan 72.00 287 P **P** **04 08 17.0 -0.5**
CCIG IAmb IAmb 04 08 18.2
comp=Z,15nm,0.9s
GLMI Grayling 72.01 318 P **P** **04 08 17.4 +0.5**
baz=110
GLMI Grayling 72.01 318 P **P** **04 08 16.6 -0.2**
GLMI IAMs_20 IAMs_20 04 35 46.8
comp=Z,700nm,18.0s
KBZ Khabaz 72.01 43 P **P** **04 08 16.3 -0.6**
comp=Z,3.9nm,0.9s,baz=251,slow=5.8,SNR=12
KBZ LR LR 04 41 53.4
comp=Z,122nm,20.6s,baz=256,slow=38
GNI Garni 72.23 47 P **P** **04 08 18.5 0.0**
comp=Z,6.6nm,0.6s,baz=178,slow=4.3,SNR=9.6
GNI Garni 72.23 47 P **P** **04 08 18.9 +0.4**
GNI pmax pmax
comp=Z,52nm,1.5s
GNI MLR MLR
comp=Z,200nm,20.0s
GNI Garni 72.23 47 P **P** **04 08 18.9 +0.4**
L46A Eue Claire 72.27 315 IAMs_20 IAMs_20 04 33 06.7
comp=Z,545nm,20.0s
E46A Sault Ste Mari 72.34 320 IAMs_20 IAMs_20 04 39 23.4
comp=Z,580nm,18.0s
SFIN Lafayette 72.36 313 P **P** **04 08 19.0 0.0**
baz=107
SFIN Lafayette 72.36 313 IAMs_20 IAMs_20 04 33 49.4
comp=Z,938nm,21.0s
ZEI Tsey 72.41 44 *e*P **P** **04 08 19.4 -0.2**
ZEI pmax pmax
comp=Z,23nm,1.6s
Y45A Yeager Farm, C 72.59 306 IAMs_20 IAMs_20 04 35 25.8
comp=Z,726nm,19.0s
W45A Hickory Valley 72.60 307 IAMs_20 IAMs_20 04 34 10.0
comp=Z,691nm,20.0s
OXF Oxford 72.63 307 IAMs_20 IAMs_20 04 34 07.8
comp=Z,549nm,20.0s
OLIL Olney 72.65 311 P **P** **04 08 20.0 -0.9**
OLIL IAmb IAmb 04 08 34.4
comp=Z,31nm,1.2s
OLIL IAMs_20 IAMs_20 04 34 58.2
comp=Z,823nm,19.0s
OBN Obninsk 72.74 31 P **P** **04 08 20.0 -0.9**
comp=Z,3.5nm,0.4s,baz=208,slow=1.7,SNR=5.4
OBN Obninsk 72.74 31*c i*P **P** **04 08 20.2 -0.8**
OBN *i* 04 08 25.5
OBN *i* 04 08 37.6
OBN *i* 04 10 59.5
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,323nm,16.0s
OBN Obninsk 72.74 31 P **P** **04 08 20.7 -0.3**
G45A Suttons Bay 72.78 318 IAMs_20 IAMs_20 04 35 42.2
comp=Z,663nm,19.0s
I45A Fountain 72.85 317 IAMs_20 IAMs_20 04 37 39.1
comp=Z,649nm,19.0s
LPSR Galich'ya Gora 72.88 34 *e*P **P** **04 08 20.8 -1.0**
LPSR pmax pmax
comp=Z,40nm,1.8s
MET Memphis--Engin 73.19 307 IAMs_20 IAMs_20 04 34 27.6
comp=Z,676nm,21.0s
SIUC Southern Illin 73.24 310 P **P** **04 08 23.4 -1.0**
HQIL Hanson Quary C 73.31 314 IAMs_20 IAMs_20 04 35 56.5
comp=Z,781nm,18.0s
M44A Midewin, Midew 73.33 314 IAMs_20 IAMs_20 04 34 31.1
comp=Z,785nm,20.0s
Q44A Meyer Farm, Va 73.39 311 IAMs_20 IAMs_20 04 35 39.7
comp=Z,731nm,20.0s
GNAR Gosnell 73.45 308 IAMs_20 IAMs_20 04 34 36.4
comp=Z,559nm,20.0s
L44A Lake County Fo 73.46 315 IAMs_20 IAMs_20 04 33 42.4
comp=Z,978nm,22.0s
MOS Moscow 73.56 30 *e*P **P** **04 08 23.0 -2.8**
MOS *e* 04 08 39.6
MOS *e* 04 11 09.5
MOS *e*S **S** **04 17 53.8 -2.0**
MOS *e* 04 18 37.2
MOS pmax pmax
comp=Z,82nm,1.5s
MOS pmax pmax
comp=Z,200nm,1.7s
MOS MLR MLR
comp=Z,600nm,20.0s
LPAR Lepanto 73.59 307 IAMs_20 IAMs_20 04 34 18.2
comp=Z,618nm,21.0s
DDFL Dedoflistskaro 73.59 46 P P 04 08 31.4 +4.9
GROC Groznyy 73.86 44 *e*P **P** **04 08 27.7 -0.2**
GROC *e* 04 08 41.8
GROC *e* 04 11 14.1
GROC *e*S **S** **04 18 07.5 +7.8**
GROC pmax pmax
comp=Z,43nm,1.5s
143A Socs Landing, 73.87 304 IAMs_20 IAMs_20 04 47 19.7
comp=Z,551nm,18.0s
VRH Novokhopyorsk 73.90 36 *e*P **P** **04 08 26.4 -1.5**
VRH pmax pmax
comp=Z,20nm,1.1s
K43A Burlington 73.91 315 IAMs_20 IAMs_20 04 34 38.3
comp=Z,702nm,21.0s
SUMG Summit 74.00 355 *i* P **P** **04 08 29.9 +1.3**
SUMG Summit 74.00 355 P **P** **04 08 29.6 +1.0**
SUMG pmax pmax
comp=Z,33nm,1.3s
SUMG Summit 74.00 355 P **P** **04 08 29.6 +1.0**
SUMG IAmb IAmb 04 08 45.4
comp=Z,33nm,1.3s
HDIL Hopedale 74.02 313 IAMs_20 IAMs_20 04 35 02.3
comp=Z,906nm,21.0s
H43A Windswept, Lux 74.03 317 P **P** **04 08 28.2 -0.6**
H43A IAmb IAmb 04 08 29.1
comp=Z,10.0nm,0.8s
H43A IAMs_20 IAMs_20 04 35 12.4
comp=Z,777nm,20.0s
E43A Lone Tree Farm 74.10 319 P **P** **04 08 28.8 -0.4**
E43A IAMs_20 IAMs_20 04 41 44.0
comp=Z,561nm,18.0s
LCAR Lake Charles 74.37 308 IAMs_20 IAMs_20 04 35 14.8
comp=Z,521nm,20.0s
CCAR Cane Creek 74.42 305 IAMs_20 IAMs_20 04 36 14.1
comp=Z,658nm,19.0s
I42A Draeger Farm, 74.65 316 P **P** **04 08 32.2 -0.3**
I42A IAMs_20 IAMs_20 04 37 40.8
comp=Z,759nm,19.0s
F42A Maple Grove Fa 74.66 318 IAMs_20 IAMs_20 04 36 22.0
comp=Z,736nm,19.0s
L42A Oliver, Polo 74.67 314 IAMs_20 IAMs_20 04 35 31.5
comp=Z,848nm,20.0s
CCM Cathedral Cave 74.88 310 P **P** **04 08 32.5 -1.4**
CCM pmax pmax
comp=Z,17nm,1.4s
CCM Cathedral Cave 74.88 310 P **P** **04 08 32.6 -1.3**
baz=103
CCM Cathedral Cave 74.88 310 P **P** **04 08 32.5 -1.4**
MAK Makhachkala 75.00 45 *e*P P 04 08 29.4 -5.1
MAK *e*PPP PPP 04 13 03.4
MAK *e*S **SKiKP** **04 18 03.2 +4.0**
MAK *e*SS **SS** **04 22 56.5 -4.7**
MAK pmax pmax
comp=Z,123nm,1.3s
MAK MLR MLR
comp=Z,142nm,14.0s
WHAR Wooly Hollow 75.11 307 IAMs_20 IAMs_20 04 35 03.4
comp=Z,594nm,21.0s
JFWS Jewell Farm 75.33 315 IAMs_20 IAMs_20 04 34 38.7
comp=Z,854nm,22.0s
D41A Chassel 75.33 319 P **P** **04 08 36.2 -0.2**
D41A IAmb IAmb 04 08 36.2
comp=Z,15nm,1.0s
X40A Basin Creek Fa 75.39 306 IAMs_20 IAMs_20 04 36 43.9
comp=Z,487nm,19.0s
COWI Conover 75.43 318 P **P** **04 08 36.3 -0.7**
COWI IAMs_20 IAMs_20 04 37 33.3
comp=Z,870nm,20.0s
WLAR White Oak Lake 75.47 305 IAMs_20 IAMs_20 04 37 34.9
comp=Z,553nm,20.0s
MGMO Mountain Grove 75.48 309 P **P** **04 08 37.1 -0.3**
MGMO IAmb IAmb 04 08 39.0
comp=Z,22nm,1.4s
MGMO IAMs_20 IAMs_20 04 42 11.1
comp=Z,483nm,19.0s
R40A Maddies Statio 75.72 310 P **P** **04 08 38.1 -0.7**
R40A IAMs_20 IAMs_20 04 34 28.4
comp=Z,558nm,22.0s
U40A Yellville 75.77 308 P **P** **04 08 38.4 -0.7**
baz=102
U40A Yellville 75.77 308 P **P** **04 08 37.5 -1.7**
U40A IAMs_20 IAMs_20 04 35 23.0
comp=Z,626nm,22.0s
L40A Anamosa 75.81 314 P **P** **04 08 38.2 -1.0**
P40A Paris 75.83 311 IAMs_20 IAMs_20 04 38 02.1
comp=Z,767nm,20.0s
I40A Norwalk 75.84 316 IAMs_20 IAMs_20 04 40 21.2
comp=Z,715nm,18.0s
G40A Rib Lake 75.92 317 P **P** **04 08 39.1 -0.6**
G40A IAMs_20 IAMs_20 04 38 05.2
comp=Z,695nm,18.0s
W39A Magazine 76.29 306 P **P** **04 08 42.0 -0.1**
W39A IAmb IAmb 04 08 57.1
comp=Z,21nm,1.4s
W39A IAMs_20 IAMs_20 04 37 02.7
comp=Z,604nm,20.0s
HHAR Hobbs 76.62 307 IAMs_20 IAMs_20 04 36 22.4
comp=Z,655nm,22.0s
ARCES ARCESS Array B 76.72 15 P **P** **04 08 42.6 -1.2**
comp=Z,2.0nm,0.8s,baz=235,slow=4.3,SNR=6.4
ARCES LR LR 04 43 59.0
comp=Z,280nm,18.5s,baz=250,slow=37
ARCES ARCESS Array B 76.72 15 P **P** **04 08 43.9 +0.1**
ARCES pmax pmax
comp=Z,54nm,1.9s
ARCES ARCESS Array B 76.72 15 P **P** **04 08 43.9 +0.1**
ARCES IAmb IAmb 04 08 56.5
comp=Z,54nm,1.9s
KLMR Klimovskoe 76.76 26 *e*P **P** **04 08 43.1 -1.1**
KLMR *e* 04 11 35.7
KLMR pmax pmax
comp=Z,44nm,1.5s
KLMR Klimovskoe 76.76 26 *e*P **P** **04 08 43.2 -1.0**
KLMR AMP 04 08 45.4
comp=Z,44nm,1.5s
KLMR *e*PP **PP** **04 11 35.8 -1.1**
Z38A Mt. Pleasant 76.93 304 IAMs_20 IAMs_20 04 38 27.8
comp=Z,564nm,20.0s
P38A Dawn 76.97 311 P **P** **04 08 45.2 -0.6**
P38A IAMs_20 IAMs_20 04 38 46.3
comp=Z,510nm,20.0s
K38A Parkersburg 77.06 314 IAMs_20 IAMs_20 04 36 02.7
comp=Z,848nm,21.0s
E38A The Farm, Brul 77.18 318 IAMs_20 IAMs_20 04 38 36.6
comp=Z,769nm,20.0s
SCIA State Center 77.22 313 IAMs_20 IAMs_20 04 39 21.8
comp=Z,802nm,20.0s
KEV Kevo 77.26 15 IAMs_20 IAMs_20 04 45 18.9
comp=Z,460nm,18.0s
DAG Danmarks Havn 77.42 1 *i* P **P** **04 08 49.4 +1.8**
DAG Danmarks Havn 77.42 1 *i* P **P** **04 08 49.4 +1.8**
X37A Clayton 77.47 306 IAMs_20 IAMs_20 04 40 00.9
comp=Z,478nm,18.0s
EYMN Ely 77.49 320 IAMs_20 IAMs_20 04 43 16.7
comp=Z,667nm,18.0s
SPMN Marine on St. 77.68 317 IAMs_20 IAMs_20 04 39 18.0
comp=Z,590nm,19.0s
APA Apatity 77.82 19⇑ *i*P **P** **04 08 52.9 +2.9**
APA *i* 04 09 02.5
APA *i* S **S** **04 18 42.0 -0.5**
APA *i* 04 18 56.0
APA *i* SS **SS** **04 23 44.0 +1.2**
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,700nm,15.0s
I37A Lemond, Waseca 77.82 315 P **P** **04 08 49.5 -1.1**
I37A IAmb IAmb 04 08 57.6
comp=Z,17nm,1.0s
I37A IAMs_20 IAMs_20 04 36 27.6
comp=Z,725nm,22.0s
F36A Milaca 78.32 317 P **P** **04 08 51.9 -1.3**
F36A IAMs_20 IAMs_20 04 40 06.9
comp=Z,658nm,20.0s
LVZ Lovozero 78.39 19 IAMs_20 IAMs_20 04 39 41.0
comp=Z,553nm,20.0s
T35A Sooner Cattle 78.77 308 P **P** **04 08 55.5 -0.5**
T35A IAmb IAmb 04 09 09.7
comp=Z,15nm,1.0s
T35A IAMs_20 IAMs_20 04 45 28.2
comp=Z,476nm,19.0s
N35A Tabor 78.79 312 P **P** **04 08 55.5 -0.5**
N35A IAmb IAmb 04 09 09.4
comp=Z,25nm,1.1s
Z35A Perchaven, San 78.82 304 IAMs_20 IAMs_20 04 40 01.7
comp=Z,459nm,18.0s
UOSS Minazif 78.83 65 IAMs_20 IAMs_20 04 41 05.7
comp=Z,594nm,21.0s
B35A Bob, Littlefor 79.04 320 P **P** **04 08 56.5 -0.7**
B35A IAmb IAmb 04 08 57.1
comp=Z,12nm,0.8s
B35A IAMs_20 IAMs_20 04 41 45.7
comp=Z,658nm,19.0s
SYO Syowa Base 79.17 161⇓ *e*X **P** **04 08 54.1 -3.3**
SYO Syowa Base 79.17 161⇓ *e*pP pP 04 09 01.4 +2.6
OK025 Westminster Rd 79.22 306 IAMs_20 IAMs_20 04 39 35.2
comp=Z,524nm,20.0s
PRGR Permogore 79.78 26 *e*P **P** **04 08 59.6 -1.3**
PRGR pmax pmax
comp=Z,12nm,0.9s
NEEM North Greenlan 79.79 354 *i* P **P** **04 09 02.4 +1.3**
CROK Carrier 79.87 307 IAMs_20 IAMs_20 04 38 00.5
comp=Z,856nm,22.0s
ECSD EROS Data Cent 80.03 315 P **P** **04 09 01.9 -0.8**
baz=101
ECSD EROS Data Cent 80.03 315 P **P** **04 09 01.9 -0.8**
ECSD EROS Data Cent 80.03 315 IAMs_20 IAMs_20 04 37 45.4
comp=Z,766nm,21.0s
F33A 5 Mile Ranch, 80.21 317 IAMs_20 IAMs_20 04 42 40.9
comp=Z,644nm,19.0s
WMOK Wichita Mounta 80.27 305 P **P** **04 09 03.3 -0.9**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 80.27 305 P **P** **04 09 03.1 -1.1**
baz=98
WMOK Wichita Mounta 80.27 305 P **P** **04 09 03.3 -0.9**
WMOK Wichita Mounta 80.27 305 IAMs_20 IAMs_20 04 39 40.1
comp=Z,577nm,19.0s
AGMN Agassiz Nation 80.42 319 P **P** **04 09 04.1 -0.5**
baz=102
AGMN Agassiz Nation 80.42 319 P **P** **04 09 04.2 -0.5**
AGMN IAMs_20 IAMs_20 04 42 57.2
comp=Z,608nm,19.0s
KIRV Kirov 80.58 30 P **P** **04 09 04.8 -0.4**
comp=Z,6.0nm,0.6s,baz=267,slow=11,SNR=5.7
JCT Junction City 80.61 301 P **P** **04 09 06.1 0.0**
JCT pmax pmax
comp=Z,11nm,1.1s
JCT Junction City 80.61 301 P **P** **04 09 06.1 0.0**
ABTX Abilene, Hawle 80.72 303 P **P** **04 09 06.7 +0.1**
baz=97
ABTX Abilene, Hawle 80.72 303 P **P** **04 09 06.6 -0.1**
R32A Long Quarter, 80.73 309 IAMs_20 IAMs_20 04 38 52.0
comp=Z,516nm,21.0s
ULM Lac du Bonnet 80.83 321 P **P** **04 09 05.5 -1.3**
comp=Z,2.8nm,0.6s,baz=123,slow=5.4,SNR=6.1
ULM LR LR 04 40 07.7
comp=Z,666nm,20.2s,baz=102,slow=32
ULM Lac du Bonnet 80.83 321 P **P** **04 09 05.4 -1.4**
ULM pmax pmax
comp=Z,39nm,1.9s
ULM Lac du Bonnet 80.83 321 P **P** **04 09 05.4 -1.4**
ULM IAmb IAmb 04 09 08.1
comp=Z,39nm,1.9s
ULM IAMs_20 IAMs_20 04 39 25.1
comp=Z,671nm,20.0s
CBKS Cedar Bluff 81.58 309 IAMs_20 IAMs_20 04 45 07.5
comp=Z,462nm,18.0s
SUSD Miller 81.82 315 IAMs_20 IAMs_20 04 38 49.5
comp=Z,682nm,22.0s
GEYT Alibeck 81.96 52 LR LR 04 48 16.6
comp=Z,444nm,19.9s,baz=245,slow=38
GYA0B ALIBECK ARRAY 81.96 52 IAMs_20 IAMs_20 04 48 14.2
comp=Z,610nm,20.0s
ASHT Ashkhabad 82.17 52 IAMs_20 IAMs_20 04 48 22.0
comp=Z,596nm,19.0s
AMTX Amarillo 82.66 305 IAMs_20 IAMs_20 04 41 26.3
comp=Z,508nm,20.0s
MDND Maddock 82.80 318 IAMs_20 IAMs_20 04 43 27.3
comp=Z,707nm,19.0s
E28A Huff 83.34 317 IAMs_20 IAMs_20 04 41 27.8
comp=Z,625nm,20.0s
MSTX Muleshoe 83.46 304 P **P** **04 09 21.4 +0.3**
baz=95
MSTX Muleshoe 83.46 304 P **P** **04 09 21.0 -0.1**
MSTX IAmb IAmb 04 09 21.6
comp=Z,13nm,1.1s
OGNE Ogallala 83.59 311 P **P** **04 09 22.2 +0.5**
baz=96
OGNE Ogallala 83.59 311 IAMs_20 IAMs_20 04 41 11.7
comp=Z,784nm,21.0s
AKTO Aktyubinsk 83.64 39 P **P** **04 09 22.1 +0.5**
comp=Z,6.4nm,1.0s,baz=251,slow=4.4,SNR=13
KSCO Kaye Shedlock' 83.84 309 IAMs_20 IAMs_20 04 42 37.3
comp=Z,557nm,20.0s
TX31 Lajitas Ar. Si 83.84 299 P **P** **04 09 23.0 -0.2**
TX31 IAmb IAmb 04 09 24.8
comp=Z,14nm,1.1s
TX32 Lajitas Array 83.84 299 P **P** **04 09 23.1 0.0**
TXAR Lajitas Array 83.84 299 P **P** **04 09 23.1 -0.1**
comp=Z,2.3nm,0.9s,baz=117,slow=5.9,SNR=22
TXAR LR LR 04 44 47.5
comp=Z,149nm,19.7s,baz=0.0,slow=34
TXAR Lajitas Array 83.84 299 P **P** **04 09 22.7 -0.5**
ABKAR Akbulak array 84.71 41 P **P** **04 09 27.1 +0.1**
ABKAR Akbulak array 84.71 41 P **P** **04 09 26.9 -0.1**
ARU Arti 84.90 33 P **P** **04 09 27.3 -0.5**
comp=Z,1.0nm,0.3s,baz=246,slow=4.3,SNR=9.3
ARU Arti 84.90 33*c i*P **P** **04 09 28.1 +0.3**
ARU 04 12 44.8
ARU S **S** **04 19 51.9 -4.4**
ARU SS **SS** **04 25 26.8 -2.0**
ARU pmax pmax
comp=Z,14nm,1.3s
ARU Arti 84.90 33 P **P** **04 09 28.0 +0.3**
ARU IAMs_20 IAMs_20 04 53 05.0
comp=Z,415nm,18.0s
RSSD Black Hills 85.40 314 IAMs_20 IAMs_20 04 41 17.3
comp=Z,657nm,21.0s
SDCO Great Sand Dun 85.98 308 P **P** **04 09 34.6 +0.6**
baz=94
SDCO Great Sand Dun 85.98 308 P **P** **04 09 33.0 -1.0**
SDCO IAMs_20 IAMs_20 04 42 21.2
comp=Z,455nm,20.0s
ISCO Idaho Springs 86.21 310 P **P** **04 09 34.6 -0.6**
ISCO pmax pmax
comp=Z,7.0nm,1.4s
ISCO Idaho Springs 86.21 310 P **P** **04 09 34.5 -0.6**
ISCO IAMs_20 IAMs_20 04 42 42.2
comp=Z,506nm,20.0s
EUNU Eureka 86.54 351 IAMs_20 IAMs_20 04 41 14.0
comp=Z,389nm,19.0s
ANMO Albuquerque 86.57 305 P **P** **04 09 37.3 +0.5**
comp=Z,2.7nm,0.8s,baz=82,slow=6.8,SNR=14
ANMO Albuquerque 86.57 305 P **P** **04 09 37.1 +0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 86.57 305 P **P** **04 09 37.4 +0.5**
baz=93
ANMO Albuquerque 86.57 305 P **P** **04 09 37.1 +0.2**
S22A 4UR Ranch, Cre 87.03 308 P **P** **04 09 39.3 +0.1**
baz=93
MAW Mawson 87.04 158 LR LR 04 41 34.6
comp=Z,564nm,18.7s,baz=285,slow=31
LAO LASA Array 87.15 317 IAMs_20 IAMs_20 04 47 40.4
comp=Z,603nm,18.0s
SMCO Snowmass 87.22 309 P **P** **04 09 40.5 +0.3**
SMCO IAmb IAmb 04 09 42.2
comp=Z,23nm,1.8s
SMCO IAMs_20 IAMs_20 04 43 32.0
comp=Z,559nm,22.0s
O20A White River Ci 88.25 310 P **P** **04 09 45.2 +0.4**
baz=92
O20A White River Ci 88.25 310 P **P** **04 09 45.3 +0.4**
O20A IAmb IAmb 04 09 47.3
comp=Z,22nm,1.6s
O20A IAMs_20 IAMs_20 04 43 57.0
comp=Z,663nm,20.0s
MVCO Mesa Verde 88.33 307 P **P** **04 09 45.1 -0.2**
MVCO IAmb IAmb 04 09 48.2
comp=Z,28nm,1.8s
PV15 Paradox Valley 88.36 308 IAMs_20 IAMs_20 04 43 39.2
comp=Z,612nm,22.0s

PV01	**Paradox Valley**	**88.42**	**308**	P	**P**	**04 09 45.3**	**-0.4**
PV01				IAmb	IAmb	04 09 47.9	
	comp=Z,10nm,1.4s						
PV02	**Paradox Valley**	**88.56**	**308**	P	**P**	**04 09 46.3**	**-0.1**
PV02				IAmb	IAmb	04 09 59.4	
	comp=Z,6.4nm,0.8s						
PV22	**Blue Mesa, Par**	**88.61**	**308**	P	**P**	**04 09 46.7**	**+0.1**
PV12	**Saucer Basin,**	**88.61**	**308**	IAms_20	IAms_20	04 43 50.9	
	comp=Z,564nm,19.0s						
PV13	**Radium Mtn., P**	**88.62**	**308**	P	**P**	**04 09 46.7**	**0.0**
PV13				IAmb	IAmb	04 10 00.2	
	comp=Z,24nm,1.4s						
PV03	**Paradox Valley**	**88.65**	**308**	P	**P**	**04 09 46.5**	**-0.3**
PV11	**David Mesa, Pa**	**88.67**	**308**	P	**P**	**04 09 46.6**	**-0.3**
PV11				IAmb	IAmb	04 10 00.5	
	comp=Z,8.5nm,0.7s						
PV11				IAms_20	IAms_20	04 57 20.3	
	comp=Z,576nm,20.0s						
PV18	**Skein Mesa, Pa**	**88.69**	**308**	P	**P**	**04 09 46.8**	**-0.2**
PV18				IAmb	IAmb	04 10 01.1	
	comp=Z,7.8nm,0.9s						
PV16	**Nyswonger Mesa**	**88.70**	**308**	P	**P**	**04 09 46.6**	**-0.4**
PV16				IAmb	IAmb	04 09 59.9	
	comp=Z,7.5nm,0.8s						
PV17	**East Wray Mesa**	**88.73**	**308**	P	**P**	**04 09 46.8**	**-0.4**
PV17				IAmb	IAmb	04 10 00.7	
	comp=Z,29nm,1.5s						
PV20	**West Nyswonger**	**88.74**	**308**	P	**P**	**04 09 46.8**	**-0.4**
PV20				IAmb	IAmb	04 09 49.2	
	comp=Z,8.6nm,1.0s						
PV14	**Lion Creek, Pa**	**88.79**	**308**	IAms_20	IAms_20	04 37 47.5	
	comp=Z,418nm,20.0s						
PV10	**Paradox Valley**	**88.80**	**308**	P	**P**	**04 09 47.7**	**+0.2**
PV10				IAmb	IAmb	04 09 50.3	
	comp=Z,24nm,1.2s						
PV05	**Paradox Valley**	**88.84**	**308**	P	**P**	**04 09 47.3**	**-0.4**
PV05				IAmb	IAmb	04 09 49.2	
	comp=Z,8.8nm,0.9s						
RLMT	**Red Lodge**	**89.19**	**315**	P	**P**	**04 09 49.3**	**+0.1**
	baz=92						
RLMT	**Red Lodge**	**89.19**	**315**	P	**P**	**04 09 49.1**	**-0.1**
RLMT				IAmb	IAmb	04 10 03.5	
	comp=Z,11nm,1.4s						
RLMT				IAms_20	IAms_20	04 45 23.6	
	comp=Z,596nm,19.0s						
BW06	**Boulder Array**	**89.33**	**313**	IAms_20	IAms_20	04 44 04.5	
	comp=Z,680nm,21.0s						
PDAR	**Pinedale Array**	**89.33**	**313**	P	**P**	**04 09 49.2**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=97,slow=8.2,SNR=7.7						
PDAR				LR	LR	04 44 27.1	
	comp=Z,583nm,21.2s,baz=106,slow=32						
PDAR	**Pinedale Array**	**89.33**	**313**	P	**P**	**04 09 48.9**	**-1.1**
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**04 09 50.6**	**+1.3**
	comp=Z,5.7nm,0.9s,baz=201,slow=3.4,SNR=3.0						
QSPA	**South Pole Qui**	**89.35**	**180**	P	**P**	**04 09 50.6**	**+1.3**
QSPA				IAmb	IAmb	04 09 57.0	
	comp=Z,9.4nm,0.8s						
EGMT	**Eagleton**	**89.61**	**318**	IAms_20	IAms_20	04 52 09.5	
	comp=Z,466nm,20.0s						
YNE	**Yellowstone No**	**89.71**	**315**	P	**P**	**04 09 51.4**	**-0.3**
LOHW	**Long Hollow**	**90.11**	**313**	P	**P**	**04 09 53.0**	**-0.5**
FLWY	**Flagg Ranch**	**90.19**	**314**	P	**P**	**04 09 52.9**	**-1.0**
FLWY				IAms_20	IAms_20	04 44 11.1	
	comp=Z,590nm,22.0s						
REDW	**Red Top Meadow**	**90.29**	**313**	P	**P**	**04 09 53.9**	**-0.5**
REDW				IAmb	IAmb	04 10 11.9	
	comp=Z,20nm,1.7s						
YHH	**Holmes Hill**	**90.31**	**315**	P	**P**	**04 09 54.0**	**-0.6**
IMW	**Indian Meadow**	**90.36**	**314**	P	**P**	**04 09 53.8**	**-1.0**
TPAW	**Teton Pass**	**90.36**	**313**	P	**P**	**04 09 54.1**	**-0.7**
TPAW				IAmb	IAmb	04 09 56.0	
	comp=Z,5.6nm,0.7s						
WUAZ	**Wupatki**	**90.61**	**305**	IAms_20	IAms_20	04 46 02.1	
	comp=Z,430nm,20.0s						
X16A	**Lo Mia Camp, P**	**90.66**	**304**	IAms_20	IAms_20	04 46 52.4	
	comp=Z,471nm,21.0s						
GAR	**Garm**	**91.58**	**51**	P	**P**	**04 10 00.5**	**+0.1**
DUG	**Dugway, Tooele**	**91.75**	**310**	IAms_20	IAms_20	04 45 32.8	
	comp=Z,615nm,22.0s						
Y14A	**Wickenburg**	**91.96**	**304**	IAms_20	IAms_20	04 45 50.8	
	comp=Z,399nm,21.0s						
BCYI	**Bear Canyon**	**92.13**	**314**	P	**P**	**04 10 02.9**	**-0.1**
YKA	**Yellowknife Ar**	**92.25**	**332**	P	**P**	**04 10 02.4**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=107,slow=4.5,SNR=3.9						
YKA				LR	LR	04 49 14.2	
	comp=Z,1μm,18.5s,baz=0.0,slow=34						
YKA	**Yellowknife Ar**	**92.25**	**332**	*i* P	**P**	**04 10 04.0**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JTMT	**Jette**	**92.66**	**318**	IAms_20	IAms_20	04 54 18.1	
	comp=Z,495nm,19.0s						
PRN	**Pahroc Range**	**93.56**	**307**	IAms_20	IAms_20	04 46 55.8	
	comp=Z,536nm,18.0s						
ELK	**Elko**	**93.59**	**311**	P	**P**	**04 10 09.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=24,slow=6.9,SNR=4.2						
ELK	**Elko**	**93.59**	**311**	IAms_20	IAms_20	04 48 17.3	
	comp=Z,562nm,19.0s						
R11A	**Troy Canyon, C**	**93.95**	**308**	IAms_20	IAms_20	04 52 46.0	
	comp=Z,375nm,18.0s						
NIL	**Nilore**	**94.05**	**56**	IAms_20	IAms_20	04 56 48.2	
	comp=Z,500nm,18.0s						
TPNV	**Topopah Spring**	**94.53**	**307**	IAms_20	IAms_20	04 52 29.6	
	comp=Z,375nm,19.0s						
AAK	**Ala-Archa**	**94.64**	**47⇑**	*i* P	**P**	**04 10 15.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,28nm,1.9s						
F10A	**Beach Ranch, E**	**94.76**	**316**	IAms_20	IAms_20	04 48 33.0	
	comp=Z,532nm,20.0s						
BMO	**Blue Mountains**	**94.89**	**315**	P	**P**	**04 10 14.6**	**-0.9**
BMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BMO				MLR	MLR		
	comp=Z,600nm,18.0s						
BMO	**Blue Mountains**	**94.89**	**315**	P	**P**	**04 10 14.6**	**-0.9**
TKX	**Tecate**	**95.01**	**302**	P	**P**	**04 10 14.5**	**-1.7**
C36M	**Paulatuk**	**95.23**	**340**	IAms_20	IAms_20	04 45 02.8	
	comp=Z,524nm,20.0s						
TJX	**Tijuana**	**95.39**	**302**	IAms_20	IAms_20	04 53 44.7	
	comp=Z,579nm,21.0s						
BOOM	**Boomskoye usch**	**95.71**	**48**	IAms_20	IAms_20	04 52 15.7	
	comp=Z,369nm,19.0s						
D08A	**Wollman Farm,**	**95.84**	**317**	IAms_20	IAms_20	04 53 46.5	
	comp=Z,569nm,19.0s						
KVN	**Kaiserville**	**95.87**	**309**	IAms_20	IAms_20	04 48 27.0	
	comp=Z,574nm,19.0s						
KSH	**Kashi**	**95.95**	**51**	P	**P**	**04 10 19.0**	**-1.4**
B08A	**Colville Reser**	**96.00**	**318**	IAms_20	IAms_20	04 49 03.5	
	comp=Z,536nm,21.0s						
G08A	**Pilot Rock**	**96.03**	**315**	IAms_20	IAms_20	04 49 53.5	
	comp=Z,540nm,20.0s						
NVAR	**Mina Array Bea**	**96.07**	**308**	P	**P**	**04 10 23.4**	**+2.3**
	comp=Z,0.2nm,0.6s,baz=96,slow=8.3,SNR=1.9						
NVAR				LR	LR	04 50 18.9	
	comp=Z,195nm,19.5s,baz=99,slow=33						
I07A	**Izee**	**96.53**	**314**	IAms_20	IAms_20	04 48 03.8	
	comp=Z,564nm,22.0s						
E07A	**Sunnyside**	**96.53**	**317**	IAms_20	IAms_20	04 50 12.7	
	comp=Z,511nm,20.0s						
KURBB	**Kurchatov Arra**	**96.69**	**39**	P	**P**	**04 10 25.3**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=274,slow=3.6,SNR=2.8						
KURK	**Kurchatov**	**96.74**	**39**	P	**P**	**04 10 25.3**	**+1.7**
YERR	**Yerington**	**96.77**	**309**	IAms_20	IAms_20	04 48 55.6	
	comp=Z,562nm,20.0s						
LTY	**Liberty**	**97.01**	**317**	IAms_20	IAms_20	04 51 45.3	
	comp=Z,444nm,19.0s						
NRIK	**Noril'sk**	**97.21**	**20**	LR	LR	04 56 47.3	
	comp=Z,244nm,20.0s,baz=295,slow=37						
PRZ	**Przheval'sk**	**97.52**	**47**	IAms_20	IAms_20	04 51 55.5	
	comp=Z,409nm,22.0s						
BEKR	**Beckworth**	**97.55**	**310**	IAms_20	IAms_20	04 48 32.3	
	comp=Z,560nm,22.0s						
LON	**Longmire**	**97.85**	**317**	IAms_20	IAms_20	04 47 39.5	
	comp=Z,520nm,22.0s						
D05A	**Enumclaw**	**97.91**	**317**	IAms_20	IAms_20	04 53 51.2	
	comp=Z,440nm,19.0s						
AFDM	**Forest Hills D**	**98.11**	**309**	IAms_20	IAms_20	04 51 16.2	
	comp=Z,490nm,20.0s						
ORV	**Oroville**	**98.46**	**310**	IAms_20	IAms_20	04 51 05.3	
	comp=Z,524nm,20.0s						
PGC	**Sidney**	**98.68**	**319**	IAms_20	IAms_20	04 54 22.3	
	comp=Z,541nm,19.0s						
INK	**Inuvik**	**98.82**	**340**	IAms_20	IAms_20	04 47 19.6	
	comp=Z,552nm,21.0s						
WDC	**Whiskeytown Da**	**99.14**	**311**	IAms_20	IAms_20	04 52 03.2	
	comp=Z,556nm,20.0s						
MAKZ	**Makanchi**	**99.49**	**43**	IAms_20	IAms_20	04 58 07.1	
	comp=Z,412nm,20.0s						
MKAR	**Makanchi Array**	**99.71**	**43**	PP	**PP**	**04 14 36.6**	**-4.6**
	comp=Z,1.2nm,0.9s,baz=280,slow=3.8,SNR=3.2						
MKAR				LR	LR	05 02 09.4	
	comp=Z,230nm,18.1s,baz=272,slow=39						
ZALV	**Zalesovo Beam**	**99.94**	**35**	LR	LR	05 00 28.5	
	comp=Z,224nm,18.0s,baz=298,slow=38						
EPYK	**Eagle Plains**	**100.69**	**338**	IAms_20	IAms_20	04 50 47.3	
	comp=Z,547nm,21.0s						
FYU	**Fort Yukon**	**103.63**	**340**	IAms_20	IAms_20	04 55 26.9	
	comp=Z,531nm,21.0s						
TOLK	**Toolik Lake Re**	**103.85**	**343**	IAms_20	IAms_20	04 54 07.5	
	comp=Z,387nm,21.0s						
PRP	**Porcupine Dome**	**104.29**	**339**	IAms_20	IAms_20	04 50 51.2	
	comp=Z,505nm,20.0s						
SCRK	**Sand Creek**	**104.51**	**337**	IAms_20	IAms_20	04 58 10.2	
	comp=Z,454nm,20.0s						
RIDG	**Independent Ri**	**104.96**	**337**	IAms_20	IAms_20	04 53 39.1	
	comp=Z,524nm,21.0s						
COLA	**College**	**105.46**	**339**	IAms_20	IAms_20	04 53 49.4	
	comp=Z,456nm,20.0s						
TCOL	**CIGO, UAF Yank**	**105.47**	**339**	IAms_20	IAms_20	04 53 50.4	
	comp=Z,495nm,21.0s						
MDM	**Murphy Dome**	**105.55**	**339**	IAms_20	IAms_20	04 54 35.5	
	comp=Z,504nm,21.0s						
CCB	**Clear Creek Bu**	**105.57**	**339**	IAms_20	IAms_20	04 56 41.2	
	comp=Z,480nm,19.0s						
M24K	**Tolsona, Glenn**	**106.33**	**336**	IAms_20	IAms_20	04 56 13.2	
	comp=Z,490nm,20.0s						
MLY	**Manley**	**106.38**	**340**	IAms_20	IAms_20	04 54 54.4	
	comp=Z,513nm,22.0s						
BPAW	**Bear Paw Mtn.**	**107.02**	**339**	IAms_20	IAms_20	04 57 35.4	
	comp=Z,466nm,20.0s						
CUT	**Chulitna**	**107.76**	**338**	IAms_20	IAms_20	04 56 45.0	
	comp=Z,404nm,20.0s						
SKT	**Skwentna**	**108.49**	**338**	IAms_20	IAms_20	04 56 58.3	
	comp=Z,455nm,22.0s						
SUA	**Susitna One**	**108.49**	**337**	IAms_20	IAms_20	04 56 40.5	
	comp=Z,458nm,21.0s						
LSA	**Lhasa**	**109.64**	**59**	IAms_20	IAms_20	05 03 00.2	
	comp=Z,285nm,20.0s						
TNA	**Tin City**	**111.07**	**346**	IAms_20	IAms_20	05 02 03.2	
	comp=Z,308nm,20.0s						
BILL	**Bilibino**	**112.62**	**357**	IAms_20	IAms_20	04 58 03.1	
	comp=Z,367nm,19.0s						
ULN	**Ulaanbaatar**	**115.18**	**36**	IAms_20	IAms_20	05 07 41.3	
	comp=Z,349nm,21.0s						
LZH	**Lanzhou**	**118.14**	**49**	PKP	**PKPdf**	**04 15 35.5**	**-5.3**
LZH				LR	LR		
	comp=Z,440nm,17.8s						
LZH				LR	LR		
	comp=Z,280nm,17.9s						
LZH				LR	LR		
	comp=Z,300nm,18.5s						
TAOE	**Nuku Hiva Isla**	**118.52**	**260**	*e*LR	LR	04 51 48.1	
	comp=Z,247nm,22.5s						
CD2	**Chengdu**	**119.87**	**54**	PKP	**PKiKP**	**04 15 44.3**	**+0.1**
CD2				PP	**PP**	**04 17 07.8**	**+0.2**
CD2				AMB	AMB		
	comp=Z,100nm,6.1s						
CD2				LR	LR		
	comp=Z,300nm,19.1s						
CD2				LR	LR		
	comp=Z,240nm,14.2s						
CD2				LR	LR		
	comp=Z,310nm,16.7s						
KMI	**Kunming**	**120.69**	**61**	PKP	**PKPdf**	**04 15 45.4**	**-0.7**
HIA	**Hailar**	**121.17**	**29**	IAms_20	IAms_20	05 16 07.6	
	comp=Z,330nm,18.0s						
HHC	**Hu-ho-hao-te**	**121.50**	**41**	*e*PKP	**PKPdf**	**04 15 44.3**	**-2.8**
XAN	**Xi'an**	**122.77**	**49**	PKP	**PKPdf**	**04 15 43.3**	**-6.3**
XAN				sPKP		04 15 55.8	
XAN				PP	**PP**	**04 17 28.1**	**+0.9**
XAN	**Xi'an**	**122.77**	**49**	SS	SS	04 34 17.3	+7.0
XAN				LR	LR		
	comp=N,210nm,24.9s						
XAN				LR	LR		
	comp=E,270nm,23.9s						
XAN				LR	LR		
	comp=Z,410nm,19.5s						
TBI	**Tubuai**	**124.40**	**241**	*e*LR	LR	04 54 32.5	
	comp=Z,444nm,28.0s						
BJT	**Baijiatuau**	**124.92**	**39**	IAms_20	IAms_20	05 14 45.4	
	comp=Z,319nm,19.0s						
PPT2	**Papeete2**	**126.10**	**248**	*e*LR	LR	04 55 25.8	
	comp=Z,440nm,25.2s						
MDJ	**Mudanjiang**	**129.18**	**27**	IAms_20	IAms_20	05 24 52.1	
	comp=Z,257nm,18.0s						
USA0B	**Ussuriysk Arra**	**130.56**	**25**	IAms_20	IAms_20	05 25 59.5	
	comp=Z,238nm,19.0s						
NJ2	**Nanjing**	**131.07**	**46**	*e*PKP	**PKPdf**	**04 16 05.3**	**-0.1**
YSS	**Yuzh-Sakhalins**	**131.85**	**15**	IAms_20	IAms_20	05 18 49.5	
	comp=Z,324nm,20.0s						
JKA	**Kamikawa-asahi**	**134.43**	**16**	IAms_20	IAms_20	05 20 50.9	
	comp=Z,233nm,20.0s						
ERM	**Erimo**	**136.53**	**17**	IAms_20	IAms_20	05 26 01.4	
	comp=Z,228nm,19.0s						
MJB9	**Matsu-Tunnel**	**139.54**	**26**	IAms_20	IAms_20	05 07 29.4	
	comp=Z,274nm,18.0s						
KAPI	**Kappang**	**140.51**	**99**	IAms_20	IAms_20	05 13 18.2	
	comp=Z,234nm,20.0s						
STKA	**Stephens Creek**	**143.68**	**155**	PKP	**PKPdf**	**04 16 29.4**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=138,slow=6.6,SNR=5.6						
ASAR	**Alice Springs**	**145.71**	**137**	PKPbc	**PKPdf**	**04 16 32.1**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=220,slow=2.3,SNR=22						
ASAR	**Alice Springs**	**145.71**	**137**		**PKPdf**	**04 16 30.6**	**-1.9**
AS31	**Alice Springs**	**145.71**	**137**		**PKPdf**	**04 16 32.2**	**-0.3**
KNRA	**Kununurra**	**146.09**	**120**	PKPdf	**PKPdf**	**04 16 33.3**	**+0.1**
WRA	**Warramunga Arr**	**148.38**	**132**	PKPbc	**PKPbc**	**04 16 39.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=238,slow=2.1,SNR=14						
WB2	**Warramunga Arr**	**148.39**	**132**	PKPab	**PKiKP**	**04 16 41.8**	**-0.3**
WR0	**Warramunga Arr**	**148.52**	**132**	PKPdf	**PKPdf**	**04 16 36.7**	**-0.5**
DZM	**Mont Dzumac**	**156.17**	**198**	*e*LR	LR	05 09 05.2	
	comp=Z,618nm,35.0s						

*IDC **23** 04:02:09.1±0.7, 60°.05S×26°.92W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4. 1/21, mbtmp4.3/8, ML4.8/1, MS3.7/2, Ms1 3.7/2, ms1mx3.4/16, Error ellipse: s-maj=28.5km s-min=19.8km az=68.0*

*NEIC **23** 04:02:18.3±1.0, 60°.2S±0°.1×27°.2W±0°.3, h68km±7km, mb4.5/26, Error ellipse: s-maj=20.2km s-min=14.8km az=49.0*

ISC 23 04:02:14.0±0.6, 60°.22S±0°.08×26°.8W±0°.1, h34km, n49, σ1ŝ73/50, mb4.4/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.91**	**152**	P	**Pn**	**04 05 16.7**	**+2.1**
VNA1				S	**Sn**	**04 07 35.6**	**-1.3**
VNA3	**Neumayer Olymp**	**13.03**	**155**	P	**Pn**	**04 05 17.0**	**+0.6**
VNA3				S	**Sn**	**04 07 34.9**	**-5.0**
VNA2	**Neumayer--Watz**	**13.31**	**152**	P	**Pn**	**04 05 20.9**	**+0.8**
	baz=310,slow=15						
VNA2				S	**Sn**	**04 07 42.4**	**-4.2**
SNAA	**Sanae**	**14.91**	**150**	P	**Pn**	**04 05 43.6**	**+1.7**
SNAA				S	**Sn**	**04 08 22.2**	**-3.4**
SNAA	**Sanae**	**14.91**	**150**	Pn	**Pn**	**04 05 43.6**	**+1.7**
	4.4nm,0.3s,baz=315,slow=13,SNR=49						
SNAA				LR	LR	04 10 17.6	
	comp=Z,123nm,21.2s,baz=42,slow=32						
SNAA	**Sanae**	**14.91**	**150**		**Pn**	**04 05 43.2**	**+1.3**
SNAA				IAmb	IAmb	04 05 46.0	
	comp=Z,14nm,0.4s						
PMSA	**Palmer Station**	**17.61**	**239**	P	**P**	**04 06 21.1**	**+4.1**
	comp=Z,1.5nm,0.3s,baz=81,slow=9.8,SNR=17						
PMSA	**Palmer Station**	**17.61**	**239**	P	**P**	**04 06 17.4**	**+0.4**
PMSA				IAmb	IAmb	04 06 20.2	
	comp=Z,38nm,1.5s						
USHA	**Ushuaia**	**22.70**	**265**	P	**P**	**04 07 11.6**	**-0.8**
	comp=Z,10nm,0.4s,baz=42,slow=6.6,SNR=1.8						
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**04 08 21.4**	**+2.2**
	comp=Z,1.7nm,0.5s,baz=197,slow=1.0,SNR=23						
QSPA	**South Pole Qui**	**30.02**	**180**	P	**P**	**04 08 21.1**	**+1.9**
TRQA	**Tornquist**	**31.36**	**299**	P	**P**	**04 08 30.2**	**-1.0**
PLCA	**Paso Flores**	**33.16**	**286**	P	**P**	**04 08 45.9**	**-1.1**
PLTB	**Pedras Altas**	**33.56**	**316**	P	**P**	**04 08 49.8**	**-0.6**
PLTB				IAmb	IAmb	04 08 55.0	
	comp=Z,5.9nm,0.9s						
BO02	**Sierra Bellavi**	**38.03**	**292**	P	**P**	**04 09 28.0**	**-0.9**
BO02				IAmb	IAmb	04 09 31.8	
	comp=Z,13nm,1.4s						
GO05	**Huala**	**38.39**	**290**	P	**P**	**04 09 30.2**	**-1.5**
GO05				IAmb	IAmb	04 09 32.0	
	comp=Z,18nm,1.3s						
MT09	**Talagante**	**38.97**	**293**	P	**P**	**04 09 35.0**	**-1.7**
MT09				IAmb	IAmb	04 09 40.3	
	comp=Z,24nm,1.5s						
MT03	**Universidad Ad**	**38.98**	**293**	P	**P**	**04 09 35.1**	**-1.8**
MT03				IAmb	IAmb	04 09 45.6	
	comp=Z,11nm,1.1s						
VA03	**San Esteban**	**39.61**	**294**	P	**P**	**04 09 41.0**	**-1.1**
VA03				IAmb	IAmb	04 09 54.9	
	comp=Z,7.5nm,1.0s						
CPUP	**Villa Florida**	**39.82**	**315**	P	**P**	**04 09 43.3**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=169,slow=10,SNR=1.7						
CPUP	**Villa Florida**	**39.82**	**315**	P	**P**	**04 09 43.2**	**-0.6**
CPUP				IAmb	IAmb	04 09 49.8	
	comp=Z,7.9nm,1.4s						
CO03	**El Pedregal**	**41.30**	**295**	P	**P**	**04 09 55.7**	**-0.4**
CO03				IAmb	IAmb	04 10 07.4	
	comp=Z,8.3nm,1.2s						
VNDA	**Vanda**	**42.41**	**183**	P	**P**	**04 10 07.0**	**+2.6**
	comp=Z,1.0nm,0.7s,baz=201,slow=5.6,SNR=5.2						
VNDA	**Vanda**	**42.41**	**183**	P	**P**	**04 10 05.7**	**+1.3**
AC04	**Llanos de Chal**	**43.72**	**297**	P	**P**	**04 10 14.7**	**-0.9**
AC02	**Maricunga**	**44.05**	**300**	P	**P**	**04 10 17.9**	**-1.0**
GO02	**Mina Guanaco**	**45.72**	**301**	P	**P**	**04 10 30.0**	**-1.9**
GO02				IAmb	IAmb	04 10 31.2	
	comp=Z,6.4nm,0.8s						
SHEL	**Horse Pasture**	**46.77**	**28**	P	**P**	**04 10 41.0**	**+1.1**
BDFB	**Brasilia**	**47.12**	**332**	LR	LR	04 26 50.6	
	comp=Z,232nm,21.7s,baz=1.8,slow=32						
PB07	**IPOC Station P**	**48.87**	**302**	P	**P**	**04 10 54.8**	**-1.5**
PB01	**IPOC Station P**	**49.31**	**303**	P	**P**	**04 10 58.8**	**-0.8**
PSGCX	**Pisagua**	**50.87**	**303**	P	**P**	**04 11 10.1**	**-1.4**
MNMC	**Minye Minye**	**51.06**	**304**	P	**P**	**04 11 12.0**	**-1.1**
LPAZ	**La Paz**	**53.03**	**307**	P	**P**	**04 11 27.4**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=206,slow=4.0,SNR=12						
LPAZ	**La Paz**	**53.03**	**307**	P	**P**	**04 11 26.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.61**	**29**	P	**P**	**04 14 01.7**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=199,slow=6.1,SNR=26						
TORD	**Torodi Ar. Bea**	**76.61**	**29**	P	**P**	**04 14 01.5**	**+0.7**
TORD				IAmb	IAmb	04 14 15.1	
	comp=Z,2.2nm,0.7s						
ASAR	**Alice Springs**	**94.94**	**162**	P	**P**	**04 15 32.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=184,slow=4.1,SNR=6.6						
PDAR	**Pinedale Array**	**122.69**	**300**	PKP	**PKPdf**	**04 21 03.4**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=122,slow=3.4,SNR=2.2						
NVAR	**Mina Array Bea**	**123.15**	**290**	PKP	**PKiKP**	**04 21 06.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=142,slow=4.5,SNR=2.5						
NVAR	**Mina Array Bea**	**123.15**	**290**		**PKiKP**	**04 21 06.6**	**0.0**
CMAR	**Chiang Mai Arr**	**123.32**	**113**	PKP	**PKiKP**	**04 21 07.4**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=238,slow=2.9,SNR=1.8						
FINES	**FINESS Array B**	**127.96**	**29**	PKP	**PKPdf**	**04 21 14.2**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=159,slow=4.2,SNR=1.1						
ZALV	**Zalesovo Beam**	**143.85**	**69**	PKP	PKPbc	04 21 41.8	-0.2
	comp=Z,2.0nm,0.4s,baz=273,slow=3.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**143.85**	**69**		PKPbc	04 21 42.0	0.0
SONM	**Songino Array**	**150.51**	**94**	PKPbc	**PKiKP**	**04 22 01.7**	**0.0**
	comp=Z,2.7nm,0.5s,baz=212,slow=3.1,SNR=18						
KSRS	**Korea Array**	**152.11**	**133**	PKPbc	**PKiKP**	**04 22 06.2**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=132,slow=3.4,SNR=4.2						
ILAR	**Eielson Array**	**152.90**	**306**	PKPbc	**PKPbc**	**04 22 04.7**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=147,slow=3.6,SNR=8.3						
ILAR	**Eielson Array**	**152.90**	**306**		**PKPbc**	**04 22 04.6**	**-1.2**

*IDC **23** 04:07:45.5±21.0, 12°.81N×50°.85E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.4/48, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx3.1/28, Error ellipse: s-maj=715.9km s-min=35.5km az=152.0*

*NEIC **23** 04:07:48.4±1.9, 12°.8N±0°.2×50°.79E±0°.08, h15km±5km, mb4.5/6, Error ellipse: s-maj=31.3km s-min=10.7km az=180.0*

ISC 23 04:07:46.5±0.9, 12°.7N±0°.2×50°.81E±0°.10, h10km, n16, σ0ŝ88/15, mb4.2/7, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**3.15**	**99**	Pn	**Pn**	**04 08 36.0**	**-0.3**
ATD	**Arta Tunnel**	**7.88**	**262**	Pn	**Pn**	**04 09 40.5**	**-0.8**
MMAI	**Mount Meron Ar**	**24.63**	**328**	LR	LR	04 23 36.2	
	comp=Z,159nm,18.3s,baz=350,slow=39						
MK31

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.11**	**274**	P	Pn	04 55 11.4	+1.0
MIYJ				eS	Sn	04 55 36.4	+0.9
JTH	**Tanohata**	**2.12**	**284**	P	Pn	04 55 11.6	+1.1
OFUJ	**Ofunato**	**2.27**	**261**	P	Pn	04 55 13.2	+0.7
OFUJ				eS	Sn	04 55 39.4	+0.1
JKEN	**Kujiedanarisaw**	**2.31**	**289**	P	Pn	04 55 13.9	+0.9
JKEN				eS	Sn	04 55 40.8	+0.6
JANG	**Nango**	**2.50**	**292**	P	Pn	04 55 16.6	+0.9
JOM	**Ohasama**	**2.52**	**271**	P	Pn	04 55 17.4	+1.4
JOM				S	Sn	04 55 47.3	+1.8
JMK	**Ichinoseki**	**2.64**	**260**	P	Pn	04 55 18.5	+0.9
JMK				eS	Sn	04 55 48.6	+0.3
JNBK	**Urakawa-nobuka**	**3.12**	**335**	P	Pn	04 55 25.8	+1.6
JNBK				eS	Sn	04 56 02.2	+2.0
JCH	**Churui**	**3.27**	**344**	P	Pn	04 55 27.0	+0.8
JCH				S	Sn	04 56 04.2	+0.4
JOT	**Ohata**	**3.29**	**307**	P	Pn	04 55 28.1	+1.7
JOT				eS	Sn	04 56 05.6	+1.4
JAK	**Akkeshi**	**3.52**	**2**	P	Pn	04 55 29.8	+0.1
JAK				eS	Sn	04 56 09.2	-0.9
JKB	**Kayabe**	**3.60**	**313**	P	Pn	04 55 32.5	+1.7
JKB				eS	Sn	04 56 13.3	+1.3
JFT	**Otama**	**3.84**	**241**	P	Pn	04 55 34.2	+0.2
JFT				eS	Sn	04 56 16.6	-1.3
NEM2	**Nemuro 2**	**3.99**	**13**	P	Pn	04 55 35.2	-0.9
NEM2				eS	Sn	04 56 17.8	-3.8
JTKR	**Abashiri--Toko**	**4.52**	**354**	S	Sn	04 56 34.6	0.0
JOSM	**Okushiri--Mats**	**4.65**	**306**	P	Pn	04 55 47.2	+2.0
JOSM				eS	Sn	04 56 37.9	0.0
JRY	**Ryogami san**	**5.65**	**234**	P	Pn	04 55 58.5	-0.4
JRY				eS	Sn	04 56 59.1	-3.4

*THE **23** 04:59:35.4, 34°.91N×25°.70E, $h1^{km}\pm2^{km}$, ML2.5/4, Error ellipse: s-maj=3.1km s-min=0.5km az=190.0*
*ATH **23** 04:59:36.3, 34°.95N×25°.72E, $h11^{km}\pm3^{km}$, ML2.7/5, Error ellipse: s-maj=4.3km s-min=1.4km az=353.0*
ISC 23 04:59:36.3±1.1, 34°.98N±0°.07×25°.68E±0°.03, h23$^{km}\pm6^{km}$, n19, σ1§39/30, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.06**	**57**	P	**Pb**	**04 59 39.6**	**-0.7**
FRMA				S	**Sb**	**04 59 42.2**	**-0.8**
	890nm,0.1s						
LAST	**Lasithi**	**0.24**	**318**	P	**Pb**	**04 59 42.2**	**-0.2**
LAST				S	**Sb**	**04 59 47.2**	**+0.7**
	798nm,0.2s						
LAST	**Lasithi**	**0.24**	**318**	P	**Pb**	**04 59 42.1**	**-0.2**
LAST				S	**Sb**	**04 59 47.1**	**+0.7**
LAST				AML	AML	04 59 48.2	
	comp=N,1964μm,0.3s						
LAST				AML	AML	04 59 48.4	
	comp=E,1144μm,0.1s						
NPS	**Neapolis**	**0.28**	**349**	P	**Pb**	**04 59 42.9**	**0.0**
NPS				S	**Sb**	**04 59 48.2**	**+0.8**
	comp=E,2μm,0.2s						
NPS	**Neapolis**	**0.28**	**349**	P	**Pb**	**04 59 42.8**	**0.0**
NPS				S	**Sb**	**04 59 48.2**	**+0.8**
NPS				AML	AML	04 59 48.5	
	comp=N,4206μm,0.2s						
NPS				AML	AML	04 59 48.5	
	comp=E,4277μm,0.2s						
STIA	**Sitia Lasithi**	**0.40**	**57**	P	**Pb**	**04 59 44.1**	**-0.7**
STIA				S	**Sb**	**04 59 51.5**	**+0.9**
ZKR	**Zakros**	**0.46**	**73**	P	**Pb**	**04 59 44.9**	**-0.9**
ZKR				S	**Sb**	**04 59 52.4**	**+0.1**
	comp=E,2μm,0.5s						
ZKR	**Zakros**	**0.46**	**73**	P	**Pb**	**04 59 44.7**	**-1.0**
ZKR				S	**Sb**	**04 59 51.7**	**-0.6**
ZKR				AML	AML	04 59 53.0	
	comp=N,3540μm,0.5s						
ZKR				AML	AML	04 59 53.1	
	comp=E,4950μm,0.5s						
HRKL	**Herakleio**	**0.57**	**305**	P	**Pb**	**04 59 48.2**	**+0.6**
KSTL	**Kastelli Herak**	**0.59**	**303**	P	**Pb**	**04 59 44.2**	**-3.7**
KSTL				S	**Sb**	**04 59 50.9**	**-5.0**
IACM	**Heraklion**	**0.59**	**303**	P	**Pn**	**04 59 49.3**	**0.0**
SIVA	**Sivas**	**0.71**	**273**	P	**Pb**	**04 59 49.9**	**-0.1**
SIVA				S	**Sn**	**05 00 01.7**	**+0.6**
SIVA				AML	AML	05 00 02.8	
	comp=E,2384μm,0.4s						
SIVA				AML	AML	05 00 04.2	
	comp=N,2042μm,0.3s						
IDI	**Anoyia**	**0.71**	**295**	P	**Pb**	**04 59 49.6**	**-0.4**
IDI	**Anoyia**	**0.71**	**295**	P	**Pb**	**04 59 49.8**	**-0.3**
IDI				S	**Sn**	**05 00 01.4**	**+0.1**
IDI				AML	AML	05 00 02.1	
	comp=N,961μm,0.3s						
IDI				AML	AML	05 00 05.6	
	comp=E,575μm,0.3s						
VAM	**Vamos**	**1.28**	**290**	P	**Pb**	**05 00 00.3**	**+0.6**
GVD	**Gavdhos**	**1.31**	**264**	P	**Pb**	**05 00 01.9**	**+1.6**
KARP	**Karpathos**	**1.34**	**65**	P	**Pn**	**05 00 00.2**	**+0.6**
KARP	**Karpathos**	**1.34**	**65**	P	**Pb**	**05 00 00.6**	**-0.1**
SNT5	**Nea Kammeni, S**	**1.44**	**351**	P	**Pb**	**05 00 02.6**	**+0.3**

IDC 23 05:11:51.9±2.2, 6°.51S×130°.20E, h0^{km}, mb4.2/1, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, ML3.7/2, Error ellipse: s-maj=142.2km s-min=30.5km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.95**	**164**	Pn	Pn	05 15 11.0	-0.1
	0.4nm,0.3s,baz=347,slow=13,SNR=22						
WRA				Sn	Sn	05 17 28.3	-19
	0.3nm,0.3s,baz=335,slow=21,SNR=4.1						
ASAR	**Alice Springs**	**17.43**	**169**	P	Pn	05 15 56.8	+0.1
	0.2nm,0.3s,baz=344,slow=10,SNR=12						
ASAR				S	Sn	05 18 57.2	-14
	0.5nm,0.3s,baz=349,slow=28,SNR=8.3						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	05 22 52.6	0.0
	1.1nm,0.5s,baz=119,slow=8.2,SNR=14						

*INET **23** 05:14:05.8, 14°.63N×92°.57W, $h12^{km}$, MW3.6*
*NEIC **23** 05:14:12.4±1.6, 14°.61N±0°.09×92°.70W±0°.03, $h73^{km}\pm9^{km}$, Error ellipse: s-maj=12.9km s-min=3.5km az=175.0*
*SNET **23** 05:14:13.4±0.7, 14°.03N×92°.64W, $h10^{km}$, ML4.2*
*UCR **23** 05:14:13.4±0.7, 14°.03N×92°.64W, $h10^{km}$, ML3.8*
*IDC **23** 05:14:14.8±1.1, 14°.64N×92°.59W, $h68^{km}\pm8^{km}$, mb3.4/4, mb1 3.7/6, mb1mx3.4/31, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/24, Error ellipse: s-maj=65.6km s-min=14.9km az=46.0*
*MEX **23** 05:14:14.1±1.2, 14°.67N×92°.51W, $h82^{km}\pm13^{km}$, MD4.6*
ISC 23 05:14:12.1±0.6, 14°.60N±0°.07×92°.80W±0°.04, h50^{km}, n65, σ1§82/84, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**60**	*eP*	**Pn**	**05 14 25.1**	**+0.5**
THIG				*eS*	**Sn**	**05 14 34.2**	**+0.7**
THIG		**0.60**	**60**		**Pn**	**05 14 25.1**	**+0.5**
THIG					**Sn**	**05 14 34.2**	**+0.7**
HUEH	**Huehuetenango**	**1.44**	**60**	Pn	**Pn**	**05 14 37.4**	**+1.4**
CCIG	**Comitan**	**1.79**	**21**	Pn	**Pn**	**05 14 43.3**	**+2.6**
TGIG		**2.19**	**352**	*eP*	**Pn**	**05 14 47.4**	**+1.3**
TGIG		**2.19**	**352**		**Pn**	**05 14 47.4**	**+1.3**
SLOZ	**Alcaldia de Sa**	**2.98**	**101**	*eP*	**Pn**	**05 14 57.4**	**+0.5**
SLOZ				*eS*	**Sn**	**05 15 32.8**	**+1.3**
SLOZ				IAML		05 15 55.7	
	comp=Z,435nm,0.5s						
MTO3	**Montecristo**	**3.34**	**93**	Pn	**Pn**	**05 15 02.0**	**0.0**
ESQI	**Esquipulas**	**3.35**	**90**	Pn	**Pn**	**05 15 02.1**	**+0.1**
HUIG	**Huatulco**	**3.40**	**290**	*eP*	**Pn**	**05 15 04.7**	**+2.1**
HUIG				*eS*	**Sn**	**05 15 39.0**	**-2.7**
HUIG	**Huatulco**	**3.40**	**290**		**Pn**	**05 15 04.7**	**+2.1**
HUIG					**Sn**	**05 15 39.0**	**-2.7**
LALI	**Alcalda de L**	**3.55**	**108**	*eP*	**Pn**	**05 15 05.1**	**+0.4**
LALI	**Alcalda de L**	**3.55**	**108**	*eP*	**Pn**	**05 15 05.1**	**+0.4**
SNET	**Serv Nac Est T**	**3.58**	**104**	Pn	**Pn**	**05 15 04.3**	**-0.9**
PETF	**Flores**	**3.64**	**50**	Pn	**Pn**	**05 15 04.7**	**-1.3**
SJTE	**Alcalda de S**	**3.81**	**105**	*eP*	**Pn**	**05 15 09.2**	**+0.8**
SJTE				*eS*	**Sn**	**05 15 51.9**	**0.0**
SJTE				IAML		05 16 02.9	
	comp=Z,306nm,0.3s						
SJTE	**Alcalda de S**	**3.81**	**105**	*eP*	**Pn**	**05 15 09.2**	**+0.8**
SJTE				*eS*	**Sn**	**05 15 51.9**	**0.0**
SJTE				IAML		05 16 02.9	
	comp=Z,306nm,0.3s						
PAVA	**Las Pavas**	**3.85**	**103**	*eP*	**Pn**	**05 15 09.3**	**+0.4**
PAVA				IAML		05 16 03.6	
	comp=Z,423nm,0.4s						
PAVA	**Las Pavas**	**3.85**	**103**	*eP*	**Pn**	**05 15 09.3**	**+0.4**
PAVA				IAML		05 16 03.6	
	comp=Z,423nm,0.4s						
COEG	**Centro de Oper**	**3.92**	**104**	*eP*	**Pn**	**05 15 10.4**	**+0.5**
COEG				*eS*	**Sn**	**05 15 55.0**	**+0.2**
COEG				IAML		05 16 09.4	
	comp=Z,764nm,0.4s						
COEG	**Centro de Oper**	**3.92**	**104**	*eP*	**Pn**	**05 15 10.4**	**+0.5**
COEG				*eS*	**Sn**	**05 15 55.0**	**+0.2**
COEG				IAML		05 16 09.4	
	comp=Z,764nm,0.4s						
TECO	**Alcaldia de Te**	**4.04**	**105**	*eP*	**Pn**	**05 15 11.9**	**+0.4**
TECO				*eS*	**Sn**	**05 15 57.3**	**-0.3**
COEB	**Comit de Eme**	**4.29**	**104**	*eP*	**Pn**	**05 15 15.3**	**+0.4**
	comp=Z,364nm,0.4s						
COEB				*eS*	**Sn**	**05 16 03.6**	**-0.1**
COEB				IAML		05 16 15.5	
	comp=Z,364nm,0.4s						
COEB	**Comit de Eme**	**4.29**	**104**	*eP*	**Pn**	**05 15 15.3**	**+0.4**
	comp=Z,364nm,0.4s						
COEB				*eS*	**Sn**	**05 16 03.6**	**-0.1**
COEB				IAML		05 16 15.5	
	comp=Z,364nm,0.4s						
PEIG	**Puerto Escondi**	**4.42**	**289**	*eP*	**Pn**	**05 15 19.3**	**+2.6**
PEIG				*eS*	**Sn**	**05 16 04.0**	**-2.9**
VHO	**Vista Hermosa**	**4.51**	**303**	*eP*	**Pn**	**05 15 22.8**	**+4.7**
VHO				*eS*	**Sn**	**05 16 07.7**	**-1.7**
YOIG	**Yosondua**	**5.09**	**297**	*eP*	**Pn**	**05 15 28.4**	**+2.3**
YOIG				*eS*	**Sn**	**05 16 26.4**	**+2.6**
TGUH	**Tegucigalpa,Un**	**5.38**	**95**	Pn	**Pn**	**05 15 29.4**	**-0.6**
CRIN	**San Cristobal**	**5.90**	**108**	Pn	**Pn**	**05 15 38.6**	**+1.6**
TLIG	**Tlapa**	**6.28**	**299**	Pn	**Pn**	**05 15 46.9**	**+4.6**
CNGN	**Cerro Negro**	**6.29**	**109**	Pn	**Pn**	**05 15 40.2**	**-2.2**
ACON	**Acoyapa**	**7.87**	**109**	Pn	**Pn**	**05 16 02.7**	**-1.3**
HZTE	**Horizontes, Gu**	**8.02**	**118**	Pn	**Pn**	**05 16 04.6**	**-1.5**
ORTG	**Ortega, Santa**	**8.31**	**120**	Pn	**Pn**	**05 16 09.2**	**-1.0**
DUNO	**Dulce Nombre,**	**8.43**	**121**		**Pn**	**05 16 10.3**	**-1.5**
ESPN	**Las Esperanzas**	**8.61**	**105**	Pn	**Pn**	**05 16 12.1**	**-2.0**
JTS	**Las Juntas de**	**8.78**	**118**	P	**Pn**	**05 16 17.4**	**+0.9**
	comp=Z,4.4nm,0.3s,baz=9.2,slow=12,SNR=24						
JTS				S	**Sn**	**05 17 55.6**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=9.0,slow=19,SNR=1.6						
JTS				LR	LR	05 19 26.6	
	comp=Z,97nm,20.3s,baz=4.0,slow=36						
JTS	**Las Juntas de**	**8.78**	**118**	Pn	**Pn**	**05 16 15.1**	**-1.4**
RIMA	**Rio Macho**	**9.97**	**118**	Pn	**Pn**	**05 16 30.8**	**-2.1**
PEZE	**Perez Zeledon,**	**10.32**	**119**	Pn	**Pn**	**05 16 36.3**	**-1.4**
SRBA	**San Rafael, Bu**	**10.66**	**119**	Pn	**Pn**	**05 16 41.0**	**-1.4**
DRK0	**Durika**	**10.75**	**119**	Pn	**Pn**	**05 16 41.9**	**-1.7**
FSCY	**Frank Sound, G**	**12.06**	**66**	Pn	**Pn**	**05 17 00.6**	**-0.7**
SOR	**Soroa**	**12.34**	**47**	Pn	**Pn**	**05 17 02.8**	**-2.3**
061Z	**Ochoppi**	**15.80**	**43**	Pn	**Pn**	**05 17 48.8**	**-2.5**
HPIG		**17.17**	**318**	Pn	**Pn**	**05 18 07.9**	**-0.8**
HPIG				IAmb	IAmb	05 18 13.7	
	comp=Z,5.4nm,0.9s						
TXAR	**Lajitas Array**	**17.77**	**327**	P	**P**	**05 18 19.7**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=6.5						
WHTX	**Lake Whitney,**	**17.82**	**347**	P	**Pn**	**05 18 15.9**	**-0.6**
WHTX				IAmb	IAmb	05 18 39.2	
	comp=Z,7.1nm,0.7s						
WLAR	**White Oak Lake**	**19.00**	**359**	P	**P**	**05 18 27.8**	**-1.9**
WLAR				IAmb	IAmb	05 18 48.5	
	comp=Z,9.9nm,0.9s						
X40A	**Basin Creek Fa**	**19.80**	**360**	P	**P**	**05 18 36.0**	**-2.3**
X40A				IAmb	IAmb	05 19 03.5	
	comp=Z,5.7nm,1.2s						
MIAR	**Mount Ida**	**19.87**	**358**	P	**P**	**05 18 38.0**	**-1.2**
MIAR				IAmb	IAmb	05 18 54.9	
	comp=Z,8.6nm,1.1s						
OXF	**Oxford**	**20.06**	**8**	P	Pn	05 18 44.3	+1.1
OXF				IAmb	IAmb	05 19 01.1	
	comp=Z,14nm,0.8s						
MNTX	**Cornudas Mount**	**20.55**	**328**	P	**P**	**05 18 46.3**	**-0.2**
PLAL	**Pickwick Lake**	**20.73**	**11**	P	**P**	**05 18 45.8**	**-2.7**
FPAL	**Fort Paine**	**20.89**	**17**	P	**P**	**05 18 47.7**	**-2.5**
FPAL				IAmb	IAmb	05 19 09.2	
	comp=Z,6.1nm,1.0s						
FCAR	**Ozark Folk Cen**	**21.21**	**2**	P	**P**	**05 18 51.5**	**-2.1**
U49A	**Red Boiling Sp**	**22.70**	**15**	P	**P**	**05 19 07.3**	**-2.3**
ANMO	**Albuquerque**	**23.70**	**331**	P	**P**	**05 19 21.2**	**+1.6**
	comp=Z,0.6nm,0.4s,baz=170,slow=6.1,SNR=1.9						
ANMO				pP	**sP**	**05 19 36.3**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=145,slow=11,SNR=3.3						
N38A	**Joes South For**	**26.10**	**359**	P	**P**	**05 19 37.8**	**-3.3**
S57A	**Dark Hollow, R**	**26.13**	**26**	P	**P**	**05 19 38.5**	**-3.0**
GLA	**Glamis**	**27.16**	**316**	P	**P**	**05 19 52.9**	**+2.0**
NVAR	**Mina Array Bea**	**32.72**	**321**	P	**P**	**05 20 43.6**	**+3.3**
	comp=Z,0.8nm,0.7s,baz=129,slow=8.3,SNR=8.9						
NVAR				pP	**sP**	**05 20 59.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=130,slow=8.1,SNR=6.1						
LPAZ	**La Paz**	**39.19**	**141**	P	**P**	**05 21 35.7**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=313,slow=7.1,SNR=5.0						
ILAR	**Eielson Array**	**61.98**	**337**	P	**P**	**05 24 26.7**	**0.0**
	comp=Z,1.0nm,1.0s,baz=128,slow=5.3,SNR=7.2						
ILAR				pP	**pP**	**05 24 44.4**	**+3.7**
	comp=Z,0.9nm,0.9s,baz=129,slow=4.4,SNR=5.9						
WRA	**Warramunga Arr**	**134.79**	**256**	PKP	**PKPdf**	**05 33 25.9**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=87,slow=2.2,SNR=6.5						
WRA				pPKP	**sPKPdf**	**05 33 46.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=89,slow=2.5,SNR=2.9						

DJA 23 05:34:58.2±0.5, 5°.5S×12°.9E±°, h266$^{km}\pm6^{km}$, M4.2/8, mb4.3/1, MLv4.1/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.79**	**66**	P	Pn	05 35 33.3	-0.7
BNDI				S	S	05 36 03.5	+1.4
NLAI	**Namlea**	**2.62**	**308**	P	Pn	05 35 47.4	-0.4
NLAI				S	S	05 36 28.4	+1.2
FAKI	**Fak Fak**	**3.61**	**58**	P	Pn	05 35 58.4	0.0
SAUI	**Saumlaki**	**3.76**	**146**	P	Pn	05 36 00.4	+0.4
SWI	**Sorong**	**4.47**	**28**	P	Pn	05 36 08.1	-0.2
KMPI	**Kaimana, Papua**	**4.66**	**76**	P	Pn	05 36 10.9	+0.4
SOEI	**Soe**	**6.89**	**225**	P	Pn	05 36 37.8	-0.1

IDC 23 06:15:00.1±3.7, 30°.32S×138°.44E, h0^{km}, mb1 3.0/3, mb1mx3.0/24, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=97.4km s-min=16.0km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**121**	Pn	Pn	06 15 50.6	+0.1
	0.2nm,0.3s,baz=298,slow=13,SNR=1.6						
STKA				Pg	Pb	06 15 57.4	+1.0
	0.6nm,0.3s,baz=294,slow=14,SNR=3.9						
STKA				Sn	Sn	06 16 27.9	-0.7
	2.5nm,0.3s,baz=205,slow=14,SNR=6.3						
STKA				Lg	Lg	06 16 39.2	
	3.8nm,0.3s,baz=33,slow=24,SNR=8.2						
ASAR	**Alice Springs**	**7.77**	**328**	Pn	Pn	06 16 55.0	+0.5
	0.1nm,0.3s,baz=152,slow=12,SNR=6.3						
ASAR				Sn	Sn	06 18 22.9	-0.3
	0.1nm,0.3s,baz=152,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**10.98**	**339**	Pn	Pn	06 17 38.4	-0.2
	0.1nm,0.3s,baz=154,slow=13,SNR=9.6						

*TRN **23** 06:26:08.7, 13°.79N×58°.58W, $h120^{km}$, MD3.5*
ISC 23 06:26:10.7±2.9, 13°.99N±0°.06×58°.7W±0°.2, h10^{km}, n15, σ0§89/22, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.20**	**226**	*eP*	**Pn**	**06 26 33.1**	**-0.5**
BBGH				*eS*	**Sn**	**06 26 51.6**	**+1.7**
MPOM	**Morne Pois Mar**	**2.16**	**282**	*eP*	**Pn**	**06 26 46.3**	**-0.5**
MPOM				*eS*	**Sn**	**06 27 15.1**	**+1.4**
MCLT	**Moule a Chique**	**2.21**	**263**	*eS*	**Sn**	**06 27 15.0**	**0.0**
SLBI	**Saint Lucia, B**	**2.23**	**271**	*eP*	**Pn**	**06 26 47.6**	**-0.1**
SLBI				*eS*	**Sn**	**06 27 15.6**	**+0.3**
ILAM	**Ilet Lapin Mar**	**2.27**	**290**	*eS*	**Sn**	**06 27 18.1**	**+1.9**
BIM	**Bigot**	**2.38**	**283**	*eP*	**Pn**	**06 26 49.9**	**+0.1**
BIM				*eS*	**Sn**	**06 27 17.7**	**-1.3**
FDF	**Fort de France**	**2.51**	**287**	*eP*	**Pn**	**06 26 51.9**	**+0.3**
FDF				*eS*	**Sn**	**06 27 21.6**	**-0.6**
SVB	**Belmont**	**2.60**	**254**	*eP*	**Pn**	**06 26 52.3**	**-0.6**
SVB				*eS*	**Sn**	**06 27 23.4**	**-1.2**
DSLB	**Salisbury**	**3.02**	**299**	*eP*	**Pn**	**06 26 58.8**	**+0.1**
MAGL	**Barre de l'ile**	**3.18**	**308**	*eP*	**Pn**	**06 27 00.8**	**-0.1**
MAGL				*eS*	**Sn**	**06 27 39.7**	**+0.9**
ABD	**La Joyeuse, An**	**3.67**	**313**	*eP*	**Pn**	**06 27 07.9**	**+0.4**
ANBD	**Bethesda, Anti**	**4.25**	**316**	*eP*	**Pn**	**06 27 15.6**	**0.0**
ANBD	**Bethesda, Anti**	**4.25**	**316**	*eS*	**Sn**	**06 28 04.4**	**-0.9**
BPA	**Boggy Peak**	**4.32**	**315**	*eP*	**Pn**	**06 27 16.3**	**-0.1**
BPA	**Boggy Peak**	**4.32**	**315**	*eS*	**Sn**	**06 28 06.2**	**-0.7**

*BJI **23** 06:39:12.5±0.0, 54°.78N×168°.89E, $h19^{km}$, mB4.9/33, mb4.8/45, Ms4.5/30, Ms7 4.2/29*
*IDC **23** 06:39:12.2±0.5, 54°.49N×168°.83E, $h0^{km}$, mb4.2/31, mb1 4.4/33, mb1mx4.4/41, mbtmp4.3/33, ML4.1/2, MS3.8/31, Ms1 3.8/31, ms1mx3.7/45, Error ellipse: s-maj=16.6km s-min=9.7km az=160.0*
*KRSC **23** 06:39:12.4±2.4, 54°.16N×168°.74E, $h44^{km}\pm79^{km}$, ML5.2*
*MOS **23** 06:39:15.1±0.9, 54°.35N×168°.81E, $h37^{km}$, mb4.8/62, MS3.7/15, Error ellipse: s-maj=5.0km s-min=4.2km az=31.4*
*GCMT **23** 06:39:15.3±0.3, 54°.54N±0°.04×168°.91E±0°.04, $h16^{km}\pm1^{km}$, MW4.8/79, Moment Tensor Solution. s22,c22; s79,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.69±.18; $M_{\theta\theta}$0.15±.14; $M_{\phi\phi}$1.54±.11; $M_{r\theta}$-0.28±.45; $M_{\theta\phi}$-1.31±.07; $M_{\phi r}$0.16±.31; Best double couple: $M_0$2.04000×10^{16} NP1:ϕ_s338.00000°, δ42.00000°, λ-78.00000°. NP2: ϕ_s141.00000°, δ50.00000°, λ-101.00000°. Principal axes: T 2.3470, Plg4.0000°, Azm239.0000°; N -0.6180, Plg8.0000°, Azm148.0000°; P -1.7330, Plg81.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 06:39:17.3±1.7, 54°.36N±0°.09×169°.0E±0°.1, $h35^{km}\pm4^{km}$, mb4.7/187 Error ellipse: s-maj=13.2km s-min=8.8km az=180.0*
ISC 23 06:39:14.5±0.3, 54°.31N±0°.05×168°.91E±0°.03, h20^{km}, n628, σ1§20/669, mb4.7/176, MS3.9/43, 6C-13D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**3.48**	**115**	PN	**Pn**	**06 40 07.8**	**+0.3**
SMY	**Shemya**	**3.48**	**115**		**Pn**	**06 40 07.8**	**+0.3**
KBTR	**Krutoberegovo**	**3.97**	**301**	PN	**Pn**	**06 40 13.3**	**-0.8**
KBTR	**Krutoberegovo**	**3.97**	**301**	*eP*	**Pn**	**06 40 12.6**	**-1.5**
KBTR				*eS*	**Sn**	**06 41 00.1**	**+0.1**
KBG	**Krutoberegovo**	**4.04**	**301**	PN	**Pn**	**06 40 14.7**	**-0.5**
KBG				S	**Sn**	**06 41 01.4**	**-0.5**
KBG	**Krutoberegovo**	**4.04**	**301**	*eP*	**Pn**	**06 40 13.3**	**-1.9**
KBG				*eS*	**Sn**	**06 41 02.6**	**+0.7**
MKZ	**Mys Kozlova**	**4.20**	**276**	PN	**Pn**	**06 40 16.9**	**-0.4**
MKZ	**Mys Kozlova**	**4.20**	**276**	*eP*	**Pn**	**06 40 16.6**	**-0.7**
MKZ				*eS*	**Sn**	**06 41 01.8**	**-3.8**
SMKR	**Semkarok**	**4.81**	**301**	PN	**Pn**	**06 40 26.7**	**+1.0**
SMKR	**Semkarok**	**4.81**	**301**	*eP*	**Pn**	**06 40 26.1**	**+0.4**
SMKR				*eS*	**Sn**	**06 41 21.5**	**+0.7**
BDR	**Baidarnaya**	**4.93**	**300**	PN	**Pn**	**06 40 29.2**	**+1.8**
BDR	**Baidarnaya**	**4.93**	**300**	*eP*	**Pn**	**06 40 26.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**4.99**	**292**	PN	**Pn**	**06 40 29.9**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**4.99**	**292**	*eP*	**Pn**	**06 40 29.7**	**+1.5**
BZGR				*eS*	**Sn**	**06 41 24.8**	**-0.5**
SRKR	**Sorokina**	**4.99**	**301**	PN	**Pn**	**06 40 29.5**	**+1.3**
SRKR	**Sorokina**	**4.99**	**301**	*eP*	**Pn**	**06 40 29.4**	**+1.3**
TUMD	**Tumrok D**	**5.01**	**284**	*eP*	**Pn**	**06 40 28.5**	**+0.1**
TUMD				*eS*	**Sn**	**06 41 24.4**	**-1.3**
CIRR	**Tsirk**	**5.01**	**294**	PN	**Pn**	**06 40 30.9**	**+2.3**
CIRR	**Tsirk**	**5.01**	**294**	*eP*	**Pn**	**06 40 31.3**	**+2.7**
LGNR	**Loginova**	**5.03**	**294**	PN	**Pn**	**06 40 30.4**	**+1.4**
LGNR	**Loginova**	**5.03**	**294**	*eP*	**Pn**	**06 40 30.6**	**+1.6**
LGNR				*eS*	**Sn**	**06 41 28.1**	**+1.5**
KZV	**Kizimen**	**5.06**	**283**	PN	**Pn**	**06 40 29.6**	**+0.3**
KZV	**Kizimen**	**5.06**	**283**	*eP*	**Pn**	**06 40 29.1**	**-0.2**
KZV				*eS*	**Sn**	**06 41 24.9**	**-2.2**
BZMR	**Bezymyannaya**	**5.10**	**292**	PN	**Pn**	**06 40 32.1**	**+2.3**
BZWR	**Bezymyannyi-We**	**5.10**	**292**	PN	**Pn**	**06 40 32.1**	**+2.2**
BZWR	**

9.4nm,0.3s,baz=75,slow=16,SNR=65
PETK Sn **Sn** **06 42 06.8 -2.1**
4.7nm,0.3s,baz=72,slow=41,SNR=5.0
PETK LR LR 06 43 34.2
comp=Z,1μm,21.0s,baz=84,slow=39
PALN Palana 6.86 318 PN **Pn** **06 40 56.3 +2.5**
KDTR Khodutka, Kamc 6.99 253 PN **Pn** **06 40 54.8 -0.9**
KDTR Khodutka, Kamc 6.99 253 *e*P **Pn** **06 40 54.7 -0.9**
APC Apacha 7.13 264 PN **Pn** **06 40 58.4 +0.9**
APC Apacha 7.13 264 *e*P **Pn** **06 40 58.3 +0.8**
APC *e*S **Sn** **06 42 17.1 -0.7**
MIPR Malaya Ipel'ka 7.56 259 PN **Pn** **06 41 04.5 +1.0**
KMSK Kamenskaya 8.30 351 PN **Pn** **06 41 13.3 -0.2**
SKR Severo-Kuril's 8.61 250 *e*PN **Pn** **06 41 17.3 -0.5**
SKR pmax pmax
comp=Z,55nm,0.7s
SKR MLR MLR
comp=Z,300nm,14.0s
SKR MLR MLR
comp=Z,400nm,13.0s
SKR MLR MLR
comp=N,500nm,14.0s
SKR MLR MLR
comp=E,600nm,13.0s
ALID Alaid 8.83 252 PN **Pn** **06 41 20.8 -0.2**
ADK Adak 9.01 100 PN **Pn** **06 41 22.8 -0.4**
ADK Adak 9.01 100 Pn **Pn** **06 41 22.8 -0.4**
GSTR Great Sitkin T 9.29 98 Pn **Pn** **06 41 26.9 -0.3**
ATKA Atka Island 10.34 95 Pn **Pn** **06 41 41.4 -0.1**
MA2 Magadan 11.20 305 LR LR 06 45 56.9
comp=E,194nm,19.7s,baz=106,slow=37
MA2 Magadan 11.20 305 *e*PN **Pn** **06 41 53.9 +0.6**
MA2 MLR MLR
comp=Z,480nm,14.0s
SPIA Saint Paul Isl 12.08 68 Pn **Pn** **06 42 06.5 +1.2**
SEY Seymchan 12.16 322 Pn **Pn** **06 42 08.5 +2.2**
comp=Z,0.2nm,0.3s,baz=131,slow=13,SNR=18
GAMB Gambell 13.70 39 P **Pn** **06 42 27.7 +0.3**
baz=235
GAMB Gambell 13.70 39 Pn **Pn** **06 42 26.8 -0.5**
BILL Bilibino 13.83 356*d i*P **Pn** **06 42 30.1 +1.0**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,295nm,13.0s
BILL Bilibino 13.83 356 **Pn** **06 42 28.5 -0.7**
OKH Okha 15.29 278*de*P **Pn** **06 42 46.4 -2.5**
OKH *e*S Sn 06 45 26.3 -11
OKH MLR MLR
comp=Z,400nm,13.0s
OKH MLR MLR
comp=E,600nm,13.0s
TNA Tin City 16.05 36 P **Pn** **06 42 59.2 +0.5**
baz=236
TNA Tin City 16.05 36 Pn **Pn** **06 42 57.2 -1.6**
TYV Tymovskoe 16.28 269 *e*P **P** **06 43 05.5 +0.9**
TYV pmax pmax
comp=Z,12nm,0.8s
TYV pmax pmax
comp=Z,300nm,3.2s
KUR Kuril'sk 16.29 245 *i* P **Pn** **06 43 02.6 +0.7**
ANM Nome 16.49 41 P **Pn** **06 43 02.8 -1.5**
ANM pmax pmax
comp=Z,107nm,1.6s
ANM Nome 16.49 41 Pn **Pn** **06 43 02.8 -1.5**
ANM IAmb IAmb 06 43 17.7
comp=Z,107nm,1.6s
NKL Nikolayevsk 16.70 278 *e*P **Pn** **06 43 07.7 +0.7**
NKL *e*S **Sn** **06 46 13.3 +1.6**
NKL pmax pmax
comp=N,463nm,0.7s
NKL pmax pmax
comp=Z,55nm,1.4s
NKL pmax pmax
comp=E,20nm,1.3s
NKL smax smax
comp=E,29nm,3.7s
NKL smax smax
comp=N,1μm,2.8s
NKL MLR MLR
comp=N,12μm,16.0s
NKL MLR MLR
comp=E,548nm,16.0s
NKL MLR MLR
comp=Z,336nm,19.0s
UGL Uglegorsk 17.39 263 *e*P **P** **06 43 18.9 +2.1**
UGL *e*S **Sn** **06 46 28.0 -0.4**
UGL pmax pmax
comp=Z,76nm,0.7s
UGL pmax pmax
comp=Z,320nm,2.0s
UGL smax smax
comp=E,590nm,6.0s
SDPT Sand Point 17.60 74 P **P** **06 43 19.7 +0.6**
baz=280
SDPT Sand Point 17.60 74 Pn **Pn** **06 43 18.0 -0.2**
YSS Yuzh-Sakhalins 18.07 257 *e*P **P** **06 43 27.3 +2.9**
YSS *e*S **Sn** **06 46 46.9 +1.8**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS pmax pmax
comp=Z,200nm,5.3s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 18.07 257 **P** **06 43 26.3 +1.8**
YSS IAmb IAmb 06 43 29.3
comp=Z,50nm,1.1s
CHNA Chernabura Isl 18.20 76 P **P** **06 43 27.6 +1.8**
baz=282
RDOG Red Dog Mine 19.08 33 P **Pn** **06 43 38.4 +2.1**
N18K Kilae Creek 19.77 57 P **Pn** **06 43 45.0 +0.5**
baz=267
JKA Kamikawa-asahi 19.87 250 P **Pn** **06 43 45.7 -0.1**
ASAJ Asahikawa 19.87 250 P **P** **06 43 43.6 -0.6**
comp=Z,1.3nm,0.3s,baz=59,slow=18,SNR=3.0
ASAJ LR LR 06 50 22.4
comp=Z,297nm,21.8s,baz=3.0,slow=34
ASAJ Asahikawa 19.87 250 P **Pn** **06 43 45.7 -0.1**
ASAJ pmax pmax
comp=Z,18nm,0.9s
SVW2 Sparrevohn 19.95 56 P **P** **06 43 44.2 -0.7**
GRNR Gornyy 19.97 273 ‖ *i*P **Pn** **06 43 46.9 -0.1**
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=N,130nm,14.0s
GRNR MLR MLR
comp=E,280nm,14.0s
GRNR MLR MLR
comp=Z,280nm,15.0s
L19K White Mountain 20.39 53 P Pn 06 43 51.4 -0.5
baz=264,SNR=20
N19K Bonanza Creek 20.47 57 P **P** **06 43 51.7 +1.0**
baz=268,SNR=6.2
K20K Telida 20.90 50 P **P** **06 43 56.0 +0.8**
baz=262,SNR=14
ERM Erimo 20.99 245*d i*P **P** **06 43 57.4 +1.1**
ERM pmax pmax
comp=Z,28nm,1.3s
ERM Erimo 20.99 245 P **P** **06 43 57.0 +0.8**
J20K Nowinta River 21.00 47 P **P** **06 43 56.7 +0.4**
baz=259,SNR=15
M20K Styx River 21.17 54 P **P** **06 43 60.0 +1.7**
baz=266
OHAK Old Harbor 21.28 67 P **P** **06 43 59.7 +0.4**
OHAK IAmb IAmb 06 44 09.6
comp=Z,43nm,1.0s
RSO Redoubt South 21.32 58 P **P** **06 43 54.6 -5.3**
JEW Eniwo 21.34 249 P **P** **06 44 02.0 +2.0**
IMAR Indian Mountai 21.56 42 P **P** **06 44 03.0 +0.7**
KDAK Kodiak Island 21.58 65 P **P** **06 44 02.4 -0.1**
comp=Z,10nm,0.9s,baz=176,slow=2.6,SNR=7.6
KDAK LR LR 06 53 22.3
comp=Z,350nm,18.1s,baz=270,slow=39
KDAK Kodiak Island 21.58 65 P **P** **06 44 01.3 -1.3**
KDAK pmax pmax
comp=Z,64nm,1.4s
KDAK Kodiak Island 21.58 65 P **P** **06 44 01.3 -1.3**
KDAK IAmb IAmb 06 44 48.5
comp=Z,64nm,1.4s
SPCR Spurr Chakacha 21.59 56 P **P** **06 44 04.5 +1.8**
baz=269
YAK Yakutsk 21.78 307 P **P** **06 44 03.2 -1.4**
comp=Z,6.2nm,0.5s,baz=68,slow=3.1,SNR=4.8
YAK LR LR 06 52 30.7
comp=Z,146nm,19.3s,baz=94,slow=37
YAK Yakutsk 21.78 307 *e*P **P** **06 44 02.5 -2.1**
YAK pmax pmax
comp=Z,39nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,27nm,1.3s
YAK MLR MLR
comp=Z,276nm,19.0s
YAK MLR MLR
comp=N,201nm,19.0s
YAK MLR MLR
comp=E,134nm,17.0s
YAK Yakutsk 21.78 307 P **P** **06 44 03.1 -1.4**
YAK IAmb IAmb 06 44 19.4
comp=Z,32nm,0.7s
SKT Skwentna 21.93 54 P **P** **06 44 07.6 +1.3**
baz=268,SNR=10
SKT Skwentna 21.93 54 P **P** **06 44 06.7 +0.4**
SKT IAmb IAmb 06 44 32.4
comp=Z,28nm,1.0s
CAPN Captain Cook N 22.10 57 P **P** **06 44 09.3 +1.2**
baz=271
I21K Tanana 22.10 45 P **P** **06 44 09.3 +1.2**
baz=259
CNPM China Poot 22.11 60 P **P** **06 44 09.0 +0.7**
SUA Susitna One 22.30 55 P **P** **06 44 11.4 +1.1**
baz=270
SUA Susitna One 22.30 55 P **P** **06 44 10.2 -0.1**
SUA IAmb IAmb 06 44 20.0
comp=Z,40nm,1.1s
KTH Kantishna Hill 22.32 50 P **P** **06 44 11.3 +0.7**
KTH IAmb IAmb 06 44 23.8
comp=Z,32nm,1.1s
BPAW Bear Paw Mtn. 22.36 48 P **P** **06 44 11.5 +0.7**
baz=263,SNR=7.6
BPAW Bear Paw Mtn. 22.36 48 P **P** **06 44 11.7 +0.8**
CUT Chulitna 22.54 53 P **P** **06 44 13.4 +0.6**
baz=268
CUT Chulitna 22.54 53 P **P** **06 44 13.8 +1.0**
MLY Manley 22.59 46 P **P** **06 44 13.8 +0.4**
baz=261,SNR=11
MLY Manley 22.59 46 P **P** **06 44 13.4 0.0**
MLY IAmb IAmb 06 44 23.4
comp=Z,28nm,1.1s
TRF Thorofare Moun 22.60 50 P **P** **06 44 14.2 +0.6**
baz=265,SNR=7.5
TRF Thorofare Moun 22.60 50 P **P** **06 44 13.6 0.0**
TRF IAmb IAmb 06 44 23.4
comp=Z,25nm,0.7s
RC01 Rabbit Creek A 22.79 56 P **P** **06 44 15.1 -0.3**
baz=272
RC01 Rabbit Creek A 22.79 56 P **P** **06 44 15.6 +0.2**
O22K Cooper Landing 22.81 58 P **P** **06 44 15.7 +0.1**
baz=273
JTM Tenmabayashi 22.96 245 P **P** **06 44 19.1 +1.7**
SEW Seward 22.97 59 P **P** **06 44 17.7 +0.3**
baz=274
BWN Browne 23.03 48 P **P** **06 44 16.0 -1.9**
I23K Minto, Yukon-K 23.19 46 P **P** **06 44 19.8 +0.3**
baz=262,SNR=6.0
I23K Minto, Yukon-K 23.19 46 P **P** **06 44 19.8 +0.3**
I23K IAmb IAmb 06 44 40.2
comp=Z,33nm,1.4s
H23K Yukon River 23.22 44 P **P** **06 44 20.4 +0.5**
baz=260,SNR=10.0
MCK McKinley 23.22 49 P **P** **06 44 19.7 -0.2**
MCK pmax pmax
comp=Z,21nm,1.2s
MCK McKinley 23.22 49 P **P** **06 44 19.3 -0.6**
baz=266
MCK McKinley 23.22 49 P **P** **06 44 19.7 -0.2**
RND Reindeer 23.24 50 P **P** **06 44 19.9 -0.2**
RND pmax pmax
comp=Z,115nm,1.9s
RND Reindeer 23.24 50 P **P** **06 44 19.9 -0.2**
NEA2 Nenana 23.24 47 P **P** **06 44 19.9 -0.1**
baz=264
NEA2 Nenana 23.24 47 P **P** **06 44 20.0 -0.1**
WAT1 Susitna Watana 23.35 52 P **P** **06 44 21.1 -0.1**
baz=268
KLR Kul'dur 23.35 273 P **P** **06 44 21.7 +0.4**
comp=Z,11nm,1.0s,baz=55,slow=10,SNR=22
KLR LR LR 06 53 32.7
comp=Z,313nm,20.3s,baz=66,slow=37
KLR Kul'dur 23.35 273*d i*P **P** **06 44 21.4 +0.1**
KLR pmax pmax
comp=Z,19nm,1.5s
KLR MLR MLR
comp=Z,357nm,22.0s
KNK Knik Glacier 23.39 55 P **P** **06 44 22.2 +0.6**
baz=272
KNK Knik Glacier 23.39 55 P **P** **06 44 21.7 +0.1**
KNK IAmb IAmb 06 44 40.4
comp=Z,19nm,0.8s
SML Sawmill 23.45 54 P **P** **06 44 21.9 -0.3**
baz=271,SNR=7.4
SML Sawmill 23.45 54 P **P** **06 44 21.5 -0.6**
SML IAmb IAmb 06 44 31.2
comp=Z,22nm,0.7s
PWL Port Wells 23.48 57 P **P** **06 44 22.2 -0.3**
PWL IAmb IAmb 06 45 18.8
comp=Z,31nm,1.0s
MDM Murphy Dome 23.64 46 P **P** **06 44 24.1 +0.1**
WRH Wood River Hil 23.65 47 P **P** **06 44 23.4 -0.6**
WAT6 Susitna Watana 23.72 52 P **P** **06 44 24.5 -0.4**
baz=270
TCOL CIGO, UAF Yank 23.79 46 P **P** **06 44 25.2 -0.1**
baz=264
TCOL CIGO, UAF Yank 23.79 46 P **P** **06 44 24.9 -0.4**
TCOL IAmb IAmb 06 44 34.0
comp=Z,28nm,0.8s
CCB Clear Creek Bu 23.79 47 P **P** **06 44 25.8 +0.4**
COLA College 23.79 46*d i*P **P** **06 44 25.6 +0.2**
COLA pmax pmax
comp=Z,28nm,1.3s
COLA College 23.79 46 P **P** **06 44 25.7 +0.2**
baz=264
COLA College 23.79 46 P **P** **06 44 25.4 -0.1**
COLA IAmb IAmb 06 44 34.0
comp=Z,29nm,0.8s
TOLK Toolik Lake Re 23.83 37 P **P** **06 44 26.1 +0.3**
baz=254,SNR=18
TOLK Toolik Lake Re 23.83 37 P **P** **06 44 26.3 +0.4**
H24K Noodor Dome 23.90 44 P **P** **06 44 26.6 +0.1**
baz=262,SNR=12
SCM Sheep Creek Mo 23.92 54 P **P** **06 44 26.8 0.0**
SCM pmax pmax
comp=Z,28nm,0.6s
SCM Sheep Creek Mo 23.92 54 P **P** **06 44 26.8 0.0**
POKR Poker Plat Res 23.99 46 P **P** **06 44 27.7 +0.3**
baz=264
POKR Poker Plat Res 23.99 46 P **P** **06 44 27.7 +0.3**
POKR IAmb IAmb 06 44 41.8
comp=Z,26nm,1.1s
HDA Harding Lake 24.14 48 P **P** **06 44 29.1 +0.3**
baz=266,SNR=5.7
HDA Harding Lake 24.14 48 P **P** **06 44 28.5 -0.3**
IL31 24.19 47 P **P** **06 44 28.5 -0.7**
IL31 IAmb IAmb 06 44 42.2
comp=Z,28nm,1.1s
ILAR Eielson Array 24.19 47 P **P** **06 44 28.5 -0.7**
comp=Z,7.6nm,1.0s,baz=246,slow=8.1,SNR=39
ILAR LR LR 06 54 24.5
comp=Z,371nm,18.2s,baz=270,slow=38
ILAR Eielson Array 24.19 47 P **P** **06 44 28.9 -0.3**
ILAR Eielson Array 24.19 47 P **P** **06 44 28.9 -0.3**
ZEA Zeya 24.23 286 *e*P **P** **06 44 29.4 -0.2**
ZEA *e*S **S** **06 48 41.9 -4.9**
ZEA pmax pmax
comp=E,10.0nm,0.3s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.7s
ZEA pmax pmax
comp=E,100nm,4.3s
ZEA pmax pmax
comp=Z,100nm,4.8s
ZEA smax smax
comp=N,200nm,10.5s
ZEA smax smax
comp=E,200nm,11.5s
TIXI Tiksi 24.40 330 LR LR 06 55 27.1
comp=E,154nm,18.7s,baz=221,slow=40
TIXI Tiksi 24.40 330*d i*P **P** **06 44 30.7 -0.3**
M24K Tolsona, Glenn 24.46 53 P **P** **06 44 32.0 +0.2**
baz=272,SNR=8.3
M24K Tolsona, Glenn 24.46 53 P **P** **06 44 32.3 +0.6**
KLU Klutina 24.61 55 P **P** **06 44 33.0 -0.1**
baz=274,SNR=5.8
KLU Klutina 24.61 55 P **P** **06 44 33.7 +0.6**
KLU IAmb IAmb 06 44 46.0
comp=Z,33nm,1.0s
PAX Paxson 24.76 51 P **P** **06 44 35.0 +0.5**
baz=271
PRP Porcupine Dome 24.83 45 P **P** **06 44 35.1 0.0**
baz=265,SNR=5.3
PRP Porcupine Dome 24.83 45 P **P** **06 44 35.7 +0.6**
HARP HAARP 24.92 53 P **P** **06 44 35.6 -0.3**
baz=272
RIDG Independent Ri 25.04 49 P **P** **06 44 35.3 -1.6**
baz=270,SNR=9.2
RIDG Independent Ri 25.04 49 P **P** **06 44 36.2 -0.7**
RIDG IAmb IAmb 06 44 45.4
comp=Z,25nm,1.2s
FYU Fort Yukon 25.05 43 P **P** **06 44 36.7 -0.2**
N25K Chitina, Valde 25.23 54 P **P** **06 44 38.4 -0.3**
baz=274
N25K Chitina, Valde 25.23 54 P **P** **06 44 39.2 +0.5**
N25K IAmb IAmb 06 44 49.4
comp=Z,19nm,1.1s
BMRM Bremner River 25.29 56 P **P** **06 44 39.8 +0.6**
baz=276
BMRM Bremner River 25.29 56 P **P** **06 44 39.8 +0.6**
BMRM IAmb IAmb 06 45 10.5
comp=Z,22nm,0.9s
RAGM Ragged Mountai 25.32 57 P **P** **06 44 39.0 -0.5**
DOT Dot Lake 25.39 50 P **P** **06 44 39.6 -0.5**
DOT IAmb IAmb 06 44 48.9
comp=Z,26nm,0.8s
BMAR Burnt Mountain 25.42 41 P **P** **06 44 40.8 +0.4**
SCRK Sand Creek 25.42 49 P **P** **06 44 39.3 -1.2**
baz=270,SNR=8.4
SCRK Sand Creek 25.42 49 P **P** **06 44 39.8 -0.7**
SCRK IAmb IAmb 06 44 48.6
comp=Z,40nm,1.6s
MENT Mentasta 25.56 51 P **P** **06 44 42.2 +0.5**
GLB Gilahina Butte 25.62 55 P **P** **06 44 42.8 +0.5**
GLB IAmb IAmb 06 44 53.1
comp=Z,60nm,1.8s
L26K Log Cabin Wild 25.73 51 P **P** **06 44 43.3 +0.1**
baz=273
VRDI Verde Repeater 25.82 55 P **P** **06 44 44.4 +0.3**
VRDI IAmb IAmb 06 44 52.1
comp=Z,18nm,1.1s
USA0B Ussuriysk Arra 25.85 262 P **P** **06 44 43.5 -0.9**
USA0B pmax pmax
comp=Z,10.0nm,1.2s
USA0B Ussuriysk Arra 25.85 262 P **P** **06 44 43.5 -0.9**
USRK Ussuriysk Ar. 25.85 262 P **P** **06 44 44.5 +0.1**
comp=Z,3.3nm,1.0s,baz=56,slow=10,SNR=6.9
USRK LR LR 06 55 17.8
comp=Z,425nm,20.2s,baz=38,slow=37
USRK Ussuriysk Ar. 25.85 262 P **P** **06 44 44.2 -0.1**
M26K Nabesna, AK 25.93 52 P **P** **06 44 45.0 0.0**
baz=274
MCARA McCarthy VSAT 26.00 55 P **P** **06 44 46.0 +0.3**
baz=276
CRQE Cirque 26.05 56 P **P** **06 44 46.5 +0.3**
baz=278
TGL Tana Glacier 26.17 56 P **P** **06 44 45.5 -1.8**
TGL IAmb IAmb 06 45 02.9
comp=Z,17nm,1.1s
K27K Chicken 26.26 49 P **P** **06 44 48.0 +0.1**
baz=272
K27K Chicken 26.26 49 P **P** **06 44 48.1 +0.2**
K27K IAmb IAmb 06 45 08.6
comp=Z,20nm,1.0s
L27K Beaver Creek, 26.42 51 P **P** **06 44 50.1 +0.6**
baz=274,SNR=14
L27K Beaver Creek, 26.42 51 P **P** **06 44 50.2 +0.8**
L27K IAmb IAmb 06 44 58.5
comp=Z,15nm,0.8s
BCAR Beaver Creek A 26.44 51 P **P** **06 44 50.3 +0.7**
M27K Edge Creek, AK 26.45 52 P **P** **06 44 49.4 -0.5**
baz=275
VLA Vladivostok 26.56 260 *e*P **P** **06 44 53.1 +2.3**
VLA pmax pmax
comp=Z,14nm,0.6s
VLA MLR MLR
comp=Z,759nm,22.0s
EGAK Eagle 26.65 47 P **P** **06 44 50.5 -0.9**
baz=271,SNR=12
EGAK Eagle 26.65 47 P **P** **06 44 50.5 -0.9**
EGAK IAmb IAmb 06 44 58.9
comp=Z,19nm,0.8s
MESA MESA 26.69 57 P **P** **06 44 52.2 +0.1**
baz=279
CTG Chitna Glacier 26.87 55 P **P** **06 44 53.9 +0.3**
baz=278
MDJ Mudanjiang 27.00 265 P **P** **06 44 56.8 +2.0**
MDJ pP pP 06 45 01.4 +0.6
MDJ sP sP 06 45 04.4 +1.2
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ pmax pmax
comp=Z,95nm,3.5s
MDJ LR LR
comp=Z,140nm,12.1s
MDJ LR LR
comp=Z,280nm,11.5s
MDJ LR LR
comp=Z,330nm,15.3s
MDJ Mudanjiang 27.00 265 P **P** **06 44 55.2 +0.4**
MSHR Mys Shultsa 27.32 260*d i*P **P** **06 44 58.8 +1.2**
MSHR pmax pmax
comp=Z,18nm,1.4s
MSHR MLR MLR
comp=Z,183nm,21.0s
DAWY Dawson 27.44 48 P **P** **06 44 58.5 -0.1**
PINM Pinnacle 27.54 57 P **P** **06 45 00.2 +0.6**
baz=281
MJAR Matsushiro Arr 27.61 243 P **P** **06 45 01.9 +1.6**
comp=Z,7.6nm,0.9s,baz=31,slow=9.1,SNR=14
MJAR LR LR 06 57 43.2
comp=Z,119nm,19.2s,baz=125,slow=40
MJB9 Matsu-Tunnel 27.61 243 P **P** **06 45 02.1 +1.8**
MAJO Matsushiro 27.61 243*d i*P **P** **06 45 02.3 +2.0**
MAJO pmax pmax
comp=Z,39nm,1.0s
MAJO Matsushiro 27.61 243 P **P** **06 45 02.2 +2.0**
MAT Matsushiro 27.61 243 P **P** **06 45 02.2 +1.9**
MAT S S 06 49 55.4 +15
EPYK Eagle Plains 28.46 43 P **P** **06 45 07.9 +0.2**
baz=272,SNR=5.4
EPYK Eagle Plains 28.46 43 P **P** **06 45 08.0 +0.4**
EPYK IAmb IAmb 06 45 22.1
comp=Z,27nm,1.2s
HYT Haines Junctio 28.74 55 P **P** **06 45 11.2 +0.9**
HYT IAmb IAmb 06 45 19.2
comp=Z,8.0nm,0.6s
JHJ Hachijo jima 2 29.51 236 LR LR 07 05 06.3
comp=Z,17nm,18.0s,baz=10.0,slow=53
INK Inuvik 29.65 39 P **P** **06 45 18.7 +0.6**
comp=Z,3.1nm,1.0s,baz=272,slow=6.0,SNR=4.8
INK LR LR 06 58 08.6
comp=Z,182nm,18.9s,baz=225,slow=38
INK Inuvik 29.65 39 P **P** **06 45 18.4 +0.3**
INK pmax pmax
comp=Z,20nm,1.8s
INK Inuvik 29.65 39 P **P** **06 45 18.1 0.0**
baz=271
INK Inuvik 29.65 39 P **P** **06 45 18.4 +0.3**
INK IAmb IAmb 06 45 29.5
comp=Z,20nm,1.8s
CN2 Changchun 29.90 268 *e*P **P** **06 45 22.5 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
BOD Bodaibo 30.14 299 *e*P **P** **06 45 21.6 -0.9**
BOD pmax pmax
comp=Z,22nm,1.5s
JIS Juneau Island 30.92 59 P **P** **06 45 29.3 -0.1**
JIS IAmb IAmb 06 45 41.5
comp=Z,17nm,0.9s
KSRS Korea Array 32.57 256 P **P** **06 45 46.4 +2.3**

comp=Z,4.4nm,0.9s,baz=44,slow=8.8,SNR=17
KSRS LR LR 06 59 09.4
comp=Z,109nm,21.3s,baz=56,slow=37
KSAR Wonju Array Be 32.60 256 P **P 06 45 45.8 +1.4**
KSAR Wonju Array Be 32.60 256 P **P 06 45 45.8 +1.4**
C36M Paulatuk 32.99 37 P **P 06 45 47.2 -0.2**
baz=278
DLBC Dease Lake 33.04 58 LR LR 06 59 38.7
comp=Z,288nm,19.0s,baz=297,slow=37
DLBC Dease Lake 33.04 58 P **P 06 45 48.8 +0.6**
DLBC IAmb IAmb 06 45 58.1
comp=Z,6.4nm,0.6s
H11N2 WAKE ISLAND Hy 34.55 183 T T 07 22 36.0
baz=1.4,slow=76,SNR=1647
H11N3 WAKE ISLAND Hy 34.57 183 T T 07 22 36.5
baz=1.4,slow=76,SNR=4210
H11N1 WAKE ISLAND Hy 34.57 183 T T 07 22 37.1
baz=1.4,slow=76,SNR=4377
H11S1 WAKE ISLAND Hy 35.78 184 T T 07 24 09.3
baz=1.8,slow=76,SNR=152
H11S3 WAKE ISLAND Hy 35.79 184 T T 07 24 08.9
baz=1.8,slow=76,SNR=52
H11S2 WAKE ISLAND Hy 35.79 184 T T 07 24 10.4
baz=1.8,slow=76,SNR=204
BJT Baijiatuau 37.68 270 P **P 06 46 28.7 +0.6**
BJT pmax pmax
comp=Z,6.0nm,1.1s
BJT Baijiatuau 37.68 270 P **P 06 46 28.6 +0.6**
NRIK Noril'sk 37.92 325 P **P 06 46 29.1 -0.7**
comp=Z,1.4nm,0.5s,baz=84,slow=8.8,SNR=6.7
NRIK LR LR 07 03 11.8
comp=Z,196nm,18.2s,baz=84,slow=38
NRIK Noril'sk 37.92 325 P **P 06 46 29.6 -0.2**
NRIK pmax pmax
comp=Z,8.0nm,1.2s
NRIK Noril'sk 37.92 325 P **P 06 46 29.6 -0.2**
ULN Ulaanbaatar 38.26 286 P **P 06 46 33.7 +0.6**
ULN pmax pmax
comp=Z,13nm,1.2s
ULN Ulaanbaatar 38.26 286 P **P 06 46 33.7 +0.6**
ULN IAmb IAmb 06 46 34.9
comp=Z,13nm,1.1s
YKA Yellowknife Ar 38.62 46 P **P 06 46 36.4 +0.6**
comp=Z,1.1nm,0.7s,baz=344,slow=21,SNR=6.7
YKA LR LR 07 03 30.5
comp=Z,65nm,18.8s,baz=0.0,slow=38
YKA Yellowknife Ar 38.62 46 *i* P **P 06 46 35.9 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 38.64 287 P **P 06 46 37.2 +0.9**
comp=Z,2.5nm,0.8s,baz=63,slow=9.3,SNR=17
SONM LR LR 07 03 51.5
comp=Z,148nm,18.3s,baz=62,slow=38
SONM Songino Array 38.64 287 P **P 06 46 36.4 0.0**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 38.64 287 P **P 06 46 36.4 0.0**
ZAK Zakamensk 38.98 292 *e*P **P 06 46 38.6 -0.5**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
HHC Hu-ho-hao-te 39.84 274 *e*P **P 06 46 47.6 +1.2**
HHC S **S 06 52 51.3 +1.6**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,74nm,5.2s
HHC LR LR
comp=Z,350nm,15.9s
HHC LR LR
comp=Z,380nm,15.3s
HHC LR LR
comp=Z,260nm,14.9s
JOW Kunigami 40.43 244 P **P 06 46 52.8 +1.5**
A05A Maple Falls 41.58 68 P **P 06 47 00.5 0.0**
A05A IAmb IAmb 06 47 35.2
comp=Z,23nm,1.6s
NJ2 Nanjing 41.63 259 *e*P **P 06 47 02.1 +1.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
D03D Eldon 41.87 70 P **P 06 47 03.3 +0.4**
baz=306
B05A Bryant 41.99 69 P **P 06 47 04.3 +0.4**
baz=305
B06A Marblemount 42.18 68 P **P 06 47 06.6 +1.2**
B06A IAmb IAmb 06 47 22.6
comp=Z,19nm,1.5s
LTY Liberty 43.36 69 P **P 06 47 15.9 +0.8**
B08A Colville Reser 43.44 67 P **P 06 47 15.8 +0.1**
EDM Edmonton 43.76 58 P **P 06 47 18.9 +0.7**
EDM pmax pmax
comp=Z,66nm,1.7s
EDM Edmonton 43.76 58 P **P 06 47 18.9 +0.7**
H04D Lebanon 43.87 74 P **P 06 47 19.7 +0.5**
baz=308
H04A Detroit Lake 44.09 73 P **P 06 47 22.1 +1.2**
G05D Wamic, OR 44.23 72 P **P 06 47 22.2 +0.2**
baz=308
C09A Chrisman Ranch 44.34 67 P **P 06 47 23.5 +0.6**
C09A IAmb IAmb 06 47 31.6
comp=Z,25nm,1.7s
HAWA Hanford 44.51 69 P **P 06 47 24.6 +0.3**
F07A Phinny Hill Vi 44.59 70 P **P 06 47 26.1 +1.2**
F07A IAmb IAmb 06 47 36.7
comp=Z,7.0nm,0.6s
NEW Newport 44.68 66 P **P 06 47 26.3 +0.5**
comp=Z,2.1nm,0.9s,baz=315,slow=2.7,SNR=5.0
NEW Newport 44.68 66 P **P 06 47 26.2 +0.5**
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 44.68 66 P **P 06 47 26.1 +0.4**
baz=307
NEW Newport 44.68 66 P **P 06 47 26.2 +0.5**
J04D Umpqua Nationa 45.03 75 P **P 06 47 28.5 -0.2**
baz=310
E09A Wood Farm, Sta 45.19 69 P **P 06 47 30.3 +0.6**
J05D Fort Rock, OR 45.50 74 P **P 06 47 33.1 +0.8**
baz=310
L04D Klamath Falls 45.57 76 P **P 06 47 33.3 +0.4**
baz=310
WALA Waterton Lakes 45.90 63 P **P 06 47 36.0 +0.5**
WALA IAmb IAmb 06 47 46.9
comp=Z,11nm,0.8s
XAN Xi'an 45.98 269 P **P 06 47 36.1 0.0**
XAN pP sP 06 47 47.1 +2.9
XAN S **S 06 54 19.4 -0.5**
XAN pmax pmax
comp=Z,5.0nm,1.5s
XAN pmax pmax
comp=Z,72nm,4.7s
XAN LR LR
comp=Z,290nm,17.4s
XAN LR LR
comp=Z,300nm,16.3s
F10A Beach Ranch, E 46.03 69 P **P 06 47 36.9 +0.5**
F10A IAmb IAmb 06 47 44.5
comp=Z,14nm,1.7s
NEEM North Greenlan 46.17 11 *i* P **P 06 47 36.8 -0.6**
NEEM IAmb IAmb 06 47 37.9
comp=Z,6.9nm,0.7s
ZALV Zalesovo Beam 46.42 306 P **P 06 47 38.3 -1.0**
comp=Z,0.4nm,0.3s,baz=72,slow=9.3,SNR=1.3
ZALV LR LR 07 09 09.7
comp=Z,124nm,19.1s,baz=78,slow=39
ZALV Zalesovo Beam 46.42 306 P **P 06 47 38.5 -0.8**
ZALV Zalesovo Beam 46.42 306 P **P 06 47 38.5 -0.8**
JTMT Jette 46.51 65 P **P 06 47 40.4 +0.1**
JTMT IAmb IAmb 06 47 49.4
comp=Z,23nm,1.5s
BMO Blue Mountains 46.69 70 P **P 06 47 42.5 +0.9**
BMO pmax pmax
comp=Z,8.0nm,1.6s
BMO Blue Mountains 46.69 70 P **P 06 47 42.5 +0.9**
MOD Modoc Plateau 46.91 75 P **P 06 47 44.8 +1.3**
MOD IAmb IAmb 06 47 55.3
comp=Z,8.7nm,1.3s
J08A Circle Bar Ran 47.00 72 P **P 06 47 44.2 +0.1**
MSO Missoula 47.27 66 P **P 06 47 45.6 -0.5**
baz=309
MSO Missoula 47.27 66 P **P 06 47 45.4 -0.7**
MSO IAmb IAmb 06 47 57.4
comp=Z,17nm,1.6s
HOPEN Hopen 47.42 349 *e*P **P 06 47 43.8 -3.0**
LZH Lanzhou 47.52 275 ⇑P **P 06 47 49.8 +1.5**
LZH pP pP 06 47 54.6 +0.4
LZH sP sP 06 47 58.8 +2.3
LZH S **S 06 54 46.3 +4.2**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,50nm,4.1s
LZH LR LR
comp=Z,470nm,14.6s
LZH LR LR
comp=Z,430nm,14.1s
LZH LR LR
comp=Z,210nm,14.4s
GTA Gaotai 47.59 281 ⇑P **P 06 47 49.3 +0.5**
GTA pP pP 06 47 55.3 +0.6
GTA sP sP 06 47 58.3 +1.2
GTA S **S 06 54 44.9 +1.9**
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,57nm,4.7s
GTA LR LR
comp=Z,310nm,17.1s
GTA LR LR
comp=Z,280nm,16.7s
GTA LR LR
comp=Z,410nm,17.1s
DGZ Jazzator, Alta 47.73 300 *d* iP **P 06 47 49.4 -0.3**
DGZ pmax pmax
comp=Z,12nm,1.7s
HSPB Hornsund (broa 47.88 352 *e*P **P 06 47 48.1 -2.2**
ENH Enshi 48.37 265 P **P 06 47 55.3 +0.6**
MFID Camas Ranch 48.43 70 P **P 06 47 56.5 +1.3**
HRY Holter Researc 48.46 65 P **P 06 47 56.0 +0.6**
AFDM Forest Hills D 48.49 78 P **P 06 47 56.9 +1.3**
PAHR Pah Rah Range 48.89 76 P **P 06 47 59.3 +0.5**
PAHR IAmb IAmb 06 48 21.1
comp=Z,13nm,1.5s
DLMT Dillon 48.92 66 P **P 06 47 59.7 +0.7**
DAG Danmarks Havn 49.10 2 *i* P **P 06 47 58.8 -1.0**
DAG IAmb IAmb 06 47 59.7
comp=Z,1.9nm,0.6s
DAG Danmarks Havn 49.10 2 *i* P **P 06 47 58.7 -1.0**
DAG pmax pmax
comp=Z,2.0nm,0.6s
MCMT McKenzie Canyo 49.13 67 P **P 06 48 00.6 -0.1**
PNTR Pine Nut 49.19 77 P **P 06 48 02.4 +1.2**
PNTR IAmb IAmb 06 48 43.0
comp=Z,7.6nm,0.8s
BOZ Bozeman (W) 49.29 66 P **P 06 48 01.6 -0.2**
BOZ pmax pmax
comp=Z,15nm,1.7s
BOZ Bozeman (W) 49.29 66 P **P 06 48 00.3 -1.5**
baz=311,SNR=6.2
BOZ Bozeman (W) 49.29 66 P **P 06 48 01.6 -0.2**
BOZ IAmb IAmb 06 48 10.8
comp=Z,15nm,1.7s
YERR Yerington 49.46 77 P **P 06 48 04.5 +1.3**
WAKR Walker 49.68 78 P **P 06 48 06.7 +1.8**
WAKR IAmb IAmb 06 48 33.7
comp=Z,10nm,1.4s
BJO1 Bjornoya 49.90 350 *e*P **P 06 48 05.3 -0.5**
QLMT Earthquake Lak 49.90 66 P **P 06 48 06.7 +0.2**
KVN Kaiserville 50.07 76 P **P 06 48 08.6 +0.7**
KVN pmax pmax
comp=Z,3.0nm,0.9s
KVN Kaiserville 50.07 76 P **P 06 48 08.6 +0.7**
YHH Holmes Hill 50.23 66 P **P 06 48 09.8 +0.6**
NVAR Mina Array Bea 50.38 77 P **P 06 48 11.7 +1.4**
comp=Z,2.3nm,0.9s,baz=296,slow=7.2,SNR=9.5
NVAR LR LR 07 06 10.7
comp=Z,108nm,21.5s,baz=292,slow=32
NVAR Mina Array Bea 50.38 77 P **P 06 48 10.9 +0.7**
LHV Little Huntoon 50.38 77 P **P 06 48 10.6 +0.6**
LHV IAmb IAmb 06 48 33.3
comp=Z,7.8nm,1.2s
YNE Yellowstone No 50.54 65 P **P 06 48 11.7 +0.2**
IMW Indian Meadow 50.78 67 P **P 06 48 13.6 +0.3**
RLMT Red Lodge 50.86 65 P **P 06 48 13.8 0.0**
baz=312,SNR=5.2
RLMT Red Lodge 50.86 65 P **P 06 48 14.3 +0.5**
RLMT IAmb IAmb 06 48 25.7
comp=Z,5.6nm,0.8s
LOHW Long Hollow 51.15 67 P **P 06 48 16.3 +0.3**
TPH Tonopah 51.24 76 P **P 06 48 17.5 +0.8**
TPH pmax pmax
comp=Z,18nm,0.9s
TPH Tonopah 51.24 76 P **P 06 48 17.5 +0.8**
WMQ Urumqi 51.40 294 *e*P **P 06 48 20.6 +2.9**
WMQ LR LR
comp=Z,900nm,19.3s
WMQ LR LR
comp=Z,880nm,19.7s
WMQ LR LR
comp=Z,410nm,21.3s
LAO LASA Array 51.40 61 P **P 06 48 18.9 +1.2**
LAO IAmb IAmb 06 48 29.1
comp=Z,15nm,1.3s
VES Vestal, Richgr 51.73 80 P **P 06 48 20.5 +0.4**
baz=315
R11A Troy Canyon, C 51.98 75 P **P 06 48 22.6 +0.4**
baz=314
SUMG Summit 51.98 10 *i* P **P 06 48 21.4 -0.6**
SUMG Summit 51.98 10 P **P 06 48 21.9 -0.1**
SUMG pmax pmax
comp=Z,14nm,1.2s
SUMG Summit 51.98 10 P **P 06 48 21.9 -0.1**
SUMG IAmb IAmb 06 48 29.9
comp=Z,14nm,1.2s
ISA Isabella, Lake 52.20 80 P **P 06 48 24.3 +0.5**
ISA pmax pmax
comp=Z,11nm,1.8s
ISA Isabella, Lake 52.20 80 P **P 06 48 24.4 +0.7**
baz=315
ISA Isabella, Lake 52.20 80 P **P 06 48 24.3 +0.5**
MK31 Makanchi Array 52.23 300 P **P 06 48 21.9 -1.9**
MK31 pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 52.23 300 P **P 06 48 21.9 -1.9**
MKAR Makanchi Array 52.23 300 P **P 06 48 22.4 -1.4**
comp=Z,2.6nm,0.9s,baz=57,slow=8.8,SNR=19
MKAR LR LR 07 10 44.7
comp=Z,165nm,19.6s,baz=36,slow=36
MKAR Makanchi Array 52.23 300 P **P 06 48 22.0 -1.8**
DUG Dugway, Tooele 52.26 72 P **P 06 48 23.7 -0.5**
DUG pmax pmax
comp=Z,3.0nm,1.0s
DUG Dugway, Tooele 52.26 72 P **P 06 48 24.2 0.0**
baz=314
DUG Dugway, Tooele 52.26 72 P **P 06 48 23.7 -0.5**
BW06 Boulder Array 52.28 67 P **P 06 48 24.1 -0.4**
baz=313,SNR=5.8
BW06 Boulder Array 52.28 67 P **P 06 48 25.2 +0.8**
BW06 IAmb IAmb 06 48 32.9
comp=Z,12nm,1.6s
PD31 Pinedale Array 52.28 67 P **P 06 48 24.7 +0.2**
PD31 IAmb IAmb 06 48 37.0
comp=Z,15nm,1.8s
PDAR Pinedale Array 52.28 67 P **P 06 48 25.1 +0.6**
comp=Z,0.7nm,0.4s,baz=342,slow=2.4,SNR=20
PDAR Pinedale Array 52.28 67 P **P 06 48 24.6 +0.1**
SBC Santa Barbara 52.35 82 P **P 06 48 25.2 +0.4**
baz=316
MAKZ Makanchi 52.38 300 P **P 06 48 23.2 -1.6**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
MAKZ Makanchi 52.38 300 P **P 06 48 23.2 -1.6**
MAKZ IAmb IAmb 06 48 24.6
comp=Z,9.8nm,1.1s
FURC Furnace Creek, 52.56 78 P **P 06 48 27.2 +0.9**
baz=315
TPNV Topopah Spring 52.57 77 P **P 06 48 27.7 +1.0**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 52.57 77 P **P 06 48 27.2 +0.5**
baz=315
TPNV Topopah Spring 52.57 77 P **P 06 48 27.7 +1.0**
TPNV IAmb IAmb 06 48 39.8
comp=Z,6.6nm,1.0s
GYA Guiyang 52.86 264 ⇑P **P 06 48 30.0 +1.2**
GYA pP sP 06 48 36.4 -0.6
GYA pmax pmax
comp=Z,2.0nm,0.9s
HAMF Hammerfest 52.88 346 *e*P **P 06 48 27.1 -1.0**
PRN Pahroc Range 52.94 76 P **P 06 48 30.2 +0.9**
KEV Kevo 53.19 344 P **P 06 48 29.9 -0.6**
KEV pmax pmax
comp=Z,18nm,1.3s
KEV Kevo 53.19 344 P **P 06 48 29.9 -0.6**
KEV IAmb IAmb 06 50 04.7
comp=Z,18nm,1.3s
GSC Goldstone, Bar 53.42 79 P **P 06 48 33.0 +0.2**
GSC pmax pmax
comp=Z,7.0nm,1.2s
GSC Goldstone, Bar 53.42 79 P **P 06 48 33.7 +0.9**
baz=316
GSC Goldstone, Bar 53.42 79 P **P 06 48 33.0 +0.2**
ARA0 ARCESS Array S 53.62 345 *e*P **P 06 48 32.8 -0.9**
ARCES ARCESS Array B 53.62 345 P **P 06 48 33.2 -0.5**
comp=Z,1.7nm,0.4s,baz=19,slow=9.8,SNR=31
ARCES LR LR 07 14 24.4
comp=Z,46nm,18.2s,baz=20,slow=40
ARCES ARCESS Array B 53.62 345 P **P 06 48 33.4 -0.3**
ARCES pmax pmax
comp=Z,20nm,1.3s
ARCES ARCESS Array B 53.62 345 P **P 06 48 33.4 -0.3**
BRVK Borovoye 53.63 312 P **P 06 48 33.5 -0.4**
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 53.63 312 P **P 06 48 33.5 -0.4**
TUQ Turquoise Moun 53.83 78 P **P 06 48 36.5 +0.6**
baz=316
K22A Casper 53.99 65 P **P 06 48 36.4 -0.5**
K22A IAmb IAmb 06 48 45.1
comp=Z,7.4nm,1.2s
ULM Lac du Bonnet 54.05 52 P **P 06 48 36.8 -0.3**
comp=Z,1.2nm,0.4s,baz=283,slow=5.9,SNR=2.3
ULM LR LR 07 13 50.0
comp=Z,132nm,18.9s,baz=307,slow=38
MTPU Mount Pierson 54.11 73 P **P 06 48 38.7 +0.6**
MTPU IAmb IAmb 06 48 48.1
comp=Z,15nm,1.7s
LCMT Little Creek M 54.24 75 P **P 06 48 40.4 +1.5**
LCMT IAmb IAmb 06 48 48.0
comp=Z,10nm,1.4s
RSSD Black Hills 54.28 62 P **P 06 48 39.3 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.5s
RSSD Black Hills 54.28 62 P **P 06 48 39.1 -0.1**
baz=314
RSSD Black Hills 54.28 62 P **P 06 48 39.3 +0.2**
RSSD IAmb IAmb 06 48 47.6
comp=Z,5.1nm,0.5s
E28A Huff 54.28 58 P **P 06 48 38.8 0.0**
SRU San Rafael Swe 54.28 71 P **P 06 48 40.3 +1.1**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 54.28 71 P **P 06 48 40.3 +1.1**
SRU IAmb IAmb 06 48 48.6
comp=Z,8.3nm,0.8s
JETT Jettan, Norway 54.33 347 *e*P **P 06 48 37.2 -1.7**
KTK1 Kautokeino 54.44 346 *e*P **P 06 48 39.0 -0.6**
GMRC Granite Mounta 54.44 78 P **P 06 48 40.5 +0.2**
baz=316
TRO Tromso 54.45 348 *e*P **P 06 48 38.7 -1.0**
KNB Kanab 54.47 74 P **P 06 48 42.1 +1.5**
KNB pmax pmax
comp=Z,7.0nm,1.1s
KNB Kanab 54.47 74 P **P 06 48 42.1 +1.5**
KNB IAmb IAmb 06 48 54.2
comp=Z,6.8nm,1.1s
O20A White River Ci 54.82 69 P **P 06 48 43.0 0.0**
baz=315
TPFO Pinon Flats 54.83 80 P **P 06 48 43.3 +0.2**
baz=316
IRM Iron Mountain 55.19 78 P **P 06 48 45.9 +0.2**
baz=316
MONP2 Monument Peak 55.37 80 P **P 06 48 48.0 +0.9**
baz=317
AGMN Agassiz Nation 55.42 54 P **P 06 48 46.9 -0.2**
baz=315
AGMN Agassiz Nation 55.42 54 P **P 06 48 47.3 +0.2**
AGMN IAmb IAmb 06 49 12.7
comp=Z,7.2nm,1.1s
N23A Red Feather La 55.53 66 P **P 06 48 48.7 +0.5**
baz=315
PDMCI Parker Dam,Lak 55.66 78 P **P 06 48 49.8 +0.8**
baz=316
PV20 West Nyswonger 55.69 71 P **P 06 48 49.5 +0.1**
PV20 IAmb IAmb 06 49 03.8
comp=Z,6.2nm,0.6s
PV17 East Wray Mesa 55.73 71 P **P 06 48 50.6 +0.9**
PV16 Nyswonger Mesa 55.74 71 P **P 06 48 50.6 +0.9**
PV16 IAmb IAmb 06 49 01.6
comp=Z,9.1nm,0.6s
PV11 David Mesa, Pa 55.77 71 P **P 06 48 50.7 +0.8**
PV18 Skein Mesa, Pa 55.79 71 P **P 06 48 51.0 +0.9**
PV18 IAmb IAmb 06 49 01.3
comp=Z,7.8nm,0.7s
PV07 Paradox Valley 55.79 70 P **P 06 48 51.4 +1.3**
PV07 IAmb IAmb 06 49 02.1
comp=Z,5.5nm,0.6s
PV12 Saucer Basin, 55.79 70 P **P 06 48 51.5 +1.3**
PV12 IAmb IAmb 06 49 09.7
comp=Z,16nm,1.3s
PV13 Radium Mtn., P 55.90 71 P **P 06 48 52.0 +1.1**
ARU Arti 55.90 321 *d* iP **P 06 48 49.8 -0.6**
ARU 06 49 47.2
ARU 06 50 51.2
ARU S **S 06 56 36.8 +0.3**
ARU pmax pmax
comp=Z,14nm,1.3s
ARU Arti 55.90 321 P **P 06 48 49.7 -0.6**
ARU IAmb IAmb 06 48 50.9
comp=Z,9.0nm,1.0s
PRGR Permogore 56.05 331 *e*P **P 06 48 50.4 -0.9**
PRGR *e**SP **pwP 06 49 00.3 -0.9**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KMI Kunming 56.17 267 ⇑P **P 06 48 55.8 +2.8**
KMI pP sP 06 49 02.5 +1.3
KMI pmax pmax
comp=Z,8.0nm,0.5s
GLA Glamis 56.17 79 P **P 06 48 53.0 +0.3**
baz=317
SMCO Snowmass 56.19 69 P **P 06 48 53.2 0.0**
WUAZ Wupatki 56.36 75 P **P 06 48 54.2 0.0**
baz=316
B35A Bob, Littlefor 56.38 53 P **P 06 48 54.3 +0.3**
B35A IAmb IAmb 06 49 05.0
comp=Z,20nm,1.6s
ISCO Idaho Springs 56.48 67 P **P 06 48 56.3 +1.1**
baz=316,SNR=5.3
STEI Steigen 56.51 348 *e*P **P 06 48 53.9 -0.6**
LOF Lofoten 56.51 349 *e*P **P 06 48 53.9 -0.6**
MVCO Mesa Verde 56.75 71 P **P 06 48 57.4 +0.4**
baz=316
MVCO Mesa Verde 56.75 71 P **P 06 48 57.1 +0.1**
MVCO IAmb IAmb 06 49 08.0
comp=Z,7.3nm,1.1s
FAUS Fauske 57.03 348 *e*P **P 06 48 57.8 -0.4**
S22A 4UR Ranch, Cre 57.29 70 P **P 06 49 01.5 +0.6**
baz=316
W18A Petrified Fore 57.57 74 P **P 06 49 03.1 +0.3**
baz=317
W18A Petrified Fore 57.57 74 P **P 06 49 03.0 +0.2**
W18A IAmb IAmb 06 49 21.3
comp=Z,6.3nm,0.9s
EYMN Ely 57.71 52 P **P 06 49 03.5 +0.1**
baz=317
SDCO Great Sand Dun 58.02 69 P **P 06 49 07.1 +1.1**
baz=317
SDCO Great Sand Dun 58.02 69 P **P 06 49 06.3 +0.3**
SDCO IAmb IAmb 06 49 15.1
comp=Z,7.1nm,1.3s
KDJ Kajisay 58.10 299 P **P 06 49 05.7 -0.7**
KDJ Kajisay 58.10 299 P **P 06 49 05.7 -0.7**
214A Organ Pipe Nat 58.13 79 P **P 06 49 07.5 +1.0**
baz=318
MOR8 Moi Rana 58.29 348 *e*P **P 06 49 05.4 -1.7**
ECSD EROS Data Cent 58.33 58 P **P 06 49 07.2 -0.6**
baz=317
KLMR Klimovskoe 58.36 334 *e*P **P 06 49 06.0 -1.6**
KLMR pmax pmax
comp=Z,27nm,1.1s
KLMR Klimovskoe 58.36 334 *e*P **P 06 49 06.1 -1.6**
KLMR AMP 06 49 08.8
comp=Z,27nm,1.1s
SLVN Son La 58.40 263 P **P 06 49 09.9 +1.3**
BOOM Boomskoye usch 58.47 300 P **P 06 49 08.6 -0.4**
BOOM pmax pmax
comp=Z,7.0nm,1.2s
BOOM Boomskoye usch 58.47 300 P **P 06 49 08.6 -0.4**

BOOM IAmb IAmb 06 49 10.0
comp=Z,7.3nm,1.2s
JOF Joensuu 58.50 339 P **P** **06 49 08.6 0.0**
JOF pmax pmax
comp=Z,13nm,1.1s
KSCO Kaye Shedlock' **58.65 66** **P** **06 49 10.8 +0.6**
TUC Tucson 59.03 77 P **P** **06 49 13.3 +0.4**
baz=318
T25A Trinidad 59.05 68 P **P** **06 49 12.9 -0.2**
baz=317
AAK Ala-Archa 59.09 301 *e*P **P** **06 49 12.8 -0.5**
AAK pmax pmax
comp=Z,28nm,1.4s
AAK Ala-Archa 59.09 301 P **P** **06 49 12.7 -0.6**
AAK IAmb IAmb 06 49 15.5
comp=Z,4.4nm,0.6s
SPMN Marine on St. 59.09 55 P **P** **06 49 12.7 -0.3**
baz=318
LSA Lhasa 59.50 279 P **P** **06 49 16.7 +0.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 59.50 279 P **P** **06 49 16.7 +0.1**
LSA IAmb IAmb 06 49 18.0
comp=Z,6.1nm,0.7s
ANMO Albuquerque 59.53 72⇑ *i*P **P** **06 49 17.5 +1.0**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 59.53 72 P **P** **06 49 16.8 +0.4**
baz=318
ANMO Albuquerque 59.53 72 P **P** **06 49 16.9 +0.4**
SUF Sumiainen 59.72 341 P **P** **06 49 17.3 +0.3**
SUF pmax pmax
comp=Z,20nm,1.9s
NSS Namsos 60.16 349 *e*P **P** **06 49 19.7 -0.3**
CBKS Cedar Bluff 60.33 64 P **P** **06 49 20.8 -0.9**
baz=318
KSH Kashi 60.63 298 P **P** **06 49 26.8 +2.9**
KSH pP pwP 06 49 34.8 +1.3
KSH PP PP 06 51 45.6 +8.5
KSH S **S** **06 57 45.3 +6.3**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,85nm,3.9s
KSH LR LR
comp=Z,980nm,22.5s
KSH LR LR
comp=Z,750nm,15.6s
KSH LR LR
comp=Z,170nm,15.4s
KK31 Karatay Array 60.72 304 P **P** **06 49 23.3 -1.0**
KK31 pmax pmax
comp=Z,8.0nm,1.3s
KK31 Karatay Array 60.72 304 P **P** **06 49 23.2 -1.0**
KK31 IAmb IAmb 06 49 24.0
comp=Z,7.9nm,1.2s
KKAR Karatay Array 60.72 304 P **P** **06 49 23.0 -1.3**
KKAR Karatay Array 60.72 304 P **P** **06 49 23.0 -1.3**
ABKAR Abkulak array 60.83 315 P **P** **06 49 24.0 -0.8**
ABKAR Abkulak array 60.83 315 P **P** **06 49 24.3 -0.5**
ABKAR IAmb IAmb 06 49 25.5
comp=Z,8.6nm,1.2s
FINES FINESS Array B 60.90 341 P **P** **06 49 24.6 -0.6**
comp=Z,4.2nm,0.9s,baz=61,slow=12,SNR=6.8
FINES LR LR 07 18 07.7
comp=Z,86nm,21.9s,baz=42,slow=38
SCHQ Schefferville 61.96 33 P **P** **06 49 32.0 -0.4**
comp=Z,2.5nm,0.5s,baz=308,slow=8.1,SNR=8.1
SCHQ LR LR 07 18 22.2
comp=Z,77nm,18.3s,baz=318,slow=38
JFWS Jewell Farm 62.05 55 P **P** **06 49 32.6 -0.6**
baz=320
MATQ Matagami 62.25 42 P **P** **06 49 34.0 -0.5**
baz=323
MSTX Muleshoe 62.29 70 P **P** **06 49 35.5 +0.3**
baz=319
MSTX Muleshoe 62.29 70 P **P** **06 49 35.6 +0.5**
MNTX Cornudas Mount 62.54 73 P **P** **06 49 37.9 +1.2**
baz=319,SNR=6.5
MNTX Cornudas Mount 62.54 73 P **P** **06 49 37.6 +0.9**
MNTX IAmb IAmb 06 49 48.3
comp=Z,4.2nm,0.8s
BTK Batken 62.86 301 P **P** **06 49 38.5 -0.3**
BTK pmax pmax
comp=Z,16nm,1.4s
BTK Batken 62.86 301 P **P** **06 49 38.5 -0.3**
DOMB Dombas 62.91 349 *e*P **P** **06 49 37.4 -1.3**
AKN Aaknes 62.98 351 *e*P **P** **06 49 40.3 +1.2**
BELG Belogornoye 63.01 324 *d i*P **P** **06 49 38.9 -0.5**
BELG pmax pmax
comp=Z,5.0nm,1.3s
BELG MLR MLR
comp=Z,19nm,17.0s
LSQQ Lebel-sur-Quev 63.07 42 P **P** **06 49 39.1 -0.8**
baz=323
CHTO Chiang Mai 63.26 265 P **P** **06 49 42.0 +0.4**
CHTO pmax pmax
comp=Z,13nm,1.0s
CHTO Chiang Mai 63.26 265 P **P** **06 49 42.8 +1.2**
comp=Z,14nm,1.4s
CHTO Chiang Mai 63.26 265 P **P** **06 49 42.0 +0.4**
CHGQ Chibougamau 63.39 40 P **P** **06 49 41.5 -0.6**
baz=324
NC204 NORSAR Array S 63.46 348 P **P** **06 49 42.6 +0.2**
NC405 NORSAR Array S 63.51 348 P **P** **06 49 41.6 -1.0**
CMAR Chiang Mai Arr 63.54 265 P **P** **06 49 44.5 +1.1**
comp=Z,5.1nm,0.8s,baz=23,slow=7.4,SNR=22
CMAR LR LR 07 18 22.8
comp=Z,98nm,22.0s,baz=88,slow=37
CMAR Chiang Mai Arr 63.54 265 *i*P **P** **06 49 44.9 +1.5**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
NB201 NORSAR Array S 63.62 348 P **P** **06 49 43.5 +0.1**
NB2 NORSAR Subarra 63.64 348 P **P** **06 49 43.2 -0.4**
comp=Z,1.6nm,0.5s,baz=16,slow=6.9
NB2 NORSAR Subarra 63.64 348 P **P** **06 49 43.2 -0.4**
baz=16,slow=6.9
NOA NORSAR Array B 63.64 348 P **P** **06 49 43.5 -0.1**
comp=Z,4.6nm,0.8s,baz=16,slow=6.7,SNR=17
NOA LR LR 07 16 47.2
comp=Z,29nm,21.8s,baz=15,slow=36
P40A Paris 63.74 58 P **P** **06 49 44.3 -0.2**
P40A IAmb IAmb 06 49 52.4
comp=Z,5.9nm,0.8s
WMOK Wichita Mounta 63.88 66 P **P** **06 49 46.0 +0.4**
WMOK pmax pmax
comp=Z,16nm,1.6s
WMOK Wichita Mounta 63.88 66 P **P** **06 49 45.9 +0.4**
baz=320
WMOK Wichita Mounta 63.88 66 P **P** **06 49 46.0 +0.4**
WMOK IAmb IAmb 06 49 53.6
comp=Z,16nm,1.6s
NC602 NORSAR Array S 63.89 348 *e*P **P** **06 49 44.7 -0.5**
GAR Garm 63.91 301 P **P** **06 49 44.8 -1.0**
OBN Obninsk 64.12 332 *i*P **P** **06 49 46.8 +0.1**
OBN *i* 06 50 21.2
OBN *i* SS SS 07 02 30.7 +0.6
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,71nm,18.0s
HDIL Hopedale 64.31 56 P **P** **06 49 48.4 +0.2**
baz=321
HDIL Hopedale 64.31 56 P **P** **06 49 48.5 +0.2**
TUL1 Leonard 64.58 64 P **P** **06 49 50.7 +0.6**
baz=320
CHGR Chuyangaron 64.76 301 P **P** **06 49 51.0 -0.3**
OSL Oslo 64.77 348 *e*P **P** **06 49 50.6 -0.3**
BER Bergen 64.90 351 *e*P **P** **06 49 51.7 0.0**
ABTX Abilene, Hawle 65.02 69 P **P** **06 49 53.4 +0.3**
baz=320
KONO Kongsberg 65.18 349 *e*P **P** **06 49 53.2 -0.4**
TX31 Lajitas Ar. Si 65.30 74 P **P** **06 49 56.0 +1.1**
TX32 Lajitas Array 65.30 74 P **P** **06 49 56.0 +1.1**
TX32 IAmb IAmb 06 50 02.7
comp=Z,12nm,1.6s
TXAR Lajitas Array 65.30 74 P **P** **06 49 55.9 +0.9**
comp=Z,1.6nm,0.4s,baz=305,slow=5.1,SNR=56
U40A Yellville 65.77 61 P **P** **06 49 57.5 -0.2**
baz=321
U40A Yellville 65.77 61 P **P** **06 49 57.7 -0.1**
U40A IAmb IAmb 06 50 31.9
comp=Z,4.3nm,0.8s
W39A Magazine 66.18 63 P **P** **06 49 59.9 -0.5**
baz=321
NIL Nilore 66.50 295 P **P** **06 50 02.3 -0.2**
NIL pmax pmax
comp=Z,20nm,1.0s
NIL Nilore 66.50 295 P **P** **06 50 02.3 -0.2**
FCAR Ozark Folk Cen 66.50 61 P **P** **06 50 01.7 -0.7**
FCAR IAmb IAmb 06 50 09.8
comp=Z,6.0nm,0.7s
JCT Junction City 66.57 70 P **P** **06 50 03.6 +0.5**
JCT pmax pmax
comp=Z,16nm,1.5s
JCT Junction City 66.57 70 P **P** **06 50 03.6 +0.5**
baz=320
JCT Junction City 66.57 70 P **P** **06 50 03.6 +0.5**
JCT IAmb IAmb 06 50 11.0
comp=Z,16nm,1.4s
WHTX Lake Whitney, 66.69 67 P **P** **06 50 03.7 -0.1**
baz=321
MIAR Mount Ida 66.79 63 P **P** **06 50 04.4 +0.1**
baz=321
MNK Minsk 66.89 336 *i*P **P** **06 50 01.5 -3.1**
MNK *i* 06 50 30.6
MNK *i* 06 52 28.0
MNK *i* S **S** **06 58 51.5 -4.5**
MNK *i* 06 59 49.6
MNK *i* SS **SS** **07 03 10.4 -2.7**
MNK pmax pmax
comp=E,2.0nm,0.9s
MNK pmax pmax
comp=N,12nm,0.7s
MNK pmax pmax
comp=Z,30nm,1.0s
MNK MLR MLR
comp=Z,102nm,22.0s
MNK MLR MLR
comp=E,16nm,22.0s
MNK MLR MLR
comp=N,182nm,19.0s
MNK Minsk 66.89 336 *i*P **P** **06 50 01.6 -3.1**
comp=E,2.0nm,0.9s
MNK *i*P **P** **06 50 01.6 -3.1**
comp=N,12nm,0.7s
MNK *i*P **P** **06 50 01.6 -3.1**
comp=Z,30nm,1.1s,baz=204
MNK *i* PcP **PcP** **06 50 30.6 -2.5**
MNK *i* PP **PP** **06 52 28.1 -3.3**
MNK *i* PPP PPP 06 54 03.2
MNK *i* S **S** **06 58 51.5 -4.4**
MNK *i* SS **SS** **07 03 10.5 -2.7**
MNK *i* SSS SSS 07 06 20.4
MNK *i* LQ LQ 07 14 27.2
MNK *i* LR LR 07 17 32.0
MNK *i* LRM MLR 07 21 40.5
comp=Z,102nm,21.7s
MNK *i* LRM MLR 07 21 53.2
comp=E,16nm,21.7s
MNK *i* LRM MLR 07 22 28.0
comp=N,182nm,18.8s
W41B Gary Mavity, V 66.99 62 P **P** **06 50 05.5 -0.1**
baz=321
D61A St Aubert, Com 67.20 39 P **P** **06 50 06.6 -0.1**
baz=327
P49A Miami Univ. Ec 67.30 54 P **P** **06 50 07.6 +0.1**
baz=323
ERPA Erie 67.39 49 P **P** **06 50 07.3 -0.7**
baz=324
E60A Ste Agathe de 67.42 41 P **P** **06 50 07.1 -1.0**
baz=327
M53A Wi Miller and 67.63 50 P **P** **06 50 09.7 +0.1**
baz=324
K56A Middlesex 68.07 47 P **P** **06 50 12.0 -0.4**
baz=325
D63A Stockholm 68.10 38 P **P** **06 50 12.0 -0.4**
baz=328
I58A Old Forge 68.25 45 P **P** **06 50 13.2 -0.3**
baz=326
O53A New Philadelph 68.34 51 P **P** **06 50 14.1 0.0**
baz=324
833A Chaparral WMA, 68.46 71 P **P** **06 50 15.7 +0.7**
baz=321
WVT Waverly 68.48 58 P **P** **06 50 15.1 +0.2**
baz=322
G62A West of Eustis 68.73 41 P **P** **06 50 15.6 -0.8**
baz=327
I60A Shoreham 68.80 43 P **P** **06 50 16.3 -0.6**
baz=326
OXF Oxford 68.96 60 P **P** **06 50 17.7 -0.3**
baz=322
F64A Sherman 69.01 39 P **P** **06 50 17.3 -0.8**
baz=328
H62A Milan 69.04 42 P **P** **06 50 17.6 -0.8**
baz=327
BINY Binghamton 69.05 46 P **P** **06 50 17.3 -1.1**
baz=326
PKME Peaks-Kenny Pk 69.17 40 P **P** **06 50 18.9 -0.2**
baz=328
G63A Kingsbury 69.17 40 P **P** **06 50 18.5 -0.7**
baz=328
AKASG Malin Array Be 70.05 334 P **P** **06 50 24.3 -0.1**
comp=N,0.9nm,0.5s,baz=28,slow=6.3,SNR=13
AKASG LR LR 07 23 57.9
comp=N,81nm,19.5s,baz=55,slow=38
AKASG Malin Array Be 70.05 334 *i*P **P** **06 50 24.1 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 70.05 334 *d i*P **P** **06 50 24.0 -0.4**
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 70.05 334 P **P** **06 50 24.0 -0.4**
AKBB IAmb IAmb 06 50 25.2
comp=Z,9.0nm,1.1s
GEYT Alibeck 70.64 308 P **P** **06 50 27.9 -0.5**
comp=Z,2.3nm,0.7s,baz=249,slow=5.7,SNR=3.5
GEYT LR LR 07 24 37.1
comp=Z,80nm,19.1s,baz=175,slow=39
KIV Kislovodsk 71.91 322 *e*P **P** **06 50 36.3 +0.3**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,41nm,18.0s
KBZ Khabaz 72.03 322 P **P** **06 50 36.8 +0.2**
comp=Z,3.0nm,0.9s,baz=295,slow=1.1,SNR=6.8
KBZ LR LR 07 25 28.4
comp=Z,58nm,19.9s,baz=56,slow=39
KMSC Kings Mountain 72.42 54 P **P** **06 50 38.2 -0.9**
baz=325
MORC Moravsky Berou 73.53 341 P **P** **06 50 46.1 +0.7**
MORC pmax pmax
comp=Z,9.0nm,1.5s
MORC Moravsky Berou 73.53 341 P **P** **06 50 46.1 +0.7**
MORC Moravsky Berou 73.53 341 *e*P **P** **06 50 46.2 +0.7**
BURAR Bucovina Array 73.90 335 P **P** **06 50 48.0 +0.2**
MTN Manton Dam 74.17 218 P **P** **06 50 50.6 +1.2**
MTN IAmb IAmb 06 51 02.4
comp=Z,18nm,1.2s
JAVC Velka Javorina 74.38 341 *e*P **P** **06 50 52.4 +1.9**
KRUC Moravsky 74.43 342 *e*P **P** **06 50 51.6 +0.9**
KHC Kasperske Hory 74.86 343 P **P** **06 50 53.6 +0.4**
KHC pmax pmax
comp=Z,10.0nm,1.4s
KHC Kasperske Hory 74.86 343 P **P** **06 50 53.6 +0.4**
KHC IAmb IAmb 06 50 55.2
comp=Z,10nm,1.4s
GEC2 GERESS Array S 75.11 343 P **P** **06 50 54.4 -0.4**
GEC2 IAmb IAmb 06 50 56.2
comp=Z,13nm,1.4s
GERES GERESS Array B 75.11 343 P **P** **06 50 55.3 +0.5**
comp=Z,0.4nm,0.4s,baz=47,slow=5.9,SNR=8.7
GERES GERESS Array B 75.11 343 P **P** **06 50 54.5 -0.3**
CONA Conrad Observa 75.61 342 *e*P **P** **06 50 58.6 +1.0**
comp=Z,8.5nm,1.4s
ARSA Arzberg 76.33 342 *e*P **P** **06 51 02.8 +1.2**
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 76.88 343 *e*P **P** **06 51 06.4 +1.5**
comp=Z,7.7nm,0.8s
SOKA Soboth 76.97 342 *e*P **P** **06 51 06.7 +1.4**
comp=Z,10nm,1.3s
WTTA Wattenberg 76.98 344 *e*P **P** **06 51 06.0 +0.5**
comp=Z,9.3nm,1.6s
MOTA Moosalm 76.99 345 *e*P **P** **06 51 06.2 +0.7**
comp=Z,2.9nm,0.7s
OBKA Obir 77.22 342 *e*P **P** **06 51 07.9 +1.1**
comp=Z,9.4nm,1.0s
MYKA Terra Mystica 77.27 343 *e*P **P** **06 51 08.3 +1.3**
comp=Z,2.7nm,0.8s
ABTA Abfaltersbach 77.34 344 *e*P **P** **06 51 05.6 -1.8**
comp=Z,2.6nm,0.5s
FETA Feichten 77.36 345 *e*P **P** **06 51 08.6 +0.9**
comp=Z,4.6nm,1.3s
BR131 Keskin Array S 78.77 326 P **P** **06 51 14.9 -0.7**
BR131 pmax pmax
comp=Z,31nm,2.0s
BR131 Keskin Array S 78.77 326 P **P** **06 51 14.8 -0.7**
BRTR Keskin Array B 78.77 326 P **P** **06 51 16.1 +0.5**
comp=Z,1.1nm,0.6s,baz=64,slow=2.9,SNR=6.4
BRTR Keskin Array B 78.77 326 P **P** **06 51 15.4 -0.1**
BNN Bunyan 78.82 324 P **P** **06 51 15.6 -0.3**
TEOL Teolo 78.83 344 P **P** **06 51 16.4 +0.8**
WB0 Warramunga Arr 79.50 213 P **P** **06 51 20.5 +1.1**
WB0 IAmb IAmb 06 51 21.4
comp=Z,9.8nm,1.2s
WRAB Tennant Creek 79.67 213⇑ *i*P **P** **06 51 21.8 +1.5**
WRAB pmax pmax
comp=Z,6.0nm,1.1s
WB2 Warramunga Arr 79.67 213 P **P** **06 51 21.8 +1.4**
WB2 IAmb IAmb 06 51 30.9
comp=Z,8.9nm,1.0s
WRA Warramunga Arr 79.68 213 P **P** **06 51 21.6 +1.2**
comp=Z,4.0nm,1.0s,baz=29,slow=5.8,SNR=16
WRA LR LR 07 28 22.2
comp=Z,26nm,18.8s,baz=85,slow=37
WRA Warramunga Arr 79.68 213 *i*P **P** **06 51 21.2 +0.8**
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA Warramunga Arr 79.68 213 P **P** **06 51 21.6 +1.2**
PDG Podgorica 80.19 338 P **P** **06 51 22.9 -0.1**
PDG IAmb IAmb 06 51 44.2
comp=Z,16nm,1.5s
NRCA Norcia 81.04 342 P **P** **06 51 27.3 -0.4**
NRCA IAmb IAmb 06 51 30.2
comp=Z,16nm,1.1s
PALK Pallekele 83.10 273 LR LR 07 32 55.8
comp=Z,62nm,18.4s,baz=125,slow=39
AS31 Alice Springs 83.30 212 P **P** **06 51 40.7 +1.2**
ASAR Alice Springs 83.30 212 P **P** **06 51 41.2 +1.7**
comp=Z,4.3nm,0.9s,baz=24,slow=5.0,SNR=27
ASAR Alice Springs 83.30 212 P **P** **06 51 40.6 +1.0**
ESDC Sonseca Array 86.19 354 P **P** **06 51 54.5 +0.3**
comp=Z,0.5nm,0.3s,baz=354,slow=4.9,SNR=6.9
ESDC Sonseca Array 86.19 354 P **P** **06 51 54.8 +0.7**
STKA Stephens Creek 89.02 203 P **P** **06 52 09.1 +1.6**
comp=Z,2.1nm,0.7s,baz=326,slow=11,SNR=3.1
MAW Mawson 144.15 219 PKP PKPbc 06 58 46.1 +0.8
comp=Z,5.9nm,1.0s,baz=29,slow=7.9,SNR=6.3
MAW Mawson 144.15 219 PKIKP **PKPdf** **06 58 46.3 -0.8**
MAW Mawson 144.15 219 PKPbc 06 58 46.3 +1.0

IDC ***23*** *06:53:30.1±1.4,54.°43N×168.°74E,h0km,mb3.7/8,*
mb1 4.0/9,mb1mx3.7/45,mbtmp3.7/9,ML3.0/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.4/45,Error ellipse: s-maj=48.7km
s-min=18.3km az=175.0
KRSC ***23*** *06:53:36.2±1.9,54.°09N×168.°00E,h26km±31km,ML4.0*
ISC 23 06:53:35.5±3.4,54.°07N±0.°09×168.°3E±0.°2,h10km,n44,
σ1$56/42,mb3.7/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KBTR	**Krutoberegovo**	**3.80**	**307**	*e*P	**Pn**	**06 54 34.2**	**+0.2**	
MKZ	**Mys Kozlova**	**3.87**	**280**	*e*P	**Pn**	**06 54 35.4**	**+0.4**	
MKZ				*e*S	**Sn**	**06 55 19.2**	**-1.2**	
SMKR	**Semkarok**	**4.64**	**306**	*e*P	**Pn**	**06 54 45.6**	**0.0**	
TUMD	**Tumrok D**	**4.72**	**287**	*e*P	**Pn**	**06 54 49.5**	**+2.8**	
TUMD				*e*S	**Sn**	**06 55 42.3**	**+0.8**	
BZGR	**Bezymyannyi-Gr**	**4.76**	**296**	*e*P	**Pn**	**06 54 49.0**	**+1.8**	
BZGR				*e*S	**Sn**	**06 55 42.1**	**-0.3**	
BDR	**Baidarnaya**	**4.76**	**305**	*e*P	**Pn**	**06 54 47.0**	**-0.2**	
KZV	**Kizimen**	**4.77**	**286**	*e*P	**Pn**	**06 54 47.8**	**+0.4**	
KZV				*e*S	**Sn**	**06 55 40.8**	**-1.9**	
LGNR	**Loginova**	**4.81**	**298**	*e*P	**Pn**	**06 54 49.2**	**+1.1**	
SRKR	**Sorokina**	**4.82**	**305**	*e*P	**Pn**	**06 54 48.2**	**+0.2**	
BZWR	**Bezymyannyi-We**	**4.87**	**296**	*e*P	**Pn**	**06 54 50.8**	**+2.0**	
BZWR				*e*S	**Sn**	**06 55 45.4**	**+0.1**	
TUMR	**Tumrok**	**4.88**	**288**	*e*P	**Pn**	**06 54 50.5**	**+1.6**	
KMNR	**Kamenistaya**	**4.94**	**293**	*e*P	**Pn**	**06 54 51.5**	**+1.7**	
KMNR				*e*S	**Sn**	**06 55 46.9**	**-0.1**	
KIRR	**Kirishev**	**4.95**	**296**	*e*P	**Pn**	**06 54 50.9**	**+1.0**	
KIRR				*e*S	**Sn**	**06 55 46.0**	**-1.2**	
KPT	**Kopyto**	**5.02**	**296**	*e*P	**Pn**	**06 54 52.4**	**+1.6**	
KPT				*e*S	**Sn**	**06 55 48.8**	**0.0**	
SPN	**Mys Shipunski**	**5.02**	**262**	*e*P	**Pn**	**06 54 51.4**	**+0.7**	
SPN				*e*S	**Sn**	**06 55 46.5**	**-2.3**	
NLC	**Nalytchevo**	**5.40**	**264**	*e*P	**Pn**	**06 54 56.8**	**+0.9**	
NLC				*e*S	**Sn**	**06 55 56.1**	**-2.0**	
SRDR	**Sredinnyy**	**5.40**	**298**	*e*P	**Pn**	**06 54 58.7**	**+2.6**	
SDLR	**Sedlovina**	**5.65**	**266**	*e*P	**Pn**	**06 55 00.4**	**+0.9**	
SDLR				*e*S	**Sn**	**06 56 02.4**	**-2.0**	
UGLR	**Uglovaya**	**5.70**	**265**	*e*P	**Pn**	**06 55 01.6**	**+1.5**	
KRER	**Koryakskii**	**5.72**	**266**	*e*P	**Pn**	**06 55 01.9**	**+1.3**	
AVH	**Avacha**	**5.74**	**266**	*e*P	**Pn**	**06 55 02.0**	**+1.4**	
KRX	**Arik**	**5.77**	**267**	*e*P	**Pn**	**06 55 02.1**	**+0.9**	
KOK	**Koryaka**	**5.79**	**266**	*e*P	**Pn**	**06 55 02.6**	**+1.2**	
ESO	**Esso**	**5.83**	**292**	*e*P	**Pn**	**06 55 03.6**	**+1.8**	
RUS	**Russkaya**	**6.09**	**258**	*e*P	**Pn**	**06 55 07.5**	**+2.0**	
RUS				*e*S	**Sn**	**06 56 14.5**	**-0.6**	
GNL	**Ganaly**	**6.13**	**271**	*e*P	**Pn**	**06 55 08.1**	**+2.0**	
GRL	**Gorelyy**	**6.31**	**260**	*e*P	Pn	06 55 13.0	+4.4	
PETK	**Petropavlovsk-**	**6.38**	**266**	Pn	**Pn**	**06 55 10.1**	**+0.7**	
	1.4nm,0.3s,baz=99,slow=16,SNR=17							
PETK				Sn	**Sn**	**06 56 26.3**	**+4.0**	
	1.3nm,0.3s,baz=205,slow=20,SNR=7.4							
KDTR	**Khodutka, Kamc**	**6.58**	**254**	*e*S	**Sn**	**06 56 25.9**	**-1.1**	
KLR	**Kul'dur**	**23.00**	**273**	P	**P**	**06 58 38.5**	**-1.7**	
	1.0nm,0.6s,baz=88,slow=8.3,SNR=4.2							
ILAR	**Eielson Array**	**24.62**	**46**	P	P	06 58 47.0	-8.7	
	0.5nm,0.5s,baz=254,slow=7.5,SNR=5.7							
KSRS	**Korea Array**	**32.16**	**256**	LR	LR	07 12 53.4		
	comp=Z,36nm,19.3s,baz=94,slow=36							
DLBC	**Dease Lake**	**33.48**	**57**	P	P	07 00 08.4	-6.1	
	0.8nm,0.5s,baz=319,slow=11,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**34.29**	**182**	T	T	07 36 50.6		
	baz=2.0,slow=76,SNR=66							
H11N3	**WAKE ISLAND Hy**	**34.31**	**182**	T	T	07 36 52.7		
	baz=2.0,slow=76,SNR=65							
H11N1	**WAKE ISLAND Hy**	**34.31**	**182**	T	T	07 36 54.2		
	baz=2.0,slow=76,SNR=54							
H11S1	**WAKE ISLAND Hy**	**35.51**	**183**	T	T	07 38 24.5		
	baz=2.0,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**35.53**	**183**	T	T	07 38 25.0		
	baz=2.0,slow=76,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**35.53**	**183**	T	T	07 38 26.8		
	baz=2.0,slow=76,SNR=24							
NVAR	**Mina Array Bea**	**50.78**	**76**	P	P	07 02 28.5	-7.3	
	0.3nm,0.7s,baz=312,slow=5.8,SNR=3.2							
PDAR	**Pinedale Array**	**52.71**	**66**	P	P	07 02 43.2	-7.0	
	0.2nm,0.4s,baz=352,slow=2.0,SNR=6.4							
ARCES	**ARCESS Array B**	**53.76**	**345**	P	P	07 02 51.2	-6.1	
	4.8nm,1.1s,baz=23,slow=9.6,SNR=5.6							
NOA	**NORSAR Array B**	**63.80**	**348**	P	P	07 04 01.6	-5.6	
	0.5nm,0.5s,baz=16,slow=6.7,SNR=3.7							
TXAR	**Lajitas Array**	**65.71**	**73**	P	P	07 04 14.4	-5.8	
	0.6nm,0.4s,baz=304,slow=5.0,SNR=16							

WEL 23 06:56:30.5,38.°S±2.°×17.°8E±.°,h21km±3km,M3.5/79,
mB5.2/1,ML3.8/79,MLv3.5/79,Mw(mB)4.6/1,Error
ellipse: s-maj=0.0km s-min=0.0km az=75.3,North
Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TKGZ	**Te Karaka**	**0.04**	**215**	P	Pb	06 56 34.3	+0.1	
TKGZ				S	Sb	06 56 38.1	+1.4	
TWGZ	**Tauwhareparae**	**0.25**	**20**	P	Pb	06 56 37.2	+0.5	
TWGZ				S	Sb	06 56 43.1	+2.2	
CNGZ	**Carnagh Statio**	**0.27**	**106**	P	Pb	06 56 37.3	+0.5	
CNGZ				S	Sn	06 56 46.1	+1.3	
MWZ	**Matawai**	**0.28**	**285**	P	Pb	06 56 37.4	+0.4	
MWZ				S	Sb	06 56 42.8	+1.3	
RIGZ	**Rimuhau**	**0.31**	**197**	P	Pb	06 56 38.0	+0.7	
RIGZ				S	Sn	06 56 44.7	-1.1	
RAGZ	**Rawiri**	**0.37**	**257**	P	Pb	06 56 39.0	+0.8	
PUZ	**Puketiti**	**0.45**	**42**	P	Pb	06 56 40.3	+0.6	
PUZ				S	Sn	06 56 48.3	-0.9	
RUGZ	**Raukumara Rang**	**0.47**	**341**	P	Pb	06 56 40.4	+0.3	
RUGZ				S	Sn	06 56 48.2	-1.6	
PRGZ	**Paritu Road**	**0.51**	**179**	P	Pb	06 56 41.1	+0.3	
PRGZ				S	Sn	06 56 50.3	-0.5	
PKGZ	**Pakihiroa**	**0.55**	**17**	P	Pb	06 56 42.1	+0.7	
PKGZ				S	Sn	06 56 51.0	-0.6	
SNGZ	**Shannon Statio**	**0.56**	**228**	P	Pn	06 56 42.6	-0.7	
SNGZ				S	Sn	06 56 52.9	+0.9	

URZ	**Urewera**	**0.62 284**	P	Pb	06 56 43.1	+0.4
URZ			S	Sn	06 56 52.9	-0.5
KNZ	**Kokohu**	**0.63 194**	P	Pb	06 56 42.8	-0.1
KNZ			S	Sn	06 56 53.9	+0.3
HAZ	**Te Kaha**	**0.66 354**	P	Pb	06 56 43.3	0.0
HAZ			S	Sn	06 56 53.2	-1.0
WMGZ	**Waiomatatini S**	**0.73 36**	P	Pb	06 56 44.8	+0.4
WMGZ			S	Sn	06 56 57.2	+1.2
RTZ	**Ruatahuna**	**0.73 253**	P	Pb	06 56 45.1	+0.5
MHGZ	**Mahia Peninsul**	**0.74 178**	P	Pb	06 56 44.5	-0.2
MHGZ			S	Sn	06 56 57.1	+0.6
RAHZ	**Arahi**	**0.80 230**	P	Pb	06 56 45.9	+0.2
RAHZ			S	Sn	06 57 00.0	+2.2
WHHZ	**Waihua**	**0.83 217**	P	Pb	06 56 46.5	+0.2
WHHZ			S	Sn	06 57 00.9	+2.2
MUGZ	**Murupara**	**0.87 265**	P	Pn	06 56 47.5	0.0
WHRZ	**Whale Island**	**0.90 308**	P	Pn	06 56 48.3	+0.4
MXZ	**Matakaoa Point**	**0.91 22**	P	Pb	06 56 47.7	+0.1
MTHZ	**Maungataniwha**	**0.92 241**	P	Pb	06 56 47.9	+0.1
EDRZ	**Edgecumbe**	**0.94 288**	P	Pn	06 56 48.9	+0.3
WIZ	**White Island**	**1.03 328**	P	Pb	06 56 49.7	0.0
MARZ	**Manawahe**	**1.04 294**	P	Pn	06 56 50.0	+0.2
WSRZ	**White Island S**	**1.05 328**	P	Pn	06 56 50.0	+0.1
RRRZ	**Republican Roa**	**1.07 273**	P	Pb	06 56 50.6	+0.3
NMHZ	**Naumai**	**1.08 230**	P	Pn	06 56 50.0	-0.5
TARZ	**Mount Tarawera**	**1.09 279**	P	Pb	06 56 51.1	+0.4
ARHZ	**Aropaoanui**	**1.09 219**	P	Pn	06 56 50.1	-0.5
MKRZ	**Makatiti**	**1.14 283**	P	Pb	06 56 52.8	+1.2
PRRZ	**Plateau Road**	**1.17 265**	P	Pn	06 56 51.7	+0.1
OPRZ	**Ohinepanea**	**1.18 298**	P	Pn	06 56 51.3	-0.5
HLRZ	**Highlands Stat**	**1.21 277**	P	Pb	06 56 52.7	+0.1
ALRZ	**Allen Road**	**1.21 262**	P	Pn	06 56 52.4	+0.1
MRHZ	**Matea Rd**	**1.22 249**	P	Pn	06 56 52.3	-0.1
OMRZ	**Omania**	**1.22 284**	P	Pn	06 56 52.6	+0.2
HRRZ	**Handcock Road**	**1.25 270**	P	Pn	06 56 53.1	+0.3
HSRZ	**Hossack Road**	**1.28 274**	P	Pb	06 56 53.7	-0.3
BKZ	**Black Stump Fm**	**1.32 235**	P	Pn	06 56 53.2	-0.6
KARZ	**Kaharoa**	**1.34 286**	P	Pn	06 56 54.0	0.0
UTU	**Utuhina**	**1.34 279**	P	Pb	06 56 55.2	+0.3
WPRZ	**Whakapapatarin**	**1.35 265**	P	Pn	06 56 54.3	+0.2
NGRZ	**Ngongotaha**	**1.36 283**	P	Pb	06 56 55.1	-0.2
MCHZ	**McNeill Hill**	**1.38 221**	P	Pn	06 56 53.8	-0.8
GRRZ	**Galatos Road**	**1.39 272**	P	Pn	06 56 55.1	+0.5
CKHZ	**Cape Kidnapper**	**1.39 206**	P	Pn	06 56 51.5	-3.2
TGRZ	**Tauranga**	**1.44 298**	P	Pn	06 56 55.3	-0.1
HATZ	**Hinemaiaia**	**1.48 250**	P	Pn	06 56 56.4	+0.5
KWHZ	**Kaweka Forest**	**1.52 228**	P	Pn	06 56 55.5	-1.0
KAHZ	**Kahuranaki**	**1.58 209**	P	Pn	06 56 55.6	-1.8
KUTZ	**Kaahu Road**	**1.61 267**	P	Pn	06 56 58.0	+0.2
RITZ	**Rihia Road**	**1.68 250**	P	Pn	06 56 59.6	+0.9
KRHZ	**Kereru**	**1.70 223**	P	Pn	06 56 57.6	-1.4
RATZ	**Rangitukua**	**1.71 254**	P	Pn	06 56 59.7	+0.6
MYRZ	**Mayor Island**	**1.72 311**	P	Pn	06 56 58.9	-0.3
BHHZ	**Black Hill Sta**	**1.78 232**	P	Pn	06 56 59.1	-1.0
KATZ	**Kakaramea**	**1.80 251**	P	Pb	06 57 01.7	-1.1
TMVZ	**Te Maari**	**1.84 247**	P	Pn	06 57 00.7	-0.2
TLZ	**Tolley Road**	**1.84 272**	P	Pn	06 57 00.8	-0.1
ETVZ	**East Tongariro**	**1.84 246**	P	Pn	06 57 00.8	-0.1
NTVZ	**North Tongarir**	**1.85 248**	P	Pn	06 57 01.2	0.0
KRVZ	**Karewarewa**	**1.88 248**	P	Pn	06 57 01.4	0.0
OTVZ	**Oturere**	**1.88 246**	P	Pn	06 57 01.5	-0.1
NNVZ	**North Ngauruho**	**1.91 247**	P	Pn	06 57 02.3	+0.4
SNVZ	**South Ngauruho**	**1.91 245**	P	Pn	06 57 02.3	+0.4
WTVZ	**West Tongariro**	**1.92 248**	P	Pn	06 57 03.1	+1.1
MOVZ	**Moawhango**	**1.93 238**	P	Pn	06 57 01.9	-0.2
NGZ	**Ngauruhoe**	**1.93 246**	P	Pn	06 57 02.2	-0.1
TUVZ	**Tukino**	**1.93 243**	P	Pn	06 57 02.4	+0.1
WHVZ	**Whangaehu Hut**	**1.99 243**	P	Pn	06 57 04.1	+1.0
PNHZ	**Pukenui**	**1.99 220**	P	Pn	06 57 00.8	-2.1
TOZ	**Tahuroa Road**	**1.99 289**	P	Pn	06 57 02.5	-0.4
WPHZ	**Waipukurau**	**1.99 214**	P	Pn	06 57 00.9	-2.1
WNVZ	**Wahianoa**	**2.00 242**	P	Pn	06 57 02.9	-0.3
FWVZ	**Far West T-bar**	**2.00 244**	P	Pn	06 57 03.5	+0.3
DRZ	**Dome Shelter**	**2.00 244**	P	Pb	06 57 09.0	+2.7
TWVZ	**Taurewa**	**2.02 250**	P	Pn	06 57 04.1	+0.7
TRVZ	**Turoa**	**2.02 243**	P	Pn	06 57 04.6	+1.0
PRHZ	**Porangahau**	**2.09 207**	P	Pn	06 57 01.7	-2.6
MTVZ	**Mangateitei**	**2.11 242**	P	Pn	06 57 05.8	+1.1
PKVZ	**Pokaka**	**2.16 245**	P	Pn	06 57 06.5	+1.2
TSZ	**Takapari Road**	**2.22 221**	P	Pn	06 57 03.6	-2.5
DVHZ	**Dannevirke**	**2.30 215**	P	Pn	06 57 04.5	-2.8
HIZ	**Hauiti**	**2.37 267**	P	Pn	06 57 09.0	+0.9
KUZ	**Kuaotunu**	**2.38 314**	P	Pn	06 57 07.5	-0.9
VRZ	**Vera Road**	**2.54 253**	P	Pn	06 57 11.5	+1.1
BFZ	**Birch Farm**	**2.59 209**	P	Pn	06 57 07.9	-3.3
PRWZ	**Pori Road**	**2.60 214**	P	Pn	06 57 09.1	-2.2
WAZ	**Wanganui**	**2.62 238**	P	Pn	06 57 12.0	+0.4
WIAZ	**Waiheke Island**	**2.71 306**	P	Pn	06 57 13.1	+0.3
MBAZ	**Motutapu North**	**2.88 304**	P	Pn	06 57 15.6	+0.5
NEZ	**North Egmont**	**3.07 253**	P	Pn	06 57 19.4	+1.6
TMWZ	**Te Maipa**	**3.10 209**	P	Pn	06 57 14.6	-3.5
PKE	**Pukeiti**	**3.14 254**	P	Pn	06 57 20.7	+2.0
KHEZ	**Kahui Hut**	**3.14 252**	P	Pn	06 57 20.4	+1.6
NBEZ	**Newall Road No**	**3.24 253**	P	Pn	06 57 22.0	+1.9
WCZ	**Waipu Caves**	**3.75 310**	P	Pn	06 57 27.4	+0.4
OUZ	**Omahuta**	**4.68 312**	P	Pn	06 57 40.6	+0.7
AKCZ	**Akaroa Harbour**	**6.62 213**	P	Pn	06 58 03.5	-3.0
CTZ	**Chatham Island**	**6.75 144**	P	Pn	06 58 06.1	-2.3

IDC 23 07:09:02.3±2.7, 18°.82S×177°.00W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/30, mbtmp3.7/4, Error ellipse: s-maj=235.1km s-min=26.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.79**	**260**	P	P	07 17 25.7	-0.5
	0.5nm,0.4s,baz=98,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**45.84**	**255**	P	P	07 17 26.7	+0.2
	1.0nm,0.4s,baz=90,slow=8.1,SNR=16						
NVAR	**Mina Array Bea**	**79.16**	**43**	P	P	07 21 09.2	-0.2
	0.2nm,0.5s,baz=222,slow=8.0,SNR=3.6						
TXAR	**Lajitas Array**	**85.36**	**57**	P	P	07 21 42.1	+0.2
	0.3nm,0.8s,baz=224,slow=6.3,SNR=4.7						

*IDC **23** 07:26:15.1±0.9, 54°.42N×168°.80E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.6/47, mbtmp3.7/7, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/30, Error ellipse: s-maj=36.6km s-min=20.1km az=153.0*
*KRSC **23** 07:26:17.5±2.1, 54°.01N×168°.62E, h61km±25km, ML4.2*
ISC 23 07:26:19.3±0.9, 54°.07N±0°.08×168°.79E±0°.07, h35km, n46, σ1§40/51, mb3.7/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**4.04**	**304**	*eP*	**Pn**	**07 27 17.4**	**-1.2**
MKZ	**Mys Kozlova**	**4.16**	**280**	*eP*	**Pn**	**07 27 20.0**	**-0.2**
MKZ				*eS*	**Sn**	**07 28 05.5**	**-2.1**
SMKR	**Semkarok**	**4.88**	**304**	*eP*	**Pn**	**07 27 30.3**	**+0.1**
BDR	**Baidarnaya**	**5.00**	**303**	*eP*	**Pn**	**07 27 32.8**	**+1.0**
BDR				*eS*	**Sn**	**07 28 29.0**	**+0.7**
TUMD	**Tumrok D**	**5.00**	**286**	*eP*	**Pn**	**07 27 32.7**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**5.02**	**295**	*eP*	**Pn**	**07 27 33.8**	**+1.7**
KZV	**Kizimen**	**5.05**	**285**	*eP*	**Pn**	**07 27 32.7**	**+0.1**
SRKR	**Sorokina**	**5.06**	**304**	*eP*	**Pn**	**07 27 33.1**	**+0.5**
LGNR	**Loginova**	**5.07**	**297**	*eP*	**Pn**	**07 27 33.8**	**+0.8**
BZWR	**Bezymyannyi-We**	**5.13**	**295**	*eP*	**Pn**	**07 27 35.1**	**+1.3**
BZWR				*eS*	**Sn**	**07 28 32.2**	**+0.4**
TUMR	**Tumrok**	**5.16**	**287**	*eP*	**Pn**	**07 27 34.5**	**+0.4**
KIRR	**Kirishev**	**5.21**	**295**	*eS*	**Sn**	**07 28 34.5**	**+0.8**
KMNR	**Kamenistaya**	**5.21**	**292**	*eP*	**Pn**	**07 27 35.8**	**+1.0**
KMNR				*eS*	**Sn**	**07 28 33.6**	**-0.1**
KPT	**Kopyto**	**5.28**	**295**	*eP*	**Pn**	**07 27 37.2**	**+1.5**
SPN	**Mys Shipunski**	**5.31**	**263**	*eP*	**Pn**	**07 27 36.2**	**+0.1**
SPN				*eS*	**Sn**	**07 28 34.4**	**-1.6**
KII	**Karymskiy**	**5.50**	**273**	*eP*	**Pn**	**07 27 39.4**	**+0.6**
SRDR	**Sredinnyy**	**5.66**	**297**	*eP*	**Pn**	**07 27 42.4**	**+1.5**
NLC	**Nalytchevo**	**5.69**	**265**	*eP*	**Pn**	**07 27 42.1**	**+0.8**
NLC				*eS*	**Sn**	**07 28 44.0**	**-1.3**
SDLR	**Sedlovina**	**5.94**	**266**	*eP*	**Pn**	**07 27 45.1**	**+0.3**
UGLR	**Uglovaya**	**5.99**	**266**	*eP*	**Pn**	**07 27 46.4**	**+0.9**
SMAR	**Somma**	**5.99**	**266**	*eP*	**Pn**	**07 27 46.2**	**+0.6**
KRER	**Koryakskii**	**6.01**	**267**	*eP*	**Pn**	**07 27 46.9**	**+1.0**
AVH	**Avacha**	**6.03**	**266**	*eP*	**Pn**	**07 27 46.8**	**+0.8**
KRX	**Arik**	**6.06**	**267**	*eP*	**Pn**	**07 27 46.8**	**+0.3**
KRX				*eS*	**Sn**	**07 28 54.5**	**-0.2**
KOK	**Koryaka**	**6.08**	**267**	*eP*	**Pn**	**07 27 47.5**	**+0.7**
ESO	**Esso**	**6.09**	**292**	*eP*	**Pn**	**07 27 48.3**	**+1.5**
RUS	**Russkaya**	**6.38**	**259**	*eP*	**Pn**	**07 27 52.2**	**+1.5**
RUS				*eS*	**Sn**	**07 29 01.9**	**-0.4**
GNL	**Ganaly**	**6.42**	**271**	*eP*	**Pn**	**07 27 52.7**	**+1.2**
KRMR	**Karymshinskiy**	**6.49**	**263**	*eP*	**Pn**	**07 27 53.1**	**+0.9**
KRMR				*eS*	**Sn**	**07 29 04.2**	**-0.7**
GRL	**Gorelyy**	**6.60**	**261**	*eP*	**Pn**	**07 27 55.9**	**+2.0**
PETK	**Petropavlovsk-**	**6.67**	**266**	Pn	**Pn**	**07 27 55.6**	**+0.8**
	1.7nm,0.3s,baz=268,slow=23,SNR=40						
PETK				Sn	**Sn**	**07 29 10.5**	**+1.0**
	1.1nm,0.3s,baz=70,slow=18,SNR=2.7						
PETK				LR	LR	07 30 35.4	
	comp=Z,64nm,18.7s,baz=82,slow=39						
KDTR	**Khodutka, Kamc**	**6.86**	**255**	*eP*	**Pn**	**07 27 56.3**	**-1.0**
KDTR				*eS*	**Sn**	**07 29 09.1**	**-4.9**
APC	**Apacha**	**7.03**	**265**	*eP*	**Pn**	**07 28 01.2**	**+1.5**
ILAR	**Eielson Array**	**24.41**	**46**	P	**P**	**07 31 32.0**	**-2.0**
	0.4nm,0.6s,baz=280,slow=8.3,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**34.31**	**183**	T	T	08 09 36.7	
	baz=2.0,slow=76,SNR=274						
H11N3	**WAKE ISLAND Hy**	**34.33**	**183**	T	T	08 09 37.7	
	baz=2.0,slow=76,SNR=424						
H11N1	**WAKE ISLAND Hy**	**34.33**	**183**	T	T	08 09 40.5	
	baz=2.0,slow=76,SNR=180						
H11S1	**WAKE ISLAND Hy**	**35.53**	**183**	T	T	08 11 10.4	
	baz=2.0,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**35.55**	**183**	T	T	08 11 11.1	
	baz=2.0,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**35.55**	**183**	T	T	08 11 12.0	
	baz=2.0,slow=76,SNR=77						
PDAR	**Pinedale Array**	**52.44**	**67**	P	**P**	**07 35 28.4**	**0.0**
	0.2nm,0.4s,baz=344,slow=2.5,SNR=5.6						
ARCES	**ARCESS Array B**	**53.83**	**345**	P	**P**	**07 35 36.7**	**-1.3**
	3.2nm,0.9s,baz=16,slow=9.1,SNR=7.0						
NB2	**NORSAR Subarra**	**63.86**	**348**	P	**P**	**07 36 46.1**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=15,slow=6.9						
TXAR	**Lajitas Array**	**65.43**	**74**	P	**P**	**07 36 59.0**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=304,slow=5.3,SNR=18						
WRA	**Warramunga Arr**	**79.44**	**213**	P	**P**	**07 38 24.7**	**+2.9**
	comp=Z,0.6nm,1.0s,baz=20,slow=6.0,SNR=4.7						
ASAR	**Alice Springs**	**83.06**	**212**	P	**P**	**07 38 43.7**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=17,slow=5.5,SNR=4.6						

*NNC **23** 07:32:57.1±0.7, 50°.02N×78°.80E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=12.7km s-min=3.4km az=73.0, Suspected Mining explosion.*
*ASRS **23** 07:33:03.2±1.4, 49°.N±6°.×7°.9E±°, h15km, MLh3.4/1, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
ISC 23 07:32:56.8±1.0, 50°.01N±0°.05×78°.45E±0°.05, h0km, n11, σ2§88/19, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**5**	⇑P	**Pb**	**07 33 09.1**	**-1.4**
	21nm,0.3s						
KURBB				⇓S	**Sb**	**07 33 18.4**	**-1.3**
	83nm,0.6s						
MAKZ	**Makanchi**	**3.97**	**142**	⇑Pg	**Pb**	**07 34 06.8**	**-0.9**
	1.8nm,0.5s						
MAKZ				⇓Lg	Lg	07 34 57.2	
	8.3nm,0.9s						
MK31	**Makanchi Array**	**4.11**	**140**	⇑Pn	**Pn**	**07 34 01.3**	**+0.4**
	0.1nm,0.2s,baz=326,slow=10,SNR=31						
MK31				⇑Pg	**Pb**	**07 34 08.9**	**-1.1**
	1.2nm,0.5s,baz=329,slow=14,SNR=18						
MK31				⇓Lg	Lg	07 35 04.9	
	10nm,0.6s,baz=331,slow=31,SNR=17						
UKR	**Ust'-Kan**	**4.14**	**75**	P	**Pn**	**07 33 57.2**	**-4.2**
UKR				S	**Sb**	**07 34 59.0**	**-2.3**
OTUK	**Ortayu**	**4.38**	**249**	⇓Pn	**Pn**	**07 34 08.7**	**+4.1**
	1.8nm,0.5s						
OTUK				⇑Pg	**Pg**	**07 34 20.3**	**-0.5**
	1.2nm,0.7s						
OTUK				⇓Lg	Lg	07 35 23.0	
	5.0nm,0.8s						
DGZ	**Jazzator, Alta**	**5.82**	**90**	P	**Pn**	**07 34 24.1**	**-0.3**
DGZ				S	**Sn**	**07 35 31.0**	**-0.9**
ELT	**Eltsovka**	**5.84**	**53**	P	**Pn**	**07 34 27.0**	**+2.3**
ELT				S	**Sb**	**07 35 52.5**	**+2.6**
ARTR	**Artybash**	**5.87**	**69**	S	**Sn**	**07 35 40.4**	**+7.4**
AKAR	**Aktash**	**5.90**	**83**	P	**Pn**	**07 34 25.7**	**+0.1**
AKAR				S	**Sn**	**07 35 30.7**	**-3.3**
ULGR	**Ulagan, Altay**	**6.12**	**81**	P	**Pn**	**07 34 28.7**	**+0.1**
ULGR				S	**Sn**	**07 35 39.3**	**-0.1**
VCHU	**Verkh-Chumysh,**	**6.32**	**48**	S	**Sb**	**07 36 06.6**	**+2.8**

IDC 23 08:24:28.8±3.5, 54°.39N×87°.23E, h0km, mb1 2.8/2, mb1mx2.8/44, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=32.3km s-min=20.5km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**254**	*i*		08 33 00.0	
	baz=71,slow=330,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.48**	**254**	Pg	Pn	08 24 54.6	-2.1
	1.5nm,0.3s,baz=70,slow=17,SNR=6.6						
ZALV				Lg	Lg	08 25 15.9	
	1.5nm,0.3s,baz=74,slow=28,SNR=4.9						
KURBB	**Kurchatov Arra**	**6.51**	**238**	Pn	Pn	08 26 06.9	+1.2
	0.1nm,0.3s,baz=55,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**8.22**	**204**	Pn	Pn	08 26 30.2	+0.9
	0.1nm,0.3s,baz=25,slow=15,SNR=5.6						

*NEIC **23** 08:33:01.4±0.8, 19°.4N±0°.3×64°.67W±0°.06, h34km±47km, Error ellipse: s-maj=40.5km s-min=8.1km az=183.0*
RSPR 23 08:33:02.5, 19°.40N×64°.67W, h30km±26km, MD2.9/3, 4C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGBI	**Virgin Gorda,**	**0.94**	**164**	⇑*eP*	Pn	08 33 17.4	-2.3
VGBI	**Virgin Gorda,**	**0.94**	**164**	*eS*	Sn	08 33 30.3	-1.9
VGBI	**Virgin Gorda,**	**0.94**	**164**		Pn	08 33 17.4	-2.3
VGBI					Sn	08 33 30.3	-1.9
STVI	**Saint Thomas**	**1.08**	**194**	⇑*eP*	Pn	08 33 19.9	-1.6
STVI	**Saint Thomas**	**1.08**	**194**	*eS*	Sn	08 33 33.1	-2.4
STVI	**Saint Thomas**	**1.08**	**194**		Pn	08 33 19.9	-1.6
STVI				IAML		08 34 00.5	
	comp=E,13nm,2.7s						
STVI	**Saint Thomas**	**1.08**	**194**		Sn	08 33 33.1	-2.4
STVI	**Saint Thomas**	**1.08**	**194**	IAML		08 33 30.1	
	comp=N,14nm,2.2s						
CUPR	**Culebra, Puert**	**1.24**	**208**	⇑*eP*	Pn	08 33 21.8	-1.9
CUPR	**Culebra, Puert**	**1.24**	**208**	*eS*	Sn	08 33 37.0	-2.4
CUPR	**Culebra, Puert**	**1.24**	**208**		Pn	08 33 21.8	-1.9
CUPR					Sn	08 33 37.0	-2.4
CUPR	**Culebra, Puert**	**1.24**	**208**	IAML		08 34 11.3	
	comp=E,7.0nm,1.1s						
MTP	**Monte Pirata**	**1.55**	**213**	⇑*eP*	Pn	08 33 26.8	-1.2
MTP	**Monte Pirata**	**1.55**	**213**	*eS*	Sn	08 33 45.1	-1.9
MTP	**Monte Pirata**	**1.55**	**213**		Pn	08 33 26.8	-1.2
MTP					Sn	08 33 45.1	-1.9
MTP	**Monte Pirata**	**1.55**	**213**	IAML		08 33 46.8	
	comp=E,10nm,1.1s						

*IDC **23** 08:33:39.3±3.0, 53°.73N×88°.13E, h0km, mb1 3.4/2, mb1mx3.2/47, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=28.5km s-min=18.3km az=51.0*
*NNC **23** 08:33:40.9±4.0, 53°.52N×87°.98E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=32.9km s-min=15.4km az=60.0, Suspected Mining explosion.*
ISC 23 08:33:40.8±3.7, 53°.6N±0°.1×87°.9E±0°.2, h0km, n8, σ1§18/11, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**281**	*i*		08 46 17.8	
	baz=92,slow=315,SNR=9.2						
ZAA0	**Zalesovo Array**	**1.88**	**281**	⇑Pn	**Pn**	**08 34 14.0**	**-0.2**
	3.3nm,0.6s						
ZAA0				⇓Sn	**Sg**	**08 34 41.1**	**-0.1**
	5.4nm,0.4s						
ZALV	**Zalesovo Beam**	**1.88**	**281**	Pn	**Pn**	**08 34 14.1**	**-0.1**
	4.2nm,0.3s,baz=94,slow=12,SNR=36						
ZALV				Lg	Lg	08 34 42.1	
	12nm,0.3s,baz=98,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**6.52**	**246**	Pn	**Pn**	**08 35 18.8**	**+0.8**
	0.3nm,0.3s,baz=62,slow=14,SNR=11						
KURBB				Lg	Lg	08 37 10.7	
	0.1nm,0.3s,baz=60,slow=30,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.52**	**246**	⇑Pn	**Pn**	**08 35 18.2**	**+0.3**
	3.5nm,0.4s						
KURBB				⇓Sn	**Sn**	**08 36 33.5**	**+0.5**
	4.3nm,0.5s						
KURBB				⇓Lg	Lg	08 37 06.7	
	9.7nm,0.7s						
MK31	**Makanchi Array**	**7.73**	**210**	⇑Pn	**Pn**	**08 35 35.1**	**+0.5**
	0.5nm,0.6s,baz=29,slow=13,SNR=9.6						
MK31				⇑Sn	**Sn**	**08 37 03.3**	**+0.5**
	0.4nm,0.5s,baz=168,slow=15,SNR=9.5						
MK31				⇓Lg	Lg	08 37 43.9	
	1.4nm,0.6s,baz=20,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	**Pn**	**08 35 36.4**	**+1.8**
	0.3nm,0.3s,baz=27,slow=13,SNR=8.5						
MKAR				Lg	Lg	08 37 49.1	
	0.1nm,0.3s,baz=27,slow=36,SNR=3.5						
MAKZ	**Makanchi**	**7.81**	**212**	⇓Pn	**Pn**	**08 35 34.3**	**-1.4**
	0.8nm,0.6s						
MAKZ				⇑Sn	**Sn**	**08 37 02.8**	**-2.0**
	0.9nm,0.7s						
MAKZ				⇓Lg	Lg	08 37 44.6	
	4.0nm,1.2s						

*IDC **23** 08:37:23.2±2.5, 6°.36S×130°.09E, h0km, mb3.4/1, mb1 4.3/3, mb1mx3.7/32, mbtmp4.0/3, ML4.4/2, Error ellipse: s-maj=139.3km s-min=34.1km az=69.0*
*DJA **23** 08:37:38.9±0.3, 7°.S±3°.×13°.0E±°, h193km±8km, M4.4/11, mB5.0/5, mb4.4/7, MLv4.5/11, Mw(mB)4.3/5*
ISC 23 08:37:38.8±1.1, 6°.99S±0°.07×129°.71E±0°.09, h200km, n13, σ2§21/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.86**	**122**	P	**Pn**	**08 38 16.4**	**+0.5**
SAUI				S	**Sn**	**08 38 44.2**	**-0.6**
BNDI	**Bandanaira**	**2.46**	**5**	P	**Pn**	**08 38 21.9**	**-0.4**
MSAI	**Masohi**	**3.70**	**348**	P	**Pn**	**08 38 36.3**	**-0.6**
FAKI	**Fak Fak**	**4.77**	**32**	P	**Pn**	**08 38 49.5**	**-0.8**
KMPI	**Kaimana, Papua**	**5.17**	**50**	P	**Pn**	**08 38 57.1**	**+1.6**
	1.4nm5μm138nm,0.7s						
SOEI	**Soe**	**6.04**	**243**	P	**Pn**	**08 39 06.8**	**0.0**
	0.4nm43nm,0.6s						
SANI	**Sanana**	**6.15**	**323**	P	**Pn**	**08 39 08.4**	**+0.4**
SWI	**Sorong**	**6.28**	**14**	P	**Pn**	**08 39 09.2**	**-0.5**
	0.3nm27nm,0.9s						
BATI	**Baumata**	**6.78**	**241**	P	**Pn**	**08 39 16.0**	**-0.2**
	0.2nm52nm,0.8s						
EDFI	**Ende, Flores**	**8.13**	**257**	P	**Pn**	**08 39 33.8**	**-0.1**
	9.9nm,1.0s						
WRA	**Warramunga Arr**	**13.64**	**161**	Pn	**Pn**	**08 40 44.8**	**+0.4**
	1.9nm,0.3s,baz=347,slow=12,SNR=62						
WRA				Sn	**S**	**08 43 10.8**	**-5.6**
	1.8nm,0.3s,baz=331,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**17.07**	**167**	Pn	**Pn**	**08 41 29.9**	**+3.9**
	1.1nm,0.3s,baz=342,slow=9.2,SNR=74						
ASAR				Sn	**S**	**08 44 34.6**	**+2.5**
	0.4nm,0.3s,baz=317,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	08 48 22.8	+6.0
	0.2nm,0.4s,baz=130,slow=7.5,SNR=2.7						

IDC 23 08:42:08.9±13.0, 6°.26S×130°.52E, h122km±128km, mb3.6/2, mb1 3.6/4, mb1mx3.2/25, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=155.5km s-min=41.2km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.10**	**165**	P	Pn	08 45 22.9	-0.5
	baz=348,slow=12,SNR=2.2						
WRA				S	Sn	08 47 46.6

HUMP	Col San Antoni	0.93 251	⇑eP	Pn	08 43 35.7	+0.1
HUMP	Col San Antoni	0.93 251	eP	Pn	08 43 36.2	+0.6
HUMP	Col San Antoni	0.93 251	eS	Sn	08 43 51.2	+0.4
HUMP	Col San Antoni	0.93 251	⇑eP	Pn	08 43 35.7	+0.1
HUMP	Col San Antoni	0.93 251	⇑eP	Pn	08 43 36.2	+0.6
HUMP			eS	Sn	08 43 51.2	+0.4
HUMP	Col San Antoni	0.93 251		Pn	08 43 35.7	+0.1
HUMP				Sn	08 43 51.2	+0.4
HUMP	Col San Antoni	0.93 251	IAML		08 43 52.7	
	comp=N,125nm,0.2s					
HUMP			IAML		08 43 53.2	
	comp=E,131nm,0.2s					
GCPR	Guaynabo City	1.11 263	⇑eP	Pn	08 43 37.8	+0.3
GCPR	Guaynabo City	1.11 263	eS	Sn	08 43 53.4	-0.7
GCPR	Guaynabo City	1.11 263		Pn	08 43 37.8	+0.3
GCPR				Sn	08 43 53.4	-0.7
GCPR	Guaynabo City	1.11 263	IAML		08 43 53.6	
	comp=E,101nm,0.5s					
GCPR			IAML		08 43 55.6	
	comp=N,29nm,0.6s					
IGPR	InterUniversit	1.22 247	⇑eP	Pn	08 43 40.0	+1.3
IGPR	InterUniversit	1.22 247	eS	Sn	08 43 55.5	-0.9
IGPR	InterUniversit	1.22 247	⇑eP	Pn	08 43 40.0	+1.3
IGPR	InterUniversit	1.22 247	eS	Sn	08 43 56.6	+0.2
IGPR	InterUniversit	1.22 247		Sn	08 43 56.6	+0.2
EMPR	Esperanza - Ma	1.52 271	⇑eP	Pn	08 43 43.1	+0.8
EMPR	Esperanza - Ma	1.52 271	eS	Sn	08 44 01.7	-0.9
EMPR	Esperanza - Ma	1.52 271	⇑eP	Pn	08 43 43.3	+1.1
EMPR	Esperanza - Ma	1.52 271	eS	Sn	08 44 03.0	+0.3
EMPR	Esperanza - Ma	1.52 271		Pn	08 43 43.1	+0.8
EMPR				Sn	08 44 01.7	-0.9
EMPR	Esperanza - Ma	1.52 271	IAML		08 44 04.7	
	comp=E,86nm,1.4s					
EMPR			IAML		08 44 06.4	
	comp=N,90nm,0.6s					
CELP	Cerrillos	1.62 257	⇑eP	Pn	08 43 44.7	+1.3
CELP	Cerrillos	1.62 257	⇑eP	Pn	08 43 44.5	+1.1
CELP	Cerrillos	1.62 257	eS	Sn	08 44 05.3	+0.5
CELP	Cerrillos	1.62 257	⇑eP	Pn	08 43 44.5	+1.1
CELP	Cerrillos	1.62 257	⇑eP	Pn	08 43 44.7	+1.3
CELP			eS	Sn	08 44 05.3	+0.5
CELP			eS		08 44 05.7	
CELP	Cerrillos	1.62 257		Pn	08 43 44.7	+1.3
CELP				Sn	08 44 05.7	+0.9
AOPR	Arecibo Observ	1.74 267	⇑eP	Pn	08 43 44.2	-0.8
AOPR	Arecibo Observ	1.74 267	⇑eP	Pn	08 43 45.6	+0.6
AOPR	Arecibo Observ	1.74 267	eS	Sn	08 44 07.0	-0.5
AOPR	Arecibo Observ	1.74 267	⇑eP	Pn	08 43 44.2	-0.8
AOPR	Arecibo Observ	1.74 267	⇑eP	Pn	08 43 45.6	+0.6
AOPR			eS	Sn	08 44 07.0	-0.5
AOPR			eS	Sn	08 44 07.0	-0.5
AOPR	Arecibo Observ	1.74 267		Pn	08 43 44.2	-0.8
AOPR				Sn	08 44 07.0	-0.5
AOPR	Arecibo Observ	1.74 267	IAML		08 44 09.7	
	comp=N,172nm,0.3s					
AOPR			IAML		08 44 12.6	
	comp=E,228nm,0.5s					
LSP	Las Mesas	2.07 263	⇑eP	Pn	08 43 50.8	+1.7
LSP	Las Mesas	2.07 263	⇑eP	Pn	08 43 50.8	+1.7
LSP			eS	Sn	08 44 15.9	+1.0
LSP	Las Mesas	2.07 263		Pn	08 43 50.8	+1.7
LSP				Sn	08 44 15.9	+1.0
MLPR	Magueyes Islan	2.07 257	⇑eP	Pn	08 43 48.9	-0.3
MLPR	Magueyes Islan	2.07 257	eS	Sn	08 44 12.4	-2.5
MLPR	Magueyes Islan	2.07 257	⇑eP	Pn	08 43 48.9	-0.3
MLPR	Magueyes Islan	2.07 257	eS	Sn	08 44 15.0	+0.1
MLPR	Magueyes Islan	2.07 257		Pn	08 43 48.9	-0.3
MLPR				Sn	08 44 15.0	+0.1
MLPR	Magueyes Islan	2.07 257	IAML		08 44 17.6	
	comp=E,27nm,0.7s					
MLPR			IAML		08 44 17.9	
	comp=N,24nm,0.6s					
AGPR	Aguadilla, PR	2.08 271	⇑eP	Pn	08 43 50.2	+1.0
AGPR	Aguadilla, PR	2.08 271	eS	Sn	08 44 15.0	0.0
AGPR	Aguadilla, PR	2.08 271	⇑eP	Pn	08 43 50.2	+1.0
AGPR			eS	Sn	08 44 15.0	0.0
AGPR	Aguadilla, PR	2.08 271		Pn	08 43 50.2	+1.0
AGPR				Sn	08 44 15.0	0.0
AGPR	Aguadilla, PR	2.08 271	IAML		08 44 17.3	
	comp=E,68nm,0.9s					
AGPR			IAML		08 44 49.1	
	comp=N,80nm,2.0s					
AGPR	Aguadilla, PR	2.08 271	i P	Pn	08 43 49.5	+0.3
AGPR			eS	Sn	08 44 14.0	-1.0
AGPR			IAML		08 44 23.3	
	comp=Z,51nm,1.2s					
MPR	Mayaguez	2.12 264	i P	Pn	08 43 50.4	+0.7
MPR			eS	Sn	08 44 15.5	-0.5
MPR			IAML		08 44 16.5	
	comp=Z,26nm,0.5s					
PCDR	Punta Cana, DR	3.28 272	i P	Pn	08 44 03.5	-1.6
PCDR			eS	Sn	08 44 41.3	-2.1

TRN ***23*** *09:12:13.9, 10.″59N×62.°39W, h76km, MD3.6*
FUNV ***23*** *09:12:14.8, 10.″67N×62.°40W, h81km, MW3.6*

ISC 23 09:12:12.6±1.4, 10.°58N±0.°06×62.°42W±0.°04, h94km±13km, n18, σ1§41/31, 1C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.81	277	i P	Pn	09 12 31.0	+0.6
CRUV				eS	Sn	09 12 43.1	-0.7
TRN	Trinidad (W)	1.00	86	eP	Pn	09 12 33.5	+0.9
TRN				eS	Sn	09 12 46.1	-1.5
TRN	Trinidad (W)	1.00	86	⇓eP	Pn	09 12 34.2	+1.6
TRN				eS	Sn	09 12 47.1	-0.5
TOSP	Speyside	1.99	69	eP	Pn	09 12 44.6	-0.2
TOSP				eS	Sn	09 13 07.6	-1.7
GCMP	Grenada, Carri	2.13	27	eS	Sn	09 13 11.2	-1.5
PCRV	Puerto La Cruz	2.21	260	eP	Pn	09 12 49.0	+1.2
PCRV				eS	Sn	09 13 14.2	-0.4
PRGV	PARIAGUAN	2.84	231	eP	Pn	09 12 57.0	+1.0
PRGV				eS	Sn	09 13 29.6	+0.1
SVB	Belmont	2.91	23	eP	Pn	09 12 57.9	+0.8
SVB				eS	Sn	09 13 30.4	-0.9
MCLT	Moule a Chique	3.43	25	eP	Pn	09 13 05.3	+1.3
MCLT				eS	Sn	09 13 42.8	-1.0
SLBI	Saint Lucia, B	3.71	22	eP	Pn	09 13 09.1	+1.4
SLBI				eS	Sn	09 13 49.1	-1.3
BIRV	Birongo	3.78	269	eP	Pn	09 13 10.1	+1.3
BIRV				eS	Sn	09 13 51.6	-0.7
MERV	Las Mercedes	4.04	251	eP	Pn	09 13 14.0	+1.8
MERV				eS	Sn	09 13 57.9	-0.6
BIM	Bigot	4.13	18	eP	Pn	09 13 15.8	+2.3
MPOM	Morne Pois Mar	4.14	22	eP	Pn	09 13 15.2	+1.6
MPOM				eS	Sn	09 13 59.4	-1.4
CACV	CAICARA DEL OR	5.05	234	⇓eP	Pn	09 13 23.0	-2.9
CACV				eS	Sn	09 14 13.4	-10
BENV	Beln	5.13	264	eP	Pn	09 13 27.6	+0.5
BENV				eS	Sn	09 14 22.3	-2.8
BAUV	El Baul	5.77	254	eS	Sn	09 14 39.0	-1.6
BAUV	El Baul	5.77	254	eP	Pn	09 13 36.0	+0.3
BAUV				eS	Sn	09 14 38.5	-2.1

IDC ***23*** *09:19:05.1±2.1, 5.″33S×127.°82E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.4/43, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=124.5km s-min=30.8km az=66.0*
DJA ***23*** *09:19:26.2±0.5, 5.°S±4.°×13.°0E±.°, h182km±5km, M3.7/8, MLv3.7/8*

ISC 23 09:19:24.0±1.1, 4.°75S±0.°08×129.°88E±0.°06, h200km, n10, σ1§49/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.23	7	P	Pn	09 19 50.1	-0.3
BNDI				S	Sn	09 20 10.9	0.0
MSAI	Masohi	1.69	326	P	Pn	09 19 59.9	+0.4
MSAI				S	Sn	09 20 25.3	-1.8
FAKI	Fak Fak	2.99	53	P	Pn	09 20 14.7	+1.2
FAKI				S	Sn	09 20 51.9	-0.3
NLAI	Namlea	3.15	298	P	Pn	09 20 17.6	+2.1
NLAI				S	Sn	09 20 56.0	+0.3
SAUI	Saumlaki	3.51	156	P	Pn	09 20 21.8	+2.0
KMPI	Kaimana, Papua	3.97	74	P	Pn	09 20 26.6	+1.2
KMPI				S	Sn	09 21 13.5	-0.1
SWI	Sorong	4.10	20	P	Pn	09 20 28.4	+1.3
WRA	Warramunga Arr	15.71	164	Pn	P	09 22 50.0	-4.9
	0.2nm,0.3s,baz=335,slow=12,SNR=17						
WRA				Sn	S	09 25 29.4	-20
	0.1nm,0.3s,baz=336,slow=22,SNR=2.3						
ASAR	Alice Springs	19.20	169	P	P	09 23 30.2	-2.8
	0.4nm,0.3s,baz=349,slow=11,SNR=37						
ASAR				S	S	09 26 51.5	-8.4
	0.1nm,0.3s,baz=345,slow=17,SNR=3.4						
MKAR	Makanchi Array	66.29	326	P	P	09 29 51.2	+0.3
	0.2nm,0.3s,baz=146,slow=6.3,SNR=3.2						

NEIC ***23*** *09:22:53.0±0.8, 20.°35S±0.°10×179.°0W±0.°1, h619km±8km, mb4.0/20, Error ellipse: s-maj=18.2km s-min=13.7km az=100.0*
IDC ***23*** *09:22:53.1±1.7, 20.°46S×178.°99W, h625km±17km, mb3.3/11, mb1 3.5/13, mb1mx3.4/27, mbtmp4.2/13, Error ellipse: s-maj=35.6km s-min=11.4km az=154.0*

ISC 23 09:22:54.2±0.7, 20.°4S±0.°1×178.°97W±0.°09, h645km, n39, σ1§16/41, mb4.0/22, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.89	313	P	P	09 24 19.5	-3.0
	15nm,0.3s,baz=260,slow=23,SNR=41						
MSVF	Nonsavu	3.89	313	P	P	09 24 19.4	-3.1
NIUE	Niue	8.62	83	P	P	09 24 58.8	-2.2
MARNC	Mare, Loyalty	12.19	263	P	P	09 25 32.8	-1.9
DZM	Mont Dzumac	13.70	261	P	P	09 25 48.3	-0.5
	0.5nm,0.3s,baz=78,slow=20,SNR=6.2						
SANVU	Saraoutou	14.06	288	P	P	09 25 51.8	-0.3
TUWZ	Tuamarina	21.78	194	P	P	09 27 03.3	+1.6
CTAO	Charters Tower	32.59	264	P	P	09 28 35.4	-0.4
STKA	Stephens Creek	37.00	244	P	P	09 29 12.2	+0.2
	2.0nm,0.7s,baz=79,slow=9.0,SNR=4.7						
BBOO	Buckleboo	41.76	243	P	P	09 29 49.2	-0.7
WR0	Warramunga Arr	43.52	262	P	P	09 30 03.3	-0.4
WR0				IAmb	IAmb	09 30 11.8	
	comp=Z,7.5nm,1.3s						
AS31	Alice Springs	43.65	257	P	P	09 30 04.1	-0.5
AS31				IAmb	IAmb	09 30 05.3	
	comp=Z,2.4nm,0.7s						
ASAR	Alice Springs	43.65	257	P	P	09 30 04.6	-0.1
	comp=Z,7.3nm,0.6s,baz=97,slow=7.5,SNR=113						
ASAR				PcP	PcP	09 31 37.4	+0.4
	comp=Z,0.2nm,0.6s,baz=96,slow=4.2,SNR=4.1						
ASAR				S	S	09 35 51.0	+1.1
	comp=Z,2.3nm,1.0s,baz=90,slow=15,SNR=9.8						
WB0	Warramunga Arr	43.69	262	P	P	09 30 04.5	-0.5
WB2	Warramunga Arr	43.70	262	P	P	09 30 04.7	-0.3
WB2				IAmb	IAmb	09 30 05.1	
	comp=Z,5.8nm,0.8s						
WRAB	Tennant Creek	43.70	262	P	P	09 30 04.6	-0.5
WRAB				IAmb	IAmb	09 30 05.3	
	comp=Z,8.4nm,1.1s						
WRA	Warramunga Arr	43.71	262	P	P	09 30 04.8	-0.3
	comp=Z,3.5nm,0.5s,baz=97,slow=8.2,SNR=54						
WRA				S	S	09 35 50.4	-0.4
	comp=Z,0.6nm,0.7s,baz=98,slow=13,SNR=3.7						
WRA	Warramunga Arr	43.71	262	P	P	09 30 04.4	-0.7
MTN	Manton Dam	48.25	271	P	P	09 30 39.2	-0.2
PSA00	Pilbara Seismi	56.80	257	P	P	09 31 39.6	-0.3
PSA00				IAmb	IAmb	09 31 40.6	
	comp=Z,7.1nm,0.8s						
MJAR	Matsushiro Arr	69.62	324	P	P	09 33 00.6	-0.4
	comp=Z,137nm,1.1s,baz=117,slow=8.2,SNR=5.5						
JHS	Saijyo	71.46	320	P	P	09 33 12.6	+0.8
PETK	Petropavlovsk-	75.98	346	P	P	09 33 38.3	+1.6
	comp=Z,1.9nm,0.6s,baz=122,slow=7.6,SNR=2.9						
KSRS	Korea Array	76.24	319	P	P	09 33 40.7	+2.2
	comp=Z,0.7nm,0.6s,baz=132,slow=6.4,SNR=3.5						
NVAR	Mina Array Bea	81.60	44	P	P	09 34 07.6	+0.5
	comp=Z,1.1nm,0.7s,baz=223,slow=8.3,SNR=12						
NV11	Mina Array Sit	81.70	44	P	P	09 34 07.7	+0.2
TPNV	Topopah Spring	82.15	46	P	P	09 34 10.1	+0.3
TPNV				IAmb	IAmb	09 34 11.1	
	comp=Z,3.1nm,0.9s						
PINE	Pine Mountain	83.09	38	P	P	09 34 15.4	+1.0
PINE				IAmb	IAmb	09 34 16.6	
	comp=Z,3.8nm,0.8s						
U15A	North Rim	84.59	48	P	P	09 34 22.3	+0.3
U15A				IAmb	IAmb	09 34 23.7	
	comp=Z,3.0nm,0.8s						
SEY	Seymchan	86.11	347	P	P	09 34 29.3	+1.1
	comp=Z,0.7nm,0.4s,baz=146,slow=6.0,SNR=4.3						
F10A	Beach Ranch, E	86.51	38	P	P	09 34 31.1	+0.4
F10A				IAmb	IAmb	09 34 31.9	
	comp=Z,3.7nm,0.8s						
TX32	Lajitas Array	87.79	58	P	P	09 34 37.6	+0.5
TX32				IAmb	IAmb	09 34 39.3	
	comp=Z,3.1nm,1.1s						
TXAR	Lajitas Array	87.79	58	P	P	09 34 37.9	+0.9
	comp=Z,1.8nm,0.8s,baz=222,slow=5.8,SNR=23						
TXAR	Lajitas Array	87.79	58	P	P	09 34 36.7	-0.3
ILAR	Eielson Array	88.45	13	P	P	09 34 38.9	-0.3
	comp=Z,0.2nm,0.3s,baz=216,slow=4.5,SNR=1.9						
CMAR	Chiang Mai Arr	89.23	290	P	P	09 34 46.0	+2.2
	comp=Z,0.9nm,0.4s,baz=110,slow=2.5,SNR=7.6						
PDAR	Pinedale Array	89.54	44	P	P	09 34 45.1	+0.1
	comp=Z,0.9nm,0.7s,baz=193,slow=2.3,SNR=10						
AKASG	Malin Array Be	142.51	330	PKhKP	PKPpre	09 41 12.6	
	comp=Z,1.9nm,0.3s,baz=41,slow=4.6,SNR=14						
BRTR	Keskin Array B	146.12	312	PKPbc	PKPbc	09 41 24.4	+0.2
	comp=Z,0.6nm,0.4s,baz=149,slow=3.5,SNR=3.1						

IDC 23 09:40:48.1±2.0, 32.°90S×178.°69W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/27, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=43.9km s-min=32.7km az=82.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.35	211	Pn	Pn	09 42 21.8	-1.1
	1.0nm,0.3s,baz=266,slow=3.7,SNR=8.5						
URZ				Sn	Sn	09 43 34.9	-1.2
	1.2nm,0.3s,baz=131,slow=22,SNR=6.0						
ASAR	Alice Springs	42.45	270	P	P	09 48 45.2	+0.3
	0.3nm,0.5s,baz=115,slow=7.9,SNR=7.1						
WRA	Warramunga Arr	43.67	275	P	P	09 48 54.9	+0.1
	0.8nm,0.4s,baz=114,slow=7.9,SNR=20						
QSPA	South Pole Qui	57.22	180	P	P	09 50 37.4	+0.5
	1.6nm,0.9s,baz=318,slow=14,SNR=3.8						
FINES	FINESS Array B	147.26	338	PKPbc	PKPdf	10 00 31.1	+0.7
	1.9nm,0.8s,baz=42,slow=3.1,SNR=4.8						

IDC ***23*** *09:42:49.9±0.8, 32.°81S×178.°87W, h0km, mb4.4/7, mb1 4.6/8, mb1mx4.2/27, mbtmp4.4/8, ML4.4/1, MS3.7/6, Ms1 3.7/6, ms1mx3.4/28, Error ellipse: s-maj=23.0km s-min=17.7km az=177.0*
NEIC ***23*** *09:42:52.7±1.6, 32.°97S±0.°09×178.°6W±0.°2, h16km±5km, mb4.7/13, Error ellipse: s-maj=22.2km s-min=10.4km az=113.0*

ISC 23 09:42:54.5±0.7, 32.°98S±0.°08×178.°6W±0.°1, h32km, n46, σ1§09/42, mb4.6/13, MS3.6/6, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.76	9	Pn	Pn	09 43 49.5	-0.8
URZ	Urewera	6.33	213	Pn	Pn	09 44 24.1	-1.4
	8.6nm,0.3s,baz=286,slow=3.1,SNR=30						
URZ				Sn	Sn	09 45 36.4	-0.3
	6.5nm,0.3s,baz=266,slow=11,SNR=7.3						
URZ				LR	LR	09 46 52.7	
	comp=Z,120nm,19.3s,baz=32,slow=38						
URZ	Urewera	6.33	213	Pn	Pn	09 44 24.6	-1.0
OUZ	Omahuta	6.87	249	Pn	Pn	09 44 35.2	+2.3
BKZ	Black Stump Fm	7.35	212	Pn	Pn	09 44 37.5	-2.1
DZM	Mont Dzumac	17.15	306	LR	LR	09 52 06.1	
	comp=Z,663nm,19.9s,baz=149,slow=33						
DZM	Mont Dzumac	17.15	306	eLR	LR	09 50 49.0	
	comp=Z,725nm,23.0s						
TBI	Tubuai	27.32	77	eLR	LR	09 55 38.3	
	comp=Z,196nm,23.0s						
EIDS	Eidsvold	27.50	278	P	P	09 48 38.2	+0.2
EIDS				IAmb	IAmb	09 48 40.6	
	comp=Z,17nm,1.1s						
PPT2	Papeete2	30.24	67	eLR	LR	09 56 55.6	
	comp=Z,162nm,22.5s						
STKA	Stephens Creek	33.50	261	LR	LR	10 02 10.5	
	comp=Z,296nm,19.1s,baz=41,slow=35						
CTA	Charters Tower	33.83	283	P	P	09 49 33.2	-0.8
	comp=Z,5.2nm,0.6s,baz=113,slow=10,SNR=12						
CTAO	Charters Tower	33.83	283	P	P	09 49 35.4	+1.4
CTAO				IAmb	IAmb	09 49 36.4	
	comp=Z,9.8nm,0.8s						
AS31	Alice Springs	42.55	270	P	P	09 50 46.8	-0.6
ASAR	Alice Springs	42.55	270	P	P	09 50 47.0	-0.5
	comp=Z,3.4nm,0.7s,baz=110,slow=7.5,SNR=52						
ASAR				S	S	09 57 07.0	-1.0
	comp=Z,0.8nm,0.9s,baz=110,slow=16,SNR=5.5						
ASAR				LR	LR	10 06 34.9	
	comp=Z,88nm,20.3s,baz=108,slow=34						
ASAR	Alice Springs	42.55	270	P	P	09 50 47.5	+0.1
WR0	Warramunga Arr	43.60	275	P	P	09 50 55.6	-0.3
WR0				IAmb	IAmb	09 50 57.3	
	comp=Z,13nm,1.1s						
WB2	Warramunga Arr	43.77	275	P	P	09 50 56.8	-0.5
WRAB	Tennant Creek	43.77	275	P	P	09 50 56.7	-0.6
WRAB				IAmb	IAmb	09 50 58.0	
	comp=Z,9.0nm,0.6s						
WRA	Warramunga Arr	43.77	275	P	P	09 50 57.2	-0.2
	comp=Z,8.7nm,0.5s,baz=115,slow=7.6,SNR=136						
WRA				S	S	09 57 24.0	-2.0
	comp=Z,0.7nm,0.9s,baz=115,slow=14,SNR=3.2						
WRA				LR	LR	10 08 04.1	
	comp=Z,126nm,18.3s,baz=145,slow=35						
WRA	Warramunga Arr	43.77	275	P	P	09 50 56.3	-1.0
WB0	Warramunga Arr	43.81	275	P	P	09 50 57.1	-0.5
FORT	Forrest	44.97	258	P	P	09 51 06.2	-0.6
VNDA	Vanda	45.48	186	LR	LR	10 07 13.5	
	comp=Z,61nm,21.4s,baz=23,slow=32						
KNRA	Kununurra	50.47	277	P	P	09 51 50.3	+0.7
KNRA				IAmb	IAmb	09 51 51.2	
	comp=Z,6.0nm,0.8s						
CASY	Casey	52.64	209	P	P	09 52 05.2	+0.1
QSPA	South Pole Qui	57.13	180	P	P	09 52 39.9	+2.1
	comp=Z,9.1nm,0.9s,baz=52,slow=1.3,SNR=31						
QSPA	South Pole Qui	57.13	180	P	P	09 52 39.9	+2.1
SOEI	Soe	57.28	280	P	P	09 52 39.8	+0.2
	comp=Z,23nm,1.2s						
SYO	Syowa Base	74.50	193	⇑esP	sP	09 54 36.6	-4.6
SNAA	Sanae	75.59	179	P	P	09 54 37.2	+1.5
SNAA	Sanae	75.59	179	P	P	09 54 37.0	+1.3
SNAA				IAmb	IAmb	09 54 45.5	
	comp=Z,11nm,1.2s						
VNA3	Neumayer Olymp	75.77	176	P	P	09 54 37.0	+0.4
VNA2	Neumayer--Watz	76.19	177	P	P	09 54 40.0	+0.9
VNA1	Neumayer--Stat	76.43	177	P	P	09 54 41.5	+1.1
KSRS	Korea Array	86.00	320	P	P	09 55 31.7	+0.2
	comp=Z,0.7nm,0.6s,baz=142,slow=6.4,SNR=4.7						
PETK	Petropavlovsk-	88.19	346	P	P	09 55 40.5	-1.3
	comp=Z,2.3nm,0.9s,baz=176,slow=9.1,SNR=2.0						
NVAR	Mina Array Bea	90.46	43	P	P	09 55 53.8	+0.8
	comp=Z,0.6nm,0.8s,baz=244,slow=7.9,SNR=1.9						
KBZ	Khabaz	146.08	301	PKPbc	PKPdf	10 02 29.9	-0.2
	comp=Z,3.1nm,1.0s,baz=92,slow=4.3,SNR=3.9						
FINES	FINESS Array B	147.38	338	PKPbc	PKPbc	10 02 33.2	-0.9
	comp=Z,5.4nm,0.5s,baz=31,slow=3.7,SNR=24						
NB2	NORSAR Subarra	151.22	350	PKP	PKPbc	10 02 43.4	-0.5
	comp=Z,1.7nm,0.7s,baz=18,slow=2.6						
NOA	NORSAR Array B	151.22	350	PKPbc	PKPbc	10 02 42.5	-1.3
	comp=Z,1.9nm,0.7s,baz=14,slow=4.1,SNR=13						
AKASG	Malin Array Be	153.00	319	PKPbc	PKPbc	10 02 47.6	-0.5
	comp=Z,1.0nm,0.5s,baz=50,slow=2.2,SNR=9.6						
BRTR	Keskin Array B	153.30	294	PKPbc	PKPbc	10 02 48.5	-0.8
	comp=Z,1.6nm,0.7s,baz=106,slow=2.9,SNR=7.3						
CLL	Collm	159.82	339	ePKPab	PKPab	10 03 30.0	+1.2
TORD	Torodi Ar. Bea	160.25	181	PKPab	PKPab	10 03 31.8	+0.2
	comp=Z,0.7nm,0.6s,baz=173,slow=2.9,SNR=2.8						

BJI ***23*** *09:43:17.6±0.0, 41.°93N×142.°74E, h62km, mB4.8/38, mb4.9/62, Ms3.8/17, Ms7.3.6/16*
MOS ***23*** *09:43:20.7±0.9, 42.°02N×142.°48E, h67km, mb5.1/50, Error ellipse: s-maj=6.2km s-min=4.7km az=94.6*
NEIC ***23*** *09:43:21.6±2.0, 41.°96N±0.°06×142.°6E±0.°1, h59km±6km, mb4.8/173, Error ellipse: s-maj=13.0km s-min=7.7km az=112.0*
JMA ***23*** *09:43:21.0±0.1, 41.°97N×142.°54E, h65km±2km, M4.5 Broadband fault plane solution: P waves. NP1: ϕ_s222.00000°, δ22.00000°, λ110.00000°. NP2: ϕ_s21.00000°, δ69.00000°, λ82.00000°. Principal axes: T Plg65.0000°, Azm278.0000°; N Plg7.0000°, Azm24.0000°; P Plg24.0000°, Azm117.0000°;*
JMA Felt II J1.
NIED ***23*** *09:43:21.1, 41.°97N×142.°54E, h65km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.98; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$-3.36; $M_{r\theta}$1.57; $M_{\theta\phi}$-2.14; $M_{\phi r}$4.47; Fault plane solution: $M_0$6.80000×10^{15} NP1:ϕ_s24.00000°, δ67.00000°, λ83.00000°. NP2:ϕ_s223.00000°, δ24.00000°, λ107.00000°.*
IDC ***23*** *09:43:23.1±1.4, 42.°06N×142.°45E, h73km±10km, mb4.3/28, mb1 4.4/36, mb1mx4.3/56, mbtmp4.6/36, MS3.5/20, Ms1 3.5/20, ms1mx3.4/45 Error ellipse: s-maj=12.6km s-min=8.9km az=122.0*

ISC 23 09:43:21.1±0.5, 41.°93N±0.°04×142.°50E±0.°03, h61km±4km, n493, σ1§37/450, mb4.8/196, 85C-60D, Fault plane solution: NP1:ϕ_s4.58939°, δ87.88968°, λ56.48241°. **NP2:**ϕ_s271.40717°, δ33.57621°, λ176.18222°. **Principal axes:** T Plg37.9639°, Azm244.9027°; N Plg33.4919°, Azm5.9865°; P Plg34.2697°, Azm122.7851°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.40	29	⇑P	Pn	09 43 31.8	-0.3
JNBK				eS	S

GRPR smax smax
comp=N,826nm,0.5s
GRPR smax smax
comp=E,703nm,0.5s
YUK Yuzh-Kuril'sk 3.24 48 *e*PN **Pn 09 44 10.6 +1.1**
YUK *e*S **Sn 09 44 48.6 +1.8**
YUK pmax pmax
comp=N,100nm,0.2s
YUK pmax pmax
comp=Z,327nm,0.2s
YUK pmax pmax
comp=E,132nm,0.3s
YUK smax smax
comp=N,547nm,0.6s
YUK smax smax
comp=E,746nm,0.6s
JMM Marumori 4.27 198 Pn 09 44 24.6 +1.0
YSS Yuzh-Sakhalins 5.02 2 *e*PN **Pn 09 44 35.9 +2.0**
YSS *e*S **Sn 09 45 33.0 +2.5**
YSS pmax pmax
comp=Z,120nm,0.7s
YSS pmax pmax
comp=Z,200nm,3.1s
YSS smax smax
comp=E,40nm,0.6s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS Yuzh-Sakhalins 5.02 2 Pn **Pn 09 44 35.5 +1.6**
JSD Sado 5.07 221 Pn **Pn 09 44 36.7 +2.1**
KUR Kuril'sk 5.11 48 *e*PN **Pn 09 44 36.3 +1.3**
KUR *e*S **Sn 09 45 34.3 +1.7**
KUR pmax pmax
comp=N,77nm,0.5s
KUR pmax pmax
comp=E,108nm,0.5s
KUR pmax pmax
comp=Z,176nm,0.5s
KUR smax smax
comp=E,128nm,0.6s
KUR smax smax
comp=N,139nm,0.5s
JYT Yasato 5.97 198 Pn 09 44 46.1 -0.8
MJB9 Matsu-Tunnel 6.33 213 Pn 09 44 53.2 +1.4
MAJO Matsushiro 6.33 213 *i* PN **Pn 09 44 54.9 +3.1**
MAJO Matsushiro 6.33 213 Pn **Pn 09 44 53.4 +1.6**
MAT Matsushiro 6.33 213 P **Pn 09 44 54.1 +2.3**
MAT *e*S **Sn 09 46 04.9 +2.2**
MJAR Matsushiro Arr 6.33 213 P **Pn 09 44 55.1 +3.3**
comp=N,0.4nm,0.3s,baz=20,slow=14,SNR=21
MJAR LR LR 09 47 55.4
comp=N,188nm,20.3s,baz=-25,slow=42
JGF Kuroka 7.49 214 Pn 09 45 09.8 +2.1
INU Inuyama 7.85 215 Pn **Pn 09 45 14.7 +2.1**
USA0B Ussuriysk Arra 8.02 290 PN **Pn 09 45 15.9 +1.0**
USA0B Ussuriysk Arra 8.02 290 Pn 09 45 15.9 +1.0
USRK Ussuriysk Ar. 8.02 290 P **Pn 09 45 16.1 +1.2**
baz=94,slow=20,SNR=65
USRK S Sn 09 46 30.3 -14
baz=90,slow=15,SNR=0.9
USRK LR LR 09 48 25.5
comp=N,204nm,22.0s,baz=113,slow=38
USRK Ussuriysk Ar. 8.02 290 Pn **Pn 09 45 15.2 +0.3**
MSHR Mys Shultsa 8.44 278 *ce*PN **Pn 09 45 22.0 +1.4**
MSHR pmax pmax
comp=Z,29nm,0.8s
JWT Wachi 8.65 222 Pn **Pn 09 45 26.7 +3.1**
TYV Tymovskoe 8.93 1 *e*PN **Pn 09 45 29.2 +1.9**
TYV pmax pmax
comp=Z,17nm,0.9s
JHJ Hachijo jima 2 9.06 195 P **Pn 09 45 28.4 -0.7**
comp=Z,12nm,0.3s,baz=348,slow=21,SNR=9.5
JHJ S **Sn 09 47 03.1 -6.5**
comp=Z,7.3nm,0.3s,baz=56,slow=18,SNR=1.8
JHJ LR LR 09 49 52.3
comp=Z,114nm,18.7s,baz=290,slow=42
JHJ2 Mitsune 9.06 194 Pn **Pn 09 45 29.2 +0.1**
GRNR Gornyy 9.78 337 ⇓ *i* PN **Pn 09 45 39.7 +0.8**
GRNR pmax pmax
comp=E,7.0nm,0.6s
GRNR MLR MLR
comp=E,150nm,17.0s
GRNR MLR MLR
comp=Z,130nm,15.0s
MDJ Mudanjiang 9.79 290 P **Pn 09 45 43.4 +4.4**
MDJ pmax pmax
comp=Z,18nm,0.6s
MDJ pmax pmax
comp=Z,160nm,4.2s
MDJ Mudanjiang 9.79 290 Pn 09 45 43.6 +4.5
JHS Saijyo 10.10 230 Pn 09 45 45.7 +2.4
KLR Kul'dur 10.48 318 P **Pn 09 45 50.0 +1.5**
comp=Z,0.8nm,0.3s,baz=121,slow=15,SNR=28
KLR LR LR 09 49 56.4
comp=Z,294nm,21.7s,baz=158,slow=38
KLR Kul'dur 10.48 318 *ce*PN **Pn 09 45 49.4 +0.9**
KLR pmax pmax
comp=Z,10.0nm,0.6s
UJN ULJIN 11.25 248 P Pn 09 46 05.2 +6.2
SNR=9.4
UJN ULJIN 11.25 248 P Pn 09 46 05.2 +6.2
SNR=9.4
KSULJ Uljin 11.40 247 P Pn 09 46 08.0 +6.9
SNR=12
KSULJ Uljin 11.40 247 P Pn 09 46 08.0 +6.9
SNR=12
KSDGY Daegwallycong 11.44 253 P Pn 09 46 08.0 +6.3
SNR=7.6
KSDGY Daegwallycong 11.44 253 P Pn 09 46 08.0 +6.3
SNR=7.6
SEHB SEOHWA 11.51 256 P Pn 09 46 09.5 +7.0
SNR=12
SEHB SEOHWA 11.51 256 P Pn 09 46 09.5 +7.0
SNR=12
KSTBA Taebaek 11.51 250 P Pn 09 46 09.6 +7.0
SNR=14
KSTBA Taebaek 11.51 250 P Pn 09 46 09.6 +7.0
SNR=14
KSYOW Yeongwol 11.83 251 P Pn 09 46 13.0 +6.0
SNR=14
KSYOW Yeongwol 11.83 251 P Pn 09 46 13.0 +6.0
SNR=14
KSADO Andong 11.87 247 P Pn 09 46 15.2 +7.8
SNR=7.1
KSADO Andong 11.87 247 P Pn 09 46 15.2 +7.8
SNR=7.1
KSWJU Wonju 12.01 253 P **P 09 46 17.0 -3.4**
SNR=15
KSWJU Wonju 12.01 253 P **P 09 46 17.0 -3.4**
SNR=15
KSCHC Chuncheon 12.02 255 P **P 09 46 17.0 -3.5**
SNR=6.4
KSCHC Chuncheon 12.02 255 P **P 09 46 17.0 -3.5**
SNR=6.4
KSEUS ULSEONG 12.08 247 P **P 09 46 17.5 -3.6**
SNR=7.5
KSEUS ULSEONG 12.08 247 P **P 09 46 17.5 -3.6**
SNR=7.5
KSRS Korea Array 12.08 253 P **Pn 09 46 13.2 +2.9**
comp=Z,1.1nm,0.3s,baz=68,slow=13,SNR=21
KSRS LR LR 09 50 25.0
comp=Z,193nm,21.8s,baz=59,slow=35
KS19 Wonju Array Si 12.10 253 Pn 09 46 13.3 +2.6
KSAR Wonju Array Be 12.11 253 PN **Pn 09 46 14.2 +3.3**
KSAR Wonju Array Be 12.11 253 Pn **Pn 09 46 14.2 +3.3**
KSICN Icheon 12.52 253 P **P 09 46 23.8 -2.2**
SNR=6.7
KSICN Icheon 12.52 253 P **P 09 46 23.8 -2.2**
SNR=6.7
CN2 Changchun 12.65 284 *e*P **Pn 09 46 21.1 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
JNU Nakatsue 12.73 230 P **Pn 09 46 21.8 +2.5**
comp=Z,0.4nm,0.3s,baz=55,slow=6.2,SNR=4.8
SKR Severo-Kuril's 12.84 42 *e*PN P 09 46 34.7 +5.3
SKR pmax pmax
comp=Z,99nm,1.4s
SKR MLR MLR
comp=Z,700nm,14.0s
KSCEA Cheonan 12.84 252 P **P 09 46 28.5 -1.1**
SNR=16
KSCEA Cheonan 12.84 252 P **P 09 46 28.5 -1.1**
SNR=16

TJN Taejon 12.98 250 *i* PN **Pn 09 46 25.2 +2.5**
KSSES Seosan 13.43 253 P **P 09 46 36.0 -0.1**
SNR=6.8
JSU Suzuyama 14.18 227 Pn 09 46 39.4 +0.5
PETK Petropavlovsk- 15.14 37 P **Pn 09 46 50.6 -0.5**
comp=Z,1.0nm,0.3s,baz=207,slow=7.9,SNR=2.1
PET Petropavlovsk 15.53 39 *e*P Pn 09 46 44.8 -11
PET *e*S Sn 09 49 35.7 -11
PET pmax pmax
comp=Z,42nm,1.0s
PET MLR MLR
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,100nm,20.0s
ZEA Zeya 15.59 324 *e*P **Pn 09 46 55.9 -0.9**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=Z,200nm,16.0s
DL2 Dalian 16.17 266 P **Pn 09 47 05.3 +0.9**
DL2 pmax pmax
comp=Z,33nm,0.7s
MA2 Magadan 18.40 13 P **P 09 47 29.9 -1.0**
comp=Z,0.5nm,0.3s,baz=195,slow=11,SNR=6.4
MA2 Magadan 18.40 13 P **P 09 47 29.2 -1.7**
BJI Beijing 19.94 273 P **P 09 47 46.4 -1.5**
BJI pmax pmax
comp=Z,22nm,1.0s
BJI pmax pmax
comp=Z,100nm,3.9s
BJI LR LR
comp=Z,150nm,10.7s
BJI LR LR
comp=Z,160nm,13.6s
BJT Baijiatuau 19.95 273 P **P 09 47 47.0 -1.1**
BJT pmax pmax
comp=Z,25nm,1.0s
BJT Baijiatuau 19.95 273 P **P 09 47 47.0 -1.1**
BJT IAmb IAmb 09 47 48.5
comp=Z,25nm,1.0s
TIA Tai'an 20.47 262 P **P 09 47 52.8 -1.0**
TIA pmax pmax
comp=Z,37nm,0.6s
NJ2 Nanjing 21.24 250 *e*P **P 09 48 03.3 +1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 21.54 343 LR LR 09 56 56.8
comp=Z,43nm,20.5s,baz=89,slow=38
YAK Yakutsk 21.54 343 *ce*P **P 09 48 04.3 -0.6**
YAK pmax pmax
comp=Z,24nm,0.8s
SEY Seymchan 21.83 12 P **P 09 48 06.0 -2.0**
comp=Z,8.5nm,0.8s,baz=203,slow=8.7,SNR=27
HHC Hu-ho-hao-te 23.17 278 *e*P **P 09 48 22.8 +0.3**
HHC pmax pmax
comp=Z,23nm,0.9s
HHC pmax pmax
comp=Z,83nm,5.1s
BOD Bodaibo 24.02 321 *e*P **P 09 48 25.9 -4.2**
BOD pmax pmax
comp=Z,11nm,0.6s
WHN Wuhan 25.27 252 ⇓P P 09 48 56.3 +15
ULN Ulaanbaatar 25.64 296 *ce*P **P 09 48 45.2 +0.2**
ULN pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 25.64 296 P **P 09 48 44.7 -0.3**
SONM Songino Array 26.08 295 P **P 09 48 49.0 0.0**
comp=Z,6.0nm,0.4s,baz=77,slow=8.8,SNR=40
SONM LR LR 09 59 40.9
comp=Z,120nm,20.3s,baz=98,slow=38
SONM Songino Array 26.08 295 P **P 09 48 49.2 +0.2**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 26.08 295 P **P 09 48 49.1 +0.2**
XAN Xi'an 27.48 264 P **P 09 49 02.3 +0.7**
XAN pP pP 09 49 15.4 -0.8
XAN pmax pmax
comp=Z,19nm,0.8s
XAN LR LR
comp=Z,120nm,19.5s
XAN LR LR
comp=Z,190nm,16.3s
XAN LR LR
comp=Z,160nm,19.5s
XAN Xi'an 27.48 264 P **P 09 49 02.9 +1.3**
XAN Xi'an 27.48 264 P **P 09 49 02.9 +1.3**
ZAK Zakamensk 28.17 301 *e*P **P 09 49 07.0 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
ENH Enshi 28.93 257 P **P 09 49 13.9 -0.6**
ENH IAmb IAmb 09 49 18.3
comp=Z,15nm,0.6s
BILL Bilibino 29.11 18 *i* P **P 09 49 15.2 -0.4**
BILL pmax pmax
comp=Z,2.0nm,0.9s
MOY Mondy 29.67 304 *e*P **P 09 49 21.2 +0.3**
MOY pmax pmax
comp=Z,21nm,1.9s
H11N2 WAKE ISLAND Hy 30.29 129 T T 10 22 11.1
baz=322,slow=75,SNR=262
H11N1 WAKE ISLAND Hy 30.30 130 T T 10 22 08.6
baz=322,slow=75,SNR=301
H11N3 WAKE ISLAND Hy 30.30 129 T T 10 22 09.2
baz=322,slow=75,SNR=310
H11S1 WAKE ISLAND Hy 31.15 131 T T 10 23 15.2
baz=323,slow=74,SNR=263
H11S3 WAKE ISLAND Hy 31.15 131 T T 10 23 16.3
baz=323
H11S2 WAKE ISLAND Hy 31.16 131 T T 10 23 16.5
baz=323,slow=74,SNR=243
GTA Gaotai 32.23 280 *e*P **P 09 49 44.3 +0.6**
GTA pP pP 09 49 56.5 -1.9
GTA sP sP 09 50 04.8 -0.6
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,53nm,5.1s
GTA LR LR
comp=Z,69nm,15.6s
GTA LR LR
comp=Z,96nm,15.6s
GTA LR LR
comp=Z,97nm,15.6s
CD2 Chengdu 32.80 263 *e*P **P 09 49 48.5 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KMI Kunming 36.76 256 ⇑P **P 09 50 24.6 +1.5**
KMI pP pP 09 50 38.9 +0.9
KMI sP sP 09 50 48.5 +3.5
KMI PP **PP 09 51 47.8 +0.1**
KMI S **S 09 56 00.8 -2.0**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI pmax pmax
comp=Z,89nm,4.3s
KMI LR LR
comp=Z,92nm,5.5s
KMI LR LR
comp=Z,92nm,5.3s
KMI LR LR
comp=Z,100nm,8.7s
SLVN Son La 38.32 250 P **P 09 50 36.9 +0.8**
SLVN IAmb IAmb 09 50 38.9
comp=Z,7.0nm,0.8s
DGZ Jazzator, Alta 38.39 301 *c i* P **P 09 50 37.2 +0.7**
DGZ pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 39.23 333 LR LR 10 08 02.0
comp=Z,118nm,21.0s,baz=109,slow=38
ZALV Zalesovo Beam 39.39 308 P **P 09 50 44.2 -0.3**
comp=Z,20nm,0.7s,baz=88,slow=8.0,SNR=63
ZALV LR LR 10 07 41.4
comp=Z,75nm,20.4s,baz=74,slow=37
ZALV Zalesovo Beam 39.39 308 *i* P **P 09 50 44.7 +0.1**
ZALV pmax pmax
comp=Z,20nm,0.7s
ZALV Zalesovo Beam 39.39 308 P **P 09 50 44.3 -0.2**
WMQ Urumqi 39.58 292 *e*P **P 09 50 47.0 +0.6**
WMQ pP pP 09 51 03.3 +1.8
WMQ pmax pmax
comp=Z,44nm,0.7s
WMQ pmax pmax
comp=Z,96nm,3.9s
NONG Nongkai 41.05 247 P **P 09 51 00.5 +1.8**

comp=Z,2μmcomp=Z,42nm,0.9s
NONG Nongkai 41.05 247 P **P 09 51 00.6 +1.8**
MK31 Makanchi Array 42.40 298 P **P 09 51 09.5 +0.1**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 42.40 298 P **P 09 51 09.5 +0.1**
MK31 IAmb IAmb 09 51 10.4
comp=Z,15nm,0.7s
MKAR Makanchi Array 42.40 298 P **P 09 51 09.4 0.0**
comp=Z,19nm,0.8s,baz=82,slow=9.9,SNR=97
MKAR PcP **PcP 09 53 01.8 +0.2**
comp=Z,1.5nm,0.7s,baz=72,slow=2.0,SNR=2.8
KHON Khomkaen 42.48 245 P **P 09 51 12.2 +1.9**
comp=Z,5μmcomp=Z,98nm,0.6s
KHON Khomkaen 42.48 245 P **P 09 51 12.3 +1.9**
comp=Z,1μmcomp=Z,24nm,0.6s
MAKZ Makanchi 42.60 298 P **P 09 51 11.2 +0.1**
MAKZ pmax pmax
comp=Z,21nm,0.9s
MAKZ Makanchi 42.60 298 P **P 09 51 11.2 +0.1**
MAKZ IAmb IAmb 09 51 12.1
comp=Z,21nm,0.8s
OHAK Old Harbor 42.68 46 P **P 09 51 09.5 -2.0**
KDAK Kodiak Island 42.98 45 P **P 09 51 13.7 -0.2**
KDAK pmax pmax
comp=Z,29nm,1.2s
KDAK Kodiak Island 42.98 45 P **P 09 51 13.7 -0.2**
KDAK IAmb IAmb 09 51 40.6
comp=Z,29nm,1.2s
UTTA Uttaradit 43.06 249 P **P 09 51 16.8 +1.8**
comp=Z,224nmcomp=Z,22nm,0.8s
UTTA Uttaradit 43.06 249 P **P 09 51 16.9 +1.8**
comp=Z,56nmcomp=Z,5.5nm,0.8s
LAMP Lampang 43.18 251 P **P 09 51 18.8 +2.8**
comp=Z,692nmcomp=Z,34nm,0.8s
LAMP Lampang 43.18 251 P **P 09 51 18.9 +2.8**
comp=Z,173nmcomp=Z,8.5nm,0.8s
BPAW Bear Paw Mtn. 43.22 36 P **P 09 51 16.8 +1.0**
KTH Kantishna Hill 43.27 37 P **P 09 51 17.1 +0.8**
KTH IAmb IAmb 09 51 40.4
comp=Z,12nm,1.2s
MLY Manley 43.30 35 P **P 09 51 17.4 +0.9**
CM34 Chiang Mai Arr 43.31 251 P **P 09 51 19.0 +2.0**
CHAI Chaiyaphum 43.35 246 P **P 09 51 18.6 +1.2**
comp=Z,753nmcomp=Z,32nm,0.8s
CHAI Chaiyaphum 43.35 246 P **P 09 51 18.7 +1.2**
comp=Z,188nmcomp=Z,8.1nm,0.8s
CM35 Chiang Mai Arr 43.42 251 P **P 09 51 19.0 +1.1**
CM33 Chiang Mai Arr 43.47 252 P **P 09 51 20.0 +1.6**
CMMT Chiang Mai 43.47 252 P **P 09 51 20.3 +1.9**
comp=Z,30nm,0.6s
CMMT Chiang Mai 43.47 252 P **P 09 51 20.4 +1.9**
comp=Z,30nm,0.6s
CHTO Chiang Mai 43.48 252 P **P 09 51 20.5 +2.1**
CHTO pmax pmax
comp=Z,22nm,0.6s
CHTO Chiang Mai 43.48 252 P **P 09 51 20.3 +1.9**
comp=Z,305nmcomp=Z,30nm,0.6s
CHTO Chiang Mai 43.48 252 P **P 09 51 20.5 +2.1**
CHTO IAmb IAmb 09 51 25.5
comp=Z,22nm,0.6s
PHIT Phitsanulok 43.54 248 P **P 09 51 21.3 +2.4**
comp=Z,64nm,0.9s
PHIT Phitsanulok 43.54 248 P **P 09 51 21.3 +2.4**
comp=Z,16nm,0.9s
CM32 Chiang Mai Arr 43.65 251 P P 09 51 26.0 +6.2
CMAR Chiang Mai Arr 43.71 251 P **P 09 51 21.5 +1.2**
comp=Z,2.4nm,0.6s,baz=40,slow=7.2,SNR=11
CMAR PcP **PcP 09 53 07.0 +0.5**
comp=Z,1.0nm,0.4s,baz=36,slow=1.7,SNR=5.7
CMAR LR LR 10 10 44.2
comp=Z,49nm,20.2s,baz=68,slow=38
CMAR Chiang Mai Arr 43.71 251 *i* P **P 09 51 22.2 +1.9**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CM02 Chiang Mai Arr 43.73 251 P P 09 51 27.8 +7.4
comp=Z,7.6nm,0.9s
CM02 Chiang Mai Arr 43.73 251 P P 09 51 27.0 +6.6
comp=Z,7.6nm,0.9s
CM04 Chiang Mai Arr 43.73 251 P P 09 51 27.7 +7.3
comp=Z,7.4nm,0.7s
CM04 Chiang Mai Arr 43.73 251 P P 09 51 27.0 +6.6
comp=Z,7.4nm,0.7s
CM15 Chiang Mai Arr 43.73 251 P P 09 51 27.7 +7.2
comp=Z,11nm,0.9s
CM15 Chiang Mai Arr 43.73 251 P P 09 51 27.8 +7.3
comp=Z,11nm,0.9s
CM05 Chiang Mai Arr 43.75 251 P P 09 51 27.2 +6.6
comp=Z,6.8nm,0.7s
CM05 Chiang Mai Arr 43.75 251 P P 09 51 27.2 +6.6
comp=Z,6.8nm,0.7s
CM13 Chiang Mai Arr 43.76 251 P **P 09 51 25.0 +4.3**
comp=Z,7.3nm,0.7s
CM13 Chiang Mai Arr 43.76 251 P **P 09 51 25.0 +4.3**
comp=Z,7.3nm,0.7s
TOLK Toolik Lake Re 43.77 29 P **P 09 51 19.9 -0.3**
I23K Minto, Yukon-K 43.88 34 P **P 09 51 21.7 +0.6**
NEA2 Nenana 44.03 35 IAmb IAmb 09 51 30.3
comp=Z,7.1nm,0.6s
WRH Wood River Hil 44.46 35 P **P 09 51 26.4 +0.6**
TCOL CIGO, UAF Yank 44.53 35 P **P 09 51 27.2 +0.9**
TCOL IAmb IAmb 09 51 34.1
comp=Z,8.3nm,0.7s
COLA College 44.54 35 P **P 09 51 26.7 +0.4**
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA College 44.54 35 P **P 09 51 26.7 +0.4**
COLA IAmb IAmb 09 51 34.1
comp=Z,8.6nm,0.7s
MHMT Maesarieng 44.62 252 P P 09 51 32.8 +5.3
comp=Z,49nm,0.7s
MHMT Maesarieng 44.62 252 P P 09 51 32.8 +5.3
comp=Z,49nm,0.7s
SRAK Srakaew 44.66 244 P **P 09 51 26.7 -1.2**
comp=Z,1μmcomp=Z,198nm,1.0s
IL31 44.96 35 P **P 09 51 28.9 -0.7**
ILAR Eielson Array 44.96 35 P **P 09 51 29.4 -0.2**
comp=Z,2.2nm,0.7s,baz=264,slow=6.2,SNR=20
UMPA Umpang Tak 45.29 249 P P 09 51 39.6 +6.7
comp=Z,4μmcomp=Z,22nm,0.8s
UMPA Umpang Tak 45.29 249 P P 09 51 39.6 +6.7
comp=Z,868nmcomp=Z,5.6nm,0.8s
UTHA Uthaitani 45.33 248 P P 09 51 38.8 +5.5
comp=Z,4.5nm,0.7s
SHLS Shalkode 45.46 294 *e*P **P 09 51 31.0 -3.2**
FYU Fort Yukon 45.49 32 P **P 09 51 34.0 +0.1**
FYU IAmb IAmb 09 52 00.2
comp=Z,19nm,1.4s
BMAR Burnt Mountain 45.67 31 P **P 09 51 36.0 +0.6**
UZB Uzynbulak 45.77 294 *e*P **P 09 51 35.8 -0.8**
UZB pmax pmax
comp=Z,3.0nm,0.5s
KPKS Kokpek 45.88 294 *e*P **P 09 51 36.8 -0.6**
KPKS pmax pmax
comp=Z,8.0nm,0.6s
ARXS Arharly 46.19 296 *e*P **P 09 51 39.4 -0.5**
SCRK Sand Creek 46.30 36 IAmb IAmb 09 51 40.8
comp=Z,4.4nm,0.6s
DOT Dot Lake 46.31 36 P **P 09 51 40.4 -0.1**
TAPN Taplejung 46.61 270 *e*P **P 09 51 44.1 +0.5**
comp=Z,22nm,0.4s
PHET Kaeng Krachan 47.07 245 P **P 09 51 49.6 +2.7**
comp=Z,41nm,0.8s
PHET Kaeng Krachan 47.07 245 P **P 09 51 49.7 +2.7**
ODAN Odare 47.12 270 *e*P **P 09 51 48.9 +1.4**
comp=Z,19nm,0.4s
TARG Taragay, Kyrgy 47.14 293 IAmb IAmb 09 51 49.3
comp=Z,15nm,0.7s
L27K Beaver Creek, 47.41 37 P **P 09 51 49.9 +0.8**
L27K IAmb IAmb 09 52 12.2
comp=Z,6.6nm,0.8s
BRZS Berezniki 47.57 305 *e*P **P 09 51 49.9 -0.5**
BRZS pmax pmax
comp=Z,5.0nm,0.5s
JIRN Jiri 47.58 271 *e*P **P 09 51 52.2 +1.0**
comp=Z,26nm,0.3s
RAMN Ramite 47.66 270 *e*P **P 09 51 52.6 +0.9**
comp=Z,29nm,0.4s
GUN Gumba 47.67 272 *e*P **P 09 51 52.7 +0.8**
comp=Z,109nm,0.4s
ULHL Ulahol 48.01 294 P **P 09 51 54.4 +0.2**
SNR=9.4
BRVK Borovoye 48.06 309 P **P 09 51 54.6 +0.5**
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 48.06 309 P **P 09 51 54.6 +0.5**

TKM2	Tokmak 2	48.18 295	P		P	09 51 56.4 +0.9
	SNR=73					
KKN	Kakani	48.19 272	*e*P		P	09 51 56.5 +0.8
	comp=Z,34nm,0.5s					
PKI	Pulchoki	48.21 272	*e*P		P	09 51 56.5 +0.5
	comp=Z,24nm,0.5s					
GKN	Gorkha	48.55 273	*e*P		P	09 51 58.4 0.0
	comp=Z,33nm,0.5s					
KBK	Karagaybulak	48.72 295	P		P	09 52 00.3 +0.7
	SNR=16					
USP	Ospenovka	48.78 296	P		P	09 52 00.3 +0.4
	SNR=12					
EPYK	Eagle Plains	48.89 32	IAmb		IAmb	09 52 20.3
	comp=Z,10.0nm,1.1s					
DANN	Dangsing	49.02 274	*e*P		P	09 52 03.3 +1.1
	comp=Z,125nm,0.5s					
AAK	Ala-Archa	49.04 295	P		P	09 52 02.0 0.0
	comp=Z,9.1nm,0.4s,baz=114,slow=4.8,SNR=6.6					
AAK			LR		LR	10 14 15.5
	comp=Z,46nm,19.5s,baz=80,slow=38					
AAK	Ala-Archa	49.04 295	*ce*P		P	09 52 02.4 +0.4
AAK			pmax		pmax	
	comp=Z,17nm,0.7s					
AAK	Ala-Archa	49.04 295	P		P	09 52 02.6 +0.6
KSH	Kashi	49.32 291	P		P	09 52 08.3 +4.2
KSH			pP		sP	09 52 26.0 -0.5
KSH			S		S	09 59 17.0 +11
KSH			pmax		pmax	
	comp=Z,10.0nm,0.4s					
KSH			pmax		pmax	
	comp=Z,74nm,3.6s					
KSH			LR		LR	
	comp=Z,220nm,13.7s					
MTKI	Muara Teweh, K	49.44 218	P		P	09 52 03.9 -1.2
	comp=Z,5μmcomp=Z,25nm,0.4s					
KOLN	Koldanda	49.45 273	*e*P		P	09 52 06.3 +0.9
	comp=Z,23nm,0.4s					
EKS2	Erkin-Say	49.51 295	P		P	09 52 06.0 +0.4
	SNR=16					
INK	Inuvik	49.67 29	P		P	09 52 06.2 -0.1
INK			pmax		pmax	
	comp=Z,8.0nm,1.4s					
INK	Inuvik	49.67 29	P		P	09 52 06.2 -0.1
INK			IAmb		IAmb	09 52 18.3
	comp=Z,8.0nm,1.4s					
PYUN	Piuthan	49.73 274	*e*P		P	09 52 08.4 +0.9
AML	Almayashu	49.78 295	P		P	09 52 08.7 +0.7
	SNR=8.4					
HYT	Haines Junctio	49.92 39	IAmb		IAmb	09 52 32.4
	comp=Z,12nm,0.8s					
KKAR	Karatay Array	51.51 297	P		P	09 52 20.3 -0.2
KKAR	Karatay Array	51.51 297	P		P	09 52 20.3 -0.2
KKAR	Karatay Array	51.51 297	IAmb		IAmb	09 52 21.2
	comp=Z,17nm,0.7s					
SVE	Sverdlovsk	52.10 316	*e*P		P	09 52 25.1 +0.4
SVE			pmax		pmax	
	comp=Z,28nm,0.9s					
BTK	Batken	52.64 294	IAmb		IAmb	09 52 32.8
	comp=Z,9.2nm,0.6s					
C36M	Paulatuk	52.66 26	P		P	09 52 27.8 -0.7
C36M			IAmb		IAmb	09 52 48.2
	comp=Z,6.9nm,0.8s					
ARU	Arti	53.32 316	P		P	09 52 33.4 -0.2
	comp=Z,3.1nm,0.3s,baz=54,slow=4.8,SNR=17					
ARU	Arti	53.32 316	*c*P		P	09 52 33.1 -0.5
ARU			*PP		pP	09 52 48.0 -1.3
ARU						09 53 39.5
ARU						09 54 30.1
ARU			S		S	10 00 02.5 +2.0
ARU			SS		SKiKP	10 03 44.7 +0.6
ARU			pmax		pmax	
	comp=Z,20nm,0.9s					
ARU	Arti	53.32 316	P		P	09 52 33.5 -0.2
NIL	Nilore	54.00 285	P		P	09 52 40.3 +1.3
NIL			pmax		pmax	
	comp=Z,24nm,1.0s					
NIL	Nilore	54.00 285	P		P	09 52 40.3 +1.3
EUNU	Eureka	55.22 9	IAmb		IAmb	09 52 48.7
	comp=Z,7.3nm,0.8s					
KMMI	Kalianget	55.28 215	P		P	09 52 46.0 -2.4
	comp=Z,75nm,1.2s					
PLAI	Plampang	55.36 210	P		P	09 52 45.6 -3.3
	comp=Z,24nm,1.1s					
MTN	Manton Dam	55.50 193	P		P	09 52 50.6 +0.8
MTN			IAmb		IAmb	09 52 51.5
	comp=Z,6.4nm,0.8s					
ABKAR	Akbulak array	55.51 308	IAmb		IAmb	09 52 50.2
	comp=Z,9.1nm,0.6s					
SPA0	Spitsbergen Ar	55.89 348	*e*P		P	09 52 51.7 -0.3
AKTO	Aktyubinsk	56.10 310	P		P	09 52 53.7 -0.1
	comp=Z,7.1nm,0.6s,baz=69,slow=11,SNR=14					
KBL	Kabul	56.55 288	P		P	09 52 57.1 -0.5
KBL			pmax		pmax	
	comp=Z,15nm,1.0s					
KBL	Kabul	56.55 288	P		P	09 52 57.1 -0.5
KBL			IAmb		IAmb	09 52 58.1
	comp=Z,15nm,0.9s					
KIRV	Kirov	56.90 321	P		P	09 52 59.8 +0.5
	comp=Z,35nm,0.6s,baz=20,slow=1.3,SNR=7.5					
PRGR	Permogore	57.16 326	*e*P		P	09 52 58.1 -3.0
PRGR			*e*PP		pP	09 53 15.6 -1.4
PRGR			pmax		pmax	
	comp=Z,13nm,0.6s					
KNRA	Kununurra	58.71 196	P		P	09 53 13.5 +1.1
KEV	Kevo	59.18 339	P		P	09 53 13.9 -1.3
KEV			pmax		pmax	
	comp=Z,19nm,1.4s					
KEV	Kevo	59.18 339	P		P	09 53 13.9 -1.3
KEV			IAmb		IAmb	09 53 20.1
	comp=Z,19nm,1.4s					
YKA	Yellowknife Ar	59.18 32	P		P	09 53 15.6 +0.3
	comp=Z,1.8nm,0.8s,baz=303,slow=5.9,SNR=8.1					
ARA0	ARCESS Array S	59.73 339	*e*P		P	09 53 18.3 -0.7
ARCES	ARCESS Array B	59.73 339	P		P	09 53 18.3 -0.7
	comp=Z,1.4nm,0.5s,baz=46,slow=6.6,SNR=21					
ARCES			LR		LR	10 24 16.1
	comp=Z,38nm,18.3s,baz=100,slow=41					
ARCES	ARCESS Array B	59.73 339	P		P	09 53 17.6 -1.3
ARCES			pmax		pmax	
	comp=Z,12nm,1.5s					
ARCES	ARCESS Array B	59.73 339	P		P	09 53 17.6 -1.3
ARCES			IAmb		IAmb	09 53 41.8
	comp=Z,12nm,1.5s					
KLMR	Klimovskoe	60.10 327	*e*P		P	09 53 19.7 -1.8
KLMR			pmax		pmax	
	comp=Z,11nm,0.8s					
KLMR	Klimovskoe	60.10 327	*e*P		P	09 53 19.8 -1.8
KLMR			AMP			09 53 21.9
	comp=Z,11nm,0.8s					
NEEM	North Greenlan	60.60 3	*i*P		P	09 53 24.7 -0.4
NEEM			IAmb		IAmb	09 53 27.7
	comp=Z,8.8nm,0.9s					
KTK1	Kautokeino	60.68 339	*e*P		P	09 53 25.2 -0.3
DAG	Danmarks Havn	60.97 355	*i*P		P	09 53 26.4 -1.0
DAG			IAmb		IAmb	09 53 28.4
	comp=Z,3.3nm,0.7s					
DAG	Danmarks Havn	60.97 355	*i*P		P	09 53 26.3 -1.0
DAG			pmax		pmax	
	comp=Z,3.0nm,0.7s					
TRO	Tromso	61.37 341	*e*P		P	09 53 29.5 -0.5
WB0	Warramunga Arr	61.84 189	P		P	09 53 34.4 +0.5
WB0			IAmb		IAmb	09 53 54.6
	comp=Z,16nm,1.1s					
WRAB	Tennant Creek	62.01 189	P		P	09 53 35.4 +0.4
WRAB			pmax		pmax	
	comp=Z,12nm,1.2s					
WRAB	Tennant Creek	62.01 189	P		P	09 53 35.4 +0.4
WRAB			IAmb		IAmb	09 53 55.8
	comp=Z,12nm,1.2s					
WR0	Warramunga Arr	62.02 188	P		P	09 53 35.8 +0.8
WR0			IAmb		IAmb	09 53 55.2
	comp=Z,21nm,1.4s					
WB2	Warramunga Arr	62.02 189	P		P	09 53 35.0 0.0
WB2			IAmb		IAmb	09 53 55.8
	comp=Z,14nm,1.2s					
WRA	Warramunga Arr	62.02 189	P		P	09 53 35.5 +0.5
	comp=Z,2.5nm,0.5s,baz=5.8,slow=7.0,SNR=15					
WRA	Warramunga Arr	62.02 189	P		P	09 53 34.8 -0.3
JOF	Joensuu	62.06 331	P		P	09 53 34.2 -0.6
JOF			pmax		pmax	
	comp=Z,17nm,0.8s					
GEYT	Alibeck	62.27 297	P		P	09 53 37.1 +0.3
	comp=Z,9.3nm,0.9s,baz=158,slow=0.8,SNR=9.2					
GEYT			LR		LR	10 22 29.7
	comp=Z,72nm,20.7s,baz=200,slow=38					
GYA0B	ALIBECK ARRAY	62.27 297	IAmb		IAmb	09 53 37.8
	comp=Z,8.5nm,0.7s					
STEI	Steigen	63.53 340	*e*P		P	09 53 42.8 -1.7
LOF	Lofoten	63.80 341	*e*P		P	09 53 45.9 -0.4
FAUS	Fauske	63.93 340	*e*P		P	09 53 46.6 -0.6
OBN	Obninsk	64.70 322	*i*P		P	09 53 51.3 -1.1
OBN			*i*			09 54 05.0
OBN			pmax		pmax	
	comp=Z,11nm,1.1s					
OBN			MLR		MLR	
	comp=Z,54nm,19.0s					
FIA1	FINESS Array S	64.89 332	P		P	09 53 52.9 -0.6
FINES	FINESS Array B	64.89 332	P		P	09 53 53.2 -0.3
	comp=Z,16nm,0.6s,baz=51,slow=7.2,SNR=69					
FINES			LR		LR	10 24 40.8
	comp=Z,87nm,20.4s,baz=56,slow=38					
FINES	FINESS Array B	64.89 332	P		P	09 53 52.5 -1.0
MOR8	Moi Rana	65.07 339	*e*P		P	09 53 52.7 -2.0
KONS	Konsvik	65.16 340	*e*P		P	09 53 55.1 -0.1
ASAR	Alice Springs	65.75 189	P		P	09 54 00.8 +1.3
	comp=Z,1.5nm,0.8s,baz=3.0,slow=6.4,SNR=11					
ASAR	Alice Springs	65.75 189	P		P	09 53 59.4 -0.2
SUMG	Summit	65.79 0	*i*P		P	09 53 59.4 -0.3
SUMG			IAmb		IAmb	09 54 00.6
	comp=Z,8.1nm,0.8s					
SUMG	Summit	65.79 0	P		P	09 53 59.7 0.0
SUMG			pmax		pmax	
	comp=Z,9.0nm,0.8s					
SUMG	Summit	65.79 0	P		P	09 53 59.7 0.0
SUMG			IAmb		IAmb	09 54 00.7
	comp=Z,8.6nm,0.8s					
RAF	Rauma	66.68 333	*e*P		P	09 54 01.8 -3.3
NSS	Namsos	67.00 339	*e*P		P	09 54 06.7 -0.3
LGD	Lagodekhi	67.56 307	P		P	09 54 11.4 +0.4
MTSE	Matsula	67.60 330	*e*P		P	09 54 08.7 -2.2
DDFL	Dedoflistskaro	67.87 306	P		P	09 54 17.3 +4.3
AAL	Aland	67.90 333	*e*P		P	09 54 11.8 -0.9
KVAR	Kislovodsk Arr	68.36 310	P		P	09 54 18.1 +2.0
	comp=Z,6.2nm,0.5s,baz=255,slow=20,SNR=3.4					
KIV	Kislovodsk	68.36 310	⇑P		P	09 54 17.4 +1.3
KIV	Kislovodsk	68.36 310	*e*P		P	09 54 17.5 +1.3
KIV			pmax		pmax	
	comp=Z,28nm,1.0s					
KIV	Kislovodsk	68.36 310	P		P	09 54 16.2 0.0
ZEI	Tsey	68.37 308	*e*P		P	09 54 14.7 -1.6
ZEI			pmax		pmax	
	comp=Z,10.0nm,0.9s					
KBZ	Khabaz	68.38 310	P		P	09 54 16.8 +0.8
	comp=Z,8.4nm,0.7s,baz=63,slow=3.3,SNR=24					
ONI	Oni	68.76 309	P		P	09 54 19.2 +0.6
ONI			pmax		pmax	
	comp=Z,12nm,1.0s					
ONI	Oni	68.76 309	P		P	09 54 19.2 +0.6
ONI			IAmb		IAmb	09 54 20.8
	comp=Z,12nm,1.0s					
ISAL	Salakas	68.92 327	*e*P		P	09 54 19.8 +0.6
MNK	Minsk	68.93 325	*i*P		P	09 54 18.7 -0.6
MNK			*i*			09 54 42.6
MNK			*i*			09 56 51.1
MNK			*i*PPP		PPP	09 58 31.4
MNK			*i*S		S	10 03 17.5 -1.2
MNK			*i*			10 04 05.4
MNK			*i*SS		SS	10 07 45.7 +1.6
MNK			pmax		pmax	
	comp=N,24nm,0.8s					
MNK			pmax		pmax	
	comp=Z,15nm,0.9s					
MNK			pmax		pmax	
	comp=E,3.0nm,0.7s					
MNK			MLR		MLR	
	comp=N,159nm,19.0s					
MNK			MLR		MLR	
	comp=Z,74nm,24.0s					
MNK			MLR		MLR	
	comp=E,10.0nm,22.0s					
MNK	Minsk	68.93 325	*i*P		P	09 54 18.7 -0.6
	comp=E,3.0nm,0.7s					
MNK			*i*P		P	09 54 18.7 -0.6
	comp=N,24nm,0.8s					
MNK			*i*P		P	09 54 18.7 -0.6
	comp=Z,15nm,0.9s,baz=226					
MNK			*i*PcP		PcP	09 54 42.6 -0.6
MNK			*i*PP		PP	09 56 51.1 -0.4
MNK			*i*PPP		PPP	09 58 31.4
MNK			*i*S		S	10 03 17.5 -1.2
MNK			*i*SS		SS	10 07 45.7 +1.6
MNK			*i*SSS		SSS	10 11 03.0
MNK			*i*LQ		LQ	10 19 48.0
MNK			*i*LR		LR	10 22 46.8
MNK			*i*LRM		MLR	10 27 11.4
	comp=N,159nm,18.8s					
MNK			*i*LRM		MLR	10 27 37.0
	comp=Z,74nm,23.9s					
MNK			*i*LRM		MLR	10 27 48.5
	comp=E,10.0nm,22.4s					
FFC	Flin Flon	69.16 34	P		P	09 54 20.9 +0.2
FFC			pmax		pmax	
	comp=Z,8.0nm,0.8s					
FFC	Flin Flon	69.16 34	P		P	09 54 20.9 +0.2
FFC			IAmb		IAmb	09 54 22.0
	comp=Z,8.2nm,0.8s					
ICESG	Greenland Ices	69.28 1	*i*P		P	09 54 21.7 0.0
ICESG			IAmb		IAmb	09 54 23.4
	comp=Z,10.0nm,0.9s					
BEKR	Beckworth	69.29 55	P		P	09 54 23.4 +1.3
DOMB	Dombas	69.79 339	*e*P		P	09 54 23.9 -0.7
NC405	NORSAR Array S	69.80 337	IAmb		IAmb	09 54 43.4
	comp=Z,16nm,1.3s					
NC303	NORSAR Array S	69.81 337	IAmb		IAmb	09 54 25.5
	comp=Z,11nm,0.8s					
PABE	Paberze	69.83 328	*e*P		P	09 54 25.0 +0.2
NB2	NORSAR Subarra	70.00 337	P		P	09 54 24.8 -1.1
	comp=Z,5.8nm,0.5s,baz=36,slow=6.5					
NB2	NORSAR Subarra	70.00 337	P		P	09 54 24.8 -1.1
	baz=36,slow=6.5					
NOA	NORSAR Array B	70.00 337	P		P	09 54 25.0 -0.9
	comp=Z,8.2nm,0.7s,baz=36,slow=6.1,SNR=44					
NOA			LR		LR	10 28 31.1
	comp=Z,28nm,21.7s,baz=35,slow=39					
NOA	NORSAR Array B	70.00 337	P		P	09 54 25.0 -0.9
NBO00	NORSAR Array S	70.13 337	IAmb		IAmb	09 54 25.8
	comp=Z,20nm,0.8s					
NC602	NORSAR Array S	70.15 337	*e*P		P	09 54 26.0 -0.8
NC602	NORSAR Array S	70.15 337	P		P	09 54 26.5 -0.2
NC602			IAmb		IAmb	09 54 48.0
	comp=Z,26nm,1.4s					
DLMT	Dillon	70.32 46	P		P	09 54 29.2 +0.9
AKASG	Malin Array Be	70.95 322	P		P	09 54 31.2 -0.6
	comp=Z,6.9nm,0.4s,baz=45,slow=6.0,SNR=27					
AKBB	Malin Array Si	70.95 322	P		P	09 54 31.4 -0.4
AKBB			pmax		pmax	
	comp=Z,14nm,0.8s					
AKBB	Malin Array Si	70.95 322	P		P	09 54 31.4 -0.4
AKBB			IAmb		IAmb	09 54 32.2
	comp=Z,14nm,0.8s					
SKAR	Skarslia	71.12 338	*e*P		P	09 54 32.6 -0.1
UOSS	Minazif	71.15 287	P		P	09 54 33.8 +0.3
UOSS			IAmb		IAmb	09 54 38.2
	comp=Z,31nm,1.4s					
FOO	Floro	71.22 340	*e*P		P	09 54 33.5 +0.3
NVAR	Mina Array Bea	71.43 55	P		P	09 54 36.9 +1.7
	comp=Z,1.4nm,0.7s,baz=289,slow=6.2,SNR=19					
NVAR	Mina Array Bea	71.43 55	P		P	09 54 35.6 +0.4
KONO	Kongsberg	71.60 337	*e*P		P	09 54 35.6 0.0
DY2G	Dye2	71.71 4	*i*P		P	09 54 35.9 -0.5
DY2G			IAmb		IAmb	09 54 39.5
	comp=Z,5.7nm,0.7s					
ASK	Askoy	72.13 339	*e*P		P	09 54 37.3 -1.3
SORM	Soroca	73.15 320	⇑P		P	09 54 44.4 -0.6
STKA	Stephens Creek	73.45 181	P		P	09 54 48.3 +1.6
	comp=Z,2.4nm,1.0s,baz=321,slow=13,SNR=3.2					
STKA			LR		LR	10 35 27.7
	comp=Z,33nm,18.1s,baz=27,slow=42					
PDAR	Pinedale Array	73.67 47	P		P	09 54 49.4 +0.9
	comp=Z,1.7nm,0.7s,baz=287,slow=2.6,SNR=21					
PDAR	Pinedale Array	73.67 47	P		P	09 54 48.7 +0.3
MALT	Malatya	74.43 308	P		P	09 54 54.8 +2.0
ULM	Lac du Bonnet	74.97 34	P		P	09 54 55.0 -0.5
	comp=Z,2.1nm,0.4s,baz=0,2,slow=4.1,SNR=4.1					
BURAR	Bucovina Array	75.00 321	⇓P		P	09 54 55.9 0.0
BURAR	Bucovina Array	75.00 321	IAmb		IAmb	09 54 57.4
	comp=Z,10nm,0.8s					
TESR	Tescani	75.12 320	⇑P		P	09 54 56.6 +0.2
RDMU	Red Mountain	75.15 49	P		P	09 54 55.6 -1.5
RDMU			IAmb		IAmb	09 54 59.2
	comp=Z,7.2nm,0.8s					
KOLS	Kolonicke sedl	75.36 324	*e*P		P	09 54 58.5 +0.7
KOLS	Kolonicke sedl	75.36 324	*e*P		P	09 54 58.5 +0.7
TPGR	Topolog	75.43 318	⇑P		P	09 54 58.0 -0.3
OJC	Ojcow	75.44 326	*e*P		P	09 54 58.8 +0.5
OJC	Ojcow	75.44 326	IAmb		IAmb	09 54 59.7
	comp=Z,21nm,1.0s					
VRI	Vrincioaia	75.54 319	⇑P		P	09 54 59.5 +0.5
BNN	Bunyan	75.58 309	P		P	09 54 59.9 +0.5
SRU	San Rafael Swe	75.60 50	P		P	09 55 00.0 +0.4
SRU			pmax		pmax	
	comp=Z,4.0nm,0.6s					
SRU	San Rafael Swe	75.60 50	P		P	09 55 00.0 +0.4
SRU			IAmb		IAmb	09 55 02.0
	comp=Z,4.2nm,0.6s					
RSSD	Black Hills	75.65 43	P		P	09 54 59.5 -0.4
RSSD			pmax		pmax	
	comp=Z,3.0nm,0.9s					
RSSD	Black Hills	75.65 43	P		P	09 54 59.5 -0.4
CRVS	Cervenica-Dubn	75.73 324	*e*P		P	09 55 00.5 +0.5
CRVS			pmax		pmax	
	comp=Z,10.0nm,0.8s					
CRVS	Cervenica-Dubn	75.73 324	*e*P		P	09 55 00.5 +0.5
HARR	Harsova	75.80 318	⇑P		P	09 55 00.3 -0.1
GAZ	Gaziantep	75.91 307	P		P	09 55 02.4 +1.1
GAZ			IAmb		IAmb	09 55 03.3
	comp=Z,13nm,0.6s					
DOPR	Dopca	76.11 320	⇑P		P	09 55 02.6 +0.4
ISR	Istrita	76.17 319	⇑P		P	09 55 02.7 +0.1
BR131	Keskin Array S	76.24 311	IAmb		IAmb	09 55 04.5
	comp=Z,7.8nm,0.7s					
BRTR	Keskin Array B	76.24 311	P		P	09 55 03.8 +0.5
	comp=Z,4.4nm,0.7s,baz=84,slow=3.4,SNR=21					
BRTR			LR		LR	10 36 05.2
	comp=Z,21nm,18.7s,baz=40,slow=42					
BRTR	Keskin Array B	76.24 311	*i*P		P	09 55 03.5 +0.3
BRTR			pmax		pmax	
	comp=Z,4.0nm,0.7s					
BRTR	Keskin Array B	76.24 311	P		P	09 55 03.1 -0.1
ICOR	Ion Corvin	76.27 318	⇑P		P	09 55 03.4 +0.3
KSP	Ksiaz	76.38 328	*e*P		P	09 55 04.1 +0.5
ANTO	Ankara	76.61 312	P		P	09 55 06.4 +1.2
ANTO			pmax		pmax	
	comp=Z,21nm,0.7s					
ANTO	Ankara	76.61 312	P		P	09 55 06.4 +1.2
VOIR		76.67 320	⇓P		P	09 55 06.5 +1.0
MORC	Moravsky Berou	76.72 327	⇑P		P	09 55 05.9 +0.4
MORC	Moravsky Berou	76.72 327	IAmb		IAmb	09 55 07.0
	comp=Z,8.1nm,0.8s					
MORC	Moravsky Berou	76.72 327	*e*P		P	09 55 06.0 +0.4
DPC	Dobruska-Polom	76.76 328	*e*P		P	09 55 06.7 +0.9
DPC	Dobruska-Polom	76.76 328	*e*P		P	09 55 06.7 +0.9
DRGR		76.76 322	⇑P		P	09 55 05.6 -0.3
KRLC	Kraliky	76.79 327	*e*P		P	09 55 05.8 -0.2
KRLC	Kraliky	76.79 327	*e*P		P	09 55 05.8 -0.2
PV14	Lion Creek, Pa	76.96 50	IAmb		IAmb	09 55 31.7
	comp=Z,10nm,1.3s					
PV19	Morning Glory	77.02 50	P		P	09 55 08.1 +0.4
PV19			IAmb		IAmb	09 55 09.8
	comp=Z,5.2nm,0.9s					
PV17	East Wray Mesa	77.06 50	IAmb		IAmb	09 55 10.1
	comp=Z,6.4nm,0.8s					
CLL	Collm	77.27 330	⇑*i*P		P	09 55 08.3 -0.3
	comp=Z,10.0nm,0.6s					
CLL	Collm	77.27 330	⇑*i*P		P	09 55 08.3 -0.3
CLL			pmax		pmax	
	comp=Z,10.0nm,0.6s					
B35A	Bob, Littlefor	77.33 35	P		P	09 55 08.5 -0.4
B35A			IAmb		IAmb	09 55 09.7
	comp=Z,10nm,0.8s					
JAVC	Velka Javorina	77.38 326	*e*P		P	09 55 10.8 +1.5
VRAC	Vranov	77.47 327	⇑P		P	09 55 10.3 +0.5
VRAC	Vranov	77.47 327	*e*P		P	09 55 10.5 +0.7
KRUC	Moravsky	77.74 327	*e*P		P	09 55 11.8 +0.5
PRU	Pruhonice	77.74 329	*e*P		P	09 55 11.5 +0.2
PRU	Pruhonice	77.74 329	*e*P		P	09 55 11.5 +0.2
SMOL	Smolenice	77.75 326	*e*P		P	09 55 12.5 +1.2
SMOL	Smolenice	77.75 326	*e*P		P	09 55 12.5 +1.2
GZR	Gura Zlata	77.77 321	⇑P		P	09 55 11.7 +0.1
MODS	Modra-Piesok	77.92 326	*e*P		P	09 55 14.8 +2.5
MODS			pmax		pmax	
	comp=Z,10.0nm,1.0s					
MODS	Modra-Piesok	77.92 326	*e*P		P	09 55 14.8 +2.5
F33A	5 Mile Ranch,	78.13 38	IAmb		IAmb	09 55 14.4
	comp=Z,6.7nm,0.9s					
BZS	Buzias	78.14 322	⇑P		P	09 55 13.6 0.0
EYMN	Ely	78.58 34	IAmb		IAmb	09 55 16.8
	comp=Z,8.1nm,0.8s					
CKRC	Cesky Krumlov	78.77 328	*e*P		P	09 55 17.5 +0.5
KHC	Kasperske Hory	78.81 329	*e*P		P	09 55 17.7 +0.5
KHC	Kasperske Hory	78.81 329	*e*P		P	09 55 17.7 +0.5
KHC	Kasperske Hory	78.81 329	IAmb		IAmb	09 55 18.6
	comp=Z,8.0nm,0.7s					
CONA	Conrad Observa	78.86 327	*e*P		P	09 55 18.4 +0.8
	comp=Z,3.4nm,0.6s					
GERES	GERESS Array B	78.99 328	P		P	09 55 17.9 -0.3
	comp=Z,1.9nm,0.5s,baz=43,slow=6.0,SNR=17					
GERES	GERESS Array B	78.99 328	P		P	09 55 18.0 -0.3
GERES	GERESS Array B	78.99 328	P		P	09 55 17.1 -1.2
GRA1	Grafenberg Arr	79.24 330	IAmb		IAmb	09 55 21.0
	comp=Z,18nm,0.8s					
GRFO	Grafenberg	79.25 330	P		P	09 55 19.2 -0.4
GRFO			pmax		pmax	
	comp=Z,16nm,0.7s					
GRFO	Grafenberg	79.25 330	P		P	09 55 19.2 -0.4
GRFO			IAmb		IAmb	09 55 21.0
	comp=Z,16nm,0.7s					
ARSA	Arzberg	79.53 326	*e*P		P	09 55 21.0 -0.2
	comp=Z,1.7nm,0.5s					
ECSD	EROS Data Cent	79.58 39	IAmb		IAmb	09 55 22.5
	comp=Z,7.5nm,0.9s					
VTS	Vitosha	79.63 319	⇑P		P	09 55 22.5 +0.5
VTS	Vitosha	79.63 319	P		P	09 55 22.5 +0.5
VTS			pmax		pmax	
	comp=Z,14nm,0.8s					
VTS	Vitosha	79.63 319	P		P	09 55 22.5 +0.5
VTS			IAmb		IAmb	09 55 23.8
	comp=Z,14nm,0.8s					
DIVS	Divibare	80.05 322	P		P	09 55 22.6 -1.5
DIVS			IAmb		IAmb	09 55 25.0
	comp=Z,5.5nm,0.8s					
GROS	Grobnik	80.17 326	*i*P		P	09 55 24.8 +0.1
SOKA	Soboth	80.19 326	*i*P		P	09 55 25.1 +0.2
	comp=Z,8.4nm,0.7s,SNR=8.4					
MEM	Membach	80.31 334	*d*P		P	09 55 25.1 -0.2
	comp=Z,7.0nm,0.8s					
SCHQ	Schefferville	80.41 17	P		P	09 55 25.9 +0.2
	comp=Z,5.1nm,0.8s,baz=2,0,slow=4.9,SNR=4.9					
OBKA	Obir	80.53 326	*i*P		P	09 55 27.1 +0.4
	comp=Z,7.1nm,0.6s,SNR=4.1					
KBA	Koelnbreinsper	80.56 328	*e*P		P	09 55 27.4 +0.5
	comp=Z,8.6nm,0.9s					
PDKS	Podkum	80.70 326	*i*P		P	09 55 27.3 -0.2
BCLA	Clavier	80.70 334	*d*P		P	09 55 27.0 -0.3
BCLA			*d*PcP		PcP	09 55 34.4 +0.4
BCLA			*d*sP		sP	09 55 50.4 -0.4
MYKA	Terra Mystica	80.80 327	*e*P		P	09 55 28.1 0.0
	comp=Z,3.3

ECH	Echery	81.95	332	IAmb	IAmb	09 55 34.8	
	comp=Z,4.5nm,0.7s						
CTI	Castel Tesino	82.07	328	P	P	09 55 33.8	-1.1
CTI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CTI	Castel Tesino	82.07	328	P	P	09 55 33.8	-1.1
CTI				IAmb	IAmb	09 55 34.7	
	comp=Z,7.3nm,0.6s						
DAVOX	Davos/Dischmat	82.16	329	LR	LR	10 35 37.1	
	comp=Z,43nm,19.0s,baz=322,slow=38						
N35A	Tabor	82.23	41	IAmb	IAmb	09 55 37.5	
	comp=Z,10nm,0.7s						
SCIA	State Center	82.57	38	IAmb	IAmb	09 55 38.9	
	comp=Z,10nm,0.6s						
TUE	Stuetta	82.62	329	P	P	09 55 37.8	-0.1
TUE				IAmb	IAmb	09 55 38.9	
	comp=Z,8.3nm,0.7s						
L40A	Anamosa	83.36	37	IAmb	IAmb	09 55 42.1	
	comp=Z,5.6nm,0.7s						
SENIN	Lac Senin/Sane	83.47	331	IAmb	IAmb	09 55 43.0	
	comp=Z,5.7nm,0.7s						
SGRT	San Giovanni R	83.82	323	P	P	09 55 44.0	+0.1
P38A	Dawn	84.21	40	IAmb	IAmb	09 55 47.2	
	comp=Z,8.0nm,0.8s						
LPL	La Plagne	84.40	330	eP	P	09 55 46.9	-0.1
LPL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ITM	Ithomi	84.40	316	P	P	09 55 46.4	-0.5
BNI	Bardonecchia	84.82	330	IAmb	IAmb	09 55 50.2	
	comp=Z,5.5nm,0.9s						
P40A	Paris	84.99	39	IAmb	IAmb	09 55 50.7	
	comp=Z,5.5nm,0.7s						
J47A	Sunmer	85.14	33	P	P	09 55 50.5	0.0
R40A	Maddies Statio	85.87	40	P	P	09 55 54.0	-0.1
R40A				IAmb	IAmb	09 55 55.1	
	comp=Z,4.3nm,0.7s						
TX31	Lajitas Ar. Si	86.49	53	IAmb	IAmb	09 56 17.4	
	comp=Z,14nm,1.3s						
TXAR	Lajitas Array	86.49	53	P	P	09 55 58.8	+1.2
	comp=Z,1.2nm,0.8s,baz=288,slow=3.7,SNR=20						
TXAR	Lajitas Array	86.49	53	P	P	09 55 58.0	+0.4
CCM	Cathedral Cave	86.54	40	P	P	09 55 58.1	+0.6
CCM				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CCM	Cathedral Cave	86.54	40	P	P	09 55 58.1	+0.6
CCM				IAmb	IAmb	09 55 58.6	
	comp=Z,6.6nm,0.8s						
CAF	Calviac	86.56	333	eP	P	09 55 58.0	+0.5
CAF				pmax	pmax		
	comp=Z,14nm,0.7s						
MGMO	Mountain Grove	86.77	41	IAmb	IAmb	09 55 59.5	
	comp=Z,3.1nm,0.8s						
U40A	Yellville	87.11	42	IAmb	IAmb	09 56 01.3	
	comp=Z,6.5nm,0.8s						
MOQ	Mont Orford	87.76	24	P	P	09 56 03.6	+0.2
FCAR	Ozark Folk Cen	87.84	41	IAmb	IAmb	09 56 04.2	
	comp=Z,3.4nm,0.8s						
PBMO	Poplar Bluff	87.95	40	IAmb	IAmb	09 56 05.7	
	comp=Z,6.3nm,0.9s						
MIAR	Mount Ida	88.16	43	P	P	09 56 05.6	+0.2
MIAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MIAR	Mount Ida	88.16	43	P	P	09 56 05.6	+0.2
MIAR				IAmb	IAmb	09 56 06.9	
	comp=Z,4.5nm,0.8s						
WHAR	Wooly Hollow	88.23	42	IAmb	IAmb	09 56 07.8	
	comp=Z,5.3nm,0.8s						
P49A	Miami Univ. Ec	88.27	35	IAmb	IAmb	09 56 07.0	
	comp=Z,10nm,0.9s						
Q51A	Peebles	89.28	34	P	P	09 56 11.0	+0.4
T47A	Sharon Grove	89.33	38	IAmb	IAmb	09 56 12.4	
	comp=Z,7.5nm,0.8s						
SSPA	Standing Stone	90.04	30	P	P	09 56 14.3	+0.2
SSPA				IAmb	IAmb	09 56 15.6	
	comp=Z,7.0nm,0.9s						
T50A	Nancy	90.32	36	IAmb	IAmb	09 56 17.1	
	comp=Z,5.2nm,0.7s						
ESDC	Sonseca Array	93.25	335	P	P	09 56 29.1	+0.1
	comp=Z,1.2nm,0.7s,baz=17,slow=3.6,SNR=6.1						
ESDC				LR	LR	10 45 44.5	
	comp=Z,23nm,18.4s,baz=20,slow=40						
MDT	Midelt	99.70	332	LR	LR	10 45 46.5	
	comp=Z,36nm,20.1s,baz=24,slow=38						
TORD	Torodi Ar. Bea	114.38	317	PP	PP	10 02 46.1	-4.1
	comp=Z,1.1nm,0.8s,baz=23,slow=7.7,SNR=5.8						
SNAA	Sanae	145.66	199	PKPdf	PKPab	10 02 52.1	-0.1
VNA2	Neumayer--Watz	147.24	198	PKPbc	PKPbc	10 02 57.1	+0.8
VNA3	Neumayer Olymp	147.50	196	PKPbc	PKPbc	10 02 57.4	+0.4
VNA1	Neumayer--Stat	147.64	198	PKPbc	PKPbc	10 02 58.1	+0.8
BDFB	Brasilia	152.28	22	PKPbc	PKPbc	10 03 10.2	-0.2
	comp=Z,4.0nm,0.7s,baz=45,slow=1.4,SNR=4.8						

*IDC **23** 10:14:27.4±1.9, 14°.60S×73°.49W, h64km±17km, mb3.4/3, mb1 3.9/8, mb1mx3.6/31, mbtmp4.0/8 Error ellipse: s-maj=36.4km s-min=13.4km az=40.0*
*VAO **23** 10:14:30.7±0.2, 14°.49S×73°.13W, h10km, mb4.4*
ISC 23 10:14:29.8±0.6, 14°.89S±0°.07×73°.93W±0°.08, h89km, n63, σ2°97/58, mb3.7/3, 2C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.04	315	P	Pn	10 15 29.0	-0.4
	38nm,0.3s,baz=136,slow=12,SNR=26						
NNA				S	Sn	10 16 16.2	+0.5
	70nm,0.3s,baz=210,slow=21,SNR=8.7						
LPAZ	La Paz	5.76	105	P	Pn	10 15 52.9	-0.4
	11nm,0.3s,baz=324,slow=5.4,SNR=250						
LPAZ	La Paz	5.76	105	⇑iP	Pn	10 15 52.9	-0.4
LPAZ	La Paz	5.76	105	eP	Pn	10 15 53.3	+0.1
MNMC	Minye Minye	5.91	136	eP	Pn	10 15 52.8	-2.3
PSGC	Pisagua	5.93	143	eP	Pn	10 15 52.9	-2.2
PB11	IPOC Station P	6.33	141	⇓iP	Pn	10 15 58.3	-2.4
TA01	Diego Aracena	6.68	148	eP	Pn	10 16 03.0	-2.3
PB08	IPOC Station P	6.93	140	⇑iP	Pn	10 16 06.8	-2.2
CZSB	Cruzeiro do Su	7.21	10	eP	Pn	10 16 09.1	-3.5
PB01	IPOC Station P	7.44	146	eP	Pn	10 16 13.1	-2.6
PB02	IPOC Station P	7.46	150	eP	Pn	10 16 13.8	-2.2
ATAH	Atahualpa	8.86	330	P	Pn	10 16 34.1	-1.3
	0.3nm,0.3s,baz=184,slow=4.9,SNR=2.3						
ATAH				S	Sn	10 18 08.4	-5.5
	0.6nm,0.3s,baz=84,slow=8.7,SNR=1.8						
LVC	Limon Verde	9.03	149	P	Pn	10 16 35.7	-1.9
	4.3nm,0.3s,baz=6.2,slow=8.6,SNR=25						
LVC				S	Sn	10 18 12.0	-5.8
	5.0nm,0.3s,baz=288,slow=20,SNR=12						
LVC	Limon Verde	9.03	149	eP	Pn	10 16 36.3	-1.4
ETMB	Extrema	9.06	57	eP	Pn	10 16 32.7	-5.1
SAML	Samuel	12.05	62	eP	Pn	10 17 10.9	-7.5
SIV	San Ignacio	12.44	97	P	Pn	10 17 17.0	-6.7
	3.3nm,0.3s,baz=285,slow=12,SNR=68						
VILB	Vilhena	13.46	83	eP	Pn	10 17 32.9	-4.4
PTLB	Pontes e Lacer	14.29	94	eP	Pn	10 17 42.8	-5.1
OTAV	Otavalo	15.68	343	eP	P	10 18 08.8	+0.4
MACA	Manacapuru-AM	17.50	50	eP	P	10 18 24.3	-3.8
SALV	Santo Antonio	17.61	96	eP	P	10 18 29.0	-0.3
CLDB	Colider	18.12	79	eP	P	10 18 32.5	-2.5
AQDB	Aquidauana	18.23	110	eP	P	10 18 35.7	-0.4
PP1B	Ponte de Pedra	18.49	101	eP	P	10 18 36.7	-2.2
CPUP	Villa Florida	19.24	129	P	P	10 18 44.6	-2.4
	0.2nm,0.3s,baz=303,slow=14,SNR=4.5						
NPGB	Novo Progresso	19.81	69	eP	P	10 18 49.5	-4.0
ITTB	Itaituba	20.74	62	eP	P	10 18 59.7	-3.7
ARAG	Araguaiana, MT	21.35	95	eP	P	10 19 11.8	+1.8
ITQB	Itaqui	21.70	136	eP	P	10 19 19.9	+6.3
SNDB	Serra Nova Dou	22.20	85	eP	P	10 19 16.6	-2.4
PCMB	Pacaembu	22.52	111	eP	P	10 19 21.7	-0.7
ITRB	Iturama	23.00	105	eP	P	10 19 28.0	+0.7
MALB	Monte Alegre	23.33	58	eP	P	10 19 31.4	+0.9
SDV	Santo Domingo	23.84	8	eP	P	10 19 39.3	+4.1
CPSB	Cacapava Do Su	24.35	133	eP	P	10 19 46.6	+7.2
FRTB	Fartura	24.48	114	eP	P	10 19 46.4	+5.6
BB19B	Bebedouro	24.91	108	eP	P	10 19 47.0	+2.3
PLTB	Pedras Altas	25.03	136	eP	P	10 19 54.6	+9.0
PEXB	Peixe	25.07	87	eP	P	10 19 49.5	+3.4
PRPB	Parauapebas	25.21	72	eP	P	10 19 46.5	-1.0
TRQA	Tornquist	25.39	158	eP	P	10 19 59.4	+11
TIJ01	Guaruva-PR	25.56	118	eP	P	10 19 56.6	+6.0
MCPB	Macapa, AP	25.99	58	eP	P	10 19 56.4	+1.9
SPB	Sao Paulo	26.43	113	eP	P	10 20 04.2	+5.8
JANB	Januaria	28.60	94	eP	P	10 20 21.2	+3.2
ROSB	Rosrio	31.71	71	eP	P	10 20 47.4	+2.1
RIB01	Linhares ES	32.32	103	eP	P	10 20 54.4	+3.7
NAN01	Guarapari, ES	32.54	100	eP	P	10 20 54.5	+2.0
GUA01	Guaratinga, BA	32.87	98	eP	P	10 20 59.8	+4.4
NBPN	Ponto Novo - B	33.10	87	eP	P	10 21 00.2	+2.6
NBIT	Itapeh - BA	33.31	95	eP	P	10 21 03.3	+4.0
NBPA	Parau_RN	37.29	80	eP	P	10 21 37.8	+4.3
RCBR	Riachuelo	38.42	80	eP	P	10 21 42.3	-0.8
TXAR	Lajitas Array	52.51	327	P	P	10 23 34.0	-0.1
	0.1nm,0.5s,baz=145,slow=8.5,SNR=4.2						
TORD	Torodi Ar. Bea	79.85	73	P	P	10 26 26.4	-2.7
	0.9nm,0.7s,baz=263,slow=5.4,SNR=4.4						
VNDA	Vanda	82.48	190	P	P	10 26 44.9	+2.9
	0.9nm,0.9s,baz=121,slow=4.3,SNR=4.6						
ASAR	Alice Springs	133.00	216	PKP	PKiKP	10 33 36.5	-0.4
	0.5nm,0.6s,baz=125,slow=2.3,SNR=6.5						
WRA	Warramunga Arr	135.61	220	PKP	PKiKP	10 33 41.7	-0.5
	0.2nm,0.5s,baz=128,slow=2.1,SNR=5.6						
ZALV	Zalesovo Beam	137.61	19	PKP	PKPdf	10 33 42.7	-0.6
	1.9nm,0.7s,baz=299,slow=3.0,SNR=5.6						
SONM	Songino Array	147.15	360	PKPbc	PKPbc	10 34 03.0	+0.2
	1.7nm,0.6s,baz=338,slow=2.0,SNR=8.7						
KSRS	Korea Array	150.32	323	PKPbc	PKiKP	10 34 11.4	-0.4
	1.1nm,0.8s,baz=12,slow=1.8,SNR=4.9						

IDC 23 10:26:08.8±14.0, 22°.53S×179°.29W, h550km±164km, mb3.4/4, mb1 3.5/5, mb1mx2.9/39, mbtmp4.4/5, Error ellipse: s-maj=228.6km s-min=66.4km az=59.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.98	190	P	P	10 29 27.4	-0.5
	1.2nm,0.3s,baz=36,slow=18,SNR=9.4						
URZ				S	S	10 32 01.9	-8.6
	baz=155,slow=23,SNR=1.1						
CTA	Charters Tower	32.15	268	P	P	10 31 52.3	+0.5
	9.1nm,0.4s,baz=94,slow=11,SNR=32						
STKA	Stephens Creek	35.85	246	P	P	10 32 21.9	-0.7
	1.4nm,0.4s,baz=100,slow=6.1,SNR=5.7						
ASAR	Alice Springs	42.92	250	P	P	10 33 19.4	-0.3
	1.7nm,0.5s,baz=94,slow=8.5,SNR=24						
WRA	Warramunga Arr	43.17	264	P	P	10 33 21.3	-0.3
	1.9nm,0.6s,baz=96,slow=8.5,SNR=30						

*IDC **23** 10:31:18.6±2.3, 59°.68N×5°.65E, h0km, mb1 3.4/5, mb1mx3.1/56, mbtmp3.4/5, ML3.0/5, Error ellipse: s-maj=40.5km s-min=23.0km az=147.0*
*DNK **23** 10:31:21.6±1.2, 59°.71N×6°.42E, h0km±15km, ML3.0, Probable volcanic*
*NAO **23** 10:31:21.0±1.0, 59°.74N×5°.92E, h20km±9km, ML2.9*
*BER **23** 10:31:22.2±1.4, 59°.70N×5°.85E, h16km±2km, ML2.6, MW2.8, ML2.9(NAO), Fault plane solution: NP1: φ±54.00000°, δ18.00000°, λ-62.00000°., Confirmed Earthquake*
*UPP **23** 10:31:24.5±2.1, 59°.62N×6°.75E, h0km, ML2.4, Suspected explosion*
ISC 23 10:31:20.8±0.9, 59°.69N±0°.02×5°.82E±0°.03, h31km±8km, n79, σ1°32/143, 4C-3D, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLS5	Blasjo	0.42	129	Pg	Pb	10 31 30.0	-0.1
BLS5				Lg	Lg	10 31 35.7	
BLS5	Blasjo	0.42	129	⇑eP	Pb	10 31 29.9	-0.1
BLS5				eS	Sb	10 31 35.7	-0.7
BLS5				IAML		10 31 35.9	
	comp=Z,806nm,0.4s						
ODD1	Odda	0.47	61	Pg	Pb	10 31 30.5	-0.2
ODD1				Lg	Lg	10 31 36.6	
ODD1	Odda	0.47	61	⇑iP	Pb	10 31 30.5	-0.2
ODD1				eS	Sb	10 31 36.7	-0.9
ODD1				IAML		10 31 37.0	
	comp=Z,2μm,0.4s						
KMY	Karmoy	0.56	212	⇓eP	Pn	10 31 33.0	+0.4
KMY				eS	Sn	10 31 40.7	0.0
KMY				IAML		10 31 41.1	
	comp=Z,1μm,0.2s						
BER	Bergen	0.74	341	Pg	Pb	10 31 35.8	+0.6
BER				Lg	Lg	10 31 45.1	
BER	Bergen	0.74	341	⇑eP	Pb	10 31 35.6	+0.5
BER				eS	Sn	10 31 45.3	+0.1
BER				IAML		10 31 47.2	
	comp=Z,191nm,0.2s						
ASK	Askoy	0.85	339	⇑eP	Pb	10 31 37.3	+0.2
ASK				eS	Sb	10 31 48.4	+0.1
ASK				IAML		10 31 49.7	
	comp=Z,345nm,0.2s						
SUE	Sulen	1.47	339	eP	Pb	10 31 46.4	-1.0
SUE				eS	Sn	10 32 04.2	+1.0
SUE				IAML		10 32 08.8	
	comp=Z,79nm,0.4s						
HYA	Hoyanger	1.49	7	Pg	Pb	10 31 46.8	-1.0
HYA				Lg	Lg	10 32 07.2	
HYA	Hoyanger	1.49	7	eP	Pb	10 31 46.8	-1.0
HYA				eS	Sb	10 32 05.0	-1.3
HYA				IAML		10 32 11.4	
	comp=Z,148nm,0.3s						
SNART	Snartemo	1.53	151	iP	Pb	10 31 47.5	-1.0
SNART				i		10 31 54.7	
SNART				IAML		10 32 09.1	
	comp=Z,237nm,0.3s						
SNART	Snartemo	1.53	151	⇓eP	Pb	10 31 47.4	-1.1
SNART				ePg	Pn	10 31 49.0	+3.1
SNART				i		10 31 54.7	
SNART				eS	Sn	10 32 05.4	+0.6
SNART				eSg	Sb	10 32 08.5	+0.9
SNART				IAML		10 32 08.9	
	comp=Z,375nm,0.4s						
SKAR	Skarslia	1.59	50	⇓eP	Pn	10 31 48.0	+1.2
SKAR				eSg	Sb	10 32 09.8	+0.5
SKAR				IAML		10 32 10.3	
	comp=Z,505nm,0.5s						
KON	Kongsberg	1.92	90	Pn	Pn	10 31 52.8	+1.6
KON				Pg	Pb	10 31 54.7	-0.3
KON				Lg	Lg	10 32 19.4	
KONO	Kongsberg	1.92	90	eP	Pn	10 31 52.6	+1.3
KONO				ePg	Pb	10 31 54.7	-0.3
KONO				eS	Sn	10 32 14.3	+0.1
KONO				eSg	Sb	10 32 18.9	+0.4
KONO				IAML		10 32 20.1	
	comp=Z,96nm,0.5s						
FOO	Floro	1.95	349	Pn	Pn	10 31 50.7	-1.0
FOO				Pg	Pb	10 31 55.9	+0.3
FOO				Sn	Sn	10 32 15.2	+0.2
FOO				Lg	Lg	10 32 20.8	
FOO	Floro	1.95	349	eS	Sn	10 32 15.4	+0.3
FOO				eSg	Sb	10 32 20.9	+1.3
FOO				IAML		10 32 24.7	
	comp=Z,47nm,0.1s						
HOMB	Homborsund	1.99	135	iP	Pn	10 31 53.7	+1.4
HOMB				IAML		10 32 30.0	
	comp=Z,58nm,0.3s						
HOMB	Homborsund	1.99	135	eP	Pn	10 31 53.6	+1.4
HOMB				eS	Sn	10 32 16.5	+0.5
HOMB				IAML		10 32 29.6	
	comp=Z,76nm,0.4s						
OSL	Oslo	2.49	82	eP	Pn	10 32 01.3	+2.2
OSL				eSg	Sb	10 32 35.6	+0.7
OSL				IAML		10 32 42.5	
	comp=Z,77nm,0.4s						
AKN	Aaknes	2.56	12	Pn	Pn	10 32 01.4	+1.3
AKN				Pg	Pb	10 32 06.6	+0.6
AKN				Sn	Sn	10 32 31.0	+0.8
AKN				Lg	Lg	10 32 38.4	
AKN	Aaknes	2.56	12	Pn	Pn	10 32 01.4	+1.3
AKN				Pg	Pb	10 32 06.6	+0.6
AKN				Sn	Sn	10 32 31.0	+0.8
AKN				Sg	Sb	10 32 38.4	+1.3
NAO01	NORSAR Array S	2.78	63	eP	Pn	10 32 04.3	+1.2
NAO01				eS	Sn	10 32 34.9	-0.6
NAO01				IAML		10 32 48.9	
	comp=Z,75nm,0.5s						
NBO00	NORSAR Array S	2.81	59	eP	Pn	10 32 04.2	+0.7
NBO00				eS	Sn	10 32 36.0	-0.2
NBO00				eSg	Sb	10 32 43.7	-0.4
NBO00				IAML		10 32 52.5	
	comp=Z,60nm,0.6s						
STRU	Stroemstad	2.82	101	eP	Pn	10 32 03.9	+0.2
STRU				P	Pn	10 32 04.0	+0.4
STRU				S	Sn	10 32 34.1	-2.4
STRU	Stroemstad	2.82	101	P	Pn	10 32 04.0	+0.4
STRU				S	Sn	10 32 34.1	-2.4
STRU	Stroemstad	2.82	101	eP	Pn	10 32 04.0	+0.4
STRU				ePg	Pb	10 32 10.1	-0.3
STRU				eS	Sn	10 32 35.9	-0.7
STRU				eSg	Sb	10 32 45.4	+0.9
NB2	NORSAR Subarra	3.00	61	Pn	Pn	10 32 07.2	+1.1
	baz=244,slow=12						
NB2				Pg	Pb	10 32 12.6	-0.9
NB2				Lg	Lg	10 32 50.7	
	baz=253,slow=28						
NB2	NORSAR Subarra	3.00	61	Pn	Pn	10 32 07.2	+1.1
	baz=244,slow=12						
NB2				Pg	Pb	10 32 12.6	-0.9
NB2				Sg	Sb	10 32 50.7	+1.0
	baz=253,slow=28						
NOA	NORSAR Array B	3.00	61	Pn	Pn	10 32 07.2	+1.1
	comp=Z,0.3nm,0.3s,baz=239,slow=12,SNR=47						
NOA				Pg	Pb	10 32 13.1	-0.4
	comp=Z,0.6nm,0.3s,baz=245,slow=16,SNR=26						
NOA				Lg	Lg	10 32 49.4	
	comp=Z,1.6nm,0.3s,baz=237,slow=18,SNR=4.9						
MOL	Molde	3.01	15	eP	Pn	10 32 07.6	+1.4
MOL				eS	Sn	10 32 40.9	-0.3
MOL				IAML		10 32 58.6	
	comp=Z,33nm,0.1s						
NRA0	NORESS Array S	3.04	67	Pn	Pn	10 32 07.8	+1.2
	baz=252,slow=12						
NRA0				Pg	Pb	10 32 13.4	-0.8
	baz=254,slow=18						
NRA0				Lg	Lg	10 32 51.5	
	baz=255,slow=28						
NRA0	NORESS Array S	3.04	67	Pn	Pn	10 32 07.8	+1.2
	baz=252,slow=12						
NRA0				Pg	Pb	10 32 13.4	-0.8
	baz=254,slow=18						
NRA0				Sg	Sb	10 32 51.5	+0.7
	baz=255,slow=28						
GOET	G??ttrup	3.21	145	eP	Pn	10 32 11.5	+2.5
GOET				eS	Sn	10 32 47.0	+0.9
GOET	G??ttrup	3.21	145	eP	Pn	10 32 11.5	+2.5
GOET				eS	Sn	10 32 47.0	+0.9
FINU	Finntorp	3.40	92	P	Pn	10 32 12.2	+0.6
FINU	Finntorp	3.40	92	P	Pn	10 32 12.2	+0.6
TJOU	Tjoern	3.44	116	iP	Pn	10 32 13.0	+0.8
TJOU				P	Pn	10 32 13.2	+1.0
TJOU				S	Sn	10 32 50.1	-1.7
TJOU	Tjoern	3.44	116	P	Pn	10 32 13.2	+1.0
TJOU				S	Sn	10 32 50.1	-1.7
TJOU	Tjoern	3.44	116	iP	Pn	10 32 13.0	+0.8
VANU	Vaenersborg	3.44	108	P	Pn	10 32 12.9	+0.8
VANU				S	Sn	10 32 49.8	-2.0
VANU	Vaenersborg	3.44	108	P	Pn	10 32 12.9	+0.8
VANU				S	Sn	10 32 49.8	-2.0
LRW	Lerwick	3.55	280	eP	Pn	10 32 14.9	+1.3
LRW				eS	Sn	10 32 54.0	-0.5
LRW				IAML		10 33 08.4	
	comp=Z,12nm,0.8s						
NASU	Vaermlandsnaes	3.85	98	P	Pn	10 32 18.4	+0.6
NASU	Vaermlandsnaes	3.85	98	P	Pn	10 32 18.4	+0.6
ONAU	Onsala	3.94	123	P	Pn	10 32 19.9	+1.0
ONAU				iP	Pn	10 32 20.6	+1.6
ONAU	Onsala	3.94	123	P	Pn	10 32 19.9	+1.0
ONAU	Onsala	3.94	123	iP	Pn	10 32 20.6	+1.6
UDD	Uddeholm	3.94	81	P	Pn	10 32 20.0	+0.9
HFS	Hagfors	3.99	80	Pn	Pn	10 32 20.6	+0.9
	comp=Z,1.4nm,0.3s,baz=264,slow=13,SNR=55						
HFS				Sn	Sn	10 33 03.6	-1.7
	comp=Z,1.2nm,0.3s,baz=266,slow=21,SNR=2.2						
HFS				Lg	Lg	10 33 21.2	
	comp=Z,5.6nm,0.3s,baz=267,slow=27,SNR=12						
BORU	Boraas	4.17	117	P	Pn	10 32 22.9	+0.7
BORU				iP	Pn	10 32 23.0	+0.8
BORU	Boraas	4.17	117	P	Pn	10 32 22.9	+0.7
BORU	Boraas	4.17	117	iP	Pn	10 32 23.0	+0.8
FKPU	Falk	4.38	107	P	Pn	10 32 25.5	+0.5
FKPU	Falk	4.38	107	P	Pn	10 32 25.5	+0.5
FABU	Falkenberg	4.53	124	iP	Pn	10 32 28.2	+1.2
FABU				iS	Sn	10 33 17.7	-0.8
FABU	Falkenberg	4.53	124	iP	Pn	10 32 28.2	+1.2
FABU				iS	Sn	10 33 17.7	-0.8
ASKU	Askersund	4.69	96	P	Pn	10 32 29.8	+0.6
ASKU	Askersund	4.69	96	P	Pn	10 32 29.8	+0.6
GNOU	Gnosjoe	4.81	117	P	Pn	10 32 32.0	+1.1
GNOU	Gnosjoe	4.81	117	P	Pn	10 32 32.0	+1.1
BIGH	Upper Bighouse	5.16	261	eP	Pn	10 32 36.4	+0.7
BIGH				eS	Sn	10 33 31.9	-2.2
DRUM	Mains of Drumt	5.19	241	eP	Pn	10 32 37.1	+1.0
DRUM				eS	Sn	10 33 32.0	-2.9
BJUU	Bjuv	5.28	130	iP	Pn	10 32 39.0	+1.6
BJUU	Bjuv	5.28	130	iP	Pn	10 32 39.0	+1.6
DEL	Delary	5.35	124	iP	Pn	10 32 40.0	+1.6
DEL				IAML		10 34 19.2	
	comp=Z,4.3nm,0.4s						
DEL	Delary	5.35	124	iP	Pn	10 32 40.0	+1.6
DEL				IAML		10 34 19.2	
	comp=Z,4.3nm,0.4s						
NSS	Namsos	5.65	28	eP	Pn	10 32 43.0	+0.6
NSS				eS	Sn	10 33 42.7	-3.4
NSS				IAML		10 34 20.6	
	comp=Z,8.4nm,0.7s						
NOD	Norderasen	5.73	45	eP	Pn	10 32 44.7	+1.1
LUNU	Lund	5.77	132	iP	Pn	10 32 44.5	+0.4
LUNU				iS	Sn	10 33 48.2	-0.9
LUNU	Lund	5.77	132	iP	Pn	10 32 44.5	+0.4
LUNU				iS	Sn	10 33 48.2	-0.9
BLEU	Blekinge	6.30	118	iP	Pn	10 32 52.0	+0.6
BLEU				iS	Sn	10 33 58.8	-3.4
BLEU	Blekinge	6.30	118	iP	Pn	10 32 52.0	+0.6
BLEU				iS	Sn	10 33 58.8	-3.4
GDLE	Glaisdale, N Y	6.40	217	eP	Pn	10 32 53.2	+0.4
KPL	Plockton	6.46	254	eP	Pn	10 32 53.4	-

*IDC **23** 10:56:51.3±0.8, 13°.43N×120°.88E, h106km±6km, mb3.5/8, mb1 3.6/8, mb1mx3.4/37, mbtmp3.8/8, MS2.5/1, Ms1 2.5/1, ms1mx2.1/37, Error ellipse: s-maj=27.8km s-min=14.7km az=71.0*

*MAN **23** 10:56:52.6, 13°.53N×120°.68E, h92km, mb4.5, ML3.3, MS3.1*

ISC 23 10:56:52.4±0.7, 13°.50N±0°.05×120°.71E±0°.06, h105km±5km, n43, σ2°23/53, mb4.1/15, 2C-8D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.24**	**90⇑**	*eP*		**Pn**	**10 57 07.3**	**-0.1**
PGP				*i*	S	**Sn**	**10 57 18.4**	**-0.2**
LUBP	**Lubang**	**0.50**	**297⇑**	*i*	P	**Pn**	**10 57 09.2**	**+0.4**
LUBP				*i*	S	**Sn**	**10 57 21.8**	**+0.7**
TGY	**Tagaytay City**	**0.64**	**20**	P		**Pn**	**10 57 10.3**	**+0.5**
	baz=270,slow=20							
TGY				S		**Sn**	**10 57 23.7**	**+0.7**
	baz=270,slow=20							
TGY	**Tagaytay City**	**0.64**	**20⇓**	*i*	P	**Pn**	**10 57 10.5**	**+0.6**
TGY				*e*	S	**Sn**	**10 57 26.5**	**+3.6**
LQP	**Lukban**	**1.01**	**53⇓**	*i*	P	**Pn**	**10 57 14.2**	**+0.7**
LQP				*i*	S	**Sn**	**10 57 28.6**	**-0.9**
GQP	**Guinayangan**	**1.73**	**77⇓**	*eP*		**Pn**	**10 57 22.5**	**+0.7**
GQP				*e*	S	**Sn**	**10 57 48.8**	**+4.6**
PCPH	**Palayan**	**2.08**	**10⇓**	*eP*		**Pn**	**10 57 26.6**	**+0.4**
PCPH				*e*	S	**Sn**	**10 57 56.6**	**+4.5**
JCNP	**Jose Panganiba**	**2.08**	**68⇓**	*iP*		**Pn**	**10 57 26.8**	**+0.5**
JCNP				*i*	S	**Sn**	**10 57 52.5**	**+0.4**
RCP	**Roxas**	**2.77**	**134⇓**	*eP*		**Pn**	**10 57 36.2**	**+0.9**
CNOP	**Candoni, Negro**	**4.11**	**152⇓**	*iP*		**Pn**	**10 57 55.0**	**+1.7**
CNOP				*i*	S	**Sn**	**10 58 44.6**	**+4.2**
CVP	**Callao Caves**	**4.31**	**14⇓**	*eP*		**Pn**	**10 57 56.3**	**+0.5**
APYP	**Conner**	**4.36**	**7**	*iP*		**Pn**	**10 57 57.5**	**+0.9**
APYP				*i*	S	Sn	10 58 14.4	-32
CHAI	**Chaiyaphum**	**18.27**	**280**	P		**P**	**11 01 00.1**	**+2.2**
	387nm30nm,0.7s							
CHAI	**Chaiyaphum**	**18.27**	**280**	P		**P**	**11 01 00.1**	**+2.2**
	96nm7.6nm,0.7s							
PHIT	**Phitsanulok**	**19.91**	**283**	P		**P**	**11 01 18.9**	**+3.1**
	39nm,1.0s							
PHIT	**Phitsanulok**	**19.91**	**283**	P		**P**	**11 01 19.0**	**+3.1**
	9.8nm,1.0s							
LAMP	**Lampang**	**20.86**	**287**	P		**P**	**11 01 28.4**	**+2.4**
	25nm,0.8s							
LAMP	**Lampang**	**20.86**	**287**	P		**P**	**11 01 28.5**	**+2.4**
	6.2nm,0.8s							
CM36	**Chiang Mai Arr**	**21.36**	**286**	P		**P**	**11 01 34.0**	**+2.6**
CM34	**Chiang Mai Arr**	**21.37**	**287**	P		**P**	**11 01 33.0**	**+1.5**
CM09	**Chiang Mai Arr**	**21.44**	**286**	P		**P**	**11 01 35.0**	**+2.7**
	134nm15nm,0.8s							
CM09	**Chiang Mai Arr**	**21.44**	**286**	P		**P**	**11 01 35.1**	**+2.7**
	134nm15nm,0.8s							
CM04	**Chiang Mai Arr**	**21.45**	**286**	P		**P**	**11 01 35.0**	**+2.7**
	116nm14nm,0.9s							
CM04	**Chiang Mai Arr**	**21.45**	**286**	P		**P**	**11 01 35.1**	**+2.7**
	116nm14nm,0.9s							
CM01	**Chiang Mai Arr**	**21.47**	**286**	P		**P**	**11 01 35.2**	**+2.6**
	127nm15nm,0.8s							
CM01	**Chiang Mai Arr**	**21.47**	**286**	P		**P**	**11 01 35.3**	**+2.6**
	127nm15nm,0.8s							
CM05	**Chiang Mai Arr**	**21.48**	**286**	P		**P**	**11 01 35.4**	**+2.7**
	58nm6.2nm,0.8s							
CM05	**Chiang Mai Arr**	**21.48**	**286**	P		**P**	**11 01 35.0**	**+2.3**
	58nm6.2nm,0.8s							
CM02	**Chiang Mai Arr**	**21.48**	**286**	P		**P**	**11 01 35.0**	**+2.3**
	104nm14nm,0.8s							
CM02	**Chiang Mai Arr**	**21.48**	**286**	P		**P**	**11 01 35.1**	**+2.3**
	104nm14nm,0.8s							
CMAR	**Chiang Mai Arr**	**21.49**	**286**	P		**P**	**11 01 34.2**	**+1.4**
	6.7nm,0.7s,baz=99,slow=8.4,SNR=30							
CM15	**Chiang Mai Arr**	**21.51**	**286**	P		**P**	**11 01 35.8**	**+2.8**
	20nm,0.8s							
CM15	**Chiang Mai Arr**	**21.51**	**286**	P		**P**	**11 01 35.0**	**+2.0**
	20nm,0.8s							
CM13	**Chiang Mai Arr**	**21.52**	**286**	P		**P**	**11 01 35.7**	**+2.6**
	11nm,0.9s							
CM13	**Chiang Mai Arr**	**21.52**	**286**	P		**P**	**11 01 35.0**	**+1.9**
CM33	**Chiang Mai Arr**	**21.55**	**287**	P		**P**	**11 01 35.0**	**+1.5**
KSRS	**Korea Array**	**24.71**	**14**	P		**P**	**11 02 03.3**	**-0.4**
	0.6nm,0.6s,baz=189,slow=9.8,SNR=2.4							
KSRS				LR		LR	11 12 32.1	
	comp=Z,11nm,18.6s,baz=100,slow=38							
ASAJ	**Asahikawa**	**35.80**	**27**	P		**P**	**11 03 40.7**	**-0.8**
	2.1nm,0.7s,baz=228,slow=13,SNR=5.6							
WRA	**Warramunga Arr**	**35.84**	**158**	P		**P**	**11 03 39.3**	**-2.8**
	0.2nm,0.3s,baz=330,slow=10,SNR=18							
WRA				pP		**pP**	**11 04 03.5**	**-2.5**
	0.7nm,0.6s,baz=333,slow=10,SNR=3.9							
SONM	**Songino Array**	**36.25**	**344**	P		**P**	**11 03 44.3**	**-1.1**
	0.3nm,0.4s,baz=160,slow=10,SNR=2.4							
ASAR	**Alice Springs**	**39.13**	**161**	P		**P**	**11 04 07.8**	**-2.0**
	0.4nm,0.4s,baz=335,slow=6.8,SNR=16							
MKAR	**Makanchi Array**	**46.19**	**324**	P		**P**	**11 05 06.4**	**-0.3**
	0.7nm,0.5s,baz=129,slow=9.1,SNR=10							
ARCES	**ARCESS Array B**	**79.27**	**339**	P		**P**	**11 08 44.8**	**-1.0**
	2.2nm,0.8s,baz=83,slow=8.3,SNR=5.2							

*TAP **23** 11:09:47.0, 24°.77N×122°.62E, h98km, ML3.7, B*

*JMA **23** 11:09:47.1±0.1, 24°.69N×122°.58E, h101km±2km, M2.7*

ISC 23 11:09:48.3±1.2, 24°.71N±0°.03×122°.60E±0°.02, h92km±6km, n138, σ0°84/265, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**129**	P		**Pn**	**11 10 02.6**	**+0.1**
JYNG				S		**Sn**	**11 10 14.0**	**+0.9**
YOJ	**Yonaguni jima**	**0.45**	**123**	P		**Pn**	**11 10 02.8**	**0.0**
YOJ				*e*S		**Sn**	**11 10 14.5**	**+0.9**
YOJ	**Yonaguni jima**	**0.45**	**123**	P		**Pn**	**11 10 02.8**	**0.0**
	baz=139							
YOJ				S		**Sn**	**11 10 14.2**	**+0.6**
	baz=139							
TWB1	**Santiao Chiao**	**0.63**	**298**	P		**Pn**	**11 10 03.9**	**-0.3**
	baz=292							
TWB1				*e*S		**Sn**	**11 10 16.1**	**-0.1**
	baz=292							
TWC	**Suao**	**0.69**	**262**	P		**Pn**	**11 10 04.3**	**-0.5**
	baz=251							
TWC				*e*S		**Sn**	**11 10 17.3**	**+0.2**
	baz=251							
NTC	**Toucheng**	**0.71**	**282**	P		**Pn**	**11 10 04.6**	**-0.4**
	baz=274							
NTC				S		**Sn**	**11 10 18.3**	**+0.8**
	baz=274							
TIPB	**Shuangxi**	**0.75**	**291**	P		**Pn**	**11 10 05.2**	**-0.2**
	baz=280							
TIPB				S		**Sn**	**11 10 18.2**	**-0.1**
	baz=280							
EWUT	**Wuta**	**0.79**	**251**	P		**Pn**	**11 10 05.8**	**0.0**
	baz=247							
EWUT				*e*S		**Sn**	**11 10 18.9**	**0.0**
	baz=247							
NDS	**Dongshan**	**0.81**	**265**	P		**Pn**	**11 10 05.7**	**-0.3**
	baz=257							
NDS				S		**Sn**	**11 10 19.5**	**+0.3**
	baz=257							
NWF	**Wu-fen Shan**	**0.83**	**296**	P		**Pn**	**11 10 06.0**	**-0.3**
	baz=291							
NWF				*e*S		**Sn**	**11 10 20.0**	**+0.2**
	baz=291							
TWE	**Neicheng**	**0.85**	**271**	P		**Pn**	**11 10 06.2**	**-0.2**
	baz=266							
TWE				S		**Sn**	**11 10 19.9**	**0.0**
	baz=266							
TNOU	**National Taiwa**	**0.87**	**301**	*e*P		**Pn**	**11 10 06.1**	**-0.6**
	baz=292							
TNOU				*e*S		**Sn**	**11 10 20.1**	**-0.3**
	baz=292							
ENTT	**Nioudou**	**0.94**	**266**	P		**Pn**	**11 10 07.6**	**+0.2**
	baz=262							
ENTT				*e*S		**Sn**	**11 10 23.1**	**+1.3**
	baz=262							
TWA	**Mucha**	**0.96**	**287**	*e*P		**Pn**	**11 10 07.1**	**-0.5**
	baz=278							
TWA				*e*S		**Sn**	**11 10 22.3**	**+0.1**
	baz=278							
NDT	**Datong Townshi**	**0.99**	**264**	P		**Pn**	**11 10 08.6**	**+0.5**
	baz=260							
NDT				S		**Sn**	**11 10 23.7**	**+0.8**
	baz=260							
NWLT	**Wulai**	**1.00**	**274**	P		**Pn**	**11 10 07.8**	**-0.3**
	baz=270							
NWLT				S		**Sn**	**11 10 22.2**	**-0.8**
	baz=270							
NHDH	**Xindian Distri**	**1.01**	**285**	*e*P		**Pn**	**11 10 07.8**	**-0.3**
	baz=272							
NHDH				*e*S		**Sn**	**11 10 22.9**	**-0.1**
	baz=272							
YM01	**YM01**	**1.03**	**295**	P		**Pn**	**11 10 08.0**	**-0.5**
	baz=286							
YM01				S		**Sn**	**11 10 23.3**	**-0.3**
	baz=286							
YM08	**YM08**	**1.03**	**298**	P		**Pn**	**11 10 07.6**	**-0.8**
	baz=294							
YM08				S		**Sn**	**11 10 22.6**	**-1.0**
	baz=294							
PCYT	**Pengchaiyu**	**1.03**	**333**	P		**Pn**	**11 10 07.9**	**-0.5**
	baz=330							
TATO	**Taipei**	**1.04**	**285**	P		**Pn**	**11 10 08.1**	**-0.5**
	baz=281							
TATO				S		**Sn**	**11 10 23.4**	**-0.4**
	baz=281							
ETL	**Fush Village**	**1.04**	**239**	*e*P		**Pn**	**11 10 08.2**	**-0.5**
	baz=236							
ETL				*e*S		**Sn**	**11 10 24.6**	**+0.7**
	baz=236							
NACB	**Ninganchiao**	**1.06**	**240**	P		**Pn**	**11 10 08.1**	**-0.6**
	baz=237							
NACB				*e*S		**Sn**	**11 10 23.2**	**-0.9**
	baz=237							
TWY	**Chenhua**	**1.07**	**302**	P		**Pn**	**11 10 08.6**	**-0.3**
	baz=298							
TWY				*e*S		**Sn**	**11 10 25.0**	**+0.7**
	baz=298							
ANP	**Anpu**	**1.09**	**296**	P		**Pn**	**11 10 08.8**	**-0.4**
	baz=292							
ANP				S		**Sn**	**11 10 25.1**	**+0.2**
	baz=292							
IRIF	**Iriomote-Funau**	**1.10**	**110**	P		**Pn**	**11 10 08.5**	**-0.6**
IRIF				*e*S		**Sn**	**11 10 24.7**	**-0.2**
TWD	**Chiawan**	**1.11**	**236**	P		**Pn**	**11 10 08.9**	**-0.4**
	baz=227							
TWD				*e*S		**Sn**	**11 10 25.0**	**-0.2**
	baz=227							
YHNB	**Yeheng**	**1.11**	**268**	P		**Pn**	**11 10 09.6**	**+0.2**
	baz=269							
YHNB				S		**Sn**	**11 10 25.5**	**+0.1**
	baz=269							
ETLH	**Xiulin Townshi**	**1.13**	**244**	P		**Pn**	**11 10 09.2**	**-0.5**
	baz=235							
ETLH				*e*S		**Sn**	**11 10 25.5**	**-0.3**
	baz=235							
NTST	**Danshui**	**1.14**	**294**	*e*P		**Pn**	**11 10 09.3**	**-0.4**
	baz=285							
NTST				S		**Sn**	**11 10 26.1**	**+0.4**
	baz=285							
TWS1	**Kuangyinshan**	**1.14**	**290**	P		**Pn**	**11 10 09.4**	**-0.2**
	baz=281							
TWS1				S		**Sn**	**11 10 25.8**	**0.0**
	baz=281							
NNSB	**Datong**	**1.14**	**256**	P		**Pn**	**11 10 09.7**	**-0.1**
	baz=246							
NNSB				S		**Sn**	**11 10 25.9**	**-0.1**
	baz=246							
NNSH	**Datong**	**1.14**	**256**	*e*P		**Pn**	**11 10 09.7**	**-0.1**
	baz=246							
NNSH				*e*S		**Sn**	**11 10 25.8**	**-0.2**
	baz=246							
NNS	**Nan Shan**	**1.15**	**257**	*e*P		**Pn**	**11 10 09.9**	**0.0**
	baz=246							
NNS				*e*S		**Sn**	**11 10 26.7**	**+0.5**
	baz=246							
HWA	**Hwalien**	**1.16**	**231**	*e*P		**Pn**	**11 10 10.2**	**+0.2**
	baz=222							
HWA				*e*S		**Sn**	**11 10 26.9**	**+0.6**
	baz=222							
NTY	**Taoyuan**	**1.22**	**284**	*e*P		**Pn**	**11 10 10.5**	**-0.1**
	baz=280							
NTY				*e*S		**Sn**	**11 10 27.8**	**+0.3**
	baz=280							
TEYL	**Yanliau Villag**	**1.24**	**228**	P		**Pn**	**11 10 10.5**	**-0.4**
	baz=222							
TEYL				*e*S		**Sn**	**11 10 27.7**	**-0.2**
	baz=222							
ETM	**Tongmen**	**1.25**	**234**	P		**Pn**	**11 10 10.3**	**-0.7**
	baz=226							
ETM				*e*S		**Sn**	**11 10 27.9**	**-0.3**
	baz=226							
HATJ	**Hateruma jima**	**1.28**	**120**	P		**Pn**	**11 10 12.0**	**+0.7**
HATJ				*e*S		**Sn**	**11 10 29.1**	**+0.4**
NCU	**National Centr**	**1.31**	**282**	*e*P		**Pn**	**11 10 11.6**	**-0.1**
	baz=278							
NCU				*e*S		**Sn**	**11 10 30.1**	**+0.7**
	baz=278							
NCUH	**Zhongli**	**1.31**	**282**	*e*P		**Pn**	**11 10 11.8**	**0.0**
	baz=278							
NCUH				*e*S		**Sn**	**11 10 30.1**	**+0.6**
	baz=278							
FUSS	**Fushou**	**1.32**	**250**	P		**Pn**	**11 10 12.3**	**+0.2**
	baz=241							
FUSS				*e*S		**Sn**	**11 10 30.0**	**0.0**
	baz=241							
WHF	**Hehuan Shan**	**1.34**	**245**	P		**Pn**	**11 10 12.2**	**-0.3**
	baz=237							
WHF				S		**Sn**	**11 10 30.3**	**-0.5**
	baz=237							
JKRS	**Kuro-shima**	**1.37**	**110**	P		**Pn**	**11 10 12.2**	**-0.2**
JKRS				S		**Sn**	**11 10 31.3**	**+0.6**
NJD	**Zhudong**	**1.37**	**271**	*e*P		**Pn**	**11 10 12.5**	**0.0**
	baz=268							
NJD				*e*S		**Sn**	**11 10 31.7**	**+0.8**
	baz=268							
TEGC	**Jichi Village**	**1.39**	**224**	P		**Pn**	**11 10 12.5**	**-0.2**
	baz=223							
TEGC				*e*S		**Sn**	**11 10 31.5**	**+0.3**
	baz=223							
TDCB	**Techi**	**1.39**	**251**	P		**Pn**	**11 10 13.1**	**+0.3**
	baz=241							
TDCB				S		**Sn**	**11 10 31.5**	**0.0**
	baz=241							
HSN1	**Hsinchu**	**1.44**	**273**	*e*P		**Pn**	**11 10 13.3**	**0.0**
	baz=270							
HSN1				*e*S		**Sn**	**11 10 32.8**	**+0.5**
	baz=270							
LIOB	**Emei**	**1.44**	**268**	*e*P		**Pn**	**11 10 13.4**	**0.0**
	baz=265							
LIOB				*e*S		**Sn**	**11 10 32.6**	**+0.2**
	baz=265							
JIJ	**Ishigaki jima**	**1.45**	**103**	P		**Pn**	**11 10 12.9**	**-0.5**
JIJ				S		**Sn**	**11 10 32.4**	**-0.1**
CHGB	**Renai**	**1.45**	**244**	P		**Pn**	**11 10 13.8**	**+0.1**
	baz=235							
CHGB				*e*S		**Sn**	**11 10 32.6**	**-0.3**
	baz=235							
NSTT	**Nanjuang**	**1.46**	**267**	P		**Pn**	**11 10 13.6**	**+0.1**
	baz=264							
NSTT				S		**Sn**	**11 10 32.8**	**+0.2**
	baz=264							
SBCB	**Hsinchu**	**1.47**	**274**	*e*P		**Pn**	**11 10 13.6**	**-0.1**
	baz=270							
SBCB				*e*S		**Sn**	**11 10 33.5**	**+0.6**
	baz=270							
EGFH	**Guangfu**	**1.49**	**226**	*e*P		**Pn**	**11 10 13.2**	**-0.7**
	baz=220							
EGFH				*e*S		**Sn**	**11 10 33.0**	**-0.4**
	baz=220							
OWD	**Renai**	**1.50**	**240**	P		**Pn**	**11 10 14.1**	**-0.1**
	baz=233							
OWD				*e*S		**Sn**	**11 10 33.9**	**0.0**
	baz=233							
JISG	**Ishigakijimahi**	**1.56**	**94**	P		**Pn**	**11 10 14.5**	**-0.4**
JISG				*e*S		**Sn**	**11 10 34.7**	**-0.3**
WHP	**Taichung City**	**1.57**	**254**	P		**Pn**	**11 10 15.7**	**+0.7**
	baz=252							
WHP				S		**Sn**	**11 10 35.7**	**+0.4**
	baz=252							
NJN	**Zhunan**	**1.57**	**269**	*e*S		**Sn**	**11 10 36.1**	**+0.9**
	baz=266							
HGSD	**Ruisui**	**1.62**	**222**	*e*P		**Pn**	**11 10 15.4**	**-0.2**
	baz=220							
HGSD				*e*S		**Sn**	**11 10 36.4**	**+0.1**
	baz=220							
NMLH	**Miaoli**	**1.65**	**264**	P		**Pn**	**11 10 16.1**	**0.0**
	baz=262							
NMLH				S		**Sn**	**11 10 37.1**	**0.0**
	baz=262							
DPDB	**Guoxing**	**1.67**	**247**	*e*P		**Pn**	**11 10 16.9**	**+0.7**
	baz=244							
DPDB				*e*S		**Sn**	**11 10 38.9**	**+1.4**
	baz=244							
WCS	**Beigang Elemen**	**1.67**	**247**	*e*P		**Pn**	**11 10 17.6**	**+1.4**
	baz=240							
WCS				*e*S		**Sn**	**11 10 38.1**	**+0.6**
	baz=240							
EHY	**Hungye**	**1.67**	**225**	P		**Pn**	**11 10 15.3**	**-1.0**
	baz=223							
EHY				*e*S		**Sn**	**11 10 36.0**	**-1.5**
	baz=223							
TWQ1	**Liyutan**	**1.70**	**258**	*e*P		**Pn**	**11 10 16.7**	**0.0**
	baz=255							
TWQ1				*e*S		**Sn**	**11 10 38.4**	**+0.2**
	baz=255							
ECBN	**Changbin**	**1.74**	**217**	*e*S		**Sn**	**11 10 38.5**	**-0.6**
	baz=211							
SSLB	**Suanglung**	**1.76**	**239**	P		**Pn**	**11 10 18.4**	**+0.9**
	baz=234							
SSLB				*e*S		**Sn**	**11 10 40.5**	**+0.9**
	baz=234							
YULB	**Yu-li**	**1.77**	**222**	P		**Pn**	**11 10 16.6**	**-1.0**
	baz=228							
YULB				*e*S		**Sn**	**11 10 38.9**	**-1.0**
	baz=228							
TYC	**Yuchr**	**1.78**	**244**	*e*P		**Pn**	**11 10 18.4**	**+0.7**
	baz=241							
TYC				*e*S		**Sn**	**11 10 40.9**	**+0.9**
	baz=241							
EYUL	**Yuli**	**1.79**	**221**	*e*P		**Pn**	**11 10 17.4**	**-0.4**
	baz=228							
EYUL				*e*S		**Sn**	**11 10 40.4**	**+0.1**
	baz=228							
TWF1	**Yuli**	**1.80**	**222**	P		**Pn**	**11 10 17.1**	**-0.8**
	baz=228							
TWF1				S		**Sn**	**11 10 39.4**	**-1.1**
	baz=228							
WDJ	**Dajia District**	**1.82**	**259**	*e*P		**Pn**	**11 10 18.2**	**0.0**
	baz=256							
WDJ				*e*S		**Sn**	**11 10 41.1**	**+0.2**
	baz=256							
TCU	**Taichung**	**1.84**	**253**	*e*P		**Pn**	**11 10 18.5**	**0.0**
	baz=250							
TCU				*e*S		**Sn**	**11 10 41.4**	**0.0**
	baz=250							
WWF	**Wufeng**	**1.86**	**249**	*e*P		**Pn**	**11 10 19.3**	**+0.6**
	baz=257							
WWF				*e*S		**Sn**	**11 10 42.7**	**+0.9**
	baz=257							
WHYT	**Xinyi Township**	**1.89**	**238**	*e*P		**Pn**	**11 10 20.3**	**+1.2**
	baz=231							
WHYT				*e*S		**Sn**	**11 10 44.8**	**+2.2**
	baz=231							
JTJ	**Tarama**	**1.91**	**92**	P		**Pn**	**11 10 19.5**	**+0.1**
JTJ				S		**Sn**	**11 10 43.0**	**-0.1**
FULB	**Fuli**	**1.92**	**219**	*e*P		**Pn**	**11 10 19.4**	**-0.1**
	baz=211							
FULB				*e*S		**Sn**	**11 10 44.1**	**+0.7**
	baz=211							
WJS	**Zhushan**	**1.92**	**243**	*e*P		**Pn**	**11 10 20.7**	**+1.2**
	baz=251							
WJS				*e*S		**Sn**	**11 10 46.3**	**+3.0**
	baz=251							
WNT1	**Nantou City**	**1.93**	**246**	*e*P		**Pn**	**11 10 19.8**	**+0.3**
	baz=244							
WNT1				*e*S		**Sn**	**11 10 44.2**	**+0.8**
	baz=244							
WNT	**Mingjian**	**1.93**	**245**	*e*P		**Pn**	**11 10 20.8**	**+1.2**
	baz=243							
WNT				*e*S		**Sn**	**11 10 44.8**	**+1.2**
	baz=243							
CHKT	**Chengkung**	**1.96**	**215**	*e*P		**Pn**	**11 10 19.3**	**-0.8**
	baz=209							
CHKT				*e*S		**Sn**	**11 10 42.5**	**-1.7**
	baz=209							
WCHH	**Zhanghua**	**1.96**	**252**	*e*P		**Pn**	**11 10 20.3**	**+0.2**
	baz=249							
WCHH				*e*S		**Sn**	**11 10 44.4**	**+0.1**
	baz=249							
WYL	**Yuanlin Townsh**	**1.99**	**248**	*e*S		**Sn**	**11 10 45.2**	**+0.4**
	baz=254							
ALS	**Alishan**	**2.03**	**234**	*e*P		**Pn**	**11 10 21.8**	**+0.7**
	baz=226							
ALS				*e*S		**Sn**	**11 10 47.0**	**+0.8**
	baz=226							
ECS	**Chishang**	**2.04**	**218**	*e*P		**Pn**	**11 10 21.2**	**+0.1**
	baz=226							
ECS				*e*S		**Sn**	**11 10 46.4**	**+0.2**
	baz=226							
CHN5	**Tsauling**	**2.08**	**238**	*e*P		**Pn**	**11 10 22.5**	**+0.9**
	baz=246							
CHN5				*e*S		**Sn**	**11 10 48.8**	**+1.8**
	baz=246							
ELDTW	**Lidau**	**2.09**	**224**	*e*P		**Pn**	**11 10 21.8**	**-0.1**
	baz=220							
ELDTW				*e*S		**Sn**	**11 10 46.8**	**-0.7**
	baz=220							
EDH	**Donghe**	**2.10**	**215**	*e*P		**Pn**	**11 10 21.1**	**-0.7**
	baz=214							
EDH				*e*S		**Sn**	**11 10 45.5**	**-1.9**
	baz=214							
WGK	**Gukeng**	**2.12**	**242**	*e*P		**Pn**	**11 10 22.6**	**+0.5**
	baz=249							
WGK				*e*S		**Sn**	**11 10 49.8**	**+1.8**
	baz=249							
WDLH	**Douliu**	**2.14**	**242**	*e*P		**Pn**	**11 10 22.8**	**+0.5**
	baz=250							
WDLH				*e*S		**Sn**	**11 10 50.4**	**+2.0**
	baz=250							
WRL	**Guolierlin Hig**	**2.18**	**249**	P		**Pn**	**11 10 22.8**	**-0.1**
	baz=254							
WRL				S		**Sn**	**11 10 48.7**	**-0.6**
	baz=254							
LONT	**Longtian**	**2.24**	**217**	*e*P		**Pn**	**11 10 23.3**	**-0.5**
	baz=223							
LONT				*e*S		**Sn**	**11 10 49.9**	**-0.9**
	baz=223							
WTK	**Tuku**	**2.26**	**244**	*e*P		**Pn**	**11 10 24.0**	**0.0**
	baz=242							
WTK				*e*S		**Sn**	**11 10 52.0**	**+0.7**
	baz=242							
STYH	**Taoyuan**	**2.27**	**228**	*e*P		**Pn**	**11 10 24.8**	**+0.8**
	baz=227							
STYH				*e*S		**Sn**	**11 10 52.1**	**+0.8**
	baz=227							
CHN2	**Minshiung**	**2.27**	**239**	*e*S		**Sn**	**11 10 53.5**	**+2.1**
	baz=248							
LDUT	**Ludao**	**2.28**	**207**	*e*P		**Pn**	**11 10 24.0**	**-0.2**
	baz=207							
LDUT				*e*S		**Sn**	**11 10 50.2**	**-1.5**
	baz=207							
CHN4	**Tsaushan**	**2.28**	**234**	*e*P		**Pn**	**11 10 25.4**	**+1.2**
	baz=233							
CHN4				*e*S		**Sn**	**11 10 53.3**	**+1.6**
	baz=233							
TPUB	**Ta-pu**	**2.28**	**232**	P		**Pn**	**11 10 24.9**	**+0.6**
	baz=225							
TPUB				*e*S		**Sn**	**11 10 53.5**	**+1.7**
	baz=225							
CHY	**Chiayi**	**2.33**	**239**	*e*P		**Pn**	**11 10 25.1**	**+0.3**
	baz=247							
CHY				*e*S		**Sn**	**11 10 54.0**	**+1.2**
	baz=247							
WTP	**Ta-pu**	**2.33**	**232**	*e*P		**Pn**	**11 10 25.8**	**+0.9**
	baz=230							
WTP

JMJ	**Miyako jima 2**	**2.45**	**87**	*e*P		**Pn**	**11 10 26.7**	**+0.2**
	baz=89							
JMJ				*e*S		**Sn**	**11 10 55.6**	**-0.2**
	baz=89							
SGST	**Jiashian**	**2.46**	**229**	*e*P		**Pn**	**11 10 26.9**	**+0.3**
	baz=228							
SGST				*e*S		**Sn**	**11 10 57.4**	**+1.4**
	baz=228							
SLGT	**Liugui**	**2.47**	**227**	*e*P		**Pn**	**11 10 27.5**	**+0.7**
	baz=226							
SLGT				*e*S		**Sn**	**11 10 57.6**	**+1.3**
	baz=226							
JMJ2	**Miyako jima3**	**2.48**	**89**	P		**Pn**	**11 10 27.2**	**+0.3**
JMJ2				S		**Sn**	**11 10 56.4**	**-0.1**
ICHU	**Yijhu**	**2.51**	**238**	*e*P		**Pn**	**11 10 27.5**	**+0.2**
	baz=237							
ICHU				*e*S		**Sn**	**11 10 59.0**	**+1.8**
	baz=237							
JOGS	**Gusukube**	**2.55**	**88**	*e*S		**Sn**	**11 10 59.1**	**+0.9**
CHN8	**Yiju**	**2.57**	**239**	*e*P		**Pn**	**11 10 28.1**	**+0.1**
	baz=237							
CHN8				*e*S		**Sn**	**11 10 58.3**	**-0.3**
	baz=237							
ECL	**Taimali**	**2.59**	**216**	*e*P		**Pn**	**11 10 27.6**	**-0.7**
	baz=209							
ECL				*e*S		**Sn**	**11 10 57.2**	**-1.9**
	baz=209							
SCST	**Cishan**	**2.65**	**227**	*e*P		**Pn**	**11 10 30.3**	**+1.2**
	baz=226							
SCST				*e*S		**Sn**	**11 11 02.3**	**+1.8**
	baz=226							
SSD	**Sandimen**	**2.66**	**223**	*e*P		**Pn**	**11 10 30.3**	**+1.0**
	baz=222							
SSD				*e*S		**Sn**	**11 11 02.8**	**+2.0**
	baz=222							
TSMG	**Majia**	**2.68**	**222**	*e*P		**Pn**	**11 10 29.8**	**+0.3**
	baz=222							
TSMG				*e*S		**Sn**	**11 11 03.7**	**+2.4**
	baz=222							
TWM1	**Shoushan**	**2.74**	**227**	*e*P		**Pn**	**11 10 30.7**	**+0.4**
	baz=226							
TWM1				*e*S		**Sn**	**11 11 05.3**	**+2.6**
	baz=226							
MASBT	**Mashibuluo**	**2.76**	**221**	*e*P		**Pn**	**11 10 31.9**	**+1.3**
	baz=220							
MASBT				*e*S		**Sn**	**11 11 05.1**	**+1.9**
	baz=220							
EAST	**Anshuo**	**2.82**	**215**	*e*P		**Pn**	**11 10 31.0**	**-0.5**
	baz=210							
EAST				*e*S		**Sn**	**11 11 02.8**	**-1.9**
	baz=210							
LAY	**Lan-yu**	**2.83**	**200**	*e*P		**Pn**	**11 10 31.0**	**-0.6**
	baz=204							
LAY				*e*S		**Sn**	**11 11 04.1**	**-0.8**
	baz=204							
VWUC	**VWUC**	**2.88**	**276**	*e*P		**Pn**	**11 10 32.5**	**+0.4**
	baz=273							
VWUC				*e*S		**Sn**	**11 11 05.1**	**-0.9**
	baz=273							
SCZT	**Fangliau**	**2.95**	**218**	*e*P		**Pn**	**11 10 33.5**	**+0.3**
	baz=229							
SCZT				*e*S		**Sn**	**11 11 08.4**	**+0.7**
	baz=229							
SLIU	**Shizi**	**2.98**	**214**	*e*P		**Pn**	**11 10 33.5**	**-0.2**
	baz=214							
SLIU				*e*S		**Sn**	**11 11 07.5**	**-1.0**
	baz=214							
PNG	**Penghu**	**3.00**	**248**	*e*P		**Pn**	**11 10 33.0**	**-0.9**
	baz=246							
PNG				*e*S		**Sn**	**11 11 07.1**	**-1.9**
	baz=246							
PHUB	**P'eng-hu**	**3.01**	**247**	*e*P		**Pn**	**11 10 33.0**	**-1.0**
	baz=245							
PHUB				*e*S		**Sn**	**11 11 07.3**	**-1.9**
	baz=245							
WDGT	**Dungji**	**3.05**	**242**	*e*P		**Pn**	**11 10 34.1**	**-0.4**
	baz=241							
WDGT				*e*S		**Sn**	**11 11 08.4**	**-1.7**
	baz=241							
XPSS	**Dashiqiu**	**3.10**	**316**	*e*P		**Pn**	**11 10 35.0**	**-0.1**
	baz=313							
LYJJ	**Jianjiangzhen**	**3.15**	**306**	*e*P		**Pn**	**11 10 35.9**	**+0.1**
	baz=304							
LYJJ				*e*S		**Sn**	**11 11 13.0**	**+0.4**
	baz=304							
PTMZ	**Houxiangcun**	**3.18**	**277**	*e*P		**Pn**	**11 10 35.9**	**-0.3**
	baz=273							
PTMZ				*e*S		**Sn**	**11 11 12.3**	**-0.9**
	baz=273							
TWKBT	**Hengchun**	**3.21**	**211**	*e*P		**Pn**	**11 10 36.4**	**-0.3**
	baz=211							
TWKBT				*e*S		**Sn**	**11 11 13.6**	**-0.3**
	baz=211							
TWK1	**Hengchun**	**3.21**	**211**	*e*P		**Pn**	**11 10 37.3**	**+0.6**
	baz=211							
TWK1				*e*S		**Sn**	**11 11 14.8**	**+0.8**
	baz=211							
VCHM	**Qimei**	**3.26**	**243**	*e*S		**Sn**	**11 11 13.6**	**-1.6**
	baz=234							
MHZQ	**Yeshan**	**3.51**	**294**	*e*P		**Pn**	**11 10 40.5**	**-0.3**
	baz=291							
MHZQ				*e*S		**Sn**	**11 11 21.3**	**+0.1**
	baz=291							
KNM	**Kinmen**	**3.80**	**266**	*e*S		**Sn**	**11 11 30.6**	**+2.2**
	baz=256							
KNMB	**Chin-men Tao**	**3.84**	**267**	*e*P		**Pn**	**11 10 44.3**	**-0.9**
	baz=256							
KNMB				*e*S		**Sn**	**11 11 28.6**	**-0.7**
	baz=256							
AXDP	**Jialang**	**4.21**	**274**	*e*P		**Pn**	**11 10 50.2**	**0.0**
	baz=270							
AXDP				*e*S		**Sn**	**11 11 37.6**	**-0.7**
	baz=270							

IDC ***23*** *11:21:03.8±2.6,6.″36S×147.″64E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/40, mbtmp3.7/4, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/28, Error ellipse: s-maj=71.5km s-min=31.4km az=95.0*

ISC 23 11:21:10.5±2.3,6.°4S±0.°2×147.°3E±0.°3, h63km, n7, σ1§29/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**183**	Pn	**Pn**	**11 21 55.1**	**-1.1**
	9.2nm,0.3s,baz=15,slow=12,SNR=24						
PMG				Sn	**Sn**	**11 22 31.5**	**+0.1**
	14nm,0.3s,baz=323,slow=20,SNR=5.6						
PMG				LR	LR	11 23 11.5	
	comp=Z,165nm,19.8s,baz=350,slow=42						
PMG	**Port Moresby**	**3.04**	**183**	P	**Pn**	**11 21 55.7**	**-0.5**
PMG	**Port Moresby**	**3.04**	**183**	P	**Pn**	**11 21 55.6**	**-0.6**
WRA	**Warramunga Arr**	**18.48**	**222**	P	**Pn**	**11 25 22.5**	**+0.2**
	0.2nm,0.3s,baz=49,slow=11,SNR=21						
ASAR	**Alice Springs**	**21.51**	**215**	P	**P**	**11 25 55.9**	**+1.4**
	1.4nm,0.5s,baz=53,slow=9.5,SNR=56						
ASAR				S	**S**	**11 29 48.4**	**-1.4**
	0.5nm,0.5s,baz=30,slow=23,SNR=5.8						
STKA	**Stephens Creek**	**25.95**	**191**	P	**P**	**11 26 38.8**	**+1.6**
	0.8nm,0.4s,baz=17,slow=11,SNR=1.7						
TORD	**Torodi Ar. Bea**	**145.49**	**284**	PKPbc	**PKiKP**	**11 40 45.3**	**-1.3**
	1.4nm,0.5s,baz=70,slow=3.9,SNR=14						

MOS ***23*** *11:24:54.3±1.7,32.°61N×141.°16E, h51km, mb4.7/10, Error ellipse: s-maj=11.2km s-min=5.2km az=96.8*

JMA ***23*** *11:24:54.9±0.1,32.°61N×141.°13E, h46km, M4.5*

NIED ***23*** *11:24:54.9,32.°61N×141.°13E, h46km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.49; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.21; $M_{\theta\phi}$-1.04; $M_{\phi r}$-1.47; Fault plane solution: $M_0$2.25000×10^{15} NP1: ϕ_s189.00000°, δ67.00000°, λ64.00000°. NP2:ϕ_s60.00000°, δ34.00000°, λ136.00000°.*

NEIC ***23*** *11:24:57.0±2.6,32.°53N±0.°06×141.°05E±0.°06, h48km±6km, mb4.6/83 Error ellipse: s-maj=9.4km s-min=6.8km az=166.0*

IDC ***23*** *11:24:57.0±0.6,32.°47N×140.°90E, h55km±4km, mb4.0/26, mb1 4.2/31, mb1mx4.1/57, mbtmp4.3/31, MS3.1/10, Ms1 3.1/10, ms1mx2.9/39, Error ellipse: s-maj=14.3km s-min=10.3km az=72.0*

ISC 23 11:24:56.1±0.6,32.°57N±0.°04×141.°17E±0.°05, h48km±4km, n196, σ1§67/187, mb4.5/77, MS3.1/8, 5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.20**	**265**	||P	**Pn**	**11 25 15.1**	**-1.3**
JAOM				*e*S	**Sn**	**11 25 29.6**	**-1.9**
JHCJ	**Hachijojimakas**	**1.26**	**294**	||P	**Pn**	**11 25 15.8**	**-1.5**
JHCJ				*e*S	**Sn**	**11 25 31.0**	**-2.1**
JHJ2	**Mitsune**	**1.26**	**296**	P	**Pn**	**11 25 16.0**	**-1.3**
JHJ2				*e*S	**Sn**	**11 25 31.4**	**-1.7**
JHJ2	**Mitsune**	**1.26**	**296**		**Pn**	**11 25 15.9**	**-1.3**
JHJ	**Hachijo jima 2**	**1.29**	**295**	P	**Pn**	**11 25 16.0**	**-1.7**
	1μm,0.3s,baz=290,slow=23,SNR=2247						
JHJ				S	**Sn**	**11 25 28.7**	**-5.2**
	2μm,0.3s,baz=86,slow=22,SNR=24						
JHJ				LR	LR	11 25 46.6	
	comp=Z,600nm,18.5s,baz=64,slow=44						
JMKN	**Mikurajimanish**	**1.87**	**315**	||P	**Pn**	**11 25 24.7**	**-0.9**
JMKN				*e*S	**Sn**	**11 25 46.0**	**-2.0**
BSO1	**Boso 1**	**2.08**	**356**	P	**Pn**	**11 25 27.8**	**-0.3**
BSO1				S	**Sn**	**11 25 52.1**	**-0.4**
BSO3	**Boso 3**	**2.29**	**346**	P	**Pn**	**11 25 30.1**	**-1.1**
BSO3				*e*S	**Sn**	**11 25 56.0**	**-2.0**
JIM2	**Oshima 3**	**2.59**	**326**	P	**Pn**	**11 25 34.9**	**-0.6**
JIM2				*e*S	**Sn**	**11 26 04.4**	**-1.3**
JIZS	**Izushimoda**	**2.87**	**319**	||P	**Pn**	**11 25 39.4**	**0.0**
TK02	**Tokai 2**	**3.17**	**297**	P	**Pn**	**11 25 43.2**	**-0.1**
TK02				*e*S	**Sn**	**11 26 20.0**	**+0.2**
JOD2	**Odawara 2**	**3.20**	**328**	||P	**Pn**	**11 25 43.4**	**-0.4**
JOD2				*e*S	**Sn**	**11 26 18.8**	**-1.9**
JSG	**Sagara**	**3.26**	**311**		**Pn**	**11 25 45.2**	**+0.6**
JFNN	**Fujinakano**	**3.34**	**322**	P	**Pn**	**11 25 46.4**	**+0.7**
JFNN				*e*S	**Sn**	**11 26 23.9**	**-0.2**
JYN	**Shimob**	**3.65**	**324**	P	**Pn**	**11 25 50.6**	**+0.6**
JYN				S	**Sn**	**11 26 32.1**	**+0.3**
JYT	**Yasato**	**3.74**	**348**		**Pn**	**11 25 51.8**	**+0.6**
TTO1	**TONANKAI O.B.S**	**3.83**	**287**	P	**Pn**	**11 25 52.6**	**+0.4**
JRY	**Ryogami san**	**3.92**	**332**	P	**Pn**	**11 25 54.0**	**+0.3**
JRY				*e*S	**Sn**	**11 26 38.6**	**+0.1**
JAG	**Ashikaga**	**4.10**	**340**	P	**Pn**	**11 25 55.4**	**-0.8**
JAG				S	**Sn**	**11 26 41.4**	**-1.5**
JIE	**Ise**	**4.15**	**297**	P	**Pn**	**11 25 56.5**	**-0.4**
JGF	**Kuroka**	**4.38**	**315**		**Pn**	**11 26 01.1**	**+1.0**
INU	**Inuyama**	**4.43**	**310**	Pn	**Pn**	**11 26 01.4**	**+0.7**
MJAR	**Matsushiro Arr**	**4.66**	**329**	P	**Pn**	**11 26 04.2**	**+0.3**
	4.8nm,0.3s,baz=256,slow=7.9,SNR=172						
MJAR				S	**Sn**	**11 26 53.6**	**-3.0**
	1.1nm,0.3s,baz=128,slow=20,SNR=4.7						
MJAR				LR	LR	11 27 44.6	
	comp=Z,86nm,19.7s,baz=135,slow=36						
MAJO	**Matsushiro**	**4.66**	**329**	P	**Pn**	**11 26 04.7**	**+0.8**
MAJO	**Matsushiro**	**4.66**	**329**	Pn	**Pn**	**11 26 04.7**	**+0.8**
MAT	**Matsushiro**	**4.66**	**329**	P	**Pn**	**11 26 04.5**	**+0.6**
MAT				S	**Sn**	**11 26 54.9**	**-1.7**
MAT	**Matsushiro**	**4.66**	**329**	P	**Pn**	**11 26 04.5**	**+0.6**
MAT				*e*S	**Sn**	**11 26 56.6**	**0.0**
MJB9	**Matsu-Tunnel**	**4.66**	**329**		**Pn**	**11 26 05.0**	**+1.0**
JYTA	**Yamagatataniai**	**4.76**	**311**	P	**Pn**	**11 26 06.2**	**+1.0**
JTNC	**Tanabenakahech**	**4.83**	**286**	P	**Pn**	**11 26 05.6**	**-0.6**
JMM	**Marumori**	**5.29**	**357**		**Pn**	**11 26 12.2**	**-0.3**
JWT	**Wachi**	**5.51**	**301**	Pn	**Pn**	**11 26 15.7**	**+0.2**
JCJ	**Chichijima**	**5.53**	**171**	P	**Pn**	**11 26 15.5**	**-0.3**
	17nm,0.3s,baz=300,slow=18,SNR=2.2						
JCJ				S	**Sn**	**11 27 13.0**	**-5.1**
	59nm,0.3s,baz=276,slow=23,SNR=7.4						
JCJ	**Chichijima**	**5.53**	**171**	Pn	**Pn**	**11 26 14.0**	**-1.8**
JSD	**Sado**	**5.95**	**337**	Pn	**Pn**	**11 26 21.9**	**+0.3**
JMN	**Monobe**	**6.22**	**283**	Pn	**Pn**	**11 26 25.6**	**+0.2**
JHS	**Saijyo**	**7.13**	**292**	Pn	**Pn**	**11 26 38.7**	**+0.8**
JTM	**Tenmabayashi**	**8.20**	**359**	Pn	**Pn**	**11 26 51.8**	**-0.6**
JNU	**Nakatsue**	**8.68**	**276**	P	**Pn**	**11 27 01.4**	**+2.4**
	1.1nm,0.3s,baz=90,slow=5.3,SNR=13						
JNU	**Nakatsue**	**8.68**	**276**	Pn	**Pn**	**11 26 59.0**	**-0.1**
ERM	**Erimo**	**9.56**	**9**	P	**Pn**	**11 27 10.0**	**-1.0**
ERM	**Erimo**	**9.56**	**9**	Pn	**Pn**	**11 27 10.0**	**-1.0**
JEW	**Eniwo**	**10.26**	**1**	Pn	**Pn**	**11 27 20.5**	**-0.1**
NMR	**Nemuro--Hokkai**	**11.36**	**17**	*e*P	**Pn**	**11 27 32.8**	**-2.8**
ASAJ	**Asahikawa**	**11.58**	**5**	P	**Pn**	**11 27 36.2**	**-2.4**
	2.9nm,0.3s,baz=217,slow=10,SNR=39						
ASAJ				S	Sn	11 29 36.2	-10
	0.6nm,0.3s,baz=164,slow=25,SNR=2.1						
ASAJ	**Asahikawa**	**11.58**	**5**	P	**Pn**	**11 27 37.0**	**-1.7**
JKA	**Kamikawa-asahi**	**11.58**	**5**	Pn	**Pn**	**11 27 37.0**	**-1.7**
GLVR	**Golovnino**	**11.66**	**16**	*e*P	**Pn**	**11 27 37.0**	**-2.7**
GLVR				pmax	pmax		
	comp=N,21nm,0.5s						
GLVR				pmax	pmax		
	comp=Z,84nm,0.5s						
KSRS	**Korea Array**	**11.90**	**298**	P	**Pn**	**11 27 45.8**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=119,slow=15,SNR=8.5						
KSRS				LR	LR	11 32 20.4	
	comp=Z,92nm,18.4s,baz=114,slow=38						
RUSJ	**Misakicho**	**11.95**	**14**	*e*P	**Pn**	**11 27 41.5**	**-2.2**
RUSJ				*e*S	**Sn**	**11 29 46.7**	**-8.7**
GRPR	**Tuman**	**11.96**	**16**	*e*P	**Pn**	**11 27 40.9**	**-2.9**
JOW	**Kunigami**	**12.58**	**246**	LR	LR	11 32 10.2	
	comp=Z,112nm,20.1s,baz=88,slow=35						
USRK	**Ussuriysk Ar.**	**13.65**	**331**	P	**Pn**	**11 28 09.1**	**+2.2**
	baz=157,slow=12,SNR=4.2						
KUR	**Kuril'sk**	**13.67**	**20**	*i* P	**Pn**	**11 28 05.3**	**-1.8**
YSS	**Yuzh-Sakhalins**	**14.42**	**4**	*e*P	**Pn**	**11 28 16.0**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**18.08**	**340**	P	**P**	**11 29 02.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=166,slow=14,SNR=4.5						
NJ2	**Nanjing**	**18.87**	**274**	*e*P	**P**	**11 29 12.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YHNB	**Yeheng**	**19.06**	**251**		**P**	**11 29 13.3**	**-1.3**
YHNB				IAmb	IAmb	11 29 29.0	
	comp=Z,24nm,0.9s						
GUMO	**Guam**	**19.19**	**169**	P	**P**	**11 29 14.1**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=347,slow=18,SNR=1.6						
GUMO				LR	LR	11 35 41.7	
	comp=Z,63nm,18.2s,baz=334,slow=34						
GUMO	**Guam**	**19.19**	**169**	IAmb	IAmb	11 29 21.6	
	comp=Z,93nm,1.1s						
ZEA	**Zeya**	**23.39**	**339**	*e*P	**P**	**11 30 00.4**	**0.0**
ZEA				pmax	pmax		
	comp=N,100nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.8s						
ZEA				pmax	pmax		
	comp=N,70nm,0.8s						
ZEA				pmax	pmax		
	comp=E,30nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,130nm,0.7s						
PETK	**Petropavlovsk-**	**23.73**	**25**	LR	LR	11 42 39.6	
	comp=Z,22nm,18.8s,baz=176,slow=44						
HHC	**Hu-ho-hao-te**	**25.04**	**298**	*e*P	**P**	**11 30 17.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,43nm,5.7s						
H11N2	**WAKE ISLAND Hy**	**26.32**	**113**	T	T	11 59 23.4	
	baz=304,slow=75,SNR=67						
H11N1	**WAKE ISLAND Hy**	**26.32**	**113**	T	T	11 59 23.4	
	baz=304,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**26.33**	**113**	T	T	11 59 29.0	
	baz=304,slow=75,SNR=80						
H11S3	**WAKE ISLAND Hy**	**26.86**	**115**	T	T	12 00 12.2	
	baz=305						
H11S1	**WAKE ISLAND Hy**	**26.87**	**115**	T	T	12 00 03.0	
	baz=305,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.88**	**115**	T	T	11 59 39.4	
	baz=305,slow=74						
XAN	**Xi'an**	**26.94**	**282**	P	**P**	**11 30 31.6**	**-1.4**
XAN				pP	pP	11 30 40.9	-3.7
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**27.76**	**10**	LR	LR	11 43 33.0	
	comp=Z,35nm,18.5s,baz=134,slow=40						
ULN	**Ulaanbaatar**	**29.91**	**311**	P	**P**	**11 30 59.2**	**-0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.91**	**311**	P	**P**	**11 30 59.1**	**-0.3**
SONM	**Songino Array**	**30.32**	**310**	P	**P**	**11 31 02.6**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=114,slow=8.9,SNR=13						
SONM				sP	**sP**	**11 31 23.7**	**+3.5**
	comp=Z,1.0nm,0.5s,baz=102,slow=9.2,SNR=2.6						
SONM				LR	LR	11 43 40.9	
	comp=Z,47nm,18.6s,baz=88,slow=37						
SONM	**Songino Array**	**30.32**	**310**	P	**P**	**11 31 03.2**	**+0.1**
YAK	**Yakutsk**	**30.39**	**349**	LR	LR	11 43 35.9	
	comp=Z,39nm,18.7s,baz=268,slow=37						

SEY	**Seymchan**	**31.20**	**10**	P		**P**	**11 31 11.8**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=174,slow=6.9,SNR=7.6							
BOD	**Bodaibo**	**31.28**	**332**	*e*P		**P**	**11 31 10.3**	**-0.9**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.6s							
CD2	**Chengdu**	**31.76**	**277**	*e*P		**P**	**11 31 15.5**	**-0.3**
ZAK	**Zakamensk**	**33.05**	**314**	*e*P		**P**	**11 31 26.0**	**-1.0**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.4s							
GTA	**Gaotai**	**33.92**	**293**	*e*P		**P**	**11 31 36.6**	**+1.9**
GTA				pP	pP		11 31 43.8	-2.8
GTA				sP	pwP		11 31 48.3	-1.5
GTA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
TIXI	**Tiksi**	**39.69**	**354**	P		**P**	**11 32 22.6**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=144,slow=14,SNR=1.4							
CMAR	**Chiang Mai Arr**	**40.35**	**260**	P		**P**	**11 32 26.7**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=46,slow=7.8,SNR=1.3							
CMAR				LR	LR		11 49 14.2	
	comp=Z,15nm,21.3s,baz=155,slow=36							
KAPI	**Kappang**	**42.56**	**213**			pP	11 32 58.9	-0.3
WMQ	**Urumqi**	**42.83**	**301**	*e*P		**P**	**11 32 52.9**	**+3.5**
ZALV	**Zalesovo Beam**	**44.87**	**316**	P		**P**	**11 33 04.5**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=103,slow=6.7,SNR=3.7							
ZALV				PcP		**PcP**	**11 34 45.6**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=72,slow=4.7,SNR=2.3							
MK31	**Makanchi Array**	**46.44**	**306**	IAmb		IAmb	11 33 17.9	
	comp=Z,6.4nm,0.8s							
MKAR	**Makanchi Array**	**46.44**	**306**	P		**P**	**11 33 16.9**	**-1.2**
	comp=Z,7.0nm,0.6s,baz=89,slow=9.9,SNR=53							
MKAR				pP		**pP**	**11 33 31.8**	**+1.4**
	comp=Z,3.9nm,0.8s,baz=87,slow=9.2,SNR=5.5							
MKAR				ScP		**ScP**	**11 38 38.9**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=76,slow=5.5,SNR=4.8							
MKAR				LR	LR		11 55 43.0	
	comp=Z,28nm,18.2s,baz=79,slow=40							
MAKZ	**Makanchi**	**46.66**	**306**	P		**P**	**11 33 18.1**	**-1.7**
MAKZ				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MAKZ	**Makanchi**	**46.66**	**306**	P		**P**	**11 33 18.1**	**-1.7**
MAKZ				IAmb	IAmb		11 33 19.7	
	comp=Z,7.1nm,0.7s							
NRIK	**Noril'sk**	**47.26**	**337**	P		**P**	**11 33 23.9**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=106,slow=8.4,SNR=2.3							
NRIK	**Noril'sk**	**47.26**	**337**	P		**P**	**11 33 24.0**	**-0.1**
KDAK	**Kodiak Island**	**50.61**	**39**	P		**P**	**11 33 51.6**	**+1.7**
	comp=Z,14nm,0.7s,baz=290,slow=5.4,SNR=13							
KDAK	**Kodiak Island**	**50.61**	**39**	IAmb		IAmb	11 33 52.8	
	comp=Z,25nm,1.1s							
MLY	**Manley**	**51.77**	**30**	P		**P**	**11 34 00.0**	**+1.4**
MLY				IAmb		IAmb	11 34 05.3	
	comp=Z,6.3nm,1.3s							
KSH	**Kashi**	**52.16**	**297**	*e*P		**P**	**11 34 03.9**	**+2.0**
KSH				pP		pP	11 34 16.0	+1.6
KSH				S		**S**	**11 41 27.4**	**+4.4**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,100nm,5.0s							
KSH				LR	LR			
	comp=N,160nm,10.7s							
KSH				LR	LR			
	comp=E,130nm,7.6s							
KSH				LR	LR			
	comp=Z,64nm,5.3s							
WB0	**Warramunga Arr**	**52.44**	**188**	P		**P**	**11 34 03.1**	**-0.9**
NEA2	**Nenana**	**52.46**	**31**	IAmb		IAmb	11 34 06.7	
	comp=Z,6.1nm,0.8s							
TOLK	**Toolik Lake Re**	**52.55**	**26**	P		**P**	**11 34 04.5**	**+0.2**
WRAB	**Tennant Creek**	**52.61**	**188**	P		**P**	**11 34 04.3**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.6s							
WRAB	**Tennant Creek**	**52.61**	**188**	P		**P**	**11 34 04.3**	**-0.9**
WR0	**Warramunga Arr**	**52.62**	**188**	P		**P**	**11 34 04.2**	**-1.1**
WB2	**Warramunga Arr**	**52.62**	**188**	IAmb		IAmb	11 34 04.9	
	comp=Z,7.1nm,0.7s							
WRA	**Warramunga Arr**	**52.62**	**188**	P		**P**	**11 34 04.1**	**-1.2**
	comp=Z,6.8nm,0.6s,baz=5.9,slow=7.6,SNR=107							
WRA				pP		**pP**	**11 34 19.1**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=4.8,slow=7.6,SNR=6.2							
WRA				PcP		**PcP**	**11 35 15.9**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=2.6,slow=4.0,SNR=1.8							
MDM	**Murphy Dome**	**52.83**	**30**	P		**P**	**11 34 08.0**	**+1.6**
MDM				IAmb		IAmb	11 34 09.5	
	comp=Z,5.5nm,0.7s							
WRH	**Wood River Hil**	**52.88**	**31**	P		**P**	**11 34 07.7**	**+1.0**
CCB	**Clear Creek Bu**	**53.00**	**31**	P		**P**	**11 34 08.7**	**+1.1**
POKR	**Poker Plat Res**	**53.17**	**30**	P		**P**	**11 34 10.1**	**+1.2**
POKR				IAmb		IAmb	11 34 12.3	
	comp=Z,5.3nm,0.6s							
IL31		**53.40**	**31**	IAmb		IAmb	11 34 12.5	
	comp=Z,2.9nm,0.7s							
ILAR	**Eielson Array**	**53.40**	**31**	P		**P**	**11 34 11.8**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=267,slow=6.3,SNR=30							
BVAR	**Borovoye Array**	**53.50**	**315**	P		**P**	**11 34 11.9**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=136,slow=

BEKR				IAmb	IAmb	11 36 39.7	
	comp=Z,4.1nm,0.8s						
CMB	**Columbia Colle**	**76.65**	**53**	IAmb	IAmb	11 36 44.9	
	comp=Z,4.9nm,1.1s						
YERR	**Yerington**	**76.93**	**52**	P	**P**	**11 36 45.6**	**+1.8**
YERR				IAmb	IAmb	11 37 09.7	
	comp=Z,5.8nm,1.5s						
WAKR	**Walker**	**77.05**	**53**	P	**P**	**11 36 44.9**	**+0.4**
KVN	**Kaiserville**	**77.66**	**52**	P	**P**	**11 36 49.5**	**+1.6**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KVN	**Kaiserville**	**77.66**	**52**	P	**P**	**11 36 49.5**	**+1.6**
DLMT	**Dillon**	**77.67**	**44**	P	**P**	**11 36 49.4**	**+1.6**
DLMT				IAmb	IAmb	11 36 50.6	
	comp=Z,4.8nm,1.3s						
AKASG	**Malin Array Be**	**77.71**	**323**	P	**P**	**11 36 47.8**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=47,slow=4.9,SNR=5.8						
LHV	**Little Huntoon**	**77.81**	**52**	IAmb	IAmb	11 36 54.2	
	comp=Z,3.3nm,0.9s						
NVAR	**Mina Array Bea**	**77.85**	**52**	P	**P**	**11 36 51.1**	**+2.2**
	comp=Z,1.8nm,0.7s,baz=291,slow=5.7,SNR=20						
HFS	**Hagfors**	**78.07**	**336**	P	**P**	**11 36 48.5**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=103,slow=4.7,SNR=7.6						
NB2	**NORSAR Subarra**	**78.22**	**338**	P	**P**	**11 36 49.9**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**78.22**	**338**	P	**P**	**11 36 50.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=42,slow=5.4,SNR=5.9						
ELK	**Elko**	**78.60**	**49**	P	**P**	**11 36 53.6**	**+0.5**
ELK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ELK	**Elko**	**78.60**	**49**	P	**P**	**11 36 53.6**	**+0.5**
PDAR	**Pinedale Array**	**80.95**	**45**	P	**P**	**11 37 06.8**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=276,slow=4.2,SNR=6.9						
PDAR	**Pinedale Array**	**80.95**	**45**	P	**P**	**11 37 05.4**	**-0.4**
SHPR	**Sheep Range**	**80.99**	**52**	P	**P**	**11 37 06.6**	**+0.5**
SHPR				IAmb	IAmb	11 37 09.0	
	comp=Z,7.7nm,1.5s						
KWP	**Kalwaria Pacla**	**81.64**	**325**		**PcP**	**11 37 16.1**	**+1.3**
BRTR	**Keskin Array B**	**81.67**	**312**	P	**P**	**11 37 10.0**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=94,slow=4.1,SNR=9.6						
BRTR	**Keskin Array B**	**81.67**	**312**	P	**P**	**11 37 07.7**	**-1.8**
BRTR	**Keskin Array B**	**81.67**	**312**	P	**P**	**11 37 07.7**	**-1.8**
PFO	**Pinyon Flats O**	**81.70**	**55**	P	**P**	**11 37 11.7**	**+1.9**
PFO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PFO	**Pinyon Flats O**	**81.70**	**55**	P	**P**	**11 37 11.7**	**+1.9**
P17A	**Butcher Ranch,**	**82.17**	**48**	IAmb	IAmb	11 37 15.1	
	comp=Z,5.5nm,0.7s						
RDMU	**Red Mountain**	**82.24**	**47**	IAmb	IAmb	11 37 15.4	
	comp=Z,5.7nm,0.6s						
SRU	**San Rafael Swe**	**82.51**	**48**	IAmb	IAmb	11 37 16.6	
	comp=Z,5.9nm,0.6s						
O20A	**White River Ci**	**83.32**	**46**	IAmb	IAmb	11 37 20.6	
	comp=Z,5.2nm,1.0s						
PV10	**Paradox Valley**	**83.88**	**48**	P	**P**	**11 37 22.6**	**+1.4**
PV22	**Blue Mesa, Par**	**83.94**	**48**	IAmb	IAmb	11 37 25.2	
	comp=Z,3.0nm,0.8s						
PV20	**West Nyswonger**	**83.95**	**48**	P	**P**	**11 37 22.9**	**+1.5**
PV20				IAmb	IAmb	11 37 24.2	
	comp=Z,7.4nm,0.8s						
PV04	**Paradox Valley**	**83.96**	**48**	IAmb	IAmb	11 37 23.9	
	comp=Z,4.6nm,0.9s						
PV16	**Nyswonger Mesa**	**84.00**	**48**	IAmb	IAmb	11 37 24.4	
	comp=Z,6.3nm,0.8s						
PV18	**Skein Mesa, Pa**	**84.04**	**48**	IAmb	IAmb	11 37 25.0	
	comp=Z,8.2nm,0.9s						
PV12	**Saucer Basin,**	**84.07**	**48**	IAmb	IAmb	11 37 25.5	
	comp=Z,5.7nm,0.7s						
PV03	**Paradox Valley**	**84.08**	**48**	IAmb	IAmb	11 37 24.8	
	comp=Z,4.5nm,0.8s						
PV01	**Paradox Valley**	**84.32**	**48**	IAmb	IAmb	11 37 25.9	
	comp=Z,4.6nm,0.6s						
CLL	**Collm**	**84.86**	**330**	*i* P	**P**	**11 37 25.3**	**-0.2**
CLL				MLR	MLR		
	comp=Z,300nm,19.9s						
CLL	**Collm**	**84.86**	**330**	*i* P	Pg	11 37 25.3	+3.1
ISCO	**Idaho Springs**	**85.11**	**45**	P	**P**	**11 37 28.2**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ISCO	**Idaho Springs**	**85.11**	**45**	P	**P**	**11 37 28.2**	**+0.8**
ISCO				IAmb	IAmb	11 37 30.2	
	comp=Z,2.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.26**	**341**	P	**P**	**11 37 37.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=34,slow=5.2,SNR=2.3						
WMOK	**Wichita Mounta**	**92.54**	**46**	IAmb	IAmb	11 38 04.2	
	comp=Z,2.1nm,0.7s						
TX31	**Lajitas Ar. Si**	**93.00**	**52**	P	**P**	**11 38 05.6**	**+0.9**
TXAR	**Lajitas Array**	**93.00**	**52**	P	**P**	**11 38 06.5**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=307,slow=3.2,SNR=44						
TXAR	**Lajitas Array**	**93.00**	**52**	P	**P**	**11 38 06.0**	**+1.3**
PARMO	**Parma**	**96.28**	**39**	P	**P**	**11 38 21.1**	**+1.6**
TORD	**Torodi Ar. Bea**	**120.28**	**313**	PKP	**PKPdf**	**11 43 41.3**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=28,slow=1.0,SNR=6.6						
TORD				pPKP	**pPKPdf**	**11 43 58.1**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=22,slow=1.9,SNR=4.0						
LPAZ	**La Paz**	**148.92**	**66**	PKPbc	**PKPbc**	**11 44 40.5**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=1.7,slow=3.7,SNR=13						
LPAZ	**La Paz**	**148.92**	**66**	PKP2	**PKPbc**	**11 44 39.4**	**-0.5**
LPAZ	**La Paz**	**148.92**	**66**		**PKPbc**	**11 44 39.4**	**-0.5**
PLCA	**Paso Flores**	**153.39**	**117**	PKPbc	**PKiKP**	**11 44 50.0**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=309,slow=6.5,SNR=3.2						
PLCA	**Paso Flores**	**153.39**	**117**	PKiKP	**PKiKP**	**11 44 50.0**	**+0.8**

ROM 23 11:34:39.1±0.1, 42°.466N±0°.006×13°.325E±0°.009, h13km±1km, ML1.3/3, Error ellipse: s-maj=0.7km s-min=0.6km az=156.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.09**	**298**	P	Pg	11 34 42.3	+0.2
RM33				S	Sg	11 34 44.2	0.0
RM33				AML	AML		
	comp=E,250μm,0.8s						
RM33				AML	AML		
	comp=N,253μm,1.6s						
CAMP	**Campotosto**	**0.09**	**42**	P	Pg	11 34 42.5	+0.3
CAMP				S	Sg	11 34 44.8	+0.5
SMA1	**SAN MARTINO**	**0.17**	**3**	P	Pg	11 34 43.6	+0.5
SMA1				S	Sg	11 34 46.6	+0.7
SMA1				AML	AML		
	comp=N,322μm,0.3s						
SMA1				AML	AML		
	comp=E,249μm,0.2s						
FIAM	**Fiamignano**	**0.25**	**218**	P	Pg	11 34 45.0	+0.5
FIAM				S	Sg	11 34 49.0	+0.9
TERO	**Teramo**	**0.26**	**53**	P	Pg	11 34 44.9	+0.2
TERO				S	Sg	11 34 49.1	+0.7
TERO				AML	AML		
	comp=E,17μm,0.7s						
TERO				AML	AML		
	comp=N,14μm,1.3s						

*IDC **23** 12:01:19.9±0.6, 21°.33N×45°.78W, h0km, mb4.2/22, mb1 4.4/22, mb1mx4.3/36, mbtmp4.2/22, MS4.2/29, Ms1 4.2/29, ms1mx4.2/33, Error ellipse: s-maj=16.4km s-min=13.5km az=158.0*

*NEIC **23** 12:01:22.4±1.9, 21°.3N±0°.1×45°.7W±0°.1, h10km±1km, mb4.9/156, Error ellipse: s-maj=19.3km s-min=17.0km az=124.0*

*GCMT **23** 12:01:23.4±0.2, 21°.44N±0°.02×45°.71W±0°.01, h12km, MW5.0/124, Moment Tensor Solution. s44, c49; s124, c197; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.55±.08; Mθθ0.10±.09; Mφφ4.45±.07; Mrθ-0.47±.37; Mθφ0.44±.07; Mφr-1.26±.26; Best double couple: M=4.71700×10^16 NP1:φs182.00000°, δ37.00000°, λ-96.00000°. NP2:φs10.00000°, δ53.00000°, λ-85.00000°. Principal axes: T 4.6780, Plg8.0000°, Azm96.0000°; N 0.0780, Plg4.0000°, Azm187.0000°; P -4.7570, Plg81.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 12:01:22.7±0.4, 21°.29N±0°.06×45°.74W±0°.07, h15km, n356, σ1°.02/311, mb4.8/121, MS4.3/29, 1C-4D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**17.43**	**204**	LR	LR	12 10 36.1	
	comp=Z,358nm,20.7s,baz=30,slow=32						
SJG	**San Juan**	**19.48**	**264**	LR	LR	12 11 42.4	
	comp=Z,2μm,21.6s,baz=94,slow=32						
PCRV	**Puerto La Cruz**	**21.26**	**242**	P	**P**	**12 06 09.2**	**+0.5**
	8.5nm,0.8s,baz=16,slow=16,SNR=3.0						
PCRV				LR	LR	12 15 05.0	
	comp=Z,704nm,19.4s,slow=39						
MCPB	**Macapa, AP**	**22.39**	**197**	*e*P	**P**	**12 06 21.0**	**+0.4**
TMAB	**Tom-Au,PA,Br**	**23.63**	**186**	*e*P	**P**	**12 06 34.3**	**+0.9**
BOAV	**Boa Vista**	**23.66**	**219**	*e*P	**P**	**12 06 35.1**	**+1.2**
ROSB	**Rosrio**	**24.09**	**176**	*e*P	**P**	**12 06 37.1**	**-0.7**
MALB	**Monte Alegre**	**24.47**	**201**	*e*P	**P**	**12 06 42.5**	**+1.2**
NBMO	**Morrinhos-CE**	**25.08**	**166**	*e*P	**P**	**12 06 47.8**	**+0.9**
NBPS	**Pedro II - PI**	**25.87**	**170**	*e*P	**P**	**12 06 53.5**	**-0.6**
SDV	**Santo Domingo**	**26.96**	**247**	LR	LR	12 17 13.5	
	comp=Z,551nm,21.9s,baz=76,slow=35						
ITTB	**Itaituba**	**27.32**	**202**	*e*P	**P**	**12 07 07.8**	**+0.7**
NBPB	**Pedra_Branca-C**	**27.34**	**167**	*e*P	**P**	**12 07 06.9**	**-0.4**
PRPB	**Parauapebas**	**27.58**	**189**	*e*P	**P**	**12 07 10.3**	**+0.8**
PMOZ	**Porto Moniz, M**	**27.80**	**60**	*e*LR	LR	12 13 52.3	
	579nm,20.0s						
NBPA	**Parau_RN**	**28.17**	**162**	*e*P	**P**	**12 07 15.9**	**+1.2**
RCBR	**Riachuelo**	**28.62**	**159**	LR	LR	12 15 35.8	
	comp=Z,547nm,21.0s,baz=318,slow=30						
H66A	**Whiting**	**29.43**	**328**	P	**P**	**12 07 26.5**	**+0.8**
	baz=136						
H65A	**Eastbrook**	**29.84**	**327**	P	**P**	**12 07 29.9**	**+0.7**
	baz=134						
G64A	**Maxfield**	**30.48**	**327**	P	**P**	**12 07 35.9**	**+0.9**
	baz=134						
RUSC	**La Rusia**	**30.59**	**244**	P	**P**	**12 07 36.6**	**-0.2**
WSPT	**Westport, CT**	**30.61**	**317**	P	**P**	**12 07 36.5**	**+0.4**
F64A	**Sherman**	**30.71**	**328**	P	**P**	**12 07 38.4**	**+1.5**
	baz=136						
K62A	**Royalston**	**30.76**	**320**	P	**P**	**12 07 38.1**	**+0.6**
	baz=126						
PKME	**Peaks-Kenny Pk**	**30.76**	**327**	P	**P**	**12 07 38.7**	**+1.2**
	baz=133						
PKME	**Peaks-Kenny Pk**	**30.76**	**327**	P	**P**	**12 07 38.3**	**+0.8**
G63A	**Kingsbury**	**30.83**	**326**	P	**P**	**12 07 38.9**	**+0.8**
	baz=133						
J62A	**Henniker**	**30.84**	**321**	P	**P**	**12 07 39.2**	**+1.0**
	baz=127						
E64A	**Bridgewater**	**30.86**	**330**	P	**P**	**12 07 38.8**	**+0.5**
	baz=137,SNR=5.1						
PAL	**Palisades**	**30.89**	**316**	P	**P**	**12 07 39.2**	**+0.5**
	baz=121						
PAL	**Palisades**	**30.89**	**316**	P	**P**	**12 07 39.9**	**+1.2**
PQI	**Presque Isle**	**31.13**	**330**	P	**P**	**12 07 41.2**	**+0.5**
E63A	**Oxbow**	**31.14**	**329**	P	**P**	**12 07 41.5**	**+0.7**
	baz=136						
TRNY	**Table Rock, Ra**	**31.17**	**316**	P	**P**	**12 07 41.8**	**+0.6**
H62A	**Milan**	**31.30**	**324**	P	**P**	**12 07 43.5**	**+1.2**
	baz=130						
J61A	**Chester**	**31.34**	**321**	P	**P**	**12 07 43.8**	**+1.1**
	baz=126						
G62A	**West of Eustis**	**31.38**	**325**	P	**P**	**12 07 43.7**	**+0.8**
	baz=131						
G62A	**West of Eustis**	**31.38**	**325**	P	**P**	**12 07 43.8**	**+0.8**
G62A				IAmb	IAmb	12 07 50.9	
	comp=Z,25nm,1.1s						
ODNJ	**Ogdensburg**	**31.39**	**316**	P	**P**	**12 07 44.6**	**+1.6**
ODNJ				IAmb	IAmb	12 07 58.7	
	comp=Z,24nm,1.3s						
D63A	**Stockholm**	**31.44**	**330**	P	**P**	**12 07 43.7**	**+0.2**
	baz=137,SNR=7.6						
F62A	**Pittston Farm,**	**31.54**	**327**	P	**P**	**12 07 45.1**	**+0.7**
	baz=133						
F62A	**Pittston Farm,**	**31.54**	**327**	P	**P**	**12 07 45.6**	**+1.3**
F62A				IAmb	IAmb	12 07 52.3	
	comp=Z,16nm,0.9s						
LUPA	**Lehigh Univers**	**31.66**	**314**	P	**P**	**12 07 45.8**	**+0.3**
H61A	**Lyndonville**	**31.70**	**323**	P	**P**	**12 07 46.6**	**+0.8**
	baz=129						
J60A	**Lant Hill Farm**	**31.80**	**320**	P	**P**	**12 07 47.7**	**+1.0**
	baz=125						
E62A	**Clayton Lake**	**31.82**	**328**	P	**P**	**12 07 47.6**	**+0.8**
	baz=135						
E62A	**Clayton Lake**	**31.82**	**328**	P	**P**	**12 07 48.1**	**+1.3**
E62A				IAmb	IAmb	12 07 54.9	
	comp=Z,20nm,1.1s						
D62A	**Allapoint, All**	**31.92**	**329**	P	**P**	**12 07 47.7**	**+0.1**
	baz=136,SNR=5.4						
D62A	**Allapoint, All**	**31.92**	**329**	P	**P**	**12 07 48.5**	**+0.9**
G61A	**St-Isidore-de-**	**31.96**	**325**	P	**P**	**12 07 48.7**	**+0.6**
	baz=130						
CBN	**Corbin Frederi**	**32.02**	**309**	P	**P**	**12 07 48.9**	**+0.3**
	baz=113						
MVL	**Millersville**	**32.04**	**312**	P	**P**	**12 07 49.7**	**+0.9**
I60A	**Shoreham**	**32.07**	**321**	P	**P**	**12 07 50.0**	**+1.0**
	baz=126						
N59A	**State Game Lan**	**32.07**	**314**	P	**P**	**12 07 50.0**	**+0.8**
	baz=119						
N59A	**State Game Lan**	**32.07**	**314**	P	**P**	**12 07 50.3**	**+1.1**
F61A	**St Evariste**	**32.12**	**326**	P	**P**	**12 07 50.6**	**+1.1**
	baz=132						
H60A	**Morristown**	**32.16**	**322**	P	**P**	**12 07 50.4**	**+0.6**
	baz=128						
E61A	**Lac Etchemin**	**32.17**	**327**	P	**P**	**12 07 50.6**	**+0.7**
	baz=133						
ROSC	**El Rosal**	**32.19**	**244**	LR	LR	12 23 35.9	
	comp=Z,283nm,18.4s,baz=50,slow=42						
MOQ	**Mont Orford**	**32.37**	**324**	P	**P**	**12 07 52.9**	**+1.2**
KSPA	**Keystone Colle**	**32.38**	**315**	P	**P**	**12 07 53.2**	**+1.4**
I59A	**Olmsteadville**	**32.39**	**320**	P	**P**	**12 07 52.3**	**+0.5**
	baz=125						
E60A	**Ste Agathe de**	**32.62**	**326**	P	**P**	**12 07 54.8**	**+1.0**
	baz=132						
L58A	**Harry Jones Me**	**32.68**	**316**	P	**P**	**12 07 54.6**	**+0.2**
	baz=120						
NCB	**Newcomb**	**32.70**	**320**	P	**P**	**12 07 54.4**	**-0.2**
NCB				IAmb	IAmb	12 08 03.2	
	comp=Z,22nm,1.0s						
D60A	**Saint Jean D'O**	**32.72**	**327**	P	**P**	**12 07 54.9**	**+0.3**
	baz=133						
H59A	**Cadyville**	**32.77**	**322**	P	**P**	**12 07 56.1**	**+0.9**
	baz=126						
FRNY	**Flat Rock**	**32.83**	**322**	P	**P**	**12 07 57.4**	**+1.7**
FRNY				IAmb	IAmb	12 08 04.1	
	comp=Z,28nm,1.1s						
BINY	**Binghamton**	**32.84**	**316**	P	**P**	**12 07 56.2**	**+0.4**
	baz=120						
LMQ	**La Malbaie**	**32.86**	**329**	P	**P**	**12 07 55.9**	**-0.1**
H58A	**Gabriels**	**32.92**	**321**	P	**P**	**12 07 57.6**	**+1.1**
	baz=125						
P57A	**Homestead Farm**	**32.98**	**311**	P	**P**	**12 07 57.5**	**+0.4**
P57A				IAmb	IAmb	12 08 05.1	
	comp=Z,27nm,1.3s						
I58A	**Old Forge**	**32.99**	**319**	P	**P**	**12 07 57.6**	**+0.4**
	baz=123						
J58A	**Remsen**	**33.00**	**319**	P	**P**	**12 07 57.9**	**+0.7**
	baz=122						
J58A	**Remsen**	**33.00**	**319**	P	**P**	**12 07 59.1**	**+1.9**
M57A	**Sunshine Farm,**	**33.18**	**314**	P	**P**	**12 08 00.8**	**+2.0**
M57A				IAmb	IAmb	12 08 07.4	
	comp=Z,25nm,1.1s						
LONY	**Lake Ozonia**	**33.28**	**321**	P	**P**	**12 07 59.7**	**+0.1**
	baz=125						
LONY	**Lake Ozonia**	**33.28**	**321**	P	**P**	**12 07 59.9**	**+0.3**
LONY				IAmb	IAmb	12 08 08.1	
	comp=Z,36nm,1.5s						
PEXB	**Peixe**	**33.28**	**185**	*e*P	**P**	**12 08 01.0**	**+1.2**
SSPA	**Standing Stone**	**33.38**	**313**	P	**P**	**12 08 00.9**	**+0.4**
	baz=116						
SSPA	**Standing Stone**	**33.38**	**313**	P	**P**	**12 08 00.2**	**-0.4**
SSPA				IAmb	IAmb	12 08 18.1	
	comp=Z,28nm,1.4s						
CLDB	**Colider**	**33.45**	**198**	*e*P	**P**	**12 08 02.0**	**+0.6**
SDBA	**SAO DESIDERIO**	**33.50**	**179**	*e*P	**P**	**12 08 00.7**	**-1.0**
SNDB	**Serra Nova Dou**	**33.50**	**190**	*e*P	**P**	**12 08 02.9**	**+1.1**
I57A	**Carthage**	**33.54**	**319**	P	**P**	**12 08 02.6**	**+0.7**
	baz=123						
H57A	**Richville**	**33.66**	**320**	P	**P**	**12 08 03.6**	**+0.6**
	baz=124						
O56A	**Blue Knob Stat**	**33.69**	**312**	P	**P**	**12 08 03.9**	**+0.5**
	baz=114						
BLA	**Blacksburg**	**33.94**	**306**	P	**P**	**12 08 05.8**	**+0.2**
	baz=108						
R55A	**Marlinton**	**34.06**	**307**	P	**P**	**12 08 08.7**	**+2.1**
R55A				IAmb	IAmb	12 08 16.0	
	comp=Z,26nm,1.2s						
N54A	**Moraine State**	**34.97**	**312**	P	**P**	**12 08 15.0**	**+0.6**
	baz=114						
GDU01	**Guandu, BA**	**35.31**	**170**	*e*P	**P**	**12 08 18.2**	**+0.7**
BG3	**Lake Jocassee**	**35.31**	**301**	P	**P**	**12 08 17.3**	**-0.1**
P52A	**Corning**	**36.00**	**309**	P	**P**	**12 08 23.4**	**+0.2**
	baz=110						
PNCL	**Nicolau / Gran**	**36.12**	**54**	*e*P	**P**	**12 08 25.1**	**+0.8**
	comp=Z,36nm,1.8s						
TKL	**Tuckaleechee C**	**36.13**	**302**	P	**P**	**12 08 23.0**	**-1.4**
	comp=Z,7.5nm,1.2s,baz=102,slow=9.8,SNR=2.7						
JANB	**Januaria**	**36.15**	**178**	*e*P	**P**	**12 08 24.4**	**-0.2**
TZTN	**Tazewell**	**36.16**	**303**	P	**P**	**12 08 24.7**	**0.0**
	baz=104						
CHGQ	**Chibougamau**	**36.43**	**329**	P	**P**	**12 08 27.4**	**+0.6**
	baz=131						
PVAQ	**Vaqueiros**	**36.55**	**55**	*e*P	**P**	**12 08 31.4**	**+3.5**
	comp=Z,39nm,1.5s						
PVAQ				*e*LR	LR	12 17 49.2	
	comp=Z,398nm,22.0s						
EVO	**Evora**	**36.63**	**54**	*e*P	**P**	**12 08 30.8**	**+2.1**
	comp=Z,27nm,1.8s						
PMTG	**Montargil**	**36.64**	**53**	*e*P	**P**	**12 08 30.2**	**+1.5**
	comp=Z,38nm,1.6s						
BDFB	**Brasilia**	**36.77**	**184**	P	**P**	**12 08 30.3**	**+0.2**
	comp=Z,3.7nm,0.7s,baz=19,slow=6.4,SNR=4.1						
BDFB				LR	LR	12 22 36.4	
	comp=Z,288nm,18.8s,baz=342,slow=35						
BDFB	**Brasilia**	**36.77**	**184**	IAmb	IAmb	12 08 33.2	
	comp=Z,8.1nm,1.1s						
SCHQ	**Schefferville**	**37.08**	**340**	P	**P**	**12 08 31.9**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=147,slow=9.2,SNR=6.4						
SCHQ				LR	LR	12 22 09.2	
	comp=Z,310nm,20.8s,baz=152,slow=34						
SCHQ	**Schefferville**	**37.08**	**340**	P	**P**	**12 08 32.2**	**0.0**
SCHQ				IAmb	IAmb	12 08 40.3	
	comp=Z,30nm,1.1s						
LSQQ	**Lebel-sur-Quev**	**37.22**	**326**	P	**P**	**12 08 34.4**	**+0.9**
	baz=127						
ARAG	**Araguaiana, MT**	**37.24**	**190**	*e*P	**P**	**12 08 34.2**	**+0.3**
PMRV	**Marv??o**	**37.36**	**52**	*e*P	**P**	**12 08 36.3**	**+1.4**
	comp=Z,18nm,1.1s						
PMRV				*e*LR	LR	12 17 46.3	
	comp=Z,246nm,22.0s						
PCBR	**Castelo Branco**	**37.43**	**52**	*e*P	**P**	**12 08 36.7**	**+1.3**
	comp=Z,29nm,1.6s						
MTE	**Manteigas**	**37.56**	**51**	*e*P	**P**	**12 08 36.6**	**+0.1**
	comp=Z,49nm,1.7s						
MTE				*e*LR	LR	12 18 05.2	
	comp=Z,262nm,22.0s						
MTE	**Manteigas**	**37.56**	**51**	P	**P**	**12 08 35.5**	**-1.0**
MTE				IAmb	IAmb	12 08 44.1	
	comp=Z,37nm,1.3s						
PGAV	**Gavieira, Arco**	**37.58**	**48**	*e*LR	LR	12 18 29.2	
	comp=Z,194nm,20.0s						
POLO	**Lamas de Olo**	**37.70**	**49**	*e*P	**P**	**12 08 39.9**	**+2.1**
MC01	**Montes Claros**	**37.80**	**177**	*e*P	**P**	**12 08 39.5**	**+0.7**
P49A	**Miami Univ. Ec**	**37.86**	**308**	P	**P**	**12 08 39.9**	**+0.8**
	baz=107						
MATQ	**Matagami**	**37.98**	**326**	P	**P**	**12 08 40.9**	**+0.9**
	baz=127						
MVO	**Moncorvo**	**38.18**	**50**	*e*P	**P**	**12 08 44.0**	**+2.2**
MVO	**Moncorvo**	**38.18**	**50**	*e*LR	LR	12 18 45.4	
	comp=Z,240nm,20.0s						
SALV	**Santo Antonio**	**38.23**	**196**	*e*P	**P**	**12 08 42.8**	**+0.5**
PBRG	**Braganca**	**38.59**	**49**	*e*P	**P**	**12 08 46.3**	**+1.0**
PTLB	**Pontes e Lacer**	**38.80**	**201**	*e*P	**P**	**12 08 47.8**	**+0.7**
IPMB	**Iguameri, GO**	**39.10**	**184**	*e*P	**P**	**12 08 49.0**	**-0.6**
WVT	**Waverly**	**39.45**	**301**	P	**P**	**12 08 52.5**	**+0.1**
	baz=100						
WVT	**Waverly**	**39.45**	**301**	P	**P**	**12 08 50.6**	**-1.9**
PAB	**San Pablo**	**39.66**	**53**	P	**P**	**12 08 56.0**	**+1.8**
ESDC	**Sonseca Array**	**39.98**	**53**	P	**P**	**12 08 56.5**	**-0.4**
	comp=Z,3.2nm,1.0s,baz=253,slow=9.1,SNR=16						
ESDC				LR	LR	12 22 54.6	
	comp=Z,374nm,19.4s,baz=250,slow=32						
ESDC	**Sonseca Array**	**39.98**	**53**	P	**P**	**12 08 56.0**	**-0.9**
E43A	**Lone Tree Farm**	**41.77**	**317**	IAmb	IAmb	12 09 19.6	
	comp=Z,27nm,1.2s						
MTO3	**Montecristo**	**41.98**	**268**	P	**P**	**12 09 16.1**	**+2.3**
H10N3	**ASCENSION HYDR**	**42.17**	**130**	T	T	12 54 01.2	
	baz=314,slow=75,SNR=252						
H10N2	**ASCENSION HYDR**	**42.17**	**130**	T	T	12 54 01.3	
	baz=314,slow=75,SNR=250						
BB19B	**Bebedouro**	**42.18**	**184**	*e*P	**P**	**12 09 15.0**	**-0.1**
H10N1	**ASCENSION HYDR**	**42.19**	**130**	T	T	12 54 02.6	
	baz=314,slow=75,SNR=236						
CCM	**Cathedral Cave**	**42.48**	**304**	P	**P**	**12 09 17.6**	**+0.3**
	baz=100						
CCM	**Cathedral Cave**	**42.48**	**304**	P	**P**	**12 09 18.0**	**+0.6**
CCM				IAmb	IAmb	12 09 25.4	
	comp=Z,28nm,1.1s						
AQDB	**Aquidauana**	**42.64**	**194**	*e*P	**P**	**12 09 19.2**	**+0.5**
JFWS	**Jewell Farm**	**42.82**	**311**	P	**P**	**12 09 20.2**	**+0.1**
	baz=106						
JFWS	**Jewell Farm**	**42.82**	**311**	IAmb	IAmb	12 09 28.1	
	comp=Z,21nm,1.1s						
H10S3	**ASCENSION HYDR**	**42.83**	**131**	T	T	12 54 50.7	
	baz=313,slow=74,SNR=45						
H10S2	**ASCENSION HYDR**	**42.85**	**131**	T	T	12 54 51.9	
	baz=267,slow=74,SNR=28						
W41B	**Gary Mavity, V**	**42.88**	**299**	P	**P**	**12 09 21.2**	**+0.5**
	baz=96						
PCMB	**Pacaembu**	**42.97**	**188**	*e*P	**P**	**12 09 23.1**	**+1

	comp=Z,23nm,1.1s						
BFO	**Black Forest**	**50.65**	**44**	P	**P**	**12 10 22.7**	**+1.3**
TUE	**Stuetta**	**50.97**	**47**	P	**P**	**12 10 22.9**	**-1.1**
TUE				IAmb	IAmb	12 10 27.1	
	comp=Z,13nm,1.1s						
SCO	**Scoresbysund**	**51.19**	**10**	*i* P	**P**	**12 10 25.5**	**+0.5**
SCO				IAmb	IAmb	12 10 30.1	
	comp=Z,6.4nm,0.9s						
DAVA	**Damuels**	**51.47**	**46**	*e*P	**P**	**12 10 29.6**	**+1.8**
	comp=Z,15nm,1.0s						
SUMG	**Summit**	**51.47**	**3**	*i* P	**P**	**12 10 28.9**	**+1.3**
SUMG				IAmb	IAmb	12 10 29.9	
	comp=Z,12nm,1.0s						
SUMG	**Summit**	**51.47**	**3**	P	**P**	**12 10 29.3**	**+1.7**
SUMG				IAmb	IAmb	12 10 30.1	
	comp=Z,13nm,1.0s						
GO02	**Mina Guanaco**	**51.66**	**208**	IAmb	IAmb	12 10 37.1	
	comp=Z,13nm,0.8s						
ZCCA	**Zocca**	**51.78**	**50**	P	**P**	**12 10 29.6**	**-0.4**
ZCCA				IAmb	IAmb	12 10 34.4	
	comp=Z,27nm,1.1s						
FETA	**Feichten**	**52.00**	**46**	*e*P	**P**	**12 10 31.6**	**-0.1**
	comp=Z,21nm,1.1s						
RETA	**Reutte**	**52.10**	**46**	*e*P	**P**	**12 10 33.9**	**+1.6**
	comp=Z,2.6nm,0.5s						
MOTA	**Moosalm**	**52.30**	**46**	*e*P	**P**	**12 10 35.3**	**+1.4**
	comp=Z,10nm,1.0s						
SQTA	**Sankt Quirin**	**52.35**	**46**	*e*P	**P**	**12 10 35.7**	**+1.5**
	comp=Z,17nm,0.8s						
TXAR	**Lajitas Array**	**52.53**	**291**	P	**P**	**12 10 35.3**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=90,slow=9.0,SNR=3.0						
TXAR				PcP	**PcP**	**12 11 45.2**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=118,slow=3.5,SNR=2.0						
TXAR				LR	LR	12 32 07.6	
	comp=Z,327nm,21.4s,baz=0.0,slow=35						
WATA	**Walderalm**	**52.62**	**46**	*e*P	**P**	**12 10 37.0**	**+0.8**
	comp=Z,16nm,1.0s						
WTTA	**Wattenberg**	**52.65**	**46**	*e*P	**P**	**12 10 37.6**	**+1.1**
	comp=Z,13nm,0.8s						
RSSD	**Black Hills**	**52.89**	**310**	P	**P**	**12 10 41.2**	**+2.8**
ABTA	**Abfaltersbach**	**53.16**	**47**	*e*P	**P**	**12 10 41.5**	**+1.3**
	comp=Z,10nm,1.1s						
STAL	**STALIGIAL**	**53.24**	**48**	P	**P**	**12 10 41.5**	**+0.8**
STAL				IAmb	IAmb	12 10 53.7	
	comp=Z,11nm,1.1s						
ZOU	**Zoufplan**	**53.45**	**47**	P	**P**	**12 10 42.3**	**-0.2**
ZOU				IAmb	IAmb	12 10 44.4	
	comp=Z,14nm,1.1s						
FFC	**Flin Flon**	**53.51**	**323**	P	**P**	**12 10 42.2**	**-0.3**
FFC				IAmb	IAmb	12 10 49.8	
	comp=Z,12nm,0.8s						
SDCO	**Great Sand Dun**	**53.68**	**302**	P	**P**	**12 10 43.6**	**-0.8**
	baz=90						
KBA	**Koelnbreinsper**	**53.77**	**47**	*e*P	**P**	**12 10 45.4**	**+0.6**
	comp=Z,9.6nm,1.4s						
ROBS	**Robic**	**53.78**	**48**	*e*P	**P**	**12 10 45.4**	**+0.8**
ISCO	**Idaho Springs**	**53.79**	**304**	P	**P**	**12 10 45.3**	**+0.1**
	baz=92						
ISCO	**Idaho Springs**	**53.79**	**304**	P	**P**	**12 10 47.0**	**+1.8**
MNTX	**Cornudas Mount**	**53.81**	**294**	P	**P**	**12 10 45.7**	**+0.5**
	baz=86						
MYKA	**Terra Mystica**	**53.92**	**47**	*e*P	**P**	**12 10 46.7**	**+1.0**
	comp=Z,9.2nm,1.0s						
N23A	**Red Feather La**	**54.08**	**306**	P	**P**	**12 10 46.8**	**-0.5**
	baz=92						
CLL	**Collm**	**54.22**	**41**	*e*P	**P**	**12 10 48.0**	**+0.3**
	comp=Z,7.0nm,1.1s						
CLL				*e*S	**S**	**12 18 26.0**	**+1.6**
CLL				Lm	MLR	12 29 00.0	
	comp=N,100nm,20.9s						
CLL				Lm	MLR	12 29 00.0	
	comp=E,200nm,21.9s						
CLL				Lm	MLR	12 29 00.0	
	comp=Z,300nm,19.9s						
GEC2	**GERESS Array S**	**54.25**	**44**	P	**P**	**12 10 48.1**	**-0.1**
GERES	**GERESS Array B**	**54.25**	**44**	P	**P**	**12 10 49.1**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=262,slow=6.5,SNR=9.6						
GERES	**GERESS Array B**	**54.25**	**44**	P	**P**	**12 10 45.8**	**-2.4**
CRNS	**Crni Vrh**	**54.29**	**48**	*e*P	**P**	**12 10 49.8**	**+1.4**
MOA	**Molln**	**54.49**	**46**	*e*P	**P**	**12 10 50.7**	**+0.9**
	comp=Z,4.1nm,0.8s						
ANMO	**Albuquerque**	**54.51**	**298**	P	**P**	**12 10 50.7**	**+0.2**
	baz=88						
ANMO	**Albuquerque**	**54.51**	**298**	P	**P**	**12 10 51.1**	**+0.7**
OBKA	**Obir**	**54.53**	**47**	*e*P	**P**	**12 10 50.5**	**+0.2**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**54.72**	**42**	*e*P	**P**	**12 10 53.2**	**+1.8**
BRG				Amp		12 10 54.7	
	comp=Z,13nm,1.5s						
BRG				Amp		12 30 16.0	
	comp=Z,0.3nm,22.7s						
S22A	**4UR Ranch, Cre**	**54.73**	**302**	P	**P**	**12 10 52.0**	**-0.1**
	baz=89						
SOKA	**Soboth**	**54.88**	**47**	*e*P	**P**	**12 10 52.6**	**-0.2**
	comp=Z,1.8nm,0.7s						
RWWY	**Rawlins**	**55.06**	**307**	IAmb	IAmb	12 11 01.8	
	comp=Z,15nm,1.1s						
ARSA	**Arzberg**	**55.27**	**47**	*e*P	**P**	**12 10 56.6**	**+1.1**
	comp=Z,4.8nm,0.8s						
CONA	**Conrad Observa**	**55.57**	**46**	*e*P	**P**	**12 10 57.6**	**-0.1**
	comp=Z,5.5nm,0.7s						
NB2	**NORSAR Subarra**	**55.75**	**30**	P	**P**	**12 11 00.4**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=251,slow=7.9						
NOA	**NORSAR Array B**	**55.75**	**30**	P	**P**	**12 10 58.9**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=251,slow=7.4,SNR=4.3						
NOA				LR	LR	12 30 26.1	
	comp=Z,336nm,20.1s,baz=250,slow=31						
O20A	**White River Ci**	**55.82**	**305**	P	**P**	**12 10 59.6**	**-0.1**
	baz=90						
MVCO	**Mesa Verde**	**56.07**	**301**	P	**P**	**12 11 01.8**	**+0.1**
	baz=88						
NEEM	**North Greenlan**	**56.27**	**359**	*i* P	**P**	**12 11 02.2**	**-0.2**
NEEM				IAmb	IAmb	12 11 04.9	
	comp=Z,8.3nm,0.9s						
MODS	**Modra-Piesok**	**56.55**	**45**	*e*P	**P**	**12 11 08.1**	**+3.4**
RLMT	**Red Lodge**	**56.69**	**311**	P	**P**	**12 11 06.0**	**+0.1**
	baz=93,SNR=5.2						
RLMT	**Red Lodge**	**56.69**	**311**	IAmb	IAmb	12 11 14.2	
	comp=Z,26nm,1.4s						
PD31	**Pinedale Array**	**56.83**	**308**	IAmb	IAmb	12 11 14.2	
	comp=Z,19nm,1.4s						
PDAR	**Pinedale Array**	**56.83**	**308**	P	**P**	**12 11 06.3**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=94,slow=7.6,SNR=10						
PDAR				LR	LR	12 32 57.6	
	comp=Z,332nm,21.6s,baz=104,slow=33						
BW06	**Boulder Array**	**56.83**	**308**	P	**P**	**12 11 06.6**	**-0.4**
	baz=91,SNR=6.9						
BW06	**Boulder Array**	**56.83**	**308**	IAmb	IAmb	12 11 14.2	
	comp=Z,21nm,1.4s						
DAG	**Danmarks Havn**	**57.15**	**7**	*i* P	**P**	**12 11 08.6**	**+0.2**
DAG				IAmb	IAmb	12 11 09.0	
	comp=Z,3.3nm,1.1s						
EGMT	**Eagleton**	**57.19**	**314**	P	**P**	**12 11 09.5**	**+0.2**
	baz=94						
EGMT	**Eagleton**	**57.19**	**314**	P	**P**	**12 11 08.9**	**-0.4**
EGMT				IAmb	IAmb	12 11 17.4	
	comp=Z,26nm,1.4s						
YNE	**Yellowstone No**	**57.21**	**311**	P	**P**	**12 11 09.0**	**-0.6**
YNE				IAmb	IAmb	12 11 17.6	
	comp=Z,13nm,1.3s						
IMW	**Indian Meadow**	**57.85**	**309**	IAmb	IAmb	12 11 21.3	
	comp=Z,9.6nm,1.0s						
TPAW	**Teton Pass**	**57.85**	**309**	P	**P**	**12 11 14.0**	**-0.3**
TPAW				IAmb	IAmb	12 11 22.0	
	comp=Z,16nm,1.2s						
HWUT	**Hardware Ranch**	**58.32**	**306**	P	**P**	**12 11 16.7**	**-0.8**
HWUT				IAmb	IAmb	12 11 24.7	
	comp=Z,9.2nm,0.9s						
TUC	**Tucson**	**58.32**	**296**	P	**P**	**12 11 17.5**	**0.0**
	baz=84						
BOZ	**Bozeman (W)**	**58.37**	**311**	P	**P**	**12 11 17.5**	**-0.2**
	baz=91,SNR=5.7						
BOZ	**Bozeman (W)**	**58.37**	**311**	P	**P**	**12 11 16.9**	**-0.8**
MPU	**Maple Canyon**	**58.42**	**305**	P	**P**	**12 11 18.6**	**+0.4**
MPU				IAmb	IAmb	12 11 26.2	
	comp=Z,12nm,1.2s						
WUAZ	**Wupatki**	**58.49**	**299**	P	**P**	**12 11 18.5**	**-0.2**
	baz=85						
WUAZ	**Wupatki**	**58.49**	**299**	IAmb	IAmb	12 11 27.5	
	comp=Z,14nm,1.1s						
NLU	**North Lily Min**	**58.76**	**305**	P	**P**	**12 11 20.1**	**-0.6**
NLU				IAmb	IAmb	12 11 28.6	
	comp=Z,7.6nm,1.1s						
DLMT	**Dillon**	**59.04**	**311**	P	**P**	**12 11 23.1**	**+0.7**
DUG	**Dugway, Tooele**	**59.32**	**305**	P	**P**	**12 11 24.2**	**-0.2**
	baz=87						
DUG	**Dugway, Tooele**	**59.32**	**305**	P	**P**	**12 11 23.9**	**-0.5**
DUG				IAmb	IAmb	12 11 32.4	
	comp=Z,9.1nm,1.1s						
FNA	**Florina**	**59.32**	**54**	IAmb	IAmb	12 11 31.6	
	comp=Z,10nm,1.2s						
CRVS	**Cervenica-Dubn**	**59.36**	**45**	*e*P	**P**	**12 11 27.3**	**+3.0**
BGU	**Big Grassy Mou**	**59.45**	**306**	P	**P**	**12 11 25.1**	**-0.2**
BGU				IAmb	IAmb	12 11 33.0	
	comp=Z,13nm,1.1s						
EDM	**Edmonton**	**59.87**	**320**	P	**P**	**12 11 28.7**	**+0.9**
CCUT	**Cedar City**	**59.92**	**302**	P	**P**	**12 11 27.4**	**-1.3**
MSO	**Missoula**	**59.99**	**313**	P	**P**	**12 11 28.9**	**+0.1**
	baz=90						
JTMT	**Jette**	**60.23**	**314**	P	**P**	**12 11 29.8**	**-0.7**
JTMT				IAmb	IAmb	12 11 37.3	
	comp=Z,9.5nm,1.3s						
PSUT	**Pine Spring**	**60.23**	**303**	P	**P**	**12 11 29.6**	**-1.1**
PSUT				IAmb	IAmb	12 11 39.3	
	comp=Z,7.0nm,1.0s						
SPR3	**Spring Creek 3**	**60.56**	**304**	P	**P**	**12 11 34.0**	**+0.8**
SPR3				IAmb	IAmb	12 11 41.7	
	comp=Z,12nm,1.1s						
ELK	**Elko**	**61.13**	**306**	P	**P**	**12 11 37.8**	**+0.9**
ELK				IAmb	IAmb	12 11 44.5	
	comp=Z,6.9nm,0.9s						
PRN	**Pahroc Range**	**61.27**	**302**	IAmb	IAmb	12 11 46.7	
	comp=Z,8.0nm,1.2s						
MFID	**Camas Ranch**	**61.41**	**309**	IAmb	IAmb	12 11 46.3	
	comp=Z,16nm,1.2s						
NOR	**Nord**	**61.52**	**5**	*i* P	P	12 11 33.4	-5.1
NOR				IAmb	IAmb	12 11 35.6	
	comp=Z,10nm,1.2s						
YKA	**Yellowknife Ar**	**61.59**	**331**	P	**P**	**12 11 37.1**	**-2.2**
	comp=Z,3.6nm,0.9s,baz=99,slow=8.0,SNR=10						
YKA				LR	LR	12 38 08.3	
	comp=Z,224nm,18.3s,baz=0.0,slow=36						
R11A	**Troy Canyon, C**	**61.60**	**303**	P	**P**	**12 11 39.5**	**-0.5**
	baz=84						
R11A	**Troy Canyon, C**	**61.60**	**303**	P	**P**	**12 11 40.0**	**0.0**
R11A				IAmb	IAmb	12 11 47.4	
	comp=Z,10nm,1.5s						
IRM	**Iron Mountain**	**61.72**	**298**	P	**P**	**12 11 40.8**	**0.0**
	baz=82						
GMRC	**Granite Mounta**	**62.06**	**299**	P	**P**	**12 11 43.0**	**-0.2**
	baz=82						
NEW	**Newport**	**62.13**	**314**	P	**P**	**12 11 42.9**	**-0.4**
	baz=89,SNR=8.0						
NEW	**Newport**	**62.13**	**314**	P	**P**	**12 11 43.1**	**-0.2**
TPNV	**Topopah Spring**	**62.27**	**301**	P	**P**	**12 11 44.4**	**-0.2**
	baz=83						
TPNV	**Topopah Spring**	**62.27**	**301**	IAmb	IAmb	12 12 03.8	
	comp=Z,8.6nm,1.4s						
BMO	**Blue Mountains**	**62.39**	**310**	P	**P**	**12 11 44.5**	**-0.6**
MLR	**Muntele Rosu**	**62.44**	**49**	P	**P**	**12 11 44.4**	**-1.1**
BELC	**Belle Mtn. Jos**	**62.45**	**298**	P	**P**	**12 11 45.9**	**+0.1**
	baz=82						
BI02	**San Fabin de**	**62.48**	**203**	P	**P**	**12 11 45.6**	**-0.1**
BI02				IAmb	IAmb	12 11 53.7	
	comp=Z,16nm,1.3s						
FINES	**FINESS Array B**	**62.84**	**31**	P	**P**	**12 11 47.2**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=284,slow=7.7,SNR=4.4						
FINES				LR	LR	12 35 41.9	
	comp=Z,278nm,18.6s,baz=264,slow=33						
E09A	**Wood Farm, Sta**	**62.89**	**312**	P	**P**	**12 11 48.7**	**+0.4**
C09A	**Chrisman Ranch**	**62.92**	**314**	P	**P**	**12 11 48.3**	**-0.2**
C09A				IAmb	IAmb	12 11 55.2	
	comp=Z,14nm,1.2s						
MONP2	**Monument Peak**	**62.96**	**297**	P	**P**	**12 11 49.4**	**+0.1**
	baz=81						
KVN	**Kaiserville**	**63.48**	**304**	P	**P**	**12 11 52.3**	**-0.3**
G08A	**Pilot Rock**	**63.53**	**311**	IAmb	IAmb	12 11 59.9	
	comp=Z,13nm,1.4s						
ARCES	**ARCESS Array B**	**63.68**	**22**	LR	LR	12 34 32.9	
	comp=Z,77nm,20.9s,baz=240,slow=31						
NVAR	**Mina Array Bea**	**63.71**	**303**	P	**P**	**12 11 53.0**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=93,slow=5.7,SNR=5.0						
NVAR				LR	LR	12 38 57.6	
	comp=Z,411nm,19.0s,baz=102,slow=36						
HAWA	**Hanford**	**63.85**	**312**	P	**P**	**12 11 53.8**	**-0.9**
HAWA					**sP**	**12 12 01.5**	**+1.7**
RYN	**Ryan**	**63.86**	**304**	IAmb	IAmb	12 12 02.5	
	comp=Z,7.1nm,1.0s						
ISA	**Isabella, Lake**	**64.22**	**300**	P	**P**	**12 11 57.2**	**-0.2**
	baz=82						
ISA	**Isabella, Lake**	**64.22**	**300**	IAmb	IAmb	12 12 06.2	
	comp=Z,8.0nm,1.1s						
AKASG	**Malin Array Be**	**64.38**	**43**	P	**P**	**12 11 56.9**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=272,slow=5.9,SNR=8.0						
AKASG				LR	LR	12 36 31.8	
	comp=Z,86nm,21.6s,baz=265,slow=33						
MDPB	**Devils Postpil**	**64.42**	**303**	P	**P**	**12 11 59.3**	**+0.4**
MDPB				IAmb	IAmb	12 12 07.5	
	comp=Z,9.1nm,1.1s						
LTY	**Liberty**	**64.57**	**313**	P	**P**	**12 11 59.8**	**+0.3**
LTY				IAmb	IAmb	12 12 11.7	
	comp=Z,12nm,1.1s						
WAKR	**Walker**	**64.58**	**304**	P	**P**	**12 12 00.4**	**+0.5**
WAKR				IAmb	IAmb	12 12 08.1	
	comp=Z,8.9nm,1.0s						
LLLB	**Lillooet**	**65.13**	**317**	P	**P**	**12 12 03.2**	**+0.1**
K05A	**Summer Lake**	**65.16**	**308**	P	**P**	**12 12 03.6**	**0.0**
K05A				IAmb	IAmb	12 12 11.2	
	comp=Z,15nm,1.1s						
I05D	**Terrebonne, OR**	**65.30**	**310**	P	**P**	**12 12 04.9**	**+0.6**
	baz=84						
J05D	**Fort Rock, OR**	**65.35**	**309**	P	**P**	**12 12 04.4**	**-0.3**
	baz=83						
A05A	**Maple Falls**	**65.38**	**315**	P	**P**	**12 12 05.2**	**+0.6**
PLCA	**Paso Flores**	**65.88**	**200**	LR	LR	12 42 59.4	
	comp=Z,96nm,18.5s,baz=24,slow=38						
I04A	**Tendick Farm,**	**66.13**	**310**	P	**P**	**12 12 09.4**	**-0.2**
	baz=83						
L04D	**Klamath Falls**	**66.26**	**308**	P	**P**	**12 12 09.9**	**-0.7**
	baz=82						
ELL	**Elmali**	**66.38**	**58**	P	**P**	**12 12 13.3**	**+1.8**
G03D	**McMinnville, O**	**66.56**	**311**	P	**P**	**12 12 12.3**	**0.0**
	baz=83						
I02D	**Swisshome**	**67.12**	**310**	P	**P**	**12 12 15.1**	**-0.8**
	baz=82						
BRTR	**Keskin Array B**	**68.75**	**54**	P	**P**	**12 12 25.8**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=260,slow=7.0,SNR=7.1						
BRTR				LR	LR	12 39 51.9	
	comp=Z,78nm,20.5s,baz=272,slow=34						
BRTR	**Keskin Array B**	**68.75**	**54**	P	**P**	**12 12 26.0**	**-0.4**
KLMR	**Klimovskoe**	**69.36**	**31**	*e*P	P	12 12 25.5	-4.1
KLMR				AMP		12 12 32.0	
	comp=Z,16nm,1.5s						
INK	**Inuvik**	**69.61**	**337**	P	**P**	**12 12 30.4**	**-0.5**
	baz=84						
INK	**Inuvik**	**69.61**	**337**		**sP**	**12 12 36.4**	**+0.2**
INK				IAmb	IAmb	12 12 38.0	
	comp=Z,9.7nm,1.1s						
EPYK	**Eagle Plains**	**71.10**	**335**	P	**P**	**12 12 39.8**	**-0.5**
	baz=80						
EPYK	**Eagle Plains**	**71.10**	**335**	IAmb	IAmb	12 12 51.2	
	comp=Z,13nm,1.4s						
DAWY	**Dawson**	**72.66**	**333**	IAmb	IAmb	12 12 57.1	
	comp=Z,8.7nm,1.1s						
BCAR	**Beaver Creek A**	**73.94**	**332**	P	**P**	**12 12 57.0**	**-0.3**
KBZ	**Khabaz**	**74.65**	**49**	P	**P**	**12 13 02.1**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=299,slow=3.7,SNR=5.8						
KBZ				LR	LR	12 46 36.2	
	comp=Z,87nm,18.7s,baz=303,slow=36						
PRP	**Porcupine Dome**	**74.81**	**335**	P	**P**	**12 13 01.6**	**-0.7**
	baz=72						
PRP	**Porcupine Dome**	**74.81**	**335**	P	**P**	**12 13 02.5**	**+0.2**
PRP				IAmb	IAmb	12 13 15.5	
	comp=Z,14nm,1.4s						
TOLK	**Toolik Lake Re**	**75.28**	**338**	P	**P**	**12 13 04.3**	**-0.5**
	baz=69						
TOLK	**Toolik Lake Re**	**75.28**	**338**	P	**P**	**12 13 06.2**	**+1.4**
TOLK				IAmb	IAmb	12 13 12.5	
	comp=Z,16nm,1.5s						
PAX	**Paxson**	**75.58**	**332**	P	**P**	**12 13 06.3**	**-0.5**
	baz=72						
IL31		**75.59**	**334**	P	**P**	**12 13 06.5**	**-0.1**
IL31				IAmb	IAmb	12 13 14.2	
	comp=Z,13nm,1.0s						
ILAR	**Eielson Array**	**75.59**	**334**	P	**P**	**12 13 06.2**	**-0.4**
	comp=Z,4.1nm,0.8s,baz=76,slow=4.2,SNR=25						
ILAR				LR	LR	12 46 14.2	
	comp=Z,257nm,18.7s,baz=84,slow=36						
H24K	**Noodor Dome**	**75.63**	**335**	P	**P**	**12 13 06.6**	**-0.4**
	baz=70						
CCB	**Clear Creek Bu**	**76.00**	**334**	IAmb	IAmb	12 13 16.6	
	comp=Z,22nm,1.3s						
MDM	**Murphy Dome**	**76.07**	**335**	IAmb	IAmb	12 13 17.1	
	comp=Z,12nm,1.2s						
WRH	**Wood River Hil**	**76.18**	**334**	IAmb	IAmb	12 13 17.6	
	comp=Z,19nm,1.2s						
H23K	**Yukon River**	**76.27**	**336**	P	**P**	**12 13 10.9**	**+0.3**
	baz=69						
I23K	**Minto, Yukon-K**	**76.45**	**335**	P	**P**	**12 13 11.4**	**-0.2**
	baz=69						
I23K	**Minto, Yukon-K**	**76.45**	**335**	P	**P**	**12 13 11.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**76.49**	**330**	P	**P**	**12 13 12.0**	**+0.2**
	baz=71						
NEA2	**Nenana**	**76.53**	**334**	P	**P**	**12 13 11.7**	**-0.3**
	baz=69						
NEA2	**Nenana**	**76.53**	**334**	IAmb	IAmb	12 13 19.6	
	comp=Z,12nm,1.2s						
RND	**Reindeer**	**76.87**	**333**	IAmb	IAmb	12 13 23.7	
	comp=Z,18nm,1.5s						
WAT1	**Susitna Watana**	**76.95**	**333**	P	**P**	**12 13 14.8**	**+0.3**
	baz=69						
GLI	**Glacier Island**	**77.00**	**331**	P	**P**	**12 13 15.7**	**+1.0**
	baz=70						
MLY	**Manley**	**77.03**	**335**	P	**P**	**12 13 15.2**	**+0.3**
	baz=68						
MLY	**Manley**	**77.03**	**335**	IAmb	IAmb	12 13 22.6	
	comp=Z,11nm,1.2s						
TRF	**Thorofare Moun**	**77.46**	**334**	P	**P**	**12 13 17.1**	**-0.4**
	baz=68						
I21K	**Tanana**	**77.46**	**335**	P	**P**	**12 13 16.8**	**-0.4**
	baz=66						
BPAW	**Bear Paw Mtn.**	**77.49**	**334**	P	**P**	**12 13 18.0**	**+0.5**
	baz=67						
BPAW	**Bear Paw Mtn.**	**77.49**	**334**	P	**P**	**12 13 18.1**	**+0.5**
BPAW				IAmb	IAmb	12 13 24.8	
	comp=Z,10nm,1.2s						
KTH	**Kantishna Hill**	**77.68**	**334**	IAmb	IAmb	12 13 26.2	
	comp=Z,17nm,1.0s						
IMAR	**Indian Mountai**	**77.80**	**337**	P	**P**	**12 13 19.1**	**0.0**
J20K	**Nowinta River**	**78.73**	**335**	P	**P**	**12 13 25.2**	**+0.9**
	baz=64						
K20K	**Telida**	**79.05**	**334**	P	**P**	**12 13 26.5**	**+0.4**
	baz=64						
HOM	**Homer**	**79.56**	**330**	P	**P**	**12 13 28.8**	**-0.1**
	baz=66						
M19K	**Big River Lodg**	**79.82**	**333**	P	**P**	**12 13 30.8**	**+0.4**
	baz=64						
L19K	**White Mountain**	**79.89**	**333**	P	**P**	**12 13 31.7**	**+1.0**
	baz=64						
O18K	**Koktuh Hills**	**81.10**	**331**	P	**P**	**12 13 37.9**	**+0.6**
	baz=63						
ABKAR	**Akbulak array**	**83.83**	**39**	P	**P**	**12 13 51.4**	**-0.2**
ABKAR	**Akbulak array**	**83.83**	**39**	P	**P**	**12 13 50.9**	**-0.8**
KMBO	**Kilima Mbogo**	**83.87**	**94**	P	**P**	**12 13 53.0**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=262,slow=7.1,SNR=2.3						
BOSA	**Boshof**	**84.55**	**123**	LR	LR	12 44 50.4	
	comp=Z,249nm,19.2s,baz=330,slow=31						
ZALV	**Zalesovo Beam**	**93.86**	**27**	LR	LR	12 53 47.7	
	comp=Z,121nm,22.0s,baz=14,slow=34						
MKAR	**Makanchi Array**	**97.61**	**33**	LR	LR	12 55 43.4	
	comp=Z,97nm,21.2s,baz=348,slow=33						
KSH	**Kashi**	**98.65**	**42**	*e*P	Pdif	12 15 03.8	+2.0
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**116.09**	**27**	*e*PKP	**PKiKP**	**12 20 02.1**	**-3.8**
LZH				sPKP		12 20 16.3	
XAN	**Xi'an**	**119.92**	**24**	PKP	**PKPdf**	**12 20 11.8**	**-1.4**
XAN				sPKP		12 20 26.0	
XAN				LR	LR		
	comp=N,470nm,20.6s						
XAN				LR	LR		
	comp=E,140nm,17.4s						
XAN				LR	LR		
	comp=Z,400nm,17.3s						
CD2	**Chengdu**	**120.41**	**30**	PKP	**PKPdf**	**12 20 13.0**	**-1.2**
WRA	**Warramunga Arr**	**178.66**	**357**	PKP	**PKPdf**	**12 21 31.9**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=295,slow=1.0,SNR=2.7						
WRA				PKPab	**pPKPab**	**12 23 22.8**	**-5.1**
	comp=Z,0.8nm,1.0s,baz=23,slow=5.3,SNR=3.0						

*TUL **23** 12:20:55.5±1.9, 36°.34N±0°.01×96°.80W±0°.04, h4km±7km, ML3.3, mb_Lg3.2/118(NEIC), Error ellipse: s-maj=4.4km s-min=1.1km az=106.0*

NEIC 23 12:20:56.0±1.6, 36°.35N±0°.02×96°.81W±0°.04, h5km±2km, Error ellipse: s-maj=5.4km s-min=3.0km az=97.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.19**	**154**		Pg	12 20 59.8	-0.1
QUOK				Sg	Sg	12 21 02.4	0.0
OK031	**S. Brethren Rd**	**0.39**	**183**		Pg	12 21 03.4	-0.2
BLOK	**Blackwell**	**0.53**	**322**	Pg	Pg	12 21 06.2	+0.1
BLOK				Sg	Sg	12 21 13.2	+0.2
T35A	**Sooner Cattle**	**0.62**	**23**	Pg	Pg	12 21 07.8	-0.1
T35A				Sg	Sg	12 21 15.7	-0.3
T35B	**Sooner Cattle**	**0.62**	**23**	P		12 21 07.6	
	baz=203,SNR=126						
T35B				S		12 21 15.9	
	baz=203						
OK029	**Liberty Lake**	**0.76**	**224**		Pg	12 21 10.3	-0.2
KAN13	**South Haven SW**	**0.85**	**321**		Pg	12 21 12.2	-0.2
OK001	**Jones High Sch**	**0.87**	**206**	Sg	Sg	12 21 24.4	+0.3
OK025	**Westminster

comp=Z,53nm,0.8s
MIAR Mount Ida 3.19 123 P 12 21 47.3
baz=305,SNR=6.9
MIAR S 12 22 26.1
baz=305
U40A Yellville 3.20 89 Pn 12 21 47.2 +0.2
U40A IAmb_Lg 12 22 42.4
comp=Z,66nm,0.8s
U40A Yellville 3.20 89 P 12 21 47.2
baz=271,SNR=33
U40A P 12 21 47.2
baz=271,SNR=33
CBKS Cedar Bluff 3.39 318 P 12 21 49.7
baz=136,SNR=6.3
Z38A Mt. Pleasant 3.43 153 Pn Pn 12 21 52.0 +1.9
Z38A IAmb_Lg 12 22 46.7
comp=Z,71nm,0.8s
MGMO Mountain Grove 3.74 76 Pn 12 21 55.0 +0.7
X40A Basin Creek Fa 3.74 119 Pn 12 21 55.4 +1.0
X40A IAmb_Lg 12 22 57.9
comp=Z,73nm,0.8s
X40A Basin Creek Fa 3.74 119 S 12 22 39.2
baz=301
X40A S 12 22 39.2
baz=301
FCAR Ozark Folk Cen 3.82 95 Pn 12 21 55.6 0.0
FCAR IAmb_Lg 12 22 58.7
comp=Z,51nm,0.8s
WHAR Wooly Hollow 3.83 105 Pn Pn 12 21 55.7 +0.1
WHAR IAmb_Lg 12 23 01.7
comp=Z,48nm,0.8s
W41B Gary Mavity, V 3.89 106 P 12 21 56.6
baz=289,SNR=9.7
WLAR White Oak Lake 4.03 130 IAmb_Lg 12 23 03.1
comp=Z,52nm,0.8s
R40A Maddies Statio 4.11 60 Pn 12 21 59.8 +0.3
R40A IAmb_Lg 12 23 07.4
comp=Z,50nm,0.8s
R40A Maddies Statio 4.11 60 P 12 21 59.7
baz=243,SNR=22
P38A Dawn 4.17 37 Pn Pn 12 22 01.3 +1.0
AMTX Amarillo 4.23 251 IAmb_Lg 12 23 17.2
comp=Z,34nm,0.8s
WHTX Lake Whitney, 4.38 187 Pn Pn 12 22 01.1 -2.1
ABTX Abilene, Hawle 4.39 213 IAmb_Lg 12 23 15.9
comp=Z,31nm,0.8s
N33A J Bar K, Exete 4.41 354 IAmb_Lg 12 23 18.0
comp=Z,72nm,0.8s
LCAR Lake Charles 4.58 92 Pn 12 22 06.2 +0.2
LCAR IAmb_Lg 12 23 19.2
comp=Z,40nm,1.0s
CCM Cathedral Cave 4.76 67 Pn Pn 12 22 08.9 +0.5
CCM IAmb_Lg 12 23 29.9
comp=Z,54nm,0.9s
CCAR Cane Creek 4.79 119 IAmb_Lg 12 23 32.5
comp=Z,55nm,0.8s
NATX Nacogdoches 4.91 158 IAmb_Lg 12 23 43.0
comp=Z,27nm,0.9s
PBMO Poplar Bluff 5.16 83 IAmb_Lg 12 23 41.5
comp=Z,50nm,0.7s
BGNE Belgrade 5.16 349 IAmb_Lg 12 23 46.1
comp=Z,64nm,0.8s
N38A Joes South For 5.25 31 S 12 23 15.2
baz=213
KSCO Kaye Shedlock' 5.32 302 Pn Pn 12 22 16.0 -0.3
KSCO IAmb_Lg 12 23 55.6
comp=Z,44nm,0.7s
435B Jarrell 5.59 187 IAmb_Lg 12 24 07.7
comp=Z,42nm,1.0s
143A Socs Landing, 5.76 128 IAmb_Lg 12 24 10.9
comp=Z,42nm,0.8s
OGNE Ogallala 6.14 320 Pn Pn 12 22 28.4 +0.8
OGNE IAmb_Lg 12 24 16.1
comp=Z,55nm,0.8s
T25A Trinidad 6.15 280 IAmb_Lg 12 24 27.0
comp=Z,34nm,0.8s
S44A Carbondale 6.20 75 Pn Pn 12 22 28.7 +0.6
S44A IAmb_Lg 12 24 15.0
comp=Z,51nm,0.8s
W45A Hickory Valley 6.31 99 IAmb_Lg 12 24 25.0
comp=Z,48nm,0.8s
OXF Oxford 6.32 105 IAmb_Lg 12 24 23.6
comp=Z,34nm,0.7s
JCT Junction City 6.36 204 IAmb_Lg 12 24 24.0
comp=Z,54nm,1.0s
K31A O'Neill 6.45 347 IAmb_Lg 12 24 24.2
comp=Z,52nm,0.7s
T45A Paducah 6.60 82 IAmb_Lg 12 24 21.9
comp=Z,52nm,0.7s
P43A Skaggs, Pawnee 6.63 58 P 12 22 34.0
baz=242,SNR=5.6
SDCO Great Sand Dun 7.09 284 IAmb_Lg 12 24 42.3
comp=Z,29nm,1.3s
L40A Anamosa 7.17 36 Pn Pn 12 22 41.9 +0.4
L40A IAmb_Lg 12 24 40.1
comp=Z,42nm,0.9s
ECSD EROS Data Cent 7.38 1 Pn 12 22 43.5 -0.9
ECSD EROS Data Cent 7.38 1 P 12 22 44.5
baz=181,SNR=5.9
O44A Mansfield 7.59 57 IAmb_Lg 12 24 59.2
comp=Z,40nm,0.8s
T47A Sharon Grove 7.83 82 Pn 12 22 50.3 -0.3
I37A Lemond, Waseca 8.09 18 IAmb_Lg 12 25 17.4
comp=Z,20nm,0.9s
X48A Hartselle 8.20 100 IAmb_Lg 12 25 21.4
comp=Z,16nm,0.8s
SUSD Miller 8.25 349 IAmb_Lg 12 25 27.6
comp=Z,25nm,0.8s
JFWS Jewell Farm 8.28 36 IAmb_Lg 12 25 29.6
comp=Z,35nm,0.7s
PHWY Pilot Hill 8.36 309 IAmb_Lg 12 25 26.3
comp=Z,24nm,0.8s
Y22D IRIS PASSCAL I 8.58 258 IAmb_Lg 12 25 46.0
comp=Z,21nm,0.8s
WCI Wyandotte Cave 8.59 74 IAmb_Lg 12 25 30.8
comp=Z,21nm,0.8s
BLO Bloomington 8.62 68 IAmb_Lg 12 25 40.8
comp=Z,30nm,0.7s
SFIN Lafayette 8.63 59 IAmb_Lg 12 25 33.3
comp=Z,32nm,0.7s
Y49A Blount Mountai 8.88 103 IAmb_Lg 12 25 44.4
comp=Z,13nm,1.1s
I40A Norwalk 8.90 30 IAmb_Lg 12 25 38.0
comp=Z,19nm,0.8s
SPMN Marine on St. 9.37 18 IAmb_Lg 12 26 10.3
comp=Z,14nm,0.9s
W50A Signal Mountai 9.42 94 IAmb_Lg 12 26 05.2
comp=Z,11nm,0.7s
R49A Shelbyville 9.47 75 IAmb_Lg 12 25 54.7
comp=Z,15nm,1.1s
P48A Milroy 9.52 68 IAmb_Lg 12 26 07.6
comp=Z,20nm,0.9s
RSSD Black Hills 9.53 327 IAmb_Lg 12 26 10.9
comp=Z,17nm,0.9s
I42A Draeger Farm, 9.66 36 IAmb_Lg 12 26 11.0
comp=Z,23nm,0.8s
PV02 Paradox Valley 9.68 285 IAmb_Lg 12 26 14.8
comp=Z,12nm,1.2s
RWWY Rawlins 9.69 307 IAmb_Lg 12 26 14.9
comp=Z,30nm,1.2s
K22A Casper 9.79 313 IAmb_Lg 12 26 17.9
comp=Z,18nm,1.0s
N47A Urbana 9.81 59 IAmb_Lg 12 26 09.0
comp=Z,22nm,0.7s
X51A Calhoun 9.91 97 IAmb_Lg 12 26 18.5
comp=Z,15nm,0.9s

*IDC **23** 12:23:43.2±2.8, 33°.03N×87°.00E, h0km, mb3.2/3, mb1 3.5/6, mb1mx3.3/43, mbtmp3.4/6, ML3.4/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/27, Error ellipse: s-maj=65.6km s-min=29.1km az=58.0*
ISC 23 12:23:45.7±1.0, 33°.20N±0°.08×87°.1E±0°.1, h10km, n22, σ1°19/18, MS3.2/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba** 62nm,0.5s	**5.37**	**191**	*eP*	**Pn**	**12 25 07.4**	**+1.1**
JIRN	**Jiri** 24nm,0.5s	**5.57**	**188**	*eP*	**Pn**	**12 25 09.7**	**+0.6**
GKN	**Gorkha** 20nm,0.3s	**5.59**	**203**	*eP*	**Pn**	**12 25 09.0**	**-0.1**
KKN	**Kakani**	**5.61**	**197**	*eP*	**Pn**	**12 25 10.1**	**+0.7**
DANN	**Dangsing** 12nm,0.3s	**5.61**	**211**	*eP*	**Pn**	**12 25 09.8**	**+0.2**
PKIN	**Phulchoki** 26nm,0.4s	**5.79**	**195**	*eP*	**Pn**	**12 25 13.1**	**+1.2**
PKI	**Pulchoki** 29nm,0.5s	**5.79**	**195**	*eP*	**Pn**	**12 25 12.6**	**+0.6**
TAPN	**Taplejung** 84nm,0.5s	**5.85**	**175**	*eP*	**Pn**	**12 25 15.0**	**+2.1**
PYUN	**Piuthan** 27nm,0.4s	**6.18**	**216**	*eP*	**Pn**	**12 25 18.0**	**+0.7**
KOLN	**Koldanda** 16nm,0.5s	**6.19**	**210**	*eP*	**Pn**	**12 25 18.4**	**+1.0**
RAMN	**Ramite** 20nm,0.3s	**6.24**	**184**	*eP*	**Pn**	**12 25 17.9**	**-0.2**
ODAN	**Odare** 84nm,0.5s	**6.32**	**178**	*eP*	**Pn**	**12 25 20.2**	**+1.0**
BRDH	**Bariadhala** comp=Z,82nm,19.2s,baz=292,slow=45	**11.23**	**158**	LR	LR	12 32 02.6	
AAK	**Ala-Archa** comp=Z,100nm,19.1s,baz=141,slow=40	**13.68**	**317**	LR	LR	12 32 48.8	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=168,slow=15,SNR=5.4	**14.06**	**346**	Pn	**Pn**	**12 27 04.4**	**-0.7**
MKAR	comp=Z,159nm,19.1s,baz=166,slow=42			LR	LR	12 33 41.8	
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=327,slow=12,SNR=9.0	**18.13**	**141**	P	**Pn**	**12 27 55.0**	**-2.7**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=164,slow=10,SNR=4.8	**18.52**	**343**	P	**P**	**12 28 01.9**	**-0.2**
SONM	**Songino Array** 0.5nm,0.6s,baz=232,slow=11,SNR=4.7	**20.64**	**39**	P	**P**	**12 28 26.9**	**+1.4**
ZALV	**Zalesovo Beam** 0.5nm,0.2s,baz=173,slow=9.9,SNR=4.1	**20.81**	**356**	P	**P**	**12 28 26.9**	**-0.2**
ZALV	comp=Z,97nm,18.5s,baz=180,slow=41			LR	LR	12 38 01.2	
BVAR	**Borovoye Array** 0.7nm,0.6s,baz=182,slow=15,SNR=3.5	**23.16**	**334**	P	**P**	**12 28 53.1**	**+1.0**
PALK	**Pallekele** comp=Z,50nm,19.6s,baz=115,slow=36	**26.47**	**194**	LR	LR	12 39 16.3	
NOA	**NORSAR Array B** comp=Z,24nm,18.8s,baz=285,slow=38	**54.85**	**325**	LR	LR	12 58 25.9	

*AEIC **23** 12:24:04±1.2, 66°.12N±0°.02×141°.47W±0°.08, h3km±5km, ML3.3, MLJ3.4/56(NEIC), Error ellipse: s-maj=5.2km s-min=1.9km az=67.0*
*PGC **23** 12:24:05.5±1.1, 66°.13N×141°.41W, h1km, ML3.0/8, ML3.6, 248km northwest of Dawson, Yt Northern Alaska*
*NEIC **23** 12:24:05.4±1.3, 66°.13N±0°.04×141°.45W±0°.07, h13km±5km, Error ellipse: s-maj=6.5km s-min=3.6km az=205.0*
ISC 23 12:24:03.1±1.2, 66°.11N±0°.03×141°.34W±0°.03, h10km±10km, n107, σ1°96/118, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle** baz=354	**1.34**	**177**	P	**Pb**	**12 24 29.8**	**+1.5**
EGAK				S	**Sn**	**12 24 48.7**	**+2.9**
EGAK	**Eagle** baz=354	**1.34**	**177**		**Pb**	**12 24 29.8**	**+1.5**
EGAK					**Sn**	**12 24 48.7**	**+2.9**
EGAK	**Eagle** 501nm,0.9s	**1.34**	**177**	IAML		12 24 51.5	
FYU	**Fort Yukon**	**1.63**	**288**		**Pg**	**12 24 34.5**	**+0.1**
FYU					**Sg**	**12 24 55.0**	**-0.6**
PRP	**Porcupine Dome** baz=69	**1.82**	**253**	P	**Pn**	**12 24 35.4**	**+0.7**
PRP				S	**Sb**	**12 24 59.9**	**+0.3**
PRP	**Porcupine Dome** baz=69	**1.82**	**253**		**Pn**	**12 24 35.4**	**+0.7**
PRP					**Sb**	**12 24 59.9**	**+0.3**
BM03	**Burnt Mountain**	**1.84**	**317**		**Pn**	**12 24 36.0**	**+1.1**
BMAR	**Burnt Mountain**	**1.84**	**317**		**Pn**	**12 24 36.1**	**+1.3**
BM01	**Burnt Mountain**	**1.85**	**318**		**Pn**	**12 24 35.9**	**+1.0**
EPYK	**Eagle Plains** baz=264	**1.89**	**80**	P	**Pb**	**12 24 38.3**	**+0.5**
EPYK				S	**Sg**	**12 25 03.2**	**-0.6**
EPYK	**Eagle Plains** baz=264	**1.89**	**80**		**Pb**	**12 24 38.3**	**+0.5**
EPYK					**Sg**	**12 25 03.2**	**-0.6**
K27K	**Chicken** baz=6.7	**2.11**	**189**	P	**Pb**	**12 24 40.9**	**-0.6**
K27K	**Chicken**	**2.11**	**189**		**Pb**	**12 24 40.9**	**-0.6**
K27K	**Chicken** comp=E,288nm,0.9s	**2.11**	**189**	IAML		12 25 13.7	
DAWY	**Dawson**	**2.21**	**157**	Pn	**Pb**	**12 24 42.6**	**-0.6**
DAWY				Sn	**Sb**	**12 25 11.4**	**+0.7**
DAWY	**Dawson**	**2.21**	**157**		**Pb**	**12 24 42.4**	**-0.8**
DAWY					**Sb**	**12 25 11.9**	**+1.2**
DAWY	**Dawson** comp=N,181nm,0.7s	**2.21**	**157**	IAML		12 25 20.6	
SCRK	**Sand Creek** baz=25	**2.42**	**209**	P	**Pn**	**12 24 45.1**	**+2.3**
SCRK	**Sand Creek**	**2.42**	**209**		**Pn**	**12 24 45.1**	**+2.3**
SCRK	**Sand Creek** comp=E,209nm,0.5s	**2.42**	**209**	IAML		12 25 23.7	
IL31		**2.68**	**242**		**Pn**	**12 24 47.1**	**+0.9**
ILAR	**Eielson Array**	**2.68**	**242**		**Pn**	**12 24 47.5**	**+1.2**
H24K	**Noodor Dome** baz=81	**2.69**	**267**	P	**Pn**	**12 24 47.6**	**+1.2**
H24K	**Noodor Dome**	**2.69**	**267**		**Pn**	**12 24 47.6**	**+1.2**
POKR	**Poker Plat Res** baz=65	**2.72**	**251**	P	**Pn**	**12 24 48.1**	**+1.3**
POKR	**Poker Plat Res**	**2.72**	**251**		**Pn**	**12 24 48.1**	**+1.3**
POKR	**Poker Plat Res** comp=E,136nm,0.7s	**2.72**	**251**	IAML		12 25 37.9	
POKR	comp=N,112nm,1.0s			IAML		12 25 38.4	
DOT	**Dot Lake**	**2.73**	**206**	Pn	**Pn**	**12 24 49.8**	**+2.8**
DOT				Sg	**Sg**	**12 25 29.1**	**-1.6**
DOT	**Dot Lake**	**2.73**	**206**		**Pn**	**12 24 49.3**	**+2.3**
PS08	**TAPS Pump Stn8**	**2.78**	**238**		**Pn**	**12 24 49.5**	**+1.7**
RIDG	**Independent Ri** baz=30	**2.81**	**214**	P	**Pn**	**12 24 49.9**	**+1.7**
RIDG	**Independent Ri**	**2.81**	**214**		**Pn**	**12 24 49.9**	**+1.7**
RIDG	**Independent Ri** comp=N,186nm,0.9s	**2.81**	**214**	IAML		12 25 39.0	
HDA	**Harding Lake** baz=51	**2.91**	**237**	P	**Pn**	**12 24 50.7**	**+1.2**
HDA	**Harding Lake**	**2.91**	**237**		**Pn**	**12 24 50.7**	**+1.2**
HDA	**Harding Lake** comp=E,166nm,1.1s	**2.91**	**237**	IAML		12 25 43.4	
HDA	comp=N,112nm,0.9s			IAML		12 25 47.7	
COLA	**College** baz=62	**2.98**	**248**	P	**Pn**	**12 24 51.3**	**+0.9**
COLA	**College**	**2.98**	**248**		**Pn**	**12 24 51.3**	**+0.9**
TCOL	**CIGO, UAF Yank**	**2.99**	**248**		**Pn**	**12 24 51.6**	**+1.1**
BC03		**3.06**	**184**		**Pn**	**12 24 54.2**	**+2.7**
BCAR	**Beaver Creek A**	**3.06**	**184**		**Pn**	**12 24 54.0**	**+2.4**
L27K	**Beaver Creek,** baz=2.7	**3.07**	**184**	P	**Pn**	**12 24 54.6**	**+3.0**
L27K	**Beaver Creek,**	**3.07**	**184**		**Pn**	**12 24 54.6**	**+3.0**
L27K	**Beaver Creek,** comp=E,141nm,1.5s	**3.07**	**184**	IAML		12 25 45.0	
CCB	**Clear Creek Bu**	**3.08**	**244**		**Pn**	**12 24 52.5**	**+0.8**
MDM	**Murphy Dome**	**3.09**	**251**		**Pn**	**12 24 52.7**	**+0.7**
MDM	**Murphy Dome** comp=E,98nm,0.8s	**3.09**	**251**	IAML		12 25 48.0	
MDM	comp=N,112nm,0.7s			IAML		12 25 52.3	
L26K	**Log Cabin Wild** baz=14	**3.22**	**197**	P	**Pn**	**12 24 56.0**	**+2.3**
L26K	**Log Cabin Wild**	**3.22**	**197**		**Pn**	**12 24 56.0**	**+2.3**
WRH	**Wood River Hil**	**3.28**	**243**		**Pn**	**12 24 55.4**	**+1.0**
WRH	**Wood River Hil** comp=E,88nm,0.8s	**3.28**	**243**	IAML		12 25 53.3	
MENT	**Mentasta**	**3.35**	**199**		**Pn**	**12 24 57.2**	**+1.7**
H23K	**Yukon River** baz=81	**3.37**	**269**	P	**Pn**	**12 24 56.1**	**+0.4**
H23K	**Yukon River**	**3.37**	**269**		**Pn**	**12 24 56.1**	**+0.4**
I23K	**Minto, Yukon-K** baz=70	**3.46**	**257**	P	**Pn**	**12 24 57.3**	**+0.3**
I23K	**Minto, Yukon-K**	**3.46**	**257**		**Pn**	**12 24 57.3**	**+0.3**
I23K	**Minto, Yukon-K** comp=N,126nm,1.4s	**3.46**	**257**	IAML		12 25 59.5	
I23K	comp=E,75nm,0.8s			IAML		12 26 03.5	
NEA2	**Nenana**	**3.58**	**248**	Pn	**Pn**	**12 24 58.4**	**-0.2**
NEA2	comp=N,67nm,1.0s			IAML		12 26 01.3	
NEA2	comp=E,80nm,1.1s			IAML		12 26 01.8	
PAX	**Paxson**	**3.62**	**211**	Pn	**Pn**	**12 25 02.4**	**+3.1**
PAX				Sn	**Sn**	**12 25 43.6**	**+1.5**
PAX	**Paxson** baz=27	**3.62**	**211**	P	**Pn**	**12 25 02.4**	**+3.1**
PAX	**Paxson**	**3.62**	**211**		**Pn**	**12 25 02.4**	**+3.1**
BVCY	**Beaver Creek**	**3.72**	**177**	Pn	**Pn**	**12 25 02.7**	**+2.1**
BVCY				Sg	**Sg**	**12 26 01.1**	**-1.3**
BVCY	**Beaver Creek**	**3.72**	**177**		**Pn**	**12 25 02.5**	**+1.9**
INK	**Inuvik**	**3.76**	**51**	Pn	**Pn**	**12 25 03.3**	**+2.2**
INK				Sn	**Sn**	**12 25 47.7**	**+2.5**
INK	**Inuvik** baz=238	**3.76**	**51**	P	**Pn**	**12 25 03.3**	**+2.2**
INK	**Inuvik**	**3.76**	**51**		**Pn**	**12 25 03.3**	**+2.2**
INK	**Inuvik** comp=N,60nm,1.3s	**3.76**	**51**	IAML		12 26 10.8	
INK	comp=E,60nm,1.0s			IAML		12 26 19.1	
M27K	**Edge Creek, AK** baz=2.5	**3.77**	**184**	P	**Pn**	**12 25 03.7**	**+2.3**
M27K	**Edge Creek, AK**	**3.77**	**184**		**Pn**	**12 25 03.7**	**+2.3**
M26K	**Nabesna, AK** baz=9.4	**3.79**	**192**	P	**Pn**	**12 25 03.6**	**+2.0**
M26K	**Nabesna, AK**	**3.79**	**192**		**Pn**	**12 25 03.6**	**+2.0**
BWN	**Browne**	**3.94**	**244**	Pn	**Pn**	**12 25 03.4**	**-0.2**
YUK1	**Sand Pete Hill**	**3.99**	**174**	Sg	**Sg**	**12 26 10.1**	**-0.9**
MCK	**McKinley**	**4.02**	**237**	Pn	**Pn**	**12 25 06.2**	**+1.5**
MCK	comp=N,45nm,1.1s			IAML		12 26 18.9	
MCK	comp=E,38nm,1.0s			IAML		12 26 21.4	
MLY	**Manley** baz=70	**4.05**	**259**	P	**Pn**	**12 25 05.2**	**0.0**
MLY	**Manley**	**4.05**	**259**		**Pn**	**12 25 05.2**	**0.0**
MLY	**Manley** comp=N,43nm,0.8s	**4.05**	**259**	IAML		12 26 14.3	
TOLK	**Toolik Lake Re** baz=125	**4.07**	**312**	P	**Pn**	**12 25 07.7**	**+2.3**
TOLK	**Toolik Lake Re**	**4.07**	**312**		**Pn**	**12 25 07.7**	**+2.3**
TOLK	**Toolik Lake Re** comp=E,63nm,1.4s	**4.07**	**312**	IAML		12 26 22.2	
TOLK	comp=N,45nm,1.3s			IAML		12 26 32.8	
RND	**Reindeer**	**4.21**	**233**		**Pn**	**12 25 08.7**	**+1.3**
YUK2	**White River**	**4.35**	**177**	Pn	**Pn**	**12 25 12.4**	**+3.2**
YUK2				Sn	**Sn**	**12 26 01.7**	**+1.7**
YUK2				Sg	**Sg**	**12 26 22.5**	**-0.1**
YUK3	**Moose Creek**	**4.37**	**174**	Pn	**Pn**	**12 25 12.8**	**+3.1**
YUK3				Sn	**Sn**	**12 26 02.8**	**+2.0**
YUK3				Sg	**Sg**	**12 26 22.4**	**-0.8**
BPAW	**Bear Paw Mtn.** baz=59	**4.55**	**248**	P	**Pn**	**12 25 12.3**	**+0.3**
BPAW	**Bear Paw Mtn.**	**4.55**	**248**		**Pn**	**12 25 12.3**	**+0.3**
BPAW	**Bear Paw Mtn.** comp=N,47nm,0.9s	**4.55**	**248**	IAML		12 26 35.4	
BPAW	comp=E,26nm,1.5s			IAML		12 26 43.9	
TRF	**Thorofare Moun**	**4.67**	**239**	Pn	**Pn**	**12 25 15.7**	**+2.0**
TRF				IAML		12 26 46.9	
TRF	comp=E,46nm,1.8s			IAML		12 26 47.8	
N25K	**Chitina, Valde**	**4.75**	**199**	Pn	**Pn**	**12 25 16.7**	**+2.0**
YUK4	**Talbot Arm**	**4.93**	**165**	Pn	**Pn**	**12 25 19.3**	**+1.9**
YUK4				Sn	**Sn**	**12 26 13.5**	**-1.0**
YUK4				Sg	**Sg**	**12 26 37.5**	**-3.8**
PTPK	**Patty Peak**	**4.97**	**186**	Pn	**Pn**	**12 25 21.1**	**+3.2**
PTPK				Sg	**Sg**	**12 26 39.4**	**-3.0**
IM05	**Indian Mountai**	**5.05**	**274**		**Pn**	**12 25 20.3**	**+1.5**
IMAR	**Indian Mountai**	**5.06**	**274**	Pn	**Pn**	**12 25 20.5**	**+1.6**
BALM	**Baldy**	**5.11**	**185**	Pn	**Pn**	**12 25 23.3**	**+3.4**
BALM				Sg	**Sg**	**12 26 45.8**	**-1.3**
CTGM	**Chitina Glacie**	**5.17**	**180**	Sg	**Sg**	**12 26 47.5**	**-1.3**
KIAG	**Kiagna River**	**5.23**	**185**	Pn	**Pn**	**12 25 24.4**	**+3.0**
LOGN	**Logan Glacier**	**5.31**	**178**	Sg	**Sg**	**12 26 51.5**	**-1.8**
YUK6	**Outpost Mounta**	**5.36**	**164**	Pn	**Pn**	**12 25 26.5**	**+3.3**
YUK6				Sn	**Sn**	**12 26 25.5**	**+0.5**
HYT	**Haines Junctio**	**5.58**	**160**	Pn	**Pn**	**12 25 29.5**	**+3.3**
HYT				Sn	**Sn**	**12 26 31.6**	**+1.3**
HYT	**Haines Junctio**	**5.58**	**160**	Pn	**Pn**	**12 25 29.3**	**+3.1**
J20K	**Nowinta River** baz=64	**5.74**	**256**	P	**Pn**	**12 25 28.2**	**0.0**
J20K	**Nowinta River**	**5.74**	**256**		**Pn**	**12 25 28.2**	**0.0**
YAH	**Yahtse**	**5.77**	**182**		**Pn**	**12 25 30.8**	**+1.8**
WHY	**Whitehorse**	**6.19**	**149**	Sn	**Sn**	**12 26 44.8**	**-0.6**
C36M	**Paulatuk**	**7.31**	**56**	Pn	**Pn**	**12 25 50.4**	**+0.6**
C36M				Sn	**Sn**	**12 27 10.7**	**-2.0**
DHRN	**Dharma Camp**	**8.73**	**74**	Pn	**Pn**	**12 26 10.9**	**+1.6**
DHRN				Sn	**Sn**	**12 27 43.3**	**-4.4**
DLBC	**Dease Lake**	**9.31**	**140**	Pn	**Pn**	**12 26 18.9**	**+1.5**
DLBC				Sg	Sn	12 28 54.6	+53
KUKN	**Kugluktuk,NWT**	**10.39**	**69**	Pn	**Pn**	**12 26 32.7**	**+0.7**
KUKN				Sn	**Sn**	**12 28 21.6**	**-6.7**

*IDC **23** 12:26:22.9±3.5, 23°.47S×179°.57W, h430km±44km, mb3.5/6, mb1 3.7/8, mb1mx3.3/29, mbtmp4.4/8, Error ellipse: s-maj=38.7km s-min=19.2km az=161.0*
ISC 23 12:26:20.2±0.9, 23°.7S±0°.1×179°.5W±0°.1, h400km, n8, σ2°17/9, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 3.2nm,0.3s,baz=153,slow=2.6,SNR=8.0	**12.15**	**38**	P	**P**	**12 29 02.4**	**+0.6**
URZ	**Urewera** 0.5nm,0.3s,baz=320,slow=19,SNR=1.1	**14.84**	**190**	P	**P**	**12 29 34.4**	**+3.6**
URZ	0.3nm,0.3s,baz=54,slow=15,SNR=1.8			S	**S**	**12 32 05.2**	**-3.3**
PMG	**Port Moresby** 11nm,0.7s,baz=136,slow=11,SNR=2.3	**34.83**	**288**	P	**P**	**12 32 36.5**	**+0.9**
ASAR	**Alice Springs** 2.9nm,0.7s,baz=94,slow=7.0,SNR=56	**42.51**	**260**	P	**P**	**12 33 38.6**	**0.0**
WRA	**Warramunga Arr** 4.6nm,0.4s,baz=99,slow=8.5,SNR=141	**42.86**	**266**	P	**P**	**12 33 41.1**	**-0.3**
SIJI	**Sorong** 3.8nm,0.4s,baz=147,slow=22,SNR=2.5	**52.77**	**288**	P	**P**	**12 34 55.5**	**-1.0**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=222,slow=8.0,SNR=2.3	**84.27**	**44**	P	**P**	**12 38 07.1**	**-1.5**
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=210,slow=5.8,SNR=6.0	**89.93**	**58**	P	**P**	**12 38 35.6**	**0.0**

*DJA **23** 12:32:47.9±0.4, 1°.N±2°.×12°.7E±°, h10km, M3.3/7, MLv3.3/7*
*IDC **23** 12:32:50.7±2.3, 0°.85N×127°.14E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/30, mbtmp3.3/3, Error ellipse: s-maj=180.4km s-min=29.2km az=66.0*
ISC 23 12:32:48.3±1.3, 1°.14N±0°.08×127°.07E±0°.08, h10km, n10, σ0°95/10, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.47**	**141**	P	**Pb**	**12 32 58.1**	**-0.6**
TNTI				S	**Sg**	**12 33 04.0**	**+0.3**
SGSI	**Sangihe**	**2.96**	**329**	P	**Pn**	**12 33 34.5**	**-1.0**
SANI	**Sanana**	**3.35**	**199**	P	**Pn**	**12 33 40.4**	**-0.4**
GTOI	**Gorontalo**	**4.09**	**263**	P	**Pn**	**12 33 51.7**	**+0.7**
NLAI	**Namlea**	**4.35**	**180**	P	**Pn**	**12 33 53.7**	**-0.8**
SWI	**Sorong**	**4.64**	**115**	P	**Pn**	**12 33 59.2**	**+0.7**
MSAI	**Masohi**	**4.83**	**157**	P	**Pn**	**12 34 00.1**	**-1.0**
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=341,slow=11,SNR=4.8	**22.13**	**162**	P	**P**	**12 37 44.8**	**+0.5**
ASAR	**Alice Springs** 0.8nm,0.8s,baz=350,slow=14,SNR=4.2	**25.54**	**165**	P	**P**	**12 38 18.8**	**+1.4**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=117,slow=7.1,SNR=2.5	**59.87**	**326**	P	P	12 43 00.2	+5.8

*BJI **23** 12:51:43.5±0.0, 37°.22N×144°.84E, h6km, mB4.9/49, mb4.9/73, Ms4.4/72, Ms7 4.2/66*
*IDC **23** 12:51:43.7±0.5, 37°.00N×144°.81E, h0km, mb4.8/26, mb1 4.9/36, mb1mx4.8/41, mbtmp4.8/36, ML4.6/8, MS4.0/32, Ms1 4.0/32, ms1mx3.8/53, Error ellipse: s-maj=13.1km s-min=11.2km az=113.0*
*MOS **23** 12:51:47.1±1.0, 37°.29N×144°.70E, h23km, mb5.2/73, Error ellipse: s-maj=6.4km s-min=3.9km az=113.1*
*NEIC **23** 12:51:49.9±1.5, 37°.04N±0°.07×144°.72E±0°.09, h36km±6km, mb5.1/240, Error ellipse: s-maj=11.5km s-min=9.1km az=119.0*
*GCMT **23** 12:51:50.9±0.4, 37°.09N±0°.04×144°.64E±0°.03, h32km, MW4.9/68, Moment Tensor Solution. s31,c36; s68,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.16; $M_{\theta\theta}$0.11±.10; $M_{\phi\phi}$2.62±.10; $M_{r\theta}$-0.32±.14; $M_{\theta\phi}$-0.16±.07; $M_{\phi r}$-0.90±.10; Best double couple: $M_0$2.84900×10^{16} NP1:ϕ_s170.00000°, δ36.00000°, λ-101.00000°. NP2: ϕ_s4.00000°, δ54.00000°, λ-82.00000°. Principal axes: T 2.7710, Plg9.0000°, Azm88.0000°; N 0.1480, Plg7.0000°,*

Azm179.0000°; P -2.9260, Plg79.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*JMA **23** 12:51:50.2±0.2, 37°.18N×144°.50E, h72km, M4.8*

JMA Felt I J1.

*NIED **23** 12:51:50.2, 37°.18N×144°.50E, h72km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.41; $M_{\theta\theta}$=0.39; $M_{\phi\phi}$=0.80; $M_{r\theta}$=0.66; $M_{\phi r}$=0.09; $M_{\theta r}$=1.07; Fault plane solution: M_0=1.43000×10^{16} NP1:ϕ_s=32.00000°, δ=80.00000°, λ=-70.00000°. NP2:ϕ_s=148.00000°, δ=22.00000°, λ=-152.00000°.*

ISC 23 12:51:50.0±0.4, 37°.15N±0°.02×144°.65E±0°.02, h45km±3km, n811, σ1§60/564, mb5.0/253, MS4.2/49, 61C-84D, Fault plane solution: NP1:ϕ_s=2.84574°, δ=84.60855°, λ=-86.30624°. NP2:ϕ_s=148.35364°, δ=6.53232°, λ=-124.31812°. Principal axes: T Plg39.4999°, Azm89.4612°; N Plg3.6774°, Azm182.4982°; P Plg50.2602°, Azm276.9319°; **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.78**	**296**	P	**Pn**	**12 52 31.9**	**0.0**
JIKH				S	**Sn**	**12 53 02.7**	**-1.5**
JIO	**Ouri**	**2.92**	**298**	P	**Pn**	**12 52 33.9**	**0.0**
JIO				S	**Sn**	**12 53 06.8**	**-0.9**
JKMT	**Kesennumamotoy**	**3.01**	**305**	P	**Pn**	**12 52 35.0**	**-0.1**
JKMT				S	**Sn**	**12 53 08.5**	**-1.4**
JFK	**Kawauchi**	**3.02**	**275**	P	**Pn**	**12 52 34.8**	**-0.5**
OFUJ	**Ofunato**	**3.04**	**310**	P	**Pn**	**12 52 35.3**	**-0.3**
OFUJ				S	**Sn**	**12 53 09.6**	**-1.1**
JMST	**Minamisoumatoc**	**3.05**	**282**	P	**Pn**	**12 52 35.1**	**-0.5**
JMST				*e*S	**Sn**	**12 53 10.1**	**-0.8**
JMM	**Marumori**	**3.15**	**284**		**Pn**	**12 52 36.9**	**-0.1**
JMK	**Ichinoseki**	**3.25**	**305**	P	**Pn**	**12 52 38.6**	**+0.2**
JYT	**Yasato**	**3.69**	**257**		**Pn**	**12 52 43.4**	**-1.1**
BSO1	**Boso 1**	**3.88**	**231**	P	**Pn**	**12 52 45.1**	**-1.5**
BSO1				*e*S	**Sn**	**12 53 28.7**	**-1.9**
JTM	**Tenmabayashi**	**4.58**	**324**	Pn	**Pn**	**12 52 57.1**	**+0.4**
ERM	**Erimo**	**5.00**	**347**	*ce*P	**Pn**	**12 53 01.7**	**-0.7**
ERM				pmax	pmax		
	comp=Z,154nm,1.0s						
ERM	**Erimo**	**5.00**	**347**	Pn	**Pn**	**12 53 01.6**	**-0.7**
JOT	**Ohata**	**5.07**	**328**	P	**Pn**	**12 53 03.5**	**+0.1**
JSD	**Sado**	**5.15**	**282**	Pn	**Pn**	**12 53 05.1**	**+0.6**
MJAR	**Matsushiro Arr**	**5.20**	**265**	Pn	**Pn**	**12 53 05.3**	**+0.1**
	comp=Z,22nm,0.3s,baz=79,slow=9.2,SNR=448						
MJAR				Sn	**Sn**	**12 54 01.4**	**-2.5**
	baz=93,slow=18,SNR=1.4						
MJAR				LR	LR	12 55 17.2	
	comp=Z,2μm,21.2s,baz=110,slow=40						
MJAR	**Matsushiro Arr**	**5.20**	**265**	P	**Pn**	**12 53 05.9**	**+0.7**
MJAR						12 54 01.4	
MJAR	**Matsushiro Arr**	**5.20**	**265**		**Pn**	**12 53 05.9**	**+0.7**
MAJO	**Matsushiro**	**5.20**	**265**	*c iP*	**Pn**	**12 53 06.4**	**+1.2**
MAJO	**Matsushiro**	**5.20**	**265**	Pn	**Pn**	**12 53 06.4**	**+1.2**
MAT	**Matsushiro**	**5.20**	**265**	P	**Pn**	**12 53 06.2**	**+1.0**
MAT				S	**Sn**	**12 54 04.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**5.20**	**265**		**Pn**	**12 53 06.4**	**+1.2**
JCH	**Churui**	**5.55**	**350**	P	**Pn**	**12 53 09.2**	**-0.8**
JCH				*e*S	**Sn**	**12 54 08.9**	**-3.5**
JHJ2	**Mitsune**	**5.64**	**226**	P	**Pn**	**12 53 09.0**	**-2.3**
JHJ2	**Mitsune**	**5.64**	**226**	Pn	**Pn**	**12 53 09.3**	**-2.0**
JHJ	**Hachijo jima 2**	**5.66**	**226**	Pn	Pn	12 53 08.7	-2.8
	comp=Z,109nm,0.3s,baz=302,slow=16,SNR=64						
JHJ				Sn	**Sn**	**12 54 09.3**	**-5.9**
	comp=Z,438nm,0.3s,baz=47,slow=23,SNR=20						
JSG	**Sagara**	**5.79**	**247**		**Pn**	**12 53 13.6**	**+0.3**
JGF	**Kuroka**	**6.08**	**257**		**Pn**	**12 53 17.7**	**+0.4**
JEW	**Eniwo**	**6.19**	**338**	Pn	**Pn**	**12 53 18.9**	**+0.1**
NEM2	**Nemuro 2**	**6.27**	**7**	P	Pn	12 53 16.6	-3.2
NEM2				*e*S	**Sn**	**12 54 23.2**	**-6.9**
NMR	**Nemuro--Hokkai**	**6.27**	**7**	⇑*iP*	Pn	12 53 16.8	-3.1
NMR				*i* S	Sn	12 54 22.4	-7.8
JOSM	**Okushiri--Mats**	**6.34**	**323**	P	**Pn**	**12 53 21.2**	**+0.3**
INU	**Inuyama**	**6.42**	**256**	Pn	**Pn**	**12 53 22.1**	**+0.1**
GLVR	**Golovnino**	**6.62**	**6**	*e*P	**Pn**	**12 53 22.2**	**-2.4**
GLVR				pmax	pmax		
	comp=Z,152nm,0.4s						
GLVR				pmax	pmax		
	comp=E,12nm,0.1s						
GLVR				pmax	pmax		
	comp=N,54nm,0.3s						
GLVR				MLR	MLR		
	comp=Z,7μm,13.0s						
JTKR	**Abashiri--Toko**	**6.84**	**356**	P	**Pn**	**12 53 26.2**	**-1.5**
JTKR				*e*S	**Sn**	**12 54 38.8**	**-5.3**
GRPR	**Tuman**	**6.89**	**7**	⇑*iP*	Pn	12 53 25.2	-3.2
GRPR				*e*S	Sn	12 54 37.6	-7.9
GRPR				pmax	pmax		
	comp=N,111nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,512nm,0.3s						
GRPR				pmax	pmax		
	comp=E,63nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.94**	**7**	*d iP*	Pn	12 53 26.1	-3.0
YUK				*e*S	Sn	12 54 38.0	-8.7
YUK				pmax	pmax		
	comp=N,112nm,0.2s						
YUK				pmax	pmax		
	comp=E,72nm,0.2s						
YUK				pmax	pmax		
	comp=Z,742nm,0.2s						
YUK				MLR	MLR		
	comp=Z,134nm,7.0s						
JHR	**Hokuryu**	**6.96**	**342**	P	**Pn**	**12 53 30.4**	**+1.1**
JHR				*e*S	**Sn**	**12 54 45.6**	**-1.4**
RUSJ	**Misakicho**	**6.97**	**4**	⇓*iP*	**Pn**	**12 53 27.6**	**-1.8**
RUSJ				*e*S	**Sn**	**12 54 42.0**	**-5.2**
JKA	**Kamikawa-asahi**	**7.13**	**348**	Pn	**Pn**	**12 53 30.7**	**-1.0**
ASAJ	**Asahikawa**	**7.13**	**348**	Pn	**Pn**	**12 53 31.5**	**-0.2**
	comp=Z,14nm,0.3s,baz=201,slow=9.4,SNR=51						
ASAJ				Sn	**Sn**	**12 54 47.9**	**-3.6**
	comp=Z,13nm,0.3s,baz=33,slow=28,SNR=5.8						
ASAJ				LR	LR	12 56 37.7	
	comp=Z,433nm,21.5s,baz=150,slow=40						
JWT	**Wachi**	**7.70**	**259**	Pn	**Pn**	**12 53 39.9**	**+0.4**
JTNC	**Tanabenakahech**	**8.08**	**248**	P	**Pn**	**12 53 44.6**	**-0.2**
KUR	**Kuril'sk**	**8.44**	**16**	⇓*iP*	Pn	12 53 45.9	-3.6
KUR				*i* S	**Sn**	**12 55 17.0**	**-6.3**
KUR				pmax	pmax		
	comp=Z,118nm,0.9s						
KUR				pmax	pmax		
	comp=E,65nm,0.6s						
KUR				pmax	pmax		
	comp=N,73nm,0.9s						
KUR				smax	smax		
	comp=E,385nm,0.4s						
KUR				smax	smax		
	comp=N,266nm,0.5s						
KUR				MLR	MLR		
	comp=Z,842nm,10.0s						
KUR				MLR	MLR		
	comp=N,784nm,12.0s						
JOI	**OKI**	**9.19**	**268**	P	**Pn**	**12 54 01.2**	**+1.3**
JMN	**Monobe**	**9.42**	**252**	Pn	**Pn**	**12 54 02.8**	**-0.3**
JHS	**Saijyo**	**9.58**	**261**	P	**Pn**	**12 54 06.4**	**+1.2**
JHS	**Saijyo**	**9.58**	**261**	Pn	**Pn**	**12 54 06.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**9.90**	**352**	*e*P	**Pn**	**12 54 11.1**	**+1.5**
YSS				*e*		12 55 55.7	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**9.90**	**352**	Pn	**Pn**	**12 54 11.1**	**+1.5**
JCJ	**Chichijima**	**10.24**	**192**	Pn	Pn	12 54 09.6	-4.7
	comp=Z,27nm,0.3s,baz=113,slow=23,SNR=5.6						
JCJ				Sn	Sn	12 55 53.4	-14
	comp=Z,32nm,0.3s,baz=256,slow=23,SNR=6.8						
JCJ	**Chichijima**	**10.24**	**192**		Pn	12 54 10.7	-3.6
VLA	**Vladivostok**	**11.44**	**305**	*i* P	**Pn**	**12 54 31.3**	**+0.7**
VLA				pmax	pmax		
	comp=Z,76nm,0.9s						
MSHR	**Mys Shultsa**	**11.70**	**302**	*de*P	**Pn**	**12 54 35.7**	**+1.6**
MSHR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
USRK	**Ussuriysk Ar.**	**11.91**	**310**	Pn	**Pn**	**12 54 38.5**	**+1.4**
	baz=120,slow=13,SNR=41						
USRK				LR	LR	12 58 58.0	
	comp=Z,1μm,20.0s,baz=117,slow=36						
USRK	**Ussuriysk Ar.**	**11.91**	**310**	P	**Pn**	**12 54 38.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**11.91**	**310**		**Pn**	**12 54 38.1**	**+1.1**
USA0B	**Ussuriysk Arra**	**11.91**	**310**	P	**Pn**	**12 54 39.0**	**+1.9**
USA0B	**Ussuriysk Arra**	**11.91**	**310**		**Pn**	**12 54 39.0**	**+1.9**
JNU	**Nakatsue**	**11.96**	**254**	Pn	**Pn**	**12 54 38.6**	**+0.7**
	comp=Z,3.6nm,0.3s,baz=73,slow=5.7,SNR=33						
JNU	**Nakatsue**	**11.96**	**254**		**Pn**	**12 54 37.9**	**0.0**
UGL	**Uglegorsk**	**12.07**	**352**	*e*P	Pn	12 54 33.3	-5.9
UGL				pmax	pmax		
	comp=Z,30nm,0.7s						
IMWB	**Imwonan-gil**	**12.21**	**275**	P	**Pn**	**12 54 44.0**	**+2.8**
	SNR=10						
IMWB	**Imwonan-gil**	**12.21**	**275**	P	**Pn**	**12 54 44.0**	**+2.8**
	SNR=10						
KSPHA	**Pohang**	**12.30**	**270**	P	P	12 54 46.0	-7.7
	SNR=7.6						
KSPHA	**Pohang**	**12.30**	**270**	P	P	12 54 46.0	-7.7
	SNR=7.6						
KSTBA	**Taebaek**	**12.53**	**275**	P	P	12 54 49.7	-6.5
	SNR=12						
KSUSN	**Ulsan**	**12.59**	**268**	P	P	12 54 49.4	-7.4
	SNR=7.0						
KSUSN	**Ulsan**	**12.59**	**268**	P	P	12 54 49.4	-7.4
	SNR=7.0						
KSADO	**Andong**	**12.61**	**271**	P	**Pn**	**12 54 49.0**	**+2.3**
	SNR=8.6						
KSADO	**Andong**	**12.61**	**271**	P	**Pn**	**12 54 49.0**	**+2.3**
	SNR=8.6						
KSJMJ	**Jumunjin**	**12.64**	**278**	P	**Pn**	**12 54 49.8**	**+2.7**
	SNR=6.1						
KSJMJ	**Jumunjin**	**12.64**	**278**	P	**Pn**	**12 54 49.8**	**+2.7**
	SNR=6.1						
KSDGY	**Daegwallycong**	**12.71**	**277**	P	P	12 54 52.0	-6.2
	SNR=8.9						
KSDGY	**Daegwallycong**	**12.71**	**277**	P	P	12 54 52.0	-6.2
	SNR=8.9						
KSDAG	**Daegu**	**12.76**	**269**	P	**Pn**	**12 54 51.0**	**+2.3**
	SNR=9.8						
KSDAG	**Daegu**	**12.76**	**269**	P	**Pn**	**12 54 51.0**	**+2.3**
	SNR=9.8						
KSSKC	**Sokcho**	**12.82**	**280**	P	P	12 54 52.4	-6.9
	SNR=11						
KSSKC	**Sokcho**	**12.82**	**280**	P	P	12 54 52.4	-6.9
	SNR=11						
KSEUS	**ULSEONG**	**12.83**	**271**	P	**Pn**	**12 54 51.9**	**+2.3**
	SNR=7.3						
KSEUS	**ULSEONG**	**12.83**	**271**	P	**Pn**	**12 54 51.9**	**+2.3**
	SNR=7.3						
KSYOW	**Yeongwol**	**12.92**	**275**	P	P	12 54 53.3	-7.2
	SNR=17						
KSYOW	**Yeongwol**	**12.92**	**275**	P	P	12 54 53.3	-7.2
	SNR=17						
SEHB	**SEOHWA**	**13.03**	**280**	P	P	12 54 56.6	-5.2
	SNR=10						
SEHB	**SEOHWA**	**13.03**	**280**	P	P	12 54 56.6	-5.2
	SNR=10						
KSMAS	**Masan**	**13.14**	**266**	P	P	12 54 56.1	-6.9
	SNR=10.0						
KSMAS	**Masan**	**13.14**	**266**	P	P	12 54 56.1	-6.9
	SNR=10.0						
KSIJA	**INJE**	**13.15**	**279**	P	P	12 54 57.7	-5.3
	SNR=17						
KSIJA	**INJE**	**13.15**	**279**	P	P	12 54 57.7	-5.3
	SNR=17						
KSWJU	**Wonju**	**13.22**	**276**	P	P	12 54 57.1	-6.8
	SNR=32						
KSWJU	**Wonju**	**13.22**	**276**	P	P	12 54 59.0	-4.9
	SNR=12						
KSRS	**Korea Array**	**13.32**	**276**	Pn	P	12 54 58.3	-6.6
	comp=Z,2.1nm,0.3s,baz=89,slow=14,SNR=86						
KSRS				LR	LR	13 00 01.1	
	comp=Z,752nm,18.2s,baz=87,slow=37						
KSRS				PcP	**PcP**	**13 00 24.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=132,slow=1.0,SNR=6.8						
KSCHJ	**Chungju**	**13.33**	**274**	P	P	12 55 00.0	-5.0
	SNR=7.7						
KSCHJ	**Chungju**	**13.33**	**274**	P	P	12 55 00.0	-5.0
	SNR=7.7						
EURB	**Uiryeong-eup**	**13.33**	**267**	P	P	12 54 59.0	-6.1
	SNR=9.5						
EURB	**Uiryeong-eup**	**13.33**	**267**	P	P	12 54 59.0	-6.1
	SNR=9.5						
KSAR	**Wonju Array Be**	**13.35**	**276**	P	**Pn**	**12 54 57.9**	**+1.1**
KSAR	**Wonju Array Be**	**13.35**	**276**	Pn	**Pn**	**12 54 57.9**	**+1.1**
KSCHC	**Chuncheon**	**13.39**	**278**	P	P	12 55 01.0	-4.7
	SNR=11						
KSCPR	**CHUPUNGNYEONG**	**13.42**	**271**	P	P	12 54 59.6	-6.5
	SNR=7.6						
KSCPR	**CHUPUNGNYEONG**	**13.42**	**271**	P	P	12 54 59.6	-6.5
	SNR=7.6						
KSBON	**Boeun**	**13.52**	**272**	P	P	12 55 00.9	-6.2
	SNR=7.1						
KSBON	**Boeun**	**13.52**	**272**	P	P	12 55 00.9	-6.2
	SNR=7.1						
MDJ	**Mudanjiang**	**13.60**	**308**	P	**Pn**	**12 55 01.0**	**+0.8**
MDJ				S	**Sn**	**12 57 33.3**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,20nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.6s						
MDJ				LR	LR		
	comp=Z,730nm,17.3s						
MDJ				LR	LR		
	comp=Z,600nm,17.2s						
MDJ				LR	LR		
	comp=Z,1μm,19.1s						
MDJ	**Mudanjiang**	**13.60**	**308**	Pn	**Pn**	**12 55 01.1**	**+0.9**
KSICN	**Icheon**	**13.74**	**276**	P	**P**	**12 55 05.7**	**-3.9**
	SNR=8.7						
TYV	**Tymovskoe**	**13.79**	**355**	*e*P	**P**	**12 55 12.1**	**+2.1**
TYV				pmax	pmax		
	comp=Z,21nm,1.1s						
TJN	**Taejon**	**13.88**	**272**	*ce*P	**Pn**	**12 55 03.7**	**-0.3**
KSDEI	**Deokjeokdo**	**14.78**	**276**	P	**P**	**12 55 20.7**	**-0.4**
	SNR=6.4						
GRNR	**Gornyy**	**14.84**	**339**	⇓*iP*	P	12 55 24.3	+2.6
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				MLR	MLR		
	comp=E,230nm,15.0s						
GRNR				MLR	MLR		
	comp=N,250nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,290nm,17.0s						
KLR	**Kul'dur**	**15.28**	**326**	Pn	**P**	**12 55 22.3**	**-4.3**
	comp=Z,0.4nm,0.3s,baz=127,slow=14,SNR=13						
KLR				LR	LR	13 01 17.5	
	comp=Z,484nm,18.8s,baz=144,slow=37						
KLR	**Kul'dur**	**15.28**	**326**	*ce*P	**Pn**	**12 55 20.9**	**-1.6**
KLR				pmax	pmax		
	comp=Z,14nm,1.1s						
SKR	**Severo-Kuril's**	**15.83**	**28**	*e*P	**P**	**12 55 30.2**	**-2.5**
SKR				*e*S	**S**	**12 58 28.9**	**-7.5**
SKR				pmax	pmax		
	comp=Z,46nm,1.1s						
SKR				MLR	MLR		
	comp=Z,300nm,14.0s						
SKR				MLR	MLR		
	comp=Z,300nm,13.0s						
CN2	**Changchun**	**16.03**	**300**	*e*P	**P**	**12 55 37.8**	**+2.8**
CN2				*es*P	pP	12 55 44.6	+0.7
CN2				S	**S**	**12 58 37.3**	**-3.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
SNY	**Shenyang**	**16.91**	**293**	⇓P	**P**	**12 55 44.3**	**-0.4**
SNY				S	**S**	**12 58 56.8**	**-1.9**
SNY				pmax	pmax		
	comp=Z,120nm,5.6s						
SNY				LR	LR		
	comp=Z,740nm,16.3s						
SNY				LR	LR		
	comp=Z,1μm,17.1s						
SNY				LR	LR		
	comp=Z,1μm,16.3s						
JOW	**Kunigami**	**17.26**	**238**	P	**P**	**12 55 46.7**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=97,slow=15,SNR=2.0						
JOW	**Kunigami**	**17.26**	**238**	P	**P**	**12 55 47.1**	**-1.5**
DL2	**Dalian**	**18.21**	**283**	P	**Pn**	**12 56 00.3**	**+1.0**
DL2				S	**S**	**12 59 24.0**	**-1.2**
DL2				pmax	pmax		
	comp=Z,28nm,1.0s						
DL2				pmax	pmax		
	comp=Z,190nm,3.9s						
DL2				LR	LR		
	comp=Z,250nm,16.4s						
DL2				LR	LR		
	comp=Z,450nm,17.1s						
DL2				LR	LR		
	comp=Z,980nm,24.2s						
PETK	**Petropavlovsk-**	**18.38**	**26**	P	**Pn**	**12 56 01.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=241,slow=6.1,SNR=8.1						
PETK				LR	LR	13 04 59.1	
	comp=Z,409nm,18.1s,baz=211,slow=43						
PETK	**Petropavlovsk-**	**18.38**	**26**	P	**Pn**	**12 56 02.4**	**+1.2**
PETK	**Petropavlovsk-**	**18.38**	**26**	P	**Pn**	**12 56 02.4**	**+1.2**
SSE	**Sheshan**	**20.32**	**260**	P	Pn	12 56 22.8	-1.7
SSE				S	Sn	13 00 10.3	-2.1
SSE				pmax	pmax		
	comp=Z,12nm,0.7s						
SSE				pmax	pmax		
	comp=Z,210nm,5.5s						
SSE				LR	LR		
	comp=Z,600nm,20.1s						
SSE				LR	LR		
	comp=Z,790nm,18.0s						
ZEA	**Zeya**	**20.50**	**330**	*e*P	Pn	12 56 25.7	-0.8
ZEA				*e*S	**S**	**13 00 06.1**	**-4.7**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
ZEA				pmax	pmax		
	comp=E,100nm,8.5s						
ZEA				pmax	pmax		
	comp=N,100nm,6.4s						
ZEA				pmax	pmax		
	comp=Z,200nm,6.1s						
ZEA				smax	smax		
	comp=E,200nm,2.8s						
ZEA				MLR	MLR		
	comp=N,100nm,13.0s						
HIA	**Hailar**	**21.71**	**312**	P	**P**	**12 56 40.1**	**+3.0**
HIA				pmax	pmax		
	comp=Z,39nm,0.9s						
HIA	**Hailar**	**21.71**	**312**	P	**P**	**12 56 40.1**	**+3.0**
NJ2	**Nanjing**	**21.80**	**264**	*e*P	P	12 56 43.8	+5.7
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.8s						
NJ2				LR	LR		
	comp=Z,580nm,17.5s						
NJ2				LR	LR		
	comp=Z,370nm,19.9s						
NJ2				LR	LR		
	comp=Z,440nm,19.9s						
TIA	**Tai'an**	**22.07**	**276**	P	**P**	**12 56 43.8**	**+2.8**
TIA				S	Sn	13 00 43.4	-11
TIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TIA				LR	LR		
	comp=Z,440nm,12.8s						
TIA				LR	LR		
	comp=Z,740nm,15.0s						
BJI	**Beijing**	**22.40**	**286**	P	**P**	**12 56 48.4**	**+3.9**
BJI				S	**S**	**13 00 49.8**	**+2.2**
BJI				pmax	pmax		
	comp=Z,15nm,0.5s						
BJI				pmax	pmax		
	comp=Z,120nm,3.8s						
BJI				LR	LR		
	comp=Z,430nm,16.4s						
BJI				LR	LR		
	comp=Z,280nm,18.3s						
BJI				LR	LR		
	comp=Z,480nm,28.0s						
MA2	**Magadan**	**22.79**	**8**	P	**P**	**12 56 48.2**	**-0.3**
	comp=Z,24nm,1.1s,baz=173,slow=10,SNR=7.3						
MA2				LR	LR	13 04 39.4	
	comp=Z,177nm,19.7s,baz=163,slow=34						
MA2	**Magadan**	**22.79**	**8**	*ce*P	**P**	**12 56 48.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,74nm,2.5s						
MA2	**Magadan**	**22.79**	**8**	P	**P**	**12 56 47.8**	**-0.6**
GUMO	**Guam**	**23.46**	**179**	LR	LR	13 04 37.2	
	comp=Z,206nm,21.6s,baz=34,slow=33						
TIY	**Taiyuan**	**25.52**	**281**	*e*P	**P**	**12 57 17.8**	**+3.5**
TIY				S	S	13 01 45.0	+6.3
TIY				pmax	pmax		
	comp=Z,62nm,1.0s						
TIY				LR	LR		
	comp=Z,190nm,12.4s						
TIY				LR	LR		
	comp=Z,630nm,19.5s						
TIY				LR	LR		
	comp=Z,500nm,20.4s						
HHC	**Hu-ho-hao-te**	**25.89**	**288**	*e*P	**P**	**12 57 19.3**	**+1.7**
HHC				sP	pP	12 57 28.6	+0.8
HHC				S	S	13 01 50.3	+5.8
HHC				pmax	pmax		
	comp=Z,29nm,0.9s						
HHC				pmax	pmax		
	comp=Z,310nm,6.7s						
HHC				LR	LR		
	comp=Z,530nm,16.1s						
HHC				LR	LR		
	comp=Z,450nm,15.5s						
HHC				LR	LR		
	comp=Z,490nm,15.1s						
WHN	**Wuhan**	**25.94**	**264**	⇓P	**P**	**12 57 21.0**	**+3.0**
WHN				LR	LR		
	comp=Z,430nm,12.8s						
WHN				LR	LR		
	comp=Z,1μm,13.2s						
WHN				LR	LR		
	comp=Z,1μm,13.2s						
H11N2	**WAKE ISLAND Hy**	**26.05**	**126**	T	T	13 24 02.6	
	baz=317,slow=74,SNR=1262						
H11N1	**WAKE ISLAND Hy**	**26.05**	**126**	T	T	13 24 04.9	
	baz=317,slow=74,SNR=791						
H11N3	**WAKE ISLAND Hy**	**26.07**	**126**	T	T	13 24 04.1	
	baz=317,slow=74,SNR=900						
SEY	**Seymchan**	**26.25**	**8**	P	**P**	**12 57 22.7**	**+2.2**
	comp=Z,32nm,0.9s,baz=192,slow=7.5,SNR=99						
YAK	**Yakutsk**	**26.59**	**344**	P	**P**	**12 57 24.4**	**+0.8**
	comp=Z,33nm,0.7s,baz=138,slow=1.5,SNR=20						
YAK				LR	LR	13 08 27.7	
	comp=Z,164nm,21.5s,baz=102,slow=38						
YAK	**Yakutsk**	**26.59**	**344**	*d iP*	**P**	**12 57 24.3**	**+0.7**
YAK				*e**PP	pP	12 57 29.7	-4.1
YAK				*e*		12 58 04.1	
YAK				*e*PPP	PPP	12 58 18.9	
YAK				*e*		13 00 44.1	
YAK				*e*S	S	13 02 00.7	+5.8
YAK				*e**SS	**sS**	**13 02 15.4**	**+3.0**
YAK				*e*SS	**SnSn**	**13 03 05.3**	**+4.9**
YAK				*e*SSS	SSS	13 03 21.6	
YAK				pmax	pmax		
	comp=Z,37nm,0.8s						
YAK				pmax	pmax		
	comp=N,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,11nm,0.9s						
YAK				pmax	pmax		
	comp=Z,25nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				smax	smax		
	comp=E,69nm,3.2s						
YAK				smax	smax		
	comp=N,73nm,2.9s						
YAK				MLR	MLR		
	comp=Z,118nm,17.0s						
YAK				MLR	MLR		
	comp=N,134nm,17.0s						
YAK				MLR	MLR		
	comp=E,87nm,16.0s						
YAK	**Yakutsk**	**26.59**	**344**	P	**P**	**12 57 24.0**	**+

comp=Z,31nm,1.5s
XAN Xi'an 29.11 275 P **P** **12 57 47.3 +0.8**
XAN pP pP 12 57 50.3 -6.4
XAN S S 13 02 40.4 +5.1
XAN ScP **SS** **13 04 34.3 -5.5**
XAN pmax pmax
comp=Z,27nm,1.1s
XAN pmax pmax
comp=Z,280nm,5.9s
XAN LR LR
comp=Z,310nm,19.5s
XAN LR LR
comp=Z,230nm,18.4s
XAN LR LR
comp=Z,400nm,16.3s
ULN Ulaanbaatar 29.44 303 P P 12 57 51.3 +1.9
ULN pmax pmax
comp=Z,32nm,1.6s
ULN Ulaanbaatar 29.44 303 P P 12 57 51.3 +1.9
SONM Songino Array 29.88 303 P P 12 57 55.9 +2.6
comp=Z,3.6nm,0.8s,baz=90,slow=8.5,SNR=19
SONM LR LR 13 10 23.9
comp=Z,300nm,18.5s,baz=88,slow=37
SONM Songino Array 29.88 303 P P 12 57 55.4 +2.1
SONM pmax pmax
comp=Z,12nm,1.2s
SONM Songino Array 29.88 303 P P 12 57 55.4 +2.2
ENH Enshi 29.92 267 P P 12 57 55.4 +1.7
ENH IAmb IAmb 12 58 09.2
comp=Z,32nm,0.8s
IRK Irkutsk 31.95 311 *e*P **P** **12 58 11.2 -0.1**
IRK pmax pmax
comp=Z,20nm,1.7s
ZAK Zakamensk 32.24 308 *e*P P 12 58 15.6 +1.6
ZAK pmax pmax
comp=Z,14nm,1.0s
LZH Lanzhou 32.59 281 ⇑P P 12 58 19.8 +2.5
LZH pP pP 12 58 25.3 -2.3
LZH sP sP 12 58 31.4 -0.8
LZH S S 13 03 38.6 +8.7
LZH sS sS 13 03 48.1 +0.6
LZH SS **SnSn** **13 05 31.8 +4.7**
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,97nm,4.9s
LZH LR LR
comp=Z,430nm,16.3s
LZH LR LR
comp=Z,370nm,15.7s
LZH LR LR
comp=Z,480nm,15.7s
BILL Bilibino 33.23 15*c i*P **P** **12 58 22.8 +0.5**
BILL *i* 12 58 36.7
BILL *i* 13 01 04.4
BILL pmax pmax
comp=Z,24nm,1.0s
BILL MLR MLR
comp=Z,147nm,18.0s
BILL Bilibino 33.23 15 P **P** **12 58 22.8 +0.5**
BILL IAmb IAmb 12 58 24.4
comp=Z,35nm,1.1s
GYA Guiyang 33.79 263 ⇑P **P** **12 58 29.1 +1.3**
GYA pP pP 12 58 34.8 -3.3
GYA S **S** **13 03 48.8 +0.1**
MOY Mondy 33.85 309 *e*P P 12 58 30.1 +2.0
MOY pmax pmax
comp=Z,27nm,1.8s
CD2 Chengdu 34.26 272 P P 12 58 33.6 +1.9
CD2 S S 13 04 04.0 +8.4
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,550nm,19.2s
CD2 LR LR
comp=Z,480nm,15.3s
CD2 LR LR
comp=Z,400nm,13.7s
GTA Gaotai 34.99 288 ⇓P P 12 58 40.8 +2.7
GTA pP pP 12 58 44.6 -3.8
GTA sP sP 12 58 48.3 -4.8
GTA PcP **PcP** **13 01 11.0 +1.5**
GTA S S 13 04 15.1 +8.1
GTA SS **SS** **13 06 32.5 -7.5**
GTA pmax pmax
comp=Z,14nm,1.0s
GTA LR LR
comp=Z,330nm,18.2s
GTA LR LR
comp=Z,470nm,18.2s
GTA LR LR
comp=Z,510nm,19.3s
QIZ Qiongzhong 35.36 249 P **P** **12 58 41.9 +0.7**
QIZ S S 13 04 17.3 +4.7
QIZ LR LR
comp=Z,220nm,20.6s
QIZ LR LR
comp=Z,290nm,14.3s
QIZ LR LR
comp=Z,220nm,18.4s
KMI Kunming 37.54 264 ⇑P P 12 59 02.1 +2.0
KMI sP pP 12 59 07.9 -2.6
KMI pmax pmax
comp=Z,14nm,0.5s
KMI LR LR
comp=Z,280nm,17.7s
KMI LR LR
comp=Z,330nm,19.2s
KMI LR LR
comp=Z,380nm,20.9s
SGSI Sangihe 37.64 212 P **P** **12 58 58.9 -1.8**
comp=Z,58nm,0.6s
TNTI Ternate 39.56 208 P **P** **12 59 17.2 +0.4**
comp=Z,15nm,1.0s
GENI Genyem 39.76 187 P **P** **12 59 17.9 -0.5**
SWI Sorong 39.80 201 P **P** **12 59 17.5 -1.3**
comp=Z,638nmcomp=Z,11nm,1.1s
ANM Nome 40.16 31 P **P** **12 59 23.3 +2.0**
baz=251
NONG Nongkai 41.01 254 P P 12 59 31.2 +2.4
comp=Z,12µmcomp=Z,37nm,0.9s
NONG Nongkai 41.01 254 P P 12 59 31.0 +2.2
comp=Z,12µmcomp=Z,37nm,0.9s
SPMM Sapulut 41.32 225 P P 12 59 35.0 +3.6
FAKI Fak Fak 41.50 199 P **P** **12 59 30.9 -1.9**
comp=Z,12nm,1.3s
TOLI2 Tolitoli 42.08 217 P **P** **12 59 37.9 +0.3**
MRSI Marisa 42.09 215 P **P** **12 59 38.5 +0.9**
comp=Z,44nm,1.2s
DGZ Jazzator, Alta 42.42 306 *i* P P 12 59 42.8 +2.6
DGZ pmax pmax
comp=Z,57nm,0.8s
SANI Sanana 42.67 208 P **P** **12 59 41.0 -1.4**
comp=Z,51nm,0.9s
WMQ Urumqi 43.09 297 *e*P P 12 59 47.1 +1.5
WMQ pP pP 12 59 51.9 -4.2
WMQ pmax pmax
comp=Z,59nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.3s
WMQ LR LR
comp=Z,430nm,16.5s
WMQ LR LR
comp=Z,360nm,21.5s
WMQ LR LR
comp=Z,240nm,22.1s
MPSI Mapaga 43.18 218 P **P** **12 59 47.7 +1.2**
comp=Z,7.9nm,1.1s
CHAI Chaiyaphum 43.19 252 P P 12 59 48.4 +1.8
comp=Z,305nmcomp=Z,34nm,0.9s
CHAI Chaiyaphum 43.19 252 P P 12 59 48.5 +1.9
comp=Z,76nmcomp=Z,8.4nm,0.9s
UTTA Uttaradit 43.19 256 P P 12 59 49.6 +3.0
comp=Z,22nm,0.9s
UTTA Uttaradit 43.19 256 P P 12 59 49.7 +3.1
comp=Z,5.4nm,0.9s
NLAI Namlea 43.37 206 P **P** **12 59 48.2 +0.2**
comp=Z,16nm,0.6s
APSI Ampana 43.45 215 P **P** **12 59 48.5 -0.2**
comp=Z,344nmcomp=Z,41nm,0.7s
LAMP Lampang 43.46 257 P P 12 59 51.6 +2.8
comp=Z,32nm,0.9s
LAMP Lampang 43.46 257 P P 12 59 51.6 +2.8
comp=Z,7.9nm,0.9s
CM34 Chiang Mai Arr 43.65 258 P P 12 59 52.0 +1.7
N18K Kilae Creek 43.68 38 P **P** **12 59 51.7 +1.7**
baz=265
CM35 Chiang Mai Arr 43.75 258 P P 12 59 53.0 +1.9
ZAA0 Zalesovo Array 43.75 312 P P 12 59 52.4 +1.7
ZAA0 IAmb IAmb 12 59 53.4
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 43.75 312 P P 12 59 52.3 +1.6
comp=Z,20nm,0.9s,baz=79,slow=7.7,SNR=34
ZALV PcP **PcP** **13 01 37.5 +0.8**
comp=Z,2.7nm,0.4s,baz=100,slow=5.1,SNR=3.5
ZALV LR LR 13 18 48.5
comp=Z,306nm,19.0s,baz=62,slow=37
ZALV Zalesovo Beam 43.75 312 *i* P P 12 59 52.5 +1.8
ZALV pmax pmax
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 43.75 312 P P 12 59 52.6 +1.9
CM33 Chiang Mai Arr 43.83 258 P **P** **12 59 53.0 +1.2**
CMMT Chiang Mai 43.83 258 P P 12 59 53.8 +2.0
comp=Z,20nm,1.1s
CMMT Chiang Mai 43.83 258 P P 12 59 53.9 +2.1
comp=Z,20nm,1.1s
CHTO Chiang Mai 43.84 258 P P 12 59 53.7 +1.9
CHTO pmax pmax
comp=Z,18nm,1.0s
CHTO Chiang Mai 43.84 258 P P 12 59 53.8 +2.0
comp=Z,20nm,1.1s
CHTO Chiang Mai 43.84 258 P P 12 59 53.7 +1.9
TTA Tatalina 43.86 35 P **P** **12 59 52.8 +1.3**
TTA pmax pmax
comp=Z,221nm,1.2s
TTA Tatalina 43.86 35 P **P** **12 59 53.2 +1.6**
baz=262
TTA Tatalina 43.86 35 P **P** **12 59 52.8 +1.3**
SVW2 Sparrevohn 43.87 37 P P 12 59 54.4 +2.9
CM36 Chiang Mai Arr 43.88 258 P P 12 59 54.0 +1.8
CM32 Chiang Mai Arr 44.00 258 P P 12 59 56.0 +2.9
CMAR Chiang Mai Arr 44.04 258 P P 12 59 55.1 +1.7
comp=Z,5.6nm,0.9s,baz=46,slow=6.7,SNR=26
CMAR PcP **PcP** **13 01 39.5 +1.1**
comp=Z,1.6nm,0.8s,baz=350,slow=2.1,SNR=4.4
CMAR LR LR 13 19 07.3
comp=Z,196nm,22.0s,baz=94,slow=37
CMAR Chiang Mai Arr 44.04 258 *i* P P 12 59 55.5 +2.1
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 44.04 258 P P 12 59 55.5 +2.1
CMAR **PcP** **13 01 40.0 +1.6**
CM04 Chiang Mai Arr 44.04 258 P P 12 59 56.6 +3.1
comp=Z,10nm,1.0s
CM04 Chiang Mai Arr 44.04 258 P P 12 59 56.6 +3.2
comp=Z,10nm,1.0s
CM01 Chiang Mai Arr 44.05 258 P P 12 59 57.9 +4.4
comp=Z,9.9nm,1.0s
CM01 Chiang Mai Arr 44.05 258 P P 12 59 58.0 +4.5
comp=Z,9.9nm,1.0s
CM02 Chiang Mai Arr 44.05 258 P P 12 59 56.6 +3.1
comp=Z,100nmcomp=Z,12nm,0.9s
CM02 Chiang Mai Arr 44.05 258 P P 12 59 56.0 +2.5
comp=Z,100nmcomp=Z,12nm,0.9s
CM15 Chiang Mai Arr 44.05 258 P P 12 59 56.6 +3.0
comp=Z,6.6nm,1.0s
CM15 Chiang Mai Arr 44.05 258 P P 12 59 56.6 +3.1
comp=Z,6.6nm,1.0s
CM05 Chiang Mai Arr 44.07 258 P P 12 59 57.6 +3.9
comp=Z,6.1nm,1.0s
CM05 Chiang Mai Arr 44.07 258 P P 12 59 57.0 +3.3
comp=Z,6.1nm,1.0s
CM13 Chiang Mai Arr 44.09 258 P P 12 59 57.7 +3.9
comp=Z,56nmcomp=Z,7.0nm,0.9s
CM13 Chiang Mai Arr 44.09 258 P P 12 59 57.8 +4.0
comp=Z,56nmcomp=Z,7.0nm,0.9s
NRIK Noril'sk 44.26 335 P **P** **12 59 55.6 +1.1**
comp=Z,21nm,1.0s,baz=105,slow=9.6,SNR=25
NRIK LR LR 13 19 33.6
comp=Z,380nm,21.1s,baz=106,slow=38
NRIK Noril'sk 44.26 335 P **P** **12 59 55.5 +1.1**
NRIK IAmb IAmb 12 59 57.1
comp=Z,30nm,1.1s
SRAK Srakaew 44.31 250 P **P** **12 59 54.6 -1.0**
comp=Z,4µmcomp=Z,147nm,0.8s
N19K Bonanza Creek 44.38 38 P **P** **12 59 57.7 +1.9**
baz=266
ZSN Zaisan 44.39 303⇓*i*P **P** **12 59 56.9 +0.8**
comp=Z,27nm,0.9s,baz=303
ZSN Zaisan 44.39 303*d i*P **P** **12 59 56.8 +0.8**
ZSN pmax pmax
comp=Z,27nm,0.9s
SII Sitkinak Islan 44.44 44 P **P** **12 59 58.2 +2.0**
baz=271
M19K Big River Lodg 44.50 36 P **P** **12 59 58.8 +2.2**
baz=265
K20K Telida 44.78 34 P **P** **13 00 00.6 +1.7**
baz=264,SNR=6.5
J20K Nowinta River 44.84 33 P **P** **13 00 01.0 +1.8**
baz=263,SNR=7.5
OHAK Old Harbor 44.92 43 P **P** **13 00 01.9 +2.0**
baz=271
P19K Oil Pt 44.95 39 P **P** **13 00 02.2 +1.9**
baz=268
IMAR Indian Mountai 45.24 30 P **P** **13 00 04.3 +1.9**
KDAK Kodiak Island 45.28 42 P **P** **13 00 04.3 +1.4**
baz=271
MMPI Merauke 45.55 186 P **P** **13 00 05.1 -0.2**
SBUM Sibu 45.62 229 P **P** **13 00 07.0 +1.0**
I21K Tanana 45.87 32 P **P** **13 00 09.4 +2.0**
baz=264
SHL Shillong 45.99 271 P **P** **13 00 07.5 -1.6**
SHL pmax pmax
comp=Z,15nm,0.7s
BKB Balikpapan 46.06 220 P **P** **13 00 08.6 -0.9**
comp=Z,90nm,0.9s
TTSI Tana Toraja 46.17 216 P **P** **13 00 10.0 -0.3**
comp=Z,1µmcomp=Z,6.6nm,0.9s
MK31 Makanchi Array 46.24 303 P P 13 00 12.3 +1.7
MK31 pmax pmax
comp=Z,26nm,0.9s
MK31 Makanchi Array 46.24 303 P P 13 00 12.2 +1.6
MK31 IAmb IAmb 13 00 13.5
comp=Z,26nm,0.9s
MKAR Makanchi Array 46.24 303 P P 13 00 12.4 +1.8
comp=Z,24nm,0.8s,baz=86,slow=9.1,SNR=167
MKAR PcP **PcP** **13 01 46.3 +0.8**
comp=Z,2.9nm,0.9s,baz=48,slow=4.7,SNR=1.8
MKAR LR LR 13 19 53.5
comp=Z,145nm,22.0s,baz=68,slow=36
MKAR Makanchi Array 46.24 303 *i* P P 13 00 12.3 +1.7
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR Makanchi Array 46.24 303 P P 13 00 12.3 +1.6
MLY Manley 46.38 32 P **P** **13 00 13.6 +2.1**
baz=265,SNR=8.7
MAKZ Makanchi 46.45 303 P P 13 00 13.9 +1.6
MAKZ pmax pmax
comp=Z,31nm,1.1s
MAKZ Makanchi 46.45 303 P P 13 00 13.9 +1.6
MAKZ IAmb IAmb 13 00 15.3
comp=Z,32nm,1.1s
SAUI Saumlaki 46.60 198 P **P** **13 00 12.1 -1.5**
comp=Z,259nm,1.0s
PHET Kaeng Krachan 46.82 251 P P 13 00 19.1 +3.6
comp=Z,33nm,0.8s
PHET Kaeng Krachan 46.82 251 P P 13 00 19.1 +3.7
comp=Z,8.4nm,0.8s
SEM Semipalatinsk 46.92 308 *e*P **P** **13 00 15.2 -1.0**
baz=308
SEM Semipalatinsk 46.92 308 *e*P **P** **13 00 15.1 -1.0**
H23K Yukon River 46.94 31 P **P** **13 00 18.1 +2.3**
baz=266,SNR=11
I23K Minto, Yukon-K 46.97 32 P **P** **13 00 18.4 +2.4**
baz=266
NEA2 Nenana 47.07 33 P **P** **13 00 18.7 +1.9**
baz=267,SNR=13
NEA2 Nenana 47.07 33 P **P** **13 00 18.8 +1.9**
NEA2 IAmb IAmb 13 00 33.8
comp=Z,24nm,1.0s
MCK McKinley 47.10 34 P **P** **13 00 18.1 +1.0**
baz=268
TOLK Toolik Lake Re 47.19 27 P **P** **13 00 19.6 +1.8**
baz=263,SNR=11
BNSI Bone 47.24 214 P **P** **13 00 19.3 +0.6**
comp=Z,15nm,0.7s
WAT1 Susitna Watana 47.26 35 P **P** **13 00 19.1 +0.7**
baz=269
SML Sawmill 47.37 36 P **P** **13 00 20.7 +1.4**
baz=271
MDM Murphy Dome 47.45 32 P **P** **13 00 19.7 -0.1**
MDM IAmb IAmb 13 00 36.2
comp=Z,20nm,0.9s
KSM Kuching 47.55 230 P P 13 00 23.0 +1.9
BRDH Bariadhala 47.58 268 LR LR 13 22 00.6
comp=Z,158nm,20.9s,baz=29,slow=38
H24K Noodor Dome 47.63 31 P **P** **13 00 22.9 +1.8**
baz=267,SNR=7.1
WAT6 Susitna Watana 47.64 35 P **P** **13 00 22.1 +0.6**
baz=270
POKR Poker Plat Res 47.79 32 P **P** **13 00 22.9 +0.5**
baz=268
STKI Sintang 47.97 227 P **P** **13 00 26.1 +1.7**
HDA Harding Lake 47.98 33 P **P** **13 00 24.3 +0.4**
baz=269
HDA Harding Lake 47.98 33 P **P** **13 00 24.8 +0.9**
HDA IAmb IAmb 13 00 39.2
comp=Z,12nm,0.8s
GLI Glacier Island 47.99 38 P **P** **13 00 25.1 +1.1**
baz=272
IL31 48.01 32 P **P** **13 00 25.0 +0.9**
IL31 IAmb IAmb 13 00 39.6
comp=Z,11nm,0.8s
ILAR Eielson Array 48.01 32 P **P** **13 00 24.9 +0.7**
comp=Z,6.4nm,1.0s,baz=265,slow=6.1,SNR=40
ILAR LR LR 13 20 40.0
comp=Z,49nm,20.0s,baz=264,slow=36
ILAR PKKP **PKKPdf** **13 23 01.9 -6.3**
comp=Z,0.5nm,0.3s,baz=43,slow=3.4,SNR=7.9
ILAR Eielson Array 48.01 32 P **P** **13 00 24.6 +0.4**
BKSI Bulukumba 48.05 214 P **P** **13 00 25.0 +0.1**
comp=Z,13nm,1.3s
KBKI Kotabaru 48.18 220 P **P** **13 00 23.9 -2.0**
comp=Z,1µmcomp=Z,15nm,0.9s
M24K Tolsona, Glenn 48.38 36 P **P** **13 00 27.1 0.0**
baz=272
TAPN Taplejung 48.51 276 *e*P P 13 00 31.0 +2.2
KLU Klutina 48.53 37 P **P** **13 00 29.0 +0.8**
baz=273
PRP Porcupine Dome 48.59 31 P **P** **13 00 29.6 +0.8**
baz=270
BSSI Bau Bau, Buton 48.62 213 P **P** **13 00 29.7 +0.3**
comp=Z,22nm,1.0s
PAX Paxson 48.67 35 P **P** **13 00 29.6 +0.3**
baz=272
ODAN Odare 48.98 275 *e*P P 13 00 34.5 +2.1
BMAR Burnt Mountain 48.99 29 P P 13 00 34.3 +2.7
BBKI Banjar Baru 49.00 221 P **P** **13 00 32.5 +0.2**
comp=Z,29nm,0.8s
SHLS Shalkode 49.06 298 *e*P **P** **13 00 29.7 -3.0**
comp=Z,31nm,1.6s,baz=298
SHLS Shalkode 49.06 298 *e*P **P** **13 00 29.7 -3.0**
SHLS pmax pmax
comp=Z,31nm,1.6s
N25K Chitina, Valde 49.15 37 P **P** **13 00 33.7 +0.7**
baz=274
BMRM Bremner River 49.20 37 P **P** **13 00 33.6 +0.2**
baz=274
SCRK Sand Creek 49.29 33 P **P** **13 00 34.3 +0.2**
baz=272
TDK Taldyqorghan 49.30 301 *e*P **P** **13 00 35.4 +1.0**
baz=301
TDK Taldyqorghan 49.30 301 *e*P **P** **13 00 35.3 +1.0**
UZB Uzynbulak 49.38 299 *e*P **P** **13 00 35.1 -0.1**
comp=Z,14nm,1.6s,baz=299
UZB Uzynbulak 49.38 299 *e*P **P** **13 00 35.0 -0.1**
UZB pmax pmax
comp=Z,14nm,1.6s
KPKS Kokpek 49.52 299 *e*P **P** **13 00 36.4 +0.3**
comp=Z,21nm,1.1s,baz=299
KPKS Kokpek 49.52 299 *e*P **P** **13 00 36.4 +0.3**
KPKS pmax pmax
comp=Z,21nm,1.1s
RAMN Ramite 49.57 276 *e*P P 13 00 38.6 +1.7
comp=Z,4.9nm,0.3s
JIRN Jiri 49.58 277 *e*P P 13 00 39.6 +2.5
L26K Log Cabin Wild 49.63 35 P **P** **13 00 38.5 +1.8**
baz=274,SNR=12
GUN Gumba 49.71 277 *e*P P 13 00 40.0 +1.9
SATY Saty 49.83 299⇓*e*P **P** **13 00 39.3 +0.7**
comp=Z,18nm,1.6s,baz=299
SATY Saty 49.83 299*de*P **P** **13 00 39.2 +0.7**
SATY pmax pmax
comp=Z,19nm,1.6s
M26K Nabesna, AK 49.84 35 P **P** **13 00 39.5 +1.2**
baz=275
ARXS Arharly 49.91 300 *e*P P 13 00 40.9 +1.8
MCARA McCarthy VSAT 49.93 37 P **P** **13 00 39.8 +1.0**
baz=276
CRQE Cirque 49.96 38 P **P** **13 00 39.9 +0.7**
baz=276
SURT Suratani 49.99 248 P P 13 00 45.2 +5.3
comp=Z,1.1nm,1.2s
SURT Suratani 49.99 248 P P 13 00 45.2 +5.3
K27K Chicken 50.13 33 P **P** **13 00 42.1 +1.8**
baz=274,SNR=6.4
MMRI Maumere 50.15 209 P **P** **13 00 40.8 -0.2**
PKI Pulchoki 50.23 277 *e*P P 13 00 44.8 +2.8
comp=Z,16nm,0.7s
KKN Kakani 50.24 277 *e*P P 13 00 44.2 +2.3
PKIN Phulchoki 50.24 277 *e*P P 13 00 43.6 +1.6
L27K Beaver Creek, 50.32 35 P **P** **13 00 43.8 +1.9**
baz=275,SNR=10
L27K Beaver Creek, 50.32 35 P **P** **13 00 44.3 +2.4**
BCAR Beaver Creek A 50.34 35 P **P** **13 00 43.9 +1.9**
M27K Edge Creek, AK 50.37 35 P **P** **13 00 42.6 +0.3**
baz=276
SOEI Soe 50.42 206 P **P** **13 00 42.5 -0.7**
comp=Z,27nm,0.8s
EGAK Eagle 50.47 32 P **P** **13 00 43.8 +1.0**
baz=274
EDFI Ende, Flores 50.47 210 P **P** **13 00 42.7 -0.9**
comp=Z,18nm,1.1s
CHKK Chushkaly 50.59 300 *e*P **P** **13 00 44.3 +0.2**
baz=300
CHKK Chushkaly 50.59 300 *e*P **P** **13 00 44.3 +0.2**
GKN Gorkha 50.65 278 *e*P P 13 00 46.8 +1.8
TARG Taragay, Kyrgy 50.66 297 IAmb IAmb 13 00 48.9
comp=Z,28nm,0.9s
MDOK Medeo 50.75 299 *e*P **P** **13 00 46.1 +0.5**
baz=299
MDOK Medeo 50.75 299 *e*P **P** **13 00 46.0 +0.5**
CTG Chitna Glacier 50.78 37 P **P** **13 00 45.6 +0.1**
baz=277
JRMM Jerantut 50.85 240 P P 13 00 48.0 +1.6
KUU Kurty 51.03 300⇓*e*P **P** **13 00 47.5 0.0**
comp=Z,40nm,1.1s,baz=300
KUU Kurty 51.03 300*de*P **P** **13 00 47.4 0.0**
KUU pmax pmax
comp=Z,40nm,1.1s
KULM Kulim 51.14 243 P **P** **13 00 50.0 +1.5**
DANN Dangsing 51.19 279 *e*P P 13 00 51.4 +2.2
comp=Z,56nm,0.6s
IPM Ipoh 51.44 242 P **P** **13 00 52.0 +1.2**
PINM Pinnacle 51.44 38 P **P** **13 00 51.2 +0.8**
baz=279
KOLN Koldanda 51.58 278 *e*P P 13 00 53.8 +1.8
ULHL Ulahol 51.60 298 P P 13 00 54.3 +2.3
SNR=11
BOOM Boomskoye usch 51.74 299 P P 13 00 55.0 +2.0
BOOM pmax pmax
comp=Z,30nm,0.9s
BOOM Boomskoye usch 51.74 299 P P 13 00 55.0 +2.1
BRZS Berezniki 51.77 309⇓*e*P **P** **13 00 53.1 +0.3**
comp=Z,8.9nm,0.8s,baz=309
BRZS Berezniki 51.77 309*de*P **P** **13 00 53.1 +0.3**
BRZS pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 51.84 299 P P 13 00 56.2 +2.5
SNR=32
PYUN Piuthan 51.91 279 *e*P P 13 00 56.5 +2.0
comp=Z,87nm,1.0s
EPYK Eagle Plains 52.14 30 P **P** **13 00 57.1 +1.6**
baz=277,SNR=15
EPYK Eagle Plains 52.14 30 P **P** **13 00 57.5 +2.1**
EPYK IAmb IAmb 13 00 58.7
comp=Z,29nm,0.9s
BTLS Baital 52.25 302⇓*e*P **P** **13 00 56.6 +0.1**
baz=302
BTLS Baital 52.25 302*de*P **P** **13 00 56.6 +0.1**
SGDS Sogindy 52.34 300 *e*P **P** **13 00 57.8 +0.4**
baz=300
SGDS Sogindy 52.34 300 *e*P **P** **13 00 57.7 +0.4**
BRVK Borovoye 52.45 313 P P 13 00 59.8 +1.9
BRVK pmax pmax
comp=Z,22nm,0.9s
BRVK Borovoye 52.45 313 P P 13 00 59.8 +1.9
BRVK IAmb IAmb 13 01 00.7
comp=Z,22nm,0.8s

HYT Haines Junctio 52.66 37 P **P** **13 01 02.0 +2.5**
KSH Kashi 52.71 295 P P 13 01 05.9 +5.7
KSH pP pP 13 01 09.6 -1.4
KSH S S 13 08 29.6 +4.7
KSH SS **SKiKP** **13 12 12.3 -4.3**
KSH pmax pmax
comp=Z,16nm,0.7s
KSH pmax pmax
comp=Z,120nm,5.1s
KSH LR LR
comp=Z,260nm,18.0s
KSH LR LR
comp=Z,260nm,15.4s
KSH LR LR
comp=Z,310nm,16.5s
SRBI Singaraja 52.77 218 P **P** **13 01 01.4 +0.8**
comp=Z,164nm,0.8s
INK Inuvik 53.10 27 P **P** **13 01 03.9 +1.5**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 53.10 27 P **P** **13 01 04.0 +1.6**
baz=278,SNR=14
INK Inuvik 53.10 27 P **P** **13 01 03.9 +1.6**
INK IAmb IAmb 13 01 05.2
comp=Z,13nm,0.8s
WHY Whitehorse 53.95 37 P **P** **13 01 09.3 +0.4**
baz=283
KNRA Kununurra 54.63 199 P **P** **13 01 13.3 -0.9**
PCJI Pacitan 54.92 222 P **P** **13 01 14.0 -2.3**
comp=Z,64nm,1.1s
TPTI 55.02 244 P **P** **13 01 18.2 +1.1**
comp=Z,3.9nm,0.8s
MNSI Mandailing Nat 55.07 240 P **P** **13 01 17.5 0.0**
comp=Z,9.3nm,0.7s
KK31 Karatay Array 55.29 301 P **P** **13 01 20.1 +1.3**
KK31 pmax pmax
comp=Z,22nm,1.2s
KK31 Karatay Array 55.29 301 P **P** **13 01 20.1 +1.3**
KK31 IAmb IAmb 13 01 21.4
comp=Z,22nm,1.1s
KKAR Karatay Array 55.29 301 P P 13 01 20.5 +1.7
KKAR pmax pmax
comp=Z,22nm,1.2s
KKAR Karatay Array 55.29 301 P **P** **13 01 19.9 +1.0**
KKAR Karatay Array 55.29 301 P P 13 01 20.5 +1.7
KKAR IAmb IAmb 13 01 21.4
comp=Z,22nm,1.1s
KPJI Karang Pucung 55.44 225 P **P** **13 01 20.6 +0.5**
comp=Z,23nm,1.1s
LEM Lembang 55.77 226 P **P** **13 01 23.0 +0.3**
comp=Z,27nm,1.0s
TNG Tangerang 55.82 228 P pP 13 01 23.9 -10
TNG comp=Z,316nm,0.5s P **P** **13 01 23.0 +0.2**
comp=Z,210nm,0.5s
LHSI Lahat 55.89 232 P **P** **13 01 24.5 +1.1**
comp=Z,789nmcomp=Z,41nm,0.8s
MDSI Maura Dua 55.99 231 P **P** **13 01 24.3 +0.3**
comp=Z,15nm,1.2s
GSI Gunungsitoli 56.10 242 P **P** **13 01 25.3 +0.4**
comp=Z,2µmcomp=Z,34nm,1.2s
C36M Paulatuk 56.23 25 P **P** **13 01 26.0 +1.0**
baz=286
CRAG Craig 56.24 43 P **P** **13 01 26.2 +0.9**
baz=288
CISI Cisompet, Garu 56.25 226 P **P** **13 01 25.5 -0.5**
comp=Z,2µmcomp=Z,20nm,1.4s
WRAK Wrangell Islan 56.36 41 P **P** **13 01 27.2 +1.1**
baz=286
SVE Sverdlovsk 56.76 319 *eP* P 13 01 31.0 +2.0
SVE pmax pmax
comp=Z,51nm,1.1s
GAR Garm 56.97 297 P P 13 01 32.5 +1.5
GAR IAmb IAmb 13 01 33.0
comp=Z,20nm,0.9s
NIL Nilore 57.02 290 P P 13 01 33.8 +2.5
NIL pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 57.02 290 P P 13 01 33.8 +2.4
WB0 Warramunga Arr 57.43 191 P **P** **13 01 32.7 -1.4**
WR0 Warramunga Arr 57.59 191 P **P** **13 01 33.7 -1.5**
WRAB Tennant Creek 57.60 191 *de*P **P** **13 01 34.0 -1.3**
WRAB pmax pmax
comp=Z,41nm,1.3s
WRAB Tennant Creek 57.60 191 P **P** **13 01 34.0 -1.3**
WB2 Warramunga Arr 57.61 191 P **P** **13 01 34.2 -1.1**
WRA Warramunga Arr 57.61 191 P **P** **13 01 34.1 -1.3**
comp=Z,22nm,0.6s,baz=12,slow=7.3,SNR=244
WRA Warramunga Arr 57.61 191 P **P** **13 01 33.8 -1.6**
CHGR Chuyangaron 57.94 297 P P 13 01 39.6 +1.8
ARU Arti 57.98 319 *d iP* P 13 01 39.1 +1.5
ARU 13 02 29.7
ARU 13 03 44.2
ARU S S 13 09 43.5 +9.1
ARU SS SS 13 13 34.0 +8.7
ARU pmax pmax
comp=Z,59nm,1.1s
ARU MLR MLR
comp=Z,407nm,20.0s
ARU Arti 57.98 319 P P 13 01 39.2 +1.6
EUNU Eureka 59.68 9 P **P** **13 01 50.0 +0.8**
EUNU IAmb IAmb 13 01 51.0
comp=Z,10.0nm,0.8s
KBL Kabul 59.78 292 P **P** **13 01 52.0 +1.3**
KBL pmax pmax
comp=Z,13nm,1.0s
KBL Kabul 59.78 292 P **P** **13 01 52.0 +1.3**
KBL IAmb IAmb 13 01 52.5
comp=Z,12nm,0.9s
ABKAR Akbulak array 59.83 311 P **P** **13 01 51.8 +1.2**
ABKAR Akbulak array 59.83 311 P **P** **13 01 51.7 +1.2**
ABKAR IAmb IAmb 13 01 52.9
comp=Z,15nm,1.1s
AKTO Aktyubinsk 60.51 313 LR LR 13 29 24.2
comp=Z,153nm,19.6s,baz=62,slow=37
HYB Hyderabad 60.79 270 *i P* P 13 01 59.0 +1.4
AS31 Alice Springs 61.33 191 P **P** **13 02 00.3 -0.7**
ASAR Alice Springs 61.33 191 P **P** **13 02 00.1 -0.9**
comp=Z,12nm,0.7s,baz=7.8,slow=7.4,SNR=257
ASAR Alice Springs 61.33 191 P **P** **13 01 59.8 -1.2**
KIRV Kirov 61.70 324 LR LR 13 32 22.0
comp=Z,61nm,18.7s,baz=77,slow=39
RES Resolute Bay 61.83 15 P **P** **13 02 05.2 +1.4**
RES pmax pmax
comp=Z,32nm,1.0s
RES Resolute Bay 61.83 15 P **P** **13 02 05.2 +1.4**
PRGR Permogore 62.06 328 *eP* **P** **13 02 05.2 -0.3**
PRGR pmax pmax
comp=Z,5.0nm,0.5s
YKA Yellowknife Ar 62.40 31 P **P** **13 02 08.4 +0.7**
comp=Z,4.1nm,0.8s,baz=295,slow=6.2,SNR=16
YKA LR LR 13 32 04.2
comp=Z,47nm,19.6s,baz=0.0,slow=39
YKA Yellowknife Ar 62.40 31 *i P* **P** **13 02 08.5 +0.8**
YKA pmax pmax
comp=Z,5.0nm,0.9s
PSA00 Pilbara Seismi 62.91 206 P **P** **13 02 11.6 0.0**
PSA00 Pilbara Seismi 62.91 206 P **P** **13 02 11.3 -0.3**
PSA00 IAmb IAmb 13 02 12.3
comp=Z,16nm,1.2s
LLLB Lillooet 64.37 45 IAmb IAmb 13 02 23.6
comp=Z,9.6nm,0.9s
ARCES ARCESS Array B 64.78 340 P **P** **13 02 23.9 +0.5**
comp=Z,4.8nm,1.0s,baz=24,slow=11,SNR=5.4
ARCES LR LR 13 35 27.8
comp=Z,88nm,19.2s,baz=90,slow=40
HRA Herat 64.82 295 P P 13 02 26.5 +2.0
HRA IAmb IAmb 13 02 27.3
comp=Z,14nm,0.8s
KLMR Klimovskoe 65.03 329 *eP* **P** **13 02 24.6 -0.4**
KLMR pmax pmax
comp=Z,13nm,1.2s
KLMR Klimovskoe 65.03 329 *eP* **P** **13 02 24.6 -0.4**
KLMR AMP 13 02 28.1
comp=Z,13nm,1.2s
D03D Eldon 65.11 48 P **P** **13 02 28.4 +2.5**
baz=298,SNR=13
NEEM North Greenlan 65.26 4 ⇓*iP* **P** **13 02 27.3 +0.6**
NEEM IAmb IAmb 13 02 28.4
comp=Z,20nm,0.9s
NEEM *i* 13 02 42.3
B05A Bryant 65.36 47 P **P** **13 02 28.3 +0.9**
baz=298
BELG Belogornoye 65.46 318 LR LR 13 33 25.9
comp=Z,298nm,19.3s,baz=57,slow=38
BELG Belogornoye 65.46 318 *i* P P 13 02 29.6 +1.6
BELG pmax pmax
comp=Z,10.0nm,1.0s
DAG Danmarks Havn 65.87 356 ⇓*iP* **P** **13 02 30.7 +0.4**
DAG IAmb IAmb 13 02 31.7
comp=Z,9.6nm,0.9s
DAG *i* 13 02 44.5
DAG Danmarks Havn 65.87 356 ⇓*iP* **P** **13 02 30.6 +0.4**
DAG *i* 13 02 44.5
DAG pmax pmax
comp=Z,10.0nm,0.9s
E04D Cinebar 65.90 49 P **P** **13 02 32.9 +1.9**
baz=299,SNR=6.9
GEYT Alibeck 66.03 300 P P 13 02 33.5 +1.5
comp=Z,8.9nm,0.8s,baz=259,slow=1.5,SNR=12
GEYT Alibeck 66.03 300 P **P** **13 02 33.3 +1.3**
GEYT IAmb IAmb 13 04 48.4
comp=Z,14nm,0.8s
G03D McMinnville, O 66.13 51 P **P** **13 02 33.6 +1.2**
baz=299
LTY Liberty 66.69 48 P **P** **13 02 37.2 +1.1**
LTY IAmb IAmb 13 02 52.6
comp=Z,16nm,1.1s
B08A Colville Reser 66.91 46 IAmb IAmb 13 02 53.9
comp=Z,16nm,1.1s
H04A Detroit Lake 67.05 51 P **P** **13 02 40.1 +1.6**
H04A IAmb IAmb 13 02 41.9
comp=Z,18nm,1.1s
G05D Wamic, OR 67.31 50 P **P** **13 02 40.8 +0.8**
baz=300
I04A Tendick Farm, 67.36 52 P **P** **13 02 41.4 +1.0**
baz=300
L02E Cave Junction 67.42 54 P **P** **13 02 41.8 +1.0**
baz=300
I05D Terrebonne, OR 67.75 51 P **P** **13 02 43.6 +0.8**
baz=300
HAWA Hanford 67.80 48 IAmb IAmb 13 03 00.4
comp=Z,19nm,1.3s
D08A Wollman Farm, 67.82 47 IAmb IAmb 13 02 59.6
comp=Z,15nm,0.9s
J04D Umpqua Nationa 67.83 52 P **P** **13 02 44.7 +1.1**
baz=300
YBH Yreka Blue Hor 68.21 54 P **P** **13 02 48.3 +2.4**
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH Yreka Blue Hor 68.21 54 P **P** **13 02 48.3 +2.4**
NEW Newport 68.23 45 P **P** **13 02 46.8 +1.0**
baz=301,SNR=5.5
NEW Newport 68.23 45 IAmb IAmb 13 03 02.2
comp=Z,20nm,1.0s
PINE Pine Mountain 68.28 51 P P 13 02 48.9 +2.5
M02C Callahan 68.29 54 P **P** **13 02 47.5 +1.1**
baz=301
J05D Fort Rock, OR 68.35 52 P **P** **13 02 48.8 +2.0**
baz=301,SNR=8.0
E09A Wood Farm, Sta 68.55 47 P **P** **13 02 49.1 +1.3**
E09A IAmb IAmb 13 03 04.5
comp=Z,18nm,0.9s
N02D Trinity Center 68.61 54 P **P** **13 02 49.3 +1.0**
baz=301
MOS Moscow 68.68 325 *eP* **P** **13 02 49.1 +0.7**
MOS pmax pmax
comp=Z,138nm,0.9s
G08A Pilot Rock 68.71 49 P **P** **13 02 50.3 +1.3**
STKA Stephens Creek 68.72 183 P **P** **13 02 48.1 -0.7**
comp=Z,4.2nm,1.0s,baz=354,slow=9.3,SNR=4.4
M04C Macdoel 68.75 53 P **P** **13 02 50.9 +1.6**
baz=301,SNR=5.1
K05A Summer Lake 68.86 52 P **P** **13 02 51.4 +1.4**
O02D Mt. Diablo Mer 68.96 55 P **P** **13 02 51.5 +0.9**
baz=301
OBN Obninsk 69.53 324 LR LR 13 36 01.5
comp=Z,44nm,18.3s,baz=9.5,slow=38
OBN Obninsk 69.53 324 *i* P **P** **13 02 53.7 +0.1**
OBN *i* 13 02 59.7
OBN *i* 13 03 06.3
OBN *i* 13 03 18.0
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,145nm,16.0s
O03E Paynes Creek 69.55 55 P **P** **13 02 54.4 +0.2**
baz=302
WALA Waterton Lakes 69.60 43 IAmb IAmb 13 03 10.8
comp=Z,15nm,0.9s
MOD Modoc Plateau 69.66 52 IAmb IAmb 13 03 11.6
comp=Z,25nm,1.6s
FIA1 FINESS Array S 69.89 333 IAmb IAmb 13 02 58.0
comp=Z,20nm,1.1s
FINES FINESS Array B 69.90 333 P **P** **13 02 56.8 +1.0**
comp=Z,7.6nm,0.8s,baz=46,slow=8.2,SNR=20
FINES LR LR 13 35 38.6
comp=Z,175nm,20.8s,baz=54,slow=38
FINES FINESS Array B 69.90 333 *i* P **P** **13 02 57.2 +1.4**
FINES pmax pmax
comp=Z,8.0nm,0.8s
J08A Circle Bar Ran 70.03 50 IAmb IAmb 13 03 14.7
comp=Z,21nm,1.2s
JTMT Jette 70.11 45 IAmb IAmb 13 03 14.3
comp=Z,20nm,1.0s
WVOR Wild Horse Val 70.43 51 IAmb IAmb 13 03 16.4
comp=Z,16nm,1.1s
SUMG Summit 70.55 1 ⇓*iP* **P** **13 03 01.7 +1.5**
SUMG IAmb IAmb 13 03 02.5
comp=Z,12nm,0.9s
SUMG *i* 13 03 16.7
SUMG Summit 70.55 1 P **P** **13 03 01.6 +1.5**
SUMG *PP pP 13 03 08.3 -3.2
SUMG pmax pmax
comp=Z,15nm,1.0s
SUMG Summit 70.55 1 P **P** **13 03 01.6 +1.5**
SUMG IAmb IAmb 13 03 02.8
comp=Z,15nm,1.0s
SUMG pP 13 03 08.3 -3.2
PLID Pearl Lake 70.59 48 IAmb IAmb 13 03 18.0
comp=Z,17nm,1.1s
BEKR Beckworth 70.71 54 P **P** **13 03 03.0 +1.6**
BEKR IAmb IAmb 13 03 18.4
comp=Z,20nm,1.2s
MSO Missoula 70.82 45 P **P** **13 03 02.7 +0.8**
baz=304,SNR=5.8
MSO Missoula 70.82 45 IAmb IAmb 13 03 18.6
comp=Z,21nm,1.0s
PAHR Pah Rah Range 71.43 54 IAmb IAmb 13 03 22.9
comp=Z,18nm,1.2s
PNTR Pine Nut 71.62 55 P **P** **13 03 08.1 +1.1**
PNTR IAmb IAmb 13 03 24.5
comp=Z,30nm,1.5s
VSU Vasula 71.64 331 *eP* P 13 03 08.3 +1.8
CMB Columbia Colle 71.68 56 IAmb IAmb 13 03 24.4
comp=Z,17nm,1.0s
YERR Yerington 71.92 55 IAmb IAmb 13 03 26.1
comp=Z,22nm,1.1s
GOF Gofitskoye 71.92 313 ⇑*eP* P 13 03 10.7 +2.3
GOF pmax pmax
comp=Z,68nm,1.0s
FFC Flin Flon 72.19 34 P **P** **13 03 10.3 +0.4**
FFC **PcP** **13 03 25.3 -2.6**
FFC IAmb IAmb 13 03 25.9
comp=Z,16nm,0.8s
DLMT Dillon 72.42 46 IAmb IAmb 13 03 28.7
comp=Z,25nm,0.9s
EGMT Eagleton 72.46 43 P **P** **13 03 12.6 +0.9**
baz=306
EGMT Eagleton 72.46 43 P **P** **13 03 12.4 +0.7**
EGMT IAmb IAmb 13 03 27.9
comp=Z,15nm,0.9s
BCYI Bear Canyon 72.55 47 P **P** **13 03 12.7 +0.2**
MTSE Matsula 72.59 332 *eP* **P** **13 03 10.7 -1.5**
KVN Kaiserville 72.62 54 IAmb IAmb 13 03 30.3
comp=Z,22nm,1.1s
ZEI Tsey 72.70 311 *eP* **P** **13 03 14.1 +0.7**
ZEI pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 72.76 312 *eP* P 13 03 15.4 +1.8
KIV *e* 13 03 31.0
KIV *eS* **SKiKP** **13 12 43.0 -0.3**
KIV pmax pmax
comp=Z,48nm,1.1s
KIV pmax pmax
comp=Z,15nm,3.2s
KIV MLR MLR
comp=Z,60nm,18.0s
KIV Kislovodsk 72.76 312 P P 13 03 15.9 +2.3
KBZ Khabaz 72.77 312 P P 13 03 15.5 +2.0
comp=Z,20nm,1.0s,baz=66,slow=3.6,SNR=34
LHV Little Huntoon 72.80 55 IAmb IAmb 13 03 31.9
comp=Z,36nm,1.2s
NVAR Mina Array Bea 72.83 55 P **P** **13 03 16.1 +1.8**
comp=Z,6.9nm,0.9s,baz=283,slow=6.4,SNR=49
NVAR LR LR 13 29 06.2
comp=Z,72nm,19.3s,baz=295,slow=31
NVAR Mina Array Bea 72.83 55 P **P** **13 03 15.4 +1.1**
BOZ Bozeman (W) 72.84 46 P **P** **13 03 14.6 +0.5**
BOZ pmax pmax
comp=Z,28nm,0.9s
BOZ Bozeman (W) 72.84 46 P **P** **13 03 15.2 +1.1**
baz=306,SNR=34
BOZ Bozeman (W) 72.84 46 P **P** **13 03 14.6 +0.5**
SHA1 Shidzhatmaz 72.91 312 *c iP* P 13 03 16.9 +2.3
PAGB Antelope Grade 73.04 58 IAmb IAmb 13 03 32.7
comp=Z,30nm,1.0s
ONI Oni 73.09 311 IAmb IAmb 13 03 19.1
comp=Z,21nm,1.1s
SMMC Simmler 73.44 58 P **P** **13 03 19.1 +1.4**
baz=304
ELK Elko 73.48 51 P **P** **13 03 19.3 +1.2**
ELK pmax pmax
comp=Z,8.0nm,1.3s
ELK Elko 73.48 51 P **P** **13 03 19.3 +1.2**
TIN Tinemaha, Big 73.65 56 P **P** **13 03 20.0 +1.0**
baz=304
GNI Garni 73.69 308 LR LR 13 39 07.9
comp=Z,113nm,18.2s,baz=80,slow=38
YHH Holmes Hill 73.76 46 IAmb IAmb 13 03 37.1
comp=Z,19nm,1.0s
VES Vestal, Richgr 73.76 57 P **P** **13 03 20.1 +0.6**
baz=304,SNR=6.9
IDID Didziasalis 73.77 328 *eP* P 13 03 21.2 +2.1
PKM Mcpherson Peak 73.80 58 P **P** **13 03 20.7 +0.7**
baz=304
MNK Minsk 73.83 327 *i* P P 13 03 22.0 +2.5
MNK *i* 13 03 37.3
MNK *i* 13 06 06.4
MNK *i* PPP PPP 13 07 51.3
MNK *i* S S 13 12 53.9 +6.6
MNK *i* 13 13 31.6
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.8s
MNK pmax pmax
comp=N,29nm,0.8s
MNK MLR MLR
comp=N,603nm,27.0s
MNK MLR MLR
comp=Z,159nm,23.0s
MNK MLR MLR
comp=E,32nm,23.0s
MNK Minsk 73.83 327 *i* P P 13 03 22.1 +2.6
comp=E,4.0nm,0.9s
MNK *i* P P 13 03 22.1 +2.6
comp=N,29nm,0.8s
MNK *i* P P 13 03 22.1 +2.6
comp=Z,34nm,0.8s,baz=47
MNK *i* PcP sP 13 03 37.4 +2.0
MNK *i* PP **PP** **13 06 06.4 +2.4**
MNK *i* PPP PPP 13 07 51.3
MNK *i* S S 13 12 54.0 +6.6
MNK *i* SS SS 13 17 48.9 +18
MNK *i* SSS SSS 13 21 00.2
MNK *i* LQ LQ 13 30 52.2
MNK *i* LR LR 13 34 08.7
MNK *i* LRM MLR 13 39 01.1
comp=N,603nm,26.8s
MNK *i* LRM MLR 13 39 03.3
comp=Z,159nm,23.1s
MNK *i* LRM MLR 13 39 28.6
comp=E,32nm,23.2s
GCMT Greycliff 73.83 45 P **P** **13 03 21.0 +1.0**
ISAL Salakas 73.85 329 *eP* P 13 03 21.9 +2.3
YNR Norris Junctio 73.90 46 IAmb IAmb 13 03 38.5
comp=Z,26nm,1.3s
IIGN Ignalina 73.96 328 *eP* P 13 03 22.2 +2.0
UPP Uppsala 73.96 335 *eP* **P** **13 03 21.0 +0.8**
ICESG Greenland Ices 74.03 2 ⇓*iP* **P** **13 03 22.2 +1.3**
ICESG IAmb IAmb 13 03 23.0
comp=Z,14nm,0.9s
ICESG *i* 13 03 35.2
YNE Yellowstone No 74.11 45 IAmb IAmb 13 03 38.8
comp=Z,20nm,0.9s
SBC Santa Barbara 74.12 59 P **P** **13 03 22.9 +1.3**
baz=304
H17A Grant Village 74.15 46 P P 13 03 25.0 +3.0
baz=306,SNR=18
YMP Mirror Lake Pl 74.19 46 IAmb IAmb 13 03 47.4
comp=Z,22nm,1.1s
IMW Indian Meadow 74.24 47 IAmb IAmb 13 03 40.4
comp=Z,31nm,1.0s
GRAC Grapevine Rang 74.25 55 P **P** **13 03 23.8 +1.4**
baz=305
FLWY Flagg Ranch 74.27 46 P **P** **13 03 24.9 +2.3**
FLWY IAmb IAmb 13 03 40.9
comp=Z,30nm,1.1s
ISA Isabella, Lake 74.27 57 P **P** **13 03 22.5 -0.1**
ISA pmax pmax
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 74.27 57 P **P** **13 03 23.0 +0.4**
baz=304
ISA Isabella, Lake 74.27 57 P **P** **13 03 22.5 -0.1**
RLMT Red Lodge 74.46 45 P **P** **13 03 25.0 +1.3**
baz=307,SNR=9.4
RLMT Red Lodge 74.46 45 IAmb IAmb 13 03 41.2
comp=Z,36nm,1.4s
TPAW Teton Pass 74.47 47 IAmb IAmb 13 03 41.2
comp=Z,18nm,0.9s
REDW Red Top Meadow 74.61 47 P **P** **13 03 25.8 +1.2**
REDW IAmb IAmb 13 03 42.3
comp=Z,22nm,1.1s
R11A Troy Canyon, C 74.64 53 P **P** **13 03 26.4 +1.6**
baz=305,SNR=16
R11A Troy Canyon, C 74.64 53 IAmb IAmb 13 03 42.1
comp=Z,20nm,1.2s
SOC Sochi 74.72 313 *eP* **P** **13 03 25.9 +1.0**
SOC *e* 13 06 09.1
SOC *e*PPP PPP 13 08 01.2
SOC *e*S S 13 13 04.5 +6.7
SOC pmax pmax
comp=Z,17nm,1.1s
BATM Batumi 74.73 311 ⇓*iP* P 13 03 27.9 +2.9
BATM Batumi 74.73 311 ⇓*iP* P 13 03 27.9 +2.9
PABE Paberze 74.78 330 *eP* P 13 03 26.9 +1.9
PABE Paberze 74.78 330 P **P** **13 03 26.4 +1.4**
NC303 NORSAR Array S 74.86 339 IAmb IAmb 13 03 27.8
comp=Z,24nm,1.1s
BCA Borcka 74.86 311 ⇑*iP* P 13 03 28.0 +2.1
FURC Furnace Creek, 74.89 56 P **P** **13 03 27.4 +1.4**
baz=305,SNR=6.8
LRMC Laurel Mtn Rad 74.91 57 P **P** **13 03 27.2 +0.9**
baz=305
SNCC San Nicolas Is 74.92 60 P **P** **13 03 27.3 +1.0**
baz=304
NC204 NORSAR Array S 75.00 339 **PcP** **13 03 42.1 +2.2**
TPNV Topopah Spring 75.01 55 P **P** **13 03 27.8 +0.8**
TPNV pmax pmax
comp=Z,17nm,1.1s
TPNV Topopah Spring 75.01 55 P **P** **13 03 28.2 +1.2**
baz=305,SNR=16
TPNV Topopah Spring 75.01 55 P **P** **13 03 27.8 +0.8**
TPNV IAmb IAmb 13 03 43.5
comp=Z,17nm,1.1s
HFS Hagfors 75.02 337 LR LR 13 39 06.0
comp=Z,163nm,21.9s,baz=38,slow=38
EDW2 Edwards Air Fo 75.04 58 P **P** **13 03 28.8 +1.8**
baz=305
NB2 NORSAR Subarra 75.05 339 P **P** **13 03 27.2 +0.6**
comp=Z,17nm,0.8s,baz=37,slow=5.9
NB2 NORSAR Subarra 75.05 339 P **P** **13 03 27.2 +0.6**
baz=37,slow=5.9
NOA NORSAR Array B 75.05 339 P **P** **13 03 27.5 +0.9**
comp=Z,13nm,0.9s,baz=37,slow=5.8,SNR=30
NOA LR LR 13 40 13.2
comp=Z,104nm,20.9s,baz=45,slow=39
LAO LASA Array 75.18 42 P **P** **13 03 29.1 +1.4**
baz=308
LAO LASA Array 75.18 42 P **P** **13 03 28.8 +1.2**
HWUT Hardware Ranch 75.23 49 IAmb IAmb 13 03 45.7
comp=Z,27nm,1.1s
DUG Dugway, Tooele 75.31 51 P **P** **13 03 29.7 +1.1**
DUG pmax pmax
comp=Z,26nm,1.1s
DUG Dugway, Tooele 75.31 51 P **P** **13 03 29.8 +1.1**
baz=306,SNR=13

DUG	Dugway, Tooele	75.31	51	P	P	13 03 29.6	+1.1
DUG				IAmb	IAmb	13 03 46.0	
comp=Z,26nm,1.1s							
MWC	Mount Wilson	75.37	58	P	P	13 03 28.3	-0.8
MWC				pmax	pmax		
comp=Z,32nm,1.5s							
MWC	Mount Wilson	75.37	58	P	P	13 03 28.3	-0.8
MWC				IAmb	IAmb	13 03 46.0	
comp=Z,32nm,1.4s							
GSC	Goldstone, Bar	75.60	57	P	P	13 03 31.2	+1.0
baz=305,SNR=6.1							
CIS	Catalina Islan	75.60	59	P	P	13 03 30.9	+0.7
baz=305							
SHOC	Shoshone, Teco	75.60	56	P	P	13 03 30.7	+0.5
baz=305							
BFSC	Mount Baldy Ra	75.63	58	P	P	13 03 31.3	+0.8
baz=305							
PSUT	Pine Spring	75.63	52	P	P	13 03 31.6	+1.0
PSUT				IAmb	IAmb	13 03 47.8	
comp=Z,19nm,1.1s							
CTU	Camp Tracy	75.66	50	P	P	13 03 31.0	+0.3
CTU				IAmb	IAmb	13 03 47.8	
comp=Z,12nm,0.9s							
BW06	Boulder Array	75.72	47	P	P	13 03 31.6	+0.6
baz=307,SNR=9.0							
PDAR	Pinedale Array	75.72	47	P	P	13 03 32.0	+1.0
comp=Z,3.2nm,0.8s,baz=276,slow=2.7,SNR=35							
PDAR				LR	LR	13 35 58.6	
comp=Z,40nm,18.7s,baz=310,slow=35							
PDAR	Pinedale Array	75.72	47	P	P	13 03 31.8	+0.8
SCI2	San Clemente I	75.75	59	P	P	13 03 31.1	0.0
baz=305							
AKASG	Malin Array Be	75.76	324	P	P	13 03 31.8	+1.0
comp=Z,21nm,0.7s,baz=43,slow=5.8,SNR=45							
AKASG	Malin Array Be	75.76	324	P	P	13 03 31.8	+1.0
AKBB	Malin Array Si	75.76	324	P	P	13 03 31.9	+1.1
AKBB				pmax	pmax		
comp=Z,21nm,0.8s							
AKBB	Malin Array Si	75.76	324	P	P	13 03 31.9	+1.1
AKBB				IAmb	IAmb	13 03 32.8	
comp=Z,21nm,0.8s							
NLU	North Lily Min	75.91	50	P	P	13 03 32.7	+0.6
SHPR	Sheep Range	75.98	55	IAmb	IAmb	13 03 50.0	
comp=Z,20nm,1.2s							
TUQ	Turquoise Moun	76.11	56	P	P	13 03 34.4	+1.2
baz=306,SNR=9.8							
BBRC	Big Bear Solar	76.12	58	P	P	13 03 34.1	+0.7
baz=305							
SUW	Suwalki	76.16	329	eP	P	13 03 34.2	+1.3
HEC	Hector,Ludlow	76.18	57	P	P	13 03 34.7	+1.1
baz=306,SNR=5.1							
MURC	Murrieta	76.32	58	P	P	13 03 34.7	+0.4
baz=305							
GURO	Guroymak-BITLI	76.33	308	P	P	13 03 36.1	+1.7
GURO				IAmb	IAmb	13 03 37.9	
comp=Z,16nm,1.0s							
DY2G	Dye2	76.36	4	⇓iP	P	13 03 35.2	+1.0
DY2G				IAmb	IAmb	13 03 36.2	
comp=Z,16nm,1.1s							
DY2G				i		13 03 49.1	
CCUT	Cedar City	76.53	53	IAmb	IAmb	13 03 53.2	
comp=Z,18nm,1.0s							
GMRC	Granite Mounta	76.66	56	P	P	13 03 37.3	+0.9
baz=306,SNR=5.1							
PFO	Pinyon Flats O	76.81	58	P	P	13 03 36.5	-0.7
PFO				pmax	pmax		
comp=Z,17nm,1.1s							
PFO	Pinyon Flats O	76.81	58	P	P	13 03 38.1	+0.9
baz=306,SNR=6.6							
PFO	Pinyon Flats O	76.81	58	P	P	13 03 36.5	-0.7
PFO				IAmb	IAmb	13 03 54.1	
comp=Z,17nm,1.1s							
TPFO	Pinon Flats	76.82	58	P	P	13 03 38.0	+0.7
baz=306,SNR=6.6							
TMUT	Trail Mountain	76.84	51	IAmb	IAmb	13 03 54.7	
comp=Z,14nm,1.2s							
BELC	Belle Mtn. Jos	76.89	57	P	P	13 03 37.7	0.0
baz=306							
LCMT	Little Creek M	76.92	53	IAmb	IAmb	13 03 55.3	
comp=Z,21nm,1.0s							
MTPU	Mount Pierson	76.98	52	IAmb	IAmb	13 03 56.2	
comp=Z,14nm,0.9s							
KNB	Kanab	77.19	53	P	P	13 03 40.0	+0.6
KNB				pmax	pmax		
comp=Z,37nm,1.2s							
KNB	Kanab	77.19	53	P	P	13 03 40.0	+0.6
BAR	Barrett	77.21	59	IAmb	IAmb	13 03 56.1	
comp=Z,14nm,0.9s							
MONP2	Monument Peak	77.25	58	P	P	13 03 40.7	+0.8
baz=306,SNR=5.3							
NEE2	Needles Airpor	77.36	56	P	P	13 03 40.8	+0.7
baz=306							
IRM	Iron Mountain	77.37	57	P	P	13 03 41.2	+1.0
baz=306,SNR=6.3							
CBX	Cerro Bola	77.43	59	pP	pP	13 03 49.2	-3.0
K22A	Casper	77.55	46	P	P	13 03 42.1	+0.8
baz=309,SNR=7.2							
K22A	Casper	77.55	46	IAmb	IAmb	13 03 58.1	
comp=Z,22nm,1.0s							
IKP	In-Ko-Pah, Jac	77.61	58	P	P	13 03 42.1	+0.4
baz=306,SNR=5.3							
SWSC	Sam W. Stewart	77.65	58	P	P	13 03 42.3	+0.6
baz=306							
MDND	Maddock	77.84	38	P	P	13 03 43.1	+0.5
baz=312							
U15A	North Rim	77.89	53	IAmb	IAmb	13 04 00.4	
comp=Z,14nm,0.9s							
SORM	Soroca	77.92	322	⇑P	P	13 03 44.0	+1.1
SORM	Soroca	77.92	322	⇑P	P	13 03 44.0	+1.1
ULM	Lac du Bonnet	77.96	35	P	P	13 03 43.0	-0.1
comp=Z,6.0nm,0.9s,baz=301,slow=7.8,SNR=6.8							
ULM				LR	LR	13 36 29.9	
comp=Z,69nm,21.3s,baz=293,slow=34							
RSSD	Black Hills	78.00	43	P	P	13 03 44.6	+0.8
RSSD				pmax	pmax		
comp=Z,19nm,1.1s							
RSSD	Black Hills	78.00	43	P	P	13 03 43.9	+0.1
baz=310							
RSSD	Black Hills	78.00	43	P	P	13 03 44.6	+0.8
RSSD				IAmb	IAmb	13 04 00.3	
comp=Z,19nm,1.1s							
O20A	White River Ci	78.12	48	P	P	13 03 45.4	+0.9
baz=309,SNR=6.9							
O20A	White River Ci	78.12	48	IAmb	IAmb	13 04 01.4	
comp=Z,26nm,1.1s							
GLA	Glamis	78.24	58	P	P	13 03 45.3	+0.2
GLA				pmax	pmax		
comp=Z,22nm,1.0s							
GLA	Glamis	78.24	58	P	P	13 03 46.2	+1.1
baz=307,SNR=5.5							
GLA	Glamis	78.24	58	P	P	13 03 45.3	+0.2
GLA				IAmb	IAmb	13 04 02.3	
comp=Z,22nm,1.0s							
LVV	L'vov	78.78	325	eP	P	13 03 49.8	+2.1
PV22	Blue Mesa, Par	78.79	50	IAmb	IAmb	13 04 06.4	
comp=Z,26nm,1.0s							
PV19	Morning Glory	78.81	50	P	P	13 03 49.5	+1.1
PV12	Saucer Basin,	78.92	50	IAmb	IAmb	13 04 06.5	
comp=Z,35nm,1.1s							
PV07	Paradox Valley	78.94	50	IAmb	IAmb	13 04 07.0	
comp=Z,16nm,1.0s							
N23A	Red Feather La	79.00	47	P	P	13 03 50.8	+1.4
baz=310,SNR=9.0							
WUAZ	Wupatki	79.03	54	P	P	13 03 51.2	+1.6
baz=308,SNR=6.1							
WUAZ	Wupatki	79.03	54	IAmb	IAmb	13 04 07.0	
comp=Z,16nm,1.0s							
PV15	Paradox Valley	79.10	50	P	P	13 03 50.6	+0.6
PV15				IAmb	IAmb	13 04 06.5	
comp=Z,14nm,0.9s							
PV01	Paradox Valley	79.18	50	IAmb	IAmb	13 04 07.6	
comp=Z,28nm,0.9s							
AGMN	Agassiz Nation	79.34	36	P	P	13 03 50.9	+0.1
baz=315							
X16A	Lo Mia Camp, P	79.66	55	P	P	13 03 54.3	+1.3
X16A				IAmb	IAmb	13 04 10.5	
comp=Z,14nm,1.0s							
BURAR	Bucovina Array	79.80	323	⇑P	P	13 03 55.4	+1.9
BURAR	Bucovina Array	79.80	323	P	P	13 03 54.7	+1.3
MVCO	Mesa Verde	79.80	51	P	P	13 03 55.0	+1.1
baz=309,SNR=7.6							
MVCO	Mesa Verde	79.80	51	IAmb	IAmb	13 04 10.5	
comp=Z,14nm,1.0s							
TESR	Tescani	79.88	322	⇑P	P	13 03 55.4	+1.7
ISCO	Idaho Springs	79.90	47	P	P	13 03 55.2	+0.9
baz=310							
CFR	Carcaliu	80.05	320	⇑P	P	13 03 56.4	+1.7
CFR	Carcaliu	80.05	320	⇑P	P	13 03 56.4	+1.7
TPGR	Topolog	80.12	320	⇑P	P	13 03 56.5	+1.4
KOLS	Kolonicke sedl	80.22	326	eP	P	13 03 57.2	+1.6
KOLS	Kolonicke sedl	80.22	326	eP	P	13 03 57.2	+1.6
214A	Organ Pipe Nat	80.26	57	P	P	13 03 56.9	+0.8
baz=308							
VRI	Vrincioaia	80.29	321	⇓P	P	13 03 58.8	+2.8
VRI	Vrincioaia	80.29	321	⇓P	P	13 03 58.8	+2.8
OJC	Ojcow	80.36	328	eP	P	13 03 57.8	+1.5
OJC	Ojcow	80.36	328	IAmb	IAmb	13 03 59.0	
comp=Z,24nm,1.2s							
TIRR	Tirgusor	80.40	319	⇑P	P	13 03 58.4	+1.8
TIRR	Tirgusor	80.40	319	⇑P	P	13 03 58.4	+1.8
S22A	4UR Ranch, Cre	80.49	50	P	P	13 03 58.9	+1.3
baz=310,SNR=14							
CRVS	Cervenica-Dubn	80.61	326	eP	P	13 03 59.6	+1.9
CRVS				pmax	pmax		
comp=Z,55nm,2.3s							
CRVS	Cervenica-Dubn	80.61	326	eP	P	13 03 59.6	+1.9
BR131	Keskin Array S	80.69	313	P	P	13 03 59.5	+1.1
BR131	Keskin Array S	80.69	313	P	P	13 03 59.5	+1.1
BRTR	Keskin Array B	80.69	313	P	P	13 03 60.0	+1.5
comp=Z,7.9nm,1.1s,baz=106,slow=4.5,SNR=21							
BRTR	Keskin Array B	80.69	313	i P	P	13 04 00.3	+1.9
BRTR				pmax	pmax		
comp=Z,8.0nm,1.1s							
BRTR	Keskin Array B	80.69	313	P	P	13 03 59.2	+0.8
Q24A	Divide	80.71	48	P	P	13 03 59.6	+0.8
baz=310,SNR=5.0							
F33A	5 Mile Ranch,	80.87	38	IAmb	IAmb	13 04 14.9	
comp=Z,17nm,0.9s							
MLR	Muntele Rosu	80.94	321	⇑P	P	13 04 01.5	+1.8
MLR	Muntele Rosu	80.94	321	⇑P	P	13 04 01.5	+1.8
OGNE	Ogallala	81.20	45	P	P	13 04 01.9	+0.8
baz=312							
SDCO	Great Sand Dun	81.29	49	P	P	13 04 03.0	+1.1
baz=310,SNR=10							
LANS	Liptovska Anna	81.30	327	eP	P	13 04 04.1	+2.7
LANS				pmax	pmax		
comp=Z,4.0nm,0.6s							
LANS	Liptovska Anna	81.30	327	eP	P	13 04 04.1	+2.7
TUC	Tucson	81.39	56	P	P	13 04 02.6	+0.4
baz=308							
VOIR		81.42	322	⇓P	P	13 04 03.8	+1.6
VOIR		81.42	322	⇓P	P	13 04 03.8	+1.6
DRGR		81.58	324	⇑P	P	13 04 04.8	+1.8
DRGR		81.58	324	⇑P	P	13 04 04.8	+1.9
EYMN	Ely	81.62	34	P	P	13 04 03.4	+0.3
baz=318							
MORC	Moravsky Berou	81.64	328	⇑P	P	13 04 04.6	+1.4
MORC	Moravsky Berou	81.64	328	⇑P	P	13 04 04.6	+1.4
MORC	Moravsky Berou	81.64	328	eP	P	13 04 04.7	+1.5
DPC	Dobruska-Polom	81.70	329	eP	P	13 04 04.3	+0.8
DPC	Dobruska-Polom	81.70	329	eP	P	13 04 04.3	+0.8
KRLC	Kraliky	81.73	329	eP	P	13 04 05.2	+1.6
KRLC	Kraliky	81.73	329	eP	P	13 04 05.2	+1.6
PMOR	Pomariorio Ree	81.88	116	eT	T	14 33 50.7	
comp=Z,8.5nm,0.2s							
PSZ	Piszkesteto	82.04	326	⇓P	P	13 04 07.3	+2.0
PSZ	Piszkesteto	82.04	326	⇓P	P	13 04 07.3	+2.0
VYHS	Vyhne	82.07	327	eP	P	13 04 07.1	+1.7
VYHS				pmax	pmax		
comp=Z,7.0nm,1.0s							
VYHS	Vyhne	82.07	327	eP	P	13 04 07.1	+1.7
ECSD	EROS Data Cent	82.20	40	P	P	13 04 06.3	+0.1
baz=315,SNR=5.0							
BRG	Berggiesshubel	82.24	331	eP	P	13 04 07.2	+1.0
BRG				Amp		13 04 08.6	
comp=Z,9.8nm,1.3s							
CLL	Collm	82.25	332	⇓iP	P	13 04 07.0	+0.7
comp=Z,19nm,1.0s							
CLL				e(pP)	pP	13 04 21.0	+3.2
CLL				LmV		13 44 00.0	
comp=Z,100nm,18.1s							
CLL	Collm	82.25	332	⇓iP	P	13 04 07.0	+0.7
CLL				e		13 04 21.0	
CLL				pmax	pmax		
comp=Z,19nm,1.0s							
CLL	Collm	82.25	332	IAmb	IAmb	13 04 08.2	
comp=Z,15nm,0.9s							
JAVC	Velka Javorina	82.29	328	eP	P	13 04 09.2	+2.6
T25A	Trinidad	82.34	49	P	P	13 04 08.5	+1.2
baz=311,SNR=6.3							
T25A	Trinidad	82.34	49	P	P	13 04 08.1	+0.8
T25A				IAmb	IAmb	13 04 24.6	
comp=Z,15nm,0.9s							
PPT	Papeete	82.39	119	LR	LR	13 39 20.5	
comp=Z,95nm,18.7s,baz=315,slow=35							
VRAC	Vranov	82.40	329	⇓P	P	13 04 08.6	+1.5
VRAC	Vranov	82.40	329	⇓P	P	13 04 08.6	+1.5
VRAC	Vranov	82.40	329	eP	P	13 04 08.8	+1.7
PPT2	Papeete2	82.41	119	eLR	LR	13 29 38.6	
comp=Z,195nm,24.8s							
ANMO	Albuquerque	82.52	52	P	P	13 04 08.9	+0.6
ANMO				pmax	pmax		
comp=Z,11nm,1.1s							
ANMO	Albuquerque	82.52	52	P	P	13 04 09.2	+1.0
baz=310							
ANMO	Albuquerque	82.52	52	P	P	13 04 08.9	+0.6
E38A	The Farm, Brul	82.58	35	IAmb	IAmb	13 04 23.3	
comp=Z,14nm,0.8s							
SMOL	Smolenice	82.66	328	eP	P	13 04 10.9	+2.4
SMOL				pmax	pmax		
comp=Z,6.0nm,1.1s							
SMOL	Smolenice	82.66	328	eP	P	13 04 10.9	+2.4
KRUC	Moravsky	82.67	329	eP	P	13 04 10.0	+1.5
MODS	Modra-Piesok	82.83	328	eP	P	13 04 12.4	+3.0
MODS				pmax	pmax		
comp=Z,11nm,1.2s							
MODS	Modra-Piesok	82.83	328	eP	P	13 04 12.4	+3.0
319A	Douglas	82.97	56	P	P	13 04 11.3	+0.8
319A				IAmb	IAmb	13 04 27.7	
comp=Z,20nm,1.0s							
SPMN	Marine on St.	83.02	37	P	P	13 04 09.9	-0.5
baz=317							
121A	Cookes Peak, D	83.22	54	P	P	13 04 13.2	+1.3
baz=310,SNR=9.0							
121A	Cookes Peak, D	83.22	54	IAmb	IAmb	13 04 14.4	
comp=Z,11nm,0.8s							
CKRC	Cesky Krumlov	83.72	330	eP	P	13 04 15.3	+1.3
KHC	Kasperske Hory	83.77	330	eP	P	13 04 15.3	+1.1
KHC	Kasperske Hory	83.77	330	eP	P	13 04 15.3	+1.1
GERES	GERESS Array B	83.94	330	P	P	13 04 16.1	+0.9
comp=Z,1.6nm,0.8s,baz=45,slow=5.8,SNR=14							
GERES	GERESS Array B	83.94	330	P	P	13 04 15.9	+0.7
CBKS	Cedar Bluff	83.95	45	P	P	13 04 15.8	+0.5
baz=314							
G40A	Rib Lake	84.21	35	P	P	13 04 16.4	-0.2
G40A				IAmb	IAmb	13 04 32.1	
comp=Z,10nm,0.9s							
VTS	Vitosha	84.36	321	P	P	13 04 19.1	+1.6
VTS				pmax	pmax		
comp=Z,27nm,0.6s							
VTS	Vitosha	84.36	321	P	P	13 04 19.1	+1.6
E43A	Lone Tree Farm	84.81	33	IAmb	IAmb	13 04 20.7	
comp=Z,6.9nm,0.8s							
MNTX	Cornudas Mount	85.31	53	P	P	13 04 22.9	+0.5
baz=311,SNR=9.9							
BTNL	Ternell	85.31	335	dP	P	13 04 23.0	+1.0
comp=Z,14nm,1.4s							
MEM	Membach	85.34	335	dP	P	13 04 22.8	+0.7
comp=Z,12nm,1.1s							
AMTX	Amarillo	85.49	49	P	P	13 04 24.2	+0.9
baz=313							
AMTX	Amarillo	85.49	49	P	P	13 04 24.2	+0.9
AMTX				IAmb	IAmb	13 04 40.5	
comp=Z,18nm,1.1s							
BHOU	Houvegnez	85.55	335	dP	P	13 04 24.4	+1.3
BCLA	Clavier	85.73	335	dP	P	13 04 25.3	+1.3
MATQ	Matagami	85.74	26	P	P	13 04 24.0	-0.1
baz=327							
BGES	Gesves	85.84	335	bP	P	13 04 25.8	+1.2
I42A	Draeger Farm,	85.86	36	IAmb	IAmb	13 04 26.2	
comp=Z,12nm,0.8s							
JFWS	Jewell Farm	85.97	37	P	P	13 04 25.4	+0.1
baz=319							
SNF	Senefte	85.99	336	kP	P	13 04 26.3	+1.0
BMRD	Maredsous	86.01	336	dP	P	13 04 26.0	+0.6
comp=Z,15nm,1.1s							
DOU	Dourbes	86.25	336	dP	P	13 04 27.6	+1.1
TBI	Tubuai	86.39	123	eLR	LR	13 31 28.8	
comp=Z,189nm,22.8s							
TBI	Tubuai	86.39	123	eT	T	14 39 27.6	
comp=Z,24nm,0.3s							
BFO	Black Forest	86.43	332	P	P	13 04 28.6	+1.0
BFO				pmax	pmax		
comp=Z,16nm,1.1s							
BFO	Black Forest	86.43	332	P	P	13 04 28.6	+1.0
BFO				IAmb	IAmb	13 04 29.7	
comp=Z,16nm,1.1s							
PDG	Podgorica	86.47	323	P	P	13 04 28.3	+0.5
PDG				IAmb	IAmb	13 04 29.5	
comp=Z,7.6nm,0.9s							
LSQQ	Lebel-sur-Quev	86.56	26	P	P	13 04 28.2	0.0
baz=328							
CHGQ	Chibougamau	86.71	24	P	P	13 04 28.8	-0.1
baz=330							
P38A	Dawn	86.76	41	IAmb	IAmb	13 04 45.0	
comp=Z,6.2nm,0.8s							
ECH	Echery	86.96	333	IAmb	IAmb	13 04 32.0	
comp=Z,7.8nm,1.0s							
GLMI	Grayling	87.06	33	P	P	13 04 30.8	+0.1
baz=322							
WMOK	Wichita Mounta	87.32	48	P	P	13 04 32.2	0.0
baz=314							
P40A	Paris	87.60	40	IAmb	IAmb	13 04 49.2	
comp=Z,8.4nm,0.8s							
TX32	Lajitas Array	87.98	54	P	P	13 04 35.6	+0.1
TX32				IAmb	IAmb	13 04 37.1	
comp=Z,5.4nm,0.8s							
TXAR	Lajitas Array	87.98	54	P	P	13 04 36.3	+0.8
comp=Z,4.0nm,0.7s,baz=305,slow=3.5,SNR=63							
TXAR				LR	LR	13 38 56.7	
comp=Z,107nm,20.2s,baz=0.0,slow=32							
TXAR	Lajitas Array	87.98	54	P	P	13 04 35.7	+0.2
HDIL	Hopedale	88.22	38	P	P	13 04 36.5	+0.2
baz=320							
ABTX	Abilene, Hawle	88.28	50	P	P	13 04 36.7	-0.1
baz=314							
ALGO	Algonquin Park	88.79	28	P	P	13 04 38.8	-0.1
baz=327							
CCM	Cathedral Cave	89.12	41	P	P	13 04 41.2	+0.6
CCM				pmax	pmax		
comp=Z,15nm,1.1s							
CCM	Cathedral Cave	89.12	41	P	P	13 04 40.7	+0.1
baz=318							
CCM	Cathedral Cave	89.12	41	P	P	13 04 41.2	+0.6
CCM				IAmb	IAmb	13 04 42.0	
comp=Z,15nm,1.1s							
MGMO	Mountain Grove	89.25	42	IAmb	IAmb	13 04 42.2	
comp=Z,8.7nm,1.0s							
LPL	La Plagne	89.39	332	eP	P	13 04 43.7	+1.7
LPL				pmax	pmax		
comp=Z,2.0nm,0.2s							
SFIN	Lafayette	89.42	37	P	P	13 04 42.2	+0.2
baz=321							
U40A	Yellville	89.52	43	P	P	13 04 42.2	-0.4
baz=318							
U40A	Yellville	89.52	43	IAmb	IAmb	13 04 43.7	
comp=Z,14nm,0.9s							
Q44A	Meyer Farm, Va	89.62	39	P	P	13 04 43.7	+0.8
JCT	Junction City	89.66	51	P	P	13 04 43.2	-0.1
baz=314							
JCT	Junction City	89.66	51	IAmb	IAmb	13 04 44.4	
comp=Z,5.8nm,0.7s							
PLVO	Plevna	89.93	28	IAmb	IAmb	13 06 29.0	
comp=Z,20nm,1.3s							
T42A	Van Buren	89.97	41	IAmb	IAmb	13 04 46.5	
comp=Z,9.0nm,1.1s							
WHTX	Lake Whitney,	90.04	49	P	P	13 04 45.1	+0.1
baz=315							
FCAR	Ozark Folk Cen	90.27	43	IAmb	IAmb	13 04 46.9	
comp=Z,8.4nm,1.0s							
MIAR	Mount Ida	90.45	45	P	P	13 04 47.3	+0.4
baz=317							
PBMO	Poplar Bluff	90.51	41	IAmb	IAmb	13 04 48.6	
comp=Z,10nm,0.8s							
WHAR	Wooly Hollow	90.62	43	IAmb	IAmb	13 04 48.9	
comp=Z,12nm,1.0s							
W41B	Gary Mavity, V	90.73	43	P	P	13 04 48.0	-0.1
baz=318							
E60A	Ste Agathe de	90.76	24	P	P	13 04 48.4	+0.4
baz=332							
MFF	Saint Martin d	90.84	337	eP	P	13 04 49.4	+1.0
MFF				pmax	pmax		
comp=Z,14nm,1.0s							
D62A	Allapoint, All	90.88	22	P	P	13 04 49.1	+0.5
baz=334							
X40A	Basin Creek Fa	90.91	44	P	P	13 04 49.2	+0.2
baz=318							
E61A	Lac Etchemin	91.01	23	P	P	13 04 49.5	+0.2
baz=332							
H57A	Richville	91.05	27	P	P	13 04 49.7	+0.2
baz=329							
E62A	Clayton Lake	91.15	23	P	P	13 04 51.2	+1.3
baz=333							
LONY	Lake Ozonia	91.21	27	P	P	13 04 49.5	-0.7
baz=330							
P49A	Miami Univ. Ec	91.22	36	P	P	13 04 50.5	+0.2
baz=322							
F61A	St Evariste	91.26	24	P	P	13 04 51.2	+0.8
baz=332							
I57A	Carthage	91.40	28	P	P	13 04 51.4	+0.3
baz=329							
WCI	Wyandotte Cave	91.49	38	P	P	13 04 51.9	+0.3
baz=322							
H59A	Cadyville	91.51	26	P	P	13 04 51.6	0.0
baz=330							
H58A	Gabriels	91.53	27	P	P	13 04 51.9	+0.2
baz=330							
F62A	Pittston Farm,	91.66	23	P	P	13 04 52.8	+0.6
baz=333							
G61A	St-Isidore-de-	91.69	25	P	P	13 04 52.5	+0.1
baz=332							
E64A	Bridgewater	91.84	22	P	P	13 04 53.3	+0.2
baz=334							
H60A	Morristown	91.93	26	P	P	13 04 54.0	+0.4
baz=331							
LFF	La Frestale	92.02	335	eP	P	13 04 55.2	+1.3
LFF				pmax	pmax		
comp=Z,17nm,1.2s							
J58A	Remsen	92.04	28	P	P	13 04 54.1	0.0
baz=329							
G62A	West of Eustis	92.08	24	P	P	13 04 54.4	+0.2
baz=332							
WVT	Waverly	92.35	40	P	P	13 04 55.4	-0.2
baz=320							
WVT	Waverly	92.35	40	IAmb	IAmb	13 04 57.0	
comp=Z,5.5nm,0.9s							
H62A	Milan	92.44	25	P	P	13 04 56.4	+0.5
baz=332							
G63A	Kingsbury	92.46	24	P	P	13 04 56.6	+0.5
baz=333							
G64A	Maxfield	92.61	23	P	P	13 04 57.2	+0.6
baz=334							
BINY	Binghamton	92.76	29	P	P	13 04 57.1	-0.4
baz=328							
OXF	Oxford	92.76	42	P	P	13 04 57.7	+0.1
baz=320							
J60A	Lant Hill Farm	92.82	27	P	P	13 04 57.7	+0.1
baz=330							
L58A	Harry Jones Me	92.95	29	P	P	13 04 58.5	+0.2
baz=329							
O56A	Blue Knob Stat	93.35	32	P	P	13 05 00.5	+0

PLCA	**Paso Flores**	**152.50**	**108**	PKPbc	**PKiKP**	**13 11 41.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=296,slow=5.7,SNR=4.0						
PLCA				PKPab	**pPKPdf**	**13 11 51.9**	**+5.5**
	comp=Z,2.2nm,0.7s,baz=237,slow=4.7,SNR=5.6						

WEL 23 12:59:09.7,38°S±4°×17°7E±°,h55km±7km,M3.3/50, ML3.6/50,MLv3.3/50 Error ellipse: s-maj=0.0km s-min=0.0km az=138.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**0.34**	**97**	P	Pn	12 59 19.2	-0.6
URZ	**Urewera**	**0.35**	**199**	P	Pn	12 59 20.4	+0.5
URZ				S	Sn	12 59 29.0	+1.9
WIZ	**White Island**	**0.40**	**352**	P	Pn	12 59 19.9	-0.4
EDRZ	**Edgecumbe**	**0.45**	**246**	P	Pn	12 59 21.7	+0.8
HAZ	**Te Kaha**	**0.45**	**68**	P	Pn	12 59 20.3	-0.4
HAZ				S	Sn	12 59 28.9	+0.1
MWZ	**Matawai**	**0.46**	**152**	P	Pn	12 59 21.0	0.0
MWZ				S	Sn	12 59 30.8	+1.7
MARZ	**Manawahe**	**0.46**	**262**	P	Pn	12 59 38.5	+0.5
OPRZ	**Ohinepanea**	**0.56**	**278**	P	Pn	12 59 22.4	+0.3
RAGZ	**Rawiri**	**0.58**	**168**	P	Pn	12 59 22.9	+0.4
TWGZ	**Tauwhareparae**	**0.62**	**114**	P	Pn	12 59 23.6	+0.7
TWGZ				S	Sn	12 59 35.3	+2.9
PKGZ	**Pakihiroa**	**0.65**	**87**	P	Pn	12 59 22.9	-0.3
PKGZ				S	Sn	12 59 33.2	+0.2
MKRZ	**Makatiti**	**0.66**	**251**	P	Pn	12 59 24.5	+1.2
TARZ	**Mount Tarawera**	**0.67**	**242**	P	Pn	12 59 24.4	+0.9
MUGZ	**Murupara**	**0.67**	**215**	P	Pn	12 59 24.0	+0.6
LIRZ	**Lichensteins R**	**0.69**	**263**	P	Pn	12 59 24.3	+0.7
TKGZ	**Te Karaka**	**0.69**	**138**	P	Pn	12 59 23.9	+0.3
RRRZ	**Republican Roa**	**0.72**	**234**	P	Pn	12 59 24.4	+0.4
OMRZ	**Omania**	**0.72**	**255**	P	Pn	12 59 24.9	+0.8
RTZ	**Ruatahuna**	**0.72**	**197**	P	Pn	12 59 24.4	+0.3
RTZ				S	Sn	12 59 36.3	+1.7
HLRZ	**Highlands Stat**	**0.78**	**245**	P	Pn	12 59 25.7	+0.8
KARZ	**Kaharoa**	**0.81**	**263**	P	Pn	12 59 25.5	+0.4
PUZ	**Puketiti**	**0.81**	**101**	P	Pn	12 59 24.6	-0.4
PUZ				S	Sn	12 59 37.2	+0.9
TGRZ	**Tauranga**	**0.81**	**284**	P	Pn	12 59 25.3	+0.1
SNGZ	**Shannon Statio**	**0.86**	**176**	P	Pn	12 59 26.3	+0.5
NGRZ	**Ngongotaha**	**0.86**	**258**	P	Pn	12 59 26.8	+0.9
RIGZ	**Rimuhau**	**0.88**	**153**	P	Pn	12 59 26.6	+0.6
RIGZ				S	Sn	12 59 40.8	+2.8
PRRZ	**Plateau Road**	**0.89**	**230**	P	Pn	12 59 26.5	+0.3
MXZ	**Matakaoa Point**	**0.91**	**67**	P	Pn	12 59 26.4	0.0
MXZ				S	Sn	12 59 39.7	+1.0
WMGZ	**Waiomatatini S**	**0.92**	**84**	P	Pn	12 59 26.3	-0.3
CNGZ	**Carnagh Statio**	**0.94**	**127**	P	Pn	12 59 26.7	-0.1
CNGZ				S	Sn	12 59 41.9	+2.6
ALRZ	**Allen Road**	**0.96**	**228**	P	Pn	12 59 27.6	+0.5
MTHZ	**Maungataniwha**	**0.98**	**199**	P	Pn	12 59 27.9	+0.4
RAHZ	**Arahi**	**1.00**	**188**	P	Pn	12 59 28.7	+1.1
KMRZ	**Kaimai**	**1.04**	**274**	P	Pn	12 59 28.4	+0.1
WPRZ	**Whakapapatarin**	**1.05**	**235**	P	Pn	12 59 28.7	+0.5
PRGZ	**Paritu Road**	**1.11**	**154**	P	Pn	12 59 28.7	-0.5
MRHZ	**Matea Rd**	**1.12**	**216**	P	Pn	12 59 29.5	+0.2
KNZ	**Kokohu**	**1.14**	**163**	P	Pn	12 59 29.0	-0.6
WHHZ	**Waihua**	**1.15**	**181**	P	Pn	12 59 29.7	0.0
NMHZ	**Naumai**	**1.22**	**197**	P	Pn	12 59 31.7	+1.0
KUTZ	**Kaahu Road**	**1.26**	**243**	P	Pn	12 59 31.8	+0.7
WHTZ	**Whakaora**	**1.26**	**234**	P	Pn	12 59 31.9	+0.8
MHGZ	**Mahia Peninsul**	**1.33**	**158**	P	Pn	12 59 31.7	-0.3
BKZ	**Black Stump Fm**	**1.38**	**206**	P	Pn	12 59 32.9	+0.2
TOZ	**Tahuroa Road**	**1.40**	**277**	P	Pn	12 59 33.2	+0.2
TLZ	**Tolley Road**	**1.41**	**253**	P	Pn	12 59 33.6	+0.4
WATZ	**Wairara**	**1.43**	**236**	P	Pn	12 59 33.8	+0.4
RATZ	**Rangitukua**	**1.50**	**231**	P	Pn	12 59 34.7	+0.3
RITZ	**Rihia Road**	**1.52**	**226**	P	Pn	12 59 35.3	+0.7
KRVZ	**Karewarewa**	**1.72**	**227**	P	Pn	12 59 38.3	+0.8
OTVZ	**Oturere**	**1.76**	**225**	P	Pn	12 59 38.6	+0.7
NGZ	**Ngauruhoe**	**1.80**	**226**	P	Pn	12 59 39.3	+0.7
BHZ	**Black Hill Sta**	**1.82**	**210**	P	Pn	12 59 38.2	-0.2
TWVZ	**Taurewa**	**1.83**	**231**	P	Pn	12 59 39.7	+0.8
TUVZ	**Tukino**	**1.84**	**223**	P	Pn	12 59 39.6	+0.5
KRHZ	**Kereru**	**1.85**	**202**	P	Pn	12 59 38.2	-0.9
FWVZ	**Far West T-bar**	**1.88**	**225**	P	Pn	12 59 40.4	+0.7
WHVZ	**Whangaehu Hut**	**1.88**	**223**	P	Pn	12 59 40.3	+0.5
KAHZ	**Kahuranaki**	**1.89**	**189**	P	Pn	12 59 38.3	-1.4
MOVZ	**Moawhango**	**1.89**	**218**	P	Pn	12 59 39.6	-0.1
WNVZ	**Wahianoa**	**1.91**	**222**	P	Pn	12 59 40.5	+0.4
TRVZ	**Turoa**	**1.92**	**224**	P	Pn	12 59 40.5	+0.3
MTVZ	**Mangateitei**	**2.02**	**223**	P	Pn	12 59 42.0	+0.5
PKVZ	**Pokaka**	**2.02**	**227**	P	Pn	12 59 42.4	+0.9
PXZ	**Pawanui**	**2.13**	**188**	P	Pn	12 59 40.6	-2.2
PNHZ	**Pukenui**	**2.15**	**202**	P	Pn	12 59 41.9	-1.4
ANWZ	**Angora Road**	**2.60**	**193**	P	Pn	12 59 46.7	-2.6
ANWZ				S	Sn	13 00 17.8	-2.0
WEL	**Wellington**	**3.87**	**209**	P	Pn	13 00 03.6	-3.0
NNZ	**Nelson**	**4.45**	**221**	P	Pn	13 00 10.9	-3.7
NNZ				S	Sn	13 01 03.1	-1.9
QRZ	**Quartz Range**	**4.67**	**230**	P	Pn	13 00 15.4	-2.2
THZ	**Tophouse**	**5.09**	**220**	P	Pn	13 00 19.7	-3.8
THZ				S	Sn	13 01 17.2	-3.7
KHZ	**Kahutara**	**5.31**	**211**	P	Pn	13 00 21.8	-4.6
KHZ				S	Sn	13 01 18.5	-7.8
DSZ	**Denniston Nort**	**5.67**	**226**	P	Pn	13 00 27.3	-4.1
DSZ				S	Sn	13 01 31.4	-3.8
GVZ	**Greta Valley S**	**5.98**	**211**	P	Pn	13 00 30.5	-5.1
LTZ	**Lake Taylor**	**6.17**	**217**	P	Pn	13 00 32.0	-6.2
LTZ				S	Sn	13 01 39.5	-7.9
OKCZ	**Okains Bay**	**6.61**	**207**	P	Pn	13 00 38.8	-5.5
OKCZ				S	Sn	13 01 48.3	-10
MQZ	**McQueen's Vall**	**6.75**	**210**	P	Pn	13 00 39.9	-6.2
MQZ				S	Sn	13 01 50.7	-11

KRNET 23 13:00:45.7±0.1,42°44N×74°47E,h16km,mb2.3,12C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.20**	**4**	⇑*i*P	Pg	13 00 50.3	-0.4
	baz=4.0						
AAK				⇑*i*S	Sg	13 00 53.5	-0.5
	baz=4.0						
AAK	**Ala-Archa**	**0.20**	**4**	P	Pg	13 00 50.3	-0.4
	SNR=9.5						
FRU1	**Bishkek**	**0.39**	**17**	⇑*i*P	Pg	13 00 53.7	-0.1
	baz=15						
FRU1				⇑*i*S	Sb	13 01 00.1	-0.1
	baz=15						
KBK	**Karagaybulak**	**0.41**	**58**	⇑*i*P	Pg	13 00 53.9	-0.3
	baz=58						
KBK				⇑*i*S	Sg	13 00 59.9	-0.1
	baz=58						
KBK	**Karagaybulak**	**0.41**	**58**	P	Pn	13 01 00.4	+3.2
	SNR=8.7						
EKS2	**Erkin-Say**	**0.56**	**294**	⇑*i*P	Pg	13 00 56.7	-0.2
	baz=94						
EKS2				⇑*i*S	Sg	13 01 04.7	+0.2
	baz=94						
AML	**Almayashu**	**0.65**	**243**	⇑*i*P	Pg	13 00 58.3	-0.4
	baz=43						
AML				⇑*i*S	Sg	13 01 07.5	+0.1
	baz=43						
AML	**Almayashu**	**0.65**	**243**	P	Pn	13 01 07.7	+7.0
	SNR=9.5						
USP	**Ospenovka**	**0.83**	**1**	⇓*i*P	Pb	13 01 01.2	-0.6
	baz=1.0						
USP				⇓*i*S	Sg	13 01 12.9	0.0
	baz=1.0						
USP	**Ospenovka**	**0.83**	**1**	P	Pb	13 01 00.4	-1.5
	SNR=5.2						
TKM2	**Tokmak 2**	**0.96**	**59**	⇑*e*P	Pb	13 01 03.7	-0.4
	baz=59						
TKM2				⇑*i*S	Sg	13 01 17.0	0.0
	baz=59						

*IDC **23** 13:09:05.5±2.5,5°89S×148°96E,h169km±28km,mb3.8/3, mb1 3.9/5,mb1mx3.3/40,mbtmp4.2/5,Error ellipse: s-maj=85.0km s-min=21.6km az=121.0*
*NEIC **23** 13:09:06.1±2.2,5°67S±0°07×148°62E±0°10,h169km±9km, mb4.2/27,Error ellipse: s-maj=14.9km s-min=7.8km az=115.0*
ISC 23 13:09:05.2±0.7,**5°62S**±0°06×**148°55E**±0°09,**h163**km,**n43**, σ1§**37**/44,**mb4.2**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.74**	**341**	Pn	**Pn**	**13 10 04.6**	**+2.0**
RABL	**Rabaul**	**3.87**	**69**	Pn	**Pn**	**13 10 04.4**	**+0.2**
RABL	**Rabaul**	**3.87**	**69**	P	**Pn**	**13 10 06.0**	**+1.9**
PMG	**Port Moresby**	**4.01**	**200**	P	**Pn**	**13 10 06.5**	**+0.5**
	3.6nm,0.3s,baz=0.2,slow=11,SNR=16						
PMG				S	**Sn**	**13 10 51.6**	**-1.8**
	16nm,0.3s,baz=120,slow=5.0,SNR=5.4						
PMG	**Port Moresby**	**4.01**	**200**		**Pn**	**13 10 06.2**	**+0.2**
PMG	**Port Moresby**	**4.01**	**200**	P	**Pn**	**13 10 10.0**	**+4.0**
PMG	**Port Moresby**	**4.01**	**200**	P	**Pn**	**13 10 10.2**	**+4.2**
MTN	**Manton Dam**	**18.62**	**246**	P	**P**	**13 13 10.8**	**+0.2**
MTN				IAmb	IAmb	13 13 11.7	
	comp=Z,9.4nm,1.0s						
WB0	**Warramunga Arr**	**19.69**	**223**	P	**P**	**13 13 22.7**	**+0.6**
WB0				IAmb	IAmb	13 13 26.6	
	comp=Z,7.6nm,0.8s						
WR0	**Warramunga Arr**	**19.72**	**222**		**P**	**13 13 22.9**	**+0.6**
WR0				IAmb	IAmb	13 13 26.6	
	comp=Z,6.3nm,0.7s						
EIDS	**Eidsvold**	**19.79**	**173**	P	**P**	**13 13 24.6**	**+1.6**
EIDS				IAmb	IAmb	13 13 29.7	
	comp=Z,8.2nm,1.1s						
WRAB	**Tennant Creek**	**19.83**	**223**	P	**P**	**13 13 24.1**	**+0.5**
WRAB				IAmb	IAmb	13 13 27.7	
	comp=Z,6.3nm,0.7s						
WB2	**Warramunga Arr**	**19.84**	**223**		**P**	**13 13 24.2**	**+0.6**
WB2				IAmb	IAmb	13 13 27.8	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**19.85**	**223**	P	**P**	**13 13 24.4**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=52,slow=11,SNR=109						
WRA	**Warramunga Arr**	**19.85**	**223**	P	**P**	**13 13 22.7**	**-1.0**
KNRA	**Kununurra**	**21.85**	**241**	P	**P**	**13 13 43.8**	**-1.2**
KNRA				IAmb	IAmb	13 13 47.1	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**22.82**	**217**		**P**	**13 13 54.2**	**-0.1**
ASAR	**Alice Springs**	**22.83**	**217**	P	**P**	**13 13 55.4**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=48,slow=9.4,SNR=40						
ASAR	**Alice Springs**	**22.83**	**217**	P	**P**	**13 13 55.1**	**+0.7**
MORW	**Morawa**	**38.58**	**229**	P	**P**	**13 16 09.5**	**-3.0**
PEA0B	**Petropavlovsk-**	**59.02**	**6**	P	**P**	**13 18 48.3**	**+0.6**
PEA0B				IAmb	IAmb	13 18 49.8	
	comp=Z,7.5nm,1.1s						
PETK	**Petropavlovsk-**	**59.02**	**6**	P	**P**	**13 18 49.1**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=169,slow=6.8,SNR=13						
PETK	**Petropavlovsk-**	**59.02**	**6**	P	**P**	**13 18 47.6**	**-0.1**
PET	**Petropavlovsk**	**59.04**	**7**	P	**P**	**13 18 47.2**	**-0.6**
MKAR	**Makanchi Array**	**78.19**	**320**	P	**P**	**13 20 46.5**	**-0.2**
HOM	**Homer**	**80.19**	**26**	P	**P**	**13 20 58.0**	**+0.8**
CNPM	**China Poot**	**80.31**	**27**	P	**P**	**13 20 59.0**	**+1.1**
SUA	**Susitna One**	**81.45**	**25**	P	**P**	**13 21 04.4**	**+0.3**
SUA				IAmb	IAmb	13 21 04.9	
	comp=Z,4.0nm,0.7s						
RC01	**Rabbit Creek A**	**81.71**	**26**	P	**P**	**13 21 06.0**	**+0.8**
RC01				IAmb	IAmb	13 21 06.5	
	comp=Z,9.1nm,1.0s						
GHO	**Glory Hole Cre**	**82.37**	**25**	P	**P**	**13 21 08.4**	**-0.4**
GHO				IAmb	IAmb	13 21 26.3	
	comp=Z,5.0nm,1.1s						
KTH	**Kantishna Hill**	**82.40**	**23**	P	**P**	**13 21 08.9**	**+0.1**
IMAR	**Indian Mountai**	**82.59**	**20**	P	**P**	**13 21 08.2**	**-1.5**
TRF	**Thorofare Moun**	**82.59**	**23**	P	**P**	**13 21 08.7**	**-1.3**
TRF				IAmb	IAmb	13 21 13.8	
	comp=Z,4.6nm,1.2s						
BPAW	**Bear Paw Mtn.**	**82.64**	**23**	P	**P**	**13 21 08.9**	**-1.1**
SML	**Sawmill**	**82.64**	**25**	P	**P**	**13 21 10.7**	**+0.5**
SML				IAmb	IAmb	13 21 12.6	
	comp=Z,6.5nm,0.8s						
SCM	**Sheep Creek Mo**	**83.08**	**25**	P	**P**	**13 21 13.7**	**+1.3**
MLY	**Manley**	**83.19**	**22**	P	**P**	**13 21 12.9**	**+0.1**
MLY				IAmb	IAmb	13 21 14.7	
	comp=Z,3.4nm,0.7s						
RAGM	**Ragged Mountai**	**83.65**	**27**	P	**P**	**13 21 14.5**	**-0.8**
I23K	**Minto, Yukon-K**	**83.76**	**22**	P	**P**	**13 21 16.3**	**+0.6**
CCB	**Clear Creek Bu**	**84.12**	**23**	P	**P**	**13 21 16.9**	**-0.6**
CCB				IAmb	IAmb	13 21 18.1	
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**13 21 18.2**	**-0.7**
ILAR	**Eielson Array**	**84.53**	**23**	P	**P**	**13 21 19.4**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=252,slow=4.9,SNR=22						
TORD	**Torodi Ar. Bea**	**146.49**	**285**	PKPbc	**PKPdf**	**13 28 27.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=92,slow=3.0,SNR=1.7						

*IDC **23** 13:17:41.9±0.4,14°86S×66°73E,h0km,mb4.4/32, mb1 4.5/33,mb1mx4.4/58,mbtmp4.4/33,ML4.9/1,MS4.1/27, Ms1 4.1/27,ms1mx4.0/36,Error ellipse: s-maj=14.9km s-min=12.2km az=27.0*
*MOS **23** 13:17:41.9±0.9,14°84S×66°77E,h10km,mb4.9/41,Error ellipse: s-maj=9.9km s-min=6.3km az=101.4*
*NEIC **23** 13:17:43.9±2.0,14°90S±0°07×66°8E±0°1,h10km±1km, mb5.0/78,Error ellipse: s-maj=17.2km s-min=11.6km az=269.0*
*BJI **23** 13:17:43.9±0.0,14°90S×66°80E,h15km,mB5.1/26, mb4.7/41,Ms4.7/28,Ms7 4.5/30*
*GCMT **23** 13:17:44.9±0.2,15°02S±0°02×66°93E±0°02,h12km, MW5.0/99,Moment Tensor Solution. s22,c27; s99,c141; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.73±.08; $M_{\theta\theta}$1.87±.08; $M_{\phi\phi}$0.85±.09; $M_{r\theta}$-1.24±.30; $M_{\theta\phi}$-1.52±.06; $M_{\phi r}$-1.21±.32; Best double couple: $M_0$3.29600×10^16^ NP1:ϕ_s101.00000°,δ54.00000°,λ-124.00000°. Principal axes: T 2.9830, Plg4.0000°, Azm214.0000°; N 0.6190, Plg27.0000°, Azm122.0000°; P -3.6080, Plg63.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 13:17:44.8±1.1,**14°96S**±0°06×**66°74E**±0°06,**h17**km±6km, **n349**,σ1§**32**/346,**mb4.8**/125,**MS4.4**/39,**19C-7D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.19**	**38**	T	T	13 29 12.1	
	baz=218,slow=75,SNR=4406						
H08S2	**Diego Garcia H**	**9.20**	**38**	T	T	13 29 12.8	
	baz=218,slow=75,SNR=4576						
H08S3	**Diego Garcia H**	**9.21**	**38**	T	T	13 29 12.8	
	baz=218,slow=75,SNR=4026						
OPO	**Ambohidratompo**	**19.06**	**256**	P	**P**	**13 22 04.4**	**-2.3**
	3.9nm,0.3s,baz=349,slow=1.5,SNR=25						
OPO				LR	LR	13 27 38.2	
	comp=Z,402nm,19.1s,baz=236,slow=31						
ABPO	**Ambohimpanom**	**19.09**	**255**	P	**Pn**	**13 22 09.2**	**+1.3**
ABPO				pmax	pmax		
	comp=Z,20nm,1.1s						
ABPO	**Ambohimpanom**	**19.09**	**255**	P	**Pn**	**13 22 09.2**	**+1.3**
PALK	**Pallekele**	**26.07**	**33**	LR	LR	13 31 08.7	
	comp=Z,1μm,21.0s,baz=303,slow=31						
KMBO	**Kilima Mbogo**	**32.20**	**293**	P	**P**	**13 24 13.0**	**+0.4**
	comp=Z,4.8nm,1.0s,baz=73,slow=7.3,SNR=7.4						
KMBO				LR	LR	13 34 30.8	
	comp=Z,225nm,20.0s,baz=96,slow=31						
KMBO	**Kilima Mbogo**	**32.20**	**293**	*e*P	**P**	**13 24 12.3**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GSI	**Gunungsitoli**	**34.52**	**65**	P	**P**	**13 24 30.9**	**-1.7**
GSI				IAmb	IAmb	13 24 46.3	
	comp=Z,37nm,1.3s						
LODK	**Lodwar**	**36.05**	**298**	P	**P**	**13 24 46.7**	**+0.9**
LSZ	**Lusaka**	**37.19**	**264**	P	**P**	**13 24 55.1**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,43nm,1.4s						
LSZ	**Lusaka**	**37.19**	**264**	P	**P**	**13 24 55.1**	**-0.5**
LSZ				IAmb	IAmb	13 25 03.7	
	comp=Z,43nm,1.4s						
TRTT	**Trang**	**39.75**	**57**	P	P	13 25 23.9	+6.9
	comp=Z,1μmcomp=Z,17nm,1.1s						
TRTT	**Trang**	**39.75**	**57**	P	P	13 25 23.0	+6.0
	comp=Z,1μmcomp=Z,17nm,1.1s						
LBTB	**Lobatse**	**39.80**	**249**	P	**P**	**13 25 17.6**	**+0.1**
	comp=Z,5.1nm,0.9s,baz=39,slow=20,SNR=5.4						
LBTB	**Lobatse**	**39.80**	**249**	P	**P**	**13 25 17.8**	**+0.3**
LBTB				pmax	pmax		
	comp=Z,16nm,1.2s						
LBTB	**Lobatse**	**39.80**	**249**	P	**P**	**13 25 17.8**	**+0.3**
BOSA	**Boshof**	**40.64**	**243**	P	**P**	**13 25 24.4**	**0.0**
	comp=Z,4.8nm,1.1s,baz=60,slow=7.7,SNR=3.6						
BOSA				LR	LR	13 39 37.8	
	comp=Z,506nm,18.4s,baz=78,slow=32						
BOSA	**Boshof**	**40.64**	**243**	P	**P**	**13 25 23.3**	**-1.1**
BOSA				pmax	pmax		
	comp=Z,62nm,1.8s						
BOSA	**Boshof**	**40.64**	**243**	P	**P**	**13 25 23.3**	**-1.1**
BOSA				IAmb	IAmb	13 25 56.2	
	comp=Z,62nm,1.8s						
UOSS	**Minazif**	**40.97**	**345**	P	**P**	**13 25 26.9**	**0.0**
UOSS				IAmb	IAmb	13 26 39.4	
	comp=Z,50nm,1.6s						
UTHA	**Uthaitani**	**44.31**	**48**	P	P	13 26 02.4	+8.2
	comp=Z,3.9nm,0.9s						
SRAK	**Srakaew**	**45.26**	**52**	P	P	13 26 13.0	+11
	comp=Z,47nm,0.5s						
CM13	**Chiang Mai Arr**	**45.88**	**45**	P	P	13 26 14.3	+7.7
	comp=Z,5.1nm,1.1s						
CM05	**Chiang Mai Arr**	**45.89**	**45**	P	P	13 26 14.9	+8.2
	comp=Z,57nmcomp=Z,6.5nm,1.2s						
CM01	**Chiang Mai Arr**	**45.91**	**45**	P	P	13 26 15.3	+8.4
	comp=Z,76nmcomp=Z,8.4nm,1.1s						
CM04	**Chiang Mai Arr**	**45.91**	**45**	P	**P**	**13 26 09.4**	**+2.5**
	comp=Z,97nmcomp=Z,11nm,1.1s						
CM02	**Chiang Mai Arr**	**45.91**	**45**	P	P	13 26 15.2	+8.4
	comp=Z,8.1nm,1.1s						
CM31	**Chiang Mai Arr**	**45.93**	**45**	P	P	13 26 15.3	+8.3
	comp=Z,204nm,1.1s						
CM31	**Chiang Mai Arr**	**45.93**	**45**	P	**P**	**13 26 05.8**	**-1.2**
CM31				IAmb	IAmb	13 26 15.2	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**45.93**	**45**	P	**P**	**13 26 07.0**	**0.0**
	comp=Z,2.9nm,0.9s,baz=235,slow=8.5,SNR=13						
CMAR				LR	LR	13 42 55.3	
	comp=Z,446nm,20.4s,baz=246,slow=33						
CMAR	**Chiang Mai Arr**	**45.93**	**45**	*e*P	**P**	**13 26 07.7**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**45.93**	**45**	P	**P**	**13 26 06.9**	**-0.1**
CM09	**Chiang Mai Arr**	**45.95**	**45**	P	P	13 26 15.4	+8.2
	comp=Z,8.0nm,1.0s						
PHIT	**Phitsanulok**	**46.09**	**47**	P	**P**	**13 26 09.9**	**+1.6**
	comp=Z,222nmcomp=Z,20nm,0.9s						
CHTO	**Chiang Mai**	**46.17**	**44**	P	**P**	**13 26 08.9**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,14nm,1.4s						
CHTO	**Chiang Mai**	**46.17**	**44**	P	P	13 26 16.6	+7.6
	comp=Z,9.1nm,1.5s						
CHTO	**Chiang Mai**	**46.17**	**44**	P	**P**	**13 26 08.9**	**-0.1**
CHTO				IAmb	IAmb	13 26 16.2	
	comp=Z,14nm,1.4s						
CMMT	**Chiang Mai**	**46.18**	**44**	P	P	13 26 16.6	+7.6
	comp=Z,8.8nm,1.4s						
CMMT	**Chiang Mai**	**46.18**	**44**	P	P	13 26 16.6	+7.7
CM34	**Chiang Mai Arr**	**46.34**	**45**	P	P	13 26 18.0	+7.7
CHAI	**Chaiyaphum**	**46.40**	**50**	P	**P**	**13 26 12.1**	**+1.4**
	comp=Z,25nm,0.8s						
H01W3	**Cape Leeuwin H**	**46.85**	**124**	T	T	14 16 21.3	
	baz=283,slow=75,SNR=208						
H01W2	**Cape Leeuwin H**	**46.85**	**124**	T	T	14 16 23.6	
	baz=283,slow=75,SNR=233						
H01W1	**Cape Leeuwin H**	**46.87**	**124**	T	T	14 16 24.3	
	baz=283,slow=75,SNR=243						
SHL	**Shillong**	**47.14**	**32**	P	**P**	**13 26 14.7**	**-2.0**
SHL				pmax	pmax		
	comp=Z,19nm,1.1s						
SHL	**Shillong**	**47.14**	**32**	P	**P**	**13 26 14.7**	**-2.0**
SHL				IAmb	IAmb	13 26 24.3	
	comp=Z,19nm,1.1s						
MORW	**Morawa**	**47.49**	**116**	P	**P**	**13 26 20.5**	**+1.3**
	baz=48,SNR=3.9						
MORW	**Morawa**	**47.49**	**116**	P	**P**	**13 26 19.6**	**+0.3**
SKNT	**Sakolnakorn**	**48.55**	**51**	P	P	13 26 35.1	+7.6
	comp=Z,11nm,1.2s						
NIL	**Nilore**	**48.73**	**7**	P	**P**	**13 26 28.4**	**-0.3**
NIL				pmax	pmax		
	comp=Z,13nm,1.2s						
NIL	**Nilore**	**48.73**	**7**	P	**P**	**13 26 28.4**	**-0.3**
NIL				IAmb	IAmb	13 26 57.7	
	comp=Z,13nm,1.1s						
HRA	**Herat**	**49.26**	**355**	P	**P**	**13 26 31.5**	**-1.4**
KBL	**Kabul**	**49.27**	**3**	P	**P**	**13 26 31.3**	**-1.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBL	**Kabul**	**49.27**	**3**	P	**P**	**13 26 31.3**	**-1.7**
PSA00	**Pilbara Seismi**	**50.66**	**106**	P	**P**	**13 26 42.8**	**-0.9**
PSA00				IAmb	IAmb	13 27 01.5	
	comp=Z,44nm,1.7s						
PSA00	**Pilbara Seismi**	**50.66**	**106**	P	**P**	**13 26 43.8**	**+0.1**
PSA00				IAmb	IAmb	13 26 45.3	
	comp=Z,9.5nm,1.3s						
SLVN	**Son La**	**51.29**	**46**	P	**P**	**13 26 48.2**	**-0.2**
SLVN				IAmb	IAmb	13 26 57.3	
	comp=Z,15nm,1.1s						

KK31 Karatay Array 57.88 3 P **P** **13 27 34.3 -1.4**
KK31 13 28 26.8
KK31 Karatay Array 57.88 3 P **P** **13 27 34.3 -1.4**
KK31 PcP **PcP** **13 28 26.8 -1.3**
KKAR Karatay Array 57.88 3 P **P** **13 27 34.4 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 57.88 3 P **P** **13 27 34.0 -1.7**
KKAR PcP **PcP** **13 28 27.8 -0.2**
KKAR Karatay Array 57.88 3 P **P** **13 27 34.4 -1.3**
KKAR PcP **PcP** **13 28 27.9 -0.2**
KKAR IAmb IAmb 13 28 30.7
comp=Z,6.0nm,1.2s
FORT Forrest 58.01 117 P **P** **13 27 36.4 -0.6**
GURO Guroymak-BITLI 58.04 337 P **P** **13 27 37.8 +0.6**
GURO IAmb IAmb 13 27 38.8
comp=Z,11nm,0.8s
WRKA Warakurna 58.29 110 P **P** **13 27 39.5 +0.3**
baz=58,SNR=5.7
GNI Garni 58.52 340 *ce*P **P** **13 27 40.5 0.0**
GNI pmax pmax
comp=Z,58nm,2.5s
GNI Garni 58.52 340 P **P** **13 27 41.0 +0.5**
GAZ Gaziantep 58.84 333 P **P** **13 27 41.6 -1.0**
GAZ IAmb IAmb 13 27 43.9
comp=Z,12nm,0.9s
CASY Casey 58.88 161 P **P** **13 27 42.9 +0.4**
KARS Kars 59.51 339 P **P** **13 27 47.9 +0.6**
KARS Kars 59.51 339 P **P** **13 27 47.9 +0.6**
KNRA Kununurra 59.62 100 P **P** **13 27 48.8 +0.3**
baz=60,SNR=4.5
KNRA Kununurra 59.62 100 P **P** **13 27 48.4 -0.1**
KNRA IAmb IAmb 13 27 49.7
comp=Z,18nm,1.2s
AKH Akhalkalaki 60.07 340 P **P** **13 27 52.4 +1.2**
BCA Borcka 60.74 339 ⇓P **P** **13 27 55.9 +0.4**
BNN Bunyan 60.83 333 P **P** **13 27 56.1 -0.3**
BATM Batumi 60.85 339 ⇑P **P** **13 27 57.0 +0.7**
ONI Oni 61.14 341 P **P** **13 27 57.6 -0.7**
ONI pmax pmax
comp=Z,19nm,1.7s
ONI Oni 61.14 341 P **P** **13 27 57.6 -0.7**
ONI IAmb IAmb 13 28 00.8
comp=Z,19nm,1.7s
ZEI Tsey 61.18 341 *e*P **P** **13 27 58.5 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,1.2s
WMQ Urumqi 61.55 17 *e*P **P** **13 28 01.8 +0.7**
WMQ sP pwP 13 28 11.4 +1.2
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,65nm,3.7s
WMQ LR LR
comp=Z,360nm,14.1s
WMQ LR LR
comp=Z,330nm,13.1s
WMQ LR LR
comp=Z,250nm,15.3s
LZH Lanzhou 61.71 34 *e*P **P** **13 28 01.3 -1.1**
LZH PP **PP** **13 30 25.3 +6.7**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.9s
LZH LR LR
comp=Z,170nm,16.8s
LZH LR LR
comp=Z,300nm,15.7s
LZH LR LR
comp=Z,140nm,17.9s
NEY Neytrino 61.97 340 *i* P **P** **13 28 05.3 +1.2**
NEY pmax pmax
comp=Z,11nm,2.0s
GTA Gaotai 62.27 29 ⇑P **P** **13 28 06.3 +0.2**
GTA pP sP 13 28 11.5 -0.7
GTA sP pwP 13 28 14.5 -0.7
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,74nm,5.1s
GTA LR LR
comp=Z,220nm,20.0s
GTA LR LR
comp=Z,150nm,20.4s
GTA LR LR
comp=Z,340nm,21.1s
KBZ Khabaz 62.34 341 P **P** **13 28 05.6 -0.6**
comp=Z,3.3nm,0.8s,baz=177,slow=4.1,SNR=8.6
KBZ Khabaz 62.34 341 *e*P **P** **13 28 06.0 -0.3**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
MTN Manton Dam 62.35 97 P **P** **13 28 07.1 +0.1**
SHA1 Shidzhatmaz 62.43 341 *i* P **P** **13 28 07.6 +0.4**
BRTR Keskin Array B 62.54 332 P **P** **13 28 07.9 0.0**
comp=Z,4.0nm,0.8s,baz=152,slow=8.4,SNR=20
BRTR LR LR 13 53 47.1
comp=Z,83nm,19.9s,baz=98,slow=35
BRTR Keskin Array B 62.54 332 P **P** **13 28 06.8 -1.1**
BR131 Keskin Array S 62.54 332 P **P** **13 28 07.4 -0.5**
BR131 pmax pmax
comp=Z,11nm,1.0s
BR131 Keskin Array S 62.54 332 P **P** **13 28 07.4 -0.5**
BR131 IAmb IAmb 13 28 08.8
comp=Z,11nm,1.0s
KIV Kislovodsk 62.61 341 *e*P **P** **13 28 08.3 +0.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KARP Karpathos 62.67 324 P **P** **13 28 08.2 -0.5**
MAKZ Makanchi 62.99 12 P **P** **13 28 09.8 -0.8**
MAKZ pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 62.99 12 P **P** **13 28 09.8 -0.8**
MAKZ IAmb IAmb 13 28 12.0
comp=Z,7.4nm,1.1s
MK31 Makanchi Array 63.04 12 P **P** **13 28 09.7 -1.3**
MK31 IAmb IAmb 13 28 11.0
comp=Z,14nm,1.6s
MK31 PcP **PcP** **13 28 47.6 -1.1**
MKAR Makanchi Array 63.04 12 P **P** **13 28 09.9 -1.1**
comp=Z,3.0nm,0.7s,baz=208,slow=7.8,SNR=28
MKAR PcP **PcP** **13 28 48.4 -0.3**
comp=Z,2.6nm,0.9s,baz=224,slow=5.1,SNR=5.5
MKAR LR LR 13 55 01.1
comp=Z,234nm,19.9s,baz=190,slow=36
MKAR Makanchi Array 63.04 12 P **P** **13 28 09.4 -1.5**
MKAR **PcP** **13 28 47.5 -1.2**
XAN Xi'an 63.14 39 P **P** **13 28 13.0 +1.1**
XAN pP sP 13 28 17.1 -0.9
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN LR LR
comp=Z,220nm,19.5s
XAN LR LR
comp=Z,300nm,18.4s
XAN LR LR
comp=Z,290nm,17.6s
ASAR Alice Springs 63.49 109 P **P** **13 28 14.4 -0.2**
comp=Z,5.2nm,0.9s,baz=269,slow=5.9,SNR=28
ASAR LR LR 13 53 39.9
comp=Z,272nm,18.1s,baz=288,slow=34
ASAR Alice Springs 63.49 109 **P** **13 28 14.1 -0.5**
AS31 Alice Springs 63.49 109 **P** **13 28 13.5 -1.1**
KDU Kakadu 63.66 97 P **P** **13 28 16.4 +0.7**
baz=64,SNR=4.1
ABKAR Akbulak array 64.21 355 P **P** **13 28 17.8 -0.8**
ABKAR IAmb IAmb 13 28 19.0
comp=Z,12nm,1.3s
ABKAR Akbulak array 64.21 355 P **P** **13 28 17.5 -1.1**
WRA Warramunga Arr 64.31 105 P **P** **13 28 20.3 +0.3**
comp=Z,14nm,0.9s,baz=267,slow=6.3,SNR=68
WRA LR LR 13 54 22.1
comp=Z,112nm,19.5s,baz=320,slow=34
WRA Warramunga Arr 64.31 105 P **P** **13 28 20.1 +0.1**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 64.31 105 P **P** **13 28 20.1 +0.1**
WB2 Warramunga Arr 64.32 105 **P** **13 28 19.8 -0.3**
WRAB Tennant Creek 64.32 105 *ce*P **P** **13 28 20.8 +0.8**
WRAB pmax pmax
comp=Z,28nm,1.0s
WRAB Tennant Creek 64.32 105 P **P** **13 28 20.0 0.0**
WHN Wuhan 64.38 45 ⇑P **P** **13 28 19.6 -0.5**
WHN LR LR
comp=Z,870nm,20.3s

WB0 Warramunga Arr 64.38 105 **P** **13 28 20.4 0.0**
WB0 IAmb IAmb 13 28 21.9
comp=Z,16nm,1.1s
WR0 Warramunga Arr 64.50 105 **P** **13 28 21.4 +0.3**
SIJI Sorong 65.19 84 P **P** **13 28 25.2 -0.6**
comp=Z,8.6nm,0.9s,baz=256,slow=6.3,SNR=4.9
DGZ Jazzator, Alta 66.92 14 *i* P **P** **13 28 35.8 -0.5**
DGZ pmax pmax
comp=Z,9.0nm,1.5s
AGG Agios Georgios 67.85 324 P **P** **13 28 40.8 -1.5**
AGG Agios Georgios 67.85 324 P **P** **13 28 40.8 -1.5**
NJ2 Nanjing 68.37 46 *e*P **P** **13 28 47.4 +1.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
TIRR Tirgusor 68.66 332 ⇑P **P** **13 28 47.1 0.0**
TIRR Tirgusor 68.66 332 P **P** **13 28 45.2 -2.0**
TIRR pmax pmax
comp=Z,31nm,0.9s
TIRR Tirgusor 68.66 332 P **P** **13 28 45.2 -2.0**
HARR Harsova 69.06 331 ⇓P **P** **13 28 50.2 +0.6**
BELG Belogornoye 69.09 348 P **P** **13 28 47.4 -2.2**
comp=Z,16nm,0.8s,baz=146,slow=3.6,SNR=4.7
QIS Mount Isa 69.12 107 P **P** **13 28 51.3 +0.7**
baz=69,SNR=6.3
HHC Hu-ho-hao-te 69.33 35 *e*P **P** **13 28 54.6 +3.0**
HHC sP pwP 13 29 05.6 +5.5
HHC S **S** **13 38 04.3 +6.5**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.3s
HHC LR LR
comp=Z,180nm,17.7s
HHC LR LR
comp=Z,110nm,15.9s
HHC LR LR
comp=Z,160nm,19.4s
CFR Carcaliu 69.33 332 ⇑P **P** **13 28 51.4 +0.1**
SNAA Sanae 69.51 198 P **P** **13 28 53.2 +1.0**
SNAA Sanae 69.51 198 P **P** **13 28 52.5 +0.2**
SNAA pmax pmax
comp=Z,13nm,1.2s
SNAA Sanae 69.51 198 **P** **13 28 52.5 +0.2**
SNAA IAmb IAmb 13 28 54.3
comp=Z,13nm,1.2s
STKA Stephens Creek 69.53 119 P **P** **13 28 53.1 +0.1**
comp=Z,2.1nm,0.6s,baz=296,slow=10,SNR=3.9
STKA LR LR 13 53 45.3
comp=Z,176nm,21.8s,baz=219,slow=31
STKA Stephens Creek 69.53 119 *e*P **P** **13 28 53.8 +0.8**
STKA pmax pmax
comp=Z,2.0nm,0.5s
VTS Vitosha 69.85 327 ⇑P **P** **13 28 54.9 +0.1**
VTS Vitosha 69.85 327 P **P** **13 28 53.8 -1.1**
VTS pmax pmax
comp=Z,13nm,1.1s
VTS Vitosha 69.85 327 P **P** **13 28 53.8 -1.1**
VTS IAmb IAmb 13 28 55.8
comp=Z,13nm,1.1s
TORD Torodi Ar. Bea 70.17 290 P **P** **13 28 56.0 -1.2**
comp=Z,1.8nm,1.1s,baz=103,slow=5.0,SNR=5.4
TORD LR LR 13 58 04.9
comp=Z,88nm,18.3s,baz=315,slow=35
TORD Torodi Ar. Bea 70.17 290 P **P** **13 28 56.1 -1.0**
TORD IAmb IAmb 13 28 58.0
comp=Z,10nm,1.6s
ZAA0 Zalesovo Array 70.35 11 P **P** **13 28 56.4 -1.0**
ZAA0 IAmb IAmb 13 29 15.7
comp=Z,24nm,1.5s
ZALV Zalesovo Beam 70.35 11 P **P** **13 28 56.3 -1.1**
comp=Z,7.2nm,0.9s,baz=213,slow=4.9,SNR=22
ZALV LR LR 13 57 47.1
comp=Z,157nm,21.5s,baz=195,slow=34
ZALV Zalesovo Beam 70.35 11 P **P** **13 28 56.0 -1.4**
VRI Vrincioaia 70.50 332 ⇑P **P** **13 28 59.6 +1.0**
PLOR Plostina 70.53 331 ⇑P **P** **13 28 59.6 +0.8**
MLR Muntele Rosu 70.59 331 P **P** **13 28 57.3 -1.9**
comp=Z,3.7nm,0.8s,baz=205,slow=0.2,SNR=6.0
MLR Muntele Rosu 70.59 331 ⇑P **P** **13 29 00.2 +0.9**
MLR Muntele Rosu 70.59 331 P **P** **13 28 58.1 -1.1**
MLR pmax pmax
comp=Z,20nm,1.4s
MLR Muntele Rosu 70.59 331 P **P** **13 28 58.1 -1.1**
MLR IAmb IAmb 13 29 15.5
comp=Z,20nm,1.4s
VNA2 Neumayer--Watz 70.78 200 P **P** **13 29 01.3 +1.3**
baz=75,slow=6.7
VOIR 70.97 330 ⇑P **P** **13 29 01.4 -0.1**
VNA1 Neumayer--Stat 71.02 200 P **P** **13 29 02.8 +1.4**
ARU Arti 71.44 355 *d i*P **P** **13 29 03.4 -0.6**
ARU 13 29 21.4
ARU 13 31 43.1
ARU S **S** **13 38 23.0 +1.4**
ARU SS **SS** **13 42 52.5 -4.4**
ARU pmax pmax
comp=Z,36nm,2.6s
ARU MLR MLR
comp=Z,135nm,19.0s
ARU Arti 71.44 355 P **P** **13 29 03.0 -1.1**
ARU IAmb IAmb 13 29 04.3
comp=Z,13nm,1.1s
VNA3 Neumayer Olymp 71.57 199 P **P** **13 29 05.9 +1.2**
SONM Songino Array 71.83 27 P **P** **13 29 06.0 -0.7**
comp=Z,2.8nm,0.9s,baz=219,slow=6.0,SNR=12
SONM LR LR 13 59 30.4
comp=Z,349nm,21.1s,baz=218,slow=35
SONM Songino Array 71.83 27 *e*P **P** **13 29 07.1 +0.4**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 71.83 27 P **P** **13 29 06.2 -0.6**
PDG Podgorica 71.87 325 P **P** **13 29 06.2 -0.7**
GZR Gura Zlata 72.05 329 ⇑P **P** **13 29 08.3 +0.3**
ULN Ulaanbaatar 72.14 27 *ce*P **P** **13 29 09.1 +0.5**
ULN pmax pmax
comp=Z,9.0nm,2.5s
BURAR Bucovina Array 72.50 332 P **P** **13 29 09.4 -1.3**
DIVS Divibare 72.58 327 P **P** **13 29 11.3 0.0**
DRGR 73.08 330 ⇑P **P** **13 29 14.5 +0.5**
AKASG Malin Array Be 73.17 336 P **P** **13 29 13.7 -0.8**
comp=Z,4.8nm,0.7s,baz=143,slow=5.0,SNR=4.9
AKASG LR LR 14 01 40.1
comp=Z,64nm,20.0s,baz=45,slow=36
AKASG Malin Array Be 73.17 336 P **P** **13 29 12.9 -1.5**
SIRR Siria 73.22 329 ⇑P **P** **13 29 15.6 +0.7**
KEST Kesra 74.06 315 P **P** **13 29 20.0 -0.1**
comp=Z,2.9nm,0.8s,baz=94,slow=8.1,SNR=4.0
KEST LR LR 14 01 24.7
comp=Z,105nm,20.9s,baz=274,slow=35
OBN Obninsk 74.33 343 *i* P **P** **13 29 18.9 -2.2**
OBN *e* 13 29 36.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,103nm,20.0s
MOS Moscow 74.57 343 *e*P **P** **13 29 19.8 -2.7**
MOS *e* 13 29 36.8
MOS pmax pmax
comp=Z,30nm,0.7s
MORH Mrgy, Hungar 74.71 328 ⇓P **P** **13 29 23.4 -0.2**
KOLS Kolonicke sedl 74.81 331 *e*P **P** **13 29 24.8 +0.7**
KOLS Kolonicke sedl 74.81 331 *e*P **P** **13 29 24.8 +0.7**
QSPA South Pole Qui 75.12 180 P **P** **13 29 26.5 +0.6**
CRVS Cervenica-Dubn 75.17 331 *e*P **P** **13 29 26.6 +0.4**
CRVS pmax pmax
comp=Z,34nm,1.6s
CRVS Cervenica-Dubn 75.17 331 *e*P **P** **13 29 26.6 +0.4**
CTA Charters Tower 75.35 107 P **P** **13 29 28.2 +0.2**
comp=Z,6.7nm,1.0s,baz=215,slow=7.3,SNR=5.3
VSL Villasalto 76.06 318 P **P** **13 29 29.1 -2.5**
VSL IAmb IAmb 13 29 32.7
comp=Z,17nm,0.9s
VYHS Vyhne 76.14 329 *e*P **P** **13 29 31.6 -0.2**
VYHS pmax pmax
comp=Z,15nm,1.4s
VYHS Vyhne 76.14 329 *e*P **P** **13 29 31.6 -0.2**
LANS Liptovska Anna 76.28 330 *e*P **P** **13 29 33.4 +0.8**
LANS pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 76.28 330 *e*P **P** **13 29 33.4 +0.8**
VNDA Vanda 76.61 167 P **P** **13 29 34.7 +0.7**
comp=Z,3.3nm,1.0s,baz=261,slow=6.4,SNR=12
VNDA LR LR 13 57 49.6
comp=Z,106nm,19.6s,baz=274,slow=31
VNDA Vanda 76.61 167 P **P** **13 29 34.6 +0.5**
VNDA pmax pmax
comp=Z,8.0nm,1.2s
VNDA Vanda 76.61 167 **P** **13 29 34.6 +0.5**
MNK Minsk 76.67 338 *i* P **P** **13 29 34.9 +0.3**
MNK *i* 13 29 46.5
MNK *i* 13 32 26.2
MNK *i* PPP PPP 13 34 12.7
MNK *i* S **S** **13 39 22.5 +2.1**
MNK *i* 13 39 50.3
MNK *i* SS **SS** **13 44 23.3 +6.8**
MNK *i* SSS SSS 13 47 38.9
MNK pmax pmax
comp=E,2.0nm,0.6s
MNK pmax pmax
comp=Z,16nm,0.7s
MNK pmax pmax
comp=N,22nm,0.8s
MNK MLR MLR
comp=E,17nm,27.0s
MNK MLR MLR
comp=N,323nm,21.0s
MNK Minsk 76.67 338 *i* P **P** **13 29 35.0 +0.4**
comp=E,2.0nm,0.6s
MNK *i* P **P** **13 29 35.0 +0.4**
comp=N,22nm,0.8s
MNK *i* P **P** **13 29 35.0 +0.4**
comp=Z,16nm,0.7s,baz=142
MNK *i* PcP **PcP** **13 29 46.6 +0.6**
MNK *i* PP **PP** **13 32 26.2 -1.1**
MNK *i* PPP PPP 13 34 12.8
MNK *i* S **S** **13 39 22.6 +2.2**
MNK *i* SS **SS** **13 44 23.4 +6.9**
MNK *i* SSS SSS 13 47 39.0
MNK *i* LQ LQ 13 58 11.4
MNK *i* LR LR 14 03 18.4
MNK *i* LRM MLR 14 04 32.4
MNK *i* LRM MLR 14 04 52.7
comp=E,17nm,27.1s
MNK *i* LRM MLR 14 05 07.0
comp=N,323nm,21.1s
MODS Modra-Piesok 76.84 329 *e*P **P** **13 29 36.9 +1.2**
MODS pmax pmax
comp=Z,6.0nm,0.9s
MODS Modra-Piesok 76.84 329 *e*P **P** **13 29 36.9 +1.2**
SOKA Soboth 76.92 326 *e*P **P** **13 29 35.9 -0.4**
comp=Z,1.8nm,0.4s,SNR=7.3
JAVC Velka Javorina 76.96 329 *e*P **P** **13 29 37.0 +0.5**
ARSA Arzberg 77.02 327 *e*P **P** **13 29 37.1 +0.3**
comp=Z,2.1nm,0.3s,SNR=5.2
CONA Conrad Observa 77.27 328 *e*P **P** **13 29 38.2 -0.1**
comp=Z,3.5nm,0.6s,SNR=11
KSAR Wonju Array Be 77.53 46 P **P** **13 29 38.7 -1.1**
KSAR Wonju Array Be 77.53 46 P **P** **13 29 38.7 -1.1**
KSRS Korea Array 77.56 46 P **P** **13 29 39.7 -0.3**
comp=Z,1.9nm,1.0s,baz=242,slow=5.2,SNR=7.3
KSRS LR LR 14 05 23.3
comp=Z,156nm,18.1s,baz=232,slow=37
SBA Scott Base 77.58 168 P **P** **13 29 39.6 +0.1**
SBA pmax pmax
comp=Z,56nm,2.0s
SBA Scott Base 77.58 168 P **P** **13 29 39.6 +0.1**
MORC Moravsky Berou 77.63 330 P **P** **13 29 39.6 -0.6**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 77.63 330 P **P** **13 29 39.6 -0.6**
MORC Moravsky Berou 77.63 330 *e*P **P** **13 29 40.0 -0.2**
KRUC Moravsky 77.73 329 *e*P **P** **13 29 40.4 -0.3**
VRAC Vranov 77.79 329 P **P** **13 29 40.5 -0.5**
comp=Z,2.3nm,0.4s,baz=147,slow=7.6,SNR=6.2
VRAC Vranov 77.79 329 *e*P **P** **13 29 41.1 0.0**
ZCCA Zocca 77.79 323 P **P** **13 29 40.5 -0.7**
ZCCA IAmb IAmb 13 30 24.3
comp=Z,21nm,1.1s
ZOU Zoufplan 77.96 325 P **P** **13 29 41.4 -0.9**
MOA Molln 78.06 327 *e*P **P** **13 29 42.5 -0.1**
comp=Z,7.9nm,0.7s,SNR=11
KRLC Kraliky 78.20 330 *e*P **P** **13 29 43.3 -0.1**
KRLC Kraliky 78.20 330 *e*P **P** **13 29 43.3 -0.1**
ABTA Abfaltersbach 78.33 325 P **P** **13 29 44.4 +0.2**
comp=Z,13nm,0.7s,SNR=8.8
DPC Dobruska-Polom 78.60 330 *e*P **P** **13 29 45.9 +0.3**
DPC Dobruska-Polom 78.60 330 *e*P **P** **13 29 45.9 +0.3**
KLMR Klimovskoe 78.63 347 *e*P **P** **13 29 41.8 -3.6**
KLMR pmax pmax
comp=Z,36nm,1.2s
KLMR Klimovskoe 78.63 347 *e*P **P** **13 29 41.8 -3.6**
KLMR AMP 13 29 46.0
comp=Z,36nm,1.2s
OSTC Ostas 78.79 330 *e*P **P** **13 29 47.1 +0.5**
GERES GERESS Array B 78.97 327 P **P** **13 29 46.5 -1.2**
comp=Z,0.5nm,0.3s,baz=133,slow=5.7,SNR=11
GERES GERESS Array B 78.97 327 *e*P **P** **13 29 47.1 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 78.97 327 P **P** **13 29 45.4 -2.3**
WTTA Wattenberg 79.12 325 *e*P **P** **13 29 48.0 -0.6**
comp=Z,2.5nm,0.5s,SNR=5.6
WATA Walderalm 79.19 325 *e*P **P** **13 29 48.5 -0.5**
comp=Z,2.0nm,0.4s
KHC Kasperske Hory 79.21 328 P **P** **13 29 48.0 -0.9**
KHC pmax pmax
comp=Z,11nm,1.2s
KHC Kasperske Hory 79.21 328 *e*P **P** **13 29 48.4 -0.5**
KHC Kasperske Hory 79.21 328 P **P** **13 29 48.0 -0.9**
KHC IAmb IAmb 13 29 49.4
comp=Z,11nm,1.2s
PRU Pruhonice 79.25 329 *e*P **P** **13 29 49.3 +0.2**
PRU Pruhonice 79.25 329 *e*P **P** **13 29 49.3 +0.2**
MOTA Moosalm 79.46 325 *e*P **P** **13 29 49.7 -0.7**
comp=Z,4.4nm,0.8s,SNR=5.0
FETA Feichten 79.48 325 *e*P **P** **13 29 50.5 -0.1**
comp=Z,4.0nm,0.8s,SNR=6.3
TUE Stuetta 79.94 324 P **P** **13 29 51.3 -1.9**
TUE IAmb IAmb 13 31 10.6
comp=Z,20nm,0.9s
BRG Berggiesshubel 80.11 329 *e*P **P** **13 29 54.6 +0.9**
BRG Amp 13 29 56.5
comp=Z,54nm,2.3s
BRG Amp 13 43 53.0
comp=Z,0.2nm,14.4s
VSU Vasula 80.16 340 *i* P **P** **13 29 53.2 -0.6**
VSU pmax pmax
comp=Z,24nm,0.9s
CLL Collm 80.84 329 ⇓*i*P **P** **13 29 57.8 +0.2**
comp=Z,9.0nm,1.0s
CLL *e* 13 30 04.0
CLL *i* 13 30 14.2
CLL Collm 80.84 329 ⇓*i*P **P** **13 29 57.8 +0.2**
CLL pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 82.68 342 P **P** **13 30 06.7 -0.4**
comp=Z,1.8nm,0.7s,baz=96,slow=1.9,SNR=6.1
FINES LR LR 14 07 47.4
comp=Z,52nm,20.6s,baz=82,slow=36
FINES FINESS Array B 82.68 342 *e*P **P** **13 30 08.2 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
MDT Midelt 82.99 306 P **P** **13 30 10.1 +0.5**
comp=Z,1.7nm,0.5s,baz=31,slow=2.6,SNR=4.1
USRK Ussuriysk Ar. 83.52 41 P **P** **13 30 11.1 -0.8**
comp=Z,1.8nm,0.7s,baz=232,slow=9.4,SNR=4.1
USRK LR LR 14 05 27.9
comp=Z,87nm,21.9s,baz=253,slow=34
JHJ Hachijo jima 2 84.43 54 LR LR 14 04 17.6
comp=Z,79nm,20.0s,baz=290,slow=33
MAT Matsushiro 84.53 50 P **P** **13 30 17.1 -0.1**
MJAR Matsushiro Arr 84.53 50 P **P** **13 30 15.9 -1.3**
comp=Z,5.2nm,0.9s,baz=234,slow=5.3,SNR=8.4
MJAR LR LR 14 08 22.5
comp=Z,81nm,19.2s,baz=280,slow=36
MJA0 Matsu Arr-Jizo 84.56 50 *e*P **P** **13 30 16.3 -1.1**
MJA0 pmax pmax
comp=Z,5.0nm,0.9s
ESBB Sonseca Array 85.22 313 P **P** **13 30 20.3 -0.3**
ESBB IAmb IAmb 13 30 22.0
comp=Z,8.8nm,1.1s
ESDC Sonseca Array 85.22 313 P **P** **13 30 20.8 +0.1**
comp=Z,5.2nm,1.0s,baz=101,slow=4.0,SNR=26
ESDC Sonseca Array 85.22 313 P **P** **13 30 20.1 -0.6**
ESDC IAmb IAmb 13 30 22.0
comp=Z,14nm,1.3s
NRIK Noril'sk 85.36 7 P **P** **13 30 20.6 0.0**
comp=Z,2.7nm,0.8s,baz=205,slow=3.8,SNR=6.7
NRIK LR LR 14 07 22.0
comp=Z,169nm,21.8s,baz=168,slow=35
NRIK Noril'sk 85.36 7 *e*P **P** **13 30 20.7 +0.1**

NRIK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRIK	**Noril'sk**	**85.36**	**7**	P	**P**	**13 30 20.0**	**-0.6**
NRIK				IAmb	IAmb	13 30 23.1	
	comp=Z,7.6nm,1.1s						
PAB	**San Pablo**	**85.44**	**313**	P	**P**	**13 30 21.5**	**-0.3**
PAB				pmax	pmax		
	comp=Z,15nm,1.2s						
PAB	**San Pablo**	**85.44**	**313**	P	**P**	**13 30 21.4**	**-0.3**
PAB				IAmb	IAmb	13 30 23.2	
	comp=Z,15nm,1.2s						
KLR	**Kul'dur**	**85.76**	**37**	LR	LR	14 10 15.0	
	comp=Z,175nm,19.1s,baz=227,slow=37						
KLR	**Kul'dur**	**85.76**	**37**	*e*P	**P**	**13 30 22.0**	**-1.0**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HFS	**Hagfors**	**86.06**	**336**	P	**P**	**13 30 22.7**	**-1.5**
	comp=Z,6.0nm,0.8s,baz=134,slow=6.4,SNR=8.0						
PCVE	**Castro Verde**	**87.39**	**310**	*e*P	**P**	**13 30 32.9**	**+1.6**
NOA	**NORSAR Array B**	**87.58**	**336**	P	**P**	**13 30 30.8**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=117,slow=4.5,SNR=3.5						
NOA	**NORSAR Array B**	**87.58**	**336**	*e*P	**P**	**13 30 31.2**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PNCL	**Nicolau / Gran**	**87.92**	**310**	*e*P	**P**	**13 30 34.0**	**+0.1**
MVO	**Moncorvo**	**87.95**	**313**	*e*P	**P**	**13 30 35.3**	**+1.3**
PBRG	**Braganca**	**87.99**	**314**	*e*P	**P**	**13 30 35.3**	**+1.1**
	comp=Z,16nm,1.4s						
PMTG	**Montargil**	**88.04**	**311**	*e*P	**P**	**13 30 36.1**	**+1.7**
	comp=Z,23nm,1.6s						
POLO	**Lamas de Olo**	**88.56**	**313**	*e*P	**P**	**13 30 37.4**	**+0.4**
	comp=Z,4.7nm,1.3s						
ARCES	**ARCESS Array B**	**89.11**	**347**	P	**P**	**13 30 38.7**	**-0.1**
	comp=Z,7.4nm,1.0s,baz=134,slow=5.2,SNR=8.4						
ARCES				LR	LR	14 10 35.9	
	comp=Z,50nm,21.5s,baz=140,slow=36						
ARCES	**ARCESS Array B**	**89.11**	**347**	P	**P**	**13 30 39.1**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,21nm,1.3s						
ARCES	**ARCESS Array B**	**89.11**	**347**	P	**P**	**13 30 39.1**	**+0.3**
HNR	**Honiara**	**90.66**	**100**	LR	LR	14 07 41.7	
	comp=Z,77nm,19.8s,baz=218,slow=33						
J20K	**Nowinta River**	**123.41**	**20**	P	**PKPdf**	**13 36 40.2**	**-0.4**
	baz=311						
I21K	**Tanana**	**123.42**	**18**	P	**PKiKP**	**13 36 41.1**	**+0.3**
	baz=314						
H23K	**Yukon River**	**123.68**	**17**	P	**PKiKP**	**13 36 41.5**	**+0.1**
	baz=317						
MLY	**Manley**	**123.91**	**18**	P	**PKiKP**	**13 36 41.8**	**-0.1**
	baz=315						
K20K	**Telida**	**123.97**	**21**	P	**PKiKP**	**13 36 42.4**	**+0.3**
	baz=310						
BPAW	**Bear Paw Mtn.**	**124.48**	**19**	P	**PKPdf**	**13 36 42.6**	**-0.2**
	baz=314						
INK	**Inuvik**	**125.11**	**9**	P	**PKPdf**	**13 36 43.2**	**-0.5**
	baz=336						
ILAR	**Eielson Array**	**125.22**	**17**	PKP	**PKPdf**	**13 36 42.8**	**-1.3**
	comp=Z,2.1nm,1.0s,baz=305,slow=3.1,SNR=10						
ILAR	**Eielson Array**	**125.22**	**17**	*e*PKIKP	**PKPdf**	**13 36 41.8**	**-2.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ	**La Paz**	**125.69**	**237**	PKP	**PKPdf**	**13 36 47.2**	**0.0**
	comp=Z,3.4nm,1.1s,baz=58,slow=5.6,SNR=8.2						
LPAZ	**La Paz**	**125.69**	**237**	*e*PKIKP	**PKiKP**	**13 36 47.5**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
EPYK	**Eagle Plains**	**126.31**	**11**	P	**PKPdf**	**13 36 46.2**	**0.0**
	baz=332						
EGAK	**Eagle**	**126.71**	**14**	P	**PKPdf**	**13 36 46.5**	**-0.4**
	baz=326						
YKA	**Yellowknife Ar**	**132.52**	**1**	PKP	**PKPdf**	**13 36 57.3**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=352,slow=1.6,SNR=3.6						
YKA	**Yellowknife Ar**	**132.52**	**1**	*e*PKIKP	**PKPdf**	**13 36 58.4**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
P49A	**Miami Univ. Ec**	**145.01**	**320**	P	**PKPbc**	**13 37 20.5**	**-0.4**
	baz=53						
KMSC	**Kings Mountain**	**145.01**	**311**	P	**PKPdf**	**13 37 21.5**	**-0.1**
	baz=63						
SPMN	**Marine on St.**	**145.23**	**334**	P	**PKPbc**	**13 37 21.4**	**0.0**
	baz=36						
A04D	**Lummi Island**	**145.45**	**11**	P	**PKPab**	**13 37 22.9**	**+0.8**
	baz=344						
JFWS	**Jewell Farm**	**145.85**	**329**	P	**PKPdf**	**13 37 22.9**	**+0.1**
	baz=42						
TZTN	**Tazewell**	**145.91**	**315**	P	**PKPab**	**13 37 24.3**	**0.0**
	baz=58						
SFIN	**Lafayette**	**145.92**	**323**	P	**PKPbc**	**13 37 23.8**	**+0.1**
	baz=49						
B05A	**Bryant**	**146.00**	**11**	P	**PKPab**	**13 37 24.2**	**0.0**
	baz=345						
B08A	**Colville Reser**	**146.32**	**7**		**PKPbc**	**13 37 24.4**	**-0.3**
NEW	**Newport**	**146.64**	**5**	P	**PKPbc**	**13 37 26.2**	**+0.5**
	baz=353						
GOGA	**Godfrey**	**147.37**	**310**	P	**PKPdf**	**13 37 26.5**	**+0.8**
	baz=63						
ECSD	**EROS Data Cent**	**147.99**	**337**	P	**PKPbc**	**13 37 29.1**	**-0.5**
	baz=31						
ECSD	**EROS Data Cent**	**147.99**	**337**	PKPbc	**PKPbc**	**13 37 28.7**	**-0.8**
SUSD	**Miller**	**148.20**	**340**	P	**PKPbc**	**13 37 30.1**	**+0.1**
	baz=27						
MSO	**Missoula**	**148.22**	**1**	P	**PKPbc**	**13 37 30.1**	**-0.1**
	baz=359						
WVT	**Waverly**	**149.01**	**318**	P	**PKPbc**	**13 37 31.8**	**-0.6**
	baz=53						
BOZ	**Bozeman (W)**	**149.43**	**358**	P	**PKPbc**	**13 37 33.8**	**+0.4**
	baz=3.0						
RLMT	**Red Lodge**	**149.74**	**354**	P	**PKiKP**	**13 37 35.5**	**+0.3**
	baz=7.5						
CCM	**Cathedral Cave**	**149.86**	**324**	P	**PKPbc**	**13 37 34.3**	**-0.1**
	baz=46						
RSSD	**Black Hills**	**149.89**	**347**	P	**PKPbc**	**13 37 34.7**	**+0.1**
	baz=18						
I05D	**Terrebonne, OR**	**149.92**	**12**	P	**PKPbc**	**13 37 34.7**	**+0.3**
	baz=344						
I03D	**Drain, OR**	**150.09**	**15**	P	**PKiKP**	**13 37 35.7**	**+0.1**
	baz=340						
LRAL	**Lakeview Retre**	**150.14**	**312**	P	**PKPbc**	**13 37 35.4**	**+0.1**
	baz=59						
I04A	**Tendick Farm,**	**150.22**	**13**	P	**PKPbc**	**13 37 35.6**	**+0.4**
	baz=342						
J05D	**Fort Rock, OR**	**150.95**	**12**	P	**PKiKP**	**13 37 38.0**	**+0.3**
	baz=344						
L04D	**Klamath Falls**	**151.74**	**14**	P	**PKiKP**	**13 37 39.4**	**+0.1**
	baz=341						
K22A	**Casper**	**151.80**	**349**	P	**PKPbc**	**13 37 38.9**	**-0.2**
	baz=14						
U40A	**Yellville**	**151.97**	**323**	P	**PKPbc**	**13 37 38.9**	**-0.5**
	baz=46						
BW06	**Boulder Array**	**152.10**	**354**	P	**PKPbc**	**13 37 40.0**	**+0.1**
	baz=7.5						
PDAR	**Pinedale Array**	**152.10**	**354**	PKPbc	**PKPbc**	**13 37 39.6**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=48,slow=2.2,SNR=30						
PDAR	**Pinedale Array**	**152.10**	**354**		**PKPbc**	**13 37 39.4**	**-0.5**
M04C	**Macdoel**	**152.26**	**14**	P	**PKiKP**	**13 37 40.9**	**+0.5**
	baz=342						
M02C	**Callahan**	**152.38**	**16**	P	**PKiKP**	**13 37 41.8**	**+1.2**
	baz=340						
N02D	**Trinity Center**	**152.81**	**16**	P	**PKiKP**	**13 37 42.6**	**+1.1**
	baz=340						
MIAR	**Mount Ida**	**153.64**	**321**	P	**PKPab**	**13 37 56.8**	**+1.0**
	baz=47						
Q24A	**Divide**	**155.04**	**345**	P	**PKPab**	**13 38 01.9**	**0.0**
	baz=19						
NVAR	**Mina Array Bea**	**156.20**	**10**	PKP	**PKPdf**	**13 37 38.7**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=288,slow=1.2,SNR=5.7						
NVAR				PKPbc	**sPKPdf**	**13 37 50.1**	**+4.3**
	comp=Z,1.2nm,0.8s,baz=316,slow=2.2,SNR=7.0						
NVAR				PKPab	**PKPab**	**13 38 07.6**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=357,slow=2.5,SNR=10.0						
SDCO	**Great Sand Dun**	**156.28**	**345**	P	**PKPab**	**13 38 07.1**	**-0.2**
	baz=19						
WMOK	**Wichita Mounta**	**156.38**	**329**	P	**PKPab**	**13 38 07.9**	**+0.5**
	baz=37						
S22A	**4UR Ranch, Cre**	**156.60**	**347**	P	**PKPab**	**13 38 09.1**	**+0.5**
	baz=16						
R11A	**Troy Canyon, C**	**156.61**	**5**	P	**PKPab**	**13 38 09.0**	**+0.6**
	baz=354						
ANMO	**Albuquerque**	**159.18**	**344**	P	**PKPab**	**13 38 20.6**	**+0.9**
	baz=18						
LRMC	**Laurel Mtn Rad**	**159.18**	**10**	P	**PKPab**	**13 38 20.4**	**+0.8**
	baz=348						
WUAZ	**Wupatki**	**159.46**	**356**	P	**PKPab**	**13 38 22.2**	**+1.4**
	baz=5.0						
GSC	**Goldstone, Bar**	**159.49**	**8**	P	**PKPab**	**13 38 21.9**	**+1.0**
	baz=350						
EDW2	**Edwards Air Fo**	**159.71**	**11**	P	**PKPab**	**13 38 22.3**	**+0.5**
	baz=347						
121A	**Cookes Peak, D**	**161.81**	**345**	P	**PKPab**	**13 38 32.1**	**+1.0**
	baz=17						
MNTX	**Cornudas Mount**	**161.85**	**338**	P	**PKPdf**	**13 37 47.1**	**+1.4**
	baz=25						
TXAR	**Lajitas Array**	**163.17**	**330**	PKP	**PKPdf**	**13 37 47.9**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=284,slow=0.5,SNR=5.2						
TXAR				PKPab	**PKPab**	**13 38 37.1**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=78,slow=3.9,SNR=8.9						

BEO 23 13:27:08.6±0.4, 44°.39N×21°.93E, h0km, ML1.6/4, 7C-6D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.18**	**276**	*e*Pg	Pg	13 27 10.7	-1.4
KUBS				*e*Sg	Sg	13 27 14.4	-0.1
MDVR	**Moldovita**	**0.42**	**338**	⇑P	Pg	13 27 16.1	-0.5
MDVR				⇓S	Sg	13 27 21.2	-0.9
ZAGS	**Zajecar**	**0.62**	**159**	*e*Pg	Pg	13 27 20.0	-0.5
ZAGS				*e*Sg	Sg	13 27 28.0	-0.5
BLKB	**Belogradchik**	**0.94**	**145**	⇓S	Sb	13 27 40.8	0.0
GRUS	**Gruza**	**1.01**	**240**	*e*Pg	Pg	13 27 26.9	-1.0
GRUS				*e*Sg	Sb	13 27 41.9	-0.8
GZR	**Gura Zlata**	**1.17**	**31**	⇑P	Pg	13 27 30.4	-0.6
GZR	**Gura Zlata**	**1.17**	**31**	⇓S	Sb	13 27 48.1	+0.7
ZAPS	**Zavoj**	**1.23**	**155**	*e*Pg	Pg	13 27 31.5	-0.7
ZAPS				*e*Sg	Sg	13 27 47.8	-0.3
BZS	**Buzias**	**1.24**	**350**	*e*Pg	Pg	13 27 30.8	-1.6
BZS				*e*Sg	Sg	13 27 48.6	0.0
BZS	**Buzias**	**1.24**	**350**	⇓P	Pg	13 27 31.1	-1.4
BZS	**Buzias**	**1.24**	**350**	⇓S	Sg	13 27 48.9	+0.3
DIVS	**Divibare**	**1.42**	**259**	*e*Pg	Pn	13 27 33.9	-1.9
DIVS				*e*Sg	Sg	13 27 53.7	-0.6
BARS	**Barje**	**1.58**	**183**	*e*Pg	Pn	13 27 36.3	-1.5
BARS				*e*Sg	Sn	13 27 58.6	-0.4
LOT	**Lotru**	**1.68**	**50**	⇑P	Pn	13 27 39.1	-0.3
LOT	**Lotru**	**1.68**	**50**	⇑S	Sg	13 28 02.6	0.0
SIRR	**Siria**	**1.88**	**354**	⇑P	Pn	13 27 39.3	-2.8
SIRR	**Siria**	**1.88**	**354**	⇑S	Sn	13 28 03.9	-2.7
DRGR		**2.46**	**13**	⇑P	Pn	13 27 49.3	-0.7
DRGR		**2.46**	**13**	⇓S	Sn	13 28 20.5	-0.4

PRU ***23*** *13:28:15.3±0.0, 41°.18N×15°.06E, h29km*
IDC ***23*** *13:28:19.6±3.0, 41°.87N×15°.14E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/37, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=54.7km s-min=18.6km az=58.0*
IASPEI ***23*** *13:28:20.3±0.9, 41°.49N±0°.02×14°.97E±0°.02, h25km±5km, Error ellipse: s-maj=3.6km s-min=3.1km az=35.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ROM ***23*** *13:28:20.5±0.1, 41°.491N±0°.003×14°.970E±0°.004, h22km, ML3.4/22, Error ellipse: s-maj=0.3km s-min=0.1km az=243.0*
THE ***23*** *13:28:28.1, 41°.17N×15°.52E, h7km±15km, ML3.3/4, Error ellipse: s-maj=20.1km s-min=0.8km az=294.0*

ISC 23 13:28:20.2±0.8, 41°.49N±0°.02×14°.96E±0°.02, h26km±5km, n107, σ1§87/133, 8C-3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GATE	**Gambatesa**	**0.04**	**301**	P	**Pb**	**13 28 24.8**	**+0.1**
GATE				S	**Sb**	**13 28 27.7**	**-0.1**
GATE				AML	AML		
	comp=N,34950μm,0.6s						
GATE				AML	AML		
	comp=E,53100μm,0.4s						
GATE				AML	AML		
	comp=E,53100μm,0.4s						
GATE				AML	AML		
	comp=N,37250μm,0.6s						
GATE				AML	AML		
	comp=N,34950μm,0.6s						
GATE				AML	AML		
	comp=E,23450μm,0.7s						
GATE				AML	AML		
	comp=E,53100μm,0.4s						
MOCO	**Biccari - m.te**	**0.19**	**129**	⇓P	**Pb**	**13 28 26.0**	**0.0**
MOCO				S	**Sb**	**13 28 29.3**	**-0.6**
MOCO				AML	AML		
	comp=N,5420μm,0.4s						
MOCO				AML	AML		
	comp=E,15150μm,0.6s						
MOCO				AML	AML		
	comp=N,5350μm,0.4s						
MOCO				AML	AML		
	comp=E,14450μm,0.6s						
SACR	**S. Croce Del S**	**0.21**	**244**	⇑P	**Pb**	**13 28 26.5**	**+0.3**
SACR				S	**Sb**	**13 28 30.4**	**+0.2**
SACR				AML	AML		
	comp=E,12120μm,0.6s						
SACR				AML	AML		
	comp=N,7455μm,1.5s						
SACR				AML	AML		
	comp=E,12100μm,0.6s						
SACR				AML	AML		
	comp=E,12455μm,0.6s						
SACR				AML	AML		
	comp=N,7925μm,1.5s						
SACR				AML	AML		
	comp=E,12095μm,0.6s						
SACR				AML	AML		
	comp=N,7450μm,1.5s						
MELA	**Melanico ??? S**	**0.25**	**30**	⇑P	**Pb**	**13 28 26.2**	**-0.4**
MELA				S	**Sb**	**13 28 30.8**	**-0.2**
MELA				AML	AML		
	comp=N,27700μm,0.5s						
MELA				AML	AML		
	comp=E,39800μm,0.4s						
MELA				AML	AML		
	comp=E,42250μm,0.4s						
MELA				AML	AML		
	comp=N,28700μm,0.5s						
MELA				AML	AML		
	comp=E,39800μm,0.4s						
MELA				AML	AML		
	comp=N,28700μm,0.5s						
MELA				AML	AML		
	comp=E,39800μm,0.4s						
MELA				AML	AML		
	comp=N,27750μm,0.5s						
BSSO	**Busso**	**0.28**	**281**	⇑P	**Pb**	**13 28 27.5**	**+0.4**
BSSO				S	**Sb**	**13 28 32.7**	**+0.9**
BSSO				AML	AML		
	comp=E,7610μm,1.0s						
BSSO				AML	AML		
	comp=N,4770μm,0.4s						
BSSO				AML	AML		
	comp=N,1850μm,0.4s						
BSSO				AML	AML		
	comp=N,4765μm,0.4s						
BSSO				AML	AML		
	comp=E,3185μm,1.0s						
PSB1	**Pescosannita**	**0.29**	**203**	⇑P	**Pb**	**13 28 27.5**	**+0.4**
PSB1				S	**Sb**	**13 28 31.8**	**-0.2**
PSB1				AML	AML		
	comp=E,18800μm,0.3s						
PSB1				AML	AML		
	comp=N,10190μm,0.3s						
PSB1				AML	AML		
	comp=N,10195μm,0.3s						
PSB1				AML	AML		
	comp=E,18850μm,0.3s						
PSB1				AML	AML		
	comp=N,10175μm,0.3s						
PSB1				AML	AML		
	comp=N,10985μm,0.3s						
PSB1				AML	AML		
	comp=E,18850μm,0.3s						
PSB1				AML	AML		
	comp=E,19600μm,0.3s						
MRB1	**Monte Rocchett**	**0.36**	**178**	P	**Pb**	**13 28 28.9**	**+0.6**
MRB1				S	**Sb**	**13 28 34.7**	**+0.9**
MRB1				AML	AML		
	comp=E,11600μm,0.4s						
MRB1				AML	AML		
	comp=N,8330μm,0.5s						
MRB1				AML	AML		
	comp=E,11615μm,0.4s						
MRB1				AML	AML		
	comp=E,12025μm,0.4s						
MRB1				AML	AML		
	comp=N,8905μm,0.5s						
MRB1				AML	AML		
	comp=N,8330μm,0.5s						
VITU	**Vitulano (BN)**	**0.40**	**219**	P	**Pb**	**13 28 28.8**	**0.0**
VITU				S	**Sb**	**13 28 35.8**	**+1.2**
VITU				AML	AML		
	comp=N,10420μm,0.4s						
VITU				AML	AML		
	comp=E,3770μm,0.2s						
VITU				AML	AML		
	comp=N,10950μm,0.4s						
VITU				AML	AML		
	comp=E,8260μm,0.3s						
VITU				AML	AML		
	comp=N,10410μm,0.4s						
TRIV	**Trivento**	**0.41**	**312**	⇑P	**Pb**	**13 28 29.5**	**+0.5**
TRIV				S	**Sb**	**13 28 35.9**	**+0.8**
TRIV				AML	AML		
	comp=E,1960μm,0.7s						
TRIV				AML	AML		
	comp=N,1865μm,0.6s						
TRIV				AML	AML		
	comp=N,1900μm,0.6s						
TRIV				AML	AML		
	comp=E,2040μm,0.7s						
TRIV				AML	AML		
	comp=N,1870μm,0.6s						
SGG	**Gregorio Mates**	**0.45**	**257**	⇑P	**Pb**	**13 28 29.8**	**+0.1**
SGG				S	**Sb**	**13 28 37.1**	**+1.1**
SGG				AML	AML		
	comp=E,4140μm,0.5s						
SGG				AML	AML		
	comp=E,13nm,0.5s						
SGG				AML	AML		
	comp=N,6345μm,0.4s						
SGG				AML	AML		
	comp=N,20nm,0.4s						
SGG				AML	AML		
	comp=E,4135μm,0.5s						
CAFE	**Carife**	**0.51**	**156**	⇓P	**Pb**	**13 28 30.8**	**+0.2**
CAFE				S	**Sb**	**13 28 37.7**	**-0.1**
CAFE				AML	AML		
	comp=E,3855μm,0.2s						
CAFE				AML	AML		
	comp=N,2625μm,1.0s						
CAFE				AML	AML		
	comp=N,2860μm,1.0s						
CAFE				AML	AML		
	comp=E,4085μm,0.2s						
FRES	**Fresagrandinar**	**0.53**	**336**	P	**Pb**	**13 28 31.0**	**+0.1**
FRES				S	**Sb**	**13 28 38.8**	**+0.6**
FRES				AML	AML		
	comp=E,908μm,0.5s						
FRES				AML	AML		
	comp=N,603μm,0.6s						
PAOL	**Paolisi**	**0.55**	**213**	P	**Pb**	**13 28 30.9**	**-0.3**
PAOL				AML	AML		
	comp=N,6815μm,0.6s						
PAOL				AML	AML		
	comp=E,5845μm,0.4s						
PAOL				AML	AML		
	comp=N,7170μm,0.6s						
PAOL				AML	AML		
	comp=E,5580μm,0.4s						
PAOL				AML	AML		
	comp=N,6810μm,0.6s						
MIDA	**Miranda**	**0.55**	**286**	⇑P	**Pb**	**13 28 31.3**	**-0.1**
MIDA				S	**Sb**	**13 28 40.2**	**+1.3**
MIDA				AML	AML		
	comp=E,1780μm,0.6s						
MIDA				AML	AML		
	comp=N,1695μm,0.4s						
MIDA				AML	AML		
	comp=E,1825μm,0.7s						
MIDA				AML	AML		
	comp=N,1825μm,0.5s						
VAGA	**Valle Agricola**	**0.55**	**262**	⇑P	**Pb**	**13 28 31.4**	**+0.1**
VAGA				AML	AML		
	comp=N,7825μm,0.5s						
VAGA				AML	AML		
	comp=E,2600μm,0.3s						
VAGA				AML	AML		
	comp=N,7460μm,0.5s						
VAGA				AML	AML		
	comp=E,2730μm,0.3s						
VAGA				AML	AML		
	comp=N,7820μm,0.5s						
SNAL	**S. Angelo Dei**	**0.60**	**161**	⇓P	**Pb**	**13 28 31.9**	**-0.2**
SNAL				S	**Sb**	**13 28 40.9**	**+0.7**
SNAL				AML	AML		
	comp=E,2030μm,1.2s						
SNAL				AML	AML		
	comp=N,2295μm,1.3s						
SNAL				AML	AML		
	comp=E,2100μm,1.2s						
SNAL				AML	AML		
	comp=N,2290μm,1.3s						
SNAL				AML	AML		
	comp=N,2505μm,1.3s						
SNAL				AML	AML		
	comp=E,2025μm,1.2s						
RNI2	**Rionero Sannit**	**0.64**	**290**	P	**Pb**	**13 28 32.9**	**0.0**
RNI2				S	**Sb**	**13 28 42.3**	**+0.8**
RNI2				AML	AML		
	comp=N,2145μm,1.5s						
RNI2				AML	AML		
	comp=E,2670μm,1.3s						
RNI2				AML	AML		
	comp=N,2200μm,1.5s						
RNI2				AML	AML		
	comp=E,2560μm,1.3s						
RNI2				AML	AML		
	comp=N,2140μm,1.5s						
SGRT	**San Giovanni R**	**0.65**	**66**	P	**Pb**	**13 28 32.4**	**-0.6**
SGRT				AML	AML		
	comp=N,15700μm,0.3s						
SGRT				AML	AML		
	comp=E,23200μm,0.4s						
SGRT				AML	AML		
	comp=N,15700μm,0.3s						
SGRT				AML	AML		
	comp=E,23200μm,0.4s						
PIGN	**Pignataro Magg**	**0.65**	**244**	P	**Pb**	**13 28 33.2**	**+0.2**
PIGN				AML	AML		
	comp=E,2585μm,0.4s						
PIGN				AML	AML		
	comp=N,2690μm,0.5s						
PIGN				AML	AML		
	comp=N,2695μm,0.5s						
PIGN				AML	AML		
	comp=E,2645μm,0.5s						
CERA	**Filignano**	**0.71**	**279**	P	**Pb**	**13 28 34.3**	**+0.2**
CERA				AML	AML		
	comp=N,4105μm,0.6s						
CERA				AML	AML		
	comp=E,2905μm,1.3s						
CERA				AML	AML		
	comp=N,4300μm,0.6s						
CERA				AML	AML		
	comp=E,2795μm,1.2s						
CAPA	**Cerignola FG**	**0.73**	**117**	P	**Pb**	**13 28 34.4**	**+0.2**
CAPA				AML	AML		
	comp=N,5855μm,0.8s						
CAPA				AML	AML		
	comp=E,4640μm,0.9s						
VULT	**Monte Vulture**	**0.73**	**137**	P	**Pb**	**13 28 34.2**	**-0.2**
VULT				S	**Sb**	**13 28 44.6**	**+0.6**
VULT				AML	AML		
	comp=E,4755μm,0.3s						
VULT				AML	AML		
	comp=N,7195μm,0.3s						
VULT				AML	AML		
	comp=N,6970μm,1.0s						
VULT				AML	AML		
	comp=E,5020μm,0.3s						
VULT				AML	AML		
	comp=E,4750μm,0.3s						
MSAG	**Monte S. Angel**	**0.75**	**73**	P	**Pb**	**13 28 34.5**	**-0.1**
MSAG				S	**Sn**	**13 28 45.7**	**0.0**
MSAG				AML	AML		
	comp=E,21400μm,0.5s						
MSAG				AML	AML		
	comp=N,37850μm,0.8s						
MSAG				AML	AML		
	comp=E,21350μm,0.5s						

MSAG				AML	AML		
	comp=N,39700µm,0.8s						
MSAG				AML	AML		
	comp=E,21350µm,0.5s						
MSAG				AML	AML		
	comp=N,39700µm,0.8s						
MSAG				AML	AML		
	comp=E,23100µm,0.5s						
MSAG				AML	AML		
	comp=N,37850µm,0.8s						
TREM	**Isole Tremiti**	**0.76**	**33**	P	**Pb**	**13 28 34.6**	**-0.1**
TREM				S	**Sb**	**13 28 45.7**	**+1.0**
TREM				AML	AML		
	comp=N,7490µm,1.2s						
TREM				AML	AML		
	comp=E,10150µm,0.5s						
LPEL	**Lama dei Pelig**	**0.80**	**314**	P	**Pb**	**13 28 35.9**	**+0.3**
MRLC	**Muro Lucano**	**0.84**	**151**	P	**Pb**	**13 28 36.2**	**+0.1**
MRLC				AML	AML		
	comp=N,1575µm,1.3s						
MRLC				AML	AML		
	comp=E,1280µm,0.5s						
MODR	**Mondragone**	**0.88**	**247**	P	**Pn**	**13 28 37.6**	**+0.6**
MODR				AML	AML		
	comp=E,1840µm,0.4s						
MODR				AML	AML		
	comp=N,2415µm,1.1s						
PALZ	**Palazzo San Ge**	**0.93**	**126**	P	**Pn**	**13 28 38.3**	**+0.6**
PALZ				AML	AML		
	comp=N,8025µm,0.5s						
PALZ				AML	AML		
	comp=E,6505µm,0.5s						
POFI	**Posta Fibreno**	**0.96**	**284**	P	**Pb**	**13 28 38.8**	**+0.5**
ACER	**Acerenza**	**1.02**	**133**	P	**Pb**	**13 28 39.8**	**+0.5**
ACER				AML	AML		
	comp=E,2475µm,0.5s						
ACER				AML	AML		
	comp=N,1755µm,0.9s						
ACER				AML	AML		
	comp=N,1880µm,0.9s						
ACER				AML	AML		
	comp=E,2320µm,0.5s						
MRVN	**Minervino Murg**	**1.03**	**114**	P	**Pn**	**13 28 39.5**	**+0.5**
MRVN				AML	AML		
	comp=N,2050µm,0.8s						
MRVN				AML	AML		
	comp=E,1615µm,0.2s						
CDRU	**Civita di Ruta**	**1.03**	**165**	P	**Pb**	**13 28 40.2**	**+0.7**
CDRU				AML	AML		
	comp=E,842µm,0.5s						
CDRU				AML	AML		
	comp=N,666µm,1.0s						
CMPR	**Campora**	**1.20**	**167**	P	**Pb**	**13 28 43.0**	**+0.6**
CMPR				AML	AML		
	comp=N,996µm,0.4s						
CMPR				AML	AML		
	comp=E,1085µm,0.7s						
VCEL	**Villa Celiera**	**1.23**	**318**	P	**Pb**	**13 28 43.8**	**+1.0**
VCEL				AML	AML		
	comp=E,1198µm,0.5s						
VCEL				AML	AML		
	comp=N,936µm,0.4s						
GIUL	**Giuliano Di Ro**	**1.28**	**274**	P	**Pb**	**13 28 44.0**	**+0.4**
GIUL				AML	AML		
	comp=E,380µm,1.5s						
GIUL				AML	AML		
	comp=N,428µm,1.3s						
VENT	**Ventotene**	**1.35**	**240**	P	**Pn**	**13 28 44.3**	**+0.9**
VENT				AML	AML		
	comp=N,995µm,0.6s						
VENT				AML	AML		
	comp=E,910µm,1.2s						
MGR	**Morigerati**	**1.43**	**161**	AML	AML		
	comp=E,519µm,0.5s						
MGR				AML	AML		
	comp=N,433µm,1.2s						
MIGL	**Miglionico**	**1.43**	**128**	AML	AML		
	comp=N,3150µm,0.6s						
MIGL				AML	AML		
	comp=E,2865µm,0.4s						
AQU	**L'Aquila**	**1.45**	**307**	*e*Pn	**Pb**	**13 28 48.8**	**+2.3**
BULG	**Bulgheria - Ca**	**1.45**	**167**	AML	AML		
	comp=E,558µm,0.6s						
BULG				AML	AML		
	comp=N,708µm,1.0s						
SIRI	**Monte Sirino -**	**1.48**	**152**	AML	AML		
	comp=E,416µm,0.8s						
SIRI				AML	AML		
	comp=N,465µm,0.5s						
SIRI				AML	AML		
	comp=E,419µm,0.8s						
SIRI				AML	AML		
	comp=N,477µm,0.5s						
SCHR	**S. Chirico Rap**	**1.54**	**146**	AML	AML		
	comp=E,193µm,1.2s						
SCHR				AML	AML		
	comp=N,228µm,0.6s						
CERT	**Cerreto**	**1.55**	**288**	AML	AML		
	comp=N,316µm,0.7s						
CERT				AML	AML		
	comp=E,584µm,0.6s						
MATE	**Matera**	**1.56**	**122**	AML	AML		
	comp=E,944µm,1.3s						
MATE				AML	AML		
	comp=N,1038µm,1.6s						
NOCI	**Noci**	**1.74**	**113**	P	**Pn**	**13 28 50.2**	**+1.5**
NOCI				AML	AML		
	comp=E,1455µm,0.4s						
NOCI				AML	AML		
	comp=N,1490µm,0.6s						
NRCA	**Norcia**	**1.92**	**315**	AML	AML		
	comp=E,99µm,0.4s						
NRCA				AML	AML		
	comp=N,83µm,1.1s						
SALB	**San Lorenzo Be**	**1.93**	**146**	AML	AML		
	comp=E,224µm,1.3s						
SALB				AML	AML		
	comp=N,139µm,1.0s						
HVAR	**Hvar**	**2.02**	**33**	*e*Pn	**Pn**	**13 28 53.4**	**+0.9**
HVAR				Sn	**Sn**	**13 29 17.8**	**+0.9**
CESI	**CESI - Serrava**	**2.15**	**315**	AML	AML		
	comp=E,140µm,0.9s						
CESI				AML	AML		
	comp=N,120µm,1.3s						
ZIRJ	**Zirje**	**2.22**	**13**	*e*Pn	**Pn**	**13 28 55.6**	**+0.3**
ZIRJ				Sn	**Sn**	**13 29 22.9**	**+1.0**
STON	**Ston**	**2.46**	**55**	*e*Pn	**Pn**	**13 29 00.5**	**+1.9**
STON	**Ston**	**2.46**	**55**	*e*Pn	**Pn**	**13 29 00.4**	**+1.8**
STON				Sn	**Sn**	**13 29 29.7**	**+1.9**
STON	**Ston**	**2.46**	**55**	AML	AML		
	comp=E,214µm,0.6s						
STON				AML	AML		
	comp=N,299µm,0.6s						
ARVD	**Arcevia**	**2.50**	**324**	AML	AML		
	comp=N,92µm,1.6s						
ARVD				AML	AML		
	comp=E,95µm,0.8s						
DUGI	**Dugi Otok**	**2.50**	**2**	*e*Pn	**Pn**	**13 28 59.6**	**+0.4**
DUGI				Sn	**Sn**	**13 29 29.7**	**+0.8**
PIEI	**Pieia**	**2.72**	**320**	AML	AML		
	comp=N,74µm,0.5s						
PIEI				AML	AML		
	comp=E,108µm,0.6s						
KIJV	**Kijevo**	**2.73**	**22**	*e*Pn	**Pn**	**13 29 03.9**	**+1.6**
KIJV				Sn	**Sn**	**13 29 35.4**	**+0.9**
HCY	**Herceg Novi**	**2.80**	**69**	*e*Pn	**Pn**	**13 29 05.2**	**+1.8**
TREB	**Trebinje**	**2.81**	**63**	*e*Pn	**Pn**	**13 29 05.0**	**+1.6**
PARC	**Parchiule**	**2.95**	**318**	AML	AML		
	comp=E,120µm,0.6s						
PARC				AML	AML		
	comp=N,102µm,0.8s						
BRY	**Bratogost**	**3.01**	**61**	*e*Pn	**Pn**	**13 29 07.9**	**+1.6**
NVLJ	**Novalja**	**3.07**	**359**	*e*Pn	**Pn**	**13 29 07.8**	**+0.8**
NVLJ				Sn	**Sn**	**13 29 43.8**	**+0.9**
DRME	**Dracevica, Mon**	**3.23**	**76**	*e*Pn	**Pn**	**13 29 10.9**	**+1.6**
RABC	**Rab**	**3.26**	**358**	*e*Pn	**Pn**	**13 29 10.3**	**+0.7**
RABC				Sn	**Sn**	**13 29 47.8**	**+0.2**
MGRS	**Mrkonjic Grad**	**3.31**	**27**	*e*Pn	**Pn**	**13 29 09.7**	**-0.7**
PDG	**Podgorica**	**3.34**	**72**	*e*Pn	**Pn**	**13 29 12.4**	**+1.7**
UPM	**Unac-Piva**	**3.39**	**58**	*e*Pn	**Pn**	**13 29 13.9**	**+2.3**
MCSR	**Castroreale**	**3.43**	**176**	AML	AML		
	comp=N,67µm,0.9s						
MCSR				AML	AML		
	comp=E,62µm,0.4s						
BLY	**Banja Luka**	**3.64**	**26**	*e*Pn	**Pn**	**13 29 18.7**	**+3.8**
MRAK	**Mrakovica**	**3.79**	**21**	*e*Pn	**Pn**	**13 29 19.5**	**+2.5**
RUDO	**Rudo**	**3.89**	**55**	*e*Pn	**Pn**	**13 29 20.4**	**+2.1**
HAPS	**Han Pijesak,Bl**	**3.92**	**47**	*e*Pn	**Pn**	**13 29 20.2**	**+1.4**
BBLS	**Lazići**	**4.05**	**53**	*e*Pn	**Pn**	**13 29 22.5**	**+2.0**
KEK	**Kerkira**	**4.09**	**114**	P	**Pn**	**13 29 23.8**	**+2.7**
SRN	**Sarande**	**4.16**	**111**	P	**Pn**	**13 29 25.0**	**+3.1**
MOSL	**Moslavina**	**4.32**	**17**	*e*Pn	**Pn**	**13 29 25.9**	**+1.7**
MOSL				Sn	**Sn**	**13 30 13.8**	**0.0**
OHR	**Ohrid**	**4.42**	**93**	*i* Pn	**Pn**	**13 29 29.2**	**+3.7**
DIVS	**Divibare**	**4.53**	**53**	*e*Pn	**Pn**	**13 29 28.2**	**+1.1**
DIVS	**Divibare**	**4.53**	**53**	AML	AML		
	comp=N,34µm,1.4s						
DIVS				AML	AML		
	comp=E,35µm,1.4s						
NEST	**Nestorio**	**4.74**	**101**	P	**Pn**	**13 29 33.8**	**+3.8**
KALN	**Kalnik**	**4.76**	**13**	*e*Pn	**Pn**	**13 29 31.1**	**+0.8**
SKO	**Skopje**	**4.87**	**82**	*i* Pn	Pn	13 29 25.2	-6.6
KPRO	**Kipourio**	**5.10**	**105**	P	**Pn**	**13 29 38.7**	**+3.7**
KPRO				S	**Sn**	**13 30 33.3**	**+0.2**
TSLK	**Tsoukalades, L**	**5.11**	**120**	P	**Pn**	**13 29 38.2**	**+3.1**
LKD2	**Lefkada island**	**5.13**	**120**	P	**Pn**	**13 29 38.5**	**+3.1**
LKD2				S	**Sn**	**13 30 33.1**	**-0.7**
	comp=E,48nm,0.5s						
DRAG	**Dragano-Lefkad**	**5.14**	**121**	P	**Pn**	**13 29 38.5**	**+3.0**
DRAG				S	**Sn**	**13 30 33.4**	**-0.5**
EVGI	**Lefkada island**	**5.23**	**121**	P	**Pn**	**13 29 39.8**	**+3.1**
EVGI				S	**Sn**	**13 30 35.8**	**-0.3**
FSK	**Fiskardo**	**5.26**	**123**	P	**Pn**	**13 29 40.2**	**+3.1**
FSK				S	**Sn**	**13 30 36.1**	**-0.8**
	comp=E,32nm,0.3s						
DMLN	**Damoulianata-K**	**5.28**	**126**	P	**Pn**	**13 29 40.6**	**+3.2**
KEF3	**Kipouria, Keph**	**5.29**	**127**	P	**Pn**	**13 29 40.7**	**+3.2**
KEF3				S	**Sn**	**13 30 36.9**	**-0.7**
STIP	**Stip**	**5.42**	**85**	*i* Pn	**Pn**	**13 29 42.8**	**+3.4**
VLS	**Valsamata**	**5.45**	**126**	P	**Pn**	**13 29 42.5**	**+2.7**
VLS				S	**Sn**	**13 30 41.0**	**-0.7**
	comp=E,40nm,0.4s						
PSDA	**Pessada-Kefalo**	**5.49**	**126**	P	**Pn**	**13 29 43.5**	**+3.2**
THL	**Klokotos Trika**	**5.71**	**107**	P	**Pn**	**13 29 46.5**	**+3.2**
THL				S	**Sn**	**13 30 48.7**	**+0.7**
	comp=E,45nm,0.5s						
EVR	**Evrytania**	**5.84**	**114**	P	**Pn**	**13 29 48.5**	**+3.3**
EVR				S	**Sn**	**13 30 51.5**	**+0.1**
MAKR	**Makrakomi, Fth**	**6.02**	**112**	P	**Pn**	**13 29 51.4**	**+3.8**
MAKR				S	**Sn**	**13 30 55.6**	**-0.1**
EFP	**Efpalio**	**6.15**	**118**	P	**Pn**	**13 29 52.9**	**+3.5**
EFP				S	**Sn**	**13 30 59.2**	**+0.3**
AGG	**Agios Georgios**	**6.15**	**111**	P	**Pn**	**13 29 52.9**	**+3.5**
AGG				S	**Sn**	**13 30 59.1**	**+0.1**
DAVOX	**Davos/Dischmat**	**6.43**	**327**	Pn	**Pn**	**13 29 50.5**	**-2.8**
	comp=E,0.3nm,0.3s,baz=145,slow=12,SNR=6.5						
DAVOX				Sn	**Sn**	**13 31 03.5**	**-2.3**
	comp=E,0.4nm,0.3s,baz=140,slow=21,SNR=1.9						
DAVOX	**Davos/Dischmat**	**6.43**	**327**	P	**Pn**	**13 29 50.5**	**-2.8**
KLV	**Kalavryta, Ach**	**6.52**	**120**	P	**Pn**	**13 29 57.9**	**+3.4**
GERES	**GERESS Array B**	**7.41**	**354**	Pn	**Pn**	**13 30 06.2**	**-0.5**
	comp=E,0.3nm,0.3s,baz=167,slow=13,SNR=4.8						
GERES				Sn	**Sn**	**13 31 24.2**	**-5.6**
	comp=E,0.6nm,0.3s,baz=167,slow=25,SNR=7.7						
VYHS	**Vyhne**	**7.52**	**20**	*e*PN	**Pn**	**13 30 11.2**	**+3.1**
VYHS				*e*SN	**Sn**	**13 31 29.8**	**-2.7**
KHC	**Kasperske Hory**	**7.70**	**353**	*e*PN	**Pn**	**13 30 09.0**	**-1.6**
KHC				*e*SN	**Sn**	**13 31 34.4**	**-2.6**
IDI	**Anoyia**	**9.95**	**125**	Pn	**Pn**	**13 30 44.3**	**+2.7**
	comp=E,0.3nm,0.3s,baz=310,slow=7.9,SNR=1.3						
IDI				Sn	**Sn**	**13 32 27.0**	**-5.4**
	comp=E,0.2nm,0.3s,baz=299,slow=13,SNR=1.7						
FINES	**FINESS Array B**	**21.09**	**15**	P	**P**	**13 33 00.5**	**-1.8**
	comp=E,1.2nm,0.9s,baz=195,slow=16,SNR=1.6						
MKAR	**Makanchi Array**	**47.27**	**60**	P	**P**	**13 36 52.4**	**+1.2**
	comp=E,0.5nm,0.6s,baz=279,slow=7.7,SNR=6.9						

*TUL **23** 13:28:57.5±1.5, 36°.34N±0°.01×96°.80W±0°.03, h5km±7km, ML3.3, mb_Lg3.2/128(NEIC), Error ellipse: s-maj=3.1km s-min=2.0km az=86.0*

NEIC 23 13:28:57.9±1.1, 36°.34N±0°.01×96°.82W±0°.01, h5km±7km, Error ellipse: s-maj=2.1km s-min=1.2km az=197.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.20**	**151**		Pg	13 29 01.6	-0.1
QUOK				Sg	Sg	13 29 04.6	+0.2
OK031	**S. Brethren Rd**	**0.39**	**182**		Pg	13 29 05.4	-0.1
BLOK	**Blackwell**	**0.52**	**323**	Pg	Pg	13 29 08.2	+0.2
T35A	**Sooner Cattle**	**0.62**	**24**		Pg	13 29 09.7	-0.2
T35A				Sg	Sg	13 29 18.1	+0.1
T35B	**Sooner Cattle**	**0.62**	**24**	P		13 29 09.5	
	baz=204						
T35B				S		13 29 18.0	
	baz=204						
OK029	**Liberty Lake**	**0.75**	**223**		Pg	13 29 12.2	-0.1
OK029				Sg	Sg	13 29 22.1	+0.1
KAN13	**South Haven SW**	**0.85**	**322**		Pg	13 29 14.2	0.0
KAN13				Sg	Sg	13 29 25.3	+0.1
OK025	**Westminster Rd**	**0.87**	**209**		Pg	13 29 14.1	-0.5
BCOK	**Bluff Creek, N**	**0.94**	**223**	Pg	Pg	13 29 15.3	-0.5
BCOK				Sg	Sg	13 29 28.2	+0.2
TUL1	**Leonard**	**0.94**	**117**	P		13 29 15.1	
	baz=298,SNR=55						
TUL1				S		13 29 27.1	
	baz=298						
CROK	**Carrier**	**0.95**	**280**		Pg	13 29 16.0	-0.1
GC02	**Grant County #**	**0.97**	**302**		Pg	13 29 16.4	-0.2
KAN09	**Caldwell North**	**1.02**	**321**		Pg	13 29 17.1	-0.3
KAN17	**Caldwell West**	**1.03**	**313**		Pg	13 29 17.5	-0.2
KS20	**Mayfield South**	**1.06**	**327**		Pg	13 29 18.0	-0.2
OKCSW	**OKLAHOMA CITY**	**1.06**	**208**		Pg	13 29 17.3	-1.0
KAN05	**Bluff City Nor**	**1.14**	**312**		Pg	13 29 19.4	-0.3
FNO	**Franklin**	**1.18**	**204**	Pg	Pg	13 29 19.3	-1.3
FNO				IAmb_Lg		13 29 33.9	
	comp=Z,127nm,0.9s						
OK032	**Salt Plains WL**	**1.21**	**293**		Pg	13 29 20.7	-0.4
KAN08	**Anthony NE Sta**	**1.27**	**314**		Pg	13 29 21.9	-0.5
KAN10	**Anthony SW Sta**	**1.28**	**308**		Pg	13 29 22.1	-0.5
KAN12	**Harper NE Stat**	**1.34**	**316**		Pn	13 29 23.1	-0.3
U32A	**Winter Ranch,**	**1.76**	**272**		Pn	13 29 29.7	+0.6
U32A	**Winter Ranch,**	**1.76**	**272**	P		13 29 30.0	
	baz=90,SNR=14						
X34A	**Smith Ranch, M**	**1.92**	**206**		Pn	13 29 32.1	+0.8
U38A	**Gravette**	**1.97**	**87**		Pn	13 29 32.3	+0.3
U38A				IAmb_Lg		13 30 04.3	
	comp=Z,88nm,0.8s						
U38A	**Gravette**	**1.97**	**87**	P		13 29 32.4	
	baz=268,SNR=51						
X37A	**Clayton**	**2.12**	**145**		Pn	13 29 34.3	+0.3
X37A	**Clayton**	**2.12**	**145**	P		13 29 34.3	
	baz=326,SNR=23						
X37A				S		13 30 02.4	
	baz=326						
WMOK	**Wichita Mounta**	**2.26**	**225**		Pn	13 29 36.3	+0.3
WMOK				IAmb_Lg		13 30 12.2	
	comp=Z,104nm,0.8s						
WMOK	**Wichita Mounta**	**2.26**	**225**	P		13 29 36.5	
	baz=44,SNR=38						
WMOK				S		13 30 06.2	
	baz=44						
HHAR	**Hobbs**	**2.33**	**91**		Pn	13 29 37.3	+0.3
HHAR				IAmb_Lg		13 30 15.4	
	comp=Z,54nm,0.8s						
HHAR	**Hobbs**	**2.33**	**91**	P		13 29 37.5	
	baz=272						
LOOK	**Love County**	**2.37**	**187**		Pn	13 29 38.0	+0.6
R32A	**Long Quarter,**	**2.56**	**325**	IAmb_Lg		13 30 22.1	
	comp=Z,105nm,0.7s						
W39A	**Magazine**	**2.73**	**114**		Pn	13 29 42.4	+0.1
Z35A	**Perchaven, San**	**3.03**	**187**	IAmb_Lg		13 30 40.9	
	comp=Z,62nm,1.1s						
MIAR	**Mount Ida**	**3.20**	**123**		Pn	13 29 48.8	-0.1
MIAR				IAmb_Lg		13 30 45.6	
	comp=Z,50nm,0.8s						
MIAR	**Mount Ida**	**3.20**	**123**	P		13 29 49.2	
	baz=305,SNR=12						
MIAR				S		13 30 27.9	
	baz=305						
U40A	**Yellville**	**3.21**	**89**		Pn	13 29 48.9	-0.1
U40A				IAmb_Lg		13 30 43.5	
	comp=Z,65nm,0.8s						
U40A	**Yellville**	**3.21**	**89**	P		13 29 49.0	
	baz=271,SNR=39						
U40A				P		13 29 49.0	
	baz=271,SNR=39						
U40A				S		13 30 28.4	
	baz=271						
CBKS	**Cedar Bluff**	**3.38**	**318**		Pn	13 29 51.6	+0.1
Z38A	**Mt. Pleasant**	**3.43**	**153**	IAmb_Lg		13 30 52.6	
	comp=Z,87nm,0.8s						
MGMO	**Mountain Grove**	**3.75**	**76**		Pn	13 29 56.8	+0.3
MGMO				IAmb_Lg		13 31 00.9	
	comp=Z,41nm,0.7s						
X40A	**Basin Creek Fa**	**3.75**	**118**		Pn	13 29 57.0	+0.6
X40A				IAmb_Lg		13 31 01.0	
	comp=Z,59nm,0.8s						
X40A	**Basin Creek Fa**	**3.75**	**118**	P		13 29 57.0	
	baz=301,SNR=7.0						
X40A				P		13 29 57.0	
	baz=301,SNR=7.0						
FCAR	**Ozark Folk Cen**	**3.83**	**95**		Pn	13 29 57.5	-0.1
WHAR	**Wooly Hollow**	**3.83**	**105**		Pn	13 29 57.9	+0.3
WHAR				IAmb_Lg		13 31 03.9	
	comp=Z,47nm,0.7s						
WLAR	**White Oak Lake**	**4.04**	**130**	IAmb_Lg		13 31 15.1	
	comp=Z,52nm,0.7s						
R40A	**Maddies Statio**	**4.12**	**60**		Pn	13 30 01.6	+0.1
R40A				IAmb_Lg		13 31 10.5	
	comp=Z,57nm,0.7s						
R40A	**Maddies Statio**	**4.12**	**60**	P		13 30 01.6	
	baz=243,SNR=16						
P38A	**Dawn**	**4.18**	**37**	IAmb_Lg		13 31 16.8	
	comp=Z,35nm,0.7s						
AMTX	**Amarillo**	**4.22**	**251**	IAmb_Lg		13 31 13.2	
	comp=Z,41nm,0.7s						
ABTX	**Abilene, Hawle**	**4.38**	**213**	IAmb_Lg		13 31 21.3	
	comp=Z,57nm,1.1s						
237A	**Washetta, Mont**	**4.41**	**169**	IAmb_Lg		13 31 25.4	
	comp=Z,37nm,0.8s						
N33A	**J Bar K, Exete**	**4.42**	**354**	IAmb_Lg		13 31 28.3	
	comp=Z,74nm,0.8s						
LCAR	**Lake Charles**	**4.59**	**92**		Pn	13 30 07.0	-1.0
LCAR				IAmb_Lg		13 31 20.4	
	comp=Z,43nm,1.0s						
N35A	**Tabor**	**4.60**	**11**		Pn	13 30 06.8	-1.4
T42A	**Van Buren**	**4.66**	**80**	IAmb_Lg		13 31 33.6	
	comp=Z,45nm,0.7s						
CCM	**Cathedral Cave**	**4.77**	**67**		Pn	13 30 10.8	+0.3
CCM				IAmb_Lg		13 31 31.4	
	comp=Z,46nm,0.7s						
CCAR	**Cane Creek**	**4.80**	**119**	IAmb_Lg		13 31 41.3	
	comp=Z,52nm,0.8s						
NATX	**Nacogdoches**	**4.91**	**158**	IAmb_Lg		13 31 45.3	
	comp=Z,34nm,0.8s						
HBAR	**Harrisburg**	**5.06**	**97**	IAmb_Lg		13 31 50.8	
	comp=Z,66nm,0.7s						
PBMO	**Poplar Bluff**	**5.17**	**83**	IAmb_Lg		13 31 48.1	
	comp=Z,53nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.32**	**302**		Pn	13 30 18.6	+0.4
KSCO				IAmb_Lg		13 31 57.3	
	comp=Z,44nm,0.7s						
LPAR	**Lepanto**	**5.34**	**96**	IAmb_Lg		13 31 56.1	
	comp=Z,56nm,0.9s						
435B	**Jarrell**	**5.58**	**187**	IAmb_Lg		13 32 10.8	
	comp=Z,35nm,0.8s						
L34A	**Svendsen Farm,**	**5.62**	**3**	Pn	Pn	13 30 21.7	-0.6
143A	**Socs Landing,**	**5.76**	**128**	IAmb_Lg		13 32 06.4	
	comp=Z,35nm,0.7s						
OGNE	**Ogallala**	**6.14**	**320**	IAmb_Lg		13 32 18.1	
	comp=Z,57nm,0.8s						
T25A	**Trinidad**	**6.14**	**280**	Pn	Pn	13 30 30.5	+1.0
T25A				IAmb_Lg		13 32 21.3	
	comp=Z,30nm,0.8s						
OXF	**Oxford**	**6.32**	**105**	IAmb_Lg		13 32 22.2	
	comp=Z,39nm,0.9s						
W45A	**Hickory Valley**	**6.32**	**99**	IAmb_Lg		13 32 27.1	
	comp=Z,37nm,0.8s						
JCT	**Junction City**	**6.36**	**204**	IAmb_Lg		13 32 26.0	
	comp=Z,51nm,0.9s						
K31A	**O'Neill**	**6.45**	**347**	IAmb_Lg		13 32 31.2	
	comp=Z,49nm,0.7s						
Y45A	**Yeager Farm, C**	**6.46**	**110**	IAmb_Lg		13 32 36.2	
	comp=Z,48nm,0.9s						
Q44A	**Meyer Farm, Va**	**6.70**	**65**	IAmb_Lg		13 32 46.8	
	comp=Z,51nm,0.8s						
L40A	**Anamosa**	**7.18**	**36**	IAmb_Lg		13 32 42.1	
	comp=Z,44nm,0.9s						
USIN	**University of**	**7.49**	**75**	IAmb_Lg		13 33 00.6	
	comp=Z,36nm,0.9s						
O44A	**Mansfield**	**7.59**	**57**	IAmb_Lg		13 33 01.0	
	comp=Z,45nm,0.8s						
ISCO	**Idaho Springs**	**7.74**	**299**	IAmb_Lg		13 33 13.3	
	comp=Z,14nm,0.8s						
T47A	**Sharon Grove**	**7.84**	**82**	IAmb_Lg		13 33 19.3	
	comp=Z,34nm,1.0s						
I37A	**Lemond, Waseca**	**8.10**	**18**	IAmb_Lg		13 33 16.2	
	comp=Z,18nm,0.8s						
X48A	**Hartselle**	**8.21**	**100**	IAmb_Lg		13 33 18.1	
	comp=Z,14nm,0.8s						
SUSD	**Miller**	**8.25**	**349**	IAmb_Lg		13 33 24.4	
	comp=Z,22nm,0.8s						
JFWS	**Jewell Farm**	**8.29**	**36**	IAmb_Lg		13 33 24.2	
	comp=Z,38nm,0.8s						
PHWY	**Pilot Hill**	**8.36**	**309**	IAmb_Lg		13 33 28.3	
	comp=Z,26nm,0.8s						
WCI	**Wyandotte Cave**	**8.60**	**74**	IAmb_Lg		13 33 35.8	
	comp=Z,25nm,0.8s						
SFIN	**Lafayette**	**8.64**	**59**	IAmb_Lg		13 33 28.4	
	comp=Z,34nm,0.8s						
U49A	**Red Boiling Sp**	**8.90**	**86**	IAmb_Lg		13 33 43.5	
	comp=Z,20nm,1.2s						
I40A	**Norwalk**	**8.91**	**30**	IAmb_Lg		13 33 47.9	
	comp=Z,19nm,0.7s						
SWET	**Sewanee**	**8.92**	**94**	IAmb_Lg		13 33 41.2	
	comp=Z,11nm,1.0s						
SPMN	**Marine on St.**	**9.38**	**18**	IAmb_Lg		13 34 12.2	
	comp=Z,16nm,0.9s						
W50A	**Signal Mountai**	**9.43**	**94**	IAmb_Lg		13 34 04.2	
	comp=Z,19nm,0.9s						
F33A	**5 Mile Ranch,**	**9.49**	**2**	IAmb_Lg		13 33 58.8	
	comp=Z,9.8nm,0.8s						
RSSD	**Black Hills**	**9.52**	**327**	IAmb_Lg		13 34 12.9	
	comp=Z,22nm,0.9s						
P48A	**Milroy**	**9.53**	**68**	IAmb_Lg		13 34 09.4	
	comp=Z,20nm,0.8s						
I42A	**Draeger Farm,**	**9.67**	**36**	IAmb_Lg		13 34 10.5	
	comp=Z,26nm,0.9s						
RWWY	**Rawlins**	**9.68**	**307**	IAmb_Lg		13 34 16.1	
	comp=Z,22nm,1.0s						
PV13	**Radium Mtn., P**	**9.73**	**284**	IAmb_Lg		13 34 21.0	
	comp=Z,9.9nm,1.2s						
K22A	**Casper**	**9.79**	**313**	IAmb_Lg		13 34 15.3	
	comp=Z,16nm,0.9s						
N47A	**Urbana**	**9.81**	**59**	IAmb_Lg		13 34 11.2	
	comp=Z,28nm,0.8s						
X51A	**Calhoun**	**9.92**

ASAR	**Alice Springs**	**34.17 260**	P	**P**	**14 04 31.3**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=81,slow=9.4,SNR=50					
ASAR	**Alice Springs**	**34.17 260**	P	**P**	**14 04 30.9**	**-0.9**
WB0	**Warramunga Arr**	**34.27 267**	P	**P**	**14 04 31.4**	**-1.2**
WB2	**Warramunga Arr**	**34.28 267**	P	**P**	**14 04 31.6**	**-1.1**
WB2			IAmb	IAmb	14 04 49.7	
	comp=Z,3.2nm,1.1s					
WRAB	**Tennant Creek**	**34.28 267**	P	**P**	**14 04 31.6**	**-1.1**
WRA	**Warramunga Arr**	**34.29 267**	P	**P**	**14 04 31.5**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=97,slow=8.5,SNR=31					
WRA			PcP	**PcP**	**14 07 06.1**	**-2.3**
	comp=Z,0.5nm,1.0s,baz=107,slow=3.1,SNR=2.0					
WRA	**Warramunga Arr**	**34.29 267**	P	**P**	**14 04 31.1**	**-1.7**
MTN	**Manton Dam**	**39.13 277**	P	**P**	**14 05 13.3**	**-0.7**
KNRA	**Kununurra**	**40.45 272**	P	**P**	**14 05 23.7**	**-1.2**
KNRA			IAmb	IAmb	14 05 38.6	
	comp=Z,3.3nm,1.1s					
CASY	**Casey**	**57.97 205**	P	**P**	**14 07 36.9**	**-1.2**
CASY			IAmb	IAmb	14 07 45.3	
	comp=Z,3.5nm,1.1s					
GERES	**GERESS Array B**	**148.06 331**	PKPbc	**PKPdf**	**14 17 29.0**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=46,slow=2.8,SNR=1.8					

*SJA **23** 14:21:24.6±0.6, 23°.92S×66°.77W, h219km±3km, ML4.1, MW3.8*
*NEIC **23** 14:21:24.7±1.7, 23°.94S±0°.08×66°.9W±0°.1, h242km±17km, mb4.5/1, Md3.9(SJA), Error ellipse: s-maj=14.3km s-min=10.8km az=122.0*
*IDC **23** 14:21:25.7±1.1, 23°.84S×66°.72W, h199km±10km, mb3.4/4, mb1 3.6/10, mb1mx3.4/27, mbtmp3.9/10, Error ellipse: s-maj=19.5km s-min=14.3km az=12.0*
*VAO **23** 14:21:26.4±0.6, 23°.97S×67°.27W, h251km±5km, mb3.9*
*GUC **23** 14:21:27.0±0.7, 23°.92S×67°.08W, h226km±10km, ML4.3*

ISC 23 14:21:25.1±0.6, 23°.97S±0°.04×66°.89W±0°.04, h209km±6km, n109, σ1§63/152, mb3.6/4, 13C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**121**	*eP*	**Pn**	**14 22 00.7**	**+1.2**
SLA				*eS*	**S**	14 22 26.2	+0.3
HJA	**Humahuaca**	**1.55**	**61**	*eP*	**Pn**	14 22 01.0	+0.5
HJA				*eS*	**S**	14 22 27.5	-0.2
YJA	**Yavi**	**2.19**	**35**	*eP*	**Pn**	14 22 06.6	-0.2
YJA				*eS*	**S**	14 22 37.9	-0.8
FSA	**Cafayete**	**2.28**	**159**	*eP*	**Pn**	14 22 08.4	+1.1
LVC	**Limon Verde**	**2.30**	**306**	P	**Pn**	14 22 09.3	+1.4
	55nm,0.3s,baz=147,slow=5.4,SNR=550						
LVC				S	**S**	**14 22 41.5**	**+0.9**
	38nm,0.3s,baz=306,slow=16,SNR=17						
LVC	**Limon Verde**	**2.30**	**306**	*eP*	**Pn**	14 22 08.9	+1.0
LVC				*eS*	**S**	14 22 40.7	0.0
LVC	**Limon Verde**	**2.30**	**306**	*eP*	**Pn**	14 22 09.1	+1.2
LVC	**Limon Verde**	**2.30**	**306**	*eP*	**Pn**	14 22 09.3	+1.4
LVC				*eS*	**S**	14 22 42.3	+1.6
PB15	**IPOC Station P**	**2.49**	**287**	⇑*iP*	**Pn**	14 22 11.3	+1.6
PB15				*i S*	**S**	14 22 44.5	+0.5
PB15	**IPOC Station P**	**2.49**	**287**		**Pn**	14 22 11.2	+1.5
GO02	**Mina Guanaco**	**2.73**	**244**	⇑*iP*	**Pn**	14 22 14.2	+1.8
GO02				*eS*	**S**	14 22 50.5	+1.5
GO02	**Mina Guanaco**	**2.73**	**244**	Pn	**Pn**	14 22 14.3	+1.8
PB06	**IPOC Station P**	**2.77**	**297**	⇑*iP*	**Pn**	14 22 14.2	+1.4
PB06				*i S*	**S**	14 22 49.3	-0.3
PB06				IAML		14 22 52.1	
	comp=E,866nm,0.1s						
PB06	**IPOC Station P**	**2.77**	**297**		**Pn**	14 22 13.8	+1.0
PB06	**IPOC Station P**	**2.77**	**297**	*eP*	**Pn**	14 22 14.2	+1.4
PB06				*eS*	**S**	14 22 50.7	+1.1
PB06				IAML		14 22 52.3	
	comp=Z,465nm,0.7s						
PB09	**IPOC Station P**	**3.07**	**314**	⇑*iP*	**Pn**	14 22 17.8	+1.5
PB09				*eS*	**S**	14 22 55.7	0.0
PB09				IAML		14 23 00.4	
	comp=N,246nm,0.3s						
PB09	**IPOC Station P**	**3.07**	**314**		**Pn**	14 22 17.5	+1.3
PB09	**IPOC Station P**	**3.07**	**314**	*eP*	**Pn**	14 22 17.5	+1.3
PB09				*eS*	**S**	14 22 56.8	+1.1
PB09				IAML		14 22 59.9	
	comp=Z,328nm,0.7s						
PB05	**IPOC Station P**	**3.25**	**289**	⇑*iP*	**Pn**	14 22 19.1	+0.9
PB05				*eS*	**S**	14 22 58.0	-1.3
PB05	**IPOC Station P**	**3.25**	**289**	*eP*	**Pn**	14 22 19.4	+1.1
PB05				*eS*	**S**	14 23 00.0	+0.7
PB05				*eS*	S	14 23 00.8	+1.5
PB05				IAML		14 23 04.6	
	comp=Z,162nm,0.5s						
PB03	**IPOC Station P**	**3.26**	**305**	⇑*iP*	**Pn**	14 22 19.5	+1.0
PB03				*eS*	**S**	14 22 58.4	-1.4
PB14	**IPOC Station P**	**3.28**	**258**	⇑*iP*	**Pn**	14 22 19.9	+1.2
PB14				*eS*	**S**	14 22 59.2	-1.0
PB14	**IPOC Station P**	**3.28**	**258**	Pn	**Pn**	14 22 20.0	+1.2
PB14	**IPOC Station P**	**3.28**	**258**	*eP*	**Pn**	14 22 20.0	+1.2
PB14				*eS*	**S**	14 23 00.8	+0.5
PB14				IAML		14 23 03.0	
	comp=Z,502nm,0.6s						
PB10	**IPOC Station P**	**3.39**	**277**	⇑*iP*	**Pn**	14 22 21.3	+1.4
PB10				*i S*	**S**	14 23 01.8	-0.5
PB10	**IPOC Station P**	**3.39**	**277**	Pn	**Pn**	14 22 21.0	+1.2
PB10	**IPOC Station P**	**3.39**	**277**	*eP*	**Pn**	14 22 21.3	+1.4
PB10				*eS*	**S**	14 23 03.9	+1.6
PB10				IAML		14 23 06.5	
	comp=Z,234nm,0.4s						
PB04	**IPOC Station P**	**3.42**	**298**	⇑*iP*	**Pn**	14 22 21.2	+0.9
PB04				*i S*	**S**	14 23 02.1	-1.1
PB04	**IPOC Station P**	**3.42**	**298**		**Pn**	14 22 21.1	+0.8
PB04	**IPOC Station P**	**3.42**	**298**	*eP*	**Pn**	14 22 21.3	+0.9
PB04				*eS*	**S**	14 23 03.6	+0.5
PB04				IAML		14 23 11.5	
	comp=Z,392nm,0.6s						
AC02	**Maricunga**	**3.50**	**215**	⇑*iP*	**Pn**	14 22 23.5	+2.0
AC02	**Maricunga**	**3.50**	**215**	Pn	**Pn**	14 22 23.6	+2.0
PB07	**IPOC Station P**	**3.56**	**308**	⇑*iP*	**Pn**	14 22 22.8	+0.7
PB07				*eS*	**S**	14 23 04.5	-1.7
PB07	**IPOC Station P**	**3.56**	**308**		**Pn**	14 22 22.1	+0.1
PB01	**IPOC Station P**	**3.78**	**320**	*eP*	**Pn**	14 22 25.0	+0.3
PB01				*eS*	**S**	14 23 09.3	-1.7
PB01	**IPOC Station P**	**3.78**	**320**		**Pn**	14 22 25.2	+0.5
PB02	**IPOC Station P**	**3.84**	**313**	*eP*	**Pn**	14 22 25.6	+0.2
PB02				*i S*	**S**	14 23 09.8	-2.4
PB08	**IPOC Station P**	**4.36**	**331**	⇑*iP*	**Pn**	14 22 33.0	+1.0
PB08				*i S*	**S**	14 23 23.4	-0.9
PB08	**IPOC Station P**	**4.36**	**331**		**Pn**	14 22 33.1	+1.1
TA01	**Diego Aracena**	**4.56**	**317**	*eP*	**Pn**	14 22 33.3	-0.9
TA01				*eS*	**S**	14 23 24.9	-3.5
TA01	**Diego Aracena**	**4.56**	**317**	Pn	**Pn**	14 22 33.6	-0.6
GO03	**Copiap**	**4.70**	**219**	*eP*	**Pn**	14 22 36.0	0.0
GO03				*i S*	**S**	14 23 30.5	-1.1
GO03	**Copiap**	**4.70**	**219**	Pn	**Pn**	14 22 36.3	+0.3
GO03	**Copiap**	**4.70**	**219**	*eP*	**Pn**	14 22 36.4	+0.3
GO03				*eS*	**S**	14 23 30.8	-0.8
VCA	**Vinchina**	**4.89**	**194**	*eP*	**Pn**	14 22 39.8	+1.4
PB11	**IPOC Station P**	**4.92**	**328**	⇑*iP*	**Pn**	14 22 38.3	-0.6
PB11				*eS*	**S**	14 23 33.7	-3.1
PB11	**IPOC Station P**	**4.92**	**328**	Pn	**Pn**	14 22 38.3	-0.6
PSGC	**Pisagua**	**5.29**	**325**	*eP*	**Pn**	14 22 42.1	-1.5
PSGC				*eS*	**S**	14 23 39.1	-6.2
PSGCX	**Pisagua**	**5.29**	**325**	Pn	**Pn**	14 22 42.1	-1.5
ACLC	**CERRO LA CRUZ**	**5.43**	**181**	*eP*	**Pn**	14 22 46.2	+0.9
ACLC				*eS*	**S**	14 23 50.4	+1.8
MNMC	**Minye Minye**	**5.44**	**332**	*eP*	**Pn**	14 22 45.3	-0.3
MNMC				*eS*	**S**	14 23 45.3	-3.7
MNMC	**Minye Minye**	**5.44**	**332**		**Pn**	14 22 44.9	-0.7
AC04	**Llanos de Chal**	**5.65**	**221**	Pn	**Pn**	14 22 47.4	-0.6
APLL	**PUNTA DE LOS L**	**6.40**	**177**	*eP*	**Pn**	14 22 58.5	+0.8
APLL				*eS*	**S**	14 24 07.6	-3.5
ACDV	**Cuesta del Vie**	**6.49**	**197**	*eP*	**Pn**	14 23 00.8	+1.9
ACDV				*eS*	**S**	14 24 10.5	-2.7
ACDV				*eS*	S	14 24 15.8	+2.6
AROD	**Rodeo**	**6.59**	**200**	*eP*	**Pn**	14 23 02.5	+2.2
AROD				*eS*	**S**	14 24 15.8	+0.1
AVFE	**Valle Fertil**	**6.68**	**184**	*eP*	**Pn**	14 23 01.7	+0.5
AVFE				*eS*	**S**	14 24 15.2	-2.4
AVFE				*eS*	S	14 24 15.8	-1.8
ACCO	**Cerro Coronel**	**6.87**	**196**	*eP*	**Pn**	14 23 05.6	+1.7
ACCO				*eS*	**S**	14 24 22.9	+0.5
ACCO				*eS*	S	14 24 24.2	+1.8
ACCO				IAML		14 24 26.9	
	comp=Z,15nm,3.6s						
GO04	**Tololo Observa**	**7.09**	**209**	*eP*	**Pn**	14 23 06.5	-0.2
GO04				*eS*	**S**	14 24 25.5	-2.0
ACHE	**Chepes**	**7.16**	**178**	*eP*	**Pn**	14 23 07.7	+0.1
ACHE				*eS*	**S**	14 24 25.3	-3.8
LPAZ	**La Paz**	**7.74**	**351**	P	**Pn**	14 23 16.2	+0.7
	comp=Z,0.7nm,0.3s,baz=57,slow=2.7,SNR=18						
LPAZ				S	**S**	14 24 40.6	-2.9
	comp=Z,0.1nm,0.3s,baz=254,slow=20,SNR=2.2						
LPAZ	**La Paz**	**7.74**	**351**	Pn	**Pn**	14 23 16.5	+0.9
LPAZ	**La Paz**	**7.74**	**351**	*eP*	**Pn**	14 23 15.5	-0.1
RTLS	**Leoncito**	**8.08**	**195**	*eP*	**Pn**	14 23 21.4	+1.8
RTLS				*eS*	S	14 24 33.8	-17
RTLS				IAML		14 24 55.8	
	comp=Z,11nm,0.4s						
MRA	**San Martin**	**8.48**	**173**	*eP*	**Pn**	14 23 24.2	-0.3
MRA				*eS*	S	14 25 13.6	+13
AUSP	**Uspallata**	**8.51**	**194**	*eP*	**Pn**	14 23 26.9	+1.7
AUSP				*eS*	**S**	14 25 03.2	+2.0
ASAL	**Salagasta**	**8.76**	**191**	*eP*	**Pn**	14 23 29.2	+1.0
ASAL				*eS*	**S**	14 25 04.8	-2.0
CPUP	**Villa Florida**	**8.97**	**107**	P	**Pn**	14 23 29.5	-1.4
	comp=Z,0.3nm,0.3s,baz=292,slow=12,SNR=11						
CPUP	**Villa Florida**	**8.97**	**107**	Pn	**Pn**	14 23 29.1	-1.8
CPUP	**Villa Florida**	**8.97**	**107**	*eP*	**Pn**	14 23 34.0	+3.1
ARCO	**CERRO ARCO**	**9.02**	**191**	*eP*	**Pn**	14 23 33.5	+1.9
ARCO				IAML		14 25 21.4	
	comp=Z,11nm,0.0s						
SIV	**San Ignacio**	**9.64**	**36**	P	**Pn**	14 23 37.4	-2.3
	comp=Z,0.5nm,0.3s,baz=221,slow=11,SNR=15						
RFA	**San Rafael**	**10.85**	**187**	*eP*	**Pn**	14 23 55.7	+0.6
RFA				*eS*	**S**	14 25 49.8	-6.7
AQDB	**Aquidauana**	**10.93**	**74**	*eP*	**P**	14 24 00.3	-1.9
TRCB	**Terra Rica**	**13.14**	**88**	P	**P**	14 24 28.1	+1.2
TRCB	**Terra Rica**	**13.14**	**88**	*eP*	**P**	14 24 26.7	-0.2
SALV	**Santo Antonio**	**13.23**	**55**	*eP*	**P**	14 24 28.3	+0.4
CPSB	**Cacapava Do Su**	**13.57**	**121**	*eP*	**P**	14 24 32.5	+1.0
ITAB	**Concordia**	**13.70**	**107**	Pn	**Pn**	14 24 28.1	-2.9
ITAB	**Concordia**	**13.70**	**107**	*eP*	**P**	14 24 34.4	+1.4
PCMB	**Pacaembu**	**14.60**	**84**	*eP*	**P**	14 24 45.5	+2.5
TRQA	**Tornquist**	**14.65**	**165**	Pn	**P**	14 24 43.5	0.0
ITRB	**Iturama**	**15.92**	**78**	*eP*	**Pn**	14 24 59.5	+1.4
TIJ01	**Guaruva-PR**	**16.31**	**98**	*eP*	**Pn**	14 25 04.6	+1.7
ARAG	**Araguaiana, MT**	**16.38**	**63**	*eP*	**Pn**	14 25 05.8	+2.1
PLCA	**Paso Flores**	**16.99**	**190**	P	**Pn**	14 25 13.1	+2.3
	comp=Z,0.1nm,0.3s,baz=261,slow=22,SNR=1.9						
VAO	**Valinhos**	**18.30**	**91**	*eP*	**P**	14 25 24.4	+0.7
IPMB	**Ipameri, GO**	**18.42**	**75**	*eP*	**P**	14 25 25.7	+0.7
SNDB	**Serra Nova Dou**	**19.01**	**54**	*eP*	**P**	14 25 31.6	+0.2
PARB	**Paraibuna**	**19.49**	**92**	*eP*	**Pn**	14 25 39.3	-1.0
BDFB	**Brasilia**	**19.58**	**68**	P	**P**	14 25 37.3	-0.3
	comp=Z,0.6nm,0.3s,baz=242,slow=12,SNR=13						
BDFB	**Brasilia**	**19.58**	**68**	P	**P**	14 25 37.9	+0.3
BDFB				IAmb	IAmb	14 25 39.5	
	comp=Z,12nm,0.8s						
NPGB	**Novo Progresso**	**20.14**	**35**	*eP*	**P**	14 25 44.2	+0.6
BSCB	**Bom Sucesso**	**20.64**	**86**	*eP*	**P**	14 25 51.0	+2.2
PEXB	**Peixe**	**21.22**	**59**	*eP*	**P**	14 25 54.5	-0.5
ITTB	**Itaituba**	**22.26**	**31**	*eP*	**P**	14 26 03.9	-1.2
JANB	**Januaria**	**23.02**	**71**	*eP*	**P**	14 26 11.9	-0.2
SMTB	**Santa Maria do**	**23.79**	**54**	*eP*	**P**	14 26 19.8	+0.8
SDBA	**SAO DESIDERIO**	**23.80**	**65**	*eP*	**P**	14 26 18.8	-0.4
NAN01	**Guarapari, ES**	**25.71**	**81**	*eP*	**P**	14 26 36.1	-0.2
MG02	**Cerro Sombrero**	**28.82**	**183**	P	**P**	14 27 01.1	-2.5
TXAR	**Lajitas Array**	**63.72**	**324**	P	**P**	14 31 37.1	+2.5
	comp=Z,0.5nm,0.7s,baz=148,slow=9.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**76.46**	**69**	P	**P**	**14 32 52.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=269,slow=6.7,SNR=5.3						
PDAR	**Pinedale Array**	**77.18**	**329**	P	**P**	**14 32 56.8**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=137,slow=8.6,SNR=2.8						
YKA	**Yellowknife Ar**	**94.14**	**340**	P	**P**	**14 34 19.6**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=124,slow=4.4,SNR=4.7						
ASAR	**Alice Springs**	**128.52**	**205**	PKP	**PKPdf**	**14 40 08.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=116,slow=2.2,SNR=5.9						
WRA	**Warramunga Arr**	**131.70**	**207**	PKP	**PKiKP**	**14 40 16.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=153,slow=2.0,SNR=23						
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP	**PKPdf**	**14 40 34.1**	**0.0**
	comp=Z,0.4nm,0.2s,baz=320,slow=4.4,SNR=4.1						
MKAR	**Makanchi Array**	**146.44**	**40**	PKPbc	**PKPbc**	**14 40 42.4**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=321,slow=2.6,SNR=17						

IDC 23 14:23:26.0±6.8, 24°.12S×69°.27E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/37, mbtmp4.0/5, MS3.5/6, Ms1 3.5/6, ms1mx3.1/29, Error ellipse: s-maj=220.3km s-min=31.0km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.67**	**11**	T	T	14 44 04.3	
	baz=190,slow=76,SNR=92						
H08S2	**Diego Garcia H**	**16.67**	**11**	T	T	14 44 07.5	
	baz=190,slow=78,SNR=78						
H08S3	**Diego Garcia H**	**16.69**	**11**	T	T	14 44 06.4	
	baz=190,slow=76,SNR=87						
KMBO	**Kilima Mbogo**	**38.51**	**302**	LR	LR	14 45 02.4	
	comp=Z,36nm,18.3s,baz=142,slow=34						
BOSA	**Boshof**	**39.53**	**254**	LR	LR	14 45 00.7	
	comp=Z,79nm,19.4s,baz=112,slow=33						
H01W2	**Cape Leeuwin H**	**40.20**	**116**	T	T	15 13 41.4	
	baz=273,slow=75,SNR=6.2						
H01W3	**Cape Leeuwin H**	**40.20**	**116**	T	T	15 13 39.9	
	baz=273,slow=75,SNR=6.5						
H01W1	**Cape Leeuwin H**	**40.21**	**116**	T	T	15 13 40.7	
	baz=273,slow=75,SNR=6.3						
NWAO	**Narrogin (SRO)**	**42.74**	**113**	P	P	14 31 24.7	-0.5
	10.0nm,0.8s,baz=252,slow=9.2,SNR=2.0						
CMAR	**Chiang Mai Arr**	**51.27**	**37**	LR	LR	14 51 24.4	
	comp=Z,16nm,19.0s,baz=194,slow=33						
ASAR	**Alice Springs**	**58.59**	**104**	P	P	14 33 25.1	+0.1
	0.9nm,0.7s,baz=256,slow=6.4,SNR=13						
ASAR				LR	LR	14 56 26.7	
	comp=Z,43nm,18.3s,baz=75,slow=34						
WRA	**Warramunga Arr**	**59.99**	**100**	P	P	14 33 34.7	0.0
	1.3nm,0.8s,baz=254,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**63.28**	**115**	LR	LR	14 57 30.7	
	comp=Z,64nm,18.7s,baz=35,slow=32						
MKAR	**Manchi Array**	**71.56**	**9**	P	P	14 34 48.5	-0.3
	0.7nm,0.7s,baz=196,slow=6.3,SNR=9.0						
TORD	**Torodi Ar. Bea**	**75.66**	**292**	LR	LR	15 06 32.9	
	comp=Z,38nm,18.7s,baz=55,slow=34						
SONM	**Songino Array**	**79.02**	**24**	P	P	14 35 32.1	+0.3
	0.2nm,0.3s,baz=197,slow=4.5,SNR=1.6						
YKA	**Yellowknife Ar**	**141.56**	**3**	PKP	PKPdf	14 42 60.0	+1.4
	0.5nm,0.7s,baz=350,slow=3.1,SNR=2.6						

*NDI **23** 14:36:06.0±2.8, 21°.35N×80°.11E, h10km, MD4.0, ML4.0*

ISC 23 14:36:06.7±0.9, 21°.33N±0°.06×80°.07E±0°.06, h35km, n19, σ2§08/31, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHPL	**Bhopal**	**3.10**	**308**	*eP*	**Pn**	**14 36 55.3**	**+2.1**
BHPL				*ex*	x	14 37 44.7	
BHPL				IAML		14 37 48.9	
	comp=E,1μm,0.5s						
BHPL				IAML		14 37 49.0	
	comp=N,2μm,0.7s						
HYB	**Hyderabad**	**4.14**	**200**	*eP*	**Pn**	**14 37 08.2**	**+0.6**
HYB				*eS*	**Sn**	**14 37 59.1**	**+4.2**
HYB				IAML		14 38 13.1	
	comp=E,410nm,0.5s						
HYB				IAML		14 38 13.2	
	comp=N,195nm,0.3s						
POO	**Poona**	**6.48**	**246**	*eP*	**Pn**	**14 37 40.6**	**+0.9**
POO				*eS*	**Sn**	**14 38 50.4**	**-2.1**
POO				IAML		14 39 26.7	
	comp=E,97nm,0.1s						
POO				IAML		14 39 26.9	
	comp=N,254nm,0.6s						
KOLN	**Koldanda**	**7.17**	**26**	*ePn*	**Pn**	**14 37 50.6**	**+1.2**
KOLN				*eSn*	**Sn**	**14 39 08.9**	**-0.9**
	comp=N,70nm,0.3s						
BOM	**Bombay**	**7.23**	**252**	*eP*	**Pn**	**14 37 51.7**	**+1.7**
BOM				AMP		14 37 52.0	
	comp=Z,58nm,0.3s						
BOM				IAmb	IAmb	14 37 52.0	
	comp=Z,58nm,0.3s						
BOM				*eS*	**Sn**	**14 39 12.2**	**+1.3**
BOM				IAmb	IAmb	14 39 12.4	
	comp=E,102nm,0.3s						
PYUN	**Piuthan**	**7.25**	**21**	*ePn*	**Pn**	**14 37 52.2**	**+1.8**
PYUN				*eSn*	**Sn**	**14 39 10.1**	**-1.4**
	comp=E,102nm,0.3s						
DANN	**Dangsing**	**7.75**	**25**	*ePn*	**Pn**	**14 37 58.7**	**+1.3**
DANN				*eSn*	**Sn**	**14 39 22.8**	**-1.3**
	comp=E,60nm,0.3s						
GKN	**Gorkha**	**7.84**	**31**	*ePn*	**Pn**	**14 38 00.3**	**+1.9**
PKIN	**Phulchoki**	**7.89**	**37**	*ePn*	**Pn**	**14 38 00.5**	**+1.2**
PKIN				*eSn*	**Sn**	**14 39 26.5**	**-1.0**
	comp=E,50nm,0.4s						
PKI	**Pulchoki**	**7.89**	**37**	*ePn*	**Pn**	**14 38 00.9**	**+1.6**
KKN	**Kakani**	**7.99**	**35**	*ePn*	**Pn**	**14 38 01.8**	**+1.2**
RAMN	**Ramite**	**8.18**	**46**	*ePn*	**Pn**	**14 38 05.0**	**+1.8**
RAMN				*eSn*	**Sn**	**14 39 33.1**	**-1.4**
	comp=E,62nm,0.4s						
MDRS	**Chennai**	**8.22**	**179**	*eP*	**Pn**	**14 38 04.1**	**+0.6**
MDRS				*eS*	**Sn**	**14 39 31.8**	**-3.3**
GOA	**Goa**	**8.29**	**227**	*eS*	**Sn**	**14 39 35.5**	**-1.5**
JIRN	**Jiri**	**8.41**	**40**	*ePn*	**Pn**	**14 38 09.0**	**+2.5**
JIRN				*eSn*	**Sn**	**14 39 38.2**	**-2.3**
	comp=E,49nm,0.3s						
ODAN	**Odare**	**8.66**	**49**	*eSn*	**Sn**	**14 39 45.6**	**-0.8**
TAPN	**Taplejung**	**9.19**	**48**	*ePn*	**Pn**	**14 38 18.3**	**+1.2**
TAPN				*eSn*	**Sn**	**14 39 58.3**	**-1.2**
SMLA	**Simla**	**10.10**	**346**	*eP*	**Pn**	**14 38 30.5**	**+1.2**
SMLA				*eS*	**Sn**	**14 40 17.2**	**-4.2**
SMLA				IAML		14 40 23.1	
	comp=E,44nm,0.6s						
SMLA				IAML		14 40 23.4	
	comp=N,51nm,0.5s						
TRD	**Trivandrum**	**13.09**	**194**	*ex*	**Sn**	**14 41 30.9**	**-3.9**
TRD				*ex*	x	14 42 42.5	

*NOU **23** 14:51:12.3, 37°.68S×179°.59W, h114km, ML4.3, East of North Island, N.Z.*
*NEIC **23** 14:51:15.1±2.8, 37°.50S±0°.08×179°.73E±0°.07, h10km±2km, mb4.3/14, Error ellipse: s-maj=15.2km s-min=8.6km az=23.0*
*IDC **23** 14:51:16.9±2.5, 36°.90S×179°.31E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.8/3, ML4.2/1, Error ellipse: s-maj=72.3km s-min=39.4km az=143.0*
*WEL **23** 14:51:18.6±0.7, 37°.5±6°×18°.0E±°, h44km±44km, M4.0/82, mB4.8/3, ML4.3/81, MLv4.0/82, Mw(mB)4.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=136.0*

ISC 23 14:51:13.2±2.0, 37°.57S±0°.06×179°.85E±0°.07, h2km±10km, n149, σ1§56/169, mb4.2/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.17**	**257**	P	**Pn**	**14 51 38.1**	**+1.6**
WMGZ				S	**Sn**	**14 51 53.5**	**+0.5**
MXZ	**Matakaoa Point**	**1.23**	**270**		**Pn**	**14 51 37.7**	**+0.3**
MXZ				Sn	**Sg**	**14 51 52.7**	**0.0**
MXZ	**Matakaoa Point**	**1.23**	**270**	P	**Pn**	**14 51 37.7**	**+0.3**
MXZ				S	**Sg**	**14 51 52.2**	**-0.5**
PUZ	**Puketiti**	**1.36**	**248**	P	**Pg**	**14 51 40.6**	**+1.3**
PUZ				S	**Sn**	**14 51 57.7**	**-0.1**
PKGZ	**Pakihiroa**	**1.44**	**257**	P	**Pg**	**14 51 41.7**	**+0.8**
PKGZ				S	**Sb**	**14 51 59.3**	**-0.4**
CNGZ	**Carnagh Statio**	**1.59**	**234**	P	**Pg**	**14 51 44.6**	**+1.0**
TWGZ	**Tauwhareparae**	**1.60**	**247**	P	**Pg**	**14 51 44.2**	**+0.3**
TWGZ				S	**Sb**	**14 52 04.8**	**+0.6**
HAZ	**Te Kaha**	**1.65**	**263**	P	**Pb**	**14 51 44.6**	**+0.2**
HAZ				S	**Sn**	**14 52 04.8**	**-0.2**
RUGZ	**Raukumara Rang**	**1.77**	**256**	P	**Pb**	**14 51 46.2**	**-0.2**
TKGZ	**Te Karaka**	**1.81**	**241**	P	**Pb**	**14 51 47.1**	**+0.1**
TKGZ				S	**Sn**	**14 52 09.4**	**+0.6**
MWZ	**Matawai**	**1.99**	**247**	P	**Pn**	**14 51 49.0**	**+1.2**
MWZ				S	**Sn**	**14 52 13.2**	**-0.2**
RIGZ	**Rimuhau**	**2.00**	**235**	P	**Pb**	**14 51 49.9**	**-0.4**
RIGZ				S	**

PRWZ	Pori Road	4.25	224	P		Pn	14 52 19.1 +0.3
POWZ	Post Office Ro	4.25	227	P		Pn	14 52 19.3 +0.4
WTAZ	Waiatarua	4.26	277	P		Pn	14 52 20.7 +1.7
RVAZ	Riverhead Bore	4.29	279	P		Pn	14 52 19.1 -0.3
VRZ	Vera Road	4.30	247	P		Pn	14 52 21.8 +2.3
WAZ	Wanganui	4.39	239	P		Pn	14 52 22.2 +1.3
MRZ	Mangatainoka R	4.54	226	P		Pn	14 52 22.2 -0.6
LREZ	Lake Rotokare	4.67	244	P		Pn	14 52 26.9 +2.2
WCZ	Waipu Caves	4.71	289	P		Pn	14 52 26.4 +1.2
HOWZ	Holdsworth Sta	4.73	224	P		Pn	14 52 24.8 -0.7
PREZ	Palmer Road	4.81	247	P		Pn	14 52 30.3 +3.7
NEZ	North Egmont	4.83	248	P		Pn	14 52 29.9 +3.0
OGWZ	Otaki Gorge	4.87	227	P		Pn	14 52 26.7 -0.8
PKE	Pukeiti	4.89	249	P		Pn	14 52 31.3 +3.6
KHEZ	Kahui Hut	4.90	248	P		Pn	14 52 30.7 +2.8
NBEZ	Newall Road No	5.00	248	P		Pn	14 52 33.7 +4.5
KIW	Kapiti Island	5.05	228	P		Pn	14 52 29.1 -0.9
CAW	Cannon Point	5.12	225	P		Pn	14 52 30.0 -0.9
MSWZ	Moikau Station	5.24	221	Pn		Pn	14 52 30.6 -1.9
PLWZ	Palliser	5.35	220	Pn		Pn	14 52 32.3 -1.7
BHW	Baring Head	5.44	224	Pn		Pn	14 52 33.0 -2.2
OUZ	Omahuta	5.56	293			Pn	14 52 38.2 +1.3
OUZ	Omahuta	5.56	293	P		Pn	14 52 38.6 +1.6
TCW	Tory Channel	5.65	228	P		Pn	14 52 37.7 -0.4
TUWZ	Tuamarina	5.98	228	Pn		Pn	14 52 40.3 -2.3
NNZ	Nelson	6.20	232	Pn		Pn	14 52 44.4 -1.2
BSWZ	Blackbirch Sta	6.20	226	Pn		Pn	14 52 43.6 -2.1
QRZ	Quartz Range	6.55	238	Pn		Pn	14 52 49.2 -1.4
CTZ	Chatham Island	6.72	158	P		Pn	14 52 56.9 +4.1
THZ	Tophouse	6.80	230	Pn		Pn	14 52 52.4 -1.6
MQZ	McQueen's Vall	8.22	219	Pn		Pn	14 53 10.8 -2.5
WVZ	Waitaha Valley	8.87	229	P		Pn	14 53 22.0 -0.3
RPZ	Rata Peaks	9.07	225	P		Pn	14 53 24.5 -0.7
ODZ	Otahua Downs	10.18	220	Pn		Pn	14 53 37.8 -2.5
WKZ	Wanaka	10.91	225	Pn		Pn	14 53 48.1 -2.2
MARNC	Mare, Loyalty	19.02	324	P		P	14 55 32.9 -3.5
LIFNC	LIFOU	20.00	323	P		P	14 55 43.0 -4.0
ARMA	Armidale	24.40	279	P		P	14 56 31.0 -2.1
ARMA				IAmb		IAmb	14 56 37.4
	comp=Z,14nm,1.5s						
SANVU	Saraoutou	24.72	330	P		P	14 56 35.5 -0.3
STKA	Stephens Creek	31.80	269	P		P	14 57 37.4 -1.7
BBOO	Buckleboo	35.86	264	P		P	14 58 13.9 -0.5
AS31	Alice Springs	41.50	276	P		P	14 59 01.7 -0.2
ASAR	Alice Springs	41.50	276	P		P	14 59 01.9 -0.1
	comp=Z,0.9nm,0.5s,baz=125,slow=8.0,SNR=20						
ASAR	Alice Springs	41.50	276	P		P	14 59 01.0 -0.9
FORT	Forrest	42.94	263	P		P	14 59 11.3 -2.2
FORT				IAmb		IAmb	14 59 27.3
	comp=Z,30nm,1.1s						
WR0	Warramunga Arr	42.97	281	P		P	14 59 13.1 -0.8
WR0				IAmb		IAmb	14 59 17.8
	comp=Z,4.2nm,1.2s						
WB2	Warramunga Arr	43.13	281	P		P	14 59 14.9 -0.3
WB2				IAmb		IAmb	14 59 21.0
	comp=Z,9.1nm,1.3s						
WRAB	Tennant Creek	43.14	281	P		P	14 59 14.1 -1.1
WRAB				IAmb		IAmb	14 59 24.9
	comp=Z,5.8nm,1.4s						
WRA	Warramunga Arr	43.14	281	P		P	14 59 15.0 -0.3
	comp=Z,0.5nm,0.4s,baz=120,slow=7.7,SNR=16						
WRA				PcP		PcP	15 01 08.3 +3.2
	comp=Z,0.4nm,1.1s,baz=125,slow=4.0,SNR=1.2						
WRA	Warramunga Arr	43.14	281	P		P	14 59 14.0 -1.2
WB0	Warramunga Arr	43.20	281	P		P	14 59 15.4 -0.3
WB0				IAmb		IAmb	14 59 18.5
	comp=Z,6.3nm,1.4s						
QSPA	South Pole Qui	52.56	180	P		P	15 00 32.1 +4.2
QSPA				IAmb		IAmb	15 00 34.0
	comp=Z,1.4nm,0.8s						
FAKI	Fak Fak	55.54	297	P		P	15 00 49.0 -1.2
FAKI				IAmb		IAmb	15 01 08.1
	comp=Z,9.7nm,0.9s						
H03N3	Juan Fernandez	78.24	123	T		T	16 29 31.1
	baz=234,slow=72,SNR=19						
H03N2	Juan Fernandez	78.24	123	T		T	16 29 30.2
	baz=234,slow=72,SNR=15						
H03N1	Juan Fernandez	78.25	123	T		T	16 29 28.0
	baz=234,slow=72,SNR=1.4						
ARCES	ARCESS Array B	145.11	345	PKP		PKPdf	15 10 52.4 +1.3
	comp=Z,1.2nm,0.7s,baz=32,slow=3.6,SNR=4.7						
FINES	FINESS Array B	151.04	334	PKPbc		PKiKP	15 11 08.2 +0.9
	comp=Z,1.0nm,0.8s,baz=29,slow=3.2,SNR=3.3						

*MOS **23** 14:54:10.5±1.3, 48°.11N×153°.83E, h115km, mb4.1/7, Error ellipse: s-maj=10.8km s-min=3.7km az=68.1*
*SKHL **23** 14:54:11.3±0.2, 48°.10N×153°.90E, h105km±5km, mb4.8/8, msha5.5/4*
*NEIC **23** 14:54:13.4±1.6, 48°.2N±0°.1×153°.7E±0°.2, h114km±10km, mb4.3/15, Error ellipse: s-maj=21.5km s-min=13.1km az=136.0*
*IDC **23** 14:54:14.4±2.1, 48°.43N×153°.46E, h120km±18km, mb3.4/15, mb1 3.5/21, mb1mx3.4/46, mbtmp3.8/21, Error ellipse: s-maj=21.3km s-min=10.9km az=141.0*
ISC 23 14:54:10.9±0.5, 48°.05N±0°.06×153°.88E±0°.06, h100km, n148, σ2§10/165, mb3.9/23, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.01	28	ePN		Pn	14 54 56.1	-0.6
SKR				eS		Sn	14 55 29.5	-2.5
SKR				pmax		pmax		
	comp=Z,99nm,0.4s							
SKR				smax		smax		
	comp=N,943nm,0.5s							
SKR				smax		smax		
	comp=E,761nm,0.5s							
SKR	Severo-Kuril's	3.01	28	eP		Pn	14 54 56.9	+0.2
SKR				AMB		AMB	14 54 57.0	
	comp=E,100nm,0.4s							
SKR				eS		Sn	14 55 31.0	-1.0
SKR				A		A	14 55 36.0	
	comp=E,940nm,0.5s							
SKR				A		A	14 55 36.0	
	comp=E,760nm,0.5s							
ALID	Alaid	3.02	21	PN		Pn	14 54 57.4	+0.4
PAU	Pauzhetka	3.91	28	PN		Pn	14 55 09.1	+0.4
PAU				S		Sn	14 55 52.1	-1.5
PAU	Pauzhetka	3.91	28	eP		Pn	14 55 09.1	+0.4
PAU				AMB		AMB	14 55 09.7	
	comp=E,30nm,0.4s							
PAU				eS		Sn	14 55 52.4	-1.2
PAU				A		A	14 55 53.8	
	comp=E,180nm,0.4s							
PAU				A		A	14 55 53.8	
	comp=E,550nm,0.4s							
MIPR	Malaya Ipel'ka	4.62	23	PN		Pn	14 55 18.6	+0.3
KDTR	Khodutka, Kamc	4.63	34	PN		Pn	14 55 16.7	-1.8
KDTR				S		Sn	14 56 05.7	-5.4
KUR	Kuril'sk	5.01	238	d iPN		Pn	14 55 25.7	+2.1
KUR				eS		Sn	14 56 24.4	+4.2
KUR				pmax		pmax		
	comp=N,9.0nm,0.3s							
KUR				pmax		pmax		
	comp=Z,32nm,0.3s							
KUR				pmax		pmax		
	comp=E,17nm,0.4s							
KUR				smax		smax		
	comp=N,16nm,0.6s							
KUR				smax		smax		
	comp=E,46nm,0.6s							
KUR	Kuril'sk	5.01	238	i P		Pn	14 55 25.9	+2.3
KUR				AMB		AMB	14 55 30.0	
	comp=E,10.0nm,0.3s							
KUR				AMB		AMB	14 55 30.0	
	comp=E,20nm,0.3s							
KUR				AMB		AMB	14 55 30.0	
	comp=E,30nm,0.3s							
KUR				eS		Sn	14 56 22.0	+1.8
KUR				A		A	14 56 49.2	
	comp=E,20nm,0.5s							
KUR				A		A	14 56 49.2	
	comp=E,50nm,0.5s							
MTVR	Mutnovka	5.22	30	PN		Pn	14 55 26.6	0.0
MTVR				S		Sn	14 56 23.0	-2.6
GRL	Gorelyy	5.25	29	PN		Pn	14 55 27.6	+0.7
GRL				S		Sn	14 56 24.3	-1.8
RUS	Russkaya	5.30	32	PN		Pn	14 55 26.1	-1.4
RUS				S		Sn	14 56 21.3	-5.9
RUS	Russkaya	5.30	32	eP		Pn	14 55 26.1	-1.4
APC	Apacha	5.31	22	PN		Pn	14 55 29.6	+2.0
PEA0B	Petropavlovsk-	5.62	24	PN		Pn	14 55 32.7	+0.9
PEA0B	Petropavlovsk-	5.62	24			Pn	14 55 32.6	+0.9
PETK	Petropavlovsk-	5.62	24	P		Pn	14 55 32.5	+0.7
	comp=E,1.3nm,0.3s,baz=198,slow=18,SNR=13							
PETK				S		Sn	14 56 32.6	-2.3
	comp=E,0.3nm,0.3s,baz=126,slow=15,SNR=1.1							
PETK	Petropavlovsk-	5.62	24			Pn	14 55 31.9	0.0
PET	Petropavlovsk	5.83	30	PN		Pn	14 55 34.8	+0.1
PET				S		Sn	14 56 36.8	-3.4
PET	Petropavlovsk	5.83	30	eP		Pn	14 55 34.8	+0.1
PET				AMB		AMB	14 55 40.6	
	comp=E,150nm,0.3s							
PET				eS		Sn	14 56 36.8	-3.4
PET				A		A	14 56 41.0	
	comp=E,50nm,0.4s							
PET				A		A	14 56 41.0	
	comp=E,50nm,0.4s							
DALK	Dalny	5.87	30	PN		Pn	14 55 34.8	-0.5
DALK				S		Sn	14 56 37.3	-3.8
UGLR	Uglovaya	6.04	29	PN		Pn	14 55 38.4	+0.7
KOK	Koryaka	6.05	28	PN		Pn	14 55 38.9	+1.1
KOK	Koryaka	6.05	28	eP		Pn	14 55 38.9	+1.1
AVH	Avacha	6.06	29	PN		Pn	14 55 38.4	+0.4
AVH	Avacha	6.06	29	eP		Pn	14 55 38.4	+0.4
SMAR	Somma	6.08	29	PN		Pn	14 55 41.6	+3.3
KRER	Koryakskii	6.10	29	PN		Pn	14 55 38.8	+0.2
KRX	Arik	6.12	28	PN		Pn	14 55 40.6	+1.9
SDLR	Sedlovina	6.12	29	PN		Pn	14 55 38.5	-0.3
GNL	Ganaly	6.21	23	PN		Pn	14 55 40.8	+0.9
SPN	Mys Shipunski	6.39	35	PN		Pn	14 55 40.4	-1.9
YUK	Yuzh-Kuril'sk	6.88	237	ePN		Pn	14 55 49.3	+0.4
YUK				eS		Sn	14 57 04.2	-1.4
YUK				pmax		pmax		
	comp=Z,90nm,0.5s							
YUK				pmax		pmax		
	comp=N,33nm,0.3s							
YUK				pmax		pmax		
	comp=E,29nm,0.2s							
YUK	Yuzh-Kuril'sk	6.88	237	i P		Pn	14 55 50.0	+1.1
YUK				AMB		AMB	14 55 53.0	
	comp=E,90nm,0.5s							
YUK				AMB		AMB	14 55 53.0	
	comp=E,30nm,0.3s							
YUK				AMB		AMB	14 55 53.0	
	comp=E,30nm,0.3s							
GRPR	Tuman	6.95	237	PN		Pn	14 55 49.6	-0.4
GRPR				S		Sn	14 57 03.7	-3.8
GRPR	Tuman	6.95	237	eP		Pn	14 55 49.6	-0.4
GRPR				eS		Sn	14 57 03.7	-3.8
RUSJ	Misakicho	7.18	240	PN		Pn	14 55 54.7	+1.6
RUSJ				eS		Sn	14 57 14.3	+1.2
GLVR	Golovnino	7.25	237	ePN		Pn	14 55 51.5	-2.6
GLVR	Golovnino	7.25	237	eP		Pn	14 55 51.5	-2.6
JRA	Rausu	7.36	239	P		Pn	14 55 55.8	+0.3
NEM2	Nemuro 2	7.37	234	P		Pn	14 55 53.4	-2.3
NEM2				eS		Sn	14 57 12.1	-5.7
NMR	Nemuro--Hokkai	7.38	234	ePN		Pn	14 55 53.4	-2.4
NMR	Nemuro--Hokkai	7.38	234	i P		Pn	14 55 53.6	-2.2
NMR				eS		Sn	14 57 13.6	-4.3
YSS	Yuzh-Sakhalins	7.62	266	ePN		Pn	14 56 01.3	+2.3
YSS				eS		Sn	14 57 27.1	+3.5
YSS				pmax		pmax		
	comp=Z,20nm,0.7s							
YSS				smax		smax		
	comp=N,10.0nm,0.7s							
YSS	Yuzh-Sakhalins	7.62	266			Pn	14 56 01.5	+2.5
YSS	Yuzh-Sakhalins	7.62	266	eP		Pn	14 56 01.2	+2.3
YSS				AMB		AMB	14 56 05.3	
	comp=N,20nm,0.6s							
YSS				eS		Sn	14 57 23.4	-0.2
YSS				A		A	14 57 29.6	
	comp=N,10.0nm,0.7s							
JNK	Nakash	7.80	238	P		Pn	14 56 01.9	+0.3
TYV	Tymovskoe	7.84	295	ePN		Pn	14 56 03.3	+1.3
TYV				pmax		pmax		
	comp=Z,5.0nm,0.5s							
TYV	Tymovskoe	7.84	295	eP		Pn	14 56 03.3	+1.3
TYV				AMB		AMB	14 56 04.0	
	comp=Z,10.0nm,0.5s							
JTKR	Abashiri--Toko	8.05	243	P		Pn	14 56 06.5	+1.6
AKK	Akkeshi	8.10	235	i P		Pn	14 56 04.0	-1.6
KZV	Kizimen	8.12	27	PN		Pn	14 56 06.9	+1.0
MKZ	Mys Kozlova	8.16	34	PN		Pn	14 56 04.6	-1.7
JAK	Akkeshi	8.19	235	P		Pn	14 56 04.4	-2.4
JAK				eS		Sn	14 57 30.9	-6.7
TUMR	Tumrok	8.22	26	PN		Pn	14 56 07.7	+0.4
JMP	Maruseppu	8.36	245	P		Pn	14 56 11.0	+1.8
JAR	Ashorobuto	8.53	240	P		Pn	14 56 11.9	+0.5
JAR				eS		Sn	14 57 45.5	-0.3
KMNR	Kamenistaya	8.65	25	PN		Pn	14 56 16.5	+3.3
JWK2	Keihoku	8.68	256	P		Pn	14 56 18.0	+4.5
JKA	Kamikawa-asahi	8.77	248			Pn	14 56 17.4	+2.7
JKA	Kamikawa-asahi	8.77	248	eP		Pn	14 56 17.4	+2.7
ASAJ	Asahikawa	8.77	248	P		Pn	14 56 17.1	+2.3
	comp=Z,2.4nm,0.3s,baz=71,slow=15,SNR=52							
ASAJ	Asahikawa	8.77	248	P		Pn	14 56 17.2	+2.4
ASAJ	Asahikawa	8.77	248	PN		Pn	14 56 17.4	+2.6
JKK2	Kamakawa 2	8.81	246	P		Pn	14 56 17.0	+1.8
JCH	Churui	9.19	238	P		Pn	14 56 18.1	-2.3
JCH				eS		Sn	14 57 54.4	-7.5
JRBN	Rebuntou	9.19	258	P		Pn	14 56 24.0	+3.7
KLY	Klyuchi	9.26	24	PN		Pn	14 56 22.5	+1.3
JFR	Furan	9.30	242	P		Pn	14 56 23.7	+1.8
BDR	Baidarnaya	9.63	25	PN		Pn	14 56 28.3	+1.9
JBT2	Biratori 2	9.66	241	P		Pn	14 56 25.6	-1.2
ERM	Erimo	9.69	235	PN		Pn	14 56 28.9	+1.6
ERM	Erimo	9.69	235			Pn	14 56 28.9	+1.6
SRKR	Sorokina	9.69	25	PN		Pn	14 56 27.5	+0.2
JNBK	Urakawa-nobuka	9.74	238	P		Pn	14 56 24.4	-3.6
KBTR	Krutoberegovo	9.84	31	PN		Pn	14 56 26.8	-2.3
JNB	Noboribetsu	10.63	243	P		Pn	14 56 38.7	-1.3
JKB	Kayabe	10.98	241	P		Pn	14 56 41.7	-3.1
JKB				eS		Sn	14 58 35.8	-10
JYM2	Yakumo 2	11.24	243	P		Pn	14 56 45.9	-2.3
MA2	Magadan	11.69	352	P		Pn	14 56 53.6	-0.6
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=1.8							
EKMR	Ekimchan	14.20	299	eP		Pn	14 57 25.6	-1.6
EKMR				AMB		AMB	14 57 29.1	
	comp=Z,40nm,0.6s							
KLR	Kul'dur	14.67	283	P		Pn	14 57 32.4	-0.8
	comp=Z,0.1nm,0.3s,baz=108,slow=15,SNR=5.4							
KLR	Kul'dur	14.67	283	i P		Pn	14 57 35.0	+1.8
KLR				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KLR	Kul'dur	14.67	283	eP		Pn	14 57 33.0	-0.2
KLR				AMB		AMB	14 57 36.9	
	comp=Z,10.0nm,1.0s							
SEY	Seymchan	14.94	357	P		Pn	14 57 35.2	-1.2
	comp=Z,0.1nm,0.3s,baz=336,slow=21,SNR=2.0							
USRK	Ussurisyk Ar.	15.65	264	P		Pn	14 57 46.1	+0.6
	baz=82,slow=12,SNR=2.3							
MJAR	Matsushiro Arr	16.30	231	P		Pn	14 57 54.9	+1.2
MJAR				pmax		pmax		
	comp=Z,89nm,1.1s							
MJAR	Matsushiro Arr	16.30	231			Pn	14 57 54.9	+1.2
BMKR	Bomnak	16.93	303	eP		Pn	14 58 00.0	-1.3
BMKR				AMB		AMB	14 58 04.8	
	comp=Z,10.0nm,0.7s							
ZEA	Zeya	17.68	299	eP		P	14 58 08.9	-1.0
KROS	Kirovskiy	17.95	301	eP		P	14 58 13.0	+0.1
KROS				AMB		AMB	14 58 19.3	
	comp=Z,10.0nm,0.8s							
YAK	Yakutsk	19.53	325	i P		P	14 58 29.3	-0.8
YAK				pmax		pmax		
	comp=Z,19nm,0.9s							
BILL	Bilibino	21.00	13	i P		P	14 58 46.6	+0.7
BILL				i S		S	15 02 17.4	-17
BILL	Bilibino	21.00	13	i P		P	14 58 46.6	+0.7
KSRS	Korea Array	21.70	250	P		P	14 58 54.6	+1.0
	comp=Z,2.5nm,0.9s,baz=46,slow=11,SNR=10.0							
GAMB	Gambell	24.46	37	P		P	14 59 20.5	+0.5
GAMB				IAmb		IAmb	14 59 23.7	
	comp=Z,9.7nm,1.1s							
H11N2	WAKE ISLAND Hy	30.16	155	T		T	15 32 36.9	
	baz=343,slow=76,SNR=228							
H11N1	WAKE ISLAND Hy	30.17	155	T		T	15 32 38.0	
	baz=343,slow=76,SNR=526							
H11N3	WAKE ISLAND Hy	30.18	155	T		T	15 32 38.1	
	baz=343,slow=76,SNR=257							
TTA	Tatalina	31.11	43	P		P	15 00 18.7	-0.7
TTA	Tatalina	31.11	43	P		P	15 00 18.6	-0.7
H11S1	WAKE ISLAND Hy	31.27	156	T		T	15 33 59.5	
	baz=343,slow=76,SNR=628							
H11S3	WAKE ISLAND Hy	31.28	156	T		T	15 34 00.2	
	baz=343,slow=76,SNR=702							
H11S2	WAKE ISLAND Hy	31.29	156	T		T	15 34 00.8	
	baz=343,slow=76,SNR=591							
IMAR	Indian Mountai	32.41	37	P		P	15 00 31.9	+1.2
TOLK	Toolik Lake Re	34.37	33	P		P	15 00 48.5	+0.8
TOLK				IAmb		IAmb	15 00 51.4	
	comp=Z,1.9nm,0.8s							
SML	Sawmill	34.67	45	P		P	15 00 51.6	+1.1
SML				IAmb		IAmb	15 00 57.4	
	comp=Z,6.5nm,0.8s							
CCB	Clear Creek Bu	34.81	40	P		P	15 00 53.3	+1.7
SCM	Sheep Creek Mo	35.15	45	P		P	15 00 56.4	+1.8
SCM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SCM	Sheep Creek Mo	35.15	45	P		P	15 00 56.4	+1.8
SCM				IAmb		IAmb	15 01 01.0	
	comp=Z,1.5nm,0.7s							
ILAR	Eielson Array	35.21	40	P		P	15 00 55.0	0.0
	comp=Z,1.0nm,0.9s,baz=271,slow=8.9,SNR=7.0							
ILAR	Eielson Array	35.21	40	eP		P	15 00 56.1	+1.1
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BMAR	Burnt Mountain	36.15	35	P		P	15 01 03.4	+0.4
DOT	Dot Lake	36.50	42	P		P	15 01 06.6	+0.6
SCRK	Sand Creek	36.51	41	P		P	15 01 06.9	+0.7
K27K	Chicken	37.34	41	P		P	15 01 14.4	+1.3
K27K				IAmb		IAmb	15 01 15.7	
	comp=Z,3.1nm,0.8s							
L27K	Beaver Creek,	37.56	42	P		P	15 01 17.2	+2.2
L27K				IAmb		IAmb	15 01 18.3	
	comp=Z,5.5nm,1.1s							
BCAR	Beaver Creek A	37.58	42	P		P	15 01 17.2	+2.0
EGAK	Eagle	37.66	39	P		P	15 01 16.8	+1.1
EGAK				IAmb		IAmb	15 01 17.4	
	comp=Z,3.6nm,0.8s							
INK	Inuvik	40.27	33	P		P	15 01 38.5	+1.0
	comp=Z,1.5nm,0.6s,baz=283,slow=11,SNR=7.2							
INK	Inuvik	40.27	33	P		P	15 01 38.2	+0.7
INK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
INK	Inuvik	40.27	33	P		P	15 01 38.2	+0.7
ZALV	Zalesovo Beam	42.28	305	PcP		PcP	15 03 45.9	-0.1
	comp=Z,0.5nm,0.4s,baz=46,slow=4.3,SNR=4.0							
MKAR	Makanchi Array	46.81	297	P		P	15 02 28.8	-1.5
	comp=Z,0.7nm,0.8s,baz=65,slow=8.7,SNR=8.0							
MKAR				PcP		PcP	15 04 01.8	+0.1
	comp=Z,0.1nm,0.4s,baz=54,slow=2.1,SNR=3.8							
MKAR	Makanchi Array	46.81	297	P		P	15 02 29.3	-1.0
KURK	Kurchatov	47.09	303	P		P	15 02 30.7	-1.6
KURBB	Kurchatov Arra	47.18	303	P		P	15 02 30.7	-2.3
	comp=Z,1.2nm,0.6s,baz=68,slow=8.5,SNR=7.5							
POHA	Pohakuloa	49.43	107	P		P	15 02 52.2	+1.2
YKA	Yellowknife Ar	49.57	38	P		P	15 02 52.0	+0.8
	comp=Z,0.9nm,0.7s,baz=296,slow=6.8,SNR=4.1							
YKA	Yellowknife Ar	49.57	38	P		P	15 02 52.0	+0.8
CMAR	Chiang Mai Arr	53.19	256	P		P	15 03 18.6	-0.1
	comp=Z,0.9nm,0.6s,baz=36,slow=7.0,SNR=7.2							
CMAR	Chiang Mai Arr	53.19	256	eP		P	15 03 19.8	+1.1
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FINES	FINESS Array B	63.08	335	P		P	15 04 24.2	-2.9
	comp=Z,0.5nm,0.4s,baz=26,slow=8.6,SNR=3.8							
FINES	FINESS Array B	63.08	335	eP		P	15 04 27.2	+0.1
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
PDAR	Pinedale Array	63.56	55	P		P	15 04 32.9	+2.0
	comp=Z,0.2nm,0.5s,baz=288,slow=3.7,SNR=2.8							
NOA	NORSAR Array B	67.16	341	P		P	15 04 52.2	-1.3
	comp=Z,0.5nm,0.6s,baz=26,slow=6.6,SNR=2.6							
MSVF	Nonsavu	68.97	155	P		P	15 05 06.7	+1.4
MSVF				pmax		pmax		
	comp=Z,23nm,1.2s							
MSVF	Nonsavu	68.97	155	P		P	15 05 06.7	+1.4
MSVF				IAmb		IAmb	15 05 13.8	
	comp=Z,23nm,1.1s							
WRA	Warramunga Arr	69.92	200	P		P	15 05 12.1	+1.1
	comp=Z,0.2nm,0.6s,baz=14,slow=6.3,SNR=5.2							
AKASG	Malin Array Be	70.75	326	P		P	15 05 14.2	-1.6
	comp=Z,0.4nm,0.3s,baz=34,slow=6.4,SNR=2.9							
ASAR	Alice Springs	73.61	199	P		P	15 05 37.4	+4.3
	comp=Z,0.2nm,0.6s,baz=12,slow=4.7,SNR=2.1							
CLL	Collm	75.49	336	eP		P	15 05 43.0	-0.7
TXAR	Lajitas Array	76.40	61	P		P	15 05 51.5	+2.0
	comp=Z,0.5nm,0.4s,baz=298,slow=4.6,SNR=7.8							
GERES	GERESS Array B	77.51	334	P		P	15 05 53.2	-2.1
	comp=Z,0.4nm,0.5s,baz=27,slow=4.5,SNR=3.0							
PPTF	Pamatai, Papee	82.53	127	P		P	15 06 24.1	+1.5
H03N2	Juan Fernandez	138.23	89	T		T	17 47 05.1	
	baz=309,slow=77,SNR=22							
H03N1	Juan Fernandez	138.24	89	T		T	17 47 03.9	
	baz=309,slow=77,SNR=22							
H03N3	Juan Fernandez	138.24	89	T		T	17 47 03.5	
	baz=309,slow=77,SNR=17				

comp=N,1μm,0.1s
MASC IAML 15 07 13.3
comp=E,992nm,0.1s
MOAC Moa 1.23 298 *e*P **Pb 15 07 21.9 +0.9**
MOAC *e*S **Sb 15 07 39.2 +2.8**
MOAC IAML 15 07 39.8
comp=N,314nm,0.4s
MOAC IAML 15 07 41.2
comp=E,186nm,0.4s
GTBY Guantanamo Bay 1.24 263 *i* P **Pb 15 07 20.5 -0.7**
GTBY *e*S **Sn 15 07 33.8 -1.7**
GTBY IAML 15 07 42.1
comp=Z,79nm,0.3s
RCC Rio Carpintero 1.78 267 *e*P **Pn 15 07 28.1 +0.9**
RCC *e*S **Sn 15 07 48.5 -0.4**
RCC IAML 15 07 52.1
comp=N,41nm,0.2s
RCC IAML 15 07 53.8
comp=E,55nm,0.2s
LGNH Logne 1.93 144 *e*S **Sb 15 07 57.5 +0.8**
SDDR Presa de Saban 2.61 114 *i* P **Pb 15 07 44.2 -0.4**
SDDR *e*S **Sb 15 08 16.2 -0.1**
SDDR IAML 15 08 34.0
comp=Z,42nm,0.4s
GRTK Grand Turk 2.87 60 *i* P Pb 15 07 49.7 +0.8
GRTK *e*S **Sb 15 08 24.3 +0.6**
LMGC Las Mercedes 3.01 270 *e*P **Pn 15 07 47.5 +3.4**
LMGC *e*S **Sn 15 08 20.0 +0.8**
LMGC IAML 15 08 27.2
comp=E,38nm,0.3s
LMGC IAML 15 08 27.3
comp=N,3μm,0.1s
CCCC Cccc 3.87 287 *e*P **Pn 15 07 54.1 -1.8**
CCCC *e*S **Sn 15 08 36.1 -4.3**
CCCC IAML 15 08 52.1
comp=E,7.2nm,0.7s
CCCC IAML 15 08 52.9
comp=N,6.5nm,0.5s

MAN 23 15:12:31.0, 9°.68N×124°.74E, h33km, mb4.3, ML3.1, MS2.8, Mindanao

*KRNET **23** 15:13:22.1±0.1, 39°.66N×73°.98E, mb2.5*
*SOME **23** 15:13:24.6, 39°.88N×73°.72E, h0km*
ISC 23 15:13:22.2±1.9, 39°.69N±0°.09×74°.00E±0°.07, h10km, n9,
σ1$61/18, 10C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**1.25**	**312**	⇑*i*P	**Pg**	**15 13 46.0**	**-0.2**
OHH	baz=14			⇑*i*S	**Sn**	**15 14 03.4**	**+0.6**
DRK	**Karamyk**	**1.71**	**264**	⇑*i*P	**Pb**	**15 13 53.6**	**-0.3**
DRK	baz=65			⇑*i*S	**Sg**	**15 14 16.6**	**-0.7**
ARLS	**Aral**	**2.18**	**6**	⇑*i*P	**Pb**	**15 14 01.7**	**-0.2**
ARLS	baz=7.0			⇑*i*S	**Sg**	**15 14 30.8**	**-1.6**
BTK	**Batken**	**2.48**	**280**	⇑*i*P	**Pb**	**15 14 05.3**	**-1.5**
BTK	baz=80			⇑*i*S	**Sb**	**15 14 36.8**	**-0.6**
TRKS	**Terek-Say**	**2.85**	**311**	⇓*i*P	**Pn**	**15 14 09.8**	**+1.9**
TRKS	baz=11			⇓*i*S	**Sn**	**15 14 44.8**	**+2.4**
MNAS	**Manas**	**3.02**	**338**	⇑*i*P	**Pb**	**15 14 13.3**	**-2.8**
MNAS	baz=39			⇑*i*S	**Sb**	**15 14 50.8**	**-2.2**
MRKS	**Merke**	**3.11**	**349**	*e*P	**Pb**	**15 14 18.8**	**+1.2**
MRKS	1.2nm,0.4s			*e*S	**Sb**	**15 14 58.1**	**+2.5**
KST	**Kastek**	**3.66**	**23**	*e*P	**Pg**	**15 14 31.0**	**-1.3**
KST	381nm,0.4s			*e*S	**Sg**	**15 15 18.8**	**-1.0**
MDOK	**Medeo**	**4.16**	**32**	*e*P	**Pg**	**15 14 41.2**	**-0.7**
MDOK	161nm,0.6s			*e*S	**Sg**	**15 15 36.0**	**+0.3**
	0.8nm,0.6s						
	1.6nm,0.5s						

*NEIC **23** 15:17:53.4±1.9, 33°.572N±0°.008×116°.84W±0°.04, h11km±5km, Error ellipse: s-maj=4.6km s-min=1.1km az=81.0*
*ANF **23** 15:17:53.2±0.1, 33°.58N×116°.82W, h13km±1km, ML2.9/24, Error ellipse: s-maj=1.1km s-min=1.0km az=116.0*
*PAS **23** 15:17:54.4±2.1, 33°.59N±0°.02×116°.82W±0°.02, h9km±5km, ML3.0/113, ML2.8/80(NEIC), Error ellipse: s-maj=3.1km s-min=2.9km az=152.0*
ISC 23 15:17:53.4±0.9, 33°.57N±0°.02×116°.84W±0°.02, h10km±7km, n71, σ0°82/99, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVDA	**Garner Valley**	**0.17**	**56**		**Pg**	**15 17 57.5**	**+0.3**
GVDA					**Sg**	**15 17 59.8**	**-0.1**
MURC	**Murrieta**	**0.30**	**275**	P	**Pb**	**15 18 00.5**	**-0.3**
MURC	baz=94,SNR=579			S	**Sb**	**15 18 04.8**	**-0.9**
PFO	**Pinyon Flats O**	**0.32**	**83**	P	**Pg**	**15 18 00.1**	**+0.2**
PFO	baz=264,SNR=341			S	**Sg**	**15 18 04.0**	**-0.2**
PFO	**Pinyon Flats O**	**0.32**	**83**		**Pg**	**15 17 59.7**	**-0.2**
PFO				Sg	**Sg**	**15 18 04.4**	**+0.2**
PFO	1μm,0.6s			IAML		15 18 04.6	
RSBC	**Riverside Bore**	**0.57**	**315**		**Pg**	**15 18 04.9**	**+0.5**
RSBC					**Sg**	**15 18 12.2**	**+0.2**
BBRC	**Big Bear Solar**	**0.69**	**355**	P	**Pg**	**15 18 07.0**	**+0.2**
BBRC	baz=173,SNR=8.6			S	**Sg**	**15 18 16.0**	**+0.1**
109C	**Camp Elliot, M**	**0.72**	**198**	P	**Pb**	**15 18 07.6**	**-0.3**
109C	baz=19,SNR=26			S	**Sb**	**15 18 17.3**	**-0.4**
109C	**Camp Elliot, M**	**0.72**	**198**		**Pb**	**15 18 07.6**	**-0.3**
109C				Sg	**Sb**	**15 18 17.3**	**-0.4**
109C	comp=E,294nm,0.2s			IAML		15 18 17.9	
MONP2	**Monument Peak**	**0.77**	**152**	P	**Pb**	**15 18 08.8**	**0.0**
MONP2	baz=334,SNR=36			S	**Sg**	**15 18 18.5**	**+0.3**
BELC	**Belle Mtn. Jos**	**0.82**	**58**	P	**Pg**	**15 18 09.2**	**0.0**
BELC	baz=238,SNR=121			S	**Sg**	**15 18 19.6**	**-0.5**
BAR	**Barrett**	**0.90**	**171**		**Pg**	**15 18 10.6**	**-0.1**
BAR				Sg	**Sg**	**15 18 22.5**	**0.0**
BFSC	**Mount Baldy Ra**	**0.95**	**315**	P	**Pg**	**15 18 11.3**	**-0.4**
BFSC	baz=133,SNR=66			S	**Sg**	**15 18 24.0**	**-0.1**
TKX	**Tecate**	**1.02**	**169**		**Pg**	**15 18 12.6**	**-0.4**
TKX				Sg	**Sg**	**15 18 26.0**	**-0.3**
SWSC	**Sam W. Stewart**	**1.07**	**125**	P	**Pb**	**15 18 13.1**	**-0.9**
TJX	**Tijuana**	**1.07**	**190**	Pg	**Pg**	**15 18 14.2**	**+0.2**
TJX	baz=307,SNR=37			Sg	**Sb**	**15 18 28.5**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**1.11**	**146**	P	**Pb**	**15 18 14.6**	**0.0**
IKP	baz=328,SNR=28			S	**Sb**	**15 18 29.4**	**+0.3**
RMX	**La Rumorosa**	**1.16**	**146**		**Pn**	**15 18 17.2**	**+1.5**
RMX				Sn	**Sn**	**15 18 32.8**	**+1.1**
RMX				IAML		15 18 33.7	
MWC	**Mount Wilson**	**1.20**	**303**		**Pb**	**15 18 16.0**	**-0.3**
MWC				Sg	**Sb**	**15 18 32.1**	**+0.2**
MWC	comp=N,203nm,0.2s			IAML		15 18 33.0	
MWC	comp=E,251nm,0.3s			IAML		15 18 33.7	
FMP	**Fort Macarthur**	**1.22**	**277**	P	**Pn**	**15 18 16.5**	**+0.1**
FMP	baz=96			S	**Sn**	**15 18 33.6**	**+0.6**
CBX	**Cerro Bola**	**1.27**	**173**	Pn	**Pn**	**15 18 17.1**	**-0.1**
CBX	comp=N,188nm,0.5s			IAML		15 18 36.5	
PASC	**Pasadena Art C**	**1.27**	**299**		**Pn**	**15 18 17.0**	**-0.1**
PASC	comp=N,127nm,0.3s			IAML		15 18 36.8	
RRX	**Edison Barstow**	**1.31**	**354**	Pg	**Pb**	**15 18 18.2**	**+0.2**
RRX	baz=173			S	**Sn**	**15 18 35.1**	**0.0**
HEC	**Hector,Ludlow**	**1.32**	**18**	P	**Pn**	**15 18 17.7**	**-0.2**
HEC	baz=198,SNR=53			S	**Sb**	**15 18 35.3**	**0.0**
CIS	**Catalina Islan**	**1.32**	**263**	P	**Pn**	**15 18 17.6**	**-0.3**
CIS	baz=82			S	**Sb**	**15 18 35.5**	**+0.1**
UABX	**UABC, Campus M**	**1.50**	**128**	Pn	**Pb**	**15 18 21.5**	**+0.1**
IRM	**Iron Mountain**	**1.53**	**67**	P	**Pn**	**15 18 20.1**	**-0.6**
IRM	baz=248,SNR=36			Sb	**Sb**	**15 18 41.3**	**+0.2**
SCI2	**San Clemente I**	**1.54**	**248**	Pg	**Pg**	**15 18 23.1**	**+0.1**
SCI2	baz=67			S	**Sb**	**15 18 41.6**	**-0.1**
GMRC	**Granite Mounta**	**1.56**	**39**	P	**Pn**	**15 18 20.6**	**-0.6**
GMRC	baz=219,SNR=84			Sb	**Sb**	**15 18 42.2**	**+0.1**
EDW2	**Edwards Air Fo**	**1.62**	**324**	Pb	**Pb**	**15 18 22.8**	**-0.5**
EDW2	baz=143			Sb	**Sg**	**15 18 44.8**	**-0.7**
CCX	**Cicese**	**1.71**	**175**		**Pb**	**15 18 24.6**	**-0.2**
CCX				IAML		15 18 50.4	
CCX	comp=E,136nm,0.5s			IAML		15 18 50.5	
GSC	**Goldstone, Bar**	**1.73**	**1**	Pg	**Pb**	**15 18 25.8**	**+0.7**
GSC	baz=180			Sb	**Sg**	**15 18 48.0**	**-0.8**
GSC	**Goldstone, Bar**	**1.73**	**1**		**Pn**	**15 18 24.0**	**+0.6**
GSC				IAML		15 18 50.2	
GSC	comp=N,99nm,0.6s			IAML		15 18 50.8	
CPBX	**Cerro Prieto**	**1.73**	**131**	Pn	**Pb**	**15 18 24.9**	**-0.3**
GLA	**Glamis**	**1.77**	**107**		**Pn**	**15 18 24.1**	**+0.1**
GLA				IAML		15 18 53.7	
OSI	**Osito Audit: C**	**1.88**	**304**	Sb	**Sb**	**15 18 52.3**	**+1.1**
OSI	**Osito Audit: C**	**1.88**	**304**		**Pb**	**15 18 26.9**	**-0.8**
OSI				IAML		15 18 56.4	
OSI	comp=E,102nm,0.6s			IAML		15 18 58.9	
GUVIX	**Guadalupe Vict**	**1.95**	**130**	Pn	**Pn**	**15 18 25.9**	**-0.6**
TUQ	**Turquoise Moun**	**2.01**	**22**	P	**Pn**	**15 18 27.2**	**-0.2**
TUQ	baz=202,SNR=23			Sb	**Sb**	**15 18 56.2**	**+1.1**
LRMC	**Laurel Mtn Rad**	**2.02**	**340**	Pg	**Pg**	**15 18 31.9**	**-0.3**
LRMC	baz=159			Sb	**Sb**	**15 18 56.9**	**+1.3**
NEE2	**Needles Airpor**	**2.19**	**56**	Pg	**Pb**	**15 18 34.1**	**+1.0**
NEE2	baz=238			Sb	**Sb**	**15 19 01.3**	**+0.9**
SNCC	**San Nicolas Is**	**2.27**	**263**	Pn	**Pn**	**15 18 31.6**	**+0.7**
SNCC				IAML		15 19 08.2	
SNCC	comp=E,47nm,2.2s			IAML		15 19 21.7	
ISA	**Isabella, Lake**	**2.48**	**328**	P	**Pn**	**15 18 34.4**	**+0.6**
ISA	**Isabella, Lake**	**2.48**	**328**		**Pn**	**15 18 34.5**	**+0.6**
113A	**Mohawk Valley,**	**2.70**	**106**	Pn	**Pn**	**15 18 37.6**	**+0.8**
PKM	**Mcpherson Peak**	**2.79**	**299**	P	**Pn**	**15 18 38.7**	**+0.5**
W13A	**Hualapai Mount**	**2.88**	**57**		**Pn**	**15 18 38.6**	**-0.9**
W13A				IAML		15 19 29.0	
SFX	**San Felipe**	**3.04**	**146**	Pn	**Pn**	**15 18 40.9**	**-0.6**
SFX				IAML		15 19 32.5	
SFX	comp=E,28nm,0.8s			IAML		15 19 39.0	
Y14A	**Wickenburg**	**3.22**	**82**		**Pn**	**15 18 45.1**	**+1.1**
Y14A				IAML		15 19 33.8	
Y14A	comp=N,17nm,0.8s			IAML		15 19 42.6	
SHPR	**Sheep Range**	**3.23**	**25**		**Pn**	**15 18 44.9**	**+0.6**
TPNV	**Topopah Spring**	**3.40**	**8**		**Pn**	**15 18 47.2**	**+0.6**
TPNV				IAML		15 19 43.9	
TPNV	comp=E,20nm,0.4s			IAML		15 19 45.9	
PAGB	**Antelope Grade**	**3.54**	**308**	Pn	**Pn**	**15 18 49.0**	**+0.6**
PAGB				IAML		15 19 20.4	
PAGB	comp=N,20nm,3.9s			IAML		15 20 12.8	
214A	**Organ Pipe Nat**	**3.76**	**114**	Pn	**Pn**	**15 18 52.4**	**+1.0**
PRN	**Pahroc Range**	**4.09**	**20**		**Pn**	**15 18 56.8**	**+0.7**
MDPB	**Devils Postpil**	**4.44**	**336**		**Pn**	**15 19 02.6**	**+1.6**
MDPB				IAML		15 20 16.9	
TPH	**Tonopah**	**4.50**	**356**		**Pn**	**15 19 02.8**	**+1.0**
TPH	**Tonopah**	**4.50**	**356**	IAML		15 20 25.7	
LCMT	**Little Creek M**	**4.52**	**40**		**Pn**	**15 19 01.4**	**-0.6**
X16A	**Lo Mia Camp, P**	**4.56**	**78**	Pn	**Pn**	**15 19 03.2**	**+0.6**
U15A	**North Rim**	**4.70**	**51**	Pn	**Pn**	**15 19 02.2**	**-2.3**
U15A				IAML		15 20 20.4	
U15A	comp=E,7.0nm,1.7s			IAML		15 20 31.0	
KNB	**Kanab**	**4.76**	**43**		**Pn**	**15 19 04.9**	**-0.3**
KNB				IAML		15 20 28.1	
KNB	comp=N,7.5nm,1.1s			IAML		15 20 32.0	
LHV	**Little Huntoon**	**4.86**	**344**	Pn	**Pn**	**15 19 06.3**	**-0.1**
LHV				IAML		15 21 01.9	
LHV	comp=N,7.1nm,3.7s			IAML		15 21 25.4	
R11A	**Troy Canyon, C**	**4.87**	**12**	Pn	**Pn**	**15 19 06.3**	**-0.6**
R11A				IAML		15 19 51.2	
CCUT	**Cedar City**	**4.88**	**35**		**Pn**	**15 19 04.5**	**-2.5**
CCUT				IAML		15 19 46.2	
CCUT	comp=N,4.8nm,3.2s			IAML		15 20 34.5	
WAKR	**Walker**	**5.35**	**338**	Pn	**Pn**	**15 19 12.5**	**-1.0**
WAKR				IAML		15 20 49.6	
WAKR	comp=E,6.7nm,4.9s			IAML		15 21 31.4	
PSUT	**Pine Spring**	**5.51**	**25**		**Pn**	**15 19 13.9**	**-1.8**
KVN	**Kaiserville**	**5.56**	**350**	Pn	**Pn**	**15 19 15.2**	**-1.1**
SPR3	**Spring Creek 3**	**5.78**	**20**	Pn	**Pn**	**15 19 18.6**	**-0.9**
MTPU	**Mount Pierson**	**5.85**	**39**	Pn	**Pn**	**15 19 18.8**	**-1.6**
W18A	**Petrified Fore**	**6.08**	**73**	Pn	**Pn**	**15 19 20.9**	**-2.5**
MVU	**Marysvale**	**6.19**	**36**	Pn	**Pn**	**15 19 23.3**	**-1.7**
MSU	**Marysvale**	**6.21**	**36**	Pn	**Pn**	**15 19 23.0**	**-2.3**

*NEIC **23** 15:27:31.3±1.6, 6°.22S±0°.10×152°.6E±0°.1, h18km±6km, mb4.1/11, Error ellipse: s-maj=17.2km s-min=10.8km az=134.0*
*IDC **23** 15:27:34.8±5.9, 6°.39S×152°.56E, h43km±51km, mb3.6/7, mb1 3.9/8, mb1mx3.6/30, mbtmp3.8/8, ML2.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/25, Error ellipse: s-maj=46.9km s-min=31.5km az=122.0*
ISC 23 15:27:30.1±0.8, 6°.2S±0°.1×152°.6E±0°.1, h10km, n26,
σ1$46/25, mb3.9/13, MS3.1/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.08**	**347**		**Pn**	**15 28 05.3**	**+0.2**
PMG	**Port Moresby**	**6.26**	**239**	P	**Pn**	**15 29 03.2**	**+0.6**
PMG	4.3nm,0.3s,baz=62,slow=8.5,SNR=19			S	**Sn**	**15 30 12.3**	**-1.9**
PMG	3.7nm,0.3s,baz=319,slow=20,SNR=2.8			LR	LR	15 31 32.5	
PMG	comp=Z,85nm,21.9s,baz=333,slow=39						
PMG	**Port Moresby**	**6.26**	**239**		**Pn**	**15 29 03.5**	**+1.0**
PATS	**Pohnpei**	**14.18**	**24**		**P**	**15 30 56.6**	**-2.1**
FAKI	**Fak Fak**	**20.57**	**278**	P	**P**	**15 32 11.2**	**+1.9**
TARA	**Tarawa**	**21.62**	**70**	P	**P**	**15 32 20.4**	**-0.2**
MTN	**Manton Dam**	**22.17**	**251**	P	**P**	**15 32 25.1**	**-1.5**
MTN	comp=Z,12nm,1.1s			IAmb	IAmb	15 32 26.9	
WR0	**Warramunga Arr**	**22.24**	**230**	P	**P**	**15 32 26.0**	**-1.2**
WR0	comp=Z,13nm,1.5s			IAmb	IAmb	15 32 45.9	
WB0	**Warramunga Arr**	**22.24**	**231**	P	**P**	**15 32 26.3**	**-1.0**
WB0	comp=Z,13nm,1.5s			IAmb	IAmb	15 32 33.6	
WRAB	**Tennant Creek**	**22.37**	**231**	P	**P**	**15 32 27.8**	**-0.9**
WRAB	comp=Z,5.7nm,1.1s			IAmb	IAmb	15 32 29.8	
WB2	**Warramunga Arr**	**22.38**	**231**	P	**P**	**15 32 27.9**	**-0.8**
WB2	comp=Z,6.9nm,1.2s			IAmb	IAmb	15 32 47.8	
WRA	**Warramunga Arr**	**22.38**	**231**	P	**P**	**15 32 27.8**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=56,slow=10,SNR=23						
AS31	**Alice Springs**	**24.99**	**224**	P	**P**	**15 32 53.0**	**-1.3**
ASAR	**Alice Springs**	**24.99**	**224**	P	**P**	**15 32 53.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=59,slow=9.5,SNR=60						
ASAR				LR	LR	15 42 16.0	
	comp=Z,64nm,19.1s,baz=102,slow=36						
ASAR	**Alice Springs**	**24.99**	**224**	P	**P**	**15 32 53.2**	**-1.0**
KNRA	**Kununurra**	**25.21**	**246**	P	**P**	**15 32 54.1**	**-2.1**
STKA	**Stephens Creek**	**27.51**	**201**	LR	LR	15 44 41.0	
	comp=Z,68nm,18.1s,baz=25,slow=38						
MJAR	**Matsushiro Arr**	**44.65**	**343**	LR	LR	15 53 34.9	
	comp=Z,21nm,19.3s,baz=110,slow=35						
CMAR	**Chiang Mai Arr**	**58.34**	**296**	P	**P**	**15 37 25.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=106,slow=6.7,SNR=2.7						
SONM	**Songino Array**	**67.44**	**328**	P	**P**	**15 38 27.8**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=130,slow=5.8,SNR=1.6						
MK31	**Makanchi Array**	**81.29**	**319**	P	**P**	**15 39 45.5**	**-1.3**
MK31				IAmb	IAmb	15 39 49.9	
	comp=Z,1.1nm,1.0s						
MKAR	**Makanchi Array**	**81.29**	**319**	P	**P**	**15 39 46.7**	**0.0**
	comp=Z,1.0nm,0.9s,baz=111,slow=3.2,SNR=7.2						
ILAR	**Eielson Array**	**83.55**	**22**	P	**P**	**15 39 58.7**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=258,slow=4.5,SNR=5.4						
NVAR	**Mina Array Bea**	**93.11**	**52**	P	**P**	**15 40 44.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=259,slow=4.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**150.55**	**286**	PKPbc	**PKPbc**	**15 47 22.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=54,slow=2.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**150.55**	**286**		**PKPdf**	**15 47 21.7**	**+3.8**

*ARE **23** 15:39:48±2.9, 16°.11S±0°.07×73°.4W±0°.1, h70km±5km, Error ellipse: s-maj=0.0km s-min=0.0km az=149.0*
*NEIC **23** 15:39:48.2±2.5, 15°.91S±0°.09×73°.10W±0°.09, h83km±7km, mb4.4/4, ML4.5(ARE), Error ellipse: s-maj=17.1km s-min=6.4km az=224.0*
*IDC **23** 15:39:49.8±1.3, 15°.61S×73°.06W, h94km±6km, mb3.6/6, mb1 3.9/8, mb1mx3.7/33, mbtmp4.0/8, MS2.6/2, Ms1 2.7/2, ms1mx2.5/23, Error ellipse: s-maj=50.3km s-min=14.6km az=31.0*
*GUC **23** 15:39:49.3±0.8, 16°.18S×73°.35W, h87km±7km, ML4.9, MW4.7*
*VAO **23** 15:39:51.6±0.9, 15°.62S×73°.03W, h103km±8km, mb4.2*
ISC 23 15:39:47.6±0.5, 15°.84S±0°.06×73°.10W±0°.07, h82km, n78,
σ1$63/80, mb4.1/6, 3C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.65**	**134**	*e*P	**Pn**	**15 40 43.4**	**+1.6**
AP01				IAML		15 41 41.6	
	comp=E,903nm,0.9s						
AP01	**Chacalluta**	**3.65**	**134**	Pn	**Pn**	**15 40 43.9**	**+2.1**
MNMC	**Minye Minye**	**4.68**	**135**	⇑*i*P	**Pn**	**15 40 56.6**	**+0.4**
MNMC	**Minye Minye**	**4.68**	**135**		**Pn**	**15 40 56.5**	**+0.4**
PSGC	**Pisagua**	**4.70**	**143**	⇑*i*P	**Pn**	**15 40 55.8**	**-0.4**
PSGCX	**Pisagua**	**4.70**	**143**		**Pn**	**15 40 55.6**	**-0.6**
PSGCX				Sn	**Sn**	**15 41 44.7**	**-4.8**
LPAZ	**La Paz**	**4.80**	**96**	P	**Pn**	**15 41 02.0**	**+3.9**
	comp=E,3.5nm,0.3s,baz=276,slow=9.4,SNR=65						
LPAZ				LR	LR	15 43 04.9	
	comp=E,45nm,19.7s,baz=273,slow=41						
LPAZ	**La Paz**	**4.80**	**96**		**Pn**	**15 41 01.8**	**+3.7**
PB11	**IPOC Station P**	**5.10**	**140**	⇑*i*P	**Pn**	**15 41 01.6**	**-0.2**
PB11	**IPOC Station P**	**5.10**	**140**		**Pn**	**15 41 01.5**	**-0.2**
TA02	**Huaiquique**	**5.24**	**148**		**Pn**	**15 41 02.9**	**-0.5**
NNA	**Nana**	**5.28**	**316**	P	**Pn**	**15 41 06.4**	**+2.4**
	comp=E,9.1nm,0.3s,baz=135,slow=8.5,SNR=10						
NNA				S	**Sn**	**15 42 02.3**	**-1.2**
	comp=E,8.3nm,0.3s,baz=232,slow=14,SNR=3.6						
NNA	**Nana**	**5.28**	**316**		**Pn**	**15 41 05.5**	**+1.4**
TA01	**Diego Aracena**	**5.46**	**150**		**Pn**	**15 41 05.3**	**-1.2**
PB08	**IPOC Station P**	**5.70**	**139**		**Pn**	**15 41 10.2**	**+0.1**
PB01	**IPOC Station P**	**6.21**	**147**		**Pn**	**15 41 16.1**	**-0.7**
PB07	**IPOC Station P**	**6.60**	**153**		**Pn**	**15 41 20.9**	**-1.3**
PB09	**IPOC Station P**	**6.96**	**149**		**Pn**	**15 41 26.9**	**-0.3**
PB04	**IPOC Station P**	**7.04**	**157**		**Pn**	**15 41 26.2**	**-2.0**
PB06	**IPOC Station P**	**7.60**	**155**	Pn	**Pn**	**15 41 34.1**	**-1.8**
LVC	**Limon Verde**	**7.81**	**150**	P	**Pn**	**15 41 39.1**	**+0.2**
	comp=E,4.2nm,0.3s,baz=343,slow=8.4,SNR=32						
LVC				S	**Sn**	**15 43 01.1**	**-5.0**
	comp=E,3.4nm,0.3s,baz=130,slow=14,SNR=3.3						
LVC				LR	LR	15 44 07.1	
	comp=E,68nm,19.7s,baz=269,slow=32						
LVC	**Limon Verde**	**7.81**	**150**		**Pn**	**15 41 39.2**	**+0.2**
LVC					**Sn**	**15 43 04.3**	**-1.8**
PB10	**IPOC Station P**	**8.01**	**163**	Pn	**Pn**	**15 41 39.3**	**-1.9**
CZSB	**Cruzeiro do Su**	**8.07**	**3**	*e*P	**Pn**	**15 41 41.7**	**-0.4**
PB15	**IPOC Station P**	**8.09**	**156**		**Pn**	**15 41 41.1**	**-1.6**
ETMB	**Extrema**	**8.99**	**49**	*e*P	**Pn**	**15 41 55.4**	**+0.6**
PB14	**IPOC Station P**	**9.10**	**164**	Pn	**Pn**	**15 41 54.2**	**-2.3**
GO02	**Mina Guanaco**	**9.84**	**161**	Pn	**Pn**	**15 42 05.9**	**-0.7**
ATAH	**Atahualpa**	**10.08**	**328**	P	**Pn**	**15 42 12.9**	**+2.9**
	comp=E,0.5nm,0.3s,baz=11,slow=12,SNR=2.7						
ATAH				S	**Sn**	**15 44 01.3**	**-0.3**
	comp=E,0.3nm,0.3s,baz=14,slow=23,SNR=1.5						
AC02	**Maricunga**	**11.55**	**162**	Pn	**Pn**	**15 42 28.7**	**-1.3**
SIV	**San Ignacio**	**11.57**	**92**	P	**Pn**	**15 42 29.0**	**-1.0**
	comp=E,0.4nm,0.3s,baz=290,slow=8.8,SNR=8.0						
SAML	**Samuel**	**11.86**	**56**		**Pn**	**15 42 31.5**	**-2.3**
SAML	**Samuel**	**11.86**	**56**	*e*P	**Pn**	**15 42 32.2**	**-1.6**
VILB	**Vilhena**	**12.82**	**79**	*e*P	**Pn**	**15 42 49.1**	**+2.2**
PTLB	**Pontes e Lacer**	**13.46**	**90**	*e*P	**Pn**	**15 42 56.6**	**+1.4**
SALV	**Santo Antonio**	**16.75**	**93**	*e*P	**Pn**	**15 43 36.8**	**-0.4**
OTAV	**Otavalo**	**16.82**	**341**	*e*P	**Pn**	**15 43 37.2**	**-1.4**
CLDB	**Colider**	**17.54**	**76**	*e*P	**P**	**15 43 47.1**	**+0.1**
PP1B	**Ponte de Pedra**	**17.54**	**98**	*e*P	**P**	**15 43 47.0**	**0.0**
MACA	**Manacapuru-AM**	**17.55**	**45**	*e*P	**P**	**15 43 46.5**	**-0.6**
CPUP	**Villa Florida**	**18.03**	**128**	*e*P	**Pn**	**15 43 54.3**	**+1.5**
H03N1	**Juan Fernandez**	**18.30**	**196**	T	T	16 02 29.2	
	baz=17,slow=74,SNR=239						
H03N2	**Juan Fernandez**	**18.30**	**196**	T	T	16 02 27.9	
	baz=17,slow=74,SNR=218						
H03N3	**Juan Fernandez**	**18.32**	**196**	T	T	16 02 28.3	
	baz=17,slow=74,SNR=255						
NPGB	**Novo Progresso**	**19.45**	**65**	*e*P	**P**	**15 44 07.7**	**-0.2**
ARAG	**Araguaiana, MT**	**20.49**	**93**	*e*P	**P**	**15 44 20.5**	**+1.4**
TRCB	**Terra Rica**	**20.51**	**113**	*e*P	Pn	**15 44 21.2**	**-1.1**
ITTB	**Itaituba**	**20.53**	**58**	*e*P	**P**	**15 44 19.0**	**-0.5**
PCMB	**Pacaembu**	**21.46**	**109**	*e*P	**P**	**15 44 31.0**	**+1.5**
SNDB	**Serra Nova Dou**	**21.51**	**82**	*e*P	**P**	**15 44 29.8**	**-0.3**
RUSC	**La Rusia**	**21.59**	**0**	P	**P**	**15 44 30.4**	**-1.0**
ITRB	**Iturama**	**21.99**	**103**	*e*P	**P**	**15 44 37.0**	**+1.8**
ITAB	**Concordia**	**22.53**	**124**	*e*P	**P**	**15 44 41.9**	**+1.0**
PLTB	**Pedras Altas**	**23.80**	**135**	*e*P	**P**	**15 44 55.6**	**+2.5**
IPMB	**Ipameri, GO**	**23.91**	**99**	*e*P	**P**	**15 44 53.8**	**-0.4**
TRQA	**Tornquist**	**24.21**	**158**	*e*P	**P**	**15 44 59.7**	**+3.1**
PEXB	**Peixe**	**24.35**	**84**	*e*P	**P**	**15 44 59.2**	**+1.1**
TIJ01	**Guaruva-PR**	**24.42**	**117**	*e*P	**P**	**15 45 00.6**	**+1.8**
SDV	**Santo Domingo**	**24.68**	**6**	*e*P	**P**	**15 45 01.0**	**-0.3**
PRPB	**Parauapebas**	**24.77**	**70**	*e*P	**P**	**15 45 02.0**	**+0.1**
TER01	**Tubaro-SC**	**25.48**	**124**	*e*P

MCPB	Macapa, AP	25.84	55	eP	P	15 45 11.9	+0.2
SMTB	Santa Maria do	25.85	77	eP	P	15 45 11.7	-0.1
PMSA	Palmer Station	49.28	175	eP	P	15 48 30.6	+2.8
TXAR	Lajitas Array	53.74	327	P	P	15 49 00.3	-1.3
	comp=E,0.3nm,0.6s,baz=158,slow=8.3,SNR=4.7						
TXAR				pP	pP	15 49 23.9	+0.4
	comp=E,0.2nm,0.5s,baz=152,slow=9.1,SNR=3.5						
NVAR	Mina Array Bea	68.61	323	P	P	15 50 43.0	+0.7
	comp=E,0.6nm,0.8s,baz=163,slow=6.5,SNR=3.2						
NVAR				pP	PcP	15 51 07.5	+0.8
	comp=E,0.2nm,0.5s,baz=23,slow=19,SNR=1.6						
ULM	Lac du Bonnet	68.79	345	P	P	15 50 41.4	-1.5
	comp=E,2.9nm,0.5s,baz=160,slow=5.2,SNR=4.7						
ULM	Lac du Bonnet	68.79	345	IAmb	IAmb	15 50 42.7	
	comp=Z,16nm,1.5s						
TORD	Torodi Ar. Bea	79.36	73	P	P	15 51 44.8	-0.4
	comp=Z,0.7nm,0.7s,baz=267,slow=5.0,SNR=4.1						
TORD				pP	pP	15 52 08.5	+0.3
	comp=Z,0.1nm,0.3s,baz=111,slow=37,SNR=1.5						
TORD				sP	sP	15 52 19.7	+2.2
	comp=Z,1.0nm,0.7s,baz=262,slow=4.6,SNR=3.9						
TORD	Torodi Ar. Bea	79.36	73	IAmb	IAmb	15 52 26.8	
	comp=Z,13nm,1.9s						
YKA	Yellowknife Ar	84.58	342	P	P	15 52 11.3	-0.2
	comp=Z,1.5nm,0.8s,baz=140,slow=5.1,SNR=8.9						
ESDC	Sonseca Array	84.72	46	P	P	15 52 13.4	+0.6
	comp=Z,1.2nm,0.8s,baz=258,slow=6.4,SNR=5.0						
ESDC	Sonseca Array	84.72	46	IAmb	IAmb	15 53 42.8	
	comp=Z,5.7nm,1.7s						
ASAR	Alice Springs	132.69	215	PKP	PKPdf	15 58 53.4	-0.5
	comp=Z,0.2nm,0.7s,baz=136,slow=1.3,SNR=4.1						
WRA	Warramunga Arr	135.37	218	PKP	PKPdf	15 58 58.7	-0.2
	comp=Z,0.4nm,0.4s,baz=129,slow=1.7,SNR=21						
MJAR	Matsushiro Arr	145.39	313	PKPbc	PKPdf	15 59 16.0	-0.5
	comp=Z,2.2nm,0.9s,baz=59,slow=5.1,SNR=5.2						
SONM	Songino Array	148.09	1	PKPbc	PKPbc	15 59 24.6	+0.5
	comp=Z,1.2nm,0.6s,baz=336,slow=1.4,SNR=6.6						
KSRS	Korea Array	151.55	323	PKPbc	PKiKP	15 59 33.4	+0.3
	comp=Z,1.2nm,0.8s,baz=34,slow=2.2,SNR=5.0						

*IDC **23** 15:47:44.0±1.4, 0°.53S×120°.34E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/35, mbtmp3.8/5, ML4.0/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/37, Error ellipse: s-maj=74.8km s-min=23.4km az=64.0*
*DJA **23** 15:47:47.9±0.2, 1°.5S±2°.×12°.0E±°, h10km, M4.0/13, mb4.0/3, MLv4.0/13*
*NEIC **23** 15:47:50.3±1.8, 0°.73S±0°.06×119°.85E±0°.07, h44km±11km, mb4.0/10, Error ellipse: s-maj=10.3km s-min=8.1km az=104.0*

ISC 23 15:47:50.0±1.0, 0°.67S±0°.04×119°.81E±0°.04, h46km±13km, n32, σ1°.45/40, mb4.0/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	1.00	5	P	Pn	15 48 06.2	-1.5
MPSI				S	Sn	15 48 21.5	+0.8
APSI	Ampana	1.85	97	P	Pn	15 48 19.1	-0.2
APSI				S	Sn	15 48 44.7	+3.1
TOLI2	Tolitoli	2.02	29		Pn	15 48 22.3	+0.7
TOLI2				Sn	Sn	15 48 48.1	+2.5
TTSI	Tana Toraja	2.36	180	P	Pn	15 48 26.0	-0.3
TTSI				S	Sn	15 48 56.4	+2.3
MRSI	Marisa	2.42	62	P	Pn	15 48 28.6	+1.6
MRSI				S	Sn	15 48 57.3	+1.9
BKB	Balikpapan	2.97	259		Pn	15 48 34.9	+0.2
BKB					Sn	15 49 08.1	-1.0
BKB					LR	15 49 08.8	
BKB	Balikpapan	2.97	259	P	Pn	15 48 35.1	+0.4
BKB				S	Sn	15 49 11.3	+2.2
GTOI	Gorontalo	3.45	68	P	Pn	15 48 39.7	-1.6
GTOI				S	Sn	15 49 20.8	-0.2
BNSI	Bone	3.72	175	P	Pn	15 48 46.2	+1.2
KAPI	Kappang	4.32	181	Pn	Pn	15 48 53.1	-0.1
	7.8nm,0.3s,baz=13,slow=8.2,SNR=36						
KAPI				Sn	Sn	15 49 43.7	+1.4
	baz=316,slow=22,SNR=1.6						
KAPI				LR	LR	15 50 06.6	
	comp=Z,21nm,19.2s,baz=22,slow=32						
KAPI	Kappang	4.32	181		Pn	15 48 52.5	-0.7
KBKI	Kotabaru	4.48	234	P	Pn	15 48 55.8	+0.4
BKSI	Bulukumba	4.63	176	P	Pn	15 48 57.9	+0.4
BSSI	Bau Bau, Buton	5.48	173	P	Pn	15 49 09.5	+0.3
	0.2nm44nm,1.3s						
BBKI	Banjar Baru	5.69	241	P	Pn	15 49 12.4	+0.4
	0.1nm22nm,1.9s						
FAKI	Fak Fak	12.63	100	Pn	Pn	15 50 45.7	-1.5
MTN	Manton Dam	16.50	138	P	P	15 51 40.0	-0.4
MTN				IAmb	IAmb	15 51 41.3	
	comp=Z,13nm,1.4s						
KNRA	Kununurra	17.34	150		Pn	15 51 48.0	-0.8
KNRA				IAmb	IAmb	15 52 08.6	
	comp=Z,9.7nm,1.2s						
WB0	Warramunga Arr	23.75	144	P	P	15 52 57.1	-1.2
WB0				IAmb	IAmb	15 52 58.4	
	comp=Z,13nm,1.5s						
WRAB	Tennant Creek	23.86	144	P	P	15 52 57.7	-1.6
WRA	Warramunga Arr	23.86	144	P	P	15 52 57.6	-1.8
	comp=Z,2.7nm,0.8s,baz=319,slow=11,SNR=16						
WRA	Warramunga Arr	23.86	144	P	P	15 52 58.1	-1.2
WB2	Warramunga Arr	23.87	144	P	P	15 52 58.4	-1.0
WB2				IAmb	IAmb	15 52 59.0	
	comp=Z,9.9nm,1.1s						
WR0	Warramunga Arr	23.99	144	P	P	15 52 57.9	-2.6
WR0				IAmb	IAmb	15 53 00.1	
	comp=Z,6.7nm,0.9s						
AS31	Alice Springs	26.64	150	P	P	15 53 23.3	-1.3
ASAR	Alice Springs	26.64	150	P	P	15 53 23.4	-1.2
	comp=Z,0.9nm,0.5s,baz=342,slow=13,SNR=3.4						
ASAR	Alice Springs	26.64	150	P	P	15 53 22.5	-2.1
STKA	Stephens Creek	37.25	149	P	P	15 54 56.4	-1.0
	comp=Z,1.3nm,0.6s,baz=307,slow=10,SNR=4.5						
STKA	Stephens Creek	37.25	149	IAmb	IAmb	15 55 38.9	
	comp=Z,3.2nm,1.5s						
MKAR	Makanchi Array	57.55	330	P	P	15 57 36.4	+1.4
	comp=Z,0.4nm,0.4s,baz=127,slow=8.7,SNR=6.5						
CASY	Casey	65.81	184	P	P	15 58 31.1	+1.0
ABKAR	Abkulak array	71.33	323	P	P	15 59 05.7	+0.8

*ASRS **23** 16:09:08.2±0.3, 50°.N±2°.×9°.1E±°, h15km, MLh3.7/9, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
*NNC **23** 16:09:16.2±4.3, 50°.52N×90°.79E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=39.4km s-min=17.2km az=92.0*

ISC 23 16:09:13.7±2.4, 50°.52N±0°.05×91°.24E±0°.04, h11km±19km, n20, σ2°.16/33, 6C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	Cheremushki	2.34	3	Pg	Pb	16 09 56.7	+0.8
CERR				Sg	Sg	16 10 29.9	+1.0
TBTR	Tabat	2.44	353	Pg	Pn	16 09 53.6	+0.2
TBTR				Sg	Sb	16 10 26.7	-0.9
ARDR	Aradan	2.48	33	Pg	Pn	16 09 56.0	+1.9
ARDR				Sg	Sb	16 10 30.8	+2.0
ERNS	Erzin	2.52	94	Pg	Pn	16 09 49.5	-5.1
ERNS				Sg	Sn	16 10 20.1	-5.3
DGZ	Jazzator, Alta	2.58	253	Pg	Pn	16 09 57.0	+1.5
DGZ				Sg	Sb	16 10 30.7	-1.2
ARTR	Artybash	2.80	299	Pg	Pb	16 10 04.4	+0.6
ARTR				Sg	Sb	16 10 39.4	+1.3
ABNR	Abakan	3.22	2	Pg	Pb	16 10 11.2	+0.4
ABNR				Sg	Sg	16 10 55.7	-1.2
LUZB	Luzhba, Kemero	3.46	336	Pg	Pb	16 10 16.2	+1.2
LUZB				Sg	Sg	16 11 01.9	-2.9
GALT	Gorno-Altaysk,	3.63	296	Pg	Pb	16 10 20.3	+2.5
GALT				Sg	Sg	16 11 07.1	-2.9
KNGR	Kungurtug, Tuv	4.00	86	Pg	Pn	16 10 17.8	+2.7
KNGR				Sg	Sb	16 11 12.0	-0.8
SHRR	Shira	4.04	351	Pg	Pb	16 10 26.4	+1.6
SHRR				Sg	Sg	16 11 21.2	-2.0
UKR	Ust'-Kan	4.13	278	Pg	Pb	16 10 26.0	-0.4
UKR				Sg	Sg	16 11 23.6	-2.6
ELT	Eltsovka	4.14	314	Pg	Pb	16 10 26.0	-0.5
ELT				Sg	Sg	16 11 22.5	-4.0
VCHU	Verkh-Chumysh,	4.53	321	Sg	Sg	16 11 37.2	-1.9
POMOR	Pomortsevo, Ku	4.85	325	Sg	Sg	16 11 49.3	+0.2
BJR1	Bachatsky 1, K	4.90	322	Sg	Sg	16 11 52.2	+1.2
ZAA0	Zalesovo Array	5.23	314	⇑Pg	Pb	16 10 45.9	+0.9
	0.4nm,0.7s						
ZAA0				⇓Lg	Lg	16 11 57.8	
	4.7nm,0.8s						
MK05	Makanchi Array	7.00	241	⇑Pn	Pn	16 10 57.5	+1.4
	0.4nm,0.6s						
MK05				⇑Pg	Pb	16 11 18.9	+3.7
	2.1nm,0.7s						
MK05				⇓Lg	Lg	16 12 51.7	
	5.5nm,0.7s						
MAKZ	Makanchi	7.17	242	⇓Pg	Pb	16 11 20.2	+2.2
	2.7nm,0.8s						
MAKZ				⇑Lg	Lg	16 12 52.4	
	14nm,1.4s						
KURBB	Kurchatov Arra	8.09	276	⇑Pn	Pn	16 11 12.0	+1.0
	3.0nm,1.0s,baz=85,slow=12						
KURBB				⇑Lg	Lg	16 13 26.6	
	18nm,0.8s,baz=86,slow=32						

IDC 23 16:32:25.9±4.1, 21°.35S×69°.46W, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=196.0km s-min=36.1km az=28.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	12.16	116	Pn	Pn	16 35 20.4	0.0
	0.4nm,0.3s,baz=294,slow=3.4,SNR=5.1						
NVAR	Mina Array Bea	75.06	322	P		16 44 09.9	0.0
	0.8nm,0.7s,baz=140,slow=9.2,SNR=7.0						
TORD	Torodi Ar. Bea	77.79	71	P	P	16 44 25.6	0.0
	0.3nm,0.5s,baz=249,slow=4.2,SNR=1.5						

VAO 23 16:32:57.8±0.3, 18°.80S×43°.49W, h0km, mbR2.6, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIAM	Diamantina, MG	0.53	341	eP	Pg	16 33 08.4	+0.5
DIAM				eS	Sg	16 33 15.5	+0.7
MC01	Montes Claros	2.12	348	eP	Pn	16 33 32.9	-1.7
SJMB	Sao Joao De Ma	2.18	88	eP	Pn	16 33 35.3	-0.2
BSCB	Bom Sucesso	2.50	209	eP	Pn	16 33 39.0	-0.8
BSFB	Barra de Sao F	2.50	91	eP	Pn	16 33 39.6	-0.2
RIB01	Linhares ES	2.97	100	eP	Pn	16 33 46.6	+0.3
ALF01	Guarapari-ES	3.17	125	eP	Pn	16 33 49.6	+0.6
NAN01	Guarapari, ES	3.33	74	eP	Pn	16 33 50.3	-0.9
DUB01	Friburgo-RJ	3.43	162	eP	Pn	16 33 52.9	+0.3
VAS01	Vassouras-RJ	3.46	179	eP	Pn	16 33 53.2	+0.1

*IDC **23** 16:36:56.7±1.2, 1°.30N×127°.71E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/30, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=63.9km s-min=19.2km az=64.0*
*NEIC **23** 16:37:06.8±1.0, 1°.5N±0°.1×128°.31E±0°.05, h85km±11km, mb4.0/10, Error ellipse: s-maj=14.8km s-min=7.3km az=187.0*
*DJA **23** 16:37:06.8±0.4, 1°.N±4°.×12°.8E±°, h82km±6km, M3.9/12, mb4.2/6, mB4.7/1, MLv3.8/12, Mw(mB)4.0/1, MwMwp6.0/1, Mwp6.1/1*

ISC 23 16:37:04.6±0.8, 1°.52N±0°.08×128°.35E±0°.05, h61km, n36, σ1°.75/38, mb3.9/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.23	233		Pn	16 37 27.9	+2.2
TNTI					Sn	16 37 43.6	+2.2
TNTI	Ternate	1.23	233	P	Pn	16 37 28.0	+2.3
TNTI				S	Sn	16 37 43.3	+1.8
SGSI	Sangihe	3.54	307	P	Pn	16 37 59.8	+2.6
SWI	Sorong	3.75	129	P	Pn	16 38 03.0	+2.9
SWI				S	Sn	16 38 44.8	+1.8
SIJI	Sorong	3.76	129	Pn	Pn	16 38 02.3	+2.1
	8.5nm,0.3s,baz=201,slow=22,SNR=51						
SIJI				Sn	Sn	16 38 44.3	+1.0
	1.9nm,0.3s,baz=54,slow=20,SNR=5.7						
SANI	Sanana	4.25	214	P	Pn	16 38 07.6	+0.6
NLAI	Namlea	4.89	195	P	Pn	16 38 17.1	+1.5
GTOI	Gorontalo	5.41	261	P	Pn	16 38 25.6	+2.9
	0.0nm4.6nm,0.5s						
FAKI	Fak Fak	5.89	138	Pn	Pn	16 38 31.8	+2.5
FAKI				Sn	Sn	16 39 36.9	+1.4
FAKI	Fak Fak	5.89	138	P	Pn	16 38 30.2	+0.9
	0.1nm13nm,1.4s						
BNDI	Bandanaira	6.20	165	P	Pn	16 38 35.2	+1.6
	0.5nm72nm,0.8s						
MRSI	Marisa	6.49	261	P	Pn	16 38 39.3	+1.8
APSI	Ampana	7.12	250	P	Pn	16 38 46.8	+0.6
	0.1nm19nm,0.7s						
KMPI	Kaimana, Papua	7.43	134	P	Pn	16 38 52.8	+2.4
	0.3nm91μm78nm,0.7s						
TOLI2	Tolitoli	7.57	267	Pn	Pn	16 38 53.8	+1.4
MPSI	Mapaga	8.53	262	P	Pn	16 39 06.8	+1.3
	6.1nm,0.8s						
TTSI	Tana Toraja	9.65	242	P	Pn	16 39 21.5	+0.6
MTN	Manton Dam	14.53	169	Pn	Pn	16 40 26.6	-0.6
KNRA	Kununurra	17.09	179	Pn	Pn	16 40 56.0	-3.6
KNRA				IAmb	IAmb	16 41 30.8	
	comp=Z,13nm,1.4s						
UGM	Wanagama	20.09	242	P	P	16 41 31.8	-1.7
PMG	Port Moresby	21.66	120		P	16 41 51.6	+1.4
PMG				IAmb	IAmb	16 42 12.1	
	comp=Z,14nm,0.9s						
WB0	Warramunga Arr	21.97	165	P	P	16 41 52.9	-0.7
WB0				IAmb	IAmb	16 41 59.7	
	comp=Z,5.6nm,1.1s						
WRAB	Tennant Creek	22.12	165	P	P	16 41 53.9	-1.3
WRAB				IAmb	IAmb	16 42 22.2	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	22.12	165	P	P	16 41 54.2	-1.0
	comp=Z,1.4nm,0.7s,baz=344,slow=9.9,SNR=11						
WRA	Warramunga Arr	22.12	165	P	P	16 41 53.4	-1.8
WB2	Warramunga Arr	22.12	165	P	P	16 41 54.4	-0.9
WB2				IAmb	IAmb	16 42 12.3	
	comp=Z,8.5nm,1.4s						
WR0	Warramunga Arr	22.19	164	P	P	16 41 55.6	-0.4
YHNB	Yeheng	23.98	344	P	P	16 42 13.4	-0.3
ASAR	Alice Springs	25.61	168	P	P	16 42 27.2	-1.3
	comp=Z,0.2nm,0.4s,baz=348,slow=7.0,SNR=14						
STKA	Stephens Creek	35.51	160	P	P	16 43 54.8	-0.9
	comp=Z,1.9nm,0.8s,baz=347,slow=8.6,SNR=5.1						
STKA	Stephens Creek	35.51	160	P	P	16 43 54.8	-0.9
STKA				IAmb	IAmb	16 44 15.6	
	comp=Z,2.7nm,1.4s						
H11N1	WAKE ISLAND Hy	41.81	62	T	T	17 29 26.6	
	baz=248						
H11N2	WAKE ISLAND Hy	41.82	62	T	T	17 29 26.6	
	baz=248						
H11N3	WAKE ISLAND Hy	41.83	62	T	T	17 29 24.7	
	baz=248						
SONM	Songino Array	49.90	341	P	P	16 45 52.2	0.0
	comp=Z,0.4nm,0.6s,baz=168,slow=6.9,SNR=3.1						
MKAR	Makanchi Array	60.28	325	P	P	16 47 06.0	-1.0
	comp=Z,0.3nm,0.4s,baz=116,slow=8.5,SNR=6.8						

*NSSP **23** 16:46:18.3, 38°.42N×45°.32E, h5km, Ms3.5*
*ISK **23** 16:46:18.9, 38°.44N×45°.25E, h5km, ML3.1/6*
*AZER **23** 16:46:19.6±0.3, 38°.55N×45°.37E, h4km±1km, ml3.5/22, Error ellipse: s-maj=6.7km s-min=4.0km az=42.0*
*DDA **23** 16:46:19.6, 38°.33N×45°.24E, h5km±5km, ML2.9*

ISC 23 16:46:18.1±1.1, 38°.40N±0°.02×45°.28E±0°.02, h8km±10km, n51, σ1°.31/90, 1C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORD	Ordubad	0.77	47	P	Pb	16 46 33.7	-0.1
	SNR=66						
ORD				S	Sb	16 46 44.7	+0.3
NAX	Nakhchivan	0.79	12	P	Pb	16 46 34.2	0.0
	SNR=30						
NAX				S	Sb	16 46 45.2	+0.2
SBZ	Shahbuz	1.02	12	P	Pg	16 46 38.0	+0.3
	SNR=34						
SBZ				S	Sb	16 46 52.5	+0.9
OZAP	Van, Ozalp-Mer	1.04	285	i P	Pg	16 46 38.0	-0.2
OZAP				i S	Sn	16 46 53.7	-0.4
OZAP				IAML		16 46 55.0	
	comp=E,249nm,0.5s						
OZAP				IAML		16 46 59.0	
	comp=N,318nm,0.7s						
BASK	Baskale_VAN	1.06	251	i P	Pg	16 46 38.1	-0.5
BASK				i S	Sb	16 46 53.1	+0.1
BASK				IAML		16 47 00.0	
	comp=N,258nm,0.5s						
YOVA	Hakkari_Yksek	1.13	224	i P	Pg	16 46 38.9	-0.9
YOVA				i S	Sn	16 46 57.2	+1.0
CLDR	Caldiran	1.30	305	i P	Pn	16 46 42.0	-0.7
CLDR				i S	Sb	16 46 56.8	-3.0
CLDR				IAML		16 47 10.0	
	comp=E,207nm,0.5s						
CLDR				IAML		16 47 11.0	
	comp=N,156nm,0.4s						
CLDR	Caldiran	1.30	305	PN	Pg	16 46 43.3	+0.2
CLDR				SN	Sn	16 47 01.4	+1.0
HYR	Heyderabad	1.36	346	P	Pn	16 46 42.9	-0.5
HYR				S	Sg	16 47 02.1	+0.3
GRS	Goris	1.37	37	⇑i P	Pg	16 46 47.0	+2.5
GRS				⇓i S	Sg	16 47 06.0	+3.8
TVAN	Van	1.48	275	i P	Pb	16 46 46.4	+0.5
TVAN				i S	Sn	16 47 04.4	-0.4
VANB	Van	1.50	278	PN	Pb	16 46 46.5	+0.3
VANB				SN	Sg	16 47 06.5	+0.2
HAKT	HAKKARI	1.50	236	i P	Pn	16 46 46.1	+0.5
HAKT				i S	Sg	16 47 06.2	-0.2
NRKZ	NAREK	1.67	343	i P	Pb	16 46 49.3	+0.2
NRKZ				i S	Sg	16 47 12.9	+1.1
DYDN	Diyadin	1.68	313	i P	Pg	16 46 50.3	-0.2
DYDN				IAML		16 47 23.0	
	comp=N,112nm,1.0s						
GEVA	Gevas	1.75	268	i P	Pb	16 46 50.5	-0.1
GEVA				i S	Sn	16 47 11.8	+0.4
GEVA				IAML		16 47 20.0	
	comp=E,113nm,0.7s						
GEVA				IAML		16 47 20.0	
	comp=N,122nm,0.5s						
CUKT	Cukurca	1.76	229	i P	Pn	16 46 48.8	-0.2
CUKT				IAML		16 47 26.0	
	comp=N,169nm,0.8s						
CUKT				IAML		16 47 27.0	
	comp=E,146nm,0.8s						
CUKT	Cukurca	1.76	229	PN	Pb	16 46 51.0	+0.3
TASB	TASBURUN-IGDIR	1.77	333	PN	Pb	16 46 50.5	-0.4
GNI	Garni	1.79	347	i P	Pb	16 46 50.7	-0.7
GNI				i S	Sb	16 47 15.1	+1.1
GNI	Garni	1.79	347	PN	Pb	16 46 50.8	-0.5
GNI				SN	Sb	16 47 14.2	+0.2
AKDM	Akdamar-Van	1.81	268	PN	Pb	16 46 51.4	-0.2
QRD	Qoradiz	1.91	56	P	Pb	16 46 53.3	+0.1
	SNR=7.9						
QRD				S	Sb	16 47 18.6	+1.3
KAPZ	Kaputan	1.97	347	i P	Pb	16 46 54.2	-0.1
KAPZ				i S	Sg	16 47 21.9	+0.4
METS	Metsamor	1.98	332	i P	Pn	16 46 53.0	+1.0
METS				i S	Sb	16 47 19.6	+0.4
VNNZ	Vanand	2.04	327	i P	Pb	16 46 54.8	-0.7
VNNZ				i S	Sg	16 47 22.6	-1.1
ARUZ	Aruch	2.09	334	i P	Pn	16 46 55.1	+1.6
ARUZ				i S	Sb	16 47 23.6	+1.0
AGRB	Hanur-Agry	2.13	304	PN	Pb	16 46 56.5	-0.6
KOTA	Agri, Merkez-K	2.13	312	i P	Pb	16 46 57.8	+0.6
KOTA				i S	Sg	16 47 27.2	+0.5
PERV	Siirt/Pervari-	2.21	259	i P	Pg	16 47 00.3	-0.1
PERV				IAML		16 47 36.0	
	comp=N,129nm,0.5s						
PERV				IAML		16 47 38.0	
	comp=E,110nm,0.5s						
BLQ	Beylaqan	2.21	53	P	Pb	16 46 58.3	0.0
	SNR=7.4						
BLQ				S	Sg	16 47 27.9	-1.2
AGDM	Agdam	2.22	39	P	Pb	16 46 58.9	+0.4
	SNR=9.2						
AGDM				S	Sg	16 47 29.5	+0.1
GDB	GEDABAY	2.34	9	P	Pb	16 47 00.4	-0.3
	SNR=20						
GDB				S	Sb	16 47 31.7	+1.9
BRDA	Brd	2.37	38	P	Pb	16 46 59.6	-1.4
BRDA				S	Sg	16 47 36.1	+1.7
YRD	Yardimli	2.38	77	P	Pb	16 47 00.5	-0.8
	SNR=23						
YRD				S	Sg	16 47 34.3	-0.2
GANJ	Ganja	2.38	19	P	Pb	16 47 01.7	+0.4
	SNR=14						
GANJ				S	Sg	16 47 33.1	-1.6
LRK	Lerik	2.41	83	P	Pb	16 47 02.8	+0.9
	SNR=58						
LRK				S	Sg	16 47 35.8	+0.2
SIRT	Sirnak	2.42	249	PN	Pb	16 47 00.3	-1.6
DIGO	Kars	2.49	324	i P	Pg	16 47 05.5	-0.5
GLBA	Clilabad	2.57	70	P	Pb	16 47 04.5	0.0
	SNR=21						
GLBA				S	Sg	16 47 38.9	-1.9
ZRD	Zardab	2.64	44	P	Pb	16 47 03.9	-1.8
	SNR=4.5						
ZRD				S	Sg	16 47 43.2	+0.2
QZX	Qazax, Azerbai	2.65	2	P	Pb	16 47 05.5	-0.4
	SNR=16						
QZX				S	Sb	16 47 39.8	+1.2
SRTM	Siirt_Merkez	2.68	262	i P	Pg	16 47 08.8	-0.7
SRTM				i S	Sb	16 47 40.8	+1.4
SRTM				IAML		16 47 52.0	
	comp=E,70nm,0.6s						
SRTM				IAML		16 47 55.0	
	comp=N,76nm,0.8s						
ASTR	Astara	2.76	86	P	Pb	16 47 07.1	-0.6
	SNR=6.3						
ASTR				S	Sb	16 47 43.2	+1.5
SEKA	Sheki	3.17	27	P	Pb	16 47 14.6	-0.1
	SNR=6.9						
SEKA				S	Sb	16 47 52.3	-1.2
QBL	Gabala	3.22	37	P	Pb	16 47 13.7	-1.8
	SNR=4.1						
QBL				S	Sb	16 47 53.4	-1.5
ZKTA	Zakatala	3.39	17	P	Pb	16 47 15.2	-3.3
	SNR=3.3						
ZKTA				S	Sb	16 47 56.1	-3.7
PQL	Pirkuli	3.50	46	S	Sb	16 48 00.6	-2.4
XNQ	Khinaliq	3.54	38	P	Pb	16 47 18.2	-2.9
	SNR=4.7						
XNQ				S	Sb	16 48 03.2	-1.0
MARD	Mardin	3.72	254	i P	Pb	16 47 26.5	+2.3
SIZA	Siyzn	3.86	45	P	Pb	16 47 22.7	-3.9
	SNR=6.0						

**IDC 23 16:54:06.8±11.0, 6°.99S×129°.98E, h163km±110km, mb3.2/2, mb1 3.1

ms1mx2.5/11, Error ellipse: s-maj=26.9km s-min=22.1km az=110.0

ISC 23 17:28:05.7±0.8, 31°92S±0°02×71°04W±0°04, h86km±7km, n100, σ1§51/116, mb3.7/5, 8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.94**	**154**	‖ *i* P	**Pn**	**17 28 24.6**	**+0.1**
VA03				*i* S	**Sn**	**17 28 38.3**	**-0.2**
VA03				IAML		17 28 40.2	
	comp=E,21μm,0.2s						
VA03	**San Esteban**	**0.94**	**154**		**Pn**	**17 28 24.6**	**+0.1**
VA03	**San Esteban**	**0.94**	**154**	*e* P	**Pn**	**17 28 24.2**	**-0.2**
VA03				*e* S	**Sn**	**17 28 39.4**	**+0.9**
VA03				IAML		17 28 40.9	
	comp=Z,7μm,0.2s						
ROCH	**El Roble**	**1.05**	**179**	‖ *i* P	**Pn**	**17 28 26.1**	**+0.2**
ROCH				*e* S	**Sn**	**17 28 41.0**	**0.0**
ROCH				IAML		17 28 42.9	
	comp=N,4μm,0.5s						
CO03	**El Pedregal**	**1.12**	**16**	*e* P	**Pn**	**17 28 27.0**	**+0.3**
CO03				*e* S	**Sn**	**17 28 42.5**	**+0.1**
CO03	**El Pedregal**	**1.12**	**16**		**Pn**	**17 28 27.0**	**+0.3**
VA01	**Torpederas**	**1.21**	**205**	*e* P	**Pn**	**17 28 28.5**	**+0.9**
VA01				IAML		17 28 51.3	
	comp=E,3μm,0.2s						
VA01	**Torpederas**	**1.21**	**205**		**Pn**	**17 28 28.4**	**+0.8**
MT02	**Curacav**	**1.33**	**184**	‖ *i* P	**Pn**	**17 28 29.8**	**+0.7**
MT02				*i* S	**Sn**	**17 28 47.2**	**+0.3**
MT02				IAML		17 28 48.8	
	comp=N,3μm,0.3s						
MT02	**Curacav**	**1.33**	**184**		**Pn**	**17 28 29.9**	**+0.7**
CO06	**Fray Jorge**	**1.34**	**338**	*e* P	**Pn**	**17 28 30.6**	**+1.3**
CO06				*e* S	**Sn**	**17 28 48.3**	**+1.2**
CO06				IAML		17 28 53.4	
	comp=N,6μm,0.3s						
AUSP	**Uspallata**	**1.44**	**103**	*e* P	**Pn**	**17 28 31.1**	**+0.4**
MT05	**Renca**	**1.49**	**170**	‖ *i* P	**Pn**	**17 28 31.8**	**+0.6**
MT05				*e* S	**Sn**	**17 28 50.4**	**0.0**
MT05				IAML		17 28 56.2	
	comp=E,5μm,0.3s						
MT05	**Renca**	**1.49**	**170**		**Pn**	**17 28 31.8**	**+0.6**
RTLS	**Leoncito**	**1.49**	**86**	*e* P	**Pn**	**17 28 31.6**	**+0.2**
RTLS				IAML		17 28 54.0	
	comp=Z,827nm,0.2s						
FSR	**Penalolen**	**1.61**	**165**	*e* P	**Pn**	**17 28 34.4**	**+1.6**
FSR				*e* S	**Sn**	**17 28 54.8**	**+1.5**
MT03	**Universidad Ad**	**1.63**	**164**	*e* P	**Pn**	**17 28 33.7**	**+0.7**
MT03				*i* S	**Sn**	**17 28 54.9**	**+1.2**
MT03				IAML		17 28 59.3	
	comp=E,3μm,0.3s						
MT03	**Universidad Ad**	**1.63**	**164**		**Pn**	**17 28 33.6**	**+0.7**
MT03	**Universidad Ad**	**1.63**	**164**	*e* P	**Pn**	**17 28 33.9**	**+0.9**
MT03				IAML		17 28 58.7	
	comp=Z,2μm,0.6s						
GO04	**Tololo Observa**	**1.76**	**7**	‖ *i* P	**Pn**	**17 28 35.1**	**+0.3**
GO04				*i* S	**Sn**	**17 28 56.9**	**+0.1**
GO04	**Tololo Observa**	**1.76**	**7**	Pn	**Pn**	**17 28 35.1**	**+0.3**
GO04	**Tololo Observa**	**1.76**	**7**	*e* P	**Pn**	**17 28 35.1**	**+0.3**
GO04				*e* S	**Sn**	**17 28 58.0**	**+1.2**
VA05	**Santo Domingo**	**1.80**	**195**	*e* P	**Pn**	**17 28 35.6**	**+0.5**
VA05				*e* S	**Sn**	**17 28 57.7**	**+0.3**
VA05				IAML		17 29 08.7	
	comp=E,3μm,0.5s						
VA05	**Santo Domingo**	**1.80**	**195**		**Pn**	**17 28 35.6**	**+0.5**
MT09	**Talagante**	**1.85**	**179**	‖ *i* P	**Pn**	**17 28 36.6**	**+0.7**
MT09				*i* S	**Sn**	**17 28 59.9**	**+1.0**
MT09				IAML		17 29 02.0	
	comp=N,2μm,0.2s						
MT09	**Talagante**	**1.85**	**179**		**Pn**	**17 28 36.5**	**+0.7**
MT01	**Popeta**	**1.94**	**185**	‖ *i* P	**Pn**	**17 28 37.7**	**+0.7**
MT01				*i* S	**Sn**	**17 29 01.5**	**+0.7**
MT01				*e* S	**Sn**	**17 29 01.5**	**+0.7**
MT01				IAML		17 29 08.6	
	comp=N,1μm,0.2s						
MT01	**Popeta**	**1.94**	**185**		**Pn**	**17 28 37.6**	**+0.6**
ASAL	**Salagasta**	**1.98**	**110**	*e* P	**Pn**	**17 28 39.0**	**+1.4**
ASAL				*e* S	**Sn**	**17 29 01.0**	**-0.9**
ARCO	**CERRO ARCO**	**2.00**	**118**	*e* P	**Pn**	**17 28 39.5**	**+1.5**
CO05	**La Serena**	**2.00**	**355**	*e* P	**Pn**	**17 28 38.0**	**+0.2**
CO05				*i* S	**Sn**	**17 29 02.3**	**0.0**
CO05				IAML		17 29 06.4	
	comp=E,3μm,0.2s						
LMEL	**Las Melosas**	**2.04**	**160**	*e* P	**Pn**	**17 28 39.7**	**+1.2**
LMEL				*i* S	**Sn**	**17 29 05.8**	**+2.3**
LMEL				IAML		17 29 12.3	
	comp=N,2μm,0.2s						
ZON	**Zonda**	**2.05**	**80**	Pn	**Pn**	**17 28 38.8**	**+0.4**
RTCV	**Cerro Valdivia**	**2.13**	**89**	*e* P	**Pn**	**17 28 40.1**	**+0.6**
RTCV				*e* S	**Sn**	**17 29 07.3**	**+2.0**
ACCO	**Cerro Coronel**	**2.15**	**52**	*e* P	**Pn**	**17 28 41.1**	**+1.0**
ACCO				*e* S	**Sn**	**17 29 10.6**	**+4.3**
ACCO				IAML		17 29 12.6	
	comp=Z,872nm,1.7s						
AAGR	**Agrelo**	**2.20**	**122**	*e* P	**Pn**	**17 28 42.4**	**+1.9**
AAGR				*e* S	**Sn**	**17 29 09.7**	**+2.6**
AAGR				IAML		17 29 11.4	
	comp=Z,502nm,0.7s						
AROD	**Rodeo**	**2.21**	**38**	*e* P	**Pn**	**17 28 41.7**	**+0.9**
AROD				*e* S	**Sn**	**17 29 05.5**	**-2.1**
ACDV	**Cuesta del Vie**	**2.40**	**44**	*e* P	**Pn**	**17 28 44.7**	**+1.4**
ACDV				*e* P		17 28 44.8	
ACDV				*e* S	**Sn**	**17 29 15.6**	**+3.6**
ACDV				IAML		17 29 22.9	
	comp=Z,455nm,0.3s						
BO01	**Tunca**	**2.46**	**181**	*e* P	**Pn**	**17 28 44.5**	**+0.6**
BO01				IAML		17 29 34.8	
	comp=E,420nm,0.4s						
BO01	**Tunca**	**2.46**	**181**	Pn	**Pn**	**17 28 44.4**	**+0.5**
BO03	**Pichilemu**	**2.68**	**196**	*e* P	**Pn**	**17 28 46.7**	**-0.1**
BO03				IAML		17 29 32.5	
	comp=N,442nm,0.7s						
BO02	**Sierra Bellavi**	**2.87**	**176**	*e* P	**Pn**	**17 28 50.4**	**+0.9**
BO02				IAML		17 29 25.9	
	comp=N,952nm,0.3s						
BO02	**Sierra Bellavi**	**2.87**	**176**		**Pn**	**17 28 49.4**	**0.0**
BO02	**Sierra Bellavi**	**2.87**	**176**	*e* P	**Pn**	**17 28 49.5**	**0.0**
BO02				*e* S	**Sn**	**17 29 19.5**	**-3.6**
BO02				IAML		17 29 25.4	
	comp=Z,467nm,0.5s						
LCO	**Las Campanas**	**2.92**	**6**	*e* P	**Pn**	**17 28 50.2**	**0.0**
LCO				*i* S	**Sn**	**17 29 24.1**	**-0.5**
LCO	**Las Campanas**	**2.92**	**6**	Pn	**Pn**	**17 28 50.0**	**-0.2**
GO05	**Huala**	**3.17**	**193**	*e* P	**Pn**	**17 28 53.2**	**-0.2**
GO05				IAML		17 29 47.6	
	comp=N,247nm,0.4s						
GO05	**Huala**	**3.17**	**193**	Pn	**Pn**	**17 28 53.1**	**-0.2**
RFA	**San Rafael**	**3.56**	**144**	*e* P	**Pn**	**17 28 59.5**	**+0.7**
RFA				*e* S	Sn	17 29 56.0	+16
AC04	**Llanos de Chal**	**3.71**	**360**	*e* P	**Pn**	**17 29 00.9**	**+0.2**
AC04	**Llanos de Chal**	**3.71**	**360**	Pn	**Pn**	**17 29 00.9**	**+0.2**
PUMA	**Malargue**	**3.80**	**160**	*e* P	Pn	17 29 14.2	+12
ACHE	**Chepes**	**3.81**	**80**	*e* P	**Pn**	**17 29 01.7**	**-0.6**
ACHE				*e* S	**Sn**	**17 29 47.2**	**+1.1**
ML02	**Panimavida**	**3.84**	**185**		**Pn**	**17 29 02.4**	**-0.1**
VCA	**Vinchina**	**4.01**	**38**	*e* P	**Pn**	**17 29 06.0**	**+1.0**
VCA				IAML		17 30 03.4	
	comp=Z,399nm,0.9s						
APLL	**PUNTA DE LOS L**	**4.16**	**70**	*e* P	**Pn**	**17 29 06.4**	**-0.5**
APLL				IAML		17 29 58.9	
	comp=Z,175nm,1.3s						
ACLC	**CERRO LA CRUZ**	**4.31**	**56**	*e* P	**Pn**	**17 29 08.9**	**-0.2**
ACLC				*e* S	**Sn**	**17 29 53.0**	**-5.3**
ACLC				IAML		17 30 04.1	
	comp=Z,217nm,0.6s						
GO03	**Copiap**	**4.37**	**9**	‖ *i* P	**Pn**	**17 29 09.4**	**-0.4**
GO03	**Copiap**	**4.37**	**9**	Pn	**Pn**	**17 29 09.4**	**-0.4**
GO03	**Copiap**	**4.37**	**9**	*e* P	**Pn**	**17 29 09.7**	**-0.1**
GO03				*e* S	**Sn**	**17 30 03.5**	**+3.9**
MRA	**San Martin**	**4.54**	**98**	*e* P	Pn	17 29 05.5	-6.6
MRA				*e* P		17 29 11.0	
MRA				IAML		17 30 26.9	
	comp=Z,109nm,0.7s						
AANI	**Aníllaco**	**4.71**	**50**	*e* P	**Pn**	**17 29 16.5**	**+2.0**
BI02	**San Fabin de**	**4.73**	**182**	*e* P	**Pn**	**17 29 15.0**	**+0.3**
BI02	**San Fabin de**	**4.73**	**182**	Pn	**Pn**	**17 29 15.0**	**+0.3**
BI02	**San Fabin de**	**4.73**	**182**	*e* P	**Pn**	**17 29 15.3**	**+0.6**
AC02	**Maricunga**	**5.34**	**19**	Pn	**Pn**	**17 29 22.9**	**-0.5**
CYA	**Choya**	**5.71**	**54**	*e* P	**Pn**	**17 29 25.5**	**-2.5**
CYA				IAML		17 30 57.5	
	comp=Z,49nm,0.7s						
H03N1	**Juan Fernandez**	**6.81**	**255**	P	**Pn**	**17 29 45.6**	**+3.0**
	baz=116,slow=17,SNR=10.0						
H03N1				T	T	17 36 29.3	
	baz=83,slow=73,SNR=1167						
H03N3	**Juan Fernandez**	**6.82**	**255**	P	**Pn**	**17 29 44.9**	**+2.0**
	baz=116,slow=17,SNR=6.8						
H03N3				T	T	17 36 28.9	
	baz=83,slow=73,SNR=1086						
H03N2	**Juan Fernandez**	**6.82**	**255**	P	**Pn**	**17 29 46.0**	**+3.2**
	baz=116,slow=17,SNR=5.0						
H03N2				T	T	17 36 33.4	
	baz=83,slow=73,SNR=945						
GO02	**Mina Guanaco**	**6.86**	**11**	Pn	**Pn**	**17 29 41.2**	**-2.6**
LC01	**Cunco**	**6.99**	**185**	Pn	**Pn**	**17 29 43.7**	**-1.7**
LC01	**Cunco**	**6.99**	**185**	*e* P	**Pn**	**17 29 44.8**	**-0.6**
FSA	**Cafayete**	**7.29**	**39**	*e* P	**Pn**	**17 29 47.5**	**-2.2**
PB14	**IPOC Station P**	**7.29**	**5**	Pn	**Pn**	**17 29 46.0**	**-3.8**
PB14	**IPOC Station P**	**7.29**	**5**	*e* P	**Pn**	**17 29 46.4**	**-3.5**
PB14				IAML		17 31 35.9	
	comp=Z,41nm,0.9s						
PB15	**IPOC Station P**	**8.79**	**9**	*e* P	**Pn**	**17 30 06.2**	**-4.1**
PB15				IAML		17 32 36.9	
	comp=Z,37nm,0.7s						
PLCA	**Paso Flores**	**8.80**	**178**	P	Pn	17 30 16.5	+6.4
	comp=Z,0.1nm,0.3s,baz=36,slow=22,SNR=1.6						
CPUP	**Villa Florida**	**13.21**	**69**	LR	LR	17 36 57.1	
	comp=Z,44nm,19.4s,baz=294,slow=41						
LPAZ	**La Paz**	**15.79**	**10**	P	**Pn**	**17 31 42.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=172,slow=6.2,SNR=9.4						
LPAZ	**La Paz**	**15.79**	**10**	Pn	**Pn**	**17 31 42.7**	**-0.9**
SIV	**San Ignacio**	**18.27**	**32**	P	**P**	**17 32 10.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=23						
BDFB	**Brasilia**	**26.49**	**58**	P	**P**	**17 33 34.3**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=254,slow=7.1,SNR=4.0						
BDFB	**Brasilia**	**26.49**	**58**	IAmb	IAmb	17 33 36.1	
	comp=Z,4.2nm,0.6s						
SNAA	**Sanae**	**53.20**	**158**	P	**P**	**17 37 16.1**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=291,slow=12,SNR=1.7						
TXAR	**Lajitas Array**	**68.35**	**330**	P	**P**	**17 38 57.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=156,slow=8.9,SNR=2.3						
NVAR	**Mina Array Bea**	**82.67**	**324**	P	**P**	**17 40 21.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=160,slow=5.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P	**P**	**17 40 19.5**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=285,slow=6.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**82.71**	**70**	IAmb	IAmb	17 40 21.3	
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**122.98**	**209**	PKP	**PKiKP**	**17 46 52.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=156,slow=1.9,SNR=5.1						
H11S2	**WAKE ISLAND Hyl**	**26.62**	**270**	T	T	20 06 21.3	
	baz=117,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hyl**	**26.64**	**270**	T	T	20 06 22.3	
	baz=117,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyl**	**26.64**	**270**	T	T	20 06 22.5	
	baz=117,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hyl**	**26.98**	**272**	T	T	20 06 45.0	
	baz=116,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hyl**	**27.00**	**272**	T	T	20 06 46.2	
	baz=116,slow=75,SNR=6.2						
H11N2	**WAKE ISLAND Hyl**	**27.00**	**272**	T	T	20 06 46.3	
	baz=116,slow=75,SNR=22						
ZALV	**Zalesovo Beam**	**152.02**	**31**	PKPbc	**PKiKP**	**17 47 51.2**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=301,slow=3.4,SNR=13						
ZALV	**Zalesovo Beam**	**152.02**	**31**		**PKiKP**	**17 47 50.9**	**+0.2**
MKAR	**Makanchi Array**	**154.75**	**46**	PKPab	**PKPab**	**17 48 12.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=292,slow=4.3,SNR=13						
MKAR	**Makanchi Array**	**154.75**	**46**		**PKPab**	**17 48 12.3**	**+0.4**

*TUL **23** 17:33:19.9±1.2, 35°45N±0°04×97°12W±0°05, h6km±7km, ML3.0, mb_Lg2.6/37(NEIC), Error ellipse: s-maj=6.0km s-min=4.8km az=214.0*

NEIC 23 17:33:20.2±0.9, 35°45N±0°04×97°13W±0°05, h9km±6km, Error ellipse: s-maj=5.9km s-min=5.2km az=51.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.17**	**311**	Pg	Pg	17 33 24.0	+0.1
OK001				Sg	Sg	17 33 27.0	+0.6
OK025	**Westminster Rd**	**0.22**	**308**		Pg	17 33 24.8	+0.1
OK025				Sg	Sg	17 33 28.4	+0.7
OKCSW	**OKLAHOMA CITY**	**0.26**	**261**		Pg	17 33 24.8	-0.6
OKCSW				Sg	Sg	17 33 29.6	+0.8
FNO	**Franklin**	**0.29**	**230**		Pg	17 33 26.0	0.0
FNO				Sg	Sg	17 33 30.6	+0.7
OK029	**Liberty Lake**	**0.44**	**323**		Pg	17 33 28.7	-0.1
BCOK	**Bluff Creek, N**	**0.44**	**298**		Pg	17 33 28.9	0.0
OK031	**S. Brethren Rd**	**0.56**	**25**	Pg	Pg	17 33 30.6	-0.5
QUOK	**Quay**	**0.80**	**25**	Pg	Pg	17 33 34.8	-0.9
X34A	**Smith Ranch, M**	**1.02**	**215**	Pg	Pg	17 33 39.7	-0.1
CROK	**Carrier**	**1.26**	**327**		Pn	17 33 43.2	-0.8
LOOK	**Love County**	**1.45**	**182**	Pn	Pn	17 33 46.4	-0.2
GC02	**Grant County #**	**1.52**	**337**	Pn	Pn	17 33 47.7	+0.1
WMOK	**Wichita Mounta**	**1.53**	**243**		Pn	17 33 47.6	-0.1
T35A	**Sooner Cattle**	**1.55**	**19**	Pn	Pn	17 33 47.7	-0.4
KAN13	**South Haven SW**	**1.59**	**350**	Pn	Pn	17 33 48.7	+0.2
OK032	**Salt Plains WL**	**1.61**	**327**	Pn	Pn	17 33 48.8	-0.1
KAN17	**Caldwell West**	**1.68**	**342**	Pn	Pn	17 33 50.1	+0.4
X37A	**Clayton**	**1.68**	**120**		Pn	17 33 50.4	+0.6
X37A				IAmb_Lg		17 34 13.9	
	comp=Z,26nm,0.7s						
KAN09	**Caldwell North**	**1.73**	**347**	Pn	Pn	17 33 50.1	-0.4
KAN05	**Bluff City Nor**	**1.76**	**340**	Pn	Pn	17 33 51.2	+0.2
U32A	**Winter Ranch,**	**1.78**	**302**	Pn	Pn	17 33 51.9	+0.7
KS20	**Mayfield South**	**1.81**	**349**	Pn	Pn	17 33 51.2	-0.4
KS20				IAmb_Lg		17 34 19.8	
	comp=Z,37nm,0.9s						
HHAR	**Hobbs**	**2.72**	**71**	Pn	Pn	17 34 03.5	-0.6
HHAR				IAmb_Lg		17 34 51.9	
	comp=Z,14nm,0.8s						
W39A	**Magazine**	**2.75**	**94**	Pn	Pn	17 34 04.8	+0.3
MIAR	**Mount Ida**	**3.05**	**106**	Pn	Pn	17 34 08.7	+0.1
R32A	**Long Quarter,**	**3.23**	**337**	IAmb_Lg		17 35 05.3	
	comp=Z,21nm,1.0s						
U40A	**Yellville**	**3.59**	**74**	Pn	Pn	17 34 16.0	-0.1
X40A	**Basin Creek Fa**	**3.66**	**104**	IAmb_Lg		17 35 21.2	
	comp=Z,20nm,0.8s						
KSU1	**Kansas State U**	**3.67**	**6**	IAmb_Lg		17 35 24.4	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.77**	**263**	IAmb_Lg		17 35 28.6	
	comp=Z,12nm,0.8s						
CBKS	**Cedar Bluff**	**3.95**	**329**	IAmb_Lg		17 35 32.1	
	comp=Z,18nm,0.8s						
WHAR	**Wooly Hollow**	**3.96**	**91**	Pn	Pn	17 34 21.4	+0.3
WHAR				IAmb_Lg		17 35 28.2	
	comp=Z,13nm,0.9s						
MGMO	**Mountain Grove**	**4.28**	**65**	IAmb_Lg		17 35 44.4	
	comp=Z,10nm,0.8s						
435B	**Jarrell**	**4.67**	**185**	IAmb_Lg		17 35 58.5	
	comp=Z,12nm,0.7s						
LCAR	**Lake Charles**	**4.90**	**81**	IAmb_Lg		17 35 58.6	
	comp=Z,6.5nm,1.0s						
P38A	**Dawn**	**5.06**	**33**	Pn	Pn	17 34 36.6	+0.4
P38A				IAmb_Lg		17 36 08.3	
	comp=Z,9.4nm,0.7s						
T42A	**Van Buren**	**5.13**	**70**	IAmb_Lg		17 36 10.2	
	comp=Z,6.6nm,0.9s						
JCT	**Junction City**	**5.44**	**205**	IAmb_Lg		17 36 20.6	
	comp=Z,14nm,1.0s						
PBMO	**Poplar Bluff**	**5.58**	**74**	IAmb_Lg		17 36 26.4	
	comp=Z,8.5nm,0.8s						
P40A	**Paris**	**5.74**	**43**		Pn	17 34 47.5	+1.9
P40A				IAmb_Lg		17 36 24.9	
	comp=Z,8.5nm,0.8s						
PARMO	**Parma**	**6.10**	**76**	Pn	Pn	17 34 48.4	-2.1
T25A	**Trinidad**	**6.12**	**288**	IAmb_Lg		17 36 38.0	
	comp=Z,11nm,0.7s						
PHWY	**Pilot Hill**	**8.77**	**314**	IAmb_Lg		17 38 01.2	
	comp=Z,3.6nm,0.8s						

NEIC 23 17:34:04.8±0.6, 37°00N±0°04×97°95W±0°02, h7km±3km, Error ellipse: s-maj=5.8km s-min=2.0km az=201.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.12**	**30**		Pg	17 34 07.3	-0.1
KAN05					Sg	17 34 09.0	-0.3
KAN17	**Caldwell West**	**0.15**	**74**		Pg	17 34 08.1	+0.2
KAN17					Sg	17 34 10.3	+0.2
GC02	**Grant County #**	**0.17**	**155**	Pg	Pg	17 34 06.2	-2.0
KAN10	**Anthony SW Sta**	**0.17**	**316**		Pg	17 34 08.5	+0.3
KAN10					Sg	17 34 10.9	+0.3
KAN08	**Anthony NE Sta**	**0.22**	**355**		Pg	17 34 09.3	0.0
KAN08					Sg	17 34 12.2	-0.1
KAN06	**Argonia West S**	**0.26**	**16**		Pg	17 34 09.8	0.0
KAN06					Sg	17 34 13.2	-0.1
KAN09	**Caldwell North**	**0.30**	**63**		Pg	17 34 10.6	0.0
KAN09					Sg	17 34 14.7	+0.1
KAN12	**Harper NE Stat**	**0.30**	**352**		Pg	17 34 10.6	0.0
KAN12					Sg	17 34 14.6	0.0
KS21	**Milan North St**	**0.36**	**39**		Pg	17 34 11.8	-0.1
KS21					Sg	17 34 16.6	-0.1
KAN13	**South Haven SW**	**0.38**	**88**		Pg	17 34 12.3	+0.2
KAN13					Sg	17 34 17.4	+0.3
KS20	**Mayfield South**	**0.39**	**54**	Pg	Pg	17 34 10.3	-2.0
CBKS	**Cedar Bluff**	**2.29**	**322**	Pn	Pn	17 34 42.1	-1.0
AMTX	**Amarillo**	**3.69**	**236**	IAmb_Lg		17 36 07.2	
	comp=Z,9.1nm,0.8s						
N33A	**J Bar K, Exete**	**3.75**	**6**	IAmb_Lg		17 36 13.4	
	comp=Z,35nm,0.8s						
P38A	**Dawn**	**4.35**	**52**	IAmb_Lg		17 36 21.0	
	comp=Z,8.6nm,0.8s						
MGMO	**Mountain Grove**	**4.54**	**86**	Pn	Pn	17 35 12.8	-1.2
X40A	**Basin Creek Fa**	**4.86**	**120**		Pn	17 35 13.2	-5.1
WHAR	**Wooly Hollow**	**4.89**	**109**		Pn	17 35 17.6	-1.0
L34A	**Svendsen Farm,**	**5.10**	**13**	IAmb_Lg		17 36 51.8	
	comp=Z,18nm,0.7s						
T25A	**Trinidad**	**5.17**	**273**	IAmb_Lg		17 36 53.0	
	comp=Z,7.5nm,0.7s						
P40A	**Paris**	**5.28**	**60**	IAmb_Lg		17 36 51.0	
	comp=Z,7.4nm,0.9s						
N41A	**Harden Midland**	**6.66**	**54**	IAmb_Lg		17 37 46.3	
	comp=Z,9.6nm,1.1s						
OLIL	**Olney**	**7.98**	**75**	IAmb_Lg		17 38 30.2	
	comp=Z,17nm,1.0s						
O44A	**Mansfield**	**8.06**	**64**	IAmb_Lg		17 38 36.3	
	comp=Z,9.4nm,0.7s						

MEX 23 17:37:42.9±0.4, 14°87N×94°86W, h20km±13km, MD3.6, Off coast of Chiapas

*TUL **23** 17:44:27.1±2.3, 36°83N±0°04×98°25W±0°05, h6km±7km, ML2.9, mb_Lg2.6/66(NEIC), Error ellipse: s-maj=6.2km s-min=5.8km az=219.0*

NEIC 23 17:44:27.2±1.6, 36°84N±0°02×98°20W±0°05, h12km±7km, Error ellipse: s-maj=6.3km s-min=1.9km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.04**	**189**		Pg	17 44 28.7	-0.8
GC02	**Grant County #**	**0.28**	**88**		Pb	17 44 33.7	-0.4
KAN10	**Anthony SW Sta**	**0.29**	**17**		Pg	17 44 33.8	+0.5
KAN05	**Bluff City Nor**	**0.38**	**45**	Pg	Pb	17 44 35.5	-0.3
CROK	**Carrier**	**0.38**	**152**		Pg	17 44 35.0	+0.1
KAN17	**Caldwell West**	**0.40**	**60**		Pg	17 44 35.4	+0.1
KAN08	**Anthony NE Sta**	**0.43**	**26**		Pb	17 44 36.2	-0.5
KAN12	**Harper NE Stat**	**0.48**	**20**		Pg	17 44 35.4	-1.3
KAN09	**Caldwell North**	**0.55**	**58**	Pg	Pg	17 44 37.1	-0.9
KAN13	**South Haven SW**	**0.60**	**73**		Pg	17 44 38.6	-0.4
KS20	**Mayfield South**	**0.65**	**53**		Pg	17 44 39.3	-0.5
U32A	**Winter Ranch,**	**0.79**	**235**		Pg	17 44 41.8	-0.7
BLOK	**Blackwell**	**0.80**	**96**	Pg	Pg	17 44 42.6	0.0
OK029	**Liberty Lake**	**1.21**	**150**		Pn	17 44 49.8	-0.1
BCOK	**Bluff Creek, N**	**1.28**	**158**		Pn	17 44 50.7	-0.1
T35A	**Sooner Cattle**	**1.36**	**86**		Pg	17 44 53.0	-0.3
QUOK	**Quay**	**1.38**	**119**		Pb	17 44 52.6	-0.3
OK031	**S. Brethren Rd**	**1.41**	**129**	Pn	Pn	17 44 52.9	+0.2
OK025	**Westminster Rd**	**1.44**	**151**		Pn	17 44 53.4	+0.3
R32A	**Long Quarter,**	**1.63**	**346**		Pb	17 44 56.5	-0.6
WMOK	**Wichita Mounta**	**2.15**	**193**		Pn	17 45 03.4	+0.5
X34A	**Smith Ranch, M**	**2.26**	**172**	Pn	Pb	17 45 07.0	-0.9
X34A				IAmb_Lg		17 45 42.0	
	comp=Z,45nm,0.8s						
CBKS	**Cedar Bluff**	**2.31**	**329**		Pn	17 45 04.6	-0.5
KSU1	**Kansas State U**	**2.58**	**29**		Pn	17 45 08.7	-0.1
LOOK	**Love County**	**2.96**	**163**	Pn	Pn	17 45 12.0	-2.0
U38A	**Gravette**	**3.10**	**96**		Pn	17 45 15.1	-0.8
X37A	**Clayton**	**3.22**	**133**	IAmb_Lg		17 46 15.6	
	comp=Z,16nm,0.9s						

MPR IAML 18 11 52.9
comp=N,221nm,0.1s
LSP Las Mesas 0.18 70⇑ *eP* Pg 18 11 49.8 +0.5
LSP Las Mesas 0.18 70 *eS* Sg 18 11 52.8 +0.6
LSP Las Mesas 0.18 70 Pg 18 11 49.8 +0.5
LSP Sg 18 11 52.8 +0.6
MLPR Magueyes Islan 0.25 124⇑ *eP* Pg 18 11 50.2 -0.3
MLPR Magueyes Islan 0.25 124 *eS* Sg 18 11 54.4 +0.3
MLPR Magueyes Islan 0.25 124 Pg 18 11 50.2 -0.3
MLPR Sg 18 11 54.4 +0.3
MLPR Magueyes Islan 0.25 124 IAML 18 11 54.6
comp=E,184nm,0.4s
MLPR IAML 18 11 54.9
comp=N,109nm,0.2s
IDE Isla Desecheo 0.34 324⇑ *eP* Pg 18 11 52.2 +0.1
IDE Isla Desecheo 0.34 324 *eS* Sg 18 11 57.1 +0.5
IDE Isla Desecheo 0.34 324 Pg 18 11 52.2 +0.1
IDE Sg 18 11 57.1 +0.5
AGPR Aguadilla, PR 0.38 22⇑ *eP* Pg 18 11 52.5 -0.4
AGPR Aguadilla, PR 0.38 22 *eS* Sg 18 11 58.0 0.0
AGPR Aguadilla, PR 0.38 22 Pg 18 11 52.5 -0.4
AGPR Aguadilla, PR 0.38 22 Sg 18 11 58.0 0.0
AGPR Aguadilla, PR 0.38 22 IAML 18 11 57.7
comp=N,98nm,0.4s
AGPR IAML 18 11 58.0
comp=E,83nm,0.2s
AOPR Arecibo Observ 0.54 64⇑ *eP* Pg 18 11 55.2 -0.6
AOPR Arecibo Observ 0.54 64 Pg 18 11 55.2 -0.6
AOPR Arecibo Observ 0.54 64 IAML 18 12 03.0
comp=N,148nm,0.2s
AOPR IAML 18 12 04.3
comp=E,247nm,0.2s
OBIP Obispado Ponce 0.63 96⇑ *eP* Pg 18 11 56.9 -0.5
OBIP Obispado Ponce 0.63 96 *eS* Sg 18 12 05.3 -0.5
OBIP Obispado Ponce 0.63 96 Pg 18 11 56.9 -0.5
OBIP Sg 18 12 05.3 -0.5
CELP Cerrillos 0.65 93⇑ *eP* Pg 18 11 57.1 -0.8
CELP Cerrillos 0.65 93 *eS* Sg 18 12 05.9 -0.6
CELP Cerrillos 0.65 93 Pg 18 11 57.1 -0.8
CELP Sg 18 12 05.9 -0.6
EMPR Esperanza - Ma 0.79 63⇑ *eP* Pg 18 11 59.4 -1.0
EMPR Esperanza - Ma 0.79 63 *eS* Sg 18 12 09.9 -0.9
EMPR Esperanza - Ma 0.79 63 Pg 18 11 59.4 -1.0
EMPR Sg 18 12 09.9 -0.9
EMPR Esperanza - Ma 0.79 63 IAML 18 12 14.4
comp=N,78nm,0.4s
EMPR IAML 18 12 15.4
comp=E,114nm,0.8s
PDPR Patillas Dam, 1.19 94 Pn Pn 18 12 06.4 -1.1
PDPR IAML 18 12 31.1
comp=E,42nm,1.1s
HUMP Col San Antoni 1.35 89 Pn Pn 18 12 08.8 -0.9
HUMP IAML 18 12 28.2
comp=N,24nm,0.2s
HUMP IAML 18 12 28.2
comp=E,23nm,0.2s
CBYP Canovanas 1.35 83 Pn Pn 18 12 08.4 -1.4
MTP Monte Pirata 1.63 90 Pn Pn 18 12 13.5 -0.1
MTP IAML 18 13 08.7
comp=N,17nm,2.1s
MTP IAML 18 13 09.6
comp=E,13nm,3.4s

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*IDC **23** 18:12:59.5±0.8, 19°.46N×66°.08W, h0km, mb3.7/8, mb1 4.1/9, mb1mx3.8/32, mbtmp3.9/9, ML3.5/1, MS3.3/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=21.3km s-min=16.4km az=48.0*
*OSPL **23** 18:13:02.2±1.1, 19°.31N×65°.95W, h0km±110km, ML3.4*
*NEIC **23** 18:13:04.6±0.9, 19°.39N±0°.05×66°.11W±0°.04, h30km±6km, Error ellipse: s-maj=7.4km s-min=5.1km az=190.0*
*RSPR **23** 18:13:06.0, 19°.38N×66°.10W, h52km±5km, MD3.6/20*
ISC 23 18:13:01.5±0.6, 19°.43N±0°.04×66°.10W±0°.03, h14km, n119, σ1°.13/128, mb3.8/7, 16C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.03**	**203**	*eP*	**Pb**	**18 13 22.2**	**+1.1**
EMPR	**Esperanza - Ma**	**1.03**	**203**	*eS*	**Sg**	**18 13 36.0**	**+1.1**
EMPR	**Esperanza - Ma**	**1.03**	**203**		**Pb**	**18 13 22.2**	**+1.1**
EMPR					**Sg**	**18 13 36.0**	**+1.1**
EMPR	**Esperanza - Ma**	**1.03**	**203**	IAML		18 13 45.2	
	comp=E,5μm,0.7s						
EMPR				IAML		18 13 47.1	
	comp=N,4μm,0.6s						
GCPR	**Guaynabo City**	**1.11**	**179⇑**	*eP*	**Pb**	**18 13 23.1**	**+0.5**
GCPR	**Guaynabo City**	**1.11**	**179**	*eS*	**Sb**	**18 13 37.4**	**+0.5**
GCPR	**Guaynabo City**	**1.11**	**179**		**Pb**	**18 13 23.1**	**+0.5**
GCPR					**Sb**	**18 13 37.4**	**+0.5**
GCPR	**Guaynabo City**	**1.11**	**179**	IAML		18 13 37.8	
	comp=E,2μm,1.1s						
CBYP	**Canovanas**	**1.17**	**169⇑**	*eP*	**Pb**	**18 13 24.2**	**+0.5**
CBYP	**Canovanas**	**1.17**	**169**	*eS*	**Sb**	**18 13 38.9**	**+0.2**
CBYP	**Canovanas**	**1.17**	**169**		**Pb**	**18 13 24.2**	**+0.5**
CBYP					**Sb**	**18 13 38.9**	**+0.2**
CBYP	**Canovanas**	**1.17**	**169**	IAML		18 13 47.3	
	comp=E,4μm,0.2s						
AOPR	**Arecibo Observ**	**1.24**	**210⇑**	*eP*	**Pn**	**18 13 25.0**	**+0.5**
AOPR	**Arecibo Observ**	**1.24**	**210**	*eS*	**Sb**	**18 13 41.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.24**	**210**		**Pn**	**18 13 25.0**	**+0.5**
AOPR					**Sb**	**18 13 41.0**	**+0.3**
HUMP	**Col San Antoni**	**1.30**	**169⇑**	*eP*	**Pn**	**18 13 26.2**	**+0.9**
HUMP	**Col San Antoni**	**1.30**	**169**	*eS*	**Sb**	**18 13 41.9**	**-0.5**
HUMP	**Col San Antoni**	**1.30**	**169**		**Pn**	**18 13 26.2**	**+0.9**
HUMP					**Sb**	**18 13 41.9**	**-0.5**
HUMP	**Col San Antoni**	**1.30**	**169**	IAML		18 13 43.4	
	comp=E,1μm,0.8s						
SJG	**San Juan**	**1.31**	**182**	Pn	**Pn**	**18 13 25.8**	**+0.3**
	comp=E,48nm,0.3s,baz=13,slow=8.1,SNR=80						
SJG				Sn	**Sb**	**18 13 42.1**	**-0.5**
	comp=E,190nm,0.3s,baz=234,slow=18,SNR=15						
SJG				LR	LR	18 14 02.6	
	comp=E,524nm,18.8s,baz=62,slow=47						
SJG	**San Juan**	**1.31**	**182**		**Pn**	**18 13 26.0**	**+0.5**
SJG				IAML		18 13 48.0	
	comp=E,2μm,0.6s						
SJG				IAML		18 13 54.8	
	comp=E,2μm,0.9s						
SJG	**San Juan**	**1.31**	**182**	*eP*	**Pn**	**18 13 25.7**	**+0.3**
SJG				*eS*	**Sb**	**18 13 41.0**	**-1.6**
AGPR	**Aguadilla, PR**	**1.35**	**225⇑**	*eP*	**Pn**	**18 13 27.1**	**+1.1**
AGPR	**Aguadilla, PR**	**1.35**	**225**		**Pn**	**18 13 25.9**	**-0.1**
AGPR				IAML		18 14 02.6	
	comp=N,1μm,0.7s						
AGPR	**Aguadilla, PR**	**1.35**	**225**	*i* P	**Pn**	**18 13 26.5**	**+0.5**
AGPR				*eS*	**Sn**	**18 13 44.4**	**+0.7**
AGPR				IAML		18 13 57.1	
	comp=Z,450nm,0.5s						
CUPR	**Culebra, Puert**	**1.36**	**145⇓**	*eP*	**Pn**	**18 13 26.7**	**+0.6**
CUPR	**Culebra, Puert**	**1.36**	**145**	*eS*	**Sb**	**18 13 43.8**	**-0.2**
CUPR	**Culebra, Puert**	**1.36**	**145**		**Pn**	**18 13 26.7**	**+0.6**
CUPR					**Sb**	**18 13 43.8**	**-0.2**
PDPR	**Patillas Dam,**	**1.40**	**177⇑**	*eP*	**Pn**	**18 13 27.5**	**+0.8**
PDPR	**Patillas Dam,**	**1.40**	**177**	*eS*	**Sn**	**18 13 44.7**	**-0.4**
PDPR	**Patillas Dam,**	**1.40**	**177**		**Pn**	**18 13 27.5**	**+0.8**
PDPR					**Sn**	**18 13 44.7**	**-0.4**
PDPR	**Patillas Dam,**	**1.40**	**177**	IAML		18 13 45.9	
	comp=E,2μm,0.8s						
CELP	**Cerrillos**	**1.42**	**199⇑**	*eP*	**Pn**	**18 13 27.8**	**+0.9**
CELP	**Cerrillos**	**1.42**	**199**	*eS*	**Sn**	**18 13 45.1**	**-0.4**
CELP	**Cerrillos**	**1.42**	**199**		**Pn**	**18 13 27.8**	**+0.9**
CELP					**Sn**	**18 13 45.1**	**-0.4**
MTP	**Monte Pirata**	**1.42**	**158⇓**	*eP*	**Pn**	**18 13 27.8**	**+0.8**
MTP	**Monte Pirata**	**1.42**	**158**	*eS*	**Sn**	**18 13 45.0**	**-0.5**
MTP	**Monte Pirata**	**1.42**	**158**		**Pn**	**18 13 27.8**	**+0.8**
MTP					**Sn**	**18 13 45.0**	**-0.5**
IGPR	**InterUniversit**	**1.46**	**180⇑**	*eP*	**Pn**	**18 13 28.3**	**+0.9**
IGPR	**InterUniversit**	**1.46**	**180**	*eS*	**Sn**	**18 13 45.7**	**-0.6**
IGPR	**InterUniversit**	**1.46**	**180**		**Sn**	**18 13 45.7**	**-0.6**
OBIP	**Obispado Ponce**	**1.46**	**199⇑**	*eP*	**Pn**	**18 13 28.5**	**+1.0**
OBIP	**Obispado Ponce**	**1.46**	**199**	*eS*	**Sn**	**18 13 45.9**	**-0.5**
OBIP	**Obispado Ponce**	**1.46**	**199**		**Pn**	**18 13 28.5**	**+1.0**
OBIP					**Sn**	**18 13 45.9**	**-0.5**
OBIP	**Obispado Ponce**	**1.46**	**199**	IAML		18 13 49.7	
	comp=E,1μm,1.3s						
OBIP				IAML		18 13 54.3	
	comp=N,1μm,0.7s						
STVI	**Saint Thomas**	**1.53**	**134⇓**	*eP*	**Pn**	**18 13 29.7**	**+1.3**
STVI	**Saint Thomas**	**1.53**	**134**	*eS*	**Sn**	**18 13 48.7**	**+0.6**
STVI	**Saint Thomas**	**1.53**	**134**		**Pn**	**18 13 29.7**	**+1.3**
STVI					**Sn**	**18 13 48.7**	**+0.6**
STVI	**Saint Thomas**	**1.53**	**134**	IAML		18 13 55.1	
	comp=E,1μm,1.0s						
STVI				IAML		18 13 55.2	
	comp=N,1μm,0.9s						
LSP	**Las Mesas**	**1.56**	**217⇑**	*eP*	**Pn**	**18 13 29.9**	**+1.1**
LSP	**Las Mesas**	**1.56**	**217**	*eS*	**Sn**	**18 13 48.5**	**-0.3**
LSP	**Las Mesas**	**1.56**	**217**		**Pn**	**18 13 29.9**	**+1.1**
LSP					**Sn**	**18 13 48.5**	**-0.3**
MPR	**Mayaguez**	**1.56**	**219**		**Pn**	**18 13 29.1**	**+0.3**
MPR				IAML		18 13 59.3	
	comp=N,896nm,0.7s						
MPR	**Mayaguez**	**1.56**	**219**	*i* P	**Pn**	**18 13 29.4**	**+0.6**
MPR				*eS*	**Sn**	**18 13 50.2**	**+1.4**
MPR				IAML		18 13 58.3	
	comp=Z,453nm,0.8s						
ICMP	**Isla Caja de M**	**1.58**	**195⇑**	*eP*	**Pn**	**18 13 30.6**	**+1.3**
ICMP	**Isla Caja de M**	**1.58**	**195**	*eS*	**Sn**	**18 13 49.8**	**+0.3**
ICMP	**Isla Caja de M**	**1.58**	**195**		**Pn**	**18 13 30.6**	**+1.3**
ICMP					**Sn**	**18 13 49.8**	**+0.3**
ICMP	**Isla Caja de M**	**1.58**	**195**	IAML		18 13 59.9	
	comp=N,1μm,1.1s						
ICMP				IAML		18 14 00.4	
	comp=E,1μm,0.8s						
GBPR	**Guanica, Bosqu**	**1.62**	**207⇑**	*eP*	**Pn**	**18 13 31.0**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.62**	**207**		**Pn**	**18 13 31.0**	**+1.3**
IDE	**Isla Desecheo**	**1.66**	**232⇑**	*eP*	**Pn**	**18 13 31.4**	**+1.1**
IDE	**Isla Desecheo**	**1.66**	**232**	*eS*	**Sn**	**18 13 51.7**	**+0.3**
IDE	**Isla Desecheo**	**1.66**	**232**		**Pn**	**18 13 31.4**	**+1.1**
IDE					**Sn**	**18 13 51.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.70**	**212⇓**	*eP*	**Pn**	**18 13 31.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.70**	**212**	*eS*	**Sn**	**18 13 51.7**	**-0.7**
MLPR	**Magueyes Islan**	**1.70**	**212**		**Pn**	**18 13 31.1**	**+0.2**
MLPR					**Sn**	**18 13 51.7**	**-0.7**
TBVI	**Tortola**	**1.73**	**125⇑**	*eP*	**Pn**	**18 13 32.5**	**+1.3**
TBVI	**Tortola**	**1.73**	**125**		**Pn**	**18 13 32.5**	**+1.3**
ABVI	**Anegada Island**	**1.81**	**112**		**Pn**	**18 13 33.2**	**+0.9**
VGBI	**Virgin Gorda,**	**1.86**	**120⇑**	*eP*	**Pn**	**18 13 34.6**	**+1.6**
VGBI	**Virgin Gorda,**	**1.86**	**120**		**Pn**	**18 13 34.6**	**+1.6**
CDVI	**St. Croix**	**2.09**	**143**	Pn	**Pn**	**18 13 38.5**	**+2.3**
PCDR	**Punta Cana, DR**	**2.34**	**248⇓**	*eP*	**Pn**	**18 13 41.3**	**+1.7**
PCDR	**Punta Cana, DR**	**2.34**	**248**	*i* P	**Pn**	**18 13 41.3**	**+1.7**
PCDR	**Punta Cana, DR**	**2.34**	**248**	IAML		18 14 42.4	
	comp=N,621nm,0.8s						
PCDR	**Punta Cana, DR**	**2.34**	**248**	*i* P	**Pn**	**18 13 41.2**	**+1.7**
PCDR				IAML		18 14 12.9	
	comp=Z,322nm,0.6s						
SMRT	**St. Maarten**	**3.18**	**115**	Pn	**Pn**	**18 13 52.5**	**+1.3**
SMRT				IAML		18 14 46.2	
	comp=E,291nm,0.5s						
SMRT				IAML		18 14 48.8	
	comp=N,430nm,0.6s						
SABA	**Saba**	**3.25**	**123**	Pn	**Pn**	**18 13 53.5**	**+1.3**
SABA				IAML		18 15 02.1	
	comp=N,405nm,0.8s						
SKI	**Saint Kitts**	**3.81**	**123**	Pn	**Pn**	**18 14 00.2**	**+0.3**
ANWB	**Willy Bob**	**4.45**	**112**	Pn	**Pn**	**18 14 09.7**	**+1.0**
ANWB				IAML		18 15 23.5	
	comp=N,166nm,1.1s						
ANWB				IAML		18 15 42.5	
	comp=N,160nm,1.2s						
SDDR	**Presa de Saban**	**4.92**	**266**	Pn	**Pn**	**18 14 17.2**	**+2.0**
SDDR	**Presa de Saban**	**4.92**	**266**	*eP*	**Pn**	**18 14 17.4**	**+2.3**
SDDR	**Presa de Saban**	**4.92**	**266**	*i* P	**Pn**	**18 14 17.6**	**+2.4**
GRTK	**Grand Turk**	**5.15**	**295**	Pn	**Pn**	**18 14 18.3**	**0.0**
GRTK				IAML		18 15 30.0	
	comp=N,110nm,0.8s						
H05N1	**Guadeloupe/Mar**	**5.71**	**122**	Pn	**Pn**	**18 14 26.8**	**+0.8**
H05N1				Sn	**Sn**	**18 15 33.3**	**+1.8**
SDV	**Santo Domingo**	**11.36**	**203**	LR	LR	18 20 45.9	
	comp=N,123nm,20.9s,baz=34,slow=41						
SMLC	**San Martn de**	**13.08**	**217**	*eP*	**Pn**	**18 16 03.6**	**-3.5**
ZARC	**Zaragoza, Cauc**	**14.60**	**217**	*eP*	**P**	**18 16 34.3**	**+0.1**
UREC	**San Jos de Ur**	**14.78**	**220**	*eP*	**Pn**	**18 16 31.4**	**+1.1**
RUSC	**La Rusia**	**15.07**	**208**	Pn	**Pn**	**18 16 32.0**	**-2.7**
RUSC				IAmb	IAmb	18 17 09.6	
	comp=Z,17nm,1.0s						
DBBC	**Dabeiba**	**15.77**	**220**	*eP*	**P**	**18 16 47.5**	**+0.2**
NORC	**Norcasia**	**16.21**	**213**	*eP*	**Pn**	**18 16 48.7**	**-0.4**
ROSC	**El Rosal**	**16.57**	**210**	Pn	**Pn**	**18 16 55.6**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=171,slow=14,SNR=3.8						
ROSC	**El Rosal**	**16.57**	**210**	IAmb	IAmb	18 17 14.0	
	comp=Z,16nm,0.6s						
GUY2C	**Guyana, Caldas**	**16.76**	**214**	*eP*	**Pn**	**18 16 57.8**	**+1.3**
TOLC	**Tolima**	**17.28**	**213**	*eP*	**Pn**	**18 17 01.0**	**-1.8**
PLMC	**San Jos del P**	**17.52**	**216**	*eP*	**Pn**	**18 17 06.8**	**+1.2**
ORTC	**Ortega, Tolima**	**17.82**	**211**	*eP*	**Pn**	**18 17 08.4**	**-1.0**
GUVC	**San Jose del G**	**17.95**	**202**	*eP*	**Pn**	**18 17 08.7**	**-2.2**
JTS	**Las Juntas de**	**20.34**	**246**	P	**P**	**18 17 37.9**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=207,slow=22,SNR=2.4						
BBAC	**Balboa, Cauca**	**20.45**	**214**	*eP*	**P**	**18 17 39.3**	**+0.3**
HODGE	**Hodges**	**20.58**	**319**	P	**P**	**18 17 41.1**	**+1.0**
HODGE				IAmb	IAmb	18 17 53.0	
	comp=Z,22nm,1.4s						
KMSC	**Kings Mountain**	**20.65**	**322**	Pn	**P**	**18 17 43.2**	**+2.3**
KMSC				IAmb	IAmb	18 18 13.6	
	comp=Z,16nm,1.3s						
GOGA	**Godfrey**	**20.83**	**315**	P	**P**	**18 17 44.4**	**+1.6**
GOGA				IAmb	IAmb	18 18 29.2	
	comp=Z,25nm,1.7s						
PTGA	**Pitinga**	**20.92**	**163**	P	**P**	**18 17 43.2**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=332,slow=14,SNR=5.2						
BLA	**Blacksburg**	**21.70**	**328**	P	**P**	**18 17 49.9**	**-2.3**
SDMD	**Soldier's Deli**	**21.97**	**337**	P	**P**	**18 17 53.7**	**-1.3**
SDMD				IAmb	IAmb	18 18 16.3	
	comp=Z,14nm,1.6s						
MTO3	**Montecristo**	**22.80**	**261**	P	**P**	**18 18 04.0**	**-0.3**
TXAR	**Lajitas Array**	**35.48**	**293**	P	**P**	**18 19 58.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=115,slow=10.0,SNR=20						
PDAR	**Pinedale Array**	**43.27**	**312**	P	**P**	**18 21 03.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=115,slow=6.1,SNR=4.9						
NVAR	**Mina Array Bea**	**48.78**	**304**	P	**P**	**18 21 47.6**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=102,slow=5.0,SNR=4.9						
NVAR				LR	LR	18 44 37.5	
	comp=Z,52nm,18.7s,baz=100,slow=39						
NVAR	**Mina Array Bea**	**48.78**	**304**	P	**P**	**18 21 46.6**	**+0.1**
ESDC	**Sonseca Array**	**56.59**	**55**	P	**P**	**18 22 44.6**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=272,slow=8.2,SNR=6.7						
ESDC				LR	LR	18 42 12.0	
	comp=Z,25nm,22.0s,baz=240,slow=31						
TORD	**Torodi Ar. Bea**	**65.03**	**84**	P	**P**	**18 23 41.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=297,slow=6.9,SNR=1.9						
ILAR	**Eielson Array**	**68.68**	**333**	P	**P**	**18 24 02.7**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=101,slow=4.7,SNR=4.1						
ILAR	**Eielson Array**	**68.68**	**333**	P	**P**	**18 24 01.5**	**-2.8**
STKA	**Stephens Creek**	**152.21**	**238**	PKPbc	**PKPbc**	**18 32 57.1**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=174,slow=5.5,SNR=3.6						
STKA	**Stephens Creek**	**152.21**	**238**		**PKPdf**	**18 32 49.0**	**-1.7**
ASAR	**Alice Springs**	**160.92**	**254**	PKPab	**PKPab**	**18 33 43.9**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=106,slow=4.9,SNR=4.4						

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*IDC **23** 18:19:18.4±1.4, 10°.08N×126°.46E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/34, mbtmp3.6/8, Error ellipse: s-maj=185.8km s-min=18.5km az=69.0*
*MAN **23** 18:19:22.7, 10°.16N×126°.54E, h20km, mb5.0, ML3.9, MS4.0*
ISC 23 18:19:24.0±0.9, 10°.13N±0°.09×126°.72E±0°.09, h42km, n13, σ0°.93/16, mb3.6/8, 3C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.83**	**270⇑**	*iP*	**Pn**	**18 19 51.1**	**-1.9**
MSLP				*i* S	**Sn**	**18 20 16.4**	**+1.4**
CGP	**Cagayan de Oro**	**2.60**	**230⇓**	*eP*	**Pn**	**18 20 03.4**	**-0.2**
CGP				*eS*	**Sn**	**18 20 33.3**	**-0.6**
LLP	**Lapu-Lapu**	**2.71**	**274⇓**	*eP*	**Pn**	**18 20 05.5**	**+0.3**
LLP				*eS*	**Sn**	**18 20 38.3**	**+1.2**
CNOP	**Candoni, Negro**	**4.03**	**266⇑**	*iP*	**Pn**	**18 20 22.3**	**-0.9**
CNOP				*i* S	Sn	18 21 16.2	+7.1
RCP	**Roxas**	**4.15**	**290⇑**	*eP*	**Pn**	**18 20 24.2**	**-0.8**
WRA	**Warramunga Arr**	**30.81**	**166**	P	**P**	**18 25 35.9**	**-0.2**
	0.3nm,0.8s,baz=345,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**34.32**	**168**	P	**P**	**18 26 06.9**	**+0.1**
	0.2nm,0.4s,baz=352,slow=6.8,SNR=6.0						
SONM	**Songino Array**	**41.30**	**339**	P	**P**	**18 27 05.2**	**-0.4**
	0.3nm,0.5s,baz=153,slow=9.4,SNR=2.9						
STKA	**Stephens Creek**	**44.13**	**162**	P	**P**	**18 27 29.1**	**+0.6**
	0.6nm,0.4s,baz=314,slow=13,SNR=1.3						
MKAR	**Makanchi Array**	**52.40**	**323**	P	**P**	**18 28 32.0**	**-0.3**
	0.3nm,0.5s,baz=114,slow=7.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**54.96**	**331**	P	**P**	**18 28 50.1**	**-0.7**
	0.3nm,0.2s,baz=159,slow=6.0,SNR=4.4						
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**18 31 52.9**	**+0.8**
	1.5nm,0.7s,baz=82,slow=7.4,SNR=6.1						
FINES	**FINESS Array B**	**86.22**	**332**	P	**P**	**18 32 01.6**	**+0.6**
	0.9nm,0.6s,baz=67,slow=3.6,SNR=4.9						

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*IDC **23** 18:32:02.8±1.3, 19°.23N×66°.18W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.6/3, MS3.1/2, Ms1 3.2/2, ms1mx2.7/25, Error ellipse: s-maj=55.1km s-min=22.9km az=18.0*
*OSPL **23** 18:32:05.7±0.9, 19°.34N×65°.96W, h6km±51km, ML3.6*
*RSPR **23** 18:32:09.5, 19°.36N×66°.14W, h56km±5km, MD3.8/20*
*NEIC **23** 18:32:18.0±3.6, 18°.18N±0°.04×66°.210W±0°.007, h10km±1km, Error ellipse: s-maj=7.0km s-min=2.6km az=352.0*
ISC 23 18:32:05.0±1.4, 19°.37N±0°.05×66°.13W±0°.02, h10km±9km, n107, σ0°.93/119, mb3.7/3, 16C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.97**	**203⇑**	*eP*	**Pn**	**18 32 25.6**	**+0.9**
EMPR	**Esperanza - Ma**	**0.97**	**203**	*eS*	**Sn**	**18 32 39.0**	**+0.6**
EMPR	**Esperanza - Ma**	**0.97**	**203**		**Pn**	**18 32 25.1**	**+0.5**
EMPR				IAML		18 32 47.2	
	comp=E,5μm,0.5s						
EMPR	**Esperanza - Ma**	**0.97**	**203**		**Sn**	**18 32 39.0**	**+0.6**
GCPR	**Guaynabo City**	**1.06**	**178⇑**	*eP*	**Pn**	**18 32 26.6**	**+0.7**
GCPR	**Guaynabo City**	**1.06**	**178**	*eS*	**Sn**	**18 32 41.0**	**+0.2**
GCPR	**Guaynabo City**	**1.06**	**178**	Pn	**Pb**	**18 32 25.6**	**+0.1**
GCPR				IAML		18 32 41.2	
	comp=E,3μm,0.8s						
GCPR	**Guaynabo City**	**1.06**	**178**		**Sn**	**18 32 41.0**	**+0.2**
CBYP	**Canovanas**	**1.12**	**167⇓**	*eP*	**Pn**	**18 32 27.8**	**+0.9**
CBYP	**Canovanas**	**1.12**	**167**	*eS*	**Sn**	**18 32 42.3**	**-0.2**
CBYP	**Canovanas**	**1.12**	**167**		**Pn**	**18 32 27.8**	**+0.9**
CBYP					**Sn**	**18 32 42.3**	**-0.2**
CBYP	**Canovanas**	**1.12**	**167**	IAML		18 32 49.3	
	comp=N,4μm,0.2s						
AOPR	**Arecibo Observ**	**1.18**	**210⇑**	*eP*	**Pn**	**18 32 28.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.18**	**210**	*eS*	**Sn**	**18 32 43.6**	**-0.2**
AOPR	**Arecibo Observ**	**1.18**	**210**	*eP*	**Pn**	**18 32 28.0**	**+0.4**
AOPR				*eS*	**Sn**	**18 32 45.3**	**+1.5**
AOPR	**Arecibo Observ**	**1.18**	**210**		**Pn**	**18 32 28.4**	**+0.8**
AOPR					**Sn**	**18 32 43.6**	**-0.2**
HUMP	**Col San Antoni**	**1.25**	**168⇓**	*eP*	**Pn**	**18 32 29.5**	**+0.9**
HUMP	**Col San Antoni**	**1.25**	**168**	*eS*	**Sn**	**18 32 45.9**	**+0.3**
HUMP	**Col San Antoni**	**1.25**	**168**		**Pn**	**18 32 29.5**	**+0.9**
HUMP					**Sn**	**18 32 45.9**	**+0.3**
HUMP	**Col San Antoni**	**1.25**	**168**	IAML		18 32 55.6	
	comp=E,1μm,0.6s						
HUMP				IAML		18 32 56.3	
	comp=N,1μm,0.4s						
SJG	**San Juan**	**1.25**	**181**	*eP*	**Pn**	**18 32 29.2**	**+0.7**
SJG				*eS*	**Sb**	**18 32 45.1**	**+0.1**
SJG	**San Juan**	**1.25**	**181**		**Pn**	**18 32 29.3**	**+0.7**
SJG				IAML		18 32 50.2	
	comp=N,2μm,0.4s						
SJG				IAML		18 32 50.4	
	comp=N,1μm,0.4s						
SJG	**San Juan**	**1.25**	**181**	*eP*	**Pn**	**18 32 29.4**	**+0.8**
SJG				*eS*	**Sg**	**18 32 44.2**	**-1.2**
AGPR	**Aguadilla, PR**	**1.29**	**226⇑**	*eP*	**Pg**	**18 32 30.4**	**+0.6**
AGPR	**Aguadilla, PR**	**1.29**	**226**	*eS*	**Sn**	**18 32 46.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29**	**226**		**Pn**	**18 32 29.3**	**+0.1**
AGPR				IAML		18 33 04.5	
	comp=N,978nm,0.5s						
AGPR	**Aguadilla, PR**	**1.29**	**226**		**Sn**	**18 32 46.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.29**	**226**	*i* P	**Pn**	**18 32 29.3**	**+0.1**
AGPR				*eS*	**Sn**	**18 32 48.2**	**+1.7**
AGPR				IAML		18 33 06.3	
	comp=Z,522nm,0.6s						
CUPR	**Culebra, Puert**	**1.33**	**143⇓**	*eP*	**Pg**	**18 32 30.9**	**+0.3**
CUPR	**Culebra, Puert**	**1.33**	**143**	*eS*	**Sg**	**18 32 47.6**	**-0.3**
CUPR	**Culebra, Puert**	**1.33**	**143**	Pn	**Pn**	**18 32 29.8**	**+0.1**
CUPR	**Culebra, Puert**	**1.33**	**143**		**Sg**	**18 32 47.6**	**-0.3**
PDPR	**Patillas Dam,**	**1.35**	**176⇑**	*eP*	**

SDDR eS Sn 18 34 14.8 -0.6
SDDR IAML 18 34 18.5
comp=Z,84nm,0.5s
CBE Ff, Capester 5.42 127 e Pn 18 33 32.0 +6.0
H05N1 Guadeloupe/Mar 5.71 121 Pn Pn 18 33 27.5 -2.5
H05N1 Sn Sn 18 34 36.5 +0.9
MAGL Barre de l'ile 5.74 126 e Pn 18 33 31.4 +1.0
ELOV Elorza 12.72 195 eP Pn 18 35 09.1 +3.0
BARC Barichara 14.44 209 eP Pn 18 35 31.2 +1.4
ZARC Zaragoza, Cauc 14.53 217 eP P 18 35 36.8 -0.7
UREC San Jos de Ur 14.72 220 eP Pn 18 35 32.0 -1.4
RUSC La Rusia 15.01 208 P Pn 18 35 39.9 +2.0
RUSC La Rusia 15.01 208 eP Pn 18 35 37.8 -0.1
DBBC Dabeiba 15.71 220 eP P 18 35 50.2 -0.5
NORC Norcasia 16.15 213 eP Pn 18 35 53.1 +0.8
GUY2C Guyana, Caldas 16.70 214 eP Pn 18 35 58.8 -0.9
TOLC Tolima 17.21 213 eP Pn 18 36 06.5 +0.4
PLMC San Jos del P 17.46 216 eP Pn 18 36 09.0 +0.1
TXAR Lajitas Array 35.47 294 P P 18 39 01.6 -0.5
comp=Z,0.9nm,0.8s,baz=103,slow=7.6,SNR=10
NVAR Mina Array Bea 48.79 304 P P 18 40 49.5 -1.2
comp=Z,0.4nm,0.8s,baz=103,slow=6.6,SNR=2.1
ESDC Sonseca Array 56.64 55 P P 18 41 49.1 +0.4
comp=Z,0.8nm,0.9s,baz=262,slow=6.4,SNR=4.9
ESDC LR LR 19 00 32.1
comp=Z,17nm,21.4s,baz=260,slow=30
NOA NORSAR Array B 67.13 31 LR LR 19 08 59.2
comp=Z,12nm,19.8s,baz=260,slow=33
ASAR Alice Springs 160.88 254 PKPab PKPab 18 52 48.0 -0.9
comp=Z,0.2nm,0.8s,baz=101,slow=4.4,SNR=4.2

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*IDC **23** 18:39:41.1±0.7, 14°.26N×147°.15E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.2/43, mbtmp4.2/23, ML4.8/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/46, Error ellipse: s-maj=18.2km s-min=12.5km az=102.0*
*DJA **23** 18:39:41.3±1.5, 14°N±3°.×14°.7E±°, h14km±10km, M5.3/73, mb5.0/73, mB6.0/13, MLv4.8/1, Mw(mB)5.6/13, MwMwp6.2/1, Mwp6.2/1*
*NEIC **23** 18:39:43.3±2.3, 14°.13N±0°.06×147°.15E±0°.08, h10km±1km, mb4.7/38, Error ellipse: s-maj=13.5km s-min=9.9km az=94.0*

ISC 23 18:39:42.6±0.5, 14°22N±0°.06×147°.19E±0°.08, h10km, n146, σ1°.15/132, mb4.7/92, MS3.4/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**255**	Pn	**Pn**		**18 40 20.8**	**-0.2**
	263nm,0.3s,baz=86,slow=4.2,SNR=305							
GUMO				Sn	**Sn**		**18 40 48.7**	**-1.1**
	398nm,0.3s,baz=13,slow=21,SNR=36							
GUMO	**Guam**	**2.33**	**255**	P	**Pn**		**18 40 21.7**	**+0.6**
ANA2	**Anatahan**	**2.55**	**326**		**Pn**		**18 40 25.8**	**+1.7**
ANA2	**Anatahan**	**2.55**	**326**	P	**Pn**		**18 40 26.2**	**+2.2**
SARN	**Sarigan**	**2.82**	**331**	P	**Pn**		**18 40 29.4**	**+1.6**
PATS	**Pohnpei**	**13.17**	**123**	Pn	Pn		18 42 44.9	-4.9
MANU	**Manus Island**	**16.16**	**179**	Pn	**Pn**		**18 43 29.4**	**-0.5**
H11S3	**WAKE ISLAND Hy**	**19.19**	**75**	T	T		19 03 11.9
	baz=263,slow=73							
H11S1	**WAKE ISLAND Hy**	**19.20**	**75**	T	T		19 02 49.8
	baz=263,slow=73							
H11S2	**WAKE ISLAND Hy**	**19.20**	**75**	T	T		19 03 14.7
	baz=263,slow=73							
H11N1	**WAKE ISLAND Hy**	**19.62**	**71**	T	T		19 03 45.2
	baz=256,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy**	**19.63**	**71**	T	T		19 03 46.0
	baz=256,slow=75,SNR=9.6							
H11N3	**WAKE ISLAND Hy**	**19.64**	**71**	T	T		19 03 46.8
	baz=256,slow=75,SNR=17							
JOW	**Kunigami**	**21.67**	**308**	P	**P**		**18 44 32.9**	**-0.8**
	24nm,0.4s,baz=120,slow=12,SNR=11							
JOW	**Kunigami**	**21.67**	**308**	P	**P**		**18 44 32.8**	**-0.8**
JOW				IAmb	IAmb		18 44 37.2
	comp=Z,26nm,0.6s							
SIJI	**Sorong**	**21.75**	**228**	P	**P**		**18 44 34.9**	**+0.3**
	comp=Z,13nm,0.8s,baz=25,slow=11,SNR=8.2							
SWI	**Sorong**	**21.75**	**228**	P	**P**		**18 44 36.0**	**+1.5**
	comp=Z,30nm,0.9s							
KMPI	**Kaimana, Papua**	**22.23**	**218**	P	**P**		**18 44 42.7**	**+3.0**
	comp=Z,97nm,0.8s							
FAKI	**Fak Fak**	**22.56**	**222**	P	**P**		**18 44 45.2**	**+2.0**
FAKI				IAmb	IAmb		18 44 59.5
	comp=Z,20nm,0.9s							
FAKI	**Fak Fak**	**22.56**	**222**	P	**P**		**18 44 45.9**	**+2.7**
	comp=Z,26nm,0.9s							
PMG	**Port Moresby**	**23.47**	**180**	P	**P**		**18 44 53.0**	**+0.5**
	comp=Z,94nm,0.9s,baz=12,slow=7.2,SNR=18							
PMG				LR	LR		18 53 03.1
	comp=Z,53nm,18.3s,baz=318,slow=34							
PMG	**Port Moresby**	**23.47**	**180**	P	**P**		**18 44 51.2**	**-1.3**
MJAR	**Matsushiro Arr**	**23.64**	**342**	P	**P**		**18 44 50.1**	**-4.0**
	comp=Z,1.7nm,0.5s,baz=164,slow=9.7,SNR=8.4							
MJAR				LR	LR		18 53 09.6
	comp=Z,69nm,20.5s,baz=195,slow=34							
MJAR	**Matsushiro Arr**	**23.64**	**342**	IAmb	IAmb		18 44 58.2
	comp=Z,124nm,1.4s							
MAJO	**Matsushiro**	**23.64**	**342**	P	**P**		**18 44 51.1**	**-3.1**
MJB9	**Matsu-Tunnel**	**23.64**	**342**	P	**P**		**18 44 51.5**	**-2.7**
MJB9				IAmb	IAmb		18 45 20.7
	comp=Z,15nm,1.1s							
JNU	**Nakatsue**	**23.96**	**325**	P	**P**		**18 44 57.3**	**0.0**
	comp=Z,4.2nm,0.6s,baz=165,slow=4.3,SNR=6.8							
JNU	**Nakatsue**	**23.96**	**325**	P	**P**		**18 44 57.4**	**+0.1**
JNU				IAmb	IAmb		18 45 23.0
	comp=Z,23nm,1.1s							
JMM	**Marumori**	**24.23**	**348**	P	**P**		**18 44 58.6**	**-1.1**
JMM				IAmb	IAmb		18 45 22.1
	comp=Z,21nm,1.0s							
BNDI	**Bandanaira**	**25.31**	**224**	P	**P**		**18 45 10.3**	**+0.7**
	comp=Z,71nm,1.4s							
YULB	**Yu-li**	**26.11**	**294**	P	**P**		**18 45 16.7**	**-0.3**
YULB				IAmb	IAmb		18 45 38.1
	comp=Z,34nm,1.5s							
NLAI	**Namlea**	**26.41**	**230**	P	**P**		**18 45 20.0**	**+0.4**
	comp=Z,1μmcomp=Z,9.0nm,1.1s							
SANI	**Sanana**	**26.50**	**234**	P	**P**		**18 45 21.3**	**+0.8**
	comp=Z,16nm,0.7s							
SSLB	**Suanglung**	**26.52**	**295**	P	**P**		**18 45 20.0**	**-0.7**
SSLB				IAmb	IAmb		18 45 46.5
	comp=Z,21nm,1.1s							
SAUI	**Saumlaki**	**27.11**	**217**	P	**P**		**18 45 25.3**	**-0.6**
	comp=Z,206nm,1.3s							
MRSI	**Marisa**	**28.46**	**243**	P	**P**		**18 45 39.3**	**+1.2**
	comp=Z,18nm,1.1s							
KSRS	**Korea Array**	**28.80**	**327**	P	**P**		**18 45 39.0**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=148,slow=9.0,SNR=3.0							
ASAJ	**Asahikawa**	**30.06**	**353**	P	**P**		**18 45 51.2**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=194,slow=12,SNR=8.5							
MPSI	**Mapaga**	**30.32**	**245**	P	**P**		**18 45 55.3**	**+0.8**
	comp=Z,6.7nm,0.9s							
TTSI	**Tana Toraja**	**32.09**	**240**	P	**P**		**18 46 10.1**	**-0.1**
	comp=Z,6.9nm,1.5s							
USRK	**Ussuriysk Ar.**	**32.58**	**340**	P	**P**		**18 46 13.2**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=137,slow=43,SNR=1.9							
USRK				LR	LR		18 58 13.8
	comp=Z,73nm,21.1s,baz=157,slow=34							
BNSI	**Bone**	**32.61**	**237**	P	**P**		**18 46 16.2**	**+1.4**
	comp=Z,16nm,1.5s							
SOEI	**Soe**	**32.92**	**225**	P	**P**		**18 46 17.2**	**-0.5**
SOEI	**Soe**	**32.92**	**225**	P	**P**		**18 46 16.8**	**-0.8**
	comp=Z,30nm,0.8s							
BKSI	**Bulukumba**	**33.13**	**236**	P	**P**		**18 46 20.6**	**+1.3**
	comp=Z,9.8nm,1.0s							
BSSI	**Bau Bau, Buton**	**33.33**	**234**	P	**P**		**18 46 22.3**	**+1.3**
	comp=Z,21nm,1.2s							
MMRI	**Maumere**	**33.59**	**229**	P	**P**		**18 46 23.9**	**+0.6**
BATI	**Baumata**	**33.66**	**225**	P	**P**		**18 46 25.4**	**+1.5**
	comp=Z,23nm,1.2s							
BKB	**Balikpapan**	**33.71**	**245**	P	**P**		**18 46 25.0**	**+0.6**
	comp=Z,69nm,0.9s							
EDFI	**Ende, Flores**	**34.06**	**229**	P	**P**		**18 46 28.6**	**+1.0**
	comp=Z,4.0nm,1.8s							
KBKI	**Kotabaru**	**35.34**	**243**	P	**P**		**18 46 41.3**	**+2.8**
	comp=Z,18nm,1.1s							
MTKI	**Muara Teweh, K**	**35.34**	**247**	P	**P**		**18 46 39.2**	**+0.7**
WB0	**Warramunga Arr**	**36.04**	**201**	P	**P**		**18 46 44.5**	**+0.1**
WR0	**Warramunga Arr**	**36.17**	**200**	P	**P**		**18 46 45.8**	**+0.3**
WR0				IAmb	IAmb		18 46 59.0
	comp=Z,11nm,1.4s							
WRAB	**Tennant Creek**	**36.21**	**201**	P	**P**		**18 46 46.2**	**+0.3**
WB2	**Warramunga Arr**	**36.22**	**201**	P	**P**		**18 46 46.3**	**+0.4**
WB2				IAmb	IAmb		18 47 01.2
	comp=Z,8.1nm,0.8s							
WRA	**Warramunga Arr**	**36.22**	**201**	P	**P**		**18 46 46.4**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=23,slow=9.5,SNR=32							
WRA	**Warramunga Arr**	**36.22**	**201**	P	**P**		**18 46 45.7**	**-0.3**
WBSI	**Waikabubak, Su**	**36.36**	**231**	P	**P**		**18 46 48.8**	**+1.5**
	comp=Z,37nm,1.0s							
PLAI	**Plampang**	**37.09**	**234**	P	**P**		**18 46 54.8**	**+1.4**
	comp=Z,29nm,1.2s							
KLR	**Kul'dur**	**37.15**	**343**	P	**P**		**18 46 52.8**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=165,slow=3.6,SNR=12							
TWSI	**Taliwang, Sumb**	**37.73**	**235**	P	**P**		**18 46 59.1**	**+0.2**
	comp=Z,15nm,1.2s							
STKI	**Sintang**	**38.03**	**251**	P	**P**		**18 47 01.5**	**+0.1**
	comp=Z,1μmcomp=Z,16nm,0.9s							
ENH	**Enshi**	**38.17**	**301**	P	**P**		**18 47 03.1**	**+0.6**
ENH				IAmb	IAmb		18 47 17.7
	comp=Z,7.9nm,0.7s							
SRBI	**Singaraja**	**38.69**	**237**	P	**P**		**18 47 08.3**	**+1.3**
	comp=Z,74nm,1.0s							
PBKI	**Pangkalan Bun**	**39.01**	**247**	P	**P**		**18 47 09.7**	**0.0**
	comp=Z,44nm,1.2s							
DNP	**Denpasar**	**39.03**	**236**	P	**P**		**18 47 10.8**	**+0.9**
	comp=Z,186nm,1.0s							
KMMI	**Kalianget**	**39.15**	**239**	P	**P**		**18 47 13.6**	**+2.8**
	comp=Z,43nm,1.0s							
PETK	**Petropavlovsk-**	**39.69**	**10**	P	**P**		**18 47 14.3**	**-0.5**
	comp=Z,4.1nm,1.2s,baz=187,slow=10.0,SNR=2.1							
PETK				LR	LR		19 01 37.7
	comp=Z,56nm,22.0s,baz=192,slow=33							
AS31	**Alice Springs**	**39.83**	**199**	P	**P**		**18 47 16.9**	**+0.5**
ASAR	**Alice Springs**	**39.83**	**199**	P	**P**		**18 47 15.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=22,slow=7.7,SNR=17							
ASAR				LR	LR		19 04 13.2
	comp=Z,38nm,21.5s,baz=10,slow=37							
TBJI	**Tambak Boyo**	**40.82**	**241**	P	**P**		**18 47 25.1**	**+0.4**
	comp=Z,128nm,1.6s							
PWJI	**Pagerwojo**	**41.48**	**240**	P	**P**		**18 47 30.2**	**+0.1**
	comp=Z,51nm,1.4s							
SLVN	**Son La**	**41.71**	**286**	P	**P**		**18 47 33.0**	**+0.9**
SLVN				IAmb	IAmb		18 47 34.6
	comp=Z,9.9nm,1.1s							
PCJI	**Pacitan**	**42.10**	**240**	P	**P**		**18 47 35.8**	**+0.6**
	comp=Z,51nm,1.0s							
SMRI	**Semarang**	**42.14**	**242**	P	**P**		**18 47 36.7**	**+1.1**
	comp=Z,72nm,1.7s							
UGM	**Wanagama**	**42.50**	**241**	P	**P**		**18 47 39.6**	**+1.0**
	comp=Z,133nm,0.4s							
YOGI	**Yogyakarta**	**42.65**	**241**	P	**P**		**18 47 40.7**	**+1.0**
	comp=Z,98nm,1.4s							
KPJI	**Karang Pucung**	**43.58**	**243**	P	**P**		**18 47 46.8**	**-0.4**
	comp=Z,2μmcomp=Z,15nm,1.8s							
CHAI	**Chaiyaphum**	**43.62**	**278**	P	**P**		**18 47 48.4**	**+0.8**
	comp=Z,14nm,0.7s							
SRAK	**Srakaew**	**43.73**	**276**	P	**P**		**18 47 45.9**	**-2.6**
	comp=Z,89nm,0.9s							
JCJI	**Jatiwangi**	**43.75**	**245**	P	**P**		**18 47 50.2**	**+1.6**
	comp=Z,57nm,0.5s							
PPBI	**Pangkal Pinang**	**43.80**	**251**	P	**P**		**18 47 49.3**	**+0.2**
LEMI	**Lembang**	**44.48**	**245**	P	**P**		**18 47 54.6**	**-0.1**
	comp=Z,13nm,1.6s							
CISI	**Cisompet, Garu**	**44.65**	**243**	P	**P**		**18 47 56.0**	**+0.1**
	comp=Z,19nm,1.3s							
JMBI	**JAMBI**	**45.91**	**253**	P	**P**		**18 48 06.3**	**+0.4**
STKA	**Stephens Creek**	**46.14**	**187**	LR	LR		19 08 20.7
	comp=Z,26nm,20.2s,baz=23,slow=37							
CM09	**Chiang Mai Arr**	**46.34**	**282**	P	**P**		**18 48 11.6**	**+2.3**
	comp=Z,6.1nm,1.0s							
CM04	**Chiang Mai Arr**	**46.35**	**282**	P	**P**		**18 48 11.1**	**+1.7**
	comp=Z,70nmcomp=Z,6.0nm,0.7s							
CM01	**Chiang Mai Arr**	**46.37**	**282**	P	**P**		**18 48 11.6**	**+2.1**
	comp=Z,6.6nm,1.0s							
CM02	**Chiang Mai Arr**	**46.38**	**282**	P	**P**		**18 48 11.3**	**+1.7**
	comp=Z,5.1nm,0.9s							
CM05	**Chiang Mai Arr**	**46.38**	**282**	P	**P**		**18 48 10.9**	**+1.3**
	comp=Z,54nmcomp=Z,5.8nm,0.9s							
CM31	**Chiang Mai Arr**	**46.38**	**282**	P	**P**		**18 48 10.2**	**+0.6**
CM31				IAmb	IAmb		18 48 11.9
	comp=Z,14nm,1.2s							
CMAR	**Chiang Mai Arr**	**46.38**	**282**	P	**P**		**18 48 10.0**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=81,slow=6.1,SNR=29							
CMAR				LR	LR		19 05 26.1
	comp=Z,34nm,21.5s,baz=156,slow=33							
CMAR	**Chiang Mai Arr**	**46.38**	**282**	P	**P**		**18 48 10.2**	**+0.6**
CM15	**Chiang Mai Arr**	**46.40**	**282**	P	**P**		**18 48 11.4**	**+1.6**
	comp=Z,54nmcomp=Z,6.5nm,1.0s							
CM13	**Chiang Mai Arr**	**46.42**	**282**	P	**P**		**18 48 11.1**	**+1.2**
	comp=Z,57nmcomp=Z,5.2nm,1.1s							
MDSI	**Maura Dua**	**46.52**	**250**	P	**P**		**18 48 10.6**	**-0.1**
	comp=Z,10nm,1.1s							
KASI	**Kota Agung**	**46.67**	**248**	P	**P**		**18 48 13.0**	**+1.2**
	comp=Z,21nm,1.3s							
RGRI	**Rengat**	**46.68**	**256**	P	**P**		**18 48 13.0**	**+1.0**
LWLI	**Liwa**	**46.85**	**249**	P	**P**		**18 48 13.5**	**+0.1**
	comp=Z,35nm,0.8s							
LHSI	**Lahat**	**46.86**	**251**	P	**P**		**18 48 13.7**	**+0.4**
	comp=Z,24nm,0.8s							
ULN	**Ulaanbaatar**	**47.18**	**324**	P	**P**		**18 48 15.0**	**-0.6**
ULN				IAmb	IAmb		18 48 35.9
	comp=Z,3.8nm,0.8s							
SONM	**Songino Array**	**47.55**	**323**	P	**P**		**18 48 18.5**	**0.0**
	comp=Z,1.8nm,0.5s,baz=135,slow=7.0,SNR=15							
SONM	**Songino Array**	**47.55**	**323**	P	**P**		**18 48 18.9**	**+0.5**
KSI	**Kapahiang**	**47.64**	**251**	P	**P**		**18 48 18.9**	**-0.6**
	comp=Z,37nm,0.6s							
BKNI	**Bangkinang**	**47.68**	**257**	P	**P**		**18 48 19.5**	**-0.3**
	comp=Z,812nmcomp=Z,25nm,0.4s							
SEY	**Seymchan**	**48.79**	**3**	P	**P**		**18 48 27.4**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=174,slow=7.0,SNR=10							
GSI	**Gunungsitoli**	**50.67**	**260**	P	**P**		**18 48 41.3**	**-1.4**
	comp=Z,16nm,1.0s							
SHL	**Shillong**	**52.89**	**291**	P	**P**		**18 48 59.1**	**-0.3**
LSA	**Lhasa**	**53.72**	**296**	P	**P**		**18 49 06.9**	**+1.1**
ZAA0	**Zalesovo Array**	**62.44**	**324**	P	**P**		**18 50 05.7**	**-0.2**
ZAA0				IAmb	IAmb		18 50 20.6
	comp=Z,3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**62.44**	**324**	P	**P**		**18 50 05.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=104,slow=7.0,SNR=6.1							
ZALV				LR	LR		19 16 14.4
	comp=Z,49nm,21.8s,baz=100,slow=35							
ZALV	**Zalesovo Beam**	**62.44**	**324**	P	**P**		**18 50 05.6**	**-0.3**
MK31	**Makanchi Array**	**62.61**	**316**	P	**P**		**18 50 07.7**	**+0.5**
MK31				IAmb	IAmb		18 50 22.5
	comp=Z,2.7nm,0.6s							
MKAR	**Makanchi Array**	**62.61**	**316**	P	**P**		**18 50 07.4**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=91,slow=8.5,SNR=110							
MKAR	**Makanchi Array**	**62.61**	**316**	P	**P**		**18 50 07.7**	**+0.4**
MAKZ	**Makanchi**	**62.83**	**315**	P	**P**		**18 50 09.2**	**+0.5**
MAKZ				IAmb	IAmb		18 50 24.4
	comp=Z,6.2nm,0.7s							
PALK	**Palleke**	**65.51**	**272**	LR	LR		19 18 46.3
	comp,23nm,19.5s,baz=179,slow=36							
MLY	**Manley**	**65.56**	**24**	P	**P**		**18 50 27.7**	**+1.4**
KLU	**Klutina**	**66.63**	**29**	P	**P**		**18 50 33.3**	**0.0**
ILAR	**Eielson Array**	**67.05**	**25**	P	**P**		**18 50 35.7**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=264,slow=3.9,SNR=4.9							
NIL	**Nilore**	**68.99**	**301**	P	**P**		**18 50 47.8**	**-0.8**
PPT	**Papeete**	**69.92**	**115**	LR	LR		19 14 58.8
	comp=Z,120nm,20.8s,baz=268,slow=30							
KK31	**Karatay Array**	**70.74**	**311**	P	**P**		**18 50 59.7**	**+0.5**
KK31				IAmb	IAmb		18 51 14.6
	comp=Z,3.8nm,1.1s							
KKAR	**Karatay Array**	**70.74**	**311**	P	**P**		**18 50 59.5**	**+0.3**
KKAR	**Karatay Array**	**70.74**	**311**	P	**P**		**18 50 59.7**	**+0.5**
KKAR				IAmb	IAmb		18 51 14.6
	comp=Z,3.8nm,1.1s							
ARU	**Arti**	**77.53**	**325**	P	**P**		**18 51 38.3**	**-0.3**
ARU				IAmb	IAmb		18 51 54.7
	comp=Z,3.9nm,0.8s							
ABKAR	**Akbulak array**	**77.59**	**318**	P	**P**		**18 51 38.1**	**-0.9**
ABKAR	**Akbulak array**	**77.59**	**318**	P	**P**		**18 51 38.4**	**-0.6**
ABKAR				IAmb	IAmb		18 51 43.5
	comp=Z,1.5nm,0.7s							
YKA	**Yellowknife Ar**	**81.27**	**28**	P	**P**		**18 51 58.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=285,slow=5.1,SNR=1.8							
WVOR	**Wild Horse Val**	**83.58**	**48**	P	**P**		**18 52 11.0**	**-0.6**
NVAR	**Mina Array Bea**	**84.77**	**52**	P	**P**		**18 52 19.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=269,slow=5.0,SNR=2.4							
ARCES	**ARCESS Array B**	**87.17**	**343**	P	**P**		**18 52 28.3**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=52,slow=6.1,SNR=1.8							
ARCES				LR	LR		19 36 22.8
	comp=Z,32nm,18.2s,baz=50,slow=39							
PDAR	**Pinedale Array**	**89.92**	**46**	P	**P**		**18 52 42.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=298,slow=1.9,SNR=2.0							
KBZ	**Khabaz**	**90.31**	**315**	LR	LR		19 37 48.0
	comp=Z,27nm,18.3s,baz=72,slow=39							
FINES	**FINESS Array B**	**91.53**	**336**	P	**P**		**18 52 48.8**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=70,slow=6.3,SNR=6.7							
PV13	**Radium Mtn., P**	**91.99**	**50**	P	**P**		**18 52 52.2**	**-0.1**
PV13				IAmb	IAmb		18 52 55.2
	comp=Z,4.3nm,0.9s							
ULM	**Lac du Bonnet**	**95.45**	**35**	P	**P**		**18 53 06.7**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=29,slow=5.0,SNR=3.0							
ULM	**Lac du Bonnet**	**95.45**	**35**	IAmb	IAmb		18 53 14.1
	comp=Z,3.6nm,0.9s							
NOA	**NORSAR Array B**	**97.25**	**340**	LR	LR		19 42 18.7
	comp=Z,16nm,18.1s,baz=10.0,slow=39							
TXAR	**Lajitas Array**	**99.14**	**57**	LR	LR		19 31 31.5
	comp=Z,35nm,20.8s,baz=0.0,slow=31							
KIC	**Kosan Boka**	**145.45**	**304**	eP	**PKPab**		**18 59 23.0**	**+0.8**
	comp=Z,13nm,1.0s							
TIC	**Toumodi**	**145.50**	**305**	eP	**PKiKP**		**18 59 25.7**	**-0.5**
LIC	**Lamto**	**145.76**	**305**	eP	**PKPdf**		**18 59 23.0**	**+0.4**
	comp=Z,44nm,1.3s							
LPAZ	**La Paz**	**145.89**	**98**	PKPbc	**PKPbc**		**18 59 24.9**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=232,slow=12,SNR=1.6							

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*KRSC **23** 18:55:56.6±2.2, 48°.42N×152°.37E, h409km±26km, ML4.0*
*IDC **23** 18:55:59.2±1.8, 49°.22N×150°.69E, h347km±19km, mb3.1/4, mb1 3.0/7, mb1mx2.7/64, mbtmp3.7/7, Error ellipse: s-maj=30.4km s-min=18.1km az=118.0*

ISC 23 18:55:56.8±1.4, 48°.6N±0°.3×152°.0E±0°.2, h400km, n16, σ2°.75/18, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.42**	**51**	eP	**Pn**		**18 57 04.4**	**+1.1**
SKR				eS	**S**		**18 57 57.9**	**+0.5**
KDTR	**Khodutka, Kamc**	**5.08**	**48**	eP	**Pn**		**18 57 20.8**	**+1.4**
KDTR				eS	**S**		**18 58 23.7**	**-3.0**
RUS	**Russkaya**	**5.68**	**45**	eP	**Pn**		**18 57 27.7**	**+2.0**
RUS				eS	**S**		**18 58 35.1**	**-3.2**
PETK	**Petropavlovsk-**	**5.80**	**37**	P	**Pn**		**18 57 28.1**	**+1.0**
	0.2nm,0.3s,baz=224,slow=12,SNR=8.7							
DALK	**Dalny**	**6.19**	**41**	eP	**Pn**		**18 57 34.0**	**+2.8**
KOK	**Koryaka**	**6.32**	**39**	eP	**Pn**		**18 57 35.8**	**+3.0**
UGLR	**Uglovaya**	**6.34**	**41**	eP	**Pn**		**18 57 36.5**	**+3.5**
GNL	**Ganaly**	**6.35**	**34**	eP	**Pn**		**18 57 34.3**	**+1.2**
SPN	**Mys Shipunski**	**6.81**	**45**	eP	**P**		**18 57 40.1**	**+1.4**
SPN				eS	**S**		**18 58 57.2**	**-3.8**
ASAJ	**Asahikawa**	**7.87**	**239**	P	**Pn**		**18 57 47.9**	**-2.4**
	0.3nm,0.3s,baz=31,slow=5.0,SNR=15							
MKZ	**Mys Kozlova**	**8.52**	**42**	eP	**P**		**18 57 58.6**	**+0.9**
MKZ				eS	**S**		**18 59 31.1**	**-5.4**
KLR	**Kul'dur**	**13.31**	**280**	P	P		18 58 46.2	-4.6
	baz=88,slow=11,SNR=1.7							
INK	**Inuvik**	**40.53**	**33**	P	P		19 03 05.2	+6.8
	0.8nm,0.3s,baz=277,slow=7.2,SNR=2.3							
FINES	**FINESS Array B**	**62.05**	**334**	P	**P**		**19 05 36.6**	**+0.7**
	0.6nm,0.3s,baz=24,slow=7.6,SNR=7.8							
HFS	**Hagfors**	**66.46**	**339**	P	**P**		**19 06 05.9**	**+1.6**
	0.8nm,0.5s,baz=49,slow=6.5,SNR=6.0							
ASAR	**Alice Springs**	**73.72**	**197**	P	P		19 06 57.8	+10
	0.1nm,0.3s,baz=8.9,slow=5.6,SNR=7.8							

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*IDC **23** 19:11:25.1±7.0, 3°.26S×100°.25E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.1/49, mbtmp3.4/2, Error ellipse: s-maj=300.3km s-min=55.2km az=54.0*
*DJA **23** 19:11:34.1±0.9, 3°S±4°.×10°.1E±°, h16km±7km, M3.7/13, mb3.5/1, MLv3.8/13*

ISC 23 19:11:29.3±1.1, 2°.9S±0°.1×100°.59E±0°.08, h28km, n18, σ1°.98/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**2.15**	**112**	P	**Pn**		**19 12 04.3**	**+0.9**
KSI				S	**Sn**		**19 12 28.7**	**-0.6**
MNAI	**Manna**	**2.80**	**123**	P	**Pn**		**19 12 14.5**	**+2.2**
MNAI				S	**

CBIJ S **Sn** **19 24 57.0 -1.2**
JCJ Chichijima 2.96 182 Pn **Pn** **19 24 22.2 -1.7**
37nm,0.3s,baz=260,slow=22,SNR=12
JCJ Sn **Sn** **19 24 56.2 -2.0**
197nm,0.3s,baz=156,slow=22,SNR=15
JCJ Chichijima 2.96 182 **Pn** **19 24 22.2 -1.7**
JCJ Chichijima 2.96 182 **Sn** **19 24 56.2 -2.0**
JHH2 Haha-jima-NKT2 3.43 182 P **Pn** **19 24 29.1 -1.1**
JHJ2 Mitsune 3.70 326 P **Pn** **19 24 32.7 -1.2**
JHJ2 Mitsune 3.70 326 Pn **Pn** **19 24 32.2 -1.7**
JHJ Hachijo jima 2 3.72 325 Pn **Pn** **19 24 32.3 -1.9**
19nm,0.3s,baz=174,slow=23,SNR=14
JHJ Sn **Sn** **19 25 11.4 -5.4**
26nm,0.3s,baz=70,slow=19,SNR=3.7
JHJ LR LR 19 25 59.0
comp=Z,1μm,19.9s,baz=351,slow=39
JHJ Hachijo jima 2 3.72 325 **Sn** **19 25 11.4 -5.4**
BSO1 Boso 1 4.70 347 P **Pn** **19 24 45.8 -1.5**
BSO1 S **Sn** **19 25 39.7 -0.6**
BSO3 Boso 3 4.95 343 P **Pn** **19 24 49.7 -1.2**
BSO4 Boso 4 5.18 342 P **Pn** **19 24 53.4 -0.8**
JOD2 Odawara 2 5.84 333 P **Pn** **19 25 02.5 -0.9**
JHU Hanno 6.30 337 P **Pn** **19 25 08.0 -1.6**
JYT Yasato 6.39 345 **Pn** **19 25 08.6 -2.3**
JIE Ise 6.40 314 P **Pn** **19 25 11.4 +0.3**
JRY Ryogami san 6.58 335 P **Pn** **19 25 13.3 -0.2**
INU Inuyama 6.89 321 Pn **Pn** **19 25 17.0 -0.7**
JGF Kuroka 6.90 324 **Pn** **19 25 17.0 -1.0**
MJAR Matsushiro Arr 7.30 333 Pn **Pn** **19 25 22.6 -0.9**
2.7nm,0.3s,baz=152,slow=11,SNR=143
MJAR Sn **Sn** **19 26 45.9 +0.7**
0.6nm,0.3s,baz=162,slow=23,SNR=5.0
MJAR LR LR 19 27 57.6
comp=Z,344nm,19.8s,baz=150,slow=36
MJAR Matsushiro Arr 7.30 333 P **Pn** **19 25 22.6 -0.9**
MJAR 19 26 45.9
MAJO Matsushiro 7.30 333 *d iP* **Pn** **19 25 23.7 +0.2**
MAJO Matsushiro 7.30 333 **Pn** **19 25 23.1 -0.4**
MAT Matsushiro 7.30 333 P **Pn** **19 25 23.5 0.0**
MAT S **Sn** **19 26 45.1 -0.1**
MJB9 Matsu-Tunnel 7.31 333 **Pn** **19 25 22.9 -0.6**
JWT Wachi 7.79 314 Pn **Pn** **19 25 29.9 -0.3**
JMM Marumori 7.88 351 **Pn** **19 25 28.7 -2.5**
JSD Sado 8.62 338 Pn **Pn** **19 25 38.7 -2.8**
JMK Ichinoseki 8.90 355 P **Pn** **19 25 42.3 -3.1**
JNU Nakatsue 10.20 290 Pn **Pn** **19 26 02.1 -1.1**
0.3nm,0.3s,baz=18,slow=22,SNR=2.4
JNU LR LR 19 29 28.2
comp=Z,347nm,21.3s,baz=134,slow=35
JNU Nakatsue 10.20 290 **Pn** **19 26 02.1 -1.1**
JTM Tenmabayashi 10.74 355 Pn **Pn** **19 26 08.7 -1.8**
JOT Ohata 11.33 355 P **Pn** **19 26 15.2 -3.4**
JKB Kayabe 11.84 355 P **Pn** **19 26 22.9 -2.6**
ERM Erimo 11.94 3 *ceP* **Pn** **19 26 23.9 -3.0**
ERM pmax pmax
comp=Z,14nm,1.0s
ERM Erimo 11.94 3 Pn **Pn** **19 26 22.5 -4.4**
JEW Eniwo 12.76 357 Pn **Pn** **19 26 35.0 -3.2**
NMR Nemuro--Hokkai 13.55 11 *eP* Pn 19 26 43.5 -5.5
TJN Taejon 13.98 301 *i* P P 19 26 56.2 -6.2
JKA Kamikawa-asahi 14.02 1 **Pn** **19 26 51.7 -3.7**
ASAJ Asahikawa 14.02 1 Pn **Pn** **19 26 50.9 -4.5**
comp=Z,1.8nm,0.3s,baz=232,slow=5.9,SNR=21
ASAJ LR LR 19 33 20.6
comp=Z,213nm,20.7s,baz=190,slow=42
ASAJ Asahikawa 14.02 1 P **Pn** **19 26 51.7 -3.7**
KSRS Korea Array 14.03 305 Pn **Pn** **19 26 55.3 -0.2**
comp=Z,0.6nm,0.3s,baz=109,slow=13,SNR=19
KSRS LR LR 19 31 49.7
comp=Z,252nm,21.6s,baz=118,slow=35
KSRS Korea Array 14.03 305 P **Pn** **19 26 55.3 -0.2**
KSRS Korea Array 14.03 305 **Pn** **19 26 55.3 -0.2**
KSAR Wonju Array Be 14.05 305 P **Pn** **19 26 56.1 +0.3**
KSAR Wonju Array Be 14.05 305 **Pn** **19 26 56.1 +0.3**
KS19 Wonju Array Si 14.09 306 **Pn** **19 26 56.5 +0.1**
KUR Kuril'sk 15.76 15 *eP* **P** **19 27 17.7 -4.3**
KUR pmax pmax
comp=E,9.0nm,0.8s
KUR pmax pmax
comp=Z,21nm,0.8s
KUR pmax pmax
comp=N,10.0nm,0.6s
USA0B Ussuriysk Arra 16.30 333 P **P** **19 27 24.1 -4.0**
USA0B pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 16.30 333 **P** **19 27 24.1 -4.0**
USRK Ussuriysk Ar. 16.30 333 Pn **P** **19 27 23.7 -4.4**
baz=139,slow=11,SNR=11
USRK LR LR 19 33 36.8
comp=Z,109nm,20.8s,baz=132,slow=37
USRK Ussuriysk Ar. 16.30 333 P **P** **19 27 23.7 -4.4**
USRK Ussuriysk Ar. 16.30 333 Pn **P** **19 27 23.4 -4.7**
GUMO Guam 16.57 171 LR LR 19 33 25.4
comp=Z,128nm,18.6s,baz=5.5,slow=36
YSS Yuzh-Sakhalins 16.86 1 *eP* **P** **19 27 30.1 -4.1**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,200nm,14.0s
MDJ Mudanjiang 17.65 329 P **P** **19 27 40.6 -2.4**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,120nm,3.7s
MDJ LR LR
comp=Z,280nm,17.0s
MDJ LR LR
comp=Z,190nm,16.8s
MDJ LR LR
comp=Z,320nm,16.7s
MDJ Mudanjiang 17.65 329 Pn **P** **19 27 40.9 -2.1**
TATO Taipei 19.13 260 P **Pn** **19 27 59.3 -1.2**
DL2 Dalian 19.15 303 P **Pn** **19 28 01.6 +1.0**
DL2 S **S** **19 31 39.9 +5.2**
DL2 pmax pmax
comp=Z,63nm,0.7s
DL2 LR LR
comp=Z,200nm,16.7s
DL2 LR LR
comp=Z,150nm,16.5s
CN2 Changchun 19.16 320 *eP* **Pn** **19 27 58.8 -1.9**
CN2 S **Sn** **19 31 29.4 -5.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,15.0s
YHNB Yeheng 19.33 259 P **Pn** **19 28 01.2 -1.8**
YHNB IAmb IAmb 19 28 05.8
comp=Z,57nm,1.0s
YULB Yu-li 19.88 255 P **Pn** **19 28 07.1 -2.4**
YULB IAmb IAmb 19 28 13.3
comp=Z,26nm,0.6s
SSLB Suanglung 20.02 257 Pn 19 28 09.5 -1.6
SSLB IAmb IAmb 19 28 15.3
comp=Z,44nm,0.8s
NJ2 Nanjing 20.17 282 *eP* Pn 19 28 11.0 -1.8
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
TWG Pinlang 20.31 254 P Pn 19 28 12.6 -1.9
TWG IAmb IAmb 19 28 30.2
comp=Z,40nm,1.1s
TPUB Ta-pu 20.48 256 P Pn 19 28 14.1 -2.4
TPUB IAmb IAmb 19 28 21.4
comp=Z,32nm,0.7s
KLR Kul'dur 20.75 340 P Pn 19 28 17.4 -2.0
comp=Z,16nm,0.7s,baz=144,slow=10,SNR=38
KLR Kul'dur 20.75 340 *i* P Pn 19 28 17.2 -2.2
KLR pmax pmax
comp=Z,17nm,0.9s
KLR Kul'dur 20.75 340 P Pn 19 28 17.4 -2.0
TYV Tymovskoe 20.77 1 *eP* Pn 19 28 19.8 +0.2
TYV pmax pmax
comp=Z,15nm,1.1s
GRNR Gornyy 21.14 350 ⇓ *iP* **P** **19 28 22.5 +1.4**
SKR Severo-Kuril's 23.05 23 *eP* **P** **19 28 39.5 -1.9**
SKR *e*S Sn 19 32 55.0 -13
SKR pmax pmax
comp=Z,100nm,3.0s
SKR MLR MLR
comp=Z,100nm,17.0s
SKR MLR MLR
comp=Z,100nm,15.0s
BJT Baijiatuan 23.51 302 P **P** **19 28 44.8 -1.2**
BJT pmax pmax
comp=Z,28nm,1.1s
BJT Baijiatuan 23.51 302 P **P** **19 28 44.8 -1.2**
BJT IAmb IAmb 19 28 45.8
comp=Z,28nm,1.1s
BJI Beijing 23.51 302 P **P** **19 28 45.3 -0.7**
BJI pmax pmax
comp=Z,30nm,0.8s
BJI pmax pmax
comp=Z,110nm,4.4s
BJI LR LR
comp=Z,130nm,15.0s
BJI LR LR
comp=Z,270nm,16.0s
BJI LR LR
comp=Z,280nm,21.2s
WHN Wuhan 24.11 278 ⇓ P **P** **19 28 52.8 +1.0**
WHN S **S** **19 33 07.1 -0.1**
WHN pmax pmax
comp=Z,30nm,0.6s
WHN LR LR
comp=Z,560nm,10.8s
WHN LR LR
comp=Z,530nm,11.3s
WHN LR LR
comp=Z,450nm,14.6s
H11N2 WAKE ISLAND Hy 24.53 109 T T 19 54 29.8
baz=297,slow=75,SNR=5.2
H11N1 WAKE ISLAND Hy 24.53 109 T T 19 54 51.7
baz=297,slow=75,SNR=4.2
H11N3 WAKE ISLAND Hy 24.54 109 T T 19 54 46.9
baz=297,slow=75,SNR=6.7
H11S3 WAKE ISLAND Hy 24.99 112 T T 19 55 13.9
baz=304,slow=75,SNR=7.5
H11S1 WAKE ISLAND Hy 24.99 112 T T 19 55 12.8
baz=304,slow=75,SNR=6.4
H11S2 WAKE ISLAND Hy 25.00 112 T T 19 55 09.9
baz=304,slow=75,SNR=5.7
PETK Petropavlovsk- 25.63 22 P **P** **19 29 05.8 +0.4**
comp=Z,1.7nm,0.9s,baz=224,slow=8.1,SNR=3.7
PETK LR LR 19 40 06.0
comp=Z,115nm,19.9s,baz=228,slow=39
PETK Petropavlovsk- 25.63 22 P **P** **19 29 05.8 +0.4**
HIA Hailar 25.70 325 P **P** **19 29 07.1 +1.0**
HIA pmax pmax
comp=Z,29nm,0.9s
HIA Hailar 25.70 325 P **P** **19 29 07.0 +1.0**
HIA IAmb IAmb 19 29 08.0
comp=Z,29nm,0.9s
ZEA Zeya 26.06 339 *eP* **P** **19 29 10.4 +1.2**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=N,100nm,13.0s
ZEA MLR MLR
comp=Z,100nm,14.0s
HHC Hu-ho-hao-te 27.11 302 *eP* **P** **19 29 21.3 +2.2**
HHC S **S** **19 33 59.0 +3.9**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,110nm,5.9s
HHC LR LR
comp=Z,220nm,14.9s
HHC LR LR
comp=Z,230nm,14.9s
HHC LR LR
comp=Z,310nm,17.3s
BTO Baotou 28.21 301 *eP* **P** **19 29 29.3 +0.5**
ENH Enshi 28.31 279 P **P** **19 29 28.5 -1.3**
ENH IAmb IAmb 19 29 30.5
comp=Z,13nm,0.6s
XAN Xi'an 28.49 287 P **P** **19 29 30.8 -0.5**
XAN pP pP 19 29 33.3 -6.6
XAN S **S** **19 34 19.0 +2.3**
XAN pmax pmax
comp=Z,22nm,0.7s
XAN LR LR
comp=Z,210nm,11.6s
XAN LR LR
comp=Z,170nm,15.5s
XAN LR LR
comp=Z,200nm,20.1s
MA2 Magadan 30.06 9 P **P** **19 29 44.4 -0.5**
comp=Z,1.4nm,0.5s,baz=141,slow=8.5,SNR=2.3
MA2 Magadan 30.06 9 P **P** **19 29 44.4 -0.5**
MA2 Magadan 30.06 9 P **P** **19 29 44.4 -0.5**
SRPI Serui, Papua 32.28 191 P **P** **19 30 04.9 0.0**
comp=Z,31nm,0.7s
ULN Ulaanbaatar 32.30 313 *ceP* **P** **19 30 05.4 +0.5**
ULN pmax pmax
comp=Z,54nm,1.7s
ULN Ulaanbaatar 32.30 313 P **P** **19 30 05.2 +0.3**
ULN IAmb IAmb 19 30 07.0
comp=Z,20nm,0.8s
SWI Sorong 32.51 201 P **P** **19 30 05.9 -1.0**
comp=Z,17nm,0.8s
SIJI Sorong 32.52 201 P **P** **19 30 05.2 -1.7**
baz=0.0,slow=11
SIJI LR LR 19 41 38.8
comp=Z,80nm,20.0s,baz=62,slow=33
LZH Lanzhou 32.62 291 *eP* **P** **19 30 07.4 -0.5**
LZH sP pP 19 30 13.4 -3.1
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,79nm,4.3s
LZH LR LR
comp=Z,180nm,16.3s
LZH LR LR
comp=Z,150nm,17.4s
LZH LR LR
comp=Z,150nm,15.7s
SONM Songino Array 32.70 313 P **P** **19 30 09.2 +0.7**
comp=Z,8.6nm,0.6s,baz=114,slow=8.0,SNR=73
SONM LR LR 19 43 49.2
comp=Z,126nm,18.5s,baz=105,slow=37
SONM Songino Array 32.70 313 P **P** **19 30 08.4 -0.1**
SONM pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 32.70 313 P **P** **19 30 08.4 -0.1**
SONM IAmb IAmb 19 30 15.2
comp=Z,14nm,0.8s
YAK Yakutsk 33.02 349 P **P** **19 30 10.8 -0.1**
comp=Z,3.0nm,0.4s,baz=148,slow=1.1,SNR=6.0
YAK Yakutsk 33.02 349 *eP* **P** **19 30 09.6 -1.2**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK Yakutsk 33.02 349 P **P** **19 30 10.0 -0.8**
YAK IAmb IAmb 19 30 11.6
comp=Z,11nm,0.5s
CD2 Chengdu 33.11 281 *eP* **P** **19 30 12.0 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SEY Seymchan 33.52 8 P **P** **19 30 15.7 +0.5**
comp=Z,1.7nm,0.4s,baz=188,slow=8.2,SNR=25
SEY Seymchan 33.52 8 P **P** **19 30 15.7 +0.5**
SEY Seymchan 33.52 8 P **P** **19 30 15.7 +0.5**
BOD Bodaibo 33.94 333 *eP* **P** **19 30 19.2 +0.3**
BOD pmax pmax
comp=Z,11nm,1.2s
FAKI Fak Fak 34.18 198 P **P** **19 30 20.6 -0.9**
FAKI IAmb IAmb 19 30 25.6
comp=Z,18nm,1.1s
FAKI Fak Fak 34.18 198 P **P** **19 30 21.0 -0.4**
comp=Z,25nm,1.3s
KMPI Kaimana, Papua 34.53 195 P **P** **19 30 23.6 -0.9**
comp=Z,124nm,0.7s
GTOI Gorontalo 34.55 216 P **P** **19 30 23.1 -1.5**
comp=Z,6.1nm,1.0s
MRSI Marisa 35.23 217 P **P** **19 30 29.6 -0.9**
comp=Z,12nm,1.1s
KMI Kunming 35.28 272 ⇑ P **P** **19 30 31.8 +0.6**
KMI pP pP 19 30 33.9 -5.8
KMI pmax pmax
comp=Z,5.0nm,0.7s
KMI pmax pmax
comp=Z,100nm,3.7s
TOLI2 Tolitoli 35.32 219 P **P** **19 30 29.7 -1.6**
ZAK Zakamensk 35.49 316 *eP* **P** **19 30 33.1 +0.5**
ZAK pmax pmax
comp=Z,11nm,1.4s
SLVN Son La 35.53 265 P **P** **19 30 31.8 -1.4**
MSAI Masohi 35.60 203 P **P** **19 30 33.5 -0.2**
comp=Z,4.9nm,0.7s
GTA Gaotai 35.85 297 ⇑ P **P** **19 30 35.5 -0.4**
GTA pP pP 19 30 40.3 -4.2
GTA sP sP 19 30 44.0 -4.1
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,67nm,5.5s
GTA LR LR
comp=Z,77nm,15.3s
GTA LR LR
comp=Z,130nm,16.7s
GTA LR LR
comp=Z,160nm,17.1s
NLAI Namlea 36.17 206 P **P** **19 30 39.2 +0.6**
comp=Z,6.8nm,0.5s
BNDI Bandanaira 36.39 201 P **P** **19 30 40.6 +0.2**
comp=Z,155nm,0.6s
MPSI Mapaga 36.45 220 P **P** **19 30 40.1 -0.9**
comp=Z,6.8nm,1.2s
APSI Ampana 36.56 216 P **P** **19 30 41.6 -0.3**
comp=Z,18nm,1.1s
SKNT Sakolnakorn 37.29 258 P **P** **19 30 48.7 +0.5**
comp=Z,20nm,1.0s
NONG Nongkai 37.52 260 P **P** **19 30 50.3 +0.2**
comp=Z,26nm,1.0s
MMPI Merauke 38.36 183 P **P** **19 30 58.2 +1.1**
comp=Z,280nm,0.8s
TTSI Tana Toraja 39.32 217 P **P** **19 31 04.8 -0.4**
comp=Z,9.6nm,1.4s
BKB Balikpapan 39.47 222 P **P** **19 31 04.7 -1.7**
comp=Z,60nm,1.3s
CHAI Chaiyaphum 39.48 258 P **P** **19 31 06.2 -0.4**
comp=Z,407nmcomp=Z,48nm,0.8s
CHAI Chaiyaphum 39.48 258 P **P** **19 31 06.2 -0.4**
comp=Z,101nmcomp=Z,12nm,0.8s
UTTA Uttaradit 39.87 262 P **P** **19 31 09.5 -0.3**
comp=Z,183nmcomp=Z,18nm,0.8s
UTTA Uttaradit 39.87 262 P **P** **19 31 09.5 -0.3**
comp=Z,46nmcomp=Z,4.4nm,0.8s
LAMP Lampang 40.34 263 P **P** **19 31 14.5 +0.8**
comp=Z,18nm,0.6s
LAMP Lampang 40.34 263 P **P** **19 31 14.5 +0.8**
comp=Z,4.6nm,0.6s
SRAK Srakaew 40.35 256 P **P** **19 31 10.6 -3.2**
comp=Z,1μmcomp=Z,140nm,0.8s
MTKI Muara Teweh, K 40.41 225 P **P** **19 31 13.8 -0.5**
BILL Bilibino 40.55 14 *i* P **P** **19 31 14.5 -0.3**
BILL *i* 19 33 17.4
BILL pmax pmax
comp=Z,7.0nm,1.0s
CMMT Chiang Mai 40.80 264 P **P** **19 31 17.3 -0.2**
comp=Z,17nm,0.6s
CMMT Chiang Mai 40.80 264 P **P** **19 31 17.4 -0.2**
comp=Z,17nm,0.6s
CHTO Chiang Mai 40.81 264 P **P** **19 31 17.4 -0.2**
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 40.81 264 P **P** **19 31 17.3 -0.3**
comp=Z,17nm,0.6s
CHTO Chiang Mai 40.81 264 P **P** **19 31 17.4 -0.2**
CHTO IAmb IAmb 19 31 18.6
comp=Z,11nm,0.7s
CM09 Chiang Mai Arr 40.92 264 P **P** **19 31 20.8 +2.3**
comp=Z,6.9nm,0.6s
CM09 Chiang Mai Arr 40.92 264 P **P** **19 31 20.0 +1.5**
comp=Z,6.9nm,0.6s
CM04 Chiang Mai Arr 40.95 264 P **P** **19 31 19.9 +1.1**
comp=Z,56nmcomp=Z,6.5nm,0.6s
CM04 Chiang Mai Arr 40.95 264 P **P** **19 31 19.0 +0.2**
comp=Z,56nmcomp=Z,6.5nm,0.6s
CM31 Chiang Mai Arr 40.96 264 P **P** **19 31 19.8 +1.0**
comp=Z,3μmcomp=Z,256nm,0.6s
CM31 Chiang Mai Arr 40.96 264 P **P** **19 31 19.3 +0.5**
CMAR Chiang Mai Arr 40.96 264 P **P** **19 31 18.4 -0.5**
comp=Z,3.0nm,0.6s,baz=58,slow=6.5,SNR=28
CMAR PcP **PcP** **19 33 19.8 +1.0**
comp=Z,0.6nm,0.8s,baz=43,slow=1.4,SNR=4.6
CMAR LR LR 19 50 05.2
comp=Z,58nm,18.2s,baz=151,slow=39
CMAR Chiang Mai Arr 40.96 264 P **P** **19 31 19.2 +0.4**
CMAR 19 33 19.8
CMAR Chiang Mai Arr 40.96 264 P **P** **19 31 19.2 +0.4**
CM01 Chiang Mai Arr 40.96 264 P **P** **19 31 20.0 +1.2**
comp=Z,56nmcomp=Z,8.1nm,0.7s
CM01 Chiang Mai Arr 40.96 264 P **P** **19 31 20.1 +1.2**
comp=Z,56nmcomp=Z,8.1nm,0.7s
CM02 Chiang Mai Arr 40.96 264 P **P** **19 31 20.0 +1.1**
comp=Z,45nmcomp=Z,5.9nm,0.7s
CM02 Chiang Mai Arr 40.96 264 P **P** **19 31 20.1 +1.1**
comp=Z,45nmcomp=Z,5.9nm,0.7s
CM15 Chiang Mai Arr 40.98 264 P **P** **19 31 19.7 +0.7**
comp=Z,9.8nm,0.6s
CM15 Chiang Mai Arr 40.98 264 P **P** **19 31 19.7 +0.7**
comp=Z,9.8nm,0.6s
CM05 Chiang Mai Arr 40.98 264 P **P** **19 31 19.9 +0.9**
comp=Z,56nmcomp=Z,5.8nm,0.7s
CM05 Chiang Mai Arr 40.98 264 P **P** **19 31 20.0 +0.9**
comp=Z,56nmcomp=Z,5.8nm,0.7s
CM13 Chiang Mai Arr 41.00 264 P **P** **19 31 20.1 +0.8**
comp=Z,61nmcomp=Z,6.3nm,0.6s
CM13 Chiang Mai Arr 41.00 264 P **P** **19 31 20.0 +0.8**
comp=Z,61nmcomp=Z,6.3nm,0.6s
BKSI Bulukumba 41.11 215 P **P** **19 31 19.3 -0.7**
comp=Z,16nm,1.0s
KBKI Kotabaru 41.54 222 P **P** **19 31 22.6 -0.9**
comp=Z,15nm,0.8s
BSSI Bau Bau, Buton 41.64 214 P **P** **19 31 23.2 -1.2**
comp=Z,41nm,1.7s
STKI Sintang 41.84 230 P **P** **19 31 25.1 -0.9**
MTN Manton Dam 44.00 196 P **P** **19 31 42.3 -1.1**
MTN IAmb IAmb 19 31 43.3
comp=Z,14nm,0.7s
WMQ Urumqi 44.97 303 *eP* **P** **19 31 51.8 +0.7**
WMQ pP pP 19 31 55.1 -4.8
WMQ pmax pmax
comp=Z,30nm,1.3s
WMQ pmax pmax
comp=Z,93nm,3.7s
WBSI Waikabubak, Su 45.22 213 P **P** **19 31 51.5 -1.7**
comp=Z,27nm,1.4s
PLAI Plampang 45.29 215 P **P** **19 31 53.1 -0.7**
comp=Z,24nm,1.3s
DGZ Jazzator, Alta 45.32 312 *c iP* **P** **19 31 54.8 +0.9**
DGZ pmax pmax
comp=Z,25nm,0.8s
TWSI Taliwang, Sumb 45.67 216 P **P** **19 31 55.8 -1.0**
comp=Z,9.1nm,1.6s
KMMI Kalianget 45.85 221 P **P** **19 31 57.5 -0.7**
comp=Z,45nm,1.7s
SRBI Singaraja 46.01 219 P **P** **19 31 58.6 -0.8**
comp=Z,69nm,0.8s
KNRA Kununurra 47.31 198 P **P** **19 32 08.8 -0.8**
KNRA IAmb IAmb 19 32 32.0
comp=Z,8.5nm,1.1s
ZAA0 Zalesovo Array 47.34 317 P **P** **19 32 09.7 +0.2**
ZALV Zalesovo Beam 47.34 317 P **P** **19 32 09.2 -0.3**
comp=Z,2.6nm,0.4s,baz=93,slow=8.3,SNR=17
ZALV PcP **PcP** **19 33 40.6 +0.7**
comp=Z,4.2nm,0.5s,baz=108,slow=3.2,SNR=14
ZALV LR LR 19 52 45.9
comp=Z,129nm,18.2s,baz=96,slow=37
ZALV Zalesovo Beam 47.34 317 P **P** **19 32 09.2 -0.3**
ZALV 19 33 40.6
ZALV Zalesovo Beam 47.34 317 P **P** **19 32 10.0 +0.5**
PWJI Pagerwojo 47.88 223 P **P** **19 32 12.9 -1.2**
comp=Z,26nm,1.4s
SMRI Semarang 47.93 225 P **P** **19 32 13.5 -1.0**
comp=Z,47nm,1.6s
PCJI Pacitan 48.39 223 P **P** **19 32 17.2 -0.8**
comp=Z,42nm,1.2s
YOGI Yogyakarta 48.62 224 P **P** **19 32 18.3 -1.5**
comp=Z,159nm,0.9s
MK31 Makanchi Array 48.70 308 P **P** **19 32 21.1 +0.9**
MK31 pmax pmax
comp=Z,15nm,0.9s
MK31 Makanchi Array 48.70 308 P **P** **19 32 21.1 +0.9**
MK31 IAmb IAmb 19 32 21.8
comp=Z,15nm,0.8s
MKAR Makanchi Array 48.70 308 P **P** **19 32 20.8 +0.6**
comp=Z,11nm,0.6s,baz=91,slow=9.6,SNR=118

MKAR PcP **PcP** **19 33 45.5 +0.5**
comp=Z,1.0nm,0.5s,baz=87,slow=6.2,SNR=3.2
MKAR LR LR 19 53 56.7
comp=Z,76nm,18.4s,baz=85,slow=37
MKAR Makanchi Array 48.70 308 P **P** **19 32 20.8 +0.6**
MKAR 19 33 45.5
MKAR Makanchi Array 48.70 308 P **P** **19 32 20.9 +0.7**
MAKZ Makanchi 48.91 308 P **P** **19 32 22.6 +0.8**
MAKZ pmax pmax
comp=Z,16nm,0.8s
MAKZ Makanchi 48.91 308 P **P** **19 32 22.6 +0.8**
MAKZ IAmb IAmb 19 32 24.3
comp=Z,16nm,0.8s
CBJI Citeko 49.72 229 P **P** **19 32 28.8 +0.5**
MNSI Mandailing Nat 49.93 242 P **P** **19 32 29.1 -0.8**
comp=Z,15nm,0.6s
NRIK Noril'sk 49.93 338 P **P** **19 32 29.3 +0.1**
comp=Z,2.7nm,0.6s,baz=110,slow=6.2,SNR=5.2
NRIK LR LR 19 53 42.6
comp=Z,48nm,21.2s,baz=90,slow=36
NRIK Noril'sk 49.93 338 *ce*P **P** **19 32 29.7 +0.5**
NRIK pmax pmax
comp=Z,6.0nm,1.0s
NRIK Noril'sk 49.93 338 P **P** **19 32 29.5 +0.3**
NRIK IAmb IAmb 19 32 30.9
comp=Z,9.6nm,1.2s
CISI Cisompet, Garu 49.96 227 P **P** **19 32 29.0 -1.1**
comp=Z,15nm,1.4s
MDSI Maura Dua 50.12 233 P **P** **19 32 30.5 -0.8**
comp=Z,16nm,1.2s
WB0 Warramunga Arr 50.13 190 P **P** **19 32 31.3 +0.1**
WB0 IAmb IAmb 19 32 32.3
comp=Z,12nm,0.6s
CHIR Chirikof Islan 50.16 40 P **P** **19 32 30.5 -0.6**
WR0 Warramunga Arr 50.30 189 P **P** **19 32 32.5 0.0**
WR0 IAmb IAmb 19 32 33.7
comp=Z,30nm,1.5s
WRAB Tennant Creek 50.30 190 P **P** **19 32 32.1 -0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 50.30 190 P **P** **19 32 32.0 -0.4**
WRAB IAmb IAmb 19 32 32.9
comp=Z,9.1nm,0.8s
WB2 Warramunga Arr 50.31 190 P **P** **19 32 31.9 -0.7**
WB2 IAmb IAmb 19 32 33.0
comp=Z,8.4nm,0.8s
WRA Warramunga Arr 50.31 190 P **P** **19 32 32.4 -0.2**
comp=Z,6.2nm,0.6s,baz=8.9,slow=8.2,SNR=149
WRA Warramunga Arr 50.31 190 P **P** **19 32 32.4 -0.2**
WRA Warramunga Arr 50.31 190 P **P** **19 32 31.7 -0.9**
SHLS Shalkode 50.99 303 *e*P **P** **19 32 35.9 -1.9**
SHLS pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 51.01 313 P **P** **19 32 38.0 +0.4**
KURK Kurchatov 51.01 313 P **P** **19 32 38.0 +0.4**
KURBB Kurchatov Arra 51.07 313 P **P** **19 32 38.0 -0.1**
comp=Z,10.0nm,0.6s,baz=91,slow=7.5,SNR=118
GSI Gunungsitoli 51.16 245 P **P** **19 32 38.1 -1.1**
GSI IAmb IAmb 19 32 40.6
comp=Z,12nm,0.7s
UZB Uzynbulak 51.31 303 *e*P **P** **19 32 40.7 +0.5**
UZB pmax pmax
comp=Z,7.0nm,0.6s
KPKS Kokpek 51.52 304 *e*P **P** **19 32 42.3 +0.6**
KPKS pmax pmax
comp=Z,6.0nm,0.5s
PRZ Przheval'sk 51.86 302 P **P** **19 32 45.6 +1.2**
PRZ pmax pmax
comp=Z,49nm,0.8s
PRZ Przheval'sk 51.86 302 P **P** **19 32 45.6 +1.2**
ARXS Arharly 52.04 305 *e*P **P** **19 32 46.4 +0.9**
IMAR Indian Mountai 52.36 28 P **P** **19 32 48.5 +1.0**
ULHL Ulahol 53.47 302 P **P** **19 32 57.6 +1.3**
SNR=16
BOOM Boomskoye usch 53.65 303 P **P** **19 32 58.6 +1.0**
BOOM pmax pmax
comp=Z,12nm,0.7s
BOOM Boomskoye usch 53.65 303 P **P** **19 32 58.6 +1.0**
BOOM IAmb IAmb 19 32 59.5
comp=Z,12nm,0.7s
TKM2 Tokmak 2 53.83 303 P **P** **19 33 00.0 +1.1**
SNR=19
AS31 Alice Springs 54.03 190 P **P** **19 32 59.8 -0.4**
ASAR Alice Springs 54.03 190 P **P** **19 32 60.0 -0.3**
comp=Z,1.9nm,0.5s,baz=0.7,slow=4.7,SNR=38
ASAR PcP **PcP** **19 34 06.9 +1.9**
comp=Z,1.1nm,0.8s,baz=10,slow=4.8,SNR=2.4
ASAR Alice Springs 54.03 190 P **P** **19 33 00.0 -0.3**
ASAR 19 34 06.9
ASAR Alice Springs 54.03 190 P **P** **19 32 59.7 -0.6**
NEA2 Nenana 54.13 30 P **P** **19 32 59.8 -0.7**
KBK Karagaybulak 54.35 303 P **P** **19 33 04.2 +1.6**
SNR=12
CHMS Chumysh 54.43 304 P **P** **19 33 04.3 +1.2**
SNR=8.1
FRU1 Bishkek 54.55 303 P **P** **19 33 04.1 +0.1**
FRU1 pmax pmax
comp=Z,22nm,1.0s
FRU1 Bishkek 54.55 303 P **P** **19 33 04.1 +0.1**
FRU1 IAmb IAmb 19 33 06.0
comp=Z,22nm,0.9s
USP Ospenovka 54.56 304 P **P** **19 33 04.8 +0.7**
SNR=17
BTLS Baital 54.60 306 *e*P **P** **19 33 04.6 +0.4**
BTLS pmax pmax
comp=Z,5.0nm,0.5s
AAK Ala-Archa 54.68 303 *ce*P **P** **19 33 06.1 +1.0**
AAK pmax pmax
comp=Z,63nm,1.7s
AAK Ala-Archa 54.68 303 P **P** **19 33 04.8 -0.2**
AAK IAmb IAmb 19 33 06.8
comp=Z,9.6nm,0.8s
BRZS Berezniki 54.85 312 *e*P **P** **19 33 06.8 +0.8**
BRZS pmax pmax
comp=Z,5.0nm,0.8s
HDA Harding Lake 55.03 30 P **P** **19 33 07.0 0.0**
IL31 55.08 30 P **P** **19 33 06.5 -0.7**
ILAR Eielson Array 55.08 30 P **P** **19 33 07.0 -0.4**
comp=Z,1.7nm,0.8s,baz=262,slow=5.7,SNR=15
ILAR Eielson Array 55.08 30 P **P** **19 33 07.0 -0.4**
ILAR Eielson Array 55.08 30 P **P** **19 33 07.0 -0.4**
EKS2 Erkin-Say 55.20 303 P **P** **19 33 09.7 +1.0**
SNR=11
AML Almayashu 55.36 303 P **P** **19 33 11.9 +1.6**
SNR=58
L27K Beaver Creek, 57.30 32 P **P** **19 33 24.0 +0.6**
BCAR Beaver Creek A 57.33 32 P **P** **19 33 24.0 +0.5**
DRK Karamyk 57.34 300 P **P** **19 33 25.4 +1.1**
KK31 Karatay Array 57.46 304 P **P** **19 33 25.8 +1.1**
KK31 pmax pmax
comp=Z,37nm,0.7s
KK31 Karatay Array 57.46 304 P **P** **19 33 25.8 +1.1**
KKAR Karatay Array 57.46 304 P **P** **19 33 25.6 +0.9**
KKAR pmax pmax
comp=Z,37nm,0.7s
KKAR Karatay Array 57.46 304 P **P** **19 33 25.6 +0.9**
KKAR Karatay Array 57.46 304 P **P** **19 33 25.8 +1.0**
KKAR IAmb IAmb 19 33 26.7
comp=Z,37nm,0.7s
NIL Nilore 57.75 293 P **P** **19 33 27.3 +0.4**
NIL pmax pmax
comp=Z,17nm,0.5s
NIL Nilore 57.75 293 P **P** **19 33 27.3 +0.4**
BTK Batken 57.93 301 P **P** **19 33 28.6 +0.4**
BTK pmax pmax
comp=Z,17nm,0.8s
BTK Batken 57.93 301 P **P** **19 33 28.6 +0.4**
GAR Garm 58.57 300 P **P** **19 33 33.4 +0.6**
TAS Tashkent 58.74 303 P **P** **19 33 34.5 +0.7**
TAS Tashkent 58.74 303 P **P** **19 33 34.5 +0.7**
EPYK Eagle Plains 59.27 28 P P 19 33 38.7 +1.7
CHGR Chuyangaron 59.53 300 P **P** **19 33 40.5 +1.1**
INK Inuvik 60.30 25 P **P** **19 33 45.0 +1.1**
comp=Z,3.8nm,0.6s,baz=288,slow=5.0,SNR=17
INK Inuvik 60.30 25 P **P** **19 33 44.3 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 60.30 25 P **P** **19 33 44.3 +0.4**
KBL Kabul 60.82 295 P **P** **19 33 48.5 +0.1**
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 60.82 295 P **P** **19 33 48.5 +0.1**
KBL IAmb IAmb 19 33 49.5
comp=Z,9.7nm,0.9s
SVE Sverdlovsk 60.95 322 *e*P **P** **19 33 49.6 +1.0**
SVE pmax pmax
comp=Z,11nm,0.9s
STKA Stephens Creek 61.61 181 P **P** **19 33 53.0 -0.3**
comp=Z,1.9nm,0.6s,baz=0.9,slow=8.2,SNR=7.6
STKA Stephens Creek 61.61 181 P **P** **19 33 52.1 -1.2**
STKA pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 61.61 181 P **P** **19 33 52.1 -1.2**
ARU Arti 62.15 321 *c i*P **P** **19 33 57.2 +0.5**
ARU 19 34 36.2
ARU S **S** **19 42 24.9 +5.4**
ARU SS **SS** **19 46 26.7 +4.5**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU Arti 62.15 321 P **P** **19 33 57.0 +0.3**
ARU IAmb IAmb 19 33 58.8
comp=Z,14nm,0.9s
ABKAR Akbulak array 63.11 313 P **P** **19 34 04.0 +0.7**
ABKAR Akbulak array 63.11 313 P **P** **19 34 03.7 +0.4**
HRA Herat 66.16 297 P **P** **19 34 24.9 +1.2**
HRA IAmb IAmb 19 34 25.9
comp=Z,19nm,1.1s
EUNU Eureka 66.95 8 P **P** **19 34 28.2 +0.4**
EUNU IAmb IAmb 19 34 29.6
comp=Z,8.1nm,0.7s
PRGR Permogore 67.05 329 *e*P **P** **19 34 28.6 0.0**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
GEYT Alibeck 67.99 302 P **P** **19 34 35.5 +0.5**
comp=Z,533nm,0.9s,baz=226,slow=5.8,SNR=15
YKA Yellowknife Ar 69.49 29 P **P** **19 34 44.9 +1.0**
comp=Z,2.7nm,0.6s,baz=293,slow=6.1,SNR=12
YKA Yellowknife Ar 69.49 29 P **P** **19 34 44.9 +1.0**
YKA Yellowknife Ar 69.49 29 P **P** **19 34 44.2 +0.3**
KLMR Klimovskoe 70.07 329 *e*P **P** **19 34 45.6 -1.8**
KLMR pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 70.07 329 *e*P **P** **19 34 45.7 -1.7**
KLMR AMP 19 34 49.0
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 70.78 341 P **P** **19 34 52.5 +0.9**
comp=Z,3.6nm,0.8s,baz=74,slow=8.9,SNR=13
ARCES LR LR 20 11 28.1
comp=Z,54nm,18.1s,baz=55,slow=41
ARCES ARCESS Array B 70.78 341 P **P** **19 34 52.8 +1.2**
ARCES pmax pmax
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 70.78 341 P **P** **19 34 52.8 +1.2**
ARCES IAmb IAmb 19 34 53.6
comp=Z,10nm,1.1s
JOF Joensuu 72.47 333 P **P** **19 35 02.7 +0.8**
JOF pmax pmax
comp=Z,12nm,0.8s
OBN Obninsk 74.15 325 *i*P **P** **19 35 11.5 -0.4**
OBN *i* 19 35 31.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,38nm,15.0s
PINE Pine Mountain 74.34 48 P **P** **19 35 14.3 +0.7**
PINE IAmb IAmb 19 35 28.8
comp=Z,8.0nm,1.1s
LKRN Lenkeran, Azer 74.40 306 P **P** **19 35 15.0 +1.3**
ZKTA Zakatala 74.59 309 P **P** **19 35 16.1 +1.3**
MNGR Mingechevir, A 74.66 308 P **P** **19 35 16.5 +1.3**
E09A Wood Farm, Sta 74.86 45 P **P** **19 35 18.0 +1.7**
GANJ Ganja 75.23 308 P **P** **19 35 19.8 +1.2**
FINES FINESS Array B 75.33 334 P **P** **19 35 19.5 +0.8**
comp=Z,3.4nm,0.4s,baz=58,slow=5.3,SNR=54
FINES FINESS Array B 75.33 334 P **P** **19 35 19.5 +0.8**
FINES FINESS Array B 75.33 334 P **P** **19 35 19.3 +0.6**
KBZ Khabaz 76.07 313 P **P** **19 35 24.3 +1.1**
comp=Z,8.7nm,0.8s,baz=81,slow=4.1,SNR=24
KBZ LR LR 20 13 24.4
comp=Z,52nm,18.2s,baz=47,slow=39
KBZ Khabaz 76.07 313 *ce*P **P** **19 35 25.0 +1.8**
KIV Kislovodsk 76.09 313 *e*P **P** **19 35 24.4 +0.9**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,51nm,18.0s
KIV Kislovodsk 76.09 313 P **P** **19 35 24.7 +1.2**
KIV IAmb IAmb 19 35 26.9
comp=Z,9.5nm,0.8s
ONI Oni 76.25 311 P **P** **19 35 25.9 +1.5**
ONI pmax pmax
comp=Z,8.0nm,1.1s
ONI Oni 76.25 311 P **P** **19 35 25.9 +1.5**
ONI IAmb IAmb 19 35 27.3
comp=Z,8.0nm,1.1s
NAX Nakhchivan 76.47 307 P **P** **19 35 27.3 +1.5**
BEKR Beckworth 76.53 52 P **P** **19 35 26.8 +0.6**
CMB Columbia Colle 77.37 53 P **P** **19 35 31.1 +0.3**
CMB pmax pmax
comp=Z,2.0nm,0.8s
CMB Columbia Colle 77.37 53 P **P** **19 35 31.1 +0.3**
SUMG Summit 77.63 0 P **P** **19 35 33.7 +1.7**
SUMG pmax pmax
comp=Z,4.0nm,0.6s
SUMG Summit 77.63 0 P **P** **19 35 33.7 +1.7**
SUMG IAmb IAmb 19 35 34.9
comp=Z,4.4nm,0.6s
NVAR Mina Array Bea 78.62 52 P **P** **19 35 39.3 +1.4**
comp=Z,0.8nm,0.6s,baz=293,slow=7.1,SNR=0.8
LRM Limekiln Ridge 78.64 43 P **P** **19 35 39.7 +1.7**
MNK Minsk 78.70 327 *i*P **P** **19 35 33.9 -3.8**
MNK *i* 19 38 31.1
MNK *i* S **S** **19 45 30.8 -1.6**
MNK *i* 19 45 54.5
MNK *i* SS **SS** **19 50 43.0 +7.0**
MNK *i* SSS SSS 19 53 59.8
MNK pmax pmax
comp=Z,5.0nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK MLR MLR
comp=Z,111nm,26.0s
MNK MLR MLR
comp=E,9.0nm,23.0s
MNK MLR MLR
comp=N,291nm,25.0s
MNK Minsk 78.70 327 *i*P **P** **19 35 33.9 -3.8**
comp=E,1.0nm,0.8s
MNK *i*P **P** **19 35 33.9 -3.8**
comp=N,8.0nm,0.8s
MNK *i*P **P** **19 35 33.9 -3.8**
comp=Z,5.0nm,0.7s,baz=234
MNK *i* PP **PP** **19 38 31.1 -4.4**
MNK *i* PPP PPP 19 40 19.2
MNK *i* S **S** **19 45 30.8 -1.5**
MNK *i* SS **SS** **19 50 43.0 +7.1**
MNK *i* SSS SSS 19 53 59.8
MNK *i* LQ LQ 20 05 06.4
MNK *i* LQ LQ 20 05 06.4
MNK *i* LR LR 20 08 27.6
MNK *i* LRM MLR 20 11 28.5
comp=Z,111nm,26.1s
MNK *i* LRM MLR 20 12 16.8
comp=E,9.0nm,23.1s
MNK *i* LRM MLR 20 12 40.9
comp=N,291nm,24.6s
PABE Paberze 79.86 329 P **P** **19 35 44.8 +0.8**
AKASG Malin Array Be 80.28 324 P **P** **19 35 46.3 -0.1**
comp=N,1.9nm,0.4s,baz=48,slow=5.7,SNR=25
AKASG LR LR 20 14 23.1
comp=N,75nm,18.3s,baz=40,slow=38
AKASG Malin Array Be 80.28 324 P **P** **19 35 47.0 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 80.28 324 P **P** **19 35 47.0 +0.5**
AKBB Malin Array Si 80.28 324 P **P** **19 35 46.8 +0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 80.28 324 P **P** **19 35 46.8 +0.4**
AKBB IAmb IAmb 19 35 47.8
comp=Z,6.0nm,0.7s
NC405 NORSAR Array S 80.68 338 P **P** **19 35 48.8 +0.4**
NC204 NORSAR Array S 80.86 339 P **P** **19 35 49.3 -0.1**
NC204 IAmb IAmb 19 35 51.3
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 80.89 338 P **P** **19 35 50.3 +0.7**
comp=Z,4.7nm,0.8s,baz=42,slow=5.3
NOA NORSAR Array B 80.89 338 P **P** **19 35 50.5 +0.9**
comp=Z,3.9nm,0.8s,baz=41,slow=5.2,SNR=18
NOA LR LR 20 17 48.7
comp=Z,39nm,19.3s,baz=30,slow=40
NOA NORSAR Array B 80.89 338 P **P** **19 35 50.5 +0.9**
NOA NORSAR Array B 80.89 338 P **P** **19 35 50.5 +0.9**
SUW Suwalki 81.17 329 P **P** **19 35 51.7 +0.6**
SUW pmax pmax
comp=Z,38nm,1.0s
SUW Suwalki 81.17 329 P **P** **19 35 51.7 +0.6**
MALT Malatya 81.70 309 P P 19 35 57.6 +3.2
PDAR Pinedale Array 82.04 45 P **P** **19 35 56.9 +0.6**
comp=Z,0.3nm,0.5s,baz=311,slow=2.9,SNR=5.9
PDAR Pinedale Array 82.04 45 P **P** **19 35 56.9 +0.6**
BNN Bunyan 83.12 311 P **P** **19 36 02.5 +0.6**
GAZ Gaziantep 83.12 309 P **P** **19 36 02.0 +0.1**
GAZ IAmb IAmb 19 36 04.3
comp=Z,15nm,1.0s
BR131 Keskin Array S 84.06 313 P **P** **19 36 07.3 +0.7**
BR131 pmax pmax
comp=Z,11nm,0.9s
BR131 Keskin Array S 84.06 313 P **P** **19 36 07.3 +0.7**
BR131 IAmb IAmb 19 36 08.7
comp=Z,11nm,0.8s
BRTR Keskin Array B 84.06 313 P **P** **19 36 07.3 +0.6**
comp=Z,4.6nm,0.7s,baz=101,slow=3.3,SNR=22
BRTR LR LR 20 16 42.2
comp=Z,32nm,18.9s,baz=66,slow=38
BRTR Keskin Array B 84.06 313 P **P** **19 36 07.3 +0.6**
BRTR Keskin Array B 84.06 313 P **P** **19 36 07.3 +0.6**
BUR08 Bucovina Ar. S 84.24 323 P **P** **19 36 08.4 +1.0**
BUR08 IAmb IAmb 19 36 09.3
comp=Z,3.3nm,0.7s
BURAR Bucovina Array 84.25 323 P **P** **19 36 08.1 +0.7**
BURAR IAmb IAmb 19 36 09.5
comp=Z,3.3nm,0.7s
KOLS Kolonicke sedl 84.91 325 *e*P **P** **19 36 12.1 +1.5**
KOLS Kolonicke sedl 84.91 325 *e*P **P** **19 36 12.1 +1.5**
CLL Collm 87.51 331 *i*P **P** **19 36 24.3 +1.0**
comp=Z,2.0nm,1.0s
CLL *i* 19 36 29.5
CLL Collm 87.51 331 *i*P **P** **19 36 24.3 +1.0**
CLL *i* 19 36 29.5
CLL pmax pmax
comp=Z,2.0nm,1.0s
EYMN Ely 88.58 33 P **P** **19 36 29.9 +1.3**
EYMN IAmb IAmb 19 36 30.3
comp=Z,3.7nm,1.0s
CONA Conrad Observa 88.70 327 *e*P **P** **19 36 30.7 +1.6**
comp=Z,4.2nm,1.2s
GERES GERESS Array B 89.02 329 P **P** **19 36 30.7 0.0**
comp=Z,0.6nm,0.6s,baz=48,slow=6.1,SNR=6.4
GERES GERESS Array B 89.02 329 P **P** **19 36 30.7 0.0**
SOKA Soboth 89.99 327 *e*P **P** **19 36 35.8 +0.5**
comp=Z,2.1nm,0.7s
ABTA Abfaltersbach 91.12 328 *e*P **P** **19 36 40.1 -0.4**
comp=Z,3.7nm,0.8s
FETA Feichten 91.71 329 *e*P **P** **19 36 43.6 +0.3**
comp=Z,2.2nm,0.7s
DAVA Damuels 91.88 330 *e*P **P** **19 36 45.0 +0.9**
comp=Z,5.7nm,0.9s
TX31 Lajitas Ar. Si 93.75 53 P **P** **19 36 54.9 +1.9**
TX31 IAmb IAmb 19 36 59.4
comp=Z,8.0nm,1.1s
TX32 Lajitas Array 93.75 53 P P 19 36 55.2 +2.2
TXAR Lajitas Array 93.75 53 P **P** **19 36 54.9 +1.9**
comp=Z,1.8nm,0.8s,baz=292,slow=3.4,SNR=14
TXAR Lajitas Array 93.75 53 P **P** **19 36 54.9 +1.9**
O49A Covington 97.79 34 P Pdif 19 37 12.2 +1.0
TORD Torodi Ar. Bea 122.67 313 PKP **PKiKP** **19 42 32.3 +0.1**
comp=Z,0.6nm,0.5s,baz=349,slow=1.3,SNR=5.7
TORD Torodi Ar. Bea 122.67 313 **PKiKP** **19 42 32.3 +0.1**
LPAZ La Paz 148.96 71 PKPbc **PKPab** **19 43 25.6 -3.4**
comp=Z,1.8nm,0.6s,baz=352,slow=6.3,SNR=5.4
LPAZ La Paz 148.96 71 PKP2 **PKPab** **19 43 26.8 -2.2**
LPAZ La Paz 148.96 71 **PKPab** **19 43 26.8 -2.2**

IDC ***23*** *19:43:02.5±4.4, 38°.12N×73°.03E, h102km±34km, mb3.3/9, mb1 3.5/14, mb1mx3.2/52, mbtmp3.7/14, MS3.2/1, Ms1 3.2/1, ms1mx2.1/32, Error ellipse: s-maj=32.4km s-min=24.9km az=13.0*
NNC ***23*** *19:43:11.8±7.6, 38°.90N×72°.82E, h197km±56km, mb3.0, mpv3.6, Error ellipse: s-maj=69.2km s-min=57.2km az=16.0*
ISC 23 19:43:03.3±0.8,**38°.23N**±0°.07×**72°.9E**±0°.1,**h100**km,**n26,**
σ1**§34/26,mb3.5/8,4C-2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.95**	**9**	P	**Pn**	**19 44 03.8**	**+1.7**
SNR=21							
CEP	**Cherat**	**4.46**	**190**	P	Pn	19 44 12.4	+3.5
EKS2	**Erkin-Say**	**4.48**	**9**	P	**Pn**	**19 44 11.4**	**+2.4**
SNR=22							
AAK	**Ala-Archa**	**4.58**	**15**	P	**Pn**	**19 44 10.9**	**+0.5**
2.3nm,0.3s,baz=164,slow=4.9,SNR=3.3							
AAK				S	**Sn**	**19 45 03.9**	**+1.5**
10nm,0.3s,baz=343,slow=19,SNR=22							
CHCP	**Chirah Chowk**	**4.58**	**176**	P	Pn	19 44 13.4	+3.1
KBK	**Karagaybulak**	**4.70**	**19**	P	**Pn**	**19 44 14.8**	**+2.7**
SNR=8.5							
ULHL	**Ulahol**	**4.77**	**32**	P	**Pn**	**19 44 13.9**	**+0.9**
SNR=18							
USP	**Ospenovka**	**5.18**	**13**	P	**Pn**	**19 44 20.1**	**+1.6**
SNR=6.5							
KK31	**Karatay Array**	**5.18**	**341**	⇑P	**Pn**	**19 44 19.4**	**+0.9**
3.1nm,0.3s,baz=153,slow=12							
KK31				⇑S	**Sn**	**19 45 15.3**	**-1.7**
34nm,0.4s,baz=157,slow=23							
THW	**Thamme Wali**	**5.50**	**190**	P	**Pn**	**19 44 24.7**	**+1.9**
MKAR	**Makanchi Array**	**11.02**	**36**	P	**Pn**	**19 45 37.9**	**+0.1**
0.1nm,0.3s,baz=215,slow=11,SNR=1.8							
KURBB	**Kurchatov Arra**	**13.03**	**16**	P	**Pn**	**19 46 03.3**	**-1.1**
0.0nm,0.3s,baz=208,slow=10.0,SNR=2.4							
AB31	**Akbulak array**	**14.42**	**324**	⇑P	**Pn**	**19 46 21.0**	**-1.4**
1.7nm,0.4s							
AB31				⇑S	Sn	19 48 51.1	-10
1.0nm,0.4s							
BVAR	**Borovoye Array**	**14.89**	**354**	P	**Pn**	**19 46 29.4**	**+0.9**
0.9nm,0.3s,baz=308,slow=46,SNR=11							
AKTO	**Aktyubinsk**	**16.14**	**324**	P	**Pn**	**19 46 44.0**	**0.0**
1.1nm,0.3s,baz=150,slow=8.7,SNR=19							
AKTO	**Aktyubinsk**	**16.14**	**324**	⇓P	**Pn**	**19 46 43.8**	**-0.2**
6.0nm,0.9s							
AKTO				⇓S	Sn	19 49 33.6	-9.0
2.0nm,1.1s							
ZALV	**Zalesovo Beam**	**17.73**	**24**	P	**P**	**19 47 01.8**	**-1.2**
0.7nm,0.3s,baz=212,slow=11,SNR=14							
ARU	**Arti**	**20.55**	**337**	P	**P**	**19 47 34.5**	**+0.9**
0.8nm,0.6s,baz=336,slow=8.5,SNR=4.3							
FINES	**FINESS Array B**	**36.91**	**324**	P	**P**	**19 50 02.5**	**+0.6**
1.8nm,0.9s,baz=119,slow=9.7,SNR=9.0							
FINES				LR	LR	20 06 34.1	
comp=Z,33nm,20.0s,baz=48,slow=38							
ARCES	**ARCESS Array B**	**40.13**	**336**	P	**P**	**19 50 29.3**	**+0.4**
3.4nm,1.1s,baz=110,slow=10,SNR=8.0							
NOA	**NORSAR Array B**	**43.91**	**322**	P	**P**	**19 50 59.6**	**-0.2**
0.3nm,0.5s,baz=110,slow=7.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**67.23**	**269**	P	**P**	**19 53 46.8**	**-0.4**
0.5nm,0.6s,baz=49,slow=4.7,SNR=2.3							
INK	**Inuvik**	**71.95**	**10**	P	**P**	**19 54 14.9**	**-0.4**
0.8nm,0.4s,baz=281,slow=4.7,SNR=5.0							
ILAR	**Eielson Array**	**72.70**	**17**	P	**P**	**19 54 18.9**	**-1.0**
0.4nm,0.8s,baz=294,slow=4.5,SNR=4.6							
YKA	**Yellowknife Ar**	**79.44**	**4**	P	**P**	**19 54 57.6**	**-0.5**
0.3nm,0.5s,baz=0.2,slow=5.2,SNR=5.2							
WRA	**Warramunga Arr**	**81.67**	**123**	P	**P**	**19 55 08.7**	**-1.9**
0.4nm,1.0s,baz=307,slow=7.2,SNR=1.1							

IDC ***23*** *19:54:52.1±0.7, 2°.90S×100°.04E, h0km, mb4.2/15, mb1 4.4/16, mb1mx4.2/37, mbtmp4.3/16, ML4.9/1, MS3.6/8, Ms1 3.6/8, ms1mx3.3/28, Error ellipse: s-maj=26.1km s-min=13.3km az=52.0*
DJA ***23*** *19:54:54.8±0.1, 3°S±2°×10°0E±°, h10km, M4.7/60, mB5.2/14, mb4.8/60, MLv4.9/20, Mw(mB)4.7/14*
BJI ***23*** *19:54:54.0±0.0, 2°.90S×99°.90E, h10km, mB4.8/12, mb4.6/20, Ms4.3/5, Ms7 4.1/4*
NEIC ***23*** *19:54:56.8±1.5, 2°.97S±0°.09×100°.0E±0°.1, h25km±5km, mb4.6/35, Error ellipse: s-maj=17.2km s-min=9.0km az=52.0*
KLM ***23*** *19:54:56, 2°.95S×99°.88E, h30km, mb4.4*
ISC 23 19:54:56.3±0.6,**3°.00S**±0°.08×**99°.92E**±0°.08,**h27**km,**n157,**

σ1§54/135, mb4.5/54, MS3.7/10, 1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**3.31**	**114**		**Pn**	**19 55 46.2**	**-0.3**
MNAI	**Manna**	**3.31**	**114**	P	**Pn**	**19 55 46.1**	**-0.4**
BKNI	**Bangkinang**	**3.49**	**19**	Pn	**Pn**	**19 55 48.4**	**-0.5**
BKNI	**Bangkinang**	**3.49**	**19**	P	**Pn**	**19 55 46.6**	**-2.3**
RGRI	**Rengat**	**3.57**	**42**	P	**Pn**	**19 55 49.0**	**-1.0**
LHSI	**Lahat**	**3.69**	**103**	P	**Pn**	**19 55 52.6**	**+1.0**
MNSI	**Mandailing Nat**	**3.79**	**355**	P	**Pn**	**19 55 51.5**	**-1.5**
JMBI	**JAMBI**	**3.96**	**70**	P	**Pn**	**19 55 53.8**	**-1.5**
MDSI	**Maura Dua**	**4.50**	**109**	P	**Pn**	**19 56 03.3**	**+0.6**
LWLI	**Liwa**	**4.59**	**116**	P	**Pn**	**19 56 04.5**	**+0.4**
GSI	**Gunungsitoli**	**4.88**	**331**	Pn	**Pn**	**19 56 06.3**	**-1.6**
GSI	**Gunungsitoli**	**4.88**	**331**	P	**Pn**	**19 56 06.4**	**-1.6**
KASI	**Kota Agung**	**5.20**	**119**	P	**Pn**	**19 56 12.1**	**-0.4**
	0.6nm1μm151nm,0.7s						
BLSI	**Bandar Lampung**	**5.81**	**114**	P	**Pn**	**19 56 21.8**	**+1.0**
	0.4nm62nm,0.7s						
MYKOM	**Kota Tinggi**	**6.17**	**40**	P	**Pn**	**19 56 25.0**	**-0.8**
PPBI	**Pangkal Pinang**	**6.26**	**82**	P	**Pn**	**19 56 27.3**	**+0.2**
	0.5nm3μm26nm,0.5s						
TSI	**Tuntungan**	**6.60**	**348**	P	**Pn**	**19 56 29.7**	**-2.0**
TPTI		**6.80**	**336**	P	**Pn**	**19 56 31.8**	**-2.6**
	0.0nm171nm11nm,0.6s						
JRMM	**Jerantut**	**7.30**	**20**	P	**Pn**	**19 56 42.0**	**+0.7**
TNG	**Tangerang**	**7.41**	**115**	P	**Pn**	**19 56 43.3**	**+0.6**
	2.0nm9μm246nm,0.5s						
TNG				P	Pb	19 56 44.3	-20
	1.4nm6μm171nm,0.5s						
IPM	**Ipoh**	**7.51**	**8**	P	**Pn**	**19 56 45.0**	**+0.8**
DBJI	**Dramaga**	**7.66**	**118**	P	**Pn**	**19 56 46.3**	**0.0**
	0.5nm4μm28nm,1.0s						
KULM	**Kulim**	**8.27**	**5**	P	**Pn**	**19 56 53.0**	**-1.6**
CNJI	**Cibinong**	**8.36**	**121**	P	**Pn**	**19 56 56.1**	**+0.3**
	71nm,1.2s						
LEM	**Lembang**	**8.56**	**117**	P	**Pn**	**19 56 59.5**	**+0.8**
	29nm,1.1s						
CISI	**Cisompet, Garu**	**9.07**	**120**		**Pn**	**19 57 03.8**	**-1.8**
CISI	**Cisompet, Garu**	**9.07**	**120**	P	Pn	19 57 15.4	+10
KPJI	**Karang Pucung**	**9.95**	**116**	P	**Pn**	**19 57 17.9**	**+0.2**
	35nm,0.8s						
KSM	**Kuching**	**11.29**	**67**	P	**Pn**	**19 57 36.0**	**-0.1**
STKI	**Sintang**	**11.95**	**75**	P	**Pn**	**19 57 42.5**	**-2.5**
PCJI	**Pacitan**	**12.33**	**115**	P	**Pn**	**19 57 50.9**	**+0.6**
	56nm,1.3s						
SBUM	**Sibu**	**13.43**	**66**	P	**Pn**	**19 58 06.0**	**+0.6**
BBKI	**Banjar Baru**	**14.90**	**92**	P	**Pn**	**19 58 25.0**	**-0.4**
	20nm,0.7s						
ABJI	**Asem Bagus**	**15.02**	**109**	P	**Pn**	**19 58 26.8**	**-0.1**
	208nm,1.0s						
MTKI	**Muara Teweh, K**	**15.10**	**83**	P	**Pn**	**19 58 27.4**	**-0.7**
DNP	**Denpasar**	**16.21**	**111**	P	**Pn**	**19 58 43.1**	**+0.6**
	18μm127nm,0.7s						
KBKI	**Kotabaru**	**16.22**	**91**	P	**Pn**	**19 58 43.2**	**+0.6**
	12nm,0.8s						
SPMM	**Sapulut**	**18.22**	**65**	P	**P**	**19 59 07.0**	**-0.6**
PLAI	**Plampang**	**18.67**	**109**	P	**Pn**	**19 59 13.2**	**+0.2**
	30nm,0.8s						
TTSI	**Tana Toraja**	**19.87**	**91**	P	**Pn**	**19 59 26.4**	**-1.0**
	20nm,1.0s						
KAPI	**Kappang**	**19.88**	**96**	P	**P**	**19 59 23.3**	**-2.5**
	3.3nm,0.3s,baz=289,slow=12,SNR=4.3						
KAPI				LR	LR	20 07 22.3	
	comp=Z,102nm,19.5s,baz=290,slow=38						
PHIT	**Phitsanulok**	**20.07**	**1**	P	Pn	19 59 38.8	+9.1
PHIT	**Phitsanulok**	**20.07**	**1**	P	Pn	19 59 38.0	+8.3
	0.0nm7.0nm,0.8s						
BNSI	**Bone**	**20.19**	**95**	P	**P**	**19 59 29.7**	**+0.5**
	26nm,0.9s						
MPSI	**Mapaga**	**20.24**	**81**	P	Pn	19 59 30.4	-1.4
	407nm33nm,1.0s						
BKSI	**Bulukumba**	**20.28**	**97**	P	**P**	**19 59 29.4**	**-0.7**
	387nm37nm,0.9s						
WBSI	**Waikabubak, Su**	**20.43**	**110**	P	**P**	**19 59 32.5**	**+0.6**
	35nm,0.8s						
BSSI	**Bau Bau, Buton**	**20.74**	**99**	P	**P**	**19 59 35.8**	**+0.7**
	31nm,2.1s						
MHMT	**Maesarieng**	**21.14**	**355**	P	P	19 59 49.9	+11
MHMT	**Maesarieng**	**21.14**	**355**	P	P	19 59 50.0	+11
TOLI2	**Tolitoli**	**21.25**	**79**	P	**P**	**19 59 39.4**	**-1.2**
TOLI2				IAmb	IAmb	19 59 50.9	
	comp=Z,37nm,1.0s						
CM04	**Chiang Mai Arr**	**21.29**	**358**	P	**P**	**19 59 44.2**	**+3.2**
	comp=Z,60nmcomp=Z,7.4nm,0.8s						
CM04	**Chiang Mai Arr**	**21.29**	**358**	P	**P**	**19 59 44.0**	**+3.0**
	comp=Z,0.0nmcomp=Z,60nmcomp=Z,7.4nm,0.8s						
CM05	**Chiang Mai Arr**	**21.29**	**357**	P	**P**	**19 59 45.9**	**+4.9**
	comp=Z,45nmcomp=Z,4.8nm,0.7s						
CM05	**Chiang Mai Arr**	**21.29**	**357**	P	**P**	**19 59 45.9**	**+4.9**
	comp=Z,0.0nmcomp=Z,45nmcomp=Z,4.8nm,0.7s						
CM01	**Chiang Mai Arr**	**21.31**	**357**	P	**P**	**19 59 45.0**	**+3.8**
	comp=Z,60nmcomp=Z,6.9nm,0.7s						
CM01	**Chiang Mai Arr**	**21.31**	**357**	P	**P**	**19 59 45.0**	**+3.8**
	comp=Z,0.0nmcomp=Z,60nmcomp=Z,6.9nm,0.7s						
CM13	**Chiang Mai Arr**	**21.31**	**357**	P	**P**	**19 59 44.4**	**+3.2**
	comp=Z,58nmcomp=Z,7.0nm,0.9s						
CM13	**Chiang Mai Arr**	**21.31**	**357**	P	**P**	**19 59 44.5**	**+3.2**
	comp=Z,0.0nmcomp=Z,58nmcomp=Z,7.0nm,0.9s						
CM02	**Chiang Mai Arr**	**21.32**	**357**	P	**P**	**19 59 45.4**	**+4.1**
	comp=Z,56nmcomp=Z,8.2nm,0.9s						
CM02	**Chiang Mai Arr**	**21.32**	**357**	P	**P**	**19 59 45.5**	**+4.1**
	comp=Z,0.0nmcomp=Z,56nmcomp=Z,8.2nm,0.9s						
CM09	**Chiang Mai Arr**	**21.33**	**358**	P	**P**	**19 59 45.0**	**+3.6**
	comp=Z,0.0nmcomp=Z,67nmcomp=Z,9.3nm,0.9s						
CM15	**Chiang Mai Arr**	**21.34**	**357**	P	**P**	**19 59 44.3**	**+2.7**
	comp=Z,64nmcomp=Z,6.4nm,0.7s						
CM15	**Chiang Mai Arr**	**21.34**	**357**	P	**P**	**19 59 44.0**	**+2.4**
	comp=Z,0.0nmcomp=Z,64nmcomp=Z,6.4nm,0.7s						
CM31	**Chiang Mai Arr**	**21.35**	**357**	P	**P**	**19 59 44.0**	**+2.4**
	comp=Z,0.8nmcomp=Z,208nm,0.8s						
CM31	**Chiang Mai Arr**	**21.35**	**357**	P	**P**	**19 59 39.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**21.35**	**357**	P	**P**	**19 59 39.1**	**-2.5**
	comp=Z,3.3nm,0.7s,baz=184,slow=9.9,SNR=22						
CMAR				LR	LR	20 08 48.1	
	comp=Z,170nm,19.4s,baz=220,slow=39						
CMAR	**Chiang Mai Arr**	**21.35**	**357**	P	**P**	**19 59 41.4**	**-0.2**
LAMP	**Lampang**	**21.39**	**359**	P	P	19 59 50.3	+8.2
LAMP	**Lampang**	**21.39**	**359**	P	P	19 59 50.4	+8.3
	comp=Z,132nmcomp=Z,2.9nm,1.0s						
CM36	**Chiang Mai Arr**	**21.40**	**358**	P	**P**	**19 59 44.0**	**+1.8**
CM32	**Chiang Mai Arr**	**21.55**	**357**	P	P	19 59 56.0	+12
CMMT	**Chiang Mai**	**21.70**	**358**	P	P	19 59 57.5	+12
CMMT	**Chiang Mai**	**21.70**	**358**	P	P	19 59 57.0	+12
CHTO	**Chiang Mai**	**21.70**	**357**	P	P	19 59 57.6	+12
CM33	**Chiang Mai Arr**	**21.70**	**358**	P	P	19 59 57.0	+12
PALK	**Pallekele**	**21.73**	**298**	LR	LR	20 07 02.7	
	comp=Z,173nm,19.9s,baz=221,slow=34						
CM34	**Chiang Mai Arr**	**21.73**	**358**	P	P	19 59 54.0	+8.3
APSI	**Ampana**	**21.81**	**85**	P	**P**	**19 59 46.8**	**+0.1**
	comp=Z,385nmcomp=Z,3.0nm,1.0s						
MRSI	**Marisa**	**22.28**	**81**	P	**P**	**19 59 52.2**	**+0.5**
	comp=Z,25nm,1.1s						
EDFI	**Ende, Flores**	**22.39**	**106**	P	**P**	**19 59 53.9**	**+0.9**
	comp=Z,3.3nm,0.7s						
MMRI	**Maumere**	**22.89**	**105**	P	**P**	**19 59 58.1**	**-0.1**
	comp=Z,21nm,0.8s						
GTOI	**Gorontalo**	**23.36**	**81**	P	**P**	**20 00 02.1**	**-0.9**
	comp=Z,13nm,1.1s						
SLVN	**Son La**	**24.50**	**9**	P	**P**	**20 00 12.8**	**-0.8**
SOEI	**Soe**	**25.09**	**107**	P	**P**	**20 00 19.6**	**+0.4**
	comp=Z,13nm,1.4s						
SGSI	**Sangihe**	**26.44**	**76**	P	**P**	**20 00 31.0**	**-0.3**
	comp=Z,36nm,0.9s						
NLAI	**Namlea**	**27.14**	**91**	P	**P**	**20 00 36.9**	**-0.7**
	comp=Z,6.9nm,0.7s						
H08S2	**Diego Garcia H**	**27.69**	**259**	T	T	20 29 43.3	
	baz=81,slow=75,SNR=2931						
H08S3	**Diego Garcia H**	**27.70**	**259**	T	T	20 29 40.3	
	baz=81,slow=75,SNR=3895						
H08S1	**Diego Carcia H**	**27.71**	**259**	T	T	20 29 43.3	
	baz=81,slow=75,SNR=2792						
SWI	**Sorong**	**31.39**	**87**	P	**P**	**20 01 14.9**	**-0.5**
	comp=Z,9.7nm,1.0s						
SAUI	**Saumlaki**	**31.61**	**100**	P	**P**	**20 01 18.7**	**+1.4**
	comp=Z,254nm,0.9s						
LSA	**Lhasa**	**33.58**	**346**	P	**P**	**20 01 35.4**	**+0.5**
LSA	**Lhasa**	**33.58**	**346**	P	**P**	**20 01 35.4**	**+0.5**
LSA				IAmb	IAmb	20 01 41.8	
	comp=Z,5.7nm,0.7s						
ENH	**Enshi**	**34.33**	**15**	P	**P**	**20 01 41.6**	**+0.7**
ENH				IAmb	IAmb	20 01 49.9	
	comp=Z,18nm,1.4s						
H01W3	**Cape Leeuwin H**	**34.36**	**159**	T	T	20 38 06.4	
	baz=335,slow=76,SNR=88						
H01W2	**Cape Leeuwin H**	**34.38**	**159**	T	T	20 38 04.2	
	baz=335,slow=56,SNR=104						
H01W1	**Cape Leeuwin H**	**34.38**	**159**	T	T	20 38 12.6	
	baz=335,slow=76,SNR=70						
WB0	**Warramunga Arr**	**37.55**	**119**	P	**P**	**20 02 08.4**	**-0.3**
WB0				IAmb	IAmb	20 02 24.4	
	comp=Z,9.7nm,1.1s						
WRA	**Warramunga Arr**	**37.56**	**119**	P	**P**	**20 02 07.5**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=277,slow=7.6,SNR=35						
WRA				PcP	**PcP**	**20 04 27.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=304,slow=2.0,SNR=4.8						
WRA				S	**S**	**20 07 52.6**	**-4.2**
	comp=Z,1.7nm,1.0s,baz=292,slow=16,SNR=6.2						
WRA	**Warramunga Arr**	**37.56**	**119**	P	**P**	**20 02 08.6**	**-0.2**
WRAB	**Tennant Creek**	**37.57**	**119**	P	**P**	**20 02 08.7**	**-0.1**
WRAB				IAmb	IAmb	20 02 26.2	
	comp=Z,7.4nm,0.9s						
WB2	**Warramunga Arr**	**37.58**	**119**	P	**P**	**20 02 08.8**	**-0.1**
WB2				IAmb	IAmb	20 02 26.1	
	comp=Z,7.9nm,1.1s						
WR0	**Warramunga Arr**	**37.75**	**119**	P	**P**	**20 02 09.9**	**-0.4**
WR0				IAmb	IAmb	20 02 27.2	
	comp=Z,8.3nm,0.8s						
XAN	**Xi'an**	**37.81**	**12**	P	**P**	**20 02 13.3**	**+2.7**
XAN				pP	sP	20 02 19.6	-1.9
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
XAN				LR	LR		
	comp=Z,170nm,18.4s						
XAN				LR	LR		
	comp=Z,230nm,13.3s						
XAN				LR	LR		
	comp=Z,340nm,18.4s						
ASAR	**Alice Springs**	**38.74**	**125**	P	**P**	**20 02 17.9**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=298,slow=7.8,SNR=31						
ASAR				PcP	**PcP**	**20 04 31.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=317,slow=2.3,SNR=4.6						
ASAR				S	**S**	**20 08 15.0**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=299,slow=16,SNR=4.5						
ASAR				LR	LR	20 19 34.4	
	comp=Z,78nm,19.8s,baz=322,slow=38						
ASAR	**Alice Springs**	**38.74**	**125**	P	**P**	**20 02 18.9**	**+0.2**
AS31	**Alice Springs**	**38.74**	**125**	P	**P**	**20 02 18.9**	**+0.2**
GTA	**Gaotai**	**42.20**	**360**	‖P	P	20 02 52.0	+4.8
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,55nm,5.1s						
GTA				LR	LR		
	comp=Z,120nm,14.5s						
GTA				LR	LR		
	comp=Z,170nm,14.9s						
GTA				LR	LR		
	comp=Z,140nm,16.0s						
NIL	**Nilore**	**44.30**	**328**	P	**P**	**20 03 03.6**	**-0.5**
KSRS	**Korea Array**	**47.92**	**30**	P	**P**	**20 03 31.1**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=228,slow=8.4,SNR=5.4						
KSRS				LR	LR	20 24 21.9	
	comp=Z,59nm,18.3s,baz=195,slow=37						
STKA	**Stephens Creek**	**48.55**	**131**	P	**P**	**20 03 37.3**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=300,slow=10,SNR=7.8						
TARG	**Taragay, Kyrgy**	**48.85**	**338**	P	**P**	**20 03 40.3**	**+0.2**
TARG				IAmb	IAmb	20 03 57.2	
	comp=Z,4.4nm,0.7s						
PRZ	**Przheval'sk**	**49.29**	**339**	P	**P**	**20 03 44.1**	**+0.9**
DRK	**Karamyk**	**49.56**	**331**	P	**P**	**20 03 45.8**	**+0.4**
BOOM	**Boomskoye usch**	**50.22**	**337**	P	**P**	**20 03 51.1**	**+0.9**
BOOM				IAmb	IAmb	20 03 51.8	
	comp=Z,6.6nm,0.7s						
SONM	**Songino Array**	**50.94**	**6**	P	**P**	**20 03 55.1**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=189,slow=8.8,SNR=29						
SONM	**Songino Array**	**50.94**	**6**	P	**P**	**20 03 55.5**	**0.0**
SONM				IAmb	IAmb	20 04 04.2	
	comp=Z,9.2nm,1.0s						
ULN	**Ulaanbaatar**	**51.04**	**6**	P	**P**	**20 03 56.4**	**+0.1**
ULN				IAmb	IAmb	20 04 04.4	
	comp=Z,7.1nm,0.9s						
CN2	**Changchun**	**51.93**	**23**	*e*P	**P**	**20 04 02.5**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**51.97**	**345**	P	**P**	**20 04 03.1**	**0.0**
MK31				IAmb	IAmb	20 04 04.1	
	comp=Z,5.3nm,0.7s						
MKAR	**Makanchi Array**	**51.97**	**345**	P	**P**	**20 04 03.2**	**+0.1**
	comp=Z,7.8nm,0.6s,baz=146,slow=8.0,SNR=111						
MKAR	**Makanchi Array**	**51.97**	**345**	P	**P**	**20 04 02.9**	**-0.2**
MAKZ	**Makanchi**	**52.06**	**344**	P	**P**	**20 04 04.0**	**+0.1**
KK31	**Karatay Array**	**53.01**	**333**	P	**P**	**20 04 10.4**	**-0.5**
KKAR	**Karatay Array**	**53.01**	**333**	P	**P**	**20 04 10.5**	**-0.4**
MJAR	**Matsushiro Arr**	**53.10**	**39**	P	**P**	**20 04 10.1**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=218,slow=6.8,SNR=3.2						
MJAR				LR	LR	20 28 11.6	
	comp=Z,43nm,18.8s,baz=210,slow=38						
USA0B	**Ussuriysk Arra**	**55.07**	**28**	P	**P**	**20 04 25.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**55.07**	**28**	P	**P**	**20 04 24.5**	**-1.4**
	comp=Z,4.1nm,0.8s,baz=240,slow=6.3,SNR=7.2						
USRK	**Ussuriysk Ar.**	**55.07**	**28**	P	**P**	**20 04 24.9**	**-1.0**
GEYT	**Alibeck**	**56.16**	**321**	P	**P**	**20 04 33.8**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=117,slow=7.1,SNR=4.4						
ZAA0	**Zalesovo Array**	**58.13**	**350**	P	**P**	**20 04 46.7**	**-0.7**
ZAA0				IAmb	IAmb	20 05 11.2	
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**58.13**	**350**	P	**P**	**20 04 47.0**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=178,slow=6.8,SNR=13						
BRVK	**Borovoye**	**61.16**	**340**	P	**P**	**20 05 06.9**	**-1.5**
BRVK				IAmb	IAmb	20 05 21.5	
	comp=Z,3.4nm,1.0s						
ABKAR	**Abkulak array**	**62.48**	**332**	P	**P**	**20 05 16.8**	**-0.5**
ABKAR	**Abkulak array**	**62.48**	**332**	P	**P**	**20 05 16.8**	**-0.5**
ABKAR				IAmb	IAmb	20 05 17.9	
	comp=Z,6.8nm,0.8s						
KBZ	**Khabaz**	**69.01**	**319**	P	**P**	**20 05 59.5**	**0.0**
	comp=Z,4.0nm,0.8s,baz=127,slow=5.4,SNR=11						
KIV	**Kislovodsk**	**69.25**	**320**	P	**P**	**20 06 01.8**	**+0.7**
MAW	**Mawson**	**69.30**	**194**	LR	LR	20 29 53.1	
	comp=Z,56nm,19.9s,baz=17,slow=30						
NRIK	**Noril'sk**	**72.69**	**355**	LR	LR	20 42 19.7	
	comp=Z,69nm,18.2s,baz=170,slow=39						
BRTR	**Keskin Array B**	**73.94**	**313**	P	**P**	**20 06 29.3**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=131,slow=7.4,SNR=16						
BRTR	**Keskin Array B**	**73.94**	**313**	P	**P**	**20 06 29.5**	**0.0**
BR131	**Keskin Array S**	**73.94**	**313**	P	**P**	**20 06 29.6**	**0.0**
BR131				IAmb	IAmb	20 06 30.3	
	comp=Z,4.8nm,0.8s						
MLR	**Muntele Rosu**	**80.97**	**317**	P	**P**	**20 07 09.2**	**+0.4**
MLR				IAmb	IAmb	20 07 10.8	
	comp=Z,8.2nm,1.1s						
VNDA	**Vanda**	**81.20**	**169**	P	**P**	**20 07 09.9**	**+0.6**
	comp=Z,1.8nm,1.0s,baz=294,slow=4.8,SNR=6.1						
VNDA	**Vanda**	**81.20**	**169**	P	**P**	**20 07 09.6**	**+0.3**
VNDA				IAmb	IAmb	20 07 12.2	
	comp=Z,5.2nm,1.2s						
BUR08	**Bucovina Ar. S**	**81.97**	**319**	P	**P**	**20 07 15.2**	**+1.1**
MNK	**Minsk**	**82.11**	**326**	*i* P	P	20 07 06.1	-8.3
	comp=E,2.0nm,0.9s						
MNK				*i* P	P	20 07 06.1	-8.3
	comp=N,10.0nm,1.1s						
MNK				*i* P	P	20 07 06.1	-8.3
	comp=Z,6.0nm,0.8s,baz=287						
MNK				*i* PP	PP	20 10 10.6	-12
MNK				*i* PPP	PPP	20 12 00.4	
MNK				*i* S	S	20 17 15.9	-11
MNK				*i* SS	SS	20 22 31.1	-16
MNK				*i* SSS	SSS	20 25 58.1	
MNK				*i* LQ	LQ	20 37 44.8	
MNK				*i* LQ	LQ	20 37 44.8	
MNK				*i* LR	LR	20 42 36.9	
MNK				*i* LRM	MLR	20 45 00.2	
	comp=Z,72nm,26.1s						
MNK				*i* LRM	MLR	20 46 22.7	
	comp=E,10.0nm,20.2s						
MNK				*i* LRM	MLR	20 46 22.7	
	comp=N,283nm,23.2s						
KOLS	**Kolonicke sedl**	**84.16**	**320**	*e*P	**P**	**20 07 26.9**	**+1.7**
FINES	**FINESS Array B**	**84.96**	**332**	P	**P**	**20 07 28.0**	**-0.9**
	comp=N,0.9nm,0.6s,baz=104,slow=6.1,SNR=8.8						
FINES	**FINESS Array B**	**84.96**	**332**	P	**P**	**20 07 28.1**	**-0.7**
ARCES	**ARCESS Array B**	**87.38**	**340**	P	**P**	**20 07 41.0**	**+0.2**
	comp=N,1.5nm,0.7s,baz=114,slow=4.4,SNR=5.1						
GEC2	**GERESS Array S**	**89.75**	**319**	P	**P**	**20 07 52.1**	**-0.3**
GEC2				IAmb	IAmb	20 07 54.7	
	comp=Z,4.5nm,1.2s						
GERES	**GERESS Array B**	**89.75**	**319**	P	**P**	**20 07 52.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=97,slow=5.5,SNR=7.4						
CPUP	**Villa Florida**	**143.47**	**216**	PKP	PKPbc	20 14 27.8	+1.3
	comp=Z,2.1nm,0.7s,baz=98,slow=6.2,SNR=4.9						
TXAR	**Lajitas Array**	**145.54**	**38**	PKPbc	**PKPab**	**20 14 33.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=311,slow=1.1,SNR=15						
TXAR	**Lajitas Array**	**145.54**	**38**	PKPdf	**PKPab**	**20 14 33.4**	**+0.1**

WEL 23 19:56:50.7, 45°S±7°×16°7E±1°1, h44km±18km, M3.4/18, ML3.5/18, MLv3.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=78.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.68**	**83**	P	Pn	19 57 04.3	+0.3
MLZ				S	Sn	19 57 15.8	+2.1
WHZ	**Wether Hill Ro**	**0.70**	**129**	P	Pn	19 57 05.4	+1.1
WHZ				S	Sn	19 57 16.9	+2.8
PYZ	**Puysegur Point**	**0.78**	**205**	P	Pn	19 57 05.4	+0.1
PYZ				S	Sn	19 57 16.6	+0.6
MSZ	**Milford Sound**	**0.95**	**35**	P	Pn	19 57 06.1	-1.5
MSZ				S	Sn	19 57 21.4	+1.4
WKZ	**Wanaka**	**1.46**	**65**	P	Pn	19 57 15.8	+1.2
WKZ				S	Sn	19 57 33.7	+1.2
APZ	**The Paps**	**1.49**	**158**	P	Pn	19 57 16.6	+1.6
APZ				S	Sn	19 57 35.7	+2.4
EAZ	**Earnscleugh**	**1.53**	**82**	P	Pn	19 57 16.6	+1.0
EAZ				S	Sn	19 57 35.3	+1.0
SYZ	**Scrubby Hill**	**1.75**	**129**	P	Pn	19 57 19.7	+1.2
JCZ	**Jackson Bay**	**1.80**	**41**	P	Pn	19 57 19.5	+0.1
JCZ				S	Sn	19 57 43.3	+2.2
LBZ	**Lake Benmore**	**2.40**	**65**	P	Pn	19 57 27.1	-0.4
LBZ				S	Sn	19 57 54.9	-0.8
HHSZ	**Highcliff Hill**	**2.45**	**101**	P	Pn	19 57 29.1	+0.9
ODZ	**Otahua Downs**	**2.50**	**82**	P	Pn	19 57 28.7	-0.1
FOZ	**Fox Glacier**	**2.71**	**46**	P	Pn	19 57 32.1	+0.5
TMZ	**Timaru**	**2.94**	**70**	P	Pn	19 57 34.1	-0.8
GCSZ	**Gaunt Creek Bo**	**3.12**	**48**	P	Pn	19 57 38.8	+1.4
ARCZ	**Arundel**	**3.24**	**64**	P	Pn	19 57 37.7	-1.3
RPZ	**Rata Peaks**	**3.28**	**59**	P	Pn	19 57 38.4	-1.2
MHCZ	**Mount Hutt**	**3.69**	**60**	P	Pn	19 57 43.6	-1.7
LTZ	**Lake Taylor**	**4.55**	**56**	P	Pn	19 57 56.4	-0.6
DSZ	**Denniston Nort**	**5.01**	**44**	P	Pn	19 58 03.2	-0.2
THZ	**Tophouse**	**5.57**	**50**	P	Pn	19 58 10.5	-0.6
QRZ	**Quartz Range**	**6.07**	**42**	P	Pn	19 58 17.4	-0.4

NEIC ***23*** *20:16:55.1±1.4, 43°.88N±0°.03×105°.31W±0°.07, h0km±2km, ML3.2/50, Error ellipse: s-maj=8.1km s-min=4.8km az=281.0*

IDC ***23*** *20:16:57.2±2.0, 43°.70N×105°.42W, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/41, mbtmp3.6/3, ML3.0/2, Error ellipse: s-maj=56.3km s-min=10.2km az=153.0*

ISC 23 20:16:47.8±1.2, 43°.96N±0°.05×104°.61W±0°.06, h0km, n48, σ1§60/43, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.44**	**68**	Pn	Pn	20 17 16.6	+15
K22A	**Casper**	**1.92**	**228**	Pn	**Pb**	**20 17 23.9**	**+0.2**
K22A				IAML		20 17 52.0	
	comp=E,206nm,0.3s						
PHWY	**Pilot Hill**	**2.73**	**194**	Pn	**Pb**	**20 17 37.9**	**+0.2**
LAO	**LASA Array**	**2.96**	**338**	Pn	**Pb**	**20 17 41.7**	**+0.3**
RWWY	**Rawlins**	**2.97**	**221**	Pn	**Pn**	**20 17 38.3**	**+1.9**
RWWY				IAML		20 18 18.7	
	comp=E,152nm,0.9s						
RWWY				IAML		20 18 20.7	
	comp=E,116nm,1.0s						
RLMT	**Red Lodge**	**3.53**	**291**	Pn	**Pn**	**20 17 46.1**	**+2.0**
RLMT				IAML		20 18 43.1	
	comp=E,53nm,0.9s						
OGNE	**Ogallala**	**3.56**	**147**		**Pb**	**20 17 52.3**	**+0.5**
BW06	**Boulder Array**	**3.80**	**253**

*IDC **23** 20:22:37.0±0.5, 17°.53N×82°.65W, h0km, mb4.6/24, mb1 4.7/30, mb1mx4.7/40, mbtmp4.6/30, ML4.0/6, MS3.9/32, Ms1 3.9/32, ms1mx3.9/38, Error ellipse: s-maj=17.4km s-min=10.1km az=59.0*

*NEIC **23** 20:22:41.0±1.6, 17°.59N±0°.06×82°.62W±0°.07, h13km±4km, mb4.9/346, Error ellipse: s-maj=9.5km s-min=8.0km az=101.0*

*GCMT **23** 20:22:43.0±0.2, 17°.64N±0°.01×82°.75W±0°.02, h24km±1km, MW5.0/117, Moment Tensor Solution. s39,c52; s117,c170; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.02±.16; Mθθ=1.41±.12; Mφφ2.44±.15; Mrθ0.06±.17; Mθφ3.47±.10; Mφr=0.60±.17; Best double couple: Mo=4.01500×10^16^ NP1:φs=255.00000°, δ81.00000°, λ=-2.00000°. NP2:φs=346.00000°, δ88.00000°, λ=-171.00000°. Principal axes: T 4.5260, Plg5.0000°, Azm120.0000°; N -1.0110, Plg80.0000°, Azm359.0000°; P -3.5050, Plg8.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*INET **23** 20:22:45.3, 16°.73N×83°.31W, h15km, MW5.0*

ISC 23 20:22:38.6±1.9, 17°.61N±0°.04×82°.63W±0°.05, h5km±12km, n788, σ1°17/781, mb4.9/161, MS3.9/30, 16C-12D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	**Frank Sound, G**	**2.18**	**39**	Pn	**Pn**	**20 23 14.4**	**-1.1**
LCCY	**Blossom Villag**	**3.17**	**49**		**Pn**	**20 23 28.7**	**-0.4**
CBCY	**The Bluff, Cay**	**3.45**	**52**		**Pn**	**20 23 32.6**	**-0.4**
PRVC	**Isla de Provid**	**4.38**	**164**	Pn	**Pn**	**20 23 45.5**	**-0.2**
PRVC	**Isla de Provid**	**4.38**	**164**	*eP*	**Pn**	**20 23 45.8**	**0.0**
MCJ	**Malvern**	**4.72**	**85**	*i P*	**Pb**	**20 23 59.1**	**-2.8**
MTDJ	**Mount Denham**	**4.89**	**82**		**Pn**	**20 23 52.7**	**-0.2**
MTDJ	**Mount Denham**	**4.89**	**82**	*eP*	**Pn**	**20 23 52.7**	**-0.2**
SOR	**Soroa**	**5.17**	**356**		**Pn**	**20 23 55.7**	**-0.9**
STH	**Stony Hill**	**5.56**	**84**	*i P*	**Pn**	**20 24 03.9**	**+1.8**
HOJ	**Hope**	**5.62**	**85**	*i P*	**Pn**	**20 24 03.7**	**+0.9**
ESPN	**Las Esperanzas**	**5.62**	**197**		**Pn**	**20 24 03.5**	**+0.7**
GWJ	**Greenwich**	**5.64**	**84**	*i P*	**Pn**	**20 24 04.3**	**+1.1**
TGUH	**Tegucigalpa,Un**	**5.70**	**232**		**Pn**	**20 24 02.8**	**-1.2**
TGUH	**Tegucigalpa,Un**	**5.70**	**232**	*eP*	**Pn**	**20 24 03.2**	**-0.8**
ACON	**Acoyapa**	**6.12**	**204**		**Pn**	**20 24 09.2**	**-0.5**
CNGN	**Cerro Negro**	**6.42**	**218**		**Pn**	**20 24 14.1**	**+0.2**
CRIN	**San Cristobal**	**6.48**	**222**		**Pn**	**20 24 15.0**	**+0.2**
PETF	**Flores**	**6.95**	**265**		**Pn**	**20 24 18.7**	**-2.4**
COVE	**Coope Vega, Sa**	**7.06**	**194**	Pn	**Pn**	**20 24 23.4**	**+0.8**
ESQI	**Esquipulas**	**7.13**	**246**	Pn	**Pn**	**20 24 24.1**	**+0.4**
MTO3	**Montecristo**	**7.22**	**245**		**Pn**	**20 24 25.3**	**+0.3**
GTBY	**Guantanamo Bay**	**7.49**	**71**		**Pn**	**20 24 28.9**	**+0.4**
GTBY	**Guantanamo Bay**	**7.49**	**71**	*eP*	**Pn**	**20 24 28.6**	**+0.2**
JTS	**Las Juntas de**	**7.62**	**198**	Pn	**Pn**	**20 24 30.4**	**+0.1**
	2.0nm,0.3s,baz=7.0,slow=22,SNR=10						
JTS				Pg	Pg	20 24 59.6	-4.9
	3.6nm,0.3s,baz=104,slow=16,SNR=4.1						
JTS				Sn	**Sn**	**20 25 53.1**	**-4.0**
	baz=294,slow=21,SNR=1.4						
JTS				Lg	Lg	20 26 24.6	
	3.6nm,0.3s,baz=264,slow=20,SNR=1.9						
JTS				LR	LR	20 27 27.6	
	comp=Z,1μm,20.2s,baz=80,slow=39						
JTS	**Las Juntas de**	**7.62**	**198**	*eP*	**Pn**	**20 24 32.0**	**+1.8**
CVTR	**Volcan Turrial**	**7.62**	**188**		**Pn**	**20 24 31.5**	**+0.8**
ORTG	**Ortega, Santa**	**7.71**	**201**	Pn	**Pn**	**20 24 32.8**	**+1.2**
RIMA	**Rio Macho**	**7.89**	**189**		**Pn**	**20 24 35.8**	**+1.7**
DUNO	**Dulce Nombre,**	**7.98**	**201**		**Pn**	**20 24 35.8**	**+0.4**
PEZE	**Perez Zeledon,**	**8.24**	**187**		**Pn**	**20 24 40.7**	**+1.8**
DRK0	**Durika**	**8.32**	**184**		**Pn**	**20 24 40.4**	**+0.4**
SRBA	**San Rafael, Bu**	**8.36**	**185**		**Pn**	**20 24 41.2**	**+0.7**
061Z	**Ochoppi**	**8.37**	**11**		**Pn**	**20 24 41.2**	**+0.6**
BCIP	**Isla Barro Col**	**8.82**	**162**	Pn	**Pn**	**20 24 44.5**	**-2.3**
BCIP	**Isla Barro Col**	**8.82**	**162**	*eP*	**Pn**	**20 24 44.8**	**-2.0**
CDITO	**Canoas**	**8.98**	**182**		**Pn**	**20 24 48.8**	**-0.3**
CCIG	**Comitan**	**9.19**	**263**		**Pn**	**20 24 51.4**	**-0.6**
060A	**Indiantown**	**9.61**	**12**		**Pn**	**20 24 58.1**	**+0.5**
AZU	**Azuero**	**10.02**	**166**	*eP*	**Pn**	**20 25 01.8**	**-1.6**
UPD2	**Meteti**	**10.06**	**153**	*eP*	**Pn**	**20 25 02.1**	**-1.8**
SMRC	**Santa Marta, M**	**10.36**	**127**	*eP*	**Pn**	**20 25 06.2**	**-1.7**
DWPF	**Disney Wildern**	**10.51**	**6**	P	**Pn**	**20 25 08.8**	**-1.1**
	baz=186						
DWPF	**Disney Wildern**	**10.51**	**6**		**Pn**	**20 25 09.6**	**-0.3**
SJCC	**San Jacinto, C**	**10.54**	**136**	Pn	**Pn**	**20 25 09.4**	**-1.0**
SJCC	**San Jacinto, C**	**10.54**	**136**	*eP*	**Pn**	**20 25 09.6**	**-0.8**
LCBC	**Los crdobas,**	**10.62**	**144**	*eP*	**Pn**	**20 25 11.6**	**+0.2**
SDDR	**Presa de Saban**	**10.86**	**81**		**Pn**	**20 25 16.0**	**+1.2**
MOTC	**Monteria, Cord**	**11.09**	**141**	*eP*	**Pn**	**20 25 16.2**	**-1.6**
ARGC	**Ariguani, Magd**	**11.21**	**132**	*eP*	**Pn**	**20 25 19.0**	**-0.6**
GRTK	**Grand Turk**	**11.51**	**68**	Pn	**Pn**	**20 25 23.9**	**+0.2**
656A	**Willston**	**11.71**	**0**		**Pn**	**20 25 25.3**	**-1.0**
URIC	**Uribia, Colomb**	**11.85**	**118**		**Pn**	**20 25 26.9**	**-1.4**
URIC	**Uribia, Colomb**	**11.85**	**118**	*eP*	**Pn**	**20 25 26.5**	**-1.7**
UREC	**San Jos de Ur**	**11.99**	**144**	*eP*	**Pn**	**20 25 28.6**	**-1.7**
553A	**Crawfordville**	**12.63**	**353**	Pn	**Pn**	**20 25 38.8**	**-0.2**
DR12	**Loma Pena Alta**	**12.65**	**83**		**Pn**	**20 25 39.9**	**+0.7**
OCAC	**Ocana**	**13.00**	**135**	*eP*	**Pn**	**20 25 42.0**	**-2.2**
451A	**Vernon**	**13.26**	**348**	Pn	**Pn**	**20 25 47.2**	**-0.3**
CBOC	**Ciudad Bolivar**	**13.35**	**150**	*eP*	**Pn**	**20 25 49.1**	**+0.1**
TIGA	**Tifton**	**13.80**	**357**	P	**Pn**	**20 25 53.9**	**-1.0**
	baz=176						
TIGA	**Tifton**	**13.80**	**357**		**Pn**	**20 25 54.5**	**-0.4**
352A	**Blakely**	**13.97**	**352**		**Pn**	**20 25 59.6**	**+2.5**
PLMC	**San Jos del P**	**14.07**	**153**	*eP*	**Pn**	**20 26 00.6**	**+1.8**
NORC	**Norcasia**	**14.17**	**147**	*eP*	**Pn**	**20 25 59.1**	**-1.0**
GUY2C	**Guyana, Caldas**	**14.21**	**149**	*eP*	**Pn**	**20 26 01.3**	**+0.3**
255A	**Hazlehurst**	**14.26**	**1**		**Pn**	**20 25 59.4**	**-1.7**
BARC	**Barichara**	**14.32**	**139**	*eP*	**Pn**	**20 26 00.9**	**-1.4**
SDV	**Santo Domingo**	**14.54**	**125**	Pn	**Pn**	**20 26 03.0**	**-2.2**
	18nm,0.3s,baz=31,slow=12,SNR=1.9						
SDV				LR	LR	20 32 21.3	
	comp=Z,842nm,19.9s,baz=308,slow=40						
SDV	**Santo Domingo**	**14.54**	**125**	*eP*	**Pn**	**20 26 04.8**	**-0.5**
250A	**Grady**	**14.68**	**348**		**Pn**	**20 26 08.7**	**+1.7**
SOCV	**Socops**	**14.74**	**127**	*eP*	**Pn**	**20 26 05.5**	**-2.4**
TOLC	**Tolima**	**14.79**	**150**	*eP*	**Pn**	**20 26 09.5**	**+0.7**
ANIL	**Santa Ana**	**14.83**	**151**	*eP*	**Pn**	**20 26 11.6**	**+2.2**
YOTC	**Yotoco, Valle**	**14.88**	**155**	*eP*	**Pn**	**20 26 09.6**	**-0.2**
RUSC	**La Rusia**	**14.92**	**140**		**Pn**	**20 26 09.6**	**-1.2**
RUSC	**La Rusia**	**14.92**	**140**	*eP*	**Pn**	**20 26 10.4**	**-0.4**
154A	**Montrose**	**14.95**	**358**		**Pn**	**20 26 09.8**	**-0.8**
ROSC	**El Rosal**	**15.07**	**146**	Pn	**Pn**	**20 26 10.6**	**-2.1**
	2.7nm,0.3s,baz=304,slow=22,SNR=1.7						
ROSC				LR	LR	20 32 29.5	
	comp=Z,1μm,20.1s,baz=24,slow=40						
ROSC	**El Rosal**	**15.07**	**146**	Pn	**Pn**	**20 26 10.4**	**-2.3**
ROSC				IAmb	IAmb	20 26 43.2	
	comp=Z,103nm,1.6s						
152A	**Waverly Hall**	**15.11**	**353**	Pn	**Pn**	**20 26 10.2**	**-2.6**
152A				IAmb	IAmb	20 26 23.5	
	comp=Z,29nm,0.8s						
TLIG	**Tlapa**	**15.20**	**272**	Pn	**Pn**	**20 26 11.2**	**-2.9**
ORTC	**Ortega, Tolima**	**15.42**	**151**	*eP*	**Pn**	**20 26 17.7**	**+0.7**
CHIC	**Chingaza**	**15.57**	**145**	*eP*	**Pn**	**20 26 20.2**	**+1.0**
NHSC	**New Hope**	**15.59**	**8**	P	**Pn**	**20 26 17.3**	**-1.7**
	baz=189						
NHSC	**New Hope**	**15.59**	**8**	P	**Pn**	**20 26 18.5**	**-0.6**
344A	**Westbrook Farm**	**15.62**	**333**		**Pn**	**20 26 18.1**	**-1.3**
344A				IAmb	IAmb	20 26 31.2	
	comp=Z,52nm,0.5s						
SJG	**San Juan**	**15.70**	**86**	Pn	**Pn**	**20 26 20.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=289,slow=12,SNR=1.3						
SJG				LR	LR	20 32 09.6	
	comp=Z,780nm,21.5s,baz=266,slow=36						
SJG	**San Juan**	**15.70**	**86**	P	**Pn**	**20 26 22.1**	**+1.5**
GOGA	**Godfrey**	**15.76**	**357**	P	**Pn**	**20 26 19.5**	**-1.7**
	baz=177,SNR=6.8						
GOGA	**Godfrey**	**15.76**	**357**	Pn	**Pn**	**20 26 19.2**	**-2.0**
GOGA				IAmb	IAmb	20 26 27.9	
	comp=Z,50nm,1.0s						
GCPR	**Guaynabo City**	**15.76**	**85**	P	**Pn**	**20 26 21.3**	**-0.1**
Z51A	**Franklin**	**15.81**	**352**	P	**Pn**	**20 26 22.9**	**+1.0**
VILC	**Villavicencio,**	**16.02**	**146**	*eP*	**Pn**	**20 26 24.8**	**0.0**
146A	**Union**	**16.05**	**340**		**Pn**	**20 26 25.0**	**0.0**
146A				IAmb	IAmb	20 26 26.9	
	comp=Z,133nm,1.4s						
MARP	**Paez Belalcaza**	**16.07**	**155**	*eP*	**P**	**20 26 29.2**	**0.0**
POPC	**Popayan, Colom**	**16.07**	**158**	*eP*	Pn	20 26 18.8	-6.9
VBMS	**Vicksburg**	**16.20**	**335**	P	**Pn**	**20 26 26.1**	**-0.8**
	baz=152						
VBMS	**Vicksburg**	**16.20**	**335**		**Pn**	**20 26 27.2**	**+0.2**
VBMS				IAmb	IAmb	20 26 59.2	
	comp=Z,50nm,0.7s						
441A	**DeRidder**	**16.23**	**326**	Pn	**Pn**	**20 26 26.5**	**-0.9**
Y52A	**Lilburn**	**16.24**	**356**	P	**Pn**	**20 26 26.2**	**-1.3**
MTP	**Monte Pirata**	**16.27**	**86**	Pn	**Pn**	**20 26 27.8**	**-0.1**
Z47A	**Carrollton**	**16.28**	**344**	Pn	**Pn**	**20 26 27.8**	**-0.1**
342A	**Flagon Creek P**	**16.29**	**329**	P	**Pn**	**20 26 28.1**	**0.0**
BBAC	**Balboa, Cauca**	**16.37**	**161**	*eP*	**Pn**	**20 26 30.4**	**+1.0**
PCON	**Cinco Dias**	**16.37**	**157**	*eP*	**Pn**	**20 26 31.7**	**+1.8**
Y58A	**Scranton**	**16.45**	**9**	Pn	**Pn**	**20 26 27.0**	**-3.1**
Y57A	**Sumter**	**16.46**	**7**	P	**Pn**	**20 26 28.8**	**-1.6**
SOTA	**Rioblanco**	**16.48**	**158**	*eP*	**Pn**	**20 26 32.6**	**+1.6**
Y49A	**Blount Mountai**	**16.53**	**349**		**Pn**	**20 26 32.1**	**+0.8**
ELOV	**Elorza**	**16.60**	**128**	*eP*	**Pn**	**20 26 31.0**	**-1.2**
JSC	**Jenkinsville**	**16.65**	**4**	Pn	**Pn**	**20 26 32.3**	**-0.4**
PTGC	**Puerto Gaitan,**	**16.83**	**141**	*eP*	**P**	**20 26 38.6**	**+1.3**
GARC	**Garzon, Huila**	**16.85**	**155**	*eP*	**P**	**20 26 40.1**	**+2.4**
X51A	**Calhoun**	**17.00**	**354**		**Pn**	**20 26 37.3**	**+0.1**
FPAL	**Fort Paine**	**17.07**	**352**	P	**P**	**20 26 39.6**	**-0.3**
BIRD	**Birdtown, Kers**	**17.08**	**6**	P	**Pn**	**20 26 37.2**	**-0.9**
BIRD				IAmb	IAmb	20 26 39.9	
	comp=Z,83nm,1.0s						
PAULI	**Pauline**	**17.16**	**2**	P	**Pn**	**20 26 38.3**	**-0.8**
X48A	**Hartselle**	**17.23**	**348**		**P**	**20 26 42.0**	**+0.4**
BG3	**Lake Jocassee**	**17.32**	**359**		**Pn**	**20 26 41.0**	**-0.1**
W52A	**Murphy**	**17.45**	**356**	P	**Pn**	**20 26 42.8**	**-0.1**
KMSC	**Kings Mountain**	**17.50**	**4**	P	**Pn**	**20 26 43.2**	**-0.1**
	baz=184,SNR=8.9						
KMSC	**Kings Mountain**	**17.50**	**4**	P	**Pn**	**20 26 43.0**	**-0.4**
KMSC				IAmb	IAmb	20 26 44.7	
	comp=Z,86nm,1.4s						
W57A	**Gilead**	**17.63**	**7**	P	**Pn**	**20 26 45.0**	**0.0**
W57A				IAmb	IAmb	20 26 46.2	
	comp=Z,104nm,1.1s						
W50A	**Signal Mountai**	**17.68**	**353**	P	**Pn**	**20 26 45.2**	**-0.5**
OTAV	**Otavalo**	**17.75**	**166**	P	**P**	**20 26 49.1**	**+1.3**
OTAV	**Otavalo**	**17.75**	**166**	*eP*	**P**	**20 26 48.1**	**+0.3**
OTAV				*eP*	**P**	**20 26 48.2**	**+0.3**
SWET	**Sewanee**	**17.78**	**351**	P	**Pn**	**20 26 46.5**	**-0.4**
NATX	**Nacogdoches**	**17.81**	**325**	P	**Pn**	**20 26 45.7**	**-1.6**
	baz=140						
CPCT	**Cooper Cave**	**17.85**	**355**	P	**Pn**	**20 26 47.4**	**-0.3**
735A	**Kenedy**	**17.86**	**312**	P	**P**	**20 26 49.2**	**+0.6**
735A				IAmb	IAmb	20 26 51.9	
	comp=Z,133nm,1.1s						
OXF	**Oxford**	**17.89**	**342**	P	**P**	**20 26 49.2**	**+0.3**
OXF				IAmb	IAmb	20 27 01.0	
	comp=Z,153nm,1.1s						
PLAL	**Pickwick Lake**	**17.97**	**345**	P	**Pn**	**20 26 49.3**	**0.0**
V53A	**Saluda**	**17.99**	**360**	P	**Pn**	**20 26 49.0**	**-0.5**
TKL	**Tuckaleechee C**	**18.01**	**357**	P	**Pn**	**20 26 49.3**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=165,slow=12,SNR=7.1						
TKL				S	Sn	20 29 54.6	-16
	comp=Z,0.5nm,0.3s,baz=78,slow=11,SNR=4.8						
TKL	**Tuckaleechee C**	**18.01**	**357**	P	**Pn**	**20 26 49.5**	**-0.1**
Z41A	**Richland Creek**	**18.07**	**332**	P	**Pn**	**20 26 50.1**	**-0.3**
	baz=147						
V52A	**Sevierville**	**18.18**	**357**	P	**P**	**20 26 53.0**	**+0.9**
V51A	**Loudon**	**18.19**	**356**	P	**Pn**	**20 26 52.0**	**+0.2**
CCAR	**Cane Creek**	**18.19**	**335**		**Pn**	**20 26 52.1**	**+0.2**
CCAR				IAmb	IAmb	20 26 53.9	
	comp=Z,71nm,0.6s						
V55A	**Taylorsville**	**18.21**	**4**	P	**Pn**	**20 26 52.0**	**-0.2**
V55A				IAmb	IAmb	20 26 53.9	
	comp=Z,88nm,1.2s						
V58A	**Windy Hill, Pi**	**18.38**	**9**	P	**P**	**20 26 53.5**	**-0.7**
W45A	**Hickory Valley**	**18.43**	**343**	P	**P**	**20 26 55.1**	**+0.3**
W45A				IAmb	IAmb	20 27 10.3	
	comp=Z,95nm,1.2s						
V48A	**Smith Brothers**	**18.44**	**349**	P	**Pn**	**20 26 55.6**	**+0.6**
WLAR	**White Oak Lake**	**18.57**	**332**	P	**Pn**	**20 26 57.6**	**+1.0**
WLAR				IAmb	IAmb	20 27 15.6	
	comp=Z,81nm,0.9s						
237A	**Washetta, Mont**	**18.64**	**323**	P	**P**	**20 26 56.3**	**-0.9**
237A					**Pn**	**20 26 56.4**	**-1.0**
237A				IAmb	IAmb	20 27 11.1	
	comp=Z,151nm,1.4s						
CLTN	**Cedars of Leba**	**18.70**	**351**	P	**Pn**	**20 26 58.6**	**+0.4**
833A	**Chaparral WMA,**	**18.74**	**308**	P	**P**	**20 26 56.5**	**-1.8**
	baz=121,SNR=38						
U56A	**King**	**18.77**	**6**	P	**Pn**	**20 26 59.6**	**+0.6**
U54A	**Nelsons Funny**	**18.85**	**2**	P	**Pn**	**20 27 00.5**	**+0.5**
TZTN	**Tazewell**	**18.88**	**358**	P	**P**	**20 27 00.5**	**+0.7**
	baz=177,SNR=16						
TZTN	**Tazewell**	**18.88**	**358**	P	**Pn**	**20 27 01.3**	**+1.0**
TZTN				IAmb	IAmb	20 27 03.6	
	comp=Z,51nm,1.0s						
435B	**Jarrell**	**18.89**	**317**	P	**P**	**20 26 59.8**	**-0.2**
	baz=131						
435B	**Jarrell**	**18.89**	**317**		**P**	**20 26 59.7**	**-0.3**
435B				IAmb	IAmb	20 27 20.9	
	comp=Z,49nm,0.7s						
PCRV	**Puerto La Cruz**	**18.95**	**111**	P	**P**	**20 27 00.1**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=307,slow=5.2,SNR=4.2						
PTLC	**Puerto Leguiza**	**18.96**	**155**	*eP*	**Pn**	**20 27 06.4**	**+4.9**
PLCV	**Puerto La Cruz**	**19.00**	**111**	P	**P**	**20 27 00.1**	**-1.1**
WVT	**Waverly**	**19.02**	**347**	P	**P**	**20 27 01.8**	**+0.5**
	baz=165						
WVT	**Waverly**	**19.02**	**347**		**P**	**20 27 01.8**	**+0.5**
U49A	**Red Boiling Sp**	**19.04**	**352**	P	**Pn**	**20 27 02.3**	**+0.1**
X40A	**Basin Creek Fa**	**19.12**	**333**	P	**Pn**	**20 27 03.8**	**+0.6**
	baz=149,SNR=11						
X40A	**Basin Creek Fa**	**19.12**	**333**	P	**Pn**	**20 27 03.9**	**+0.6**
Z38A	**Mt. Pleasant**	**19.14**	**327**	P	**Pn**	**20 27 04.2**	**+0.7**
Z38A				IAmb	IAmb	20 27 19.1	
	comp=Z,66nm,0.8s						
U59A	**Littleton**	**19.16**	**12**	P	**P**	**20 27 03.6**	**+0.8**
U59A				IAmb	IAmb	20 27 05.1	
	comp=Z,82nm,1.3s						
ZAIG	**Zacatecas**	**19.40**	**289**	P	**Pn**	**20 27 08.2**	**+1.2**
ZAIG				IAmb	IAmb	20 27 21.1	
	comp=Z,102nm,1.3s						
T50A	**Nancy**	**19.44**	**355**		**Pn**	**20 27 07.3**	**+0.3**
W41B	**Gary Mavity, V**	**19.48**	**336**	P	**Pn**	**20 27 08.1**	**+0.5**
	baz=152,SNR=29						
MIAR	**Mount Ida**	**19.50**	**332**	P	**Pn**	**20 27 07.9**	**+0.2**
	baz=147,SNR=24						
MIAR	**Mount Ida**	**19.50**	**332**	P	**Pn**	**20 27 07.8**	**0.0**
MIAR				IAmb	IAmb	20 27 19.7	
	comp=Z,53nm,1.1s						
T57A	**Hurt**	**19.54**	**8**	P	**P**	**20 27 03.8**	**-3.2**
T57A				IAmb	IAmb	20 27 11.2	
	comp=Z,60nm,1.1s						
WHAR	**Wooly Hollow**	**19.60**	**336**		**Pn**	**20 27 10.0**	**+1.1**
WHAR				IAmb	IAmb	20 27 21.9	
	comp=Z,55nm,1.0s						
WHTX	**Lake Whitney,**	**19.62**	**320**	P	**Pn**	**20 27 09.1**	**-0.1**
	baz=134,SNR=8.8						
WHTX	**Lake Whitney,**	**19.62**	**320**	P	**Pn**	**20 27 09.2**	**0.0**
BLA	**Blacksburg**	**19.62**	**5**	P	**Pn**	**20 27 09.7**	**+0.3**
	baz=186						
BLA	**Blacksburg**	**19.62**	**5**	P	**P**	**20 27 09.1**	**+1.2**
BLA				IAmb	IAmb	20 27 22.2	
	comp=Z,174nm,1.7s						
T47A	**Sharon Grove**	**19.70**	**349**	P	**P**	**20 27 09.6**	**+0.8**
T59A	**Double "B" Far**	**19.80**	**12**		**P**	**20 27 10.7**	**+0.9**
LCAR	**Lake Charles**	**19.88**	**339**		**Pn**	**20 27 12.2**	**-0.1**
S51A	**Beattyville**	**19.97**	**358**	P	**P**	**20 27 12.9**	**+1.1**
S51A				IAmb	IAmb	20 27 15.9	
	comp=Z,66nm,1.2s						
FCAR	**Ozark Folk Cen**	**20.06**	**337**	P	Pn	20 27 14.2	-0.3
FCAR				IAmb	IAmb	20 27 26.6	
	comp=Z,51nm,1.3s						
W39A	**Magazine**	**20.14**	**333**	P	Pn	20 27 15.5	+0.1
	baz=148,SNR=15						
W39A	**Magazine**	**20.14**	**333**	P	Pn	20 27 16.0	+0.7
W39A				IAmb	IAmb	20 27 22.2	
	comp=Z,48nm,1.1s						
T60A	**Surry**	**20.14**	**14**	P	**P**	**20 27 14.9**	**+1.4**
S54A	**Dingess, Beckl**	**20.15**	**3**	P	**P**	**20 27 14.8**	**+1.1**
S54A				IAmb	IAmb	20 27 18.5	
	comp=Z,67nm,1.1s						
JCT	**Junction City**	**20.22**	**312**	P	**P**	**20 27 15.4**	**+0.9**
	baz=126						
JCT	**Junction City**	**20.22**	**312**	P	**P**	**20 27 15.7**	**+1.1**
JCT				IAmb	IAmb	20 27 31.7	
	comp=Z,69nm,0.8s						
PBMO	**Poplar Bluff**	**20.30**	**342**	P	Pn	20 27 16.8	-0.4
PBMO				IAmb	IAmb	20 27 21.7	
	comp=Z,42nm,1.1s						
S57A	**Dark Hollow, R**	**20.33**	**8**	P	**P**	**20 27 16.8**	**+1.2**
S57A				IAmb	IAmb	20 27 19.7	
	comp=Z,50nm,1.1s						
X37A	**Clayton**	**20.38**	**329**	P	Pn	20 27 18.9	+0.6
JSRW	**J. Sargeant Re**	**20.44**	**11**	P	**P**	**20 27 17.8**	**+1.0**
Z35A	**Perchaven, San**	**20.44**	**323**	P	Pn	20 27 19.1	+0.1
Z35A				IAmb	IAmb	20 27 22.7	
	comp=Z,78nm,1.2s						
R50A	**Paris**	**20.65**	**356**	P	**P**	**20 27 20.2**	**+1.1**
R50A				IAmb	IAmb	20 27 22.3	
	comp=Z,60nm,0.9s						
R53A	**Hurricane**	**20.65**	**2**	P	**P**	**20 27 20.2**	**+1.1**
R53A				IAmb	IAmb	20 27 25.1	
	comp=Z,70nm,1.1s						
R58B	**Mineral**	**20.70**	**11**	P	**P**	**20 27 21.1**	**+1.5**
R58B				IAmb	IAmb	20 27 26.2	
	comp=Z,41nm,1.0s						
R55A	**Marlinton**	**20.71**	**6**	P	**P**	**20 27 21.3**	**+1.4**
R55A				IAmb	IAmb	20 27 26.0	
	comp=Z,86nm,1.2s						
R49A	**Shelbyville**	**20.73**	**354**	P	**P**	**20 27 21.1**	**+1.2**
R49A				IAmb	IAmb	20 27 22.1	
	comp=Z,62nm,0.8s						
T42A	**Van Buren**	**20.74**	**341**	P	**P**	**20 27 21.1**	**+1.1**
T42A				IAmb	IAmb	20 27 26.1	
	comp=Z,29nm,0.8s						
U40A	**Yellville**	**20.75**	**336**	P	**P**	**20 27 21.0**	**+0.7**
	baz=152,SNR=22						
U40A	**Yellville**	**20.75**	**336**	P	**P**	**20 27 21.4**	**+1.2**
U40A				IAmb	IAmb	20 27 38.1	
	comp=Z,42nm,1.1s						
WCI	**Wyandotte Cave**	**20.79**	**352**	P	**P**	**20 27 21.3**	**+0.6**
	baz=170						
WCI	**Wyandotte Cave**	**20.79**	**352**	P	**P**	**20 27 21.8**	**+1.1**
WCI				IAmb	IAmb	20 27 33.6	
	comp=Z,36nm,0.8s						
FDF	**Fort de France**	**20.82**	**95**	P	**P**	**20 27 21.9**	**+0.7**
S44A	**Carbondale**	**20.84**	**345**	P	**P**	**20 27 22.4**	**+1.2**
S44A				IAmb	IAmb	20 27 35.8	
	comp=Z,28nm,0.8s						
SIUC	**Southern Illin**	**20.85**	**345**	P	**P**	**20 27 22.4**	**+1.2**
SIUC				IAmb	IAmb	20 27 36.0	
	comp=Z,46nm,1.1s						
LOOK	**Love County**	**20.88**	**324**	P	Pn	20 27 24.2	0.0
LOOK				IAmb	IAmb	20 27 40.5	
	comp=Z,79nm,1.0s						
S61A	**Accomac**	**20.91**	**16**	P	Pn	20 27 24.3	-0.1
BIM	**Bigot**	**20.94**	**95**	P	**P**	**20 27 22.9**	**+0.4**
CBN	**Corbin Frederi**	**21.03**	**12**	P	**P**	**20 27 24.3**	**+1.1**
	baz=194						
CBN	**Corbin Frederi**	**21.03**	**12**	P	**P**	**20 27 25.3**	**+2.1**
CBN				IAmb	IAmb	20 27 28.6	
	comp=Z,51nm,0.8s						
HHAR	**Hobbs**	**21.12**	**334**	P	**P**	**20 27 25.5**	**+1.3**
HHAR				IAmb	IAmb	20 27 39.6	
	comp=Z,46nm,1.1s						
MGMO	**Mountain Grove**	**21.24**	**338**	P	**P**	**20 27 26.2**	**+0.7**
Q52A	**Bidwell**	**21.28**	**1**	P	**P**	**20 27 27.0**	**+1.1**
Q52A				IAmb	IAmb	20 27 31.2	
	comp=Z,59nm,0.9s						
Q51A	**Peebles**	**21.35**	**358**	P	**P**	**20 27 28.1**	**+1.4**
Q54A	**Coxs Mills**	**21.36**	**4**	P	**P**	**20 27 28.0**	**+1.3**
ABTX	**Abilene, Hawle**	**21.42**	**317**	P	**P**	**20 27 28.5**	**+1.0**
	ba

baz=169
SFIN Lafayette 23.02 351 P P 20 27 45.1 +0.7
O44A Mansfield 23.03 349 P P 20 27 45.6 +1.1
WUPA West Chester U 23.06 14 P P 20 27 46.0 +1.2
N53A Lisbon 23.17 3 P P 20 27 47.2 +1.2
CROK Carrier 23.21 327 P P 20 27 48.4 +1.9
HPIG 23.22 298 P P 20 27 48.1 +1.2
HPIG IAmb IAmb 20 28 00.7
comp=Z,32nm,1.2s
N51A Ashland 23.23 0 P P 20 27 48.6 +2.0
N51A IAmb IAmb 20 27 50.3
comp=Z,53nm,1.0s
N49A Columbus Grove 23.27 357 P P 20 27 47.6 +0.5
N49A IAmb IAmb 20 27 49.8
comp=Z,52nm,1.1s
SSPA Standing Stone 23.31 9 P P 20 27 47.8 +0.4
baz=192
SSPA Standing Stone 23.31 9 P P 20 27 49.0 +1.6
SSPA IAmb IAmb 20 27 50.8
comp=Z,71nm,1.4s
P40A Paris 23.33 341 P P 20 27 47.6 0.0
N47A Urbana 23.34 354 P P 20 27 48.0 +0.3
KAN13 South Haven SW 23.34 329 P P 20 27 49.2 +1.4
N54A Moraine State 23.38 5 P P 20 27 48.5 +0.4
baz=186
N54A Moraine State 23.38 5 P P 20 27 49.5 +1.4
N54A IAmb IAmb 20 27 51.3
comp=Z,51nm,1.4s
KAN17 Caldwell West 23.51 328 P P 20 27 51.8 +2.3
OK032 Salt Plains WL 23.55 327 P P 20 27 50.5 +0.6
OK032 IAmb IAmb 20 28 04.1
comp=Z,40nm,1.0s
HDIL Hopedale 23.58 347 P P 20 27 50.6 +0.5
baz=164
N58A Sunbury 23.71 11 P P 20 27 52.6 +1.3
N58A IAmb IAmb 20 28 04.4
comp=Z,45nm,1.2s
M50A Fremont 23.72 359 P P 20 27 52.7 +1.2
M50A IAmb IAmb 20 27 53.5
comp=Z,33nm,0.8s
LUPA Lehigh Univers 23.75 14 P P 20 27 53.1 +1.3
LUPA IAmb IAmb 20 27 55.5
comp=Z,42nm,1.1s
M53A WI Miller and 23.81 4 P P 20 27 53.4 +1.0
baz=185,SNR=17
M53A WI Miller and 23.81 4 P P 20 27 54.0 +1.6
M52A Chesterland 23.88 2 P P 20 27 53.7 +0.7
M52A IAmb IAmb 20 27 56.3
comp=Z,21nm,0.8s
P38A Dawn 23.89 339 P P 20 27 53.2 0.0
P38A IAmb IAmb 20 27 54.5
comp=Z,26nm,0.7s
M54A Oil Creek Stat 23.95 5 P P 20 27 54.6 +0.8
baz=187,SNR=19
M54A Oil Creek Stat 23.95 5 P P 20 27 54.8 +1.0
N59A State Game Lan 23.97 13 P P 20 27 54.6 +0.7
baz=196,SNR=11
N59A State Game Lan 23.97 13 P P 20 27 55.1 +1.2
N59A IAmb IAmb 20 27 57.7
comp=Z,28nm,0.9s
M55A Ridgway 24.01 7 P P 20 27 56.0 +1.7
M55A IAmb IAmb 20 27 56.5
comp=Z,32nm,0.9s
N41A Harden Midland 24.09 345 P P 20 27 55.2 +0.2
N41A IAmb IAmb 20 28 08.5
comp=Z,22nm,1.1s
M57A Sunshine Farm, 24.12 10 P P 20 27 56.7 +1.4
M57A IAmb IAmb 20 27 57.9
comp=Z,31nm,0.9s
M44A Midewin, Midew 24.15 350 P P 20 27 55.7 +0.1
M44A IAmb IAmb 20 27 58.2
comp=Z,35nm,0.9s
AMTX Amarillo 24.17 319 P P 20 27 56.7 +0.7
baz=131
AMTX Amarillo 24.17 319 P P 20 27 57.6 +1.6
L48A N Adams 24.30 357 P P 20 27 58.5 +1.5
L48A IAmb IAmb 20 28 00.2
comp=Z,31nm,1.0s
MSTX Muleshoe 24.31 316 P P 20 27 57.5 +0.3
baz=127
MSTX Muleshoe 24.31 316 P P 20 27 58.5 +1.2
MSTX IAmb IAmb 20 28 13.5
comp=Z,55nm,1.2s
ODNJ Ogdensburg 24.39 15 P P 20 27 59.0 +1.2
ODNJ IAmb IAmb 20 28 01.2
comp=Z,16nm,0.8s
PAL Palisades 24.50 16 P P 20 28 00.1 +1.4
baz=200
HQIL Hanson Quary C 24.52 351 P P 20 27 59.7 +0.8
L46A Eue Claire 24.52 353 P P 20 27 59.4 +0.4
L46A IAmb IAmb 20 28 12.9
comp=Z,43nm,0.9s
ERPA Erie 24.53 5 P P 20 27 59.9 +0.9
baz=186
ERPA Erie 24.53 5 P P 20 28 00.5 +1.4
KSPA Keystone Colle 24.58 12 P P 20 28 00.9 +1.3
AAM Ann Arbor 24.63 358 P P 20 28 01.2 +1.3
baz=178
AAM Ann Arbor 24.63 358 P P 20 28 01.3 +1.4
KSU1 Kansas State U 24.64 333 P P 20 28 00.4 +0.4
baz=147
KSU1 Kansas State U 24.64 333 P P 20 28 00.6 +0.6
KSU1 IAmb IAmb 20 28 01.1
comp=Z,30nm,0.7s
WSPT Westport, CT 24.81 17 P P 20 28 03.2 +1.7
WSPT IAmb IAmb 20 28 05.0
comp=Z,20nm,0.9s
L56A Greenwood 24.83 9 P P 20 28 03.3 +1.5
L56A IAmb IAmb 20 28 04.3
comp=Z,36nm,0.8s
N38A Joes South For 24.85 341 P P 20 28 02.8 +0.9
N38A IAmb IAmb 20 28 05.0
comp=Z,26nm,0.6s
L44A Lake County Fo 24.90 351 P P 20 28 03.7 +1.4
baz=168
L44A Lake County Fo 24.90 351 P P 20 28 02.6 +0.3
MNTX Cornudas Mount 24.92 309 P P 20 28 02.7 0.0
baz=119,SNR=27
MNTX Cornudas Mount 24.92 309 P P 20 28 02.7 0.0
MNTX IAmb IAmb 20 28 28.9
comp=Z,26nm,1.1s
ATAH Atahualpa 24.94 170 P P 20 28 04.6 +1.2
comp=Z,37nm,1.1s,baz=353,slow=4.5,SNR=10
ATAH LR LR 20 38 46.7
comp=Z,304nm,20.1s,baz=359,slow=39
L58A Harry Jones Me 25.04 12 P P 20 28 04.9 +1.3
baz=195,SNR=8.2
L42A Oliver, Polo 25.05 348 P P 20 28 03.7 0.0
L42A IAmb IAmb 20 28 07.0
comp=Z,30nm,0.8s
K50A Casco 25.09 0 P P 20 28 05.2 +1.2
BINY Binghamton 25.16 12 P P 20 28 06.1 +1.4
baz=195,SNR=5.4
BINY Binghamton 25.16 12 P P 20 28 06.4 +1.7
BINY IAmb IAmb 20 28 08.9
comp=Z,26nm,0.9s
KSCT Kent School, K 25.28 16 P P 20 28 07.3 +1.5
KSCT IAmb IAmb 20 28 08.4
comp=Z,18nm,1.1s
L59A Walton 25.34 13 P P 20 28 07.7 +1.2
L59A IAmb IAmb 20 28 10.7
comp=Z,32nm,0.8s
MMNY Mt. Morris Dam 25.36 8 P P 20 28 07.8 +1.3
K56A Middlesex 25.41 9 P P 20 28 08.4 +1.4
baz=192,SNR=12
L40A Anamosa 25.46 345 P P 20 28 08.9 +1.5
L40A IAmb IAmb 20 28 11.4
comp=Z,26nm,0.9s
K43A Burlington 25.48 350 P P 20 28 09.1 +1.4
K43A IAmb IAmb 20 28 10.8
comp=Z,42nm,1.2s
K57A Scipio Center 25.58 10 P P 20 28 10.1 +1.5
J47A Sumner 25.62 356 P P 20 28 10.8 +1.9
MEDO Medina 25.72 7 P P 20 28 10.6 +0.9
MEDO IAmb IAmb 20 28 11.2
comp=Z,34nm,0.8s
M64A Tiverton 25.80 20 P P 20 28 11.9 +1.4
baz=206
J54A Appleton 25.81 7 P P 20 28 11.8 +1.2
J54A IAmb IAmb 20 28 12.9
comp=Z,32nm,0.8s
CBKS Cedar Bluff 25.87 328 P P 20 28 12.2 +1.0
baz=140
J55A Hilton 25.90 8 P P 20 28 13.0 +1.6
J55A IAmb IAmb 20 28 15.6
comp=Z,27nm,0.9s
L63A North Scituate 25.95 19 P P 20 28 13.2 +1.3
baz=205
JFWS Jewell Farm 26.04 347 P P 20 28 14.2 +1.5
baz=163
JFWS Jewell Farm 26.04 347 P P 20 28 14.2 +1.5
JFWS IAmb IAmb 20 28 16.4
comp=Z,40nm,1.1s
J56A Wolcott 26.05 10 P P 20 28 14.4 +1.6
J56A IAmb IAmb 20 28 15.1
comp=Z,34nm,0.9s
L61B Northampton 26.18 17 P P 20 28 15.3 +1.3
baz=202,SNR=5.7
K61A Williamstown 26.22 16 P P 20 28 16.1 +1.7
baz=201,SNR=6.2
I49A Point Hope 26.25 360 P P 20 28 15.6 +1.0
J57A Williamstown 26.33 11 P P 20 28 16.8 +1.5
J57A IAmb IAmb 20 28 17.7
comp=Z,28nm,0.9s
J58A Remsen 26.41 12 P P 20 28 17.3 +1.1
baz=196,SNR=6.1
J58A Remsen 26.41 12 P P 20 28 16.7 +0.6
J58A IAmb IAmb 20 28 18.7
comp=Z,20nm,1.1s
BOAV Boa Vista 26.45 122 *e*P **P 20 28 18.4 +1.7**
K62A Royalston 26.50 17 P P 20 28 18.6 +1.7
baz=203
HRV Adam Dziewonsk 26.55 19 P P 20 28 19.3 +1.9
baz=204
LPIG La Paz 26.63 289 LR LR 20 39 55.8
comp=Z,254nm,18.2s,baz=108,slow=39
PECO Prince Edward 26.67 9 P P 20 28 19.4 +1.0
PECO IAmb IAmb 20 28 23.2
comp=Z,20nm,0.8s
J59A Piesco 26.68 13 P P 20 28 19.8 +1.3
J60A Lant Hill Farm 26.72 15 P P 20 28 20.5 +1.7
baz=200
K63A Dunstable 26.73 18 P P 20 28 20.7 +1.8
baz=204
I42A Draeger Farm, 26.73 350 P P 20 28 19.2 +0.2
I42A IAmb IAmb 20 28 31.3
comp=Z,31nm,1.1s
I58A Old Forge 26.80 12 P P 20 28 21.0 +1.5
baz=196
I57A Carthage 26.90 11 P P 20 28 21.8 +1.3
baz=195,SNR=5.2
CZSB Cruzeiro do Su 27.02 158 *e*P **P 20 28 23.4 +1.6**
J61A Chester 27.04 16 P P 20 28 23.4 +1.7
baz=202
I40A Norwalk 27.06 347 P P 20 28 22.9 +1.0
I40A IAmb IAmb 20 28 26.5
comp=Z,20nm,1.0s
121A Cookes Peak, D 27.11 308 P P 20 28 24.1 +1.4
baz=117,SNR=7.6
121A Cookes Peak, D 27.11 308 P P 20 28 24.0 +1.4
121A IAmb IAmb 20 28 44.8
comp=Z,34nm,1.2s
H43A Windswept, Lux 27.13 352 P P 20 28 22.5 0.0
H43A IAmb IAmb 20 28 27.4
comp=Z,21nm,0.8s
I59A Olmsteadville 27.14 14 P P 20 28 24.1 +1.6
baz=199,SNR=7.6
J62A Henniker 27.14 18 P P 20 28 24.3 +1.8
baz=203
DELO Deloro Mine 27.16 8 P P 20 28 24.0 +1.2
DELO IAmb IAmb 20 28 28.2
comp=Z,15nm,1.0s
GLMI Grayling 27.18 357 P P 20 28 24.8 +1.7
baz=176
NCB Newcomb 27.22 13 P P 20 28 24.3 +0.9
SADO Sadowa 27.24 5 P P 20 28 23.2 -0.3
comp=Z,11nm,0.7s,baz=204,slow=7.7,SNR=9.4
SADO LR LR 20 39 35.8
comp=Z,911nm,18.4s,baz=198,slow=37
SADO Sadowa 27.24 5 P P 20 28 24.7 +1.2
SADO IAmb IAmb 20 28 29.0
comp=Z,56nm,1.6s
T25A Trinidad 27.32 320 P P 20 28 25.4 +0.9
baz=130
T25A Trinidad 27.32 320 P P 20 28 26.8 +2.3
T25A IAmb IAmb 20 29 25.2
comp=Z,45nm,1.6s
I60A Shoreham 27.32 15 P P 20 28 26.0 +1.8
baz=200,SNR=6.2
ANMO Albuquerque 27.36 314 P P 20 28 25.3 +0.4
comp=Z,1.3nm,0.5s,baz=129,slow=12,SNR=5.5
ANMO LR LR 20 41 11.1
comp=Z,160nm,19.9s,baz=120,slow=41
ANMO Albuquerque 27.36 314 P P 20 28 26.0 +1.0
baz=123
ANMO Albuquerque 27.36 314 P P 20 28 26.0 +1.0
H57A Richville 27.46 11 P P 20 28 26.9 +1.4
baz=195
G45A Suttons Bay 27.47 355 P P 20 28 27.1 +1.6
KSCO Kaye Shedlock' 27.54 325 P P 20 28 27.4 +1.0
baz=135
H58A Gabriels 27.66 13 P P 20 28 28.2 +0.9
baz=198
PLVO Plevna 27.74 8 P P 20 28 29.2 +1.1
PLVO IAmb IAmb 20 28 30.2
comp=Z,25nm,1.1s
LONY Lake Ozonia 27.77 12 P P 20 28 29.4 +1.1
baz=197
LONY Lake Ozonia 27.77 12 P P 20 28 29.8 +1.5
LONY IAmb IAmb 20 28 30.8
comp=Z,26nm,1.4s
319A Douglas 27.77 305 P P 20 28 29.7 +1.2
319A IAmb IAmb 20 29 20.4
comp=Z,13nm,1.0s
I62A Tamworth 27.87 18 P P 20 28 30.6 +1.5
baz=204
H59A Cadyville 27.98 14 P P 20 28 31.1 +0.9
baz=198
LBNH Lisbon 28.04 16 P P 20 28 32.2 +1.5
baz=202
LBNH Lisbon 28.04 16 P P 20 28 32.5 +1.8
H60A Morristown 28.14 15 P P 20 28 33.5 +1.9
baz=200
G40A Rib Lake 28.30 349 P P 20 28 33.5 +0.6
SDCO Great Sand Dun 28.37 320 P P 20 28 34.8 +0.8
baz=129,SNR=6.6
SDCO Great Sand Dun 28.37 320 P P 20 28 35.0 +0.9
ALGO Algonquin Park 28.52 7 P P 20 28 36.2 +1.3
baz=189,SNR=5.9
H62A Milan 28.56 17 P P 20 28 36.8 +1.5
baz=203
ECSD EROS Data Cent 28.60 339 P P 20 28 36.6 +0.9
baz=151
ECSD EROS Data Cent 28.60 339 P P 20 28 35.6 -0.2
PTGA Pitinga 28.81 127 P P 20 28 38.5 +0.6
comp=Z,8.8nm,0.9s,baz=308,slow=11,SNR=9.9
PTGA LR LR 20 42 05.1
comp=Z,454nm,18.6s,baz=322,slow=41
E43A Lone Tree Farm 28.91 354 P P 20 28 38.5 0.0
E43A IAmb IAmb 20 29 32.9
comp=Z,15nm,1.1s
H63A New Sharon 28.97 19 P P 20 28 40.7 +1.8
baz=205
G61A St-Isidore-de- 29.11 16 P P 20 28 41.7 +1.5
baz=202
H64A Troy 29.21 20 P P 20 28 42.8 +1.7
baz=207
G62A West of Eustis 29.33 18 P P 20 28 43.9 +1.7
baz=204
G62A West of Eustis 29.33 18 P P 20 28 44.4 +2.2
G62A IAmb IAmb 20 28 45.6
comp=Z,22nm,1.1s
G63A Kingsbury 29.51 19 P P 20 28 45.6 +1.9
baz=206
F36A Milaca 29.60 344 P P 20 28 44.2 -0.4
PKME Peaks-Kenny Pk 29.75 19 P P 20 28 47.5 +1.7
baz=206
PKME Peaks-Kenny Pk 29.75 19 P P 20 28 48.4 +2.6
PKME IAmb IAmb 20 28 49.1
comp=Z,13nm,0.8s
ISCO Idaho Springs 29.76 323 P P 20 28 46.7 +0.2
baz=132
F61A St Evariste 29.90 16 P P 20 28 48.4 +1.3
baz=203
G64A Maxfield 29.91 20 P P 20 28 49.0 +1.8
baz=207
MACA Manacapuru-AM 29.91 132 *e*P **P 20 28 47.3 -0.3**
NNA Nana 29.96 169 LR LR 20 40 20.7
comp=Z,230nm,19.7s,baz=348,slow=36
F62A Pittston Farm, 30.11 18 P P 20 28 50.1 +1.1
baz=205
E60A Ste Agathe de 30.14 16 P P 20 28 50.6 +1.3
baz=202
F63A Nahmakanta, Br 30.20 19 P P 20 28 51.4 +1.5
baz=206
G65A Princeton 30.26 21 P P 20 28 51.7 +1.4
baz=209
E61A Lac Etchemin 30.45 17 P P 20 28 53.0 +0.9
baz=203
F64A Sherman 30.58 20 P P 20 28 55.0 +1.8
baz=208
PV03 Paradox Valley 30.80 317 P P 20 28 54.9 -0.6
PV12 Saucer Basin, 30.80 317 P P 20 28 55.0 -0.6
PV12 IAmb IAmb 20 29 02.5
comp=Z,18nm,1.4s
E62A Clayton Lake 30.90 18 P P 20 28 57.9 +1.9
baz=205,SNR=5.1
E62A Clayton Lake 30.90 18 P P 20 28 57.1 +1.1
E62A IAmb IAmb 20 28 59.4
comp=Z,26nm,1.3s
PV22 Blue Mesa, Par 30.92 318 P P 20 28 58.2 +1.7
E63A Oxbow 31.05 19 P P 20 28 59.0 +1.7
baz=207
E63A Oxbow 31.05 19 P P 20 28 59.6 +2.2
E63A IAmb IAmb 20 29 39.3
comp=Z,35nm,1.6s
EYMN Ely 31.12 348 P P 20 28 57.9 -0.1
baz=164
WUAZ Wupatki 31.12 311 P P 20 28 59.8 +1.4
baz=118,SNR=7.8
WUAZ Wupatki 31.12 311 P P 20 28 59.5 +1.2
WUAZ IAmb IAmb 20 29 12.4
comp=Z,20nm,1.0s
E64A Bridgewater 31.24 20 P P 20 29 00.1 +1.1
baz=208
D61A St Aubert, Com 31.24 16 P P 20 29 00.3 +1.3
baz=203
D62A Allapoint, All 31.45 18 P P 20 29 03.0 +2.1
baz=205
LMQ La Malbaie 31.52 16 P P 20 29 02.8 +1.2
LMQ IAmb IAmb 20 29 03.8
comp=Z,12nm,1.0s
D63A Stockholm 31.70 19 P P 20 29 04.8 +1.8
baz=207
LSQQ Lebel-sur-Quev 31.70 7 P P 20 29 04.0 +1.0
baz=190
ETMB Extrema 31.71 148 *e*P **P 20 29 03.1 -0.4**
RSSD Black Hills 32.00 330 P P 20 29 06.8 +0.8
baz=139
U15A North Rim 32.20 312 P P 20 29 08.8 +0.8
MATQ Matagami 32.32 6 P P 20 29 09.7 +1.2
baz=189,SNR=5.4
SRU San Rafael Swe 32.36 317 P P 20 29 10.2 +0.9
SRU IAmb IAmb 20 29 28.2
comp=Z,9.0nm,0.9s
E28A Huff 32.52 337 P P 20 29 10.5 +0.2
SAML Samuel 32.64 142 P 20 29 10.8 -0.9
SAML IAmb IAmb 20 29 12.2
comp=Z,20nm,1.0s
SAML Samuel 32.64 142 *e*P **P 20 29 11.2 -0.4**
P17A Butcher Ranch, 32.70 318 P P 20 29 13.4 +1.2
KNB Kanab 32.85 312 P P 20 29 14.8 +1.3
KNB IAmb IAmb 20 29 28.1
comp=Z,35nm,1.7s
CHGQ Chibougamau 32.90 10 P P 20 29 14.9 +1.3
baz=195
MTPU Mount Pierson 32.91 314 P P 20 29 13.2 -1.0
TMUT Trail Mountain 32.91 317 P P 20 29 13.8 -0.4
MSU Marysvale 33.14 315 P P 20 29 15.6 -0.6
LCMT Little Creek M 33.15 312 P P 20 29 17.3 +1.2
LCMT IAmb IAmb 20 29 29.6
comp=Z,12nm,1.3s
MVU Marysvale 33.16 315 P P 20 29 17.4 +1.1
CCUT Cedar City 33.48 313 P P 20 29 20.1 +0.9
SWSC Sam W. Stewart 33.49 304 P P 20 29 18.8 -0.1
baz=109
PD31 Pinedale Array 33.94 323 P P 20 29 23.4 +0.3
PDAR Pinedale Array 33.94 323 P P 20 29 23.1 0.0
comp=Z,1.4nm,0.8s,baz=127,slow=9.4,SNR=9.7
PDAR PcP **PcP 20 32 00.6 -0.8**
comp=Z,1.4nm,0.9s,baz=116,slow=2.1,SNR=3.6
PDAR LR LR 20 45 40.7
comp=Z,181nm,20.1s,baz=126,slow=41
PDAR Pinedale Array 33.94 323 P P 20 29 22.4 -0.6
BW06 Boulder Array 33.94 323 P P 20 29 23.8 +0.7
BW06 IAmb IAmb 20 29 46.1
comp=Z,12nm,1.3s
MALB Monte Alegre 33.99 122 *e*P **P 20 29 24.7 +1.3**
BELC Belle Mtn. Jos 34.00 305 P P 20 29 24.4 +0.9
baz=110
GMRC Granite Mounta 34.02 307 P P 20 29 24.2 +0.6
baz=112
ULM Lac du Bonnet 34.26 345 P P 20 29 25.4 +0.1
comp=Z,3.3nm,0.6s,baz=178,slow=8.6,SNR=2.6
ULM LR LR 20 42 56.5
comp=Z,210nm,20.5s,baz=160,slow=36
PSUT Pine Spring 34.29 314 P P 20 29 27.1 +1.0
PSUT IAmb IAmb 20 29 39.6
comp=Z,39nm,2.0s
SHPR Sheep Range 34.31 310 P P 20 29 26.9 +0.6
ITTB Itaituba 34.37 127 *e*P **P 20 29 27.2 +0.4**
HWUT Hardware Ranch 34.43 320 P P 20 29 27.1 -0.2
HWUT IAmb IAmb 20 29 56.5
comp=Z,12nm,1.2s
DUG Dugway, Tooele 34.43 317 P P 20 29 28.2 +0.9
baz=122
DUG Dugway, Tooele 34.43 317 P P 20 29 27.9 +0.7
HEC Hector,Ludlow 34.55 306 P P 20 29 29.1 +0.8
baz=111,SNR=6.3
PRN Pahroc Range 34.62 311 P P 20 29 29.4 +0.5
SPUT South Promonto 34.81 319 P P 20 30.5 0.0
SPUT IAmb IAmb 20 29 45.8
comp=Z,20nm,1.1s
SPR3 Spring Creek 3 34.84 314 P P 20 29 31.6 +0.6
LAO LASA Array 34.94 331 P P 20 29 32.7 +1.2
baz=138
BGU Big Grassy Mou 34.96 318 P P 20 29 32.1 +0.2
MCPB Macapa, AP 34.99 118 *e*P **P 20 29 32.9 +0.8**
REDW Red Top Meadow 35.06 323 P P 20 29 34.1 +1.4
REDW IAmb IAmb 20 29 56.3
comp=Z,27nm,1.4s
SNOW Snow King Moun 35.06 323 P P 20 29 32.5 -0.2
SNOW IAmb IAmb 20 29 51.2
comp=Z,11nm,1.0s
LOHW Long Hollow 35.07 324 P P 20 29 32.3 -0.5
GSC Goldstone, Bar 35.08 307 P P 20 29 33.1 +0.3
TPAW Teton Pass 35.19 323 P P 20 29 32.8 -1.1
HVU Hansel Valley 35.27 319 P P 20 29 34.3 -0.2
TPNV Topopah Spring 35.29 310 P P 20 29 36.1 +1.4
baz=114,SNR=6.9
TPNV Topopah Spring 35.29 310 P P 20 29 35.5 +0.7
RLMT Red Lodge 35.32 327 P P 20 29 36.0 +1.1
baz=132
RLMT Red Lodge 35.32 327 P P 20 29 35.9 +0.9
RLMT IAmb IAmb 20 29 51.5
comp=Z,16nm,1.4s
R11A Troy Canyon, C 35.41 312 P P 20 29 36.8 +1.0
baz=117
R11A Troy Canyon, C 35.41 312 P P 20 29 36.8 +1.0
FURC Furnace Creek, 35.56 309 P P 20 29 38.2 +1.4
baz=113
CIS Catalina Islan 35.71 303 P P 20 29 39.4 +1.1
baz=107
LRMC Laurel Mtn Rad 35.81 307 P P 20 29 40.4 +1.2
baz=111
EDW2 Edwards Air Fo 35.85 306 P P 20 29 40.1 +0.7
baz=110
ELK Elko 36.30 316 P P 20 29 44.4 +1.0
NPGB Novo Progresso 36.41 130 *e*P **P 20 29 44.3 0.0**
TPH Tonopah 36.46 311 P P 20 29 45.9 +1.1
ISA Isabella, Lake 36.48 307 P P 20 29 46.4 +1.6
baz=110
LPAZ La Paz 36.59 156 P P 20 29 44.4 -2.1
comp=Z,5.5nm,1.1s,baz=331,slow=6.2,SNR=13
LPAZ LR LR 20 47 43.5
comp=Z,216nm,19.3s,baz=306,slow=41
LPAZ La Paz 36.59 156 P 20 29 46.4 0.0
LPAZ La Paz 36.59 156 *e*P **P 20 29 47.4 +0.9**
BOZ Bozeman (W) 36.89 325 P P 20 29 49.8 +1.5
baz=130
BOZ Bozeman (W) 36.89 325 P P 20 29 49.3 +1.0
MCMT McKenzie Canyo 37.09 324 P P 20 29 52.2 +2.1
BCYI Bear Canyon 37.10 322 P P 20 29 51.8 +1.6
PKM Mcpherson Peak 37.27 305 P P 20 29 52.4 +0.7
baz=108
HLID Hailey 37.27 321 P P 20 29 52.5 +0.9
DLMT Dillon 37.27 324 P P 20 29 52.1 +0.6

NV11 **Mina Array Sit** 37.28 311 P **P** 20 29 52.4 +0.8
NVAR **Mina Array Bea** 37.38 311 P **P** 20 29 52.1 -0.6
comp=Z,5.0nm,1.1s,baz=120,slow=8.0,SNR=17
NVAR PcP **PcP** 20 32 11.9 +0.2
comp=Z,0.8nm,0.7s,baz=130,slow=3.8,SNR=3.5
NVAR LR LR 20 48 21.7
comp=Z,136nm,18.7s,baz=122,slow=41
NVAR **Mina Array Bea** 37.38 311 P **P** 20 29 53.3 +0.7
LHV **Little Huntoon** 37.45 311 P **P** 20 29 54.1 +1.1
LHV IAmb IAmb 20 30 15.5
comp=Z,18nm,1.3s
LRM **Limekiln Ridge** 37.48 325 P **P** 20 29 54.3 +0.9
KVN **Kaiserville** 37.49 312 P **P** 20 29 54.2 +0.7
EGMT **Eagleton** 37.56 330 P **P** 20 29 54.2 +0.3
baz=135
EGMT **Eagleton** 37.56 330 P **P** 20 29 54.2 +0.3
VILB **Vilhena** 37.58 142 *e*P **P** 20 29 54.4 +0.1
HRY **Holter Researc** 37.72 327 P **P** 20 29 56.3 +1.0
MFID **Camas Ranch** 38.05 320 P **P** 20 29 58.0 -0.1
WAKR **Walker** 38.23 311 P **P** 20 30 00.9 +1.1
YERR **Yerington** 38.27 311 P **P** 20 30 01.6 +1.4
PAHR **Pah Rah Range** 38.67 312 **P** 20 30 03.2 -0.2
MNMC **Minye Minye** 38.69 160 P **P** 20 30 04.8 +0.9
MNMC IAmb IAmb 20 30 07.0
comp=Z,32nm,1.0s
CLDB **Colider** 38.78 135 *e*P **P** 20 30 04.1 -0.3
SCHQ **Schefferville** 39.09 14 P **P** 20 30 06.3 -0.2
comp=Z,20nm,0.8s,baz=211,slow=5.8,SNR=13
SCHQ PcP **PcP** 20 32 15.7 -0.6
comp=Z,5.1nm,0.6s,baz=222,slow=2.4,SNR=5.5
SCHQ LR LR 20 46 56.2
comp=Z,506nm,19.2s,baz=212,slow=37
SCHQ **Schefferville** 39.09 14 P **P** 20 30 07.4 +0.9
SCHQ IAmb IAmb 20 30 08.5
comp=Z,27nm,0.9s
PB11 **IPOC Station P** 39.26 160 **P** 20 30 08.7 +0.2
WVOR **Wild Horse Val** 39.35 317 P **P** 20 30 10.0 +1.0
WVOR IAmb IAmb 20 30 14.6
comp=Z,30nm,1.1s
TMAB **Tom-Au,PA,Br** 39.41 117 *e*P **P** 20 30 10.5 +0.9
BEKR **Beckworth** 39.42 312 P **P** 20 30 10.9 +1.2
J08A **Circle Bar Ran** 39.68 318 P **P** 20 30 11.7 -0.1
PRPB **Parauapebas** 40.11 123 *e*P **P** 20 30 17.0 +1.5
MOD **Modoc Plateau** 40.22 315 P **P** 20 30 15.1 -1.3
MOD IAmb IAmb 20 30 30.8
comp=Z,45nm,1.7s
F10A **Beach Ranch, E** 40.27 322 **P** 20 30 15.8 -0.9
O03E **Paynes Creek** 40.60 312 P **P** 20 30 19.9 +0.5
baz=112
J05D **Fort Rock, OR** 41.44 316 P **P** 20 30 26.9 +0.5
baz=116
PINE **Pine Mountain** 41.47 317 P **P** 20 30 26.5 -0.2
NEW **Newport** 41.50 325 P **P** 20 30 27.8 +1.1
baz=126
NEW **Newport** 41.50 325 P **P** 20 30 27.4 +0.7
M02C **Callahan** 41.76 313 P **P** 20 30 30.1 +1.1
baz=112
C09A **Chrisman Ranch** 41.88 324 **P** 20 30 30.1 +0.3
LVC **Limon Verde** 42.16 161 *e*P **P** 20 30 33.0 +0.3
SALV **Santo Antonio** 42.59 140 *e*P **P** 20 30 35.1 -0.7
H04A **Detroit Lake** 42.67 318 P **P** 20 30 36.7 +0.4
H04A IAmb IAmb 20 30 50.1
comp=Z,21nm,1.3s
SNDB **Serra Nova Dou** 42.68 131 *e*P **P** 20 30 37.7 +1.1
B08A **Colville Reser** 42.78 324 P **P** 20 30 37.8 +0.7
EDM **Edmonton** 42.84 333 P **P** 20 30 37.1 -0.4
EDM IAmb IAmb 20 30 38.2
comp=Z,19nm,0.8s
ROSB **Rosrio** 43.09 114 *e*P **P** 20 30 41.1 +1.2
SMTB **Santa Maria do** 43.48 124 *e*P **P** 20 30 44.2 +1.1
PP1B **Ponte de Pedra** 44.38 141 *e*P **P** 20 30 49.7 -0.6
ARAG **Araguaiana, MT** 44.93 136 *e*P **P** 20 30 54.9 +0.2
PEXB **Peixe** 44.95 129 *e*P **P** 20 30 55.6 +0.6
LLLB **Lillooet** 45.39 326 P **P** 20 30 57.5 -0.5
LLLB IAmb IAmb 20 31 03.4
comp=Z,22nm,1.2s
AC02 **Maricunga** 46.08 163 **P** 20 31 04.3 0.0
NBPS **Pedro II - PI** 46.15 114 *e*P **P** 20 31 05.3 +0.7
AQDB **Aquidauana** 46.16 144 **P** 20 31 02.6 -1.7
AQDB **Aquidauana** 46.16 144 *e*P **P** 20 31 03.6 -0.8
FRB **Frobisher Bay** 47.10 8 P **P** 20 31 10.4 -0.8
comp=Z,5.9nm,0.6s,baz=230,slow=11,SNR=4.0
BDFB **Brasilia** 47.50 132 P **P** 20 31 14.1 -0.9
comp=Z,24nm,0.9s,baz=311,slow=9.4,SNR=20
BDFB LR LR 20 52 49.8
comp=Z,152nm,18.4s,baz=320,slow=38
BDFB **Brasilia** 47.50 132 **P** 20 31 14.6 -0.4
SDBA **SAO DESIDERIO** 47.72 126 *e*P **P** 20 31 17.1 +0.3
NBPB **Pedra_Branca-C** 48.32 115 *e*P **P** 20 31 21.4 0.0
ITRB **Iturama** 48.78 138 *e*P **P** 20 31 26.0 +1.2
NBCL **Cascavel-CE** 48.83 112 *e*P **P** 20 31 26.4 +1.0
IPMB **Ipameri, GO** 48.96 135 *e*P **P** 20 31 26.6 +0.3
PCMB **Pacaembu** 49.63 141 *e*P **P** 20 31 32.1 +0.8
TRCB **Terra Rica** 49.73 143 *e*P **P** 20 31 33.2 +1.1
JANB **Januaria** 49.81 128 *e*P **P** 20 31 32.8 0.0
YKA **Yellowknife Ar** 50.06 341 P **P** 20 31 33.2 -0.8
comp=Z,5.6nm,0.7s,baz=134,slow=8.5,SNR=37
YKA PcP **PcP** 20 32 52.3 -1.4
comp=Z,1.4nm,0.7s,baz=134,slow=4.0,SNR=5.1
YKA **Yellowknife Ar** 50.06 341 P **P** 20 31 33.1 -0.9
YKA **PcP** 20 32 54.5 +0.7
CPUP **Villa Florida** 50.12 150 P **P** 20 31 32.3 -2.6
comp=Z,10nm,1.0s,baz=329,slow=8.2,SNR=13
CPUP LR LR 20 55 23.1
comp=Z,159nm,19.2s,baz=330,slow=39
CPUP **Villa Florida** 50.12 150 **P** 20 31 32.6 -2.3
CPUP IAmb IAmb 20 31 33.7
comp=Z,14nm,1.1s
NBPN **Ponto Novo - B** 50.56 121 *e*P **P** 20 31 38.9 +0.4
ZON **Zonda** 50.67 165 P **P** 20 31 38.6 -0.5
NRS **Narsarsuaq** 50.86 22 P **P** 20 31 40.1 0.0
NRS IAmb IAmb 20 33 29.3
comp=Z,13nm,0.9s
DIAM **Diamantina, MG** 52.35 131 *e*P **P** 20 31 52.8 +0.8
BO02 **Sierra Bellavi** 53.31 168 P **P** 20 31 58.6 -0.2
DLBC **Dease Lake** 53.47 331 P **P** 20 31 59.0 -0.7
comp=Z,14nm,0.9s,baz=131,slow=7.3,SNR=19
DLBC **Dease Lake** 53.47 331 P **P** 20 32 00.6 +0.9
DLBC IAmb IAmb 20 32 02.2
comp=Z,18nm,0.9s
NBIT **Itapeh - BA** 53.48 125 *e*P **P** 20 32 01.5 +1.3
BI02 **San Fabin de** 55.03 169 **P** 20 32 09.8 -1.5
BI02 IAmb IAmb 20 32 11.6
comp=Z,17nm,1.2s
RIB01 **Linhares ES** 55.39 130 *e*P **P** 20 32 15.1 +1.0
DUB01 **Friburgo-RJ** 55.76 134 *e*P **P** 20 32 17.9 +1.2
ALF01 **Guarapari-ES** 55.97 131 *e*P **P** 20 32 19.3 +1.1
CAM01 **Campos-RJ** 56.09 133 *e*P **P** 20 32 19.9 +0.9
PLTB **Pedras Altas** 56.44 150 *e*P **P** 20 32 20.4 -0.9
LC01 **Cunco** 57.10 170 P **P** 20 32 24.7 -1.2
LC01 IAmb IAmb 20 32 26.0
comp=Z,17nm,1.1s
ICESG **Greenland Ices** 57.92 17⇓*i*P **P** 20 32 30.9 -0.9
ICESG IAmb IAmb 20 32 31.6
comp=Z,22nm,0.9s
TRQA **Tornquist** 58.67 161 *e*P **P** 20 32 38.2 +1.2
PLCA **Paso Flores** 59.12 169 P **P** 20 32 38.5 -1.6
comp=Z,9.3nm,0.8s,baz=352,slow=8.1,SNR=16
PLCA **Paso Flores** 59.12 169 P **P** 20 32 39.2 -0.9
PLCA IAmb IAmb 20 32 40.1
comp=Z,13nm,0.9s
PLCA **Paso Flores** 59.12 169 *e*P **P** 20 32 39.6 -0.5
CTG **Chitna Glacier** 59.73 331 P **P** 20 32 44.8 +0.6
baz=109
INK **Inuvik** 59.82 341 P **P** 20 32 43.7 -0.8
comp=Z,7.1nm,1.1s,baz=105,slow=6.9,SNR=7.2
INK **Inuvik** 59.82 341 P **P** 20 32 44.7 +0.2
baz=121
INK **Inuvik** 59.82 341 P **P** 20 32 44.2 -0.3
INK IAmb IAmb 20 32 45.5
comp=Z,5.4nm,0.9s
EPYK **Eagle Plains** 59.96 338 P **P** 20 32 45.9 +0.3
baz=117
M27K **Edge Creek, AK** 60.44 333 P **P** 20 32 49.4 +0.4
baz=110
CRQE **Cirque** 60.47 331 P **P** 20 32 50.0 +0.6
baz=108
SUMG **Summit** 60.48 14⇓*i*P **P** 20 32 49.2 -0.3
SUMG IAmb IAmb 20 32 50.1
comp=Z,17nm,0.8s
SUMG **Summit** 60.48 14 P **P** 20 32 48.8 -0.7
BCAR **Beaver Creek A** 60.63 333 P **P** 20 32 50.5 +0.2
MCARA **McCarthy VSAT** 60.63 331 P **P** 20 32 51.2 +0.9
baz=108

L27K **Beaver Creek,** 60.65 333 P **P** 20 32 51.2 +0.7
baz=110
L27K **Beaver Creek,** 60.65 333 P **P** 20 32 51.0 +0.6
L27K IAmb IAmb 20 33 12.5
comp=Z,14nm,1.5s
KAIM **Kayak Island** 60.87 329 P **P** 20 32 52.6 +0.8
baz=106
M26K **Nabesna, AK** 60.94 332 P **P** 20 32 53.2 +0.8
baz=109
BMRM **Bremner River** 61.24 331 P **P** 20 32 55.2 +0.7
baz=106
L26K **Log Cabin Wild** 61.29 333 P **P** 20 32 55.7 +1.0
baz=108
N25K **Chitina, Valde** 61.42 331 P **P** 20 32 56.9 +1.1
baz=107
N25K **Chitina, Valde** 61.42 331 **P** 20 32 55.9 +0.1
DOT **Dot Lake** 61.80 334 P **P** 20 32 58.8 +0.7
DOT IAmb IAmb 20 33 00.0
comp=Z,14nm,1.0s
SCRK **Sand Creek** 61.87 334 P **P** 20 32 59.5 +0.8
baz=108
NEEM **North Greenlan** 61.89 7⇓*i*P **P** 20 32 58.3 -0.6
NEEM IAmb IAmb 20 32 59.3
comp=Z,20nm,0.8s
KLU **Klutina** 62.00 331 P **P** 20 33 00.3 +0.6
baz=105
KLU **Klutina** 62.00 331 P **P** 20 33 00.6 +0.9
RIDG **Independent Ri** 62.16 334 P **P** 20 33 01.3 +0.7
baz=108,SNR=8.8
RIDG **Independent Ri** 62.16 334 **P** 20 33 01.6 +1.0
PAX **Paxson** 62.20 333 P **P** 20 33 01.3 +0.3
baz=106
PAX **Paxson** 62.20 333 P **P** 20 33 01.1 +0.1
PAX IAmb IAmb 20 33 02.1
comp=Z,6.3nm,0.8s
M24K **Tolsona, Glenn** 62.28 332 P **P** 20 33 02.1 +0.6
baz=105
M24K **Tolsona, Glenn** 62.28 332 P **P** 20 33 02.6 +1.1
GLI **Glacier Island** 62.40 330 P **P** 20 33 02.5 +0.3
baz=104
WAT6 **Susitna Watana** 63.11 332 P **P** 20 33 07.8 +0.7
baz=104
KNK **Knik Glacier** 63.16 331 P **P** 20 33 08.6 +1.3
baz=103
HDA **Harding Lake** 63.23 334 P **P** 20 33 08.0 +0.2
baz=106,SNR=12
HDA **Harding Lake** 63.23 334 P **P** 20 33 08.3 +0.5
IL31 **63.31 334** P **P** 20 33 08.2 +0.1
ILAR **Eielson Array** 63.31 334 P **P** 20 33 07.9 -0.3
comp=Z,5.7nm,0.9s,baz=110,slow=4.7,SNR=37
ILAR LR LR 21 00 47.8
comp=Z,95nm,21.3s,baz=121,slow=36
WAT1 **Susitna Watana** 63.53 332 P **P** 20 33 10.4 +0.7
baz=104
POKR **Poker Plat Res** 63.63 335 P **P** 20 33 11.7 +1.3
baz=106
CCB **Clear Creek Bu** 63.66 334 P **P** 20 33 10.8 +0.3
RC01 **Rabbit Creek A** 63.70 330 P **P** 20 33 11.5 +0.7
baz=102
RND **Reindeer** 63.80 333 P **P** 20 33 12.4 +0.8
MCK **McKinley** 63.91 333 P **P** 20 33 13.3 +1.1
baz=104
MCK **McKinley** 63.91 333 P **P** 20 33 12.6 +0.3
MDM **Murphy Dome** 63.91 334 P **P** 20 33 12.2 0.0
MDM IAmb IAmb 20 33 26.0
comp=Z,7.6nm,1.1s
H24K **Noodor Dome** 64.00 335 P **P** 20 33 13.5 +0.7
baz=106
NEA2 **Nenana** 64.17 334 P **P** 20 33 14.7 +0.8
baz=104,SNR=5.2
NEA2 **Nenana** 64.17 334 P **P** 20 33 14.0 +0.1
CUT **Chulitna** 64.21 331 P **P** 20 33 14.6 +0.5
baz=102
SUA **Susitna One** 64.25 330 P **P** 20 33 15.4 +0.7
baz=101
CAPN **Captain Cook N** 64.32 330 P **P** 20 33 16.4 +1.5
baz=100
I23K **Minto, Yukon-K** 64.42 335 P **P** 20 33 15.9 +0.4
baz=104,SNR=12
I23K **Minto, Yukon-K** 64.42 335 P **P** 20 33 15.9 +0.4
TRF **Thorofare Moun** 64.44 333 P **P** 20 33 16.2 +0.4
baz=102,SNR=6.8
TRF **Thorofare Moun** 64.44 333 P **P** 20 33 16.6 +0.7
H23K **Yukon River** 64.66 335 P **P** 20 33 17.9 +0.8
baz=104
SKT **Skwentna** 64.71 331 P **P** 20 33 17.8 +0.3
baz=100
SKT **Skwentna** 64.71 331 P **P** 20 33 17.9 +0.3
KTH **Kantishna Hill** 64.73 333 P **P** 20 33 18.0 +0.3
BPAW **Bear Paw Mtn.** 64.87 333 P **P** 20 33 18.7 +0.2
baz=102
BPAW **Bear Paw Mtn.** 64.87 333 P **P** 20 33 18.9 +0.4
MLY **Manley** 64.97 334 P **P** 20 33 19.6 +0.5
baz=102
MLY **Manley** 64.97 334 P **P** 20 33 19.6 +0.5
SII **Sitkinak Islan** 65.33 325 P **P** 20 33 21.9 +0.3
baz=95
TOLK **Toolik Lake Re** 65.38 338 P **P** 20 33 21.4 -0.4
baz=105
TOLK **Toolik Lake Re** 65.38 338 P **P** 20 33 21.1 -0.7
TOLK IAmb IAmb 20 33 22.8
comp=Z,4.7nm,0.8s
I21K **Tanana** 65.51 334 P **P** 20 33 22.8 +0.2
baz=101
N19K **Bonanza Creek** 65.94 329 P **P** 20 33 25.9 +0.3
baz=97
M19K **Big River Lodg** 66.04 331 P **P** 20 33 26.5 +0.4
baz=98
K20K **Telida** 66.09 332 P **P** 20 33 26.8 +0.4
baz=99
J20K **Nowinta River** 66.25 333 P **P** 20 33 27.8 +0.4
baz=99
L19K **White Mountain** 66.29 331 P **P** 20 33 28.0 +0.3
baz=97
PGAV **Gavieira, Arco** 66.92 51 *e*LR LR 20 54 09.4
comp=Z,90nm,20.0s
DAG **Danmarks Havn** 67.11 13⇓*i*P **P** 20 33 31.3 -1.3
DAG IAmb IAmb 20 33 32.4
comp=Z,8.8nm,1.1s
PCAB **Cabril** 67.11 52 *e*P **P** 20 33 34.8 +1.4
PMTG **Montargil** 67.15 54 *e*P **P** 20 33 34.8 +1.2
MESJ **Messejana** 67.26 56 *e*P **P** 20 33 35.4 +1.1
PVIS **Viseu** 67.28 53 *e*P **P** 20 33 35.6 +1.1
POLO **Lamas de Olo** 67.31 52 *e*P **P** 20 33 36.3 +1.6
EVO **Evora** 67.36 55 *e*P **P** 20 33 36.4 +1.5
PVRL **Vila Real** 67.38 52 *e*P **P** 20 33 36.7 +1.6
MTE **Manteigas** 67.57 53 *e*P **P** 20 33 37.2 +0.9
MTE **Manteigas** 67.57 53 *e*LR LR 20 52 49.4
comp=Z,60nm,20.0s
PCBR **Castelo Branco** 67.66 54 *e*P **P** 20 33 38.5 +1.7
PVAQ **Vaqueiros** 67.69 56 *e*LR LR 20 53 43.5
comp=Z,104nm,18.0s
PMRV **Marv??o** 67.77 54 *e*P **P** 20 33 38.8 +1.3
PMRV **Marv??o** 67.77 54 *e*LR LR 20 54 11.9
comp=Z,82nm,22.0s
MVO **Moncorvo** 67.90 52 *e*P **P** 20 33 39.8 +1.4
PBRG **Braganca** 68.07 51 *e*P **P** 20 33 40.6 +1.2
PBAR **Barrancos** 68.15 55 *e*P **P** 20 33 41.8 +1.8
A21K **Barrow** 68.32 341 P **P** 20 33 41.4 +1.1
baz=100
SDPT **Sand Point** 68.81 323 P **P** 20 33 43.9 +0.2
baz=90
PAB **San Pablo** 70.10 54 **P** 20 33 53.4 +1.3
PAB IAmb IAmb 20 33 54.6
comp=Z,13nm,1.2s
RDOG **Red Dog Mine** 70.17 337 P **P** 20 33 52.7 +0.8
baz=92
ESDC **Sonseca Array** 70.38 53 P **P** 20 33 54.5 +0.7
comp=Z,11nm,1.0s,baz=284,slow=6.2,SNR=54
ESDC LR LR 20 58 49.8
comp=Z,63nm,21.6s,baz=310,slow=31
ESDC **Sonseca Array** 70.38 53 **P** 20 33 55.0 +1.2
ESDC IAmb IAmb 20 33 56.3
comp=Z,8.7nm,1.0s
ESBB **Sonseca Array** 70.38 53 P **P** 20 33 55.0 +1.2
ESBB IAmb IAmb 20 33 56.2
comp=Z,9.8nm,0.8s
ANM **Nome** 71.14 333 P **P** 20 33 57.1 -0.8
baz=89
UNV **Unalaska Valle** 72.39 322 P **P** 20 34 04.6 -1.0
baz=84
CLF **Chambon-Foret** 73.75 44 **P** 20 34 14.7 +1.0
NIKH **Nikolski High** 73.89 321 P **P** 20 34 13.6 -0.9
baz=82
DOU **Dourbes** 74.94 42 *d*P **P** 20 34 20.6 -0.1
comp=Z,9.4nm,1.6s

BGES **Gesves** 75.21 41 *d*P **P** 20 34 23.2 +0.9
comp=Z,10.0nm,1.6s
BCLA **Clavier** 75.34 41 *d*P **P** 20 34 23.8 +0.8
comp=Z,10nm,1.5s
BCLA *d*PcP **PcP** 20 34 36.1 -0.1
MEM **Membach** 75.75 41 *d*P **P** 20 34 25.5 +0.2
WLF **Walferdange** 76.01 42 *d*P **P** 20 34 28.1 +1.3
NB2 **NORSAR Subarra** 76.61 30 P **P** 20 34 30.9 +0.8
comp=Z,1.7nm,0.7s,baz=285,slow=5.9
NOA **NORSAR Array B** 76.61 30 P **P** 20 34 30.5 +0.4
comp=Z,3.2nm,0.7s,baz=283,slow=5.6,SNR=9.8
NOA LR LR 21 04 50.6
comp=Z,58nm,21.2s,baz=290,slow=33
NB201 **NORSAR Array S** 76.65 30 P **P** 20 34 30.7 +0.4
ECH **Echery** 76.94 43 **P** 20 34 32.8 +0.6
ECH IAmb IAmb 20 34 33.4
comp=Z,10nm,1.3s
SENIN **Lac Senin/Sane** 77.42 45 **P** 20 34 36.4 +1.2
SENIN IAmb IAmb 20 34 37.5
comp=Z,8.5nm,0.9s
RETA **Reutte** 79.47 44 *e*P **P** 20 34 47.1 +0.8
comp=Z,14nm,1.3s
FETA **Feichten** 79.57 44 *e*P **P** 20 34 48.2 +1.2
comp=Z,4.7nm,1.0s
MOTA **Moosalm** 79.73 44 *e*P **P** 20 34 48.6 +0.8
comp=Z,5.5nm,1.0s
ARCES **ARCESS Array B** 79.80 20 P **P** 20 34 46.7 -0.9
comp=Z,2.2nm,0.7s,baz=340,slow=3.2,SNR=11
ARCES LR LR 21 10 51.4
comp=Z,30nm,20.4s,baz=225,slow=36
NKC **Novy Kostel** 79.85 41 *e*P **P** 20 34 49.1 +0.9
CLL **Collm** 79.90 39 *i* P **P** 20 34 48.9 +0.5
comp=Z,12nm,1.2s
CLL *i* pPcP 20 35 01.8
CLL *e* 20 35 08.0
CLL *e*S **S** 20 44 51.0 -1.5
CLL *e*PS **PnS** 20 45 34.0 -1.7
CLL *e*SS **SS** 20 50 01.0 -0.3
CLL *e*SSS SSS 20 53 12.0
CLL *e* 20 54 42.0
CLL **Collm** 79.90 39 **P** 20 34 49.1 +0.6
CLL IAmb IAmb 20 34 50.2
comp=Z,9.9nm,1.1s
WTTA **Wattenberg** 80.11 44 *e*P **P** 20 34 51.0 +1.2
comp=Z,6.0nm,1.1s
BRG **Berggiesshubel** 80.59 40 *e*P **P** 20 34 52.7 +0.5
BRG Amp 20 34 54.9
comp=Z,11nm,1.2s
BRG **Berggiesshubel** 80.59 40 P P 20 35 05.9 +14
BRG Amp 20 35 07.2
comp=Z,5.5nm,1.0s
TORD **Torodi Ar. Bea** 80.80 79 P **P** 20 34 53.1 -0.9
comp=Z,1.1nm,0.8s,baz=299,slow=3.7,SNR=4.9
TORD LR LR 21 11 41.3
comp=Z,31nm,18.6s,baz=320,slow=36
ABTA **Abfaltersbach** 80.82 44 *e*P **P** 20 34 54.7 +1.1
comp=Z,4.9nm,1.0s
KHC **Kasperske Hory** 80.85 41 *e*P **P** 20 34 54.3 +0.6
KHC **Kasperske Hory** 80.85 41 **P** 20 34 54.2 +0.5
KHC IAmb IAmb 20 34 55.9
comp=Z,9.1nm,1.1s
PBCC **Pribram** 80.96 41 *e*P **P** 20 34 54.2 0.0
GEC2 **GERESS Array S** 81.01 42 P **P** 20 34 55.4 +0.8
GEC2 IAmb IAmb 20 34 56.6
comp=Z,12nm,1.1s
GERES **GERESS Array B** 81.01 42 P **P** 20 34 54.7 +0.1
comp=Z,5.9nm,1.1s,baz=270,slow=3.5,SNR=32
GERES LR LR 21 06 30.1
comp=Z,78nm,20.6s,baz=299,slow=32
GERES **GERESS Array B** 81.01 42 **P** 20 34 54.5 -0.1
PRU **Pruhonice** 81.21 40 *e*P **P** 20 34 56.3 +0.8
KBA **Koelnbreinsper** 81.28 43 *e*P **P** 20 34 57.3 +1.1
comp=Z,13nm,1.7s
KEST **Kesra** 81.49 55 P **P** 20 34 57.9 +0.5
comp=Z,8.1nm,0.8s,baz=227,slow=1.9,SNR=7.6
KEST **Kesra** 81.49 55 P **P** 20 34 58.5 +1.1
KEST IAmb IAmb 20 34 59.9
comp=Z,7.6nm,0.8s
MYKA **Terra Mystica** 81.60 44 *e*P **P** 20 34 58.6 +0.8
comp=Z,5.8nm,1.0s
MOA **Molln** 81.66 43 *e*P **P** 20 34 58.8 +0.9
comp=Z,4.6nm,0.9s
CADS **Cadrg** 81.78 44 *i* P **P** 20 34 59.4 +0.8
CHVC **Chvalec** 81.96 40 *e*P **P** 20 35 00.0 +0.5
OSTC **Ostas** 82.07 40 *e*P **P** 20 35 00.5 +0.5
DPC **Dobruska-Polom** 82.19 40 *e*P **P** 20 35 01.9 +1.1
DPC *ex* x 20 35 12.4
CEY **Cerknica** 82.38 45 *i* P **P** 20 35 03.1 +1.2
SOKA **Soboth** 82.50 43 *i* P **P** 20 35 02.6 +0.1
comp=Z,9.5nm,1.0s
KRLC **Kraliky** 82.56 40 *e*P **P** 20 35 03.5 +0.8
KRUC **Moravsky** 82.64 41 *e*P **P** 20 35 03.9 +0.8
ARSA **Arzberg** 82.65 43 *e*P **P** 20 35 04.2 +1.0
comp=Z,4.3nm,0.8s
CONA **Conrad Observa** 82.66 42 *e*P **P** 20 35 04.6 +1.3
comp=Z,5.3nm,0.8s
VRAC **Vranov** 82.69 41 ⇓P **P** 20 35 04.3 +0.9
VRAC **Vranov** 82.69 41 *e*P **P** 20 35 04.2 +0.9
GOLS **Golise** 83.10 44 *i* P **P** 20 35 06.5 +1.0
MORC **Moravsky Berou** 83.12 40 ⇑P **P** 20 35 07.0 +1.4
MORC **Moravsky Berou** 83.12 40 **P** 20 35 06.5 +0.9
MORC IAmb IAmb 20 35 07.9
comp=Z,6.6nm,1.1s
MORC **Moravsky Berou** 83.12 40 *e*P **P** 20 35 06.5 +0.9
FINES **FINESS Array B** 83.30 27 P **P** 20 35 06.2 +0.1
comp=Z,2.8nm,0.6s,baz=278,slow=2.8,SNR=22
FINES LR LR 21 08 21.0
comp=Z,58nm,21.5s,baz=284,slow=33
ZST **Bratislava** 83.36 42 *e*P **P** 20 35 08.7 +1.9
MODS **Modra-Piesok** 83.42 41 *e*P **P** 20 35 09.8 +2.7
SMOL **Smolenice** 83.47 41 *e*P **P** 20 35 09.2 +1.9
JAVC **Velka Javorina** 83.50 41 *e*P **P** 20 35 09.6 +2.0
LANS **Liptovska Anna** 84.52 40 *e*P **P** 20 35 15.2 +2.5
MORH **Mrgy, Hungar** 85.01 43 ⇑P **P** 20 35 15.9 +0.7
PSZ **Piszkesteto** 85.22 41 ⇑P **P** 20 35 18.5 +2.2
PSZ **Piszkesteto** 85.22 41 **P** 20 35 17.7 +1.4
FRGS **Fruska Gora** 86.15 44 ⇑P **P** 20 35 22.5 +1.6
KOLS **Kolonicke sedl** 86.31 40 *e*P **P** 20 35 23.3 +1.6
DIVS **Divibare** 86.65 45 **P** 20 35 24.3 +0.7
DIVS IAmb IAmb 20 35 25.9
comp=Z,8.0nm,0.9s
PDG **Podgorica** 86.75 47 ⇑P **P** 20 35 25.5 +1.6
PDG **Podgorica** 86.75 47 **P** 20 35 24.6 +0.7
PDG IAmb IAmb 20 35 26.3
comp=Z,8.8nm,0.9s
TRPA **Tarpa** 86.79 40 ⇑P **P** 20 35 25.5 +1.5
BZS **Buzias** 87.17 43 ⇓P **P** 20 35 27.2 +1.3
MNK **Minsk** 87.17 33 *i* P **P** 20 35 21.4 -4.3
comp=E,1.0nm,0.7s
MNK *i* P **P** 20 35 21.4 -4.3
comp=N,7.0nm,1.1s
MNK *i* P **P** 20 35 21.4 -4.3
comp=Z,5.0nm,0.9s,baz=115
MNK *i* PP **PP** 20 38 44.8 -4.1
MNK *i* PPP PPP 20 40 39.4
MNK *i* S S 20 45 48.1 -18
MNK *i* SS SS 20 51 59.6 +11
MNK *i* SSS SSS 20 55 18.8
MNK *i* LQ LQ 21 08 44.0
MNK *i* LR LR 21 13 45.1
MNK *i* LRM MLR 21 15 42.0
comp=Z,42nm,19.6s
MNK *i* LRM MLR 21 15 59.3
comp=E,15nm,25.3s
MNK *i* LRM MLR 21 16 00.8
comp=N,150nm,23.1s
DRGR **87.42** 42 ⇑P **P** 20 35 28.4 +1.3
MDVR **Moldovita** 87.55 44 ⇑P **P** 20 35 29.2 +1.4
HERR **Herculane** 87.97 43 ⇑P **P** 20 35 31.0 +1.2
BOVS **Bovan** 87.98 45 ⇑P **P** 20 35 31.8 +2.0
GZR **Gura Zlata** 88.00 43 ⇑P **P** 20 35 31.5 +1.4
KBN **Korca** 88.48 48 P **P** 20 35 33.7 +1.3
BURAR **Bucovina Array** 88.64 40 ⇑P **P** 20 35 34.2 +1.2
FNA **Florina** 88.83 47 **P** 20 35 35.0 +1.0
FNA IAmb IAmb 20 35 37.4
comp=Z,5.8nm,0.8s
KLMR **Klimovskoe** 89.21 24 *e*P **P** 20 35 34.4 -0.9
KLMR AMP 20 35 35.9
comp=Z,14nm,1.4s
VTS **Vitosha** 89.40 45 ⇑P **P** 20 35 38.3 +1.5
VOIR **89.45** 42 ⇑P **P** 20 35 39.0 +2.1
AKASG **Malin Array Be** 89.64 36 P **P** 20 35 36.6 -0.9
comp=Z,0.1nm,0.3s,baz=310,slow=3.5,SNR=4.3
AKASG LR LR 21 12 55.7

comp=Z,80nm,20.5s,baz=280,slow=34
MLR Muntele Rosu 90.00 42 ⇑P **P 20 35 40.9 +1.4**
MLR Muntele Rosu 90.00 42 P 20 35 40.4 +0.9
AGG Agios Georgios 90.19 49 P 20 35 42.0 +1.6
OBN Obninsk 91.22 30 LR LR 21 13 00.5
comp=Z,8.7nm,21.4s,baz=0.5,slow=33
CFR Carcaliu 91.53 41 ⇑P **P 20 35 47.4 +1.0**
PETK Petropavlovsk- 92.56 328 LR LR 21 22 02.4
comp=Z,39nm,18.8s,baz=71,slow=38
NRIK Noril'sk 93.01 3 LR LR 21 20 54.3
comp=Z,90nm,18.3s,baz=350,slow=38
KIRV Kirov 94.50 23 LR LR 21 18 37.7
comp=Z,67nm,18.3s,baz=330,slow=36
BRTR Keskin Array B 97.71 44 LR LR 21 18 41.6
comp=Z,38nm,18.8s,baz=306,slow=34
BELG Belogornoye 98.05 28 LR LR 21 18 09.3
comp=Z,44nm,20.7s,baz=330,slow=34
XAN Xi'an 127.47 348 PKP **PKPdf 20 41 42.5 -2.7**
XAN pPKP sPKPdf 20 41 51.5 +5.8
XAN LR LR
comp=N,230nm,21.7s
XAN LR LR
comp=E,120nm,20.6s
XAN LR LR
comp=Z,230nm,19.5s
CD2 Chengdu 131.37 353 PKP **PKPdf 20 41 51.5 -1.2**
CMAR Chiang Mai Arr 144.13 357 PKP **PKPab 20 42 14.0 +0.2**
comp=Z,0.8nm,0.6s,baz=327,slow=3.2,SNR=8.0
CMAR Chiang Mai Arr 144.13 357 PKPab 20 42 13.7 -0.1
WRA Warramunga Arr 144.97 260 PKP **PKPab 20 42 15.9 -1.1**
comp=Z,1.8nm,0.8s,baz=86,slow=3.6,SNR=23
WRA Warramunga Arr 144.97 260 PKPab 20 42 17.1 +0.1
ASAR Alice Springs 145.35 254 PKPbc **PKPbc 20 42 17.8 -0.4**
comp=Z,2.4nm,0.7s,baz=102,slow=3.4,SNR=26

IDC 23 20:43:38.8±29.0, 26°.44N×84°.40E, h0km, mb3.3/3, mb1 3.3/3, mb1mx3.1/38, mbtmp3.3/3, Error ellipse: s-maj=490.8km s-min=90.3km az=25.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.38**	**356**	P	P	20 48 17.2	0.0
0.2nm,0.6s,baz=175,slow=11,SNR=2.9							
SONM	**Songino Array**	**27.46**	**33**	P	P	20 49 26.6	0.0
0.4nm,0.6s,baz=225,slow=10,SNR=3.9							
ZALV	**Zalesovo Beam**	**27.48**	**1**	P	P	20 49 26.5	0.0
0.2nm,0.3s,baz=163,slow=10,SNR=2.3							

*JMA **23** 20:48:48.2±0.2, 32°.97N×136°.21E, h455km, M3.2*
*IDC **23** 20:48:49.9±1.1, 33°.08N×135°.96E, h450km±13km, mb2.8/5, mb1 3.0/8, mb1mx2.7/39, mbtmp3.7/8, Error ellipse: s-maj=23.4km s-min=17.7km az=87.0*
ISC 23 20:48:48.8±0.9, 33°.1N±0°.1×136°.17E±0°.08, h450km, n21, σ1§45/26, mb3.1/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.41**	**18**	P	**P**	**20 49 47.5**	**+1.1**
JMN	**Monobe**	**2.03**	**290**	P	**P**	**20 49 50.2**	**+0.7**
JWT	**Wachi**	**2.31**	**344**	P	**P**	**20 49 51.8**	**+0.8**
JWT				S	**S**	20 50 40.5	-1.2
JNY	**Yasuok**	**2.70**	**31**	P	**P**	**20 49 55.1**	**+1.5**
JHS	**Saijyo**	**3.19**	**308**	P	**P**	**20 49 57.7**	**+0.5**
JRY	**Ryogami san**	**3.72**	**37**	P	**P**	**20 50 03.6**	**+2.1**
JHU	**Hanno**	**3.80**	**42**	P	**P**	**20 50 03.3**	**+1.2**
MJAR	**Matsushiro Arr**	**3.87**	**25**	P	**P**	**20 50 04.2**	**+1.5**
0.1nm,0.3s,baz=188,slow=9.6,SNR=8.9							
MJAR				S	**S**	**20 51 05.1**	**+2.2**
0.1nm,0.3s,baz=199,slow=4.4,SNR=5.6							
BSO4	**Boso 4**	**3.97**	**60**	P	**P**	**20 50 03.9**	**+0.5**
BSO3	**Boso 3**	**4.01**	**63**	P	**P**	**20 50 03.3**	**-0.3**
BSO1	**Boso 1**	**4.31**	**67**	P	**P**	**20 50 05.7**	**-0.3**
BSO1				S	**S**	**20 51 07.6**	**-1.4**
JAG	**Ashikaga**	**4.32**	**38**	P	**P**	**20 50 06.9**	**+0.2**
JAG				S	**S**	**20 51 07.4**	**-2.8**
JNU	**Nakatsue**	**4.44**	**272**	P	**P**	**20 50 08.1**	**+0.2**
1.4nm,0.3s,baz=133,slow=2.6,SNR=9.2							
JYT	**Yasato**	**4.59**	**45**	P	**P**	**20 50 09.0**	**-0.1**
JYT				S	**S**	**20 51 11.0**	**-3.7**
JHO	**Hitachi**	**5.07**	**44**	P	**P**	**20 50 13.8**	**+0.1**
KSRS	**Korea Array**	**8.04**	**305**	P	**P**	**20 50 44.2**	**-0.4**
0.2nm,0.3s,baz=119,slow=12,SNR=7.4							
CMAR	**Chiang Mai Arr**	**36.33**	**256**	P	**P**	**20 55 13.0**	**-0.3**
0.3nm,0.6s,baz=54,slow=7.4,SNR=2.0							
MKAR	**Makanchi Array**	**42.73**	**305**	P	**P**	**20 56 03.6**	**-1.2**
0.5nm,0.7s,baz=88,slow=10.0,SNR=6.2							
WRA	**Warramunga Arr**	**52.73**	**182**	P	**P**	**20 57 21.3**	**+1.0**
0.3nm,0.3s,baz=0.7,slow=7.7,SNR=12							
ARCES	**ARCESS Array B**	**66.18**	**339**	P	**P**	**20 58 51.6**	**+1.5**
0.5nm,0.6s,baz=69,slow=9.9,SNR=4.7							
FINES	**FINESS Array B**	**70.28**	**331**	P	**P**	**20 59 15.3**	**0.0**
2.1nm,1.1s,baz=97,slow=6.0,SNR=4.2							

*IDC **23** 20:56:01.2±0.6, 2°.07N×126°.21E, h0km, mb4.2/15, mb1 4.2/16, mb1mx4.0/40, mbtmp4.1/16, ML2.5/1, Error ellipse: s-maj=33.7km s-min=11.2km az=72.0*
*DJA **23** 20:56:08.1±1.3, 2°.N±3°×12°.7E±°, h23km±12km, M4.1/15, mB4.4/2, mb4.2/15, MLv4.0/12, Mw(mB)3.6/2*
*NEIC **23** 20:56:09.2±1.3, 2°.10N±0°.07×126°.50E±0°.10, h60km±5km, mb4.3/30, Error ellipse: s-maj=15.4km s-min=8.7km az=61.0*
*MAN **23** 20:56:42.5, 7°.72N×125°.99E, h94km, mb4.5, ML3.3, MS3.1*
ISC 23 20:56:08.0±0.4, 2°.16N±0°.05×126°.51E±0°.08, h47km, n77, σ1§46/78, mb4.3/29, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.62**	**148**		**Pn**	**20 56 35.1**	**+0.9**
TNTI	**Ternate**	**1.62**	**148**	P	**Pn**	**20 56 36.0**	**+1.8**
TNTI				S	**Sn**	**20 56 57.4**	**+3.4**
SGSI	**Sangihe**	**1.80**	**327**	P	**Pn**	**20 56 38.3**	**+1.6**
SGSI				S	**Sn**	**20 57 00.3**	**+1.9**
GTOI	**Gorontalo**	**3.82**	**247**	P	**Pn**	**20 57 06.7**	**+2.4**
SANI	**Sanana**	**4.22**	**187**	P	**Pn**	**20 57 11.4**	**+1.6**
MRSI	**Marisa**	**4.87**	**250**	P	**Pn**	**20 57 21.0**	**+2.2**
KCP	**Kidapawan**	**5.02**	**344**	*eP*	**Pn**	**20 57 25.0**	**+4.1**
NLAI	**Namlea**	**5.40**	**174**	P	**Pn**	**20 57 26.9**	**+0.8**
0.1nm25nm,0.9s							
SWI	**Sorong**	**5.62**	**122**	P	**Pn**	**20 57 29.4**	**+0.3**
0.1nm14nm,0.9s							
SIJI	**Sorong**	**5.63**	**122**	Pn	**Pn**	**20 57 29.5**	**+0.3**
0.1nm,0.3s,baz=288,slow=13,SNR=1.9							
APSI	**Ampana**	**5.74**	**238**	P	**Pn**	**20 57 33.6**	**+2.8**
0.3nm601nm60nm,0.8s							
TOLI2	**Tolitoli**	**5.83**	**260**	Pn	**Pn**	**20 57 32.3**	**+0.4**
MSAI	**Masohi**	**5.98**	**156**	P	**Pn**	**20 57 34.7**	**+0.6**
0.0nm181nm4.3nm,0.7s							
PAGZ	**Pagadian**	**6.45**	**331**	*eP*	**Pn**	**20 57 43.4**	**+2.9**
MPSI	**Mapaga**	**6.86**	**255**	P	**Pn**	**20 57 47.4**	**+1.3**
0.1nm13nm,0.8s							
FAKI	**Fak Fak**	**7.64**	**131**	P	**Pn**	**20 57 56.6**	**-0.2**
0.1nm21nm,1.2s							
TTSI	**Tana Toraja**	**8.46**	**232**	P	**Pn**	**20 58 08.8**	**+0.7**
14nm,0.7s							
BNSI	**Bone**	**9.14**	**224**	P	**Pn**	**20 58 19.4**	**+2.0**
13nm,0.6s							
KMPI	**Kaimana, Papua**	**9.23**	**129**	P	Pn	20 58 30.1	+12
BKSI	**Bulukumba**	**9.80**	**221**	P	**Pn**	**20 58 28.4**	**+2.0**
12nm,1.3s							
KAPI	**Kappang**	**9.82**	**223**	Pn	**Pn**	**20 58 28.0**	**+1.2**
BKB	**Balikpapan**	**10.20**	**251**	P	**Pn**	**20 58 32.4**	**+0.5**
51nm,0.5s							
MMRI	**Maumere**	**11.54**	**202**	P	**Pn**	**20 58 50.2**	**-0.1**
19nm,1.1s							
KBKI	**Kotabaru**	**11.68**	**242**	P	**Pn**	**20 58 51.6**	**-0.6**
17nm,1.2s							
EDFI	**Ende, Flores**	**11.86**	**204**	P	**Pn**	**20 58 56.1**	**+1.4**
5.4nm,1.4s							
MTN	**Manton Dam**	**15.60**	**163**	Pn	**Pn**	**20 59 43.3**	**-1.6**
SZP	**Santa**	**16.41**	**339**	Pn	**Pn**	**20 59 56.0**	**+0.8**
PWJI	**Pagerwojo**	**17.82**	**235**	P	**P**	**21 00 13.8**	**+0.8**
30nm,1.7s							
KNRA	**Kununurra**	**17.86**	**173**		**Pn**	**21 00 12.7**	**-0.5**
KNRA				IAmb	IAmb	21 00 14.5	
comp=Z,17nm,0.8s							
TWG	**Pinlang**	**21.20**	**346**	P	**P**	**21 00 49.4**	**-0.5**
TWG				IAmb	IAmb	21 01 00.3	
comp=Z,13nm,0.7s							
YULB	**Yu-li**	**21.70**	**347**	P	**P**	**21 00 55.2**	**+0.1**
YULB				IAmb	IAmb	21 00 55.5	
comp=Z,17nm,1.2s							
TPUB	**Ta-pu**	**21.77**	**345**	P	**P**	**21 00 54.5**	**-1.4**
SSLB	**Suanglung**	**22.16**	**346**	P	**P**	**21 00 58.7**	**-1.5**
SSLB				IAmb	IAmb	21 01 20.7	
comp=Z,15nm,1.0s							
NACB	**Ninganchiao**	**22.39**	**348**	P	**P**	**21 01 01.8**	**-0.7**
NACB				IAmb	IAmb	21 01 07.2	
comp=Z,19nm,1.0s							
WB0	**Warramunga Arr**	**23.13**	**161**	P	**P**	**21 01 08.1**	**-2.2**
WB0				IAmb	IAmb	21 01 15.8	
comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**23.27**	**161**	P	**P**	**21 01 10.7**	**-1.0**
WRAB				IAmb	IAmb	21 01 17.5	
comp=Z,9.6nm,0.7s							
WRA	**Warramunga Arr**	**23.27**	**161**	P	**P**	**21 01 10.8**	**-0.9**
comp=Z,9.2nm,0.8s,baz=338,slow=10,SNR=51							
WRA				S	**S**	**21 05 19.0**	**-1.7**
comp=Z,0.8nm,0.8s,baz=327,slow=18,SNR=4.1							
WRA	**Warramunga Arr**	**23.27**	**161**	P	**P**	**21 01 10.3**	**-1.4**
WB2	**Warramunga Arr**	**23.28**	**161**	P	**P**	**21 01 10.8**	**-1.0**
WB2				IAmb	IAmb	21 01 13.5	
comp=Z,12nm,0.8s							
WR0	**Warramunga Arr**	**23.35**	**161**	P	**P**	**21 01 11.3**	**-1.2**
WR0				IAmb	IAmb	21 01 13.9	
comp=Z,6.8nm,0.7s							
JOW	**Kunigami**	**24.59**	**4**	P	**P**	**21 01 22.1**	**-1.8**
AS31	**Alice Springs**	**26.66**	**165**	P	**P**	**21 01 41.0**	**-1.7**
ASAR	**Alice Springs**	**26.66**	**165**	P	**P**	**21 01 41.9**	**-0.8**
comp=Z,1.9nm,0.9s,baz=346,slow=7.8,SNR=14							
ASAR				S	**S**	**21 06 19.8**	**+4.9**
comp=Z,0.4nm,0.6s,baz=350,slow=21,SNR=2.4							
ASAR	**Alice Springs**	**26.66**	**165**	P	**P**	**21 01 41.5**	**-1.2**
ENH	**Enshi**	**32.28**	**332**	P	**P**	**21 02 32.6**	**0.0**
ENH				IAmb	IAmb	21 02 33.8	
comp=Z,5.0nm,0.8s							
INU	**Inuyama**	**34.43**	**15**	P	**P**	**21 02 50.8**	**-0.4**
KSRS	**Korea Array**	**35.14**	**2**	P	**P**	**21 02 57.9**	**+0.6**
comp=Z,0.7nm,0.7s,baz=170,slow=10,SNR=2.5							
MJAR	**Matsushiro Arr**	**35.88**	**16**	P	**P**	**21 03 03.8**	**+0.2**
comp=Z,2.7nm,0.8s,baz=180,slow=9.4,SNR=7.4							
STKA	**Stephens Creek**	**36.76**	**158**	P	**P**	**21 03 10.7**	**-0.4**
comp=Z,5.3nm,0.8s,baz=339,slow=8.0,SNR=8.9							
STKA	**Stephens Creek**	**36.76**	**158**	IAmb	IAmb	21 03 12.3	
comp=Z,1.2nm,0.8s							
SHL	**Shillong**	**40.65**	**308**	P	**P**	**21 03 42.7**	**-1.4**
USA0B	**Ussuriysk Arra**	**42.14**	**6**	P	**P**	**21 03 56.0**	**+0.2**
USA0B				IAmb	IAmb	21 03 59.0	
comp=Z,7.8nm,1.3s							
USRK	**Ussuriysk Ar.**	**42.14**	**6**	P	**P**	**21 03 55.5**	**-0.3**
comp=Z,2.5nm,0.8s,baz=202,slow=8.4,SNR=6.1							
USRK	**Ussuriysk Ar.**	**42.14**	**6**	P	**P**	**21 03 55.7**	**-0.1**
LSA	**Lhasa**	**43.32**	**313**	P	**P**	**21 04 05.2**	**-1.0**
ULN	**Ulaanbaatar**	**48.53**	**343**	P	**P**	**21 04 46.9**	**+0.2**
ULN				IAmb	IAmb	21 04 48.3	
comp=Z,1.7nm,0.8s							
SONM	**Songino Array**	**48.71**	**342**	P	**P**	**21 04 47.7**	**-0.3**
comp=Z,1.2nm,0.7s,baz=155,slow=9.3,SNR=12							
SONM	**Songino Array**	**48.71**	**342**	P	**P**	**21 04 47.6**	**-0.3**
PETK	**Petropavlovsk-**	**56.95**	**22**	P	**P**	**21 05 50.4**	**+1.8**
comp=Z,0.5nm,0.5s,baz=190,slow=5.1,SNR=5.4							
MK31	**Makanchi Array**	**58.72**	**326**	P	**P**	**21 06 01.1**	**+0.1**
MK31				IAmb	IAmb	21 06 02.8	
comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**58.72**	**326**	P	**P**	**21 06 00.4**	**-0.7**
comp=Z,1.6nm,0.4s,baz=120,slow=7.7,SNR=27							
MKAR	**Makanchi Array**	**58.72**	**326**	P	**P**	**21 06 00.1**	**-0.9**
MAKZ	**Makanchi**	**58.90**	**326**	P	**P**	**21 06 02.0**	**-0.3**
MAKZ				IAmb	IAmb	21 06 03.9	
comp=Z,1.9nm,0.7s							
MA2	**Magadan**	**60.27**	**14**	P	**P**	**21 06 12.8**	**+1.3**
BOOM	**Boomskoye usch**	**60.35**	**319**	P	**P**	**21 06 11.9**	**-0.7**
TUWZ	**Tuamarina**	**61.08**	**141**	P	**P**	**21 06 15.8**	**-1.5**
ZALV	**Zalesovo Beam**	**61.88**	**334**	P	**P**	**21 06 22.0**	**-0.4**
comp=Z,0.4nm,0.3s,baz=125,slow=7.6,SNR=2.3							
KURBB	**Kurchatov Arra**	**62.94**	**328**	P	**P**	**21 06 29.0**	**-0.7**
comp=Z,2.8nm,0.5s,baz=130,slow=6.5,SNR=45							
KURK	**Kurchatov**	**62.94**	**328**	P	**P**	**21 06 29.0**	**-0.7**
KKAR	**Karatay Array**	**64.23**	**318**	P	**P**	**21 06 37.0**	**-1.4**
NRIK	**Noril'sk**	**71.89**	**346**	P	**P**	**21 07 26.5**	**+0.6**
comp=Z,2.3nm,0.6s,baz=162,slow=7.6,SNR=3.6							
NRIK	**Noril'sk**	**71.89**	**346**	IAmb	IAmb	21 07 46.1	
comp=Z,3.0nm,0.5s							
AKTO	**Aktyubinsk**	**74.75**	**322**	P	**P**	**21 07 43.1**	**0.0**
comp=Z,1.1nm,0.5s,baz=104,slow=4.1,SNR=3.6							
ARU	**Arti**	**76.14**	**328**	P	**P**	**21 07 49.7**	**-1.3**
comp=Z,1.3nm,0.6s,baz=135,slow=5.4,SNR=10							
ARU	**Arti**	**76.14**	**328**	P	**P**	**21 07 49.6**	**-1.3**
ARU				IAmb	IAmb	21 07 51.6	
comp=Z,4.3nm,0.8s							
BELG	**Belogornoye**	**81.51**	**323**	P	**P**	**21 08 20.2**	**-0.3**
comp=Z,8.6nm,0.7s,baz=189,slow=5.1,SNR=4.5							
VNDA	**Vanda**	**81.91**	**173**	P	**P**	**21 08 21.3**	**-0.8**
comp=Z,0.5nm,0.6s,baz=152,slow=3.9,SNR=3.6							

*IDC **23** 21:30:18.1±1.5, 52°.17N×170°.55W, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/49, mbtmp3.6/11, ML3.1/2, Error ellipse: s-maj=47.3km s-min=18.3km az=178.0*
*NEIC **23** 21:30:22.8±1.1, 52°.0N±0°.1×170°.49W±0°.09, h36km±14km, Error ellipse: s-maj=19.1km s-min=5.1km az=158.0*
*AEIC **23** 21:30:23.0±2.4, 51°.90N±0°.06×170°.2W±0°.1, h34km±7km, ML3.1/18, mb3.7/8(NEIC), Error ellipse: s-maj=11.3km s-min=4.3km az=130.0*
ISC 23 21:30:21.8±0.9, 51°.9N±0°.1×170°.45W±0°.07, h31km, n47, σ1§12/46, mb3.5/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.45**	**42**		**Pn**	**21 30 45.0**	**-0.8**
NIKH					**Sn**	**21 31 04.0**	**+0.2**
OKSP	**Okmok Steeple**	**1.89**	**43**		**Pn**	**21 30 52.0**	**0.0**
OKSO	**Okmok South**	**2.02**	**43**		**Pn**	**21 30 53.8**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**2.09**	**44**		**Pn**	**21 30 55.0**	**+0.3**
OKFG	**Magazine Ridge**	**2.16**	**45**		**Pn**	**21 30 56.0**	**+0.3**
OKFG					**Sn**	**21 31 21.3**	**-0.1**
ATKA	**Atka Island**	**2.33**	**279**	Pn	**Pn**	**21 30 58.3**	**+0.4**
MAPS	**Pakushin South**	**2.86**	**47**		**Pn**	**21 31 05.5**	**+0.3**
MREP	**Makushin Rep't**	**2.95**	**48**		**Pn**	**21 31 06.9**	**+0.4**
MSW	**Makushin Switc**	**3.00**	**46**		**Pn**	**21 31 07.5**	**+0.3**
MNAT	**Makushin Natee**	**3.02**	**48**		**Pn**	**21 31 07.9**	**+0.4**
UNV	**Unalaska Valle**	**3.08**	**49**		**Pn**	**21 31 08.7**	**+0.4**
UNV					**Sn**	**21 31 44.1**	**0.0**
GSTR	**Great Sitkin T**	**3.47**	**275**	Pn	**Pn**	**21 31 14.6**	**+0.9**
AKBBA	**Akutan Broad B**	**3.50**	**49**		**Pn**	**21 31 14.7**	**+0.5**
AKUT	**Akutan**	**3.60**	**50**		**Pn**	**21 31 15.3**	**-0.1**
ADK	**Adak**	**3.86**	**272**	Pn	**Pn**	**21 31 19.8**	**+0.8**
KIWB	**Kanaga Island**	**4.15**	**272**	Pn	**Pn**	**21 31 23.8**	**+0.8**
SPIA	**Saint Paul Isl**	**5.29**	**1**	Pn	**Pn**	**21 31 40.5**	**+2.0**
SDPT	**Sand Point**	**6.86**	**56**	Pn	**Pn**	**21 32 00.9**	**+0.7**
CNBA	**Chernabura Isl**	**7.13**	**62**	Pn	**Pn**	**21 32 04.3**	**+0.5**
OHAK	**Old Harbor**	**11.29**	**55**	Pn	**Pn**	**21 32 59.6**	**-1.1**
KDAK	**Kodiak Island**	**11.85**	**53**	Pn	**Pn**	**21 33 05.7**	**-2.7**
0.3nm,0.3s,baz=286,slow=19,SNR=1.8							
TNA	**Tin City**	**13.76**	**4**	Pn	**Pn**	**21 33 35.1**	**+0.6**
FID	**Port Fidalgo**	**15.89**	**47**	Pn	**Pn**	**21 34 01.0**	**-1.9**
FID				IAmb	IAmb	21 34 01.7	
comp=Z,14nm,1.2s							
BPAW	**Bear Paw Mtn.**	**15.90**	**32**	Pn	**Pn**	**21 34 02.7**	**-0.3**
SCM	**Sheep Creek Mo**	**15.99**	**43**	Pn	**Pn**	**21 34 01.9**	**-2.3**
SCM				IAmb	IAmb	21 34 07.3	
comp=Z,10nm,1.2s							
KLU	**Klutina**	**16.44**	**45**	Pn	**Pn**	**21 34 08.5**	**-1.5**
KLU				IAmb	IAmb	21 34 23.0	
comp=Z,2.5nm,0.7s							
MLY	**Manley**	**16.60**	**30**		**P**	**21 34 14.4**	**+0.1**
HMT	**Hamilton**	**16.77**	**50**	Pn	**Pn**	**21 34 12.7**	**-1.4**
ILAR	**Eielson Array**	**17.71**	**34**	P	**Pn**	**21 34 22.8**	**-3.0**
comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=2.3							
PETK	**Petropavlovsk-**	**19.34**	**286**	P	**P**	**21 34 43.7**	**-0.8**
comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=6.7							
PETK	**Petropavlovsk-**	**19.34**	**286**	P	**P**	**21 34 44.1**	**-0.3**
EGAK	**Eagle**	**19.82**	**38**	P	**Pn**	**21 34 51.6**	**+0.3**
EGAK				IAmb	IAmb	21 34 54.0	
comp=Z,2.1nm,0.8s							
BMAR	**Burnt Mountain**	**20.06**	**29**	P	**P**	**21 34 52.3**	**+0.1**
HYT	**Haines Junctio**	**20.11**	**51**	P	Pn	21 34 54.9	0.0
INK	**Inuvik**	**24.10**	**33**	P	**P**	**21 35 32.5**	**-1.7**
comp=Z,1.7nm,0.6s,baz=270,slow=5.0,SNR=5.5							
BBB	**Bella Bella**	**25.78**	**72**	P	**P**	**21 35 50.1**	**+0.5**
comp=Z,1.5nm,1.0s,baz=243,slow=14,SNR=2.9							
YKA	**Yellowknife Ar**	**31.05**	**48**	P	**P**	**21 36 36.9**	**+0.5**
comp=Z,0.7nm,0.8s,baz=273,slow=7.2,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**37.87**	**217**	T	T	22 18 36.9	
baz=23							
H11S2	**WAKE ISLAND Hy**	**37.88**	**217**	T	T	22 18 43.7	
baz=23							
H11S3	**WAKE ISLAND Hy**	**37.88**	**217**	T	T	22 18 25.5	
baz=23							
PDAR	**Pinedale Array**	**41.15**	**78**	P	**P**	**21 38 05.5**	**+2.3**
comp=Z,0.2nm,0.3s,baz=275,slow=5.3,SNR=1.3							
SONM	**Songino Array**	**50.96**	**301**	P	**P**	**21 39 20.1**	**-0.2**
comp=Z,0.4nm,0.7s,baz=55,slow=7.6,SNR=2.7							
TXAR	**Lajitas Array**	**53.43**	**88**	P	**P**	**21 39 38.6**	**-0.1**
comp=Z,0.3nm,0.6s,baz=298,slow=4.4,SNR=5.4							
ZALV	**Zalesovo Beam**	**57.31**	**317**	PcP	**PcP**	**21 40 58.8**	**-1.3**
comp=Z,0.4nm,0.4s,baz=20,slow=4.6,SNR=2.0							
MKAR	**Makanchi Array**	**63.64**	**313**	P	**P**	**21 40 48.3**	**-1.3**
comp=Z,0.5nm,0.9s,baz=58,slow=7.7,SNR=4.7							
CMAR	**Chiang Mai Arr**	**76.06**	**282**	P	**P**	**21 42 07.2**	**+0.8**
comp=Z,0.6nm,0.5s,baz=36,slow=7.8,SNR=5.4							
GERES	**GERESS Array B**	**79.56**	**357**	P	**P**	**21 42 25.8**	**+0.4**
comp=Z,0.2nm,0.4s,baz=350,slow=3.0,SNR=1.8							

IDC 23 21:32:07.2±10.0, 20°.58S×176°.04W, h415km±84km, mb3.0/3, mb1 3.3/4, mb1mx3.0/28, mbtmp3.8/4, Error ellipse: s-maj=197.2km s-min=27.1km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.26**	**296**	P	P	21 33 43.9	+0.8
2.5nm,0.3s,baz=89,slow=22,SNR=3.7							
ASAR	**Alice Springs**	**46.29**	**257**	P	P	21 39 54.5	+0.6
2.5nm,0.7s,baz=90,slow=8.3,SNR=30							
WRA	**Warramunga Arr**	**46.41**	**262**	P	P	21 39 53.1	-1.7
0.7nm,0.9s,baz=97,slow=6.7,SNR=9.0							
NVAR	**Mina Array Bea**	**79.83**	**42**	P	P	21 43 29.9	-1.4
0.2nm,0.3s,baz=222,slow=4.9,SNR=1.2							
GERES	**GERESS Array B**	**150.74**	**347**	PKPbc	PKiKP	21 51 12.8	+1.1
0.4nm,0.6s,baz=45,slow=2.9,SNR=4.7							

*IDC **23** 21:35:08.4±1.7, 0°.14N×124°.98E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.7/4, Error ellipse: s-maj=185.8km s-min=23.6km az=63.0*
*DJA **23** 21:35:17.1±0.2, 0°.S±3°×12°.5E±°, h57km±7km, M3.9/15, mb4.0/6, mB4.8/1, MLv3.8/15, Mw(mB)4.1/1*
ISC 23 21:35:16.4±0.9, 0°.07S±0°.07×124°.90E±0°.06, h53km, n17, σ1§08/19, mb3.5/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**2.25**	**151**	P	**Pn**	**21 35 50.3**	**-1.0**
SANI				S	**Sn**	**21 36 17.7**	**-0.2**
TNTI	**Ternate**	**2.60**	**71**	P	**Pn**	**21 35 56.9**	**+0.8**
TNTI				S	**Sn**	**21 36 27.8**	**+1.3**
MRSI	**Marisa**	**3.01**	**280**	P	**Pn**	**21 36 01.0**	**-0.6**
MRSI				S	**Sn**	**21 36 37.6**	**+1.1**
APSI	**Ampana**	**3.36**	**255**	P	**Pn**	**21 36 08.2**	**+1.8**
SGSI	**Sangihe**	**3.78**	**10**	P	**Pn**	**21 36 12.9**	**+0.7**
NLAI	**Namlea**	**3.84**	**145**	P	**Pn**	**21 36 13.3**	**+0.2**
MPSI	**Mapaga**	**5.02**	**275**	P	**Pn**	**21 36 30.5**	**+1.3**
0.1nm8.5nm,0.9s							
MSAI	**Masohi**	**5.18**	**129**	P	**Pn**	**21 36 32.4**	**+0.9**
0.0nm1μm7.2nm,0.7s							
TTSI	**Tana Toraja**	**5.88**	**240**	P	**Pn**	**21 36 40.5**	**-0.5**
0.1nm22nm,0.6s							
SWI	**Sorong**	**6.41**	**97**	P	**Pn**	**21 36 49.2**	**+0.9**
0.1nm9.8nm,0.9s							
BNSI	**Bone**	**6.44**	**228**	P	**Pn**	**21 36 48.9**	**+0.2**
0.1nm19nm,1.6s							
BKSI	**Bulukumba**	**7.07**	**222**	P	**Pn**	**21 36 58.9**	**+1.5**
0.1nm12nm,2.1s							
TNG	**Tangerang**	**19.20**	**251**	P	pwP	21 39 50.7	-0.6
TNG				P	Pn	21 39 49.3	+12
WRA	**Warramunga Arr**	**21.81**	**155**	P	**P**	**21 40 03.4**	**-1.0**
0.8nm,0.5s,baz=334,slow=10,SNR=12							
ASAR	**Alice Springs**	**25.04**	**160**	P	**P**	**21 40 36.0**	**+0.1**
1.1nm,0.8s,baz=342,slow=13,

M_{rr}=4.17; $M_{\theta\theta}$=0.17; $M_{\phi\phi}$=4.34; $M_{r\theta}$=1.16; $M_{\theta\phi}$=2.67; $M_{\phi r}$=1.57;
Fault plane solution: M_0=5.37000×10^{14} NP1:
ϕ_s=182.00000°, δ=55.00000°, λ=-121.00000°. NP2:
ϕ_s=48.00000°, δ=45.00000°, λ=-54.00000°.

ISC 23 21:54:57.6±1.8, 38°.04N±0°.03×144°.45E±0°.04, h32km±14km, n77, σ1§36/84, mb3.7/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.37**	**277**	P	Pn	21 55 33.9	-0.4
JIKH				S	**Sn**	**21 56 00.1**	**-2.1**
OFUJ	**Ofunato**	**2.42**	**296**	P	Pn	21 55 35.1	+0.2
OFUJ				S	**Sn**	**21 56 02.5**	**-0.9**
JKMT	**Kesennumamotoy**	**2.46**	**289**	P	Pn	21 55 35.5	-0.1
JKMT				S	**Sn**	**21 56 03.3**	**-1.2**
JIO	**Ouri**	**2.48**	**281**	P	Pn	21 55 35.6	-0.2
JIO				S	**Sn**	**21 56 03.2**	**-1.7**
JMK	**Ichinoseki**	**2.69**	**291**	P	**Pn**	**21 55 39.0**	**+0.3**
JOM	**Ohasama**	**2.85**	**301**	P	**Pn**	**21 55 41.6**	**+0.6**
JOM				*e*S	**Sn**	**21 56 14.4**	**+0.2**
JMM	**Marumori**	**2.90**	**268**		**Pn**	**21 55 41.3**	**-0.3**
JMM				Sn	Sn	21 56 12.5	-2.8
JANG	**Nango**	**3.26**	**317**	P	**Pn**	**21 55 47.1**	**+0.5**
JANG				S	**Sn**	**21 56 24.1**	**-0.2**
JFT	**Otama**	**3.30**	**262**	P	**Pn**	**21 55 47.3**	**+0.2**
JFT				S	**Sn**	**21 56 23.6**	**-1.7**
JYK	**Kaneyama**	**3.33**	**287**	P	**Pn**	**21 55 48.2**	**+0.7**
JYK				*e*S	**Sn**	**21 56 26.0**	**0.0**
JTM	**Tenmabayashi**	**3.79**	**317**		**Pn**	**21 55 55.2**	**+1.3**
JTM				Sn	Sn	21 56 35.1	-2.3
JYT	**Yasato**	**3.85**	**243**		**Pn**	**21 55 53.6**	**-1.1**
JYT				Sn	Sn	21 56 33.8	-5.1
ERM	**Erimo**	**4.09**	**346**		**Pn**	**21 55 58.9**	**+1.0**
JEM	**Erimo**	**4.09**	**346**	Sn	Sn	21 56 42.0	-2.8
JOT	**Ohata**	**4.25**	**323**	P	**Pn**	**21 56 01.3**	**+1.2**
JOT				*e*S	**Sn**	**21 56 47.2**	**-1.3**
BSO1	**Boso 1**	**4.39**	**221**	P	**Pn**	**21 56 00.0**	**-1.6**
BSO1				S	**Sn**	**21 56 48.7**	**-2.7**
JCH	**Churui**	**4.64**	**350**	P	**Pn**	**21 56 06.3**	**+0.8**
JCH				*e*S	**Sn**	**21 56 56.9**	**-1.4**
JKB	**Kayabe**	**4.65**	**327**	P	**Pn**	**21 56 07.4**	**+1.7**
JKB				*e*S	Sn	21 56 56.2	-2.4
JRY	**Ryogami san**	**4.88**	**247**	P	**Pn**	**21 56 08.1**	**-0.7**
JRY				S	Sn	21 56 59.5	-4.7
JSD	**Sado**	**4.89**	**272**	Pn	**Pn**	**21 56 09.1**	**+0.2**
JOD2	**Odawara 2**	**5.13**	**239**	P	**Pn**	**21 56 11.0**	**-1.2**
JOD2				*e*S	Sn	21 57 05.2	-5.1
MJAR	**Matsushiro Arr**	**5.20**	**255**	Pn	**Pn**	**21 56 12.8**	**-0.4**
	3.0nm,0.3s,baz=92,slow=22,SNR=91						
MJAR				Sn	**Sn**	**21 57 12.1**	**0.0**
	0.6nm,0.3s,baz=81,slow=27,SNR=4.2						
MAJO	**Matsushiro**	**5.20**	**255**		**Pn**	**21 56 14.4**	**+1.2**
MAT	**Matsushiro**	**5.20**	**255**	P	**Pn**	**21 56 14.3**	**+1.1**
MAT				S	**Sn**	**21 57 12.1**	**0.0**
MJB9	**Matsu-Tunnel**	**5.20**	**255**		**Pn**	**21 56 14.5**	**+1.2**
JEW	**Eniwo**	**5.31**	**335**		**Pn**	**21 56 16.6**	**+1.9**
NEM2	**Nemuro 2**	**5.41**	**10**	P	**Pn**	**21 56 15.2**	**-0.8**
NEM2				S	**Sn**	**21 57 13.8**	**-3.3**
JOSM	**Okushiri--Mats**	**5.56**	**318**	P	**Pn**	**21 56 19.7**	**+1.6**
JTKR	**Abashiri--Toko**	**5.94**	**356**	P	**Pn**	**21 56 23.9**	**+0.6**
JTKR				*e*S	**Sn**	**21 57 28.0**	**-2.2**
JHR	**Hokuryu**	**6.06**	**341**	P	**Pn**	**21 56 27.3**	**+2.3**
JHR				S	**Sn**	**21 57 34.9**	**+1.7**
JSG	**Sagara**	**6.07**	**238**	Pn	**Pn**	**21 56 24.5**	**-0.7**
JGF	**Kuroka**	**6.19**	**249**		**Pn**	**21 56 27.3**	**+0.4**
JHJ2	**Mitsune**	**6.20**	**219**	P	**Pn**	**21 56 24.7**	**-2.3**
JHJ2	**Mitsune**	**6.20**	**219**	Pn	**Pn**	**21 56 26.5**	**-0.5**
JHJ	**Hachijo jima 2**	**6.21**	**219**	Pn	Pn	21 56 23.3	-3.8
	15nm,0.3s,baz=71,slow=19,SNR=1.4						
JHJ				Sn	Sn	21 57 28.6	-8.4
	35nm,0.3s,baz=124,slow=23,SNR=2.9						
JKA	**Kamikawa-asahi**	**6.23**	**348**		**Pn**	**21 56 26.9**	**-0.4**
ASAJ	**Asahikawa**	**6.23**	**348**	Pn	**Pn**	**21 56 28.6**	**+1.3**
	4.0nm,0.3s,baz=224,slow=9.2,SNR=24						
ASAJ				Sn	**Sn**	**21 57 35.8**	**-1.6**
	4.9nm,0.3s,baz=180,slow=20,SNR=8.8						
ASAJ				LR	LR	21 59 37.5	
	comp=Z,66nm,18.3s,baz=162,slow=44						
INU	**Inuyama**	**6.55**	**248**		**Pn**	**21 56 31.7**	**0.0**
JWT	**Wachi**	**7.78**	**252**		**Pn**	**21 56 48.8**	**+0.2**
JHS	**Saijyo**	**9.62**	**255**	Pn	**Pn**	**21 57 14.9**	**+1.0**
JCJ	**Chichijima**	**11.08**	**191**	LR	LR	22 01 28.3	
	comp=Z,17nm,19.2s,baz=82,slow=36						
USA0B	**Ussuriysk Arra**	**11.23**	**307**	Pn	**Pn**	**21 57 37.1**	**+1.3**
USRK	**Ussuriysk Ar.**	**11.23**	**307**	Pn	**Pn**	**21 57 37.2**	**+1.3**
	baz=106,slow=14,SNR=8.9						
USRK	**Ussuriysk Ar.**	**11.23**	**307**		**Pn**	**21 57 38.1**	**+2.3**
KSRS	**Korea Array**	**13.10**	**273**	Pn	**Pn**	**21 58 01.6**	**+0.1**
	0.3nm,0.3s,baz=82,slow=14,SNR=7.1						
KSRS				LR	LR	22 03 03.7	
	comp=Z,28nm,19.4s,baz=96,slow=37						
KSAR	**Wonju Array Be**	**13.13**	**272**	Pn	**Pn**	**21 58 02.5**	**+0.6**
KS19	**Wonju Array Si**	**13.14**	**273**	Pn	**Pn**	**21 58 02.3**	**+0.3**
KLR	**Kul'dur**	**14.46**	**325**	Pn	**Pn**	**21 58 20.2**	**+0.4**
	0.2nm,0.3s,baz=144,slow=17,SNR=3.6						
PEA0B	**Petropavlovsk-**	**17.65**	**27**		**Pn**	**21 59 02.0**	**+1.2**
PEA0B				IAmb	IAmb	21 59 25.4	
	comp=Z,21nm,1.4s						
PETK	**Petropavlovsk-**	**17.65**	**27**	P	**Pn**	**21 59 01.2**	**+0.4**
MA2	**Magadan**	**21.93**	**9**	P	**P**	**21 59 48.5**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=200,slow=14,SNR=2.0						
SEY	**Seymchan**	**25.39**	**8**	P	**P**	**22 00 21.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=174,slow=10,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**26.70**	**127**	T	T	22 27 41.4	
	baz=318,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**26.71**	**127**	T	T	22 27 41.4	
	baz=318,slow=74,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**26.72**	**127**	T	T	22 27 41.4	
	baz=318,slow=74,SNR=6.8						
SONM	**Songino Array**	**29.27**	**302**	P	**P**	**22 00 58.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=98,slow=8.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**43.04**	**312**	P	**P**	**22 02 54.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.5,SNR=2.1						
ZALV				PcP	**PcP**	**22 04 45.2**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=108,slow=3.2,SNR=3.6						
MK31	**Makanchi Array**	**45.64**	**302**	P	**P**	**22 03 17.8**	**+2.8**
MKAR	**Makanchi Array**	**45.64**	**302**	P	**P**	**22 03 17.6**	**+2.5**
	comp=Z,0.3nm,0.8s,baz=82,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**45.64**	**302**	P	**P**	**22 03 17.3**	**+2.3**
ILAR	**Eielson Array**	**47.34**	**33**	P	**P**	**22 03 27.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=261,slow=6.4,SNR=13						
BMAR	**Burnt Mountain**	**48.28**	**29**	P	**P**	**22 03 36.6**	**+1.3**
INK	**Inuvik**	**52.38**	**28**	P	**P**	**22 04 05.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=312,slow=3.3,SNR=3.6						
INK	**Inuvik**	**52.38**	**28**	IAmb	IAmb	22 04 09.2	
	comp=Z,1.5nm,0.6s						
C36M	**Paulatuk**	**55.49**	**25**	P	**P**	**22 04 31.1**	**+2.1**
C36M				IAmb	IAmb	22 04 35.7	
	comp=Z,9.4nm,1.4s						
WRAB	**Tennant Creek**	**58.44**	**191**	P	**P**	**22 04 48.4**	**-2.0**
WRA	**Warramunga Arr**	**58.45**	**191**	P	**P**	**22 04 48.1**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=10,slow=7.0,SNR=2.4						
YKA	**Yellowknife Ar**	**61.71**	**31**	P	**P**	**22 05 11.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=304,slow=7.0,SNR=2.6						
ASAR	**Alice Springs**	**62.17**	**191**	P	**P**	**22 05 15.2**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=0.0,slow=6.5,SNR=2.2						
FINES	**FINESS Array B**	**69.03**	**333**	P	**P**	**22 06 00.9**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=46,slow=6.0,SNR=3.6						
NVAR	**Mina Array Bea**	**72.44**	**55**	P	**P**	**22 06 20.4**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=281,slow=5.3,SNR=7.2						
NB2	**NORSAR Subarra**	**74.17**	**338**	P	**P**	**22 06 32.5**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=34,slow=6.2						
NOA	**NORSAR Array B**	**74.17**	**338**	P	**P**	**22 06 32.1**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=35,slow=4.7,SNR=5.5						
PDAR	**Pinedale Array**	**75.23**	**47**	P	**P**	**22 06 38.3**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=316,slow=2.5,SNR=1.9						
BRTR	**Keskin Array B**	**79.96**	**313**	P	**P**	**22 07 05.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=334,slow=8.2,SNR=1.6						
TXAR	**Lajitas Array**	**87.58**	**54**	P	**P**	**22 07 43.5**	**+0.5**
	comp=Z,0.1nm,0.7s,baz=284,slow=3.6,SNR=2.0						
LPAZ	**La Paz**	**144.09**	**62**	PKP	**PKPab**	**22 14 28.6**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=298,slow=10.0,SNR=2.0						

*IDC **23** 21:56:42.6±1.2, 2°.85S×139°.10E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/27, mbtmp3.7/6, ML3.9/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/33, Error ellipse: s-maj=67.9km s-min=22.5km az=87.0*

ISC 23 21:56:49.2±1.2, 3°.0S±0°.1×138°.9E±0°.4, h46km, n9, σ1§86/7, mb3.6/5, MS3.1/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.40**	**194**	P	**Pn**	**22 00 47.9**	**-0.9**
	0.4nm,0.3s,baz=4.3,slow=11,SNR=27						
WRA				S	**Sn**	**22 03 59.8**	**-1.8**
	0.0nm,0.3s,baz=14,slow=22,SNR=1.9						
KAPI	**Kappang**	**19.16**	**263**	LR	LR	22 09 04.8	
	comp=Z,18nm,19.1s,baz=298,slow=38						
ASAR	**Alice Springs**	**21.09**	**193**	P	**P**	**22 01 31.9**	**+2.0**
	2.0nm,0.7s,baz=10,slow=9.5,SNR=17						
ASAR				S	Sn	22 05 34.5	+3.9
	1.5nm,0.9s,baz=16,slow=23,SNR=5.8						
ASAR				LR	LR	22 10 25.4	
	comp=Z,125nm,20.1s,baz=331,slow=39						
JCJ	**Chichijima**	**30.10**	**6**	LR	LR	22 12 05.6	
	comp=Z,35nm,20.1s,baz=162,slow=31						
KSRS	**Korea Array**	**41.52**	**347**	LR	LR	22 18 48.9	
	comp=Z,28nm,20.4s,baz=195,slow=32						
SONM	**Songino Array**	**58.05**	**335**	P	**P**	**22 06 39.0**	**+1.2**
	0.3nm,0.6s,baz=129,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**70.11**	**322**	P	**P**	**22 07 56.0**	**-0.9**
	0.4nm,0.7s,baz=108,slow=7.9,SNR=5.9						
VNDA	**Vanda**	**75.47**	**175**	P	**P**	**22 08 29.1**	**+1.1**
	1.2nm,0.7s,baz=334,slow=7.2,SNR=9.7						
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**	**22 09 23.2**	**-1.5**
	0.2nm,0.4s,baz=249,slow=6.6,SNR=4.1						

*IDC **23** 22:06:04.2±0.8, 16°.51N×122°.03E, h0km, mb4.0/14, mb1 4.1/14, mb1mx3.9/36, mbtmp4.0/14, MS3.0/1, Ms1 3.2/1, ms1mx2.5/32, Error ellipse: s-maj=35.1km s-min=17.9km az=71.0*
*MAN **23** 22:06:10.0, 16°.64N×121°.95E, h32km, mb5.0, ML3.9, MS3.9*
*NEIC **23** 22:06:10.8±2.3, 16°.64N±0°.08×122°.1E±0°.1, h42km±8km, mb4.5/21, Error ellipse: s-maj=15.7km s-min=11.9km az=77.0*

ISC 23 22:06:07.4±1.7, 16°.55N±0°.04×122°.16E±0°.06, h21km±6km, n61, σ1§06/62, mb4.2/23, 3C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.20**	**344**	⇓*i*P	**Pn**	**22 06 28.0**	**-1.0**
PCPH	**Palayan**	**1.41**	**226**	⇓*e*P	**Pb**	**22 06 32.8**	**-0.3**
PCPH				*e*S	**Sb**	**22 06 51.6**	**+0.9**
APYP	**Conner**	**1.57**	**326**	⇓*i*P	**Pn**	**22 06 32.9**	**-1.3**
APYP				*i* S	**Sn**	**22 06 51.1**	**-2.8**
SGCP	**Mt. Cagua**	**1.69**	**356**	⇑*i*P	**Pn**	**22 06 36.0**	**+0.2**
SGCP				*i* S	**Sb**	**22 06 59.1**	**+0.4**
SZP	**Santa**	**1.91**	**302**	Pn	**Pn**	**22 06 38.0**	**-0.8**
SIPP	**Brgy, Tapao**	**2.12**	**310**	⇑*e*P	**Pn**	**22 06 41.8**	**0.0**
SIPP				*e*S	**Sn**	**22 07 09.1**	**+1.6**
JCNP	**Jose Panganiba**	**2.30**	**167**	⇓*i*P	**Pb**	**22 06 48.2**	**-0.1**
JCNP				*i* S	**Sb**	**22 07 16.1**	**-0.2**
LQP	**Lukban**	**2.49**	**194**	⇓*e*P	**Pb**	**22 06 49.6**	**-2.1**
LQP				*e*S	**Sb**	**22 07 20.5**	**-1.4**
GQP	**Guinayangan**	**2.64**	**174**	⇑*e*P	**Pb**	**22 06 53.1**	**-0.9**
GQP				*e*S	**Sb**	**22 07 25.2**	**-0.8**
TGY	**Tagaytay City**	**2.70**	**206**	Pn	**Pb**	**22 06 55.8**	**+0.6**
TGY				Sn	**Sb**	**22 07 27.1**	**-0.8**
YULB	**Yu-li**	**6.86**	**353**	Pn	**Pn**	**22 07 46.8**	**-0.1**
TPUB	**Ta-pu**	**6.87**	**348**	Pn	**Pn**	**22 07 48.7**	**+1.6**
SSLB	**Suanglung**	**7.29**	**351**	Pn	**Pn**	**22 07 53.0**	**+0.1**
NACB	**Ninganchiao**	**7.61**	**356**	Pn	**Pn**	**22 07 54.4**	**-2.8**
YOJ	**Yonaguni jima**	**7.92**	**6**	Pn	**Pn**	**22 07 59.2**	**-2.2**
YHNB	**Yeheng**	**8.12**	**355**	Pn	**Pn**	**22 08 04.9**	**+0.7**
KSRS	**Korea Array**	**21.44**	**13**	P	**P**	**22 10 55.3**	**+1.0**
	1.1nm,0.5s,baz=195,slow=10,SNR=5.2						
FAKI	**Fak Fak**	**21.76**	**152**	P	**P**	**22 10 59.9**	**+2.0**
FAKI				IAmb	IAmb	22 11 03.3	
	comp=Z,28nm,1.2s						
CMAR	**Chiang Mai Arr**	**22.22**	**278**	LR	LR	22 19 13.7	
	comp=Z,35nm,20.2s,baz=180,slow=36						
SONM	**Songino Array**	**33.79**	**341**	P	**P**	**22 12 48.5**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=158,slow=10,SNR=11						
PSA00	**Pilbara Seismi**	**37.95**	**184**	P	**P**	**22 13 24.2**	**+0.4**
PSA00				IAmb	IAmb	22 13 43.8	
	comp=Z,13nm,1.2s						
PSA00	**Pilbara Seismi**	**37.95**	**184**	P	**P**	**22 13 23.0**	**-0.8**
PSA00				IAmb	IAmb	22 13 34.9	
	comp=Z,6.9nm,1.5s						
WB0	**Warramunga Arr**	**38.04**	**161**	P	**P**	**22 13 25.1**	**+0.5**
WB0				IAmb	IAmb	22 13 36.6	
	comp=Z,7.4nm,1.3s						
WRAB	**Tennant Creek**	**38.18**	**161**	P	**P**	**22 13 26.4**	**+0.7**
WRAB				IAmb	IAmb	22 13 34.1	
	comp=Z,7.6nm,1.4s						
WRA	**Warramunga Arr**	**38.19**	**161**	P	**P**	**22 13 25.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=341,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**38.19**	**161**	P	**P**	**22 13 26.6**	**+0.8**
WB2	**Warramunga Arr**	**38.19**	**161**	P	**P**	**22 13 26.3**	**+0.5**
WB2				IAmb	IAmb	22 13 39.5	
	comp=Z,6.0nm,1.2s						
WR0	**Warramunga Arr**	**38.26**	**161**	P	**P**	**22 13 26.8**	**+0.4**
WR0				IAmb	IAmb	22 13 34.9	
	comp=Z,5.6nm,1.1s						
ASAR	**Alice Springs**	**41.58**	**164**	P	**P**	**22 13 54.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=338,slow=7.0,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**42.43**	**81**	T	T	22 59 21.3	
	baz=275,slow=74,SNR=52						
H11S1	**WAKE ISLAND Hy**	**42.44**	**81**	T	T	22 59 22.1	
	baz=275,slow=74,SNR=28						
H11S2	**WAKE ISLAND Hy**	**42.45**	**81**	T	T	22 59 22.6	
	baz=275,slow=74,SNR=44						
H11N1	**WAKE ISLAND Hy**	**42.54**	**79**	T	T	22 59 29.3	
	baz=273,slow=74,SNR=45						
H11N2	**WAKE ISLAND Hy**	**42.55**	**79**	T	T	22 59 29.6	
	baz=273,slow=74,SNR=50						
H11N3	**WAKE ISLAND Hy**	**42.56**	**79**	T	T	22 59 30.6	
	baz=273,slow=74,SNR=36						
MK31	**Makanchi Array**	**44.65**	**321**	P	**P**	**22 14 18.6**	**-0.1**
MKAR	**Makanchi Array**	**44.65**	**321**	P	**P**	**22 14 18.1**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=122,slow=8.0,SNR=7.8						
MKAR				PcP	**PcP**	**22 16 01.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=2.9,SNR=4.4						
MKAR	**Makanchi Array**	**44.65**	**321**	P	**P**	**22 14 18.3**	**-0.4**
MAKZ	**Makanchi**	**44.84**	**321**	P	**P**	**22 14 19.7**	**-0.5**
MORW	**Morawa**	**45.73**	**187**	P	**P**	**22 14 26.1**	**-1.2**
PETK	**Petropavlovsk-**	**45.87**	**29**	P	**P**	**22 14 29.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=226,slow=10,SNR=4.0						
PETK	**Petropavlovsk-**	**45.87**	**29**	P	**P**	**22 14 30.1**	**+1.8**
ZALV	**Zalesovo Beam**	**47.23**	**331**	P	**P**	**22 14 39.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=115,slow=10.0,SNR=3.7						
NWAO	**Narrogin (SRO)**	**49.42**	**185**	P	**P**	**22 14 57.4**	**+1.4**
GAR	**Garm**	**50.27**	**307**	P	**P**	**22 15 00.8**	**-1.9**
GAR				IAmb	IAmb	22 15 13.5	
	comp=Z,6.2nm,0.8s						
KKAR	**Karatay Array**	**51.05**	**312**	P	**P**	**22 15 08.7**	**+0.3**
BRVK	**Borovoye**	**54.33**	**324**	P	**P**	**22 15 32.4**	**0.0**
BRVK				IAmb	IAmb	22 15 33.4	
	comp=Z,1.6nm,0.7s						
TIXI	**Tiksi**	**55.24**	**3**	P	**P**	**22 15 37.5**	**-1.2**
NRIK	**Noril'sk**	**56.99**	**346**	P	**P**	**22 15 51.4**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=133,slow=14,SNR=4.4						
NRIK	**Noril'sk**	**56.99**	**346**	P	**P**	**22 15 51.5**	**+0.3**
NRIK				IAmb	IAmb	22 15 52.2	
	comp=Z,3.3nm,0.8s						
ABKAR	**Abkulak array**	**59.55**	**318**	P	**P**	**22 16 09.5**	**0.0**
ABKAR	**Abkulak array**	**59.55**	**318**	P	**P**	**22 16 09.5**	**0.0**
ABKAR				IAmb	IAmb	22 16 10.7	
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**59.65**	**305**	P	**P**	**22 16 10.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=94,slow=15,SNR=2.1						
ARU	**Arti**	**61.82**	**326**	P	**P**	**22 16 24.2**	**-0.6**
ARU				IAmb	IAmb	22 16 24.8	
	comp=Z,5.1nm,0.5s						
KBZ	**Khabaz**	**71.06**	**311**	P	**P**	**22 17 24.6**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=6.7,SNR=4.0						
ILAR	**Eielson Array**	**75.59**	**26**	P	**P**	**22 17 50.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=272,slow=3.3,SNR=1.9						
ARCES	**ARCESS Array B**	**76.95**	**339**	P	**P**	**22 17 57.2**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=59,slow=7.3,SNR=5.3						
ARCES	**ARCESS Array B**	**76.95**	**339**	IAmb	IAmb	22 18 01.9	
	comp=Z,28nm,1.5s						
FINES	**FINESS Array B**	**78.50**	**331**	P	**P**	**22 18 06.2**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=44,slow=5.7,SNR=18						
NB2	**NORSAR Subarra**	**85.39**	**333**	P	**P**	**22 18 42.5**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**85.39**	**333**	P	**P**	**22 18 41.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=53,slow=2.0,SNR=3.8						

*IDC **23** 22:19:17.1±2.5, 27°.06S×176°.15W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/35, mbtmp4.0/4, ML4.4/1, Error ellipse: s-maj=65.3km s-min=31.2km az=125.0*

ISC 23 22:19:16.9±2.3, 27°.3S±0°.2×175°.9W±0°.4, h10km, n6, σ0§76/7, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.68**	**221**	Pn	**Pn**	**22 20 00.3**	**+0.2**
	63nm,0.3s,baz=81,slow=19,SNR=2.1						
RAO				Sn	**Sb**	**22 20 37.7**	**-0.2**
	96nm,0.3s,baz=87,slow=22,SNR=5.6						
CTA	**Charters Tower**	**35.30**	**273**	P	**P**	**22 26 13.2**	**+0.9**
	3.0nm,0.6s,baz=81,slow=10.0,SNR=3.6						
ASAR	**Alice Springs**	**45.23**	**263**	P	**P**	**22 27 34.4**	**-0.4**
	0.2nm,0.3s,baz=94,slow=7.2,SNR=4.1						
WRA	**Warramunga Arr**	**45.95**	**268**	P	**P**	**22 27 39.3**	**-1.1**
	1.0nm,0.6s,baz=107,slow=7.6,SNR=14						
NOA	**NORSAR Array B**	**145.88**	**354**	PKPbc	**PKPab**	**22 38 56.2**	**-0.3**
	0.6nm,0.7s,baz=15,slow=4.5,SNR=2.5						
AKASG	**Malin Array Be**	**149.78**	**328**	PKPbc	**PKiKP**	**22 39 08.1**	**+0.3**
	0.8nm,0.5s,baz=45,slow=3.1,SNR=2.1						

*IDC **23** 22:26:51.7±7.2, 26°.94S×176°.27W, h33km±50km, mb3.8/3, mb1 4.1/5, mb1mx3.6/33, mbtmp4.2/5, ML5.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/22, Error ellipse: s-maj=41.5km s-min=28.6km az=95.0*

ISC 23 22:26:51.0±1.4, 26°.9S±0°.1×176°.1W±0°.2, h35km, n11, σ1§10/11, mb4.1/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.83**	**214**	Pn	**Pn**	**22 27 33.4**	**-0.2**
	129nm,0.3s,baz=107,slow=15,SNR=7.3						
RAO				Sn	**Sn**	**22 28 06.9**	**+0.4**
	200nm,0.3s,baz=84,slow=21,SNR=7.8						
MSVF	**Nonsavu**	**10.62**	**328**	Pn	**Pn**	**22 29 20.9**	**+0.1**
	2.2nm,0.3s,baz=217,slow=19,SNR=7.3						
AFI	**Afiamalu**	**13.56**	**18**	LR	LR	22 35 08.7	
	comp=Z,142nm,21.6s,baz=152,slow=36						
PPT	**Papeete**	**26.21**	**75**	LR	LR	22 40 38.2	
	comp=Z,91nm,18.5s,baz=123,slow=31						
CTA	**Charters Tower**	**35.09**	**273**	P	**P**	**22 33 42.3**	**+1.2**
	2.5nm,0.4s,baz=96,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**45.09**	**263**	P	**P**	**22 35 02.8**	**-1.2**
	0.4nm,0.5s,baz=98,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**45.77**	**268**	P	**P**	**22 35 07.9**	**-1.5**
	1.8nm,0.8s,baz=107,slow=7.6,SNR=20						
NOA	**NORSAR Array B**	**145.53**	**354**	PKPbc	**PKPdf**	**22 46 24.4**	**-0.5**
	0.6nm,0.8s,baz=4.7,slow=2.4,SNR=2.6						
AKASG	**Malin Array Be**	**149.40**	**328**	PKP	**PKPdf**	**22 46 30.7**	**-0.8**
	0.2nm,0.4s,baz=41,slow=3.6,SNR=1.1						
AKASG				PKPbc	**PKiKP**	**22 46 36.9**	**-0.2**
	1.0nm,0.6s,baz=42,slow=3.8,SNR=5.3						
BRTR	**Keskin Array B**	**152.20**	**305**	PKPab	**PKPab**	**22 46 54.6**	**+1.6**
	0.5nm,0.6s,baz

baz=251
JTJ Tarama 1.64 77 P **Pn 22 49 05.6 -0.1**
JTJ eS **Sn 22 49 25.6 -0.1**
OWD Renai 1.65 259 i P **Pn 22 49 05.7 -0.1**
baz=257
OWD S **Sn 22 49 25.4 -0.6**
baz=257
EHY Hungye 1.67 243 P **Pn 22 49 05.2 -0.8**
baz=252
EHY eS **Sn 22 49 25.4 -1.0**
baz=252
YULB Yu-li 1.74 240 P **Pn 22 49 06.6 -0.5**
baz=231
YULB S **Sn 22 49 27.9 -0.4**
baz=231
TWF1 Yuli 1.77 239 eP **Pn 22 49 07.4 0.0**
baz=237
TWF1 eS **Sn 22 49 28.0 -0.7**
baz=237
LIOB Emei 1.79 282 eP **Pn 22 49 08.6 +0.8**
baz=281
NSTT Nanjuang 1.81 282 eP **Pn 22 49 09.3 +1.4**
baz=280
WHP Taichung City 1.82 271 eP **Pn 22 49 09.0 +0.7**
baz=268
WHP eS **Sn 22 49 30.7 +0.4**
baz=268
FULB Fuli 1.85 235 eP **Pn 22 49 08.6 0.0**
baz=226
DPDB Guoxing 1.86 263 eP **Pn 22 49 09.3 +0.6**
baz=262
WCS Beigang Elemen 1.87 264 eP **Pn 22 49 09.2 +0.5**
baz=256
SSLB Suanglung 1.88 255 eP **Pn 22 49 09.1 +0.1**
baz=253
SSLB eS **Sn 22 49 31.0 -0.6**
baz=253
SMLT Sun Moon Lake 1.91 259 P **Pn 22 49 09.7 +0.2**
baz=250
SMLT eS **Sn 22 49 32.6 +0.3**
baz=250
EDH Donghe 1.98 230 eP **Pn 22 49 08.8 -1.6**
baz=221
EDH eS **Sn 22 49 31.4 -2.6**
baz=221
WHYT Xinyi Township 2.00 254 eP **Pn 22 49 12.2 +1.7**
baz=244
WHYT eS **Sn 22 49 35.6 +1.2**
baz=244
ALS Alishan 2.10 249 eP **Pn 22 49 13.2 +1.0**
baz=246
ALS eS **Sn 22 49 37.9 +0.6**
baz=246
JIRB Irabujima 2.10 74 eS **Sn 22 49 36.0 -1.0**
CHN5 Tsauling 2.18 252 eP **Pn 22 49 13.5 +0.4**
baz=244
CHN5 eS **Sn 22 49 39.4 +0.5**
baz=244
STYT Tauyuan 2.29 242 eP **Pn 22 49 14.5 -0.1**
baz=233
CHN4 Tsaushan 2.34 247 eP **Pn 22 49 17.1 +1.9**
baz=245
CHN4 eS **Sn 22 49 44.6 +1.8**
baz=245
SLGT Liugui 2.46 239 eP **Pn 22 49 18.9 +1.9**
baz=233
TWK Hsinying 2.46 246 eP **Pn 22 49 17.5 +0.6**
baz=243
TWK eS **Sn 22 49 48.1 +2.2**
baz=243
SSD Sandimen 2.61 235 eP **Pn 22 49 20.7 +1.8**
baz=229
SLIU Shizi 2.84 224 eP **Pn 22 49 21.6 -0.5**
baz=217

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*MOS **23** 22:54:19.6±1.4, 10°.40S×164°.89E, h10km, mb5.2/19, MS4.5/4, Error ellipse: s-maj=8.0km s-min=7.6km az=87.8*
*NEIC **23** 22:54:21.7±1.7, 10°.27S±0°.07×164°.91E±0°.08, h10km±1km, mb5.3/212, Error ellipse: s-maj=12.9km s-min=11.7km az=107.0*
*IDC **23** 22:54:21.3±0.6, 10°.12S×164°.80E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.5/28, mbtmp4.4/22, ML2.8/1, MS4.5/28, Ms1 4.5/28, ms1mx4.4/37, Error ellipse: s-maj=17.9km s-min=15.3km az=115.0*
*BJI **23** 22:54:23.0±0.0, 10°.30S×164°.70E, h10km, mB5.3/49, mb4.8/60, Ms5.0/56, Ms7 4.6/56*
*GCMT **23** 22:54:25.9±0.1, 10°.16S±0°.01×164°.85E±0°.01, h12km, MW5.2/132, Moment Tensor Solution. s82,c118; s132,c232; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.43±.12; Mθθ6.38±.10; Mφφ-4.95±.11; Mrθ=0.03±.28; Mθφ=-4.42±.10; Mφr=0.70±.30; Best double couple: M0=7.23100×10^16 NP1:φs64.00000°, δ84.00000°, λ=-176.00000°. NP2:φs334.00000°, δ86.00000°, λ=-6.00000°. Principal axes: T 7.9050, Plg1.0000°, Azm19.0000°; N -1.3470, Plg82.0000°, Azm118.0000°; P -6.5570, Plg7.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
ISC 23 22:54:22.2±0.3, 10°.40S±0°.05×164°.91E±0°.04, h10km, n668, σ2°.20/539, mb5.2/216, MS4.7/49, 4C-5D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.98**	**281**	Pn	**Pn**	**22 55 36.7**	**-0.4**
	21nm,0.3s,baz=195,slow=19,SNR=1.8						
HNR				Sn	**Sn**	**22 56 32.7**	**-2.1**
	23nm,0.3s,baz=1.8,slow=21,SNR=1.2						
HNR				LR	LR	22 57 33.8	
	comp=Z,11μm,20.7s,baz=91,slow=40						
HNR	**Honiara**	**4.98**	**281**	P	**Pn**	**22 55 34.4**	**-2.7**
HNR	**Honiara**	**4.98**	**281**	Pn	**Pn**	**22 55 34.4**	**-2.7**
HNR	**Honiara**	**4.98**	**281**	P	**Pb**	**22 55 45.9**	**-3.7**
LIFNC	**LIFOU**	**10.56**	**168**	Pn	**Pn**	**22 56 54.3**	**+0.6**
MARNC	**Mare, Loyalty**	**11.42**	**165**	Pn	**Pn**	**22 57 07.1**	**+1.6**
DZM	**Mont Dzumac**	**11.70**	**173**	Pn	**Pn**	**22 57 09.7**	**+0.4**
YATNC	**Mamie plateau,**	**11.75**	**171**	P	Pn	22 57 18.4	+8.4
ONTNC	**Ouen Toro**	**11.93**	**173**	Pn	**Pn**	**22 57 12.5**	**+0.1**
ONTNC	**Ouen Toro**	**11.93**	**173**	P	Pn	22 57 20.6	+8.1
OUENC	**Ouen Island, N**	**12.09**	**171**	Pn	**Pn**	**22 57 13.9**	**-0.8**
OUENC	**Ouen Island, N**	**12.09**	**171**	P	Pn	22 57 24.4	+10
PINNC	**Pines Island,**	**12.38**	**169**	Pn	**Pn**	**22 57 16.5**	**-2.1**
RABL	**Rabaul**	**14.06**	**295**	Pn	**Pn**	**22 57 41.5**	**-0.2**
TARA	**Tarawa**	**14.14**	**35**	Pn	Pn	22 57 37.5	-5.3
TARA	**Tarawa**	**14.14**	**35**	P	**P**	**22 57 51.1**	**+0.7**
	143nm,1.3s						
MSVF	**Nonsavu**	**14.68**	**121**	Pn	**Pn**	**22 57 52.6**	**+2.5**
	1.3nm,0.3s,baz=270,slow=20,SNR=4.0						
MSVF				LR	LR	23 02 28.0	
	comp=Z,5μm,18.6s,baz=302,slow=33						
MSVF	**Nonsavu**	**14.68**	**121**	P	**Pn**	**22 57 48.1**	**-2.1**
MSVF	**Nonsavu**	**14.68**	**121**		**Pn**	**22 57 48.1**	**-2.1**
MSVF	**Nonsavu**	**14.68**	**121**	P	**P**	**22 58 00.0**	**+3.5**
PMG	**Port Moresby**	**17.51**	**272**	Pn	**Pn**	**22 58 23.7**	**-3.0**
	1.2nm,0.3s,baz=127,slow=10,SNR=1.4						
PMG				LR	LR	23 04 46.6	
	comp=Z,4μm,18.8s,baz=117,slow=36						
PMG	**Port Moresby**	**17.51**	**272**	P	**Pn**	**22 58 24.3**	**-2.4**
PMG				pmax	pmax		
	comp=Z,207nm,1.5s						
PMG	**Port Moresby**	**17.51**	**272**	Pn	**Pn**	**22 58 24.3**	**-2.4**
PMG	**Port Moresby**	**17.51**	**272**	P	**P**	**22 58 33.0**	**+5.2**
PMG	**Port Moresby**	**17.51**	**272**	P	P	22 58 35.3	+7.5
PATS	**Pohnpei**	**18.34**	**339**	P	**Pn**	**22 58 32.9**	**-4.0**
KWAJ	**Kwajalein Atol**	**19.27**	**8**	P	**P**	**22 58 44.2**	**-3.0**
KWAJ				pmax	pmax		
	comp=Z,311nm,1.5s						
KWAJ	**Kwajalein Atol**	**19.27**	**8**	P	**P**	**22 58 44.1**	**-3.0**
KWAJ				IAmb	IAmb	22 59 06.5	
	comp=Z,311nm,1.5s						
MANU	**Manus Island**	**19.30**	**294**	P	**P**	**22 58 44.9**	**-2.6**
MANU				IAmb	IAmb	22 58 55.3	
	comp=Z,230nm,1.3s						
EIDS	**Eidsvold**	**19.84**	**220**	P	**P**	**22 58 52.8**	**-0.6**
CTA	**Charters Tower**	**20.39**	**240**	P	**P**	**22 58 59.4**	**0.0**
	comp=Z,1.5nm,0.3s,baz=32,slow=9.5,SNR=1.5						
CTAO	**Charters Tower**	**20.39**	**240**	P	**P**	**22 58 57.7**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,42nm,1.1s						
CTAO	**Charters Tower**	**20.39**	**240**	P	**P**	**22 58 57.7**	**-1.7**
LHI	**Lord Howe Isla**	**21.70**	**194**	P	**P**	**22 59 12.0**	**-1.4**
LHI				IAmb	IAmb	22 59 24.9	
	comp=Z,155nm,1.2s						
AFI	**Afiamalu**	**23.05**	**101**	LR	LR	23 06 45.5	
	comp=Z,2μm,18.7s,baz=273,slow=32						
ARMA	**Armidale**	**23.44**	**210**	P	**P**	**22 59 32.0**	**+0.1**
MMPI	**Merauke**	**24.27**	**272**	P	**P**	**22 59 41.8**	**+1.9**
GENI	**Genyem**	**25.76**	**286**	P	**P**	**22 59 55.6**	**+2.2**
	comp=Z,3μmcomp=Z,138nm,2.0s						
OUZ	**Omahuta**	**25.94**	**164**	P	**P**	**22 59 55.3**	**+0.5**
OUZ				IAmb	IAmb	23 00 17.7	
	comp=Z,75nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**28.76**	**4**	T	T	23 30 10.2	
	baz=184,slow=76,SNR=944						
H11S3	**WAKE ISLAND Hy**	**28.77**	**4**	T	T	23 30 06.0	
	baz=184,slow=76,SNR=285						
H11S1	**WAKE ISLAND Hy**	**28.78**	**4**	T	T	23 30 11.2	
	baz=184,slow=76,SNR=335						
HIZ	**Hauiti**	**29.38**	**164**	P	**P**	**23 00 25.7**	**+0.1**
HIZ				IAmb	IAmb	23 00 37.1	
	comp=Z,97nm,1.3s						
MXZ	**Matakaoa Point**	**29.61**	**158**	P	**P**	**23 00 26.9**	**-0.8**
SRPI	**Serui, Papua**	**29.71**	**285**	P	**P**	**23 00 30.6**	**+1.8**
	comp=Z,142nm,0.4s						
URZ	**Urewera**	**29.82**	**160**	P	**P**	**23 00 34.2**	**+4.7**
	comp=Z,3.6nm,0.4s,baz=358,slow=8.2,SNR=3.0						
URZ	**Urewera**	**29.82**	**160**	P	**P**	**23 00 29.5**	**0.0**
URZ				IAmb	IAmb	23 00 50.1	
	comp=Z,40nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**29.99**	**4**	T	T	23 31 42.1	
	baz=183,slow=76,SNR=1154						
H11N3	**WAKE ISLAND Hy**	**30.00**	**4**	T	T	23 31 43.0	
	baz=183,slow=76,SNR=726						
H11N2	**WAKE ISLAND Hy**	**30.01**	**4**	T	T	23 31 42.1	
	baz=183,slow=76,SNR=959						
STKA	**Stephens Creek**	**30.35**	**222**	P	**P**	**23 00 37.0**	**+2.6**
	comp=Z,4.8nm,0.7s,baz=45,slow=9.9,SNR=6.5						
STKA				LR	LR	23 11 53.9	
	comp=Z,3μm,18.6s,baz=41,slow=34						
STKA	**Stephens Creek**	**30.35**	**222**	P	**P**	**23 00 33.7**	**-0.7**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**30.35**	**222**	P	**P**	**23 00 33.6**	**-0.7**
BKZ	**Black Stump Fm**	**30.45**	**162**	P	**P**	**23 00 33.1**	**-2.0**
BKZ				IAmb	IAmb	23 00 51.6	
	comp=Z,35nm,1.1s						
WR0	**Warramunga Arr**	**30.76**	**248**	P	**P**	**23 00 37.0**	**-1.1**
WB0	**Warramunga Arr**	**30.85**	**249**	P	**P**	**23 00 37.8**	**-1.1**
WRAB	**Tennant Creek**	**30.93**	**249**	P	**P**	**23 00 38.5**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,26nm,1.3s						
WRAB	**Tennant Creek**	**30.93**	**249**	P	**P**	**23 00 38.5**	**-1.1**
WB2	**Warramunga Arr**	**30.93**	**249**	P	**P**	**23 00 38.3**	**-1.2**
WRA	**Warramunga Arr**	**30.94**	**249**	P	**P**	**23 00 39.7**	**0.0**
	comp=Z,7.7nm,0.9s,baz=76,slow=9.1,SNR=29						
WRA				PcP	**PcP**	**23 03 38.4**	**+2.2**
	comp=Z,1.2nm,1.1s,baz=86,slow=3.5,SNR=3.2						
WRA				LR	LR	23 11 50.7	
	comp=Z,978nm,18.9s,baz=85,slow=34						
WRA	**Warramunga Arr**	**30.94**	**249**	eP	**P**	**23 00 41.7**	**+2.0**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA	**Warramunga Arr**	**30.94**	**249**	P	**P**	**23 00 39.1**	**-0.6**
BFZ	**Birch Farm**	**31.78**	**164**	P	**P**	**23 00 46.0**	**-0.8**
BFZ				IAmb	IAmb	23 01 12.8	
	comp=Z,81nm,1.4s						
TUWZ	**Tuamarina**	**31.91**	**167**	P	**P**	**23 00 48.0**	**+0.1**
MSWZ	**Moikau Station**	**32.21**	**165**	P	**P**	**23 00 50.2**	**-0.4**
AS31	**Alice Springs**	**32.35**	**242**	P	**P**	**23 00 50.6**	**-1.5**
ASAR	**Alice Springs**	**32.35**	**242**	P	**P**	**23 00 52.1**	**0.0**
	comp=Z,2.3nm,1.0s,baz=65,slow=10,SNR=7.6						
ASAR				PcP	**PcP**	**23 03 40.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=60,slow=3.7,SNR=2.2						
ASAR				LR	LR	23 13 12.9	
	comp=Z,1μm,19.0s,baz=69,slow=35						
ASAR	**Alice Springs**	**32.35**	**242**	P	**P**	**23 00 50.6**	**-1.5**
ASAR	**Alice Springs**	**32.35**	**242**	P	**P**	**23 00 50.6**	**-1.5**
PLWZ	**Palliser**	**32.35**	**165**		**P**	**23 00 52.2**	**+0.3**
MTN	**Manton Dam**	**33.16**	**262**	P	**P**	**23 00 55.1**	**-4.0**
FAKI	**Fak Fak**	**33.25**	**281**	P	**P**	**23 01 02.2**	**+2.2**
	comp=Z,24nm,1.3s						
OXZ	**Oxford**	**33.38**	**171**	P	**P**	**23 01 01.4**	**+0.6**
OXZ				IAmb	IAmb	23 01 11.8	
	comp=Z,28nm,0.9s						
RPZ	**Rata Peaks**	**33.62**	**172**	P	**P**	**23 01 03.2**	**+0.4**
RPZ				IAmb	IAmb	23 01 15.8	
	comp=Z,26nm,1.0s						
MQZ	**McQueen's Vall**	**33.86**	**170**	P	**P**	**23 01 05.3**	**+0.4**
MQZ				IAmb	IAmb	23 01 21.4	
	comp=Z,48nm,1.4s						
SWI	**Sorong**	**34.76**	**284**	P	**P**	**23 01 13.8**	**+0.7**
	comp=Z,24nm,1.3s						
KNRA	**Kununurra**	**35.57**	**258**	P	**P**	**23 01 18.7**	**-1.4**
KNRA				IAmb	IAmb	23 01 25.2	
	comp=Z,84nm,1.2s						
JOHN	**Johnston Islan**	**36.96**	**43**	P	**P**	**23 01 29.7**	**-2.2**
JOHN				IAmb	IAmb	23 01 42.5	
	comp=Z,76nm,0.8s						
NLAI	**Namlea**	**38.18**	**278**	P	**P**	**23 01 44.9**	**+2.6**
	comp=Z,55nm,1.8s						
LBMI	**Labuha**	**38.43**	**282**	P	**P**	**23 01 46.2**	**+1.7**
	comp=Z,2μmcomp=Z,122nm,1.9s						
TNTI	**Ternate**	**38.96**	**284**	P	**P**	**23 01 47.5**	**-1.4**
SANI	**Sanana**	**39.53**	**279**	P	**P**	**23 01 54.5**	**+0.8**
	comp=Z,982nmcomp=Z,43nm,1.3s						
SOEI	**Soe**	**40.00**	**267**	P	**P**	**23 01 59.2**	**+1.5**
	comp=Z,25nm,1.3s						
BATI	**Baumata**	**40.56**	**266**	P	**P**	**23 02 04.6**	**+2.3**
	comp=Z,24nm,1.0s						
MIDW	**Midway**	**42.05**	**24**	P	**P**	**23 02 10.5**	**-3.7**
MMRI	**Maumere**	**42.10**	**269**	P	**P**	**23 02 12.0**	**-2.9**
MMRI				IAmb	IAmb	23 02 29.6	
	comp=Z,65nm,1.2s						
MMRI	**Maumere**	**42.10**	**269**	P	**P**	**23 02 16.0**	**+1.1**
	comp=Z,3μmcomp=Z,60nm,1.4s						
EDFI	**Ende, Flores**	**42.62**	**268**	P	**P**	**23 02 21.9**	**+2.6**
	comp=Z,12nm,2.1s						
GTOI	**Gorontalo**	**43.09**	**282**	P	**P**	**23 02 25.9**	**+2.9**
	comp=Z,254nmcomp=Z,14nm,1.0s						
APSI	**Ampana**	**44.01**	**280**	P	**P**	**23 02 32.8**	**+2.4**
	comp=Z,2μmcomp=Z,41nm,1.4s						
MRSI	**Marisa**	**44.08**	**282**	P	**P**	**23 02 31.4**	**+0.5**
	comp=Z,469nmcomp=Z,22nm,1.2s						
BSSI	**Bau Bau, Buton**	**44.13**	**272**	P	**P**	**23 02 32.1**	**+0.7**
	comp=Z,34nm,2.1s						
BKSI	**Bulukumba**	**44.62**	**273**	P	**P**	**23 02 36.3**	**+1.0**
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**44.65**	**104**	LR	LR	23 16 44.2	
	comp=Z,464nm,21.7s,baz=293,slow=30						
PPT2	**Papeete2**	**44.65**	**104**	eS	**S**	**23 09 14.3**	**+2.0**
	comp=Z,281nm,24.2s						
PPT2				eLQ	LQ	23 13 17.0	
	comp=Z,2μm,25.2s						
PPT2				eLR	LR	23 15 14.0	
	comp=Z,2μm,27.0s						
BNSI	**Bone**	**44.79**	**274**	P	**P**	**23 02 39.2**	**+2.6**
	comp=Z,839nmcomp=Z,60nm,1.1s						
WBSI	**Waikabubak, Su**	**44.80**	**267**	P	**P**	**23 02 38.6**	**+1.8**
	comp=Z,35nm,0.8s						
KAPI	**Kappang**	**45.03**	**273**	P	**P**	**23 02 36.5**	**-2.1**
KAPI				pmax	pmax		
	comp=Z,56nm,1.3s						
KAPI	**Kappang**	**45.03**	**273**	P	**P**	**23 02 36.5**	**-2.1**
KAPI				IAmb	IAmb	23 02 41.6	
	comp=Z,56nm,1.2s						
TTSI	**Tana Toraja**	**45.33**	**276**	P	**P**	**23 02 42.6**	**+1.7**
	comp=Z,24nm,2.0s						
TBI	**Tubuai**	**45.34**	**113**	eS	**S**	**23 09 21.9**	**0.0**
	comp=Z,299nm,26.2s						
TBI				eLQ	LQ	23 13 38.5	
	comp=Z,1μm,26.8s						
TBI				eLR	LR	23 15 34.2	
	comp=Z,2μm,32.5s						
TOLI2	**Tolitoli**	**45.36**	**282**	P	**P**	**23 02 38.8**	**-2.4**
MPSI	**Mapaga**	**46.02**	**281**	P	**P**	**23 02 47.7**	**+1.3**
	comp=Z,1μmcomp=Z,15nm,0.9s						
PLAI	**Plampang**	**46.46**	**268**	P	**P**	**23 02 51.1**	**+1.2**
	comp=Z,51nm,1.0s						
TWSI	**Taliwang, Sumb**	**47.35**	**268**	P	**P**	**23 02 58.6**	**+1.7**
	comp=Z,13nm,1.4s						
BKB	**Balikpapan**	**48.55**	**278**	P	**P**	**23 03 07.9**	**+1.7**
	comp=Z,70nm,1.2s						
KBKI	**Kotabaru**	**48.85**	**275**	P	**P**	**23 03 10.1**	**+1.6**
	comp=Z,1μmcomp=Z,24nm,1.1s						
AIN	**Ainahou**	**49.00**	**53**	P	**P**	**23 03 06.5**	**-3.1**
SRBI	**Singaraja**	**49.06**	**268**	P	**P**	**23 03 11.1**	**+1.0**
	comp=Z,77nm,0.9s						
HMH	**Humu'ula Sheep**	**49.10**	**53**	P	**P**	**23 03 08.1**	**-2.5**
POHA	**Pohakuloa**	**49.15**	**52**	P	**P**	**23 03 07.4**	**-3.5**
BBKI	**Banjar Baru**	**50.12**	**274**	P	**P**	**23 03 17.8**	**-0.4**
	comp=Z,18nm,1.4s						
KMMI	**Kalianget**	**50.42**	**269**	P	**P**	**23 03 21.8**	**+1.4**
	comp=Z,73nm,1.5s						
SPMM	**Sapulut**	**50.52**	**285**	P	**P**	**23 03 23.0**	**+1.8**
MTKI	**Muara Teweh, K**	**50.58**	**277**	P	**P**	**23 03 23.2**	**+1.6**
JYT	**Yasato**	**51.90**	**335**	P	**P**	**23 03 28.6**	**-2.5**
JYT				IAmb	IAmb	23 03 43.7	
	comp=Z,43nm,1.2s						
PWJI	**Pagerwojo**	**52.42**	**268**	P	**P**	**23 03 36.4**	**+0.9**
	comp=Z,51nm,1.7s						
INU	**Inuyama**	**52.59**	**331**	P	**P**	**23 03 33.9**	**-2.4**
INU				IAmb	IAmb	23 03 43.3	
	comp=Z,65nm,1.5s						
JGF	**Kuroka**	**52.64**	**332**	P	**P**	**23 03 34.9**	**-1.8**
JMN	**Monobe**	**52.88**	**327**	P	**P**	**23 03 37.0**	**-1.5**
MJA0	**Matsu Arr-Jizo**	**53.01**	**333**	eP	**P**	**23 03 40.0**	**+0.6**
MJA0				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PCJI	**Pacitan**	**53.02**	**268**	P	**P**	**23 03 41.7**	**+1.8**
	comp=Z,106nm,1.1s						
MJAR	**Matsushiro Arr**	**53.02**	**333**	P	**P**	**23 03 36.3**	**-3.2**
	comp=Z,10nm,1.1s,baz=152,slow=7.7,SNR=12						
MAJO	**Matsushiro**	**53.03**	**333**	i P	**P**	**23 03 40.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,38nm,1.4s						
MAJO	**Matsushiro**	**53.03**	**333**	P	**P**	**23 03 38.1**	**-1.4**
MAT	**Matsushiro**	**53.03**	**333**	P	**P**	**23 03 39.1**	**-0.4**
MAT				S	**S**	**23 11 14.2**	**+4.7**
MJB9	**Matsu-Tunnel**	**53.03**	**333**	P	**P**	**23 03 37.3**	**-2.3**
JMM	**Marumori**	**53.06**	**336**	P	**P**	**23 03 36.7**	**-3.0**
JMM				IAmb	IAmb	23 03 47.6	
	comp=Z,44nm,1.2s						
JSU	**Suzuyama**	**53.16**	**323**	P	**P**	**23 03 38.8**	**-1.7**
JSU				IAmb	IAmb	23 03 43.3	
	comp=Z,82nm,1.4s						
JWT	**Wachi**	**53.32**	**330**	P	**P**	**23 03 38.3**	**-3.4**
JWT				IAmb	IAmb	23 03 50.0	
	comp=Z,35nm,1.4s						
UGM	**Wanagama**	**53.70**	**268**	P	**P**	**23 03 44.9**	**0.0**
	comp=Z,126nm,2.4s						
SMRI	**Semarang**	**53.89**	**269**	P	**P**	**23 03 46.7**	**+0.4**
	comp=Z,72nm,2.5s						
YOGI	**Yogyakarta**	**53.93**	**268**	P	**P**	**23 03 45.7**	**-0.9**
	comp=Z,111nm,1.4s						
SBUM	**Sibu**	**53.97**	**281**	P	**P**	**23 03 49.0**	**+2.1**
JNU	**Nakatsue**	**54.08**	**325**	P	**P**	**23 03 44.4**	**-2.9**
JNU				IAmb	IAmb	23 03 49.7	
	comp=Z,62nm,1.2s						
STKI	**Sintang**	**54.13**	**278**	P	**P**	**23 03 49.4**	**+1.4**
TAOE	**Nuku Hiva Isla**	**54.14**	**93**	eLR	LR	23 19 24.8	
	comp=Z,826nm,25.9s						
JSD	**Sado**	**54.25**	**334**	P	**P**	**23 03 45.7**	**-2.7**
JHS	**Saijyo**	**54.26**	**328**	P	**P**	**23 03 46.9**	**-1.7**
JHS				IAmb	IAmb	23 03 55.1	
	comp=Z,51nm,1.5s						
YULB	**Yu-li**	**54.29**	**309**	P	**P**	**23 03 46.9**	**-2.1**
NACB	**Ninganchiao**	**54.50**	**310**	P	**P**	**23 03 48.6**	**-1.9**
NACB				IAmb	IAmb	23 03 54.8	
	comp=Z,31nm,1.1s						
YHNB	**Yeheng**	**54.94**	**310**	P	**P**	**23 03 51.6**	**-2.2**
YHNB				IAmb	IAmb	23 03 57.2	
	comp=Z,52nm,1.3s						
KPJI	**Karang Pucung**	**55.34**	**268**	P	**P**	**23 03 57.7**	**+0.9**
	comp=Z,34nm,0.9s						
JTM	**Tenmabayashi**	**55.49**	**338**	P	**P**	**23 03 56.1**	**-1.3**
JTM				IAmb	IAmb	23 04 04.9	
	comp=Z,70nm,1.4s						
KSM	**Kuching**	**55.59**	**279**	P	**P**	**23 04 01.0**	**+2.4**
JTU	**Tsushima**	**55.94**	**325**	P	**P**	**23 03 58.3**	**-2.4**
JCJI	**Jatiwangi**	**56.10**	**269**	P	**P**	**23 04 03.1**	**+0.8**
	comp=Z,100nm,0.6s						
CISI	**Cisompet, Garu**	**56.40**	**268**	P	**P**	**23 04 01.7**	**-2.8**
CISI				IAmb	IAmb	23 04 11.6	
	comp=Z,32nm,0.9s						
CISI	**Cisompet, Garu**	**56.40**	**268**	P	**P**	**23 04 04.6**	**+0.1**
	comp=Z,40nm,0.9s						
LEM	**Lembang**	**56.70**	**269**	P	**P**	**23 04 08.7**	**+2.0**
	comp=Z,43nm,0.9s						
CNJI	**Cibinong**	**57.11**	**268**	P	**P**	**23 04 09.1**	**-0.4**
	comp=Z,97nm,1.1s						
DBJI	**Dramaga**	**57.59**	**269**	P	**P**	**23 04 14.1**	**+1.2**
	comp=Z,12μmcomp=Z,26nm,1.2s						
JKA	**Kamikawa-asahi**	**57.92**	**341**	P	**P**	**23 04 11.8**	**-2.8**
JKA				IAmb	IAmb	23 04 22.1	
	comp=Z,54nm,1.2s						
ASAJ	**Asahikawa**	**57.92**	**341**	LR	LR	23 25 23.8	
	comp=Z,453nm,20.5s,baz=164,slow=32						
ASAJ	**Asahikawa**	**57.92**	**341**	P	**P**	**23 04 11.8**	**-2.8**
ASAJ				pmax	pmax		
	comp=Z,54nm,1.2s						
KSRS	**Korea Array**	**58.88**	**326**	P	**P**	**23 04 21.6**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=152,slow=7.0,SNR=13						
KSRS				LR	LR	23 28 48.7	
	comp=Z,168nm,19.0s,baz=130,slow=35						
KSRS	**Korea Array**	**58.88**	**326**	eP	**P**	**23 04 23.2**	**+1.8**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSAR	**Wonju Array Be**	**58.90**	**326**	P	**P**	**23 04 20.1**	**-1.4**
KSAR	**Wonju Array Be**	**58.90**	**326**	P	**P**	**23 04 20.1**	**-1.4**
PPBI	**Pangkal Pinang**	**58.91**	**274**	P	**P**	**23 04 23.6**	**+1.5**
KS19	**Wonju Array Si**	**58.95**	**326**	P	**P**	**23 04 19.8**	**-2.1**
KS19				IAmb	IAmb	23 04 29.9	
	comp=Z,27nm,1.4s						
INCN	**Inchon**	**59.62**	**325**	P	**P**	**23 04 24.2**	**-2.4**
INCN				pmax	pmax		
	comp=Z,76nm,1.5s						
INCN	**Inchon**	**59.62**	**325**	P	**P**	**23 04 24.2**	**-2.4**
KASI	**Kota Agung**	**59.95**	**270**	P	**P**	**23 04 28.7**	**-0.6**
	comp=Z,16nm,1.0s						
MDSI	**Maura Dua**	**60.43**	**271**	P	**P**	**23 04 31.8**	**-0.8**
	comp=Z,12nm,1.4s						
YSS	**Yuzh-Sakhalins**	**60.43**	**343**	eP	**P**	**23 04 33.2**	**+1.3**
YSS				e		23 06 43.8	
YSS				eS	**S**	**23 12 45.2**	**-1.8**
YSS				pmax	pmax		
	comp=Z,40nm,1.4s						
YSS				pmax	pmax		
	comp=Z,200nm,2.8s						
YSS	**Yuzh-Sakhalins**	**60.43**	**343**	P	**P**	**23 04 31.7**	**-0.2**
LWLI	**Liwa**	**60.46**	**270**	P	**P**	**23 04 33.7**	**+0.7**
NJ2	**Nanjing**	**60.99**	**316**	||P	**P**	**23 04 37.9**	**+1.9**
NJ2				pP	**pwP**	**23 04 41.0**	**-1.4

PET			*e*S	S		23 13 26.6 +2.3
PET			*e*PS	PnS		23 13 52.8 +12
PET			*e*SS	SS		23 17 35.7 +4.2
PET			pmax	pmax		
	comp=Z,200nm,8.6s					
PET			pmax	pmax		
	comp=Z,100nm,11.2s					
PET			pmax	pmax		
	comp=Z,40nm,1.3s					
PET	**Petropavlovsk**	**63.40 356**	P	**P**		**23 04 50.8 -1.0**
MDJ	**Mudanjiang**	**63.40 333**	P	**P**		**23 04 52.9 +0.9**
MDJ			S	**S**		**23 13 30.9 +6.2**
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,210nm,3.5s					
MDJ			LR	LR		
	comp=Z,200nm,17.6s					
MDJ			LR	LR		
	comp=Z,470nm,16.2s					
MDJ			LR	LR		
	comp=Z,350nm,15.6s					
MDJ	**Mudanjiang**	**63.40 333**	P	**P**		**23 04 51.0 -0.9**
DL2	**Dalian**	**63.47 323**	P	**P**		**23 04 52.6 +0.1**
DL2			S	**S**		**23 13 27.8 +2.0**
DL2			pmax	pmax		
	comp=Z,38nm,1.4s					
DL2			pmax	pmax		
	comp=Z,260nm,4.0s					
DL2			LR	LR		
	comp=Z,290nm,16.0s					
DL2			LR	LR		
	comp=Z,220nm,17.1s					
DL2			LR	LR		
	comp=Z,730nm,20.7s					
PEA0B	**Petropavlovsk-**	**63.56 355**	P	**P**		**23 04 52.3 -0.5**
PEA0B			pmax	pmax		
	comp=Z,38nm,1.3s					
PEA0B	**Petropavlovsk-**	**63.56 355**	P	**P**		**23 04 52.3 -0.5**
PEA0B			IAmb	IAmb		23 05 08.2
	comp=Z,38nm,1.3s					
PETK	**Petropavlovsk-**	**63.56 355**	P	**P**		**23 04 50.8 -2.0**
	comp=Z,3.7nm,0.9s,baz=165,slow=6.2,SNR=7.3					
PETK			LR	LR		23 26 49.3
	comp=Z,524nm,21.9s,baz=168,slow=31					
PETK	**Petropavlovsk-**	**63.56 355**	P	**P**		**23 04 52.7 -0.1**
PETK	**Petropavlovsk-**	**63.56 355**	P	**P**		**23 04 52.7 -0.1**
JRMM	**Jerantut**	**63.76 280**	P	**P**		**23 04 58.0 +3.1**
KIWB	**Kanaga Island**	**63.91 12**	P	**P**		**23 04 54.0 -1.2**
ADK	**Adak**	**64.04 13**	P	**P**		**23 04 53.2 -2.8**
ADK			pmax	pmax		
	comp=Z,77nm,1.2s					
ADK	**Adak**	**64.04 13**	P	**P**		**23 04 53.2 -2.8**
BKNI	**Bangkinang**	**64.39 275**	P	**P**		**23 04 59.6 +0.5**
	comp=Z,7μmcomp=Z,381nm,0.4s					
TIA	**Tai'an**	**64.59 318**	P	**P**		**23 05 01.0 +1.0**
TIA			pmax	pmax		
	comp=Z,5.0nm,0.6s					
TIA			pmax	pmax		
	comp=Z,93nm,5.3s					
TIA			LR	LR		
	comp=Z,350nm,15.7s					
TIA			LR	LR		
	comp=Z,360nm,16.4s					
TIA			LR	LR		
	comp=Z,410nm,17.1s					
CN2	**Changchun**	**64.77 329**	*e*P	**P**		**23 05 02.5 +1.5**
CN2			pP	pwP		23 05 07.3 -0.1
CN2			S	**S**		**23 13 41.1 -0.6**
CN2			pmax	pmax		
	comp=Z,20nm,0.9s					
CN2			pmax	pmax		
	comp=Z,200nm,5.0s					
CN2			LR	LR		
	comp=Z,400nm,14.0s					
CN2			LR	LR		
	comp=Z,300nm,14.0s					
CN2			LR	LR		
	comp=Z,300nm,17.0s					
ATKA	**Atka Island**	**64.90 14**	P	**P**		**23 04 58.7 -2.9**
IPM	**Ipoh**	**65.30 280**	P	**P**		**23 05 07.0 +1.9**
KULM	**Kulim**	**65.85 281**	P	**P**		**23 05 11.0 +2.4**
MNSI	**Mandailing Nat**	**65.91 276**	P	**P**		**23 05 09.6 +0.6**
	comp=Z,896nmcomp=Z,28nm,0.8s					
SKNT	**Sakolnakorn**	**66.08 294**	P	**P**		**23 05 12.4 +2.4**
	comp=Z,28nm,2.2s					
KLR	**Kul'dur**	**66.14 337**	*i* P	**P**		**23 05 10.9 +1.1**
KLR			pmax	pmax		
	comp=Z,51nm,1.3s					
NIKH	**Nikolski High**	**67.00 17**	P	P		23 05 19.9 +4.8
	baz=208					
NIKH	**Nikolski High**	**67.00 17**	P	**P**		**23 05 13.5 -1.6**
VNDA	**Vanda**	**67.12 181**	P	**P**		**23 05 17.3 +1.6**
	comp=Z,3.3nm,0.8s,baz=346,slow=8.0,SNR=7.2					
VNDA			LR	LR		23 31 43.5
	comp=Z,262nm,18.7s,baz=18,slow=33					
VNDA	**Vanda**	**67.12 181**	P	**P**		**23 05 16.2 +0.6**
VNDA			pmax	pmax		
	comp=Z,19nm,1.3s					
VNDA	**Vanda**	**67.12 181**	P	**P**		**23 05 16.2 +0.6**
VNDA			IAmb	IAmb		23 05 27.4
	comp=Z,19nm,1.3s					
NONG	**Nongkai**	**67.20 295**	P	**P**		**23 05 19.7 +2.6**
GYA	**Guiyang**	**67.38 304**	⇑P	**P**		**23 05 20.4 +2.1**
GYA			pP	pwP		23 05 27.4 +2.8
SBA	**Scott Base**	**67.44 180**	P	**P**		**23 05 18.4 +0.7**
SBA			pmax	pmax		
	comp=Z,28nm,1.4s					
SBA	**Scott Base**	**67.44 180**	P	**P**		**23 05 18.4 +0.7**
SBA			IAmb	IAmb		23 05 29.6
	comp=Z,28nm,1.4s					
BJI	**Beijing**	**67.47 321**	P	**P**		**23 05 20.3 +1.9**
BJI			S	**S**		**23 14 20.4 +5.7**
BJI			pmax	pmax		
	comp=Z,13nm,1.4s					
BJI			pmax	pmax		
	comp=Z,160nm,4.6s					
BJI			LR	LR		
	comp=Z,300nm,26.5s					
BJI			LR	LR		
	comp=Z,210nm,18.3s					
BJI			LR	LR		
	comp=Z,510nm,24.1s					
TSI	**Tuntungan**	**67.47 278**	P	**P**		**23 05 19.8 +0.8**
SLVN	**Son La**	**67.68 298**	P	**P**		**23 05 18.6 -1.6**
GSI	**Gunungsitoli**	**67.97 276**	P	**P**		**23 05 20.5 -1.6**
GSI			IAmb	IAmb		23 05 26.4
	comp=Z,27nm,0.8s					
GSI	**Gunungsitoli**	**67.97 276**	P	**P**		**23 05 23.1 +0.9**
	comp=Z,45nm,0.9s					
UNV	**Unalaska Valle**	**68.45 18**	P	P		23 05 29.2 +5.0
	baz=211					
TIY	**Taiyuan**	**68.53 317**	*e*P	**P**		**23 05 26.3 +1.0**
TIY			S	**S**		**23 14 26.4 -1.3**
TIY			LR	LR		
	comp=Z,260nm,14.8s					
TIY			LR	LR		
	comp=Z,140nm,13.6s					
TIY			LR	LR		
	comp=Z,140nm,12.4s					
TPTI		**68.77 278**	P	**P**		**23 05 27.2 +0.1**
	comp=Z,4.9nm,0.9s					
XAN	**Xi'an**	**69.08 313**	P	**P**		**23 05 30.1 +1.4**
XAN			pP	pwP		23 05 33.6 -1.5
XAN			S	**S**		**23 14 34.3 0.0**
XAN			ScS	**SKSac**		**23 15 27.3 -1.7**
XAN			SS	**SS**		**23 18 54.3 -6.4**
XAN			pmax	pmax		
	comp=Z,13nm,2.2s					
XAN			pmax	pmax		
	comp=Z,250nm,5.9s					
XAN			LR	LR		
	comp=Z,280nm,19.5s					
XAN			LR	LR		
	comp=Z,350nm,19.5s					
XAN			LR	LR		
	comp=Z,610nm,21.7s					
UTTA	**Uttaradit**	**69.42 293**	P	**P**		**23 05 34.8 +3.7**
	comp=Z,204nmcomp=Z,8.3nm,1.2s					
UTTA	**Uttaradit**	**69.42 293**	P	**P**		**23 05 34.8 +3.7**
KMI	**Kunming**	**70.08 302**	⇓P	**P**		**23 05 38.3 +3.0**
KMI			pP	pwP		23 05 43.4 +1.7
KMI			sP	PcP		23 05 48.0 -9.4
KMI			S	**S**		**23 14 47.8 +1.0**
KMI			sS	sS		23 14 52.9 +2.4
KMI			pmax	pmax		
	comp=Z,19nm,1.3s					
KMI			pmax	pmax		
	comp=Z,140nm,4.0s					
KMI			LR	LR		
	comp=Z,150nm,14.2s					
KMI			LR	LR		
	comp=Z,240nm,17.6s					
KMI			LR	LR		
	comp=Z,380nm,20.3s					
FALS	**False Pass**	**70.26 19**	P	P		23 05 39.6 +4.2
	baz=213					
LAMP	**Lampang**	**70.50 294**	P	**P**		**23 05 41.6 +3.9**
	comp=Z,13nm,0.8s					
LAMP	**Lampang**	**70.50 294**	P	**P**		**23 05 41.6 +3.9**
MA2	**Magadan**	**70.66 352**	*ce*P	**P**		**23 05 40.9 +3.1**
MA2			pmax	pmax		
	comp=Z,7.0nm,1.0s					
HHC	**Hu-ho-hao-te**	**70.81 320**	*e*P	P		23 05 44.0 +4.7
HHC			sP	PcP		23 05 54.4 -5.6
HHC			S	**S**		**23 15 00.6 +6.1**
HHC			sS	sS		23 15 09.3 +11
HHC			pmax	pmax		
	comp=Z,19nm,1.1s					
HHC			pmax	pmax		
	comp=Z,170nm,4.7s					
HHC			LR	LR		
	comp=Z,300nm,15.5s					
HHC			LR	LR		
	comp=Z,210nm,15.5s					
HHC			LR	LR		
	comp=Z,300nm,16.6s					
CM04	**Chiang Mai Arr**	**71.05 294**	P	**P**		**23 05 44.4 +3.4**
	comp=Z,89nmcomp=Z,7.5nm,1.2s					
CM04	**Chiang Mai Arr**	**71.05 294**	P	**P**		**23 05 44.5 +3.4**
CM09	**Chiang Mai Arr**	**71.05 294**	P	**P**		**23 05 44.9 +3.8**
	comp=Z,102nmcomp=Z,7.7nm,1.2s					
CM09	**Chiang Mai Arr**	**71.05 294**	P	**P**		**23 05 44.0 +2.9**
CM01	**Chiang Mai Arr**	**71.08 294**	P	**P**		**23 05 44.7 +3.5**
	comp=Z,109nmcomp=Z,8.4nm,1.4s					
CM01	**Chiang Mai Arr**	**71.08 294**	P	**P**		**23 05 44.0 +2.8**
CM05	**Chiang Mai Arr**	**71.08 294**	P	**P**		**23 05 44.5 +3.3**
	comp=Z,80nmcomp=Z,6.6nm,1.2s					
CM05	**Chiang Mai Arr**	**71.08 294**	P	**P**		**23 05 44.6 +3.3**
CM02	**Chiang Mai Arr**	**71.09 294**	P	**P**		**23 05 45.1 +3.8**
	comp=Z,89nmcomp=Z,7.9nm,1.2s					
CM02	**Chiang Mai Arr**	**71.09 294**	P	**P**		**23 05 45.1 +3.8**
CMAR	**Chiang Mai Arr**	**71.10 294**	P	**P**		**23 05 41.8 +0.4**
	comp=Z,1.6nm,0.4s,baz=114,slow=4.3,SNR=23					
CMAR			LR	LR		23 38 28.0
	comp=Z,95nm,18.2s,baz=142,slow=37					
CMAR	**Chiang Mai Arr**	**71.10 294**	*e*P	**P**		**23 05 44.1 +2.7**
CMAR			pmax	pmax		
	comp=Z,2.0nm,0.4s					
CMAR	**Chiang Mai Arr**	**71.10 294**	P	**P**		**23 05 40.2 -1.2**
CM13	**Chiang Mai Arr**	**71.12 294**	P	**P**		**23 05 45.2 +3.7**
	comp=Z,7.0nm,1.2s					
CM13	**Chiang Mai Arr**	**71.12 294**	P	**P**		**23 05 45.0 +3.5**
CMMT	**Chiang Mai**	**71.21 294**	P	**P**		**23 05 44.6 +2.6**
	comp=Z,381nmcomp=Z,12nm,1.5s					
CMMT	**Chiang Mai**	**71.21 294**	P	**P**		**23 05 44.7 +2.6**
CHTO	**Chiang Mai**	**71.21 294**	P	**P**		**23 05 40.2 -1.9**
CHTO			pmax	pmax		
	comp=Z,17nm,1.3s					
CHTO	**Chiang Mai**	**71.21 294**	P	**P**		**23 05 44.6 +2.6**
	comp=Z,12nm,1.6s					
CHTO	**Chiang Mai**	**71.21 294**	P	**P**		**23 05 40.2 -1.9**
HIA	**Hailar**	**71.41 331**	*i* P	**P**		**23 05 44.7 +2.1**
HIA			pmax	pmax		
	comp=Z,11nm,1.0s					
ZEA	**Zeya**	**71.44 337**	*e*P	**P**		**23 05 41.9 -0.7**
ZEA			*e*			23 05 45.2
CD2	**Chengdu**	**71.56 307**	P	**P**		**23 05 46.3 +2.3**
CD2			S	**S**		**23 15 06.4 +3.0**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
CD2			LR	LR		
	comp=Z,450nm,19.1s					
CD2			LR	LR		
	comp=Z,310nm,19.1s					
CD2			LR	LR		
	comp=Z,400nm,19.1s					
LZH	**Lanzhou**	**73.72 312**	*e*P	**P**		**23 05 59.8 +2.9**
LZH			pP	pwP		23 06 04.9 +1.6
LZH			sP	PcP		23 06 08.1 -4.5
LZH			S	**S**		**23 15 30.4 +2.2**
LZH			sS	sS		23 15 36.6 +4.8
LZH			pmax	pmax		
	comp=Z,18nm,1.1s					
LZH			pmax	pmax		
	comp=Z,130nm,4.3s					
LZH			LR	LR		
	comp=Z,300nm,20.6s					
LZH			LR	LR		
	comp=Z,320nm,20.6s					
LZH			LR	LR		
	comp=Z,310nm,20.1s					
OHAK	**Old Harbor**	**75.62 22**	P	P		23 06 13.6 +6.5
	baz=223					
OHAK	**Old Harbor**	**75.62 22**	P	**P**		**23 06 03.7 -3.5**
OHAK			IAmb	IAmb		23 06 14.0
	comp=Z,43nm,1.0s					
GAMB	**Gambell**	**76.09 10**	P	P		23 06 15.6 +5.9
	baz=204					
GAMB	**Gambell**	**76.09 10**	P	**P**		**23 06 10.3 +0.7**
O18K	**Koktuh Hills**	**76.93 19**	P	P		23 06 19.6 +5.0
	baz=220					
YAK	**Yakutsk**	**77.25 344**	*e*P	**P**		**23 06 17.9 +1.6**
YAK			pmax	pmax		
	comp=Z,47nm,1.1s					
YAK			pmax	pmax		
	comp=N,20nm,1.3s					
YAK			pmax	pmax		
	comp=E,11nm,1.3s					
YAK	**Yakutsk**	**77.25 344**	P	**P**		**23 06 16.6 +0.3**
ULN	**Ulaanbaatar**	**77.30 324**	⇓*e*P	**P**		**23 06 18.9 +1.7**
ULN			pmax	pmax		
	comp=Z,25nm,1.3s					
N18K	**Kilae Creek**	**77.35 19**	P	P		23 06 22.7 +5.8
	baz=220					
P19K	**Oil Pt**	**77.44 20**	P	P		23 06 22.7 +5.2
	baz=222					
SONM	**Songino Array**	**77.66 324**	P	**P**		**23 06 18.3 -0.8**
	comp=Z,13nm,1.3s,baz=133,slow=4.3,SNR=26					
SONM			LR	LR		23 38 35.4
	comp=Z,212nm,21.1s,baz=118,slow=34					
SONM	**Songino Array**	**77.66 324**	*e*P	**P**		**23 06 19.2 0.0**
SONM			pmax	pmax		
	comp=Z,13nm,1.3s					
SONM	**Songino Array**	**77.66 324**	P	**P**		**23 06 19.0 -0.2**
SONM			IAmb	IAmb		23 06 27.1
	comp=Z,23nm,1.4s					
SVW2	**Sparrevohn**	**77.77 18**	P	**P**		**23 06 19.4 +0.1**
N19K	**Bonanza Creek**	**77.89 19**	P	P		23 06 25.3 +5.2
	baz=221					
O20K	**Slope Mountain**	**77.96 20**	P	P		23 06 26.1 +5.6
	baz=223					
HOM	**Homer**	**77.99 21**	P	P		23 06 26.3 +5.8
	baz=224					
GTA	**Gaotai**	**78.02 314**	⇓P	**P**		**23 06 23.8 +2.4**
GTA			pP	PcP		23 06 28.6 -2.4
GTA			sP	pwP		23 06 32.3 +4.5
GTA			S	**S**		**23 16 16.6 +1.1**
GTA			sS	sS		23 16 24.3 +5.1
GTA			pmax	pmax		
	comp=Z,11nm,1.0s					
GTA			pmax	pmax		
	comp=Z,130nm,5.1s					
GTA			LR	LR		
	comp=Z,240nm,18.5s					
GTA			LR	LR		
	comp=Z,230nm,19.6s					
GTA			LR	LR		
	comp=Z,320nm,20.7s					
CNPM	**China Poot**	**78.04 21**	P	**P**		**23 06 20.1 -0.7**
ANM	**Nome**	**78.04 13**	P	P		23 06 26.6 +5.9
	baz=210					
RSO	**Redoubt South**	**78.20 20**	P	**P**		**23 06 21.8 -0.1**
BILL	**Bilibino**	**78.25 1**	*c i* P	P		23 06 27.3 +5.5
BILL			*i*			23 06 34.3
BILL			*i*			23 09 19.5
BILL			pmax	pmax		
	comp=Z,67nm,1.3s					
BILL	**Bilibino**	**78.25 1**	P	**P**		**23 06 22.5 +0.7**
BRLK	**Bradley Lake**	**78.34 21**	P	**P**		**23 06 21.8 -0.7**
BRLK			IAmb	IAmb		23 06 38.1
	comp=Z,26nm,1.2s					
BRSE	**Bradley Lake S**	**78.37 21**	P	P		23 06 28.8 +6.1
	baz=225					
TNA	**Tin City**	**78.40 11**	P	P		23 06 28.6 +5.9
	baz=207					
M19K	**Big River Lodg**	**78.75 18**	P	P		23 06 31.3 +6.5
	baz=221					
L19K	**White Mountain**	**78.82 18**	P	P		23 06 31.3 +6.2
	baz=220					
CAPN	**Captain Cook N**	**78.96 20**	P	P		23 06 31.2 +5.4
	baz=224					
SEW	**Seward**	**79.09 21**	P	P		23 06 32.9 +6.4
	baz=226					
M20K	**Styx River**	**79.13 19**	P	P		23 06 33.1 +6.2
	baz=222					
O22K	**Cooper Landing**	**79.26 21**	P	P		23 06 33.1 +5.7
	baz=226					
QSPA	**South Pole Qui**	**79.60 180**	LR	LR		23 37 35.8
	comp=Z,370nm,20.2s,baz=30,slow=32					
QSPA	**South Pole Qui**	**79.60 180**	P	**P**		**23 06 30.2 +0.7**
BOD	**Bodaibo**	**79.60 335**	*e*P	**P**		**23 06 29.8 +0.4**
BOD			pmax	pmax		
	comp=Z,25nm,1.6s					
SUA	**Susitna One**	**79.60 20**	P	P		23 06 34.5 +5.0
	baz=224					
SUA	**Susitna One**	**79.60 20**	P	**P**		**23 06 28.6 -0.9**
RC01	**Rabbit Creek A**	**79.68 21**	P	P		23 06 35.5 +5.7
	baz=226					
RC01	**Rabbit Creek A**	**79.68 21**	P	**P**		**23 06 27.8 -2.0**
RC01			IAmb	IAmb		23 06 53.1
	comp=Z,47nm,1.4s					
SKT	**Skwentna**	**79.72 19**	P	P		23 06 35.5 +5.5
	baz=224					
K20K	**Telida**	**79.95 17**	P	P		23 06 37.3 +6.1
	baz=221,SNR=11					
PWL	**Port Wells**	**80.01 21**	P	**P**		**23 06 30.7 -0.9**
PPLA	**Purkeypile**	**80.18 18**	P	P		23 06 37.4 +4.7
	baz=223					
PPLA	**Purkeypile**	**80.18 18**	P	**P**		**23 06 30.7 -1.9**
KNK	**Knik Glacier**	**80.35 21**	P	P		23 06 38.4 +5.0
	baz=227					
CUT	**Chulitna**	**80.43 19**	P	P		23 06 39.6 +5.8
	baz=225					
CUT	**Chulitna**	**80.43 19**	P	**P**		**23 06 32.4 -1.4**
GHO	**Glory Hole Cre**	**80.44 20**	P	**P**		**23 06 32.5 -1.5**
GHO			IAmb	IAmb		23 06 42.6
	comp=Z,54nm,1.5s					
GLI	**Glacier Island**	**80.47 22**	P	P		23 06 39.9 +5.8
	baz=228					
GLI	**Glacier Island**	**80.47 22**	P	**P**		**23 06 32.5 -1.6**
J20K	**Nowinta River**	**80.55 17**	P	P		23 06 40.8 +6.3
	baz=221,SNR=9.1					
FID	**Port Fidalgo**	**80.61 22**	P	**P**		**23 06 33.3 -1.5**
SML	**Sawmill**	**80.67 21**	P	P		23 06 40.0 +4.8
	baz=227					
ZAK	**Zakamensk**	**80.71 325**	*e*P	**P**		**23 06 33.4 -2.3**
ZAK			pmax	pmax		
	comp=Z,14nm,1.6s					
EYAK	**Cordova Ski Ar**	**80.75 22**	P	P		23 06 40.2 +4.7
	baz=229					
KAIM	**Kayak Island**	**80.85 23**	P	P		23 06 41.8 +5.7
	baz=231					
CHUM	**Lake Minchumin**	**80.87 18**	P	P		23 06 41.5 +5.4
	baz=223					
RAGM	**Ragged Mountai**	**81.05 23**	P	**P**		**23 06 35.7 -1.5**
KTH	**Kantishna Hill**	**81.05 18**	P	**P**		**23 06 36.5 -0.7**
KTH			IAmb	IAmb		23 06 43.3
	comp=Z,37nm,1.3s					
IRK	**Irkutsk**	**81.07 327**	*e*P	**P**		**23 06 37.8 +0.3**
IRK			pmax	pmax		
	comp=Z,25nm,2.6s					
TRF	**Thorofare Moun**	**81.17 19**	P	P		23 06 43.0 +5.0
	baz=225					
TRF	**Thorofare Moun**	**81.17 19**	P	**P**		**23 06 34.8 -3.2**
WAT1	**Susitna Watana**	**81.30 20**	P	P		23 06 43.7 +5.2
	baz=226					
KLU	**Klutina**	**81.30 22**	P	P		23 06 44.8 +6.1
	baz=229,SNR=6.3					
KLU	**Klutina**	**81.30 22**	P	**P**		**23 06 37.2 -1.4**
KLU			IAmb	IAmb		23 06 45.9
	comp=Z,32nm,1.3s					
WAT6	**Susitna Watana**	**81.40 20**	P	P		23 06 44.7 +5.5
	baz=227,SNR=7.0					
BPAW	**Bear Paw Mtn.**	**81.43 18**	P	P		23 06 44.9 +5.8
	baz=224,SNR=7.6					
BPAW	**Bear Paw Mtn.**	**81.43 18**	P	**P**		**23 06 37.4 -1.8**
BMRM	**Bremner River**	**81.45 22**	P	P		23 06 45.0 +5.7
	baz=230,SNR=10					
BMRM	**Bremner River**	**81.45 22**	P	**P**		**23 06 37.1 -2.2**
RDOG	**Red Dog Mine**	**81.56 12**	P	P		23 06 47.2 +7.4
	baz=212,SNR=5.9					
RND	**Reindeer**	**81.60 19**	P	**P**		**23 06 39.0 -1.2**
RND			pmax	pmax		
	comp=Z,28nm,0.9s					
RND	**Reindeer**	**81.60 19**	P	**P**		**23 06 39.0 -1.2**
RND			IAmb	IAmb		23 06 47.6
	comp=Z,28nm,0.9s					
WAX	**Waxell Ridge**	**81.79 23**	P	**P**		**23 06 39.2 -2.0**
MCK	**McKinley**	**81.80 19**	P	**P**		**23 06 39.8 -1.4**
MCK			pmax	pmax		
	comp=Z,53nm,1.3s					
MCK	**McKinley**	**81.80 19**	P	P		23 06 46.4 +5.2
	baz=226,SNR=7.3					
MCK	**McKinley**	**81.80 19**	P	**P**		**23 06 39.8 -1.4**
MCK			IAmb	IAmb		23 06 48.4
	comp=Z,53nm,1.3s					
N25K	**Chitina, Valde**	**81.86 22**	P	P		23 06 47.6 +6.1
	baz=230,SNR=10					
N25K	**Chitina, Valde**	**81.86 22**	P	**P**		**23 06 38.8 -2.8**
CRQM	**Cirque**	**81.87 23**	P	**P**		**23 06 40.4 -1.4**
CRQE	**Cirque**	**81.88 23**	P	P		23 06 47.8 +6.0
	baz=232,SNR=7.3					
I21K	**Tanana**	**81.92 17**	P	P		23 06 47.9 +6.3
	baz=223,SNR=9.6					
BWN	**Browne**	**81.95 18**	P	**P**		**23 06 40.5 -1.3**
BWN			IAmb	IAmb		23 06 48.5
	comp=Z,51nm,1.2s					
MESA	**MESA**	**81.98 24**	P	P		23 06 48.1 +5.7
	baz=233					
TGL	**Tana Glacier**	**81.99 23**	P	**P**		**23 06 41.3 -1.0**
IMAR	**Indian Mountai**	**82.03 16**	P	**P**		**23 06 40.8 -1.4**
VRDI	**Verde Repeater**	**82.05 23**	P	**P**		**23 06 40.9 -1.8**
GLB	**Gilahina Butte**	**82.05 22**	P	**P**		**23 06 40.5 -2.0**
ISLE	**Juniper Island**	**82.08 23**	P	**P**		**23 06 41.0 -1.8**
HARP	**HAARP**	**82.17 21**	P	P		23 06 48.6 +5.5
	baz=230					
MLY	**Manley**	**82.17 17**	P	P		23 06 48.7 +5.6
	baz=224,SNR=11					
MLY	**Manley**	**82.17 17**	P	**P**		**23 06 41.2 -1.9**
MLY			IAmb	IAmb		23 06 50.0
	comp=Z,24nm,1.3s					
MCARA	**McCarthy VSAT**	**82.31 23**	P	P		23 06 49.3 +5.5
	baz=232					
NEA2	**Nenana**	**82.36 18**	P	P		23 06 48.6 +4.6
	baz=226,SNR=7.8					
NEA2	**Nenana**	**82.36 18**	P	**P**		**23 06 42.6 -1.5**
PAX	**Paxson**	**82.44 21**	P	**P**		**23 06 43.3 -1.3**
PAX			pmax	pmax		
	comp=Z,20nm,1.4s					
PAX	**Paxson**	**82.44 21**	P	P		23 06 50.0 +5.4
	baz=229					
PAX	**Paxson**	**82.44 21**	P	**P**		**23 06 43.3 -1.3**
TABL	**Table Mountain**	**82.46 24**	P	**P**		**23 06 43.4 -1.5**
WRH	**Wood River Hil**	**82.59 19**	P	**P**		**23 06 43.1 -2.1**
WRH			IAmb	IAmb		23 06 52.3
	comp=Z,38nm,1.4s					
PINM	**Pinnacle**	**82.61 24**	P	P		23 06 51.1 +5.6
	baz=234					
BARN	**Barnard Glacie**	**82.63 23**	P	**P**		**23 06 44.3 -1.5**
I23K	**Minto, Yukon-K**	**82.67 18**	P	P		23 06 50.8 +5.2
	baz=225					
I23K	**Minto, Yukon-K**	**82.67 18**	P	**P**		**23 06 44.1 -1.4**
CTG	**Chitna Glacier**	**82.69 23**	P	P		23 06 52.1 +6.0
	baz=233,SNR=7.7					
CTGM	**Chitina Glacie**	**82.70 23**	P	**P**		**23 06 43.9 -2.2**
LOGN	**Logan Glacier**	**82.74 24**	P	**P**		**23 06 44.7 -1.6**
LOGN			IAmb	IAmb		23 06 53.7
	comp=Z,42nm,1.2s					
BCPM	**Bancas Point**	**82.78 25**	P	**P**		**23 06 45.0 -1.3**
CCB	**Clear Creek Bu**	**82.80 19**	P	**P**		**23 06 44.7 -1.6**
HDA	**Harding Lake**	**82.91 19**	P	P		23 06 52.4 +5.5
	baz=228,SNR=10					
COLA	**College**	**82.94 18**	*i* P	**P**		**23 06 50.5 +3.5**
COLA			pmax	pmax		
	comp=Z,20nm,1.1s					
M26K	**Nabesna, AK**	**82.95 22**	P	P		23 06 53.1 +5.9

baz=232,SNR=7.8
MENT Mentasta 83.03 21 P P 23 06 46.5 -1.1
MENT IAmb IAmb 23 06 55.1
comp=Z,24nm,1.2s
H23K Yukon River 83.09 17 P P 23 06 53.6 +5.8
baz=225,SNR=9.4
RIDG Independent Ri 83.15 20 P P 23 06 53.9 +5.6
baz=230,SNR=8.1
ILAR Eielson Array 83.17 19 P P 23 06 47.6 -0.6
comp=Z,3.9nm,1.0s,baz=228,slow=5.1,SNR=13
ILAR LR LR 23 37 37.1
comp=Z,411nm,21.4s,baz=260,slow=31
L26K Log Cabin Wild 83.22 21 P P 23 06 54.2 +5.7
baz=231,SNR=5.1
POKR Poker Plat Res 83.23 18 P P 23 06 53.2 +4.7
baz=227,SNR=6.1
POKR Poker Plat Res 83.23 18 P P 23 06 46.6 -2.0
POKR IAmb IAmb 23 06 56.2
comp=Z,19nm,1.0s
M27K Edge Creek, AK 83.33 22 P P 23 06 55.4 +6.1
baz=233,SNR=9.2
CRAG Craig 83.35 30 P P 23 06 55.0 +5.7
baz=241
O02D Mt. Diablo Mer 83.46 47 P P 23 06 55.6 +5.2
baz=251
L02E Cave Junction 83.56 45 P P 23 06 56.1 +5.3
baz=250
H24K Noodor Dome 83.59 18 P P 23 06 56.6 +6.1
baz=227,SNR=6.4
SCRK Sand Creek 83.60 20 P P 23 06 56.7 +6.1
baz=231,SNR=9.4
J01E Myrtle Point 83.67 44 P P 23 06 56.5 +5.2
baz=250
K02D Willamette Mer 83.70 45 P P 23 06 56.9 +5.4
baz=250
WDC Whiskeytown Da 83.78 47 P P 23 06 50.7 -1.2
WDC pmax pmax
comp=Z,23nm,1.4s
WDC Whiskeytown Da 83.78 47 P P 23 06 50.7 -1.2
WDC IAmb IAmb 23 07 00.2
comp=Z,23nm,1.4s
L27K Beaver Creek, 83.78 22 P P 23 06 57.8 +6.3
baz=233,SNR=15
L27K Beaver Creek, 83.78 22 P P 23 06 50.1 -1.4
N02D Trinity Center 83.79 47 P P 23 06 57.5 +5.5
baz=251
BCAR Beaver Creek A 83.80 22 P P 23 06 51.3 -0.3
M02C Callahan 83.82 46 P P 23 06 58.2 +6.0
baz=251,SNR=5.5
SNCC San Nicolas Is 83.83 55 P P 23 06 57.7 +5.4
baz=254
YBH Yreka Blue Hor 84.04 46 P P 23 06 51.9 -1.4
YBH pmax pmax
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 84.04 46 P P 23 06 51.9 -1.4
YBH IAmb IAmb 23 07 01.6
comp=Z,20nm,1.1s
I02D Swisshome 84.06 43 P P 23 06 59.0 +5.8
baz=250
PKM Mcpherson Peak 84.07 53 P P 23 06 59.0 +5.3
baz=253
BESE Bessie Mountai 84.09 27 P P 23 06 52.0 -1.2
JIS Juneau Island 84.14 28 P P 23 06 50.6 -2.7
HYT Haines Junctio 84.15 25 P P 23 06 52.0 -1.5
HUMO Hull Mountain 84.16 45 P P 23 06 52.7 -1.1
HUMO IAmb IAmb 23 07 02.2
comp=Z,19nm,1.1s
WRAK Wrangell Islan 84.19 30 P P 23 06 59.4 +5.8
baz=242
ORV Oroville 84.20 48 P P 23 06 52.0 -2.1
ORV pmax pmax
comp=Z,18nm,1.3s
ORV Oroville 84.20 48 P P 23 06 52.0 -2.1
ORV IAmb IAmb 23 07 01.8
comp=Z,18nm,1.3s
O03E Paynes Creek 84.22 47 P P 23 06 59.3 +5.1
baz=251
I03D Drain, OR 84.26 44 P P 23 06 59.8 +5.5
baz=250
K27K Chicken 84.29 21 P P 23 06 53.1 -0.9
SKAG Skagway 84.33 26 P P 23 06 59.9 +5.7
baz=239
SKAG Skagway 84.33 26 P P 23 06 54.0 -0.2
AFDM Forest Hills D 84.40 49 P P 23 06 53.6 -1.6
AFDM IAmb IAmb 23 07 02.8
comp=Z,20nm,1.1s
L04D Klamath Falls 84.48 45 P P 23 07 00.9 +5.2
baz=251,SNR=6.4
CMB Columbia Colle 84.56 50 P P 23 06 54.7 -1.3
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 84.56 50 P P 23 06 54.7 -1.3
M04C Macdoel 84.67 46 P P 23 07 01.7 +5.1
baz=251,SNR=7.1
CIS Catalina Islan 84.76 55 P P 23 07 01.8 +4.7
baz=254
G03D McMinnville, O 84.84 42 P P 23 07 03.7 +6.5
baz=250
I04A Tendick Farm, 84.93 44 P P 23 07 03.0 +5.3
baz=251
FMP Fort Macarthur 84.94 55 P P 23 07 03.3 +5.4
baz=254
H04D Lebanon 84.95 43 P P 23 07 03.4 +5.6
baz=250
MAW Mawson 85.00 202 LR LR 23 40 01.0
comp=Z,214nm,20.7s,baz=78,slow=32
EGAK Eagle 85.06 20 P P 23 07 04.2 +6.3
baz=233,SNR=16
TOLK Toolik Lake Re 85.09 15 P P 23 07 04.0 +6.0
baz=225
TOLK Toolik Lake Re 85.09 15 P P 23 06 57.5 -0.5
TOLK IAmb IAmb 23 07 06.9
comp=Z,23nm,1.3s
E03A Lebam 85.11 41 P P 23 06 56.1 -2.4
BEKR Beckworth 85.13 48 P P 23 06 57.7 -1.3
BEKR IAmb IAmb 23 07 06.7
comp=Z,13nm,1.0s
WHY Whitehorse 85.15 25 P P 23 07 04.1 +5.6
baz=239
WHY Whitehorse 85.15 25 P P 23 06 57.4 -1.1
WHY IAmb IAmb 23 07 05.6
comp=Z,18nm,1.2s
DAWY Dawson 85.26 21 P P 23 06 58.6 -0.3
ISA Isabella, Lake 85.34 53 P P 23 06 58.9 -1.1
ISA pmax pmax
comp=Z,11nm,1.1s
ISA Isabella, Lake 85.34 53 P P 23 07 05.5 +5.5
baz=254
ISA Isabella, Lake 85.34 53 P P 23 06 58.9 -1.1
H04A Detroit Lake 85.38 43 P P 23 06 59.1 -0.9
H04A IAmb IAmb 23 07 07.5
comp=Z,24nm,1.4s
WAKR Walker 85.41 50 P P 23 06 58.5 -2.0
WAKR IAmb IAmb 23 07 08.7
comp=Z,28nm,1.4s
MDPB Devils Postpil 85.43 51 P P 23 06 58.0 -2.6
MDPB IAmb IAmb 23 07 07.9
comp=Z,17nm,1.1s
EDW2 Edwards Air Fo 85.50 54 P P 23 07 06.2 +5.4
baz=254
A21K Barrow 85.51 12 P P 23 07 05.6 +5.7
baz=218
J05D Fort Rock, OR 85.57 45 P P 23 07 06.6 +5.5
baz=252,SNR=7.5
BFSC Mount Baldy Ra 85.59 54 P P 23 07 06.4 +5.0
baz=254
K05A Summer Lake 85.64 45 P P 23 07 00.8 -0.7
K05A IAmb IAmb 23 07 09.7
comp=Z,33nm,1.2s
BMAR Burnt Mountain 85.64 17 P P 23 07 01.1 +0.4
YERR Yerington 85.70 49 P P 23 07 00.8 -1.1
D03D Eldon 85.75 40 P P 23 07 06.9 +5.2
baz=250
E04D Cinebar 85.75 41 P P 23 07 07.3 +5.6
baz=250
MOD Modoc Plateau 85.80 46 P P 23 07 01.9 -0.4
MOD IAmb IAmb 23 07 10.0
comp=Z,18nm,1.1s
PAHR Pah Rah Range 85.80 49 P P 23 07 01.0 -1.3
PAHR IAmb IAmb 23 07 10.2
comp=Z,25nm,1.2s
I05D Terrebonne, OR 85.84 44 P P 23 07 07.8 +5.5
baz=251
CWC Cottonwood Cre 85.86 52 P P 23 07 07.4 +4.7
baz=254
LRMC Laurel Mtn Rad 85.91 53 P P 23 07 07.7 +4.7
baz=254

PINE Pine Mountain 85.94 44 P P 23 06 59.5 -3.4
PINE IAmb IAmb 23 07 10.6
comp=Z,19nm,1.1s
RYN Ryan 86.13 50 P P 23 07 03.0 -1.0
G05D Wamic, OR 86.14 43 P P 23 07 09.4 +5.6
baz=251
MONP2 Monument Peak 86.24 56 P P 23 07 09.8 +5.1
baz=255
DLBC Dease Lake 86.24 29 LR LR 23 38 23.1
comp=Z,708nm,20.3s,baz=320,slow=31
DLBC Dease Lake 86.24 29 P P 23 07 03.2 -0.7
DLBC IAmb IAmb 23 07 12.1
comp=Z,28nm,1.3s
NVAR Mina Array Bea 86.24 50 P P 23 07 04.2 -0.4
comp=Z,0.5nm,0.6s,baz=229,slow=8.2,SNR=1.2
NVAR PP **PP 23 10 26.3 +0.7**
comp=Z,0.2nm,0.7s,baz=256,slow=14,SNR=1.6
NVAR LR LR 23 40 17.1
comp=Z,389nm,18.6s,baz=271,slow=32
NVAR Mina Array Bea 86.24 50 P P 23 07 04.5 -0.1
F05D White Salmon 86.26 42 P P 23 07 09.7 +5.4
baz=251
LON Longmire 86.31 41 P P 23 07 03.4 -1.2
LON pmax pmax
comp=Z,15nm,1.5s
LON Longmire 86.31 41 P P 23 07 03.4 -1.2
PFO Pinyon Flats O 86.39 55 LR LR 23 42 27.2
comp=Z,281nm,18.2s,baz=260,slow=33
PFO Pinyon Flats O 86.39 55 P P 23 07 03.2 -2.2
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 86.39 55 P P 23 07 10.1 +4.8
baz=255
PFO Pinyon Flats O 86.39 55 P P 23 07 03.2 -2.2
TPFO Pinon Flats 86.39 55 P P 23 07 10.0 +4.7
baz=255
A04D Lummi Island 86.40 39 P P 23 07 10.3 +5.4
baz=250
IKP In-Ko-Pah, Jac 86.43 56 P P 23 07 10.4 +4.9
baz=256
GSC Goldstone, Bar 86.55 53 P P 23 07 04.7 -1.4
GSC pmax pmax
comp=Z,20nm,1.5s
GSC Goldstone, Bar 86.55 53 P P 23 07 10.9 +4.8
baz=255
GSC Goldstone, Bar 86.55 53 P P 23 07 04.7 -1.4
GSC IAmb IAmb 23 07 14.1
comp=Z,20nm,1.5s
KVN Kaiserville 86.57 49 P P 23 07 05.2 -1.0
KVN pmax pmax
comp=Z,11nm,1.1s
KVN Kaiserville 86.57 49 P P 23 07 05.2 -1.0
B05A Bryant 86.63 40 P P 23 07 11.7 +5.7
baz=251
SWSC Sam W. Stewart 86.76 56 P P 23 07 12.1 +5.2
baz=256
HEC Hector,Ludlow 86.80 54 P P 23 07 12.5 +5.2
baz=255
FURC Furnace Creek, 86.81 52 P P 23 07 12.9 +5.7
baz=255
BELC Belle Mtn. Jos 86.86 55 P P 23 07 12.8 +5.1
baz=256
TPH Tonopah 86.96 51 P P 23 07 05.2 -2.9
TPH pmax pmax
comp=Z,37nm,1.1s
TPH Tonopah 86.96 51 P P 23 07 05.2 -2.9
I07A Izee 87.01 44 P P 23 07 06.5 -1.7
I07A IAmb IAmb 23 07 16.3
comp=Z,26nm,1.5s
WVOR Wild Horse Val 87.14 46 P P 23 07 07.6 -1.2
WVOR pmax pmax
comp=Z,22nm,1.2s
WVOR Wild Horse Val 87.14 46 P P 23 07 07.5 -1.2
WVOR IAmb IAmb 23 07 16.9
comp=Z,22nm,1.2s
LTY Liberty 87.21 41 P P 23 07 06.5 -2.5
TUQ Turquoise Moun 87.28 53 P P 23 07 14.8 +5.1
baz=255
GMRC Granite Mounta 87.33 54 P P 23 07 15.1 +5.2
baz=256
TPNV Topopah Spring 87.41 52 P P 23 07 09.3 -1.1
TPNV pmax pmax
comp=Z,8.0nm,1.2s
TPNV Topopah Spring 87.41 52 P P 23 07 15.2 +4.9
baz=255
TPNV Topopah Spring 87.41 52 P P 23 07 09.3 -1.1
EPYK Eagle Plains 87.49 20 P P 23 07 15.6 +5.7
baz=237
J08A Circle Bar Ran 87.52 45 P P 23 07 09.6 -1.0
J08A IAmb IAmb 23 07 18.5
comp=Z,28nm,1.3s
GLA Glamis 87.58 56 P P 23 07 14.9 +3.9
baz=256
IRM Iron Mountain 87.58 55 P P 23 07 15.7 +4.6
baz=256
HAWA Hanford 87.69 42 P P 23 07 09.6 -1.6
HAWA IAmb IAmb 23 07 19.3
comp=Z,27nm,1.4s
G08A Pilot Rock 87.74 43 P P 23 07 09.4 -2.3
G08A IAmb IAmb 23 07 19.4
comp=Z,17nm,1.2s
E08A Dider Farm, El 88.03 42 P P 23 07 12.2 -0.6
E08A IAmb IAmb 23 07 21.0
comp=Z,26nm,1.2s
WMQ Urumqi 88.06 315 *eP* P 23 07 17.6 +4.5
WMQ LR LR
comp=Z,250nm,15.1s
WMQ LR LR
comp=Z,230nm,23.9s
WMQ LR LR
comp=Z,230nm,23.1s
SHPR Sheep Range 88.15 53 P P 23 07 11.6 -2.2
NEE2 Needles Airpor 88.16 54 P P 23 07 19.1 +5.4
baz=256
R11A Troy Canyon, C 88.28 51 P P 23 07 19.0 +4.6
baz=256
D08A Wollman Farm, 88.29 42 P P 23 07 12.8 -1.2
D08A IAmb IAmb 23 07 22.1
comp=Z,17nm,1.3s
113A Mohawk Valley, 88.38 56 P P 23 07 12.5 -2.3
113A IAmb IAmb 23 07 24.2
comp=Z,20nm,1.5s
B08A Colville Reser 88.41 40 P P 23 07 13.5 -1.1
B08A IAmb IAmb 23 07 26.6
comp=Z,23nm,1.4s
PRN Pahroc Range 88.46 52 P P 23 07 12.5 -2.7
PRN IAmb IAmb 23 07 23.6
comp=Z,23nm,1.3s
BMO Blue Mountains 88.74 44 P P 23 07 14.4 -2.0
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO Blue Mountains 88.74 44 P P 23 07 14.3 -2.0
W13A Hualapai Mount 88.82 54 P P 23 07 16.4 -0.8
W13A IAmb IAmb 23 07 26.2
comp=Z,21nm,1.4s
214A Organ Pipe Nat 88.98 57 P P 23 07 21.5 +3.8
baz=257
214A Organ Pipe Nat 88.98 57 P P 23 07 15.1 -2.6
214A IAmb IAmb 23 07 26.6
comp=Z,28nm,1.3s
F10A Beach Ranch, E 89.10 43 P P 23 07 16.3 -1.7
F10A IAmb IAmb 23 07 26.9
comp=Z,26nm,1.4s
ELK Elko 89.14 48 P P 23 07 18.7 +0.2
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK Elko 89.14 48 P P 23 07 18.7 +0.2
MFID Camas Ranch 89.39 46 P P 23 07 17.4 -2.1
MFID IAmb IAmb 23 07 28.5
comp=Z,13nm,1.1s
SPR3 Spring Creek 3 89.39 50 P P 23 07 17.3 -2.5
SPR3 IAmb IAmb 23 07 28.0
comp=Z,24nm,1.4s
LPIG La Paz 89.49 66 LR LR 23 43 14.3
comp=Z,97nm,18.7s,baz=250,slow=33
INK Inuvik 89.56 19 P P 23 07 19.1 -0.4
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 89.56 19 P P 23 07 25.0 +5.5
baz=240
INK Inuvik 89.56 19 P P 23 07 19.1 -0.4
INK IAmb IAmb 23 07 27.7
comp=Z,17nm,1.4s
PSUT Pine Spring 89.64 51 P P 23 07 20.6 -0.3
PSUT IAmb IAmb 23 07 29.1
comp=Z,16nm,1.4s

LCMT Little Creek M 89.76 52 P P 23 07 19.2 -2.2
LCMT IAmb IAmb 23 07 29.8
comp=Z,20nm,1.2s
CCUT Cedar City 89.79 52 P P 23 07 20.1 -1.6
CCUT IAmb IAmb 23 07 30.3
comp=Z,20nm,1.2s
NEW Newport 89.80 41 P P 23 07 19.6 -1.6
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 89.80 41 P P 23 07 26.7 +5.5
baz=254
NEW Newport 89.80 41 P P 23 07 19.6 -1.6
DGZ Jazzator, Alta 89.88 321 *i* P **P 23 07 24.4 +2.7**
DGZ pmax pmax
comp=Z,7.0nm,1.1s
KNB Kanab 90.09 52 P P 23 07 21.4 -1.6
KNB pmax pmax
comp=Z,32nm,1.4s
KNB Kanab 90.09 52 P P 23 07 21.4 -1.6
KNB IAmb IAmb 23 07 31.6
comp=Z,32nm,1.4s
U15A North Rim 90.38 53 P P 23 07 23.0 -1.5
U15A IAmb IAmb 23 07 33.1
comp=Z,21nm,1.1s
HLID Hailey 90.42 46 P P 23 07 29.4 +5.0
baz=256
HLID Hailey 90.42 46 P P 23 07 22.9 -1.5
HLID IAmb IAmb 23 07 32.8
comp=Z,17nm,1.2s
PKCU Pink Cliffs 90.59 52 P P 23 07 24.9 -0.6
X16A Lo Mia Camp, P 90.63 55 P P 23 07 24.2 -1.4
TUC Tucson 90.73 57 P P 23 07 24.1 -1.9
TUC pmax pmax
comp=Z,7.0nm,1.2s
TUC Tucson 90.73 57 P P 23 07 30.5 +4.5
baz=258
TUC Tucson 90.73 57 P P 23 07 24.1 -1.9
TCRU Three Creeks R 90.73 51 P P 23 07 23.7 -2.4
TCRU IAmb IAmb 23 07 39.1
comp=Z,25nm,1.2s
DUG Dugway, Tooele 90.81 49 P P 23 07 25.5 -0.7
DUG pmax pmax
comp=Z,12nm,1.3s
DUG Dugway, Tooele 90.81 49 P P 23 07 30.8 +4.6
baz=257
DUG Dugway, Tooele 90.81 49 P P 23 07 25.4 -0.7
BGU Big Grassy Mou 90.81 49 P P 23 07 25.2 -1.1
BGU IAmb IAmb 23 07 34.3
comp=Z,18nm,1.2s
MTPU Mount Pierson 90.81 52 P P 23 07 25.9 -0.6
MTPU IAmb IAmb 23 07 35.6
comp=Z,17nm,1.1s
MVU Marysvale 90.89 51 P P 23 07 25.2 -1.6
WUAZ Wupatki 90.91 54 P P 23 07 30.9 +4.0
baz=258
WUAZ Wupatki 90.91 54 P P 23 07 25.9 -0.9
WUAZ IAmb IAmb 23 07 35.3
comp=Z,13nm,1.0s
MSU Marysvale 90.92 51 P P 23 07 26.3 -0.6
MSU Marysvale 90.92 51 P P 23 07 26.3 -0.6
HVU Hansel Valley 91.19 48 P P 23 07 27.2 -0.8
HVU pmax pmax
comp=Z,34nm,1.1s
HVU Hansel Valley 91.19 48 P P 23 07 27.2 -0.8
BCYI Bear Canyon 91.31 45 P P 23 07 28.1 -0.5
NLU North Lily Min 91.31 50 P P 23 07 28.2 -0.5
NLU IAmb IAmb 23 07 36.8
comp=Z,16nm,1.0s
SPUT South Promonto 91.32 48 P P 23 07 27.4 -1.2
SPUT IAmb IAmb 23 07 36.1
comp=Z,11nm,1.0s
MSO Missoula 91.52 43 P P 23 07 34.2 +4.9
baz=257
MPU Maple Canyon 91.65 50 P P 23 07 28.8 -1.4
MPU IAmb IAmb 23 07 39.3
comp=Z,18nm,1.2s
MCMT McKenzie Canyo 91.81 45 P P 23 07 29.6 -1.3
JLU Jordanelle 91.91 49 P P 23 07 29.4 -2.1
JLU IAmb IAmb 23 07 39.5
comp=Z,15nm,1.1s
HWUT Hardware Ranch 92.03 48 P P 23 07 30.3 -1.6
HWUT IAmb IAmb 23 07 39.5
comp=Z,12nm,1.0s
WALA Waterton Lakes 92.06 41 P P 23 07 29.9 -1.9
WALA IAmb IAmb 23 07 40.0
comp=Z,18nm,1.1s
DLMT Dillon 92.10 44 P P 23 07 29.2 -2.9
SYO Syowa Base 92.15 197⃰ *eP* **P 23 07 29.4 -2.3**
LRM Limekiln Ridge 92.30 44 P P 23 07 32.7 -0.5
SRU San Rafael Swe 92.31 51 P P 23 07 31.2 -2.1
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael Swe 92.31 51 P P 23 07 31.2 -2.1
MK31 Makanchi Array 92.49 317 P P 23 07 31.8 -1.9
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 92.49 317 P P 23 07 31.8 -1.9
MKAR Makanchi Array 92.49 317 P P 23 07 32.4 -1.3
comp=Z,2.5nm,0.9s,baz=98,slow=6.4,SNR=19
MKAR PP **PP 23 11 10.5 -4.6**
comp=Z,0.3nm,0.8s,baz=101,slow=7.5,SNR=2.5
MKAR LR LR 23 52 21.5
comp=Z,55nm,18.0s,baz=90,slow=38
MKAR Makanchi Array 92.49 317 P P 23 07 32.0 -1.7
MKAR Makanchi Array 92.49 317 P P 23 07 32.0 -1.7
ZAA0 Zalesovo Array 92.56 324 P P 23 07 31.1 -2.6
ZAA0 IAmb IAmb 23 07 40.6
comp=Z,11nm,1.2s
ZALV Zalesovo Beam 92.56 324 P P 23 07 31.4 -2.4
comp=Z,1.9nm,1.0s,baz=98,slow=4.5,SNR=8.9
ZALV LR LR 23 49 30.5
comp=Z,109nm,19.4s,baz=98,slow=36
ZALV Zalesovo Beam 92.56 324 *eP* **P 23 07 34.1 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,1.0s
ZALV Zalesovo Beam 92.56 324 P P 23 07 31.0 -2.7
MAKZ Makanchi 92.70 317 P P 23 07 30.2 -4.5
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 92.70 317 P P 23 07 30.2 -4.5
MAKZ IAmb IAmb 23 07 41.9
comp=Z,11nm,1.1s
QLMT Earthquake Lak 92.80 45 P P 23 07 34.7 -0.7
BOZ Bozeman (W) 92.81 44 P P 23 07 34.9 -0.5
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ Bozeman (W) 92.81 44 P P 23 07 38.9 +3.5
baz=258
BOZ Bozeman (W) 92.81 44 P P 23 07 34.9 -0.5
BOZ IAmb IAmb 23 07 43.6
comp=Z,20nm,1.2s
TPAW Teton Pass 92.86 46 P P 23 07 34.6 -1.2
REDW Red Top Meadow 92.91 47 P P 23 07 33.9 -2.1
REDW IAmb IAmb 23 07 44.2
comp=Z,17nm,1.3s
HRY Holter Researc 92.91 43 P P 23 07 34.9 -0.9
IMW Indian Meadow 92.95 46 P P 23 07 33.1 -3.1
IMW IAmb IAmb 23 07 44.5
comp=Z,11nm,1.1s
C36M Paulatuk 93.11 20 P P 23 07 40.5 +4.6
baz=249
LOHW Long Hollow 93.14 46 P P 23 07 34.9 -2.1
LOHW IAmb IAmb 23 07 45.0
comp=Z,11nm,1.2s
YHH Holmes Hill 93.19 45 P P 23 07 35.5 -1.8
121A Cookes Peak, D 93.27 58 P P 23 07 42.0 +4.2
baz=260
RDMU Red Mountain 93.31 50 P P 23 07 35.1 -2.8
RDMU IAmb IAmb 23 07 45.8
comp=Z,13nm,1.2s
EDM Edmonton 93.35 37 P P 23 07 35.6 -1.9
EDM pmax pmax
comp=Z,19nm,1.1s
EDM Edmonton 93.35 37 P P 23 07 35.6 -1.9
EDM IAmb IAmb 23 07 44.7
comp=Z,19nm,1.1s
BW06 Boulder Array 93.72 47 P P 23 07 43.7 +4.0
baz=260
BW06 Boulder Array 93.72 47 P P 23 07 37.4 -2.4
PD31 Pinedale Array 93.72 47 P P 23 07 38.2 -1.6
PDAR Pinedale Array 93.72 47 P P 23 07 39.1 -0.7
comp=Z,0.7nm,0.8s,baz=162,slow=1.4,SNR=2.8
PDAR LR LR 23 43 38.4
comp=Z,209nm,20.9s,baz=274,slow=32
PDAR Pinedale Array 93.72 47 P P 23 07 38.2 -1.6

YNE	**Yellowstone No**	**93.82**	**45**	P	**P**	**23 07 38.0**	**-2.1**
YNE				IAmb	IAmb	23 07 48.6	
	comp=Z,12nm,1.2s						
O20A	**White River Ci**	**94.23**	**50**	P	P	23 07 46.9	+4.8
	baz=260						
RLMT	**Red Lodge**	**94.36**	**45**	P	P	23 07 47.4	+4.8
	baz=260						
EGMT	**Eagleton**	**94.55**	**42**	P	P	23 07 48.1	+4.9
	baz=260						
EGMT	**Eagleton**	**94.55**	**42**	P	**P**	**23 07 39.7**	**-3.5**
ANMO	**Albuquerque**	**94.76**	**55**	P	**P**	**23 07 40.5**	**-4.2**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	**Albuquerque**	**94.76**	**55**	P	P	23 07 49.4	+4.8
	baz=261						
ANMO	**Albuquerque**	**94.76**	**55**	P	**P**	**23 07 40.5**	**-4.2**
YKA	**Yellowknife Ar**	**94.78**	**27**	P	**P**	**23 07 43.8**	**0.0**
	comp=Z,4.0nm,1.1s,baz=267,slow=15,SNR=5.3						
YKA				LR	LR	23 43 09.3	
	comp=Z,466nm,21.5s,baz=0.0,slow=31						
YKA	**Yellowknife Ar**	**94.78**	**27**	*e*P	P	23 07 48.5	+4.7
YKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MNTX	**Cornudas Mount**	**95.14**	**59**	P	P	23 07 50.7	+4.5
	baz=261						
NRIK	**Noril'sk**	**95.24**	**340**	P	**P**	**23 07 45.6**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=134,slow=8.4,SNR=2.0						
NRIK				PP	**PP**	**23 11 37.5**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=123,slow=4.6,SNR=5.0						
NRIK				LR	LR	23 47 21.2	
	comp=Z,201nm,21.9s,baz=106,slow=34						
NRIK	**Noril'sk**	**95.24**	**340**	*e*P	P	23 07 50.5	+4.7
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NRIK	**Noril'sk**	**95.24**	**340**	P	**P**	**23 07 42.8**	**-3.0**
NRIK				IAmb	IAmb	23 07 52.7	
	comp=Z,16nm,1.4s						
KSH	**Kashi**	**95.71**	**309**	P	P	23 07 53.6	+4.8
KSH				pP	pwP	23 07 59.6	+4.4
KSH				pmax	pmax		
	comp=Z,84nm,4.5s						
KSH				LR	LR		
	comp=Z,140nm,7.6s						
KSH				LR	LR		
	comp=Z,210nm,16.3s						
KSH				LR	LR		
	comp=Z,160nm,11.6s						
TXAR	**Lajitas Array**	**96.25**	**61**	P	**P**	**23 07 52.5**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=232,slow=5.3,SNR=2.0						
TXAR				LR	LR	23 47 19.5	
	comp=Z,113nm,18.1s,baz=0.0,slow=33						
MAK	**Makhachkala**	**117.01**	**313**	*i* P	**Pdif**	**23 09 24.4**	**+0.9**
MAK				*i*		23 13 04.7	
MAK				*e*PPP	PPP	23 16 44.3	
MAK				*e*PS	**PKKPdf**	**23 24 00.7**	**-0.6**
OBN	**Obninsk**	**119.83**	**329**	*i* PKIKP	**PKiKP**	**23 13 15.5**	**+2.8**
OBN				*i*		23 14 39.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**120.19**	**315**	*i* PKIKP	**PKiKP**	**23 13 17.2**	**+3.2**
KIV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,125nm,21.0s						
GURO	**Guroymak-BITLI**	**122.01**	**309**	PKPdf	**PKPdf**	**23 13 13.4**	**-4.2**
SOC	**Sochi**	**122.36**	**315**	*i* PKIKP	**PKiKP**	**23 13 19.9**	**+1.8**
SOC				*e*		23 14 55.2	
SOC				*e*PPP	PPP	23 17 24.6	
SOC				MLR	MLR		
	comp=Z,176nm,22.0s						
MNK	**Minsk**	**124.44**	**331**	*i* PKIKP	**PKiKP**	**23 13 24.4**	**+2.5**
MNK				*i*		23 15 09.3	
MNK				*i* PPP	PPP	23 17 47.8	
MNK				*i* PS	PS	23 25 07.8	+1.2
MNK				*i* SS	SS	23 32 16.7	+17
MNK				*i* SSS	SSS	23 36 37.1	
MNK				pmax	pmax		
	comp=E,1.0nm,1.3s						
MNK				pmax	pmax		
	comp=N,5.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MNK				MLR	MLR		
	comp=E,6.0nm,20.0s						
MNK				MLR	MLR		
	comp=Z,149nm,18.0s						
MNK				MLR	MLR		
	comp=N,189nm,21.0s						
MNK	**Minsk**	**124.44**	**331**	*i* PKP	**PKiKP**	**23 13 24.4**	**+2.6**
	comp=E,1.0nm,1.2s						
MNK				*i* PKP	**PKiKP**	**23 13 24.4**	**+2.6**
	comp=N,5.0nm,1.0s						
MNK				*i* PKP	**PKiKP**	**23 13 24.4**	**+2.6**
	comp=Z,6.0nm,1.1s,baz=233						
MNK				*i* PP	**PP**	**23 15 09.4**	**+2.2**
MNK				*i* SKS		23 16 59.8	
MNK				*i* PPP	PPP	23 17 47.9	
MNK				*i* SKS	**SKSdf**	**23 20 36.3**	**+2.8**
MNK				*i* PS	**PS**	**23 25 07.9**	**+1.2**
MNK				*i* SKKS	**SKKSdf**	**23 30 55.0**	**-5.4**
MNK				*i* SS	SS	23 32 16.8	+17
MNK				*i* SSS	SSS	23 36 37.1	
MNK				*i* LQ	LQ	23 59 17.1	
AKASG	**Malin Array Be**	**125.88**	**327**	PKP	**PKiKP**	**23 13 24.4**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=63,slow=2.0,SNR=6.2						
AKASG	**Malin Array Be**	**125.88**	**327**	*e*PKIKP	**PKiKP**	**23 13 26.8**	**+2.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**125.88**	**327**		**PKiKP**	**23 13 24.2**	**-0.6**
BRTR	**Keskin Array B**	**127.92**	**313**	PKP	**PKPdf**	**23 13 26.9**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=58,slow=3.6,SNR=2.6						
BRTR	**Keskin Array B**	**127.92**	**313**	PKIKP	**PKPdf**	**23 13 27.1**	**-1.8**
BRTR	**Keskin Array B**	**127.92**	**313**		**PKPdf**	**23 13 27.1**	**-1.8**
MMAI	**Mount Meron Ar**	**128.54**	**304**	PKP	**PKPdf**	**23 13 29.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=99,slow=7.6,SNR=1.1						
EIL	**Elat**	**129.66**	**300**	PKP	**PKiKP**	**23 13 34.1**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=98,slow=14,SNR=1.5						
KOLS	**Kolonicke sedl**	**130.58**	**328**	*e*PKIKP	**PKiKP**	**23 13 36.7**	**+2.3**
KOLS	**Kolonicke sedl**	**130.58**	**328**	*e*PKP	**PKiKP**	**23 13 36.7**	**+2.3**
UZH	**Uzhgorod**	**130.75**	**328**	*e*PKIKP	**PKiKP**	**23 13 40.7**	**+6.0**
MORC	**Moravsky Berou**	**132.35**	**332**	*e*PKP	**PKiKP**	**23 13 39.4**	**+1.4**
VRAC	**Vranov**	**133.12**	**332**	*e*PKP	**PKiKP**	**23 13 40.6**	**+1.1**
BRG	**Berggiesshubel**	**133.14**	**335**	*e*PKP	PKiKP	23 13 46.8	+7.4
BRG				Amp		23 13 50.9	
	comp=Z,8.2nm,1.4s						
CLL	**Collm**	**133.19**	**336**	*e*pPKiKP	**PKiKP**	**23 13 42.0**	**+2.5**
CLL				*e*PSKS		23 26 12.0	
CLL				*e*		23 27 30.0	
CLL				*e*SS	SS	23 33 46.0	-1.3
CLL				*e*		23 35 19.0	
CLL				*e*SSS	SSS	23 38 44.0	
CLL				*e*SSSS		23 42 29.0	
CLL	**Collm**	**133.19**	**336**	*e*PKIKP	**PKiKP**	**23 13 42.0**	**+2.5**
KRUC	**Moravsky**	**133.39**	**332**	*e*PKP	**PKiKP**	**23 13 41.0**	**+1.0**
MODS	**Modra-Piesok**	**133.45**	**331**	*e*PKIKP	**PKiKP**	**23 13 44.0**	**+3.8**
MODS	**Modra-Piesok**	**133.45**	**331**	*e*PKP	**PKiKP**	**23 13 44.0**	**+3.8**
CONA	**Conrad Observa**	**134.44**	**331**	*e*P	**PKiKP**	**23 13 48.6**	**+6.3**
	comp=Z,3.5nm,1.1s						
KHC	**Kasperske Hory**	**134.60**	**334**	*e*PKIKP	**PKiKP**	**23 13 43.8**	**+1.3**
KHC	**Kasperske Hory**	**134.60**	**334**	*e*PKP	**PKiKP**	**23 13 43.8**	**+1.3**
GERES	**GERESS Array B**	**134.76**	**333**	PKP	**PKiKP**	**23 13 43.0**	**0.0**
	comp=Z,1.7nm,0.9s,baz=31,slow=3.1,SNR=8.2						
GERES	**GERESS Array B**	**134.76**	**333**	*e*PKIKP	**PKiKP**	**23 13 46.8**	**+3.9**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FNA	**Florina**	**135.84**	**320**	PKIKP	**PKPdf**	**23 13 43.2**	**-0.6**
FNA	**Florina**	**135.84**	**320**	PKPdf	**PKPdf**	**23 13 43.1**	**-0.6**
WATA	**Walderalm**	**136.84**	**333**	*e*P	**PKiKP**	**23 13 52.7**	**+5.4**
	comp=Z,5.7nm,1.2s						
WTTA	**Wattenberg**	**136.87**	**333**	*e*P	**PKiKP**	**23 13 53.2**	**+5.9**
	comp=Z,5.3nm,1.2s						
MOTA	**Moosalm**	**137.04**	**334**	*e*P	**PKiKP**	**23 13 52.1**	**+4.4**
	comp=Z,4.4nm,1.3s						
FETA	**Feichten**	**137.45**	**334**	*e*P	**PKiKP**	**23 13 54.9**	**+6.3**
	comp=Z,5.4nm,1.0s						
TUE	**Stuetta**	**138.47**	**334**		**PKPdf**	**23 13 47.7**	**-0.9**
KEST	**Kesra**	**146.41**	**323**	PKPbc	**PKPbc**	**23 14 03.1**	**-1.0**
	comp=Z,7.0nm,1.0s,baz=360,slow=6.7,SNR=4.7						
KEST	**Kesra**	**146.41**	**323**	PKPdf	**PKPab**	**23 14 04.0**	**-0.9**
PGAV	**Gavieira, Arco**	**147.99**	**350**	*e*LR	LR	00 12 14.4	
	comp=Z,157nm,20.0s						
PCAB	**Cabril**	**148.20**	**350**	*e*PKP	**PKPab**	**23 14 10.7**	**-1.0**
POLO	**Lamas de Olo**	**148.49**	**349**	*e*PKP	**PKPab**	**23 14 16.6**	**+3.7**
MVO	**Moncorvo**	**148.54**	**348**	*e*PKP	**PKPab**	**23 14 17.4**	**+4.3**
MVO	**Moncorvo**	**148.54**	**348**	*e*LR	LR	00 13 30.9	
	comp=Z,160nm,20.0s						
PVRL	**Vila Real**	**148.57**	**349**	*e*PKP	**PKPab**	**23 14 12.5**	**-0.7**
PVIS	**Viseu**	**149.14**	**349**	*e*PKP	**PKPab**	**23 14 18.6**	**+3.1**
ESBB	**Sonseca Array**	**149.21**	**343**		**PKPab**	**23 14 18.6**	**+2.8**
ESDC	**Sonseca Array**	**149.21**	**343**	PKPbc	**PKPbc**	**23 14 11.3**	**-0.2**
	comp=Z,0.6nm,1.1s,baz=29,slow=2.9,SNR=6.7						
ESDC	**Sonseca Array**	**149.21**	**343**		**PKiKP**	**23 14 13.4**	**+0.6**
MTE	**Manteigas**	**149.38**	**349**	*e*PKP	**PKPab**	**23 14 19.0**	**+2.5**
MTE	**Manteigas**	**149.38**	**349**	*e*LR	LR	00 13 05.3	
	comp=Z,168nm,22.0s						
MTE	**Manteigas**	**149.38**	**349**	PKPab	**PKPab**	**23 14 17.2**	**+0.7**
PAB	**San Pablo**	**149.44**	**344**	PKP2	**PKPab**	**23 14 19.0**	**+2.2**
PAB	**San Pablo**	**149.44**	**344**	PKPab	**PKPab**	**23 14 19.0**	**+2.2**
PCBR	**Castelo Branco**	**149.91**	**348**	*e*PKP	**PKPab**	**23 14 18.9**	**+0.3**
PMRV	**Marv??o**	**150.29**	**348**	*e*PKP	**PKPab**	**23 14 21.2**	**+1.0**
PMRV	**Marv??o**	**150.29**	**348**	*e*LR	LR	00 13 40.7	
	comp=Z,218nm,20.0s						
PMTG	**Montargil**	**150.80**	**349**	*e*PKP	**PKPab**	**23 14 21.5**	**-0.8**
PBAR	**Barrancos**	**151.42**	**347**	*e*PKP	**PKPab**	**23 14 22.3**	**-2.6**
PBEJ	**Beja**	**151.74**	**348**	*e*PKP	**PKPab**	**23 14 25.3**	**-0.9**
PCVE	**Castro Verde**	**152.15**	**348**	*e*PKP	**PKPab**	**23 14 25.8**	**-2.2**
PVAQ	**Vaqueiros**	**152.31**	**347**	*e*LR	LR	00 12 47.1	
	comp=Z,152nm,20.0s						
TORD	**Torodi Ar. Bea**	**163.34**	**281**	PKP	**PKPdf**	**23 14 27.2**	**+0.9**
	comp=Z,1.1nm,1.2s,baz=355,slow=3.0,SNR=2.4						
TORD				PKPab	**PKPab**	**23 15 17.4**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=72,slow=4.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**163.34**	**281**	PKPdf	**PKPdf**	**23 14 27.0**	**+0.7**
TORD				PKPab	**pPKPab**	**23 15 17.7**	**-1.6**

IDC 23 23:13:01.7±3.3, 11°.10S×165°.56E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/32, mbtmp3.8/6, MS3.7/2, Ms1 3.7/2, ms1mx3.2/31, Error ellipse: s-maj=103.7km s-min=30.5km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.76**	**286**	LR	LR	23 16 32.3	
	comp=Z,370nm,18.4s,baz=34,slow=36						
H11S2	**WAKE ISLAND Hy 29.43**	**2**		T	T	23 49 01.9	
	baz=184,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy 29.43**	**2**		T	T	23 49 01.6	
	baz=184,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy 29.44**	**2**		T	T	23 49 02.3	
	baz=184,slow=76,SNR=35						
STKA	**Stephens Creek**	**30.27**	**223**	LR	LR	23 30 16.0	
	comp=Z,226nm,19.4s,baz=21,slow=34						
H11N1	**WAKE ISLAND Hy 30.65**	**2**		T	T	23 50 21.2	
	baz=183,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy 30.65**	**2**		T	T	23 50 25.7	
	baz=183,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy 30.67**	**2**		T	T	23 50 22.7	
	baz=183,slow=76,SNR=23						
WRA	**Warramunga Arr**	**31.29**	**250**	P	P	23 19 22.9	-0.9
	1.2nm,0.8s,baz=76,slow=9.3,SNR=8.0						
ASAR	**Alice Springs**	**32.60**	**243**	P	P	23 19 36.0	+0.7
	0.3nm,0.7s,baz=66,slow=9.3,SNR=1.7						
USRK	**Ussuriysk Ar.**	**62.91**	**333**	P	P	23 23 29.2	-0.6
	1.2nm,0.7s,baz=134,slow=7.9,SNR=5.1						
SONM	**Songino Array**	**78.60**	**324**	P	P	23 25 06.1	+0.6
	0.4nm,0.7s,baz=106,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**83.62**	**19**	P	P	23 25 31.4	-0.4
	1.0nm,0.8s,baz=244,slow=5.0,SNR=4.8						
MKAR	**Makanchi Array**	**93.44**	**317**	P	P	23 26 20.0	+0.8
	1.0nm,1.0s,baz=90,slow=6.1,SNR=7.0						

*IDC **23** 23:23:13.4±0.6, 28°.72S×66°.47E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/41, mbtmp4.2/14, Error ellipse: s-maj=24.2km s-min=15.8km az=91.0*
*NEIC **23** 23:23:14.9±1.4, 28°.7S±0°.1×66°.46E±0°.06, h10km±1km, mb4.4/12, Error ellipse: s-maj=19.2km s-min=5.9km az=201.0*

ISC 23 23:23:14.7±0.5, 28°.70S±0°.09×66°.5E±0°.1, h10km, n36, σ0°.84/30, mb4.2/17, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**12.98**	**137**	Pn	**Pn**	**23 26 19.2**	**-0.1**
ABPO	**Ambohimpanom**	**20.03**	**295**	P	**P**	**23 27 47.6**	**-0.5**
CRZF	**Crozet Islands**	**21.09**	**209**	P	**P**	**23 27 58.9**	**-0.3**
H08S1	**Diego Carcia H**	**21.69**	**16**	T	T	23 50 23.8	
	baz=196,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**21.70**	**16**	T	T	23 50 24.0	
	baz=196,slow=76,SNR=20						
H08S3	**Diego Garcia H**	**21.71**	**16**	T	T	23 50 26.6	
	baz=196,slow=76,SNR=16						
MAW	**Mawson**	**38.99**	**182**	P	**P**	**23 30 41.3**	**+0.4**
	4.0nm,0.5s,baz=351,slow=9.6,SNR=6.6						
MAW	**Mawson**	**38.99**	**182**	P	**P**	**23 30 40.9**	**0.0**
H01W2	**Cape Leeuwin H**	**40.69**	**111**	T	T	00 14 10.6	
	baz=265,slow=75,SNR=18						
H01W3	**Cape Leeuwin H**	**40.69**	**111**	T	T	00 14 14.1	
	baz=265,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**40.70**	**111**	T	T	00 14 14.2	
	baz=265,slow=75,SNR=16						
XMIS	**Christmas Isla**	**40.89**	**72**	P	**P**	**23 30 55.8**	**-1.5**
LODK	**Lodwar**	**43.73**	**312**	P	**P**	**23 31 20.5**	**0.0**
LODK				IAmb	IAmb	23 31 26.2	
	comp=Z,4.2nm,1.3s						
MBAR	**Mbarara**	**44.09**	**303**	P	**P**	**23 31 21.9**	**-1.7**
PBKT	**Sadao Pong**	**56.02**	**41**	P	**P**	**23 32 52.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**56.42**	**38**	P	**P**	**23 32 56.1**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=227,slow=7.3,SNR=7.1						
SNAA	**Sanae**	**56.54**	**201**	P	**P**	**23 32 56.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=118,slow=8.2,SNR=11						
SNAA	**Sanae**	**56.54**	**201**	P	**P**	**23 32 56.9**	**-0.1**
SNAA				IAmb	IAmb	23 33 04.3	
	comp=Z,4.8nm,1.1s						
ASAR	**Alice Springs**	**60.02**	**102**	P	**P**	**23 33 21.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=246,slow=6.2,SNR=16						
QSPA	**South Pole Qui**	**61.45**	**180**	P	**P**	**23 33 31.4**	**+0.2**
	comp=Z,8.2nm,0.8s,baz=276,slow=4.3,SNR=31						
QSPA	**South Pole Qui**	**61.45**	**180**	P	**P**	**23 33 31.5**	**+0.3**
QSPA				IAmb	IAmb	23 33 32.3	
	comp=Z,9.5nm,0.9s						
WRA	**Warramunga Arr**	**61.76**	**98**	P	**P**	**23 33 33.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=244,slow=6.5,SNR=29						
VNDA	**Vanda**	**63.37**	**166**	P	**P**	**23 33 44.1**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=267,slow=7.3,SNR=35						
VNDA	**Vanda**	**63.37**	**166**	P	**P**	**23 33 44.2**	**+0.6**
VNDA				IAmb	IAmb	23 33 45.0	
	comp=Z,3.6nm,0.7s						
GURO	**Guroymak-BITLI**	**70.69**	**340**	P	**P**	**23 34 31.2**	**+0.5**
GURO				IAmb	IAmb	23 34 33.8	
	comp=Z,3.1nm,1.0s						
BRTR	**Keskin Array B**	**74.61**	**334**	P	**P**	**23 34 54.8**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=163,slow=8.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**75.11**	**294**	P	**P**	**23 34 56.7**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=97,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**76.49**	**11**	P	**P**	**23 35 04.0**	**-0.5**
	comp=Z,0.6nm,0.9s,baz=188,slow=7.2,SNR=4.1						
ABKAR	**Abkulak array**	**77.82**	**356**	P	**P**	**23 35 11.5**	**-0.4**
ABKAR	**Abkulak array**	**77.82**	**356**	P	**P**	**23 35 11.9**	**0.0**
ABKAR				IAmb	IAmb	23 35 12.1	
	comp=Z,2.3nm,1.2s						
ZALV	**Zalesovo Beam**	**83.82**	**11**	P	**P**	**23 35 44.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=205,slow=6.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**83.82**	**11**	P	**P**	**23 35 45.4**	**+1.5**
SONM	**Songino Array**	**84.21**	**26**	P	**P**	**23 35 47.9**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=220,slow=3.8,SNR=6.1						
AKASG	**Malin Array Be**	**85.63**	**337**	P	**P**	**23 35 54.5**	**+1.3**
	comp=Z,0.2nm,0.2s,baz=147,slow=4.2,SNR=5.8						
KSRS	**Korea Array**	**87.44**	**44**	P	**P**	**23 36 03.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=226,slow=8.0,SNR=4.6						
YKA	**Yellowknife Ar**	**146.19**	**1**	PKPbc	**PKPab**	**23 42 55.4**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=9.8,slow=3.0,SNR=5.2						

*IDC **23** 23:29:40.9±1.7, 10°.80S×164°.33E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/37, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=50.5km s-min=31.5km az=112.0*

ISC 23 23:29:45.4±1.2, 10°.8S±0°.1×164°.3E±0°.2, h29km, n12, σ1°.81/6, mb3.7/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.39**	**170**	Pn	**Pn**	**23 32 26.9**	**+0.6**
	1.5nm,0.3s,baz=312,slow=16,SNR=3.5						
H11S2	**WAKE ISLAND Hy 29.20**	**5**		T	T	00 05 15.9	
	baz=184,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy 29.20**	**5**		T	T	00 05 17.2	
	baz=184,slow=76,SNR=55						
H11S1	**WAKE ISLAND Hy 29.22**	**5**		T	T	00 05 29.6	
	baz=184,slow=76,SNR=71						
WRA	**Warramunga Arr**	**30.26**	**249**	P	**P**	**23 35 54.4**	**+0.3**
	0.6nm,0.9s,baz=80,slow=9.1,SNR=2.6						
H11N1	**WAKE ISLAND Hy 30.43**	**5**		T	T	00 06 48.7	
	baz=183,slow=76,SNR=97						
H11N3	**WAKE ISLAND Hy 30.43**	**5**		T	T	00 06 58.3	
	baz=183,slow=76,SNR=53						
H11N2	**WAKE ISLAND Hy 30.44**	**5**		T	T	00 06 49.9	
	baz=183,slow=76,SNR=59						
ASAR	**Alice Springs**	**31.66**	**242**	P	**P**	**23 36 04.5**	**-1.9**
	0.3nm,0.6s,baz=64,slow=10,SNR=1.6						
SONM	**Songino Array**	**77.64**	**324**	P	**P**	**23 41 41.1**	**+1.8**
	0.6nm,0.8s,baz=112,slow=6.6,SNR=4.3						
ILAR	**Eielson Array**	**83.73**	**19**	P	**P**	**23 42 09.8**	**-1.5**
	0.4nm,0.6s,baz=226,slow=5.6,SNR=1.8						
MKAR	**Makanchi Array**	**92.39**	**317**	P	**P**	**23 42 53.5**	**+0.1**
	1.1nm,0.8s,baz=100,slow=6.0,SNR=11						

IDC 23 23:35:53.1±5.6, 5°.41S×152°.97E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, Error ellipse: s-maj=165.4km s-min=41.3km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.00**	**235**	Sn	Sn	23 38 54.5	-2.7
	5.3nm,0.3s,baz=14,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**23.18**	**230**	P	P	23 41 01.6	0.0
	0.3nm,0.3s,baz=53,slow=9.7,SNR=7.3						
ASAR	**Alice Springs**	**25.82**	**223**	P	P	23 41 25.9	-0.5
	0.2nm,0.5s,baz=59,slow=8.9,SNR=2.1						
MKAR	**Makanchi Array**	**80.89**	**319**	P	P	23 48 09.7	+0.4
	0.1nm,0.5s,baz=113,slow=6.4,SNR=1.6						

*IDC **24** 00:17:28.4±0.9, 2°.98S×99°.96E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/34, mbtmp4.1/13, MS3.1/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=41.3km s-min=15.3km az=51.0*
*DJA **24** 00:17:29.1±0.5, 3°.5±4°.×10°.0E±°, h10km, M4.7/17, mb4.6/12, mB5.4/5, MLv4.6/17, Mw(mB)4.8/5*
*NEIC **24** 00:17:32.6±1.5, 3°.11S±0°.09×99°.89E±0°.09, h31km±5km, mb4.4/19, Error ellipse: s-maj=17.8km s-min=5.4km az=224.0*

ISC 24 00:17:32.0±0.6, 3°.04S±0°.08×99°.9E±0°.1, h27km, n71, σ0°.89/63, mb4.3/23, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**2.75**	**103**	P	**Pn**	**00 18 13.3**	**-1.1**
MNAI	**Manna**	**3.31**	**113**		**Pn**	**00 18 21.9**	**-0.2**
MNAI	**Manna**	**3.31**	**113**	P	**Pn**	**00 18 22.2**	**+0.1**
BKNI	**Bangkinang**	**3.53**	**19**	Pn	**Pn**	**00 18 26.6**	**+1.5**
BKNI	**Bangkinang**	**3.53**	**19**	P	**Pn**	**00 18 24.4**	**-0.6**
RGRI	**Rengat**	**3.60**	**42**	P	**Pn**	**00 18 26.2**	**+0.1**
LHSI	**Lahat**	**3.69**	**102**	P	**Pn**	**00 18 28.1**	**+0.8**
MNSI	**Mandailing Nat**	**3.82**	**355**	P	**Pn**	**00 18 27.0**	**-2.1**
JMBI	**JAMBI**	**3.98**	**70**	P	**Pn**	**00 18 30.3**	**-1.0**
MDSI	**Maura Dua**	**4.50**	**109**	P	**Pn**	**00 18 39.2**	**+0.8**
LWLI	**Liwa**	**4.58**	**116**	P	**Pn**	**00 18 38.9**	**-0.8**
GSI	**Gunungsitoli**	**4.90**	**332**	Pn	**Pn**	**00 18 42.9**	**-1.1**
GSI	**Gunungsitoli**	**4.90**	**332**	P	**Pn**	**00 18 42.2**	**-1.8**
KASI	**Kota Agung**	**5.20**	**119**	P	**Pn**	**00 18 48.3**	**+0.2**
	0.6nm2μm71nm,0.6s						
DSRI	**Dabo**	**5.31**	**62**	P	**Pn**	**00 18 49.1**	**-0.5**
	0.2nm1μm26nm,0.9s						
BLSI	**Bandar Lampung**	**5.80**	**114**	P	**Pn**	**00 18 55.5**	**-0.9**
	0.6nm68nm,0.5s						
PPBI	**Pangkal Pinang**	**6.28**	**82**	P	**Pn**	**00 19 02.3**	**-0.6**
TPTI		**6.82**	**336**	P	**Pn**	**00 19 09.7**	**-0.7**
	0.0nm5.4nm,0.6s						
CBJI	**Citeko**	**7.69**	**116**	P	**Pn**	**00 19 23.8**	**+1.5**
	1.1nm119nm,0.8s						
CNJI	**Cibinong**	**8.35**	**121**	P	**Pn**	**00 19 31.0**	**-0.3**
	95nm,1.1s

KBZ	Khabaz	69.03 319	P	P	00 28 36.2	+0.9
	comp=Z,2.1nm,0.9s,baz=119,slow=7.2,SNR=5.6					
BRTR	Keskin Array B	73.95 313	P	P	00 29 05.5	+0.1
	comp=Z,1.0nm,0.7s,baz=139,slow=8.6,SNR=9.2					
FINES	FINESS Array B	84.98 332	P	P	00 30 05.4	+0.8
	comp=Z,1.3nm,0.7s,baz=76,slow=8.0,SNR=5.3					
FINES	FINESS Array B	84.98 332	P	P	00 30 04.3	-0.4
ARCES	ARCESS Array B	87.41 340	P	P	00 30 16.6	0.0
	comp=Z,1.3nm,0.9s,baz=84,slow=3.8,SNR=3.9					
ARCES	ARCESS Array B	87.41 340	P	P	00 30 17.4	+0.9
GERES	GERESS Array B	89.76 319	P	P	00 30 30.4	+2.2
	comp=Z,0.1nm,0.3s,baz=116,slow=3.1,SNR=3.9					
TXAR	Lajitas Array	145.57 38	PKPbc	PKPbc	00 37 09.4	+0.6
	comp=Z,2.0nm,0.7s,baz=296,slow=1.1,SNR=32					

*NEIC **24** 00:44:46.7±1.7, 43°.56N±0°.05×105°.31W±0°.08, h0km±2km, ML3.3/56, Error ellipse: s-maj=10.4km s-min=8.0km az=277.0*
*IDC **24** 00:44:46.2±1.5, 43°.85N×105°.61W, h0km, mb1 3.4/3, mb1mx3.2/43, mbtmp3.1/3, ML2.3/2, Error ellipse: s-maj=35.9km s-min=10.4km az=148.0*

ISC 24 00:44:45.5±1.0, 43°.58N±0°.06×105°.24W±0°.06, h0km, n81, σ1°18/78, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.03	57	Pg	Pg	00 45 03.8	-1.4
K22A	Casper	1.32	226	Pg	Pg	00 45 09.1	-1.7
PHWY	Pilot Hill	2.28	184	Pn	Pn	00 45 24.0	-0.6
RWWY	Rawlins	2.38	218	Pn	Pn	00 45 26.8	+0.7
RWWY	250nm,0.8s			IAML		00 46 02.0	
RWWY	181nm,0.8s			IAML		00 46 05.2	
LAO	LASA Array	3.19	348	Pn	Pn	00 45 37.5	+0.5
BW06	Boulder Array	3.26	257	Pn	Pn	00 45 38.3	+0.2
BW06	48nm,1.4s			IAML		00 46 34.3	
PD31	Pinedale Array	3.26	257	Pn	Pn	00 45 38.0	-0.1
PDAR	Pinedale Array	3.26	257	Pn	Pn	00 45 37.9	-0.2
PDAR	2.3nm,0.3s,baz=72,slow=16,SNR=26						
PDAR	11nm,0.3s,baz=54,slow=35,SNR=4.1			Lg	Lg	00 46 23.8	
PDAR	Pinedale Array	3.26	257	Pn	Pn	00 45 38.0	-0.1
RLMT	Red Lodge	3.28	300	Pn	Pn	00 45 37.9	-0.4
RLMT	57nm,0.6s			IAML		00 46 37.7	
RLMT	47nm,0.8s			IAML		00 46 44.1	
OGNE	Ogallala	3.54	137	Pn	Pn	00 45 42.0	+0.2
YNE	Yellowstone No	3.71	294	Pn	Pn	00 45 43.6	-0.7
YNE	comp=E,58nm,0.8s			IAML		00 46 47.0	
YNE	comp=N,76nm,0.9s			IAML		00 46 52.3	
YMP	Mirror Lake Pl	3.73	290	Pn	Pn	00 45 43.6	-0.9
ISCO	Idaho Springs	3.78	184		Pn	00 45 46.3	+1.0
ISCO	comp=N,32nm,0.8s			IAML		00 46 52.4	
LKWY	Lake	3.85	287		Pn	00 45 44.2	-2.0
LKWY	comp=N,60nm,0.8s			IAML		00 46 52.7	
LKWY	comp=N,39nm,1.3s			IAML		00 47 00.6	
GCMT	Greycliff	3.86	307	Pn	Pn	00 45 45.1	-1.1
LOHW	Long Hollow	3.90	272	Pn	Pn	00 45 47.6	+0.8
H17A	Grant Village	3.94	284		Pn	00 45 47.5	+0.1
H17A	comp=N,47nm,1.1s			IAML		00 46 52.5	
H17A	comp=E,46nm,1.1s			IAML		00 46 52.8	
FLWY	Flagg Ranch	3.98	279		Pn	00 45 48.0	0.0
FLWY	comp=E,48nm,1.9s			IAML		00 46 58.4	
SNOW	Snow King Moun	4.01	270		Pn	00 45 49.3	+0.8
SNOW	comp=E,59nm,1.6s			IAML		00 47 07.9	
SNOW	comp=E,44nm,1.4s			IAML		00 47 08.6	
YNR	Norris Junctio	4.08	288		Pn	00 45 50.5	+1.2
YPP	Pitchstone Pla	4.08	282		Pn	00 45 49.4	-0.1
REDW	Red Top Meadow	4.09	269	Pn	Pn	00 45 49.4	-0.1
O20A	White River Ci	4.10	214		Pn	00 45 50.2	+0.6
O20A	comp=N,56nm,1.9s			IAML		00 47 15.0	
O20A	comp=E,50nm,1.4s			IAML		00 47 30.2	
IMW	Indian Meadow	4.14	276		Pn	00 45 50.5	+0.3
IMW	comp=E,30nm,0.5s			IAML		00 47 07.8	
IMW	comp=E,26nm,0.8s			IAML		00 47 20.4	
TPAW	Teton Pass	4.16	271	Pn	Pn	00 45 51.1	+0.7
TPAW	comp=E,36nm,1.4s			IAML		00 47 14.7	
TPAW	comp=E,30nm,1.4s			IAML		00 47 18.9	
YHH	Holmes Hill	4.21	289		Pn	00 45 52.6	+1.3
AHID	Auburn Hatcher	4.36	261	Pn	Pn	00 45 54.3	+1.1
AHID	comp=E,41nm,0.8s			IAML		00 47 17.2	
E28A	Huff	4.40	45	Pn	Pn	00 45 58.0	+4.4
RDMU	Red Mountain	4.40	229		Pn	00 45 54.7	+0.9
RDMU	comp=E,40nm,1.1s			IAML		00 47 12.7	
RDMU	comp=N,27nm,0.9s			IAML		00 47 14.4	
KSCO	Kaye Shedlock'	4.96	156		Pn	00 46 01.7	+0.3
BOZ	Bozeman (W)	4.99	296		Pn	00 46 02.7	+0.9
BOZ	comp=N,16nm,4.0s			IAML		00 48 27.4	
BOZ	comp=N,14nm,5.0s			IAML		00 48 54.2	
HWUT	Hardware Ranch	5.07	249	IAML		00 47 45.4	
HWUT	comp=N,26nm,0.9s			IAML		00 47 50.2	
HWUT	comp=N,25nm,1.4s			IAML		00 47 50.2	
EGMT	Eagleton	5.46	326		Pn	00 46 09.1	+1.0
JLU	Jordanelle	5.49	239		Pn	00 46 09.0	+0.2
DLMT	Dillon	5.56	291		Pn	00 46 10.7	+1.1
LRM	Limekiln Ridge	5.61	296		Pn	00 46 11.6	+1.2
MCMT	McKenzie Canyo	5.61	286		Pn	00 46 12.0	+1.6
HRY	Holter Researc	5.62	306		Pn	00 46 12.6	+2.2
CTU	Camp Tracy	5.63	241	Pn	Pn	00 46 10.2	-0.4
BGNE	Belgrade	5.67	110	Pn	Pn	00 46 12.6	+1.6
PV22	Blue Mesa, Par	5.70	209		Pn	00 46 13.0	+1.4
PV07	Paradox Valley	5.74	208		Pn	00 46 13.2	+1.0
PV15	Paradox Valley	5.78	206		Pn	00 46 13.1	+0.5
MDND	Maddock	5.82	41	Pn	Pn	00 46 16.3	+3.3
SDCO	Great Sand Dun	5.83	182		Pn	00 46 11.8	-1.6
HVU	Hansel Valley	5.84	255		Pn	00 46 13.7	+0.3
PV04	Paradox Valley	5.87	209		Pn	00 46 14.4	+0.4
PV12	Saucer Basin,	5.90	208	Pn	Pn	00 46 15.0	+0.6
PV14	Lion Creek, Pa	5.93	210		Pn	00 46 15.2	+0.4
PV10	Paradox Valley	5.94	210	Pn	Pn	00 46 15.7	+0.9
PV20	West Nyswonger	5.94	210	Pn	Pn	00 46 15.4	+0.5
BCYI	Bear Canyon	5.94	280	Pn	Pn	00 46 15.5	+0.6
PV11	David Mesa, Pa	5.95	209	Pn	Pn	00 46 15.7	+0.8
MPU	Maple Canyon	5.96	236		Pn	00 46 15.1	0.0
PV19	Morning Glory	5.97	210		Pn	00 46 16.0	+0.6
PV03	Paradox Valley	5.98	208	Pn	Pn	00 46 16.3	+0.9
PV02	Paradox Valley	5.98	207		Pn	00 46 15.4	0.0
PV01	Paradox Valley	5.99	206		Pn	00 46 16.1	+0.5
PV17	East Wray Mesa	5.99	209		Pn	00 46 16.4	+0.8
PV18	Skein Mesa, Pa	6.00	209		Pn	00 46 16.2	+0.4
PV13	Radium Mtn., P	6.05	208		Pn	00 46 17.2	+0.8
PV05	Paradox Valley	6.22	209		Pn	00 46 17.8	-1.0
ECSD	EROS Data Cent	6.26	86	Pn	Pn	00 46 20.4	+1.3
NLU	North Lily Min	6.26	237		Pn	00 46 19.8	+0.5
CBKS	Cedar Bluff	6.31	137	Pn	Pn	00 46 20.9	+1.1
BGU	Big Grassy Mou	6.36	248	Pn	Pn	00 46 21.8	+1.2
T25A	Trinidad	6.46	174		Pn	00 46 20.1	-1.9
DUG	Dugway, Tooele	6.58	242		Pn	00 46 24.3	+0.6
HLID	Hailey	6.67	273	Pn	Pn	00 46 26.0	+1.2
MSO	Missoula	6.95	301	Pn	Pn	00 46 28.1	-0.6
R32A	Long Quarter,	7.13	134		Pn	00 46 30.9	-0.1
MSU	Marysvale	7.28	228	Pn	Pn	00 46 33.7	+0.3
JTMT	Jette	7.58	307	Pn	Pn	00 46 38.7	+1.3
MTPU	Mount Pierson	7.63	226	Pn	Pn	00 46 37.5	-0.7
PKCU	Pink Cliffs	8.15	224	Pn	Pn	00 46 45.6	+0.2
PSUT	Pine Spring	8.23	235	Pn	Pn	00 46 46.2	0.0
ULM	Lac du Bonnet	9.25	41	Pn	Pn	00 46 59.3	-0.8
	comp=N,0.3nm,0.3s,baz=248,slow=13,SNR=1.5						
ULM				Lg	Lg	00 49 29.3	
	comp=N,0.3nm,0.3s,baz=316,slow=18,SNR=2.4						
I56US	NEWPORT INFRAS	9.52	304	*i*		01 37 10.0	
	baz=117,slow=310,SNR=5.3						
NVAR	Mina Array Bea	11.13	247	Pn	Pn	00 47 29.4	+3.4
	comp=N,0.1nm,0.3s,baz=60,slow=13,SNR=2.3						
TXAR	Lajitas Array	14.27	174	Pg	P	00 49 13.2	+57
	comp=N,0.1nm,0.3s,baz=6,2,slow=13,SNR=4.3						
TXAR				Lg	Lg	00 52 17.3	
	comp=N,0.0nm,0.3s,baz=0.2,slow=29,SNR=3.0						

*IDC **24** 00:58:53.6±1.0, 30°.63N×141°.97E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/37, mbtmp3.8/11, ML3.1/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/49, Error ellipse: s-maj=36.4km s-min=18.4km az=75.0*
*NEIC **24** 00:58:55.2±1.8, 30°.71N±0°.06×142°.0E±0°.1, h10km±1km, mb4.4/13, Error ellipse: s-maj=19.3km s-min=6.8km az=117.0*
*JMA **24** 00:59:01.2±0.8, 31°.42N×141°.95E, h12km, M4.0*
*NIED **24** 00:59:01.2, 31°.42N×141°.95E, h12km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.41; $M_{\theta\theta}$=5.40; $M_{\phi\phi}$=0.00; $M_{r\theta}$=2.86; $M_{\theta\phi}$=-1.37; $M_{\phi r}$=-3.17; Fault plane solution: M_0=7.01000×10^{14} NP1: ϕ_s=303.00000°, δ64.00000°, λ-72.00000°. NP2:ϕ_s=86.00000°, δ31.00000°, λ-123.00000°.*

ISC 24 00:58:57.5±1.0, 31°.1N±0°.1×141°.94E±0°.10, h10km, n41, σ1°48/39, mb4.1/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.67	318	P	Pn	00 59 42.3	+1.6
JHJ2	Mitsune	2.67	318	Pn	Pb	00 59 44.5	-1.0
JHJ	Hachijo jima 2	2.70	318	Pn	Pn	00 59 42.3	+1.3
JHJ	7.0nm,0.3s,baz=49,slow=18,SNR=2.1			Sn	Sb	01 00 18.9	-0.3
JHJ	8.4nm,0.3s,baz=76,slow=20,SNR=1.4			Sn	Sb	01 00 18.9	-0.3
BSO1	Boso 1	3.61	347	P	Pn	00 59 54.3	+1.3
BSO1				*e*S	Sn	01 00 34.0	-1.4
BSO3	Boso 3	3.86	342	P	Pn	00 59 58.8	+2.1
JCJ	Chichijima	4.02	177	Sn	Sn	01 00 30.2	-16
JCJ	20nm,0.3s,baz=294,slow=23,SNR=6.2						
JRY	Ryogami san	5.50	333	P	Pn	01 00 22.1	+2.6
JHO	Hitachi	5.59	349	P	Pn	01 00 21.8	+1.1
JAG	Ashikaga	5.67	339	P	Pn	01 00 23.8	+1.9
MJAR	Matsushiro Arr	6.23	331	Pn	Pn	01 00 31.8	+2.3
MJAR	0.3nm,0.3s,baz=146,slow=12,SNR=16			LR	LR	01 02 56.1	
MJAR	comp=Z,60nm,18.6s,baz=190,slow=36						
MAJO	Matsushiro	6.23	331		Pn	01 00 33.0	+3.4
MAT	Matsushiro	6.23	331	P	Pn	01 00 32.6	+3.0
MAT				*e*S	Sn	01 01 39.7	-1.1
JFK	Kawauchi	6.29	352	P	Pn	01 00 31.5	+1.1
JFK				*e*S	Sn	01 01 40.7	-1.6
ASAJ	Asahikawa	12.98	2	LR	LR	01 07 52.4	
ASAJ	comp=Z,31nm,21.4s,baz=167,slow=40						
KSRS	Korea Array	13.19	302	LR	LR	01 06 52.7	
KSRS	comp=Z,34nm,20.3s,baz=126,slow=36						
NACB	Ninganchiao	19.29	254	P	P	01 03 20.0	-2.6
NACB				IAmb	IAmb	01 03 47.1	
NACB	comp=Z,18nm,0.7s						
KLR	Kul'dur	19.65	340	P	P	01 03 27.6	+1.2
KLR	comp=Z,0.8nm,0.5s,baz=154,slow=7.8,SNR=2.6						
SSLB	Suanglung	19.98	254	P	P	01 03 27.3	-3.0
SSLB				IAmb	IAmb	01 03 34.1	
SSLB	comp=Z,44nm,1.5s						
ULN	Ulaanbaatar	31.35	312	P	P	01 05 18.4	0.0
ULN				IAmb	IAmb	01 05 32.4	
ULN	comp=Z,3.4nm,1.1s						
SONM	Songino Array	31.76	312	P	P	01 05 23.4	+1.4
SONM	comp=Z,1.0nm,0.7s,baz=119,slow=8.6,SNR=5.0						
SONM	Songino Array	31.76	312	P	P	01 05 22.0	0.0
SMY	Shemya	31.81	38	P	P	01 05 22.8	+0.7
ZALV	Zalesovo Beam	46.36	317	P	P	01 07 24.3	+0.6
ZALV	comp=Z,0.4nm,0.5s,baz=114,slow=5.4,SNR=2.1			PcP	PcP	01 08 57.7	-0.9
ZALV	comp=Z,0.3nm,0.4s,baz=82,slow=3.1,SNR=1.8						
MK31	Makanchi Array	47.82	307	P	P	01 07 34.2	-1.1
MK31				IAmb	IAmb	01 07 35.6	
MK31	comp=Z,1.3nm,0.7s						
MKAR	Makanchi Array	47.82	307	P	P	01 07 35.0	-0.3
MKAR	comp=Z,1.4nm,0.7s,baz=88,slow=9.6,SNR=15						
MKAR	Makanchi Array	47.82	307	P	P	01 07 34.7	-0.5
MAKZ	Makanchi	48.03	307	P	P	01 07 36.7	-0.2
MAKZ				IAmb	IAmb	01 07 37.9	
MAKZ	comp=Z,10nm,1.9s						
TTA	Tatalina	50.12	32	P	P	01 07 52.5	-0.1
WRA	Warramunga Arr	51.30	189	P	P	01 07 54.9	-7.0
WRA	comp=Z,0.7nm,0.4s,baz=5.3,slow=7.4,SNR=36						
ILAR	Eielson Array	54.32	30	P	P	01 08 24.3	+0.5
ILAR	comp=Z,0.4nm,0.7s,baz=286,slow=6.5,SNR=2.9						
ASAR	Alice Springs	55.02	189	P	P	01 08 24.1	-5.2
ASAR	comp=Z,0.6nm,0.8s,baz=358,slow=6.3,SNR=4.9						
DOT	Dot Lake	55.54	31	pP	P	01 08 33.6	+0.9
BCAR	Beaver Creek A	56.59	32	P	P	01 08 40.0	-0.3
KK31	Karatay Array	56.61	304	P	P	01 08 39.3	-1.4
KKAR	Karatay Array	56.61	304	P	P	01 08 39.7	-1.0
KKAR	Karatay Array	56.61	304	P	P	01 08 39.0	-1.7
KKAR				IAmb	IAmb	01 08 41.0	
KKAR	comp=Z,2.1nm,1.0s						
PCA	Pinnacle	57.60	35	P	P	01 08 48.1	+0.7
ARU	Arti	61.14	321	P	P	01 09 11.5	-0.4
ARU				IAmb	IAmb	01 09 12.3	
ARU	comp=Z,5.6nm,1.1s						
ABKAR	Akbulak array	62.17	313	P	P	01 09 16.8	-2.1
FINES	FINESS Array B	74.25	333	P	P	01 10 36.0	+1.5
FINES	comp=Z,3.2nm,1.1s,baz=102,slow=6.4,SNR=4.6						
TXAR	Lajitas Array	93.36	53	P	P	01 12 12.0	-1.4
TXAR	comp=Z,0.2nm,0.6s,baz=316,slow=5.0,SNR=2.1						

*NOU **24** 01:13:13.2, 40°.63S×176°.78E, h9km, ML3.4, North Island, New Zealand*
*WEL **24** 01:13:16.2, 41°.S±2°×17°6E±°, h16km±3km, M3.2/54, ML3.5/54, MLv3.2/54, Error ellipse: s-maj=0.0km s-min=0.0km az=90.3*

ISC 24 01:13:14.7±1.2, 40°.63S±0°.03×176°.59E±0°.05, h17km±8km, n77, σ1°01/91, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWZ	Angora Road	0.19	332	P	Pb	01 13 20.0	+0.3
ANWZ				S	Sg	01 13 23.2	+0.8
BFZ	Birch Farm	0.27	258	P	Pb	01 13 21.6	+0.5
BFZ				S	Sg	01 13 25.3	+0.7
PRHZ	Porangahau	0.36	6	P	Pb	01 13 23.7	+1.0
PRHZ				S	Sb	01 13 30.0	+1.9
CPWZ	Castlepoint	0.41	226	P	Pn	01 13 26.4	+0.6
CPWZ				S	Sb	01 13 35.0	+5.5
DVHZ	Dannevirke	0.46	315	P	Pg	01 13 23.6	-0.4
DVHZ				S	Sg	01 13 29.2	-1.0
PRWZ	Pori Road	0.48	278	P	Pg	01 13 24.6	+0.3
PRWZ				S	Sb	01 13 31.6	+0.1
TIWZ	Tintock	0.56	254	P	Pb	01 13 26.8	+0.8
TIWZ				S	Sb	01 13 35.0	+1.3
WPHZ	Waipukurau	0.57	349	P	Pb	01 13 26.9	+0.6
WPHZ				S	Sb	01 13 35.3	+1.1
PXZ	Pawanui	0.63	19	P	Pn	01 13 28.6	-0.3
PXZ				S	Sn	01 13 39.3	+0.8
POWZ	Post Office Ro	0.67	290	P	Pg	01 13 27.6	-0.3
POWZ				S	Sg	01 13 36.6	-0.1
TSZ	Takapari Road	0.74	320	P	Pg	01 13 28.6	-0.6
TSZ				S	Sg	01 13 38.4	-0.7
MRZ	Mangatainoka R	0.77	267	P	Pg	01 13 29.4	-0.4
MRZ				S	Sg	01 13 39.8	-0.1
PNHZ	Pukenui	0.77	337	P	Pb	01 13 29.6	-0.1
PNHZ				S	Sb	01 13 40.2	+0.2
KAHZ	Kahuranaki	0.86	15	P	Pn	01 13 32.0	-0.1
MTW	Mount Morrison	0.98	237	P	Pb	01 13 32.9	-0.4
MTW				S	Sb	01 13 46.3	+0.3
KRHZ	Kereru	1.00	350	P	Pb	01 13 33.4	-0.2
TRWZ	Traveller	1.03	221	P	Pb	01 13 34.2	+0.1
CKHZ	Cape Kidnapper	1.04	21	P	Pn	01 13 36.0	+1.5
OHWZ	Ohakea	1.06	293	P	Pb	01 13 34.8	+0.2
OGWZ	Otaki Gorge	1.09	260	P	Pb	01 13 34.4	-0.8
PAWZ	Paruwai Farm	1.16	229	P	Pn	01 13 35.5	-0.7
MCHZ	McNeill Hill	1.18	4	P	Pg	01 13 36.7	-0.9
BHHZ	Black Hill Sta	1.21	340	P	Pb	01 13 36.4	-0.7
CAW	Cannon Point	1.25	247	P	Pn	01 13 36.7	-0.7
MSWZ	Moikau Station	1.28	232	P	Pn	01 13 36.9	-1.1
KIW	Kapiti Island	1.30	259	P	Pn	01 13 37.2	-0.9
MOVZ	Moawhango	1.38	332	P	Pn	01 13 39.2	0.0
PLWZ	Palliser	1.38	227	P	Pn	01 13 38.1	-1.2
ARHZ	Aropaoanui	1.40	13	P	Pn	01 13 39.5	0.0
BKZ	Black Stump Fm	1.46	357	P	Pn	01 13 40.1	-0.3
WAZ	Wanganui	1.50	305	P	Pn	01 13 41.4	+0.4
WNVZ	Wahianoa	1.50	329	P	Pn	01 13 41.3	+0.2
MTVZ	Mangateitei	1.51	325	P	Pb	01 13 42.0	-0.3
BHW	Baring Head	1.52	238	P	Pn	01 13 40.1	-1.0
TUVZ	Tukino	1.54	332	P	Pb	01 13 42.7	-0.1
WHVZ	Whangaehu Hut	1.55	330	P	Pb	01 13 42.9	-0.2
FWVZ	Far West T-bar	1.58	329	P	Pb	01 13 43.5	-0.2
SNVZ	South Ngauruho	1.61	333	P	Pn	01 13 43.4	+0.8
OTVZ	Oturere	1.62	334	P	Pn	01 13 43.4	+0.7
ETVZ	East Tongariro	1.64	335	P	Pb	01 13 44.0	-0.5
NGZ	Ngauruhoe	1.64	332	P	Pb	01 13 43.9	-0.7
PKVZ	Pokaka	1.64	324	P	Pb	01 13 44.1	-0.4
TMVZ	Te Maari	1.66	335	P	Pn	01 13 43.8	+0.7
NNVZ	North Ngauruho	1.67	333	P	Pn	01 13 44.3	+0.9
NTVZ	North Tongarir	1.68	335	P	Pn	01 13 44.3	+0.8
WTVZ	West Tongariro	1.69	333	P	Pb	01 13 44.7	-0.8
KRVZ	Karewarewa	1.69	334	P	Pb	01 13 45.3	-0.3
RITZ	Rihia Road	1.74	341	P	Pb	01 13 45.4	-0.8
RAHZ	Arahi	1.75	13	P	Pn	01 13 44.1	-0.2
MTHZ	Maungataniwha	1.78	6	P	Pn	01 13 44.5	-0.3
KATZ	Kakaramea	1.79	337	P	Pb	01 13 46.8	-0.4
TWVZ	Taurewa	1.79	330	P	Pb	01 13 46.2	-0.9
MRHZ	Matea Rd	1.79	356	P	Pn	01 13 45.7	+0.7
TCW	Tory Channel	1.85	251	P	Pn	01 13 44.4	-1.2
RTZ	Ruatahuna	2.03	9	P	Pn	01 13 47.9	-0.3
DUWZ	D'Urville Isla	2.04	264	P	Pn	01 13 47.5	-0.7
VRZ	Vera Road	2.06	316	P	Pb	01 13 52.4	+0.7
TUWZ	Tuamarina	2.16	247	P	Pn	01 13 48.6	-1.3
BSWZ	Blackbirch Sta	2.32	241	P	Pn	01 13 50.6	-1.6
NEZ	North Egmont	2.35	304	P	Pb	01 13 56.9	+0.3
KHEZ	Kahui Hut	2.38	303	P	Pb	01 13 57.8	+0.5
URZ	Urewera	2.40	10	P	Pn	01 13 52.2	-1.0
MWZ	Matawai	2.40	18	P	Pn	01 13 52.2	-1.1
TLZ	Tolley Road	2.43	340	P	Pg	01 13 59.6	-1.8
PKE	Pukeiti	2.46	305	P	Pb	01 13 59.0	+0.5
HIZ	Hauiti	2.50	327	P	Pb	01 13 58.5	-0.7
NNZ	Nelson	2.50	255	P	Pn	01 13 53.4	-1.3
RUGZ	Raukumara Rang	2.79	18	P	Pn	01 13 57.9	-0.8
KHZ	Kahutara	2.91	231	P	Pn	01 13 58.2	-2.0
PKGZ	Pakihiroa	2.97	23	P	Pn	01 14 00.5	-0.6
THZ	Tophouse	3.00	247	P	Pn	01 13 59.9	-1.7
HAZ	Te Kaha	3.01	18	P	Pn	01 14 00.9	-0.8
TOZ	Tahuroa Road	3.01	343	P	Pn	01 14 02.2	+0.6
QRZ	Quartz Range	3.09	265	P	Pn	01 14 01.9	-0.9
LTZ	Lake Taylor	3.88	235	P	Pn	01 14 13.8	+0.1
AKCZ	Akaroa Harbour	4.24	219	P	Pn	01 14 17.4	-1.1
MHCZ	Mount Hutt	4.73	231	P	Pn	01 14 23.6	-1.7

*VIE **24** 01:22:34.6±0.3, 49°.76N×18°.61E, h0km, mb2.4/2, ml2.8/3, Error ellipse: s-maj=4.0km s-min=2.9km az=7.0 27 km ESE of Ostrava Suspected Mining induced.*
*IPEC **24** 01:22:35.1±0.2, 49°.83N×18°.57E, h0km, ML2.3/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*
*PRU **24** 01:22:35.6±0.0, 49°.85N×18°.50E, h0km, Mining Induced Event Csm, E=7.7e+05*
*KRSZO **24** 01:22:35.3±1.0, 49°.81N×18°.56E, h7km±6km, ML2.3/5, Error ellipse: s-maj=4.1km s-min=2.9km az=18.0*

ISC 24 01:22:34.9±0.7, 49°.80N±0°.02×18°.53E±0°.02, h0km, n52, σ0°78/84, 2C-8D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.25	279	*e*PG	Pg	01 22 40.8	+1.1
OKC				*e*SG	Sg	01 22 44.6	+1.6
OKC	Ostrava-Krasne	0.25	279	Pg	Pg	01 22 40.8	+1.1
OKC	comp=Z,0.3nm,SNR=25			Sg	Sg	01 22 45.1	+2.1
MORC	Moravsky Berou	0.64	268	⇓P	Pg	01 22 47.8	+0.6
MORC				⇓S	Sg	01 22 55.7	+0.3
MORC	Moravsky Berou	0.64	268	*e*Pg	Pg	01 22 47.7	+0.6
MORC	baz=85						
MORC				*e*Sg	Sg	01 22 55.7	+0.3
MORC	comp=Z,58nm,0.4s,baz=85						
MORC	Moravsky Berou	0.64	268	*e*PG	Pg	01 22 47.8	+0.6
MORC				*e*SG	Sg	01 22 55.8	+0.3
MORC	Moravsky Berou	0.64	268	Pg	Pg	01 22 47.7	+0.6
MORC				x	x	01 22 56.8	
LANS	Liptovska Anna	0.89	136	Pg	Pb	01 22 52.8	-0.4
LANS	comp=Z,0.4nm,SNR=20			Lg	Lg	01 23 05.7	
LANS	Liptovska Anna	0.89	136	*e*PG	Pb	01 22 52.8	-0.4
LANS				*e*SG	Sb	01 23 05.6	-0.1
LANS				*e*LG	Lg	01 23 09.4	
OJC	Ojcow	0.92	62	*e*Pg	Pg	01 22 52.1	-0.4
OJC				*e*Sg	Sg	01 23 04.7	+0.3
OJC	Ojcow	0.92	62	Pg	Pg	01 22 52.1	-0.4
OJC	comp=Z,0.3nm,SNR=12			Sg	Sg	01 23 05.2	+0.8
JAVC	Velka Javorina	1.10	211	*e*Pg	Pb	01 22 57.0	+0.3
JAVC	baz=31

comp=Z,3.1nm,0.2s
PRU Pruhonice 2.59 276 *e*PG **Pb 01 23 21.8 -0.3**
PRU *e*SG **Sb 01 23 55.4 +1.0**
comp=Z,8.5nm,0.4s
KOLS Kolonicke sedl 2.59 108 *e*PG **Pg 01 23 24.7 +0.1**
BRG Berggiesshubel 3.13 292 Pg **Pb 01 23 32.5 +1.2**
BRG Sg **Sb 01 24 11.6 +1.5**
BRG Amp 01 24 15.8
comp=Z,5.8nm,0.4s
BRG Amp 01 34 01.0
comp=N,0.3nm,13.1s
BRG Amp 01 34 09.0
comp=E,0.5nm,16.0s
BRG Amp 01 35 31.0
comp=Z,0.2nm,7.8s
KHC Kasperske Hory 3.30 260 *e*PN **Pn 01 23 27.8 0.0**
KHC *e*PG **Pb 01 23 34.7 +0.4**
KHC *e*SG **Sg 01 24 19.0 -1.8**
comp=Z,11nm,0.6s
MOA Molln 3.43 237 *e*Pn **Pn 01 23 28.9 -0.6**
comp=Z,0.3nm,0.2s
MORH Mrgy, Hungar 3.59 179 ⇑P **Pn 01 23 30.4 -1.3**
MORH Mrgy, Hungar 3.59 179 ⇓S **Sn 01 24 11.8 -2.9**
CLL Collm 3.84 295 *e*Pg **Pg 01 23 47.0 -1.3**
CLL *e*Sg **Sg 01 24 36.0 -2.0**
comp=Z,6.0nm,0.5s
DRGR 4.10 136 ⇓P **Pn 01 23 39.1 +0.2**
DRGR 4.10 136 ⇓S **Sn 01 24 27.5 -0.1**

MOS ***24*** *01:26:00.1±1.2, 40°.29N×26°.29E, h10km, mb4.4/10, Error ellipse: s-maj=5.7km s-min=3.3km az=94.7*
NEIC ***24*** *01:26:00.7±1.9, 40°.23N±0°.03×26°.24E±0°.05, h1km±4km, Error ellipse: s-maj=5.6km s-min=4.5km az=67.0*
SOF ***24*** *01:26:00.9, 40°.26N×26°.38E, h18km, MD4.6*
IDC ***24*** *01:26:00.7±0.7, 40°.27N×26°.30E, h0km, mb4.0/17, mb1 4.1/29, mb1mx4.0/57, mbtmp4.0/29, ML3.8/11, MS3.3/22, Ms1 3.3/22, ms1mx3.2/45, Error ellipse: s-maj=13.6km s-min=10.0km az=25.0*
MED_RC ***24*** *01:26:00.0±0.6, 40°.23N×26°.50E, h16km±2km, MW4.3/17, Moment Tensor Solution. Mantle waves: s17, c29; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-1.25±.46; Mθθ3.86±.38; Mφφ-2.62±.20; Mrθ-0.50±.64; Mrφ2.49±.22; Mθφ0.48±.54; Best double couple: M0=4.17000×1015 NP1:φs=207.00000°, δ78.00000°, λ-172.00000°. NP2:φs=115.00000°, δ82.00000°, λ-13.00000°. Principal axes: T 4.7200, Plg3.0000°, Azm161.0000°; N -1.1100, Plg75.0000°, Azm263.0000°; P -3.6300, Plg15.0000°, Azm71.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISK ***24*** *01:26:00.7, 40°.24N×26°.30E, h11km, ML4.5/24*
DDA ***24*** *01:26:01.7, 40°.25N×26°.27E, h13km, MW4.3*
THE ***24*** *01:26:01.6, 40°.26N×26°.24E, h13km, ML4.2/17, Error ellipse: s-maj=0.9km s-min=0.5km az=74.0*
ATH ***24*** *01:26:02.0, 40°.28N×26°.23E, h17km±4km, ML4.3/9, Error ellipse: s-maj=4.2km s-min=1.2km az=278.0*
PRU ***24*** *01:26:21.8±0.0, 41°.72N×25°.79E, h0km, M4.5*
ISC 24 01:26:01.5±0.9, 40°26N±0°.01×26°28E±0°.01, h5km±6km, n515, σ1§53/598, mb4.3/36, MS3.3/15, 77C-54D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
GELI	**Tayfur-Gelibol**	**0.20**	**48**	PG	**Pg**	**01 26 05.9**		**+0.3**
GELI				SG	**Sg**	**01 26 08.9**		**+0.6**
GELI	**Tayfur-Gelibol**	**0.20**	**48**	Pg	**Pg**	**01 26 05.4**		**-0.1**
ECEA	**Canakkale, Ece**	**0.23**	**200**	⇑*i*P	**Pg**	**01 26 06.1**		**+0.1**
ECEA				*i* S	**Sg**	**01 26 10.4**		**+1.4**
GOKA	**anakkale-Gk**	**0.29**	**256**	⇓*i*P	**Pg**	**01 26 07.5**		**+0.3**
GOKA				*i* S	**Sg**	**01 26 12.4**		**+1.4**
GADA	**Gvkgeada**	**0.30**	**257**	P	**Pg**	**01 26 07.5**		**+0.2**
GADA				S	**Sg**	**01 26 12.2**		**+1.0**
91μm,0.4s								
GADA	**Gvkgeada**	**0.30**	**257**	PG	**Pg**	**01 26 07.6**		**+0.2**
GADA				SG	**Sg**	**01 26 12.3**		**+1.0**
GADA	**Gvkgeada**	**0.30**	**257**	Pg	**Pg**	**01 26 07.2**		**-0.2**
EZN	**Ezine**	**0.44**	**175**	P	**Pg**	**01 26 09.3**		**-0.7**
EZN				S	**Sg**	**01 26 15.4**		**-0.2**
12μm,0.4s								
EZN	**Ezine**	**0.44**	**175**	P	**Pg**	**01 26 09.2**		**-0.7**
EZN				S	**Sg**	**01 26 15.4**		**-0.2**
EZN	**Ezine**	**0.44**	**175**	PG	**Pg**	**01 26 09.5**		**-0.4**
EZN				SG	**Sg**	**01 26 15.9**		**+0.3**
EZN	**Ezine**	**0.44**	**175**	Pg	**Pg**	**01 26 09.2**		**-0.7**
CAVK	**Edirne/Enez-Ca**	**0.44**	**349**	⇑*i*P	**Pg**	**01 26 10.2**		**+0.2**
CAVK				*i* S	**Sg**	**01 26 16.9**		**+1.2**
CAVK				IAML		01 26 17.0		
comp=N,21μm,0.4s								
CAVK				IAML		01 26 21.0		
comp=E,17μm,0.6s								
ERIK	**Erikli-Kesan**	**0.45**	**24**	PG	**Pg**	**01 26 10.1**		**-0.1**
ERIK				SG	**Sg**	**01 26 16.9**		**+0.9**
ERIK	**Erikli-Kesan**	**0.45**	**24**	Pg	**Pg**	**01 26 10.3**		**+0.1**
BOZC	**Bozcaada**	**0.45**	**202**	⇑*i*P	**Pg**	**01 26 09.8**		**-0.4**
BOZC				*i* S	**Sg**	**01 26 16.5**		**+0.4**
BOZC				IAML		01 26 17.0		
comp=N,28μm,0.6s								
BOZC				IAML		01 26 17.0		
comp=E,63μm,0.5s								
BOZC	**Bozcaada**	**0.45**	**202**	PG	**Pg**	**01 26 10.0**		**-0.2**
BOZC				SG	**Sg**	**01 26 16.7**		**+0.6**
ENEZ	**Enez**	**0.48**	**349**	P	**Pg**	**01 26 11.0**		**+0.1**
ENEZ				S	**Sb**	**01 26 18.4**		**-1.5**
comp=E,56μm,0.4s								
ENEZ	**Enez**	**0.48**	**349**	PG	**Pg**	**01 26 11.2**		**+0.3**
ENEZ				SG	**Sb**	**01 26 18.6**		**-1.3**
ENEZ	**Enez**	**0.48**	**349**	Pg	**Pg**	**01 26 11.2**		**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.56**	**158**	⇑*i*P	**Pg**	**01 26 12.0**		**-0.3**
BAYC				*i* S	**Sg**	**01 26 19.8**		**+0.2**
SMTH	**Samothraki Isl**	**0.61**	**290**	P	**Pg**	**01 26 13.0**		**-0.3**
SMTH				S	**Sg**	**01 26 21.3**		**+0.2**
comp=E,23μm,0.3s								
SMTH	**Samothraki Isl**	**0.61**	**290**	P	**Pg**	**01 26 12.9**		**-0.3**
SMTH				S	**Sg**	**01 26 21.6**		**+0.4**
SMTH				AML	AML	01 26 22.8		
comp=N,52101μm,0.2s								
SMTH				AML	AML	01 26 25.7		
comp=E,35202μm,0.2s								
KESN	**Edirne-Kesan**	**0.64**	**28**	⇓*i*P	**Pg**	**01 26 13.2**		**-0.8**
KESN				*i* S	**Sg**	**01 26 22.4**		**+0.1**
KESN				IAML		01 26 24.0		
comp=E,18μm,0.4s								
KESN				IAML		01 26 30.0		
comp=N,12μm,0.4s								
ALN	**Alexandroupoli**	**0.66**	**345**	P	**Pg**	**01 26 13.8**		**-0.4**
ALN				S	**Sb**	**01 26 23.8**		**-1.2**
comp=N,26μm,0.2s								
ALN	**Alexandroupoli**	**0.66**	**345**	P	**Pg**	**01 26 14.0**		**-0.2**
ALN				S	**Sg**	**01 26 23.6**		**+0.8**
ALN				AML	AML	01 26 27.2		
comp=E,64964μm,0.3s								
ALN				AML	AML	01 26 27.5		
comp=N,38663μm,0.3s								
ALN	**Alexandroupoli**	**0.66**	**345**	P	**Pg**	**01 26 13.8**		**-0.4**
ALN				S	**Sg**	**01 26 23.5**		**+0.7**
ALN	**Alexandroupoli**	**0.66**	**345**	PG	**Pg**	**01 26 14.3**		**+0.1**
ALN				SG	**Sb**	**01 26 24.1**		**-0.9**
ALN	**Alexandroupoli**	**0.66**	**345**	Pg	**Pg**	**01 26 13.8**		**-0.4**
ALN				Sg	**Sb**	**01 26 23.9**		**-1.1**
KOCA	**Canakkale, Ayv**	**0.77**	**188**	⇑*i*P	**Pg**	**01 26 15.4**		**-0.8**
KOCA				*i* S	**Sg**	**01 26 26.2**		**0.0**
KOCA				IAML		01 26 31.0		
comp=E,8μm,0.6s								
RKY	**Sarkoy-Tekirda**	**0.81**	**58**	Pg	**Pg**	**01 26 16.3**		**-0.8**
RKY				SG	**Sb**	**01 26 28.4**		**-0.9**
RKY	**Sarkoy-Tekirda**	**0.81**	**58**	Pg	**Pg**	**01 26 16.2**		**-0.8**
SART	**Tekirdag**	**0.81**	**58**	⇓*i*P	**Pg**	**01 26 16.1**		**-1.0**
SART				*i* S	**Sg**	**01 26 28.2**		**+0.5**
MAR6	**Marsite Statio**	**0.87**	**59**	PG	**Pg**	**01 26 17.8**		**-0.5**
MAR6				SG	**Sb**	**01 26 30.3**		**-0.9**
UKOP	**Uzunkopru-Edir**	**0.91**	**17**	PG	**Pg**	**01 26 18.8**		**-0.2**
UKOP				SG	**Sb**	**01 26 31.9**		**-0.2**
UKOP	**Uzunkopru-Edir**	**0.91**	**17**	Pg	**Pg**	**01 26 18.6**		**-0.4**
MAR2	**Marsite Statio**	**0.91**	**60**	PG	**Pg**	**01 26 18.6**		**-0.4**
MAR2				SG	**Sb**	**01 26 31.5**		**-0.7**
MAR3	**Marsite Statio**	**0.91**	**58**	PG	**Pg**	**01 26 18.5**		**-0.6**
MAR3				SG	**Sg**	**01 26 30.9**		**0.0**
LIA	**Limnos Island**	**0.91**	**247**	P	**Pg**	**01 26 18.1**		**-0.9**
LIA				S	**Sg**	**01 26 31.2**		**+0.3**
comp=E,18μm,0.4s								
LIA	**Limnos Island**	**0.91**	**247**	P	**Pg**	**01 26 18.1**		**-0.9**
LIA				S	**Sg**	**01 26 30.6**		**-0.3**
LIA				AML	AML	01 26 35.2		
comp=N,35638μm,0.4s								
LIA				AML	AML	01 26 35.4		
comp=E,35973μm,0.4s								
GZKV	**Gazikoy-Tekird**	**0.94**	**58**	PG	**Pg**	**01 26 18.9**		**-0.6**
GZKV				SG	**Sb**	**01 26 32.5**		**-0.5**
GZKV	**Gazikoy-Tekird**	**0.94**	**58**	Pg	**Pg**	**01 26 19.3**		**-0.2**
MAR4	**Marsite Statio**	**0.94**	**56**	PG	**Pg**	**01 26 18.9**		**-0.7**
MAR4				SG	**Sb**	**01 26 32.9**		**-0.3**
KNL	**Balıkesir**	**0.96**	**89**	⇓*i*P	**Pg**	**01 26 19.0**		**-0.9**
KNL				*i* S	**Sn**	**01 26 35.5**		**-0.1**
KNL				IAML		01 26 36.0		
comp=N,7μm,0.9s								
KNL				IAML		01 26 40.0		
comp=E,7μm,1.0s								
BUHA	**Balikesir, Bur**	**0.98**	**141**	⇑*i*P	**Pg**	**01 26 19.5**		**-0.8**
BUHA				*i* S	**Sg**	**01 26 32.7**		**-0.2**
BUHA				IAML		01 26 36.0		
comp=E,7μm,0.4s								
AYVA	**Ayvalik**	**1.00**	**161**	⇑*i*P	**Pg**	**01 26 20.1**		**-0.7**
AYVA				*i* S	**Sg**	**01 26 34.0**		**+0.2**
AYVA				IAML		01 26 36.0		
comp=N,16μm,0.3s								
AYVA				IAML		01 26 36.0		
comp=E,12μm,0.5s								
PRK	**Paraskevi**	**1.01**	**180**	P	**Pg**	**01 26 20.9**		**-0.1**
PRK				S	**Sn**	**01 26 36.0**		**-1.0**
comp=E,22μm,0.5s								
PRK	**Paraskevi**	**1.01**	**180**	P	**Pb**	**01 26 21.2**		**-0.3**
PRK				S	**Sb**	**01 26 35.3**		**+0.1**
PRK				AML	AML	01 26 37.6		
comp=E,37951μm,0.5s								
PRK				AML	AML	01 26 39.4		
comp=N,51636μm,0.6s								
RDO	**Rodhopi**	**1.05**	**328**	P	**Pg**	**01 26 20.8**		**-0.9**
RDO				S	**Sg**	**01 26 35.1**		**-0.1**
comp=N,11μm,0.5s								
RDO	**Rodhopi**	**1.05**	**328**	P	**Pg**	**01 26 20.8**		**-0.9**
RDO				AML	AML	01 26 37.7		
comp=E,19193μm,0.8s								
RDO				AML	AML	01 26 38.1		
comp=N,23137μm,0.3s								
RDO	**Rodhopi**	**1.05**	**328**	PG	**Pg**	**01 26 20.9**		**-0.7**
MRMT	**Marmara Adasi**	**1.06**	**71**	PG	**Pg**	**01 26 20.7**		**-1.2**
MRMT	**Marmara Adasi**	**1.06**	**71**		**Pg**	**01 26 20.7**		**-1.2**
SIGR	**SIGRI**	**1.10**	**197**	P	**Pg**	**01 26 21.0**		**-1.6**
SIGR				S	**Sg**	**01 26 36.7**		**-0.1**
comp=N,33μm,0.8s								
SIGR	**SIGRI**	**1.10**	**197**	P	**Pg**	**01 26 21.3**		**-1.3**
SIGR				S	**Sg**	**01 26 36.9**		**+0.1**
SIGR				AML	AML	01 26 38.2		
comp=E,73394μm,0.9s								
SIGR				AML	AML	01 26 38.5		
comp=N,54107μm,0.8s								
SIGR	**SIGRI**	**1.10**	**197**	PN	**Pg**	**01 26 21.5**		**-1.1**
SIGR				SN	**Sb**	**01 26 37.2**		**-0.4**
GONE	**Gonen-Balikesi**	**1.10**	**101**	PG	**Pg**	**01 26 21.7**		**-0.9**
GONE	**Gonen-Balikesi**	**1.10**	**101**	Pn	**Pg**	**01 26 21.7**		**-0.9**
BALY	**Balya**	**1.16**	**116**	⇑*i*P	**Pg**	**01 26 22.5**		**-1.2**
BALY				IAML		01 26 40.0		
comp=E,4μm,1.1s								
BALY				*i* S	**Sn**	**01 26 40.1**		**-0.5**
BALY				IAML		01 26 42.0		
comp=N,4μm,0.5s								
TKR	**Tekirdag**	**1.20**	**52**	PN	**Pg**	**01 26 23.7**		**-0.9**
EDC	**Edincik**	**1.22**	**85**	PN	**Pb**	**01 26 23.6**		**-1.4**
EFSA	**Agios Efstrati**	**1.23**	**234**	P	**Pb**	**01 26 24.7**		**-0.4**
EFSA				AML	AML	01 26 44.4		
comp=N,39820μm,0.7s								
EFSA				AML	AML	01 26 46.1		
comp=E,37159μm,0.5s								
THAS	**Thassos island**	**1.24**	**287**	P	**Pn**	**01 26 23.1**		**-2.4**
THAS				S	**Sg**	**01 26 39.5**		**-1.8**
comp=E,10μm,0.5s								
THAS	**Thassos island**	**1.24**	**287**	P	**Pn**	**01 26 23.3**		**-2.2**
THAS				AML	AML	01 26 43.4		
comp=N,19568μm,0.3s								
THAS				AML	AML	01 26 44.1		
comp=E,18902μm,0.5s								
DKL	**Dikili**	**1.28**	**158**	PN	**Pn**	**01 26 24.6**		**-1.5**
CAND	**Candarli**	**1.37**	**163**	PN	**Pn**	**01 26 25.8**		**-1.4**
BALB	**Balikesir**	**1.38**	**116**	PN	**Pn**	**01 26 25.7**		**-1.7**
BALB	**Balikesir**	**1.38**	**116**		**Pn**	**01 26 26.6**		**-0.8**
BALB				Sn	**Sn**	**01 26 45.6**		**-0.4**
CRLT	**Corlu**	**1.41**	**52**	PN	**Pn**	**01 26 26.7**		**-1.1**
STEP	**BALIKESIR_Sava**	**1.42**	**128**	⇑*i*P	**Pn**	**01 26 27.3**		**-0.7**
STEP				*i* S	**Sb**	**01 26 46.5**		**-0.4**
STEP				IAML		01 26 53.0		
comp=E,5μm,0.8s								
STEP				IAML		01 26 55.0		
comp=N,8μm,1.0s								
ZEDA	**zmir-Bergama**	**1.43**	**154**	⇑*i*P	**Pn**	**01 26 27.2**		**-0.9**
ZEDA				*i* S	**Sg**	**01 26 47.4**		**-0.1**
ZEDA				IAML		01 26 49.0		
comp=E,5μm,0.4s								
KAVA	**Kavala**	**1.53**	**299**	P	**Pn**	**01 26 27.7**		**-1.8**
KAVA				S	**Sn**	**01 26 46.4**		**-3.4**
comp=E,6μm,0.4s								
KAVA	**Kavala**	**1.53**	**299**	P	**Pn**	**01 26 27.9**		**-1.6**
KAVA				AML	AML	01 26 50.0		
comp=N,12379μm,0.4s								
KAVA				AML	AML	01 26 51.9		
comp=E,16069μm,0.4s								
KDZ	**Kurdzhali**	**1.53**	**335**	*i* P	**Pb**	**01 26 30.1**		**-0.3**
FOCM	**Foa**	**1.58**	**167**	PN	**Pn**	**01 26 28.9**		**-1.3**
KVLA	**Kavala**	**1.59**	**296**	P	**Pn**	**01 26 29.8**		**-0.6**
KCTX	**Karacabey (Bur**	**1.59**	**89**	PN	**Pn**	**01 26 28.9**		**-1.5**
EDRB	**Edirne**	**1.62**	**12**	P	**Pn**	**01 26 29.0**		**-1.8**
EDRB				S	**Sn**	**01 26 51.1**		**-1.0**
comp=E,7μm,0.6s								
EDRB	**Edirne**	**1.62**	**12**	PN	**Pn**	**01 26 29.9**		**-0.9**
KIRK	**Kırklareli**	**1.64**	**22**	⇓*i*P	**Pn**	**01 26 29.3**		**-1.7**
KIRK				*i* S	**Sn**	**01 26 52.0**		**-0.5**
KIRK				IAML		01 26 54.0		
comp=N,3μm,0.6s								
KIRK				IAML		01 26 54.0		
comp=E,3μm,0.6s								
PHSR	**Pinarhisar**	**1.66**	**34**	PN	**Pn**	**01 26 30.3**		**-1.0**
OUR	**Ouranopolis**	**1.76**	**273**	P	**Pn**	**01 26 30.4**		**-2.2**
OUR				S	**Sn**	**01 26 52.3**		**-3.0**
comp=E,6μm,0.5s								
SLVT	**Silivri**	**1.76**	**56**	PN	**Pn**	**01 26 31.5**		**-1.1**
VIZE	**Kirklareli, Vi**	**1.77**	**41**	⇓*i*P	**Pn**	**01 26 31.3**		**-1.5**
VIZE				*i* S	**Sn**	**01 26 53.8**		**-1.9**
VIZE				IAML		01 26 54.0		
comp=E,3μm,0.7s								
VIZE				IAML		01 26 59.0		
comp=N,2μm,0.5s								
DURS	**Dursunbey**	**1.81**	**111**	⇑*i*P	**Pn**	**01 26 32.8**		**-0.7**
DURS				*i* S	**Sb**	**01 26 57.9**		**-0.4**
DURS				IAML		01 27 01.0		
comp=N,4μm,0.5s								
DURS				IAML		01 27 03.0		
comp=E,2μm,0.6s								
AKHS	**Akhisar**	**1.82**	**139**	⇑*i*P	**Pn**	**01 26 32.6**		**-0.9**
AKHS				*i* S	**Sn**	**01 26 57.3**		**+0.3**
ARMN	**Kirklareli, Me**	**1.82**	**28**	⇓*i*P	**Pn**	**01 26 32.1**		**-1.4**
ARMN				*i* S	**Sn**	**01 26 54.7**		**-2.3**
RZN	**Rozhen**	**1.85**	**321**	*i* P	**Pb**	**01 26 35.7**		**-0.3**
ELBA	**Catalca**	**1.86**	**61**	⇓*i*P	**Pn**	**01 26 32.3**		**-1.7**
ELBA				*i* S	**Sn**	**01 26 57.0**		**-1.0**
DIM	**Dimitrovgrad**	**1.87**	**343**	*i* P	**Pn**	**01 26 34.1**		**-0.1**
CHOS	**Chios island**	**1.88**	**185**	P	**Pn**	**01 26 32.7**		**-1.7**
CHOS				S	**Sn**	**01 26 56.8**		**-1.7**
comp=E,6μm,0.7s								
URLA	**Izmir**	**1.91**	**172**	⇑*i*P	**Pn**	**01 26 33.5**		**-1.3**
URLA				*i* S	**Sg**	**01 27 02.8**		**-0.3**
URLA				IAML		01 27 05.0		
comp=N,2μm,1.1s								
URLA				IAML		01 27 11.0		
comp=E,2μm,0.9s								
SKY	**Skiros Island**	**1.92**	**225**	P	**Pn**	**01 26 32.9**		**-2.0**
CTYL	**Yalikoy Yolu**	**1.95**	**51**	PN	**Pn**	**01 26 33.9**		**-1.3**
CTKS	**Kestanelik-??a**	**1.95**	**59**	PN	**Pn**	**01 26 33.9**		**-1.4**
PAIG	**Paliouri**	**2.02**	**261**	P	**Pn**	**01 26 33.9**		**-2.3**
ZEYE	**Izmir, Urla-Ze**	**2.03**	**175**	⇑*i*P	**Pn**	**01 26 34.9**		**-1.4**
ZEYE				*i* S	**Sg**	**01 27 06.5**		**-0.1**
ZEYE				IAML		01 27 08.0		
comp=N,2μm,0.5s								
ZEYE				IAML		01 27 17.0		
comp=E,2μm,1.0s								
NVR	**Nevrokopi**	**2.13**	**301**	P	**Pn**	**01 26 36.5**		**-1.3**
NVR				S	**Sn**	**01 27 01.6**		**-3.1**
comp=E,2μm,0.5s								
PLG	**Polygyros**	**2.17**	**274**	P	**Pn**	**01 26 36.4**		**-1.9**
PLG				S	**Sn**	**01 27 03.0**		**-2.6**
comp=E,2μm,0.7s								
ULDT	**Uludag**	**2.19**	**92**	⇑*i*P	**Pn**	**01 26 37.4**		**-1.4**
ULDT				*i* S	**Sb**	**01 27 09.8**		**+0.5**
ULDT				IAML		01 27 19.0		
comp=E,1μm,0.7s								
SRS	**Serrai**	**2.21**	**294**	P	**Pn**	**01 26 37.1**		**-1.8**
JMB	**Yambol**	**2.22**	**6**	*i* P	**Pn**	**01 26 38.4**		**-0.5**
IGD	**Bursa**	**2.24**	**89**	⇓*i*P	**Pn**	**01 26 38.1**		**-1.1**
IGD				*i* S	**Sb**	**01 27 11.5**		**+1.1**
DEMI	**Demirci**	**2.24**	**122**	⇑*i*P	**Pn**	**01 26 39.2**		**-0.2**
DEMI				*i* S	**Sn**	**01 27 06.6**		**-0.9**
DEMI				IAML		01 27 20.0		
comp=E,1μm,0.5s								
DGB	**zmir**	**2.25**	**168**	⇑*i*P	**Pn**	**01 26 37.7**		**-1.8**
DGB				*i* S	**Sg**	**01 27 14.3**		**+0.3**
ISK	**Istanbul-Kandi**	**2.26**	**68**	P	**Pn**	**01 26 37.7**		**-1.9**
MMB	**Musomiste**	**2.34**	**305**	*i* P	**Pn**	**01 26 40.2**		**-0.5**
MANT	**Manisa**	**2.50**	**134**	⇑*i*P	**Pn**	**01 26 42.6**		**-0.4**
MANT				*i* S	**Sb**	**01 27 19.1**		**+0.9**
KULA	**Kula-Manisa**	**2.54**	**133**	P	**Pn**	**01 26 43.1**		**-0.4**
EREA	**Eretria**	**2.59**	**225**	P	**Pn**	**01 26 42.3**		**-1.7**
EREA				S	**Sn**	**01 27 12.9**		**-3.0**
comp=E,2μm,1.0s								
SMG	**Samos**	**2.59**	**170**	P	**Pn**	**01 26 42.6**		**-1.4**
USAK	**Uak-Merkez**	**2.62**	**125**	⇑*i*P	**Pn**	**01 26 44.5**		**-0.1**
USAK				*i* S	**Sn**	**01 27 11.4**		**-5.5**
USAK				IAML		01 27 35.0		
comp=E,819nm,1.3s								
GCAM	**G?zelcaml?**	**2.66**	**163**	⇓*i*P	**Pn**	**01 26 44.3**		**-0.8**
GCAM				*i* S	**Sg**	**01 27 25.6**		**-1.4**
GDZ	**Gediz**	**2.74**	**114**	⇑*i*P	**Pn**	**01 26 46.2**		**-0.1**
GDZ				*i* S	**Sb**	**01 27 22.0**		**-2.9**
BILE	**Bilecik/Merkez**	**2.76**	**91**	⇓*i*P	**Pn**	**01 26 45.7**		**-0.8**
BILE				IAML		01 27 37.0		
comp=E,822nm,0.5s								
BILE				IAML		01 27 42.0		
comp=N,1μm,1.1s								
AYDN	**Tasoluk**	**2.88**	**154**	⇑*i*P	**Pn**	**01 26 47.2**		**-0.9**
ANDZ	**Kutahya, Merke**	**2.89**	**104**	⇑*i*P	**Pn**	**01 26 47.3**		**-1.0**
ANDZ				*i* S	**Sn**	**01 27 21.8**		**-1.6**
DDIM	**Aydin, Didim**	**2.90**	**165**	*i* P	**Pn**	**01 26 46.7**		**-1.6**
DDIM				IAML		01 27 56.0		
comp=E,738nm,0.9s								
AUBOZ	**BOZOYUK**	**2.90**	**96**	*i* P	**Pn**	**01 26 46.5**		**-1.9**
AUBOZ				IAML		01 27 39.0		
comp=N,780nm,0.7s								
AUBOZ				IAML		01 27 43.0		
comp=E,880nm,0.8s								
VAY	**Valandovo**	**3.01**	**292**	*i* Pn	**Pn**	**01 26 49.2**		**-0.6**
PRD	**Provadia**	**3.06**	**16**	*i* P	**Pn**	**01 26 49.2**		**-1.2**
GEYV	**SAKARYA_Geyve**	**3.08**	**85**	⇓*i*P	**Pn**	**01 26 50.1**		**-0.7**
GEYV				IAML		01 27 54.0		
comp=E,764nm,2.3s								
KAND	**Kocaeli-Kandir**	**3.09**	**73**	⇑*i*P	**Pn**	**01 26 50.7**		**-0.3**
KAND				IAML		01 27 56.0		
comp=E,649nm,1.1s								
PASA	**Karahalli, USA**	**3.14**	**126**	⇑*i*P	**Pn**	**01 26 51.8**		**+0.1**
PASA				*i* S	**Sn**	**01 27 27.6**		**-2.0**
KAYN	**Sakarya, Kayna**	**3.17**	**76**	*i* P	**Pn**	**01 26 51.5**		**-0.5**
BORA	**Eskisehir**	**3.23**	**95**	*i* P	**Pn**	**01 26 52.1**		**-0.8**
APE	**Apeiranthos**	**3.24**	**191**	⇑P	**Pn**	**01 26 52.1**		**-0.9**
APE	**Apeiranthos**	**3.24**	**191**	⇑S	**Sn**	**01 27 30.9**		**-1.1**
APE	**Apeiranthos**	**3.24**	**191**	P	**Pn**	**01 26 52.1**		**-0.9**
APE						01 27 31.0		
APE	**Apeiranthos**	**3.24**	**191**		**Pn**	**01 26 52.1**		**-0.9**
APE					**Sn**	**01 27 30.9**		**-1.1**
VTS	**Vitosha**	**3.28**	**317**	⇑P	**Pn**	**01 26 53.2**		**-0.5**
VTS	**Vitosha**	**3.28**	**317**	⇓S	**Sn**	**01 27 32.5**		**-0.7**
VTS	**Vitosha**	**3.28**	**317**	P	**Pn**	**01 26 53.2**		**-0.5**
VTS						01 27 31.2		
VTS	**Vitosha**	**3.28**	**317**		**Pn**	**01 26 53.2**		**-0.5**
VTS	**Vitosha**	**3.28**	**317**	Sn	**Sn**	**01 27 31.2**		**-2.0**
AGG	**Agios Georgios**	**3.29**	**249**	P	**Pn**	**01 26 52.0**		**-1.7**
AGG	**Agios Georgios**	**3.29**	**249**	Pn	**Pn**	**01 26 52.0**		**-1.7**
RAZG	**Razgrad**	**3.31**	**3**	⇑P	**Pn**	**01 26 53.4**		**-0.5**
RAZG	**Razgrad**	**3.31**	**3**	⇑S	**Sn**	**01 27 33.5**		**-0.2**
RAZG	**Razgrad**	**3.31**	**3**		**Pn**	**01 26 53.4**		**-0.5**
RAZG					**Sn**	**01 27 33.5**		**-0.2**
BDRM	**Kayabasi**	**3.32**	**164**	⇑*i*P	**Pn**	**01 26 52.8**		**-1.3**
MULA	**Mugla, Merkez-**	**3.40**	**151**

BCAM Yenicaga 4.45 81 *i* P Pn **01 27 08.9 -0.8**
BUCA Burdur, Bucak- 4.45 130⇑*i*P Pn **01 27 10.2 +0.6**
BUCA *i* S Sn **01 28 03.0 +1.2**
TLBR Topalu 4.48 16 ⇓P Pn **01 27 09.6 -0.4**
TLBR Topalu 4.48 16 Pn **01 27 09.6 -0.4**
TIRR Tirgusor 4.48 20 ⇓P Pn **01 27 09.2 -0.9**
TIRR Tirgusor 4.48 20 Pn Pn **01 27 08.2 -1.9**
TIRR Sn Sn **01 27 59.7 -2.8**
TIRR Tirgusor 4.48 20 Pn **01 27 09.2 -0.9**
ELL Elmali 4.52 140 P Pn **01 27 11.5 +0.8**
ELL Elmali 4.52 140 Pn **01 27 11.5 +0.8**
ITM Ithomi 4.59 229 Pn **01 27 11.3 -0.2**
HARR Harsova 4.59 15 ⇓P Pn **01 27 10.8 -0.7**
HARR Harsova 4.59 15 P Pn **01 27 10.8 -0.7**
HARR Harsova 4.59 15 Pn **01 27 10.8 -0.7**
STFAR Stefanesti-Arg 4.70 349 ⇑P Pn **01 27 12.9 -0.2**
STFAR Stefanesti-Arg 4.70 349 Pn **01 27 12.9 -0.2**
DOGA KONYA_Doganhis 4.71 115 *i* P Pn **01 27 13.5 +0.2**
PUNG Punghina 4.72 329 ⇑P Pn **01 27 12.4 -0.9**
PUNG Punghina 4.72 329 Pn **01 27 12.4 -0.9**
CMDR Camlidere-ANKA 4.74 85 *i* P Pn **01 27 12.5 -1.3**
CMDR IAML 01 28 50.0
comp=E,319nm,2.2s
CMDR IAML 01 28 55.0
comp=N,241nm,1.1s
SECR 4.77 358 ⇑P Pn **01 27 14.9 +0.8**
SECR 4.77 358 Pn **01 27 14.9 +0.8**
BOVS Bovan 4.79 316 ⇑P Pn **01 27 13.2 -1.1**
BOVS Bovan 4.79 316 Pn **01 27 13.2 -1.1**
AKAS Kas 4.80 146 *i* P Pn **01 27 13.7 -0.9**
KDHN Kadinhani 4.85 109 *i* P Pn **01 27 14.3 -0.9**
KDHN *i* S Sb **01 28 27.1 +1.5**
TPGR Topolog 4.86 18 ⇓P Pn **01 27 14.0 -1.3**
TPGR Topolog 4.86 18 Pn **01 27 14.0 -1.3**
ISR Istrita 4.86 2 ⇑P Pn **01 27 16.3 +1.0**
ISR Istrita 4.86 2 P Pn **01 27 16.3 +1.0**
ISR Istrita 4.86 2 Pn **01 27 16.3 +1.0**
JURR Jurilovca 4.89 22 ⇑P Pn **01 27 15.4 -0.3**
JURR Jurilovca 4.89 22 Pn **01 27 15.4 -0.3**
KBUK KARABUK-Merkez 4.92 77 *i* P Pn **01 27 15.8 -0.4**
SRE Strehaia 4.95 334 ⇑P Pn **01 27 15.8 -0.7**
SRE Strehaia 4.95 334 P Pn **01 27 15.8 -0.7**
SRE Strehaia 4.95 334 Pn **01 27 15.8 -0.7**
TIR Tirane 4.99 285 P Pn **01 27 17.7 +0.7**
TIR Tirane 4.99 285 Pn **01 27 17.7 +0.7**
BR231 Keskin MP Arra 5.00 93 Pn **01 27 16.7 -0.7**
ANTO Ankara 5.01 92 P Pn **01 27 16.3 -1.2**
ANTO Ankara 5.01 92 Pn **01 27 16.3 -1.2**
IDI Anoyia 5.08 193 Pn Pn **01 27 16.7 -1.7**
comp=N,2.0nm,0.3s,baz=348,slow=10,SNR=17
IDI Sn Sn **01 28 14.9 -2.6**
comp=N,2.1nm,0.3s,baz=336,slow=15,SNR=1.6
IDI Lg Lg 01 28 46.1
comp=N,1.2nm,0.3s,baz=77,slow=15,SNR=4.0
IDI Anoyia 5.08 193 ⇑P Pn **01 27 16.5 -1.9**
IDI Anoyia 5.08 193 Pn Pn **01 27 17.8 -0.7**
CFR Carcaliu 5.10 15 ⇑P Pn **01 27 17.7 -0.9**
CFR Carcaliu 5.10 15 P Pn **01 27 17.7 -0.9**
CFR Carcaliu 5.10 15 Pn **01 27 17.7 -0.9**
RMGR Halanga-Turnu 5.14 330 ⇓P Pn **01 27 18.7 -0.3**
RMGR Halanga-Turnu 5.14 330 Pn **01 27 18.7 -0.3**
PUK Puka 5.14 292 Pn **01 27 18.7 -0.5**
GRER 5.14 5 ⇓P Pn **01 27 20.0 +0.9**
GRER 5.14 5 Pn **01 27 20.0 +0.9**
NEHR Nehoiu 5.16 0 ⇑P Pn **01 27 20.0 +0.6**
NEHR Nehoiu 5.16 0 Pn **01 27 20.0 +0.6**
VLO Vlora 5.18 274 P Pn **01 27 18.8 -0.9**
VLO Vlora 5.18 274 Pn Pn **01 27 18.8 -0.9**
MLR Muntele Rosu 5.23 357 Pn Pn **01 27 21.0 +0.5**
comp=N,5.2nm,0.3s,baz=153,slow=2.6,SNR=42
MLR Lg Lg 01 28 49.3
comp=N,6.6nm,0.3s,baz=69,slow=17,SNR=2.9
MLR LR LR 01 29 45.8
comp=N,686nm,19.6s,baz=179,slow=43
MLR Muntele Rosu 5.23 357 ⇓P Pn **01 27 20.9 +0.4**
MLR Muntele Rosu 5.23 357 Pn Pn **01 27 20.0 -0.5**
VOIR 5.25 351 ⇑P Pn **01 27 20.1 -0.6**
VOIR 5.25 351 P Pn **01 27 20.1 -0.6**
VOIR 5.25 351 Pn **01 27 20.1 -0.6**
TLCR 5.26 20 ⇓P Pn **01 27 20.5 -0.3**
TLCR 5.26 20 P Pn **01 27 20.5 -0.3**
TLCR 5.26 20 Pn **01 27 20.5 -0.3**
BISRR Bisoca 5.29 3 ⇓P Pn **01 27 22.6 +1.3**
BISRR Bisoca 5.29 3 Pn **01 27 22.6 +1.3**
HERR Herculane 5.43 330 ⇓P Pn **01 27 21.5 -1.5**
HERR Herculane 5.43 330 Pn **01 27 21.5 -1.5**
TUDR 5.43 10 ⇑P Pn **01 27 23.5 +0.5**
TUDR 5.43 10 Pn **01 27 23.5 +0.5**
LOT Lotru 5.50 341 ⇑P Pn **01 27 23.3 -0.9**
LOT Lotru 5.50 341 Pn **01 27 23.3 -0.9**
PETR Petresti 5.50 7 ⇓P Pn **01 27 24.6 +0.5**
PETR Petresti 5.50 7 Pn **01 27 24.6 +0.5**
ODBI Odobesti 5.53 6 ⇓P Pn **01 27 25.6 +1.1**
ODBI Odobesti 5.53 6 Pn **01 27 25.6 +1.1**
PLOR Plostina 5.59 3 ⇑P Pn **01 27 26.1 +0.7**
PLOR Plostina 5.59 3 P Pn **01 27 26.1 +0.7**
PLOR Plostina 5.59 3 Pn **01 27 26.1 +0.7**
VRI Vrincioaia 5.61 3 ⇑P Pn **01 27 26.0 +0.4**
VRI Vrincioaia 5.61 3 P Pn **01 27 26.0 +0.4**
VRI Vrincioaia 5.61 3 Pn **01 27 26.0 +0.4**
MDVR Moldovita 5.64 325 ⇓P Pn **01 27 25.1 -0.9**
MDVR Moldovita 5.64 325 Pn **01 27 25.1 -0.9**
BR131 Keskin Array S 5.68 93 P Pn **01 27 26.5 -0.2**
BR131 01 28 29.7
BR131 Keskin Array S 5.68 93 Pn Pn **01 27 26.4 -0.2**
BR131 Sn Sn **01 28 29.7 -2.7**
BRTR Keskin Array B 5.68 93 Pn Pn **01 27 26.4 -0.2**
comp=N,7.2nm,0.3s,baz=264,slow=10.0,SNR=349
BRTR Sn Sn **01 28 29.6 -2.7**
comp=N,3.0nm,0.3s,baz=331,slow=19,SNR=6.5
BRTR Lg Lg 01 29 01.4
baz=286,slow=14,SNR=1.8
BRTR LR LR 01 29 58.8
comp=N,466nm,18.2s,baz=293,slow=42
BRTR Keskin Array B 5.68 93 Pn Pn **01 27 26.2 -0.4**
DRME Dracevica, Mon 5.68 292 *e*Pn Pn **01 27 29.4 +2.8**
PDG Podgorica 5.71 295 *e*Pn Pn **01 27 28.3 +1.4**
PDG Podgorica 5.71 295 Pn Pn **01 27 26.9 -0.1**
GZR Gura Zlata 5.74 335 ⇓P Pn **01 27 26.0 -1.4**
GZR Gura Zlata 5.74 335 Pn **01 27 26.0 -1.4**
DOPR Dopca 5.74 354 ⇑P Pn **01 27 27.6 +0.2**
DOPR Dopca 5.74 354 Pn **01 27 27.6 +0.2**
VARL Varlezi 5.75 11 ⇓P Pn **01 27 28.0 +0.5**
VARL Varlezi 5.75 11 Pn **01 27 28.0 +0.5**
OZUR 5.84 357 ⇑P Pn **01 27 29.3 +0.5**
OZUR 5.84 357 Pn **01 27 29.3 +0.5**
GHRR 5.86 8 ⇓P Pn **01 27 29.0 0.0**
GHRR 5.86 8 Pn **01 27 29.0 0.0**
SCTE Santa Cesarea 5.99 271 Pn **01 27 30.6 -0.1**
MDB Medias 6.04 347 ⇑P Pn **01 27 32.1 +0.7**
MDB Medias 6.04 347 P Pn **01 27 32.1 +0.7**
MDB Medias 6.04 347 Pn **01 27 32.1 +0.7**
DIVS Divibare 6.04 311 *e*Pn Pn **01 27 30.4 -1.2**
DEV Deva 6.14 337 ⇓P Pn **01 27 32.4 -0.4**
DEV Deva 6.14 337 P Pn **01 27 32.4 -0.4**
DEV Deva 6.14 337 Pn **01 27 32.4 -0.4**
RUDO Rudo 6.14 305 *e*Pn Pn **01 27 31.8 -1.1**
UPM Unac-Piva 6.25 300 *e*Pn Pn **01 27 36.8 +2.3**
HCY Herceg Novi 6.25 293 *e*Pn Pn **01 27 37.2 +2.8**
BBLS Lazići 6.25 307 *e*Pn Pn **01 27 36.8 +2.3**
TESR Tescani 6.25 2 ⇓P Pn **01 27 34.2 -0.2**
TESR Tescani 6.25 2 Pn **01 27 34.2 -0.2**
BZS Buzias 6.35 329 ⇑P Pn **01 27 34.3 -1.4**
BZS Buzias 6.35 329 P Pn **01 27 34.3 -1.4**
BZS Buzias 6.35 329 Pn **01 27 34.3 -1.4**
BANR Banloc 6.36 325 ⇑P Pn **01 27 35.0 -0.9**
BANR Banloc 6.36 325 Pn **01 27 35.0 -0.9**
BRY Bratogost 6.37 297 *e*Pn Pn **01 27 38.0 +1.8**
TREB Trebinje 6.44 295 *e*Pn Pn **01 27 38.9 +2.0**
VASR Vaslui 6.47 9 ⇓P Pn **01 27 36.4 -1.0**
VASR Vaslui 6.47 9 Pn **01 27 36.4 -1.0**
TEKS Tekeris 6.58 313 *e*Pn Pn **01 27 37.4 -1.5**
HAPS Han Pijesak,BI 6.65 307 *e*Pn Pn **01 27 40.4 +0.4**
CJR Cluj-Napoca 6.74 344 ⇑P Pn **01 27 41.4 +0.3**
CJR Cluj-Napoca 6.74 344 P Pn **01 27 41.4 +0.3**
CJR Cluj-Napoca 6.74 344 Pn **01 27 41.4 +0.3**
FRGS Fruska Gora 6.83 318 ⇓P Pn **01 27 42.2 -0.1**
FRGS Fruska Gora 6.83 318 *e*Pn Pn **01 27 42.7 +0.4**
FRGS Fruska Gora 6.83 318 Pn **01 27 42.2 -0.1**
SIRR Siria 6.88 332 ⇑P Pn **01 27 41.8 -1.2**
SIRR Siria 6.88 332 Pn **01 27 41.9 -1.2**
DIKM Dikmen 6.94 76 ⇑P Pn **01 27 44.8 +1.0**
DIKM Dikmen 6.94 76 Pn **01 27 44.8 +1.0**
SEV Sevastopol' 6.95 50 *e*P Pn **01 27 41.4 -2.5**
SEV *e*S Sn **01 28 56.1 -7.1**
ARCR ARCALIA 6.96 349 ⇓P Pn **01 27 44.3 +0.2**
ARCR ARCALIA 6.96 349 Pn **01 27 44.3 +0.2**
KIS Kishinev 6.98 14 *e*P Pn **01 27 45.0 +0.6**
KIS *e*S Sn **01 29 03.0 -1.1**
KIS *e*Lq LQ 01 29 44.0
comp=N,700nm,12.5s
KIS Kishinev 6.98 14 ⇑P Pn **01 27 44.3 -0.1**
KIS Kishinev 6.98 14 *e*P Pn **01 27 45.0 +0.6**
KIS *e*S Sn **01 29 03.0 -1.1**
KIS Kishinev 6.98 14 Pn **01 27 44.3 -0.1**
IAS Iasi 6.99 7 ⇑P Pn **01 27 44.4 -0.1**
IAS Iasi 6.99 7 P Pn **01 27 44.4 -0.1**
IAS Iasi 6.99 7 Pn **01 27 44.4 -0.1**
DRGR 7.02 340 ⇑P Pn **01 27 43.4 -1.6**
DRGR 7.02 340 P Pn **01 27 43.4 -1.6**
DRGR 7.02 340 Pn **01 27 43.4 -1.6**
YAL Yalta 7.20 52⇑*i*P Pn **01 27 44.9 -2.5**
YAL *e*S Sn **01 29 01.7 -7.8**
MESR Meseseni 7.29 342 ⇑P Pn **01 27 47.4 -1.3**
MESR Meseseni 7.29 342 Pn **01 27 47.4 -1.3**
AMBH Ambrzfalva 7.31 328 ⇓P Pn **01 27 48.0 -0.8**
AMBH Ambrzfalva 7.31 328 *e*PN Pn **01 27 48.1 -0.7**
AMBH Ambrzfalva 7.31 328 Pn **01 27 48.0 -0.8**
BURAR Bucovina Array 7.39 354 ⇑P Pn **01 27 50.4 +0.2**
BURAR Bucovina Array 7.39 354 Pn **01 27 49.9 -0.2**
BURAR Bucovina Array 7.39 354 Pn **01 27 50.4 +0.2**
SIM Simferopol' 7.44 48⇓*i*P Pn **01 27 48.9 -1.8**
SIM *e*S Sn **01 29 07.9 -7.5**
ALU Alushta 7.46 51⇑*i*P Pn **01 27 48.8 -2.1**
ALU *e*S Sn **01 29 08.6 -7.2**
BNN Bunyan 7.53 98 Pn Pn **01 27 52.2 +0.2**
BMR Baia Mare 7.68 346 ⇑P Pn **01 27 54.6 +0.7**
BMR Baia Mare 7.68 346 P Pn **01 27 54.6 +0.7**
BMR Baia Mare 7.68 346 Pn **01 27 54.6 +0.7**
CSS Mathiatis 7.70 131 Pn **01 27 54.3 0.0**
LTVH Ltavrtes, Hu 7.79 338 ⇑P Pn **01 27 55.8 +0.4**
LTVH Ltavrtes, Hu 7.79 338 *e*PN Pn **01 27 57.4 +2.0**
LTVH Ltavrtes, Hu 7.79 338 Pn **01 27 55.8 +0.4**
MGRS Mrkonjic Grad 7.97 304 *e*Pn Pn **01 28 01.1 +3.0**
BLY Banja Luka 8.07 307 *e*Pn Pn **01 27 59.9 +0.5**
MORH Mrgy, Hungar 8.15 319 ⇓P Pn **01 27 58.9 -1.5**
MORH Mrgy, Hungar 8.15 319 *e*PN Pn **01 27 58.9 -1.5**
MORH Mrgy, Hungar 8.15 319 *e*Pn Pn **01 27 59.0 -1.5**
MORH Mrgy, Hungar 8.15 319 Pn **01 27 58.9 -1.5**
BSZH Besenyszg 8.27 330 *e*P Pn **01 28 06.0 +4.0**
KOVH Kovagotoltos 8.34 317 *e*PN Pn **01 28 02.3 -0.7**
MRAK Mrakovica 8.38 308 *e*Pn Pn **01 28 03.8 +0.1**
UZH Uzhgorod 8.84 343 *e*P Pn 01 28 14.5 +4.7
UZH *e*S Sn **01 29 56.4 +6.6**
UZH MLR MLR
comp=Z,200nm,12.0s
BUD Budapest 8.92 326 *e*PN Pn **01 28 09.9 -1.0**
PSZ Piszkesteto 8.92 331 ⇓P Pn **01 28 10.7 -0.4**
PSZ Piszkesteto 8.92 331 *e*PN Pn **01 28 10.1 -1.0**
PSZ Piszkesteto 8.92 331 P Pn **01 28 10.7 -0.4**
PSZ Piszkesteto 8.92 331 Pn **01 28 10.1 -1.0**
PSZ Piszkesteto 8.92 331 Pn **01 28 10.7 -0.4**
PAOL Paolisi 8.94 279 Pn **01 28 11.0 -0.3**
TIH Tihany 9.00 324 *e*P Pn 01 28 17.5 +5.5
GAZ Gaziantep 9.09 106 Pn Pn **01 28 14.7 +1.3**
KOLS Kolonicke sedl 9.13 343 *e*P Pn **01 28 17.4 +3.6**
KOLS Kolonicke sedl 9.13 343 *e*PN Pn **01 28 17.4 +3.6**
CRVS Cervenica-Dubn 9.29 340 *e*P Pn **01 28 20.6 +4.5**
CRVS Cervenica-Dubn 9.29 340 *e*PN Pn **01 28 20.6 +4.5**
MPLH Magyarpolny 9.36 320 *e*P Pn **01 28 17.6 +0.6**
ANN Anapa 9.40 58 *e*P Pn **01 28 13.9 -3.6**
ANN *e*S Sn **01 29 56.9 -6.6**
ANN pmax pmax
comp=Z,9.0nm,0.6s
ANN MLR MLR
comp=Z,165nm,14.0s
VAE Valguarnera 9.66 257 LR LR 01 33 04.4
comp=Z,87nm,21.8s,baz=132,slow=44
LVV L'vov 9.69 351 *e*P Pn **01 28 24.6 +3.1**
LVV MLR MLR
comp=N,200nm,12.0s
LVV MLR MLR
comp=E,400nm,12.0s
LVV MLR MLR
comp=Z,200nm,12.0s
VYHS Vyhne 9.80 330 *e*P Pn **01 28 21.6 -1.5**
VYHS Vyhne 9.80 330 *e*PN Pn **01 28 21.5 -1.5**
KOLL Kolacno 10.04 329 *e*PN Pn **01 28 24.9 -1.4**
NRCA Norcia 10.20 289 Pn Pn **01 28 27.7 -0.9**
SOP Sopron 10.20 320 *e*P Pn **01 28 32.3 +3.8**
MMAI Mount Meron Ar 10.29 132 Pn Pn **01 28 29.3 -0.6**
comp=Z,1.1nm,0.3s,baz=306,slow=13,SNR=9.0
MMAI LR LR 01 33 21.0
comp=Z,59nm,19.9s,baz=345,slow=43
MODS Modra-Piesok 10.35 325 *e*P Pn **01 28 32.8 +2.2**
MODS Modra-Piesok 10.35 325 *e*PN Pn **01 28 32.8 +2.2**
SOKA Soboth 10.38 312 *e*Pn Pn **01 28 32.5 +1.4**
comp=Z,0.4nm,0.3s
ARSA Arzberg 10.45 316 *e*Pn Pn **01 28 33.2 +1.2**
comp=Z,0.9nm,0.2s
SOC Sochi 10.55 67 *e*P Pn **01 28 33.9 +0.6**
SOC *e* 01 30 35.3
SOC MLR MLR
comp=Z,54nm,13.0s
JAVC Velka Javorina 10.56 327 *e*PN Pn **01 28 33.2 -0.3**
AKASG Malin Array Be 10.64 10 Pn Pn **01 28 33.3 -1.2**
comp=Z,1.3nm,0.3s,baz=199,slow=13,SNR=5.6
AKASG Sn Sn **01 30 25.4 -8.6**
comp=Z,1.7nm,0.3s,baz=200,slow=22,SNR=4.0
AKBB Malin Array Si 10.64 10 P Pn **01 28 34.5 0.0**
AKBB Malin Array Si 10.64 10 Pn Pn **01 28 34.5 0.0**
CONA Conrad Observa 10.71 319 *e*Pn Pn **01 28 35.8 +0.2**
comp=Z,12nm,0.8s
OJC Ojcow 10.95 338 *e*P Pn **01 28 42.9 +4.2**
OKC Ostrava-Krasne 11.16 332 AMS AMS 01 33 40.0
comp=Z,200nm,11.6s
KRUC Moravsky 11.26 325 *e*PN Pn **01 28 42.9 -0.1**
MORC Moravsky Berou 11.34 330 P Pn **01 28 43.2 -0.9**
MORC Moravsky Berou 11.34 330 Pn **01 28 43.2 -0.9**
MORC Moravsky Berou 11.34 330 *e*PN Pn **01 28 43.0 -1.1**
VRAC Vranov 11.36 326 Pn Pn **01 28 44.2 -0.1**
comp=Z,0.3nm,0.3s,baz=152,slow=17,SNR=3.0
VRAC LR LR 01 33 13.4
comp=Z,215nm,18.4s,baz=145,slow=38
VRAC Vranov 11.36 326 *e*PN Pn **01 28 43.1 -1.2**
MOA Molln 11.49 315 *e*Pn Pn **01 28 49.2 +3.1**
comp=Z,0.3nm,0.2s
KRLC Kraliky 11.87 329 *e*P Pn **01 28 50.7 -0.7**
KRLC Kraliky 11.87 329 *e*P Pn **01 28 50.7 -0.7**
ABTA Abfaltersbach 11.90 308 *e*Pn Pn **01 28 54.8 +2.9**
comp=Z,2.6nm,0.4s
ZCCA Zocca 12.04 295 Pn **01 28 53.7 -0.1**
DPC Dobruska-Polom 12.27 329 *e*P Pn **01 28 58.0 +1.1**
DPC MLR MLR
comp=Z,200nm,15.8s
DPC Dobruska-Polom 12.27 329 *e*P Pn **01 28 58.0 +1.1**
DPC AMS AMS 01 33 20.0
comp=Z,200nm,15.8s
GURO Guroymak-BITLI 12.31 93 Pn **01 28 57.6 0.0**
GERES GERESS Array B 12.40 318 Pn Pn **01 28 59.9 +1.2**
comp=Z,0.1nm,0.3s,baz=119,slow=14,SNR=7.5
GERES GERESS Array B 12.40 318 Pn Pn **01 28 55.7 -3.0**
VLC Villacollemand 12.41 293 Pn Pn **01 28 57.7 -1.0**
OSTC Ostas 12.47 329 AMS AMS 01 33 40.0
comp=Z,200nm,13.6s
UPC Upice 12.52 328 AMS AMS 01 33 40.0
comp=Z,200nm,14.6s
KHC Kasperske Hory 12.64 319 *e*P Pn **01 29 05.7 +3.7**
KHC MLR MLR
comp=Z,300nm,11.7s
KHC Kasperske Hory 12.64 319 *e*P Pn **01 29 05.7 +3.7**
KHC AMS AMS 01 34 30.0
comp=Z,300nm,11.7s
WTTA Wattenberg 12.68 308 *e*Pn Pn **01 29 05.8 +3.3**
comp=Z,2.1nm,0.5s
EIL Elat 12.73 143 Pn Pn **01 29 02.1 -1.0**
comp=Z,0.4nm,0.3s,baz=206,slow=12,SNR=3.1
KIV Kislovodsk 12.73 68 *e*P Pn **01 29 02.7 -0.5**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,23nm,12.0s
WATA Walderalm 12.75 309 *e*Pn Pn **01 29 07.6 +4.1**
comp=Z,3.4nm,0.4s
PRU Pruhonice 12.76 324 AMS AMS 01 34 30.0
comp=Z,200nm,16.7s
SQTA Sankt Quirin 12.91 308 *e*Pn Pn **01 29 10.1 +4.3**
comp=Z,4.3nm,0.4s
MOTA Moosalm 13.04 308 *e*Pn Pn **01 29 10.3 +2.9**
comp=Z,2.1nm,0.4s
FETA Feichten 13.12 306 *e*Pn Pn 01 29 13.4 +4.8
comp=Z,1.0nm,0.3s
RETA Reutte 13.31 308 *e*Pn P **01 29 16.6 -4.4**
comp=Z,0.8nm,0.2s
DAVOX Davos/Dischmat 13.55 304 Pn Pn **01 29 14.6 0.0**
comp=Z,0.1nm,0.3s,baz=341,slow=14,SNR=2.1
NKC Novy Kostel 13.92 320 AMS AMS 01 35 10.0
comp=Z,200nm,19.8s
KEST Kesra 14.09 257 Pn Pn **01 29 22.1 +0.3**
comp=Z,0.2nm,0.3s,baz=7.8,slow=2.1,SNR=4.7
GNI Garni 14.12 84 Pn Pn **01 29 24.5 +2.3**
comp=Z,0.2nm,0.3s,baz=214,slow=22,SNR=3.1
GNI LR LR 01 34 55.5
comp=Z,136nm,19.8s,baz=254,slow=38
CLL Collm 14.39 325 *es*PP 01 29 37.0
CLL LmH 01 34 00.0
comp=N,200nm,18.7s
CLL LmH 01 34 00.0
comp=E,300nm,19.6s
CLL Lmax 01 36 00.0
KLNR Kaliningrad 14.92 346 *i* P Pn **01 29 31.7 -1.2**
KLNR pmax pmax
comp=Z,64nm,0.7s
SENIN Lac Senin/Sane 15.09 300 Pn Pn **01 29 32.9 -2.6**
OBN Obninsk 16.37 21 Pn Pn **01 29 51.1 -0.7**
comp=Z,0.3nm,0.3s,baz=52,slow=23,SNR=3.1
OBN Obninsk 16.37 21⇑*e*P Pn **01 29 51.2 -0.6**
OBN pmax pmax
comp=Z,28nm,2.3s
OBN MLR MLR
comp=Z,76nm,16.0s
MOS Moscow 17.21 22 *e*P Pn **01 30 02.4 -0.1**
MOS *e*S Sn **01 33 14.5 +0.5**
MOS pmax pmax
comp=Z,38nm,1.0s
SSF Saint Saulge 17.79 300 *e*P P **01 30 11.1 +0.5**
BELG Belogornoye 19.01 43 P P **01 30 23.5 -0.4**
comp=Z,0.7nm,0.3s,baz=60,slow=10.0,SNR=6.3
BELG LR LR 01 37 56.7
comp=Z,47nm,19.5s,baz=190,slow=38
FINES FINESS Array B 21.21 360 P P **01 30 46.8 -1.0**
comp=Z,2.7nm,0.9s,baz=156,slow=9.6,SNR=6.6
FINES LR LR 01 38 45.6
comp=Z,70nm,18.6s,baz=174,slow=36
HFS Hagfors 21.39 343 P P **01 30 47.8 -2.0**
comp=Z,2.6nm,0.6s,baz=158,slow=12,SNR=11
HFS LR LR 01 40 06.0
comp=Z,126nm,19.4s,baz=142,slow=40
KLMR Klimovskoe 22.18 17 *e*P P **01 30 58.1 -0.1**
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 22.18 17 *e*P P **01 30 58.2 0.0**
KLMR AMP 01 31 14.2
comp=Z,11nm,1.2s
NC602 NORSAR Array S 22.44 341 P P **01 30 58.9 -2.1**
NC602 IAmb IAmb 01 31 01.2
comp=Z,30nm,0.9s
NB2 NORSAR Subarra 22.78 341 P P **01 31 02.5 -2.2**
comp=Z,9.4nm,0.9s,baz=147,slow=11
NOA NORSAR Array B 22.78 341 P P **01 31 03.0 -1.6**
comp=Z,4.3nm,0.7s,baz=148,slow=11,SNR=15
NOA LR LR 01 41 51.9
comp=Z,115nm,18.0s,baz=155,slow=42
NBO00 NORSAR Array S 22.88 340 P P **01 31 03.6 -2.1**
NBO00 IAmb IAmb 01 31 06.0
comp=Z,28nm,0.9s
NC204 NORSAR Array S 23.10 341 P P **01 31 05.9 -2.1**
ESBB Sonseca Array 23.13 278 P P **01 31 08.0 -0.6**
ESBB IAmb IAmb 01 31 18.5
comp=Z,8.8nm,1.3s
ESDC Sonseca Array 23.14 278 P P **01 31 08.8 +0.2**
comp=Z,1.0nm,0.7s,baz=72,slow=9.7,SNR=8.6
ESDC LR LR 01 40 56.9
comp=Z,54nm,18.8s,baz=125,slow=39
AKTO Aktyubinsk 24.34 55 P P **01 31 19.4 -0.8**
comp=Z,1.2nm,0.5s,baz=250,slow=12,SNR=4.0
AKTO LR LR 01 42 33.0
comp=Z,44nm,19.4s,baz=265,slow=41
PRGR Permogore 24.44 22 *e*P P **01 31 20.2 -0.7**
PRGR pmax pmax
comp=Z,15nm,0.8s
EKA Eskdalemuir Ar 24.62 318 P P **01 31 21.5 -1.0**
comp=Z,1.7nm,0.5s,baz=114,slow=8.6,SNR=19
GEYT Alibeck 24.75 85 P P **01 31 24.5 +0.5**
comp=Z,2.0nm,0.5s,baz=7.5,slow=13,SNR=4.0
GEYT LR LR 01 42 05.6
comp=Z,51nm,19.3s,baz=5.0,slow=39
GEYT Alibeck 24.75 85 IAmb IAmb 01 31 26.3
comp=Z,17nm,0.9s
GYA0B ALIBECK ARRAY 24.75 85 P P **01 31 24.4 +0.3**
GYA0B IAmb IAmb 01 31 26.4
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 25.36 58 P P **01 31 29.3 -0.1**
MDT Midelt 25.81 263 LR LR 01 42 23.7
comp=Z,48nm,18.8s,baz=68,slow=38
ARU Arti 26.53 42 P P **01 31 40.2 +0.3**
comp=Z,1.2nm,0.5s,baz=234,slow=8.3,SNR=6.6
ARU LR LR 01 41 38.3
comp=Z,22nm,21.6s,baz=248,slow=35
ARU Arti 26.53 42*c i*P P **01 31 41.4 +1.5**
ARU 01 32 16.3
ARU S S **01 36 18.7 +4.3**
ARU SS SnSn **01 37 18.4 +2.8**
ARU pmax pmax
comp=Z,12nm,1.5s
ARU Arti 26.53 42 P P **01 31 39.8 -0.1**
ARU IAmb IAmb 01 31 51.8
comp=Z,6.8nm,1.0s
ARCES ARCESS Array B 29.34 359 P P **01 32 05.5 +0.6**
comp=Z,3.2nm,0.9s,baz=168,slow=6.2,SNR=5.7
ARCES LR LR 01 43 57.9
comp=Z,74nm,18.0s,baz=150,slow=37
ARCES ARCESS Array B 29.34 359 IAmb IAmb 01 32 14.8
comp=Z,13nm,1.4s
KK31 Karatay Array 32.87 70 P P **01 32 36.4 +0.1**
KK31 pmax pmax
comp=Z,2.0nm,1.1s
KK31 Karatay Array 32.87 70 P P **01 32 36.4 +0.1**
KKAR Karatay Array 32.87 70 P P **01 32 35.9 -0.4**
KKAR Karatay Array 32.87 70 P P **01 32 35.9 -0.4**
GAR Garm 33.68 78 P P **01 32 43.6 0.0**
BTK Batken 33.77 76 P P **01 32 44.6 +0.4**
BTK pmax pmax
comp=Z,2.0nm,0.6s
BTK Batken 33.77 76 P P **01 32 44.6 +0.4**
BTK IAmb IAmb 01 32 51.2
comp=Z,2.0nm,0.6s
KBL Kabul 34.20 86 P P **01 32 49.2 +1.0**
KBL pmax pmax
comp=Z,2.0nm,0.5s
KBL Kabul 34.20 86 P P **01 32 49.2 +1.0**
KBL IAmb IAmb 01 32 55.6
comp=Z,2.2nm,0.5s
TORD Torodi Ar. Bea 34.58 226 P P **01 32 50.6 -0.7**
comp=Z,0.6nm,0.6s,baz=30,slow=8.4,SNR=3.7
TORD LR LR 01 48 23.0
comp=Z,72nm,18.8s,baz=320,slow=39
MK31 Makanchi Array 40.39 62 P P **01 33 40.0 -0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MK31 Makanchi Array 40.39 62 P P **01 33 40.0 -0.4**
MKAR Makanchi Array 40.39 62 P P **01 33 40.0 -0.3**
comp=Z,0.8nm,0.8s,baz=272,slow=5.6,SNR=7.2
MKAR LR LR 01 54 32.9
comp=Z,24nm,19.1s,baz=282,slow=42
MKAR Makanchi Array 40.39 62 P P **01 33 40.8 +0.4**
ZAA0 Zalesovo Array 40.95 50 P P **01 33 43.7 -1.1**
ZALV Zalesovo Beam 40.95 50 P P **01 33 44.1 -0.6**
comp=Z,1.3nm,0.6s,baz=275,slow=9.3,SNR=7.1
ZALV Zalesovo Beam 40.95 50 P P **01 33 43.7 -1.1**
WMQ Urumqi 44.83 64 *e*P P **01 34 20.5 +4.0**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,34nm,3.7s
NRS Narsarsuaq 47.19 321 P P **01 34 33.9 -0.8**
NRS pmax pmax
comp=Z,11nm,0.8s
NRS Narsarsuaq 47.19 321 P P **01 34 33.9 -0.8**

SONM Songino Array 55.65 54 P **P 01 35 38.3 -0.2**
comp=Z,0.6nm,0.6s,baz=272,slow=9.6,SNR=4.6
SONM LR LR 02 01 06.9
comp=Z,32nm,18.4s,baz=38,slow=38
SONM Songino Array 55.65 54 P **P 01 35 37.4 -1.2**
SONM pmax pmax
comp=Z,3.0nm,1.3s
SONM Songino Array 55.65 54 P **P 01 35 37.4 -1.2**
SONM IAmb IAmb 01 35 46.6
comp=Z,2.7nm,1.3s
YAK Yakutsk 61.05 32 *i* P **P 01 36 15.8 0.0**
YAK pmax pmax
comp=Z,11nm,0.4s
HHC Hu-ho-hao-te 62.15 59 *e*P **P 01 36 24.0 +0.2**
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,69nm,5.4s
CHTO Chiang Mai 65.02 86 P **P 01 36 44.8 +1.9**
CHTO pmax pmax
comp=Z,11nm,1.5s
CHTO Chiang Mai 65.02 86 P **P 01 36 44.8 +1.9**
BILL Bilibino 67.92 15⇑ *e*P **P 01 36 59.9 -0.7**
BILL *e* 01 37 30.8
BILL *i* 01 39 31.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
PLVO Plevna 70.81 313 P **P 01 37 20.5 +1.5**
SADO Sadowa 72.13 314 P **P 01 37 28.7 +1.8**
comp=Z,3.5nm,0.6s,baz=22,slow=5.8,SNR=5.3
SADO Sadowa 72.13 314 IAmb IAmb 01 37 30.3
comp=Z,4.9nm,0.8s
IMAR Indian Mountai 74.09 0 P **P 01 37 40.1 +2.0**
KSRS Korea Array 74.52 54 P **P 01 37 42.7 +1.6**
comp=Z,1.0nm,0.6s,baz=313,slow=6.3,SNR=3.0
KSRS LR LR 02 16 26.7
comp=Z,26nm,18.1s,baz=104,slow=41
E43A Lone Tree Farm 75.22 319 P **P 01 37 45.3 +0.2**
E43A IAmb IAmb 01 37 48.4
comp=Z,5.1nm,0.9s
YSS Yuzh-Sakhalins 76.39 39 *i* P **P 01 37 51.5 -0.2**
YSS pmax pmax
comp=Z,8.0nm,1.1s
ULM Lac du Bonnet 76.58 326 P **P 01 37 54.0 +1.3**
comp=Z,3.9nm,0.8s,baz=10,slow=6.9,SNR=3.2
ULM Lac du Bonnet 76.58 326 P **P 01 37 54.0 +1.3**
PETK Petropavlovsk- 77.97 28 LR LR 02 14 15.1
comp=Z,56nm,18.5s,baz=205,slow=37
ERM Erimo 80.13 42 *i* P **P 01 38 13.1 +0.6**
ERM pmax pmax
comp=Z,13nm,1.3s
PDAR Pinedale Array 88.21 329 LR LR 02 21 31.7
comp=Z,41nm,18.3s,baz=126,slow=38
TXAR Lajitas Array 96.62 318 P **P 01 39 34.2 +1.3**
comp=Z,0.5nm,0.9s,baz=138,slow=4.3,SNR=4.2

*NEIC **24** 01:30:48.6±2.0, 26°.3S±0°.1×178°.3E±0°.1, h582km±4km, mb4.2/23, Error ellipse: s-maj=18.4km s-min=15.5km az=113.0*
*IDC **24** 01:30:50.2±1.4, 26°.29S×178°.35E, h602km±15km, mb3.4/13, mb1 3.6/16, mb1mx3.5/31, mbtmp4.4/16, Error ellipse: s-maj=16.5km s-min=12.9km az=101.0*
ISC 24 01:30:50.2±0.4, 26.45S±0.06×178.47E±0.08, h612km, n109, σ1§71/117, mb4.2/27, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.24**	**132**	P	P	01 32 13.3	-4.8
GLKZ	**Green Lake**	**4.25**	**132**	P	**P**	**01 32 20.0**	**+1.9**
MSVF	**Nonsavu**	**8.69**	**357**	P	**P**	**01 32 54.4**	**-2.3**
10nm,0.3s,baz=246,slow=22,SNR=29							
MSVF	**Nonsavu**	**8.69**	**357**	P	**P**	**01 32 53.3**	**-3.4**
OUZ	**Omahuta**	**9.69**	**204**	P	**P**	**01 33 04.5**	**-1.4**
OUZ	**Omahuta**	**9.69**	**204**	P	**P**	**01 33 09.1**	**+3.1**
KUZ	**Kuaotunu**	**10.53**	**192**	P	**P**	**01 33 16.7**	**+2.5**
MARNC	**Mare, Loyalty**	**10.75**	**295**	P	P	01 33 11.3	-5.4
AWAZ	**Awhitu Peninsu**	**11.07**	**196**	P	**P**	**01 33 22.1**	**+2.5**
MXZ	**Matakaoa Point**	**11.08**	**181**	P	**P**	**01 33 18.1**	**-1.6**
MXZ				S	**S**	**01 35 19.1**	**-3.4**
HAZ	**Te Kaha**	**11.29**	**183**	P	**P**	**01 33 20.5**	**-1.2**
HAZ				S	**S**	**01 35 20.6**	**-5.6**
WMGZ	**Waiomatatini S**	**11.34**	**180**	P	**P**	**01 33 25.2**	**+3.0**
WMGZ				S	**S**	**01 35 25.3**	**-1.7**
PKGZ	**Pakihiroa**	**11.41**	**182**	P	**P**	**01 33 21.6**	**-1.4**
PKGZ				S	**S**	**01 35 25.3**	**-3.1**
RUGZ	**Raukumara Rang**	**11.50**	**183**	P	**P**	**01 33 23.4**	**-0.6**
RUGZ				S	**S**	**01 35 27.1**	**-3.1**
TOZ	**Tahuroa Road**	**11.52**	**192**	P	**P**	**01 33 26.7**	**+2.7**
PUZ	**Puketiti**	**11.59**	**181**	P	**P**	**01 33 24.5**	**-0.3**
PUZ				S	**S**	**01 35 27.3**	**-4.3**
DZM	**Mont Dzumac**	**11.80**	**289**	P	**P**	**01 33 27.5**	**+0.3**
1.0nm,0.3s,baz=74,slow=17,SNR=8.2							
URZ	**Urewera**	**11.83**	**185**	P	**P**	**01 33 26.8**	**-0.3**
6.0nm,0.3s,baz=262,slow=5.0,SNR=16							
URZ				S	**S**	**01 35 31.7**	**-4.1**
2.7nm,0.3s,baz=123,slow=23,SNR=17							
URZ	**Urewera**	**11.83**	**185**	P	**P**	**01 33 26.0**	**-1.0**
URZ	**Urewera**	**11.83**	**185**	P	**P**	**01 33 27.1**	**+0.1**
URZ				S	**S**	**01 35 31.8**	**-4.1**
MWZ	**Matawai**	**11.88**	**184**	P	**P**	**01 33 26.7**	**-0.8**
MWZ				S	**S**	**01 35 33.1**	**-3.7**
MUGZ	**Murupara**	**12.08**	**186**	P	**P**	**01 33 29.0**	**-0.5**
TLZ	**Tolley Road**	**12.10**	**191**	P	**P**	**01 33 33.7**	**+3.9**
RTZ	**Ruatahuna**	**12.20**	**186**	P	**P**	**01 33 30.7**	**0.0**
RTZ				S	**S**	**01 35 38.1**	**-4.5**
SNGZ	**Shannon Statio**	**12.33**	**184**	P	**P**	**01 33 33.2**	**+1.2**
BKZ	**Black Stump Fm**	**12.79**	**187**	P	**P**	**01 33 35.3**	**-1.2**
NIUE	**Niue**	**12.97**	**58**	P	**P**	**01 33 37.0**	**-1.7**
NNZ	**Nelson**	**15.32**	**195**	P	**P**	**01 34 00.6**	**0.0**
CTA	**Charters Tower**	**30.21**	**275**	P	**P**	**01 36 13.6**	**+0.3**
1.8nm,0.3s,baz=96,slow=10,SNR=2.6							
STKA	**Stephens Creek**	**32.55**	**252**	P	**P**	**01 36 33.4**	**+0.4**
2.3nm,0.3s,baz=102,slow=12,SNR=6.7							
STKA	**Stephens Creek**	**32.55**	**252**	IAmb	IAmb	01 36 33.8	
comp=Z,2.2nm,1.2s							
AS31	**Alice Springs**	**40.32**	**264**	P	**P**	**01 37 33.2**	**-3.5**
ASAR	**Alice Springs**	**40.32**	**264**	P	**P**	**01 37 36.5**	**-0.1**
comp=Z,2.5nm,0.5s,baz=92,slow=6.9,SNR=41							
ASAR				pP	**pP**	**01 39 20.0**	**+0.6**
comp=Z,0.7nm,0.7s,baz=104,slow=6.4,SNR=2.8							
ASAR				S	**S**	**01 43 01.1**	**-0.9**
comp=Z,0.3nm,0.4s,baz=102,slow=16,SNR=4.3							
ASAR	**Alice Springs**	**40.32**	**264**	P	**P**	**01 37 34.8**	**-1.9**
WRA	**Warramunga Arr**	**40.93**	**270**	P	**P**	**01 37 40.8**	**-0.7**
comp=Z,1.1nm,0.4s,baz=103,slow=7.9,SNR=43							
WRA				ScP	**ScP**	**01 42 20.7**	**+1.7**
comp=Z,0.3nm,0.5s,baz=101,slow=3.9,SNR=5.5							
WRA	**Warramunga Arr**	**40.93**	**270**	IAmb	IAmb	01 37 41.5	
comp=Z,0.2nm,0.8s							
VNDA	**Vanda**	**51.73**	**185**	P	**P**	**01 39 04.1**	**+2.3**
comp=Z,1.6nm,0.4s,baz=7,9,slow=8.2,SNR=27							
VNDA	**Vanda**	**51.73**	**185**	P	**P**	**01 39 03.4**	**+1.5**
SBA	**Scott Base**	**51.76**	**183**	P	**P**	**01 39 04.7**	**+2.7**
SBA				IAmb	IAmb	01 39 06.5	
comp=Z,15nm,0.9s							
CASY	**Casey**	**57.22**	**206**	P	**P**	**01 39 40.2**	**0.0**
CASY				IAmb	IAmb	01 39 41.6	
comp=Z,12nm,0.8s							
QSPA	**South Pole Qui**	**63.64**	**180**	P	**P**	**01 40 24.2**	**+1.7**
MAW	**Mawson**	**74.88**	**201**	P	**P**	**01 41 30.7**	**+1.5**
comp=Z,5.2nm,0.6s,baz=135,slow=6.1,SNR=11							
MAW	**Mawson**	**74.88**	**201**	IAmb	IAmb	01 41 33.2	
comp=Z,1.6nm,1.0s							
KSRS	**Korea Array**	**79.33**	**321**	P	**P**	**01 41 53.8**	**0.0**
comp=Z,0.6nm,0.5s,baz=305,slow=48,SNR=2.0							
PETK	**Petropavlovsk-**	**81.26**	**348**	P	**P**	**01 42 03.0**	**-0.4**
comp=Z,5.6nm,0.8s,baz=124,slow=7.4,SNR=10							
SNAA	**Sanae**	**82.14**	**180**	P	**P**	**01 42 08.9**	**+1.1**
SNAA	**Sanae**	**82.14**	**180**	P	**P**	**01 42 08.2**	**+0.3**
SNAA				IAmb	IAmb	01 42 09.2	
comp=Z,6.6nm,0.6s							
USRK	**Ussuriysk Ar.**	**82.17**	**328**	P	**P**	**01 42 08.6**	**+0.4**
comp=Z,2.1nm,0.6s,baz=128,slow=5.0,SNR=4.3							
USRK	**Ussuriysk Ar.**	**82.17**	**328**	P	**P**	**01 42 07.8**	**-0.4**
VNA3	**Neumayer Olymp**	**82.41**	**177**	P	**P**	**01 42 09.8**	**+0.7**
VNA2	**Neumayer--Watz**	**82.81**	**178**	P	**P**	**01 42 12.6**	**+1.5**
VNA1	**Neumayer--Stat**	**83.05**	**178**	P	**P**	**01 42 13.0**	**+0.7**
ISA	**Isabella, Lake**	**85.78**	**47**	P	**P**	**01 42 26.8**	**+0.6**
ISA				IAmb	IAmb	01 42 28.6	
comp=Z,3.9nm,0.8s							
CMB	**Columbia Colle**	**86.00**	**44**	P	**P**	**01 42 28.0**	**+0.9**
CMB				IAmb	IAmb	01 42 29.2	
comp=Z,2.0nm,0.8s							

YBH Yreka Blue Hor 86.93 40 P **P 01 42 33.2 +1.7**
comp=Z,0.7nm,0.4s,baz=310,slow=4.1,SNR=4.2
YBH Yreka Blue Hor 86.93 40 IAmb IAmb 01 42 34.2
comp=Z,2.4nm,0.9s
HUMO Hull Mountain 87.35 39 P **P 01 42 34.3 +1.0**
HUMO IAmb IAmb 01 42 35.9
comp=Z,2.5nm,0.8s
NVAR Mina Array Bea 87.54 45 P **P 01 42 36.0 +1.4**
comp=Z,0.7nm,0.6s,baz=221,slow=6.5,SNR=5.1
NVAR Mina Array Bea 87.54 45 P **P 01 42 34.2 -0.4**
PAHR Pah Rah Range 87.64 43 P **P 01 42 35.2 +0.3**
PAHR IAmb IAmb 01 42 37.7
comp=Z,3.8nm,1.1s
K05A Summer Lake 88.60 40 P **P 01 42 41.0 +1.6**
K05A IAmb IAmb 01 42 42.1
comp=Z,5.1nm,0.9s
PINE Pine Mountain 89.24 39 P **P 01 42 43.9 +1.6**
PINE IAmb IAmb 01 42 45.0
comp=Z,4.1nm,0.8s
XAN Xi'an 89.24 309 P **P 01 42 43.1 +0.7**
XAN pP pP 01 44 45.6 -6.9
XAN pmax pmax
comp=Z,5.0nm,1.5s
X16A Lo Mia Camp, P 89.82 51 P **P 01 42 46.5 +1.3**
X16A IAmb IAmb 01 42 48.1
comp=Z,2.5nm,0.8s
CCUT Cedar City 90.22 48 P **P 01 42 48.6 +1.5**
CCUT IAmb IAmb 01 42 49.9
comp=Z,2.1nm,0.8s
U15A North Rim 90.32 49 P **P 01 42 49.6 +2.0**
HHC Hu-ho-hao-te 91.25 316 *e*P **P 01 42 50.8 -0.8**
HHC pmax pmax
comp=Z,24nm,1.1s
HHC pmax pmax
comp=Z,63nm,5.4s
MTPU Mount Pierson 91.27 48 P **P 01 42 52.9 +0.8**
TMUT Trail Mountain 92.59 47 P **P 01 43 00.0 +2.0**
TX32 Lajitas Array 92.94 59 P **P 01 43 01.3 +1.7**
TX32 IAmb IAmb 01 43 02.2
comp=Z,3.6nm,1.2s
TXAR Lajitas Array 92.94 59 P **P 01 43 01.5 +1.9**
comp=Z,0.5nm,0.8s,baz=221,slow=5.2,SNR=7.3
TXAR Lajitas Array 92.94 59 P **P 01 43 01.0 +1.4**
ILAR Eielson Array 94.83 14 P **P 01 43 06.2 -1.0**
comp=Z,0.5nm,0.3s,baz=219,slow=5.6,SNR=6.0
SPA0 Spitsbergen Ar 127.55 355 *e*PKPdf **PKiKP 01 48 46.7 +0.2**
ARCES ARCESS Array B 134.07 347 PKhKP PKPpre 01 48 53.3
comp=Z,0.4nm,0.3s,baz=78,slow=1.7,SNR=8.6
ARCES PKP **PKPdf 01 48 58.5 +0.1**
comp=Z,0.6nm,0.4s,baz=63,slow=1.8,SNR=7.0
ARCES SKPbc **SKPbc 01 51 31.9 +0.6**
comp=Z,2.8nm,0.9s,baz=354,slow=3.7,SNR=4.8
KTK1 Kautokeino 134.96 348 *e*PKPdf **PKiKP 01 49 01.2 -0.4**
TRO Tromso 135.16 350 *e*PKPdf **PKiKP 01 49 01.4 -0.5**
MOR8 Moi Rana 139.03 350 *e*PKPdf **PKPdf 01 49 08.4 +0.9**
FINES FINESS Array B 140.38 340 PKhKP PKPpre 01 49 02.9
comp=Z,1.2nm,0.3s,baz=46,slow=4.0,SNR=23
FINES SKPbc **SKiKP 01 51 50.9 -0.8**
comp=Z,1.3nm,0.8s,baz=64,slow=3.2,SNR=3.6
MOL Molde 143.38 353 *e*PKPbc PKPab 01 49 14.1 0.0
DOMB Dombas 143.71 352 *e*PKPbc PKPbc 01 49 15.1 -0.2
AKN Aaknes 143.82 353 *e*PKPbc **PKPdf 01 49 16.2 -0.1**
NC303 NORSAR Array S 144.15 349 PKPbc 01 49 15.5 -1.1
NB2 NORSAR Subarra 144.35 349 PKP **PKPdf 01 49 16.5 -0.7**
comp=Z,2.8nm,0.6s,baz=12,slow=3.4
NOA NORSAR Array B 144.35 349 PKP **PKPdf 01 49 17.0 -0.2**
comp=Z,1.6nm,0.5s,baz=27,slow=3.4,SNR=15
NC602 NORSAR Array S 144.58 349 *e*PKPbc **PKPdf 01 49 16.9 -0.7**
NAO01 NORSAR Array S 144.59 350 PKPdf **PKPdf 01 49 17.8 +0.3**
HYA Hoyanger 144.90 354 *e*PKPab **PKPab 01 49 20.8 +0.8**
SKAR Skarslia 145.13 352 *e*PKPdf **PKPbc 01 49 19.3 -0.3**
SUE Sulen 145.14 355 *e*PKPab **PKPab 01 49 21.0 +0.2**
PABE Paberze 145.56 334 **PKPdf 01 49 19.9 +0.6**
GAZ Gaziantep 145.60 298 PKPbc **PKPbc 01 49 21.8 0.0**
ASK Askoy 145.67 354 *e*PKPdf **PKPdf 01 49 19.9 +0.6**
BER Bergen 145.75 354 *e*PKPdf **PKPdf 01 49 20.3 +0.8**
KONO Kongsberg 145.93 350 *e*PKPbc **PKPbc 01 49 21.8 -0.1**
ODD1 Odda 146.08 353 *e*PKPbc **PKPbc 01 49 22.6 +0.2**
AKASG Malin Array Be 146.29 324 PKPbc **PKPbc 01 49 22.6 -0.5**
comp=Z,1.3nm,0.4s,baz=45,slow=3.9,SNR=13
AKASG Malin Array Be 146.29 324 **PKPbc 01 49 22.5 -0.7**
BLS5 Blasjo 146.58 353 *e*PKPab **PKPab 01 49 26.6 -0.1**
BR131 Keskin Array S 147.91 303 **PKPbc 01 49 26.5 -1.5**
BRTR Keskin Array B 147.91 303 PKPbc **PKPbc 01 49 27.7 -0.3**
comp=Z,0.8nm,0.5s,baz=151,slow=1.8,SNR=9.0
BRTR PKPab **PKPab 01 49 32.5 -0.5**
comp=Z,1.2nm,0.7s,baz=147,slow=4.6,SNR=7.6
BUR08 Bucovina Ar. S 150.21 322 **PKPbc 01 49 32.8 -0.4**
KOLS Kolonicke sedl 150.92 327 *e*PKP **PKiKP 01 49 35.7 +0.7**
DPC Dobruska-Polom 152.48 335 *e*PKPAB **PKPab 01 49 52.1 +0.5**
CLL Collm 152.82 340 *e*PKPbc **PKiKP 01 49 39.0 +0.2**
comp=Z,4.0nm,1.0s
CLL ⇓*i*PKPab **PKPab 01 49 52.5 -0.4**
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 154.50 337 *e*PKPAB **PKPab 01 50 00.3 0.0**
GERES GERESS Array B 154.69 336 PKPbc **PKiKP 01 49 42.4 -0.5**
comp=Z,0.1nm,0.3s,baz=37,slow=6.9,SNR=3.9
GERES PKPab **PKPab 01 50 01.1 -0.1**
comp=Z,0.4nm,0.5s,baz=32,slow=5.3,SNR=6.9
TORD Torodi Ar. Bea 166.42 193 PKPab **PKPab 01 50 53.5 +0.4**
comp=Z,1.2nm,0.5s,baz=163,slow=3.7,SNR=6.7
ESDC Sonseca Array 166.66 8 PKPab **PKPab 01 50 53.1 -0.6**
comp=Z,0.6nm,0.8s,baz=356,slow=4.5,SNR=4.2

IDC 24 02:03:23.8±3.1, 17°.50S×174°.68W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/26, mbtmp3.8/5, Error ellipse: s-maj=184.9km s-min=24.7km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.20**	**259**	P	P	02 12 06.4	-0.1
0.4nm,0.3s,baz=98,slow=7.4,SNR=21							
ASAR	**Alice Springs**	**48.32**	**254**	P	P	02 12 07.3	-0.1
5.0nm,0.7s,baz=87,slow=8.6,SNR=44							
NVAR	**Mina Array Bea**	**76.70**	**42**	P	P	02 15 17.6	+0.4
0.5nm,0.7s,baz=224,slow=10,SNR=4.5							
PDAR	**Pinedale Array**	**84.64**	**42**	P	P	02 15 59.3	-0.4
0.2nm,0.6s,baz=209,slow=5.2,SNR=1.9							
ILAR	**Eielson Array**	**84.73**	**12**	P	P	02 15 59.4	+0.1
0.3nm,0.5s,baz=233,slow=5.9,SNR=6.3							
GERES	**GERESS Array B**	**148.00**	**350**	PKPbc	PKPbc	02 23 10.2	-1.0
0.4nm,0.6s,baz=5.0,slow=4.6,SNR=4.2							

*ATH **24** 02:24:28.3, 34°.12N×26°.45E, h54km±26km, ML3.0/9, Error ellipse: s-maj=29.7km s-min=3.1km az=349.0*
*IDC **24** 02:24:29.6±1.2, 34°.15N×26°.26E, h0km, mb3.7/6, mb1 3.6/12, mb1mx3.5/59, mbtmp3.5/12, ML3.6/5, MS2.6/2, Ms1 2.6/2, ms1mx2.1/60, Error ellipse: s-maj=24.5km s-min=16.4km az=10.0*
*THE **24** 02:24:31.1, 34°.28N×26°.46E, h0km±2km, ML2.8/5, Error ellipse: s-maj=6.0km s-min=0.9km az=126.0*
*DDA **24** 02:24:37.6, 34°.54N×26°.55E, h8km±5km, ML2.6*
ISC 24 02:24:30.3±1.6, 34°.27N±0°.06×26°.43E±0°.04, h2km±10km, n48, σ1§98/65, mb3.8/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.86**	**348**	P	**Pb**	**02 24 48.5**	**+0.4**
ZKR				S	**Sn**	**02 25 01.6**	**-1.2**
778nm,0.5s							
ZKR	**Zakros**	**0.86**	**348**	P	**Pb**	**02 24 48.5**	**+0.4**
ZKR				S	**Sn**	**02 25 01.6**	**-1.2**
ZKR				AML	AML	02 25 10.6	
comp=N,1015μm,0.6s							
ZKR				AML	AML	02 25 14.3	
comp=E,2099μm,0.6s							
FRMA	**Ierapetra Chan**	**0.94**	**322**	P	**Pg**	**02 24 48.1**	**-0.3**
FRMA				S	**Sb**	**02 25 02.1**	**-0.2**
comp=E,420nm,0.5s							
STIA	**Sitia Lasithi**	**0.97**	**343**	P	**Pb**	**02 24 50.3**	**+0.4**
STIA				S	**Sb**	**02 25 04.3**	**+1.0**
LAST	**Lasithi**	**1.19**	**319**	P	**Pg**	**02 24 52.7**	**-0.4**
LAST				S	**Sn**	**02 25 10.5**	**-0.4**
comp=E,468nm,0.6s							
LAST	**Lasithi**	**1.19**	**319**	P	**Pg**	**02 24 52.3**	**-0.8**
LAST				AML	AML	02 25 18.3	
comp=E,954μm,0.5s							
LAST				AML	AML	02 25 24.8	
comp=N,872μm,0.8s							
NPS	**Neapolis**	**1.20**	**326**	P	**Pg**	**02 24 53.4**	**+0.1**
NPS				S	**Sn**	**02 25 11.3**	**+0.2**
comp=N,482nm,0.5s							

NPS Neapolis 1.20 326 P **Pg 02 24 53.4 +0.1**
NPS AML AML 02 25 21.4
comp=E,1180μm,0.5s
NPS AML AML 02 25 21.6
comp=N,780μm,0.6s
SIVA Sivas 1.53 300 P **Pn 02 24 58.7 0.0**
SIVA S **Sg 02 25 20.1 +0.5**
comp=N,630nm,0.7s
SIVA Sivas 1.53 300 P **Pn 02 24 58.4 -0.3**
SIVA AML AML 02 25 31.4
comp=E,1476μm,0.8s
SIVA AML AML 02 25 47.8
comp=N,997μm,0.6s
IDI Anoyia 1.63 309 Pn **Pb 02 25 00.8 -0.3**
comp=N,6.7nm,0.3s,baz=173,slow=7.8,SNR=120
IDI Sn **Sg 02 25 22.8 +0.2**
comp=N,9.5nm,0.3s,baz=47,slow=21,SNR=7.6
IDI Anoyia 1.63 309 P **Pn 02 24 59.6 -0.5**
IDI Anoyia 1.63 309 P **Pn 02 24 59.6 -0.5**
IDI AML AML 02 25 28.9
comp=N,348μm,0.6s
IDI AML AML 02 25 34.2
comp=E,317μm,0.9s
GVD Gavdhos 2.02 287 P **Pn 02 25 05.2 -0.2**
GVD AML AML 02 25 45.4
comp=E,443μm,0.4s
GVD AML AML 02 25 49.6
comp=N,497μm,0.8s
VAM Vamos 2.16 302 P **Pn 02 25 07.7 +0.4**
VAM AML AML 02 25 52.7
comp=E,326μm,0.5s
VAM AML AML 02 26 02.6
comp=N,313μm,1.0s
IMMV Iera Moni Meta 2.34 301 P **Pn 02 25 10.5 +0.6**
IMMV Iera Moni Meta 2.34 301 P **Pn 02 25 10.5 +0.6**
IMMV AML AML 02 25 57.0
comp=E,321μm,0.7s
IMMV AML AML 02 25 58.1
comp=N,262μm,0.5s
ARG Arkhangelos 2.39 35 P **Pn 02 25 11.7 +1.2**
ARG AML AML 02 26 12.7
comp=N,182μm,1.0s
ARG AML AML 02 26 13.2
comp=E,191μm,1.1s
DAT Datca 2.63 21 *i* P Pn 02 25 04.2 -10
TURN Turunc 2.91 30 *i* P **Pb 02 25 20.8 -2.1**
TURN *i* S **Sn 02 25 53.0 -0.1**
TURN IAML 02 26 10.0
comp=E,20nm,0.4s
BDRM Kayabasi 2.91 16 *i* P **Pn 02 25 19.3 +1.5**
BDRM IAML 02 25 55.0
comp=N,29nm,0.5s
DALY Dalyan (Mula) 3.12 35 *i* P **Pb 02 25 24.0 -2.5**
DALY *i* S **Sn 02 25 54.9 -3.6**
DALY IAML 02 26 14.0
comp=N,17nm,0.8s
KSL Kastellorizon 3.19 53 P **Pb 02 25 24.8 -3.0**
FETY Fethiye 3.20 42 *i* P **Pn 02 25 23.9 +2.1**
FETY *i* S **Sn 02 25 59.2 -1.4**
AKAS Kas 3.25 52 *i* P **Pn 02 25 24.9 +2.3**
AKAS *i* S **Sn 02 26 02.6 +0.6**
AKAS IAML 02 26 09.0
comp=E,25nm,0.4s
MULA Mugla, Merkez- 3.35 27 *i* P **Pn 02 25 26.4 +2.5**
MULA *i* S **Sn 02 25 59.4 -5.0**
MULA IAML 02 26 10.0
comp=E,17nm,0.9s
AYDN Tasoluk 3.58 19 *i* P **Pn 02 25 29.1 +2.1**
CAEL Denizli, Camel 3.69 39 *i* P **Pn 02 25 31.0 +2.4**
TAVA DENIZLI_Tavas 3.77 32 *i* P **Pn 02 25 32.0 +2.4**
TAVA *i* S **Sn 02 26 12.6 -2.1**
TAVA IAML 02 26 25.0
comp=E,11nm,0.6s
AKUM Antalya-Kumluc 3.80 56 *i* P **Pn 02 25 32.5 +2.6**
AKUM *i* S **Sn 02 26 14.1 -1.1**
AKUM IAML 02 26 21.0
comp=N,14nm,0.6s
AKUM IAML 02 26 30.0
comp=E,18nm,0.5s
GOLH Golhisar 3.91 40 *i* P **Pn 02 25 34.7 +3.2**
GOLH IAML 02 26 25.0
comp=N,16nm,0.4s
KORT Korkueli 4.20 48 *i* P **Pn 02 25 40.1 +4.6**
KORT *i* S **Sn 02 26 29.4 +4.2**
KORT IAML 02 26 36.0
comp=N,21nm,0.6s
BUCA Burdur, Bucak- 4.54 47 *i* P **Pn 02 25 44.5 +4.4**
BUCA *i* S **Sn 02 26 34.7 +1.2**
BUCA IAML 02 26 41.0
comp=N,12nm,0.6s
BUCA IAML 02 26 47.0
comp=E,12nm,0.6s
MMAI Mount Meron Ar 7.58 97 Pn **Pn 02 26 24.0 +2.0**
comp=E,1.2nm,0.3s,baz=270,slow=11,SNR=5.1
MMAI Sn **Sn 02 27 49.1 +0.5**
comp=E,1.7nm,0.3s,baz=277,slow=28,SNR=1.8
BRTR Keskin Array B 7.93 45 Pn **Pn 02 26 29.8 +3.0**
comp=E,0.1nm,0.3s,baz=213,slow=16,SNR=4.9
BRTR Pg Pb 02 26 53.2 +4.7
comp=E,0.3nm,0.3s,baz=263,slow=10.0,SNR=10
BRTR Sn **Sn 02 27 56.3 -0.9**
comp=E,0.5nm,0.3s,baz=289,slow=28,SNR=8.5
OHR Ohrid 8.16 328 *i* Pn **Pn 02 26 27.9 -2.0**
EIL Elat 8.56 120 Pn **Pn 02 26 35.4 0.0**
comp=E,0.3nm,0.3s,baz=229,slow=4.6,SNR=1.8
EIL Sn **Sn 02 28 08.9 -3.7**
comp=E,0.5nm,0.3s,baz=231,slow=16,SNR=2.4
KVAR Kislovodsk Arr 15.88 48 LR LR 02 34 51.8
comp=E,18nm,18.8s,baz=276,slow=39
KBZ Khabaz 15.88 49 Pn **P 02 28 21.8 +3.1**
comp=E,0.1nm,0.3s,baz=295,slow=7.5,SNR=5.3
AKASG Malin Array Be 16.55 6 Pn **P 02 28 25.3 -0.8**
comp=E,1.0nm,0.3s,baz=193,slow=11,SNR=7.5
VRAC Vranov 16.70 337 LR LR 02 36 09.5
comp=E,20nm,18.9s,baz=260,slow=42
GERES GERESS Array B 17.37 331 P **Pn 02 28 33.8 -0.1**
comp=E,0.1nm,0.3s,baz=137,slow=12,SNR=2.5
ESDC Sonseca Array 24.81 291 P **P 02 29 51.5 -2.4**
comp=E,0.3nm,0.6s,baz=79,slow=9.3,SNR=5.5
TORD Torodi Ar. Bea 30.75 233 P **P 02 30 45.8 -1.4**
comp=E,0.2nm,0.3s,baz=32,slow=11,SNR=1.7
ARCES ARCESS Array B 35.32 359 P **P 02 31 25.3 -1.3**
comp=E,1.3nm,0.9s,baz=176,slow=7.2,SNR=5.1
MKAR Makanchi Array 43.40 56 P **P 02 32 35.8 +1.5**
comp=E,1.3nm,0.6s,baz=280,slow=6.5,SNR=18
ZALV Zalesovo Beam 44.87 46 P **P 02 32 46.2 +0.3**
comp=E,1.0nm,0.5s,baz=272,slow=8.6,SNR=4.9
SONM Songino Array 59.24 51 P **P 02 34 34.7 +1.4**
comp=E,0.4nm,0.5s,baz=287,slow=7.0,SNR=2.0

IDC 24 02:31:24.4±3.3, 2°.59S×100°.35E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/58, mbtmp3.7/4, Error ellipse: s-maj=141.2km s-min=26.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**28.18**	**259**	T	T	03 06 12.9	
baz=81,slow=75,SNR=358							
H08S3	**Diego Garcia H**	**28.19**	**259**	T	T	03 06 14.0	
baz=81,slow=75,SNR=386							
H08S1	**Diego Carcia H**	**28.20**	**259**	T	T	03 06 14.3	
baz=81,slow=75,SNR=275							
H01W3	**Cape Leeuwin H**	**34.59**	**160**	T	T	03 14 38.4	
baz=335,slow=76,SNR=14							
H02W2	**Cape Leeuwin H**	**34.60**	**160**	T	T	03 14 39.2	
baz=335,slow=76,SNR=17							
H01W1	**Cape Leeuwin H**	**34.61**	**160**	T	T	03 14 39.2	
baz=335,slow=76,SNR=10							
WRA	**Warramunga Arr**	**37.39**	**120**	P	P	02 38 39.3	-0.2
0.2nm,0.5s,baz=303,slow=8.2,SNR=9.5							
SONM	**Songino Array**	**50.50**	**5**	P	P	02 40 25.1	+0.6
1.2nm,0.8s,baz=183,slow=8.1,SNR=5.2							
MKAR	**Makanchi Array**	**51.69**	**344**	P	P	02 40 33.8	+0.5
0.9nm,0.5s,baz=150,slow=8.1,SNR=11							
KURBB	**Kurchatov Arra**	**56.21**	**343**	P	P	02 41 05.0	-1.3
0.5nm,0.6s,ba

SOF ***24*** *02:39:42.7, 40°.33N×26°.39E, h10km, MD4.7*
MOS ***24*** *02:39:42.0±1.0, 40°.34N×26°.23E, h10km, mb4.9/39, MS4.0/17, Error ellipse: s-maj=4.4km s-min=2.8km az=100.5*
IDC ***24*** *02:39:42.1±0.5, 40°.27N×26°.26E, h0km, mb4.3/31, mb1 4.4/44, mb1mx4.3/62, mbtmp4.3/44, ML4.0/12, MS4.0/38, Ms1 4.0/38, ms1mx3.9/53, Error ellipse: s-maj=9.4km s-min=8.5km az=21.0*
DDA ***24*** *02:39:42.4, 40°.25N×26°.27E, h19km±1km, MW4.8*
PDG ***24*** *02:39:42.7±0.5, 40°.26N×26°.27E, h18km, ML4.4/14, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
ISK ***24*** *02:39:42.4, 40°.24N×26°.29E, h12km, ML4.9/18*
GCMT ***24*** *02:39:43.7±0.3, 40°.18N±0°.02×26°.33E±0°.03, h16km±1km, MW4.8/75, Moment Tensor Solution. s16,c17; s75,c129; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.64±.15; Mθθ2.25±.10; Mφφ-0.60±.08; Mrθ-0.40±.23; Mrφ0.50±.06; Mθφ0.99±.31; Best double couple: M0 2.33300×10^16 NP1:φs232.00000°, δ50.00000°, λ-134.00000°. NP2: φs109.00000°, δ57.00000°, λ-50.00000°. Principal axes: T 2.3480, Plg4.0000°, Azm172.0000°; N -0.0230, Plg32.0000°, Azm264.0000°; P -2.3180, Plg57.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
THE ***24*** *02:39:43.3, 40°.25N×26°.25E, h11km±1km, ML4.4/16 Error ellipse: s-maj=1.0km s-min=0.5km az=271.0*
MED_RC ***24*** *02:39:43.0±0.3, 40°.26N×26°.51E, h10km, MW4.7/12, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s12,c29; Duration: 1±1 Moment tensor: Scale 10^16Nm; Mrr-0.91±.07; Mθθ1.64±.06; Mφφ-0.74±.05; Mrθ0.44±.26; Mrφ0.67±.05; Mθφ-0.43±.36; Best double couple: M0 1.65000×10^16 NP1:φs39.00000°, δ54.00000°, λ-148.00000°. NP2:φs289.00000°, δ65.00000°, λ-40.00000°. Principal axes: T 1.8500, Plg7.0000°, Azm347.0000°; N -0.4000, Plg44.0000°, Azm83.0000°; P -1.4500, Plg46.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***24*** *02:39:43.7±1.7, 40°.28N±0°.04×26°.27E±0°.04, h10km±2km, mb4.8/108, ML4.4(THE), ML4.8(ISK), ML5.1/2(BUC) Error ellipse: s-maj=6.3km s-min=3.0km az=213.0*
ATH ***24*** *02:39:43.7, 40°.28N×26°.22E, h16km±3km, ML4.5/7, Error ellipse: s-maj=3.2km s-min=1.0km az=38.0*
BGS ***24*** *02:39:43.2±2.0, 40°.28N×26°.21E, h10km, mb5.0*
PRU ***24*** *02:39:51.1±0.0, 40°.64N×25°.59E, h0km, M4.7*

ISC 24 02:39:43.4±0.7, **40°.26N**±0°.01×**26°.29E**±0°.01, **h9**km±4km, **n813**, σ1**9**37/881, **mb4.8**/135, **MS4.**1/36, **131C-149D, Fault plane solution: NP1:**φs111.47464°, δ80.12889°, λ-55.17596°. **NP2:**φs215.31865°, δ36.02535°, λ-163.05338°. **Principal axes:** T Plg26.7858°, Azm174.5810°; N Plg34.2361°, Azm284.6739°; P Plg43.8759°, Azm55.5426°; **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.20**	**45**	PG	**Pg**	**02 39 47.2**	**-0.3**
GELI				SG	**Sg**	**02 39 51.1**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.20**	**45**	Pg	**Pg**	**02 39 47.2**	**-0.3**
ECEA	**Canakkale, Ece**	**0.23**	**203**	⇑*iP*	**Pg**	**02 39 48.0**	**-0.1**
ECEA				*i* S	**Sg**	**02 39 52.2**	**+1.0**
ECEA				IAML		02 39 53.0	
	comp=E,326μm,0.6s						
GOKA	**anakkale-Gk**	**0.30**	**257**	⇓*iP*	**Pg**	**02 39 49.3**	**0.0**
GOKA				*i* S	**Sg**	**02 39 53.9**	**+0.5**
GOKA				IAML		02 39 54.0	
	comp=N,274μm,1.2s						
GOKA				IAML		02 40 00.0	
	comp=E,232μm,0.8s						
GADA	**Gvkgeada**	**0.31**	**258**	P	**Pg**	**02 39 49.3**	**-0.2**
GADA				S	**Sg**	**02 39 53.9**	**+0.3**
	comp=E,155μm,1.0s						
GADA	**Gvkgeada**	**0.31**	**258**	PG	**Pg**	**02 39 49.0**	**-0.5**
GADA				SG	**Sg**	**02 39 53.8**	**+0.2**
GADA	**Gvkgeada**	**0.31**	**258**	Pg	**Pg**	**02 39 49.0**	**-0.5**
EZN	**Ezine**	**0.43**	**176**	P	**Pg**	**02 39 51.2**	**-0.6**
EZN				S	**Sg**	**02 39 57.6**	**+0.1**
	comp=E,51μm,0.6s						
EZN	**Ezine**	**0.43**	**176**	P	**Pg**	**02 39 50.5**	**-1.3**
EZN				SG	**Sg**	**02 39 57.5**	**+0.1**
EZN	**Ezine**	**0.43**	**176**	PG	**Pg**	**02 39 51.3**	**-0.6**
EZN				SG	**Sg**	**02 39 57.6**	**+0.1**
EZN	**Ezine**	**0.43**	**176**	Pg	**Pg**	**02 39 50.5**	**-1.3**
CAVK	**Edirne/Enez-Ca**	**0.44**	**348**	⇑*iP*	**Pg**	**02 39 52.1**	**0.0**
CAVK				*i* S	**Sg**	**02 39 58.5**	**+0.5**
ERIK	**Erikli-Kesan**	**0.45**	**22**	PG	**Pg**	**02 39 51.9**	**-0.2**
ERIK				SG	**Sb**	**02 39 59.1**	**-1.1**
ERIK	**Erikli-Kesan**	**0.45**	**22**	Pg	**Pg**	**02 39 52.1**	**0.0**
BOZC	**Bozcaada**	**0.45**	**204**	⇑*iP*	**Pg**	**02 39 51.6**	**-0.6**
BOZC				*i* P	**Pg**	**02 39 51.7**	**-0.6**
BOZC				*i* S	**Sg**	**02 39 58.5**	**+0.3**
BOZC				IAML		02 39 59.0	
	comp=N,79μm,0.8s						
BOZC				IAML		02 39 59.0	
	comp=E,80μm,0.5s						
BOZC				IAML		02 39 59.0	
	comp=N,90μm,0.7s						
BOZC				IAML		02 39 59.0	
	comp=E,58μm,0.5s						
BOZC	**Bozcaada**	**0.45**	**204**	PG	**Pg**	**02 39 51.6**	**-0.6**
BOZC				SG	**Sg**	**02 39 58.3**	**+0.1**
ENEZ	**Enez**	**0.49**	**348**	P	**Pg**	**02 39 52.8**	**-0.1**
ENEZ				S	**Sg**	**02 40 00.1**	**+0.7**
	comp=E,110μm,0.3s						
ENEZ	**Enez**	**0.49**	**348**	PG	**Pg**	**02 39 52.9**	**-0.1**
ENEZ				SG	**Sg**	**02 40 00.3**	**+0.9**
ENEZ	**Enez**	**0.49**	**348**	Pg	**Pg**	**02 39 52.9**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**0.55**	**159**	⇑*iP*	**Pg**	**02 39 53.8**	**-0.3**
BAYC				*i* S	**Sg**	**02 40 01.7**	**+0.3**
SMTH	**Samothraki Isl**	**0.62**	**290**	P	**Pg**	**02 39 54.6**	**-0.8**
SMTH				S	**Sg**	**02 40 03.2**	**-0.3**
	comp=E,31μm,0.3s						
SMTH	**Samothraki Isl**	**0.62**	**290**	P	**Pg**	**02 39 54.3**	**-1.0**
SMTH				S	**Sg**	**02 40 03.0**	**-0.5**
SMTH				AML	AML	02 40 07.4	
	comp=N,61731μm,0.3s						
SMTH				AML	AML	02 40 07.5	
	comp=E,62792μm,0.2s						
KESN	**Edirne-Kesan**	**0.64**	**28**	⇓*iP*	**Pg**	**02 39 55.0**	**-0.9**
KESN				*i* S	**Sg**	**02 40 04.8**	**+0.5**
KESN				IAML		02 40 05.0	
	comp=N,32μm,0.6s						
KESN				IAML		02 40 08.0	
	comp=E,43μm,0.3s						
ALN	**Alexandroupoli**	**0.67**	**344**	P	**Pg**	**02 39 55.6**	**-0.6**
ALN				S	**Sb**	**02 40 06.1**	**-0.4**
	comp=E,31μm,0.3s						
ALN	**Alexandroupoli**	**0.67**	**344**	P	**Pg**	**02 39 55.7**	**-0.6**
ALN				S	**Sg**	**02 40 05.4**	**+0.4**
ALN				AML	AML	02 40 06.9	
	comp=E,83206μm,0.3s						
ALN				AML	AML	02 40 11.3	
	comp=N,42023μm,0.4s						
ALN	**Alexandroupoli**	**0.67**	**344**	P	**Pg**	**02 39 55.6**	**-0.6**
ALN				S	**Sb**	**02 40 05.8**	**-0.7**
ALN	**Alexandroupoli**	**0.67**	**344**	PG	**Pg**	**02 39 55.9**	**-0.4**
ALN				SG	**Sb**	**02 40 05.8**	**-0.7**
ALN	**Alexandroupoli**	**0.67**	**344**	Pg	**Pg**	**02 39 55.8**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.76**	**189**	⇑*iP*	**Pg**	**02 39 57.2**	**-0.9**
KOCA				*i* S	**Sn**	**02 40 11.1**	**-0.8**
KOCA				IAML		02 40 13.0	
	comp=E,29μm,0.6s						
KOCA				IAML		02 40 15.0	
	comp=N,27μm,0.3s						
RKY	**Sarkoy-Tekirda**	**0.80**	**57**	PG	**Pg**	**02 39 58.5**	**-0.4**
RKY				SG	**Sb**	**02 40 10.4**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.80**	**57**	Pg	**Pg**	**02 39 59.0**	**+0.1**
SART	**Tekirdag**	**0.81**	**57**	⇓*iP*	**Pg**	**02 39 57.9**	**-1.0**
SART				*i* S	**Sb**	**02 40 10.5**	**-0.1**
MAR6	**Marsite Statio**	**0.87**	**59**	PG	**Pg**	**02 39 59.7**	**-0.4**
MAR6				SG	**Sb**	**02 40 12.5**	**+0.1**
MAR2	**Marsite Statio**	**0.91**	**59**	PG	**Pg**	**02 40 00.4**	**-0.4**
MAR2				SG	**Sb**	**02 40 13.6**	**+0.2**
MAR3	**Marsite Statio**	**0.91**	**57**	PG	**Pg**	**02 40 00.1**	**-0.8**
UKOP	**Uzunkopru-Edir**	**0.91**	**17**	PG	**Pg**	**02 40 00.6**	**-0.3**
UKOP				SG	**Sb**	**02 40 13.9**	**+0.4**
UKOP	**Uzunkopru-Edir**	**0.91**	**17**	Pg	**Pg**	**02 40 01.0**	**+0.1**
LIA	**Limnos Island**	**0.92**	**247**	P	**Pg**	**02 39 59.8**	**-1.3**
LIA				S	**Sg**	**02 40 13.2**	**+0.1**
	comp=N,38μm,0.6s						
LIA	**Limnos Island**	**0.92**	**247**	P	**Pg**	**02 39 59.6**	**-1.5**
LIA				S	**Sg**	**02 40 12.8**	**-0.3**
LIA				AML	AML	02 40 16.1	
	comp=E,82272μm,0.8s						
LIA				AML	AML	02 40 20.6	
	comp=N,70438μm,0.5s						
GZKV	**Gazikoy-Tekird**	**0.93**	**58**	PG	**Pg**	**02 40 01.1**	**-0.2**
GZKV	**Gazikoy-Tekird**	**0.93**	**58**	Pg	**Pg**	**02 40 01.1**	**-0.2**
MAR4	**Marsite Statio**	**0.94**	**55**	PG	**Pg**	**02 40 00.7**	**-0.7**
MAR4				SG	**Sb**	**02 40 14.5**	**+0.1**
KNL	**Balıkesir**	**0.95**	**89**	⇓*iP*	**Pg**	**02 40 00.7**	**-0.9**
KNL				*i* S	**Sb**	**02 40 14.7**	**+0.1**
BUHA	**Balikesir, Bur**	**0.97**	**141**	⇑*iP*	**Pg**	**02 40 01.3**	**-0.7**
BUHA				*i* S	**Sg**	**02 40 14.8**	**+0.2**
BUHA				IAML		02 40 17.0	
	comp=E,25μm,0.5s						
AYVA	**Ayvalik**	**1.00**	**162**	⇑*iP*	**Pg**	**02 40 01.8**	**-0.7**
AYVA				*i* S	**Sb**	**02 40 16.0**	**0.0**
AYVA				IAML		02 40 18.0	
	comp=N,53μm,0.6s						
AYVA				IAML		02 40 18.0	
	comp=E,37μm,0.7s						
PRK	**Paraskevi**	**1.01**	**181**	P	**Pb**	**02 40 02.8**	**-0.2**
PRK				S	**Sn**	**02 40 17.2**	**-0.8**
	comp=E,83μm,0.9s						
PRK	**Paraskevi**	**1.01**	**181**	P	**Pg**	**02 40 02.7**	**-0.1**
PRK				S	**Sb**	**02 40 16.9**	**+0.5**
PRK				AML	AML	02 40 20.3	
PRK				AML	AML	02 40 21.4	
MRMT	**Marmara Adasi**	**1.06**	**70**	PG	**Pg**	**02 40 02.4**	**-1.3**
MRMT	**Marmara Adasi**	**1.06**	**70**	Pg	**Pg**	**02 40 02.6**	**-1.1**
RDO	**Rodhopi**	**1.06**	**327**	P	**Pg**	**02 40 02.4**	**-1.3**
RDO				S	**Sn**	**02 40 19.1**	**-0.1**
	comp=E,23μm,0.6s						
RDO	**Rodhopi**	**1.06**	**327**	P	**Pg**	**02 40 02.1**	**-1.6**
RDO				S	**Sg**	**02 40 16.3**	**-1.1**
RDO				AML	AML	02 40 19.8	
	comp=N,52025μm,0.6s						
RDO				AML	AML	02 40 20.3	
	comp=E,39818μm,0.6s						
RDO	**Rodhopi**	**1.06**	**327**	PG	**Pg**	**02 40 02.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.09**	**101**	PN	**Pg**	**02 40 03.7**	**-0.7**
GONE	**Gonen-Balikesi**	**1.09**	**101**	Pn	**Pg**	**02 40 03.6**	**-0.7**
SIGR	**SIGRI**	**1.10**	**198**	P	**Pg**	**02 40 02.9**	**-1.5**
SIGR				S	**Sg**	**02 40 18.4**	**-0.3**
	comp=E,66μm,0.4s						
SIGR	**SIGRI**	**1.10**	**198**	P	**Pg**	**02 40 03.0**	**-1.5**
SIGR				S	**Sb**	**02 40 18.8**	**-0.1**
SIGR				AML	AML	02 40 20.2	
SIGR				AML	AML	02 40 20.4	
SIGR	**SIGRI**	**1.10**	**198**	PN	**Pg**	**02 40 03.4**	**-1.1**
BALY	**Balya**	**1.15**	**116**	⇑*iP*	**Pg**	**02 40 04.3**	**-1.1**
BALY				*i* S	**Sg**	**02 40 19.7**	**-0.5**
BALY				IAML		02 40 22.0	
	comp=E,13μm,0.7s						
BALY				IAML		02 40 23.0	
	comp=N,26μm,0.7s						
TKR	**Tekirdag**	**1.20**	**52**	PN	**Pb**	**02 40 05.5**	**-0.8**
EDC	**Edincik**	**1.21**	**85**	PN	**Pb**	**02 40 05.5**	**-0.9**
EFSA	**Agios Efstrati**	**1.23**	**235**	P	**Pn**	**02 40 06.5**	**-0.2**
THAS	**Thassos island**	**1.25**	**287**	P	**Pn**	**02 40 04.8**	**-2.2**
THAS				S	**Sb**	**02 40 22.7**	**-0.6**
	comp=N,13μm,0.5s						
THAS	**Thassos island**	**1.25**	**287**	P	**Pn**	**02 40 05.1**	**-1.9**
THAS				S	**Sb**	**02 40 20.8**	**-2.5**
THAS				AML	AML	02 40 23.6	
	comp=N,23812μm,0.4s						
THAS				AML	AML	02 40 28.1	
	comp=E,25189μm,0.4s						
DKL	**Dikili**	**1.28**	**158**	PN	**Pn**	**02 40 06.4**	**-1.0**
CAND	**Candarli**	**1.36**	**163**	PN	**Pn**	**02 40 07.6**	**-0.9**
BALB	**Balikesir**	**1.37**	**116**	PN	**Pn**	**02 40 07.7**	**-1.0**
BALB	**Balikesir**	**1.37**	**116**		**Pn**	**02 40 08.0**	**-0.7**
CRLT	**Corlu**	**1.40**	**51**	PN	**Pn**	**02 40 08.5**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.41**	**128**	⇑*iP*	**Pn**	**02 40 09.1**	**-0.2**
STEP				*i* S	**Sb**	**02 40 27.6**	**-0.3**
STEP				IAML		02 40 33.0	
	comp=E,28μm,0.9s						
STEP				IAML		02 40 36.0	
	comp=N,29μm,1.2s						
ZEDA	**zmir-Bergama**	**1.43**	**154**	⇑*iP*	**Pn**	**02 40 09.0**	**-0.4**
ZEDA				*i* S	**Sn**	**02 40 27.7**	**-0.6**
ZEDA				IAML		02 40 30.0	
	comp=E,17μm,0.4s						
KAVA	**Kavala**	**1.54**	**299**	P	**Pn**	**02 40 09.4**	**-1.6**
KAVA				S	**Sn**	**02 40 29.5**	**-1.6**
	comp=E,7μm,0.5s						
KAVA	**Kavala**	**1.54**	**299**	P	**Pn**	**02 40 09.7**	**-1.3**
KDZ	**Kurdzhali**	**1.54**	**335**	*i* P	**Pb**	**02 40 12.0**	**-0.1**
FOCM	**Foa**	**1.58**	**167**	PN	**Pn**	**02 40 10.7**	**-0.8**
KCTX	**Karacabey (Bur**	**1.58**	**89**	PN	**Pn**	**02 40 10.7**	**-0.9**
KVLA	**Kavala**	**1.60**	**296**	P	**Pn**	**02 40 11.5**	**-0.3**
EDRB	**Edirne**	**1.62**	**12**	P	**Pn**	**02 40 10.6**	**-1.6**
EDRB				S	**Sn**	**02 40 33.4**	**+0.2**
	comp=E,14μm,0.9s						
EDRB	**Edirne**	**1.62**	**12**	PN	**Pn**	**02 40 11.0**	**-1.2**
KIRK	**Kırklareli**	**1.64**	**22**	⇓*iP*	**Pn**	**02 40 10.7**	**-1.7**
KIRK				IAML		02 40 36.0	
	comp=N,7μm,0.8s						
KIRK				IAML		02 40 36.0	
	comp=E,7μm,1.1s						
PHSR	**Pinarhisar**	**1.66**	**34**	PN	**Pn**	**02 40 11.6**	**-1.1**
SLVT	**Silivri**	**1.75**	**56**	PN	**Pn**	**02 40 13.4**	**-0.6**
OUR	**Ouranopolis**	**1.77**	**273**	P	**Pn**	**02 40 12.2**	**-1.9**
OUR				S	**Sn**	**02 40 34.3**	**-2.4**
	comp=E,8μm,0.6s						
OUR	**Ouranopolis**	**1.77**	**273**	P	**Pn**	**02 40 12.3**	**-1.9**
VIZE	**Kirklareli, Vi**	**1.77**	**41**	⇓*iP*	**Pn**	**02 40 13.1**	**-1.1**
VIZE				*i* S	**Sn**	**02 40 34.2**	**-2.6**
DURS	**Dursunbey**	**1.80**	**111**	⇓*iP*	**Pn**	**02 40 14.9**	**+0.1**
DURS				*i* S	**Sn**	**02 40 38.2**	**+0.5**
DURS				IAML		02 40 43.0	
	comp=E,8μm,0.2s						
DURS				IAML		02 40 48.0	
	comp=N,10μm,0.7s						
AKHS	**Akhisar**	**1.81**	**139**	⇑*iP*	**Pn**	**02 40 14.4**	**-0.4**
AKHS				*i* S	**Sn**	**02 40 35.1**	**-2.7**
ARMN	**Kirklareli, Me**	**1.82**	**28**	⇓*iP*	**Pn**	**02 40 13.9**	**-1.0**
ELBA	**Catalca**	**1.85**	**61**	⇓*iP*	**Pn**	**02 40 14.1**	**-1.3**
RZN	**Rozhen**	**1.86**	**321**	*i* P	**Pn**	**02 40 15.5**	**-0.1**
CHOS	**Chios island**	**1.88**	**186**	P	**Pn**	**02 40 14.7**	**-1.0**
CHOS				S	**Sn**	**02 40 38.9**	**-0.7**
	comp=N,17μm,0.9s						
DIM	**Dimitrovgrad**	**1.88**	**343**	*i* P	**Pn**	**02 40 15.5**	**-0.2**
URLA	**Izmir**	**1.91**	**173**	⇑*iP*	**Pn**	**02 40 15.3**	**-0.8**
URLA				*i* S	**Sn**	**02 40 37.9**	**-2.4**
URLA				IAML		02 40 51.0	
	comp=N,10μm,0.9s						
URLA				IAML		02 40 51.0	
	comp=E,8μm,0.7s						
SKY	**Skiros Island**	**1.93**	**225**	P	**Pn**	**02 40 14.4**	**-1.9**
CTYL	**Yalikoy Yolu**	**1.94**	**51**	PN	**Pn**	**02 40 15.7**	**-0.9**
CTKS	**Kestanelik-??a**	**1.95**	**59**	PN	**Pn**	**02 40 15.7**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**2.02**	**175**	⇑*iP*	**Pn**	**02 40 16.8**	**-0.9**
ZEYE				IAML		02 40 58.0	
	comp=E,6μm,0.4s						
ZEYE				IAML		02 40 59.0	
	comp=N,13μm,0.9s						
PAIG	**Paliouri**	**2.03**	**261**	P	**Pn**	**02 40 15.7**	**-2.0**
PLG	**Polygyros**	**2.18**	**274**	P	**Pn**	**02 40 18.2**	**-1.6**
PLG				S	**Sn**	**02 40 45.6**	**-1.3**
	comp=N,5μm,0.7s						
ULDT	**Uludag**	**2.18**	**92**	⇓*iP*	**Pn**	**02 40 19.6**	**-0.4**
ULDT				*i* S	**Sn**	**02 40 47.5**	**+0.2**
JMB	**Yambol**	**2.22**	**6**	*i* P	**Pb**	**02 40 23.0**	**-0.7**
IGD	**Bursa**	**2.23**	**89**	⇓*iP*	**Pn**	**02 40 19.9**	**-0.6**
DEMI	**Demirci**	**2.23**	**122**	⇑*iP*	**Pn**	**02 40 20.9**	**+0.3**
DEMI				*i* S	**Sn**	**02 40 45.3**	**-3.0**
DGB	**zmir**	**2.25**	**168**	⇑*iP*	**Pn**	**02 40 19.8**	**-1.0**
DGB				IAML		02 41 04.0	
	comp=N,4μm,0.9s						
ISK	**Istanbul-Kandi**	**2.26**	**68**	P	**Pn**	**02 40 19.6**	**-1.3**
ISK				S	**Sn**	**02 40 48.4**	**-0.4**
	comp=N,4μm,0.8s						
MMB	**Musomiste**	**2.35**	**305**	*i* P	**Pb**	**02 40 24.2**	**-1.8**
MANT	**Manisa**	**2.49**	**134**	⇑*iP*	**Pn**	**02 40 24.3**	**0.0**
KULA	**Kula-Manisa**	**2.53**	**133**	P	**Pn**	**02 40 24.9**	**+0.2**
THE	**Thessaloniki**	**2.56**	**279**	P	**Pb**	**02 40 28.0**	**-1.5**
	baz=280						
USAK	**Uak-Merkez**	**2.61**	**125**	⇑*iP*	**Pn**	**02 40 26.3**	**+0.4**
GCAM	**G?zelcaml?**	**2.66**	**164**	⇑*iP*	**Pn**	**02 40 25.5**	**-0.8**
GDZ	**Gediz**	**2.73**	**114**	⇓*iP*	**Pn**	**02 40 28.2**	**+0.7**
GDZ				*i* S	**Sn**	**02 40 59.1**	**-1.5**
BILE	**Bilecik/Merkez**	**2.75**	**91**	*i* P	**Pn**	**02 40 28.5**	**+0.8**
AYDN	**Tasoluk**	**2.87**	**154**	⇑*iP*	**Pn**	**02 40 28.9**	**-0.5**
ANDZ	**Kutahya, Merke**	**2.88**	**104**	⇓*iP*	**Pn**	**02 40 30.1**	**+0.6**
ANDZ				*i* S	**Sn**	**02 41 03.2**	**-1.1**
AUBOZ	**BOZOYUK**	**2.89**	**96**	⇓*iP*	**Pn**	**02 40 29.5**	**-0.2**
DDIM	**Aydin, Didim**	**2.89**	**165**	⇑*iP*	**Pn**	**02 40 29.0**	**-0.6**
VAY	**Valandovo**	**3.02**	**292**	P	**Pn**	**02 40 31.9**	**+0.6**
VAY	**Valandovo**	**3.02**	**292**	*i* Pn	**Pn**	**02 40 31.2**	**-0.2**
PRD	**Provadia**	**3.06**	**15**	*i* P	**Pn**	**02 40 31.0**	**-0.8**
GEYV	**SAKARYA_Geyve**	**3.07**	**84**	*i* P	**Pn**	**02 40 31.9**	**-0.2**
KAND	**Kocaeli-Kandir**	**3.08**	**73**	⇓*iP*	**Pn**	**02 40 31.6**	**-0.7**
PASA	**Karahalli, USA**	**3.13**	**127**	⇑*iP*	**Pn**	**02 40 33.5**	**+0.5**
BORA	**Eskisehir**	**3.22**	**95**	⇓*iP*	**Pn**	**02 40 34.1**	**0.0**
VTS	**Vitosha**	**3.29**	**317**	⇑P	**Pn**	**02 40 35.0**	**-0.3**
VTS	**Vitosha**	**3.29**	**317**	⇑S	**Sn**	**02 41 13.0**	**-1.5**
VTS	**Vitosha**	**3.29**	**317**	P	**Pn**	**02 40 35.0**	**-0.3**
VTS						02 41 13.1	
VTS	**Vitosha**	**3.29**	**317**		**Pn**	**02 40 35.0**	**-0.3**
VTS					**Sn**	**02 41 13.1**	**-1.5**
AGG	**Agios Georgios**	**3.30**	**249**	P	**Pn**	**02 40 34.0**	**-1.2**
AGG	**Agios Georgios**	**3.30**	**249**	Pn	**Pn**	**02 40 34.0**	**-1.2**
RAZG	**Razgrad**	**3.31**	**3**	⇑P	**Pn**	**02 40 35.4**	**0.0**
RAZG	**Razgrad**	**3.31**	**3**	⇓S	**Sn**	**02 41 14.8**	**0.0**
RAZG	**Razgrad**	**3.31**	**3**		**Pn**	**02 40 35.4**	**0.0**
RAZG					**Sn**	**02 41 14.8**	**0.0**
BDRM	**Kayabasi**	**3.31**	**164**	⇑*iP*	**Pn**	**02 40 34.6**	**-0.8**
MULA	**Mugla, Merkez-**	**3.39**	**151**	⇑*iP*	**Pn**	**02 40 36.1**	**-0.5**
MULA				*i* S	**Sn**	**02 41 18.4**	**+1.5**
AUKIR	**Kırka- Seyitga**	**3.41**	**105**	⇓*iP*	**Pn**	**02 40 38.0**	**+1.1**
STIP	**Stip**	**3.42**	**296**	*i* Pn	**Pn**	**02 40 34.2**	**-2.6**
AFYO	**Afyonkarahisar**	**3.43**	**114**	⇓*iP*	**Pn**	**02 40 38.1**	**+1.0**
AFYO				*i* S	**Sb**	**02 41 23.6**	**-2.6**
TAVA	**DENIZLI_Tavas**	**3.46**	**143**	⇑*iP*	**Pn**	**02 40 37.2**	**-0.3**
ZIMR		**3.47**	**349**	⇓P	**Pn**	**02 40 37.6**	**+0.1**
ZIMR		**3.47**	**349**	P	**Pn**	**02 40 37.6**	**+0.1**
ZIMR		**3.47**	**349**		**Pn**	**02 40 37.6**	**+0.1**
SAHE	**Sakarya_HENDEK**	**3.53**	**79**	⇓*iP*	**Pn**	**02 40 37.9**	**-0.5**
SGAZ	**Eskisehir, Sey**	**3.58**	**100**	⇓*iP*	**Pn**	**02 40 39.6**	**+0.6**
KZIL	**AFYON_Kizioren**	**3.60**	**123**	⇓*iP*	**Pn**	**02 40 40.4**	**+1.0**
KZIL				*i* S	**Sb**	**02 41 30.5**	**-0.5**
BTAS	**Taskesti**	**3.61**	**84**	⇓*iP*	**Pn**	**02 40 39.4**	**-0.2**
DAT	**Datca**	**3.67**	**164**	⇑*iP*	**Pn**	**02 40 39.5**	**-0.9**
DAT				*i* S	**Sb**	**02 41 35.4**	**+2.4**
MDUB	**Mudurnu**	**3.76**	**85**	Pn	**Pn**	**02 40 41.8**	**+0.2**
FNA	**Florina**	**3.78**	**280**	P	**Pn**	**02 40 41.0**	**-0.9**
FNA	**Florina**	**3.78**	**280**	Pn	**Pn**	**02 40 41.0**	**-0.9**
FNA	**Florina**	**3.78**	**280**	P	**Pn**	**02 40 41.5**	**-0.3**
	baz=281						
TURN	**Turunc**	**3.80**	**156**	⇑*iP*	**Pn**	**02 40 41.4**	**-0.7**
BRDR	**BURDUR-Merkez**	**3.90**	**130**	⇑*iP*	**Pn**	**02 40 43.8**	**+0.2**
CAEL	**Denizli, Camel**	**3.93**	**142**	⇑*iP*	**Pn**	**02 40 43.8**	**-0.1**
SANT	**Santorini**	**3.94**	**190**	Pn	**Pn**	**02 40 42.2**	**-1.8**
MANR	**Mangalia**	**3.95**	**25**	⇑P	**Pn**	**02 40 43.4**	**-0.7**
MANR	**Mangalia**	**3.95**	**25**		**Pn**	**02 40 43.4**	**-0.7**
GOLH	**Golhisar**	**3.95**	**139**	⇑*iP*	**Pn**	**02 40 45.1**	**+0.8**
COPA	**Copaceanca**	**3.96**	**349**	⇓P	**Pn**	**02 40 43.9**	**-0.3**
COPA	**Copaceanca**	**3.96**	**349**		**Pn**	**02 40 43.9**	**-0.3**
SGRR	**Singureni**	**3.97**	**357**	⇑P	**Pn**	**02 40 44.5**	**+0.1**
SGRR	**Singureni**	**3.97**	**357**	⇑S	**Sn**	**02 41 30.8**	**-0.3**
SGRR	**Singureni**	**3.97**	**357**		**Pn**	**02 40 44.5**	**+0.1**
SGRR					**Sn**	**02 41 30.8**	**-0.3**
YIGI	**Dzce**	**3.99**	**78**	⇓*iP*	**Pn**	**02 40 44.0**	**-0.7**
VLAD	**Vladila**	**3.99**	**340**	⇑P	**Pn**	**02 40 44.9**	**+0.2**
VLAD	**Vladila**	**3.99**	**340**	⇓S	**Sn**	**02 41 31.3**	**-0.3**
VLAD	**Vladila

BR231 Keskin MP Arra 5.00 93 Pn 02 40 58.3 -0.3
TIR Tirane 5.00 285 P **Pn 02 40 59.3 +0.8**
TIR Tirane 5.00 285 Pn 02 40 59.3 +0.8
TIR Tirane 5.00 285 P Pn 02 41 03.7 +5.2
baz=285
TIR S Sg 02 42 34.0 +10
baz=285
ANTO Ankara 5.01 92 P **Pn 02 40 58.5 -0.3**
ANTO Ankara 5.01 92 Pn 02 40 58.5 -0.3
MTUR Matau 5.05 350 ⇑P **Pn 02 40 59.5 +0.2**
MTUR Matau 5.05 350 P **Pn 02 40 59.5 +0.2**
MTUR Matau 5.05 350 Pn 02 40 59.5 +0.2
AKUM Antalya-Kumluc 5.06 140 ⇑*i*P **Pn 02 41 01.3 +1.9**
IDI Anoyia 5.08 193 Pn **Pn 02 40 58.4 -1.4**
comp=N,8.7nm,0.3s,baz=1.8,slow=9.5,SNR=74
IDI Sn **Sn 02 41 57.4 -1.2**
comp=N,8.9nm,0.3s,baz=237,slow=16,SNR=3.0
IDI Lg Lg 02 42 26.3
baz=104,slow=22,SNR=1.1
IDI Anoyia 5.08 193 Pn **Pn 02 40 58.0 -1.8**
CFR Carcaliu 5.10 15 ⇑P **Pn 02 40 59.6 -0.3**
CFR Carcaliu 5.10 15 P **Pn 02 40 59.6 -0.4**
CFR Carcaliu 5.10 15 Pn 02 40 59.6 -0.4
BCI Bajram Curri 5.14 296 P **Pn 02 41 01.7 +1.2**
baz=293
RMGR Halanga-Turnu 5.14 330 ⇓S **Sn 02 41 59.5 -0.5**
RMGR Halanga-Turnu 5.14 330 Sn 02 41 59.5 -0.5
PUK Puka 5.15 292 Pn **Pn 02 41 00.8 +0.1**
VLO Vlora 5.19 275 P **Pn 02 41 01.6 +0.4**
VLO Vlora 5.19 275 Pn **Pn 02 41 01.6 +0.4**
MLR Muntele Rosu 5.24 357 Pn **Pn 02 41 03.2 +1.3**
comp=N,7.7nm,0.3s,baz=185,slow=6.5,SNR=117
MLR Lg Lg 02 42 31.2
comp=N,8.6nm,0.3s,baz=273,slow=20,SNR=4.0
MLR LR LR 02 43 26.9
comp=N,4μm,18.5s,baz=202,slow=43
MLR Muntele Rosu 5.24 357 ⇓P **Pn 02 41 03.0 +1.0**
MLR Muntele Rosu 5.24 357 Pn **Pn 02 41 01.9 -0.1**
VOIR 5.26 350 ⇓P **Pn 02 41 02.3 +0.1**
VOIR 5.26 350 P **Pn 02 41 02.3 +0.1**
VOIR 5.26 350 Pn 02 41 02.3 +0.1
TLCR 5.26 20 ⇓P **Pn 02 41 02.3 +0.1**
TLCR 5.26 20 ⇑S **Sn 02 42 02.5 -0.5**
TLCR 5.26 20 Pn 02 41 02.3 +0.1
TLCR **Sn 02 42 02.5 -0.5**
BISRR Bisoca 5.30 3 ⇓P **Pn 02 41 03.9 +1.1**
BISRR Bisoca 5.30 3 Pn 02 41 03.9 +1.1
PVY Plav 5.30 298 *e*Pn **Pn 02 41 02.3 -0.5**
PVY *i* Sn **Sn 02 42 02.6 -1.5**
GIUM Giurgiulesti 5.41 14 ⇓P **Pn 02 41 05.0 +0.8**
GIUM Giurgiulesti 5.41 14 Pn 02 41 05.0 +0.8
HERR Herculane 5.43 330 ⇓P **Pn 02 41 03.5 -1.0**
HERR Herculane 5.43 330 Pn 02 41 03.5 -1.0
IVA Berane 5.46 301 ⇓*i*Pn **Pn 02 41 04.6 -0.4**
IVA *i* Sn **Sn 02 42 06.5 -1.5**
PETR Petresti 5.51 7 ⇑P **Pn 02 41 06.6 +1.1**
PETR Petresti 5.51 7 Pn 02 41 06.6 +1.1
LOT Lotru 5.51 341 ⇓P **Pn 02 41 05.2 -0.5**
LOT Lotru 5.51 341 Pn 02 41 05.2 -0.5
ODBI Odobesti 5.53 6 ⇓P **Pn 02 41 07.2 +1.4**
ODBI Odobesti 5.53 6 Pn 02 41 07.2 +1.4
ULC Ulcinj 5.59 290 ⇓*i*Pn **Pn 02 41 06.3 -0.4**
ULC *i* Sn **Sn 02 42 09.5 -1.5**
PLOR Plostina 5.60 3 ⇓P **Pn 02 41 07.6 +0.8**
PLOR Plostina 5.60 3 P **Pn 02 41 07.6 +0.8**
PLOR Plostina 5.60 3 Pn 02 41 07.6 +0.8
VRI Vrincioaia 5.62 3 ⇓P **Pn 02 41 07.5 +0.5**
VRI Vrincioaia 5.62 3 P **Pn 02 41 07.5 +0.5**
VRI Vrincioaia 5.62 3 Pn 02 41 07.5 +0.5
MDVR Moldovita 5.64 325 ⇑P **Pn 02 41 07.0 -0.5**
MDVR Moldovita 5.64 325 Pn 02 41 07.0 -0.5
BR131 Keskin Array S 5.67 93*d i*P **Pn 02 41 08.0 +0.1**
BRTR Keskin Array B 5.67 93 Pn **Pn 02 41 08.2 +0.3**
comp=N,18nm,0.3s,baz=262,slow=10,SNR=547
BRTR Sn **Sn 02 42 13.4 +0.2**
comp=N,9.5nm,0.3s,baz=274,slow=19,SNR=7.7
BRTR Lg Lg 02 42 46.5
baz=267,slow=24,SNR=1.4
DRME Dracevica, Mon 5.69 292 *e*Pn **Pn 02 41 10.7 +2.6**
DRME Dracevica, Mon 5.69 292 *e*Pn **Pn 02 41 07.8 -0.3**
DRME *i* Sn **Sn 02 42 12.2 -1.4**
KOME Kolasin 5.70 299 ⇑*i*Pn **Pn 02 41 07.9 -0.4**
KOME *i* Sn **Sn 02 42 12.4 -1.6**
PDG Podgorica 5.72 295 *e*Pn **Pn 02 41 09.7 +1.2**
PDG Podgorica 5.72 295 Pn **Pn 02 41 08.9 +0.4**
TTG Podgorica 5.72 295 ⇓*i*Pn **Pn 02 41 08.1 -0.4**
TTG *i* Sn **Sn 02 42 12.9 -1.3**
DOPR Dopca 5.75 354 ⇓P **Pn 02 41 08.9 +0.1**
DOPR Dopca 5.75 354 Pn 02 41 08.9 +0.1
GZR Gura Zlata 5.75 334 ⇓P **Pn 02 41 08.2 -0.7**
GZR Gura Zlata 5.75 334 Pn 02 41 08.2 -0.7
VARL Varlezi 5.75 11 ⇑P **Pn 02 41 10.2 +1.2**
VARL Varlezi 5.75 11 ⇑S **Sn 02 42 14.7 -0.3**
VARL Varlezi 5.75 11 Pn 02 41 10.2 +1.2
VARL **Sn 02 42 14.7 -0.4**
OZUR 5.85 357 ⇓P **Pn 02 41 10.9 +0.6**
OZUR 5.85 357 Pn 02 41 10.9 +0.6
GHRR 5.86 8 ⇓P **Pn 02 41 10.6 +0.3**
GHRR 5.86 8 Pn 02 41 10.6 +0.3
BUM Brajici-Budva 5.93 293 *e*Pn **Pn 02 41 11.1 -0.4**
BUM *i* Sn **Sn 02 42 18.0 -1.6**
SCTE Santa Cesarea 6.00 271 Pn **Pn 02 41 11.2 -1.0**
CEME Cevo 6.00 295 ⇓*i*Pn **Pn 02 41 11.9 -0.4**
CEME *i* Sn **Sn 02 42 19.5 -1.6**
PLE Pljevlja 6.00 303 *e*Pn **Pn 02 41 12.1 -0.3**
PLE *i* Sn **Sn 02 42 19.7 -1.6**
NKY Niksic 6.04 297 *e*Pn **Pn 02 41 12.6 -0.4**
NKY *i* Sn **Sn 02 42 20.7 -1.6**
MDB Medias 6.04 347 ⇑P **Pn 02 41 13.9 +1.0**
MDB Medias 6.04 347 P **Pn 02 41 13.9 +1.0**
MDB Medias 6.04 347 Pn 02 41 13.9 +1.0
DIVS Divibare 6.05 311 *e*Pn **Pn 02 41 12.3 -0.8**
NKME Niksic 6.05 297 ⇓*i*Pn **Pn 02 41 12.7 -0.4**
NKME *i* Sn **Sn 02 42 20.8 -1.6**
BZK Bozkurt 6.07 71 Pn **Pn 02 41 12.9 -0.3**
DEV Deva 6.14 337 ⇑P **Pn 02 41 14.1 -0.1**
DEV Deva 6.14 337 ⇑S **Sn 02 42 23.6 -1.0**
DEV Deva 6.14 337 Pn 02 41 14.2 -0.1
DEV **Sn 02 42 23.6 -1.0**
RUDO Rudo 6.16 305 *e*Pn **Pn 02 41 13.5 -1.0**
TESR Tescani 6.26 2 ⇑P **Pn 02 41 16.1 +0.3**
TESR Tescani 6.26 2 Pn 02 41 16.1 +0.3
UPM Unac-Piva 6.26 300 *e*Pn **Pn 02 41 17.1 +1.1**
UPM Unac-Piva 6.26 300 *e*Pn **Pn 02 41 15.6 -0.4**
UPM *i* Sn **Sn 02 42 25.9 -1.9**
HCY Herceg Novi 6.26 293 *e*Pn Pn 02 41 20.8 +4.9
HCY Herceg Novi 6.26 293 *e*Pn **Pn 02 41 15.6 -0.3**
HCY *i* Sn **Sn 02 42 25.9 -1.6**
BBLS Lazići 6.26 307 *e*Pn **Pn 02 41 16.5 +0.5**
BZS Buzias 6.36 329 ⇑P **Pn 02 41 16.0 -1.2**
BZS Buzias 6.36 329 ⇑S **Sn 02 42 30.0 +0.1**
BZS Buzias 6.36 329 P **Pn 02 41 16.0 -1.2**
BZS 02 42 30.0
BZS Buzias 6.36 329 Pn 02 41 16.0 -1.2
BZS **Sn 02 42 30.0 +0.1**
BANR Banloc 6.37 325 ⇓P **Pn 02 41 17.1 -0.3**
BANR Banloc 6.37 325 Pn 02 41 17.1 -0.3
BRY Bratogost 6.38 297 *e*Pn **Pn 02 41 19.7 +2.0**
BRY Bratogost 6.38 297 *e*Pn **Pn 02 41 17.3 -0.4**
BRY *i* Sn **Sn 02 42 28.9 -1.9**
TREB Trebinje 6.45 295 *e*Pn **Pn 02 41 20.6 +2.1**
VASR Vaslui 6.47 9 ⇓P **Pn 02 41 19.5 +0.7**
VASR Vaslui 6.47 9 ⇑S **Sn 02 42 32.5 -0.3**
VASR Vaslui 6.47 9 Pn 02 41 19.5 +0.7
VASR **Sn 02 42 32.5 -0.3**
TEKS Tekeris 6.59 313 *e*Pn **Pn 02 41 17.4 -3.0**
TIM Timisoara 6.62 328 ⇑P **Pn 02 41 20.9 +0.2**
TIM Timisoara 6.62 328 P **Pn 02 41 20.9 +0.2**
TIM Timisoara 6.62 328 Pn 02 41 20.9 +0.2
HAPS Han Pijesak,BI 6.66 307 *e*Pn **Pn 02 41 21.9 +0.4**
CJR Cluj-Napoca 6.74 344 ⇑P **Pn 02 41 22.8 +0.2**
CJR Cluj-Napoca 6.74 344 P **Pn 02 41 22.8 +0.2**
CJR Cluj-Napoca 6.74 344 Pn 02 41 22.8 +0.2
PURM Purcari 6.79 21 ⇓P **Pn 02 41 22.4 -0.7**
PURM Purcari 6.79 21 Pn 02 41 22.4 -0.7
CBBR Cluj-Babes-Bol 6.81 344 ⇑P **Pn 02 41 24.0 +0.7**
CBBR Cluj-Babes-Bol 6.81 344 Pn 02 41 24.0 +0.7
FRGS Fruska Gora 6.84 318 ⇑P **Pn 02 41 22.8 -1.0**
FRGS Fruska Gora 6.84 318 *e*Pn **Pn 02 41 21.2 -2.6**
FRGS Fruska Gora 6.84 318 Pn 02 41 22.8 -1.0

SIRR Siria 6.89 332 ⇓P **Pn 02 41 23.6 -0.9**
SIRR Siria 6.89 332 Pn 02 41 23.6 -0.9
DIKM Dikmen 6.93 76 ⇑P **Pn 02 41 25.7 +0.6**
DIKM Dikmen 6.93 76 Pn 02 41 25.7 +0.6
ARCR ARCALIA 6.97 349 ⇓P **Pn 02 41 25.2 -0.4**
ARCR ARCALIA 6.97 349 Pn 02 41 25.2 -0.4
KIS Kishinev 6.98 14 ⇓*i*P **Pn 02 41 25.4 -0.4**
comp=N,110nm,1.8s
KIS *e*S **Sn 02 42 45.0 -0.3**
KIS *e*Lq LQ 02 43 00.0
comp=N,3μm,12.0s
KIS LRM MLR 02 44 19.0
comp=N,1μm,9.0s
KIS Kishinev 6.98 14 ⇓P **Pn 02 41 25.9 +0.1**
KIS Kishinev 6.98 14*d i*P **Pn 02 41 25.4 -0.4**
KIS *e*S **Sn 02 42 45.0 -0.3**
KIS pmax pmax
comp=Z,110nm,1.8s
KIS MLR MLR
comp=Z,1μm,9.0s
KIS Kishinev 6.98 14 Pn 02 41 25.9 +0.1
IAS Iasi 7.00 7 ⇓P **Pn 02 41 25.8 -0.1**
IAS Iasi 7.00 7 P **Pn 02 41 25.8 -0.1**
IAS Iasi 7.00 7 Pn 02 41 25.8 -0.1
DRGR 7.03 339 ⇓P **Pn 02 41 25.5 -1.0**
DRGR 7.03 339 P **Pn 02 41 25.5 -1.0**
DRGR 7.03 339 Pn 02 41 25.5 -1.0
LTRZ Laterza 7.23 276 ⇑P **Pn 02 41 29.2 -0.1**
AMBH Ambrzfalva 7.32 328 ⇓P **Pn 02 41 29.7 -0.6**
AMBH Ambrzfalva 7.32 328 *e*PN **Pn 02 41 29.7 -0.6**
AMBH Ambrzfalva 7.32 328 Pn 02 41 29.7 -0.6
MATE Matera 7.32 276 ⇓P **Pn 02 41 30.9 +0.4**
MATE Matera 7.32 276 Pn 02 41 30.9 +0.4
LEF Lefka 7.33 132 ⇓P **Pn 02 41 33.2 +2.7**
LEF Lefka 7.33 132 Pn 02 41 33.2 +2.7
BURAR Bucovina Array 7.40 354 ⇓P **Pn 02 41 32.1 +0.6**
BURAR Bucovina Array 7.40 354 P **Pn 02 41 31.0 -0.6**
BURAR Bucovina Array 7.40 354 Pn 02 41 31.0 -0.6
BURAR Bucovina Array 7.40 354 Pn 02 41 32.1 +0.6
SIM Simferopol' 7.44 48 *e*P **Pn 02 41 30.6 -1.4**
SIM *e*S **Sn 02 42 49.8 -6.6**
SIM pmax pmax
comp=Z,162nm,0.3s
SIM smax smax
comp=N,462nm,1.4s
SIM smax smax
comp=E,276nm,1.3s
DOB Doboj 7.52 309 *e*Pn **Pn 02 41 32.6 -0.6**
BMR Baia Mare 7.68 346 ⇓P **Pn 02 41 35.5 +0.1**
BMR Baia Mare 7.68 346 P **Pn 02 41 35.5 +0.1**
BMR Baia Mare 7.68 346 Pn 02 41 35.5 +0.1
CSS Mathiatis 7.69 131 Pn 02 41 36.3 +0.8
LTVH Ltavrtes, Hu 7.80 337 *e*PN **Pn 02 41 35.1 -1.9**
PLAC Placanica 7.84 260 AML AML
comp=N,109μm,0.9s
PLAC Placanica 7.84 260 AML AML
comp=E,120μm,0.9s
PLAC Placanica 7.84 260 ⇓P **Pn 02 41 39.5 +1.8**
MGRS Mrkonjic Grad 7.98 304 *e*Pn **Pn 02 41 40.5 +0.9**
BLY Banja Luka 8.09 307 *e*Pn **Pn 02 41 41.8 +0.9**
MORH Mrgy, Hungar 8.16 319 ⇑P **Pn 02 41 40.9 -1.0**
MORH Mrgy, Hungar 8.16 319 *e*PN **Pn 02 41 40.6 -1.3**
MORH Mrgy, Hungar 8.16 319 Pn 02 41 41.0 -1.0
BSZH Besenyszg 8.28 330 *e*P **Pn 02 41 44.1 +0.6**
KOVH Kovagotottos 8.35 317 *e*PN **Pn 02 41 43.6 -1.0**
MRAK Mrakovica 8.39 308 *e*Pn **Pn 02 41 45.5 +0.3**
UZH Uzhgorod 8.85 343 *e*P **Pn 02 41 52.2 +0.9**
UZH *e*S **Sn 02 43 33.2 +2.2**
UZH MLR MLR
comp=N,600nm,11.0s
UZH MLR MLR
comp=E,400nm,11.0s
UZH MLR MLR
comp=Z,500nm,11.0s
BUD Budapest 8.92 326 *e*PN **Pn 02 41 52.2 -0.2**
PSZ Piszkesteto 8.93 331 ⇓P **Pn 02 41 52.3 -0.3**
PSZ Piszkesteto 8.93 331 *e*PN **Pn 02 41 51.6 -0.9**
PSZ Piszkesteto 8.93 331 P **Pn 02 41 52.3 -0.3**
PSZ Piszkesteto 8.93 331 Pn 02 41 51.5 -1.1
PSZ Piszkesteto 8.93 331 Pn 02 41 52.3 -0.3
PAOL Paolisi 8.95 279 Pn 02 41 53.3 +0.5
TIH Tihany 9.01 320 *e*PN **Pn 02 41 53.2 -0.4**
GAZ Gaziantep 9.07 106 Pn **Pn 02 41 55.7 +1.1**
KOLS Kolonicke sedl 9.13 343 *e*P **Pn 02 41 56.5 +1.2**
KOLS Kolonicke sedl 9.13 343 *e*PN **Pn 02 41 56.5 +1.2**
HAGA Augusta 9.19 255 ⇓P **Pn 02 41 53.4 -2.7**
KECS Kecovo 9.21 335 *e*P **Pn 02 41 57.8 +1.4**
KECS Kecovo 9.21 335 *e*PN **Pn 02 41 57.8 +1.4**
CRVS Cervenica-Dubn 9.30 340 *e*P **Pn 02 41 56.6 -1.0**
CRVS Cervenica-Dubn 9.30 340 *e*PN **Pn 02 41 56.6 -1.0**
MPLH Magyarpolny 9.37 320 *e*PN **Pn 02 41 58.3 -0.2**
ANN Anapa 9.39 57 *i* P **Pn 02 42 01.0 +2.2**
MEU Monte Lauro 9.42 254 ⇓P **Pn 02 41 57.2 -2.2**
KOGS Kog 9.57 314 *e*P **Pn 02 42 03.7 +2.4**
VAE Valguarnera 9.67 257 Pn **Pn 02 42 04.8 +2.1**
comp=Z,0.8nm,0.3s,baz=56,slow=4.3,SNR=7.0
VAE Sn **Sn 02 43 50.0 -1.4**
comp=Z,0.5nm,0.3s,baz=3.9,slow=17,SNR=1.8
VAE LR LR 02 46 39.3
comp=Z,456nm,20.8s,baz=158,slow=43
CRES Cresnjev 9.68 309 *e*P **Pn 02 42 03.5 +0.6**
LVV L'vov 9.69 351 *e*P **Pn 02 42 03.3 +0.3**
LVV *e*S **Sn 02 43 53.5 +1.6**
LVV MLR MLR
comp=N,3μm,9.0s
LVV MLR MLR
comp=E,500nm,9.0s
LVV MLR MLR
comp=Z,2μm,9.5s
KWP Kalwaria Pacla 9.71 346 *e*P **Pn 02 42 04.3 +1.1**
KWP *e*S 02 45 10.8
VYHS Vyhne 9.81 330 *e*P **Pn 02 42 03.3 -1.2**
VYHS Vyhne 9.81 330 *e*PN **Pn 02 42 03.2 -1.3**
STHS Stebnicka Huta 9.83 340 *e*P **Pn 02 42 08.3 +3.4**
STHS Stebnicka Huta 9.83 340 *e*PN **Pn 02 42 08.3 +3.4**
AQU L'Aquila 9.92 286 P **Pn 02 42 05.0 -1.2**
AQU L'Aquila 9.92 286 Pn **Pn 02 42 05.0 -1.2**
KOLL Kolacno 10.05 329 *e*PN **Pn 02 42 06.7 -1.1**
LANS Liptovska Anna 10.13 334 *e*P **Pn 02 42 11.5 +2.6**
LANS Liptovska Anna 10.13 334 *e*PN **Pn 02 42 11.4 +2.5**
SOP Sopron 10.21 320 *e*P **Pn 02 42 09.5 -0.5**
WDD Wied Dalam 10.27 248 Pn **Pn 02 42 10.2 -0.7**
MMAI Mount Meron Ar 10.28 132 Pn **Pn 02 42 10.4 -0.8**
comp=Z,6.8nm,0.3s,baz=314,slow=13,SNR=36
ZST Bratislava 10.31 323 *e*P **Pn 02 42 10.8 -0.6**
ZST Bratislava 10.31 323 *e*PN **Pn 02 42 10.8 -0.6**
MODS Modra-Piesok 10.36 325 *e*P **Pn 02 42 12.9 +0.8**
MODS Modra-Piesok 10.36 325 *e*PN **Pn 02 42 12.9 +0.8**
SOKA Soboth 10.39 312 *e*Pn **Pn 02 42 13.8 +1.2**
comp=Z,1.8nm,0.4s
SMOL Smolenice 10.40 325 *e*P **Pn 02 42 14.9 +2.2**
SMOL Smolenice 10.40 325 *e*PN **Pn 02 42 14.9 +2.2**
ARSA Arzberg 10.46 315 *e*Pn **Pn 02 42 13.3 -0.1**
comp=Z,4.4nm,0.7s
SOC Sochi 10.54 67 *e*P **Pn 02 42 15.4 +0.8**
SOC *e* 02 44 17.5
SOC MLR MLR
comp=Z,264nm,12.0s
JAVC Velka Javorina 10.56 327 *e*PN **Pn 02 42 14.6 -0.3**
AKASG Malin Array Be 10.64 10 Pn **Pn 02 42 13.9 -2.1**
comp=Z,2.1nm,0.3s,baz=199,slow=12,SNR=8.0
AKASG Sn **Sn 02 44 13.4 -1.8**
comp=Z,4.0nm,0.3s,baz=56,slow=17,SNR=4.2
AKASG Lg Lg 02 45 14.3
baz=181,slow=29,SNR=4.7
AKASG LR LR 02 46 47.1
comp=Z,716nm,18.9s,baz=175,slow=40
AKBB Malin Array Si 10.64 10*ce*P **Pn 02 42 16.0 +0.1**
AKBB Malin Array Si 10.64 10 Pn 02 42 15.0 -0.9
CONA Conrad Observa 10.72 319 *e*Pn **Pn 02 42 17.0 0.0**
comp=Z,7.2nm,0.6s
OJC Ojcow 10.96 338 *e*P **Pn 02 42 23.6 +3.4**
OJC *e*S Sn 02 45 19.8 +57
OJC Ojcow 10.96 338 P **Pn 02 42 19.4 -0.9**
OJC Ojcow 10.96 338 Pn 02 42 19.4 -0.9
OKC Ostrava-Krasne 11.17 332 AMS AMS 02 47 20.0
comp=Z,2μm,11.5s
MYKA Terra Mystica 11.18 309 *e*Pn **Pn 02 42 24.7 +1.4**
comp=Z,2.6nm,0.5s
KRUC Moravsky 11.27 325 *e*PN **Pn 02 42 22.4 -2.1**
MORC Moravsky Berou 11.35 330 ⇓P **Pn 02 42 25.0 -0.6**
MORC Moravsky Berou 11.35 330 P **Pn 02 42 24.6 -1.0**

MORC Moravsky Berou 11.35 330 Pn **Pn 02 42 24.6 -1.0**
MORC Moravsky Berou 11.35 330 *e*PN **Pn 02 42 24.8 -0.8**
VRAC Vranov 11.36 326 Pn **Pn 02 42 25.9 0.0**
comp=Z,0.7nm,0.3s,baz=146,slow=14,SNR=14
VRAC LR LR 02 46 56.0
comp=Z,1μm,18.2s,baz=146,slow=38
VRAC Vranov 11.36 326 *e*PN **Pn 02 42 25.5 -0.3**
MOA Molln 11.50 315 *e*Pn **Pn 02 42 27.5 -0.1**
comp=Z,1.2nm,0.5s
ZOU Zoufplan 11.54 307 Pn 02 42 28.6 +0.1
GHAJ Ghor Haditha 11.68 137 Pn 02 42 31.0 +0.8
TREC Trest 11.84 323 AMS AMS 02 47 40.0
comp=Z,2μm,9.5s
KRLC Kraliky 11.88 329 *e*P **Pn 02 42 31.6 -1.3**
KRLC MLR MLR
comp=Z,2μm,9.0s
KRLC Kraliky 11.88 329 *e*P **Pn 02 42 31.6 -1.3**
KRLC AMS AMS 02 48 30.0
comp=Z,2μm,9.0s
ABTA Abfaltersbach 11.91 308 *e*Pn **Pn 02 42 33.6 +0.1**
comp=Z,1.2nm,0.3s
ZCCA Zocca 12.05 295 Pn **Pn 02 42 36.1 +0.8**
CTI Castel Tesino 12.15 303 P **Pn 02 42 34.8 -1.9**
CTI Castel Tesino 12.15 303 Pn 02 42 34.8 -1.9
DPC Dobruska-Polom 12.28 329 *e*P **Pn 02 42 38.3 -0.1**
DPC MLR MLR
comp=Z,2μm,8.6s
DPC Dobruska-Polom 12.28 329 *e*P **Pn 02 42 38.3 -0.1**
DPC AMS AMS 02 48 30.0
comp=Z,2μm,8.6s
GEC2 GERESS Array S 12.41 318 Pn **Pn 02 42 40.2 0.0**
GERES GERESS Array B 12.41 318 Pn **Pn 02 42 40.5 +0.3**
comp=Z,0.1nm,0.3s,baz=135,slow=13,SNR=10
GERES LR LR 02 48 18.2
comp=Z,560nm,19.2s,baz=130,slow=42
GERES GERESS Array B 12.41 318 *e*P **Pn 02 42 42.0 +1.8**
OSTC Ostas 12.48 329 *e*P **Pn 02 42 42.1 +1.0**
OSTC AMS AMS 02 48 40.0
comp=Z,2μm,8.1s
UPC Upice 12.53 328 AMS AMS 02 48 10.0
comp=Z,1μm,11.5s
CHVC Chvalec 12.57 329 *e*P **Pn 02 42 43.0 +0.7**
CHVC AMS AMS 02 48 40.0
comp=Z,1μm,8.4s
KHC Kasperske Hory 12.65 319 *e*P **Pn 02 42 42.3 -1.2**
KHC MLR MLR
comp=Z,2μm,11.0s
KHC Kasperske Hory 12.65 319 *e*P **Pn 02 42 42.3 -1.2**
KHC *ex* x 02 42 54.5
KHC AMS AMS 02 48 00.0
comp=Z,2μm,11.0s
SHA1 Shidzhatmaz 12.66 69 *i* P **Pn 02 42 44.1 +0.3**
WTTA Wattenberg 12.69 308 *e*Pn **Pn 02 42 47.3 +3.2**
comp=Z,5.7nm,0.5s
EIL Elat 12.72 143 Pn **Pn 02 42 43.1 -1.3**
comp=Z,1.8nm,0.3s,baz=354,slow=6.6,SNR=23
EIL LR LR 02 48 26.5
comp=Z,272nm,18.8s,baz=307,slow=41
KIV Kislovodsk 12.72 68 *e*P **Pn 02 42 46.8 +2.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,103nm,12.0s
WATA Walderalm 12.76 309 *e*Pn **Pn 02 42 48.4 +3.4**
comp=Z,4.5nm,0.5s
PRU Pruhonice 12.77 324 AMS AMS 02 48 10.0
comp=Z,2μm,8.9s
KBZ Khabaz 12.83 69 Pn **Pn 02 42 49.5 +3.6**
comp=Z,0.2nm,0.3s,baz=342,slow=7.5,SNR=4.0
KBZ Khabaz 12.83 69 *i* P **Pn 02 42 48.7 +2.8**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
PRA Prague 12.88 324 AMS AMS 02 48 20.0
comp=Z,2μm,8.6s
SQTA Sankt Quirin 12.93 308 *e*Pn **Pn 02 42 50.2 +3.0**
comp=Z,7.2nm,0.3s
MOTA Moosalm 13.04 308 *e*Pn **Pn 02 42 51.6 +2.6**
comp=Z,4.2nm,0.4s
FETA Feichten 13.13 306 *e*Pn **Pn 02 42 50.4 +0.3**
comp=Z,1.9nm,0.3s
PVCC Panska Ves 13.15 325 AMS AMS 02 48 30.0
comp=Z,2μm,10.1s
ZEI Tsey 13.44 73 *e*P **P 02 43 07.9 +4.0**
ZEI pmax pmax
comp=Z,24nm,1.3s
DAVOX Davos/Dischmat 13.56 304 Pn **Pn 02 42 58.6 +2.6**
comp=Z,0.5nm,0.3s,baz=153,slow=17,SNR=5.7
DAVOX LR LR 02 49 22.1
comp=Z,233nm,22.0s,baz=112,slow=43
BRG Berggiesshubel 13.67 325 *e*P **P 02 43 06.8 +0.6**
BRG Amp 02 43 09.0
comp=Z,16nm,1.2s
DAVA Damuels 13.77 306 *e*Pn **Pn 02 43 02.1 +3.3**
comp=Z,1.0nm,0.2s
NKC Novy Kostel 13.93 320 AMS AMS 02 49 00.0
comp=Z,1μm,12.6s
VORD Divnogorie 14.03 36 *e*P **Pn 02 43 02.5 +0.3**
VORD pmax pmax
comp=Z,10.0nm,0.4s
KEST Kesra 14.10 257 Pn **Pn 02 43 04.2 +0.9**
comp=Z,0.4nm,0.3s,baz=15,slow=12,SNR=8.7
KEST LR LR 02 49 46.7
comp=Z,228nm,18.0s,baz=9.0,slow=43
GNI Garni 14.11 84 Pn **Pn 02 43 04.9 +1.4**
comp=Z,0.2nm,0.3s,baz=325,slow=1.1,SNR=8.1
GNI LR LR 02 48 36.3
comp=Z,410nm,19.8s,baz=264,slow=38
GNI Garni 14.11 84 P **Pn 02 43 02.5 -1.0**
GNI Garni 14.11 84 Pn **Pn 02 43 02.5 -1.0**
GRA1 Grafenberg Arr 14.21 317 Pn **Pn 02 43 03.6 -1.2**
GRF Grafenberg Arr 14.21 317 P **Pn 02 43 03.6 -1.2**
GRFO Grafenberg 14.21 317 P **Pn 02 43 03.6 -1.2**
GRFO Grafenberg 14.21 317 Pn **Pn 02 43 03.6 -1.2**
MNK Minsk 14.29 4 *i* P Pn 02 42 59.8 -6.0
MNK *i* S **Sn 02 45 36.4 -7.9**
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=E,47nm,16.0s
MNK MLR MLR
comp=N,496nm,16.0s
MNK MLR MLR
comp=Z,410nm,16.0s
MNK Minsk 14.29 4 *i* P Pn 02 42 59.9 -5.9
MNK *i* P Pn 02 42 59.9 -5.9
comp=N,6.0nm,0.8s
MNK *i* P Pn 02 42 59.9 -5.9
comp=Z,6.0nm,0.8s,baz=185
MNK *i* PP P 02 43 07.8 -5.2
MNK *i* S **Sn 02 45 36.4 -7.9**
MNK *i* SS S 02 45 52.4 -12
MNK *i* LR LR 02 47 22.0
MNK *i* LRM MLR 02 48 10.6
comp=E,47nm,15.9s
MNK *i* LRM MLR 02 48 18.2
comp=N,496nm,15.9s
MNK *i* LRM MLR 02 48 21.4
comp=Z,410nm,15.7s
CLL Collm 14.40 325 *e*P **Pn 02 43 08.0 +0.8**
CLL *i* PP **PnPn 02 43 16.0 +0.9**
comp=Z,58nm,2.0s
CLL LmH 02 47 00.0
comp=N,1μm,18.5s
CLL LmH 02 47 00.0
comp=E,2μm,19.2s
CLL Lmax 02 49 00.0
CLL Lmax 07 03 00.0
CLL Collm 14.40 325 *e*P **Pn 02 43 08.0 +0.8**
CLL Collm 14.40 325 Pn **Pn 02 43 05.9 -1.3**
NACGM Naroch 14.66 1 *i* P **Pn 02 43 06.4 -4.4**
STU Stuttgart 14.85 311 P **Pn 02 43 11.9 -1.5**
STU Stuttgart 14.85 311 Pn **Pn 02 43 11.9 -1.5**
GROC Groznyy 14.86 72 *e*P **Pn 02 43 10.4 -3.2**
GROC *e*S **Sn 02 45 57.5 -0.7**
GROC pmax pmax
comp=Z,12nm,0.6s
GROC MLR MLR
comp=Z,326nm,11.0s
KLNR Kaliningrad 14.92 346 *i* P **Pn 02 43 13.2 -1.1**
KLNR pmax pmax
comp=Z,106nm,0.9s
IDID Didziasalis 15.07 1 *e*P **Pn 02 43 13.7 -2.6**
IDID IAmb IAmb 02 43 22.7
comp=Z,12nm,1.0s

LPSR	**Galich'ya Gora**	15.08	31	*e*P		**Pn**		**02 43 13.6 -2.9**
LPSR				pmax		pmax		
	comp=Z,60nm,1.2s							
LPSR				MLR		MLR		
	comp=Z,440nm,12.0s							
SENIN	**Lac Senin/Sane**	15.10	300	IAmb		IAmb		02 43 36.6
	comp=Z,35nm,1.4s							
IIGN	**Ignalina**	15.10	360	*e*P		**Pn**		**02 43 13.6 -3.2**
BFO	**Black Forest**	15.16	308	P		**Pn**		**02 43 16.1 -1.5**
BFO				pmax		pmax		
	comp=Z,12nm,0.8s							
BFO	**Black Forest**	15.16	308	Pn		**Pn**		**02 43 16.1 -1.5**
GANJ	**Ganja**	15.26	82	P		**Pn**		**02 43 20.9 +1.9**
ISAL	**Salakas**	15.32	360	IAmb		IAmb		02 43 25.4
	comp=Z,18nm,1.1s							
VRH	**Novokhopyorsk**	15.32	39	*e*P		**Pn**		**02 43 18.3 -1.4**
VRH				pmax		pmax		
	comp=Z,50nm,1.5s							
VRH				MLR		MLR		
	comp=Z,560nm,10.0s							
PABE	**Paberze**	15.34	355	*e*P		**Pn**		**02 43 17.8 -2.1**
ZKTA	**Zakatala**	15.43	78	P		**P**		**02 43 25.1 -0.7**
ECH	**Echery**	15.82	307	P		**Pn**		**02 43 24.6 -1.7**
ECH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
ECH	**Echery**	15.82	307	Pn		**Pn**		**02 43 24.6 -1.7**
SEKA	**Sheki**	15.88	80	P		**P**		**02 43 29.9 -0.9**
PBUR	**Paburge**	16.04	351	IAmb		IAmb		02 43 42.0
	comp=Z,111nm,1.1s							
MAK	**Makhachkala**	16.09	73	*e*P		**Pn**		**02 43 28.5 -1.2**
MAK				*e*S		**Sn**		**02 46 29.1 +0.9**
MAK				pmax		pmax		
	comp=Z,31nm,0.5s							
MAK				MLR		MLR		
	comp=Z,388nm,12.0s							
OBN	**Obninsk**	16.37	21	Pn		**Pn**		**02 43 29.2 -4.0**
	comp=Z,0.7nm,0.3s,baz=216,slow=5.9,SNR=7.8							
OBN	**Obninsk**	16.37	21	*d i*P		**Pn**		**02 43 29.8 -3.4**
OBN				*e*S		**Sn**		**02 46 40.4 +5.7**
OBN				pmax		pmax		
	comp=Z,41nm,1.5s							
OBN				MLR		MLR		
	comp=Z,551nm,14.0s							
OBN	**Obninsk**	16.37	21	Pn		**Pn**		**02 43 30.2 -2.9**
SSB	**Saint Sauveur**	16.72	295	P		**Pn**		**02 43 36.7 -1.2**
SSB				pmax		pmax		
	comp=Z,8.0nm,1.1s							
SSB	**Saint Sauveur**	16.72	295	Pn		**Pn**		**02 43 36.7 -1.2**
MOS	**Moscow**	17.21	22	*e*P		**Pn**		**02 43 37.3 -6.5**
MOS				*e*S		**Sn**		**02 46 47.2 -7.9**
MOS				pmax		pmax		
	comp=Z,300nm,1.9s							
MOS				pmax		pmax		
	comp=Z,147nm,1.3s							
MOS				MLR		MLR		
	comp=Z,1μm,13.0s							
BHOU	**Houvegnez**	17.43	312	*d*x		x		02 43 52.1
LKRN	**Lenkeran, Azer**	17.43	88	P		**P**		**02 43 50.6 +2.7**
BSTI	**Sart Tilman**	17.78	312	*d*sP		sP		02 43 54.7 -0.8
BEBN	**Eben Emael**	17.82	313	*d*x		x		02 43 56.7
BCLA	**Clavier**	17.86	312	*d*P		P		02 44 00.3 +7.8
BGES	**Gesves**	17.96	311	*d*P		P		02 44 01.4 +7.6
	comp=Z,20nm,2.8s							
BMRD	**Maredsous**	18.11	311	*d*P		**Pn**		**02 43 54.0 -1.0**
BMRD				*d*PnPn		**PnPn**		**02 44 04.8 -1.2**
DOU	**Dourbes**	18.12	310	*d*pPn		**P**		**02 43 56.6 +1.0**
DOU				*d*PnPn		**PnPn**		**02 44 04.8 -1.4**
VSU	**Vasula**	18.23	1	*e*P		**Pn**		**02 43 53.2 -3.1**
VSU	**Vasula**	18.23	1	*i* P		**Pn**		**02 43 55.8 -0.5**
VSU				pmax		pmax		
	comp=Z,234nm,1.1s							
SNF	**Seneffe**	18.48	311	*d*P		**Pn**		**02 44 06.0 +6.4**
BELG	**Belogornoye**	19.00	43	LR		LR		02 52 22.0
	comp=Z,389nm,20.0s,baz=261,slow=40							
FINES	**FINESS Array B**	21.21	360	P		**P**		**02 44 27.7 -1.4**
	comp=Z,6.3nm,1.0s,baz=160,slow=12,SNR=8.6							
FINES				LR		LR		02 53 05.6
	comp=Z,350nm,18.8s,baz=177,slow=38							
FINES	**FINESS Array B**	21.21	360	*e*P		**P**		**02 44 30.2 +1.1**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.7s							
HFS	**Hagfors**	21.40	343	P		**P**		**02 44 29.7 -1.5**
	comp=Z,13nm,0.9s,baz=153,slow=12,SNR=19							
HFS				LR		LR		02 53 57.0
	comp=Z,490nm,19.0s,baz=152,slow=40							
OSL	**Oslo**	21.98	339	*e*P		**P**		**02 44 36.2 -1.1**
KONO	**Kongsberg**	22.06	337	*ce*P		**P**		**02 44 35.7 -2.6**
KONO				pmax		pmax		
	comp=Z,38nm,1.3s							
KONO	**Kongsberg**	22.06	337	*e*P		**P**		**02 44 37.0 -1.3**
KONO	**Kongsberg**	22.06	337	P		**P**		**02 44 35.1 -3.2**
KONO				IAmb		IAmb		02 44 37.5
	comp=Z,35nm,1.0s							
KLMR	**Klimovskoe**	22.18	17	*e*P		**P**		**02 44 37.3 -2.2**
KLMR				pmax		pmax		
	comp=Z,40nm,1.3s							
KLMR	**Klimovskoe**	22.18	17	*e*P		**P**		**02 44 37.4 -2.1**
KLMR				AMP				02 44 39.5
	comp=Z,40nm,1.3s							
NC602	**NORSAR Array S**	22.44	341	*e*P		**P**		**02 44 40.5 -1.8**
STRD	**Stroud**	22.72	310	*e*P		**P**		**02 44 44.1 -1.2**
STRD				IAmb		IAmb		02 44 45.4
	comp=Z,36nm,0.8s							
NC405	**NORSAR Array S**	22.73	342	P		**P**		**02 44 42.4 -2.9**
NC405				IAmb		IAmb		02 45 09.7
	comp=Z,67nm,1.3s							
NB2	**NORSAR Subarra**	22.79	341	P		**P**		**02 44 44.5 -1.5**
	comp=Z,34nm,0.7s,baz=148,slow=11							
NB2	**NORSAR Subarra**	22.79	341	P		**P**		**02 44 44.5 -1.5**
	baz=148,slow=11							
NOA	**NORSAR Array B**	22.79	341	P		**P**		**02 44 44.3 -1.8**
	comp=Z,22nm,1.0s,baz=143,slow=10,SNR=30							
NOA				LR		LR		02 54 51.1
	comp=Z,493nm,18.4s,baz=155,slow=40							
BLS5	**Blasjo**	22.89	334	*e*P		**P**		**02 44 46.1 -1.0**
OLDB	**Oldbury-Upon-S**	22.91	309	*e*P		**P**		**02 44 46.1 -1.2**
OLDB				IAmb		IAmb		02 44 51.5
	comp=Z,51nm,1.2s							
LBWR	**Ladybower, Pea**	23.06	314	*e*P		**P**		**02 44 47.3 -1.6**
LBWR				IAmb		IAmb		02 44 51.4
	comp=Z,40nm,1.1s							
NC204	**NORSAR Array S**	23.10	341	P		**P**		**02 44 47.5 -1.9**
ESBB	**Sonseca Array**	23.14	278	P		**P**		**02 44 49.8 -0.2**
ESDC	**Sonseca Array**	23.14	278	P		**P**		**02 44 49.4 -0.6**
	comp=Z,2.5nm,0.7s,baz=72,slow=9.4,SNR=24							
ESDC				LR		LR		02 53 54.8
	comp=Z,139nm,18.7s,baz=60,slow=37							
ESDC	**Sonseca Array**	23.14	278	P		**P**		**02 44 49.2 -0.7**
MCH1	**Michaelchurch**	23.28	310	*e*P		**P**		**02 44 50.3 -0.9**
MCH1				IAmb		IAmb		02 44 51.5
	comp=Z,46nm,1.0s							
SKAR	**Skarslia**	23.28	337	*e*P		**P**		**02 44 50.4 -0.7**
HLM1	**Long Mynd**	23.38	311	*e*P		**P**		**02 44 50.6 -1.6**
HLM1				IAmb		IAmb		02 44 52.8
	comp=Z,42nm,1.0s							
PAB	**San Pablo**	23.46	278	P		**P**		**02 44 53.1 -0.1**
PAB				pmax		pmax		
	comp=Z,13nm,1.1s							
PAB	**San Pablo**	23.46	278	P		**P**		**02 44 53.1 -0.1**
KIRV	**Kirov**	23.51	31	P		**P**		**02 44 52.7 -0.7**
	comp=Z,12nm,0.9s,baz=248,slow=4.2,SNR=12							
KIRV				LR		LR		02 54 26.8
	comp=Z,371nm,21.4s,baz=229,slow=38							
FOEL	**Foel Wylfa**	23.70	312	*e*P		**P**		**02 44 54.4 -0.9**
FOEL				IAmb		IAmb		02 44 56.2
	comp=Z,41nm,0.9s							
EDMD	**Edmundbyers**	23.79	317	*e*P		**P**		**02 44 55.0 -1.1**
HTL	**Hartland**	23.88	307	*e*P		**P**		**02 44 56.9 -0.1**
HTL				IAmb		IAmb		02 45 00.2
	comp=Z,98nm,1.3s							
BER	**Bergen**	23.98	334	*e*P		**P**		**02 44 56.9 -1.1**
ASK	**Askoy**	24.11	334	*e*P		**P**		**02 44 58.5 -0.5**
DOMB	**Dombas**	24.19	340	*e*P		**P**		**02 44 59.7 -0.1**
RSBS	**Rosebush, Pemb**	24.30	309	*e*P		**P**		**02 45 00.2 -0.7**
HYA	**Hoyanger**	24.30	336	*e*P		**P**		**02 45 00.6 -0.3**
AKTO	**Aktyubinsk**	24.34	55	P		**P**		**02 45 00.8 -0.6**
	comp=Z,5.2nm,0.9s,baz=261,slow=9.8,SNR=17							
AKTO				LR		LR		02 56 37.3
	comp=Z,144nm,19.8s,baz=268,slow=42							
PRGR	**Permogore**	24.44	22	*e*P		**P**		**02 45 01.2 -0.9**
PRGR				pmax		pmax		
	comp=Z,48nm,1.0s							
EKA	**Eskdalemuir Ar**	24.63	318	P		**P**		**02 45 03.5 -0.4**
	comp=Z,20nm,0.8s,baz=114,slow=9.7,SNR=52							
ESK	**Eskdalemuir**	24.64	318	*e*P		**P**		**02 45 03.0 -1.1**
ESK				IAmb		IAmb		02 45 04.5
	comp=Z,34nm,0.9s							
ESK	**Eskdalemuir**	24.64	318	P		**P**		**02 45 03.0 -1.1**
ESK				pmax		pmax		
	comp=Z,30nm,0.9s							
ESK	**Eskdalemuir**	24.64	318	P		**P**		**02 45 03.0 -1.1**
ESK				IAmb		IAmb		02 45 04.8
	comp=Z,30nm,0.8s							
GEYT	**Alibeck**	24.75	85	P		**P**		**02 45 06.7 +1.5**
	comp=Z,7.4nm,0.6s,baz=20,slow=4.9,SNR=9.7							
GEYT				LR		LR		02 55 38.0
	comp=Z,132nm,18.4s,baz=250,slow=39							
GYA0B	**ALIBECK ARRAY**	24.75	85	P		**P**		**02 45 05.2 0.0**
GYA0B				IAmb		IAmb		02 45 14.7
	comp=Z,40nm,1.5s							
EBL	**Broad Law**	24.76	319	*e*P		**P**		**02 45 05.1 0.0**
AKN	**Aaknes**	24.86	338	*e*P		**P**		**02 45 06.0 0.0**
IOMK	**Kirk Michael**	24.95	314	*e*P		**P**		**02 45 06.6 -0.2**
MOL	**Molde**	25.02	339	*e*P		**P**		**02 45 07.5 +0.1**
NEWG	**New Galloway**	25.09	317	*e*P		**P**		**02 45 07.0 -1.1**
NEWG				IAmb		IAmb		02 45 11.9
	comp=Z,60nm,1.5s							
MVO	**Moncorvo**	25.19	283	*e*P		**P**		**02 45 12.4 +3.2**
	comp=Z,22nm,1.4s							
MVO				*e*S		S		02 49 50.9 +16
MVO				*e*LQ		LQ		02 54 23.0
MVO				*e*LR		LR		02 55 29.0
	comp=Z,319nm,18.0s							
ABKAR	**Akbulak array**	25.36	58	P		**P**		**02 45 10.1 -0.5**
PGBU	**Glenifferbraes**	25.51	318	*e*P		**P**		**02 45 10.6 -1.2**
PGBU				IAmb		IAmb		02 45 13.4
	comp=Z,61nm,1.2s							
INVG	**Invergeldie, C**	25.55	319	*e*P		**P**		**02 45 11.4 -0.8**
MTE	**Manteigas**	25.71	281	*e*P		**P**		**02 45 13.5 -0.4**
	comp=Z,28nm,1.3s							
MTE	**Manteigas**	25.71	281	*e*LR		LR		02 55 32.5
	comp=Z,272nm,18.0s							
MTE	**Manteigas**	25.71	281	P		**P**		**02 45 13.3 -0.6**
MTE				IAmb		IAmb		02 45 20.8
	comp=Z,22nm,1.0s							
PCBR	**Castelo Branco**	25.77	280	*e*P		**P**		**02 45 15.2 +0.8**
	comp=Z,17nm,1.0s							
PMRV	**Marv??o**	25.79	279	*e*P		**P**		**02 45 15.3 +0.7**
	comp=Z,19nm,1.4s							
PMRV				*e*S		**S**		**02 49 49.8 +5.9**
PMRV				*e*LQ		LQ		02 54 49.6
PMRV				*e*LR		LR		02 56 16.7
	comp=Z,214nm,16.0s							
MDT	**Midelt**	25.82	263	P		**P**		**02 45 15.7 +0.7**
	comp=Z,5.9nm,1.1s,baz=106,slow=11,SNR=5.1							
MDT				LR		LR		02 56 15.5
	comp=Z,166nm,18.6s,baz=75,slow=38							
PCAB	**Cabril**	25.85	285	*e*P		**P**		**02 45 14.9 -0.3**
	comp=Z,33nm,1.5s							
PVIS	**Viseu**	25.91	282	*e*P		**P**		**02 45 15.4 -0.4**
	comp=Z,25nm,1.5s							
PGAV	**Gavieira, Arco**	25.99	285	*e*S		S		02 49 58.6 +11
PGAV				*e*LQ		LQ		02 53 46.0
PGAV				*e*LR		LR		02 54 55.0
	comp=Z,261nm,18.0s							
PESTR	**Estremoz**	26.07	278	*e*P		**P**		**02 45 19.3 +2.2**
	comp=Z,18nm,1.7s							
CLGH	**Cloghs, Cushen**	26.08	316	*e*P		**P**		**02 45 16.9 -0.2**
CLGH				IAmb		IAmb		02 45 23.0
	comp=Z,38nm,1.0s							
COI	**Coimbra**	26.39	281	*e*P		**P**		**02 45 21.7 +1.7**
	comp=Z,24nm,1.9s							
EVO	**Evora**	26.47	277	*e*P		**P**		**02 45 24.8 +4.0**
PMTG	**Montargil**	26.50	279	*e*P		**P**		**02 45 23.2 +2.2**
	comp=Z,15nm,1.6s							
ARU	**Arti**	26.53	42	P		**P**		**02 45 20.8 -0.3**
	comp=Z,7.1nm,0.8s,baz=232,slow=8.8,SNR=36							
ARU				LR		LR		02 56 43.0
	comp=Z,259nm,20.9s,baz=241,slow=38							
ARU	**Arti**	26.53	42	*c i*P		**P**		**02 45 21.0 -0.1**
ARU				PPP		PPP		02 46 09.5
ARU				S		**S**		**02 49 56.0 +0.7**
ARU				SSS		SSS		02 51 07.6
ARU				pmax		pmax		
	comp=Z,52nm,1.2s							
ARU				MLR		MLR		
	comp=Z,266nm,12.0s							
ARU	**Arti**	26.53	42	P		**P**		**02 45 20.6 -0.6**
PVAQ	**Vaqueiros**	26.55	275	*e*S		**S**		**02 50 05.5 +10**
PVAQ				*e*LQ		LQ		02 56 11.3
PVAQ				*e*LR		LR		02 56 58.5
	comp=Z,219nm,18.0s							
PCVE	**Castro Verde**	26.73	276	*e*P		**P**		**02 45 23.4 +0.3**
PBDV	**Barranco-do-Ve**	26.76	275	*e*P		**P**		**02 45 23.9 +0.5**
MESJ	**Messejana**	26.81	276	*e*P		**P**		**02 45 23.0 -0.9**
MESJ				IAmb		IAmb		02 45 37.5
	comp=Z,66nm,2.3s							
MESJ				*e*S		**S**		**02 50 00.2 +0.2**
MESJ	**Messejana**	26.81	276	*e*P		**P**		**02 45 22.9 -0.9**
MESJ				*e*S		**S**		**02 50 00.2 +0.2**
MESJ				pmax		pmax		
	comp=Z,66nm,2.3s							
MOR8	**Moi Rana**	26.82	349	*e*P		**P**		**02 45 23.6 0.0**
PSBE	**So Bento**	26.83	280	*e*P		**P**		**02 45 25.0 +1.0**
	comp=Z,38nm,1.2s							
PNCL	**Nicolau / Gran**	26.97	277	*e*P		**P**		**02 45 25.9 +0.6**
	comp=Z,30nm,1.8s							
APA	**Apatity**	27.65	6⇑	*i*P		**P**		**02 45 33.2 +2.2**
APA				*i* S		**S**		**02 50 12.0 -0.6**
APA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
APA				MLR		MLR		
	comp=Z,1μm,11.0s							
FAUS	**Fauske**	27.85	351	*e*P		**P**		**02 45 32.1 -0.7**
STEI	**Steigen**	28.38	351	*e*P		**P**		**02 45 37.5 0.0**
KTK1	**Kautokeino**	28.86	358	*e*P		**P**		**02 45 41.2 -0.6**
HRA	**Herat**	29.05	90	P		**P**		**02 45 44.2 0.0**
HRA				IAmb		IAmb		02 45 49.6
	comp=Z,7.0nm,0.6s							
ARCES	**ARCESS Array B**	29.34	359	P		**P**		**02 45 45.6 -0.5**
	comp=Z,5.1nm,0.9s,baz=137,slow=6.3,SNR=8.7							
ARCES				LR		LR		02 56 54.1
	comp=Z,256nm,21.3s,baz=170,slow=35							
ARCES	**ARCESS Array B**	29.34	359	IAmb		IAmb		02 45 51.1
	comp=Z,25nm,1.4s							
TRO	**Tromso**	29.70	355	*e*P		**P**		**02 45 48.2 -0.9**
BRVK	**Borovoye**	32.27	52	P		**P**		**02 46 12.3 +0.1**
BRVK				pmax		pmax		
	comp=Z,13nm,1.4s							
BRVK	**Borovoye**	32.27	52	P		**P**		**02 46 12.2 +0.1**
BRVK				IAmb		IAmb		02 46 14.2
	comp=Z,13nm,1.4s							
BVAR	**Borovoye Array**	32.33	52	P		**P**		**02 46 12.9 +0.2**
	comp=Z,1.0nm,0.8s,baz=243,slow=18,SNR=8.1							
KK31	**Karatay Array**	32.87	70	P		**P**		**02 46 17.9 +0.4**
KK31				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KK31	**Karatay Array**	32.87	70	P		**P**		**02 46 17.9 +0.4**
KKAR	**Karatay Array**	32.87	70	P		**P**		**02 46 17.4 -0.1**
KKAR	**Karatay Array**	32.87	70	P		**P**		**02 46 17.4 -0.1**
BTK	**Batken**	33.76	76	IAmb		IAmb		02 46 32.0
	comp=Z,20nm,1.1s							
KBL	**Kabul**	34.19	86	P		**P**		**02 46 28.0 -1.3**
KBL				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KBL	**Kabul**	34.19	86	P		**P**		**02 46 28.0 -1.3**
TORD	**Torodi Ar. Bea**	34.58	226	P		**P**		**02 46 32.6 0.0**
	comp=Z,4.0nm,0.7s,baz=35,slow=9.8,SNR=18							
TORD	**Torodi Ar. Bea**	34.58	226	P		**P**		**02 46 33.1 +0.5**
DRK	**Karamyk**	34.65	76	P		**P**		**02 46 34.0 +0.7**
DRK				IAmb		IAmb		02 46 40.6
	comp=Z,27nm,1.2s							
PMOZ	**Porto Moniz, M**	35.44	272	*e*LR		LR		03 01 51.3
	comp=Z,103nm,18.0s							
AAK	**Ala-Archa**	35.83	70	P		**P**		**02 46 44.7 +1.4**
	comp=Z,2.7nm,0.4s,baz=275,slow=9.0,SNR=9.4							
AAK	**Ala-Archa**	35.83	70	P		**P**		**02 46 43.1 -0.2**
AAK				pmax		pmax		
	comp=Z,19nm,1.3s							
AAK	**Ala-Archa**	35.83	70	P		**P**		**02 46 43.1 -0.2**
AAK				IAmb		IAmb		02 46 49.9
	comp=Z,19nm,1.3s							
FRU1	**Bishkek**	35.89	70	P		**P**		**02 46 44.8 +1.1**
FRU1				pmax		pmax		
	comp=Z,62nm,1.3s							
FRU1	**Bishkek**	35.89	70	P		**P**		**02 46 44.8 +1.1**
BOOM	**Boomskoye usch**	36.90	70	P		**P**		**02 46 53.2 +0.7**
BOOM				pmax		pmax		
	comp=Z,11nm,1.1s							
BOOM	**Boomskoye usch**	36.90	70	P		**P**		**02 46 53.2 +0.7**
KURBB	**Kurchatov Arra**	37.37	56	P		**P**		**02 46 57.0 +0.8**
	comp=Z,4.0nm,0.9s,baz=279,slow=9.1,SNR=27							
KURBB				PP		**PnPn**		**02 48 21.9 +0.1**
	comp=Z,3.5nm,1.0s,baz=278,slow=11,SNR=6.0							
KURBB				PcP		**PcP**		**02 49 14.9 -0.1**
	comp=Z,1.2nm,0.9s,baz=282,slow=3.8,SNR=4.2							
KURK	**Kurchatov**	37.42	56	P		**P**		**02 46 57.0 +0.4**
KURK								02 49 14.9
KURK	**Kurchatov**	37.42	56	P		**P**		**02 46 57.0 +0.4**
KSH	**Kashi**	37.73	75	P		**P**		**02 46 58.8 -0.7**
KSH				pP		sP		02 47 03.6 +0.1
KSH				S		**S**		**02 52 45.3 -4.6**
KSH				pmax		pmax		
	comp=Z,250nm,7.2s							
KSH				LR		LR		
	comp=Z,370nm,16.6s							
KSH				LR		LR		
	comp=Z,500nm,16.8s							
KSH				LR		LR		
	comp=Z,760nm,15.9s							
NIL	**Nilore**	37.75	85	P		**P**		**02 47 00.0 +0.4**
NIL				pmax		pmax		
	comp=Z,14nm,0.8s							
NIL	**Nilore**	37.75	85	P		**P**		**02 47 00.0 +0.4**
NIL				IAmb		IAmb		02 47 05.4
	comp=Z,14nm,0.8s							
SCO	**Scoresbysund**	38.96	337	P		**P**		**02 47 09.6 +0.3**
SCO				pmax		pmax		
	comp=Z,13nm,1.1s							
SCO	**Scoresbysund**	38.96	337	P		**P**		**02 47 09.6 +0.3**
MAKZ	**Makanchi**	40.17	62	P		**P**		**02 47 20.2 +0.4**
MAKZ				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MAKZ	**Makanchi**	40.17	62	P		**P**		**02 47 20.2 +0.4**
MK31	**Makanchi Array**	40.38	62	P		**P**		**02 47 21.4 -0.1**
MK31				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MK31	**Makanchi Array**	40.38	62	P		**P**		**02 47 21.4 -0.1**
MKAR	**Makanchi Array**	40.38	62	P		**P**		**02 47 21.6 0.0**
	comp=Z,3.3nm,0.8s,baz=282,slow=6.9,SNR=28							
MKAR	**Makanchi Array**	40.38	62	*e*P		**P**		**02 47 22.4 +0.9**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
MKAR	**Makanchi Array**	40.38	62	P		**P**		**02 47 22.0 +0.4**
MBAR	**Mbarara**	40.87	173	P		**P**		**02 47 27.1 +1.2**
	comp=Z,7.3nm,0.9s,baz=298,slow=3.6,SNR=6.1							
MBAR	**Mbarara**	40.87	173	P		**P**		**02 47 26.7 +0.8**
MBAR				pmax		pmax		
	comp=Z,12nm,1.1s							
MBAR	**Mbarara**	40.87	173	P		**P**		**02 47 26.7 +0.8**
ZAA0	**Zalesovo Array**	40.94	50	P		**P**		**02 47 25.4 -0.6**
ZALV	**Zalesovo Beam**	40.94	50	P		**P**		**02 47 26.6 +0.6**
	comp=Z,4.3nm,0.7s,baz=275,slow=8.5,SNR=22							
ZALV	**Zalesovo Beam**	40.94	50	P		**P**		**02 47 25.8 -0.2**
KMBO	**Kilima Mbogo**	42.39	164	*i* P		**P**		**02 47 41.7 +3.2**
NRIK	**Noril'sk**	42.91	27	P		**P**		**02 47 42.4 +0.5**
	comp=Z,2.9nm,0.7s,baz=249,slow=7.2,SNR=6.7							
NRIK				LR		LR		03 07 12.6
	comp=Z,218nm,19.1s,baz=258,slow=38							
NRIK	**Noril'sk**	42.91	27	*e*P		**P**		**02 47 44.2 +2.3**
NRIK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NRIK	**Noril'sk**	42.91	27	P		**P**		**02 47 42.6 +0.7**
NRIK				IAmb		IAmb		02 47 46.8
	comp=Z,19nm,1.4s							
DGZ	**Jazzator, Alta**	43.17	56	*i* P		**P**		**02 47 45.0 +0.6**
DGZ				pmax		pmax		
	comp=Z,14nm,1.3s							
DBIC	**Dimbokro**	43.54	228	P		**P**		**02 47 48.1 +0.5**
DBIC	**Dimbokro**	43.54	228	P		**P**		**02 47 48.0 +0.5**
TIC	**Toumodi**	43.66	228	*e*PKP1		**P**		**02 47 52.0 +3.5**
KIC	**Kosan Boka**	43.73	228	*e*PKP1		**P**		**02 47 52.6 +3.5**
	comp=Z,36nm,1.0s							
LIC	**Lamto**	44.00	228	*e*PKP1		**P**		**02 47 51.6 +0.3**
	comp=Z,80nm,1.1s							
ICESG	**Greenland Ices**	44.54	332	⇓*i*P		**P**		**02 47 55.8 +0.4**
ICESG				IAmb		IAmb		02 47 56.6
	comp=Z,16nm,1.0s							
SUMG	**Summit**	44.59	337	*i* P		**P**		**02 47 56.2 +0.4**
SUMG				IAmb		IAmb		02 47 57.2
	comp=Z,6.2nm,0.9s							
SUMG				IAMs_20		IAMs_20		03 08 16.2
	comp=Z,215nm,14.7s							
SUMG	**Summit**	44.59	337	*i* P		**P**		**02 47 56.2 +0.4**
SUMG				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SUMG				MLR		MLR		
	comp=Z,230nm,15.0s							
SUMG	**Summit**	44.59	337	P		**P**		**02 47 56.2 +0.4**
WMQ	**Urumqi**	44.83	64	*e*P		**P**		**02 47 59.3 +1.6**
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,120nm,3.7s							
DY2G	**Dye2**	47.03	328	*i* P		**P

comp=Z,12nm,1.0s
XAN Xi'an 63.89 67 P **P 02 50 16.8 +0.3**
XAN pP pP 02 50 19.1 -0.4
XAN pmax pmax
comp=Z,11nm,1.4s
XAN LR LR
comp=Z,140nm,18.4s
XAN LR LR
comp=Z,160nm,15.2s
XAN LR LR
comp=Z,120nm,16.3s
XAN Xi'an 63.89 67 P **P 02 50 17.6 +1.1**
XAN Xi'an 63.89 67 P **P 02 50 17.6 +1.1**
ZEA Zeya 64.45 40 *e*P **P 02 50 21.0 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 65.22 86 P **P 02 50 23.9 -1.5**
comp=Z,1.4nm,0.3s,baz=296,slow=6.9,SNR=4.1
CMAR LR LR 03 23 10.4
comp=Z,52nm,20.0s,baz=330,slow=40
CMAR Chiang Mai Arr 65.22 86 P **P 02 50 25.0 -0.4**
CMAR Chiang Mai Arr 65.22 86 P **P 02 50 24.9 -0.4**
BJI Beijing 65.57 57 P **P 02 50 27.0 -0.3**
BJI pP **pP 02 50 30.6 +0.3**
BJI pmax pmax
comp=Z,8.0nm,0.9s
PHIT Phitsanulok 67.10 86 P P 02 50 44.8 +7.3
BILL Bilibino 67.92 15⇓*e*P **P 02 50 42.0 +0.1**
BILL *e* 02 51 13.4
BILL *e* 02 53 12.5
BILL pmax pmax
comp=Z,16nm,1.4s
BILL MLR MLR
comp=Z,111nm,19.0s
BILL Bilibino 67.92 15 P **P 02 50 42.4 +0.6**
SEY Seymchan 68.52 23 P **P 02 50 46.0 +0.3**
comp=Z,1.8nm,0.5s,baz=318,slow=4.7,SNR=8.5
BOSA Boshof 68.53 181 LR LR 03 24 37.0
comp=Z,110nm,19.0s,baz=356,slow=39
C36M Paulatuk 68.54 349 P **P 02 50 45.9 +0.2**
C36M IAmb IAmb 02 50 46.8
comp=Z,17nm,1.5s
FRNY Flat Rock 68.97 311 P **P 02 50 50.8 +1.9**
FRNY IAmb IAmb 02 50 53.2
comp=Z,13nm,1.4s
BCX Boston College 69.01 308 P **P 02 50 50.2 +1.1**
CN2 Changchun 69.16 50 *e*P **P 02 50 50.5 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,15.0s
KLR Kul'dur 69.37 42 LR LR 03 23 33.7
comp=Z,133nm,18.7s,baz=1.0,slow=38
KLR Kul'dur 69.37 42*ce*P **P 02 50 51.4 +0.2**
KLR pmax pmax
comp=Z,16nm,1.4s
LONY Lake Ozonia 69.67 312 P **P 02 50 53.0 -0.2**
MA2 Magadan 70.51 26 P **P 02 50 58.9 +0.9**
comp=Z,5.3nm,0.7s,baz=182,slow=23,SNR=4.2
MA2 Magadan 70.51 26 *i* P **P 02 50 58.1 0.0**
MA2 pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 70.51 26 P **P 02 50 59.0 +0.9**
MDJ Mudanjiang 71.05 47 P **P 02 51 00.8 -0.8**
MDJ IAmb IAmb 02 51 04.3
comp=Z,10nm,1.1s
RDOG Red Dog Mine 71.79 4 P **P 02 51 06.7 +1.0**
RDOG IAmb IAmb 02 51 12.0
comp=Z,11nm,1.0s
NJ2 Nanjing 71.89 63 *e*P **P 02 51 06.3 -0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
USA0B Ussuriysk Arra 72.65 47 P **P 02 51 10.1 -1.1**
USA0B pmax pmax
comp=Z,12nm,1.4s
USA0B Ussuriysk Arra 72.65 47 P **P 02 51 10.1 -1.1**
USA0B IAmb IAmb 02 51 12.1
comp=Z,12nm,1.4s
USRK Ussuriysk Ar. 72.65 47 P **P 02 51 11.2 0.0**
comp=Z,2.3nm,0.9s,baz=272,slow=4.8,SNR=10.0
USRK LR LR 03 25 11.7
comp=Z,79nm,18.4s,baz=336,slow=38
USRK Ussuriysk Ar. 72.65 47 P **P 02 51 10.4 -0.8**
YKA Yellowknife Ar 72.88 342 P **P 02 51 11.8 -0.5**
comp=Z,0.8nm,0.9s,baz=39,slow=6.6,SNR=5.2
YKA LR LR 03 24 06.7
comp=Z,112nm,19.1s,baz=0.0,slow=37
EPYK Eagle Plains 72.90 353 P **P 02 51 13.8 +1.4**
MVL Millersville 73.53 309 P **P 02 51 16.2 -0.3**
MVL IAmb IAmb 02 51 21.7
comp=Z,16nm,1.3s
IMAR Indian Mountai 74.09 0 P **P 02 51 20.1 +0.7**
KSAR Wonju Array Be 74.50 54 P **P 02 51 22.2 0.0**
KSAR Wonju Array Be 74.50 54 P **P 02 51 22.2 0.0**
KSRS Korea Array 74.52 54 P **P 02 51 22.6 +0.2**
comp=Z,5.1nm,1.0s,baz=317,slow=5.1,SNR=12
KSRS LR LR 03 27 18.6
comp=Z,78nm,19.6s,baz=319,slow=38
MDM Murphy Dome 75.03 358 P **P 02 51 25.5 +0.6**
MDM IAmb IAmb 02 51 29.4
comp=Z,12nm,1.4s
ILAR Eielson Array 75.17 357 P **P 02 51 26.4 +0.7**
comp=Z,0.5nm,1.0s,baz=343,slow=6.5,SNR=4.5
ILAR LR LR 03 24 10.1
comp=Z,49nm,21.5s,baz=22,slow=36
E43A Lone Tree Farm 75.22 319 IAmb IAmb 02 51 27.5
comp=Z,6.8nm,1.1s
DAWY Dawson 75.40 354 IAmb IAmb 02 51 31.5
comp=Z,9.2nm,1.4s
K27K Chicken 75.65 355 IAmb IAmb 02 51 33.8
comp=Z,16nm,1.5s
YSS Yuzh-Sakhalins 76.39 39 *e*P **P 02 51 33.5 +0.6**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS Yuzh-Sakhalins 76.39 39 P **P 02 51 33.2 +0.3**
COWI Conover 76.48 320 P **P 02 51 32.9 -0.7**
COWI IAmb IAmb 02 51 38.0
comp=Z,5.8nm,0.9s
ULM Lac du Bonnet 76.59 326 P **P 02 51 33.5 -0.5**
comp=Z,11nm,1.2s,baz=14,slow=6.3,SNR=6.7
ULM LR LR 03 26 14.7
comp=Z,112nm,18.1s,baz=71,slow=36
ULM Lac du Bonnet 76.59 326 *e*P **P 02 51 35.6 +1.6**
ULM pmax pmax
comp=Z,11nm,1.2s
ULM Lac du Bonnet 76.59 326 P **P 02 51 33.9 -0.1**
G40A Rib Lake 77.60 320 IAmb IAmb 02 51 48.5
comp=Z,12nm,1.4s
PETK Petropavlovsk- 77.97 28 LR LR 03 27 56.0
comp=Z,124nm,18.8s,baz=317,slow=37
K43A Burlington 78.47 317 P **P 02 51 44.4 -0.2**
K43A IAmb IAmb 02 51 48.4
comp=Z,14nm,1.0s
F36A Milaca 78.78 322 IAmb IAmb 02 51 50.4
comp=Z,10nm,1.3s
SPMN Marine on St. 78.90 321 IAmb IAmb 02 51 48.8
comp=Z,17nm,1.5s
SFIN Lafayette 79.44 314 IAmb IAmb 02 51 50.8
comp=Z,16nm,1.4s
DLBC Dease Lake 79.70 348 LR LR 03 29 08.6
comp=Z,220nm,20.0s,baz=4.5,slow=37
I37A Lemond, Waseca 80.08 320 IAmb IAmb 02 51 54.5
comp=Z,12nm,1.1s
WCI Wyandotte Cave 80.49 312 P **P 02 51 54.9 -0.8**
WCI pmax pmax
comp=Z,27nm,1.5s
WCI Wyandotte Cave 80.49 312 P **P 02 51 54.9 -0.8**
OLIL Olney 81.14 314 P **P 02 51 58.6 -0.6**
MJAR Matsushiro Arr 81.28 49 LR LR 03 31 42.2
comp=Z,74nm,18.8s,baz=0.0,slow=38
U49A Red Boiling Sp 81.39 311 IAmb IAmb 02 52 05.2
comp=Z,19nm,1.3s
JMM Marumori 81.82 47 P **P 02 52 02.4 -0.4**
JMM IAmb IAmb 02 52 19.9
comp=Z,16nm,1.2s
CLTN Cedars of Leba 82.00 311 IAmb IAmb 02 52 06.8
comp=Z,7.8nm,1.0s
R40A Maddies Statio 83.72 316 IAmb IAmb 02 52 15.9
comp=Z,6.2nm,0.9s
LCAR Lake Charles 84.75 314 P **P 02 52 17.3 -0.6**
LCAR IAmb IAmb 02 52 22.1
comp=Z,11nm,1.1s

RSSD Black Hills 84.84 327 P **P 02 52 17.8 -0.8**
RSSD pmax pmax
comp=Z,9.0nm,1.3s
RSSD Black Hills 84.84 327 P **P 02 52 17.8 -0.8**
RSSD IAmb IAmb 02 52 22.5
comp=Z,9.4nm,1.3s
U40A Yellville 85.46 315 IAmb IAmb 02 52 25.9
comp=Z,8.2nm,1.2s
NEW Newport 86.08 336 IAmb IAmb 02 52 29.3
comp=Z,9.0nm,1.4s
HHAR Hobbs 86.11 316 IAmb IAmb 02 52 28.9
comp=Z,12nm,1.4s
U38A Gravette 86.22 316 IAmb IAmb 02 52 26.1
comp=Z,14nm,1.4s
MSO Missoula 86.33 334 P **P 02 52 26.3 +0.5**
BOZ Bozeman (W) 86.58 332 IAmb IAmb 02 52 28.7
comp=Z,8.6nm,1.3s
YHH Holmes Hill 86.99 331 IAmb IAmb 02 52 33.7
comp=Z,7.8nm,1.4s
DLMT Dillon 87.13 332 IAmb IAmb 02 52 33.1
comp=Z,6.3nm,1.2s
FLWY Flagg Ranch 87.54 331 P **P 02 52 31.6 -0.2**
PDAR Pinedale Array 88.22 329 P **P 02 52 34.0 -1.1**
comp=Z,0.5nm,0.9s,baz=36,slow=5.5,SNR=4.7
PDAR LR LR 03 34 04.7
comp=Z,132nm,19.3s,baz=37,slow=37
PDAR Pinedale Array 88.22 329 P **P 02 52 33.5 -1.6**
BDFB Brasilia 88.45 248 LR LR 03 33 49.7
comp=Z,113nm,18.5s,baz=20,slow=37
ISCO Idaho Springs 89.05 325 P **P 02 52 39.3 +0.1**
ISCO pmax pmax
comp=Z,8.0nm,1.5s
ISCO Idaho Springs 89.05 325 P **P 02 52 39.3 +0.1**
ISCO IAmb IAmb 02 52 42.8
comp=Z,8.2nm,1.5s
MFID Camas Ranch 89.96 333 IAmb IAmb 02 52 47.9
comp=Z,5.6nm,1.1s
HWUT Hardware Ranch 89.98 330 P **P 02 52 42.6 -0.8**
T25A Trinidad 90.68 323 IAmb IAmb 02 52 50.9
comp=Z,9.0nm,1.2s
SDCO Great Sand Dun 90.68 324 IAmb IAmb 02 52 50.6
comp=Z,5.3nm,1.4s
ELK Elko 92.10 332 IAmb IAmb 02 52 54.9
comp=Z,3.5nm,1.2s
SPR3 Spring Creek 3 93.30 330 IAmb IAmb 02 53 03.8
comp=Z,7.1nm,1.3s
NVAR Mina Array Bea 95.25 333 P **P 02 53 07.9 +0.1**
comp=Z,0.2nm,0.4s,baz=41,slow=4.8,SNR=2.3
NVAR LR LR 03 38 22.3
comp=Z,58nm,18.9s,baz=12,slow=37
LHV Little Huntoon 95.48 333 P **P 02 53 09.7 +1.2**
MNTX Cornudas Mount 95.57 320 P **P 02 53 07.6 -1.6**
TXAR Lajitas Array 96.63 318 P **P 02 53 12.5 -1.6**
comp=Z,0.5nm,1.0s,baz=12,slow=4.6,SNR=2.0
TXAR LR LR 03 37 22.4
comp=Z,100nm,18.2s,baz=0.0,slow=36

ROM 24 02:40:17.5±0.2, 42°.596N±0°.006×12°.526E±0°.010,
h8km, ML1.4/8, 1C-3D Error ellipse: s-maj=0.9km
s-min=0.5km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESX	**Cesi**	**0.04**	**70**	P	Pg	02 40 19.6	+0.3
CESX				S	Sg	02 40 20.7	+0.2
CESX				AML	AML		
	comp=E,716μm,0.6s						
CESX				AML	AML		
	comp=N,661μm,0.1s						
ARRO	**Arrone**	**0.18**	**95**	P	Pg	02 40 22.0	+0.8
ARRO				S	Sg	02 40 25.3	+1.6
ARRO				AML	AML		
	comp=E,128μm,0.7s						
ARRO				AML	AML		
	comp=E,128μm,0.7s						
ARRO				AML	AML		
	comp=N,162μm,0.2s						
MOMA	**Monte Martano**	**0.21**	**9**	⇑P	Pg	02 40 22.5	+0.6
MOMA				S	Sg	02 40 26.0	+1.2
MOMA				AML	AML		
	comp=E,232μm,0.3s						
MOMA				AML	AML		
	comp=N,164μm,0.4s						
MOMA				AML	AML		
	comp=E,231μm,0.3s						
LNSS	**Leonessa**	**0.38**	**89**	P	Pg	02 40 25.6	+0.6
LNSS				S	Sg	02 40 31.3	+1.3
LNSS				AML	AML		
	comp=E,152μm,0.1s						
LNSS				AML	AML		
	comp=N,128μm,0.1s						
LNSS				AML	AML		
	comp=E,153μm,0.1s						
MGAB	**Montegabbione**	**0.44**	**316**	P	Pb	02 40 27.1	-0.4
MGAB				AML	AML		
	comp=E,39μm,0.6s						
MGAB				AML	AML		
	comp=N,43μm,0.6s						
MGAB				AML	AML		
	comp=E,39μm,0.6s						
ASSB	**Assisi San Ben**	**0.46**	**12**	P	Pg	02 40 26.8	+0.4
ASSB				S	Sb	02 40 34.2	-0.6
ASSB				AML	AML		
	comp=N,32μm,0.9s						
ASSB				AML	AML		
	comp=E,36μm,1.0s						
NRCA	**Norcia**	**0.49**	**61**	P	Pg	02 40 27.4	+0.2
NRCA				S	Sb	02 40 35.5	-0.4
NRCA				AML	AML		
	comp=E,126μm,0.5s						
NRCA				AML	AML		
	comp=N,93μm,1.0s						
FIAM	**Fiamignano**	**0.55**	**127**	P	Pg	02 40 28.6	+0.5
FIAM				S	Sb	02 40 37.0	-0.4
SMA1	**SAN MARTINO**	**0.60**	**86**	P	Pg	02 40 29.6	+0.5
SMA1				S	Sb	02 40 38.5	-0.4
FDMO	**Fiordimonte**	**0.60**	**43**	⇓P	Pg	02 40 29.5	+0.3
FDMO				S	Sb	02 40 38.6	-0.4
FDMO				AML	AML		
	comp=E,32μm,0.2s						
FDMO				AML	AML		
	comp=N,34μm,0.5s						
RNI2	**Rionero Sannit**	**1.50**	**126**	⇓P	Pn	02 40 43.6	-1.2
PTRJ	**Pietraroja**	**1.94**	**129**	S	Sb	02 41 17.0	-0.4
GRAM	**Graiana**	**2.61**	**317**	⇓P	Pb	02 41 04.6	+0.1
GRAM				S	Sg	02 41 41.0	-0.2
BOB	**Bobbio (Coli)**	**3.11**	**315**	S	Sb	02 41 50.0	-1.3

TUL ***24*** *02:47:25.5±1.2, 35°.66N±0°.01×97°.17W±0°.02, h5km±4km, ML2.5, mb_Lg2.2/22(NEIC), Error ellipse: s-maj=2.7km s-min=1.5km az=127.0*
NEIC 24 02:47:25.8±1.1, 35°.67N±0°.01×97°.17W±0°.02, h5km±1km,
Error ellipse: s-maj=2.8km s-min=1.7km az=121.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.02**	**224**		Pg	02 47 26.4	-0.3
OK005					Sg	02 47 27.2	-0.3
OK025	**Westminster Rd**	**0.16**	**236**	Pg	Pg	02 47 28.9	-0.1
OK025				Sg	Sg	02 47 31.4	+0.2
OK029	**Liberty Lake**	**0.26**	**298**	Pg	Pg	02 47 30.9	0.0
OK029				Sg	Sg	02 47 35.0	+0.6
OKCSW	**OKLAHOMA CITY**	**0.34**	**219**	Pg	Pg	02 47 32.1	-0.3
OKCSW				Sg	Sg	02 47 37.2	+0.2
BCOK	**Bluff Creek, N**	**0.36**	**268**	Pg	Pg	02 47 32.5	-0.2
BCOK				Sg	Sg	02 47 37.8	+0.4
OK031	**S. Brethren Rd**	**0.39**	**44**	Pg	Pg	02 47 33.5	+0.2
OK031				Sg	Sg	02 47 39.2	+0.8
FNO	**Franklin**	**0.45**	**204**		Pg	02 47 34.2	-0.3
FNO				Sg	Sg	02 47 40.6	+0.2
QUOK	**Quay**	**0.62**	**37**	Pg	Pg	02 47 37.7	-0.1
QUOK				Sg	Sg	02 47 46.5	+0.6
CROK	**Carrier**	**1.06**	**322**	Pg	Pg	02 47 45.5	-0.6
CROK				Sg	Sb	02 48 00.3	-0.5
BLOK	**Blackwell**	**1.09**	**358**	Pg	Pg	02 47 45.8	-0.8
X34A	**Smith Ranch, M**	**1.20**	**207**	Pg	Pg	02 47 47.8	-1.0
GC02	**Grant County #**	**1.30**	**335**	Pn	Pn	02 47 49.6	-1.0
T35A	**Sooner Cattle**	**1.35**	**23**		Pn	02 47 50.4	-0.9
KAN13	**South Haven SW**	**1.36**	**350**	Pn	Pn	02 47 51.0	-0.5
OK032	**Salt Plains WL**	**1.41**	**324**	Pn	Pn	02 47 51.5	-0.6
KAN17	**Caldwell West**	**1.45**	**341**	Pn	Pn	02 47 52.6	-0.1
KAN09	**Caldwell North**	**1.50**	**346**	Pn	Pn	02 47 53.3	-0.2
KAN05	**Bluff City Nor**	**1.54**	**339**	Pn	Pn	02 47 54.2	+0.2
KAN05				IAmb_Lg		02 48 17.5	
KS20	**Mayfield South**	**1.58**	**349**	IAmb_Lg		02 48 18.0	
	comp=Z,16nm,0.7s						
U32A	**Winter Ranch,**	**1.64**	**296**	Pn	Pn	02 47 55.4	0.0
KS21	**Milan North St**	**1.66**	**346**	IAmb_Lg		02 48 18.7	
	comp=Z,18nm,1.0s						
LOOK	**Love County**	**1.68**	**180**	Pn	Pn	02 47 55.8	0.0
X37A	**Clayton**	**1.83**	**126**	Pn	Pn	02 47 57.8	-0.1
X37A				IAmb_Lg		02 48 24.2	
	comp=Z,9.2nm,0.8s						
Z35A	**Perchaven, San**	**2.34**	**182**	IAmb_Lg		02 48 40.4	
	comp=Z,12nm,1.1s						
U38A	**Gravette**	**2.38**	**70**	Pn	Pn	02 48 05.3	-0.2
HHAR	**Hobbs**	**2.69**	**76**	Pn	Pn	02 48 10.1	+0.3
W39A	**Magazine**	**2.81**	**99**	Pn	Pn	02 48 09.5	-1.8
R32A	**Long Quarter,**	**3.01**	**336**	Pn	Pn	02 48 14.9	+0.7
MIAR	**Mount Ida**	**3.15**	**110**	Pn	Pn	02 48 16.9	+0.9
MIAR				IAmb_Lg		02 49 08.8	
	comp=Z,5.0nm,0.7s						
U40A	**Yellville**	**3.57**	**78**	Pn	Pn	02 48 22.1	+0.4
WHAR	**Wooly Hollow**	**4.00**	**94**	Pn	Pn	02 48 28.7	+0.9
WHAR				IAmb_Lg		02 49 35.7	
	comp=Z,3.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.11**	**85**	Pn	Pn	02 48 28.5	-0.7
FCAR				IAmb_Lg		02 49 41.1	
	comp=Z,6.8nm,0.8s						
MGMO	**Mountain Grove**	**4.22**	**68**	Pn	Pn	02 48 30.6	-0.2
MGMO				IAmb_Lg		02 49 38.9	
	comp=Z,5.7nm,0.9s						
T42A	**Van Buren**	**5.09**	**73**	IAmb_Lg		02 50 17.2	
	comp=Z,4.7nm,1.0s						
JCT	**Junction City**	**5.63**	**204**	IAmb_Lg		02 50 34.6	
	comp=Z,3.6nm,0.7s						
T25A	**Trinidad**	**6.02**	**286**	IAmb_Lg		02 50 42.6	
	comp=Z,3.7nm,0.8s						

SNET ***24*** *03:15:21.1±0.9, 13°.40N×90°.22W, h32km±3km, ML2.8*
GCG ***24*** *03:15:32.9±0.3, 14°.22N×90°.54W, h50km, MD3.7*
ISC 24 03:15:23.3±2.4, 13°.4N±0°.2×90°.14W±0°.10, h45km±48km,
n20, σ1s04/28, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.66**	**50**	*e*P	**Pn**	**03 15 35.5**	**-1.0**
SBLS				*e*S	**Sn**	**03 15 47.3**	**+1.3**
RTR	**El Retiro**	**0.68**	**45**	*e*P	**Pn**	**03 15 35.8**	**-1.0**
RTR				*e*S	**Sn**	**03 15 47.7**	**+1.2**
SNJE	**San Jose**	**0.69**	**49**	*e*P	**Pn**	**03 15 35.8**	**-1.1**
SNJE				*e*S	**Sn**	**03 15 47.2**	**+0.4**
SLOZ	**Alcaldia de Sa**	**0.70**	**29**	*e*P	**Pn**	**03 15 36.0**	**-1.0**
SLOZ				*e*S	**Sn**	**03 15 47.0**	**+0.3**
SLOZ				IAML		03 15 51.6	
	comp=Z,188nm,0.3s						
UNIC	**Universidad Ca**	**0.81**	**45**	*e*P	**Pn**	**03 15 37.3**	**-1.1**
UNIC				IAML		03 15 50.5	
	comp=Z,293nm,0.2s						
BOQS	**Boqueron**	**0.90**	**69**	*e*P	**Pn**	**03 15 38.8**	**-0.9**
BOQS				*e*S	**Sn**	**03 15 53.2**	**+1.6**
SNET	**Serv Nac Est T**	**0.92**	**73**	*e*P	**Pn**	**03 15 39.4**	**-0.6**
UEES	**Universidad Ev**	**0.93**	**71**	*e*P	**Pn**	**03 15 38.9**	**-1.2**
UEES				IAML		03 15 55.8	
	comp=Z,440nm,0.2s						
LFRS	**El Faro**	**1.07**	**78**	*e*P	**Pn**	**03 15 41.1**	**-0.9**
LFRS				*e*S	**Sn**	**03 15 57.3**	**+1.6**
PCG	**Pacaya**	**1.08**	**335**	*e*P	**Pn**	**03 15 42.0**	**-0.2**
LBRS	**Las Brisas**	**1.11**	**73**	*e*P	**Pn**	**03 15 42.4**	**-0.2**
LBRS				*e*S	**Sn**	**03 15 57.8**	**+1.0**
SJTE	**Alcalda de S**	**1.12**	**79**	*e*P	**Pn**	**03 15 41.5**	**-1.1**
SJTE				*e*S	**Sn**	**03 15 57.5**	**+0.6**
SJTE				IAML		03 15 59.9	
	comp=Z,144nm,0.2s						
NBG	**Las Nubes**	**1.19**	**350**	*e*P	**Pn**	**03 15 44.1**	**+0.4**
PAVA	**Las Pavas**	**1.21**	**75**	*e*P	**Pn**	**03 15 43.6**	**-0.2**
FUG	**Fuego 3**	**1.24**	**327**	*e*P	**Pn**	**03 15 43.3**	**-1.1**
MTO3	**Montecristo**	**1.24**	**37**	*e*P	**Pn**	**03 15 43.0**	**-1.4**
COEG	**Centro de Oper**	**1.24**	**80**	*e*P	**Pn**	**03 15 43.5**	**-0.8**
COEG				IAML		03 16 04.7	
	comp=Z,270nm,0.3s						
TECO	**Alcaldia de Te**	**1.33**	**84**	*e*P	**Pn**	**03 15 44.8**	**-0.6**
ESQI	**Esquipulas**	**1.38**	**34**	*e*P	**Pn**	**03 15 45.1**	**-1.1**
PQSS	**Presa 15 de Se**	**1.55**	**82**	*e*P	**Pn**	**03 15 47.6**	**-0.9**
PQSS				IAML		03 16 11.8	
	comp=Z,43nm,0.1s						

KRSZO ***24*** *03:15:38.8±1.0, 44°.22N×15°.92E, h8km±7km, ML3.1/9, Error ellipse: s-maj=3.7km s-min=2.9km az=139.0*
RHSSO ***24*** *03:15:41.1±0.4, 44°.21N×16°.00E, h9km±2km, ML2.8/15*
PRU ***24*** *03:15:41.8±0.0, 44°.38N×15°.99E, h0km*
LDG ***24*** *03:15:43.5±0.2, 44°.47N×15°.59E, h5km, Ml3.0/12, Error ellipse: s-maj=6.3km s-min=4.2km az=158.0*
ISC 24 03:15:39.5±1.1, 44°.24N±0°.02×15°.92E±0°.02, h10km±9km,
n87, σ1s92/138, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRJ	**Zirje**	**0.62**	**199**	*e*Pg	**Pg**	**03 15 50.4**	**-1.0**
ZIRJ				Sg	**Sg**	**03 15 59.9**	**+0.4**
DUGI	**Dugi Otok**	**0.67**	**248**	*e*Pg	**Pg**	**03 15 52.0**	**-0.3**
DUGI				Sg	**Sb**	**03 16 02.8**	**+0.2**
MGRS	**Mrkonjic Grad**	**0.86**	**78**	⇑*i*Pg	**Pg**	**03 15 55.4**	**-0.5**
MGRS				*e*Sg	**Sg**	**03 16 07.0**	**-0.1**
PRIJ	**Prijedor**	**0.93**	**38**	*e*Pg	**Pg**	**03 15 57.6**	**+0.2**
PRIJ				*e*Sg	**Sb**	**03 16 11.0**	**+0.9**
RABC	**Rab**	**0.96**	**303**	*e*Pg	**Pb**	**03 15 58.2**	**0.0**
RABC				Sg	**Sn**	**03 16 12.3**	**-0.4**
BLY	**Banja Luka**	**1.04**	**60**	⇓*i*Pg	**Pg**	**03 15 58.6**	**-0.8**
BLY				*e*Sg	**Sg**	**03 16 12.6**	**-0.3**
BLY	**Banja Luka**	**1.04**	**60**	Pb	**Pg**	**03 15 59.0**	**-0.4**
	comp=Z,0.7nm,SNR=38						
MRAK	**Mrakovica**	**1.04**	**42**	⇓*i*Pg	**Pg**	**03 15 59.4**	**-0.1**
MRAK				*e*Sg	**Sb**	**03 16 13.8**	**+0.3**
BOJS	**Bojanci**	**1.35**	**340**	*i* Pg	**Pg**	**03 16 05.4**	**0.0**
BOJS				*e*Sg	**Sn**	**03 16 23.5**	**+1.1**
BOJS				IAML		03 16 27.2	
	comp=Z,62nm,0.2s						
OZLJ	**Ozalj**	**1.41**	**347**	*e*Pg	**Pn**	**03 16 05.8**	**+0.5**
OZLJ				Sg	**Sg**	**03 16 25.2**	**+0.4**
MOSL	**Moslavina**	**1.50**	**23**	*e*Pn	**Pn**	**03 16 06.0**	**-0.4**
MOSL				Sg	**Sb**	**03 16 27.2**	**+0.7**
GBRS	**Gornja Briga**	**1.51**	**329**	*i* Pn	**Pg**	**03 16 08.5**	**+0.1**
GBRS				*e*Sn	**Sg**	**03 16 29.6**	**+1.6**
GBRS				IAML		03 16 30.9	
	comp=Z,64nm,0.2s						
ZAG	**Zagreb**	**1.59**	**2**	*e*Pn	**Pn**	**03 16 08.1**	**+0.4**
ZAG				Sg	**Sg**	**03 16 30.0**	**-0.5**
CRES	**Cresnjev**	**1.62**	**349**	*i* Pn	**Pn**	**03 16 09.0**	**+0.9**
CRES				*e*Sn	**Sb**	**03 16 30.2**	**+0.2**
CRES				IAML		03 16 35.2	
	comp=Z,21nm,0.2s						
DOB	**Doboj**	**1.64**	**72**	*e*Sn	**Sn**	**03 16 29.5**	**0.0**
GCIS	**Gornji Cirnik**	**1.64**	**353**	*i* Pn	**Pn**	**03 16 09.2**	**+0.8**
GCIS				*e*Sn	**Sg**	**03 16 31.8**	**-0.4**
GCIS				IAML		03 16 34.8	
	comp=Z,39nm,0.4s						
VISS	**Visnje**	**1.74**	**334**	*e*Pn	**Pb**	**03 16 11.5**	**0.0**
VISS				*e*Sn	**Sg**	**03 16 35.2**	**-0.2**
VISS				IAML		03 16 37.1	
	comp=Z,52nm,0.2s						
LEGS	**Legarje**	**1.76**	**346**	*e*Pn	**Pn**	**03 16 11.1**	**+1.0**
LEGS				*e*Sn	**Sb**	**03 16 34.8**	**+0.7**
CEY	**Cerknica**	**1.83**	**325**	*i* Pn	**Pb**	**03 16 13.1**	**0.0**
CEY				*e*Sn	**Sg**	**03 16 38.4**	**0.0**
CEY				IAML		03 16 40.6	
	comp=Z,169nm,0.3s						
STON	**Ston**	**1.89**	**136**	*e*Pn	**Pn**	**03 16 12.1**	**+0.3**
STON				Sn	**Sn**	**03 16 37.0**	**+1.4**
LOBO	**Lobor**	**1.92**	**3**	*e*Pn	**Pn**	**03 16 12.5**	**+0.3**
LOBO				Sn	**Sn**	**03 16 37.8**	**+1.3**
HAPS	**Han Pijesak,Bl**	**2.19**	**93**	*e*Pn	**Pn**	**03 16 16.5**	**+0.4**
HAPS				*e*Sn	**Sn**	**03 16 43.0**	**-0.3**
BEHE	**Becsehely**	**2.31**	**15**	*e*P	**Pn**	**03 16 18.5**	**+0.9**
BEHE	**Becsehely**	**2.31**	**15**	*e*Pn	**Pn**	**03 16 19.6**	**+2.0**
BEHE				*e*Sn	**Sn**	**03 16 47.9**	**+1.8**
BEHE	**Becsehely**	**2.31**	**15**	Pg	**Pn**	**03 16 18.5**	**+0.9**
	comp=Z,0.4nm,SNR=5.8						
BRY	**Bratogost**	**2.33**	**124**	*e*Pn	**Pn**	**03 16 19.4**	**+1.4**
BRY				*e*Sn	**Sn**	**03 16 46.8**	**0.0**

TREB	Trebinje	2.34	130	ePn	Pn	03 16 19.2	+1.2
TREB				eSn	Sn	03 16 47.3	+0.6
UPM	Unac-Piva	2.40	115	ePn	Pn	03 16 19.3	+0.2
UPM				eSn	Sn	03 16 47.9	-0.8
KOVH	Kovagotottos	2.41	39	eP	Pn	03 16 18.5	-0.5
KOVH				eS	Sn	03 16 47.2	-1.4
KOVH	Kovagotottos	2.41	39	Pn	Pn	03 16 18.5	-0.5
	comp=Z,0.1nm,SNR=5.0						
KOVH				Sn	Sn	03 16 47.2	-1.4
SOKA	Soboth	2.52	346	ePn	Pn	03 16 21.4	+0.9
	comp=Z,3.7nm,0.3s,SNR=15						
BBLS	Lazići	2.54	97	ePn	Pn	03 16 21.1	+0.2
BBLS				eSn	Sn	03 16 52.5	+0.5
BBLS	Lazići	2.54	97	Pn	Pn	03 16 22.5	+1.6
	comp=Z,0.7nm,SNR=8.4						
BBLS				Sn	Sn	03 16 52.9	+0.9
RUDO	Rudo	2.57	103	ePn	Pn	03 16 22.8	+1.6
RUDO				eSn	Sn	03 16 52.6	0.0
HCY	Herceg Novi	2.60	133	ePn	Pn	03 16 22.4	+0.8
TEKS	Tekeris	2.61	82	ePn	Pn	03 16 23.3	+1.6
TEKS				eSn	Sn	03 16 54.1	+0.6
AQU	L'Aquila	2.63	225	ePn	Pn	03 16 24.1	+2.0
AQU				eSn	Sn	03 16 55.9	+1.8
MORH	Mrgy, Hungar	2.76	43	ePn	Pn	03 16 25.8	+2.0
MORH				eSn	Sn	03 16 58.4	+1.3
MYKA	Terra Mystica	2.88	327	Pn	Pg	03 16 33.5	-1.1
	comp=Z,2.2nm,0.2s						
FRGS	Fruska Gora	2.92	70	ePn	Pn	03 16 27.4	+1.3
FRGS				eSn	Sn	03 17 02.1	+0.8
DIVS	Divibare	2.94	91	ePn	Pn	03 16 26.5	+0.2
DIVS				eSn	Sn	03 17 01.6	-0.1
DIVS	Divibare	2.94	91	Pg	Pn	03 16 26.0	-0.3
	comp=Z,0.1nm,SNR=4.8						
TIH	Tihany	3.00	27	eP	Pn	03 16 27.8	+0.7
TIH	Tihany	3.00	27	Pn	Pn	03 16 27.8	+0.7
	comp=Z,0.4nm,SNR=4.0						
ARSA	Arzberg	3.02	355	ePn	Pn	03 16 28.3	+0.8
	comp=Z,1.4nm,0.1s,SNR=12						
ARSA	Arzberg	3.02	355	ePn	Pn	03 16 29.1	+1.7
ARSA				eSn	Sn	03 17 06.0	+2.3
ARSA	Arzberg	3.02	355	Pn	Pn	03 16 28.5	+1.1
	SNR=1.9						
PDG	Podgorica	3.03	125	ePn	Pn	03 16 29.2	+1.7
PDG				eSn	Sn	03 17 03.7	-0.2
DRME	Dracevica, Mon	3.15	130	ePn	Pn	03 16 30.3	+1.1
DRME				eSn	Sn	03 17 07.0	+0.2
ABTA	Abfaltersbach	3.47	318	i Pn	Pn	03 16 35.3	+1.7
	comp=Z,0.4nm,0.1s						
SOP	Sopron	3.47	7	eP	Pn	03 16 34.2	+0.6
SOP	Sopron	3.47	7	Pn	Pn	03 16 34.2	+0.6
	SNR=2.1						
CONA	Conrad Observa	3.69	359	i Pn	Pn	03 16 37.5	+0.9
	comp=Z,2.4nm,0.2s,SNR=12						
MOA	Molln	3.79	343	i Pn	Pn	03 16 39.8	+1.9
	comp=Z,2.4nm,0.2s,SNR=14						
MOA				eSn	Sn	03 17 24.4	+1.8
	comp=Z,4.4nm,0.3s						
ZST	Bratislava	4.04	11	ePN	Pn	03 16 41.6	+0.2
MODS	Modra-Piesok	4.24	12	ePN	Pn	03 16 44.6	+0.4
MODS				eSN	Sn	03 17 32.8	-0.9
WTTA	Wattenberg	4.26	317	i Pn	Pn	03 16 47.0	+2.4
	comp=Z,2.1nm,0.2s,SNR=5.1						
WTTA				eSn	Sn	03 17 38.2	+3.8
	comp=Z,7.7nm,0.5s						
WATA	Walderalm	4.33	317	ePn	Pn	03 16 48.0	+2.4
	comp=Z,3.8nm,0.2s,SNR=8.4						
WATA				i Sn	Sn	03 17 40.0	+3.7
	comp=Z,3.9nm,0.4s						
SQTA	Sankt Quirin	4.44	314	ePn	Pn	03 16 48.8	+1.8
	comp=Z,1.3nm,0.3s						
FETA	Feichten	4.58	309	ePn	Pn	03 16 51.2	+2.3
	comp=Z,0.2nm,0.2s						
MOTA	Moosalm	4.58	314	i Pn	Pn	03 16 51.4	+2.4
	comp=Z,0.7nm,0.2s						
MOTA				eSn	Sn	03 17 46.2	+4.0
	comp=Z,2.9nm,0.3s						
VYHS	Vyhne	4.71	24	Pn	Pn	03 16 51.4	+0.7
	SNR=2.1						
VYHS	Vyhne	4.71	24	ePN	Pn	03 16 51.3	+0.7
VYHS				eSN	Sn	03 17 42.2	-3.1
JAVC	Velka Javorina	4.78	14	ePN	Pn	03 16 52.5	+1.0
KRUC	Moravsky	4.83	4	ePN	Pn	03 16 52.5	+0.2
KRUC				eSN	Sn	03 17 45.6	-2.7
KRUC	Moravsky	4.83	4	Pg	Pn	03 16 52.8	+0.5
VRAC	Vranov	5.09	5	ePN	Pn	03 16 56.3	+0.5
KHC	Kasperske Hory	5.15	343	ePN	Pn	03 16 57.5	+0.8
KHC				eSN	Sn	03 17 53.8	-2.4
DAVA	Damuels	5.21	308	i Pn	Pn	03 16 59.3	+1.8
	comp=Z,1.0nm,0.2s						
DAVA				eSn	Sn	03 18 00.9	+3.1
	comp=Z,4.0nm,0.4s						
PGF	Pioggiola	5.32	254	ePn	Pn	03 16 59.7	+0.7
PGF				eSn	Sn	03 17 57.3	-3.1
KRLC	Kraliky	5.87	5	eSN	Sn	03 18 12.0	-1.8
SBF	Sospel	6.12	269	ePn	Pn	03 17 09.0	-1.1
SBF				eSn	Sn	03 18 12.4	-7.8
	comp=Z,6.6nm,0.4s						
MBDF	Montbardon	6.56	277	ePn	Pn	03 17 14.4	-1.8
MBDF				eSn	Sn	03 18 23.7	-7.4
	comp=Z,4.1nm,0.6s						
LPG	La Plagne	6.63	284	ePn	Pn	03 17 16.5	-0.8
LPG				eSn	Sn	03 18 23.1	-10
	comp=Z,1.1nm,0.3s						
LPL	La Plagne	6.65	284	ePn	Pn	03 17 17.2	-0.2
LPL				eSn	Sn	03 18 24.8	-8.6
	comp=Z,2.4nm,0.3s						
FRF	La Foret Royal	6.73	267	ePn	Pn	03 17 16.8	-1.6
FRF				eSn	Sn	03 18 28.5	-6.6
	comp=Z,2.5nm,0.5s						
LMR	La Mourre	6.87	266	ePn	Pn	03 17 19.6	-0.6
LMR	La Mourre	6.87	266	eP	Pn	03 17 24.2	+4.0
LMR				eSn	Sn	03 18 31.3	-7.2
	comp=Z,0.7nm,0.2s						
ORIF	Oris-en-Rattie	7.20	279	ePn	Pn	03 17 22.5	-2.4
ORIF				eSn	Sn	03 18 32.6	-14
	comp=Z,1.6nm,0.3s						
HINF	Hinteralfeld	7.25	303	ePn	Pn	03 17 23.8	-1.7
HINF				eSn	Sn	03 18 38.7	-9.2
	comp=Z,2.8nm,0.5s						
CDF	Champ du Feu	7.29	308	ePn	Pn	03 17 23.4	-2.7
CABF	La Chapelle	7.31	292	ePn	Pn	03 17 24.3	-2.1
HAU	Haudompre	7.64	303	ePn	Pn	03 17 29.0	-1.8
VIVF	Saint-Julien-I	8.06	278	ePn	Pn	03 17 34.5	-2.1
VIVF				eSn	Sn	03 18 58.8	-8.9
	comp=Z,0.9nm,0.3s						
PAGF	Fort de Pagny	8.26	305	ePn	Pn	03 17 35.7	-3.6
SMF	Signal de Mont	8.82	290	ePn	Pn	03 17 45.4	-1.7
SMF				eSn	Sn	03 19 15.8	-11
	comp=Z,0.6nm,0.2s						
LOR	Lormes	8.96	294	ePn	Pn	03 17 46.3	-2.6
LOR				eSn	Sn	03 19 20.1	-10
	comp=Z,1.2nm,0.3s						

*IDC **24** 03:24:23.7±0.8, 55°.89S×26°.92W, h0km, mb4.5/6, mb1 4.5/7, mb1mx4.2/24, mbtmp4.3/7, ML4.0/1, MS3.0/1, Ms1 3.1/1, ms1mx2.7/20, Error ellipse: s-maj=34.8km s-min=18.7km az=72.0*
*NEIC **24** 03:24:31.8±1.5, 56°.0S±0°.1×27°.2W±0°.2, h58km±6km, mb4.6/19, Error ellipse: s-maj=19.2km s-min=12.9km az=56.0*

ISC 24 03:24:30.9±0.7, 55°.9S±0°.1×27°.2W±0°.1, h50km, n36, σ1°.08/31, mb4.5/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.59	283	Pn	Pn	03 25 51.8	+0.4
VNA1	Neumayer--Stat	16.91	158	P	P	03 28 26.4	+1.4
VNA3	Neumayer Olymp	17.10	161	P	P	03 28 29.6	+2.4
VNA2	Neumayer--Watz	17.30	158	P	P	03 28 31.3	+2.0
EFI	East Falkland	18.64	270	P	P	03 28 42.6	-1.6
SNAA	Sanae	18.85	156	P	P	03 28 46.3	-0.1
SNAA	Sanae	18.85	156	P	P	03 28 45.4	-1.0
	0.4nm,0.3s,baz=308,slow=13,SNR=8.6						
SNAA	Sanae	18.85	156	P	P	03 28 43.8	-2.6
QSPA	South Pole Qui	34.32	180	P	P	03 31 12.2	-0.2
	3.1nm,0.5s,baz=211,slow=3.5,SNR=60						
QSPA	South Pole Qui	34.32	180	P	P	03 31 12.1	-0.2
QSPA				IAmb	IAmb	03 31 25.6	
	comp=Z,7.1nm,0.8s						
CPUP	Villa Florida	36.73	311	P	P	03 31 32.5	-0.7
	comp=Z,2.5nm,0.6s,baz=146,slow=8.8,SNR=6.0						
CPUP	Villa Florida	36.73	311	P	P	03 31 32.9	-0.3
CPUP				IAmb	IAmb	03 31 52.3	
	comp=Z,16nm,1.4s						
AC02	Maricunga	41.83	296	P	P	03 32 17.0	+0.8
AC02				IAmb	IAmb	03 32 17.9	
	comp=Z,9.5nm,0.8s						
GO02	Mina Guanaco	43.44	297	P	P	03 32 28.6	-0.5
LVC	Limon Verde	45.24	300	P	P	03 32 44.2	+0.6
LVC				IAmb	IAmb	03 32 49.3	
	comp=Z,5.5nm,0.8s						
PB04	IPOC Station P	46.09	299	P	P	03 32 50.1	+0.1
VNDA	Vanda	46.70	183	P	P	03 32 54.1	+0.1
	comp=Z,2.3nm,0.6s,baz=189,slow=7.5,SNR=25						
VNDA	Vanda	46.70	183	P	P	03 32 54.2	+0.3
VNDA				IAmb	IAmb	03 32 57.0	
	comp=Z,2.3nm,0.7s						
PB08	IPOC Station P	47.46	301	P	P	03 33 01.9	+0.8
PB08				IAmb	IAmb	03 33 02.7	
	comp=Z,5.9nm,0.8s						
H10S2	ASCENSION HYDR	47.88	17	T	T	04 25 24.1	
	baz=189,slow=74,SNR=29						
H10S3	ASCENSION HYDR	47.88	17	T	T	04 25 24.4	
	baz=31,slow=74,SNR=54						
MNMC	Minye Minye	48.54	302	P	P	03 33 10.0	+0.7
H10N1	ASCENSION HYDR	49.00	17	T	T	04 26 45.3	
	baz=188,slow=76,SNR=11						
H10N3	ASCENSION HYDR	49.00	17	T	T	04 26 49.7	
	baz=188,slow=76,SNR=31						
H10N2	ASCENSION HYDR	49.02	17	T	T	04 26 34.5	
	baz=188,slow=76,SNR=26						
LPAZ	La Paz	50.31	305	P	P	03 33 23.9	+0.8
	comp=Z,5.6nm,0.5s,baz=127,slow=4.9,SNR=57						
LPAZ				LR	LR	03 53 07.5	
	comp=Z,17nm,21.7s,baz=98,slow=34						
LPAZ	La Paz	50.31	305	P	P	03 33 23.9	+0.8
LPAZ				IAmb	IAmb	03 33 24.8	
	comp=Z,7.1nm,0.6s						
CASY	Casey	54.02	160	P	P	03 33 49.3	-0.1
CASY				IAmb	IAmb	03 34 05.8	
	comp=Z,6.3nm,1.2s						
SAML	Samuel	54.72	315	P	P	03 33 55.5	+0.4
TORD	Torodi Ar. Bea	72.95	29	P	P	03 35 54.7	-0.1
	comp=Z,2.9nm,0.5s,baz=200,slow=6.5,SNR=48						
TORD	Torodi Ar. Bea	72.95	29	P	P	03 35 55.1	+0.3
ASAR	Alice Springs	99.10	162	P	Pdif	03 38 04.9	-1.8
	comp=Z,0.3nm,0.7s,baz=182,slow=5.4,SNR=2.2						
INK	Inuvik	145.71	321	PKPbc	PKPdf	03 44 02.9	+0.9
	comp=Z,3.0nm,0.6s,baz=103,slow=11,SNR=5.1						
INK	Inuvik	145.71	321	PKPdf	PKPdf	03 44 02.4	+0.4
ILAR	Eielson Array	150.04	312	PKPbc	PKPbc	03 44 13.8	-0.5
	comp=Z,2.6nm,0.8s,baz=136,slow=1.9,SNR=13						
SONM	Songino Array	150.72	86	PKPbc	PKPbc	03 44 15.3	-1.3
	comp=Z,1.3nm,0.4s,baz=217,slow=4.2,SNR=6.9						

*MAN **24** 03:27:56.0, 9°.36N×127°.11E, h61km, mb4.8, ML3.7, MS3.6*
*IDC **24** 03:28:02.0±0.8, 9°.95N×125°.93E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/47, mbtmp3.9/11, Error ellipse: s-maj=59.6km s-min=17.1km az=69.0*
*NEIC **24** 03:28:12.7±1.9, 9°.97N±0°.09×125°.9E±0°.2, h82km±9km, mb4.2/13, Error ellipse: s-maj=29.9km s-min=12.8km az=98.0*

ISC 24 03:28:08.1±0.7, 10°.12N±0°.06×126°.32E±0°.08, h42km, n38, σ1°.26/36, mb4.0/17, 2C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.44	271	⇓iP	Pn	03 28 31.4	-0.4
MSLP				i S	Sn	03 28 49.3	-0.1
CGP	Cagayan de Oro	2.31	224	⇓eP	Pn	03 28 43.5	-0.2
CGP				eS	Sn	03 29 09.4	-1.4
LLP	Lapu-Lapu	2.33	275	⇓iP	Pn	03 28 44.8	+0.9
LLP				i S	Sn	03 29 13.6	+2.3
BUKP	Musuan	2.55	209	⇑iP	Pn	03 28 48.4	+1.3
BUKP				i S	Sn	03 29 19.8	+2.8
DAV	Davao City (W)	3.12	194	Pn	Pn	03 28 55.7	+0.9
KCP	Kidapawan	3.33	202	⇓eP	Pn	03 28 59.6	+1.9
CNOP	Candoni, Negro	3.64	266	⇓iP	Pn	03 29 02.7	+0.8
CNOP				i S	Sn	03 29 44.1	+0.4
PAGZ	Pagadian	3.68	232	i P	Pn	03 29 03.5	+1.0
RCP	Roxas	3.79	292	⇑eP	Pn	03 29 06.0	+1.9
WB0	Warramunga Arr	30.75	165	P	P	03 34 18.8	-0.8
WB0				IAmb	IAmb	03 34 25.2	
	comp=Z,6.4nm,1.4s						
WRA	Warramunga Arr	30.90	165	P	P	03 34 19.5	-1.5
	comp=Z,0.7nm,0.6s,baz=343,slow=9.1,SNR=8.3						
WRA	Warramunga Arr	30.90	165	IAmb	IAmb	03 34 20.8	
	comp=Z,0.6nm,1.4s						
WB2	Warramunga Arr	30.90	165	P	P	03 34 20.1	-0.8
WB2				IAmb	IAmb	03 34 43.6	
	comp=Z,7.5nm,1.4s						
WR0	Warramunga Arr	30.97	165	P	P	03 34 21.8	+0.2
WR0				IAmb	IAmb	03 34 34.8	
	comp=Z,5.5nm,1.4s						
ASAR	Alice Springs	34.39	168	P	P	03 34 50.7	-0.8
	comp=Z,0.8nm,0.8s,baz=353,slow=7.3,SNR=6.8						
H11S3	WAKE ISLAND Hy	39.91	73	T	T	04 18 30.9	
	baz=262,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	39.93	73	T	T	04 18 37.5	
	baz=262,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	39.93	73	T	T	04 18 31.7	
	baz=262,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	40.25	71	T	T	04 19 04.1	
	baz=264,slow=74,SNR=53						
H11N2	WAKE ISLAND Hy	40.26	71	T	T	04 18 59.0	
	baz=264,slow=74,SNR=33						
H11N3	WAKE ISLAND Hy	40.27	71	T	T	04 19 06.2	
	baz=264,slow=74,SNR=59						
FORT	Forrest	40.70	178	P	P	03 35 44.0	-0.7
SONM	Songino Array	41.17	340	P	P	03 35 49.5	+0.9
	comp=Z,0.7nm,0.6s,baz=144,slow=5.2,SNR=2.5						
BBOO	Buckleboo	43.69	168	P	P	03 36 07.8	-1.3
STKA	Stephens Creek	44.25	161	P	P	03 36 13.7	+0.2
	comp=Z,1.1nm,0.5s,baz=344,slow=15,SNR=1.5						
MK31	Makanchi Array	52.17	323	P	P	03 37 12.9	-1.7
MK31				IAmb	IAmb	03 37 15.7	
	comp=Z,1.0nm,0.8s						
MKAR	Makanchi Array	52.17	323	P	P	03 37 14.2	-0.4
	comp=Z,1.2nm,0.7s,baz=126,slow=7.8,SNR=15						
MKAR				PcP	PcP	03 38 24.5	-1.4
	comp=Z,0.3nm,0.6s,baz=114,slow=4.1,SNR=1.6						
MAKZ	Makanchi	52.37	323	P	P	03 37 15.7	-0.4
MAKZ				IAmb	IAmb	03 37 16.1	
	comp=Z,1.9nm,1.1s						
ZAA0	Zalesovo Array	54.78	331	P	P	03 37 32.9	-0.6
ZAA0				IAmb	IAmb	03 37 54.3	
	comp=Z,3.2nm,1.2s						
ZALV	Zalesovo Beam	54.78	331	P	P	03 37 32.8	-0.8
	comp=Z,0.6nm,0.4s,baz=95,slow=7.2,SNR=2.0						
ILAR	Eielson Array	79.55	26	P	P	03 40 12.2	+1.8
	comp=Z,0.5nm,0.4s,baz=236,slow=6.0,SNR=6.4						
BMAR	Burnt Mountain	80.38	23	P	P	03 40 16.8	+1.8
ARCES	ARCESS Array B	84.35	340	P	P	03 40 36.5	+0.9
	comp=Z,1.5nm,0.8s,baz=69,slow=6.8,SNR=6.9						
ARCES	ARCESS Array B	84.35	340	IAmb	IAmb	03 40 50.5	
	comp=Z,12nm,1.4s						
BRTR	Keskin Array B	85.66	309	P	P	03 40 42.1	-0.8
	comp=Z,0.9nm,0.8s,baz=69,slow=6.8,SNR=4.7						
FIA1	FINESS Array S	86.04	332	P	P	03 40 42.4	-1.7
FINES	FINESS Array B	86.04	332	P	P	03 40 43.6	-0.5
	comp=Z,0.8nm,0.5s,baz=75,slow=5.8,SNR=8.9						
AKASG	Malin Array Be	86.71	321	P	P	03 40 47.2	-0.5
	comp=Z,0.3nm,0.2s,baz=56,slow=6.6,SNR=3.6						

*IDC **24** 03:40:33.1±2.2, 33°.39S×179°.02W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/21, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=61.2km s-min=38.8km az=137.0*
*WEL **24** 03:41:40.0, 38°.5±27°.×17°.8E±1°.7, h21km±18km, M2.2/11, ML2.3/11, MLv2.2/11, Error ellipse: s-maj=0.0km s-min=0.0km az=172.0*

ISC 24 03:40:38.3±1.8, 33°.5S±0°.1×179°.5W±0°.3, h10km, n19, σ1°.29/20, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.41	204	P	Pn	03 41 44.0	-1.3
WMGZ	Waiomatatini S	4.61	201	P	Pn	03 41 47.3	-0.7
HAZ	Te Kaha	4.78	207	P	Pn	03 41 50.5	+0.3
PKGZ	Pakihiroa	4.79	204	P	Pn	03 41 49.2	-1.3
PUZ	Puketiti	4.89	202	P	Pn	03 41 51.4	-0.5
RUGZ	Raukumara Rang	5.00	207	P	Pn	03 41 53.3	-0.1
TWGZ	Tauwhareparae	5.08	203	P	Pn	03 41 54.3	-0.2
CNGZ	Carnagh Statio	5.29	200	P	Pn	03 41 55.8	-1.5
TKGZ	Te Karaka	5.36	203	P	Pn	03 41 59.5	+1.2
MWZ	Matawai	5.38	206	P	Pn	03 41 58.1	-0.5
URZ	Urewera	5.47	209	Pn	Pn	03 41 59.8	0.0
	3.2nm,0.3s,baz=273,slow=4.7,SNR=23						
URZ				Sn	Sn	03 43 04.2	+1.3
	3.4nm,0.3s,baz=73,slow=23,SNR=6.9						
URZ	Urewera	5.47	209	P	Pn	03 41 59.8	0.0
RIGZ	Rimuhau	5.63	203	P	Pn	03 42 01.4	-0.7
PRGZ	Paritu Road	5.79	201	P	Pn	03 42 03.1	-1.1
ASAR	Alice Springs	41.80	271	P	P	03 48 27.7	-0.6
	0.7nm,0.6s,baz=113,slow=7.4,SNR=12						
WRA	Warramunga Arr	43.08	276	P	P	03 48 37.7	-1.0
	0.7nm,0.4s,baz=116,slow=7.6,SNR=18						
FINES	FINESS Array B	147.59	337	PKPbc	PKPdf	04 00 17.9	-1.4
	1.2nm,0.6s,baz=93,slow=3.1,SNR=5.5						
NB2	NORSAR Subarra	151.61	349	PKP	PKPdf	04 00 28.6	+2.8
	comp=Z,0.4nm,0.6s,baz=19,slow=2.6						
NOA	NORSAR Array B	151.61	349	PKPbc	PKPdf	04 00 28.3	+2.4
	comp=Z,0.7nm,0.7s,baz=13,slow=4.1,SNR=3.7						

*ATH **24** 04:38:12.4, 35°.73N×21°.38E, h62km±11km, ML3.5/8, Error ellipse: s-maj=12.3km s-min=1.6km az=43.0*
*IDC **24** 04:38:14.0±2.2, 35°.90N×21°.64E, h0km, mb3.6/7, mb1 3.7/11, mb1mx3.5/39, mbtmp3.6/11, ML3.2/4, MS2.7/5, Ms1 2.7/5, ms1mx2.4/42, Error ellipse: s-maj=44.5km s-min=17.6km az=22.0*
*THE **24** 04:38:18.0, 35°.92N×21°.67E, h6km±1km, ML3.4/8, Error ellipse: s-maj=1.6km s-min=0.8km az=43.0*

ISC 24 04:38:16.0±2.1, 35°.79N±0°.06×21°.59E±0°.05, h16km±12km, n63, σ1°.25/75, mb3.8/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.11	6	P	Pb	04 38 36.0	-0.8
PYL				S	Sb	04 38 50.3	-0.7
PYL	PYLOS	1.11	6	P	Pb	04 38 35.8	-1.0
PYL				S	Sg	04 38 51.6	-0.3
KTHA	Kythira Island	1.28	68	P	Pn	04 38 39.5	+0.2
KTHA				S	Sg	04 38 57.6	+0.2
	1μm,0.6s						
KTHA	Kythira Island	1.28	68	P	Pn	04 38 39.5	+0.2
KTHA				AML	AML	04 39 07.6	
	comp=E,3555μm,0.4s						
KTHA				AML	AML	04 39 13.8	
	comp=N,1553μm,0.7s						
ANKY	Antikythira Is	1.40	86	P	Pn	04 38 42.0	+1.2
ANKY				S	Sg	04 39 01.3	+0.3
	comp=N,992nm,0.9s						
ANKY	Antikythira Is	1.40	86	P	Pn	04 38 41.8	+1.0
ANKY				AML	AML	04 39 15.6	
	comp=E,2553μm,1.0s						
ANKY				AML	AML	04 39 24.1	
	comp=N,1490μm,0.9s						
ITM	Ithomi	1.41	11	P	Pn	04 38 41.4	+0.3
ITM				S	Sn	04 38 59.4	0.0
	comp=N,1μm,0.5s						
ITM	Ithomi	1.41	11	P	Pn	04 38 40.6	-0.5
ITM				S	Sb	04 39 00.2	+0.4
ITM				AML	AML	04 39 05.2	
	comp=E,1924μm,0.5s						
ITM				AML	AML	04 39 13.5	
	comp=N,2160μm,0.5s						
VLI	Veliai	1.43	49	P	Pn	04 38 42.0	+0.7
VLI				S	Sn	04 38 59.1	-0.7
	comp=N,1μm,0.5s						
VLI	Veliai	1.43	49	P	Pn	04 38 41.7	+0.4
VLI				S	Sg	04 39 03.3	+1.1
VLI				AML	AML	04 39 05.6	
	comp=N,2809μm,0.4s						
VLI				AML	AML	04 39 06.2	
	comp=E,2192μm,0.5s						
MNVA	Monemvasia	1.47	52	P	Pn	04 38 43.1	+1.2
VLX	Vlachokerasia	1.70	22	P	Pn	04 38 46.3	+1.2
VLX				S	Sn	04 39 06.7	+0.1
	comp=E,1μm,0.5s						
AMT	Artemida-Makis	1.74	3	P	Pn	04 38 46.4	+0.8
AMT				S	Sn	04 39 08.3	+0.8
	comp=E,1μm,0.5s						
AMT	Artemida-Makis	1.74	3	P	Pn	04 38 45.5	-0.1
AMT				S	Sb	04 39 09.1	-0.1
IMMV	Iera Moni Meta	1.98	99	P	Pn	04 38 50.0	+1.2
IMMV	Iera Moni Meta	1.98	99	P	Pn	04 38 49.8	+1.0
VAM	Vamos	2.16	99	P	Pn	04 38 52.5	+1.1
RLS	Riolos of Patr	2.26	358	P	Pn	04 38 54.1	+1.4
KLV	Kalavryta, Ach	2.29	11	P	Pn	04 38 54.7	+1.5
KLV	Kalavryta, Ach	2.29	11	P	Pn	04 38 54.5	+1.3
KLV				AML	AML	04 39 34.1	
	comp=E,434μm,0.6s						
KLV				AML	AML	04 39 52.3	
	comp=N,588μm,1.0s						
PSDA	Pessada-Kefalo	2.45	341	P	Pn	04 38 56.3	+1.0
PSDA				S	Sn	04 39 25.6	+0.6
PSDA	Pessada-Kefalo	2.45	341	P	Pn	04 38 55.9	+0.6
LAKA	Lakka	2.46	7	P	Pn	04 38 57.4	+1.9
LAKA	Lakka	2.46	7	P	Pn	04 38 57.2	+1.7
LAKA				AML	AML	04 39 28.1	
	comp=N,1868μm,0.7s						
LAKA				AML	AML	04 39 28.3	
	comp=E,2182μm,0.7s						
LTK	Loutraki	2.49	26	P	Pn	04 38 56.3	+0.5
TRIZ	Trizonia	2.60	8	P	Pn	04 38 59.8	+2.4
KEF3	Kipou

FINES	FINESS Array B	25.83	5	P		P	04 43 45.2	-1.1
	comp=E,2.6nm,1.0s,baz=165,slow=11,SNR=5.3							
EKA	Eskdalemuir Ar	25.88	327	P		P	04 43 46.9	+0.1
	comp=E,0.5nm,0.4s,baz=126,slow=7.0,SNR=8.2							
NB2	NORSAR Subarra	26.12	349	P		P	04 43 48.9	-0.1
	comp=Z,0.1nm,0.5s,baz=153,slow=10							
NOA	NORSAR Array B	26.12	349	P		P	04 43 48.6	-0.4
	comp=Z,0.3nm,0.5s,baz=158,slow=11,SNR=1.9							
ARCES	ARCESS Array B	33.87	2	P		P	04 44 57.0	-0.5
	comp=Z,0.4nm,0.3s,baz=189,slow=10.0,SNR=14							
MKAR	Makanchi Array	45.86	57	P		P	04 46 36.0	-1.3
	comp=Z,0.6nm,0.3s,baz=276,slow=7.2,SNR=15							

*UPA **24** 04:39:13.6±1.1, 8°.59N×77°.10W, h18km±6km, MW3.9*
*RSNC **24** 04:39:15.0±0.9, 8°.56N×77°.11W, h53km±10km, ML3.2, Mw3.2*

ISC 24 04:39:14.8±5.7, 8°.56N±0°.03×77°.10W±0°.02, h37km±6km, n36, σ0°.96/65, 5C-10D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBC	Los crdobas,	0.78	68	⇓iP	Pn	04 39 30.0	+0.7
LCBC				i		04 39 30.1	
	comp=Z,896nm,0.1s						
LCBC				eS	Sn	04 39 41.1	+1.3
UPD2	Meteti	0.91	269	⇓iP	Pn	04 39 30.5	-0.5
UPD2				i S	Sn	04 39 42.9	+0.1
UPD2	Meteti	0.91	269	⇓iP	Pn	04 39 30.4	-0.5
UPD2				eS	Sn	04 39 42.9	+0.1
MOTC	Monteria, Cord	1.44	81	⇓iP	Pn	04 39 38.0	-0.2
MOTC				eS	Sn	04 39 56.2	+0.4
MOTC				i		04 39 57.9	
	comp=Z,216nm,0.7s						
MONA	Monteria	1.44	82	⇓eP	Pn	04 39 38.0	-0.3
MONA				eS	Sn	04 39 57.0	+1.0
PTAC	Punta Ardita,	1.57	207	eP	Pn	04 39 40.1	0.0
PTAC				eS	Sn	04 39 58.6	-0.6
PTAC				i		04 40 01.7	
	comp=Z,285nm,0.7s						
UREC	San Jos de Ur	1.75	117	⇓iP	Pn	04 39 42.7	+0.1
UREC				eS	Sn	04 40 02.9	-0.7
UREC				i		04 40 05.3	
	comp=Z,269nm,0.4s						
DBBC	Dabeiba	1.77	150	⇑eP	Pn	04 39 43.3	+0.4
DBBC				i		04 40 08.3	
	comp=Z,541nm,0.4s						
CNTA3	Canitas, Panam	1.89	290	⇑iP	Pn	04 39 44.1	-0.4
CNTA3				eS	Sn	04 40 06.2	-0.8
CHPO	Chepo, Panama	2.08	287	⇑eP	Pn	04 39 46.5	-0.6
CHPO				eS	Sn	04 40 12.7	+0.9
SJCC	San Jacinto, C	2.31	55	eP	Pn	04 39 49.7	-0.7
SJCC				eS	Sn	04 40 17.7	0.0
SJCC	San Jacinto, C	2.31	55	eP	Pn	04 39 49.5	-0.9
SJCC				eS	Sn	04 40 17.0	-0.7
SJCC				i		04 40 23.9	
	comp=Z,51nm,0.5s						
SOLC	Bahia Solano	2.34	188	eP	Pn	04 39 51.2	+0.5
SOLC				i		04 39 58.7	
	comp=Z,86nm,0.3s						
SOLC				eS	Sn	04 40 17.9	-0.3
UPA	Univ. de Panam	2.44	280	eP	Pn	04 39 52.0	-0.1
UPA				eS	Sn	04 40 21.4	+0.7
UPA	Univ. de Panam	2.44	280	⇓eP	Pn	04 39 51.8	-0.3
UPA				i		04 39 54.2	
	comp=Z,40nm,0.4s						
UPA				eS	Sn	04 40 20.5	-0.2
ZARC	Zaragoza, Cauc	2.46	115	⇓iP	Pn	04 39 52.8	+0.4
ZARC				eS	Sn	04 40 20.4	-0.9
CHOR3	La Chorrera	2.66	277	⇓eP	Pn	04 39 55.0	-0.1
CHOR3				eS	Sn	04 40 28.7	+2.6
ZANG	Zanguenga, Cho	2.76	278	eP	Pn	04 39 56.1	-0.4
ZANG				eS	Sn	04 40 33.5	+4.8
BCIP	Isla Barro Col	2.77	283	eP	Pn	04 39 56.5	-0.2
BCIP				eS	Sn	04 40 29.1	+0.3
BCIP	Isla Barro Col	2.77	283	⇓eP	Pn	04 39 56.3	-0.4
BCIP				i		04 40 04.4	
	comp=Z,99nm,0.4s						
BCIP				eS	Sn	04 40 28.3	-0.6
HELC	Santa Helena	2.82	146	⇑iP	Pn	04 39 58.1	+0.4
HELC				eS	Sn	04 40 31.9	+1.3
HELC	Santa Helena	2.82	146	⇓eP	Pn	04 39 57.9	+0.2
HELC				eS	Sn	04 40 30.6	-0.1
HELC				i		04 40 34.5	
	comp=Z,26nm,0.5s						
CBOC	Ciudad Bolivar	2.89	158	eP	Pn	04 40 00.8	+2.3
CBOC				eS	Sn	04 40 31.1	-0.9
CBOC				i		04 40 42.2	
	comp=Z,42nm,0.5s						
VTON	El Valle, Cocl	2.98	271	eP	Pn	04 39 59.8	+0.2
SMLC	San Martn de	3.00	85	eP	Pn	04 39 59.4	-0.4
SMLC				i		04 40 35.0	
	comp=Z,92nm,0.3s						
AZU	Azuero	3.23	257	eP	Pn	04 40 03.4	+0.4
AZU				eS	Sn	04 40 40.3	0.0
AZU	Azuero	3.23	257	eP	Pn	04 40 02.9	-0.1
AZU				i		04 40 12.8	
	comp=Z,42nm,0.2s						
AZU				eS	Sn	04 40 39.5	-0.8
NORC	Norcasia	3.71	143	eP	Pn	04 40 09.5	-0.1
NORC				eS	Sn	04 40 51.3	-0.8
NORC				i		04 40 58.6	
	comp=Z,32nm,0.4s						
PLMC	San Jos del P	3.72	167	eP	Pn	04 40 09.1	-0.8
PLMC				eS	Sn	04 40 52.0	-0.5
PLMC				i		04 41 11.4	
	comp=Z,11nm,0.4s						
OCAC	Ocana	3.75	95	eP	Pn	04 40 10.2	-0.1
OCAC				eS	Sn	04 40 53.4	+0.1
OCAC				i		04 40 56.0	
	comp=Z,355nm,0.4s						
SMRC	Santa Marta, M	3.84	47	eP	Pn	04 40 11.1	-0.2
GMAL	Guarumal, Vera	4.17	259	eP	Pn	04 40 15.8	0.0
TOLC	Tolima	4.33	156	eP	Pn	04 40 18.6	+0.2
TOLC				i		04 41 41.6	
	comp=Z,8.1nm,0.7s						
BARC	Barichara	4.35	116	eP	Pn	04 40 19.1	+0.6
BARC				i		04 41 11.8	
	comp=Z,68nm,0.5s						
PAMC	Pamplona, Colo	4.52	105	eP	Pn	04 40 22.4	+1.2
PAMC				eS	Sn	04 41 13.9	+1.1
PAMC				i		04 41 15.5	
	comp=Z,53nm,0.4s						
RUSC	La Rusia	4.79	123	eP	Pn	04 40 25.6	+0.7
RUSC				eS	Sn	04 41 18.4	-0.9

*ATH **24** 05:04:23.0, 35°.77N×21°.38E, h56km±12km, ML3.6/9, Error ellipse: s-maj=13.8km s-min=2.0km az=45.0*
*IDC **24** 05:04:28.4±3.8, 35°.87N×21°.69E, h35km±37km, mb3.6/7, mb1 3.7/12, mb1mx3.5/45, mbtmp3.7/12, ML3.6/5, Error ellipse: s-maj=42.4km s-min=19.2km az=23.0*
*THE **24** 05:04:28.7, 35°.81N×21°.63E, h33km±37km, ML3.6/7, Error ellipse: s-maj=37.9km s-min=0.9km az=51.0*

ISC 24 05:04:25.8±1.5, 35°.75N±0°.09×21°.53E±0°.07, h23km±22km, n85, σ1°.44/91, mb3.8/6, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.16	8	P	Pn	05 04 45.6	-1.0
PYL				S	Sn	05 05 01.5	-0.2
PYL	PYLOS	1.16	8	P	Pn	05 04 45.4	-1.2
PYL				S	Sn	05 05 00.8	-1.0
KTHA	Kythira Island	1.34	67	P	Pn	05 04 49.3	+0.2
KTHA				S	Sn	05 05 05.0	-1.2
	2μm,0.6s						
KTHA	Kythira Island	1.34	67	P	Pn	05 04 49.0	-0.1
KTHA				AML	AML	05 05 14.3	
	comp=E,5875μm,0.8s						
KTHA				AML	AML	05 05 16.9	
	comp=N,3501μm,0.5s						
ANKY	Antikythira Is	1.44	85	P	Pn	05 04 51.6	+1.1
ANKY				S	Sn	05 05 07.8	-0.9
	comp=N,2μm,0.7s						
ANKY	Antikythira Is	1.44	85	P	Pn	05 04 51.6	+1.1
ANKY				AML	AML	05 05 24.4	
	comp=N,2752μm,0.6s						
ANKY				AML	AML	05 05 25.6	
	comp=E,3973μm,0.7s						
ITM	Ithomi	1.46	12	P	Pn	05 04 51.1	+0.3
ITM				S	Sn	05 05 09.5	+0.2
	comp=E,960nm,0.5s						
ITM	Ithomi	1.46	12	P	Pn	05 04 50.7	-0.1

VLI	Veliai	1.49	49	P		Pn	05 04 51.8	+0.6
VLI	Veliai	1.49	49	P		Pn	05 04 51.6	+0.4
VLI				AML	AML		05 05 15.3	
	comp=N,4222μm,0.4s							
VLI				AML	AML		05 05 23.1	
	comp=E,2649μm,1.0s							
MNVA	Monemvasia	1.54	52	P		Pn	05 04 53.3	+1.5
VLX	Vlachokerasia	1.76	23	P		Pn	05 04 55.9	+1.0
VLX				S		Sn	05 05 16.4	-0.2
	comp=E,1μm,0.6s							
VLX	Vlachokerasia	1.76	23	P		Pn	05 04 55.7	+0.8
AMT	Artemida-Makis	1.79	4	P		Pn	05 04 56.0	+0.7
AMT	Artemida-Makis	1.79	4	P		Pn	05 04 55.8	+0.6
AMT				AML	AML		05 05 46.9	
	comp=N,3433μm,0.7s							
AMT				AML	AML		05 05 48.4	
	comp=E,2700μm,0.5s							
IMMV	Iera Moni Meta	2.02	97	P		Pn	05 04 59.7	+1.3
VAM	Vamos	2.20	98	P		Pn	05 05 02.2	+1.3
VLMS	Volimes, Zakyn	2.24	342	P		Pn	05 05 02.8	+1.3
VLMS	Volimes, Zakyn	2.24	342	P		Pn	05 05 02.3	+0.8
VLMS				AML	AML		05 05 34.3	
	comp=E,1030μm,0.2s							
VLMS				AML	AML		05 05 35.4	
	comp=N,1236μm,0.3s							
GVDS	Gavdos	2.28	113	P		Pn	05 05 02.7	+0.7
KLV	Kalavryta, Ach	2.34	12	P		Pn	05 05 04.5	+1.5
KLV	Kalavryta, Ach	2.34	12	P		Pn	05 05 04.3	+1.3
KLV				AML	AML		05 05 58.1	
	comp=N,556μm,0.9s							
KLV				AML	AML		05 06 03.9	
	comp=E,402μm,1.1s							
PSDA	Pessada-Kefalo	2.48	342	P		Pn	05 05 06.0	+1.2
PSDA	Pessada-Kefalo	2.48	342	P		Pn	05 05 06.0	+1.2
MHLO	Agia Marina, M	2.50	67	P		Pn	05 05 05.3	+0.2
LAKA	Lakka	2.51	8	P		Pn	05 05 07.3	+2.0
LAKA	Lakka	2.51	8	P		Pn	05 05 07.0	+1.8
LAKA				AML	AML		05 06 05.7	
	comp=E,2152μm,1.2s							
LAKA				AML	AML		05 06 14.2	
	comp=N,2116μm,0.7s							
LTK	Loutraki	2.54	26	P		Pn	05 05 06.0	+0.3
KEF3	Kipouria, Keph	2.63	339	P		Pn	05 05 07.9	+1.1
KEF3				S		Sn	05 05 39.6	+1.6
	comp=N,988nm,0.2s							
KEF3	Kipouria, Keph	2.63	339	P		Pn	05 05 07.9	+1.1
TRIZ	Trizonia	2.65	9	P		Pn	05 05 09.4	+2.3
DMLN	Damoulianata-K	2.65	340	P		Pn	05 05 08.3	+1.1
KEF5	Kardakata, Kep	2.67	342	P		Pn	05 05 08.6	+1.3
KEF5				S		Sn	05 05 39.6	+0.7
	comp=N,672nm,0.4s							
EFP	Efpalio	2.69	6	P		Pn	05 05 09.9	+2.2
EFP				AML	AML		05 06 15.5	
	comp=E,718μm,1.0s							
EFP				AML	AML		05 06 16.0	
	comp=N,460μm,1.1s							
SERG	Sergoula	2.69	9	P		Pn	05 05 10.0	+2.3
IDI	Anoyia	2.78	99	Pn		Pn	05 05 09.3	+0.4
	comp=N,6.0nm,0.3s,baz=294,slow=13,SNR=47							
IDI				Sn		Sn	05 05 43.9	+2.2
	comp=N,16nm,0.3s,baz=228,slow=11,SNR=8.7							
IDI	Anoyia	2.78	99	P		Pn	05 05 09.3	+0.4
FSK	Fiskardo	2.81	344	P		Pn	05 05 11.1	+1.7
FSK				S		Sn	05 05 44.0	+1.4
	comp=N,132nm,0.3s							
FSK	Fiskardo	2.81	344	P		Pn	05 05 10.9	+1.5
ANX	Ano Chora	2.86	6	P		Pn	05 05 12.9	+2.8
ANX				AML	AML		05 06 11.1	
	comp=E,735μm,0.7s							
ANX				AML	AML		05 06 15.8	
	comp=N,942μm,0.7s							
EVGI	Lefkada island	2.95	347	P		Pn	05 05 13.3	+2.0
DRAG	Dragano-Lefkad	3.03	346	P		Pn	05 05 14.4	+2.1
NYDR	Nydri-Lefkada	3.03	348	P		Pn	05 05 14.3	+1.9
LKD2	Lefkada island	3.11	347	P		Pn	05 05 15.3	+1.8
LAST	Lasithi	3.27	99	P		Pn	05 05 17.0	+1.2
AGG	Agios Georgios	3.33	11	P		Pn	05 05 18.1	+1.6
THL	Klokotos Trika	3.83	6	P		Pn	05 05 24.7	+1.4
KPRO	Kipourio	4.20	358	P		Pn	05 05 31.1	+2.6
LSK	Leskovik	4.46	351	P		Pn	05 05 33.4	+1.4
OHR	Ohrid	5.39	354	*i* Pn		Pn	05 05 45.5	+0.8
VAY	Valandovo	5.62	8	*i* Pn		Pn	05 05 48.6	+0.6
STIP	Stip	5.96	5	*i* Pn		Pn	05 05 54.1	+1.5
SKO	Skopje	6.21	359	*i* Pn		Pn	05 05 54.8	-1.3
DRME	Dracevica, Mon	6.68	345	*e*Pn		Pn	05 06 01.6	-0.9
PDG	Podgorica	6.90	346	*e*Pn		Pn	05 06 02.0	-3.5
HCY	Herceg Novi	7.09	341	*e*Pn		Pn	05 06 02.0	-6.2
TREB	Trebinje	7.38	341	*e*Pn		Pn	05 06 10.3	-1.8
BRY	Bratogost	7.51	343	*e*Pn		Pn	05 06 11.9	-2.1
STON	Ston	7.71	339	*e*Pn		Pn	05 06 14.8	-1.8
STON				Sn		Sn	05 07 32.2	-11
UPM	Unac-Piva	7.72	346	*e*Pn		Pn	05 06 16.2	-0.7
RUDO	Rudo	8.03	349	*e*Pn		Pn	05 06 20.1	-1.0
BBLS	Lazići	8.27	349	*e*Pn		Pn	05 06 23.5	-0.9
DIVS	Divibare	8.42	352	*e*Pn		Pn	05 06 24.2	-2.3
HAPS	Han Pijesak,Bl	8.56	347	*e*Pn		Pn	05 06 23.5	-4.9
ZIRJ	Zirje	9.10	332	*e*Pn		Pn	05 06 34.2	-1.6
ZIRJ				Sn		Sn	05 08 05.2	-12
KIJV	Kijevo	9.14	336	*e*Pn		Pn	05 06 35.2	-1.0
KIJV				Sn		Sn	05 08 06.9	-11
MORI	Morici	9.26	333	*e*Pn		Pn	05 06 36.4	-1.4
MORI				Sn		Sn	05 08 09.7	-12
FRGS	Fruska Gora	9.49	353	*e*Pn		Pn	05 06 37.0	-4.0
DUGI	Dugi Otok	9.62	331	*e*Pn		Pn	05 06 41.6	-1.2
DUGI				Sn		Sn	05 08 18.3	-12
MRAK	Mrakovica	9.90	341	*e*Pn		Pn	05 06 45.1	-1.6
BRTR	Keskin Array B	10.38	64	Pn		Pn	05 06 56.0	+2.7
	comp=N,0.1nm,0.3s,baz=239,slow=14,SNR=3.2							
MOSL	Moslavina	10.50	341	*e*Pn		Pn	05 06 53.0	-1.8
MORH	Mrgy, Hungar	10.68	349	*e*Pn		Pn	05 06 54.2	-3.1
MMAI	Mount Meron Ar	11.78	99	Pn		Pn	05 07 12.8	+0.3
	comp=N,1.6nm,0.3s,baz=304,slow=13,SNR=2.3							
EIL	Elat	12.82	114	Pn		Pn	05 07 25.8	-0.8
	comp=N,0.4nm,0.3s,baz=137,slow=1.2,SNR=11							
EIL				Sn		Sn	05 09 36.6	-12
	comp=N,0.5nm,0.3s,baz=94,slow=12,SNR=1.8							
GERES	GERESS Array B	14.30	339	Pn		Pn	05 07 46.3	-0.6
	comp=N,0.1nm,0.3s,baz=145,slow=15,SNR=4.7							
AKASG	Malin Array Be	15.95	18	Pn		Pn	05 08 10.2	+1.6
	comp=N,1.6nm,0.3s,baz=211,slow=11,SNR=6.2							
ESDC	Sonseca Array	20.52	289	P		Pn	05 09 04.9	+0.1
	comp=N,1.2nm,0.7s,baz=81,slow=11,SNR=7.0							
HFS	Hagfors	24.92	351	P		P	05 09 47.4	+0.5
	comp=N,2.0nm,0.5s,baz=159,slow=10,SNR=18							
FINES	FINESS Array B	25.88	5	P		P	05 09 54.7	-0.8
	comp=N,1.1nm,0.4s,baz=175,slow=10,SNR=5.9							
EKA	Eskdalemuir Ar	25.89	327	P		P	05 09 56.8	+1.1
	comp=N,0.8nm,0.4s,baz=123,slow=7.0,SNR=13							
NB2	NORSAR Subarra	26.16	349	P		P	05 09 58.1	0.0
	comp=Z,0.6nm,0.5s,baz=154,slow=9.3							
NOA	NORSAR Array B	26.16	349	P		P	05 09 58.2	+0.1
	comp=Z,0.5nm,0.7s,baz=153,slow=10.0,SNR=4.9							
ARCES	ARCESS Array B	33.91	3	P		P	05 11 06.7	0.0
	comp=Z,0.5nm,0.3s,baz=189,slow=9.6,SNR=34							
MKAR	Makanchi Array	45.92	57	P		P	05 12 45.9	-0.8
	comp=Z,0.5nm,0.4s,baz=272,slow=7.6,SNR=20							

*NOU **24** 05:28:20.9, 38°.16S×175°.01E, h415km, ML3.7, North Island, New Zealand*

WEL 24 05:28:44.6±0.7, 39°.3S±7°.7×17°.5E±°, h205km±5km, M3.6/103, mB4.6/5, ML2.8/28, MLv3.5/103, Mw(mB)3.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=2.4, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.22	227	P	Pn	05 29 11.9	+0.4
TWVZ	Taurewa	0.38	105	P	Pn	05 29 12.6	+0.5
TWVZ				S	S	05 29 35.1	+1.6
PKVZ	Pokaka	0.43	137	P	Pn	05 29 12.7	+0.5
PKVZ				S	S	05 29 35.3	+1.5
HIZ	Hauiti	0.47	350	P	Pn	05 29 12.8	+0.5
HIZ				S	S	05 29 35.6	+1.8
WTVZ	West Tongariro	0.51	106	P	Pn	05 29 13.1	+0.5
WTVZ				S	S	05 29 35.8	+1.6
MHEZ	Mangahewa	0.51	258	P	Pn	05 29 13.2	+0.8
NNVZ	North Ngauruho	0.53	107	P	Pn	05 29 13.3	+0.6
NGZ	Ngauruhoe	0.54	112	P	Pn	05 29 13.3	+0.6
NGZ				S	S	05 29 35.8	+1.3
FWVZ	Far West T-bar	0.54	122	P	Pn	05 29 13.3	+0.5
KRVZ	Karewarewa	0.54	103	P	Pn	05 29 13.2	+0.5
DRZ	Dome Shelter	0.55	123	P	Pn	05 29 13.6	+0.6
TRVZ	Turoa	0.56	126	P	Pn	05 29 13.4	+0.5
TRVZ				S	S	05 29 36.3	+1.5
SNVZ	South Ngauruho	0.57	112	P	Pn	05 29 13.5	+0.7
MTVZ	Mangateitei	0.57	136	P	Pn	05 29 13.2	+0.5
NTVZ	North Tongarir	0.57	103	P	Pn	05 29 13.5	+0.7
KATZ	Kakaramea	0.57	90	P	Pn	05 29 13.3	+0.5
WHVZ	Whangaehu Hut	0.57	122	P	Pn	05 29 13.5	+0.5
OTVZ	Oturere	0.58	109	P	Pn	05 29 13.5	+0.6
TMVZ	Te Maari	0.59	104	P	Pn	05 29 13.7	+0.8
ETVZ	East Tongariro	0.60	106	P	Pn	05 29 13.6	+0.7
WNVZ	Wahianoa	0.60	126	P	Pn	05 29 13.4	+0.4
WNVZ				S	S	05 29 36.6	+1.5
TUVZ	Tukino	0.61	119	P	Pn	05 29 13.6	+0.7
DREZ	Durham Road	0.63	250	P	Pn	05 29 13.4	+0.5
RATZ	Rangitukua	0.64	80	P	Pn	05 29 13.4	+0.4
LREZ	Lake Rotokare	0.65	222	P	Pn	05 29 13.4	+0.5
WATZ	Wairara	0.66	66	P	Pn	05 29 13.9	+0.9
WATZ				S	S	05 29 37.4	+2.3
RITZ	Rihia Road	0.70	90	P	Pn	05 29 14.0	+0.7
RITZ				S	S	05 29 37.4	+2.1
PREZ	Palmer Road	0.72	239	P	Pn	05 29 13.9	+0.5
NEZ	North Egmont	0.74	246	P	Pn	05 29 14.0	+0.5
MOVZ	Moawhango	0.75	125	P	Pn	05 29 13.6	+0.1
MOVZ				S	S	05 29 36.1	+0.1
WAZ	Wanganui	0.78	179	P	Pn	05 29 14.2	+0.6
TLZ	Tolley Road	0.79	35	P	Pn	05 29 14.2	+0.4
PKE	Pukeiti	0.79	254	P	Pn	05 29 14.1	+0.4
KHEZ	Kahui Hut	0.80	246	P	Pn	05 29 14.1	+0.2
KUTZ	Kaahu Road	0.83	54	P	Pn	05 29 14.8	+0.8
NBEZ	Newall Road No	0.90	251	P	Pn	05 29 14.7	+0.4
BHHZ	Black Hill Sta	1.00	121	P	Pn	05 29 15.0	0.0
BHHZ				S	S	05 29 37.8	-0.7
MRHZ	Matea Rd	1.14	83	P	Pn	05 29 15.7	-0.3
MRHZ				S	S	05 29 39.9	-0.2
ALRZ	Allen Road	1.16	69	P	Pn	05 29 16.1	+0.1
BKZ	Black Stump Fm	1.21	100	P	Pn	05 29 16.4	0.0
BKZ				S	S	05 29 41.3	+0.4
KWHZ	Kaweka Forest	1.22	112	P	Pn	05 29 17.0	+0.4
KWHZ				S	S	05 29 42.0	+0.8
OHWZ	Ohakea	1.26	168	P	Pn	05 29 17.1	+0.3
OHWZ				S	S	05 29 42.5	+0.8
KRHZ	Kereru	1.28	122	P	Pn	05 29 17.1	+0.1
TOZ	Tahuroa Road	1.31	19	P	Pn	05 29 17.7	+0.4
TSZ	Takapari Road	1.33	145	P	Pn	05 29 17.4	0.0
PNHZ	Pukenui	1.34	135	P	Pn	05 29 17.5	0.0
MCHZ	McNeill Hill	1.43	110	P	Pn	05 29 18.9	+0.7
NMHZ	Naumai	1.44	95	P	Pn	05 29 19.1	+0.8
MTHZ	Maungataniwha	1.47	86	P	Pn	05 29 18.4	-0.2
MUGZ	Murupara	1.50	71	P	Pn	05 29 18.2	-0.6
POWZ	Post Office Ro	1.54	157	P	Pn	05 29 18.6	-0.6
WPHZ	Waipukurau	1.58	134	P	Pn	05 29 19.4	-0.1
ARHZ	Aropaoanui	1.61	101	P	Pn	05 29 20.1	+0.4
TGRZ	Tauranga	1.61	40	P	Pn	05 29 19.7	-0.1
DVHZ	Dannevirke	1.61	145	P	Pn	05 29 19.2	-0.6
RTZ	Ruatahuna	1.62	78	P	Pn	05 29 19.5	-0.4
RAHZ	Arahi	1.66	89	P	Pn	05 29 20.4	+0.2
OPRZ	Ohinepanea	1.69	48	P	Pn	05 29 20.3	-0.2
KAHZ	Kahuranaki	1.69	119	P	Pn	05 29 20.8	+0.3
MRZ	Mangatainoka R	1.75	164	P	Pn	05 29 19.9	-1.1
PRWZ	Pori Road	1.76	154	P	Pn	05 29 20.5	-0.6
WHHZ	Waihua	1.77	94	P	Pn	05 29 21.4	+0.1
CKHZ	Cape Kidnapper	1.78	113	P	Pn	05 29 21.6	+0.3
PXZ	Pawanui	1.81	126	P	Pn	05 29 19.2	-2.4
PRHZ	Porangahau	1.82	135	P	Pn	05 29 21.4	-0.4
URZ	Urewera	1.83	68	P	Pn	05 29 20.9	-0.9
OGWZ	Otaki Gorge	1.85	175	P	Pn	05 29 20.9	-1.0
SNGZ	Shannon Statio	1.86	85	P	Pn	05 29 22.0	-0.2
KIWZ	Kapiti Island	1.88	181	P	Pn	05 29 20.9	-1.4
ANWZ	Angora Road	1.89	142	P	Pn	05 29 21.8	-0.5
AWAZ	Awhitu Peninsu	1.93	352	P	Pn	05 29 22.9	+0.1
TIWZ	Tintock	1.93	159	P	Pn	05 29 21.7	-1.2
HOWZ	Holdsworth Sta	1.97	168	P	Pn	05 29 21.7	-1.5
BFZ	Birch Farm	1.97	150	P	Pn	05 29 22.0	-1.2
DUWZ	D'Urville Isla	1.99	203	P	Pn	05 29 21.9	-1.5
ETAZ	East Tamaki Re	2.02	359	P	Pn	05 29 23.8	0.0
WTAZ	Waiatarua	2.06	351	P	Pn	05 29 21.5	-2.7
MWZ	Matawai	2.11	73	P	Pn	05 29 23.8	-0.9
KNZ	Kokohu	2.11	92	P	Pn	05 29 24.2	-0.4
CAW	Cannon Point	2.13	178	P	Pn	05 29 23.2	-1.6
CPWZ	Castlepoint	2.15	154	P	Pn	05 29 24.2	-0.9
WIAZ	Waiheke Island	2.18	4	P	Pn	05 29 25.3	-0.2
MBAZ	Motutapu North	2.20	359	P	Pn	05 29 25.6	-0.1
MTW	Mount Morrison	2.22	169	P	Pn	05 29

MK31 **Makanchi Array 8.25 202** ⇑Pn Pn 05 46 01.8 +0.2
0.5nm,0.5s,baz=24,slow=12,SNR=25
MK31 ⇑Sn Sn 05 47 32.4 -3.1
0.8nm,0.7s,baz=33,slow=26,SNR=3.6
MK31 ⇓Lg Lg 05 48 12.3
6.1nm,1.1s,baz=29,slow=29,SNR=4.4
MKAR Makanchi Array 8.25 202 Pn Pn 05 46 02.7 +1.0
0.6nm,0.3s,baz=23,slow=12,SNR=24

IDC 24 06:00:01.6±2.8, 54°.16N×86°.44E, h0km, mb1 2.6/2, mb1mx2.6/44, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=22.5km s-min=13.6km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**258**	*i*		06 06 30.0	
	baz=78,slow=305,SNR=2.3						
ZALV	**Zalesovo Beam**	**0.98**	**258**	Pg	Pg	06 00 19.3	-1.0
	0.6nm,0.3s,baz=76,slow=17,SNR=8.9						
ZALV				Lg	Lg	06 00 34.1	
	1.0nm,0.3s,baz=76,slow=28,SNR=8.4						
ZALV				Rg	Rg	06 00 38.2	
	41nm,1.2s,baz=76,slow=31,SNR=32						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 01 32.6	+1.1
	0.1nm,0.3s,baz=56,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	06 01 57.6	+1.0
	0.1nm,0.3s,baz=19,slow=11,SNR=6.1						

*IDC **24** 06:25:11.3±1.1, 53°.93N×127°.79E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/48, mbtmp3.5/7, ML2.0/1, MS3.0/11, Ms1 3.1/11, ms1mx2.8/56, Error ellipse: s-maj=30.2km s-min=17.9km az=80.0*
*MOS **24** 06:25:13.3±1.1, 53°.89N×127°.98E, h14km, mb4.8/1, Error ellipse: s-maj=16.3km s-min=8.2km az=106.9*
MOS Felt (II-III) at Zeya.
*SKHL **24** 06:25:15.1±0.2, 53°.96N×128°.04E, h9km±4km, mb4.9/4, ms3.8/1*
ISC 24 06:25:14.6±0.6, 53°.93N±0°.04×128°.01E±0°.03, h10km, n45, σ1§60/36, mb3.6/8, MS3.3/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**0.49**	**247**	*e*P	**Pg**	**06 25 24.3**	**0.0**
ZEA				*e*		06 25 32.0	
ZEA				pmax	pmax		
	comp=Z,2μm,0.2s						
ZEA				pmax	pmax		
	comp=Z,800nm,0.1s						
ZEA	**Zeya**	**0.49**	**247**	⇓*i*Pg	**Pg**	**06 25 24.2**	**0.0**
ZEA				AMB	AMB	06 25 24.5	
	comp=Z,2μm,0.2s						
ZEA				AMB	AMB	06 25 24.6	
	comp=Z,800nm,0.1s						
ZEA				Pg	**Pb**	**06 25 26.1**	**+0.7**
ZEA				*e*Sg	**Sg**	**06 25 30.7**	**0.0**
ZEA				A	A	06 25 31.1	
	comp=Z,12μm,0.2s						
ZEA				A	A	06 25 31.1	
	comp=Z,21μm,0.2s						
ZEA				A	A	06 25 31.2	
	comp=Z,9μm,0.5s						
ZEA				A	A	06 25 31.2	
	comp=Z,14μm,0.5s						
KROS	**Kirovskiy**	**0.79**	**310**	*e*P	**Pg**	**06 25 29.1**	**-0.8**
KROS	**Kirovskiy**	**0.79**	**310**	*e*Pg	**Pg**	**06 25 29.1**	**-0.8**
BMKR	**Bomnak**	**0.92**	**32**	*e*P	**Pg**	**06 25 31.0**	**-1.3**
BMKR				*e*		06 25 43.1	
BMKR				pmax	pmax		
	comp=Z,455nm,0.3s						
BMKR	**Bomnak**	**0.92**	**32**	*e*Pg	**Pg**	**06 25 31.0**	**-1.3**
BMKR				AMB	AMB	06 25 32.0	
	comp=Z,455nm,0.3s						
BMKR				Pg	**Pn**	**06 25 36.0**	**+2.4**
BMKR				*e*Sg	**Sg**	**06 25 43.1**	**-1.2**
BMKR				A	A	06 25 44.5	
	comp=Z,1μm,0.2s						
BMKR				A	A	06 25 44.5	
	comp=Z,1μm,0.2s						
OCTB	**Oktyabr'skiy**	**0.99**	**157**	P	**Pg**	**06 25 33.5**	**-0.2**
OCTB				*e*		06 25 46.5	
OCTB				pmax	pmax		
	comp=Z,546nm,0.5s						
EKMR	**Ekimchan**	**3.07**	**104**	*e*P	**Pn**	**06 26 03.7**	**+0.5**
EKMR				pmax	pmax		
	comp=Z,149nm,0.8s						
EKMR	**Ekimchan**	**3.07**	**104**	*e*Pn	**Pn**	**06 26 03.7**	**+0.5**
EKMR				*e*Pg	**Pb**	**06 26 10.1**	**+0.7**
EKMR				AMB	AMB	06 26 12.0	
	comp=Z,149nm,0.8s						
EKMR				*e*Sg	**Sb**	**06 26 50.9**	**+4.0**
EKMR				A	A	06 26 53.4	
	comp=Z,683nm,1.0s						
EKMR				A	A	06 26 53.4	
	comp=Z,394nm,1.0s						
TUP	**Tupik**	**4.76**	**279**	*e*P	**Pn**	**06 26 25.5**	**-0.9**
TUP	**Tupik**	**4.76**	**279**	*e*Pn	**Pn**	**06 26 25.5**	**-0.9**
KLR	**Kul'dur**	**5.25**	**152**	Pn	**Pn**	**06 26 33.5**	**+0.3**
	comp=Z,6.1nm,0.3s,baz=334,slow=13,SNR=90						
KLR				Lg	Lg	06 27 57.5	
	comp=Z,11nm,0.3s,baz=242,slow=16,SNR=11						
KLR				LR	LR	06 28 55.9	
	comp=Z,214nm,18.6s,baz=328,slow=42						
GRNR	**Gornyy**	**6.05**	**118**	*e*P	**Pn**	**06 26 44.1**	**0.0**
GRNR	**Gornyy**	**6.05**	**118**	*e*Pn	**Pn**	**06 26 44.1**	**0.0**
GRNR				Pn	Pb	06 26 48.4	-12
GRNR				*e*Sg	**Sg**	**06 28 24.8**	**-3.9**
GRNR				A	A	06 28 29.2	
	comp=Z,127nm,1.5s						
CRS	**Chara**	**6.29**	**302**	*e*P	**Pn**	**06 26 46.9**	**-0.6**
CRS	**Chara**	**6.29**	**302**	*e*Pn	**Pn**	**06 26 46.9**	**-0.6**
HIA	**Hailar**	**6.95**	**231**	*i* P	Pn	06 26 44.6	-12
NKL	**Nikolayevsk**	**7.59**	**91**	*e*Sg	Sg	06 29 10.8	-7.2
YAK	**Yakutsk**	**8.17**	**6**	Lg	Lg	06 29 21.1	
	comp=Z,0.5nm,0.3s,baz=182,slow=22,SNR=15						
YAK				LR	LR	06 30 03.2	
	comp=Z,30nm,19.6s,baz=106,slow=36						
YAK	**Yakutsk**	**8.17**	**6**	*i* P	**Pn**	**06 27 16.2**	**+3.1**
YAK	**Yakutsk**	**8.17**	**6**	*e*Pn	**Pn**	**06 27 16.2**	**+3.1**
USA0B	**Ussuriysk Arra**	**10.08**	**163**	*i* P	**Pn**	**06 27 38.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.08**	**163**	Pn	**Pn**	**06 27 39.8**	**+0.4**
	baz=344,slow=14,SNR=2.4						
USRK				Lg	Lg	06 30 30.8	
	baz=355,slow=32,SNR=5.8						
MA2	**Magadan**	**13.66**	**56**	LR	LR	06 33 16.1	
	comp=Z,35nm,21.5s,baz=288,slow=35						
MA2	**Magadan**	**13.66**	**56**	*i* P	**P**	**06 28 37.9**	**+0.8**
ASAJ	**Asahikawa**	**13.69**	**130**	LR	LR	06 33 44.4	
	comp=Z,72nm,20.4s,baz=172,slow=37						
ULN	**Ulaanbaatar**	**14.53**	**254**	*i* P	Pn	06 28 25.0	-15
SONM	**Songino Array**	**14.92**	**255**	Pn	**Pn**	**06 28 44.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=55,slow=11,SNR=4.9						
SONM				Lg	Lg	06 32 58.4	
	comp=Z,0.7nm,0.3s,baz=68,slow=30,SNR=6.6						
SEY	**Seymchan**	**15.53**	**45**	Lg	Lg	06 33 22.4	
	comp=Z,0.1nm,0.3s,baz=358,slow=22,SNR=6.3						
KSRS	**Korea Array**	**16.48**	**180**	LR	LR	06 35 28.0	
	comp=Z,32nm,21.6s,baz=10.0,slow=37						
PETK	**Petropavlovsk-**	**17.62**	**81**	LR	LR	06 36 29.4	
	comp=Z,58nm,18.8s,baz=256,slow=38						
MJAR	**Matsushiro Arr**	**18.78**	**154**	LR	LR	06 36 43.8	
	comp=Z,35nm,19.4s,baz=130,slow=37						
ZALV	**Zalesovo Beam**	**25.14**	**288**	LR	LR	06 41 05.5	
	comp=Z,135nm,19.3s,baz=49,slow=38						
MKAR	**Makanchi Array**	**29.59**	**275**	P	P	06 31 16.4	-3.1
	comp=Z,0.3nm,0.6s,baz=91,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**41.39**	**40**	P	**P**	**06 32 59.3**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=287,slow=6.9,SNR=19						
GUMO	**Guam**	**42.39**	**155**	LR	LR	06 49 24.0	
	comp=Z,13nm,20.5s,baz=212,slow=34						
KLMR	**Klimovskoe**	**44.70**	**316**	*e*P	**P**	**06 33 29.0**	**+1.8**
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KLMR	**Klimovskoe**	**44.70**	**316**	*e*P	**P**	**06 33 29.1**	**+1.8**
KLMR				AMP		06 33 33.3	
	comp=Z,6.0nm,0.8s						
ARCES	**ARCESS Array B**	**44.77**	**331**	LR	LR	06 56 44.3	
	comp=Z,20nm,18.8s,baz=65,slow=42						
FINES	**FINESS Array B**	**49.57**	**322**	pP	pP	06 34 10.0	+1.4
	comp=Z,1.2nm,0.6s,baz=64,slow=13,SNR=2.2						
KIV	**Kislovodsk**	**53.66**	**297**	*e*P	P	06 34 27.0	-9.2
AKASG	**Malin Array Be**	**55.60**	**310**	pP	**pP**	**06 34 54.4**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=41,slow=8.5,SNR=3.5						
AKASG				LR	LR	07 00 31.9	
	comp=Z,104nm,20.3s,baz=205,slow=38						
NVAR	**Mina Array Bea**	**71.78**	**49**	P	**P**	**06 36 36.7**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=319,slow=2.6,SNR=2.3						
PDAR	**Pinedale Array**	**71.81**	**41**	P	**P**	**06 36 35.7**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=20,slow=3.0,SNR=2.3						
WRA	**Warramunga Arr**	**73.77**	**174**	P	**P**	**06 36 46.9**	**-2.0**
	comp=Z,0.3nm,0.7s,baz=359,slow=6.7,SNR=5.6						

IDC 24 06:30:22.7±2.6, 54°.17N×86°.34E, h0km, mb1 3.0/2, mb1mx2.9/50, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=20.4km s-min=12.3km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**257**	*i*		06 36 50.0	
	baz=75,slow=308,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.92**	**257**	Pg	Pg	06 30 39.2	-1.2
	2.9nm,0.3s,baz=75,slow=17,SNR=24						
ZALV				Lg	Lg	06 30 53.5	
	3.9nm,0.3s,baz=77,slow=30,SNR=18						
ZALV				Rg	Rg	06 30 58.9	
	61nm,1.1s,baz=75,slow=30,SNR=31						
ZALV	**Zalesovo Beam**	**0.92**	**257**	P	Pg	06 30 39.2	-1.2
KURBB	**Kurchatov Arra**	**5.95**	**237**	Pn	Pn	06 31 53.3	+1.3
	0.0nm,0.3s,baz=55,slow=13,SNR=5.8						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 32 18.6	+0.9
	0.1nm,0.3s,baz=24,slow=14,SNR=6.2						
MKAR				Lg	Lg	06 34 30.7	
	0.1nm,0.3s,baz=20,slow=26,SNR=10						

*NNC **24** 06:32:05.2±0.9, 53°.47N×88°.18E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.1km s-min=3.5km az=82.0, Suspected Mining explosion.*
IDC 24 06:32:05.4±3.7, 53°.87N×88°.26E, h0km, mb1 3.1/3, mb1mx3.0/51, mbtmp3.1/3, ML2.6/3, 4C-3D, Error ellipse: s-maj=37.1km s-min=20.6km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.04**	**274**	*i*		06 44 40.0	
	baz=92,slow=310,SNR=1.2						
ZAA0	**Zalesovo Array**	**2.04**	**273**	⇓P	Pn	06 32 41.1	+0.2
	1.3nm,0.5s,baz=104,slow=10						
ZAA0				⇓S	Sb	06 33 08.3	-0.8
	3.9nm,0.4s,baz=102,slow=28						
ZALV	**Zalesovo Beam**	**2.04**	**273**	Pn	Pn	06 32 41.3	+0.4
	3.4nm,0.3s,baz=90,slow=13,SNR=15						
ZALV				Lg	Lg	06 33 09.9	
	6.9nm,0.3s,baz=87,slow=24,SNR=18						
ZALV				*i*		06 44 48.5	
	2.4nm,0.3s,baz=92,slow=39,SNR=8.1						
KURBB	**Kurchatov Arra**	**6.80**	**245**	Pn	Pn	06 33 46.7	+0.4
	0.2nm,0.3s,baz=63,slow=14,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.80**	**245**	⇑Pn	Pn	06 33 42.7	-3.6
	4.1nm,0.8s,baz=104,slow=10						
KURBB				⇓Sn	Sn	06 35 00.9	-3.5
	3.2nm,0.6s,baz=104,slow=10						
KURBB				⇑Lg	Lg	06 35 36.2	
	7.8nm,0.7s,baz=104,slow=10						
MK31	**Makanchi Array**	**8.05**	**211**	Pg	Pb	06 34 25.2	-0.4
	3.7nm,1.1s,baz=104,slow=10,SNR=5.7						
MK31				⇑Sn	Sn	06 35 27.0	-8.2
	0.9nm,0.7s,baz=104,slow=10						
MK31				⇑Lg	Lg	06 36 10.1	
	4.5nm,1.2s,baz=104,slow=10						
MKAR	**Makanchi Array**	**8.05**	**211**	Pn	Pn	06 34 04.5	+1.0
	0.1nm,0.3s,baz=31,slow=14,SNR=5.5						

IDC 24 06:37:54.7±10.0, 6°.26S×152°.61E, h54km±75km, mb3.6/4, mb1 3.9/5, mb1mx3.4/50, mbtmp3.9/5, ML2.4/1, Error ellipse: s-maj=88.7km s-min=36.5km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**240**	P	Pn	06 39 25.4	+1.1
	5.9nm,0.3s,baz=72,slow=11,SNR=6.1						
PMG				S	Sn	06 40 34.1	-0.2
	2.4nm,0.3s,baz=146,slow=21,SNR=3.3						
WRA	**Warramunga Arr**	**22.36**	**231**	P	P	06 42 48.3	-0.3
	2.7nm,1.0s,baz=61,slow=11,SNR=21						
ASAR	**Alice Springs**	**24.97**	**224**	P	P	06 43 14.1	+0.6
	2.5nm,0.7s,baz=62,slow=8.9,SNR=22						
SONM	**Songino Array**	**67.45**	**328**	P	P	06 48 45.5	+0.5
	0.4nm,0.5s,baz=145,slow=5.3,SNR=1.8						
ZALV	**Zalesovo Beam**	**82.25**	**326**	P	P	06 50 09.4	-0.8
	1.1nm,0.6s,baz=111,slow=8.1,SNR=4.6						

*ECX **24** 06:51:00.1±0.6, 31°.15N×115°.60W, h5km±11km, MD1.7, ML1.9*
*MEX **24** 06:51:01.1±0.5, 31°.16N×115°.45W, h10km±999km, MD3.5*
ISC 24 06:50:58.8±1.0, 31°.16N±0°.08×115°.59W±0°.06, h16km±9km, n9, σ0§29/17, 2C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.15**	**135**	*e*P	**Pb**	**06 51 03.5**	**0.0**
SPIG				*e*S	**Sg**	**06 51 05.7**	**-0.3**
SPIG	**San Pedro Mart**	**0.15**	**135**	*e*P	**Pb**	**06 51 03.5**	**0.0**
SPIG				*i* S	**Sg**	**06 51 06.1**	**+0.1**
SVX	**San Vicente**	**0.59**	**287**	*e*P	**Pg**	**06 51 10.4**	**+0.1**
SVX				*e*S	**Sg**	**06 51 18.2**	**0.0**
SFX	**San Felipe**	**0.65**	**100**	*e*P	**Pb**	**06 51 11.7**	**0.0**
SFX				*e*S	**Sg**	**06 51 20.2**	**+0.1**
SFX				⇑*e*		06 51 20.4	
SFX				IAML		06 51 20.4	
	comp=E,94nm,0.1s						
CCX	**Cicese**	**1.16**	**308**	*e*P	**Pb**	**06 51 20.6**	**+0.2**
CCX				*e*S	**Sn**	**06 51 35.6**	**-0.2**
CBX	**Cerro Bola**	**1.47**	**322**	*e*P	**Pb**	**06 51 25.8**	**-0.1**
CBX				*e*S	**Sb**	**06 51 44.1**	**-0.3**
CBX	**Cerro Bola**	**1.47**	**322**	*e*P	**Pb**	**06 51 25.8**	**-0.1**
CBX				*e*S	**Sb**	**06 51 45.1**	**+0.8**
CBX				⇑*e*		06 51 47.8	
CBX				IAML		06 51 47.8	
	comp=N,20nm,0.5s						
YUH2	**Yuha Desert**	**1.51**	**349**	*e*P	**Pb**	**06 51 26.5**	**0.0**
TJIG	**Tijuana**	**1.57**	**324**	*e*P	**Pb**	**06 51 27.0**	**-0.5**
TJIG				*e*S	**Sn**	**06 51 46.0**	**-0.2**

*MOS **24** 06:54:09.3±1.0, 40°.28N×26°.37E, h9km, mb4.3/12, Error ellipse: s-maj=6.2km s-min=3.9km az=85.2*
*IDC **24** 06:54:09.5±1.0, 40°.19N×26°.31E, h0km, mb3.9/10, mb1 4.1/17, mb1mx3.9/54, mbtmp4.0/17, ML4.1/7, MS3.4/26, Ms1 3.4/26, ms1mx3.2/49, Error ellipse: s-maj=16.3km s-min=12.3km az=40.0*
*DDA **24** 06:54:10.0, 40°.24N×26°.28E, h22km±1km, MW4.4*
*THE **24** 06:54:10.9, 40°.26N×26°.26E, h14km, ML4.0/17, Error ellipse: s-maj=0.9km s-min=0.5km az=76.0*
*ISK **24** 06:54:10.1, 40°.25N×26°.31E, h11km, ML4.6/23*
*NEIC **24** 06:54:10.8±1.6, 40°.24N±0°.04×26°.27E±0°.06, h5km±5km, Error ellipse: s-maj=6.6km s-min=5.0km az=58.0*
*ATH **24** 06:54:11.1, 40°.27N×26°.25E, h16km±3km, ML4.2/7, Error ellipse: s-maj=3.6km s-min=1.2km az=18.0*
*SOF **24** 06:54:12.4, 40°.50N×26°.54E, h10km, MD4.2*
ISC 24 06:54:11.1±0.8, 40°.26N±0°.01×26°.30E±0°.02, h10km±5km, n316, σ1§48/358, mb4.1/24, MS3.2/19, 41C-22D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.20**	**44**	PG	**Pg**	**06 54 15.2**	**0.0**
GELI				SG	**Sg**	**06 54 18.1**	**+0.1**
ECEA	**Canakkale, Ece**	**0.23**	**204**	⇓*i*P	**Pg**	**06 54 15.7**	**-0.1**
ECEA				*i* S	**Sg**	**06 54 20.1**	**+1.0**
GOKA	**anakkale-Gk**	**0.31**	**258**	⇓*i*P	**Pg**	**06 54 17.1**	**-0.1**
GOKA				*i* S	**Sg**	**06 54 22.1**	**+0.8**
GADA	**Gvkgeada**	**0.31**	**258**	P	**Pg**	**06 54 17.1**	**-0.2**
GADA				S	**Sg**	**06 54 21.8**	**+0.3**
	67μm,0.4s						
GADA	**Gvkgeada**	**0.31**	**258**	PG	**Pg**	**06 54 17.1**	**-0.2**
GADA				SG	**Sg**	**06 54 21.8**	**+0.3**
EZN	**Ezine**	**0.43**	**177**	P	**Pg**	**06 54 18.8**	**-0.7**
EZN				S	**Sg**	**06 54 25.1**	**-0.1**
	23μm,0.3s						
EZN	**Ezine**	**0.43**	**177**	P	**Pg**	**06 54 18.8**	**-0.7**
EZN				S	**Sg**	**06 54 25.1**	**-0.1**
EZN	**Ezine**	**0.43**	**177**	PG	**Pg**	**06 54 18.9**	**-0.6**
EZN				SG	**Sg**	**06 54 25.3**	**+0.1**
ERIK	**Erikli-Kesan**	**0.45**	**22**	PG	**Pg**	**06 54 19.3**	**-0.5**
ERIK				SG	**Sb**	**06 54 26.4**	**-1.4**
CAVK	**Edirne/Enez-Ca**	**0.45**	**347**	⇑*i*P	**Pg**	**06 54 19.6**	**-0.2**
CAVK				*i* S	**Sg**	**06 54 26.5**	**+0.8**
BOZC	**Bozcaada**	**0.46**	**205**	⇑*i*P	**Pg**	**06 54 19.3**	**-0.7**
BOZC				*i* S	**Sg**	**06 54 26.2**	**+0.2**
BOZC	**Bozcaada**	**0.46**	**205**	PG	**Pg**	**06 54 19.4**	**-0.6**
BOZC				SG	**Sg**	**06 54 26.2**	**+0.2**
ENEZ	**Enez**	**0.49**	**347**	P	**Pg**	**06 54 20.4**	**-0.3**
ENEZ				S	**Sg**	**06 54 27.8**	**+0.6**
	69μm,0.3s						
ENEZ	**Enez**	**0.49**	**347**	PG	**Pg**	**06 54 20.2**	**-0.5**
ENEZ				SG	**Sb**	**06 54 28.1**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**0.55**	**160**	⇑*i*P	**Pg**	**06 54 21.4**	**-0.4**
BAYC				*i* S	**Sg**	**06 54 29.4**	**+0.5**
SMTH	**Samothraki Isl**	**0.62**	**290**	P	**Pg**	**06 54 22.5**	**-0.7**
SMTH				S	**Sg**	**06 54 31.3**	**-0.1**
	15μm,0.2s						
SMTH	**Samothraki Isl**	**0.62**	**290**	P	**Pg**	**06 54 22.4**	**-0.8**
SMTH				S	**Sg**	**06 54 31.2**	**-0.2**
SMTH				AML	AML	06 54 34.4	
	comp=E,26495μm,0.1s						
SMTH				AML	AML	06 54 36.4	
	comp=N,34061μm,0.3s						
KESN	**Edirne-Kesan**	**0.64**	**27**	⇓*i*P	**Pg**	**06 54 22.5**	**-1.1**
KESN				*i* S	**Sg**	**06 54 32.3**	**+0.3**
ALN	**Alexandroupoli**	**0.67**	**343**	P	**Pg**	**06 54 23.1**	**-0.9**
ALN				S	**Sg**	**06 54 32.1**	**-0.7**
	comp=N,15μm,0.3s						
ALN	**Alexandroupoli**	**0.67**	**343**	P	**Pg**	**06 54 23.3**	**-0.8**
ALN				S	**Sg**	**06 54 32.6**	**-0.2**
ALN				AML	AML	06 54 34.5	
	comp=E,34901μm,0.3s						
ALN				AML	AML	06 54 36.6	
	comp=N,23781μm,0.3s						
ALN	**Alexandroupoli**	**0.67**	**343**	P	**Pg**	**06 54 23.2**	**-0.8**
ALN				S	**Sg**	**06 54 32.6**	**-0.2**
ALN	**Alexandroupoli**	**0.67**	**343**	PG	**Pg**	**06 54 23.5**	**-0.5**
ALN				SG	**Sg**	**06 54 33.2**	**+0.4**
ALN	**Alexandroupoli**	**0.67**	**343**		**Pg**	**06 54 23.8**	**-0.2**
ALN				Sg	**Sg**	**06 54 32.8**	**0.0**
KOCA	**Canakkale, Ayv**	**0.76**	**189**	⇑*i*P	**Pg**	**06 54 24.6**	**-1.2**
KOCA				*i* S	**Sb**	**06 54 37.0**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.80**	**57**	PG	**Pg**	**06 54 25.8**	**-0.7**
RKY				SG	**Sb**	**06 54 37.3**	**-0.7**
SART	**Tekirdag**	**0.80**	**57**	⇑*i*P	**Pg**	**06 54 25.4**	**-1.1**
SART				*i* S	**Sb**	**06 54 37.8**	**-0.2**
MAR6	**Marsite Statio**	**0.86**	**58**	PG	**Pg**	**06 54 27.2**	**-0.5**
MAR6				SG	**Sb**	**06 54 39.4**	**-0.4**
MAR2	**Marsite Statio**	**0.90**	**59**	PG	**Pg**	**06 54 27.7**	**-0.7**
MAR2				SG	**Sb**	**06 54 40.8**	**-0.1**
UKOP	**Uzunkopru-Edir**	**0.91**	**16**	PG	**Pg**	**06 54 28.1**	**-0.5**
UKOP				SG	**Sb**	**06 54 41.1**	**0.0**
GZKV	**Gazikoy-Tekird**	**0.93**	**58**	PG	**Pg**	**06 54 28.2**	**-0.7**
GZKV				SG	**Sb**	**06 54 41.6**	**0.0**
LIA	**Limnos Island**	**0.93**	**248**	P	**Pg**	**06 54 27.6**	**-1.3**
LIA				S	**Sg**	**06 54 41.0**	**0.0**
	comp=N,11μm,0.4s						
LIA	**Limnos Island**	**0.93**	**248**	P	**Pg**	**06 54 27.6**	**-1.3**
LIA				S	**Sg**	**06 54 40.0**	**-1.0**
LIA				AML	AML	06 54 43.8	
	comp=N,21549μm,0.4s						
LIA				AML	AML	06 54 47.4	
	comp=E,21636μm,0.5s						
MAR4	**Marsite Statio**	**0.93**	**55**	PG	**Pg**	**06 54 28.1**	**-0.9**
MAR4				SG	**Sb**	**06 54 41.9**	**+0.1**
KNL	**Balıkesir**	**0.94**	**89**	⇓*i*P	**Pg**	**06 54 28.2**	**-1.0**
BUHA	**Balikesir, Bur**	**0.96**	**141**	⇑*i*P	**Pg**	**06 54 28.8**	**-0.8**
BUHA				*i* S	**Sb**	**06 54 42.2**	**-0.5**
AYVA	**Ayvalik**	**0.99**	**162**	⇑*i*P	**Pg**	**06 54 29.5**	**-0.7**
PRK	**Paraskevi**	**1.01**	**181**	P	**Pb**	**06 54 30.6**	**-0.1**
PRK				S	**Sn**	**06 54 44.6**	**-0.9**
	comp=E,31μm,0.8s						
PRK	**Paraskevi**	**1.01**	**181**	P	**Pb**	**06 54 30.5**	**-0.1**
PRK				AML	AML	06 54 47.1	
	comp=E,62052μm,0.9s						
PRK				AML	AML	06 54 47.2	
	comp=N,66168μm,0.4s						
MRMT	**Marmara Adasi**	**1.05**	**70**	PG	**Pg**	**06 54 29.7**	**-1.6**
RDO	**Rodhopi**	**1.06**	**327**	P	**Pb**	**06 54 30.0**	**-1.5**
RDO				S	**Sb**	**06 54 45.4**	**-0.1**
	comp=N,9μm,0.4s						
RDO	**Rodhopi**	**1.06**	**327**	P	**Pb**	**06 54 30.1**	**-1.5**
RDO				S	**Sg**	**06 54 44.0**	**-1.2**
RDO				AML	AML	06 54 47.1	
	comp=E,16627μm,0.2s						
RDO				AML	AML	06 54 48.7	
	comp=N,17582μm,0.3s						
RDO	**Rodhopi**	**1.06**	**327**	PG	**Pb**	**06 54 30.7**	**-0.8**
GONE	**Gonen-Balikesi**	**1.08**	**101**	PG	**Pb**	**06 54 31.3**	**-0.6**
SIGR	**SIGRI**	**1.10**	**198**	P	**Pb**	**06 54 30.5**	**-1.6**
SIGR				S	**Sb**	**06 54 45.7**	**-0.8**
	comp=N,32μm,0.4s						
SIGR	**SIGRI**	**1.10**	**198**	P	**Pb**	**06 54 30.5**	**-1.6**
SIGR				AML	AML	06 54 47.4	
	comp=N,57107μm,0.4s						
SIGR				AML	AML	06 54 48.5	
	comp=E,69152μm,0.4s						
SIGR	**SIGRI**	**1.10**	**198**	PN	**Pb**	**06 54 31.5**	**-0.7**
BALY	**Balya**	**1.14**	**116**	⇑*i*P	**Pb**	**06 54 31.8**	**-1.1**
TKR	**Tekirdag**	**1.19**	**52**	PN	**Pb**	**06 54 33.1**	**-0.7**
EDC	**Edincik**	**1.20**	**85**	PN	**Pb**	**06 54 33.0**	**-0.9**
THAS	**Thassos island**	**1.25**

PLG S **Sn** **06 55 12.3 -2.4**
comp=E,1μm,0.5s
PLD Plovdiv 2.21 327 PN **Pn** 06 54 47.5 -0.3
JMB Yambol 2.22 5 *i* P **Pn** 06 54 47.4 -0.6
IGD Bursa 2.22 89 *i* P **Pn** 06 54 47.6 -0.4
DEMI Demirci 2.23 122⇑*i*P **Pn** 06 54 48.7 +0.6
DGB zmir 2.25 168⇑*i*P **Pn** 06 54 47.7 -0.6
HORT Hortiatis 2.46 279 PN **Pn** 06 54 51.2 -0.2
KULA Kula-Manisa 2.52 133 P **Pn** 06 54 52.6 +0.3
SMG Samos 2.58 170 P **Pn** 06 54 51.9 -1.0
GCAM G?zelcaml? 2.66 164 *i* P **Pn** 06 54 53.2 -0.7
GDZ Gediz 2.72 114⇑*i*P **Pn** 06 54 55.0 +0.1
ANDZ Kutahya, Merke 2.87 104⇑*i*P **Pn** 06 54 57.6 +0.6
AYDN Tasoluk 2.87 154⇑*i*P **Pn** 06 54 56.5 -0.5
VAY Valandovo 3.02 292 *i* Pn **Pn** 06 54 58.8 -0.2
PRD Provadia 3.06 15 *i* P **Pn** 06 54 58.6 -0.8
PASA Karahalli, USA 3.12 127⇑*i*P **Pn** 06 55 00.9 +0.5
APE Apeiranthos 3.24 191⇑P **Pn** 06 55 01.3 -0.8
APE Apeiranthos 3.24 191⇑S **Sn** 06 55 39.7 -0.9
APE Apeiranthos 3.24 191 P **Pn** 06 55 01.3 -0.8
APE 06 55 39.7
APE Apeiranthos 3.24 191 **Pn** 06 55 01.3 -0.8
APE **Sn** 06 55 39.7 -0.9
VTS Vitosha 3.30 317⇑P **Pn** 06 55 02.7 -0.2
VTS Vitosha 3.30 317⇓S **Sn** 06 55 41.1 -1.2
VTS Vitosha 3.30 317 P **Pn** 06 55 03.7 +0.8
VTS 06 55 41.1
VTS Vitosha 3.30 317 **Pn** 06 55 03.7 +0.8
VTS Vitosha 3.30 317 **Sn** 06 55 41.1 -1.2
AGG Agios Georgios 3.30 249 P **Pn** 06 55 03.2 +0.3
AGG Agios Georgios 3.30 249 **Pn** 06 55 03.2 +0.3
BDRM Kayabasi 3.31 164 *i* P **Pn** 06 55 02.4 -0.5
RAZG Razgrad 3.31 3⇑P **Pn** 06 55 03.4 +0.4
RAZG Razgrad 3.31 3 **Pn** 06 55 03.4 +0.4
MDUB Mudurnu 3.75 85 Pn **Pn** 06 55 09.8 +0.7
FNA Florina 3.79 280 P **Pn** 06 55 09.2 -0.4
FNA Florina 3.79 280 Pn **Pn** 06 55 09.2 -0.4
SANT Santorini 3.94 190⇓P **Pn** 06 55 10.1 -1.5
SANT Santorini 3.94 190 **Pn** 06 55 10.1 -1.5
COPA Copaceanca 3.96 349⇑P **Pn** 06 55 11.6 -0.2
COPA Copaceanca 3.96 349 **Pn** 06 55 11.6 -0.2
RASA Rasa 4.01 9⇑P **Pn** 06 55 13.0 +0.5
RASA Rasa 4.01 9 **Pn** 06 55 13.0 +0.5
ICOR Ion Corvin 4.02 16⇓P **Pn** 06 55 13.2 +0.6
ICOR Ion Corvin 4.02 16 **Pn** 06 55 13.2 +0.6
SKO Skopje 4.05 297 *e*Pn **Pb** 06 55 18.6 -3.9
ISP Isparta 4.09 125 P **Pn** 06 55 14.1 +0.3
ISP Isparta 4.09 125 **Pn** 06 55 14.1 +0.3
KBN Korca 4.22 277 P **Pn** 06 55 17.4 +1.8
KBN Korca 4.22 277 Pn **Pn** 06 55 17.4 +1.8
OHR Ohrid 4.27 283 *i* Pn **Pn** 06 55 17.6 +1.4
HUMR Humele 4.38 348⇓P **Pn** 06 55 17.2 -0.4
HUMR Humele 4.38 348 **Pn** 06 55 17.2 -0.4
TIRR Tirgusor 4.48 20⇓P **Pn** 06 55 19.2 +0.2
TIRR Tirgusor 4.48 20 P **Pn** 06 55 19.2 +0.2
TIRR Tirgusor 4.48 20 **Pn** 06 55 20.4 +1.3
TIRR Tirgusor 4.48 20 **Pn** 06 55 19.2 +0.2
ELL Elmali 4.50 140 P **Pn** 06 55 20.3 +0.8
ELL Elmali 4.50 140 **Pn** 06 55 20.3 +0.8
HARR Harsova 4.59 15⇑P **Pn** 06 55 20.9 +0.3
HARR Harsova 4.59 15 P **Pn** 06 55 20.9 +0.3
HARR Harsova 4.59 15 **Pn** 06 55 20.9 +0.3
ITM Ithomi 4.60 229 **Pn** 06 55 21.6 +0.9
STFAR Stefanesti-Arg 4.71 348⇑P **Pn** 06 55 22.6 +0.4
STFAR Stefanesti-Arg 4.71 348 **Pn** 06 55 22.6 +0.4
PUNG Punghina 4.73 329⇑P **Pn** 06 55 21.1 -1.4
PUNG Punghina 4.73 329 **Pn** 06 55 21.1 -1.4
KARP Karpathos 4.75 171 **Pn** 06 55 22.2 -0.6
TPGR Topolog 4.86 18⇑P **Pn** 06 55 25.1 +0.8
TPGR Topolog 4.86 18 **Pn** 06 55 25.1 +0.8
ISR Istrita 4.86 2⇓P **Pn** 06 55 25.2 +0.8
ISR Istrita 4.86 2 P **Pn** 06 55 25.2 +0.8
ISR Istrita 4.86 2 **Pn** 06 55 25.2 +0.8
BR231 Keskin MP Arra 4.99 93 Pn **Pn** 06 55 27.3 +1.2
ANTO Ankara 5.00 92 P **Pn** 06 55 26.9 +0.7
ANTO Ankara 5.00 92 **Pn** 06 55 26.9 +0.7
IDI Anoyia 5.08 193 Pn **Pn** 06 55 26.4 -1.0
comp=E,2.7nm,0.3s,baz=18,slow=13,SNR=8.9
IDI Sn **Sn** **06 56 23.4 -2.8**
comp=E,5.3nm,0.3s,baz=273,slow=13,SNR=2.3
IDI Anoyia 5.08 193⇑P **Pn** 06 55 26.3 -1.0
IDI Anoyia 5.08 193 **Pn** 06 55 26.6 -0.8
CFR Carcaliu 5.10 15⇑P **Pn** 06 55 27.5 0.0
CFR Carcaliu 5.10 15 P **Pn** 06 55 27.5 0.0
CFR Carcaliu 5.10 15 **Pn** 06 55 27.5 0.0
MLR Muntele Rosu 5.24 357 Pn **Pn** 06 55 30.5 +0.9
comp=E,5.4nm,0.3s,baz=107,slow=4.4,SNR=31
MLR Lg Lg 06 56 57.2
comp=E,5.6nm,0.3s,baz=86,slow=17,SNR=4.0
MLR Muntele Rosu 5.24 357⇓P **Pn** 06 55 29.9 +0.3
MLR Muntele Rosu 5.24 357 **Pn** 06 55 30.3 +0.8
VOIR 5.26 350⇑P **Pn** 06 55 29.6 -0.2
VOIR 5.26 350 P **Pn** 06 55 29.6 -0.2
VOIR 5.26 350 **Pn** 06 55 29.6 -0.2
TLCR 5.26 20⇑P **Pn** 06 55 30.8 +1.0
TLCR 5.26 20 P **Pn** 06 55 30.8 +1.0
TLCR 5.26 20 **Pn** 06 55 30.8 +1.0
BISRR Bisoca 5.30 3⇓P **Pn** 06 55 31.1 +0.8
BISRR Bisoca 5.30 3 **Pn** 06 55 31.1 +0.8
HERR Herculane 5.44 329⇑P **Pn** 06 55 31.5 -0.7
HERR Herculane 5.44 329 **Pn** 06 55 31.5 -0.7
LOT Lotru 5.51 341⇑P **Pn** 06 55 33.1 -0.3
LOT Lotru 5.51 341 **Pn** 06 55 33.0 -0.3
PLOR Plostina 5.60 3⇓P **Pn** 06 55 34.9 +0.5
PLOR Plostina 5.60 3 P **Pn** 06 55 34.9 +0.5
PLOR Plostina 5.60 3 **Pn** 06 55 34.9 +0.5
VRI Vrincioaia 5.62 3⇓P **Pn** 06 55 35.3 +0.6
VRI Vrincioaia 5.62 3 P **Pn** 06 55 35.3 +0.6
VRI Vrincioaia 5.62 3 **Pn** 06 55 35.3 +0.6
MDVR Moldovita 5.65 325⇑P **Pn** 06 55 34.9 -0.3
MDVR Moldovita 5.65 325 **Pn** 06 55 34.9 -0.3
BR131 Keskin Array S 5.66 93 *i* P **Pn** 06 55 36.0 +0.6
BR131 Keskin Array S 5.66 93 **Pn** 06 55 35.9 +0.4
BRTR Keskin Array B 5.66 93 Pn **Pn** 06 55 35.8 +0.3
comp=E,5.7nm,0.3s,baz=260,slow=10,SNR=88
BRTR Sn **Sn** **06 56 39.2 -1.4**
comp=E,4.7nm,0.3s,baz=238,slow=28,SNR=6.7
BRTR Lg Lg 06 57 14.0
comp=E,3.2nm,0.3s,baz=267,slow=23,SNR=2.6
BRTR Keskin Array B 5.66 93 Pn **Pn** 06 55 36.2 +0.8
PDG Podgorica 5.73 295 **Pn** 06 55 39.3 +3.1
DOPR Dopca 5.75 354⇓P **Pn** 06 55 37.0 +0.6
DOPR Dopca 5.75 354 **Pn** 06 55 37.0 +0.6
GZR Gura Zlata 5.75 334⇑P **Pn** 06 55 35.9 -0.6
GZR Gura Zlata 5.75 334 **Pn** 06 55 35.9 -0.6
SCTE Santa Cesarea 6.00 271 **Pn** 06 55 40.7 +0.8
DIVS Divibare 6.06 311 **Pn** 06 55 40.4 -0.3
TESR Tescani 6.26 2⇑P **Pn** 06 55 43.8 +0.3
TESR Tescani 6.26 2 **Pn** 06 55 43.8 +0.3
BZS Buzias 6.36 329⇓P **Pn** 06 55 44.0 -0.9
BZS Buzias 6.36 329 P **Pn** 06 55 44.0 -0.9
BZS Buzias 6.36 329 **Pn** 06 55 44.0 -0.9
SIRR Siria 6.89 332⇑P **Pn** 06 55 51.6 -0.7
SIRR Siria 6.89 332 **Pn** 06 55 51.6 -0.7
SEV Sevastopol' 6.94 49 *e*P **Pn** 06 55 50.9 -1.8
SEV *e*S **Sn** 06 57 05.5 -6.2
KIS Kishinev 6.98 14 *e*P **Pn** 06 55 53.0 -0.4
KIS *e*S **Sn** 06 57 12.0 -0.8
KIS *e*Lq LQ 06 57 51.0
comp=E,700nm,12.0s
KIS Kishinev 6.98 14 *e*P **Pn** 06 55 53.0 -0.4
KIS *e*S **Sn** 06 57 12.0 -0.8
DRGR 7.03 339⇓P **Pn** 06 55 53.9 -0.2
DRGR 7.03 339 P **Pn** 06 55 53.9 -0.2
DRGR 7.03 339 **Pn** 06 55 53.9 -0.2
YAL Yalta 7.19 51 *e*P **Pn** 06 55 54.4 -1.8
YAL *e*S **Sn** 06 57 11.4 -6.5
BURAR Bucovina Array 7.40 354⇑P **Pn** 06 56 00.0 +0.8
BURAR Bucovina Array 7.40 354 P **Pn** 06 55 59.8 +0.6
BURAR Bucovina Array 7.40 354 **Pn** 06 56 00.5 +1.3
BURAR Bucovina Array 7.40 354 **Pn** 06 56 00.0 +0.8
BUR08 Bucovina Ar. S 7.43 354 **Pn** 06 56 00.5 +0.9
SIM Simferopol' 7.43 48 *e*P **Pn** 06 55 57.8 -1.8
SIM *e*S **Sn** **06 57 17.7 -6.2**
SIM pmax pmax
comp=Z,63nm,0.3s
SIM smax smax
comp=E,123nm,1.0s
SIM smax smax
comp=Z,125nm,1.0s

ALU Alushta 7.45 51 *e*P **Pn** **06 55 58.5 -1.2**
ALU *e*S **Sn** **06 57 18.7 -5.5**
BNN Bunyan 7.51 98 Pn **Pn** **06 56 03.7 +2.9**
CSS Mathiatis 7.68 131 Pn **Pn** **06 56 05.2 +2.2**
SUDU Sudak 7.92 51⇑*i*P **Pn** **06 56 04.7 -1.5**
SUDU *i* S **Sn** **06 57 31.4 -4.4**
MORH Mrgy, Hungar 8.16 319⇓P **Pn** **06 56 09.0 -0.6**
MORH Mrgy, Hungar 8.16 319 *e*PN **Pn** **06 56 07.6 -2.0**
MORH Mrgy, Hungar 8.16 319 *e*P **Pn** **06 56 10.0 +0.5**
MORH Mrgy, Hungar 8.16 319 **Pn** **06 56 09.0 -0.6**
KOVH Kovagotottos 8.36 317 *e*PN Pn 06 56 07.0 -5.2
UZH Uzhgorod 8.85 342 *e*P **Pn** **06 56 21.8 +2.8**
UZH *e*S **Sn** **06 58 02.8 +4.1**
UZH MLR MLR
comp=N,100nm,15.0s
UZH MLR MLR
comp=E,200nm,15.0s
UZH MLR MLR
comp=Z,50nm,15.0s
PSZ Piszkesteto 8.94 331 P **Pn** **06 56 23.0 +2.8**
PSZ Piszkesteto 8.94 331 Pn **Pn** **06 56 23.0 +2.8**
PAOL Paolisi 8.95 279 Pn **Pn** **06 56 22.4 +2.0**
MPLH Magyarpolny 9.38 320 *e*PN **Pn** **06 56 27.5 +1.3**
MPLH Magyarpolny 9.38 320 *e*P **Pn** **06 56 29.1 +2.9**
VYHS Vyhne 9.81 330 *e*P **Pn** **06 56 31.9 -0.3**
VYHS Vyhne 9.81 330 *e*PN **Pn** **06 56 31.9 -0.3**
MMAI Mount Meron Ar 10.28 132 Pn **Pn** **06 56 37.5 -1.2**
comp=Z,1.9nm,0.3s,baz=320,slow=17,SNR=12
MMAI LR LR 07 01 18.4
comp=Z,120nm,19.5s,baz=335,slow=42
MODS Modra-Piesok 10.37 324 *e*P **Pn** **06 56 40.7 +0.9**
MODS Modra-Piesok 10.37 324 *e*PN **Pn** **06 56 40.6 +0.8**
SOC Sochi 10.54 67 *e*P **Pn** **06 56 40.7 -1.4**
SOC *e* 06 58 40.6
SOC MLR MLR
comp=Z,96nm,14.0s
AKASG Malin Array Be 10.64 10 Pn **Pn** **06 56 42.7 -0.8**
comp=Z,1.8nm,0.3s,baz=200,slow=12,SNR=3.0
AKBB Malin Array Si 10.64 10 *i* P **Pn** **06 56 44.5 +1.0**
VRAC Vranov 11.37 326 LR LR 07 01 45.9
comp=Z,177nm,19.3s,baz=169,slow=40
GERES GERESS Array B 12.41 318 Pn **Pn** **06 57 10.6 +2.7**
comp=Z,0.4nm,0.3s,baz=127,slow=20,SNR=4.0
GERES LR LR 07 01 54.9
comp=Z,157nm,20.2s,baz=132,slow=37
SHA1 Shidzhatmaz 12.66 69 *i* P **Pn** **06 57 11.5 +0.2**
EIL Elat 12.71 143 LR LR 07 03 15.3
comp=Z,72nm,19.2s,baz=290,slow=43
KIV Kislovodsk 12.72 68 *e*P **Pn** **06 57 12.1 +0.1**
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV MLR MLR
comp=Z,32nm,12.0s
KBZ Khabaz 12.83 69 *i* P **Pn** **06 57 14.5 +1.1**
DAVOX Davos/Dischmat 13.57 304 LR LR 07 02 55.9
comp=Z,223nm,19.8s,baz=115,slow=39
GNI Garni 14.10 84 LR LR 07 03 04.3
comp=Z,231nm,20.1s,baz=240,slow=38
GNI Garni 14.10 84 *i* P **Pn** **06 57 30.7 -0.3**
KEST Kesra 14.11 257 LR LR 07 04 14.8
comp=Z,90nm,18.7s,baz=134,slow=43
MAK Makhachkala 16.09 73 *e*P **Pn** **06 57 52.0 -5.3**
MAK *e*S **Sn** **07 00 50.1 -5.5**
MAK pmax pmax
comp=Z,112nm,1.0s
MAK MLR MLR
comp=Z,83nm,16.0s
MOS Moscow 17.21 22 *e*P **Pn** **06 58 07.1 -4.3**
MOS pmax pmax
comp=Z,28nm,0.9s
BELG Belogornoye 19.00 43 P **Pn** **06 58 32.8 -0.6**
comp=Z,0.7nm,0.3s,baz=72,slow=7.7,SNR=10
BELG LR LR 07 06 54.3
comp=Z,63nm,18.2s,baz=194,slow=40
FINES FINESS Array B 21.22 360 P **P** **06 58 57.1 +0.4**
comp=Z,2.3nm,0.8s,baz=156,slow=14,SNR=2.3
FINES LR LR 07 07 02.7
comp=Z,63nm,18.2s,baz=134,slow=36
HFS Hagfors 21.40 343 P **P** **06 58 57.0 -1.8**
comp=Z,1.1nm,0.5s,baz=159,slow=13,SNR=7.6
HFS LR LR 07 08 23.7
comp=Z,100nm,19.3s,baz=145,slow=40
HFS Hagfors 21.40 343 P **P** **06 58 57.0 -1.8**
KLMR Klimovskoe 22.18 17 *e*P **P** **06 59 10.3 +3.2**
KLMR pmax pmax
comp=Z,11nm,1.2s
KLMR Klimovskoe 22.18 17 *e*P **P** **06 59 10.3 +3.2**
KLMR AMP
comp=Z,11nm,1.2s
NAO01 NORSAR Array S 22.71 340 P **P** **06 59 12.0 -0.7**
NC405 NORSAR Array S 22.73 342 P **P** **06 59 11.2 -1.8**
NC405 IAmb IAmb 06 59 30.7
comp=Z,25nm,1.4s
NB201 NORSAR Array S 22.78 341 P **P** **06 59 13.2 -0.3**
NB2 NORSAR Subarra 22.79 341 P **P** **06 59 12.2 -1.4**
comp=Z,6.3nm,0.8s,baz=148,slow=11
NOA NORSAR Array B 22.79 341 P **P** **06 59 12.2 -1.4**
comp=Z,4.6nm,0.8s,baz=147,slow=11,SNR=13
NOA LR LR 07 09 35.4
comp=Z,144nm,18.4s,baz=160,slow=40
ESDC Sonseca Array 23.15 278 P **P** **06 59 17.4 -0.2**
comp=Z,1.4nm,0.7s,baz=70,slow=9.3,SNR=8.8
ESDC Sonseca Array 23.15 278 P **P** **06 59 20.6 +2.9**
ESDC IAmb IAmb 06 59 22.9
comp=Z,6.3nm,1.4s
AKTO Aktyubinsk 24.33 55 P **P** **06 59 28.7 -0.2**
comp=Z,1.8nm,0.8s,baz=268,slow=9.5,SNR=6.7
AKTO LR LR 07 11 44.2
comp=Z,31nm,20.6s,baz=259,slow=43
PRGR Permogore 24.44 22 *e*P **P** **06 59 24.3 -5.4**
PRGR *e* 07 00 00.5
PRGR pmax pmax
comp=Z,10.0nm,0.8s
EKA Eskdalemuir Ar 24.63 318 P **P** **06 59 31.0 -0.5**
comp=Z,2.6nm,0.6s,baz=116,slow=9.5,SNR=7.3
GEYT Alibeck 24.74 85 LR LR 07 10 07.7
comp=Z,69nm,20.3s,baz=15,slow=39
MVO Moncorvo 25.20 283 *e*LR LR 07 09 45.4
comp=Z,66nm,18.0s
ABKAR Akbulak array 25.35 58 P **P** **06 59 37.7 -0.4**
ABKAR Akbulak array 25.35 58 P **P** **06 59 38.6 +0.5**
ABKAR IAmb IAmb 06 59 51.4
comp=Z,3.0nm,0.9s
MTE Manteigas 25.71 281 *e*P **P** **06 59 45.4 +3.8**
MTE *e*LR LR 07 09 03.5
comp=Z,63nm,16.0s
PMRV Marv??o 25.80 279 *e*LR LR 07 10 43.8
comp=Z,64nm,16.0s
MDT Midelt 25.83 263 LR LR 07 10 44.0
comp=Z,59nm,18.9s,baz=94,slow=38
PGAV Gavieira, Arco 26.00 285 *e*LR LR 07 09 00.5
comp=Z,85nm,16.0s
ARU Arti 26.53 42 P **P** **06 59 50.5 +1.8**
comp=Z,2.7nm,0.2s,baz=219,slow=9.8,SNR=6.8
ARU LR LR 07 11 23.0
comp=Z,68nm,18.1s,baz=253,slow=39
ARU Arti 26.53 42*c i*P **P** **06 59 50.5 +1.8**
ARU 07 00 28.7
ARU S **S** **07 04 27.8 +5.1**
ARU SS **SnSn** **07 05 27.4 +3.3**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 26.53 42 P **P** **06 59 50.4 +1.8**
ARU IAmb IAmb 06 59 51.4
comp=Z,10nm,1.0s
PBDV Barranco-do-Ve 26.77 275 *e*P **P** **06 59 54.4 +3.3**
PTEO Sao Teotonio 27.28 276 *e*P **P** **06 59 52.8 -2.9**
ARCES ARCESS Array B 29.34 359 P **P** **07 00 14.7 +1.0**
comp=Z,2.0nm,0.9s,baz=193,slow=6.5,SNR=4.4
ARCES LR LR 07 13 39.2
comp=Z,42nm,18.9s,baz=195,slow=40
ARCES ARCESS Array B 29.34 359 P **P** **07 00 14.8 +1.0**
ARCES pmax pmax
comp=Z,10.0nm,1.5s
ARCES ARCESS Array B 29.34 359 IAmb IAmb 07 00 29.0
comp=Z,10nm,1.4s
KK31 Karatay Array 32.86 70 P **P** **07 00 45.4 +0.4**
KK31 pmax pmax
comp=Z,1.0nm,0.8s
KK31 Karatay Array 32.86 70 P **P** **07 00 45.4 +0.4**
KKAR Karatay Array 32.86 70 P **P** **07 00 46.0 +1.0**
KKAR Karatay Array 32.86 70 P **P** **07 00 46.0 +1.0**
GAR Garm 33.67 78 P **P** **07 00 53.1 +0.8**
AAK Ala-Archa 35.82 70 *i* P **P** **07 01 09.7 -1.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 40.16 62 P **P** **07 01 47.3 0.0**
MAKZ pmax pmax
comp=Z,1.0nm,0.6s
MAKZ Makanchi 40.16 62 P **P** **07 01 47.2 0.0**
MK31 Makanchi Array 40.38 62 P **P** **07 01 49.5 +0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 40.38 62 P **P** **07 01 49.5 +0.4**
MKAR Makanchi Array 40.38 62 P **P** **07 01 49.6 +0.5**
comp=Z,1.1nm,0.7s,baz=278,slow=7.9,SNR=6.2
MKAR LR LR 07 21 13.3
comp=Z,29nm,19.1s,baz=288,slow=40
MKAR Makanchi Array 40.38 62 *i* P **P** **07 01 49.7 +0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 40.38 62 P **P** **07 01 48.8 -0.3**
ZAA0 Zalesovo Array 40.94 50 P **P** **07 01 53.5 -0.1**
ZAA0 IAmb IAmb 07 01 59.7
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 40.94 50 P **P** **07 01 53.6 +0.1**
comp=Z,1.9nm,0.6s,baz=269,slow=7.4,SNR=4.7
ZALV LR LR 07 20 29.1
comp=Z,40nm,18.3s,baz=263,slow=39
ZALV Zalesovo Beam 40.94 50 *i* P **P** **07 01 57.2 +3.7**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 40.94 50 P **P** **07 01 53.0 -0.5**
WMQ Urumqi 44.82 64 *e*P **P** **07 02 27.9 +2.7**
WMQ LR LR
comp=N,500nm,22.5s
WMQ LR LR
comp=E,410nm,13.1s
WMQ LR LR
comp=Z,17nm,29.2s
SONM Songino Array 55.64 54 P **P** **07 03 48.0 +0.8**
comp=Z,1.7nm,0.9s,baz=280,slow=7.3,SNR=7.0
ULN Ulaanbaatar 56.04 53 *i* P **P** **07 03 49.5 -0.6**
ULN pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 59.26 67 *e*P **P** **07 04 13.4 +0.4**
LZH pP sP 07 04 17.3 -0.1
LZH sP pP 07 04 20.1 +3.9
LZH pmax pmax
comp=Z,14nm,1.1s
HHC Hu-ho-hao-te 62.14 59 *e*P **P** **07 04 34.3 +1.8**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,52nm,5.2s
HIA Hailar 62.85 47 *i* P **P** **07 04 37.7 +0.7**
HIA pmax pmax
comp=Z,3.0nm,1.1s
XAN Xi'an 63.88 67 P **P** **07 04 40.3 -3.8**
XAN pP pP 07 04 43.6 -3.7
XAN pmax pmax
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 65.21 86 LR LR 07 40 29.7
comp=Z,9.6nm,19.1s,baz=0.0,slow=43
BOSA Boshof 68.53 181 LR LR 07 38 36.1
comp=Z,54nm,18.8s,baz=346,slow=39
KLR Kul'dur 69.36 42 LR LR 07 37 33.6
comp=Z,29nm,19.7s,baz=308,slow=38
KSRS Korea Array 74.51 54 LR LR 07 42 57.0
comp=Z,22nm,18.7s,baz=125,slow=39
ULM Lac du Bonnet 76.59 326 LR LR 07 41 48.9
comp=Z,59nm,18.3s,baz=33,slow=37
PETK Petropavlovsk- 77.97 28 LR LR 07 43 30.5
comp=Z,36nm,18.1s,baz=96,slow=38
PDAR Pinedale Array 88.22 329 LR LR 07 53 01.7
comp=Z,24nm,18.1s,baz=149,slow=40
TXAR Lajitas Array 96.63 318 LR LR 07 52 27.8
comp=Z,26nm,18.2s,baz=0.0,slow=36

NEIC ***24*** *07:04:06.7±0.6, 19.°0N±0.°1×68.°08W±0.°07, h36km±85km,*
Error ellipse: s-maj=21.2km s-min=2.0km az=208.0
RSPR ***24*** *07:04:07.4, 19.°12N×68.°05W, h29km±15km, MD3.2/11*
OSPL ***24*** *07:04:11.6±0.4, 18.°92N×67.°63W, h50km±14km, ML2.4*
ISC 24 07:04:09.8±1.7, 19.0N±0.°1×67.°70W±0.°04, h10km, n41,
σ1°26/47, 6C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.63**	**160**⇑	*e*P	**Pg**	**07 04 22.1**	**0.0**
IDE	**Isla Desecheo**	**0.63**	**160**		**Pg**	**07 04 22.1**	**0.0**
AGPR	**Aguadilla, PR**	**0.76**	**133**⇑	*e*P	**Pg**	**07 04 24.1**	**-0.4**
AGPR	**Aguadilla, PR**	**0.76**	**133**	*e*S	**Sg**	**07 04 35.3**	**+0.9**
AGPR	**Aguadilla, PR**	**0.76**	**133**		**Pg**	**07 04 24.1**	**-0.4**
AGPR	**Aguadilla, PR**	**0.76**	**133**		**Sg**	**07 04 35.3**	**+0.9**
AGPR	**Aguadilla, PR**	**0.76**	**133**	IAML		07 04 35.0	
comp=N,167nm,0.7s							
AGPR	**Aguadilla, PR**	**0.76**	**133**	*i* P	**Pg**	**07 04 24.0**	**-0.5**
AGPR				*e*S	**Sg**	**07 04 33.5**	**-0.9**
AGPR				IAML		07 04 38.5	
comp=Z,88nm,0.1s							
PCDR	**Punta Cana, DR**	**0.80**	**234**	*i* P	**Pg**	**07 04 26.2**	**+1.0**
PCDR				*e*S	**Sb**	**07 04 36.7**	**+0.1**
PCDR				IAML		07 04 38.0	
comp=Z,157nm,0.5s							
MPR	**Mayaguez**	**0.93**	**145**	*i* P	**Pg**	**07 04 26.4**	**-1.4**
AOPR	**Arecibo Observ**	**1.10**	**125**⇓	*e*P	**Pg**	**07 04 29.6**	**-1.3**
AOPR				*e*S	**Sg**	**07 04 47.2**	**+1.9**
AOPR	**Arecibo Observ**	**1.10**	**125**		**Pg**	**07 04 29.6**	**-1.3**
AOPR					**Sg**	**07 04 47.2**	**+1.9**
AOPR	**Arecibo Observ**	**1.10**	**125**	IAML		07 04 52.3	
comp=N,115nm,0.2s							
MLPR	**Magueyes Islan**	**1.19**	**148**⇑	*e*P	**Pb**	**07 04 30.8**	**-1.6**
MLPR	**Magueyes Islan**	**1.19**	**148**	*e*S	**Sg**	**07 04 48.7**	**+0.7**
MLPR	**Magueyes Islan**	**1.19**	**148**		**Pb**	**07 04 30.8**	**-1.6**
MLPR					**Sg**	**07 04 48.7**	**+0.7**
MLPR	**Magueyes Islan**	**1.19**	**148**	IAML		07 04 48.8	
comp=N,81nm,0.5s							
MLPR				IAML		07 04 49.2	
comp=E,93nm,0.5s							
EMPR	**Esperanza - Ma**	**1.22**	**114**⇑	*e*P	**Pn**	**07 04 31.8**	**-1.1**
EMPR	**Esperanza - Ma**	**1.22**	**114**	*e*S	**Sb**	**07 04 50.6**	**+1.8**
EMPR	**Esperanza - Ma**	**1.22**	**114**		**Pn**	**07 04 31.8**	**-1.1**
EMPR					**Sb**	**07 04 50.6**	**+1.8**
EMPR	**Esperanza - Ma**	**1.22**	**114**	IAML		07 04 51.8	
comp=E,148nm,0.5s							
EMPR				IAML		07 04 53.0	
comp=N,111nm,0.6s							
CELP	**Cerrillos**	**1.40**	**130**⇓	*e*P	**Pn**	**07 04 34.0**	**-1.4**
CELP				*e*S	**Sb**	**07 04 54.8**	**+0.9**
CELP	**Cerrillos**	**1.40**	**130**		**Pn**	**07 04 34.0**	**-1.4**
CELP					**Sb**	**07 04 54.8**	**+0.9**
OBIP	**Obispado Ponce**	**1.40**	**132**⇓	*e*P	**Pn**	**07 04 33.8**	**-1.7**
OBIP	**Obispado Ponce**	**1.40**	**132**	*e*S	**Sb**	**07 04 55.1**	**+1.1**
OBIP	**Obispado Ponce**	**1.40**	**132**		**Pn**	**07 04 33.8**	**-1.7**
OBIP					**Sb**	**07 04 55.1**	**+1.1**
OBIP	**Obispado Ponce**	**1.40**	**132**	IAML		07 04 56.9	
comp=E,69nm,0.3s							
OBIP				IAML		07 04 57.4	
comp=N,69nm,0.3s							
IGPR	**InterUniversit**	**1.82**	**124**⇓	*e*P	**Pn**	**07 04 40.2**	**-1.0**
IGPR	**InterUniversit**	**1.82**	**124**	*e*S	**Sn**	**07 05 05.6**	**+1.3**
IGPR	**InterUniversit**	**1.82**	**124**		**Sn**	**07 05 05.6**	**+1.3**
PDPR	**Patillas Dam,**	**1.86**	**121**	Pn	**Pn**	**07 04 40.4**	**-1.4**
PDPR				IAML		07 05 14.8	
comp=E,52nm,1.4s							
CBYP	**Canovanas**	**1.89**	**112**⇑	*e*P	**Pn**	**07 04 41.4**	**-0.8**
CBYP	**Canovanas**	**1.89**	**112**	*e*S	**Sn**	**07 05 07.6**	**+1.5**
CBYP	**Canovanas**	**1.89**	**112**		**Pn**	**07 04 41.4**	**-0.8**
CBYP					**Sn**	**07 05 07.6**	**+1.5**
HUMP	**Col San Antoni**	**1.94**	**115**⇑	*e*P	**Pn**	**07 04 42.3**	**-0.7**
HUMP	**Col San Antoni**	**1.94**	**115**	*e*S	**Sn**	**07 05 08.9**	**+1.4**
HUMP	**Col San Antoni**	**1.94**	**115**		**Pn**	**07 04 42.3**	**-0.7**
HUMP					**Sn**	**07 05 08.9**	**+1.4**
HUMP	**Col San Antoni**	**1.94**	**115**	IAML		07 05 10.4	
comp=E,33nm,0.2s							
MTP	**Monte Pirata**	**2.22**	**113**⇓	*e*P	**Pn**	**07 04 45.9**	**-0.9**
MTP	**Monte Pirata**	**2.22**	**113**	*e*S	**Sn**	**07 05 15.9**	**+1.7**
MTP	**Monte Pirata**	**2.22**	**113**		**Pn**	**07 04 45.9**	**-0.9**
MTP					**Sn**	**07 05 15.9**	**+1.7**

MEX ***24*** *07:14:07.4±0.7, 28.°10N×112.°38W, h20km±515km, MD3.6*
ECX 24 07:14:06.6±1.2, 28.°07N×112.°21W, h3km±12km, MD2.9,
Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.74**	**182**	*e*P	Pg	07 14 19.6	-1.3

SRIG				*i* S	Sg	07 14 30.0	-0.5
SRIG	**Santa Rosalia**	**0.74**	**182**	*e*P	Pg	07 14 19.4	-1.4
SRIG				*e*S	Sg	07 14 29.9	-0.6
GUYB	**Guaymas**	**1.19**	**98**	*e*P	Pg	07 14 27.4	-2.1
GUYB				*i* S	Sg	07 14 44.4	-0.6
GUYB	**Guaymas**	**1.19**	**98**	*i* P	Pg	07 14 27.4	-2.1
GUYB				*i* S	Sg	07 14 44.3	-0.7
HSIG		**1.46**	**49**	*e*P	Pn	07 14 31.0	-2.8
HSIG				*i* S	Sb	07 14 50.0	-3.4
HSIG		**1.46**	**49**	*e*P	Pn	07 14 32.1	-1.8
HSIG				*e*S	Sb	07 14 50.5	-2.9

IDC 24 07:24:07.2±2.6, 54°.10N×86°.48E, h0km, mb1 3.3/2, mb1mx3.1/46, mbtmp3.3/2, ML3.0/2, 3C-2D, Error ellipse: s-maj=21.7km s-min=13.1km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**262**	*i*		07 30 40.0	
	baz=83,slow=304,SNR=1.1						
ZAA0	**Zalesovo Array**	**0.99**	**262**	⇓P	Pg	07 24 25.0	-1.3
	0.2nm,0.3s						
ZAA0				⇑S	Sb	07 24 41.4	+0.4
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**0.99**	**262**	Pg	Pg	07 24 24.7	-1.6
	1.7nm,0.3s,baz=78,slow=18,SNR=11						
ZALV				Lg	Lg	07 24 41.1	
	3.1nm,0.3s,baz=79,slow=31,SNR=11						
ZALV				Rg	Rg	07 24 44.6	
	4.3nm,0.3s,baz=83,slow=30,SNR=7.6						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	07 25 37.6	+0.6
	0.2nm,0.3s,baz=57,slow=14,SNR=4.7						
MK31	**Makanchi Array**	**7.79**	**202**	⇑Pn	Pn	07 26 00.1	-1.7
	0.3nm,0.5s,baz=29,slow=13,SNR=5.8						
MK31				⇓Sn	Sn	07 27 29.4	-1.2
	0.4nm,0.7s						
MK31				⇑Lg	Lg	07 28 13.7	
	1.5nm,1.1s,baz=25,slow=31,SNR=4.0						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	07 26 03.3	+1.5
	0.4nm,0.3s,baz=25,slow=14,SNR=15						
MKAR				Lg	Lg	07 28 11.8	
	0.0nm,0.3s,baz=20,slow=29,SNR=2.8						

*NEIC **24** 07:27:49.2±1.5, 12°.67S±0°.09×167°.0E±0°.2, h212km±7km, mb4.2/23, Error ellipse: s-maj=22.0km s-min=13.2km az=93.0*
*IDC **24** 07:27:52.3±3.5, 12°.77S×166°.86E, h242km±33km, mb3.7/12, mb1 3.9/13, mb1mx3.7/38, mbtmp4.2/13, Error ellipse: s-maj=20.1km s-min=18.1km az=90.0*
ISC 24 07:27:49.8±0.7, 12°.70S±0°.08×167°.0E±0°.1, h220km, n40, σ0°82/39, mb4.2/22, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**2.74**	**175**		**Pn**	**07 28 35.4**	**-2.2**
DZM	**Mont Dzumac**	**9.33**	**183**	P	**Pn**	**07 30 01.9**	**+1.6**
	0.6nm,0.3s,baz=7.1,slow=3.4,SNR=18						
DZM				S	**S**	**07 31 46.2**	**+1.0**
	0.3nm,0.3s,baz=280,slow=18,SNR=1.6						
EIDS	**Eidsvold**	**19.56**	**228**	P	**P**	**07 32 01.9**	**+0.7**
EIDS				IAmb	IAmb	07 32 03.0	
	comp=Z,9.9nm,0.8s						
CTA	**Charters Tower**	**21.15**	**247**	P	**P**	**07 32 18.2**	**0.0**
	comp=Z,6.7nm,0.6s,baz=70,slow=13,SNR=12						
CTAO	**Charters Tower**	**21.15**	**247**		**P**	**07 32 18.7**	**+0.5**
CTAO				IAmb	IAmb	07 32 20.9	
	comp=Z,9.1nm,0.8s						
ARMA	**Armidale**	**22.62**	**216**	P	**P**	**07 32 33.2**	**+1.0**
ARMA				IAmb	IAmb	07 32 41.6	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**30.11**	**227**	P	**P**	**07 33 39.3**	**+0.3**
	comp=Z,3.5nm,0.4s,baz=40,slow=11,SNR=14						
STKA	**Stephens Creek**	**30.11**	**227**	P	**P**	**07 33 39.1**	**+0.1**
WR0	**Warramunga Arr**	**31.88**	**253**	P	**P**	**07 33 53.9**	**-0.9**
WR0				IAmb	IAmb	07 34 20.7	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**31.99**	**253**	P	**P**	**07 33 55.0**	**-0.8**
WB0				IAmb	IAmb	07 33 55.6	
	comp=Z,6.8nm,0.8s						
WRAB	**Tennant Creek**	**32.05**	**253**	P	**P**	**07 33 55.5**	**-0.8**
WRAB				IAmb	IAmb	07 33 55.7	
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**32.07**	**253**	P	**P**	**07 33 55.5**	**-1.0**
	comp=Z,3.3nm,0.5s,baz=86,slow=9.1,SNR=58						
AS31	**Alice Springs**	**33.15**	**246**	P	**P**	**07 34 04.8**	**-1.0**
AS31				IAmb	IAmb	07 34 05.5	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**33.15**	**246**	P	**P**	**07 34 04.8**	**-1.0**
	comp=Z,5.2nm,0.7s,baz=74,slow=9.3,SNR=77						
ASAR				PcP	**PcP**	**07 36 42.7**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=68,slow=2.2,SNR=6.2						
KNRA	**Kununurra**	**37.10**	**261**	P	**P**	**07 34 39.0**	**-0.6**
FORT	**Forrest**	**40.09**	**237**	P	**P**	**07 35 03.9**	**-0.3**
PSA00	**Pilbara Seismi**	**45.72**	**252**	P	**P**	**07 35 49.5**	**+0.1**
PSA00				IAmb	IAmb	07 35 51.9	
	comp=Z,7.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.54**	**237**	P	**P**	**07 36 18.1**	**-0.6**
MORW	**Morawa**	**49.88**	**243**	P	**P**	**07 36 21.1**	**-0.2**
MJAR	**Matsushiro Arr**	**55.98**	**332**	P	**P**	**07 37 05.2**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=153,slow=8.2,SNR=4.5						
MJAR	**Matsushiro Arr**	**55.98**	**332**	IAmb	IAmb	07 37 06.2	
	comp=Z,2.3nm,0.7s						
VNDA	**Vanda**	**64.87**	**181**	P	**P**	**07 38 04.8**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=342,slow=7.2,SNR=13						
VNDA	**Vanda**	**64.87**	**181**	IAmb	IAmb	07 38 06.0	
	comp=Z,1.4nm,0.7s						
SBA	**Scott Base**	**65.15**	**180**	P	**P**	**07 38 08.1**	**+1.3**
SBA				IAmb	IAmb	07 38 08.4	
	comp=Z,4.6nm,0.8s						
CASY	**Casey**	**65.28**	**202**	P	**P**	**07 38 07.3**	**-0.5**
CASY				IAmb	IAmb	07 38 35.6	
	comp=Z,2.3nm,0.6s						
KLR	**Kul'dur**	**69.04**	**336**	P	**P**	**07 38 33.0**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=140,slow=7.9,SNR=4.6						
QSPA	**South Pole Qui**	**77.31**	**180**	P	**P**	**07 39 19.2**	**-0.8**
QSPA				IAmb	IAmb	07 39 19.8	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**80.69**	**324**	P	**P**	**07 39 39.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=135,slow=6.4,SNR=4.5						
RC01	**Rabbit Creek A**	**81.14**	**20**	P	**P**	**07 39 40.4**	**0.0**
IMAR	**Indian Mountai**	**83.70**	**15**	P	**P**	**07 39 53.6**	**0.0**
CCB	**Clear Creek Bu**	**84.34**	**18**	P	**P**	**07 39 56.2**	**-0.6**
RIDG	**Independent Ri**	**84.63**	**19**	P	**P**	**07 39 58.8**	**+0.5**
RIDG				IAmb	IAmb	07 40 13.3	
	comp=Z,5.5nm,1.2s						
ILAR	**Eielson Array**	**84.71**	**18**	P	**P**	**07 39 58.2**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=236,slow=6.0,SNR=14						
NVAR	**Mina Array Bea**	**86.20**	**49**	P	**P**	**07 40 07.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=234,slow=7.2,SNR=4.5						
MK31	**Makanchi Array**	**95.53**	**317**	P	**P**	**07 40 49.5**	**-0.4**
MK31				IAmb	IAmb	07 40 51.0	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**95.53**	**317**	P	**P**	**07 40 50.3**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=88,slow=6.3,SNR=13						
MKAR	**Makanchi Array**	**95.53**	**317**	P	**P**	**07 40 50.6**	**+0.7**
KURBB	**Kurchatov Arra**	**98.70**	**320**	P	Pdif	07 41 03.3	-0.7
	comp=Z,0.2nm,0.5s,baz=100,slow=4.2,SNR=2.5						
ARCES	**ARCESS Array B**	**118.22**	**346**	PKP	**PKPdf**	**07 46 09.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=87,slow=1.8,SNR=20						
FINES	**FINESS Array B**	**123.73**	**339**	PKP	**PKPdf**	**07 46 20.7**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=78,slow=8.8,SNR=3.9						

*NNC **24** 07:41:32.9±1.5, 54°.29N×86°.74E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=8.6km s-min=6.3km az=60.0, Suspected Mining explosion.*
IDC 24 07:41:32.2±3.3, 54°.30N×86°.89E, h0km, mb1 2.9/2, mb1mx2.9/40, mbtmp2.9/2, ML2.5/2, 4C-4D, Error ellipse: s-maj=29.6km s-min=18.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**255**	*i*		07 47 20.0	
	baz=75,slow=306,SNR=4.1						
ZAA0	**Zalesovo Array**	**1.27**	**255**	⇓P	Pg	07 41 55.0	-1.5
	0.4nm,0.3s,baz=71,slow=17						
ZAA0				⇓S	Sg	07 42 11.6	-1.4
	3.6nm,0.9s,baz=74,slow=26						
ZALV	**Zalesovo Beam**	**1.27**	**255**	Pg	Pg	07 41 54.9	-1.7
	3.0nm,0.3s,baz=70,slow=17,SNR=14						
ZALV				Lg	Lg	07 42 13.4	
	1.6nm,0.3s,baz=76,slow=27,SNR=5.2						
ZALV				Rg	Rg	07 42 16.8	
	4.6nm,0.4s,baz=70,slow=26,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.30**	**238**	Pn	Pn	07 43 07.2	+1.0
	0.1nm,0.3s,baz=53,slow=14,SNR=14						
KURBB	**Kurchatov Arra**	**6.30**	**238**	⇑Pn	Pn	07 43 06.7	+0.5
	2.2nm,0.8s						
KURBB				⇑Sn	Sn	07 44 17.0	-1.8
	1.9nm,0.6s						
KURBB				⇑Lg	Lg	07 44 51.7	
	12nm,1.4s						
MK31	**Makanchi Array**	**8.06**	**203**	⇓Pn	Pn	07 43 31.0	+0.5
	0.1nm,0.2s,baz=29,slow=14,SNR=6.0						
MK31				⇑Sn	Sn	07 45 04.0	+1.6
	0.1nm,0.2s						
MK31				⇓Lg	Lg	07 45 48.1	
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**8.06**	**203**	Pn	Pn	07 43 31.4	+0.9
	0.1nm,0.3s,baz=27,slow=15,SNR=4.0						
MKAR				Lg	Lg	07 45 50.0	
	0.1nm,0.3s,baz=18,slow=29,SNR=6.5						

*IDC **24** 07:42:18.7±4.3, 9°.73S×159°.81E, h15km±28km, mb4.2/14, mb1 4.3/14, mb1mx4.2/29, mbtmp4.3/14, MS3.3/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=27.3km s-min=9.8km az=123.0*
*NEIC **24** 07:42:22.4±1.4, 9°.67S±0°.04×159°.9E±0°.1, h39km±5km, mb4.4/20, Error ellipse: s-maj=14.6km s-min=6.3km az=97.0*
ISC 24 07:42:21.6±0.5, 9°.68S±0°.06×159°.83E±0°.10, h34km, n54, σ0°90/45, mb4.3/23, MS3.2/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.27**	**25**	Pn	**Pb**	**07 42 28.9**	**-0.3**
	5μm,0.3s,baz=198,slow=8.4,SNR=546						
HNR				Sn	**Sb**	**07 42 35.4**	**+1.2**
	15μm,0.3s,baz=197,slow=3.7,SNR=36						
HNR	**Honiara**	**0.27**	**25**		**Pb**	**07 42 29.3**	**+0.1**
SANVU	**Saraoutou**	**9.20**	**129**		**Pn**	**07 44 31.8**	**-0.2**
PMG	**Port Moresby**	**12.50**	**270**	LR	LR	07 49 48.3	
	comp=Z,196nm,19.2s,baz=116,slow=36						
DZM	**Mont Dzumac**	**13.86**	**154**	Pn	**Pn**	**07 45 37.5**	**+1.6**
	0.3nm,0.3s,baz=140,slow=20,SNR=1.6						
PATS	**Pohnpei**	**16.48**	**355**		**Pn**	**07 46 10.1**	**-0.2**
CTA	**Charters Tower**	**16.70**	**230**	Pn	**P**	**07 46 17.0**	**+1.8**
	0.2nm,0.3s,baz=64,slow=13,SNR=4.5						
CTAO	**Charters Tower**	**16.70**	**230**		**P**	**07 46 16.2**	**+1.1**
EIDS	**Eidsvold**	**17.68**	**207**	P	**P**	**07 46 26.1**	**+0.1**
ARMA	**Armidale**	**22.00**	**199**	P	**P**	**07 47 13.3**	**+0.1**
ARMA				IAmb	IAmb	07 47 20.6	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**26.53**	**245**	P	**P**	**07 47 55.5**	**-1.0**
WB0				IAmb	IAmb	07 48 06.5	
	comp=Z,10nm,1.2s						
WB2	**Warramunga Arr**	**26.62**	**245**	P	**P**	**07 47 56.2**	**-1.0**
WB2				IAmb	IAmb	07 48 02.6	
	comp=Z,8.2nm,1.1s						
WRA	**Warramunga Arr**	**26.63**	**245**	P	**P**	**07 47 56.1**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=72,slow=9.5,SNR=13						
WRA				LR	LR	07 58 43.3	
	comp=Z,52nm,18.2s,baz=75,slow=37						
WRA	**Warramunga Arr**	**26.63**	**245**	P	**P**	**07 47 56.5**	**-0.9**
CAN	**Canberra**	**27.37**	**200**	P	**P**	**07 48 04.3**	**+0.5**
GUMO	**Guam**	**27.48**	**327**	LR	LR	07 59 29.8	
	comp=Z,34nm,19.3s,baz=174,slow=38						
STKA	**Stephens Creek**	**27.81**	**215**	LR	LR	07 59 34.0	
	comp=Z,39nm,19.0s,baz=25,slow=37						
ASAR	**Alice Springs**	**28.39**	**237**	P	**P**	**07 48 10.7**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=63,slow=10,SNR=8.3						
ASAR				PcP	**PcP**	**07 51 24.5**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=62,slow=2.1,SNR=4.3						
H11S2	**WAKE ISLAND Hy 28.80**	**14**		T	T	08 17 11.5	
	baz=194,slow=76,SNR=86						
H11S3	**WAKE ISLAND Hy 28.80**	**14**		T	T	08 17 06.1	
	baz=194,slow=76,SNR=68						
H11S1	**WAKE ISLAND Hy 28.82**	**14**		T	T	08 17 03.5	
	baz=194,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy 30.03**	**13**		T	T	08 18 32.5	
	baz=194,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy 30.04**	**13**		T	T	08 18 36.6	
	baz=194,slow=76,SNR=88						
H11N2	**WAKE ISLAND Hy 30.05**	**13**		T	T	08 18 34.3	
	baz=194,slow=76,SNR=88						
KNRA	**Kununurra**	**30.87**	**256**	P	**P**	**07 48 33.9**	**-1.2**
BKZ	**Black Stump Fm**	**32.92**	**156**	P	**P**	**07 48 52.5**	**-0.5**
MSWZ	**Moikau Station**	**34.41**	**159**	P	**P**	**07 49 05.1**	**-0.7**
JCJ	**Chichijima**	**40.37**	**335**	LR	LR	08 05 27.7	
	comp=Z,79nm,18.0s,baz=86,slow=34						
MJAR	**Matsushiro Arr**	**50.28**	**337**	P	**P**	**07 51 14.0**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=153,slow=10.0,SNR=4.9						
MJAR				LR	LR	08 11 13.0	
	comp=Z,26nm,21.8s,baz=150,slow=34						
MJAR	**Matsushiro Arr**	**50.28**	**337**	IAmb	IAmb	07 51 14.8	
	comp=Z,2.0nm,0.8s						
DHH	**Diamond Head**	**51.74**	**53**	P	**P**	**07 51 24.5**	**-1.6**
KSRS	**Kona Array**	**55.60**	**329**	P	**P**	**07 51 54.4**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=134,slow=8.7,SNR=8.6						
KSRS				LR	LR	08 12 49.0	
	comp=Z,26nm,21.3s,baz=138,slow=33						
USRK	**Ussuriysk Ar.**	**59.27**	**337**	P	**P**	**07 52 20.3**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=167,slow=7.7,SNR=5.4						
PETK	**Petropavlovsk-**	**62.57**	**359**	P	**P**	**07 52 43.0**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=170,slow=9.0,SNR=12						
PETK				LR	LR	08 15 04.7	
	comp=Z,32nm,21.6s,baz=145,slow=31						
PETK	**Petropavlovsk-**	**62.57**	**359**	P	**P**	**07 52 42.0**	**-0.1**
KLR	**Kul'dur**	**63.64**	**340**	P	**P**	**07 52 50.0**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=138,slow=8.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**66.25**	**295**	P	**P**	**07 53 07.5**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=143,slow=4.9,SNR=8.6						
CHTO	**Chiang Mai**	**66.37**	**295**	P	**P**	**07 53 08.4**	**+0.8**
CHTO				IAmb	IAmb	07 53 10.3	
	comp=Z,4.6nm,1.1s						
VNDA	**Vanda**	**67.83**	**180**	P	**P**	**07 53 16.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=330,slow=5.9,SNR=8.5						
VNDA	**Vanda**	**67.83**	**180**	P	**P**	**07 53 16.5**	**+0.7**
SONM	**Songino Array**	**74.20**	**326**	P	**P**	**07 53 56.1**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=133,slow=5.5,SNR=10						
SONM	**Songino Array**	**74.20**	**326**	P	**P**	**07 53 56.2**	**+1.1**
SONM				IAmb	IAmb	07 53 56.7	
	comp=Z,6.5nm,1.3s						
YAK	**Yakutsk**	**75.25**	**346**	P	**P**	**07 54 00.9**	**+0.2**
	comp=Z,11nm,0.5s,baz=84,slow=1.3,SNR=4.1						
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**07 54 29.3**	**+0.2**
QSPA				IAmb	IAmb	07 54 30.1	
	comp=Z,4.7nm,1.4s						
RC01	**Rabbit Creek A**	**80.84**	**22**	P	**P**	**07 54 31.2**	**-0.6**
RC01				IAmb	IAmb	07 54 31.5	
	comp=Z,6.2nm,1.0s						
KTH	**Kantishna Hill**	**82.02**	**20**	P	**P**	**07 54 37.0**	**-1.1**
TRF	**Thorofare Moun**	**82.17**	**20**	P	**P**	**07 54 38.3**	**-0.7**
TRF				IAmb	IAmb	07 54 41.1	
	comp=Z,5.8nm,0.9s						
MLY	**Manley**	**83.06**	**19**	P	**P**	**07 54 43.6**	**+0.2**
MLY				IAmb	IAmb	07 54 44.7	
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**07 54 48.4**	**-0.7**
	comp=Z,3.1nm,0.4s,baz=246,slow=4.9,SNR=20						
ILAR	**Eielson Array**	**84.17**	**20**	P	**P**	**07 54 48.8**	**-0.2**
MK31	**Makanchi Array**	**88.58**	**318**	P	**P**	**07 55 11.2**	**+0.1**
MK31				IAmb	IAmb	07 55 11.5	
	comp=Z,1.9nm,0.7s						
MKAR	**Makanchi Array**	**88.58**	**318**	P	**P**	**07 55 10.6**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=99,slow=6.0,SNR=29						
MKAR	**Makanchi Array**	**88.58**	**318**	P	**P**	**07 55 11.1**	**-0.1**
NVAR	**Mina Array Bea**	**89.65**	**51**	P	**P**	**07 55 17.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=246,slow=6.5,SNR=2.1						

*ANF **24** 08:00:33.8±0.4, 59°.96N×152°.78W, h107km±4km, ML3.5/43, Error ellipse: s-maj=3.0km s-min=2.6km az=8.0*
*NEIC **24** 08:00:34.0±0.7, 59°.98N±0°.04×152°.87W±0°.04, h111km±3km, Error ellipse: s-maj=5.2km s-min=3.0km az=171.0*
*AEIC **24** 08:00:35.1±1.0, 59°.97N±0°.04×152°.86W±0°.07, h107km±4km, ML3.1/164, ML3.5/88(NEIC), Error ellipse: s-maj=5.2km s-min=4.7km az=200.0*
ISC 24 08:00:32.9±1.3, 59°.95N±0°.03×152°.85W±0°.03, h119km±6km, n249, σ0°90/263, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.11**	**309**		**Pn**	**08 00 49.0**	**-0.4**
IVE					**Sn**	**08 01 00.9**	**-0.9**
ILS	**Iliamna Low So**	**0.11**	**275**		**Pn**	**08 00 49.2**	**-0.2**
O20K	**Slope Mountain**	**0.17**	**40**	P	**Pn**	**08 00 49.6**	**+0.1**
	baz=226,SNR=29						
O20K				S	**Sn**	**08 01 01.1**	**-0.9**
	baz=226						
O20K	**Slope Mountain**	**0.17**	**40**		**Pn**	**08 00 49.5**	**+0.1**
O20K					**Sn**	**08 01 01.1**	**-0.9**
OPT	**Oil Point**	**0.35**	**214**		**Pn**	**08 00 50.3**	**+0.2**
P19K	**Oil Pt**	**0.35**	**214**	P	**Pn**	**08 00 50.2**	**+0.1**
	baz=31						
P19K				S	**Sn**	**08 01 02.5**	**-0.4**
	baz=31						
P19K	**Oil Pt**	**0.35**	**214**		**Pn**	**08 00 50.2**	**+0.1**
P19K					**Sn**	**08 01 02.6**	**-0.3**
RED	**Redoubt Volcan**	**0.47**	**4**		**Pn**	**08 00 50.7**	**0.0**
RED					**Sn**	**08 01 03.1**	**-1.1**
RDSO	**Redoubt South**	**0.51**	**6**		**Pn**	**08 00 51.0**	**0.0**
RDSO					**Sn**	**08 01 03.5**	**-1.2**
RSO	**Redoubt South**	**0.52**	**5**		**Pn**	**08 00 51.1**	**0.0**
RDWB	**Redoubt West**	**0.54**	**0**		**Pn**	**08 00 51.1**	**-0.1**
RDWB					**Sn**	**08 01 03.6**	**-1.4**
REF	**Redoubt East F**	**0.55**	**7**		**Pn**	**08 00 51.2**	**-0.1**
REF					**Sn**	**08 01 04.1**	**-1.0**
NCT	**North Crescent**	**0.62**	**356**		**Pn**	**08 00 51.7**	**0.0**
AU22	**Augustine Moun**	**0.64**	**204**		**Pn**	**08 00 52.1**	**+0.4**
AU2	**Augustine Isla**	**0.64**	**205**		**Pn**	**08 00 52.0**	**+0.3**
AUL	**Augustine Lava**	**0.64**	**208**		**Pn**	**08 00 52.2**	**+0.5**
RDJH	**Redoubt Jeurge**	**0.65**	**2**		**Pn**	**08 00 51.9**	**0.0**
DFR	**Drift River**	**0.65**	**7**		**Pn**	**08 00 51.8**	**-0.1**
DFR					**Sn**	**08 01 05.4**	**-0.9**
AUP	**Augustine Pinn**	**0.66**	**207**		**Pn**	**08 00 52.4**	**+0.5**
AGU	**Augustine-Summ**	**0.66**	**207**		**Pn**	**08 00 52.3**	**+0.3**
AUW	**Augustine West**	**0.66**	**209**		**Pn**	**08 00 52.4**	**+0.5**
AUCH	**Augustine Cone**	**0.66**	**208**		**Pn**	**08 00 52.3**	**+0.3**
AUQ	**Augustine Qik'**	**0.66**	**206**		**Pn**	**08 00 52.4**	**+0.5**
HOM	**Homer**	**0.67**	**115**	P	**Pn**	**08 00 52.5**	**+0.6**
	baz=298						
HOM				S	**Sn**	**08 01 06.5**	**+0.2**
	baz=298						
HOM	**Homer**	**0.67**	**115**		**Pn**	**08 00 52.5**	**+0.6**
HOM					**Sn**	**08 01 06.7**	**+0.4**
HOM	**Homer**	**0.67**	**115**	IAML		08 01 09.2	
	comp=E,1μm,0.3s						
O19K	**Port Alsworth**	**0.78**	**289**	P	**Pn**	**08 00 52.9**	**+0.1**
	baz=107						
O19K				S	**Sn**	**08 01 06.9**	**-0.9**
	baz=107						
O19K	**Port Alsworth**	**0.78**	**289**		**Pn**	**08 00 52.9**	**+0.1**
O19K					**Sn**	**08 01 06.9**	**-0.9**
CNPM	**China Poot**	**0.92**	**117**		**Pn**	**08 00 54.5**	**+0.4**
CNPM					**Sn**	**08 01 10.0**	**-0.1**
CNPM	**China Poot**	**0.92**	**117**	IAML		08 01 10.7	
	comp=E,1μm,0.3s						
CNPM				IAML		08 01 11.7	
	comp=N,866nm,0.4s						
BRLK	**Bradley Lake**	**1.01**	**100**		**Pn**	**08 00 55.5**	**+0.6**
BRLK	**Bradley Lake**	**1.01**	**100**	IAML		08 01 12.0	
	comp=E,1μm,0.4s						
BRLK				IAML		08 01 12.9	
	comp=N,1μm,0.1s						
BRSE	**Bradley Lake S**	**1.08**	**100**	P	**Pn**	**08 00 56.2**	**+0.5**
	baz=283,SNR=66						
BRSE				S	**Sn**	**08 01 12.6**	**-0.3**
	baz=283						
BRSE	**Bradley Lake S**	**1.08**	**100**		**Pn**	**08 00 56.3**	**+0.7**
BRSE					**Sn**	**08 01 12.6**	**-0.3**
CAPN	**Captain Cook N**	**1.18**	**45**	P	**Pn**	**08 00 58.7**	**+2.2**
	baz=227						
CAPN	**Captain Cook N**	**1.18**	**45**		**Pn**	**08 00 58.8**	**+2.2**
N19K	**Bonanza Creek**	**1.19**	**318**	P	**Pn**	**08 00 57.0**	**+0.2**
	baz=136,SNR=27						
N19K				S	**Sn**	**08 01 14.0**	**-1.1**
	baz=136						
N19K	**Bonanza Creek**	**1.19**	**318**		**Pn**	**08 00 57.0**	**+0.2**
N19K					**Sn**	**08 01 14.3**	**-0.8**
O18K	**Koktuh Hills**	**1.19**	**267**	P	**Pn**	**08 00 57.1**	**+0.3**
	baz=84,SNR=6.0						
O18K				S	**Sn**	**08 01 14.6**	**-0.5**
	baz=84						
O18K	**Koktuh Hills**	**1.19**	**267**		**Pn**	**08 00 57.2**	**+0.3**
O18K					**Sn**	**08 01 14.4**	**-0.6**
SPCR	**Spurr Chakacha**	**1.30**	**14**	P	**Pn**	**08 00 58.3**	**+0.3**
	baz=195,SNR=14						
SPCR				S	**Sn**	**08 01 16.1**	**-1.0**
	baz=195						
SPCR	**Spurr Chakacha**	**1.30**	**14**		**Pn**	**08 00 58.3**	**+0.3**
SPU	**Mount Spurr**

PWL	Port Wells	2.42	66			Pn	08 01 12.5 +0.9
PWL	Port Wells	2.42	66	IAML			08 01 40.7
	comp=N,243nm,0.4s						
PWL				IAML			08 01 43.5
	comp=E,158nm,0.5s						
L19K	White Mountain	2.44	337	P		Pn	08 01 12.3 +0.4
	baz=156,SNR=33						
L19K				S		Sn	08 01 41.3 -0.6
	baz=156						
L19K	White Mountain	2.44	337			Pn	08 01 12.3 +0.4
KNK	Knik Glacier	2.61	54	P		Pn	08 01 13.7 -0.3
	baz=238						
KNK				S		Sn	08 01 44.0 -1.7
	baz=238						
KNK	Knik Glacier	2.61	54			Pn	08 01 14.3 +0.3
KNK	Knik Glacier	2.61	54	IAML			08 01 44.7
	comp=N,224nm,0.6s						
KNK				IAML			08 01 52.0
	comp=E,282nm,0.5s						
OHAK	Old Harbor	2.74	185	P		Pn	08 01 15.3 -0.4
	baz=4.5						
OHAK				S		Sn	08 01 46.7 -2.0
	baz=4.5						
OHAK	Old Harbor	2.74	185			Pn	08 01 15.3 -0.4
OHAK	Old Harbor	2.74	185	IAML			08 01 54.9
	comp=N,103nm,2.5s						
CUT	Chulitna	2.76	26	P		Pn	08 01 16.2 +0.3
	baz=208,SNR=12						
CUT				S		Sn	08 01 48.7 -0.5
	baz=208						
CUT	Chulitna	2.76	26			Pn	08 01 17.7 +1.7
CUT				IAML			08 01 49.9
	comp=E,197nm,0.2s						
CUT				IAML			08 01 50.9
	comp=N,208nm,0.5s						
SML	Sawmill	2.89	48	P		Pn	08 01 17.4 -0.3
	baz=232						
SML				S		Sn	08 01 49.9 -2.3
	baz=232						
SML	Sawmill	2.89	48			Pn	08 01 17.4 -0.3
SML	Sawmill	2.89	48	IAML			08 01 52.9
	comp=E,102nm,0.8s						
SML				IAML			08 02 00.0
	comp=N,121nm,0.6s						
PLK1	Peulik 1	2.91	224			Pn	08 01 19.3 +1.5
PPLA	Purkeypile	2.98	6	P		Pn	08 01 20.1 +1.2
	baz=186						
PPLA	Purkeypile	2.98	6			Pn	08 01 20.1 +1.2
GLI	Glacier Island	3.00	69	P		Pn	08 01 19.3 +0.2
	baz=255						
GLI				S		Sn	08 01 51.7 -3.0
	baz=255						
GLI	Glacier Island	3.00	69			Pn	08 01 19.6 +0.5
GLI	Glacier Island	3.00	69	IAML			08 01 55.3
	comp=E,101nm,0.7s						
GLI				IAML			08 01 57.9
	comp=N,82nm,0.4s						
HIN	Hinchinbrook I	3.20	79			Pn	08 01 21.9 +0.2
HIN	Hinchinbrook I	3.20	79	IAML			08 02 00.4
	comp=N,77nm,0.5s						
HIN				IAML			08 02 01.0
	comp=E,84nm,0.6s						
FID	Port Fidalgo	3.27	73			Pn	08 01 22.1 -0.4
FID	Port Fidalgo	3.27	73	IAML			08 01 58.8
	comp=N,107nm,0.2s						
FID				IAML			08 01 58.9
	comp=E,86nm,0.3s						
SCM	Sheep Creek Mo	3.29	53			Pn	08 01 22.9 -0.1
SCM	Sheep Creek Mo	3.29	53	IAML			08 02 02.3
	comp=E,159nm,1.0s						
SCM				IAML			08 02 03.8
	comp=N,104nm,0.5s						
TT01	Tatalina	3.34	334			Pn	08 01 23.7 +0.2
MID	Middleton Isla	3.34	96			Pn	08 01 23.8 +0.3
K20K	Telida	3.47	351	P		Pn	08 01 26.2 +0.9
	baz=170,SNR=41						
K20K	Telida	3.47	351			Pn	08 01 26.1 +0.9
WAT7	Susitna Watana	3.48	32			Pn	08 01 25.9 +0.5
WAT1	Susitna Watana	3.55	34	P		Pn	08 01 26.7 +0.3
	baz=218						
WAT1				S		Sn	08 02 06.2 -1.7
	baz=218						
WAT1	Susitna Watana	3.55	34			Pn	08 01 26.6 +0.2
EYAK	Cordova Ski Ar	3.59	77	P		Pn	08 01 27.4 +0.6
	baz=264						
EYAK	Cordova Ski Ar	3.59	77			Pn	08 01 27.5 +0.6
WAT6	Susitna Watana	3.61	41	P		Pn	08 01 27.3 -0.1
	baz=226,SNR=18						
WAT6				S		Sn	08 02 07.1 -2.3
	baz=226						
WAT6	Susitna Watana	3.61	41			Pn	08 01 27.2 -0.1
DIV	Divide	3.69	68			Pn	08 01 29.2 +1.0
TRF	Thorofare Moun	3.72	18	P		Pn	08 01 28.8 +0.1
	baz=200,SNR=26						
TRF	Thorofare Moun	3.72	18			Pn	08 01 29.3 +0.6
KTH	Kantishna Hill	3.73	13			Pn	08 01 28.9 +0.1
KLU	Klutina	3.74	63	P		Pn	08 01 28.6 -0.3
	baz=249						
KLU	Klutina	3.74	63			Pn	08 01 28.6 -0.3
M24K	Tolsona, Glenn	3.90	53	P		Pn	08 01 31.5 +0.4
	baz=240						
M24K	Tolsona, Glenn	3.90	53			Pn	08 01 31.5 +0.4
CHUM	Lake Minchumin	3.96	3	P		Pn	08 01 32.2 +0.5
	baz=184,SNR=5.5						
CHUM	Lake Minchumin	3.96	3			Pn	08 01 32.3 +0.6
RND	Reindeer	3.96	27			Pn	08 01 32.2 +0.4
GOAT	Goat Mountain	4.09	78			Pn	08 01 34.5 +0.9
RAGM	Ragged Mountai	4.11	80			Pn	08 01 34.5 +0.7
RAGM	Ragged Mountai	4.11	80	IAML			08 02 22.9
	comp=E,76nm,0.4s						
BMRM	Bremner River	4.21	72	P		Pn	08 01 35.7 +0.5
	baz=260						
BMRM	Bremner River	4.21	72			Pn	08 01 35.8 +0.7
BMRM	Bremner River	4.21	72	IAML			08 02 38.3
	comp=E,28nm,0.9s						
BMRM				IAML			08 02 43.3
	comp=N,34nm,0.8s						
MCK	McKinley	4.23	24	P		Pn	08 01 36.2 +0.8
	baz=208,SNR=10						
MCK	McKinley	4.23	24			Pn	08 01 36.0 +0.7
KAIM	Kayak Island	4.24	87	P		Pn	08 01 36.4 +0.9
	baz=274						
KAIM	Kayak Island	4.24	87			Pn	08 01 36.4 +0.9
BPAW	Bear Paw Mtn.	4.26	11	P		Pn	08 01 36.3 +0.6
	baz=193,SNR=6.8						
BPAW	Bear Paw Mtn.	4.26	11			Pn	08 01 35.6 -0.2
J20K	Nowinta River	4.29	352	P		Pn	08 01 37.0 +0.9
	baz=171,SNR=49						
J20K	Nowinta River	4.29	352			Pn	08 01 37.0 +0.9
HMT	Hamilton	4.31	81			Pn	08 01 37.1 +0.6
HMT	Hamilton	4.31	81	IAML			08 02 27.1
	comp=N,67nm,0.4s						
HMT				IAML			08 02 27.3
	comp=E,78nm,0.5s						
N25K	Chitina, Valde	4.37	64	P		Pn	08 01 37.6 +0.2
	baz=252						
N25K	Chitina, Valde	4.37	64			Pn	08 01 38.0 +0.6
N25K	Chitina, Valde	4.37	64	IAML			08 02 26.0
	comp=E,26nm,0.5s						
N25K				IAML			08 02 28.5
	comp=N,33nm,0.4s						
NICHA	Nichawak Mount	4.46	82			Pn	08 01 39.5 +1.1
HARP	HAARP	4.46	53	P		Pn	08 01 38.5 +0.1
	baz=240						
BWN	Browne	4.53	19			Pn	08 01 40.4 +1.0
BWN	Browne	4.53	19	IAML			08 03 46.3
	comp=E,35nm,3.3s						
BWN				IAML			08 04 38.2
	comp=N,38nm,2.7s						
SUCK	Suckling Hills	4.55	85			Pn	08 01 40.9 +1.2
PAX	Paxson	4.66	46	P		Pn	08 01 41.5 +0.3
	baz=233						
PAX	Paxson	4.66	46			Pn	08 01 41.7 +0.5
GLB	Gilahina Butte	4.69	67			Pn	08 01 42.6 +1.0
GLB	Gilahina Butte	4.69	67	IAML			08 02 35.6
	comp=N,25nm,0.6s						
GLB				IAML			08 03 10.8
	comp=E,22nm,3.7s						
GRIN	Grindle Hills	4.78	82			Pn	08 01 44.1 +1.3
KHIT	Khitrov Hills	4.82	80			Pn	08 01 44.4 +1.1
NEA2	Nenana	4.98	19	P		Pn	08 01 45.4 0.0
	baz=203,SNR=32						
NEA2	Nenana	4.98	19			Pn	08 01 45.6 +0.1
WAX	Waxell Ridge	5.01	80			Pn	08 01 47.0 +1.0
SNH	Sunshine Point	5.02	83			Pn	08 01 47.4 +1.4
TGL	Tana Glacier	5.04	76			Pn	08 01 47.2 +0.8
TGL	Tana Glacier	5.04	76	IAML			08 03 19.5
	comp=E,34nm,3.8s						
TGL				IAML			08 03 42.5
	comp=N,23nm,3.2s						
MCARA	McCarthy VSAT	5.04	69	P		Pn	08 01 47.0 +0.7
	baz=258						
WRH	Wood River Hil	5.05	24			Pn	08 01 46.5 +0.1
WRH	Wood River Hil	5.05	24	IAML			08 02 43.0
	comp=E,17nm,0.4s						
VNSG	Veniaminof 6	5.07	224			Pn	08 01 47.8 +1.1
KULT	Kultieth River	5.08	82			Pn	08 01 47.8 +1.0
MLY	Manley	5.20	10	P		Pn	08 01 48.2 -0.1
	baz=192,SNR=41						
MLY	Manley	5.20	10			Pn	08 01 48.5 +0.2
HDA	Harding Lake	5.26	29	P		Pn	08 01 49.2 0.0
	baz=214,SNR=9.5						
HDA	Harding Lake	5.26	29			Pn	08 01 49.4 +0.2
HDA	Harding Lake	5.26	29	IAML			08 02 49.0
	comp=N,39nm,0.6s						
I21K	Tanana	5.27	4	P		Pn	08 01 49.5 +0.2
	baz=185,SNR=18						
I21K	Tanana	5.27	4			Pn	08 01 49.6 +0.3
CCB	Clear Creek Bu	5.27	24			Pn	08 01 49.2 -0.1
PTPK	Patty Peak	5.27	72			Pn	08 01 50.9 +1.4
ISLE	Juniper Island	5.27	78			Pn	08 01 50.3 +0.8
ISLE	Juniper Island	5.27	78	IAML			08 02 51.0
	comp=E,27nm,0.8s						
KIAG	Kiagna River	5.29	75			Pn	08 01 50.7 +1.0
BALM	Baldy	5.31	74			Pn	08 01 51.1 +1.2
M26K	Nabesna, AK	5.36	58	P		Pn	08 01 51.9 +1.3
	baz=247,SNR=5.9						
RIDG	Independent Ri	5.37	41	P		Pn	08 01 51.2 +0.6
	baz=229,SNR=6.5						
RIDG	Independent Ri	5.37	41			Pn	08 01 51.6 +0.9
BAGL	Bagley Icefiel	5.39	80			Pn	08 01 51.9 +1.0
PS08	TAPS Pump Stn8	5.40	29			Pn	08 01 51.2 +0.1
TCOL	CIGO, UAF Yank	5.46	23	P		Pn	08 01 52.2 +0.4
	baz=208						
TCOL	CIGO, UAF Yank	5.46	23			Pn	08 01 52.2 +0.4
COLA	College	5.46	23	P		Pn	08 01 52.2 +0.3
	baz=208						
COLA	College	5.46	23			Pn	08 01 52.1 +0.3
I23K	Minto, Yukon-K	5.46	16	P		Pn	08 01 52.1 +0.2
	baz=199						
I23K	Minto, Yukon-K	5.46	16			Pn	08 01 52.5 +0.7
MESA	MESA	5.46	83	P		Pn	08 01 53.3 +1.2
	baz=272						
MESA	MESA	5.46	83			Pn	08 01 53.3 +1.2
MDM	Murphy Dome	5.47	21			Pn	08 01 52.2 +0.2
L26K	Log Cabin Wild	5.50	52	P		Pn	08 01 53.3 +0.9
	baz=240						
YAH	Yahtse	5.56	81			Pn	08 01 54.7 +1.2
DOT	Dot Lake	5.58	45	Pn		Pn	08 01 54.0 +0.5
IL31		5.58	27			Pn	08 01 53.5 0.0
ILAR	Eielson Array	5.58	27	Pn		Pn	08 01 53.2 -0.2
BARN	Barnard Glacie	5.64	74			Pn	08 01 56.0 +1.5
POKR	Poker Plat Res	5.76	23	P		Pn	08 01 56.0 +0.1
	baz=208						
POKR	Poker Plat Res	5.76	23			Pn	08 01 56.3 +0.3
RKAV	Rock Avalanche	5.76	82			Pn	08 01 57.2 +1.1
PS07	TAPS Pump Stn7	5.78	19			Pn	08 01 56.6 +0.5
CTG	Chitna Glacier	5.79	75	P		Pn	08 01 57.8 +1.4
	baz=265						
CTGM	Chitina Glacie	5.79	75			Pn	08 01 57.7 +1.3
SCRK	Sand Creek	5.81	42	P		Pn	08 01 56.3 -0.4
	baz=230						
SCRK	Sand Creek	5.81	42			Pn	08 01 56.6 -0.1
M27K	Edge Creek, AK	5.83	61	P		Pn	08 01 58.5 +1.4
	baz=251						
M27K	Edge Creek, AK	5.83	61			Pn	08 01 57.8 +0.7
TABL	Table Mountain	5.86	80			Pn	08 01 58.6 +1.2
CHX	Chaix Hills	5.89	84			Pn	08 01 58.7 +1.0
LOGN	Logan Glacier	5.94	76			Pn	08 01 59.6 +1.1
IMAR	Indian Mountai	6.07	357	Pn		Pn	08 02 01.4 +1.3
H23K	Yukon River	6.09	13	P		Pn	08 02 00.4 0.0
	baz=196,SNR=26						
H23K	Yukon River	6.09	13			Pn	08 02 01.1 +0.7
PS06	TAPS Pump Stn6	6.10	12			Pn	08 02 01.3 +0.9
L27K	Beaver Creek,	6.13	55			Pn	08 02 01.3 +0.4
BC03		6.15	55			Pn	08 02 01.4 +0.3
BCAR	Beaver Creek A	6.15	55	Pn		Pn	08 02 01.8 +0.6
PCA	Pinnacle	6.31	83			Pn	08 02 04.7 +1.2
PINM	Pinnacle	6.32	83	P		Pn	08 02 04.9 +1.4
	baz=274						
H24K	Noodor Dome	6.33	19	P		Pn	08 02 03.5 -0.2
	baz=203,SNR=7.4						
H24K	Noodor Dome	6.33	19			Pn	08 02 03.7 +0.1
K27K	Chicken	6.52	46	P		Pn	08 02 06.4 +0.3
	baz=236						
K27K	Chicken	6.52	46			Pn	08 02 06.7 +0.5
PRP	Porcupine Dome	6.52	28	P		Pn	08 02 06.3 0.0
	baz=214,SNR=7.4						
PRP	Porcupine Dome	6.52	28			Pn	08 02 06.9 +0.6
BCPM	Bancas Point	6.64	84			Pn	08 02 09.4 +1.6
PNL	Peninsula	6.79	87			Pn	08 02 10.6 +0.7
EGAK	Eagle	7.28	43	Pn		Pn	08 02 16.3 -0.1
FYU	Fort Yukon	7.47	24			Pn	08 02 19.3 +0.3
DAWY	Dawson	7.55	51			Pn	08 02 20.9 +0.7
HYT	Haines Junctio	7.65	77	Pn		Pn	08 02 23.3 +1.7
BM03	Burnt Mountain	8.34	22			Pn	08 02 29.7 -1.0
BMAR	Burnt Mountain	8.35	22	Pn		Pn	08 02 30.4 -0.5
TOLK	Toolik Lake Re	8.84	8	P		Pn	08 02 38.3 +0.7
	baz=191						
TOLK	Toolik Lake Re	8.84	8	Pn		Pn	08 02 40.0 +2.4
SKAG	Skagway	8.87	86	Pn		Pn	08 02 40.5 +2.6
BESE	Bessie Mountai	9.31	91	Pn		Pn	08 02 46.5 +2.5
SIT	Sitka	9.61	100	Pn		Pn	08 02 51.0 +3.1
JIS	Juneau Island	9.64	92	Pn		Pn	08 02 52.0 +3.7

JMA ***24*** *08:04:41.4±0.1, 24.°02N×122.°61E, h30km, M2.2*
TAP ***24*** *08:04:41.4, 23.°98N×122.°65E, h19km, ML2.6, D*
ISC 24 08:04:40.8±1.2, 23.°92N±0.°04×122.°66E±0.°02, h22km±5km, n42, σ0°86/74, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.63	31	P	Pb	08 04 52.7	-0.5
YOJ				eS	Sb	08 05 00.5	-1.1
YOJ	Yonaguni jima	0.63	31	P	Pb	08 04 53.2	0.0
	baz=43						
YOJ				eS	Sb	08 05 00.5	-1.1
	baz=43						
NACB	Ninganchiao	1.00	285	P	Pn	08 04 58.3	-1.3
	baz=264						
NACB				eS	Sn	08 05 12.2	-0.8
	baz=264						
TWC	Suao	1.00	313	P	Pn	08 04 59.4	-0.2
	baz=303						
TWC				S	Sn	08 05 12.8	-0.3
	baz=303						
ETM	Tongmen	1.06	273	P	Pn	08 04 59.8	-0.7
	baz=256						
ETM				S	Sn	08 05 14.6	-0.1
	baz=256						
IRIF	Iriomote-Funau	1.06	67	P	Pn	08 05 00.4	-0.1
IRIF				S	Sn	08 05 14.9	+0.3
ETLH	Xiulin Townshi	1.11	285	eP	Pn	08 05 00.9	-0.3
	baz=281						
NDS	Dongshan	1.11	310	P	Pb	08 05 01.7	+0.3
	baz=308						
NDS				eS	Sn	08 05 15.2	-0.6
	baz=308						
TWE	Neicheng	1.20	312	eP	Pb	08 05 04.0	+1.1
	baz=309						
HGSD	Ruisui	1.21	249	P	Pn	08 05 02.9	+0.4
	baz=245						
HGSD				eS	Sn	08 05 18.5	+0.3
	baz=245						
ENTT	Nioudou	1.22	306	P	Pb	08 05 03.7	+0.4
	baz=304						
ENTT				S	Sb	08 05 20.3	+1.6
	baz=304						
NDT	Datong Townshi	1.24	303	eP	Pb	08 05 03.3	-0.3
	baz=301						
NDT				eS	Sb	08 05 20.2	+1.0
	baz=301						
NNSB	Datong	1.27	294	P	Pb	08 05 03.5	-0.6
	baz=291						
NNSB				eS	Sb	08 05 19.5	-0.5
	baz=291						
NNSH	Datong	1.27	294	eP	Pn	08 05 03.4	0.0
	baz=290						
NNSH				eS	Sb	08 05 20.7	+0.7
	baz=290						
JKRS	Kuro-shima	1.28	76	P	Pb	08 05 04.8	+0.6
JKRS				eS	Sb	08 05 21.5	+1.3
TIPB	Shuangxi	1.29	324	P	Pb	08 05 04.6	+0.2
	baz=323						
TIPB				S	Sb	08 05 21.2	+0.6
	baz=323						
WHF	Hehuan Shan	1.29	280	eP	Pn	08 05 03.7	-0.2
	baz=262						
WHF				S	Sb	08 05 21.7	+0.7
	baz=262						
NWLT	Wulai	1.35	309	P	Pb	08 05 06.1	+0.6
	baz=307						
NWLT				S	Sb	08 05 23.7	+1.3
	baz=307						
YULB	Yu-li	1.35	247	P	Pn	08 05 04.5	+0.1
	baz=244						
YULB				eS	Sn	08 05 22.0	+0.2
	baz=244						
EYUL	Yuli	1.35	245	eS	Sn	08 05 21.9	+0.2
	baz=241						
CHGB	Renai	1.36	276	P	Pn	08 05 04.9	+0.1
	baz=259						
CHGB				eS	Sn	08 05 21.7	-0.6
	baz=259						
TWF1	Yuli	1.37	246	eP	Pn	08 05 05.3	+0.6
	baz=242						
TWF1				eS	Sn	08 05 22.4	+0.2
	baz=242						
YHNB	Yeheng	1.38	303	P	Pb	08 05 05.3	-0.8
	baz=285						
YHNB				S	Sb	08 05 24.7	+1.3
	baz=285						
TDCB	Techi	1.41	284	eP	Pb	08 05 05.8	-0.7
	baz=268						
JIJ	Ishigaki jima	1.43	72	P	Pn	08 05 05.4	-0.1
JIJ				eS	Sn	08 05 23.3	-0.3
TWA	Mucha	1.44	317	eS	Sb	08 05 25.2	+0.4
	baz=328						
CHKT	Chengkung	1.44	236	eS	Sn	08 05 22.1	-1.8
	baz=219						
EDH	Donghe	1.56	233	eS	Sn	08 05 24.9	-2.0
	baz=219						
SSLB	Suanglung	1.56	265	eP	Pn	08 05 08.1	+0.7
	baz=262						
SSLB				eS	Sn	08 05 27.6	+0.6
	baz=262						
YM01	YM01	1.57	321	eP	Pb	08 05 09.3	+0.2
	baz=335						
YM01				eS	Sb	08 05 27.8	-0.9
	baz=335						
WHP	Taichung City	1.60	283	P	Pb	08 05 09.9	+0.1
	baz=266						
WHP				S	Sb	08 05 29.4	-0.2
	baz=266						
SMLT	Sun Moon Lake	1.61	269	eP	Pb	08 05 09.3	-0.5
	baz=265						
SMLT				eS	Sn	08 05 28.5	+0.3
	baz=265						
TYC	Yuchr	1.65	270	eP	Pb	08 05 09.9	-0.6
	baz=266						
TYC				eS	Sb	08 05 30.3	-0.4
	baz=266						
JISG	Ishigakijimahi	1.65	66	P	Pn	08 05 08.5	0.0
JISG				eS	Sn	08 05 28.4	-0.7
LIOB	Emei	1.66	296	eP	Pb	08 05 10.2	-0.6
	baz=293						
ALS	Alishan	1.74	257	eP	Pn	08 05 11.6	+1.4
	baz=253						
ALS				eS	Sn	08 05 32.2	+0.4
	baz=253						
STYH	Taoyuan	1.88	247	eS	Sb	08 05 36.9	-0.7
	baz=243						
CHN4	Tsaushan	1.98	254	eP	Pb	08 05 15.2	-0.9
	baz=238						
CHN4				eS	Sb	08 05 39.8	-0.5
	baz=238						
WTP	Ta-pu	1.99	251	eP	Pb	08 05 15.4	-1.0
	baz=247						
WTP				eS	Sb	08 05 40.1	-0.6
	baz=247						
SLGT	Liugui	2.06	244	eS	Sn	08 05 41.5	+2.2
	baz=233						
CHN1	Nanshi	2.08	250	eP	Pn	08 05 16.8	+2.2
	baz=246						
CHN1				eS	Sb	08 05 43.1	-0.4
	baz=246						
MASBT	Mashibuluo	2.27	235	eP	Pn	08 05 17.6	+0.5
	baz=232						
MASBT				eS	Sn	08 05 46.3	+1.9
	baz=232						

IDC ***24*** *08:22:58.7±0.7, 62.°00S×163.°10E, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.4/32, mbtmp4.5/11, ML3.5/1, MS4.4/16, Ms1 4.4/16, ms1mx4.3/27, Error ellipse: s-maj=32.4km s-min=16.0km az=72.0*
NEIC ***24*** *08:22:59.7±1.6, 62.°19S±0.°10×162.°9E±0.°3, h10km±1km, mb5.0/32, Error ellipse: s-maj=22.7km s-min=15.8km az=80.0*
GCMT ***24*** *08:23:02.7±0.2, 62.°02S±0.°01×163.°15E±0.°03, h14km±1km, MW5.1/113, Moment Tensor Solution. s41,c50; s113,c162; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.93±.15; Mθθ4.21±.13; Mφφ-5.14±.15; Mrθ-2.21±.40; Mrφ-0.84±.12; Mθφ2.00±.41; Best double couple: M0:5.66400×1016 NP1:φ1:228.00000°, δ58.00000°, λ171.00000°. NP2:φ2:323.00000°, δ82.00000°, λ33.00000°. Principal axes: T 5.5850, Plg29.0000°, Azm190.0000°; N 0.1580, Plg56.0000°, Azm335.0000°; P -5.7430, Plg16.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 08:22:59.7±0.4, 62.°06S±0.°07×163.°1E±0.°1, h10km, n83, σ0°86/62, mb4.9/20, MS4.3/17, 1C-2D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	15.54	181	Pn	Pn	08 26 37.4	-1.1
	0.2nm,0.3s,baz=350,slow=14,SNR=28						
VNDA				LR	LR	08 31 44.1	
	comp=Z,3μm,18.1s,baz=7.5,slow=34						
VNDA	Vanda	15.54	181	Pn	Pn	08 26 36.7	-1.8
SBA	Scott Base	15.91	177	P	Pn	08 26 43.4	+0.1
SBA				IAmb	IAmb	08 26 51.4	
	comp=Z,140nm,1.2s						
WKZ	Wanaka	17.61	14	P	Pn	08 27 04.5	-0.6
WKZ				IAmb	IAmb	08 27 12.3	
	comp=Z,184nm,1.6s						
RPZ	Rata Peaks	18.97	18	P	Pn	08 27 21.7	0.0
RPZ				IAmb	IAmb	08 27 29.1	
	comp=Z,230nm,1.9s						
FOZ	Fox Glacier	18.98	15		Pn	08 27 22.9	+1.1
OXZ	Oxford	19.50	20	P	Pn	08 27 28.1	+0.1
CASY	Casey	22.69	236	P	P	08 28 01.3	+0.4
URZ	Urewera	25.35	26	P	P	08 28 26.3	-0.3
	comp=Z,31nm,1.4s,baz=219,slow=2.4,SNR=6.3						
URZ				LR	LR	08 37 16.9	
	comp=Z,2μm,19.7s,baz=190,slow=34						
URZ	Urewera	25.35	26	P	P	08 28 26.6	+0.1
URZ				IAmb	IAmb	08 28 28.3	
	comp=Z,61nm,1.5s						
QSPA	South Pole Qui	28.03	180	P	P	08 28 51.7	+1.0
	comp=Z,7.8nm,1.0s,baz=16,slow=4.6,SNR=12						
QSPA				PcP	PcP	08 32 05.6	+0.6
	comp=Z,3.0nm,0.9s,baz=328,slow=1.4,SNR=6.1						
QSPA				LR	LR	08 38 41.5	
	comp=Z,1μm,18.1s,baz=29,slow=34						
QSPA	South Pole Qui	28.03	180	P	P	08 28 49.8	-0.9
ARMA	Armidale	32.53	341	P	P	08 29 32.3	+1.6
ARMA				IAmb	IAmb	08 29 34.1	
	comp=Z,32nm,1.6s						
STKA	Stephens Creek	33.23	325	P	P	08 29 36.9	+0.2
	comp=

H01W2	**Cape Leeuwin H**	**40.83 289**	T	T	09 14 24.4	
	baz=146,slow=75,SNR=365					
H01W3	**Cape Leeuwin H**	**40.84 289**	T	T	09 14 26.9	
	baz=146,slow=75,SNR=397					
SYO	**Syowa Base**	**43.18 206**⇓	*e*X	P	08 30 54.8	-5.1
SYO	**Syowa Base**	**43.18 206**⇑	*e*sP	sP	08 31 03.4	0.0
ASAR	**Alice Springs**	**43.19 319**	P	**P**	**08 31 00.4**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=161,slow=7.8,SNR=26					
ASAR			PcP	**PcP**	**08 32 49.1**	**-0.8**
	comp=Z,1.5nm,1.1s,baz=177,slow=5.0,SNR=5.0					
ASAR			LR	LR	08 47 48.0	
	comp=Z,207nm,18.0s,baz=160,slow=34					
ASAR	**Alice Springs**	**43.19 319**	P	**P**	**08 31 01.0**	**+0.4**
AS31	**Alice Springs**	**43.19 319**	P	**P**	**08 31 00.6**	**0.0**
CTA	**Charters Tower**	**43.54 337**	P	**P**	**08 31 04.2**	**+0.7**
	comp=Z,12nm,1.0s,baz=195,slow=4.9,SNR=8.8					
CTAO	**Charters Tower**	**43.54 337**	P	**P**	**08 31 03.2**	**-0.2**
CTAO			IAmb	IAmb	08 31 05.5	
	comp=Z,30nm,1.2s					
MSVF	**Nonsavu**	**45.52 20**	LR	LR	08 46 50.2	
	comp=Z,609nm,21.7s,baz=178,slow=32					
SNAA	**Sanae**	**46.19 186**	P	**P**	**08 31 25.3**	**+1.2**
SNAA	**Sanae**	**46.19 186**	P	**P**	**08 31 22.9**	**-1.1**
SNAA			IAmb	IAmb	08 31 26.1	
	comp=Z,16nm,1.2s					
WR0	**Warramunga Arr**	**46.49 322**	P	**P**	**08 31 25.9**	**-0.9**
WR0			IAmb	IAmb	08 31 27.5	
	comp=Z,23nm,1.4s					
WRA	**Warramunga Arr**	**46.56 321**	P	**P**	**08 31 26.5**	**-0.9**
	comp=Z,3.2nm,1.1s,baz=170,slow=10,SNR=10					
WRA			LR	LR	08 48 26.2	
	comp=Z,248nm,18.1s,baz=160,slow=33					
WRA	**Warramunga Arr**	**46.56 321**	P	**P**	**08 31 26.4**	**-1.1**
WB0	**Warramunga Arr**	**46.71 322**	P	**P**	**08 31 27.8**	**-0.8**
WB0			IAmb	IAmb	08 31 29.1	
	comp=Z,19nm,1.5s					
VNA3	**Neumayer Olymp**	**46.88 183**	P	**P**	**08 31 30.6**	**+1.2**
VNA2	**Neumayer--Watz**	**47.12 184**	P	**P**	**08 31 32.4**	**+1.1**
	baz=168,slow=6.5					
VNA1	**Neumayer--Stat**	**47.43 184**	P	**P**	**08 31 35.0**	**+1.4**
PSA00	**Pilbara Seismi**	**50.07 304**	P	**P**	**08 31 53.9**	**-0.6**
TBI	**Tubuai**	**50.19 62**	*e*LQ	LQ	08 43 30.7	
	comp=Z,829nm,26.0s					
TBI			*e*LR	LR	08 46 07.2	
	comp=Z,389nm,26.8s					
TBI	**Tubuai**	**50.19 62**	*e*T	T	09 25 37.4	
	comp=Z,22nm,0.3s					
KNRA	**Kununurra**	**52.30 317**	P	**P**	**08 32 11.2**	**0.0**
KNRA			IAmb	IAmb	08 32 12.5	
	comp=Z,20nm,1.0s					
MTN	**Manton Dam**	**54.23 320**	P	**P**	**08 32 24.6**	**-0.9**
MTN			IAmb	IAmb	08 32 32.0	
	comp=Z,31nm,1.5s					
PPT	**Papeete**	**55.31 59**	LR	LR	08 52 13.1	
	comp=Z,144nm,18.4s,baz=132,slow=32					
VAH	**Vaihoa**	**58.20 59**	*e*T	T	09 35 36.8	
	comp=Z,42nm,0.2s					
SOEI	**Soe**	**59.32 314**	P	**P**	**08 33 00.9**	**-0.9**
KAPI	**Kappang**	**65.30 311**	LR	LR	09 00 12.1	
	comp=Z,164nm,20.1s,baz=130,slow=34					
RPN	**Rapa Nui**	**65.31 101**	LR	LR	08 54 45.7	
	comp=Z,301nm,18.7s,baz=238,slow=29					
PLCA	**Paso Flores**	**68.83 139**	P	**P**	**08 34 05.1**	**+1.1**
	comp=Z,2.2nm,0.8s,baz=155,slow=9.1,SNR=3.8					
PLCA			LR	LR	08 59 31.5	
	comp=Z,134nm,18.3s,baz=210,slow=32					
PLCA	**Paso Flores**	**68.83 139**	P	**P**	**08 34 04.6**	**+0.6**
TOLI2	**Tolitoli**	**70.65 315**	P	**P**	**08 34 14.8**	**-0.5**
TOLI2			IAmb	IAmb	08 34 17.0	
	comp=Z,9.2nm,1.0s					
H03S2	**Juan Fernandez**	**72.25 129**	T	T	09 54 02.0	
	baz=204,slow=74,SNR=5.6					
H03S1	**Juan Fernandez**	**72.25 130**	T	T	09 54 04.9	
	baz=204,slow=74,SNR=6.2					
H03S3	**Juan Fernandez**	**72.26 129**	T	T	09 54 04.3	
	baz=204,slow=74,SNR=5.0					
BI02	**San Fabin de**	**72.31 137**	P	**P**	**08 34 24.8**	**-0.5**
BI02			IAmb	IAmb	08 34 26.5	
	comp=Z,20nm,1.5s					
H03N2	**Juan Fernandez**	**72.60 129**	T	T	09 54 24.4	
	SNR=4.5					
BO02	**Sierra Bellavi**	**74.19 136**	P	**P**	**08 34 36.3**	**-0.1**
BO02			IAmb	IAmb	08 34 37.6	
	comp=Z,18nm,1.2s					
BOSA	**Boshof**	**83.49 216**	P	**P**	**08 35 28.5**	**+1.0**
	comp=Z,6.3nm,0.8s,baz=170,slow=4.6,SNR=6.3					
BOSA			LR	LR	09 12 36.5	
	comp=Z,89nm,18.2s,baz=166,slow=36					
H08S2	**Diego Garcia H**	**83.58 266**	T	T	10 08 05.6	
	baz=151,slow=76,SNR=73					
H08S1	**Diego Garcia H**	**83.59 266**	T	T	10 08 07.3	
	baz=151,slow=76,SNR=42					
H08S3	**Diego Garcia H**	**83.60 266**	T	T	10 08 07.1	
	baz=151,slow=76,SNR=76					
CPUP	**Villa Florida**	**86.14 144**	LR	LR	09 10 59.9	
	comp=Z,299nm,18.1s,baz=206,slow=33					
CPUP	**Villa Florida**	**86.14 144**	P	**P**	**08 35 40.2**	**-0.5**
MNMC	**Minye Minye**	**89.00 131**	P	**P**	**08 35 54.6**	**-0.4**
LPAZ	**La Paz**	**92.15 131**	P	**P**	**08 36 10.5**	**+0.4**
	comp=Z,5.0nm,1.2s,baz=188,slow=5.0,SNR=7.9					
LPAZ			LR	LR	09 08 04.2	
	comp=Z,178nm,21.3s,baz=190,slow=29					
LPAZ	**La Paz**	**92.15 131**	P	**P**	**08 36 09.3**	**-0.8**
LPAZ			IAmb	IAmb	08 36 12.4	
	comp=Z,10nm,1.4s					
PALK	**Pallekele**	**92.81 280**	LR	LR	09 11 15.2	
	comp=Z,212nm,19.5s,baz=227,slow=31					
CMAR	**Chiang Mai Arr**	**94.74 301**	P	**P**	**08 36 21.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=180,slow=4.3,SNR=5.0					
CMAR	**Chiang Mai Arr**	**94.74 301**	P	**P**	**08 36 20.3**	**-0.7**
CHTO	**Chiang Mai**	**95.06 301**		**P**	**08 36 22.9**	**-0.4**
NJ2	**Nanjing**	**100.33 323**	⇓P	**Pdif**	**08 36 48.3**	**+2.4**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
TORD	**Torodi Ar. Bea**	**129.36 204**	PKP	**PKPdf**	**08 42 08.4**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=125,slow=2.3,SNR=7.1					
ILAR	**Eielson Array**	**131.86 26**	PKhKP	PKPpre	08 42 08.7	
	comp=Z,0.5nm,0.7s,baz=205,slow=4.0,SNR=2.5					
BRTR	**Keskin Array B**	**142.40 257**	PKP	**PKPdf**	**08 42 32.8**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=145,slow=5.3,SNR=4.2					
BELG	**Belogornoye**	**145.20 284**	PKPbc	**PKPbc**	**08 42 35.5**	**-0.2**
	comp=Z,34nm,1.0s,baz=64,slow=2.4,SNR=11					
G62A	**West of Eustis**	**145.24 94**		**PKPbc**	**08 42 35.1**	**-1.1**
LATQ	**La Tuque**	**145.77 89**		**PKPdf**	**08 42 37.4**	**+0.2**
AGG	**Agios Georgios**	**146.85 244**	PKPdf	**PKPbc**	**08 42 40.9**	**-0.4**
KIRV	**Kirov**	**148.26 294**	PKPbc	**PKiKP**	**08 42 45.5**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=69,slow=3.8,SNR=4.4					
KEST	**Kesra**	**148.93 224**	PKPbc	**PKiKP**	**08 42 48.6**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=226,slow=7.5,SNR=4.1					
BURAR	**Bucovina Array**	**152.36 258**	PKPdf	**PKPdf**	**08 42 46.8**	**-1.2**
BURAR				**PKPbc**	**08 42 54.3**	**-0.6**
AKASG	**Malin Array Be**	**152.66 267**	PKPbc	**PKiKP**	**08 42 55.6**	**+0.1**
	comp=Z,0.4nm,0.2s,baz=94,slow=1.9,SNR=5.6					
AKASG			PKPab	**PKPab**	**08 43 06.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=103,slow=2.8,SNR=7.0					
ESDC	**Sonseca Array**	**156.23 205**	PKPbc	PKPbc	08 43 04.1	
	comp=Z,0.2nm,0.3s,baz=114,slow=1.8,SNR=4.8					
ESDC			PKPab	**PKPab**	**08 43 22.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=157,slow=4.6,SNR=5.3					
CLL	**Collm**	**160.55 250**	*e*(sPKPab)		08 43 46.0	
	comp=Z,8.0nm,1.3s					

IDC 24 08:29:09.3±4.0, 5°.38S×152°.40E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/39, mbtmp3.5/2, Error ellipse: s-maj=160.2km s-min=52.7km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77 229**		P	P	08 34 13.6	0.0
	0.8nm,0.5s,baz=53,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**25.46 223**		P	P	08 34 38.8	-0.4
	0.5nm,0.5s,baz=54,slow=9.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**150.10 287**		PKPbc	PKPbc	08 49 03.3	+0.1
	1.1nm,1.0s,baz=91,slow=4.0,SNR=2.4						

*NNC **24** 08:30:44.4±3.4, 53°.48N×87°.89E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=28.8km s-min=14.5km az=55.0, Suspected Mining explosion.*

IDC 24 08:30:43.9±3.3, 53°.65N×87°.97E, h0km, mb1 3.1/2, mb1mx3.0/60, mbtmp3.1/2, ML2.6/2, 4C-4D, Error ellipse: s-maj=30.5km s-min=16.7km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89 280**		*i*		08 42 40.3	
	baz=97,slow=305,SNR=1.7						
ZAA0	**Zalesovo Array**	**1.89 280**		⇑P	Pn	08 31 17.2	-0.3
	0.9nm,0.6s,baz=95,slow=15						
ZAA0				⇓S	Sb	08 31 43.3	-0.1
	4.9nm,0.8s,baz=101,slow=25						
ZALV	**Zalesovo Beam**	**1.89 280**		Pn	Pn	08 31 17.3	-0.1
	2.5nm,0.3s,baz=100,slow=12,SNR=16						
ZALV				Lg	Lg	08 31 43.8	
	4.3nm,0.3s,baz=99,slow=26,SNR=15						
KURBB	**Kurchatov Arra**	**6.55 246**		Pn	Pn	08 32 22.0	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.55 246**		⇑Pn	Pn	08 32 20.8	-0.6
	1.3nm,0.5s						
KURBB				⇓Sn	Sn	08 33 34.0	-2.9
	3.9nm,0.6s						
KURBB				⇑Lg	Lg	08 34 10.3	
	8.6nm,0.8s						
MK31	**Makanchi Array**	**7.77 210**		⇓Pn	Pn	08 32 38.6	+0.5
	0.2nm,0.4s,baz=43,slow=46,SNR=14						
MK31				⇑Sn	Sn	08 34 04.4	-2.5
	1.6nm,0.9s						
MK31				⇓Lg	Lg	08 34 46.9	
	1.1nm,0.7s,baz=23,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**7.77 210**		Pn	Pn	08 32 39.3	+1.1
	0.1nm,0.3s,baz=26,slow=13,SNR=9.9						
MKAR				Sn	Sn	08 34 06.6	-0.2
	0.1nm,0.3s,baz=35,slow=23,SNR=5.5						

*AEIC **24** 08:33:32±1.6, 66°.12N±0°.03×141°.5W±0°.1, h6km±6km, ML2.9, ML3.1(OTT), ML3.0/28(NEIC), Error ellipse: s-maj=8.0km s-min=3.2km az=57.0*

*NEIC **24** 08:33:33.2±2.6, 66°.10N±0°.04×141°.3W±0°.1, h16km±5km, Error ellipse: s-maj=7.7km s-min=4.6km az=47.0*

*PGC **24** 08:33:33.2±0.5, 66°.10N×141°.24W, h1km, ML3.0/4, 242km northwest of Dawson, Yt Northern Alaska*

ISC 24 08:33:31.6±0.7, 66°.26N±0°.04×141°.26W±0°.03, h10km, n59, σ1§81/69, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**1.49 178**			**Pn**	**08 33 57.1**	**-1.3**
EGAK					**Sn**	**08 34 16.3**	**-1.6**
EGAK	**Eagle**	**1.49 178**		IAML		08 34 18.8	
	327nm,0.7s						
FYU	**Fort Yukon**	**1.63 283**			**Pb**	**08 34 01.3**	**-0.3**
FYU	**Fort Yukon**	**1.63 283**			**Sb**	**08 34 23.4**	**+1.2**
BM01	**Burnt Mountain**	**1.76 314**			**Pb**	**08 34 04.4**	**+0.5**
BMAR	**Burnt Mountain**	**1.76 313**			**Pb**	**08 34 03.7**	**-0.3**
BM03	**Burnt Mountain**	**1.76 313**			**Pg**	**08 34 05.9**	**+0.5**
EPYK	**Eagle Plains**	**1.84 85**		Pn	**Pb**	**08 34 05.2**	**0.0**
EPYK	**Eagle Plains**	**1.84 85**			**Sg**	**08 34 32.2**	**+1.6**
PRP	**Porcupine Dome**	**1.91 249**			**Pn**	**08 34 05.0**	**+0.7**
PRP	**Porcupine Dome**	**1.91 249**		IAML		08 34 35.4	
	comp=N,126nm,0.6s						
K27K	**Chicken**	**2.27 189**			**Pn**	**08 34 08.6**	**-0.5**
K27K	**Chicken**	**2.27 189**		IAML		08 34 41.0	
	comp=E,136nm,0.6s						
DAWY	**Dawson**	**2.34 159**		Pn	**Pn**	**08 34 10.0**	**-0.2**
DAWY				Sn	**Sn**	**08 34 37.7**	**-1.3**
DAWY	**Dawson**	**2.34 159**		Pn	**Pn**	**08 34 10.0**	**-0.2**
DAWY				IAML		08 34 40.4	
	comp=N,106nm,0.5s						
DAWY				IAML		08 34 41.5	
	comp=E,82nm,0.4s						
DAWY	**Dawson**	**2.34 159**			**Sn**	**08 34 39.3**	**+0.3**
SCRK	**Sand Creek**	**2.57 208**			**Pn**	**08 34 12.9**	**-0.4**
SCRK					**Sn**	**08 34 44.1**	**-0.5**
SCRK	**Sand Creek**	**2.57 208**		IAML		08 34 47.4	
	comp=E,89nm,0.6s						
H24K	**Noodor Dome**	**2.73 264**			**Pn**	**08 34 16.5**	**+1.0**
IL31		**2.78 240**			**Pn**	**08 34 15.4**	**-0.7**
DOT	**Dot Lake**	**2.88 206**		Pn	**Pn**	**08 34 17.1**	**-0.4**
DOT				Sn	**Sn**	**08 34 49.3**	**-2.9**
DOT				Sg	**Sb**	**08 34 56.2**	**-2.2**
RIDG	**Independent Ri**	**2.96 213**			**Sn**	**08 34 54.5**	**+0.4**
RIDG	**Independent Ri**	**2.96 213**		Pn	**Pn**	**08 34 17.4**	**-1.2**
RIDG	**Independent Ri**	**2.96 213**		IAML		08 35 06.8	
	comp=N,72nm,0.9s						
MDM	**Murphy Dome**	**3.17 249**			**Pn**	**08 34 20.8**	**-0.8**
MDM	**Murphy Dome**	**3.17 249**		IAML		08 35 16.3	
	comp=N,56nm,0.8s						
CCB	**Clear Creek Bu**	**3.18 242**			**Pn**	**08 34 20.9**	**-0.6**
CCB				IAML		08 35 12.7	
	comp=N,37nm,0.7s						
BC03		**3.22 184**			**Pn**	**08 34 22.0**	**-0.1**
BCAR	**Beaver Creek A**	**3.22 184**			**Pn**	**08 34 22.4**	**+0.2**
L27K	**Beaver Creek,**	**3.22 185**		Pn	**Pn**	**08 34 22.1**	**-0.1**
L27K	**Beaver Creek,**	**3.22 185**		IAML		08 35 14.9	
	comp=E,52nm,0.7s						
L27K				IAML		08 35 15.9	
	comp=N,35nm,0.9s						
L26K	**Log Cabin Wild**	**3.37 196**			**Pn**	**08 34 24.5**	**+0.3**
H23K	**Yukon River**	**3.41 266**			**Pn**	**08 34 23.4**	**-1.3**
I23K	**Minto, Yukon-K**	**3.53 255**			**Pn**	**08 34 26.1**	**-0.3**
I23K				IAML		08 35 25.8	
	comp=E,43nm,0.8s						
I23K				IAML		08 35 28.1	
	comp=N,39nm,0.8s						
INK	**Inuvik**	**3.63 52**		Pn	**Pn**	**08 34 31.3**	**+3.5**
PAX	**Paxson**	**3.77 211**		Pn	**Pn**	**08 34 30.2**	**+0.4**
PAX				Sg	**Sb**	**08 35 26.0**	**+2.0**
BVCY	**Beaver Creek**	**3.87 177**		Pn	**Pn**	**08 34 31.2**	**+0.1**
BVCY				Sg	**Sb**	**08 35 29.0**	**+2.3**
M26K	**Nabesna, AK**	**3.95 192**			**Pn**	**08 34 33.0**	**+0.8**
MLY	**Manley**	**4.12 257**			**Pn**	**08 34 33.4**	**-1.1**
MLY				IAML		08 35 44.9	
	comp=E,21nm,1.0s						
YUK1	**Sand Pete Hill**	**4.14 175**		Pn	**Pn**	**08 34 34.5**	**-0.4**
RND	**Reindeer**	**4.33 232**			**Pn**	**08 34 36.9**	**-0.6**
YUK2	**White River**	**4.50 177**		Pn	**Pn**	**08 34 40.3**	**+0.5**
YUK2				Sn	**Sn**	**08 35 28.4**	**-3.8**
YUK2				Sg	**Sb**	**08 35 47.8**	**+2.9**
YUK4	**Talbot Arm**	**5.07 166**		Pn	**Pn**	**08 34 46.8**	**-1.0**
YUK4				Sg	**Sb**	**08 36 02.9**	**+1.5**
PTPK	**Patty Peak**	**5.12 187**		Pn	**Pn**	**08 34 48.8**	**+0.3**
BALM	**Baldy**	**5.27 186**		Pn	**Pn**	**08 34 50.7**	**+0.3**
CTGM	**Chitina Glacie**	**5.32 180**		Pn	**Pn**	**08 34 51.4**	**+0.3**
YUK5	**Granite Creek**	**5.37 162**		Pn	**Pn**	**08 34 51.9**	**+0.1**
YUK5				Sn	**Sn**	**08 35 50.9**	**-2.8**
YUK5				Sg	**Sb**	**08 36 14.9**	**+5.0**
KIAG	**Kiagna River**	**5.38 186**		Pn	**Pn**	**08 34 52.0**	**0.0**
LOGN	**Logan Glacier**	**5.46 179**		Pn	**Pn**	**08 34 53.2**	**+0.1**
LOGN				Sg	**Sb**	**08 36 17.4**	**+4.8**
YUK6	**Outpost Mounta**	**5.49 165**		Pn	**Pn**	**08 34 53.2**	**-0.4**
HYT	**Haines Junctio**	**5.71 161**		Pn	**Pn**	**08 34 56.6**	**+0.1**
HYT				Sn	**Sn**	**08 35 58.2**	**-3.8**
TABL	**Table Mountain**	**5.84 179**		Pn	**Pn**	**08 34 58.4**	**0.0**
YUK7	**Dusty Glacier**	**5.92 165**		Pn	**Pn**	**08 34 58.7**	**-0.8**
MESA	**MESA**	**6.12 183**		Pn	**Pn**	**08 35 01.6**	**-0.4**
SAMH	**Samovar Hills**	**6.16 178**		Pn	**Pn**	**08 35 01.8**	**-0.8**
WHY	**Whitehorse**	**6.30 150**		Sn	**Sn**	**08 36 12.9**	**-3.7**
C36M	**Paulatuk**	**7.20 57**		Pn	**Pn**	**08 35 18.2**	**+1.5**
C36M				Sn	**Sn**	**08 36 37.7**	**-0.6**
DHRN	**Dharma Camp**	**8.66 75**		Pn	**Pn**	**08 35 38.5**	**+1.8**
DHRN				Sn	**Sn**	**08 37 09.5**	**-4.8**
KUKN	**Kugluktuk,NWT**	**10.30 69**		Pn	**Pn**	**08 36 00.1**	**+0.8**
KUKN				Sn	**Sn**	**08 37 50.3**	**-4.3**

*JMA **24** 08:39:01.8±0.1, 39°.11N×142°.12E, h45km±1km, M3.7*

JMA Felt I J1.

*NIED **24** 08:39:01.9, 39°.11N×142°.12E, h45km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; M_{rr}2.22; $M_{\theta\theta}$-0.25; $M_{\phi\phi}$-1.97; $M_{r\theta}$0.33; $M_{\theta\phi}$-0.59; $M_{\phi r}$1.55; Fault plane solution: $M_0$2.70000×10^14 NP1:φs14.00000°, δ63.00000°, λ87.00000°. NP2:φs200.00000°, δ27.00000°, λ95.00000°.*

*IDC **24** 08:39:03.6±3.0, 39°.08N×142°.20E, h68km±26km, mb3.4/3, mb1 3.4/5, mb1mx3.1/44, mbtmp3.5/5 Error ellipse: s-maj=46.8km s-min=18.9km az=100.0*

ISC 24 08:39:01.8±1.4, 39°.09N±0°.05×142°.1E±0°.1, h43km±11km, n23, σ0§98/25, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.34 269**		P	**Pn**	**08 39 11.2**	**+0.4**
OFUJ				S	**Sn**	**08 39 17.6**	**+0.4**
MIYJ	**Miyakonagasawa**	**0.54 335**		P	**Pn**	**08 39 13.0**	**-0.2**
MIYJ				S	**Sn**	**08 39 20.6**	**-0.7**
JKMT	**Kesennumamotoy**	**0.57 241**		P	**Pn**	**08 39 13.7**	**+0.1**
JKMT				S	**Sn**	**08 39 21.9**	**-0.1**
JMK	**Ichinoseki**	**0.71 259**		P	**Pn**	**08 39 15.6**	**+0.2**
JMK				*e*S	**Sn**	**08 39 25.4**	**+0.2**
JOM	**Ohasama**	**0.74 301**		P	**Pn**	**08 39 16.0**	**+0.1**
JOM				S	**Sn**	**08 39 26.2**	**+0.1**
JIO	**Ouri**	**0.87 223**		P	**Pn**	**08 39 17.6**	**0.0**
JIO				S	**Sn**	**08 39 28.5**	**-0.6**
JTH	**Tanohata**	**0.87 347**		P	**Pn**	**08 39 17.2**	**-0.5**
JKZ	**Kuzumaki**	**1.08 326**		P	**Pn**	**08 39 20.9**	**+0.3**
JKZ				S	**Sn**	**08 39 35.0**	**+0.6**
JRG	**Rokugo**	**1.19 285**		P	**Pn**	**08 39 22.3**	**+0.3**
JOU	**Okura**	**1.34 238**		P	**Pn**	**08 39 24.4**	**+0.3**
JANG	**Nango**	**1.36 341**		P	**Pn**	**08 39 24.1**	**-0.3**
JYK	**Kaneyama**	**1.37 263**		P	**Pn**	**08 39 25.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.00 232**		P	**Pn**	**08 40 03.2**	**+2.6**
	0.2nm,0.3s,baz=42,slow=14,SNR=11						
ASAJ	**Asahikawa**	**5.04 4**		P	**Pn**	**08 40 15.5**	**+0.7**
	0.4nm,0.3s,baz=216,slow=9.9,SNR=2.3						
ASAJ				S	**Sn**	**08 41 14.7**	**+3.0**
	0.5nm,0.3s,baz=146,slow=33,SNR=1.8						
H11N2	**WAKE ISLAND Hy 28.80**	**125**		T	T	09 15 18.5	
	baz=318,slow=75,SNR=380						
H11N1	**WAKE ISLAND Hy 28.81**	**125**		T	T	09 15 19.2	
	baz=318,slow=75,SNR=403						
H11N3	**WAKE ISLAND Hy 28.82**	**125**		T	T	09 15 19.9	
	baz=318,slow=75,SNR=276						
H11S1	**WAKE ISLAND Hy 29.58**	**127**		T	T	09 16 15.4	
	baz=319,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy 29.59**	**127**		T	T	09 16 18.8	
	baz=319,slow=76,SNR=34						
H11S2	**WAKE ISLAND Hy 29.60**	**127**		T	T	09 16 19.8	
	baz=319,slow=76,SNR=21						
MKAR	**Makanchi Array**	**43.52 300**		P	**P**	**08 47 00.7**	**-0.4**
	0.8nm,0.7s,baz=93,slow=9.7,SNR=7.3						
KURBB	**Kurchatov Arra**	**45.20 306**		P	**P**	**08 47 13.9**	**-0.4**
	1.4nm,0.5s,baz=80,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**59.17 189**		P	**P**	**08 48 57.2**	**-1.1**
	0.4nm,0.8s,baz=5.4,slow=7.3,SNR=2.0						

*IDC **24** 08:41:21.2±1.1, 4°.35N×73°.47W, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.6/32, mbtmp3.5/5, MS3.0/7, Ms1 3.0/7, ms1mx2.8/24, Error ellipse: s-maj=42.6km s-min=10.9km az=35.0*

*RSNC **24** 08:41:23.9±1.0, 4°.15N×73°.76W, h4km±3km, ML3.9, Mw4.1, Fault plane solution: NP1:φs36.00000°, δ90.00000°, λ23.00000°.*

ISC 24 08:41:22.5±0.9, 4°.21N±0°.02×73°.67W±0°.03, h6km±6km, n52, σ1§98/84, mb3.6/5, 19C-14D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILC	**Villavicencio,**	**0.10 194**		⇑*i*Pg	**Pg**	**08 41 24.2**	**-0.6**
VILC				*e*P	**Pg**	**08 41 25.3**	**+0.4**
VILC				*e*S	**Sg**	**08 41 26.9**	**+0.4**
VILC				*i*		08 41 27.3	
	comp=Z,37μm,0.6s						
CHIC	**Chingaza**	**0.42 351**		⇑*i*P	**Pg**	**08 41 31.0**	**+0.2**
CHIC				*e*S	**Sb**	**08 41 38.1**	**-1.1**
CHIC				*i*		08 41 39.6	
	comp=Z,14μm,0.4s						
ROSC	**El Rosal**	**0.90 314**		Pg	**Pg**	**08 41 40.5**	**+0.7**
	comp=Z,231nm,0.3s,baz=170,slow=18,SNR=364						
ROSC				Lg	Lg	08 41 54.0	
	comp=Z,521nm,0.3s,baz=350,slow=22,SNR=11						
ROSC	**El Rosal**	**0.90 314**		⇓*i*P	**Pg**	**08 41 40.5**	**+0.7**
ROSC				*e*S	**Sg**	**08 41 52.4**	**+0.8**
ROSC				*i*		08 41 55.2	
	comp=Z,2μm,0.6s						
PTGC	**Puerto Gaitan,**	**1.53 90**		⇓*i*P	**Pg**	**08 41 52.0**	**+0.1**
PTGC				*i*		08 41 52.9	
	comp=Z,3μm,0.4s						
PTGC				*e*S	**Sg**	**08 42 13.1**	**+1.4**
ORTC	**Ortega, Tolima**	**1.60 259**		⇓*i*P	**Pn**	**08 41 49.9**	**-1.4**
ORTC				*e*S	**Sn**	**08 42 10.0**	**-2.4**
ORTC				*i*		08 42 16.1	
	comp=Z,3μm,0.2s						
TOLC	**Tolima**	**1.69 283**		⇓*i*P	**Pn**	**08 41 51.8**	**-1.0**
TOLC				*e*S	**Sn**	**08 42 13.3**	**-1.6**
TOLC				*i*		08 42 16.8	
	comp=Z,1μm,0.3s						
ANIL	**Santa Ana**	**1.75 279**		⇓*i*P	**Pn**	**08 41 52.9**	**-0.7**
ANIL				*e*S	**Sn**	**08 42 14.6**	**-1.8**
RUSC	**La Rusia**	**1.77 19**		⇓*e*P	**Pg**	**08 41 56.4**	**0

OCAC			*e*S		Sn	08 43 12.6 +0.5
OCAC			*i*			08 43 45.7
comp=Z,304nm,0.6s						
PTLC	**Puerto Leguiza**	**4.17 196⇑**	*e*P		Pn	08 42 29.6 +2.9
PTLC			*e*S		Sb	08 43 31.9 +4.9
BBAC	**Balboa, Cauca**	**4.18 239**	*e*P		Pn	08 42 27.3 +0.2
BBAC			*i*			08 43 30.7
comp=Z,200nm,0.5s						
SOLC	**Bahia Solano**	**4.23 298**	*e*P		Pn	08 42 29.4 +2.0
SMLC	**San Martn de**	**4.58 355**	*e*P		Pn	08 42 33.0 +0.8
SMLC			*e*S		Sn	08 43 27.1 +1.4
SMLC			*i*			08 43 42.3
comp=Z,55nm,0.4s						
GCUF	**Volcan Galeras**	**4.72 231⇓**	*e*P		Pn	08 42 36.6 +1.9
GCUF			*i*			08 42 53.0
comp=Z,130nm,0.5s						
GCUF			*e*S		Sb	08 43 46.0 +2.7
SOCV	**Socops**	**4.92 35⇓**	*e*P		Pn	08 42 37.0 0.0
SOCV			*e*S		Sn	08 43 31.8 -2.4
MOTC	**Monteria, Cord**	**4.95 336⇑**	*e*P		Pn	08 42 38.3 +0.9
MOTC			*e*S		Sn	08 43 38.1 +3.1
MOTC			*i*			08 43 59.5
comp=Z,30nm,0.6s						
ELOV	**Elorza**	**5.00 56⇑**	*e*P		Pn	08 42 39.5 +1.4
TUMC	**Tumaco**	**5.58 245⇓**	*e*P		Pn	08 42 46.6 +0.6
TUMC			*i*			08 42 49.3
comp=Z,76nm,0.5s						
ARGC	**Ariguani, Magd**	**5.64 354**	*e*P		Pn	08 42 50.7 +3.8
ARGC			*e*S		Sn	08 43 54.6 +2.6
ARGC			*i*			08 44 30.4
comp=Z,42nm,0.5s						
SJCC	**San Jacinto, C**	**5.84 345⇓**	*e*P		Pn	08 42 50.6 +0.9
SJCC			*e*S		Sn	08 43 57.9 +0.8
SJCC			*i*			08 44 08.2
comp=Z,19nm,0.6s						
OTAV	**Otavalo**	**6.20 231⇑**	*e*P		Pn	08 42 58.2 +3.3
OTAV			*i*			08 43 02.0
comp=Z,55nm,0.7s						
OTAV			*e*S		Sb	08 44 30.9 +5.1
ATAH	**Atahualpa**	**12.22 203**	LR		LR	08 50 01.4
comp=Z,90nm,20.3s,baz=26,slow=42						
JTS	**Las Juntas de**	**12.71 299**	LR		LR	08 50 07.6
comp=Z,42nm,21.9s,baz=170,slow=41						
PTGA	**Pitinga**	**14.54 109**	LR		LR	08 50 48.9
comp=Z,51nm,21.1s,baz=289,slow=39						
SJG	**San Juan**	**15.65 27**	LR		LR	08 51 26.2
comp=Z,64nm,21.8s,baz=194,slow=39						
NNA	**Nana**	**16.40 191**	LR		LR	08 52 45.9
comp=Z,50nm,21.6s,baz=326,slow=41						
LPAZ	**La Paz**	**21.09 165**	P		P	08 46 09.8 +1.3
comp=Z,4.7nm,0.9s,baz=340,slow=9.4,SNR=18						
LPAZ			LR		LR	08 54 49.8
comp=Z,60nm,20.1s,baz=314,slow=38						
SIV	**San Ignacio**	**23.63 148**	P		P	08 46 33.7 -0.9
comp=Z,1.9nm,0.9s,baz=344,slow=9.0,SNR=7.6						
SIV			LR		LR	08 55 20.8
comp=Z,38nm,19.7s,baz=78,slow=36						
TXAR	**Lajitas Array**	**37.84 315**	P		P	08 48 39.6 -0.6
comp=Z,0.1nm,0.6s,baz=151,slow=4.0,SNR=2.1						
TXAR			PcP		PcP	08 50 56.4 -0.4
comp=Z,0.2nm,0.6s,baz=148,slow=7.4,SNR=3.4						
NVAR	**Mina Array Bea**	**52.95 316**	P		P	08 50 39.5 -0.6
comp=Z,0.3nm,0.5s,baz=117,slow=7.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**74.81 78**	P		P	08 53 03.7 -0.7
comp=Z,0.4nm,0.5s,baz=283,slow=6.4,SNR=2.6						

DJA 24 08:43:20.6±0.8, 4°S±6°×13°4E±°, h10km, M4.1/7, mb4.4/2, MLv4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.34**	**280**	P	Pg	08 43 27.5	+0.1
KMPI				S	Sb	08 43 33.6	-0.6
FAKI	**Fak Fak**	**1.96**	**294**	P	Pn	08 43 53.9	0.0
FAKI				S	Sn	08 44 19.6	+1.1
SWI	**Sorong**	**3.97**	**316**	P	Pn	08 44 21.4	-0.2
BNDI	**Bandanaira**	**4.20**	**259**	P	Pn	08 44 24.9	+0.1
SAUI	**Saumlaki**	**5.04**	**213**	P	Pn	08 44 36.5	+0.2
1.4nm222nm,1.1s							
MSAI	**Masohi**	**5.12**	**274**	P	Pn	08 44 37.2	-0.2

BJI ***24*** *08:53:30.5±0.0, 33°.15N×132°.75E, h40km, mB4.7/31, mb4.6/53, Ms4.3/41, Ms7 4.0/38*
MOS ***24*** *08:53:33.4±1.1, 33°.33N×132°.25E, h44km, mb4.9/25, Error ellipse: s-maj=8.4km s-min=5.2km az=87.0*
IDC ***24*** *08:53:35.1±0.6, 33°.39N×132°.17E, h42km±4km, mb4.1/30, mb1 4.3/34, mb1mx4.2/67, mbtmp4.3/34, ML3.8/3, MS3.8/16, Ms1 3.8/16, ms1mx3.5/49, Error ellipse: s-maj=12.9km s-min=11.9km az=24.0*
NEIC ***24*** *08:53:35.2, 33°.39N×132°.39E, h42km, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr=8.44; Mθθ1.03; Mφφ7.40; Mrθ0.43; Mrφ-0.46; Mθφ5.38; Fault plane solution: Mo9.64000×1015 NP1:ϕs180.42000°, δ62.10000°, λ-86.22000°. NP2:ϕs352.38000°, δ28.13000°, λ-97.11000°. Principal axes: T 9.0713, Plg17.0000°, Azm268.0000°; N 1.0460, Plg3.0000°, Azm359.0000°; P -10.1172, Plg73.0000°, Azm99.0000°;*
NIED ***24*** *08:53:35.5, 33°.39N×132°.39E, h44km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr=6.22; Mθθ0.17; Mφφ6.05; Mrθ-0.50; Mrφ-1.33; Mθφ6.26; Fault plane solution: Mo8.88000×1015 NP1: ϕs173.00000°, δ68.00000°, λ-86.00000°. NP2: ϕs342.00000°, δ23.00000°, λ-100.00000°.*
JMA ***24*** *08:53:35.4, 33°.39N×132°.39E, h44km, M4.6 Broadband fault plane solution: P waves. NP1:ϕs31.00000°, δ35.00000°, λ-41.00000°. NP2:ϕs157.00000°, δ68.00000°, λ-118.00000°. Principal axes: T Plg18.0000°, Azm267.0000°; N Plg26.0000°, Azm168.0000°; P Plg58.0000°, Azm28.0000°;*
JMA Felt IV J1.
NEIC ***24*** *08:53:36.1±1.8, 33°.41N±0°.06×132°.38E±0°.05, h44km±4km, mb4.8/72, Mwr4.6/19 Error ellipse: s-maj=8.7km s-min=5.4km az=161.0*
KMA ***24*** *08:53:41.7, 33°.74N×131°.85E, h15km*

ISC 24 08:53:35.5±0.4, 33°38N±0°.04×132°40E±0°.03, h43km±3km, h43km:pP-P, n533, σ0°.94/553, mb4.7/78, MS3.9/17, 11C-9D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNA	**Nagahama**	**0.19**	**21**	⇓P	Pn	08 53 42.8	-0.3
JNA				S	Sn	08 53 48.1	-0.3
UWA2	**Uwa jima 2**	**0.25**	**130**	⇑P	Pn	08 53 43.4	-0.2
UWA2				S	Sn	08 53 49.2	0.0
JKU	**Kubokawa**	**0.56**	**97**	⇑P	Pn	08 53 47.1	-0.1
JKU				*e*S	Sn	08 53 55.7	+0.2
JTO	**Tosashimizu**	**0.62**	**146**	⇑P	Pn	08 53 48.0	+0.1
JTO				S	Sn	08 53 57.3	+0.5
JUS	**Usuki**	**0.62**	**240**	⇓P	Pn	08 53 47.9	0.0
JUS				S	Sn	08 53 56.8	-0.1
JET	**Tanbara**	**0.68**	**54**	⇓P	Pn	08 53 48.4	-0.3
JHM	**Kurahashi**	**0.77**	**8**	⇓P	Pn	08 53 49.9	0.0
JHT	**Toyohira**	**1.28**	**1**	⇓P	Pn	08 53 57.2	+0.3
JMN	**Monobe**	**1.29**	**74**	⇑P	Pn	08 53 56.3	-0.7
JMN	**Monobe**	**1.29**	**74**	Pn	Pn	08 53 56.5	-0.5
JMN				Sn	Sn	08 54 10.3	-2.8
JNU	**Nakatsue**	**1.30**	**259**	P	Pn	08 53 58.5	+1.4
357nm,0.3s,baz=76,slow=4.7,SNR=2831							
JNU				S	Sn	08 54 15.8	+2.5
523nm,0.3s,baz=223,slow=8.0,SNR=6.3							
JNU	**Nakatsue**	**1.30**	**259**		Pn	08 53 58.1	+0.9
JHS	**Saijyo**	**1.72**	**20**	Pn	Pn	08 54 03.3	+0.3
JSU	**Suzuyama**	**2.48**	**222**		Pn	08 54 13.0	-0.5
JTU	**Tsushima**	**2.74**	**295**	Pn	Pn	08 54 16.4	-0.5
JWT	**Wachi**	**3.13**	**52**	Pn	Pn	08 54 22.4	+0.2
KSBUS	**Busan**	**3.30**	**305**	P	Pn	08 54 24.4	-0.1
SNR=12							
KSBUS	**Busan**	**3.30**	**305**	P	Pn	08 54 24.7	+0.2
SNR=7.5						

SNR=9.1
KSGAH **Ganghwa** 6.49 313 P **Pn** 08 55 10.1 +1.6
SNR=9.1
JYT **Yasato** 7.02 64 Pn **Pn** 08 55 16.7 +1.1
MSHR **Mys Shultsa** 9.24 354 *i* P **Pn** 08 55 47.1 +1.1
JCJ **Chichijima** 10.53 124 LR LR 08 59 33.8
comp=Z,413nm,21.9s,baz=312,slow=34
USRK **Ussuriysk Ar.** 10.81 358 P **Pn** 08 56 06.8 -0.7
baz=188,slow=12,SNR=1.9
USRK LR LR 09 00 04.4
comp=Z,306nm,18.7s,baz=160,slow=36
MDJ **Mudanjiang** 11.43 350 P **Pn** 08 56 17.5 +1.5
MDJ sP 08 56 31.4
MDJ S **Sn** 08 58 23.0 +0.7
MDJ sS 08 58 34.8
MDJ PcS **PcS** 09 05 41.1 +0.8
MDJ pmax pmax
comp=Z,100nm,5.0s
MDJ LR LR
comp=N,290nm,20.8s
MDJ LR LR
comp=E,120nm,11.4s
MDJ LR LR
comp=Z,380nm,20.4s
NJ2 **Nanjing** 11.48 267 ⇓P **Pn** 08 56 20.3 +3.5
NJ2 sP 08 56 30.0
NJ2 pmax pmax
comp=Z,45nm,1.2s
NJ2 LR LR
comp=N,2μm,10.0s
NJ2 LR LR
comp=E,4μm,11.0s
NJ2 LR LR
comp=Z,3μm,11.4s
CN2 **Changchun** 11.73 334 *e*P Pn 08 56 25.5 +5.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,300nm,17.0s
ERM **Erimo** 12.11 42 *i* P **Pn** 08 56 26.0 +0.6
ERM **Erimo** 12.11 42 Pn **Pn** 08 56 27.0 +1.7
JEM **Erimo** 12.12 42 **P** 08 56 41.1 +4.0
TIA **Tai'an** 12.87 287 *e*P **Pn** 08 56 37.1 +1.4
TIA pmax pmax
comp=Z,18nm,1.8s
TIA LR LR
comp=N,240nm,12.8s
TIA LR LR
comp=E,420nm,15.2s
TIA LR LR
comp=Z,580nm,17.7s
ASAJ **Asahikawa** 13.34 34 P **Pn** 08 56 42.1 0.0
0.7nm,0.3s,baz=228,slow=12,SNR=18
ASAJ LR LR 09 01 30.5
comp=Z,344nm,20.9s,baz=202,slow=35
ASAJ **Asahikawa** 13.34 34 P **Pn** 08 56 42.6 +0.5
JKA **Kamikawa-asahi** 13.34 34 **Pn** 08 56 42.6 +0.5
BJI **Beijing** 14.60 302 P **Pn** 08 56 59.3 +0.1
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI pmax pmax
comp=Z,140nm,6.1s
BJI LR LR
comp=N,240nm,12.1s
BJI LR LR
comp=E,390nm,14.7s
BJI LR LR
comp=Z,500nm,26.8s
WHN **Wuhan** 15.58 264 ⇓P **P** 08 57 16.3 +0.7
YSS **Yuzh-Sakhalins** 15.68 27 *e*P **P** 08 57 16.4 -0.3
YSS *e*S **Sn** 09 00 04.5 -1.3
YSS pmax pmax
comp=Z,20nm,0.6s
YSS MLR MLR
comp=Z,200nm,18.0s
YSS **Yuzh-Sakhalins** 15.68 27 Pn **Pn** 08 57 14.0 +0.7
KLR **Kul'dur** 15.85 358 P **Pn** 08 57 16.6 +1.3
comp=Z,0.7nm,0.3s,baz=160,slow=12,SNR=37
KLR LR LR 09 03 02.8
comp=Z,142nm,19.8s,baz=177,slow=36
KUR **Kuril'sk** 16.80 41 *i* P **P** 08 57 30.4 +1.3
HHC **Hu-ho-hao-te** 18.19 300 *e*P **Pn** 08 57 46.8 +2.1
HHC S **Sn** 09 01 05.4 -1.4
HHC sS S 09 01 18.1 +7.5
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.4s
HHC LR LR
comp=Z,250nm,10.6s
HHC LR LR
comp=Z,380nm,11.4s
HHC LR LR
comp=Z,430nm,13.0s
TYV **Tymovskoe** 19.02 20 *e*P **P** 08 57 53.1 -0.5
TYV *e* 09 01 25.8
TYV pmax pmax
comp=Z,14nm,1.2s
TYV MLR MLR
comp=Z,1μm,16.0s
SZP **Santa** 19.07 217 P **P** 08 57 54.0 -0.3
SZP IAmb IAmb 08 57 58.8
comp=Z,47nm,0.8s
BTO **Baotou** 19.24 298 *e*P **Pn** 08 58 01.3 +3.8
BTO pmax pmax
comp=Z,58nm,1.2s
BTO pmax pmax
comp=Z,680nm,5.2s
XAN **Xi'an** 19.54 278 P **P** 08 57 57.4 -2.0
XAN pP pP 08 58 07.0 -2.8
XAN S **Sn** 09 01 42.8 +3.4
XAN pmax pmax
comp=Z,15nm,1.6s
XAN LR LR
comp=Z,310nm,15.2s
XAN LR LR
comp=Z,170nm,13.0s
XAN LR LR
comp=Z,370nm,17.3s
XAN **Xi'an** 19.54 278 P **Pn** 08 58 02.2 +1.2
XAN **Xi'an** 19.54 278 **Pn** 08 58 02.1 +1.2
ENH **Enshi** 19.70 267 P **P** 08 58 00.6 -0.7
ZEA **Zeya** 20.68 351 *e*P **P** 08 58 12.0 +0.4
ZEA pmax pmax
comp=Z,20nm,1.0s
GUMO **Guam** 22.74 147 LR LR 09 06 31.0
comp=Z,125nm,20.8s,baz=215,slow=34
LZH **Lanzhou** 23.59 285 ⇓P **P** 08 58 41.3 -1.1
LZH pP pP 08 58 48.8 -4.8
LZH sP sP 08 58 52.9 -5.9
LZH S **S** 09 02 51.8 -2.0
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,75nm,4.3s
LZH LR LR
comp=Z,220nm,17.9s
LZH LR LR
comp=Z,240nm,18.4s
LZH LR LR
comp=Z,170nm,17.9s
ULN **Ulaanbaatar** 23.93 315 P **P** 08 58 45.4 -0.1
ULN pmax pmax
comp=Z,11nm,1.1s
ULN **Ulaanbaatar** 23.93 315 P **P** 08 58 45.4 -0.1
SONM **Songino Array** 24.31 314 P **P** 08 58 47.8 -1.2
comp=Z,9.2nm,0.6s,baz=133,slow=10.0,SNR=21
SONM LR LR 09 09 22.3
comp=Z,422nm,18.2s,baz=131,slow=39
SONM **Songino Array** 24.31 314 P **P** 08 58 48.3 -0.7
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM **Songino Array** 24.31 314 P **P** 08 58 48.3 -0.7
SKR **Severo-Kuril's** 24.52 38 *e*P **P** 08 58 50.5 -0.1
SKR *e*S **S** 09 03 09.1 +1.0
SKR pmax pmax
comp=Z,100nm,2.2s
SKR MLR MLR
comp=Z,100nm,16.0s
SKR MLR MLR
comp=Z,200nm,15.0s
QIZ **Qiongzhong** 24.70 240 P **P** 08 58 54.0 +1.4

QIZ S **S** 09 03 14.3 +2.7
QIZ LR LR
comp=Z,1μm,14.9s
QIZ LR LR
comp=Z,830nm,13.9s
QIZ LR LR
comp=Z,900nm,8.8s
PETK **Petropavlovsk-** 26.75 35 P **P** 08 59 10.9 0.0
comp=Z,1.3nm,0.6s,baz=225,slow=6.1,SNR=7.4
PETK **Petropavlovsk-** 26.75 35 P **P** 08 59 10.3 -0.6
GTA **Gaotai** 26.81 292 *e*P **P** 08 59 12.4 +0.6
GTA pP pP 08 59 20.4 -2.9
GTA sP sP 08 59 25.1 -3.4
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,41nm,4.4s
GTA LR LR
comp=Z,150nm,12.4s
GTA LR LR
comp=Z,440nm,13.1s
GTA LR LR
comp=Z,240nm,14.5s
KMI **Kunming** 27.08 260 ⇑P **P** 08 59 14.9 +0.5
KMI pP pP 08 59 23.6 -2.3
KMI sP sP 08 59 31.3 +0.2
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI LR LR
comp=Z,660nm,8.8s
KMI LR LR
comp=Z,890nm,8.8s
KMI LR LR
comp=Z,800nm,10.4s
PET **Petropavlovsk** 27.17 36 *e*P **P** 08 59 15.1 +0.5
PET *e*S **S** 09 03 50.0 0.0
PET pmax pmax
comp=Z,29nm,1.1s
PET pmax pmax
comp=Z,100nm,7.0s
PET pmax pmax
comp=Z,100nm,8.1s
PET MLR MLR
comp=Z,200nm,19.0s
PET MLR MLR
comp=Z,200nm,14.0s
PET **Petropavlovsk** 27.17 36 P **P** 08 59 14.6 +0.1
PET IAmb IAmb 08 59 18.2
comp=Z,31nm,1.2s
YAK **Yakutsk** 28.72 357 *ce*P **P** 08 59 27.2 -1.1
YAK pmax pmax
comp=Z,13nm,0.6s
SEY **Seymchan** 32.15 17 P **P** 08 59 59.0 +0.4
comp=Z,5.4nm,0.8s,baz=208,slow=6.5,SNR=16
SEY **Seymchan** 32.15 17 P **P** 08 59 59.0 +0.4
CMAR **Chiang Mai Arr** 33.38 252 ScP **ScP** 09 06 29.2 -2.5
comp=Z,1.3nm,0.3s,baz=101,slow=4.7,SNR=4.2
H11N2 **WAKE ISLAND Hy** 33.55 105 T T 09 35 03.3
baz=300,slow=75,SNR=12
H11N1 **WAKE ISLAND Hy** 33.56 105 T T 09 35 11.1
baz=300,slow=75,SNR=7.7
H11N3 **WAKE ISLAND Hy** 33.57 105 T T 09 35 06.6
baz=300,slow=75,SNR=8.5
TOLI2 **Tolitoli** 33.90 201 P **P** 09 00 14.3 0.0
TOLI2 IAmb IAmb 09 00 32.8
comp=Z,11nm,1.0s
WMQ **Urumqi** 36.07 300 *e*P **P** 09 00 35.3 +2.4
DGZ **Jazzator, Alta** 36.79 310 *i* P **P** 09 00 39.2 +0.1
DGZ pmax pmax
comp=Z,2.0nm,0.7s
TIXI **Tiksi** 38.38 358 LR LR 09 17 01.5
comp=Z,107nm,19.9s,baz=184,slow=37
ZALV **Zalesovo Beam** 39.16 316 P **P** 09 00 57.8 -1.0
comp=Z,1.5nm,0.3s,baz=72,slow=9.5,SNR=3.4
ZALV LR LR 09 18 20.2
comp=Z,162nm,18.9s,baz=118,slow=38
BILL **Bilibino** 39.77 19 ⇓*i*P **P** 09 01 03.5 -0.2
BILL *e* 09 02 35.8
BILL pmax pmax
comp=Z,25nm,1.7s
BILL MLR MLR
comp=Z,57nm,20.0s
BILL **Bilibino** 39.77 19 P **P** 09 01 03.7 +0.1
BILL IAmb IAmb 09 01 22.5
comp=Z,26nm,1.1s
MKAR **Makanchi Array** 39.95 305 P **P** 09 01 03.5 -2.0
comp=Z,1.3nm,0.6s,baz=92,slow=7.8,SNR=7.6
MKAR ScP **ScP** 09 06 53.8 -1.9
comp=Z,0.3nm,0.6s,baz=77,slow=6.2,SNR=3.9
MKAR **Makanchi Array** 39.95 305 *ce*P **P** 09 01 08.6 +3.1
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR **Makanchi Array** 39.95 305 P **P** 09 01 03.7 -1.8
KURK **Kurchatov** 42.52 311 P **P** 09 01 25.2 -1.3
KURK **Kurchatov** 42.52 311 P **P** 09 01 25.2 -1.3
KURBB **Kurchatov Arra** 42.57 310 P **P** 09 01 25.2 -1.7
comp=Z,2.1nm,0.7s,baz=97,slow=8.9,SNR=12
TARG **Taragay, Kyrgy** 43.45 297 P **P** 09 01 33.4 -1.3
SOEI **Soe** 43.59 192 P **P** 09 01 35.6 0.0
SOEI IAmb IAmb 09 01 49.6
comp=Z,24nm,0.9s
MTN **Manton Dam** 45.98 182 P **P** 09 01 53.5 -1.0
BVAR **Borovoye Array** 47.65 314 P **P** 09 02 05.1 -2.1
comp=Z,2.6nm,0.6s,baz=178,slow=8.8,SNR=13
BRVK **Borovoye** 47.72 314 P **P** 09 02 06.2 -1.5
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK **Borovoye** 47.72 314 P **P** 09 02 06.2 -1.5
BRVK IAmb IAmb 09 02 07.3
comp=Z,7.2nm,0.8s
KK31 **Karatay Array** 48.58 301 P **P** 09 02 12.5 -2.0
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KK31 **Karatay Array** 48.58 301 P **P** 09 02 12.5 -2.0
KK31 IAmb IAmb 09 02 13.9
comp=Z,6.4nm,0.8s
KKAR **Karatay Array** 48.58 301 P **P** 09 02 13.0 -1.5
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR **Karatay Array** 48.58 301 P **P** 09 02 12.8 -1.8
KKAR **Karatay Array** 48.58 301 P **P** 09 02 13.0 -1.5
KKAR IAmb IAmb 09 02 13.9
comp=Z,6.4nm,0.8s
KNRA **Kununurra** 48.90 185 P **P** 09 02 16.4 -0.7
CHNA **Chernabura Isl** 51.11 44 P **P** 09 02 33.1 -0.5
baz=274
KBL **Kabul** 51.77 290 P **P** 09 02 37.3 -1.8
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL **Kabul** 51.77 290 P **P** 09 02 37.3 -1.8
KBL IAmb IAmb 09 02 38.1
comp=Z,4.4nm,0.6s
N18K **Kilae Creek** 52.71 36 P **P** 09 02 46.3 +0.9
baz=273
WB0 **Warramunga Arr** 52.88 178 P **P** 09 02 46.1 -0.9
WRAB **Tennant Creek** 53.04 178 P **P** 09 02 47.6 -0.7
WRAB pmax pmax
comp=Z,12nm,0.8s
WRAB **Tennant Creek** 53.04 178 P **P** 09 02 47.5 -0.7
WRAB IAmb IAmb 09 02 48.8
comp=Z,12nm,0.8s
WRA **Warramunga Arr** 53.05 178 P **P** 09 02 47.9 -0.4
comp=Z,12nm,0.7s,baz=353,slow=8.3,SNR=117
WRA **Warramunga Arr** 53.05 178 P **P** 09 02 48.1 -0.2
WRA *PP **pP** 09 03 00.5 -0.1
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA **Warramunga Arr** 53.05 178 P **P** 09 02 48.1 -0.2
WRA **pP** 09 03 00.5 -0.1
O18K **Koktuh Hills** 53.10 37 P **P** 09 02 49.5 +1.2
baz=274
L19K **White Mountain** 53.13 34 P **P** 09 02 49.2 +0.6
baz=273
M19K **Big River Lodg** 53.36 34 P **P** 09 02 50.8 +0.5
baz=273
J20K **Nowinta River** 53.37 32 P **P** 09 02 51.6 +1.4
baz=272,SNR=13
N19K **Bonanza Creek** 53.39 36 P **P** 09 02 51.5 +1.0
baz=274
K20K **Telida** 53.44 33 P **P** 09 02 52.2 +1.5
baz=272,SNR=10
IMAR **Indian Mountai** 53.50 29 P **P** 09 02 51.3 +0.2
O19K **Port Alsworth** 53.52 37 P **P** 09 02 52.2 +0.9
baz=275
M20K **Styx River** 53.96 34 P **P** 09 02 55.9 +1.2
baz=274

CHUM **Lake Minchumin** 54.19 32 P **P** 09 02 57.7 +1.5
baz=274,SNR=5.1
ARU **Arti** 54.22 319 P **P** 09 02 55.3 -1.1
comp=Z,1.1nm,0.3s,baz=54,slow=2.4,SNR=8.7
ARU **Arti** 54.22 319 *ci*P **P** 09 02 55.1 -1.4
ARU *PP **pP** 09 03 07.9 -0.9
ARU *SP **sP** 09 03 12.7 -1.1
ARU 09 04 00.0
ARU 09 04 55.0
ARU S **S** 09 10 28.9 -1.6
ARU SS **SKiKP** 09 14 06.0 +2.2
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU **Arti** 54.22 319 P **P** 09 02 54.8 -1.7
ARU IAmb IAmb 09 03 14.9
comp=Z,15nm,1.2s
I21K **Tanana** 54.26 30 P **P** 09 02 58.1 +1.4
baz=273,SNR=10
RSO **Redoubt South** 54.27 36 P **P** 09 02 57.4 +0.3
PALK **Pallekele** 54.31 253 LR LR 09 29 21.7
comp=Z,80nm,18.1s,baz=163,slow=40
PPLA **Purkeypile** 54.32 33 P **P** 09 02 58.0 +0.6
baz=274
OHAK **Old Harbor** 54.37 40 P **P** 09 02 58.1 +0.5
baz=278
O20K **Slope Mountain** 54.37 37 P **P** 09 02 58.1 +0.4
baz=276
ABKAR **Akbulak array** 54.62 310 P **P** 09 02 58.0 -1.5
ABKAR **Akbulak array** 54.62 310 P **P** 09 02 57.6 -2.0
ABKAR IAmb IAmb 09 03 21.1
comp=Z,4.5nm,0.8s
KDAK **Kodiak Island** 54.67 39 P **P** 09 03 00.3 +0.5
comp=Z,7.7nm,0.5s,baz=304,slow=5.9,SNR=12
KDAK **Kodiak Island** 54.67 39 P **P** 09 02 60.0 +0.2
baz=278
SKT **Skwentna** 54.70 34 P **P** 09 03 00.1 +0.1
baz=276
BPAW **Bear Paw Mtn.** 54.76 32 P **P** 09 03 01.0 +0.6
baz=275
CTAO **Charters Tower** 54.79 164 P **P** 09 03 00.7 -0.3
CTAO pmax pmax
comp=Z,10.0nm,1.0s
CTAO **Charters Tower** 54.79 164 P **P** 09 03 00.7 -0.3
CTAO IAmb IAmb 09 03 02.1
comp=Z,9.9nm,1.0s
MLY **Manley** 54.79 30 P **P** 09 03 01.8 +1.2
baz=274,SNR=9.8
KTH **Kantishna Hill** 54.84 32 P **P** 09 03 01.1 +0.1
TOLK **Toolik Lake Re** 55.03 26 P **P** 09 03 02.8 +0.4
baz=273
TRF **Thorofare Moun** 55.13 32 P **P** 09 03 03.5 +0.2
baz=276
SUA **Susitna One** 55.13 35 P **P** 09 03 03.8 +0.6
baz=277,SNR=5.7
H23K **Yukon River** 55.23 29 P **P** 09 03 05.4 +1.7
baz=275,SNR=20
CUT **Chulitna** 55.25 34 P **P** 09 03 05.4 +1.5
baz=276
BRSE **Bradley Lake S** 55.36 37 P **P** 09 03 05.9 +1.2
baz=278
I23K **Minto, Yukon-K** 55.37 30 P **P** 09 03 05.6 +0.9
baz=275
BWN **Browne** 55.42 31 P **P** 09 03 06.7 +1.6
NEA2 **Nenana** 55.55 31 P **P** 09 03 06.8 +0.8
baz=276
NEA2 **Nenana** 55.55 31 P **P** 09 03 06.2 +0.2
AKTO **Aktyubinsk** 55.59 312 P **P** 09 03 06.7 +0.1
comp=Z,1.4nm,0.6s,baz=81,slow=14,SNR=5.3
RC01 **Rabbit Creek A** 55.66 35 P **P** 09 03 07.2 +0.3
baz=278
MCK **McKinley** 55.70 32 P **P** 09 03 07.9 +0.7
baz=277
RND **Reindeer** 55.77 32 P **P** 09 03 07.6 -0.2
RND pmax pmax
comp=Z,26nm,0.9s
RND **Reindeer** 55.77 32 P **P** 09 03 07.6 -0.2
MDM **Murphy Dome** 55.86 30 P **P** 09 03 08.9 +0.6
H24K **Noodor Dome** 55.91 29 P **P** 09 03 10.1 +1.4
baz=276,SNR=6.9
SEW **Seward** 55.95 36 P **P** 09 03 09.2 +0.3
baz=279
GHO **Glory Hole Cre** 55.96 34 P **P** 09 03 09.2 +0.1
WAT1 **Susitna Watana** 55.98 33 P **P** 09 03 09.6 +0.4
baz=278
TCOL **CIGO, UAF Yank** 56.03 30 P **P** 09 03 10.1 +0.7
baz=277
COLA **College** 56.03 30 *i* P **P** 09 03 09.9 +0.5
COLA pmax pmax
comp=Z,3.0nm,0.5s
COLA **College** 56.03 30 P **P** 09 03 10.0 +0.6
baz=277
CCB **Clear Creek Bu** 56.08 31 P **P** 09 03 10.3 +0.5
POKR **Poker Plat Res** 56.18 30 P **P** 09 03 11.4 +0.9
baz=277
KNK **Knik Glacier** 56.23 35 P **P** 09 03 11.5 +0.5
baz=279,SNR=6.6
KNK **Knik Glacier** 56.23 35 P **P** 09 03 11.1 +0.1
SML **Sawmill** 56.23 34 P **P** 09 03 11.2 +0.2
baz=278
WAT6 **Susitna Watana** 56.39 33 P **P** 09 03 12.4 +0.1
baz=278
IL31 56.46 30 P **P** 09 03 12.0 -0.5
IL31 IAmb IAmb 09 03 30.4
comp=Z,5.6nm,0.9s
ILAR **Eielson Array** 56.46 30 P **P** 09 03 12.5 0.0
comp=Z,3.3nm,0.8s,baz=273,slow=6.4,SNR=23
ILAR **Eielson Array** 56.46 30 P **P** 09 03 11.8 -0.8
HDA **Harding Lake** 56.48 31 P **P** 09 03 12.5 -0.2
baz=278,SNR=11
HDA **Harding Lake** 56.48 31 P **P** 09 03 12.4 -0.3
HDA IAmb IAmb 09 03 13.5
comp=Z,14nm,0.9s
AS31 **Alice Springs** 56.74 178 P **P** 09 03 14.3 -0.7
ASAR **Alice Springs** 56.74 178 P **P** 09 03 14.8 -0.2
comp=Z,9.0nm,0.8s,baz=11,slow=13,SNR=108
ASAR **Alice Springs** 56.74 178 P **P** 09 03 14.5 -0.5
ASAR *PP **pP** 09 03 27.5 +0.2
ASAR **Alice Springs** 56.74 178 P **P** 09 03 14.5 -0.5
ASAR pP **pP** 09 03 27.5 +0.2
PRP **Porcupine Dome** 56.92 30 P **P** 09 03 15.6 -0.3
baz=278
GLI **Glacier Island** 56.97 35 P **P** 09 03 16.8 +0.6
baz=280
M24K **Tolsona, Glenn** 57.19 34 P **P** 09 03 18.7 +0.9
baz=280
KLU **Klutina** 57.42 34 P **P** 09 03 20.2 +0.7
baz=281
RIDG **Independent Ri** 57.50 32 P **P** 09 03 20.7 +0.8
baz=280
HARP **HAARP** 57.60 33 P **P** 09 03 21.6 +0.9
baz=281
EYAK **Cordova Ski Ar** 57.68 35 P **P** 09 03 21.4 +0.2
baz=282
SCRK **Sand Creek** 57.83 31 P **P** 09 03 22.5 +0.1
baz=281,SNR=10.0
SCRK **Sand Creek** 57.83 31 P **P** 09 03 22.4 0.0
N25K **Chitina, Valde** 58.02 34 P **P** 09 03 24.5 +0.8
baz=282,SNR=8.6
BMRM **Bremner River** 58.15 35 P **P** 09 03 25.5 +0.9
baz=282,SNR=6.6
BMRM **Bremner River** 58.15 35 P **P** 09 03 24.8 +0.3
MENT **Mentasta** 58.15 32 P **P** 09 03 25.5 +1.0
L26K **Log Cabin Wild** 58.30 32 P **P** 09 03 26.6 +1.0
baz=282,SNR=6.3
M26K **Nabesna, AK** 58.59 33 P **P** 09 03 28.7 +1.1
baz=283,SNR=16
K27K **Chicken** 58.64 31 P **P** 09 03 28.5 +0.6
baz=282
MCARA **McCarthy VSAT** 58.80 34 P **P** 09 03 29.8 +0.7
baz=283
CRQE **Cirque** 58.92 35 P **P** 09 03 30.3 +0.3
baz=284
L27K **Beaver Creek,** 58.97 32 P **P** 09 03 31.4 +1.2
baz=283,SNR=12
L27K **Beaver Creek,** 58.97 32 P **P** 09 03 31.0 +0.8
L27K IAmb IAmb 09 03 32.5
comp=Z,10nm,0.8s
BCAR **Beaver Creek A** 58.98 32 P **P** 09 03 31.3 +1.0
BCAR pP **pP** 09 03 44.2 +1.4
GEYT **Alibeck** 59.04 297 LR LR 09 32 55.1
comp=Z,201nm,18.9s,baz=160,slow=40
M27K **Edge Creek, AK** 59.11 33 P **P** 09 03 32.3 +1.0
baz=284,SNR=6.9
MESA **MESA** 59.60 35 P **P** 09 03 35.9 +1.0
baz=285
CTG **Chitna Glacier** 59.70 34 P **P** 09 03 36.3 +0.9

baz=285
EPYK Eagle Plains 60.27 28 P **P 09 03 39.9 +0.8**
baz=286
PINM Pinnacle 60.45 35 P **P 09 03 41.4 +0.9**
baz=286
INK Inuvik 60.91 25 P **P 09 03 43.8 +0.5**
comp=Z,5.1nm,0.8s,baz=292,slow=6.9,SNR=7.8
INK Inuvik 60.91 25 P **P 09 03 43.7 +0.4**
baz=287
WHY Whitehorse 62.81 34 P **P 09 03 57.4 +1.0**
baz=290
KLMR Klimovskoe 62.81 327 *e*P P 09 04 06.0 +10
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 62.81 327 *e*P P 09 04 06.0 +10
KLMR AMP 09 04 12.5
comp=Z,14nm,1.4s
SKAG Skagway 63.01 35 P **P 09 03 58.0 +0.4**
baz=290
C36M Paulatuk 63.74 23 P **P 09 04 02.6 +0.3**
baz=295
DZM Mont Dzumac 63.99 145 LR LR 09 28 19.1
comp=Z,74nm,19.5s,baz=24,slow=32
ARCES ARCESS Array B 64.72 338 P **P 09 04 07.8 -0.9**
comp=Z,1.4nm,0.6s,baz=57,slow=7.4,SNR=8.3
ARCES ARCESS Array B 64.72 338 IAmb IAmb 09 04 11.1
comp=Z,10nm,1.4s
STKA Stephens Creek 65.48 171 P **P 09 04 14.0 -0.1**
comp=Z,3.0nm,0.8s,baz=14,slow=7.9,SNR=5.6
STKA Stephens Creek 65.48 171 P **P 09 04 14.0 -0.1**
DLBC Dease Lake 65.94 35 P **P 09 04 17.6 +0.7**
comp=Z,5.5nm,0.9s,baz=292,slow=5.3,SNR=10
DLBC Dease Lake 65.94 35 P **P 09 04 18.0 +1.1**
DLBC IAmb IAmb 09 04 19.6
comp=Z,6.6nm,0.9s
KBZ Khabaz 67.51 308 P **P 09 04 26.4 -0.6**
comp=Z,1.6nm,0.6s,baz=71,slow=2.3,SNR=5.4
KIV Kislovodsk 67.55 309 *e*P **P 09 04 24.7 -2.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,104nm,17.0s
FINES FINESS Array B 68.45 330 P **P 09 04 31.5 -1.2**
comp=Z,3.3nm,0.6s,baz=46,slow=5.5,SNR=13
DAG Danmarks Havn 68.64 353 *i* P **P 09 04 33.0 -0.6**
DAG IAmb IAmb 09 04 33.7
comp=Z,9.6nm,1.1s
DAG *i* 09 04 45.0
DAG Danmarks Havn 68.64 353 *i* P **P 09 04 33.0 -0.6**
DAG *i* 09 04 45.0
DAG pmax pmax
comp=Z,10.0nm,1.1s
NEEM North Greenlan 69.42 1 *i* P **P 09 04 38.8 0.0**
NEEM IAmb IAmb 09 04 39.4
comp=Z,9.7nm,0.9s
NEEM *i* 09 04 53.0
YKA Yellowknife Ar 70.54 27 P **P 09 04 45.6 +0.1**
comp=Z,4.3nm,0.9s,baz=299,slow=5.7,SNR=13
YKA LR LR 09 36 21.7
comp=Z,108nm,20.3s,baz=0.0,slow=36
YKA Yellowknife Ar 70.54 27 P **P 09 04 46.4 +0.9**
YKA Yellowknife Ar 70.54 27 P **P 09 04 46.4 +0.9**
SUMG Summit 74.14 357 *i* P **P 09 05 07.3 0.0**
SUMG IAmb IAmb 09 05 08.4
comp=Z,7.9nm,1.0s
SUMG Summit 74.14 357 *i* P **P 09 05 07.3 0.0**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra 74.48 334 P **P 09 05 07.6 -1.5**
comp=Z,0.9nm,0.6s,baz=46,slow=5.9
NOA NORSAR Array B 74.48 334 P **P 09 05 07.9 -1.2**
comp=Z,1.9nm,0.8s,baz=47,slow=5.8,SNR=8.2
NOA pP **pP 09 05 20.0 -1.8**
comp=Z,5.2nm,0.9s,baz=48,slow=5.8,SNR=10
D03D Eldon 74.89 43 P **P 09 05 12.8 +1.1**
baz=303
B05A Bryant 75.05 42 P **P 09 05 13.5 +1.0**
baz=304
BRTR Keskin Array B 75.50 308 P **P 09 05 14.2 -1.3**
comp=Z,1.3nm,0.7s,baz=97,slow=6.1,SNR=7.2
BRTR pP **PcP 09 05 26.5 -1.9**
comp=Z,1.4nm,0.9s,baz=79,slow=6.4,SNR=3.9
BRTR Keskin Array B 75.50 308 *ce*P **P 09 05 14.1 -1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
I02D Swisshome 76.32 46 P **P 09 05 21.1 +1.3**
baz=303
EDM Edmonton 76.65 34 P **P 09 05 23.0 +1.4**
EDM pmax pmax
comp=Z,18nm,1.1s
EDM Edmonton 76.65 34 P **P 09 05 23.0 +1.4**
EDM IAmb IAmb 09 05 23.3
comp=Z,18nm,1.1s
J01E Myrtle Point 76.79 47 P **P 09 05 23.9 +1.4**
baz=304
I03D Drain, OR 76.85 46 P **P 09 05 24.1 +1.3**
baz=304
K02D Willamette Mer 77.21 47 P **P 09 05 26.0 +0.9**
baz=304,SNR=5.6
D08A Wollman Farm, 77.51 42 P **P 09 05 26.7 +0.2**
D08A IAmb IAmb 09 05 28.2
comp=Z,8.2nm,0.9s
L02E Cave Junction 77.55 48 P **P 09 05 28.0 +1.2**
baz=304
I05D Terrebonne, OR 77.69 45 P **P 09 05 28.5 +0.9**
baz=305
NEW Newport 77.78 40 P **P 09 05 28.0 -0.1**
comp=Z,4.7nm,0.8s,baz=290,slow=5.5,SNR=10
NEW pP **pP 09 05 41.6 +0.7**
comp=Z,2.1nm,0.8s,baz=258,slow=5.3,SNR=3.5
NEW Newport 77.78 40 P **P 09 05 28.2 +0.2**
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 77.78 40 P **P 09 05 28.7 +0.7**
baz=307
NEW Newport 77.78 40 P **P 09 05 28.2 +0.2**
NEW IAmb IAmb 09 05 29.8
comp=Z,7.7nm,1.0s
J04D Umpqua Nationa 77.85 46 P **P 09 05 29.6 +0.8**
baz=304
PINE Pine Mountain 78.24 45 P **P 09 05 30.8 -0.1**
PINE IAmb IAmb 09 05 33.2
comp=Z,12nm,0.8s
L04D Klamath Falls 78.31 47 P **P 09 05 31.8 +0.6**
baz=305
YBH Yreka Blue Hor 78.34 48 P **P 09 05 32.4 +1.0**
comp=Z,2.2nm,0.9s,baz=276,slow=5.9,SNR=11
J05D Fort Rock, OR 78.35 46 P **P 09 05 32.7 +1.3**
baz=305,SNR=10
K04D Chiloquin, OR 78.42 46 P **P 09 05 32.7 +0.9**
baz=305
M02C Callahan 78.44 48 P **P 09 05 32.7 +0.8**
baz=304
N02D Trinity Center 78.77 48 P **P 09 05 34.8 +1.1**
baz=305
M04C Macdoel 78.84 47 P **P 09 05 35.3 +1.1**
baz=305,SNR=7.3
I07A Izee 78.92 44 P **P 09 05 35.3 +0.8**
WALA Waterton Lakes 78.97 38 P **P 09 05 35.1 +0.3**
WALA IAmb IAmb 09 05 36.7
comp=Z,11nm,1.1s
O02D Mt. Diablo Mer 79.17 49 P **P 09 05 36.9 +1.0**
baz=305
O03E Paynes Creek 79.72 48 P **P 09 05 39.6 +0.7**
baz=305
BMO Blue Mountains 79.72 43 P **P 09 05 38.7 -0.2**
BMO pmax pmax
comp=Z,4.0nm,0.9s
BMO Blue Mountains 79.72 43 P **P 09 05 38.7 -0.2**
J08A Circle Bar Ran 79.94 44 P **P 09 05 40.4 +0.3**
J08A IAmb IAmb 09 05 42.2
comp=Z,9.7nm,1.2s
CLL Collm 80.30 326 *e*P **P 09 05 41.0 -0.7**
CLL *i* (pP) **pP 09 05 52.9 -1.7**
comp=Z,6.0nm,1.0s
CLL *e* 09 06 01.0
CLL Collm 80.30 326 *e*P **P 09 05 41.0 -0.7**
CLL *i* 09 05 52.9
MSO Missoula 80.36 40 P **P 09 05 42.3 0.0**
baz=309
DY2G Dye2 80.46 359 *i* P **P 09 05 42.5 -0.1**
DY2G IAmb IAmb 09 05 43.2
comp=Z,16nm,0.8s
MFID Camas Ranch 81.44 43 P **P 09 05 47.9 -0.2**
MFID IAmb IAmb 09 06 08.1
comp=Z,11nm,1.5s
HRY Holter Researc 81.55 39 P **P 09 05 49.2 +0.5**

GERES GERESS Array B 81.62 324 P **P 09 05 48.2 -0.7**
comp=Z,0.8nm,0.7s,baz=70,slow=4.4,SNR=5.6
GERES pP **pP 09 06 00.4 -1.5**
comp=Z,0.3nm,0.3s,baz=32,slow=5.2,SNR=2.3
EGMT Eagleton 81.75 37 P **P 09 05 50.3 +0.7**
baz=312
EGMT Eagleton 81.75 37 P **P 09 05 49.8 +0.1**
EGMT IAmb IAmb 09 05 51.2
comp=Z,11nm,0.9s
LRM Limekiln Ridge 81.80 40 P **P 09 05 50.5 +0.4**
DLMT Dillon 82.01 40 P **P 09 05 51.1 0.0**
DLMT IAmb IAmb 09 05 53.0
comp=Z,14nm,0.9s
HLID Hailey 82.16 42 P **P 09 05 53.1 +1.1**
baz=309,SNR=9.6
HLID Hailey 82.16 42 P **P 09 05 52.4 +0.4**
BOZ Bozeman (W) 82.38 40 P **P 09 05 52.8 -0.2**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 82.38 40 P **P 09 05 53.7 +0.7**
baz=311,SNR=12
BOZ Bozeman (W) 82.38 40 P **P 09 05 52.8 -0.2**
BOZ IAmb IAmb 09 05 54.3
comp=Z,5.5nm,0.9s
KVN Kaiserville 82.76 48 P **P 09 05 55.6 +0.4**
KVN pmax pmax
comp=Z,4.0nm,0.8s
KVN Kaiserville 82.76 48 P **P 09 05 55.5 +0.4**
QLMT Earthquake Lak 82.99 40 P **P 09 05 56.2 -0.1**
NVAR Mina Array Bea 83.01 48 P **P 09 05 57.2 +0.6**
comp=Z,2.6nm,0.7s,baz=296,slow=5.0,SNR=24
NVAR pP **pP 09 06 10.7 +1.1**
comp=Z,1.6nm,0.6s,baz=291,slow=5.2,SNR=7.5
MLAC Mammoth, Mammo 83.16 49 P **P 09 05 58.3 +1.0**
baz=307
YHH Holmes Hill 83.33 40 P **P 09 05 58.5 +0.3**
ELK Elko 83.45 45 P **P 09 05 59.8 +1.0**
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK Elko 83.45 45 P **P 09 05 59.8 +1.0**
H17A Grant Village 83.73 40 P **P 09 06 02.6 +2.4**
baz=312,SNR=11
H17A Grant Village 83.73 40 P **P 09 06 02.0 +1.8**
H17A IAmb IAmb 09 06 04.0
comp=Z,14nm,1.1s
TPH Tonopah 83.90 48 P **P 09 06 01.4 +0.3**
TPH pmax pmax
comp=Z,43nm,0.9s
TPH Tonopah 83.90 48 P **P 09 06 01.4 +0.3**
RLMT Red Lodge 83.94 39 P **P 09 06 02.1 +0.8**
baz=312,SNR=6.5
RLMT Red Lodge 83.94 39 P **P 09 06 01.4 +0.2**
VES Vestal, Richgr 84.07 51 P **P 09 06 02.0 +0.2**
baz=307
PKM Mcpherson Peak 84.17 52 P **P 09 06 02.9 +0.4**
baz=307
CWC Cottonwood Cre 84.36 50 P **P 09 06 03.7 +0.3**
baz=308
LAO LASA Array 84.42 36 P **P 09 06 04.3 +0.8**
baz=314,SNR=5.5
LAO LASA Array 84.42 36 P **P 09 06 03.8 +0.4**
LAO IAmb IAmb 09 06 05.8
comp=Z,11nm,1.0s
GRAC Grapevine Rang 84.47 49 P **P 09 06 04.6 +0.8**
baz=308
R11A Troy Canyon, C 84.74 47 P **P 09 06 05.8 +0.5**
baz=309
SPR3 Spring Creek 3 85.09 46 P **P 09 06 07.4 +0.2**
FURC Furnace Creek, 85.11 49 P **P 09 06 07.7 +0.8**
baz=308
TPNV Topopah Spring 85.20 48 P **P 09 06 07.8 +0.1**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 85.20 48 P **P 09 06 08.4 +0.7**
baz=309
TPNV Topopah Spring 85.20 48 P **P 09 06 07.8 +0.1**
TPNV IAmb IAmb 09 06 22.4
comp=Z,6.5nm,1.0s
DUG Dugway, Tooele 85.22 44 P **P 09 06 08.4 +0.7**
baz=310
EDW2 Edwards Air Fo 85.36 51 P **P 09 06 08.7 +0.3**
baz=308
BW06 Boulder Array 85.37 41 P **P 09 06 08.8 +0.4**
baz=312
PDAR Pinedale Array 85.37 41 P **P 09 06 08.3 -0.2**
comp=Z,1.9nm,0.8s,baz=341,slow=1.6,SNR=16
PDAR pP **pP 09 06 21.8 +0.2**
comp=Z,1.0nm,0.7s,baz=347,slow=2.3,SNR=5.7
NLU North Lily Min 85.81 44 P **P 09 06 10.8 +0.1**
NLU IAmb IAmb 09 06 12.8
comp=Z,6.8nm,0.9s
GSC Goldstone, Bar 85.87 50 P **P 09 06 11.4 +0.5**
baz=308
BFSC Mount Baldy Ra 85.97 51 P **P 09 06 11.4 -0.1**
baz=308
MPU Maple Canyon 86.03 44 P **P 09 06 12.3 +0.6**
MPU IAmb IAmb 09 06 13.8
comp=Z,5.5nm,0.9s
TUQ Turquoise Moun 86.35 49 P **P 09 06 13.8 +0.4**
baz=309
ULM Lac du Bonnet 86.43 29 P **P 09 06 13.2 0.0**
comp=Z,13nm,0.8s,baz=319,slow=4.6,SNR=15
ULM pP **pP 09 06 26.5 +0.2**
comp=Z,5.7nm,0.8s,baz=308,slow=6.5,SNR=4.5
ULM Lac du Bonnet 86.43 29 P **P 09 06 13.1 -0.2**
ULM pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 86.43 29 P **P 09 06 13.1 -0.2**
BBRC Big Bear Solar 86.44 51 P **P 09 06 14.6 +0.7**
baz=308
MURC Murrieta 86.67 52 P **P 09 06 15.7 +0.9**
baz=308
MVU Marysvale 86.68 45 P **P 09 06 16.0 +1.0**
MDND Maddock 86.69 32 P **P 09 06 15.5 +0.8**
baz=319
MSU Marysvale 86.69 45 P **P 09 06 16.1 +1.0**
MSU Marysvale 86.69 45 P **P 09 06 16.1 +1.0**
GMRC Granite Mounta 86.93 50 P **P 09 06 16.8 +0.7**
baz=309
K22A Casper 87.08 39 P **P 09 06 17.2 +0.4**
baz=314
PFO Pinyon Flats O 87.14 51 P **P 09 06 17.3 +0.1**
comp=Z,1.5nm,0.8s,baz=262,slow=3.5,SNR=4.9
PFO Pinyon Flats O 87.14 51 P **P 09 06 17.4 +0.1**
baz=309
TPFO Pinon Flats 87.15 51 P **P 09 06 17.2 -0.1**
baz=309
SRU San Rafael Swe 87.27 44 P **P 09 06 17.7 -0.1**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 87.27 44 P **P 09 06 17.7 -0.1**
SRU IAmb IAmb 09 06 19.5
comp=Z,6.2nm,0.8s
RSSD Black Hills 87.33 37 P **P 09 06 18.4 +0.4**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 87.33 37 P **P 09 06 18.7 +0.7**
baz=316
RSSD Black Hills 87.33 37 P **P 09 06 18.4 +0.4**
RSSD IAmb IAmb 09 06 20.3
comp=Z,5.0nm,0.9s
MONP2 Monument Peak 87.62 52 P **P 09 06 19.8 +0.1**
baz=309
O20A White River Ci 87.88 42 P **P 09 06 21.5 +0.7**
baz=313
AGMN Agassiz Nation 87.96 30 P **P 09 06 20.8 +0.1**
baz=321
PHWY Pilot Hill 88.59 40 P **P 09 06 24.4 +0.2**
PHWY IAmb IAmb 09 06 25.9
comp=Z,5.8nm,0.9s
N23A Red Feather La 88.62 40 P **P 09 06 25.4 +1.1**
baz=315
WUAZ Wupatki 89.14 47 P **P 09 06 28.0 +1.3**
baz=312
SUSD Miller 89.56 34 P **P 09 06 29.1 +0.8**
baz=319
ISCO Idaho Springs 89.56 41 P **P 09 06 29.4 +0.6**
baz=315
MVCO Mesa Verde 89.73 44 P **P 09 06 30.3 +0.8**
baz=313
PPT Papeete 89.93 111 LR LR 09 40 11.2
comp=Z,110nm,20.2s,baz=316,slow=31
EYMN Ely 90.00 28 P **P 09 06 30.8 +0.4**
baz=325
S22A 4UR Ranch, Cre 90.32 43 P **P 09 06 33.8 +1.4**
baz=314
W18A Petrified Fore 90.41 46 P **P 09 06 33.6 +0.9**

baz=312
214A Organ Pipe Nat 90.56 51 P **P 09 06 35.0 +1.7**
baz=311
OGNE Ogallala 90.64 38 P **P 09 06 34.6 +1.0**
baz=317
SDCO Great Sand Dun 91.07 42 P **P 09 06 36.8 +0.9**
baz=315
ECSD EROS Data Cent 91.18 33 P **P 09 06 36.8 +0.9**
baz=321
TUC Tucson 91.63 49 P **P 09 06 39.5 +1.2**
baz=312
T25A Trinidad 92.11 42 P **P 09 06 41.6 +1.0**
baz=316
ANMO Albuquerque 92.48 45 *ce*P **P 09 06 44.4 +2.1**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
ANMO Albuquerque 92.48 45 P **P 09 06 43.4 +1.0**
baz=314
G40A Rib Lake 92.71 29 P **P 09 06 42.6 -0.3**
WMOK Wichita Mounta 96.97 40 P **P 09 07 03.0 +0.3**
baz=319
TXAR Lajitas Array 98.11 47 P Pdif 09 07 08.5 +0.5
comp=Z,0.3nm,0.6s,baz=306,slow=4.0,SNR=5.5
CCM Cathedral Cave 98.16 33 P Pdif 09 07 08.0 +0.1
baz=324
H57A Richville 98.50 20 P Pdif 09 07 10.0 +0.7
baz=337
VNA2 Neumayer--Watz 136.65 198 PKiKP **PKPdf 09 12 51.9 0.0**
LPAZ La Paz 154.85 52 PKP **PKPdf 09 13 25.1 +0.4**
comp=Z,1.0nm,0.8s,baz=5.8,slow=7.5,SNR=4.1
LPAZ PKPbc **PKiKP 09 13 33.8 +0.4**
comp=Z,1.4nm,0.8s,baz=357,slow=5.3,SNR=6.8
LPAZ PKPab **PKPab 09 13 48.7 +0.1**
comp=Z,1.6nm,0.8s,baz=347,slow=3.8,SNR=6.1
PLCA Paso Flores 160.30 118 PKPab **PKPab 09 14 11.8 +0.8**
comp=Z,1.7nm,0.7s,baz=241,slow=5.0,SNR=4.8

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*IDC **24** 09:01:20.6±0.8, 24°.73N×122°.37E, h0km, mb4.1/13, mb1 4.2/15, mb1mx3.9/56, mbtmp4.1/15, ML3.1/2, Error ellipse: s-maj=25.1km s-min=17.0km az=67.0*
*JMA **24** 09:01:22.4±0.1, 24°.88N×122°.81E, h27km±2km, M3.7*
*TAP **24** 09:01:22.1, 24°.95N×122°.78E, h32km, ML3.9, D*
*NEIC **24** 09:01:22.2±1.9, 24°.89N±0°.04×122°.72E±0°.06, h8km±5km, mb4.5/17, Error ellipse: s-maj=9.4km s-min=3.2km az=56.0*
ISC 24 09:01:22.3±1.2, **24°.88N**±0°.03×**122°.78E**±0°.02, **h13**km±8km, **n142**, σ1$**25**/203, **mb4.3**/20, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**161**	P	**Pg**	**09 01 31.5**	**+0.2**
JYNG				S	**Sg**	**09 01 38.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.47**	**153**	P	**Pg**	**09 01 31.7**	**+0.1**
YOJ				S	**Sg**	**09 01 38.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.47**	**153**	P	**Pg**	**09 01 31.8**	**+0.3**
YOJ				S	**Sb**	**09 01 40.3**	**+1.0**
YOJ	**Yonaguni jima**	**0.47**	**153**		**Pg**	**09 01 31.9**	**+0.3**
TWB1	**Santiao Chiao**	**0.73**	**280**	P	**Pb**	**09 01 35.8**	**-1.1**
NTC	**Toucheng**	**0.86**	**268**	P	**Pb**	**09 01 37.8**	**-1.4**
TIPB	**Shuangxi**	**0.87**	**276**	*i* P	**Pb**	**09 01 38.0**	**-1.3**
TWC	**Suao**	**0.89**	**252**	P	**Pb**	**09 01 38.0**	**-1.6**
TWC				S	**Sb**	**09 01 50.3**	**-1.1**
NWF	**Wu-fen Shan**	**0.93**	**282**	*i* P	**Pb**	**09 01 39.2**	**-1.0**
WFSB	**Wu-fen Shan**	**0.93**	**282**	*e*P	**Pb**	**09 01 39.0**	**-1.2**
TNOU	**National Taiwa**	**0.95**	**286**	*e*P	**Pb**	**09 01 39.5**	**-1.1**
NDS	**Dongshan**	**1.00**	**256**	P	**Pb**	**09 01 40.0**	**-1.4**
EWUT	**Wuta**	**1.01**	**245**	P	**Pb**	**09 01 40.3**	**-1.4**
EWUT				S	**Sb**	**09 01 52.8**	**-2.0**
IRIF	**Iriomote-Funau**	**1.02**	**122**	P	**Pb**	**09 01 40.4**	**-1.4**
IRIF				*e*S	**Sb**	**09 01 53.9**	**-1.3**
TWE	**Neicheng**	**1.02**	**261**	P	**Pb**	**09 01 40.3**	**-1.6**
TWE				S	**Sb**	**09 01 54.0**	**-1.2**
TWA	**Mucha**	**1.09**	**275**	P	**Pb**	**09 01 41.9**	**-1.2**
YM08	**YM08**	**1.12**	**286**	P	**Pb**	**09 01 42.1**	**-1.5**
YM01	**YM01**	**1.13**	**284**	P	**Pb**	**09 01 42.8**	**-0.9**
ENTT	**Nioudou**	**1.13**	**258**	P	**Pn**	**09 01 42.4**	**-1.4**
NWLT	**Wulai**	**1.17**	**265**	P	**Pn**	**09 01 42.5**	**-1.8**
NWLT				S	**Sb**	**09 01 57.0**	**-2.4**
TATO	**Taipei**	**1.18**	**275**	P	**Pn**	**09 01 43.9**	**-0.6**
TATO				S	**Sb**	**09 01 58.4**	**-1.3**
TATO	**Taipei**	**1.18**	**275**		**Pn**	**09 01 43.1**	**-1.3**
NDT	**Datong Townshi**	**1.19**	**257**	P	**Pn**	**09 01 43.7**	**-0.9**
NDT				S	**Sb**	**09 01 58.1**	**-1.8**
HATJ	**Hateruma jima**	**1.24**	**131**	P	**Pn**	**09 01 43.9**	**-1.5**
HATJ				S	**Sb**	**09 01 59.9**	**-1.7**
ETL	**Fush Village**	**1.28**	**236**	*e*P	**Pb**	**09 01 46.4**	**+0.2**
JKRS	**Kuro-shima**	**1.29**	**120**	P	**Pn**	**09 01 44.8**	**-1.2**
JKRS				S	**Sn**	**09 02 01.1**	**-2.0**
NACB	**Ninganchiao**	**1.29**	**237**	P	**Pn**	**09 01 45.7**	**-0.3**
NACB				*e*S	**Sb**	**09 02 01.9**	**-1.0**
NACB	**Ninganchiao**	**1.29**	**237**		**Pn**	**09 01 45.2**	**-0.9**
YHNB	**Yeheng**	**1.29**	**261**	P	**Pn**	**09 01 44.8**	**-1.4**
YHNB				S	**Sb**	**09 02 00.6**	**-2.6**
YHNB	**Yeheng**	**1.29**	**261**		**Pn**	**09 01 44.5**	**-1.7**
JIJ	**Ishigaki jima**	**1.34**	**112**	P	**Pn**	**09 01 45.1**	**-1.6**
JIJ				S	**Sn**	**09 02 01.8**	**-2.7**
TWD	**Chiawan**	**1.34**	**234**	P	**Pn**	**09 01 46.7**	**0.0**
TWD				*e*S	**Sn**	**09 02 04.0**	**-0.4**
NNSB	**Datong**	**1.35**	**251**	P	**Pn**	**09 01 46.1**	**-0.9**
NNS	**Nan Shan**	**1.35**	**251**	P	**Pn**	**09 01 46.4**	**-0.6**
NNS				S	**Sn**	**09 02 02.3**	**-2.7**
ETLH	**Xiulin Townshi**	**1.36**	**241**	P	**Pb**	**09 01 47.6**	**0.0**
HWA	**Hwalien**	**1.40**	**230**	*e*P	**Pn**	**09 01 47.4**	**-0.2**
JISG	**Ishigakijimahi**	**1.42**	**102**	P	**Pn**	**09 01 46.3**	**-1.5**
ETM	**Tongmen**	**1.49**	**232**	P	**Pn**	**09 01 48.7**	**-0.1**
ETM				*e*S	**Sn**	**09 02 07.1**	**-1.0**
FUSS	**Fushou**	**1.54**	**246**	P	**Pn**	**09 01 49.3**	**-0.3**
WHF	**Hehuan Shan**	**1.56**	**242**	P	**Pn**	**09 01 49.9**	**-0.3**
WHF				S	**Sn**	**09 02 09.2**	**-1.3**
TWT	**Tachien**	**1.59**	**247**	P	**Pn**	**09 01 50.8**	**+0.5**
TWT				S	**Sb**	**09 02 12.0**	**+0.3**
TDCB	**Techi**	**1.60**	**247**	P	**Pn**	**09 01 50.9**	**+0.4**
TDCB				S	**Sn**	**09 02 10.6**	**-0.5**
LIOB	**Emei**	**1.62**	**262**	P	**Pn**	**09 01 50.0**	**-0.7**
ESL	**Shilin**	**1.63**	**229**	*e*P	**Pn**	**09 01 49.6**	**-1.1**
NSTT	**Nanjuang**	**1.64**	**262**	P	**Pn**	**09 01 50.8**	**0.0**

NSTT			S	Sn	09 02 10.0	-1.8
	baz=259					
CHGB	**Renai**	**1.68 241**	P	**Pn**	**09 01 51.2**	**-0.3**
	baz=225					
CHGB			S	**Sn**	**09 02 12.5**	**-0.5**
	baz=225					
OWD	**Renai**	**1.73 238**	*e*P	**Pn**	**09 01 52.0**	**-0.2**
	baz=224					
OWD			*e*S	**Sn**	**09 02 13.5**	**-0.8**
	baz=224					
JTJ	**Tarama**	**1.76 97**	P	**Pn**	**09 01 52.0**	**-0.5**
WHP	**Taichung City**	**1.78 251**	P	**Pn**	**09 01 53.6**	**+0.8**
	baz=256					
WHP			S	**Sn**	**09 02 14.6**	**-0.7**
	baz=256					
NMLH	**Miaoli**	**1.84 260**	P	**Pn**	**09 01 54.6**	**+1.0**
	baz=257					
HGSD	**Ruisui**	**1.86 222**	P	**Pn**	**09 01 53.2**	**-0.7**
	baz=212					
HGSD			S	**Sn**	**09 02 16.8**	**-0.4**
	baz=212					
DPDB	**Guoxing**	**1.89 244**	*e*P	**Pn**	**09 01 54.3**	**0.0**
	baz=230					
DPDB			*e*S	**Sn**	**09 02 17.1**	**-1.0**
	baz=230					
WCS	**Beigang Elemen**	**1.89 245**	*e*P	**Pn**	**09 01 54.7**	**+0.4**
	baz=232					
NSY	**Sanyi**	**1.90 256**	P	**Pn**	**09 01 55.5**	**+1.1**
	baz=266					
NSY			S	**Sn**	**09 02 17.5**	**-0.6**
	baz=266					
EHY	**Hungye**	**1.91 224**	P	**Pn**	**09 01 53.4**	**-1.1**
	baz=224					
EHY			S	**Sn**	**09 02 17.5**	**-1.0**
	baz=224					
SMLT	**Sun Moon Lake**	**1.98 240**	*e*P	**Pn**	**09 01 55.9**	**+0.2**
	baz=226					
SSLB	**Suanglung**	**1.99 237**	P	**Pn**	**09 01 55.5**	**-0.2**
	baz=225					
SSLB			S	**Sn**	**09 02 19.1**	**-1.5**
	baz=225					
SSLB	**Suanglung**	**1.99 237**	Pn	**Pn**	**09 01 55.8**	**0.0**
TYC	**Yuchr**	**2.01 241**	P	**Pn**	**09 01 56.2**	**+0.4**
	baz=228					
TYC			S	**Sn**	**09 02 19.9**	**-1.0**
	baz=228					
YULB	**Yu-li**	**2.01 223**	P	**Pn**	**09 01 54.5**	**-1.5**
	baz=223					
YULB			S	**Sn**	**09 02 18.7**	**-2.2**
	baz=223					
YULB	**Yu-li**	**2.01 223**	Pn	**Pn**	**09 01 54.8**	**-1.2**
EYUL	**Yuli**	**2.03 221**	P	**Pn**	**09 01 55.8**	**-0.4**
	baz=234					
TWF1	**Yuli**	**2.04 222**	P	**Pn**	**09 01 54.9**	**-1.5**
	baz=235					
TWF1			S	**Sn**	**09 02 19.9**	**-1.8**
	baz=235					
WJS	**Zhushan**	**2.15 241**	*e*P	**Pb**	**09 02 00.0**	**-1.1**
	baz=228					
FULB	**Fuli**	**2.16 219**	P	**Pn**	**09 01 57.2**	**-0.8**
	baz=208					
FULB			S	**Sn**	**09 02 24.9**	**+0.2**
	baz=208					
CHKT	**Chengkung**	**2.20 216**	*e*P	**Pn**	**09 01 57.2**	**-1.3**
	baz=206					
CHKT			*e*S	**Sn**	**09 02 23.2**	**-2.4**
	baz=206					
ALS	**Alishan**	**2.26 233**	P	**Pn**	**09 02 00.5**	**+0.8**
	baz=232					
ECS	**Chishang**	**2.28 219**	*e*P	**Pn**	**09 01 59.2**	**-0.4**
	baz=231					
ECS			*e*S	**Sn**	**09 02 26.5**	**-1.2**
	baz=231					
JMJ	**Miyako jima 2**	**2.28 91**	P	**Pn**	**09 01 59.8**	**+0.1**
	baz=93					
JMJ			S	**Sn**	**09 02 26.8**	**-0.9**
	baz=93					
CHN5	**Tsauling**	**2.31 237**	P	**Pn**	**09 02 00.9**	**+0.8**
	baz=236					
CHN5			S	**Sn**	**09 02 29.1**	**+0.7**
	baz=236					
EDH	**Donghe**	**2.33 216**	P	**Pn**	**09 01 58.3**	**-2.1**
	baz=216					
EDH			S	**Sn**	**09 02 25.8**	**-3.2**
	baz=216					
LONT	**Longtian**	**2.48 218**	*e*P	**Pn**	**09 02 01.5**	**-0.9**
	baz=228					
LONT			*e*S	**Sn**	**09 02 30.9**	**-1.7**
	baz=228					
STYH	**Taoyuan**	**2.50 227**	*e*P	**Pn**	**09 02 03.5**	**+0.8**
	baz=218					
STYH			*e*S	**Sn**	**09 02 31.6**	**-1.6**
	baz=218					
LDUT	**Ludao**	**2.51 209**	P	**Pn**	**09 02 00.8**	**-2.0**
	baz=209					
LDUT			*e*S	**Sn**	**09 02 29.8**	**-3.4**
	baz=209					
CHN4	**Tsaushan**	**2.51 233**	P	**Pn**	**09 02 04.6**	**+1.7**
	baz=232					
TPUB	**Ta-pu**	**2.52 232**	P	**Pn**	**09 02 04.0**	**+1.1**
	baz=222					
TPUB			S	**Sn**	**09 02 34.1**	**+0.5**
	baz=222					
TPUB	**Ta-pu**	**2.52 232**		**Pn**	**09 02 03.5**	**+0.5**
WTP	**Ta-pu**	**2.56 231**	P	**Pn**	**09 02 04.4**	**+0.7**
	baz=221					
WTP			*e*S	**Sn**	**09 02 35.0**	**+0.2**
	baz=221					
TWGBT	**Beinan**	**2.58 217**	*e*P	**Pn**	**09 02 02.0**	**-1.8**
	baz=228					
TWGBT			*e*S	**Sn**	**09 02 32.5**	**-2.6**
	baz=228					
TWG	**Pinlang**	**2.58 218**	*e*P	**Pn**	**09 02 03.0**	**-0.8**
	baz=228					
TWG			*e*S	**Sn**	**09 02 32.4**	**-2.7**
	baz=228					
TWG	**Pinlang**	**2.58 218**		**Pn**	**09 02 04.6**	**+0.8**
TWK	**Hsinying**	**2.64 233**	P	**Pn**	**09 02 06.0**	**+1.3**
	baz=222					
TWK			*e*S	**Sn**	**09 02 37.3**	**+0.6**
	baz=222					
CHN1	**Nanshi**	**2.67 231**	*e*P	**Pn**	**09 02 06.5**	**+1.6**
	baz=231					
SGST	**Jiashian**	**2.69 229**	*e*P	**Pn**	**09 02 06.3**	**+1.0**
	baz=228					
SGST			*e*S	**Sn**	**09 02 38.7**	**+0.8**
	baz=228					
SLGT	**Liugui**	**2.71 227**	*e*P	**Pn**	**09 02 06.6**	**+1.0**
	baz=226					
SLGT			*e*S	**Sn**	**09 02 39.9**	**+1.6**
	baz=226					
SSD	**Sandimen**	**2.90 223**	P	**Pn**	**09 02 08.8**	**+0.7**
	baz=224					
SSD			*e*S	**Sn**	**09 02 43.3**	**+0.4**
	baz=224					
TSMG	**Majia**	**2.92 222**	P	**Pn**	**09 02 08.8**	**+0.3**
	baz=223					
TSMG			S	**Sn**	**09 02 44.3**	**+0.9**
	baz=223					
MASBT	**Mashibuluo**	**3.00 221**	P	**Pn**	**09 02 10.4**	**+0.8**
	baz=213					
MASBT			*e*S	**Sn**	**09 02 45.9**	**+0.6**
	baz=213					
EAST	**Anshuo**	**3.06 216**	P	**Pn**	**09 02 09.7**	**-0.7**
	baz=217					
EAST			*e*S	**Sn**	**09 02 44.2**	**-2.6**
	baz=217					
XPSS	**Dashiqiu**	**3.10 312**	*e*P	**Pn**	**09 02 09.7**	**-1.2**
	baz=309					
XPSS			S	**Sn**	**09 02 45.2**	**-2.6**
	baz=309					
SSPT	**Xinbi**	**3.13 221**	*e*P	**Pn**	**09 02 12.9**	**+1.5**
	baz=222					
SSPT			*e*S	**Sn**	**09 02 49.5**	**+0.8**
	baz=222					
LYJJ	**Jianjiangzhen**	**3.19 302**	*e*P	**Pn**	**09 02 11.4**	**-0.7**
	baz=300					
SCZT	**Fangliau**	**3.19 219**	P	**Pn**	**09 02 13.3**	**+1.1**
	baz=210					
SCZT			S	**Sn**	**09 02 50.6**	**+0.5**
	baz=210					
SLIU	**Shizi**	**3.22 215**	P	**Pn**	**09 02 11.9**	**-0.6**
	baz=216					
SLIU			*e*S	**Sn**	**09 02 50.1**	**-0.7**
	baz=216					
PHUB	**P'eng-hu**	**3.23 246**	*e*P	**Pn**	**09 02 12.3**	**-0.4**
	baz=245					
WDGT	**Dungji**	**3.28 241**	*e*P	**Pn**	**09 02 13.5**	**+0.1**
	baz=240					
WDGT			*e*S	**Sn**	**09 02 52.4**	**+0.1**
	baz=240					
PTMZ	**Houxiangcun**	**3.33 273**	*e*P	**Pn**	**09 02 14.8**	**+0.8**
	baz=271					
HEN	**Hengchun**	**3.42 214**	*e*P	**Pn**	**09 02 15.5**	**+0.1**
	baz=215					
HEN			*e*S	**Sn**	**09 02 54.7**	**-1.1**
	baz=215					
TSEB	**Hengchuen, Pin**	**3.44 211**	*e*S	**Sn**	**09 02 56.2**	**0.0**
	baz=212					
TWKBT	**Hengchun**	**3.44 212**	P	**Pn**	**09 02 14.9**	**-0.7**
	baz=213					
TWKBT			S	**Sn**	**09 02 54.7**	**-1.6**
	baz=213					
TWK1	**Hengchun**	**3.44 212**	*e*P	**Pn**	**09 02 15.5**	**-0.1**
	baz=213					
TWK1			*e*S	**Sn**	**09 02 55.0**	**-1.3**
	baz=213					
MHZQ	**Yeshan**	**3.60 290**	*e*P	**Pn**	**09 02 18.1**	**+0.3**
	baz=289					
AXDP	**Jialang**	**4.37 271**	*e*P	**Pn**	**09 02 28.3**	**-0.1**
	baz=269					
AXDP			*e*S	**Sn**	**09 03 17.1**	**-2.1**
	baz=269					
JOW	**Kunigami**	**5.32 67**	Pn	Pn	09 02 47.4	+6.0
	1.8nm,0.3s,baz=250,slow=8.1,SNR=6.3					
JOW	**Kunigami**	**5.32 67**	Pn	**Pn**	**09 02 41.4**	**-0.1**
SZP	**Santa**	**7.61 197**	Pn	**Pn**	**09 03 12.4**	**-0.5**
KSRS	**Korea Array**	**13.28 18**	Pn	**P**	**09 04 40.2**	**-0.1**
	0.3nm,0.3s,baz=198,slow=12,SNR=13					
MJAR	**Matsushiro Arr**	**17.61 45**	P	**P**	**09 05 32.4**	**+4.0**
	0.0nm,0.3s,baz=215,slow=5.5,SNR=2.0					
USRK	**Ussuriysk Ar.**	**20.68 19**	P	Pn	09 06 04.9	+0.6
	4.8nm,0.9s,baz=206,slow=9.6,SNR=4.9					
TOLI2	**Tolitoli**	**23.71 185**	P	**P**	**09 06 33.0**	**-1.1**
TOLI2			IAmb	IAmb	09 06 46.5	
	comp=Z,14nm,1.2s					
KLR	**Kul'dur**	**25.30 14**	P	**P**	**09 06 50.8**	**+2.4**
	comp=Z,2.7nm,0.6s,baz=239,slow=3.6,SNR=6.8					
SONM	**Songino Array**	**26.33 335**	P	**P**	**09 06 58.7**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=141,slow=9.5,SNR=7.4					
SONM	**Songino Array**	**26.33 335**	P	**P**	**09 06 56.1**	**-1.8**
SONM			IAmb	IAmb	09 07 09.4	
	comp=Z,5.4nm,1.0s					
MK31	**Makanchi Array**	**38.87 315**	P	**P**	**09 08 47.4**	**+0.1**
MKAR	**Makanchi Array**	**38.87 315**	P	**P**	**09 08 47.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=104,slow=10,SNR=24					
MKAR			PcP	**PcP**	**09 10 57.1**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=83,slow=4.5,SNR=1.6					
MKAR	**Makanchi Array**	**38.87 315**	P	**P**	**09 08 47.2**	**-0.1**
MAKZ	**Makanchi**	**39.07 315**		**P**	**09 08 49.2**	**+0.1**
MAKZ			IAmb	IAmb	09 08 55.6	
	comp=Z,7.7nm,1.1s					
ZALV	**Zalesovo Beam**	**40.47 326**	P	**P**	**09 08 59.7**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=111,slow=8.4,SNR=6.3					
ZALV	**Zalesovo Beam**	**40.47 326**	P	**P**	**09 08 59.3**	**-1.2**
KURBB	**Kurchatov Arra**	**42.53 319**	P	**P**	**09 09 17.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=109,slow=8.2,SNR=18					
WB0	**Warramunga Arr**	**45.80 165**	P	**P**	**09 09 44.6**	**+0.7**
WB0			IAmb	IAmb	09 09 58.2	
	comp=Z,12nm,1.0s					
WRAB	**Tennant Creek**	**45.95 165**	P	**P**	**09 09 45.2**	**+0.1**
WRAB			IAmb	IAmb	09 09 50.9	
	comp=Z,14nm,1.0s					
WRA	**Warramunga Arr**	**45.95 165**	P	**P**	**09 09 44.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=344,slow=8.0,SNR=11					
WRA	**Warramunga Arr**	**45.95 165**	P	**P**	**09 09 46.5**	**+1.3**
WB2	**Warramunga Arr**	**45.96 165**	P	**P**	**09 09 45.1**	**-0.1**
WR0	**Warramunga Arr**	**46.02 165**		**P**	**09 09 45.8**	**+0.1**
WR0			IAmb	IAmb	09 09 58.7	
	comp=Z,9.7nm,0.8s					
KK31	**Karatay Array**	**46.21 307**	P	**P**	**09 09 47.8**	**+0.7**
KKAR	**Karatay Array**	**46.21 307**	P	**P**	**09 09 47.3**	**+0.2**
KKAR	**Karatay Array**	**46.21 307**		**P**	**09 09 46.1**	**-0.9**
KKAR			IAmb	IAmb	09 09 52.4	
	comp=Z,2.3nm,1.0s					
BVAR	**Borovoye Array**	**48.07 320**	P	**P**	**09 10 01.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=296,slow=7.4,SNR=3.9					
NRIK	**Noril'sk**	**49.12 344**	P	**P**	**09 10 09.2**	**0.0**
	comp=Z,1.7nm,0.4s,baz=128,slow=10,SNR=2.0					
AS31	**Alice Springs**	**49.45 167**	P	**P**	**09 10 12.6**	**+0.2**
AS31			IAmb	IAmb	09 10 33.8	
	comp=Z,3.6nm,1.3s					
ASAR	**Alice Springs**	**49.45 167**	P	**P**	**09 10 12.4**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=350,slow=7.2,SNR=6.1					
ASAR	**Alice Springs**	**49.45 167**	P	**P**	**09 10 12.0**	**-0.3**
ABKAR	**Akbulak array**	**54.00 314**		**P**	**09 10 46.4**	**+0.3**
ABKAR	**Akbulak array**	**54.00 314**	P	**P**	**09 10 45.8**	**-0.3**
ABKAR			IAmb	IAmb	09 10 52.7	
	comp=Z,4.6nm,1.0s					
TOLK	**Toolik Lake Re**	**66.23 24**	P	**P**	**09 12 12.6**	**+2.9**
TOLK			IAmb	IAmb	09 12 28.7	
	comp=Z,6.7nm,1.4s					
FINES	**FINESS Array B**	**71.58 330**	P	**P**	**09 12 42.3**	**-0.7**
	comp=Z,3.6nm,0.7s,baz=38,slow=3.4,SNR=7.0					
TABL	**Table Mountain**	**71.60 31**	P	**P**	**09 12 44.8**	**+1.4**
NB2	**NORSAR Subarra**	**78.28 332**	P	**P**	**09 13 20.1**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=56,slow=5.6					
NOA	**NORSAR Array B**	**78.28 332**	P	**P**	**09 13 20.3**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=58,slow=6.1,SNR=5.8					
YKA	**Yellowknife Ar**	**81.76 23**	P	**P**	**09 13 43.5**	**+3.0**
	comp=Z,2.1nm,0.8s,baz=315,slow=4.8,SNR=8.9					

DDA ***24*** *09:03:11.0,38.°06N×24.°03E,h8km±12km,MW3.7*
ATH ***24*** *09:03:13.9,38.°07N×24.°00E,h14km,ML3.5/20,Error*
ellipse: s-maj=1.1km s-min=0.7km az=163.0
THE ***24*** *09:03:14.0,38.°06N×24.°01E,h12km,ML3.5/17,Error*
ellipse: s-maj=0.8km s-min=0.6km az=129.0
ISK ***24*** *09:03:16.0,38.°10N×24.°39E,h5km,ML3.1/14*
ISC 24 09:03:13.9±0.8,38.°07N±0.°02×24.°01E±0.°02,h13km±4km,
n82,σ0=89/118**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DION	**Dionisos Attik**	**0.06**	**277**	P	**Pg**	**09 03 16.4**	**-0.2**
DION				S	**Sg**	**09 03 17.9**	**-0.5**
	142μm,0.4s						
DION	**Dionisos Attik**	**0.06**	**277**	P	**Pg**	**09 03 16.4**	**-0.2**
DION				S	**Sg**	**09 03 17.9**	**-0.5**
DION				AML	AML	09 03 18.1	
DION				AML	AML	09 03 18.4	
PTL	**Penteli**	**0.12**	**259**	P	**Pg**	**09 03 17.1**	**-0.1**
PTL				S	**Sg**	**09 03 19.1**	**-0.4**
PTL	**Penteli**	**0.12**	**259**	P	**Pg**	**09 03 17.1**	**-0.1**
PTL				S	**Sg**	**09 03 19.0**	**-0.4**
ATHU	**Athens Univers**	**0.20**	**240**	P	**Pg**	**09 03 18.4**	**-0.1**
ATHU				S	**Sg**	**09 03 21.3**	**-0.3**
	13μm,0.4s						
ATHU	**Athens Univers**	**0.20**	**240**	P	**Pg**	**09 03 18.4**	**-0.1**
ATHU				S	**Sg**	**09 03 21.2**	**-0.3**
ATHU				AML	AML	09 03 21.5	
	comp=N,40872μm,0.4s						
ATHU				AML	AML	09 03 21.9	
	comp=E,10084μm,0.3s						
ATH	**Athens Observa**	**0.25**	**247**	P	**Pg**	**09 03 19.4**	**+0.1**
ATH				S	**Sg**	**09 03 23.1**	**+0.3**
	comp=E,32μm,0.4s						
ATH	**Athens Observa**	**0.25**	**247**	P	**Pg**	**09 03 19.3**	**+0.1**
ATH				S	**Sg**	**09 03 23.1**	**+0.3**
ATH				AML	AML	09 03 23.3	
	comp=N,84616μm,0.4s						
ATH				AML	AML	09 03 23.5	
	comp=E,41084μm,0.3s						
VLY	**Voula,Athens**	**0.28**	**218**	P	**Pg**	**09 03 19.6**	**0.0**
VLY				S	**Sg**	**09 03 23.4**	**-0.2**
	comp=E,22μm,0.2s						
VLY	**Voula,Athens**	**0.28**	**218**	P	**Pg**	**09 03 19.7**	**0.0**
VLY				S	**Sg**	**09 03 23.4**	**-0.2**
VLY				AML	AML	09 03 24.0	
	comp=N,42303μm,0.2s						
VLY				AML	AML	09 03 24.9	
	comp=E,48136μm,0.3s						
KARY	**Karystos**	**0.34**	**96**	P	**Pg**	**09 03 20.7**	**-0.1**
KARY				S	**Sg**	**09 03 25.6**	**+0.1**
KARY	**Karystos**	**0.34**	**96**	P	**Pg**	**09 03 20.7**	**-0.1**
EREA	**Eretria**	**0.35**	**350**	P	**Pg**	**09 03 21.5**	**+0.4**
EREA				S	**Sb**	**09 03 27.0**	**-0.6**
	comp=E,11μm,0.2s						
EREA	**Eretria**	**0.35**	**350**	P	**Pg**	**09 03 21.1**	**0.0**
EREA				AML	AML	09 03 27.2	
	comp=E,24028μm,0.2s						
EREA				AML	AML	09 03 27.2	
	comp=N,19257μm,0.3s						
VILL	**Villia**	**0.56**	**280**	P	**Pg**	**09 03 25.1**	**+0.2**
VILL				S	**Sb**	**09 03 33.5**	**+0.1**
	comp=N,3μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.57**	**7**	P	**Pg**	**09 03 24.9**	**-0.1**
KYMI				S	**Sb**	**09 03 33.4**	**-0.3**
	comp=N,2μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.57**	**7**	P	**Pg**	**09 03 25.0**	**-0.1**
KYMI				S	**Sg**	**09 03 32.8**	**+0.2**
KYMI				AML	AML	09 03 37.5	
	comp=N,3805μm,0.4s						
KYMI				AML	AML	09 03 37.9	
	comp=E,4566μm,0.4s						
VIL2	**Platees**	**0.60**	**284**	P	**Pg**	**09 03 25.1**	**-0.6**
VIL2				AML	AML	09 03 37.9	
	comp=N,6040μm,0.6s						
VIL2				AML	AML	09 03 38.3	
	comp=E,5709μm,0.5s						
LOUT	**Loutraki**	**0.82**	**265**	P	**Pg**	**09 03 29.6**	**-0.2**
LOUT				S	**Sb**	**09 03 41.1**	**+0.1**
	comp=E,3μm,0.3s						
LOUT	**Loutraki**	**0.82**	**265**	P	**Pg**	**09 03 29.5**	**-0.2**
LTK	**Loutraki**	**0.82**	**267**	P	**Pg**	**09 03 29.5**	**-0.4**
LTK				S	**Sb**	**09 03 41.2**	**+0.1**
	comp=E,3μm,0.3s						
LTK	**Loutraki**	**0.82**	**267**	P	**Pg**	**09 03 29.6**	**-0.2**
LTK				S	**Sg**	**09 03 40.9**	**+0.3**
LTK				AML	AML	09 03 43.3	
	comp=E,6252μm,0.2s						
LTK				AML	AML	09 03 43.6	
	comp=N,4693μm,0.3s						
EPID	**Epidavros**	**0.84**	**237**	P	**Pg**	**09 03 30.2**	**+0.1**
EPID				S	**Sb**	**09 03 41.6**	**+0.1**
	comp=N,6μm,0.2s						
EPID	**Epidavros**	**0.84**	**237**	P	**Pg**	**09 03 29.9**	**-0.2**
SKY	**Skiros Island**	**0.91**	**28**	P	**Pg**	**09 03 30.7**	**-0.8**
KRND	**KRANIDI**	**0.97**	**225**	P	**Pg**	**09 03 32.3**	**-0.3**
KRND				S	**Sn**	**09 03 46.8**	**+0.1**
	comp=N,3μm,0.4s						
KRND	**KRANIDI**	**0.97**	**225**	P	**Pg**	**09 03 32.1**	**-0.5**
KRND				AML	AML	09 03 47.5	
	comp=E,5224μm,0.5s						
KRND				AML	AML	09 03 49.0	
	comp=N,7485μm,0.3s						
LKR	**Lokris**	**0.98**	**306**	P	**Pg**	**09 03 32.1**	**-0.8**
LKR				S	**Sb**	**09 03 46.2**	**+0.6**
	comp=N,3μm,0.2s						
LKR	**Lokris**	**0.98**	**306**	P	**Pg**	**09 03 32.1**	**-0.8**
LKR				AML	AML	09 03 47.1	
	comp=N,5526μm,0.2s						
LKR				AML	AML	09 03 49.2	
	comp=E,4674μm,0.3s						
SMIA	**Simia**	**1.02**	**322**	P	**Pb**	**09 03 33.6**	**+0.1**
SMIA				S	**Sn**	**09 03 48.1**	**0.0**
	comp=E,8μm,0.6s						
SMIA	**Simia**	**1.02**	**322**	P	**Pb**	**09 03 33.3**	**-0.1**
SMIA				AML	AML	09 03 52.4	
	comp=E,14796μm,0.6s						
SMIA				AML	AML	09 03 56.1	
	comp=N,18760μm,0.6s						
TNSA	**Tinos**	**1.06**	**120**	P	**Pb**	**09 03 34.1**	**+0.1**
THAL	**Thalero**	**1.06**	**269**	P	**Pb**	**09 03 34.3**	**+0.2**
THAL				S	**Sn**	**09 03 49.0**	**-0.1**
	comp=N,3μm,0.4s						
THAL	**Thalero**	**1.06**	**269**	P	**Pb**	**09 03 33.9**	**-0.2**
THAL				AML	AML	09 03 57.3	
	comp=E,4712μm,0.5s						
THAL				AML	AML	09 04 01.7	
	comp=N,4957μm,0.3s						
ALNA	**Alonissos**	**1.08**	**354**	P	**Pb**	**09 03 34.1**	**-0.4**
DLFA	**Delphi**	**1.26**	**289**	P	**Pn**	**09 03 36.5**	**-0.6**
NEO	**Neokhori**	**1.38**	**334**	P	**Pn**	**09 03 38.8**	**-0.1**
NEO				AML	AML	09 04 00.4	
	comp=E,3320μm,0.3s						
NEO				AML	AML	09 04 00.6	
	comp=N,2457μm,0.4s						
MHLO	**Agia Marina, M**	**1.41**	**167**	P	**Pn**	**09 03 39.2**	**-0.1**
MHLO				AML	AML	09 04 02.4	
	comp=N,9862μm,0.4s						
MHLO				AML	AML	09 04 03.4	
	comp=E,9269μm,0.5s						
XOR	**Xorichti**	**1.44**	**334**	P	**Pn**	**09 03 39.5**	**-0.2**
XOR				S	**Sn**	**09 03 57.5**	**-1.0**
	comp=E,902nm,0.5s						
XOR	**Xorichti**	**1.44**	**334**	P	**Pn**	**09 03 39.4**	**-0.3**
XOR				AML	AML	09 04 03.1	
	comp=E,1555μm,0.5s						
XOR				AML	AML	09 04 03.4	
	comp=N,2182μm,0.6s						
KLV	**Kalavryta, Ach**	**1.47**	**270**	P	**Pn**	**09 03 40.2**	**+0.1**
KLV				AML	AML	09 04 05.9	
	comp=N,621μm,0.4s						
KLV				AML	AML	09 04 08.2	
	comp=E,450μm,0.4s						
VLX	**Vlachokerasia**	**1.47**	**242**	P	**Pn**	**09 03 40.2**	**0.0**
VLX				S	**Sn**	**09 03 58.8**	**-0.5**
	comp=E,2μm,0.7s						
VLX	**Vlachokerasia**	**1.47**	**242**	P	**Pn**	**09 03 40.1**	**0.0**
VLX				AML	AML	09 04 04.6	
	comp=N,3916μm,0.6s						
VLX				AML	AML	09 04 06.1	
	comp=E,4668μm,0.8s						
TRIZ	**Trizonia**	**1.55**	**282**	P	**Pn**	**09 03 41.2**	**0.0**
APE	**Apeiranthos**	**1.57**	**129**	P	**Pn**	**09 03 41.9**	**+0.4**
APE				AML	AML	09 04 06.6	
	comp=N,4244μm,0.2s						
APE				AML	AML	09 04 07.5	
	comp=E,2718μm,0.2s						
APE	**Apeiranthos**	**1.57**	**129**	*i* P	**Pn**	**09 03 42.2**	**+0.8**
APE				*i* S	**Sb**	**09 04 03.7**	**+1.2**
APE	**Apeiranthos**	**1.57**	**129**	PN	**Pn**	**09 03 42.3**	**+0.8**
APE				SN	**Sb**	**09 04 03.6**	**+1.1**
SERG	**Sergoula**	**1.57**	**283**	P	**Pn**	**09 03 41.8**	**+0.2**
VLI	**Velíai**	**1.60**	**213**	P	**Pn**	**09 03 41.6**	**-0.2**
VLI				S	**Sn**	**09 04 00.8**	**-1.5**
	comp=E,542nm,0.5s						
VLI	**Velíai**	**1.60**	**213**	P	**Pn**	**09 03 41.6**	**-0.2**
VLI				AML	AML	09 04 08.9	
	comp=N,1163μm,0.4s						
VLI				AML	AML	09 04 09.5	
	comp=E,1004μm,0.4s						
LAKA	**Lakka**	**1.61**	**277**	P	**Pn**	**09 03 42.5**	**+0.5**
AGG	**Agios Georgios**	**1.62**	**306**	P	**Pn**	**09 03 42.5**	**+0.3**
AGG				AML	AML	09 04 16.0	
	comp=E,568μm,0.8s						
AGG				AML	AML	09 04 16.3	
	comp=N,741μm,0.9s						
AGG	**Agios Georgios**	**1.62**	**306**	*i* P	**Pn**	**09 03 42.5**	**+0.3**
AGG				*i* S	**Sg**	**09 04 07.2**	**+1.0**
CHOS	**Chios island**	**1.64**	**78**	PN	**Pn**	**09 03 42.6**	**+0.1**
CHOS				SN	**Sn**	**09 04 02.2**	**-1.3**
EFSA	**Agios Efstrati**	**1.66**	**27**	P	**Pn**	**09 03 42.9**	**+0.4**
EFP	**Efpalio**	**1.69**	**283**	P	**Pn**	**09 03 43.8**	**+0.7**
ANX	**Ano Chora**	**1.72**	**288**	P	**Pn**	**09 03 44.3**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.75**	**303**	P	**Pn**	**09 03 44.8**	**+0.9**
SIGR	**SIGRI**	**1.84**	**51**	PN	**Pn**	**09 03 46.4**	**+1.3**
EVR	**Evrytania**	**1.92**	**297**	P	**Pn**	**09 03 47.5**	**+1.1**
ZEYE	**Izmir, Urla-Ze**	**1.97**	**

NEIC ***24*** *09:04:40.4±1.1, 25.°0S±0.°1×179.°8E±0.°1, h522^{km}±10^{km}, mb4.6/30, Error ellipse: s-maj=19.5km s-min=17.9km az=63.0*

IDC ***24*** *09:04:41.7±2.4, 24.°84S×179.°62E, h530^{km}±28^{km}, mb3.3/7, mb1 3.5/9, mb1mx3.2/38, mbtmp4.2/9, Error ellipse: s-maj=24.4km s-min=17.3km az=136.0*

ISC 24 09:04:39.1±0.6, 25.°02S±0.°07×179.°81E±0.°10, h500^{km}, n88, σ1$, 82/95, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.68**	**155**	P	**P**	**09 06 05.7**	**+2.5**
GLKZ				S	**S**	**09 07 12.8**	**+0.9**
MSVF	**Nonsavu**	**7.43**	**347**	P	**P**	**09 06 30.4**	**+0.4**
	1.8nm,0.3s,baz=219,slow=18,SNR=5.3						
MSVF	**Nonsavu**	**7.43**	**347**	P	**P**	**09 06 30.1**	**+0.1**
MARNC	**Mare, Loyalty**	**11.39**	**286**	P	**P**	**09 07 12.5**	**+1.3**
OUZ	**Omahuta**	**11.50**	**206**	P	**P**	**09 07 15.2**	**+3.0**
OUZ	**Omahuta**	**11.50**	**206**	P	**P**	**09 07 14.9**	**+2.7**
PINNC	**Pines Island,**	**11.57**	**279**	P	**P**	**09 07 14.7**	**+1.5**
WCZ	**Waipu Caves**	**11.86**	**202**	P	**P**	**09 07 18.5**	**+2.5**
KUZ	**Kuaotunu**	**12.20**	**196**	P	**P**	**09 07 20.0**	**+0.3**
WIAZ	**Waiheke Island**	**12.40**	**198**	P	**P**	**09 07 23.6**	**+1.8**
MXZ	**Matakaoa Point**	**12.57**	**186**	P	**P**	**09 07 26.7**	**+3.2**
MXZ	**Matakaoa Point**	**12.57**	**186**	P	**P**	**09 07 24.3**	**+0.8**
DZM	**Mont Dzumac**	**12.61**	**281**	P	**P**	**09 07 26.4**	**+2.1**
	0.4nm,0.3s,baz=270,slow=23,SNR=1.3						
DZM	**Mont Dzumac**	**12.61**	**281**	P	**P**	**09 07 25.1**	**+0.8**
HAZ	**Te Kaha**	**12.81**	**187**	P	**P**	**09 07 23.6**	**-2.5**
WMGZ	**Waiomatatini S**	**12.82**	**185**	P	**P**	**09 07 27.2**	**+1.1**
PUZ	**Puketiti**	**13.08**	**185**	P	**P**	**09 07 30.1**	**+1.1**
TWGZ	**Tauwhareparae**	**13.21**	**186**	P	**P**	**09 07 27.2**	**-3.2**
URZ	**Urewera**	**13.40**	**189**	P	**P**	**09 07 32.3**	**0.0**
	2.7nm,0.3s,baz=15,slow=2.5,SNR=20						
URZ				S	**S**	**09 09 55.1**	**0.0**
	1.2nm,0.3s,baz=71,slow=22,SNR=11						
URZ	**Urewera**	**13.40**	**189**	P	**P**	**09 07 33.2**	**+0.9**
URZ	**Urewera**	**13.40**	**189**	P	**P**	**09 07 31.5**	**-0.7**
MWZ	**Matawai**	**13.41**	**188**	P	**P**	**09 07 33.7**	**+1.2**
TKGZ	**Te Karaka**	**13.48**	**187**	P	**P**	**09 07 36.6**	**+3.4**
TLZ	**Tolley Road**	**13.76**	**194**	P	**P**	**09 07 36.6**	**+0.5**
RAHZ	**Arahi**	**14.05**	**189**	P	**P**	**09 07 39.5**	**+0.3**
HIZ	**Hauiti**	**14.09**	**196**	P	**P**	**09 07 42.9**	**+3.2**
HIZ	**Hauiti**	**14.09**	**196**	P	**P**	**09 07 43.1**	**+3.5**
BKZ	**Black Stump Fm**	**14.38**	**190**	P	**P**	**09 07 42.5**	**-0.2**
WAZ	**Wanganui**	**15.24**	**194**	P	**P**	**09 07 56.5**	**+4.8**
BFZ	**Birch Farm**	**15.90**	**190**	P	**P**	**09 07 58.9**	**+0.3**
BFZ	**Birch Farm**	**15.90**	**190**	P	**P**	**09 07 57.5**	**-1.0**
CAW	**Cannon Point**	**16.52**	**193**	P	**P**	**09 08 04.3**	**-0.8**
CAW				S	**S**	**09 10 52.2**	**-2.2**
MSWZ	**Moikau Station**	**16.79**	**192**	P	**P**	**09 08 07.8**	**0.0**
SNZO	**South Karori**	**16.79**	**193**	P	**P**	**09 08 08.0**	**+0.2**
BHW	**Baring Head**	**16.85**	**193**	P	**P**	**09 08 08.0**	**-0.5**
QRZ	**Quartz Range**	**16.89**	**199**	P	**P**	**09 08 09.1**	**+0.2**
QRZ	**Quartz Range**	**16.89**	**199**	P	**P**	**09 08 09.0**	**+0.1**
PLWZ	**Palliser**	**16.93**	**192**	P	**P**	**09 08 08.7**	**-0.6**
NNZ	**Nelson**	**17.02**	**197**	P	**P**	**09 08 10.3**	**+0.2**
NNZ				IAmb	IAmb	09 08 26.4	
	comp=Z,30nm,1.3s						
NNZ	**Nelson**	**17.02**	**197**	P	**P**	**09 08 09.5**	**-0.5**
NNZ				S	**S**	**09 11 00.3**	**-2.6**
TUWZ	**Tuamarina**	**17.08**	**195**	P	**P**	**09 08 10.0**	**-0.7**
TUWZ	**Tuamarina**	**17.08**	**195**	P	**P**	**09 08 09.6**	**-1.1**
TUWZ				S	**S**	**09 10 57.5**	**-6.3**
BSWZ	**Blackbirch Sta**	**17.36**	**195**	P	**P**	**09 08 13.1**	**-0.4**
THZ	**Tophouse**	**17.65**	**197**	P	**P**	**09 08 15.7**	**-0.5**
THZ				IAmb	IAmb	09 08 32.9	
	comp=Z,27nm,1.4s						
THZ	**Tophouse**	**17.65**	**197**	P	**P**	**09 08 15.5**	**-0.7**
THZ				S	**S**	**09 11 09.1**	**-4.3**
DSZ	**Denniston Nort**	**17.95**	**200**	P	**P**	**09 08 19.0**	**+0.1**
KHZ	**Kahutara**	**18.11**	**195**	P	**P**	**09 08 19.4**	**-0.8**
KHZ				IAmb	IAmb	09 08 23.9	
	comp=Z,14nm,1.1s						
KHZ	**Kahutara**	**18.11**	**195**	P	**P**	**09 08 19.1**	**-1.1**
KHZ				S	**S**	**09 11 12.7**	**-7.9**
GVZ	**Greta Valley S**	**18.75**	**196**	P	**P**	**09 08 25.4**	**-0.8**
LTZ	**Lake Taylor**	**18.77**	**197**	P	**P**	**09 08 25.7**	**-0.7**
LTZ				IAmb	IAmb	09 08 27.3	
	comp=Z,11nm,0.6s						
LTZ	**Lake Taylor**	**18.77**	**197**	P	**P**	**09 08 25.1**	**-1.4**
INZ	**Inchbonnie**	**18.96**	**199**	P	**P**	**09 08 27.7**	**-0.4**
OXZ	**Oxford**	**19.34**	**197**	P	**P**	**09 08 31.5**	**0.0**
OXZ	**Oxford**	**19.34**	**197**	P	**P**	**09 08 30.3**	**-1.3**
OXZ				S	**S**	**09 11 42.4**	**+1.6**
MQZ	**McQueen's Vall**	**19.54**	**196**	P	**P**	**09 08 33.1**	**-0.2**
RPZ	**Rata Peaks**	**19.98**	**199**	P	**P**	**09 08 37.3**	**-0.1**
RPZ				IAmb	IAmb	09 09 02.4	
	comp=Z,15nm,1.3s						
FOZ	**Fox Glacier**	**20.20**	**201**	P	**P**	**09 08 39.0**	**-0.3**
FOZ				IAmb	IAmb	09 08 39.2	
	comp=Z,21nm,1.0s						
WKZ	**Wanaka**	**21.61**	**201**	P	**P**	**09 08 51.8**	**-0.4**
WKZ				IAmb	IAmb	09 08 56.8	
	comp=Z,26nm,1.2s						
MLZ	**Mavora Lakes**	**22.39**	**202**	P	**P**	**09 08 59.4**	**+0.2**
MLZ				IAmb	IAmb	09 09 00.9	
	comp=Z,7.1nm,0.9s						
WHZ	**Wether Hill Ro**	**22.91**	**202**	P	**P**	**09 09 03.4**	**-0.4**
CAN	**Canberra**	**28.45**	**242**	P	**P**	**09 09 53.3**	**+0.3**
CAN				IAmb	IAmb	09 10 12.7	
	comp=Z,5.6nm,0.9s						
CTAO	**Charters Tower**	**31.33**	**272**	P	**P**	**09 10 18.3**	**+0.2**
CTAO				IAmb	IAmb	09 10 18.6	
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**09 10 42.0**	**0.0**
	comp=Z,2.0nm,0.4s,baz=104,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**34.16**	**250**	P	**P**	**09 10 41.7**	**-0.4**
BBOO	**Buckleboo**	**38.86**	**248**	P	**P**	**09 11 19.7**	**-1.1**
BBOO				IAmb	IAmb	09 11 40.3	
	comp=Z,30nm,1.2s						
AS31	**Alice Springs**	**41.70**	**262**	P	**P**	**09 11 42.9**	**-0.8**
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**09 11 43.0**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=93,slow=7.2,SNR=54						
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**09 11 42.7**	**-1.1**
WR0	**Warramunga Arr**	**41.98**	**267**	P	**P**	**09 11 44.7**	**-1.3**
WR0				IAmb	IAmb	09 11 45.2	
	comp=Z,4.1nm,0.5s						
WB2	**Warramunga Arr**	**42.16**	**267**	P	**P**	**09 11 46.1**	**-1.4**
WB2				IAmb	IAmb	09 11 46.6	
	comp=Z,9.5nm,0.5s						
WRAB	**Tennant Creek**	**42.16**	**267**	P	**P**	**09 11 46.5**	**-1.0**
WRAB				IAmb	IAmb	09 11 46.6	
	comp=Z,8.2nm,0.4s						
WB0	**Warramunga Arr**	**42.17**	**268**	P	**P**	**09 11 46.5**	**-1.0**
WB0				IAmb	IAmb	09 11 47.0	
	comp=Z,8.2nm,0.6s						
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**09 11 46.4**	**-1.2**
	comp=Z,6.0nm,0.4s,baz=99,slow=7.0,SNR=170						
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**09 11 46.1**	**-1.5**
FORT	**Forrest**	**45.77**	**251**	P	**P**	**09 12 14.1**	**-1.3**
KNRA	**Kununurra**	**48.52**	**271**	P	**P**	**09 12 35.0**	**-1.3**
KNRA				IAmb	IAmb	09 12 36.2	
	comp=Z,17nm,1.1s						
VNDA	**Vanda**	**53.25**	**185**	P	**P**	**09 13 11.1**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=36,slow=8.7,SNR=10						
VNDA	**Vanda**	**53.25**	**185**	P	**P**	**09 13 10.6**	**+0.8**
CASY	**Casey**	**59.03**	**206**	P	**P**	**09 13 49.9**	**-0.1**
QSPA	**South Pole Qui**	**65.07**	**180**	P	**P**	**09 14 30.4**	**+0.9**
PETK	**Petropavlovsk-**	**80.14**	**347**	P	**P**	**09 15 55.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=134,slow=6.4,SNR=4.3						
NVAR	**Mina Array Bea**	**85.67**	**44**	P	**P**	**09 16 25.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=219,slow=8.6,SNR=6.4						
I07A	**Izee**	**88.36**	**39**	P	**P**	**09 16 35.8**	**-1.4**
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**09 16 51.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=228,slow=4.9,SNR=9.2						
TXAR	**Lajitas Array**	**91.17**	**58**	P	**P**	**09 16 50.3**	**-0.3**
WUPA	**West Chester U**	**116.39**	**56**		**PKiKP**	**09 22 25.8**	**+0.2**
NOA	**NORSAR Array B**	**143.16**	**351**	PKP	PKPab	09 23 11.9	-1.1
	comp=Z,0.6nm,0.8s,baz=10,slow=2.3,SNR=3.8						
CLL	**Collm**	**151.87**	**342**	*e*PKPbc	**PKPbc**	**09 23 36.0**	**-0.7**

BJI ***24*** *09:07:03.4±0.0, 24.°73N×122.°70E, h12^{km}, mB4.8/35, mb4.3/49, Ms4.8/41, Ms7 4.7/36*

IDC ***24*** *09:07:03.2±0.7, 24.°78N×122.°50E, h0^{km}, mb4.4/16, mb1 4.5/16, mb1mx4.2/42, mbtmp4.4/16, MS3.9/14, Ms1 3.9/14, ms1mx3.6/48, Error ellipse: s-maj=26.7km s-min=15.8km az=73.0*

TAP ***24*** *09:07:03.5, 24.°97N×122.°74E, h75^{km}, ML4.2, D*

JMA ***24*** *09:07:04.8±0.1, 24.°88N×122.°77E, h28^{km}±2^{km}, M3.8*

NIED ***24*** *09:07:04.8, 24.°88N×122.°77E, h28^{km}, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-6.60; $M_{\theta\theta}$7.23; $M_{\phi\phi}$-0.63; $M_{r\theta}$-3.43; $M_{\theta\phi}$-1.16; $M_{\phi r}$-1.95; Fault plane solution: $M_0$8.07000×10^{15} NP1: ϕ_s81.00000°, δ60.00000°, λ-110.00000°. NP2: ϕ_s296.00000°, δ36.00000°, λ-60.00000°.*

NEIC ***24*** *09:07:05.6±2.0, 24.°83N±0.°06×122.°60E±0.°06, h9^{km}±4^{km}, mb4.7/41 Error ellipse: s-maj=8.9km s-min=6.9km az=215.0*

ISC 24 09:07:04.3±1.2, 24.°86N±0.°02×122.°69E±0.°02, h7^{km}±7^{km}, n198, σ1$68/288, mb4.6/32, MS4.0/14, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**150**	P	**Pb**	**09 07 14.1**	**-0.6**
JYNG				*e*S	**Sb**	**09 07 20.8**	**-1.0**
YOJ	**Yonaguni jima**	**0.49**	**144**	P	**Pb**	**09 07 14.4**	**-0.7**
YOJ				*e*S	**Sb**	**09 07 21.2**	**-1.3**
YOJ	**Yonaguni jima**	**0.49**	**144**	*e*P	**Pn**	**09 07 18.0**	**+0.4**
	baz=148						
YOJ				*e*S	**Sb**	**09 07 28.1**	**+5.7**
	baz=148						
YOJ	**Yonaguni jima**	**0.49**	**144**		**Pb**	**09 07 14.6**	**-0.6**
YOJ				Sg	**Sb**	**09 07 22.7**	**+0.2**
TWB1	**Santiao Chiao**	**0.66**	**283**	*i* P	**Pn**	**09 07 18.3**	**-1.6**
	baz=276						
TWB1				S	**Sn**	**09 07 30.0**	**-0.5**
	baz=276						
NTC	**Toucheng**	**0.79**	**270**	P	**Pn**	**09 07 21.2**	**-0.4**
	baz=254						
NTC				S	**Sn**	**09 07 33.9**	**+0.2**
	baz=254						
TIPB	**Shuangxi**	**0.80**	**278**	P	**Pn**	**09 07 20.8**	**-1.1**
	baz=271						
TIPB				S	**Sn**	**09 07 33.8**	**-0.2**
	baz=271						
TWC	**Suao**	**0.81**	**252**	P	**Pn**	**09 07 20.6**	**-1.3**
	baz=240						
TWC				S	**Sn**	**09 07 33.3**	**-0.9**
	baz=240						
NWF	**Wu-fen Shan**	**0.85**	**285**	P	**Pn**	**09 07 21.2**	**-1.5**
	baz=277						
NWF				S	**Sn**	**09 07 34.8**	**-0.7**
	baz=277						
WFSB	**Wu-fen Shan**	**0.85**	**285**	*e*P	**Pn**	**09 07 21.4**	**-1.3**
	baz=277						
TNOU	**National Taiwa**	**0.89**	**289**	*e*P	**Pb**	**09 07 21.5**	**-0.4**
	baz=282						
TNOU				*e*S	**Sn**	**09 07 35.6**	**-0.5**
	baz=282						
NDS	**Dongshan**	**0.92**	**256**	P	**Pn**	**09 07 22.6**	**-0.9**
	baz=250						
NDS				S	**Sn**	**09 07 36.8**	**-0.2**
	baz=250						
EWUT	**Wuta**	**0.93**	**244**	*i* P	**Pn**	**09 07 22.9**	**-0.7**
	baz=239						
EWUT				S	**Sn**	**09 07 37.1**	**-0.1**
	baz=239						
TWE	**Neicheng**	**0.94**	**262**	P	**Pn**	**09 07 23.0**	**-0.8**
	baz=250						
TWE				*e*S	**Sn**	**09 07 36.5**	**-1.0**
	baz=250						
PCYT	**Pengchaiyu**	**0.95**	**324**	*e*P	**Pn**	**09 07 23.2**	**-0.8**
	baz=318						
PCYT				S	**Sb**	**09 07 35.6**	**-0.3**
	baz=318						
TWA	**Mucha**	**1.01**	**277**	*e*P	**Pn**	**09 07 23.9**	**-1.0**
	baz=262						
TWA				*e*S	**Sn**	**09 07 38.7**	**-0.6**
	baz=262						
ENTT	**Nioudou**	**1.05**	**258**	P	**Pn**	**09 07 24.5**	**-0.8**
	baz=253						
ENTT				S	**Sn**	**09 07 39.9**	**-0.3**
	baz=253						
YM08	**YM08**	**1.05**	**288**	P	**Pn**	**09 07 24.6**	**-0.8**
	baz=282						
YM08				S	**Sn**	**09 07 39.5**	**-0.8**
	baz=282						
YM01	**YM01**	**1.06**	**286**	P	**Pn**	**09 07 24.5**	**-1.0**
	baz=280						
YM01				S	**Sn**	**09 07 38.8**	**-1.7**
	baz=280						
NHDH	**Xindian Distri**	**1.07**	**276**	*e*P	**Pn**	**09 07 24.7**	**-0.9**
	baz=263						
NHDH				*e*S	**Sn**	**09 07 40.1**	**-0.5**
	baz=263						
TWY	**Chenhua**	**1.08**	**293**	P	**Pb**	**09 07 24.4**	**-0.8**
	baz=287						
TWY				S	**Sn**	**09 07 39.8**	**-1.0**
	baz=287						
IRIF	**Iriomote-Funau**	**1.08**	**119**	P	**Pb**	**09 07 23.3**	**-1.9**
NWLT	**Wulai**	**1.08**	**266**	P	**Pn**	**09 07 25.2**	**-0.7**
	baz=261						
NWLT				S	**Sn**	**09 07 40.1**	**-1.0**
	baz=261						
TATO	**Taipei**	**1.10**	**276**	P	**Pn**	**09 07 24.8**	**-1.2**
	baz=271						
TATO				S	**Sg**	**09 07 39.8**	**+0.1**
	baz=271						
TATO	**Taipei**	**1.10**	**276**		**Pn**	**09 07 24.8**	**-1.2**
NDT	**Datong Townshi**	**1.10**	**257**	P	**Pn**	**09 07 26.3**	**+0.2**
	baz=252						
NDT				S	**Sn**	**09 07 41.3**	**-0.2**
	baz=252						
NTST	**Danshui**	**1.17**	**285**	*e*P	**Pn**	**09 07 25.9**	**-1.1**
	baz=280						
NTST				*e*S	**Sn**	**09 07 42.5**	**-0.6**
	baz=280						
ETL	**Fush Village**	**1.20**	**235**	*e*P	**Pg**	**09 07 27.8**	**+0.5**
	baz=221						
ETL				*e*S	**Sn**	**09 07 43.3**	**-0.6**
	baz=221						
NACB	**Ninganchiao**	**1.21**	**236**	P	**Pg**	**09 07 27.1**	**-0.3**
	baz=223						
NACB				S	**Sn**	**09 07 43.7**	**-0.5**
	baz=223						
NACB	**Ninganchiao**	**1.21**	**236**		**Pg**	**09 07 28.0**	**+0.5**
YHNB	**Yeheng**	**1.21**	**261**	*e*P	**Pg**	**09 07 27.9**	**+0.3**
	baz=265						
YHNB				*e*S	**Sb**	**09 07 41.9**	**-1.5**
	baz=265						
YHNB	**Yeheng**	**1.21**	**261**		**Pg**	**09 07 27.2**	**-0.3**
TWD	**Chiawan**	**1.26**	**233**	*e*P	**Pg**	**09 07 28.7**	**+0.2**
	baz=220						
TWD				*e*S	**Sg**	**09 07 45.2**	**+0.3**
	baz=220						
NNSB	**Datong**	**1.27**	**251**	P	**Pg**	**09 07 28.4**	**-0.2**
	baz=248						
NNSB				S	**Sg**	**09 07 45.1**	**+0.1**
	baz=248						
NNSH	**Datong**	**1.27**	**251**	P	**Pg**	**09 07 27.7**	**-0.8**
	baz=247						
NNSH				*e*S	**Sg**	**09 07 44.8**	**-0.2**
	baz=247						
NNS	**Nan Shan**	**1.27**	**251**	P	**Pg**	**09 07 28.6**	**-0.1**
	baz=248						
NNS				S	**Sg**	**09 07 45.3**	**+0.1**
	baz=248						
ETLH	**Xiulin Townshi**	**1.28**	**240**	*e*P	**Pg**	**09 07 29.7**	**+0.8**
	baz=226						
ETLH				*e*S	**Sg**	**09 07 45.3**	**-0.1**
	baz=226						
HATJ	**Hateruma jima**	**1.29**	**128**	P	**Pn**	**09 07 26.8**	**-1.8**
HATJ				S	**Sg**	**09 07 44.5**	**-1.2**
JKRS	**Kuro-shima**	**1.35**	**117**	P	**Pn**	**09 07 27.6**	**-1.8**
JIJ	**Ishigaki jima**	**1.41**	**110**	P	**Pn**	**09 07 28.0**	**-2.3**
JIJ				S	**Sn**	**09 07 45.4**	**-3.6**
ETM	**Tongmen**	**1.41**	**231**	P	**Pb**	**09 07 29.8**	**-1.0**
	baz=221						
ETM				S	**Sb**	**09 07 47.6**	**-1.4**
	baz=221						
FUSS	**Fushou**	**1.45**	**246**	P	**Pg**	**09 07 31.1**	**-1.0**
	baz=234						
FUSS				S	**Sn**	**09 07 48.9**	**-1.6**
	baz=234						
WHF	**Hehuan Shan**	**1.48**	**242**	*i* P	**Pg**	**09 07 32.6**	**-0.1**
	baz=229						
WHF				S	**Sb**	**09 07 50.0**	**-1.5**
	baz=229						
JISG	**Ishigakijimahi**	**1.50**	**100**	P	**Pn**	**09 07 29.3**	**-2.2**
JISG				*e*S	**Sn**	**09 07 47.5**	**-3.7**
TDCB	**Techi**	**1.52**	**247**	*e*P	**Pg**	**09 07 33.3**	**-0.1**
	baz=238						
TDCB				S	**Sb**	**09 07 51.3**	**-1.1**
	baz=238						
LIOB	**Emei**	**1.54**	**263**	*e*P	**Pg**	**09 07 32.7**	**-1.1**
	baz=259						
LIOB				S	**Sn**	**09 07 51.0**	**-1.4**
	baz=259						
ESL	**Shilin**	**1.55**	**228**	*e*P	**Pg**	**09 07 32.6**	**-1.4**
	baz=217						
ESL				S	**Sn**	**09 07 50.8**	**-1.8**
	baz=217						
SBCB	**Hsinchu**	**1.55**	**268**	*e*P	**Pb**	**09 07 32.7**	**-0.6**
	baz=271						
SBCB				S	**Sn**	**09 07 51.1**	**-1.6**
	baz=271						
NSTT	**Nanjuang**	**1.56**	**262**	*e*P	**Pb**	**09 07 32.3**	**-1.0**
	baz=258						
NSTT				*e*S	**Sn**	**09 07 51.0**	**-1.6**
	baz=258						
CHGB	**Renai**	**1.60**	**241**	*e*P	**Pg**	**09 07 34.4**	**-0.5**
	baz=228						
CHGB				S	**Sn**	**09 07 52.5**	**-1.5**
	baz=228						
OWD	**Renai**	**1.65**	**237**	*e*P	**Pb**	**09 07 34.4**	**-0.6**
	baz=226						
OWD				*e*S	**Sn**	**09 07 53.8**	**-1.5**
	baz=226						
WHP	**Taichung City**	**1.69**	**250**	P	**Pg**	**09 07 35.7**	**-1.0**
	baz=238						
WHP				S	**Sb**	**09 07 56.7**	**-0.6**
	baz=238						
NMLH	**Miaoli**	**1.76**	**260**	*e*P	**Pn**	**09 07 34.2**	**-0.9**
	baz=257						
NMLH				S	**Sn**	**09 07 57.0**	**-0.7**
	baz=257						
HGSD	**Ruisui**	**1.79**	**221**	*e*P	**Pb**	**09 07 35.5**	**-1.8**
	baz=214						
HGSD				S	**Sb**	**09 07 57.5**	**-2.4**
	baz=214						
DPDB	**Guoxing**	**1.81**	**243**	*e*P	**Pg**	**09 07 37.6**	**-1.3**
	baz=233						
DPDB				S	**Sn**	**09 07 58.2**	**-0.8**
	baz=233						
WCS	**Beigang Elemen**	**1.81**	**244**	*e*P	**Pb**	**09 07 36.5**	**-1.2**
	baz=233						
WCS				S	**Sb**	**09 07 58.2**	**-2.3**
	baz=233						
EHY	**Hungye**	**1.84**	**223**	*e*P	**Pb**	**09 07 36.4**	**-1.7**
	baz=222						
EHY				S	**Sn**	**09 07 58.1**	**-1.6**
	baz=222						
JTJ	**Tarama**	**1.84**	**96**	P	**Pn**	**09 07 35.2**	**-1.0**
SMLT	**Sun Moon Lake**	**1.90**	**240**	*e*P	**Pb**	**09 07 38.2**	**-1.1**
	baz=229						
SMLT				S	**Sn**	**09 08 00.7**	**-0.7**
	baz=229						
ECBN	**Changbin**	**1.91**	**217**	*e*P	**Pn**	**09 07 36.2**	**-0.9**
	baz=207						
ECBN				S	**Sn**	**09 08 00.3**	**-1.1**
	baz=207						
SSLB	**Suanglung**	**1.91**	**237**	*e*P	**Pb**	**09 07 38.3**	**-1.1**
	baz=228						
SSLB				S	**Sn**	**09 07 58.5**	**-3.1**
	baz=228						
SSLB	**Suanglung**	**1.91**	**237**	Pn	**Pb**	**09 07 38.0**	**-1.4**
TYC	**Yuchr**	**1.92**	**241**	*e*P	**Pb**	**09 07 38.8**	**-0.8**
	baz=230						
TYC				S	**Sn**	**09 08 00.3**	**-1.5**
	baz=230						
YULB	**Yu-li**	**1.94**	**221**	P	**Pn**	**09 07 36.9**	**-0.7**
	baz=220						
YULB				S	**Sn**	**09 08 00.6**	**-1.6**
	baz=220						
YULB	**Yu-li**	**1.94**	**221**	Pn	**Pn**	**09 07 37.4**	**-0.2**
EYUL	**Yuli**	**1.96**	**220**	*e*P	**Pb**	**09 07 38.3**	**-1.9**
	baz=228						
EYUL				S	**Sn**	**09 08 01.0**	**-1.6**
	baz=228						
TWF1	**Yuli**	**1.97**	**221**	*e*P	**Pb**	**09 07 38.2**	**-2.2**
	baz=219						
TWF1				S	**Sn**	**09 08 01.6**	**-1.3**
	baz=219						
WJS	**Zhushan**	**2.07**	**241**	P	**Pb**	**09 07 39.7**	**-2.4**
	baz=250						
WJS				S	**Sb**	**09 08 06.5**	**-1.5**
	baz=250						
WNT	**Mingjian**	**2.08**	**242**	*e*P	**Pb**	**09 07 40.4**	**-1.8**
	baz=240						
WNT				*e*S	**Sb**	**09 08 07.3**	**-0.9**
	baz=240						
FULB	**Fuli**	**2.09**	**218**	*e*P	**Pn**	**09 07 39.5**	**-0.1**
	baz=208						
FULB				S	**Sn**	**09 08 05.1**	**-0.8**
	baz=208						
CHKT	**Chengkung**	**2.13**	**215**	*e*P	**Pn**	**09 07 38.8**	**-1.4**
	baz=207						
CHKT				*e*S	**Sn**	**09 08 04.4**	**-2.5**
	baz=207						
ALS	**Alishan**	**2.18**	**233**	*e*P	**Pb**	**09 07 41.6**	**-2.7**
	baz=222						
ALS				S	**Sn**	**09 08 08.2**	**-0.5**
	baz=222						
ECS	**Chishang**	**2.21**	**218**	*e*P	**Pb**	**09 07 41.7**	**-2.9**
	baz=217						
ECS				*e*S	**Sb**	**09 08 10.1**	**-2.1**
	baz=217						
CHN5	**Tsauling**	**2.23**	**236**	*e*P	**Pb**	**09 07 43.2**	**-1.6**
	baz=245						
CHN5				S	**Sb**	**09 08 10.1**	**-2.6**
	baz=245						
EDH	**Donghe**	**2.27**	**214**	*e*P	**Pn**	**09 07 41.4**	**-0.7**
	baz=207						
EDH				*e*S	**Sn**	**09 08 08.4**	**-1.9**
	baz=207						
WRL	**Guolierlin Hig**	**2.32**	**246**	*e*P	**Pn**	**09 07 43.2**	**+0.5**
	baz=244						
JMJ	**Miyako jima 2**	**2.36**	**90**	*e*P	**Pn**	**09 07 41.0**	**-2.4**
	baz=93						
JMJ				*e*S	**Sn**	**09 08 07.4**	**-5.2**
	baz=93						
LONT	**Longtian**	**2.41**	**217**	*e*P	**Pn**	**09 07 43.7**	**-0.4**
	baz=216						
LONT				*e*S	**Sn**	**09 08 12.3**	**-1.6**
	baz=216						
STYH	**Taoyuan**	**2.43**	**

SCST	**Cishan**	**2.81 226**	*e*P		**Pn**	**09 07 50.3**	**+0.7**
	baz=225						
SCST			*e*S		**Sn**	**09 08 24.2**	**+0.5**
	baz=225						
SSD	**Sandimen**	**2.83 222**	*e*P		**Pn**	**09 07 50.4**	**+0.7**
	baz=221						
SSD			*e*S		**Sn**	**09 08 23.6**	**-0.4**
	baz=221						
TSMG	**Majia**	**2.85 222**	*e*P		**Pn**	**09 07 50.5**	**+0.4**
	baz=221						
TSMG			*e*S		**Sn**	**09 08 24.8**	**+0.2**
	baz=221						
MASBT	**Mashibuluo**	**2.92 221**	P		**Pb**	**09 07 52.8**	**-4.0**
	baz=220						
MASBT			S		**Sn**	**09 08 26.2**	**-0.3**
	baz=220						
EAST	**Anshuo**	**2.99 215**	*e*P		**Pn**	**09 07 50.8**	**-1.3**
	baz=214						
EAST			*e*S		**Sn**	**09 08 25.4**	**-2.8**
	baz=214						
XPSS	**Dashiqiu**	**3.06 313**	*e*P		**Pn**	**09 07 52.1**	**-0.9**
	baz=311						
XPSS			*e*S		**Sn**	**09 08 25.1**	**-4.6**
	baz=311						
SSPT	**Xinbi**	**3.06 220**	*e*P		**Pn**	**09 07 54.1**	**+1.0**
	baz=218						
SCZT	**Fangliau**	**3.12 218**	*e*P		**Pn**	**09 07 54.9**	**+1.1**
	baz=208						
SCZT			*e*S		**Sn**	**09 08 30.9**	**-0.4**
	baz=208						
LYJJ	**Jianjiangzhen**	**3.14 303**	*e*P		**Pn**	**09 07 52.6**	**-1.4**
	baz=301						
LYJJ			*e*S		**Sn**	**09 08 28.4**	**-3.3**
	baz=301						
PHUB	**P'eng-hu**	**3.15 246**	*e*P		**Pn**	**09 07 53.0**	**-1.2**
	baz=244						
PHUB			*e*S		**Sn**	**09 08 28.9**	**-3.1**
	baz=244						
SLIU	**Shizi**	**3.15 214**	*e*P		**Pn**	**09 07 53.7**	**-0.5**
	baz=213						
SLIU			*e*S		**Sn**	**09 08 30.2**	**-2.0**
	baz=213						
WDGT	**Dungji**	**3.20 241**	*e*P		**Pn**	**09 07 54.0**	**-0.8**
	baz=238						
PTMZ	**Houxiangcun**	**3.25 274**	*e*P		**Pn**	**09 07 54.8**	**-0.8**
	baz=264						
PTMZ			*e*S		**Sn**	**09 08 32.2**	**-2.2**
	baz=264						
TSEB	**Hengchuen, Pin**	**3.37 210**	*e*P		**Pn**	**09 07 57.7**	**+0.4**
	baz=210						
TSEB			*e*S		**Sn**	**09 08 35.6**	**-2.0**
	baz=210						
TWKBT	**Hengchun**	**3.38 211**	*e*P		**Pn**	**09 07 56.3**	**-1.1**
	baz=214						
TWKBT			*e*S		**Sn**	**09 08 35.3**	**-2.4**
	baz=214						
TWK1	**Hengchun**	**3.38 211**	*e*P		**Pn**	**09 07 57.2**	**-0.1**
	baz=214						
TWK1			*e*S		**Sn**	**09 08 35.1**	**-2.6**
	baz=214						
MHZQ	**Yeshan**	**3.54 291**	*e*P		**Pn**	**09 07 57.9**	**-1.6**
	baz=290						
MHZQ			*e*S		**Sn**	**09 08 39.1**	**-2.4**
	baz=290						
KNMB	**Chin-men Tao**	**3.94 265**	*e*P		**Pn**	**09 08 04.2**	**-0.8**
	baz=253						
KNMB			*e*S		**Sn**	**09 08 49.1**	**-2.4**
	baz=253						
AXDP	**Jialang**	**4.29 272**	*e*P		**Pn**	**09 08 10.3**	**+0.4**
	baz=260						
JOW	**Kunigami**	**5.40 67**	Pn		Pn	09 08 30.7	+5.5
	1.8nm,0.3s,baz=275,slow=7.8,SNR=7.5						
JOW			LR		LR	09 10 26.4	
	comp=Z,544nm,21.1s,baz=316,slow=36						
SSE	**Sheshan**	**6.36 348**	Pn		**Pn**	**09 08 38.3**	**0.0**
SSE			Sn		**Sn**	**09 09 52.5**	**+1.4**
SSE			LR		LR		
	comp=N,2μm,10.2s						
NJ2	**Nanjing**	**7.92 336**	*e*P		**Pn**	**09 09 01.8**	**+2.0**
NJ2			pmax		pmax		
	comp=Z,14nm,0.7s						
NJ2			LR		LR		
	comp=N,2μm,11.8s						
NJ2			LR		LR		
	comp=E,5μm,9.0s						
NJ2			LR		LR		
	comp=Z,4μm,11.4s						
KSRS	**Korea Array**	**13.33 18**	Pn		**P**	**09 10 23.3**	**-0.3**
	0.4nm,0.3s,baz=196,slow=12,SNR=33						
KSRS			LR		LR	09 15 42.3	
	comp=Z,732nm,18.4s,baz=187,slow=39						
GYA	**Guiyang**	**14.54 280**	*e*P		**P**	**09 10 35.6**	**-1.7**
GYA			LR		LR		
	comp=N,93nm,8.3s						
GYA			LR		LR		
	comp=E,210nm,9.0s						
XAN	**Xi'an**	**15.07 311**	P		**P**	**09 10 45.0**	**+1.9**
XAN			pP		sP	09 10 48.8	+3.2
XAN			S		**Sn**	**09 13 14.4**	**-11**
XAN			LR		LR		
	comp=N,4μm,13.3s						
XAN			LR		LR		
	comp=E,2μm,11.8s						
XAN			LR		LR		
	comp=Z,6μm,10.4s						
XAN	**Xi'an**	**15.07 311**	P		**Pn**	**09 10 38.3**	**+0.6**
XAN			pP		P	09 10 42.0	-1.1
XAN			pmax		pmax		
	comp=Z,5.0nm,0.9s						
MJAR	**Matsushiro Arr**	**17.68 45**	LR		LR	09 18 54.6	
	comp=Z,206nm,18.4s,baz=260,slow=40						
KMI	**Kunming**	**18.09 275**	⇓P		**P**	**09 11 17.8**	**+1.0**
KMI			pP		sP	09 11 20.4	+1.1
KMI			pmax		pmax		
	comp=Z,9.0nm,0.5s						
KMI			LR		LR		
	comp=Z,3μm,12.0s						
KMI			LR		LR		
	comp=Z,520nm,13.1s						
KMI			LR		LR		
	comp=Z,480nm,13.8s						
HHC	**Hu-ho-hao-te**	**18.46 332**	*e*P		**Pn**	**09 11 22.3**	**+1.7**
HHC			pmax		pmax		
	comp=Z,24nm,1.1s						
HHC			pmax		pmax		
	comp=Z,350nm,5.3s						
HHC			LR		LR		
	comp=Z,2μm,10.8s						
HHC			LR		LR		
	comp=Z,690nm,10.7s						
HHC			LR		LR		
	comp=Z,2μm,11.2s						
BTO	**Baotou**	**18.95 329**	*e*P		**Pn**	**09 11 32.4**	**+5.8**
BTO			S		**S**	**09 15 01.0**	**-0.5**
BTO			LR		LR		
	comp=Z,4μm,13.3s						
BTO			LR		LR		
	comp=Z,6μm,12.4s						
CN2	**Changchun**	**19.03 6**	*e*P		**Pn**	**09 11 31.3**	**+3.8**
CN2			pmax		pmax		
	comp=Z,10.0nm,0.7s						
CN2			LR		LR		
	comp=Z,2μm,13.0s						
CN2			LR		LR		
	comp=Z,1μm,13.0s						
CN2			LR		LR		
	comp=Z,2μm,13.0s						
LZH	**Lanzhou**	**19.69 309**	⇑P		**Pn**	**09 11 37.8**	**+2.2**
LZH			pP		sP	09 11 43.3	+6.5
LZH			sP		pP	09 11 47.9	+12
LZH			pmax		pmax		
	comp=Z,23nm,1.0s						
LZH			pmax		pmax		
	comp=Z,180nm,4.9s						
LZH			LR		LR		
	comp=Z,1μm,11.4s						
LZH			LR		LR		
	comp=Z,2μm,11.9s						
LZH			LR		LR		
	comp=Z,2μm,12.5s						
MDJ	**Mudanjiang**	**20.50 14**	P		Pn	09 11 44.3	-0.6
MDJ			pP		sP	09 11 54.9	+10
MDJ			sP		pP	09 11 59.5	+15
MDJ			S		Sn	09 15 35.9	-0.1
MDJ			PcS		**PcS**	**09 19 29.3**	**-2.6**
MDJ			pmax		pmax		
	comp=Z,12nm,1.1s						
MDJ			pmax		pmax		
	comp=Z,360nm,11.4s						
MDJ			LR		LR		
	comp=Z,2μm,12.7s						
MDJ			LR		LR		
	comp=Z,2μm,13.5s						
MDJ			LR		LR		
	comp=Z,2μm,11.7s						
MDJ	**Mudanjiang**	**20.50 14**	P		Pn	09 11 44.4	-0.5
MDJ			IAmb		IAmb	09 11 53.6	
	comp=Z,23nm,1.3s						
USA0B	**Ussuriysk Arra**	**20.73 19**	P		Pn	09 11 46.4	-1.2
USA0B			IAmb		IAmb	09 11 56.4	
	comp=Z,25nm,1.2s						
USRK	**Ussuriysk Ar.**	**20.73 19**	P		Pn	09 11 47.8	+0.2
	comp=Z,7.8nm,0.8s,baz=214,slow=8.5,SNR=14						
USRK			LR		LR	09 18 50.0	
	comp=Z,232nm,20.4s,baz=188,slow=34						
USRK	**Ussuriysk Ar.**	**20.73 19**	P		Pn	09 11 47.5	-0.1
GUMO	**Guam**	**23.71 114**	LR		LR	09 21 00.2	
	comp=Z,55nm,19.3s,baz=290,slow=35						
GUMO	**Guam**	**23.71 114**	P		**P**	**09 12 19.9**	**+3.0**
GTOI	**Gorontalo**	**24.08 179**	P		**P**	**09 12 20.7**	**+0.3**
GTA	**Gaotai**	**24.11 313**	⇑P		**P**	**09 12 22.3**	**+1.5**
GTA			pP		sP	09 12 28.6	+5.2
GTA			sP		pP	09 12 31.4	+8.8
GTA			pmax		pmax		
	comp=Z,14nm,1.1s						
GTA			pmax		pmax		
	comp=Z,140nm,5.5s						
GTA			LR		LR		
	comp=Z,2μm,12.7s						
GTA			LR		LR		
	comp=Z,2μm,12.0s						
GTA			LR		LR		
	comp=Z,2μm,12.0s						
TNTI	**Ternate**	**24.37 169**	P		**P**	**09 12 23.1**	**0.0**
ASAJ	**Asahikawa**	**25.15 35**	P		**P**	**09 12 32.2**	**+2.3**
	comp=Z,2.4nm,0.7s,baz=219,slow=7.2,SNR=4.8						
ASAJ			LR		LR	09 22 26.7	
	comp=Z,429nm,18.5s,baz=206,slow=36						
JKA	**Kamikawa-asahi**	**25.15 35**	P		**P**	**09 12 31.1**	**+1.2**
KLR	**Kul'dur**	**25.34 14**	P		**P**	**09 12 32.7**	**+1.1**
	comp=Z,4.9nm,0.9s,baz=223,slow=5.7,SNR=17						
KLR			LR		LR	09 23 45.4	
	comp=Z,362nm,18.9s,baz=194,slow=39						
ULN	**Ulaanbaatar**	**26.09 336**	P		**P**	**09 12 38.8**	**+0.2**
SONM	**Songino Array**	**26.32 335**	P		**P**	**09 12 41.8**	**+1.2**
	comp=Z,6.9nm,0.8s,baz=140,slow=9.4,SNR=25						
SONM			LR		LR	09 24 03.1	
	comp=Z,375nm,21.6s,baz=149,slow=39						
SONM	**Songino Array**	**26.32 335**	P		**P**	**09 12 41.8**	**+1.2**
SONM			IAmb		IAmb	09 12 42.7	
	comp=Z,7.9nm,1.0s						
SIJI	**Sorong**	**26.89 161**	LR		LR	09 22 20.8	
	comp=Z,136nm,20.7s,baz=134,slow=34						
YSS	**Yuzh-Sakhalins**	**27.24 31**	P		**P**	**09 12 52.3**	**+3.5**
YSS			IAmb		IAmb	09 13 01.1	
	comp=Z,30nm,1.2s						
KAPI	**Kappang**	**29.83 186**	LR		LR	09 26 19.1	
	comp=Z,44nm,19.5s,baz=24,slow=39						
WMQ	**Urumqi**	**34.20 312**	*e*P		**P**	**09 13 53.4**	**+3.0**
WMQ			LR		LR		
	comp=Z,940nm,20.1s						
WMQ			LR		LR		
	comp=Z,680nm,17.3s						
WMQ			LR		LR		
	comp=Z,280nm,10.7s						
SOEI	**Soe**	**34.44 177**	P		**P**	**09 13 55.0**	**+2.3**
SOEI			IAmb		IAmb	09 14 17.7	
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**37.46 5**	P		**P**	**09 14 18.7**	**+0.7**
MTN	**Manton Dam**	**38.37 167**	P		**P**	**09 14 27.2**	**+1.1**
MTN			IAmb		IAmb	09 14 31.0	
	comp=Z,26nm,1.5s						
MK31	**Makanchi Array**	**38.83 315**	P		**P**	**09 14 30.2**	**+0.4**
MKAR	**Makanchi Array**	**38.83 315**	P		**P**	**09 14 30.5**	**+0.7**
	comp=Z,7.2nm,0.8s,baz=106,slow=9.9,SNR=68						
MKAR			PcP		**PcP**	**09 16 40.0**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=90,slow=5.8,SNR=3.8						
MAKZ	**Makanchi**	**39.03 315**	P		**P**	**09 14 32.6**	**+1.1**
MAKZ			IAmb		IAmb	09 14 33.1	
	comp=Z,8.7nm,0.8s						
ZAA0	**Zalesovo Array**	**40.44 326**	P		**P**	**09 14 42.5**	**-0.6**
ZALV	**Zalesovo Beam**	**40.44 326**	P		**P**	**09 14 42.8**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=114,slow=8.2,SNR=19						
ZALV			LR		LR	09 32 32.0	
	comp=Z,197nm,22.0s,baz=123,slow=38						
ZALV	**Zalesovo Beam**	**40.44 326**	P		**P**	**09 14 42.6**	**-0.5**
TARG	**Taragay, Kyrgy**	**40.63 306**	P		**P**	**09 14 46.1**	**+0.8**
KNRA	**Kununurra**	**40.72 171**	P		**P**	**09 14 45.6**	**-0.1**
KNRA			IAmb		IAmb	09 14 57.6	
	comp=Z,19nm,1.3s						
KDJ	**Kajisay**	**41.16 306**	P		**P**	**09 14 50.5**	**+1.1**
KDJ			IAmb		IAmb	09 14 51.9	
	comp=Z,5.9nm,0.8s						
BOOM	**Boomskoye usch**	**42.12 307**	P		**P**	**09 14 57.3**	**0.0**
KURBB	**Kurchatov Arra**	**42.49 319**	P		**P**	**09 15 00.0**	**0.0**
	comp=Z,4.6nm,0.8s,baz=109,slow=8.3,SNR=41						
WB0	**Warramunga Arr**	**45.79 165**	P		**P**	**09 15 26.3**	**-0.4**
WB0			IAmb		IAmb	09 15 27.3	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**45.94 165**	P		**P**	**09 15 27.8**	**-0.2**
WRAB			IAmb		IAmb	09 15 29.0	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**45.95 165**	P		**P**	**09 15 27.9**	**-0.1**
	comp=Z,11nm,0.8s,baz=346,slow=8.3,SNR=39						
WRA	**Warramunga Arr**	**45.95 165**	P		**P**	**09 15 27.9**	**-0.1**
WB2	**Warramunga Arr**	**45.95 165**	P		**P**	**09 15 27.8**	**-0.2**
WR0	**Warramunga Arr**	**46.02 164**	P		**P**	**09 15 28.0**	**-0.4**
GAR	**Garm**	**46.04 301**	P		**P**	**09 15 27.9**	**-0.9**
KK31	**Karatay Array**	**46.16 307**	P		**P**	**09 15 29.9**	**+0.4**
KKAR	**Karatay Array**	**46.16 307**	P		**P**	**09 15 29.5**	**0.0**
KKAR	**Karatay Array**	**46.16 307**	P		**P**	**09 15 30.2**	**+0.7**
KKAR			IAmb		IAmb	09 15 35.6	
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**46.95 3**	P		**P**	**09 15 35.9**	**+0.6**
	comp=Z,16nm,0.7s,baz=134,slow=11,SNR=5.1						
TIXI	**Tiksi**	**46.95 3**	P		**P**	**09 15 34.9**	**-0.3**
KBL	**Kabul**	**47.12 295**	P		**P**	**09 15 36.2**	**-1.3**
KBL			IAmb		IAmb	09 15 39.4	
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**48.10 320**	P		**P**	**09 15 44.1**	**-0.4**
BRVK			IAmb		IAmb	09 15 45.6	
	comp=Z,6.6nm,0.9s						
NRIK	**Noril'sk**	**49.12 344**	P		**P**	**09 15 51.8**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=120,slow=9.0,SNR=6.5						
NRIK			LR		LR	09 38 41.1	
	comp=Z,415nm,19.1s,baz=139,slow=39						
NRIK	**Noril'sk**	**49.12 344**	P		**P**	**09 15 51.7**	**-0.4**
NRIK			IAmb		IAmb	09 16 01.3	
	comp=Z,7.7nm,1.1s						
AS31	**Alice Springs**	**49.44 166**	P		**P**	**09 15 56.0**	**+0.9**
ASAR	**Alice Springs**	**49.45 166**	P		**P**	**09 15 55.5**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=348,slow=7.6,SNR=15						
CTAO	**Charters Tower**	**50.21 151**	P		**P**	**09 16 01.7**	**+0.7**
CTAO			IAmb		IAmb	09 16 18.8	
	comp=Z,18nm,1.3s						
ABKAR	**Akbulak array**	**53.96 314**	P		**P**	**09 16 29.1**	**+0.5**
ABKAR	**Akbulak array**	**53.96 314**	P		**P**	**09 16 28.8**	**+0.2**
ABKAR			IAmb		IAmb	09 16 29.7	
	comp=Z,8.4nm,0.8s						
ARU	**Arti**	**55.41 323**	P		**P**	**09 16 38.6**	**-0.3**
ARU			IAmb		IAmb	09 16 39.1	
	comp=Z,4.9nm,0.9s						
KLMR	**Klimovskoe**	**65.33 328**	*e*P		**P**	**09 17 43.4**	**-3.4**
KLMR			AMP			09 17 46.7	
	comp=Z,10.0nm,1.1s						
KLMR			*e*PP		**PP**	**09 20 07.4**	**-2.8**
SCRK	**Sand Creek**	**69.39 28**	P		P	09 18 16.3	+3.6
SCRK			IAmb		IAmb	09 18 29.2	
	comp=Z,6.6nm,1.5s						
ARCES	**ARCESS Array B**	**69.43 338**	P		**P**	**09 18 12.8**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=60,slow=7.4,SNR=5.0						
ARCES	**ARCESS Array B**	**69.43 338**	P		**P**	**09 18 12.3**	**-0.3**
ARCES			IAmb		IAmb	09 18 18.3	
	comp=Z,14nm,1.4s						
DOT	**Dot Lake**	**69.44 28**	P		**P**	**09 18 14.7**	**+1.8**
DOT			IAmb		IAmb	09 18 20.5	
	comp=Z,3.7nm,1.2s						
BCAR	**Beaver Creek A**	**70.59 29**	P		**P**	**09 18 21.7**	**+1.8**
FIA1	**FINESS Array S**	**71.56 330**	P		**P**	**09 18 25.2**	**-0.5**
FINES	**FINESS Array B**	**71.56 330**	P		**P**	**09 18 25.0**	**-0.7**
	comp=Z,6.7nm,0.7s,baz=84,slow=5.9,SNR=13						
FINES			LR		LR	09 52 41.2	
	comp=Z,221nm,19.1s,baz=73,slow=38						
FINES	**FINESS Array B**	**71.56 330**	P		**P**	**09 18 25.9**	**+0.1**
NC405	**NORSAR Array S**	**78.02 332**	P		**P**	**09 19 02.0**	**-1.2**
NB2	**NORSAR Subarra**	**78.27 332**	P		**P**	**09 19 03.1**	**-1.5**
	comp=Z,2.9nm,0.8s,baz=57,slow=5.6						
NOA	**NORSAR Array B**	**78.27 332**	P		**P**	**09 19 03.5**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=58,slow=5.8,SNR=11						
NOA			LR		LR	09 56 36.7	
	comp=Z,147nm,18.2s,baz=80,slow=38						
OJC	**Ojcow**	**79.04 320**	P		**P**	**09 19 08.2**	**-0.9**
OJC			IAmb		IAmb	09 19 13.7	
	comp=Z,11nm,0.9s						
YKA	**Yellowknife Ar**	**81.81 23**	P		**P**	**09 19 23.7**	**0.0**
	comp=Z,2.8nm,0.9s,baz=316,slow=4.2,SNR=5.2						
CLL	**Collm**	**82.34 323**	*e*P		**P**	**09 19 27.0**	**+0.3**
NVAR	**Mina Array Bea**	**95.00 44**	P		**P**	**09 20 29.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=294,slow=4.5,SNR=5.1						
VNA2	**Neumayer--Watz**	**125.95 198**	PKPdf		**PKiKP**	**09 26 05.5**	**-1.1**
VNA1	**Neumayer--Stat**	**126.34 198**	PKPdf		**PKiKP**	**09 26 06.6**	**-0.7**
VNA3	**Neumayer Olymp**	**126.41 197**	PKPdf		**PKiKP**	**09 26 06.7**	**-0.8**

*KRNET **24** 09:18:38.0±0.1, 40°.83N×69°.32E, mb2.8*
ISC 24 09:18:50.3±2.2, 40°.73N±0°.05×69°.8E±0°.1, h35km, n7, σ3°60/14, 11C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.02**	**131**	⇑*i*P	**Pn**	**09 19 04.0**	**-4.1**
BTK	baz=24			⇑*i*S	**Sn**	**09 19 23.2**	**+2.0**
TRKS	**Terek-Say**	**1.27**	**51**	⇑*i*P	**Pn**	**09 19 07.0**	**-4.7**
TRKS	baz=65			⇑*i*S	**Sn**	**09 19 28.3**	**+0.6**
DRK	**Karamyk**	**1.97**	**129**	⇑*i*P	**Pn**	**09 19 19.9**	**-1.5**
DRK	baz=25			⇑*i*S	**Sn**	**09 19 50.6**	**+5.6**
KK31	**Karatay Array**	**2.42**	**12**	⇑P	**Pn**	**09 19 26.5**	**-0.9**
KK31	0.7nm,0.3s,baz=194,slow=16,SNR=34			⇓S	**Sn**	**09 20 00.4**	**+4.6**
MNAS	**Manas**	**2.67**	**48**	⇓*i*P	**Pn**	**09 19 27.7**	**-3.2**
MNAS	3.4nm,0.3s,baz=192,slow=28,SNR=15 baz=54			⇓*i*S	**Sn**	**09 20 03.8**	**+1.8**
AML	**Almayashu**	**3.23**	**63**	⇑*i*P	**Pn**	**09 19 36.6**	**-2.2**
AML	baz=67			⇑*i*S	**Sn**	**09 20 18.9**	**+2.7**
ARLS	**Aral**	**3.57**	**70**	⇑*i*P	**Pn**	**09 19 41.8**	**-1.5**
ARLS	baz=73			⇑*i*S	**Sn**	**09 20 28.4**	**+4.0**

*JMA **24** 09:19:28.4±0.2, 25°.00N×122°.79E, h19km±3km, M3.0*
*IDC **24** 09:19:28.6±1.1, 24°.77N×122°.56E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/47, mbtmp3.8/7, MS3.4/2, Ms1 3.4/2, ms1mx2.7/46, Error ellipse: s-maj=43.8km s-min=19.4km az=75.0*
*TAP **24** 09:19:30.2, 24°.71N×122°.97E, h53km, ML3.4, D*
ISC 24 09:19:32.4±0.9, 24°.70N±0°.04×122°.83E±0°.03, h30km±8km, n64, σ0°95/109, mb3.7/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**157**	P	**Pb**	**09 19 39.2**	**-0.2**
JYNG				S	**Sn**	**09 19 46.8**	**+1.5**
YOJ	**Yonaguni jima**	**0.28**	**145**	P	**Pb**	**09 19 39.4**	**-0.2**
YOJ				*e*S	**Sn**	**09 19 47.3**	**+1.5**
YOJ	**Yonaguni jima**	**0.28**	**145**	*e*P	**Pb**	**09 19 39.4**	**-0.2**
YOJ	baz=171			S	**Sn**	**09 19 46.0**	**+0.2**
IRIF	**Iriomote-Funau**	**0.89**	**114**	P	**Pn**	**09 19 48.2**	**-0.7**
TWC	**Suao**	**0.90**	**265**	*e*P	**Pn**	**09 19 46.0**	**-3.0**
TWC	baz=264			S	**Sb**	**09 20 01.4**	**+0.2**
NTC	**Toucheng**	**0.93**	**280**	P	**Pn**	**09 19 49.6**	**+0.2**
TIPB	**Shuangxi**	**0.96**	**287**	S	**Sb**	**09 20 03.3**	**+0.5**
EWUT	**Wuta**	**0.99**	**256**	P	**Pn**	**09 19 48.8**	**-1.5**
EWUT	baz=256			*e*S	**Sb**	**09 20 04.7**	**+0.9**
NDS	**Dongshan**	**1.02**	**267**	*e*P	**Pn**	**09 19 49.2**	**-1.5**
NWF	**Wu-fen Shan**	**1.03**	**291**	*e*P	**Pn**	**09 19 51.0**	**+0.2**
NWF	baz=276			*e*S	**Sb**	**09 20 05.6**	**+0.8**
TWE	**Neicheng**	**1.06**	**272**	P	**Pn**	**09 19 50.0**	**-1.3**
TWE	baz=263			S	**Sb**	**09 20 05.8**	**+0.1**
HATJ	**Hateruma jima**	**1.09**	**126**	S	**Sb**	**09 20 08.3**	**+1.7**
ENTT	**Nioudou**	**1.16**	**267**	*e*P	**Pn**	**09 19 53.0**	**+0.4**
ENTT	baz=266			*e*S	**Sb**	**09 20 08.6**	**+0.1**
JKRS	**Kuro-shima**	**1.17**	**113**	P	**Pn**	**09 19 52.4**	**-0.3**
TWA	**Mucha**	**1.17**	**284**	*e*P	**Pb**	**09 19 53.5**	**-0.6**
TWA	baz=273			*e*S	**Sb**	**09 20 09.2**	**+0.3**
NDT	**Datong Townshi**	**1.21**	**266**	P	**Pn**	**09 19 53.3**	**+0.1**
NDT	baz=265			*e*S	**Sb**	**09 20 10.0**	**+0.1**
NWLT	**Wulai**	**1.21**	**274**	*e*P	**Pn**	**09 19 51.0**	**-2.4**
NWLT	baz=273			*e*S	**Sb**	**09 20 09.9**	**-0.2**
YM08	**YM08**	**1.23**	**294**	*e*P	**Pn**	**09 19 52.5**	**-1.1**
YM08	baz=299			*e*S	**Sn**	**09 20 09.7**	**+0.5**
YM01	**YM01**	**1.23**	**292**	*e*P	**Pn**	**09 19 52.9**	**-0.7**
YM01	baz=277			*e*S	**Sb**	**09 20 10.7**	**0.0**
JIJ	**Ishigaki jima**	**1.24**	**105**	P	**Pn**	**09 19 52.5**	**-1.2**
JIJ				*e*S	**Sb**	**09 20 09.9**	**-0.9**
NACB	**Ninganchiao**	**1.24**	**245**	P	**Pn**	**09 19 53.6**	**-0.2**
NACB	baz=246			S	**Sn**	**09 20 10.0**	**+0.5**
TWD	**Chiawan**	**1.28**	**242**	P	**Pn**	**09 19 54.3**	**0.0**
TWD	baz=242			*e*S	**Sb**	**09 20 12.3**	**+0.2**
ETLH	**Xiulin Townshi**	**1.32**	**249**	*e*P	**Pn**	**09 19 54.7**	**-0.2**
ETLH	baz=237			*e*S	**Sb**	**09 20 13.5**	**+0.1**
YHNB	**Yeheng**	**1.33**	**269**	P	**Pn**	**09 19 54.2**	**-0.7**
YHNB	baz=268			S	**Sn**	**09 20 12.4**	**+0.7**
NNSB	**Datong**	**1.35**	**259**	*e*P	**Pn**	**09 19 54.0**	**-1.3**
NNSB	baz=246			*e*S	**Sn**	**09 20 12.6**	**+0.3**
NNSH	**Datong**	**1.35**	**259**	*e*P	**Pn**	**09 19 54.7**	**-0.6**
NNSH	baz=246			*e*S	**Sn**	**09 20 13.2**	**+0.9**
NNS	**Nan Shan**	**1.35**	**259**	*e*P	**Pn**	**09 19 54.5**	**-0.9**
NNS	baz=247			*e*S	**Sn**	**09 20 13.2**	**+0.7**
ETM	**Tongmen**	**1.42**	**239**	P	**Pn**	**09 19 55.0**	**-1.3**
ETM	baz=231			S	**Sn**	**09 20 14.7**	**+0.7**
FUSS	**Fushou**	**1.52**	**253**	P	**Pn**	**09 19 57.9**	**+0.1**
FUSS	baz=253			*e*S	**Sn**	**09 20 17.3**	**+0.7**
WHF	**Hehuan Shan**	**1.53**	**249**	P	**Pn**	**09 19 57.8**	**-0.3**
WHF	baz=249			S	**Sn**	**09 20 17.5**	**+0.2**

ESL	**Shilin**	**1.55 236**	*eP*		**Pn**	**09 19 56.5**	**-1.5**
	baz=237						
TDCB	**Techi**	**1.59 254**	P		**Pn**	**09 19 58.0**	**-0.7**
	baz=243						
TDCB			*eS*		**Sn**	**09 20 18.4**	**+0.1**
	baz=243						
CHGB	**Renai**	**1.64 248**	P		**Pn**	**09 19 59.5**	**+0.1**
	baz=235						
CHGB			S		**Sn**	**09 20 20.7**	**+1.0**
	baz=235						
LIOB	**Emei**	**1.66 269**	*eP*		**Pn**	**09 20 00.2**	**+0.7**
	baz=278						
LIOB			*eS*		**Sn**	**09 20 20.3**	**+0.6**
	baz=278						
NSTT	**Nanjuang**	**1.67 268**	*eP*		**Pn**	**09 19 59.8**	**+0.2**
	baz=277						
NSTT			*eS*		**Sn**	**09 20 21.0**	**+0.9**
	baz=277						
HGSD	**Ruisui**	**1.76 227**	*eP*		**Pn**	**09 20 00.0**	**-0.8**
	baz=219						
HGSD			*eS*		**Sn**	**09 20 21.8**	**-0.5**
	baz=219						
WHP	**Taichung City**	**1.77 257**	P		**Pn**	**09 20 01.6**	**+0.5**
	baz=246						
WHP			*eS*		**Sn**	**09 20 22.8**	**+0.1**
	baz=246						
EHY	**Hungye**	**1.82 230**	*eP*		**Pn**	**09 20 01.7**	**0.0**
	baz=240						
EHY			*eS*		**Sn**	**09 20 25.0**	**+1.2**
	baz=240						
WCS	**Beigang Elemen**	**1.86 250**	*eP*		**Pn**	**09 20 03.2**	**+0.9**
	baz=241						
WCS			*eS*		**Sn**	**09 20 24.9**	**+0.1**
	baz=241						
YULB	**Yu-li**	**1.91 228**	P		**Pn**	**09 20 01.7**	**-1.3**
	baz=239						
YULB			*eS*		**Sn**	**09 20 25.3**	**-0.8**
	baz=239						
SSLB	**Suanglung**	**1.94 243**	P		**Pn**	**09 20 03.1**	**-0.3**
	baz=234						
SSLB			S		**Sn**	**09 20 26.5**	**-0.3**
	baz=234						
TWF1	**Yuli**	**1.94 227**	*eP*		**Pn**	**09 20 03.6**	**+0.2**
	baz=239						
TWF1			*eS*		**Sn**	**09 20 27.7**	**+0.9**
	baz=239						
SMLT	**Sun Moon Lake**	**1.94 246**	P		**Pn**	**09 20 03.9**	**+0.4**
	baz=237						
FULB	**Fuli**	**2.05 224**	*eP*		**Pn**	**09 20 05.4**	**+0.5**
	baz=215						
FULB			*eS*		**Sn**	**09 20 29.6**	**+0.1**
	baz=215						
ALS	**Alishan**	**2.20 238**	P		**Pn**	**09 20 07.5**	**+0.3**
	baz=228						
ALS			*eS*		**Sn**	**09 20 32.4**	**-1.1**
	baz=228						
EDH	**Donghe**	**2.22 220**	*eP*		**Pn**	**09 20 06.2**	**-1.0**
	baz=219						
EDH			*eS*		**Sn**	**09 20 32.8**	**-0.8**
	baz=219						
CHN5	**Tsauling**	**2.25 241**	*eP*		**Pn**	**09 20 09.3**	**+1.5**
	baz=230						
CHN5			*eS*		**Sn**	**09 20 36.2**	**+1.6**
	baz=230						
LDUT	**Ludao**	**2.37 212**	*eP*		**Pn**	**09 20 08.0**	**-1.3**
	baz=219						
LDUT			*eS*		**Sn**	**09 20 35.0**	**-2.4**
	baz=219						
CHN4	**Tsaushan**	**2.45 237**	P		**Pn**	**09 20 10.7**	**+0.3**
	baz=228						
CHN4			*eS*		**Sn**	**09 20 41.0**	**+1.7**
	baz=228						
TPUB	**Ta-pu**	**2.45 236**	P		**Pn**	**09 20 11.2**	**+0.8**
	baz=235						
TPUB			S		**Sn**	**09 20 40.3**	**+1.0**
	baz=235						
TWGBT	**Beinan**	**2.47 221**	*eP*		**Pn**	**09 20 10.0**	**-0.6**
	baz=229						
TWGBT			*eS*		**Sn**	**09 20 38.9**	**-0.9**
	baz=229						
WTP	**Ta-pu**	**2.49 235**	P		**Pn**	**09 20 12.2**	**+1.2**
	baz=235						
SLGT	**Liugui**	**2.62 230**	*eP*		**Pn**	**09 20 13.1**	**+0.3**
	baz=238						
SLGT			*eS*		**Sn**	**09 20 44.4**	**+0.7**
	baz=238						
TSMG	**Majia**	**2.82 226**	*eP*		**Pn**	**09 20 16.2**	**+0.8**
	baz=217						
TSMG			*eS*		**Sn**	**09 20 48.9**	**+0.4**
	baz=217						
MASBT	**Mashibuluo**	**2.90 225**	*eP*		**Pn**	**09 20 16.4**	**-0.1**
	baz=217						
MASBT			*eS*		**Sn**	**09 20 50.2**	**-0.1**
	baz=217						
XPSS	**Dashiqiu**	**3.26 314**	*eP*		**Pn**	**09 20 22.2**	**+0.7**
	baz=313						
XPSS			*eS*		**Sn**	**09 21 00.2**	**+1.0**
	baz=313						
USRK	**Ussuriysk Ar.**	**20.84 19**	P		Pn	09 24 12.7	-1.5
	2.6nm,0.8s,baz=205,slow=12,SNR=4.3						
KLR	**Kul'dur**	**25.47 14**	P		**P**	**09 24 57.7**	**0.0**
	1.5nm,0.8s,baz=209,slow=1.5,SNR=5.4						
KLR				LR	LR	09 35 41.6	
	comp=Z,54nm,19.2s,baz=191,slow=38						
SONM	**Songino Array**	**26.51 335**	P		**P**	**09 25 06.7**	**-0.7**
	1.4nm,0.9s,baz=137,slow=9.0,SNR=5.7						
MKAR	**Makanchi Array**	**39.03 315**	P		**P**	**09 26 55.3**	**-1.1**
	1.5nm,0.8s,baz=108,slow=9.6,SNR=12						
ZALV	**Zalesovo Beam**	**40.65 326**	P		**P**	**09 27 07.9**	**-1.8**
	0.7nm,0.3s,baz=92,slow=9.2,SNR=1.8						
WRA	**Warramunga Arr**	**45.76 165**	P		**P**	**09 27 52.7**	**+1.4**
	2.0nm,0.9s,baz=345,slow=8.7,SNR=8.6						
ASAR	**Alice Springs**	**49.26 167**	P		**P**	**09 28 20.5**	**+2.0**
	0.4nm,0.8s,baz=348,slow=8.5,SNR=2.6						
URZ	**Urewera**	**80.69 140**	LR		LR	10 07 43.6	
	comp=Z,33nm,18.1s,baz=183,slow=36						

IDC 24 09:24:04.3±9.6, 4°72S×153°37E, h149km±65km, mb3.2/3, mb1 3.5/4, mb1mx3.1/39, mbtmp3.8/4, Error ellipse: s-maj=103.4km s-min=41.2km az=103.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**233**	P	Pn	09 25 53.6	-0.4
	4.1nm,0.3s,baz=45,slow=8.6,SNR=6.2						
PMG				S	Sn	09 27 21.4	+1.1
	8.8nm,0.3s,baz=140,slow=13,SNR=8.4						
WRA	**Warramunga Arr**	**23.92**	**229**	P	P	09 29 05.2	+0.4
	3.8nm,0.6s,baz=54,slow=10.0,SNR=52						
ASAR	**Alice Springs**	**26.59**	**223**	P	P	09 29 28.4	-0.5
	0.2nm,0.3s,baz=56,slow=8.9,SNR=5.3						
MKAR	**Makanchi Array**	**80.64**	**319**	P	P	09 36 00.8	+0.2
	0.2nm,0.5s,baz=89,slow=8.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**150.82**	**289**	PKPbc	PKPbc	09 43 39.9	-0.4
	0.2nm,0.3s,baz=64,slow=2.2,SNR=1.6						

*IDC **24** 09:37:16.1±1.0, 24°77N×122°45E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/33, mbtmp3.8/7, MS3.2/4, Ms1 3.3/4, ms1mx2.8/42, Error ellipse: s-maj=44.0km s-min=18.8km az=75.0*

*JMA **24** 09:37:16.6±0.2, 24°93N×122°78E, h17km±3km, M2.9*

*NEIC **24** 09:37:17.4±1.6, 24°84N±0°08×122°67E±0°09, h10km±2km, mb4.5/6, Error ellipse: s-maj=18.8km s-min=4.3km az=47.0*

ISC 24 09:37:17.6±0.7, 24°85N±0°06×122°73E±0°03, h16km, n33, σ0°93/33, mb3.9/10, MS3.1/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.44**	**154**	P	**Pg**	**09 37 26.3**	**-0.2**
JYNG				S	**Sb**	**09 37 33.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.46**	**147**	P	**Pg**	**09 37 26.7**	**-0.1**
YOJ				*eS*	**Sg**	**09 37 33.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.46**	**147**	Pg	**Pg**	**09 37 26.7**	**-0.1**
IRIF	**Iriomote-Funau**	**1.04**	**119**	P	**Pb**	**09 37 35.7**	**-1.6**
IRIF				*eS*	**Sb**	**09 37 50.6**	**-0.1**
TATO	**Taipei**	**1.14**	**277**		**Pg**	**09 37 38.3**	**-1.3**
NACB	**Ninganchiao**	**1.23**	**237**		**Pg**	**09 37 40.6**	**-0.8**
YHNB	**Yeheng**	**1.25**	**262**		**Pb**	**09 37 39.7**	**-1.1**
HATJ	**Hateruma jima**	**1.26**	**129**	P	**Pn**	**09 37 39.8**	**-0.7**
HATJ				*eS*	**Sb**	**09 37 56.0**	**-0.8**
JKRS	**Kuro-shima**	**1.31**	**117**	P	**Pn**	**09 37 40.2**	**-1.1**
JIJ	**Ishigaki jima**	**1.37**	**110**	P	**Pn**	**09 37 40.1**	**-2.0**
JISG	**Ishigakijimahi**	**1.46**	**100**	P	**Pn**	**09 37 42.1**	**-1.2**
JTJ	**Tarama**	**1.80**	**96**	P	**Pn**	**09 37 48.3**	**+0.3**
SSLB	**Suanglung**	**1.94**	**237**		**Pn**	**09 37 48.6**	**-1.3**
YULB	**Yu-li**	**1.95**	**222**		**Pn**	**09 37 49.7**	**-0.4**
TPUB	**Ta-pu**	**2.46**	**232**		**Pn**	**09 37 58.0**	**+0.8**
TWG	**Pinlang**	**2.53**	**217**	Pn	**Pn**	**09 37 58.1**	**+0.1**
KSRS	**Korea Array**	**13.32**	**18**	LR	LR	09 46 30.7	
	comp=Z,120nm,18.5s,baz=185,slow=41						
USRK	**Ussuriysk Ar.**	**20.73**	**19**	P	Pn	09 42 01.0	+1.2
	2.8nm,0.8s,baz=207,slow=7.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**22.99**	**259**	LR	LR	09 52 13.8	
	comp=Z,43nm,20.1s,baz=75,slow=40						
JKA	**Kamikawa-asahi**	**25.14**	**35**	P	**P**	**09 42 43.3**	**+1.5**
JKA				IAmb	IAmb	09 42 55.1	
	comp=Z,3.1nm,0.6s						
KLR	**Kul'dur**	**25.34**	**14**	P	**P**	**09 42 45.4**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=202,slow=0.3,SNR=4.5						
KLR				LR	LR	09 54 05.4	
	comp=Z,57nm,18.8s,baz=168,slow=40						
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**09 42 52.7**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=134,slow=5.6,SNR=6.5						
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**09 42 52.2**	**-0.7**
YAK	**Yakutsk**	**37.47**	**5**	LR	LR	10 00 09.3	
	comp=Z,41nm,18.3s,baz=93,slow=36						
MKAR	**Makanchi Array**	**38.86**	**315**	P	**P**	**09 44 42.8**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=110,slow=9.8,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.47**	**326**	P	**P**	**09 44 55.0**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.5,SNR=1.8						
WB0	**Warramunga Arr**	**45.78**	**165**	P	**P**	**09 45 38.6**	**0.0**
WRAB	**Tennant Creek**	**45.93**	**165**	P	**P**	**09 45 40.4**	**+0.6**
WRAB				IAmb	IAmb	09 46 06.6	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**45.93**	**165**	P	**P**	**09 45 40.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=346,slow=8.5,SNR=12						
WB2	**Warramunga Arr**	**45.94**	**165**	P	**P**	**09 45 39.6**	**-0.3**
WB2				IAmb	IAmb	09 46 07.2	
	comp=Z,10nm,1.4s						
WR0	**Warramunga Arr**	**46.00**	**164**	P	**P**	**09 45 41.0**	**+0.7**
WR0				IAmb	IAmb	09 45 45.8	
	comp=Z,6.5nm,1.2s						
ASAR	**Alice Springs**	**49.43**	**166**	P	**P**	**09 46 08.3**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=350,slow=8.3,SNR=4.0						
ABKAR	**Akbulak array**	**53.99**	**314**	P	**P**	**09 46 41.4**	**+0.6**

DDA 24 09:57:59.5, 38°92N×43°51E, h7km±4km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.39**	**54**	*i* P	Pg	09 58 07.1	0.0
CLDR				*i* S	Sg	09 58 13.6	+1.4
CLDR				IAML		09 58 14.0	
	comp=N,27nm,0.2s						
CLDR				IAML		09 58 15.0	
	comp=E,20nm,0.2s						
TVAN	**Van**	**0.40**	**192**	*i* P	Pg	09 58 07.2	-0.1
TVAN				*i* S	Sb	09 58 14.7	-0.6
TVAN				IAML		09 58 15.0	
	comp=E,85nm,0.4s						
TVAN				IAML		09 58 20.0	
	comp=N,62nm,0.5s						
OZAP	**Van, Ozalp-Mer**	**0.45**	**124**	*i* P	Pg	09 58 08.0	-0.4
OZAP				*i* S	Sg	09 58 15.5	+1.2
OZAP				IAML		09 58 16.0	
	comp=E,29nm,0.9s						
OZAP				IAML		09 58 17.0	
	comp=N,21nm,0.9s						

*BGR **24** 09:58:16.4±0.0, 35°02N×28°38E, h150km, mb5.2*

*HLW **24** 09:58:30.8, 36°65N×26°90E, h3km±21km, Ml6.1*

*ATH **24** 09:58:32.8, 36°58N×26°80E, h155km±15km, ML5.3/7, Error ellipse: s-maj=15.8km s-min=2.7km az=32.0*

*MED_RC **24** 09:58:32.0±0.3, 36°64N×26°70E, h141km±3km, MW5.0/22, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s22,c37; Duration: 1*3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.23±.15; $M_{\theta\theta}$-0.23±.15; $M_{\phi\phi}$0.46±.17; $M_{r\theta}$-0.34±.09; $M_{\theta\phi}$ 1.88±.15; $M_{\phi r}$3.42±.14; Best double couple: $M_0$3.94000×10^{16} NP1:ϕ_s83.00000°, δ29.00000°, λ-4.00000°. NP2:ϕ_s176.00000°, δ88.00000°, λ-119.00000°. Principal axes: T 3.9100, Plg37.0000°, Azm291.0000°; N 0.0600, Plg29.0000°, Azm177.0000°; P -3.9700, Plg40.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*BJI **24** 09:58:35.3±0.0, 36°67N×26°66E, h139km, mB5.0/42, mb5.1/69*

*IDC **24** 09:58:37.7±0.5, 36°76N×26°78E, h142km±3km, mb4.7/31, mb1 4.8/41, mb1mx4.7/46, mbtmp5.2/41, MS3.6/8, Ms1 3.6/8, ms1mx3.3/41, Error ellipse: s-maj=9.8km s-min=7.1km az=160.0*

*NEIC **24** 09:58:38.3±1.4, 36°70N±0°06×26°81E±0°07, h141km±5km, mb5.1/338, ML5.3(ATH), Error ellipse: s-maj=8.7km s-min=7.7km az=171.0*

*ISK **24** 09:58:38.0, 36°64N×26°80E, h132km, ML4.7/23*

*PDG **24** 09:58:38.5±0.3, 36°50N×25°80E, h12km±14km, ML5.0/14, Error ellipse: s-maj=14.0km s-min=12.5km az=90.0*

*MOS **24** 09:58:38.6±0.9, 36°74N×26°81E, h161km, mb5.1/72, Error ellipse: s-maj=3.7km s-min=2.9km az=85.9*

*GCMT **24** 09:58:39.3±0.2, 36°62N±0°02×26°71E±0°02, h149km±2km, MW5.0/115, Moment Tensor Solution. s29,c31; s115,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.14; $M_{\theta\theta}$0.13±.16; $M_{\phi\phi}$-0.08±.18; $M_{r\theta}$-0.42±.09; $M_{\theta\phi}$2.84±.16; $M_{\phi r}$3.82±.10; Best double couple: $M_0$4.76300×10^{16} NP1:ϕ_s88.00000°, δ37.00000°, λ-1.00000°. NP2:ϕ_s179.00000°, δ90.00000°, λ-127.00000°. Principal axes: T 4.5250, Plg34.0000°, Azm300.0000°; N 0.4760, Plg37.0000°, Azm179.0000°; P -5.0010, Plg35.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DDA **24** 09:58:40.0, 36°75N×26°91E, h130km±5km, MW4.5*

*THE **24** 09:58:41.1, 36°60N×26°78E, h133km±1km, ML5.0/32, Error ellipse: s-maj=1.8km s-min=0.7km az=82.0*

ISC 24 09:58:37.3±0.3, 36°67N±0°03×26°79E±0°02, h141km±2km, h141km:pP-P, n1606, σ1°42/1874, mb5.1/322, 448C-240D, Fault plane solution: NP1:ϕ_s91.64123°, δ36.78318°, λ6.34488°. **NP2:**ϕ_s356.55212°, δ86.20575°, λ126.61450°. **Principal axes:** T Plg37.8154°, Azm298.8182°; N Plg36.5212°, Azm173.7371°; P Plg31.3011°, Azm56.9760°; **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.17**	**62**	P	**Pn**	**09 58 57.1**	**+0.8**
KOSK				S	**Sn**	**09 59 11.4**	**+0.6**
	43μm,0.6s						
KOSK	**Kos Island**	**0.17**	**62**	PG	**Pn**	**09 58 56.8**	**+0.5**
KOSK				SG	**Sn**	**09 59 09.8**	**-1.0**
NISR	**Nisiros**	**0.28**	**102**	P	**Pn**	**09 58 57.2**	**+0.5**
NISR				S	**Sn**	**09 59 10.1**	**-1.2**
	46μm,0.9s						
NISR	**Nisiros**	**0.28**	**102**	P	**Pn**	**09 58 57.1**	**+0.5**
NISR				AML	AML	09 59 12.1	
	comp=N,87987μm,0.6s						
NISR				AML	AML	09 59 23.9	
	comp=E,92749μm,0.8s						
NIS1	**Nisyros Isl.**	**0.32**	**102**	P	**Pn**	**09 58 57.4**	**+0.6**
NIS1				S	**Sn**	**09 59 11.3**	**-0.3**
	comp=E,67μm,0.9s						
NIS1	**Nisyros Isl.**	**0.32**	**102**	P	**Pn**	**09 58 57.5**	**+0.6**
NIS1	**Nisyros Isl.**	**0.32**	**102**	PG	**Pn**	**09 58 57.1**	**+0.3**
NIS1				SG	**Sn**	**09 59 10.4**	**-1.2**
BODT	**Bodrum**	**0.57**	**47**	P	**Pn**	**09 58 58.8**	**+0.8**
BODT				S	**Sn**	**09 59 13.6**	**-0.2**
BODT	**Bodrum**	**0.57**	**47**	PG	**Pn**	**09 58 58.4**	**+0.4**
BODT				SG	**Sn**	**09 59 12.9**	**-0.9**
YKAV	**Yalikavak-Bodr**	**0.60**	**41**	PG	**Pn**	**09 58 58.6**	**+0.5**
YKAV				SG	**Sn**	**09 59 13.5**	**-0.5**
DAT	**Datca**	**0.64**	**85**	P	**Pn**	**09 58 59.2**	**+0.7**
DAT				S	**Sn**	**09 59 14.1**	**-0.5**
DAT	**Datca**	**0.64**	**85**	⇑*i* P	**Pn**	**09 58 59.2**	**+0.7**
DAT				*i* S	**Sn**	**09 59 14.7**	**+0.1**
DAT	**Datca**	**0.64**	**85**	PG	**Pn**	**09 58 58.9**	**+0.4**
DAT				SG	**Sn**	**09 59 14.3**	**-0.3**
BDRM	**Kayabasi**	**0.66**	**53**	⇑*i* P	**Pn**	**09 58 59.4**	**+0.9**
BDRM				*i* S	**Sn**	**09 59 14.4**	**-0.3**
DIDI	**Didim-Aydin**	**0.79**	**27**	PG	**Pn**	**09 59 00.0**	**+0.6**
DDIM	**Aydin, Didim**	**0.86**	**25**	⇑*i* P	**Pn**	**09 59 01.4**	**+1.4**
DDIM				*i* S	**Sn**	**09 59 18.2**	**+0.8**
DDIM				IAML		09 59 19.0	
	comp=E,9μm,1.3s						
DDIM				IAML		09 59 23.0	
	comp=N,12μm,1.1s						
MLSB	**Milas**	**1.01**	**52**	PG	**Pn**	**09 59 02.1**	**+0.8**
MLSB				SG	**Sn**	**09 59 19.2**	**-0.4**
SMG	**Samos**	**1.04**	**2**	P	**Pn**	**09 59 02.5**	**+1.0**
SMG				S	**Sn**	**09 59 21.0**	**+1.0**
	comp=N,15μm,0.8s						
SMG	**Samos**	**1.04**	**2**	P	**Pn**	**09 59 02.6**	**+1.0**
SMG				AML	AML	09 59 22.2	
	comp=E,45430μm,0.9s						
SMG				AML	AML	09 59 24.4	
	comp=N,12820μm,0.7s						
APE	**Apeiranthos**	**1.08**	**292**	P	**Pn**	**09 59 04.2**	**+2.2**
APE				S	**Sn**	**09 59 21.7**	**+0.9**
	comp=N,22μm,0.7s						
APE	**Apeiranthos**	**1.08**	**292**	P	**Pn**	**09 59 03.9**	**+1.9**
APE	**Apeiranthos**	**1.08**	**292**	⇑P	**Pn**	**09 59 03.8**	**+1.8**
GCAM	**G?zelcaml?**	**1.09**	**19**	*i* P	**Pn**	**09 59 03.1**	**+1.2**
GCAM				*i* S	**Sn**	**09 59 20.1**	**-0.7**
GCAM				IAML		09 59 22.0	
	comp=E,9μm,0.9s						
GCAM				IAML		09 59 22.0	
	comp=N,8μm,1.1s						
GCAM	**G?zelcaml?**	**1.09**	**19**	PN	**Pn**	**09 59 02.9**	**+1.0**
GCAM				SN	**Sn**	**09 59 20.9**	**+0.1**
SANT	**Santorini**	**1.11**	**255**	P	**Pn**	**09 59 03.5**	**+1.2**
SANT	**Santorini**	**1.11**	**255**	P	**Pn**	**09 59 03.4**	**+1.2**
SANT	**Santorini**	**1.11**	**255**	PN	**Pn**	**09 59 02.8**	**+0.6**
SANT	**Santorini**	**1.11**	**255**		**Pn**	**09 59 03.4**	**+1.2**
SANT	**Santorini**	**1.11**	**255**	⇑P	**Pn**	**09 59 02.8**	**+0.6**
SFIR	**Foira Santorin**	**1.12**	**258**	P	**Pn**	**09 59 03.7**	**+1.4**
THT2	**Imerovigli**	**1.12**	**258**	PN	**Pn**	**09 59 03.1**	**+0.8**
CMBO	**Columbo, Santo**	**1.13**	**260**	P	**Pn**	**09 59 03.7**	**+1.4**
CMBO	**Columbo, Santo**	**1.13**	**260**	P	**Pn**	**09 59 03.7**	**+1.4**
MRSB	**Marmaris-Mugla**	**1.13**	**87**	PN	**Pn**	**09 59 02.5**	**+0.1**
MRSB				SN	**Sn**	**09 59 20.8**	**-0.8**
SNT5	**Nea Kammeni, S**	**1.15**	**257**	P	**Pn**	**09 59 04.0**	**+1.5**
SAP4	**Santorini-Oia**	**1.16**	**261**	P	**Pn**	**09 59 04.0**	**+1.4**
SAP4	**Santorini-Oia**	**1.16**	**261**	P	**Pn**	**09 59 03.9**	**+1.4**
KARP	**Karpathos**	**1.16**	**165**	P	**Pn**	**09 59 03.0**	**+0.2**
KARP				S	**Sn**	**09 59 20.7**	**-1.4**
	comp=N,223μm,0.4s						
KARP	**Karpathos**	**1.16**	**165**	P	**Pn**	**09 59 02.9**	**+0.2**
KARP				AML	AML	09 59 24.7	
KARP				AML	AML	09 59 25.3	
KARP	**Karpathos**	**1.16**	**165**	PN	**Pn**	**09 59 02.8**	**+0.1**
KARP				SN	**Sn**	**09 59 20.9**	**-1.2**
KARP	**Karpathos**	**1.16**	**165**		**Pn**	**09 59 02.5**	**-0.2**
KARP	**Karpathos**	**1.16**	**165**	⇑P	**Pn**	**09 59 02.5**	**-0.2**
ARG	**Arkhangelos**	**1.17**	**112**	P	**Pn**	**09 59 03.5**	**+0.7**
ARG				S	**Sn**	**09 59 21.9**	**-0.2**
	comp=N,55μm,0.4s						
ARG	**Arkhangelos**	**1.17**	**112**	P	**Pn**	**09 59 03.5**	**+0.7**
ARG				AML	AML	09 59 24.8	
ARG				AML	AML	09 59 25.0	
	comp=N,94767μm,0.4s						
ARG	**Arkhangelos**	**1.17**	**112**	PN	**Pn**	**09 59 03.4**	**+0.7**
ARG				SN	**Sn**	**09 59 21.6**	**-0.5**
ARG	**Arkhangelos**	**1.17**	**112**	⇑P	**Pn**	**09 59 03.5**	**+0.7**
TURN	**Turunc**	**1.18**	**85**	⇑*i* P	**Pn**	**09 59 03.4**	**+0.6**
TURN				*i* S	**Sn**	**09 59 21.3**	**-0.8**
TURN	**Turunc**	**1.18**	**85**	PN	**Pn**	**09 59 03.4**	**+0.6**
YER	**Yerkesik**	**1.28**	**68**	P	**Pn**	**09 59 05.2**	**+1.3**
YER				S	**Sn**	**09 59 24.5**	**+0.2**
YER	**Yerkesik**	**1.28**	**68**	P	**Pn**	**09 59 04.4**	**+0.5**
YER	**Yerkesik**	**1.28**	**68**	PN	**Pn**	**09 59 04.7**	**+0.8**
AYDN	**Tasoluk**	**1.32**	**41**	⇑*i* P	**Pn**	**09 59 05.7**	**+1.4**
AYDN				*i* S	**Sn**	**09 59 24.9**	**0.0**
AYDN				IAML		09 59 25.0	
	comp=E,6μm,0.7s						
AYDN				IAML		09 59 26.0	
	comp=N,3μm,0.7s						
MULA	**Mugla, Merkez-**	**1.36**	**64**	⇑*i* P	**Pn**	**09 59 06.1**	**+1.4**
MULA				IAML		09 59 26.0	
	comp=N,13μm,0.8s						
MULA				*i* S	**Sn**	**09 59 26.0**	**+0.3**
MULA				IAML		09 59 29.0	
	comp=E,25μm,0.7s						
DGB	**zmir**	**1.38**	**3**	⇑*i* P	**Pn**	**09 59 05.9**	**+1.1**
DGB				*i* S	**Sn**	**09 59 25.6**	**-0.3**
DGB				IAML		09 59 27.0	
	comp=N,2μm,1.5s						
DGB				IAML		09 59 28.0	
	comp=E,2μm,1.2s						
GMLD	**Gumuldur**	**1.41**	**4**	PN	**Pn**	**09 59 06.2**	**+1.1**
DALY	**Dalyan (Mula)**	**1.51**	**84**	⇑*i* P	**Pn**	**09 59 07.3**	**+1.1**
DALY				*i* S	**Sn**	**09 59 28.2**	**0.0**
DALY				IAML		09 59 30.0	
	comp=N,47μm,0.4s						
DALY				IAML		09 59 34.0	
	comp=E,27μm,0.5s						
DALY	**Dalyan (Mula)**	**1.51**	**84**	PN	**Pn**	**09 59 07.2**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.55**	**34**	PN	**Pn**	**09 59 07.7**	**+0.9**
STIA	**Sitia Lasithi**	**1.57**	**201**	P	**Pn**	**09 59 07.5**	**+0.6**
STIA				S	**Sn**	**09 59 28.8**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**1.58**	**352**	⇓⇓*i* P	**Pn**	**09 59 08.2**	**+1.2**
ZEYE				*i* S	**Sn**	**09 59 29.6**	**-0.2**
ZEYE				IAML		09 59 31.0	
	comp=E,2μm,0.9s						
ZEYE				IAML		09 59 32.0	
	comp=N,2μm,0.7s						
ZKR	**Zakros**	**1.62**	**197**	P	**Pn**	**09 59 08.4**	**+0.9**
ZKR				S	**Sn**	**09 59 29.9**	**-0.7**
	comp=N,85μm,0.5s						
ZKR	**Zakros**	**1.62**	**197**	P	**Pn**	**09 59 08.3**	**+0.8**
ZKR				AML	AML	09 59 32.5	
ZKR				AML	AML	09 59 34.2	
ZKR	**Zakros**	**1.62**	**197**	PN	**Pn**	**09 59 08.0**	**+0.5**
URLA	**Izmir**	**1.69**	**355**	*i* P	**Pn**	**09 59 09.6**	**+1.3**

comp=E,3µm,18.4s,baz=339,slow=37
IDI Anoyia 2.07 229 P Pn 09 59 13.1 +0.4
IDI S Sn 09 59 38.4 -1.5
comp=E,30µm,0.6s
IDI Anoyia 2.07 229 PN Pn 09 59 13.2 +0.4
IDI Anoyia 2.07 229 Pn Pn 09 59 13.1 +0.4
IDI Anoyia 2.07 229 ⇑P Pn 09 59 12.5 -0.3
CAEL Denizli, Camel 2.08 77⇑iP Pn 09 59 13.8 +0.9
CAEL *i* S Sn 09 59 40.6 +0.3
GOMA Golmarmara-Man 2.22 23 PN Pn 09 59 15.8 +1.3
PRNS Prines Rethymn 2.27 236 P Pn 09 59 15.9 +0.9
PRNS S Sn 09 59 44.1 +0.1
CAND Candarli 2.28 0 PN Pn 09 59 16.5 +1.3
TMBK Timbaki Herakl 2.29 226 P Pn 09 59 16.6 +1.3
TMBK S Sn 09 59 45.0 +0.5
comp=E,18µm,0.6s
GOLH Golhisar 2.29 75⇑iP Pn 09 59 16.9 +1.4
GOLH *i* S Sn 09 59 44.8 0.0
MANT Manisa 2.30 37⇑iP Pn 09 59 16.8 +1.2
MANT *i* S Sn 09 59 43.3 -1.8
MANT IAML 09 59 45.0
comp=E,2µm,0.8s
MANT IAML 09 59 46.0
comp=N,3µm,1.8s
SIVA Sivas 2.30 225 P Pn 09 59 16.8 +1.3
SIVA S Sn 09 59 42.6 -2.3
comp=N,49µm,0.5s
ZEDA zmir-Bergama 2.30 6⇓iP Pn 09 59 16.9 +1.4
ZEDA *i* S Sn 09 59 42.7 -2.2
KARY Karystos 2.31 307 P Pn 09 59 17.6 +2.0
KARY S Sn 09 59 45.1 0.0
AKAS Kas 2.31 100⇑iP Pn 09 59 15.6 -0.1
AKAS *i* S Sn 09 59 43.0 -2.3
AKAS Kas 2.31 100 PN Pn 09 59 16.4 +0.6
AKHS Akhisar 2.35 20⇑iP Pn 09 59 17.2 +1.2
KULA Kula-Manisa 2.37 38 P Pn 09 59 17.7 +1.4
KULA S Sn 09 59 46.7 +0.3
KULA Kula-Manisa 2.37 38 PN Pn 09 59 17.4 +1.1
DKL Dikili 2.40 2 PN Pn 09 59 18.3 +1.7
VAM Vamos 2.45 240 P Pn 09 59 17.7 +0.4
VAM S Sn 09 59 46.2 -1.9
comp=N,38µm,0.6s
ELL Elmali 2.51 87 P Pn 09 59 19.1 +0.9
ELL Elmali 2.51 87 PN Pn 09 59 19.3 +1.1
ELL Elmali 2.51 87 Pn Pn 09 59 19.1 +0.9
DEMR Demre-Antalya 2.55 99 PN Pn 09 59 19.2 +0.6
IMMV Iera Moni Meta 2.57 243 P Pn 09 59 19.5 +0.6
IMMV S Sn 09 59 49.8 -1.1
comp=N,34µm,0.6s
PRK Paraskevi 2.60 351 P Pn 09 59 21.8 +2.6
PRK S Sn 09 59 53.8 +2.3
comp=N,3µm,1.1s
AYVA Ayvalik 2.63 358 *i* P **Pn 09 59 20.6 +1.1**
SIGR SIGRI 2.64 344 P Pn 09 59 21.2 +1.6
SIGR S Sn 09 59 53.4 +1.0
comp=N,3µm,0.9s
SIGR SIGRI 2.64 344 PN Pn 09 59 21.3 +1.6
VLY Voula,Athens 2.66 297 P Pn 09 59 22.1 +2.2
DION Dionisos Attik 2.67 303 P Pn 09 59 22.2 +2.1
DION S Sn 09 59 54.3 +1.2
USAK Uak-Merkez 2.70 40⇓iP Pn 09 59 22.1 +1.6
USAK *i* S Sn 09 59 52.0 -1.9
PTL Penteli 2.70 301 P Pn 09 59 22.7 +2.2
ATHU Athens Univers 2.72 299 P Pn 09 59 22.9 +2.2
ATHU S Sn 09 59 55.1 +0.9
comp=N,2µm,1.4s
PASA Karahalli, USA 2.72 51 *i* P **Pn 09 59 21.9 +1.1**
KHL Karahalli 2.73 52 PN Pn 09 59 22.2 +1.3
ATH Athens Observa 2.77 299 P Pn 09 59 23.7 +2.4
ATH S Sn 09 59 56.9 +1.6
comp=N,5µm,1.4s
ATH Athens Observa 2.77 299 P Pn 09 59 23.5 +2.2
STEP BALIKESIR_Sava 2.80 15⇓iP Pn 09 59 23.0 +1.3
BRDR BURDUR-Merkez 2.81 68 *i* P **Pn 09 59 22.9 +1.1**
BRDR *i* S Sn 09 59 55.6 -0.7
DEMI Demirci 2.82 32 *i* P **Pn 09 59 22.9 +1.0**
SKY Skiros Island 2.83 322 P Pn 09 59 24.3 +2.3
SKY S Sn 09 59 58.0 +1.4
comp=N,4µm,1.2s
BUHA Balikesir, Bur 2.83 5⇓iP Pn 09 59 23.7 +1.6
GVDS Gavdos 2.85 231 P Pn 09 59 23.8 +1.4
GVDS S Sn 09 59 56.4 -0.8
comp=N,20µm,0.5s
GVD Gavdhos 2.86 231 P Pn 09 59 23.6 +1.2
GVD S Sn 09 59 56.9 -0.4
comp=N,28µm,0.5s
EREA Eretria 2.86 308 P Pn 09 59 24.9 +2.4
EREA S Sn 09 59 58.9 +1.4
comp=N,4µm,1.4s
KOCA Canakkale, Ayv 2.87 350⇓iP Pn 09 59 24.2 +1.6
KORT Korkueli 2.88 82⇑iP Pn 09 59 24.1 +1.3
KORT *i* S Sn 09 59 58.5 +0.5
KORT Korkueli 2.88 82 PN Pn 09 59 24.1 +1.3
BASM Basmaki-Afyon 2.88 63 PN Pn 09 59 23.6 +0.8
AKUM Antalya-Kumluc 2.89 96⇑iP Pn 09 59 23.1 +0.4
AKUM *i* S Sn 09 59 57.2 -0.7
KYMI Kymi, Euboea I 2.90 313 P Pn 09 59 25.0 +2.1
KYMI S Sn 09 59 59.2 +1.1
comp=N,1µm,1.1s
KNDR Palaiochora Ch 2.90 241 P Pn 09 59 25.1 +2.2
KNDR S Sn 09 59 59.6 +1.5
comp=N,19µm,0.7s
ANKY Antikythira Is 2.93 255 P Pn 09 59 23.9 +0.6
KRND KRANIDI 3.00 285 P Pn 09 59 26.4 +2.2
KRND S Sn 10 00 02.4 +2.0
KTHA Kythira Island 3.03 263 P Pn 09 59 25.3 +0.6
KTHA S Sn 10 00 00.7 -0.6
KEMT Kemer-ANTALYA 3.03 90 PN Pn 09 59 25.9 +1.3
BAYC CANAKKALE_Bayr 3.07 357⇓iP Pn 09 59 26.5 +1.4
EPID Epidavros 3.08 289 P Pn 09 59 27.4 +2.1
BALB Balikesir 3.09 16 PN Pn 09 59 27.0 +1.7
BALB Balikesir 3.09 16 Pn Pn 09 59 26.7 +1.4
BUCA Burdur, Bucak- 3.09 77⇑iP Pn 09 59 26.7 +1.2
BUCA *i* S Sn 10 00 01.1 -1.6
VLI Veliai 3.10 272 P Pn 09 59 26.2 +0.8
VLI S Sn 10 00 01.5 -1.2
comp=N,21µm,0.6s
KZIL AFYON_Kizioren 3.10 58⇑iP Pn 09 59 26.9 +1.3
KZIL *i* S Sn 10 00 01.6 -1.5
ANTB Antalya 3.11 85 PN Pn 09 59 26.9 +1.2
BALY Balya 3.13 12⇓iP Pn 09 59 27.4 +1.4
BCK Bucak 3.14 74 PN Pn 09 59 27.5 +1.4
VILL Villia 3.14 299 P Pn 09 59 28.5 +2.4
VILL S Sn 10 00 05.9 +2.0
comp=N,7µm,1.3s
EZN Ezine 3.17 354 P Pn 09 59 28.0 +1.6
ISP Isparta 3.19 68 P Pn 09 59 27.5 +0.7
ISP Isparta 3.19 68 PN Pn 09 59 27.8 +1.0
ISP Isparta 3.19 68 Pn 09 59 27.5 +0.7
DURS Dursunbey 3.21 24⇓iP Pn 09 59 28.0 +0.9
GDZ Gediz 3.22 41⇓iP Pn 09 59 28.7 +1.5
GDZ *i* S Sn 10 00 03.6 -2.2
LTK Loutraki 3.33 295 P Pn 09 59 30.9 +2.4
BAGO Egridir - ISPA 3.45 66⇑iP Pn 09 59 31.0 +0.9
BAGO *i* S Sn 10 00 05.6 -5.5
LIA Limnos Island 3.46 339 P Pn 09 59 32.1 +2.0
LIA S Sn 10 00 12.0 +0.9
comp=N,1µm,1.2s
TVSB Tavsanli 3.48 36 PN Pn 09 59 32.2 +1.6
AFYO Afyonkarahisar 3.49 52⇓iP Pn 09 59 32.9 +2.1
SHUT Suhut-Afyon 3.53 57 PN Pn 09 59 32.5 +1.3
THAL Thalero 3.56 294 P Pn 09 59 33.8 +2.4
SMIA Simia 3.59 309 P Pn 09 59 35.0 +3.1
VLX Vlachokerasia 3.60 283 P Pn 09 59 34.2 +2.2
LKR Lokris 3.60 304 P Pn 09 59 34.2 +2.3
KNL Balıkesir 3.64 9⇓iP Pn 09 59 33.8 +1.3
ANDZ Kutahya, Merke 3.75 40⇓iP Pn 09 59 31.0 +0.9
NEO Neokhori 3.85 314 P Pn 09 59 37.8 +2.5
KEPZ Antalya-Kepez 3.87 85⇑iP Pn 09 59 36.5 +0.9
YVAC Isparta, Yalva 3.88 64⇑iP Pn 09 59 37.4 +1.5
XOR Xorichti 3.91 315 P Pn 09 59 38.2 +2.1
XOR S Sn 10 00 22.1 +0.3
comp=N,902nm,1.3s
SMTH Samothraki Isl 3.92 346 P Pn 09 59 37.5 +1.3
SMTH S Sn 10 00 22.8 +0.9
ULDT Uludag 3.93 27⇓iP Pn 09 59 37.7 +1.3
ITM Ithomi 3.93 279 P Pn 09 59 38.1 +1.8
ITM Ithomi 3.93 279 Pn Pn 09 59 38.1 +1.8
ITM Ithomi 3.93 279 ⇓P Pn 09 59 38.2 +1.9
AUKIR Kırka- Seyitga 3.94 48⇓iP Pn 09 59 38.7 +2.2
KLV Kalavryta, Ach 3.94 292 P Pn 09 59 38.2 +1.7
SEDI Konya, Seydise 4.05 77⇑iP Pn 09 59 38.9 +0.9

PYL PYLOS 4.06 275 P Pn 09 59 38.5 +0.5
PAIG Paliouri 4.07 324 P Pn 09 59 40.2 +2.1
TRIZ Trizonia 4.11 296 P Pn 09 59 40.9 +2.2
AUBOZ BOZOYUK 4.12 37⇓iP Pn 09 59 40.8 +2.0
DOGA KONYA_Doganhis 4.14 68⇓iP Pn 09 59 41.0 +1.8
AMT Artemida-Makis 4.15 283 P Pn 09 59 41.6 +2.4
AGG Agios Georgios 4.24 305 P Pn 09 59 43.4 +3.0
AGG Agios Georgios 4.24 305 P Pn 09 59 43.4 +3.0
AGG Agios Georgios 4.24 305 Pn Pn 09 59 43.4 +3.0
AGG Agios Georgios 4.24 305 ⇑P Pn 09 59 43.5 +3.2
ALN Alexandroupoli 4.26 352 P Pn 09 59 42.3 +1.7
ALN Alexandroupoli 4.26 352 P Pn 09 59 42.0 +1.4
ALN Alexandroupoli 4.26 352 Pn Pn 09 59 42.0 +1.4
ALN Alexandroupoli 4.26 352 ⇑P Pn 09 59 42.2 +1.6
OUR Ouranopolis 4.27 330 P Pn 09 59 43.0 +2.3
SGAZ Eskisehir, Sey 4.28 47⇓iP Pn 09 59 42.9 +1.9
BORA Eskisehir 4.31 41⇓iP Pn 09 59 43.3 +1.9
ANX Ano Chora 4.31 298 P Pn 09 59 44.1 +2.7
MAKR Makrakomi, Fth 4.36 304 P Pn 09 59 45.6 +3.5
GAZI Gazipasa 4.48 94⇑iP Pn 09 59 42.3 -1.3
RDO Rodhopi 4.57 348 P Pn 09 59 46.5 +1.8
RDO Rodhopi 4.57 348 ⇑P Pn 09 59 46.6 +1.8
KDHN Kadinhani 4.62 65⇓iP Pn 09 59 46.8 +1.3
GEYV SAKARYA_Geyve 4.70 35⇓iP Pn 09 59 48.2 +1.8
ERMK Ermenek 4.92 89⇑iP Pn 09 59 50.5 +0.8
SOH Sokhos 4.94 328 P Pn 09 59 52.4 +2.7
KKBE Karaman, Kazim 4.96 82⇓iP Pn 09 59 50.5 +0.5
ALIN Konya, Altinte 5.11 70⇓iP Pn 09 59 52.0 0.0
MDUB Mudurnu 5.13 41 Pn Pn 09 59 54.5 +2.2
LEF Lefka 5.19 106 ⇑P Pn 09 59 50.9 -2.2
MATC Matruh 5.33 176 P Pn 09 59 54.6 -0.2
baz=176
MATC AMP 10 00 00.0
baz=176
MATC S **Sn 10 00 50.1 -5.2**
baz=176
SLUM Salum 5.33 195 P Pn 09 59 54.4 -0.5
baz=196
SLUM AMP 10 00 00.0
baz=196
SLUM S **Sn 10 00 49.8 -5.6**
baz=196
GULN MERSIN_Gulnar 5.47 93 *i* P **Pn 09 59 56.1 -0.6**
CSS Mathiatis 5.58 106 *i* P **Pn 09 59 56.3 -2.0**
CSS Mathiatis 5.58 106 Pn Pn 09 59 56.3 -2.0
CSS Mathiatis 5.58 106 ⇑P Pn 09 59 56.4 -2.0
BR231 Keskin MP Arra 5.68 54 Pn 10 00 01.7 +2.1
VAY Valandovo 5.69 326 *i* Pn **Pn 10 00 01.6 +2.0**
ANTO Ankara 5.70 54 P Pn 10 00 01.9 +2.0
ANTO Ankara 5.70 54 Pn 10 00 01.9 +2.0
BCAM Yenicaga 5.84 43⇓iP Pn 10 00 03.7 +1.9
CMDR Camlidere-ANKA 5.87 48⇓iP Pn 10 00 04.2 +2.1
FNA Florina 5.89 316 P Pn 10 00 05.0 +2.5
FNA Florina 5.89 316 Pn 10 00 05.0 +2.5
FNA Florina 5.89 316 ⇑P Pn 10 00 05.2 +2.8
KIZK Mersin 5.92 90 *i* P **Pn 10 00 03.1 +0.3**
DEVR Zonguldak/Devr 6.02 41⇓iP Pn 10 00 05.7 +1.5
KBN Korca 6.13 312 P Pn 10 00 09.0 +3.3
KBN Korca 6.13 312 Pn 10 00 09.0 +3.3
STIP Stip 6.16 326 *i* Pn **Pn 10 00 07.0 +1.1**
BR131 Keskin Array S 6.20 58 P Pn 10 00 07.8 +1.2
BR131 Keskin Array S 6.20 58 Pn Pn 10 00 07.8 +1.2
BR131 Keskin Array S 6.20 58 P Pn 10 00 08.0 +1.5
SNR=358
BRTR Keskin Array B 6.20 58 P Pn 10 00 07.7 +1.1
comp=N,13nm,0.3s,baz=236,slow=13,SNR=1087
BRTR S **Sn 10 01 20.7 +4.3**
comp=N,11nm,0.3s,baz=221,slow=24,SNR=13
BRTR ScP **ScP 10 10 09.1 -1.2**
comp=N,0.1nm,0.3s,baz=208,slow=3.3,SNR=6.8
BRTR Keskin Array B 6.20 58 P Pn 10 00 07.7 +1.1
BRTR Keskin Array B 6.20 58 Pn Pn 10 00 07.7 +1.1
KEK Kerkira 6.29 301 ⇑P Pn 10 00 07.6 0.0
GULE Gulek 6.42 82⇓iP Pn 10 00 10.3 +0.6
DED Mersin 6.43 85⇓iP Pn 10 00 10.4 +0.8
OHR Ohrid 6.44 315 *i* Pn **Pn 10 00 12.2 +2.5**
VTS Vitosha 6.54 336 ⇑P Pn 10 00 12.2 +1.0
VTS Vitosha 6.54 336 P Pn 10 00 12.6 +1.5
VTS Vitosha 6.54 336 Pn Pn 10 00 12.6 +1.5
VTS Vitosha 6.54 336 ⇑P Pn 10 00 12.6 +1.5
SKO Skopje 6.72 324 *i* Pn **Pn 10 00 15.8 +2.4**
VLO Vlora 6.86 306 P Pn 10 00 17.3 +2.1
VLO Vlora 6.86 306 Pn 10 00 17.3 +2.1
TIR Tirane 7.13 313 ⇓P Pn 10 00 19.3 +0.4
TIR Tirane 7.13 313 P Pn 10 00 20.3 +1.4
TIR Tirane 7.13 313 Pn 10 00 20.3 +1.4
TIR Tirane 7.13 313 ⇑P Pn 10 00 20.4 +1.5
SCTE Santa Cesarea 7.36 300 Pn Pn 10 00 22.6 +0.6
ICOR Ion Corvin 7.48 6 ⇓P Pn 10 00 24.2 +0.6
SWA2 7.49 189 P Pn 10 00 22.5 -1.4
baz=190
BNN Bunyan 7.50 70 Pn Pn 10 00 25.9 +1.8
HMYD Mayadein 7.64 153 P Pn 10 00 24.5 -1.3
baz=153
BZK Bozkurt 7.69 44 ⇓P Pn 10 00 27.1 +0.7
BZK Bozkurt 7.69 44 Pn 10 00 27.9 +1.5
HNAT Natroun 7.72 154 P Pn 10 00 25.4 -1.6
baz=154
HNAT AMP 10 01 00.0
baz=154
HNAT S **Sn 10 01 49.0 -4.0**
baz=154
BHL Bhannes 7.76 108 *eP* **Pn 10 00 23.7 -3.8**
DQRL Deir Qamar 7.78 110 *eP* **Pn 10 00 24.9 -2.9**
HWQ Hawqa 7.84 105 *eP* **Pn 10 00 26.8 -1.9**
TIRR Tirgusor 7.88 9 P Pn 10 00 29.5 +0.6
TIRR Tirgusor 7.88 9 Pn Pn 10 00 29.5 +0.6
TIRR Tirgusor 7.88 9 ⇑P Pn 10 00 29.7 +0.8
ULC Ulcinj 7.88 314⇓iPn Pn 10 00 29.3 +0.3
ULC *i* Sn **Sn 10 01 52.4 -4.3**
PVY Plav 7.92 320⇑iPn Pn 10 00 30.6 +1.0
PVY *i* Sn **Sn 10 01 54.5 -3.3**
QRWL Qaraoun 7.93 111 *eP* **Pn 10 00 27.4 -2.4**
KOT Kottamia 7.94 146 P Pn 10 00 28.2 -1.7
baz=147
KOT AMP 10 01 00.0
baz=147
KOT S **Sn 10 01 52.4 -5.9**
baz=147
MMAI Mount Meron Ar 7.97 115 P Pn 10 00 26.6 -3.7
comp=N,216nm,0.3s,baz=305,slow=10,SNR=134
MMAI S **Sn 10 01 52.9 -6.1**
comp=N,312nm,0.3s,baz=300,slow=26,SNR=17
BOVS Bovan 7.97 332 ⇓P Pn 10 00 31.2 +1.1
HHAG Hagoal 8.04 145 P Pn 10 00 29.5 -1.8
baz=145
DRME Dracevica, Mon 8.06 315 *e*Pn **Pn 10 00 31.8 +0.5**
DRME Dracevica, Mon 8.06 315⇓iPn Pn 10 00 31.8 +0.5
DRME *i* Sn **Sn 10 01 56.7 -4.2**
RCY Rachaya 8.06 110 *eP* **Pn 10 00 29.9 -1.8**
RYAN Fayoum 8.12 158 P Pn 10 00 30.3 -2.0
baz=158
IVA Berane 8.15 322⇓iPn Pn 10 00 33.9 +1.2
IVA *i* Sn **Sn 10 02 00.3 -3.1**
PDG Podgorica 8.18 317 ⇓P Pn 10 00 33.3 +0.4
PDG Podgorica 8.18 317 *e*Pn **Pn 10 00 33.5 +0.6**
PDG Podgorica 8.18 317 Pn Pn 10 00 34.2 +1.3
PDG Podgorica 8.18 317 ⇑P Pn 10 00 33.6 +0.6
TTG Podgorica 8.18 317⇓iPn Pn 10 00 33.7 +0.8
TTG *i* Sn **Sn 10 01 59.9 -3.9**
GLL Jalalah 8.19 148 P Pn 10 00 31.6 -1.6
baz=148
DIKM Dikmen 8.24 50 ⇓P Pn 10 00 34.8 +1.0
TPGR Topolog 8.27 8 ⇑P Pn 10 00 34.7 +0.5
BUM Brajici-Budva 8.29 315⇑iPn Pn 10 00 34.9 +0.3
BUM *i* Sn **Sn 10 02 02.3 -4.5**
KOME Kolasin 8.33 320⇑iPn Pn 10 00 36.0 +0.9
KOME *i* Sn **Sn 10 02 04.2 -3.5**
SNOP Sinop 8.43 48 Pn Pn 10 00 37.7 +1.4
CEME Cevo 8.44 316 *e*Pn **Pn 10 00 36.8 +0.2**
CEME *i* Sn **Sn 10 02 06.1 -4.2**
SUZ Suez 8.48 142 P Pn 10 00 35.8 -1.4
baz=142
NKME Niksic 8.57 318⇑iPn Pn 10 00 39.1 +0.8
NKME *i* Sn **Sn 10 02 09.4 -4.0**
NKY Niksic 8.58 318⇑iPn Pn 10 00 39.2 +0.8
NKY *i* Sn **Sn 10 02 09.7 -4.0**
HCY Herceg Novi 8.62 315 *e*Pn **Pn 10 00 39.3 +0.5**
HCY Herceg Novi 8.62 315⇑iPn Pn 10 00 39.3 +0.5
HCY *i* Sn **Sn 10 02 09.7 -4.7**
PLE Pljevlja 8.74 322⇓iPn Pn 10 00 41.8 +1.2
PLE *i* Sn **Sn 10 02 14.2 -3.4**

NEHR Nehoiu 8.76 358 ⇓P Pn 10 00 41.7 +1.0
MATE Matera 8.83 300 ⇓P Pn 10 00 41.0 -0.7
MATE Matera 8.83 300 ⇑P Pn 10 00 39.8 -1.9
MLR Muntele Rosu 8.83 356 P Pn 10 00 43.5 +1.7
comp=N,0.3nm,0.3s,baz=303,slow=8.5,SNR=13
MLR Muntele Rosu 8.83 356 ⇓P Pn 10 00 43.5 +1.7
MLR Muntele Rosu 8.83 356 P Pn 10 00 43.5 +1.7
MLR Muntele Rosu 8.83 356 Pn 10 00 43.5 +1.7
HERR Herculane 8.84 339 ⇓P Pn 10 00 42.1 +0.3
VOIR 8.86 352 ⇓P Pn 10 00 42.9 +0.8
TREB Trebinje 8.87 315 *e*Pn **Pn 10 00 42.4 +0.2**
NBNS Bani Suef 8.88 153 P Pn 10 00 40.2 -2.3
baz=154
BRY Bratogost 8.89 317 *e*Pn **Pn 10 00 43.1 +0.5**
BRY Bratogost 8.89 317⇓iPn Pn 10 00 43.3 +0.7
BRY *i* Sn **Sn 10 02 16.7 -4.4**
ZNM Zenema 8.89 143 P Pn 10 00 41.0 -1.6
baz=143
UPM Unac-Piva 8.90 320 *e*Pn **Pn 10 00 44.3 +1.6**
UPM Unac-Piva 8.90 320⇓iPn Pn 10 00 43.6 +0.9
UPM *i* Sn **Sn 10 02 17.4 -4.0**
RUDO Rudo 8.96 323 *e*Pn **Pn 10 00 44.6 +1.1**
MDVR Moldovita 8.97 336 ⇓P Pn 10 00 45.4 +1.8
GHAJ Ghor Haditha 9.04 124 Pn 10 00 44.4 -0.2
DIVS Divibare 9.05 327 *e*Pn **Pn 10 00 46.2 +1.5**
DIVS Divibare 9.05 327 Pn 10 00 46.5 +1.8
DIVS Divibare 9.05 327 ⇑P Pn 10 00 46.2 +1.5
BBLS Lazići 9.13 324 *e*Pn **Pn 10 00 47.2 +1.4**
PLOR Plostina 9.17 359 ⇓P Pn 10 00 48.0 +1.8
VRI Vrincioaia 9.19 360 ⇓P Pn 10 00 48.2 +1.7
GZR Gura Zlata 9.22 342 ⇑P Pn 10 00 47.3 +0.3
STON Ston 9.34 314 *e*Pn **Pn 10 00 47.7 -0.7**
STON Ston 9.34 314 *i* Pn **Pn 10 00 48.1 -0.4**
STON Sn **Sn 10 02 25.0 -6.8**
DOPR Dopca 9.35 354 ⇓P Pn 10 00 49.7 +1.1
MRVN Minervino Murg 9.35 301 ⇑P Pn 10 00 47.2 -1.5
MALT Malatya 9.40 76 P Pn 10 00 50.8 +1.4
HAPS Han Pijesak,Bl 9.51 324 *e*Pn **Pn 10 00 51.4 +0.5**
HFRF Wahat Farafira 9.58 172 P Pn 10 00 50.4 -1.5
baz=172
TEKS Tekeris 9.61 327 *e*Pn **Pn 10 00 52.5 +0.4**
TAMRE El Minia 9.62 158 P Pn 10 00 50.4 -1.9
baz=158
BZS Buzias 9.75 338 ⇑P Pn 10 00 54.6 +0.7
EIL Elat 9.77 133 P Pn 10 00 52.0 -2.4
comp=N,26nm,0.3s,baz=345,slow=5.9,SNR=168
EIL S **Sn 10 02 33.6 -8.9**
comp=N,36nm,0.3s,baz=68,slow=20,SNR=3.4
EIL Elat 9.77 133 ⇑P Pn 10 00 52.0 -2.4
EIL ⇑S **Sn 10 02 36.6 -5.9**
GRB Gharib 9.79 147 P Pn 10 00 52.0 -2.6
baz=147
VAE Valguarnera 9.92 278 P Pn 10 00 57.5 +1.2
comp=N,3.8nm,0.3s,baz=212,slow=0.5,SNR=10.0
VAE S **Sn 10 02 38.8 -7.3**
comp=N,24nm,0.3s,baz=306,slow=6.2,SNR=3.1
WDD Wied Dalam 9.94 269 Pn 10 00 57.3 +0.8
WDD Wied Dalam 9.94 269 ⇓P Pn 10 00 56.0 -0.6
SGRT San Giovanni R 9.96 304 Pn 10 00 56.4 -0.4
SIM Simferopol' 9.96 32 *eP* **Pn 10 00 56.6 -0.1**
SIM S **Sn 10 02 47.3 +0.6**
SIM pmax pmax
comp=Z,112nm,0.8s
SIM smax smax
comp=N,44nm,0.8s
SIM smax smax
comp=E,50nm,1.0s
FRGS Fruska Gora 9.98 330 ⇑P Pn 10 00 58.9 +1.8
FRGS Fruska Gora 9.98 330 *e*Pn **Pn 10 00 58.2 +1.1**
HBST Basata 9.99 136 P Pn 10 00 55.4 -1.8
baz=136
RICI Ricice 10.05 316 *e*Pn **Pn 10 00 58.6 +0.6**
RICI Sn **Sn 10 02 44.1 -5.0**
HKAT Jabal Katrina 10.14 141 P Pn 10 00 57.5 -2.1
baz=141
HVAR Hvar 10.26 312 *e*Pn **Pn 10 00 59.4 -1.3**
HVAR Sn **Sn 10 02 46.9 -7.0**
HDHB Dhahab 10.31 138 P Pn 10 00 59.6 -1.9
baz=138
KIS Kishinev 10.43 8 *eP* **Pn 10 01 07.0 +4.1**
comp=E,60nm,0.3s
KIS *e*S **Sn 10 03 02.0 +3.9**
PAOL Paolisi 10.47 298 Pn 10 01 04.3 +0.6
DRGR 10.56 345 ⇓P Pn 10 01 06.1 +1.4
DRGR 10.56 345 P Pn 10 01 06.0 +1.2
MGRS Mrkonjic Grad 10.69 319 *e*Pn **Pn 10 01 06.6 +0.1**
KIJV Kijevo 10.78 316 *e*Pn **Pn 10 01 07.3 -0.4**
KIJV Sn **Sn 10 03 01.4 -5.4**
CORL Corleone 10.81 281 Pn 10 01 08.4 +0.2
BLY Banja Luka 10.87 321 *e*Pn **Pn 10 01 08.4 -0.4**
BLY Banja Luka 10.87 321 ⇑P Pn 10 01 08.8 0.0
CLTB Caltabellotta 10.88 279 Pn Pn 10 01 08.9 -0.1
CLTB Caltabellotta 10.88 279 ⇑P Pn 10 01 09.9 +0.8
BURAR Bucovina Array 11.00 354 ⇑P Pn 10 01 13.3 +2.7
BURAR Bucovina Array 11.00 354 P Pn 10 01 12.4 +1.8
BURAR Bucovina Array 11.00 354 Pn Pn 10 01 12.3 +1.8
KTUT Trabzon 11.00 63 ⇓P Pn 10 01 12.3 +1.7
ZIRJ Zirje 11.01 313 *e*Pn **Pn 10 01 09.9 -0.8**
ZIRJ Sn **Sn 10 03 05.0 -7.1**
BUR08 Bucovina Ar. S 11.03 354 Pn 10 01 10.9 -0.1
HHRG Al Ghardaqah 11.04 147 P Pn 10 01 11.2 0.0
baz=147
MORI Morici 11.10 314 *e*Pn **Pn 10 01 11.7 -0.2**
MORI Sn **Sn 10 03 08.3 -5.9**
MRAK Mrakovica 11.20 321 *e*Pn **Pn 10 01 12.8 -0.4**
INTR Introdacqua 11.31 302 Pn Pn 10 01 16.4 +1.7
MORH Mrgy, Hungar 11.32 330 *e*P **Pn 10 01 14.4 -0.3**
MORH Mrgy, Hungar 11.32 330 *e*Pn **Pn 10 01 14.8 +0.1**
KOVH Kovagotottos 11.44 328 *e*P **Pn 10 01 16.2 -0.1**
ANN Anapa 11.44 42 *eP* **Pn 10 01 15.6 -0.8**
ANN *e*S **Sn 10 03 22.7 +0.1**
ANN pmax pmax
comp=Z,67nm,0.8s
UDBI Udbina 11.47 317 *e*Pn **Pn 10 01 16.8 0.0**
DUGI Dugi Otok 11.55 313 *i* Pn **Pn 10 01 17.8 0.0**
DUGI Sn **Sn 10 03 19.5 -5.7**
AKRG Al Kharijah 11.58 163 P Pn 10 01 16.1 -2.2
baz=163
GTR Jabal at Tayr 11.59 163 P Pn 10 01 16.9 -1.5
baz=163
MOSL Moslavina 11.70 323 *e*Pn **Pn 10 01 21.6 +1.9**
AQU L'Aquila 11.79 303 P Pn 10 01 22.5 +1.5
AQU S **Sn 10 03 34.7 +3.7**
AQU L'Aquila 11.79 303 *e*Pn **Pn 10 01 22.9 +1.9**
AQU L'Aquila 11.79 303 Pn Pn 10 01 22.8 +1.8
AQU L'Aquila 11.79 303 ⇑P Pn 10 01 23.1 +2.1
NVLJ Novalja 11.99 315 *e*Pn **Pn 10 01 24.2 +0.6**
NVLJ Sn **Sn 10 03 29.9 -6.0**
SOC Sochi 12.06 51 *eP* **Pn 10 01 23.9 -0.5**
SOC *e* 10 03 37.7
SOC pmax pmax
comp=Z,56nm,0.9s
RABC Rab 12.16 315 *e*Pn **Pn 10 01 26.8 +1.1**
NRCA Norcia 12.18 305 Pn Pn 10 01 27.1 +1.0
GURO Guroymak-BITLI 12.24 77 Pn Pn 10 01 27.7 +0.7
BEHE Becsehely 12.32 326 *eP* **P 10 01 33.6 -0.6**
BEHE Becsehely 12.32 326 *e*Pn **Pn 10 01 27.6 -0.2**
PSZ Piszkesteto 12.34 338 *eP* Pn 10 01 21.2 -6.9
PSZ Piszkesteto 12.34 338 P Pn 10 01 28.9 +0.8
PSZ Piszkesteto 12.34 338 Pn Pn 10 01 28.9 +0.8
PSZ Piszkesteto 12.34 338 ⇑P Pn 10 01 28.7 +0.6
OZLJ Ozalj 12.34 320 *e*Pn **Pn 10 01 29.7 +1.6**
BOJS Bojanci 12.38 319 *e*Pn **Pn 10 01 28.0 -0.6**
UZH Uzhgorod 12.40 346 *eP* **Pn 10 01 29.8 +1.0**
UZH *e*S **Sn 10 03 47.6 +2.1**
UZH MLR MLR
comp=N,70nm,13.0s
UZH MLR MLR
comp=E,70nm,13.0s
UZH MLR MLR
comp=Z,60nm,13.0s
GCIS Gornji Cirnik 12.43 321 *e*Pn **Pn 10 01 28.5 -0.8**
BCA Borcka 12.47 63 ⇓P Pn 10 01 30.7 +0.8
CRES Cresnjev 12.49 321 *i* Pn **Pn 10 01 29.5 -0.6**
SIRT Sirnak 12.53 82 Pn 10 01 33.1 +2.4
MPLH Magyarpolny 12.54 330 *eP* **Pn 10 01 31.6 +1.0**
KECS Kecovo 12.68 341 *eP* **P 10 01 40.4 +2.3**
KECS Kecovo 12.68 341 *eP* **P 10 01 40.4 +2.3**
KOLS Kolonicke sedl 12.69 346 *eP* **Pn 10 01 34.7 +2.1**
KOLS Kolonicke sedl 12.69 346 *e* **Pn 10 01 34.7 +2.1**
KOLS Kolonicke sedl 12.69 346 *eP* **P 10 01 39.6 +1.3**
SRO2 Moca 12.70 333 *eP* **P 10 01 39.7 +1.4**

SRO2	Moca	12.70	333	*e*P	P	10 01 39.6 +1.3
MURB	Monte Urbino	12.76	305	Pn	Pn	10 01 35.3 +1.7
VISS	Visnje	12.80	319	*e*Pn	Pn	10 01 33.3 -0.7
EGYH	Egyhazaskeszo	12.82	330	*e*P	Pn	10 01 33.4 -0.8
CRVS	Cervenica-Dubn	12.83	344	*e*P	Pn	10 01 37.1 +2.7
CRVS	Cervenica-Dubn	12.83	344	*e*	Pn	10 01 37.1 +2.7
CRVS	Cervenica-Dubn	12.83	344	*e*P	P	10 01 43.5 +3.7
MGAB	Montegabbione	12.88	303	⇑P	Pn	10 01 35.7 +0.5
ARXR	Arkhyz	13.04	54	*d i*P	Pn	10 01 39.7 +2.4
DOMR	Dombai	13.15	55	⇑*i*P	Pn	10 01 40.0 +1.3
VYHS	Vyhne	13.18	336	*e*P	Pn	10 01 39.7 +0.8
VYHS	Vyhne	13.18	336	*e*P	P	10 01 45.3 +1.6
LVV	L'vov	13.29	352	*e*P	P	10 01 47.3 +2.4
LVV				*e*S	Sn	10 04 13.9 +6.8
LVV				MLR	MLR	
	comp=N,400nm,14.0s					
LVV				MLR	MLR	
	comp=E,100nm,14.0s					
LVV				MLR	MLR	
	comp=Z,100nm,14.0s					
SOKA	Soboth	13.29	322	*e*P	Pn	10 01 40.2 -0.2
	comp=Z,135nm,1.0s,SNR=94					
SOKA				*e*S	ScP	10 10 17.9 -0.7
	comp=Z,16nm,1.1s					
KARS	Kars	13.33	68	P	P	10 01 43.7 -1.9
KARS	Kars	13.33	68		P	10 01 43.7 -1.9
SOP	Sopron	13.35	329	*e*P	Pn	10 01 41.8 +0.8
KOLL	Kolacno	13.39	335	*e*P	P	10 01 47.7 +1.6
OBKA	Obir	13.42	321	*e*Pn	Pn	10 01 43.4 +1.4
	comp=Z,111nm,0.7s,SNR=24					
OBKA				*i* S	ScP	10 10 18.1 -0.7
	comp=Z,8.3nm,1.2s					
ARSA	Arzberg	13.47	325	*e*Pn	Pn	10 01 44.2 +1.5
	comp=Z,94nm,0.8s,SNR=42					
ARSA				*e*S	ScP	10 10 17.8 -1.0
	comp=Z,13nm,1.0s					
ZST	Bratislava	13.54	331	*e*P	P	10 01 49.2 +1.5
ZST	Bratislava	13.54	331	*e*P	P	10 01 49.2 +1.5
LANS	Liptovska Anna	13.57	339	*e*P	P	10 01 50.7 +2.7
LANS	Liptovska Anna	13.57	339	*e*P	P	10 01 50.6 +2.6
MODS	Modra-Piesok	13.62	332	*e*P	Pn	10 01 45.7 +1.1
MODS	Modra-Piesok	13.62	332	*e*P	P	10 01 51.1 +2.5
SMOL	Smolenice	13.68	333	*e*P	P	10 01 51.2 +1.9
SMOL	Smolenice	13.68	333	*e*P	P	10 01 51.2 +1.9
CASP	Castiglione de	13.69	301	Pn	Pn	10 01 45.7 +0.3
CONA	Conrad Observa	13.84	328	*e*Pn	Pn	10 01 47.9 +0.6
	comp=Z,44nm,0.9s,SNR=34					
CONA				*e*S	ScP	10 10 17.8 -1.6
	comp=Z,6.4nm,1.1s					
NEY	Neytrino	13.87	57	⇑*i*P	P	10 01 50.1 -1.5
JAVC	Velka Javorina	13.88	334	*e*P	Pn	10 01 48.3 +0.3
JAVC				*e*SCP	ScP	10 10 19.6 +0.1
MYKA	Terra Mystica	13.97	320	*e*Pn	Pn	10 01 49.8 +0.8
	comp=Z,34nm,0.6s,SNR=42					
MYKA				*i* S	ScP	10 10 18.9 -0.7
	comp=Z,8.4nm,1.1s					
PTCC	Patocco-Chiusa	13.97	318	⇑P	Pn	10 01 48.6 -0.5
VSL	Villasalto	14.00	287	Pn	Pn	10 01 49.3 -0.1
VSL	Villasalto	14.00	287	⇑P	Pn	10 01 49.1 -0.4
SHA1	Shidzhatmaz	14.02	55	*i* P	Pn	10 01 50.7 +0.8
KEST	Kesra	14.12	271	P	Pn	10 01 52.4 +1.3
	comp=Z,1.6nm,0.3s,baz=33,slow=4.7,SNR=39					
KEST				S	Sn	10 04 19.1 -8.2
	comp=Z,4.2nm,0.3s,baz=159,slow=20,SNR=7.0					
KEST				ScP	ScP	10 10 20.3 +0.2
	comp=Z,0.1nm,0.3s,baz=240,slow=2.2,SNR=4.1					
KEST	Kesra	14.12	271	Pn	P	10 01 53.0 -1.4
KEST	Kesra	14.12	271	P	P	10 01 52.9 -1.4
	SNR=52					
ONI	Oni	14.13	60	P	Pn	10 01 52.1 +1.0
ONI	Oni	14.13	60	Pn	Pn	10 01 52.1 +1.0
KIV	Kislovodsk	14.13	54	⇓P	P	10 01 53.3 -1.1
KIV	Kislovodsk	14.13	54	*i* P	P	10 01 52.9 -1.5
	SNR=66					
KIV	Kislovodsk	14.13	54	*e*P	Pn	10 01 52.7 +1.5
KIV				*e*S	Sn	10 04 30.5 +3.0
KIV				pmax	pmax	
	comp=Z,517nm,1.0s					
KIV	Kislovodsk	14.13	54	Pn	Pn	10 01 52.0 +0.9
KIV	Kislovodsk	14.13	54	P	Pn	10 01 52.1 +0.9
KIV	Kislovodsk	14.13	54	⇓P	Pn	10 01 52.1 +0.9
AKASG	Malin Array Be	14.13	6	P	Pn	10 01 50.4 -0.6
	comp=Z,1.3nm,0.3s,baz=193,slow=11,SNR=37					
AKASG				S	S	10 04 35.0 -2.8
	baz=191,slow=22,SNR=11					
AKASG				ScP	ScP	10 10 17.9 -1.8
	comp=Z,0.6nm,0.3s,baz=218,slow=0.7,SNR=14					
AKASG	Malin Array Be	14.13	6	P	Pn	10 01 50.4 -0.6
AKASG	Malin Array Be	14.13	6	Pn	Pn	10 01 50.3 -0.6
AKBB	Malin Array Si	14.13	6	*ce*P	Pn	10 01 50.3 -0.7
AKBB	Malin Array Si	14.13	6	Pn	Pn	10 01 50.2 -0.8
TAMR	Tamra	14.16	277	⇑P	Pn	10 01 51.4 -0.2
KBZ	Khabaz	14.18	55	P	Pn	10 01 52.7 +1.1
	comp=Z,2.3nm,0.3s,baz=252,slow=9.7,SNR=164					
KBZ				ScP	ScP	10 10 19.7 -0.2
	comp=Z,0.1nm,0.3s,baz=300,slow=4.8,SNR=3.6					
KBZ	Khabaz	14.18	55	P	Pn	10 01 52.7 +1.1
STAL	STALIGIAL	14.23	317	Pn	Pn	10 01 52.4 0.0
ZCCA	Zocca	14.25	307		P	10 01 54.8 -0.9
ZOU	Zoufplan	14.27	318	Pn	Pn	10 01 54.3 +1.3
TEOL	Teolo	14.32	312		P	10 01 55.6 -0.8
KBA	Koelnbreinsper	14.41	320	*e*Pn	Pn	10 01 55.9 +1.1
	comp=Z,469nm,1.1s,SNR=213					
KBA				*e*S	ScP	10 10 19.2 -1.4
	comp=Z,5.1nm,0.8s					
PYA1	Pyatigorsk	14.45	54	*i* P	P	10 01 56.8 -1.0
OJC	Ojcow	14.45	342	*e*P	P	10 01 59.7 +1.9
OJC				*e*S	S	10 04 44.9 +0.4
OJC	Ojcow	14.45	342	P	P	10 01 57.1 -0.7
OJC	Ojcow	14.45	342		P	10 01 57.1 -0.7
OJC	Ojcow	14.45	342	⇓P	P	10 01 59.4 +1.6
KZRT	Kazreti	14.47	66	P	Pn	10 01 56.7 +1.3
MOA	Molln	14.49	324	*e*Pn	P	10 01 57.2 -1.2
	comp=Z,83nm,0.9s,SNR=16					
GNI	Garni	14.50	71	P	P	10 01 57.9 -0.7
	comp=Z,2.1nm,0.3s,baz=288,slow=2.0,SNR=92					
GNI	Garni	14.50	71	P	P	10 01 57.3 -1.3
GNI	Garni	14.50	71	P	P	10 01 57.9 -0.7
GNI	Garni	14.50	71		P	10 01 57.7 -0.9
GNI	Garni	14.50	71	P	Pn	10 01 56.9 +1.0
GNI	Garni	14.50	71	⇓P	P	10 01 57.7 -0.9
ZEI	Tsey	14.51	60	*e*P	Pn	10 01 55.1 -0.9
ZEI				pmax	pmax	
	comp=Z,221nm,1.2s					
KRUC	Moravsky	14.52	332	*e*P	Pn	10 01 55.8 -0.1
KRUC				*e*SCP	ScP	10 10 19.6 -0.9
VLC	Villacollemand	14.55	306	Pn	Pn	10 01 56.5 +0.2
VLC	Villacollemand	14.55	306	⇑P	Pn	10 01 56.0 -0.4
NCK	Nalchik	14.55	57	*i* P	P	10 01 58.6 -0.4
NCK				pmax	pmax	
	comp=Z,420nm,0.9s					
OKC	Ostrava-Krasne	14.57	337	*e*P	P	10 01 58.9 -0.2
OKC	Ostrava-Krasne	14.57	337	*e*P	P	10 01 58.9 -0.2
ABTA	Abfaltersbach	14.64	318	*e*Pn	Pn	10 01 58.3 +0.8
	comp=Z,174nm,0.7s,SNR=127					
ABTA				*i* S	ScP	10 10 19.8 -1.1
	comp=Z,3.9nm,0.8s					
VRAC	Vranov	14.65	333	P	Pn	10 01 58.1 +0.6
	comp=Z,3.5nm,0.3s,baz=142,slow=10,SNR=60					
VRAC	Vranov	14.65	333	P	Pn	10 01 58.1 +0.6
VRAC	Vranov	14.65	333	*e*P	Pn	10 01 57.5 0.0
VRAC				*e*SCP	ScP	10 10 19.9 -0.8
CTI	Castel Tesino	14.71	314	P	Pn	10 01 58.9 +0.5
CTI	Castel Tesino	14.71	314	Pn	Pn	10 01 58.9 +0.5
MORC	Moravsky Berou	14.71	336	P	P	10 01 59.7 -1.1
MORC	Moravsky Berou	14.71	336	Pn	P	10 01 59.7 -1.1
MORC	Moravsky Berou	14.71	336	*e*P	Pn	10 01 57.9 -0.5
MORC				*e*SCP	ScP	10 10 20.0 -0.9
GUDG	Gudauri	14.81	62	P	P	10 02 02.7 +0.6
PRMA	PARMA	14.86	308	P	P	10 02 02.0 -0.4
GOF	Gofitskoye	14.86	51	⇑*e*P	P	10 02 01.7 -0.7
GOF				pmax	pmax	
	comp=Z,631nm,0.9s					
NAX	Nakhchivan	14.98	75	P	P	10 02 04.1 +0.3
TREC	Trest	15.06	330	*e*P	P	10 02 04.7 +0.1
TREC	Trest	15.06	330	*e*P	P	10 02 04.7 +0.1
SALO	Salr	15.14	311		Pn	10 02 03.4 -0.4
SALO	Salr	15.14	311	⇑P	Pn	10 02 04.1 +0.4
MSSA	Maissana	15.18	306		Pn	10 02 04.1 -0.1
KRLC	Kraliky	15.22	335	*e*P	P	10 02 06.9 +0.5
KRLC	Kraliky	15.22	335	*e*P	P	10 02 06.9 +0.5
BOB	Bobbio (Coli)	15.41	307	⇑P	Pn	10 02 07.6 +0.4
WTTA	Wattenberg	15.43	318	*e*Pn	P	10 02 09.0 +0.1
	comp=Z,174nm,0.8s,SNR=66					
WTTA				*e*S	ScP	10 10 21.4 -1.0
	comp=Z,8.9nm,0.9s					
GEC2	GERESS Array S	15.47	326	P	P	10 02 09.3 0.0
GEC2				IAmb	IAmb	10 02 12.6
	comp=Z,114nm,0.8s					
GEC2	GERESS Array S	15.47	326	*e*P	P	10 02 10.2 +0.9
	comp=Z,133nm,1.0s,baz=134,slow=11					
GERES	GERESS Array B	15.47	326	P	P	10 02 09.2 0.0
	comp=Z,3.3nm,0.3s,baz=139,slow=12,SNR=370					
GERES				ScP	ScP	10 10 20.8 -1.5
	comp=Z,0.1nm,0.3s,baz=127,slow=2.0,SNR=17					
GERES	GERESS Array B	15.47	326	P	P	10 02 09.2 0.0
GERES	GERESS Array B	15.47	326		P	10 02 09.3 0.0
WATA	Walderalm	15.51	318	*e*Pn	P	10 02 09.9 +0.2
	comp=Z,138nm,0.8s,SNR=93					
WATA				*i* S	ScP	10 10 21.3 -1.1
	comp=Z,7.1nm,0.7s					
ABSA	Djebel Ababsia	15.54	274	P	P	10 02 10.9 +0.8
CMAH	Djebel Manchou	15.55	276	P	P	10 02 10.6 +0.4
DPC	Dobruska-Polom	15.62	334	*e*P	P	10 02 11.6 +0.8
DPC	Dobruska-Polom	15.62	334	*e*P	P	10 02 11.6 +0.8
SQTA	Sankt Quirin	15.64	317	*e*Pn	P	10 02 11.8 +0.7
	comp=Z,76nm,0.6s,SNR=55					
KHC	Kasperske Hory	15.74	326	*e*P	P	10 02 12.7 +0.6
KHC				*e*S	Sn	10 05 06.0 0.0
KHC	Kasperske Hory	15.74	326	*e*P	P	10 02 12.7 +0.6
KHC				*e*S	Sn	10 05 06.0 0.0
KHC	Kasperske Hory	15.74	326	P	P	10 02 12.4 +0.3
KHC				IAmb	IAmb	10 02 15.5
	comp=Z,117nm,1.0s					
KHC	Kasperske Hory	15.74	326	⇑P	P	10 02 12.8 +0.7
GANJ	Ganja	15.76	69	P	P	10 02 12.3 -0.2
MOTA	Moosalm	15.77	317	*i* Pn	P	10 02 13.3 +0.7
	comp=Z,208nm,0.8s,SNR=96					
MOTA				*i* S	ScP	10 10 21.6 -1.4
	comp=Z,8.7nm,1.0s					
FETA	Feichten	15.78	316	*e*P	P	10 02 13.7 +0.9
	comp=Z,457nm,0.8s,SNR=343					
FETA				*i* S	ScP	10 10 22.1 -1.0
	comp=Z,16nm,1.1s					
OSTC	Ostas	15.83	335	*e*S	S	10 05 10.9 +1.0
UPC	Upice	15.86	334	*e*P	P	10 02 14.3 +0.9
UPC				*e*S	S	10 05 11.0 +0.6
UPC	Upice	15.86	334	*e*P	P	10 02 14.3 +0.9
UPC				*e*S	S	10 05 11.0 +0.6
GROC	Groznyy	15.96	60	*e*P	P	10 02 14.4 -0.1
GROC				*e*S	Sn	10 05 10.9 -0.3
GROC				pmax	pmax	
	comp=Z,241nm,0.8s					
PBCC	Pribram	15.98	329	*e*P	P	10 02 15.6 +0.9
PRU	Pruhonice	15.99	330	*e*P	P	10 02 15.1 +0.3
PRU				*e*S	Sn	10 05 06.4 -5.4
PRU	Pruhonice	15.99	330	*e*P	P	10 02 15.1 +0.3
PRU				*e*S	Sn	10 05 06.4 -5.4
RETA	Reutte	16.04	317	*i* Pn	P	10 02 16.3 +0.8
	comp=Z,100nm,0.7s,SNR=75					
RETA				*e*S	ScP	10 10 22.5 -1.0
	comp=Z,5.2nm,0.9s					
KSP	Ksiaz	16.04	335	*e*P	P	10 02 16.6 +1.2
KSP				*e*S	S	10 05 19.5 +5.4
KSP	Ksiaz	16.04	335	⇑P	P	10 02 16.6 +1.2
WET	Wettzell	16.07	325	*e*P	P	10 02 17.0 +1.2
	comp=Z,146nm,1.2s,baz=134,slow=11					
PRA	Prague	16.09	330	*e*P	P	10 02 17.3 +1.3
PRA	Prague	16.09	330	*e*P	P	10 02 17.3 +1.3
DAVOX	Davos/Dischmat	16.13	314	P	P	10 02 18.8 +2.2
	comp=Z,3.1nm,0.3s,baz=132,slow=11,SNR=53					
CKFL	Kef-Lekhel	16.14	275	P	P	10 02 17.9 +1.2
ZKTA	Zakatala	16.16	66	P	P	10 02 17.0 +0.2
FUR	Furstenfeldbru	16.18	320	*e*P	P	10 02 18.1 +1.1
	comp=Z,158nm,0.6s,baz=134,slow=11					
TUE	Stuetta	16.28	312	P	P	10 02 19.8 +1.5
TUE	Stuetta	16.28	312	⇑P	P	10 02 19.5 +1.2
CASM	Ain Smara	16.34	275	P	P	10 02 20.3 +1.4
MNGR	Mingechevir, A	16.36	69	P	P	10 02 20.5 +1.5
DAVA	Damuels	16.41	316	*i* Pn	P	10 02 21.1 +1.4
	comp=Z,109nm,0.5s,SNR=84					
DAVA				*e*S	ScP	10 10 24.0 -0.3
	comp=Z,8.9nm,1.0s					
CTEI	Djebel Teioual	16.43	274	P	P	10 02 21.3 +1.3
SEKA	Sheki	16.51	68	P	P	10 02 20.8 +0.1
UBR	Ueberruh	16.51	317	*e*P	P	10 02 22.4 +1.7
	comp=Z,205nm,0.7s,baz=134,slow=11					
MONC	Moncucco Torin	16.52	306	⇓P	Pn	10 02 20.7 0.0
DFRA	Djebel Bou Aff	16.79	276	P	Pn	10 02 26.2 +2.0
ROTZ	Rotzenmuhle	16.82	326	*e*P	Pn	10 02 25.0 +0.8
	comp=Z,168nm,1.0s,baz=134,slow=11					
VORD	Divnogorie	16.86	28	*e*P	Pn	10 02 25.5 +0.8
VORD				pmax	pmax	
	comp=Z,280nm,0.7s					
BRG	Berggiesshubel	16.92	331	*e*P	Pn	10 02 26.1 +0.7
BRG				Amp		10 02 30.1
	comp=Z,60nm,1.1s					
BRG	Berggiesshubel	16.92	331	S	Sn	10 05 35.0 +0.8
BRG				⇑SP	ScP	10 10 24.1 -0.8
BRG				Amp		10 10 25.5
	comp=Z,14nm,1.4s					
BRG	Berggiesshubel	16.92	331	*e*P	Pn	10 02 26.6 +1.2
	comp=Z,81nm,1.8s,baz=134,slow=11					
AKT	Akhty	16.95	67	*i* P	Pn	10 02 26.8 +0.8
MANZ	Manzenberg	17.02	326	*e*P	Pn	10 02 27.6 +0.9
	comp=Z,174nm,1.2s,baz=134,slow=11					
NKC	Novy Kostel	17.05	327	*e*P	Pn	10 02 28.0 +1.0
NKC	Novy Kostel	17.05	327	*e*P	Pn	10 02 28.0 +1.0
MAK	Makhachkala	17.09	62	*e*P	P	10 02 25.3 -1.7
MAK				*e*S	S	10 05 37.6 -0.3
MAK				pmax	pmax	
	comp=Z,309nm,0.8s					
WERN	Wernitzgruen	17.12	327	*e*P	Pn	10 02 29.5 +1.6
	comp=Z,104nm,0.7s,baz=134,slow=11					
FBE	Freiberg	17.19	330	*e*P	Pn	10 02 29.9 +1.2
	comp=Z,105nm,0.8s,baz=134,slow=11					
GUNZ	Gunzen	17.20	327	*e*P	Pn	10 02 30.0 +1.2
	comp=Z,90nm,0.8s,baz=134,slow=11					
SET	Setif	17.22	275	P	Pn	10 02 33.0 +3.7
GRA1	Grafenberg Arr	17.22	324	P	Pn	10 02 29.8 +0.7
GRF	Grafenberg Arr	17.22	324	P	Pn	10 02 29.8 +0.7
GRF				pmax	pmax	
	comp=Z,194nm,1.2s					
GRF	Grafenberg Arr	17.22	324	*e*P	Pn	10 02 29.7 +0.7
	comp=Z,83nm,1.0s,baz=134,slow=11					
GRFO	Grafenberg	17.22	324	P	Pn	10 02 29.7 +0.6
GRFO				pmax	pmax	
	comp=Z,176nm,1.2s					
GRFO	Grafenberg	17.22	324	P	Pn	10 02 29.7 +0.6
WERD	Werda	17.27	327	*e*P	Pn	10 02 30.7 +1.0
	comp=Z,142nm,0.8s,baz=134,slow=11					
BNI	Bardonecchia	17.33	305	P	Pn	10 02 30.4 -0.2
BNI				pmax	pmax	
	comp=Z,115nm,0.8s					
BNI	Bardonecchia	17.33	305	P	Pn	10 02 30.4 -0.2
BNI				IAmb	IAmb	10 02 37.5
	comp=Z,115nm,0.8s					
BNI	Bardonecchia	17.33	305	⇑P	Pn	10 02 30.4 -0.2
PLN	Plauen	17.36	327	*e*P	Pn	10 02 31.6 +0.9
	comp=Z,162nm,0.9s,baz=134,slow=11					
VORR	Voronezh	17.40	27	*e*P	Pn	10 02 31.0 -0.2
VORR				pmax	pmax	
	comp=Z,500nm,1.2s					
SENIN	Lac Senin/Sane	17.47	310		Pn	10 02 32.1 -0.3
SUW	Suwalki	17.52	353	*e*P	Pn	10 02 33.1 +0.5
SUW				*e*S	S	10 05 47.0 +0.5
SUW	Suwalki	17.52	353	*e*P	P	10 02 27.9 -3.8
SUW	Suwalki	17.52	353	P	Pn	10 02 33.0 +0.4
SUW				pmax	pmax	
	comp=Z,268nm,1.1s					
SUW	Suwalki	17.52	353	P	Pn	10 02 33.0 +0.4
CLL	Collm	17.63	330	⇑*i*P	Pn	10 02 33.8 -0.1
	comp=Z,98nm,0.8s					
CLL				*i*		10 02 37.2
	comp=Z,114nm,1.0s					
CLL				*i*		10 02 45.2
CLL				*e*S	S	10 05 43.0 -5.8
CLL				*i* ScP	ScP	10 10 24.9 -1.5
	comp=Z,10.0nm,1.1s					
CLL	Collm	17.63	330	⇑*i*P	Pn	10 02 33.8 -0.1
CLL				*e*S	S	10 05 43.0 -5.8
CLL				pmax	pmax	
	comp=Z,98nm,0.8s					
CLL	Collm	17.63	330	P	Pn	10 02 33.8 -0.1
CLL				IAmb	IAmb	10 02 34.9
	comp=Z,92nm,0.8s					
CLL	Collm	17.63	330	*e*P	Pn	10 02 34.3 +0.4
	comp=Z,98nm,0.8s,baz=134,slow=11					
STU	Stuttgart	17.65	319	P	Pn	10 02 33.8 -0.4
STU				pmax	pmax	
	comp=Z,265nm,0.7s					
STU	Stuttgart	17.65	319	P	Pn	10 02 33.8 -0.4
STU	Stuttgart	17.65	319	*e*P	Pn	10 02 34.5 +0.3
	baz=134,slow=11					
STU	Stuttgart	17.65	319	⇑P	Pn	10 02 34.2 0.0
MOX	Moxa	17.71	327	P	Pn	10 02 35.2 +0.2
MOX	Moxa	17.71	327	*e*P	Pn	10 02 35.4 +0.5
	comp=Z,118nm,1.8s,baz=134,slow=11					
MNK	Minsk	17.85	2	*i* P	P	10 02 34.0 -1.2
MNK				*i* S	S	10 05 51.2 -1.8
MNK				pmax	pmax	
	comp=N,90nm,0.9s					
MNK				pmax	pmax	
	comp=Z,122nm,0.9s					
MNK				pmax	pmax	
	comp=E,3.0nm,0.9s					
MNK				MLR	MLR	
	comp=E,7.0nm,15.0s					
MNK				MLR	MLR	
	comp=N,127nm,15.0s					
MNK				MLR	MLR	
	comp=Z,52nm,15.0s					
MNK	Minsk	17.85	2	*i* P	P	10 02 34.1 -1.1
	comp=E,3.0nm,0.8s					
MNK				*i* P	P	10 02 34.1 -1.1
	comp=N,90nm,0.8s					
MNK				*i* P	P	10 02 34.1 -1.1
	comp=Z,122nm,0.8s,baz=183					
MNK				*i* pP	pP	10 02 58.1 -1.8
MNK				*i* sP	sP	10 03 14.6 -3.2
MNK				*i* S	S	10 05 51.3 -1.7
MNK				*i* LRM	MLR	10 10 39.2
	comp=E,7.0nm,15.5s					
MNK				*i* LRM	MLR	10 10 39.2
	comp=N,127nm,15.5s					
MNK				*i* LRM	MLR	10 10 39.2
	comp=Z,52nm,15.5s					
BFO	Black Forest	17.86	316	P	Pn	10 02 36.7 -0.1
BFO				pmax	pmax	
	comp=Z,145nm,0.8s					
BFO	Black Forest	17.86	316	P	Pn	10 02 36.7 -0.1
BFO	Black Forest	17.86	316	*e*P	Pn	10 02 36.9 +0.1
	baz=134,slow=11					
BFO	Black Forest	17.86	316	P	Pn	10 02 36.4 -0.4
GKP	Gorka Klasztor	17.89	341	*e*P	Pn	10 02 37.2 +0.2
GKP				*e*S	Sn	10 05 57.4 0.0
GKP	Gorka Klasztor	17.89	341	*e*P	P	10 02 31.6 -4.1
MAHO	Mahon	17.96	287	⇑P	Pn	10 02 37.5 -0.6
VRH	Novokhopyorsk	18.02	32	*e*P	Pn	10 02 38.3 -0.3
VRH				*e*S	S	10 05 53.9 -2.5
VRH				pmax	pmax	
	comp=Z,450nm,1.0s					
VRH				smax	smax	
	comp=E,480nm,1.3s					
NEUB	Neuenburg	18.06	328	*e*P	Pn	10 02 39.1 +0.1
	comp=E,207nm,0.9s,baz=134,slow=11					
LPSR	Galich'ya Gora	18.08	24	*e*P	P	10 02 38.5 +0.8
LPSR				*e*S	S	10 05 51.5 -6.0
LPSR				pmax	pmax	
	comp=Z,360nm,0.9s					
LPSR				smax	smax	
	comp=E,710nm,1.9s					
MILB	Miltenberg	18.25	322	*e*P	Pn	10 02 41.3 -0.1
	comp=E,239nm,0.7s,baz=134,slow=11					
RUE	Ruedersdorf	18.27	334	*e*P	Pn	10 02 40.9 -0.6
	comp=E,204nm,1.2s,baz=134,slow=11					
ECH	Echery	18.46	315	P	P	10 02 42.9 +0.9
ECH				pmax	pmax	
	comp=Z,235nm,1.3s					
ECH	Echery	18.46	315	P	P	10 02 42.9 +0.9
KLNR	Kaliningrad	18.50	348	*i* P	Pn	10 02 43.7 -0.5
KLNR				pmax	pmax	
	comp=Z,632nm,1.0s					
UBBA	Unterbreizbach	18.57	325	*e*P	P	10 02 43.9 +0.9
	comp=Z,31nm,0.8s,baz=134,slow=11					
IDID	Didziasalis	18.65	360	IAmb	IAmb	10 03 04.9
	comp=Z,20nm,0.7s					
IIGN	Ignalina	18.69	359	*e*P	P	10 02 40.6 -3.8
SSB	Saint Sauveur	18.82	304	P	P	10 02 45.9 -0.2
SSB				pmax	pmax	
	comp=Z,116nm,1.2s					
SSB	Saint Sauveur	18.82	304	P	P	10 02 45.9 -0.2
SSB				IAmb	IAmb	10 02 48.8
	comp=Z,116nm,1.2s					
SSB	Saint Sauveur	18.82	304	⇑P	P	10 02 45.8 -0.2
ISAL	Salakas	18.91	359	*e*P	P	10 02 42.8 -4.0
ISAL				IAmb	IAmb	10 02 53.8
	comp=Z,20nm,0.9s					
TNS	Taunus Mts	18.92	321	*e*P	Pn	10 02 48.2 -1.0
	comp=Z,165nm,0.7s,baz=134,slow=11					
PABE	Paberze	18.94	355	*e*P	P	10 02 43.0 -4.1
PABE				IAmb	IAmb	10 02 53.0
	comp=Z,62nm,0.8s					
PABE	Paberze	18.94	355	P	P	10 02 47.5 +0.5
PABE				IAmb	IAmb	10 02 48.8
	comp=Z,104nm,0.9s					
GTTG	Gottingen	19.09	326	*e*P	Pn	10 02 50.1 -1.0
	comp=Z,292nm,0.9s,baz=134,slow=11					
CLZ	Clausthal	19.12	328	*e*P	P	10 02 49.9 +0.8
	comp=Z,111nm,0.9s,baz=134,slow=11					
FLTG	Flechtingen	19.12	330	*e*P	P	10 02 49.4 +0.3
	comp=Z,117nm,0.9s,baz=134,slow=11					
ASSE	Asse, Remlinge	19.20	329	*e*P	P	10 02 50.5 +0.6
	comp=Z,65nm,1.1s,baz=134,slow=11					

comp=E,1µm,2.9s
ECHA Ech Chief 20.45 276 P **P 10 03 03.5 -0.1**
RCHB Rochefort 20.57 318 *bP* **P 10 03 05.1 +0.4**
comp=Z,63nm,0.7s
IBBN Ibbenburen 20.61 325 *eP* **P 10 03 05.4 +0.4**
comp=Z,66nm,1.0s,baz=134,slow=11
BSTI Sart Tilman 20.62 319 *dP* **P 10 03 06.5 +1.3**
comp=Z,37nm,0.8s
ETRT Tiaret 20.64 274 P **P 10 03 06.7 +0.9**
BCLA Clavier 20.67 318 *bP* **P 10 03 06.8 +1.0**
comp=Z,216nm,0.7s
BEBN Eben Emael 20.68 320 *bP* **P 10 03 06.9 +1.0**
comp=Z,65nm,0.7s
EANR 'Ain N'Sour 20.70 276 P **P 10 03 06.6 +0.3**
BGES Gesves 20.77 318 *bP* **P 10 03 07.7 +0.9**
comp=Z,210nm,1.1s
DOU Dourbes 20.88 317 *dP* **P 10 03 08.4 +0.4**
comp=Z,87nm,1.1s
BMRD Maredsous 20.89 318 *dP* **P 10 03 08.7 +0.5**
comp=Z,72nm,0.9s
BLEU Blekinge 20.99 343 *i* P **P 10 03 07.6 -1.5**
LUNU Lund 21.03 339 *i* P **P 10 03 09.0 -0.6**
SNF Seneffe 21.27 318 *dP* **P 10 03 12.5 +0.3**
comp=Z,169nm,0.9s
CLF Chambon-Foret 21.29 310 P **P 10 03 13.5 +1.1**
CLF Chambon-Foret 21.29 310 ⇑P **P 10 03 13.4 +0.9**
LFF La Frestale 21.31 301 *eP* **P 10 03 13.8 +1.1**
UCC Uccle 21.38 318 *dP* **P 10 03 13.9 +0.6**
UCC Uccle 21.38 318 P **P 10 03 14.0 +0.6**
UCC pmax pmax
comp=Z,96nm,0.9s
UCC Uccle 21.38 318 P **P 10 03 14.0 +0.6**
UCC IAmb IAmb 10 03 14.9
comp=Z,96nm,0.9s
BELG Belogornoye 21.51 36 P **P 10 03 14.6 -0.1**
comp=Z,391nm,0.8s,baz=323,slow=0.1,SNR=91
BELG S **S 10 07 02.3 -2.0**
comp=Z,69nm,1.0s,baz=125,slow=23,SNR=6.7
BELG Belogornoye 21.51 36 P **P 10 03 14.6 -0.1**
BJUU Bjuv 21.53 339 *i* P **P 10 03 13.7 -1.2**
DEL Delary 21.63 340 *i* P **P 10 03 14.9 -1.1**
VSU Vasula 21.80 360 *eP* **P 10 03 14.2 -3.6**
VSU Vasula 21.80 360 *i* P **P 10 03 18.0 +0.2**
VSU pmax pmax
comp=Z,87nm,1.0s
MTSE Matsula 22.14 356 *eP* **P 10 03 21.2 0.0**
FABU Falkenberg 22.41 340 *i* P **P 10 03 23.7 -0.2**
SAKB Bahrain 22.86 111 P **P 10 03 29.8 +1.3**
BORU Boraas 22.95 340 *i* P **P 10 03 28.8 -0.2**
ONAU Onsala 22.98 339 *i* P **P 10 03 29.1 -0.1**
ONAU *i* P **P 10 03 29.1 -0.1**
SHMA Al-Shehemyia 23.25 111 P **P 10 03 33.7 +1.6**
ELSH Elham, Standar 23.31 316⇑*eP* **P 10 03 32.6 +0.2**
ELSH IAmb IAmb 10 03 35.0
comp=Z,335nm,0.8s
TJOU Tjoern 23.60 340 *i* P **P 10 03 35.1 +0.1**
MEF Metsahovi 23.61 357 *eP* **P 10 03 31.0 -4.1**
HMNX Herstmonceux 23.63 315 *eP* **P 10 03 35.2 -0.1**
HMNX IAmb IAmb 10 03 37.0
comp=Z,307nm,0.8s
KHOR Al-Khor Airpor 23.79 111 P **P 10 03 38.4 +1.4**
AAL Aland 23.93 352 *eP* **P 10 03 33.6 -4.2**
UPP Uppsala 23.95 349 *eP* **P 10 03 34.4 -3.6**
TRNA Turayna 24.07 113 P **P 10 03 40.6 +1.1**
ESBB Sonseca Array 24.30 286 P **P 10 03 42.0 +0.3**
ESBB IAmb IAmb 10 03 43.3
comp=Z,45nm,0.8s
ESDC Sonseca Array 24.30 286 P **P 10 03 42.5 +0.8**
comp=Z,26nm,0.6s,baz=81,slow=8.8,SNR=178
ESDC pP **pP 10 04 09.9 -0.6**
comp=Z,23nm,0.8s,baz=80,slow=11,SNR=5.7
ESDC ScP **ScP 10 10 42.4 -0.6**
comp=Z,5.2nm,1.0s,baz=48,slow=2.3,SNR=12
ESDC Sonseca Array 24.30 286 P **P 10 03 42.6 +1.0**
ESDC IAmb IAmb 10 03 43.3
comp=Z,43nm,0.8s
ESDC **pP 10 04 09.9 -0.6**
WACR West Acre 24.37 319 *eP* **P 10 03 41.4 -0.5**
WACR IAmb IAmb 10 03 43.7
comp=Z,325nm,0.8s
JQE Queens East 24.37 310⇑*eP* **P 10 03 41.9 -0.2**
JLP Les Platons 24.43 310⇑*eP* **P 10 03 42.6 0.0**
JSA Saint Aubin 24.45 310⇑*eP* **P 10 03 42.9 +0.1**
JSA IAmb IAmb 10 03 43.9
comp=Z,159nm,1.0s
JSA Saint Aubin 24.45 310 ⇓P **P 10 03 43.0 +0.3**
JVM Valle D.L. Mar 24.48 310⇑*i*P **P 10 03 43.0 0.0**
RAF Rauma 24.58 354 *eP* **P 10 03 39.8 -4.0**
STRU Stroemstad 24.58 340 *i* P **P 10 03 43.2 -0.6**
PAB San Pablo 24.61 286 P **P 10 03 45.4 +1.0**
PAB pmax pmax
comp=Z,80nm,1.0s
PAB San Pablo 24.61 286 P **P 10 03 45.4 +1.0**
PAB IAmb IAmb 10 03 47.0
comp=Z,80nm,0.9s
PAB San Pablo 24.61 286 ⇑P **P 10 03 45.4 +1.0**
WOL Wolverton 24.71 315 *eP* **P 10 03 44.6 -0.4**
FINES FINESS Array B 24.80 359 P **P 10 03 45.8 0.0**
comp=Z,18nm,0.9s,baz=161,slow=11,SNR=16
FINES ScP **ScP 10 10 42.1 -1.8**
comp=Z,8.9nm,0.9s,baz=318,slow=2.6,SNR=6.1
FINES FINESS Array B 24.80 359 P **P 10 03 45.8 0.0**
FINES FINESS Array B 24.80 359 P **P 10 03 46.3 +0.5**
FIA1 FINESS Array S 24.80 359 P **P 10 03 46.7 +0.9**
SLWR Sila 24.81 113 P **P 10 03 47.0 +0.7**
GEYT Alibeck 24.90 78 P **P 10 03 47.6 +0.6**
comp=Z,28nm,0.7s,baz=262,slow=10.0,SNR=37
GEYT LR LR 10 16 21.1
comp=Z,102nm,19.6s,baz=5.0,slow=43
GEYT Alibeck 24.90 78 P **P 10 03 47.7 +0.6**
GYA0 ALIBECK ARRAY 24.90 78 P **P 10 03 47.9 +0.9**
GYA0B ALIBECK ARRAY 24.90 78 P **P 10 03 47.9 +0.9**
HFS Hagfors 24.94 344 P **P 10 03 46.7 -0.4**
comp=Z,63nm,0.9s,baz=155,slow=12,SNR=96
HFS Hagfors 24.94 344 P **P 10 03 46.7 -0.4**
JRN Qarnain Island 25.17 110 P **P 10 03 51.0 +1.4**
SNR=14
SNART Snartemo 25.21 335 *i* P **P 10 03 48.8 -0.7**
SNART Snartemo 25.21 335 *eP* **P 10 03 49.1 -0.4**
CWF Charnwood Fore 25.40 318⇑*eP* **P 10 03 50.3 -1.0**
CWF IAmb IAmb 10 03 51.4
comp=Z,78nm,0.9s
STRD Stroud 25.44 316⇑*eP* **P 10 03 51.3 -0.4**
STRD IAmb IAmb 10 03 55.1
comp=Z,236nm,0.9s
OSL Oslo 25.48 341 *eP* **P 10 03 51.0 -0.9**
KLMR Klimovskoe 25.52 15 *eP* **P 10 03 47.7 -4.6**
KLMR pmax pmax
comp=Z,51nm,0.9s
KLMR Klimovskoe 25.52 15 *e*PP pP 10 04 30.8 +8.7
KLMR Klimovskoe 25.52 15 *eP* **P 10 03 47.7 -4.6**
KLMR Klimovskoe 25.52 15 AMP 10 03 52.7
comp=Z,51nm,0.9s
KONO Kongsberg 25.54 340*ceP* **P 10 03 52.5 0.0**
KONO pmax pmax
comp=Z,69nm,2.5s
KONO Kongsberg 25.54 340 *eP* **P 10 03 50.7 -1.8**
KONO Kongsberg 25.54 340 P **P 10 03 52.1 -0.4**
KONO Kongsberg 25.54 340 ⇑P **P 10 03 51.8 -0.7**
GHWR Ruwais 25.75 112 P **P 10 03 56.2 +1.5**
LBWR Ladybower, Pea 25.94 319 *eP* **P 10 03 54.9 -1.3**
LBWR IAmb IAmb 10 03 56.7
comp=Z,50nm,0.9s
NC602 NORSAR Array S 25.97 343 P **P 10 03 56.1 -0.2**
MCH1 Michaelchurch 26.00 316⇑*eP* **P 10 03 55.9 -0.8**
MCH1 IAmb IAmb 10 03 57.2
comp=Z,58nm,0.8s
MCH1 Michaelchurch 26.00 316 ⇓P **P 10 03 56.2 -0.6**
MDT Midelt 26.02 271 P **P 10 03 59.1 +1.8**
comp=Z,36nm,0.9s,baz=85,slow=11,SNR=50
HLM1 Long Mynd 26.16 317⇑*eP* **P 10 03 57.4 -0.8**
HLM1 IAmb IAmb 10 03 58.2
comp=Z,98nm,0.8s
NAO01 NORSAR Array S 26.22 342 P **P 10 03 58.1 -0.5**
AKTO Aktyubinsk 26.26 49 P **P 10 03 59.4 +0.2**
comp=Z,54nm,0.9s,baz=254,slow=9.0,SNR=57
AKTO Aktyubinsk 26.26 49 P **P 10 03 59.4 +0.2**
NC405 NORSAR Array S 26.26 343 P **P 10 03 57.3 -1.7**
BLS5 Blasjo 26.30 336 *eP* **P 10 03 58.3 -1.1**
NB201 NORSAR Array S 26.30 343 P **P 10 03 59.0 -0.4**
NB201 IAmb IAmb 10 04 03.6
comp=Z,61nm,0.8s
NB2 NORSAR Subarra 26.31 343 P **P 10 03 58.7 -0.8**
comp=Z,11nm,0.8s,baz=159,slow=9.3
NB2 NORSAR Subarra 26.31 343 P **P 10 03 58.7 -0.8**
baz=159,slow=9.3
NOA NORSAR Array B 26.31 343 P **P 10 03 58.4 -1.1**
comp=Z,7.9nm,0.8s,baz=148,slow=10.0,SNR=42
NOA LR LR 10 15 59.2
comp=Z,50nm,19.6s,baz=155,slow=40
NOA NORSAR Array B 26.31 343 P **P 10 03 58.4 -1.1**
PBRG Braganca 26.36 292 *eP* **P 10 04 00.9 +0.7**
comp=Z,79nm,1.1s
PBRG *e*pP **pP 10 04 31.8 +1.8**
PBRG *i* LQ LQ 10 04 45.4
NBO00 NORSAR Array S 26.41 342 P **P 10 03 59.7 -0.7**
NC303 NORSAR Array S 26.44 343 P **P 10 03 59.9 -0.8**
KIRV Kirov 26.46 27 P **P 10 04 00.5 -0.3**
comp=Z,45nm,0.4s,baz=212,slow=4.1,SNR=21
KIRV Kirov 26.46 27 P **P 10 04 00.5 -0.3**
FOEL Foel Wylfa 26.49 317⇑*i*P **P 10 04 01.0 -0.2**
FOEL IAmb IAmb 10 04 01.7
comp=Z,81nm,0.8s
KMY Karmoy 26.54 335 *eP* **P 10 04 00.6 -0.9**
MVO Moncorvo 26.59 290 *eP* **P 10 04 02.9 +0.6**
comp=Z,105nm,0.9s
MVO *e*pP **pP 10 04 32.8 +0.8**
NC204 NORSAR Array S 26.62 343 P **P 10 04 01.6 -0.8**
NC204 IAmb IAmb 10 04 03.0
comp=Z,66nm,1.0s
ODD1 Odda 26.63 337 *eP* **P 10 04 00.2 -2.2**
LLW Llanuwychllyn 26.73 317⇑*eP* **P 10 04 02.8 -0.5**
SKAR Skarslia 26.76 340 *eP* **P 10 04 02.8 -0.7**
EDMD Edmundbyers 26.77 322⇑*eP* **P 10 04 02.0 -1.6**
EDMD IAmb IAmb 10 04 06.0
comp=Z,53nm,0.7s
PBAR Barrancos 26.82 284 *eP* **P 10 04 04.6 +0.3**
comp=Z,79nm,1.6s
PBAR *e*pP **pP 10 04 34.8 +0.8**
PBAR *i* LQ LQ 10 04 48.8
PMRV Marv??o 26.96 286 *eP* **P 10 04 05.9 +0.3**
comp=Z,58nm,1.1s
PMRV *e*pP **pP 10 04 35.9 +0.5**
PMRV *i* LQ LQ 10 04 51.0
RSBS Rosebush, Pemb 26.98 314⇑*eP* **P 10 04 04.9 -0.6**
RSBS IAmb IAmb 10 04 06.0
comp=Z,55nm,0.9s
PCBR Castelo Branco 27.00 287 *eP* **P 10 04 06.7 +0.9**
comp=Z,107nm,1.3s
PCBR *e*pP **pP 10 04 36.3 +0.7**
AJN Ajban 27.00 109 P **P 10 04 07.2 +1.2**
AJN Ajban 27.00 109 P **P 10 04 07.2 +1.2**
MTE Manteigas 27.01 288 *eP* **P 10 04 06.8 +0.7**
comp=Z,116nm,1.4s
MTE *e*pP **pP 10 04 36.7 +0.9**
MTE Manteigas 27.01 288 P **P 10 04 06.2 +0.2**
MTE Manteigas 27.01 288 ⇑P **P 10 04 06.8 +0.7**
ABKAR Akbulak array 27.10 52 P **P 10 04 06.8 +0.1**
ABKAR Akbulak array 27.10 52 P **P 10 04 06.5 -0.1**
ABKAR IAmb IAmb 10 04 31.6
comp=Z,45nm,0.9s
ABKAR Akbulak array 27.10 52 ⇓P **P 10 04 06.9 +0.2**
SHME Shamm 27.11 105 *i* P **P 10 04 06.9 -0.1**
SNR=9.4
SHME Shamm 27.11 105 P **P 10 04 07.5 +0.5**
YLL Llanberis 27.13 317⇑*eP* **P 10 04 05.7 -1.2**
POLO Lamas de Olo 27.16 291 *eP* **P 10 04 08.1 +0.7**
comp=Z,49nm,1.2s
POLO *e*pP **pP 10 04 38.7 +1.4**
POLO *i* LQ LQ 10 04 52.4
PESTR Estremoz 27.17 285 *eP* **P 10 04 07.6 +0.1**
comp=Z,83nm,1.0s
PESTR *e*pP **pP 10 04 37.5 +0.2**
PESTR *i* LQ LQ 10 04 54.5
PESTR Estremoz 27.17 285 P **P 10 04 07.8 +0.3**
PESTR IAmb IAmb 10 04 08.9
comp=Z,35nm,1.0s
PESTR pP **pP 10 04 36.8 -0.5**
PESTR Estremoz 27.17 285 ⇑P **P 10 04 07.7 +0.3**
KESW Keswick, Cumbr 27.22 321 *eP* **P 10 04 06.5 -1.2**
KESW IAmb IAmb 10 04 12.3
comp=Z,88nm,1.3s
ASUD Al Ashush, Dub 27.23 108 P **P 10 04 09.4 +1.4**
ASUD Al Ashush, Dub 27.23 108 P **P 10 04 09.4 +1.4**
PVIS Viseu 27.26 289 *eP* **P 10 04 09.0 +0.7**
comp=Z,109nm,1.2s
PVIS *e*pP **pP 10 04 39.1 +0.9**
PVIS *i* LQ LQ 10 04 53.7
NAZ Nazwa, Dubai 27.29 107 *i* P **P 10 04 09.8 +1.2**
SNR=13
NAZ Nazwa, Dubai 27.29 107 P **P 10 04 09.6 +1.0**
BANOM Banah 27.30 105 P **P 10 04 09.6 +0.8**
BANOM Banah 27.30 105 P **P 10 04 09.5 +0.8**
WME Myndd Eilian 27.31 318 *eP* **P 10 04 07.7 -0.8**
WLF1 Llynfaes 27.32 317⇑*eP* **P 10 04 07.7 -0.8**
WLF1 IAmb IAmb 10 04 08.5
comp=Z,52nm,0.9s
PCAB Cabril 27.33 291 *eP* **P 10 04 09.3 +0.5**
comp=Z,105nm,1.4s
PCAB *e*pP **pP 10 04 38.6 -0.2**
FAQ Al Faqa, Dubai 27.36 108 *i* P **P 10 04 10.2 +0.9**
SNR=8.2
FAQ Al Faqa, Dubai 27.36 108 P **P 10 04 10.2 +0.9**
YRC Rhoscolyn 27.40 317⇑*i*P **P 10 04 08.7 -0.6**
WPS Cemaes, Angles 27.42 318 *eP* **P 10 04 08.6 -0.8**
WPS IAmb IAmb 10 04 10.0
comp=Z,27nm,0.8s
PVAQ Vaqueiros 27.47 282 *eP* **P 10 04 10.3 +0.2**
comp=Z,114nm,1.2s
PVAQ *e*pP **pP 10 04 39.5 -0.3**
PVAQ Vaqueiros 27.47 282 P **P 10 04 10.2 +0.2**
PVAQ pP **pP 10 04 39.1 -0.7**
MASF Masafi 27.47 106 P **P 10 04 11.3 +1.0**
MSFE Esma-Masafi 27.48 106 P **P 10 04 11.4 +1.1**
PBEJ Beja 27.49 283 *eP* **P 10 04 10.9 +0.6**
comp=Z,97nm,1.7s
PBEJ *e*pP **pP 10 04 41.0 +0.9**
PBEJ *i* LQ LQ 10 04 55.9
PGAV Gavieira, Arco 27.50 292 *eP* **P 10 04 11.8 +1.3**
ASK Askoy 27.52 337 *eP* **P 10 04 09.5 -0.8**
EVO Evora 27.54 285 *eP* **P 10 04 10.7 0.0**
comp=Z,32nm,1.1s
EVO *i* LQ LQ 10 04 41.8
EKA Eskdalemuir Ar 27.62 322 P **P 10 04 10.2 -1.0**
comp=Z,16nm,0.6s,baz=126,slow=9.1,SNR=35
EKA pP **pP 10 04 42.5 +1.6**
comp=Z,20nm,0.8s,baz=120,slow=9.9,SNR=5.2
EKA Eskdalemuir Ar 27.62 322 P **P 10 04 10.2 -1.0**
EKA *PP **pP 10 04 42.5 +1.6**
MDH Madha 27.62 106 P **P 10 04 12.4 +0.9**
MDH Madha 27.62 106 P **P 10 04 12.4 +0.9**
ESK Eskdalemuir 27.63 322 P **P 10 04 10.5 -0.8**
ESK pmax pmax
comp=Z,31nm,0.6s
ESK Eskdalemuir 27.63 322 P **P 10 04 10.5 -0.8**
ESK IAmb IAmb 10 04 15.4
comp=Z,30nm,0.6s
ESK Eskdalemuir 27.63 322 ⇑P **P 10 04 11.0 -0.3**
PMTG Montargil 27.64 286 *eP* **P 10 04 11.6 0.0**
comp=Z,64nm,1.4s
PMTG *e*pP **pP 10 04 41.7 +0.2**
PRGR Permogore 27.65 19 *eP* **P 10 04 08.6 -2.7**
PRGR *e*S **S 10 08 42.6 +0.1**
PRGR pmax pmax
comp=Z,43nm,0.9s
PBDV Barranco-do-Ve 27.66 282 *eP* **P 10 04 12.3 +0.5**
comp=Z,152nm,1.5s
PBDV *e*pP **pP 10 04 41.9 +0.3**
PBDV *i* LQ LQ 10 04 59.6
PCVE Castro Verde 27.68 283 *eP* **P 10 04 12.4 +0.4**
comp=Z,43nm,1.4s
PCVE *e*pP **pP 10 04 43.1 +1.3**
PCVE *i* LQ LQ 10 04 57.2
DOMB Dombas 27.70 342 *eP* **P 10 04 12.1 +0.1**
UOSS Minazif 27.73 107 P **P 10 04 13.0 +0.5**
UOSS Minazif 27.73 107 P **P 10 04 10.7 -1.8**
UOSS IAmb IAmb 10 04 14.0
comp=Z,49nm,1.1s
UOSS Minazif 27.73 107 P **P 10 04 13.4 +0.9**
UOSS Minazif 27.73 107 ⇑P **P 10 04 12.7 +0.2**
HATD Hatta, Dubai 27.74 107 *i* P **P 10 04 13.1 +0.5**
SNR=8.8
HATD Hatta, Dubai 27.74 107 P **P 10 04 13.5 +0.8**
ASHO Ashiyiah 27.75 107 P **P 10 04 13.1 +0.3**
ASHO Ashiyiah 27.75 107 P **P 10 04 13.7 +0.9**
HYA Hoyanger 27.76 339 *eP* **P 10 04 11.8 -0.5**
PCAS Casmilo, Conde 27.76 288 *eP* **P 10 04 13.5 +0.8**
comp=Z,42nm,1.2s
PCAS *e*pP **pP 10 04 43.4 +0.8**
EBL Broad Law 27.78 323⇑*eP* **P 10 04 11.4 -1.2**
MESJ Messejana 27.79 283 *eP* **P 10 04 13.6 +0.6**
comp=Z,58nm,1.2s
MESJ *e*pP **pP 10 04 44.5 +1.7**
MESJ *i* LQ LQ 10 04 58.4
IOMK Kirk Michael 27.83 319 *eP* **P 10 04 12.2 -0.8**
IOMK IAmb IAmb 10 04 13.4
comp=Z,72nm,0.8s
ALNE Al Ain 27.86 109 *i* P **P 10 04 14.8 +1.0**
SNR=22
ALNE Al Ain 27.86 109 P **P 10 04 14.9 +1.2**
SNR=7.8
PNCL Nicolau / Gran 28.00 284 *eP* **P 10 04 15.8 +1.0**
comp=Z,58nm,1.5s
PNCL *e*pP **pP 10 04 44.2 -0.4**
PSBE So Bento 28.04 287 *eP* **P 10 04 16.7 +1.5**
comp=Z,60nm,1.9s
NEWG New Galloway 28.05 321⇑*eP* **P 10 04 14.0 -1.0**
NEWG IAmb IAmb 10 04 15.4
comp=Z,16nm,0.9s
DRUM Mains of Drumt 28.13 325 *eP* **P 10 04 13.7 -2.1**
DRUM IAmb IAmb 10 04 15.0
comp=Z,18nm,0.7s
UMZA Um Al Zommool 28.18 112 P **P 10 04 17.4 +0.9**
PTEO Sao Teotonio 28.23 283 *eP* **P 10 04 17.5 +0.6**
comp=Z,117nm,1.2s
PTEO *e*pP **pP 10 04 49.1 +2.3**
PTEO *i* LQ LQ 10 05 03.2
AKN Aaknes 28.35 340 *eP* **P 10 04 18.2 +0.5**
PFVI Vila Bisbo 28.38 282 *eP* **P 10 04 19.1 +0.9**
comp=Z,64nm,1.3s
PFVI *i* LQ LQ 10 05 02.9
SOHO SOHO 28.42 108 *i* P **P 10 04 19.3 +0.7**
SNR=7.7
SOHO SOHO 28.42 108 P **P 10 04 19.3 +0.7**
PMST Lisbon--Monsan 28.42 285 *eP* **P 10 04 19.0 +0.5**
comp=Z,159nm,1.3s
FOO Floro 28.44 338 *eP* **P 10 04 17.4 -0.9**
PMAFR Mafra 28.47 286 *eP* **P 10 04 20.4 +1.4**
PMAFR *i* LQ LQ 10 05 04.4
PGBU Glenifferbraes 28.51 322 *eP* **P 10 04 18.2 -0.8**
MOL Molde 28.53 341 *eP* **P 10 04 19.1 0.0**
INVG Invergeldie, C 28.60 324 *eP* **P 10 04 18.5 -1.4**
INVG IAmb IAmb 10 04 19.4
comp=Z,13nm,0.7s
EAB Aberfoyle 28.62 323⇑*i*P **P 10 04 19.0 -1.1**
ARQ Araqi 28.85 109 P **P 10 04 23.6 +1.1**
SNR=7.7
MCD Coleburn Disti 28.85 326 *eP* **P 10 04 20.0 -2.1**
CLGH Cloghs, Cushen 29.00 320 *eP* **P 10 04 22.8 -0.6**
CLGH IAmb IAmb 10 04 23.8
comp=Z,31nm,0.9s
ARU Arti 29.05 37 P **P 10 04 23.9 0.0**
comp=Z,9.4nm,0.4s,baz=213,slow=8.5,SNR=21
ARU Arti 29.05 37*c i*P **P 10 04 23.9 0.0**
ARU 10 05 21.3
ARU S **S 10 09 05.8 +1.0**
ARU pmax pmax
comp=Z,124nm,1.4s
ARU Arti 29.05 37 P **P 10 04 23.2 -0.8**
NSS Namsos 29.28 347 *eP* **P 10 04 25.4 -0.4**
HOQ Hoqain 29.31 108 P **P 10 04 26.9 +0.3**
LRW Lerwick 29.52 332 ⇓P **P 10 04 27.3 -0.7**
BSY Bisya 29.70 109 P **P 10 04 30.7 +0.7**
BIDO Bidbid 29.97 107 P **P 10 04 32.6 +0.2**
SMDO Samad 30.17 108 P **P 10 04 34.6 +0.4**
SNR=7.9
SVE Sverdlovsk 30.25 37*ceP* **P 10 04 34.9 +0.4**
SVE pmax pmax
comp=Z,146nm,0.9s
ABTO Aybut 30.30 122 P **P 10 04 36.8 +1.5**
MOR8 Moi Rana 30.41 350 *eP* **P 10 04 36.0 +0.2**
WSAR Wadi Sarin 30.51 107 P **P 10 04 38.4 +1.2**
JMDO Jabal Madar 30.59 109 P **P 10 04 38.7 +0.8**
RBK Rabkut 30.82 121 P **P 10 04 41.5 +1.6**
WBK Wadi Bani Khal 31.12 108 P **P 10 04 43.9 +1.4**
MHTO MHTO 31.30 111 P **P 10 04 45.5 +1.4**
SNR=6.1
FAUS Fauske 31.45 352 *eP* **P 10 04 44.8 -0.1**
SHAO Shalim 31.46 118 P **P 10 04 46.7 +1.1**
DQM DQM 31.62 113 P **P 10 04 47.6 +0.7**
JLN Jalan Bani Buh 31.71 108 P **P 10 04 48.6 +0.9**
SNR=5.8
STEI Steigen 31.98 352 *eP* **P 10 04 49.5 0.0**
LOF Lofoten 32.38 351 *eP* **P 10 04 52.9 -0.1**
KTK1 Kautokeino 32.45 358 *eP* **P 10 04 53.2 -0.5**
TORD Torodi Ar. Bea 32.47 230 P **P 10 04 55.6 +1.2**
comp=Z,84nm,0.5s,baz=33,slow=8.8,SNR=555
TORD pP **pP 10 05 24.0 -0.3**
comp=Z,17nm,0.6s,baz=34,slow=9.8,SNR=4.0
TORD ScP **ScP 10 11 06.6 -2.1**
comp=Z,2.3nm,1.0s,baz=2.9,slow=3.0,SNR=4.1
TORD LR LR 10 19 46.5
comp=Z,237nm,18.2s,baz=25,slow=39
ARA0 ARCESS Array S 32.93 359 *eP* **P 10 04 57.6 -0.2**
ARCES ARCESS Array B 32.93 359 P **P 10 04 57.8 0.0**
comp=Z,9.2nm,0.7s,baz=181,slow=8.4,SNR=28
ARCES ScP **ScP 10 11 06.9 -2.6**
comp=Z,4.9nm,0.8s,baz=177,slow=4.4,SNR=5.9
ARCES ARCESS Array B 32.93 359 P **P 10 04 58.0 +0.2**
ARCES pmax pmax
comp=Z,12nm,0.9s
ARCES ARCESS Array B 32.93 359 P **P 10 04 58.0 +0.2**
JETT Jettan, Norway 33.13 356 *eP* **P 10 05 00.3 +0.7**
TRO Tromso 33.30 355 *eP* **P 10 05 00.7 -0.2**
CHGR Chuyangaron 33.39 74 P **P 10 05 03.5 +1.2**
KK31 Karatay Array 33.86 65 P **P 10 05 06.7 +0.5**
KK31 pmax pmax
comp=Z,64nm,1.3s
KK31 Karatay Array 33.86 65 P **P 10 05 06.7 +0.5**
KK31 IAmb IAmb 10 05 08.1
comp=Z,64nm,1.2s
KKAR Karatay Array 33.86 65 P **P 10 05 07.0 +0.8**
KKAR pmax pmax
comp=Z,64nm,1.3s
KKAR Karatay Array 33.86 65 P **P 10 05 07.0 +0.8**
KKAR IAmb IAmb 10 05 08.1
comp=Z,64nm,1.2s
KKAR Karatay Array 33.86 65 P **P 10 05 06.7 +0.4**
KKAR Karatay Array 33.86 65 ⇓P **P 10 05 06.6 +0.4**
LODK Lodwar 34.02 165 P **P 10 05 08.6 +0.8**
GAR Garm 34.22 73 P **P 10 05 11.1 +1.6**
KBL Kabul 34.22 81 P **P 10 05 10.7 +1.0**
KBL pmax pmax
comp=Z,37nm,1.1s
KBL Kabul 34.22 81 P **P 10 05 10.7 +1.0**
KBL IAmb IAmb 10 05 11.8
comp=Z,37nm,1.1s
KBL Kabul 34.22 81 P **P 10 05 09.7 0.0**
SNR=14
BRVK Borovoye 34.30 48 P **P 10 05 10.3 +0.5**
BRVK pmax pmax
comp=Z,85nm,1.4s
BRVK Borovoye 34.30 48 P **P 10 05 10.2 +0.5**
BTK Batken 34.43 71 P **P 10 05 12.0 +0.7**
BTK pmax pmax
comp=Z,43nm,1.0s
BTK Batken 34.43 71 P **P 10 05 12.0 +0.7**
BTK IAmb IAmb 10 05 13.2
comp=Z,43nm,0.9s
DZA Taraz 34.47 66 *eP* **P 10 05 11.5 0.0**
baz=66
DZA Taraz 34.47 66 *eP* **P 10 05 11.5 0.0**
KOWA Kowa 35.24 239 P **P 10 05 19.6 +1.3**
comp=Z,14nm,0.7s,baz=40,slow=8.4,SNR=14
KOWA Kowa 35.24 239 P **P 10 05 19.1 +0.8**
KOWA IAmb IAmb 10 05 20.8
comp=Z,45nm,1.4s
DRK Karamyk 35.27 71 P **P 10 05 20.8 +2.0**
BRZS Berezniki 35.37 53⇓*i*P **P 10 05 19.2 0.0**
comp=Z,14nm,0.6s,baz=54
BRZS *e*PP **PP 10 06 41.2 -0.9**
baz=54
BRZS *e*S **S 10 10 42.9 -0.2**
baz=54
BRZS Berezniki 35.37 53*d i*P **P 10 05 19.1 0.0**
BRZS *e* 10 06 41.2
BRZS *e*S **S 10 10 42.9 -0.2**
BRZS pmax pmax
comp=Z,14nm,0.6s
BTLS Baital 36.27 62⇓*i*P **P 10 05 27.3 +0.5**
comp=Z,23nm,0.9s,baz=62
BTLS *e*PP **PP 10 06 50.4 -1.7**

baz=62
BTLS *e*S **S** **10 10 57.1 +0.3**
baz=62
BTLS Baital 36.27 62*d i*P **P** **10 05 27.3 +0.5**
BTLS *e* 10 06 50.3
BTLS *e*S **S** **10 10 57.1 +0.3**
BTLS pmax pmax
comp=Z,23nm,0.9s
EKS2 Erkin-Say 36.29 66 P **P** **10 05 28.7 +1.5**
SNR=40
AML Almayashu 36.29 67 P **P** **10 05 28.5 +0.9**
SNR=12
AML Almayashu 36.29 67 *i* P **P** **10 05 28.1 +0.5**
SNR=5.7
AML Almayashu 36.29 67 P **P** **10 05 26.9 -0.6**
USP Ospenovka 36.75 65 P **P** **10 05 31.5 +0.5**
SNR=10
AAK Ala-Archa 36.82 66 P **P** **10 05 33.0 +1.3**
SNR=13
AAK Ala-Archa 36.82 66 *i* P **P** **10 05 33.2 +1.5**
SNR=13
AAK Ala-Archa 36.82 66 P **P** **10 05 33.2 +1.5**
AAK pmax pmax
comp=Z,77nm,1.2s
AAK Ala-Archa 36.82 66 P **P** **10 05 33.2 +1.5**
AAK Ala-Archa 36.82 66 P **P** **10 05 33.0 +1.3**
SGDS Sogindy 36.82 64⇓*i*P **P** **10 05 31.0 -0.6**
baz=65
SGDS *e*PP **PP** **10 06 57.3 -0.9**
baz=65
SGDS Sogindy 36.82 64*d i*P **P** **10 05 31.0 -0.6**
SGDS *e* 10 06 57.3
FRU1 Bishkek 36.90 65 P **P** **10 05 33.6 +1.3**
FRU1 pmax pmax
comp=Z,167nm,1.2s
FRU1 Bishkek 36.90 65 P **P** **10 05 33.6 +1.3**
CHMS Chumysh 36.96 65 P **P** **10 05 34.0 +1.3**
SNR=18
KBK Karagaybulak 37.15 66 P **P** **10 05 36.1 +1.6**
SNR=8.2
MACI Morro de la Ar 37.23 270 P **P** **10 05 38.4 +3.1**
MBAR Mbarara 37.27 173 P **P** **10 05 38.2 +2.5**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
MBAR Mbarara 37.27 173 P **P** **10 05 38.2 +2.5**
TKM2 Tokmak 2 37.59 65 P **P** **10 05 39.2 +0.9**
SNR=40
NIL Nilore 37.82 80 P **P** **10 05 41.6 +1.5**
NIL pmax pmax
comp=Z,157nm,1.0s
NIL Nilore 37.82 80 P **P** **10 05 41.6 +1.5**
NIL Nilore 37.82 80 P **P** **10 05 41.3 +1.2**
BOOM Boomskoye usch 37.90 66 P **P** **10 05 42.5 +1.7**
BOOM pmax pmax
comp=Z,36nm,0.8s
BOOM Boomskoye usch 37.90 66 P **P** **10 05 42.5 +1.7**
BOOM IAmb IAmb 10 05 43.9
comp=Z,36nm,0.8s
KUU Kurty 38.01 63 *e*P **P** **10 05 41.6 +0.1**
comp=Z,100nm,1.1s,baz=64
KUU *e*PP **PP** **10 07 11.1 0.0**
baz=64
KUU Kurty 38.01 63 *e*P **P** **10 05 41.6 +0.1**
KUU *e* 10 07 11.1
KUU pmax pmax
comp=Z,100nm,1.1s
ULHL Ulahol 38.15 66 P **P** **10 05 44.8 +1.7**
SNR=77
KSH Kashi 38.43 70 P **P** **10 05 43.8 -1.5**
KSH S **S** **10 11 30.0 +0.1**
KSH pmax pmax
comp=Z,44nm,0.7s
KSH pmax pmax
comp=Z,250nm,3.6s
KSH LR LR
comp=Z,700nm,20.4s
KSH LR LR
comp=Z,480nm,23.7s
KSH LR LR
comp=Z,65nm,8.8s
CHKK Chushkaly 38.48 63 *e*P **P** **10 05 45.9 +0.4**
baz=64
CHKK Chushkaly 38.48 63 *e*P **P** **10 05 45.9 +0.4**
AAA Alma-Ata 38.51 64 *e*P **P** **10 05 46.3 +0.4**
baz=65
AAA Alma-Ata 38.51 64 *e*P **P** **10 05 46.2 +0.4**
MDOK Medeo 38.61 64 *e*P **P** **10 05 47.2 +0.5**
baz=65
MDOK *e*PP **PP** **10 07 17.2 -0.7**
baz=65
MDOK Medeo 38.61 64 *e*P **P** **10 05 47.2 +0.5**
MDOK *e* 10 07 17.1
KMBO Kilima Mbogo 38.84 163 P **P** **10 05 51.2 +2.2**
comp=Z,1.9nm,0.6s,baz=349,slow=9.1,SNR=4.1
KMBO LR LR 10 23 22.5
comp=Z,50nm,18.6s,baz=278,slow=38
KMBO Kilima Mbogo 38.84 163 P **P** **10 05 51.2 +2.2**
KDJ Kajisay 38.86 66 P **P** **10 05 50.4 +1.5**
KDJ pmax pmax
comp=Z,66nm,0.9s
KDJ Kajisay 38.86 66 P **P** **10 05 50.4 +1.5**
ARXS Arharly 39.04 63 *e*P **P** **10 05 50.6 +0.4**
TDK Taldyqorghan 39.35 61 *e*P **P** **10 05 52.7 -0.1**
baz=62
TDK Taldyqorghan 39.35 61 *e*P **P** **10 05 52.7 -0.1**
TARG Taragay, Kyrgy 39.38 66 P **P** **10 05 55.5 +2.0**
TARG IAmb IAmb 10 05 56.8
comp=Z,46nm,1.0s
SATY Saty 39.61 64⇓*i*P **P** **10 05 56.2 +1.2**
comp=Z,42nm,0.8s,baz=65
SATY *e*PP **PP** **10 07 29.4 +0.7**
baz=65
SATY *e*S **S** **10 11 48.6 +1.1**
baz=65
SATY Saty 39.61 64*d i*P **P** **10 05 56.2 +1.2**
SATY *e* 10 07 29.3
SATY *e*S **S** **10 11 48.6 +1.1**
SATY pmax pmax
comp=Z,42nm,0.8s
KPKS Kokpek 39.75 64⇓*e*P **P** **10 05 56.3 +0.2**
comp=Z,36nm,1.9s,baz=64
KPKS *e*PP **PP** **10 07 30.7 +0.5**
baz=64
KPKS Kokpek 39.75 64*de*P **P** **10 05 56.3 +0.2**
KPKS *e* 10 07 30.6
KPKS pmax pmax
comp=Z,36nm,1.9s
UZB Uzynbulak 40.04 64⇓*i*P **P** **10 05 59.1 +0.5**
comp=Z,16nm,1.1s,baz=64
UZB *e*PP **PP** **10 07 34.5 +1.1**
baz=64
UZB *e*S **S** **10 11 53.8 -0.2**
comp=Z,24nm,5.1s,baz=64
UZB Uzynbulak 40.04 64*d i*P **P** **10 05 59.1 +0.5**
UZB *e* 10 07 34.5
UZB *e*S **S** **10 11 53.7 -0.2**
UZB pmax pmax
comp=Z,15nm,1.1s
UZB smax smax
comp=E,24nm,5.1s
SEM Semipalatinsk 40.25 53 *e*P **P** **10 05 59.5 -0.8**
baz=53
SEM Semipalatinsk 40.25 53 *e*P **P** **10 05 59.5 -0.8**
SHLS Shalkode 40.36 64 *e*P **P** **10 06 03.1 +1.9**
baz=64
SHLS *e*PP **PnPn** **10 07 40.4 -1.5**
baz=64
SHLS Shalkode 40.36 64 *e*P **P** **10 06 03.1 +1.9**
SHLS *e* 10 07 40.3
DBIC Dimbokro 41.54 232 P **P** **10 06 11.3 +0.4**
DBIC Dimbokro 41.54 232 P **P** **10 06 11.3 +0.4**
MAKZ Makanchi 41.63 58 P **P** **10 06 12.3 +0.9**
MAKZ pmax pmax
comp=Z,42nm,1.0s
MAKZ Makanchi 41.63 58 P **P** **10 06 12.3 +0.9**
MAKZ IAmb IAmb 10 06 13.3
comp=Z,42nm,0.9s
MAKZ Makanchi 41.63 58⇓P **P** **10 06 12.3 +0.9**
TIC Toumodi 41.66 232 *e*P **P** **10 06 13.6 +1.6**
KIC Kosan Boka 41.70 231 *e*P **P** **10 06 14.0 +1.7**
comp=Z,90nm,0.9s
MK31 Makanchi Array 41.85 58 P **P** **10 06 14.1 +0.9**
MK31 pmax pmax
comp=Z,83nm,1.0s
MK31 Makanchi Array 41.85 58 P **P** **10 06 14.1 +0.9**
MKAR Makanchi Array 41.85 58 P **P** **10 06 14.1 +0.9**
comp=Z,118nm,1.0s,baz=281,slow=6.5,SNR=627
MKAR pP **pP** **10 06 45.5 +0.9**
comp=Z,16nm,0.7s,baz=282,slow=6.1,SNR=4.3
MKAR PP **PP** **10 07 50.8 -1.9**
comp=Z,7.8nm,0.7s,baz=281,slow=6.8,SNR=2.0
MKAR ScP **ScP** **10 11 42.5 -1.0**
comp=Z,2.4nm,0.6s,baz=262,slow=3.8,SNR=7.1
MKAR Makanchi Array 41.85 58 P **P** **10 06 14.1 +0.9**
MKAR *PP **pP** **10 06 45.5 +0.9**
MKAR Makanchi Array 41.85 58 P **P** **10 06 14.0 +0.9**
SPA0 Spitsbergen Ar 41.85 357 *e*P **P** **10 06 12.9 +0.2**
SPITS Spitsbergen Ar 41.85 357 P **P** **10 06 13.2 +0.4**
SPITS pmax pmax
comp=Z,28nm,1.0s
LIC Lamto 41.99 232 *e*P **P** **10 06 15.3 +0.7**
comp=Z,172nm,1.0s
SCO Scoresbysund 42.42 338 *i* P **P** **10 06 18.4 +1.0**
SCO IAmb IAmb 10 06 19.0
comp=Z,17nm,0.7s
SCO Scoresbysund 42.42 338 *i* P **P** **10 06 18.3 +1.0**
SCO pmax pmax
comp=Z,17nm,0.7s
SCO Scoresbysund 42.42 338 P **P** **10 06 17.9 +0.6**
SCO Scoresbysund 42.42 338⇑P **P** **10 06 18.1 +0.8**
SCO ⇑P **P** **10 06 18.2 +0.8**
KBS Kingsbay 42.80 356 *i* P **P** **10 06 20.8 +0.3**
KBS IAmb IAmb 10 06 21.6
comp=Z,42nm,0.9s
KBS Kingsbay 42.80 356*ce*P **P** **10 06 21.9 +1.4**
KBS pmax pmax
comp=Z,24nm,1.7s
KBS Kingsbay 42.80 356 P **P** **10 06 20.7 +0.3**
ZAA0 Zalesovo Array 43.01 47 P **P** **10 06 22.6 +0.2**
ZALV Zalesovo Beam 43.01 47 P **P** **10 06 22.7 +0.3**
comp=Z,88nm,0.6s,baz=266,slow=9.1,SNR=301
ZALV ScP **ScP** **10 11 46.5 -1.3**
comp=Z,3.5nm,0.7s,baz=272,slow=5.3,SNR=4.3
ZALV S **S** **10 12 35.1 -1.9**
comp=Z,3.5nm,0.7s,baz=243,slow=15,SNR=4.8
ZALV LR LR 10 30 03.1
comp=Z,45nm,18.2s,baz=254,slow=44
ZALV Zalesovo Beam 43.01 47 P **P** **10 06 22.7 +0.3**
ZALV Zalesovo Beam 43.01 47 P **P** **10 06 22.7 +0.3**
ZSN Zaisan 43.51 57⇓*e*P **P** **10 06 26.3 -0.3**
comp=Z,22nm,0.8s,baz=57
ZSN *e*PP **PP** **10 08 10.0 -0.4**
baz=57
ZSN *i* S **S** **10 12 44.7 +0.1**
baz=57
ZSN Zaisan 43.51 57*de*P **P** **10 06 26.2 -0.3**
ZSN *e* 10 08 10.0
ZSN *i* S **S** **10 12 44.7 +0.1**
ZSN pmax pmax
comp=Z,22nm,0.8s
DBG Daneborg 43.83 343 *i* P **P** **10 06 29.2 +0.6**
DBG IAmb IAmb 10 06 30.1
comp=Z,8.9nm,0.9s
DAG Danmarks Havn 44.88 347⇑*i*P **P** **10 06 36.8 -0.2**
DAG IAmb IAmb 10 06 37.5
comp=Z,13nm,0.9s
DAG *i* 10 06 51.0
DAG Danmarks Havn 44.88 347⇑*i*P **P** **10 06 36.8 -0.2**
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 44.88 347 ⇑P **P** **10 06 36.8 -0.2**
DGZ Jazzator, Alta 44.91 53*d i*P **P** **10 06 38.8 +0.9**
DGZ pmax pmax
comp=Z,53nm,0.7s
NRIK Noril'sk 45.95 26 P **P** **10 06 46.9 +1.3**
comp=Z,38nm,0.6s,baz=239,slow=4.7,SNR=54
NRIK Noril'sk 45.95 26 P **P** **10 06 46.8 +1.3**
NRIK pmax pmax
comp=Z,42nm,0.8s
NRIK Noril'sk 45.95 26 P **P** **10 06 46.8 +1.3**
NRIK IAmb IAmb 10 06 47.8
comp=Z,42nm,0.8s
WMQ Urumqi 46.11 61 *e*P **P** **10 06 48.4 +1.1**
WMQ pP pP 10 07 17.8 -1.3
WMQ sP sP 10 07 33.3 -1.7
WMQ PP **PP** **10 08 38.3 +0.5**
WMQ pmax pmax
comp=Z,82nm,0.7s
WMQ pmax pmax
comp=Z,380nm,3.7s
ISOG Isortoq, Green 47.31 329⇑*i*P **P** **10 06 56.0 -0.1**
ISOG IAmb IAmb 10 06 56.9
comp=Z,24nm,0.8s
ISOG Isortoq, Green 47.31 329 ⇓P **P** **10 06 56.5 +0.3**
NOR Nord 47.62 352⇑*i*P **P** **10 06 57.9 -0.5**
NOR IAmb IAmb 10 06 58.8
comp=Z,23nm,0.8s
NOR Nord 47.62 352⇑*i*P **P** **10 06 57.9 -0.5**
NOR pmax pmax
comp=Z,23nm,0.8s
ICESG Greenland Ices 47.90 334⇑*i*P **P** **10 07 00.8 -0.3**
ICESG IAmb IAmb 10 07 01.6
comp=Z,32nm,1.1s
ICESG Greenland Ices 47.90 334 ⇑P **P** **10 07 00.8 -0.3**
ICESG ⇓P **P** **10 07 01.0 -0.1**
SUMG Summit 48.05 338 *i* P **P** **10 07 02.5 +0.2**
SUMG IAmb IAmb 10 07 03.2
comp=Z,29nm,1.0s
SUMG Summit 48.05 338 *i* P **P** **10 07 02.4 +0.2**
SUMG pmax pmax
comp=Z,29nm,1.0s
SUMG Summit 48.05 338 P **P** **10 07 02.0 -0.3**
SUMG IAmb IAmb 10 07 03.3
comp=Z,30nm,1.0s
SUMG Summit 48.05 338 ⇑P **P** **10 07 02.0 -0.3**
HYB Hyderabad 49.31 99 *i* P **P** **10 07 12.0 -0.2**
HYB *e*pP **pP** **10 07 47.0 +2.7**
NRS Narsarsuaq 50.27 323 P **P** **10 07 18.9 +0.1**
NRS pmax pmax
comp=Z,37nm,1.5s
NRS Narsarsuaq 50.27 323 P **P** **10 07 18.9 +0.1**
NRS IAmb IAmb 10 07 19.7
comp=Z,37nm,1.5s
DY2G Dye2 50.30 330⇑*i*P **P** **10 07 19.3 0.0**
DY2G IAmb IAmb 10 07 20.0
comp=Z,29nm,0.8s
NEEM North Greenlan 51.88 344⇑*i*P **P** **10 07 30.4 -0.6**
NEEM IAmb IAmb 10 07 31.3
comp=Z,15nm,0.7s
ILULI Ilulissat 52.00 334 P **P** **10 07 30.8 -0.8**
ILULI pmax pmax
comp=Z,17nm,0.9s
ILULI Ilulissat 52.00 334 P **P** **10 07 30.8 -0.8**
LSA Lhasa 53.43 78 P **P** **10 07 44.3 +1.0**
LSA pmax pmax
comp=Z,170nm,0.8s
LSA Lhasa 53.43 78 P **P** **10 07 44.3 +1.0**
LSA Lhasa 53.43 78 P **P** **10 07 44.4 +1.1**
LSA pmax pmax
comp=Z,33nm,0.8s
LSA Lhasa 53.43 78 P **P** **10 07 44.4 +1.1**
ZAK Zakamensk 54.76 50 *e*P **P** **10 07 52.8 +0.7**
ZAK pmax pmax
comp=Z,29nm,1.0s
SHL Shillong 55.87 82 P **P** **10 07 59.5 -1.1**
SHL pmax pmax
comp=Z,55nm,1.0s
SHL Shillong 55.87 82 P **P** **10 07 59.5 -1.1**
SHL Shillong 55.87 82 P **P** **10 08 00.1 -0.5**
SNR=11
GTA Gaotai 56.09 63 ⇓P **P** **10 08 02.8 +0.9**
GTA sP sP 10 08 53.6 +3.1
GTA pmax pmax
comp=Z,27nm,1.2s
GTA pmax pmax
comp=Z,63nm,5.5s
GTA LR LR
comp=Z,560nm,13.5s
GTA LR LR
comp=Z,580nm,13.8s
GTA LR LR
comp=Z,480nm,13.1s
PALK Pallekele 57.01 107 P **P** **10 08 09.6 +1.1**
comp=Z,25nm,0.7s,baz=48,slow=9.0,SNR=10
PALK Pallekele 57.01 107 P **P** **10 08 09.6 +1.1**
PALK Pallekele 57.01 107 P **P** **10 08 09.6 +1.1**
SONM Songino Array 57.51 52 P **P** **10 08 12.4 +0.6**
comp=Z,17nm,0.7s,baz=283,slow=8.7,SNR=74
SONM pP **pP** **10 08 44.9 0.0**
comp=Z,5.7nm,0.8s,baz=291,slow=8.5,SNR=4.1
SONM ScP **ScP** **10 12 50.2 -0.1**
comp=Z,4.6nm,0.9s,baz=272,slow=4.9,SNR=9.0
SONM Songino Array 57.51 52 P **P** **10 08 12.4 +0.6**
SONM Songino Array 57.51 52 P **P** **10 08 12.4 +0.6**
SONM IAmb IAmb 10 08 13.0
comp=Z,17nm,0.8s
ULN Ulaanbaatar 57.92 52*ce*P **P** **10 08 15.2 +0.6**
ULN pmax pmax
comp=Z,28nm,0.8s
ULN Ulaanbaatar 57.92 52 P **P** **10 08 15.1 +0.5**
ULN IAmb IAmb 10 08 16.4
comp=Z,28nm,0.9s
ULN Ulaanbaatar 57.92 52 P **P** **10 08 15.3 +0.6**
EUNU Eureka 57.96 349 P **P** **10 08 14.7 +0.4**
EUNU IAmb IAmb 10 08 15.3
comp=Z,21nm,1.3s
TIXI Tiksi 59.29 21 P **P** **10 08 23.7 +0.2**
comp=Z,17nm,0.7s,baz=12,slow=1.0,SNR=5.5
TIXI Tiksi 59.29 21*ce*P **P** **10 08 23.3 -0.2**
TIXI Tiksi 59.29 21 P **P** **10 08 23.9 +0.4**
TIXI IAmb IAmb 10 08 24.7
comp=Z,22nm,0.8s
DRLN Deer Lake 59.89 311 P **P** **10 08 28.0 0.0**
LZH Lanzhou 60.36 65⇓P **P** **10 08 32.6 +1.0**
LZH pP pP 10 09 05.8 +0.8
LZH sP sP 10 09 19.5 -0.9
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,730nm,19.0s
LZH LR LR
comp=Z,740nm,19.5s
LZH LR LR
comp=Z,730nm,19.0s
CD2 Chengdu 62.63 71 P **P** **10 08 47.5 +0.7**
CD2 pmax pmax
comp=Z,100nm,0.9s
BTO Baotou 62.77 58 *e*P **P** **10 08 47.9 +0.3**
BTO S **S** **10 17 03.4 -2.1**
BTO LR LR
comp=Z,2μm,15.6s
BTO LR LR
comp=Z,3μm,15.9s
BTO LR LR
comp=Z,2μm,19.8s
SCHQ Schefferville 62.89 320 P **P** **10 08 47.7 -0.4**
comp=Z,22nm,0.8s,baz=73,slow=6.6,SNR=22
SCHQ Schefferville 62.89 320 P **P** **10 08 48.0 -0.1**
HHC Hu-ho-hao-te 63.71 57 *e*P **P** **10 08 55.0 +1.2**
HHC S **S** **10 17 15.8 -1.4**
HHC pmax pmax
comp=Z,41nm,1.1s
HHC pmax pmax
comp=Z,85nm,5.1s
HHC LR LR
comp=Z,830nm,13.0s
HHC LR LR
comp=Z,290nm,12.7s
HHC LR LR
comp=Z,750nm,14.7s
YAK Yakutsk 63.91 31 *e*P **P** **10 08 51.3 -3.3**
YAK pmax pmax
comp=Z,51nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK Yakutsk 63.91 31 P **P** **10 08 53.9 -0.7**
GBN Guysborough 63.97 308 P **P** **10 08 56.1 +0.9**
MHMT Maesarieng 64.44 86 P **P** **10 08 59.4 +0.6**
comp=E,1μmcomp=E,128nm,0.9s
MHMT Maesarieng 64.44 86 P **P** **10 08 59.5 +0.6**
KMI Kunming 64.66 77⇑P **P** **10 09 00.9 +0.5**
KMI pP pP 10 09 34.5 +0.2
KMI PP **PP** **10 11 27.6 +3.4**
KMI S **S** **10 17 27.6 -2.0**
KMI SKS **SKSac** **10 18 40.3 -1.5**
KMI pmax pmax
comp=E,27nm,0.9s
KMI LR LR
comp=E,470nm,11.6s
KMI LR LR
comp=E,670nm,14.8s
KMI LR LR
comp=E,630nm,13.3s
CHTO Chiang Mai 64.91 85 P **P** **10 09 01.7 -0.1**
CHTO pmax pmax
comp=Z,32nm,1.1s
CHTO Chiang Mai 64.91 85 P **P** **10 09 01.8 -0.1**
comp=Z,412nmcomp=Z,36nm,1.1s
CHTO Chiang Mai 64.91 85 P **P** **10 09 01.6 -0.1**
CHTO IAmb IAmb 10 09 03.1
comp=Z,32nm,1.1s
CHTO Chiang Mai 64.91 85 P **P** **10 09 01.8 -0.1**
CM33 Chiang Mai Arr 64.92 85 P **P** **10 09 01.0 -0.9**
CMMT Chiang Mai 64.92 85 P **P** **10 09 01.8 -0.1**
comp=Z,498nmcomp=Z,35nm,1.1s
CMMT Chiang Mai 64.92 85 P **P** **10 09 01.9 0.0**
comp=Z,498nmcomp=Z,35nm,1.1s
CM32 Chiang Mai Arr 64.92 85 P **P** **10 09 02.0 +0.1**
BOSA Boshof 64.95 181 LR LR 10 39 26.2
comp=Z,51nm,18.6s,baz=1.0,slow=38
XAN Xi'an 65.00 65 P **P** **10 09 02.8 +0.5**
XAN pP PcP 10 09 33.5 -0.6
XAN pmax pmax
comp=Z,27nm,0.8s
HIA Hailar 65.03 46 P **P** **10 09 02.9 +0.7**
HIA pmax pmax
comp=Z,66nm,1.4s
HIA Hailar 65.03 46 P **P** **10 09 02.9 +0.7**
CM34 Chiang Mai Arr 65.06 84 P **P** **10 09 02.0 -0.8**
CM15 Chiang Mai Arr 65.09 85 P **P** **10 09 03.3 +0.3**
comp=Z,311nmcomp=Z,38nm,0.9s
CM13 Chiang Mai Arr 65.09 85 P **P** **10 09 03.3 +0.3**
comp=Z,234nmcomp=Z,34nm,0.9s
CM31 Chiang Mai Arr 65.10 85 P **P** **10 09 03.0 -0.1**
comp=Z,876nm,0.9s
CM31 Chiang Mai Arr 65.10 85 P **P** **10 09 03.3 +0.2**
CM31 Chiang Mai Arr 65.10 85 P **P** **10 09 03.4 +0.2**
SNR=16
CMAR Chiang Mai Arr 65.10 85 P **P** **10 09 03.1 0.0**
comp=Z,26nm,0.8s,baz=301,slow=8.0,SNR=138
CMAR pP **PcP** **10 09 35.7 +1.0**
comp=Z,6.9nm,0.8s,baz=298,slow=7.8,SNR=3.7
CMAR Chiang Mai Arr 65.10 85 P **P** **10 09 03.1 0.0**
CMAR *PP **PcP** **10 09 35.7 +1.0**
CMAR Chiang Mai Arr 65.10 85 P **P** **10 09 03.1 0.0**
CMAR **PcP** **10 09 35.5 +0.8**
CM02 Chiang Mai Arr 65.12 85 P **P** **10 09 03.3 +0.1**
comp=Z,351nmcomp=Z,53nm,0.9s
CM05 Chiang Mai Arr 65.14 85 P **P** **10 09 03.5 +0.2**
comp=Z,251nmcomp=Z,34nm,0.9s
CM05 Chiang Mai Arr 65.14 85 P **P** **10 09 03.0 -0.3**
comp=Z,251nmcomp=Z,34nm,0.9s
CM01 Chiang Mai Arr 65.14 85 P **P** **10 09 03.6 +0.3**
comp=Z,333nmcomp=Z,43nm,0.9s
CM01 Chiang Mai Arr 65.14 85 P **P** **10 09 03.0 -0.3**
comp=Z,333nmcomp=Z,43nm,0.9s
CM09 Chiang Mai Arr 65.15 85 P **P** **10 09 03.8 +0.4**
comp=Z,315nmcomp=Z,41nm,0.9s
CM09 Chiang Mai Arr 65.15 85 P **P** **10 09 03.9 +0.4**
comp=Z,315nmcomp=Z,41nm,0.9s
CM04 Chiang Mai Arr 65.16 85 P **P** **10 09 03.6 +0.1**
comp=Z,328nmcomp=Z,45nm,0.9s
CM36 Chiang Mai Arr 65.19 85 P **P** **10 09 03.0 -0.7**
LAMP Lampang 65.62 84 P **P** **10 09 07.1 +0.7**
comp=Z,895nmcomp=Z,105nm,0.8s
HAL Halifax 65.63 308 P **P** **10 09 07.3 +1.2**
HAL pmax pmax
comp=Z,60nm,1.0s
HAL Halifax 65.63 308 P **P** **10 09 07.3 +1.2**
LMN Caledonia Moun 65.82 310 P **P** **10 09 07.7 +0.4**
UMPA Umpang Tak 66.25 87 P **P** **10 09 11.5 +1.0**
comp=Z,63nm,1.2s
UMPA Umpang Tak 66.25 87 P **P** **10 09 11.5 +1.0**
comp=Z,16nm,1.2s
UTTA Uttaradit 66.78 85 P **P** **10 09 13.8 +0.1**
comp=Z,366nmcomp=Z,35nm,0.8s
UTTA Uttaradit 66.78 85 P **P** **10 09 13.9 +0.1**
comp=Z,91nmcomp=Z,8.7nm,0.8s
KHLT Khaolaem Dam 66.81 88 P **P** **10 09 15.5 +1.5**
comp=Z,17nm,1.1s
KHLT Khaolaem Dam 66.81 88 P **P** **10 09 15.0 +1.0**
ZEA Zeya 66.94 39 *e*P **P** **10 09 15.5 +1.2**

PHIT	Phitsanulok	66.97	85	P	P	10 09 15.6	+0.6
	comp=Z,2µmcomp=Z,210nm,1.0s						
PHIT	Phitsanulok	66.97	85	P	P	10 09 15.0	0.0
	comp=Z,389nmcomp=Z,52nm,1.0s						
GYA	Guiyang	67.03	73	⇑P	P	10 09 15.9	+0.4
GYA				pP	pP	10 09 47.1	-2.4
GYA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
UTHA	Uthaitani	67.08	87	P	P	10 09 16.3	+0.6
	comp=Z,157nmcomp=Z,15nm,1.0s						
BJI	Beijing	67.19	56	P	P	10 09 16.6	+0.5
BJI				pP	pP	10 09 47.3	-2.9
BJI				sP	sP	10 10 04.3	-1.2
BJI				PP	PP	10 11 43.9	-1.7
BJI				S	S	10 17 59.0	-0.3
BJI				sS	SKSac	10 18 59.8	-0.2
BJI				pmax	pmax		
	comp=Z,17nm,0.6s						
BJI				LR	LR		
	comp=Z,730nm,12.8s						
BJI				LR	LR		
	comp=Z,330nm,14.6s						
BJI				LR	LR		
	comp=Z,780nm,12.9s						
D63A	Stockholm	67.24	312	P	P	10 09 17.0	+0.8
	baz=60,SNR=5.4						
ENH	Enshi	67.25	69	P	P	10 09 16.2	-0.5
ENH				IAmb	IAmb	10 09 17.9	
	comp=Z,32nm,1.0s						
PQI	Presque Isle	67.37	312	P	P	10 09 17.9	+0.8
E64A	Bridgewater	67.38	312	P	P	10 09 17.7	+0.5
	baz=60,SNR=14						
GGN	Saint George	67.42	310	P	P	10 09 18.0	+0.6
GGN				IAmb	IAmb	10 09 19.1	
	comp=Z,40nm,1.1s						
SRDT	SRDT	67.49	89	P	P	10 09 18.8	+0.6
	comp=Z,15µmcomp=Z,39nm,1.3s						
SRDT	SRDT	67.49	89	P	P	10 09 18.9	+0.6
	comp=Z,15µmcomp=Z,39nm,1.3s						
SLVN	Son La	67.53	80	P	P	10 09 18.9	+0.3
SLVN				IAmb	IAmb	10 09 20.2	
	comp=Z,32nm,1.2s						
E63A	Oxbow	67.73	312	P	P	10 09 20.2	+0.8
	baz=60,SNR=13						
E63A	Oxbow	67.73	312	P	P	10 09 20.0	+0.6
E63A				IAmb	IAmb	10 09 21.3	
	comp=Z,43nm,1.1s						
D62A	Allapoint, All	67.78	313	P	P	10 09 20.6	+1.0
	baz=60,SNR=30						
D62A	Allapoint, All	67.78	313	P	P	10 09 20.6	+1.0
G65A	Princeton	67.83	310	P	P	10 09 20.7	+0.7
	baz=60,SNR=5.9						
G65A	Princeton	67.83	310	P	P	10 09 21.0	+1.0
G65A				IAmb	IAmb	10 09 21.9	
	comp=Z,40nm,1.3s						
H66A	Whiting	67.88	310	P	P	10 09 20.9	+0.6
	baz=60,SNR=7.0						
F64A	Sherman	67.97	311	P	P	10 09 21.7	+0.9
	baz=60,SNR=5.7						
F64A	Sherman	67.97	311	P	P	10 09 21.7	+0.9
F64A				IAmb	IAmb	10 09 22.3	
	comp=Z,18nm,0.9s						
EMMW	East Machias	68.01	310	P	P	10 09 22.2	+1.1
E62A	Clayton Lake	68.29	312	P	P	10 09 23.6	+0.8
	baz=59,SNR=14						
E62A	Clayton Lake	68.29	312	P	P	10 09 23.1	+0.3
D61A	St Aubert, Com	68.38	313	P	P	10 09 24.3	+0.9
	baz=59,SNR=7.0						
H65A	Eastbrook	68.50	310	P	P	10 09 24.8	+0.6
	baz=59,SNR=5.6						
F63A	Nahmakanta, Br	68.51	311	P	P	10 09 25.1	+0.9
	baz=59,SNR=7.5						
F63A	Nahmakanta, Br	68.51	311	P	P	10 09 24.7	+0.5
F63A				IAmb	IAmb	10 09 26.5	
	comp=Z,38nm,1.3s						
G64A	Maxfield	68.53	311	P	P	10 09 25.4	+1.1
	baz=59,SNR=9.3						
NONG	Nongkai	68.67	83	P	P	10 09 25.5	-0.2
	comp=Z,33nm,1.1s						
PHET	Kaeng Krachan	68.70	90	P	P	10 09 26.1	+0.2
	comp=Z,549nmcomp=Z,59nm,0.9s						
PHET	Kaeng Krachan	68.70	90	P	P	10 09 26.0	+0.2
	comp=Z,141nmcomp=Z,15nm,0.9s						
PKME	Peaks-Kenny Pk	68.85	311	P	P	10 09 27.4	+1.1
	baz=59						
PKME	Peaks-Kenny Pk	68.85	311	P	P	10 09 27.0	+0.7
PKME				IAmb	IAmb	10 09 28.5	
	comp=Z,45nm,1.4s						
F62A	Pittston Farm,	68.92	312	P	P	10 09 27.9	+1.0
	baz=59						
F62A	Pittston Farm,	68.92	312	P	P	10 09 28.0	+1.2
F62A				IAmb	IAmb	10 09 29.1	
	comp=Z,51nm,1.4s						
CHAI	Chaiyaphum	68.93	86	P	P	10 09 27.5	+0.2
	comp=Z,631nmcomp=Z,78nm,0.9s						
E61A	Lac Etchemin	68.96	313	P	P	10 09 27.8	+0.8
	baz=59,SNR=7.3						
G63A	Kingsbury	69.12	311	P	P	10 09 28.9	+0.8
	baz=59						
H64A	Troy	69.12	311	P	P	10 09 29.0	+1.0
	baz=59,SNR=5.3						
CHGQ	Chibougamau	69.33	317	P	P	10 09 29.8	+0.6
	baz=57						
KHON	Khomkaen	69.36	85	P	P	10 09 30.4	+0.5
	comp=Z,118nm,0.8s						
KHON	Khomkaen	69.36	85	P	P	10 09 30.4	+0.5
F61A	St Evariste	69.50	312	P	P	10 09 31.4	+1.1
	baz=58,SNR=6.9						
E60A	Ste Agathe de	69.56	313	P	P	10 09 31.4	+0.7
	baz=58,SNR=5.4						
H63A	New Sharon	69.61	311	P	P	10 09 32.0	+1.0
	baz=58						
G62A	West of Eustis	69.62	312	P	P	10 09 32.3	+1.2
	baz=58,SNR=6.2						
G62A	West of Eustis	69.62	312	P	P	10 09 32.4	+1.2
G62A				IAmb	IAmb	10 09 33.7	
	comp=Z,33nm,1.3s						
PATY	Pattaya	69.69	89	P	P	10 09 32.6	+0.7
PATY	Pattaya	69.69	89	P	P	10 09 32.6	+0.7
TIA	Tai'an	69.76	60	⇓P	P	10 09 32.3	+0.2
TIA				pmax	pmax		
	comp=Z,13nm,0.8s						
LATQ	La Tuque	69.79	314	P	P	10 09 33.1	+1.0
LATQ				IAmb	IAmb	10 09 33.8	
	comp=Z,18nm,0.9s						
SRAK	Srakaew	70.02	87	P	P	10 09 37.1	+3.1
	comp=Z,5µmcomp=Z,658nm,0.9s						
G61A	St-Isidore-de-	70.18	312	P	P	10 09 35.8	+1.3
	baz=58,SNR=14						
I63A	Otisfield	70.27	311	P	P	10 09 36.1	+1.0
	baz=58						
I63A	Otisfield	70.27	311	P	P	10 09 36.6	+1.5
SURT	Suratani	70.28	93	P	P	10 09 38.1	+2.5
	comp=Z,0.5nm,1.0s						
H62A	Milan	70.33	311	P	P	10 09 36.6	+1.2
	baz=58,SNR=9.3						
H62A	Milan	70.33	311	P	P	10 09 36.7	+1.2
H62A				IAmb	IAmb	10 09 37.7	
	comp=Z,27nm,1.1s						
MOQ	Mont Orford	70.60	312	P	P	10 09 38.6	+1.4
I62A	Tamworth	70.82	311	P	P	10 09 39.8	+1.4
	baz=57						
H61A	Lyndonville	70.82	312	P	P	10 09 39.8	+1.3
	baz=57,SNR=8.8						
LBNH	Lisbon	70.98	311	P	P	10 09 40.5	+1.1
LBNH				pmax	pmax		
	comp=Z,22nm,1.0s						
LBNH	Lisbon	70.98	311	P	P	10 09 41.0	+1.6
	baz=57,SNR=8.5						
LBNH	Lisbon	70.98	311	P	P	10 09 40.5	+1.1
LBNH				IAmb	IAmb	10 09 42.2	
	comp=Z,22nm,0.9s						
J63A	Strafford	70.98	310	P	P	10 09 41.0	+1.6
	baz=57						
MATQ	Matagami	71.17	318	P	P	10 09 40.9	+0.5
	baz=55						
CN2	Changchun	71.19	49	eP	P	10 09 40.9	+0.3
CN2				pP	pP	10 10 14.8	-0.3
CN2				S	S	10 18 41.6	-4.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LSQQ	Lebel-sur-Quev	71.21	318	P	P	10 09 41.1	+0.4
	baz=56						
H60A	Morristown	71.27	312	P	P	10 09 42.5	+1.4
	baz=57,SNR=8.7						
BILL	Bilibino	71.27	15	⇓iP	P	10 09 41.2	+0.5
BILL				e*PP	pP	10 10 19.1	+4.0
BILL				e		10 12 17.7	
BILL				pmax	pmax		
	comp=Z,16nm,1.3s						
VT1	Waterbury	71.43	312	P	P	10 09 43.6	+1.5
J62A	Henniker	71.46	310	P	P	10 09 43.8	+1.5
	baz=57						
HNH	Hanover	71.49	311	P	P	10 09 44.4	+1.9
HNH				IAmb	IAmb	10 09 45.2	
	comp=Z,32nm,1.0s						
L64A	Middleborough	71.56	309	P	P	10 09 44.2	+1.3
	baz=57						
L64A	Middleborough	71.56	309	P	P	10 09 44.6	+1.7
L64A				IAmb	IAmb	10 09 45.3	
	comp=Z,27nm,1.2s						
K63A	Dunstable	71.58	310	P	P	10 09 44.4	+1.4
	baz=57						
WES	Weston	71.62	309	P	P	10 09 44.6	+1.4
WES				pmax	pmax		
	comp=Z,25nm,0.9s						
WES	Weston	71.62	309	P	P	10 09 44.6	+1.4
WES				IAmb	IAmb	10 09 45.5	
	comp=Z,25nm,0.9s						
FRNY	Flat Rock	71.65	312	P	P	10 09 44.4	+1.0
FRNY				IAmb	IAmb	10 09 44.9	
	comp=Z,20nm,0.8s						
TRTT	Trang	71.66	94	P	P	10 09 44.0	+0.1
	comp=Z,40nm,1.0s						
TRTT	Trang	71.66	94	P	P	10 09 44.0	+0.1
HRV	Adam Dziewonsk	71.70	310	P	P	10 09 45.4	+1.7
HRV				pmax	pmax		
	comp=Z,25nm,1.3s						
HRV	Adam Dziewonsk	71.70	310	P	P	10 09 45.0	+1.2
	baz=57						
HRV	Adam Dziewonsk	71.70	310	P	P	10 09 45.4	+1.7
H59A	Cadyville	71.81	312	P	P	10 09 45.5	+1.1
	baz=56,SNR=17						
J61A	Chester	71.85	311	P	P	10 09 46.4	+1.8
	baz=56,SNR=7.3						
M64A	Tiverton	72.00	309	P	P	10 09 47.1	+1.5
	baz=57						
I60A	Shoreham	72.02	312	P	P	10 09 47.1	+1.5
	baz=56,SNR=6.2						
K62A	Royalston	72.03	310	P	P	10 09 47.3	+1.6
	baz=56,SNR=6.0						
K62A	Royalston	72.03	310	P	P	10 09 47.0	+1.2
K62A				IAmb	IAmb	10 09 48.6	
	comp=Z,39nm,1.4s						
NBPV	Pedro Velho	72.05	247	eP	P	10 09 46.4	+0.2
L63A	North Scituate	72.08	309	P	P	10 09 47.4	+1.3
	baz=57						
RCBR	Riachuelo	72.12	248	eP	P	10 09 47.0	+0.4
C36M	Paulatuk	72.13	350	P	P	10 09 47.5	+1.7
	baz=24						
H58A	Gabriels	72.23	312	P	P	10 09 48.1	+1.1
	baz=56,SNR=13						
LONY	Lake Ozonia	72.36	313	P	P	10 09 48.7	+1.1
	baz=56,SNR=16						
LONY	Lake Ozonia	72.36	313	P	P	10 09 48.5	+0.8
LONY				IAmb	IAmb	10 09 49.8	
	comp=Z,28nm,0.9s						
I59A	Olmsteadville	72.40	312	P	P	10 09 49.4	+1.5
	baz=56,SNR=8.2						
L61B	Northampton	72.42	310	P	P	10 09 49.6	+1.6
	baz=56						
J60A	Lant Hill Farm	72.43	311	P	P	10 09 49.8	+1.7
	baz=56,SNR=6.5						
ACCN	Adirondack Com	72.50	311	P	P	10 09 49.7	+1.1
ACCN				IAmb	IAmb	10 09 50.7	
	comp=Z,22nm,0.8s						
NCB	Newcomb	72.51	312	P	P	10 09 50.1	+1.5
M63A	Gales Ferry	72.61	309	P	P	10 09 50.6	+1.5
M63A				IAmb	IAmb	10 09 51.2	
	comp=Z,18nm,0.7s						
K61A	Williamstown	72.66	310	P	P	10 09 51.2	+1.7
	baz=56,SNR=5.8						
SKLT	Songkhla	72.79	94	P	P	10 09 50.2	-0.4
	comp=Z,58nm,0.9s						
SKLT	Songkhla	72.79	94	P	P	10 09 50.2	-0.4
H57A	Richville	72.92	313	P	P	10 09 52.2	+1.3
	baz=55,SNR=11						
J59A	Piesco	72.96	312	P	P	10 09 52.8	+1.5
I58A	Old Forge	73.12	312	P	P	10 09 53.7	+1.5
	baz=55,SNR=10.0						
NJ2	Nanjing	73.18	62	eP	P	10 09 52.8	+0.1
NJ2				pmax	pmax		
	comp=Z,17nm,0.6s						
KSCT	Kent School, K	73.32	310	P	P	10 09 53.7	+0.4
I57A	Carthage	73.38	313	P	P	10 09 55.0	+1.3
	baz=55,SNR=15						
QIZ	Qiongzhong	73.46	78	P	P	10 09 54.8	+0.3
QIZ				pP	pP	10 10 28.0	-1.1
QIZ				sP	sP	10 10 43.6	-0.6
QIZ				S	S	10 19 11.9	-0.9
QIZ				pmax	pmax		
	comp=Z,30nm,1.1s						
QIZ				LR	LR		
	comp=Z,470nm,8.6s						
QIZ				LR	LR		
	comp=Z,430nm,11.5s						
QIZ				LR	LR		
	comp=Z,450nm,11.1s						
J58A	Remsen	73.49	312	P	P	10 09 55.8	+1.4
	baz=55,SNR=12						
J58A	Remsen	73.49	312	P	P	10 09 55.6	+1.2
J58A				IAmb	IAmb	10 09 56.4	
	comp=Z,20nm,0.8s						
MA2	Magadan	73.55	26	ceP	P	10 09 54.4	0.0
MA2				pmax	pmax		
	comp=Z,26nm,1.7s						
MA2	Magadan	73.55	26	P	P	10 09 55.1	+0.7
MA2				IAmb	IAmb	10 09 56.1	
	comp=Z,24nm,1.0s						
PLVO	Plevna	73.57	314	P	P	10 09 55.8	+1.1
ALGO	Algonquin Park	73.60	315	P	P	10 09 55.8	+0.9
	baz=54						
NBMO	Morrinhos-CE	73.64	253	eP	P	10 09 56.1	+0.5
J57A	Williamstown	73.89	312	P	P	10 09 58.0	+1.4
KULM	Kulim	73.92	95	P	P	10 09 57.0	-0.3
PAL	Palisades	73.99	309	P	P	10 09 58.2	+0.9
	baz=55						
L59A	Walton	74.01	311	P	P	10 09 59.1	+1.7
L59A				IAmb	IAmb	10 09 59.5	
	comp=Z,31nm,0.8s						
PSI	Prapat	74.03	99	P	P	10 09 58.0	0.0
PSI				pmax	pmax		
	comp=Z,23nm,0.8s						
RPSI	Rantau Prapat	74.09	99	P	P	10 09 58.0	-0.2
RPSI				IAmb	IAmb	10 10 00.3	
	comp=Z,23nm,0.8s						
PECO	Prince Edward	74.17	313	P	P	10 09 59.9	+1.6
PECO				IAmb	IAmb	10 10 00.4	
	comp=Z,23nm,0.8s						
DELO	Deloro Mine	74.19	314	P	P	10 09 59.6	+1.2
DELO				IAmb	IAmb	10 10 00.6	
	comp=Z,36nm,1.1s						
INK	Inuvik	74.30	353	P	P	10 09 59.8	+1.2
	baz=16						
ODNJ	Ogdensburg	74.38	310	P	P	10 10 00.5	+1.0
J56A	Wolcott	74.47	313	P	P	10 10 01.5	+1.5
J56A				IAmb	IAmb	10 10 02.3	
	comp=Z,43nm,0.8s						
BINY	Binghamton	74.58	311	P	P	10 10 02.0	+1.3
	baz=54,SNR=9.0						
BINY	Binghamton	74.58	311	P	P	10 10 02.1	+1.3
BINY				IAmb	IAmb	10 10 03.0	
	comp=Z,27nm,0.9s						
L58A	Harry Jones Me	74.59	311	P	P	10 10 02.0	+1.2
	baz=54,SNR=7.4						
K57A	Scipio Center	74.59	312	P	P	10 10 02.1	+1.4
K57A				IAmb	IAmb	10 10 03.2	
	comp=Z,43nm,1.2s						
NBPB	Pedra_Branca-C	74.71	251	eP	P	10 10 03.3	+1.5
KSPA	Keystone Colle	74.82	311	P	P	10 10 03.5	+1.4
KSPA				IAmb	IAmb	10 10 04.4	
	comp=Z,26nm,0.9s						
USA0B	Ussuriysk Arra	74.84	46	P	P	10 10 01.8	-0.3
USA0B				pmax	pmax		
	comp=Z,22nm,0.8s						
USA0B	Ussuriysk Arra	74.84	46	P	P	10 10 01.8	-0.3
USA0B				IAmb	IAmb	10 10 02.8	
	comp=Z,22nm,0.8s						
USRK	Ussuriysk Ar.	74.84	46	P	P	10 10 01.9	-0.2
	comp=Z,20nm,0.7s,baz=294,slow=4.9,SNR=48						
USRK				pP	pP	10 10 36.5	-0.3
	comp=Z,6.5nm,0.8s,baz=302,slow=4.3,SNR=4.6						
USRK	Ussuriysk Ar.	74.84	46	P	P	10 10 01.9	-0.2
USRK				*PP	pP	10 10 36.5	-0.3
USRK	Ussuriysk Ar.	74.84	46	P	P	10 10 01.7	-0.4
USRK				pP	pP	10 10 36.6	-0.3
SADO	Sadowa	74.92	315	P	P	10 10 03.0	+0.4
SADO				IAmb	IAmb	10 10 04.4	
	comp=Z,31nm,0.9s						
NBAN	Anadia - AL	74.94	246	eP	P	10 10 04.1	+1.1
TOLK	Toolik Lake Re	74.97	359	P	P	10 10 03.1	+0.6
	baz=3.0						
J55A	Hilton	75.05	313	P	P	10 10 03.7	+0.4
J55A				IAmb	IAmb	10 10 05.4	
	comp=Z,45nm,1.4s						
K56A	Middlesex	75.09	312	P	P	10 10 04.9	+1.3
	baz=54,SNR=12						
N59A	State Game Lan	75.20	310	P	P	10 10 05.6	+1.3
	baz=54,SNR=9.5						
N59A	State Game Lan	75.20	310	P	P	10 10 05.4	+1.2
N59A				IAmb	IAmb	10 10 06.6	
	comp=Z,20nm,0.7s						
NBPS	Pedro II - PI	75.40	253	eP	P	10 10 07.0	+1.1
MMNY	Mt. Morris Dam	75.42	313	P	P	10 10 06.9	+1.4
MMNY				IAmb	IAmb	10 10 07.4	
	comp=Z,38nm,0.8s						
MEDO	Medina	75.48	313	P	P	10 10 06.2	+0.4
MEDO				IAmb	IAmb	10 10 06.8	
	comp=Z,38nm,0.8s						
J54A	Appleton	75.53	313	P	P	10 10 07.5	+1.4
J54A				IAmb	IAmb	10 10 08.1	
	comp=Z,35nm,0.9s						
L56A	Greenwood	75.56	312	P	P	10 10 07.7	+1.4
L56A				IAmb	IAmb	10 10 08.4	
	comp=Z,39nm,0.8s						
P60A	Greenville	75.76	309	P	P	10 10 08.0	+0.6
	baz=54						
M57A	Sunshine Farm,	75.78	311	P	P	10 10 08.9	+1.4
M57A				IAmb	IAmb	10 10 09.8	
	comp=Z,22nm,0.8s						
N58A	Sunbury	75.82	310	P	P	10 10 08.1	+0.3
N58A				IAmb	IAmb	10 10 09.8	
	comp=Z,25nm,0.8s						
BMAR	Burnt Mountain	76.01	357	P	P	10 10 08.6	+0.1
MVL	Millersville	76.09	310	P	P	10 10 10.5	+1.2
MVL				IAmb	IAmb	10 10 11.6	
	comp=Z,25nm,1.0s						
JRMM	Jerantut	76.21	95	P	P	10 10 10.0	-0.4
KS19	Wonju Array Si	76.25	53	P	P	10 10 10.2	-0.2
KSAR	Wonju Array Be	76.30	54	P	P	10 10 10.5	-0.1
KSAR	Wonju Array Be	76.30	54	P	P	10 10 10.5	-0.1
KSRS	Korea Array	76.32	53	P	P	10 10 10.6	0.0
	comp=Z,12nm,0.9s,baz=303,slow=4.8,SNR=34						
KSRS				pP	pP	10 10 45.2	-0.2
	comp=Z,3.8nm,0.6s,baz=310,slow=4.5,SNR=4.4						
KSRS	Korea Array	76.32	53	P	P	10 10 10.6	0.0
KSRS				*PP	pP	10 10 45.3	-0.2
YKA	Yellowknife Ar	76.41	343	P	P	10 10 10.0	-0.7
	comp=Z,1.0nm,0.8s,baz=39,slow=5.6,SNR=7.1						
YKA	Yellowknife Ar	76.41	343	P	P	10 10 10.0	-0.7
ROSB	Rosrio	76.54	256	eP	P	10 10 13.6	+1.4
SSPA	Standing Stone	76.66	311	P	P	10 10 13.5	+0.9
	baz=53						
SSPA	Standing Stone	76.66	311	P	P	10 10 13.3	+0.8
SSPA					pP	10 10 48.4	+1.1
M55A	Ridgway	76.69	312	P	P	10 10 13.3	+0.6
M55A				IAmb	IAmb	10 10 14.7	
	comp=Z,35nm,0.8s						
SDMD	Soldier's Deli	76.75	309	P	P	10 10 12.7	-0.3
E46A	Sault Ste Mari	76.78	318	P	P	10 10 13.6	+0.5
ERPA	Erie	77.02	313	P	P	10 10 15.4	+0.9
	baz=52,SNR=7.2						
ERPA	Erie	77.02	313	P	P	10 10 15.4	+0.9
M54A	Oil Creek Stat	77.20	312	P	P	10 10 16.5	+0.9
	baz=52,SNR=9.6						
M54A	Oil Creek Stat	77.20	312	P	P	10 10 16.7	+1.1
M54A				IAmb	IAmb	10 10 17.6	
	comp=Z,41nm,1.1s						
O56A	Blue Knob Stat	77.29	311	P	P	10 10 17.1	+0.9
	baz=52,SNR=8.9						
O56A	Blue Knob Stat	77.29	311	P	P	10 10 17.2	+1.0
ALLY	Alegheny Colle	77.40	313	P	P	10 10 17.8	+1.1
ALLY				IAmb	IAmb	10 10 18.3	
	comp=Z,28nm,0.9s						
P57A	Homestead Farm	77.43	310	P	P	10 10 16.7	-0.1
P57A				IAmb	IAmb	10 10 18.8	
	comp=Z,19nm,0.8s						
I49A	Point Hope	77.51	316	P	P	10 10 17.6	+0.4
I49A				IAmb	IAmb	10 10 18.9	
	comp=Z,38nm,0.9s						
IMAR	Indian Mountai	77.67	0	P	P	10 10 18.1	+0.4
N54A	Moraine State	77.73	312	P	P	10 10 19.3	+0.8
	baz=52,SNR=8.2						
N54A	Moraine State	77.73	312	P	P	10 10 19.0	+0.5
N54A				IAmb	IAmb	10 10 20.0	
	comp=Z,20nm,0.8s						
H23K	Yukon River	77.79	358	P	P	10 10 19.3	+0.8
	baz=3.0						
CBN	Corbin Frederi	77.80	309	P	P	10 10 19.8	+0.8
	baz=53						
M53A	WI Miller and	77.84	313	P	P	10 10 19.6	+0.5
	baz=52						
M53A	WI Miller and	77.84	313	P	P	10 10 19.9	+0.8
GLMI	Grayling	77.94	317	P	P	10 10 20.5	+0.9
	baz=50						
GLMI	Grayling	77.94	317	P	P	10 10 20.9	+1.3
M52A	Chesterland	78.18	313	P	P	10 10 21.1	+0.1
M52A				IAmb	IAmb	10 10 22.7	
	comp=Z,32nm,0.8s						
E43A	Lone Tree Farm	78.19	320	P	P	10 10 21.3	+0.4
E43A				IAmb	IAmb	10 10 22.2	
	comp=Z,26nm,0.9s						
R58B	Mineral	78.27	309	P	P	10 10 22.1	+0.6
N53A	Lisbon	78.33	312	P	P	10 10 22.6	+0.8
N53A				IAmb	IAmb	10 10 23.6	
	comp=Z,26nm,1.0s						
G45A	Suttons Bay	78.36	318	P	P	10 10 22.3	+0.4
Q56A	Snyder Ridge,	78.42	310	P	P	10 10 23.3	+0.9
EGAK	Eagle	78.44	355	P	P	10 10 23.6	+1.6
	baz=9.8						
O54A	Avella	78.44	312	P	P	10 10 23.6	+1.1
MCWV	Mont Chateau	78.44	311	P	P	10 10 23.4	+0.9
	baz=52						
MCWV	Mont Chateau	78.44	311	P	P	10 10 23.0	+0.5
MCWV				IAmb	IAmb	10 10 24.5	
	comp=Z,31nm,0.8s						
I23K	Minto, Yukon-K	78.47	358	P	P	10 10 23.5	+1.4
	baz=3.1						
I21K	Tanana	78.47	359	P	P	10 10 23.5	+1.3
	baz=1.0						
D41A	Chassel	78.55	321	P	P	10 10 23.4	+0.5
MLY	Manley	78.61	359	P	P	10 10 23.6	+0.6
MDM	Murphy Dome	78.63	358	P	P	10 10 23.0	0.0
T59A	Double "B" Far	78.66	308	P	P	10 10 23.1	-0.6
ILAR	Eielson Array	78.77	357	P	P	10 10 24.1	+0.3
	comp=Z,0.6nm,0.7s,baz=349,slow=3.2,SNR=6.3						
ILAR	Eielson Array	78.77	357	P	P	10 10 24.1	+0.3
ILAR	Eielson Array	78.77	357	P	P	10 10 23.4	-0.4
O53A	New Philadelph	78.90	312	P	P	10 10 25.7	+0.7
	baz=51,SNR=8.3						
O53A	New Philadelph	78.90	312	P	P	10 10 24.8	-0.1
O53A				IAmb	IAmb	10 10 26.8	
	comp=Z,34nm,0.9s						
FFC	Flin Flon	78.91	333	P	P	10 10 24.8	+0.1
FFC				pmax	pmax		
	comp=Z,12nm,1.3s						
FFC	Flin Flon	78.91	333	P	P	10 10 24.8	+0.1
YSS	Yuzh-Sakhalins	78.93	39	⇓iP	P	10 10

K27K **Chicken** 79.25 355 P P 10 10 26.7 +0.3
baz=9.0
K27K **Chicken** 79.25 355 P P 10 10 27.1 +0.7
I45A **Fountain** 79.33 318 P P 10 10 28.0 +0.8
TMAB **Tom-Au,PA,Br** 79.33 259 eP P 10 10 29.0 +1.3
O52A **Adamsville** 79.35 312 P P 10 10 27.7 +0.3
O52A IAmb IAmb 10 10 29.0
comp=Z,31nm,0.8s
EYMN **Ely** 79.39 323 P P 10 10 27.4 -0.1
baz=46
EYMN **Ely** 79.39 323 P P 10 10 27.6 +0.1
SCRK **Sand Creek** 79.42 356 P P 10 10 27.5 0.0
baz=7.5
Q54A **Coxs Mills** 79.46 311 P P 10 10 28.3 +0.3
R55A **Marlinton** 79.46 310 P P 10 10 28.3 +0.2
COWI **Conover** 79.48 320 P P 10 10 28.3 +0.3
COWI IAmb IAmb 10 10 29.3
comp=Z,39nm,1.0s
P53A **Whipple** 79.48 312 P P 10 10 29.2 +1.0
P53A IAmb IAmb 10 10 30.1
comp=Z,35nm,0.9s
J20K **Nowinta River** 79.48 0 P P 10 10 28.2 +0.5
baz=359
BPAW **Bear Paw Mtn.** 79.55 359 P P 10 10 27.4 -0.7
baz=1.8
L48A **N Adams** 79.69 315 P P 10 10 29.6 +0.3
L48A IAmb IAmb 10 10 30.5
comp=Z,33nm,0.8s
RIDG **Independent Ri** 79.70 356 P P 10 10 28.9 -0.1
baz=6.8
T57A **Hurt** 79.72 309 P P 10 10 30.3 +0.9
ULM **Lac du Bonnet** 79.78 327 P P 10 10 29.1 -0.5
comp=Z,21nm,1.1s,baz=45,slow=5.6,SNR=11
ULM **Lac du Bonnet** 79.78 327 P P 10 10 29.3 -0.2
ULM pmax pmax
comp=Z,20nm,1.0s
ULM **Lac du Bonnet** 79.78 327 P P 10 10 29.3 -0.2
P52A **Corning** 79.83 312 P P 10 10 30.3 +0.3
baz=50,SNR=6.7
P52A **Corning** 79.83 312 P P 10 10 29.9 -0.2
P52A IAmb IAmb 10 10 31.4
comp=Z,27nm,0.9s
H43A **Windswept, Lux** 79.87 319 P P 10 10 29.8 -0.3
H43A IAmb IAmb 10 10 31.6
comp=Z,37nm,0.8s
MCK **McKinley** 79.88 358 P P 10 10 30.2 +0.4
baz=3.4
CNNC **Cliffs of the** 79.93 306 P P 10 10 31.3 +0.7
baz=52
ACSO **Alum Creek Sta** 79.96 313 P P 10 10 31.0 +0.3
baz=50,SNR=7.3
ACSO **Alum Creek Sta** 79.96 313 P P 10 10 31.2 +0.5
ACSO IAmb IAmb 10 10 32.1
comp=Z,29nm,0.9s
GDU01 **Guandu, BA** 80.03 245 eP P 10 10 32.5 +1.2
BCAR **Beaver Creek A** 80.18 355 P P 10 10 32.1 +0.6
L27K **Beaver Creek,** 80.19 355 P P 10 10 31.9 +0.3
baz=9.2
TRF **Thorofare Moun** 80.19 359 P P 10 10 31.9 +0.2
baz=2.3
N49A **Columbus Grove** 80.21 314 P P 10 10 31.7 -0.3
N49A IAmb IAmb 10 10 33.3
comp=Z,31nm,0.8s
K20K **Telida** 80.31 0 P P 10 10 32.5 +0.4
baz=359
L26K **Log Cabin Wild** 80.33 355 P P 10 10 32.7 +0.4
baz=8.0
Q52A **Bidwell** 80.34 312 P P 10 10 32.9 +0.1
Q52A IAmb IAmb 10 10 34.2
comp=Z,30nm,0.8s
E38A **The Farm, Brul** 80.35 322 P P 10 10 31.9 -0.8
P51A **Williamsport** 80.48 312 P P 10 10 33.9 +0.4
P51A IAmb IAmb 10 10 34.5
comp=Z,21nm,0.8s
R53A **Hurricane** 80.55 311 P P 10 10 34.7 +0.8
R53A IAmb IAmb 10 10 35.5
comp=Z,29nm,0.7s
G40A **Rib Lake** 80.60 320 P P 10 10 33.8 -0.2
G40A IAmb IAmb 10 10 35.2
comp=Z,40nm,1.3s
L46A **Eue Claire** 80.70 316 P P 10 10 35.3 +0.7
L46A IAmb IAmb 10 10 35.8
comp=Z,32nm,0.9s
PPLA **Purkeypile** 80.77 360 P P 10 10 35.2 +0.4
baz=0.8
ASAJ **Asahikawa** 80.77 41 P P 10 10 34.8 -0.1
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
JKA **Kamikawa-asahi** 80.77 41 P P 10 10 34.8 -0.2
O49A **Covington** 80.78 314 P P 10 10 35.4 +0.3
O49A IAmb IAmb 10 10 36.2
comp=Z,38nm,0.8s
U56A **King** 80.83 309 P P 10 10 36.8 +1.3
U56A IAmb IAmb 10 10 37.3
comp=Z,19nm,0.8s
JNU **Nakatsue** 80.84 56 P P 10 10 35.1 -0.5
comp=Z,13nm,0.9s,baz=43,slow=2.9,SNR=6.7
I42A **Draeger Farm,** 80.87 319 P P 10 10 35.8 +0.4
I42A IAmb IAmb 10 10 36.6
comp=Z,24nm,0.8s
M27K **Edge Creek, AK** 80.89 355 P P 10 10 36.0 +0.6
baz=9.2
Q51A **Peebles** 80.95 312 P P 10 10 36.3 +0.3
Q51A IAmb IAmb 10 10 37.4
comp=Z,36nm,1.0s
PETK **Petropavlovsk-** 80.97 27 P P 10 10 34.4 -1.4
comp=Z,1.7nm,0.7s,baz=259,slow=3.0,SNR=5.4
PETK **Petropavlovsk-** 80.97 27 P P 10 10 34.4 -1.4
PETK **Petropavlovsk-** 80.97 27 P P 10 10 33.8 -2.0
WAT6 **Susitna Watana** 80.99 357 P P 10 10 35.9 0.0
baz=4.4
CMC01 **Camacan, BA** 81.07 243 eP P 10 10 38.2 +1.4
N47A **Urbana** 81.11 315 P P 10 10 36.8 0.0
AGMN **Agassiz Nation** 81.20 325 P P 10 10 37.0 -0.1
baz=43
AGMN **Agassiz Nation** 81.20 325 P P 10 10 37.1 -0.1
K43A **Burlington** 81.36 318 P P 10 10 38.6 +0.6
K43A IAmb IAmb 10 10 40.0
comp=Z,48nm,1.1s
P49A **Miami Univ. Ec** 81.43 313 P P 10 10 38.4 -0.1
baz=49,SNR=5.1
P49A **Miami Univ. Ec** 81.43 313 P P 10 10 38.5 0.0
HUMP **Col San Antoni** 81.44 286 P P 10 10 39.5 +0.6
HUMP IAmb IAmb 10 10 41.3
comp=Z,29nm,1.1s
L44A **Lake County Fo** 81.48 317 P P 10 10 39.0 +0.3
baz=48
L44A **Lake County Fo** 81.48 317 P P 10 10 39.0 +0.3
L44A IAmb IAmb 10 10 39.9
comp=Z,34nm,0.8s
U54A **Nelsons Funny** 81.62 309 P P 10 10 40.4 +0.7
U54A IAmb IAmb 10 10 41.2
comp=Z,34nm,0.8s
PDPR **Patillas Dam,** 81.64 286 P P 10 10 41.3 +1.3
PDPR IAmb IAmb 10 10 42.2
comp=Z,49nm,1.1s
V55A **Taylorsville** 81.67 309 P P 10 10 40.5 +0.7
HQIL **Hanson Quary C** 81.71 317 P P 10 10 40.3 +0.4
HQIL IAmb IAmb 10 10 41.1
comp=Z,39nm,0.9s
I40A **Norwalk** 81.76 320 P P 10 10 40.5 +0.3
I40A IAmb IAmb 10 10 41.4
comp=Z,36nm,1.3s
F36A **Milaca** 81.85 322 P P 10 10 40.3 -0.3
P48A **Milroy** 81.89 314 P P 10 10 40.9 -0.1
P48A IAmb IAmb 10 10 41.9
comp=Z,27nm,0.9s
SPMN **Marine on St.** 81.94 322 P P 10 10 41.2 0.0
baz=45
SPMN **Marine on St.** 81.94 322 P P 10 10 41.0 -0.2
S51A **Beattyville** 81.99 311 P P 10 10 42.4 +0.9
R50A **Paris** 82.01 312 P P 10 10 42.1 +0.5
M44A **Midewin, Midew** 82.09 316 P P 10 10 42.1 +0.2
M44A IAmb IAmb 10 10 43.1
comp=Z,35nm,1.2s
KMSC **Kings Mountain** 82.19 308 P P 10 10 42.6 0.0
baz=50
KMSC **Kings Mountain** 82.19 308 P P 10 10 43.7 +1.1
SFIN **Lafayette** 82.24 315 P P 10 10 42.7 0.0
baz=48,SNR=7.0
SFIN **Lafayette** 82.24 315 P P 10 10 42.7 0.0
JFWS **Jewell Farm** 82.24 319 P P 10 10 42.6 -0.1
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS **Jewell Farm** 82.24 319 P P 10 10 42.5 -0.1
baz=46
JFWS **Jewell Farm** 82.24 319 P P 10 10 42.6 -0.1
JFWS IAmb IAmb 10 10 43.5
comp=Z,19nm,0.8s
ERM **Erimo** 82.51 42 ceP P 10 10 46.8 +2.7
ERM pmax pmax
comp=Z,21nm,1.7s
R49A **Shelbyville** 82.51 313 P P 10 10 44.7 +0.5
R49A IAmb IAmb 10 10 45.7
comp=Z,32nm,0.9s
L42A **Oliver, Polo** 82.56 318 P P 10 10 44.5 +0.2
L42A IAmb IAmb 10 10 45.5
comp=Z,34nm,1.0s
TZTN **Tazewell** 82.67 310 P P 10 10 45.4 +0.3
baz=49
TZTN **Tazewell** 82.67 310 P P 10 10 46.3 +1.2
TZTN IAmb IAmb 10 10 47.0
comp=Z,28nm,1.2s
JSC **Jenkinsville** 82.69 307 P P 10 10 45.7 +0.5
JSC pmax pmax
comp=Z,12nm,0.8s
JSC **Jenkinsville** 82.69 307 P P 10 10 45.7 +0.5
PAULI **Pauline** 82.70 308 P P 10 10 45.5 +0.2
BLO **Bloomington** 82.72 314 P P 10 10 45.8 +0.6
BLO pmax pmax
comp=Z,40nm,0.7s
BLO **Bloomington** 82.72 314 P P 10 10 45.8 +0.6
P46A **Rosedale** 82.81 315 P P 10 10 46.1 +0.4
PRPB **Parauapebas** 83.01 257 eP P 10 10 48.5 +1.4
I37A **Lemond, Waseca** 83.10 321 P P 10 10 48.0 +0.8
SDBA **SAO DESIDERIO** 83.12 249 epP pP 10 11 23.6 +0.7
T50A **Nancy** 83.14 311 P P 10 10 48.4 +0.9
O22K **Cooper Landing** 83.15 358 P P 10 10 47.5 +0.5
baz=2.8
NAN01 **Guarapari, ES** 83.16 242 eP P 10 10 48.5 +0.9
V52A **Sevierville** 83.16 310 P P 10 10 48.3 +0.7
V52A IAmb IAmb 10 10 49.1
comp=Z,15nm,0.8s
O44A **Mansfield** 83.16 316 P P 10 10 48.0 +0.5
O44A IAmb IAmb 10 10 48.9
comp=Z,27nm,0.8s
F33A **5 Mile Ranch,** 83.20 324 P P 10 10 47.8 +0.2
F33A IAmb IAmb 10 10 48.5
comp=Z,30nm,1.3s
MDND **Maddock** 83.21 327 P P 10 10 48.2 +0.5
baz=41
WCI **Wyandotte Cave** 83.21 313 P P 10 10 48.4 +0.6
WCI pmax pmax
comp=Z,31nm,0.9s
WCI **Wyandotte Cave** 83.21 313 P P 10 10 48.4 +0.6
baz=48
WCI **Wyandotte Cave** 83.21 313 P P 10 10 48.4 +0.6
WCI IAmb IAmb 10 10 49.3
comp=Z,31nm,0.9s
BG3 **Lake Jocassee** 83.30 309 P P 10 10 49.4 +1.1
MJB9 **Matsu-Tunnel** 83.33 49 P P 10 10 49.4 +0.9
MJB9 IAmb IAmb 10 11 05.5
comp=Z,25nm,0.9s
MAT **Matsushiro** 83.33 49 P P 10 10 48.3 -0.2
MAT eS S 10 21 01.6 +4.0
MJAR **Matsushiro Arr** 83.34 49 P P 10 10 48.5 0.0
comp=Z,12nm,1.0s,baz=313,slow=4.7,SNR=19
MJAR LR LR 10 52 29.5
comp=Z,34nm,19.6s,baz=245,slow=39
MJAR **Matsushiro Arr** 83.34 49 P P 10 10 49.0 +0.5
MJAR pmax pmax
comp=Z,14nm,1.1s
MJAR **Matsushiro Arr** 83.34 49 P P 10 10 49.0 +0.5
HDIL **Hopedale** 83.35 316 P P 10 10 48.7 +0.3
baz=46,SNR=7.4
HDIL **Hopedale** 83.35 316 P P 10 10 49.0 +0.6
L40A **Anamosa** 83.35 319 P P 10 10 48.4 -0.1
TKL **Tuckaleechee C** 83.39 310 P P 10 10 49.6 +0.8
TKL pmax pmax
comp=Z,22nm,0.8s
TKL **Tuckaleechee C** 83.39 310 P P 10 10 49.6 +0.8
TKL IAmb IAmb 10 10 50.4
comp=Z,22nm,0.8s
KAIM **Kayak Island** 83.48 356 P P 10 10 49.3 +0.6
baz=7.0
V51A **Loudon** 83.65 310 P P 10 10 51.0 +0.9
V51A IAmb IAmb 10 10 52.1
comp=Z,17nm,0.9s
K38A **Parkersburg** 83.75 320 P P 10 10 50.1 -0.4
K38A IAmb IAmb 10 10 50.4
comp=Z,24nm,0.7s
W52A **Murphy** 83.85 310 P P 10 10 52.2 +1.0
W52A IAmb IAmb 10 10 52.8
comp=Z,19nm,0.8s
OLIL **Olney** 83.92 314 P P 10 10 51.6 +0.2
OLIL IAmb IAmb 10 10 52.5
comp=Z,35nm,0.8s
KSM **Kuching** 83.92 93 P P 10 10 53.0 +1.2
MALB **Monte Alegre** 83.92 263 eP P 10 10 53.5 +1.7
MALB epP pP 10 11 28.1 +1.0
CPCT **Cooper Cave** 83.98 310 P P 10 10 53.1 +1.3
JMM **Marumori** 84.00 47 P P 10 10 51.5 -0.3
JMM IAmb IAmb 10 10 52.4
comp=Z,33nm,1.1s
EDM **Edmonton** 84.03 337 P P 10 10 51.8 0.0
EDM pmax pmax
comp=Z,21nm,1.4s
EDM **Edmonton** 84.03 337 P P 10 10 51.8 0.0
U49A **Red Boiling Sp** 84.05 312 P P 10 10 52.8 +0.7
U49A IAmb IAmb 10 10 53.8
comp=Z,36nm,0.9s
N41A **Harden Midland** 84.10 317 P P 10 10 52.6 +0.3
N41A IAmb IAmb 10 10 53.2
comp=Z,46nm,1.1s
P43A **Skaggs, Pawnee** 84.11 316 P P 10 10 52.4 +0.1
USIN **University of** 84.19 314 P P 10 10 53.2 +0.4
USIN IAmb IAmb 10 10 53.7
comp=Z,36nm,1.1s
BSFB **Barra de Sao F** 84.32 242 eP P 10 10 54.4 +0.8
BSFB epP pP 10 11 28.4 -0.6
RIB01 **Linhares ES** 84.32 241 epP pP 10 11 29.7 +0.7
Q44A **Meyer Farm, Va** 84.33 315 P P 10 10 53.6 +0.1
Q44A IAmb IAmb 10 10 54.8
comp=Z,30nm,1.0s
JANB **Januaria** 84.37 247 eP P 10 10 54.7 +0.7
T47A **Sharon Grove** 84.52 313 P P 10 10 54.7 +0.2
T47A IAmb IAmb 10 10 55.7
comp=Z,30nm,0.9s
W50A **Signal Mountai** 84.63 310 P P 10 10 56.0 +0.8
GOGA **Godfrey** 84.66 308 P P 10 10 55.9 +0.7
GOGA pmax pmax
comp=Z,17nm,0.9s
GOGA **Godfrey** 84.66 308 P P 10 10 55.9 +0.7
baz=49
GOGA **Godfrey** 84.66 308 P P 10 10 55.9 +0.7
GOGA IAmb IAmb 10 10 57.1
comp=Z,16nm,0.8s
CLTN **Cedars of Leba** 84.66 312 P P 10 10 55.5 +0.3
CLTN IAmb IAmb 10 10 56.7
comp=Z,20nm,0.9s
E28A **Huff** 84.66 327 P P 10 10 55.5 +0.5
E28A IAmb IAmb 10 10 56.2
comp=Z,34nm,1.0s
Y52A **Lilburn** 84.74 309 P P 10 10 56.9 +1.2
Y52A IAmb IAmb 10 10 57.7
comp=Z,28nm,0.8s
X51A **Calhoun** 84.77 310 P P 10 10 56.0 +0.2
X51A IAmb IAmb 10 10 57.3
comp=Z,21nm,0.8s
SBUM **Sibu** 84.88 91 P P 10 10 58.0 +1.4
ECSD **EROS Data Cent** 84.91 323 P P 10 10 56.7 +0.4
baz=42
ECSD **EROS Data Cent** 84.91 323 P P 10 10 56.7 +0.4
SWET **Sewanee** 85.00 311 P P 10 10 57.4 +0.4
SDDR **Presa de Saban** 85.10 290 P P 10 10 58.5 +0.8
SDDR IAmb IAmb 10 11 00.6
comp=Z,25nm,0.9s
MC01 **Montes Claros** 85.16 245 eP P 10 10 58.6 +0.7
MC01 epP pP 10 11 34.2 +0.8
V48A **Smith Brothers** 85.19 312 P P 10 10 58.2 +0.4
FPAL **Fort Paine** 85.25 310 P P 10 10 59.3 +1.0
FPAL IAmb IAmb 10 10 60.0
comp=Z,27nm,1.0s
SIUC **Southern Illin** 85.26 314 P P 10 10 59.0 +0.8
SIUC IAmb IAmb 10 10 59.5
comp=Z,31nm,0.8s
S44A **Carbondale** 85.29 314 P P 10 10 59.0 +0.6
S44A IAmb IAmb 10 10 59.6
comp=Z,30nm,1.0s
N38A **Joes South For** 85.32 319 P P 10 10 58.7 +0.3
SUSD **Miller** 85.50 324 P P 10 10 58.9 -0.3
baz=41
SUSD **Miller** 85.50 324 P P 10 11 00.1 +0.9
PEXB **Peixe** 85.50 251 eP P 10 10 59.4 -0.2
WVT **Waverly** 85.53 312 P P 10 10 59.6 +0.1
WVT pmax pmax
comp=Z,13nm,0.9s
WVT **Waverly** 85.53 312 P P 10 10 59.5 -0.1
baz=47
WVT **Waverly** 85.53 312 P P 10 10 59.6 +0.1
P40A **Paris** 85.58 317 P P 10 10 60.0 +0.3
P40A IAmb IAmb 10 11 00.9
comp=Z,30nm,1.1s
Z51A **Franklin** 85.80 309 P P 10 11 01.1 +0.2
Z51A IAmb IAmb 10 11 02.8
comp=Z,29nm,0.8s
152A **Waverly Hall** 85.94 308 P P 10 11 02.4 +0.8
DIAM **Diamantina, MG** 85.99 244 epP pP 10 11 38.0 +0.4
TIGA **Tifton** 86.02 307 P P 10 11 02.6 +0.6
baz=49
TIGA **Tifton** 86.02 307 P P 10 11 03.3 +1.3
TIGA IAmb IAmb 10 11 03.9
comp=Z,21nm,0.8s
HICK **Hickman** 86.07 313 P P 10 11 03.0 +0.8
L34A **Svendsen Farm,** 86.09 321 P P 10 11 02.6 +0.4
L34A IAmb IAmb 10 11 02.7
comp=Z,31nm,1.0s
CCM **Cathedral Cave** 86.17 316 P P 10 11 03.1 +0.5
CCM pmax pmax
comp=Z,32nm,0.8s
CCM **Cathedral Cave** 86.17 316 P P 10 11 02.8 +0.1
baz=45
CCM **Cathedral Cave** 86.17 316 P P 10 11 03.1 +0.5
X48A **Hartselle** 86.19 311 P P 10 11 03.0 +0.1
X48A IAmb IAmb 10 11 03.9
comp=Z,17nm,0.8s
Y49A **Blount Mountai** 86.20 310 P P 10 11 02.6 -0.3
Y49A IAmb IAmb 10 11 04.0
comp=Z,17nm,0.8s
PARMO **Parma** 86.29 314 P P 10 11 04.0 +0.7
P38A **Dawn** 86.32 318 P P 10 11 04.0 +0.7
P38A IAmb IAmb 10 11 04.6
comp=Z,44nm,1.4s
BOAV **Boa Vista** 86.42 270 eP P 10 11 03.3 -1.0
BOAV epP pP 10 11 40.5 +0.7
PLAL **Pickwick Lake** 86.46 312 P P 10 11 03.5 -0.6
PLAL IAmb IAmb 10 11 04.7
comp=Z,19nm,0.9s
N35A **Tabor** 86.53 320 P P 10 11 04.8 +0.4
N35A IAmb IAmb 10 11 04.9
comp=Z,15nm,0.9s
R40A **Maddies Statio** 86.58 316 P P 10 11 05.3 +0.7
ITTB **Itaituba** 86.60 262 eP P 10 11 06.4 +1.3
ITTB epP pP 10 11 41.6 +1.0
PBMO **Poplar Bluff** 86.60 314 P P 10 11 05.0 +0.3
PBMO IAmb IAmb 10 11 06.1
comp=Z,37nm,1.2s
T42A **Van Buren** 86.81 315 P P 10 11 06.3 +0.5
CAM01 **Campos-RJ** 86.87 240 epP pP 10 11 42.9 +1.3
LAO **LASA Array** 86.92 330 P P 10 11 07.4 +1.2
baz=36
LAO **LASA Array** 86.92 330 P P 10 11 07.4 +1.2
LAO IAmb IAmb 10 11 08.2
comp=Z,40nm,1.3s
SPMM **Sapulut** 86.96 86 P P 10 11 08.0 +1.1
W45A **Hickory Valley** 87.00 312 P P 10 11 06.1 -0.6
W45A IAmb IAmb 10 11 07.5
comp=Z,31nm,1.0s
EGMT **Eagleton** 87.19 332 P P 10 11 07.7 +0.1
baz=34
EGMT **Eagleton** 87.19 332 P P 10 11 08.1 +0.6
EGMT IAmb IAmb 10 11 09.7
comp=Z,22nm,1.1s
250A **Grady** 87.37 308 P P 10 11 09.6 +1.0
MGMO **Mountain Grove** 87.38 316 P P 10 11 09.6 +1.1
BGNE **Belgrade** 87.39 322 P P 10 11 08.4 -0.2
baz=41
BGNE **Belgrade** 87.39 322 P P 10 11 09.2 +0.6
BDFB **Brasilia** 87.49 249 P P 10 11 11.9 +2.5
comp=Z,7.2nm,0.8s,baz=76,slow=8.7,SNR=7.4
BDFB pP pP 10 11 45.3 +0.1
comp=Z,3.6nm,0.6s,baz=106,slow=10,SNR=2.6
BDFB **Brasilia** 87.49 249 P P 10 11 10.5 +1.1
BDFB pmax pmax
comp=Z,13nm,1.0s
BDFB **Brasilia** 87.49 249 P P 10 11 10.5 +1.1
BDFB IAmb IAmb 10 11 12.1
comp=Z,13nm,1.0s
LCAR **Lake Charles** 87.52 314 P P 10 11 10.1 +0.9
LCAR IAmb IAmb 10 11 10.8
comp=Z,19nm,0.9s
SNDB **Serra Nova Dou** 87.71 253 eP P 10 11 12.5 +2.2
SNDB epP pP 10 11 46.6 +0.6
WALA **Waterton Lakes** 87.79 335 P P 10 11 11.5 +1.1
NPGB **Novo Progresso** 87.90 260 eP P 10 11 12.1 +0.8
NPGB epP pP 10 11 47.5 +0.5
RSSD **Black Hills** 88.05 327 P P 10 11 12.2 +0.3
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD **Black Hills** 88.05 327 P P 10 11 12.2 +0.3
baz=37
RSSD **Black Hills** 88.05 327 P P 10 11 12.2 +0.3
Y45A **Yeager Farm, C** 88.10 312 P P 10 11 12.6 +0.6
FCAR **Ozark Folk Cen** 88.20 315 P P 10 11 12.8 +0.4
U40A **Yellville** 88.28 315 P P 10 11 12.7 -0.1
baz=44,SNR=6.6
U40A **Yellville** 88.28 315 P P 10 11 13.2 +0.4
KSU1 **Kansas State U** 88.33 319 P P 10 11 12.3 -0.7
baz=42
BRAL **Brewton** 88.41 308 P P 10 11 14.0 +0.5
baz=47
WHAR **Wooly Hollow** 88.72 314 P P 10 11 15.3 +0.4
W41B **Gary Mavity, V** 88.78 314 P P 10 11 15.1 0.0
baz=44,SNR=5.2
HHAR **Hobbs** 88.94 316 P P 10 11 15.9 -0.1
HHAR IAmb IAmb 10 11 16.8
comp=Z,10nm,0.8s
HRY **Holter Researc** 89.06 333 P P 10 11 16.7 +0.2
U38A **Gravette** 89.08 316 P P 10 11 16.6 0.0
U38A IAmb IAmb 10 11 17.4
comp=Z,17nm,0.8s
RLMT **Red Lodge** 89.42 331 P P 10 11 18.8 +0.5
baz=34
X40A **Basin Creek Fa** 89.60 314 P P 10 11 18.9 -0.1
baz=44
W39A **Magazine** 89.64 315 P P 10 11 19.4 +0.2
baz=44
W39A **Magazine** 89.64 315 P P 10 11 19.7 +0.5
MSO **Missoula** 89.72 334 P P 10 11 19.5 0.0
baz=30
MSO **Missoula** 89.72 334 P P 10 11 20.4 +0.9
YNE **Yellowstone No** 89.81 331 P P 10 11 21.2 +1.0
VBMS **Vicksburg** 89.83 311 P P 10 11 21.0 +0.8
baz=46
T35A **Sooner Cattle** 89.89 318 P P 10 11 20.8 +0.5
T35A IAmb IAmb 10 11 22.3
comp=Z,20nm,1.1s
R32A **Long Quarter,** 89.92 320 P P 10 11 20.6 0.0
R32A IAmb IAmb 10 11 21.1
comp=Z,10nm,0.8s
BOZ **Bozeman (W)** 89.93 332 P P 10 11 21.3 +0.7
BOZ pmax pmax
comp=Z,11nm,1.5s
BOZ **Bozeman (W)** 89.93 332 P P 10 11 20.8 +0.2
baz=32
BOZ **Bozeman (W)** 89.93 332 P P 10 11 21.3 +0.7
MIAR **Mount Ida** 89.99 315 P P 10 11 21.6 +0.8
MIAR pmax pmax
comp=Z,20nm,1.1s
MIAR **Mount Ida** 89.99 315 P P 10 11 21.3 +0.5
baz=44,SNR=7.5
MIAR **Mount Ida** 89.99 315 P P 10 11 21.6 +0.8
MIAR IAmb IAmb 10 11 22.5
comp=Z,20nm,1.1s
LRM **Limekiln Ridge** 90.04 333 P P 10 11 22.1 +0.9
CBKS **Cedar Bluff** 90.15 321 P P 10 11 21.2 -0.4
baz=40
KS20 **Mayfield South** 90.22 319 P P 10 11 22.5 +0.6
KS20 IAmb IAmb 10 11 22.9
comp=Z,14nm,0.9s
TUL1 **Leonard** 90.24 317 P P 10 11 22.1 +0.1
baz=42,SNR=8.2
K22A **Casper** 90.31 328 P P 10 11 21.8 -0.6
baz=36

K22A	Casper	90.31	328	P	P	10 11 22.1	-0.3
KAN09	Caldwell North	90.32	319	P	P	10 11 23.0	+0.6
KAN09				IAmb	IAmb	10 11 23.3	
	comp=Z,25nm,1.2s						
BLOK	Blackwell	90.39	318	P	P	10 11 23.3	+0.6
BLOK				IAmb	IAmb	10 11 24.1	
	comp=Z,29nm,1.5s						
DLMT	Dillon	90.49	333	P	P	10 11 23.8	+0.6
QUOK	Quay	90.55	318	P	P	10 11 24.6	+1.2
YPP	Pitchstone Pla	90.73	331	P	P	10 11 25.1	+0.6
OK031	S. Brethren Rd	90.78	317	P	P	10 11 25.2	+0.7
OK031				IAmb	IAmb	10 11 26.6	
	comp=Z,24nm,1.3s						
PHWY	Pilot Hill	90.93	326	P	P	10 11 25.8	+0.3
PHWY				IAmb	IAmb	10 11 26.5	
	comp=Z,12nm,0.9s						
X37A	Clayton	90.97	316	P	P	10 11 26.3	+0.9
KSCO	Kaye Shedlock'	91.43	323	P	P	10 11 27.9	+0.3
	baz=38						
KSCO	Kaye Shedlock'	91.43	323	P	P	10 11 28.3	+0.7
KSCO				IAmb	IAmb	10 11 29.0	
	comp=Z,18nm,1.1s						
N23A	Red Feather La	91.48	326	P	P	10 11 27.6	-0.4
	baz=36						
PDAR	Pinedale Array	91.49	329	P	P	10 11 26.7	-1.2
	comp=Z,0.5nm,0.8s,baz=79,slow=3.2,SNR=5.3						
PDAR				pP	pP	10 12 02.6	-1.1
	comp=Z,0.9nm,0.9s,baz=96,slow=4.5,SNR=3.4						
PDAR	Pinedale Array	91.49	329	P	P	10 11 26.3	-1.7
Z38A	Mt. Pleasant	91.72	315	P	P	10 11 29.7	+0.8
D03D	Eldon	91.94	340	P	P	10 11 29.6	0.0
	baz=24						
ISCO	Idaho Springs	92.21	325	P	P	10 11 30.7	-0.8
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ISCO	Idaho Springs	92.21	325	P	P	10 11 31.2	-0.3
	baz=36,SNR=6.5						
ISCO	Idaho Springs	92.21	325	P	P	10 11 30.7	-0.8
HLID	Hailey	92.70	333	P	P	10 11 33.4	-0.1
	baz=30						
WMOK	Wichita Mounta	92.74	318	P	P	10 11 33.6	-0.1
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMOK	Wichita Mounta	92.74	318	P	P	10 11 33.6	-0.1
	baz=41,SNR=5.9						
WMOK	Wichita Mounta	92.74	318	P	P	10 11 33.6	-0.1
O20A	White River Ci	93.11	327	P	P	10 11 35.0	-0.5
	baz=35						
RDMU	Red Mountain	93.32	328	P	P	10 11 36.7	+0.2
MFID	Camas Ranch	93.34	334	P	P	10 11 36.7	+0.4
T25A	Trinidad	93.77	323	P	P	10 11 38.3	-0.3
	baz=37						
T25A	Trinidad	93.77	323	P	P	10 11 38.7	+0.2
SDCO	Great Sand Dun	93.81	324	P	P	10 11 38.2	-0.6
	baz=36,SNR=6.5						
SDCO	Great Sand Dun	93.81	324	P	P	10 11 38.2	-0.6
JLU	Jordanelle	94.08	329	P	P	10 11 40.5	+0.6
S22A	4UR Ranch, Cre	94.42	325	P	P	10 11 41.3	-0.4
	baz=36						
PV14	Lion Creek, Pa	94.91	327	P	P	10 11 43.9	+0.1
MSTX	Muleshoe	95.44	320	P	P	10 11 46.0	-0.1
	baz=38						
I03D	Drain, OR	95.53	339	P	P	10 11 45.8	-0.3
	baz=24						
N02D	Trinity Center	97.82	337	P	P	10 11 56.0	-0.7
	baz=24						
WUAZ	Wupatki	98.32	327	P	P	10 11 59.1	-0.1
	baz=33						
MNTX	Cornudas Mount	98.58	320	P	P	10 11 59.6	-0.6
	baz=37						
NVAR	Mina Array Bea	98.61	333	P	Pdif	10 12 00.5	0.0
	comp=Z,0.3nm,0.6s,baz=42,slow=4.3,SNR=4.5						
TXAR	Lajitas Array	99.54	318	P	Pdif	10 12 04.8	+0.2
	comp=Z,0.7nm,0.9s,baz=64,slow=4.3,SNR=6.8						
TXAR				PP	PP	10 16 12.3	+3.0
	comp=Z,0.7nm,0.9s,baz=62,slow=5.8,SNR=5.9						
TXAR	Lajitas Array	99.54	318	P	Pdif	10 12 04.8	+0.2
TUC	Tucson	100.73	324	P	Pdif	10 12 09.9	0.0
	baz=33						
SCZ2	Santa Cruz Isl	103.04	332	P	Pdif	10 12 19.3	-0.7
	baz=27						
SYO	Syowa Base	105.80	175	eX	PKiKP	10 16 42.3	-0.6
WRA	Warramunga Arr	115.45	97	PKP	PKPdf	10 17 02.4	-0.3
	comp=Z,1.5nm,0.8s,baz=327,slow=2.0,SNR=13						
WRA	Warramunga Arr	115.45	97	PKIKP	PKPdf	10 17 02.4	-0.3
WRA	Warramunga Arr	115.45	97		PKPdf	10 17 01.7	-1.0
ASAR	Alice Springs	117.02	100	PKP	PKPdf	10 17 05.3	-0.4
	comp=Z,1.2nm,0.7s,baz=317,slow=1.2,SNR=20						
ASAR	Alice Springs	117.02	100	PKIKP	PKPdf	10 17 05.3	-0.4
ASAR	Alice Springs	117.02	100		PKPdf	10 17 04.7	-1.0
CTA	Charters Tower	125.08	90	PKP	PKiKP	10 17 21.9	+0.3
	comp=Z,0.9nm,0.3s,baz=206,slow=2.6,SNR=5.0						
CTA	Charters Tower	125.08	90	PKIKP	PKiKP	10 17 21.9	+0.3
VNDA	Vanda	134.77	168	SKPbc	SKPbc	10 20 55.6	+0.6
	comp=Z,1.1nm,0.9s,baz=230,slow=6.7,SNR=4.0						
URZ	Urewera	156.43	103	PKPab	PKPab	10 18 43.7	-0.7
	comp=Z,13nm,0.8s,baz=304,slow=4.4,SNR=10.0						

*DJA **24** 10:00:08.0±0.6, 3°S±4°×12°7E±°, h73km±13km, M3.6/6, mb3.9/2, MLv3.4/6*
*IDC **24** 10:00:09.3±1.7, 2°40S×128°16E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML3.4/3, MS4.3/1, Ms1 4.3/1, ms1mx2.8/31, Error ellipse: s-maj=32.9km s-min=23.3km az=118.0*
ISC 24 10:00:06.9±1.2, 2°28S±0°08×127°51E±0°06, h29km, n13, σ2°44/11, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.04	203	P	Pn	10 00 24.0	-1.5
SANI	Sanana	1.54	279	P	Pn	10 00 30.9	-1.5
MSAI	Masohi	1.77	127	P	Pb	10 00 38.8	+0.2
SWI	Sorong	4.00	69	P	Pn	10 01 11.9	+5.6
SIJI	Sorong	4.01	70	Pn	Pn	10 01 06.2	-0.2
	2.1nm,0.3s,baz=208,slow=13,SNR=22						
SIJI				Sn	Sn	10 01 48.6	-3.8
	5.5nm,0.3s,baz=329,slow=23,SNR=9.5						
FAKI	Fak Fak	4.77	98	P	Pn	10 01 19.2	+2.3
	0.1nm23nm,1.1s						
GTOI	Gorontalo	5.35	303	P	Pn	10 01 26.8	+1.9
KAPI	Kappang	8.21	250	Pn	Pb	10 02 19.0	-9.3
	0.8nm,0.3s,baz=110,slow=15,SNR=5.7						
WRA	Warramunga Arr	18.78	160	P	Pn	10 04 26.1	+1.4
	0.1nm,0.3s,baz=342,slow=12,SNR=12						
WRA				S	Sn	10 07 50.9	-3.1
	0.0nm,0.3s,baz=335,slow=22,SNR=2.1						
ASAR	Alice Springs	22.14	164	P	P	10 05 03.3	+2.8
	0.6nm,0.5s,baz=345,slow=12,SNR=20						
ASAR				S	S	10 09 03.1	+0.1
	0.4nm,1.0s,baz=348,slow=22,SNR=4.2						
GUMO	Guam	23.34	47	LR	LR	10 14 46.5	
	comp=Z,26nm,18.2s,baz=90,slow=38						
MJAR	Matsushiro Arr	39.89	13	P	P	10 07 43.8	+5.5
	1.3nm,0.5s,baz=193,slow=7.1,SNR=3.1						
YAK	Yakutsk	64.16	1	LR	LR	10 41 01.1	
	comp=Z,228nm,18.7s,baz=66,slow=38						

HEL 24 10:02:21.9±0.6, 60°58N×29°18E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.80	268	PB	Pg	10 02 36.8	-0.5
VJF				SB	Sg	10 02 47.2	-0.4
PVF	Pernaja	1.64	270	PG	Pn	10 02 51.2	-0.7
PVF				MSG		10 03 10.9	
	comp=Z,3.1nm,0.2s						
PVF				SN	Sg	10 03 15.4	+0.9
FIA0	FINESS Array S	1.74	301	PG	Pn	10 02 52.8	-0.6
	baz=120						
FIA0				SN	Sb	10 03 17.3	+0.2
KAF	Kangasniemi	2.07	319	PG	Pn	10 02 58.7	+0.9
KAF				SG	Sb	10 03 26.6	0.0
MEF	Metsahovi	2.40	263	MSG		10 03 32.9	
	comp=Z,3.8nm,0.2s						
MEF				SG	Sb	10 03 36.3	+0.3
JOF	Joensuu	2.56	22	SG	Sb	10 03 40.8	+0.2
SUF	Sumiainen	2.59	327	MSG		10 03 38.3	
	comp=Z,1.3nm,0.2s						
SUF				SG	Sb	10 03 41.0	-0.5
KEF	Keuruu	2.62	309	MSG		10 03 39.1	
	comp=Z,0.9nm,0.2s						
KEF				SG	Sb	10 03 42.1	-0.1
MTSE	Matsula	3.30	238	PG	Pb	10 03 23.0	+1.7
VAF	Ylistaro	3.96	312	SN	Sn	10 04 05.8	-5.0
AAL	Aland	4.58	269	PB	Pb	10 03 37.6	-5.3

*HEL **24** 10:05:51.0±0.1, 64°77N×30°68E, h0km, ML2.2, Explosion*
*IDC **24** 10:05:54.5±2.0, 64°81N×30°33E, h0km, mb1 3.4/4, mb1mx3.2/40, mbtmp3.3/4, ML2.3/3, Error ellipse: s-maj=29.8km s-min=10.2km az=103.0*
ISC 24 10:05:50.3±1.0, 64°77N±0°02×30°48E±0°05, h0km, n25, σ1°50/38, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.28	349	PG	Pg	10 06 14.3	-0.5
	baz=168						
KU6				MSG		10 06 30.4	
	comp=Z,12nm,0.2s						
KU6				SG	Sg	10 06 31.2	-0.2
MSF	Maaselka	1.29	333	PG	Pg	10 06 14.9	-0.2
	baz=146						
MSF				SG	Sn	10 06 34.0	+0.4
OLKF	Oulanka, Finla	1.62	344	PG	Pn	10 06 20.5	+0.4
OLKF				SN	Sn	10 06 41.9	+0.3
JOF	Joensuu	1.90	168	PG	Pn	10 06 24.6	+0.7
JOF				SG	Sb	10 06 50.8	+0.8
OUL	Oulu	1.98	281	PG	Pg	10 06 27.7	-0.5
OUL				SG	Sg	10 06 53.8	0.0
OUF	Merijarvi	2.52	263	PB	Pb	10 06 36.2	-0.1
OUF				MSG		10 07 07.7	
	comp=Z,28nm,0.2s						
OUF				SB	Sg	10 07 09.9	-1.1
RNF	Rovaniemi	2.61	317	PB	Pb	10 06 37.3	-0.6
RNF				SB	Sb	10 07 11.1	+0.6
OBF0	Syolatti, Pyha	2.70	267	PB	Pb	10 06 39.1	-0.3
OBF0				SB	Sg	10 07 16.6	-0.5
SUF	Sumiainen	2.82	225	PB	Pb	10 06 41.0	-0.5
	baz=42						
SUF				MSG		10 07 15.7	
	comp=Z,9.3nm,0.2s						
SUF				SG	Sb	10 07 18.1	+1.6
TOF	Tornio	2.89	300	SB	Sb	10 07 17.9	-0.5
TOF				MSG		10 07 18.1	
	comp=Z,11nm,0.2s						
VRF	Varrio	3.01	354	MSG		10 07 19.9	
	comp=Z,4.5nm,0.2s						
VRF				SG	Sb	10 07 22.4	+0.5
SGF	Sodankyl	3.13	331	SB	Sb	10 07 24.6	-0.7
KAF	Kangasniemi	3.26	217	PB	Pb	10 06 46.7	-2.3
KEF	Keuruu	3.63	226	PG	Pg	10 06 59.3	-0.5
KLF	Kolari	3.63	316	SG	Sg	10 07 48.1	+1.2
VAF	Ylistaro	3.86	247	PB	Pb	10 06 58.5	-0.7
	baz=59						
VAF				SG	Sg	10 07 53.5	-0.8
FIA0	FINESS Array S	3.90	213	PN	Pn	10 06 53.8	+2.5
FIA0				SG	Sg	10 07 53.7	-1.6
FINES	FINESS Array B	3.90	213	Pn	Pn	10 06 53.4	+2.1
	comp=Z,0.2nm,0.3s,baz=32,slow=17,SNR=1.3						
FINES				Pg	Pb	10 07 02.0	+2.2
	comp=Z,0.5nm,0.3s,baz=30,slow=15,SNR=8.5						
FINES				Sn	Sn	10 07 38.8	+1.1
	comp=Z,0.6nm,0.3s,baz=32,slow=25,SNR=2.1						
FINES				Lg	Lg	10 07 53.2	
	comp=Z,3.1nm,0.3s,baz=34,slow=27,SNR=11						
UMAU	Umeaa	4.36	263	SG	Sg	10 08 08.4	-1.7
VJF	Virojoki	4.46	199	SG	Sg	10 08 10.2	-3.2
HEF	Hetta	4.55	326	SG	Sb	10 08 10.9	+4.6
ARCES	ARCESS Array B	5.16	340	Pn	Pn	10 07 09.1	+0.4
	baz=155,slow=15,SNR=8.0						
ARCES				Sn	Sn	10 08 06.8	-2.0
	baz=155,slow=20,SNR=2.0						
ARCES				Lg	Lg	10 08 29.4	
	baz=148,slow=32,SNR=5.5						
I37NO	I37NO	6.35	318	i		10 42 30.0	
	baz=129,slow=320,SNR=7.0						
HFS	Hagfors	9.05	247	Pn	Pn	10 08 03.7	+1.7
	baz=55,slow=12,SNR=3.9						
NOA	NORSAR Array B	9.54	256	Pn	Pn	10 08 10.0	+1.2
	comp=Z,0.0nm,0.3s,baz=59,slow=11,SNR=1.2						

*IDC **24** 10:16:35.1±1.0, 24°76N×122°50E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/40, mbtmp3.9/9, MS3.7/3, Ms1 3.8/3, ms1mx3.1/35, Error ellipse: s-maj=39.8km s-min=18.2km az=72.0*
*JMA **24** 10:16:36.8±0.2, 24°87N×122°79E, h28km±3km, M3.4*
*NEIC **24** 10:16:37.0±1.4, 24°80N±0°08×122°64E±0°05, h9km±7km, mb4.3/9, Error ellipse: s-maj=13.0km s-min=1.8km az=212.0*
*TAP **24** 10:16:37.2, 24°85N×122°70E, h10km±1km, ML3.7, D*
ISC 24 10:16:36.4±1.0, 24°84N±0°03×122°71E±0°02, h13km±7km, n119, σ1°08/138, mb4.0/12, MS3.8/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonaguni jima	0.44	151	P	Pg	10 16 46.0	+0.9
JYNG				S	Sg	10 16 52.4	+1.4
YOJ	Yonaguni jima	0.47	144	P	Pg	10 16 46.3	+0.8
YOJ				eS	Sg	10 16 53.1	+1.3
YOJ	Yonaguni jima	0.47	144	i P	Pg	10 16 46.4	+0.8
	baz=143						
YOJ				S	Sg	10 16 53.0	+1.3
	baz=143						
YOJ	Yonaguni jima	0.47	144	Pg	Pg	10 16 46.3	+0.8
TWB1	Santiao Chiao	0.68	284	i P	Pb	10 16 49.7	-0.4
	baz=283						
NTC	Toucheng	0.80	271	eP	Pb	10 16 52.2	0.0
	baz=270						
TIPB	Shuangxi	0.81	279	i P	Pb	10 16 52.3	-0.2
	baz=278						
TIPB				eS	Sg	10 17 01.1	-1.8
	baz=278						
TWC	Suao	0.82	254	P	Pg	10 16 51.8	-0.4
	baz=252						
TWC				eS	Sg	10 17 01.9	-1.0
	baz=252						
NWF	Wu-fen Shan	0.88	285	eP	Pb	10 16 53.3	-0.2
	baz=284						
NWF				eS	Sb	10 17 04.5	-0.6
	baz=284						
WFSB	Wu-fen Shan	0.88	285	eP	Pb	10 16 53.3	-0.1
	baz=284						
WFSB				eS	Sb	10 17 04.4	-0.7
	baz=284						
TNOU	National Taiwa	0.91	290	eP	Pb	10 16 54.1	+0.1
	baz=289						
TNOU				eS	Sb	10 17 05.0	-0.9
	baz=289						
NDS	Dongshan	0.93	257	P	Pb	10 16 54.1	-0.3
	baz=256						
EWUT	Wuta	0.94	245	eP	Pg	10 16 54.1	-0.3
	baz=244						
EWUT				eS	Sg	10 17 06.0	-0.7
	baz=244						
TWE	Neicheng	0.96	263	P	Pg	10 16 54.3	-0.5
	baz=261						
TWE				eS	Sg	10 17 06.2	-1.1
	baz=261						
PCYT	Pengchaiyu	0.98	324	P	Pg	10 16 54.8	-0.4
	baz=324						
TWA	Mucha	1.03	278	eP	Pb	10 16 55.9	-0.3
	baz=277						
IRIF	Iriomote-Funau	1.05	118	P	Pb	10 16 55.0	-1.5
ENTT	Nioudou	1.06	259	eP	Pn	10 16 56.7	-0.2
	baz=258						
YM08	YM08	1.07	289	eP	Pb	10 16 56.1	-0.8
	baz=288						
YM01	YM01	1.08	287	eP	Pg	10 16 56.6	-0.6
	baz=286						
NHDH	Xindian Distri	1.08	277	eP	Pg	10 16 56.8	-0.5
	baz=275						
TWY	Chenhua	1.10	294	eP	Pn	10 16 58.3	+0.8
	baz=293						
NWLT	Wulai	1.10	267	eP	Pg	10 16 57.1	-0.5
	baz=266						
NDT	Datong Townshi	1.11	258	eP	Pn	10 16 58.3	+0.6
	baz=257						
NDT				eS	Sn	10 17 12.9	-0.1
	baz=257						
TATO	Taipei	1.12	277	eP	Pb	10 16 57.2	-0.4
	baz=276						
TATO				eS	Sn	10 17 11.9	-1.1
	baz=276						
TATO	Taipei	1.12	277		Pb	10 16 57.2	-0.4
ETL	Fush Village	1.20	236	eP	Pg	10 16 59.7	+0.1
	baz=234						
TWS1	Kuangyinshan	1.20	283	eP	Pg	10 17 00.2	+0.7
	baz=282						
NACB	Ninganchiao	1.21	237	eP	Pg	10 16 59.4	-0.3
	baz=236						
NACB	Ninganchiao	1.21	237		Pn	10 16 58.5	-0.6
YHNB	Yeheng	1.23	262	eP	Pb	10 16 57.7	-1.8
	baz=261						
YHNB	Yeheng	1.23	262		Pb	10 16 58.2	-1.3
HATJ	Hateruma jima	1.27	128	P	Pn	10 16 58.8	-1.0
HATJ				eS	Sb	10 17 13.2	-3.1
TWD	Chiawan	1.27	234	eP	Pg	10 17 00.6	-0.2
	baz=232						
NNSH	Datong	1.28	252	eP	Pg	10 17 00.6	-0.4
	baz=250						
NNSB	Datong	1.28	252	eP	Pb	10 17 00.2	-0.2
	baz=250						
NNS	Nan Shan	1.28	252	eP	Pg	10 17 01.2	+0.1
	baz=250						
ETLH	Xiulin Townshi	1.28	241	eP	Pg	10 17 01.0	-0.1
	baz=239						
JKRS	Kuro-shima	1.32	117	P	Pn	10 16 59.4	-1.2
JIJ	Ishigaki jima	1.39	110	P	Pn	10 16 59.8	-1.6
ETM	Tongmen	1.41	232	eP	Pb	10 17 02.5	-0.1
	baz=231						
FUSS	Fushou	1.46	247	eP	Pg	10 17 04.4	-0.1
	baz=245						
JISG	Ishigakijimahi	1.48	99	P	Pn	10 17 01.2	-1.5
JISG				eS	Sn	10 17 19.0	-2.8
WHF	Hehuan Shan	1.49	243	eP	Pb	10 17 04.4	+0.2
	baz=241						
WHF				eS	Sg	10 17 23.7	-0.7
	baz=241						
TWT	Tachien	1.52	248	eP	Pg	10 17 05.2	-0.4
	baz=246						
TDCB	Techi	1.53	248	eP	Pb	10 17 05.0	+0.3
	baz=246						
ESL	Shilin	1.55	229	eP	Pn	10 17 04.2	+0.5
	baz=227						
LIOB	Emei	1.55	263	eP	Pn	10 17 03.6	-0.2
	baz=262						
NSTT	Nanjuang	1.57	263	eP	Pb	10 17 04.7	-0.5
	baz=261						
NSTT				eS	Sn	10 17 24.0	-0.1
	baz=261						
CHGB	Renai	1.60	241	eP	Pb	10 17 06.0	+0.1
	baz=240						
CHGB				eS	Sb	10 17 26.3	+0.1
	baz=240						
OWD	Renai	1.65	238	eP	Pn	10 17 05.4	+0.1
	baz=237						
WHP	Taichung City	1.70	251	eP	Pg	10 17 08.3	-0.8
	baz=250						
HGSD	Ruisui	1.78	222	eP	Pn	10 17 07.1	+0.2
	baz=220						
DPDB	Guoxing	1.81	244	eP	Pb	10 17 08.8	-0.7
	baz=243						
WCS	Beigang Elemen	1.82	245	eP	Pb	10 17 09.1	-0.4
	baz=244						
JTJ	Tarama	1.82	96	P	Pn	10 17 07.2	-0.2
JTJ				eS	Sn	10 17 31.1	+0.8
NSY	Sanyi	1.82	257	eP	Pn	10 17 08.1	+0.6
	baz=256						
TWQ1	Liyutan	1.83	255	eP	Pb	10 17 10.1	+0.3
	baz=253						
EHY	Hungye	1.84	224	eP	Pn	10 17 07.8	+0.1
	baz=222						
EHY				eS	Sn	10 17 30.1	-0.7
	baz=222						
SMLT	Sun Moon Lake	1.91	240	eP	Pn	10 17 09.8	+1.1
	baz=239						
SSLB	Suanglung	1.92	237	eP	Pn	10 17 08.4	-0.4
	baz=236						
SSLB	Suanglung	1.92	237		Pn	10 17 09.9	+1.1
TYC	Yuchr	1.93	242	eP	Pb	10 17 10.9	-0.5
	baz=240						
YULB	Yu-li	1.94	222	P	Pn	10 17 08.8	-0.2
	baz=221						
YULB	Yu-li	1.94	222		Pn	10 17 08.5	-0.5
EYUL	Yuli	1.96	221	eP	Pn	10 17 10.0	+0.7
	baz=220						
TWF1	Yuli	1.97	221	eP	Pn	10 17 09.5	+0.1
	baz=220						
WJS	Zhushan	2.07	241	eP	Pb	10 17 12.4	-1.4
	baz=240						
FULB	Fuli	2.08	219	eP	Pn	10 17 11.4	+0.3
	baz=217						
ALS	Alishan	2.19	233	eP	Pb	10 17 14.4	-1.6
	baz=232						
CHN5	Tsauling	2.23	237	eP	Pb	10 17 15.4	-1.2
	baz=235						
ELDTW	Lidau	2.26	224	eP	Pn	10 17 14.1	+0.5
	baz=222						
EDH	Donghe	2.26	215	eP	Pn	10 17 13.3	-0.2
	baz=214						
WDLH	Douliu	2.29	240	eP	Pb	10 17 16.9	-0.7
	baz=239						
WRL	Guolierlin Hig	2.33	247	eP	Pb	10 17 18.0	-0.2
	baz=245						
JMJ	Miyako jima 2	2.35	90	eP	Pn	10 17 17.0	+2.3
	baz=90						
STYH	Taoyuan	2.43	227	eP	Pn	10 17 17.3	+1.5
	baz=226						
CHN4	Tsaushan	2.44	233	eP	Pb	10 17 18.6	-1.5
	baz=232						
LDUT	Ludao	2.44	208	eP	Pn	10 17 15.0	-0.9
	baz=207						
TPUB	Ta-pu	2.44	232	eP	Pn	10 17 17.7	+1.7
	baz=230						
TPUB	Ta-pu	2.44	232		Pn	10 17 16.5	+0.5
STYT	Tauyuan	2.44	227	eP	Pn	10 17 17.9	+1.8
	baz=226						
WTP	Ta-pu	2.49	231	eP	Pb	10 17 19.0	-2.0
	baz=229						
TWG	Pinlang	2.51	217		Pn	10 17 16.5	-0.4
TWK	Hsinying	2.57	233	eP	Pb	10 17 20.1	-2.2
	baz=231						
TWK				eS	Sn	10 17 47.3	-1.5
	baz=231						
CHN1	Nanshi	2.59	231	eP	Pb	10 17 20.6	-2.1
	baz=230						
SGST	Jiashian	2.62	228	eP	Pn	10 17 19.9	+1.5
	baz=227						
SLGT	Liugui	2.64	226	eP	Pn	10 17 21.1	+2.4
	baz=225						
SLGT				eS	Sn	10 17 53.0	+2.4
	baz=225						
SSD	Sandimen	2.82	223	eP	Pn	10 17 23.9	+2.6
	baz=221						
TSMG	Majia	2.85	222	eP	Pn	10 17 24.2	+2.7
	baz=221						
MASBT	Mashibuluo	2.92	221	eP	Pn	10 17 24.8	+2.2
	baz=220						
EAST	Anshuo	2.98	215	eP	Pn	10 17 23.4	0.0
	baz=214						
EAST				eS	Sn	10 17 58.4	-0.7
	baz=214						
XPSS	Dashiqiu	3.08	313	eP	Pn	10 17 27.4	+2.6
	baz=312						
SCZT	Fangliau	3.12	218	eP	Pn	10 17 27.8	+2.6
	baz=217						
SCZT				eS	Sn	10 18 03.3	+0.9
	baz=217						
LYJJ	Jianjiangzhen	3.16	303	eP	Pn	10 17 25.6	-0.3
	baz=302						
KNMB	Chin-men Tao	3.95	265	Pn	Pn	10 17 37.4	+0.7
USRK	Ussuriysk Ar.	20.74	19	P	Pn	10 21 19.6	+0.5
	2.3nm,0.8s,baz=206,slow=9.7,SNR=10						
USRK	Ussuriysk Ar.	20.74	19	P	Pn	10 21 19.1	0.0
KLR	Kul'dur	25.36	14	P	P	10 22 04.3	+1.3
	1.9n

comp=Z,0.5nm,0.3s,baz=133,slow=6.3,SNR=2.1
KURBB **Kurchatov Arra** 42.52 319 P P 10 24 31.6 +0.2
comp=Z,0.8nm,0.7s,baz=111,slow=7.9,SNR=8.6
WB0 **Warramunga Arr** 45.77 165 P P 10 24 58.6 +0.8
WB0 IAmb IAmb 10 25 06.2
comp=Z,4.8nm,0.9s
WRAB **Tennant Creek** 45.92 165 P P 10 24 58.9 -0.1
WRA **Warramunga Arr** 45.93 165 P P 10 24 59.4 +0.3
comp=Z,1.9nm,0.8s,baz=347,slow=8.7,SNR=11
WRA **Warramunga Arr** 45.93 165 P P 10 24 59.6 +0.5
WB2 **Warramunga Arr** 45.93 165 P P 10 24 59.8 +0.8
WR0 **Warramunga Arr** 45.99 164 P P 10 24 59.9 +0.3
WR0 IAmb IAmb 10 25 07.6
comp=Z,5.2nm,0.9s
ASAR **Alice Springs** 49.42 166 P P 10 25 26.9 +0.7
comp=Z,0.8nm,0.9s,baz=351,slow=9.0,SNR=3.7
ASAR **Alice Springs** 49.42 166 P P 10 25 26.7 +0.5
ABKAR **Akbulak array** 53.98 314 P P 10 25 59.7 -0.3
ABKAR IAmb IAmb 10 26 06.0
comp=Z,4.6nm,1.4s
GEYT **Alibeck** 55.67 300 LR LR 10 52 20.3
comp=Z,78nm,19.1s,baz=155,slow=39
ILAR **Eielson Array** 67.99 28 LR LR 11 00 22.5
comp=Z,37nm,18.0s,baz=250,slow=39
FINES **FINESS Array B** 71.58 330 P P 10 27 57.0 -0.1
comp=Z,1.5nm,0.8s,baz=64,slow=6.3,SNR=3.8

*IDC **24** 10:17:10.1±1.3,24°.75N×122°.39E,h0km,mb3.7/6,*
mb1 3.9/6,mb1mx3.6/40,mbtmp3.8/6,MS3.2/2,Ms1 3.2/2,
ms1mx2.8/35,Error ellipse: s-maj=55.6km s-min=22.1km
az=67.0
*TAP **24** 10:17:13.6,24°.79N×122°.69E,h11km,ML3.9,C*
ISC 24 10:17:12.9±1.0,24°.86N±0°.08×122°.74E±0°.05,h16km,n21,
σ0s91/23,mb3.8/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.47**	**148**	P	**Pg**	**10 17 22.7**	**+0.4**
YOJ	baz=138			S	**Sg**	**10 17 28.9**	**+0.3**
NTC	**Toucheng**	**0.82**	**270**	*e*P	**Pg**	**10 17 29.4**	**+0.5**
NDS	**Dongshan**	**0.95**	**257**	*e*P	**Pg**	**10 17 31.9**	**+0.5**
NDS	baz=260			*e*S	**Sb**	**10 17 43.0**	**-0.4**
EWUT	**Wuta**	**0.96**	**245**	*e*P	**Pb**	**10 17 30.8**	**-0.4**
EWUT	baz=247			*e*S	**Sb**	**10 17 42.8**	**-0.9**
ETL	**Fush Village**	**1.23**	**236**	*e*P	**Pn**	**10 17 35.5**	**0.0**
NACB	**Ninganchiao**	**1.24**	**237**	*e*P	**Pn**	**10 17 35.7**	**+0.1**
NACB	baz=238			*e*S	**Sb**	**10 17 51.7**	**-0.1**
TWD	**Chiawan**	**1.30**	**233**	*e*P	**Pn**	**10 17 36.7**	**+0.4**
NNS	**Nan Shan**	**1.31**	**252**	*e*P	**Pb**	**10 17 37.9**	**+0.8**
ETLH	**Xiulin Townshi**	**1.31**	**241**	*e*P	**Pn**	**10 17 37.4**	**+0.8**
FUSS	**Fushou**	**1.49**	**246**	*e*P	**Pn**	**10 17 40.4**	**+1.2**
WHF	**Hehuan Shan**	**1.52**	**242**	*e*P	**Pn**	**10 17 40.7**	**+0.9**
SMLT	**Sun Moon Lake**	**1.94**	**240**	*e*P	**Pb**	**10 17 49.0**	**+1.1**
SSLB	**Suanglung**	**1.94**	**237**	*e*P	**Pb**	**10 17 47.6**	**-0.4**
JHJ	**Hachijo jima 2**	**17.02**	**57**	LR	LR	10 27 04.1	
USRK	**Ussuriysk Ar.**	**20.72**	**19**	P	**P**	**10 21 54.2**	**+1.7**
MKAR	**Makanchi Array**	**38.85**	**315**	P	**P**	**10 24 36.0**	**-1.3**
ZALV	**Zalesovo Beam**	**40.46**	**326**	P	**P**	**10 24 49.5**	**-1.1**
KURBB	**Kurchatov Arra**	**42.52**	**319**	P	**P**	**10 25 05.8**	**-1.7**
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**10 25 35.0**	**-0.2**
ASAR	**Alice Springs**	**49.44**	**166**	P	**P**	**10 26 01.4**	**-1.0**
BRTR	**Keskin Array B**	**73.91**	**307**	LR	LR	11 05 54.1	

comp=Z,33nm,18.2s,baz=72,slow=40

*IDC **24** 10:26:52.4±1.7,35°.70N×22°.09E,h0km,mb3.5/4,*
mb1 3.6/4,mb1mx3.4/38,mbtmp3.5/4,Error ellipse:
s-maj=48.6km s-min=28.7km az=142.0
*THE **24** 10:26:55.8,35°.83N×21°.66E,h1km±1km,ML3.0/5,Error*
ellipse: s-maj=2.6km s-min=0.9km az=226.0
ISC 24 10:26:54.9±2.1,35°.83N±0°.08×21°.59E±0°.07,h12km±12km,
n23,σ1s24/28,mb3.5/3,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.07**	**7**	P	**Pg**	**10 27 15.0**	**-0.5**
PYL				S	**Sn**	**10 27 31.3**	**+0.8**
KTHA	**Kythira Island**	**1.27**	**70**	P	**Pn**	**10 27 18.7**	**+0.2**
KTHA	765nm,0.7s			S	**Sn**	**10 27 36.5**	**+1.1**
ITM	**Ithomi**	**1.37**	**11**	P	**Pn**	**10 27 20.6**	**+0.7**
ITM	302nm,0.6s			S	**Sg**	**10 27 41.0**	**+1.8**
ANKY	**Antikythira Is**	**1.39**	**88**	P	**Pb**	**10 27 21.0**	**+0.2**
ANKY	640nm,0.7s			S	**Sg**	**10 27 39.6**	**-0.2**
VLI	**Veliai**	**1.40**	**51**	P	**Pn**	**10 27 21.0**	**+0.7**
VLI	862nm,0.6s			S	**Sg**	**10 27 40.1**	**-0.1**
VLX	**Vlachokerasia**	**1.66**	**22**	P	**Pn**	**10 27 24.7**	**+0.7**
VLX	420nm,0.5s			S	**Sg**	**10 27 47.8**	**-0.7**
AMT	**Artemida-Makis**	**1.70**	**3**	P	**Pn**	**10 27 25.4**	**+1.0**
IMMV	**Iera Moni Meta**	**1.98**	**100**	P	**Pn**	**10 27 29.0**	**+0.7**
VAM	**Vamos**	**2.17**	**100**	P	**Pn**	**10 27 31.6**	**+0.8**
VLMS	**Volimes, Zakyn**	**2.17**	**340**	P	**Pn**	**10 27 32.9**	**+2.0**
KLV	**Kalavryta, Ach**	**2.25**	**11**	P	**Pn**	**10 27 33.9**	**+1.8**
TRIZ	**Trizonia**	**2.56**	**9**	P	**Pn**	**10 27 38.7**	**+2.5**
AGG	**Agios Georgios**	**3.24**	**10**	P	**Pn**	**10 27 47.5**	**+1.9**
HVAR	**Hvar**	**8.34**	**333**	*i* Pn	**Pn**	**10 28 54.9**	**-0.6**
HVAR				Sn	Sn	10 30 18.9	-11
RICI	**Ricice**	**8.39**	**337**	*e*Pn	**Pn**	**10 28 55.6**	**-0.7**
RICI				Sn	Sn	10 30 20.3	-11
ZIRJ	**Zirje**	**9.05**	**331**	*e*Pn	**Pn**	**10 29 04.2**	**-1.1**
ZIRJ				Sn	Sn	10 30 36.0	-11
KIJV	**Kijevo**	**9.08**	**336**	*e*Pn	**Pn**	**10 29 04.9**	**-0.8**
KIJV				Sn	Sn	10 30 36.8	-11
MORI	**Morici**	**9.21**	**332**	*e*Pn	**Pn**	**10 29 07.3**	**-0.2**
MORI				Sn	Sn	10 30 40.8	-10
DUGI	**Dugi Otok**	**9.57**	**330**	*e*Pn	**Pn**	**10 29 11.6**	**-0.8**
DUGI				Sn	Sn	10 30 49.0	-11
ESDC	**Sonseca Array**	**20.54**	**288**	P	Pn	10 31 38.0	+2.5
	0.4nm,0.4s,baz=89,slow=12,SNR=2.4						
TORD	**Torodi Ar. Bea**	**28.83**	**223**	P	**P**	**10 32 53.8**	**+0.7**
	0.3nm,0.6s,baz=30,slow=10.0,SNR=2.2						
ARCES	**ARCESS Array B**	**33.83**	**2**	P	**P**	**10 33 36.3**	**-0.3**
	1.3nm,0.9s,baz=191,slow=9.0,SNR=4.6						
MKAR	**Makanchi Array**	**45.84**	**57**	P	**P**	**10 35 14.3**	**-2.4**
	0.3nm,0.5s,baz=280,slow=8.4,SNR=4.4						

ISC 24 10:33:07.1±1.3,44°.85N±0°.04×17°.01E±0°.06,h3km±21km,
n7,σ1s06/12,1C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.16**	**129**	*e*Sg	**Sg**	**10 33 11.7**	**-0.7**
BLY				*e*Sg	Sg	10 33 15.3	+2.9
MRAK	**Mrakovica**	**0.18**	**335**	⇑*i*Sg	**Sg**	**10 33 10.6**	**-2.4**
MRAK				*e*Sg	Sg	10 33 13.4	+0.4
MOSL	**Moslavina**	**0.78**	**347**	*e*Pg	**Pg**	**10 33 23.1**	**+0.9**
MOSL				Sg	**Sg**	**10 33 33.2**	**+0.9**
KIJV	**Kijevo**	**0.95**	**207**	*e*Pg	**Pg**	**10 33 25.9**	**+0.6**
KIJV				Sg	**Sb**	**10 33 38.6**	**-0.6**
MORI	**Morici**	**1.36**	**224**	*e*Pg	**Pg**	**10 33 33.4**	**+0.3**
MORI				Sg	**Sg**	**10 33 50.8**	**+0.1**
ZIRJ	**Zirje**	**1.55**	**220**	*e*Pg	**Pb**	**10 33 36.4**	**0.0**
ZIRJ				Sg	**Sg**	**10 33 57.1**	**+0.4**
DUGI	**Dugi Otok**	**1.64**	**239**	*e*Pn	**Pb**	**10 33 37.8**	**-0.2**
DUGI				Sg	**Sg**	**10 33 59.4**	**-0.4**

*IDC **24** 10:41:15.6±3.1,38°.38N×141°.97E,h49km±28km,mb3.7/1,*
mb1 3.5/5,mb1mx3.2/39,mbtmp3.6/5,ML2.7/4,MS3.1/1,
Ms1 3.1/1,ms1mx2.3/56,Error ellipse: s-maj=62.8km
s-min=18.4km az=106.0
*JMA **24** 10:41:15.1±0.1,38°.29N×141°.86E,h46km±1km,M3.4*
ISC 24 10:41:13.9±1.7,38°.26N±0°.05×142°.0E±0°.1,h40km±18km,
n25,σ0s97/26,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.41**	**277**	P	**Pn**	**10 41 24.0**	**+0.5**
JIKH				S	**Sn**	**10 41 30.0**	**-0.2**
JIO	**Ouri**	**0.54**	**292**	P	**Pn**	**10 41 25.4**	**+0.2**
JIO				S	**Sn**	**10 41 32.4**	**-0.7**
JKMT	**Kesennumamotoy**	**0.68**	**324**	P	**Pn**	**10 41 27.4**	**+0.3**
JKMT				*e*S	**Sn**	**10 41 36.1**	**-0.5**
OFUJ	**Ofunato**	**0.86**	**343**	P	**Pn**	**10 41 30.0**	**+0.4**
OFUJ				S	**Sn**	**10 41 40.7**	**-0.2**
JMK	**Ichinoseki**	**0.92**	**319**	P	**Pn**	**10 41 30.7**	**+0.4**
JMK				*e*S	**Sn**	**10 41 41.9**	**-0.4**
JMM	**Marumori**	**1.02**	**248**	P	**Pn**	**10 41 31.5**	**-0.2**
JMM				*e*S	**Sn**	**10 41 43.6**	**-1.2**
JOU	**Okura**	**1.04**	**276**	P	**Pn**	**10 41 32.3**	**+0.2**
JFK	**Kawauchi**	**1.25**	**225**	P	**Pn**	**10 41 35.3**	**+0.3**
JOM	**Ohasama**	**1.33**	**336**	P	**Pn**	**10 41 36.7**	**+0.7**
JYK	**Kaneyama**	**1.43**	**298**	P	**Pn**	**10 41 37.7**	**+0.2**
JFT	**Otama**	**1.50**	**241**	P	**Pn**	**10 41 39.0**	**+0.6**
JYS	**Shirataka**	**1.51**	**269**	P	**Pn**	**10 41 38.8**	**+0.3**
JRG	**Rokugo**	**1.55**	**318**	P	**Pn**	**10 41 39.9**	**+0.8**
MJAR	**Matsushiro Arr**	**3.46**	**241**	P	**Pn**	**10 42 07.1**	**+1.8**
	0.1nm,0.3s,baz=47,slow=12,SNR=2.4						
JHJ	**Hachijo jima 2**	**5.43**	**200**	P	**Pn**	**10 42 35.0**	**+2.6**
	4.0nm,0.3s,baz=60,slow=20,SNR=0.8						
JHJ				S	**Sn**	**10 43 32.3**	**-1.3**
	3.9nm,0.3s,baz=305,slow=11,SNR=1.1						
ASAJ	**Asahikawa**	**5.87**	**4**	P	**Pn**	**10 42 39.2**	**+0.8**
	0.4nm,0.3s,baz=193,slow=15,SNR=6.4						
ASAJ				S	**Sn**	**10 43 42.9**	**-1.5**
	0.1nm,0.3s,baz=129,slow=27,SNR=1.3						
USRK	**Ussuriysk Ar.**	**9.58**	**311**	P	**Pn**	**10 43 30.4**	**+1.1**
	baz=126,slow=14,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	11 17 19.6	
	baz=316,slow=75,SNR=70						
H11N1	**WAKE ISLAND Hy**	**28.42**	**124**	T	T	11 17 20.3	
	baz=316,slow=75,SNR=129						
H11N3	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	11 17 20.9	
	baz=316,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	11 18 18.8	
	baz=318,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.17**	**126**	T	T	11 18 15.7	
	baz=318,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.19**	**126**	T	T	11 18 17.8	
	baz=318,slow=76,SNR=18						
TIXI	**Tiksi**	**34.13**	**353**	LR	LR	11 05 24.6	
	comp=Z,26nm,18.4s,baz=274,slow=43						
ARCES	**ARCESS Array B**	**63.01**	**339**	P	**P**	**10 51 36.0**	**-0.2**
	1.7nm,1.0s,baz=68,slow=9.8,SNR=1.5						

*SOME **24** 10:53:48.2,40°.82N×77°.45E,h10km*
*KRNET **24** 10:53:48.9±0.1,40°.84N×77°.59E,h20km,mb3.2*
*NNC **24** 10:53:51.3±2.8,40°.82N×77°.52E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=19.2km s-min=12.8km az=179.0
ISC 24 10:53:52.5±1.7,40°.87N±0°.08×77°.51E±0°.03,h10km,n50,
σ1s87/82,25C-3D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.28**	**349**	⇓*i*P	**Pn**	**10 54 14.0**	**-2.7**
KDJ	baz=47			⇓*i*S	**Sb**	**10 54 32.9**	**-0.6**
ULHL	**Ulahol**	**1.67**	**326**	⇑*i*P	**Pn**	**10 54 20.9**	**-1.1**
ULHL	baz=25			⇑*i*S	**Sb**	**10 54 45.0**	**+0.3**
PRZ	**Przheval'sk**	**1.74**	**22**	⇑*i*P	**Pn**	**10 54 21.9**	**-1.1**
PRZ	baz=20			⇑*i*S	**Sb**	**10 54 46.4**	**-0.4**
ANVS	**Anan'yevo**	**1.91**	**3**	⇑*i*P	**Pn**	**10 54 25.0**	**-0.4**
ANVS	baz=2.0			⇑*i*S	**Sb**	**10 54 51.8**	**+0.1**
BOOM	**Boomskoye usch**	**2.00**	**325**	⇑*i*P	**Pn**	**10 54 26.8**	**+0.3**
BOOM	baz=24			⇑*i*S	**Sb**	**10 54 54.7**	**+0.6**
TNSS	**Tian-Shan**	**2.21**	**349**	Pg	**Pb**	**10 54 31.5**	**-1.2**
TNSS	9.5nm,0.2s			Lg	Lg	10 55 03.0	
IZV	**Izvestkoviy**	**2.26**	**343**	*e*P	**Pb**	**10 54 32.6**	**-1.0**
IZV	10nm,0.3s			*e*S	**Sg**	**10 55 04.1**	**-1.2**
IZV	**Izvestkoviy**	**2.26**	**343**	Pg	**Pb**	**10 54 32.5**	**-1.1**
IZV	10nm,0.3s			Lg	Lg	10 55 04.3	
SATY	**Saty**	**2.29**	**17**	*e*P	**Pn**	**10 54 31.7**	**+1.2**
SATY	13nm,0.4s			*e*S	**Sb**	**10 55 03.1**	**+0.8**
SATY	**Saty**	**2.29**	**17**	Pg	**Pn**	**10 54 31.6**	**+1.1**
SATY	13nm,0.4s			Lg	Lg	10 55 03.1	
MDOK	**Medeo**	**2.32**	**352**	*e*P	**Pb**	**10 54 32.8**	**-1.7**
MDOK	9.0nm,0.2s			*e*S	**Sb**	**10 55 05.1**	**+1.9**
MDOK	**Medeo**	**2.32**	**352**	Pn	**Pb**	**10 54 32.7**	**-1.8**
MDOK	6.4nm,0.4s			Sn	**Sb**	**10 55 05.0**	**+1.8**
MDOK	**Medeo**	**2.32**	**352**	Pg	**Pb**	**10 54 32.8**	**-1.7**
MDOK	9.0nm,0.2s			Lg	Lg	10 55 05.2	
AAA	**Alma-Ata**	**2.38**	**349**	*e*P	**Pb**	**10 54 34.8**	**-0.7**
AAA	80nm,0.1s			*e*S	**Sg**	**10 55 08.1**	**-0.8**
AAA	**Alma-Ata**	**2.38**	**349**	Pg	**Pb**	**10 54 34.8**	**-0.7**
AAA	80nm,0.1s			Lg	Lg	10 55 08.1	
KST	**Kastek**	**2.46**	**333**	*e*P	**Pb**	**10 54 35.3**	**-1.5**
KST	12nm,0.2s			*e*S	**Sb**	**10 55 09.3**	**+2.1**
KST	**Kastek**	**2.46**	**333**	Pg	**Pb**	**10 54 35.3**	**-1.5**
KST	12nm,0.2s			Lg	Lg	10 55 09.3	
TKM2	**Tokmak 2**	**2.50**	**326**	⇑*e*P	**Pn**	**10 54 34.0**	**+0.6**
TKM2	baz=25			⇑*i*S	**Sb**	**10 55 06.9**	**-1.6**
TKM2	**Tokmak 2**	**2.50**	**326**	⇑P	**Pb**	**10 54 35.4**	**-2.2**
TKM2	7.4nm,0.4s			⇑S	**Sb**	**10 55 10.1**	**+1.6**
UZB	**Uzynbulak**	**2.54**	**26**	*e*P	**Pb**	**10 54 35.8**	**-2.4**
UZB	15nm,0.5s			*e*S	**Sb**	**10 55 10.1**	**+0.5**
UZB	**Uzynbulak**	**2.54**	**26**	Pg	**Pb**	**10 54 35.9**	**-2.4**
UZB	15nm,0.3s			Lg	Lg	10 55 10.8	
ARLS	**Aral**	**2.59**	**293**	⇑*i*P	**Pn**	**10 54 35.6**	**+0.9**
ARLS	baz=93			⇑*i*S	**Sb**	**10 55 09.2**	**-2.0**
KBK	**Karagaybulak**	**2.62**	**314**	⇑*i*P	**Pn**	**10 54 35.7**	**+0.7**
KBK	baz=13			⇑*i*S	**Sb**	**10 55 10.0**	**-1.9**
DGS	**Degeres**	**2.70**	**332**	*e*P	**Pb**	**10 54 39.4**	**-1.6**
DGS	12nm,0.3s			*e*S	**Sb**	**10 55 16.5**	**+2.3**
DGS	**Degeres**	**2.70**	**332**	Pg	**Pb**	**10 54 39.4**	**-1.6**
DGS	12nm,0.3s			Lg	Lg	10 55 16.5	
SHLS	**Shalkode**	**2.71**	**32**	*e*P	**Pg**	**10 54 43.0**	**-1.4**
SHLS	24nm,0.4s			*e*S	**Sg**	**10 55 22.1**	**+2.5**
SHLS	**Shalkode**	**2.71**	**32**	Pg	**Pg**	**10 54 43.0**	**-1.4**
SHLS	24nm,0.4s			Lg	Lg	10 55 22.1	
KPKS	**Kokpek**	**2.74**	**18**	*e*P	**Pb**	**10 54 39.8**	**-1.8**
KPKS	25nm,0.3s			*e*S	**Sb**	**10 55 16.7**	**+1.5**
PDGK	**Podgornoye**	**2.87**	**30**	Pg	**Pb**	**10 54 41.4**	**-2.4**
PDGK	13nm,0.4s			Lg	Lg	10 55 19.5	
PDGK	**Podgornoye**	**2.87**	**30**	⇓Pn	**Pb**	**10 54 40.8**	**-3.0**
PDGK	13nm,0.4s			⇑Sn	**Sb**	**10 55 19.5**	**+0.6**
KTBS	**Karatobe**	**2.91**	**348**	*e*P	**Pb**	**10 54 43.0**	**-1.5**
KTBS	3.1nm,0.4s			*e*S	**Sb**	**10 55 22.1**	**+2.1**
KTBS	**Karatobe**	**2.91**	**348**	Pg	**Pb**	**10 54 43.0**	**-1.5**
KTBS	3.1nm,0.4s			Lg	Lg	10 55 22.1	
CHMS	**Chumysh**	**2.96**	**317**	⇑*i*P	**Pn**	**10 54 40.4**	**+0.8**
CHMS	baz=16			⇑*i*S	**Sn**	**10 55 17.8**	**+2.6**
CHKK	**Chushkaly**	**3.01**	**353**	*e*P	**Pb**	**10 54 45.5**	**-0.6**
CHKK	4.6nm,0.2s			*e*S	**Sg**	**10 55 26.5**	**-2.5**
CHKK	**Chushkaly**	**3.01**	**353**	Pg	**Pb**	**10 54 45.5**	**-0.6**
CHKK	4.6nm,0.2s			Lg	Lg	10 55 26.5	
AML	**Almayashu**	**3.13**	**295**	⇑*i*P	**Pn**	**10 54 43.3**	**+1.0**
AML	baz=95			⇑*i*S	**Sn**	**10 55 22.6**	**+2.7**
KUU	**Kurty**	**3.14**	**344**	*e*P	**Pb**	**10 54 47.0**	**-1.4**
KUU	6.5nm,0.6s			*e*S	**Sb**	**10 55 29.3**	**+2.4**
KUU	**Kurty**	**3.14**	**344**	Pg	**Pb**	**10 54 47.1**	**-1.4**
KUU	6.5nm,0.6s			Lg	Lg	10 55 29.3	
USP	**Ospenovka**	**3.28**	**318**	⇑*e*P	**Pn**	**10 54 44.7**	**+0.7**
USP	baz=18			⇑*i*S	**Sn**	**10 55 25.5**	**+2.4**
EKS2	**Erkin-Say**	**3.31**	**304**	⇑*e*P	**Pn**	**10 54 45.4**	**+0.8**
EKS2	baz=4.0			⇑*i*S	**Sn**	**10 55 26.7**	**+2.6**
ARXS	**Arharly**	**3.35**	**4**	*e*P	**Pb**	**10 54 50.8**	**-1.2**
ARXS	11nm,0.5s			*e*S	**Sb**	**10 55 36.0**	**+3.2**
ARXS	**Arharly**	**3.35**	**4**	Pg	**Pb**	**10 54 50.8**	**-1.2**
ARXS	11nm,0.5s			Lg	Lg	10 55 36.1	
SGDS	**Sogindy**	**3.35**	**321**	Pg	**Pb**	**10 54 51.1**	**-0.9**
SGDS	4.3nm,0.3s			Lg	Lg	10 55 36.6	
MRKS	**Merke**	**3.71**	**302**	*e*P	**Pb**	**10 54 57.3**	**-0.9**
MRKS	3.8nm,0.2s			*e*S	**Sb**	**10 55 46.8**	**+3.6**
MRKS	**Merke**	**3.71**	**302**	Pg	**Pb**	**10 54 57.3**	**-0.9**
MRKS	3.8nm,0.2s			Lg	Lg	10 55 46.8	
DJR	**Jarkent**	**3.85**	**25**	*e*P	**Pb**	**10 54 59.6**	**-0.9**
DJR	0.5nm,0.4s			*e*S	**Sb**	**10 55 50.7**	**+3.5**
DJR	**Jarkent**	**3.85**	**25**	Pg	**Pb**	**10 54 59.6**	**-0.9**
DJR	0.5nm,0.4s			Lg	Lg	10 55 50.7	
KAPS	**Kapalarasan**	**4.62**	**16**	*e*P	**Pb**	**10 55 13.7**	**+0.1**
KAPS	0.1nm,0.2s			*e*S	**Sb**	**10 56 14.9**	**+5.7**
BTLS	**Baital**	**4.88**	**330**	*e*P	**Pb**	**10 55 18.8**	**+0.7**
BTLS	2.3nm,0.3s			*e*S	**Sg**	**10 56 24.1**	**-5.1**
BTLS	**Baital**	**4.88**	**330**	Pg	**Pb**	**10 55 18.8**	**+0.7**
BTLS	2.3nm,0.3s			Lg	Lg	10 56 24.1	

IDC 24 11:12:11.5±2.4,2°.06N×126°.80E,h0km,mb3.3/3,
mb1 3.5/3,mb1mx3.3/36,mbtmp3.3/3,MS2.6/1,Ms1 2.6/1,
ms1mx2.1/18,Error ellipse: s-maj=190.7km
s-min=28.0km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**162**	P	P	11 17 18.4	-0.6
	0.6nm,0.5s,baz=340,slow=11,SNR=14						
JOW	**Kunigami**	**24.67**	**3**	LR	LR	11 29 07.4	
	comp=Z,13nm,18.8s,baz=3.5,slow=41						
ASAR	**Alice Springs**	**26.49**	**165**	P	P	11 17 51.5	+0.7
	0.2nm,0.5s,baz=344,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**58.96**	**326**	P	P	11 22 12.7	-0.1
	0.2nm,0.6s,baz=120,slow=5.7,SNR=1.8						

*KRNET **24** 11:23:11.7±0.1,41°.17N×70°.21E,h10km,mb2.7*
ISC 24 11:23:11.8±1.3,41°.17N±0°.05×70°.25E±0°.04,h14km±12km,
n8,σ1s50/16,12C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.74**	**283**	⇓*i*P	**Pg**	**11 23 25.7**	**-0.5**
TAS	baz=84			⇓*i*S	**Sb**	**11 23 35.6**	**-0.8**
TRKS	**Terek-Say**	**0.76**	**61**	⇑*i*P	**Pg**	**11 23 26.5**	**-0.1**
TRKS	baz=67			⇑*i*S	**Sb**	**11 23 38.3**	**+1.1**
BTK	**Batken**	**1.19**	**159**	⇑*i*P	**Pg**	**11 23 34.7**	**0.0**
BTK	baz=57			⇑*i*S	**Sn**	**11 23 51.5**	**+1.4**
KK31	**Karatay Array**	**1.94**	**6**	Pn	**Pn**	**11 23 44.0**	**-0.4**
	2.2nm,0.4s,baz=187,slow=15,SNR=28						
KK31				⇓Sn	**Sg**	**11 24 17.5**	**+3.2**
	7.0nm,0.7s,baz=194,slow=25,SNR=7.6						
OHH	**Osh**	**2.03**	**108**	⇑*i*P	**Pb**	**11 23 49.6**	**+1.2**
OHH	baz=7.0			⇑*i*S	**Sg**	**11 24 17.2**	**+0.2**
MNAS	**Manas**	**2.14**	**51**	⇑*i*P	**Pb**	**11 23 51.2**	**+0.8**
MNAS	baz=52			⇑*i*S	**Sg**	**11 24 19.7**	**-0.9**
AML	**Almayashu**	**2.75**	**68**	⇑*e*P	**Pb**	**11 23 59.2**	**-1.8**
AML	baz=69			⇑*i*S	**Sb**	**11 24 34.7**	**0.0**
ARLS	**Aral**	**3.13**	**76**	⇑*i*P	**Pb**	**11 24 05.2**	**-2.2**
ARLS	baz=76			⇑*i*S	**Sb**	**11 24 44.2**	**-1.3**

*NOU **24** 11:23:26.1,29°.60S×175°.07W,h0km,ML4.8,Kermadec*
Islands Region
*NEIC **24** 11:23:47.5±1.6,29°.70S±0°.07×177°.6W±0°.1,h32km±1km,*
mb4.8/63,Error ellipse: s-maj=14.9km s-min=9.8km
az=92.0

*IDC **24** 11:23:49.0±0.6,29.°50S×177.°63W,h47km±4km,mb4.3/20, mb1 4.4/20,mb1mx4.3/35,mbtmp4.5/20,MS3.6/8, Ms1 3.6/8,ms1mx3.3/24,Error ellipse: s-maj=15.1km s-min=10.5km az=39.0*

ISC 24 11:23:47.3±0.4,29.77S±0.°05×177.°54W±0.°08,h35km, n204,σ1ŝ66/206,mb4.8/56,MS3.9/9,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.60**	**326**	P	**Pn**	**11 23 58.8**	**-0.6**
GLKZ				S	**Sn**	**11 24 07.5**	**-0.3**
RAO	**Raoul Island**	**0.61**	**327**	P	**Pn**	**11 23 58.6**	**-0.9**
	4μm,0.3s,baz=86,slow=6.9,SNR=374						
RAO				S	**Sn**	**11 24 07.5**	**-0.6**
	6μm,0.3s,baz=112,slow=23,SNR=15						
RAO	**Raoul Island**	**0.61**	**327**	Pn	**Pn**	**11 23 59.0**	**-0.5**
RIZ	**Raoul Island**	**0.62**	**326**	P	**Pn**	**11 23 59.1**	**-0.6**
RIZ				S	**Sn**	**11 24 08.4**	**+0.1**
MXZ	**Matakaoa Point**	**8.51**	**203**	Pn	**Pn**	**11 25 48.8**	**+0.8**
MXZ	**Matakaoa Point**	**8.51**	**203**	P	**Pn**	**11 25 46.0**	**-2.0**
MXZ				S	**Sn**	**11 27 22.9**	**+0.1**
WMGZ	**Waiomatatini S**	**8.71**	**202**	P	**Pn**	**11 25 50.5**	**-0.2**
WMGZ				S	**Sn**	**11 27 28.7**	**+1.0**
HAZ	**Te Kaha**	**8.87**	**205**	P	**Pn**	**11 25 51.3**	**-1.6**
HAZ				S	**Sn**	**11 27 34.7**	**+3.1**
PKGZ	**Pakihiroa**	**8.88**	**203**	P	**Pn**	**11 25 51.0**	**-2.2**
PKGZ				S	**Sn**	**11 27 30.3**	**-1.8**
PUZ	**Puketiti**	**8.99**	**202**	P	**Pn**	**11 25 50.6**	**-4.0**
PUZ				S	**Sn**	**11 27 33.5**	**-1.2**
RUGZ	**Raukumara Rang**	**9.09**	**205**	P	**Pn**	**11 25 53.5**	**-2.6**
TWGZ	**Tauwhareparae**	**9.18**	**203**	P	**Pn**	**11 25 55.6**	**-1.6**
WCZ	**Waipu Caves**	**9.19**	**226**	P	Pn	11 26 06.4	+9.0
OUZ	**Omahuta**	**9.25**	**232**	P	Pn	11 26 06.7	+8.5
CNGZ	**Carnagh Statio**	**9.38**	**201**	P	**Pn**	**11 25 57.4**	**-2.6**
URZ	**Urewera**	**9.56**	**206**	P	**Pn**	**11 25 59.8**	**-2.7**
	0.7nm,0.3s,baz=22,slow=19,SNR=27						
URZ				S	**Sn**	**11 27 47.1**	**-1.5**
	6.4nm,0.3s,baz=173,slow=19,SNR=15						
URZ	**Urewera**	**9.56**	**206**		**Pn**	**11 26 01.3**	**-1.1**
RTZ	**Ruatahuna**	**9.93**	**206**	P	**Pn**	**11 26 04.3**	**-3.2**
RTZ				S	**Sn**	**11 27 53.4**	**-4.3**
SNGZ	**Shannon Statio**	**9.94**	**204**	P	**Pn**	**11 26 05.2**	**-2.4**
SNGZ				S	**Sn**	**11 27 57.2**	**-0.7**
RAHZ	**Arahi**	**10.15**	**205**	P	**Pn**	**11 26 09.3**	**-1.2**
RAHZ				S	**Sn**	**11 28 00.7**	**-2.4**
MTHZ	**Maungataniwha**	**10.18**	**206**	P	**Pn**	**11 26 09.6**	**-1.4**
MTHZ				S	**Sn**	**11 28 03.1**	**-0.8**
BKZ	**Black Stump Fm**	**10.59**	**206**	Pn	**Pn**	**11 26 16.9**	**+0.3**
HIZ	**Hauiti**	**10.76**	**214**	Pn	**Pn**	**11 26 19.2**	**+0.4**
BFZ	**Birch Farm**	**12.02**	**203**	Pn	**Pn**	**11 26 34.1**	**-1.9**
MSVF	**Nonsavu**	**12.64**	**340**	LR	LR	11 30 54.3	
	comp=Z,341nm,20.1s,baz=46,slow=34						
MSWZ	**Moikau Station**	**13.02**	**205**	Pn	**Pn**	**11 26 48.1**	**-1.6**
SNZO	**South Karori**	**13.13**	**207**	Pn	**Pn**	**11 26 50.3**	**-0.9**
PLWZ	**Palliser**	**13.15**	**204**	Pn	**Pn**	**11 26 48.6**	**-2.9**
BHW	**Baring Head**	**13.15**	**206**	Pn	**Pn**	**11 26 52.9**	**+1.5**
TUWZ	**Tuamarina**	**13.54**	**208**	Pn	**Pn**	**11 26 58.0**	**+1.3**
NNZ	**Nelson**	**13.60**	**210**	Pn	**Pn**	**11 26 56.8**	**-0.9**
QRZ	**Quartz Range**	**13.68**	**214**	Pn	**Pn**	**11 27 00.1**	**+1.3**
CMWZ	**Cape Campbell**	**13.70**	**207**	Pn	**Pn**	**11 27 00.8**	**+1.9**
CMWZ	**Cape Campbell**	**13.70**	**207**	P	**P**	**11 27 07.6**	**+0.4**
CMWZ				S	**Sn**	**11 29 22.7**	**-7.1**
BSWZ	**Blackbirch Sta**	**13.80**	**208**	Pn	**Pn**	**11 27 02.7**	**+2.3**
BSWZ	**Blackbirch Sta**	**13.80**	**208**	P	**Pn**	**11 27 03.3**	**+2.9**
BSWZ				S	Sn	11 29 21.7	-11
THZ	**Tophouse**	**14.25**	**210**	Pn	**Pn**	**11 27 06.8**	**+0.2**
THZ	**Tophouse**	**14.25**	**210**	P	**Pn**	**11 27 02.9**	**-3.7**
THZ				S	Sn	11 29 34.2	-9.3
KHZ	**Kahutara**	**14.53**	**207**	Pn	**Pn**	**11 27 06.6**	**-3.7**
KHZ	**Kahutara**	**14.53**	**207**	P	Pn	11 27 03.1	-7.2
KHZ				S	Sn	11 29 37.0	-13
DSZ	**Denniston Nort**	**14.74**	**213**	P	**Pn**	**11 27 12.6**	**-0.6**
DSZ				S	Sn	11 29 44.3	-11
GVZ	**Greta Valley S**	**15.19**	**207**	P	**Pn**	**11 27 16.2**	**-3.0**
LTZ	**Lake Taylor**	**15.36**	**209**	Pn	**Pn**	**11 27 18.8**	**-2.5**
LTZ	**Lake Taylor**	**15.36**	**209**	P	**Pn**	**11 27 18.2**	**-3.1**
LTZ				S	Sn	11 29 56.2	-14
INZ	**Inchbonnie**	**15.67**	**211**	P	**Pn**	**11 27 22.1**	**-3.3**
INZ				S	Sn	11 30 04.6	-13
OXZ	**Oxford**	**15.90**	**209**	Pn	**Pn**	**11 27 27.2**	**-1.1**
OXZ				IAmb	IAmb	11 27 30.3	
	comp=Z,41nm,0.6s						
OXZ	**Oxford**	**15.90**	**209**	P	**Pn**	**11 27 26.0**	**-2.3**
OXZ				S	Sn	11 30 07.4	-16
MQZ	**McQueen's Vall**	**15.96**	**207**	P	**Pn**	**11 27 25.5**	**-3.6**
MQZ				S	Sn	11 30 09.1	-16
RACZ	**Rakaia**	**16.19**	**208**	P	**Pn**	**11 27 30.7**	**-1.3**
MHCZ	**Mount Hutt**	**16.26**	**209**	P	**Pn**	**11 27 30.4**	**-2.6**
WVZ	**Waitaha Valley**	**16.27**	**212**	P	**Pn**	**11 27 31.6**	**-1.4**
DZM	**Mont Dzumac**	**16.31**	**294**	P	**P**	**11 27 38.7**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=142,slow=19,SNR=2.2						
DZM	**Mont Dzumac**	**16.31**	**294**	*e*Pn	**P**	**11 27 38.1**	**+1.7**
	comp=Z,20nm,0.8s						
DZM				*e*LR	LR	11 31 25.3	
	comp=Z,751nm,24.6s						
DZM	**Mont Dzumac**	**16.31**	**294**		**Pn**	**11 27 33.5**	**-0.3**
WACZ	**Wakanui South**	**16.49**	**208**	P	**Pn**	**11 27 34.9**	**-0.8**
RPZ	**Rata Peaks**	**16.63**	**210**	Pn	**Pn**	**11 27 35.1**	**-2.5**
RPZ	**Rata Peaks**	**16.63**	**210**	P	**Pn**	**11 27 34.6**	**-3.0**
RPZ				S	Sn	11 30 25.5	-16
GCSZ	**Gaunt Creek Bo**	**16.65**	**212**	P	**Pn**	**11 27 36.6**	**-1.3**
ARCZ	**Arundel**	**16.77**	**209**	P	**Pn**	**11 27 37.9**	**-1.5**
FOZ	**Fox Glacier**	**17.05**	**213**	Pn	**Pn**	**11 27 41.3**	**-1.6**
FOZ				IAmb	IAmb	11 27 46.0	
	comp=Z,66nm,1.4s						
FOZ	**Fox Glacier**	**17.05**	**213**	P	**Pn**	**11 27 41.9**	**-1.0**
TMZ	**Timaru**	**17.19**	**209**	P	**Pn**	**11 27 42.1**	**-2.6**
LBZ	**Lake Benmore**	**17.55**	**210**	Pn	**Pn**	**11 27 47.6**	**-1.4**
LBZ	**Lake Benmore**	**17.55**	**210**	P	**Pn**	**11 27 48.9**	**-0.1**
ODZ	**Otahua Downs**	**17.88**	**208**	Pn	**Pn**	**11 27 51.5**	**-1.7**
ODZ	**Otahua Downs**	**17.88**	**208**	P	**Pn**	**11 27 51.4**	**-1.7**
WKZ	**Wanaka**	**18.41**	**212**	P	**P**	**11 27 57.1**	**-2.3**
WKZ	**Wanaka**	**18.41**	**212**	P	**P**	**11 27 57.9**	**-1.5**
EAZ	**Earnscleugh**	**18.60**	**210**	P	**P**	**11 28 00.3**	**-1.1**
MLZ	**Mavora Lakes**	**19.24**	**212**	P	**P**	**11 28 07.3**	**-1.2**
WHZ	**Wether Hill Ro**	**19.71**	**211**	P	**P**	**11 28 13.1**	**-0.5**
APZ	**The Paps**	**20.42**	**209**	P	Pn	11 28 24.6	+1.0
TBI	**Tubuai**	**25.88**	**82**	*e*LR	LR	11 35 46.0	
	comp=Z,414nm,26.0s						
TBI	**Tubuai**	**25.88**	**82**	*e*T	T	11 56 28.8	
	comp=Z,14nm,0.3s						
ARMA	**Armidale**	**26.65**	**261**	P	**P**	**11 29 26.5**	**+3.5**
	baz=27,SNR=12						
ARMA	**Armidale**	**26.65**	**261**	P	**P**	**11 29 23.9**	**+0.9**
ARMA				IAmb	IAmb	11 29 27.6	
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**28.11**	**271**	P	**P**	**11 29 37.9**	**+1.9**
	baz=29,SNR=7.0						
EIDS	**Eidsvold**	**28.11**	**271**	P	**P**	**11 29 36.4**	**+0.3**
EIDS				IAmb	IAmb	11 29 38.9	
	comp=Z,17nm,0.9s						
PPT2	**Papeete2**	**28.25**	**71**	*e*LR	LR	11 36 47.4	
	comp=Z,381nm,24.8s						
RMQ	**Roma**	**29.84**	**268**	P	**P**	**11 29 54.0**	**+2.6**
	baz=31,SNR=32						
TAU	**Tasmania Unive**	**30.97**	**235**	P	**P**	**11 30 02.3**	**+1.2**
CMSA	**Cobar Meteorol**	**31.59**	**257**	P	**P**	**11 30 09.3**	**+2.6**
	baz=32,SNR=5.3						
QLP	**Quilpie**	**33.75**	**266**	P	**P**	**11 30 27.0**	**+1.3**
	baz=34,SNR=6.0						
CTA	**Charters Tower**	**34.10**	**278**	P	**P**	**11 30 30.2**	**+1.4**
	comp=Z,17nm,0.6s,baz=104,slow=11,SNR=38						
CTAO	**Charters Tower**	**34.10**	**278**	P	**P**	**11 30 29.9**	**+1.1**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**11 30 38.6**	**+2.0**
	comp=Z,18nm,0.9s,baz=98,slow=9.6,SNR=14						
STKA				LR	LR	11 42 43.2	
	comp=Z,135nm,21.1s,baz=39,slow=32						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**11 30 38.7**	**+2.0**
	baz=36,SNR=4.8						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**11 30 38.7**	**+2.0**
BBOO	**Buckleboo**	**39.53**	**253**	P	**P**	**11 31 15.1**	**+0.2**
AS31	**Alice Springs**	**43.55**	**266**	P	**P**	**11 31 48.5**	**+0.5**
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**11 31 47.1**	**-0.8**
	comp=Z,4.8nm,0.6s,baz=101,slow=8.0,SNR=37						
ASAR				PcP	**PcP**	**11 33 36.3**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=102,slow=3.9,SNR=3.2						
ASAR				LR	LR	11 49 51.4	
	comp=Z,183nm,18.3s,baz=107,slow=36						
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**11 31 47.9**	**-0.1**
WR0	**Warramunga Arr**	**44.30**	**271**	P	**P**	**11 31 53.5**	**-0.5**
WR0				IAmb	IAmb	11 31 54.9	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**44.47**	**271**	P	**P**	**11 31 54.9**	**-0.5**
WRAB	**Tennant Creek**	**44.47**	**271**	P	**P**	**11 31 54.8**	**-0.6**
WRAB				IAmb	IAmb	11 31 56.2	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**44.48**	**271**	P	**P**	**11 31 54.5**	**-0.9**
	comp=Z,23nm,1.0s,baz=110,slow=7.5,SNR=118						
WRA				LR	LR	11 47 52.6	
	comp=Z,69nm,19.7s,baz=275,slow=32						
WRA	**Warramunga Arr**	**44.48**	**271**	P	**P**	**11 31 54.5**	**-0.9**
WB0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**11 31 55.1**	**-0.5**
WB0				IAmb	IAmb	11 31 56.4	
	comp=Z,17nm,0.7s						
FORT	**Forrest**	**46.60**	**254**	P	**P**	**11 32 10.9**	**-1.2**
SBA	**Scott Base**	**48.70**	**184**	P	**P**	**11 32 30.5**	**+2.9**
SBA				IAmb	IAmb	11 32 37.2	
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**48.77**	**186**	P	**P**	**11 32 31.0**	**+2.8**
	comp=Z,1.2nm,0.6s,baz=7.0,slow=7.5,SNR=7.3						
VNDA				LR	LR	11 49 43.5	
	comp=Z,20nm,21.6s,baz=322,slow=32						
VNDA	**Vanda**	**48.77**	**186**	P	**P**	**11 32 31.9**	**+3.7**
MTN	**Manton Dam**	**50.29**	**278**	P	**P**	**11 32 39.5**	**-1.1**
KNRA	**Kununurra**	**51.06**	**274**	P	**P**	**11 32 45.9**	**-0.6**
KNRA				IAmb	IAmb	11 32 47.0	
	comp=Z,10nm,0.8s						
CASY	**Casey**	**55.89**	**208**	P	**P**	**11 33 21.9**	**+0.8**
MORW	**Morawa**	**57.10**	**253**	P	**P**	**11 33 29.5**	**-0.9**
QSPA	**South Pole Qui**	**60.34**	**180**	P	**P**	**11 33 54.7**	**+2.3**
	comp=Z,4.2nm,0.8s,baz=34,slow=2.1,SNR=19						
QSPA	**South Pole Qui**	**60.34**	**180**	P	**P**	**11 33 54.8**	**+2.3**
PLAI	**Plampang**	**63.72**	**275**	P	**P**	**11 34 15.6**	**-0.2**
	comp=Z,58nm,0.9s						
UGM	**Wanagama**	**70.45**	**272**	P	**P**	**11 34 58.4**	**-0.2**
MAW	**Mawson**	**73.04**	**200**	P	**P**	**11 35 14.6**	**+1.4**
	comp=Z,7.0nm,0.7s,baz=126,slow=7.1,SNR=14						
MAW	**Mawson**	**73.04**	**200**	P	**P**	**11 35 14.8**	**+1.6**
MDSI	**Maura Dua**	**77.62**	**272**	P	**P**	**11 35 38.5**	**-2.0**
	comp=Z,511nmcomp=Z,16nm,0.7s						
SYO	**Syowa Base**	**77.82**	**193**	*e*P	**P**	**11 35 38.5**	**-2.1**
MJAR	**Matsushiro Arr**	**77.95**	**325**	P	**P**	**11 35 40.2**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=167,slow=4.9,SNR=7.5						
MAT	**Matsushiro**	**77.95**	**325**	P	**P**	**11 35 40.8**	**-1.0**
JWT	**Wachi**	**78.43**	**322**	P	**P**	**11 35 44.6**	**+0.2**
JWT				IAmb	IAmb	11 35 47.8	
	comp=Z,7.6nm,0.9s						
SNAA	**Sanae**	**78.78**	**178**	P	**P**	**11 35 46.8**	**+0.8**
SNAA	**Sanae**	**78.78**	**178**	P	**P**	**11 35 46.9**	**+0.9**
SNAA				IAmb	IAmb	11 35 47.6	
	comp=Z,7.0nm,1.0s						
VNA3	**Neumayer Olymp**	**78.91**	**176**	P	**P**	**11 35 47.2**	**+0.6**
VNA2	**Neumayer--Watz**	**79.35**	**177**	P	**P**	**11 35 50.0**	**+0.9**
	baz=176,slow=3.8						
VNA1	**Neumayer--Stat**	**79.58**	**176**	P	**P**	**11 35 51.2**	**+0.9**
H03S2	**Juan Fernandez**	**80.48**	**123**	T	T	13 05 29.9	
	baz=238,slow=74,SNR=7.8						
H03S1	**Juan Fernandez**	**80.49**	**123**	T	T	13 05 34.1	
	baz=238,slow=74,SNR=7.4						
H03S3	**Juan Fernandez**	**80.50**	**123**	T	T	13 05 35.3	
	baz=238,slow=74,SNR=6.6						
H03N3	**Juan Fernandez**	**80.67**	**123**	T	T	13 05 37.0	
	baz=238,slow=76,SNR=5.2						
H03N2	**Juan Fernandez**	**80.67**	**123**	T	T	13 05 39.3	
	baz=238,slow=76,SNR=5.6						
H03N1	**Juan Fernandez**	**80.68**	**123**	T	T	13 05 37.1	
	baz=238,slow=76,SNR=7.8						
ADK	**Adak**	**81.30**	**1**	P	**P**	**11 35 58.8**	**-0.8**
ASAJ	**Asahikawa**	**82.07**	**332**	P	**P**	**11 36 04.2**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=223,slow=6.9,SNR=8.8						
PLCA	**Paso Flores**	**82.64**	**133**	P	**P**	**11 36 08.7**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=166,slow=4.2,SNR=2.8						
KSRS	**Korea Array**	**84.13**	**319**	P	**P**	**11 36 15.3**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=144,slow=5.4,SNR=9.5						
KSRS				LR	LR	12 08 00.2	
	comp=Z,18nm,21.9s,baz=345,slow=32						
KSAR	**Wonju Array Be**	**84.14**	**319**	P	**P**	**11 36 15.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**84.35**	**334**	P	**P**	**11 36 15.9**	**+0.5**
PETK	**Petropavlovsk-**	**85.30**	**345**	P	**P**	**11 36 18.6**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=116,slow=6.6,SNR=9.7						
PETK	**Petropavlovsk-**	**85.30**	**345**	P	**P**	**11 36 20.4**	**+0.2**
PFO	**Pinyon Flats O**	**85.48**	**47**	P	**P**	**11 36 22.1**	**+0.4**
PFO				IAmb	IAmb	11 36 23.2	
	comp=Z,6.1nm,1.2s						
ISA	**Isabella, Lake**	**85.57**	**44**	P	**P**	**11 36 22.5**	**+0.5**
ISA				IAmb	IAmb	11 36 38.6	
	comp=Z,7.9nm,0.9s						
CMB	**Columbia Colle**	**86.02**	**42**	P	**P**	**11 36 24.4**	**+0.3**
CMB				IAmb	IAmb	11 36 40.2	
	comp=Z,4.7nm,0.9s						
NJ2	**Nanjing**	**86.14**	**310**	*e*P	**P**	**11 36 25.9**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GSC	**Goldstone, Bar**	**86.36**	**46**	P	**P**	**11 36 26.5**	**+0.6**
GSC				IAmb	IAmb	11 36 42.4	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**86.86**	**326**	P	**P**	**11 36 27.4**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=107,slow=3.5,SNR=5.5						
PNTR	**Pine Nut**	**87.19**	**41**	P	**P**	**11 36 30.4**	**+0.3**
PNTR				IAmb	IAmb	11 36 31.1	
	comp=Z,4.7nm,0.8s						
LHV	**Little Huntoon**	**87.27**	**43**	P	**P**	**11 36 31.1**	**+0.9**
LHV				IAmb	IAmb	11 36 46.7	
	comp=Z,6.3nm,1.0s						
YBH	**Yreka Blue Hor**	**87.29**	**38**	P	**P**	**11 36 30.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=176,slow=7.6						
YERR	**Yerington**	**87.33**	**42**	P	**P**	**11 36 30.8**	**+0.1**
NVAR	**Mina Array Bea**	**87.50**	**42**	P	**P**	**11 36 31.2**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=223,slow=8.7,SNR=25						
NVAR				LR	LR	12 10 37.2	
	comp=Z,56nm,18.3s,baz=213,slow=32						
NVAR	**Mina Array Bea**	**87.50**	**42**	P	**P**	**11 36 31.4**	**-0.2**
NV11	**Mina Array Sit**	**87.59**	**43**	P	**P**	**11 36 32.1**	**+0.2**
NV11				IAmb	IAmb	11 36 48.0	
	comp=Z,3.8nm,1.0s						
TPNV	**Topopah Spring**	**87.76**	**45**	P	**P**	**11 36 33.4**	**+0.6**
TPNV				IAmb	IAmb	11 36 49.4	
	comp=Z,5.6nm,0.8s						
TPH	**Tonopah**	**87.91**	**43**	P	**P**	**11 36 32.9**	**-0.7**
Y14A	**Wickenburg**	**87.92**	**49**	P	**P**	**11 36 34.2**	**+0.7**
Y14A				IAmb	IAmb	11 36 50.2	
	comp=Z,4.5nm,0.8s						
KVN	**Kaiserville**	**88.03**	**42**	P	**P**	**11 36 33.4**	**-0.7**
KVN				IAmb	IAmb	11 36 49.9	
	comp=Z,3.2nm,0.8s						
TUC	**Tucson**	**88.40**	**51**	P	**P**	**11 36 35.9**	**0.0**
TUC				IAmb	IAmb	11 36 53.2	
	comp=Z,3.0nm,0.8s						
MOD	**Modoc Plateau**	**88.70**	**39**	P	**P**	**11 36 37.0**	**-0.1**
PRN	**Pahroc Range**	**88.79**	**45**	P	**P**	**11 36 38.3**	**+0.6**
PRN				IAmb	IAmb	11 36 54.7	
	comp=Z,8.7nm,1.2s						
X16A	**Lo Mia Camp, P**	**89.23**	**49**	P	**P**	**11 36 40.9**	**+1.0**
X16A				IAmb	IAmb	11 36 57.1	
	comp=Z,6.3nm,0.8s						
H04A	**Detroit Lake**	**89.63**	**36**	P	**P**	**11 36 41.5**	**+0.2**
H04A				IAmb	IAmb	11 36 57.0	
	comp=Z,4.5nm,1.1s						
PINE	**Pine Mountain**	**89.65**	**37**	P	**P**	**11 36 41.2**	**-0.4**
PINE				IAmb	IAmb	11 36 58.1	
	comp=Z,12nm,1.4s						
LCMT	**Little Creek M**	**89.67**	**46**	P	**P**	**11 36 41.6**	**-0.1**
LCMT				IAmb	IAmb	11 36 58.6	
	comp=Z,5.1nm,1.1s						
U15A	**North Rim**	**89.91**	**47**	P	**P**	**11 36 43.3**	**+0.2**
U15A				IAmb	IAmb	11 37 00.2	
	comp=Z,6.5nm,0.9s						
KNB	**Kanab**	**89.93**	**46**	P	**P**	**11 36 43.1**	**+0.1**
KNB				IAmb	IAmb	11 36 45.0	
	comp=Z,7.7nm,1.2s						
WUAZ	**Wupatki**	**89.94**	**48**	P	**P**	**11 36 43.4**	**+0.3**
WUAZ				IAmb	IAmb	11 37 00.2	
	comp=Z,7.7nm,1.1s						
X18A	**Snowflake**	**90.28**	**50**	P	**P**	**11 36 45.4**	**+0.6**
X18A				IAmb	IAmb	11 37 01.9	
	comp=Z,4.4nm,0.9s						
KLR	**Kul'dur**	**90.69**	**330**	P	**P**	**11 36 45.9**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=146,slow=1.4,SNR=18						
TXAR	**Lajitas Array**	**91.71**	**57**	P	**P**	**11 36 51.5**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=213,slow=9.0,SNR=7.3						
TXAR				pP	**pwP**	**11 37 06.3**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=210,slow=5.2,SNR=6.8						
G08A	**Pilot Rock**	**91.71**	**37**	P	**P**	**11 36 51.4**	**+0.3**
G08A				IAmb	IAmb	11 37 07.2	
	comp=Z,6.3nm,1.1s						
F10A	**Beach Ranch, E**	**93.07**	**37**	P	**P**	**11 36 56.5**	**-0.8**
F10A				IAmb	IAmb	11 37 12.6	
	comp=Z,6.4nm,1.3s						
KMI	**Kunming**	**93.90**	**297**	⇓P	**P**	**11 37 04.6**	**+2.8**
KMI				pP	pP	11 37 11.9	+0.1
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PDAR	**Pinedale Array**	**95.40**	**43**	P	**P**	**11 37 07.8**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=160,slow=4.7,SNR=5.4						
PDAR				pP	**pwP**	**11 37 22.6**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=204,slow=3.3,SNR=3.6						
PDAR				LR	LR	12 18 16.2	
	comp=Z,35nm,18.7s,baz=238,slow=34						
PDAR	**Pinedale Array**	**95.40**	**43**	P	**P**	**11 37 08.0**	**-0.3**
SEY	**Seymchan**	**95.45**	**347**	P	**P**	**11 37 07.0**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=153,slow=7.3,SNR=4.4						
HHC	**Hu-ho-hao-te**	**96.08**	**314**	*e*P	**P**	**11 37 13.4**	**+2.1**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
BWN	**Browne**	**96.20**	**12**	P	**P**	**11 37 11.9**	**+0.9**
ILAR	**Eielson Array**	**97.22**	**13**	P	**P**	**11 37 14.3**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=212,slow=5.8,SNR=2.3						
MKAR	**Makanchi Array**	**117.67**	**310**	PKP	**PKPdf**	**11 42 27.9**	**-1.6**
	comp=Z,1.1nm,0.5s,baz=96,slow=1.4,SNR=16						
MKAR	**Makanchi Array**	**117.67**	**310**	PKPdf	**PKPdf**	**11 42 28.7**	**-0.7**
ZALV	**Zalesovo Beam**	**117.83**	**319**	PKP	**PKPdf**	**11 42 27.3**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=126,slow=3.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**117.83**	**319**		**PKPdf**	**11 42 28.1**	**-1.3**
KURBB	**Kurchatov Arra**	**120.94**	**314**	PKP	**PKPdf**	**11 42 33.9**	**-1.7**
	comp=Z,4.7nm,0.7s,baz=108,slow=2.0,SNR=49						
BVAR	**Borovoye Array**	**126.23**	**316**	PKPdf	**PKPdf**	**11 42 43.9**	**-1.7**
	comp=Z,3.7nm,0.7s,baz=49,slow=18,SNR=14						
AKTO	**Aktyubinsk**	**133.97**	**313**	PKP	**PKPdf**	**11 42 59.3**	**-1.2**
	comp=Z,3.4nm,0.6s,baz=113,slow=3.5,SNR=14						
ARCES	**ARCESS Array B**	**138.06**	**348**	PKhKP	PKPpre	11 43 00.3	
	comp=Z,2.5nm,0.8s,baz=42,slow=1.5,SNR=9.8						
H10N3	**ASCENSION HYDR**	**139.21**	**154**	T	T	14 19 49.1	
	baz=204,slow=75,SNR=8.2						
H10N1	**ASCENSION HYDR**	**139.21**	**154**	T	T	14 20 00.0	
	baz=204,slow=75,SNR=4.8						
H10N2	**ASCENSION HYDR**	**139.22**	**154**	T	T	14 19 50.6	
	baz=204,slow=75,SNR=9.4						
KLMR	**Klimovskoe**	**140.39**	**332**	*e*PKPdf	**PKPdf**	**11 43 08.2**	**-3.7**
KLMR				AMP		11 43 13.6	
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**144.69**	**341**	PKP	**PKPab**	**11 43 17.2**	**-1.1**
	comp=Z,26nm,0.5s,baz=64,slow=3.0,SNR=146						
FINES				pPKP	**sPKPdf**	**11 43 32.4**	**-1.0**
	comp=Z,5.3nm,0.4s,baz=54,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**144.69**	**341**	PKPdf	**PKPab**	**11 43 18.0**	**-0.4**
KBZ	**Khabaz**	**145.09**	**305**	PKP	**PKPbc**	**11 43 20.1**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=150,slow=8.1,SNR=2.3				

GLVR	**Golovnino**	**3.47 274**	*e*P	**Pn**	**11 47 15.7**	**-0.7**
GLVR			AMB	AMB	11 47 16.0	
	comp=E,20nm,0.2s					
GLVR			AMB	AMB	11 47 16.0	
	comp=E,50nm,0.2s					
GLVR			*e*S	**Sn**	**11 47 54.8**	**-1.5**
GLVR			A	A	11 48 00.0	
	comp=E,100nm,0.3s					
GLVR			A	A	11 48 00.0	
	comp=E,240nm,0.3s					
RUSJ	**Misakicho**	**3.69 280**	*e*PN	**Pn**	**11 47 19.2**	**-0.2**
RUSJ			*e*S	**Sn**	**11 47 59.7**	**-2.0**
JRA	**Rausu**	**3.77 277**	P	**Pn**	**11 47 20.1**	**-0.4**
JNK	**Nakash**	**4.06 272**	P	**Pn**	**11 47 23.8**	**-0.7**
JNK			*e*S	**Sn**	**11 48 09.5**	**-1.2**
JAK	**Akkeshi**	**4.13 264**	P	**Pn**	**11 47 25.3**	**-0.2**
JTKR	**Abashiri--Toko**	**4.65 277**	P	**Pn**	**11 47 32.7**	**+0.2**
JAR	**Ashorobuto**	**4.77 269**	P	**Pn**	**11 47 34.2**	**0.0**
JAR			*e*S	**Sn**	**11 48 27.6**	**-0.5**
JOB	**Onbets**	**4.77 264**	P	**Pn**	**11 47 34.0**	**-0.3**
JMP	**Maruseppu**	**5.04 277**	P	**Pn**	**11 47 38.4**	**+0.4**
JCH	**Churui**	**5.17 262**	P	**Pn**	**11 47 40.1**	**+0.3**
JCH			*e*S	**Sn**	**11 48 37.0**	**-1.2**
JKK2	**Kamakawa 2**	**5.48 276**	P	**Pn**	**11 47 45.4**	**+1.4**
JEM	**Erimo**	**5.49 256**	P	**Pn**	**11 47 45.5**	**+1.4**
JEM			*e*S	**Sn**	**11 48 45.6**	**-0.3**
JKA	**Kamikawa-asahi**	**5.59 278**	*e*P	**Pn**	**11 47 47.0**	**+1.4**
ASAJ	**Asahikawa**	**5.60 278**	Pn	**Pn**	**11 47 47.0**	**+1.3**
	comp=E,1.0nm,0.3s,baz=117,slow=12,SNR=17					
ASAJ			Sn	**Sn**	**11 48 52.6**	**+4.0**
	comp=E,0.1nm,0.3s,baz=321,slow=31,SNR=2.1					
JFR	**Furan**	**5.63 268**	P	**Pn**	**11 47 46.5**	**+0.4**
JFR			*e*S	**Sn**	**11 48 49.7**	**+0.1**
JNBK	**Urakawa-nobuka**	**5.70 259**	P	**Pn**	**11 47 47.0**	**+0.1**
JNBK			*e*S	**Sn**	**11 48 48.6**	**-2.4**
JBT2	**Biratori 2**	**5.86 265**	P	**Pn**	**11 47 49.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**6.30 305**	*e*P	**Pn**	**11 47 55.0**	**-0.2**
YSS			AMB	AMB	11 47 56.3	
	comp=E,10.0nm,0.3s					
JNB	**Noboribetsu**	**6.88 264**	P	**Pn**	**11 48 03.4**	**+0.2**
JNB			*e*S	**Sn**	**11 49 18.9**	**-1.3**
JKB	**Kayabe**	**7.03 259**	P	**Pn**	**11 48 05.7**	**+0.4**
JKB			*e*S	**Sn**	**11 49 21.0**	**-2.9**
JTH	**Tanohata**	**7.29 243**	P	**Pn**	**11 48 07.6**	**-1.2**
JTH			*e*S	**Sn**	**11 49 24.5**	**-5.7**
JANG	**Nango**	**7.29 247**	P	**Pn**	**11 48 07.5**	**-1.4**
JANG			*e*S	**Sn**	**11 49 25.9**	**-4.4**
JTM	**Tenmabayashi**	**7.41 251**	P	**Pn**	**11 48 10.8**	**+0.4**
JTM			*e*S	**Sn**	**11 49 29.2**	**-3.9**
JYM2	**Yakumo 2**	**7.45 262**	P	**Pn**	**11 48 11.1**	**+0.1**
OFUJ	**Ofunato**	**7.90 238**	P	**Pn**	**11 48 16.4**	**-0.8**
OFUJ			*e*S	**Sn**	**11 49 39.5**	**-5.8**
JOSM	**Okushiri--Mats**	**8.10 263**	P	**Pn**	**11 48 20.4**	**+0.5**
JIO	**Ouri**	**8.49 236**	*e*S	Sn	11 49 52.6	-7.1
PETK	**Petropavlovsk-**	**10.71 25**	Pn	**Pn**	**11 48 52.8**	**-2.9**
	comp=E,0.2nm,0.3s,baz=190,slow=7.3,SNR=2.7					
SEY	**Seymchan**	**19.42 3**	P	**P**	**11 50 45.2**	**-2.1**
	comp=E,0.1nm,0.3s,baz=213,slow=5.7,SNR=3.5					
SONM	**Songino Array**	**30.64 294**	P	**P**	**11 52 36.8**	**+1.6**
	comp=E,0.4nm,0.4s,baz=81,slow=8.9,SNR=3.8					
MKAR	**Makanchi Array**	**46.68 299**	P	**P**	**11 54 50.6**	**+1.4**
	comp=E,0.9nm,0.6s,baz=73,slow=8.8,SNR=8.2					
KURK	**Kurchatov**	**47.51 305**	P	**P**	**11 54 57.1**	**+1.5**
KURK	**Kurchatov**	**47.51 305**	*e*P	**P**	**11 54 57.1**	**+1.5**
KURBB	**Kurchatov Arra**	**47.59 305**	P	**P**	**11 54 57.1**	**+0.8**
	comp=E,0.5nm,0.4s,baz=74,slow=8.3,SNR=6.6					
CMAR	**Chiang Mai Arr**	**49.69 256**	LR	LR	12 17 12.5	
	comp=E,6.0nm,18.6s,baz=120,slow=37					
WRA	**Warramunga Arr**	**64.90 197**	P	**P**	**11 57 01.0**	**+1.1**
	comp=E,0.3nm,0.7s,baz=9.9,slow=7.0,SNR=2.1					
WRA	**Warramunga Arr**	**64.90 197**	P	**P**	**11 57 01.0**	**+1.1**
FINES	**FINESS Array B**	**66.04 334**	P	**P**	**11 57 07.2**	**+0.4**
	comp=E,1.6nm,0.8s,baz=19,slow=9.1,SNR=4.2					
ASAR	**Alice Springs**	**68.60 196**	P	**P**	**11 57 26.0**	**+2.6**
	comp=E,0.2nm,0.6s,baz=13,slow=4.9,SNR=1.9					
KBZ	**Khabaz**	**71.60 313**	P	**P**	**11 57 43.8**	**+2.2**
	comp=E,1.2nm,0.6s,baz=22,slow=5.4,SNR=3.6					
AKASG	**Malin Array Be**	**73.04 325**	P	**P**	**11 57 50.7**	**+0.5**
	comp=E,0.6nm,0.4s,baz=31,slow=5.5,SNR=1.8					
TXAR	**Lajitas Array**	**80.81 58**	P	**P**	**11 58 34.6**	**+0.2**
	comp=E,0.1nm,0.5s,baz=308,slow=3.0,SNR=1.2					

JMA 24 11:54:11.6±0.1, 40°.03N×140°.52E, h3^{km}±2^{km}, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.18**	**29**	P	Pg	11 54 15.5	+0.4
JAH				S	Sg	11 54 18.3	+0.8
JKZ	**Kuzumaki**	**0.62**	**94**	P	Pg	11 54 23.9	+0.3
JKZ				*e*S	Sg	11 54 31.9	+0.2
JIW	**Iwasaki**	**0.69**	**325**	P	Pg	11 54 24.7	-0.1
JIW				*e*S	Sg	11 54 33.9	+0.2
JANG	**Nango**	**0.84**	**65**	P	Pg	11 54 27.6	0.0

JMA 24 11:55:07.5±0.1, 36°.76N×138°.40E, h9^{km}±2^{km}, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.27**	**216**	P	Pg	11 55 12.7	-0.2
MAT				S	Sg	11 55 16.4	-0.1
MAT	**Matsushiro**	**0.27**	**216**	P	Pg	11 55 12.7	-0.2
MAT				S	Sg	11 55 16.3	-0.2
JNG	**Nsakai**	**0.43**	**214**	P	Pg	11 55 15.6	-0.3
JNG				S	Sg	11 55 21.4	-0.1

*IDC **24** 12:01:30.5±1.0, 33°.79S×179°.57E, h0^{km}, mb4.4/5, mb1 4.6/6, mb1mx4.1/29, mbtmp4.3/6, ML3.8/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/36, Error ellipse: s-maj=30.8km s-min=27.3km az=107.0*

*NEIC **24** 12:01:36.0±1.2, 33°.85S±0°.05×179°.5E±0°.1, h44^{km}±8^{km}, mb4.6/15, Error ellipse: s-maj=15.3km s-min=2.2km az=120.0*

*WEL **24** 12:01:39.7±0.6, 34°S±4°×17°9E±°, h33^{km}, M4.1/30, mB4.7/6, ML4.4/30, MLv4.3/30, Mw(mB)3.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=100.2*

ISC 24 12:01:34.8±0.7, 33°.78S±0°.06×179°.44E±0°.08, h35^{km}, n98, σ1§84/86, mb4.5/13, MS3.6/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.89**	**193**	Pn	**Pn**	**12 02 32.7**	**+0.7**
MXZ	**Matakaoa Point**	**3.89**	**193**	P	**Pn**	**12 02 30.3**	**-1.7**
WMGZ	**Waiomatatini S**	**4.12**	**191**	P	**Pn**	**12 02 35.6**	**+0.5**
HAZ	**Te Kaha**	**4.19**	**198**	P	**Pn**	**12 02 37.0**	**+0.9**
KUZ	**Kuaotunu**	**4.25**	**225**	P	**Pn**	**12 02 39.3**	**+2.4**
PKGZ	**Pakihiroa**	**4.25**	**195**	P	**Pn**	**12 02 36.9**	**-0.1**
PKGZ				S	**Sn**	**12 03 26.6**	**+1.2**
PUZ	**Puketiti**	**4.39**	**192**	P	**Pn**	**12 02 38.8**	**-0.2**
RUGZ	**Raukumara Rang**	**4.42**	**198**	P	**Pn**	**12 02 40.0**	**+0.6**
RUGZ				S	**Sn**	**12 03 31.4**	**+1.7**
WHRZ	**Whale Island**	**4.53**	**206**	P	Pn	12 02 46.6	+5.7
TWGZ	**Tauwhareparae**	**4.54**	**195**	P	**Pn**	**12 02 42.8**	**+1.7**
WIAZ	**Waiheke Island**	**4.63**	**228**	P	Pn	12 02 48.7	+6.5
OPRZ	**Ohinepanea**	**4.69**	**209**	P	Pn	12 02 48.8	+5.8
WCZ	**Waipu Caves**	**4.71**	**241**	P	**Pn**	**12 02 44.4**	**+1.1**
TGRZ	**Tauranga**	**4.71**	**212**	P	Pn	12 02 48.0	+4.7
CNGZ	**Carnagh Statio**	**4.80**	**192**	P	**Pn**	**12 02 43.7**	**-0.8**
CNGZ				S	**Sn**	**12 03 41.9**	**+3.0**
MWZ	**Matawai**	**4.80**	**198**	P	**Pn**	**12 02 45.2**	**+0.6**
MWZ				S	**Sn**	**12 03 44.3**	**+5.3**
TKGZ	**Te Karaka**	**4.83**	**195**	P	**Pn**	**12 02 46.0**	**+1.1**
URZ	**Urewera**	**4.85**	**202**	Pn	**Pn**	**12 02 44.9**	**-0.4**
	3.7nm,0.3s,baz=81,slow=3.7,SNR=24						
URZ				Sn	**Sn**	**12 03 38.0**	**-2.2**
	baz=354,slow=17,SNR=1.2						
URZ	**Urewera**	**4.85**	**202**		**Pn**	**12 02 45.8**	**+0.5**
URZ	**Urewera**	**4.85**	**202**	P	**Pn**	**12 02 45.6**	**+0.3**
URZ				S	**Sn**	**12 03 43.8**	**+3.6**
ETAZ	**East Tamaki Re**	**4.86**	**228**	P	Pn	12 02 56.4	+11
KMRZ	**Kaimai**	**4.95**	**214**	P	**Pn**	**12 02 46.5**	**-0.2**
KARZ	**Kaharoa**	**4.96**	**211**	P	**Pn**	**12 02 49.9**	**+3.1**
RAGZ	**Rawiri**	**4.98**	**199**	P	**Pn**	**12 02 49.5**	**+2.4**
GLKZ	**Green Lake**	**5.04**	**27**	P	Pn	12 02 58.9	+11
OUZ	**Omahuta**	**5.04**	**252**		**Pn**	**12 02 48.0**	**+0.3**
OUZ	**Omahuta**	**5.04**	**252**	P	**Pn**	**12 02 48.7**	**+0.9**
OUZ				S	**Sn**	**12 03 42.6**	**-2.1**
RTZ	**Ruatahuna**	**5.22**	**202**	P	**Pn**	**12 02 52.5**	**+2.1**
SNGZ	**Shannon Statio**	**5.27**	**198**	P	**Pn**	**12 02 52.7**	**+1.6**
SNGZ				S	**Sn**	**12 03 48.3**	**-2.3**
PRGZ	**Paritu Road**	**5.29**	**193**	P	**Pn**	**12 02 53.7**	**+2.5**
KNZ	**Kokohu**	**5.42**	**195**	P	**Pn**	**12 02 51.3**	**-1.8**
RAHZ	**Arahi**	**5.47**	**200**	P	**Pn**	**12 02 56.1**	**+2.3**
RAHZ				S	**Sn**	**12 03 58.6**	**+3.2**
MTHZ	**Maungataniwha**	**5.48**	**202**	P	**Pn**	**12 02 56.2**	**+2.3**
TLZ	**Tolley Road**	**5.53**	**214**	P	Pn	12 02 59.8	+5.2
NMHZ	**Naumai**	**5.72**	**201**	P	**Pn**	**12 02 58.3**	**+1.1**
BKZ	**Black Stump Fm**	**5.88**	**203**		**Pn**	**12 03 00.1**	**+0.7**
BKZ	**Black Stump Fm**	**5.88**	**203**	P	**Pn**	**12 03 00.6**	**+1.3**
HIZ	**Hauiti**	**6.01**	**217**	Pn	**Pn**	**12 03 01.5**	**+0.4**
HIZ	**Hauiti**	**6.01**	**217**	P	**Pn**	**12 03 03.2**	**+2.1**
KWHZ	**Kaweka Forest**	**6.13**	**202**	P	**Pn**	**12 03 03.8**	**+0.9**
OTVZ	**Oturere**	**6.17**	**208**	P	**Pn**	**12 03 05.9**	**+2.3**
BHHZ	**Black Hill Sta**	**6.31**	**204**	P	**Pn**	**12 03 07.3**	**+1.9**
KAHZ	**Kahuranaki**	**6.35**	**198**	P	**Pn**	**12 03 06.0**	**+0.1**
KAHZ				S	**Sn**	**12 04 17.0**	**-0.1**
MOVZ	**Moawhango**	**6.35**	**207**	P	Pn	12 03 12.4	+6.5
PXZ	**Pawanui**	**6.57**	**198**	P	**Pn**	**12 03 08.4**	**-0.5**
BFZ	**Birch Farm**	**7.34**	**199**	Pn	**Pn**	**12 03 17.6**	**-1.9**
BFZ	**Birch Farm**	**7.34**	**199**	P	**Pn**	**12 03 17.7**	**-1.8**
BFZ				S	**Sn**	**12 04 39.1**	**-2.5**
MRZ	**Mangatainoka R**	**7.53**	**203**	P	**Pn**	**12 03 19.5**	**-2.5**
MRZ				S	**Sn**	**12 04 43.4**	**-2.7**
THZ	**Tophouse**	**9.50**	**211**	Pn	**Pn**	**12 03 48.5**	**-0.6**
THZ	**Tophouse**	**9.50**	**211**	P	Pn	12 03 54.6	+5.5
KHZ	**Kahutara**	**9.79**	**207**	Pn	**Pn**	**12 03 53.7**	**+0.7**
KHZ	**Kahutara**	**9.79**	**207**	P	**Pn**	**12 03 52.0**	**-1.0**
KHZ				S	**Sn**	**12 05 33.9**	**-7.8**
RAR	**Rarotonga**	**22.23**	**61**	LR	LR	12 15 25.9	
	comp=Z,127nm,18.4s,baz=43,slow=38						
STKA	**Stephens Creek**	**31.74**	**263**	LR	LR	12 19 57.1	
	comp=Z,96nm,18.8s,baz=44,slow=35						
AS31	**Alice Springs**	**40.90**	**272**	P	**P**	**12 09 12.7**	**-1.1**
ASAR	**Alice Springs**	**40.90**	**272**	P	**P**	**12 09 16.2**	**+2.4**
	3.8nm,0.7s,baz=112,slow=7.7,SNR=48						
ASAR				LR	LR	12 25 27.7	
	comp=Z,95nm,19.4s,baz=117,slow=35						
ASAR	**Alice Springs**	**40.90**	**272**	P	**P**	**12 09 13.1**	**-0.7**
WR0	**Warramunga Arr**	**42.03**	**277**	P	**P**	**12 09 22.8**	**-0.2**
WR0				IAmb	IAmb	12 09 29.5	
	comp=Z,7.8nm,1.1s						
WB2	**Warramunga Arr**	**42.20**	**277**	P	**P**	**12 09 24.0**	**-0.4**
WB2				IAmb	IAmb	12 09 30.3	
	comp=Z,12nm,1.2s						
WRAB	**Tennant Creek**	**42.20**	**277**	P	**P**	**12 09 23.6**	**-0.9**
WRAB				IAmb	IAmb	12 09 30.3	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**42.21**	**277**	P	**P**	**12 09 26.5**	**+2.0**
	comp=Z,6.6nm,0.9s,baz=118,slow=7.2,SNR=32						
WRA	**Warramunga Arr**	**42.21**	**277**	P	**P**	**12 09 24.5**	**0.0**
WB0	**Warramunga Arr**	**42.25**	**278**	P	**P**	**12 09 25.1**	**+0.2**
WB0				IAmb	IAmb	12 09 29.7	
	comp=Z,10nm,0.9s						
VNDA	**Vanda**	**44.53**	**185**	LR	LR	12 23 45.5	
	comp=Z,60nm,18.6s,baz=18,slow=30						
KNRA	**Kununurra**	**48.93**	**279**	P	**P**	**12 10 18.0**	**+0.4**
KNRA				IAmb	IAmb	12 10 26.0	
	comp=Z,6.8nm,1.0s						
MORW	**Morawa**	**53.56**	**257**	P	**P**	**12 10 52.3**	**0.0**
MORW				IAmb	IAmb	12 10 55.2	
	comp=Z,8.6nm,0.9s						
FAKI	**Fak Fak**	**53.61**	**294**	P	**P**	**12 10 52.7**	**-0.1**
SIJI	**Sorong**	**55.69**	**296**	LR	LR	12 34 18.3	
	comp=Z,46nm,19.4s,baz=72,slow=35						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**12 11 13.1**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=23,slow=1.8,SNR=12						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**12 11 11.8**	**-0.2**
QSPA				IAmb	IAmb	12 11 24.0	
	comp=Z,5.8nm,0.9s						
MAW	**Mawson**	**68.38**	**202**	LR	LR	12 42 03.4	
	comp=Z,56nm,18.1s,baz=51,slow=36						
JCJ	**Chichijima**	**70.11**	**325**	LR	LR	12 39 34.2	
	comp=Z,35nm,21.3s,baz=129,slow=32						
SNAA	**Sanae**	**74.83**	**179**	P	**P**	**12 13 11.9**	**+0.7**
VNA3	**Neumayer Olymp**	**75.07**	**177**	P	**P**	**12 13 12.6**	**+0.1**
VNA2	**Neumayer--Watz**	**75.48**	**178**	P	**P**	**12 13 15.3**	**+0.4**
VNA1	**Neumayer--Stat**	**75.72**	**177**	P	**P**	**12 13 16.7**	**+0.5**
H03S2	**Juan Fernandez**	**80.39**	**124**	T	T	13 42 00.1	
	baz=234,slow=74,SNR=3.6						
H03S1	**Juan Fernandez**	**80.40**	**124**	T	T	13 42 05.7	
	baz=234,slow=74,SNR=2.9						
H03S3	**Juan Fernandez**	**80.41**	**124**	T	T	13 41 57.2	
	baz=234,slow=74,SNR=5.8						
H03N3	**Juan Fernandez**	**80.61**	**124**	T	T	13 42 15.2	
	baz=238,slow=72,SNR=32						
H03N2	**Juan Fernandez**	**80.61**	**124**	T	T	13 42 12.5	
	baz=238,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**80.62**	**124**	T	T	13 42 15.5	
	baz=238,slow=72,SNR=24						
PLCA	**Paso Flores**	**81.77**	**134**	P	**P**	**12 13 49.2**	**-0.9**
ASAJ	**Asahikawa**	**84.48**	**334**	LR	LR	12 44 29.8	
	comp=Z,34nm,21.2s,baz=166,slow=30						
KSRS	**Korea Array**	**85.56**	**321**	LR	LR	12 48 20.9	
	comp=Z,24nm,19.4s,baz=147,slow=33						
KSAR	**Wonju Array Be**	**85.58**	**321**	P	**P**	**12 14 09.5**	**+0.3**
PETK	**Petropavlovsk-**	**88.57**	**347**	P	**P**	**12 14 24.2**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=108,slow=7.7,SNR=4.8						
PETK	**Petropavlovsk-**	**88.57**	**347**	P	**P**	**12 14 24.7**	**+1.3**
ISA	**Isabella, Lake**	**90.21**	**46**	P	**P**	**12 14 28.9**	**-2.7**
NVAR	**Mina Array Bea**	**92.18**	**44**	P	**P**	**12 14 43.6**	**+2.7**
	comp=Z,1.3nm,0.8s,baz=215,slow=7.7,SNR=11						
NVAR	**Mina Array Bea**	**92.18**	**44**	P	**P**	**12 14 40.6**	**-0.3**
HUMO	**Hull Mountain**	**92.51**	**39**	P	**P**	**12 14 41.9**	**-0.2**
HUMO				IAmb	IAmb	12 14 46.7	
	comp=Z,4.5nm,1.4s						
PINE	**Pine Mountain**	**94.39**	**39**	P	**P**	**12 14 51.3**	**+0.4**
PINE				IAmb	IAmb	12 14 54.4	
	comp=Z,3.2nm,0.9s						
NNA	**Nana**	**94.53**	**108**	LR	LR	12 48 17.5	
	comp=Z,38nm,20.6s,baz=194,slow=30						
PV11	**David Mesa, Pa**	**97.80**	**49**	P	Pdif	12 15 06.1	-0.5
KURBB	**Kurchatov Arra**	**121.81**	**313**	PKP	**PKPdf**	**12 20 23.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=82,slow=2.1,SNR=2.8						
FINES	**FINESS Array B**	**147.47**	**336**	PKPbc	**PKPab**	**12 21 14.9**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=73,slow=4.7,SNR=1.1						
AKASG	**Malin Array Be**	**152.47**	**317**	PKPbc	**PKiKP**	**12 21 27.2**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=57,slow=3.4,SNR=3.2						

*ATH **24** 12:03:39.4, 36°.36N×28°.83E, h63^{km}±7^{km}, ML3.5/4, Error ellipse: s-maj=8.4km s-min=2.2km az=156.0*

*HLW **24** 12:03:39.8, 35°.99N×28°.92E, h3^{km}±9^{km}, Md4.0*

*NIC **24** 12:03:41.8±0.0, 36°.04N×28°.83E, h47^{km}±5^{km}, MI3.5/4*

*DDA **24** 12:03:41.4, 36°.30N×28°.84E, h37^{km}±1^{km}, MW3.5*

*ISK **24** 12:03:41.8, 36°.31N×28°.84E, h24^{km}, ML3.7/18*

*THE **24** 12:03:43.0, 36°.28N×28°.84E, h21^{km}±1^{km}, ML3.4/12, Error ellipse: s-maj=1.7km s-min=0.5km az=55.0*

ISC 24 12:03:41.7±1.0, 36°.22N±0°.03×28°.88E±0°.02, h33^{km}±4^{km}, n115, σ1§45/178, 4C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.44**	**22**	P	**Pb**	**12 03 51.0**	**-0.5**
FETY				S	**Sb**	**12 03 58.4**	**+0.1**
FETY	**Fethiye**	**0.44**	**22**	PG	**Pb**	**12 03 50.7**	**-0.8**
KSL	**Kastellorizon**	**0.57**	**97**	P	**Pn**	**12 03 54.5**	**+0.9**
KSL				S	**Sn**	**12 04 04.2**	**+2.4**
	3μm,0.5s						
KSL	**Kastellorizon**	**0.57**	**97**	P	**Pn**	**12 03 54.4**	**+0.9**
KSL				S	**Sn**	**12 04 04.6**	**+2.7**
KSL				AML	AML	12 04 05.5	
	comp=N,3357μm,0.6s						
KSL				AML	AML	12 04 05.9	
	comp=E,8206μm,0.4s						
KSL	**Kastellorizon**	**0.57**	**97**	⇑P	**Pn**	**12 03 54.5**	**+0.9**
KSL				S	**Sn**	**12 04 04.6**	**+2.7**
KSL				AML	AML	12 04 05.5	
	comp=E,3.4nm,0.6s						
KSL				AML	AML	12 04 05.5	
	comp=E,3.4nm,0.6s						
KSL				AML	AML	12 04 05.7	
	comp=E,8.4nm,0.4s						
KSL				AML	AML	12 04 05.7	
	comp=E,8.4nm,0.4s						
AKAS	**Kas**	**0.59**	**89**	*i* P	**Pn**	**12 03 54.6**	**+0.7**
AKAS				*i* S	**Sn**	**12 04 03.7**	**+1.3**
AKAS	**Kas**	**0.59**	**89**	PG	**Pn**	**12 03 54.6**	**+0.7**
ARG	**Arkhangelos**	**0.61**	**270**	P	**Pn**	**12 03 54.3**	**+0.2**
ARG				S	**Sb**	**12 04 03.5**	**+0.9**
	comp=E,4μm,0.3s						
ARG	**Arkhangelos**	**0.61**	**270**	P	**Pn**	**12 03 54.2**	**+0.2**
ARG				S	**Sb**	**12 04 03.7**	**+1.1**
ARG				AML	AML	12 04 04.0	
	comp=N,8115μm,0.3s						
ARG				AML	AML	12 04 04.3	
	comp=E,8890μm,0.3s						
ARG	**Arkhangelos**	**0.61**	**270**	PG	**Pn**	**12 03 54.3**	**+0.2**
ARG				SG	**Sb**	**12 04 03.5**	**+0.9**
ARG	**Arkhangelos**	**0.61**	**270**	⇑P	**Pn**	**12 03 54.3**	**+0.2**
ARG				S	**Sb**	**12 04 03.7**	**+1.1**
DALY	**Dalyan (Mula)**	**0.62**	**343**	*i* P	**Pn**	**12 03 53.2**	**-1.0**
DALY				*i* S	**Sb**	**12 04 01.3**	**-1.6**
DALY	**Dalyan (Mula)**	**0.62**	**343**	PG	**Pn**	**12 03 53.1**	**-1.1**
DALY				SG	**Sb**	**12 04 01.4**	**-1.5**
MRSB	**Marmaris-Mugla**	**0.74**	**312**	PG	**Pn**	**12 03 55.3**	**-0.6**
MRSB				SG	**Sn**	**12 04 05.4**	**-0.7**
TURN	**Turunc**	**0.75**	**317**	*i* P	**Pn**	**12 03 55.8**	**-0.3**
TURN				*i* S	**Sn**	**12 04 05.4**	**-0.9**
TURN	**Turunc**	**0.75**	**317**	PG	**Pn**	**12 03 55.7**	**-0.3**
TURN				SG	**Sn**	**12 04 05.4**	**-0.9**
CAME	**Cameli-Denizli**	**0.80**	**25**	PG	**Pn**	**12 03 56.5**	**-0.3**
CAME				SG	**Sn**	**12 04 07.4**	**-0.2**
CAEL	**Denizli, Camel**	**0.97**	**21**	*i* P	**Pn**	**12 03 59.2**	**+0.1**
CAEL				*i* S	**Sb**	**12 04 12.5**	**-0.2**
ELL	**Elmali**	**0.98**	**57**	PG	**Pb**	**12 04 00.4**	**0.0**
ELL				SG	**Sb**	**12 04 13.9**	**+0.8**
YER	**Yerkesik**	**1.03**	**332**	P	**Pn**	**12 03 59.9**	**-0.1**
YER				S	**Sn**	**12 04 13.3**	**-0.1**
YER	**Yerkesik**	**1.03**	**332**	PG	**Pn**	**12 03 59.8**	**-0.2**
YER				SG	**Sn**	**12 04 13.2**	**-0.1**
MULA	**Mugla, Merkez-**	**1.13**	**337**	*i* P	**Pn**	**12 04 01.7**	**+0.4**
MULA				*i* S	**Sn**	**12 04 15.7**	**0.0**
GOLH	**Golhisar**	**1.15**	**28**	*i* P	**Pb**	**12 04 02.6**	**-0.6**
GOLH				*i* S	**Sb**	**12 04 17.8**	**-0.1**
DAT	**Datca**	**1.17**	**296**	P	**Pn**	**12 04 01.8**	**-0.1**
DAT				S	**Sn**	**12 04 17.2**	**+0.5**
DAT	**Datca**	**1.17**	**296**	PN	**Pn**	**12 04 01.9**	**0.0**
DAT				SN	**Sn**	**12 04 16.9**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.19**	**85**	*i* P	**Pb**	**12 04 03.2**	**-0.5**
AKUM				*i* S	**Sb**	**12 04 19.1**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.24**	**1**	*i* P	**Pn**	**12 04 03.1**	**+0.2**
TAVA				*i* S	**Sn**	**12 04 18.1**	**-0.5**
MLSB	**Milas**	**1.39**	**321**	PN	**Pn**	**12 04 05.3**	**+0.4**
MLSB				SN	**Sn**	**12 04 22.3**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.40**	**74**	PN	**Pb**	**12 04 06.7**	**-0.7**
KORT	**Korkueli**	**1.42**	**56**	PN	**Pb**	**12 04 06.6**	**-1.1**
KORT				SN	**Sb**	**12 04 16.8**	**-0.6**
NIS1	**Nisyros Isl.**	**1.43**	**286**	P	**Pn**	**12 04 05.4**	**+0.1**
NIS1				S	**Sn**	**12 04 22.6**	**-0.4**
	comp=E,2μm,0.6s						
NIS1	**Nisyros Isl.**	**1.43**	**286**	P	**Pn**	**12 04 05.4**	**+0.1**
NIS1				AML	AML	12 04 27.9	
	comp=N,4560μm,0.6s						
NIS1				AML	AML	12 04 30.7	
	comp=E,3840μm,0.4s						
NIS1	**Nisyros Isl.**	**1.43**	**286**	PN	**Pn**	**12 04 05.7**	**+0.4**
BDRM	**Kayabasi**	**1.43**	**307**	*i* P	**Pn**	**12 04 05.2**	**-0.2**
BDRM				*i* S	**Sn**	**12 04 22.3**	**-0.8**
NISR	**Nisiros**	**1.47**	**286**	P	**Pn**	**12 04 05.8**	**-0.1**
NISR				S	**Sn**	**12 04 23.3**	**-0.6**
	comp=E,710nm,0.3s						
NISR	**Nisiros**	**

GVD			S		Sn	12 05 30.3	+0.3
	comp=N,188nm,0.4s						
PARAL	Paralimni	4.38 105	P		Pn	12 04 47.4	+1.4
ANKY	Antikythira Is	4.54 267	P		Pn	12 04 48.7	+0.6
KTHA	Kythira Island	4.70 272	P		Pn	12 04 51.5	+1.1
VLI	Veliai	4.82 278	P		Pn	12 04 53.5	+1.6
SLUM	Salum	5.62 214	P		Pn	12 05 03.1	+0.2
	baz=216						
SLUM			S		Sn	12 06 00.5	-5.8
	baz=216						
KLV	Kalavryta, Ach	5.68 291	P		Pn	12 05 05.6	+1.8
HWQ	Hawqa	6.10 106	*e*P		Pn	12 05 09.5	-0.2
RCY	Rachaya	6.33 113	*e*P		Pn	12 05 12.1	-0.8
HNAT	Natroun	6.73 167	P		Pn	12 05 18.3	0.0
	baz=166						
HNAT			S		Sn	12 06 29.1	-4.7
	baz=166						
KOT	Kottamia	6.75 158	P		Pn	12 05 18.5	0.0
	baz=157						
KOT			S		Sn	12 06 28.0	-6.2
	baz=157						
HHAG	Hagoal	6.81 156	P		Pn	12 05 19.4	+0.1
	baz=155						
HSAF	As Saff	6.96 160	P		Pn	12 05 20.8	-0.6
	baz=160						
GLL	Jalalah	7.04 159	P		Pn	12 05 21.9	-0.6
	baz=159						
SUZ	Suez	7.17 151	P		Pn	12 05 24.2	-0.2
	baz=150						
RYAN	Fayoum	7.22 170	P		Pn	12 05 24.2	-0.7
	baz=170						
SWA2		7.53 203	P		Pn	12 05 28.9	-0.4
	baz=205						
STIP	Stip	7.55 318	*i* Pn		Pn	12 05 30.6	+1.2
ZNM	Zenema	7.61 153	P		Pn	12 05 30.1	-0.2
	baz=152						
NBNS	Bani Suef	7.85 164	P		Pn	12 05 32.8	-0.8
	baz=164						
GRB	Gharib	8.59 156	P		Pn	12 05 43.0	-0.8
	baz=155						
HKAT	Jabal Katrina	8.81 149	P		Pn	12 05 46.2	-0.8
	baz=148						
HDHB	Dhahab	8.91 145	P		Pn	12 05 47.3	-0.8
	baz=144						
HFRF	Wahat Farafira	9.06 183	P		Pn	12 05 49.2	-1.0
	baz=184						
HFRF			S		Sn	12 07 24.3	-6.7
	baz=184						
HHRG	Al Ghardaqah	9.82 155	P		Pn	12 06 02.1	+1.5
	baz=154						
HVAR	Hvar	11.82 310	*e*Pn		Pn	12 06 30.4	+2.4
KIJV	Kijevo	12.30 313	*e*Pn		Pn	12 06 38.0	+3.4
KIJV			Sn		Sn	12 08 51.7	+1.2
ZIRJ	Zirje	12.57 310	*e*Pn		Pn	12 06 40.3	+2.1
ZIRJ			Sn		Sn	12 08 55.4	-1.6
MORI	Morici	12.65 311	*e*Pn		Pn	12 06 42.4	+3.2
DUGI	Dugi Otok	13.11 311	*e*Pn		Pn	12 06 48.2	+2.6

TAP ***24*** *12:07:56.3,24°.90N×122°.69E, h5km±2km, ML2.6, D*
JMA ***24*** *12:07:57.7±0.2,24°.84N×122°.65E, h11km, M2.1*
ISC 24 12:07:57.8±1.3,24°.85N±0°.07×122°.67E±0°.04,h16km,n40, σ0ˢ65/44,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.47 148		P	Pg	12 08 07.1	0.0
JYNG				*e*S	Sg	12 08 13.5	+0.1
YOJ	Yonaguni jima	0.49 141		P	Pg	12 08 07.4	-0.2
YOJ	Yonaguni jima	0.49 141		⇓*i*P	Pg	12 08 07.4	-0.2
	baz=146						
TIPB	Shuangxi	0.78 279		P	Pg	12 08 12.3	-0.7
	baz=276						
TWC	Suao	0.79 253		P	Pb	12 08 12.5	-0.6
	baz=249						
NDS	Dongshan	0.90 256		P	Pb	12 08 14.3	-0.7
	baz=242						
EWUT	Wuta	0.91 244		*e*P	Pg	12 08 15.7	+0.2
	baz=242						
EWUT				*e*S	Sb	12 08 27.0	0.0
	baz=242						
TWE	Neicheng	0.92 262		P	Pb	12 08 14.7	-0.7
	baz=259						
ENTT	Nioudou	1.03 259		*e*P	Pb	12 08 17.3	0.0
	baz=256						
NWLT	Wulai	1.07 266		*e*P	Pb	12 08 17.3	-0.6
	baz=264						
NDT	Datong Townshi	1.08 257		*e*P	Pg	12 08 19.5	+0.8
	baz=255						
IRIF	Iriomote-Funau	1.09 118		P	Pn	12 08 18.7	+0.3
IRIF				*e*S	Sb	12 08 32.7	+0.5
NACB	Ninganchiao	1.19 236		*i* P	Pb	12 08 20.2	+0.2
	baz=235						
YHNB	Yeheng	1.19 262		*e*P	Pn	12 08 19.6	-0.3
	baz=277						
TWD	Chiawan	1.24 232		*e*P	Pg	12 08 21.5	-0.3
	baz=231						
NNSB	Datong	1.25 251		*e*P	Pn	12 08 20.6	-0.1
	baz=249						
NNSH	Datong	1.25 251		*e*P	Pb	12 08 21.1	+0.1
	baz=249						
NNSH				S	Sg	12 08 38.0	-0.2
	baz=249						
NNS	Nan Shan	1.25 251		*e*P	Pb	12 08 21.4	+0.3
	baz=249						
ETLH	Xiulin Townshi	1.26 240		*i* P	Pb	12 08 21.6	+0.3
	baz=238						
ETM	Tongmen	1.39 231		*e*P	Pg	12 08 24.2	-0.3
	baz=237						
FUSS	Fushou	1.43 246		*i* P	Pb	12 08 24.8	+0.5
	baz=244						
WHF	Hehuan Shan	1.46 242		*e*P	Pb	12 08 24.5	-0.4
	baz=240						
TDCB	Techi	1.50 247		*e*P	Pg	12 08 27.5	+0.8
	baz=246						
LIOB	Emei	1.52 263		*e*P	Pb	12 08 26.1	+0.4
	baz=261						
ESL	Shilin	1.53 228		*e*P	Pb	12 08 26.1	+0.3
	baz=227						
NSTT	Nanjuang	1.54 262		*e*P	Pg	12 08 27.9	+0.5
	baz=261						
CHGB	Renai	1.57 240		*e*P	Pb	12 08 26.5	-0.2
	baz=232						
WHP	Taichung City	1.67 251		*e*P	Pg	12 08 29.6	-0.3
	baz=249						
HGSD	Ruisui	1.77 220		*e*P	Pn	12 08 28.6	+0.8
	baz=204						
DPDB	Guoxing	1.79 243		*e*P	Pg	12 08 32.1	-0.1
	baz=226						
WCS	Beigang Elemen	1.79 244		*e*P	Pb	12 08 31.1	+0.9
	baz=243						
SMLT	Sun Moon Lake	1.88 240		*e*P	Pg	12 08 33.8	-0.2
	baz=222						
SSLB	Suanglung	1.89 236		*e*P	Pn	12 08 30.8	+1.4
	baz=218						
YULB	Yu-li	1.92 221		*e*P	Pn	12 08 30.2	+0.4
	baz=222						
EYUL	Yuli	1.94 220		*e*P	Pn	12 08 28.4	-1.7
	baz=205						
TWF1	Yuli	1.95 220		*e*P	Pn	12 08 30.2	0.0
	baz=206						
ALS	Alishan	2.16 232		*e*P	Pb	12 08 36.9	+0.1
	baz=217						
CHN5	Tsauling	2.21 236		*e*P	Pb	12 08 38.1	+0.8
	baz=218						
CHN4	Tsaushan	2.42 232		*e*P	Pb	12 08 39.6	-1.3
	baz=216						
WTP	Ta-pu	2.47 230		*e*P	Pb	12 08 40.1	-1.7
	baz=230						

JMA ***24*** *12:19:08.3±0.3,35°.80N×135°.33E, h364km±3km, M2.7*
IDC ***24*** *12:19:09.3±2.0,35°.87N×135°.63E, h380km±34km, mb2.5/1, mb1 2.6/4, mb1mx2.4/68, mbtmp3.3/4, Error ellipse: s-maj=68.7km s-min=32.1km az=78.0*
ISC 24 12:19:08.3±1.1,36°.0N±0°.1×135°.4E±0°.1,h350km,n14, σ2ˢ17/17,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	0.38 212		P	Pn	12 19 54.0	+1.6
JKSM	Kasumi	0.67 237		P	Pn	12 19 54.4	+1.5
JWT	Wachi	0.67 176		P	Pn	12 19 54.3	+1.3
JWT				S	S	12 20 30.1	+1.3
JKG	Kaga	0.86 67		P	Pn	12 19 55.4	+2.0
JYTA	Yamagatataniai	1.18 107		P	Pn	12 19 56.3	+1.5
JWY	Kouya	1.74 173		P	Pn	12 19 58.9	+0.9
JIE	Ise	1.91 144		P	Pn	12 20 00.2	+1.2
JTNC	Tanabenakahech	2.14 174		P	Pn	12 20 00.9	+0.2
JNG	Nsakai	2.27 78		P	Pn	12 20 03.4	+1.8
MJAR	Matsushiro Arr	2.38 75		P	Pn	12 20 04.9	+2.5
	0.1nm,0.3s,baz=256,slow=5.2,SNR=5.7						
JMM	Marumori	4.76 65		P	Pn	12 20 26.2	+1.0
JMM				*e*S	S	12 21 29.0	+1.6
USRK	Ussuriysk Ar.	8.63 344		P	Pn	12 21 12.5	+2.8
	baz=158,slow=11,SNR=4.5						
ASAJ	Asahikawa	9.87 32		P	Pn	12 21 25.0	+0.6
	0.5nm,0.3s,baz=229,slow=9.7,SNR=8.1						
ASAJ				S	S	12 23 11.2	-4.9
	0.1nm,0.3s,baz=134,slow=28,SNR=1.5						
WRA	Warramunga Arr	55.59 181		P	P	12 28 06.4	-2.4
	0.3nm,1.0s,baz=359,slow=7.5,SNR=5.3						

IDC ***24*** *12:24:34.1±23.0, 1°.79N×98°.83E, h136km±195km, mb3.3/5, mb1 3.5/6, mb1mx3.2/67, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=234.7km s-min=16.4km az=57.0*
DJA ***24*** *12:24:38.8±1.2,2°.N±11°.×9°.9E±1°.0, h78km±14km, M3.0/5, MLv3.0/5*
ISC 24 12:24:35.6±1.0,1°.9N±0°.1×98°.9E±0°.1,h150km,n12, σ0ˢ67/9,mb3.4/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	1.30 150		P	Pn	12 25 02.8	-0.3
GSI	Gunungsitoli	1.49 245		P	Pn	12 25 05.1	0.0
TPTI		2.19 307		P	Pn	12 25 12.1	-0.9
CMAR	Chiang Mai Arr	16.43 0		P	P	12 28 17.9	+0.2
	0.2nm,0.3s,baz=195,slow=10,SNR=5.3						
H08S2	Diego Garcia H	28.04 250		T	T	12 58 06.0	
	baz=71						
H08S3	Diego Garcia H	28.04 250		T	T	12 58 12.2	
	baz=71						
H08S1	Diego Garcia H	28.05 250		T	T	12 58 13.7	
	baz=71						
WRA	Warramunga Arr	40.97 124		P	P	12 32 03.9	-0.2
	1.6nm,0.4s,baz=302,slow=9.1,SNR=35						
ASAR	Alice Springs	42.48 129		P	P	12 32 15.7	-0.6
	0.3nm,0.5s,baz=301,slow=7.6,SNR=14						
MKAR	Makanchi Array	46.98 344		P	P	12 32 52.4	+0.8
	0.6nm,0.6s,baz=144,slow=9.5,SNR=4.4						
KURBB	Kurchatov Arra	51.51 344		P	P	12 33 26.2	+0.4
	0.4nm,0.7s,baz=170,slow=7.0,SNR=4.5						
ZALV	Zalesovo Beam	53.14 350		P	P	12 33 38.4	+0.7
	1.0nm,0.4s,baz=170,slow=8.8,SNR=2.5						

IDC ***24*** *12:28:33.4±0.7,9°.79N×126°.17E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.8/66, mbtmp4.0/11, MS3.2/1, Ms1 3.4/1, ms1mx2.5/38, Error ellipse: s-maj=33.8km s-min=16.6km az=75.0*
MAN ***24*** *12:28:35.7,9°.62N×126°.21E, h1km, mb4.9, ML3.8, MS3.8*
NEIC ***24*** *12:28:41.0±2.1,9°.88N±0°.10×126°.3E±0°.2, h45km±8km, mb4.4/20, Error ellipse: s-maj=25.2km s-min=14.1km az=86.0*
ISC 24 12:28:40.8±0.5,9°.94N±0°.05×126°.45E±0°.06,h50km,n50, σ1ˢ24/51,mb4.2/19,3C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.58 277		⇓*i*P	Pn	12 29 04.4	-2.0
MSLP				*i* S	Sn	12 29 28.2	+2.4
CGP	Cagayan de Oro	2.28 230		⇓*i*P	Pn	12 29 09.2	-6.7
CGP				*i* S	Sn	12 29 43.2	+0.3
BUKP	Musuan	2.46 214		⇑*i*P	Pn	12 29 19.4	+0.9
BUKP				*i* S	Sn	12 29 49.9	+2.4
LLP	Lapu-Lapu	2.48 279		⇓*i*P	Pn	12 29 18.4	-0.3
LLP				*i* S	Sn	12 29 47.3	-0.5
DAV	Davao City (W)	2.98 197		Lg	Lg	12 30 01.3	
	32nm,0.3s,baz=117,slow=22,SNR=3.9						
DAV	Davao City (W)	2.98 197		Pn	Pn	12 29 24.0	-1.6
KCP	Kidapawan	3.21 205		⇓*i*P	Pn	12 29 28.4	-0.4
KCP				*i* S	Sn	12 30 07.5	+1.8
DCPH	Dipolog City	3.34 247		⇑*e*P	Pn	12 29 30.7	+0.1
DCPH				*e*S	Sn	12 30 09.9	+0.9
CNOP	Candoni, Negro	3.76 269		⇓*i*P	Pn	12 29 29.6	-6.7
CNOP				*i* S	Sn	12 30 30.9	+12
RCP	Roxas	3.98 294		⇑*e*P	Pn	12 29 39.2	-0.2
MTN	Manton Dam	23.10 168		P	P	12 33 43.6	+1.0
MTN				IAmb	IAmb	12 33 58.0	
	comp=Z,21nm,1.4s						
KNRA	Kununurra	25.55 175		P	P	12 34 04.6	-0.5
KNRA				IAmb	IAmb	12 34 11.9	
	comp=Z,8.6nm,0.8s						
CMAR	Chiang Mai Arr	27.95 291		P	P	12 34 24.5	-2.3
	comp=Z,0.4nm,0.2s,baz=131,slow=9.7,SNR=6.4						
CMAR				LR	LR	12 45 24.8	
	comp=Z,43nm,19.7s,baz=183,slow=36						
CMAR	Chiang Mai Arr	27.95 291		P	P	12 34 25.5	-1.3
WB0	Warramunga Arr	30.54 165		P	P	12 34 48.4	-1.3
WRA	Warramunga Arr	30.69 165		P	P	12 34 48.6	-2.4
	comp=Z,1.6nm,1.1s,baz=346,slow=9.3,SNR=4.8						
WRA	Warramunga Arr	30.69 165		P	P	12 34 51.7	+0.6
WB2	Warramunga Arr	30.69 165		P	P	12 34 50.0	-1.1
WB2				IAmb	IAmb	12 34 50.4	
	comp=Z,7.1nm,1.3s						
WR0	Warramunga Arr	30.76 165		P	P	12 34 50.5	-1.1
WR0				IAmb	IAmb	12 35 19.8	
	comp=Z,14nm,1.5s						
PSA00	Pilbara Seismi	31.98 192		P	P	12 35 02.0	-0.4
PSA00	Pilbara Seismi	31.98 192		P	P	12 35 02.4	+0.1
PSA00				IAmb	IAmb	12 35 21.2	
	comp=Z,8.2nm,1.4s						
AS31	Alice Springs	34.18 168		P	P	12 35 20.3	-1.3
ASAR	Alice Springs	34.18 168		P	P	12 35 20.2	-1.4
	comp=Z,0.6nm,0.6s,baz=352,slow=7.2,SNR=20						
ASAR				PcP	PcP	12 37 58.0	+0.2
	comp=Z,0.2nm,0.3s,baz=332,slow=3.2,SNR=1.8						
ASAR	Alice Springs	34.18 168		P	P	12 35 21.2	-0.4
ASAJ	Asahikawa	36.82 20		P	P	12 35 45.7	+1.7
	comp=Z,1.5nm,0.8s,baz=212,slow=15,SNR=2.1						
MORW	Morawa	40.06 194		P	P	12 36 10.8	-0.5
MORW				IAmb	IAmb	12 36 25.2	
	comp=Z,19nm,1.4s						
H11N1	WAKE ISLAND Hy	40.19 71		T	T	13 19 28.5	
	baz=264,slow=74,SNR=42						
H11N2	WAKE ISLAND Hy	40.20 71		T	T	13 19 39.2	
	baz=264,slow=74,SNR=32						
H11N3	WAKE ISLAND Hy	40.21 71		T	T	13 19 34.7	
	baz=264,slow=74,SNR=38						
FORT	Forrest	40.51 178		P	P	12 36 14.5	-0.5
BBOO	Buckleboo	43.48 168		P	P	12 36 39.4	+0.1
NWAO	Narrogin (SRO)	43.52 191		P	P	12 36 39.6	0.0
STKA	Stephens Creek	44.03 161		P	P	12 36 42.2	-1.5
	comp=Z,1.4nm,0.5s,baz=326,slow=11,SNR=5.3						
STKA	Stephens Creek	44.03 161		P	P	12 36 42.6	-1.1
PEA0B	Petropavlovsk-	49.87 24		P	P	12 37 30.0	+1.0
PEA0B				IAmb	IAmb	12 37 35.8	
	comp=Z,13nm,1.4s						
PETK	Petropavlovsk-	49.87 24		P	P	12 37 30.4	+1.4
	comp=Z,1.0nm,0.6s,baz=199,slow=3.9,SNR=5.9						
PETK	Petropavlovsk-	49.87 24		P	P	12 37 30.8	+1.8
MK31	Makanchi Array	52.40 323		P	P	12 37 47.0	-1.1
MKAR	Makanchi Array	52.40 323		P	P	12 37 46.6	-1.5
	comp=Z,1.0nm,0.6s,baz=125,slow=7.7,SNR=8.2						
MKAR	Makanchi Array	52.40 323		P	P	12 37 46.4	-1.8
THZ	Tophouse	66.79 144		P	P	12 39 27.1	-0.2
BMAR	Burnt Mountain	80.50 23		P	P	12 40 48.8	+1.4
K27K	Chicken	81.79 26		P	P	12 40 55.4	+1.2
K27K				IAmb	IAmb	12 40 59.2	
	comp=Z,4.3nm,1.3s						
BCAR	Beaver Creek A	82.02 27		P	P	12 40 57.3	+1.8
ARCES	ARCESS Array B	84.57 340		P	P	12 41 07.8	-0.6
	comp=Z,0.9nm,0.6s,baz=74,slow=7.6,SNR=7.4						
ARCES	ARCESS Array B	84.57 340		P	P	12 41 08.1	-0.3
ARCES				IAmb	IAmb	12 41 08.6	
	comp=Z,4.1nm,1.5s						
FINES	FINESS Array B	86.27 332		P	P	12 41 17.1	+0.1
	comp=Z,0.5nm,0.4s,baz=46,slow=4.0,SNR=4.9						
VNDA	Vanda	89.58 173		P	P	12 41 32.3	-0.1
	comp=Z,0.4nm,0.8s,baz=308,slow=6.3,SNR=2.2						
VNDA	Vanda	89.58 173		P	P	12 41 31.6	-0.8
VNDA				IAmb	IAmb	12 41 34.0	
	comp=Z,2.1nm,1.4s						
YKA	Yellowknife Ar	93.99 24		P	P	12 41 53.8	+0.6
	comp=Z,0.8nm,0.6s,baz=300,slow=4.3,SNR=8.7						

IDC 24 12:28:47.2±2.2,13°.03N×146°.27E, h0km,mb3.9/3,
mb1 4.0/3,mb1mx3.5/69,mbtmp3.9/3,MS3.3/3,Ms1 3.3/3, ms1mx2.8/34,Error ellipse: s-maj=57.7km s-min=32.1km az=64.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.48 292		Pn	Pn	12 29 14.8	-0.2
	65nm,0.3s,baz=144,slow=13,SNR=55						
GUMO				Sn	Sg	12 29 32.9	-1.8
	130nm,0.3s,baz=192,slow=21,SNR=9.4						
ASAR	Alice Springs	38.42 198		P	P	12 36 10.6	-0.1
	0.5nm,0.7s,baz=13,slow=8.6,SNR=4.3						
SONM	Songino Array	47.98 324		LR	LR	12 55 14.5	
	comp=Z,33nm,21.9s,baz=100,slow=33						
MKAR	Makanchi Array	62.84 316		P	P	12 39 15.9	+1.0
	0.5nm,0.6s,baz=99,slow=6.2,SNR=2.7						
ZALV	Zalesovo Beam	62.88 324		LR	LR	13 08 23.0	
	comp=Z,16nm,18.3s,baz=102,slow=38						
NRIK	Noril'sk	67.11 341		LR	LR	13 11 03.6	
	comp=Z,26nm,18.2s,baz=322,slow=38						
FINES	FINESS Array B	92.24 335		P	P	12 41 57.9	-1.0
	2.4nm,0.9s,baz=46,slow=4.0,SNR=3.4						

IDC ***24*** *12:31:13.9±0.9,36°.71N×98°.51W, h0km, mb1 4.0/6, mb1mx3.6/76, mbtmp3.6/6, ML3.6/6, Error ellipse: s-maj=11.8km s-min=10.7km az=138.0*
NEIC ***24*** *12:31:13.9,36°.61N×98°.40W, h7km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.17; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-1.59; $M_{r\theta}$0.56; $M_{\theta\phi}$0.97; $M_{\phi r}$0.04; Fault plane solution: $M_0$1.88000×10^{14} NP1:φs27.00000°, δ75.00000°, λ170.00000°. NP2:φs120.00000°, δ80.00000°, λ15.00000°. Principal axes: T 1.8845, Plg18.0000°, Azm344.0000°; N -0.0021, Plg72.0000°, Azm153.0000°; P -1.8825, Plg3.0000°, Azm253.0000°;*
TUL ***24*** *12:31:13.9±1.8,36°.62N±0°.02×98°.41W±0°.05, h3km±7km, ML3.9, mb_Lg3.8/146(NEIC), Mwr3.5/23(SLM) Error ellipse: s-maj=5.4km s-min=2.6km az=99.0*
NEIC ***24*** *12:31:14.2±1.7,36°.61N±0°.02×98°.41W±0°.05, h4km±7km, Error ellipse: s-maj=5.4km s-min=2.6km az=103.0*
ANF ***24*** *12:31:14.7±0.2,36°.58N×98°.39W, h10km, ML4.8/17, Error ellipse: s-maj=2.7km s-min=2.3km az=53.0*
ISC 24 12:31:14.7±1.0,36°.60N±0°.02×98°.39W±0°.03,h11km±8km, n213, σ1ˢ03/219,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.25 34			Pg	12 31 19.3	-0.6
CROK	Carrier	0.34 106			Pg	12 31 21.3	-0.1
CROK				Sg	Sg	12 31 26.6	+0.6
GC02	Grant County #	0.49 59			Pg	12 31 23.8	-0.5
GC02				Sg	Sg	12 31 30.9	0.0
U32A	Winter Ranch,	0.54 247			Pg	12 31 24.3	-1.0
U32A				Sg	Sg	12 31 32.2	-0.3
U32A	Winter Ranch,	0.54 247		P		12 31 24.4	
	baz=61,SNR=146						
U32A				S		12 31 32.3	
	baz=61						
KAN10	Anthony SW Sta	0.57 24			Pg	12 31 25.2	-0.7
KAN10				Sg	Sg	12 31 33.2	-0.3
KAN05	Bluff City Nor	0.66 39			Pg	12 31 26.7	-0.7
KAN05				Sg	Sg	12 31 35.8	-0.3
KAN17	Caldwell West	0.67 48			Pg	12 31 27.0	-0.7
KAN17				Sg	Sg	12 31 36.0	-0.5
KAN08	Anthony NE Sta	0.71 28			Pg	12 31 27.8	-0.7
KAN08				Sg	Sg	12 31 37.3	-0.5
KAN12	Harper NE Stat	0.77 24			Pg	12 31 28.6	-0.9
KAN12				Sg	Sg	12 31 39.1	-0.4
KAN09	Caldwell North	0.82 49			Pg	12 31 29.6	-0.9
KAN09				Sg	Sg	12 31 40.7	-0.5
KAN13	South Haven SW	0.84 60			Pg	12 31 30.1	-0.8
KS20	Mayfield South	0.92 46			Pg	12 31 31.4	-1.0
BLOK	Blackwell	0.95 80			Pg	12 31 32.3	-0.9
OK029	Liberty Lake	1.10 136			Pg	12 31 34.7	-1.1
OK029				Sg	Sg	12 31 50.4	+0.3
BCOK	Bluff Creek, N	1.13 146			Pg	12 31 35.3	-1.1
BCOK				IAmb_Lg		12 31 52.9	
	comp=Z,406nm,0.7s						
OK009	Oakdale Elemen	1.28 142			Pn	12 31 38.1	-0.5
OK025	Westminster Rd	1.32 140			Pn	12 31 38.6	-0.5
OK005	Luther M Schoo	1.35 134			Pn	12 31 39.5	0.0
OK001	Jones High Sch	1.36 139			Pn	12 31 39.9	+0.2
OK031	S. Brethren Rd	1.41 117			Pn	12 31 40.2	0.0
OKCSW	OKLAHOMA CITY	1.42 147			Pn	12 31 40.2	-0.2
QUOK	Quay	1.42 107			Pn	12 31 40.6	+0.2
T35A	Sooner Cattle	1.54 77		Pn	Pn	12 31 42.6	+0.5
T35A				IAmb_Lg		12 32 04.7	
	comp=Z,845nm,1.2s						
T35B	Sooner Cattle	1.54 77		P		12 31 42.6	
	baz=260,SNR=508						
T35B				S		12 32 03.5	
	baz=260						
FNO	Franklin	1.56 149			Pn	12 31 42.5	+0.2
FNO				IAmb_Lg		12 32 03.4	
	comp=Z,505nm,1.0s						
OK011	Prague	1.77 128			Pn	12 31 44.8	-0.5
R32A	Long Quarter,	1.84 352		Pn	Pn	12 31 47.0	+0.7
R32A				IAmb_Lg		12 32 13.1	
	comp=Z,461nm,0.8s						
R32A	Long Quarter,	1.84 352		P		12 31 47.0	
	baz=173						
R32A				Sb		12 32 11.7	
	baz=173						
WMOK	Wichita Mounta	1.88 190		P	Pn	12 31 47.3	+0.5
	baz=9.3						
WMOK				Sb	Sb	12 32 13.2	+0.6
	baz=9.3						
WMOK	Wichita Mounta	1.88 190			Pn	12 31 47.3	+0.5
WMOK	Wichita Mounta	1.88 190		P		12 31 47.1	
	baz=8.4,SNR=331						
WMOK				S		12 32 12.4	
	baz=8.4						
X34A	Smith Ranch, M	2.04 167			Pn	12 31 50.2	+1.2
X34A				IAmb_Lg		12 32 21.7	
	comp=Z,447nm,0.7s						
TUL1	Leonard	2.21 107		P	Pn	12 31 51.6	+0.3
	baz=289,SNR=26						
TUL1				Sb	Sb	12 32 23.3	+1.4
	baz=289						
TUL1	Leonard	2.21 107		P		12 31 51.8	
	baz=289,SNR=40						
TUL1				Sb		12 32 23.4	
	baz=289						
CBKS	Cedar Bluff	2.46 335		P	Pn	12 31 55.0	+0.2
	baz=154,SNR=55						
CBKS				S	Sn	12 32 26.2	+1.4
	baz=154						
CBKS	Cedar Bluff	2.46 335			Pn	12 31 55.2	+0.4
CBKS	Cedar Bluff	2.46 335		P		12 31 54.9	
	baz=154						
CBKS				Sb		12 32 29.2	
	baz=154						
LOOK	Love County	2.78 159			Pn	12 32 00.2	+1.1
KSU1	Kansas State U	2.87 29		P	Pn	12 32 01.3	+1.0
	baz=210,SNR

HHAR			IAmb_Lg			12 33 11.9
	comp=Z,194nm,0.9s					
W39A	**Magazine**	**3.99 109**	P		**Pn**	**12 32 16.3 +0.5**
W39A	baz=292,SNR=9.2		S		**Sn**	**12 33 03.5 +1.0**
	baz=292					
W39A	**Magazine**	**3.99 109**	Pn		**Pn**	**12 32 16.8 +1.0**
W39A			IAmb_Lg			12 33 23.8
	comp=Z,252nm,0.8s					
W39A	**Magazine**	**3.99 109**	P			12 32 17.1
	baz=292,SNR=11					
ABTX	**Abilene, Hawle**	**4.10 195**	P		**Pn**	**12 32 17.2 -0.1**
ABTX	baz=14,SNR=16		S		**Sn**	**12 33 05.3 +0.1**
	baz=14					
ABTX	**Abilene, Hawle**	**4.10 195**			**Pn**	**12 32 17.5 +0.2**
ABTX			IAmb_Lg			12 33 28.9
	comp=Z,131nm,0.7s					
ABTX	**Abilene, Hawle**	**4.10 195**	P			12 32 17.5
	baz=14					
KSCO	**Kaye Shedlock'**	**4.13 307**	P		**Pn**	**12 32 17.7 -0.2**
	baz=124					
KSCO	**Kaye Shedlock'**	**4.13 307**			**Pn**	**12 32 16.2 -1.7**
KSCO			IAmb_Lg			12 33 30.6
	comp=Z,224nm,0.7s					
N33B	**J Bar K, Exete**	**4.20 10**	P			12 32 18.1
	baz=191,SNR=33					
N33B			S			12 33 06.9
	baz=191					
N33A	**J Bar K, Exete**	**4.20 10**			**Pn**	**12 32 18.2 -0.5**
N33A			IAmb_Lg			12 33 36.6
	comp=Z,298nm,0.8s					
Z38A	**Mt. Pleasant**	**4.35 139**	Pn		**Pn**	**12 32 20.7 0.0**
Z38A			IAmb_Lg			12 33 35.6
	comp=Z,154nm,0.8s					
Z38A	**Mt. Pleasant**	**4.35 139**	P			12 32 20.8
	baz=321					
MIAR	**Mount Ida**	**4.42 116**	P		**Pn**	**12 32 22.4 +0.7**
	baz=299,SNR=10.0					
MIAR			S		**Sn**	**12 33 13.8 +0.6**
	baz=299					
MIAR	**Mount Ida**	**4.42 116**			**Pn**	**12 32 22.8 +1.0**
MIAR			IAmb_Lg			12 33 40.2
	comp=Z,155nm,0.8s					
MIAR	**Mount Ida**	**4.42 116**	P			12 32 21.4
	baz=299					
MIAR			S			12 33 13.7
	baz=299					
MSTX	**Muleshoe**	**4.44 235**	P		**Pn**	**12 32 22.5 +0.3**
	baz=52,SNR=18					
MSTX	**Muleshoe**	**4.44 235**			**Pn**	**12 32 22.7 +0.6**
U40A	**Yellville**	**4.46 91**	P		**Pn**	**12 32 22.7 +0.4**
	baz=275,SNR=42					
U40A	**Yellville**	**4.46 91**	Pn		**Pn**	**12 32 23.2 +0.9**
U40A			IAmb_Lg			12 33 33.9
	comp=Z,279nm,0.8s					
WHTX	**Lake Whitney,**	**4.66 170**	P		**Pn**	**12 32 25.0 +0.1**
	baz=351,SNR=10.0					
WHTX			S		**Sn**	**12 33 19.0 0.0**
	baz=351					
WHTX	**Lake Whitney,**	**4.66 170**			**Pn**	**12 32 25.4 +0.5**
WHTX	**Lake Whitney,**	**4.66 170**	P			12 32 25.3
	baz=350,SNR=25					
N35A	**Tabor**	**4.77 26**			**Pn**	**12 32 27.2 +0.7**
N35A	**Tabor**	**4.77 26**	P			12 32 26.5
	baz=208					
BGNE	**Belgrade**	**4.81 2**	P		**Pn**	**12 32 26.9 -0.1**
	baz=182,SNR=7.3					
BGNE	**Belgrade**	**4.81 2**			**Pn**	**12 32 27.1 +0.1**
BGNE	**Belgrade**	**4.81 2**	P			12 32 26.9
	baz=183,SNR=14					
T25A	**Trinidad**	**4.86 278**	P		**Pn**	**12 32 28.0 0.0**
	baz=94,SNR=6.2					
T25A			S		**Sn**	**12 33 23.0 -1.3**
	baz=94					
T25A	**Trinidad**	**4.86 278**			**Pn**	**12 32 27.6 -0.4**
P38A	**Dawn**	**4.88 50**			**Pn**	**12 32 27.2 -0.8**
P38A			IAmb_Lg			12 33 48.1
	comp=Z,128nm,0.7s					
MGMO	**Mountain Grove**	**4.94 82**			**Pn**	**12 32 27.8 -1.0**
MGMO			IAmb_Lg			12 33 59.8
	comp=Z,170nm,0.9s					
X40A	**Basin Creek Fa**	**4.99 113**	P		**Pn**	**12 32 30.4 +0.9**
	baz=297,SNR=5.6					
X40A	**Basin Creek Fa**	**4.99 113**			**Pn**	**12 32 29.3 -0.3**
X40A			IAmb_Lg			12 34 02.0
	comp=Z,185nm,0.7s					
X40A	**Basin Creek Fa**	**4.99 113**	P			12 32 30.9
	baz=297,SNR=19					
X40A			P			12 32 30.9
	baz=297,SNR=19					
237A	**Washetta, Mont**	**5.06 154**			**Pn**	**12 32 30.6 +0.1**
237A			IAmb_Lg			12 34 07.7
	comp=Z,109nm,0.9s					
237A	**Washetta, Mont**	**5.06 154**	P			12 32 30.4
	baz=336,SNR=9.3					
FCAR	**Ozark Folk Cen**	**5.11 96**	Pn		**Pn**	**12 32 31.5 +0.3**
FCAR			IAmb_Lg			12 34 04.9
	comp=Z,162nm,0.7s					
WHAR	**Wooly Hollow**	**5.12 103**	Pn		**Pn**	**12 32 32.5 +1.2**
R40A	**Maddies Statio**	**5.15 69**	Pn		**Pn**	**12 32 32.6 +0.8**
R40A			IAmb_Lg			12 33 59.7
	comp=Z,116nm,0.8s					
W41B	**Gary Mavity, V**	**5.18 104**	S		**Sn**	**12 33 31.4 -0.5**
	baz=288					
OGNE	**Ogallala**	**5.19 328**	P		**Pn**	**12 32 33.5 +1.1**
	baz=146,SNR=8.4					
OGNE	**Ogallala**	**5.19 328**	Pn		**Pn**	**12 32 34.0 +1.5**
OGNE			IAmb_Lg			12 34 12.6
	comp=Z,237nm,0.8s					
WLAR	**White Oak Lake**	**5.21 122**	Pn		**Pn**	**12 32 32.7 +0.2**
WLAR			IAmb_Lg			12 34 04.5
	comp=Z,161nm,0.9s					
L34A	**Svendsen Farm,**	**5.58 16**			**Pn**	**12 32 36.1 -1.6**
L34A	**Svendsen Farm,**	**5.58 16**	P			12 32 37.0
	baz=197,SNR=5.8					
Z41A	**Richland Creek**	**5.67 124**	S		**Sn**	**12 33 42.1 -1.8**
	baz=308					
NATX	**Nacogdoches**	**5.73 146**			**Pn**	**12 32 39.6 0.0**
P40A	**Paris**	**5.79 58**	Pn		**Pn**	**12 32 41.8 +1.2**
P40A			IAmb_Lg			12 34 22.8
	comp=Z,155nm,0.8s					
SDCO	**Great Sand Dun**	**5.80 284**	P		**Pn**	**12 32 41.3 +0.4**
	baz=99,SNR=9.6					
SDCO	**Great Sand Dun**	**5.80 284**	Pn		**Pn**	**12 32 41.3 +0.4**
N38A	**Joes South For**	**5.81 42**			**Pn**	**12 32 40.9 +0.1**
435B	**Jarrell**	**5.84 173**	P		**Pn**	**12 32 42.2 +1.0**
	baz=354					
435B	**Jarrell**	**5.84 173**			**Pn**	**12 32 41.7 +0.5**
435B			IAmb_Lg			12 34 29.8
	comp=Z,136nm,0.7s					
Q24A	**Divide**	**5.86 296**	P		**Pn**	**12 32 41.7 0.0**
	baz=112					
LCAR	**Lake Charles**	**5.86 93**	Pn		**Pn**	**12 32 43.8 +2.3**
LCAR			IAmb_Lg			12 34 21.4
	comp=Z,172nm,1.0s					
T42A	**Van Buren**	**5.87 84**			**Pn**	**12 32 42.5 +0.9**
T42A			IAmb_Lg			12 34 22.7
	comp=Z,110nm,0.9s					
CCM	**Cathedral Cave**	**5.87 74**	P		**Pn**	**12 32 41.8 +0.1**
	baz=258					
CCM	**Cathedral Cave**	**5.87 74**	Pn		**Pn**	**12 32 42.1 +0.4**
K31A	**O'Neill**	**6.03 357**	Pn		**Pn**	**12 32 44.0 +0.2**
CCAR	**Cane Creek**	**6.04 114**	Pn		**Pn**	**12 32 45.8 +1.9**
CCAR			IAmb_Lg			12 34 36.2
	comp=Z,146nm,0.9s					
JCT	**Junction City**	**6.21 191**	Pn		**Pn**	**12 32 47.1 +0.6**
HBAR	**Harrisburg**	**6.34 97**	Pn		**Pn**	**12 32 48.3 +0.1**
PBMO	**Poplar Bluff**	**6.40 86**	Pn		**Pn**	**12 32 49.1 +0.3**
ISCO	**Idaho Springs**	**6.53 302**	P		**Pn**	**12 32 50.8 -0.1**
	baz=117					
ISCO	**Idaho Springs**	**6.53 302**	Pn		**Pn**	**12 32 50.0 -1.0**
ISCO			IAmb_Lg			12 34 44.7
	comp=Z,78nm,0.8s					
LPAR	**Lepanto**	**6.62 96**	Pn		**Pn**	**12 32 51.6 -0.3**
SCIA	**State Center**	**6.65 36**	Pn		**Pn**	**12 32 51.5 -0.8**
ANMO	**Albuquerque**	**6.76 258**	Pn		**Pn**	**12 32 55.1 +1.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=14,SNR=4.5					
ANMO			Pg		**Pb**	**12 33 16.1 +3.7**
	comp=Z,1.1nm,0.3s,baz=70,slow=16,SNR=8.1					
ANMO			Lg	Lg		12 34 44.4
	comp=Z,3.9nm,0.3s,baz=346,slow=19,SNR=3.1					
ANMO	**Albuquerque**	**6.76 258**	Pn		**Pn**	**12 32 54.3 +0.1**
SLM	**Saint Louis**	**6.78 70**	IAmb_Lg			12 34 55.5
	comp=Z,112nm,0.7s					
PEBM	**Pemiscott Bayo**	**6.89 91**	Pn		**Pn**	**12 32 56.4 +0.8**
143A	**Socs Landing,**	**6.94 122**	Pn		**Pn**	**12 32 55.7 -0.7**
143A			IAmb_Lg			12 35 14.6
	comp=Z,90nm,0.9s					
PARMO	**Parma**	**6.94 87**	Pn		**Pn**	**12 32 56.9 +0.5**
PENMO	**Penman**	**7.05 89**	Pn		**Pn**	**12 32 58.8 +1.0**
BNM	**Barren Site**	**7.16 252**			**Pn**	**12 33 00.2 +0.6**
N41A	**Harden Midland**	**7.18 53**	Pn		**Pn**	**12 32 59.7 +0.1**
LNXT	**Lenox**	**7.20 91**	Pn		**Pn**	**12 32 58.2 -1.6**
PHWY	**Pilot Hill**	**7.24 313**			**Pn**	**12 33 00.8 +0.1**
PHWY			IAmb_Lg			12 35 03.7
	comp=Z,95nm,0.8s					
ECSD	**EROS Data Cent**	**7.26 10**	P		**Pn**	**12 32 58.9 -1.7**
	baz=191,SNR=12					
ECSD	**EROS Data Cent**	**7.26 10**	Pn		**Pn**	**12 32 59.3 -1.4**
ECSD			IAmb_Lg			12 35 06.7
	comp=Z,90nm,0.8s					
ECSD	**EROS Data Cent**	**7.26 10**	P			12 32 59.2
	baz=192,SNR=14					
N23A	**Red Feather La**	**7.30 308**	P		**Pn**	**12 33 01.8 +0.3**
	baz=124					
HALT	**Halls**	**7.34 93**	Pn		**Pn**	**12 33 02.8 +1.0**
GLAT	**Glass**	**7.34 90**	Pn		**Pn**	**12 33 02.6 +0.7**
HICK	**Hickman**	**7.37 88**	Pn		**Pn**	**12 33 02.3 +0.1**
S44A	**Carbondale**	**7.37 79**	Pn		**Pn**	**12 33 02.5 +0.3**
S44A			IAmb_Lg			12 35 17.5
	comp=Z,144nm,0.8s					
SIUC	**Southern Illin**	**7.41 79**	Pn		**Pn**	**12 33 04.4 +1.7**
SIUC			IAmb_Lg			12 35 09.8
	comp=Z,142nm,0.8s					
Y22D	**IRIS PASSCAL I**	**7.42 253**	Pn		**Pn**	**12 33 02.6 -0.4**
Y22D			IAmb_Lg			12 35 29.3
	comp=Z,96nm,0.9s					
K38A	**Parkersburg**	**7.43 34**	Pn		**Pn**	**12 33 03.7 +0.7**
MNTX	**Cornudas Mount**	**7.58 232**	P		**Pn**	**12 33 05.0 -0.1**
	baz=48,SNR=8.0					
MNTX	**Cornudas Mount**	**7.58 232**	Pn		**Pn**	**12 33 04.3 -0.8**
W45A	**Hickory Valley**	**7.61 98**	Pn		**Pn**	**12 33 06.6 +1.2**
W45A			IAmb_Lg			12 35 17.4
	comp=Z,151nm,0.8s					
OXF	**Oxford**	**7.61 103**			**Pn**	**12 33 05.0 -0.4**
OXF			IAmb_Lg			12 35 33.2
	comp=Z,102nm,0.8s					
P43A	**Skaggs, Pawnee**	**7.62 64**	Pn		**Pn**	**12 33 06.0 +0.4**
Y45A	**Yeager Farm, C**	**7.73 108**	Pn		**Pn**	**12 33 07.8 +0.6**
Y45A			IAmb_Lg			12 35 41.1
	comp=Z,107nm,0.8s					
735A	**Kenedy**	**7.74 176**	IAmb_Lg			12 35 39.7
	comp=Z,57nm,0.8s					
Q44A	**Meyer Farm, Va**	**7.77 70**			**Pn**	**12 33 09.3 +1.6**
L40A	**Anamosa**	**7.78 43**	Pn		**Pn**	**12 33 06.9 -1.0**
L40A			IAmb_Lg			12 35 26.2
	comp=Z,97nm,0.7s					
VBMS	**Vicksburg**	**7.83 122**	IAmb_Lg			12 35 45.4
	comp=Z,60nm,1.0s					
SUSD	**Miller**	**7.85 357**	Pn		**Pn**	**12 33 08.0 -0.8**
SUSD			IAmb_Lg			12 35 35.3
	comp=Z,112nm,0.9s					
MVCO	**Mesa Verde**	**8.13 277**	Pn		**Pn**	**12 33 12.0 -0.8**
MVCO			IAmb_Lg			12 35 37.2
	comp=Z,65nm,1.2s					
HDIL	**Hopedale**	**8.14 58**	P		**Pn**	**12 33 12.8 0.0**
	baz=244,SNR=7.7					
HDIL	**Hopedale**	**8.14 58**	Pn		**Pn**	**12 33 13.8 +1.0**
344A	**Westbrook Farm**	**8.16 127**	Pn		**Pn**	**12 33 12.9 -0.2**
I37A	**Lemond, Waseca**	**8.33 26**	IAmb_Lg			12 35 48.1
	comp=Z,94nm,0.9s					
PV02	**Paradox Valley**	**8.39 284**	Pn		**Pn**	**12 33 15.8 -0.7**
OLIL	**Olney**	**8.43 72**	IAmb_Lg			12 36 00.5
	comp=Z,123nm,1.0s					
PV13	**Radium Mtn., P**	**8.45 284**	IAmb_Lg			12 35 53.8
	comp=Z,67nm,1.1s					
TX31	**Lajitas Ar. Si**	**8.49 213**			**Pn**	**12 33 17.4 -0.4**
TX32	**Lajitas Array**	**8.49 213**	Pn		**Pn**	**12 33 17.4 -0.4**
TXAR	**Lajitas Array**	**8.49 213**	Pn		**Pn**	**12 33 17.6 -0.2**
	comp=Z,1.2nm,0.3s,baz=36,slow=11,SNR=62					
TXAR			Lg	Lg		12 35 37.9
	comp=Z,4.4nm,0.3s,baz=36,slow=26,SNR=8.7					
O20A	**White River Ci**	**8.51 298**	IAmb_Lg			12 35 55.6
	comp=Z,75nm,1.2s					
WVT	**Waverly**	**8.53 90**	P		**Pn**	**12 33 18.1 0.0**
	baz=276					
WVT	**Waverly**	**8.53 90**	IAmb_Lg			12 35 48.8
	comp=Z,52nm,0.8s					
PLAL	**Pickwick Lake**	**8.53 98**	Pn		**Pn**	**12 33 19.1 +1.0**
PLAL			IAmb_Lg			12 35 46.4
	comp=Z,64nm,1.0s					
PV18	**Skein Mesa, Pa**	**8.53 284**	IAmb_Lg			12 36 06.4
	comp=Z,46nm,1.3s					
RWWY	**Rawlins**	**8.53 309**	Pn		**Pn**	**12 33 17.3 -1.1**
O44A	**Mansfield**	**8.56 63**	Pn		**Pn**	**12 33 17.6 -0.9**
O44A			IAmb_Lg			12 35 46.2
	comp=Z,119nm,0.9s					
146A	**Union**	**8.64 114**	IAmb_Lg			12 36 13.6
	comp=Z,53nm,0.9s					
L42A	**Oliver, Polo**	**8.65 49**			**Pn**	**12 33 19.6 -0.1**
L42A			IAmb_Lg			12 35 57.2
	comp=Z,77nm,0.8s					
RSSD	**Black Hills**	**8.66 332**	Pn		**Pn**	**12 33 20.4 +0.2**
RSSD			IAmb_Lg			12 36 03.4
	comp=Z,50nm,0.9s					
K22A	**Casper**	**8.71 316**			**Pn**	**12 33 19.5 -1.3**
K22A			IAmb_Lg			12 36 09.1
	comp=Z,86nm,1.0s					
JFWS	**Jewell Farm**	**8.89 42**	P		**Pn**	**12 33 22.8 -0.3**
	baz=228					
JFWS	**Jewell Farm**	**8.89 42**	Pn		**Pn**	**12 33 23.5 +0.5**
JFWS			IAmb_Lg			12 36 22.3
	comp=Z,64nm,0.7s					
T47A	**Sharon Grove**	**9.06 84**	Pn		**Pn**	**12 33 25.0 -0.4**
T47A			IAmb_Lg			12 36 18.1
	comp=Z,92nm,1.0s					
P46A	**Rosedale**	**9.31 68**	IAmb_Lg			12 36 28.8
	comp=Z,102nm,0.8s					
M44A	**Midewin, Midew**	**9.36 56**	Pn		**Pn**	**12 33 28.8 -0.7**
M44A			IAmb_Lg			12 36 26.5
	comp=Z,86nm,0.9s					
F33A	**5 Mile Ranch,**	**9.37 9**	Pn		**Pn**	**12 33 28.4 -1.2**
F33A			IAmb_Lg			12 36 15.5
	comp=Z,45nm,0.9s					
V48A	**Smith Brothers**	**9.39 92**	Pn		**Pn**	**12 33 30.7 +0.7**
V48A			IAmb_Lg			12 36 19.0
	comp=Z,54nm,1.1s					
I40A	**Norwalk**	**9.39 37**	Pn		**Pn**	**12 33 30.9 +0.9**
I40A			IAmb_Lg			12 36 21.6
	comp=Z,46nm,0.8s					
X48A	**Hartselle**	**9.49 100**	Pn		**Pn**	**12 33 31.8 +0.5**
SPMN	**Marine on St.**	**9.60 24**	P		**Pn**	**12 33 32.1 -0.6**
	baz=208,SNR=5.3					
SPMN	**Marine on St.**	**9.60 24**	Pn		**Pn**	**12 33 32.0 -0.6**
SPMN			IAmb_Lg			12 36 24.8
	comp=Z,96nm,1.1s					
RDMU	**Red Mountain**	**9.61 298**	Pn		**Pn**	**12 33 31.7 -1.5**
RDMU			IAmb_Lg			12 36 38.1
	comp=Z,40nm,1.3s					
SFIN	**Lafayette**	**9.62 63**	IAmb_Lg			12 36 29.0
	comp=Z,77nm,0.8s					
WCI	**Wyandotte Cave**	**9.76 77**	P		**Pn**	**12 33 36.0 +1.1**
	baz=264					
WCI	**Wyandotte Cave**	**9.76 77**	Pn		**Pn**	**12 33 35.8 +0.9**
WCI			IAmb_Lg			12 36 28.2
	comp=Z,74nm,0.9s					
K43A	**Burlington**	**9.86 49**	Pn		**Pn**	**12 33 36.0 -0.3**
SRU	**San Rafael Swe**	**9.92 288**	Pn		**Pn**	**12 33 36.8 -0.6**
F36A	**Milaca**	**9.95 20**	Pn		**Pn**	**12 33 35.0 -2.6**
E28A	**Huff**	**10.12 351**	Pn		**Pn**	**12 33 39.9 0.0**
U49A	**Red Boiling Sp**	**10.14 87**	Pn		**Pn**	**12 33 42.7 +2.4**
Y49A	**Blount Mountai**	**10.17 102**	Pn		**Pn**	**12 33 42.9 +2.2**
SWET	**Sewanee**	**10.20 94**	Pn		**Pn**	**12 33 41.9 +0.9**
I42A	**Draeger Farm,**	**10.27 42**	Pn		**Pn**	**12 33 43.2 +1.4**
319A	**Douglas**	**10.43 243**	Pn		**Pn**	**12 33 42.5 -1.9**
BW06	**Boulder Array**	**10.58 309**	Pn		**Pn**	**12 33 46.0 -0.5**
PD31	**Pinedale Array**	**10.58 309**	Pn		**Pn**	**12 33 46.0 -0.5**
PDAR	**Pinedale Array**	**10.58 309**	Pn		**Pn**	**12 33 45.6 -0.8**
	comp=Z,0.4nm,0.3s,baz=122,slow=14,SNR=13					
PDAR			Pg			12 34 26.6
	comp=Z,0.6nm,0.3s,baz=119,slow=17,SNR=4.2					
PDAR			Lg	Lg		12 36 42.5
	comp=Z,0.8nm,0.3s,baz=121,slow=32,SNR=4.4					
PDAR	**Pinedale Array**	**10.58 309**			**Pn**	**12 33 45.1 -1.3**
FPAL	**Fort Paine**	**10.61 97**	Pn		**Pn**	**12 33 47.1 +0.5**
P48A	**Milroy**	**10.62 70**	Pn		**Pn**	**12 33 45.6 -1.1**
T50A	**Nancy**	**10.87 84**	Pn		**Pn**	**12 33 50.9 +0.7**
P49A	**Miami Univ. Ec**	**11.17 71**	Pn		**Pn**	**12 33 54.5 +0.2**
U15A	**North Rim**	**11.20 273**	Pn		**Pn**	**12 33 56.2 +1.3**
X51A	**Calhoun**	**11.20 96**	Pn		**Pn**	**12 33 55.9 +1.2**
E38A	**The Farm, Brul**	**11.23 25**	Pn		**Pn**	**12 33 52.9 -2.2**
H43A	**Windswept, Lux**	**11.27 42**	Pn		**Pn**	**12 33 54.6 -1.0**
CPCT	**Cooper Cave**	**11.29 92**	Pn		**Pn**	**12 33 57.7 +1.8**
R50A	**Paris**	**11.30 77**	Pn		**Pn**	**12 33 56.4 +0.2**
TCRU	**Three Creeks R**	**11.34 284**	Pn		**Pn**	**12 33 57.2 +0.4**
V51A	**Loudon**	**11.37 90**	Pn		**Pn**	**12 33 58.2 +1.1**
HWUT	**Hardware Ranch**	**11.39 300**	Pn		**Pn**	**12 33 56.5 -1.1**
O49A	**Covington**	**11.59 68**	Pn		**Pn**	**12 34 00.5 +0.4**
LOHW	**Long Hollow**	**11.68 311**	Pn		**Pn**	**12 33 59.5 -2.0**
COWI	**Conover**	**11.76 33**	Pn		**Pn**	**12 34 00.6 -1.7**
TPAW	**Teton Pass**	**11.83 309**	Pn		**Pn**	**12 34 03.3 -0.3**
RLMT	**Red Lodge**	**11.84 319**	Pn		**Pn**	**12 34 02.8 -0.9**
AGMN	**Agassiz Nation**	**11.84 8**	Pn		**Pn**	**12 34 03.5 +0.1**
TKL	**Tuckaleechee C**	**11.86 90**	Pn		**Pn**	**12 34 04.4 +0.7**
	comp=Z,0.8nm,0.3s,baz=299,slow=13,SNR=11					
TKL			Lg	Lg		12 37 23.0
	comp=Z,1.8nm,0.3s,baz=177,slow=20,SNR=7.4					
TKL	**Tuckaleechee C**	**11.86 90**	Pn		**Pn**	**12 34 04.8 +1.1**
S51A	**Beattyville**	**11.86 81**	Pn		**Pn**	**12 34 03.5 -0.2**
N49A	**Columbus Grove**	**11.90 64**	Pn		**Pn**	**12 34 02.9 -1.3**
TZTN	**Tazewell**	**11.93 86**	Pn		**Pn**	**12 34 05.6 +0.9**
V52A	**Sevierville**	**11.97 89**	Pn		**Pn**	**12 34 05.1 -0.2**
Q51A	**Peebles**	**12.14 74**	Pn		**Pn**	**12 34 07.2 -0.4**
B35A	**Bob, Littlefor**	**12.24 15**	Pn		**Pn**	**12 34 05.7 -3.3**
EYMN	**Ely**	**12.43 22**	Pn		**Pn**	**12 34 07.8 -3.7**
V53A	**Saluda**	**12.63 90**	Pn		**Pn**	**12 34 13.9 -0.4**
D41A	**Chassel**	**12.75 32**	Pn		**Pn**	**12 34 12.7 -3.2**
E43A	**Lone Tree Farm**	**12.96 38**	Pn		**Pn**	**12 34 15.8 -2.9**
ULM	**Lac du Bonnet**	**13.77 7**	Pn		**Pn**	**12 34 23.9 -5.8**
	comp=Z,0.5nm,0.3s,baz=185,slow=10,SNR=2.4					
ULM			Sn	Sn		12 36 50.2 -12
	comp=Z,0.6nm,0.3s,baz=109,slow=18,SNR=4.0					
ULM			Lg	Lg		12 38 19.2
	comp=Z,0.6nm,0.3s,baz=288,slow=13,SNR=3.2					
NVAR	**Mina Array Bea**	**15.91 283**	Pn		**Pn**	**12 34 58.5 -0.3**
	comp=Z,0.1nm,0.3s,baz=80,slow=10,SNR=3.0					
SADO	**Sadowa**	**16.70 55**	Lg	Lg		12 39 53.0
	comp=Z,0.5nm,0.3s,baz=166,slow=21,SNR=6.2					

ATH ***24*** *12:35:25.6, 36°.02N×28°.38E, h66km±6km, ML3.5/4, Error ellipse: s-maj=7.2km s-min=2.1km az=353.0*
HLW ***24*** *12:35:25.3, 35°.80N×28°.39E, h8km±12km, Md4.1, Ml4.5*
IDC ***24*** *12:35:26.7±1.8, 36°.05N×28°.39E, h62km±25km, mb3.3/3, mb1 3.6/7, mb1mx3.3/61, mbtmp3.7/7, ML3.8/4, Error ellipse: s-maj=26.3km s-min=15.0km az=150.0*
DDA ***24*** *12:35:27.5, 36°.13N×28°.38E, h54km±4km, MW3.6*
ISK ***24*** *12:35:27.1, 36°.05N×28°.35E, h27km, ML3.7/17*
THE ***24*** *12:35:28.6, 36°.08N×28°.36E, h61km±2km, ML3.5/7, Error ellipse: s-maj=2.7km s-min=0.9km az=91.0*
NIC ***24*** *12:35:28.0±0.0, 35°.82N×28°.49E, h63km±4km, Ml4.0/4*
ISC 24 12:35:26.6±0.8, 36°.03N±0°.03×28°.37E±0°.03, h67km±6km, n117,σ1§58/171, mb3.4/3, 7C-5D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.27**	**315**	P	**Pn**	**12 35 37.7**	**+0.4**
ARG				S	**Sn**	**12 35 45.2**	**+0.2**
	2μm,0.1s						
ARG	**Arkhangelos**	**0.27**	**315**	P	**Pn**	**12 35 37.6**	**+0.3**
ARG				S	**Sn**	**12 35 44.7**	**-0.3**
ARG				AML	AML	12 35 46.0	
	comp=N,3817μm,0.1s						
ARG				AML	AML	12 35 46.3	
	comp=E,5223μm,0.2s						
ARG	**Arkhangelos**	**0.27**	**315**	⇑P	**Pn**	**12 35 37.8**	**+0.6**
MRSB	**Marmaris-Mugla**	**0.70**	**349**	PG	**Pn**	**12 35 41.2**	**-0.1**
MRSB				SG	**Sn**	**12 35 51.4**	**-0.8**
TURN	**Turunc**	**0.75**	**353**	*i* P	**Pn**	**12 35 42.5**	**+0.6**
TURN				*i* S	**Sn**	**12 35 51.6**	**-1.6**
TURN				IAML		12 35 53.0	
	comp=E,2μm,0.4s						
TURN				IAML		12 35 54.0	
	comp=N,2μm,0.2s						
TURN	**Turunc**	**0.75**	**353**	PG	**Pn**	**12 35 42.1**	**+0.2**
TURN				SG	**Sn**	**12 35 52.9**	**-0.3**
DALY	**Dalyan (Mula)**	**0.82**	**16**	*i* P	**Pn**	**12 35 43.2**	**+0.5**
DALY				*i* S	**Sn**	**12 35 54.2**	**-0.4**
DALY	**Dalyan (Mula)**	**0.82**	**16**	PG	**Pn**	**12 35 43.2**	**+0.5**
DALY				SG	**Sn**	**12 35 54.4**	**-0.2**
FETY	**Fethiye**	**0.84**	**43**	P	**Pn**	**12 35 43.0**	**0.0**
FETY				S	**Sn**	**12 35 55.5**	**+0.4**
FETY	**Fethiye**	**0.84**	**43**	*i* P	**Pn**	**12 35 43.5**	**+0.5**
FETY				*i* S	**Sn**	**12 35 53.9**	**-1.2**
FETY	**Fethiye**	**0.84**	**43**	PG	**Pn**	**12 35 43.5**	**+0.5**
FETY				SG	**Sn**	**12 35 55.2**	**+0.1**
DAT	**Datca**	**0.95**	**318**	P	**Pn**	**12 35 44.9**	**+0.6**
DAT				S	**Sn**	**12 35 57.5**	**0.0**
DAT	**Datca**	**0.95**	**318**	*i* P	**Pn**	**12 35 45.0**	**+0.6**
DAT				*i* S	**Sn**	**12 35 57.1**	**-0.4**
DAT				IAML		12 35 58.0	
	comp=E,707nm,0.2s						
DAT				IAML		12 35 58.0	
	comp=N,784

BDRM IAML 12 36 04.0
comp=E,484nm,0.2s
KOSK Kos Island 1.33 303 PN Pn 12 35 50.5 +1.3
CAEL Denizli, Camel 1.34 35 *i* P **Pn 12 35 50.6 +1.2**
CAEL *i* S **Sn 12 36 07.1 +0.5**
BODT Bodrum 1.34 321 P **Pn 12 35 49.6 +0.3**
BODT S **Sn 12 36 05.8 -0.6**
BODT Bodrum 1.34 321 PN **Pn 12 35 49.7 +0.4**
MLSB Milas 1.35 340 PN **Pn 12 35 50.4 +0.9**
YKAV Yalikavak-Bodr 1.40 322 PN **Pn 12 35 50.3 +0.2**
ELL Elmali 1.44 59 PN **Pn 12 35 51.9 +1.1**
ELL SN **Sn 12 36 10.3 +1.4**
ELL Elmali 1.44 59 P **Pn 12 35 52.6 +1.8**
ELL S **Sn 12 36 12.0 +3.1**
TAVA DENIZLI_Tavas 1.50 17 *i* P **Pn 12 35 52.4 +0.8**
TAVA *i* S **Sn 12 36 09.9 -0.5**
AYDN Tasoluk 1.68 347 *i* P **Pn 12 35 55.1 +1.2**
AYDN *i* S **Sn 12 36 14.3 -0.3**
AYDN IAML 12 36 15.0
comp=N,615nm,0.2s
AYDN IAML 12 36 15.0
comp=E,589nm,0.2s
KEMT Kemer-ANTALYA 1.86 71 PN **Pn 12 35 58.1 +1.8**
KORT Korkueli 1.87 58 *i* P **Pn 12 35 58.4 +1.8**
KORT *i* S **Sn 12 36 21.4 +2.1**
KORT Korkueli 1.87 58 PN **Pn 12 35 58.3 +1.8**
KORT SN **Sn 12 36 20.6 +1.3**
GCAM G?zelcaml? 1.90 332 *i* P **Pn 12 35 57.2 +0.4**
GCAM *i* S **Sn 12 36 17.9 -1.9**
GCAM IAML 12 36 19.0
comp=N,267nm,0.2s
GCAM IAML 12 36 19.0
comp=E,243nm,0.2s
AYDB Zeytinkoy-Aydi 1.96 349 PN **Pn 12 35 58.0 +0.3**
ZKR Zakros 1.97 243 P **Pn 12 35 59.9 +2.1**
ZKR S **Sn 12 36 24.1 +2.6**
ZKR Zakros 1.97 243 P **Pn 12 36 00.2 +2.4**
ZKR Zakros 1.97 243 PN **Pn 12 35 59.7 +1.9**
ZKR Zakros 1.97 243 P **Pn 12 36 00.0 +2.2**
ZKR S **Sn 12 36 24.2 +2.6**
ANTB Antalya 2.04 64 PN **Pn 12 36 00.8 +2.1**
SMG Samos 2.08 324 P **Pn 12 35 59.3 0.0**
SMG S **Sn 12 36 22.4 -1.7**
comp=E,902nm,0.3s
BRDR BURDUR-Merkez 2.15 39 *i* P **Pn 12 36 01.2 +0.9**
BCK Bucak 2.29 51 PN **Pn 12 36 04.0 +1.8**
DGB zmir 2.34 330 *i* P **Pn 12 36 02.5 -0.4**
DGB *i* S **Sn 12 36 27.4 -3.1**
NPS Neapolis 2.37 252 P **Pn 12 36 04.7 +1.5**
SANT Santorini 2.38 279 ⇑P **Pn 12 36 02.6 -0.6**
SANT Santorini 2.38 279 PN **Pn 12 36 04.5 +1.2**
THT2 Imerovigli 2.42 281 PN **Pn 12 36 05.3 +1.5**
MANT Manisa 2.46 4 *i* P **Pn 12 36 04.5 -0.2**
MANT *i* S **Sn 12 36 31.2 -2.6**
KHL Karahalli 2.47 22 PN **Pn 12 36 06.5 +1.8**
PASA Karahalli, USA 2.48 21 *i* P **Pn 12 36 04.6 -0.2**
PASA *i* S **Sn 12 36 31.9 -2.2**
ISP Isparta 2.49 43 PN **Pn 12 36 05.9 +1.0**
KULA Kula-Manisa 2.50 5 P **Pn 12 36 04.9 -0.1**
APE Apeiranthos 2.51 295 ⇓P **Pn 12 36 06.9 +1.8**
APE Apeiranthos 2.51 295 PN **Pn 12 36 07.0 +1.9**
ZEYE Izmir, Urla-Ze 2.66 327 *i* P **Pn 12 36 07.4 +0.2**
ZEYE *i* S **Sn 12 36 35.7 -2.6**
URLA Izmir 2.73 329 *i* P **Pn 12 36 08.1 +0.1**
URLA *i* S **Sn 12 36 37.4 -2.5**
USAK Uak-Merkez 2.73 11 *i* P **Pn 12 36 08.2 0.0**
USAK *i* S **Sn 12 36 37.7 -2.4**
IDI Anoyia 2.92 256 P **Pn 12 36 11.8 +1.0**
comp=E,4.4nm,0.3s,baz=67,slow=15,SNR=45
IDI S **Sn 12 36 42.9 -1.9**
comp=E,24nm,0.3s,baz=295,slow=20,SNR=18
IDI Anoyia 2.92 256 ⇑P Pn 12 36 06.2 -4.6
IDI Anoyia 2.92 256 P **Pn 12 36 11.7 +1.0**
IDI S **Sn 12 36 43.7 -1.1**
comp=E,232nm,0.3s
DEMI Demirci 3.02 5 *i* P **Pn 12 36 12.2 0.0**
DEMI *i* S **Sn 12 36 44.3 -3.0**
ZEDA zmir-Bergama 3.11 341 *i* P **Pn 12 36 13.7 +0.5**
ZEDA *i* S **Sn 12 36 46.0 -3.2**
STEP BALIKESIR_Sava 3.38 351 *i* P **Pn 12 36 17.0 0.0**
STEP *i* S **Sn 12 36 53.8 -2.2**
STEP IAML 12 36 55.0
comp=E,125nm,0.8s
AKMS Akamas 3.39 106 P **Pn 12 36 17.1 0.0**
AKMS AML AML 12 36 55.4
comp=E,1.0nm,0.3s
OSC1 CSNet OBS 1 3.48 136 P **Pn 12 36 17.6 -0.7**
ALFC Alefka 3.56 103 P **Pn 12 36 19.3 -0.1**
ALFC AML AML 12 36 59.3
comp=E,1.1nm,0.2s
ALFC AML AML 12 36 59.7
comp=E,1.4nm,0.2s
IMMV Iera Moni Meta 3.61 262 P **Pn 12 36 21.4 +1.3**
NATA Nata 3.65 109 P **Pn 12 36 21.1 +0.4**
GVDS Gavdos 3.69 253 P **Pn 12 36 23.5 +2.4**
GVD Gavdhos 3.69 253 P **Pn 12 36 22.5 +1.4**
LEF Lefka 3.80 102 ⇓P Pn 12 36 29.0 +6.4
SZAC Souni 3.90 108 ⇑P **Pn 12 36 24.4 +0.3**
ANKY Antikythira Is 4.11 269 P **Pn 12 36 27.8 +0.9**
ANKY S **Sn 12 37 12.5 -1.3**
comp=E,82nm,0.4s
ASGA Asgata 4.17 106 P **Pn 12 36 27.8 0.0**
CSS Mathiatis 4.19 103 ⇑P **Pn 12 36 27.8 -0.2**
SLUM Salum 5.23 211 P **Pn 12 36 42.5 +0.3**
baz=213
SLUM AMP 12 37 00.0
baz=213
SLUM S **Sn 12 37 36.6 -4.6**
baz=213
BRTR Keskin Array B 5.57 47 P **Pn 12 36 48.3 +1.3**
comp=E,1.1nm,0.3s,baz=216,slow=14,SNR=22
BRTR S **Sn 12 37 48.8 -1.0**
comp=E,0.9nm,0.3s,baz=214,slow=27,SNR=6.1
HWQ Hawqa 6.45 103 *eP* **Pn 12 36 59.0 0.0**
MMAI Mount Meron Ar 6.54 115 P **Pn 12 37 00.0 -0.2**
comp=E,12nm,0.3s,baz=297,slow=13,SNR=31
MMAI S **Sn 12 38 08.2 -5.2**
comp=E,14nm,0.3s,baz=340,slow=25,SNR=5.5
RCY Rachaya 6.65 110 *eP* **Pn 12 37 00.9 -0.9**
HNAT Natroun 6.65 163 P **Pn 12 37 02.0 +0.3**
baz=162
HNAT AMP 12 38 00.0
baz=162
HNAT S **Sn 12 38 11.3 -4.8**
baz=162
KOT Kottamia 6.74 153 P **Pn 12 37 02.8 -0.2**
baz=152
HHAG Hagoal 6.82 152 P **Pn 12 37 03.9 -0.1**
baz=150
HSAF As Saff 6.93 156 P **Pn 12 37 05.0 -0.5**
baz=155
GLL Jalalah 7.02 155 P **Pn 12 37 06.2 -0.5**
baz=154
RYAN Fayoum 7.11 166 P **Pn 12 37 08.6 +0.7**
baz=166
SWA2 7.19 201 P **Pn 12 37 09.2 +0.1**
baz=202
SUZ Suez 7.22 147 P **Pn 12 37 09.9 +0.4**
baz=146
ZAF Zafarana 7.59 151 P **Pn 12 37 14.8 +0.2**
baz=150
EIL Elat 8.42 137 P **Pn 12 37 25.2 -0.6**
comp=E,1.3nm,0.3s,baz=30,slow=1.2,SNR=28
EIL S **Sn 12 38 52.1 -7.2**
comp=E,6.4nm,0.3s,baz=347,slow=19,SNR=17
HBST Basata 8.65 140 P **Pn 12 37 29.0 -0.1**
baz=139
NUB Nuweibaa 8.76 141 P **Pn 12 37 30.5 -0.1**
baz=140
HFRF Wahat Farafira 8.85 180 P **Pn 12 37 31.5 -0.3**
baz=181
HFRF S **Sn 12 39 03.0 -6.9**
baz=181
TR2 Tor 2 8.87 148 P **Pn 12 37 31.8 -0.2**
baz=147
HKAT Jabal Katrina 8.87 146 P **Pn 12 37 31.4 -0.8**
baz=145
HKAT S Sn 12 39 02.5 -8.1
baz=145
HDHB Dhahab 9.00 142 P **Pn 12 37 33.9 +0.1**
baz=141
MTUR Matau 9.53 346 ⇓P Pn 12 37 49.9 +8.9
MLR Muntele Rosu 9.63 350 ⇓P Pn 12 37 50.4 +8.0
VOIR 9.73 346 ⇓P Pn 12 37 51.7 +7.9

HHRG Al Ghardaqah 9.83 152 P **Pn 12 37 47.1 +1.8**
baz=151
HDK1 Dakhla 10.49 175 P **Pn 12 37 54.7 +0.6**
baz=174
ESDC Sonseca Array 25.71 288 P **P 12 40 50.3 -0.3**
comp=E,0.8nm,0.6s,baz=82,slow=9.3,SNR=8.7
TORD Torodi Ar. Bea 33.07 233 P **P 12 41 57.1 +1.1**
comp=E,0.4nm,0.4s,baz=37,slow=8.0,SNR=1.5
TORD pP **pP 12 42 12.6 +0.8**
comp=E,0.3nm,0.3s,baz=41,slow=8.5,SNR=1.9
MKAR Makanchi Array 41.11 58 P **P 12 43 04.8 +1.0**
comp=E,0.4nm,0.7s,baz=284,slow=6.6,SNR=4.7

*IDC **24** 12:41:12.1±1.3,23°.70S×64°.61W,h0km,mb3.6/3, mb1 3.9/7,mb1mx3.6/40,mbtmp3.7/7,ML3.8/4,MS3.3/4, Ms1 3.3/4,ms1mx2.9/22,Error ellipse: s-maj=29.2km s-min=19.5km az=31.0*
*SJA **24** 12:41:14.1±0.4,23°.71S×64°.82W,h12km±2km,ML4.1, MW4.0*
*NEIC **24** 12:41:14.8±2.3,23°.76S±0°.09×64°.61W±0°.08,h10km±2km, Md4.1(SJA),Error ellipse: s-maj=15.3km s-min=13.0km az=177.0*
ISC 24 12:41:13.5±0.7,23°.73S±0°.05×64°.61W±0°.06,h10km,n35, σ1°54/39,mb3.6/3,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.90**	**305**	*i* P		**Pg**		**12 41 29.4**	**-1.5**
HJA				*eS*		**Sg**		**12 41 40.9**	**-1.7**
HJA				IAML				12 41 44.2	
comp=Z,5μm,0.3s									
SLA	**San Lorenzo**	**1.28**	**219**	*i* P		**Pn**		**12 41 37.0**	**-0.6**
SLA				*eS*		**Sb**		**12 41 54.2**	**-0.1**
SLA				IAML				12 41 57.1	
comp=Z,6μm,0.7s									
YJA	**Yavi**	**1.76**	**332**	*i* P		**Pn**		**12 41 46.1**	**+1.7**
YJA				*eS*		**Sn**		**12 42 09.3**	**+2.2**
FSA	**Cafayete**	**2.67**	**207**	*i* P		**Pn**		**12 41 56.9**	**+0.1**
FSA				*eS*		**Sn**		**12 42 30.9**	**+1.5**
LVC	**Limon Verde**	**4.11**	**285**	Pn		**Pn**		**12 42 18.5**	**+1.8**
comp=Z,2.1nm,0.3s,baz=116,slow=9.2,SNR=9.5									
LVC				LR		LR		12 43 47.0	
comp=Z,115nm,18.1s,baz=106,slow=38									
LVC	**Limon Verde**	**4.11**	**285**			**Pn**		**12 42 17.7**	**+1.0**
PB15	**IPOC Station P**	**4.49**	**276**			**Pn**		**12 42 24.0**	**+2.2**
PB06	**IPOC Station P**	**4.67**	**282**	Pn		**Pn**		**12 42 25.9**	**+1.5**
PB06	**IPOC Station P**	**4.67**	**282**	*i* P		**Pn**		**12 42 26.1**	**+1.8**
PB09	**IPOC Station P**	**4.69**	**293**	Pn		**Pn**		**12 42 27.5**	**+3.0**
GO02	**Mina Guanaco**	**4.75**	**252**	Pn		**Pn**		**12 42 26.9**	**+1.3**
AC02	**Maricunga**	**5.12**	**232**			**Pn**		**12 42 31.7**	**+0.9**
PB01	**IPOC Station P**	**5.25**	**300**	Pn		**Pn**		**12 42 33.5**	**+1.4**
PB07	**IPOC Station P**	**5.26**	**291**	Pn		**Pn**		**12 42 33.4**	**+1.0**
PB14	**IPOC Station P**	**5.36**	**259**	Pn		**Pn**		**12 42 32.5**	**-1.4**
PB10	**IPOC Station P**	**5.45**	**271**	Pn		**Pn**		**12 42 35.8**	**+1.0**
PB08	**IPOC Station P**	**5.53**	**309**	Pn		**Pn**		**12 42 38.8**	**+2.5**
TA01	**Diego Aracena**	**6.05**	**300**	Pn		**Pn**		**12 42 43.2**	**+0.2**
PB11	**IPOC Station P**	**6.13**	**309**	Pn		**Pn**		**12 42 45.1**	**+0.8**
MNMC	**Minye Minye**	**6.52**	**314**			**Pn**		**12 42 52.5**	**+2.7**
PSGCX	**Pisagua**	**6.57**	**308**			**Pn**		**12 42 50.7**	**+0.3**
CPUP	**Villa Florida**	**7.09**	**113**	Pn		**Pn**		**12 42 58.3**	**+0.9**
comp=Z,1.7nm,0.3s,baz=296,slow=12,SNR=15									
CPUP				Lg		Lg		12 44 59.1	
comp=Z,2.0nm,0.3s,baz=7.8,slow=18,SNR=3.0									
CPUP	**Villa Florida**	**7.09**	**113**			**Pn**		**12 42 58.8**	**+1.4**
LPAZ	**La Paz**	**8.11**	**335**	Pn		**Pn**		**12 43 12.2**	**+0.3**
comp=Z,0.3nm,0.3s,baz=153,slow=11,SNR=2.7									
LPAZ				Sn		**Sn**		**12 44 43.8**	**-0.3**
comp=Z,0.3nm,0.3s,baz=242,slow=17,SNR=1.5									
LPAZ	**La Paz**	**8.11**	**335**			**Pn**		**12 43 12.7**	**+0.7**
SIV	**San Ignacio**	**8.39**	**24**	Pn		**Pn**		**12 43 16.1**	**+0.8**
comp=Z,1.5nm,0.3s,baz=229,slow=7.2,SNR=27									
SIV				Sn		**Sn**		**12 44 46.3**	**-3.8**
comp=Z,1.3nm,0.3s,baz=360,slow=23,SNR=1.3									
SIV				Lg		Lg		12 45 36.8	
comp=Z,1.7nm,0.3s,baz=278,slow=18,SNR=1.6									
AQDB	**Aquidauana**	**8.88**	**70**	Pn		**Pn**		**12 43 23.7**	**+1.8**
PLTB	**Pedras Altas**	**12.60**	**132**	Pn		**Pn**		**12 44 12.4**	**-0.5**
BDFB	**Brasilia**	**17.57**	**66**	LR		LR		12 52 46.9	
comp=Z,92nm,21.5s,baz=4.8,slow=40									
PTGA	**Pitinga**	**23.31**	**12**	LR		LR		12 56 11.7	
comp=Z,64nm,18.2s,baz=166,slow=39									
TXAR	**Lajitas Array**	**64.77**	**323**	P		**P**		**12 51 52.9**	**+0.5**
comp=Z,0.3nm,0.7s,baz=151,slow=5.8,SNR=2.4									
TORD	**Torodi Ar. Bea**	**74.44**	**68**	P		**P**		**12 52 52.2**	**-0.1**
comp=Z,1.6nm,1.2s,baz=229,slow=6.0,SNR=1.7									
TORD				LR		LR		13 25 57.3	
comp=Z,53nm,18.1s,baz=205,slow=36									
PDAR	**Pinedale Array**	**78.06**	**328**	P		**P**		**12 53 11.8**	**-0.8**
comp=Z,0.2nm,0.5s,baz=143,slow=7.6,SNR=2.7									
WRA	**Warramunga Arr**	**132.82**	**205**	PKP		**PKPdf**		**13 00 29.0**	**-0.7**
comp=Z,0.4nm,1.1s,baz=179,slow=1.7,SNR=1.4									
MKAR	**Makanchi Array**	**144.91**	**41**	PKP		**PKPab**		**13 00 49.6**	**-0.4**
comp=Z,0.2nm,0.6s,baz=302,slow=3.2,SNR=4.3									

IDC 24 12:50:04.3±3.3,24°.04S×64°.87W,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.7/28,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=113.8km s-min=24.1km az=32.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**7.20**	**110**	Pn		Pn		12 51 51.9	+1.1
0.3nm,0.3s,baz=290,slow=12,SNR=6.7									
CPUP				Lg		Lg		12 53 52.5	
1.2nm,0.3s,baz=246,slow=20,SNR=2.1									
LPAZ	**La Paz**	**8.30**	**338**	Pn		Pn		12 52 07.4	+0.9
0.2nm,0.3s,baz=152,slow=6.8,SNR=4.8									
LPAZ				Sn		Sn		12 53 36.0	-5.3
0.2nm,0.3s,baz=273,slow=19,SNR=2.2									
TORD	**Torodi Ar. Bea**	**74.77**	**68**	P		P		13 01 46.1	-0.6
0.5nm,0.4s,baz=244,slow=5.6,SNR=1.4									
PDAR	**Pinedale Array**	**78.19**	**328**	P		P		13 02 05.5	-0.3
0.3nm,0.5s,baz=139,slow=8.4,SNR=3.7									
MKAR	**Makanchi Array**	**145.30**	**41**	PKPbc		PKPbc		13 09 43.6	-0.2
0.2nm,0.7s,baz=318,slow=3.0,SNR=1.8									

*TAP **24** 12:53:08.9,24°.94N×122°.76E,h19km±2km,ML2.8,C*
*JMA **24** 12:53:09.5±0.3,24°.85N×122°.74E,h30km,M1.5*
ISC 24 12:53:07.9±1.7,24°.87N±0°.07×122.74E±0°.04,h3km±12km, n28,σ0°61/37,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**156**	P		**Pb**		**12 53 18.4**	**-0.1**
JYNG				*eS*		**Sb**		**12 53 25.1**	**-0.5**
YOJ	**Yonaguni jima**	**0.47**	**149**	P		**Pb**		**12 53 19.1**	**+0.3**
YOJ				*eS*		**Sb**		**12 53 25.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.47**	**149**	*i* P		**Pb**		**12 53 19.5**	**+0.7**
baz=155									
TIPB	**Shuangxi**	**0.84**	**277**	*eP*		**Pb**		**12 53 24.5**	**-0.6**
baz=272									
TWC	**Suao**	**0.85**	**253**	*eP*		**Pg**		**12 53 24.6**	**+0.3**
baz=257									
TWC				*eS*		**Sg**		**12 53 34.8**	**-0.4**
baz=257									
NWF	**Wu-fen Shan**	**0.90**	**283**	*eP*		**Pn**		**12 53 28.7**	**+1.3**
baz=278									
WFSB	**Wu-fen Shan**	**0.90**	**283**	*eP*		**Pb**		**12 53 26.0**	**0.0**
baz=278									
NDS	**Dongshan**	**0.96**	**256**	*eP*		**Pg**		**12 53 26.4**	**0.0**
baz=245									
EWUT	**Wuta**	**0.97**	**245**	*eP*		**Pn**		**12 53 29.7**	**+1.3**
baz=242									
TWE	**Neicheng**	**0.99**	**262**	*eP*		**Pg**		**12 53 26.6**	**-0.2**
baz=257									
TWE				*eS*		**Sg**		**12 53 40.1**	**+0.5**
baz=257									
IRIF	**Iriomote-Funau**	**1.04**	**120**	P		**Pb**		**12 53 27.7**	**-0.9**
NWLT	**Wulai**	**1.13**	**266**	*eP*		**Pg**		**12 53 29.1**	**-0.5**
baz=262									
NWLT				*eS*		**Sb**		**12 53 44.9**	**-0.2**
baz=262									
NACB	**Ninganchiao**	**1.25**	**237**	P		**Pb**		**12 53 32.1**	**0.0**
baz=227									
NACB				*eS*		**Sg**		**12 53 46.9**	**-1.3**
baz=227									
YHNB	**Yeheng**	**1.26**	**261**	*eP*		**Pg**		**12 53 31.5**	**-0.5**
baz=258									
YHNB				*eS*		**Sg**		**12 53 48.6**	**+0.3**
baz=258									
NNSB	**Datong**	**1.31**	**251**	⇓*eP*		**Pg**		**12 53 33.0**	**-0.1**
baz=249									
NNSH	**Datong**	**1.31**	**251**	*eP*		**Pn**		**12 53 32.8**	**-0.4**
baz=249									
NNS	**Nan Shan**	**1.31**	**252**	*eP*		**Pb**		**12 53 33.8**	**+0.5**
baz=249									
ETLH	**Xiulin Townshi**	**1.32**	**241**	*eP*		**Pg**		**12 53 33.5**	**+0.2**
baz=239									
FUSS	**Fushou**	**1.50**	**246**	P		**Pg**		**12 53 36.6**	**0.0**
baz=252									
FUSS				*eS*		**Sn**		**12 53 55.6**	**-0.4**
baz=252									
WHF	**Hehuan Shan**	**1.52**	**242**	*eP*		**Pb**		**12 53 36.6**	**-0.4**
baz=240									
WHF				S		**Sn**		**12 53 56.5**	**-0.4**
baz=240									
TDCB	**Techi**	**1.56**	**247**	*eP*		**Pg**		**12 53 39.2**	**+1.2**
baz=246									
CHGB	**Renai**	**1.64**	**241**	*eP*		**Pg**		**12 53 39.7**	**+0.3**
baz=226									
WHP	**Taichung City**	**1.74**	**251**	*eP*		**Pg**		**12 53 41.8**	**+0.6**
baz=236									
WCS	**Beigang Elemen**	**1.85**	**245**	*eP*		**Pg**		**12 53 43.0**	**-0.4**
baz=243									
SMLT	**Sun Moon Lake**	**1.94**	**240**	*eP*		**Pg**		**12 53 45.5**	**+0.3**
baz=224									
TYC	**Yuchr**	**1.97**	**241**	*eP*		**Pg**		**12 53 45.9**	**+0.3**
baz=225									
ALS	**Alishan**	**2.22**	**233**	*eP*		**Pb**		**12 53 48.0**	**-0.9**
baz=218									
CHN5	**Tsauling**	**2.27**	**237**	*eP*		**Pb**		**12 53 49.9**	**+0.3**
baz=221									

*IDC **24** 13:02:43.2±1.0,31°.99S×178°.06W,h0km,mb4.2/5, mb1 4.4/7,mb1mx4.0/23,mbtmp4.1/7,ML3.8/2,MS3.5/1, Ms1 3.5/1,ms1mx2.7/25,Error ellipse: s-maj=37.5km s-min=24.4km az=137.0*
*NEIC **24** 13:02:44.0±1.6,32°.01S±0°.08×177°.84W±0°.05,h10km±2km, mb4.5/10,Error ellipse: s-maj=13.6km s-min=7.5km az=183.0*
ISC 24 13:02:44.4±0.8,32°.01S±0°.08×178°.2W±0°.2,h10km,n26, σ1°28/27,mb4.3/11,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.75**	**4**	Pn		**Pn**		**13 03 26.8**	**-1.7**
63nm,0.3s,baz=90,slow=20,SNR=2.5									
RAO				Sn		**Sn**		**13 03 59.1**	**-2.8**
43nm,0.3s,baz=90,slow=20,SNR=1.7									
URZ	**Urewera**	**7.35**	**211**	Pn		**Pn**		**13 04 30.4**	**-1.2**
0.4nm,0.3s,baz=38,slow=18,SNR=2.3									
URZ				Sn		**Sn**		**13 05 52.3**	**-2.8**
2.3nm,0.3s,baz=146,slow=19,SNR=7.8									
URZ	**Urewera**	**7.35**	**211**	Pn		**Pn**		**13 04 31.0**	**-0.7**
DZM	**Mont Dzumac**	**16.90**	**302**	LR		LR		13 12 09.5	
comp=Z,136nm,18.5s,baz=116,slow=33									
SANVU	**Saraoutou**	**21.21**	**318**	P		**P**		**13 07 30.3**	**0.0**
EIDS	**Eidsvold**	**27.73**	**276**	P		**P**		**13 08 33.2**	**+0.1**
EIDS				IAmb		IAmb		13 08 43.3	
comp=Z,7.0nm,1.3s									
CTAO	**Charters Tower**	**33.96**	**282**	P		**P**		**13 09 29.2**	**+1.1**
CTAO				IAmb		IAmb		13 09 35.8	
comp=Z,7.9nm,1.1s									
AS31	**Alice Springs**	**42.92**	**269**	P		**P**		**13 10 45.0**	**+1.5**
ASAR	**Alice Springs**	**42.92**	**269**	P		**P**		**13 10 44.8**	**+1.2**
comp=Z,1.2nm,0.6s,baz=107,slow=7.6,SNR=18									
ASAR	**Alice Springs**	**42.92**	**269**	P		**P**		**13 10 43.4**	**-0.2**
WR0	**Warramunga Arr**	**43.88**	**274**	P		**P**		**13 10 52.4**	**+1.2**
WR0				IAmb		IAmb		13 11 05.1	
comp=Z,10nm,1.2s									
WB2	**Warramunga Arr**	**44.04**	**274**	P		**P**		**13 10 54.0**	**+1.4**
WB2				IAmb		IAmb		13 11 02.8	
comp=Z,10nm,1.3s									
WRA	**Warramunga Arr**	**44.05**	**274**	P		**P**		**13 10 53.9**	**+1.3**
comp=Z,1.5nm,0.4s,baz=114,slow=7.7,SNR=58									
WRA	**Warramunga Arr**	**44.05**	**274**	P		**P**		**13 10 53.5**	**+0.8**
WB0	**Warramunga Arr**	**44.09**	**274**	P		**P**		**13 10 54.2**	**+1.3**
WB0				IAmb		IAmb		13 11 06.8	
comp=Z,3.8nm,0.7s									
KNRA	**Kununurra**	**50.72**	**276**	P		**P**		**13 11 45.6**	**+1.0**
KNRA				IAmb		IAmb		13 11 48.9	
comp=Z,7.1nm,1.1s									
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**		**13 12 37.2**	**-0.7**
PETK	**Petropavlovsk-**	**87.33**	**346**	P		**P**		**13 15 31.5**	**+0.5**
comp=Z,0.9nm,0.8s,baz=151,slow=9.9,SNR=4.6									
NVAR	**Mina Array Bea**	**89.50**	**43**	P		**P**		**13 15 42.1**	**+0.2**
comp=Z,1.3nm,1.0s,baz=220,slow=6.8,SNR=5.9									
PDAR	**Pinedale Array**	**97.38**	**44**	P		**P**		**13 16 19.7**	**+1.5**
comp=Z,0.3nm,0.4s,baz=220,slow=4.1,SNR=2.4									
MKAR	**Makanchi Array**	**118.70**	**309**	PKP		**PKPdf**		**13 21 33.1**	**+0.7**
comp=Z,0.1nm,0.4s,baz=114,slow=3.6,SNR=2.4									
KURBB	**Kurchatov Arra**	**122.09**	**313**	PKP		**PKPdf**		**13 21 38.5**	**-0.2**
comp=Z,0.3nm,0.4s,baz=104,slow=0.7,SNR=2.8									
KBZ	**Khabaz**	**145.88**	**302**	PKPbc		**PKPdf**		**13 22 24.4**	**+1.2**
comp=Z,1.7nm,0.8s,baz=120,slow=9.6,SNR=3.9									
FINES	**FINESS Array B**	**146.60**	**339**	PKPbc		**PKPdf**		**13 22 24.6**	**+0.8**
comp=Z,3.1nm,0.7s,baz=62,slow=3.7,SNR=14									
AKASG	**Malin Array Be**	**152.48**	**321**	PKPbc		**PKPbc**		**13 22 40.9**	**+0.5**
comp=Z,0.4nm,0.4s,baz=46,slow=2.5,SNR=1.8									
TORD	**Torodi Ar. Bea**	**161.23**	**180**	PKPab		**PKPab**		**13 23 29.4**	**+0.3**
comp=Z,0.6nm,0.9s,baz=190,slow=2.0,SNR=3.5									

IDC 24 13:04:41.7±2.8,23°.56S×64°.60W,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.6/22,mbtmp3.6/4,ML3.8/2,MS2.3/1, Ms1 2.3/1,ms1mx2.2/19,Error ellipse: s-maj=93.3km s-min=22.1km az=37.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**7.15**	**114**	Pn		Pn		13 06 27.7	+0.1
1.1nm,0.3s,baz=285,slow=12,SNR=15									
CPUP				Lg		Lg		13 08 29.1	
1.0nm,0.3s,baz=18,slow=19,SNR=1.8									
CPUP				LR		LR		13 09 17.3	
comp=Z,23nm,20.8s,baz=354,slow=39									
LPAZ	**La Paz**	**7.96**	**335**	Pn		Pn		13 06 39.8	+0.5
0.2nm,0.3s,baz=160,slow=8.9,SNR=2.1									
LPAZ				Sn		Sn		13 08 11.7	+1.3
0.2nm,0.3s,baz=254,slow=15,SNR=2.1									
TORD	**Torodi Ar. Bea**	**74.36**	**68**	P		P		13 16 21.4	-0.4
0.5nm,0.6s,baz=252,slow=5.8,SNR=1.9									
PDAR	**Pinedale Array**	**77.92**	**328**	P		P		13 16 41.5	-0.3
0.2nm,0.5s,baz=125,slow=7.8,SNR=1.5									
MKAR	**Makanchi Array**	**144.77**	**41**	PKP		PKPdf		13 24 21.0	+0.4
0.2nm,0.3s,baz=316

WRA	**Warramunga Arr**	**44.09 272**	P	**P**	**13 25 23.8**	**-0.1**
WB0	**Warramunga Arr**	**44.11 272**	P	**P**	**13 25 23.7**	**-0.4**
WB0			IAmb	IAmb	13 25 33.3	
	comp=Z,5.8nm,1.3s					
KNRA	**Kununurra**	**50.69 274**	P	**P**	**13 26 15.4**	**+0.1**
KNRA			IAmb	IAmb	13 26 29.1	
	comp=Z,8.4nm,1.2s					
QSPA	**South Pole Qui**	**59.80 180**	P	**P**	**13 27 22.3**	**+2.0**
QSPA			IAmb	IAmb	13 27 33.9	
	comp=Z,2.0nm,1.2s					
FINES	**FINESS Array B**	**145.06 340**	PKPbc	**PKPab**	**13 36 51.0**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=81,slow=8.6,SNR=1.6					
AKASG	**Malin Array Be**	**151.22 323**	PKPbc	**PKiKP**	**13 37 08.2**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=61,slow=1.8,SNR=2.0					

IDC 24 13:19:46.4±5.8,32°.03S×178°.13W,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.4/19,mbtmp3.4/2,Error ellipse: s-maj=232.0km s-min=62.7km az=158.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.34**	**211**	Sn	Sn	13 22 56.7	-2.0
	0.5nm,0.3s,baz=17,slow=18,SNR=1.8						
ASAR	**Alice Springs**	**42.93**	**269**	P	P	13 27 47.3	+0.1
	0.2nm,0.4s,baz=109,slow=7.4,SNR=7.9						
WRA	**Warramunga Arr**	**44.07**	**274**	P	P	13 27 56.0	-0.3
	0.2nm,0.3s,baz=115,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**146.62**	**339**	PKPbc	PKPdf	13 39 28.3	+0.7
	2.9nm,0.9s,baz=46,slow=4.0,SNR=1.9						

*SOME **24** 13:23:44.0,37°.55N×78°.23E,h0km,MS4.4*
*MOS **24** 13:23:44.1±1.1,37°.44N×78°.14E,h21km,mb5.0/46, MS4.3/11,Error ellipse: s-maj=5.5km s-min=3.6km az=107.8*
*IDC **24** 13:23:45.4±0.6,37°.46N×78°.08E,h18km±3km,mb4.4/28, mb1 4.5/33,mb1mx4.4/40,mbtmp4.5/33,ML4.3/4,MS3.9/25, Ms1 3.9/25,ms1mx3.8/37,Error ellipse: s-maj=11.6km s-min=9.5km az=24.0*
*BJI **24** 13:23:45.0±0.0,37°.49N×78°.04E,h10km,mB4.7/35, mb4.6/48,ML4.9/8,Ms4.5/46,Ms7 4.3/43*
*NNC **24** 13:23:46.3±1.1,37°.64N×78°.06E,h0km,mb5.2,mpv4.9, Error ellipse: s-maj=9.1km s-min=8.3km az=121.0*
*NEIC **24** 13:23:48.6±1.5,37°.50N±0°.05×78°.07E±0°.06,h39km±6km, mb4.9/71,Error ellipse: s-maj=9.9km s-min=4.0km az=138.0*
*BGR **24** 13:24:07.6±0.0,39°.44N×75°.84E,h22km,mb4.8,Ms4.2*
ISC 24 13:23:46.7±0.4,37°.47N±0°.04×77°.98E±0°.03,h26km±2km, h26km:pP-P,n569,σ1°75/643,mb4.9/158,MS4.2/51, 35C-30D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.58**	**323**	Pg	**Pn**	**13 24 27.8**	**+1.0**
KSH				Sg	**Sn**	**13 24 55.4**	**-1.9**
KSH				smax	smax		
	comp=N,66μm,0.3s						
KSH				smax	smax		
	comp=E,52μm,0.3s						
TARG	**Taragay, Kyrgy**	**4.25**	**358**		**Pn**	**13 24 52.4**	**+2.3**
KDJ	**Kajisay**	**4.69**	**353**	P	**Pn**	**13 24 58.3**	**+2.4**
KDJ	**Kajisay**	**4.69**	**353**	Pn	**Pn**	**13 24 58.3**	**+2.4**
ULHL	**Ulahol**	**4.95**	**345**	P	**Pb**	**13 25 15.4**	**+2.6**
	SNR=8.2						
PRZ	**Przheval'sk**	**5.01**	**4**	P	**Pn**	**13 25 02.9**	**+2.5**
PRZ	**Przheval'sk**	**5.01**	**4**		**Pn**	**13 25 02.9**	**+2.5**
DRK	**Karamyk**	**5.25**	**294**		**Pn**	**13 25 07.2**	**+3.6**
BOOM	**Boomskoye usch**	**5.25**	**343**	P	**Pn**	**13 25 04.9**	**+1.3**
BOOM	**Boomskoye usch**	**5.25**	**343**	Pn	**Pn**	**13 25 04.9**	**+1.3**
CHCP	**Chirah Chowk**	**5.41**	**227**	P	**Pn**	**13 25 09.5**	**+3.8**
NIL	**Nilore**	**5.42**	**227**	P	**Pn**	**13 25 09.5**	**+3.6**
NIL	**Nilore**	**5.42**	**227**		**Pn**	**13 25 09.5**	**+3.6**
NIL	**Nilore**	**5.42**	**227**	P	**Pn**	**13 25 09.4**	**+3.5**
SATY	**Saty**	**5.59**	**3**	*e*P	Pb	13 25 28.8	+5.2
	310nm,1.1s						
SATY				*e*S	Sb	13 26 44.2	+14
	713nm,1.0s						
SATY	**Saty**	**5.59**	**3**	Pg	**Pb**	**13 25 27.5**	**+3.9**
	310nm,1.1s						
SATY				Lg	Lg	13 26 42.5	
	713nm,1.0s						
IZV	**Izvestkoviy**	**5.65**	**350**	*e*P	Pb	13 25 29.5	+4.8
	182nm,0.8s						
IZV				*e*S	Sb	13 26 45.6	+14
	449nm,1.0s						
IZV	**Izvestkoviy**	**5.65**	**350**	Pg	**Pb**	**13 25 27.1**	**+2.5**
	182nm,0.8s						
IZV				Lg	Lg	13 26 42.4	
	449nm,1.0s						
KBK	**Karagaybulak**	**5.67**	**337**	P	**Pn**	**13 25 12.3**	**+2.8**
	SNR=14						
AML	**Almayashu**	**5.70**	**326**	P	**Pn**	**13 25 12.8**	**+2.8**
	SNR=16						
AML	**Almayashu**	**5.70**	**326**	*i* P	**Pn**	**13 25 12.4**	**+2.4**
	SNR=35						
AML	**Almayashu**	**5.70**	**326**	P	**Pn**	**13 25 12.3**	**+2.2**
UZB	**Uzynbulak**	**5.72**	**8**	*e*P	**Pn**	**13 25 11.2**	**+1.1**
UZB				pmax	pmax		
	comp=Z,16nm,0.7s						
MDOK	**Medeo**	**5.73**	**353**	*e*P	Pb	13 25 31.4	+5.5
	comp=Z,128nm,0.8s						
MDOK				*e*S	Sb	13 26 48.5	+14
	comp=Z,503nm,1.0s						
MDOK	**Medeo**	**5.73**	**353**	⇑Pn	**Pn**	**13 25 11.3**	**+1.2**
	comp=Z,12nm,0.5s						
MDOK				⇑Pg	**Pb**	**13 25 28.0**	**+2.0**
	comp=Z,250nm,0.8s						
MDOK				⇑Lg	Lg	13 26 44.1	
	comp=Z,661nm,0.8s						
MDOK	**Medeo**	**5.73**	**353**	Pg	**Pb**	**13 25 28.2**	**+2.3**
	comp=Z,128nm,0.8s						
MDOK				Lg	Lg	13 26 43.8	
	comp=Z,503nm,1.0s						
MDOK	**Medeo**	**5.73**	**353**	P	**Pn**	**13 25 11.3**	**+1.2**
TKM2	**Tokmak 2**	**5.74**	**342**	P	**Pn**	**13 25 13.0**	**+2.7**
	SNR=51						
TKM2	**Tokmak 2**	**5.74**	**342**	⇓Pn	**Pn**	**13 25 12.5**	**+2.1**
	comp=Z,36nm,0.7s						
TKM2				⇑Pg	**Pb**	**13 25 29.1**	**+2.9**
	comp=Z,122nm,0.8s						
TKM2				⇓Lg	Lg	13 26 44.5	
	comp=Z,713nm,1.5s						
TKM2	**Tokmak 2**	**5.74**	**342**	P	**Pn**	**13 25 12.5**	**+2.1**
KST	**Kastek**	**5.77**	**345**	*e*P	Pb	13 25 32.8	+6.2
	comp=Z,166nm,1.1s						
KST				*e*S	Sb	13 26 51.4	+16
	comp=Z,484nm,1.3s						
KST	**Kastek**	**5.77**	**345**	Pg	**Pb**	**13 25 29.6**	**+2.9**
	comp=Z,166nm,1.1s						
KST				Lg	Lg	13 26 46.5	
	comp=Z,484nm,1.3s						
KNDC	**Almaty**	**5.79**	**353**	⇑Pg	**Pb**	**13 25 29.5**	**+2.6**
	comp=Z,541nm,0.7s						
KNDC				⇑Lg	Lg	13 26 45.3	
	comp=Z,2μm,0.9s						
SHLS	**Shalkode**	**5.79**	**11**	*e*P	**Pn**	**13 25 13.4**	**+2.4**
SHLS				pmax	pmax		
	comp=Z,12nm,0.4s						
AAK	**Ala-Archa**	**5.81**	**334**	Pn	**Pn**	**13 25 13.9**	**+2.7**
	comp=Z,3.5nm,0.3s,baz=161,slow=9.6,SNR=22						
AAK				Pg	**Pb**	**13 25 31.3**	**+4.0**
	comp=Z,9.2nm,0.3s,baz=146,slow=10,SNR=8.3						
AAK				Lg	Lg	13 26 44.1	
	comp=Z,14nm,0.3s,baz=221,slow=20,SNR=4.5						
AAK	**Ala-Archa**	**5.81**	**334**	P	**Pn**	**13 25 13.9**	**+2.7**
	SNR=12						
AAK	**Ala-Archa**	**5.81**	**334**	*i* P	**Pn**	**13 25 14.1**	**+2.9**
	SNR=16						
AAK	**Ala-Archa**	**5.81**	**334**	⇑Pn	**Pn**	**13 25 14.0**	**+2.7**
	comp=Z,122nm,0.9s						
AAK				⇓Pg	**Pb**	**13 25 30.7**	**+3.4**
	comp=Z,161nm,0.7s						
AAK				⇑Lg	Lg	13 26 47.8	
	comp=Z,1μm,1.2s						
AAK	**Ala-Archa**	**5.81**	**334**		**Pn**	**13 25 13.9**	**+2.7**
AAK	**Ala-Archa**	**5.81**	**334**	P	**Pn**	**13 25 14.2**	**+2.9**
FRU1	**Bishkek**	**5.91**	**335**	P	**Pn**	**13 25 16.2**	**+3.5**
FRU1	**Bishkek**	**5.91**	**335**		**Pn**	**13 25 16.1**	**+3.5**
PDGK	**Podgornoye**	**5.96**	**11**	Pg	**Pb**	**13 25 31.9**	**+2.0**
	comp=Z,43nm,0.5s						
PDGK				Lg	Lg	13 26 50.4	
	comp=Z,212nm,1.0s						
PDGK	**Podgornoye**	**5.96**	**11**	⇓Pn	**Pn**	**13 25 14.2**	**+0.9**
	comp=Z,76nm,0.6s						
PDGK				⇑Pg	**Pb**	**13 25 32.3**	**+2.4**
	comp=Z,286nm,1.1s						
PDGK				⇑Lg	Lg	13 26 50.4	
	comp=Z,1μm,1.3s						
PDGK	**Podgornoye**	**5.96**	**11**	P	**Pn**	**13 25 14.2**	**+0.9**
DGS	**Degeres**	**6.00**	**344**	*e*P	Pb	13 25 36.0	+5.4
	comp=Z,195nm,0.8s						
DGS				*e*S	Sb	13 26 56.4	+14
	comp=Z,274nm,1.1s						
DGS	**Degeres**	**6.00**	**344**	Pg	**Pb**	**13 25 33.3**	**+2.7**
	comp=Z,195nm,0.8s						
DGS				Lg	Lg	13 26 53.0	
	comp=Z,215nm,0.7s						
KPKS	**Kokpek**	**6.01**	**5**	*e*P	**Pn**	**13 25 15.2**	**+1.2**
KPKS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CHMS	**Chumysh**	**6.04**	**337**	P	**Pn**	**13 25 16.9**	**+2.6**
	SNR=26						
EKS2	**Erkin-Say**	**6.10**	**329**	P	**Pn**	**13 25 18.6**	**+3.4**
	SNR=50						
CEP	**Cherat**	**6.14**	**235**	P	**Pn**	**13 25 17.9**	**+2.1**
BTK	**Batken**	**6.16**	**297**	P	**Pn**	**13 25 18.2**	**+2.1**
BTK	**Batken**	**6.16**	**297**	Pn	**Pn**	**13 25 18.2**	**+2.1**
GAR	**Garm**	**6.22**	**287**		**Pn**	**13 25 18.9**	**+2.1**
KTBS	**Karatobe**	**6.31**	**351**	*e*P	Pb	13 25 40.4	+4.7
	comp=Z,93nm,0.6s						
KTBS				*e*S	Sb	13 27 03.9	+13
	comp=Z,368nm,0.9s						
KTBS	**Karatobe**	**6.31**	**351**	Pg	**Pb**	**13 25 39.1**	**+3.4**
	comp=Z,82nm,0.8s						
KTBS				Lg	Lg	13 27 02.3	
	comp=Z,368nm,0.9s						
USP	**Ospenovka**	**6.37**	**336**	P	**Pn**	**13 25 21.9**	**+3.1**
	SNR=8.0						
MRKS	**Merke**	**6.40**	**327**	*e*P	Pb	13 25 44.7	+7.3
	comp=Z,56nm,0.9s						
MRKS				*e*S	Sb	13 27 11.5	+18
	comp=Z,309nm,1.5s						
MRKS	**Merke**	**6.40**	**327**	Pg	**Pb**	**13 25 39.0**	**+1.7**
	comp=Z,56nm,0.9s						
MRKS				Lg	Lg	13 27 02.4	
	comp=Z,309nm,1.5s						
KRBS	**Karabastau**	**6.46**	**345**	*e*P	Pb	13 25 46.0	+7.7
	comp=Z,160nm,0.8s						
KRBS				*e*S	Sb	13 27 13.9	+19
	comp=Z,239nm,1.2s						
KRBS	**Karabastau**	**6.46**	**345**	Pg	**Pb**	**13 25 40.9**	**+2.6**
	comp=Z,160nm,0.8s						
KRBS				Lg	Lg	13 27 06.1	
	comp=Z,211nm,0.8s						
SGDS	**Sogindy**	**6.49**	**338**	Pg	**Pb**	**13 25 40.8**	**+1.9**
	comp=Z,65nm,0.9s						
SGDS				Lg	Lg	13 27 05.9	
	comp=Z,155nm,1.3s						
ARXS	**Arharly**	**6.73**	**359**	Pg	**Pb**	**13 25 45.5**	**+2.5**
	comp=Z,287nm,0.8s						
ARXS				Lg	Lg	13 27 14.2	
	comp=Z,209nm,0.8s						
ARXS	**Arharly**	**6.73**	**359**	*e*P	**Pn**	**13 25 25.1**	**+1.2**
THW	**Thamme Wali**	**6.92**	**229**	P	**Pn**	**13 25 27.9**	**+1.5**
DJR	**Jarkent**	**6.99**	**11**	Pg	**Pb**	**13 25 50.7**	**+3.4**
	comp=Z,6.3nm,0.6s						
DJR				Lg	Lg	13 27 23.1	
	comp=Z,26nm,1.7s						
CHGR	**Chuyangaron**	**7.06**	**282**		**Pn**	**13 25 28.7**	**+0.3**
TDK	**Taldyqorghan**	**7.53**	**2**	Pg	Pb	13 26 02.2	+5.7
	comp=Z,353nm,0.8s						
TDK				Lg	Lg	13 27 42.5	
	comp=Z,460nm,1.3s						
KBL	**Kabul**	**7.81**	**251**	P	**Pn**	**13 25 40.1**	**+1.3**
KBL	**Kabul**	**7.81**	**251**		**Pn**	**13 25 40.1**	**+1.3**
KBL	**Kabul**	**7.81**	**251**	P	**Pn**	**13 25 40.6**	**+1.8**
	SNR=19						
KAPS	**Kapalarasan**	**7.87**	**7**	Pg	**Pb**	**13 26 04.9**	**+2.5**
	comp=Z,3.7nm,0.9s						
KAPS				Lg	Lg	13 27 47.1	
	comp=Z,20nm,1.2s						
KK31	**Karatay Array**	**8.01**	**317**	Pn	**Pn**	**13 25 42.0**	**+0.6**
	comp=Z,12nm,0.5s,baz=126,slow=12,SNR=45						
KK31				⇓Sn	**Sn**	**13 27 14.2**	**+3.2**
	comp=Z,47nm,0.7s						
KK31				⇓Lg	Lg	13 27 58.6	
	comp=Z,258nm,1.3s						
KK31	**Karatay Array**	**8.01**	**317**	P	**Pn**	**13 25 41.9**	**+0.6**
KK31				SN	**Sn**	**13 27 14.2**	**+3.2**
KK31	**Karatay Array**	**8.01**	**317**		**Pn**	**13 25 41.4**	**+0.1**
KKAR	**Karatay Array**	**8.01**	**317**	P	**Pn**	**13 25 41.7**	**+0.4**
KKAR	**Karatay Array**	**8.01**	**317**		**Pn**	**13 25 41.6**	**+0.3**
KKAR	**Karatay Array**	**8.01**	**317**		**Pn**	**13 25 41.7**	**+0.4**
WMQ	**Urumqi**	**9.73**	**46**	*e*P	**Pn**	**13 26 03.8**	**-1.1**
WMQ				S	**Sn**	**13 27 59.9**	**+6.6**
WMQ				smax	smax		
	comp=Z,380nm,0.9s						
WMQ				smax	smax		
	comp=Z,340nm,1.3s						
MAKZ	**Makanchi**	**9.79**	**16**	⇑Pn	**Pn**	**13 26 04.7**	**-1.0**
	comp=Z,124nm,1.1s						
MAKZ				⇓Sn	**Sn**	**13 27 54.6**	**-0.1**
	comp=Z,65nm,1.1s						
MAKZ	**Makanchi**	**9.79**	**16**	P	**Pn**	**13 26 04.7**	**-1.0**
MAKZ				SN	**Sn**	**13 27 54.6**	**-0.1**
MAKZ	**Makanchi**	**9.79**	**16**		**Pn**	**13 26 05.3**	**-0.4**
MK31	**Makanchi Array**	**9.85**	**18**	Pn	**Pn**	**13 26 06.1**	**-0.4**
	comp=Z,33nm,0.7s,baz=200,slow=14,SNR=332						
MK31				Sn	**Sn**	**13 27 56.4**	**+0.3**
	comp=Z,186nm,1.1s,baz=198,slow=22,SNR=5.5						
MK31	**Makanchi Array**	**9.85**	**18**	P	**Pn**	**13 26 06.7**	**+0.2**
MK31				SN	**Sn**	**13 27 56.4**	**+0.3**
MK31	**Makanchi Array**	**9.85**	**18**	Pn	**Pn**	**13 26 06.2**	**-0.4**
MKAR	**Makanchi Array**	**9.85**	**18**	Pn	**Pn**	**13 26 06.2**	**-0.3**
	comp=Z,5.5nm,0.3s,baz=208,slow=15,SNR=344						
MKAR				Sn	**Sn**	**13 27 52.0**	**-4.2**
	comp=Z,11nm,0.3s,baz=196,slow=22,SNR=7.7						
MKAR	**Makanchi Array**	**9.85**	**18**	Pn	**Pn**	**13 26 06.1**	**-0.4**
HRA	**Herat**	**13.12**	**261**	Pn	**Pn**	**13 26 51.1**	**-0.3**
KURBB	**Kurchatov Arra**	**13.15**	**2**	Pn	**Pn**	**13 26 50.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=56						
KURBB				Lg	Lg	13 30 31.8	
	comp=Z,0.1nm,0.3s,baz=184,slow=28,SNR=4.1						
KURBB	**Kurchatov Arra**	**13.15**	**2**	⇓Pn	**Pn**	**13 26 49.8**	**-1.8**
	comp=Z,33nm,1.3s						
KURBB				⇑Lg	Lg	13 30 40.1	
	comp=Z,158nm,1.4s						
KURBB	**Kurchatov Arra**	**13.15**	**2**	P	**Pn**	**13 26 49.3**	**-2.3**
KURK	**Kurchatov**	**13.25**	**2**	P	**Pn**	**13 26 50.0**	**-2.9**
LSA	**Lhasa**	**13.43**	**121**	P	**Pn**	**13 26 57.5**	**+1.5**
LSA				pmax	pmax		
	comp=Z,100nm,1.6s						
LSA	**Lhasa**	**13.43**	**121**	P	**Pn**	**13 26 59.4**	**+3.4**
LSA	**Lhasa**	**13.43**	**121**	P	**Pn**	**13 26 59.5**	**+3.4**
LSA	**Lhasa**	**13.43**	**121**	Pn	**Pn**	**13 26 59.5**	**+3.5**
LSA	**Lhasa**	**13.43**	**121**	P	**Pn**	**13 26 59.4**	**+3.4**
DGZ	**Jazzator, Alta**	**13.99**	**26**	*d* P	**Pn**	**13 27 01.3**	**-2.0**
GEYT	**Alibeck**	**15.73**	**278**	Pn	**Pn**	**13 27 23.3**	**-3.1**
	comp=Z,0.9nm,0.3s,baz=128,slow=13,SNR=4.3						
GEYT				Sn	**Sn**	**13 30 13.9**	**-6.1**
	comp=Z,0.9nm,0.3s,baz=97,slow=24,SNR=2.2						
GEYT				LR	LR	13 35 26.1	
	comp=Z,622nm,19.2s,baz=90,slow=44						
GYA0	**ALIBECK ARRAY**	**15.73**	**278**	P	**P**	**13 27 30.4**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**15.73**	**278**	⇓Pn	**P**	**13 27 30.4**	**+0.2**
GYA0B				⇓Lg	Lg	13 30 11.0	
GYA0B	**ALIBECK ARRAY**	**15.73**	**278**	P	**P**	**13 27 31.1**	**+0.8**
GYA0B				IAmb	IAmb	13 27 32.2	
	comp=Z,85nm,0.7s						
BVAR	**Borovoye Array**	**16.43**	**344**	Pn	**Pn**	**13 27 32.8**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=202,slow=18,SNR=40						
BVAR				Lg	Lg	13 32 21.9	
	comp=Z,0.2nm,0.3s,baz=140,slow=31,SNR=2.6						
BVAR	**Borovoye Array**	**16.43**	**344**		**Pn**	**13 27 32.8**	**-2.4**
BRVK	**Borovoye**	**16.48**	**343**	⇓Pn	**P**	**13 27 37.6**	**-0.8**
	comp=Z,149nm,1.1s						
BRVK				⇑Lg	Lg	13 32 25.8	
	comp=Z,158nm,1.7s						
BRVK	**Borovoye**	**16.48**	**343**	P	**P**	**13 27 37.6**	**-0.8**
ZAA0	**Zalesovo Array**	**17.14**	**14**	⇓Pn	**Pn**	**13 27 43.5**	**-0.7**
	comp=Z,6.7nm,0.9s						
ZAA0	**Zalesovo Array**	**17.14**	**14**	P	**Pn**	**13 27 40.8**	**-3.4**
ZALV	**Zalesovo Beam**	**17.14**	**14**	P	**Pn**	**13 27 40.6**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=195,slow=11,SNR=34						
ZALV	**Zalesovo Beam**	**17.14**	**14**	*i* P	**Pn**	**13 27 41.2**	**-3.0**
ZALV				pmax	pmax		
	comp=Z,25nm,0.8s						
ZALV	**Zalesovo Beam**	**17.14**	**14**	Pn	**Pn**	**13 27 40.7**	**-3.5**
GTA	**Gaotai**	**17.21**	**77**	*e*P	**Pn**	**13 27 42.8**	**-2.6**
GTA				pP	P	13 27 48.8	+2.0
GTA				sP	pP	13 27 52.5	-1.7
GTA				S	**Sn**	**13 30 53.6**	**-2.5**
GTA				sS	S	13 31 02.8	-2.0
GTA				LR	LR		
	comp=Z,840nm,13.8s						
GTA				LR	LR		
	comp=Z,710nm,14.5s						
GTA				LR	LR		
	comp=Z,850nm,14.2s						
AB31	**Akbulak array**	**17.57**	**318**	Pn	**P**	**13 27 50.7**	**+0.2**
	comp=Z,11nm,0.8s,baz=124,slow=13,SNR=50						
AB31	**Akbulak array**	**17.57**	**318**	P	**P**	**13 27 50.7**	**+0.2**
ABKAR	**Akbulak array**	**17.57**	**318**	Pn	**Pn**	**13 27 47.7**	**-1.9**
ABKAR	**Akbulak array**	**17.57**	**318**		**Pn**	**13 27 47.7**	**-1.9**
POO	**Poona**	**19.22**	**192**	*e*P	P	13 27 52.0	-17
	comp=Z,20nm,1.0s						
POO				*i* S	Sn	13 31 33.0	-12
AKTO	**Aktyubinsk**	**19.27**	**319**	P	**P**	**13 28 08.1**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=109,slow=10,SNR=35						
AKTO				LR	LR	13 36 59.9	
	comp=Z,240nm,19.1s,baz=131,slow=41						
AKTO	**Aktyubinsk**	**19.27**	**319**	⇑Pn	**Pn**	**13 28 09.7**	**-0.6**
	comp=Z,16nm,0.8s						
AKTO	**Aktyubinsk**	**19.27**	**319**	P	**Pn**	**13 28 09.7**	**-0.6**
HYB	**Hyderabad**	**19.99**	**178**	*i* P	**P**	**13 28 17.0**	**-0.2**
	comp=Z,31nm,0.8s						
HYB				*es*P	**sP**	**13 28 33.0**	**+4.5**
HYB				*e*S	Sn	13 32 13.0	+10
LZH	**Lanzhou**	**20.75**	**86**	⇓P	**P**	**13 28 26.1**	**+0.5**
LZH				pP	sP	13 28 35.3	-1.5
LZH				sP	pP	13 28 41.4	+8.2
LZH				S	**S**	**13 32 15.3**	**-0.7**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,570nm,14.1s						
LZH				LR	LR		
	comp=Z,620nm,14.1s						
LZH				LR	LR		
	comp=Z,600nm,13.6s						
MOY	**Mondy**	**21.56**	**42**	*e*P	**P**	**13 28 34.9**	**+0.8**
MOY				pmax	pmax		
	comp=Z,46nm,2.6s						
BANOM	**Banah**	**21.69**	**244**	P	**P**	**13 28 36.2**	**+0.6**
BANOM	**Banah**	**21.69**	**244**	P	**P**	**13 28 37.7**	**+2.1**
SHME	**Shamm**	**21.73**	**245**	P	**P**	**13 28 38.0**	**+2.0**
SHME	**Shamm**	**21.73**	**245**	P	**P**	**13 28 39.0**	**+3.1**
	SNR=5.7						
SHME				P	**P**	**13 28 39.0**	**+3.1**
	SNR=5.7						
WSAR	**Wadi Sarin**	**21.85**	**235**	P	**P**	**13 28 38.9**	**+1.6**
	comp=Z,37nm,0.9s,baz=109,slow=5.3,SNR=13						
WSAR				LR	LR	13 39 29.4	
	comp=Z,177nm,21.0s,baz=86,slow=43						
WSAR	**Wadi Sarin**	**21.85**	**235**	P	**P**	**13 28 39.4**	**+2.1**
BIDO	**Bidbid**	**21.98**	**236**	P	**P**	**13 28 41.1**	**+2.3**
MDH	**Madha**	**22.07**	**243**	P	**P**	**13 28 41.1**	**+1.4**
MDH	**Madha**	**22.07**	**243**	P	**P**	**13 28 42.0**	**+2.3**
MDH				P	**P**	**13 28 42.0**	**+2.3**
MASF	**Masafi**	**22.13**	**243**	P	**P**	**13 28 42.1**	**+1.8**
MSFE	**Esma-Masafi**	**22.13**	**243**	P	**P**	**13 28 41.7**	**+1.3**
JLN	**Jalan Bani Buh**	**22.14**	**232**	P	**P**	**13 28 41.5**	**+1.1**
	SNR=13						
ZAK	**Zakamensk**	**22.20**	**46**	*e*P	**P**	**13 28 40.4**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,21nm,0.9s						
CD2	**Chengdu**	**22.27**	**99**	P	P	13 28 50.6	+8.8
CD2				S	**S**	**13 32 49.5**	**+4.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				LR	LR		
	comp=N,670nm,11.5s						
CD2				LR	LR		
	comp=E,470nm,8.6s						
CD2				LR	LR		
	comp=Z,620nm,10.8s						
SMDO	**Samad**	**22.36**	**236**	P	**P**	**13 28 46.3**	**+3.5**
SMDO				P	**P**	**13 28 46.3**	**+3.5**
UOSS	**Minazif**	**22.36**	**242**	*i* P	**P**	**13 28 44.6**	**+1.8**
	SNR=7.4						
UOSS	**Minazif**	**22.36**	**242**	P	**P**	**13 28 44.7**	**+1.9**
UOSS				IAmb	IAmb	13 28 46.7	
	comp=Z,71nm,1.0s						
UOSS	**Minazif**	**22.36**	**242**	P	**P**	**13 28 45.0**	**+2.2**
UOSS				P	**P**	**13 28 45.0**	**+2.2**
HATD	**Hatta, Dubai**	**22.49**	**242**	P	**P**	**13 28 46.5**	**+2.3**
HATD	**Hatta, Dubai**	**22.49**	**242**	P	**P**	**13 28 47.1**	**+3.0**
	SNR=6.8						
HOQ	**Hoqain**	**22.49**	**238**	P	**P**	**13 28 47.8**	**+3.6**
HOQ				P	**P**	**13 28 47.8**	**+3.6**
SVE	**Sverdlovsk**	**22.55**	**335**	*e*P	**P**	**13 28 45.7**	**+1.2**
SVE				*e*S	**S**	**13 32 53.6**	**+3.6**
SVE				pmax	pmax		
	comp=Z,35nm,1.5s						
SVE				MLR	MLR		
	comp=Z,1μm,14.0s						
ASHO	**Ashiyiah**	**22.63**	**242**	*i* P	**P**	**13 28 48.5**	**+2.8**
	SNR=38						
ASHO	**Ashiyiah**	**22.63**	**242**	P	**P**	**13 28 49.6**	**+3.9**
	SNR=11						
SOHO	**SOHO**	**22.65**	**240**	P	**P**	**13 28 45.7

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BTO                                  pmax   pmax
     comp=Z,26nm,0.5s
BTO                                  LR     LR
     comp=Z,1µm,16.8s
BTO                                  LR     LR
     comp=Z,4µm,13.6s
BTO                                  LR     LR
     comp=Z,6µm,12.7s
GROC Groznyy          25.09 293 eP   P      13 29 09.7 +0.6
GROC                              eS   S      13 33 30.7 -1.3
GROC                              eSS  SnSn   13 34 26.3 +4.1
GROC                                 pmax   pmax
     comp=Z,66nm,0.6s
XAN  Xi'an            25.29  88 P    P      13 29 10.8 -0.2
XAN                               pP   sP     13 29 21.5 -1.1
XAN                               S    S      13 33 34.3 -1.1
XAN                                  pmax   pmax
     comp=Z,19nm,1.1s
XAN                                  pmax   pmax
     comp=Z,170nm,4.2s
XAN                                  LR     LR
     comp=Z,700nm,14.2s
XAN                                  LR     LR
     comp=Z,580nm,12.8s
XAN                                  LR     LR
     comp=Z,640nm,15.2s
GHWR Ruwais           25.34 245 P    P      13 29 12.6 +1.1
SHMA Al-Shehemyia     25.65 251 P    P      13 29 16.6 +2.3
BELG Belogornoye      25.91 315 P    P      13 29 16.9 +0.5
     comp=Z,8.5nm,0.4s,baz=89,slow=1.6,SNR=5.0
BELG                                 LR     LR     13 40 57.7
     comp=Z,485nm,18.3s,baz=152,slow=40
BELG Belogornoye      25.91 315 i P  P      13 29 17.1 +0.7
BELG                                 pmax   pmax
     comp=Z,4.0nm,1.2s
GNI  Garni            25.95 286 P    P      13 29 18.6 +1.4
     comp=Z,24nm,0.7s,baz=76,slow=2.2,SNR=13
GNI  Garni            25.95 286ceP   P      13 29 19.6 +2.5
GNI                                  pmax   pmax
     comp=Z,23nm,0.7s
GNI  Garni            25.95 286 P    P      13 29 18.0 +0.9
GNI                                  IAmb   IAmb   13 29 26.4
     comp=Z,37nm,0.8s
GNI  Garni            25.95 286 P    P      13 29 18.5 +1.4
MHMT Maesarieng       26.00 132 P    P      13 29 19.9 +2.4
     comp=Z,53nm,0.8s
MHMT Maesarieng       26.00 132 P    P      13 29 19.0 +1.5
     comp=Z,53nm,0.8s
TRNA Turayna          26.10 249 P    P      13 29 19.5 +1.2
CM33 Chiang Mai Arr   26.11 130 P    P      13 29 20.0 +1.5
CHTO Chiang Mai       26.11 130 P    P      13 29 17.8 -0.8
CHTO                                 pmax   pmax
     comp=Z,8.0nm,0.7s
CHTO Chiang Mai       26.11 130 P    P      13 29 20.2 +1.7
     comp=Z,18nm,0.8s
CHTO Chiang Mai       26.11 130 P    P      13 29 17.8 -0.8
CHTO Chiang Mai       26.11 130 P    P      13 29 20.5 +1.9
CMMT Chiang Mai       26.12 130 P    P      13 29 20.2 +1.6
     comp=Z,18nm,0.8s
CMMT Chiang Mai       26.12 130 P    P      13 29 20.0 +1.4
     comp=Z,18nm,0.8s
KZRT Kazreti          26.13 289 P    P      13 29 21.9 +3.3
HHC  Hu-ho-hao-te     26.17  72 eP   P      13 29 19.6 +0.6
HHC                               S    S      13 33 45.8 -3.5
HHC                               sS   sS     13 34 01.4 -1.4
HHC                                  pmax   pmax
     comp=Z,16nm,1.1s
HHC                                  pmax   pmax
     comp=Z,110nm,5.5s
HHC                                  LR     LR
     comp=Z,610nm,13.1s
HHC                                  LR     LR
     comp=Z,420nm,13.0s
HHC                                  LR     LR
     comp=Z,390nm,13.7s
CM32 Chiang Mai Arr   26.18 130 P    P      13 29 22.0 +2.9
CM34 Chiang Mai Arr   26.21 129 P    P      13 29 20.0 +0.6
CM35 Chiang Mai Arr   26.35 129 P    P      13 29 22.0 +1.4
CM15 Chiang Mai Arr   26.38 130 P    P      13 29 23.4 +2.5
     comp=Z,197nmcomp=Z,29nm,0.8s
CM15 Chiang Mai Arr   26.38 130 P    P      13 29 23.4 +2.5
     comp=Z,197nmcomp=Z,29nm,0.8s
CM31 Chiang Mai Arr   26.39 130 P    P      13 29 23.6 +2.6
     comp=Z,6µmcomp=Z,620nm,0.7s
CM31 Chiang Mai Arr   26.39 130 P    P      13 29 24.9 +3.9
     SNR=8.6
CMAR Chiang Mai Arr   26.39 130 P    P      13 29 19.6 -1.4
     comp=Z,7.5nm,0.7s,baz=316,slow=9.3,SNR=30
CMAR                              PcP  PcP    13 32 45.8 -0.5
     comp=Z,1.5nm,0.7s,baz=290,slow=3.6,SNR=4.7
CMAR                              LR   LR     13 42 13.2
     comp=Z,92nm,19.3s,baz=12,slow=42
CMAR Chiang Mai Arr   26.39 130ceP   P      13 29 20.5 -0.5
CMAR                                 pmax   pmax
     comp=Z,8.0nm,0.6s
CM13 Chiang Mai Arr   26.39 130 P    P      13 29 23.5 +2.5
     comp=Z,186nmcomp=Z,25nm,0.8s
CM13 Chiang Mai Arr   26.39 130 P    P      13 29 23.6 +2.5
     comp=Z,186nmcomp=Z,25nm,0.8s
CM02 Chiang Mai Arr   26.41 130 P    P      13 29 23.3 +2.1
     comp=Z,218nmcomp=Z,29nm,0.9s
CM02 Chiang Mai Arr   26.41 130 P    P      13 29 23.4 +2.2
     comp=Z,218nmcomp=Z,29nm,0.9s
CM01 Chiang Mai Arr   26.42 130 P    P      13 29 23.9 +2.6
     comp=Z,234nmcomp=Z,33nm,0.8s
CM01 Chiang Mai Arr   26.42 130 P    P      13 29 23.0 +1.7
     comp=Z,234nmcomp=Z,33nm,0.8s
CM09 Chiang Mai Arr   26.42 130 P    P      13 29 23.8 +2.5
     comp=Z,173nmcomp=Z,26nm,0.8s
CM09 Chiang Mai Arr   26.42 130 P    P      13 29 23.9 +2.5
     comp=Z,173nmcomp=Z,26nm,0.8s
CM05 Chiang Mai Arr   26.43 130 P    P      13 29 23.6 +2.2
     comp=Z,205nmcomp=Z,26nm,0.8s
CM05 Chiang Mai Arr   26.43 130 P    P      13 29 23.7 +2.3
     comp=Z,205nmcomp=Z,26nm,0.8s
CM04 Chiang Mai Arr   26.45 130 P    P      13 29 24.1 +2.5
     comp=Z,220nmcomp=Z,30nm,0.8s
CM04 Chiang Mai Arr   26.45 130 P    P      13 29 24.2 +2.6
     comp=Z,220nmcomp=Z,30nm,0.8s
ZEI  Tsey             26.47 292 eP   P      13 29 25.7 +3.9
ZEI                                  pmax   pmax
     comp=Z,10.0nm,0.6s
GYA  Guiyang          26.60 106 ⇑P   P      13 29 23.1 +0.1
GYA                               pP   pP     13 29 31.3 +0.1
GYA                               sP   sP     13 29 36.4 +1.8
GYA                               S    S      13 34 00.9 +4.5
NCK  Nalchik          26.70 294 i P  P      13 29 23.0 -0.7
NCK                                  pmax   pmax
     comp=Z,14nm,0.2s
LAMP Lampang          26.76 129 P    P      13 29 27.4 +3.1
     comp=Z,22nm,0.8s
LAMP Lampang          26.76 129 P    P      13 29 27.5 +3.1
     comp=Z,5.6nm,0.8s
ONI  Oni              26.80 292 P    P      13 29 26.7 +2.0
ONI                                  pmax   pmax
     comp=Z,22nm,0.9s
ONI  Oni              26.80 292 P    P      13 29 26.7 +2.0
ONI                                  IAmb   IAmb   13 29 29.0
     comp=Z,22nm,0.9s
AKH  Akhalkalaki      26.81 289 P    P      13 29 28.3 +3.4
KBZ  Khabaz           27.22 294 P    P      13 29 31.5 +3.3
     comp=Z,1.4nm,0.6s,baz=41,slow=6.7,SNR=3.1
KBZ                               LR   LR     13 42 24.1
     comp=Z,157nm,18.7s,baz=100,slow=41
KBZ  Khabaz           27.22 294 i P  P      13 29 28.3 +0.1
KBZ                                  pmax   pmax
     comp=Z,3.0nm,0.8s
KIV  Kislovodsk       27.37 295 eP   P      13 29 30.6 +0.8
KIV                                  pmax   pmax
     comp=Z,5.0nm,1.0s
KIV                                  MLR    MLR
     comp=Z,72nm,15.0s
SHA1 Shidzhatmaz      27.39 294 eP   P      13 29 30.8 +0.7
BJI  Beijing          29.75  73 P    P      13 29 49.9 -0.9
BJI                               S    S      13 34 47.3 +1.9
BJI                                  pmax   pmax
     comp=Z,4.0nm,0.6s
BJI                                  LR     LR
     comp=Z,390nm,14.0s
BJI                                  LR     LR
     comp=Z,700nm,13.4s
BJI                                  LR     LR
     comp=Z,940nm,13.9s
MALT Malatya          31.06 284 P    P      13 30 05.6 +3.0
BOD  Bodaibo          31.12  38 eP   P      13 30 02.6 -0.1
BOD                                  pmax   pmax
     comp=Z,9.0nm,1.1s
ANN  Anapa            31.15 297 eP   P      13 30 03.9 +0.8
ANN                                  pmax   pmax
     comp=Z,12nm,0.5s
ANN                                  MLR    MLR
     comp=Z,249nm,12.0s
PRGR Permogore        31.43 331 eP   P      13 30 02.2 -3.2
PRGR                                 pmax   pmax
     comp=Z,14nm,1.0s
HIA  Hailar           32.17  55 P    P      13 30 11.8 -0.4
HIA                                  pmax   pmax
     comp=Z,15nm,0.8s
HIA  Hailar           32.17  55 P    P      13 30 11.8 -0.4
HIA                                  IAmb   IAmb   13 30 19.5
     comp=Z,15nm,0.8s
NRIK Noril'sk         32.35   6 P    P      13 30 14.0 +0.6
     comp=Z,6.4nm,0.8s,baz=180,slow=6.4,SNR=7.2
NRIK Noril'sk         32.35   6 P    P      13 30 13.0 -0.4
NRIK                                 pmax   pmax
     comp=Z,19nm,1.1s
NRIK Noril'sk         32.35   6 P    P      13 30 13.0 -0.4
NRIK                                 IAmb   IAmb   13 30 20.7
     comp=Z,19nm,1.1s
MOS  Moscow           32.59 317 eP   P      13 30 14.5 -1.2
MOS                               e           13 31 35.3
MOS                               eS   S      13 35 27.9 -1.7
MOS                                  pmax   pmax
     comp=Z,60nm,0.8s
MOS                                  pmax   pmax
     comp=Z,100nm,0.8s
MOS                                  MLR    MLR
     comp=Z,800nm,16.0s
OBN  Obninsk          33.00 316 P    P      13 30 20.1 +0.9
     comp=Z,4.8nm,0.4s,baz=77,slow=19,SNR=0.9
OBN  Obninsk          33.00 316ceP   P      13 30 20.2 +0.9
OBN                               eS   S      13 35 39.0 +3.1
OBN                                  pmax   pmax
     comp=Z,9.0nm,0.4s
OBN                                  MLR    MLR
     comp=Z,410nm,15.0s
OBN  Obninsk          33.00 316 P    P      13 30 20.1 +0.9
OBN  Obninsk          33.00 316 IAmb IAmb   13 30 26.7
     comp=Z,27nm,0.5s
QIZ  Qiongzhong       33.33 115 P    P      13 30 22.4 -0.1
QIZ                               S    S      13 35 41.3 -0.4
QIZ                                  pmax   pmax
     comp=Z,22nm,2.1s
QIZ                                  pmax   pmax
     comp=Z,340nm,2.8s
QIZ                                  LR     LR
     comp=Z,300nm,18.8s
QIZ                                  LR     LR
     comp=Z,440nm,12.7s
KLMR Klimovskoe       33.57 327 eP   P      13 30 23.8 -0.3
KLMR                              e           13 33 03.2
KLMR                                 pmax   pmax
     comp=Z,39nm,1.5s
KLMR Klimovskoe       33.57 327 eP   P      13 30 23.8 -0.3
KLMR                                 AMP    13 30 31.7
     comp=Z,39nm,1.5s
KLMR                              ePcP PcP    13 33 03.2 -0.9
KLMR                                 LQ     LQ     13 41 26.3
KLMR                                 LQ     LQ     13 41 26.3
KLMR                                 LR     LR     13 43 27.2
NJ2  Nanjing          33.82  87 eP   P      13 30 26.1 -0.6
NJ2                                  pmax   pmax
     comp=Z,9.0nm,0.6s
SURT Suratani         34.06 141 P    P      13 30 30.2 +1.3
     comp=Z,1.2nm,1.1s
BR131 Keskin Array S  34.46 288 P    P      13 30 33.2 +0.8
BR131                                pmax   pmax
     comp=Z,25nm,0.8s
BR131 Keskin Array S  34.46 288 P    P      13 30 33.2 +0.8
BR131 Keskin Array S  34.46 288 P    P      13 30 33.6 +1.2
     SNR=8.3
BRTR Keskin Array B   34.46 288 P    P      13 30 33.5 +1.1
     comp=Z,14nm,0.8s,baz=90,slow=7.7,SNR=53
BRTR                              LR   LR     13 46 39.9
     comp=Z,97nm,19.1s,baz=100,slow=40
BRTR Keskin Array B   34.46 288 P    P      13 30 33.3 +0.8
TRTT Trang            35.47 141 P    P      13 30 40.7 -0.4
     comp=Z,20nm,0.9s
CSS  Mathiatis        35.86 280 P    P      13 30 44.9 +0.6
CSS                                  IAmb   IAmb   13 30 55.9
     comp=Z,11nm,0.8s
CN2  Changchun        36.17  65 eP   P      13 30 52.6 +5.7
CN2                               S    S      13 36 30.1 +5.0
CN2                                  pmax   pmax
     comp=Z,10.0nm,0.6s
CN2                                  LR     LR
     comp=Z,300nm,12.0s
CN2                                  LR     LR
     comp=Z,600nm,12.0s
CN2                                  LR     LR
     comp=Z,600nm,13.0s
AKASG Malin Array Be  36.76 307 P    P      13 30 52.0 +0.2
     comp=Z,1.8nm,0.4s,baz=75,slow=7.6,SNR=23
AKASG                             PP   PnPn   13 32 18.1 +2.4
     comp=Z,3.0nm,0.7s,baz=84,slow=9.4,SNR=5.9
AKASG                             LR   LR     13 48 16.1
     comp=Z,248nm,18.9s,baz=95,slow=40
AKASG Malin Array Be  36.76 307 P    P      13 30 52.2 +0.4
AKASG                                pmax   pmax
     comp=Z,2.0nm,1.0s
AKASG Malin Array Be  36.76 307 P    P      13 30 52.2 +0.4
AKBB  Malin Array Si  36.76 307 P    P      13 30 51.9 +0.1
AKBB                                 pmax   pmax
     comp=Z,13nm,1.0s
AKBB  Malin Array Si  36.76 307 P    P      13 30 51.9 +0.1
AKBB                                 IAmb   IAmb   13 30 52.9
     comp=Z,13nm,1.0s
ZEA  Zeya             37.28  48 eP   P      13 30 58.4 +2.3
ZEA                               eS   S      13 36 39.5 -2.2
ZEA                                  pmax   pmax
     comp=Z,10.0nm,0.9s
ZEA                                  smax   smax
     comp=E,100nm,7.2s
ZEA                                  MLR    MLR
     comp=E,400nm,14.0s
ZEA                                  MLR    MLR
     comp=Z,500nm,14.0s
ZEA                                  MLR    MLR
     comp=N,200nm,13.0s
TPGR Topolog          37.54 297 ⇑P   P      13 30 59.5 +1.0
CFR  Carcaliu         37.70 298 ⇑P   P      13 31 00.2 +0.4
CFR  Carcaliu         37.70 298 ⇑P   P      13 31 00.2 +0.4
MNK  Minsk            37.83 313 i P  P      13 31 01.0 +0.2
MNK                                  i *PP  sP     13 31 14.1 +1.5
MNK                                  i      13 32 28.4
MNK                                  i PPP  PPP    13 32 47.4
MNK                                  i      13 33 15.8
MNK                                  i S    S      13 36 49.7 -0.4
MNK                                  i      13 36 59.0
MNK                                  i SS   SS     13 39 36.3 -0.2
MNK                                  i SSS  SSS    13 39 53.6
MNK                                  pmax   pmax
     comp=E,3.0nm,0.8s
MNK                                  pmax   pmax
     comp=Z,37nm,0.8s
MNK                                  pmax   pmax
     comp=N,2.0nm,0.8s
MNK                                  MLR    MLR
     comp=Z,197nm,17.0s
MNK                                  MLR    MLR
     comp=N,271nm,17.0s
MNK                                  MLR    MLR
     comp=E,15nm,17.0s
MNK  Minsk            37.83 313 i P  P      13 31 01.0 +0.2
     comp=E,3.0nm,0.8s
MNK                                  i P    P      13 31 01.0 +0.2
     comp=N,2.0nm,0.8s
MNK                                  i P    P      13 31 01.0 +0.2
     comp=Z,37nm,0.8s,baz=275
MNK                                  i pP   sP     13 31 14.2 +1.6
MNK                                  i sP   pP     13 31 20.3 +11
MNK                                  i PP   PnPn   13 32 28.5 -0.1
MNK                                  i PPP  PPP    13 32 47.4
MNK                                  i PcP  PcP    13 33 15.9 -1.0
MNK                                  i S    S      13 36 49.8 -0.4
MNK                                  i ScP  ScP    13 36 59.1 -3.5
MNK                                  i PcS  PcS    13 37 04.8 -0.5
MNK                                  i sS   sS     13 37 12.6 +8.8
MNK                                  i SS   SS     13 39 36.4 -0.1
MNK                                  i SSS  SSS    13 39 53.6
MNK                                  i LQ   LQ     13 42 03.5
MNK                                  i LR   LR     13 45 05.5
MNK                                  i LRM  MLR    13 47 44.3
     comp=Z,197nm,16.6s
MNK                                  i LRM  MLR    13 47 45.1
     comp=N,271nm,16.6s
MNK                                  i LRM  MLR    13 47 46.6
     comp=E,15nm,16.6s
JOF  Joensuu          37.95 327 P    P      13 31 03.3 +1.6
JOF                                  pmax   pmax
     comp=Z,20nm,0.6s
IDID Didziasalis      38.57 314 eP   P      13 31 08.7 +1.6
TESR Tescani          38.60 300 ⇑P   P      13 31 08.4 +1.0
VRI  Vrincioaia       38.62 299 ⇓P   P      13 31 08.9 +1.3
VRI  Vrincioaia       38.62 299 ⇓P   P      13 31 08.9 +1.3
PLOR Plostina         38.67 299 ⇓P   P      13 31 09.5 +1.4
PLOR Plostina         38.67 299 ⇓P   P      13 31 09.5 +1.4
IIGN Ignalina         38.87 314 eP   P      13 31 11.1 +1.5
ISAL Salakas          38.95 315 eP   P      13 31 11.5 +1.3
VSU  Vasula           39.00 319 eP   P      13 31 11.7 +1.2
VSU  Vasula           39.00 319 i P  P      13 31 09.5 -1.0
VSU                                  pmax   pmax
     comp=Z,71nm,1.1s
MDJ  Mudanjiang       39.02  63 P    P      13 31 12.5 +1.5
MDJ                               pP   sP     13 31 22.5 -0.2
MDJ                               sP   pP     13 31 27.3 +8.0
MDJ                               ScP  ScP    13 37 06.3 -1.0
MDJ                               S    S      13 37 07.4 -1.0
MDJ                               sS   sS     13 37 24.8 +2.8
MDJ                               ScS  ScS    13 41 19.8 +1.3
MDJ                                  pmax   pmax
     comp=Z,8.0nm,0.9s
MDJ                                  pmax   pmax
     comp=Z,85nm,3.5s
MDJ                                  LR     LR
     comp=Z,420nm,11.1s
MDJ                                  LR     LR
     comp=Z,740nm,13.8s
MDJ                                  LR     LR
     comp=Z,1µm,12.8s
MLR  Muntele Rosu     39.20 299 ⇑P   P      13 31 15.5 +2.9
MLR  Muntele Rosu     39.20 299 P    P      13 31 12.8 +0.1
MLR                                  pmax   pmax
     comp=Z,16nm,0.9s
MLR  Muntele Rosu     39.20 299 P    P      13 31 12.8 +0.1
MLR                                  IAmb   IAmb   13 31 16.9
     comp=Z,16nm,0.9s
KSRS Korea Array      39.26  74 P    P      13 31 12.5 -0.5
     comp=Z,1.3nm,0.6s,baz=281,slow=8.5,SNR=8.0
KSRS                              PcP  PcP    13 33 21.6 0.0
     comp=Z,1.9nm,0.9s,baz=278,slow=4.7,SNR=3.7
KSRS                              ScP  ScP    13 37 08.3 0.0
     comp=Z,1.0nm,0.8s,baz=270,slow=4.9,SNR=3.9
KSRS                              LR   LR     13 49 17.4
     comp=Z,200nm,18.9s,baz=282,slow=39
KSRS Korea Array      39.26  74 P    P      13 31 12.5 -0.5
BURAR Bucovina Array  39.48 302 ⇓P   P      13 31 14.8 -0.1
BURAR Bucovina Array  39.48 302 ⇓P   P      13 31 14.8 -0.1
BUR08 Bucovina Ar. S  39.49 302 P    P      13 31 14.6 -0.4
DOPR Dopca            39.53 299 ⇑P   P      13 31 16.7 +1.5
VOIR                  39.84 299 ⇓P   P      13 31 19.3 +1.4
VOIR                  39.84 299 ⇓P   P      13 31 19.3 +1.4
FIA1 FINESS Array S   39.90 324 P    P      13 31 18.6 +0.6
FIA1                                 IAmb   IAmb   13 31 26.7
     comp=Z,16nm,0.7s
FINES FINESS Array B  39.90 324 P    P      13 31 18.9 +0.9
     comp=Z,10nm,0.4s,baz=112,slow=8.9,SNR=115
FINES                                LR     LR     13 49 10.3
     comp=Z,469nm,18.8s,baz=92,slow=38
FINES FINESS Array B  39.90 324 P    P      13 31 18.9 +0.9
YAK  Yakutsk          39.94  35 i P  P      13 31 17.7 -0.6
YAK                                  pmax   pmax
     comp=Z,19nm,0.9s
PABE Paberze          40.16 314 eP   P      13 31 21.7 +1.4
PABE Paberze          40.16 314 P    P      13 31 20.7 +0.4
GSI  Gunungsitoli     40.27 149 P    P      13 31 20.7 -0.9
GSI  Gunungsitoli     40.27 149 P    P      13 31 21.8 +0.2
     comp=Z,55nm,0.8s
MEF  Metsahovi        40.47 322 eP   P      13 31 24.0 +1.3
MSHR Mys Shultsa      40.48  66 eP   P      13 31 21.9 -1.2
KARP Karpathos        40.49 283 P    P      13 31 23.7 +0.4
MTSE Matsula          40.55 319 eP   P      13 31 22.8 -0.7
LOT  Lotru            40.73 299 ⇑P   P      13 31 27.3 +2.0
USRK Ussuriysk Ar.    40.78  63 P    P      13 31 25.4 -0.2
     comp=Z,0.7nm,0.6s,baz=276,slow=7.7,SNR=5.0
USRK                              LR   LR     13 50 12.9
     comp=Z,213nm,20.5s,baz=276,slow=39
USRK Ussuriysk Ar.    40.78  63 P    P      13 31 23.7 -1.9
VLA  Vladivostok      40.91  65 i P  P      13 31 25.4 -1.2
VLA                                  pmax   pmax
     comp=Z,14nm,0.6s
DRGR                  41.27 301 ⇑P   P      13 31 31.1 +1.5
DRGR                  41.27 301 ⇑P   P      13 31 31.1 +1.5
KOLS Kolonicke sedl   41.32 304 eP   P      13 31 31.1 +1.1
KOLS Kolonicke sedl   41.32 304 eP   P      13 31 31.1 +1.1
GZR  Gura Zlata       41.43 299 ⇑P   P      13 31 30.5 -0.5
MNSI Mandailing Nat   41.58 146 P    P      13 31 31.7 -0.7
     comp=Z,21nm,0.5s
KEV  Kevo             42.07 336 P    P      13 31 35.8 0.0
KEV                                  pmax   pmax
     comp=Z,8.0nm,1.1s
KEV  Kevo             42.07 336 P    P      13 31 35.8 0.0
BZS  Buzias           42.19 300 ⇑P   P      13 31 35.2 -2.0
BZS  Buzias           42.19 300 ⇑P   P      13 31 35.2 -2.0
MDVR Moldovita        42.27 298 ⇓P   P      13 31 39.3 +1.4
KLNR Kaliningrad      42.30 313 i P  P      13 31 38.0 +0.1
KLNR                                 pmax   pmax
     comp=Z,47nm,0.8s
IDI  Anoyia           42.33 284 P    P      13 31 36.8 -1.7
ARA0 ARCESS Array S   42.48 336 eP   P      13 31 39.9 +0.8
ARCES ARCESS Array B  42.48 336 P    P      13 31 38.5 -0.6
     comp=Z,1.7nm,0.5s,baz=102,slow=7.1,SNR=27
ARCES                             LR   LR     13 49 24.9
     comp=Z,112nm,18.5s,baz=110,slow=36
ARCES ARCESS Array B  42.48 336 P    P      13 31 40.1 +1.0
ARCES                                pmax   pmax
     comp=Z,19nm,1.4s
ARCES ARCESS Array B  42.48 336 P    P      13 31 40.1 +1.0
BOVS Bovan            42.50 297 ⇓P   P      13 31 40.6 +1.0
OJC  Ojcow            42.80 307 eP   P      13 31 42.6 +0.6
OJC  Ojcow            42.80 307 P    P      13 31 42.2 +0.2
OJC                                  pmax   pmax
     comp=Z,10.0nm,0.6s
OJC  Ojcow            42.80 307 P    P      13 31 42.2 +0.2
OJC                                  IAmb   IAmb   13 31 43.6
     comp=Z,10nm,0.6s
KTK1 Kautokeino       43.06 334 eP   P      13 31 44.4 +0.5
HAMF Hammerfest       43.45 337 eP   P      13 31 47.6 +0.7
PDSI Padang           43.49 146 P    P      13 31 46.8 -1.2
     comp=Z,28nm,1.0s
FRGS Fruska Gora      43.53 299 ⇓P   P      13 31 49.2 +1.2
DIVS Divibare         43.61 298 P    P      13 31 48.0 -0.8
MORH Mrgy, Hungar     44.13 301 ⇓P   P      13 31 54.2 +1.4
MORH Mrgy, Hungar     44.13 301 eP   P      13 31 53.0 +0.2
JETT Jettan, Norway   44.18 335 eP   P      13 31 53.3 +0.4
MORC Moravsky Berou   44.29 306 ⇑P   P      13 31 55.4 +1.3
MORC Moravsky Berou   44.29 306 ⇑P   P      13 31 55.4 +1.3
MORC Moravsky Berou   44.29 306 eP   P      13 31 55.0 +0.9
JAVC Velka Javorina   44.34 305 eP   P      13 31 56.2 +1.7
PDG  Podgorica        44.52 296 ⇓P   P      13 31 56.7 +0.8
MODS Modra-Piesok     44.67 304 eP   P      13 31 59.0 +1.9
MODS Modra-Piesok     44.67 304 eP   P      13 31 59.0 +1.9
TRO  Tromso           44.70 335 eP   P      13 31 57.7 +0.7
KRLC Kraliky          44.74 307 eP   P      13 31 57.6 -0.1
KRLC                                 MLR    MLR
     comp=Z,400nm,12.1s
KRLC Kraliky          44.74 307 eP   P      13 31 57.6 -0.1
KRLC                                 AMS    AMS    13 52 40.0
     comp=Z,400nm,12.1s
BLEU Blekinge         44.76 316 i P  P      13 31 57.8 +0.2
KSP  Ksiaz            44.95 308 eP   P      13 32 00.3 +1.1
VRAC Vranov           44.97 306 eP   P      13 32 01.3 +1.8
DPC  Dobruska-Polom   44.99 307 eP   P      13 32 01.4 +1.7
DPC                               e*PP pP     13 32 07.0 -1.2
DPC                                  MLR    MLR
     comp=Z,300nm,15.2s
DPC  Dobruska-Polom   44.99 307 eP   P      13 32 01.4 +1.7
DPC                               epP  pP     13 32 07.0 -1.2
DPC                                  AMS    AMS    13 52 40.0
     comp=Z,300nm,15.2s
OSTC Ostas            45.03 307 eP   P      13 32 01.4 +1.4
OSTC                              epP  pP     13 32 07.0 -1.5
CHVC Chvalec          45.13 307 eP   P      13 32 01.7 +0.9
CHVC                                 AMS    AMS    13 52 40.0
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comp=Z,400nm,14.2s
KRUC Moravsky 45.14 305 *e*P **P 13 32 02.0 +1.2**
UPC Upice 45.17 307 *e*P **P 13 32 02.6 +1.6**
UPC *e**PP **pP 13 32 08.4 -1.1**
UPC MLR MLR
comp=Z,400nm,13.5s
UPC Upice 45.17 307 *e*P **P 13 32 02.6 +1.6**
UPC *e*pP **pP 13 32 08.4 -1.1**
UPC AMS AMS 13 52 50.0
comp=Z,400nm,13.5s
FAUS Fauske 45.58 331 *e*P **P 13 32 04.4 +0.3**
STEI Steigen 45.68 332 *e*P **P 13 32 06.1 +1.3**
CONA Conrad Observa 45.69 304 *e*P **P 13 32 06.5 +1.2**
comp=Z,10.0nm,1.1s
TREC Trest 45.69 306 AMS AMS 13 53 20.0
comp=Z,300nm,13.5s
MOR8 Moi Rana 45.76 329 *e*P **P 13 32 05.4 -0.2**
DEL Delary 45.83 316 *i* P **P 13 32 06.7 +0.6**
ARSA Arzberg 46.04 303 *e*P **P 13 32 08.5 +0.5**
comp=Z,2.9nm,0.7s
PVCC Panska Ves 46.08 308 AMS AMS 13 53 20.0
comp=Z,400nm,15.3s
LUNU Lund 46.13 315 *e*P **P 13 32 08.7 +0.2**
PRU Pruhonice 46.18 307 *e*P **P 13 32 09.8 +0.8**
PRU *e**PP **pP 13 32 16.2 -1.3**
PRU MLR MLR
comp=N,400nm,18.7s
PRU Pruhonice 46.18 307 *e*P **P 13 32 09.8 +0.8**
PRU *e*pP **pP 13 32 16.2 -1.3**
PRU AMS AMS 13 50 20.0
KONS Konsvik 46.33 330 *e*P **P 13 32 10.0 +0.1**
LOF Lofoten 46.34 332 *e*P **P 13 32 10.4 +0.4**
BRG Berggiesshubel 46.42 308 *e*P **P 13 32 11.9 +1.1**
BRG Amp 13 32 13.0
comp=Z,12nm,0.9s
BRG Berggiesshubel 46.42 308 *i* P P 13 32 18.2 +7.4
BRG Amp 13 32 19.0
comp=Z,12nm,0.9s
BRG Amp 13 53 58.0
comp=Z,0.6nm,16.1s
BRG Amp 13 54 02.0
comp=E,0.4nm,13.6s
BRG Berggiesshubel 46.42 308 *e*P **P 13 32 12.2 +1.3**
comp=E,12nm,0.9s,baz=78,slow=8.0
BRG *e*pP **pP 13 32 18.2 -1.2**
baz=79,slow=7.9
FABU Falkenberg 46.43 317 *i* P **P 13 32 11.7 +0.9**
PERS Pernice 46.44 302 *i* P **P 13 32 12.1 +0.9**
SOKA Soboth 46.49 302 *e*P **P 13 32 12.7 +1.1**
comp=E,11nm,0.7s
NSS Namsos 46.67 327 *e*P **P 13 32 12.8 +0.2**
NC405 NORSAR Array S 46.75 322 P **P 13 32 13.4 0.0**
MOA Molln 46.76 304 *e*P **P 13 32 14.3 +0.7**
comp=E,6.6nm,0.8s
FBE Freiberg 46.78 308 *e*P **P 13 32 15.3 +1.6**
comp=E,17nm,0.8s,baz=78,slow=8.0
FBE *e*pP **pP 13 32 21.2 -1.0**
baz=79,slow=7.9
VISS Visnje 46.81 301 *i* P **P 13 32 15.1 +1.0**
NC602 NORSAR Array S 46.85 322 *e*P **P 13 32 14.7 +0.6**
NC602 NORSAR Array S 46.85 322 P **P 13 32 14.6 +0.5**
OBKA Obir 46.85 302 *e*P **P 13 32 15.4 +0.9**
comp=E,10nm,1.0s
GEC2 GERESS Array S 46.93 305 *e*P **P 13 32 16.4 +1.4**
comp=E,8.2nm,0.9s,baz=78,slow=8.0
GEC2 *e*pP **pP 13 32 22.3 -1.2**
baz=79,slow=7.9
GERES GERESS Array B 46.93 305 P **P 13 32 16.2 +1.2**
comp=E,4.7nm,0.7s,baz=69,slow=7.3,SNR=33
GERES LR LR 13 55 18.3
comp=E,132nm,18.4s,baz=77,slow=40
GERES GERESS Array B 46.93 305 P **P 13 32 15.3 +0.3**
CLL Collm 46.93 309 *i* P **P 13 32 15.6 +0.7**
comp=Z,8.0nm,0.7s
CLL *i* 13 32 21.4
CLL *e*PPPP 13 34 58.0
CLL *e*S **S 13 39 00.0 -4.2**
CLL *e*SS SS 13 42 42.0 +11
CLL Collm 46.93 309 *i* P **P 13 32 15.6 +0.7**
CLL *i* *PP **pP 13 32 21.4 -2.0**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 46.93 309 *e*P **P 13 32 15.8 +1.0**
comp=Z,8.1nm,0.7s,baz=78,slow=8.0
CLL *e*pP **pP 13 32 21.9 -1.5**
baz=79,slow=7.9
KHC Kasperske Hory 46.95 306 P **P 13 32 15.4 +0.3**
KHC pmax pmax
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 46.95 306 *e*P **P 13 32 16.1 +1.0**
KHC *e*pP **pP 13 32 21.9 -1.8**
KHC AMS AMS 13 54 00.0
comp=Z,300nm,12.6s
KHC Kasperske Hory 46.95 306 P **P 13 32 15.4 +0.3**
KHC IAmb IAmb 13 32 17.3
comp=Z,8.3nm,0.7s
NB201 NORSAR Array S 46.96 322 P **P 13 32 15.3 +0.3**
NB2 NORSAR Subarra 47.00 322 P **P 13 32 15.1 -0.2**
comp=Z,18nm,0.8s,baz=89,slow=7.9
NB2 NORSAR Subarra 47.00 322 P **P 13 32 15.1 -0.2**
baz=89,slow=7.9
NOA NORSAR Array B 47.00 322 P **P 13 32 15.1 -0.2**
comp=Z,5.4nm,0.6s,baz=90,slow=7.6,SNR=31
NOA LR LR 13 52 47.8
comp=Z,113nm,19.3s,baz=85,slow=37
NC204 NORSAR Array S 47.21 323 P **P 13 32 17.0 0.0**
TIP Timpagrande 47.24 292 P **P 13 32 16.8 -0.8**
TIP IAmb IAmb 13 32 24.8
comp=Z,9.1nm,0.8s
OSL Oslo 47.29 321 *e*P **P 13 32 18.3 +0.8**
JAVS Javornik 47.32 301 *e*P **P 13 32 18.5 +0.4**
MJAR Matsushiro Arr 47.37 72 P **P 13 32 18.6 +0.1**
comp=Z,1.0nm,0.4s,baz=285,slow=7.6,SNR=2.4
MJAR pP **pP 13 32 24.3 -2.7**
comp=Z,5.1nm,0.7s,baz=284,slow=8.1,SNR=6.2
MJAR LR LR 13 53 51.6
comp=Z,105nm,19.1s,baz=295,slow=38
WET Wettzell 47.40 306 *e*P **P 13 32 20.1 +1.5**
comp=Z,6.8nm,0.9s,baz=78,slow=8.0
WET *e*pP **pP 13 32 25.9 -1.2**
baz=79,slow=7.9
NKC Novy Kostel 47.47 308 AMS AMS 13 54 10.0
comp=Z,600nm,16.3s
WERN Wernitzgruen 47.50 308 *e*pP pP 13 32 26.5 -1.4
baz=79,slow=7.9
GUNZ Gunzen 47.52 308 *e*P **P 13 32 20.9 +1.4**
comp=Z,8.0nm,0.9s,baz=78,slow=8.0
GUNZ *e*pP **pP 13 32 26.8 -1.2**
baz=79,slow=7.9
WERD Werda 47.52 308 *e*P **P 13 32 20.8 +1.3**
comp=Z,11nm,1.1s,baz=78,slow=8.0
WERD *e*pP **pP 13 32 26.7 -1.3**
baz=79,slow=7.9
KBA Koelnbreinsper 47.53 303 *e*P **P 13 32 21.9 +2.1**
comp=Z,4.0nm,1.0s
YSS Yuzh-Sakhalins 47.65 57 *i* P **P 13 32 18.6 -1.9**
YSS pmax pmax
comp=Z,15nm,1.1s
ROTZ Rotzenmuhle 47.71 307 *e*P **P 13 32 22.6 +1.6**
comp=Z,6.1nm,1.0s,baz=78,slow=8.0
ROTZ *e*pP **pP 13 32 28.6 -0.9**
baz=79,slow=7.9
NEUB Neuenburg 47.71 309 *e*P **P 13 32 22.2 +1.2**
comp=Z,14nm,0.8s,baz=78,slow=8.0
NEUB *e*pP **pP 13 32 28.3 -1.2**
baz=79,slow=7.9
MANZ Manzenberg 47.73 307 *e*P **P 13 32 22.7 +1.5**
comp=Z,4.6nm,1.0s,baz=78,slow=8.0
MANZ *e*pP **pP 13 32 28.6 -1.1**
baz=79,slow=7.9
FLTG Flechtingen 47.84 310 *e*P **P 13 32 22.7 +0.7**
comp=Z,14nm,0.7s,baz=78,slow=8.0
FLTG *e*pP **pP 13 32 28.5 -1.9**
baz=79,slow=7.9
SPA0 Spitsbergen Ar 47.87 346 *e*P **P 13 32 22.9 +1.0**
KONO Kongsberg 47.87 320 P **P 13 32 20.8 -1.3**
KONO pmax pmax
comp=Z,26nm,1.0s
KONO Kongsberg 47.87 320 *e*P **P 13 32 22.2 +0.2**
KONO Kongsberg 47.87 320 P **P 13 32 20.8 -1.3**
MOX Moxa 47.91 308 *e*P **P 13 32 23.8 +1.2**
comp=Z,7.4nm,1.0s,baz=78,slow=8.0
MOX *e*pP **pP 13 32 29.7 -1.3**
baz=79,slow=7.9
MOX *e*L L 13 54 37.3
comp=Z,351nm,19.5s
DOMB Dombas 47.99 324 *e*P **P 13 32 23.9 +0.9**
BSEG Bad Segeberg 48.13 313 *e*P **P 13 32 26.0 +1.8**
comp=Z,19nm,0.9s,baz=78,slow=8.0
BSEG *e*pP **pP 13 32 31.8 -0.9**
baz=79,slow=7.9
ABTA Abfaltersbach 48.16 303 *e*P **P 13 32 24.4 -0.3**
comp=Z,4.0nm,0.6s
GRF Grafenberg Arr 48.35 307 *e*P **P 13 32 27.8 +1.8**
comp=Z,18nm,1.1s,baz=78,slow=8.0
GRF *e*L L 13 54 54.8
comp=Z,230nm,21.3s
STKI Sintang 48.38 132 P **P 13 32 27.0 +0.5**
comp=Z,6µmcomp=Z,22nm,0.7s
SKAR Skarslia 48.44 322 *e*P **P 13 32 27.4 +0.9**
CLZ Clausthal 48.46 310 *e*P **P 13 32 28.1 +1.4**
comp=Z,7.9nm,0.9s,baz=78,slow=8.0
CLZ *e*pP **pP 13 32 34.0 -1.3**
baz=79,slow=7.9
NRDL Niedersach Rie 48.50 311 *e*P **P 13 32 28.8 +1.9**
comp=Z,15nm,1.0s,baz=78,slow=8.0
NRDL *e*pP **pP 13 32 34.6 -0.9**
baz=79,slow=7.9
HOMB Homborsund 48.57 319 *e*P **P 13 32 28.9 +1.5**
WTTA Wattenberg 48.62 304 *e*P **P 13 32 28.5 +0.2**
comp=Z,4.7nm,0.6s
WATA Walderalm 48.64 304 *e*P **P 13 32 29.0 +0.6**
comp=Z,9.1nm,1.6s
FUR Furstenfeldbru 48.65 305 *e*P **P 13 32 30.1 +1.9**
comp=Z,24nm,0.8s,baz=78,slow=8.0
MOL Molde 48.67 324 *e*P **P 13 32 29.6 +1.4**
GTTG Gottingen 48.76 310 *e*P **P 13 32 30.6 +1.6**
comp=Z,18nm,0.8s,baz=78,slow=8.0
GTTG *e*pP **pP 13 32 36.6 -1.0**
baz=79,slow=7.9
MOTA Moosalm 48.95 304 *e*P **P 13 32 30.3 -0.5**
comp=Z,5.6nm,0.9s
RETA Reutte 49.14 304 *e*P **P 13 32 32.1 -0.1**
comp=Z,6.5nm,1.1s
SNART Snartemo 49.24 319 *e*P **P 13 32 31.8 -0.7**
FETA Feichten 49.28 304 *e*P **P 13 32 33.4 +0.1**
comp=Z,1.8nm,0.5s
DAVA Damuels 49.77 304 *e*P **P 13 32 37.5 +0.4**
comp=Z,14nm,0.8s
DAVOX Davos/Dischmat 49.91 304 LR LR 13 54 22.5
comp=Z,44nm,21.3s,baz=83,slow=37
MA2 Magadan 50.11 39 *i* P **P 13 32 38.3 -0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.7s
VLC Villacollemand 50.29 300 P **P 13 32 41.6 +0.7**
VLC IAmb IAmb 13 32 43.3
comp=Z,11nm,1.0s
BTNL Ternell 51.33 309 *d*P **P 13 32 49.7 +1.1**
LPL La Plagne 52.36 303 *e*P **P 13 32 57.3 +0.7**
LPL pmax pmax
comp=Z,15nm,0.6s
MPSI Mapaga 53.45 124 P **P 13 33 05.3 +0.6**
comp=Z,1µmcomp=Z,26nm,1.0s
TOLI2 Tolitoli 53.47 122 P **P 13 33 01.9 -2.9**
TOLI2 IAmb IAmb 13 33 06.1
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 53.77 234 P **P 13 33 07.7 +0.3**
comp=Z,2.0nm,0.5s,baz=41,slow=11,SNR=5.3
KMBO Kilima Mbogo 53.77 234 P **P 13 33 07.7 +0.3**
KEST Kesra 53.98 290 P **P 13 33 08.8 +0.3**
comp=Z,2.9nm,0.8s,baz=3.4,slow=8.0,SNR=3.6
MRSI Marisa 54.71 122 P **P 13 33 14.8 +0.9**
comp=Z,66nm,0.8s
BILL Bilibino 55.23 27⇑ *e*P **P 13 33 17.5 +0.5**
BILL *e* 13 35 24.9
BILL *i* S **S 13 40 57.5 -1.0**
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,105nm,15.0s
PEA0B Petropavlovsk- 55.32 46 P **P 13 33 16.9 -1.0**
PEA0B pmax pmax
comp=Z,15nm,1.3s
PEA0B Petropavlovsk- 55.32 46 P **P 13 33 16.9 -1.0**
PEA0B IAmb IAmb 13 33 35.1
comp=Z,15nm,1.2s
PETK Petropavlovsk- 55.32 46 P **P 13 33 17.8 -0.1**
comp=Z,0.8nm,0.6s,baz=279,slow=2.8,SNR=6.6
PETK LR LR 13 59 19.0
comp=Z,243nm,18.6s,baz=288,slow=39
PETK Petropavlovsk- 55.32 46 P **P 13 33 16.6 -1.2**
DAG Danmarks Havn 55.36 344 *i* P **P 13 33 18.1 +0.3**
DAG IAmb IAmb 13 33 19.0
comp=Z,4.3nm,0.8s
DAG Danmarks Havn 55.36 344 *i* P **P 13 33 18.0 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.8s
ESK Eskdalemuir 55.47 317 P **P 13 33 18.9 0.0**
ESK pmax pmax
comp=Z,16nm,1.0s
ESK Eskdalemuir 55.47 317 P **P 13 33 18.9 0.0**
ESK IAmb IAmb 13 33 26.3
comp=Z,16nm,1.0s
APSI Ampana 55.54 123 P **P 13 33 20.9 +1.0**
comp=Z,22nm,1.1s
CAF Calviac 55.67 303 *e*P **P 13 33 21.0 +0.5**
CAF pmax pmax
comp=Z,10.0nm,0.9s
MBAR Mbarara 57.74 240 P **P 13 33 34.4 -1.3**
MBAR pmax pmax
comp=Z,13nm,0.8s
MBAR Mbarara 57.74 240 P **P 13 33 34.4 -1.3**
MBAR IAmb IAmb 13 33 36.7
comp=Z,13nm,0.8s
BORG Borgarnes 60.52 331 LR LR 14 00 09.5
comp=Z,174nm,18.6s,baz=53,slow=36
NEEM North Greenlan 61.22 349 *i* P **P 13 33 59.8 +0.7**
NEEM IAmb IAmb 13 34 00.0
comp=Z,4.3nm,0.6s
ESDC Sonseca Array 61.88 300 P **P 13 34 04.0 +0.1**
comp=Z,2.0nm,0.5s,baz=56,slow=7.1,SNR=14
ESDC pP **pP 13 34 10.1 -2.5**
comp=Z,2.6nm,0.7s,baz=56,slow=7.0,SNR=9.5
ESDC LR LR 14 06 02.3
comp=Z,52nm,19.1s,baz=30,slow=41
ESDC Sonseca Array 61.88 300 P **P 13 34 02.9 -1.0**
SUMG Summit 61.90 342 *i* P **P 13 34 05.1 +1.2**
SUMG IAmb IAmb 13 34 07.0
comp=Z,6.6nm,1.0s
SUMG Summit 61.90 342 P **P 13 34 03.4 -0.4**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 61.90 342 P **P 13 34 03.4 -0.4**
SUMG IAmb IAmb 13 34 12.5
comp=Z,13nm,1.0s
SOEI Soe 63.90 127 P **P 13 34 14.7 -2.8**
SOEI Soe 63.90 127 P **P 13 34 16.2 -1.3**
comp=Z,37nm,1.1s
FAKI Fak Fak 64.32 116 P **P 13 34 20.0 -0.2**
TNA Tin City 65.43 25 P **P 13 34 26.4 -0.3**
baz=307
VOI Vohitsoka 65.96 212 P **P 13 34 29.8 -1.0**
VOI IAmb IAmb 13 34 38.5
comp=Z,20nm,1.1s
DY2G Dye2 67.97 339 *i* P **P 13 34 44.2 +1.0**
DY2G IAmb IAmb 13 34 44.6
comp=Z,12nm,0.5s
DY2G *i* 13 34 50.0
RES Resolute Bay 68.02 358 LR LR 14 08 07.7
comp=Z,61nm,19.0s,baz=258,slow=39
TOLK Toolik Lake Re 68.47 17 P **P 13 34 45.7 -0.4**
baz=321
TOLK Toolik Lake Re 68.47 17 P **P 13 34 46.4 +0.3**
IMAR Indian Mountai 69.45 20 P **P 13 34 52.3 +0.2**
I21K Tanana 70.54 20 P **P 13 34 59.0 +0.2**
baz=320
BMAR Burnt Mountain 70.57 16 P **P 13 34 59.7 +0.6**
H23K Yukon River 70.68 19 P **P 13 35 00.0 +0.3**
baz=322,SNR=12
J20K Nowinta River 70.69 21 P **P 13 35 00.3 +0.5**
baz=318,SNR=12
MLY Manley 70.99 20 P **P 13 35 01.6 0.0**
baz=321
MLY Manley 70.99 20 P **P 13 35 01.6 0.0**
MLY IAmb IAmb 13 35 09.0
comp=Z,8.9nm,1.0s
H24K Noodor Dome 71.09 18 P **P 13 35 02.5 +0.2**
baz=323
KNRA Kununurra 71.23 128 P **P 13 35 03.3 -0.3**
KNRA IAmb IAmb 13 35 04.7
comp=Z,17nm,1.2s
I23K Minto, Yukon-K 71.26 19 P **P 13 35 03.2 0.0**
baz=322
I23K Minto, Yukon-K 71.26 19 P **P 13 35 02.8 -0.4**
I23K IAmb IAmb 13 35 10.9
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 71.30 272 P **P 13 35 03.8 -0.4**
comp=Z,6.3nm,0.5s,baz=43,slow=5.4,SNR=36
TORD Torodi Ar. Bea 71.30 272 P **P 13 35 03.8 -0.4**
K20K Telida 71.33 22 P **P 13 35 03.3 -0.3**
baz=318,SNR=12
CHUM Lake Minchumin 71.44 21 P **P 13 35 04.2 -0.1**
baz=320,SNR=9.8
BPAW Bear Paw Mtn. 71.65 20 P **P 13 35 05.0 -0.6**
baz=321
BPAW Bear Paw Mtn. 71.65 20 P **P 13 35 05.8 +0.2**
BPAW IAmb IAmb 13 35 12.7
comp=Z,17nm,1.0s
MDM Murphy Dome 71.71 19 P **P 13 35 05.8 -0.1**
MDM IAmb IAmb 13 35 13.1
comp=Z,18nm,1.4s
NEA2 Nenana 71.78 19 P **P 13 35 05.9 -0.5**
baz=322,SNR=10
POKR Poker Plat Res 71.78 18 P **P 13 35 06.6 +0.3**
baz=323
TCOL CIGO, UAF Yank 71.87 19 P **P 13 35 06.7 -0.1**
baz=323
COLA College 71.87 19 *i* P **P 13 35 06.0 -0.8**
COLA pmax pmax
comp=Z,6.0nm,0.7s
COLA College 71.87 19 P **P 13 35 06.7 -0.1**
baz=323
PRP Porcupine Dome 71.93 18 P **P 13 35 07.5 +0.1**
baz=325
INK Inuvik 71.93 12 P **P 13 35 07.6 +0.4**
baz=334
L19K White Mountain 71.97 23 P **P 13 35 08.1 +0.5**
baz=318
ILAR Eielson Array 72.20 19 P **P 13 35 08.2 -0.7**
comp=Z,3.4nm,0.7s,baz=319,slow=4.8,SNR=30
ILAR pP **pP 13 35 14.6 -3.1**
comp=Z,6.4nm,0.8s,baz=329,slow=4.2,SNR=22
ILAR LR LR 14 09 49.9
comp=Z,43nm,19.2s,baz=290,slow=38
ILAR Eielson Array 72.20 19 P **P 13 35 08.3 -0.6**
PPLA Purkeypile 72.23 22 P **P 13 35 09.2 -0.1**
baz=320
PPLA Purkeypile 72.23 22 P **P 13 35 09.7 +0.4**
PPLA IAmb IAmb 13 35 16.7
comp=Z,25nm,1.2s
C36M Paulatuk 72.25 8 P **P 13 35 08.6 -0.4**
baz=342
TRF Thorofare Moun 72.35 21 P **P 13 35 09.2 -0.8**
baz=321
RND Reindeer 72.78 20 P **P 13 35 12.2 -0.3**
RND pmax pmax
comp=Z,8.0nm,0.6s
RND Reindeer 72.78 20 P **P 13 35 12.2 -0.3**
RND IAmb IAmb 13 35 18.8
comp=Z,7.7nm,0.6s
EPYK Eagle Plains 73.10 14 P **P 13 35 13.8 -0.4**
baz=332
SKT Skwentna 73.14 22 P **P 13 35 14.5 0.0**
baz=321
WAT1 Susitna Watana 73.33 20 P **P 13 35 15.6 0.0**
baz=323
RIDG Independent Ri 73.56 18 P **P 13 35 16.3 -0.7**
baz=326,SNR=9.8
RIDG Independent Ri 73.56 18 P **P 13 35 16.6 -0.4**
RIDG IAmb IAmb 13 35 23.5
comp=Z,23nm,1.0s
EGAK Eagle 73.56 16 P **P 13 35 16.4 -0.5**
baz=328
SCRK Sand Creek 73.58 18 P **P 13 35 16.9 -0.3**
baz=326,SNR=8.6
SCRK Sand Creek 73.58 18 P **P 13 35 16.7 -0.5**
SCRK IAmb IAmb 13 35 24.2
comp=Z,17nm,1.3s
WAT6 Susitna Watana 73.75 20 P **P 13 35 17.7 -0.6**
baz=324,SNR=8.1
SUA Susitna One 73.78 22 P **P 13 35 18.1 -0.3**
baz=321
K27K Chicken 73.99 17 P **P 13 35 18.9 -0.5**
K27K IAmb IAmb 13 35 27.1
comp=Z,14nm,1.2s
PAX Paxson 74.04 19 P **P 13 35 20.0 +0.1**
PAX pmax pmax
comp=Z,36nm,1.4s
PAX Paxson 74.04 19 P **P 13 35 19.8 0.0**
baz=325,SNR=11
PAX Paxson 74.04 19 P **P 13 35 20.0 +0.1**
PAX IAmb IAmb 13 35 26.8
comp=Z,36nm,1.4s
SML Sawmill 74.21 21 P **P 13 35 20.7 -0.2**
baz=323,SNR=9.5
RC01 Rabbit Creek A 74.37 22 P **P 13 35 21.7 0.0**
baz=322
SCM Sheep Creek Mo 74.47 20 P **P 13 35 22.5 +0.1**
SCM pmax pmax
comp=Z,24nm,0.6s
SCM Sheep Creek Mo 74.47 20 P **P 13 35 22.4 +0.1**
KNK Knik Glacier 74.49 21 P **P 13 35 22.3 -0.2**
baz=323
L26K Log Cabin Wild 74.53 18 P **P 13 35 22.9 +0.2**
baz=327
M24K Tolsona, Glenn 74.56 20 P **P 13 35 22.7 -0.2**
baz=325
HARP HAARP 74.59 19 P **P 13 35 23.2 +0.2**
baz=326,SNR=7.6
L27K Beaver Creek, 74.87 18 P **P 13 35 25.1 +0.4**
baz=328,SNR=8.7
L27K Beaver Creek, 74.87 18 P **P 13 35 24.5 -0.2**
KOWA Kowa 75.05 277 P **P 13 35 26.4 +0.1**
KLU Klutina 75.14 20 P **P 13 35 26.7 +0.5**
baz=325
M26K Nabesna, AK 75.14 18 P **P 13 35 26.8 +0.5**
baz=327
MORW Morawa 75.19 146 P **P 13 35 26.0 -0.8**
N25K Chitina, Valde 75.40 20 P **P 13 35 28.6 +0.8**
baz=326
M27K Edge Creek, AK 75.46 18 P **P 13 35 28.7 +0.5**
baz=328
BMRM Bremner River 75.93 20 P **P 13 35 31.0 +0.3**
baz=326
EYAK Cordova Ski Ar 75.96 21 P **P 13 35 31.3 +0.5**
baz=325
KDAK Kodiak Island 76.06 25 P **P 13 35 31.8 +0.3**
baz=321
CRQE Cirque 76.52 19 P **P 13 35 33.9 -0.3**
baz=327
CTG Chitna Glacier 76.79 19 P **P 13 35 35.7 -0.1**
baz=329
PINM Pinnacle 77.81 18 P **P 13 35 41.4 0.0**
baz=330
WB0 Warramunga Arr 77.83 127 P **P 13 35 41.5 -0.5**
WB0 IAmb IAmb 13 35 42.3
comp=Z,8.5nm,0.9s
WRA Warramunga Arr 77.92 127 P **P 13 35 41.5 -0.9**
comp=Z,5.5nm,1.0s,baz=324,slow=4.9,SNR=67
WRA PKKPbc **PKKPbc 13 54 43.5 +0.5**
comp=Z,0.4nm,0.8s,baz=132,slow=1.2,SNR=9.6
WRA Warramunga Arr 77.92 127 P **P 13 35 41.7 -0.8**
WRAB Tennant Creek 77.92 127 *ce*P **P 13 35 40.7 -1.8**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WB2 Warramunga Arr 77.93 127 P **P 13 35 41.5 -1.0**
WHY Whitehorse 78.57 16 P **P 13 35 45.4 -0.3**
baz=334
PMG Port Moresby 79.59 110 *ce*P **P 13 35 49.6 -2.2**
PMG pmax pmax
comp=Z,21nm,1.3s
YKA Yellowknife Ar 79.86 6 P **P 13 35 52.1 -0.4**
comp=Z,2.9nm,0.7s,baz=350,slow=5.0,SNR=28
YKA pP **PcP 13 35 58.3 -1.8**
comp=Z,5.1nm,0.7s,baz=350,slow=5.0,SNR=25
YKA LR LR 14 13 44.4
comp=Z,42nm,21.0s,baz=0.0,slow=38
YKA Yellowknife Ar 79.86 6 P **P 13 35 51.2 -1.3**
KIC Kosan Boka 80.39 271 *e*PKIKP **P 13 35 56.8 +0.6**
comp=Z,16nm,0.7s
ASAR Alice Springs 80.39 130 P **P 13 35 55.1 -0.8**
comp=Z,2.8nm,0.8s,baz=318,slow=5.9,SNR=43
ASAR PKKPbc **PKKPbc 13 54 37.9 +0.2**
comp=Z,0.3nm,0.6s,baz=139,slow=2.5,SNR=7.5
ASAR Alice Springs 80.39 130 P **P 13 35 55.2 -0.7**
ASAR Alice Springs 80.39 130 P **P 13 35 55.2 -0.7**
TIC Toumodi 80.44 271 *e*PKIKP **P 13 35 57.1 +0.6**
LIC Lamto 80.70 271 *e*PKIKP **P 13 35 57.4 -0.5**
comp=Z,90nm,1.8s

BOSA Boshof 82.24 225 P P 13 36 05.5 -0.2
comp=Z,23nm,1.1s,baz=33,slow=3.4,SNR=19
BOSA pP PcP 13 36 12.0 +1.0
comp=Z,3.8nm,0.4s,baz=27,slow=3.2,SNR=3.1
SCHQ Schefferville 83.23 340 LR LR 14 17 15.8
comp=Z,41nm,18.1s,baz=15,slow=39
CTAO Charters Tower 85.99 119 P P 13 36 24.4 -0.5
CTAO pmax pmax
comp=Z,12nm,0.8s
CTAO Charters Tower 85.99 119 P P 13 36 24.4 -0.5
STKA Stephens Creek 91.01 130 P P 13 36 47.4 -1.0
comp=Z,0.8nm,0.3s,baz=315,slow=7.1,SNR=1.4
ULM Lac du Bonnet 92.48 356 LR LR 14 23 02.9
comp=Z,177nm,18.3s,baz=310,slow=38
PDAR Pinedale Array 99.84 6 LR LR 14 27 37.7
comp=Z,98nm,18.1s,baz=5.5,slow=38
LPAZ La Paz 143.43 296 PKP **PKPdf 13 43 20.6 +0.6**
comp=Z,0.8nm,0.6s,baz=0.0,slow=2.0,SNR=2.2
TRQA Tornquist 148.51 256 PKP2 **PKPbc 13 43 31.4 +0.5**
TRQA Tornquist 148.51 256 PKPbc 13 43 31.4 +0.5
PLCA Paso Flores 155.43 253 PKPab **PKPab 13 44 03.7 +0.4**
comp=Z,3.8nm,0.9s,baz=125,slow=2.5,SNR=6.0

*IDC **24** 13:49:32.0±2.4, 54°.50N×168°.97E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/49, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=68.3km s-min=31.8km az=173.0*
*KRSC **24** 13:49:34.1±1.9, 54°.05N×168°.26E, h6km±31km, ML3.6*
ISC 24 13:49:32.5±1.3, 54°.2N±0°.1×168°.87E±0°.08, h10km, n16, σ1§77/19, mb3.7/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.94**	**301**	*e*S	**Sn**	**13 50 27.7**	**-2.2**
MKZ	**Mys Kozlova**	**4.19**	**277**	*e*P	**Pn**	**13 50 36.9**	**+0.6**
MKZ				*e*S	**Sn**	**13 51 22.9**	**-2.3**
KZV	**Kizimen**	**5.05**	**284**	*e*P	**Pn**	**13 50 50.0**	**+1.6**
KZV				*e*S	**Sn**	**13 51 45.6**	**-1.2**
TUMR	**Tumrok**	**5.16**	**285**	*e*P	**Pn**	**13 50 52.4**	**+2.6**
TUMR				*e*S	**Sn**	**13 51 50.7**	**+1.3**
SPN	**Mys Shipunski**	**5.38**	**261**	*e*P	**Pn**	**13 50 53.9**	**+1.2**
SPN				*e*S	**Sn**	**13 51 51.9**	**-2.8**
UGLR	**Uglovaya**	**6.05**	**264**	*e*P	**Pn**	**13 51 03.1**	**+1.1**
DALK	**Dalny**	**6.14**	**263**	*e*S	**Sn**	**13 52 12.3**	**-1.0**
RUS	**Russkaya**	**6.46**	**258**	*e*S	**Sn**	**13 52 18.9**	**-2.3**
GNL	**Ganaly**	**6.47**	**270**	*e*P	**Pn**	**13 51 09.9**	**+2.1**
GNL				*e*S	**Sn**	**13 52 21.9**	**+0.2**
PETK	**Petropavlovsk-**	**6.73**	**265**	Pn	**Pn**	**13 51 13.2**	**+1.9**
	0.4nm,0.3s,baz=109,slow=14,SNR=6.9						
PETK				Sn	**Sn**	**13 52 28.7**	**+0.7**
	0.5nm,0.3s,baz=89,slow=27,SNR=10						
ILAR	**Eielson Array**	**24.26**	**47**	P	**P**	**13 54 48.2**	**-1.2**
	0.3nm,0.6s,baz=256,slow=7.9,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**34.48**	**183**	T	T	14 32 53.4	
	baz=1.7,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**34.49**	**183**	T	T	14 32 55.5	
	baz=1.7,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**34.49**	**183**	T	T	14 32 56.2	
	baz=1.7,slow=76,SNR=18						
ARCES	**ARCESS Array B**	**53.69**	**345**	P	**P**	**13 58 53.1**	**-0.6**
	1.4nm,0.9s,baz=28,slow=12,SNR=4.3						
TXAR	**Lajitas Array**	**65.34**	**74**	P	**P**	**14 00 15.2**	**+0.4**
	0.2nm,0.4s,baz=297,slow=4.0,SNR=4.3						

*MAN **24** 14:01:01.8, 14°.08N×120°.49E, h120km, mb4.1, ML2.9, MS2.6*
*IDC **24** 14:01:05.5±8.9, 14°.03N×120°.69E, h170km±93km, mb3.2/9, mb1 3.4/9, mb1mx3.2/48, mbtmp3.7/9, Error ellipse: s-maj=31.5km s-min=12.6km az=70.0*
ISC 24 14:01:02.5±0.8, 14°.03N±0°.07×120°.5E±0°.1, h138km±7km, n15, σ1§58/19, mb3.7/9, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**216**	⇑*i*P	**Pn**	**14 01 21.4**	**-0.5**
LUBP				*i*S	**Sn**	**14 01 35.1**	**-1.5**
TGY	**Tagaytay City**	**0.46**	**81**	⇓*e*P	**Pn**	**14 01 23.7**	**+1.4**
PGP	**Puerto Galera**	**0.71**	**138**	⇑*i*P	**Pn**	**14 01 22.8**	**-1.0**
PGP				*i*S	**Sn**	**14 01 38.8**	**-1.2**
LQP	**Lukban**	**1.04**	**86**	⇓*i*P	**Pn**	**14 01 26.0**	**-0.7**
LQP				*i*S	**Sn**	**14 01 48.6**	**+3.5**
PCPH	**Palayan**	**1.63**	**22**	⇓*e*P	**Pn**	**14 01 30.6**	**-2.1**
APYP	**Conner**	**3.88**	**11**	⇑*i*P	**Pn**	**14 02 00.2**	**-0.6**
APYP				*i*S	**Sn**	**14 02 45.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**21.13**	**285**	P	**P**	**14 05 39.7**	**+3.2**
	0.8nm,0.6s,baz=95,slow=7.5,SNR=7.5						
KSRS	**Korea Array**	**24.25**	**15**	P	**P**	**14 06 06.5**	**-0.1**
	0.7nm,0.8s,baz=187,slow=8.6,SNR=3.1						
SONM	**Songino Array**	**35.68**	**344**	P	**P**	**14 07 47.6**	**+0.1**
	1.4nm,0.5s,baz=164,slow=10,SNR=10						
KLR	**Kul'dur**	**36.30**	**13**	P	**P**	**14 07 52.2**	**-0.4**
	1.0nm,0.5s,baz=225,slow=4.9,SNR=4.6						
WRA	**Warramunga Arr**	**36.42**	**158**	P	**P**	**14 07 53.0**	**-1.0**
	0.2nm,0.3s,baz=340,slow=9.1,SNR=18						
ASAR	**Alice Springs**	**39.71**	**161**	P	**P**	**14 08 20.8**	**-0.7**
	0.6nm,0.4s,baz=335,slow=7.5,SNR=28						
MKAR	**Makanchi Array**	**45.63**	**324**	P	**P**	**14 09 10.0**	**+1.0**
	0.2nm,0.3s,baz=111,slow=7.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**49.79**	**326**	P	**P**	**14 09 41.2**	**+0.2**
	2.4nm,1.0s,baz=113,slow=7.1,SNR=6.3						
YKA	**Yellowknife Ar**	**92.55**	**22**	P	**P**	**14 13 57.4**	**-0.5**
	0.3nm,0.5s,baz=301,slow=3.8,SNR=2.7						

IDC 24 14:01:29.5±1.9, 16°.66S×179°.35W, h585km±22km, mb2.8/4, mb1 3.2/5, mb1mx2.8/38, mbtmp3.7/5, Error ellipse: s-maj=202.0km s-min=21.8km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.70**	**246**	P	P	14 02 45.8	0.0
	6.3nm,0.3s,baz=108,slow=9.6,SNR=30						
WRA	**Warramunga Arr**	**43.98**	**258**	P	P	14 08 46.2	-0.1
	0.6nm,0.7s,baz=90,slow=8.6,SNR=7.2						
ASAR	**Alice Springs**	**44.27**	**253**	P	P	14 08 48.4	-0.1
	2.9nm,0.7s,baz=87,slow=8.4,SNR=54						
NVAR	**Mina Array Bea**	**79.16**	**44**	P	P	14 12 35.2	+0.3
	0.2nm,0.5s,baz=226,slow=7.3,SNR=2.4						
TXAR	**Lajitas Array**	**86.10**	**58**	P	P	14 13 09.3	-0.4
	0.5nm,0.9s,baz=209,slow=7.2,SNR=5.5						

*MAN **24** 14:05:19.9, 14°.15N×120°.28E, h109km, mb4.3, ML3.2, MS2.9*
ISC 24 14:05:20.0±1.4, 14°.1N±0°.1×120°.4E±0°.1, h120km, n7, σ2§51/10, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.40**	**204**	⇑*i*P	**Pn**	**14 05 39.3**	**+1.9**
LUBP				*i*S	**Sn**	**14 05 52.8**	**+2.3**
TGY	**Tagaytay City**	**0.51**	**90**	*e*P	**Pn**	**14 05 41.4**	**+3.4**
PGP	**Puerto Galera**	**0.80**	**139**	⇑*e*P	**Pn**	**14 05 40.6**	**+0.5**
PGP				*i*S	**Sn**	**14 05 56.7**	**+1.3**
LQP	**Lukban**	**1.09**	**89**	⇓*i*P	**Pn**	**14 05 43.9**	**+0.8**
LQP				*i*S	**Sn**	**14 06 02.7**	**+2.1**
PCPH	**Palayan**	**1.59**	**24**	⇓*e*P	**Pn**	**14 05 48.5**	**0.0**
WRA	**Warramunga Arr**	**36.50**	**158**	P	**P**	**14 12 10.5**	**-3.4**
	0.3nm,0.6s,baz=335,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**39.79**	**160**	P	**P**	**14 12 39.1**	**-2.3**
	0.3nm,0.9s,baz=331,slow=7.1,SNR=4.2						

*PRU **24** 14:07:54.0±0.0, 51°.46N×16°.07E, h0km*
*VIE **24** 14:07:54.5±0.5, 51°.38N×16°.04E, h0km, mb2.1/2, ml2.6/3, Error ellipse: s-maj=3.7km s-min=3.0km az=37.0 74 km WNW of Wroclaw Suspected Mining induced.*
ISC 24 14:07:53.2±1.3, 51°.45N±0°.06×16°.10E±0°.03, h0km, n22, σ0§68/42, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg	**Pg**	**14 08 05.5**	**+0.4**
KSP				*e*Sg	**Sg**	**14 08 14.1**	**+1.0**
CHVC	**Chvalec**	**0.87**	**182**	*e*PG	**Pg**	**14 08 10.4**	**+0.6**
CHVC				*e*SG	**Sb**	**14 08 22.5**	**-0.7**
	comp=Z,35nm,0.5s						
OSTC	**Ostas**	**0.90**	**175**	*e*PG	**Pg**	**14 08 10.9**	**+0.5**
OSTC				*e*SG	**Sb**	**14 08 23.3**	**-0.9**
	comp=Z,46nm,0.4s						
UPC	**Upice**	**0.95**	**183**	*e*PG	**Pb**	**14 08 11.9**	**-0.6**
UPC				*e*SG	**Sb**	**14 08 24.7**	**-0.9**
	comp=Z,77nm,0.4s						
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	**Pg**	**14 08 14.3**	**-0.2**
DPC				*e*SG	**Sg**	**14 08 28.8**	**-0.1**
	comp=Z,24nm,0.5s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	**Pn**	**14 08 19.2**	**+0.1**
PVCC				*e*SG	**Sn**	**14 08 37.7**	**+0.1**
	comp=Z,145nm,0.3s						
KRLC	**Kraliky**	**1.45**	**162**	*e*PG	**Pn**	**14 08 20.0**	**-0.6**
KRLC				*e*SG	**Sb**	**14 08 39.9**	**-0.1**
	comp=Z,24nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**248**	Pg	**Pg**	**14 08 21.4**	**0.0**
BRG				Sg	**Sn**	**14 08 41.4**	**+0.4**
BRG				Amp		14 08 42.7	
	comp=Z,72nm,0.3s						
PRU	**Pruhonice**	**1.77**	**215**	*e*PG	**Pb**	**14 08 26.5**	**0.0**
PRU				*e*SG	**Sg**	**14 08 49.8**	**-0.2**
	comp=Z,16nm,0.2s						
MORC	**Moravsky Berou**	**1.91**	**151**	*e*PN	**Pn**	**14 08 26.2**	**-0.9**
MORC				*e*SG	**Sn**	**14 08 50.7**	**-1.2**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pb**	**14 08 29.0**	**-0.5**
CLL				*e*		14 08 32.0	
CLL				*e*Sg	**Sb**	**14 08 55.0**	**+0.7**
	comp=Z,19nm,0.5s						
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*SG	**Sg**	**14 09 00.0**	**+0.1**
	comp=Z,21nm,0.5s						
VRAC	**Vranov**	**2.17**	**171**	*e*PN	**Pn**	**14 08 30.6**	**0.0**
VRAC				*e*SG	**Sg**	**14 09 02.7**	**-0.2**
TREC	**Trest**	**2.19**	**190**	*e*SG	**Sg**	**14 09 03.4**	**-0.3**
	comp=Z,12nm,0.2s						
KRUC	**Moravsky**	**2.40**	**175**	*e*PN	**Pn**	**14 08 33.0**	**-0.7**
KRUC				*e*SG	**Sg**	**14 09 10.2**	**-0.1**
NKC	**Novy Kostel**	**2.62**	**244**	*e*PN	**Pn**	**14 08 36.9**	**+0.2**
NKC				*e*PG	**Pg**	**14 08 42.9**	**-0.4**
NKC				*e*SG	**Sg**	**14 09 17.5**	**+0.3**
	comp=Z,36nm,0.3s						
OJC	**Ojcow**	**2.65**	**116**	*e*Pg	**Pg**	**14 08 44.3**	**+0.3**
OJC				*e*Sg	**Sg**	**14 09 18.4**	**0.0**
JAVC	**Velka Javorina**	**2.79**	**158**	*e*PN	**Pn**	**14 08 39.5**	**+0.4**
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	**Pn**	**14 08 39.9**	**+0.2**
KHC				*e*PG	**Pb**	**14 08 45.4**	**+0.8**
KHC				*e*SN	**Sn**	**14 09 13.7**	**-0.8**
KHC				*e*SG	**Sg**	**14 09 23.1**	**-1.0**
	comp=Z,9.2nm,0.4s						
MODS	**Modra-Piesok**	**3.17**	**166**	*e*SG	**Sg**	**14 09 37.2**	**+2.1**
VYHS	**Vyhne**	**3.45**	**148**	*e*PG	**Pg**	**14 08 59.7**	**+0.4**
CONA	**Conrad Observa**	**3.53**	**183**	*e*Pn	**Pn**	**14 08 50.1**	**+0.7**
	comp=Z,0.3nm,0.1s						
CONA				*e*Sn	**Sn**	**14 09 33.1**	**+1.3**
	comp=Z,3.0nm,0.4s						

*IDC **24** 14:11:53.6±1.1, 31°.24S×71°.50W, h0km, mb4.4/3, mb1 4.1/7, mb1mx3.8/26, mbtmp4.0/7, ML3.7/4, MS3.2/3, Ms1 3.1/3, ms1mx2.9/17, Error ellipse: s-maj=45.9km s-min=22.5km az=110.0*
*SJA **24** 14:11:59.6±0.7, 31°.01S×71°.57W, h30km±3km, ML4.1, MW4.4*
*GUC **24** 14:12:04.8±0.9, 30°.92S×71°.20W, h57km±5km, ML4.4*
ISC 24 14:12:02.2±0.8, 31°.09S±0°.03×71°.43W±0°.05, h62km±7km, n71, σ2§41/79, mb4.2/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.45**	**336**	⇓*i*P	**Pn**	**14 12 16.3**	**+2.5**
CO06				*e*S	**Sn**	**14 12 26.0**	**+3.8**
CO06				IAML		14 12 27.4	
	comp=E,30μm,0.2s						
CO03	**El Pedregal**	**0.68**	**69**	⇑*i*P	**Pn**	**14 12 16.7**	**+0.3**
CO03				*e*S	**Sn**	**14 12 26.5**	**-0.4**
CO03				IAML		14 12 27.8	
	comp=E,26μm,0.1s						
CO03	**El Pedregal**	**0.68**	**69**	*e*P	**Pn**	**14 12 15.2**	**-1.2**
CO03				*e*S	**Sn**	**14 12 26.8**	**0.0**
CO03				IAML		14 12 27.7	
	comp=Z,6μm,0.2s						
GO04	**Tololo Observa**	**1.06**	**31**	*e*P	**Pn**	**14 12 22.2**	**+0.9**
GO04				*e*S	**Sn**	**14 12 35.3**	**-0.2**
GO04				IAML		14 12 39.1	
	comp=E,50μm,0.5s						
GO04	**Tololo Observa**	**1.06**	**31**	*e*P	**Pn**	**14 12 22.1**	**+0.8**
GO04				*e*S	**Sn**	**14 12 36.2**	**+0.7**
CO05	**La Serena**	**1.18**	**8**	⇑*e*P	**Pn**	**14 12 24.2**	**+1.6**
CO05				*e*S	**Sn**	**14 12 37.5**	**-0.2**
CO05				IAML		14 12 47.6	
	comp=N,7μm,0.3s						
VA03	**San Esteban**	**1.83**	**156**	*e*P	**Pn**	**14 12 32.7**	**+1.2**
VA03				*i*S	**Sn**	**14 12 55.2**	**+1.5**
VA03				IAML		14 12 59.4	
	comp=E,5μm,0.5s						
ROCH	**El Roble**	**1.91**	**169**	*e*P	**Pn**	**14 12 33.8**	**+1.0**
ROCH				*e*S	**Sn**	**14 12 56.4**	**+0.6**
ROCH				IAML		14 13 05.0	
	comp=N,3μm,0.4s						
VA01	**Torpederas**	**1.94**	**185**	*e*P	**Pn**	**14 12 33.4**	**+0.5**
VA01				IAML		14 13 03.2	
	comp=E,2μm,0.2s						
RTLS	**Leoncito**	**1.95**	**112**	*e*P	**Pn**	**14 12 35.7**	**+2.4**
AUSP	**Uspallata**	**2.08**	**124**	*e*P	**Pn**	**14 12 37.3**	**+2.3**
ACCO	**Cerro Coronel**	**2.09**	**77**	*e*P	**Pn**	**14 12 37.7**	**+2.5**
ACCO				*e*S	**Sn**	**14 13 05.0**	**+4.6**
LCO	**Las Campanas**	**2.16**	**17**	*e*P	**Pn**	**14 12 37.7**	**+1.5**
LCO				*i*S	**Sn**	**14 13 03.9**	**+2.0**
MT02	**Curacav**	**2.18**	**174**	*e*P	**Pn**	**14 12 36.7**	**+0.5**
MT02				*i*S	**Sn**	**14 12 55.4**	**-6.7**
MT02				IAML		14 13 07.8	
	comp=N,1μm,0.2s						
MT05	**Renca**	**2.37**	**166**	*e*P	**Pn**	**14 12 40.0**	**+1.2**
MT05				*i*S	**Sn**	**14 13 08.7**	**+1.9**
MT05				IAML		14 13 16.4	
	comp=E,5μm,0.3s						
ZON	**Zonda**	**2.40**	**102**	*e*P	**Pn**	**14 12 41.7**	**+2.6**
ZON				*e*S	**Sn**	**14 13 13.2**	**+5.8**
FSR	**Penalolen**	**2.50**	**163**	*e*P	**Pn**	**14 12 43.6**	**+3.0**
MT03	**Universidad Ad**	**2.52**	**162**	*e*P	**Pn**	**14 12 42.5**	**+1.6**
MT03				*e*S	**Sn**	**14 13 12.2**	**+1.7**
MT03				IAML		14 13 25.9	
	comp=N,3μm,0.4s						
MT03	**Universidad Ad**	**2.52**	**162**	*e*P	**Pn**	**14 12 42.9**	**+2.0**
MT03				*e*S	**Sn**	**14 13 18.4**	**+7.8**
RTLL	**Cerro Villicun**	**2.54**	**96**	*e*P	**Pn**	**14 12 43.1**	**+2.0**
VA05	**Santo Domingo**	**2.57**	**183**	*e*P	**Pn**	**14 12 42.2**	**+0.8**
VA05				IAML		14 13 30.6	
	comp=E,3μm,0.3s						
RTCV	**Cerro Valdivia**	**2.58**	**108**	*e*P	**Pn**	**14 12 44.2**	**+2.5**
RTCV				*e*S	**Sn**	**14 13 05.4**	**-6.6**
ASAL	**Salagasta**	**2.67**	**125**	*e*P	**Pn**	**14 12 46.0**	**+3.1**
MT09	**Talagante**	**2.71**	**172**	*e*P	**Pn**	**14 12 44.6**	**+1.2**
MT09				IAML		14 13 27.5	
	comp=E,2μm,0.4s						
MT01	**Popeta**	**2.77**	**177**	*e*P	**Pn**	**14 12 45.1**	**+0.8**
MT01				IAML		14 13 27.3	
	comp=E,2μm,0.3s						
AC04	**Llanos de Chal**	**2.89**	**6**	*e*P	**Pn**	**14 12 47.3**	**+1.5**
AC04				IAML		14 13 35.5	
	comp=E,1μm,0.3s						
LMEL	**Las Melosas**	**2.94**	**160**	*e*P	**Pn**	**14 12 49.0**	**+2.4**
LMEL				IAML		14 13 30.9	
	comp=N,2μm,0.3s						
AAGR	**Agrelo**	**2.97**	**133**	*e*P	**Pn**	**14 12 50.8**	**+3.8**
BO01	**Tunca**	**3.31**	**175**	*e*P	**Pn**	**14 12 52.2**	**+0.7**
BO01				IAML		14 13 41.0	
	comp=N,513nm,0.3s						
BO03	**Pichilemu**	**3.43**	**187**	⇑*i*P	**Pn**	**14 12 53.1**	**-0.1**
GO03	**Copiap**	**3.63**	**17**	*e*P	**Pn**	**14 12 57.6**	**+1.6**
GO03				*e*S	**Sn**	**14 13 38.6**	**+0.9**
GO03				IAML		14 13 56.3	
	comp=N,868nm,0.3s						
GO03	**Copiap**	**3.63**	**17**	*e*P	**Pn**	**14 12 57.8**	**+1.8**
VCA	**Vinchina**	**3.65**	**51**	*e*P	**Pn**	**14 13 00.3**	**+4.1**
BO02	**Sierra Bellavi**	**3.74**	**172**	*e*P	**Pn**	**14 12 58.6**	**+1.1**
GO05	**Huala**	**3.94**	**186**	⇑*i*P	**Pn**	**14 12 59.9**	**-0.2**
ACLC	**CERRO LA CRUZ**	**4.21**	**68**	*e*P	**Pn**	**14 13 05.8**	**+1.8**
LAMA	**Las Malvinas**	**4.27**	**155**	*e*P	**Pn**	**14 13 07.6**	**+3.0**
APLL	**PUNTA DE LOS L**	**4.27**	**82**	*e*P	**Pn**	**14 13 06.0**	**+1.2**
RFA	**San Rafael**	**4.44**	**147**	*e*P	**Pn**	**14 13 08.8**	**+1.8**
AC02	**Maricunga**	**4.69**	**26**	*e*P	**Pn**	**14 13 12.6**	**+1.8**
PUMA	**Malargue**	**4.70**	**160**	*e*P	**Pn**	**14 13 13.3**	**+2.7**
MRA	**San Martin**	**5.04**	**107**	*e*P	**Pn**	**14 13 15.8**	**+0.4**
CYA	**Choya**	**5.55**	**63**	*e*P	**Pn**	**14 13 23.2**	**+0.9**
BI02	**San Fabin de**	**5.56**	**179**	*e*P	**Pn**	**14 13 23.3**	**+0.8**
H03N1	**Juan Fernandez**	**6.76**	**248**	T	T	14 20 31.0	
	baz=74,slow=72,SNR=780						
H03N3	**Juan Fernandez**	**6.78**	**248**	T	T	14 20 35.2	
	baz=74,slow=72,SNR=533						
H03N2	**Juan Fernandez**	**6.78**	**248**	T	T	14 20 31.4	
	baz=74,slow=72,SNR=847						
FSA	**Cafayete**	**6.89**	**45**	*e*P	**Pn**	**14 13 41.4**	**+0.7**
LC01	**Cunco**	**7.80**	**183**	*e*P	**Pn**	**14 13 52.8**	**-0.2**
PB15	**IPOC Station P**	**8.04**	**13**	*e*P	**Pn**	**14 13 55.2**	**-1.2**
PB05	**IPOC Station P**	**8.27**	**8**	*e*P	**Pn**	**14 13 57.8**	**-1.8**
PB06	**IPOC Station P**	**8.51**	**12**	*e*P	**Pn**	**14 14 01.6**	**-1.3**
LVC	**Limon Verde**	**8.73**	**15**	Pn	**Pn**	**14 14 04.1**	**-2.1**
	comp=N,0.6nm,0.3s,baz=162,slow=7.8,SNR=8.6						
LVC				LR	LR	14 17 31.6	
	comp=N,64nm,19.1s,baz=222,slow=38						
PLCA	**Paso Flores**	**9.65**	**176**	Pn	Pn	14 14 11.0	-7.3
	comp=N,0.1nm,0.3s,baz=312,slow=15,SNR=1.4						
CPUP	**Villa Florida**	**13.25**	**73**	Pn	**Pn**	**14 15 04.7**	**-2.7**
	comp=N,0.2nm,0.3s,baz=174,slow=19,SNR=1.3						
CPUP				Sn	**Sn**	**14 17 28.3**	**-4.7**
	comp=N,0.3nm,0.3s,baz=166,slow=17,SNR=1.5						
CPUP				LR	LR	14 20 50.0	
	comp=N,35nm,21.6s,baz=228,slow=40						
LPAZ	**La Paz**	**15.04**	**12**	Pn	**Pn**	**14 15 33.1**	**+1.5**
	comp=N,0.2nm,0.3s,baz=181,slow=7.9,SNR=7.9						
SIV	**San Ignacio**	**17.75**	**35**	P	**Pn**	**14 16 05.3**	**+0.2**
	comp=N,0.6nm,0.3s,baz=223,slow=9.6,SNR=13						
BDFB	**Brasilia**	**26.34**	**60**	P	**P**	**14 17 32.1**	**-0.5**
	comp=N,7.3nm,0.9s,baz=215,slow=6.4,SNR=4.2						
SNAA	**Sanae**	**54.09**	**159**	P	**P**	**14 21 19.4**	**-0.8**
	comp=N,2.0nm,0.8s,baz=274,slow=8.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**82.73**	**70**	P	**P**	**14 24 20.3**	**+0.6**
	comp=N,3.0nm,0.7s,baz=250,slow=4.0,SNR=7.2						
URZ	**Urewera**	**86.00**	**227**	LR	LR	14 54 05.3	
	comp=N,67nm,19.3s,baz=24,slow=30						
ASAR	**Alice Springs**	**120.39**	**207**	PKP	**PKiKP**	**14 30 47.0**	**-0.2**
	comp=N,0.5nm,1.1s,baz=148,slow=2.0,SNR=2.0						
WRA	**Warramunga Arr**	**123.55**	**209**	PKP	**PKiKP**	**14 30 53.1**	**-0.3**
	comp=N,0.2nm,0.5s,baz=162,slow=1.4,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**26.29**	**271**	T	T	16 49 58.2	
	baz=116,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**26.30**	**271**	T	T	16 50 00.3	
	baz=116,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**26.30**	**271**	T	T	16 50 01.8	
	baz=116,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**26.62**	**272**	T	T	16 50 19.9	
	baz=116,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**26.64**	**272**	T	T	16 50 34.4	
	baz=116,slow=75,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**26.64**	**272**	T	T	16 50 33.0	
	baz=116,slow=75,SNR=30						
ZALV	**Zalesovo Beam**	**151.47**	**30**	PKPbc	**PKiKP**	**14 31 48.9**	**-0.1**
	comp=N,4.8nm,0.6s,baz=316,slow=3.6,SNR=10						
MKAR	**Makanchi Array**	**154.40**	**45**	PKPbc	**PKiKP**	**14 31 55.8**	**+0.4**
	comp=N,0.4nm,0.6s,baz=52,slow=2.0,SNR=4.4						
MKAR				PKPab	**PKPab**	**14 32 10.8**	**+1.0**
	comp=N,1.4nm,0.9s,baz=300,slow=2.7,SNR=8.2						

*IDC **24** 14:25:23.2±2.2, 54°.49N×168°.99E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/38, mbtmp3.5/5, ML2.6/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/43, Error ellipse: s-maj=59.5km s-min=29.3km az=176.0*
*KRSC **24** 14:25:24.1±2.1, 54°.06N×168°.37E, h7km±34km, ML3.8*
ISC 24 14:25:23.1±1.2, 54°.2N±0°.1×168°.88E±0°.08, h10km, n29, σ1§67/20, mb3.7/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.99**	**303**	S	**Sn**	**14 26 18.3**	**-3.4**
MKZ	**Mys Kozlova**	**4.20**	**278**	*e*P	**Pn**	**14 26 28.3**	**+1.2**
MKZ				*e*S	**Sn**	**14 27 14.4**	**-1.8**
SMKR	**Semkarok**	**4.88**	**303**	*e*P	Pn	14 26 40.0	+3.5
TUMR	**Tumrok D**	**5.03**	**286**	*e*S	**Sn**	**14 27 36.5**	**-0.2**
SRKR	**Sorokina**	**5.06**	**303**	*e*P	**Pn**	**14 26 40.8**	**+1.8**
KLY	**Klyuchi**	**5.18**	**298**	*e*S	**Sn**	**14 27 40.7**	**+0.3**
KIRR	**Kirishev**	**5.23**	**294**	*e*P	Pn	14 26 44.1	+2.7
KIRR				*e*S	**Sn**	**14 27 42.0**	**+0.2**
SPN	**Mys Shipunski**	**5.37**	**262**	*e*P	**Pn**	**14 26 44.3**	**+1.1**
SPN				*e*S	**Sn**	**14 27 42.8**	**-2.3**
KII	**Karymskiy**	**5.55**	**273**	*e*P	**Pn**	**14 26 47.2**	**+1.5**
UGLR	**Uglovaya**	**6.05**	**265**	*e*P	Pn	14 26 54.6

ENTT	Nioudou	1.17	255	eP		Pn	14 37 12.3	-1.8
	baz=252							
NWLT	Wulai	1.20	262	eP		Pn	14 37 13.1	-1.3
	baz=258							
NDT	Datong Townshi	1.22	254	eP		Pn	14 37 13.5	-1.3
	baz=251							
HATJ	Hateruma jima	1.27	134	P		Pb	14 37 14.3	-1.1
JKRS	Kuro-shima	1.30	122	P		Pb	14 37 14.7	-1.3
YHNB	Yeheng	1.33	258	eP		Pn	14 37 15.1	-1.2
	baz=255							
NACB	Ninganchiao	1.34	235	eP		Pn	14 37 15.5	-0.9
	baz=234							
JIJ	Ishigaki jima	1.35	115	P		Pn	14 37 15.0	-1.5
NNSB	Datong	1.39	249	eP		Pn	14 37 15.5	-1.7
	baz=246							
NNSB				eS		Sn	14 37 35.5	-0.5
	baz=246							
NNSH	Datong	1.39	249	P		Pn	14 37 15.7	-1.5
	baz=246							
NNS	Nan Shan	1.40	249	P		Pn	14 37 16.6	-0.7
	baz=246							
TWD	Chiawan	1.40	232	eP		Pn	14 37 15.7	-1.5
	baz=231							
ETLH	Xiulin Townshi	1.41	239	eP		Pn	14 37 16.6	-0.8
	baz=237							
JISG	Ishigakijimahi	1.41	104	P		Pb	14 37 16.0	-1.9
FUSS	Fushou	1.58	244	eP		Pb	14 37 20.0	-1.0
	baz=242							
WHF	Hehuan Shan	1.61	241	P		Pn	14 37 20.0	-0.6
	baz=239							
TWT	Tachien	1.64	246	eP		Pb	14 37 20.7	-1.1
	baz=243							
TDCB	Techi	1.65	246	eP		Pn	14 37 20.8	0.0
	baz=244							
LIOB	Emei	1.65	260	eP		Pb	14 37 20.8	-1.2
	baz=257							
NSTT	Nanjuang	1.67	260	eP		Pn	14 37 20.5	-0.5
	baz=256							
CHGB	Renai	1.73	240	eP		Pn	14 37 21.9	-0.1
	baz=238							
JTJ	Tarama	1.75	100	P		Pb	14 37 21.6	-2.0
WHP	Taichung City	1.82	249	eP		Pb	14 37 24.1	-0.8
	baz=234							
HGSD	Ruisui	1.92	221	eP		Pn	14 37 23.2	-1.1
	baz=209							
WCS	Beigang Elemen	1.94	243	eP		Pb	14 37 25.9	-0.9
	baz=242							
SMLT	Sun Moon Lake	2.03	239	eP		Pn	14 37 26.0	0.0
	baz=224							
SSLB	Suanglung	2.04	236	eP		Pn	14 37 25.8	-0.3
	baz=221							
TYC	Yuchr	2.06	240	eP		Pn	14 37 26.9	+0.6
	baz=224							
YULB	Yu-li	2.07	222	P		Pn	14 37 24.7	-1.8
	baz=222							
YULB				eS		Sn	14 37 51.4	-1.2
	baz=222							
TWF1	Yuli	2.10	221	eP		Pn	14 37 25.1	-1.8
	baz=236							
FULB	Fuli	2.22	219	eP		Pn	14 37 28.0	-0.5
	baz=219							
ALS	Alishan	2.32	232	eP		Pn	14 37 30.6	+0.5
	baz=219							
CHN5	Tsauling	2.36	236	eP		Pn	14 37 31.4	+0.8
	baz=235							
STYH	Taoyuan	2.56	227	eP		Pn	14 37 33.8	+0.6
	baz=227							
CHN4	Tsaushan	2.57	232	eP		Pn	14 37 34.6	+1.3
	baz=232							
TPUB	Ta-pu	2.57	231	eP		Pn	14 37 34.0	+0.6
	baz=218							
STYT	Tauyuan	2.58	227	eP		Pn	14 37 34.0	+0.5
	baz=227							
WTP	Ta-pu	2.62	230	eP		Pn	14 37 33.7	-0.3
	baz=230							
TWGBT	Beinan	2.64	217	eP		Pn	14 37 33.5	-0.9
	baz=218							
TWK	Hsinying	2.70	232	eP		Pn	14 37 35.0	-0.1
	baz=219							
TWK				eS		Sn	14 38 09.6	+1.4
	baz=219							
CHN1	Nanshi	2.72	230	eP		Pn	14 37 36.2	+0.8
	baz=230							
SLGT	Liugui	2.77	226	eP		Pn	14 37 37.1	+1.0
	baz=226							
SSD	Sandimen	2.96	223	eP		Pn	14 37 39.8	+1.1
	baz=214							
MASBT	Mashibuluo	3.06	221	eP		Pn	14 37 40.5	+0.5
	baz=212							
MASBT				eS		Sn	14 38 16.8	-0.2
	baz=212							
EAST	Anshuo	3.12	216	eP		Pn	14 37 40.9	0.0
	baz=217							
EAST				eS		Sn	14 38 17.3	-1.2
	baz=217							
KSRS	Korea Array	13.21	18	Pn		P	14 40 11.3	+1.8
	0.1nm,0.3s,baz=193,slow=14,SNR=9.4							
KSRS				LR		LR	14 45 39.9	
	comp=Z,106nm,19.3s,baz=191,slow=38							
MJAR	Matsushiro Arr	17.55	45	LR		LR	14 48 34.4	
	comp=Z,60nm,20.0s,baz=215,slow=38							
USRK	Ussuriysk Ar.	20.62	19	P		Pn	14 41 40.3	+6.9
	1.2nm,0.6s,baz=220,slow=7.4,SNR=4.1							
USRK				LR		LR	14 49 10.3	
	comp=Z,48nm,19.2s,baz=187,slow=35							
CMAR	Chiang Mai Arr	23.07	258	LR		LR	14 51 38.5	
	comp=Z,43nm,18.5s,baz=140,slow=40							
ASAJ	Asahikawa	25.02	35	LR		LR	14 52 51.4	
	comp=Z,57nm,18.2s,baz=188,slow=37							
KLR	Kul'dur	25.23	14	P		P	14 42 23.7	+5.9
	0.6nm,0.3s,baz=312,slow=8.3,SNR=3.7							
KLR				LR		LR	14 52 24.0	
	comp=Z,52nm,19.2s,baz=202,slow=36							
SONM	Songino Array	26.28	335	P		P	14 42 30.3	+2.9
	0.9nm,0.9s,baz=128,slow=9.6,SNR=4.6							
SONM				LR		LR	14 53 14.7	
	comp=Z,50nm,18.0s,baz=132,slow=37							
PETK	Petropavlovsk-	38.42	34	LR		LR	15 01 01.2	
	comp=Z,35nm,18.2s,baz=124,slow=37							
MKAR	Makanchi Array	38.84	315	P		P	14 44 17.6	+0.6
	0.5nm,0.6s,baz=97,slow=10.0,SNR=6.7							
ZALV	Zalesovo Beam	40.43	326	P		P	14 44 33.3	+3.1
	0.5nm,0.3s,baz=116,slow=6.8,SNR=4.0							
ZALV				LR		LR	15 02 27.2	
	comp=Z,34nm,19.1s,baz=49,slow=38							
KURBB	Kurchatov Arra	42.50	319	P		P	14 44 48.4	+1.3
	0.5nm,0.3s,baz=104,slow=7.7,SNR=1.0							
WRA	Warramunga Arr	46.01	165	P		P	14 45 14.8	-0.7
	1.5nm,0.7s,baz=347,slow=8.7,SNR=9.8							
TIXI	Tiksi	46.86	3	LR		LR	15 07 28.4	
	comp=Z,60nm,18.8s,baz=214,slow=39							
NRIK	Noril'sk	49.06	344	LR		LR	15 07 21.7	
	comp=Z,23nm,19.9s,baz=63,slow=37							
ASAR	Alice Springs	49.51	167	P		P	14 45 41.1	-1.6
	0.2nm,0.5s,baz=342,slow=7.5,SNR=9.1							
BELG	Belogornoye	61.73	318	LR		LR	15 16 07.4	
	comp=Z,23nm,20.3s,baz=86,slow=38							
GNI	Garni	65.59	305	LR		LR	15 20 26.9	
	comp=Z,19nm,18.2s,baz=70,slow=40							
FINES	FINESS Array B	71.54	330	P		P	14 48 12.6	-0.2
	2.9nm,0.9s,baz=74,slow=6.8,SNR=5.2							
BRTR	Keskin Array B	73.91	307	LR		LR	15 23 43.9	
	comp=Z,35nm,18.2s,baz=298,slow=38							
HFS	Hagfors	77.62	331	LR		LR	15 26 18.1	
	comp=Z,41nm,19.0s,baz=148,slow=38							
NOA	NORSAR Array B	78.24	332	LR		LR	15 26 58.0	
	comp=Z,15nm,20.2s,baz=310,slow=38							
YKA	Yellowknife Ar	81.70	23	P		P	14 49 15.2	+5.0
	0.4nm,0.6s,baz=316,slow=5.9,SNR=5.1							

*THR **24** 15:04:18.3±0.7,28°.89N×58°.78E,h14km±9km, ML3.9*
*TEH **24** 15:04:18.1,28°.85N×58°.69E,h8km, ML3.6*
ISC 24 15:04:16.7±1.0,28.72N±0°.05×58.76E±0°.03,h10km,n21,
σ1§27/24,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	BAM	0.49	326	ePg	Pg	15 04 26.2	-0.2
KBAM				eSg	Sg	15 04 30.9	-2.1
KHNJ	Kahnooj	1.21	231	ePg	Pg	15 04 41.2	+1.2
KHNJ				e		15 04 59.0	
	comp=Z,15μm,0.2s						
CHMN	Cheshme madani	1.56	317	ePg	Pn	15 04 45.0	+0.1
CHMN				e		15 05 08.5	
	comp=Z,15μm,0.3s						
ZHDN	Zahedan	1.91	69	ePn	Pg	15 04 52.5	-1.0
ZHSF	Zahedan	1.97	63	ePn	Pb	15 04 52.3	-0.5
ZHSF				eSg	Sb	15 05 17.6	+0.2
ZHSF	Zahedan	1.97	63	ePn	Pb	15 04 52.3	-0.5
NGRK	Negar Kerman	2.00	298	ePn	Pb	15 04 53.1	-0.4
NGRK				e		15 05 20.2	
	comp=Z,18μm,0.3s						
KRBR	Kerman	2.15	306	ePn	Pb	15 04 55.3	-0.7
KRBR				eSg	Sb	15 05 23.6	+0.7
KRBR				IAML		15 05 25.1	
	comp=N,661nm,0.2s						
KRBR				IAML		15 05 25.8	
	comp=E,954nm,0.2s						
KRBR	Kerman	2.15	306	ePn	Pb	15 04 55.3	-0.7
TVBK	TV Kerman	2.15	306	ePn	Pb	15 04 55.6	-0.5
IBND	Bandar-abas	2.34	238	ePn	Pg	15 05 00.0	-1.6
IBND				e		15 05 54.0	
	comp=Z,4μm,0.5s						
KHGB	Koh Gabri	2.59	310	ePn	Pb	15 05 02.6	-0.7
BNDS	Bandar-Abbas	2.64	241	ePn	Pb	15 05 03.8	-0.5
BNDS	Bandar-Abbas	2.64	241	ePn	Pb	15 05 03.8	-0.5
NHDN	Nehbandan	2.88	22	ePn	Pn	15 05 05.0	+2.1
SRVN	Saravan	3.47	111	ePn	Pb	15 05 17.3	-1.1
IKOO	Kooshah	3.69	3	ePn	Pn	15 05 15.5	+1.3
IKOO				e		15 06 16.5	
	comp=Z,3μm,0.4s						
IDAH	Dahanechah	4.12	13	ePn	Pn	15 05 22.1	+2.2
TPRV	Parvadeh(Tabas	4.65	338	ePn	Pn	15 05 29.5	+2.4
AFRZ	Afriz	4.69	3	ePn	Pn	15 05 29.6	+1.8
TKDS	Koohdasht(Taba	5.07	344	ePn	Pn	15 05 33.6	+0.6

*IDC **24** 15:10:02.0±1.1,28°.04N×51°.79E,h0km,mb3.8/11,*
mb1 3.9/13,mb1mx3.6/52,mbtmp3.8/13,ML3.4/2,Error
ellipse: s-maj=31.1km s-min=18.5km az=34.0
*THR **24** 15:10:03.9±0.5,28°.00N×52°.02E,h6km±7km,ML3.8*
*TEH **24** 15:10:04.6,28°.02N×51°.85E,h19km,ML3.8*
*DSN **24** 15:10:10.5±1.6,27°.70N×52°.23E,h10km,ML3.2/10,Error*
ellipse: s-maj=19.3km s-min=9.9km az=179.0
*OMAN **24** 15:10:10.9±2.1,28°.13N×52°.48E,h25km,mb4.8/5,*
ml3.5/12,Error ellipse: s-maj=18.6km s-min=7.4km
az=178.0
ISC 24 15:10:06.2±0.6,28°.07N±0°.03×51°.97E±0°.04,h26km,n89,
σ1§52/111,mb3.8/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	Qir	1.03	67	ePg	Pb	15 10 26.1	+0.6
QIR1				eSg	Sn	15 10 42.6	+3.8
QIR1				e		15 10 52.5	
	comp=Z,33μm,0.4s						
LMD1	Lamerd	1.28	124	ePg	Pb	15 10 30.5	+0.7
LMD1				e		15 10 59.8	
	comp=Z,16μm,0.8s						
JHRM	Jahrom	1.49	73	ePn	Pb	15 10 33.9	+0.7
JHRM				e		15 10 59.9	
	comp=Z,23μm,0.4s						
KAZ1	Kazerun	1.58	350	ePg	Pn	15 10 34.3	+1.7
KAZ1				e		15 11 10.7	
	comp=Z,13μm,0.6s						
SHI	Shiraz	1.64	17	ePn	Pb	15 10 35.9	0.0
SHMA	Al-Shehemyia	2.38	202	P	Pb	15 10 50.4	+2.1
SAKB	Bahrain	2.44	212	P	Pb	15 10 54.2	+4.8
SAKB				S	Sb	15 11 30.6	+12
KHOR	Al-Khor Airpor	2.47	190	P	Pb	15 10 51.1	+1.3
KLNJ	Kolanjah	2.95	354	ePn	Pn	15 10 52.9	+1.2
JRN	Qarnain Island	3.21	166	ePn	Pn	15 10 55.5	+0.5
JRN	Qarnain Island	3.21	166	P	Pb	15 11 03.3	+0.8
TRNA	Turayna	3.39	192	P	Pb	15 11 08.1	+2.6
TRNA				S	Sb	15 11 47.6	+1.3
IRAM	Ramesheh	3.75	5	ePn	Pn	15 11 03.9	+1.3
BNDS	Bandar-Abbas	3.79	99	ePn	Pn	15 11 04.0	+1.0
SLWR	Sila	3.99	184	ePn	Pn	15 11 06.4	+0.7
IMEH	Mehriz	4.03	34	ePn	Pn	15 11 10.1	+3.6
GHWR	Ruwais	4.17	168	ePn	Pn	15 11 08.6	+0.5
GHWR	Ruwais	4.17	168	P	Pn	15 11 10.2	+2.0
SHME	Shamm	4.23	117	P	Pn	15 11 09.4	+0.4
SHME	Shamm	4.23	117	ePn	Pn	15 11 09.7	+0.7
SHME	Shamm	4.23	117	P	Pn	15 11 09.7	+0.7
BANOM	Banah	4.42	118	i P	Pn	15 11 12.2	+0.6
	SNR=28						
BANOM				S	Sn	15 12 00.3	-1.9
BANOM	Banah	4.42	118	ePn	Pn	15 11 12.2	+0.6
BANOM	Banah	4.42	118	P	Pn	15 11 10.2	-1.4
BANOM				S	Sn	15 12 01.0	-1.2
NGRK	Negar Kerman	4.46	68	ePn	Pn	15 11 14.2	+1.6
NGRK				e		15 12 14.7	
	comp=Z,604nm,0.3s						
NAZ	Nazwa, Dubai	4.51	132	P	Pn	15 11 14.1	+1.3
NAZ	Nazwa, Dubai	4.51	132	ePn	Pn	15 11 14.3	+1.4
NAZ	Nazwa, Dubai	4.51	132	P	Pn	15 11 14.3	+1.4
NAZ				S	Sn	15 12 05.0	+0.4
ASUD	Al Ashush, Dub	4.56	138	P	Pn	15 11 15.1	+1.4
ASUD	Al Ashush, Dub	4.56	138	ePn	Pn	15 11 14.9	+1.3
ASUD	Al Ashush, Dub	4.56	138	P	Pn	15 11 15.0	+1.4
ASUD				S	Sn	15 12 06.4	+0.6
KRBR	Kerman	4.61	64	ePn	Pn	15 11 16.6	+2.1
KRBR				IAML		15 12 15.2	
	comp=E,43nm,0.3s						
MASF	Masafi	4.61	125	P	Pn	15 11 14.4	+0.1
	SNR=8.2						
MASF				S	Sn	15 12 05.7	-1.3
MSFE	Esma-Masafi	4.62	125	i P	Pn	15 11 14.4	+0.1
	SNR=8.3						
MSFE	Esma-Masafi	4.62	125	ePn	Pn	15 11 14.9	+0.5
FAQ	Al Faqa, Dubai	4.64	135	P	Pn	15 11 16.7	+2.1
FAQ	Al Faqa, Dubai	4.64	135	ePn	Pn	15 11 15.3	+0.7
FAQ	Al Faqa, Dubai	4.64	135	P	Pn	15 11 15.6	+1.0
FAQ				S	Sn	15 12 08.2	+0.6
ICHK	Chekchek	4.67	26	ePn	Pn	15 11 17.8	+2.6
IPIR	Pirpir	4.70	349	ePn	Pn	15 11 16.2	+0.5
MDH	Madha	4.75	124	P	Pn	15 11 16.6	+0.4
MDH	Madha	4.75	124	ePn	Pn	15 11 16.6	+0.4
MDH	Madha	4.75	124	P	Pn	15 11 16.7	+0.5
MDH				S	Sn	15 12 09.1	-1.5
YZKH	Yazd	4.87	27	ePn	Pn	15 11 20.4	+2.5
SHGR	Shooshtar-Gavs	4.87	327	ePn	Pn	15 11 21.0	+3.2
UOSS	Minazif	4.91	128	i P	Pn	15 11 18.6	+0.4
	SNR=10						
UOSS	Minazif	4.91	128	ePn	Pn	15 11 18.7	+0.4
UOSS	Minazif	4.91	128	P	Pn	15 11 18.7	+0.4
UOSS				S	Sn	15 12 13.7	-0.5
HATD	Hatta, Dubai	4.94	130	P	Pn	15 11 19.6	+0.9
HATD				S	Sn	15 12 14.3	-0.7
ASHO	Ashiyiah	4.98	132	i P	Pn	15 11 20.0	+0.6
	SNR=12						
ASHO	Ashiyiah	4.98	132	ePn	Pn	15 11 20.1	+0.7
ASHO	Ashiyiah	4.98	132	P	Pn	15 11 20.0	+0.6
	SNR=12						
ASHO				S	Sn	15 12 13.9	-2.2
ALNE	Al Ain	5.25	139	i P	Pn	15 11 23.8	+0.7
	SNR=7.1						
ALNE	Al Ain	5.25	139	ePn	Pn	15 11 24.2	+1.2
ALNE	Al Ain	5.25	139	P	Pn	15 11 23.8	+0.7
	SNR=7.2						
ALNE				S	Sn	15 12 23.2	+0.5
ANAR	Anarak	5.33	16	ePn	Pn	15 11 25.7	+1.5
SOHO	SOHO	5.67	133	P	Pn	15 11 27.6	-1.3
SOHO				S	Sn	15 12 30.9	-2.3
SOHO	SOHO	5.67	133	ePn	Pn	15 11 28.7	-0.1
SOHO	SOHO	5.67	133	P	Pn	15 11 29.1	+0.3
SOHO				S	Sn	15 12 33.3	+0.2
KRSH	Karshahi	5.88	1	ePn	Pn	15 11 33.0	+1.1
UMZA	Um Al Zommool	6.06	151	ePn	Pn	15 11 34.5	+0.3
UMZA	Um Al Zommool	6.06	151	P	Pn	15 11 34.4	+0.2
UMZA				S	Sn	15 12 39.4	-3.4
ARQ	Araqi	6.25	138	P	Pn	15 11 36.9	+0.1
ARQ				S	Sn	15 12 45.2	-2.3
ISFB	Sefidab	6.27	2	ePn	Pn	15 11 37.7	+0.6
TPRV	Parvadeh(Tabas	6.40	38	ePn	Pn	15 11 41.5	+2.6
HOQ	Hoqain	6.57	132	P	Pn	15 11 41.2	0.0
	SNR=11						
HOQ				S	Sn	15 12 51.3	-3.9
TNSJ	Nastanj	7.10	33	ePn	Pn	15 11 50.5	+2.0
BSY	Bisya	7.10	137	P	Pn	15 11 48.5	0.0
BSY				S	Sn	15 13 07.6	-0.8
BSRN	Basiran	7.32	56	ePn	Pn	15 11 53.5	+1.9
SMDO	Samad	7.42	131	P	Pn	15 11 53.2	+0.3
	SNR=6.8						
SMDO				S	Sn	15 13 16.5	+0.2
IALM	Almabolaq	7.51	335	ePn	Pn	15 11 55.3	+1.0
WSAR	Wadi Sarin	7.70	127	Pn	Pn	15 11 55.9	-0.8
	comp=E,1.6nm,0.3s,baz=321,slow=11,SNR=16						
WSAR				Sn	Sn	15 13 18.7	-4.4
	comp=E,0.7nm,0.3s,baz=345,slow=15,SNR=1.7						
WSAR	Wadi Sarin	7.70	127	P	Pn	15 11 56.5	-0.2
	SNR=18						
WSAR				S	Sn	15 13 19.8	-3.2
IDHR	Dehrash	8.15	326	ePn	Pn	15 12 02.4	-0.6
MHTO	MHTO	8.92	141	P	Pn	15 12 13.3	-0.1
MHTO				S	Sn	15 13 50.1	-2.9
DMTO	DMTO	10.66	164	P	Pn	15 12 36.7	-0.7
	SNR=5.5						
BRTR	Keskin Array B	19.11	312	P	P	15 14 25.3	-2.0
	comp=E,0.0nm,0.3s,baz=129,slow=12,SNR=2.1						
MKAR	Makanchi Array	30.21	44	P	P	15 16 15.0	+0.5
	comp=E,0.5nm,0.8s,baz=227,slow=8.2,SNR=4.0						
ZALV	Zalesovo Beam	35.28	34	P	P	15 16 59.1	+0.4
	comp=E,0.8nm,0.4s,baz=232,slow=10,SNR=5.0						
FINES	FINESS Array B	37.58	340	P	P	15 17 17.1	-1.1
	comp=E,1.6nm,0.5s,baz=140,slow=9.5,SNR=6.6						
HFS	Hagfors	41.20	332	P	P	15 17 48.3	-0.2
	comp=E,2.4nm,0.3s,baz=136,slow=8.4,SNR=30						
NB2	NORSAR Subarra	42.72	332	P	P	15 17 59.7	-1.2
	comp=Z,1.1nm,0.6s,baz=121,slow=8.6						
NOA	NORSAR Array B	42.72	332	P	P	15 17 59.9	-1.0
	comp=Z,0.5nm,0.4s,baz=121,slow=8.3,SNR=4.2						
CMAR	Chiang Mai Arr	43.98	92	P	P	15 18 14.0	+2.5
	comp=Z,0.6nm,0.7s,baz=285,slow=8.5,SNR=5.1						
ARCES	ARCESS Array B	44.24	347	P	P	15 18 13.6	+0.6
	comp=Z,1.9nm,1.0s,baz=123,slow=4.5,SNR=6.2						
TORD	Torodi Ar. Bea	49.01	263	P	P	15 18 50.0	-1.1
	comp=Z,0.9nm,0.8s,baz=61,slow=8.3,SNR=3.7						
YKA	Yellowknife Ar	89.11	354	P	P	15 22 57.4	-1.6
	comp=Z,0.2nm,0.4s,baz=12,slow=3.7,SNR=3.6						
WRA	Warramunga Arr	92.77	111	P	P	15 23 18.4	+1.7
	comp=Z,0.2nm,0.9s,baz=304,slow=4.4,SNR=0.8						
ASAR	Alice Springs	94.20	114	P	P	15 23 22.1	-1.2
	comp=Z,0.1nm,0.6s,baz=316,slow=5.2,SNR=1.2						

*JMA **24** 15:10:19.5±0.2,25°.00N×122°.79E,h16km±3km,M2.0*
*TAP **24** 15:10:19.6,24°.97N×122°.98E,h41km±1km,ML2.7,D*
ISC 24 15:10:18.7±1.7,25°.1N±0°.1×122°.90E±0°.05,h15km±12km,
n18,σ0§61/25,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.59	170	P	Pb	15 10 30.6	-0.3
YOJ				S	Sb	15 10 38.8	-0.3
YOJ	Yonaguni jima	0.59	170	P	Pb	15 10 30.9	+0.1
	baz=177						
YOJ				eS	Sb	15 10 39.1	0.0
	baz=177						
JYNG	Yonagunijimaku	0.60	176	P	Pb	15 10 30.4	-0.5
JYNG				S	Sb	15 10 38.0	-1.2
IRIF	Iriomote-Funau	1.04	133	P	Pg	15 10 39.4	+0.6
IRIF				eS	Sn	15 10 53.6	+0.5
NDS	Dongshan	1.15	249	eP	Pn	15 10 40.5	+0.2
	baz=253						
NDS				eS	Sg	15 10 56.5	+0.5
	baz=253						
TWE	Neicheng	1.16	254	eP	Pn	15 10 39.4	-1.1
	baz=257						
ENTT	Nioudou	1.28	252	eP	Pn	15 10 42.4	+0.3
	baz=255						
JKRS	Kuro-shima	1.29	128	P	Pg	15 10 43.5	-0.2
JKRS				eS	Sg	15 10 59.9	-0.7
JIJ	Ishigaki jima	1.32	121	P	Pg	15 10 44.2	0.0
JIJ				eS	Sg	15 11 01.3	-0.2
JISG	Ishigakijimahi	1.36	109	P	Pg	15 10 45.5	+0.5
YHNB	Yeheng	1.43	255	eP	Pn	15 10 44.7	+0.4
	baz=258						
NACB	Ninganchiao	1.47	234	eP	Pn	15 10 45.0	+0.3
	baz=237						
NNSB	Datong	1.51	246	eP	Pn	15 10 45.8	+0.4
	baz=249						
NNSH	Datong	1.51	246	eP	Pn	15 10 45.7	+0.3
	baz=249						
ETLH	Xiulin Townshi	1.54	237	eP	Pn	15 10 45.9	+0.1
	baz=240						
WHF	Hehuan Shan	1.74	239	eP	Pn	15 10 49.2	+0.4
	baz=242						
TDCB	Techi	1.77	244	eP	Pb	15 10 50.2	-0.8
	baz=246						
ALS	Alishan	2.45	232	eP	Pn	15 10 59.8	+1.4
	baz=233						

*IDC **24** 15:22:23.7±2.0,5°.57S×129°.32E,h303km±20km,mb2.9/2,*
mb1 3.2/5,mb1mx2.9/26,mbtmp3.8/5,Error ellipse:
s-maj=41.9km s-min=11.4km az=80.0
ISC 24 15:22:23.6±1.2,5°.60S±0°.08×129°.3E±0°.3,h300km,n5,
σ1§36/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.09	23	P	Pn	15 23 42.9	+0.7
	2.4nm,0.3s,baz=52,slow=23,SNR=15						
SIJI				S	S	15 24 44.0	-1.4
	8.8nm,0.3s,baz=302,slow=23,SNR=31						
WRA	Warramunga Arr	15.07	162	P	Pn	15 25 43.0	0.0
	0.7nm,0.3s,baz=340,slow=11,SNR=73						
WRA				S	S	15 28 24.1	-1.8
	0.3nm,0.3s,baz=344,slow=21,SNR=11						
ASAR	Alice Springs	18.50	167	P	P	15 26 20.1	+1.4
	0.6nm,0.3s,baz=345,slow=12,SNR=78						
ASAR				S	S	15 29 33.6	-0.3
	0.1nm,0.3s,baz=349,slow=22,SNR=7.6						
ASAR				ScP	ScP	15 33 40.0	-1.0
	0.0nm,0.3s,baz=351,slow=2.1,SNR=5.6						
PETK	Petropavlovsk-	63.22	19	P	P	15 32 21.5	+1.2
	0.2nm,0.5s,baz=211,slow=5.0,SNR=1.5						
MKAR	Makanchi Array	66.69	327	P	P	15 32 41.9	-0.9
	0.4nm,0.4s,baz=134,slow=4.2,SNR=12						

*SOF **24** 15:42:34.3,41°.33N×24°.46E,h10km,

comp=E,9776μm,0.3s
THAS AML AML 15 43 02.2
comp=N,11969μm,0.4s
KDZ Kurdzhali 0.81 64 *i* Pg **Pg 15 42 48.6 -1.5**
PLD Plovdiv 0.83 13 PG **Pb 15 42 50.9 0.0**
PLD Plovdiv 0.83 13 *i* Pg **Pb 15 42 51.2 +0.3**
RDO Rodhopi 0.83 100 P **Pg 15 42 50.0 -0.6**
RDO Rodhopi 0.83 100 P **Pg 15 42 50.0 -0.6**
RDO S **Sg 15 43 01.5 -0.1**
RDO AML AML 15 43 05.7
comp=E,10858μm,0.2s
RDO AML AML 15 43 06.1
comp=N,11027μm,0.2s
RDO Rodhopi 0.83 100 PG **Pb 15 42 51.0 0.0**
SOH Sokhos 0.96 240 P **Pb 15 42 52.8 -0.4**
SOH S **Sb 15 43 06.5 +0.7**
comp=N,1μm,0.4s
SOH Sokhos 0.96 240 P **Pb 15 42 52.7 -0.4**
SOH S **Sn 15 43 06.8 -0.7**
SOH AML AML 15 43 09.1
comp=E,3472μm,0.4s
SOH AML AML 15 43 09.5
comp=N,2490μm,0.5s
OUR Ouranopolis 1.03 200 P **Pb 15 42 54.4 +0.1**
OUR S **Sb 15 43 08.3 +0.6**
comp=N,1μm,0.5s
OUR Ouranopolis 1.03 200 P **Pb 15 42 54.4 +0.1**
OUR S **Sb 15 43 07.9 +0.2**
OUR AML AML 15 43 10.3
comp=E,2840μm,0.4s
OUR AML AML 15 43 10.3
comp=N,3218μm,0.4s
OUR Ouranopolis 1.03 200 PG **Pb 15 42 54.1 -0.2**
OUR SG **Sn 15 43 08.4 -0.8**
DIM Dimitrovgrad 1.11 47 *i* Pg **Pn 15 42 56.0 0.0**
SMTH Samothraki Isl 1.16 135 P **Pb 15 42 56.5 -0.1**
SMTH S **Sn 15 43 13.0 +0.4**
comp=N,345nm,0.4s
SMTH Samothraki Isl 1.16 135 P **Pb 15 42 56.5 -0.1**
SMTH S **Sb 15 43 12.0 +0.2**
SMTH AML AML 15 43 14.7
comp=N,813μm,0.4s
SMTH AML AML 15 43 17.9
comp=E,579μm,0.4s
KKB Krupnik 1.17 299 P **Pb 15 42 56.2 -0.6**
KNT Kendrikon 1.18 264 P **Pn 15 42 56.9 0.0**
KNT S **Sn 15 43 13.2 +0.2**
comp=E,898nm,0.4s
KNT Kendrikon 1.18 264 P **Pn 15 42 56.9 0.0**
KNT S **Sn 15 43 12.9 -0.1**
KNT AML AML 15 43 16.7
comp=N,2322μm,0.4s
KNT AML AML 15 43 17.0
comp=E,1309μm,0.3s
PLG Polygyros 1.20 220 P **Pg 15 42 57.1 -0.4**
PLG S **Sn 15 43 13.5 0.0**
PLG Polygyros 1.20 220 P **Pn 15 42 57.3 0.0**
PLG S **Sn 15 43 13.7 +0.2**
PLG AML AML 15 43 15.6
comp=N,1421μm,0.5s
PLG AML AML 15 43 16.0
comp=E,1799μm,0.5s
HORT Hortiatis 1.24 236 P **Pg 15 42 58.2 -0.2**
HORT S **Sn 15 43 15.2 +0.6**
comp=E,850nm,0.7s
HORT Hortiatis 1.24 236 P **Pg 15 42 58.1 -0.2**
HORT S **Sn 15 43 15.4 +0.8**
HORT AML AML 15 43 17.2
comp=E,2384μm,0.7s
HORT AML AML 15 43 18.3
comp=N,1057μm,0.9s
HORT Hortiatis 1.24 236 PN **Pb 15 42 57.7 -0.3**
HORT SN **Sn 15 43 14.8 +0.2**
PGB Panagyurishte 1.27 351 *i* Pg **Pn 15 42 57.5 -0.8**
ALN Alexandroupoli 1.27 108 P **Pb 15 42 58.5 0.0**
ALN S **Sn 15 43 16.3 +1.1**
comp=N,575nm,0.5s
ALN Alexandroupoli 1.27 108 P **Pn 15 42 58.3 +0.1**
ALN S **Sn 15 43 15.9 +0.7**
ALN AML AML 15 43 20.3
comp=E,1541μm,0.4s
ALN AML AML 15 43 21.9
comp=N,726μm,0.6s
ALN Alexandroupoli 1.27 108 *i* P **Pn 15 42 58.0 -0.2**
ALN *i* S **Sn 15 43 15.6 +0.4**
ALN Alexandroupoli 1.27 108 PN **Pg 15 42 58.9 0.0**
ALN SN **Sn 15 43 17.2 +2.0**
THE Thessaloniki 1.31 240 P **Pb 15 42 59.0 -0.1**
THE S **Sn 15 43 17.4 +1.3**
comp=N,938nm,1.0s
THE Thessaloniki 1.31 240 P **Pg 15 42 59.3 -0.3**
THE S **Sn 15 43 17.3 +1.2**
THE AML AML 15 43 19.0
comp=E,1030μm,0.7s
THE AML AML 15 43 19.2
comp=N,2324μm,1.0s
ENEZ Enez 1.41 113 PN **Pg 15 43 01.1 -0.4**
VAY Valandovo 1.42 272 *i* Pn **Pg 15 43 01.5 -0.2**
VAY *i* Sn **Sg 15 43 21.6 +1.5**
CAVK Edirne/Enez-Ca 1.43 114 *i* P **Pb 15 43 01.5 +0.2**
CAVK *i* S **Sg 15 43 20.4 -0.3**
CAVK IAML 15 43 25.0
comp=N,395nm,0.5s
CAVK IAML 15 43 27.0
comp=E,400nm,0.8s
PAIG Paliouri 1.49 203 P **Pn 15 43 00.9 -0.3**
PAIG S **Sn 15 43 19.9 -0.7**
comp=E,330nm,0.8s
PAIG Paliouri 1.49 203 P **Pn 15 43 01.0 -0.3**
PAIG AML AML 15 43 23.6
comp=N,505μm,0.6s
PAIG AML AML 15 43 25.7
comp=E,795μm,0.8s
LIA Limnos Island 1.51 158 P **Pn 15 43 01.4 0.0**
LIA Limnos Island 1.51 158 P **Pn 15 43 01.5 +0.1**
LIA S **Sg 15 43 23.8 +0.8**
LIA AML AML 15 43 26.0
comp=N,2467μm,0.4s
LIA AML AML 15 43 26.2
comp=E,1922μm,0.7s
GADA Gvkgeada 1.56 135 P **Pn 15 43 02.4 +0.2**
GADA S **Sn 15 43 22.3 -0.1**
comp=E,468nm,0.5s
GADA Gvkgeada 1.56 135 PN **Pb 15 43 02.9 -0.5**
VTS Vitosha 1.60 326 ⇓P **Pb 15 43 04.3 0.0**
VTS Vitosha 1.60 326 *i* P **Pb 15 43 04.2 0.0**
UKOP Uzunkopru-Edir 1.66 95 PN **Pb 15 43 04.5 -0.5**
ERIK Erikli-Kesan 1.68 111 PN **Pb 15 43 04.8 -0.7**
ERIK SN **Sb 15 43 27.0 +0.3**
STIP Stip 1.75 284 *i* Pn **Pn 15 43 03.6 -1.2**
STIP *i* Sn **Sn 15 43 25.4 -1.6**
KESN Edirne-Kesan 1.75 105 *i* P **Pb 15 43 06.4 -0.5**
KESN *i* S **Sn 15 43 26.7 -0.9**
KESN IAML 15 43 34.0
comp=E,469nm,0.3s
KESN IAML 15 43 34.0
comp=N,622nm,0.4s
GELI Tayfur-Gelibol 1.78 120 PN **Pn 15 43 06.1 +0.9**
EDRB Edirne 1.81 72 P **Pn 15 43 05.5 -0.1**
EDRB Edirne 1.81 72 PN **Pb 15 43 06.7 -0.9**
ECEA Canakkale, Ece 1.81 133 *i* P Pg 15 43 14.4 +5.1
ECEA *i* S **Sn 15 43 28.2 -0.4**
BOZC Bozcaada 1.90 139 *i* P **Pn 15 43 06.9 0.0**
BOZC *i* S **Sn 15 43 29.4 -1.4**
BOZC Bozcaada 1.90 139 PN **Pn 15 43 07.6 +0.7**
JMB Yambol 1.98 53 P **Pn 15 43 09.3 +1.4**
KTI Kastanea 1.99 244 P **Pn 15 43 09.0 +0.8**
PVL Pavlikeni 2.03 19 P **Pn 15 43 08.2 -0.4**
KIRK Kırklareli 2.04 75 *i* P **Pn 15 43 10.1 +1.2**
KIRK *i* S **Sb 15 43 38.7 +1.6**
KIRK IAML 15 43 40.0
comp=N,186nm,0.3s
EZN Ezine 2.05 135 PN **Pn 15 43 09.9 +1.0**
MPEP Malo Peshtene 2.12 346 *i* P **Pb 15 43 14.1 +1.1**
SART Tekirdag 2.15 106 *i* P **Pb 15 43 13.0 -0.5**
SART *i* S **Sb 15 43 40.4 +0.1**
XOR Xorichti 2.16 207 P **Pn 15 43 10.1 -0.3**
BAYC CANAKKALE_Bayr 2.23 134 *i* P **Pn 15 43 12.0 +0.6**
BAYC *i* S **Sn 15 43 36.9 -2.1**
SZH Strazhica 2.25 29 P **Pb 15 43 14.5 -0.8**
ARMN Kirklareli, Me 2.31 75 *i* P **Pn 15 43 14.2 +1.7**
ARMN *i* S **Sb 15 43 45.2 +0.6**
SIGR SIGRI 2.34 152 PN **Pn 15 43 13.9 +0.9**
VIZE Kirklareli, Vi 2.56 83 *i* P **Pn 15 43 18.0 +2.0**
RAZG Razgrad 2.73 33 ⇑P **Pg 15 43 25.5 -1.4**
AGG Agios Georgios 2.79 216 PN **Pn 15 43 19.9 +0.7**
ROIA ROIAK 2.82 50 P **Pn 15 43 21.3 +1.8**
BOVS Bovan 3.09 320 ⇓P **Pn 15 43 24.9 +1.6**
URLA Izmir 3.37 150 *i* P **Pn 15 43 26.1 -1.0**
SULR 3.63 21 ⇑P **Pn 15 43 32.6 +2.0**
ICOR Ion Corvin 3.75 40 ⇓P **Pb 15 43 40.4 -0.2**
HERR Herculane 3.88 338 ⇑P **Pn 15 43 34.5 +0.4**
MDVR Moldovita 4.02 331 ⇓P **Pn 15 43 36.6 +0.6**
TLBR Topalu 4.18 38 ⇓P **Pb 15 43 46.5 -1.6**
HARR Harsova 4.24 36 ⇓P **Pb 15 43 46.2 -3.0**
GZR Gura Zlata 4.27 344 ⇓P **Pn 15 43 39.3 -0.3**
TIRR Tirgusor 4.30 41 ⇑P **Pb 15 43 48.2 -1.9**
MLR Muntele Rosu 4.33 14 ⇑P **Pn 15 43 42.0 +1.6**
NEHR Nehoiu 4.34 17 ⇑P **Pn 15 43 42.1 +1.6**
BISRR Bisoca 4.56 20 ⇑P **Pn 15 43 46.8 +3.3**
TPGR Topolog 4.59 38 ⇓P **Pb 15 43 51.7 -3.4**
DOPR Dopca 4.72 8 ⇓P **Pn 15 43 46.5 +0.9**
PLOR Plostina 4.82 19 ⇓P **Pn 15 43 49.8 +2.7**
VRI Vrincioaia 4.86 19 ⇑P **Pn 15 43 49.3 +1.8**
TESR Tescani 5.45 16 ⇓P **Pn 15 43 56.5 +0.9**
BURAR Bucovina Array 6.34 5 ⇓P **Pn 15 44 08.1 +0.1**

*IDC **24** 15:43:14.6±2.3, 47°.25N×149°.71E, h254km±28km, mb2.7/2, mb1 3.0/7, mb1mx2.7/61, mbtmp3.5/7, Error ellipse: s-maj=68.1km s-min=17.2km az=140.0*
ISC 24 15:43:13.6±1.0, 46°.7N±0°.2×150°.1E±0°.1, h250km, n23, σ1§91/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.57**	**224**	P	**Pn**	**15 44 24.5**	**+0.3**
NEM2				*e*S	**S**	**15 45 17.6**	**-2.7**
JTKR	**Abashiri--Toko**	**5.17**	**240**	P	**Pn**	**15 44 33.1**	**+1.7**
JAK	**Akkeshi**	**5.36**	**228**	P	**Pn**	**15 44 33.8**	**0.0**
JAK				*e*S	**S**	**15 45 35.4**	**-2.4**
JMP	**Maruseppu**	**5.48**	**243**	P	**Pn**	**15 44 36.8**	**+1.5**
JAR	**Ashorobuto**	**5.66**	**235**	P	**Pn**	**15 44 38.9**	**+1.4**
JOB	**Onbets**	**5.88**	**232**	P	**Pn**	**15 44 40.7**	**+0.5**
ASAJ	**Asahikawa**	**5.90**	**246**	P	**Pn**	**15 44 42.2**	**+1.7**
ASAJ	1.4nm,0.3s,baz=70,slow=12,SNR=25			S	**S**	**15 45 50.8**	**+0.9**
ASAJ	**Asahikawa**	**5.90**	**246**	P	**Pn**	**15 44 42.1**	**+1.6**
JKK2	**Kamakawa 2**	**5.93**	**244**	P	**Pn**	**15 44 42.2**	**+1.4**
JCH	**Churui**	**6.33**	**232**	P	**Pn**	**15 44 45.5**	**-0.3**
JCH				*e*S	**S**	**15 45 55.6**	**-4.1**
JFR	**Furan**	**6.42**	**239**	P	**Pn**	**15 44 48.4**	**+1.5**
JAB	**Ashibetsu**	**6.45**	**243**	P	**Pn**	**15 44 49.6**	**+2.3**
JBT2	**Biratori 2**	**6.78**	**237**	P	**Pn**	**15 44 51.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**6.89**	**232**	P	**Pn**	**15 44 51.5**	**-1.4**
JNB	**Noboribetsu**	**7.75**	**240**	P	**Pn**	**15 45 02.5**	**-1.2**
PETK	**Petropavlovsk-**	**8.04**	**35**	P	**Pn**	**15 45 04.7**	**-2.6**
	0.2nm,0.3s,baz=210,slow=11,SNR=5.1						
JKB	**Kayabe**	**8.11**	**237**	P	**Pn**	**15 45 06.4**	**-1.9**
JYM2	**Yakumo 2**	**8.36**	**240**	P	**Pn**	**15 45 10.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**12.97**	**265**	P	**Pn**	**15 46 07.3**	**-1.8**
	baz=67,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	**13.51**	**225**	P	**Pn**	**15 46 18.3**	**+2.6**
	0.0nm,0.3s,baz=25,slow=12,SNR=5.3						
KSRS	**Korea Array**	**18.84**	**249**	P	**P**	**15 47 15.6**	**+0.4**
	0.2nm,0.3s,baz=56,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**71.58**	**196**	P	**P**	**15 54 10.8**	**+3.1**
	0.3nm,1.0s,baz=15,slow=6.0,SNR=4.3						
TXAR	**Lajitas Array**	**79.28**	**59**	P	**P**	**15 54 52.1**	**+0.6**
	0.1nm,0.5s,baz=295,slow=4.9,SNR=1.6						

IDC 24 15:47:26.8±1.8, 6°.92S×131°.44E, h0km, mb3.7/1, mb1 3.4/4, mb1mx3.2/39, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=95.4km s-min=22.8km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.01**	**358**	Pn	Pn	15 48 55.5	-1.7
	0.4nm,0.3s,baz=271,slow=19,SNR=12						
SIJI				Sn	Sn	15 49 57.2	-10
	0.4nm,0.3s,baz=250,slow=23,SNR=7.0						
WRA	**Warramunga Arr**	**13.25**	**168**	Pn	Pn	15 50 38.2	+1.9
	0.1nm,0.3s,baz=348,slow=13,SNR=7.8						
WRA				Sn	Sn	15 53 05.1	+0.6
	0.1nm,0.3s,baz=340,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**16.82**	**172**	Pn	Pn	15 51 22.3	-1.6
	0.1nm,0.3s,baz=345,slow=9.2,SNR=13						
ASAR				Sn	Sn	15 54 30.6	-0.9
	0.0nm,0.3s,baz=356,slow=27,SNR=0.9						
MKAR	**Makanchi Array**	**68.95**	**326**	P	P	15 58 34.3	+0.5
	0.3nm,0.4s,baz=117,slow=7.4,SNR=8.9						

*TUL **24** 15:51:03.7±1.8, 36°.00N±0°.01×97°.10W±0°.02, h4km±7km, ML2.1, mb_Lg1.7/3(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=129.0*
NEIC 24 15:51:03.8±0.7, 36°.02N±0°.01×97°.11W±0°.01, h5km±7km, Error ellipse: s-maj=2.1km s-min=0.9km az=159.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.23**	**107**	Pg	Pg	15 51 08.3	0.0
OK031				Sg	Sg	15 51 11.7	+0.4
QUOK	**Quay**	**0.36**	**65**	Pg	Pg	15 51 10.9	+0.2
QUOK				Sg	Sg	15 51 16.0	+0.6
OK029	**Liberty Lake**	**0.36**	**232**	Pg	Pg	15 51 10.8	0.0
OK029				Sg	Sg	15 51 16.2	+0.7
BCOK	**Bluff Creek, N**	**0.55**	**229**	Pg	Pg	15 51 14.3	-0.1
BCOK				Sg	Sg	15 51 21.9	+0.4
BLOK	**Blackwell**	**0.74**	**353**	Pg	Pg	15 51 18.1	0.0
T35A	**Sooner Cattle**	**1.01**	**28**	Pg	Pg	15 51 23.1	-0.2
GC02	**Grant County #**	**1.03**	**324**	Pg	Pg	15 51 23.3	-0.2
KAN13	**South Haven SW**	**1.03**	**343**	Pg	Pg	15 51 23.2	-0.5
KAN09	**Caldwell North**	**1.19**	**340**	Pg	Pg	15 51 26.2	-0.4
KS20	**Mayfield South**	**1.26**	**344**	Pn	Pg	15 51 27.8	-0.2
KAN10	**Anthony SW Sta**	**1.36**	**324**	Pn	Pn	15 51 29.1	-0.3
KAN08	**Anthony NE Sta**	**1.39**	**330**	Pn	Pg	15 51 30.6	+0.1
X34A	**Smith Ranch, M**	**1.54**	**203**	Pn	Pn	15 51 32.0	+0.2
U32A	**Winter Ranch,**	**1.57**	**284**	IAmb_Lg		15 51 56.0	
	comp=Z,9.4nm,0.7s						
WMOK	**Wichita Mounta**	**1.87**	**227**	Pn	Pn	15 51 37.5	+1.0
WMOK				IAmb_Lg		15 52 05.3	
	comp=Z,3.5nm,0.7s						
X37A	**Clayton**	**2.01**	**135**	Pn	Pn	15 51 38.0	-0.4
HHAR	**Hobbs**	**2.58**	**83**	IAmb_Lg		15 52 32.4	
	comp=Z,2.8nm,0.8s						

*TUL **24** 16:01:01.7±0.8, 36°.30N±0°.01×97°.523W±0°.009, h8km±7km, ML3.1, mb_Lg2.9/55(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=200.0*
NEIC 24 16:01:01.6±0.8, 36°.29N±0°.01×97°.53W±0°.01, h5km±7km, Error ellipse: s-maj=1.6km s-min=1.3km az=176.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**300**		Pg	16 01 09.9	+0.2
CROK				Sg	Sg	16 01 16.1	+0.8
OK029	**Liberty Lake**	**0.50**	**173**		Pg	16 01 11.4	+0.2
OK029				Sg	Sg	16 01 18.3	+0.6
BLOK	**Blackwell**	**0.53**	**28**		Pg	16 01 12.0	+0.2
BLOK				Sg	Sg	16 01 19.0	+0.2
GC02	**Grant County #**	**0.62**	**335**		Pg	16 01 13.5	0.0
BCOK	**Bluff Creek, N**	**0.64**	**186**		Pg	16 01 13.9	0.0
OK031	**S. Brethren Rd**	**0.65**	**121**		Pg	16 01 14.2	0.0
QUOK	**Quay**	**0.68**	**100**		Pg	16 01 14.6	+0.1
KAN13	**South Haven SW**	**0.72**	**3**		Pg	16 01 15.3	-0.2
OK025	**Westminster Rd**	**0.73**	**168**		Pg	16 01 15.5	-0.1
OK032	**Salt Plains WL**	**0.75**	**313**		Pg	16 01 15.8	-0.2
KAN17	**Caldwell West**	**0.77**	**346**		Pg	16 01 16.3	-0.2
KAN09	**Caldwell North**	**0.84**	**355**		Pg	16 01 17.6	-0.2
KAN05	**Bluff City Nor**	**0.86**	**341**		Pg	16 01 17.9	-0.2
OKCSW	**OKLAHOMA CITY**	**0.89**	**175**	Pg	Pg	16 01 18.5	-0.2
KS20	**Mayfield South**	**0.94**	**359**		Pg	16 01 19.3	-0.3
KAN10	**Anthony SW Sta**	**0.95**	**331**		Pg	16 01 19.4	-0.4
T35A	**Sooner Cattle**	**1.03**	**52**		Pg	16 01 20.8	-0.5
T35B	**Sooner Cattle**	**1.03**	**52**	P		16 01 20.9	
	baz=233						
T35B				S		16 01 34.5	
	baz=233						
FNO	**Franklin**	**1.04**	**174**		Pg	16 01 21.0	-0.5
KAN12	**Harper NE Stat**	**1.07**	**340**		Pg	16 01 21.6	-0.5
U32A	**Winter Ranch,**	**1.19**	**275**		Pg	16 01 23.8	-0.6
U32A	**Winter Ranch,**	**1.19**	**275**	P		16 01 23.8	
	baz=94						
U32A				S		16 01 40.2	
	baz=94						
TUL1	**Leonard**	**1.46**	**105**	P		16 01 27.9	
	baz=286						
TUL1				S		16 01 47.8	
	baz=286						
X34A	**Smith Ranch, M**	**1.71**	**188**		Pb	16 01 32.9	-0.5
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	16 01 34.5	+0.4
WMOK	**Wichita Mounta**	**1.86**	**214**	P		16 01 34.4	
	baz=33						
WMOK				S		16 01 59.4	
	baz=33						
LOOK	**Love County**	**2.31**	**173**		Pn	16 01 41.1	+0.7
R32A	**Long Quarter,**	**2.33**	**336**	Pn	Pn	16 01 40.9	+0.3
R32A				IAmb_Lg		16 02 21.4	
	comp=Z,34nm,0.8s						
R32A	**Long Quarter,**	**2.33**	**336**	P		16 01 41.2	
	baz=156						
X37A	**Clayton**	**2.45**	**133**		Pn	16 01 42.7	+0.5
X37A	**Clayton**	**2.45**	**133**	P		16 01 42.8	
	baz=315						
U38A	**Gravette**	**2.54**	**86**		Pn	16 01 44.4	+0.8
KSU1	**Kansas State U**	**2.90**	**14**	IAmb_Lg		16 02 35.0	
	comp=Z,26nm,0.9s						
W39A	**Magazine**	**3.24**	**109**	IAmb_Lg		16 02 44.8	
	comp=Z,30nm,0.9s						
AMTX	**Amarillo**	**3.66**	**249**	IAmb_Lg		16 03 02.1	
	comp=Z,34nm,1.1s						
MIAR	**Mount Ida**	**3.67**	**117**		Pn	16 01 59.9	+0.9
Z38A	**Mt. Pleasant**	**3.68**	**145**	IAmb_Lg		16 03 04.7	
	comp=Z,39nm,0.8s						
X40A	**Basin Creek Fa**	**4.24**	**114**	IAmb_Lg		16 03 22.6	
	comp=Z,25nm,0.8s						
MGMO	**Mountain Grove**	**4.31**	**77**	IAmb_Lg		16 03 19.5	
	comp=Z,34nm,0.9s						
WHAR	**Wooly Hollow**	**4.38**	**102**	IAmb_Lg		16 03 28.4	
	comp=Z,24nm,0.7s						
WLAR	**White Oak Lake**	**4.46**	**124**	IAmb_Lg		16 03 34.4	
	comp=Z,20nm,0.7s						
R40A	**Maddies Statio**	**4.64**	**63**	IAmb_Lg		16 03 29.5	
	comp=Z,17nm,0.8s						
LCAR	**Lake Charles**	**5.16**	**91**	IAmb_Lg		16 03 47.1	
	comp=Z,17nm,0.9s						
T42A	**Van Buren**	**5.23**	**80**	IAmb_Lg		16 03 51.6	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**5.50**	**180**	IAmb_Lg		16 03 59.4	
	comp=Z,16nm,0.9s						
T25A	**Trinidad**	**5.59**	**281**	IAmb_Lg		16 04 11.3	
	comp=Z,15nm,0.9s						
N38A	**Joes South For**	**5.61**	**36**	IAmb_Lg		16 04 01.9	
	comp=Z,26nm,0.8s						
PBMO	**Poplar Bluff**	**5.74**	**83**	IAmb_Lg		16 04 12.4	
	comp=Z,18nm,0.7s						
OGNE	**Ogallala**	**5.83**	**324**	IAmb_Lg		16 04 15.2	
	comp=Z,14nm,0.7s						
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		16 04 23.1	
	comp=Z,21nm,0.7s						
SDCO	**Great Sand Dun**	**6.54**	**285**	IAmb_Lg		16 04 36.0	
	comp=Z,11nm,1.1s						
S44A	**Carbondale**	**6.77**	**76**	IAmb_Lg		16 04 51.2	
	comp=Z,11nm,0.8s						
SIUC	**Southern Illin**	**6.80**	**75**	IAmb_Lg		16 04 43.2	
	comp=Z,14nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.24**	**66**	IAmb_Lg		16 05 02.9	
	comp=Z,19nm,0.8s						
ISCO	**Idaho Springs**	**7.28**	**301**	IAmb_Lg		16 04 57.5	
	comp=Z,8.9nm,0.9s						
L40A	**Anamosa**	**7.56**	**38**	IAmb_Lg		16 05 02.8	
	comp=Z,11nm,0.9s						
HDIL	**Hopedale**	**7.74**	**54**	IAmb_Lg		16 05 17.6	
	comp=Z,17nm,0.7s						
JFWS	**Jewell Farm**	**8.68**	**38**	IAmb_Lg		16 05 34.8	
	comp=Z,11nm,0.8s						
P46A	**Rosedale**	**8.80**	**65**	IAmb_Lg		16 05 45.1	
	comp=Z,12nm,0.8s						
K22A	**Casper**	**9.41**	**315**	IAmb_Lg		16 06 19.0	
	comp=Z,11nm,1.2s						

*TUL **24** 16:21:23±0.9, 36°.84N±0°.02×98°.23W±0°.03, h5km±2km, ML3.1, mb_Lg2.8/57(NEIC), Error ellipse: s-maj=4.1km s-min=2.0km az=133.0*
NEIC 24 16:21:23.3±0.9, 36°.83N±0°.02×98°.23W±0°.01, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.5km az=155.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.03**	**145**	Pg	Pg	16 21 24.7	+0.3
OK032				Sg	Sg	16 21 25.7	+0.6
GC02	**Grant County #**	**0.30**	**85**	Pg	Pg	16 21 29.2	+0.2
KAN10	**Anthony SW Sta**	**0.32**	**20**	Pg	Pg	16 21 29.4	0.0
KAN10				Sg	Sg	16 21 33.9	+0.3
CROK	**Carrier**	**0.38**	**148**	Pg	Pg	16 21 30.8	+0.3
KAN05	**Bluff City Nor**	**0.40**	**45**	Pg	Pg	16 21 31.1	+0.1
KAN17	**Caldwell West**	**0.43**	**60**	Pg	Pg	16 21 31.6	0.0
KAN08	**Anthony NE Sta**	**0.45**	**27**	Pg	Pg	16 21 32.1	+0.1
KAN12	**Harper NE Stat**	**0.51**	**21**	Pg	Pg	16 21 33.0	-0.1
KAN09	**Caldwell North**	**0.58**	**58**	Pg	Pg	16 21 34.3	-0.1
KAN13	**South Haven SW**	**0.63**	**73**	Pg	Pg	16 21 35.3	-0.1
KS20	**Mayfield South**	**0.67**	**53**	Pg	Pg	16 21 36.0	-0.3
KS20				Sg	Sg	16 21 45.1	+0.1
U32A	**Winter Ranch,**	**0.76**	**235**	Pg	Pg	16 21 37.4	-0.6
BLOK	**Blackwell**	**0.82**	**94**	Pg	Pg	16 21 38.6	-0.3
OK029	**Liberty Lake**	**1.20**	**148**	Pg	Pg	16 21 45.7	-0.6
BCOK	**Bluff Creek, N**	**1.27**	**157**		Pg	16 21 46.5	-1.1
BCOK				IAmb_Lg		16 22 03.1	
	comp=Z,46nm,1.0s						
T35A	**Sooner Cattle**	**1.38**	**86**		Pn	16 21 48.1	-1.1
QUOK	**Quay**	**1.39**	**118**		Pn	16 21 49.0	-0.3
OK031	**S. Brethren Rd**	**1.42**	**127**		Pn	16 21 49.1	-0.6
OK025	**Westminster Rd**	**1.44**	**150**		Pn	16 21 49.4	-0.5
OKCSW	**OKLAHOMA CITY**	**1.56**	**155**		Pn	16 21 50.9	-0.8
R32A	**Long Quarter,**	**1.64**	**347**		Pn	16 21 52.9	+0.1
FNO	**Franklin**	**1.70**	**157**		Pn	16 21 53.0	-0.6
WMOK	**Wichita Mounta**	**2.13**	**192**	Pn	Pn	16 22 00.2	+0.7
WMOK				IAmb_Lg		16 22 34.5	
	comp=Z,31nm,0.8s						
LOOK	**Love County**	**2.95**	**163**	Pn	Pn	16 22 11.7	+0.8
X37A	**Clayton**	**3.22**	**133**		Pn	16 22 14.5	0.0
X37A				IAmb_Lg		16 23 12.7	
	comp=Z,26nm,0.9s						
AMTX	**Amarillo**	**3.41**	**236**	IAmb_Lg		16 23 18.0	
	comp=Z,23nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.11**	**303**	IAmb_Lg		16 23 38.8	
	comp=Z,19nm,0.7s						
ABTX	**Abilene, Hawle**	**4.35**	**196**	IAmb_Lg		16 23 52.0	
	comp=Z,13nm,0.9s						
U40A	**Yellville**	**4.35**	**95**	IAmb_Lg		16 23 41.6	
	comp=Z,29nm,0.7s						
MIAR	**Mount Ida**	**4.42**	**120**	IAmb_Lg		16 23 44.5	
	comp=Z,19nm,0.9s						
Z38A	**Mt. Pleasant**	**4.44**	**142**	IAmb_Lg		16 23 54.2	
	comp=Z,16nm,0.7s						
BGNE	**Belgrade**	**4.58**	**1**	IAmb_Lg		16 23 56.6	
	comp=Z,24nm,0.8s						
P38A	**Dawn**	**4.63**	**52**	IAmb_Lg		16 24 01.3	
	comp=Z,14nm,0.9s						
MGMO	**Mountain Grove**	**4.78**	**84**	IAmb_Lg		16 24 04.2	
	comp=Z,18nm,0.9s						
X40A	**Basin Creek Fa**	**4.97**	**116**	IAmb_Lg		16 24 06.2	
	comp=Z,17nm,0.7s						
FCAR

comp=Z,7.6nm,0.9s
PHWY Pilot Hill 7.18 311 IAmb_Lg 16 25 22.2
comp=Z,7.3nm,0.8s
SIUC Southern Illin 7.24 80 IAmb_Lg 16 25 11.9
comp=Z,15nm,0.7s
RWWY Rawlins 8.49 308 IAmb_Lg 16 26 01.3
comp=Z,7.7nm,1.0s
JFWS Jewell Farm 8.64 43 IAmb_Lg 16 25 59.7
comp=Z,11nm,0.8s
SFIN Lafayette 9.41 64 IAmb_Lg 16 26 24.6

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*IDC **24** 16:27:10.4±1.6, 16.°05S×175.°55W, h295km±18km, mb3.2/7, mb1 3.6/8, mb1mx3.3/28, mbtmp3.9/8, Error ellipse: s-maj=97.3km s-min=15.3km az=149.0*
ISC 24 16:27:10.8±1.2, 16.°1S±0.°6×175.°5W±0.°3, h300km, n8, σ0°88/9, mb3.4/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.23**	**60**	P	**Pn**	**16 28 20.8**	**+1.1**
	7.9nm,0.3s,baz=270,slow=10,SNR=8.9						
AFI				S	**S**	**16 29 13.2**	**-1.7**
	2.2nm,0.3s,baz=233,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**41.91**	**240**	P	**P**	**16 34 32.4**	**-0.4**
	2.9nm,0.8s,baz=108,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**47.69**	**258**	P	**P**	**16 35 18.4**	**+0.2**
	0.8nm,0.5s,baz=89,slow=7.8,SNR=2.2						
ASAR	**Alice Springs**	**47.94**	**252**	P	**P**	**16 35 19.9**	**-0.3**
	3.7nm,0.5s,baz=90,slow=7.7,SNR=73						
NVAR	**Mina Array Bea**	**76.22**	**43**	P	**P**	**16 38 27.1**	**+0.1**
	0.6nm,0.8s,baz=229,slow=11,SNR=4.3						
TXAR	**Lajitas Array**	**82.70**	**57**	P	**P**	**16 39 02.1**	**+0.4**
	0.5nm,0.9s,baz=197,slow=5.6,SNR=3.7						
ILAR	**Eielson Array**	**83.52**	**12**	P	**P**	**16 39 04.9**	**-0.1**
	0.4nm,0.5s,baz=224,slow=5.7,SNR=8.4						
PDAR	**Pinedale Array**	**84.15**	**43**	P	**P**	**16 39 08.7**	**-0.3**
	0.4nm,0.6s,baz=243,slow=6.0,SNR=4.3						

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*TRN **24** 17:01:17.4, 13.°82N×58.°43W, h41km, MD4.2*
ISC 24 17:01:14.7±2.8, 13.°82N±0.°05×58.°4W±0.°1, h10km, n25, σ1°64/37, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.26**	**236**	*eP*	**Pn**	**17 01 38.6**	**+0.2**
BBSP				*eS*	**Sb**	**17 01 54.8**	**-0.1**
BBGH	**Gun Hill**	**1.32**	**239**	*eP*	**Pn**	**17 01 39.3**	**0.0**
BBGH				*eS*	**Sb**	**17 01 55.3**	**-1.4**
MPOM	**Morne Pois Mar**	**2.47**	**285**	*eP*	**Pn**	**17 01 57.1**	**+2.0**
MPOM				*eS*	**Sn**	**17 02 25.0**	**-0.4**
MCLT	**Moule a Chique**	**2.48**	**268**	*eP*	**Pn**	**17 01 56.6**	**+1.4**
MCLT				*eS*	**Sn**	**17 02 25.2**	**-0.4**
SLBI	**Saint Lucia, B**	**2.52**	**275**	*eP*	**Pn**	**17 01 57.7**	**+2.0**
SLBI				*eS*	**Sn**	**17 02 25.3**	**-1.1**
LPMF	**Morne Lapointe**	**2.61**	**287**	*eP*	**Pn**	**17 01 58.9**	**+1.9**
ZAM	**Aeronautique**	**2.66**	**287**	*eP*	**Pn**	**17 01 59.7**	**+2.0**
BIM	**Bigot**	**2.69**	**285**	*eP*	**Pn**	**17 02 00.3**	**+2.2**
BIM				*eS*	**Sn**	**17 02 30.5**	**-0.3**
SVB	**Belmont**	**2.83**	**259**	*eP*	**Pn**	**17 02 01.3**	**+1.2**
SVB				*eS*	**Sn**	**17 02 33.9**	**-0.5**
CXM	**Morne La Croix**	**2.87**	**290**	*eP*	**Pn**	**17 02 03.5**	**+2.9**
PCM	**Pelee Case Pet**	**2.90**	**290**	*eP*	**Pn**	**17 02 04.1**	**+3.0**
GCMP	**Grenada, Carri**	**3.24**	**246**	*eP*	**Pn**	**17 02 07.3**	**+1.6**
GCMP				*eS*	**Sn**	**17 02 44.0**	**-0.3**
DSLB	**Salisbury**	**3.34**	**299**	*eP*	**Pn**	**17 02 07.9**	**+0.8**
DSLB				*eS*	**Sn**	**17 02 45.7**	**-1.2**
MAGL	**Barre de l'ile**	**3.50**	**307**	*eP*	**Pn**	**17 02 10.7**	**+1.4**
MAGL				*eS*	**Sn**	**17 02 49.6**	**-1.2**
GRGR	**Grenville**	**3.60**	**243**	*eS*	**Sn**	**17 02 52.5**	**-0.7**
TDBA	**Terre de Bas,**	**3.73**	**303**	*eP*	**Pn**	**17 02 13.8**	**+1.5**
CBE	**Ff, Capester**	**3.83**	**306**	*eP*	**Pn**	**17 02 14.4**	**+0.7**
CBE				*eS*	**Sn**	**17 02 57.0**	**-1.9**
ABD	**La Joyeuse, An**	**3.98**	**312**	*eP*	**Pn**	**17 02 18.0**	**+2.1**
ABD				*eS*	**Sn**	**17 03 01.8**	**-0.9**
TRN	**Trinidad (W)**	**4.32**	**223**	*eP*	**Pn**	**17 02 21.5**	**+1.0**
ANBD	**Bethesda, Anti**	**4.57**	**315**	*eP*	**Pn**	**17 02 24.5**	**+0.6**
ANBD	**Bethesda, Anti**	**4.57**	**315**	*eS*	**Sn**	**17 03 14.2**	**-2.9**
BPA	**Boggy Peak**	**4.63**	**314**	*eP*	**Pn**	**17 02 26.1**	**+1.3**
BPA	**Boggy Peak**	**4.63**	**314**	*eS*	**Sn**	**17 03 15.4**	**-3.3**
ANWB	**Willy Bob**	**5.03**	**320**	*eP*	**Pn**	**17 02 32.0**	**+1.7**
ANWB	**Willy Bob**	**5.03**	**320**	*eS*	**Sn**	**17 03 27.3**	**-1.2**

IDC 24 17:03:25.1±1.8, 6.°61S×128.°98E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=64.0km s-min=28.8km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.14**	**22**	Pn	Pn	17 04 58.4	+1.1
	1.2nm,0.3s,baz=156,slow=20,SNR=32						
SIJI				Sn	Sn	17 05 57.8	-10
	1.0nm,0.3s,baz=114,slow=24,SNR=8.1						
WRA	**Warramunga Arr**	**14.24**	**159**	Pn	Pn	17 06 47.5	-0.8
	0.3nm,0.3s,baz=344,slow=12,SNR=19						
WRA				Sn	Sn	17 09 13.1	-14
	0.1nm,0.3s,baz=336,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**17.61**	**165**	P	P	17 07 32.9	-0.3
	0.1nm,0.3s,baz=340,slow=9.2,SNR=11						
ASAR				S	Sn	17 10 41.0	-8.0
	0.1nm,0.3s,baz=346,slow=24,SNR=4.3						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	17 14 21.8	-0.4
	0.3nm,0.5s,baz=112,slow=7.7,SNR=4.5						

IDC 24 17:09:45.7±1.3, 23.°27N×142.°67E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.4/39, mbtmp3.8/4, Error ellipse: s-maj=92.2km s-min=25.9km az=99.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.80**	**94**	T	T	17 38 44.8	
	baz=282,slow=74						
H11N2	**WAKE ISLAND Hy**	**22.80**	**94**	T	T	17 38 44.9	
	baz=282,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.82**	**94**	T	T	17 38 46.0	
	baz=282,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.92**	**97**	T	T	17 38 52.7	
	baz=287,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**22.93**	**97**	T	T	17 38 53.3	
	baz=287,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**22.94**	**97**	T	T	17 38 54.1	
	baz=287,slow=75,SNR=34						
WRA	**Warramunga Arr**	**43.71**	**191**	P	P	17 17 52.8	-0.1
	2.5nm,0.9s,baz=13,slow=8.5,SNR=10.0						
ASAR	**Alice Springs**	**47.43**	**191**	P	P	17 18 22.0	-0.2
	0.5nm,0.8s,baz=17,slow=10,SNR=6.5						
ILAR	**Eielson Array**	**60.86**	**28**	P	P	17 19 59.9	+0.1
	0.3nm,0.5s,baz=268,slow=6.9,SNR=2.5						
FINES	**FINESS Array B**	**81.56**	**334**	P	P	17 22 05.0	-0.1
	2.7nm,0.9s,baz=74,slow=6.1,SNR=5.3						

IDC 24 17:23:49.1±1.6, 3.°03S×130.°83E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/31, mbtmp3.7/3, ML2.8/2, Error ellipse: s-maj=83.6km s-min=24.4km az=83.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.19**	**12**	Pn	Pn	17 24 26.9	+0.1
	0.8nm,0.3s,baz=259,slow=22,SNR=3.3						
SIJI				Sn	Sn	17 24 52.2	-2.4
	3.9nm,0.3s,baz=234,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**17.16**	**169**	P	Pn	17 27 50.7	+0.2
	0.1nm,0.3s,baz=351,slow=12,SNR=1.6						
WRA				S	Sn	17 30 48.2	-14
	0.0nm,0.3s,baz=338,slow=22,SNR=1.3						
ASAR	**Alice Springs**	**20.73**	**172**	P	P	17 28 31.4	-0.1
	2.1nm,0.4s,baz=352,slow=11,SNR=22						
MKAR	**Makanchi Array**	**65.41**	**326**	P	P	17 34 33.6	0.0
	0.5nm,0.8s,baz=126,slow=7.3,SNR=4.7						

TAP 24 17:34:38.4, 24.°60N×122.°59E, h83km±1km, ML2.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**109**	S	Sn	17 35 01.8	+0.3
	baz=108						
NTC	**Toucheng**	**0.74**	**290**	*eP*	Pn	17 34 54.6	0.0
	baz=290						
NTC				*eS*	Sn	17 35 06.2	-0.5
	baz=290						
TIPB	**Shuangxi**	**0.79**	**298**	P	Pn	17 34 55.8	+0.6
	baz=298						
TIPB				S	Sn	17 35 08.4	+0.6
	baz=298						
NDS	**Dongshan**	**0.80**	**273**	S	Sn	17 35 08.7	+0.9
	baz=272						
ENTT	**Nioudou**	**0.93**	**273**	P	Pn	17 34 58.1	+1.3
	baz=272						
ENTT				*eS*	Sn	17 35 11.8	+1.2
	baz=272						
NACB	**Ninganchiao**	**1.00**	**245**	P	Pn	17 34 57.9	+0.3
	baz=245						
NACB				S	Sn	17 35 12.5	+0.5
	baz=245						
NWLT	**Wulai**	**1.00**	**280**	*eS*	Sn	17 35 12.6	+0.4
	baz=280						
ETLH	**Xiulin Townshi**	**1.08**	**249**	P	Pn	17 34 59.2	+0.6
	baz=248						
ETLH				*eS*	Sn	17 35 14.3	+0.4
	baz=248						
YHNB	**Yeheng**	**1.11**	**274**	S	Sn	17 35 14.8	+0.4
	baz=273						
NNSB	**Datong**	**1.11**	**262**	*eP*	Pn	17 34 59.6	+0.6
	baz=261						
NNSB				*eS*	Sn	17 35 15.1	+0.5
	baz=261						
NNSH	**Datong**	**1.11**	**262**	*eP*	Pn	17 34 58.6	-0.5
	baz=261						
NNSH				*eS*	Sn	17 35 14.7	+0.2
	baz=261						
NNS	**Nan Shan**	**1.12**	**262**	*eP*	Pn	17 34 59.4	+0.3
	baz=261						
NNS				S	Sn	17 35 15.4	+0.7
	baz=261						
FUSS	**Fushou**	**1.27**	**254**	P	Pn	17 35 01.6	+0.4
	baz=254						
FUSS				S	Sn	17 35 19.0	+0.6
	baz=254						
WHF	**Hehuan Shan**	**1.29**	**250**	*eS*	Sn	17 35 19.4	+0.4
	baz=249						
TWT	**Tachien**	**1.33**	**255**	*eS*	Sn	17 35 20.5	+0.9
	baz=255						
TWT	**Tachien**	**1.33**	**255**	*eS*	Sn	17 35 20.6	+1.1
	baz=24						
TDCB	**Techi**	**1.35**	**256**	P	Pn	17 35 02.7	+0.7
	baz=255						
TDCB				S	Sn	17 35 19.9	+0.1
	baz=255						
TDCB	**Techi**	**1.35**	**256**	*eS*	Sn	17 35 19.9	+0.1
	baz=24						
LIOB	**Emei**	**1.43**	**272**	*eS*	Sn	17 35 21.0	-0.6
	baz=271						
NSTT	**Nanjuang**	**1.45**	**272**	*eS*	Sn	17 35 21.2	-0.6
	baz=271						

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*IDC **24** 17:34:38.6±3.0, 9.°32N×127.°39E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=211.1km s-min=27.7km az=66.0*
*MAN **24** 17:34:42.9, 9.°23N×127.°00E, h18km, mb4.4, ML3.3, MS3.1*
ISC 24 17:34:40.9±1.4, 9.°17N±0.°08×127.°12E±0.°09, h10km, n7, σ0°89/11, mb3.5/3, 4C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.23**	**218**	↑*iP*	**Pn**	**17 35 04.0**	**-0.2**
BIPH				*i* S	**Sb**	**17 35 19.6**	**-0.6**
BUKP	**Musuan**	**2.40**	**238**	↑*iP*	**Pn**	**17 35 22.6**	**+2.2**
BUKP				*i* S	**Sb**	**17 35 53.3**	**-0.8**
MSLP	**Maasin**	**2.43**	**294**	↑*iP*	**Pn**	**17 35 21.0**	**+0.4**
MSLP				*i* S	**Sg**	**17 35 58.9**	**0.0**
CGP	**Cagayan de Oro**	**2.50**	**254**	↑*iP*	**Pn**	**17 35 21.5**	**-0.1**
CGP				*eS*	**Sn**	**17 35 52.2**	**0.0**
WRA	**Warramunga Arr**	**29.79**	**166**	P	**P**	**17 40 47.9**	**-0.2**
	0.4nm,0.5s,baz=348,slow=9.2,SNR=9.2						
ASAR	**Alice Springs**	**33.30**	**169**	P	**P**	**17 41 19.2**	**+0.2**
	0.3nm,0.4s,baz=354,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**53.41**	**323**	P	**P**	**17 44 00.5**	**-0.4**
	0.3nm,0.6s,baz=117,slow=8.1,SNR=4.4						

TAP 24 17:35:00.5, 23.°75N×120.°91E, h11km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.05**	**46**	*i* P	Pg	17 35 03.4	+0.5
	baz=46						
SSLB				*i* S	Sg	17 35 05.1	+0.6
	baz=46						
WHYT	**Xinyi Township**	**0.08**	**225**	S	Sg	17 35 05.4	+0.5
	baz=224						
SMLT	**Sun Moon Lake**	**0.13**	**355**	*eP*	Pg	17 35 04.4	+0.5
	baz=358						
TYC	**Yuchr**	**0.16**	**342**	P	Pb	17 35 04.9	-0.6
	baz=346						
TYC				S	Sg	17 35 08.1	+1.4
	baz=346						
ALS	**Alishan**	**0.26**	**202**	P	Pb	17 35 06.7	-0.6
	baz=200						
ALS				S	Sb	17 35 11.2	-0.7
	baz=200						
CHN5	**Tsauling**	**0.26**	**235**	*eS*	Sb	17 35 11.7	-0.1
	baz=234						
WCS	**Beigang Elemen**	**0.31**	**360**	*eP*	Pb	17 35 07.5	-0.5
	baz=359						
WCS				*eS*	Sb	17 35 12.4	-0.7
	baz=359						

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*IDC **24** 17:56:44.5±1.2, 32.°87S×178.°45W, h0km, mb4.3/4, mb1 4.5/6, mb1mx4.0/34, mbtmp4.4/6, ML4.7/2, Error ellipse: s-maj=41.6km s-min=26.2km az=125.0*
*NEIC **24** 17:56:46.2±1.7, 32.°85S±0.°06×178.°4W±0.°2, h10km±1km, mb4.5/13, Error ellipse: s-maj=28.8km s-min=3.0km az=109.0*
*WEL **24** 17:56:47.4±0.6, 33.°S±6.°×17.°8W±1.°3, h33km, M4.3/29, mB4.9/18, ML5.1/29, MLv4.8/29, Mw(mB)4.2/18, Error ellipse: s-maj=0.0km s-min=0.0km az=111.9*
ISC 24 17:56:44.0±0.7, 33.°12S±0.°06×178.°0W±0.°1, h10km, n73, σ1°79/93, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.84**	**0**	P	Pn	17 57 40.9	-2.3
GLKZ				S	**Sn**	**17 58 23.8**	**-4.6**
RAO	**Raoul Island**	**3.85**	**0**	Pn	**Pn**	**17 57 42.0**	**-1.4**
	154nm,0.3s,baz=240,slow=20,SNR=8.7						
RAO	**Raoul Island**	**3.85**	**0**		**Pn**	**17 57 41.5**	**-1.8**
RIZ	**Raoul Island**	**3.86**	**0**	P	**Pn**	**17 57 42.2**	**-1.2**
MXZ	**Matakaoa Point**	**5.39**	**214**	Pn	**Pn**	**17 58 05.2**	**+0.9**
MXZ	**Matakaoa Point**	**5.39**	**214**	P	**Pn**	**17 58 05.3**	**+0.9**
MXZ				S	**Sn**	**17 59 06.3**	**-0.2**
WMGZ	**Waiomatatini S**	**5.55**	**211**	P	**Pn**	**17 58 08.2**	**+1.5**
WMGZ				S	**Sn**	**17 59 08.9**	**-1.6**
PKGZ	**Pakihiroa**	**5.76**	**213**	P	**Pn**	**17 58 09.6**	**0.0**
PKGZ				S	**Sn**	**17 59 14.2**	**-1.5**
HAZ	**Te Kaha**	**5.79**	**216**	P	**Pn**	**17 58 10.7**	**+0.7**
HAZ				S	**Sn**	**17 59 17.3**	**+0.9**
PUZ	**Puketiti**	**5.83**	**211**	P	**Pn**	**17 58 10.6**	**+0.1**
PUZ				S	**Sn**	**17 59 17.0**	**-0.4**
RUGZ	**Raukumara Rang**	**6.01**	**215**	P	**Pn**	**17 58 13.8**	**+0.8**
RUGZ				S	**Sn**	**17 59 21.8**	**-0.1**
TWGZ	**Tauwhareparae**	**6.04**	**212**	P	**Pn**	**17 58 14.0**	**+0.6**
TWGZ				S	**Sn**	**17 59 23.2**	**+0.7**
CNGZ	**Carnagh Statio**	**6.20**	**209**	P	**Pn**	**17 58 15.6**	**+0.1**
TKGZ	**Te Karaka**	**6.31**	**212**	P	**Pn**	**17 58 19.3**	**+2.2**
TKGZ				S	**Sn**	**17 59 29.0**	**-0.3**
KUZ	**Kuaotunu**	**6.33**	**233**	P	**Pn**	**17 58 19.5**	**+2.1**
MWZ	**Matawai**	**6.37**	**214**	P	**Pn**	**17 58 17.6**	**-0.4**
OPRZ	**Ohinepanea**	**6.50**	**222**	P	**Pn**	**17 58 22.1**	**+2.3**
URZ	**Urewera**	**6.51**	**217**	Pn	**Pn**	**17 58 21.0**	**+1.1**
	5.7nm,0.3s,baz=0.0,slow=6.1,SNR=35						
URZ				Sn	**Sn**	**17 59 32.5**	**-1.8**
	15nm,0.3s,baz=94,slow=4.3,SNR=8.9						
URZ	**Urewera**	**6.51**	**217**		**Pn**	**17 58 20.8**	**+0.9**
URZ	**Urewera**	**6.51**	**217**	P	**Pn**	**17 58 20.1**	**+0.1**
URZ				S	**Sn**	**17 59 32.5**	**-1.8**
MARZ	**Manawahe**	**6.54**	**221**	P	**Pn**	**17 58 22.9**	**+2.7**
MARZ				S	**Sn**	**17 59 35.4**	**+0.4**
RAGZ	**Rawiri**	**6.55**	**214**	P	**Pn**	**17 58 20.8**	**+0.3**
RIGZ	**Rimuhau**	**6.57**	**211**	P	**Pn**	**17 58 20.6**	**-0.1**
RIGZ				S	**Sn**	**17 59 35.2**	**-0.6**
PRGZ	**Paritu Road**	**6.70**	**209**	P	**Pn**	**17 58 23.1**	**+0.6**
PRGZ				S	**Sn**	**17 59 38.5**	**-0.5**
TARZ	**Mount Tarawera**	**6.81**	**220**	P	**Pn**	**17 58 28.7**	**+4.6**
SNGZ	**Shannon Statio**	**6.82**	**213**	P	**Pn**	**17 58 25.0**	**+0.8**
SNGZ				S	**Sn**	**17 59 40.6**	**-1.3**
MUGZ	**Murupara**	**6.85**	**217**	P	**Pn**	**17 58 24.2**	**-0.4**
MUGZ				S	**Sn**	**17 59 40.4**	**-2.3**
RTZ	**Ruatahuna**	**6.86**	**215**	P	**Pn**	**17 58 25.2**	**+0.5**
RTZ				S	**Sn**	**17 59 40.8**	**-2.0**
MHGZ	**Mahia Peninsul**	**6.89**	**208**	P	**Pn**	**17 58 24.2**	**-0.9**
WCZ	**Waipu Caves**	**6.95**	**244**	P	**Pn**	**17 58 27.2**	**+1.3**
RAHZ	**Arahi**	**7.04**	**213**	P	**Pn**	**17 58 28.9**	**+1.7**
RAHZ				S	**Sn**	**17 59 45.7**	**-1.7**
PRRZ	**Plateau Road**	**7.07**	**219**	P	**Pn**	**17 58 28.8**	**+1.3**
PRRZ				S	**Sn**	**17 59 44.7**	**-3.1**
WHHZ	**Waihua**	**7.11**	**212**	P	**Pn**	**17 58 30.1**	**+2.0**
WHHZ				S	**Sn**	**17 59 45.6**	**-3.3**
MTHZ	**Maungataniwha**	**7.11**	**215**	P	**Pn**	**17 58 29.3**	**+1.1**
MRHZ	**Matea Rd**	**7.30**	**217**	P	**Pn**	**17 58 31.0**	**+0.2**
MRHZ				S	**Sn**	**17 59 50.9**	**-3.0**
OUZ	**Omahuta**	**7.31**	**251**	P	**Pn**	**17 58 33.1**	**+2.2**
OUZ				S	**Sn**	**17 59 55.3**	**+1.3**
NMHZ	**Naumai**	**7.32**	**214**	P	**Pn**	**17 58 32.1**	**+1.1**
NMHZ				S	**Sn**	**17 59 52.3**	**-1.9**
ARHZ	**Aropaoanui**	**7.37**	**212**	P	**Pn**	**17 58 33.2**	**+1.6**
ARHZ				S	**Sn**	**17 59 53.4**	**-1.9**
BKZ	**Black Stump Fm**	**7.52**	**215**		**Pn**	**17 58 34.1**	**+0.2**
BKZ	**Black Stump Fm**	**7.52**	**215**	P	**Pn**	**17 58 34.2**	**+0.4**
BKZ				S	**Sn**	**17 59 55.7**	**-3.5**
MCHZ	**McNeill Hill**	**7.65**	**213**	P	**Pn**	**17 58 36.5**	**+1.0**
MCHZ				S	**Sn**	**17 59 60.0**	**-2.3**
KWHZ	**Kaweka Forest**	**7.76**	**214**	P	**Pn**	**17 58 37.1**	**0.0**
KWHZ				S	**Sn**	**18 00 01.6**	**-3.4**
KAHZ	**Kahuranaki**	**7.86**	**211**	P	Pn	17 58 36.1	-2.3
KAHZ				S	**Sn**	**18 00 04.2**	**-3.2**
HIZ	**Hauiti**	**7.94**	**225**	Pn	**Pn**	**17 58 39.5**	**0.0**
KRHZ	**Kereru**	**7.96**	**213**	P	**Pn**	**17 58 40.1**	**+0.4**
KRHZ				S	**Sn**	**18 00 05.2**	**-4.7**
BHHZ	**Black Hill Sta**	**7.98**	**216**	P	**Pn**	**17 58 41.2**	**+1.1**
WHZ	**Wether Hill Ro**	**16.73**	**216**	Pn	**Pn**	**18 00 37.3**	**-1.2**
WHZ				IAmb	IAmb	18 01 08.0	
	comp=Z,66nm,1.5s						
EIDS	**Eidsvold**	**28.03**	**278**	P	**P**	**18 02 34.9**	**-0.5**
EIDS				IAmb	IAmb	18 02 37.1	
	comp=Z,6.1nm,0.8s						
KNTN	**Kanton**	**30.75**	**12**	P	**P**	**18 02 58.5**	**-1.0**
CTAO	**Charters Tower**	**34.36**	**283**	P	**P**	**18 03 30.1**	**-1.2**
AS31	**Alice Springs**	**43.07**	**270**	P	P	18 04 42.5	-1.9
ASAR	**Alice Springs**	**43.07**	**270**	P	**P**	**18 04 43.0**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=109,slow=7.5,SNR=48						
ASAR	**Alice Springs**	**43.07**	**270**	P	P	18 04 42.3	-2.1
WR0	**Warramunga Arr**	**44.13**	**275**	P	P	18 04 50.8	-2.1
WB2	**Warramunga Arr**	**44.30**	**275**	P	P	18 04 52.3	-2.0
WB2				IAmb	IAmb	18 04 53.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**44.31**	**275**	P	**P**	**18 04 52.8**	**-1.6**
	comp=Z,4.5nm,0.5s,baz=113,slow=7.8,SNR=139						
WRA	**Warramunga Arr**	**44.31**	**275**	P	P	18 04 51.9	-2.5
WB0	**Warramunga Arr**	**44.34**	**275**	P	P	18 04 52.6	-2.0
WB0				IAmb	IAmb	18 04 54.5	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**45.45**	**258**	P	**P**	**18 05 01.6**	**-1.7**
KNRA	**Kununurra**	**51.00**	**276**	P	**P**	**18 05 45.0**	**-1.4**
KNRA				IAmb	IAmb	18 06 08.5	
	comp=Z,8.0nm,1.1s						
CASY	**Casey**	**52.77**	**209**	P	**P**	**18 06 01.2**	**+2.3**
CASY				IAmb	IAmb	18 06 16.1	
	comp=Z,3.3nm,0.8s						
QSPA	**South Pole Qui**	**57.00**	**180**	P	P	18 06 35.5	+5.8
PETK	**Petropavlovsk-**	**86.45**	**346**	P	**P**	**18 09 36.9**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=152,slow=6.5,SNR=4.3						
USRK	**Usuriysk Ar.**	**89.44**	**327**	P	**P**	**18 09 41.2**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=138,slow=5.0,SNR=2.1						
MKAR	**Makanchi Array**	**119.53**	**309**	PKP	**PKPdf**	**18 15 33.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=148,slow=1.1,SNR=2.6						
ARCES	**ARCESS Array B**	**141.24**	**347**	PKP	**PKPdf**	**18 16 13.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=74,slow=1.3,SNR=2.3						
FINES	**FINESS Array B**	**147.69**	**339**	PKPbc	**PKPdf**	**18 16 28.9**	**+3.6**
	comp=Z,5.7nm,0.5s,baz=50,slow=3.7,SNR=19						
FINES	**FINESS Array B**	**147.69**	**339**		**PKPdf**	**18 16 28.2**	**+3.0**
NB2	**NORSAR Subarra**	**151.43**	**351**	PKP	**PKPbc**	**18 16 38.2**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.43**	**351**	PKPbc	**PKPbc**	**18 16 38.5**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=15,slow=4.1,SNR=8.2						
AKASG	**Malin Array Be**	**153.44**	**320**	PKPbc	**PKPbc**	**18 16 43.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=52,slow=2.2,SNR=6.6						
BRTR	**Keskin Array B**	**153.83**	**294**	PKPbc	**PKPbc**	**18 16 44.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=131,slow=2.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**160.12**	**179**	PKPab	**PKPab**	**18 17 27.3**	**+3.4**
	comp=Z,0.6nm,0.6s,baz=168,slow=3.7,SNR=2.3						

IDC 24 17:59:00.1±3.4, 32.°82S×178.°57W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=80.4km s-min=49.8km az=117.0, South of Kermadec Islands

| Code | Station Name | Δ

GLKZ	**Green Lake**	**3.79**	**2**	P	**Pn**	**18 04 17.2**	**-3.5**
GLKZ				S	**Sn**	**18 04 59.5**	**-4.6**
RAO	**Raoul Island**	**3.80**	**2**	Sn	**Sn**	**18 05 04.4**	**+0.1**
	101nm,0.3s,baz=114,slow=21,SNR=3.0						
RAO	**Raoul Island**	**3.80**	**2**		**Pn**	**18 04 20.9**	**0.0**
MXZ	**Matakaoa Point**	**5.38 212**		Pn	**Pn**	**18 04 42.3**	**-0.2**
MXZ	**Matakaoa Point**	**5.38 212**		P	**Pn**	**18 04 43.5**	**+1.0**
MXZ				S	**Sn**	**18 05 41.0**	**-2.1**
WMGZ	**Waiomatatini S**	**5.54 210**		P	**Pn**	**18 04 45.2**	**+0.4**
WMGZ				S	**Sn**	**18 05 48.1**	**+0.8**
PKGZ	**Pakihiroa**	**5.75 212**		P	**Pn**	**18 04 46.5**	**-1.2**
PKGZ				S	**Sn**	**18 05 50.9**	**-1.5**
HAZ	**Te Kaha**	**5.78 215**		P	**Pn**	**18 04 48.1**	**+0.2**
HAZ				S	**Sn**	**18 05 52.5**	**-0.5**
PUZ	**Puketiti**	**5.82 210**		P	**Pn**	**18 04 47.4**	**-1.3**
PUZ				S	**Sn**	**18 05 53.5**	**-0.7**
RUGZ	**Raukumara Rang**	**5.99 214**		P	**Pn**	**18 04 50.1**	**-1.0**
RUGZ				S	**Sn**	**18 05 58.1**	**-0.5**
TWGZ	**Tauwhareparae**	**6.03 211**		P	**Pn**	**18 04 50.4**	**-1.1**
TWGZ				S	**Sn**	**18 05 59.6**	**+0.3**
CNGZ	**Carnagh Statio**	**6.20 208**		P	**Pn**	**18 04 52.2**	**-1.5**
CNGZ				S	**Sn**	**18 06 05.5**	**+2.2**
TKGZ	**Te Karaka**	**6.30 211**		P	**Pn**	**18 04 56.1**	**+0.9**
MWZ	**Matawai**	**6.36 213**		P	**Pn**	**18 04 54.3**	**-1.8**
MWZ				S	**Sn**	**18 06 06.7**	**-0.8**
OPRZ	**Ohinepanea**	**6.48 221**		P	**Pn**	**18 04 58.7**	**+1.1**
OPRZ				S	**Sn**	**18 06 11.3**	**+1.0**
URZ	**Urewera**	**6.50 216**	Pn		**Pn**	**18 04 57.0**	**-0.9**
	7.7nm,0.3s,baz=276,slow=4.6,SNR=42						
URZ			Sn		**Sn**	**18 06 07.8**	**-3.0**
	10.0nm,0.3s,baz=349,slow=22,SNR=9.3						
URZ	**Urewera**	**6.50 216**			**Pn**	**18 04 57.0**	**-0.9**
URZ	**Urewera**	**6.50 216**		P	**Pn**	**18 04 56.9**	**-1.0**
URZ				S	**Sn**	**18 06 08.6**	**-2.1**
MARZ	**Manawahe**	**6.51 220**		P	**Pn**	**18 04 58.4**	**+0.2**
MARZ				S	**Sn**	**18 06 11.7**	**+0.5**
RAGZ	**Rawiri**	**6.54 213**		P	**Pn**	**18 04 56.9**	**-1.6**
RAGZ				S	**Sn**	**18 06 10.8**	**-1.2**
RIGZ	**Rimuhau**	**6.57 210**		P	**Pn**	**18 04 57.2**	**-1.7**
RIGZ				S	**Sn**	**18 06 11.8**	**-0.7**
PRGZ	**Paritu Road**	**6.70 208**		P	**Pn**	**18 04 58.7**	**-2.0**
PRGZ				S	**Sn**	**18 06 14.3**	**-1.6**
KARZ	**Kaharoa**	**6.77 221**		P	**Pn**	**18 05 04.5**	**+2.8**
SNGZ	**Shannon Statio**	**6.81 212**		P	**Pn**	**18 05 01.8**	**-0.4**
SNGZ				S	**Sn**	**18 06 18.0**	**-0.5**
MUGZ	**Murupara**	**6.83 216**		P	**Pn**	**18 05 01.9**	**-0.7**
MUGZ				S	**Sn**	**18 06 17.7**	**-1.4**
RTZ	**Ruatahuna**	**6.84 214**		P	**Pn**	**18 05 01.8**	**-0.9**
RRRZ	**Republican Roa**	**6.86 218**		P	**Pn**	**18 05 06.3**	**+3.4**
KNZ	**Kokohu**	**6.87 209**		P	**Pn**	**18 05 01.3**	**-1.7**
KNZ				S	**Sn**	**18 06 15.9**	**-4.1**
WCZ	**Waipu Caves**	**6.88 243**		P	**Pn**	**18 05 04.2**	**+1.1**
MHGZ	**Mahia Peninsul**	**6.89 207**		P	**Pn**	**18 05 00.9**	**-2.4**
RAHZ	**Arahi**	**7.03 212**		P	**Pn**	**18 05 05.8**	**+0.5**
MTHZ	**Maungataniwha**	**7.09 214**		P	**Pn**	**18 05 05.5**	**-0.6**
WHHZ	**Waihua**	**7.10 211**		P	**Pn**	**18 05 06.1**	**-0.1**
OUZ	**Omahuta**	**7.23 250**			**Pn**	**18 05 08.1**	**+0.2**
OUZ	**Omahuta**	**7.23 250**		P	**Pn**	**18 05 09.3**	**+1.4**
MRHZ	**Matea Rd**	**7.29 216**		P	**Pn**	**18 05 07.7**	**-1.0**
NMHZ	**Naumai**	**7.31 213**		P	**Pn**	**18 05 09.1**	**0.0**
NMHZ				S	**Sn**	**18 06 29.8**	**-1.0**
ARHZ	**Aropaoanui**	**7.36 211**		P	**Pn**	**18 05 08.0**	**-1.7**
BKZ	**Black Stump Fm**	**7.51 214**			**Pn**	**18 05 09.0**	**-2.9**
BKZ	**Black Stump Fm**	**7.51 214**		P	**Pn**	**18 05 10.4**	**-1.4**
MCHZ	**McNeill Hill**	**7.64 212**		P	**Pn**	**18 05 13.0**	**-0.5**
CKHZ	**Cape Kidnapper**	**7.65 209**		P	**Pn**	**18 05 13.2**	**-0.6**
KWHZ	**Kaweka Forest**	**7.75 213**		P	**Pn**	**18 05 13.6**	**-1.5**
KAHZ	**Kahuranaki**	**7.85 210**		P	**Pn**	**18 05 12.5**	**-4.0**
TMVZ	**Te Maari**	**7.86 218**		P	**Pn**	**18 05 16.8**	**+0.1**
NTVZ	**North Tongarir**	**7.86 218**		P	**Pn**	**18 05 17.0**	**+0.3**
ETVZ	**East Tongariro**	**7.87 218**		P	**Pn**	**18 05 17.0**	**+0.1**
HIZ	**Hauiti**	**7.91 225**	Pn		**Pn**	**18 05 16.4**	**-0.8**
OTVZ	**Oturere**	**7.92 218**		P	**Pn**	**18 05 16.5**	**-1.0**
KRHZ	**Kereru**	**7.95 213**		P	**Pn**	**18 05 15.9**	**-1.9**
BHHZ	**Black Hill Sta**	**7.97 215**		P	**Pn**	**18 05 17.2**	**-0.9**
BFZ	**Birch Farm**	**8.86 209**	Pn		**Pn**	**18 05 27.5**	**-2.8**
THZ	**Tophouse**	**11.26 217**	Pn		**Pn**	**18 05 59.1**	**-4.0**
STKA	**Stephens Creek**	**33.90 261**	P		**P**	**18 10 05.8**	**+1.4**
STKA			IAmb		IAmb	18 10 45.9	
	comp=Z,3.4nm,1.5s						
CTAO	**Charters Tower**	**34.25 283**	P		**P**	**18 10 05.7**	**-1.8**
CTAO			IAmb		IAmb	18 10 08.0	
	comp=Z,5.9nm,0.9s						
AS31	**Alice Springs**	**42.97 270**	P		**P**	**18 11 17.9**	**-2.8**
ASAR	**Alice Springs**	**42.97 270**	P		**P**	**18 11 19.6**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=110,slow=7.5,SNR=30						
ASAR	**Alice Springs**	**42.97 270**	P		**P**	**18 11 17.6**	**-3.1**
WR0	**Warramunga Arr**	**44.02 275**	P		**P**	**18 11 27.6**	**-1.6**
WR0			IAmb		IAmb	18 11 35.2	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**44.18 275**	P		**P**	**18 11 28.9**	**-1.6**
WRA	**Warramunga Arr**	**44.19 275**	P		**P**	**18 11 29.4**	**-1.2**
	comp=Z,5.0nm,0.5s,baz=113,slow=7.9,SNR=68						
WRA	**Warramunga Arr**	**44.19 275**	P		**P**	**18 11 29.2**	**-1.4**
WB0	**Warramunga Arr**	**44.23 275**	P		**P**	**18 11 29.4**	**-1.5**
WB0			IAmb		IAmb	18 11 30.9	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**45.36 258**	P		**P**	**18 11 38.3**	**-1.5**
VNDA	**Vanda**	**45.45 186**	LR		LR	18 27 16.5	
	comp=Z,54nm,19.0s,baz=35,slow=31						
MTN	**Manton Dam**	**50.38 281**	P		**P**	**18 12 17.2**	**-1.6**
MTN			IAmb		IAmb	18 12 56.6	
	comp=Z,8.5nm,1.1s						
KNRA	**Kununurra**	**50.89 277**	P		**P**	**18 12 21.1**	**-1.5**
CASY	**Casey**	**52.77 209**	P		**P**	**18 12 37.3**	**+1.3**
CASY			IAmb		IAmb	18 12 37.7	
	comp=Z,6.7nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.44 251**	LR		LR	18 31 54.6	
	comp=Z,98nm,18.1s,baz=61,slow=32						
QSPA	**South Pole Qui**	**57.06 180**	P		**P**	**18 13 11.4**	**+4.2**
	comp=Z,4.1nm,0.9s,baz=81,slow=0.7,SNR=17						
QSPA	**South Pole Qui**	**57.06 180**	P		**P**	**18 13 11.3**	**+4.2**
QSPA			IAmb		IAmb	18 13 21.6	
	comp=Z,4.1nm,0.8s						
KSRS	**Korea Array**	**86.33 320**	P		**P**	**18 16 01.9**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=101,slow=5.0,SNR=3.6						
PETK	**Petropavlovsk-**	**88.37 346**	P		**P**	**18 16 13.6**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=128,slow=5.2,SNR=5.7						
CPUP	**Villa Florida**	**98.38 129**	LR		LR	18 58 38.4	
	comp=Z,26nm,18.2s,baz=218,slow=34						
ARCES	**ARCESS Array B 141.16 347**		PKhKP		PKPpre	18 22 48.5	
	comp=Z,0.3nm,0.4s,baz=74,slow=3.9,SNR=1.3						
FINES	**FINESS Array B 147.60 338**		PKPbc		**PKPbc**	**18 23 05.3**	**+0.7**
	comp=Z,2.9nm,0.4s,baz=44,slow=4.7,SNR=25						
FINES	**FINESS Array B 147.60 338**				**PKPbc**	**18 23 04.7**	**+0.1**
NB2	**NORSAR Subarra151.36 351**		PKP		**PKiKP**	**18 23 15.2**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=15,slow=4.1						
NOA	**NORSAR Array B151.36 351**		PKPbc		**PKiKP**	**18 23 15.4**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=21,slow=4.7,SNR=6.7						
AKASG	**Malin Array Be 153.32 319**		PKPbc		**PKiKP**	**18 23 19.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=57,slow=2.7,SNR=7.4						
AKASG	**Malin Array Be 153.32 319**				**PKiKP**	**18 23 18.8**	**0.0**
CLL	**Collm**	**160.04 339**	*e*PKPab		**PKPab**	**18 24 04.0**	**+4.4**
CLL			Lm		MLR	19 18 00.0	
	comp=Z,100nm,19.4s						

GUC ***24*** *18:11:28.8±0.6, 17.°28S×70.°78W, h123km±3km, ML4.1*
IDC ***24*** *18:11:31.0±3.0, 17.°12S×70.°49W, h146km±28km, mb3.2/5, mb1 3.5/6, mb1mx3.4/24, mbtmp3.6/6, Error ellipse: s-maj=37.2km s-min=27.2km az=83.0*
ISC 24 18:11:28.4±1.3,**17.°31S**±0.°08×**70.°7W**±0.°1,**h126**km±12km, **n21**,σ0⁶**90**/**25**,**mb3.5**/5,**8C-1D**,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**1.11 162**		⇑*i*P	**Pn**	**18 11 52.3**	**+0.2**
AP01				*i* S	**Sn**	**18 12 10.3**	**+0.3**
AP01				IAML		18 12 11.2	
	comp=E,4μm,0.5s						
MNMC	**Minye Minye**	**2.10 150**		⇑*i*P	**Pn**	**18 12 04.3**	**+0.7**
MNMC				*i* S	**Sn**	**18 12 30.8**	**+0.1**
MNMC				IAML		18 12 32.7	
	comp=N,2μm,0.7s						
PSGC	**Pisagua**	**2.34 166**		⇑*i*P	**Pn**	**18 12 06.4**	**-0.1**
PSGC				*i* S	**Sn**	**18 12 34.8**	**-1.1**
PB11	**IPOC Station P**	**2.64 158**		⇑*i*P	**Pn**	**18 12 10.2**	**-0.1**
PB11				*i* S	**Sn**	**18 12 42.0**	**-0.7**
PB11				IAML		18 12 42.9	
	comp=N,456nm,0.5s						
PB11				IAML		18 12 44.0	
	comp=E,498nm,0.2s						
LPAZ	**La Paz**	**2.67**	**68**	P	**Pn**	**18 12 11.5**	**+0.3**
	comp=E,4.3nm,0.3s,baz=272,slow=5.7,SNR=92						
LPAZ				S	**Sn**	**18 12 43.0**	**-1.0**
	comp=E,2.8nm,0.3s,baz=169,slow=25,SNR=13						
PB08	**IPOC Station P**	**3.18 153**		⇑*i*P	**Pn**	**18 12 18.5**	**+0.9**
PB08				*i* S	**Sn**	**18 12 55.5**	**0.0**
PB08				IAML		18 12 57.0	
	comp=N,473nm,0.2s						
TA01	**Diego Aracena**	**3.28 171**		⇑*i*P	**Pn**	**18 12 18.6**	**+0.1**
TA01				*i* S	**Sn**	**18 12 55.2**	**-2.1**
PB01	**IPOC Station P**	**3.89 163**		*e*P	**Pn**	**18 12 26.3**	**-0.4**
PB02	**IPOC Station P**	**4.07 169**		*e*P	**Pn**	**18 12 29.0**	**0.0**
PB07	**IPOC Station P**	**4.46 170**		*e*P	**Pn**	**18 12 34.6**	**+0.2**
PB09	**IPOC Station P**	**4.67 163**		⇑*i*P	**Pn**	**18 12 37.7**	**+0.5**
PB03	**IPOC Station P**	**4.80 169**		⇑*i*P	**Pn**	**18 12 38.8**	**-0.1**
PB04	**IPOC Station P**	**5.03 174**		⇓*i*P	**Pn**	**18 12 41.6**	**-0.4**
H03N1	**Juan Fernandez**	**17.68 203**		T	T	18 33 27.1	
	baz=26,slow=73,SNR=30						
H03N2	**Juan Fernandez**	**17.68 203**		T	T	18 33 26.7	
	baz=26,slow=73,SNR=36						
H03N3	**Juan Fernandez**	**17.70 203**		T	T	18 33 25.9	
	baz=26,slow=73,SNR=34						
PLCA	**Paso Flores**	**23.34 180**		P	**P**	**18 16 28.0**	**+2.5**
	comp=N,1.5nm,0.6s,baz=355,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**56.23 325**		P	**P**	**18 20 55.6**	**-0.1**
	comp=N,0.2nm,0.6s,baz=139,slow=8.4,SNR=2.9						
PDAR	**Pinedale Array**	**69.64 330**		P	**P**	**18 22 25.0**	**+0.6**
	comp=N,0.1nm,0.5s,baz=144,slow=8.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**77.62**	**72**	P	**P**	**18 23 10.3**	**-1.0**
	comp=N,0.8nm,0.4s,baz=250,slow=5.0,SNR=3.7						
YKA	**Yellowknife Ar**	**86.69 341**		P	**P**	**18 23 57.1**	**-0.5**
	comp=N,0.4nm,0.7s,baz=132,slow=5.8,SNR=4.3						

BJI ***24*** *18:13:03.0±0.0, 12.°74N×146.°65E, h10km, mB4.8/35, mb4.6/56, Ms4.4/33, Ms7 4.2/33*
DJA ***24*** *18:13:07.9±0.4, 13.°N±4.°×14.°6E±.°, h10km, M4.7/25, mB5.3/12, mb5.0/25, MLv4.6/1, Mw(mB)4.7/12*
IDC ***24*** *18:13:07.1±0.5, 13.°04N×146.°21E, h0km, mb4.4/27, mb1 4.5/27, mb1mx4.5/39, mbtmp4.4/27, MS4.0/26, Ms1 4.0/26, ms1mx3.8/39, Error ellipse: s-maj=16.6km s-min=11.7km az=91.0*
NEIC ***24*** *18:13:10.8±1.5, 13.°05N±0.°08×146.°16E±0.°07, h19km±4km, mb4.9/139, Error ellipse: s-maj=12.9km s-min=8.2km az=214.0*
GCMT ***24*** *18:13:14.9±0.3, 12.°97N±0.°03×146.°23E±0.°04, h24km, MW5.0/76, Moment Tensor Solution. s19,c21; s76,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.48±.23; Mθθ1.75±.14; Mφφ1.73±.14; Mrθ1.03±.21; Mθφ1.41±.09; Mφr-1.29±.26; Best double couple: M=3.62400×10¹⁶ NP1:φ=244.00000°, δ47.00000°, λ-62.00000°. NP2: φ=26.00000°, δ50.00000°, λ-117.00000°. Principal axes: T 3.1560, Plg2.0000°, Azm134.0000°; N 0.9380, Plg20.0000°, Azm43.0000°; P -4.0930, Plg70.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 18:13:14.1±0.3,**12.°98N**±0.°05×**146.°18E**±0.°06,**h50**km,**n254**, σ1⁹**36**/250,**mb4.8**/123,**MS4.1**/37,**2C**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.41 296**		Pn	**Pn**	**18 13 34.2**	**-3.1**
	528nm,0.3s,baz=125,slow=7.1,SNR=490						
GUMO				Sn	**Sn**	**18 13 53.9**	**-0.9**
	790nm,0.3s,baz=303,slow=22,SNR=8.6						
GUMO	**Guam**	**1.41 296**		Pn	**Pn**	**18 13 34.1**	**-3.3**
GUMO				Sn	**Sn**	**18 13 52.6**	**-2.2**
PATS	**Pohnpei**	**13.42 116**			Pn	18 16 15.9	-6.1
MANU	**Manus Island**	**14.97 175**			**Pn**	**18 16 42.5**	**-0.2**
MANU				IAmb	IAmb	18 17 02.1	
	comp=Z,72nm,1.7s						
GENI	**Genyem**	**16.58 201**		P	**Pn**	**18 17 02.8**	**-0.5**
	comp=Z,2μmcomp=Z,66nm,1.8s						
SIJI	**Sorong**	**20.20 228**		P	**P**	**18 17 45.3**	**+0.3**
	comp=Z,70nm,0.8s,baz=49,slow=9.7,SNR=35						
SWI	**Sorong**	**20.20 228**		P	**P**	**18 17 45.9**	**+1.0**
	comp=Z,1μmcomp=Z,120nm,0.9s						
JHJ2	**Mitsune**	**20.86 345**		P	**P**	**18 17 50.9**	**-1.0**
FAKI	**Fak Fak**	**20.99 222**		P	**P**	**18 17 53.4**	**-0.1**
FAKI				IAmb	IAmb	18 17 59.0	
	comp=Z,106nm,1.1s						
FAKI	**Fak Fak**	**20.99 222**		P	**P**	**18 17 54.1**	**+0.6**
	comp=Z,1μmcomp=Z,93nm,1.2s						
PMG	**Port Moresby**	**22.26 177**		P	**P**	**18 18 07.2**	**+0.1**
PMG				IAmb	IAmb	18 18 34.9	
	comp=Z,51nm,0.8s						
JSU	**Suzuyama**	**23.43 324**		P	**P**	**18 18 17.5**	**-1.5**
JMN	**Monobe**	**23.50 334**		P	**P**	**18 18 19.0**	**-0.6**
INU	**Inuyama**	**23.76 341**		P	**P**	**18 18 20.7**	**-1.3**
INU				IAmb	IAmb	18 19 04.2	
	comp=Z,44nm,1.5s						
JGF	**Kuroka**	**23.89 342**		P	**P**	**18 18 22.4**	**-0.8**
JWT	**Wachi**	**24.25 338**		P	**P**	**18 18 25.4**	**-1.1**
JWT				IAmb	IAmb	18 18 28.2	
	comp=Z,61nm,1.9s						
JNU	**Nakatsue**	**24.44 328**		P	**P**	**18 18 26.8**	**-1.5**
JNU				IAmb	IAmb	18 18 49.7	
	comp=Z,55nm,1.6s						
MJAR	**Matsushiro Arr**	**24.53 344**		P	**P**	**18 18 26.8**	**-2.2**
	comp=Z,1.1nm,0.5s,baz=102,slow=12,SNR=6.0						
MJAR				LR	LR	18 26 60.0	
	comp=Z,577nm,19.7s,baz=170,slow=34						
MJAR	**Matsushiro Arr**	**24.53 344**		P	**P**	**18 18 27.7**	**-1.3**
MAJO	**Matsushiro**	**24.53 344**		P	**P**	**18 18 26.2**	**-2.8**
MAT	**Matsushiro**	**24.53 344**		P	**P**	**18 18 25.2**	**-3.8**
MAT				S	**S**	**18 22 47.2**	**+0.9**
JHS	**Saijyo**	**24.91 334**		P	**P**	**18 18 31.2**	**-1.3**
JHS				IAmb	IAmb	18 18 47.5	
	comp=Z,25nm,0.9s						
JMM	**Marumori**	**25.24 350**		P	**P**	**18 18 32.5**	**-2.9**
YULB	**Yu-li**	**25.76 297**		P	**P**	**18 18 38.7**	**-1.6**
YULB				IAmb	IAmb	18 19 24.8	
	comp=Z,84nm,2.0s						
JSD	**Sado**	**25.93 346**		P	**P**	**18 18 40.3**	**-1.4**
GTOI	**Gorontalo**	**26.03 244**		P	**P**	**18 18 44.7**	**+1.9**
	comp=Z,17nm,1.0s						
YHNB	**Yeheng**	**26.14 300**		P	**P**	**18 18 43.3**	**-0.6**
YHNB				IAmb	IAmb	18 18 57.1	
	comp=Z,96nm,2.0s						
SSLB	**Suanglung**	**26.19 298**		P	**P**	**18 18 43.0**	**-1.3**
SSLB				IAmb	IAmb	18 19 20.2	
	comp=Z,85nm,1.8s						
TPUB	**Ta-pu**	**26.31 297**		P	**P**	**18 18 43.8**	**-1.6**
TPUB				IAmb	IAmb	18 19 33.8	
	comp=Z,26nm,0.7s						
MRSI	**Marisa**	**27.04 245**		P	**P**	**18 18 53.0**	**+1.0**
	comp=Z,632nmcomp=Z,54nm,1.1s						
TOLI2	**Tolitoli**	**27.78 247**		P	**P**	**18 18 58.1**	**-0.5**
TOLI2				IAmb	IAmb	18 18 59.5	
	comp=Z,52nm,1.9s						
JTM	**Tenmabayashi**	**28.06 352**		P	**P**	**18 19 00.9**	**+0.2**
JTM				IAmb	IAmb	18 19 04.8	
	comp=Z,35nm,1.3s						
MPSI	**Mapaga**	**28.91 246**		P	**P**	**18 19 08.7**	**0.0**
	comp=Z,19nm,1.3s						
ERM	**Erimo**	**29.05 355**		P	**P**	**18 19 11.3**	**+1.8**
ERM				IAmb	IAmb	18 19 17.3	
	comp=Z,50nm,1.9s						
KSRS	**Korea Array**	**29.32 329**		P	**P**	**18 19 11.0**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=147,slow=8.9,SNR=13						
KSRS				PcP	**PcP**	**18 22 18.6**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=223,slow=1.1,SNR=4.7						
KSRS				LR	LR	18 30 18.3	
	comp=Z,264nm,18.7s,baz=103,slow=35						
KSAR	**Wonju Array Be**	**29.33 329**		P	**P**	**18 19 10.7**	**-1.4**
KS19	**Wonju Array Si**	**29.39 329**		P	**P**	**18 19 10.4**	**-2.3**
KS19				IAmb	IAmb	18 19 21.6	
	comp=Z,48nm,1.8s						
MTN	**Manton Dam**	**29.68 211**		P	**P**	**18 19 14.8**	**-0.6**
SPMM	**Sapulut**	**30.46 257**		P	**P**	**18 19 23.0**	**+0.6**
BNSI	**Bone**	**31.12 238**		P	**P**	**18 19 28.2**	**0.0**
	comp=Z,33nm,1.2s						
JKA	**Kamikawa-asahi**	**31.18 355**		P	**P**	**18 19 26.5**	**-1.9**
JKA				IAmb	IAmb	18 20 27.9	
	comp=Z,18nm,1.4s						
ASAJ	**Asahikawa**	**31.18 355**		P	**P**	**18 19 27.9**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=234,slow=6.0,SNR=6.0						
SOEI	**Soe**	**31.36 225**		P	**P**	**18 19 28.6**	**-1.9**
SOEI				IAmb	IAmb	18 19 44.3	
	comp=Z,34nm,1.0s						
SOEI	**Soe**	**31.36 225**		P	**P**	**18 19 30.2**	**-0.2**
	comp=Z,31nm,0.9s						
NJ2	**Nanjing**	**31.43 312**		*e*P	**P**	**18 19 31.8**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KAPI	**Kappang**	**31.76 237**		P	**P**	**18 19 34.0**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=73,slow=8.4,SNR=4.8						
KAPI				LR	LR	18 33 38.0	
	comp=Z,62nm,18.7s,baz=103,slow=39						
KAPI	**Kappang**	**31.76 237**		P	**P**	**18 19 33.6**	**-0.2**
KAPI				IAmb	IAmb	18 19 35.4	
	comp=Z,15nm,0.9s						
EDFI	**Ende, Flores**	**32.52 230**		P	**P**	**18 19 39.9**	**-0.7**
	comp=Z,9.9nm,0.7s						
CTA	**Charters Tower**	**32.86 180**		P	**P**	**18 19 43.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=319,slow=10,SNR=2.0						
CTAO	**Charters Tower**	**32.86 180**		P	**P**	**18 19 43.5**	**+0.2**
KNRA	**Kununurra**	**33.28 212**		P	**P**	**18 19 47.0**	**-0.1**
KNRA				IAmb	IAmb	18 20 02.9	
	comp=Z,22nm,1.0s						
USA0B	**Ussuriysk Arra**	**33.41 341**		P	**P**	**18 19 46.0**	**-1.9**
USRK	**Ussuriysk Ar.**	**33.41 341**		P	**P**	**18 19 47.8**	**0.0**
	comp=Z,2.0nm,0.6s,baz=163,slow=10,SNR=5.1						
USRK				LR	LR	18 32 08.4	
	comp=Z,224nm,20.2s,baz=152,slow=34						
USRK	**Ussuriysk Ar.**	**33.41 341**		P	**P**	**18 19 46.4**	**-1.5**
WB0	**Warramunga Arr**	**34.55 200**		P	**P**	**18 19 56.6**	**-1.4**
WR0	**Warramunga Arr**	**34.68 199**		P	**P**	**18 19 58.0**	**-1.2**
WRAB	**Tennant Creek**	**34.72 200**		P	**P**	**18 19 58.7**	**-0.8**
WRAB				IAmb	IAmb	18 20 14.7	
	comp=Z,9.9nm,0.7s						
WB2	**Warramunga Arr**	**34.73 200**		P	**P**	**18 19 59.1**	**-0.5**
WB2				IAmb	IAmb	18 20 15.5	
	comp=Z,54nm,1.6s						
WRA	**Warramunga Arr**	**34.73 200**		P	**P**	**18 19 59.0**	**-0.7**
	comp=Z,7.0nm,0.8s,baz=20,slow=9.7,SNR=47						
WRA				PcP	**PcP**	**18 22 33.6**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=9.9,slow=3.3,SNR=6.5						
WRA	**Warramunga Arr**	**34.73 200**		P	**P**	**18 19 58.3**	**-1.3**
SBUM	**Sibu**	**35.19 256**		P	**P**	**18 20 05.0**	**+1.3**
QIZ	**Qiongzhong**	**35.39 285**		P	**P**	**18 20 04.8**	**-0.6**
QIZ				S	**S**	**18 25 40.1**	**+3.2**
QIZ				LR	LR		
	comp=Z,180nm,16.5s						
QIZ				LR	LR		
	comp=Z,260nm,17.5s						
QIZ				LR	LR		
	comp=Z,270nm,18.0s						
QIZ	**Qiongzhong**	**35.39 285**		P	**P**	**18 20 04.9**	**-0.5**
CN2	**Changchun**	**35.51 334**		*e*P	**P**	**18 20 06.1**	**0.0**
CN2				S	**S**	**18 25 40.1**	**+2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
STKI	**Sintang**	**36.71 252**		P	**P**	**18 20 17.4**	**+0.7**
KSM	**Kuching**	**37.31 255**		P	**P**	**18 20 22.0**	**+0.2**
PBKI	**Pangkalan Bun**	**37.63 248**		P	**P**	**18 20 25.5**	**+0.9**
	comp=Z,126nm,1.2s						
BJT	**Baijiatuau**	**37.70 321**		P	**P**	**18 20 23.2**	**-1.6**
BJT				IAmb	IAmb	18 20 26.6	
	comp=Z,32nm,1.8s						
BJI	**Beijing**	**37.71 321**		P	**P**	**18 20 26.5**	**+1.6**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ENH	**Enshi**	**37.98 303**		P	**P**	**18 20 26.5**	**-0.9**
ENH				IAmb	IAmb	18 20 44.0	
	comp=Z,13nm,0.9s						
KLR	**Kul'dur**	**38.06 345**		P	**P**	**18 20 26.

LZH	**Lanzhou**	**44.39**	**309**	*e*P	**P**	**18 21 19.9**	**-0.2**
LZH				sP	pP	18 21 28.3	-2.6
LZH				S	S	18 28 06.6	+15
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=Z,210nm,15.2s						
LZH				LR	LR		
	comp=Z,160nm,16.3s						
LZH				LR	LR		
	comp=Z,110nm,17.9s						
STKA	**Stephens Creek**	**44.82**	**186**	P	**P**	**18 21 22.6**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=346,slow=9.0,SNR=7.0						
STKA				LR	LR	18 41 15.3	
	comp=Z,171nm,18.9s,baz=14,slow=38						
STKA	**Stephens Creek**	**44.82**	**186**	P	**P**	**18 21 22.5**	**-0.8**
UTHA	**Uthaitani**	**45.29**	**279**	P	**P**	**18 21 29.1**	**+1.7**
	comp=Z,0.0nmcomp=Z,3.6nm,0.6s						
KULM	**Kulim**	**45.53**	**265**	P	**P**	**18 21 30.0**	**+0.7**
CM36	**Chiang Mai Arr**	**45.55**	**283**	P	**P**	**18 21 31.0**	**+1.6**
CM09	**Chiang Mai Arr**	**45.65**	**283**	P	**P**	**18 21 32.5**	**+2.4**
	comp=Z,84nmcomp=Z,9.5nm,0.7s						
CM09	**Chiang Mai Arr**	**45.65**	**283**	P	**P**	**18 21 32.5**	**+2.4**
	comp=Z,0.0nmcomp=Z,84nmcomp=Z,9.5nm,0.7s						
CM04	**Chiang Mai Arr**	**45.66**	**283**	P	**P**	**18 21 32.0**	**+1.8**
	comp=Z,88nmcomp=Z,10nm,0.7s						
CM04	**Chiang Mai Arr**	**45.66**	**283**	P	**P**	**18 21 32.1**	**+1.8**
	comp=Z,0.0nmcomp=Z,88nmcomp=Z,10nm,0.7s						
CM01	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**18 21 32.1**	**+1.7**
	comp=Z,83nmcomp=Z,9.3nm,0.7s						
CM01	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**18 21 32.1**	**+1.7**
	comp=Z,0.0nmcomp=Z,83nmcomp=Z,9.3nm,0.7s						
CM02	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 32.8**	**+2.3**
	comp=Z,72nmcomp=Z,9.7nm,0.7s						
CM02	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 32.9**	**+2.3**
	comp=Z,0.0nmcomp=Z,72nmcomp=Z,9.7nm,0.7s						
CHTO	**Chiang Mai**	**45.69**	**284**	P	**P**	**18 21 30.5**	**0.0**
CM05	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 32.2**	**+1.7**
	comp=Z,71nmcomp=Z,8.0nm,0.7s						
CM05	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 32.0**	**+1.5**
	comp=Z,0.0nmcomp=Z,71nmcomp=Z,8.0nm,0.7s						
CM31	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 32.3**	**+1.8**
	comp=Z,1.0nmcomp=Z,3μmcomp=Z,302nm,0.6s						
CM31	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 30.0**	**-0.5**
CM31				IAmb	IAmb	18 21 33.6	
	comp=Z,7.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 30.9**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=85,slow=6.1,SNR=29						
CMAR				LR	LR	18 39 36.0	
	comp=Z,141nm,21.2s,baz=146,slow=35						
CMAR	**Chiang Mai Arr**	**45.69**	**283**	P	**P**	**18 21 30.0**	**-0.5**
CM15	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**18 21 32.2**	**+1.6**
CM15	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**18 21 32.3**	**+1.6**
CM13	**Chiang Mai Arr**	**45.73**	**283**	P	**P**	**18 21 32.4**	**+1.6**
	comp=Z,79nmcomp=Z,8.9nm,0.7s						
CM13	**Chiang Mai Arr**	**45.73**	**283**	P	**P**	**18 21 32.5**	**+1.6**
	comp=Z,0.0nmcomp=Z,79nmcomp=Z,8.9nm,0.7s						
MNAI	**Manna**	**46.25**	**251**	P	**P**	**18 21 33.2**	**-1.8**
MA2	**Magadan**	**46.64**	**3**	P	**P**	**18 21 38.5**	**+1.3**
MA2				IAmb	IAmb	18 22 01.2	
	comp=Z,19nm,1.0s						
SURT	**Suratani**	**46.64**	**270**	P	**P**	**18 21 40.8**	**+2.8**
	comp=Z,1.0nm,1.1s						
MHMT	**Maesarieng**	**46.66**	**283**	P	**P**	**18 21 42.4**	**+4.3**
	comp=Z,821nmcomp=Z,24nm,0.7s						
MHMT	**Maesarieng**	**46.66**	**283**	P	**P**	**18 21 42.4**	**+4.3**
FORT	**Forrest**	**46.87**	**202**	P	**P**	**18 21 40.5**	**+1.0**
GIRL	**Giralia**	**47.25**	**222**	P	**P**	**18 21 43.9**	**+1.3**
ULN	**Ulaanbaatar**	**47.61**	**325**	P	**P**	**18 21 45.4**	**+0.1**
SONM	**Songino Array**	**47.96**	**325**	P	**P**	**18 21 48.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=138,slow=9.4,SNR=13						
SONM				LR	LR	18 42 24.0	
	comp=Z,280nm,19.0s,baz=98,slow=37						
SONM	**Songino Array**	**47.96**	**325**	P	**P**	**18 21 48.3**	**+0.3**
GTA	**Gaotai**	**48.53**	**312**	⇑P	**P**	**18 21 52.3**	**-0.2**
GTA				pP	pP	18 21 56.6	-6.8
GTA				sP	sP	18 21 59.6	-8.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,55nm,5.5s						
GTA				LR	LR		
	comp=Z,130nm,17.4s						
GTA				LR	LR		
	comp=Z,95nm,18.2s						
GTA				LR	LR		
	comp=Z,160nm,17.8s						
GSI	**Gunungsitoli**	**49.49**	**260**	P	**P**	**18 21 58.9**	**-1.2**
GSI				IAmb	IAmb	18 21 59.8	
	comp=Z,24nm,1.1s						
TOO	**Toolangi**	**50.29**	**181**	P	**P**	**18 22 06.2**	**+0.6**
TOO				IAmb	IAmb	18 22 24.3	
	comp=Z,23nm,1.2s						
YAK	**Yakutsk**	**50.40**	**350**	P	**P**	**18 22 03.5**	**-2.6**
YAK				IAmb	IAmb	18 22 07.4	
	comp=Z,24nm,1.0s						
MORW	**Morawa**	**50.94**	**214**	P	**P**	**18 22 10.6**	**-0.1**
PBA	**Port Blair**	**52.14**	**275**	P	P	18 22 19.7	-0.2
LSA	**Lhasa**	**53.40**	**297**	P	**P**	**18 22 30.7**	**+1.0**
LSA				IAmb	IAmb	18 22 35.2	
	comp=Z,8.4nm,0.7s						
NIKH	**Nikolski High**	**53.50**	**32**	P	**P**	**18 22 32.4**	**+3.0**
BILL	**Bilibino**	**56.55**	**9**	P	**P**	**18 22 50.6**	**-0.6**
BILL				IAmb	IAmb	18 23 06.5	
	comp=Z,18nm,1.1s						
WMQ	**Urumqi**	**58.48**	**314**	*e*P	**P**	**18 23 07.9**	**+2.6**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.3s						
KHZ	**Kahutara**	**60.59**	**157**	P	**P**	**18 23 19.1**	**-0.4**
OXZ	**Oxford**	**60.82**	**159**	P	**P**	**18 23 20.9**	**-0.3**
MQZ	**McQueen's Vall**	**61.38**	**158**	P	**P**	**18 23 26.4**	**+1.6**
MK31	**Makanchi Array**	**62.81**	**316**	P	**P**	**18 23 34.5**	**-0.1**
MKAR	**Makanchi Array**	**62.81**	**316**	P	**P**	**18 23 34.4**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=92,slow=8.2,SNR=49						
MKAR				LR	LR	18 52 50.8	
	comp=Z,98nm,18.8s,baz=82,slow=38						
MKAR	**Makanchi Array**	**62.81**	**316**	P	**P**	**18 23 34.1**	**-0.5**
ZAA0	**Zalesovo Array**	**62.86**	**324**	P	**P**	**18 23 33.9**	**-0.9**
ZALV	**Zalesovo Beam**	**62.86**	**324**	P	**P**	**18 23 34.8**	**0.0**
	comp=Z,3.4nm,0.6s,baz=98,slow=6.8,SNR=11						
ZALV				LR	LR	18 52 16.5	
	comp=Z,141nm,19.5s,baz=96,slow=37						
ZALV	**Zalesovo Beam**	**62.86**	**324**	P	**P**	**18 23 33.6**	**-1.1**
MAKZ	**Makanchi**	**63.02**	**316**	P	**P**	**18 23 35.6**	**-0.5**
MAKZ				IAmb	IAmb	18 23 52.9	
	comp=Z,6.8nm,0.8s						
OHAK	**Old Harbor**	**63.38**	**32**	P	**P**	**18 23 39.0**	**+0.8**
SVW2	**Sparrevohn**	**63.62**	**27**	P	**P**	**18 23 39.4**	**-0.4**
SVW2				IAmb	IAmb	18 25 15.0	
	comp=Z,30nm,1.9s						
KDAK	**Kodiak Island**	**63.91**	**32**	P	**P**	**18 23 41.8**	**+0.1**
CNPM	**China Poot**	**65.12**	**30**	P	**P**	**18 23 48.8**	**-0.8**
PPLA	**Purkeypile**	**65.76**	**26**	P	**P**	**18 23 52.9**	**-0.9**
IMAR	**Indian Mountai**	**66.25**	**23**	P	**P**	**18 23 57.2**	**+0.4**
KTH	**Kantishna Hill**	**66.52**	**26**	P	**P**	**18 23 57.9**	**-0.7**
KTH				IAmb	IAmb	18 24 19.0	
	comp=Z,11nm,1.1s						
KSH	**Kashi**	**66.62**	**308**	P	**P**	**18 24 02.1**	**+2.3**
KSH				sP	pP	18 24 11.8	+0.7
KSH				pmax	pmax		
	comp=Z,90nm,4.0s						
KSH				LR	LR		
	comp=Z,100nm,10.7s						
KSH				LR	LR		
	comp=Z,230nm,19.4s						
KSH				LR	LR		
	comp=Z,110nm,10.4s						
BPAW	**Bear Paw Mtn.**	**66.67**	**25**	P	**P**	**18 23 59.9**	**+0.4**
BPAW				IAmb	IAmb	18 24 00.7	
	comp=Z,8.5nm,1.2s						
TRF	**Thorofare Moun**	**66.76**	**26**	P	**P**	**18 23 59.7**	**-0.5**
TRF				IAmb	IAmb	18 26 12.3	
	comp=Z,28nm,1.8s						
BOOM	**Boomskoye usch**	**66.80**	**311**	P	**P**	**18 24 00.7**	**-0.2**
BOOM				IAmb	IAmb	18 24 16.6	
	comp=Z,5.5nm,0.7s						
PWL	**Port Wells**	**66.89**	**29**	P	**P**	**18 24 00.8**	**-0.1**
PWL				IAmb	IAmb	18 24 21.0	
	comp=Z,15nm,0.9s						
MLY	**Manley**	**67.08**	**24**	P	**P**	**18 24 02.3**	**+0.2**
NRIK	**Noril'sk**	**67.12**	**341**	P	**P**	**18 24 00.9**	**-1.3**
	comp=Z,4.4nm,0.6s,baz=113,slow=9.2,SNR=5.6						
NRIK				LR	LR	18 54 17.3	
	comp=Z,131nm,18.5s,baz=128,slow=37						
NRIK	**Noril'sk**	**67.12**	**341**	P	**P**	**18 24 00.9**	**-1.3**
NRIK				IAmb	IAmb	18 24 17.1	
	comp=Z,6.3nm,0.8s						
SML	**Sawmill**	**67.14**	**28**	P	**P**	**18 24 02.7**	**+0.2**
SML				IAmb	IAmb	18 24 03.6	
	comp=Z,13nm,1.0s						
I23K	**Minto, Yukon-K**	**67.67**	**24**	P	**P**	**18 24 06.1**	**+0.3**
FID	**Port Fidalgo**	**67.74**	**29**	P	**P**	**18 24 06.3**	**0.0**
MDM	**Murphy Dome**	**68.08**	**25**	P	**P**	**18 24 08.0**	**-0.3**
RAGM	**Ragged Mountai**	**68.53**	**30**	P	**P**	**18 24 11.5**	**+0.2**
ILAR	**Eielson Array**	**68.57**	**25**	P	**P**	**18 24 10.1**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=211,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	**68.57**	**25**	P	**P**	**18 24 10.5**	**-0.9**
HMT	**Hamilton**	**68.72**	**30**	P	**P**	**18 24 12.2**	**-0.2**
PAX	**Paxson**	**68.73**	**27**	P	**P**	**18 24 11.6**	**-0.9**
TOLK	**Toolik Lake Re**	**68.73**	**21**	P	**P**	**18 24 13.3**	**+0.9**
TOLK				IAmb	IAmb	18 25 19.8	
	comp=Z,33nm,2.0s						
NIL	**Nilore**	**68.78**	**301**	P	**P**	**18 24 13.6**	**+0.2**
SUCK	**Suckling Hills**	**68.91**	**30**	P	**P**	**18 24 15.3**	**+1.7**
GLB	**Gilahina Butte**	**69.16**	**29**	P	**P**	**18 24 13.7**	**-1.5**
GLB				IAmb	IAmb	18 24 22.9	
	comp=Z,28nm,1.7s						
RIDG	**Independent Ri**	**69.18**	**26**	P	**P**	**18 24 14.8**	**-0.5**
RIDG				IAmb	IAmb	18 24 44.7	
	comp=Z,24nm,1.7s						
SCRK	**Sand Creek**	**69.60**	**26**	P	**P**	**18 24 17.6**	**-0.4**
SCRK				IAmb	IAmb	18 24 18.9	
	comp=Z,13nm,1.6s						
ISLE	**Juniper Island**	**69.70**	**30**	P	**P**	**18 24 18.2**	**-0.5**
MESA	**MESA**	**69.83**	**30**	P	**P**	**18 24 19.1**	**-0.4**
BMAR	**Burnt Mountain**	**70.17**	**23**	P	**P**	**18 24 22.1**	**+0.8**
CTGM	**Chitina Glacie**	**70.25**	**30**	P	**P**	**18 24 24.0**	**+2.0**
CTGM				IAmb	IAmb	18 24 42.9	
	comp=Z,8.5nm,0.9s						
TABL	**Table Mountain**	**70.26**	**30**	P	**P**	**18 24 20.6**	**-1.7**
TABL				IAmb	IAmb	18 24 27.9	
	comp=Z,12nm,0.6s						
PPT	**Papeete**	**70.30**	**114**	LR	LR	18 48 58.6	
	comp=Z,126nm,19.9s,baz=294,slow=31						
PPT2	**Papeete2**	**70.31**	**114**	*e*LR	LR	18 45 31.6	
	comp=Z,194nm,23.2s						
L27K	**Beaver Creek,**	**70.37**	**27**	P	**P**	**18 24 22.7**	**+0.1**
L27K				IAmb	IAmb	18 24 27.0	
	comp=Z,12nm,1.6s						
LOGN	**Logan Glacier**	**70.39**	**30**	P	**P**	**18 24 23.4**	**+0.5**
LOGN				IAmb	IAmb	18 25 52.2	
	comp=Z,28nm,1.6s						
BCAR	**Beaver Creek A**	**70.39**	**27**	P	**P**	**18 24 22.1**	**-0.6**
K27K	**Chicken**	**70.44**	**26**	P	**P**	**18 24 23.9**	**+1.0**
K27K				IAmb	IAmb	18 24 25.0	
	comp=Z,10nm,1.4s						
BTK	**Batken**	**70.60**	**308**	P	**P**	**18 24 24.4**	**-0.1**
BTK				IAmb	IAmb	18 26 04.0	
	comp=Z,7.7nm,0.6s						
KK31	**Karatay Array**	**70.81**	**311**	P	**P**	**18 24 25.7**	**+0.1**
KK31				IAmb	IAmb	18 24 27.1	
	comp=Z,10nm,1.1s						
KKAR	**Karatay Array**	**70.81**	**311**	P	**P**	**18 24 25.2**	**-0.5**
KKAR	**Karatay Array**	**70.81**	**311**	P	**P**	**18 24 25.7**	**+0.1**
KKAR				IAmb	IAmb	18 24 27.1	
	comp=Z,10nm,1.1s						
GAR	**Garm**	**71.01**	**307**	P	**P**	**18 24 26.9**	**-0.1**
BRVK	**Borovoye**	**71.25**	**322**	P	**P**	**18 24 28.1**	**0.0**
BRVK				IAmb	IAmb	18 24 30.0	
	comp=Z,19nm,1.4s						
DAWY	**Dawson**	**71.61**	**27**	P	**P**	**18 24 30.8**	**+0.7**
DAWY				IAmb	IAmb	18 25 27.0	
	comp=Z,18nm,1.8s						
MNCI	**Minicoy**	**71.81**	**275**	P	**P**	**18 24 32.0**	**-0.2**
CHGR	**Chuyangaron**	**71.92**	**307**	P	**P**	**18 24 32.5**	**0.0**
HYT	**Haines Junctio**	**72.09**	**30**	P	**P**	**18 24 34.5**	**+1.4**
HYT				IAmb	IAmb	18 24 35.4	
	comp=Z,12nm,1.0s						
KBL	**Kabul**	**72.23**	**302**	P	**P**	**18 24 34.7**	**+0.1**
TBI	**Tubuai**	**72.56**	**120**	*e*LR	LR	18 46 22.3	
	comp=Z,148nm,21.8s						
INK	**Inuvik**	**74.44**	**22**	LR	LR	18 55 09.7	
	comp=Z,216nm,21.9s,baz=150,slow=34						
ABKAR	**Akbulak array**	**77.84**	**318**	P	**P**	**18 25 06.1**	**-0.3**
ARU	**Arti**	**77.99**	**325**	P	**P**	**18 25 06.9**	**-0.1**
ARU				IAmb	IAmb	18 25 07.9	
	comp=Z,11nm,1.0s						
GEYT	**Alibeck**	**80.63**	**307**	P	**P**	**18 25 22.8**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=210,slow=2.1,SNR=6.1						
GEYT				LR	LR	19 02 31.9	
	comp=Z,63nm,21.5s,baz=45,slow=37						
YKA	**Yellowknife Ar**	**82.81**	**28**	P	**P**	**18 25 32.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=284,slow=5.1,SNR=15						
YKA	**Yellowknife Ar**	**82.81**	**28**	P	**P**	**18 25 32.0**	**-0.8**
PINE	**Pine Mountain**	**83.20**	**47**	P	**P**	**18 25 35.6**	**+0.1**
PINE				IAmb	IAmb	18 25 37.8	
	comp=Z,10nm,1.0s						
HAWA	**Hanford**	**83.65**	**44**	P	**P**	**18 25 37.9**	**+0.4**
NEW	**Newport**	**84.83**	**42**	P	**P**	**18 25 43.6**	**+0.1**
NEW				IAmb	IAmb	18 26 14.6	
	comp=Z,7.6nm,1.1s						
BMO	**Blue Mountains**	**85.52**	**45**	P	**P**	**18 25 46.8**	**-0.3**
EDM	**Edmonton**	**85.88**	**36**	P	**P**	**18 25 48.3**	**-0.3**
EDM				IAmb	IAmb	18 25 50.1	
	comp=Z,9.6nm,0.9s						
NVAR	**Mina Array Bea**	**86.30**	**52**	P	**P**	**18 25 52.5**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=263,slow=5.8,SNR=9.1						
WALA	**Waterton Lakes**	**86.69**	**40**	P	**P**	**18 25 53.0**	**+0.2**
WALA				IAmb	IAmb	18 25 55.1	
	comp=Z,9.4nm,1.1s						
MFID	**Camas Ranch**	**86.90**	**46**	P	**P**	**18 25 54.7**	**+0.8**
MFID				IAmb	IAmb	18 25 56.0	
	comp=Z,7.9nm,1.1s						
HLID	**Hailey**	**87.86**	**46**	P	**P**	**18 25 59.4**	**+0.7**
HLID				IAmb	IAmb	18 26 00.6	
	comp=Z,5.0nm,1.1s						
ELK	**Elko**	**88.02**	**49**	P	**P**	**18 26 00.3**	**+0.7**
ELK				IAmb	IAmb	18 26 01.7	
	comp=Z,6.7nm,1.0s						
ARCES	**ARCESS Array B**	**88.05**	**342**	P	**P**	**18 25 58.3**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=57,slow=7.4,SNR=5.6						
ARCES				LR	LR	19 09 08.5	
	comp=Z,100nm,19.6s,baz=55,slow=38						
TPNV	**Topopah Spring**	**88.24**	**53**	P	**P**	**18 26 01.6**	**+1.0**
TPNV				IAmb	IAmb	18 26 10.9	
	comp=Z,5.4nm,1.1s						
MCMT	**McKenzie Canyo**	**88.58**	**44**	P	**P**	**18 26 02.5**	**+0.3**
HRY	**Holter Researc**	**88.71**	**42**	P	**P**	**18 26 02.7**	**+0.1**
SPR3	**Spring Creek 3**	**89.16**	**50**	P	**P**	**18 26 05.7**	**+0.6**
BOZ	**Bozeman (W)**	**89.18**	**43**	P	**P**	**18 26 05.0**	**+0.2**
PSUT	**Pine Spring**	**89.65**	**51**	P	**P**	**18 26 07.8**	**+0.6**
DUG	**Dugway, Tooele**	**89.95**	**49**	P	**P**	**18 26 08.7**	**+0.1**
DUG				IAmb	IAmb	18 26 10.6	
	comp=Z,6.3nm,1.1s						
YHH	**Holmes Hill**	**89.95**	**44**	P	**P**	**18 26 09.5**	**+0.8**
IMW	**Indian Meadow**	**90.17**	**45**	P	**P**	**18 26 09.8**	**+0.1**
HWUT	**Hardware Ranch**	**90.43**	**47**	P	**P**	**18 26 10.8**	**0.0**
HWUT				IAmb	IAmb	18 26 12.6	
	comp=Z,5.5nm,1.0s						
KBZ	**Khabaz**	**90.49**	**315**	P	**P**	**18 26 12.9**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=179,slow=5.1,SNR=3.8						
KBZ				LR	LR	19 10 58.3	
	comp=Z,62nm,18.5s,baz=48,slow=38						
VNDA	**Vanda**	**90.78**	**177**	LR	LR	19 04 02.8	
	comp=Z,21nm,20.5s,baz=0.5,slow=34						
KNB	**Kanab**	**90.87**	**52**	P	**P**	**18 26 12.7**	**-0.2**
KNB				IAmb	IAmb	18 26 15.7	
	comp=Z,6.5nm,1.1s						
U15A	**North Rim**	**91.44**	**52**	P	**P**	**18 26 16.2**	**+0.4**
PDAR	**Pinedale Array**	**91.48**	**46**	P	**P**	**18 26 16.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=1.8,SNR=3.9						
PDAR				LR	LR	18 59 57.8	
	comp=Z,62nm,20.5s,baz=264,slow=31						
FINES	**FINESS Array B**	**92.24**	**335**	P	**P**	**18 26 17.0**	**-1.5**
	comp=Z,4.6nm,0.7s,baz=75,slow=4.9,SNR=20						
FINES				LR	LR	19 09 29.6	
	comp=Z,60nm,18.7s,baz=68,slow=37						
LAO	**LASA Array**	**92.35**	**41**	P	**P**	**18 26 19.8**	**+0.3**
AKASG	**Malin Array Be**	**96.24**	**325**	P	**P**	**18 26 36.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=54,slow=3.7,SNR=1.9						
AKASG				LR	LR	19 12 45.4	
	comp=Z,214nm,19.5s,baz=55,slow=37						
ULM	**Lac du Bonnet**	**97.02**	**35**	LR	LR	19 03 03.1	
	comp=Z,66nm,21.4s,baz=293,slow=31						
NOA	**NORSAR Array B**	**98.06**	**340**	P	**P**	**18 26 44.2**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=101,slow=2.6,SNR=2.4						
NOA				LR	LR	19 13 54.1	
	comp=Z,83nm,20.3s,baz=30,slow=37						
BRTR	**Keskin Array B**	**98.40**	**314**	LR	LR	19 17 26.2	
	comp=Z,32nm,18.4s,baz=62,slow=39						
MAW	**Mawson**	**99.36**	**203**	LR	LR	19 10 09.5	
	comp=Z,41nm,19.9s,baz=50,slow=34						
TORD	**Torodi Ar. Bea**	**136.25**	**305**	PKP	**PKiKP**	**18 32 32.3**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=27,slow=3.6,SNR=3.3						
KIC	**Kosan Boka**	**145.30**	**302**	*e*PKIKP	**PKPdf**	**18 32 48.4**	**+0.9**
	comp=Z,31nm,0.9s						
TIC	**Toumodi**	**145.37**	**303**	*e*PKIKP	**PKPab**	**18 32 48.2**	**+0.5**
LIC	**Lamto**	**145.61**	**302**	*e*PKIKP	**PKPab**	**18 32 48.4**	**-0.1**
	comp=Z,64nm,1.2s						
LPAZ	**La Paz**	**146.67**	**100**	PKPbc	**PKPbc**	**18 32 51.5**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=358,slow=4.2,SNR=7.2						
LPAZ	**La Paz**	**146.67**	**100**		**PKPbc**	**18 32 52.0**	**-0.1**

IDC 24 18:20:21.4±3.1, 27°.65N×86°.52E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, Error ellipse: s-maj=206.6km s-min=27.2km az=61.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.40**	**351**	P	Pn	18 24 50.4	+0.2
	baz=166,slow=7.5,SNR=1.2						
ARCES	**ARCESS Array B**	**54.32**	**338**	P	P	18 29 48.5	-0.8
	1.4nm,0.9s,baz=92,slow=7.3,SNR=1.6						
WRA	**Warramunga Arr**	**66.18**	**130**	P	P	18 31 11.1	0.0
	0.4nm,1.0s,baz=324,slow=6.6,SNR=6.7						
ASAR	**Alice Springs**	**68.50**	**134**	P	P	18 31 26.0	+0.1
	0.2nm,0.8s,baz=327,slow=6.6,SNR=4.3						

*IDC **24** 18:34:14.4±0.7, 13°.10N×146°.25E, h0km, mb4.0/15, mb1 4.2/15, mb1mx4.0/39, mbtmp4.0/15, MS3.5/4, Ms1 3.5/4, ms1mx2.9/47, Error ellipse: s-maj=18.9km s-min=16.0km az=96.0*

*NEIC **24** 18:34:15.7±2.1, 13°.10N±0°.10×146°.23E±0°.09, h4km±5km, mb4.4/23, Error ellipse: s-maj=14.3km s-min=12.0km az=206.0*

ISC 24 18:34:16.0±0.5, 13°.16N±0°.09×146°.26E±0°.07, h10km, n48, σ1§33/44, mb4.3/26, MS3.5/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.42**	**288**	Pn	**Pn**	**18 34 41.7**	**-0.3**
	91nm,0.3s,baz=133,slow=7.1,SNR=83						
GUMO				Sn	**Sg**	**18 35 01.0**	**-0.9**
	174nm,0.3s,baz=229,slow=20,SNR=7.2						
GUMO				LR	LR	18 35 32.2	
	comp=Z,442nm,20.2s,baz=156,slow=54						
PATS	**Pohnpei**	**13.42**	**117**	Pn	**Pn**	**18 37 24.2**	**-2.5**
JMZ	**Minamidaito 2**	**18.94**	**314**	P	**P**	**18 38 34.0**	**-3.3**
SIJI	**Sorong**	**20.38**	**228**	P	Pn	18 38 54.0	-1.3
	27nm,0.9s,baz=53,slow=9.2,SNR=11						
FAKI	**Fak Fak**	**21.18**	**222**	P	**P**	**18 39 05.9**	**+4.0**
PMG	**Port Moresby**	**22.44**	**178**	P	**P**	**18 39 16.2**	**+0.9**
JWT	**Wachi**	**24.11**	**338**	P	**P**	**18 39 31.0**	**-1.1**
JWT				IAmb	IAmb	18 39 37.1	
	comp=Z,14nm,1.3s						
MJAR	**Matsushiro Arr**	**24.38**	**344**	LR	LR	18 47 31.9	
	comp=Z,88nm,21.9s,baz=210,slow=33						
JHS	**Saijyo**	**24.78**	**334**	P	**P**	**18 39 38.8**	**+0.6**
HNR	**Honiara**	**26.24**	**148**	LR	LR	18 49 22.8	
	comp=Z,91nm,21.3s,baz=312,slow=35						
KSRS	**Korea Array**	**29.21**	**329**	P	**P**	**18 40 18.9**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=316,slow=13,SNR=3.1						
WB0	**Warramunga Arr**	**34.74**	**200**	P	**P**	**18 41 04.9**	**-1.7**
WB0				IAmb	IAmb	18 41 21.4	
	comp=Z,7.1nm,1.4s						
WR0	**Warramunga Arr**	**34.87**	**200**	P	**P**	**18 41 06.3**	**-1.5**
WR0				IAmb	IAmb	18 41 38.2	
	comp=Z,5.5nm,1.2s						
WB2	**Warramunga Arr**	**34.92**	**200**	P	**P**	**18 41 06.8**	**-1.4**
WB2				IAmb	IAmb	18 41 32.0	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**34.92**	**200**	P	**P**	**18 41 06.5**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=22,slow=9.8,SNR=12						
WRA				PcP	**PcP**	**18 43 41.0**	**0.0**
	comp=Z,0.7nm,0.7s

109nm,0.3s,baz=220,slow=22,SNR=7.9
PATS Pohnpei 13.38 116 Pn Pn 18 51 58.3 -3.1
SIJI Sorong 20.26 228 P P 18 53 27.5 +0.3
7.7nm,0.9s,baz=7.5,slow=24,SNR=2.1
FAKI Fak Fak 21.05 222 P P 18 53 35.8 +0.1
FAKI IAmb IAmb 18 54 07.7
comp=Z,52nm,1.3s
JWT Wachi 24.24 338 P P 18 54 08.4 -0.1
JWT IAmb IAmb 18 54 52.2
comp=Z,12nm,1.2s
JNU Nakatsue 24.44 328 P P 18 54 11.0 +0.6
comp=Z,5.6nm,1.0s,baz=24,slow=2.8,SNR=2.1
JNU Nakatsue 24.44 328 IAmb IAmb 18 54 12.0
comp=Z,27nm,1.4s
MJAR Matsushiro Arr 24.52 344 LR LR 19 03 28.3
comp=Z,49nm,18.1s,baz=170,slow=36
JHS Saijyo 24.91 334 P **P 18 54 13.5 -1.1**
YULB Yu-li 25.80 297 P **P 18 54 20.6 -2.2**
YULB IAmb IAmb 18 54 46.5
comp=Z,14nm,1.2s
JSD Sado 25.92 345 P **P 18 54 23.6 -0.1**
SSLB Suanglung 26.23 298 P **P 18 54 27.2 +0.5**
KSRS Korea Array 29.33 329 P **P 18 54 54.3 +0.1**
comp=Z,0.7nm,0.6s,baz=148,slow=8.6,SNR=2.7
SOEI Soe 31.42 225 P **P 18 55 14.8 +1.7**
WB0 Warramunga Arr 34.59 200 P **P 18 55 40.2 -0.4**
WB0 IAmb IAmb 18 56 18.9
comp=Z,8.9nm,1.6s
WR0 Warramunga Arr 34.72 200 P **P 18 55 41.4 -0.3**
WB2 Warramunga Arr 34.77 200 P **P 18 55 41.9 -0.3**
WB2 IAmb IAmb 18 56 01.6
comp=Z,17nm,1.6s
WRA Warramunga Arr 34.77 200 P **P 18 55 42.0 -0.2**
comp=Z,1.0nm,0.7s,baz=22,slow=9.5,SNR=10
WRA PcP **PcP 18 58 16.4 +0.6**
comp=Z,0.3nm,0.7s,baz=12,slow=3.2,SNR=1.8
KLR Kul'dur 38.05 345 LR LR 19 10 49.9
comp=Z,37nm,18.6s,baz=156,slow=35
ASAR Alice Springs 38.39 198 P **P 18 56 13.3 +0.2**
comp=Z,0.5nm,0.7s,baz=23,slow=10,SNR=7.5
CMAR Chiang Mai Arr 45.74 283 P **P 18 57 13.7 +0.4**
comp=Z,1.2nm,0.6s,baz=87,slow=6.3,SNR=9.1
CMAR Chiang Mai Arr 45.74 283 P **P 18 57 12.5 -0.7**
BBOO Buckleboo 46.59 192 P **P 18 57 19.6 +0.1**
SONM Songino Array 47.97 324 P **P 18 57 31.1 +0.7**
comp=Z,0.4nm,0.5s,baz=134,slow=6.9,SNR=3.3
SEY Seymchan 50.04 4 P **P 18 57 44.7 -1.2**
comp=Z,0.5nm,0.4s,baz=143,slow=20,SNR=2.0
LSA Lhasa 53.44 297 P **P 18 58 13.4 +1.0**
LSA IAmb IAmb 18 58 28.9
comp=Z,3.5nm,0.7s
MK31 Makanchi Array 62.83 316 P **P 18 59 16.8 -0.5**
MKAR Makanchi Array 62.83 316 P **P 18 59 17.9 +0.6**
comp=Z,1.6nm,0.6s,baz=91,slow=8.5,SNR=21
ZALV Zalesovo Beam 62.87 324 P **P 18 59 17.8 +0.3**
comp=Z,0.8nm,0.7s,baz=35,slow=5.4,SNR=3.9
MAKZ Makanchi 63.04 316 P **P 18 59 19.1 +0.3**
MAKZ IAmb IAmb 18 59 20.6
comp=Z,2.6nm,0.7s
CNPM China Poot 65.06 30 P **P 18 59 32.8 +0.9**
KURK Kurchatov 65.88 320 P **P 18 59 38.2 +0.9**
KURBB Kurchatov Arra 65.92 320 P **P 18 59 38.2 +0.7**
comp=Z,1.7nm,0.5s,baz=100,slow=6.7,SNR=21
BOOM Boomskoye usch 66.82 311 P **P 18 59 44.7 +1.0**
BOOM IAmb IAmb 19 00 00.0
comp=Z,3.5nm,0.8s
MLY Manley 67.03 24 P **P 18 59 46.2 +1.7**
KAIM Kayak Island 68.51 30 P **P 18 59 54.0 +0.3**
ILAR Eielson Array 68.52 25 P **P 18 59 54.0 +0.3**
comp=Z,0.4nm,0.4s,baz=262,slow=6.2,SNR=4.7
NIL Nilore 68.82 301 P **P 18 59 53.8 -2.5**
BMAR Burnt Mountain 70.12 23 P **P 19 00 05.2 +1.5**
TABL Table Mountain 70.21 30 P **P 19 00 05.5 +0.9**
KK31 Karatay Array 70.83 311 P **P 19 00 09.4 +1.0**
KK31 IAmb IAmb 19 00 52.9
comp=Z,5.7nm,1.6s
KKAR Karatay Array 70.83 311 P **P 19 00 09.3 +0.8**
KKAR Karatay Array 70.83 311 P **P 19 00 09.2 +0.7**
KKAR IAmb IAmb 19 00 52.9
comp=Z,5.7nm,1.6s
BVAR Borovoye Array 71.20 322 P **P 19 00 10.1 -0.4**
comp=Z,1.5nm,0.5s,baz=170,slow=10,SNR=14
BRVK Borovoye 71.27 322 P **P 19 00 11.6 +0.7**
BRVK IAmb IAmb 19 00 26.3
comp=Z,3.3nm,0.7s
HYT Haines Junctio 72.04 30 P **P 19 00 17.6 +2.1**
HYT IAmb IAmb 19 00 31.9
comp=Z,4.7nm,0.7s
ABKAR Akbulak array 77.86 318 P **P 19 00 49.3 0.0**
ABKAR Akbulak array 77.86 318 P **P 19 00 49.1 -0.2**
ABKAR IAmb IAmb 19 01 16.4
comp=Z,2.7nm,1.1s
GEYT Alibeck 80.66 307 P **P 19 01 05.7 +0.8**
comp=Z,7.4nm,0.6s,baz=259,slow=31,SNR=2.2
YKA Yellowknife Ar 82.76 28 P **P 19 01 15.6 +0.3**
comp=Z,0.4nm,0.7s,baz=283,slow=4.9,SNR=4.2
PINE Pine Mountain 83.14 47 P **P 19 01 19.0 +1.0**
PINE IAmb IAmb 19 01 34.5
comp=Z,5.8nm,1.1s
NVAR Mina Array Bea 86.24 52 P **P 19 01 35.7 +1.9**
comp=Z,0.4nm,0.6s,baz=274,slow=5.4,SNR=3.9
ELK Elko 87.96 49 P **P 19 01 43.6 +1.5**
comp=Z,0.6nm,0.6s,baz=23,slow=2.8,SNR=3.7
ELK Elko 87.96 49 IAmb IAmb 19 01 57.8
comp=Z,2.3nm,0.9s
FINES FINESS Array B 92.24 335 P **P 19 01 59.6 -1.7**
comp=Z,1.0nm,0.5s,baz=59,slow=5.5,SNR=11
LPAZ La Paz 146.62 100 PKPbc **PKPdf 19 08 34.2 +0.7**
comp=Z,0.6nm,0.4s,baz=285,slow=6.2,SNR=2.7

*IDC **24** 19:02:39.7±1.9, 43°.75N×105°.49W, h0km, mb3.9/2, mb1 3.7/7, mb1mx3.4/52, mbtmp3.5/7, ML3.0/4, Error ellipse: s-maj=58.0km s-min=8.8km az=149.0*
*NEIC **24** 19:02:40.4±2.2, 43°.85N±0°.05×105°.32W±0°.04, h0km±1km, ML3.3/54, Error ellipse: s-maj=9.1km s-min=4.5km az=160.0*
ISC 24 19:02:39.7±0.8,**43°.80N**±0°.05×**105°.29W**±0°.07,**h0km,n66,** σ1§**08**/65,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**70**		**Pb**	**19 02 58.8**	**-0.6**
K22A	**Casper**	**1.46**	**219**		**Pn**	**19 03 06.5**	**-1.0**
PHWY	**Pilot Hill**	**2.50**	**183**		**Pn**	**19 03 23.1**	**+1.2**
RWWY	**Rawlins**	**2.54**	**214**		**Pn**	**19 03 24.2**	**+1.8**
RWWY				IAML		19 04 01.8	
158nm,0.5s							
RWWY				IAML		19 04 02.1	
199nm,0.3s							
LAO	**LASA Array**	**2.96**	**347**		**Pn**	**19 03 29.3**	**+1.3**
LAO				IAML		19 04 26.1	
150nm,0.7s							
RLMT	**Red Lodge**	**3.14**	**296**		**Pn**	**19 03 31.8**	**+1.2**
RLMT				IAML		19 04 21.3	
90nm,0.3s							
RLMT				IAML		19 04 30.4	
85nm,0.3s							
BW06	**Boulder Array**	**3.28**	**253**		**Pn**	**19 03 33.9**	**+1.3**
BW06				IAML		19 04 21.6	
61nm,0.3s							
BW06				IAML		19 04 28.9	
67nm,0.3s							
PD31	**Pinedale Array**	**3.28**	**253**		**Pn**	**19 03 33.8**	**+1.2**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**19 03 33.4**	**+0.8**
6.5nm,0.3s,baz=69,slow=16,SNR=99							
PDAR				Lg	Lg	19 04 17.6	
28nm,0.3s,baz=69,slow=30,SNR=8.0							
PDAR	**Pinedale Array**	**3.28**	**253**		**Pn**	**19 03 33.0**	**+0.5**
YNE	**Yellowstone No**	**3.59**	**291**		**Pn**	**19 03 37.5**	**+0.6**
YNE				IAML		19 04 38.1	
comp=N,95nm,0.3s							
YMP	**Mirror Lake Pl**	**3.62**	**287**		**Pn**	**19 03 38.3**	**+1.1**
GCMT	**Greycliff**	**3.70**	**304**		**Pn**	**19 03 39.4**	**+1.2**
OGNE	**Ogallala**	**3.74**	**139**		**Pn**	**19 03 40.8**	**+2.1**
OGNE				IAML		19 04 44.8	
comp=N,78nm,1.6s							
LKWY	**Lake**	**3.75**	**284**	Pn	**Pn**	**19 03 39.9**	**+0.8**
LKWY				IAML		19 04 07.9	
comp=N,72nm,0.5s							
LKWY				IAML		19 05 57.0	
comp=N,50nm,0.6s							
LOHW	**Long Hollow**	**3.86**	**269**		**Pn**	**19 03 42.3**	**+1.8**
FLWY	**Flagg Ranch**	**3.92**	**276**		**Pn**	**19 03 42.6**	**+1.4**
FLWY				IAML		19 04 50.1	
comp=N,66nm,2.4s							
FLWY				IAML		19 04 57.2	
comp=N,42nm,1.8s							
SNOW	**Snow King Moun**	**3.98**	**267**		**Pn**	**19 03 42.5**	**+0.3**
SNOW				IAML		19 05 01.3	
comp=N,45nm,1.9s							
SNOW				IAML		19 05 07.6	
comp=N,37nm,1.3s							
YPP	**Pitchstone Pla**	**4.00**	**279**		**Pn**	**19 03 43.3**	**+0.7**
ISCO	**Idaho Springs**	**4.00**	**184**		**Pn**	**19 03 44.0**	**+1.4**
REDW	**Red Top Meadow**	**4.06**	**266**		**Pn**	**19 03 44.2**	**+0.8**
REDW				IAML		19 04 56.2	
comp=N,48nm,1.3s							
REDW				IAML		19 05 02.4	
comp=N,41nm,1.7s							
IMW	**Indian Meadow**	**4.09**	**273**		**Pn**	**19 03 45.9**	**+2.3**
IMW				IAML		19 04 15.8	
comp=N,28nm,0.6s							
YHH	**Holmes Hill**	**4.11**	**286**		**Pn**	**19 03 45.0**	**+1.0**
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**19 03 45.3**	**+1.2**
TPAW				IAML		19 05 13.8	
comp=N,27nm,1.0s							
YMR	**Madison River**	**4.17**	**284**		Pn	19 03 40.5	-4.3
YMR				IAML		19 04 28.8	
comp=E,44nm,0.4s							
YMR				IAML		19 05 48.4	
comp=N,34nm,1.6s							
O20A	**White River Ci**	**4.27**	**212**		**Pn**	**19 03 47.6**	**+1.4**
O20A				IAML		19 04 55.3	
comp=E,40nm,0.3s							
O20A				IAML		19 05 10.9	
comp=N,51nm,1.9s							
E28A	**Huff**	**4.27**	**48**		**Pn**	**19 03 47.2**	**+1.2**
RDMU	**Red Mountain**	**4.53**	**226**		**Pn**	**19 03 51.9**	**+2.2**
RDMU				IAML		19 05 04.3	
comp=N,21nm,1.5s							
RDMU				IAML		19 05 05.8	
comp=E,34nm,1.1s							
BOZ	**Bozeman (W)**	**4.86**	**294**		**Pn**	**19 03 54.8**	**+0.6**
BOZ				IAML		19 05 20.8	
comp=E,17nm,0.7s							
HWUT	**Hardware Ranch**	**5.12**	**247**		**Pn**	**19 03 58.7**	**+1.0**
HWUT				IAML		19 05 26.6	
comp=E,22nm,1.1s							
HWUT				IAML		19 05 33.0	
comp=E,21nm,1.4s							
KSCO	**Kaye Shedlock'**	**5.19**	**156**		**Pn**	**19 04 00.2**	**+1.5**
EGMT	**Eagleton**	**5.25**	**325**		**Pn**	**19 03 58.8**	**-0.6**
DLMT	**Dillon**	**5.45**	**289**		**Pn**	**19 04 02.5**	**+0.3**
HRY	**Holter Researc**	**5.46**	**305**		**Pn**	**19 04 02.6**	**+0.2**
LRM	**Limekiln Ridge**	**5.48**	**294**		**Pn**	**19 04 02.8**	**0.0**
MCMT	**McKenzie Canyo**	**5.52**	**283**		**Pn**	**19 04 06.7**	**+3.3**
MDND	**Maddock**	**5.67**	**42**		**Pn**	**19 04 06.0**	**+0.7**
SPUT	**South Promonto**	**5.84**	**247**		**Pn**	**19 04 08.3**	**+0.7**
PV22	**Blue Mesa, Par**	**5.88**	**208**		**Pn**	**19 04 08.7**	**+0.4**
PV07	**Paradox Valley**	**5.92**	**206**		**Pn**	**19 04 08.7**	**-0.2**
P17A	**Butcher Ranch,**	**5.95**	**225**		**Pn**	**19 04 09.0**	**-0.1**
PV15	**Paradox Valley**	**5.96**	**205**		**Pn**	**19 04 09.0**	**-0.4**
PV04	**Paradox Valley**	**6.05**	**208**		**Pn**	**19 04 09.3**	**-1.2**
MPU	**Maple Canyon**	**6.06**	**234**		**Pn**	**19 04 09.6**	**-1.0**
PV12	**Saucer Basin,**	**6.08**	**207**		**Pn**	**19 04 10.7**	**-0.4**
PV14	**Lion Creek, Pa**	**6.11**	**209**		**Pn**	**19 04 11.4**	**0.0**
SRU	**San Rafael Swe**	**6.11**	**222**		**Pn**	**19 04 11.7**	**+0.3**
PV11	**David Mesa, Pa**	**6.12**	**207**		**Pn**	**19 04 11.3**	**-0.3**
PV16	**Nyswonger Mesa**	**6.13**	**208**		**Pn**	**19 04 11.8**	**+0.2**
PV03	**Paradox Valley**	**6.16**	**207**		**Pn**	**19 04 12.6**	**+0.5**
PV02	**Paradox Valley**	**6.16**	**206**		**Pn**	**19 04 12.8**	**+0.6**
PV01	**Paradox Valley**	**6.18**	**205**		**Pn**	**19 04 13.3**	**+0.9**
PV18	**Skein Mesa, Pa**	**6.18**	**207**	Pn	**Pn**	**19 04 12.5**	**+0.1**
PV13	**Radium Mtn., P**	**6.24**	**207**		**Pn**	**19 04 13.4**	**+0.3**
TMUT	**Trail Mountain**	**6.32**	**227**		**Pn**	**19 04 14.2**	**-0.2**
MSU	**Marysvale**	**7.41**	**227**		**Pn**	**19 04 29.4**	**+0.1**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**19 04 36.9**	**-0.3**
comp=E,0.3nm,0.3s,baz=106,slow=4.8,SNR=3.5							
ULM	**Lac du Bonnet**	**9.11**	**42**	Pn	**Pn**	**19 04 52.3**	**0.0**
comp=E,1.4nm,0.3s,baz=235,slow=12,SNR=8.0							
ULM	**Lac du Bonnet**	**9.11**	**42**		**Pn**	**19 04 52.0**	**-0.2**
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**19 05 23.0**	**+2.0**
comp=E,0.1nm,0.3s,baz=48,slow=11,SNR=3.8							
NVAR	**Mina Array Bea**	**11.18**	**246**		**Pn**	**19 05 21.1**	**+0.2**
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**19 07 08.6**	**+0.5**
comp=E,0.1nm,0.3s,baz=155,slow=8.9,SNR=2.1							
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**P**	**19 07 07.2**	**-0.9**
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 12 56.5**	**-0.3**
comp=E,1.2nm,0.8s,baz=331,slow=7.0,SNR=5.4							
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 12 56.2**	**-0.6**
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**19 15 38.9**	**+0.1**
comp=E,0.4nm,0.6s,baz=2.0,slow=4.7,SNR=5.0							

IDC 24 19:07:26.2±1.5,**14°.08N**×**145°.70E, h0**km,**mb3.6/6, mb1 3.7/6, mb1mx3.4/51, mbtmp3.6/6, Error ellipse: s-maj=35.7km s-min=18.5km az=110.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.94**	**239**	Pn	Pn	19 07 46.4	-0.3
51nm,0.3s,baz=120,slow=6.2,SNR=38							
GUMO				Sn	Sn	19 08 02.7	+1.9
112nm,0.3s,baz=166,slow=23,SNR=8.5							
WRA	**Warramunga Arr**	**35.61**	**199**	P	P	19 14 25.6	-0.2
0.6nm,0.6s,baz=18,slow=9.5,SNR=7.6							
ASAR	**Alice Springs**	**39.24**	**197**	P	P	19 14 56.6	-0.1
0.1nm,0.5s,baz=17,slow=6.8,SNR=1.6							
ZALV	**Zalesovo Beam**	**61.70**	**324**	P	P	19 17 46.9	+0.8
0.6nm,0.6s,baz=115,slow=6.8,SNR=2.7							
MKAR	**Makanchi Array**	**61.70**	**316**	P	P	19 17 46.7	+0.3
0.3nm,0.3s,baz=103,slow=6.5,SNR=5.9							
KURBB	**Kurchatov Arra**	**64.78**	**320**	P	P	19 18 06.6	0.0
0.5nm,0.5s,baz=100,slow=6.1,SNR=7.5							
BVAR	**Borovoye Array**	**70.05**	**322**	P	P	19 18 39.2	-0.8
0.8nm,0.6s,baz=68,slow=19,SNR=6.1							

*MOS **24** 19:09:06.6±0.8, 10°.14S×161°.39E, h60km, mb5.1/12, Error ellipse: s-maj=9.6km s-min=7.4km az=94.4*
*BJI **24** 19:09:07.5±0.0, 10°.20S×161°.60E, h75km, mB4.9/39, mb4.9/53, Ms5.2/28, Ms7 5.0/28*
*IDC **24** 19:09:09.4±0.6, 10°.26S×161°.57E, h76km±4km, mb4.5/21, mb1 4.5/23, mb1mx4.4/35, mbtmp4.8/23, MS3.8/11, Ms1 3.8/11, ms1mx3.6/27, Error ellipse: s-maj=12.1km s-min=7.7km az=27.0*
*GCMT **24** 19:09:10.8±0.3, 10°.21S±0°.02×161°.58E±0°.02, h75km±4km, MW4.9/72, Moment Tensor Solution. s26,c27; s72,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.33±.17; Mθθ~0.33±.15; Mφφ0.65±.16; Mrθ0.90±.10; Mθφ2.49±.11; Mφr~1.57±.09; Best double couple: Mo3.10100×10^16 NP1:φs260.00000°, δ59.00000°, λ-13.00000°. NP2: φs357.00000°, δ79.00000°, λ-148.00000°. Principal axes: T 2.8610, Plg14.0000°, Azm125.0000°; N 0.4810, Plg57.0000°, Azm13.0000°; P -3.3420, Plg30.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 19:09:10.8±1.6, 10°.28S±0°.07×161°.59E±0°.07, h81km±6km, mb5.1/189 Error ellipse: s-maj=12.4km s-min=7.9km az=221.0*
ISC 24 19:09:10.1±0.4,**10°.36S**±0°.04×**161°.55E**±0°.04,**h81**km±3km, **h80**km:**pP-P,n520,** σ1§**29**/526,**mb5.0**/143,**9C-1D, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**300**	P	**Pn**	**19 09 39.9**	**+0.2**
1μm,0.3s,baz=176,slow=1.7,SNR=342							
HNR				S	**Sn**	**19 10 01.3**	**-0.9**
5μm,0.3s,baz=211,slow=3.1,SNR=19							
HNR	**Honiara**	**1.82**	**300**		**Pn**	**19 09 39.8**	**+0.1**
HNR				Sn	**Sn**	**19 10 03.5**	**+1.4**
HNR	**Honiara**	**1.82**	**300**	P	**Pn**	**19 09 40.5**	**+0.8**
SANVU	**Saraoutou**	**7.48**	**133**	Pn	**Pn**	**19 10 57.4**	**+0.8**
SANVU				Sn	**Sn**	**19 12 17.6**	**-2.4**
SANVU	**Saraoutou**	**7.48**	**133**	P	**Pn**	**19 10 57.9**	**+1.3**
KOUNC	**Koumac, New Ca**	**10.47**	**166**	P	**Pn**	**19 11 40.9**	**+3.5**
RABL	**Rabaul**	**11.14**	**303**	Pn	**Pn**	**19 11 48.5**	**+1.9**
RABL	**Rabaul**	**11.14**	**303**	P	**Pn**	**19 11 48.1**	**+1.6**
LIFNC	**LIFOU**	**11.72**	**153**	Pn	**Pn**	**19 11 54.8**	**+0.5**
LIFNC	**LIFOU**	**11.72**	**153**	P	**Pn**	**19 11 57.1**	**+2.7**
NOUC	**Port Laguerre**	**12.54**	**159**	P	**Pn**	**19 12 08.9**	**+3.5**
DZM	**Mont Dzumac**	**12.56**	**159**	P	**Pn**	**19 12 08.1**	**+2.2**
2.1nm,0.3s,baz=76,slow=4.5,SNR=49							
DZM				S	**Sn**	**19 14 20.6**	**-3.3**
0.5nm,0.3s,baz=159,slow=16,SNR=1.6							
DZM				LR	LR	19 16 17.0	
comp=Z,439nm,20.5s,baz=2.5,slow=34							
DZM	**Mont Dzumac**	**12.56**	**159**	*e*Pn	**Pn**	**19 12 08.5**	**+2.7**
37nm,0.4s							
DZM				*e*Sn	**Sn**	**19 14 20.7**	**-3.3**
30nm,0.6s							
DZM				*e*LR	LR	19 15 03.5	
comp=Z,668nm,23.0s							
DZM	**Mont Dzumac**	**12.56**	**159**		**Pn**	**19 12 08.5**	**+2.7**
DZM	**Mont Dzumac**	**12.56**	**159**	P	**Pn**	**19 12 09.6**	**+3.8**
MARNC	**Mare, Loyalty**	**12.69**	**151**	Pn	**Pn**	**19 12 08.7**	**+1.2**
MARNC	**Mare, Loyalty**	**12.69**	**151**	P	**Pn**	**19 12 09.3**	**+1.8**
YATNC	**Mamie plateau,**	**12.72**	**157**	P	**Pn**	**19 12 10.9**	**+3.0**
ONTNC	**Ouen Toro**	**12.78**	**159**	Pn	**P**	**19 12 12.7**	**-3.9**
ONTNC	**Ouen Toro**	**12.78**	**159**	P	**P**	**19 12 13.6**	**-3.0**
OUENC	**Ouen Island, N**	**13.02**	**158**	Pn	**Pn**	**19 12 13.2**	**+1.3**
PINNC	**Pines Island,**	**13.43**	**156**	Pn	**P**	**19 12 21.3**	**-2.5**
PMG	**Port Moresby**	**14.21**	**273**	P	**Pn**	**19 12 28.5**	**+0.9**
0.2nm,0.3s,baz=48,slow=16,SNR=1.8							
PMG	**Port Moresby**	**14.21**	**273**	*i* P	**Pn**	**19 12 24.2**	**-3.4**
PMG				pmax	pmax		
comp=Z,62nm,1.2s							
PMG	**Port Moresby**	**14.21**	**273**	P	**P**	**19 12 33.2**	**+0.7**
TARA	**Tarawa**	**16.23**	**45**	P	**Pn**	**19 12 52.9**	**-0.4**
TARA	**Tarawa**	**16.23**	**45**	P	**P**	**19 12 54.7**	**-0.3**
MANU	**Manus Island**	**16.33**	**299**	P	**P**	**19 12 55.7**	**-0.4**
PATS	**Pohnpei**	**17.38**	**349**	P	**Pn**	**19 13 06.0**	**-1.5**
baz=17,SNR=11							
PATS				S	Sn	19 16 04.0	-17
baz=17							
PATS	**Pohnpei**	**17.38**	**349**	P	**Pn**	**19 13 05.2**	**-2.3**
PATS				IAmb	IAmb	19 13 10.3	
comp=Z,170nm,0.8s							
MSVF	**Nonsavu**	**17.60**	**116**	P	**Pn**	**19 13 11.8**	**+1.5**
comp=Z,0.5nm,0.3s,baz=306,slow=7.8,SNR=5.4							
MSVF	**Nonsavu**	**17.60**	**116**	P	**Pn**	**19 13 11.9**	**+1.6**
MSVF				pmax	pmax		
comp=Z,70nm,1.4s							
MSVF	**Nonsavu**	**17.60**	**116**	P	**Pn**	**19 13 11.9**	**+1.6**
CTA	**Charters Tower**	**17.63**	**235**	P	**Pn**	**19 13 14.4**	**+3.8**
comp=Z,7.3nm,0.3s,baz=61,slow=12,SNR=235							
CTA				S	**Sn**	**19 16 21.9**	**-4.9**
comp=Z,0.2nm,0.3s,baz=160,slow=22,SNR=1.5							
CTAO	**Charters Tower**	**17.63**	**235**	P	**Pn**	**19 13 13.8**	**+3.2**
CTAO				pmax	pmax		
comp=Z,568nm,1.7s							
CTAO	**Charters Tower**	**17.63**	**235**	P	**Pn**	**19 13 13.8**	**+3.2**
EIDS	**Eidsvold**	**17.93**	**212**	P	**Pn**	**19 13 16.3**	**+2.2**
baz=18,SNR=24							
EIDS	**Eidsvold**	**17.93**	**212**	P	**Pn**	**19 13 16.4**	**+2.2**
EIDS				IAmb	IAmb	19 13 20.4	
comp=Z,125nm,1.1s							
KWAJ	**Kwajalein Atol**	**19.96**	**18**	P	**Pn**	**19 13 42.9**	**+4.5**
KWAJ				pmax	pmax		
comp=Z,294nm,0.7s							
KWAJ	**Kwajalein Atol**	**19.96**	**18**	P	**Pn**	**19 13 42.9**	**+4.5**
RMQ	**Roma**	**20.09**	**215**	P	Pn	19 13 40.2	+0.4
baz=20,SNR=92							
ARMA	**Armidale**	**22.00**	**203**	P	**P**	**19 13 59.8**	**+1.9**
baz=22,SNR=25							
ARMA	**Armidale**	**22.00**	**203**	P	**P**	**19 13 59.6**	**+1.8**
ARMA				IAmb	IAmb	19 14 02.1	
comp=Z,52nm,0.8s							
QLP	**Quilpie**	**22.98**	**223**	P	**P**	**19 14 09.1**	**+1.1**
baz=23,SNR=19							
QIS	**Mount Isa**	**23.43**	**242**	P	**P**	**19 14 13.4**	**+1.0**
baz=24,SNR=9.3							
CMSA	**Cobar Meteorol**	**25.70**	**213**	P	**P**	**19 14 35.6**	**+2.8**
baz=26,SNR=22							
YNG	**Young**	**26.70**	**205**	P	**P**	**19 14 44.5**	**+2.6**
baz=27,SNR=8.1							
OUZ	**Omahuta**	**27.08**	**158**	P	**P**	**19 14 47.5**	**+2.3**
CNB	**Canberra Magne**	**27.21**	**202**	P	**P**	**19 14 48.8**	**+2.3**
baz=28,SNR=14							
WR0	**Warramunga Arr**	**27.72**	**247**	P	**P**	**19 14 51.3**	**+0.2**
WB0	**Warramunga Arr**	**27.80**	**247**	P	**P**	**19 14 52.0**	**+0.1**
WB0				IAmb	IAmb	19 14 53.2	
comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**27.89**	**247**	P	**P**	**19 14 52.6**	**-0.1**
WRAB				pmax	pmax		
comp=Z,20nm,0.8s							
WRAB	**Tennant Creek**	**27.89**	**247**	P	**P**	**19 14 52.6**	**-0.1**
WB2	**Warramunga Arr**	**27.89**	**247**	P	**P**	**19 14 53.0**	**+0.3**
WRA	**Warramunga Arr**	**27.90**	**247**	P	**P**	**19 14 53.0**	**+0.3**
comp=Z,12nm,0.7s,baz=77,slow=8.9,SNR=77							
WRA				PcP	**PcP**	**19 18 05.9**	**-0.8**
comp=Z,1.2nm,0.7s,baz=71,slow=2.6,SNR=2.3							
WRA				S	**S**	**19 19 27.1**	**-3.7**
comp=Z,1.3nm,1.1s,baz=75,slow=17,SNR=1.8							
WRA				ScP	**ScP**	**19 21 39.4**	**-1.2**
comp=Z,0.7nm,0.5s,baz=74,slow=3.5,SNR=7.4							
WRA				LR	LR	19 25 40.6	
comp=Z,251nm,19.7s,baz=80,slow=36							
WRA	**Warramunga Arr**	**27.90**	**247**	P	**P**	**19 14 51.8**	**-1.0**
STKA	**Stephens Creek**	**28.27**	**218**	P	**P**	**19 14 57.1**	**+1.2**
comp=Z,6.0nm,0.7s,baz=20,slow=13,SNR=8.0							
STKA				LR	LR	19 25 14.5	
comp=Z,389nm,21.6s,baz=35,slow=34							
STKA	**Stephens Creek**	**28.27**	**218**	P	**P**	**19 14 57.1**	**+1.2**
KDU	**Kakadu**	**28.58**	**263**	P	**P**	**19 14 58.6**	**-0.2**
baz=29,SNR=20							
MILA	**Mila**	**28.84**	**201**	P	**P**	**19 15 03.4**	**+2.4**
baz=29,SNR=4.0							
NIUE	**Niue**	**28.88**	**111**	P	**P**	**19 15 00.6**	**-0.9**
GUMO	**Guam**	**28.98**	**325**	P	**P**	**19 14 59.9**	**-2.4**
GUMO				pmax	pmax		
comp=Z,127nm,1.4s							
GUMO	**Guam**	**28.98**	**325**	P	**P**	**19 14 59.9**	**-2.4**
GUMO				IAmb	IAmb	19 15 11.6	
comp=Z,127nm,1.4s							
**A

BFZ	**Birch Farm**	**32.89 159**	P	**P**	**19 15 31.9**	**-4.6**
SNZO	**South Karori**	**32.94 162**	P	**P**	**19 15 37.4**	**+0.5**
BSWZ	**Blackbirch Sta**	**33.07 163**	P	**P**	**19 15 39.2**	**+1.2**
BHW	**Baring Head**	**33.08 161**	P	**P**	**19 15 38.7**	**+0.6**
MSWZ	**Moikau Station**	**33.21 161**	P	**P**	**19 15 39.3**	**0.0**
PLWZ	**Palliser**	**33.35 161**	P	**P**	**19 15 41.0**	**+0.4**
KHZ	**Kahutara**	**33.62 164**	P	**P**	**19 15 43.2**	**+0.4**
KHZ			IAmb	IAmb	19 16 54.7	
	comp=Z,57nm,1.5s					
LTZ	**Lake Taylor**	**33.63 166**	P	**P**	**19 15 43.1**	**+0.1**
LTZ			IAmb	IAmb	19 16 24.8	
	comp=Z,38nm,1.4s					
RPZ	**Rata Peaks**	**34.25 168**	P	**P**	**19 15 48.3**	**0.0**
MQZ	**McQueen's Vall**	**34.60 166**	P	**P**	**19 15 51.9**	**+0.6**
MQZ			IAmb	IAmb	19 17 06.2	
	comp=Z,62nm,1.4s					
LBZ	**Lake Benmore**	**34.72 169**	P	**P**	**19 15 51.6**	**-0.8**
LBZ			IAmb	IAmb	19 16 11.4	
	comp=Z,80nm,1.8s					
TAU	**Tasmania Unive**	**34.73 198**	P	**P**	**19 15 54.8**	**+2.4**
TAU			pmax	pmax		
	comp=Z,157nm,1.8s					
TAU	**Tasmania Unive**	**34.73 198**	P	**P**	**19 15 54.8**	**+2.4**
WRKA	**Warakurna**	**34.76 241**	P	**P**	**19 15 52.7**	**-0.3**
	baz=35,SNR=24					
MLZ	**Mavora Lakes**	**35.34 172**	P	**P**	**19 15 59.5**	**+1.8**
SOEI	**Soe**	**36.70 268**	P	**P**	**19 16 10.4**	**+0.5**
SOEI			IAmb	IAmb	19 16 46.8	
	comp=Z,18nm,0.9s					
SOEI	**Soe**	**36.70 268**	P	**P**	**19 16 12.4**	**+2.6**
	comp=Z,26nm,1.0s					
FORT	**Forrest**	**37.14 232**	P	**P**	**19 16 14.7**	**+1.5**
BATI	**Baumata**	**37.26 267**	P	**P**	**19 16 16.7**	**+2.2**
	comp=Z,21nm,0.6s					
RAR	**Rarotonga**	**38.65 111**	LR	LR	19 29 57.6	
	comp=Z,209nm,18.9s,baz=274,slow=32					
MMRI	**Maumere**	**38.79 269**	P	**P**	**19 16 27.2**	**-0.1**
MMRI	**Maumere**	**38.79 269**	P	**P**	**19 16 27.7**	**+0.4**
	comp=Z,60nm,1.1s					
EDFI	**Ende, Flores**	**39.32 269**	P	**P**	**19 16 31.6**	**-0.3**
	comp=Z,9.0nm,0.8s					
GTOI	**Gorontalo**	**39.86 284**	P	**P**	**19 16 36.1**	**-0.1**
	comp=Z,15nm,0.9s					
BNSI	**Bone**	**41.49 275**	P	**P**	**19 16 51.4**	**+1.7**
	comp=Z,32nm,1.0s					
PSA00	**Pilbara Seismi**	**41.49 249**	P	**P**	**19 16 48.9**	**-0.7**
PSA00			IAmb	IAmb	19 17 17.9	
	comp=Z,45nm,2.0s					
PSA00	**Pilbara Seismi**	**41.49 249**	P	**P**	**19 16 49.4**	**-0.2**
PSA00			IAmb	IAmb	19 17 09.8	
	comp=Z,29nm,1.1s					
TOLI2	**Tolitoli**	**42.13 283**	P	**P**	**19 16 51.4**	**-3.4**
MPSI	**Mapaga**	**42.77 282**	P	**P**	**19 16 57.3**	**-2.7**
MEEK	**Meekatharra**	**43.58 242**	P	**P**	**19 17 07.4**	**+0.9**
	baz=44,SNR=20					
KLBR	**Kellerberrin**	**45.64 236**	P	**P**	**19 17 23.0**	**+0.2**
	baz=46,SNR=5.7					
BLDU	**Ballidu**	**46.21 237**	P	**P**	**19 17 27.9**	**+0.6**
	baz=46,SNR=4.4					
MORW	**Morawa**	**46.37 240**	P	**P**	**19 17 29.3**	**+0.7**
	baz=46,SNR=7.3					
MORW	**Morawa**	**46.37 240**	P	**P**	**19 17 29.3**	**+0.7**
MORW			IAmb	IAmb	19 19 09.1	
	comp=Z,64nm,1.6s					
NWAO	**Narrogin (SRO)**	**46.47 234**	LR	LR	19 36 20.7	
	comp=Z,227nm,18.3s,baz=72,slow=35					
NWAO	**Narrogin (SRO)**	**46.47 234**	P	**P**	**19 17 29.2**	**-0.1**
NWAO			pmax	pmax		
	comp=Z,74nm,1.5s					
NWAO	**Narrogin (SRO)**	**46.47 234**	P	**P**	**19 17 29.2**	**-0.1**
NWAO			IAmb	IAmb	19 18 02.0	
	comp=Z,74nm,1.4s					
GIRL	**Giralia**	**46.79 249**	P	**P**	**19 17 34.1**	**+2.1**
MUN	**Mundaring**	**47.01 236**	P	**P**	**19 17 35.6**	**+2.1**
	baz=47,SNR=3.7					
PPT	**Papeete**	**47.86 104**	LR	LR	19 34 09.9	
	comp=Z,111nm,19.3s,baz=333,slow=31					
PPT2	**Papeete2**	**47.87 104**	*e*LR	LR	19 31 28.6	
	comp=Z,235nm,25.0s					
JHJ2	**Mitsune**	**47.93 335**	P	**P**	**19 17 39.9**	**-0.6**
JHJ	**Hachijo jima 2**	**47.95 335**	P	**P**	**19 17 39.1**	**-1.6**
	comp=Z,31nm,0.3s,baz=249,slow=23,SNR=6.1					
TBI	**Tubuai**	**48.41 112**	*e*LR	LR	19 31 39.5	
	comp=Z,213nm,28.8s					
UGM	**Wanagama**	**50.40 268**	P	**P**	**19 17 59.1**	**-0.7**
JYT	**Yasato**	**50.52 338**	P	**P**	**19 17 59.9**	**-0.2**
WMR	**Waimanalo Ridg**	**50.93 52**	P	**P**	**19 18 04.7**	**+1.1**
INU	**Inuyama**	**51.03 334**	P	**P**	**19 18 03.5**	**-0.6**
INU			IAmb	IAmb	19 18 04.5	
	comp=Z,29nm,1.0s					
JGF	**Kuroka**	**51.10 335**	P	**P**	**19 18 04.1**	**-0.6**
JGF			IAmb	IAmb	19 18 04.6	
	comp=Z,11nm,0.7s					
JMN	**Monobe**	**51.13 330**	P	**P**	**19 18 04.9**	**0.0**
JSU	**Suzuyama**	**51.19 326**	P	**P**	**19 18 05.3**	**0.0**
KHU	**Kahuku**	**51.45 55**	P	**P**	**19 18 08.7**	**+0.9**
KHU			pmax	pmax		
	comp=Z,98nm,0.7s					
KHU	**Kahuku**	**51.45 55**	P	**P**	**19 18 08.7**	**+0.9**
MJAR	**Matsushiro Arr**	**51.56 336**	P	**P**	**19 18 05.6**	**-2.4**
	comp=Z,7.3nm,0.5s,baz=165,slow=8.7,SNR=34					
MJAR	**Matsushiro Arr**	**51.56 336**	P	**P**	**19 18 06.0**	**-2.1**
MJAR			pmax	pmax		
	comp=Z,5.0nm,0.8s					
MJAR	**Matsushiro Arr**	**51.56 336**	P	**P**	**19 18 06.0**	**-2.1**
MAJO	**Matsushiro**	**51.56 336**	P	**P**	**19 18 06.7**	**-1.4**
MAJO			pmax	pmax		
	comp=Z,19nm,0.7s					
MAJO	**Matsushiro**	**51.56 336**	P	**P**	**19 18 06.7**	**-1.4**
MAJO			IAmb	IAmb	19 18 07.3	
	comp=Z,19nm,0.7s					
MAT	**Matsushiro**	**51.56 336**	P	**P**	**19 18 06.5**	**-1.6**
MJB9	**Matsu-Tunnel**	**51.57 336**	P	**P**	**19 18 06.6**	**-1.5**
MJB9			IAmb	IAmb	19 18 07.3	
	comp=Z,22nm,0.7s					
MLOA	**Mauna Loa Obse**	**51.63 55**	P	**P**	**19 18 08.8**	**-0.6**
AIN	**Ainahou**	**51.64 55**	P	**P**	**19 18 09.9**	**+0.7**
JWT	**Wachi**	**51.69 333**	P	**P**	**19 18 08.6**	**-0.4**
JWT			IAmb	IAmb	19 18 09.5	
	comp=Z,20nm,0.8s					
YULB	**Yu-li**	**51.72 311**	P	**P**	**19 18 07.8**	**-1.7**
YULB			IAmb	IAmb	19 18 36.7	
	comp=Z,13nm,0.6s					
HLK	**Haleakala**	**51.74 53**	P	**P**	**19 18 10.3**	**+0.3**
HMH	**Humu'ula Sheep**	**51.74 55**	P	**P**	**19 18 09.6**	**-0.5**
JMM	**Marumori**	**51.76 339**	P	**P**	**19 18 09.0**	**-0.4**
JMM			IAmb	IAmb	19 18 09.7	
	comp=Z,31nm,0.8s					
POHA	**Pohakuloa**	**51.78 55**	P	**P**	**19 18 11.0**	**+0.8**
TPUB	**Ta-pu**	**52.17 310**	P	**P**	**19 18 11.4**	**-1.4**
TPUB			IAmb	IAmb	19 18 29.6	
	comp=Z,32nm,1.1s					
JNU	**Nakatsue**	**52.19 327**	P	**P**	**19 18 12.8**	**0.0**
	comp=Z,20nm,0.8s,baz=122,slow=3.9,SNR=12					
JNU	**Nakatsue**	**52.19 327**	P	**P**	**19 18 12.4**	**-0.4**
JNU			IAmb	IAmb	19 18 13.1	
	comp=Z,27nm,0.9s					
SSLB	**Suanglung**	**52.21 311**	P	**P**	**19 18 11.9**	**-1.2**
SSLB			IAmb	IAmb	19 18 40.4	
	comp=Z,17nm,0.9s					
YHNB	**Yeheng**	**52.42 312**	P	**P**	**19 18 14.1**	**-0.6**
JHS	**Saijyo**	**52.53 330**	P	**P**	**19 18 14.7**	**-0.6**
JSD	**Sado**	**52.84 337**	P	**P**	**19 18 16.9**	**-0.6**
JTU	**Tsushima**	**54.05 327**	P	**P**	**19 18 25.7**	**-0.7**
JTM	**Tenmabayashi**	**54.29 341**	P	**P**	**19 18 27.4**	**-0.6**
ERM	**Erimo**	**54.78 343**	P	**P**	**19 18 31.9**	**+0.4**
ERM			pmax	pmax		
	comp=Z,23nm,1.3s					
ERM	**Erimo**	**54.78 343**	P	**P**	**19 18 31.9**	**+0.4**
ERM			IAmb	IAmb	19 20 20.4	
	comp=Z,23nm,1.3s					
JEW	**Eniwo**	**56.04 342**	P	**P**	**19 18 39.7**	**-0.8**
TJN	**Taejon**	**56.54 327**	*ce*P	**P**	**19 18 43.2**	**-1.0**
JKA	**Kamikawa-asahi**	**56.88 344**	P	**P**	**19 18 46.8**	**+0.3**
ASAJ	**Asahikawa**	**56.88 344**	P	**P**	**19 18 46.8**	**+0.3**
	comp=Z,26nm,0.5s,baz=213,slow=7.5,SNR=64					
KSRS	**Korea Array**	**57.05 328**	P	**P**	**19 18 47.4**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=144,slow=7.1,SNR=26					
KSAR	**Wonju Array Be**	**57.06 328**	P	**P**	**19 18 47.6**	**-0.3**
KSAR	**Wonju Array Be**	**57.06 328**	P	**P**	**19 18 47.6**	**-0.3**
KS19	**Wonju Array Si**	**57.12 328**	P	**P**	**19 18 47.1**	**-1.3**
KS19			IAmb	IAmb	19 18 48.4	
	comp=Z,16nm,1.1s					
MNAI	**Manna**	**58.35 271**	P	**P**	**19 18 59.9**	**+2.4**
NJ2	**Nanjing**	**58.68 318**	*e*P	**P**	**19 19 01.4**	**+2.0**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NJ2			LR	LR		
	comp=Z,1μm,18.9s					
NJ2			LR	LR		
	comp=Z,1μm,20.8s					
NJ2			LR	LR		
	comp=Z,1μm,20.8s					
YSS	**Yuzh-Sakhalins**	**59.47 345**	*e*P	**P**	**19 19 04.3**	**-0.2**
YSS			*e*		19 19 23.7	
YSS			pmax	pmax		
	comp=Z,20nm,1.3s					
YSS	**Yuzh-Sakhalins**	**59.47 345**	P	**P**	**19 19 04.6**	**+0.1**
YSS			IAmb	IAmb	19 19 05.4	
	comp=Z,34nm,1.3s					
VLA	**Vladivostok**	**59.71 335**	*c*P	**P**	**19 19 06.2**	**0.0**
VLA			pmax	pmax		
	comp=Z,29nm,1.4s					
USA0B	**Ussuriysk Arra**	**60.56 336**	P	**P**	**19 19 12.1**	**0.0**
USA0B			pmax	pmax		
	comp=Z,30nm,0.8s					
USA0B	**Ussuriysk Arra**	**60.56 336**	P	**P**	**19 19 12.1**	**0.0**
USRK	**Ussuriysk Ar.**	**60.56 336**	P	**P**	**19 19 12.0**	**0.0**
	comp=Z,29nm,0.8s,baz=146,slow=6.7,SNR=54					
USRK			pP	**pP**	**19 19 30.7**	**-1.4**
	comp=Z,25nm,0.9s,baz=145,slow=7.2,SNR=9.7					
USRK	**Ussuriysk Ar.**	**60.56 336**	P	**P**	**19 19 12.1**	**0.0**
MDJ	**Mudanjiang**	**61.89 335**	P	**P**	**19 19 21.0**	**0.0**
MDJ			ScP	**ScP**	**19 23 58.8**	**+2.9**
MDJ			PcS	**PcS**	**19 24 03.8**	**-0.4**
MDJ			S	**S**	**19 27 41.8**	**+3.2**
MDJ			pmax	pmax		
	comp=Z,19nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,89nm,4.1s					
MDJ			LR	LR		
	comp=Z,1μm,19.4s					
MDJ			LR	LR		
	comp=Z,840nm,18.5s					
MDJ			LR	LR		
	comp=Z,2μm,20.6s					
MNSI	**Mandailing Nat**	**62.62 276**	P	**P**	**19 19 26.7**	**+0.1**
CN2	**Changchun**	**63.10 331**	*e*P	**P**	**19 19 28.6**	**-0.5**
CN2			pP	pP	19 19 47.9	-1.3
CN2			pmax	pmax		
	comp=Z,30nm,0.7s					
PET	**Petropavlovsk**	**63.17 358**	*ce*P	**P**	**19 19 27.2**	**-2.2**
PET			pmax	pmax		
	comp=Z,17nm,1.3s					
PET	**Petropavlovsk**	**63.17 358**	P	**P**	**19 19 28.6**	**-0.8**
PET			IAmb	IAmb	19 19 29.2	
	comp=Z,12nm,1.0s					
PEA0B	**Petropavlovsk-**	**63.30 357**	P	**P**	**19 19 30.0**	**-0.2**
PEA0B			pmax	pmax		
	comp=Z,20nm,1.2s					
PEA0B	**Petropavlovsk-**	**63.30 357**	P	**P**	**19 19 30.0**	**-0.2**
PEA0B			IAmb	IAmb	19 19 31.0	
	comp=Z,20nm,1.1s					
PETK	**Petropavlovsk-**	**63.30 357**	P	**P**	**19 19 29.6**	**-0.6**
	comp=Z,5.4nm,0.8s,baz=184,slow=12,SNR=21					
PETK			pP	**pP**	**19 19 48.7**	**-1.7**
	comp=Z,7.0nm,0.8s,baz=171,slow=10,SNR=9.2					
PETK	**Petropavlovsk-**	**63.30 357**	P	**P**	**19 19 29.1**	**-1.1**
SMY	**Shemya**	**63.75 8**	P	**P**	**19 19 32.7**	**-0.5**
SMY	**Shemya**	**63.75 8**	P	**P**	**19 19 32.7**	**-0.5**
KIWB	**Kanaga Island**	**64.63 14**	P	**P**	**19 19 40.1**	**+1.1**
GSI	**Gunungsitoli**	**64.69 276**	P	**P**	**19 19 40.0**	**-0.2**
GSI			IAmb	IAmb	19 20 02.2	
	comp=Z,23nm,0.9s					
ADK	**Adak**	**64.77 15**	P	**P**	**19 19 39.8**	**-0.1**
ADK			pmax	pmax		
	comp=Z,153nm,1.7s					
ADK	**Adak**	**64.77 15**	P	**P**	**19 19 39.8**	**-0.1**
KLR	**Kul'dur**	**64.86 339**	P	**P**	**19 19 40.2**	**-0.3**
	comp=Z,5.8nm,0.5s,baz=151,slow=2.6,SNR=18					
KLR	**Kul'dur**	**64.86 339**	*ce*P	**P**	**19 19 40.0**	**-0.5**
KLR			pmax	pmax		
	comp=Z,13nm,0.9s					
BJI	**Beijing**	**65.41 323**	P	**P**	**19 19 44.4**	**+0.1**
BJI			pP	**pP**	**19 20 06.3**	**+1.9**
BJI			sP	**PcP**	**19 20 15.0**	**-0.7**
BJI			S	**S**	**19 28 25.6**	**+3.1**
BJI			pmax	pmax		
	comp=Z,6.0nm,1.0s					
BJI			LR	LR		
	comp=Z,460nm,19.8s					
BJI			LR	LR		
	comp=Z,630nm,22.6s					
BJI			LR	LR		
	comp=Z,1μm,26.2s					
CASY	**Casey**	**65.56 200**	P	**P**	**19 19 45.2**	**+0.4**
VNDA	**Vanda**	**67.15 180**	P	**P**	**19 19 56.2**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=341,slow=6.9,SNR=32					
VNDA			LR	LR	19 47 33.8	
	comp=Z,36nm,18.0s,baz=22,slow=34					
VNDA	**Vanda**	**67.15 180**	P	**P**	**19 19 56.3**	**+1.4**
VNDA			pmax	pmax		
	comp=Z,4.0nm,1.0s					
VNDA	**Vanda**	**67.15 180**	P	**P**	**19 19 56.3**	**+1.4**
KMI	**Kunming**	**67.26 303**	⇑P	**P**	**19 19 58.1**	**+1.3**
KMI			pP	pP	19 20 20.4	+2.8
KMI			pmax	pmax		
	comp=Z,4.0nm,0.7s					
KMI			pmax	pmax		
	comp=Z,65nm,4.7s					
KMI			LR	LR		
	comp=Z,130nm,15.8s					
KMI			LR	LR		
	comp=Z,190nm,19.5s					
KMI			LR	LR		
	comp=Z,100nm,15.8s					
SBA	**Scott Base**	**67.54 179**	P	**P**	**19 19 58.7**	**+1.4**
SBA			pmax	pmax		
	comp=Z,8.0nm,1.3s					
SBA	**Scott Base**	**67.54 179**	P	**P**	**19 19 58.7**	**+1.4**
NIKH	**Nikolski High**	**67.96 19**	P	**P**	**19 20 00.2**	**-0.1**
	baz=212					
CM31	**Chiang Mai Arr**	**68.07 295**	P	**P**	**19 20 02.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**68.07 295**	P	**P**	**19 20 01.2**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=125,slow=4.9,SNR=17					
CMAR			pP	**pP**	**19 20 21.1**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=123,slow=5.0,SNR=9.4					
CM15	**Chiang Mai Arr**	**68.08 295**	P	**P**	**19 20 04.1**	**+2.3**
	comp=Z,53nmcomp=Z,7.6nm,0.8s					
CHTO	**Chiang Mai**	**68.19 295**	P	**P**	**19 20 02.1**	**-0.3**
CHTO			pmax	pmax		
	comp=Z,4.0nm,0.8s					
CHTO	**Chiang Mai**	**68.19 295**	P	**P**	**19 20 02.1**	**-0.3**
HHC	**Hu-ho-hao-te**	**68.68 321**	*e*P	**P**	**19 20 08.3**	**+3.1**
HHC			pmax	pmax		
	comp=Z,21nm,1.0s					
HHC			pmax	pmax		
	comp=Z,120nm,5.4s					
HHC			LR	LR		
	comp=Z,360nm,21.6s					
HHC			LR	LR		
	comp=Z,570nm,22.9s					
HHC			LR	LR		
	comp=Z,720nm,23.5s					
CD2	**Chengdu**	**68.93 309**	P	**P**	**19 20 06.8**	**-0.1**
CD2			S	**S**	**19 29 02.3**	**-3.1**
CD2			pmax	pmax		
	comp=Z,20nm,0.6s					
CD2			LR	LR		
	comp=Z,1μm,17.2s					
CD2			LR	LR		
	comp=Z,3μm,18.0s					
CD2			LR	LR		
	comp=Z,4μm,18.7s					
UNV	**Unalaska Valle**	**69.46 20**	P	**P**	**19 20 09.6**	**+0.1**
	baz=214					
HIA	**Hailar**	**69.79 332**	P	**P**	**19 20 11.8**	**+0.1**
HIA			pmax	pmax		
	comp=Z,15nm,0.9s					
HIA	**Hailar**	**69.79 332**	P	**P**	**19 20 11.8**	**+0.1**
HIA			IAmb	IAmb	19 20 12.3	
	comp=Z,15nm,0.9s					
AKUT	**Akutan**	**69.94 20**	P	**P**	**19 20 12.2**	**-0.3**
ZEA	**Zeya**	**70.17 339**	*e*P	**P**	**19 20 14.1**	**+0.2**
ZEA			*e*		19 20 34.5	
ZEA			pmax	pmax		
	comp=N,10.0nm,0.7s					
ZEA			pmax	pmax		
	comp=Z,20nm,0.8s					
MA2	**Magadan**	**70.23 354**	P	**P**	**19 20 13.8**	**-0.4**
MA2			pmax	pmax		
	comp=Z,16nm,0.9s					
MA2	**Magadan**	**70.23 354**	P	**P**	**19 20 13.8**	**-0.4**
MA2			IAmb	IAmb	19 20 34.1	
	comp=Z,16nm,0.9s					
SPIA	**Saint Paul Isl**	**71.19 16**	P	**P**	**19 20 19.8**	**-0.2**
	baz=209					
LZH	**Lanzhou**	**71.27 314**	*e*P	**P**	**19 20 22.1**	**+0.9**
LZH			pP	pP	19 20 44.0	+2.1
LZH			sP	sP	19 20 52.0	+1.4
LZH			pmax	pmax		
	comp=Z,20nm,1.1s					
LZH			pmax	pmax		
	comp=Z,52nm,5.4s					
SDPT	**Sand Point**	**72.76 22**	P	**P**	**19 20 28.7**	**-0.7**
	baz=219					
SDPT	**Sand Point**	**72.76 22**	P	**P**	**19 20 28.3**	**-1.1**
CHIR	**Chirikof Islan**	**74.94 23**	P	**P**	**19 20 42.6**	**+0.4**
ULN	**Ulaanbaatar**	**75.36 325**	P	**P**	**19 20 45.0**	**-0.1**
ULN			pmax	pmax		
	comp=Z,13nm,0.8s					
ULN	**Ulaanbaatar**	**75.36 325**	P	**P**	**19 20 45.0**	**-0.1**
ULN			IAmb	IAmb	19 20 46.2	
	comp=Z,13nm,0.8s					
GTA	**Gaotai**	**75.64 315**	*e*P	**P**	**19 20 46.6**	**-0.2**
GTA			pP	pP	19 21 05.9	-1.7
GTA			sP	sP	19 21 15.3	-0.9
GTA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
GTA			pmax	pmax		
	comp=Z,37nm,4.7s					
GTA			LR	LR		
	comp=Z,410nm,19.6s					
GTA			LR	LR		
	comp=Z,600nm,20.7s					
GTA			LR	LR		
	comp=Z,750nm,21.4s					
SONM	**Songino Array**	**75.71 325**	P	**P**	**19 20 47.0**	**0.0**
	comp=Z,12nm,0.7s,baz=142,slow=5.6,SNR=71					
SONM			pP	**pP**	**19 21 06.7**	**-1.4**
	comp=Z,9.5nm,0.6s,baz=139,slow=5.3,SNR=12					
SONM	**Songino Array**	**75.71 325**	P	**P**	**19 20 47.1**	**0.0**
SONM			IAmb	IAmb	19 20 47.9	
	comp=Z,12nm,0.7s					
SONM			pP	**pP**	**19 21 06.7**	**-1.4**
SII	**Sitkinak Islan**	**76.03 23**	P	**P**	**19 20 48.8**	**+0.3**
YAK	**Yakutsk**	**76.32 345**	*c i*P	**P**	**19 20 49.2**	**-0.7**
YAK			*e*		19 20 57.5	
YAK			*e**PP	**pP**	**19 21 09.0**	**-1.6**
YAK			*e*		19 23 35.9	
YAK			*e*S	**S**	**19 30 28.3**	**+0.2**
YAK			*e*		19 30 59.5	
YAK			*e**SS	**sS**	**19 31 09.0**	**+4.5**
YAK			pmax	pmax		
	comp=Z,27nm,0.9s					
YAK			pmax	pmax		
	comp=E,4.0nm,1.2s					
YAK			pmax	pmax		
	comp=N,4.0nm,1.0s					
YAK			pmax	pmax		
	comp=Z,77nm,3.8s					
YAK			pmax	pmax		
	comp=N,54nm,3.5s					
YAK			pmax	pmax		
	comp=E,44nm,4.0s					
YAK			smax	smax		
	comp=E,77nm,3.0s					
YAK			smax	smax		
	comp=N,58nm,2.8s					
YAK	**Yakutsk**	**76.32 345**	P	**P**	**19 20 48.6**	**-1.3**
OHAK	**Old Harbor**	**76.85 23**	P	**P**	**19 20 52.9**	**-0.1**
	baz=226					
OHAK	**Old Harbor**	**76.85 23**	P	**P**	**19 20 53.4**	**+0.4**
KDAK	**Kodiak Island**	**77.51 23**	P	**P**	**19 20 57.0**	**+0.3**
KDAK			pmax	pmax		
	comp=Z,77nm,1.8s					
KDAK	**Kodiak Island**	**77.51 23**	P	**P**	**19 20 56.8**	**+0.1**
	baz=226					
KDAK	**Kodiak Island**	**77.51 23**	P	**P**	**19 20 57.0**	**+0.3**
KDAK			IAmb	IAmb	19 21 39.0	
	comp=Z,77nm,1.8s					
BOD	**Bodaibo**	**78.19 336**	*e*P	**P**	**19 20 59.2**	**-1.3**
BOD			pmax	pmax		
	comp=Z,11nm,1.3s					
BILL	**Bilibino**	**78.27 2**	*d i*P	**P**	**19 21 00.4**	**-0.3**
BILL			*e*		19 21 10.1	
BILL			*e*		19 23 54.8	
BILL			pmax	pmax		
	comp=Z,27nm,1.0s					
BILL			MLR	MLR		
	comp=Z,208nm,17.0s					
BILL	**Bilibino**	**78.27 2**	P	**P**	**19 21 00.1**	**-0.6**
BILL			IAmb	IAmb	19 21 02.2	
	comp=Z,23nm,0.9s					
N18K	**Kilae Creek**	**78.39 20**	P	**P**	**19 21 01.9**	**+0.3**
	baz=223					
P19K	**Oil Pt**	**78.58 22**	P	**P**	**19 21 02.4**	**-0.3**
	baz=225					
SVW2	**Sparrevohn**	**78.80 20**	P	**P**	**19 21 04.4**	**+0.6**
SVW2			IAmb	IAmb	19 21 05.7	
	comp=Z,27nm,0.9s					
ZAK	**Zakamensk**	**78.81 326**	*e*P	**P**	**19 21 03.0**	**-1.2**
ZAK			*e*		19 21 22.4	
ZAK			pmax	pmax		
	comp=Z,7.0nm,1.3s					
N19K	**Bonanza Creek**	**78.96 20**	P	**P**	**19 21 04.6**	**-0.2**
	baz=224					
O20K	**Slope Mountain**	**79.10 21**	P	**P**	**19 21 05.9**	**+0.3**
	baz=226					
RSO	**Redoubt South**	**79.31 21**	P	**P**	**19 21 05.6**	**-1.3**
BRSE	**Bradley Lake S**	**79.55 22**	P	**P**	**19 21 08.6**	**+0.6**
	baz=228					
QSPA	**South Pole Qui**	**79.64 180**	LR	LR	19 52 23.8	
	comp=Z,34nm,18.9s,baz=14,slow=32					
QSPA	**South Pole Qui**	**79.64 180**	P	**P**	**19 21 09.2**	**+0.6**
QSPA			IAmb	IAmb	19 21 10.4	
	comp=Z,10nm,0.8s					
L19K	**White Mountain**	**79.83 19**	P	**P**	**19 21 10.1**	**+0.6**
	baz=224,SNR=19					
CAPN	**Captain Cook N**	**80.10 21**	P	**P**	**19 21 11.8**	**+1.0**
	baz=227					
SEW	**Seward**	**80.28 23**	P	**P**	**19 21 11.2**	**-0.7**
	baz=229					
SUA	**Susitna One**	**80.72 21**	P	**P**	**19 21 13.9**	**-0.4**
	baz=228					
SUA	**Susitna One**	**80.72 21**	P	**P**	**19 21 13.6**	**-0.7**
SUA			IAmb	IAmb	19 21 14.9	
	comp=Z,21nm,1.2s					
RC01	**Rabbit Creek A**	**80.83 22**	P	**P**	**19 21 14.5**	**-0.3**
	baz=228					
RC01	**Rabbit Creek A**	**80.83 22**	P	**P**	**19 21 14.0**	**-0.7**
RC01			IAmb	IAmb	19 24 02.2	
	comp=Z,16nm,0.5s					
K20K	**Telida**	**80.93 19**	P	**P**	**19 21 15.7**	**+0.4**
	baz=224,SNR=11					
MID	**Middleton Isla**	**81.06 24**	P	**P**	**19 21 15.8**	**-0.2**
MID	**Middleton Isla**	**81.06 24**	P	**P**	**19 21 15.8**	**-0.2**
PWL	**Port Wells**	**81.19 22**	P	**P**	**19 21 16.9**	**+0.2**
PWL			IAmb	IAmb	19 21 17.9	
	comp=Z,26nm,1.1s					
PPLA	**Purkeypile**	**81.21 20**	P	**P**	**19 21 17.3**	**+0.3**
	baz=226					
J20K	**Nowinta River**	**81.50 18**	P	**P**	**19 21 19.0**	**+0.8**
	baz=224,SNR=14					
KNK	**Knik Glacier**	**81.51 22**	P	**P**	**19 21 19.4**	**+1.0**

comp=Z,18nm,0.9s
KAIM Kayak Island 82.14 24 P P 19 21 21.9 +0.2
baz=233
SCM Sheep Creek Mo 82.19 22 P P 19 21 22.2 +0.1
SCM pmax pmax
comp=Z,22nm,1.2s
SCM Sheep Creek Mo 82.19 22 P P 19 21 22.2 +0.1
SCM IAmb IAmb 19 21 33.0
comp=Z,22nm,1.2s
TRF Thorofare Moun 82.22 20 P P 19 21 21.1 -1.2
baz=228
TRF Thorofare Moun 82.22 20 P P 19 21 21.5 -0.8
TRF IAmb IAmb 19 21 22.4
comp=Z,14nm,1.0s
WAT1 Susitna Watana 82.40 21 P P 19 21 22.4 -0.7
baz=229
BPAW Bear Paw Mtn. 82.43 19 P P 19 21 22.0 -1.2
baz=227,SNR=6.3
BPAW Bear Paw Mtn. 82.43 19 P P 19 21 22.4 -0.8
KLU Klutina 82.50 23 P P 19 21 23.7 0.0
baz=232
KLU Klutina 82.50 23 P P 19 21 23.8 +0.1
KLU IAmb IAmb 19 21 27.1
comp=Z,12nm,1.0s
WAT6 Susitna Watana 82.52 21 P P 19 21 23.5 -0.4
baz=230
RND Reindeer 82.67 20 P P 19 21 24.1 -0.4
RND pmax pmax
comp=Z,20nm,1.3s
RND Reindeer 82.67 20 P P 19 21 24.1 -0.4
RND IAmb IAmb 19 21 25.1
comp=Z,20nm,1.3s
BMRM Bremner River 82.69 23 P P 19 21 24.9 +0.2
baz=233
BMRM Bremner River 82.69 23 P P 19 21 25.3 +0.7
BMRM IAmb IAmb 19 21 27.2
comp=Z,26nm,1.4s
M24K Tolsona, Glenn 82.79 22 P P 19 21 25.3 +0.1
baz=232
M24K Tolsona, Glenn 82.79 22 P P 19 21 25.6 +0.4
MCK McKinley 82.86 20 P P 19 21 24.9 -0.5
MCK pmax pmax
comp=Z,40nm,1.0s
MCK McKinley 82.86 20 P P 19 21 24.9 -0.5
baz=229,SNR=13
MCK McKinley 82.86 20 P P 19 21 24.9 -0.5
MCK IAmb IAmb 19 21 26.5
comp=Z,40nm,1.0s
I21K Tanana 82.87 18 P P 19 21 25.8 +0.4
baz=226
IMAR Indian Mountai 82.92 17 P P 19 21 25.3 -0.3
BWN Browne 82.97 19 P P 19 21 25.7 -0.2
BWN IAmb IAmb 19 21 27.2
comp=Z,21nm,0.7s
N25K Chitina, Valde 83.08 23 P P 19 21 26.9 +0.2
baz=233,SNR=8.7
N25K Chitina, Valde 83.08 23 P P 19 21 26.8 +0.2
N25K IAmb IAmb 19 21 30.0
comp=Z,19nm,1.1s
WAX Waxell Ridge 83.08 24 P P 19 21 27.2 +0.5
WAX IAmb IAmb 19 21 28.0
comp=Z,23nm,1.1s
CRQM Cirque 83.14 24 P P 19 21 27.5 +0.3
CRQM IAmb IAmb 19 21 30.5
comp=Z,32nm,1.3s
MLY Manley 83.15 18 P P 19 21 26.4 -0.5
baz=227,SNR=24
MLY Manley 83.15 18 P P 19 21 26.8 -0.2
MLY IAmb IAmb 19 21 27.9
comp=Z,17nm,1.0s
CRQE Cirque 83.16 24 P P 19 21 27.6 +0.4
baz=235,SNR=5.1
TGL Tana Glacier 83.27 24 P P 19 21 27.2 -0.5
GLB Gilahina Butte 83.28 23 P P 19 21 27.6 -0.1
GLB IAmb IAmb 19 21 30.6
comp=Z,14nm,1.0s
MESA MESA 83.30 25 P P 19 21 28.6 +0.7
baz=236
VRDI Verde Repeater 83.30 24 P P 19 21 27.9 0.0
HARP HAARP 83.34 22 P P 19 21 28.4 +0.4
baz=232
ISLE Juniper Island 83.38 24 P P 19 21 27.9 -0.4
NEA2 Nenana 83.38 19 P P 19 21 27.1 -1.0
baz=229,SNR=8.9
NEA2 Nenana 83.38 19 P P 19 21 27.0 -1.0
NEA2 IAmb IAmb 19 21 28.9
comp=Z,19nm,1.0s
MCARA McCarthy VSAT 83.55 24 P P 19 21 29.5 +0.5
baz=235
PAX Paxson 83.58 22 P P 19 21 29.3 0.0
PAX pmax pmax
comp=Z,10.0nm,1.2s
PAX Paxson 83.58 22 P P 19 21 29.2 0.0
baz=232
PAX Paxson 83.58 22 P P 19 21 29.2 0.0
WRH Wood River Hil 83.62 20 P P 19 21 28.2 -1.1
WRH IAmb IAmb 19 21 29.6
comp=Z,25nm,1.2s
I23K Minto, Yukon-K 83.66 19 P P 19 21 29.1 -0.4
baz=228,SNR=8.7
I23K Minto, Yukon-K 83.66 19 P P 19 21 28.7 -0.7
TABL Table Mountain 83.78 25 P P 19 21 30.0 -0.5
TABL IAmb IAmb 19 23 25.1
comp=Z,24nm,1.3s
MAW Mawson 83.80 202 P P 19 21 30.3 +0.1
comp=Z,1.6nm,0.5s,baz=65,slow=14,SNR=2.3
MAW LR LR 19 57 37.1
comp=Z,14nm,18.4s,baz=64,slow=35
MAW Mawson 83.80 202 P P 19 21 31.0 +0.8
baz=84,SNR=4.9
MAW Mawson 83.80 202 P P 19 21 31.5 +1.3
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 83.80 202 P P 19 21 31.5 +1.3
CCB Clear Creek Bu 83.83 20 P P 19 21 29.3 -1.0
CCB IAmb IAmb 19 21 30.4
comp=Z,18nm,1.2s
MDM Murphy Dome 83.90 19 P P 19 21 30.2 -0.5
MDM IAmb IAmb 19 21 31.0
comp=Z,16nm,1.0s
BARN Barnard Glacie 83.91 24 P P 19 21 31.1 0.0
PCA Pinnacle 83.96 25 P P 19 21 31.0 -0.2
PCA IAmb IAmb 19 21 32.8
comp=Z,31nm,1.2s
PINM Pinnacle 83.96 25 P P 19 21 31.4 +0.2
baz=237
TCOL CIGO, UAF Yank 83.96 19 P P 19 21 30.1 -0.9
baz=230
TCOL CIGO, UAF Yank 83.96 19 P P 19 21 30.2 -0.7
COLA College 83.96 19 P P 19 21 30.2 -0.8
COLA College 83.96 19 P P 19 21 30.2 -0.8
baz=230
COLA College 83.96 19 P P 19 21 30.2 -0.8
HDA Harding Lake 83.97 20 P P 19 21 30.5 -0.6
baz=231,SNR=17
HDA Harding Lake 83.97 20 P P 19 21 30.8 -0.2
HDA IAmb IAmb 19 21 32.2
comp=Z,23nm,1.0s
CTG Chitna Glacier 83.99 24 P P 19 21 32.1 +0.7
baz=236
CTGM Chitina Glacie 83.99 24 P P 19 21 31.5 0.0
CTGM IAmb IAmb 19 21 54.9
comp=Z,31nm,1.6s
LOGN Logan Glacier 84.05 25 P P 19 21 32.4 +0.7
LOGN IAmb IAmb 19 22 02.8
comp=Z,45nm,1.9s
H23K Yukon River 84.05 18 P P 19 21 31.9 +0.4
baz=228
BCPM Bancas Point 84.14 26 P P 19 21 32.9 +0.9
M26K Nabesna, AK 84.16 23 P P 19 21 31.9 -0.3
baz=234,SNR=13
MENT Mentasta 84.20 22 P P 19 21 32.3 -0.1
MENT IAmb IAmb 19 21 33.8
comp=Z,14nm,1.1s
IL31 84.22 20 P P 19 21 31.3 -1.0
IL31 IAmb IAmb 19 21 33.2
comp=Z,11nm,1.0s
ILAR Eielson Array 84.22 20 P P 19 21 31.4 -0.9
comp=Z,10.0nm,1.0s,baz=254,slow=4.3,SNR=42
ILAR Eielson Array 84.22 20 P P 19 21 31.0 -1.3
POKR Poker Plat Res 84.26 19 P P 19 21 31.6 -0.9
POKR IAmb IAmb 19 23 17.1
comp=Z,9.5nm,0.7s
RIDG Independent Ri 84.28 21 P P 19 21 32.6 -0.1
baz=233,SNR=8.7
RIDG Independent Ri 84.28 21 P P 19 21 32.4 -0.3
RIDG IAmb IAmb 19 21 34.4
comp=Z,15nm,1.0s
DOT Dot Lake 84.50 21 P P 19 21 34.0 +0.2
DOT IAmb IAmb 19 21 35.0
comp=Z,12nm,0.8s
M27K Edge Creek, AK 84.56 23 P P 19 21 34.7 +0.4
baz=236,SNR=11
H24K Noodor Dome 84.58 19 P P 19 21 33.4 -0.8
baz=230
SCRK Sand Creek 84.72 21 P P 19 21 35.1 +0.1
baz=234,SNR=12
SCRK Sand Creek 84.72 21 P P 19 21 35.3 +0.3
SCRK IAmb IAmb 19 21 36.4
comp=Z,10nm,0.8s
L27K Beaver Creek, 84.98 22 P P 19 21 37.0 +0.8
baz=236,SNR=8.7
L27K Beaver Creek, 84.98 22 P P 19 21 37.0 +0.8
BCAR Beaver Creek A 85.00 22 P P 19 21 36.3 -0.1
HYT Haines Junctio 85.50 25 P P 19 21 39.4 +0.3
HYT IAmb IAmb 19 22 11.9
comp=Z,26nm,1.8s
WMQ Urumqi 85.71 316 *e*P **P 19 21 42.0 +1.6**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,34nm,3.7s
WMQ LR LR
comp=Z,230nm,14.7s
WMQ LR LR
comp=Z,380nm,16.1s
WMQ LR LR
comp=Z,420nm,18.7s
O02D Mt. Diablo Mer 85.88 48 P P 19 21 42.2 +0.9
baz=253
TOLK Toolik Lake Re 85.94 16 P P 19 21 41.3 +0.4
baz=228
TOLK Toolik Lake Re 85.94 16 P P 19 21 41.2 +0.4
J01E Myrtle Point 85.96 45 P P 19 21 42.5 +1.0
baz=252
K02D Willamette Mer 86.00 45 P P 19 21 42.6 +0.7
baz=252
N02D Trinity Center 86.17 47 P P 19 21 44.1 +1.4
baz=253
M02C Callahan 86.19 47 P P 19 21 43.9 +1.1
baz=253
EGAK Eagle 86.19 21 P P 19 21 42.9 +0.7
baz=236
EGAK Eagle 86.19 21 P P 19 21 42.8 +0.6
EGAK IAmb IAmb 19 21 44.1
comp=Z,17nm,0.9s
I02D Swisshome 86.31 44 P P 19 21 44.1 +0.9
baz=252
DAWY Dawson 86.44 22 P P 19 21 44.3 +0.8
DAWY IAmb IAmb 19 21 46.2
comp=Z,23nm,1.1s
HUMO Hull Mountain 86.47 46 P P 19 21 44.3 +0.2
SNCC San Nicolas Is 86.51 55 P P 19 21 45.4 +0.9
baz=255
BMAR Burnt Mountain 86.61 18 P P 19 21 44.8 +0.6
O03E Paynes Creek 86.63 48 P P 19 21 45.0 0.0
baz=254
PKM Mcpherson Peak 86.69 54 P P 19 21 45.5 -0.1
baz=255
L04D Klamath Falls 86.82 46 P P 19 21 46.7 +0.7
baz=253
AFDM Forest Hills D 86.87 50 P P 19 21 46.1 0.0
CMB Columbia Colle 87.07 51 P P 19 21 47.1 -0.1
CMB pmax pmax
comp=Z,5.0nm,1.3s
CMB Columbia Colle 87.07 51 P P 19 21 47.1 -0.1
DGZ Jazzator, Alta 87.76 321 *i* P **P 19 21 47.9 -2.4**
DGZ pmax pmax
comp=Z,4.0nm,1.5s
J05D Fort Rock, OR 87.88 45 P P 19 21 52.0 +0.9
baz=254
ISA Isabella, Lake 87.95 53 P P 19 21 52.1 +0.6
baz=256
MDPB Devils Postpil 87.97 51 P P 19 21 50.8 -0.9
K05A Summer Lake 87.97 46 P P 19 21 51.1 -0.5
EDW2 Edwards Air Fo 88.14 54 P P 19 21 52.8 +0.5
baz=256
MOD Modoc Plateau 88.17 47 P P 19 21 52.4 0.0
PINE Pine Mountain 88.23 45 P P 19 21 52.7 0.0
BFSC Mount Baldy Ra 88.26 55 P P 19 21 53.2 +0.1
baz=256
PAHR Pah Rah Range 88.26 49 P P 19 21 52.8 -0.2
G05D Wamic, OR 88.37 44 P P 19 21 54.0 +0.8
baz=254
CWC Cottonwood Cre 88.45 53 P P 19 21 54.2 +0.3
baz=256
A04D Lummi Island 88.47 40 P P 19 21 54.1 +0.7
baz=252
TIN Tinemaha, Big 88.48 52 P P 19 21 54.8 +0.8
baz=256
LRMC Laurel Mtn Rad 88.53 54 P P 19 21 54.1 -0.2
baz=256
LHV Little Huntoon 88.56 51 P P 19 21 54.4 +0.3
EPYK Eagle Plains 88.60 21 P P 19 21 54.0 +0.2
baz=240
EPYK Eagle Plains 88.60 21 P P 19 21 54.4 +0.6
EPYK IAmb IAmb 19 21 55.6
comp=Z,17nm,0.8s
NVAR Mina Array Bea 88.76 51 P P 19 21 56.3 +0.9
comp=Z,2.3nm,0.7s,baz=234,slow=6.9,SNR=18
NVAR pP **pP 19 22 15.8 -1.3**
comp=Z,1.3nm,0.8s,baz=236,slow=6.8,SNR=3.8
NVAR Mina Array Bea 88.76 51 P P 19 21 55.8 +0.4
NV11 Mina Array Sit 88.87 51 P P 19 21 56.2 +0.3
MONP2 Monument Peak 88.95 56 P P 19 21 57.2 +0.8
baz=257
KVN Kaiserville 89.06 50 P P 19 21 57.1 +0.3
KVN pmax pmax
comp=Z,8.0nm,1.2s
KVN Kaiserville 89.06 50 P P 19 21 57.1 +0.3
KVN IAmb IAmb 19 21 59.6
comp=Z,8.4nm,1.2s
PFO Pinyon Flats O 89.08 56 P P 19 21 57.5 +0.6
baz=257
TPFO Pinon Flats 89.09 56 P P 19 21 57.8 +0.9
baz=257
IKP In-Ko-Pah, Jac 89.16 57 P P 19 21 58.2 +0.9
baz=257
GSC Goldstone, Bar 89.19 54 P P 19 21 57.9 +0.6
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC Goldstone, Bar 89.19 54 P P 19 21 58.4 +1.1
baz=257
GSC Goldstone, Bar 89.19 54 P P 19 21 57.9 +0.6
I07A Izee 89.31 45 P P 19 21 58.1 +0.4
FURC Furnace Creek, 89.41 53 P P 19 21 59.3 +1.2
baz=257
HEC Hector,Ludlow 89.46 55 P P 19 21 59.4 +0.8
baz=257
SWSC Sam W. Stewart 89.47 57 P P 19 21 59.3 +0.7
baz=257
WVOR Wild Horse Val 89.50 47 P P 19 21 59.1 +0.4
WVOR pmax pmax
comp=Z,12nm,1.3s
WVOR Wild Horse Val 89.50 47 P P 19 21 59.1 +0.4
WVOR IAmb IAmb 19 22 01.1
comp=Z,12nm,1.3s
BELC Belle Mtn. Jos 89.55 55 P P 19 22 00.3 +1.2
baz=257
J08A Circle Bar Ran 89.84 46 P P 19 22 00.9 +0.6
J08A IAmb IAmb 19 22 01.8
comp=Z,5.5nm,0.7s
TUQ Turquoise Moun 89.92 54 P P 19 22 01.8 +1.0
baz=257
GMRC Granite Mounta 89.99 55 P P 19 22 01.7 +0.5
baz=257
G08A Pilot Rock 89.99 44 P P 19 22 01.5 +0.7
TPNV Topopah Spring 90.00 53 P P 19 22 02.0 +0.8
baz=257
TPNV Topopah Spring 90.00 53 IAmb IAmb 19 22 26.8
comp=Z,9.0nm,1.2s
MKAR Makanchi Array 90.22 318 P P 19 22 00.7 -1.1
comp=Z,2.2nm,0.5s,baz=91,slow=6.5,SNR=31
MKAR pP **pP 19 22 20.3 -3.3**
comp=Z,2.4nm,0.8s,baz=99,slow=5.8,SNR=5.5
MKAR Makanchi Array 90.22 318 P P 19 22 00.4 -1.4
IRM Iron Mountain 90.27 55 P P 19 22 03.5 +1.1
baz=258
GLA Glamis 90.30 57 P P 19 22 04.0 +1.5
baz=258
MAKZ Makanchi 90.43 318 P P 19 22 01.0 -1.8
MAKZ Makanchi 90.43 318 P P 19 22 01.0 -1.8
ZALV Zalesovo Beam 90.60 325 P P 19 22 01.2 -2.2
comp=Z,1.0nm,0.4s,baz=124,slow=5.4,SNR=6.5
SHPR Sheep Range 90.75 53 P P 19 22 05.0 +0.3
SHPR IAmb IAmb 19 22 07.1
comp=Z,12nm,1.2s
R11A Troy Canyon, C 90.82 51 P P 19 22 05.9 +0.9
baz=258
PRN Pahroc Range 91.03 52 IAmb IAmb 19 22 08.4
comp=Z,16nm,1.1s
SYO Syowa Base 91.21 198 *e*P **P 19 22 05.8 -0.1**
SYO Syowa Base 91.21 198 *e*pP pP 19 22 31.6 +3.9
ELK Elko 91.59 49 IAmb IAmb 19 22 10.8
comp=Z,4.7nm,1.0s
MFID Camas Ranch 91.73 46 P P 19 22 08.9 -0.1
MFID IAmb IAmb 19 22 11.2
comp=Z,4.8nm,1.0s
SPR3 Spring Creek 3 91.91 51 IAmb IAmb 19 22 12.4
comp=Z,12nm,1.3s
NEW Newport 91.93 41 P P 19 22 09.9 +0.2
baz=257
NEW Newport 91.93 41 IAmb IAmb 19 22 11.0
comp=Z,4.4nm,0.9s
CCUT Cedar City 92.38 52 P P 19 22 13.1 +0.8
CCUT IAmb IAmb 19 22 15.0
comp=Z,5.3nm,1.1s
KNB Kanab 92.70 53 IAmb IAmb 19 22 57.1
comp=Z,8.6nm,1.2s
HLID Hailey 92.77 46 P P 19 22 14.3 +0.4
baz=258
HLID Hailey 92.77 46 P P 19 22 15.0 +1.1
HLID IAmb IAmb 19 22 16.3
comp=Z,9.4nm,1.2s
DUG Dugway, Tooele 93.30 50 P P 19 22 17.3 +0.9
baz=259
KURK Kurchatov 93.49 321 P P 19 22 14.7 -2.1
KURK Kurchatov 93.49 321 P P 19 22 14.7 -2.1
KURBB Kurchatov Arra 93.53 321 P P 19 22 14.7 -2.2
comp=Z,1.2nm,0.5s,baz=105,slow=3.4,SNR=10
C36M Paulatuk 94.19 20 P P 19 22 20.1 +0.5
baz=252
BOZ Bozeman (W) 95.10 45 P P 19 22 25.4 +0.9
baz=260
121A Cookes Peak, D 96.04 58 P P 19 22 29.2 0.0
baz=262
YKA Yellowknife Ar 96.27 28 P P 19 22 28.6 -0.6
comp=Z,2.4nm,0.8s,baz=250,slow=4.2,SNR=15
ANMO Albuquerque 97.47 56 *e*P **P 19 22 34.1 -1.5**
ANMO pmax pmax
comp=Z,9.0nm,3.1s
SNAA Sanae 97.49 185 P P 19 22 34.6 -0.2
SNAA Sanae 97.49 185 LR LR 20 03 22.1
comp=Z,31nm,20.9s,baz=192,slow=33
VNA3 Neumayer Olymp 98.37 183 P P 19 22 38.4 -0.3
VNA2 Neumayer--Watz 98.56 184 P Pdif 19 22 39.6 +0.1
baz=178,slow=4.6
VNA1 Neumayer--Stat 98.88 183 P Pdif 19 22 41.1 +0.2
W39A Magazine 107.85 56 P **PKiKP 19 27 29.0 +0.3**
baz=270
ARCES ARCESS Array B 114.60 344 PKP **PKiKP 19 27 38.5 -2.0**
comp=Z,0.3nm,0.3s,baz=82,slow=1.5,SNR=6.5
O53A New Philadelph 117.36 50 P **PKPdf 19 27 46.5 -0.2**
baz=280
KIV Kislovodsk 117.81 314 *e*PKIKP **PKPdf 19 27 45.5 -2.0**
KIV pmax pmax
comp=Z,2.0nm,1.0s
LSQQ Lebel-sur-Quev 118.19 40 P **PKPdf 19 27 47.5 -0.5**
baz=288
ALGO Algonquin Park 118.38 43 P **PKPdf 19 27 47.4 -1.1**
baz=285
CHGQ Chibougamau 119.52 38 P **PKPdf 19 27 49.7 -0.8**
baz=291
SSPA Standing Stone 119.78 49 P **PKPdf 19 27 50.1 -1.2**
baz=283
I57A Carthage 120.56 45 P **PKPdf 19 27 51.5 -1.2**
baz=286
H57A Richville 120.60 44 P **PKPdf 19 27 52.2 -0.6**
baz=287
J58A Remsen 120.98 45 P **PKPdf 19 27 52.6 -1.0**
baz=286
LONY Lake Ozonia 121.10 44 P **PKPdf 19 27 52.8 -1.0**
baz=288
N59A State Game Lan 121.28 48 P **PKPdf 19 27 52.8 -1.4**
baz=284
H58A Gabriels 121.44 44 P **PKPdf 19 27 53.4 -1.0**
baz=288
I60A Shoreham 122.22 44 P **PKPdf 19 27 55.5 -0.4**
baz=288
K61A Williamstown 122.60 46 P **PKPdf 19 27 56.2 -0.5**
baz=287
E60A Ste Agathe de 122.61 41 P **PKPdf 19 27 56.1 -0.4**
baz=291
BOSA Boshof 122.70 226 PKP **PKPdf 19 27 57.0 -0.5**
comp=Z,1.7nm,0.7s,baz=153,slow=2.3,SNR=3.9
J61A Chester 122.89 45 P **PKPdf 19 27 56.9 -0.3**
baz=288
G61A St-Isidore-de- 122.94 42 P **PKPdf 19 27 57.1 -0.2**
baz=290
F61A St Evariste 123.05 41 P **PKPdf 19 27 56.7 -0.7**
baz=291
L61B Northampton 123.08 46 P **PKPdf 19 27 57.0 -0.6**
baz=288
E61A Lac Etchemin 123.20 41 P **PKPdf 19 27 57.1 -0.6**
baz=292
J62A Henniker 123.44 45 P **PKPdf 19 27 57.8 -0.4**
baz=289
I62A Tamworth 123.55 44 P **PKPdf 19 27 57.8 -0.7**
baz=290
G62A West of Eustis 123.62 42 P **PKPdf 19 27 58.6 0.0**
baz=291
F62A Pittston Farm, 123.74 41 P **PKPdf 19 27 58.7 0.0**
baz=292
D62A Allapoint, All 123.86 39 P **PKPdf 19 27 57.9 -1.0**
baz=294
L63A North Scituate 124.02 46 P **PKPdf 19 27 58.5 -0.9**
baz=288
G63A Kingsbury 124.26 42 P **PKPdf 19 27 59.2 -0.5**
baz=292
I64A Boothbay 124.69 43 P **PKPdf 19 27 59.8 -0.7**
baz=291
F64A Sherman 124.79 41 P **PKPdf 19 28 00.2 -0.5**
baz=294
G65A Princeton 125.57 41 P **PKPdf 19 28 02.1 -0.2**
baz=294
CRVS Cervenica-Dubn 129.21 327 *e*PKIKP **PKiKP 19 28 10.3 +0.5**
CRVS Cervenica-Dubn 129.21 327 *e*PKP **PKiKP 19 28 10.3 +0.5**
CLL Collm 131.75 334 *i* PKPdf **PKPdf 19 28 14.0 +0.2**
CLL Collm 131.75 334 *i* PKIKP **PKPdf 19 28 14.0 +0.2**
KEST Kesra 144.29 319 PKP **PKPab 19 28 35.6 +0.1**
comp=Z,2.1nm,0.6s,baz=30,slow=8.1,SNR=4.5
MVO Moncorvo 147.70 344 *i* LQ LQ 19 29 08.9
POLO Lamas de Olo 147.71 345 *i* LQ LQ 19 29 08.6
PVRL Vila Real 147.78 345 *e*PKPbc **PKPbc 19 28 45.0 -1.1**
PVRL *i* LQ LQ 19 29 05.8
ESDC Sonseca Array 148.08 339 PKPbc **PKPbc 19 28 46.8 -0.1**
comp=Z,0.5nm,0.8s,baz=20,slow=3.3,SNR=4.9
ESDC pPKPbc **pPKPdf 19 29 07.2 +0.8**
comp=Z,2.6nm,1.0s,baz=350,slow=3.8,SNR=5.7
ESDC Sonseca Array 148.08 339 PKPdf 19 28 43.8 +0.1
MTE Manteigas 148.55 344 *e*PKPbc **PKPbc 19 28 48.3 +0.1**
PCAS Casmilo, Conde 149.13 345 *e*PKPbc **PKPdf 19 28 47.3 +2.0**
PMRV Marv??o 149.41 343 *e*PKPbc **PKPbc 19 28 49.5 -0.8**
PMRV *i* LQ LQ 19 29 10.2
PMTG Montargil 149.98 344 *e*PKPbc **PKPbc 19 28 51.5 -0.2**
PMTG *i* LQ LQ 19 29 12.1
EVO Evora 150.42 343 *e*PKPbc **PKPbc 19 28 52.7 0.0**
EVO *i* LQ LQ 19 29 08.3
PBAR Barrancos 150.46 342 *e*PKPab **PKPab 19 28 59.7 +0.2**
PBAR *i* LQ LQ 19 29 13.6
PBEJ Beja 150.85 343 *e*PKPbc **PKiKP 19 28 54.1 -0.3**
PBEJ *i* LQ LQ 19 29 09.7
PNCL Nicolau / Gran 150.96 344 *e*PKPbc **PKPbc 19 28 54.0 0.0**
PNCL *i* LQ LQ 19 29 27.6
MESJ Messejana 151.13 343 *i* LQ LQ 19 29 15.5
PCVE Castro Verde 151.27 343 *i* LQ LQ 19 29 15.9
PBDV Barranco-do-Ve 151.60 342 *e*PKPab **PKPab 19 29 03.1 -1.1**
TORD Torodi Ar. Bea 160.08 280 pPKPab pPKPab 19 30 00.6 -2.6
comp=Z,1.2nm,0.7s,baz=82,slow=3.1,SNR=3.2

*IDC **24** 19:26:39.4±1.2, 14.01°S×176.03°W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.7/43, mbtmp3.6/6, ML3.5/1, MS3.2/4, Ms1 3.2/4, ms1mx3.1/20, Error ellipse: s-maj=67.3km s-min=21.7km az=163.0*

ISC 24 19:26:44.5±1.1, 14.1°S±0.4°×176.00°W±0.10, h35km, n10, σ0.75/8, mb3.3±/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.11**	**88**	Pn	**Pn**	**19 27 44.5**	**-0.5**
	3.2nm,0.3s,baz=47,slow=23,SNR=1.9						
AFI				Sn	**Sn**	**19 28 32.2**	**+0.4**
	3.0nm,0.3s,baz=40,slow=22,SNR=1.8						
AFI				LR	LR	19 28 41.1	
	comp=Z,36nm,20.6s,baz=182,slow=30						
MSVF	**Nonsavu**	**6.76**	**237**	LR	LR	19 30 25.5	
	comp=Z,489nm,20.1s,baz=141,slow=33						
DZM	**Mont Dzumac**	**18.45**	**242**	LR	LR	19 36 41.2	
	comp=Z,135nm,18.0s,baz=88,slow=33						
URZ	**Urewera**	**24.81**	**193**	LR	LR	19 39 47.6	
	comp=Z,128nm,18.2s,baz=30,slow=32						
WRA	**Warramunga Arr**	**47.70**	**256**	P	**P**	**19 35 17.9**	**-0.3**
	0.8nm,0.9s,baz=89,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**48.13**	**251**	P	**P**	**19 35 21.6**	**0.0**
	1.7nm,0.8s,baz=83,slow=7.6,SNR=19						
ILAR	**Eielson Array**	**81.70**	**12**	P	**P**	**19 38 58.3**	**-0.7**
	0.2nm,0.6s,baz=210,slow=7.1,SNR=2.0						
TXAR	**Lajitas Array**	**82.01**	**57**	P	**P**	**19 39 01.1**	**-0.4**
	0.1nm,0.6s,baz=255,slow=6.5,SNR=2.3						
PDAR	**Pinedale Array**	**83.02**	**43**	P	**P**	**19 39 07.6**	**+0.9**
	0.1nm,0.5s,baz=208,slow=4.7,SNR=1.3						
BRTR	**Keskin Array B**	**143.57**	**320**	PKP	**PKPdf**	**19 46 17.1**	**+0.9**
	0.8nm,0.8s,baz=90,slow=1.6,SNR=1.4						

BJI ***24*** *19:30:51.9±0.0, 35.°54N×141.°40E, h35km, mB4.8/49, mb4.6/70, Ms4.5/64, Ms7 4.4/60*

IDC ***24*** *19:30:52.1±0.5, 35.°48N×140.°94E, h0km, mb4.4/32, mb1 4.5/37, mb1mx4.5/55, mbtmp4.4/37, ML3.9/4, MS4.2/30, Ms1 4.2/30, ms1mx4.2/41, Error ellipse: s-maj=13.4km s-min=10.8km az=107.0*

MOS ***24*** *19:30:55.4±1.2, 35.°62N×141.°05E, h33km, mb5.0/23, MS4.4/14, Error ellipse: s-maj=6.5km s-min=4.0km az=110.9*

NEIC ***24*** *19:30:56.9, 35.°54N×141.°16E, h39km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr1.28; Mθθ-0.33; Mφφ-0.95; Mrθ0.38; Mrφ-0.35; Mθφ1.73; Fault plane solution: M0 2.14000×10^16^ NP1:φs209.43000°, δ17.43000°, λ104.16000°. NP2:φs14.62000°, δ73.11000°, λ85.61000°. Principal axes: T 2.2372, Plg62.0000°, Azm278.0000°; N -0.2008, Plg4.0000°, Azm16.0000°; P -2.0364, Plg28.0000°, Azm108.0000°;*

JMA ***24*** *19:30:57.0±0.2, 35.°58N×141.°05E, h38km±1km, M4.7*

JMA Felt II J1.

NEIC ***24*** *19:30:57.6±1.7, 35.°54N±0.°05×141.°12E±0.°08, h35km±4km, mb4.8/128, Mwr4.8/23, Error ellipse: s-maj=9.9km s-min=7.0km az=93.0*

NIED ***24*** *19:30:57.1, 35.°58N×141.°05E, h38km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr2.62; Mθθ0.29; Mφφ-2.91; Mrθ1.54; Mθφ0.18; Mφr3.32; Fault plane solution: M0 4.59000×10^16^ NP1:φs18.00000°, δ72.00000°, λ105.00000°. NP2:φs157.00000°, δ23.00000°, λ51.00000°.*

GCMT ***24*** *19:30:59.6±0.3, 35.°54N±0.°02×141.°15E±0.°02, h38km, MW5.0/99, Moment Tensor Solution. s51, c68; s99, c136; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.96±.17; Mθθ-0.50±.10; Mφφ-3.46±.10; Mrθ0.72±.09; Mφθ-0.40±.06; Mφr1.82±.08; Best double couple: M0 4.21600×10^16^ NP1:φs183.00000°, δ32.00000°, λ81.00000°. NP2: φs14.00000°, δ59.00000°, λ96.00000°. Principal axes: T 4.4590, Plg76.0000°, Azm300.0000°; N -0.4880, Plg5.0000°, Azm191.0000°; P -3.9730, Plg14.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 19:30:56.4±0.3, 35.°52N±0.°03×141.°14E±0.°04, h33km, h33km:pP-P, n480, σ1°72/488, mb4.8/154, MS4.5/62, 53C-23D, Fault plane solution: NP1:φs128.96321°, δ24.74036°, λ5.37326°. NP2:φs34.08064°, δ87.75398°, λ114.64459°. Principal axes: T Plg42.0606°, Azm327.4805°; N Plg24.6244°, Azm213.0506°; P Plg37.9150°, Azm102.1339°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.29**	**308**	⇓P	**Pb**	**19 31 04.0**	**0.0**
CHOJ				S	**Sn**	**19 31 08.9**	**-0.2**
JSMT	**Sammumatsuo**	**0.58**	**282**	⇓P	**Pb**	**19 31 07.8**	**-0.4**
JIHU	**Itakohorinouch**	**0.67**	**312**	⇓P	**Pn**	**19 31 09.2**	**-0.3**
I30JP	**ISUMI INFRASON**	**0.71**	**253**	Pn	**Pn**	**19 31 10.0**	**0.0**
	baz=82,slow=13,SNR=3.1						
KTR	**Katsuura**	**0.77**	**241**	⇓P	**Pn**	**19 31 10.9**	**0.0**
JCN	**Nagara**	**0.77**	**263**	⇓P	**Pb**	**19 31 11.5**	**+0.1**
BSO4	**Boso 4**	**0.84**	**231**	⇓P	**Pb**	**19 31 12.2**	**-0.3**
BSO4				X		19 31 22.1	
BSO1	**Boso 1**	**0.88**	**189**	P	**Pb**	**19 31 12.8**	**0.0**
BSO3	**Boso 3**	**0.89**	**216**	⇓P	**Pb**	**19 31 12.7**	**-0.4**
JYT	**Yasato**	**1.04**	**313**	⇓P	**Pn**	**19 31 14.0**	**-0.7**
JYT	**Yasato**	**1.04**	**313**		**Pn**	**19 31 13.9**	**-0.7**
JHO	**Hitachi**	**1.18**	**337**	⇓P	**Pn**	**19 31 16.2**	**-0.4**
JMM	**Marumori**	**2.36**	**353**		**Pn**	**19 31 33.4**	**+0.7**
JSG	**Sagara**	**2.56**	**252**		**Pn**	**19 31 36.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.58**	**294**	Pn	**Pn**	**19 31 34.9**	**-1.0**
	11nm,0.3s,baz=114,slow=32,SNR=582						
MJAR				LR	LR	19 32 43.3	
	comp=Z,8μm,19.4s,baz=115,slow=46						
MJAR	**Matsushiro Arr**	**2.58**	**294**	P	**Pn**	**19 31 36.4**	**+0.5**
MJAR	**Matsushiro Arr**	**2.58**	**294**		**Pn**	**19 31 36.4**	**+0.5**
MAJO	**Matsushiro**	**2.59**	**294**	P	**Pn**	**19 31 37.2**	**+1.3**
MAJO	**Matsushiro**	**2.59**	**294**	Pn	**Pn**	**19 31 37.2**	**+1.3**
MAT	**Matsushiro**	**2.59**	**294**	P	**Pn**	**19 31 37.3**	**+1.4**
MAT				*e*S	**Sn**	**19 32 07.8**	**+1.6**
MJB9	**Matsu-Tunnel**	**2.59**	**294**		**Pn**	**19 31 37.4**	**+1.4**
JHJ2	**Mitsune**	**2.64**	**205**	Pn	**Pn**	**19 31 36.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.65**	**205**	Pn	**Pn**	**19 31 36.2**	**-0.6**
	77nm,0.3s,baz=87,slow=22,SNR=30						
JHJ				Sn	**Sn**	**19 32 06.4**	**-1.3**
	307nm,0.3s,baz=229,slow=23,SNR=7.2						
JGF	**Kuroka**	**3.08**	**273**	Pn	**Pn**	**19 31 44.6**	**+1.9**
INU	**Inuyama**	**3.37**	**268**		**Pn**	**19 31 47.5**	**+0.8**
JSD	**Sado**	**3.41**	**318**		**Pn**	**19 31 48.1**	**+0.8**
JWT	**Wachi**	**4.69**	**269**		**Pn**	**19 32 06.2**	**+1.4**
JTM	**Tenmabayashi**	**5.26**	**359**		**Pn**	**19 32 13.8**	**+1.3**
JMN	**Monobe**	**6.25**	**255**		**Pn**	**19 32 27.8**	**+1.5**
JHS	**Saijyo**	**6.58**	**268**	Pn	**Pn**	**19 32 32.8**	**+1.9**
ERM	**Erimo**	**6.67**	**13**	P	**Pn**	**19 32 31.1**	**-0.9**
ERM	**Erimo**	**6.67**	**13**	Pn	**Pn**	**19 32 31.1**	**-0.9**
JEW	**Eniwo**	**7.31**	**2**		**Pn**	**19 32 40.4**	**-0.4**
JCJ	**Chichijima**	**8.45**	**174**	Pn	**Pn**	**19 32 55.5**	**-0.9**
	48nm,0.3s,baz=302,slow=7.2,SNR=17						
JCJ				Sn	**Sn**	**19 34 22.9**	**-7.8**
	19nm,0.3s,baz=298,slow=24,SNR=2.0						
JCJ	**Chichijima**	**8.45**	**174**	Pn	**Pn**	**19 32 56.3**	**-0.1**
NMR	**Nemuro--Hokkai**	**8.60**	**23**	*d*P	**Pn**	**19 32 56.9**	**-1.6**
NMR				*i* S	**Sn**	**19 34 25.9**	**-8.4**
JKA	**Kamikawa-asahi**	**8.66**	**7**	Pn	**Pn**	**19 32 57.9**	**-1.3**
ASAJ	**Asahikawa**	**8.66**	**7**	Pn	**Pn**	**19 32 58.2**	**-1.0**
	5.3nm,0.3s,baz=224,slow=9.2,SNR=58						
ASAJ				Sn	**Sn**	**19 34 31.2**	**-4.5**
	1.9nm,0.3s,baz=82,slow=30,SNR=1.7						
JNU	**Nakatsue**	**8.82**	**257**	Pn	**Pn**	**19 32 59.5**	**-2.1**
	0.5nm,0.3s,baz=47,slow=19,SNR=2.9						
JNU	**Nakatsue**	**8.82**	**257**	Pn	**Pn**	**19 33 01.8**	**+0.2**
RUSJ	**Misakicho**	**9.13**	**19**	*e*P	**Pn**	**19 33 05.7**	**-0.1**
RUSJ				*e*S	**Sn**	**19 34 42.4**	**-4.9**
YUK	**Yuzh-Kuril'sk**	**9.24**	**22**	*e*P	**Pn**	**19 33 07.2**	**-0.1**
YUK				*e*S	**Sn**	**19 34 43.7**	**-6.3**
YUK				pmax	pmax		
	comp=Z,106nm,0.3s						
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				pmax	pmax		
	comp=E,70nm,0.2s						
JTU	**Tsushima**	**9.68**	**267**	Pn	**Pn**	**19 33 15.3**	**+2.0**
JSU	**Suzuyama**	**9.78**	**249**	Pn	**Pn**	**19 33 16.9**	**+2.2**
VLA	**Vladivostok**	**10.43**	**319**	*e*P	**Pn**	**19 33 25.5**	**+2.0**
MSHR	**Mys Shultsa**	**10.48**	**315**	*i* P	**Pn**	**19 33 23.9**	**-0.3**
KSRS	**Korea Array**	**10.81**	**284**	Pn	**Pn**	**19 33 31.8**	**+3.0**
	comp=E,0.7nm,0.3s,baz=100,slow=14,SNR=14						
KSAR	**Wonju Array Be**	**10.84**	**284**	P	**Pn**	**19 33 29.4**	**+0.2**
KSAR	**Wonju Array Be**	**10.84**	**284**	Pn	**Pn**	**19 33 29.4**	**+0.2**
KS19	**Wonju Array Si**	**10.86**	**284**		**Pn**	**19 33 30.0**	**+0.5**
KUR	**Kuril'sk**	**10.97**	**26**	*e*P	**Pn**	**19 33 32.6**	**+1.7**
KUR				*e*S	**Sn**	**19 35 25.1**	**-7.2**
KUR				pmax	pmax		
	comp=Z,27nm,0.5s						
KUR				pmax	pmax		
	comp=N,9.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,12nm,0.3s						
KUR				smax	smax		
	comp=E,115nm,0.5s						
KUR				smax	smax		
	comp=N,37nm,0.3s						
KUR				MLR	MLR		
	comp=Z,852nm,17.0s						
KUR				MLR	MLR		
	comp=N,786nm,15.0s						
USA0B	**Ussuriysk Arra**	**11.15**	**324**	P	**Pn**	**19 33 34.2**	**+0.8**
USA0B	**Ussuriysk Arra**	**11.15**	**324**		**Pn**	**19 33 34.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**11.15**	**324**	Pn	**Pn**	**19 33 35.1**	**+1.7**
	baz=132,slow=12,SNR=27						
USRK				LR	LR	19 37 41.3	
	comp=N,2μm,18.8s,baz=134,slow=37						
USRK	**Ussuriysk Ar.**	**11.15**	**324**	P	**Pn**	**19 33 34.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**11.15**	**324**	Pn	**Pn**	**19 33 34.5**	**+1.1**
TJN	**Taejon**	**11.20**	**278**	*i* P	**Pn**	**19 33 35.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**11.49**	**6**	*e*P	**Pn**	**19 33 37.0**	**-0.9**
YSS				*e*S	**Sn**	**19 35 41.4**	**-3.6**
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YSS				MLR	MLR		
	comp=N,900nm,17.0s						
YSS				MLR	MLR		
	comp=E,800nm,18.0s						
YSS	**Yuzh-Sakhalins**	**11.49**	**6**	Pn	**Pn**	**19 33 36.7**	**-1.2**
MDJ	**Mudanjiang**	**12.67**	**319**	P	**Pn**	**19 33 55.1**	**+1.0**
MDJ				sP	P	19 34 09.3	+4.3
MDJ				S	**Sn**	**19 36 15.8**	**+1.9**
MDJ				PcS	**PcS**	**19 43 05.4**	**+1.1**
MDJ				pmax	pmax		
	comp=E,5.0nm,1.1s						
MDJ				pmax	pmax		
	comp=E,370nm,7.3s						
MDJ				LR	LR		
	comp=E,1μm,19.4s						
MDJ				LR	LR		
	comp=E,840nm,17.9s						
MDJ				LR	LR		
	comp=E,2μm,22.5s						
MDJ	**Mudanjiang**	**12.67**	**319**	Pn	**Pn**	**19 33 53.3**	**-0.8**
CN2	**Changchun**	**14.63**	**309**	*e*P	**P**	**19 34 25.1**	**-1.7**
CN2				pmax	pmax		
	comp=E,10.0nm,0.8s						
CN2				LR	LR		
	comp=E,700nm,17.0s						
CN2				LR	LR		
	comp=E,900nm,17.0s						
CN2				LR	LR		
	comp=E,900nm,17.0s						
SNY	**Shenyang**	**15.08**	**300**	⇓P	**P**	**19 34 29.4**	**-2.4**
SNY				pmax	pmax		
	comp=E,15nm,0.9s						
SNY				LR	LR		
	comp=E,410nm,10.9s						
SNY				LR	LR		
	comp=E,360nm,15.4s						
SNY				LR	LR		
	comp=E,490nm,17.8s						
KLR	**Kul'dur**	**15.34**	**336**	Pn	**Pn**	**19 34 26.4**	**-3.9**
	comp=E,0.3nm,0.3s,baz=145,slow=14,SNR=3.7						
KLR	**Kul'dur**	**15.34**	**336**	*e*P	**Pn**	**19 34 30.1**	**-0.2**
TYV	**Tymovskoe**	**15.37**	**4**	*e*P	**Pn**	**19 34 26.3**	**-4.4**
TYV				*e*		19 37 11.8	
TYV				pmax	pmax		
	comp=Z,10.0nm,1.6s						
GRNR	**Gornyy**	**15.62**	**349**	⇑*i*P	**Pn**	**19 34 31.2**	**-2.7**
GRNR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GRNR				MLR	MLR		
	comp=Z,660nm,18.0s						
SSE	**Sheshan**	**17.25**	**261**	P	**P**	**19 34 55.9**	**0.0**
SSE				S	**Sn**	**19 38 07.6**	**+2.1**
SSE				pmax	pmax		
	comp=Z,14nm,0.6s						
SSE				pmax	pmax		
	comp=Z,140nm,3.7s						
SSE				LR	LR		
	comp=Z,590nm,18.2s						
SSE				LR	LR		
	comp=Z,580nm,16.9s						
SKR	**Severo-Kuril's**	**18.63**	**31**	*ce*P	**P**	**19 35 09.0**	**-2.0**
NJ2	**Nanjing**	**18.84**	**266**	*e*P	**Pn**	**19 35 13.9**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
YOJ	**Yonaguni jima**	**19.15**	**240**	P	**P**	**19 35 14.4**	**-2.5**
YOJ				pmax	pmax		
	comp=Z,106nm,1.6s						
YOJ	**Yonaguni jima**	**19.15**	**240**	P	**P**	**19 35 14.4**	**-2.5**
YOJ				IAmb	IAmb	19 35 48.5	
	comp=Z,106nm,1.6s						
TIA	**Tai'an**	**19.47**	**279**	*e*P	**P**	**19 35 17.8**	**-2.6**
TIA				S	**S**	**19 38 55.3**	**-3.3**
TIA				pmax	pmax		
	comp=Z,13nm,1.3s						
TIA				pmax	pmax		
	comp=Z,220nm,10.4s						
TIA				LR	LR		
	comp=Z,910nm,19.9s						
TIA				LR	LR		
	comp=Z,880nm,19.9s						
TIA				LR	LR		
	comp=Z,1μm,24.5s						
YHNB	**Yeheng**	**20.20**	**243**	P	**P**	**19 35 25.9**	**-2.5**
YHNB				IAmb	IAmb	19 36 03.4	
	comp=Z,97nm,1.7s						
BJI	**Beijing**	**20.22**	**290**	P	**P**	**19 35 25.8**	**-2.6**
BJI				pmax	pmax		
	comp=Z,15nm,1.8s						
BJI				LR	LR		
	comp=Z,460nm,21.6s						
BJI				LR	LR		
	comp=Z,630nm,22.5s						
BJI				LR	LR		
	comp=Z,1μm,25.6s						
BJT	**Baijiatuau**	**20.22**	**290**	P	**P**	**19 35 25.3**	**-3.2**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJT	**Baijiatuau**	**20.22**	**290**	P	**P**	**19 35 25.3**	**-3.2**
NACB	**Ninganchiao**	**20.34**	**242**	P	**P**	**19 35 26.9**	**-3.0**
ZEA	**Zeya**	**20.65**	**336**	*e*P	**P**	**19 35 28.4**	**-4.7**
ZEA				*e*		19 35 50.9	
ZEA				pmax	pmax		
	comp=Z,100nm,3.4s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.4s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				MLR	MLR		
	comp=N,600nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,17.0s						
HIA	**Hailar**	**20.84**	**318**	P	**P**	**19 35 33.6**	**-1.6**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**20.84**	**318**	P	**P**	**19 35 33.6**	**-1.6**
SSLB	**Suanglung**	**21.04**	**242**	P	**P**	**19 35 35.9**	**-1.6**
YULB	**Yu-li**	**21.04**	**240**	P	**P**	**19 35 33.6**	**-3.9**
PEA0B	**Petropavlovsk-**	**21.11**	**28**	P	**P**	**19 35 38.3**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,24nm,1.0s						
PEA0B	**Petropavlovsk-**	**21.11**	**28**		**P**	**19 35 38.3**	**+0.3**
PETK	**Petropavlovsk-**	**21.11**	**28**	P	**P**	**19 35 40.3**	**+2.3**
	comp=Z,3.9nm,0.8s,baz=218,slow=9.4,SNR=13						
PETK	**Petropavlovsk-**	**21.11**	**28**		**P**	**19 35 39.6**	**+1.6**
PET	**Petropavlovsk**	**21.43**	**30**	*e*P	**P**	**19 35 41.8**	**+0.4**
PET				*e*S	**S**	**19 39 29.5**	**-7.7**
PET				pmax	pmax		
	comp=Z,200nm,13.3s						
PET				pmax	pmax		
	comp=Z,24nm,1.2s						
PET				pmax	pmax		
	comp=Z,200nm,12.6s						
PET				MLR	MLR		
	comp=Z,900nm,21.0s						
PET	**Petropavlovsk**	**21.43**	**30**	P	**P**	**19 35 42.8**	**+1.4**
PET				IAmb	IAmb	19 36 16.5	
	comp=Z,53nm,1.5s						
TPUB	**Ta-pu**	**21.57**	**241**	P	**P**	**19 35 40.5**	**-2.7**
TPUB				IAmb	IAmb	19 36 03.7	
	comp=Z,102nm,1.8s						
GUMO	**Guam**	**22.10**	**170**	P	**P**	**19 35 48.5**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,120nm,0.9s						
GUMO	**Guam**	**22.10**	**170**	P	**P**	**19 35 48.5**	**-0.3**
WHN	**Wuhan**	**22.97**	**265**	⇓P	**P**	**19 35 55.6**	**-2.4**
WHN				S	**S**	**19 39 58.8**	**-7.3**
WHN				LR	LR		
	comp=Z,2μm,17.3s						
WHN				LR	LR		
	comp=Z,4μm,16.2s						
WHN				LR	LR		
	comp=Z,5μm,14.8s						
HHC	**Hu-ho-hao-te**	**23.79**	**292**	*e*P	**P**	**19 36 07.6**	**+1.5**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,76nm,5.6s						
MA2	**Magadan**	**24.88**	**12**	P	**P**	**19 36 16.1**	**+0.4**
	comp=Z,22nm,0.7s,baz=209,slow=10.0,SNR=15						
MA2	**Magadan**	**24.88**	**12**	*ce*P	**P**	**19 36 12.3**	**-3.4**
MA2				pmax	pmax		
	comp=Z,60nm,1.7s						
MA2	**Magadan**	**24.88**	**12**	P	**P**	**19 36 16.3**	**+0.6**
MA2				IAmb	IAmb	19 36 20.0	
	comp=Z,28nm,0.8s						
XAN	**Xi'an**	**26.44**	**276**	P	**P**	**19 36 28.6**	**-1.7**
XAN				pP	pP	19 36 35.1	-4.6
XAN				pmax	pmax		
	comp=Z,14nm,0.6s						
XAN				LR	LR		
	comp=Z,1μm,18.4s						
XAN				LR	LR		
	comp=Z,1μm,19.5s						
XAN				LR	LR		
	comp=Z,2μm,20.6s						
ENH	**Enshi**	**27.02**	**268**	P	**P**	**19 36 33.4**	**-2.1**
ENH				IAmb	IAmb	19 36 50.2	
	comp=Z,18nm,0.8s						
YAK	**Yakutsk**	**27.50**	**348**	P	**P**	**19 36 39.8**	**+0.4**
	comp=Z,26nm,0.5s,baz=283,slow=0.8,SNR=24						
YAK	**Yakutsk**	**27.50**	**348**	*c i*P	**P**	**19 36 39.4**	**0.0**
YAK				*e**PP	**pP**	**19 36 49.4**	**+0.6**
YAK				*e*		19 37 29.7	
YAK				*e*		19 39 56.8	
YAK				*e*S	**S**	**19 41 18.9**	**+1.1**
YAK				*e**SS	**sS**	**19 41 39.5**	**+6.2**
YAK				*e*SS	**SnSn**	**19 42 29.0**	**-0.4**
YAK				*e*		19 47 27.9	
YAK				pmax	pmax		
	comp=Z,42nm,0.9s						
YAK				pmax	pmax		
	comp=N,34nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,54nm,1.8s						
YAK				pmax	pmax		
	comp=N,26nm,1.7s						
YAK				pmax	pmax		
	comp=E,34nm,1.6s						
YAK				smax	smax		
	comp=E,36nm,2.2s						
YAK				smax	smax		
	comp=N,36nm,1.9s						
YAK				MLR	MLR		
	comp=Z,599nm,19.0s						
YAK				MLR	MLR		
	comp=N,397nm,16.0s						
YAK				MLR	MLR		
	comp=E,282nm,18.0s						
YAK	**Yakutsk**	**27.50**	**348**	P	**P**	**19 36 39.8**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**27.60**	**118**	T	T	20 05 39.9	
	baz=311,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**27.61**	**118**	T	T	20 05 41.4	
	baz=311,slow=75,SNR=126						
H11N3	**WAKE ISLAND Hy**	**27.62**	**118**	T	T	20 05 46.3	
	baz=311,slow=75,SNR=154						
ULN	**Ulaanbaatar**	**28.05**	**307**	*ce*P	**P**	**19 36 44.0**	**-0.7**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**28.05**	**307**	P	**P**	**19 36 43.9**	**-0.8**
H11S1	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	20 06 32.3	
	baz=312,slow=75,SNR=632						
H11S3	**WAKE ISLAND Hy**	**28.26**	**120**	T	T	20 06 30.3	
	baz=312,slow=75,SNR=419						
H11S2	**WAKE ISLAND Hy**	**28.27**	**120**	T	T	20 06 32.2	
	baz=312,slow=75,SNR=439						
SEY	**Seymchan**	**28.31**	**11**	P	**P**	**19 36 49.0**	**+2.4**
	comp=Z,7.1nm,0.7s,baz=202,slow=7.1,SNR=20						
SONM	**Songino Array**	**28.47**	**306**	P	**P**	**19 36 48.1**	**-0.3**
	comp=Z,7.1nm,0.6s,baz=110,slow=8.9,SNR=42						
SONM	**Songino Array**	**28.47**	**306**	P	**P**	**19 36 47.4**	**-1.0**
SONM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**28.47**	**306**	P	**P**	**19 36 47.4**	**-1.0**
BOD	**Bodaibo**	**28.70**	**329**	*e*P	**P**	**19 36 49.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,12nm,1.3s						
LZH	**Lanzhou**	**30.14**	**282**	*e*P	**P**	**19 37 03.8**	**+0.5**
LZH				pP	sP	19 37 15.3	-1.4
LZH				sP	pP	19 37 22.4	+10
LZH				S	**S**	**19 42 00.8**	**+0.6**
LZH				sS	sS	19 42 19.6	+3.7
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH				LR	LR		
	comp=Z,570nm,14.6s						
LZH				LR	LR		
	comp=Z,710nm,16.3s						
LZH				LR	LR		
	comp=Z,540nm,15.7s						
GYA	**Guiyang**	**30.78**	**263**	P	**P**	**19 37 06.8**	**-2.2**
GYA				sP	pP	19 37 18.6	0.0
GYA				S	**S**	**19 42 04.3**	**-6.0**
GYA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GYA				LR	LR		
	comp=Z,140nm,19.1s						
GYA				LR	LR		
	comp=Z,72nm,23.0s						
GYA				LR	LR		
	comp=Z,100nm,21.4s						
ZAK	**Zakamensk**	**31.05**	**310**	*e*P	**P**	**19 37 08.1**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
QIZ	**Qiongzhong**	**32.13**	**248**	P	**P**	**19 37 21.8**	**+1.0**
QIZ				S	**S**	**19 42 33.1**	**+1.8**
QIZ				pmax	pmax		
	comp=Z,24nm,2.0s						
QIZ				LR	LR		
	comp=Z,490nm,19.8s						
QIZ				LR	LR		
	comp=Z,410nm,15.9s						
QIZ				LR	LR		
	comp=Z,330nm,40.2s						
GTA	**Gaotai**	**32.83**	**289**	⇑P	**P**	**19 37 25.8**	**-1.1**
GTA				pP	pP	19 37 36.5	0.0
GTA				sP	sP	19 37 39.8	-0.5
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,91nm,5.5s						
GTA				LR	LR		
	comp=Z,410nm,18.9s						
GTA				LR	LR		
	comp=Z,580nm,20.7s						
GTA				LR	LR		
	comp=Z,760nm,21.4s						
**KM

KMI LR LR
comp=Z,990nm,15.7s
BILL Bilibino 35.54 16d *i* P **P 19 37 49.6 -0.3**
BILL *e* 19 39 09.5
BILL *i* S **S 19 43 20.1 -3.0**
BILL pmax pmax
comp=Z,22nm,1.7s
BILL MLR MLR
comp=Z,215nm,22.0s
FAKI Fak Fak 39.14 194 P **P 19 38 21.4 +0.5**
FAKI IAmb IAmb 19 39 14.1
comp=Z,36nm,1.2s
CHTO Chiang Mai 40.72 257 P **P 19 38 34.2 0.0**
CHTO pmax pmax
comp=Z,11nm,1.5s
CHTO Chiang Mai 40.72 257 P **P 19 38 34.2 0.0**
CM31 Chiang Mai Arr 40.92 257 P **P 19 38 35.8 0.0**
CMAR Chiang Mai Arr 40.92 257 P **P 19 38 34.2 -1.6**
comp=Z,1.4nm,0.7s,baz=44,slow=7.7,SNR=5.0
CMAR LR LR 19 57 27.0
comp=Z,686nm,18.1s,baz=97,slow=39
CMAR Chiang Mai Arr 40.92 257 P **P 19 38 36.9 +1.1**
CMAR Chiang Mai Arr 40.92 257 P **P 19 38 36.9 +1.1**
DGZ Jazzator, Alta 41.11 307 *c i* P **P 19 38 38.3 +1.1**
DGZ pmax pmax
comp=Z,50nm,0.6s
WMQ Urumqi 41.34 298 *eP* **P 19 38 40.3 +1.2**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=Z,170nm,12.9s
WMQ LR LR
comp=Z,390nm,18.7s
WMQ LR LR
comp=Z,460nm,22.7s
LSA Lhasa 42.15 277 P **P 19 38 46.3 0.0**
LSA pmax pmax
comp=Z,32nm,0.9s
LSA Lhasa 42.15 277 P **P 19 38 45.8 -0.5**
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 42.15 277 P **P 19 38 45.8 -0.5**
ZAA0 Zalesovo Array 42.78 314 P **P 19 38 49.6 -1.0**
ZAA0 IAmb IAmb 19 38 51.6
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 42.78 314 P **P 19 38 51.0 +0.4**
comp=Z,10nm,0.5s,baz=94,slow=7.4,SNR=53
ZALV LR LR 19 56 35.0
comp=Z,214nm,20.7s,baz=80,slow=36
ZALV Zalesovo Beam 42.78 314 P **P 19 38 51.0 +0.4**
ZALV Zalesovo Beam 42.78 314 P **P 19 38 50.1 -0.5**
ZSN Zaisan 42.93 304⇑ *i P* **P 19 38 51.1 -0.8**
comp=Z,40nm,1.8s,baz=304
ZSN Zaisan 42.93 304 *c i* P **P 19 38 51.1 -0.8**
ZSN pmax pmax
comp=Z,41nm,1.8s
CNBA Chernabura Isl 44.52 45 P **P 19 39 04.8 +0.3**
NRIK Noril'sk 44.55 336 P **P 19 39 05.0 +0.4**
comp=Z,4.9nm,0.6s,baz=117,slow=9.4,SNR=10.0
NRIK LR LR 19 58 40.8
comp=Z,536nm,18.8s,baz=108,slow=38
NRIK Noril'sk 44.55 336 P **P 19 39 05.2 +0.6**
NRIK pmax pmax
comp=Z,17nm,1.3s
NRIK Noril'sk 44.55 336 P **P 19 39 05.2 +0.6**
NRIK IAmb IAmb 19 39 06.4
comp=Z,17nm,1.2s
MK31 Makanchi Array 44.75 303 P **P 19 39 06.2 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 44.75 303 P **P 19 39 06.2 -0.3**
MK31 IAmb IAmb 19 39 07.2
comp=Z,8.2nm,0.8s
MKAR Makanchi Array 44.75 303 P **P 19 39 06.7 +0.2**
comp=Z,7.0nm,0.6s,baz=88,slow=10.0,SNR=87
MKAR Makanchi Array 44.75 303 *i* P **P 19 39 06.6 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MAKZ Makanchi 44.96 303 P **P 19 39 08.5 +0.3**
MAKZ pmax pmax
comp=Z,11nm,0.9s
MAKZ Makanchi 44.96 303 P **P 19 39 08.4 +0.3**
MAKZ IAmb IAmb 19 39 09.0
comp=Z,11nm,0.9s
SEM Semipalatinsk 45.70 309 *eP* **P 19 39 11.3 -2.9**
baz=308
SEM Semipalatinsk 45.70 309 *eP* **P 19 39 11.3 -2.9**
RAMN Ramite 46.91 275 *eP* **P 19 39 23.8 -0.3**
comp=Z,16nm,0.4s
JIRN Jiri 46.95 276 *eP* **P 19 39 24.6 0.0**
comp=Z,22nm,0.5s
SHLS Shalkode 47.36 299 *eP* **P 19 39 23.6 -3.7**
baz=298
SHLS Shalkode 47.36 299 *eP* **P 19 39 23.5 -3.7**
PKI Pulchoki 47.62 277 *eP* **P 19 39 28.9 -0.8**
comp=Z,10nm,0.6s
PKIN Phulchoki 47.63 277 *eP* **P 19 39 29.3 -0.4**
comp=Z,15nm,0.5s
KKN Kakani 47.63 277 *eP* **P 19 39 29.8 +0.1**
comp=Z,14nm,0.8s
UZB Uzynbulak 47.67 299 *eP* **P 19 39 27.9 -1.8**
baz=299
UZB Uzynbulak 47.67 299 *eP* **P 19 39 27.9 -1.8**
EDFI Ende, Flores 47.71 206 P **P 19 39 29.5 -0.6**
comp=Z,8.9nm,0.8s
SOEI Soe 47.77 203 P **P 19 39 30.3 -0.3**
SOEI Soe 47.77 203 P **P 19 39 30.5 -0.1**
comp=Z,46nm,1.1s
KPKS Kokpek 47.84 299 *eP* **P 19 39 29.4 -1.6**
baz=299
KPKS Kokpek 47.84 299 *eP* **P 19 39 29.4 -1.6**
IMAR Indian Mountai 48.07 30 P **P 19 39 34.1 +1.8**
GKN Gorkha 48.07 278 *eP* **P 19 39 32.6 -0.4**
comp=Z,29nm,0.6s
SATY Saty 48.13 299 *eP* **P 19 39 31.2 -2.1**
baz=299
SATY Saty 48.13 299 *eP* **P 19 39 31.2 -2.1**
RSO Redoubt South 48.23 37 P **P 19 39 36.5 +2.6**
PRZ Przheval'sk 48.27 298 P **P 19 39 35.1 +0.7**
PRZ pmax pmax
comp=Z,23nm,1.1s
PRZ Przheval'sk 48.27 298 P **P 19 39 35.1 +0.7**
PRZ IAmb IAmb 19 40 06.2
comp=Z,23nm,1.1s
ARXS Arharly 48.29 301 *eP* **P 19 39 34.5 +0.1**
KDAK Kodiak Island 48.38 41 P **P 19 39 35.5 +0.8**
comp=Z,5.0nm,0.7s,baz=190,slow=16,SNR=1.9
DANN Dangsing 48.64 278 *eP* **P 19 39 38.0 +0.4**
comp=Z,94nm,0.6s
TARG Taragay, Kyrgy 48.88 297 P **P 19 39 39.8 +0.4**
TARG IAmb IAmb 19 39 41.4
comp=Z,12nm,0.8s
CHKK Chushkaly 48.96 300 *eP* **P 19 39 39.0 -0.5**
baz=300
CHKK Chushkaly 48.96 300 *eP* **P 19 39 38.9 -0.5**
KOLN Koldanda 49.00 278 *eP* **P 19 39 41.3 +1.1**
comp=Z,13nm,0.6s
MTN Manton Dam 49.03 193 P **P 19 39 40.3 +0.2**
BPAW Bear Paw Mtn. 49.11 33 P **P 19 39 40.9 +0.6**
BPAW IAmb IAmb 19 39 43.8
comp=Z,18nm,1.6s
MLY Manley 49.25 31 P **P 19 39 42.1 +0.7**
MLY IAmb IAmb 19 39 57.7
comp=Z,5.8nm,1.0s
MLY PcP **PcP 19 41 07.1 +3.2**
PYUN Piuthan 49.36 279 *eP* **P 19 39 43.4 +0.4**
comp=Z,56nm,0.5s
KUU Kurty 49.40 301 *eP* **P 19 39 41.2 -1.7**
baz=300
KUU Kurty 49.40 301 *eP* **P 19 39 41.2 -1.7**
TRF Thorofare Moun 49.41 33 P **P 19 39 43.2 +0.4**
TRF IAmb IAmb 19 40 12.6
comp=Z,8.0nm,1.1s
NEA2 Nenana 49.95 32 P **P 19 39 49.7 +2.9**
NEA2 IAmb IAmb 19 40 03.3
comp=Z,8.7nm,1.0s
MCK McKinley 50.01 33 P **P 19 39 48.5 +1.3**
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 50.01 33 P **P 19 39 48.5 +1.3**
MCK IAmb IAmb 19 40 03.6
comp=Z,4.7nm,0.6s
BOOM Boomskoye usch 50.03 299 P **P 19 39 47.9 0.0**
BOOM pmax pmax
comp=Z,16nm,1.3s
BOOM Boomskoye usch 50.03 299 P **P 19 39 47.9 0.0**
BOOM IAmb IAmb 19 39 52.0
comp=Z,16nm,1.2s
MDM Murphy Dome 50.31 31 P **P 19 39 51.3 +1.8**
MDM IAmb IAmb 19 40 05.4
comp=Z,11nm,1.1s
SML Sawmill 50.34 36 P **P 19 39 51.8 +2.0**
SML IAmb IAmb 19 40 07.0
comp=Z,8.2nm,0.8s
WRH Wood River Hil 50.38 32 P **P 19 39 50.8 +0.9**
SGDS Sogindy 50.71 300 *eP* **P 19 39 51.6 -1.3**
baz=300
SGDS Sogindy 50.71 300 *eP* **P 19 39 51.6 -1.3**
BTLS Baital 50.73 302 *eP* **P 19 39 51.8 -1.1**
baz=302
BTLS Baital 50.73 302 *eP* **P 19 39 51.7 -1.1**
KSH Kashi 50.83 295 P **P 19 39 57.1 +3.2**
KSH sP sP 19 40 13.8 +6.2
KSH S **S 19 47 15.8 +7.9**
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,120nm,5.3s
KSH LR LR
comp=Z,250nm,19.2s
KSH LR LR
comp=Z,590nm,21.3s
KSH LR LR
comp=Z,360nm,14.2s
HDA Harding Lake 50.87 32 P **P 19 39 55.5 +1.8**
IL31 50.89 32 P **P 19 39 55.6 +1.9**
ILAR Eielson Array 50.89 32 P **P 19 39 56.0 +2.2**
comp=Z,1.9nm,0.6s,baz=271,slow=6.4,SNR=14
ILAR Eielson Array 50.89 32 P **P 19 39 55.1 +1.3**
AAK Ala-Archa 51.02 299 *i* P **P 19 39 53.5 -1.9**
AAK pmax pmax
comp=Z,20nm,1.0s
AAK Ala-Archa 51.02 299 P **P 19 39 55.9 +0.6**
AAK IAmb IAmb 19 40 10.6
comp=Z,5.1nm,0.6s
BRVK Borovoye 51.49 313 P **P 19 39 58.6 +0.1**
BRVK pmax pmax
comp=Z,14nm,1.2s
BRVK Borovoye 51.49 313 P **P 19 39 58.5 +0.1**
BRVK IAmb IAmb 19 40 04.3
comp=Z,14nm,1.1s
FYU Fort Yukon 51.53 29 P **P 19 40 00.0 +1.5**
FYU IAmb IAmb 19 41 03.2
comp=Z,46nm,1.8s
EYAK Cordova Ski Ar 51.69 37 P **P 19 40 01.1 +1.3**
BMAR Burnt Mountain 51.76 28 P **P 19 40 03.0 +2.6**
DOT Dot Lake 52.19 33 P **P 19 40 05.0 +1.5**
DOT IAmb IAmb 19 41 58.3
comp=Z,6.8nm,0.8s
SCRK Sand Creek 52.19 33 P **P 19 40 05.4 +1.7**
SCRK IAmb IAmb 19 40 07.1
comp=Z,20nm,1.6s
BMRM Bremner River 52.20 36 P **P 19 40 05.9 +2.1**
BMRM IAmb IAmb 19 40 18.6
comp=Z,11nm,0.9s
KNRA Kununurra 52.25 195 P **P 19 40 04.8 +0.3**
KNRA IAmb IAmb 19 40 14.3
comp=Z,18nm,0.8s
MENT Mentasta 52.41 34 P **P 19 40 07.4 +2.2**
MENT IAmb IAmb 19 40 29.4
comp=Z,6.6nm,1.0s
SMLA Simla 52.81 285 *eP* **P 19 40 07.2 -1.3**
GSI Gunungsitoli 52.84 240 P **P 19 40 07.9 -1.1**
K27K Chicken 53.03 32 P **P 19 40 12.1 +2.4**
K27K IAmb IAmb 19 40 33.3
comp=Z,12nm,1.4s
L27K Beaver Creek, 53.25 34 P **P 19 40 13.5 +2.1**
BCAR Beaver Creek A 53.27 34 P **P 19 40 13.6 +2.0**
KK31 Karatay Array 53.70 301 P **P 19 40 15.4 +0.4**
KK31 pmax pmax
comp=Z,19nm,1.4s
KK31 Karatay Array 53.70 301 P **P 19 40 15.4 +0.4**
KK31 IAmb IAmb 19 40 16.6
comp=Z,19nm,1.4s
KKAR Karatay Array 53.70 301 P **P 19 40 15.4 +0.4**
KKAR pmax pmax
comp=Z,19nm,1.4s
KKAR Karatay Array 53.70 301 P **P 19 40 15.4 +0.4**
KKAR IAmb IAmb 19 40 16.6
comp=Z,19nm,1.4s
BTK Batken 54.44 297 P **P 19 40 21.0 +0.5**
BTK pmax pmax
comp=Z,9.0nm,1.1s
BTK Batken 54.44 297 P **P 19 40 21.0 +0.5**
BTK IAmb IAmb 19 40 54.1
comp=Z,8.5nm,1.1s
NIL Nilore 54.89 289 P **P 19 40 24.3 +0.5**
NIL pmax pmax
comp=Z,12nm,0.8s
NIL Nilore 54.89 289 P **P 19 40 24.3 +0.5**
NIL IAmb IAmb 19 40 24.8
comp=Z,12nm,0.8s
EPYK Eagle Plains 54.95 29 P **P 19 40 26.1 +2.3**
EPYK IAmb IAmb 19 40 33.5
comp=Z,14nm,0.9s
GAR Garm 55.16 296 P **P 19 40 25.4 -0.4**
WB0 Warramunga Arr 55.36 188 P **P 19 40 27.1 0.0**
WRAB Tennant Creek 55.52 188 P **P 19 40 28.4 +0.1**
WRAB pmax pmax
comp=Z,46nm,1.4s
WRAB Tennant Creek 55.52 188 P **P 19 40 28.4 +0.1**
WR0 Warramunga Arr 55.53 188 P **P 19 40 28.4 0.0**
WB2 Warramunga Arr 55.53 188 P **P 19 40 28.4 0.0**
WRA Warramunga Arr 55.54 188 P **P 19 40 28.8 +0.4**
comp=Z,6.3nm,0.4s,baz=5.3,slow=7.7,SNR=39
WRA LR LR 20 01 52.9
comp=Z,188nm,21.9s,baz=10.0,slow=34
WRA Warramunga Arr 55.54 188 P **P 19 40 28.3 -0.1**
WRA pmax pmax
comp=Z,5.0nm,1.6s
WRA Warramunga Arr 55.54 188 P **P 19 40 28.3 -0.1**
INK Inuvik 55.83 27 P **P 19 40 30.4 +0.4**
comp=Z,2.5nm,0.7s,baz=270,slow=4.0,SNR=4.4
INK Inuvik 55.83 27 P **P 19 40 30.2 +0.2**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 55.83 27 P **P 19 40 30.1 +0.2**
CHGR Chuyangaron 56.12 296 P **P 19 40 32.6 -0.1**
SVE Sverdlovsk 56.14 319⇓ *eP* **P 19 40 32.9 +0.5**
SVE pmax pmax
comp=Z,17nm,0.8s
SVE MLR MLR
comp=Z,383nm,17.0s
ARU Arti 57.35 319 *c i* P **P 19 40 41.1 +0.1**
ARU *PP **pP 19 40 52.6 +1.6**
ARU 19 41 32.3
ARU 19 42 45.2
ARU S **S 19 48 36.9 +1.8**
ARU SS **SS 19 52 28.6 +4.4**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU MLR MLR
comp=Z,359nm,16.0s
ARU Arti 57.35 319 P **P 19 40 41.0 +0.1**
KBL Kabul 57.76 292 P **P 19 40 43.1 -1.4**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 57.76 292 P **P 19 40 43.1 -1.4**
KBL IAmb IAmb 19 40 47.4
comp=Z,4.6nm,0.6s
ABKAR Akbulak array 58.75 311 P **P 19 40 50.9 -0.1**
ABKAR Akbulak array 58.75 311 P **P 19 40 50.8 -0.1**
ABKAR IAmb IAmb 19 40 51.5
comp=Z,12nm,0.6s
C36M Paulatuk 58.89 24 P **P 19 40 54.0 +2.4**
AS31 Alice Springs 59.26 188 P **P 19 40 55.3 +0.6**
ASAR Alice Springs 59.26 188 P **P 19 40 55.4 +0.7**
comp=Z,1.4nm,0.6s,baz=1.7,slow=7.3,SNR=24
ASAR LR LR 20 03 56.3
comp=Z,131nm,21.6s,baz=30,slow=34
PSA00 Pilbara Seismi 60.26 203 P **P 19 41 01.9 +0.3**
PSA00 IAmb IAmb 19 41 14.2
comp=Z,12nm,1.0s
PSA00 Pilbara Seismi 60.26 203 P **P 19 41 02.0 +0.5**
PSA00 IAmb IAmb 19 43 11.2
comp=Z,80nm,1.8s
LIFNC LIFOU 61.22 152 P **P 19 41 07.9 -0.1**
EIDS Eidsvold 61.29 170 P **P 19 41 09.5 +1.0**
EIDS IAmb IAmb 19 42 24.9
comp=Z,28nm,1.6s
HOPEN Hopen 61.45 346 *eP* **P 19 41 09.9 +0.9**
EUNU Eureka 61.71 8 P **P 19 41 12.4 +1.6**
EUNU IAmb IAmb 19 41 17.2
comp=Z,12nm,1.1s
PALK Pallekele 61.84 258 P **P 19 41 12.9 +0.3**
PALK pmax pmax
comp=Z,38nm,1.4s
PALK Pallekele 61.84 258 P **P 19 41 12.9 +0.3**
PRGR Permogore 61.91 327 *eP* **P 19 41 11.2 -1.1**
PRGR pmax pmax
comp=Z,16nm,0.9s
SPA0 Spitsbergen Ar 61.96 349 *eP* **P 19 41 12.2 -0.3**
SPITS Spitsbergen Ar 61.96 349 P **P 19 41 13.0 +0.6**
SPITS pmax pmax
comp=Z,32nm,1.4s
DZM Mont Dzumac 62.10 153 LR LR 20 04 55.3
comp=Z,138nm,19.4s,baz=30,slow=33
DZM Mont Dzumac 62.10 153 *e* LR LR 19 59 33.5
comp=Z,293nm,25.1s
HRA Herat 62.93 294 P **P 19 41 20.1 +0.2**
HRA IAmb IAmb 19 42 45.4
comp=Z,14nm,0.9s
GIRL Giralia 63.22 208 P **P 19 41 22.8 +1.4**
LVZ Lovozero 63.40 336 P **P 19 41 23.1 +0.9**
LVZ pmax pmax
comp=Z,53nm,1.6s
LVZ Lovozero 63.40 336 P **P 19 41 23.1 +0.9**
MSVF Nonsavu 63.48 140 LR LR 20 04 12.1
comp=Z,172nm,20.1s,baz=117,slow=32
RES Resolute Bay 64.12 14 P **P 19 41 28.2 +1.4**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 64.12 14 P **P 19 41 28.1 +1.4**
RES IAmb IAmb 19 41 48.0
comp=Z,11nm,0.8s
GEYT Alibeck 64.38 299 P **P 19 41 28.2 -0.9**
comp=Z,5.6nm,0.6s,baz=107,slow=1.5,SNR=6.2
GEYT LR LR 20 12 09.6
comp=Z,242nm,20.2s,baz=195,slow=39
BELG Belogornoye 64.76 317 *c i* P **P 19 41 30.7 -0.6**
BELG pmax pmax
comp=Z,5.0nm,1.0s
KEV Kevo 64.78 339 P **P 19 41 32.1 +1.0**
KEV pmax pmax
comp=Z,49nm,1.6s
KEV Kevo 64.78 339 P **P 19 41 32.1 +1.0**
KLMR Klimovskoe 64.92 328 *eP* **P 19 41 30.5 -1.7**
KLMR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 64.92 328 *eP* **P 19 41 30.5 -1.7**
KLMR AMP 19 41 33.0
comp=Z,10.0nm,0.9s
HAMF Hammerfest 65.17 341 *eP* **P 19 41 34.3 +0.7**
YKA Yellowknife Ar 65.23 30 P **P 19 41 35.7 +1.6**
comp=Z,1.1nm,0.8s,baz=296,slow=6.2,SNR=7.4
ARA0 ARCESS Array S 65.33 340 *eP* **P 19 41 35.9 +1.1**
ARCES ARCESS Array B 65.33 340 P **P 19 41 35.5 +0.8**
comp=Z,1.8nm,0.4s,baz=53,slow=7.6,SNR=28
ARCES LR LR 20 13 16.1
comp=Z,448nm,21.1s,baz=70,slow=39
ARCES ARCESS Array B 65.33 340 P **P 19 41 35.5 +0.8**
ARCES pmax pmax
comp=Z,35nm,1.8s
ARCES ARCESS Array B 65.33 340 P **P 19 41 35.5 +0.8**
KTK1 Kautokeino 66.29 340 *eP* **P 19 41 41.5 +0.6**
JETT Jettan, Norway 66.73 341 *eP* **P 19 41 44.9 +1.1**
NEEM North Greenlan 67.05 3 *i* P **P 19 41 47.7 +1.7**
NEEM IAmb IAmb 19 41 48.0
comp=Z,16nm,1.0s
STKA Stephens Creek 67.05 180 P **P 19 41 46.5 +0.4**
comp=Z,1.9nm,0.7s,baz=353,slow=11,SNR=4.4
STKA LR LR 20 11 41.4
comp=Z,130nm,20.7s,baz=24,slow=37
STKA Stephens Creek 67.05 180 P **P 19 41 47.4 +1.3**
STKA pmax pmax
comp=Z,6.0nm,1.5s
STKA Stephens Creek 67.05 180 P **P 19 41 47.4 +1.3**
TRO Tromso 67.07 341 *eP* **P 19 41 46.4 +0.5**
FORT Forrest 67.09 192 P **P 19 41 47.2 +0.8**
JOF Joensuu 67.19 332 P **P 19 41 46.9 +0.2**
JOF pmax pmax
comp=Z,16nm,1.1s
MOS Moscow 68.33 324 *eP* **P 19 41 51.4 -2.6**
MOS *e* 19 42 18.1
MOS MLR MLR
comp=Z,400nm,16.0s
MORW Morawa 68.46 204 P **P 19 41 55.8 +0.7**
OBN Obninsk 69.17 323 LR LR 20 14 34.4
comp=Z,71nm,18.1s,baz=25,slow=38
OBN Obninsk 69.17 323⇓ *eP* **P 19 41 58.5 -0.8**
OBN *e* 19 42 25.0
OBN *e* 19 44 28.7
OBN *eS* **SKiKP 19 51 50.5 +3.7**
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,281nm,18.0s
MAK Makhachkala 69.22 308 *eP* **P 19 41 57.1 -2.7**
MAK *eS* **S 19 50 58.7 -4.8**
MAK *eSS* **SS 19 55 28.9 -0.8**
MAK MLR MLR
comp=Z,274nm,14.0s
STEI Steigen 69.22 341 *eP* **P 19 41 60.0 +0.6**
FAUS Fauske 69.60 340 *eP* **P 19 42 02.5 +0.8**
FIA1 FINESS Array S 70.05 332 P **P 19 42 05.1 +0.6**
FIA1 IAmb IAmb 19 42 54.4
comp=Z,26nm,1.4s
FINES FINESS Array B 70.05 332 P **P 19 42 05.1 +0.5**
comp=Z,5.1nm,0.4s,baz=52,slow=6.8,SNR=58
FINES LR LR 20 15 07.4
comp=Z,292nm,18.9s,baz=48,slow=38
FINES FINESS Array B 70.05 332 P **P 19 42 05.2 +0.6**
FINES FINESS Array B 70.05 332 P **P 19 42 05.2 +0.6**
SEKA Sheki 70.29 307 P **P 19 42 07.0 +0.5**
ZKTA Zakatala 70.44 308 P **P 19 42 07.9 +0.5**
LKRN Lenkeran, Azer 70.49 304 P **P 19 42 08.5 +0.8**
MNGR Mingechevir, A 70.58 307 P **P 19 42 08.9 +0.7**
MOR8 Moi Rana 70.70 340 *eP* **P 19 42 08.0 -0.6**
NCK Nalchik 71.41 310 *i* P **P 19 42 13.5 +0.2**
NCK pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 71.45 52 P **P 19 42 16.1 +2.5**
comp=Z,1.0nm,0.6s,baz=8.5,slow=4.5,SNR=2.0
MEF Metsahovi 71.46 332 *eP* **P 19 42 14.0 +0.8**
PINE Pine Mountain 71.49 49 P **P 19 42 15.3 +1.4**
PINE IAmb IAmb 19 42 36.4
comp=Z,6.2nm,0.9s
JMIC Jan Mayen 71.59 350 LR LR 20 12 36.5
comp=Z,29nm,21.9s,baz=50,slow=35
VSU Vasula 71.64 330 *eP* **P 19 42 15.1 +0.8**
KBZ Khabaz 71.72 311 P **P 19 42 15.2 +0.1**
comp=Z,8.6nm,0.8s,baz=55,slow=3.5,SNR=20
KBZ LR LR 20 15 26.9
comp=Z,181nm,22.0s,baz=44,slow=37
KIV Kislovodsk 71.73 311 *eP* **P 19 42 15.8 +0.5**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 71.73 311 P **P 19 42 16.2 +0.9**
KIV IAmb IAmb 19 42 17.4
comp=Z,17nm,1.0s
SHA1 Shidzhatmaz 71.86 311 *c i* P **P 19 42 16.1 -0.1**
RAF Rauma 71.92 333 *eP* **P 19 42 12.6 -3.3**
ONI Oni 71.97 310 P **P 19 42 17.1 +0.4**
ONI pmax pmax
comp=Z,7.0nm,0.9s
ONI Oni 71.97 310 P **P 19 42 17.1 +0.4**
ONI IAmb IAmb 19 42 18.4
comp=Z,6.5nm,0.9s
K05A Summer Lake 72.08 50 P **P 19 42 20.6 +3.0**
K05A IAmb IAmb 19 42 40.4
comp=Z,10nm,1.1s
SUMG Summit 72.19 360 *i* P **P 19 42 20.0 +2.1**
SUMG IAmb IAmb 19 42 20.6
comp=Z,11nm,1.0s
SUMG Summit 72.19 360 P **P 19 42 19.5 +1.6**
SUMG pmax pmax
comp=Z,26nm,1.5s
SUMG Summit 72.19 360 P **P 19 42 19.5 +1.6**
SUMG IAmb IAmb 19 42 21.4
comp=Z,26nm,1.5s
GNI Garni 72.43 307 LR LR 20 16 51.9
comp=Z,263nm,19.0s,baz=55,slow=38
NAX Nakhchivan 72.45 306 P **P 19 42 20.2 +0.6**
NSS Namsos 72.62 339 *eP* **P 19 42 20.6 +0.6**

MTSE	Matsula	72.66	337	eP	P	19 42 18.7 -1.7
MNK	Minsk	73.62	326	i P	P	19 42 25.9 -0.3
MNK				i		19 42 38.7
MNK				i		19 45 09.5
MNK				i PPP	PPP	19 46 54.5
MNK				i S	SKiKP	19 51 51.1 -2.3
MNK				i		19 52 31.1
MNK				i SS	SS	19 56 36.0 -0.5
MNK				pmax	pmax	
	comp=E,1.0nm,0.8s					
MNK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MNK				pmax	pmax	
	comp=N,3.0nm,0.8s					
MNK	Minsk	73.62	326	i P	P	19 42 26.0 -0.2
	comp=E,1.0nm,0.8s					
MNK				i P	P	19 42 26.0 -0.2
	comp=N,3.0nm,0.8s					
MNK				i P	P	19 42 26.0 -0.2
	comp=Z,10.0nm,0.8s,baz=51					
MNK				i PcP	sP	19 42 38.8 -1.5
MNK				i PP	PP	19 45 09.5 -0.5
MNK				i PPP	PPP	19 46 54.5
MNK				i S	SKiKP	19 51 51.1 -2.3
MNK				i ScS	SKKSac	19 52 31.1 +0.8
MNK				i SS	SS	19 56 36.1 -0.4
MNK				i SSS	SSS	19 59 57.5
MNK				i LQ	LQ	20 09 49.1
MNK				i LR	LR	20 14 31.3
MNK				i LRM	MLR	20 19 57.6
	comp=Z,141nm,19.8s					
MNK				i LRM	MLR	20 19 59.8
	comp=E,15nm,19.8s					
MNK				i LRM	MLR	20 20 01.1
	comp=N,195nm,19.8s					
IDID	Didziasalis	73.62	327	eP	P	19 42 27.4 +1.3
ISAL	Salakas	73.73	328	eP	P	19 42 28.1 +1.3
IIGN	Ignalina	73.83	327	eP	P	19 42 28.2 +0.9
PABE	Paberze	74.71	328	eP	P	19 42 33.4 +0.9
PABE	Paberze	74.71	328	P	P	19 42 33.1 +0.6
PABE				IAmb	IAmb	19 42 33.8
	comp=Z,17nm,0.8s					
GURO	Guroymak-BITLI	75.06	307	P	P	19 42 36.0 +1.0
GURO				IAmb	IAmb	19 42 36.9
	comp=Z,7.1nm,0.9s					
RAO	Raoul Island	75.09	144	LR	LR	20 11 12.6
	comp=Z,150nm,18.7s,baz=123,slow=32					
PBUR	Paburge	75.22	330	eP	P	19 42 36.2 +0.8
NC405	NORSAR Array S	75.28	337	P	P	19 42 35.6 -0.1
AKASG	Malin Array Be	75.36	322	P	P	19 42 36.4 +0.1
	comp=Z,8.0nm,0.6s,baz=47,slow=6.2,SNR=36					
AKASG	Malin Array Be	75.36	322	P	P	19 42 36.4 +0.1
AKBB	Malin Array Si	75.36	322	P	P	19 42 36.4 +0.1
AKBB				pmax	pmax	
	comp=Z,10.0nm,0.7s					
AKBB	Malin Array Si	75.36	322	P	P	19 42 36.4 +0.1
AKBB				IAmb	IAmb	19 42 37.0
	comp=Z,10nm,0.7s					
DOMB	Dombas	75.37	339	eP	P	19 42 36.2 -0.1
HFS	Hagfors	75.37	336	LR	LR	20 18 10.3
	comp=Z,531nm,20.6s,baz=32,slow=38					
LRM	Limekiln Ridge	75.38	44	P	P	19 42 38.5 +1.6
MOL	Molde	75.39	340	eP	P	19 42 37.2 +1.0
NC204	NORSAR Array S	75.45	338	P	P	19 42 37.7 +0.9
NB201	NORSAR Array S	75.46	337	P	P	19 42 37.7 +0.9
NB2	NORSAR Subarra	75.49	337	P	P	19 42 37.5 +0.5
	comp=Z,3.1nm,0.6s,baz=41,slow=5.9					
NB2	NORSAR Subarra	75.49	337	P	P	19 42 37.5 +0.5
	baz=41,slow=5.9					
NOA	NORSAR Array B	75.49	337	P	P	19 42 37.2 +0.3
	comp=Z,4.9nm,0.7s,baz=40,slow=5.7,SNR=36					
NOA				LR	LR	20 18 47.5
	comp=Z,453nm,19.8s,baz=55,slow=38					
NC602	NORSAR Array S	75.62	337	eP	P	19 42 38.1 +0.5
NBO00	NORSAR Array S	75.64	337	P	P	19 42 37.4 -0.3
ICESG	Greenland Ices	75.70	0	i P	P	19 42 40.3 +1.9
ICESG				IAmb	IAmb	19 42 41.2
	comp=Z,7.3nm,0.7s					
BCYI	Bear Canyon	75.72	46	P	P	19 42 38.4 -0.4
KVN	Kaiserville	75.86	52	P	P	19 42 39.2 -0.5
KVN				pmax	pmax	
	comp=Z,4.0nm,0.9s					
KVN	Kaiserville	75.86	52	P	P	19 42 39.2 -0.5
BOZ	Bozeman (W)	75.98	44	P	P	19 42 40.2 0.0
BOZ				pmax	pmax	
	comp=Z,3.0nm,0.9s					
BOZ	Bozeman (W)	75.98	44	P	P	19 42 40.2 0.0
MDPB	Devils Postpil	76.02	54		P	19 42 41.4 +0.7
MDPB				IAmb	IAmb	19 43 01.6
	comp=Z,9.7nm,1.0s					
LHV	Little Huntoon	76.04	53	P	P	19 42 41.1 +0.7
NVAR	Mina Array Bea	76.07	53	P	P	19 42 43.1 +2.1
	comp=Z,1.6nm,0.7s,baz=307,slow=6.7,SNR=2.6					
NVAR				LR	LR	20 12 09.9
	comp=Z,82nm,18.7s,baz=274,slow=32					
OSL	Oslo	76.50	337	eP	P	19 42 43.5 +0.9
SKAR	Skarslia	76.67	338	eP	P	19 42 44.3 +0.6
ELK	Elko	76.70	49	P	P	19 42 46.2 +1.8
	comp=Z,0.3nm,0.3s,baz=260,slow=18,SNR=2.2					
KONO	Kongsberg	77.08	337	eP	P	19 42 46.5 +0.5
IMW	Indian Meadow	77.40	45	P	P	19 42 49.0 +0.6
DY2G	Dye2	78.17	3	i P	P	19 42 54.7 +2.5
DY2G				IAmb	IAmb	19 42 55.3
	comp=Z,9.4nm,0.8s					
DUG	Dugway, Tooele	78.51	49	P	P	19 42 55.2 +0.7
DUG				pmax	pmax	
	comp=Z,6.0nm,1.3s					
DUG	Dugway, Tooele	78.51	49	P	P	19 42 55.2 +0.7
BNN	Bunyan	78.85	310	P	P	19 42 57.0 +0.6
BNN				IAmb	IAmb	19 42 58.0
	comp=Z,17nm,0.8s					
PD31	Pinedale Array	78.89	45	P	P	19 42 58.3 +1.7
PDAR	Pinedale Array	78.89	45	P	P	19 42 58.8 +2.1
	comp=Z,0.8nm,0.5s,baz=270,slow=1.4,SNR=10					
PDAR	Pinedale Array	78.89	45	P	P	19 42 58.2 +1.7
BORG	Borgarnes	79.11	352	LR	LR	20 19 41.2
	comp=Z,50nm,20.4s,baz=358,slow=37					
BUR08	Bucovina Ar. S	79.35	322	P	P	19 42 59.2 +0.3
BURAR	Bucovina Array	79.36	322	P	P	19 42 59.5 +0.5
BURAR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
BURAR	Bucovina Array	79.36	322	P	P	19 42 59.5 +0.5
RAR	Rarotonga	79.46	125	LR	LR	20 12 02.9
	comp=Z,231nm,21.0s,baz=274,slow=31					
BRTR	Keskin Array B	79.69	312	P	P	19 43 01.4 +0.5
	comp=Z,2.4nm,0.7s,baz=129,slow=4.0,SNR=8.3					
BRTR				LR	LR	20 22 48.5
	comp=Z,156nm,20.1s,baz=70,slow=39					
BRTR	Keskin Array B	79.69	312	i P	P	19 43 01.3 +0.4
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
BRTR	Keskin Array B	79.69	312	P	P	19 43 01.2 +0.2
KOLS	Kolonicke sedl	79.91	324	eP	P	19 43 02.5 +0.7
KOLS	Kolonicke sedl	79.91	324	eP	P	19 43 02.5 +0.7
PFO	Pinyon Flats O	80.07	56	P	P	19 43 04.9 +1.8
	comp=Z,1.5nm,0.6s,baz=300,slow=16,SNR=1.9					
OJC	Ojcow	80.17	326	eP	P	19 43 04.2 +1.1
OJC	Ojcow	80.17	326	P	P	19 43 03.8 +0.6
OJC				pmax	pmax	
	comp=Z,7.0nm,0.7s					
OJC	Ojcow	80.17	326	P	P	19 43 03.8 +0.6
OJC				IAmb	IAmb	19 43 04.8
	comp=Z,7.1nm,0.7s					
P17A	Butcher Ranch,	80.22	48	P	P	19 43 04.6 +0.8
CRVS	Cervenica-Dubn	80.32	324	eP	P	19 43 05.0 +1.0
CRVS	Cervenica-Dubn	80.32	324	eP	P	19 43 05.0 +1.0
SRU	San Rafael Swe	80.58	48	P	P	19 43 06.7 +0.9
SRU				pmax	pmax	
	comp=Z,5.0nm,0.8s					
SRU	San Rafael Swe	80.58	48	P	P	19 43 06.7 +0.9
SRU				IAmb	IAmb	19 43 23.3
	comp=Z,5.0nm,0.8s					
ULM	Lac du Bonnet	80.89	33	LR	LR	20 18 33.4
	comp=Z,104nm,21.7s,baz=311,slow=35					
RWWY	Rawlins	80.92	45	P	P	19 43 05.3 -2.4
RWWY				IAmb	IAmb	19 43 08.0
	comp=Z,9.2nm,0.9s					
LANS	Liptovska Anna	81.08	326	eP	P	19 43 10.4 +2.3
LANS	Liptovska Anna	81.08	326	eP	P	19 43 10.4 +2.3
OKC	Ostrava-Krasne	81.19	327	AMS	AMS	20 22 40.0
	comp=Z,400nm,16.6s					
KSP	Ksiaz	81.27	328	eP	P	19 43 10.1 +1.1
MORC	Moravsky Berou	81.50	327	P	P	19 43 11.2 +0.9
MORC				pmax	pmax	
	comp=Z,7.0nm,1.3s					
MORC	Moravsky Berou	81.50	327	P	P	19 43 11.2 +0.9
MORC	Moravsky Berou	81.50	327	eP	P	19 43 11.1 +0.8
OSTC	Ostas	81.51	328	AMS	AMS	20 22 00.0
	comp=Z,300nm,22.0s					
CHVC	Chvalec	81.56	328	AMS	AMS	20 22 00.0
	comp=Z,300nm,17.6s					
DPC	Dobruska-Polom	81.62	328	eP	P	19 43 12.2 +1.3
DPC				MLR	MLR	
	comp=Z,300nm,22.9s					
DPC	Dobruska-Polom	81.62	328	eP	P	19 43 12.2 +1.3
DPC				AMS	AMS	20 21 00.0
	comp=Z,300nm,22.9s					
KRLC	Kraliky	81.62	327	eP	P	19 43 11.9 +0.9
KRLC				MLR	MLR	
	comp=Z,200nm,15.0s					
KRLC	Kraliky	81.62	327	eP	P	19 43 11.9 +0.9
KRLC				AMS	AMS	20 21 00.0
	comp=Z,200nm,15.0s					
UPC	Upice	81.64	328	AMS	AMS	20 22 00.0
	comp=Z,300nm,19.2s					
VYHS	Vyhne	81.84	325	eP	P	19 43 13.2 +1.1
VYHS				pmax	pmax	
	comp=Z,14nm,1.3s					
VYHS	Vyhne	81.84	325	eP	P	19 43 13.2 +1.1
JAVC	Velka Javorina	82.11	326	eP	P	19 43 15.5 +1.9
PVCC	Panska Ves	82.24	329	AMS	AMS	20 22 30.0
	comp=Z,200nm,17.5s					
BRG	Berggiesshubel	82.24	329	eP	P	19 43 15.0 +0.9
BRG				Amp		19 43 15.6
	comp=Z,6.6nm,1.0s					
VRAC	Vranov	82.27	327	eP	P	19 43 15.4 +1.1
CLL	Collm	82.29	330	i P	P	19 43 14.9 +0.5
	comp=Z,10.0nm,0.8s					
CLL				esP	sP	19 43 30.0 +1.4
CLL				eS	S	19 53 24.0 -3.6
CLL				e		19 59 48.0
CLL				eSSS	SSS	20 02 18.0
CLL				LmV		20 22 00.0
	comp=Z,300nm,18.6s					
CLL	Collm	82.29	330	i P	P	19 43 14.9 +0.5
CLL				e*SP	sP	19 43 30.0 +1.4
CLL				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CLL				MLR	MLR	
	comp=Z,300nm,18.6s					
CLL	Collm	82.29	330	P	P	19 43 14.6 +0.2
CLL				IAmb	IAmb	19 43 16.0
	comp=Z,8.5nm,0.8s					
KRUC	Moravsky	82.54	327	eP	P	19 43 16.6 +0.9
SRO2	Moca	82.57	325	eP	P	19 43 16.4 +0.5
SRO2	Moca	82.57	325	eP	P	19 43 16.4 +0.5
MODS	Modra-Piesok	82.64	326	eP	P	19 43 18.7 +2.4
MODS	Modra-Piesok	82.64	326	eP	P	19 43 18.7 +2.4
PRU	Pruhonice	82.65	328	eP	P	19 43 17.2 +0.9
PRU				MLR	MLR	
	comp=Z,300nm,18.1s					
PRU	Pruhonice	82.65	328	eP	P	19 43 17.2 +0.9
PRU				AMS	AMS	20 22 30.0
	comp=Z,300nm,18.1s					
TREC	Trest	82.76	328	AMS	AMS	20 21 40.0
	comp=Z,300nm,23.2s					
NKC	Novy Kostel	83.34	330	AMS	AMS	20 24 00.0
	comp=Z,300nm,18.6s					
CONA	Conrad Observa	83.61	326	eP	P	19 43 23.0 +1.6
	comp=Z,13nm,1.5s					
KHC	Kasperske Hory	83.71	328	P	P	19 43 22.1 +0.3
KHC				pmax	pmax	
	comp=Z,14nm,1.6s					
KHC	Kasperske Hory	83.71	328	eP	P	19 43 22.7 +0.9
KHC				AMS	AMS	20 24 10.0
	comp=Z,200nm,16.8s					
KHC	Kasperske Hory	83.71	328	P	P	19 43 22.1 +0.3
KHC				IAmb	IAmb	19 43 23.9
	comp=Z,14nm,1.6s					
VTS	Vitosha	83.78	319	P	P	19 43 22.8 +0.4
VTS				pmax	pmax	
	comp=Z,6.0nm,0.8s					
VTS	Vitosha	83.78	319	P	P	19 43 22.8 +0.4
VTS				IAmb	IAmb	19 43 24.4
	comp=Z,6.3nm,0.8s					
PMOR	Pomariorio Ree	83.78	113	eT	T	21 15 26.6
	comp=Z,13nm,0.2s					
GEC2	GERESS Array S	83.88	328	P	P	19 43 22.9 +0.1
GERES	GERESS Array B	83.88	328	P	P	19 43 23.3 +0.6
	comp=Z,1.3nm,0.7s,baz=35,slow=4.9,SNR=18					
GERES	GERESS Array B	83.88	328	P	P	19 43 22.9 +0.1
F33A	5 Mile Ranch,	83.88	36	P	P	19 43 23.2 +0.5
F33A				IAmb	IAmb	19 43 33.2
	comp=Z,5.9nm,0.9s					
PPT	Papeete	84.16	116	LR	LR	20 15 41.2
	comp=Z,105nm,19.0s,baz=323,slow=32					
PPT2	Papeete2	84.17	116	eLR	LR	20 09 41.6
	comp=Z,353nm,22.0s					
DIVS	Divibare	84.43	322	P	P	19 43 26.3 +0.7
DIVS				IAmb	IAmb	19 43 26.8
	comp=Z,5.5nm,1.0s					
EKA	Eskdalemuir Ar	84.48	340	LR	LR	20 24 55.8
	comp=Z,172nm,18.4s,baz=30,slow=38					
GROS	Grobnik	84.87	326	i P	P	19 43 28.2 +0.4
PERS	Pernice	84.92	326	i P	P	19 43 28.7 +0.6
SOKA	Soboth	84.92	326	eP	P	19 43 28.7 +0.6
	comp=Z,12nm,1.1s					
LEGS	Legarje	85.34	325	i P	P	19 43 30.5 +0.4
CRES	Cresnjev	85.36	325	i P	P	19 43 30.6 +0.4
KBA	Koelnbreinsper	85.38	327	eP	P	19 43 30.3 -0.1
	comp=Z,3.5nm,0.9s					
MYKA	Terra Mystica	85.59	327	eP	P	19 43 31.5 +0.1
	comp=Z,3.4nm,0.5s					
ANMO	Albuquerque	85.73	50	P	P	19 43 34.2 +1.7
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=3.5					
ANMO	Albuquerque	85.73	50	IAmb	IAmb	19 43 51.0
	comp=Z,4.6nm,1.2s					
WTTA	Wattenberg	85.98	328	eP	P	19 43 33.8 +0.3
	comp=Z,5.3nm,1.2s					
PDG	Podgorica	86.00	321	P	P	19 43 33.4 0.0
PDG				IAmb	IAmb	19 43 35.1
	comp=Z,11nm,1.1s					
ABTA	Abfaltersbach	86.00	327	eP	P	19 43 32.9 -0.6
	comp=Z,4.7nm,1.2s					
TAOE	Nuku Hiva Isla	86.02	104	eLR	LR	20 10 27.0
	comp=Z,494nm,28.4s					
MOTA	Moosalm	86.14	329	eP	P	19 43 34.5 +0.3
	comp=Z,4.2nm,1.0s					
RETA	Reutte	86.18	329	eP	P	19 43 35.0 +0.7
	comp=Z,2.9nm,0.6s					
SQTA	Sankt Quirin	86.20	328	eP	P	19 43 35.3 +0.8
	comp=Z,2.4nm,0.5s					
BFO	Black Forest	86.51	331	P	P	19 43 35.4 -0.5
BFO				pmax	pmax	
	comp=Z,5.0nm,0.9s					
BFO	Black Forest	86.51	331	P	P	19 43 35.4 -0.5
BFO				IAmb	IAmb	19 43 57.2
	comp=Z,5.1nm,0.9s					
FETA	Feichten	86.56	329	eP	P	19 43 36.8 +0.5
	comp=Z,5.0nm,1.1s					
DAVA	Damuels	86.71	329	eP	P	19 43 37.1 0.0
	comp=Z,11nm,1.3s					
SCHQ	Schefferville	86.85	16	P	P	19 43 39.0 +1.6
	comp=Z,2.7nm,0.7s,baz=318,slow=3.9,SNR=4.0					
SCHQ				LR	LR	20 24 23.3
	comp=Z,102nm,21.0s,baz=312,slow=37					
TBI	Tubuai	87.95	121	eLR	LR	20 11 25.9
	comp=Z,380nm,22.5s					
TBI	Tubuai	87.95	121	eT	T	21 20 41.1
	comp=Z,8.4nm,0.3s					
TXAR	Lajitas Array	91.22	52	P	P	19 44 00.9 +2.3
	comp=Z,0.3nm,0.5s,baz=312,slow=3.1,SNR=4.3					
TXAR				LR	LR	20 21 20.4
	comp=Z,163nm,20.0s,baz=0.0,slow=33					
KEST	Kesra	96.08	322	LR	LR	20 31 25.5
	comp=Z,218nm,19.7s,baz=0.5,slow=38					
TORD	Torodi Ar. Bea	118.23	314	PKP	PKPdf	19 49 40.5 -0.2
	comp=Z,0.7nm,0.7s,baz=5.9,slow=3.0,SNR=2.7					
QSPA	South Pole Qui	125.27	180	PKP	PKPdf	19 49 52.8 +0.1
	comp=Z,2.6nm,0.6s,baz=169,slow=1.0,SNR=37					
QSPA	South Pole Qui	125.27	180		PKiKP	19 49 53.1 0.0
SNAA	Sanae	139.24	197	P	Pdif	19 47 29.4 -2.4
H03N2	Juan Fernandez	147.06	98	T	T	22 35 09.2
	baz=290,slow=76,SNR=105					
H03N3	Juan Fernandez	147.07	98	T	T	22 35 08.5
	baz=290,slow=76,SNR=134					
H03N1	Juan Fernandez	147.07	98	T	T	22 35 10.4
	baz=290,slow=76,SNR=127					
LPAZ	La Paz	147.63	61	PKPbc	PKPbc	19 50 38.1 -0.6
	comp=Z,2.3nm,0.7s,baz=331,slow=2.8,SNR=8.7					
LPAZ	La Paz	147.63	61	PKPab	PKiKP	19 50 40.7 0.0

*NEIC **24** 19:31:29.6±1.5, 2°.36N×0°.08×97°.98E±0°.08, h56km±7km, mb4.4/27 Error ellipse: s-maj=13.0km s-min=9.5km az=132.0*
*DJA **24** 19:31:30.3±0.8, 2°N±3°×9°8E±°, h13km±11km, M4.1/7, MLv4.1/7*
*IDC **24** 19:31:36.3±8.0, 2°.51N×98°.38E, h114km±73km, mb3.7/9, mb1 3.8/10, mb1mx3.5/41, mbtmp4.1/10, MS4.1/1, Ms1 4.1/1, ms1mx2.9/43, Error ellipse: s-maj=43.7km s-min=15.5km az=56.0*

ISC 24 19:31:28.9±0.5, 2°.26N±0°.04×97°.99E±0°.07, h50km, n57, σ1°98/58, mb4.3/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.04	203		Pn	19 31 49.9	+2.7
GSI				Sn	Sn	19 32 03.3	+2.7
GSI	Gunungsitoli	1.04	203	P	Pn	19 31 50.0	+2.8
GSI				S	Sn	19 32 04.9	+4.3
TPTI		1.28	321	P	Pn	19 31 52.5	+2.1
TSI	Tuntungan	1.36	25	P	Pn	19 31 55.0	+3.5
TSI				S	Sn	19 32 14.1	+5.7
MNSI	Mandailing Nat	2.16	132	P	Pn	19 32 06.3	+3.9
BKNI	Bangkinang	3.60	122	Pn	Pn	19 32 23.4	+1.1
MNAI	Manna	8.24	143	Pn	Pn	19 33 25.9	0.0
PHIT	Phitsanulok	15.02	9	P	P	19 35 03.8	+1.1
	7.9nm,0.8s						
CM04	Chiang Mai Arr	16.07	3	P	P	19 35 16.0	+1.8
	4.1nm,0.9s						
CM05	Chiang Mai Arr	16.07	3	P	P	19 35 16.8	+2.5
	3.4nm,0.9s						
CM13	Chiang Mai Arr	16.08	3	P	P	19 35 15.0	+0.6
	3.0nm,0.6s						
CM01	Chiang Mai Arr	16.09	3	P	P	19 35 18.4	+3.9
	118nm3.4nm,0.7s						
CM02	Chiang Mai Arr	16.10	3	P	P	19 35 16.2	+1.6
	4.7nm,0.9s						
CM09	Chiang Mai Arr	16.11	3	P	P	19 35 16.4	+1.6
	5.6nm,0.9s						
CM15	Chiang Mai Arr	16.12	3	P	P	19 35 15.1	+0.3
	4.3nm,0.8s						
CM31	Chiang Mai Arr	16.12	3	P	P	19 35 16.5	+1.6
	91nm,0.6s						
CM31	Chiang Mai Arr	16.12	3	P	Pn	19 35 11.9	-0.4
CMAR	Chiang Mai Arr	16.12	3	P	P	19 35 13.2	-1.7
	0.3nm,0.3s,baz=195,slow=12,SNR=19						
CHTO	Chiang Mai	16.48	3		Pn	19 35 16.3	-0.5
SLVN	Son La	19.81	16	P	P	19 35 55.5	0.0
QIZ	Qiongzhong	20.31	34	P	P	19 36 01.5	+0.7
QIZ				IAmb	IAmb	19 36 13.4	
	comp=Z,57nm,1.5s						
SIJI	Sorong	33.41	95	LR	LR	19 52 05.4	
	comp=Z,334nm,20.5s,baz=27,slow=37						
MTN	Manton Dam	36.16	115	P	P	19 38 26.6	-0.3
MTN				IAmb	IAmb	19 38 42.8	
	comp=Z,4.9nm,1.1s						
WB0	Warramunga Arr	41.91	123	P	P	19 39 14.5	-0.4
WB0				IAmb	IAmb	19 39 37.0	
	comp=Z,4.2nm,0.9s						
WRA	Warramunga Arr	41.94	123	P	P	19 39 15.1	-0.1
	comp=Z,1.3nm,0.4s,baz=303,slow=8.9,SNR=20						
WRA	Warramunga Arr	41.94	123	P	P	19 39 14.7	-0.5
WB2	Warramunga Arr	41.95	123	P	P	19 39 13.7	-1.5
WB2				IAmb	IAmb	19 39 52.1	
	comp=Z,9.4nm,1.4s						
WR0	Warramunga Arr	42.12	123	P	P	19 39 16.8	+0.2
WR0				IAmb	IAmb	19 39 37.6	
	comp=Z,5.1nm,1.1s						
MSEY	Mahe Island	43.03	261	P	P	19 39 20.9	-3.2
TARG	Taragay, Kyrgy	43.28	338	P	P	19 39 24.3	-1.9
ASAR	Alice Springs	43.42	129	P	P	19 39 26.2	-0.9
	comp=Z,0.4nm,0.8s,baz=300,slow=7.4,SNR=8.9						
ASAR	Alice Springs	43.42	129	P	P	19 39 26.1	-1.0
AS31	Alice Springs	43.42	129	P	P	19 39 26.3	-0.8
JNU	Nakatsue	43.49	41	P	P	19 39 27.1	-0.5
DRK	Karamyk	44.05	331	P	P	19 39 30.9	-1.3
GAR	Garm	44.43	329	P	P	19 39 33.3	-1.8
GAR				IAmb	IAmb	19 39 57.1	
	comp=Z,7.2nm,1.1s						
KSRS	Korea Array	44.53	34	P	P	19 39 31.4	-4.4
	comp=Z,1.2nm,0.8s,baz=216,slow=8.6,SNR=4.2						
BOOM	Boomskoye usch	44.65	337	P	P	19 39 35.6	-1.3
ARSB	Arslanbob	44.94	333	P	P	19 39 38.1	-1.1
SONM	Songino Array	45.98	8	P	P	19 39 46.6	-0.6
	comp=Z,1.0nm,0.3s,baz=190,slow=9.1,SNR=9.8						
SONM	Songino Array	45.98	8	IAmb	IAmb	19 39 47.4	
	comp=Z,1.3nm,0.8s						
MK31	Makanchi Array	46.42	345	P	P	19 39 48.9	-1.6
MK31				IAmb	IAmb	19 39 51.3	
	comp=Z,5.7nm,1.0s						
MKAR	Makanchi Array	46.42	345	P	P	19 39 50.1	-0.4
	comp=Z,3.1nm,0.6s,baz=156,slow=7.9,SNR=7.5						
MAKZ	Makanchi	46.51	345	P	P	19 39 50.8	-0.5
MAKZ				IAmb	IAmb	19 39 51.8	
	comp=Z,3.2nm,0.7s						
KKAR	Karatay Array	47.47	333	P	P	19 39 57.6	-1.2
GUMO	Guam	47.68	74	P	P	19 39 59.2	-1.7
GEYT	Alibeck	50.92	319	P	P	19 40 27.8	+2.5
	comp=Z,1.5nm,0.5s,baz=150,slow=9.6,SNR=3.8						
CTAO	Charters Tower	52.28	118	P	P	19 40 36.9	+1.2
CTAO				IAmb	IAmb	19 40 58.2	
	comp=Z,9.8nm,1.4s						
ZAA0	Zalesovo Array	52.65	350	PcP	P	19 40 37.4	-0.5
ZALV	Zalesovo Beam	52.65	350	P	P	19 40 37.3	-0.5
	comp=Z,9.8nm,0.5s,baz=168,slow=6.9,SNR=16						
ZALV	Zalesovo Beam	52.65	350		P	19 40 37.1	-0.7
CASY	Casey	68.98	175	P	P	19 42 29.8	+1.2
CASY				IAmb	IAmb	19 42 30.4	
	comp=Z,8.0nm,1.6s						
MA2	Magadan	70.04	26	P	P	19 42 34.5	-0.8
PETK	Petropavlovsk-	70.42	34	P	P	19 42 36.9	-0.9
	comp=Z,1.2nm,0.8s,baz=232,slow=9.2,SNR=4.6						
BOSA	Boshof	75.99	240	P	P	19 43 12.1	+0.8
FINES	FINESS Array B	79.43	332	P	P	19 43 28.8	-0.8
	comp=Z,2.9nm,0.8s,baz=96,slow=8.7,SNR=1.5						
ARCES	ARCESS Array B	81.81	340	P	P	19 43 40.4	-1.9
	comp=Z,0.5nm,0.4s,baz=106,slow=5.2,SNR=3.9						

*ISK **24** 19:44:04.3, 36°.30N×27°.02E, h8km, ML2.2/9*
*THE **24** 19:44:04.7, 36°.31N×27°.07E, h0km±1km, ML2.4/7, Error ellipse: s-maj=1.4km s-min=0.8km az=124.0*
*ATH **24** 19:44:05.0, 36°.

KARP	Karpathos	0.77	173	P	Pg	19 44 19.0	-1.0
KARP	Karpathos	0.77	173	P	Pg	19 44 19.1	-0.8
KARP				S	Sg	19 44 30.4	+0.2
KARP				AML	AML	19 44 32.7	
	comp=E,673μm,0.2s						
KARP				AML	AML	19 44 33.2	
	comp=N,871μm,0.2s						
KARP	Karpathos	0.77	173	PG	Pg	19 44 19.3	-0.7
KARP				SG	Sg	19 44 30.2	+0.1
BODT	Bodrum	0.78	16	PG	Pg	19 44 19.9	-0.2
BODT				SG	Sb	19 44 31.6	+0.9
BDRM	Kayabasi	0.82	23	*i* P	Pb	19 44 20.9	0.0
BDRM				*i* S	Sb	19 44 32.0	+0.2
BDRM				IAML		19 44 34.0	
	comp=N,125nm,0.4s						
BDRM				IAML		19 44 34.0	
	comp=E,57nm,0.4s						
ARG	Arkhangelos	0.88	96	P	Pg	19 44 22.2	+0.1
ARG				S	Sn	19 44 34.8	-0.7
	comp=E,442nm,0.4s						
ARG	Arkhangelos	0.88	96	P	Pb	19 44 21.8	-0.3
ARG				AML	AML	19 44 36.4	
	comp=N,782μm,0.4s						
ARG				AML	AML	19 44 36.5	
	comp=E,988μm,0.4s						
ARG	Arkhangelos	0.88	96	PG	Pb	19 44 22.0	0.0
ARG				SG	Sn	19 44 35.1	-0.4
TURN	Turunc	1.07	64	*i* P	Pb	19 44 24.9	-0.3
TURN				*i* S	Sn	19 44 40.7	+0.5
TURN				IAML		19 44 44.0	
	comp=E,79nm,0.4s						
TURN				IAML		19 44 46.0	
	comp=N,56nm,0.7s						
TURN	Turunc	1.07	64	PN	Pg	19 44 25.6	-0.1
DDIM	Aydin, Didim	1.15	8	*i* P	Pb	19 44 26.5	-0.1
YER	Yerkesik	1.29	50	PN	Pg	19 44 29.5	-0.4
THR3	Thira Island,	1.33	275	P	Pn	19 44 28.6	-0.4
SNT5	Nea Kammeni, S	1.33	274	P	Pn	19 44 28.8	-0.2
SNT5				S	Sg	19 44 48.9	+1.0
	comp=N,168nm,0.4s						
SNT5	Nea Kammeni, S	1.33	274	P	Pn	19 44 28.8	-0.2
STIA	Sitia Lasithi	1.35	215	P	Pb	19 44 29.9	-0.1
STIA				S	Sg	19 44 49.3	+0.8
THR5	Thira Island,	1.37	275	P	Pn	19 44 29.6	0.0
ZKR	Zakros	1.37	209	P	Pb	19 44 30.5	+0.2
ZKR				S	Sg	19 44 49.4	+0.2
	comp=N,58nm,0.6s						
ZKR	Zakros	1.37	209	P	Pb	19 44 30.4	0.0
ZKR				AML	AML	19 44 50.2	
	comp=E,160μm,0.7s						
ZKR				AML	AML	19 44 54.7	
	comp=N,68μm,0.5s						
DALY	Dalyan (Mula)	1.39	68	*i* P	Pg	19 44 31.5	-0.3
DALY				*i* S	Sg	19 44 49.7	-0.2
DALY				IAML		19 44 58.0	
	comp=N,22nm,0.4s						
DALY	Dalyan (Mula)	1.39	68	PN	Pb	19 44 30.8	+0.1
SMG	Samos	1.40	353	P	Pn	19 44 29.2	-0.8
SMG				S	Sg	19 44 51.4	+1.2
	comp=N,88nm,0.4s						
SMG	Samos	1.40	353	P	Pn	19 44 29.3	-0.8
APE	Apeiranthos	1.43	302	P	Pb	19 44 31.4	+0.1
APE	Apeiranthos	1.43	302	PN	Pb	19 44 31.1	-0.2
AYDN	Tasoluk	1.50	26	*i* P	Pn	19 44 31.5	0.0
AYDN				*i* S	Sg	19 44 53.9	+0.4
NPS	Neapolis	1.56	228	P	Pb	19 44 33.4	-0.2
FETY	Fethiye	1.68	78	*i* P	Pb	19 44 35.8	+0.2
FETY	Fethiye	1.68	78	PN	Pb	19 44 34.9	-0.7
LAST	Lasithi	1.71	228	P	Pn	19 44 35.4	+1.0
ZEYE	Izmir, Urla-Ze	1.97	348	*i* P	Pn	19 44 36.6	-1.2
ZEYE				*i* S	Sg	19 45 08.1	-0.2
AKAS	Kas	2.08	91	PN	Pn	19 44 40.5	+1.1

*IDC **24** 19:46:59.2±3.6, 5.°10S×101.°89E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/31, mbtmp3.7/6, Error ellipse: s-maj=148.2km s-min=20.1km az=55.0*
*DJA **24** 19:47:11.5±0.5, 5.°5S±4.°×10.°3E±.°, h33km±5km, M3.6/9, MLv3.6/9*
ISC 24 19:47:08.0±1.2, 4.°78S±0.°09×102.°6E±0.°1, h44km, n17, σ1§42/16, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.58	44	P	Pn	19 47 21.4	+1.4
MNAI				S	Sn	19 47 28.1	-0.4
KSI	Kapahiang	1.12	2	P	Pn	19 47 28.7	+1.3
KSI				S	Sn	19 47 42.4	+0.7
LHSI	Lahat	1.35	46	P	Pn	19 47 31.2	+0.8
LWLI	Liwa	1.52	99	P	Pn	19 47 35.1	+2.3
MDSI	Maura Dua	1.64	80	P	Pn	19 47 35.2	+0.8
MASI	Maura Aman, Be	1.66	349	P	Pn	19 47 37.2	+2.5
KASI	Kota Agung	2.07	111	P	Pn	19 47 41.4	+1.1
CMAR	Chiang Mai Arr	23.36	351	P	P	19 52 12.5	-0.4
	0.3nm,0.3s,baz=179,slow=8.1,SNR=2.1						
H01W3	Cape Leeuwin H	31.82	162	T	T	20 27 06.8	
	baz=334						
H01W2	Cape Leeuwin H	31.83	162	T	T	20 27 08.5	
	baz=334						
H01W1	Cape Leeuwin H	31.83	162	T	T	20 27 10.2	
	baz=334						
WRA	Warramunga Arr	34.41	119	P	P	19 53 51.6	+0.2
	0.2nm,0.4s,baz=301,slow=9.0,SNR=8.0						
ASAR	Alice Springs	35.57	125	P	P	19 54 02.3	+0.8
	0.1nm,0.3s,baz=297,slow=7.7,SNR=8.1						
SONM	Songino Array	52.50	3	P	P	19 56 16.5	-0.3
	1.2nm,0.6s,baz=183,slow=9.4,SNR=13						
MKAR	Makanchi Array	54.40	343	P	P	19 56 28.4	-2.2
	0.7nm,0.4s,baz=154,slow=8.7,SNR=13						
ZALV	Zalesovo Beam	60.38	348	P	P	19 57 11.2	-1.3
	1.1nm,0.5s,baz=144,slow=3.3,SNR=7.3						
TXAR	Lajitas Array	145.18	43	PKPbc	PKPbc	20 06 40.8	-0.6
	0.2nm,0.4s,baz=278,slow=1.7,SNR=3.6						

*IDC **24** 19:51:18.5±2.5, 19.°14N×69.°75W, h75km±24km, mb3.5/11, mb1 3.8/13, mb1mx3.5/45, mbtmp3.9/13, MS3.0/2, Ms1 3.0/2, ms1mx2.6/36, Error ellipse: s-maj=21.0km s-min=16.5km az=21.0*
*NEIC **24** 19:51:19.7±2.3, 19.°25N±0.°04×69.°66W±0.°04, h82km±6km, mb4.2/23, Error ellipse: s-maj=8.4km s-min=1.3km az=47.0*
*OSPL **24** 19:51:19.4±0.7, 19.°36N×69.°63W, h6km±5km, ML4.2*
ISC 24 19:51:19.0±0.7, 19.°23N±0.°06×69.°64W±0.°04, h81km±8km, n130, σ1§69/135, mb4.0/13, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	Loma Pena Alta	0.51	151		Pn	19 51 34.2	+1.2
SDD	Santo Domingo	0.81	199		Pn	19 51 36.3	+0.3
SDD				Sn	Sn	19 51 48.4	-0.2
SDD	Santo Domingo	0.81	199	*i* P	Pn	19 51 36.4	+0.4
SDD				*e*S	Sn	19 51 48.6	0.0
BANI	BANI	1.08	219		Pn	19 51 39.8	+0.6
BANI	BANI	1.08	219	*i* P	Pn	19 51 39.9	+0.7
PCDR	Punta Cana, DR	1.39	121		Pn	19 51 44.3	+1.4
PCDR				Sn	Sn	19 52 02.9	+1.9
PCDR	Punta Cana, DR	1.39	121	*i* P	Pn	19 51 44.5	+1.5
PCDR				*e*S	Sn	19 52 03.0	+1.9
PCDR				IAML		19 52 05.6	
	comp=Z,4μm,0.6s						
SDDR	Presa de Saban	1.58	261	Pn	Pn	19 51 46.5	+1.0
SDDR				Sn	Sn	19 52 06.7	+1.3
SDDR	Presa de Saban	1.58	261	*e*P	Pn	19 51 47.1	+1.7
SDDR	Presa de Saban	1.58	261	*i* P	Pn	19 51 46.6	+1.2
SDDR				*e*S	Sn	19 52 06.5	+1.1
SDDR				IAML		19 52 09.4	
	comp=Z,2μm,0.6s						
AGPR	Aguadilla, PR	2.51	107		Pn	19 51 59.2	+1.4
AGPR				Sn	Sn	19 52 28.4	+0.8
AGPR	Aguadilla, PR	2.51	107	*i* P	Pn	19 51 59.2	+1.4
AGPR				*e*S	Sn	19 52 28.9	+1.3
AGPR				IAML		19 52 32.5	
	comp=Z,1μm,0.3s						
NQUSE	US Embassy, Po	2.56	255	Pn	Pn	19 51 58.6	+0.3
MPR	Mayaguez	2.58	113		Pn	19 51 59.9	+1.2
MPR	Mayaguez	2.58	113	*i* P	Pn	19 52 00.2	+1.5
GRTK	Grand Turk	2.67	329	Pn	Pn	19 52 00.1	+0.3
GRTK	Grand Turk	2.67	329	*i* P	Pn	19 52 00.1	+0.3
MLPR	Magueyes Islan	2.77	117	Pn	Pn	19 52 01.6	+0.4
AOPR	Arecibo Observ	2.87	107		Pn	19 52 03.2	+0.5
LGNH	Logne	2.90	256		Pn	19 52 03.7	+0.8

JAKH	Jacmel	2.90	251	Pn	Pn	19 52 04.0	+1.0
EMPR	Esperanza - Ma	3.04	104		Pn	19 52 05.5	+0.6
OBIP	Obispado Ponce	3.11	112	Pn	Pn	19 52 06.8	+0.9
ICMP	Isla Caja de M	3.24	114	Pn	Pn	19 52 08.8	+1.1
SJG	San Juan	3.49	108	P	Pn	19 52 11.3	+0.2
	comp=Z,22nm,0.3s,baz=316,slow=10,SNR=20						
SJG				S	Sn	19 52 47.8	-3.5
	comp=Z,158nm,0.3s,baz=128,slow=23,SNR=27						
SJG				LR	LR	19 53 25.8	
	comp=Z,59nm,18.1s,baz=87,slow=36						
SJG	San Juan	3.49	108		Pn	19 52 10.9	-0.1
SJG	San Juan	3.49	108	*e*P	Pn	19 52 12.7	+1.6
GCPR	Guaynabo City	3.49	105		Pn	19 52 11.1	0.0
IGPR	InterUniversit	3.58	110	Pn	Pn	19 52 13.5	+1.2
PDPR	Patillas Dam,	3.64	109		Pn	19 52 13.2	+0.1
CBYP	Canovanas	3.71	104		Pn	19 52 13.7	-0.4
HUMP	Col San Antoni	3.75	106		Pn	19 52 14.5	-0.1
MTP	Monte Pirata	4.04	106		Pn	19 52 18.4	-0.1
CUPR	Culebra, Puert	4.23	102		Pn	19 52 20.3	-0.8
STVI	Saint Thomas	4.53	100	Pn	Pn	19 52 24.4	-0.7
CDVI	St. Croix	4.86	107		Pn	19 52 30.2	+0.6
ABVI	Anegada Island	5.05	95	Pn	Pn	19 52 32.3	+0.1
GTBY	Guantanamo Bay	5.20	279	Pn	Pn	19 52 31.3	-3.0
SABA	Saba	6.28	104	Pn	Pn	19 52 48.9	-0.2
SMRT	St. Maarten	6.34	100		Pn	19 52 48.8	-1.0
SKI	Saint Kitts	6.82	105	Pn	Pn	19 52 55.9	-0.6
HATO	Hato, Curacao	7.04	175	Pn	Pn	19 52 57.8	-1.7
MTDJ	Mount Denham	7.55	264	Pn	Pn	19 53 05.1	-1.4
ANWB	Willy Bob	7.62	101	*e*P	Pn	19 53 05.4	-1.9
ANWB	Willy Bob	7.62	101	*e*S	Sn	19 54 27.5	-4.6
ANWB	Willy Bob	7.62	101	Pn	Pn	19 53 04.7	-2.6
BPA	Boggy Peak	7.71	105	*e*P	Pn	19 53 07.3	-1.4
BPA	Boggy Peak	7.71	105	*e*S	Sn	19 54 30.7	-3.9
ANOC	Antigua Open C	7.72	105	*e*P	Pn	19 53 06.7	-2.0
ANOC	Antigua Open C	7.72	105	*e*S	Sn	19 54 29.6	-4.9
ANBD	Bethesda, Anti	7.80	105	*e*P	Pn	19 53 08.2	-1.5
ANBD	Bethesda, Anti	7.80	105	*e*S	Sn	19 54 32.1	-4.4
URIC	Uribia, Colomb	7.82	197	Pn	Pn	19 53 08.4	-1.8
ABD	La Joyeuse, An	8.23	108	*e*P	Pn	19 53 15.2	-0.5
ABD	La Joyeuse, An	8.23	108	*e*S	Sn	19 54 45.1	-2.1
CBE	Ff, Capester	8.28	111	*e*P	Pn	19 53 17.6	+1.2
CBE	Ff, Capester	8.28	111	*e*S	Sn	19 54 54.8	+6.4
DSLB	Salisbury	8.71	114	*e*P	Pn	19 53 22.6	+0.3
SVN	Savane Anatole	9.21	117	Pn	Pn	19 53 29.6	+0.5
FDF	Fort de France	9.27	118	Pn	Pn	19 53 30.3	+0.3
BIM	Bigot	9.45	118	*e*P	Pn	19 53 33.3	+0.9
BIM	Bigot	9.45	118	Pn	Pn	19 53 32.6	+0.3
ILAM	Ilet Lapin Mar	9.49	117	Pn	Pn	19 53 32.0	-0.8
CBCY	The Bluff, Cay	9.56	275	Pn	Pn	19 53 32.2	-1.6
MPOM	Morne Pois Mar	9.66	118	Pn	Pn	19 53 35.7	+0.5
SLBI	Saint Lucia, B	9.79	121	*e*P	Pn	19 53 36.1	-0.9
LCCY	Blossom Villag	9.86	274	Pn	Pn	19 53 36.4	-1.6
MCLT	Moule a Chique	9.99	122	*e*P	Pn	19 53 40.1	+0.4
MCLT	Moule a Chique	9.99	122	Pn	Pn	19 53 45.7	+6.0
SVB	Belmont	10.00	125	*e*P	Pn	19 53 40.2	+0.4
SVB	Belmont	10.00	125	Pn	Pn	19 53 39.4	-0.5
PCRV	Puerto La Cruz	10.22	151	P	Pn	19 53 42.9	0.0
	comp=Z,3.5nm,0.3s,baz=318,slow=5.0,SNR=19						
PCRV				S	Sn	19 55 25.7	-10
	comp=Z,0.9nm,0.3s,baz=42,slow=9.9,SNR=1.5						
SDV	Santo Domingo	10.33	185	Pn	Pn	19 53 41.2	-3.3
GCMP	Grenada, Carri	10.36	129	*e*P	Pn	19 53 43.4	-1.4
GCMP	Grenada, Carri	10.36	129	*e*S	Sn	19 55 30.1	-9.1
GRGR	Grenville	10.44	131	Pn	Pn	19 53 44.8	-1.1
SJCC	San Jacinto, C	10.71	211	Pn	Pn	19 53 50.5	+0.9
TRN	Trinidad (W)	11.67	136	*e*P	Pn	19 54 03.8	+1.2
TOSP	Speyside	11.80	131	*e*P	Pn	19 54 05.8	+1.4
TOSP	Speyside	11.80	131	Pn	Pn	19 54 05.5	+1.2
UREC	San Jos de Ur	12.77	207	*e*P	Pn	19 54 15.1	-2.3
BARC	Barichara	13.03	196	*e*P	Pn	19 54 19.5	-1.7
RUSC	La Rusia	13.68	195	Pn	Pn	19 54 30.1	+0.1
RUSC	La Rusia	13.68	195	*e*P	Pn	19 54 29.7	-0.3
BBSR	BB Station	13.82	18	Pn	Pn	19 54 32.0	+0.8
NORC	Norcasia	14.51	201	*e*P	Pn	19 54 40.8	+0.4
GUY2C	Guyana, Caldas	15.00	203	*e*P	Pn	19 54 46.8	-0.3
CHIC	Chingaza	15.05	196	*e*P	Pn	19 54 50.3	+2.6
656A	Willston	15.48	313	Pn	Pn	19 54 51.7	-0.9
ORTC	Ortega, Tolima	16.18	200	*e*P	Pn	19 54 55.0	-6.6
257A	Skidaway Islan	16.31	323	Pn	Pn	19 55 02.9	-0.1
CVTR	Volcan Turrial	16.43	238		P	19 55 08.4	+1.8
DRK0	Durika	16.48	235	P	P	19 55 07.1	+0.3
DRK0				IAmb	IAmb	19 55 08.5	
	comp=Z,13nm,0.7s						
V61A	Roper	17.59	341	P	P	19 55 20.8	+2.1
BIRD	Birdtown, Kers	18.11	330	P	Pn	19 55 26.5	+1.4
JSC	Jenkinsville	18.21	328	P	Pn	19 55 26.5	+0.3
JSC				IAmb	IAmb	19 55 34.4	
	comp=Z,18nm,1.3s						
W57A	Gilead	18.32	332	P	Pn	19 55 29.8	+2.2
W57A				IAmb	IAmb	19 55 32.6	
	comp=Z,13nm,1.0s						
V58A	Windy Hill, Pi	18.50	335	P	Pn	19 55 30.4	+0.7
U59A	Littleton	18.50	339	P	Pn	19 55 33.2	+3.5
U59A				IAmb	IAmb	19 55 43.6	
	comp=Z,27nm,1.6s						
GOGA	Godfrey	18.76	322	P	Pn	19 55 34.0	+1.2
PAULI	Pauline	18.91	328	P	Pn	19 55 35.7	+1.0
V55A	Taylorsville	19.45	331	P	P	19 55 38.6	-0.5
V55A				IAmb	IAmb	19 55 47.1	
	comp=Z,16nm,1.1s						
V53A	Saluda	20.08	327	P	P	19 55 46.5	+0.4
V53A				IAmb	IAmb	19 56 16.3	
	comp=Z,11nm,0.7s						
TKL	Tuckaleechee C	20.58	326	P	P	19 55 51.3	0.0
	comp=Z,3.1nm,1.0s,baz=58,slow=16,SNR=1.6						
TKL				S	S	19 59 30.1	-6.8
	comp=Z,2.6nm,0.7s,baz=217,slow=7.5,SNR=2.6						
TKL	Tuckaleechee C	20.58	326	IAmb	IAmb	19 56 30.4	
	comp=Z,7.1nm,0.7s						
MDP	Montagnes des	21.72	128	P	P	19 56 03.1	-0.7
	comp=Z,1.5nm,0.6s,baz=312,slow=18,SNR=1.5						
MDP				LR	LR	20 04 54.3	
	comp=Z,108nm,19.3s,baz=330,slow=38						
WMOK	Wichita Mounta	30.07	307	P	P	19 57 21.0	+0.3
WMOK				IAmb	IAmb	19 57 21.9	
	comp=Z,3.3nm,0.7s						
TXAR	Lajitas Array	32.50	295	P	P	19 57 42.8	+0.6
	comp=Z,0.3nm,0.5s,baz=110,slow=10.0,SNR=5.6						
TXAR				PcP	PcP	20 00 27.6	+0.1
	comp=Z,0.1nm,0.6s,baz=137,slow=6.0,SNR=4.9						
TXAR	Lajitas Array	32.50	295	P	P	19 57 42.2	0.0
MNTX	Cornudas Mount	34.42	298	P	P	19 57 59.6	+0.8
MNTX				IAmb	IAmb	19 58 00.7	
	comp=Z,3.4nm,0.8s						
LPAZ	La Paz	35.33	177	PcP	PcP	20 00 34.7	-1.5
	comp=Z,0.9nm,0.8s,baz=223,slow=5.3,SNR=2.0						
SCHQ	Schefferville	35.60	3	P	P	19 58 08.8	+0.3
	comp=Z,1.2nm,0.4s,baz=180,slow=7.7,SNR=5.6						
SCHQ	Schefferville	35.60	3	IAmb	IAmb	19 58 13.6	
	comp=Z,13nm,1.6s						
PDAR	Pinedale Array	40.96	314	P	P	19 58 54.2	+0.2
	comp=Z,0.3nm,0.5s,baz=48,slow=6.6,SNR=4.2						
PDAR				PcP	PcP	20 00 52.5	-0.4
	comp=Z,0.3nm,0.4s,baz=108,slow=8.0,SNR=3.6						
NV11	Mina Array Sit	46.03	305	P	P	19 59 35.2	+0.5
NV11				IAmb	IAmb	19 59 37.4	
	comp=Z,2.6nm,0.7s						
NVAR	Mina Array Bea	46.15	305	P	P	19 59 36.1	+0.3
	comp=Z,1.1nm,0.8s,baz=91,slow=6.6,SNR=8.1						
YKA	Yellowknife Ar	53.10	336	P	P	20 00 27.5	-0.4
	comp=Z,1.2nm,0.7s,baz=120,slow=7.9,SNR=9.5						
ESDC	Sonseca Array	59.43	55	P	P	20 01 15.2	+1.8
	comp=Z,1.2nm,0.7s,baz=280,slow=7.6,SNR=6.2						
ESDC	Sonseca Array	59.43	55	IAmb	IAmb	20 01 41.8	
	comp=Z,2.6nm,1.2s						
ARCES	ARCESS Array B	73.94	21	P	P	20 02 45.9	+0.8
	comp=Z,1.4nm,0.6s,baz=286,slow=4.5,SNR=11						
FINES	FINESS Array B	76.00	30	P	P	20 02 57.8	+0.7
	comp=Z,0.8nm,0.6s,baz=299,slow=3.9,SNR=6.1						
IDI	Anoyia	82.69	55	P	P	20 03 35.8	+1.7
BRTR	Keskin Array B	87.65	49	P	P	20 04 00.2	+1.4
	comp=Z,0.7nm,0.6s,baz=282,slow=6.6,SNR=1.8						
XAN	Xi'an	127.01	1	PKP	PKPdf	20 10 11.3	-2.9
XAN				sPKP		20 10 49.4	
CTA	Charters Tower	146.22	262	PKPbc	PKPdf	20 10 48.9	-0.8
	comp=Z,2.2nm,0.8s,baz=90,slow=4.0,SNR=2.8						
STKA	Stephens Creek	149.25	240	PKPbc	PKPdf	20 10 57.7	+3.3
	comp=Z,4.1nm,0.8s,baz=119,slow=6.9,SNR=5.5						
STKA	Stephens Creek	149.25	240		PKPdf	20 10 55.9	+1.5
WRA	Warramunga Arr	157.40	264	PKPbc	PKPdf	20 11 17.4	+11
	comp=Z,0.3nm,0.6s,baz=88,slow=2.8,SNR=5.2						
WRA				PKPab	sPKPdf	20 11 37.7	-0.3
	comp=Z,0.7nm,0.5s,baz=86,slow=3.9,SNR=13						
WRA	Warramunga Arr	157.40	264	PKPab	PKPab	20 11 37.4	-0.9
ASAR	Alice Springs	157.65	254	PKPab	PKPab	20 11 38.6	-0.7
	comp=Z,1.0nm,0.7s,baz=100,slow=4.6,SNR=11						

IDC 24 20:00:37.1±2.3, 4.°59S×131.°70E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=153.1km s-min=25.6km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	3.73	353	Pn	Pn	20 01 35.9	-0.1
	0.6nm,0.3s,baz=230,slow=22,SNR=12						
SIJI				Sn	Sn	20 02 13.5	-7.1
	2.5nm,0.3s,baz=47,slow=20,SNR=13						
WRA	Warramunga Arr	15.47	171	Pn	Pn	20 04 14.8	-2.1
	0.2nm,0.3s,baz=354,slow=13,SNR=11						
WRA				Sn	Sn	20 07 03.0	-6.1
	0.2nm,0.3s,baz=359,slow=23,SNR=4.8						
ASAR	Alice Springs	19.08	174	P	Pn	20 05 02.1	-0.1
	0.2nm,0.3s,baz=354,slow=9.4,SNR=18						
ASAR				S	Sn	20 08 30.0	-6.7
	0.0nm,0.3s,baz=348,slow=26,SNR=2.0						
MKAR	Makanchi Array	67.18	326	P	P	20 11 33.2	+0.1
	0.2nm,0.4s,baz=122,slow=8.0,SNR=4.9						

IDC 24 20:17:45.9±2.2, 7.°04S×128.°50E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=111.3km s-min=33.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.03	157	Pn	Pn	20 21 05.0	-1.1
	0.2nm,0.3s,baz=335,slow=14,SNR=16						
WRA				Sn	Sn	20 23 28.0	-15
	0.6nm,0.3s,baz=333,slow=22,SNR=9.7						
ASAR	Alice Springs	17.33	163	P	P	20 21 50.4	-0.6
	0.1nm,0.3s,baz=340,slow=11,SNR=2.6						
ASAR				S	Sn	20 24 46.2	-17
	0.0nm,0.3s,baz=358,slow=29,SNR=0.9						
MKAR	Makanchi Array	67.44	328	P	P	20 28 43.5	0.0
	0.9nm,1.1s,baz=141,slow=7.1,SNR=2.5						

*INET **24** 20:30:12.9, 10.°94N×86.°67W, h15km, MW4.4*
*NEIC **24** 20:30:22.3±2.7, 11.°21N±0.°03×86.°45W±0.°07, h45km±6km, mb4.5/48, Mwr4.1/14, Error ellipse: s-maj=10.7km s-min=1.7km az=70.0*
*IDC **24** 20:30:22.9±2.7, 11.°64N×86.°22W, h49km±34km, mb3.7/7, mb1 4.0/7, mb1mx3.6/40, mbtmp3.9/7, MS3.5/2, Ms1 3.5/2, ms1mx3.1/22, Error ellipse: s-maj=55.5km s-min=22.0km az=52.0*
*SNET **24** 20:30:23.5±1.0, 11.°36N×86.°68W, h8km±221km, ML4.1*
*NEIC **24** 20:30:23.1, 11.°22N×86.°47W, h34km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.03; $M_{\theta\theta}$=0.15; $M_{\phi\phi}$=-0.12; $M_{r\theta}$=0.46; $M_{\theta\phi}$=-0.81; $M_{\phi r}$=-1.26; Fault plane solution: M_0=1.58000×10^{15} NP1:ϕ_s=80.29000°, δ30.77000°, λ_s-177.36000°. NP2:ϕ_s=348.03000°, δ88.65000°, λ_s-59.26000°. Principal axes: T 1.7136, Plg36.0000°, Azm51.0000°; N -0.3168, Plg31.0000°, Azm167.0000°; P -1.3968, Plg39.0000°, Azm286.0000°;*
ISC 24 20:30:22.8±0.9, 11.°22N±0.°05×86.°46W±0.°05, h64km±9km, n101, σ1§00/104, mb4.4/29, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	Masaya	0.82	21		Pn	20 30 37.8	-1.1
MASN				Sn	Sn	20 30 51.1	+0.5
HZTE	Horizontes, Gu	0.98	121		Pn	20 30 38.7	-2.1
HZTE				Sn	Sn	20 30 53.9	-0.2
CNGN	Cerro Negro	1.30	349		Pn	20 30 45.1	+0.1
ORTG	Ortega, Santa	1.30	131	Pn	Pn	20 30 42.6	-2.3
ORTG				Sn	Sn	20 31 03.0	+1.5
ACON	Acoyapa	1.46	59		Pn	20 30 46.0	-1.0
DUNO	Dulce Nombre,	1.47	140		Pn	20 30 47.3	0.0
CRIN	San Cristobal	1.58	339		Pn	20 30 47.7	-1.1
JTS	Las Juntas de	1.74	122	P	Pn	20 30 50.8	0.0
	40nm,0.3s,baz=23,slow=21,SNR=61						
JTS				S	Sn	20 31 14.5	+2.4
	33nm,0.3s,baz=178,slow=21,SNR=20						
JTS				LR	LR	20 31 52.6	
	comp=Z,461nm,21.7s,baz=32,slow=49						
JTS	Las Juntas de

U54A				IAmb	IAmb	20 35 51.3	
	comp=Z,16nm,0.8s						
U40A	**Yellville**	**25.69**	**348**	P	**P**	**20 35 46.6**	**-0.4**
U40A				IAmb	IAmb	20 35 48.4	
	comp=Z,8.2nm,0.8s						
HHAR	**Hobbs**	**25.86**	**346**	P	**P**	**20 35 47.9**	**-0.6**
HHAR				IAmb	IAmb	20 35 49.5	
	comp=Z,5.9nm,0.6s						
WMOK	**Wichita Mounta**	**25.97**	**336**	P	**P**	**20 35 51.1**	**+1.5**
WMOK				IAmb	IAmb	20 35 53.3	
	comp=Z,18nm,0.9s						
U38A	**Gravette**	**26.11**	**345**	P	**P**	**20 35 50.2**	**-0.6**
U38A				IAmb	IAmb	20 35 52.2	
	comp=Z,7.9nm,0.9s						
QUOK	**Quay**	**26.52**	**341**	P	**P**	**20 35 53.3**	**-1.2**
QUOK				IAmb	IAmb	20 35 54.5	
	comp=Z,11nm,0.7s						
CCM	**Cathedral Cave**	**27.07**	**352**	P	**P**	**20 35 59.1**	**-0.3**
MSTX	**Muleshoe**	**27.12**	**329**	P	**P**	**20 35 59.5**	**-0.6**
MSTX				IAmb	IAmb	20 36 13.9	
	comp=Z,17nm,1.4s						
R40A	**Maddies Statio**	**27.46**	**350**	P	**P**	**20 36 01.9**	**-0.9**
KAN09	**Caldwell North**	**27.70**	**341**	P	**P**	**20 36 08.3**	**+3.3**
KAN05	**Bluff City Nor**	**27.75**	**340**	P	**P**	**20 36 03.7**	**-1.9**
KS20	**Mayfield South**	**27.76**	**341**	P	**P**	**20 36 04.6**	**-1.0**
P38A	**Dawn**	**28.98**	**349**	P	**P**	**20 36 15.9**	**-0.6**
N49A	**Columbus Grove**	**29.66**	**3**	P	**P**	**20 36 22.5**	**+0.1**
N58A	**Sunbury**	**30.73**	**15**	P	**P**	**20 36 32.6**	**+0.8**
N58A				IAmb	IAmb	20 36 47.9	
	comp=Z,11nm,1.1s						
N59A	**State Game Lan**	**31.05**	**16**	P	**P**	**20 36 35.7**	**+1.0**
SDCO	**Great Sand Dun**	**31.46**	**330**	P	**P**	**20 36 39.7**	**+1.0**
BINY	**Binghamton**	**32.19**	**15**	P	**P**	**20 36 45.0**	**+0.2**
J56A	**Wolcott**	**33.01**	**13**	P	**P**	**20 36 51.3**	**-0.5**
I37A	**Lemond, Waseca**	**33.23**	**351**	P	**P**	**20 36 53.4**	**-0.4**
PV12	**Saucer Basin,**	**33.58**	**327**	P	**P**	**20 36 56.8**	**-0.4**
PV12				IAmb	IAmb	20 36 59.9	
	comp=Z,5.4nm,0.7s						
SPMN	**Marine on St.**	**34.32**	**352**	P	**P**	**20 37 02.5**	**-0.8**
F33A	**5 Mile Ranch,**	**35.51**	**348**	P	**P**	**20 37 12.0**	**-1.4**
PDAR	**Pinedale Array**	**37.31**	**332**	P	**P**	**20 37 28.8**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=128,slow=10,SNR=11						
PDAR				LR	LR	20 56 28.5	
	comp=Z,48nm,18.3s,baz=158,slow=42						
PDAR	**Pinedale Array**	**37.31**	**332**	P	**P**	**20 37 28.6**	**-0.6**
HWUT	**Hardware Ranch**	**37.43**	**328**	P	**P**	**20 37 30.1**	**0.0**
HWUT				IAmb	IAmb	20 37 31.8	
	comp=Z,5.4nm,0.8s						
AGMN	**Agassiz Nation**	**37.79**	**350**	P	**P**	**20 37 31.3**	**-1.5**
AGMN				IAmb	IAmb	20 37 44.4	
	comp=Z,5.2nm,0.8s						
REDW	**Red Top Meadow**	**38.38**	**331**	P	**P**	**20 37 38.7**	**+0.5**
REDW				IAmb	IAmb	20 37 39.9	
	comp=Z,5.4nm,0.7s						
NVAR	**Mina Array Bea**	**39.27**	**319**	P	**P**	**20 37 45.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=142,slow=8.0,SNR=3.2						
NVAR				PcP	**PcP**	**20 39 54.6**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=132,slow=4.0,SNR=6.2						
NVAR	**Mina Array Bea**	**39.27**	**319**	P	**P**	**20 37 46.1**	**+0.5**
ULM	**Lac du Bonnet**	**39.68**	**351**	P	**P**	**20 37 46.5**	**-2.2**
	comp=Z,3.1nm,0.5s,baz=160,slow=11,SNR=4.4						
MCMT	**McKenzie Canyo**	**40.43**	**331**	P	**P**	**20 37 56.3**	**+1.1**
SCHQ	**Schefferville**	**46.18**	**16**	P	**P**	**20 38 39.2**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=209,slow=9.0,SNR=2.3						
SCHQ				LR	LR	20 57 55.2	
	comp=Z,82nm,21.7s,baz=222,slow=36						
SCHQ	**Schefferville**	**46.18**	**16**	IAmb	IAmb	20 38 40.8	
	comp=Z,9.7nm,1.2s						
YKA	**Yellowknife Ar**	**55.05**	**344**	P	**P**	**20 39 47.2**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=138,slow=7.7,SNR=6.7						
BCAR	**Beaver Creek A**	**64.77**	**336**	P	**P**	**20 40 55.5**	**+1.0**
ILAR	**Eielson Array**	**67.53**	**336**	P	**P**	**20 41 11.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=126,slow=4.3,SNR=7.9						
ILAR	**Eielson Array**	**67.53**	**336**	P	**P**	**20 41 11.7**	**-0.4**
BMAR	**Burnt Mountain**	**67.77**	**339**	P	**P**	**20 41 14.5**	**+0.9**
I23K	**Minto, Yukon-K**	**68.65**	**336**	P	**P**	**20 41 19.4**	**+0.3**
MLY	**Manley**	**69.16**	**336**	P	**P**	**20 41 22.3**	**0.0**
MLY				IAmb	IAmb	20 41 23.5	
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	**139.70**	**247**	PKP	**PKiKP**	**20 49 46.8**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=66,slow=2.2,SNR=4.2						
WRA	**Warramunga Arr**	**139.85**	**252**	PKhKP	PKPpre	20 49 44.6	
	comp=Z,0.5nm,0.6s,baz=99,slow=1.6,SNR=4.8						
WRA	**Warramunga Arr**	**139.85**	**252**		**PKPdf**	**20 49 44.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**150.04**	**350**	PKPbc	**PKiKP**	**20 50 07.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=340,slow=3.9,SNR=7.7						

*BJI **24** 20:32:50.8±0.0, 32°.98N×86°.82E, h6km, mB4.2/7, mb3.9/12, Ms3.9/4, Ms7 3.7/4*
*IDC **24** 20:32:53.3±1.4, 33°.12N×87°.34E, h0km, mb3.5/5, mb1 3.8/8, mb1mx3.5/54, mbtmp3.6/8, ML3.0/2, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=37.6km s-min=20.7km az=58.0*
*DMN **24** 20:33:04.0±3.9, 32°.47N×86°.86E, h10km, Mb4.9/5, Error ellipse: s-maj=99.3km s-min=13.9km az=15.0*
ISC 24 20:32:54.6±0.8, 33°.25N±0°.08×87°.3E±0°.1, h10km, n18, σ1§28/15, mb3.9/3, MS3.2/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.85**	**136**	Pg	Pb	20 34 13.0	-7.0
LSA				Sg	**Sg**	**20 35 32.0**	**+1.5**
GKN	**Gorkha**	**5.70**	**204**	*eP*	**Pn**	**20 34 19.0**	**-0.5**
	17nm,0.5s						
KKN	**Kakani**	**5.71**	**198**	*eP*	**Pn**	**20 34 19.3**	**-0.3**
	12nm,0.4s						
PKI	**Pulchoki**	**5.88**	**196**	*eP*	**Pn**	**20 34 21.8**	**-0.4**
	26nm,0.6s						
TAPN	**Taplejung**	**5.89**	**176**	*eP*	**Pn**	**20 34 23.6**	**+1.3**
	28nm,0.3s						
KOLN	**Koldanda**	**6.31**	**211**	*eP*	**Pn**	**20 34 28.4**	**+0.5**
	8.3nm,0.4s						
PYUN	**Piuthan**	**6.32**	**217**	*eP*	**Pn**	**20 34 28.0**	**0.0**
	27nm,0.4s						
ODAN	**Odare**	**6.37**	**179**	*eP*	**Pn**	**20 34 28.8**	**0.0**
	44nm,0.5s						
WMQ	**Urumqi**	**10.56**	**2**	*e*P	Pn	20 35 32.4	+6.3
MKAR	**Makanchi Array**	**14.05**	**346**	Pn	**Pn**	**20 36 12.9**	**-0.8**
	0.1nm,0.3s,baz=158,slow=12,SNR=7.2						
MKAR				LR	LR	20 42 49.9	
	comp=Z,159nm,18.8s,baz=162,slow=42						
CMAR	**Chiang Mai Arr**	**18.07**	**142**	P	**P**	**20 37 03.5**	**-2.8**
	baz=330,slow=10,SNR=1.3						
KURBB	**Kurchatov Arra**	**18.51**	**342**	P	**P**	**20 37 10.7**	**-0.2**
	0.1nm,0.3s,baz=165,slow=12,SNR=6.3						
SONM	**Songino Array**	**20.50**	**39**	P	Pn	20 37 35.4	+0.4
	1.3nm,0.6s,baz=233,slow=12,SNR=6.1						
SONM				LR	LR	20 45 05.0	
	comp=Z,21nm,21.2s,baz=229,slow=36						
ZALV	**Zalesovo Beam**	**20.76**	**356**	P	**P**	**20 37 36.0**	**+0.6**
	1.2nm,0.5s,baz=181,slow=7.4,SNR=9.1						
ZALV				LR	LR	20 46 59.6	
	comp=Z,127nm,20.1s,baz=198,slow=40						
KSRS	**Korea Array**	**33.24**	**71**	P	**P**	**20 39 31.8**	**-0.2**
	0.9nm,0.6s,baz=270,slow=9.9,SNR=5.1						
KSRS				LR	LR	20 54 58.2	
	comp=Z,39nm,18.4s,baz=316,slow=40						
KBZ	**Khabaz**	**35.89**	**300**	LR	LR	20 57 51.5	
	comp=Z,47nm,18.6s,baz=112,slow=42						
GERES	**GERESS Array B**	**55.51**	**310**	P	**P**	**20 42 32.2**	**+2.4**
	0.2nm,0.4s,baz=89,slow=6.8,SNR=4.9						
WRA	**Warramunga Arr**	**69.40**	**133**	P	**P**	**20 44 02.2**	**-0.7**
	0.5nm,0.4s,baz=317,slow=7.9,SNR=12						

*NOU **24** 20:39:33.1, 45°.11S×167°.45E, h139km, ML4.2, South Island, New Zealand*
WEL 24 20:39:36.0, 45°S±9°×16°8E±1°3, h111km±14km, M3.9/40, mB4.4/7, MLv4.1/40, Mw(mB)3.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=74.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.37**	**118**	P	Pn	20 39 52.9	+0.7
MLZ				S	Sn	20 40 06.7	+2.3
MSZ	**Milford Sound**	**0.56**	**21**	P	Pn	20 39 53.3	0.0
MSZ				S	Sn	20 40 06.8	+0.6
WHZ	**Wether Hill Ro**	**0.73**	**164**	P	Pn	20 39 55.2	+0.6
WHZ				S	Sn	20 40 10.5	+1.7
WKZ	**Wanaka**	**1.03**	**70**	P	Pn	20 39 58.6	+1.0
WKZ				S	Sn	20 40 16.2	+2.2
EAZ	**Earnscleugh**	**1.17**	**92**	P	Pn	20 40 00.2	+1.1
EAZ				S	Sn	20 40 18.0	+1.4
PYZ	**Puysegur Point**	**1.19**	**215**	P	Pn	20 39 58.1	-1.1
PYZ				S	Sn	20 40 15.6	-1.3
JCZ	**Jackson Bay**	**1.38**	**36**	P	Pn	20 40 01.2	-0.4
JCZ				S	Sn	20 40 20.3	-0.6
TUZ	**Tuapeka**	**1.58**	**119**	P	Pn	20 40 05.4	+1.6
TUZ				S	Sn	20 40 26.0	+1.0
APZ	**The Paps**	**1.66**	**172**	P	Pn	20 40 04.8	0.0
SYZ	**Scrubby Hill**	**1.70**	**143**	P	Pn	20 40 06.3	+1.1
SYZ				S	Sn	20 40 28.6	+1.2
LBZ	**Lake Benmore**	**1.98**	**67**	P	Pn	20 40 08.1	-0.6
LBZ				S	Sn	20 40 32.9	-0.8
ODZ	**Otahua Downs**	**2.12**	**87**	P	Pn	20 40 10.6	+0.1
ODZ				S	Sn	20 40 36.7	-0.3
HHSZ	**Highcliff Hill**	**2.18**	**110**	P	Pn	20 40 12.4	+1.1
FOZ	**Fox Glacier**	**2.27**	**44**	P	Pn	20 40 10.8	-1.7
FOZ				S	Sn	20 40 38.1	-2.2
TMZ	**Timaru**	**2.52**	**72**	P	Pn	20 40 14.8	-0.9
GCSZ	**Gaunt Creek Bo**	**2.69**	**47**	P	Pn	20 40 15.7	-2.1
ARCZ	**Arundel**	**2.81**	**65**	P	Pn	20 40 18.0	-1.5
RPZ	**Rata Peaks**	**2.85**	**60**	P	Pn	20 40 18.4	-1.6
WVZ	**Waitaha Valley**	**3.07**	**47**	P	Pn	20 40 20.6	-2.3
WACZ	**Wakanui South**	**3.24**	**69**	P	Pn	20 40 23.9	-1.3
MHCZ	**Mount Hutt**	**3.26**	**61**	P	Pn	20 40 23.5	-2.0
RACZ	**Rakaia**	**3.53**	**67**	P	Pn	20 40 28.0	-1.0
OXZ	**Oxford**	**3.66**	**61**	P	Pn	20 40 28.7	-2.1
INZ	**Inchbonnie**	**3.69**	**49**	P	Pn	20 40 29.1	-2.0
MQZ	**McQueen's Vall**	**3.88**	**69**	P	Pn	20 40 32.3	-1.3
AKCZ	**Akaroa Harbour**	**3.98**	**72**	P	Pn	20 40 34.9	-0.2
LTZ	**Lake Taylor**	**4.11**	**56**	P	Pn	20 40 34.4	-2.5
AMCZ	**Amberley**	**4.12**	**62**	P	Pn	20 40 35.3	-1.7
OKCZ	**Okains Bay**	**4.14**	**71**	P	Pn	20 40 37.3	+0.1
GVZ	**Greta Valley S**	**4.47**	**62**	P	Pn	20 40 40.2	-1.5
DSZ	**Denniston Nort**	**4.58**	**43**	P	Pn	20 40 40.5	-2.7
KHZ	**Kahutara**	**5.08**	**59**	P	Pn	20 40 48.9	-1.0
THZ	**Tophouse**	**5.13**	**50**	P	Pn	20 40 47.9	-2.8
QRZ	**Quartz Range**	**5.64**	**41**	P	Pn	20 40 54.9	-2.5
BSWZ	**Blackbirch Sta**	**5.71**	**55**	P	Pn	20 40 57.9	-0.5
CMWZ	**Cape Campbell**	**5.88**	**57**	P	Pn	20 41 00.9	+0.1
TUWZ	**Tuamarina**	**5.93**	**53**	P	Pn	20 41 00.1	-1.2
TCW	**Tory Channel**	**6.27**	**53**	P	Pn	20 41 04.2	-1.7
DUWZ	**D'Urville Isla**	**6.35**	**49**	P	Pn	20 41 06.2	-1.0
BHW	**Baring Head**	**6.48**	**57**	P	Pn	20 41 06.7	-2.2
PLWZ	**Palliser**	**6.62**	**59**	P	Pn	20 41 08.9	-1.8
MSWZ	**Moikau Station**	**6.70**	**58**	P	Pn	20 41 10.1	-1.8
CAW	**Cannon Point**	**6.79**	**56**	P	Pn	20 41 09.8	-3.2
KIW	**Kapiti Island**	**6.86**	**53**	P	Pn	20 41 11.5	-2.4
MTW	**Mount Morrison**	**7.01**	**58**	P	Pn	20 41 13.7	-2.4
OGWZ	**Otaki Gorge**	**7.03**	**54**	P	Pn	20 41 13.4	-2.9
HOWZ	**Holdsworth Sta**	**7.18**	**56**	P	Pn	20 41 15.7	-2.6
MRZ	**Mangatainoka R**	**7.37**	**55**	P	Pn	20 41 17.9	-3.0
KHEZ	**Kahui Hut**	**7.55**	**41**	P	Pn	20 41 22.0	-1.4
BFZ	**Birch Farm**	**7.75**	**57**	P	Pn	20 41 23.4	-2.6
OTVZ	**Oturere**	**8.46**	**47**	P	Pn	20 41 32.7	-3.2
HIZ	**Hauiti**	**8.57**	**41**	P	Pn	20 41 33.7	-3.4
RAHZ	**Arahi**	**9.41**	**51**	P	Pn	20 41 51.5	+3.0
RUGZ	**Raukumara Rang**	**10.41**	**50**	P	Pn	20 41 58.9	-3.3
WCZ	**Waipu Caves**	**10.55**	**31**	P	Pn	20 42 03.9	0.0
OUZ	**Omahuta**	**10.95**	**27**	P	Pn	20 42 08.8	-0.5

*ANF **24** 20:42:44.3±0.2, 33°.00N×115°.54W, h15km, ML2.7/15, Error ellipse: s-maj=2.2km s-min=1.4km az=157.0*
*SCEDC **24** 20:42:45.5, 32°.97N×115°.53W, h12km*
*MEX **24** 20:42:46.8±0.8, 33°.04N×115°.43W, h20km, MD4.0*
ISC 24 20:42:44.3±1.0, 33°.00N±0°.03×115°.52W±0°.03, h16km±9km, n20, σ0§96/34, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.24**	**257**	P	**Pb**	**20 42 50.3**	**0.0**
	baz=83,SNR=454						
SWSC				S	**Sg**	**20 42 53.7**	**+0.3**
	baz=83						
GLA	**Glamis**	**0.59**	**85**	P	**Pn**	**20 42 56.7**	**-1.4**
	baz=263,SNR=84						
GLA				S	**Sb**	**20 43 04.5**	**+0.1**
	baz=263						
IKP	**In-Ko-Pah, Jac**	**0.60**	**235**	P	**Pb**	**20 42 56.6**	**0.0**
	baz=56,SNR=52						
IKP				S	**Sg**	**20 43 04.3**	**0.0**
	baz=56						
MBIG	**Mexicali**	**0.65**	**155**	*i* P	**Pb**	**20 42 57.6**	**+0.3**
MBIG				*i* P	**Pn**	**20 43 01.2**	**+2.4**
MBIG				*i* S	**Sb**	**20 43 05.8**	**-0.2**
MONP2	**Monument Peak**	**0.76**	**262**	P	**Pg**	**20 42 59.3**	**0.0**
	baz=84,SNR=84						
MONP2				S	**Sb**	**20 43 09.6**	**-0.1**
	baz=84						
PFO	**Pinyon Flats O**	**0.99**	**308**	P	**Pb**	**20 43 03.0**	**-0.3**
	baz=129,SNR=46						
PFO				S	**Sg**	**20 43 16.6**	**-0.1**
	baz=129						
BELC	**Belle Mtn. Jos**	**1.07**	**338**	P	**Pg**	**20 43 04.5**	**-0.6**
	baz=159,SNR=12						
BELC				S	**Sn**	**20 43 19.4**	**-0.1**
	baz=159						
TJIG	**Tijuana**	**1.12**	**240**	*e*P	**Pg**	**20 43 05.7**	**-0.3**
TJIG				*e*S	**Sb**	**20 43 19.4**	**-0.4**
CBX	**Cerro Bola**	**1.18**	**235**	*i* P	**Pn**	**20 43 05.5**	**-0.8**
CBX				*i* S	**Sb**	**20 43 21.9**	**+0.3**
IRM	**Iron Mountain**	**1.20**	**15**	P	**Pg**	**20 43 06.4**	**-1.0**
	baz=195,SNR=188						
109C	**Camp Elliot, M**	**1.33**	**266**	P	**Pn**	**20 43 07.8**	**-0.5**
	baz=86						
109C				Sb	**Sb**	**20 43 26.1**	**+0.3**
	baz=86						
MURC	**Murrieta**	**1.52**	**294**	P	**Pn**	**20 43 10.9**	**-0.1**
	baz=114						
PDMCI	**Parker Dam,Lak**	**1.74**	**41**	Sb	**Sg**	**20 43 39.8**	**-0.5**
	baz=221						
GMRC	**Granite Mounta**	**1.79**	**356**	Pg	**Pg**	**20 43 19.0**	**+0.4**
	baz=177						
NEE2	**Needles Airpor**	**1.92**	**23**	Pg	**Pg**	**20 43 21.9**	**+0.8**
	baz=203						
HEC	**Hector,Ludlow**	**1.95**	**340**	Pg	**Pg**	**20 43 22.5**	**+0.7**
	baz=160						
HEC				Sg	**Sg**	**20 43 49.6**	**+2.6**
	baz=160						
SPIG	**San Pedro Mart**	**1.95**	**179**	*e*P	**Pn**	**20 43 14.6**	**-2.4**
SPIG				*e*S	**Sn**	**20 43 42.4**	**+1.0**
214A	**Organ Pipe Nat**	**2.52**	**114**	P	**Pn**	**20 43 23.9**	**-0.7**
	baz=295						
214A	**Organ Pipe Nat**	**2.52**	**114**	*e*P	**Pn**	**20 43 23.7**	**-0.9**
214A				*e*S	**Sn**	**20 43 55.4**	**+0.4**
EDW2	**Edwards Air Fo**	**2.78**	**313**	Pg	**Pg**	**20 43 37.6**	**-0.1**
	baz=132						

WEL 24 20:52:37.5, 45°S±8°×16°8E±1°1, h83km±14km, M3.5/11, ML3.7/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=71.2, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.40**	**116**	P	Pn	20 52 51.7	+1.0
MLZ				S	Sn	20 53 02.8	+2.2
MSZ	**Milford Sound**	**0.56**	**23**	P	Pn	20 52 51.9	-0.1
MSZ				S	Sn	20 53 03.4	+0.6
WHZ	**Wether Hill Ro**	**0.74**	**162**	P	Pn	20 52 54.6	+0.8
WHZ				S	Sn	20 53 08.0	+2.1
WKZ	**Wanaka**	**1.06**	**70**	P	Pn	20 52 58.3	+0.9
WKZ				S	Sn	20 53 14.6	+2.2
PYZ	**Puysegur Point**	**1.17**	**214**	P	Pn	20 52 58.4	-0.3
PYZ				S	Sn	20 53 14.3	-0.4
EAZ	**Earnscleugh**	**1.20**	**92**	P	Pn	20 53 00.3	+1.2
EAZ				S	Sn	20 53 17.2	+1.9
JCZ	**Jackson Bay**	**1.40**	**37**	P	Pn	20 53 00.7	-1.0
JCZ				S	Sn	20 53 18.2	-1.7
TUZ	**Tuapeka**	**1.61**	**119**	P	Pn	20 53 05.7	+1.4
TUZ				S	Sn	20 53 26.0	+1.4
APZ	**The Paps**	**1.66**	**171**	P	Pn	20 53 05.2	+0.1
APZ				S	Sn	20 53 26.8	+0.9
SYZ	**Scrubby Hill**	**1.72**	**142**	P	Pn	20 53 06.5	+0.8
SYZ				S	Sn	20 53 27.9	+0.9
LBZ	**Lake Benmore**	**2.00**	**67**	P	Pn	20 53 08.5	-0.9
ODZ	**Otahua Downs**	**2.15**	**87**	P	Pn	20 53 11.4	-0.1
HHSZ	**Highcliff Hill**	**2.21**	**109**	P	Pn	20 53 13.1	+0.9
FOZ	**Fox Glacier**	**2.29**	**44**	P	Pn	20 53 11.3	-1.9
TMZ	**Timaru**	**2.55**	**73**	P	Pn	20 53 15.4	-1.3
GCSZ	**Gaunt Creek Bo**	**2.71**	**47**	P	Pn	20 53 16.6	-2.3
ARCZ	**Arundel**	**2.83**	**65**	P	Pn	20 53 18.6	-2.0
RPZ	**Rata Peaks**	**2.87**	**60**	P	Pn	20 53 19.2	-2.0
WACZ	**Wakanui South**	**3.27**	**69**	P	Pn	20 53 24.7	-1.8
MHCZ	**Mount Hutt**	**3.29**	**61**	P	Pn	20 53 24.7	-2.0
GVZ	**Greta Valley S**	**4.49**	**62**	P	Pn	20 53 42.7	-0.4
DSZ	**Denniston Nort**	**4.60**	**43**	P	Pn	20 53 41.8	-2.9
THZ	**Tophouse**	**5.15**	**50**	P	Pn	20 53 51.7	-0.5
QRZ	**Quartz Range**	**5.66**	**41**	P	Pn	20 53 56.3	-2.7
TOZ	**Tahuroa Road**	**9.52**	**41**	P	Pn	20 54 51.1	-0.5

*NDI **24** 20:59:49.4±4.8, 33°.96N×72°.25E, h59km±50km, mb4.8, ML5.5, mb5.1(NEIC)*
*IDC **24** 20:59:51.5±0.4, 33°.97N×73°.08E, h0km, mb4.7/33, mb1 4.8/39, mb1mx4.8/44, mbtmp4.7/39, ML4.7/6, MS4.4/34, Ms1 4.4/34, ms1mx4.2/51, Error ellipse: s-maj=11.3km s-min=8.8km az=28.0*
*GCMT **24** 20:59:52.1±0.2, 33°.92N±0°.01×73°.21E±0°.01, h22km±1km, MW5.0/111, Moment Tensor Solution. s49,c60; s111,c181; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03±.14; $M_{\theta\theta}$4.10±.12; $M_{\phi\phi}$-4.07±.11; $M_{r\theta}$0.80±.20; $M_{\theta\phi}$-2.00±.10; $M_{\phi r}$-0.06±.18; Best double couple: $M_0$4.61700×10^{16} NP1:ϕ_s148.00000°, δ82.00000°, λ6.00000°. NP2:ϕ_s58.00000°, δ84.00000°, λ172.00000°. Principal axes: T 4.6960, Plg10.0000°, Azm13.0000°; N -0.1540, Plg80.0000°, Azm203.0000°; P -4.5370, Plg2.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **24** 20:59:53.2±0.0, 33°.90N×73°.30E, h15km, mB4.9/43, mb4.8/57, ML5.4/4, Ms5.0/71, Ms7 4.7/67*
*NNC **24** 20:59:53.7±0.9, 34°.09N×72°.69E, h0km, mb5.5, mpv5.5, Error ellipse: s-maj=8.1km s-min=6.2km az=179.0*
*NEIC **24** 20:59:54.5, 33°.87N×73°.18E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.70; $M_{\theta\theta}$-4.55; $M_{\phi\phi}$5.25; $M_{r\theta}$0.27; $M_{\theta\phi}$1.55; $M_{\phi r}$-0.76; Fault plane solution: $M_0$5.24000×10^{16} NP1:ϕ_s233.88000°, δ81.68000°, λ0.82000°. NP2:ϕ_s143.76000°, δ89.18000°, λ171.68000°. Principal axes: T 5.5723, Plg6.0000°, Azm99.0000°; N -0.7465, Plg82.0000°, Azm318.0000°; P -4.8258, Plg5.0000°, Azm189.0000°;*
*NEIC **24** 20:59:54.1±2.3, 33°.86N±0°.05×73°.19E±0°.07, h17km±3km, mb5.1/183, Mwr5.1/33 Error ellipse: s-maj=9.0km s-min=7.0km az=78.0*
*MOS **24** 20:59:54.3±1.2, 33°.96N×73°.26E, h32km, mb5.1/36, MS4.4/20, Error ellipse: s-maj=4.7km s-min=2.9km az=102.5*
ISC 24 20:59:53.3±0.4, 33°.92N±0°.03×73°.14E±0°.02, h15km±2km, h15km:pP-P, n779, σ1§93/839, mb5.0/219, MS4.5/71, 82C-34D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.28**	**158**	⇑P	**Pb**	**21 00 00.0**	**-0.1**
NIL	**Nilore**	**0.28**	**160**	P	**Pg**	**20 59 59.3**	**0.0**
NIL				S	**Sb**	**21 00 06.3**	**+1.6**
NIL	**Nilore**	**0.28**	**160**		**Pb**	**20 59 59.9**	**-0.2**
NIL					**Sb**	**21 00 06.3**	**+1.6**
CEP	**Cherat**	**1.03**	**265**	⇓P	**Pb**	**21 00 12.4**	**-0.5**
THW	**Thamme Wali**	**1.62**	**227**	⇑P	**Pg**	**21 00 24.0**	**-0.4**
SARP	**Sargodha**	**2.03**	**191**	⇑P	**Pb**	**21 00 28.6**	**-1.3**
KBL	**Kabul**	**3.45**	**282**	P	**Pn**	**21 00 49.3**	**+2.6**
KBL	**Kabul**	**3.45**	**282**		**Pn**	**21 00 49.3**	**+2.6**
KBL	**Kabul**	**3.45**	**282**	P	**Pn**	**21 00 49.6**	**+2.9**
	SNR=346						
KBL				S	**Sb**	**21 01 35.6**	**-0.4**
SMLA	**Simla**	**4.39**	**128**	*e*P	**Pn**	**21 01 02.5**	**+3.0**
SMLA				*i* x	x	21 01 15.1	
SMLA				*ex*	x	21 01 53.5	
SMLA				*e*S	**Sn**	**21 01 54.9**	**+4.5**
SMLA				IAML		21 02 20.6	
	comp=N,11μm,0.7s						
SMLA				IAML		21 02 22.3	
	comp=E,16μm,0.7s						
DDI	**Dehra Dun**	**5.50**	**129**	*e*P	**Pn**	**21 01 17.1**	**+2.4**
DDI				*ex*	x	21 02 18.1	
DDI				*e*S	**Sn**	**21 02 19.5**	**+1.7**
DDI				*ex*	x	21 02 48.4	
GAR	**Garm**	**5.56**	**337**		**Pn**	**21 01 19.1**	**+3.5**
DRK	**Karamyk**	**5.66**	**349**		**Pn**	**21 01 21.1**	**+4.0**
CHGR	**Chuyangaron**	**5.72**	**327**	Pn	**Pn**	**21 01 20.3**	**+2.5**
KSH

SGDS	Sogindy	9.59	7⇑	*i*P	Pn	21 02 12.2	+1.3
	baz=6.3						
SGDS	Sogindy	9.59	7	*c i*P	Pn	21 02 12.2	+1.3
MDOK	Medeo	9.72	17	*i* P	Pn	21 02 14.7	+1.9
	baz=17						
MDOK				*e*S	Sn	21 03 58.8	-3.0
	baz=17						
MDOK	Medeo	9.72	17	⇓P	Pn	21 02 14.5	+1.7
	comp=E,185nm,0.9s						
MDOK				⇓S	Sn	21 04 06.0	+4.1
	comp=E,523nm,1.8s						
MDOK	Medeo	9.72	17	P	Pn	21 02 14.5	+1.7
MDOK				S	Sn	21 04 05.9	+4.1
AAA	Alma-Ata	9.74	17	*e*P	Pn	21 02 13.3	+0.5
	baz=17						
AAA				*e*S	Sn	21 03 58.0	-3.9
	baz=17						
AAA	Alma-Ata	9.74	17	*e*P	Pn	21 02 13.3	+0.5
AAA				*e*S	Sn	21 03 58.0	-3.9
KNDC	Almaty	9.76	17	⇑P	Pn	21 02 15.1	+1.9
	comp=E,144nm,0.8s						
KNDC				⇑S	Sn	21 04 05.9	+3.4
	comp=E,327nm,1.1s						
SATY	Saty	10.02	23⇑	*i*P	Pn	21 02 18.5	+1.7
	baz=23						
SATY				*e*S	Sn	21 04 06.8	-2.2
	baz=23						
SATY	Saty	10.02	23	*c i*P	Pn	21 02 18.4	+1.7
SATY				*e*S	Sn	21 04 06.7	-2.2
PYUN	Piuthan	10.25	122	*e*P	Pn	21 02 19.4	-0.6
	comp=E,603nm,0.4s						
KUU	Kurty	10.27	13⇑	*i*P	Pn	21 02 20.9	+0.8
	baz=13						
KUU	Kurty	10.27	13	*c i*P	Pn	21 02 20.8	+0.8
UZB	Uzynbulak	10.30	25⇑	*i*P	Pn	21 02 22.3	+1.7
	baz=25						
UZB				*e*S	Sn	21 04 10.4	-5.6
	baz=25						
UZB	Uzynbulak	10.30	25	*c i*P	Pn	21 02 22.3	+1.7
UZB				*e*S	Sn	21 04 10.3	-5.6
CHKK	Chushkaly	10.36	16⇑	*e*P	Pn	21 02 22.2	+0.7
	baz=16						
CHKK	Chushkaly	10.36	16	⇑*e*P	Pn	21 02 22.1	+0.7
SHLS	Shalkode	10.47	26⇑	*i*P	Pn	21 02 26.6	+3.6
	baz=28						
SHLS				*e*S	Sn	21 04 21.6	+1.6
	baz=28						
SHLS	Shalkode	10.47	26	*c i*P	Pn	21 02 26.5	+3.6
SHLS				*e*S	Sn	21 04 21.6	+1.6
KPKS	Kokpek	10.47	23⇑	*i*P	Pn	21 02 24.4	+1.5
	baz=23						
KPKS	Kokpek	10.47	23	*c i*P	Pn	21 02 24.4	+1.5
PDGK	Podgornoye	10.62	26	⇑P	Pn	21 02 26.7	+1.6
	comp=E,217nm,0.8s						
PDGK				⇑S	Sn	21 04 27.9	+4.1
	comp=E,209nm,1.3s						
PDGK	Podgornoye	10.62	26	P	Pn	21 02 26.7	+1.6
PDGK				S	Sn	21 04 27.9	+4.1
DANN	Dangsing	10.66	119	*e*P	Pn	21 02 25.1	-0.6
	comp=E,223nm,0.3s						
KOLN	Koldanda	10.88	121	*e*P	Pn	21 02 28.0	-0.7
	comp=E,237nm,0.3s						
ARXS	Arharly	10.90	18	*e*P	Pn	21 02 29.3	+0.4
BTLS	Baital	11.13	3⇑	*i*P	Pn	21 02 32.8	+0.9
	baz=3.1						
BTLS				*e*S	Sn	21 04 28.4	-7.6
	baz=3.1						
BTLS	Baital	11.13	3	*c i*P	Pn	21 02 32.8	+0.9
BTLS				*e*S	Sn	21 04 28.4	-7.6
BHPL	Bhopal	11.28	159	*e*P	Pn	21 02 31.6	-2.4
BHPL				*e*x	x	21 04 33.4	
BHPL				*e*S	Sn	21 04 33.5	-6.4
BHPL				*e*x	x	21 04 34.2	
GKN	Gorkha	11.49	118	*e*P	Pn	21 02 35.8	-1.2
	comp=E,283nm,0.3s						
TDK	Taldyqorghan	11.79	19	*e*P	Pn	21 02 41.0	+0.1
	baz=19						
TDK	Taldyqorghan	11.79	19	*e*P	Pn	21 02 41.0	+0.1
KKN	Kakani	12.08	117	*e*P	Pn	21 02 43.2	-2.0
	comp=E,642nm,0.6s						
PKI	Pulchoki	12.30	118	*e*P	Pn	21 02 46.2	-2.0
	comp=E,448nm,0.4s						
ASHT	Ashkhabad	12.61	293	P	Pn	21 02 53.9	+1.7
ASHT	Ashkhabad	12.61	293	Pn	Pn	21 02 53.9	+1.7
GEYT	Alibeck	12.81	292	Pn	Pn	21 02 54.4	-0.6
	comp=E,1.6nm,0.3s,baz=119,slow=12,SNR=19						
GEYT				Sn	Sn	21 05 19.1	+1.7
	comp=E,1.3nm,0.3s,baz=276,slow=39,SNR=2.2						
GEYT				LR	LR	21 08 47.5	
	comp=E,1μm,18.4s,baz=175,slow=42						
GYA0	ALIBECK ARRAY	12.81	292	P	Pn	21 02 54.7	-0.3
GYA0B	ALIBECK ARRAY	12.81	292	⇑P	Pn	21 02 51.3	-3.7
GYA0B				⇑S	Sn	21 05 11.6	-5.8
GYA0B	ALIBECK ARRAY	12.81	292	Pn	Pn	21 02 54.1	-0.9
JIRN	Jiri	12.83	116	*e*P	Pn	21 02 53.3	-2.3
	comp=E,584nm,0.4s						
RAMN	Ramite	13.53	117	*e*P	Pn	21 03 02.1	-2.8
	comp=E,533nm,0.6s						
TAPN	Taplejung	14.14	114	*e*P	Pn	21 03 10.0	-3.4
	comp=E,255nm,0.4s						
ODAN	Odare	14.16	116	*e*P	Pn	21 03 11.1	-2.5
	comp=E,290nm,0.6s						
MAKZ	Makanchi	14.52	25	⇑P	Pn	21 03 20.8	+2.6
	comp=E,96nm,1.2s						
MAKZ	Makanchi	14.52	25	P	Pn	21 03 17.1	-1.1
MAKZ	Makanchi	14.52	25		Pn	21 03 17.1	-1.1
MK31	Makanchi Array	14.62	26	P	Pn	21 03 21.4	+1.9
	comp=E,47nm,0.9s,baz=201,slow=4.8,SNR=242						
MK31	Makanchi Array	14.62	26	P	Pn	21 03 18.4	-1.1
MK31	Makanchi Array	14.62	26	Pn	Pn	21 03 18.4	-1.1
MKAR	Makanchi Array	14.62	26	Pn	Pn	21 03 18.6	-0.9
	comp=E,1.1nm,0.3s,baz=202,slow=13,SNR=59						
MKAR				Sn	Sn	21 05 53.9	-7.3
	baz=186,slow=12,SNR=1.8						
MKAR				LR	LR	21 09 56.5	
	comp=E,890nm,19.0s,baz=205,slow=42						
MKAR	Makanchi Array	14.62	26	Pn	Pn	21 03 18.3	-1.3
GTK	Tadong	14.84	112	*e*x	x	21 03 19.8	
GTK				IAmb	IAmb	21 03 22.8	
	comp=Z,87nm,0.9s						
GTK				*e*x	x	21 05 57.5	
WMQ	Urumqi	15.02	45	*e*P	P	21 03 27.8	-2.7
WMQ				pP	pP	21 03 35.1	+0.1
WMQ				S	Sn	21 06 10.8	-0.4
WMQ				sS	S	21 06 24.3	-4.5
WMQ				pmax	pmax		
	comp=Z,130nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,3.7s						
WMQ				LR	LR		
	comp=Z,7μm,16.5s						
WMQ				LR	LR		
	comp=Z,6μm,11.9s						
WMQ				LR	LR		
	comp=Z,1μm,19.9s						
POO	Poona	15.34	177	*e*P	Pn	21 03 22.0	-7.4
	comp=Z,100nm,1.2s						
POO				*e*x	x	21 03 30.2	
POO				*i* x	x	21 06 35.0	
LSA	Lhasa	15.88	100	P	Pn	21 03 33.5	-3.3
LSA				pmax	pmax		
	comp=Z,85nm,1.2s						
LSA				LR	LR		
	comp=Z,6μm,11.4s						
LSA				LR	LR		
	comp=Z,7μm,11.4s						
LSA				LR	LR		
	comp=Z,10μm,12.1s						
LSA	Lhasa	15.88	100	P	Pn	21 03 33.4	-3.3
LSA				pmax	pmax		
	comp=Z,50nm,0.8s						
LSA	Lhasa	15.88	100	Pn	Pn	21 03 33.4	-3.3
ZSN	Zaisan	16.16	30⇑	*i*P	Pn	21 03 38.3	-1.5
	baz=30						
ZSN				*e*S	Sn	21 06 37.0	-1.6
	baz=30						
ZSN	Zaisan	16.16	30	*c i*P	Pn	21 03 38.2	-1.5
ZSN				*e*S	Sn	21 06 37.0	-1.6
WSAR	Wadi Sarin	16.58	234	Pn	Pn	21 03 44.7	-0.7
	comp=Z,0.5nm,0.3s,baz=64,slow=7.9,SNR=6.4						
WSAR				Sn	Sn	21 06 32.1	-17
	comp=Z,0.3nm,0.3s,baz=1.8,slow=11,SNR=0.9						
WSAR				LR	LR	21 11 56.1	
	comp=Z,2μm,20.4s,baz=87,slow=44						
WSAR	Wadi Sarin	16.58	234	P	P	21 03 47.6	-0.2
SHME	Shamm	16.67	246	P	P	21 03 50.1	+1.3
BIDO	Bidbid	16.73	236	P	Pn	21 03 45.4	-1.8
BIDO				P	Pn	21 03 45.4	-1.8
WBK	Wadi Bani Khal	16.79	232	P	Pn	21 03 47.3	-0.7
WBK				S	Sn	21 06 56.2	+1.9
MDH	Madha	16.96	244	P	Pn	21 03 50.9	+0.8
MASF	Masafi	17.02	244	P	P	21 03 55.5	+2.7
HYB	Hyderabad	17.14	162	*i* P	Pn	21 03 47.0	-5.3
HYB				*e*S	S	21 07 08.0	-4.1
HYB	Hyderabad	17.14	162	*e*P	Pn	21 03 46.7	-5.7
HYB				IAmb	IAmb	21 03 55.5	
	comp=Z,51nm,0.2s						
KURBB	Kurchatov Arra	17.16	12	P	Pn	21 03 49.5	-2.8
	comp=Z,0.7nm,0.3s,baz=200,slow=12,SNR=109						
KURBB				S	Sn	21 07 02.8	+0.1
	baz=208,slow=25,SNR=2.5						
KURBB				Lg	Lg	21 08 58.7	
	baz=212,slow=28,SNR=1.7						
KURBB	Kurchatov Arra	17.16	12	⇑P	P	21 03 53.3	-0.6
	comp=Z,49nm,0.8s						
KURBB	Kurchatov Arra	17.16	12	P	P	21 03 53.3	-0.6
UOSS	Minazif	17.23	243	Pn	Pn	21 03 53.4	-0.1
UOSS	Minazif	17.23	243	P	Pn	21 03 54.0	+0.5
HOQ	Hoqain	17.26	237	P	Pn	21 03 54.4	+0.6
HOQ				P	Pn	21 03 54.4	+0.6
KURK	Kurchatov	17.26	12	P	Pn	21 03 49.5	-4.1
KURK	Kurchatov	17.26	12	P	Pn	21 03 49.5	-4.1
SEM	Semipalatinsk	17.29	15⇑	*i*P	Pn	21 03 52.0	-2.3
	baz=16						
SEM				*e*S	Sn	21 07 05.7	-0.7
	baz=16						
SEM	Semipalatinsk	17.29	15	*c i*P	Pn	21 03 51.9	-2.3
SEM				*e*S	Sn	21 07 05.6	-0.7
SOHO	SOHO	17.47	240	P	Pn	21 03 56.8	+0.4
SOHO				P	Pn	21 03 56.8	+0.4
ASHO	Ashiyiah	17.49	243	P	P	21 03 59.3	+1.4
ASHO				P	P	21 03 59.3	+1.4
JMDO	Jabal Madar	17.53	233	P	Pn	21 03 55.8	-1.4
JMDO				P	Pn	21 03 55.8	-1.4
FAQ	Al Faqa, Dubai	17.80	244	P	P	21 04 03.5	+2.2
BSY	Bisya	17.89	236	P	P	21 04 03.9	+1.6
BSY				P	P	21 04 03.9	+1.6
ALNE	Al Ain	18.09	242	P	P	21 04 08.1	+3.7
ALNE				P	P	21 04 08.1	+3.7
AB31	Akbulak array	18.18	331	P	Pn	21 04 03.7	-1.4
	comp=Z,26nm,0.6s,baz=143,slow=11,SNR=448						
AB31				⇓S	Sn	21 07 24.0	-3.7
	comp=Z,27nm,0.7s,baz=152,slow=24,SNR=6.4						
AB31	Akbulak array	18.18	331	P	Pn	21 04 03.7	-1.4
AB31				S	Sn	21 07 24.3	-3.4
ABKAR	Akbulak array	18.18	331		Pn	21 04 03.6	-1.5
SHL	Shillong	18.26	112	P	Pn	21 04 01.3	-5.1
SHL				pmax	pmax		
	comp=Z,592nm,1.7s						
SHL	Shillong	18.26	112	*e*x	x	21 04 02.0	
SHL				IAmb	IAmb	21 04 08.0	
	comp=Z,83nm,0.7s						
SHL				*e*x	x	21 07 15.7	
SHL	Shillong	18.26	112	Pn	Pn	21 04 01.3	-5.1
SHL	Shillong	18.26	112	P	Pn	21 04 02.3	-4.1
DGZ	Jazzator, Alta	18.98	30	*c i*P	P	21 04 13.6	-0.6
BVAR	Borovoye Array	19.20	355	P	P	21 04 15.4	-1.1
	comp=Z,7.1nm,0.3s,baz=218,slow=19,SNR=139						
BRVK	Borovoye	19.24	355	⇑P	P	21 04 16.7	-0.2
	comp=Z,97nm,0.7s						
BRVK	Borovoye	19.24	355	P	P	21 04 16.8	-0.1
BRVK				pmax	pmax		
	comp=Z,109nm,0.8s						
BRVK	Borovoye	19.24	355	P	P	21 04 16.8	-0.1
BRVK				IAmb	IAmb	21 04 18.9	
	comp=Z,109nm,0.8s						
BRVK	Borovoye	19.24	355	P	Pn	21 04 17.5	-0.4
UMZA	Um Al Zommool	19.34	239	P	Pn	21 04 21.2	+2.0
UMZA				P	Pn	21 04 21.2	+2.0
JORH	JORHAT	19.56	106	*e*P	P	21 04 21.1	+0.6
AKTO	Aktyubinsk	19.89	331	P	P	21 04 24.4	+0.5
	comp=Z,11nm,0.3s,baz=140,slow=10,SNR=93						
AKTO				S	S	21 07 55.4	-12
	comp=Z,0.3nm,0.3s,baz=123,slow=9.7,SNR=2.1						
AKTO				Lg	Lg	21 10 30.8	
	comp=Z,0.1nm,0.3s,baz=44,slow=22,SNR=1.1						
AKTO				LR	LR	21 12 12.2	
	comp=Z,854nm,18.3s,baz=144,slow=37						
AKTO	Aktyubinsk	19.89	331	⇑P	P	21 04 24.0	0.0
	comp=Z,137nm,0.6s						
AKTO				⇑S	S	21 08 04.0	-3.3
	comp=Z,194nm,1.6s						
AKTO	Aktyubinsk	19.89	331	P	P	21 04 23.9	0.0
AKTO				S	S	21 08 04.2	-3.1
GHWR	Ruwais	20.29	246	P	Pn	21 04 30.7	+0.2
LKP	Lekhapani	20.59	102	*e*P	P	21 04 31.2	-0.6
LKP				IAmb	IAmb	21 04 33.6	
	comp=Z,61nm,0.7s						
SHMA	Al-Shehemyia	20.81	253	P	P	21 04 34.1	0.0
SAKB	Bahrain	21.09	254	P	P	21 04 38.2	+1.0
SLWR	Sila	21.14	248	P	P	21 04 39.5	+1.8
SLWR				P	P	21 04 39.5	+1.8
TRNA	Turayna	21.16	250	P	P	21 04 37.9	0.0
ZAA0	Zalesovo Array	21.66	19	⇓P	P	21 04 45.0	+1.8
	comp=Z,35nm,0.9s						
ZAA0	Zalesovo Array	21.66	19	P	P	21 04 42.3	-0.8
ZALV	Zalesovo Beam	21.66	19	P	P	21 04 42.9	-0.2
	comp=Z,153nm,0.7s,baz=213,slow=9.7,SNR=492						
ZALV				S	S	21 08 37.2	-5.3
	comp=Z,11nm,0.9s,baz=231,slow=16,SNR=3.0						
ZALV				Lg	Lg	21 11 26.5	
	comp=Z,5.0nm,1.0s,baz=209,slow=21,SNR=2.0						
ZALV				LR	LR	21 13 56.9	
	comp=Z,833nm,21.9s,baz=211,slow=39						
ZALV	Zalesovo Beam	21.66	19	P	P	21 04 42.2	-0.9
MDRS	Chennai	21.74	161	*e*x	x	21 04 46.2	
MDRS				IAmb	IAmb	21 04 49.6	
	comp=Z,42nm,1.7s						
MAK	Makhachkala	21.95	302	*e*P	P	21 04 46.1	-0.2
MAK				*e*		21 05 07.7	
MAK				*e*S	S	21 08 48.3	+0.2
MAK				*e*SS	SnSn	21 09 20.4	+6.7
MAK				pmax	pmax		
	comp=Z,85nm,1.0s						
MAK				MLR	MLR		
	comp=Z,1μm,15.0s						
GTA	Gaotai	22.05	68	⇓P	P	21 04 47.8	+0.2
GTA				pP	sP	21 04 54.6	+0.3
GTA				sP	pP	21 04 57.5	+5.3
GTA				S	S	21 08 49.3	-1.1
GTA				sS	pS	21 08 57.5	-0.1
GTA				pmax	pmax		
	comp=Z,16nm,1.0s						
GTA				LR	LR		
	comp=Z,2μm,14.5s						
GTA				LR	LR		
	comp=Z,2μm,13.8s						
GTA				LR	LR		
	comp=Z,2μm,14.2s						
LGD	Lagodekhi	22.59	298	P	P	21 04 55.6	+2.4
DOK	Doka	22.80	233	P	P	21 04 57.1	+1.5
DMTO	DMTO	22.93	230	P	P	21 04 57.4	+0.5
GROC	Groznyy	23.22	302	*e*P	P	21 04 59.1	-0.6
GROC				*e*		21 05 27.1	
GROC				*e*S	S	21 09 09.3	-1.8
GROC				pmax	pmax		
	comp=Z,60nm,0.7s						
GNI	Garni	23.45	294	P	P	21 05 03.6	+1.4
	comp=Z,38nm,0.8s,baz=15,slow=3.7,SNR=19						
GNI				S	S	21 09 20.5	+5.2
	comp=Z,1.7nm,0.3s,baz=161,slow=22,SNR=1.1						
GNI				LR	LR	21 15 53.0	
	comp=Z,496nm,18.5s,baz=84,slow=41						
GNI	Garni	23.45	294	*ce*P	P	21 05 04.2	+1.9
GNI				pmax	pmax		
	comp=Z,173nm,1.7s						
GNI	Garni	23.45	294	P	P	21 05 03.9	+1.7
WHFO	Wadi Hawf	23.54	232	P	P	21 05 04.6	+1.4
KZRT	Kazreti	23.87	297	P	P	21 05 10.6	+4.4
ABTO	Aybut	24.26	232	P	P	21 05 10.8	+0.8
SVE	Sverdlovsk	24.46	343	*de*P	P	21 05 12.1	+0.7
SVE				*e*S	S	21 09 32.0	+1.2
SVE				pmax	pmax		
	comp=Z,67nm,0.9s						
SVE				MLR	MLR		
	comp=Z,1μm,13.0s						
ZEI	Tsey	24.48	300	*e*P	P	21 05 14.7	+2.7
ZEI				pmax	pmax		
	comp=Z,61nm,1.5s						
AKH	Akhalkalaki	24.55	296	⇓P	P	21 05 15.9	+3.2
AKH	Akhalkalaki	24.55	296	P	P	21 05 15.8	+3.2
ARU	Arti	24.64	340	P	P	21 05 13.4	+0.3
	comp=Z,9.1nm,0.6s,baz=169,slow=6.3,SNR=73						
ARU				S	S	21 09 39.8	+6.1
	comp=Z,1.2nm,0.6s,baz=107,slow=22,SNR=1.3						
ARU				Lg	Lg	21 12 30.5	
	comp=Z,1.4nm,0.8s,baz=90,slow=20,SNR=1.0						
ARU				LR	LR	21 14 53.0	
	comp=Z,899nm,18.6s,baz=146,slow=37						
ARU	Arti	24.64	340	*c i*P	P	21 05 13.0	-0.1
ARU						21 05 44.5	
ARU				PPP	PPP	21 05 55.0	
ARU				S	S	21 09 34.3	+0.5
ARU				SS	SnSn	21 10 21.0	+1.4
ARU				SSS	SSS	21 10 39.5	
ARU				pmax	pmax		
	comp=Z,39nm,0.8s						
ARU				MLR	MLR		
	comp=Z,1μm,14.0s						
ARU	Arti	24.64	340	P	P	21 05 13.1	+0.1
ARU				IAmb	IAmb	21 05 24.5	
	comp=Z,48nm,0.6s						
KARS	Kars	24.76	294	P	P	21 05 17.4	+2.9
KARS				pmax	pmax		
	comp=Z,151nm,0.9s						
KARS	Kars	24.76	294	P	P	21 05 17.4	+2.9
ONI	Oni	24.77	299	P	P	21 05 15.7	+1.2
ONI				pmax	pmax		
	comp=Z,55nm,1.2s						
ONI	Oni	24.77	299	P	P	21 05 15.7	+1.2
ONI				IAmb	IAmb	21 05 50.5	
	comp=Z,55nm,1.2s						
NCK	Nalchik	24.85	301	*i* P	P	21 05 17.3	+2.2
NCK				pmax	pmax		
	comp=Z,36nm,1.0s						
SIRT	Sirnak	25.13	287	P	P	21 05 21.1	+3.3
LZH	Lanzhou	25.20	76	⇑P	P	21 05 20.0	+1.5
LZH				pP	sP	21 05 27.8	+2.4
LZH				sP	pP	21 05 31.4	+8.0
LZH				S	S	21 09 45.4	+2.0
LZH				sS	sS	21 09 54.3	+2.6
LZH				pmax	pmax		
	comp=Z,50nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,2μm,12.5s						
LZH				LR	LR		
	comp=Z,830nm,11.9s						
LZH				LR	LR		
	comp=Z,880nm,13.6s						
KBZ	Khabaz	25.39	302	P	P	21 05 20.8	+0.8
	comp=Z,7.0nm,0.9s,baz=116,slow=6.2,SNR=13						
KBZ				LR	LR	21 17 34.1	
	comp=Z,808nm,18.8s,baz=96,slow=42						
GURO	Guroymak-BITLI	25.45	289	P	P	21 05 22.0	+1.3
GURO				IAmb	IAmb	21 05 30.0	
	comp=Z,84nm,1.8s						
MNCI	Minicoy	25.51	180	P	P	21 05 20.3	-1.0
SHA1	Shidzhatmaz	25.57	302	*c i*P	P	21 05 24.6	+2.7
KVAR	Kislovodsk Arr	25.59	302	P	P	21 05 21.8	-0.1
	comp=Z,3.3nm,0.6s,baz=83,slow=20,SNR=2.7						
KVAR				S	S	21 10 03.7	+14
	comp=Z,8.0nm,0.8s,baz=111,slow=21,SNR=1.7						
KVAR				LR	LR	21 16 50.7	
	comp=Z,2μm,18.3s,baz=140,slow=40						
KIV	Kislovodsk	25.59	302	⇑P	P	21 05 23.3	+1.4
KIV	Kislovodsk	25.59	302	*e*P	P	21 05 23.9	+2.0
KIV				*e*S	S	21 09 50.9	+1.5
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
KIV				MLR	MLR		
	comp=Z,623nm,15.0s						
KIV	Kislovodsk	25.59	302	P	P	21 05 21.9	0.0
KIV				IAmb	IAmb	21 06 18.2	
	comp=Z,39nm,0.8s						
GOF	Gofitskoye	25.61	305	⇑*e*P	P	21 05 25.3	+3.3
GOF				pmax	pmax		
	comp=Z,63nm,1.1s						
CHVG	Ch'k'valeri	25.79	299	⇓P	P	21 05 27.0	+3.4
CHVG	Ch'k'valeri	25.79	299	⇓P	P	21 05 27.0	+3.4
BATM	Batumi	25.91	296	⇓P	P	21 05 28.2	+3.4
BATM	Batumi	25.91	296	⇓P	P	21 05 28.2	+3.4
BCA	Borcka	25.95	296	⇑P	P	21 05 30.8	+5.7
CD2	Chengdu	25.98	88	P	P	21 05 25.8	+0.3
CD2				sP	sP	21 05 34.6	+2.2
CD2				S	S	21 09 50.9	-4.7
CD2				sS	sS	21 10 08.4	+4.4
CD2				LR	LR		
	comp=Z,2μm,15.8s						
CD2				LR	LR		
	comp=Z,2μm,12.2s						
CD2				LR	LR		
	comp=Z,3μm,13.7s						
BELG	Belogornoye	26.00	323	P	P	21 05 25.1	-0.3
	comp=Z,42nm,0.7s,baz=326,slow=1.2,SNR=6.3						
BELG				S	S	21 10 03.7	+8.3
	comp=Z,6.4nm,0.6s,baz=26,slow=19,SNR=0.9						
BELG				LR	LR	21 16 34.6	
	comp=Z,704nm,20.3s,baz=125,slow=39						
BELG	Belogornoye	26.00	323	*c i*P	P	21 05 27.1	+1.7
BELG				pmax	pmax		
	comp=Z,12nm,0.9s						
MOY	Mondy	26.82	40	*e*P	P	21 05 34.3	+1.3
MOY				pmax	pmax		
	comp=Z,30nm,2.0s						
KMI	Kunming	27.14	101	⇑P	P	21 05 38.1	+1.9
KMI				pP	sP	21 05 43.3	+0.2
KMI				sP	pP	21 05 48.6	+7.5
KMI				PP	PnPn	21 06 22.5	+3.3
KMI				S	S	21 10 12.3	-2.0
KMI				sS	sS	21 10 22.9	+0.4
KMI				SS	SnSn	21 11 25.5	+4.1
KMI				pmax	pmax		
	comp=Z,50nm,0.8s						
KMI				LR	LR		
	comp=Z,1μm,14.2s						
KMI				LR	LR		
	comp=Z,820nm,12.8s						
KMI				LR	LR		
	comp=Z,1μm,19.0s						
MHMT	Maesarieng	27.14	119	P	P	21 05 37.0	+1.0
	comp=Z,959nmcomp=Z,130nm,0.8s						
MHMT	Maesarieng	27.14	119	P	P	21 05 37.0	+1.0
	comp=Z,959nmcomp=Z,130nm,0.8s						
KTUT	Trabzon	27.30	295	⇑P	P	21 05 40.1	+2.9
PALK	Pallekele	27.42	164	P	P	21 05 39.1	+0.6
	comp=Z,7.4nm,0.8s,baz=127,slow=4.1,SNR=2.3						
PALK				LR	LR	21 16 04.7	
	comp=Z,2μm,19.1s,baz=98,slow=35						
CM33	Chiang Mai Arr	27.48	117	P	P	21 05 39.0	-0.1
CHTO	Chiang Mai	27.48	117	P	P	21 05 38.6	-0.5
CHTO				pmax	pmax		
	comp=Z,51nm,0.8s						
CHTO	Chiang Mai	27.48	117	P	P	21 05 39.6	+0.5
	comp=Z,682nmcomp=Z,82nm,0.9s						
CHTO	Chiang Mai	27.48	117	P	P	21 05 38.6	-0.

CMAR			S	**S**	**21 10 31.9**	**+9.1**
	comp=Z,1.2nm,0.7s,baz=281,slow=10.0,SNR=0.7					
CMAR			ScP	**ScP**	**21 12 38.1**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=294,slow=4.6,SNR=8.4					
CMAR			LR	LR	21 18 32.3	
	comp=Z,590nm,18.4s,baz=322,slow=40					
CMAR	**Chiang Mai Arr**	**27.70 117**	P	**P**	**21 05 41.0**	**-0.1**
CMAR				**ScP**	**21 12 37.1**	**-0.9**
CM02	**Chiang Mai Arr**	**27.72 117**	P	**P**	**21 05 42.3**	**+1.1**
	comp=Z,505nmcomp=Z,72nm,0.9s					
CM02	**Chiang Mai Arr**	**27.72 117**	P	**P**	**21 05 42.4**	**+1.1**
	comp=Z,505nmcomp=Z,72nm,0.9s					
CM35	**Chiang Mai Arr**	**27.72 117**	P	**P**	**21 05 41.0**	**-0.2**
CM01	**Chiang Mai Arr**	**27.73 117**	P	**P**	**21 05 42.5**	**+1.2**
	comp=Z,543nmcomp=Z,74nm,1.0s					
CM01	**Chiang Mai Arr**	**27.73 117**	P	**P**	**21 05 42.5**	**+1.2**
	comp=Z,543nmcomp=Z,74nm,1.0s					
CM05	**Chiang Mai Arr**	**27.74 117**	P	**P**	**21 05 42.1**	**+0.7**
	comp=Z,289nmcomp=Z,44nm,0.9s					
CM05	**Chiang Mai Arr**	**27.74 117**	P	**P**	**21 05 42.1**	**+0.7**
	comp=Z,289nmcomp=Z,44nm,0.9s					
CM09	**Chiang Mai Arr**	**27.74 117**	P	**P**	**21 05 42.6**	**+1.2**
	comp=Z,416nmcomp=Z,50nm,1.0s					
CM09	**Chiang Mai Arr**	**27.74 117**	P	**P**	**21 05 42.7**	**+1.3**
	comp=Z,416nmcomp=Z,50nm,1.0s					
CM04	**Chiang Mai Arr**	**27.76 117**	P	**P**	**21 05 42.6**	**+1.0**
	comp=Z,372nmcomp=Z,50nm,0.9s					
CM04	**Chiang Mai Arr**	**27.76 117**	P	**P**	**21 05 42.7**	**+1.1**
	comp=Z,372nmcomp=Z,50nm,0.9s					
CM36	**Chiang Mai Arr**	**27.77 117**	P	**P**	**21 05 41.0**	**-0.7**
LAMP	**Lampang**	**28.17 116**	P	**P**	**21 05 46.4**	**+1.2**
	comp=Z,326nmcomp=Z,38nm,0.9s					
LAMP	**Lampang**	**28.17 116**	P	**P**	**21 05 46.5**	**+1.2**
	comp=Z,81nmcomp=Z,9.5nm,0.9s					
MALT	**Malatya**	**28.28 289**	P	**P**	**21 05 49.9**	**+3.7**
SONM	**Songino Array**	**28.48 51**	P	**P**	**21 05 49.3**	**+1.3**
	comp=Z,8.7nm,0.8s,baz=253,slow=9.7,SNR=39					
SONM			LR	LR	21 18 21.2	
	comp=Z,864nm,20.8s,baz=250,slow=39					
SONM	**Songino Array**	**28.48 51**	P	**P**	**21 05 49.1**	**+1.1**
SONM			pmax	pmax		
	comp=Z,14nm,0.9s					
SONM	**Songino Array**	**28.48 51**	P	**P**	**21 05 49.1**	**+1.1**
PBA	**Port Blair**	**28.49 136**	P	P	21 05 48.5	+0.5
VRH	**Novokhopyorsk**	**28.57 317**	*e*P	**P**	**21 05 48.2**	**-0.3**
VRH			pmax	pmax		
	comp=Z,20nm,1.8s					
VRH			MLR	MLR		
	comp=Z,630nm,14.0s					
ULN	**Ulaanbaatar**	**28.92 51**	*c e*P	**P**	**21 05 52.7**	**+0.9**
ULN			pmax	pmax		
	comp=Z,15nm,1.7s					
ULN	**Ulaanbaatar**	**28.92 51**	P	**P**	**21 05 52.7**	**+0.9**
UMPA	**Umpang Tak**	**29.09 121**	P	**P**	**21 05 56.1**	**+2.6**
	comp=Z,427nmcomp=Z,40nm,0.8s					
UMPA	**Umpang Tak**	**29.09 121**	P	**P**	**21 05 56.1**	**+2.6**
	comp=Z,106nmcomp=Z,10.0nm,0.8s					
GAZ	**Gaziantep**	**29.30 287**	P	**P**	**21 05 56.8**	**+1.5**
GAZ			IAmb	IAmb	21 06 01.1	
	comp=Z,26nm,1.0s					
KIRV	**Kirov**	**29.32 335**	P	**P**	**21 05 55.1**	**+0.1**
	comp=Z,32nm,0.7s,baz=156,slow=2.9,SNR=10					
KIRV			LR	LR	21 19 25.8	
	comp=Z,303nm,18.3s,baz=137,slow=40					
UTTA	**Uttaradit**	**29.34 116**	P	**P**	**21 05 56.2**	**+0.6**
	comp=Z,264nmcomp=Z,31nm,0.6s					
UTTA	**Uttaradit**	**29.34 116**	P	**P**	**21 05 56.3**	**+0.6**
	comp=Z,66nmcomp=Z,7.7nm,0.6s					
ANN	**Anapa**	**29.45 302**	*e*P	**P**	**21 05 55.8**	**-0.6**
ANN			MLR	MLR		
	comp=Z,1μm,16.0s					
XAN	**Xi'an**	**29.58 80**	P	**P**	**21 05 57.4**	**-0.4**
XAN			pP	sP	21 06 04.4	-0.3
XAN			S	**S**	**21 10 57.3**	**+4.9**
XAN			SS	**SnSn**	**21 12 21.8**	**+1.2**
XAN			pmax	pmax		
	comp=Z,15nm,1.2s					
XAN			LR	LR		
	comp=Z,1μm,16.5s					
XAN			LR	LR		
	comp=Z,1μm,16.9s					
XAN			LR	LR		
	comp=Z,1μm,13.5s					
PHIT	**Phitsanulok**	**29.58 117**	P	**P**	**21 05 59.3**	**+1.5**
	comp=Z,1μmcomp=Z,85nm,0.9s					
PHIT	**Phitsanulok**	**29.58 117**	P	**P**	**21 05 59.3**	**+1.5**
	comp=Z,308nmcomp=Z,21nm,0.9s					
GYA	**Guiyang**	**29.82 95**	⇑P	**P**	**21 06 04.1**	**+4.1**
GYA			pP	sP	21 06 12.3	+5.4
GYA			S	**S**	**21 10 54.3**	**-2.1**
GYA			LR	LR		
	comp=Z,250nm,22.9s					
KHLT	**Khaolaem Dam**	**29.86 123**	P	**P**	**21 06 03.1**	**+2.8**
	comp=Z,14nm,1.0s					
KHLT	**Khaolaem Dam**	**29.86 123**	P	**P**	**21 06 03.0**	**+2.8**
	comp=Z,14nm,1.0s					
SLVN	**Son La**	**29.88 107**	P	**P**	**21 06 01.2**	**+0.7**
SLVN			IAmb	IAmb	21 06 34.8	
	comp=Z,71nm,2.0s					
VORD	**Divnogorie**	**29.89 315**	*e*P	**P**	**21 05 58.7**	**-1.5**
VORD			pmax	pmax		
	comp=Z,8.0nm,0.8s					
UTHA	**Uthaitani**	**29.94 121**	P	**P**	**21 06 02.6**	**+1.6**
	comp=Z,56nmcomp=Z,5.8nm,1.0s					
BTO	**Baotou**	**29.94 66**	*e*P	**P**	**21 06 02.8**	**+1.8**
BTO			S	**S**	**21 10 54.6**	**-3.5**
BTO			LR	LR		
	comp=Z,5μm,12.1s					
BTO			LR	LR		
	comp=Z,3μm,16.8s					
BTO			LR	LR		
	comp=Z,5μm,16.5s					
BNN	**Bunyan**	**30.28 290**	P	**P**	**21 06 05.7**	**+1.7**
SRDT	**SRDT**	**30.54 123**	P	**P**	**21 06 07.6**	**+1.3**
	comp=Z,53nm,0.9s					
SRDT	**SRDT**	**30.54 123**	P	**P**	**21 06 07.0**	**+0.7**
	comp=Z,53nm,0.9s					
LPSR	**Galich'ya Gora**	**30.73 318**	*e*P	**P**	**21 06 07.7**	**+0.1**
LPSR			pmax	pmax		
	comp=Z,20nm,0.8s					
LPSR			MLR	MLR		
	comp=Z,710nm,15.0s					
SNOP	**Sinop**	**30.78 296**	P	**P**	**21 06 09.7**	**+1.5**
HHC	**Hu-ho-hao-te**	**31.12 66**	*e*P	**P**	**21 06 12.8**	**+1.4**
HHC			pmax	pmax		
	comp=Z,15nm,1.1s					
HHC			pmax	pmax		
	comp=Z,84nm,5.7s					
HHC			LR	LR		
	comp=Z,820nm,11.6s					
HHC			LR	LR		
	comp=Z,710nm,12.7s					
HHC			LR	LR		
	comp=Z,610nm,13.3s					
CHAI	**Chaiyaphum**	**31.56 118**	P	**P**	**21 06 16.4**	**+1.1**
	comp=Z,427nmcomp=Z,57nm,0.8s					
CHAI	**Chaiyaphum**	**31.56 118**	P	**P**	**21 06 16.4**	**+1.1**
	comp=Z,106nmcomp=Z,14nm,0.8s					
GHAJ	**Ghor Haditha**	**31.64 276**	P	**P**	**21 06 17.9**	**+2.1**
GHAJ			IAmb	IAmb	21 06 41.0	
	comp=Z,25nm,1.2s					
KHON	**Khomkaen**	**31.91 116**	P	**P**	**21 06 19.4**	**+1.1**
KHON	**Khomkaen**	**31.91 116**	P	**P**	**21 06 19.0**	**+0.7**
BR131	**Keskin Array S**	**31.96 292**	P	**P**	**21 06 20.6**	**+1.8**
BR131			pmax	pmax		
	comp=Z,38nm,1.1s					
BR131	**Keskin Array S**	**31.96 292**	P	**P**	**21 06 20.6**	**+1.8**
BR131			IAmb	IAmb	21 06 24.0	
	comp=Z,38nm,1.1s					
BR131	**Keskin Array S**	**31.96 292**	P	**P**	**21 06 20.9**	**+2.2**
	SNR=14					
BRTR	**Keskin Array B**	**31.96 292**	P	**P**	**21 06 20.2**	**+1.4**
	comp=Z,16nm,0.8s,baz=95,slow=9.5,SNR=34					
BRTR			LR	LR	21 21 50.7	
	comp=Z,427nm,19.1s,baz=100,slow=41					
BRTR	**Keskin Array B**	**31.96 292**	*i* P	**P**	**21 06 20.6**	**+1.8**
BRTR			pmax	pmax		
	comp=Z,16nm,0.8s					
BRTR	**Keskin Array B**	**31.96 292**	P	**P**	**21 06 20.3**	**+1.5**
SKNT	**Sakolnakorn**	**32.39 114**	P	**P**	**21 06 22.9**	**+0.3**
	comp=Z,14nm,0.7s					
SKNT	**Sakolnakorn**	**32.39 114**	P	**P**	**21 06 22.9**	**+0.3**
	comp=Z,14nm,0.7s					
ANTO	**Ankara**	**32.60 292**	P	**P**	**21 06 25.7**	**+1.3**
ANTO			pmax	pmax		
	comp=Z,11nm,0.8s					
ANTO	**Ankara**	**32.60 292**	P	**P**	**21 06 25.7**	**+1.3**
BR231	**Keskin MP Arra**	**32.62 292**	P	**P**	**21 06 27.0**	**+2.5**
BR231			IAmb	IAmb	21 06 32.0	
	comp=Z,49nm,1.7s					
CSS	**Mathiatis**	**32.70 283**	P	**P**	**21 06 25.7**	**+0.5**
MOS	**Moscow**	**32.77 323**	*e*P	**P**	**21 06 24.4**	**-1.1**
MOS			*e*		21 09 17.1	
MOS			*e*S	**S**	**21 11 38.1**	**-3.5**
MOS			pmax	pmax		
	comp=Z,33nm,1.0s					
MOS			MLR	MLR		
	comp=Z,1μm,13.0s					
SRAK	**Srakaew**	**32.84 120**	P	P	21 06 33.4	+6.9
PRGR	**Permogore**	**32.84 336**	*e*P	**P**	**21 06 25.5**	**-0.5**
PRGR			pmax	pmax		
	comp=Z,33nm,1.0s					
LEF	**Lefka**	**33.03 284**	⇑P	**P**	**21 06 30.6**	**+2.6**
OBN	**Obninsk**	**33.04 321**	⇓*e*P	**P**	**21 06 27.0**	**-0.8**
OBN			*e*		21 07 39.3	
OBN			*i* S	**S**	**21 11 47.6**	**+1.8**
OBN			pmax	pmax		
	comp=Z,12nm,0.7s					
OBN			MLR	MLR		
	comp=Z,884nm,19.0s					
OBN	**Obninsk**	**33.04 321**	P	**P**	**21 06 27.5**	**-0.3**
OBN			IAmb	IAmb	21 06 56.0	
	comp=Z,21nm,0.8s					
MDUB	**Mudurnu**	**33.80 294**	P	**P**	**21 06 34.5**	**-0.3**
SURT	**Suratani**	**34.26 131**	P	P	21 06 43.7	+4.8
	comp=Z,16nmcomp=Z,1.3nm,1.2s					
SURT	**Suratani**	**34.26 131**	P	P	21 06 43.8	+4.9
KLMR	**Klimovskoe**	**34.58 331**	*e*P	**P**	**21 06 39.9**	**-1.3**
KLMR			*e*SS	SS	21 14 16.6	-23
KLMR			pmax	pmax		
	comp=Z,28nm,1.2s					
KLMR	**Klimovskoe**	**34.58 331**	*e*P	**P**	**21 06 40.0**	**-1.3**
KLMR			AMP		21 06 54.3	
	comp=Z,28nm,1.2s					
KLMR			*e*PP	**PnPn**	**21 07 51.3**	**-5.3**
KLMR			*e*SS	SS	21 14 16.7	-23
KLMR			*e*SS	SS	21 14 16.7	-23
KLMR			LQ	LQ	21 17 36.1	
KLMR			LQ	LQ	21 17 36.1	
KLMR			LR	LR	21 18 50.9	
BJI	**Beijing**	**34.66 67**	P	**P**	**21 06 41.9**	**-0.2**
BJI			S	**S**	**21 12 13.3**	**+2.0**
BJI			pmax	pmax		
	comp=Z,5.0nm,0.4s					
BJI			LR	LR		
	comp=Z,1μm,16.2s					
BJI			LR	LR		
	comp=Z,470nm,12.9s					
BJI			LR	LR		
	comp=Z,2μm,17.1s					
WHN	**Wuhan**	**34.86 84**	⇑P	**P**	**21 06 44.8**	**+0.8**
WHN			S	**S**	**21 12 08.9**	**-5.6**
WHN			LR	LR		
	comp=Z,3μm,11.8s					
WHN			LR	LR		
	comp=Z,1μm,12.8s					
WHN			LR	LR		
	comp=Z,3μm,18.9s					
ELL	**Elmali**	**35.16 287**	P	**P**	**21 06 47.6**	**+0.9**
ELL	**Elmali**	**35.16 287**	P	**P**	**21 06 47.5**	**+0.9**
QIZ	**Qiongzhong**	**35.83 105**	P	**P**	**21 06 52.3**	**-0.2**
QIZ			S	**S**	**21 12 29.3**	**-0.4**
QIZ			LR	LR		
	comp=Z,710nm,12.4s					
QIZ			LR	LR		
	comp=Z,500nm,10.0s					
QIZ			LR	LR		
	comp=Z,650nm,17.1s					
TPGR	**Topolog**	**35.84 301**	⇓P	**P**	**21 06 53.8**	**+1.5**
TIA	**Tai'an**	**35.85 74**	*e*P	**P**	**21 06 53.4**	**+0.9**
TIA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
TIA			LR	LR		
	comp=Z,910nm,12.7s					
TIA			LR	LR		
	comp=Z,430nm,9.6s					
TIA			LR	LR		
	comp=Z,720nm,13.5s					
AKASG	**Malin Array Be**	**35.94 311**	P	**P**	**21 06 52.9**	**-0.2**
	comp=Z,5.9nm,0.6s,baz=81,slow=6.9,SNR=38					
AKASG	**Malin Array Be**	**35.94 311**	P	**P**	**21 06 52.7**	**-0.3**
AKASG			pmax	pmax		
	comp=Z,22nm,1.0s					
AKASG	**Malin Array Be**	**35.94 311**	P	**P**	**21 06 52.7**	**-0.3**
AKASG			IAmb	IAmb	21 07 05.6	
	comp=Z,22nm,1.0s					
AKBB	**Malin Array Si**	**35.94 311**	P	**P**	**21 06 52.9**	**-0.2**
AKBB			pmax	pmax		
	comp=Z,14nm,0.8s					
AKBB	**Malin Array Si**	**35.94 311**	P	**P**	**21 06 52.9**	**-0.2**
AKBB			IAmb	IAmb	21 07 05.0	
	comp=Z,14nm,0.8s					
CFR	**Carcaliu**	**36.05 302**	⇑P	**P**	**21 06 55.2**	**+1.2**
CFR	**Carcaliu**	**36.05 302**	⇑P	**P**	**21 06 55.2**	**+1.2**
SORM	**Soroca**	**36.12 307**	⇑P	**P**	**21 06 55.2**	**+0.6**
SORM	**Soroca**	**36.12 307**	⇑P	**P**	**21 06 55.2**	**+0.6**
ICOR	**Ion Corvin**	**36.26 300**	⇓P	**P**	**21 06 58.4**	**+2.5**
BOD	**Bodaibo**	**36.32 36**	*e*P	**P**	**21 06 56.2**	**0.0**
BOD			pmax	pmax		
	comp=Z,6.0nm,0.8s					
NRIK	**Noril'sk**	**36.38 9**	P	**P**	**21 06 56.5**	**0.0**
	comp=Z,8.9nm,0.8s,baz=191,slow=6.0,SNR=15					
NRIK			LR	LR	21 22 34.8	
	comp=Z,405nm,19.4s,baz=208,slow=38					
NRIK	**Noril'sk**	**36.38 9**	P	**P**	**21 06 57.5**	**+0.9**
NRIK			pmax	pmax		
	comp=Z,29nm,1.0s					
NRIK	**Noril'sk**	**36.38 9**	P	**P**	**21 06 57.5**	**+0.9**
NRIK			IAmb	IAmb	21 07 12.5	
	comp=Z,29nm,1.0s					
BALB	**Balikesir**	**36.40 292**	P	**P**	**21 06 56.8**	**-0.2**
BALB			IAmb	IAmb	21 07 01.5	
	comp=Z,22nm,0.7s					
VRI	**Vrincioaia**	**37.06 303**	⇓P	**P**	**21 07 05.5**	**+2.7**
VRI	**Vrincioaia**	**37.06 303**	⇓P	**P**	**21 07 05.5**	**+2.7**
BISRR	**Bisoca**	**37.07 302**	⇑P	P	21 07 10.6	+7.7
PLOR	**Plostina**	**37.12 303**	⇑P	**P**	**21 07 05.7**	**+2.5**
PLOR	**Plostina**	**37.12 303**	⇑P	**P**	**21 07 05.7**	**+2.5**
TESR	**Tescani**	**37.15 304**	⇑P	P	21 07 09.9	+6.5
KARP	**Karpathos**	**37.56 286**	P	**P**	**21 07 07.8**	**+0.8**
MNK	**Minsk**	**37.57 317**	*i* P	**P**	**21 07 06.2**	**-0.7**
MNK			*i*		21 08 32.5	
MNK			*i* PPP	PPP	21 08 50.6	
MNK			*i*		21 09 23.2	
MNK			*i* S	**S**	**21 12 54.5**	**-1.0**
MNK			*i*		21 13 11.9	
MNK			*i* SS	**SnSn**	**21 15 30.4**	**-3.4**
MNK			pmax	pmax		
	comp=E,1.0nm,0.7s					
MNK			pmax	pmax		
	comp=Z,17nm,0.7s					
MNK			pmax	pmax		
	comp=N,12nm,0.7s					
MNK			MLR	MLR		
	comp=N,665nm,19.0s					
MNK			MLR	MLR		
	comp=Z,736nm,19.0s					
MNK			MLR	MLR		
	comp=E,40nm,19.0s					
MNK	**Minsk**	**37.57 317**	*i* P	**P**	**21 07 06.2**	**-0.6**
	comp=E,1.0nm,0.7s					
MNK			*i* P	**P**	**21 07 06.2**	**-0.6**
	comp=N,12nm,0.7s					
MNK			*i* P	**P**	**21 07 06.2**	**-0.6**
	comp=Z,17nm,0.7s,baz=284					
MNK			*i* PP	**PP**	**21 08 32.5**	**0.0**
MNK			*i* PPP	PPP	21 08 50.6	
MNK			*i* PcP	**PcP**	**21 09 23.2**	**-1.3**
MNK			*i* S	**S**	**21 12 54.5**	**-1.0**
MNK			*i* ScP	**ScP**	**21 13 07.9**	**-3.4**
MNK			*i* PcS	**PcS**	**21 13 11.9**	**-0.8**
MNK			*i* SS	**SnSn**	**21 15 30.4**	**-3.4**
MNK			*i* SSS	SSS	21 15 53.5	
MNK			*i* ScS	ScS	21 17 03.7	-16
MNK			*i* LQ	LQ	21 20 16.1	
MNK			*i* LR	LR	21 22 34.0	
MNK			*i* LRM	MLR	21 24 14.3	
	comp=N,665nm,18.5s					
MNK			*i* LRM	MLR	21 24 15.9	
	comp=Z,736nm,18.5s					
MNK			*i* LRM	MLR	21 24 18.8	
	comp=E,40nm,18.5s					
MLR	**Muntele Rosu**	**37.60 302**	⇓P	**P**	**21 07 10.0**	**+2.5**
MLR	**Muntele Rosu**	**37.60 302**	P	**P**	**21 07 08.0**	**+0.6**
MLR			pmax	pmax		
	comp=Z,43nm,1.0s					
MLR	**Muntele Rosu**	**37.60 302**	P	**P**	**21 07 08.0**	**+0.6**
MLR			IAmb	IAmb	21 07 32.8	
	comp=Z,43nm,1.0s					
ALN	**Alexandroupoli**	**37.68 295**	P	**P**	**21 07 09.0**	**+1.0**
ALN			pmax	pmax		
	comp=Z,40nm,1.4s					
ALN	**Alexandroupoli**	**37.68 295**	P	**P**	**21 07 09.0**	**+1.0**
ALN			IAmb	IAmb	21 07 13.3	
	comp=Z,40nm,1.4s					
DOPR	**Dopca**	**38.00 303**	⇓P	**P**	**21 07 12.3**	**+1.7**
NJ2	**Nanjing**	**38.15 80**	*e*P	**P**	**21 07 12.0**	**-0.1**
NJ2			pmax	pmax		
	comp=Z,3.0nm,0.5s					
NJ2			LR	LR		
	comp=Z,810nm,15.6s					
NJ2			LR	LR		
	comp=Z,640nm,12.3s					
NJ2			LR	LR		
	comp=Z,560nm,12.3s					
BURAR	**Bucovina Array**	**38.18 306**	⇓P	**P**	**21 07 13.4**	**+1.1**
BURAR	**Bucovina Array**	**38.18 306**	⇓P	**P**	**21 07 13.4**	**+1.1**
BURAR	**Bucovina Array**	**38.18 306**	P	**P**	**21 07 12.9**	**+0.6**
BUR08	**Bucovina Ar. S**	**38.20 306**	P	**P**	**21 07 13.0**	**+0.6**
VOIR		**38.23 302**	⇓P	**P**	**21 07 13.8**	**+1.1**
VOIR		**38.23 302**	⇓P	**P**	**21 07 13.8**	**+1.1**
KULM	**Kulim**	**38.25 132**	P	P	21 07 18.0	+5.0
IDID	**Didziasalis**	**38.41 318**	*e*P	**P**	**21 07 14.7**	**+0.8**
APE	**Apeiranthos**	**38.58 289**	⇑P	**P**	**21 07 17.9**	**+2.3**
APE	**Apeiranthos**	**38.58 289**	⇑P	**P**	**21 07 17.9**	**+2.3**
IIGN	**Ignalina**	**38.71 318**	*e*P	**P**	**21 07 17.6**	**+1.1**
ARCR	**ARCALIA**	**38.75 305**	⇑P	**P**	**21 07 18.0**	**+1.1**
SANT	**Santorini**	**38.76 288**	P	**P**	**21 07 17.7**	**+0.5**
SANT			IAmb	IAmb	21 07 21.0	
	comp=Z,45nm,1.1s					
ISAL	**Salakas**	**38.81 318**	*e*P	**P**	**21 07 18.3**	**+1.0**
IPM	**Ipoh**	**39.12 132**	P	**P**	**21 07 21.0**	**+0.7**
LVV	**L'vov**	**39.12 309**	*e*P	**P**	**21 07 20.0**	**0.0**
LOT	**Lotru**	**39.13 302**	⇑P	**P**	**21 07 20.6**	**+0.3**
CJR	**Cluj-Napoca**	**39.26 304**	⇑P	P	21 07 28.2	+6.9
CJR	**Cluj-Napoca**	**39.26 304**	⇑P	P	21 07 28.2	+7.0
VSU	**Vasula**	**39.29 323**	*e*P	**P**	**21 07 21.4**	**+0.1**
VSU	**Vasula**	**39.29 323**	*c i*P	**P**	**21 07 20.5**	**-0.8**
VSU			pmax	pmax		
	comp=Z,51nm,0.9s					
BMR	**Baia Mare**	**39.35 306**	⇑P	**P**	**21 07 24.1**	**+2.2**
BMR	**Baia Mare**	**39.35 306**	⇑P	**P**	**21 07 24.1**	**+2.2**
IDI	**Anoyia**	**39.43 286**	P	**P**	**21 07 22.9**	**0.0**
	comp=Z,35nm,1.0s,baz=53,slow=8.6,SNR=33					
IDI	**Anoyia**	**39.43 286**	⇓P	**P**	**21 07 23.6**	**+0.8**
IDI	**Anoyia**	**39.43 286**	P	**P**	**21 07 22.8**	**0.0**
IDI			IAmb	IAmb	21 07 28.9	
	comp=Z,20nm,0.6s					
VTS	**Vitosha**	**39.64 298**	⇓P	**P**	**21 07 26.3**	**+1.6**
VTS	**Vitosha**	**39.64 298**	P	**P**	**21 07 25.3**	**+0.7**
VTS			pmax	pmax		
	comp=Z,9.0nm,0.9s					
VTS	**Vitosha**	**39.64 298**	P	**P**	**21 07 25.3**	**+0.7**
GSI	**Gunungsitoli**	**39.70 140**	P	**P**	**21 07 24.9**	**-0.2**
GSI			IAmb	IAmb	21 07 47.8	
	comp=Z,28nm,0.9s					
DRGR		**39.87 304**	⇓P	**P**	**21 07 28.4**	**+2.1**
DRGR		**39.87 304**	⇓P	**P**	**21 07 28.4**	**+2.1**
KWP	**Kalwaria Pacla**	**39.97 309**	P	**P**	**21 07 28.1**	**+1.0**
KWP	**Kalwaria Pacla**	**39.97 309**	P	**P**	**21 07 28.1**	**+1.0**
PABE	**Paberze**	**40.00 318**	*e*P	**P**	**21 07 28.1**	**+0.9**
PABE	**Paberze**	**40.00 318**	P	**P**	**21 07 27.3**	**+0.2**
PABE			IAmb	IAmb	21 07 31.5	
	comp=Z,47nm,1.1s					
TRPA	**Tarpa**	**40.01 306**	*e*P	**P**	**21 07 28.3**	**+0.9**
SNY	**Shenyang**	**40.11 63**	⇑P	P	21 07 36.6	+8.3
SNY			S	S	21 13 59.8	+26
SNY			SS	ScS	21 17 14.9	-20
SNY			pmax	pmax		
	comp=Z,10.0nm,0.6s					
SNY			LR	LR		
	comp=N,1μm,17.1s					
SNY			LR	LR		
	comp=E,380nm,14.7s					
SNY			LR	LR		
	comp=Z,830nm,15.2s					
SUW	**Suwalki**	**40.17 316**	*e*P	**P**	**21 07 28.7**	**0.0**
SUW	**Suwalki**	**40.17 316**	P	**P**	**21 07 27.7**	**-1.0**
SUW			pmax	pmax		
	comp=Z,29nm,1.0s					
SUW	**Suwalki**	**40.17 316**	P	**P**	**21 07 27.7**	**-1.0**
SUW			IAmb	IAmb	21 07 33.3	
	comp=Z,29nm,1.0s					
UZH	**Uzhgorod**	**40.19 307**	*e*P	**P**	**21 07 30.0**	**+1.1**
UZH			*e*		21 07 41.4	
UZH			*e*		21 09 08.6	
UZH			*e*S	**S**	**21 13 34.0**	**-1.1**
UZH			MLR	MLR		
	comp=N,160nm,15.0s					
UZH			MLR	MLR		
	comp=E,90nm,15.0s					
UZH			MLR	MLR		
	comp=Z,40nm,15.0s					
KOLS	**Kolonicke sedl**	**40.21 308**	*e*P	**P**	**21 07 30.5**	**+1.4**
KOLS			*e*		21 09 06.7	
KOLS	**Kolonicke sedl**	**40.21 308**	*e*P	**P**	**21 07 30.5**	**+1.4**
KOLS			*e*PP	**PnPn**	**21 09 06.7**	**+1.5**
VAY	**Valandovo**	**40.26 296**	*i* P	**P**	**21 07 32.0**	**+2.5**
SSE	**Sheshan**	**40.33 80**	P	**P**	**21 07 28.1**	**-2.2**
SSE			S	**S**	**21 13 35.6**	**-2.0**
SSE			pmax	pmax		
	comp=Z,14nm,0.7s					
SSE			pmax	pmax		
	comp=Z,100nm,6.0s					
SSE			LR	LR		
	comp=Z,500nm,14.1s					
SSE			LR	LR		
	comp=Z,400nm,13.5s					
LVZ	**Lovozero**	**40.50 339**	*c e*P	**P**	**21 07 31.1**	**-0.1**
LVZ			pmax	pmax		
	comp=Z,35nm,1.7s					
LVZ	**Lovozero**	**40.50 339**	P	**P**	**21 07 31.2**	**0.0**
LVZ			IAmb	IAmb	21 07 44.4	
	comp=Z,35nm,1.1s					
STIP	**Stip**	**40.50 296**	*i* P	**P**	**21 07 31.5**	**-0.1**
FIA1	**FINESS Array S**	**40.60 327**	P	**P**	**21 07 31.6**	**-0.4**
FINES	**FINESS Array B**	**40.60 327**	P	**P**	**21 07 32.0**	**-0.1**
	comp=Z,6.4nm,0.7s,baz=117,slow=8.7,SNR=19					
FINES			LR	LR	21 25 18.1	
	comp=Z,964nm,18.5s,baz=108,slow=38					
FINES	**FINESS Array B**	**40.60 327**	P	**P**	**21 07 32.1**	**0.0**
FINES	**FINESS Array B**	**40.60 327**	P	**P**	**21 07 32.1**	**0.0**
MDVR	**Moldovita**	**40.61 301**	⇓P	**P**	**21 07 32.5**	**0.0**
BZS	**Buzias**	**40.64 302**	⇑P	**P**	**21 07 34.6**	**+1.9**
BZS	**Buzias**	**40.64 302**	⇑P	**P**	**21 07 34.6**	**+1.9**
BOVS	**Bovan**	**40.68 299**	⇓P	**P**	**21 07 34.9**	**+1.8**
APA	**Apatity**	**40.69 338**	⇓*i* P	P	21 07 25.4	-7.3

ITM Ithomi 41.38 290 P **P** **21 07 38.5 -0.4**
OHR Ohrid 41.61 296 *i* P P 21 07 31.1 -10
KBN Korca 41.68 295 P **P** **21 07 41.6 +0.2**
KBN pmax pmax
comp=Z,26nm,1.2s
KBN Korca 41.68 295 P **P** **21 07 41.6 +0.2**
PSZ Piszkesteto 41.78 306 *eP* **P** **21 07 41.7 -0.4**
PSZ Piszkesteto 41.78 306 P **P** **21 07 42.5 +0.4**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 41.78 306 P **P** **21 07 42.5 +0.4**
MSEY Mahe Island 41.85 207 P **P** **21 07 40.5 -2.4**
MSEY pmax pmax
comp=Z,56nm,1.3s
MSEY Mahe Island 41.85 207 P **P** **21 07 40.5 -2.4**
MSEY IAmb IAmb 21 09 16.5
comp=Z,56nm,1.3s
OJC Ojcow 41.88 309 *eP* **P** **21 07 44.7 +1.9**
OJC Ojcow 41.88 309 P **P** **21 07 42.7 -0.1**
OJC pmax pmax
comp=Z,20nm,1.3s
OJC Ojcow 41.88 309 P **P** **21 07 42.7 -0.1**
DIVS Divibare 41.88 300 P **P** **21 07 43.8 +0.8**
FRGS Fruska Gora 41.94 302 ⇑P **P** **21 07 46.3 +3.0**
TIR Tirane 42.27 296 P **P** **21 07 46.6 +0.4**
TIR pmax pmax
comp=Z,14nm,0.6s
TIR Tirane 42.27 296 P **P** **21 07 46.6 +0.4**
BKNI Bangkinang 42.44 136 P **P** **21 07 45.9 -1.8**
BKNI Bangkinang 42.44 136 P **P** **21 07 49.4 +1.7**
comp=Z,62nm,1.2s
RAF Rauma 42.45 326 *eP* **P** **21 07 50.5 +3.2**
ZEA Zeya 42.58 45 *eP* **P** **21 07 50.7 +2.3**
ZEA *eS* **S** **21 14 14.6 +4.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=E,300nm,12.0s
ZEA MLR MLR
comp=Z,600nm,11.0s
PDG Podgorica 42.59 298 ⇑P **P** **21 07 49.6 +1.0**
PDG Podgorica 42.59 298 P **P** **21 07 48.4 -0.3**
MORH Mrgy, Hungar 42.69 304 ⇑P **P** **21 07 50.6 +1.2**
MORH Mrgy, Hungar 42.69 304 *eP* **P** **21 07 50.4 +1.0**
TATO Taipei 42.71 89 P **P** **21 07 48.9 -1.0**
YHNB Yeheng 42.74 89 P **P** **21 07 47.8 -2.4**
YHNB IAmb IAmb 21 08 29.1
comp=Z,99nm,1.7s
SSLB Suanglung 42.75 91 P **P** **21 07 48.1 -2.1**
OKC Ostrava-Krasne 42.93 309 AMS AMS 21 27 00.0
comp=Z,400nm,22.6s
MYKOM Kota Tinggi 42.96 131 P **P** **21 07 53.0 +1.1**
KOVH Kovagotottos 43.07 303 *eP* **P** **21 07 51.3 -1.3**
AAL Aland 43.08 324 *eP* **P** **21 07 52.0 -0.4**
INCN Inchon 43.11 69 P **P** **21 07 52.8 -0.2**
INCN pmax pmax
comp=Z,98nm,1.8s
INCN Inchon 43.11 69 P **P** **21 07 52.8 -0.2**
INCN IAmb IAmb 21 07 58.4
comp=Z,98nm,1.8s
NACB Ninganchiao 43.12 90 P **P** **21 07 52.1 -1.1**
NACB IAmb IAmb 21 09 03.3
comp=Z,25nm,1.0s
JAVC Velka Javorina 43.25 307 *eP* P 21 08 00.4 +6.4
TWG Pinlang 43.26 92 P **P** **21 07 55.3 +1.0**
TWG IAmb IAmb 21 08 03.0
comp=Z,16nm,0.7s
MORC Moravsky Berou 43.32 309 ⇑P **P** **21 07 55.7 +1.2**
MORC Moravsky Berou 43.32 309 P **P** **21 07 55.0 +0.4**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 43.32 309 P **P** **21 07 55.0 +0.4**
MORC Moravsky Berou 43.32 309 *eP* **P** **21 07 55.8 +1.2**
MPLH Magyarpolny 43.40 305 *eP* **P** **21 07 59.5 +4.3**
KRLC Kraliky 43.81 309 *eP* **P** **21 07 59.0 +0.5**
KRLC *e* 21 08 07.4
KRLC MLR MLR
comp=Z,300nm,13.6s
KRLC Kraliky 43.81 309 *eP* **P** **21 07 59.0 +0.5**
KRLC *ep*P **sP** **21 08 07.4 +1.9**
KRLC AMS AMS 21 28 10.0
comp=Z,300nm,13.6s
KEV Kevo 43.84 339 P **P** **21 07 58.7 +0.3**
KEV pmax pmax
comp=Z,14nm,0.8s
KEV Kevo 43.84 339 P **P** **21 07 58.7 +0.3**
VRAC Vranov 43.95 308 ⇓P **P** **21 08 00.1 +0.5**
VRAC Vranov 43.95 308 ⇓P **P** **21 08 00.1 +0.5**
VRAC Vranov 43.95 308 *eP* **P** **21 08 00.7 +1.1**
KS19 Wonju Array Si 44.06 69 P **P** **21 08 00.2 -0.4**
KS19 IAmb IAmb 21 09 41.7
comp=Z,48nm,1.6s
KRUC Moravsky 44.09 308 *eP* **P** **21 08 02.2 +1.5**
KSAR Wonju Array Be 44.09 69 P **P** **21 08 01.5 +0.7**
KSAR Wonju Array Be 44.09 69 P **P** **21 08 01.5 +0.7**
DPC Dobruska-Polom 44.11 310 *eP* **P** **21 08 02.1 +1.2**
DPC *e* 21 08 09.6
DPC *eS* **SS** **21 17 51.2 +1.0**
DPC MLR MLR
comp=Z,500nm,18.2s
DPC Dobruska-Polom 44.11 310 *eP* **P** **21 08 02.1 +1.2**
DPC *ep*P **sP** **21 08 09.6 +1.7**
DPC *eSS* SS 21 17 51.2 +1.0
DPC AMS AMS 21 27 30.0
comp=Z,500nm,18.2s
KSRS Korea Array 44.12 69 P **P** **21 08 01.7 +0.7**
comp=Z,7.4nm,0.9s,baz=273,slow=7.2,SNR=18
KSRS PcP **PcP** **21 09 47.2 +1.2**
comp=Z,3.6nm,0.9s,baz=279,slow=3.8,SNR=2.4
KSRS LR LR 21 28 45.9
comp=Z,286nm,20.0s,baz=250,slow=39
OSTC Ostas 44.17 310 *eP* **P** **21 08 02.4 +1.0**
OSTC AMS AMS 21 27 30.0
comp=Z,600nm,18.8s
UPP Uppsala 44.18 323 *eP* **P** **21 08 01.6 +0.4**
ARA0 ARCESS Array S 44.19 338 *eP* **P** **21 08 01.5 +0.2**
ARCES ARCESS Array B 44.19 338 P **P** **21 08 01.7 +0.4**
comp=Z,18nm,0.8s,baz=113,slow=7.9,SNR=72
ARCES LR LR 21 27 34.4
comp=Z,791nm,19.9s,baz=105,slow=38
ARCES ARCESS Array B 44.19 338 P **P** **21 08 01.5 +0.3**
ARCES pmax pmax
comp=Z,56nm,1.5s
ARCES ARCESS Array B 44.19 338 P **P** **21 08 01.5 +0.3**
ARCES IAmb IAmb 21 08 14.1
comp=Z,56nm,1.4s
MDJ Mudanjiang 44.20 59 P **P** **21 08 03.0 +1.4**
MDJ pP sP 21 08 14.3 +5.6
MDJ ScP **ScP** **21 13 34.3 -3.3**
MDJ S **S** **21 14 33.4 -0.9**
MDJ sS sS 21 14 50.4 +7.7
MDJ ScS **ScS** **21 17 59.3 -0.4**
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ pmax pmax
comp=Z,130nm,6.1s
MDJ LR LR
comp=Z,480nm,14.7s
MDJ LR LR
comp=Z,820nm,14.0s
MDJ LR LR
comp=Z,930nm,13.5s
CHVC Chvalec 44.27 310 *eP* **P** **21 08 03.3 +1.1**
CHVC *ex* x 21 08 11.0
CHVC AMS AMS 21 27 50.0
comp=Z,600nm,15.3s
UPC Upice 44.30 310 *eSS* SS 21 17 55.2 +1.2
UPC AMS AMS 21 27 40.0
comp=Z,600nm,14.3s
CONA Conrad Observa 44.49 306 *eP* **P** **21 08 05.5 +1.5**
comp=Z,5.3nm,1.1s
BLEU Blekinge 44.65 318 *i* P **P** **21 08 04.5 -0.6**
KTK1 Kautokeino 44.68 337 *eP* **P** **21 08 05.2 +0.1**
MATE Matera 44.74 296 ⇑P **P** **21 08 07.1 +1.1**
ARSA Arzberg 44.76 305 *eP* **P** **21 08 07.6 +1.5**
comp=Z,3.7nm,1.1s
TIP Timpagrande 44.98 294 ⇑P **P** **21 08 08.9 +0.8**
TIP Timpagrande 44.98 294 P **P** **21 08 08.4 +0.3**
TIP IAmb IAmb 21 08 50.6
comp=Z,38nm,1.4s
BSD Bornholm Skovb 45.07 316 *eP* **P** **21 08 07.5 -0.9**
BSD Bornholm Skovb 45.07 316 *i* P **P** **21 08 07.3 -1.2**
BSD IAmb IAmb 21 08 11.8
comp=Z,14nm,0.8s
BSD Bornholm Skovb 45.07 316 *i* P **P** **21 08 07.2 -1.2**
BSD pmax pmax
comp=Z,14nm,0.8s
YAK Yakutsk 45.09 34 *eP* **P** **21 08 06.2 -2.3**
YAK *e**PP **sP** **21 08 16.2 +0.6**
YAK *e* 21 09 50.6
YAK *eS* **S** **21 14 43.5 -3.3**
YAK *e**SS **sS** **21 14 56.0 +0.9**
YAK *eSS* **ScS** **21 18 05.0 +0.3**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.7s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,51nm,3.7s
YAK smax smax
comp=E,79nm,4.7s
YAK MLR MLR
comp=Z,255nm,15.0s
YAK MLR MLR
comp=N,824nm,28.0s
YAK MLR MLR
comp=E,209nm,28.0s
SOKA Soboth 45.15 304 *eP* **P** **21 08 10.7 +1.5**
comp=E,5.7nm,1.3s
PVCC Panska Ves 45.22 310 AMS AMS 21 28 00.0
comp=E,500nm,13.6s
PRU Pruhonice 45.26 309 *eP* **P** **21 08 11.3 +1.3**
PRU *e* 21 08 18.9
PRU MLR MLR
comp=Z,500nm,13.8s
PRU Pruhonice 45.26 309 *eP* **P** **21 08 11.3 +1.3**
PRU *ep*P **sP** **21 08 18.9 +1.9**
PRU *eSS* SS 21 18 13.7 +1.5
PRU AMS AMS 21 29 30.0
comp=Z,500nm,13.8s
HAMF Hammerfest 45.26 339 *eP* **P** **21 08 10.7 +0.9**
SGRT San Giovanni R 45.27 297 P **P** **21 08 10.3 0.0**
KLR Kul'dur 45.30 52 P **P** **21 08 10.8 +0.4**
comp=Z,1.9nm,0.5s,baz=265,slow=7.8,SNR=7.5
KLR Kul'dur 45.30 52 *ceP* **P** **21 08 11.2 +0.8**
OBKA Obir 45.49 304 *eP* **P** **21 08 12.9 +0.8**
comp=Z,4.2nm,1.2s
MOA Molln 45.57 306 *eP* **P** **21 08 13.3 +0.7**
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 45.61 310 *eP* **P** **21 08 13.9 +1.1**
BRG Amp 21 08 15.9
comp=Z,13nm,1.4s
BRG Berggiesshubel 45.61 310 P P 21 08 21.7 +8.9
BRG Amp 21 08 22.6
comp=Z,16nm,1.2s
BRG Amp 21 28 25.0
comp=Z,0.4nm,18.5s
BRG Amp 21 28 29.0
comp=E,0.4nm,16.9s
BRG Amp 21 28 31.0
comp=N,1.0nm,17.4s
PBCC Pribram 45.63 309 *eP* **P** **21 08 13.8 +0.8**
PBCC *ex* x 21 08 21.4
DEL Delary 45.74 318 *i* P **P** **21 08 13.0 -0.7**
DEL *i* P **pP** **21 08 13.7 -5.1**
JETT Jettan, Norway 45.82 337 *eP* **P** **21 08 15.7 +1.4**
GEC2 GERESS Array S 45.87 308 P **P** **21 08 15.3 +0.3**
GERES GERESS Array B 45.87 308 P **P** **21 08 15.8 +0.7**
comp=N,1.3nm,0.8s,baz=95,slow=8.2,SNR=9.5
GERES PP **PP** **21 10 03.2 +0.8**
comp=N,3.3nm,1.0s,baz=90,slow=6.7,SNR=4.1
GERES LR LR 21 30 19.7
comp=N,531nm,18.0s,baz=80,slow=40
GERES GERESS Array B 45.87 308 P **P** **21 08 14.6 -0.4**
KHC Kasperske Hory 45.93 308 *eP* **P** **21 08 17.4 +2.0**
KHC *e* 21 08 24.1
KHC *eS* **SS** **21 18 21.5 -2.4**
KHC MLR MLR
comp=Z,500nm,17.7s
KHC Kasperske Hory 45.93 308 *eP* **P** **21 08 17.4 +2.0**
KHC *ep*P **sP** **21 08 24.1 +1.7**
KHC *ex* x 21 18 21.5
KHC AMS AMS 21 29 00.0
comp=Z,500nm,17.7s
KHC Kasperske Hory 45.93 308 P **P** **21 08 15.1 -0.3**
LUNU Lund 45.94 317 *i* P **P** **21 08 15.0 -0.3**
LUNU *i* P **pP** **21 08 15.5 -4.8**
USRK Ussuriysk Ar. 45.95 59 P **P** **21 08 16.3 +0.7**
comp=Z,1.4nm,0.8s,baz=264,slow=7.5,SNR=1.6
USRK LR LR 21 27 56.5
comp=Z,171nm,21.9s,baz=273,slow=37
USRK Ussuriysk Ar. 45.95 59 P **P** **21 08 17.6 +2.0**
USRK Ussuriysk Ar. 45.95 59 P **P** **21 08 17.6 +2.0**
JTU Tsushima 46.00 73 P **P** **21 08 16.3 +0.3**
MYKA Terra Mystica 46.10 305 *eP* **P** **21 08 20.1 +3.2**
comp=Z,5.8nm,1.0s
CLL Collm 46.19 311 *eP* **P** **21 08 19.0 +1.7**
CLL *i* sP **sP** **21 08 25.7 +1.4**
comp=Z,5.0nm,0.8s
CLL *i* 21 08 28.2
CLL *i* PP **PP** **21 10 05.9 +0.3**
CLL *e*PPP PPP 21 10 49.0
CLL *e*PPPP 21 11 00.0
CLL *eS* **S** **21 15 06.0 +3.0**
CLL *eSS* **ScS** **21 18 18.0 +5.8**
CLL Collm 46.19 311 P **P** **21 08 17.6 +0.2**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 46.19 311 P **P** **21 08 17.6 +0.2**
BJUU Bjuv 46.19 318 *i* P **P** **21 08 17.2 -0.1**
KBA Koelnbreinsper 46.26 305 *eP* **P** **21 08 18.6 +0.4**
comp=Z,0.3nm,0.3s
PAOL Paolisi 46.27 297 P **P** **21 08 18.6 +0.4**
PAOL IAmb IAmb 21 08 24.9
comp=Z,49nm,1.5s
TRO Tromso 46.33 337 *eP* **P** **21 08 18.2 +0.1**
FABU Falkenberg 46.41 319 *i* P **P** **21 08 19.1 +0.2**
BORU Boraas 46.42 320 *i* P **P** **21 08 19.0 -0.1**
LODK Lodwar 46.45 238 P **P** **21 08 19.9 +0.1**
ZOU Zoufplan 46.57 304 P **P** **21 08 21.1 +0.4**
NKC Novy Kostel 46.59 310 AMS AMS 21 28 40.0
comp=Z,400nm,15.3s
STAL STALIGIAL 46.79 304 P **P** **21 08 21.6 -0.5**
STAL IAmb IAmb 21 08 48.7
comp=Z,51nm,1.8s
ABTA Abfaltersbach 46.86 305 *eP* **P** **21 08 24.3 +1.4**
comp=Z,2.9nm,1.0s
AQU L'Aquila 46.88 299 P **P** **21 08 22.9 -0.1**
AQU L'Aquila 46.88 299 P **P** **21 08 22.9 -0.1**
AQU IAmb IAmb 21 09 00.4
comp=Z,17nm,0.8s
FAUS Fauske 46.89 333 *eP* **P** **21 08 22.7 +0.1**
MOR8 Moi Rana 46.92 332 *eP* **P** **21 08 22.2 -0.7**
NRCA Norcia 47.01 299 P **P** **21 08 24.2 +0.1**
NRCA IAmb IAmb 21 08 43.3
comp=Z,9.1nm,0.8s
TJOU Tjoern 47.05 320 *i* P **P** **21 08 23.1 -0.9**
STEI Steigen 47.06 334 *eP* **P** **21 08 23.8 -0.1**
NC405 NORSAR Array S 47.26 325 P **P** **21 08 24.2 -1.4**
NC602 NORSAR Array S 47.30 324 *eP* **P** **21 08 25.2 -0.8**
NC602 NORSAR Array S 47.30 324 P **P** **21 08 25.1 -0.8**
MURB Monte Urbino 47.36 300 P **P** **21 08 28.1 +1.4**
WTTA Wattenberg 47.40 306 *eP* **P** **21 08 27.9 +0.8**
comp=Z,4.7nm,0.8s
KSM Kuching 47.42 125 P **P** **21 08 28.0 +0.6**
GRA1 Grafenberg Arr 47.42 309 P **P** **21 08 26.8 -0.3**
GRF Grafenberg Arr 47.42 309 P **P** **21 08 26.8 -0.3**
GRF pmax pmax
comp=Z,75nm,2.0s
GRFO Grafenberg 47.42 309 P **P** **21 08 26.1 -1.0**
GRFO pmax pmax
comp=Z,14nm,1.0s
GRFO Grafenberg 47.42 309 P **P** **21 08 26.1 -1.0**
GRFO IAmb IAmb 21 09 06.9
comp=Z,14nm,1.0s
WATA Walderalm 47.43 306 *eP* **P** **21 08 27.2 -0.1**
comp=Z,6.0nm,1.0s
NC303 NORSAR Array S 47.44 325 P **P** **21 08 26.3 -0.7**
NB201 NORSAR Array S 47.46 324 P **P** **21 08 26.6 -0.6**
PPBI Pangkal Pinang 47.46 132 P P 21 08 35.4 +7.7
NB2 NORSAR Subarra 47.49 324 P **P** **21 08 26.1 -1.4**
comp=Z,11nm,0.6s,baz=97,slow=7.9
NB2 NORSAR Subarra 47.49 324 P **P** **21 08 26.1 -1.4**
baz=97,slow=7.9
NOA NORSAR Array B 47.49 324 P **P** **21 08 26.4 -1.0**
comp=Z,11nm,0.7s,baz=97,slow=7.6,SNR=100
NOA LR LR 21 30 49.4
comp=Z,344nm,18.2s,baz=95,slow=39
WDD Wied Dalam 47.49 290 P **P** **21 08 29.5 +1.7**
KONS Konsvik 47.51 332 *eP* **P** **21 08 27.5 0.0**
STOK Stokkvaagen 47.52 332 *eP* **P** **21 08 25.7 -1.7**
TIXI Tiksi 47.53 21 P **P** **21 08 27.0 -0.6**
TIXI pmax pmax
comp=Z,23nm,0.8s
TIXI Tiksi 47.53 21 P **P** **21 08 27.0 -0.6**
TIXI IAmb IAmb 21 08 54.7
comp=Z,23nm,0.8s
CTI Castel Tesino 47.55 304 P **P** **21 08 28.1 -0.1**
CTI pmax pmax
comp=Z,8.0nm,0.7s
CTI Castel Tesino 47.55 304 P **P** **21 08 28.1 -0.1**
CTI IAmb IAmb 21 08 45.5
comp=Z,8.1nm,0.7s
JNU Nakatsue 47.58 74 P **P** **21 08 28.0 -0.5**
NSS Namsos 47.61 329 *eP* **P** **21 08 28.3 +0.1**
JOW Kunigami 47.62 83 P **P** **21 08 26.5 -2.4**
NAO01 NORSAR Array S 47.63 324 P **P** **21 08 27.8 -0.7**
OSL Oslo 47.64 323 *eP* **P** **21 08 28.4 -0.2**
SQTA Sankt Quirin 47.69 306 *eP* **P** **21 08 27.6 -1.7**
comp=Z,2.4nm,0.7s
NBO00 NORSAR Array S 47.70 324 P **P** **21 08 27.6 -1.5**
LOF Lofoten 47.73 334 *eP* **P** **21 08 28.7 -0.4**
NC204 NORSAR Array S 47.73 325 P **P** **21 08 28.4 -0.9**
MOTA Moosalm 47.75 306 *eP* **P** **21 08 29.4 -0.4**
comp=Z,4.9nm,1.1s
CORL Corleone 47.91 293 P **P** **21 08 32.1 +1.1**
RETA Reutte 47.96 306 *eP* **P** **21 08 32.5 +1.1**
comp=Z,1.7nm,0.7s
FETA Feichten 48.04 305 *eP* **P** **21 08 32.2 +0.1**
comp=Z,4.0nm,0.8s
SBUM Sibu 48.05 122 P **P** **21 08 34.0 +1.7**
CLTB Caltabellotta 48.06 292 P **P** **21 08 32.2 -0.1**
CLTB IAmb IAmb 21 08 37.3
comp=Z,22nm,0.9s
KONO Kongsberg 48.19 322 P **P** **21 08 32.1 -0.7**
KONO pmax pmax
comp=Z,33nm,1.3s
KONO Kongsberg 48.19 322 *eP* **P** **21 08 32.3 -0.6**
KONO Kongsberg 48.19 322 P **P** **21 08 32.1 -0.7**
KONO IAmb IAmb 21 08 41.8
comp=Z,33nm,1.2s
OSSC Osservatorio P 48.23 301 P **P** **21 08 33.9 +0.5**
OSSC IAmb IAmb 21 09 10.7
comp=Z,16nm,1.0s
SALO Salr 48.39 304 P **P** **21 08 33.8 -0.9**
SALO IAmb IAmb 21 08 52.1
comp=Z,20nm,0.8s
KMBO Kilima Mbogo 48.49 232 P **P** **21 08 36.6 +0.7**
comp=Z,7.0nm,0.9s,baz=35,slow=10,SNR=16
KMBO LR LR 21 30 21.2
comp=Z,338nm,20.2s,baz=39,slow=38
DAVA Damuels 48.58 306 *eP* **P** **21 08 36.3 +0.1**
comp=Z,6.2nm,0.8s
DOMB Dombas 48.61 326 *eP* **P** **21 08 35.7 -0.4**
SKAR Skarslia 48.89 324 *eP* **P** **21 08 35.9 -2.3**
KIBK Kibwezi 48.90 230 P **P** **21 08 39.7 +0.8**
KIBK IAmb IAmb 21 08 51.5
comp=Z,34nm,1.8s
TUE Stuetta 49.06 305 P **P** **21 08 41.3 +1.3**
TUE IAmb IAmb 21 10 00.4
comp=Z,15nm,1.2s
STKI Sintang 49.24 125 P **P** **21 08 43.9 +2.4**
BFO Black Forest 49.47 307 P **P** **21 08 43.9 +1.0**
BFO pmax pmax
comp=Z,15nm,1.4s
BFO Black Forest 49.47 307 P **P** **21 08 43.9 +1.0**
SPMM Sapulut 49.59 116 P **P** **21 08 46.0 +1.8**
ODD1 Odda 49.70 323 *eP* **P** **21 08 45.3 +0.8**
JMN Monobe 49.78 72 P **P** **21 08 46.5 +1.0**
JMN IAmb IAmb 21 08 55.6
comp=Z,26nm,0.9s
SPA0 Spitsbergen Ar 50.40 347 *eP* **P** **21 08 50.6 +1.1**
SPITS Spitsbergen Ar 50.40 347 P **P** **21 08 49.9 +0.4**
SPITS pmax pmax
comp=Z,20nm,0.9s
SENIN Lac Senin/Sane 50.48 305 P **P** **21 08 50.5 -0.3**
SENIN IAmb IAmb 21 09 08.3
comp=Z,12nm,0.7s
VSL Villasalto 50.48 296 P **P** **21 08 50.6 -0.1**
VSL IAmb IAmb 21 09 47.3
comp=Z,17nm,1.0s
FOO Floro 50.49 325 *eP* **P** **21 08 50.7 +0.3**
JWT Wachi 50.51 70 P **P** **21 08 51.8 +0.9**
JWT IAmb IAmb 21 09 17.5
comp=Z,16nm,0.8s
LPL La Plagne 51.03 304 *eP* **P** **21 08 55.4 +0.5**
LPL pmax pmax
comp=Z,12nm,1.0s
PBKI Pangkalan Bun 51.41 127 P P 21 09 06.3 +8.4
KEST Kesra 51.56 291 P **P** **21 09 00.2 +1.3**
comp=Z,10nm,0.6s,baz=26,slow=0.9,SNR=22
KEST Kesra 51.56 291 P **P** **21 08 59.9 +1.0**
KEST Kesra 51.56 291 P **P** **21 09 01.0 +2.1**
SNR=15
KEST P **P** **21 09 01.0 +2.1**
SNR=15
MAT Matsushiro 52.30 67 P **P** **21 09 04.5 +0.2**
MJAR Matsushiro Arr 52.30 67 P **P** **21 09 05.8 +1.5**
comp=Z,9.4nm,1.0s,baz=294,slow=9.1,SNR=10
MJAR LR LR 21 31 17.4
comp=Z,238nm,21.7s,baz=290,slow=36
MJAR Matsushiro Arr 52.30 67 P **P** **21 09 04.5 +0.2**
MJAR pmax pmax
comp=Z,7.0nm,1.1s
MJAR Matsushiro Arr 52.30 67 P **P** **21 09 04.5 +0.2**
MTKI Muara Teweh, K 52.33 123 P P 21 09 11.5 +6.8
MBAR Mbarara 52.54 238 *i* P **P** **21 09 04.9 -1.6**
CMAH Djebel Manchou 52.77 293 P **P** **21 09 11.0 +3.1**
ABSA Djebel Ababsia 52.83 292 P **P** **21 09 13.0 +4.6**
YSS Yuzh-Sakhalins 52.91 54 *eP* **P** **21 09 09.8 +1.1**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS Yuzh-Sakhalins 52.91 54 P **P** **21 09 08.9 +0.2**
YSS IAmb IAmb 21 09 15.0
comp=Z,17nm,0.8s
CKFL Kef-Lekhel 53.38 293 P **P** **21 09 16.5 +4.1**
DFRA Djebel Bou Aff 53.98 293 P **P** **21 09 21.4 +4.6**
BBKI Banjar Baru 54.10 125 P P 21 09 26.5 +8.8
CAF Calviac 54.37 304 *eP* P 21 09 25.6 +6.1
CAF pmax pmax
comp=Z,12nm,1.2s
ERM Erimo 54.40 59 *i* P **P** **21 09 20.0 +0.4**
ERM pmax pmax
comp=Z,19nm,1.4s
MPSI Mapaga 55.05 117 P **P** **21 09 26.4 +1.7**
LFF La Frestale 55.28 305 *eP* **P** **21 09 30.4 +4.4**
LFF pmax pmax
comp=Z,92nm,1.8s
MRSI Marisa 56.48 116 P **P** **21 09 37.3 +2.4**
comp=Z,530nmcomp=Z,62nm,1.2s
DAG Danmarks Havn 57.69 344 *i* P **P** **21 09 42.5 -0.2**
DAG Danmarks Havn 57.69 344 *i* P **P** **21 09 42.4 -0.2**
BILL Bilibino 60.16 26 *deP* **P** **21 10 01.1 +1.1**
BILL *e* 21 10 49.4
BILL *e* 21 12 11.6
BILL *i* SS SS 21 22 07.8 -1.2
BILL pmax pmax
comp=Z,24nm,2.5s
BILL MLR MLR
comp=Z,222nm,16.0s
ESDC Sonseca Array 60.23 300 P **P** **21 10 01.2 +0.2**
comp=Z,2.0nm,0.9s,baz=65,slow=6.8,SNR=8.1
ESDC LR LR 21 38 59.2
comp=Z,109nm,21.8s,baz=350,slow=39
ESDC Sonseca Array 60.23 300 P **P** **21 10 01.6 +0.6**
TNTI Ternate 60.43 111 P **P** **21 10 02.4 -0.2**
TNTI Ternate 60.43 111 P P 21 10 08.8 +6.2
PETK Petropavlovsk- 60.62 44 LR LR 21 37 48.8
comp=Z,508nm,19.8s,baz=282,slow=38
SANI Sanana 61.17 115 P **P** **21 10 11.2 +3.6**
PET Petropavlovsk 61.19 43 *ceP* **P** **21 10 06.7 -0.5**
PET pmax pmax
comp=Z,8.0nm,1.3s
NEEM North Greenlan 63.91 348 *i* P **P** **21 10 25.9 +0.5**
NEEM IAmb IAmb 21 10 26.5
comp=Z,12nm,0.9s
SUMG Summit 64.06 342 *i* P **P** **21 10 27.1 +0.6**
SUMG IAmb IAmb 21 10 27.7

	comp=Z,12nm,0.8s						
SUMG	**Summit**	**64.06**	**342**	*i* P	**P**	**21 10 27.1**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,12nm,0.8s						
SUMG	**Summit**	**64.06**	**342**	P	**P**	**21 10 27.0**	**+0.4**
SUMG				IAmb	IAmb	21 10 35.5	
	comp=Z,16nm,0.9s						
SWI	**Sorong**	**64.48**	**110**	P	P	21 10 36.1	+6.5
SOEI	**Soe**	**65.11**	**122**	P	**P**	**21 10 31.9**	**-1.9**
SOEI	**Soe**	**65.11**	**122**	P	**P**	**21 10 35.0**	**+1.2**
ICESG	**Greenland Ices**	**66.25**	**339**	*i* P	**P**	**21 10 41.5**	**+0.8**
ICESG				IAmb	IAmb	21 10 42.2	
	comp=Z,11nm,0.8s						
TORD	**Torodi Ar. Bea**	**67.46**	**271**	P	**P**	**21 10 48.2**	**-0.6**
	comp=Z,11nm,0.6s,baz=46,slow=5.5,SNR=35						
TORD				LR	LR	21 44 30.9	
	comp=Z,291nm,18.8s,baz=65,slow=40						
TORD	**Torodi Ar. Bea**	**67.46**	**271**	P	**P**	**21 10 48.3**	**-0.6**
DY2G	**Dye2**	**69.83**	**338**	*i* P	**P**	**21 11 03.5**	**+0.3**
DY2G				IAmb	IAmb	21 11 04.3	
	comp=Z,9.4nm,0.7s						
GAMB	**Gambell**	**70.09**	**25**	P	**P**	**21 11 05.2**	**+0.8**
	baz=307						
TNA	**Tin City**	**70.27**	**23**	P	**P**	**21 11 06.2**	**+0.7**
	baz=309						
ANM	**Nome**	**71.74**	**23**	P	**P**	**21 11 15.1**	**+0.6**
	baz=312						
KNRA	**Kununurra**	**72.36**	**123**	P	**P**	**21 11 18.2**	**-0.6**
KNRA				IAmb	IAmb	21 11 28.4	
	comp=Z,15nm,0.8s						
GENI	**Genyem**	**72.59**	**105**	P	P	21 11 25.7	+5.4
TOLK	**Toolik Lake Re**	**72.97**	**15**	P	**P**	**21 11 22.3**	**+0.5**
	baz=324,SNR=7.3						
TOLK	**Toolik Lake Re**	**72.97**	**15**	IAmb	IAmb	21 11 35.1	
	comp=Z,16nm,0.8s						
LBTB	**Lobatse**	**73.99**	**224**	LR	LR	21 42 20.0	
	comp=Z,147nm,21.7s,baz=46,slow=34						
LBTB	**Lobatse**	**73.99**	**224**	P	**P**	**21 11 28.7**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,113nm,2.0s						
LBTB	**Lobatse**	**73.99**	**224**	P	**P**	**21 11 28.7**	**+0.2**
SPIA	**Saint Paul Isl**	**74.76**	**30**	P	**P**	**21 11 32.9**	**+0.5**
	baz=310						
I21K	**Tanana**	**75.18**	**18**	P	**P**	**21 11 35.3**	**+0.6**
	baz=322						
H23K	**Yukon River**	**75.26**	**17**	P	**P**	**21 11 36.3**	**+1.1**
	baz=324,SNR=14						
J20K	**Nowinta River**	**75.39**	**19**	P	**P**	**21 11 37.0**	**+1.1**
	baz=321,SNR=18						
MLY	**Manley**	**75.61**	**18**	P	**P**	**21 11 38.0**	**+0.7**
	baz=324,SNR=14						
FYU	**Fort Yukon**	**75.62**	**15**	IAmb	IAmb	21 11 44.3	
	comp=Z,34nm,1.1s						
H24K	**Noodor Dome**	**75.65**	**16**	P	**P**	**21 11 38.2**	**+0.7**
	baz=326,SNR=12						
I23K	**Minto, Yukon-K**	**75.86**	**17**	P	**P**	**21 11 39.7**	**+1.1**
	baz=325,SNR=11						
I23K	**Minto, Yukon-K**	**75.86**	**17**	P	**P**	**21 11 39.0**	**+0.4**
K20K	**Telida**	**76.05**	**20**	P	**P**	**21 11 40.9**	**+1.2**
	baz=321,SNR=14						
CHUM	**Lake Minchumin**	**76.12**	**19**	P	**P**	**21 11 40.9**	**+0.8**
	baz=322						
INK	**Inuvik**	**76.15**	**10**	P	**P**	**21 11 40.9**	**+0.7**
	baz=337,SNR=15						
INK	**Inuvik**	**76.15**	**10**	IAmb	IAmb	21 11 41.9	
	comp=Z,21nm,0.8s						
C36M	**Paulatuk**	**76.26**	**6**	P	**P**	**21 11 40.8**	**0.0**
	baz=345,SNR=8.8						
C36M	**Paulatuk**	**76.26**	**6**	IAmb	IAmb	21 11 41.8	
	comp=Z,19nm,0.8s						
MDM	**Murphy Dome**	**76.29**	**17**	IAmb	IAmb	21 11 47.9	
	comp=Z,22nm,1.2s						
BPAW	**Bear Paw Mtn.**	**76.30**	**18**	P	**P**	**21 11 41.6**	**+0.4**
	baz=323,SNR=9.4						
POKR	**Poker Plat Res**	**76.35**	**16**	P	**P**	**21 11 42.3**	**+0.9**
	baz=326						
POKR	**Poker Plat Res**	**76.35**	**16**	P	**P**	**21 11 42.1**	**+0.6**
POKR				IAmb	IAmb	21 11 47.5	
	comp=Z,26nm,0.9s						
NEA2	**Nenana**	**76.39**	**17**	P	**P**	**21 11 41.8**	**+0.1**
	baz=325,SNR=17						
NEA2	**Nenana**	**76.39**	**17**	IAmb	IAmb	21 11 43.2	
	comp=Z,20nm,0.9s						
KIC	**Kosan Boka**	**76.43**	**269**	*e*PKIKP	**P**	**21 11 43.8**	**+1.1**
	comp=Z,14nm,0.6s						
PRP	**Porcupine Dome**	**76.45**	**16**	P	**P**	**21 11 42.6**	**+0.4**
	baz=328						
TCOL	**CIGO, UAF Yank**	**76.45**	**17**	P	**P**	**21 11 42.5**	**+0.5**
	baz=326						
COLA	**College**	**76.45**	**17**	*i* P	**P**	**21 11 41.9**	**-0.1**
COLA				pmax	pmax		
	comp=Z,17nm,0.8s						
COLA	**College**	**76.45**	**17**	P	**P**	**21 11 42.5**	**+0.5**
	baz=326						
TIC	**Toumodi**	**76.50**	**269**	*e*PKIKP	**P**	**21 11 43.6**	**+0.4**
L19K	**White Mountain**	**76.74**	**21**	P	**P**	**21 11 44.5**	**+0.8**
	baz=321						
LIC	**Lamto**	**76.74**	**269**	*e*PKIKP	**P**	**21 11 43.9**	**-0.6**
	comp=Z,25nm,0.6s						
KTH	**Kantishna Hill**	**76.76**	**19**	P	**P**	**21 11 43.8**	**0.0**
KTH				IAmb	IAmb	21 11 55.6	
	comp=Z,33nm,1.3s						
ILAR	**Eielson Array**	**76.77**	**16**	P	**P**	**21 11 43.5**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=314,slow=4.7,SNR=39						
ILAR				LR	LR	21 50 03.7	
	comp=Z,184nm,18.5s,baz=330,slow=39						
PPLA	**Purkeypile**	**76.94**	**20**	P	**P**	**21 11 45.0**	**0.0**
	baz=323						
BOSA	**Boshof**	**76.95**	**222**	P	**P**	**21 11 46.0**	**+0.6**
	comp=Z,14nm,1.1s,baz=31,slow=3.5,SNR=12						
BOSA				LR	LR	21 43 55.8	
	comp=Z,288nm,21.8s,baz=38,slow=34						
BOSA	**Boshof**	**76.95**	**222**	P	**P**	**21 11 46.0**	**+0.6**
TRF	**Thorofare Moun**	**77.01**	**18**	P	**P**	**21 11 45.8**	**+0.4**
	baz=324						
HDA	**Harding Lake**	**77.06**	**17**	P	**P**	**21 11 45.5**	**+0.1**
	baz=327						
MCK	**McKinley**	**77.13**	**18**	P	**P**	**21 11 45.9**	**+0.1**
	baz=325						
RND	**Reindeer**	**77.42**	**18**	IAmb	IAmb	21 11 52.3	
	comp=Z,18nm,1.2s						
EPYK	**Eagle Plains**	**77.43**	**12**	P	**P**	**21 11 47.5**	**-0.1**
	baz=335,SNR=7.2						
EPYK	**Eagle Plains**	**77.43**	**12**	P	**P**	**21 11 47.6**	**+0.1**
EPYK				IAmb	IAmb	21 11 55.3	
	comp=Z,11nm,0.8s						
N18K	**Kilae Creek**	**77.58**	**22**	P	**P**	**21 11 48.7**	**+0.2**
	baz=320						
SKT	**Skwentna**	**77.86**	**20**	P	**P**	**21 11 49.9**	**-0.1**
	baz=323,SNR=9.6						
SKT	**Skwentna**	**77.86**	**20**	IAmb	IAmb	21 11 55.0	
	comp=Z,26nm,1.2s						
N19K	**Bonanza Creek**	**77.91**	**22**	P	**P**	**21 11 50.9**	**+0.5**
	baz=321						
WAT1	**Susitna Watana**	**77.97**	**18**	P	**P**	**21 11 50.9**	**+0.2**
	baz=326						
EGAK	**Eagle**	**78.03**	**14**	P	**P**	**21 11 51.5**	**+0.7**
	baz=331						
EGAK	**Eagle**	**78.03**	**14**	IAmb	IAmb	21 11 57.4	
	comp=Z,18nm,1.1s						
SCRK	**Sand Creek**	**78.11**	**16**	P	**P**	**21 11 51.7**	**+0.2**
	baz=329,SNR=15						
SCRK	**Sand Creek**	**78.11**	**16**	P	**P**	**21 11 52.0**	**+0.4**
SCRK				IAmb	IAmb	21 11 57.2	
	comp=Z,9.1nm,0.8s						
RIDG	**Independent Ri**	**78.12**	**16**	P	**P**	**21 11 51.4**	**-0.1**
	baz=328,SNR=8.4						
RIDG	**Independent Ri**	**78.12**	**16**	IAmb	IAmb	21 11 56.9	
	comp=Z,20nm,1.2s						
WAT6	**Susitna Watana**	**78.39**	**18**	P	**P**	**21 11 53.0**	**-0.2**
	baz=326						
SUA	**Susitna One**	**78.50**	**20**	P	**P**	**21 11 53.8**	**+0.1**
	baz=324						
SUA	**Susitna One**	**78.50**	**20**	IAmb	IAmb	21 12 00.6	
	comp=Z,15nm,1.0s						
PAX	**Paxson**	**78.63**	**17**	P	**P**	**21 11 54.5**	**+0.2**
	baz=328						
PAX	**Paxson**	**78.63**	**17**	IAmb	IAmb	21 12 01.8	
	comp=Z,14nm,1.0s						
SML	**Sawmill**	**78.88**	**19**	P	**P**	**21 11 56.2**	**+0.5**
	baz=326,SNR=20						
DAWY	**Dawson**	**79.02**	**14**	IAmb	IAmb	21 11 57.8	
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**79.05**	**123**	P	**P**	**21 11 57.1**	**-0.1**
WB0				IAmb	IAmb	21 12 01.1	
	comp=Z,23nm,1.1s						
L26K	**Log Cabin Wild**	**79.08**	**16**	P	**P**	**21 11 57.3**	**+0.6**
	baz=330						
RC01	**Rabbit Creek A**	**79.09**	**20**	P	**P**	**21 11 56.9**	**+0.1**
	baz=325						
WRA	**Warramunga Arr**	**79.13**	**123**	P	**P**	**21 11 58.1**	**+0.5**
	comp=Z,12nm,0.8s,baz=321,slow=4.7,SNR=77						
WRAB	**Tennant Creek**	**79.13**	**123**	*i* P	**P**	**21 11 58.1**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,32nm,0.9s						
WB2	**Warramunga Arr**	**79.14**	**123**	P	**P**	**21 11 57.3**	**-0.3**
FALS	**False Pass**	**79.15**	**29**	P	**P**	**21 11 57.3**	**+0.1**
	baz=315						
KNK	**Knik Glacier**	**79.17**	**19**	P	**P**	**21 11 57.9**	**+0.7**
	baz=326						
KNK	**Knik Glacier**	**79.17**	**19**	IAmb	IAmb	21 12 03.9	
	comp=Z,20nm,1.0s						
M24K	**Tolsona, Glenn**	**79.19**	**18**	P	**P**	**21 11 58.3**	**+0.9**
	baz=328,SNR=6.5						
HARP	**HAARP**	**79.19**	**17**	P	**P**	**21 11 58.6**	**+1.2**
	baz=328,SNR=14						
P19K	**Oil Pt**	**79.21**	**22**	P	**P**	**21 11 58.4**	**+0.9**
	baz=322						
WR0	**Warramunga Arr**	**79.28**	**123**	P	**P**	**21 11 58.4**	**0.0**
WR0				IAmb	IAmb	21 12 04.8	
	comp=Z,18nm,0.7s						
L27K	**Beaver Creek,**	**79.39**	**15**	P	**P**	**21 11 59.6**	**+1.1**
	baz=331,SNR=14						
L27K	**Beaver Creek,**	**79.39**	**15**	IAmb	IAmb	21 12 00.7	
	comp=Z,12nm,0.9s						
M26K	**Nabesna, AK**	**79.70**	**16**	P	**P**	**21 12 00.7**	**+0.5**
	baz=330						
KLU	**Klutina**	**79.77**	**18**	P	**P**	**21 12 01.8**	**+1.2**
	baz=328,SNR=11						
KLU	**Klutina**	**79.77**	**18**	IAmb	IAmb	21 12 07.4	
	comp=Z,22nm,1.1s						
BRSE	**Bradley Lake S**	**79.90**	**21**	P	**P**	**21 12 01.8**	**+0.5**
	baz=324						
SDPT	**Sand Point**	**79.97**	**28**	P	**P**	**21 12 02.5**	**+0.9**
	baz=317						
SEW	**Seward**	**79.98**	**20**	P	**P**	**21 12 02.1**	**+0.5**
	baz=325						
GLI	**Glacier Island**	**79.98**	**19**	P	**P**	**21 12 02.3**	**+0.7**
	baz=327						
M27K	**Edge Creek, AK**	**80.00**	**16**	P	**P**	**21 12 03.2**	**+1.3**
	baz=331,SNR=20						
N25K	**Chitina, Valde**	**80.01**	**17**	P	**P**	**21 12 02.9**	**+1.0**
	baz=329,SNR=7.8						
N25K	**Chitina, Valde**	**80.01**	**17**	P	**P**	**21 12 02.1**	**+0.2**
N25K				IAmb	IAmb	21 12 11.5	
	comp=Z,66nm,1.9s						
BMRM	**Bremner River**	**80.56**	**18**	P	**P**	**21 12 05.6**	**+0.8**
	baz=329,SNR=5.4						
BMRM	**Bremner River**	**80.56**	**18**	IAmb	IAmb	21 12 06.8	
	comp=Z,17nm,1.0s						
MCARA	**McCarthy VSAT**	**80.58**	**17**	P	**P**	**21 12 05.4**	**+0.6**
	baz=330						
VRDI	**Verde Repeater**	**80.62**	**17**	P	**P**	**21 12 05.9**	**+0.6**
VRDI				IAmb	IAmb	21 12 11.6	
	comp=Z,19nm,0.9s						
EYAK	**Cordova Ski Ar**	**80.62**	**18**	P	**P**	**21 12 06.2**	**+1.2**
	baz=328						
EYAK	**Cordova Ski Ar**	**80.62**	**18**	IAmb	IAmb	21 12 07.2	
	comp=Z,25nm,0.9s						
CHNA	**Chernabura Isl**	**80.70**	**28**	P	**P**	**21 12 05.8**	**+0.3**
	baz=318						
KDAK	**Kodiak Island**	**80.91**	**23**	P	**P**	**21 12 07.3**	**+0.7**
	baz=323						
CRQM	**Cirque**	**81.10**	**17**	IAmb	IAmb	21 12 09.8	
	comp=Z,17nm,0.8s						
CRQE	**Cirque**	**81.12**	**17**	P	**P**	**21 12 08.5**	**+0.6**
	baz=330						
OHAK	**Old Harbor**	**81.12**	**24**	P	**P**	**21 12 08.4**	**+0.7**
	baz=322						
OHAK	**Old Harbor**	**81.12**	**24**	P	**P**	**21 12 08.6**	**+0.8**
TGL	**Tana Glacier**	**81.18**	**17**	IAmb	IAmb	21 12 10.1	
	comp=Z,21nm,1.0s						
BARN	**Barnard Glacie**	**81.19**	**16**	IAmb	IAmb	21 12 19.9	
	comp=Z,20nm,1.2s						
ASAR	**Alice Springs**	**81.33**	**126**	P	**P**	**21 12 09.6**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=311,slow=5.3,SNR=45						
ASAR	**Alice Springs**	**81.33**	**126**	P	**P**	**21 12 08.8**	**-0.6**
CTG	**Chitna Glacier**	**81.35**	**16**	P	**P**	**21 12 10.3**	**+1.1**
	baz=332,SNR=6.5						
CTGM	**Chitina Glacie**	**81.35**	**16**	IAmb	IAmb	21 12 11.2	
	comp=Z,17nm,0.8s						
CHIR	**Chirikof Islan**	**81.42**	**25**	P	**P**	**21 12 10.8**	**+1.4**
	baz=321						
ISLE	**Juniper Island**	**81.43**	**17**	IAmb	IAmb	21 12 11.3	
	comp=Z,18nm,1.0s						
WAX	**Waxell Ridge**	**81.44**	**17**	P	**P**	**21 12 10.3**	**+0.7**
LOGN	**Logan Glacier**	**81.55**	**16**	IAmb	IAmb	21 12 20.5	
	comp=Z,19nm,1.0s						
YAH	**Yahtse**	**81.78**	**17**	IAmb	IAmb	21 12 13.7	
	comp=Z,18nm,0.7s						
MESA	**MESA**	**81.90**	**17**	P	**P**	**21 12 12.5**	**+0.4**
	baz=331						
HYT	**Haines Junctio**	**82.32**	**15**	IAmb	IAmb	21 12 21.3	
	comp=Z,25nm,1.0s						
PINM	**Pinnacle**	**82.37**	**16**	P	**P**	**21 12 15.4**	**+1.0**
	baz=332,SNR=6.5						
BCPM	**Bancas Point**	**82.64**	**16**	P	**P**	**21 12 16.3**	**+0.5**
WHY	**Whitehorse**	**83.00**	**13**	P	**P**	**21 12 18.0**	**+0.3**
	baz=337						
WHY	**Whitehorse**	**83.00**	**13**	IAmb	IAmb	21 12 23.1	
	comp=Z,18nm,1.4s						
YKA	**Yellowknife Ar**	**83.72**	**4**	P	**P**	**21 12 21.3**	**0.0**
	comp=Z,3.5nm,0.6s,baz=354,slow=4.7,SNR=33						
YKA				LR	LR	21 53 35.7	
	comp=Z,153nm,18.4s,baz=0.0,slow=38						
SKAG	**Skagway**	**84.02**	**14**	P	**P**	**21 12 23.7**	**+0.9**
	baz=336						
SKAG	**Skagway**	**84.02**	**14**	IAmb	IAmb	21 12 29.1	
	comp=Z,18nm,1.0s						
SCHQ	**Schefferville**	**85.15**	**338**	P	**P**	**21 12 27.2**	**-1.5**
	comp=Z,3.8nm,0.7s,baz=63,slow=2.6,SNR=5.0						
SCHQ				LR	LR	21 50 11.0	
	comp=Z,168nm,19.9s,baz=36,slow=36						
CTAO	**Charters Tower**	**87.86**	**116**	P	**P**	**21 12 41.6**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**87.86**	**116**	P	**P**	**21 12 41.6**	**-0.9**
CTAO				IAmb	IAmb	21 12 48.7	
	comp=Z,9.4nm,0.9s						
STKA	**Stephens Creek**	**91.84**	**128**	P	**P**	**21 13 00.9**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=251,slow=3.1,SNR=3.9						
D62A	**Allapoint, All**	**92.49**	**335**	P	**P**	**21 13 03.0**	**-0.8**
	baz=31						
EDM	**Edmonton**	**93.04**	**4**	P	**P**	**21 13 05.2**	**-1.0**
EDM				pmax	pmax		
	comp=Z,15nm,1.2s						
EDM	**Edmonton**	**93.04**	**4**	P	**P**	**21 13 05.2**	**-1.0**
EDM				IAmb	IAmb	21 13 15.6	
	comp=Z,15nm,1.2s						
LSQQ	**Lebel-sur-Quev**	**93.21**	**341**	P	**P**	**21 13 07.2**	**+0.2**
	baz=24						
ULM	**Lac du Bonnet**	**95.64**	**353**	LR	LR	22 02 39.2	
	comp=Z,113nm,18.2s,baz=8.0,slow=39						
TXAR	**Lajitas Array**	**117.02**	**357**	PP	PP	21 19 40.5	-5.5
	comp=Z,0.3nm,0.7s,baz=348,slow=3.8,SNR=3.7						
PLCA	**Paso Flores**	**150.49**	**246**	PKPbc	**PKPbc**	**21 19 44.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=25,slow=8.4,SNR=4.9						

IDC 24 21:10:41.2±4.5, 32°.52N×67°.74E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.3/36, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=111.8km s-min=36.4km az=87.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.08**	**34**	P	Pn	21 14 53.9	+0.1
	0.1nm,0.3s,baz=216,slow=11,SNR=5.6						
KURBB	**Kurchatov Arra**	**19.77**	**21**	P	P	21 15 12.5	-0.2
	0.0nm,0.3s,baz=211,slow=10.0,SNR=1.2						
CMAR	**Chiang Mai Arr**	**31.32**	**109**	P	P	21 17 03.4	0.0
	0.5nm,0.7s,baz=296,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**82.29**	**119**	P	P	21 23 04.8	0.0
	0.4nm,0.6s,baz=323,slow=4.9,SNR=1.8						
ASAR	**Alice Springs**	**84.29**	**123**	P	P	21 23 15.2	0.0
	0.4nm,0.8s,baz=309,slow=5.9,SNR=2.2						

*IDC **24** 21:30:05.4±4.5, 33°.62N×73°.11E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/58, mbtmp3.6/5, ML2.8/1, Error ellipse: s-maj=97.1km s-min=36.6km az=130.0*
*NEIC **24** 21:30:07.3±2.5, 33°.30N±0°.07×73°.3E±0°.1, h39km±7km, mb4.6/20, Error ellipse: s-maj=12.8km s-min=10.2km az=85.0*
*NDI **24** 21:30:10.6±2.3, 33°.70N×72°.64E, h33km, ML3.7, mb4.6(NEIC)*

ISC 24 21:30:03.9±0.5, 33°.29N±0°.06×73°.25E±0°.06, h16km, n54, σ1°92/50, mb4.5/15, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**0.36**	**0**		**Pn**	**21 30 16.6**	**+2.0**
NIL				Sn	**Sn**	**21 30 22.6**	**+1.2**
THN	**Thein Dam**	**2.24**	**112**	*e*P	Pg	21 30 58.0	+11
THN				*e*S	Sg	21 31 30.1	+14
KBL	**Kabul**	**3.72**	**291**	Pn	**Pn**	**21 31 04.3**	**+3.4**
SMLA	**Simla**	**3.96**	**122**	*e*P	**Pg**	**21 31 19.1**	**-0.6**
SMLA				*i* x	x	21 31 35.3	
SMLA				*e*S	**Sg**	**21 32 10.4**	**-0.6**
SMLA				IAML		21 32 33.7	
	comp=N,146nm,0.7s						
SMLA				IAML		21 32 33.8	
	comp=E,189nm,0.6s						
DDI	**Dehra Dun**	**5.05**	**125**	*e*x	x	21 31 09.9	
DDI				*e*S	**Sb**	**21 32 36.2**	**+3.9**
KUDL	**Kundal**	**5.83**	**151**	*e*P	**Pb**	**21 31 44.9**	**-0.4**
KUDL				*e*S	**Sb**	**21 32 51.2**	**-3.7**
GAR	**Garm**	**6.17**	**338**		**Pn**	**21 31 36.6**	**+2.1**
CHGR	**Chuyangaron**	**6.30**	**329**	Pn	**Pn**	**21 31 37.5**	**+1.2**
BTK	**Batken**	**7.03**	**345**	Pn	**Pn**	**21 31 48.3**	**+2.0**
AAK	**Ala-Archa**	**9.39**	**6**	Sn	**Sn**	**21 33 57.5**	**-6.5**
	comp=E,1.2nm,0.3s,baz=201,slow=16,SNR=1.7						
PYUN	**Piuthan**	**9.85**	**119**	*e*P	Pn	21 32 37.0	+12
	comp=E,13nm,0.3s						
KK31	**Karatay Array**	**10.03**	**348**		**Pn**	**21 32 27.4**	**0.0**
KK31	**Karatay Array**	**10.03**	**348**	⇓Pn	**Pn**	**21 32 27.3**	**-0.1**
	comp=E,2.7nm,0.5s,baz=168,slow=13,SNR=20						
KKAR	**Karatay Array**	**10.03**	**348**		**Pn**	**21 32 27.5**	**+0.1**
KKAR	**Karatay Array**	**10.03**	**348**		**Pn**	**21 32 27.3**	**-0.1**
DANN	**Dangsing**	**10.29**	**116**	*e*P	Pn	21 32 43.0	+12
	comp=E,5.0nm,0.2s						
KOLN	**Koldanda**	**10.48**	**119**	*e*P	Pn	21 32 46.2	+12
	comp=E,5.3nm,0.3s						
GKN	**Gorkha**	**11.13**	**115**	*e*P	Pn	21 32 54.0	+11
	comp=E,6.7nm,0.3s						
PKI	**Pulchoki**	**11.94**	**115**	*e*P	Pn	21 33 05.6	+12
	comp=E,8.6nm,0.4s						
JIRN	**Jiri**	**12.49**	**113**	*e*P	**P**	**21 33 14.7**	**+1.6**
	comp=E,9.5nm,0.3s						
TAPN	**Taplejung**	**13.81**	**112**	*e*P	P	21 33 33.1	+5.3
	comp=E,13nm,0.5s						
WMQ	**Urumqi**	**15.41**	**43**	*e*P	**P**	**21 33 44.4**	**-0.9**
WMQ				smax	smax		
	comp=N,24nm,0.5s						
WMQ				smax	smax		
	comp=E,28nm,0.5s						
WMQ				LR	LR		
	comp=N,310nm,13.9s						
WMQ				LR	LR		
	comp=E,370nm,13.9s						
WMQ				LR	LR		
	comp=Z,220nm,29.2s						
KURBB	**Kurchatov Arra**	**17.75**	**11**	P	**Pn**	**21 34 09.6**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=206,slow=11,SNR=4.4						
SHL	**Shillong**	**17.95**	**111**		**Pn**	**21 34 12.7**	**-0.4**
ABKAR	**Akbulak array**	**18.78**	**332**		**P**	**21 34 22.2**	**-0.2**
ABKAR	**Akbulak array**	**18.78**	**332**	P	**Pn**	**21 34 23.0**	**+0.1**
BRVK	**Borovoye**	**19.88**	**355**	P	**Pn**	**21 34 35.7**	**-0.3**
AKTO	**Aktyubinsk**	**20.48**	**331**	P	**P**	**21 34 40.8**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=134,slow=8.6,SNR=5.8						
ZAA0	**Zalesovo Array**	**22.23**	**18**	P	**P**	**21 35 01.5**	**+1.8**
ZALV	**Zalesovo Beam**	**22.23**	**18**	P	**P**	**21 35 00.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=214,slow=10,SNR=6.6						
ZALV	**Zalesovo Beam**	**22.23**	**18**	P	**P**	**21 35 00.8**	**+1.1**
KARS	**Kars**	**25.11**	**296**	P	**P**	**21 35 27.8**	**-0.4**
KARS				IAmb	IAmb	21 35 39.5	
	comp=Z,8.3nm,0.7s						
SIRT	**Sirnak**	**25.41**	**288**	P	**P**	**21 35 26.8**	**-4.0**
GAZ	**Gaziantep**	**29.58**	**288**	P	**P**	**21 36 05.4**	**-2.8**
XAN	**Xi'an**	**29.61**	**79**	P	**P**	**21 36 10.3**	**+1.8**
XAN				pP	sP	21 36 19.3	+3.7
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
PBKT	**Sadao Pong**	**30.01**	**117**	P	**P**	**21 36 10.9**	**-1.1**
PBKT				IAmb	IAmb	21 36 24.4	
	comp=Z,9.4nm,0.8s						
HHC	**Hu-ho-hao-te**	**31.30**	**65**	*e*P	**P**	**21 36 26.1**	**+2.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,91nm,5.4s						
BRTR	**Keskin Array B**	**32.29**	**293**	P	**P**	**21 36 29.7**	**-2.4**
CSS	**Mathiatis**	**32.94**	**284**	P	**P**	**21 36 35.9**	**-1.9**
CSS				IAmb	IAmb	21 36 37.5	
	comp=Z,7.4nm,1.2s						
MDUB	**Mudurnu**	**34.14**	**294**	P	**P**	**21 36 48.2**	**0.0**
NJ2	**Nanjing**	**38.17**	**79**	*e*P	**P**	**21 37 23.3**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SANT	**Santorini**	**39.04**	**288**	P	**P**	**21 37 29.2**	**-0.8**
SANT				IAmb	IAmb	21 37 37.4	
	comp=Z,23nm,1.3s						
KBN	**Korca**	**42.04**	**296**	P	**P**	**21 37 54.1**	**-0.7**
KBN				IAmb	IAmb	21 37 55.3	
	comp=Z,6.5nm,1.2s						
NACB	**Ninganchiao**	**43.04**	**89**	P	**P**	**21 38 02.1**	**-0.9**
NACB				IAmb	IAmb	21 38 05.6	
	comp=Z,12nm,0.7s						
SCTE	**Santa Cesarea**	**43.87**	**295**	P	**P**

768nm,0.2s
PRZ Przheval'sk 0.50 189⇑iP Pg 21 30 27.2 -0.3
baz=91
PRZ ⇑iS Sb 21 30 34.8 -1.5
baz=91
ANVS Anan'yevo 0.65 252⇑iP Pg 21 30 29.6 -0.6
baz=53
ANVS ⇑iS Sg 21 30 38.8 +0.1
baz=53
SHLS Shalkode 0.72 76 eP Pn 21 30 35.9 +1.7
baz=80
SHLS eS Sn 21 30 49.0 +3.6
baz=80
SHLS Shalkode 0.72 76 eP Pn 21 30 35.9 +1.7
19nm,0.1s
SHLS eS Sn 21 30 49.0 +3.6
58nm,0.2s
SHLS Shalkode 0.72 76 P Pn 21 30 35.9 +1.7
19nm,0.1s
SHLS S Sn 21 30 49.0 +3.6
58nm,0.2s
PDGK Podgornoye 0.80 64 P Pg 21 30 31.6 -1.5
3.7nm,0.1s
PDGK S Sg 21 30 41.9 -1.6
31nm,0.2s
PDGK Podgornoye 0.80 64 ⇓P Pg 21 30 31.6 -1.5
3.6nm,0.3s
PDGK ⇑S Sg 21 30 41.8 -1.8
25nm,0.3s
MDOK Medeo 1.08 280 eP Pg 21 30 37.3 -1.1
baz=80
MDOK eS Sg 21 30 51.5 -1.0
baz=80
MDOK Medeo 1.08 280 eP Pg 21 30 37.3 -1.1
18nm,0.3s
MDOK eS Sg 21 30 51.5 -1.0
107nm,0.4s
MDOK Medeo 1.08 280 ⇓P Pg 21 30 37.3 -1.1
8.1nm,0.4s
MDOK ⇑S Sg 21 30 51.2 -1.3
77nm,0.5s
MDOK Medeo 1.08 280 Pg Pg 21 30 37.3 -1.1
18nm,0.3s
MDOK Lg Lg 21 30 51.5
107nm,0.4s
KNDC Almaty 1.15 282 ⇑P Pg 21 30 38.9 -0.8
12nm,0.6s
KNDC ⇓S Sg 21 30 54.8 +0.1
79nm,0.8s
KDJ Kajisay 1.30 229⇑iP Pn 21 30 41.5 -0.6
baz=30
KDJ ⇑iS Sb 21 30 58.5 -0.6
baz=30
ARXS Arharly 1.33 338⇑eP Pn 21 30 41.9 -0.5
66nm,0.1s
ARXS eS Sb 21 30 59.5 -0.3
82nm,0.3s
TARG Taragay, Kyrgy 1.35 203⇓iP Pn 21 30 42.1 -1.0
baz=4.0
TARG ⇓iS Sb 21 30 59.4 -1.6
baz=4.0
CHKK Chushkaly 1.41 309 eP Pn 21 30 43.3 -0.2
baz=8.0
CHKK eS Sb 21 31 02.1 0.0
baz=8.0
CHKK Chushkaly 1.41 309 eP Pn 21 30 43.3 -0.2
26nm,0.2s
CHKK eS Sb 21 31 02.1 0.0
226nm,0.4s
CHKK Chushkaly 1.41 309 P Pn 21 30 43.3 -0.2
26nm,0.2s
CHKK S Sb 21 31 02.1 0.0
226nm,0.4s
KTBS Karatobe 1.52 299 eP Pn 21 30 45.3 +0.3
baz=99
KTBS eS Sn 21 31 05.3 +0.4
baz=99
KTBS Karatobe 1.52 299 eP Pn 21 30 45.3 +0.3
26nm,0.2s
KTBS eS Sn 21 31 05.3 +0.4
176nm,0.2s
KTBS Karatobe 1.52 299 P Pn 21 30 45.3 +0.3
26nm,0.2s
KTBS S Sn 21 31 05.3 +0.4
176nm,0.2s
DJR Jarkent 1.64 34 eP Pn 21 30 46.8 +0.1
6.5nm,0.3s
DJR eS Sn 21 31 07.9 -0.1
20nm,0.4s
DJR Jarkent 1.64 34 P Pn 21 30 46.8 +0.1
6.5nm,0.3s
DJR S Sn 21 31 07.9 -0.1
20nm,0.4s
KUU Kurty 1.82 301 eP Pb 21 30 50.3 -0.8
30nm,0.2s
KUU eS Sb 21 31 13.8 -0.2
66nm,0.3s
KUU Kurty 1.82 301 P Pb 21 30 50.3 -0.8
30nm,0.2s
KUU S Sb 21 31 13.8 -0.2
66nm,0.3s
ULHL Ulahol 1.82 247⇑iP Pn 21 30 50.1 +0.7
baz=47
ULHL ⇑iS Sb 21 31 13.9 -0.4
baz=47
KST Kastek 1.86 273 eP Pb 21 30 52.1 +0.2
19nm,0.2s
KST eS Sg 21 31 17.1 -0.5
44nm,0.2s
KST Kastek 1.86 273 P Pb 21 30 52.1 +0.2
19nm,0.2s
KST S Sg 21 31 17.1 -0.5
44nm,0.2s
BOOM Boomskoye usch 1.95 256⇑iP Pn 21 30 51.7 +0.6
baz=56
BOOM ⇑iS Sn 21 31 16.5 +0.7
baz=56
DGS Degeres 2.02 278 eP Pb 21 30 53.9 -0.6
6.1nm,0.2s
DGS eS Sb 21 31 20.5 +0.7
65nm,0.5s
DGS Degeres 2.02 278 Pg Pb 21 30 53.9 -0.6
6.1nm,0.2s
DGS Lg Lg 21 31 20.5
65nm,0.5s
TDK Taldyqorghan 2.02 358 eP Pb 21 30 53.6 -0.9
68nm,0.3s
TDK eS Sb 21 31 20.0 +0.2
128nm,0.4s
TDK Taldyqorghan 2.02 358 Pg Pb 21 30 53.6 -0.9
68nm,0.3s
TDK Lg Lg 21 31 20.0
128nm,0.4s
TKM2 Tokmak 2 2.14 269⇓iP Pn 21 30 55.1 +1.4
baz=69
TKM2 ⇓iS Sb 21 31 23.3 0.0
baz=69
TKM2 Tokmak 2 2.14 269 ⇑Pn Pb 21 30 56.7 +0.1
17nm,0.3s
TKM2 ⇓Sn Sg 21 31 26.4 +0.2
75nm,0.6s
KRBS Karabastau 2.19 290 eP Pb 21 30 56.4 -1.0
8.5nm,0.3s
KRBS eS Sb 21 31 24.6 0.0
47nm,0.3s
KRBS Karabastau 2.19 290 Pg Pb 21 30 56.4 -1.0
8.5nm,0.3s
KRBS Lg Lg 21 31 24.5
47nm,0.3s
KAPS Kapalarasan 2.38 15 eP Pb 21 30 60.0 -0.8
1.4nm,0.3s
KAPS eS Sb 21 31 30.4 +0.1
7.2nm,0.4s
KAPS Kapalarasan 2.38 15 Pg Pb 21 30 60.0 -0.8
1.4nm,0.3s
KAPS Lg Lg 21 31 30.4
7.2nm,0.4s
KBK Karagaybulak 2.64 264⇑eP Pn 21 31 02.1 +1.6
baz=64
KBK ⇑iS Sn 21 31 34.9 +2.2
baz=64
CHMS Chumysh 2.75 272⇑eP Pn 21 31 03.7 +1.7
baz=72
CHMS ⇑iS Sn 21 31 37.8 +2.4
baz=72
SGDS Sogindy 2.87 281 Pg Pb 21 31 08.7 -0.4
1.8nm,0.1s
SGDS Lg Lg 21 31 45.4
16nm,0.5s
USP Ospenovka 2.95 277⇑eP Pn 21 31 06.5 +1.9
baz=77
USP ⇑iS Sn 21 31 42.7 +2.6
baz=77
AAK Ala-Archa 2.97 265 ⇑Pn Pn 21 31 07.2 +2.1
3.8nm,0.6s
AAK ⇑Lg Lg 21 31 49.5
7.1nm,0.5s
ARLS Aral 3.29 252⇑iP Pn 21 31 10.6 +1.1
baz=51
ARLS ⇑iS Sn 21 31 48.9 +0.1
baz=51
EKS2 Erkin-Say 3.49 266⇑iP Pn 21 31 14.2 +2.0
baz=66
EKS2 ⇑iS Sn 21 31 55.5 +1.8
baz=66
MRKS Merke 3.89 268 eP Pb 21 31 28.8 +2.4
2.9nm,0.3s
MRKS eS Sg 21 32 20.0 -2.5
8.9nm,0.4s
MAKZ Makanchi 4.55 32 ⇑Pn Pn 21 31 27.8 +1.2
0.7nm,0.5s
MAKZ ⇑Lg Lg 21 32 36.3
2.7nm,0.5s
MK31 Makanchi Array 4.67 34 ⇑Pn Pn 21 31 29.7 +1.5
0.4nm,0.2s,baz=211,slow=15,SNR=32
MK31 Lg Lg 21 32 40.5
2.2nm,0.4s,baz=215,slow=28,SNR=14
KK31 Karatay Array 5.86 274 ⇓Sn Sg 21 33 21.2 -4.5
0.8nm,0.3s,baz=215,slow=28,SNR=4.0
KURBB Kurchatov Arra 7.64 0 ⇑Lg Lg 21 34 14.8
9.2nm,1.0s

*ISK **24** 21:30:25.9, 41°.27N×24°.47E, h7km, ML2.6/9*
*ATH **24** 21:30:25.8, 41°.31N×24°.46E, h9km±3km, ML2.6/14, Error ellipse: s-maj=3.4km s-min=1.2km az=205.0*
*SOF **24** 21:30:25.2, 41°.29N×24°.48E, h12km, MD2.8*
*THE **24** 21:30:26.0, 41°.29N×24°.46E, h8km, ML2.4/7, Error ellipse: s-maj=1.4km s-min=0.6km az=192.0*
*BEO **24** 21:30:27.5±0.7, 41°.28N×24°.37E, h20km±3km, ML2.6/7*
*DDA **24** 21:30:28.3, 41°.35N×24°.66E, h11km±3km, ML2.6*
ISC 24 21:30:25.9±0.9,**41°.30N**±0°.02×**24°.46E**±0°.01,**h12**km±8km,
n75,σ0°**80**/107,**3C-2D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.31**	**172**	P	**Pg**	**21 30 32.1**	**-0.1**
KAVA				S	**Sg**	**21 30 36.8**	**+0.4**
1μm,0.2s							
KAVA	**Kavala**	**0.31**	**172**	P	**Pg**	**21 30 32.1**	**-0.1**
KAVA				S	**Sg**	**21 30 36.8**	**+0.4**
KAVA				AML	AML	21 30 37.2	
comp=E,2895μm,0.3s							
KAVA				AML	AML	21 30 37.4	
comp=N,2260μm,0.1s							
RZN	**Rozhen**	**0.43**	**27**	*i* Pg	**Pg**	**21 30 34.4**	**-0.1**
NVR	**Nevrokopi**	**0.45**	**276**	P	**Pg**	**21 30 34.4**	**-0.3**
NVR				S	**Sg**	**21 30 40.9**	**+0.1**
comp=N,505nm,0.2s							
NVR	**Nevrokopi**	**0.45**	**276**	P	**Pg**	**21 30 33.9**	**-0.8**
NVR				S	**Sg**	**21 30 40.8**	**+0.1**
NVR				AML	AML	21 30 41.8	
comp=E,1286μm,0.2s							
NVR				AML	AML	21 30 42.2	
comp=N,704μm,0.3s							
MMB	**Musomiste**	**0.62**	**298**	P	**Pg**	**21 30 37.5**	**-0.4**
SRS	**Serrai**	**0.68**	**254**	*e*Sg	**Sg**	**21 30 48.4**	**+0.5**
SRS	**Serrai**	**0.68**	**254**	P	**Pg**	**21 30 38.3**	**-0.7**
SRS				S	**Sb**	**21 30 48.7**	**-0.3**
comp=N,330nm,0.2s							
SRS	**Serrai**	**0.68**	**254**	P	**Pg**	**21 30 38.5**	**-0.5**
SRS				S	**Sg**	**21 30 48.5**	**+0.5**
SRS				AML	AML	21 30 53.4	
comp=N,993μm,0.2s							
SRS				AML	AML	21 30 55.1	
comp=E,756μm,0.1s							
THAS	**Thassos island**	**0.72**	**164**	P	**Pg**	**21 30 39.8**	**-0.1**
THAS	**Thassos island**	**0.72**	**164**	P	**Pg**	**21 30 39.7**	**-0.1**
THAS				AML	AML	21 30 53.0	
comp=E,2125μm,0.4s							
THAS				AML	AML	21 30 53.4	
comp=N,2896μm,0.4s							
KDZ	**Kurdzhali**	**0.80**	**64**	*i* P	**Pg**	**21 30 39.8**	**-1.6**
PLD	**Plovdiv**	**0.82**	**13**	*e*Pg	**Pb**	**21 30 42.2**	**+0.1**
PLD				*e*Sg	**Sn**	**21 30 56.7**	**+1.3**
PLD	**Plovdiv**	**0.82**	**13**	*i* Pg	**Pb**	**21 30 42.3**	**+0.1**
RDO	**Rodhopi**	**0.83**	**101**	P	**Pg**	**21 30 41.3**	**-0.6**
RDO				S	**Sg**	**21 30 52.8**	**0.0**
RDO	**Rodhopi**	**0.83**	**101**	P	**Pg**	**21 30 41.3**	**-0.6**
RDO				AML	AML	21 30 56.9	
comp=E,2038μm,0.2s							
RDO				AML	AML	21 30 57.4	
comp=N,1862μm,0.2s							
RDO	**Rodhopi**	**0.83**	**101**	PG	**Pg**	**21 30 41.9**	**0.0**
RDO				SG	**Sb**	**21 30 53.8**	**+0.4**
SOH	**Sokhos**	**0.96**	**240**	P	**Pg**	**21 30 43.9**	**-0.5**
SOH				S	**Sb**	**21 30 57.5**	**+0.3**
comp=N,448nm,0.3s							
SOH	**Sokhos**	**0.96**	**240**	P	**Pg**	**21 30 44.0**	**-0.4**
SOH				AML	AML	21 31 00.2	
comp=E,1315μm,0.3s							
SOH				AML	AML	21 31 00.6	
comp=N,896μm,0.5s							
OUR	**Ouranopolis**	**1.03**	**200**	P	**Pb**	**21 30 45.6**	**-0.1**
OUR				S	**Sg**	**21 30 59.6**	**+0.4**
comp=N,422nm,0.3s							
OUR	**Ouranopolis**	**1.03**	**200**	P	**Pb**	**21 30 45.6**	**-0.1**
OUR				AML	AML	21 31 01.4	
comp=E,782μm,0.3s							
OUR				AML	AML	21 31 01.5	
comp=N,902μm,0.3s							
OUR	**Ouranopolis**	**1.03**	**200**	PG	**Pb**	**21 30 45.7**	**0.0**
OUR				SG	**Sg**	**21 30 59.8**	**+0.6**
DIM	**Dimitrovgrad**	**1.10**	**47**	P	**Pb**	**21 30 46.8**	**0.0**
SMTH	**Samothraki Isl**	**1.17**	**135**	P	**Pb**	**21 30 47.9**	**-0.1**
SMTH				S	**Sn**	**21 31 04.1**	**+0.2**
comp=N,82nm,0.2s							
SMTH	**Samothraki Isl**	**1.17**	**135**	P	**Pb**	**21 30 47.7**	**-0.2**
SMTH				AML	AML	21 31 05.9	
comp=N,175μm,0.2s							
SMTH				AML	AML	21 31 08.6	
comp=E,169μm,0.2s							
KNT	**Kendrikon**	**1.18**	**264**	P	**Pg**	**21 30 48.6**	**0.0**
KNT				S	**Sg**	**21 31 04.3**	**+0.3**
KNT	**Kendrikon**	**1.18**	**264**	P	**Pb**	**21 30 47.9**	**-0.4**
PLG	**Polygyros**	**1.20**	**220**	P	**Pn**	**21 30 48.4**	**-0.2**
PLG				S	**Sn**	**21 31 04.9**	**0.0**
comp=E,190nm,0.4s							
PLG	**Polygyros**	**1.20**	**220**	P	**Pn**	**21 30 48.5**	**-0.2**
PLG				AML	AML	21 31 06.4	
comp=E,563μm,0.3s							
PLG				AML	AML	21 31 08.2	
comp=N,520μm,0.3s							
HORT	**Hortiatis**	**1.25**	**236**	P	**Pb**	**21 30 49.5**	**+0.1**
HORT	**Hortiatis**	**1.25**	**236**	P	**Pb**	**21 30 49.4**	**+0.1**
HORT				AML	AML	21 31 08.5	
comp=E,665μm,0.4s							
HORT				AML	AML	21 31 10.2	
comp=N,310μm,0.3s							
HORT	**Hortiatis**	**1.25**	**236**	PN	**Pg**	**21 30 49.9**	**+0.1**
PGB	**Panagyurishte**	**1.26**	**350**	*i* P	**Pn**	**21 30 49.1**	**-0.3**
ALN	**Alexandroupoli**	**1.27**	**108**	P	**Pb**	**21 30 49.6**	**-0.2**
ALN				S	**Sg**	**21 30 66.6**	**-0.2**
ALN	**Alexandroupoli**	**1.27**	**108**	P	**Pb**	**21 30 49.5**	**-0.2**
ALN				AML	AML	21 31 11.5	
comp=E,222μm,0.5s							
ALN				AML	AML	21 31 12.4	
comp=N,156μm,0.5s							
ALN	**Alexandroupoli**	**1.27**	**108**	*i* P	**Pg**	**21 30 50.1**	**-0.2**
ALN				*i* S	**Sb**	**21 31 05.4**	**-0.6**
ALN	**Alexandroupoli**	**1.27**	**108**	PN	**Pg**	**21 30 50.1**	**-0.2**
THE	**Thessaloniki**	**1.31**	**240**	P	**Pb**	**21 30 50.8**	**+0.4**
THE				AML	AML	21 31 11.0	
comp=E,486μm,0.8s							
THE				AML	AML	21 31 11.1	
comp=N,559μm,0.5s							
ENEZ	**Enez**	**1.41**	**113**	PN	**Pb**	**21 30 52.1**	**+0.1**
ENEZ				SN	**Sg**	**21 31 11.1**	**0.0**
VAY	**Valandovo**	**1.42**	**271**	*e*Pg	**Pg**	**21 30 52.9**	**-0.2**
VAY				*e*Sg	**Sg**	**21 31 11.2**	**-0.4**
VAY	**Valandovo**	**1.42**	**271**	*i* Pn	**Pg**	**21 30 52.9**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**1.43**	**115**	*i* P	**Pg**	**21 30 53.4**	**0.0**
CAVK				*i* S	**Sg**	**21 31 12.1**	**+0.1**
CAVK				IAML		21 31 18.0	
comp=N,62nm,0.7s							
CAVK				IAML		21 31 20.0	
comp=E,78nm,0.7s							
PAIG Paliouri 1.50 203 P Pn 21 30 52.1 -0.5							
PAIG				AML	AML	21 31 16.8	
comp=E,152μm,0.5s							
PAIG				AML	AML	21 31 19.4	
comp=N,120μm,0.3s							
LIA Limnos Island 1.51 158 P Pn 21 30 52.6 -0.2							
LIA Limnos Island 1.51 158 P Pn 21 30 52.5 -0.2							
LIA				AML	AML	21 31 16.9	
comp=E,370μm,0.4s							
LIA				AML	AML	21 31 17.2	
comp=N,402μm,0.3s							
GADA Gvkgeada 1.56 135 PN Pb 21 30 54.1 -0.6							
GRG Griva 1.59 258 P Pb 21 30 54.8 -0.4							
VTS Vitosha 1.60 326 *e*Pg **Pb 21 30 55.8 +0.4**							
VTS *e*Sg **Sg 21 31 17.0 -0.3**							
VTS Vitosha 1.60 326 ⇓P Sb 21 31 16.8 +1.1							
UKOP Uzunkopru-Edir 1.65 95 PN Pb 21 30 55.6 -0.6							
UKOP SN **Sb 21 31 17.2 +0.2**							
ERIK Erikli-Kesan 1.68 111 PN Pb 21 30 56.1 -0.7							
STIP Stip 1.75 284 *i* Pn **Pn 21 30 54.8 -1.3**							
KESN Edirne-Kesan 1.75 105 *i* P **Pg 21 30 59.7 +0.2**							
KESN *i* S **Sg 21 31 21.5 -0.7**							
KESN				IAML		21 31 26.0	
comp=N,81nm,0.4s							
KESN				IAML		21 31 26.0	
comp=E,94nm,0.3s							
GELI Tayfur-Gelibol 1.78 120 PN Pn 21 30 57.2 +0.8							
EDRB Edirne 1.80 72 PN Pb 21 30 58.0 -0.8							
BOSS Bosilegrad 1.90 310 *e*Pn **Pb 21 30 59.8 -0.6**							
BOSS *e*Sg **Sg 21 31 27.3 +0.5**							
BOZC Bozcaada 1.90 140 *i* P **Pn 21 30 56.7 -1.4**							
BOZC *i* S **Sn 21 31 21.3 -0.7**							
BOZC Bozcaada 1.90 140 PN Pn 21 30 59.1 +1.0							
KIRK Kırklareli 2.04 76 *i* P **Pb 21 31 02.2 -0.7**							
KIRK *i* S **Sb 21 31 29.0 +0.8**							
KIRK				IAML		21 31 32.0	
comp=N,34nm,0.3s							
EZN Ezine 2.05 135 PN Pn 21 31 01.2 +1.0							
MPEP Malo Peshtene 2.12 346 *i* P **Pg 21 31 05.6 -0.9**							
BAYC CANAKKALE_Bayr 2.23 134 *i* P **Pn 21 31 03.4 +0.7**							
BAYC *i* S **Sn 21 31 28.6 -1.6**							
ARMN Kirklareli, Me 2.30 75 *i* P **Pb 21 31 07.2 -0.2**							
ARMN *i* S **Sb 21 31 35.7 0.0**							
SIGR SIGRI 2.35 152 PN Pn 21 31 05.7 +1.4							
FNA Florina 2.39 258 PN Pn 21 31 06.3 +1.4							
ZAPS Zavoj 2.39 326 *e*Pn **Pn 21 31 07.0 +2.1**							
ZAPS *e*Sn **Sn 21 31 33.4 -0.7**							
BARS Barje 2.48 308 *e*Pn **Pn 21 31 05.7 -0.4**							
BARS *e*Sn **Sn 21 31 36.0 -0.3**							
VIZE Kirklareli, Vi 2.56 83 *i* P **Pb 21 31 09.6 -2.1**							
VIZE *i* S **Sb 21 31 44.7 +1.5**							
ZAGS Zajecar 3.00 328 *e*Pn **Pn 21 31 13.6 +0.4**							
ZAGS *e*Sn **Sn 21 31 48.5 -0.5**							
SELS Selova 3.13 309 *e*Pn **Pn 21 31 15.3 +0.2**							
GRUS Gruza 3.78 314 *e*Pn **Pn 21 31 23.2 -0.8**							
HERR Herculane 3.87 338 ⇑S Sg 21 32 31.5 +1.3							
VOIR 4.15 6 ⇓P Pn 21 31 31.6 +2.4							
MLR Muntele Rosu 4.32 14 ⇑P Pn 21 31 34.1 +2.5							
BZS Buzias 4.78 335 ⇑S Sg 21 32 56.4 -2.8							

*IDC **24** 21:34:50.6±7.7, 9°.20S×119°.04E, h153km±71km, mb2.7/2, mb1 2.9/4, mb1mx2.8/48, mbtmp3.3/4, Error ellipse: s-maj=116.7km s-min=19.4km az=62.0*
ISC 24 21:34:50.2±1.8,**9°.3S**±0°.1×**119°.2E**±0°.3,**h150**km,**n4,**
σ2°**14**/6,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.26**	**8**	P	**Pn**	**21 35 54.1**	**+0.1**
1.8nm,0.3s,baz=193,slow=4.3,SNR=22							
KAPI				S	**Sn**	**21 36 43.4**	**-0.1**
6.3nm,0.3s,baz=94,slow=22,SNR=18							
WRA	**Warramunga Arr**	**18.10**	**128**	P	**P**	**21 38 51.9**	**+1.3**
0.2nm,0.3s,baz=298,slow=14,SNR=9.6							
WRA				S	S	21 41 58.7	-12
0.1nm,0.3s,baz=291,slow=26,SNR=3.1							
ASAR	**Alice Springs**	**20.09**	**137**	P	**P**	**21 39 14.3**	**+2.0**
0.3nm,0.5s,baz=313,slow=10,SNR=5.5							
ASAR				S	**S**	**21 42 47.1**	**-2.7**
0.2nm,0.5s,baz=315,slow=25,SNR=1.9							
MKAR	**Makanchi Array**	**64.77**	**333**	P	**P**	**21 45 12.0**	**-0.7**
0.2nm,0.5s,baz=146,slow=6.9,SNR=4.0							

*BJI **24** 21:40:08.8±0.0, 31°.41N×137°.09E, h456km, mB4.7/18, mb4.5/24*
*NEIC **24** 21:40:11.7±1.2, 31°.4N±0°.1×136°.9E±0°.1, h460km±8km, mb4.4/22, Error ellipse: s-maj=25.1km s-min=4.7km az=141.0*
*JMA **24** 21:40:11.2±0.3, 31°.64N×137°.00E, h496km±4km, M3.9*
*IDC **24** 21:40:12.4±0.8, 31°.63N×137°.00E, h476km±10km, mb3.1/12, mb1 3.4/20, mb1mx3.1/58, mbtmp4.2/20, Error ellipse: s-maj=18.5km s-min=10.6km az=81.0*
ISC 24 21:40:13.3±0.6,**31°.59N**±0°.07×**136°.98E**±0°.06,**h500**km,
n117,σ2°**22**/128,**mb4.2**/35,**1C, Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	**Tanabenakahech**	**2.50**	**333**	P	**P**	**21 41 18.6**	**-2.4**
JAOM	**Aogashimamukai**	**2.52**	**69**	P	**P**	**21 41 19.2**	**-2.0**
JIE	**Ise**	**2.80**	**355**	*e*S	**S**	**21 42 15.6**	**-4.0**
JHJ	**Hachijo jima 2**	**2.82**	**57**	P	**P**	**21 41 20.6**	**-2.4**
118nm,0.3s,baz=239,slow=23,SNR=37							
JHJ				S	**S**	**21 42 21.6**	**+1.8**
18nm,0.3s,baz=243,slow=22,SNR=1.3							
JHJ2	**Mitsune**	**2.84**	**57**	P	**P**	**21 41 20.7**	**-2.4**
JHJ2	**Mitsune**	**2.84**	**57**	P	**P**	**21 41 19.9**	**-3.2**
JWY	**Kouya**	**2.87**	**336**	P	**P**	**21 41 21.5**	**-1.9**
JAI	**Aioi**	**3.06**	**316**	P	**P**	**21 41 22.7**	**-1.9**
JAI				*e*S	**S**	**21 42 18.5**	**-4.2**
JMN	**Monobe**	**3.37**	**310**	P	**P**	**21 41 25.3**	**-1.6**
JMN	**Monobe**	**3.37**	**310**	P	**P**	**21 41 24.9**	**-2.0**
INU	**Inuyama**	**3.75**	**0**	P	**P**	**21 41 26.2**	**-3.3**
JTO	**Tosashimizu**	**3.76**	**291**	P	**P**	**21 41 27.9**	**-1.9**
JWT	**Wachi**	**3.91**	**341**	P	**P**	**21 41 29.2**	**-1.7**
JWT				*e*S	**S**	**21 42 29.8**	**-4.4**
JWT	**Wachi**	**3.91**	**341**	P	**P**	**21 41 28.5**	**-2.4**
JGF	**Kuroka**	**4.01**	**4**	P	**P**	**21 41 28.9**	**-2.8**
JOD2	**Odawara 2**	**4.06**	**25**	P	**P**	**21 41 30.0**	**-2.1**
JOD2				*e*S	**S**	**21 42 33.1**	**-3.4**
JHS	**Saijyo**	**4.69**	**317**	P	**P**	**21 41 35.7**	**-1.8**
JHS	**Saijyo**	**4.69**	**317**	P	**P**	**21 41 35.4**	**-2.1**
JRY	**Ryogami san**	**4.69**	**19**	P	**P**	**21 41 35.6**	**-1.9**
JRY				*e*S	**S**	**21 42 42.6**	**-3.7**
MAJO	**Matsushiro**	**5.04**	**11**	P	**P**	**21 41 39.0**	**-1.5**
MAT	**Matsushiro**	**5.04**	**11**	P	**P**	**21 41 38.5**	**-2.0**
MAT				S	**S**	**21 42 46.4**	**-5.5**
MJAR	**Matsushiro Arr**	**5.04**	**11**	P	**P**	**21 41 38.0**	**-2.5**
0.9nm,0.3s,baz=184,slow=10,SNR=87							
MJAR				S	**S**	**21 42 45.9**	**-6.0**
0.2nm,0.3s,baz=178,slow=16,SNR=11							
MJB9	**Matsu-Tunnel**	**5.04**	**11**	P	**P**	**21 41 38.7**	**-1.9**
JYT	**Yasato**	**5.34**	**29**	P	**P**	**21 41 39.5**	**-3.7**
JNU	**Nakatsue**	**5.38**	**288**	P	**P**	**21 41 42.6**	**-1.2**
10.0nm,0.3s,baz=125,slow=2.4,SNR=68							
JNU	**Nakatsue**	**5.38**	**288**	P	**P**	**21 41 42.1**	**-1.7**
JSU	**Suzuyama**	**5.57**	**271**	P	**P**	**21 41 41.2**	**-4.4**
JOI	**OKI**	**5.62**	**327**	P	**P**	**21 41 43.7**	**-2.1**
JCJ	**Chichijima**	**6.38**	**133**	S	**S**	**21 43 06.6**	**-8.7**
39nm,0.3s,baz=289,slow=22,SNR=12							
JSD	**Sado**	**6.51**	**9**	P	**P**	**21 41 52.7**	**-1.7**
JMM	**Marumori**	**7.00**	**26**	P	**P**	**21 41 57.6**	**-1.7**
JTU	**Tsushima**	**7.00**	**297**	P	**P**	**21 41 57.2**	**-2.3**
JMK	**Ichinoseki**	**8.12**	**24**	P	**P**	**21 42 09.7**	**-1.0**
JMK				*e*S	**S**	**21 43 41.6**	**-5.6**
JOW	**Kunigami**	**8.96**	**240**	P	**P**	**21 42 16.1**	**-3.8**
KSRS	**Korea Array**	**9.48**	**311**	P	**P**	**21 42 24.8**	**-0.3**
2.4nm,0.3s,baz=127,slow=11,SNR=53							
KSAR	**Wonju Array Be**	**9.50**	**310**	P	**P**	**21 42 24.4**	**-0.9**
KS19	**Wonju Array Si**	**9.55**	**311**	P	**P**	**21 42 24.2**	**-1.6**
JTM	**Tenmabayashi**	**9.75**	**19**	P	**P**	**21 42 27.2**	**-0.6**
ERM	**Erimo**	**11.51**	**24**	P	**P**	**21 42 47.2**	**+0.7**
USA0B	**Ussuriysk Arra**	**13.18**	**344**	P	**P**	**21 43 04.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**13.18**	**344**	P	**P**	**21 43 04.0**	**-0.1**
baz=151,slow=9.1,SNR=50							
USRK	**Ussuriysk Ar.**	**13.18**	**344**	P	**P**	**21 43 03.9**	**-0.2**
ASAJ	**Asahikawa**	**13.26**	**18**	P	**P**	**21 43 05.2**	**+0.2**

0.7nm,0.3s,baz=329,slow=4.8,SNR=4.7
JKA Kamikawa-asahi 13.26 18 P **P 21 43 06.5 +1.5**
YOJ Yonaguni jima 14.23 244 P **P 21 43 12.4 -3.1**
MDJ Mudanjiang 14.23 338 P **P 21 43 15.0 -0.3**
TATO Taipei 15.15 248 P **P 21 43 21.3 -3.9**
CN2 Changchun 15.21 326 *eP* **P 21 43 25.1 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
YHNB Yeheng 15.39 247 P **P 21 43 24.5 -3.2**
NACB Ninganchiao 15.47 245 P **P 21 43 25.1 -3.4**
YULB Yu-li 16.12 243 P **P 21 43 32.0 -3.4**
YULB IAmb IAmb 21 43 34.4
comp=Z,21nm,0.5s
SSLB Suanglung 16.18 245 P **P 21 43 32.7 -3.2**
SSLB IAmb IAmb 21 43 35.0
comp=Z,36nm,1.0s
TWG Pinlang 16.62 242 P **P 21 43 37.6 -3.0**
TPUB Ta-pu 16.69 244 P **P 21 43 38.9 -2.4**
KNMB Chin-men Tao 17.87 251 P **P 21 43 51.9 -0.7**
KNMB IAmb IAmb 21 43 56.1
comp=Z,47nm,0.9s
KLR Kul'dur 18.05 349 P **P 21 43 53.9 0.0**
comp=Z,0.6nm,0.3s,baz=177,slow=9.4,SNR=20
GUMO Guam 19.33 156 P **P 21 44 08.1 +2.1**
comp=Z,5.6nm,0.3s,baz=21,slow=14,SNR=1.7
HHC Hu-ho-hao-te 22.43 301 *eP* **P 21 44 35.6 +1.7**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.5s
ENH Enshi 23.60 274 P **P 21 44 42.5 -1.9**
ENH IAmb IAmb 21 44 44.7
comp=Z,13nm,0.6s
XAN Xi'an 23.68 283 P **P 21 44 45.0 -0.1**
XAN sP sP 21 46 59.8 -1.8
XAN pmax pmax
comp=Z,8.0nm,0.7s
MA2 Magadan 29.48 14 P **P 21 45 36.1 +0.4**
comp=Z,6.2nm,0.7s,baz=168,slow=18,SNR=2.0
GTA Gaotai 31.08 295 ⇑P **P 21 45 50.3 +0.3**
NONG Nongkai 33.38 254 P **P 21 46 11.1 +1.3**
comp=Z,27μmcomp=Z,21nm,0.9s
CHAI Chaiyaphum 35.45 252 P **P 21 46 27.4 +0.3**
comp=Z,529nmcomp=Z,36nm,0.6s
CHAI Chaiyaphum 35.45 252 P **P 21 46 27.5 +0.3**
UTTA Uttaradit 35.68 256 P **P 21 46 29.8 +0.8**
comp=Z,163nmcomp=Z,18nm,0.8s
UTTA Uttaradit 35.68 256 P **P 21 46 29.9 +0.9**
CM34 Chiang Mai Arr 36.32 259 P **P 21 46 35.0 +0.6**
CM35 Chiang Mai Arr 36.40 258 P **P 21 46 35.0 0.0**
CM33 Chiang Mai Arr 36.51 259 P **P 21 46 36.0 +0.1**
CMMT Chiang Mai 36.51 259 P **P 21 46 36.5 +0.6**
comp=Z,7.6nm,0.8s
CMMT Chiang Mai 36.51 259 P **P 21 46 36.5 +0.6**
CHTO Chiang Mai 36.51 259 P **P 21 46 36.5 +0.6**
comp=Z,7.7nm,0.8s
CHTO Chiang Mai 36.51 259 P **P 21 46 35.4 -0.5**
CHTO IAmb IAmb 21 46 37.1
comp=Z,5.5nm,0.7s
CM31 Chiang Mai Arr 36.68 258 P **P 21 46 37.0 -0.4**
CM31 IAmb IAmb 21 46 39.1
comp=Z,3.6nm,0.8s
CMAR Chiang Mai Arr 36.68 258 P **P 21 46 37.9 +0.6**
comp=Z,2.5nm,0.7s,baz=49,slow=7.4,SNR=25
CMAR Chiang Mai Arr 36.68 258 P **P 21 46 37.3 0.0**
CM02 Chiang Mai Arr 36.69 258 P **P 21 46 39.1 +1.7**
comp=Z,48nmcomp=Z,5.7nm,0.8s
CM02 Chiang Mai Arr 36.69 258 P **P 21 46 39.0 +1.7**
CM15 Chiang Mai Arr 36.70 258 P **P 21 46 38.7 +1.2**
comp=Z,5.2nm,0.7s
CM15 Chiang Mai Arr 36.70 258 P **P 21 46 38.8 +1.2**
CM13 Chiang Mai Arr 36.73 258 P **P 21 46 39.4 +1.7**
comp=Z,3.6nm,0.8s
CM13 Chiang Mai Arr 36.73 258 P **P 21 46 39.5 +1.7**
SHL Shillong 39.84 273 P **P 21 47 02.8 -0.5**
SHL IAmb IAmb 21 47 03.9
comp=Z,5.5nm,0.5s
WMQ Urumqi 40.31 302 *eP* **P 21 47 09.5 +2.9**
TAPN Taplejung 42.82 277 *eP* **P 21 47 27.8 +0.7**
ZALV Zalesovo Beam 43.12 317 P **P 21 47 28.9 +0.3**
comp=Z,0.4nm,0.4s,baz=69,slow=7.9,SNR=3.0
ZALV PcP **PcP 21 49 08.7 +1.4**
comp=Z,0.5nm,0.4s,baz=108,slow=4.8,SNR=4.4
ODAN Odare 43.24 277 *eP* **P 21 47 30.9 +0.6**
comp=Z,26nm,0.5s
RAMN Ramite 43.88 277 *eP* **P 21 47 36.1 +0.8**
JIRN Jiri 44.01 278 *eP* **P 21 47 37.5 +1.1**
comp=Z,18nm,0.4s
MK31 Makanchi Array 44.14 306 P **P 21 47 37.6 +0.9**
MKAR Makanchi Array 44.14 306 P **P 21 47 37.5 +0.8**
comp=Z,0.4nm,0.3s,baz=72,slow=12,SNR=11
MKAR PcP **PcP 21 49 11.7 +0.8**
comp=Z,0.2nm,0.3s,baz=77,slow=4.0,SNR=5.1
MKAR ScP **ScP 21 52 17.6 +2.7**
comp=Z,0.2nm,0.8s,baz=79,slow=3.5,SNR=2.2
MAKZ Makanchi 44.35 306 P **P 21 47 39.2 +0.8**
PKI Pulchoki 44.70 279 *eP* **P 21 47 42.3 +0.6**
KKN Kakani 44.74 279 *eP* **P 21 47 42.6 +0.7**
GKN Gorkha 45.21 279 *eP* **P 21 47 46.9 +1.4**
comp=Z,4.9nm,0.3s
DANN Dangsing 45.85 280 *eP* **P 21 47 51.6 +1.1**
comp=Z,12nm,0.3s
KOLN Koldanda 46.16 280 *eP* **P 21 47 53.6 +0.8**
comp=Z,8.4nm,0.3s
PYUN Piuthan 46.57 280 *eP* **P 21 47 57.0 +1.1**
comp=Z,21nm,0.4s
GSI Gunungsitoli 47.86 239 P **P 21 48 02.2 -3.3**
WRA Warramunga Arr 51.30 183 P **P 21 48 31.6 +0.8**
comp=Z,0.5nm,0.3s,baz=360,slow=7.6,SNR=15
KK31 Karatay Array 52.81 303 P **P 21 48 42.5 +1.1**
KKAR Karatay Array 52.81 303 P **P 21 48 41.9 +0.5**
KKAR Karatay Array 52.81 303 P **P 21 48 42.5 +1.1**
KKAR IAmb IAmb 21 48 42.9
comp=Z,2.1nm,0.6s
NIL Nilore 52.95 290 P **P 21 48 43.0 +0.4**
NIL IAmb IAmb 21 48 44.8
comp=Z,5.0nm,0.6s
CHGR Chuyangaron 54.80 297 P **P 21 48 56.8 +1.1**
CHGR IAmb IAmb 21 48 57.5
comp=Z,20nm,0.6s
ASAR Alice Springs 55.03 183 P **P 21 48 57.9 +0.6**
comp=Z,0.4nm,0.6s,baz=16,slow=12,SNR=6.8
KBL Kabul 56.02 293 P **P 21 49 04.4 -0.1**
PAX Paxson 56.78 32 P **P 21 49 12.3 +3.3**
PAX IAmb IAmb 21 49 17.6
comp=Z,6.8nm,0.8s
ABKAR Akbulak array 58.72 312 P **P 21 49 23.5 +1.1**
ABKAR IAmb IAmb 21 49 23.9
comp=Z,1.5nm,0.5s
ABKAR Akbulak array 58.72 312 P **P 21 49 23.6 +1.3**
ARCES ARCESS Array B 67.78 339 P **P 21 50 21.7 +1.5**
comp=Z,1.0nm,0.8s,baz=66,slow=5.9,SNR=7.5
KBZ Khabaz 71.64 310 P **P 21 50 45.0 +1.2**
comp=Z,2.7nm,0.8s,baz=90,slow=3.3,SNR=7.4
FINES FINESS Array B 71.89 332 P **P 21 50 45.9 +1.0**
comp=Z,0.9nm,0.5s,baz=65,slow=5.7,SNR=12
AKASG Malin Array Be 76.30 321 P **P 21 51 10.9 +0.8**
comp=Z,0.6nm,0.4s,baz=56,slow=4.0,SNR=4.5
NOA NORSAR Array B 77.72 336 P **P 21 51 18.8 +1.0**
comp=Z,0.6nm,0.6s,baz=44,slow=5.5,SNR=3.2
BRTR Keskin Array B 79.63 310 P **P 21 51 29.6 +1.1**
comp=Z,0.9nm,0.7s,baz=209,slow=2.3,SNR=4.0

*MOS **24** 21:44:36.8s 1.2, 7°.93S×109°.03E, h50km, mb5.7/34, Error ellipse: s-maj=7.4km s-min=4.7km az=115.2*
*NEIC **24** 21:44:38.9s 2.7, 8°.25S±0°.05×108°.92E±0°.05, h48km± 1km, mb5.4/175, Ms_20 4.7/71, Mwb5.5/27, Mwc5.5(GCMT), Error ellipse: s-maj=9.7km s-min=7.5km az=156.0*
*BJI **24** 21:44:40.0±0.0, 8°.30S×109°.00E, h85km, mB5.0/54, mb5.0/70, Ms4.8/71, Ms7 4.6/66*
*NEIC **24** 21:44:40.9, 8°.29S×108°.99E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.43; Mθθ-0.07; Mφφ-1.36; Mrθ-0.90; Mφθ-0.97; Mφr0.45; Fault plane solution: M0 1.98000×10^17^ NP1:φs0.44000°, δ52.55000°, λ48.16000°. NP2:φs236.26000°, δ53.74000°, λ131.06000°. Principal axes: T 2.0593, Plg58.0000°, Azm208.0000°; N -0.1804, Plg32.0000°, Azm29.0000°; P -1.8789, Plg1.0000°, Azm299.0000°;*
*GCMT **24** 21:44:41.9±0.1, 8°.27S±0°.01×109°.04E±0°.01, h88km, MW5.5/134, Moment Tensor Solution. s134,c250; s125,c233; Duration: 1s3 Moment tensor: Scale 10^17^*

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Nm; Mrr1.27±.02; Mθθ-0.68±.03; Mφφ-0.58±.03; Mrθ-0.66±.02; Mφφ-1.59±.02; Mφr0.59±.02; Best double couple: M0 2.11800×10^17^ NP1:φs13.00000°, δ56.00000°, λ39.00000°. NP2:φs258.00000°, δ58.00000°, λ139.00000°. Principal axes: T 2.0110, Plg50.0000°, Azm225.0000°; N 0.2170, Plg40.0000°, Azm47.0000°; P -2.2260, Plg1.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*IDC **24** 21:44:41.9±1.0, 7°.90S×109°.16E, h81km±8km, mb5.0/43, mb1 5.1/43, mb1mx5.0/47, mbtmp5.3/43, MS4.3/30, Ms1 4.3/30, ms1mx4.2/35 Error ellipse: s-maj=9.3km s-min=8.0km az=65.0*
*DJA **24** 21:44:42.7±0.2, 8°S±2°×10°9E±°, h85km±2km, M5.4/82, mB5.9/60, mb5.6/82, MLv6.2/29, Mw5.3/35, Mw(mB)5.5/60, MwMwp5.1/25, Mwp5.3/25*
*KLM **24** 21:44:42, 8°.44S×108°.95E, h59km, mb5.8*
*NEIC **24** 21:44:44, 8°.26S×109°.10E, h88km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.34; Mθθ-0.50; Mφφ-0.84; Mrθ-0.64; Mφθ-1.63; Mφr0.58; Fault plane solution: M0 2.19000×10^17^ NP1:φs254.00000°, δ56.00000°, λ139.00000°. NP2:φs10.00000°, δ57.00000°, λ41.00000°. Principal axes: T 2.0396, Plg51.0000°, Azm222.0000°; N 0.2702, Plg39.0000°, Azm42.0000°; P -2.3099, Plg0.0000°, Azm132.0000°;*
ISC 24 21:44:42.2±0.3, 8°.125±0°.03×109°.01E±0°.03, h89km±2km, h89km:pP-P,n1083,σ1°70/1134,mb5.3/221,88C-57D, Fault plane solution: NP1:φs359.22342°, δ45.06262°, λ34.88408°. NP2:φs243.00533°, δ66.11835°, λ129.42383°. Principal axes: T Plg51.7877°, Azm199.5524°; N Plg35.4985°, Azm44.5964°; P Plg12.3089°, Azm305.6431°; Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.79**	**354**	P	**Pn**	**21 45 01.3**	**+1.8**
YOGI	**Yogyakarta**	**1.31**	**77**	P	**Pn**	**21 45 05.1**	**-0.4**
UGM	**Wanagama**	**1.52**	**82**		**Pn**	**21 45 07.4**	**-0.7**
UGM	**Wanagama**	**1.52**	**82**	P	**Pn**	**21 45 07.9**	**-0.2**
SMRI	**Semarang**	**1.77**	**53**	Pn	**Pn**	**21 45 13.0**	**+1.6**
SMRI	**Semarang**	**1.77**	**53**	P	**Pn**	**21 45 13.3**	**+1.9**
LEM	**Lembang**	**1.89**	**313**	P	**Pn**	**21 45 15.6**	**+2.6**
LEM	**Lembang**	**1.89**	**313**	P	**Pn**	**21 45 15.4**	**+2.4**
CNJI	**Cibinong**	**2.03**	**293**	P	**Pn**	**21 45 15.2**	**+0.5**
PCJI	**Pacitan**	**2.15**	**92**	P	**Pn**	**21 45 16.0**	**-0.3**
DBJI	**Dramaga**	**2.73**	**305**	P	**Pn**	**21 45 26.8**	**+2.7**
PWJI	**Pagerwojo**	**2.77**	**88**	P	**Pn**	**21 45 24.4**	**-0.2**
TNG	**Tangerang**	**3.04**	**309**	P	**Pn**	**21 45 32.1**	**+3.9**
TNG				P	**Pn**	**21 45 30.7**	**+2.5**
TBJI	**Tambak Boyo**	**3.10**	**66**	P	**Pn**	**21 45 30.3**	**+1.3**
XMI	**Christmas Isla**	**4.01**	**234**	P	**Pn**	**21 45 38.0**	**-3.4**
XMIS	**Christmas Isla**	**4.06**	**234**		**Pn**	**21 45 38.0**	**-4.1**
XMIS				Sn	Sn	21 46 18.4	-10
XMIS	**Christmas Isla**	**4.06**	**234**	P	**Pn**	**21 45 38.3**	**-3.8**
BLSI	**Bandar Lampung**	**4.63**	**306**	P	**Pn**	**21 45 52.4**	**+2.6**
KMMI	**Kalianget**	**5.03**	**78**	P	**Pn**	**21 45 54.6**	**-0.6**
	7.7nm11μm15μm2μm,0.8s						
JAGI	**Jajag, Banyuwa**	**5.10**	**94**		**Pn**	**21 45 54.4**	**-1.8**
JAGI				Sn	**Sn**	**21 46 50.8**	**-3.1**
JAGI					LR	21 46 54.6	
JAGI	**Jajag, Banyuwa**	**5.10**	**94**	P	**Pn**	**21 45 55.7**	**-0.5**
	28nm13μm82μm7μm,0.7s						
KASI	**Kota Agung**	**5.17**	**300**	P	**Pn**	**21 45 57.5**	**+0.4**
	12nm14μm48μm3μm,1.2s						
LWLI	**Liwa**	**5.80**	**302**	P	**Pn**	**21 46 07.8**	**+1.9**
	14nm58μm2μm,1.2s						
PBKI	**Pangkalan Bun**	**6.00**	**26**	P	**Pn**	**21 46 11.5**	**+3.1**
	14nm30μm1μm,0.9s						
MDSI	**Maura Dua**	**6.01**	**307**	P	**Pn**	**21 46 10.8**	**+2.2**
	7.4nm8μm27μm2μm,1.3s						
SRBI	**Singaraja**	**6.14**	**90**	P	**Pn**	**21 46 09.6**	**-0.8**
	18nm9μm27μm2μm,0.6s						
DNP	**Denpasar**	**6.16**	**96**	P	**Pn**	**21 46 09.5**	**-1.2**
PPBI	**Pangkal Pinang**	**6.57**	**334**	P	**Pn**	**21 46 19.5**	**+3.2**
	7.1nm9μm19μm2μm,1.1s						
PMBI	**Palembang**	**6.66**	**321**		**Pn**	**21 46 19.7**	**+2.2**
PMBI	**Palembang**	**6.66**	**321**	P	**Pn**	**21 46 21.3**	**+3.8**
	12nm12μm117μm3μm,1.1s						
LHSI	**Lahat**	**6.92**	**308**	P	**Pn**	**21 46 23.3**	**+2.2**
	5.1nm18μm1μm,1.4s						
MNAI	**Manna**	**7.08**	**301**		**Pn**	**21 46 23.1**	**-0.1**
MNAI	**Manna**	**7.08**	**301**	P	**Pn**	**21 46 23.9**	**+0.7**
	14nm14μm63μm3μm,0.5s						
BBKI	**Banjar Baru**	**7.42**	**52**	P	**Pn**	**21 46 29.9**	**+2.0**
	2.7nm4μm219nm,1.2s						
KSI	**Kapahiang**	**7.77**	**304**	P	**Pn**	**21 46 33.6**	**+0.9**
TWSI	**Taliwang, Sumb**	**7.81**	**95**	P	**Pn**	**21 46 31.8**	**-1.4**
	4.8nm4μm19μm1μm,0.6s						
JMBI	**JAMBI**	**8.37**	**320**	P	**Pn**	**21 46 44.7**	**+3.9**
	19μm1μm,1.3s						
STKI	**Sintang**	**8.50**	**17**	P	**Pn**	**21 46 46.5**	**+4.0**
	210nm,1.1s						
KBKI	**Kotabaru**	**8.58**	**56**	P	**Pn**	**21 46 45.8**	**+2.1**
	2μm306nm,0.8s						
PLAI	**Plampang**	**8.70**	**95**	P	**Pn**	**21 46 43.8**	**-1.5**
	7μm28μm3μm,1.1s						
MTKI	**Muara Teweh, K**	**9.23**	**40**	P	**Pn**	**21 46 55.3**	**+2.7**
	2μm3μm90nm,0.4s						
KSM	**Kuching**	**9.62**	**8**	P	**Pn**	**21 47 02.0**	**+4.2**
RGRI	**Rengat**	**10.19**	**319**	P	**Pn**	**21 47 07.7**	**+2.1**
	10μm566nm,1.0s						
BKB	**Balikpapan**	**10.40**	**49**	Pn	**Pn**	**21 47 09.7**	**+1.2**
SBUM	**Sibu**	**10.98**	**17**	P	Pn	21 47 22.0	+5.6
MYKOM	**Kota Tinggi**	**11.11**	**332**	P	**Pn**	**21 47 21.0**	**+2.9**
KAPI	**Kappang**	**11.11**	**75**	P	**Pn**	**21 47 19.1**	**+0.9**
	7.4nm,0.3s,baz=266,slow=7.4,SNR=34						
KAPI				S	**Sn**	**21 49 19.1**	**-1.4**
	baz=116,slow=18,SNR=2.0						
KAPI				LR	LR	21 52 39.4	
	comp=Z,1μm,18.6s,baz=271,slow=44						
KAPI	**Kappang**	**11.11**	**75**	P	**Pn**	**21 47 18.7**	**+0.5**
KAPI						21 49 19.1	
KAPI	**Kappang**	**11.11**	**75**	Pn	**Pn**	**21 47 18.7**	**+0.5**
BKSI	**Bulukumba**	**11.38**	**77**	P	**Pn**	**21 47 23.5**	**+1.7**
	3μm3μm289nm,0.7s						
BKNI	**Bangkinang**	**11.55**	**316**		**Pn**	**21 47 23.0**	**-1.2**
BKNI	**Bangkinang**	**11.55**	**316**	P	**Pn**	**21 47 23.9**	**-0.3**
	6μm13μm2μm,1.2s						
BSSI	**Bau Bau, Buton**	**11.56**	**81**	P	**Pn**	**21 47 25.0**	**+0.7**
	5μm590nm,1.2s						
BNSI	**Bone**	**11.63**	**72**	P	**Pn**	**21 47 28.2**	**+3.0**
	6μm348nm,1.4s						
TTSI	**Tana Toraja**	**11.88**	**65**	P	**Pn**	**21 47 31.9**	**+3.3**
	2μm3μm216nm,1.1s						
COCO	**West Island**	**12.65**	**250**	P	**Pn**	**21 47 36.4**	**-2.4**
COCO	**West Island**	**12.65**	**250**		**Pn**	**21 47 35.4**	**-3.5**
MNSI	**Mandailing Nat**	**12.91**	**313**	P	**Pn**	**21 47 38.9**	**-3.5**
	9μm1μm,1.0s						
MMRI	**Maumere**	**13.10**	**93**	Pn	**Pn**	**21 47 40.4**	**-4.5**
JRMM	**Jerantut**	**13.59**	**331**	P	**P**	**21 47 55.0**	**-2.2**
MPSI	**Mapaga**	**13.73**	**53**	P	**P**	**21 47 56.3**	**-2.4**
	2μm2μm144nm,1.1s						
APSI	**Ampana**	**14.49**	**61**	P	**Pn**	**21 48 04.8**	**+1.8**
	4μm259nm,1.0s						
BATI	**Baumata**	**14.62**	**99**	P	**Pn**	**21 48 00.5**	**-4.2**
	3μm7μm603nm,0.7s						
GSI	**Gunungsitoli**	**14.75**	**309**		Pn	21 48 01.6	-4.8
SPMM	**Sapulut**	**14.76**	**31**	P	**P**	**21 48 14.0**	**+3.8**
IPM	**Ipoh**	**14.83**	**327**	P	**Pn**	**21 48 09.0**	**+1.5**
TOLI2	**Tolitoli**	**14.90**	**53**		**P**	**21 48 12.0**	**+0.3**
SOEI	**Soe**	**15.16**	**97**	Pn	**Pn**	**21 48 07.8**	**-3.9**
SOEI	**Soe**	**15.16**	**97**	P	**Pn**	**21 48 07.4**	**-4.3**
	5μm12μm2μm,0.8s						
GIRL	**Giralia**	**15.29**	**161**	Pn	**Pn**	**21 48 07.9**	**-5.2**
GIRL				IAmb	IAmb	21 48 12.1	
	comp=Z,464nm,0.9s						
MRSI	**Marisa**	**15.46**	**57**	P	**P**	**21 48 18.6**	**+0.6**
	comp=Z,2μmcomp=Z,3μmcomp=Z,263nm,0.9s						
TSI	**Tuntungan**	**15.55**	**318**	P	**Pn**	**21 48 13.7**	**-2.8**
	comp=Z,5μmcomp=Z,4μmcomp=Z,213nm,0.8s						
KULM	**Kulim**	**15.71**	**328**	P	**Pn**	**21 48 19.0**	**+0.4**
GTOI	**Gorontalo**	**16.45**	**59**	P	**P**	**21 48 28.8**	**-0.1**
	comp=Z,2μmcomp=Z,108nm,1.1s						
MBWA	**Marble Bar**	**16.59**	**143**	Pn	**Pn**	**21 48 26.1**	**-3.3**
PSA00	**Pilbara Seismi**	**16.97**	**143**	Pn	**Pn**	**21 48 30.2**	**-4.0**
PSA00				IAmb	IAmb	21 48 36.6	
	comp=Z,433nm,1.2s						
PSA00	**Pilbara Seismi**	**16.97**	**143**	Pn	**Pn**	**21 48 30.7**	**-3.5**
PSA00				IAmb	IAmb	21 48 36.6	
	comp=Z,611nm,1.4s						
SKLT	**Songkhla**	**17.34**	**331**	P	**Pn**	**21 48 38.3**	**-0.3**
	comp=Z,3μmcomp=Z,170nm,1.3s						
SKLT	**Songkhla**	**17.34**	**331**	P	**Pn**	**21 48 38.4**	**-0.3**
	comp=Z,3μmcomp=Z,170nm,1.3s						
SKLT	**Songkhla**	**17.34**	**331**	P	**Pn**	**21 48 38.4**	**-0.3**
SANI	**Sanana**	**17.95**	**71**	P	**Pn**	**21 48 46.0**	**-0.1**
	comp=Z,2μmcomp=Z,142nm,0.9s						
NLAI	**Namlea**	**18.64**	**76**	P	**Pn**	**21 48 54.6**	**+0.2**
	comp=Z,3μmcomp=Z,255nm,0.9s						
SURT	**Suratani**	**19.78**	**329**	P	**P**	**21 49 06.2**	**+0.7**
	comp=Z,88nmcomp=Z,9.6nm,1.1s						
SURT	**Suratani**	**19.78**	**329**	P	**P**	**21 49 06.2**	**+0.7**
	comp=Z,88nmcomp=Z,9.6nm,1.1s						
TNTI	**Ternate**	**20.32**	**65**	P	**P**	**21 49 11.9**	**+0.4**
TNTI				IAmb	IAmb	21 49 29.8	
	comp=Z,205nm,0.7s						
TNTI	**Ternate**	**20.32**	**65**	P	**P**	**21 49 11.8**	**+0.4**
	comp=Z,5μmcomp=Z,262nm,0.7s						
MSAI	**Masohi**	**20.38**	**78**	P	**P**	**21 49 11.8**	**-0.2**
	comp=Z,37nm,0.6s						
MEEK	**Meekatharra**	**20.55**	**155**	P	**P**	**21 49 12.6**	**-1.2**
	baz=21,SNR=196						
KNRA	**Kununurra**	**20.73**	**113**	P	**P**	**21 49 15.8**	**+0.1**
	baz=21,SNR=195						
KNRA	**Kununurra**	**20.73**	**113**	P	**P**	**21 49 15.8**	**+0.1**
MORW	**Morawa**	**21.86**	**163**	P	**P**	**21 49 28.2**	**+0.4**
	baz=22,SNR=44						
MORW	**Morawa**	**21.86**	**163**	P	**P**	**21 49 27.5**	**-0.3**
MORW				IAmb	IAmb	21 49 29.7	
	comp=Z,148nm,1.1s						
SAUI	**Saumlaki**	**22.07**	**91**	P	**P**	**21 49 29.0**	**-1.2**
MTN	**Manton Dam**	**22.25**	**104**	P	**P**	**21 49 31.6**	**-0.4**
	baz=22,SNR=106						
MTN	**Manton Dam**	**22.25**	**104**	P	**P**	**21 49 31.5**	**-0.6**
SWI	**Sorong**	**23.31**	**73**	P	**P**	**21 49 41.9**	**-0.8**
	comp=Z,2μmcomp=Z,143nm,0.9s						
SIJI	**Sorong**	**23.32**	**73**	P	**P**	**21 49 40.3**	**-2.5**
	comp=Z,38nm,0.5s,baz=261,slow=8.2,SNR=18						
SIJI				S	**S**	**21 53 44.3**	**-4.4**
	comp=Z,8.5nm,0.8s,baz=120,slow=22,SNR=9.0						
BLDU	**Ballidu**	**23.51**	**163**	P	**P**	**21 49 45.0**	**+0.6**
	baz=24,SNR=12						
KDU	**Kakadu**	**23.51**	**103**	P	**P**	**21 49 44.2**	**-0.4**
	baz=24,SNR=55						
FAKI	**Fak Fak**	**23.70**	**79**	P	**P**	**21 49 45.9**	**-0.3**
FAKI				IAmb	IAmb	21 49 50.5	
	comp=Z,74nm,0.8s						
FAKI	**Fak Fak**	**23.70**	**79**	P	**P**	**21 49 46.1**	**-0.1**
	comp=Z,1μmcomp=Z,139nm,0.8s						
SRDT	**SRDT**	**24.38**	**336**	P	**P**	**21 49 52.6**	**+0.3**
	comp=Z,19μmcomp=Z,52nm,1.9s						
SRDT	**SRDT**	**24.38**	**336**	P	**P**	**21 49 52.6**	**+0.3**
	comp=Z,19μmcomp=Z,52nm,1.9s						
MUN	**Mundaring**	**24.67**	**165**	P	**P**	**21 49 55.7**	**+0.9**
	baz=25,SNR=10						
KLBR	**Kellerberrin**	**24.73**	**162**	P	**P**	**21 49 55.9**	**+0.5**
	baz=25,SNR=12						
WRKA	**Warakurna**	**24.93**	**135**	P	**P**	**21 49 57.5**	**+0.1**
	baz=25,SNR=48						
KHLT	**Khaolaem Dam**	**25.00**	**336**	P	**P**	**21 49 57.9**	**0.0**
	comp=Z,510nmcomp=Z,38nm,0.8s						
KHLT	**Khaolaem Dam**	**25.00**	**336**	P	**P**	**21 49 57.9**	**0.0**
	comp=Z,510nmcomp=Z,38nm,0.8s						
KHON	**Khomkaen**	**25.06**	**346**	P	**P**	**21 50 01.3**	**+2.8**
	comp=Z,371nmcomp=Z,35nm,1.0s						
UTHA	**Uthaitani**	**25.36**	**338**	P	**P**	**21 50 01.4**	**+0.2**
	comp=Z,263nmcomp=Z,33nm,1.1s						
PBA	**Port Blair**	**25.45**	**320**	P	P	21 50 03.2	+1.2
PBA				IAmb	IAmb	21 50 09.6	
	comp=Z,100nm,1.2s						
PBKT	**Sadao Pong**	**25.79**	**342**	P	**P**	**21 50 07.2**	**+2.2**
NWAO	**Narrogin (SRO)**	**25.84**	**164**	P	**P**	**21 50 05.8**	**+0.4**
	comp=Z,20nm,0.7s,baz=348,slow=8.3,SNR=13						
NWAO				S	S	21 54 48.0	+19
	comp=Z,15nm,0.5s,baz=56,slow=21,SNR=2.0						
NWAO	**Narrogin (SRO)**	**25.84**	**164**	P	**P**	**21 50 05.0**	**-0.3**
	baz=26,SNR=9.4						
NWAO	**Narrogin (SRO)**	**25.84**	**164**	P	**P**	**21 50 05.4**	**0.0**
NWAO				pmax	pmax		
	comp=Z,71nm,1.5s						
NWAO	**Narrogin (SRO)**	**25.84**	**164**	P	**P**	**21 50 05.3**	**0.0**
UMPA	**Umpang Tak**	**26.17**	**337**	P	**P**	**21 50 07.3**	**-1.3**
	comp=Z,692nmcomp=Z,55nm,0.7s						
UMPA	**Umpang Tak**	**26.17**	**337**	P	**P**	**21 50 07.4**	**-1.2**
	comp=Z,172nmcomp=Z,14nm,0.7s						
LOEI	**Loei**	**26.59**	**343**	P	P	21 50 20.0	+7.7
LOEI	**Loei**	**26.59**	**343**	P	P	21 50 20.0	+7.7
NONG	**Nongkai**	**26.65**	**347**	P	**P**	**21 50 16.0**	**+3.2**
	comp=Z,110nm,1.0s						
QIZ	**Qiongzhong**	**26.99**	**2**	P	**P**	**21 50 19.3**	**+3.4**
QIZ				pP	**pP**	**21 50 37.8**	**+1.8**
QIZ				sP	**sP**	**21 50 47.8**	**+1.5**
QIZ				S	**S**	**21 54 54.5**	**+7.5**
QIZ				sS	**sS**	**21 55 26.6**	**+4.7**
QIZ				pmax	pmax		
	comp=Z,35nm,1.6s						
QIZ				LR	LR		
	comp=Z,760nm,15.1s						
QIZ				LR	LR		
	comp=Z,700nm,14.3s						
QIZ				LR	LR		
	comp=Z,760nm,14.3s						
QIZ	**Qiongzhong**	**26.99**	**2**	P	**P**	**21 50 18.7**	**+2.9**
UTTA	**Uttaradit**	**27.02**	**342**	P	**P**	**21 50 16.8**	**+0.6**
	comp=Z,549nmcomp=Z,73nm,1.0s						
H01W3	**Cape Leeuwin H**	**27.05**	**171**	T	T	22 18 11.3	
	baz=341,slow=76,SNR=7.2						
H01W1	**Cape Leeuwin H**	**27.06**	**171**	T	T	22 18 13.1	
	baz=341,slow=76,SNR=6.6						
H01W2	**Cape Leeuwin H**	**27.06**	**171**	T	T	22 18 13.7	
	baz=341,slow=76,SNR=8.4						
WB0	**Warramunga Arr**	**27.18**	**118**	P	**P**	**21 50 17.9**	**+0.2**
WB0				IAmb	IAmb	21 50 23.4	
	comp=Z,65nm,0.7s						
WRA	**Warramunga Arr**	**27.19**	**118**	P	**P**	**21 50 18.1**	**+0.3**
	comp=Z,116nm,1.0s,baz=289,slow=12,SNR=238					

comp=Z,323nmcomp=Z,24nm,1.1s
CM36 Chiang Mai Arr 28.22 340 P **P** **21 50 26.0 -0.9**
MHMT Maesarieng 28.33 337 P **P** **21 50 27.7 -0.1**
comp=Z,839nmcomp=Z,74nm,1.2s
ASAR Alice Springs 28.42 126 P **P** **21 50 29.0 +0.3**
comp=Z,51nm,0.8s,baz=303,slow=8.7,SNR=304
ASAR PcP **PcP** **21 53 39.7 +0.5**
comp=Z,42nm,0.7s,baz=320,slow=2.0,SNR=16
ASAR ScP **ScP** **21 57 13.5 +1.0**
comp=Z,15nm,0.7s,baz=328,slow=2.7,SNR=8.7
ASAR LR LR 22 02 14.8
comp=Z,813nm,20.8s,baz=303,slow=37
ASAR Alice Springs 28.42 126 P **P** **21 50 28.8 +0.1**
AS31 Alice Springs 28.42 126 P **P** **21 50 28.9 +0.2**
CM32 Chiang Mai Arr 28.43 339 P **P** **21 50 28.0 -0.7**
CM34 Chiang Mai Arr 28.51 340 P **P** **21 50 29.0 -0.4**
CMMT Chiang Mai 28.54 340 P **P** **21 50 29.4 -0.3**
comp=Z,702nmcomp=Z,32nm,0.9s
CHTO Chiang Mai 28.55 340 P **P** **21 50 29.1 -0.7**
CHTO pmax pmax
comp=Z,31nm,1.1s
CHTO MLR MLR
comp=Z,2μm,18.0s
CHTO Chiang Mai 28.55 340 P **P** **21 50 29.1 -0.7**
CHTO Chiang Mai 28.55 340 IAMs_20 IAMs_20 22 03 25.7
comp=Z,2μm,18.0s
FORT Forrest 28.73 144 P **P** **21 50 31.3 0.0**
FORT IAmb IAmb 21 50 41.4
comp=Z,88nm,0.7s
SLVN Son La 29.70 350 P **P** **21 50 41.3 +1.3**
SLVN IAMs_20 IAMs_20 22 03 20.5
comp=Z,2μm,20.0s
GENI Genyem 31.49 82 P **P** **21 50 55.0 -0.9**
comp=Z,46nm,0.8s
QIS Mount Isa 32.05 116 P **P** **21 51 01.6 +0.8**
baz=32,SNR=23
PALK Pallekele 32.10 298 P **P** **21 51 03.2 +2.0**
comp=Z,58nm,0.6s,baz=214,slow=7.8,SNR=40
PALK LR LR 22 02 41.3
comp=Z,645nm,21.4s,baz=228,slow=34
PALK Pallekele 32.10 298 P **P** **21 51 02.6 +1.3**
PALK pmax pmax
comp=Z,190nm,1.3s
PALK Pallekele 32.10 298 P **P** **21 51 02.6 +1.3**
TWG Pinlang 32.94 21 P **P** **21 51 10.8 +2.4**
TWG IAmb IAmb 21 51 21.8
comp=Z,18nm,0.4s
TPUB Ta-pu 33.23 20 P **P** **21 51 13.2 +2.2**
YULB Yu-li 33.55 21 P **P** **21 51 15.0 +1.3**
KMI Kunming 33.60 350 ⇑P **P** **21 51 16.1 +1.7**
KMI pP pP 21 51 38.8 +3.9
KMI sP sP 21 51 48.5 +3.4
KMI PP **PP** **21 52 33.3 +1.1**
KMI S **S** **21 56 33.3 +2.5**
KMI ScS **ScS** **22 01 31.1 -0.5**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,90nm,6.0s
KMI LR LR
comp=Z,2μm,17.1s
KMI LR LR
comp=Z,1μm,18.2s
KMI LR LR
comp=Z,2μm,14.7s
SSLB Suanglung 33.79 20 P **P** **21 51 15.3 -0.6**
SSLB IAmb IAmb 21 51 23.7
comp=Z,34nm,0.8s
NACB Ninganchiao 34.37 21 P **P** **21 51 21.5 +0.6**
NACB IAMs_20 IAMs_20 22 02 16.8
comp=Z,820nm,19.0s
GYA Guiyang 34.45 356 ⇑P **P** **21 51 22.3 +0.7**
GYA pP pP 21 51 46.4 +4.3
GYA S **S** **21 56 44.5 +0.8**
YHNB Yeheng 34.75 20 P **P** **21 51 24.6 +0.4**
YHNB IAMs_20 IAMs_20 22 05 45.9
comp=Z,884nm,19.0s
TATO Taipei 35.07 20 P **P** **21 51 28.2 +1.4**
TATO IAmb IAmb 21 51 37.2
comp=Z,49nm,1.0s
YOJ Yonaguni jima 35.15 23 P **P** **21 51 28.2 +0.7**
YOJ pmax pmax
comp=Z,24nm,0.8s
YOJ Yonaguni jima 35.15 23 P **P** **21 51 28.2 +0.7**
YOJ IAmb IAmb 21 51 46.5
comp=Z,24nm,0.8s
H08S2 Diego Garcia H 36.16 268 P **P** **21 51 37.0 +0.9**
baz=67,slow=13,SNR=3.4
H08S2 T T 22 30 04.5
baz=93,slow=76,SNR=149
H08S3 Diego Garcia H 36.18 268 P **P** **21 51 35.3 -0.9**
baz=67,slow=13,SNR=2.5
H08S3 T T 22 29 37.9
baz=93,slow=76,SNR=146
H08S1 Diego Garcia H 36.18 268 P **P** **21 51 36.5 +0.2**
baz=67,slow=13,SNR=2.9
H08S1 T T 22 30 07.4
baz=93,slow=76,SNR=126
DGAR Diego Garcia 36.22 269 P **P** **21 51 35.7 -1.2**
DGAR pmax pmax
comp=Z,261nm,1.2s
DGAR Diego Garcia 36.22 269 P **P** **21 51 35.7 -1.2**
SHL Shillong 37.40 334 IAmb IAmb 21 51 46.4
comp=Z,34nm,0.7s
SHL Shillong 37.40 334 P **P** **21 51 45.9 -1.0**
SNR=8.6
PMG Port Moresby 37.72 95 P **P** **21 51 49.9 +0.3**
comp=Z,17nm,0.5s,baz=248,slow=6.4,SNR=5.2
PMG Port Moresby 37.72 95 P **P** **21 51 49.7 +0.1**
PMG IAmb IAmb 21 52 08.2
comp=Z,29nm,0.9s
CTA Charters Tower 37.94 112 P **P** **21 51 52.4 +1.0**
comp=Z,47nm,0.9s,baz=276,slow=12,SNR=28
CTA PcP **PcP** **21 54 04.7 -1.1**
comp=Z,16nm,0.5s,baz=247,slow=2.8,SNR=5.6
CTAO Charters Tower 37.94 112 P **P** **21 51 52.0 +0.6**
CTAO pmax pmax
comp=Z,44nm,0.9s
CTAO Charters Tower 37.94 112 P **P** **21 51 52.0 +0.6**
CTAO IAmb IAmb 21 52 05.7
comp=Z,44nm,0.9s
QLP Quilpie 38.12 123 P **P** **21 51 54.5 +1.6**
baz=38,SNR=14
STKA Stephens Creek 38.42 132 P **P** **21 51 55.8 +0.5**
comp=Z,102nm,0.7s,baz=313,slow=8.2,SNR=180
STKA PcP **PcP** **21 54 08.0 +0.9**
comp=Z,54nm,0.5s,baz=298,slow=2.9,SNR=5.4
STKA LR LR 22 09 51.1
comp=Z,1μm,18.5s,baz=294,slow=39
STKA Stephens Creek 38.42 132 P **P** **21 51 56.2 +0.9**
baz=38,SNR=155
STKA Stephens Creek 38.42 132 P **P** **21 51 55.0 -0.3**
MANU Manus Island 38.66 83 P **P** **21 51 57.9 +0.4**
WHN Wuhan 38.78 7 P **P** **21 52 02.3 +4.1**
WHN ScP **S** **21 57 49.3 0.0**
CD2 Chengdu 39.13 353 P **P** **21 52 00.9 -0.3**
CD2 sP sP 21 52 32.3 0.0
CD2 PP **PP** **21 53 33.3 +0.5**
CD2 S **S** **21 57 51.4 -3.3**
CD2 sS sS 21 58 32.3 +1.9
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 LR LR
comp=Z,1μm,14.4s
CD2 LR LR
comp=Z,1μm,17.2s
CD2 LR LR
comp=Z,1μm,14.5s
HYB Hyderabad 39.37 310 *i* P **P** **21 52 03.0 -0.4**
HYB *ep*P **pP** **21 52 17.5 -6.7**
JOW Kunigami 39.45 28 P **P** **21 52 04.5 +0.6**
JOW IAmb IAmb 21 52 14.0
comp=Z,104nm,1.3s
ODAN Odare 40.60 330 *eP* **P** **21 52 12.0 -1.7**
comp=Z,54nm,0.5s
SSE Sheshan 40.70 16 P **P** **21 52 16.9 +2.7**
SSE S **S** **21 58 23.8 +5.8**
SSE pmax pmax
comp=Z,130nm,4.2s
SSE LR LR
comp=Z,290nm,14.5s
SSE LR LR
comp=Z,170nm,14.1s
TAPN Taplejung 40.85 330 *eP* **P** **21 52 15.2 -0.7**
comp=Z,86nm,0.7s
NJ2 Nanjing 41.04 13 *eP* **P** **21 52 18.3 +1.4**

NJ2 pP **pP** **21 52 37.8 -0.1**
NJ2 sP **sP** **21 52 44.4 -3.6**
NJ2 S **S** **21 58 27.4 +4.4**
NJ2 sS **sS** **21 58 56.8 -2.0**
NJ2 SS **SS** **22 01 25.3 -3.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,330nm,4.7s
NJ2 LR LR
comp=Z,510nm,24.2s
NJ2 LR LR
comp=Z,730nm,22.3s
NJ2 LR LR
comp=Z,470nm,22.8s
RAMN Ramite 41.08 329 *eP* **P** **21 52 17.0 -0.7**
comp=Z,20nm,0.3s
ARPS Mount Arapiles 41.26 139 P **P** **21 52 19.9 +1.1**
baz=41,SNR=17
CMSA Cobar Meteorol 41.32 129 P **P** **21 52 20.7 +1.3**
baz=41,SNR=64
LSA Lhasa 41.34 336 P **P** **21 52 18.8 -1.2**
LSA pmax pmax
comp=Z,64nm,0.8s
LSA Lhasa 41.34 336 P **P** **21 52 18.6 -1.5**
LSA Lhasa 41.34 336 P **P** **21 52 19.7 -0.4**
LSA pmax pmax
comp=Z,38nm,0.7s
LSA Lhasa 41.34 336 P **P** **21 52 19.6 -0.4**
LSA IAmb IAmb 21 52 35.6
comp=Z,38nm,0.7s
GUMO Guam 41.63 59 LR LR 22 10 16.4
comp=Z,141nm,20.5s,baz=233,slow=37
GUMO Guam 41.63 59 P **P** **21 52 22.5 +0.5**
GUMO pmax pmax
comp=Z,151nm,1.2s
GUMO Guam 41.63 59 P **P** **21 52 22.5 +0.5**
GUMO IAmb IAmb 21 52 30.1
comp=Z,151nm,1.2s
JIRN Jiri 41.87 329 *eP* **P** **21 52 22.9 -1.3**
comp=Z,40nm,0.3s
RMQ Roma 41.88 121 P **P** **21 52 26.3 +2.2**
baz=42,SNR=4.5
XAN Xi'an 41.93 360 P **P** **21 52 23.8 -0.4**
XAN pP pP 21 52 42.8 -2.5
XAN PP **PnPn** **21 54 11.8 +2.9**
XAN ScP **ScP** **21 57 59.4 -1.4**
XAN S **S** **21 58 34.1 -2.1**
XAN ScS **ScS** **22 02 18.3 0.0**
XAN pmax pmax
comp=Z,31nm,0.9s
XAN pmax pmax
comp=Z,170nm,4.7s
XAN LR LR
comp=Z,730nm,24.9s
XAN LR LR
comp=Z,860nm,20.0s
XAN LR LR
comp=Z,1μm,21.6s
PKI Pulchoki 42.20 328 *eP* **P** **21 52 24.9 -2.0**
comp=Z,23nm,0.6s
KKN Kakani 42.44 328 *eP* **P** **21 52 27.0 -1.7**
comp=Z,76nm,1.0s
GKN Gorkha 42.95 328 *eP* **P** **21 52 31.0 -1.8**
comp=Z,56nm,0.5s
RABL Rabaul 43.07 87 P **P** **21 52 33.8 -0.1**
RABL IAmb IAmb 21 52 48.7
comp=Z,77nm,0.5s
KOLN Koldanda 43.33 326 *eP* **P** **21 52 34.2 -1.7**
comp=Z,110nm,0.8s
EIDS Eidsvold 43.56 118 P **P** **21 52 39.5 +1.9**
baz=44,SNR=3.5
EIDS Eidsvold 43.56 118 P **P** **21 52 37.8 +0.2**
DANN Dangsing 43.70 327 *eP* **P** **21 52 37.1 -1.8**
PYUN Piuthan 43.92 326 *eP* **P** **21 52 38.9 -1.7**
comp=Z,32nm,0.3s
TOO Toolangi 44.13 137 P **P** **21 52 44.3 +2.3**
baz=44,SNR=19
TOO Toolangi 44.13 137 P **P** **21 52 42.2 +0.1**
TOO pmax pmax
comp=Z,37nm,1.0s
TOO Toolangi 44.13 137 P **P** **21 52 42.2 +0.1**
LZH Lanzhou 44.24 354 ⇑P **P** **21 52 43.8 +0.8**
LZH PcP **PP** **21 54 28.0 +0.1**
LZH ScP **ScP** **21 58 12.3 +2.0**
LZH S **S** **21 59 10.1 -0.1**
LZH pmax pmax
comp=Z,44nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=Z,870nm,17.9s
LZH LR LR
comp=Z,870nm,18.4s
LZH LR LR
comp=Z,620nm,16.3s
JSU Suzuyama 44.43 26 P **P** **21 52 45.7 +1.3**
JSU IAmb IAmb 21 52 46.7
comp=Z,57nm,1.4s
YNG Young 44.59 132 P **P** **21 52 47.2 +1.5**
baz=45,SNR=12
TIA Tai'an 44.75 9 *eP* **P** **21 52 45.8 -1.1**
TIA S **S** **21 59 09.3 -8.0**
TIA pmax pmax
comp=Z,13nm,1.1s
TIA LR LR
comp=Z,410nm,23.9s
TIA LR LR
comp=Z,290nm,15.7s
TIA LR LR
comp=Z,840nm,20.1s
ARMA Armidale 45.57 125 P **P** **21 52 53.5 -0.2**
CNB Canberra Magne 45.75 132 P **P** **21 52 56.4 +1.5**
baz=46,SNR=5.9
JNU Nakatsue 45.99 26 ScP **ScP** **21 58 17.7 +0.3**
comp=Z,19nm,0.9s,baz=107,slow=4.8,SNR=6.4
JNU Nakatsue 45.99 26 P **P** **21 52 57.0 +0.3**
JNU IAmb IAmb 21 53 05.7
comp=Z,50nm,1.4s
JCJ Chichijima 47.53 41 P **P** **21 53 09.6 +0.7**
JCJ IAmb IAmb 21 53 25.3
comp=Z,74nm,1.0s
GTA Gaotai 48.05 350 ⇓P **P** **21 53 13.3 +0.5**
GTA pP sP 21 53 40.4 -3.9
GTA PP **PP** **21 55 07.3 +1.4**
GTA ScP **ScP** **21 58 26.5 +0.4**
GTA S **S** **22 00 04.6 -0.1**
GTA sS sS 22 00 38.8 -2.5
GTA ScS **ScS** **22 02 54.6 -2.9**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,470nm,17.1s
GTA LR LR
comp=Z,750nm,17.5s
GTA LR LR
comp=Z,500nm,21.4s
TAU Tasmania Unive 48.24 142 P **P** **21 53 14.9 +0.8**
TAU pmax pmax
comp=Z,32nm,0.8s
TAU Tasmania Unive 48.24 142 P **P** **21 53 14.9 +0.8**
TAU IAmb IAmb 21 53 16.7
comp=Z,32nm,0.8s
INCN Inchon 48.27 19 P **P** **21 53 16.6 +2.2**
INCN pmax pmax
comp=Z,20nm,1.1s
INCN Inchon 48.27 19 P **P** **21 53 16.6 +2.2**
BJT Baijiatuau 48.35 7 IAMs_20 IAMs_20 22 11 34.6
comp=Z,659nm,22.0s
BJI Beijing 48.37 7 P **P** **21 53 15.0 -0.1**
BJI sP **sP** **21 53 46.3 -0.3**
BJI S **S** **22 00 11.0 +2.1**
BJI pmax pmax
comp=Z,22nm,0.9s
BJI pmax pmax
comp=Z,230nm,7.7s
BJI LR LR
comp=Z,500nm,19.1s
BJI LR LR
comp=Z,290nm,18.7s
BJI LR LR
comp=Z,880nm,21.9s
BTO Baotou 48.49 1 *eP* **P** **21 53 17.3 +1.2**
BTO S **S** **22 00 11.9 +1.1**

BTO pmax pmax
comp=Z,71nm,1.2s
BTO pmax pmax
comp=Z,340nm,4.6s
BTO LR LR
comp=Z,2μm,20.4s
BTO LR LR
comp=Z,2μm,18.3s
JHS Saijyo 48.56 27 IAmb IAmb 21 53 21.4
comp=Z,27nm,0.7s
KSAR Wonju Array Be 48.65 20 P **P** **21 53 17.3 +0.1**
KSAR Wonju Array Be 48.65 20 P **P** **21 53 17.3 +0.1**
KSRS Korea Array 48.67 20 P **P** **21 53 16.0 -1.4**
comp=Z,3.6nm,0.8s,baz=201,slow=8.0,SNR=11
KSRS ScP **ScP** **21 58 28.9 +0.4**
comp=Z,4.3nm,0.7s,baz=203,slow=4.2,SNR=7.8
KSRS LR LR 22 14 38.2
comp=Z,236nm,21.4s,baz=212,slow=37
KS19 Wonju Array Si 48.69 20 P **P** **21 53 19.0 +1.4**
HHC Hu-ho-hao-te 48.78 3 *eP* P 21 53 24.5 +6.1
HHC S **S** **22 00 23.3 +8.4**
HHC sS sS 22 00 55.8 +4.2
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,83nm,5.2s
HHC LR LR
comp=Z,410nm,13.6s
HHC LR LR
comp=Z,820nm,14.2s
HHC LR LR
comp=Z,640nm,14.1s
JWT Wachi 49.84 28 P **P** **21 53 25.6 -0.8**
JWT IAmb IAmb 21 53 38.4
comp=Z,23nm,0.7s
HNR Honiara 50.33 96 LR LR 22 16 42.6
comp=Z,91nm,18.2s,baz=274,slow=38
INU Inuyama 50.67 30 P **P** **21 53 32.7 0.0**
JGF Kuroka 51.04 30 **P** **21 53 36.5 +1.0**
SNY Shenyang 51.47 14 ⇓P **P** **21 53 35.9 -2.6**
SNY pmax pmax
comp=Z,6.0nm,0.8s
SNY LR LR
comp=Z,310nm,15.9s
SNY LR LR
comp=Z,230nm,13.7s
SNY LR LR
comp=Z,490nm,17.5s
MAJO Matsushiro 52.20 30 *i* P **P** **21 53 41.6 -2.5**
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO Matsushiro 52.20 30 P **P** **21 53 42.6 -1.5**
MAJO IAmb IAmb 21 53 48.7
comp=Z,21nm,0.8s
MAJO PcP **PcP** **21 54 55.6 +0.9**
MAT Matsushiro 52.20 30 P **P** **21 53 41.9 -2.2**
MAT S **S** **22 01 09.2 +6.9**
MJAR Matsushiro Arr 52.20 30 P **P** **21 53 42.1 -2.0**
comp=Z,7.2nm,0.6s,baz=196,slow=7.5,SNR=38
MJAR PcP **PcP** **21 54 56.1 +1.4**
comp=Z,18nm,1.0s,baz=174,slow=4.2,SNR=6.6
MJAR ScP **ScP** **21 58 44.2 +0.3**
comp=Z,9.1nm,0.8s,baz=202,slow=5.2,SNR=11
MJAR LR LR 22 17 33.3
comp=Z,220nm,18.6s,baz=230,slow=38
MJAR Matsushiro Arr 52.20 30 P **P** **21 53 41.6 -2.5**
MJAR 21 54 55.6
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 52.20 30 P **P** **21 53 41.6 -2.5**
MJAR PcP **PcP** **21 54 55.6 +1.0**
MJB9 Matsu-Tunnel 52.21 30 P **P** **21 53 42.6 -1.5**
MJB9 IAmb IAmb 21 53 48.7
comp=Z,24nm,0.8s
MJB9 PcP **PcP** **21 54 55.1 +0.5**
RER Riviere de l'E 52.90 250 P **P** **21 53 49.3 -0.4**
MSEY Mahe Island 53.28 270 P **P** **21 53 51.2 -1.3**
MSEY pmax pmax
comp=Z,39nm,1.1s
MSEY Mahe Island 53.28 270 P **P** **21 53 51.2 -1.3**
MSEY IAmb IAmb 21 53 58.3
comp=Z,39nm,1.1s
JSD Sado 53.42 29 P **P** **21 53 52.2 -0.8**
JSD IAmb IAmb 21 54 04.3
comp=Z,38nm,0.8s
NIL Nilore 53.64 323 IAMs_20 IAMs_20 22 16 23.2
comp=Z,494nm,22.0s
CN2 Changchun 53.79 15 *eP* **P** **21 53 54.1 -1.5**
CN2 pP sP 21 54 23.1 -4.2
CN2 sP pP 21 54 29.9 +12
CN2 PcP **PcP** **21 54 56.0 -4.4**
CN2 S **S** **22 01 21.1 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,400nm,20.0s
JMM Marumori 54.53 31 P **P** **21 53 59.7 -1.4**
JMM IAmb IAmb 21 54 03.1
comp=Z,33nm,0.8s
WMQ Urumqi 55.19 341 *eP* **P** **21 54 06.8 +0.9**
WMQ pP sP 21 54 34.0 -3.7
WMQ PcP **PcP** **21 55 08.3 +2.4**
WMQ ScP **ScP** **21 58 58.8 +2.0**
WMQ S **S** **22 01 41.0 -1.5**
WMQ ScS **ScS** **22 03 47.1 +0.4**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,78nm,3.7s
WMQ LR LR
comp=Z,500nm,21.7s
WMQ LR LR
comp=Z,800nm,22.7s
WMQ LR LR
comp=Z,760nm,21.7s
MDJ Mudanjiang 55.69 18 P **P** **21 54 11.3 +2.0**
MDJ S **S** **22 01 55.5 +6.6**
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,92nm,4.8s
MDJ LR LR
comp=Z,290nm,15.7s
MDJ LR LR
comp=Z,150nm,8.8s
MDJ LR LR
comp=Z,450nm,22.8s
MDJ Mudanjiang 55.69 18 **P** **21 54 08.8 -0.5**
SONM Songino Array 55.76 358 P **P** **21 54 09.4 -0.5**
comp=Z,8.2nm,0.6s,baz=176,slow=8.2,SNR=32
SONM ScP **ScP** **21 58 58.9 -0.4**
comp=Z,8.5nm,0.7s,baz=172,slow=4.2,SNR=12
SONM LR LR 22 20 23.0
comp=Z,488nm,20.3s,baz=176,slow=39
SONM Songino Array 55.76 358 P **P** **21 54 09.6 -0.3**
SONM pmax pmax
comp=Z,40nm,1.4s
SONM Songino Array 55.76 358 P **P** **21 54 09.6 -0.3**
SONM IAmb IAmb 21 54 14.2
comp=Z,40nm,1.4s
ULN Ulaanbaatar 55.77 358 P **P** **21 54 09.6 -0.4**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN MLR MLR
comp=Z,600nm,19.0s
ULN Ulaanbaatar 55.77 358 P **P** **21 54 09.6 -0.4**
ULN Ulaanbaatar 55.77 358 IAMs_20 IAMs_20 22 20 00.5
comp=Z,567nm,19.0s
ULN Ulaanbaatar 55.77 358 P **P** **21 54 09.9 -0.1**
USA0B Ussuriysk Arra 56.07 20 P **P** **21 54 11.5 -0.5**
USA0B pmax pmax
comp=Z,29nm,1.4s
USA0B Ussuriysk Arra 56.07 20 P **P** **21 54 11.5 -0.5**
USRK Ussuriysk Ar. 56.07 20 P **P** **21 54 10.3 -1.7**
comp=Z,12nm,1.0s,baz=201,slow=7.0,SNR=14
USRK PP **PP** **21 56 15.9 -2.2**
comp=Z,9.3nm,0.7s,baz=201,slow=4.6,SNR=2.9
USRK S **S** **22 01 50.2 -3.8**
comp=Z,1.3nm,0.6s,baz=148,slow=40,SNR=1.4
USRK LR LR 22 20 25.3

comp=Z,290nm,19.6s,baz=200,slow=38
USRK Ussuriysk Ar. 56.07 20 P **P 21 54 11.1 -1.0**
USRK Ussuriysk Ar. 56.07 20 P **P 21 54 11.1 -1.0**
DZM Mont Dzumac 56.86 111 *e*P **P 21 54 19.0 +0.8**
comp=Z,67nm,1.2s
DZM Mont Dzumac 56.86 111 *e*LR LR 22 11 05.1
comp=Z,2μm,34.9s
DZM Mont Dzumac 56.86 111 P **P 21 54 18.4 +0.1**
DZM IAmb IAmb 21 54 20.4
comp=Z,25nm,1.0s
ONTNC Ouen Toro 56.88 111 P **P 21 54 18.3 0.0**
ONTNC IAmb IAmb 21 54 37.3
comp=Z,37nm,1.0s
JTM Tenmabayashi 56.92 29 IAmb IAmb 21 54 18.6
comp=Z,35nm,0.6s
JLN Jalan Bani Buh 57.16 303 P **P 21 54 21.1 +0.9**
OUENC Ouen Island, N 57.25 111 P **P 21 54 20.6 -0.3**
OUENC IAmb IAmb 21 54 23.4
comp=Z,31nm,1.0s
TARG Taragay, Kyrgy 57.26 333 IAmb IAmb 21 54 38.5
comp=Z,29nm,0.9s
SANVU Saraoutou 57.29 103 P **P 21 54 21.8 +0.5**
PRZ Przheval'sk 57.59 334 P **P 21 54 24.9 +1.8**
PRZ pmax pmax
comp=Z,37nm,0.8s
PRZ Przheval'sk 57.59 334 P **P 21 54 24.9 +1.8**
PRZ IAmb IAmb 21 54 33.0
comp=Z,37nm,0.8s
SHLS Shalkode 57.68 335 *e*P **P 21 54 21.2 -2.4**
comp=Z,14nm,0.7s,baz=335
SHLS *e*S **S 22 02 10.3 -5.2**
baz=335
SHLS Shalkode 57.68 335 *e*P **P 21 54 21.2 -2.4**
SHLS *e*S **S 22 02 10.3 -5.2**
SHLS pmax pmax
comp=Z,14nm,0.7s
WBK Wadi Bani Khal 57.73 303 P **P 21 54 25.3 +1.1**
SNR=6.4
DQM DQM 57.81 300 P **P 21 54 25.8 +1.0**
PINNC Pines Island, 57.83 112 P **P 21 54 25.9 +1.0**
UZB Uzynbulak 57.86 334 *e*P **P 21 54 23.4 -1.6**
comp=Z,8.7nm,0.7s,baz=335
UZB *i*S **S 22 02 14.3 -3.7**
baz=335
UZB Uzynbulak 57.86 334 *e*P **P 21 54 23.3 -1.6**
UZB *i*S **S 22 02 14.2 -3.7**
UZB pmax pmax
comp=Z,9.0nm,0.7s
MHTO MHTO 57.87 301 P **P 21 54 25.5 +0.3**
HIA Hailar 57.91 8 P **P 21 54 26.4 +1.4**
HIA pmax pmax
comp=Z,8.0nm,0.4s
HIA Hailar 57.91 8 P **P 21 54 26.4 +1.4**
SATY Saty 58.05 334 *e*P **P 21 54 24.6 -1.6**
comp=Z,10nm,0.9s,baz=334
SATY *e*S **S 22 02 16.5 -3.9**
baz=334
SATY Saty 58.05 334 *e*P **P 21 54 24.6 -1.6**
SATY *e*S **S 22 02 16.5 -3.9**
SATY pmax pmax
comp=Z,10.0nm,0.9s
CASY Casey 58.08 179 P **P 21 54 26.3 +0.4**
CASY IAmb IAmb 21 54 26.9
comp=Z,33nm,0.8s
KPKS Kokpek 58.26 334 *e*P **P 21 54 25.8 -1.8**
comp=Z,11nm,0.7s,baz=334
KPKS *i*S **S 22 02 19.6 -3.5**
baz=334
KPKS Kokpek 58.26 334 *e*P **P 21 54 25.8 -1.8**
KPKS *i*S **S 22 02 19.5 -3.5**
KPKS pmax pmax
comp=Z,11nm,0.7s
WSAR Wadi Sarin 58.28 304 LR LR 22 19 43.0
comp=Z,189nm,20.5s,baz=120,slow=36
WSAR Wadi Sarin 58.28 304 P **P 21 54 29.3 +1.2**
SNR=8.5
MARNC Mare, Loyalty 58.28 110 P **P 21 54 28.8 +0.7**
JMDO Jabal Madar 58.34 302 P **P 21 54 29.3 +0.8**
ZAK Zakamensk 58.47 356 *e*P **P 21 54 27.9 -1.1**
ZAK *e* 22 04 06.0
ZAK pmax pmax
comp=Z,16nm,1.3s
SMDO Samad 58.68 303 P **P 21 54 32.0 +1.0**
SNR=12
BOOM Boomskoye usch 58.72 332 P **P 21 54 30.4 -0.5**
BOOM pmax pmax
comp=Z,14nm,0.7s
BOOM Boomskoye usch 58.72 332 P **P 21 54 30.4 -0.5**
BOOM IAmb IAmb 21 54 40.2
comp=Z,14nm,0.7s
MDOK Medeo 58.73 333 *e*P **P 21 54 29.9 -1.2**
baz=333
MDOK *e*S **S 22 02 26.4 -2.9**
baz=333
MDOK Medeo 58.73 333 *e*P **P 21 54 29.8 -1.2**
MDOK *e*S **S 22 02 26.4 -2.9**
BIDO Bidbid 58.82 304 P **P 21 54 32.9 +1.1**
SNR=16
AAA Alma-Ata 58.83 333 *e*P **P 21 54 31.1 -0.5**
baz=333
AAA Alma-Ata 58.83 333 *e*P **P 21 54 31.1 -0.5**
ERM Erimo 58.87 29 P **P 21 54 31.3 -0.4**
ERM pmax pmax
comp=Z,15nm,0.9s
ERM Erimo 58.87 29 P **P 21 54 31.3 -0.4**
ARXS Arharly 59.23 334 *e*P **P 21 54 32.9 -1.4**
DMTO DMTO 59.24 296 P **P 21 54 35.6 +0.8**
BSY Bisya 59.26 302 P **P 21 54 36.0 +1.1**
SNR=8.1
CHKK Chushkaly 59.31 334 *e*P **P 21 54 32.8 -2.1**
baz=334
CHKK Chushkaly 59.31 334 *e*P **P 21 54 32.7 -2.1**
ZSN Zaisan 59.33 341 *e*P **P 21 54 33.8 -1.1**
comp=Z,11nm,0.7s,baz=341
ZSN *e*S **S 22 02 33.4 -3.1**
baz=341
ZSN Zaisan 59.33 341 *e*P **P 21 54 33.7 -1.1**
ZSN *e*S **S 22 02 33.4 -3.1**
ZSN pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 59.52 331 *ce*P **P 21 54 32.5 -3.9**
AAK pmax pmax
comp=Z,12nm,0.5s
AAK Ala-Archa 59.52 331 IAMs_20 IAMs_20 22 22 03.4
comp=Z,500nm,22.0s
HOQ Hoqain 59.52 303 P **P 21 54 37.7 +1.0**
SNR=13
FRU1 Bishkek 59.58 331 IAmb IAmb 21 54 45.3
comp=Z,27nm,0.7s
TDK Taldyqorghan 59.62 335 *e*P **P 21 54 35.0 -2.0**
baz=335
TDK Taldyqorghan 59.62 335 *e*P **P 21 54 34.9 -2.0**
MK31 Makanchi Array 59.62 339 P **P 21 54 36.4 -0.5**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 59.62 339 P **P 21 54 36.4 -0.5**
MK31 IAmb IAmb 21 54 53.9
comp=Z,15nm,0.7s
MKAR Makanchi Array 59.62 339 P **P 21 54 35.7 -1.2**
comp=Z,17nm,0.4s,baz=152,slow=8.0,SNR=202
MKAR ScP **ScP 21 59 16.9 +0.6**
comp=Z,4.5nm,0.8s,baz=131,slow=6.6,SNR=4.8
MKAR S **S 22 02 38.1 -2.3**
comp=Z,2.3nm,0.8s,baz=149,slow=14,SNR=7.9
MKAR ScS **ScS 22 04 16.5 -2.4**
comp=Z,2.2nm,0.8s,baz=132,slow=8.0,SNR=5.6
MKAR LR LR 22 23 45.6
comp=Z,268nm,18.8s,baz=140,slow=39
MKAR PKPPKP **P'P'df 22 24 05.3 +1.6**
comp=Z,0.5nm,0.8s,baz=332,slow=2.1,SNR=3.0
KUU Kurty 59.63 333 *e*P **P 21 54 35.1 -1.9**
comp=Z,38nm,1.0s,baz=333
KUU *e*S **S 22 02 36.5 -4.2**
baz=333
KUU Kurty 59.63 333 *e*P **P 21 54 35.1 -1.9**
KUU *e*S **S 22 02 36.4 -4.2**
KUU pmax pmax
comp=Z,38nm,1.0s
MAKZ Makanchi 59.75 339 P **P 21 54 36.5 -1.3**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ MLR MLR
comp=Z,300nm,21.0s
MAKZ Makanchi 59.75 339 P **P 21 54 36.5 -1.3**
MAKZ IAMs_20 IAMs_20 22 22 53.8
comp=Z,343nm,21.0s

RBK Rabkut 59.83 296 P **P 21 54 39.3 +0.4**
MOY Mondy 59.95 354 *e*P **P 21 54 39.3 +0.2**
MOY pmax pmax
comp=Z,28nm,1.7s
SGDS Sogindy 60.07 332 *e*P **P 21 54 38.5 -1.7**
comp=Z,7.2nm,1.2s,baz=332
SGDS Sogindy 60.07 332 *e*P **P 21 54 38.4 -1.7**
SGDS pmax pmax
comp=Z,7.0nm,1.2s
ARQ Araqi 60.07 303 P **P 21 54 41.2 +0.7**
ASAJ Asahikawa 60.22 27 P **P 21 54 39.6 -1.4**
comp=Z,20nm,0.6s,baz=157,slow=8.4,SNR=27
JKA Kamikawa-asahi 60.22 27 IAmb IAmb 21 54 42.1
comp=Z,19nm,0.7s
IRK Irkutsk 60.26 357 *e*P **P 21 54 42.8 +1.7**
IRK pmax pmax
comp=Z,24nm,1.6s
DOK Doka 60.29 297 P **P 21 54 42.4 +0.4**
WHFO Wadi Hawf 60.36 296 P **P 21 54 42.8 +0.3**
SOHO SOHO 60.40 304 *i*P **P 21 54 43.2 +0.6**
SNR=16
SOHO SOHO 60.40 304 P **P 21 54 43.3 +0.7**
KLR Kul'dur 60.49 17 P **P 21 54 41.2 -1.5**
comp=Z,11nm,0.6s,baz=207,slow=5.5,SNR=34
KLR Kul'dur 60.49 17 *ce*P **P 21 54 41.4 -1.3**
KLR pmax pmax
comp=Z,25nm,1.1s
ABTO Aybut 60.59 295 P **P 21 54 44.9 +0.8**
DGZ Jazzator, Alta 60.59 344 *d*iP **P 21 54 43.1 -0.5**
DGZ pmax pmax
comp=Z,29nm,0.6s
ABPO Ambohimpanom 60.77 253 P **P 21 54 45.4 -0.1**
ABPO pmax pmax
comp=Z,124nm,1.4s
ABPO Ambohimpanom 60.77 253 P **P 21 54 45.4 -0.1**
OPO Ambohidratompo 60.79 253 P **P 21 54 47.6 +2.0**
comp=Z,30nm,0.7s,baz=90,slow=7.0
ALNE Al Ain 61.02 303 *i*P **P 21 54 47.1 +0.3**
SNR=18
ALNE Al Ain 61.02 303 P **P 21 54 47.8 +1.0**
SNR=9.4
UOSS Minazif 61.02 304 *i*P **P 21 54 47.1 +0.3**
SNR=9.0
UOSS Minazif 61.02 304 P **P 21 54 47.2 +0.3**
UOSS Minazif 61.02 304 P **P 21 54 47.3 +0.4**
ASHO Ashiyiah 61.03 304 *i*P **P 21 54 47.0 0.0**
SNR=12
ASHO Ashiyiah 61.03 304 P **P 21 54 47.7 +0.8**
ASHO P **P 21 54 50.1 +3.2**
SNR=5.4
HATD Hatta, Dubai 61.03 304 *i*P **P 21 54 47.4 +0.4**
SNR=17
HATD Hatta, Dubai 61.03 304 P **P 21 54 47.9 +0.9**
HATD P **P 21 54 50.0 +3.0**
SNR=6.9
MDH Madha 61.09 305 *i*P **P 21 54 46.9 -0.4**
SNR=5.9
MDH Madha 61.09 305 P **P 21 54 47.0 -0.4**
HRA Herat 61.18 317 P **P 21 54 47.0 -1.0**
MSFE Esma-Masafi 61.23 305 *i*P **P 21 54 49.1 +0.8**
SNR=9.5
MASF Masafi 61.24 305 P **P 21 54 49.4 +1.1**
VOI Vohitsoka 61.27 250 P **P 21 54 49.2 +0.4**
VOI Vohitsoka 61.27 250 P **P 21 54 51.1 +2.3**
SNR=9.3
BANOM Banah 61.37 305 P **P 21 54 49.6 +0.4**
FAQ Al Faqa, Dubai 61.44 304 *i*P **P 21 54 50.1 +0.4**
SNR=30
FAQ Al Faqa, Dubai 61.44 304 P **P 21 54 50.6 +0.9**
SNR=13
NAZ Nazwa, Dubai 61.48 304 *i*P **P 21 54 50.1 +0.1**
SNR=20
NAZ Nazwa, Dubai 61.48 304 P **P 21 54 51.5 +1.5**
SNR=9.1
SHME Shamm 61.55 305 *i*P **P 21 54 51.2 +0.8**
SNR=7.4
SHME Shamm 61.55 305 P **P 21 54 51.1 +0.7**
BTLS Baital 61.55 332 *e*P **P 21 54 48.0 -2.1**
baz=333
BTLS Baital 61.55 332 *e*P **P 21 54 47.9 -2.1**
ASUD Al Ashush, Dub 61.60 304 *i*P **P 21 54 50.7 0.0**
SNR=19
ASUD Al Ashush, Dub 61.60 304 P **P 21 54 51.8 +1.0**
SNR=5.7
CRZF Crozet Islands 61.78 221 P **P 21 54 51.3 -0.3**
KK31 Karatay Array 61.84 329 P **P 21 54 52.5 +0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 61.84 329 P **P 21 54 52.5 +0.5**
KKAR Karatay Array 61.84 329 P **P 21 54 51.6 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 61.84 329 P **P 21 54 52.4 +0.4**
KKAR Karatay Array 61.84 329 P **P 21 54 51.6 -0.4**
AJN Ajban 61.86 303 P **P 21 54 53.0 +0.5**
YSS Yuzh-Sakhalins 62.50 25 *e*P **P 21 54 55.4 -0.9**
YSS *e* 21 55 19.3
YSS *e**SP **PcP 21 55 32.8 -2.0**
YSS *e* 21 57 10.3
YSS *e*S **S 22 03 10.0 -6.8**
YSS MLR MLR
comp=Z,200nm,18.0s
YSS Yuzh-Sakhalins 62.50 25 P **P 21 54 55.7 -0.6**
YSS IAmb IAmb 21 55 00.9
comp=Z,54nm,1.1s
MLZ Mavora Lakes 62.75 137 P **P 21 54 58.5 +0.4**
MLZ IAmb IAmb 21 55 00.4
comp=Z,48nm,1.0s
WKZ Wanaka 63.21 136 P **P 21 55 02.3 +1.0**
WKZ IAmb IAmb 21 55 06.2
comp=Z,91nm,1.3s
GHWR Ruwais 63.38 302 P **P 21 55 03.3 +0.7**
SEM Semipalatinsk 63.41 340 *e*P **P 21 55 00.9 -1.7**
comp=Z,5.4nm,0.2s,baz=340
SEM Semipalatinsk 63.41 340 *e*P **P 21 55 00.9 -1.7**
SEM pmax pmax
comp=Z,5.0nm,0.2s
ZEA Zeya 63.53 12 *e*P **P 21 55 02.6 -0.4**
ZEA *e**PP **pP 21 55 26.7 +1.3**
ZEA *e*S **S 22 03 26.7 -2.7**
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=Z,100nm,6.7s
ZEA smax smax
comp=N,100nm,9.2s
ZEA MLR MLR
comp=N,100nm,14.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
JRN Qarnain Island 63.79 303 P **P 21 55 05.8 +0.5**
LBZ Lake Benmore 63.89 136 P **P 21 55 04.9 -0.8**
LBZ IAmb IAmb 21 55 06.8
comp=Z,28nm,1.0s
KURBB Kurchatov Arra 64.19 339 ScP 21 59 37.2
comp=Z,6.0nm,1.0s,baz=155,slow=3.8,SNR=6.1
KURBB S **S 22 03 35.9 -1.9**
comp=Z,3.0nm,1.1s,baz=126,slow=20,SNR=6.0
KURBB PKPPKP 22 23 57.2
comp=Z,0.4nm,0.3s,baz=314,slow=3.5,SNR=1.6
RPZ Rata Peaks 64.33 135 P **P 21 55 08.7 +0.1**
RPZ IAmb IAmb 21 55 10.6
comp=Z,81nm,1.1s
TARA Tarawa 64.41 85 P **P 21 55 10.0 +0.4**
SLWR Sila 64.42 301 P **P 21 55 10.1 +0.6**
OUZ Omahuta 64.63 125 P **P 21 55 11.3 +0.7**
QRZ Quartz Range 64.76 131 P **P 21 55 12.2 +0.8**
QRZ IAmb IAmb 21 55 14.0
comp=Z,64nm,0.9s
OXZ Oxford 64.94 134 P **P 21 55 12.2 -0.3**
OXZ IAmb IAmb 21 55 13.8
comp=Z,30nm,0.6s
LTZ Lake Taylor 64.98 133 P **P 21 55 12.8 -0.1**
LTZ IAmb IAmb 21 55 21.2
comp=Z,62nm,1.4s
TRNA Turayna 65.08 302 P **P 21 55 14.2 +0.5**
ZALV Zalesovo Beam 65.12 345 P **P 21 55 11.8 -1.5**
comp=Z,17nm,0.3s,baz=154,slow=6.1,SNR=96
ZALV S **S 22 03 43.5 -5.6**
comp=Z,1.1nm,0.6s,baz=143,slow=5.2,SNR=3.5
ZALV ScS **SKSac 22 04 50.2 -10**
comp=Z,3.6nm,0.8s,baz=140,slow=9.4,SNR=2.5
ZALV PKPPKP **P'P'df 22 23 54.4 -0.1**

comp=Z,3.3nm,1.0s,baz=343,slow=2.0,SNR=7.9
ZALV LR LR 22 26 03.4
comp=Z,240nm,18.5s,baz=146,slow=38
KHOR Al-Khor Airpor 65.17 303 P **P 21 55 15.3 +1.1**
THZ Tophouse 65.23 132 P **P 21 55 15.1 +0.6**
THZ IAmb IAmb 21 55 16.5
comp=Z,56nm,0.8s
SHMA Al-Shehemyia 65.71 303 P **P 21 55 18.5 +0.7**
KHZ Kahutara 65.82 133 P **P 21 55 17.8 -0.5**
KHZ IAmb IAmb 21 55 19.7
comp=Z,32nm,0.9s
BOD Bodaibo 65.84 3 *e*P **P 21 55 16.9 -1.0**
BOD pmax pmax
comp=Z,22nm,1.1s
GEYT Alibeck 65.92 318 P **P 21 55 18.6 -0.3**
comp=Z,50nm,0.8s,baz=178,slow=10,SNR=74
GEYT LR LR 22 26 48.6
comp=Z,176nm,19.8s,baz=65,slow=38
GYA0B ALIBECK ARRAY 65.92 318 IAmb IAmb 21 55 20.1
comp=Z,64nm,0.9s
SAKB Bahrain 66.11 303 P **P 21 55 20.6 +0.2**
SNZO South Karori 66.47 132 IAMs_20 IAMs_20 22 21 31.9
comp=Z,1μm,21.0s
MAW Mawson 66.89 197 P **P 21 55 26.1 +1.5**
comp=Z,89nm,0.6s,baz=56,slow=6.1,SNR=133
MAW LR LR 22 19 34.1
comp=Z,218nm,20.3s,baz=52,slow=31
MAW PKP2bc 22 23 56.7
comp=Z,2.9nm,0.9s,baz=280,slow=6.1,SNR=3.6
MAW Mawson 66.89 197 P **P 21 55 26.1 +1.5**
baz=67,SNR=95
MAW Mawson 66.89 197 P **P 21 55 26.0 +1.5**
MAW pmax pmax
comp=Z,22nm,0.7s
MAW Mawson 66.89 197 P **P 21 55 26.0 +1.5**
MAW IAmb IAmb 21 55 26.7
comp=Z,22nm,0.7s
MSWZ Moikau Station 66.89 132 P **P 21 55 24.9 -0.3**
PLWZ Palliser 66.92 132 P **P 21 55 24.9 -0.5**
BFZ Birch Farm 67.52 131 P **P 21 55 28.7 -0.4**
BFZ IAmb IAmb 21 55 31.1
comp=Z,87nm,1.3s
MSVF Nonsavu 67.67 106 P **P 21 55 30.9 +0.4**
comp=Z,21nm,0.6s,baz=257,slow=10,SNR=3.9
MSVF Nonsavu 67.67 106 P **P 21 55 30.8 +0.3**
MSVF pmax pmax
comp=Z,28nm,0.6s
MSVF Nonsavu 67.67 106 P **P 21 55 30.8 +0.3**
MSVF IAmb IAmb 21 55 32.4
comp=Z,28nm,0.6s
URZ Urewera 67.84 128 IAmb IAmb 21 55 47.9
comp=Z,26nm,0.9s
ATD Arta Tunnel 68.63 286 P **P 21 55 38.1 +1.5**
comp=Z,13nm,0.8s,baz=92,slow=17,SNR=4.5
ATD Arta Tunnel 68.63 286 IAmb IAmb 21 55 40.0
comp=Z,48nm,1.4s
ATD Arta Tunnel 68.63 286 P **P 21 55 38.0 +1.5**
MXZ Matakaoa Point 68.70 127 P **P 21 55 35.8 -0.8**
BVAR Borovoye Array 69.18 336 S **S 22 04 35.0 -2.9**
comp=Z,1.8nm,0.7s,baz=144,slow=26,SNR=8.7
BRVK Borovoye 69.25 336 *ce*P **P 21 55 38.0 -1.5**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 69.25 336 IAMs_20 IAMs_20 22 28 27.0
comp=Z,643nm,22.0s
BRVK Borovoye 69.25 336 P **P 21 55 38.9 -0.7**
KIBK Kibwezi 70.83 270 P **P 21 55 50.7 +0.5**
KIBK IAmb IAmb 21 55 52.7
comp=Z,24nm,0.7s
KIBK IAMs_20 IAMs_20 22 20 43.2
comp=Z,484nm,20.0s
KIBK Kibwezi 70.83 270 P **P 21 55 52.2 +2.1**
SNR=6.0
YAK Yakutsk 71.76 10 P **P 21 55 53.4 -1.2**
comp=Z,50nm,0.7s,baz=156,slow=0.3,SNR=35
YAK Yakutsk 71.76 10 *e*P **P 21 55 53.6 -1.0**
YAK *e* 21 56 12.8
YAK *e*PPP PPP 22 00 18.0
YAK *e*S **S 22 04 59.7 -7.8**
YAK *e**SS **sS 22 05 45.9 -1.2**
YAK *e*SS **SS 22 09 49.7 +4.3**
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=N,19nm,1.4s
YAK pmax pmax
comp=E,25nm,1.4s
YAK smax smax
comp=E,147nm,1.5s
YAK smax smax
comp=N,148nm,1.8s
YAK Yakutsk 71.76 10 P **P 21 55 53.6 -1.0**
KMBO Kilima Mbogo 71.78 271 P **P 21 55 58.0 +1.9**
comp=N,17nm,1.0s,baz=71,slow=8.2,SNR=37
KMBO LR LR 22 21 38.2
comp=N,463nm,21.6s,baz=99,slow=31
FURI Furi 72.08 282 IAMs_20 IAMs_20 22 22 13.2
comp=Z,587nm,21.0s
AKTO Aktyubinsk 73.10 329 LR LR 22 32 51.8
comp=Z,324nm,20.6s,baz=131,slow=40
PEA0B Petropavlovsk- 73.61 28 *ce*P **P 21 56 06.7 +0.9**
PETK Petropavlovsk- 73.61 28 P **P 21 56 04.7 -1.1**
comp=Z,4.6nm,0.5s,baz=169,slow=1.5,SNR=16
PETK LR LR 22 27 48.3
comp=Z,82nm,21.9s,baz=233,slow=35
PETK Petropavlovsk- 73.61 28 P **P 21 56 05.2 -0.7**
PETK Petropavlovsk- 73.61 28 P **P 21 56 05.2 -0.7**
PET Petropavlovsk 74.01 29 *e*P **P 21 56 07.5 -0.6**
PET *e**PP **pP 21 56 29.7 -1.4**
PET *e* 21 59 00.2
PET *e*S **S 22 05 32.0 -1.4**
PET *e*SS **SS 22 10 17.3 -2.8**
PET pmax pmax
comp=Z,34nm,0.7s
PET Petropavlovsk 74.01 29 P **P 21 56 07.8 -0.2**
LODK Lodwar 74.34 276 P **P 21 56 12.3 +1.3**
LODK Lodwar 74.34 276 P **P 21 56 13.2 +2.3**
SNR=12
VNDA Vanda 74.51 170 P **P 21 56 11.8 +1.1**
comp=Z,28nm,0.5s,baz=318,slow=6.1,SNR=244
VNDA LR LR 22 28 06.7
comp=Z,169nm,18.9s,baz=320,slow=35
VNDA Vanda 74.51 170 IAmb IAmb 21 56 12.4
comp=Z,49nm,0.8s
SYO Syowa Base 75.15 200⇑ *i*P **P 21 56 15.8 +1.4**
SYO Syowa Base 75.15 200⇑ *e*PcP **PcP 21 56 28.0 +0.4**
SYO Syowa Base 75.15 200⇑ *es*P sP 21 56 33.6 -12
MA2 Magadan 75.22 21 P **P 21 56 14.4 -0.6**
comp=Z,12nm,0.7s,baz=208,slow=9.5,SNR=6.7
MA2 Magadan 75.22 21 P **P 21 56 14.4 -0.6**
MA2 pmax pmax
comp=Z,14nm,0.8s
MA2 MLR MLR
comp=Z,200nm,19.0s
MA2 Magadan 75.22 21 IAmb IAmb 21 56 19.6
comp=Z,14nm,0.8s
MA2 IAMs_20 IAMs_20 22 30 17.9
comp=Z,209nm,19.0s
MAK Makhachkala 75.43 318 *e*P **P 21 56 14.6 -1.9**
MAK *e**PP **pP 21 56 37.6 -2.0**
MAK *e* 21 59 05.8
MAK *e*PPP PPP 22 00 50.8
MAK *e*S **S 22 05 47.6 -2.1**
MAK *e**SS **sS 22 06 28.6 -0.8**
MAK *e*SS **SS 22 10 40.5 -1.7**
MAK pmax pmax
comp=Z,156nm,1.0s
MOPA Mopani 75.48 248⇑ *i*P **P 21 56 19.4 +2.0**
MOPA IAmb IAmb 21 56 20.2
comp=Z,14nm,1.2s
MAGG Maguga Dam 75.50 245⇓ *i*P **P 21 56 19.2 +1.8**
MAGG IAmb IAmb 21 56 20.4
comp=Z,120nm,1.1s
MMAL MMAL 75.56 245⇓ *i*P **P 21 56 19.7 +1.9**
MMAL IAmb IAmb 21 56 20.7
comp=Z,184nm,1.4s
HAGI HAGI 75.57 245⇓ *i*P **P 21 56 19.6 +1.7**
HAGI IAmb IAmb 21 56 20.9
comp=Z,77nm,1.0s
SBA Scott Base 75.58 169 P **P 21 56 17.5 +0.7**
SBA pmax pmax
comp=Z,49nm,0.9s
SBA Scott Base 75.58 169 P **P 21 56 17.5 +0.7**
SBA IAmb IAmb 21 56 19.5
comp=Z,49nm,0.8s

SVE Sverdlovsk 75.86 335 *ce*P **P 21 56 18.3 -0.4**
SVE *e*S **S 22 05 51.9 -1.9**
SVE pmax pmax
comp=Z,41nm,1.0s
GNI Garni 76.15 315 S **S 22 05 56.7 -1.4**
comp=Z,4.2nm,0.9s,baz=108,slow=23,SNR=5.8
GNI Garni 76.15 315 P **P 21 56 21.4 +0.5**
GNI Garni 76.15 315 *ce*P **P 21 56 20.3 -0.6**
GNI pmax pmax
comp=Z,81nm,1.3s
GNI Garni 76.15 315 P **P 21 56 21.5 +0.5**
GNI IAmb IAmb 21 56 25.3
comp=Z,60nm,1.1s
GNI Garni 76.15 315 P **P 21 56 21.5 +0.6**
ARU Arti 76.49 334 *d i*P **P 21 56 21.4 -0.9**
ARU 21 56 30.2
ARU *PP **pP 21 56 42.4 -3.0**
ARU 21 59 10.4
ARU S **S 22 06 00.0 -0.8**
ARU 22 06 23.8
ARU *SS **sS 22 06 42.0 +1.5**
ARU SS **SS 22 10 54.8 -2.8**
ARU pmax pmax
comp=Z,44nm,1.1s
ARU MLR MLR
comp=Z,449nm,22.0s
ARU Arti 76.49 334 IAMs_20 IAMs_20 22 32 58.5
comp=Z,424nm,21.0s
CRLN Carolina, Mapu 76.62 245⇑ *i*P **P 21 56 25.9 +1.9**
GROC Groznyy 76.67 318 *e*P **P 21 56 22.3 -1.3**
GROC *e* 21 56 32.6
GROC *e*S **S 22 05 59.3 -4.0**
GROC *e* 22 06 28.5
GROC *e*S **ScS 22 06 34.7 +2.6**
GROC pmax pmax
comp=Z,95nm,0.6s
KZRT Kazreti 76.88 316 P **P 21 56 25.2 +0.3**
KARS Kars 77.51 315 P **P 21 56 29.5 +1.0**
AKH Akhalkalaki 77.51 315 P **P 21 56 29.3 +0.7**
ZEI Tsey 77.77 317 *e*P **P 21 56 29.8 -0.2**
ZEI pmax pmax
comp=Z,78nm,1.4s
ONI Oni 78.00 317 P **P 21 56 32.1 +1.0**
ONI Oni 78.00 317 IAmb IAmb 21 56 38.9
comp=Z,30nm,0.9s
SLR Silverton 78.20 245⇑ *i*P **P 21 56 34.1 +1.4**
SLR IAmb IAmb 21 56 35.6
comp=Z,209nm,1.2s
SEY Seymchan 78.20 19 P **P 21 56 31.3 -0.4**
comp=Z,8.0nm,0.6s,baz=212,slow=5.2,SNR=16
NCK Nalchik 78.25 317 *c i*P **P 21 56 33.2 +0.7**
NCK pmax pmax
comp=Z,72nm,0.8s
BLWY Bulawayo 78.28 251 *e*P **P 21 56 34.7 +1.5**
MBAR Mbarara 78.30 271 P **P 21 56 35.4 +1.8**
comp=Z,38nm,0.8s,baz=87,slow=6.3,SNR=43
MBAR Mbarara 78.30 271 P **P 21 56 35.8 +2.2**
MBAR pmax pmax
comp=Z,97nm,1.3s
MBAR Mbarara 78.30 271 P **P 21 56 35.8 +2.2**
MBAR IAmb IAmb 21 56 37.1
comp=Z,97nm,1.2s
MBAR Mbarara 78.30 271 P **P 21 56 36.0 +2.4**
MATP Matopo 78.36 251 P **P 21 56 35.4 +1.7**
comp=Z,64nm,0.8s,baz=104,slow=5.2,SNR=119
NRIK Noril'sk 78.70 352 P **P 21 56 33.6 -0.7**
comp=Z,4.9nm,0.3s,baz=156,slow=4.1,SNR=12
NRIK LR LR 22 34 13.6
comp=Z,495nm,20.7s,baz=164,slow=38
NEY Neytrino 78.75 317 *i* P **P 21 56 36.1 +0.7**
NEY pmax pmax
comp=Z,20nm,0.9s
KBZ Khabaz 78.81 317 P **P 21 56 36.0 +0.5**
comp=Z,50nm,0.9s,baz=114,slow=4.5,SNR=115
KBZ S **S 22 06 22.9 -3.4**
comp=Z,5.2nm,1.1s,baz=270,slow=23,SNR=46
KBZ PKKPbc **PKKPbc 22 15 30.5 -0.5**
comp=Z,0.9nm,0.6s,baz=256,slow=3.8,SNR=5.9
KBZ LR LR 22 37 05.2
comp=Z,102nm,19.3s,baz=100,slow=40
KBZ Khabaz 78.81 317 P **P 21 56 36.0 +0.5**
WDLM Western Deep L 78.93 245 *e*P **P 21 56 38.8 +2.0**
WDLM IAmb IAmb 21 56 39.8
comp=Z,33nm,0.7s
SHA1 Shidzhatmaz 78.98 317 *c i*P **P 21 56 37.0 +0.3**
KVAR Kislovodsk Arr 79.03 318 S **S 22 06 27.0 -2.0**
comp=Z,12nm,1.1s,baz=189,slow=19,SNR=6.1
KIV Kislovodsk 79.04 318 *i* P **P 21 56 37.0 +0.2**
SNR=26
KIV Kislovodsk 79.04 318 *e*P **P 21 56 36.8 -0.1**
KIV *e*S **S 22 06 27.2 -1.8**
KIV pmax pmax
comp=Z,43nm,0.9s
KIV Kislovodsk 79.04 318 P **P 21 56 36.5 -0.4**
KIV IAmb IAmb 21 56 39.0
comp=Z,36nm,0.8s
KIV Kislovodsk 79.04 318 P **P 21 56 37.4 +0.6**
LSZ Lusaka 79.09 256 P **P 21 56 39.6 +1.8**
LSZ pmax pmax
comp=Z,49nm,0.6s
LSZ Lusaka 79.09 256 P **P 21 56 39.6 +1.8**
LSZ IAmb IAmb 21 56 40.1
comp=Z,49nm,0.6s
GOF Gofitskoye 79.23 319⇑ *e*P **P 21 56 38.3 +0.5**
GOF *e*S **S 22 06 28.9 -1.9**
GOF pmax pmax
comp=Z,137nm,1.5s
GOF smax smax
comp=E,191nm,1.6s
GOF smax smax
comp=N,373nm,2.0s
KSR Koster 79.44 245 *e*P **P 21 56 42.0 +2.4**
BELG Belogornoye 79.65 327 *c i*P **P 21 56 39.8 0.0**
BELG pmax pmax
comp=Z,21nm,1.2s
MALT Malatya 80.08 311 P **P 21 56 44.3 +1.7**
GHAJ Ghor Haditha 80.27 304 P **P 21 56 44.4 +0.8**
GHAJ IAmb IAmb 21 56 46.3
comp=Z,70nm,0.9s
EIL Elat 80.35 302 P **P 21 56 44.6 +0.5**
comp=Z,33nm,0.9s,baz=144,slow=4.8,SNR=8.6
EIL LR LR 22 31 27.5
comp=Z,59nm,21.4s,baz=108,slow=35
HVD Gariep Dam 80.35 240 *e*P **P 21 56 46.4 +2.0**
GAZ Gaziantep 80.64 310 IAmb IAmb 21 56 49.6
comp=Z,49nm,1.0s
LBTB Lobatse 80.67 246⇑ *i*P **P 21 56 48.0 +1.8**
LBTB IAmb IAmb 21 56 48.8
comp=Z,566nm,2.1s
LBTB Lobatse 80.67 246 P **P 21 56 47.6 +1.5**
comp=Z,43nm,0.8s,baz=114,slow=5.4,SNR=7.5
LBTB Lobatse 80.67 246 P **P 21 56 46.2 0.0**
LBTB pmax pmax
comp=Z,187nm,1.5s
LBTB Lobatse 80.67 246 P **P 21 56 46.1 0.0**
TIXI Tiksi 80.69 6 P **P 21 56 43.8 -1.2**
comp=Z,50nm,0.8s,baz=153,slow=5.0,SNR=16
TIXI Tiksi 80.69 6 *ce*P **P 21 56 42.9 -2.1**
BOSA Boshof 80.70 242 *e*P **P 21 56 47.5 +1.2**
BOSA Boshof 80.70 242 P **P 21 56 48.1 +1.8**
comp=Z,48nm,0.6s,baz=107,slow=3.9,SNR=196
BOSA LR LR 22 29 36.0
comp=Z,152nm,18.1s,baz=97,slow=33
BOSA Boshof 80.70 242 P **P 21 56 46.8 +0.5**
BOSA pmax pmax
comp=Z,77nm,0.9s
BOSA Boshof 80.70 242 P **P 21 56 46.8 +0.5**
BOSA IAmb IAmb 21 56 49.3
comp=Z,77nm,0.8s
SWZ Schweizer 80.74 244 *e*P **P 21 56 48.0 +1.5**
SWZ IAmb IAmb 21 56 49.3
comp=Z,163nm,1.2s
SOC Sochi 80.91 316 *e*P **P 21 56 44.5 -2.3**
SOC *e* 21 59 49.6
SOC *e*PPP PPP 22 01 42.3
SOC *e*S **S 22 06 43.9 -4.5**
SOC *e*SS **SS 22 12 04.1 -0.4**
SOC pmax pmax
comp=Z,76nm,0.8s
QSPA South Pole Qui 81.88 180 P **P 21 56 52.7 +1.0**
comp=Z,91nm,0.9s,baz=300,slow=1.1,SNR=392
QSPA South Pole Qui 81.88 180 P **P 21 56 52.4 +0.7**
VRH Novokhopyorsk 82.45 324 *e*P **P 21 56 54.4 -0.3**
VRH *e*S **S 22 06 59.5 -4.4**
VRH pmax pmax
comp=Z,140nm,0.8s
VRH smax smax
comp=E,220nm,1.2s
PKA Prieska 82.79 241 *e*P **P 21 56 58.9 +1.7**
ANN Anapa 82.86 317 *e*P **P 21 56 56.3 -0.7**
ANN *e*PP **pP 21 57 18.5 -1.9**
ANN *e*S **S 22 07 08.4 0.0**
ANN pmax pmax
comp=Z,106nm,1.3s
GRAN Grantham 83.06 238 *e*P **P 21 56 58.9 +0.4**
SNOP Sinop 83.56 314 P **P 21 57 01.9 +1.2**
VORD Divnogorie 83.78 323 *e*P **P 21 57 01.1 -0.5**
VORD *e*S **S 22 07 15.3 -2.1**
VORD pmax pmax
comp=Z,40nm,0.6s
VORD smax smax
comp=E,110nm,1.0s
BR131 Keskin Array S 84.06 311 *d i*P **P 21 57 03.5 0.0**
BR131 Keskin Array S 84.06 311 P **P 21 57 04.0 +0.6**
SNR=36
BRTR Keskin Array B 84.06 311 P **P 21 57 03.9 +0.4**
comp=E,54nm,1.0s,baz=135,slow=7.0,SNR=108
BRTR LR LR 22 39 12.7
comp=E,82nm,19.9s,baz=99,slow=39
SUR Sutherland 84.19 238 P **P 21 57 04.4 -0.1**
SUR Sutherland 84.19 238 P **P 21 57 06.1 +1.6**
UPI Upington 84.23 242 *e*P **P 21 57 06.0 +1.4**
BZK Bozkurt 84.40 314⇓P **P 21 57 05.9 +0.9**
LPSR Galich'ya Gora 84.57 325 *e*P **P 21 57 05.4 -0.2**
LPSR *e*S **S 22 07 18.1 -7.2**
LPSR pmax pmax
comp=Z,90nm,0.8s
LPSR smax smax
comp=E,50nm,1.7s
ANTO Ankara 84.72 311 P **P 21 57 07.8 +1.0**
ANTO pmax pmax
comp=Z,87nm,1.2s
ANTO Ankara 84.72 311 P **P 21 57 07.8 +1.0**
BR231 Keskin MP Arra 84.73 311 IAmb IAmb 21 57 11.2
comp=Z,65nm,1.1s
PRGR Permogore 84.92 335 *e*P **P 21 57 06.2 -0.9**
PRGR *e*S **S 22 07 21.5 -6.8**
PRGR pmax pmax
comp=Z,66nm,0.7s
AUGR Augrabies 85.01 242 *e*P **P 21 57 08.4 0.0**
SIM Simferopol' 85.16 317 *e*P **P 21 57 08.9 +0.2**
SIM pmax pmax
comp=Z,66nm,0.5s
ARMS Ukamas 85.59 242 *e*P **P 21 57 12.9 +1.5**
BILL Bilibino 85.91 18 *c i*P **P 21 57 11.5 -0.4**
BILL *e* 22 00 29.8
BILL pmax pmax
comp=Z,31nm,1.9s
MOS Moscow 86.39 328 *e*P **P 21 57 13.5 -1.0**
MOS *e*PP **pP 21 57 33.5 -4.5**
MOS *e*S S 22 07 30.1 -13
MOS *e* 22 07 40.8
MOS pmax pmax
comp=Z,98nm,0.8s
MOS pmax pmax
comp=Z,200nm,1.7s
OBN Obninsk 86.75 327⇓P **P 21 57 16.8 +0.6**
OBN Obninsk 86.75 327 *d i*P **P 21 57 16.1 -0.1**
OBN *e* 22 00 39.6
OBN *i* S S 22 07 31.8 -15
OBN pmax pmax
comp=Z,285nm,1.7s
OBN Obninsk 86.75 327 P **P 21 57 16.6 +0.3**
OBN Obninsk 86.75 327 IAMs_20 IAMs_20 22 41 22.5
comp=Z,538nm,21.0s
FETY Fethiye 86.79 308 P **P 21 57 17.4 +0.4**
RUDU RUNDU 86.87 252 *e*P **P 21 57 18.6 +0.7**
KLMR Klimovskoe 87.28 333 *e*P **P 21 57 16.0 -2.7**
KLMR pmax pmax
comp=Z,163nm,1.2s
KLMR Klimovskoe 87.28 333 *e*P **P 21 57 16.0 -2.7**
KLMR AMP 21 57 20.3
comp=Z,163nm,1.2s
KLMR LQ LQ 22 33 08.5
KLMR LQ LQ 22 33 08.5
KLMR LR LR 22 36 01.2
YER Yerkesik 87.53 308 P **P 21 57 20.6 0.0**
ISK Istanbul-Kandi 87.78 312 P **P 21 57 22.0 +0.4**
DAT Datca 88.00 307 P **P 21 57 23.1 +0.2**
KARP Karpathos 88.09 306 P **P 21 57 24.5 +1.2**
BODT Bodrum 88.27 308 P **P 21 57 24.4 +0.3**
WIN Windhoek 88.68 248 *e*P **P 21 57 28.8 +2.2**
TSUM Tsumeb 88.70 251 *e*P **P 21 57 28.2 +1.5**
TSUM Tsumeb 88.70 251 P **P 21 57 28.8 +2.1**
comp=Z,17nm,0.5s,baz=83,slow=5.4,SNR=36
TSUM Tsumeb 88.70 251 P **P 21 57 27.6 +1.0**
TSUM IAmb IAmb 21 57 29.4
comp=Z,27nm,0.6s
JURR Jurilovca 88.72 315⇑P **P 21 57 27.0 +1.1**
SMG Samos 88.77 308 P **P 21 57 27.1 +0.7**
AUSN Aus 88.84 243 *e*P **P 21 57 28.8 +1.6**
TLCR 88.85 316⇓P **P 21 57 27.5 +1.0**
MFTR Murfatlar 88.91 315⇓P **P 21 57 27.6 +0.8**
TIRR Tirgusor 88.97 315⇓P **P 21 57 28.4 +1.2**
TIRR Tirgusor 88.97 315 IAMs_20 IAMs_20 22 39 04.2
comp=Z,294nm,20.0s
SNAA Sanae 89.05 197 P **P 21 57 29.0 +1.9**
SNAA Sanae 89.05 197 *ce*P **P 21 57 28.8 +1.7**
SNAA pmax pmax
comp=Z,166nm,1.3s
SNAA Sanae 89.05 197 P **P 21 57 28.1 +1.0**
TPGR Topolog 89.05 315⇓P **P 21 57 28.3 +0.8**
CVDA Cernavoda 89.21 315⇑P **P 21 57 29.0 +0.8**
TLBR Topalu 89.25 315⇑P **P 21 57 29.5 +1.1**
CFR Carcaliu 89.32 316⇑P **P 21 57 29.7 +0.9**
ICOR Ion Corvin 89.33 315⇑P **P 21 57 29.1 +0.3**
HARR Harsova 89.36 315⇓P **P 21 57 28.6 -0.3**
LAST Lasithi 89.37 305 P **P 21 57 30.6 +1.2**
PRK Paraskevi 89.50 310 P **P 21 57 31.5 +1.8**
SANT Santorini 89.60 307⇓P **P 21 57 31.3 +0.9**
THR3 Thira Island, 89.66 307 P **P 21 57 31.0 +0.5**
VARL Varlezi 89.67 316⇓P **P 21 57 30.7 +0.4**
APE Apeiranthos 89.67 307⇓P **P 21 57 32.4 +1.7**
SORM Soroca 89.80 319⇑P **P 21 57 30.9 0.0**
AKASG Malin Array Be 89.81 321 P **P 21 57 30.4 -0.5**
comp=Z,2.7nm,0.3s,baz=85,slow=4.5,SNR=27
AKASG PP **PP 22 01 03.8 -0.7**
comp=Z,0.9nm,0.5s,baz=100,slow=7.3,SNR=4.5
AKASG LR LR 22 43 31.3
comp=Z,71nm,18.9s,baz=105,slow=39
AKASG Malin Array Be 89.81 321 P **P 21 57 31.4 +0.5**
AKASG pmax pmax
comp=Z,11nm,1.2s
AKASG Malin Array Be 89.81 321 P **P 21 57 31.4 +0.5**
AKBB Malin Array Si 89.81 321 P **P 21 57 31.2 +0.3**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 89.81 321 P **P 21 57 31.2 +0.3**
AKBB IAmb IAmb 21 57 33.7
comp=Z,14nm,0.8s
SIGR SIGRI 89.81 310 P **P 21 57 32.5 +1.3**
IDI Anoyia 89.87 306 P **P 21 57 33.1 +1.4**
comp=Z,28nm,0.8s,baz=42,slow=3.6,SNR=3.2
IDI PKKPbc **PKKPbc 22 15 04.3 -0.3**
comp=Z,6.0nm,0.6s,baz=334,slow=4.7,SNR=18
IDI Anoyia 89.87 306⇑P **P 21 57 33.6 +2.0**
IDI Anoyia 89.87 306 P **P 21 57 32.6 +0.9**
IDI Anoyia 89.87 306 IAmb IAmb 21 57 34.5
comp=Z,50nm,1.0s
IDI IAMs_20 IAMs_20 22 38 58.7
comp=Z,165nm,21.0s
SIVA Sivas 89.89 305 P **P 21 57 33.2 +1.6**
ALN Alexandroupoli 89.97 311 P **P 21 57 32.6 +0.7**
ALN Alexandroupoli 89.97 311 IAmb IAmb 21 57 41.8
comp=Z,49nm,1.4s
RAZG Razgrad 90.14 314⇑P **P 21 57 33.6 +0.9**
RDO Rodhopi 90.40 311 P **P 21 57 34.2 +0.3**
VRI Vrincioaia 90.43 316⇑P **P 21 57 35.3 +1.3**
VAM Vamos 90.44 306 P **P 21 57 35.8 +1.5**
PLOR Plostina 90.48 316⇑P **P 21 57 35.4 +1.2**
PLOR Plostina 90.48 316⇑P **P 21 57 35.6 +1.4**
SULR 90.53 315⇓P **P 21 57 35.8 +1.4**
TESR Tescani 90.61 317⇑P **P 21 57 35.6 +0.8**
IMMV Iera Moni Meta 90.63 306 P **P 21 57 36.3 +1.2**
NEHR Nehoiu 90.64 316⇓P **P 21 57 36.1 +1.1**
MLR Muntele Rosu 90.89 316⇓P **P 21 57 35.9 -0.4**
MLR Muntele Rosu 90.89 316 IAmb IAmb 21 57 44.9
comp=Z,21nm,0.8s
PRAR RASCA 91.05 318⇓P **P 21 57 36.9 +0.1**
VNA1 Neumayer--Stat 91.08 197 P **P 21 57 38.6 +2.1**
DION Dionisos Attik 91.09 308 P **P 21 57 37.4 +0.2**
VLY Voula,Athens 91.17 308 P **P 21 57 37.3 -0.3**
VNA3 Neumayer Olymp 91.20 196 P **P 21 57 38.8 +1.7**
ANKY Antikythira Is 91.24 306 P **P 21 57 39.3 +1.4**
PUL Pulkovo 91.30 330 *ce*P **P 21 57 38.5 +0.9**
PUL pmax pmax
comp=Z,52nm,0.8s
DOPR Dopca 91.36 316⇓P **P 21 57 37.8 -0.5**
MNK Minsk 91.43 325 *i* P **P 21 57 38.1 -0.2**
MNK *i* *PP **pP 21 58 02.2 +0.2**
MNK *i* 22 01 17.8
MNK *i* PPP PPP 22 03 15.8
MNK *i* 22 08 22.4
MNK *i* SP SP 22 09 40.1 +0.9
MNK *i* PS PS 22 09 51.8 +1.0
MNK pmax pmax
comp=N,2.0nm,0.8s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,23nm,0.8s
MNK MLR MLR
comp=Z,68nm,20.0s
MNK MLR MLR
comp=N,271nm,20.0s
MNK MLR MLR
comp=E,9.0nm,21.0s
MNK Minsk 91.43 325 *i* P **P 21 57 38.2 -0.2**
comp=E,1.0nm,0.8s
MNK *i* P **P 21 57 38.2 -0.2**
comp=N,2.0nm,0.8s
MNK *i* P **P 21 57 38.2 -0.2**
comp=Z,23nm,0.8s,baz=282
MNK *i* pP **pP 21 58 02.2 +0.2**
MNK *i* sP **sP 21 58 12.1 +0.6**
MNK *i* PP **PP 22 01 17.9 +0.7**
MNK *i* sS S 22 08 45.3 +15
MNK *i* SP **SPn 22 09 40.2 +0.2**
MNK *i* PS **PS 22 09 51.9 +1.1**
MNK *i* SSS SSS 22 19 50.3
MNK *i* LQ LQ 22 31 24.1
MNK *i* LR LR 22 35 14.4
MNK *i* LRM MLR 22 40 20.4
comp=Z,68nm,19.8s
MNK *i* LRM MLR 22 40 21.9
comp=N,271nm,19.8s
MNK *i* LRM MLR 22 40 55.6
comp=E,9.0nm,20.8s
KTHA Kythira Island 91.49 306 P **P 21 57 39.4 +0.3**
VOIR 91.51 316⇑P **P 21 57 39.0 -0.1**
KRND KRANIDI 91.60 307 P **P 21 57 39.1 -0.4**
LVZ Lovozero 91.65 339 *ce*P **P 21 57 37.9 -1.3**
LVZ pmax pmax
comp=Z,26nm,0.9s
BURAR Bucovina Array 91.77 318⇑P **P 21 57 41.7 +1.4**
BURAR Bucovina Array 91.77 318 P **P 21 57 41.3 +1.1**
BURAR IAmb IAmb 21 57 46.3
comp=Z,13nm,0.7s
SPIA Saint Paul Isl 91.77 33 P **P 21 57 43.0 +3.2**
BUR08 Bucovina Ar. S 91.79 318 IAmb IAmb 21 57 46.5
comp=Z,11nm,0.8s
APA Apatity 92.01 338⇑ *i*P **P 21 57 36.5 -4.3**
APA *i* S **SKKSac 22 08 25.0 +2.5**
APA pmax pmax
comp=Z,11nm,0.8s
VLX Vlachokerasia 92.20 307 P **P 21 57 42.8 +0.3**
IDID Didziasalis 92.23 325 *e*P **P 21 57 43.5 +1.4**
VTS Vitosha 92.34 313⇑P **P 21 57 43.8 +0.7**
VTS Vitosha 92.34 313 IAmb IAmb 21 57 44.7
comp=Z,14nm,0.9s
LOT Lotru 92.40 315⇓P **P 21 57 43.2 0.0**
KLV Kalavryta, Ach 92.48 308 P **P 21 57 43.7 0.0**
AGG Agios Georgios 92.48 309 IAmb IAmb 21 57 44.6
comp=Z,23nm,1.3s
GAMB Gambell 92.52 26 P **P 21 57 45.7 +2.6**
baz=257
IIGN Ignalina 92.53 325 *e*P **P 21 57 44.8 +1.4**
ITM Ithomi 92.53 307 IAmb IAmb 21 58 02.3
comp=Z,12nm,0.7s
ISAL Salakas 92.63 326 *e*P **P 21 57 45.0 +1.1**
PYL PYLOS 92.64 307 P **P 21 57 44.0 -0.4**
ANX Ano Chora 92.74 308 P **P 21 57 46.1 +1.2**
AMT Artemida-Makis 92.75 307 P **P 21 57 43.4 -1.5**
VSU Vasula 92.83 329 *e*P **P 21 57 45.5 +0.8**
VSU Vasula 92.83 329 *i* P **P 21 57 44.6 -0.1**
VSU pmax pmax
comp=Z,112nm,0.7s
EVR Evrytania 92.87 309 P **P 21 57 46.1 +0.6**
LVV L'vov 92.91 320 *e*P **P 21 57 46.5 +1.2**
BMR Baia Mare 92.93 318⇑P **P 21 57 46.6 +1.1**
DEV Deva 93.06 316⇓P **P 21 57 47.1 +0.9**
GZR Gura Zlata 93.08 315⇑P **P 21 57 47.0 +0.7**
HERR Herculane 93.26 315⇑P **P 21 57 47.8 +0.8**
DRGR 93.33 317⇑P **P 21 57 48.1 +0.7**
BOVS Bovan 93.59 313⇓P **P 21 57 47.8 -0.8**
FIA1 FINESS Array S 93.70 331 IAmb IAmb 21 57 50.1
comp=Z,23nm,0.9s
FINES FINESS Array B 93.70 331 P **P 21 57 48.8 +0.2**
comp=Z,17nm,0.8s,baz=106,slow=6.8,SNR=32
FINES PKKPbc **PKKPdf 22 14 54.0 -0.3**
comp=Z,3.4nm,1.1s,baz=298,slow=4.1,SNR=6.0
FINES LR LR 22 45 07.8
comp=Z,288nm,21.4s,baz=96,slow=39
FINES FINESS Array B 93.70 331 P **P 21 57 49.0 +0.3**
FINES FINESS Array B 93.70 331 P **P 21 57 49.0 +0.3**
MDVR Moldovita 93.74 315⇑P **P 21 57 49.3 0.0**
PABE Paberze 93.82 325 *e*P **P 21 57 50.1 +0.7**
UZH Uzhgorod 93.86 318 *e*P **P 21 57 52.4 +2.7**
UZH *e* 21 58 06.0
UZH *e* 21 58 15.2
KOLS Kolonicke sedl 93.92 319 *e*P **P 21 57 50.7 +0.7**
KOLS Kolonicke sedl 93.92 319 *e*P **P 21 57 50.7 +0.7**
BZS Buzias 93.92 315⇓P **P 21 57 50.2 +0.1**
SUW Suwalki 94.06 324 *e*P **P 21 57 50.4 0.0**
SUW Suwalki 94.06 324 *e*P **P 21 57 51.0 +0.5**
IGT Igoumenitsa 94.09 309 P **P 21 57 51.4 +0.4**
MEF Metsahovi 94.31 330 *e*P **P 21 57 52.2 +0.7**
TNA Tin City 94.47 24 P **P 21 57 55.1 +3.0**
baz=260
KEK Kerkira 94.52 309 P **P 21 57 53.5 +0.5**
STHS Stebnicka Huta 94.65 319 *e*P **P 21 57 54.7 +1.3**
STHS Stebnicka Huta 94.65 319 *e*P **P 21 57 54.7 +1.3**
DIVS Divibare 94.88 314 IAmb IAmb 21 57 56.3
comp=Z,14nm,1.0s
FALS False Pass 95.18 35 P **P 21 57 58.5 +3.0**
baz=263
PDG Podgorica 95.23 312⇓P **P 21 57 56.3 +0.2**
PDG Podgorica 95.23 312 IAmb IAmb 21 57 57.3
comp=Z,17nm,1.1s
ARA0 ARCESS Array S 95.28 339 *e*P **P 21 57 55.3 -0.5**
ARCES ARCESS Array B 95.28 339 P **P 21 57 54.9 -0.9**
comp=Z,2.9nm,0.6s,baz=94,slow=5.1,SNR=26
ARCES LR LR 22 46 36.0
comp=Z,312nm,18.4s,baz=140,slow=39
ARCES ARCESS Array B 95.28 339 IAmb IAmb 21 57 57.5
comp=Z,19nm,1.2s
PSZ Piszkesteto 95.37 318 *e*P **P 21 57 60.0 +3.2**
PSZ Piszkesteto 95.37 318 P **P 21 57 57.4 +0.6**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
PSZ Piszkesteto 95.37 318 P **P 21 57 57.4 +0.6**
OJC Ojcow 95.67 320 IAMs_20 IAMs_20 22 47 28.4
comp=Z,225nm,21.0s
RAF Rauma 95.70 331 *e*P **P 21 58 00.3 +2.4**
KTK1 Kautokeino 96.00 339 *e*P **P 21 57 58.1 -0.9**
MORH Mrgy, Hungar 96.05 316⇓P **P 21 57 59.9 +0.1**
MORH Mrgy, Hungar 96.05 316 *e*P **P 21 57 58.6 -1.2**
HAMF Hammerfest 96.05 340 *e*P **P 21 58 00.7 +1.5**
KOVH Kovagotottos 96.41 316 *e*P **P 21 58 01.2 -0.3**
AAL Aland 96.49 330 *e*P **P 21 58 01.0 -0.4**
OKC Ostrava-Krasne 96.69 319 *e*SKS **SKSac 22 08 31.1 -0.4**
MPLH Magyarpolny 96.89 317 *e*P **P 21 58 03.7 +0.1**
JAVC Velka Javorina 96.93 318 *e*P **P 21 58 04.7 +0.9**
JETT Jettan, Norway 97.06 339 *e*P Pdif 21 58 04.5 +0.5
MORC Moravsky Berou 97.08 319⇑P Pdif 21 58 05.2 +0.6
MORC Moravsky Berou 97.08 319 *e*P Pdif 21 58 04.7 +0.2
MODS Modra-Piesok 97.15 318 *e*P Pdif 21 58 06.4 +1.5
MODS Modra-Piesok 97.15 318 *e*PDIFF Pdif 21 58 06.4 +1.5
TBI Tubuai 97.27 115 *e*LR LR 22 29 46.0
comp=Z,634nm,29.8s
TRO Tromso 97.58 339 *e*P Pdif 21 58 07.4 +1.2

KRLC Kraliky 97.59 319 eP Pdif 21 58 07.2 +0.4
KRLC Kraliky 97.59 319 ePDIFF Pdif 21 58 07.2 +0.4
UPP Uppsala 97.65 329 eP Pdif 21 58 07.0 +0.3
KOGS Kog 97.72 316 eP Pdif 21 58 07.6 +0.2
DPC Dobruska-Polom 97.90 320 eP Pdif 21 58 08.6 +0.4
DPC MLR MLR
comp=Z,200nm,18.6s
DPC Dobruska-Polom 97.90 320 ePDIFF Pdif 21 58 08.6 +0.4
DPC AMS AMS 22 48 50.0
comp=Z,200nm,18.6s
CONA Conrad Observa 98.07 317 eP Pdif 21 58 10.5 +1.4
comp=Z,3.1nm,1.0s
CONA eP PP 22 02 09.7 +0.6
comp=Z,4.6nm,1.4s
CONA eS SKSac 22 08 34.4 -4.5
comp=Z,3.1nm,1.4s
CHVC Chvalec 98.08 320 ePDIFF Pdif 21 58 09.6 +0.6
UPC Upice 98.11 320 eSKS SKSac 22 08 39.0 +0.3
ARSA Arzberg 98.26 317 eP Pdif 21 58 10.1 +0.2
comp=Z,2.6nm,0.8s
PPT2 Papeete2 98.32 109 eLR LR 22 30 23.9
comp=Z,525nm,24.5s
SPA0 Spitsbergen Ar 98.44 348 ePdif P 21 58 08.7 -1.2
PDKS Podkum 98.56 315 eP Pdif 21 58 11.6 +0.4
SOKA Soboth 98.57 316 eP Pdif 21 58 13.6 +2.3
comp=Z,8.6nm,1.3s
SOKA eP PP 22 02 14.6 +1.5
comp=Z,4.0nm,1.5s
FAUS Fauske 98.87 337 ePdif P 21 58 11.0 -1.0
STEI Steigen 98.89 338 ePdif P 21 58 11.3 -0.7
OBKA Obir 98.90 316 eP Pdif 21 58 12.9 +0.1
comp=Z,2.2nm,0.9s
OBKA eP PP 22 02 13.7 -1.9
comp=Z,8.3nm,1.6s
PRU Pruhonice 99.03 319 eSKS SKSac 22 08 41.6 -1.8
PRU AMS AMS 22 48 30.0
comp=Z,200nm,19.8s
CRNS Crni Vrh 99.08 315 eP Pdif 21 58 13.5 0.0
MOA Molln 99.14 317 eP Pdif 21 58 17.5 +3.8
comp=Z,3.4nm,1.1s
MOA eP PP 22 02 16.8 -0.5
comp=Z,5.7nm,0.9s
MOA eS SKSac 22 08 43.0 -1.1
comp=Z,3.9nm,1.1s
MOR8 Moi Rana 99.22 336 ePdif Pdif 21 58 12.5 -1.1
KBS Kingsbay 99.28 349 IAMs_20 IAMs_20 22 48 37.1
comp=Z,470nm,22.0s
PBCC Pribram 99.37 319 ePDIFF Pdif 21 58 14.6 -0.1
BRG Berggiesshubel 99.44 320 eP Pdif 21 58 22.7 +7.8
BRG Amp 21 58 24.5
comp=Z,3.6nm,0.9s
TTA Tatalina 99.44 28 P Pdif 21 58 16.5 +1.7
baz=271
LOF Lofoten 99.52 338 ePdif Pdif 21 58 14.7 -0.1
MYKA Terra Mystica 99.53 316 eP Pdif 21 58 18.6 +3.1
comp=Z,1.6nm,0.4s
MYKA eP PP 22 02 21.9 +1.6
comp=Z,3.7nm,1.1s
N18K Kilae Creek 99.53 30 P Pdif 21 58 16.6 +1.5
baz=270
GERES GERESS Array B 99.55 318 P Pdif 21 58 15.4 -0.2
comp=Z,0.8nm,0.6s,baz=134,slow=3.9,SNR=8.2
GERES PP PP 22 02 19.2 -1.2
comp=Z,1.4nm,0.9s,baz=82,slow=7.0,SNR=2.7
GERES PKKPbc PKKPbc 22 14 38.2 -1.3
comp=Z,0.7nm,0.8s,baz=237,slow=4.1,SNR=4.8
GERES LR LR 22 51 24.9
comp=Z,132nm,19.3s,baz=85,slow=40
KHC Kasperske Hory 99.63 318 eP Pdif 21 58 16.4 +0.5
KHC e 22 08 46.2
KHC MLR MLR
comp=Z,200nm,23.2s
KHC Kasperske Hory 99.63 318 ePDIFF Pdif 21 58 16.4 +0.5
KHC ex x 21 58 25.0
KHC eSKS SKSac 22 08 46.2 -0.3
KHC AMS AMS 22 48 00.0
comp=Z,200nm,23.2s
KBA Koelnbreinsper 99.74 316 eP Pdif 21 58 19.0 +2.4
comp=Z,1.8nm,0.6s
KBA eS SKSac 22 08 44.2 -3.2
comp=Z,7.6nm,1.1s
KONS Konsvik 99.75 336 ePdif Pdif 21 58 17.3 +1.4
L19K White Mountain 100.00 28 P Pdif 21 58 18.7 +1.5
baz=272
CLL Collm 100.03 321 ePdif Pdif 21 58 20.0 +2.4
CLL eSP SP 22 11 12.0 -1.4
CLL ePS PS 22 11 30.0 +5.1
CLL ePPS PPS 22 12 07.0
CLL eSS SS 22 16 24.0 -16
CLL e 22 22 06.0
CLL eSSSS 22 23 36.0
CLL LmV 22 50 00.0
comp=Z,200nm,20.0s
CLL Collm 100.03 321 eP Pdif 21 58 20.0 +2.4
N19K Bonanza Creek 100.21 30 P Pdif 21 58 19.8 +1.6
baz=272
J20K Nowinta River 100.24 26 P Pdif 21 58 19.9 +1.7
baz=273
ABTA Abfaltersbach 100.31 316 eP PP 22 02 29.9 +3.7
comp=Z,3.9nm,1.5s
ABTA eS SKSac 22 08 50.9 +0.9
comp=Z,6.0nm,1.3s
NSS Namsos 100.31 334 ePdif Pdif 21 58 18.7 +0.2
K20K Telida 100.31 27 P Pdif 21 58 20.3 +1.7
baz=272
NB2 NORSAR Subarra 100.83 331 P Pdif 21 58 20.3 -0.7
comp=Z,4.7nm,0.9s,baz=78,slow=4.6
NB2 NORSAR Subarra 100.83 331 P Pdif 21 58 20.3 -0.7
baz=78,slow=4.6
NOA NORSAR Array B 100.83 331 P Pdif 21 58 20.7 -0.3
comp=Z,2.5nm,0.9s,baz=89,slow=4.5,SNR=9.5
WTTA Wattenberg 100.91 317 eP PP 22 02 29.4 -1.5
comp=Z,9.6nm,1.4s
WTTA eS SKSac 22 08 53.8 +0.7
comp=Z,3.8nm,0.9s
OHAK Old Harbor 100.95 33 P Pdif 21 58 23.2 +1.7
baz=272
WATA Walderalm 100.95 317 eP PP 22 02 29.5 -1.7
comp=Z,3.6nm,1.0s
SQTA Sankt Quirin 101.20 316 eP Pdif 21 58 24.0 +1.0
comp=Z,4.6nm,0.7s
SQTA eP PP 22 02 26.2 -6.8
comp=Z,7.5nm,1.3s
MOTA Moosalm 101.27 317 eP Pdif 21 58 24.2 +0.9
comp=Z,5.8nm,1.1s
MOTA eP PP 22 02 34.4 +0.8
comp=Z,6.9nm,1.3s
MOTA eS SKSac 22 08 55.1 +0.3
comp=Z,7.2nm,1.4s
RETA Reutte 101.50 317 eP Pdif 21 58 24.5 +0.2
comp=Z,5.1nm,1.3s
RETA eS SKSac 22 08 54.1 -1.7
comp=Z,3.6nm,1.3s
FETA Feichten 101.53 316 eP Pdif 21 58 25.1 +0.5
comp=Z,1.8nm,0.9s
FETA eP PP 22 02 34.5 -1.0
comp=Z,5.2nm,1.3s
SKT Skwentna 101.57 28 P Pdif 21 58 26.1 +2.0
baz=274
BPAW Bear Paw Mtn. 101.63 26 P Pdif 21 58 25.8 +1.4
baz=275
MLY Manley 101.65 25 P Pdif 21 58 26.1 +1.6
baz=276
TOLK Toolik Lake Re 101.68 22 P Pdif 21 58 26.2 +1.6
baz=278
VLC Villacollemand 101.78 313 IAMs_20 IAMs_20 22 51 09.3
comp=Z,155nm,22.0s
DOMB Dombas 101.79 332 ePdif Pdif 21 58 24.9 -0.3
TRF Thorofare Moun 102.00 27 IAMs_20 IAMs_20 22 40 40.2
comp=Z,135nm,18.0s
DAVA Damuels 102.11 317 eP Pdif 21 58 26.6 -0.5
comp=Z,4.5nm,0.9s
DAVA eP PP 22 02 37.1 -2.7
comp=Z,3.5nm,0.8s
DAVA eS SKSac 22 09 00.7 +1.8
comp=Z,5.4nm,1.3s
CUT Chulitna 102.12 28 P Pdif 21 58 28.9 +2.3
baz=276
BRSE Bradley Lake S 102.14 31 P Pdif 21 58 29.0 +2.3
baz=275
I23K Minto, Yukon-K 102.21 25 P Pdif 21 58 28.5 +1.6
baz=277
MOL Molde 102.44 332 ePdif Pdif 21 58 29.4 +1.4
H24K Noodor Dome 102.73 24 P Pdif 21 58 31.4 +2.1
baz=279
ILAR Eielson Array 103.31 25 PKKPbc PKKPbc 22 14 27.4 -1.6
comp=Z,0.9nm,0.4s,baz=104,slow=1.8,SNR=8.8
ILAR PKKPab PKKPdf 22 14 47.7 +11
comp=Z,1.7nm,0.9s,baz=104,slow=3.6,SNR=6.5
FYU Fort Yukon 103.66 23 IAMs_20 IAMs_20 22 55 19.7
comp=Z,181nm,20.0s
GLI Glacier Island 103.81 29 IAMs_20 IAMs_20 22 39 57.2
comp=Z,252nm,22.0s
SENIN Lac Senin/Sane 103.91 316 IAMs_20 IAMs_20 22 45 26.4
comp=Z,177nm,21.0s
M24K Tolsona, Glenn 104.06 28 P Pdif 21 58 36.8 +1.5
baz=279
BMRM Bremner River 105.00 29 P PKiKP 22 02 54.7 +0.9
baz=280
VRDI Verde Repeater 105.50 29 IAMs_20 IAMs_20 22 39 50.6
comp=Z,248nm,20.0s
ALE Alert 105.53 359 IAMs_20 IAMs_20 22 51 33.6
comp=Z,177nm,20.0s
MCARA McCarthy VSAT 105.67 28 IAMs_20 IAMs_20 22 41 40.2
comp=Z,234nm,21.0s
L27K Beaver Creek, 105.84 27 P PKiKP 22 02 57.0 +1.6
baz=284
EPYK Eagle Plains 107.01 23 P PKiKP 22 02 58.4 +1.0
baz=289
INK Inuvik 107.46 20 P PKiKP 22 02 59.0 +1.0
baz=293
TORD Torodi Ar. Bea 108.59 281 PKiKP PKiKP 22 03 01.7 0.0
comp=Z,1.6nm,0.6s,baz=75,slow=1.5,SNR=10
TORD PKKPbc PKKPbc 22 14 09.8 -1.3
comp=Z,0.8nm,0.5s,baz=306,slow=3.8,SNR=8.2
SCO Scoresbysund 110.50 344 IAMs_20 IAMs_20 22 52 58.8
comp=Z,212nm,20.0s
CART Cartagena 110.75 307 IAMs_20 IAMs_20 22 47 24.7
comp=Z,124nm,19.0s
TULEG Thule 111.61 359 IAMs_20 IAMs_20 22 58 45.2
comp=Z,194nm,21.0s
ESDC Sonseca Array 112.80 310 PKiKP PKiKP 22 03 09.2 +0.1
comp=Z,0.6nm,0.9s,baz=59,slow=1.0,SNR=4.8
ESDC PKKPbc PKKPbc 22 13 57.7 -0.5
comp=Z,0.6nm,0.4s,baz=288,slow=3.7,SNR=9.6
ESDC PKKPab PKKPab 22 14 06.0 +0.9
comp=Z,2.2nm,0.9s,baz=273,slow=4.7,SNR=9.0
KOWA Kowa 114.20 282 PKP PKiKP 22 03 12.8 +0.4
comp=Z,1.7nm,0.5s,baz=76,slow=3.5,SNR=5.0
KOWA PKKPbc PKKPbc 22 13 52.0 -0.7
comp=Z,1.2nm,0.5s,baz=282,slow=6.1,SNR=2.2
KIC Kosan Boka 114.32 273 ePKP1 PKiKP 22 03 13.0 +0.3
comp=Z,26nm,1.1s
LIC Lamto 114.58 273 ePKP1 PKPdf 22 03 13.0 -0.2
comp=Z,31nm,0.8s
TIC Toumodi 114.62 274 ePKP1 PKiKP 22 03 14.0 +0.7
YKA Yellowknife Ar 117.20 21 PKP PKiKP 22 03 16.9 0.0
comp=Z,2.1nm,0.3s,baz=321,slow=3.1,SNR=32
YKA SKP 22 06 42.9
comp=Z,1.8nm,0.9s,baz=316,slow=1.7,SNR=5.1
YKA PKKPbc PKKPbc 22 13 41.9 -1.8
comp=Z,1.1nm,0.7s,baz=126,slow=4.1,SNR=6.8
ILULI Ilulissat 117.61 352 IAMs_20 IAMs_20 23 00 07.7
comp=Z,254nm,20.0s
ANGG Ammassalik, Gr 118.10 345 IAMs_20 IAMs_20 22 59 30.3
comp=Z,184nm,20.0s
SFJD Kangerlussuaq 119.59 351 IAMs_20 IAMs_20 23 02 29.0
comp=Z,204nm,18.0s
D03D Eldon 121.02 39 P PKiKP 22 03 25.7 +1.0
baz=294
B05A Bryant 121.32 37 P PKiKP 22 03 26.3 +1.0
baz=296,SNR=8.1
E04D Cinebar 121.75 39 P PKiKP 22 03 27.1 +0.9
baz=294
G03D McMinnville, O 121.84 41 P PKiKP 22 03 27.1 +0.7
baz=293
I02D Swisshome 121.87 43 P PKiKP 22 03 27.3 +0.8
baz=292
J01E Myrtle Point 122.16 44 P PKiKP 22 03 28.1 +1.0
baz=291
I03D Drain, OR 122.36 43 P PKiKP 22 03 28.6 +1.1
baz=292,SNR=12
H04D Lebanon 122.45 42 P PKiKP 22 03 28.6 +1.0
baz=293,SNR=7.2
K02D Willamette Mer 122.51 44 P PKiKP 22 03 28.7 +0.8
baz=291,SNR=7.3
L02E Cave Junction 122.74 45 P PKiKP 22 03 29.4 +1.0
baz=291
G05D Wamic, OR 123.09 40 P PKiKP 22 03 29.9 +1.0
baz=294
J04D Umpqua Nationa 123.37 43 P PKiKP 22 03 30.6 +0.8
baz=293
I05D Terrebonne, OR 123.44 41 P PKiKP 22 03 30.7 +1.0
baz=294
YBH Yreka Blue Hor 123.52 45 PKP PKiKP 22 03 30.2 +0.2
comp=Z,2.4nm,0.7s,baz=232,slow=3.0,SNR=10.0
M02C Callahan 123.54 45 P PKiKP 22 03 31.0 +1.0
baz=291,SNR=13
L04D Klamath Falls 123.62 44 P PKiKP 22 03 30.9 +0.7
baz=292,SNR=13
N02D Trinity Center 123.79 46 P PKiKP 22 03 31.6 +1.1
baz=291,SNR=11
J05D Fort Rock, OR 123.94 43 P PKiKP 22 03 31.9 +1.1
baz=293
O02D Mt. Diablo Mer 124.01 47 P PKiKP 22 03 32.3 +1.3
baz=290,SNR=13
M04C Macdoel 124.10 44 P PKiKP 22 03 32.1 +0.9
baz=292,SNR=6.7
NEW Newport 124.25 36 PKP PKiKP 22 03 31.2 0.0
comp=Z,5.4nm,0.7s,baz=357,slow=3.6,SNR=7.6
NEW Newport 124.25 36 P PKiKP 22 03 32.3 +1.2
baz=300
FRB Frobisher Bay 124.44 359 PKP PKPdf 22 03 30.7 +0.1
comp=Z,10nm,0.9s,baz=264,slow=6.1,SNR=5.4
MSO Missoula 126.84 36 P PKiKP 22 03 36.6 +0.2
baz=302
FFC Flin Flon 127.35 22 PKIKP PKiKP 22 03 36.9 -0.2
FFC Flin Flon 127.35 22 PKiKP 22 03 36.9 -0.2
NVAR Mina Array Bea 127.89 47 PKP PKPdf 22 03 38.4 +0.1
comp=Z,3.9nm,0.7s,baz=257,slow=2.2,SNR=27
NVAR SKPab SKPab 22 06 49.8
comp=Z,6.6nm,0.7s,baz=271,slow=4.1,SNR=15
NVAR SKKPbc SKKPbc 22 16 48.8 +1.4
comp=Z,0.7nm,0.7s,baz=116,slow=6.1,SNR=4.5
NVAR Mina Array Bea 127.89 47 PKiKP 22 03 39.4 +0.5
NVAR pPKPdf pPKPdf 22 04 01.2 -1.8
PKM Mcpherson Peak 128.01 52 P PKiKP 22 03 40.6 +1.4
baz=289,SNR=5.3
HLID Hailey 128.25 40 P PKiKP 22 03 40.4 +0.9
baz=300
VES Vestal, Richgr 128.25 50 P PKiKP 22 03 39.6 +0.2
baz=290
SCZ2 Santa Cruz Isl 128.44 53 P PKiKP 22 03 40.3 +0.4
baz=288
EGMT Eagleton 128.48 32 P PKiKP 22 03 40.3 +0.7
baz=308
SNCC San Nicolas Is 128.75 54 P PKiKP 22 03 41.1 +0.5
baz=288
ISA Isabella, Lake 128.78 50 P PKiKP 22 03 41.6 +1.0
baz=290
CWC Cottonwood Cre 128.80 49 P PKiKP 22 03 41.5 +0.7
baz=291
BOZ Bozeman (W) 128.86 36 P PKiKP 22 03 41.7 +1.1
baz=304
ELK Elko 129.06 43 PKP PKPdf 22 03 40.3 -0.3
comp=Z,6.6nm,0.5s,baz=330,slow=1.1,SNR=22
ELK SKPab SKPbc 22 06 54.2 +0.2
comp=Z,2.9nm,0.9s,baz=284,slow=1.9,SNR=6.8
GRAC Grapevine Rang 129.12 48 P PKiKP 22 03 42.4 +1.1
baz=292
EDW2 Edwards Air Fo 129.42 51 P PKiKP 22 03 42.8 +0.8
baz=290,SNR=8.8
LRMC Laurel Mtn Rad 129.45 50 P PKiKP 22 03 43.1 +1.0
baz=291
CIS Catalina Islan 129.59 53 P PKiKP 22 03 43.1 +0.8
baz=289
FURC Furnace Creek, 129.70 49 P PKiKP 22 03 43.7 +1.4
baz=292
R11A Troy Canyon, C 129.87 46 P PKiKP 22 03 43.9 +1.0
baz=295
BFSC Mount Baldy Ra 129.90 52 P PKiKP 22 03 43.8 +0.8
baz=290
TPNV Topopah Spring 129.97 48 P PKiKP 22 03 43.8 +0.7
baz=293
GSC Goldstone, Bar 130.18 50 P PKiKP 22 03 44.2 +0.7
baz=292,SNR=6.8
SHOC Shoshone, Teco 130.36 49 P PKiKP 22 03 44.9 +1.2
baz=292
MURC Murrieta 130.48 52 P PKiKP 22 03 45.2 +1.2
baz=290
RLMT Red Lodge 130.50 35 P PKiKP 22 03 45.0 +1.1
baz=306
HEC Hector,Ludlow 130.71 51 P PKiKP 22 03 45.7 +1.1
baz=292
DUG Dugway, Tooele 130.95 43 P PKiKP 22 03 45.4 +0.4
baz=299,SNR=9.9
PFO Pinyon Flats O 131.06 52 PKIKP PKiKP 22 03 47.3 +2.0
PFO Pinyon Flats O 131.06 52 P PKiKP 22 03 46.7 +1.4
baz=290
PFO Pinyon Flats O 131.06 52 PKPdf PKiKP 22 03 47.3 +2.0
TPFO Pinon Flats 131.06 52 P PKiKP 22 03 45.9 +0.6
baz=290,SNR=6.6
LAO LASA Array 131.19 32 P PKiKP 22 03 47.0 +1.9
baz=311
GMRC Granite Mounta 131.25 50 P PKiKP 22 03 46.7 +1.0
baz=292,SNR=14
BELC Belle Mtn. Jos 131.28 51 P PKiKP 22 03 46.4 +0.6
baz=291,SNR=6.1
MONP2 Monument Peak 131.33 53 P PKiKP 22 03 46.9 +0.9
baz=290
PLCA Paso Flores 131.39 180 PKP PKiKP 22 03 46.5 +0.7
comp=Z,2.6nm,0.6s,baz=85,slow=2.7,SNR=2.9
PLCA PP PP 22 06 01.9 -0.8
comp=Z,2.8nm,0.8s,baz=224,slow=6.0,SNR=3.4
PLCA Paso Flores 131.39 180 eP PKiKP 22 03 47.5 +1.7
IKP In-Ko-Pah, Jac 131.66 53 P PKiKP 22 03 47.3 +0.7
baz=290
BW06 Boulder Array 131.68 38 P PKiKP 22 03 46.3 -0.2
baz=304
PDAR Pinedale Array 131.68 38 PKP PKPdf 22 03 44.5 -1.0
comp=Z,2.2nm,0.7s,baz=179,slow=1.5,SNR=19
PDAR SKPbc SKPbc 22 07 03.5 +0.1
comp=Z,16nm,1.0s,baz=300,slow=1.2,SNR=29
PDAR SKKPbc SKKPbc 22 16 31.2 -2.9
comp=Z,1.3nm,1.0s,baz=119,slow=5.6,SNR=4.5
PDAR Pinedale Array 131.68 38 PKPdf 22 03 45.5 +0.1
SWSC Sam W. Stewart 131.81 53 P PKiKP 22 03 47.0 +0.3
baz=290
IRM Iron Mountain 131.88 51 P PKiKP 22 03 47.6 +0.8
baz=292,SNR=6.4
GLA Glamis 132.53 52 P PKiKP 22 03 49.1 +0.9
baz=291
PDMCI Parker Dam,Lak 132.59 50 P PKiKP 22 03 48.9 +0.7
baz=293
ULM Lac du Bonnet 133.17 22 PKP PKPdf 22 03 47.6 -0.1
comp=Z,4.3nm,0.4s,baz=299,slow=3.5,SNR=7.5
ULM SKPbc SKPbc 22 07 07.4 -0.5
comp=Z,28nm,0.8s,baz=324,slow=5.0,SNR=21
LC01 Cunco 133.22 179 PKPdf PKiKP 22 03 49.3 -0.1
SCHQ Schefferville 133.30 357 PKP PKPdf 22 03 47.9 0.0
comp=Z,4.4nm,0.5s,baz=57,slow=2.8,SNR=6.7
SCHQ SKPbc SKPbc 22 07 08.8 +0.6
comp=Z,25nm,0.7s,baz=37,slow=4.9,SNR=17
TRQA Tornquist 133.30 190 PKIKP PKiKP 22 03 49.1 -0.5
TRQA Tornquist 133.30 190 PKiKP 22 03 49.1 -0.5
K22A Casper 133.56 36 P PKiKP 22 03 50.6 +0.4
baz=307
MDND Maddock 133.57 26 P PKiKP 22 03 49.8 0.0
baz=319
O20A White River Ci 133.97 40 P PKiKP 22 03 51.0 -0.1
baz=304
RSSD Black Hills 134.03 33 PKIKP PKPdf 22 03 50.1 +0.3
RSSD Black Hills 134.03 33 P PKiKP 22 03 51.4 +0.3
baz=311
RSSD Black Hills 134.03 33 PKPdf PKPdf 22 03 50.1 +0.3
WUAZ Wupatki 134.14 47 P PKiKP 22 03 52.0 +0.4
baz=297
214A Organ Pipe Nat 134.52 53 P PKiKP 22 03 52.7 +0.4
baz=292
AGMN Agassiz Nation 134.77 23 P PKiKP 22 03 52.0 -0.3
baz=324
N23A Red Feather La 134.97 38 P PKiKP 22 03 52.8 -0.5
baz=307
MVCO Mesa Verde 135.36 44 P PKiKP 22 03 53.6 -0.5
baz=301
W18A Petrified Fore 135.51 47 P PKiKP 22 03 54.4 0.0
baz=298
ISCO Idaho Springs 135.82 39 P PKiKP 22 03 54.9 -0.2
baz=306
S22A 4UR Ranch, Cre 136.21 42 P PKiKP 22 03 56.1 +0.2
baz=303
Q24A Divide 136.60 40 P PKiKP 22 03 56.9 +0.2
baz=306
EYMN Ely 136.67 20 P PKiKP 22 03 56.3 +0.2
baz=330
SDCO Great Sand Dun 137.08 41 P PKiKP 22 03 57.1 -0.6
baz=304
SDCO Great Sand Dun 137.08 41 IAMs_20 IAMs_20 23 08 09.4
comp=Z,189nm,21.0s
OGNE Ogallala 137.24 35 P PKiKP 22 03 57.6 0.0
baz=311
ANMO Albuquerque 137.94 45 P PKiKP 22 03 58.7 -0.6
baz=301
ECSD EROS Data Cent 138.06 28 P PKiKP 22 03 59.3 +0.2
baz=320
MATQ Matagami 138.13 6 P PKiKP 22 03 59.3 +0.3
baz=350
T25A Trinidad 138.14 41 P PKiKP 22 03 59.2 -0.5
baz=305
121A Cookes Peak, D 138.15 49 P PKiKP 22 03 59.8 0.0
baz=297
CHGQ Chibougamau 138.25 3 P PKiKP 22 03 59.7 +0.4
baz=355
SPMN Marine on St. 138.50 23 P PKiKP 22 04 00.3 +0.4
baz=326
LSQQ Lebel-sur-Quev 138.89 6 P PKiKP 22 04 01.3 +0.7
baz=351
EPT El Paso 139.46 50 IAMs_20 IAMs_20 22 54 03.3
comp=Z,205nm,18.0s
ITQB Itaqui 139.96 200 eP PKiKP 22 04 04.3 +0.9
CBKS Cedar Bluff 139.98 36 IAMs_20 IAMs_20 22 50 01.4
comp=Z,147nm,20.0s
BSFB Barra de Sao F 139.99 228 eP PKiKP 22 04 03.1 -0.6
NAN01 Guarapari, ES 140.06 230 eP PKiKP 22 04 03.4 -0.5
GUA01 Guaratinga, BA 140.57 231 eP PKiKP 22 04 04.3 -0.6
LATQ La Tuque 140.84 2 P PKiKP 22 04 04.8 +0.2
baz=357
MSTX Muleshoe 141.03 44 P PKiKP 22 04 05.2 -0.4
baz=304
CMC01 Camacan, BA 141.05 233 eP PKPdf 22 04 04.2 +0.9
D63A Stockholm 141.14 357 P PKiKP 22 04 06.1 +0.9
baz=4.6
VAO Valinhos 141.15 217 eP PKiKP 22 04 06.7 +0.6
NBAN Anadia - AL 141.17 244 eP PKPdf 22 04 04.9 +1.4
AMTX Amarillo 141.25 42 P PKiKP 22 04 06.6 +0.6
baz=306
KSU1 Kansas State U 141.52 33 IAMs_20 IAMs_20 23 17 52.9
comp=Z,279nm,20.0s
E63A Oxbow 141.77 357 P PKiKP 22 04 06.7 +0.1
baz=4.1
ALGO Algonquin Park 141.82 8 P PKiKP 22 04 07.0 +0.3
baz=349
E61A Lac Etchemin 141.82 359 P PKiKP 22 04 07.0 +0.3
baz=0.8
GDU01 Guandu, BA 142.01 235 eP PKiKP 22 04 07.3 -0.6
LMN Caledonia Moun 142.03 353 PKPdf PKPdf 22 04 04.8 +0.6
F61A St Evariste 142.28 360 P PKiKP 22 04 08.2 +0.5
baz=0.1
F64A Sherman 142.33 357 P PKiKP 22 04 08.2 +0.5
baz=4.3
F62A Pittston Farm, 142.35 359 P PKiKP 22 04 08.2 +0.4
baz=1.7
DIAM Diamantina, MG 142.37 226 eP PKPdf 22 04 06.9 +1.1
F63A Nahmakanta, Br 142.52 358 P PKiKP 22 04 08.8 +0.6
baz=3.1
TXAR Lajitas Array 142.76 51 PKhKP PKPpre 22 04 02.7
comp=Z,5.9nm,0.5s,baz=252,slow=1.8,SNR=64
TXAR SKPbc SKiKP 22 07 37.4 -0.3
comp=Z,11nm,0.7s,baz=271,slow=0.8,SNR=18
TXAR SKKPbc SKKPbc 22 15 44.6 -6.4
comp=Z,0.8nm,0.9s,baz=140,slow=4.5,SNR=3.9
G64A Maxfield 142.96 357 P PKiKP 22 04 09.4 +0.4
baz=3.7
PKME Peaks-Kenny Pk 142.97 358 P PKiKP 22 04 09.6 +0.5
baz=2.9
G63A Kingsbury 143.12 358 P PKiKP 22 04 10.1 +0.7
baz=2.3
WMOK Wichita Mounta 143.22 40 P PKPbc 22 04 04.0 +0.1
baz=310,SNR=27
CPUP Villa Florida 143.27 201 PKhKP PKPpre 22 04 04.7
comp=Z,14nm,0.5s,baz=150,slow=3.0,SNR=34
H66A Whiting 143.33 356 P PKPbc 22 04 03.6 -0.1
baz=6.2
H65A Eastbrook 143.49 357 P PKPbc 22 04 04.1 0.0
baz=4.6
LONY Lake Ozonia 143.50 4 P PKPbc 22 04 04.3 0.0
baz=354
H59A Cadyville 143.54 3 P PKPbc 22 04 04.6 +0.2
baz=356,SNR=9.3
H63A New Sharon 143.59 359 P PKPbc 22 04 05.3 +0.8
baz=1.6,SNR=7.3

H57A	Richville	143.59	5	P		PKPbc	22 04 04.8 +0.3
	baz=353						
H60A	Morristown	143.67	2	P		PKPbc	22 04 05.1 +0.3
	baz=357,SNR=8.0						
H62A	Milan	143.68	0	P		PKPbc	22 04 05.1 +0.3
	baz=360,SNR=7.5						
H61A	Lyndonville	143.72	1	P		PKPbc	22 04 05.3 +0.4
	baz=358,SNR=12						
H58A	Gabriels	143.74	4	P		PKPbc	22 04 05.1 +0.1
	baz=355,SNR=8.7						
HDIL	Hopedale	143.81	24	P		PKPbc	22 04 05.3 0.0
	baz=328						
ABTX	Abilene, Hawle	143.95	43	P		PKPdf	22 04 07.2 -0.8
	baz=306						
LBNH	Lisbon	144.01	1	P		PKPbc	22 04 06.3 +0.5
	baz=358,SNR=8.6						
I57A	Carthage	144.09	6	P		PKPbc	22 04 06.0 0.0
	baz=352,SNR=6.7						
I63A	Otisfield	144.21	359	P		PKPbc	22 04 06.9 +0.5
	baz=0.8,SNR=17						
TUL1	Leonard	144.25	36	P		PKPbc	22 04 07.2 +0.4
	baz=315,SNR=11						
I64A	Boothbay	144.32	358	P		PKPbc	22 04 06.8 +0.1
	baz=2.4,SNR=6.6						
I60A	Shoreham	144.36	3	P		PKPdf	22 04 07.7 -0.6
	baz=356,SNR=30						
I59A	Olmsteadville	144.37	4	P		PKPbc	22 04 07.4 +0.5
	baz=355,SNR=24						
NBMA	Muriti-CE	144.38	245	eP		PKPdf	22 04 09.7 +0.5
I62A	Tamworth	144.38	0	P		PKPbc	22 04 07.6 +0.6
	baz=360,SNR=12						
I58A	Old Forge	144.40	5	P		PKPbc	22 04 07.4 +0.4
	baz=353,SNR=13						
PCMB	Pacaembu	144.68	213	eP		PKPdf	22 04 10.8 +1.2
J58A	Remsen	144.70	5	P		PKPbc	22 04 08.4 +0.4
	baz=353,SNR=23						
SFIN	Lafayette	144.81	22	P		PKPdf	22 04 08.9 -0.3
	baz=332,SNR=32						
J61A	Chester	144.89	2	P		PKPdf	22 04 09.4 +0.1
	baz=357,SNR=33						
JANB	Januaria	144.93	229	eP		PKPdf	22 04 11.4 +1.2
J60A	Lant Hill Farm	144.95	3	P		PKPdf	22 04 09.2 -0.2
	baz=356,SNR=24						
J63A	Strafford	144.98	0	P		PKPdf	22 04 09.5 +0.1
	baz=360,SNR=14						
J62A	Henniker	145.03	1	P		PKPdf	22 04 09.6 +0.1
	baz=359,SNR=22						
CCM	Cathedral Cave	145.03	28	P		PKPdf	22 04 09.6 0.0
	baz=323						
JCT	Junction City	145.06	47	P		PKPdf	22 04 10.9 +0.9
	baz=304,SNR=161						
K56A	Middlesex	145.11	8	P		PKPab	22 04 09.5 +0.1
	baz=349,SNR=22						
NBCL	Cascavel-CE	145.15	251	eP		PKPdf	22 04 12.0 +1.4
ERPA	Erie	145.22	12	P		PKPdf	22 04 10.0 +0.1
	baz=344						
K61A	Williamstown	145.53	3	P		PKPab	22 04 11.2 +0.3
	baz=356,SNR=28						
U40A	Yellville	145.55	32	P		PKPbc	22 04 11.0 +0.1
	baz=319						
K63A	Dunstable	145.57	1	P		PKPab	22 04 11.2 +0.2
	baz=359,SNR=26						
K62A	Royalston	145.58	2	P		PKPab	22 04 11.4 +0.4
	baz=358,SNR=30						
IPMB	Ipameri, GO	145.67	221	eP		PKPab	22 04 13.5 +1.3
ITRB	Iturama	145.69	216	eP		PKPab	22 04 13.8 +1.6
M53A	WI Miller and	145.72	13	P		PKPab	22 04 11.7 0.0
	baz=343,SNR=28						
HRV	Adam Dziewonsk	145.75	1	PKP2		PKPbc	22 04 11.4 +0.1
HRV	Adam Dziewonsk	145.75	1	P		PKPbc	22 04 11.4 +0.1
	baz=359						
HRV	Adam Dziewonsk	145.75	1			PKPbc	22 04 11.4 +0.1
BINY	Binghamton	145.77	7	P		PKPab	22 04 12.1 +0.3
	baz=351,SNR=43						
L61B	Northampton	145.78	2	P		PKPab	22 04 11.7 -0.2
	baz=357,SNR=14						
WHTX	Lake Whitney,	145.81	42	P		PKPab	22 04 13.0 +0.7
	baz=308						
NBPB	Pedra_Branca-C	145.86	248	eP		PKPab	22 04 14.2 +1.2
M54A	Oil Creek Stat	145.87	12	P		PKPab	22 04 12.2 -0.1
	baz=345,SNR=38						
W39A	Magazine	145.90	34	P		PKPab	22 04 12.3 -0.2
	baz=317,SNR=29						
L58A	Harry Jones Me	145.94	6	P		PKPab	22 04 12.6 +0.2
	baz=351,SNR=50						
ACSO	Alum Creek Sta	146.28	17	P		PKPbc	22 04 13.3 +0.3
	baz=338,SNR=28						
L64A	Middleborough	146.32	360	P		PKPbc	22 04 13.3 +0.4
	baz=0.3,SNR=9.2						
N54A	Moraine State	146.33	12	P		PKPbc	22 04 13.4 +0.3
	baz=344,SNR=27						
P49A	Miami Univ. Ec	146.39	19	P		PKPbc	22 04 13.6 +0.3
	baz=335,SNR=40						
L63A	North Scituate	146.39	1	P		PKPbc	22 04 13.5 +0.2
	baz=359,SNR=6.4						
435B	Jarrell	146.45	44	P		PKPab	22 04 14.7 -0.1
	baz=307						
MIAR	Mount Ida	146.49	35	P		PKPab	22 04 14.5 -0.3
	baz=316,SNR=81						
833A	Chaparral WMA,	146.52	49	P		PKPab	22 04 15.7 +0.6
	baz=301						
M65A	Busby, Falmout	146.69	360	P		PKPbc	22 04 14.4 +0.3
	baz=0.7						
M64A	Tiverton	146.71	0	P		PKPbc	22 04 14.4 +0.2
	baz=360,SNR=5.2						
O53A	New Philadelph	146.73	14	P		PKPbc	22 04 14.6 +0.3
	baz=341,SNR=16						
W41B	Gary Mavity, V	146.76	33	P		PKPbc	22 04 14.7 +0.1
	baz=319,SNR=19						
X40A	Basin Creek Fa	146.95	34	P		PKPbc	22 04 15.5 +0.4
	baz=318,SNR=11						
WCI	Wyandotte Cave	146.99	22	PKP2		PKPdf	22 04 13.9 +0.9
WCI	Wyandotte Cave	146.99	22	P		PKPbc	22 04 15.7 +0.6
	baz=331						
WCI	Wyandotte Cave	146.99	22			PKPdf	22 04 13.9 +0.9
SSPA	Standing Stone	147.04	10	P		PKPbc	22 04 15.7 +0.6
	baz=347						
SSPA	Standing Stone	147.04	10			PKPbc	22 04 15.7 +0.6
N59A	State Game Lan	147.06	7	P		PKPab	22 04 16.1 -0.8
	baz=351,SNR=74						
P52A	Corning	147.07	16	P		PKPbc	22 04 15.5 +0.2
	baz=339,SNR=47						
NBMO	Morrinhos-CE	147.11	251	eP		PKPab	22 04 17.7 -0.2
PAL	Palisades	147.15	4	P		PKPbc	22 04 15.9 +0.5
	baz=355,SNR=19						
O56A	Blue Knob Stat	147.28	11	P		PKPbc	22 04 16.4 +0.5
	baz=346,SNR=33						
MCWV	Mont Chateau	147.61	13	P		PKPbc	22 04 17.4 +0.7
	baz=344,SNR=8.9						
NATX	Nacogdoches	147.78	40	P		PKPbc	22 04 18.4 +1.0
	baz=312						
AQDB	Aquidauana	147.85	208	eP		PKPbc	22 04 16.8 -1.1
Z41A	Richland Creek	147.87	36	P		PKiKP	22 04 18.7 -0.8
	baz=316,SNR=13						
HKT	Hockley	148.16	44	PKP2		PKPbc	22 04 17.1 -1.3
HKT	Hockley	148.16	44			PKPbc	22 04 17.1 -1.3
WVT	Waverly	148.16	26	PKIKP		PKPdf	22 04 15.7 +0.7
WVT	Waverly	148.16	26	P		PKPbc	22 04 19.1 +0.8
	baz=327						
WVT	Waverly	148.16	26	PKPdf		PKPdf	22 04 15.7 +0.7
P60A	Greenville	148.17	7	P		PKPbc	22 04 18.7 +0.5
	baz=351,SNR=19						
OXF	Oxford	148.75	30	P		PKPbc	22 04 20.3 +0.4
	baz=323,SNR=12						
LVC	Limon Verde	149.39	184	PKHKP		PKPpre	22 04 20.4
LVC				MLR		MLR	
	comp=Z,15μm,19.0s						
LVC	Limon Verde	149.39	184			PKPbc	22 04 20.4 -1.9
LVC	Limon Verde	149.39	184	eP		PKPbc	22 04 20.6 -1.8
TZTN	Tazewell	149.48	20	P		PKiKP	22 04 22.4 -0.4
	baz=335,SNR=20						
CBN	Corbin Frederi	149.50	10	P		PKiKP	22 04 22.3 -0.4
	baz=348						
BLA	Blacksburg	149.80	15	P		PKPbc	22 04 22.7 +0.2
	baz=341,SNR=6.7						
PP1B	Ponte de Pedra	149.89	212	eP		PKPdf	22 04 20.3 +1.9
VBMS	Vicksburg	149.93	34	P		PKiKP	22 04 23.9 +0.1
	baz=319						
TKL	Tuckaleechee C	150.20	21	PKPbc		PKPbc	22 04 23.6 +0.1
	comp=Z,70nm,0.6s,baz=140,slow=4.9,SNR=100						
ROSB	Rosrio	151.05	249	eP		PKPdf	22 04 21.2 +0.9
SMTB	Santa Maria do	151.22	235	eP		PKPdf	22 04 22.1 +1.6
KMSC	Kings Mountain	151.48	18	P		PKiKP	22 04 26.8 -0.1
	baz=338						
SALV	Santo Antonio	151.73	212	eP		PKPdf	22 04 22.5 +1.4
SNDB	Serra Nova Dou	152.03	225	eP		PKPdf	22 04 23.1 +1.4
CNNC	Cliffs of the	152.28	12	P		PKiKP	22 04 28.7 +0.2
	baz=345						
GOGA	Godfrey	152.31	23	P		PKiKP	22 04 29.2 +0.5
	baz=333						
BRAL	Brewton	152.60	31	P		PKiKP	22 04 30.6 +1.3
	baz=324						
352A	Blakely	153.37	27			PKPab	22 04 44.7 +1.7
PTLB	Pontes e Lacer	153.80	207	eP		PKPdf	22 04 25.5 +1.4
TIGA	Tifton	154.00	25	P		PKiKP	22 04 33.2 +1.0
	baz=330						
PRPB	Parauapebas	154.55	237	eP		PKPdf	22 04 26.6 +1.2
TMAB	Tom-Au,PA,Br	154.90	246	eP		PKPdf	22 04 27.2 +1.4
LPAZ	La Paz	155.58	187	PKP		PKPdf	22 04 28.3 +0.9
	comp=Z,2.6nm,0.9s,baz=85,slow=1.4,SNR=9.8						
LPAZ				PKPab		PKPab	22 04 55.2 +1.8
	comp=Z,26nm,0.8s,baz=129,slow=4.0,SNR=28						
LPAZ	La Paz	155.58	187	PKPab		PKPab	22 04 55.1 +1.7
LPAZ	La Paz	155.58	187	eP		PKPdf	22 04 29.3 +1.9
LPAZ	La Paz	155.58	187	eP		PKPdf	22 04 29.6 +2.2
CLDB	Colider	155.82	219	eP		PKPdf	22 04 28.1 +1.0
VILB	Vilhena	156.48	207	eP		PKPdf	22 04 29.9 +2.0
NPGB	Novo Progresso	158.32	226	eP		PKPdf	22 04 31.1 +0.8
MCPB	Macapa, AP	159.33	247	eP		PKPdf	22 04 32.8 +1.3
ITTB	Itaituba	160.37	231	eP		PKPdf	22 04 33.6 +1.0
MALB	Monte Alegre	160.60	240	eP		PKPdf	22 04 33.0 +0.2
MTO3	Montecristo	160.94	69	PKPdf		PKPdf	22 04 33.3 -0.1
SAML	Samuel	161.34	205	PKIKP		PKPdf	22 04 34.4 +0.8
SAML							22 05 18.5
SAML	Samuel	161.34	205	PKPdf		PKPdf	22 04 34.4 +0.8
SAML				PKPab		PKPab	22 05 18.5 +0.8
SAML	Samuel	161.34	205	eP		PKPdf	22 04 34.4 +0.8
SAML	Samuel	161.34	205	eP		PKPdf	22 04 34.9 +1.2
ETMB	Extrema	161.56	195	eP		PKPdf	22 04 34.7 +0.9
CZSB	Cruzeiro do Su	164.16	174	eP		PKPdf	22 04 37.3 +0.9
PTGA	Pitinga	165.92	232			PKPdf	22 04 38.8 +0.9
PTGA						PKPab	22 05 39.8 +1.8
BOAV	Boa Vista	168.13	242	eP		PKPdf	22 04 40.0 +0.4
CDITO	Canoas	168.24	87			PKPdf	22 04 41.7 +2.1
OTAV	Otavalo	169.20	136	PKIKP		PKPdf	22 04 42.2 +1.3
OTAV	Otavalo	169.20	136			PKPdf	22 04 42.2 +1.3
OTAV	Otavalo	169.20	136	eP		PKPdf	22 04 41.7 +0.9
OTAV	Otavalo	169.20	136	eP		PKPdf	22 04 41.8 +0.9
GCUF	Volcan Galeras	170.68	137	eP		PKPdf	22 04 42.3 +0.5
BBAC	Balboa, Cauca	171.31	134	eP		PKPdf	22 04 41.6 -0.1
SOTA	Rioblanco	171.84	136	eP		PKPdf	22 04 39.0 -3.3
POPC	Popayan, Colom	172.08	134	eP		PKPdf	22 04 32.1 -10
PCON	Cinco Dias	172.12	137	eP		PKPdf	22 04 43.2 +0.7
MARP	Paez Belalcaza	172.80	136	eP		PKPdf	22 04 43.0 +0.5
YOTC	Yotoco, Valle	173.28	127	eP		PKPdf	22 04 41.9 -0.6
PLMC	San Jos del P	173.85	121	eP		PKPdf	22 04 42.9 +0.3
TOLC	Tolima	174.45	129	eP		PKPdf	22 04 42.2 -0.9
DBBC	Dabeiba	174.71	102	eP		PKPdf	22 04 43.5 +0.7
GUY2C	Guyana, Caldas	174.79	123	eP		PKPdf	22 04 42.9 -0.5
MOTC	Monteria, Cord	175.33	82	eP		PKPdf	22 04 43.3 +0.3
ROSC	El Rosal	175.36	134	eP		PKPdf	22 04 43.3 -0.2
NORC	Norcasia	175.39	123	eP		PKPdf	22 04 42.2 -0.8
SJCC	San Jacinto, C	175.50	67	eP		PKPdf	22 04 43.5 +0.5
ZARC	Zaragoza, Cauc	176.12	99	eP		PKPdf	22 04 42.8 -0.3
RUSC	La Rusia	176.97	137	eP		PKPdf	22 04 43.1 -0.9
BARC	Barichara	177.35	125	eP		PKPdf	22 04 42.6 -1.1

*IDC **24** 22:14:50.8±1.5, 40°.59N×69°.59E, h0km, mb3.8/4,*
mb1 3.6/10, mb1mx3.4/65, mbtmp3.5/10, ML3.0/6 Error
ellipse: s-maj=20.5km s-min=12.7km az=179.0
*KRNET **24** 22:14:52.7±0.1, 40°.76N×69°.66E, h13km, mb3.9*
*ISU **24** 22:14:53, 39°.70N×69°.60E, h5km*
*SOME **24** 22:14:56.3, 40°.92N×69°.82E, h10km*
*NNC **24** 22:14:58.3±2.0, 40°.80N×69°.88E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=15.3km s-min=10.4km az=35.0
ISC 24 22:14:53.7±1.1, 40°.88N±0°.03×69°.87E±0°.02, h12km±8km,
n76, σ2°.23/114, mb3.7/4, 37C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YBZ	Yangibazar	0.48	333	eP		Pg	22 15 04.0	+0.8
YBZ				eS		Sg	22 15 12.0	+2.4
TGS	TashGRES	0.61	334	eP		Pg	22 15 06.0	+0.4
TGS				eS		Sg	22 15 15.0	+1.3
TAS	Tashkent	0.63	316	⇑iP		Pg	22 15 04.9	-1.0
	baz=35							
TAS				⇑iS		Sg	22 15 14.0	-0.2
	baz=35							
TAS	Tashkent	0.63	316	eP		Pg	22 15 05.0	-1.0
TAS				eS		Sg	22 15 14.0	-0.2
CHRV	Charvak	0.77	4	eP		Pn	22 15 11.0	+0.6
CHRV				eS		Sn	22 15 23.0	+1.0
BTK	Batken	1.09	138	⇑iP		Pb	22 15 14.2	-0.3
	baz=28							
BTK				⇑iS		Sn	22 15 29.6	-0.3
	baz=28							
TRKS	Terek-Say	1.16	55	⇑iP		Pn	22 15 18.0	+2.1
	baz=58							
TRKS				⇑iS		Sn	22 15 36.4	+4.7
	baz=58							
FRG	Fergana	1.46	95	eP		Pg	22 15 25.0	+3.3
FRG				eS		Sg	22 15 47.0	+6.4
GAR	Garm	1.90	170	⇑eP		Pn	22 15 26.9	+0.8
	baz=64							
GAR				⇑iS		Sn	22 15 51.6	+1.6
	baz=64							
DRK	Karamyk	2.03	133	⇑iP		Pb	22 15 31.0	+0.3
	baz=27							
DRK				⇑iS		Sg	22 15 58.7	-0.3
	baz=27							
OHH	Osh	2.24	98	⇑iP		Pg	22 15 35.2	-1.5
	baz=95							
OHH				⇑iS		Sg	22 16 05.7	0.0
	baz=95							
KK31	Karatay Array	2.28	12	⇓Pn		Pg	22 15 37.2	-0.1
	11nm,0.3s,baz=164,slow=8.4,SNR=251							
KK31				⇑Sn		Sg	22 16 09.9	+3.0
	84nm,0.3s,baz=182,slow=16,SNR=28							
CHGR	Chuyangaron	2.28	194	⇑eP		Pn	22 15 31.4	+0.1
	baz=91							
CHGR				⇑iS		Sn	22 15 59.5	+0.1
	baz=91							
MNAS	Manas	2.54	50	⇓eP		Pb	22 15 40.1	+0.7
	baz=50							
MNAS				⇓iS		Sg	22 16 14.9	-0.6
	baz=50							
AGL	Agalyk	2.66	240	eP		Pn	22 15 36.0	-0.5
AGL				eS		Sn	22 16 11.0	+2.3
MRKS	Merke	3.13	52	eP		Pg	22 15 54.2	+0.6
	13nm,0.4s							
MRKS				eS		Sg	22 16 36.4	+2.3
	73nm,0.4s							
AML	Almayashu	3.13	65	⇑eP		Pb	22 15 48.5	-1.0
	baz=64							
AML				⇑iS		Sb	22 16 28.8	+1.0
	baz=64							
EKS2	Erkin-Say	3.42	57	⇑eP		Pb	22 15 52.2	-2.1
	baz=57							
EKS2				⇑eS		Sb	22 16 35.8	-0.1
	baz=57							
ARLS	Aral	3.49	72	⇑eP		Pb	22 15 52.5	-3.0
	baz=71							
ARLS				⇑iS		Sb	22 16 37.2	-0.7
	baz=71							
AAK	Ala-Archa	3.88	61	Pn		Pb	22 15 58.8	-3.3
	1.7nm,0.3s,baz=243,slow=2.3,SNR=2.3							
AAK				Pg		Pg	22 16 07.7	-0.3
	3.8nm,0.3s,baz=220,slow=8.4,SNR=7.5							
AAK				Sn		Sb	22 16 50.9	+1.8
	2.6nm,0.3s,baz=100,slow=7.4,SNR=1.7							
AAK				Lg		Lg	22 17 00.3	
	4.6nm,0.3s,baz=24,slow=16,SNR=7.0							
AAK	Ala-Archa	3.88	61	⇓Pn		Pb	22 16 03.8	+1.7
	9.1nm,0.5s							
AAK				⇓Lg		Lg	22 17 08.3	
	49nm,1.1s							
USP	Ospenovka	4.19	54	⇑eP		Pb	22 16 02.9	-4.5
	baz=54							
USP				⇑eS		Sb	22 16 54.1	-3.9
	baz=54							
KBK	Karagaybulak	4.19	63	⇓eP		Pb	22 16 02.8	-4.7
	baz=63							
KBK				⇓eS		Sb	22 16 53.9	-4.2
	baz=63							
CHMS	Chumysh	4.21	58	⇑eP		Pb	22 16 03.1	-4.6
	baz=58							
CHMS				⇑iS		Sb	22 16 54.4	-4.1
	baz=58							
SGDS	Sogindy	4.37	52	Pg		Pg	22 16 16.8	-0.7
	6.7nm,0.6s							
SGDS				Lg		Lg	22 17 14.3	
	32nm,0.4s							
TKM2	Tokmak 2	4.74	63	⇑eP		Pn	22 16 10.5	+5.4
	baz=62							
TKM2				⇑eS		Sb	22 17 07.4	-6.4
	baz=62							
TKM2	Tokmak 2	4.74	63	⇑Pn		Pb	22 16 12.9	-3.9
	1.0nm,0.3s							
TKM2				⇓Pg		Pg	22 16 25.9	+1.6
	5.8nm,0.5s							
TKM2				⇓Lg		Lg	22 17 34.0	
	56nm,0.7s							
BOOM	Boomskoye usch	4.82	68	⇑eP		Pn	22 16 11.5	+5.3
	baz=68							
BOOM				⇑eS		Sb	22 17 09.3	-6.9
	baz=68							
ULHL	Ulahol	4.97	72	⇑eP		Pn	22 16 13.7	+5.4
	baz=71							
ULHL				⇑eS		Sb	22 17 12.4	-8.1
	baz=71							
DGS	Degeres	4.99	60	eP		Pg	22 16 27.6	-1.6
	9.4nm,0.5s							
DGS				eS		Sg	22 17 33.4	-0.3
	24nm,0.8s							
DGS	Degeres	4.99	60	Pg		Pg	22 16 28.0	-1.2
	9.4nm,0.5s							
DGS				Lg		Lg	22 17 33.7	
	24nm,0.8s							
KST	Kastek	5.03	62	eP		Pg	22 16 28.7	-1.4
	9.2nm,0.5s							
KST				eS		Sg	22 17 35.3	+0.2
	48nm,0.7s							
KST	Kastek	5.03	62	Pg		Pg	22 16 28.6	-1.4
	9.2nm,0.5s							
KST				Lg		Lg	22 17 35.9	
	48nm,0.7s							
KRBS	Karabastau	5.14	55	eP		Pg	22 16 31.0	-1.2
	6.2nm,0.5s							
KRBS				eS		Sg	22 17 38.8	0.0
	17nm,0.5s							
KRBS	Karabastau	5.14	55	Pg		Pg	22 16 31.0	-1.2
	6.2nm,0.5s							
KRBS				Lg		Lg	22 17 38.8	
	17nm,0.5s							
BTLS	Baital	5.17	35	eP		Pg	22 16 32.4	-0.2
	6.3nm,0.6s							
BTLS				eS		Sg	22 17 40.1	+0.6
	22nm,0.4s							
BTLS	Baital	5.17	35	Pg		Pg	22 16 32.4	-0.2
	6.3nm,0.6s							
BTLS				Lg		Lg	22 17 40.1	
	22nm,0.4s							
IZV	Izvestkoviy	5.47	65	eP		Pg	22 16 38.4	-0.1
	7.9nm,0.5s							
IZV				eS		Sg	22 17 50.5	+1.2
	21nm,0.6s							
IZV	Izvestkoviy	5.47	65	Pg		Pg	22 16 38.4	-0.1
	7.9nm,0.5s							
IZV				Lg		Lg	22 17 50.4	
	21nm,0.6s							
KUU	Kurty	5.66	56	eP		Pg	22 16 41.1	-0.9
	8.4nm,0.9s							
KUU				eS		Sg	22 17 56.5	+1.2
	18nm,0.6s							
KUU	Kurty	5.66	56	Pg		Pg	22 16 41.1	-0.9
	8.4nm,0.9s							
KUU				Lg		Lg	22 17 56.5	
	18nm,0.6s							
TNSS	Tian-Shan	5.70	65	Pg		Pg	22 16 43.2	+0.4
	7.1nm,0.5s							
TNSS				Lg		Lg	22 17 59.8	
	28nm,1.0s							
KTBS	Karatobe	5.79	58	eP		Pg	22 16 43.6	-1.0
	5.0nm,0.6s							
KTBS				eS		Sg	22 17 59.5	0.0
	24nm,0.8s							
KTBS	Karatobe	5.79	58	Pg		Pg	22 16 43.6	-1.0
	5.0nm,0.6s							
KTBS				Lg		Lg	22 17 59.5	
	24nm,0.8s							
MDOK	Medeo	5.81	64	eP		Pg	22 16 43.8	-1.1
	4.2nm,0.5s							
MDOK				eS		Sg	22 18 00.6	+0.4
	22nm,1.0s							
MDOK	Medeo	5.81	64	Pn		Pn	22 16 26.1	+6.2
	5.3nm,0.7s							
MDOK				Pg		Pg	22 16 45.7	+0.7
	6.9nm,0.7s							
MDOK				Lg		Lg	22 18 08.3	
MDOK	Medeo	5.81	64	Pg		Pg	22 16 43.8	-1.1
	4.2nm,0.5s							
MDOK				Lg		Lg	22 18 00.6	
	22nm,1.0s							
CHKK	Chushkaly	6.05	58	eP		Pg	22 16 48.6	-1.0
	2.4nm,0.3s							
CHKK				eS		Sg	22 18 08.7	+0.8
	14nm,0.6s							
CHKK	Chushkaly	6.05	58	Pg		Pg	22 16 48.6	-1.0
	2.4nm,0.3s							
CHKK				Lg		Lg	22 18 08.7	
	14nm,0.6s							
ARXS	Arharly	6.75	58	eP		Pg	22 17 01.6	-1.4
	5.9nm,0.5s							
ARXS				eS		Sg	22 18 30.9	+0.5
	16nm,0.8s							
ARXS	Arharly	6.75	58	Pg		Pg	22 17 01.6	-1.4
	5.9nm,0.5s							
ARXS				Lg		Lg	22 18 30.9	
	16nm,0.8s							
KPKS	Kokpek	7.04	66	eP		Pg	22 17 05.7	-2.7
	5.3nm,0.6s							
KPKS				eS		Sg	22 18 37.9	-1.6
	15nm,0.6s							
UZB	Uzynbulak	7.18	69	eP		Pg	22 17 08.3	-2.8
	3.7nm,0.5s							
UZB				eS		Sg	22 18 42.7	-1.4
	6.1nm,0.7s							
UZB	Uzynbulak	7.18	69	Pg		Pg	22 17 08.3	-2.8
	3.7nm,0.5s							
UZB				Lg		Lg	22 18 42.7	
	6.1nm,0.7s							
TDK	Taldyqorghan	7.50	54	eP		Pg	22 17 16.8	-0.4
	17nm,0.3s							
TDK				eS		Sg	22 18 55.6	+1.5
	32nm,1.0s							
TDK	Taldyqorghan	7.50	54	Pg		Pg	22 17 16.8

0.8nm,0.4s,baz=141,slow=12,SNR=36
AB31 ⇑Lg Lg 22 19 22.6
0.9nm,0.4s,baz=111,slow=36,SNR=5.7
KURBB Kurchatov Arra 11.46 29 Pn **Pn 22 17 38.0 +0.9**
0.1nm,0.3s,baz=220,slow=11,SNR=1.9
KURBB Lg Lg 22 20 59.4
0.1nm,0.3s,baz=213,slow=31,SNR=11
KURBB Kurchatov Arra 11.46 29 ⇓Lg Lg 22 21 07.0
24nm,0.8s
BVAR Borovoye Array 12.16 1 Pn **Pn 22 17 46.7 0.0**
0.2nm,0.3s,baz=120,slow=14,SNR=2.6
BVAR Sn **Sn 22 20 04.0 +2.0**
0.1nm,0.3s,baz=208,slow=28,SNR=1.4
BVAR Lg Lg 22 21 24.5
0.1nm,0.3s,baz=251,slow=9.0,SNR=1.6
AKTO Aktyubinsk 12.64 323 Pn **Pn 22 17 51.1 -2.1**
0.1nm,0.3s,baz=139,slow=15,SNR=2.1
AKTO Sn Sn 22 20 05.7 -8.1
0.2nm,0.3s,baz=332,slow=21,SNR=2.0
AKTO Lg Lg 22 21 34.0
0.2nm,0.3s,baz=4.3,slow=22,SNR=1.7
ZALV Zalesovo Beam 16.49 32 Pn **P 22 18 48.2 +1.0**
0.2nm,0.3s,baz=230,slow=11,SNR=8.9
FINES FINESS Array B 33.41 323 P **P 22 21 30.6 -1.2**
2.9nm,1.0s,baz=116,slow=9.4,SNR=2.0
HFS Hagfors 39.14 319 P **P 22 22 21.0 +0.2**
1.2nm,0.5s,baz=98,slow=11,SNR=6.8
NB2 NORSAR Subarra 40.41 320 P **P 22 22 31.4 0.0**
comp=Z,2.8nm,1.2s,baz=93,slow=8.6
NOA NORSAR Array B 40.41 320 P **P 22 22 31.1 -0.3**
comp=Z,0.7nm,0.7s,baz=94,slow=8.3,SNR=4.0
WRA Warramunga Arr 85.04 122 P **P 22 27 29.3 +0.1**
comp=Z,0.1nm,0.4s,baz=323,slow=4.3,SNR=1.2

*VIE **24** 22:15:49.0±0.9, 50°.26N×19°.00E, $h0^{km}$, mb2.2/6, ml2.7/5, ms3.2/1, Error ellipse: s-maj=5.9km s-min=4.5km az=71.0*
2 km ENE of Katowice Suspected Mining induced.
*PRU **24** 22:15:50.6±0.0, 50°.24N×18°.87E, $h0^{km}$*
*BGR **24** 22:15:50.3±0.4, 50°.20N×18°.93E, $h1^{km}$, ML3.0/12, Error ellipse: s-maj=8.9km s-min=3.3km az=0.0*
ISC 24 22:15:49.9±0.8, 50°.21N±0°.04×18°.91E±0°.02, $h0^{km}$, n42, σ1°04/68, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.57**	**89**	*e*Pg			**Pg**	**22 16 00.0**	**-0.9**
OJC				*e*Sg			**Sg**	**22 16 07.4**	**-0.9**
OJC	**Ojcow**	**0.57**	**89**	*e*Pg			**Pg**	**22 16 00.5**	**-0.3**
OJC				*e*Sg			**Sg**	**22 16 07.6**	**-0.7**
OKC	**Ostrava-Krasne**	**0.62**	**233**	*e*PG			**Pb**	**22 16 03.3**	**-0.2**
OKC				*e*SG			**Sb**	**22 16 11.8**	**-0.9**
	comp=Z,46nm,0.3s								
OKC	**Ostrava-Krasne**	**0.62**	**233**	*e*Pg			**Pb**	**22 16 03.6**	**+0.1**
MORC	**Moravsky Berou**	**0.98**	**244**	*e*PG			**Pb**	**22 16 09.2**	**-0.6**
MORC				*e*SG			**Sb**	**22 16 23.4**	**+0.1**
MORC	**Moravsky Berou**	**0.98**	**244**	*e*Pg			**Pb**	**22 16 09.8**	**0.0**
MORC				*e*Sg			**Sb**	**22 16 23.8**	**+0.5**
LANS	**Liptovska Anna**	**1.12**	**161**	*e*PG			**Pg**	**22 16 11.7**	**+0.3**
LANS				*e*SG			**Sb**	**22 16 27.1**	**-0.3**
LANS				*e*LG			Lg	22 16 30.6	
KRLC	**Kraliky**	**1.37**	**265**	*e*PG			**Pg**	**22 16 15.8**	**-0.4**
JAVC	**Velka Javorina**	**1.58**	**211**	*e*PN			**Pb**	**22 16 19.5**	**-0.4**
DPC	**Dobruska-Polom**	**1.66**	**276**	*e*PG			**Pn**	**22 16 20.6**	**+0.3**
DPC				*e*SG			**Sg**	**22 16 43.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.66**	**276**	*e*Pg			**Pb**	**22 16 20.7**	**-0.6**
DPC				*e*Sg			**Sg**	**22 16 42.8**	**-0.4**
STHS	**Stebnicka Huta**	**1.71**	**117**	*e*PN			**Pn**	**22 16 21.3**	**+0.3**
STHS				*e*SN			**Sg**	**22 16 45.4**	**+0.6**
VYHS	**Vyhne**	**1.72**	**182**	*e*PN			**Pn**	**22 16 20.5**	**-0.6**
VYHS				*e*SN			**Sn**	**22 16 43.5**	**-0.3**
VYHS				*e*LG			Lg	22 16 45.6	
VRAC	**Vranov**	**1.75**	**240**	*e*PN			**Pn**	**22 16 21.8**	**+0.3**
VRAC				*e*SG			**Sg**	**22 16 45.6**	**-0.5**
OSTC	**Ostas**	**1.75**	**282**	*e*PG			**Pn**	**22 16 22.0**	**+0.4**
OSTC				*e*SG			**Sg**	**22 16 46.5**	**+0.3**
KSP	**Ksiaz**	**1.78**	**292**	*e*Pg			**Pg**	**22 16 24.5**	**+0.5**
KSP				*e*Sg			**Sg**	**22 16 49.1**	**+2.1**
KSP	**Ksiaz**	**1.78**	**292**	*e*Pg			**Pg**	**22 16 24.5**	**+0.5**
KSP				*e*Sg			**Sg**	**22 16 48.0**	**+0.9**
CHVC	**Chvalec**	**1.86**	**283**	*e*PG			**Pn**	**22 16 23.2**	**+0.2**
CHVC				*e*SG			**Sb**	**22 16 48.6**	**0.0**
UPC	**Upice**	**1.88**	**280**	*e*SG			**Sb**	**22 16 49.2**	**+0.2**
SMOL	**Smolenice**	**1.96**	**210**	*e*PN			**Pn**	**22 16 24.0**	**-0.3**
SMOL				*e*LG			Lg	22 17 03.3	
KRUC	**Moravsky**	**2.00**	**236**	*e*PN			**Pn**	**22 16 24.5**	**-0.4**
KRUC				*e*SG			**Sb**	**22 16 51.9**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.12**	**127**	*e*PN			**Pb**	**22 16 29.4**	**+0.3**
CRVS				*e*SN			**Sb**	**22 16 56.6**	**+0.6**
MODS	**Modra-Piesok**	**2.13**	**211**	*e*PG			**Pb**	**22 16 29.0**	**-0.3**
MODS				*e*SG			**Sg**	**22 16 59.6**	**+1.4**
PSZ	**Piszkesteto**	**2.39**	**164**	*e*P			**Pn**	**22 16 31.0**	**+0.7**
KOLS	**Kolonicke sedl**	**2.54**	**119**	*e*PG			**Pg**	**22 16 39.7**	**+1.2**
KOLS				*e*SN			**Sn**	**22 17 01.9**	**-2.0**
PVCC	**Panska Ves**	**2.79**	**278**	*e*SG			**Sg**	**22 17 19.2**	**-0.4**
	comp=Z,27nm,0.2s								
PRU	**Pruhonice**	**2.82**	**267**	*e*SG			**Sg**	**22 17 18.7**	**-1.7**
	comp=Z,15nm,0.6s								
CONA	**Conrad Observa**	**3.04**	**222**	*e*Pn			**Pn**	**22 16 38.9**	**-0.3**
CONA				*e*Sn			**Sn**	**22 17 16.0**	**-0.4**
	4.1nm,0.3s								
BRG	**Berggiesshubel**	**3.23**	**284**	Pg			**Pg**	**22 16 51.8**	**0.0**
BRG				Sg			**Sg**	**22 17 31.3**	**-2.4**
BRG				Amp				22 17 37.1	
	comp=Z,9.1nm,0.6s								
BRG	**Berggiesshubel**	**3.23**	**284**	*e*Sg			**Sg**	**22 17 34.4**	**+0.7**
KHC	**Kasperske Hory**	**3.62**	**255**	*e*PN			**Pn**	**22 16 47.1**	**-0.2**
KHC				*e*PG			**Pb**	**22 16 54.7**	**-0.1**
KHC				*e*SG			**Sg**	**22 17 45.1**	**-1.2**
	comp=Z,18nm,0.6s								
GEC2	**GERESS Array S**	**3.66**	**250**	*e*Sg			**Sg**	**22 17 45.8**	**-1.5**
ARSA	**Arzberg**	**3.71**	**218**	*e*Pn			**Pn**	**22 16 49.3**	**+0.8**
	comp=Z,0.5nm,0.3s								
ARSA				*e*Sn			**Sn**	**22 17 36.0**	**+3.0**
	comp=Z,3.1nm,0.5s								
MOA	**Molln**	**3.86**	**234**	*e*Pn			**Pn**	**22 16 49.3**	**-1.2**
	comp=Z,0.2nm,0.1s								
MOA				*e*Sn			**Sn**	**22 17 38.5**	**+1.9**
	comp=Z,4.9nm,0.6s								
CLL	**Collm**	**3.90**	**289**	*e*Pg			**Pg**	**22 17 05.0**	**+0.4**
CLL				*e*Sg			**Sg**	**22 17 55.0**	**-0.2**
	comp=Z,15nm,0.7s								
WET	**Wettzell**	**4.06**	**257**	*e*Sg			**Sg**	**22 17 57.5**	**-2.7**
WERD	**Werda**	**4.23**	**276**	*e*Sg			**Sg**	**22 18 05.2**	**-0.6**
ROTZ	**Rotzenmuhle**	**4.34**	**267**	*e*Sg			**Sg**	**22 18 08.2**	**-1.2**
MANZ	**Manzenberg**	**4.38**	**270**	*e*Sg			**Sg**	**22 18 08.6**	**-2.0**
MOX	**Moxa**	**4.68**	**278**	*e*Sg			**Sg**	**22 18 19.1**	**-1.0**
GRF	**Grafenberg Arr**	**4.99**	**267**	*e*Sg			**Sg**	**22 18 28.3**	**-1.7**
WTTA	**Wattenberg**	**5.64**	**241**	*e*Sn			**Sn**	**22 18 22.8**	**+2.1**
	comp=Z,4.0nm,0.6s								

IDC 24 22:21:32.0±2.2, 0°.64N×127°.05E, $h0^{km}$, mb3.2/3, mb1 3.5/3, mb1mx3.2/31, mbtmp3.3/3, Error ellipse: s-maj=186.0km s-min=26.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**161**	P			P	22 26 23.4	-0.9
	0.7nm,1.0s,baz=340,slow=12,SNR=3.0								
ASAR	**Alice Springs**	**25.06**	**165**	P			P	22 26 58.8	+0.5
	0.4nm,0.4s,baz=340,slow=9.9,SNR=8.8								
MKAR	**Makanchi Array**	**60.28**	**326**	P			P	22 31 42.3	-0.1
	0.7nm,0.7s,baz=134,slow=6.9,SNR=6.4								

*IDC **24** 23:04:53.3±1.0, 28°.81S×71°.56W, $h0^{km}$, mb3.8/3, mb1 3.7/6, mb1mx3.6/25, mbtmp3.6/6, ML3.2/3, Error ellipse: s-maj=49.6km s-min=27.4km az=101.0*
*GUC **24** 23:04:57.7±0.8, 28°.72S×71°.35W, $h4^{km}$±6^{km}, ML3.7*
ISC 24 23:04:57.6±0.8, 28°.71S±0°.04×71°.38W±0°.09, $h29^{km}$, n23, σ1°30/27, mb3.9/3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.57**	**28**	⇓*i*P			**Pn**	**23 05 10.3**	**+0.6**
AC04				*i* S			**Sn**	**23 05 18.7**	**+0.6**
AC04				IAML				23 05 19.3	
	comp=E,14μm,0.1s								
LCO	**Las Campanas**	**0.67**	**117**	*e*P			**Pn**	**23 05 11.9**	**+0.6**
LCO				*e*S			**Sn**	**23 05 22.4**	**+1.4**
CO05	**La Serena**	**1.21**	**174**	*e*P			**Pb**	**23 05 19.5**	**-0.4**
CO05				*i* S			**Sb**	**23 05 34.3**	**-1.0**
CO05				IAML				23 05 39.8	
	comp=N,2μm,0.4s								
GO03	**Copiap**	**1.50**	**43**	*e*P			**Pb**	**23 05 24.2**	**-0.6**
GO03				IAML				23 05 46.8	
	comp=E,2μm,0.5s								
GO04	**Tololo Observa**	**1.54**	**161**	*e*P			**Pb**	**23 05 24.7**	**-1.0**
GO04				IAML				23 05 52.4	
	comp=N,6μm,0.5s								
CO06	**Fray Jorge**	**1.97**	**186**	⇓*i*P			**Pn**	**23 05 29.0**	**-0.1**
CO06				IAML				23 06 04.0	
	comp=E,383nm,0.1s								
CO03	**El Pedregal**	**2.21**	**164**	*e*P			**Pb**	**23 05 33.9**	**-3.0**
CO03				IAML				23 06 11.5	
	comp=E,728nm,0.3s								
CO02	**Combarbal**	**2.51**	**173**	*e*P			**Pn**	**23 05 37.4**	**+0.8**
AC02	**Maricunga**	**2.73**	**47**	*e*P			**Pb**	**23 05 42.9**	**-3.1**
GO02	**Mina Guanaco**	**3.87**	**25**	*e*P			**Pn**	**23 05 56.1**	**+0.6**
MT02	**Curacav**	**4.54**	**177**	*e*P			**Pn**	**23 06 04.2**	**-0.2**
MT01	**Popeta**	**5.14**	**179**	*e*P			**Pn**	**23 06 12.4**	**-0.2**
LMEL	**Las Melosas**	**5.22**	**169**	*e*P			**Pn**	**23 06 16.0**	**+2.1**
LVC	**Limon Verde**	**6.47**	**21**	Pn			**Pn**	**23 06 31.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=238,slow=16,SNR=1.0								
LVC				Sn			**Sn**	**23 07 42.7**	**-1.5**
	comp=E,1.5nm,0.3s,baz=128,slow=11,SNR=3.7								
LVC				Lg			Lg	23 08 18.5	
	comp=E,10nm,0.3s,baz=126,slow=19,SNR=7.7								
LPAZ	**La Paz**	**12.72**	**14**	Pn			**Pn**	**23 07 59.7**	**+2.6**
	comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=1.7								
SIV	**San Ignacio**	**15.83**	**39**	Pn			**P**	**23 08 41.9**	**-0.1**
	comp=E,0.1nm,0.3s,baz=158,slow=7.1,SNR=2.1								
SNAA	**Sanae**	**56.29**	**159**	P			**P**	**23 14 35.7**	**+0.5**
	comp=E,0.7nm,0.5s,baz=301,slow=15,SNR=2.4								
PDAR	**Pinedale Array**	**79.33**	**332**	P			**P**	**23 17 01.0**	**+0.4**
	comp=E,0.2nm,0.5s,baz=142,slow=6.6,SNR=2.3								
TORD	**Torodi Ar. Bea**	**81.89**	**70**	P			**P**	**23 17 15.3**	**+0.7**
	comp=E,0.9nm,0.6s,baz=262,slow=4.4,SNR=7.9								
ASAR	**Alice Springs**	**122.52**	**208**	PKP			**PKiKP**	**23 23 50.4**	**-0.6**
	comp=E,0.2nm,0.4s,baz=151,slow=2.2,SNR=1.7								
WRA	**Warramunga Arr**	**125.63**	**210**	PKP			**PKiKP**	**23 23 57.1**	**-0.2**
	comp=E,0.5nm,0.5s,baz=160,slow=1.6,SNR=10								
ZALV	**Zalesovo Beam**	**149.37**	**28**	PKPbc			**PKiKP**	**23 24 44.1**	**-0.3**
	comp=E,1.7nm,0.5s,baz=307,slow=2.9,SNR=9.7								
MKAR	**Makanchi Array**	**152.64**	**42**	PKPbc			**PKiKP**	**23 24 51.5**	**+0.1**
	comp=E,0.5nm,0.7s,baz=304,slow=2.4,SNR=6.1								

*IDC **24** 23:06:49.0±4.9, 5°.61S×148°.78E, $h0^{km}$, mb3.6/2, mb1 4.1/3, mb1mx3.6/24, mbtmp3.8/3, ML4.4/1, MS4.1/1, Ms1 4.1/1, ms1mx2.7/30, Error ellipse: s-maj=141.7km s-min=32.9km az=103.0*
*NEIC **24** 23:07:15.4±3.0, 5°.3S±0°.2×144°.9E±0°.1, $h35^{km}$±2^{km}, mb4.1/10, Error ellipse: s-maj=37.2km s-min=16.9km az=23.0*
ISC 24 23:07:14.6±3.9, 5°.3S±0°.5×144°.9E±0°.2, $h35^{km}$, n15, σ1°50/13, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.47**	**106**				**Pn**	**23 10 50.7**	**+0.5**
WB0	**Warramunga Arr**	**17.67**	**215**	P			**P**	**23 11 20.7**	**+1.9**
WB0				IAmb			IAmb	23 11 23.5	
	comp=Z,11nm,1.5s								
WR0	**Warramunga Arr**	**17.75**	**214**	P			**P**	**23 11 21.3**	**+1.7**
WR0				IAmb			IAmb	23 11 21.8	
	comp=Z,7.2nm,0.3s								
WRAB	**Tennant Creek**	**17.83**	**214**	P			**Pn**	**23 11 19.7**	**-0.4**
WRAB				IAmb			IAmb	23 11 23.2	
	comp=Z,6.9nm,0.6s								
WB2	**Warramunga Arr**	**17.84**	**214**	P			**P**	**23 11 22.4**	**+1.8**
WB2				IAmb			IAmb	23 11 23.3	
	comp=Z,7.0nm,0.5s								
WRA	**Warramunga Arr**	**17.84**	**214**	P			**P**	**23 11 22.9**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=49,slow=11,SNR=49								
WRA	**Warramunga Arr**	**17.84**	**214**	P			**Pn**	**23 11 20.9**	**+0.7**
AS31	**Alice Springs**	**21.14**	**209**	P			**P**	**23 11 55.9**	**-0.8**
ASAR	**Alice Springs**	**21.14**	**209**	P			**P**	**23 11 55.4**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=49,slow=8.8,SNR=27								
ASAR	**Alice Springs**	**21.14**	**209**	P			**P**	**23 11 55.3**	**-1.3**
BBOO	**Buckleboo**	**28.61**	**196**	P			**P**	**23 13 07.0**	**-0.7**
BBOO				IAmb			IAmb	23 13 10.3	
	comp=Z,29nm,1.4s								
PSA00	**Pilbara Seismi**	**29.19**	**234**	P			**P**	**23 13 13.7**	**+0.6**
PSA00				IAmb			IAmb	23 13 29.4	
	comp=Z,2.8nm,1.1s								
MORW	**Morawa**	**36.14**	**226**	P			**P**	**23 14 12.1**	**-1.6**
JNU	**Nakatsue**	**40.45**	**342**	LR			LR	23 28 53.2	
	comp=Z,243nm,21.4s,baz=262,slow=32								
SONM	**Songino Array**	**62.78**	**332**	P			P	23 17 30.8	-5.8
	comp=Z,0.2nm,0.3s,baz=123,slow=5.3,SNR=2.3								

*VAO **24** 23:14:36.3±0.2, 20°.18S×70°.02W, $h10^{km}$, mb5.3*
*SJA **24** 23:14:36.7±1.1, 20°.28S×70°.41W, $h4^{km}$±124^{km}, ML5.3, MW5.0*
*IDC **24** 23:14:38.4±0.3, 20°.18S×70°.04W, $h38^{km}$±2^{km}, mb4.8/32, mb1 4.9/34, mb1mx4.8/39, mbtmp5.0/34, ML4.6/2, MS4.5/25, Ms1 4.5/25, ms1mx4.4/32, Error ellipse: s-maj=12.7km s-min=8.5km az=71.0*
*BJI **24** 23:14:38.8±0.0, 20°.26S×70°.38W, $h40^{km}$, mB5.2/17, Ms5.2/17, Ms7 5.0/17*
*NEIC **24** 23:14:39.6±2.6, 20°.30S±0°.03×70°.25W±0°.06, $h34^{km}$±3^{km}, mb5.5/532, Ms_20 4.7/178, Mwr5.2/44, Mww5.3, ML5.3(GUC), Mwc5.3/11(GCMT), Error ellipse: s-maj=8.0km s-min=4.2km az=94.0*
*MOS **24** 23:14:39.4±1.6, 20°.13S×70°.13W, $h52^{km}$, mb5.5/20, MS4.6/10, Error ellipse: s-maj=11.9km s-min=6.6km az=101.1*
*NEIC **24** 23:14:39.6, 20°.30S×70°.63W, $h48^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.67; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.80; $M_{r\theta}$0.12; $M_{\theta\phi}$0.44; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.00000×10^{17} NP1:ϕ_s167.00000°, δ63.00000°, λ100.00000°. NP2:ϕ_s327.00000°, δ29.00000°, λ72.00000°. Principal axes: T 0.8512, Plg71.0000°, Azm98.0000°; N 0.2952, Plg8.0000°, Azm342.0000°; P -1.1464, Plg17.0000°, Azm250.0000°;*
*NEIC **24** 23:14:39, 20°.29S×70°.28W, $h40^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}5.19; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-4.50; $M_{r\theta}$0.30; $M_{\theta\phi}$2.01; $M_{\phi r}$-5.06; Fault plane solution: $M_0$7.32000×10^{16} NP1:ϕ_s170.20000°, δ67.23000°, λ100.84000°. NP2:ϕ_s323.87000°, δ25.09000°, λ65.86000°. Principal axes: T 7.3801, Plg66.0000°, Azm99.0000°; N -0.1280, Plg10.0000°, Azm346.0000°; P -7.2521, Plg22.0000°, Azm252.0000°;*
*GUC **24** 23:14:40.0±0.7, 20°.29S×70°.18W, $h38^{km}$±1^{km}, ML5.3*
*GCMT **24** 23:14:43.6±0.2, 20°.28S±0°.01×70°.65W±0°.02, $h48^{km}$±1^{km}, MW5.3/128, Moment Tensor Solution. s96,c144; s128,c189; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.72±.02; $M_{\theta\theta}$0.09±.02; $M_{\phi\phi}$-0.81±.02; $M_{r\theta}$0.12±.01; $M_{\theta\phi}$0.41±.01; $M_{\phi r}$-0.50±.02; Best double couple: $M_0$0.99300×10^{17} NP1:ϕ_s330.00000°, δ30.00000°, λ77.00000°. NP2:ϕ_s165.00000°, δ61.00000°, λ97.00000°. Principal axes: T 0.8700, Plg73.0000°, Azm92.0000°; N 0.2470, Plg6.0000°, Azm341.0000°; P -1.1160, Plg16.0000°, Azm250.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **24** 23:14:43, 20°.30S×70°.26W, $h46^{km}$, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.70; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-0.75; $M_{r\theta}$0.15; $M_{\theta\phi}$0.33; $M_{\phi r}$-0.61; Fault plane solution: $M_0$1.02000×10^{17} NP1:ϕ_s335.00000°, δ26.00000°, λ81.00000°. NP2:ϕ_s165.00000°, δ64.00000°, λ94.00000°. Principal axes: T 0.9225, Plg70.0000°, Azm84.0000°; N 0.1673, Plg4.0000°, Azm343.0000°; P -1.0898, Plg19.0000°, Azm252.0000°;*
ISC 24 23:14:38.2±0.3, 20°.28S±0°.02×70°.25W±0°.04, $h34^{km}$±1^{km}, $h35^{km}$:pP-P, n1106, σ1°25/926, mb5.5/300, MS4.7/120, 14C-17D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.12**	**88**	⇑*i*P			**Pb**	**23 14 45.6**	**+1.3**
TA02	**Huaiquique**	**0.12**	**88**				**Pb**	**23 14 45.6**	**+1.3**
TA01	**Diego Aracena**	**0.30**	**167**	⇑*i*P			**Pn**	**23 14 46.7**	**+0.7**
TA01				*i* S			**Sb**	**23 14 52.4**	**+1.0**
TA01				IAML				23 14 52.8	
	comp=E,508μm,0.4s								
TA01	**Diego Aracena**	**0.30**	**167**	Pg			**Pn**	**23 14 46.7**	**+0.7**
TA01				Sg			**Sb**	**23 14 52.3**	**+0.9**
PSGC	**Pisagua**	**0.69**	**10**	⇓*i*P			**Pb**	**23 14 52.2**	**+0.3**
PSGC				*i* S			**Sb**	**23 15 02.1**	**+0.7**
PSGC				IAML				23 15 03.6	
	comp=N,480μm,0.4s								
PSGCX	**Pisagua**	**0.69**	**10**				**Pb**	**23 14 52.7**	**+0.8**
PSGCX							**Sb**	**23 15 01.6**	**+0.3**
PSGCX	**Pisagua**	**0.69**	**10**	*i* P			**Pb**	**23 14 52.2**	**+0.3**
PSGCX				*e*S			**Sb**	**23 15 02.2**	**+0.9**
PSGCX				IAML				23 15 03.2	
	comp=Z,148μm,1.0s								
PB11	**IPOC Station P**	**0.76**	**48**				**Pn**	**23 14 52.2**	**-0.5**
PB08	**IPOC Station P**	**1.04**	**83**	⇓*i*P			**Pn**	**23 14 57.4**	**+0.7**
PB08				*i* S			**Sn**	**23 15 10.8**	**+0.5**
PB08	**IPOC Station P**	**1.04**	**83**	Pn			**Pn**	**23 14 57.3**	**+0.5**
PB08				Sn			**Sn**	**23 15 10.9**	**+0.6**
PB08	**IPOC Station P**	**1.04**	**83**	*i* P			**Pn**	**23 14 57.5**	**+0.8**
PB08				IAML				23 15 14.6	
	comp=Z,21μm,0.9s								
PB01	**IPOC Station P**	**1.05**	**137**	⇓*i*P			**Pn**	**23 14 57.0**	**+0.4**
PB01				*i* S			**Sn**	**23 15 10.7**	**+0.6**
PB01				IAML				23 15 14.1	
	comp=E,68μm,0.5s								
PB01	**IPOC Station P**	**1.05**	**137**	Pn			**Pn**	**23 14 57.0**	**+0.4**
PB01				Sn			**Sn**	**23 15 10.5**	**+0.4**
PB01	**IPOC Station P**	**1.05**	**137**	*i* P			**Pn**	**23 14 57.2**	**+0.6**
PB01				IAML				23 15 14.1	
	comp=Z,61μm,0.7s								
PB02	**IPOC Station P**	**1.09**	**162**	⇓*i*P			**Pn**	**23 14 57.6**	**+0.5**
PB02				*i* S			**Sb**	**23 15 12.3**	**-0.5**
PB02				IAML				23 15 21.6	
	comp=E,93μm,0.4s								
PB02	**IPOC Station P**	**1.09**	**162**	*i* P			**Pb**	**23 14 58.1**	**-0.6**
PB02				IAML				23 15 19.8	
	comp=Z,89μm,0.7s								
MNMC	**Minye Minye**	**1.30**	**29**	⇓*i*P			**Pn**	**23 15 01.2**	**+1.0**
MNMC				*e*S			**Sb**	**23 15 18.9**	**+0.1**
MNMC				IAML				23 15 22.2	
	comp=N,93μm,0.6s								
MNMC	**Minye Minye**	**1.30**	**29**	Pn			**Pn**	**23 15 01.2**	**+1.0**
MNMC				Sn			**Sb**	**23 15 18.8**	**+0.1**
MNMCX	**Minye Minye**	**1.30**	**29**	*i* P			**Pb**	**23 15 01.4**	**-0.8**
MNMCX				IAML				23 15 24.5	
	comp=Z,47μm,0.8s								
PB07	**IPOC Station P**	**1.48**	**167**	*e*P			**Pn**	**23 15 03.8**	**+1.1**
PB07				*i* S			**Sn**	**23 15 22.5**	**+1.6**
PB07				IAML				23 15 25.0	
	comp=E,43μm,0.3s								
PB07	**IPOC Station P**	**1.48**	**167**				**Pn**	**23 15 03.5**	**+0.9**
PB07				Sn			**Sn**	**23 15 21.6**	**+0.7**
PB07	**IPOC Station P**	**1.48**	**167**	*i* P			**Pn**	**23 15 04.0**	**+1.4**
PB07				*e*S			**Sb**	**23 15 22.8**	**-1.2**
PB07				IAML				23 15 24.3	
	comp=Z,40μm,1.2s								
PB09	**IPOC Station P**	**1.79**	**148**	⇓*i*P			**Pb**	**23 15 09.3**	**-1.2**
PB09				IAML				23 15 35.5	
	comp=E,59μm,0.5s								
PB09	**IPOC Station P**	**1.79**	**148**				**Pb**	**23 15 09.2**	**-1.2**
PB09				Sn			**Sb**	**23 15 32.1**	**-0.5**
PB09	**IPOC Station P**	**1.79**	**148**	⇓*i*P			**Pb**	**23 15 09.5**	**-1.0**
PB09				*e*S			**Sb**	**23 15 33.5**	**+0.9**
PB09				IAML				23 15 35.0	
	comp=Z,53μm,1.3s								
PB03	**IPOC Station P**	**1.82**	**165**	*e*P			**Pn**	**23 15 08.8**	**+1.5**
PB03				*i* S			**Sn**	**23 15 31.0**	**+1.7**
PB03				IAML				23 15 36.4	
	comp=E,25μm,0.7s								
PB03	**IPOC Station P**	**1.82**	**165**	*i* P			**Pb**	**23 15 09.6**	**-1.5**
PB03				IAML				23 15 37.5	
	comp=Z,29μm,0.5s								
AP01	**Chacalluta**	**1.90**	**357**	*e*P			**Pn**	**23 15 10.2**	**+2.1**
AP01				*i* S			**Sb**	**23 15 34.3**	**-1.2**
AP01				IAML				23 15 47.4	
	comp=E,87μm,0.7s								
AP01	**Chacalluta**	**1.90**	**357**				**Pn**	**23 15 10.1**	**+1.9**
AP01				Sn			**Sb

comp=Z,3.3nm,0.3s,baz=167,slow=11,SNR=4.0
NNA Sn **Sn** **23 18 52.6 -7.6**
comp=Z,6.4nm,0.3s,baz=120,slow=20,SNR=1.2
NNA LR LR 23 21 19.8
comp=Z,2µm,18.8s,baz=162,slow=38
NNA Nana 10.39 321 Pn **Pn** **23 17 04.6 -0.3**
CO03 El Pedregal 10.53 182 Pn **Pn** **23 17 06.3 -0.4**
APLL PUNTA DE LOS L 10.62 162 *i P* Pn 23 17 14.4 +6.4
CO02 Combarbal 10.90 183 Pn **Pn** **23 17 11.9 0.0**
ETMB Extremo 11.10 21 *eP* **Pn** **23 17 14.4 -0.3**
RTLL Cerro Villicun 11.12 172 *i P* **Pn** **23 17 10.5 -4.4**
ZON Zonda 11.31 173 P **Pn** **23 17 17.4 -0.1**
ZON Zonda 11.31 173 Pn **Pn** **23 17 17.4 -0.1**
RTLS Leoncito 11.51 176 *i P* **Pn** **23 17 18.6 -1.8**
PTLB Pontes e Lacer 11.62 67 *eP* **Pn** **23 17 20.6 -1.1**
RTCV Cerro Valdivia 11.64 173 *i P* **Pn** **23 17 20.1 -1.9**
ASAL Salagasta 12.33 174 *i P* P 23 17 37.9 -5.3
VA03 San Esteban 12.44 181 **Pn** **23 17 32.4 -0.6**
VA03 San Esteban 12.44 181 *i P* **Pn** **23 17 30.2 -2.8**
CZSB Cruzeiro do Su 12.70 349 *eP* **Pn** **23 17 35.1 -1.3**
MRA San Martin 12.76 162 *i P* **Pn** **23 17 33.8 -3.5**
VA01 Torpederas 12.76 185 Pn **Pn** **23 17 37.1 -0.1**
MT02 Curacav 12.96 183 **Pn** **23 17 40.4 +0.4**
MT05 Renca 13.07 182 Pn **Pn** **23 17 41.2 -0.3**
MT03 Universidad Ad 13.17 181 Pn **Pn** **23 17 43.2 +0.4**
SAML Samuel 13.17 32 P **Pn** **23 17 42.2 -0.7**
SAML Samuel 13.17 32 Pn **Pn** **23 17 42.1 -0.7**
SAML Samuel 13.17 32 *eP* **Pn** **23 17 42.0 -0.9**
SAML Samuel 13.17 32 *eP* **Pn** **23 17 42.0 -0.9**
CPUP Villa Florida 13.31 119 Pn **Pn** **23 17 44.5 -0.3**
comp=Z,1.1nm,0.3s,baz=300,slow=12,SNR=21
CPUP LR LR 23 23 49.2
comp=Z,2µm,20.5s,baz=301,slow=42
CPUP Villa Florida 13.31 119 P **Pn** **23 17 45.8 +1.0**
CPUP Villa Florida 13.31 119 Pn **Pn** **23 17 45.8 +1.0**
CPUP Villa Florida 13.31 119 *eP* **Pn** **23 17 44.7 -0.1**
VA05 Santo Domingo 13.38 185 Pn **Pn** **23 17 47.5 +1.8**
MT09 Talagante 13.46 183 **Pn** **23 17 47.5 +0.6**
MT01 Popeta 13.56 184 **Pn** **23 17 48.0 -0.2**
AQDB Aquidauana 13.65 93 Pn **Pn** **23 17 48.9 -0.6**
AQDB Aquidauana 13.65 93 *eP* **Pn** **23 17 48.4 -1.1**
BO01 Tunca 14.08 183 Pn **Pn** **23 17 56.2 +1.0**
SALV Santo Antonio 14.51 75 *eP* **Pn** **23 17 58.7 -2.4**
RFA San Rafael 14.53 174 *i P* Pn 23 17 56.2 -5.2
GO05 Huala 14.75 185 **Pn** **23 18 04.6 +0.2**
PP1B Ponte de Pedra 14.79 82 *eP* **Pn** **23 18 02.4 -2.6**
H03N1 Juan Fernandez 15.21 209 T T 23 33 17.7
baz=33,slow=72,SNR=1000
H03N2 Juan Fernandez 15.22 209 T T 23 33 18.3
baz=33,slow=72,SNR=675
H03N3 Juan Fernandez 15.23 209 T T 23 33 17.3
baz=33,slow=72,SNR=626
ATAH Atahualpa 15.26 328 Pn **P** **23 18 14.7 -1.4**
comp=Z,0.3nm,0.3s,baz=152,slow=10.0,SNR=2.4
VA04 Juan Fernndez 15.34 208 Pn **Pn** **23 18 10.6 -1.6**
VA04 IAmb IAmb 23 18 15.6
comp=Z,226nm,0.8s
ML02 Panimavida 15.46 184 Pn **Pn** **23 18 13.7 -0.1**
ML02 IAmb IAmb 23 18 34.5
comp=Z,275nm,0.8s
ITQB Itaqui 15.49 130 *eP* **Pn** **23 18 12.6 -1.5**
BI02 San Fabin de 16.35 183 Pn **Pn** **23 18 24.5 -0.7**
TRCB Terra Rica 16.59 102 **Pn** **23 18 28.1 -0.1**
TRCB IAmb IAmb 23 18 41.5
comp=Z,433nm,0.8s
TRCB Terra Rica 16.59 102 *eP* **Pn** **23 18 26.9 -1.3**
CLDB Colider 16.76 58 *eP* **Pn** **23 18 29.6 -0.8**
PCMB Pacaembu 17.79 98 *eP* **Pn** **23 18 42.7 -0.6**
ARAG Araguaiana, MT 18.12 78 *eP* **Pn** **23 18 46.4 -0.9**
LPA La Plata 18.19 146*c i P* **Pn** **23 18 44.1 -3.9**
LPA pP **pP** **23 18 58.3 +1.1**
LPA PPP PPP 23 19 56.2
LPA SS **Sn** **23 22 07.8 -2.2**
LPA SSS SSS 23 23 45.2
CPSB Cacapava Do Su 18.22 127 *eP* **P** **23 18 47.1 -1.3**
LC01 Cunco 18.61 184 P **P** **23 18 52.6 0.0**
ITRB Iturama 18.71 92 *eP* **P** **23 18 52.8 -1.1**
PLTB Pedras Altas 18.81 131 P **P** **23 18 53.6 -1.3**
PLTB Pedras Altas 18.81 131 *eP* **P** **23 18 55.3 +0.4**
TRQA Tornquist 19.12 160 *eP* **Pn** **23 18 59.1 -0.2**
MACA Manacapuru-AM 19.40 30 *eP* **P** **23 18 59.9 -1.6**
FRTB Fartura 19.45 103 *eP* **P** **23 19 00.3 -1.8**
NPGB Novo Progresso 19.53 50 *eP* **P** **23 19 01.2 -1.7**
SNDB Serra Nova Dou 19.98 68 *eP* **P** **23 19 06.0 -1.8**
TIJ01 Guaruva-PR 20.22 108 *eP* **P** **23 19 10.1 -0.3**
BB19B Bebedouro 20.34 96 *eP* **P** **23 19 10.9 -0.9**
PLCA Paso Flores 20.39 181 P **P** **23 19 12.6 +0.4**
comp=Z,48nm,1.1s,baz=1.5,slow=12,SNR=31
PLCA LR LR 23 27 33.8
comp=Z,532nm,18.7s,baz=4.5,slow=38
PLCA Paso Flores 20.39 181 P **P** **23 19 12.5 +0.4**
PLCA IAmb IAmb 23 19 28.2
comp=Z,166nm,1.1s
PLCA Paso Flores 20.39 181 *eP* Pn 23 19 13.7 -0.7
PTLC Puerto Leguiza 20.80 347 *eP* **P** **23 19 14.0 -2.7**
LL03 Petrohue 20.88 185 P **P** **23 19 16.8 -0.5**
LL03 IAmb IAmb 23 19 44.9
comp=Z,168nm,0.9s
TER01 Tubaro-SC 20.90 117 *eP* **P** **23 19 16.6 -1.1**
IPMB Ipameri, GO 20.95 87 *eP* **P** **23 19 16.7 -1.6**
ITTB Itaituba 21.21 44 *eP* **P** **23 19 19.0 -2.1**
LL05 Los Muermos 21.24 187 P **P** **23 19 22.3 +1.1**
LL05 IAmb IAmb 23 19 35.3
comp=Z,244nm,1.1s
RCLB Rio Claro- Sao 21.27 100 *eP* **P** **23 19 20.3 -1.5**
SPB Sao Paulo 21.42 103 IAMs_20 IAMs_20 23 28 45.9
comp=Z,3µm,20.0s
SPB Sao Paulo 21.42 103 *eP* **P** **23 19 23.5 +0.2**
PET01 Itanhaem-SP 21.63 105 *eP* **P** **23 19 25.8 +0.3**
BDFB Brasilia 21.65 81 P **P** **23 19 23.4 -2.5**
comp=Z,20nm,0.5s,baz=265,slow=12,SNR=9.7
BDFB sP **sP** **23 19 37.7 -1.3**
comp=Z,99nm,0.8s,baz=250,slow=6.3,SNR=18
BDFB LR LR 23 29 12.8
comp=Z,3µm,20.6s,baz=278,slow=41
BDFB Brasilia 21.65 81 P **P** **23 19 25.5 -0.4**
BDFB pmax pmax
comp=Z,231nm,1.3s
BDFB MLR MLR
comp=Z,4µm,19.0s
BDFB Brasilia 21.65 81 P **P** **23 19 25.5 -0.4**
BDFB IAmb IAmb 23 19 40.1
comp=Z,231nm,1.3s
BDFB IAMs_20 IAMs_20 23 29 02.0
comp=Z,4µm,19.0s
VAO Valinhos 21.81 101 *eP* **P** **23 19 25.9 -1.7**
PTGA Pitinga 21.88 29 P **P** **23 19 25.5 -2.7**
comp=Z,47nm,0.5s,baz=212,slow=10,SNR=30
PTGA LR LR 23 28 32.5
comp=Z,2µm,20.9s,baz=207,slow=38
PTGA Pitinga 21.88 29 P **P** **23 19 26.2 -2.0**
PTGA Pitinga 21.88 29 *eP* **P** **23 19 26.5 -1.7**
OTAV Otavalo 21.91 338 P **P** **23 19 31.0 +1.9**
OTAV pmax pmax
comp=Z,87nm,1.1s
OTAV MLR MLR
comp=Z,2µm,21.0s
OTAV Otavalo 21.91 338 P **P** **23 19 31.0 +1.9**
OTAV Otavalo 21.91 338 IAMs_20 IAMs_20 23 29 14.9
comp=Z,3µm,21.0s
OTAV Otavalo 21.91 338 *eP* **P** **23 19 32.3 +3.2**
OTAV Otavalo 21.91 338 *eP* **P** **23 19 30.4 +1.4**
LL01 San Ignacio de 22.11 184 P **P** **23 19 30.9 +0.3**
LL01 IAmb IAmb 23 19 46.5
comp=Z,265nm,1.4s
TULM Tulcn-Chalpat 22.13 340 *eP* **P** **23 19 38.5 +7.0**
GCUF Volcan Galeras 22.47 341 *eP* **P** **23 19 39.1 +3.9**
MACC Macarena, Meta 22.56 351 *eP* **P** **23 19 41.2 +5.6**
PEXB Peixe 22.57 72 *eP* **P** **23 19 33.9 -1.9**
CRUC La Cruz 22.68 342 *eP* **P** **23 19 43.4 +6.2**
LL02 Futaleuf 22.89 183 P **P** **23 19 39.0 +0.1**
GARC Garzon, Huila 22.91 346 *eP* **P** **23 19 39.9 +0.4**
PARB Paraibuna 23.07 102 *eP* **P** **23 19 39.8 -1.2**
SOTA Rioblanco 23.13 344 *eP* **P** **23 19 44.1 +2.1**
BBAC Balboa, Cauca 23.20 342 *eP* **P** **23 19 45.2 +2.8**
PCON Cinco Dias 23.26 344 *eP* **P** **23 19 46.1 +2.8**
POPC Popayan, Colom 23.53 344 *eP* P 23 19 37.8 -8.0
MARP Paez Belalcaza 23.65 346 *eP* **P** **23 19 49.0 +2.1**
MALB Monte Alegre 24.07 42 *eP* **P** **23 19 49.0 -1.5**
ESAR Angra dos Reis 24.14 101 *eP* **P** **23 19 50.9 -0.2**
PRPB Parauapebas 24.29 58 *eP* **P** **23 19 50.1 -2.6**
BOAV Boa Vista 24.47 24 *eP* **P** **23 19 54.1 0.0**
VILC Villavicencio, 24.47 352 *eP* **P** **23 19 54.1 -0.2**

ORTC Ortega, Tolima 24.53 348 *eP* **P** **23 19 55.8 +1.0**
SMTB Santa Maria do 24.66 66 *eP* **P** **23 19 55.3 -0.6**
YOTC Yotoco, Vale 24.84 345 *eP* **P** **23 19 58.4 +0.7**
CHIC Chingaza 24.98 352 *eP* **P** **23 19 59.8 +0.5**
VAS01 Vassouras-RJ 25.05 99 *eP* **P** **23 19 59.0 -0.5**
MALC Bahia Malaga 25.12 343 *eP* **P** **23 20 03.8 +3.7**
ANIL Santa Ana 25.13 348 *eP* **P** **23 20 03.8 +3.4**
DIAM Diamantina, MG 25.16 90 *eP* **P** **23 19 58.9 -1.7**
TOLC Tolima 25.20 348 *eP* **P** **23 20 02.4 +1.2**
JANB Januaria 25.24 82 *eP* **P** **23 20 00.0 -1.3**
COYC Coyhaique 25.27 183 P **P** **23 20 01.1 -0.2**
COYC IAmb IAmb 23 20 18.1
comp=Z,86nm,0.9s
ROSC El Rosal 25.28 350 P **P** **23 20 02.4 +0.5**
comp=Z,11nm,0.4s,baz=167,slow=14,SNR=7.2
ROSC LR LR 23 30 57.7
comp=Z,2µm,20.9s,baz=198,slow=39
ROSC El Rosal 25.28 350 P **P** **23 20 03.6 +1.7**
ROSC pmax pmax
comp=Z,53nm,0.9s
ROSC MLR MLR
comp=Z,2µm,22.0s
ROSC El Rosal 25.28 350 P **P** **23 20 03.6 +1.7**
ROSC IAMs_20 IAMs_20 23 30 24.2
comp=Z,2µm,22.0s
ROSC El Rosal 25.28 350 *eP* **P** **23 20 03.5 +1.5**
SDBA SAO DESIDERIO 25.53 76 *eP* **P** **23 20 02.1 -1.8**
PLMC San Jos del P 25.71 346 *eP* **P** **23 20 06.0 +0.5**
GUY2C Guyana, Caldas 25.83 348 *eP* **P** **23 20 08.0 +0.9**
PIZC Pizarro, Choco 26.04 344 *eP* **P** **23 20 12.8 +4.5**
DUB01 Friburgo-RJ 26.05 99 *eP* **P** **23 20 08.8 +0.2**
NORC Norcasia 26.07 350 *eP* **P** **23 20 08.7 -0.1**
RUSC La Rusia 26.15 354 *eP* **P** **23 20 10.6 +0.6**
CBOC Ciudad Bolivar 26.59 347 *eP* **P** **23 20 13.7 +0.1**
MCPB Macapa, AP 26.62 44 *eP* **P** **23 20 13.6 -0.2**
CAM01 Campos-RJ 26.72 98 *eP* **P** **23 20 15.2 +0.6**
HELC Santa Helena 26.81 348 *eP* **P** **23 20 15.6 -0.1**
BARC Barichara 26.85 354 *eP* **P** **23 20 15.6 -0.4**
ELOV Elorza 27.12 2 *eP* **P** **23 20 18.1 -0.1**
SJMB Sao Joao De Ma 27.43 92 *eP* **P** **23 20 21.2 +0.2**
PAMC Pamplona, Colo 27.55 355 *eP* **P** **23 20 22.5 0.0**
ALF01 Guarapari-ES 27.66 96 *eP* **P** **23 20 23.2 +0.2**
BSFB Barra de Sao F 27.73 92 *eP* **P** **23 20 23.9 +0.2**
DBBC Dabeiba 27.75 347 *eP* **P** **23 20 24.5 +0.6**
ZARC Zaragoza, Cauc 27.96 350 *eP* **P** **23 20 24.8 -0.9**
TMAB Tom-Au,PA,Br 28.01 53 *eP* **P** **23 20 26.0 -0.2**
RIB01 Linhares ES 28.10 93 *eP* **P** **23 20 27.1 +0.2**
UREC San Jos de Ur 28.33 349 *eP* **P** **23 20 28.8 -0.2**
NAN01 Guarapari, ES 28.56 90 *eP* **P** **23 20 30.0 -1.1**
SDV Santo Domingo 28.98 359 P **P** **23 20 33.2 -1.8**
comp=Z,19nm,0.5s,baz=200,slow=6.8,SNR=3.3
SDV LR LR 23 33 10.9
comp=Z,1µm,20.4s,baz=184,slow=38
SDV Santo Domingo 28.98 359 P **P** **23 20 34.4 -0.6**
SDV IAmb IAmb 23 20 52.4
comp=Z,68nm,0.9s
SDV Santo Domingo 28.98 359 *eP* **P** **23 20 34.6 -0.4**
GUA01 Guaratinga, BA 29.10 88 *eP* **P** **23 20 34.7 -1.2**
SMLC San Martn de 29.14 352 *eP* **P** **23 20 33.8 -2.3**
MOTC Monteria, Cord 29.36 349 *eP* **P** **23 20 37.6 -0.5**
CMC01 Camacan, BA 29.64 86 *eP* **P** **23 20 41.5 +0.8**
NBIT Itapeh - BA 29.82 85 *eP* **P** **23 20 41.7 -0.6**
GDU01 Guandu, BA 30.02 82 *eP* **P** **23 20 43.5 -0.6**
ARGC Ariguani, Magd 30.20 352 *eP* **P** **23 20 44.7 -0.8**
SJCC San Jacinto, C 30.37 350 P **P** **23 20 46.3 -0.8**
SJCC San Jacinto, C 30.37 350 *eP* **P** **23 20 46.6 -0.5**
NBPN Ponto Novo - B 30.39 77 *eP* **P** **23 20 46.3 -1.0**
MDP Montagnes des 30.59 36 P **P** **23 20 47.4 -1.6**
comp=Z,7.5nm,0.4s,baz=214,slow=10,SNR=23
MDP LR LR 23 33 51.1
comp=Z,3µm,18.9s,baz=210,slow=38
BCIP Isla Barro Col 30.74 341 P **P** **23 20 50.4 +0.1**
BCIP pmax pmax
comp=Z,115nm,1.3s
BCIP MLR MLR
comp=Z,1µm,21.0s
BCIP Isla Barro Col 30.74 341 P **P** **23 20 50.4 +0.1**
BCIP IAmb IAmb 23 21 04.2
comp=Z,115nm,1.3s
BCIP IAMs_20 IAMs_20 23 34 06.7
comp=Z,1µm,21.0s
PCRV Puerto La Cruz 30.76 11 P **P** **23 20 49.5 -1.1**
comp=Z,22nm,1.1s,baz=270,slow=1.0,SNR=1.7
PCRV LR LR 23 34 11.8
comp=Z,2µm,18.7s,slow=38
ROSB Rosrio 30.79 59 *eP* **P** **23 20 51.2 +0.4**
CDITO Canoas 31.24 335 P **P** **23 20 54.9 +0.1**
CDITO IAmb IAmb 23 21 22.2
comp=Z,98nm,1.5s
DRK0 Durika 32.02 335 P **P** **23 21 00.9 -0.9**
SRBA San Rafael, Bu 32.03 335 P **P** **23 21 02.5 +0.7**
NBPS Pedro II - PI 32.17 64 *eP* **P** **23 21 02.5 -0.7**
HATO Hato, Curacao 32.28 2 P **P** **23 21 05.6 +1.8**
HATO IAMs_20 IAMs_20 23 35 15.8
comp=Z,2µm,21.0s
PEZE Perez Zeledon, 32.30 335 P **P** **23 21 05.4 +1.2**
RIMA Rio Macho 32.72 335 P **P** **23 21 08.5 +0.5**
TOSP Speyside 32.80 18 P **P** **23 21 07.8 -0.6**
TOSP IAmb IAmb 23 21 23.7
comp=Z,75nm,0.8s
CVTR Volcan Turrial 32.91 335 P **P** **23 21 11.3 +1.4**
CVTR IAmb IAmb 23 21 28.7
comp=Z,44nm,1.0s
NBMA Muriti-CE 33.08 72 *eP* **P** **23 21 10.2 -0.9**
NBPB Pedra_Branca-C 33.20 68 *eP* **P** **23 21 10.8 -1.3**
JTS Las Juntas de 33.64 333 P **P** **23 21 14.8 -1.1**
comp=Z,3.8nm,0.6s,baz=148,slow=19,SNR=1.1
JTS LR LR 23 34 41.6
comp=Z,658nm,21.3s,baz=216,slow=36
JTS Las Juntas de 33.64 333 *i P* **P** **23 21 16.0 +0.2**
JTS pmax pmax
comp=Z,25nm,0.9s
COVE Coope Vega, Sa 33.80 334 P **P** **23 21 18.1 +0.9**
NBMO Morrinhos-CE 33.93 64 *eP* **P** **23 21 17.6 -0.8**
HZTE Horizontes, Gu 34.30 333 P **P** **23 21 21.7 +0.2**
NBAN Anadia - AL 34.41 77 *eP* **P** **23 21 20.8 -1.7**
SVB Belmont 34.49 16 P **P** **23 21 23.5 +0.3**
MG01 Puerto William 34.66 177 P **P** **23 21 24.2 0.0**
MG01 IAmb IAmb 23 21 38.9
comp=Z,73nm,1.2s
NBLV Livramento - P 34.73 73 *eP* **P** **23 21 24.3 -1.2**
NBCL Cascavel-CE 34.96 67 *eP* **P** **23 21 26.1 -1.2**
NBPA Parau_RN 35.27 70 *eP* **P** **23 21 28.3 -1.7**
MASN Masaya 35.67 333 P **P** **23 21 32.6 -0.8**
MPOM Morne Pois Mar 35.72 16 P **P** **23 21 31.9 -1.8**
BIM Bigot 35.73 15 P **P** **23 21 31.5 -2.4**
NBRF Rio Formoso - 35.83 76 *eP* **P** **23 21 34.2 -0.6**
FDF Fort de France 35.92 15 IAMs_20 IAMs_20 23 37 24.6
comp=Z,996nm,20.0s
ILAM Ilet Lapin Mar 36.03 16 IAMs_20 IAMs_20 23 37 38.4
comp=Z,1µm,20.0s
RCBR Riachuelo 36.31 71 P **P** **23 21 36.0 -3.0**
comp=Z,19nm,0.6s,baz=323,slow=1.6,SNR=14
RCBR pP **pP** **23 21 47.8 -1.3**
comp=Z,48nm,0.7s,baz=321,slow=2.7,SNR=9.0
RCBR Riachuelo 36.31 71 IAmb IAmb 23 21 56.5
comp=Z,95nm,1.1s
RCBR Riachuelo 36.31 71 *eP* **P** **23 21 38.8 -0.2**
RPN Rapa Nui 36.32 252 LR LR 23 32 40.2
comp=Z,2µm,18.2s,baz=124,slow=30
DLPL La Plaine 36.48 15 P **P** **23 21 41.0 +0.7**
NBPV Pedro Velho 36.60 73 *eP* **P** **23 21 40.7 -0.7**
TGUH Tegucigalpa,Un 38.00 333 P **P** **23 21 54.3 +1.0**
TGUH IAmb IAmb 23 22 05.8
comp=Z,56nm,0.8s
SKI Saint Kitts 38.10 12 P **P** **23 21 52.1 -1.8**
SKI pmax pmax
comp=Z,103nm,1.0s
SKI MLR MLR
comp=Z,200nm,18.0s
SKI Saint Kitts 38.10 12 P **P** **23 21 52.1 -1.8**
SKI IAmb IAmb 23 22 13.3
comp=Z,103nm,1.0s
ICMP Isla Caja de M 38.10 6 P **P** **23 21 53.1 -0.8**
CDVI St. Croix 38.17 8 P **P** **23 21 55.2 +0.7**
CDVI IAmb IAmb 23 22 09.0
comp=Z,108nm,1.1s
IGPR InterUniversit 38.22 6 P **P** **23 21 55.6 +0.7**
OBIP Obispado Ponce 38.25 6 P **P** **23 21 55.0 -0.2**
SABA Saba 38.28 11 P **P** **23 21 55.8 +0.3**
SABA IAmb IAmb 23 22 08.9
comp=Z,92nm,0.8s
JAKH Jacmel 38.34 357 P **P** **23 21 56.1 +0.2**

SJG San Juan 38.36 6 P **P** **23 21 53.0 -3.1**
comp=Z,41nm,0.9s,baz=161,slow=3.7,SNR=14
SJG pP **pP** **23 22 05.0 -1.2**
comp=Z,138nm,0.9s,baz=226,slow=5.5,SNR=5.8
SJG San Juan 38.36 6 P **P** **23 21 53.0 -3.1**
SJG *PP **pP** **23 22 05.0 -1.2**
SJG San Juan 38.36 6 *eP* **P** **23 21 53.9 -2.2**
HUMP Col San Antoni 38.42 7 IAmb IAmb 23 22 12.5
comp=Z,118nm,1.2s
BANI BANI 38.43 360 P **P** **23 21 55.7 -1.1**
AOPR Arecibo Observ 38.54 5 IAmb IAmb 23 22 12.0
comp=Z,86nm,0.8s
CBYP Canovanas 38.55 7 P **P** **23 21 56.1 -1.7**
PCDR Punta Cana, DR 38.59 3 P **P** **23 21 57.4 -0.7**
ANWB Willy Bob 38.61 13 P **P** **23 21 56.3 -1.9**
ANWB IAmb IAmb 23 22 09.9
comp=Z,84nm,0.9s
ANWB IAMs_20 IAMs_20 23 39 20.8
comp=Z,883nm,20.0s
LGNH Logne 38.62 356 P **P** **23 21 58.5 +0.2**
LGNH IAmb IAmb 23 22 26.9
comp=Z,95nm,1.1s
AGPR Aguadilla, PR 38.63 5 P **P** **23 21 57.2 -1.1**
AGPR IAmb IAmb 23 22 14.1
comp=Z,104nm,0.8s
CUPR Culebra, Puert 38.65 8 IAmb IAmb 23 22 12.0
comp=Z,63nm,0.8s
EMPR Esperanza - Ma 38.69 6 P **P** **23 21 58.4 -0.4**
SMRT St. Maarten 38.73 11 P **P** **23 21 56.5 -2.8**
SMRT IAmb IAmb 23 22 12.2
comp=Z,160nm,1.2s
STVI Saint Thomas 38.74 8 P **P** **23 21 58.9 -0.4**
DR12 Loma Pena Alta 38.83 1 P **P** **23 21 59.2 -0.9**
MTDJ Mount Denham 38.92 349 P **P** **23 22 01.3 +0.3**
MTDJ IAmb IAmb 23 22 18.0
comp=Z,97nm,1.0s
SDDR Presa de Saban 39.03 358 P **P** **23 22 02.5 +0.7**
SDDR IAMs_20 IAMs_20 23 39 16.7
comp=Z,1µm,21.0s
ABVI Anegada Island 39.20 9 P **P** **23 22 01.7 -1.4**
MTO3 Montecristo 39.25 330 P **P** **23 22 04.0 +0.2**
ESQI Esquipulas 39.38 330 P **P** **23 22 06.0 +1.1**
ESQI IAmb IAmb 23 22 17.7
comp=Z,51nm,0.8s
GTBY Guantanamo Bay 40.24 353 P **P** **23 22 12.9 +1.1**
GTBY IAmb IAmb 23 22 27.8
comp=Z,78nm,1.0s
FSCY Frank Sound, G 40.77 344 P **P** **23 22 16.8 +0.6**
LCCY Blossom Villag 40.85 346 P **P** **23 22 17.8 +1.0**
GRTK Grand Turk 41.54 359 P **P** **23 22 22.3 -0.2**
GRTK IAmb IAmb 23 22 32.7
comp=Z,164nm,1.3s
GRTK IAMs_20 IAMs_20 23 40 55.3
comp=Z,1µm,21.0s
PETF Flores 41.68 331 P **P** **23 22 25.0 +1.3**
CCIG Comitan 42.21 328 P **P** **23 22 29.0 +0.7**
HOPE Hope Point 42.55 151 P **P** **23 22 31.4 +1.0**
HOPE Hope Point 42.55 151 P **P** **23 22 31.4 +1.0**
HOPE IAmb IAmb 23 22 32.2
comp=Z,198nm,1.4s
PMSA Palmer Station 44.67 176 P **P** **23 22 46.5 -0.8**
comp=Z,18nm,1.0s,baz=20,slow=6.6,SNR=11
PMSA pP **pP** **23 22 58.8 +1.3**
comp=Z,27nm,1.0s,baz=353,slow=7.7,SNR=8.5
PMSA Palmer Station 44.67 176 *eP* **P** **23 22 49.4 +2.1**
TLIG Tlapa 46.75 322 P **P** **23 23 05.6 +1.1**
060A Indiantown 48.04 348 P **P** **23 23 15.3 +1.1**
DWPF Disney Wildern 49.30 347 P **P** **23 23 23.1 -0.8**
baz=166
656A Willston 50.76 346 P **P** **23 23 35.4 +0.5**
456A Hilliard 51.95 347 P **P** **23 23 43.0 -0.9**
553A Crawfordville 52.00 344 P **P** **23 23 44.2 0.0**
257A Skidaway Islan 52.97 349 P **P** **23 23 52.0 +0.6**
TIGA Tifton 52.99 346 P **P** **23 23 51.4 -0.1**
baz=164
TIGA Tifton 52.99 346 P **P** **23 23 51.5 0.0**
TIGA IAmb IAmb 23 24 14.2
comp=Z,56nm,1.1s
ZAIG Zacatecas 53.15 322 P **P** **23 23 54.7 +1.4**
255A Hazlehurst 53.21 347 P **P** **23 23 52.2 -0.9**
352A Blakely 53.35 344 P **P** **23 23 54.1 -0.1**
352A IAmb IAmb 23 24 05.4
comp=Z,81nm,1.1s
BRAL Brewton 53.63 342 P **P** **23 23 56.5 +0.3**
baz=160
BRAL Brewton 53.63 342 P **P** **23 23 55.7 -0.5**
RGRS Roger Stewart 53.73 350 P **P** **23 23 57.3 +0.4**
CSU Charleston Sou 53.79 350 P **P** **23 23 58.4 +1.1**
NHSC New Hope 53.92 350 P **P** **23 23 59.0 +0.7**
baz=168
NHSC New Hope 53.92 350 P **P** **23 23 58.8 +0.5**
250A Grady 54.17 343 P **P** **23 23 59.9 -0.4**
250A IAmb IAmb 23 24 11.1
comp=Z,37nm,0.8s
346A Big Creek Wild 54.58 340 P **P** **23 24 02.9 -0.2**
346A IAmb IAmb 23 24 15.2
comp=Z,41nm,0.9s
Y59A Loris 54.58 351 P **P** **23 24 03.1 0.0**
GOGA Godfrey 54.85 346 P **P** **23 24 06.2 +1.1**
baz=165
PTCN Pitcairn Islan 55.05 253 P **P** **23 24 05.8 -1.1**
344A Westbrook Farm 55.06 339 P **P** **23 24 07.1 +0.4**
344A IAmb IAmb 23 24 17.7
comp=Z,30nm,0.7s
441A DeRidder 55.31 336 P **P** **23 24 09.4 +0.9**
441A IAmb IAmb 23 24 11.2
comp=Z,36nm,0.7s
Y52A Lilburn 55.42 346 P **P** **23 24 09.4 +0.2**
BIRD Birdtown, Kers 55.47 350 P **P** **23 24 10.1 +0.5**
342A Flagon Creek P 55.55 337 P **P** **23 24 10.6 +0.4**
146A Union 55.60 341 P **P** **23 24 10.7 +0.2**
146A IAmb IAmb 23 24 33.2
comp=Z,62nm,1.1s
735A Kenedy 55.62 331 P **P** **23 24 11.2 +0.5**
735A IAmb IAmb 23 24 38.9
comp=Z,26nm,0.7s
HKT Hockley 55.68 333 *i P* **P** **23 24 11.4 +0.3**
HKT pmax pmax
comp=Z,33nm,1.1s
HKT Hockley 55.68 333 P **P** **23 24 11.3 +0.3**
CNNC Cliffs of the 55.68 352 P **P** **23 24 11.0 -0.1**
baz=171
CNNC Cliffs of the 55.68 352 P **P** **23 24 11.7 +0.7**
VBMS Vicksburg 55.69 339 P **P** **23 24 10.8 -0.3**
baz=157
VBMS Vicksburg 55.69 339 P **P** **23 24 11.1 -0.1**
VBMS IAmb IAmb 23 24 12.3
comp=Z,32nm,0.8s
Z47A Carrollton 55.83 342 IAmb IAmb 23 24 33.6
comp=Z,26nm,0.8s
PAULI Pauline 55.88 349 IAmb IAmb 23 24 24.0
comp=Z,41nm,1.1s
W57A Gilead 55.89 350 P **P** **23 24 12.5 -0.1**
W57A IAmb IAmb 23 24 29.7
comp=Z,78nm,1.1s
833A Chaparral WMA, 55.92 329 P **P** **23 24 13.1 +0.2**
baz=147,SNR=8.7
V61A Roper 56.08 354 P **P** **23 24 14.0 +0.2**
V61A IAMs_20 IAMs_20 23 47 51.3
comp=Z,444nm,19.0s
KMSC Kings Mountain 56.11 349 P **P** **23 24 14.1 0.0**
baz=168,SNR=7.3
KMSC Kings Mountain 56.11 349 IAmb IAmb 23 24 25.7
comp=Z,80nm,1.4s
X51A Calhoun 56.28 346 IAmb IAmb 23 24 15.9
comp=Z,35nm,1.1s
V58A Windy Hill, Pi 56.39 351 IAmb IAmb 23 24 33.2
comp=Z,67nm,0.9s
143A Socs Landing, 56.43 339 P **P** **23 24 16.1 -0.4**
143A IAmb IAmb 23 24 29.4
comp=Z,33nm,1.1s
W52A Murphy 56.57 347 P **P** **23 24 16.6 -0.8**
W52A IAmb IAmb 23 24 29.2
comp=Z,38nm,1.1s
X48A Hartselle 56.72 343 IAmb IAmb 23 24 29.1
comp=Z,52nm,1.2s
V55A Taylorsville 56.78 349 IAmb IAmb 23 24 30.7
comp=Z,63nm,1.1s
NATX Nacogdoches 56.78 335 P **P** **23 24 20.0 +1.0**
baz=152,SNR=5.1
NATX Nacogdoches 56.78 335 P **P** **23 24 19.4 +0.4**
Y45A Yeager Farm, C 56.89 341 P **P** **23 24 19.4 -0.3**
Y45A IAmb IAmb 23 24 33.7
comp=Z,89nm,1.4s
V53A Saluda 56.90 348 IAmb IAmb 23 24 30.9

comp=Z,40nm,1.2s
W50A Signal Mountai 56.99 345 IAmb IAmb 23 24 21.1
comp=Z,32nm,1.1s
CPCT Cooper Cave 57.05 346 IAmb IAmb 23 24 32.4
comp=Z,61nm,1.3s
TKL Tuckaleechee C 57.08 347 P **P** **23 24 18.9 -2.2**
comp=Z,18nm,0.8s,baz=156,slow=9.1,SNR=19
TKL pP **pP** **23 24 31.0 -0.3**
comp=Z,31nm,1.0s,baz=164,slow=10,SNR=12
TKL Tuckaleechee C 57.08 347 IAmb IAmb 23 24 33.1
comp=Z,72nm,1.4s
U56A King 57.12 350 P **P** **23 24 21.7 +0.3**
U56A IAmb IAmb 23 24 34.8
comp=Z,74nm,1.2s
U56A IAMs_20 IAMs_20 23 50 09.4
comp=Z,609nm,21.0s
435B Jarrell 57.16 332 P **P** **23 24 21.5 -0.1**
baz=149
435B Jarrell 57.16 332 P **P** **23 24 21.8 +0.1**
435B IAmb IAmb 23 24 33.3
comp=Z,26nm,0.7s
SWET Sewanee 57.16 345 IAmb IAmb 23 24 32.1
comp=Z,76nm,1.4s
V51A Loudon 57.35 346 IAmb IAmb 23 24 34.4
comp=Z,40nm,1.2s
Z41A Richland Creek 57.42 338 P **P** **23 24 23.9 +0.4**
baz=155
T60A Surry 57.43 354 P **P** **23 24 23.9 +0.4**
OXF Oxford 57.45 341 P **P** **23 24 22.4 -1.3**
baz=159,SNR=6.8
237A Washetta, Mont 57.46 334 P **P** **23 24 24.0 +0.3**
U54A Nelsons Funny 57.54 349 P **P** **23 24 23.5 -0.8**
U54A IAmb IAmb 23 24 35.7
comp=Z,48nm,1.0s
T57A Hurt 57.59 351 IAMs_20 IAMs_20 23 50 00.4
comp=Z,489nm,22.0s
CCAR Cane Creek 57.66 339 P **P** **23 24 25.5 +0.3**
CCAR IAmb IAmb 23 24 37.7
comp=Z,42nm,1.1s
S61A Accomac 57.87 355 P **P** **23 24 26.0 -0.5**
V48A Smith Brothers 57.88 344 IAmb IAmb 23 24 38.1
comp=Z,63nm,1.2s
V48A IAMs_20 IAMs_20 23 49 48.9
comp=Z,447nm,22.0s
TZTN Tazewell 57.89 347 P **P** **23 24 26.0 -0.7**
baz=165
TZTN Tazewell 57.89 347 P **P** **23 24 26.7 -0.1**
TZTN IAmb IAmb 23 24 37.8
comp=Z,41nm,1.2s
JCT Junction City 57.91 330 P **P** **23 24 27.0 -0.1**
JCT pmax pmax
comp=Z,19nm,0.9s
JCT Junction City 57.91 330 P **P** **23 24 26.8 -0.3**
baz=147
JCT Junction City 57.91 330 P **P** **23 24 27.0 -0.1**
WLAR White Oak Lake 57.92 338 P **P** **23 24 27.4 +0.5**
BLA Blacksburg 57.98 350 P **P** **23 24 27.7 +0.3**
BLA pmax pmax
comp=Z,45nm,1.2s
BLA MLR MLR
comp=Z,600nm,21.0s
BLA Blacksburg 57.98 350 P **P** **23 24 27.9 +0.5**
baz=169
BLA Blacksburg 57.98 350 P **P** **23 24 27.7 +0.3**
BLA IAmb IAmb 23 24 42.9
comp=Z,45nm,1.2s
BLA IAMs_20 IAMs_20 23 50 56.4
comp=Z,592nm,21.0s
CLTN Cedars of Leba 58.09 345 IAmb IAmb 23 24 40.2
comp=Z,66nm,1.4s
WHTX Lake Whitney, 58.14 333 P **P** **23 24 28.7 +0.1**
baz=150
WHTX Lake Whitney, 58.14 333 IAmb IAmb 23 24 40.2
comp=Z,51nm,0.9s
HPIG 58.14 322 P **P** **23 24 28.6 -0.3**
Z38A Mt. Pleasant 58.24 336 P **P** **23 24 29.5 +0.3**
Z38A IAmb IAmb 23 24 41.3
comp=Z,49nm,0.8s
S57A Dark Hollow, R 58.30 352 P **P** **23 24 29.6 0.0**
S57A IAmb IAmb 23 24 46.6
comp=Z,57nm,1.0s
SLBS Sierra La Lagu 58.35 317 P **P** **23 24 30.0 -0.3**
SLBS IAmb IAmb 23 24 43.1
comp=Z,34nm,1.3s
U49A Red Boiling Sp 58.36 345 IAmb IAmb 23 24 40.7
comp=Z,62nm,1.5s
R58B Mineral 58.37 353 P **P** **23 24 29.8 -0.3**
R58B IAmb IAmb 23 24 42.0
comp=Z,46nm,0.9s
R58B IAMs_20 IAMs_20 23 50 27.9
comp=Z,563nm,21.0s
WVT Waverly 58.51 343 P **P** **23 24 29.6 -1.5**
baz=161
X40A Basin Creek Fa 58.54 338 P **P** **23 24 30.6 -0.7**
baz=155
X40A Basin Creek Fa 58.54 338 P **P** **23 24 31.5 +0.2**
CBN Corbin Frederi 58.55 353 P **P** **23 24 31.0 -0.2**
baz=172
CBN Corbin Frederi 58.55 353 P **P** **23 24 31.6 +0.3**
CBN IAmb IAmb 23 24 43.0
comp=Z,38nm,0.8s
S54A Dingess, Beckl 58.69 350 IAmb IAmb 23 24 49.5
comp=Z,45nm,0.8s
HALT Halls 58.73 342 P **P** **23 24 32.3 -0.3**
HALT IAmb IAmb 23 24 42.3
comp=Z,41nm,0.7s
LPAR Lepanto 58.73 341 P **P** **23 24 32.0 -0.6**
HBAR Harrisburg 58.80 341 P **P** **23 24 33.2 +0.1**
MIAR Mount Ida 58.86 338 P **P** **23 24 33.4 -0.1**
baz=154,SNR=20
MIAR Mount Ida 58.86 338 IAmb IAmb 23 24 44.9
comp=Z,61nm,1.4s
TXAR Lajitas Array 58.91 326 P **P** **23 24 34.0 -0.1**
comp=Z,2.7nm,0.7s,baz=150,slow=8.8,SNR=33
TXAR LR LR 23 47 32.2
comp=Z,201nm,21.9s,baz=0.0,slow=34
TXAR Lajitas Array 58.91 326 P **P** **23 24 34.3 +0.1**
TXAR Lajitas Array 58.91 326 P **P** **23 24 34.3 +0.1**
TX31 Lajitas Ar. Si 58.91 326 IAmb IAmb 23 24 58.4
comp=Z,34nm,1.1s
LNXT Lenox 58.95 342 P **P** **23 24 34.2 0.0**
W41B Gary Mavity, V 58.97 339 P **P** **23 24 33.8 -0.5**
baz=156,SNR=7.8
R55A Marlinton 58.98 351 P **P** **23 24 34.3 -0.1**
GNAR Gosnell 58.98 341 P **P** **23 24 34.5 +0.1**
UTMT University of 59.00 343 P **P** **23 24 34.5 +0.1**
Q61A Milford 59.03 355 P **P** **23 24 34.7 +0.1**
baz=174
PEBM Pemiscott Bayo 59.07 342 P **P** **23 24 34.0 -0.9**
HICK Hickman 59.29 342 P **P** **23 24 36.3 -0.1**
R53A Hurricane 59.32 349 IAmb IAmb 23 24 53.0
comp=Z,57nm,1.2s
W39A Magazine 59.52 338 P **P** **23 24 38.5 +0.5**
baz=154,SNR=12
W39A Magazine 59.52 338 P **P** **23 24 38.2 +0.1**
W39A IAmb IAmb 23 24 50.0
comp=Z,27nm,0.9s
PARMO Parma 59.55 342 P **P** **23 24 38.3 0.0**
Q56A Snyder Ridge, 59.59 352 P **P** **23 24 39.0 +0.4**
ABTX Abilene, Hawle 59.64 331 P **P** **23 24 39.1 0.0**
baz=148,SNR=15
ABTX Abilene, Hawle 59.64 331 P **P** **23 24 39.0 0.0**
R50A Paris 59.73 347 IAmb IAmb 23 24 51.0
comp=Z,34nm,1.1s
LOOK Love County 59.75 334 P **P** **23 24 39.8 +0.1**
Q54A Coxs Mills 59.77 350 IAmb IAmb 23 24 51.8
comp=Z,83nm,1.4s
P61A Hammonton 59.79 356 P **P** **23 24 40.1 +0.4**
P61A IAMs_20 IAMs_20 23 51 21.4
comp=Z,516nm,22.0s
PBMO Poplar Bluff 59.86 341 IAmb IAmb 23 24 51.8
comp=Z,26nm,0.8s
P57A Homestead Farm 59.89 353 P **P** **23 24 41.1 +0.6**
P57A IAmb IAmb 23 24 42.8
comp=Z,54nm,1.1s
R49A Shelbyville 59.92 346 IAmb IAmb 23 24 52.0
comp=Z,42nm,1.4s
P60A Greenville 59.98 355 P **P** **23 24 41.2 0.0**
baz=174,SNR=6.3
P60A Greenville 59.98 355 IAmb IAmb 23 24 52.6
comp=Z,34nm,0.8s
Q52A Bidwell 59.99 349 IAmb IAmb 23 24 52.3
comp=Z,37nm,1.1s
WCI Wyandotte Cave 60.11 345 P **P** **23 24 40.9 -1.2**
baz=163
WCI Wyandotte Cave 60.11 345 IAmb IAmb 23 24 53.2
comp=Z,79nm,1.5s
USIN University of 60.20 344 P **P** **23 24 41.8 -0.9**
USIN IAmb IAmb 23 24 53.1
comp=Z,74nm,1.4s
MVL Millersville 60.23 355 P **P** **23 24 42.8 0.0**
MVL IAmb IAmb 23 24 54.8
comp=Z,37nm,0.8s
MVL IAMs_20 IAMs_20 23 52 07.2
comp=Z,451nm,21.0s
U40A Yellville 60.24 339 P **P** **23 24 42.4 -0.7**
baz=156,SNR=16
U40A Yellville 60.24 339 IAmb IAmb 23 25 06.0
comp=Z,24nm,0.9s
Q51A Peebles 60.25 348 IAmb IAmb 23 24 54.5
comp=Z,52nm,1.3s
MCWV Mont Chateau 60.29 351 P **P** **23 24 43.8 +0.5**
baz=170,SNR=12
MCWV Mont Chateau 60.29 351 P **P** **23 24 43.2 -0.1**
P53A Whipple 60.35 350 IAMs_20 IAMs_20 23 50 37.4
comp=Z,607nm,21.0s
S44A Carbondale 60.37 343 P **P** **23 24 43.3 -0.5**
S44A IAmb IAmb 23 24 54.2
comp=Z,42nm,0.8s
SIUC Southern Illin 60.38 343 P **P** **23 24 42.7 -1.2**
SIUC IAmb IAmb 23 24 44.5
comp=Z,55nm,1.0s
HHAR Hobbs 60.55 338 IAmb IAmb 23 24 56.4
comp=Z,61nm,1.3s
X34A Smith Ranch, M 60.55 334 P **P** **23 24 45.0 -0.2**
X34A IAmb IAmb 23 24 56.8
comp=Z,43nm,0.8s
P52A Corning 60.62 349 P **P** **23 24 44.7 -0.8**
baz=167,SNR=10
P52A Corning 60.62 349 IAmb IAmb 23 24 57.2
comp=Z,68nm,1.3s
P52A IAMs_20 IAMs_20 23 52 18.5
comp=Z,448nm,21.0s
P51A Williamsport 60.64 349 IAmb IAmb 23 24 57.0
comp=Z,63nm,1.3s
O56A Blue Knob Stat 60.73 353 P **P** **23 24 47.0 +0.7**
baz=171,SNR=28
LUPA Lehigh Univers 60.75 356 IAmb IAmb 23 25 05.5
comp=Z,26nm,1.0s
BRNJ Basking Ridge 60.78 356 P **P** **23 24 47.3 +0.8**
BRNJ IAmb IAmb 23 24 59.8
comp=Z,38nm,1.1s
MGMO Mountain Grove 60.78 340 IAmb IAmb 23 24 58.4
comp=Z,32nm,1.0s
CPNY Central Park 60.85 357 P **P** **23 24 46.7 -0.3**
CPNY IAmb IAmb 23 24 48.2
comp=Z,56nm,1.4s
O54A Avella 60.88 351 IAmb IAmb 23 25 05.1
comp=Z,28nm,0.9s
O54A IAMs_20 IAMs_20 23 51 28.4
comp=Z,610nm,21.0s
TUL1 Leonard 60.89 336 P **P** **23 24 47.5 0.0**
baz=152,SNR=10
N62A Caumsett State 60.97 357 P **P** **23 24 47.4 -0.4**
SSPA Standing Stone 61.01 353 P **P** **23 24 48.7 +0.5**
baz=172
SSPA Standing Stone 61.01 353 IAmb IAmb 23 24 50.0
comp=Z,48nm,1.1s
P49A Miami Univ. Ec 61.01 347 P **P** **23 24 47.1 -1.1**
baz=164
P49A Miami Univ. Ec 61.01 347 IAmb IAmb 23 24 59.2
comp=Z,59nm,1.2s
P49A IAMs_20 IAMs_20 23 53 43.9
comp=Z,545nm,20.0s
OLIL Olney 61.04 344 IAmb IAmb 23 24 58.7
comp=Z,54nm,1.5s
O52A Adamsville 61.04 350 IAmb IAmb 23 25 05.1
comp=Z,27nm,0.9s
O52A IAMs_20 IAMs_20 23 51 57.6
comp=Z,424nm,21.0s
PAL Palisades 61.06 357 P **P** **23 24 48.4 -0.1**
baz=176
PAL Palisades 61.06 357 IAmb IAmb 23 25 00.7
comp=Z,65nm,1.4s
WMOK Wichita Mounta 61.06 333 P **P** **23 24 47.8 -0.9**
baz=149
BLO Bloomington 61.06 346 IAmb IAmb 23 24 58.4
comp=Z,26nm,1.0s
O53A New Philadelph 61.07 350 P **P** **23 24 48.3 -0.3**
baz=168,SNR=6.8
O53A New Philadelph 61.07 350 IAmb IAmb 23 25 00.6
comp=Z,64nm,1.3s
N59A State Game Lan 61.09 355 P **P** **23 24 49.3 +0.5**
baz=174,SNR=7.9
N59A State Game Lan 61.09 355 IAmb IAmb 23 25 00.8
comp=Z,53nm,1.4s
P48A Milroy 61.09 347 P **P** **23 24 47.6 -1.2**
P48A IAMs_20 IAMs_20 23 53 07.0
comp=Z,384nm,20.0s
N58A Sunbury 61.10 354 IAmb IAmb 23 24 50.5
comp=Z,57nm,1.0s
ODNJ Ogdensburg 61.18 356 IAMs_20 IAMs_20 23 52 02.2
comp=Z,610nm,21.0s
WSPT Westport, CT 61.20 357 P **P** **23 24 49.5 +0.2**
WSPT IAMs_20 IAMs_20 23 50 41.9
comp=Z,525nm,20.0s
OK025 Westminster Rd 61.20 335 P **P** **23 24 49.2 -0.3**
OK025 IAMs_20 IAMs_20 23 51 53.6
comp=Z,422nm,20.0s
TRNY Table Rock, Ra 61.22 357 P **P** **23 24 48.9 -0.7**
TRNY IAMs_20 IAMs_20 23 51 29.3
comp=Z,607nm,21.0s
M66A Nantucket 61.22 0 P **P** **23 24 49.3 -0.3**
baz=180
CCM Cathedral Cave 61.28 341 P **P** **23 24 49.3 -0.8**
baz=158
CCM Cathedral Cave 61.28 341 IAmb IAmb 23 25 00.9
comp=Z,44nm,1.3s
OK031 S. Brethren Rd 61.33 336 P **P** **23 24 50.5 +0.1**
ACSO Alum Creek Sta 61.35 349 P **P** **23 24 49.9 -0.6**
baz=166,SNR=12
BCOK Bluff Creek, N 61.37 335 P **P** **23 24 50.8 +0.1**
M63A Gales Ferry 61.39 358 P **P** **23 24 50.9 +0.3**
M63A IAmb IAmb 23 25 07.3
comp=Z,54nm,1.3s
Q44A Meyer Farm, Va 61.44 343 IAmb IAmb 23 24 51.4
comp=Z,38nm,0.9s
QUOK Quay 61.47 336 P **P** **23 24 51.1 -0.3**
M64A Tiverton 61.52 359 P **P** **23 24 51.6 +0.1**
baz=179
M64A Tiverton 61.52 359 P **P** **23 24 51.9 +0.4**
M64A IAmb IAmb 23 25 07.9
comp=Z,34nm,1.0s
N53A Lisbon 61.56 351 IAmb IAmb 23 25 03.5
comp=Z,53nm,1.1s
N53A IAMs_20 IAMs_20 23 53 09.4
comp=Z,423nm,21.0s
O49A Covington 61.57 348 IAmb IAmb 23 25 03.2
comp=Z,52nm,1.2s
N54A Moraine State 61.59 352 P **P** **23 24 52.5 +0.4**
baz=170,SNR=25
M57A Sunshine Farm, 61.63 354 IAmb IAmb 23 24 54.3
comp=Z,59nm,1.1s
VNA3 Neumayer Olymp 61.63 161 P **P** **23 24 52.8 +0.7**
MNTX Cornudas Mount 61.68 326 P **P** **23 24 52.8 -0.2**
baz=142,SNR=26
KSPA Keystone Colle 61.73 355 IAmb IAmb 23 24 54.7
comp=Z,36nm,1.0s
KSCT Kent School, K 61.76 357 IAmb IAmb 23 25 09.8
comp=Z,31nm,1.1s
R40A Maddies Statio 61.82 340 IAmb IAmb 23 25 05.2
comp=Z,66nm,1.4s
L63A North Scituate 61.84 359 P **P** **23 24 54.2 +0.5**
baz=179,SNR=18
VNA1 Neumayer--Stat 61.85 161 P **P** **23 24 54.7 +1.2**
L64A Middleborough 61.90 360 P **P** **23 24 54.2 +0.1**
baz=179,SNR=8.6
L64A Middleborough 61.90 360 IAmb IAmb 23 24 55.5
comp=Z,55nm,1.1s
N51A Ashland 61.91 350 IAmb IAmb 23 25 05.7
comp=Z,62nm,1.2s
T35A Sooner Cattle 62.05 336 IAmb IAmb 23 25 07.4
comp=Z,47nm,1.1s
M54A Oil Creek Stat 62.08 352 P **P** **23 24 55.6 +0.2**
baz=170,SNR=33
M53A WI Miller and 62.16 351 P **P** **23 24 55.7 -0.2**
baz=169,SNR=12
MSTX Muleshoe 62.21 330 P **P** **23 24 56.4 -0.2**
baz=145,SNR=25
L58A Harry Jones Me 62.22 355 P **P** **23 24 56.9 +0.6**
baz=174,SNR=35
CROK Carrier 62.26 335 P **P** **23 24 56.9 +0.2**
ALLY Alegheny Colle 62.29 352 IAMs_20 IAMs_20 23 52 59.6
comp=Z,505nm,21.0s
BCX Boston College 62.30 359 P **P** **23 24 57.2 +0.4**
BCX IAmb IAmb 23 24 58.1
comp=Z,27nm,1.1s
BCX IAMs_20 IAMs_20 23 56 08.1
comp=Z,774nm,21.0s
EPT El Paso 62.33 325 IAMs_20 IAMs_20 23 49 32.7
comp=Z,399nm,21.0s
SFIN Lafayette 62.35 346 P **P** **23 24 55.6 -1.6**
baz=162,SNR=13
SFIN Lafayette 62.35 346 P **P** **23 24 55.9 -1.3**
SFIN IAmb IAmb 23 25 07.0
comp=Z,26nm,0.7s
WES Weston 62.35 359 IAmb IAmb 23 24 58.6
comp=Z,42nm,1.1s
M52A Chesterland 62.36 351 IAMs_20 IAMs_20 23 53 00.4
comp=Z,408nm,22.0s
BINY Binghamton 62.38 355 P **P** **23 24 58.1 +0.6**
baz=174,SNR=28
L61B Northampton 62.45 358 P **P** **23 24 58.2 +0.4**
baz=177,SNR=20
AMTX Amarillo 62.45 331 P **P** **23 24 57.6 -0.6**
baz=147
L56A Greenwood 62.46 354 IAmb IAmb 23 24 59.5
comp=Z,47nm,0.8s
HRV Adam Dziewonsk 62.48 359 P **P** **23 24 58.6 +0.6**
baz=179
M50A Fremont 62.50 349 P **P** **23 24 58.0 -0.2**
M50A IAmb IAmb 23 25 09.8
comp=Z,61nm,1.1s
M50A IAMs_20 IAMs_20 23 54 00.2
comp=Z,523nm,21.0s
KAN13 South Haven SW 62.50 336 P **P** **23 24 58.6 +0.2**
U32A Winter Ranch, 62.56 334 P **P** **23 24 59.4 +0.6**
U32A IAmb IAmb 23 25 15.6
comp=Z,24nm,0.9s
OK032 Salt Plains WL 62.61 335 IAmb IAmb 23 25 10.3
comp=Z,52nm,1.0s
KAN17 Caldwell West 62.64 335 P **P** **23 24 59.2 0.0**
KAN17 IAmb IAmb 23 25 10.7
comp=Z,32nm,0.9s
K62A Royalston 62.65 358 P **P** **23 24 59.5 +0.4**
baz=178,SNR=6.1
K62A Royalston 62.65 358 IAmb IAmb 23 25 00.2
comp=Z,49nm,1.4s
K63A Dunstable 62.66 359 P **P** **23 24 59.5 +0.3**
baz=179,SNR=9.9
K63A Dunstable 62.66 359 IAmb IAmb 23 25 11.2
comp=Z,39nm,1.0s
K61A Williamstown 62.69 357 P **P** **23 24 59.9 +0.5**
baz=177,SNR=17
KS20 Mayfield South 62.72 336 P **P** **23 25 00.0 +0.2**
ERPA Erie 62.73 352 P **P** **23 24 59.7 0.0**
baz=170,SNR=14
KAN05 Bluff City Nor 62.74 335 P **P** **23 25 00.1 +0.2**
KAN05 IAmb IAmb 23 25 11.4
comp=Z,38nm,1.0s
KAN10 Anthony SW Sta 62.84 335 P **P** **23 25 01.2 +0.6**
KAN10 IAmb IAmb 23 25 11.9
comp=Z,20nm,0.8s
KAN08 Anthony NE Sta 62.88 335 P **P** **23 25 01.1 +0.2**
P40A Paris 62.88 341 IAmb IAmb 23 25 01.3
comp=Z,27nm,0.9s
KAN12 Harper NE Stat 62.95 335 P **P** **23 25 01.6 +0.2**
K56A Middlesex 63.00 354 P **P** **23 25 01.6 +0.1**
baz=173,SNR=14
HDIL Hopedale 63.06 344 P **P** **23 25 00.5 -1.4**
baz=160
J62A Henniker 63.20 359 P **P** **23 25 03.3 +0.5**
baz=178,SNR=12
J63A Strafford 63.24 359 P **P** **23 25 03.4 +0.3**
baz=179
J60A Lant Hill Farm 63.27 357 P **P** **23 25 03.8 +0.5**
baz=177,SNR=14
J61A Chester 63.34 358 P **P** **23 25 04.5 +0.7**
baz=178,SNR=16
ACCN Adirondack Com 63.42 357 IAmb IAmb 23 25 06.2
comp=Z,54nm,1.1s
P38A Dawn 63.44 340 IAmb IAmb 23 25 21.5
comp=Z,22nm,0.6s
FFD Franklin Falls 63.44 359 P **P** **23 25 05.0 +0.6**
AAM Ann Arbor 63.48 349 P **P** **23 25 04.2 -0.5**
baz=166
J58A Remsen 63.49 356 P **P** **23 25 04.9 +0.2**
baz=175,SNR=9.2
J58A Remsen 63.49 356 IAmb IAmb 23 25 22.3
comp=Z,64nm,1.5s
M44A Midewin, Midew 63.53 345 P **P** **23 25 03.8 -1.3**
M44A IAmb IAmb 23 25 20.9
comp=Z,41nm,1.4s
319A Douglas 63.56 323 P **P** **23 25 06.2 +0.6**
319A IAmb IAmb 23 25 18.5
comp=Z,34nm,1.0s
MEDO Medina 63.57 353 IAmb IAmb 23 25 16.7
comp=Z,72nm,1.2s
J57A Williamstown 63.59 355 IAmb IAmb 23 25 06.7
comp=Z,54nm,0.9s
J55A Hilton 63.61 354 IAmb IAmb 23 25 06.7
comp=Z,74nm,1.2s
J55A IAMs_20 IAMs_20 23 53 00.6
comp=Z,379nm,21.0s
121A Cookes Peak, D 63.61 325 P **P** **23 25 07.4 +1.4**
baz=140,SNR=9.3
121A Cookes Peak, D 63.61 325 P **P** **23 25 07.1 +1.1**
N41A Harden Midland 63.63 343 IAmb IAmb 23 25 06.2
comp=Z,42nm,0.9s
HNH Hanover 63.69 358 P **P** **23 25 06.7 +0.7**
HNH IAmb IAmb 23 25 08.3
comp=Z,74nm,1.2s
J54A Appleton 63.70 353 IAmb IAmb 23 25 07.3
comp=Z,52nm,1.0s
L46A Eue Claire 63.73 347 P **P** **23 25 05.2 -1.1**
L46A IAmb IAmb 23 25 17.2
comp=Z,47nm,1.1s
K50A Casco 63.76 350 IAMs_20 IAMs_20 23 54 06.7
comp=Z,371nm,21.0s
I58A Old Forge 63.80 356 P **P** **23 25 07.0 +0.2**
baz=175,SNR=28
I62A Tamworth 63.84 359 P **P** **23 25 07.4 +0.3**
baz=179,SNR=10
I62A Tamworth 63.84 359 IAmb IAmb 23 25 08.9
comp=Z,38nm,1.1s
I59A Olmsteadville 63.84 357 P **P** **23 25 07.5 +0.4**
baz=176,SNR=35
SNAA Sanae 63.84 161 P **P** **23 25 07.2 +0.3**
SNAA Sanae 63.84 161 P **P** **23 25 06.4 -0.5**
comp=Z,53nm,1.1s,baz=282,slow=6.1,SNR=83
SNAA pP **pP** **23 25 17.9 +0.5**
comp=Z,35nm,0.8s,baz=293,slow=5.9,SNR=17
SNAA Sanae 63.84 161 IAmb IAmb 23 25 08.6
comp=Z,52nm,1.0s
I60A Shoreham 63.86 358 P **P** **23 25 07.7 +0.6**
baz=177,SNR=31
HQIL Hanson Quary C 63.88 345 P **P** **23 25 06.3 -1.0**
HQIL IAmb IAmb 23 25 23.2
comp=Z,50nm,1.3s
I64A Boothbay 63.88 0 P **P** **23 25 07.9 +0.7**
baz=181,SNR=7.4
I63A Otisfield 64.01 360 P **P** **23 25 09.0 +0.9**
baz=180,SNR=14
I63A Otisfield 64.01 360 IAmb IAmb 23 25 10.3
comp=Z,54nm,1.1s
KSU1 Kansas State U 64.01 337 P **P** **23 25 07.8 -0.5**
baz=152
NCB Newcomb 64.03 357 IAmb IAmb 23 25 21.0
comp=Z,66nm,1.3s
I57A Carthage 64.09 356 P **P** **23 25 08.9 +0.3**
baz=174,SNR=17
R32A Long Quarter, 64.21 335 IAmb IAmb 23 25 21.2
comp=Z,43nm,0.8s
LBNH Lisbon 64.22 359 P **P** **23 25 10.3 +0.8**
baz=178,SNR=27
LBNH Lisbon 64.22 359 IAmb IAmb 23 25 11.6
comp=Z,71nm,1.1s
L44A Lake County Fo 64.25 346 P **P** **23 25 09.3 -0.5**
baz=162
L44A Lake County Fo 64.25 346 IAmb IAmb 23 25 20.0
comp=Z,50nm,1.1s
BNM Barren Site 64.25 327 P **P** **23 25 10.9 +0.6**
VT1 Waterbury 64.33 358 IAmb IAmb 23 25 12.0
comp=Z,31nm,1.0s
Y22D IRIS PASSCAL I 64.35 327 P **P** **23 25 11.8 +1.0**
Y22D IAmb IAmb 23 25 23.6
comp=Z,31nm,0.9s
N38A Joes South For 64.41 341 P **P** **23 25 10.6 -0.2**
N38A IAmb IAmb 23 25 11.2
comp=Z,26nm,0.9s

LENM **Lemitar** 64.44 327 P **P** 23 25 12.4 +1.0
H58A **Gabriels** 64.48 357 P **P** 23 25 11.5 +0.2
baz=176,SNR=37
H61A **Lyndonville** 64.51 359 P **P** 23 25 12.3 +0.8
baz=178,SNR=18
WVL **Waterville** 64.53 0 P **P** 23 25 11.6 +0.2
WVL IAmb IAmb 23 25 29.1
comp=Z,36nm,0.9s
H62A **Milan** 64.54 359 P **P** 23 25 12.1 +0.5
baz=179,SNR=10
H62A **Milan** 64.54 359 IAmb IAmb 23 25 28.9
comp=Z,29nm,1.0s
H60A **Morristown** 64.56 358 P **P** 23 25 12.2 +0.4
baz=178,SNR=10
H57A **Richville** 64.59 356 P **P** 23 25 12.0 +0.1
baz=175,SNR=38
J47A **Sunmer** 64.60 348 IAmb IAmb 23 25 23.5
comp=Z,50nm,0.9s
H64A **Troy** 64.61 1 P **P** 23 25 12.5 +0.5
baz=181,SNR=9.5
H63A **New Sharon** 64.62 0 P **P** 23 25 12.7 +0.7
baz=180,SNR=6.6
H59A **Cadyville** 64.68 357 P **P** 23 25 13.0 +0.5
baz=176,SNR=30
H65A **Eastbrook** 64.68 2 P **P** 23 25 12.9 +0.4
baz=182,SNR=11
LONY **Lake Ozonia** 64.70 357 P **P** 23 25 13.0 +0.3
baz=176,SNR=22
LONY **Lake Ozonia** 64.70 357 IAmb IAmb 23 25 14.3
comp=Z,58nm,1.1s
EMMW **East Machias** 64.72 2 IAmb IAmb 23 25 14.3
comp=Z,38nm,1.1s
ANMO **Albuquerque** 64.79 328 P **P** 23 25 14.3 +0.6
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO **Albuquerque** 64.79 328 P **P** 23 25 14.6 +0.9
baz=142
ANMO **Albuquerque** 64.79 328 P **P** 23 25 14.3 +0.6
H66A **Whiting** 64.80 2 P **P** 23 25 13.7 +0.5
baz=183,SNR=7.5
DELO **Deloro Mine** 64.83 354 IAmb IAmb 23 25 25.9
comp=Z,78nm,1.4s
K43A **Burlington** 64.84 345 IAMs_20 IAMs_20 23 48 57.3
comp=Z,376nm,19.0s
HAL **Halifax** 64.88 5 P **P** 23 25 13.8 0.0
HAL pmax pmax
comp=Z,59nm,1.1s
HAL **Halifax** 64.88 5 P **P** 23 25 13.8 0.0
HAL IAmb IAmb 23 25 15.1
comp=Z,59nm,1.1s
I49A **Point Hope** 64.93 350 P **P** 23 25 13.7 -0.4
CBKS **Cedar Bluff** 64.95 335 P **P** 23 25 14.4 -0.1
CBKS pmax pmax
comp=Z,43nm,0.9s
CBKS MLR MLR
comp=Z,300nm,22.0s
CBKS **Cedar Bluff** 64.95 335 P **P** 23 25 14.5 -0.1
baz=149
CBKS **Cedar Bluff** 64.95 335 P **P** 23 25 14.4 -0.1
CBKS IAmb IAmb 23 25 26.9
comp=Z,43nm,0.9s
L40A **Anamosa** 64.99 343 IAmb IAmb 23 25 25.3
comp=Z,34nm,1.0s
G63A **Kingsbury** 65.08 0 P **P** 23 25 15.8 +0.7
baz=181,SNR=11
TUC **Tucson** 65.10 323 P **P** 23 25 16.9 +1.3
baz=138
GGN **Saint George** 65.15 3 IAmb IAmb 23 25 17.2
comp=Z,52nm,1.1s
G62A **West of Eustis** 65.18 360 P **P** 23 25 16.6 +0.9
baz=180,SNR=67
G65A **Princeton** 65.20 2 P **P** 23 25 16.3 +0.4
baz=183,SNR=12
G65A **Princeton** 65.20 2 IAmb IAmb 23 25 33.3
comp=Z,35nm,0.8s
G64A **Maxfield** 65.22 1 P **P** 23 25 16.3 +0.2
baz=182,SNR=13
PKME **Peaks-Kenny Pk** 65.23 1 P **P** 23 25 16.6 +0.5
baz=181,SNR=12
PKME **Peaks-Kenny Pk** 65.23 1 IAmb IAmb 23 25 17.7
comp=Z,39nm,0.9s
SADO **Sadowa** 65.23 353 P **P** 23 25 14.9 -1.2
comp=Z,40nm,0.9s,baz=193,slow=4.9,SNR=34
SADO pP **pP** 23 25 26.5 0.0
comp=Z,32nm,1.0s,baz=191,slow=5.6,SNR=9.2
SADO **Sadowa** 65.23 353 IAmb IAmb 23 25 16.9
comp=Z,56nm,1.1s
N35A **Tabor** 65.24 339 IAmb IAmb 23 25 27.2
comp=Z,30nm,0.8s
G61A **St-Isidore-de-** 65.25 359 P **P** 23 25 17.1 +0.9
baz=179,SNR=30
PLVO **Plevna** 65.30 355 IAmb IAmb 23 25 28.4
comp=Z,52nm,1.3s
PLVO IAMs_20 IAMs_20 23 54 46.3
comp=Z,553nm,21.0s
SCIA **State Center** 65.42 341 P **P** 23 25 16.2 -1.1
baz=156
SCIA **State Center** 65.42 341 IAmb IAmb 23 25 18.5
comp=Z,44nm,0.9s
JFWS **Jewell Farm** 65.52 344 P **P** 23 25 17.3 -0.7
baz=159,SNR=6.1
JFWS **Jewell Farm** 65.52 344 IAmb IAmb 23 25 18.4
comp=Z,21nm,0.8s
T25A **Trinidad** 65.56 330 P **P** 23 25 19.4 +0.7
baz=145,SNR=7.2
T25A **Trinidad** 65.56 330 P **P** 23 25 18.9 +0.2
F63A **Nahmakanta, Br** 65.67 1 P **P** 23 25 19.4 +0.4
baz=181,SNR=6.4
F63A **Nahmakanta, Br** 65.67 1 IAmb IAmb 23 25 31.3
comp=Z,48nm,1.4s
F64A **Sherman** 65.84 1 P **P** 23 25 20.3 +0.3
baz=182,SNR=13
F64A **Sherman** 65.84 1 IAmb IAmb 23 25 21.7
comp=Z,35nm,0.8s
GBN **Guysborough** 65.85 7 IAmb IAmb 23 25 21.4
comp=Z,30nm,0.9s
F62A **Pittston Farm,** 65.86 0 P **P** 23 25 20.8 +0.7
baz=180,SNR=7.7
F62A **Pittston Farm,** 65.86 0 IAmb IAmb 23 25 21.9
comp=Z,32nm,1.1s
F61A **St Evariste** 65.94 359 P **P** 23 25 21.0 +0.3
baz=179,SNR=13
K38A **Parkersburg** 65.96 342 IAmb IAmb 23 25 31.1
comp=Z,43nm,1.2s
LMN **Caledonia Moun** 66.00 4 IAmb IAmb 23 25 22.1
comp=Z,45nm,0.9s
214A **Organ Pipe Nat** 66.02 321 P **P** 23 25 23.2 +1.7
baz=136,SNR=7.4
GLMI **Grayling** 66.10 349 P **P** 23 25 21.9 +0.2
baz=165
I42A **Draeger Farm,** 66.11 345 IAmb IAmb 23 25 21.7
comp=Z,46nm,1.3s
ALGO **Algonquin Park** 66.29 354 P **P** 23 25 22.5 -0.4
baz=172,SNR=18
KSCO **Kaye Shedlock'** 66.31 333 P **P** 23 25 23.4 0.0
baz=147
KSCO **Kaye Shedlock'** 66.31 333 P **P** 23 25 23.9 +0.5
E60A **Ste Agathe de** 66.34 359 P **P** 23 25 23.4 +0.2
baz=179,SNR=8.5
E61A **Lac Etchemin** 66.39 360 P **P** 23 25 24.3 +0.8
baz=180,SNR=11
H43A **Windswept, Lux** 66.39 346 IAmb IAmb 23 25 35.2
comp=Z,32nm,0.8s
E63A **Oxbow** 66.40 1 P **P** 23 25 24.1 +0.5
baz=182,SNR=8.8
E63A **Oxbow** 66.40 1 IAmb IAmb 23 25 25.9
comp=Z,36nm,1.1s
E64A **Bridgewater** 66.41 2 P **P** 23 25 24.1 +0.4
baz=182,SNR=11
SDCO **Great Sand Dun** 66.56 330 P **P** 23 25 26.2 +1.0
baz=144,SNR=37
SDCO **Great Sand Dun** 66.56 330 IAmb IAmb 23 25 37.8
comp=Z,38nm,0.9s
E62A **Clayton Lake** 66.58 1 P **P** 23 25 25.4 +0.6
baz=181,SNR=17
E62A **Clayton Lake** 66.58 1 IAmb IAmb 23 25 26.7
comp=Z,44nm,0.9s
BGNE **Belgrade** 66.60 337 P **P** 23 25 24.8 -0.3
baz=152
W18A **Petrified Fore** 66.63 325 P **P** 23 25 26.8 +1.3
baz=140
PQI **Presque Isle** 66.66 2 IAmb IAmb 23 25 26.9
comp=Z,47nm,1.1s
D63A **Stockholm** 67.02 2 P **P** 23 25 28.0 +0.4
baz=182,SNR=16
D62A **Allapoint, All** 67.05 1 P **P** 23 25 28.2 +0.5
baz=181,SNR=21
D61A **St Aubert, Com** 67.16 0 P **P** 23 25 29.1 +0.8
baz=180
S22A **4UR Ranch, Cre** 67.19 329 P **P** 23 25 30.2 +0.9
baz=143,SNR=9.4
LATQ **La Tuque** 67.38 358 P **P** 23 25 30.3 +0.5
baz=177,SNR=8.0
LATQ **La Tuque** 67.38 358 IAmb IAmb 23 25 41.8
comp=Z,59nm,1.2s
Q24A **Divide** 67.38 331 P **P** 23 25 31.2 +0.7
baz=145,SNR=6.8
I37A **Lemond, Waseca** 67.40 342 IAmb IAmb 23 25 50.9
comp=Z,31nm,0.9s
E46A **Sault Ste Mari** 67.54 350 P **P** 23 25 31.0 +0.2
E46A IAmb IAmb 23 25 42.3
comp=Z,30nm,1.1s
MVCO **Mesa Verde** 67.59 328 P **P** 23 25 32.3 +0.6
baz=141
MVCO **Mesa Verde** 67.59 328 P **P** 23 25 32.7 +1.0
MVCO IAmb IAmb 23 25 44.4
comp=Z,25nm,0.8s
OGNE **Ogallala** 67.69 334 P **P** 23 25 32.2 +0.1
baz=148
WUAZ **Wupatki** 67.81 325 P **P** 23 25 34.8 +1.8
baz=138,SNR=18
K31A **O'Neill** 67.88 338 P **P** 23 25 32.9 -0.3
GLA **Glamis** 68.00 321 P **P** 23 25 35.7 +1.6
baz=135
ECSD **EROS Data Cent** 68.13 340 P **P** 23 25 34.2 -0.5
baz=153,SNR=8.7
ECSD **EROS Data Cent** 68.13 340 IAmb IAmb 23 25 46.8
comp=Z,45nm,1.4s
TAOE **Nuku Hiva Isla** 68.19 268 eLR LR 23 46 19.2
comp=Z,374nm,24.0s
TAOE **Nuku Hiva Isla** 68.19 268 eT T 00 39 16.5
comp=Z,93nm,0.2s
ISCO **Idaho Springs** 68.27 331 P **P** 23 25 36.9 +0.9
baz=144,SNR=14
PV01 **Paradox Valley** 68.35 328 IAmb IAmb 23 25 49.4
comp=Z,29nm,0.9s
SPMN **Marine on St.** 68.35 343 P **P** 23 25 35.1 -0.8
baz=157,SNR=8.0
PV15 **Paradox Valley** 68.46 328 IAmb IAmb 23 25 50.3
comp=Z,46nm,0.9s
PV13 **Radium Mtn., P** 68.49 328 IAmb IAmb 23 25 50.1
comp=Z,29nm,0.9s
IKP **In-Ko-Pah, Jac** 68.49 319 P **P** 23 25 39.1 +1.9
baz=134,SNR=7.1
SWSC **Sam W. Stewart** 68.51 320 P **P** 23 25 39.1 +1.8
baz=134
PV05 **Paradox Valley** 68.56 328 P **P** 23 25 38.1 +0.4
PV05 IAmb IAmb 23 25 50.4
comp=Z,35nm,1.1s
PV03 **Paradox Valley** 68.58 328 IAmb IAmb 23 25 50.6
comp=Z,39nm,1.4s
PV18 **Skein Mesa, Pa** 68.60 328 P **P** 23 25 38.5 +0.6
PV18 IAMs_20 IAMs_20 23 58 47.6
comp=Z,473nm,22.0s
PV16 **Nyswonger Mesa** 68.65 328 P **P** 23 25 38.8 +0.4
PV19 **Morning Glory** 68.69 328 P **P** 23 25 39.1 +0.6
PV20 **West Nyswonger** 68.70 328 P **P** 23 25 39.2 +0.6
PV04 **Paradox Valley** 68.71 328 P **P** 23 25 39.8 +1.2
PV14 **Lion Creek, Pa** 68.75 328 IAMs_20 IAMs_20 23 50 31.7
comp=Z,508nm,21.0s
MONP2 **Monument Peak** 68.85 319 P **P** 23 25 41.2 +1.5
baz=134
BAR **Barrett** 68.86 319 IAmb IAmb 23 25 53.0
comp=Z,41nm,1.0s
IRM **Iron Mountain** 68.96 321 P **P** 23 25 41.8 +1.7
baz=135,SNR=18
U15A **North Rim** 68.98 325 IAmb IAmb 23 25 54.2
comp=Z,50nm,1.1s
D41A **Chassel** 69.03 347 IAmb IAmb 23 25 56.2
comp=Z,27nm,0.8s
NEE2 **Needles Airpor** 69.09 322 P **P** 23 25 42.5 +1.7
baz=136
LIC **Lamto** 69.27 75 eP **P** 23 25 41.0 -1.4
comp=Z,53nm,0.9s
LSQQ **Lebel-sur-Quev** 69.28 355 P **P** 23 25 41.2 -0.4
baz=173
N23A **Red Feather La** 69.31 332 P **P** 23 25 43.4 +1.0
baz=144,SNR=13
BELC **Belle Mtn. Jos** 69.36 321 P **P** 23 25 44.6 +1.9
baz=134,SNR=7.3
TPFO **Pinon Flats** 69.36 320 P **P** 23 25 44.5 +1.8
baz=134,SNR=7.6
PFO **Pinyon Flats O** 69.37 320 P **P** 23 25 43.4 +0.7
PFO pmax pmax
comp=Z,21nm,1.1s
PFO **Pinyon Flats O** 69.37 320 P **P** 23 25 44.7 +2.0
baz=134,SNR=7.3
PFO **Pinyon Flats O** 69.37 320 P **P** 23 25 43.4 +0.7
TIC **Toumodi** 69.45 74 eP **P** 23 25 43.9 +0.4
SUSD **Miller** 69.55 338 P **P** 23 25 42.5 -0.9
baz=151
KIC **Kosan Boka** 69.58 75 eP **P** 23 25 43.6 -0.8
comp=Z,76nm,1.0s
GMRC **Granite Mounta** 69.70 321 P **P** 23 25 46.8 +2.0
baz=135,SNR=20
O20A **White River Ci** 69.75 330 P **P** 23 25 46.3 +1.2
baz=142,SNR=8.5
O20A **White River Ci** 69.75 330 IAmb IAmb 23 25 57.9
comp=Z,29nm,1.1s
MURC **Murrieta** 69.81 319 P **P** 23 25 46.9 +1.5
baz=133
QSPA **South Pole Qui** 69.91 180 IAmb IAmb 23 25 58.7
comp=Z,47nm,1.1s
LCMT **Little Creek M** 69.93 324 IAmb IAmb 23 25 59.8
comp=Z,33nm,1.2s
CHGQ **Chibougamau** 69.97 357 P **P** 23 25 45.6 -0.3
baz=176,SNR=15
MATQ **Matagami** 70.03 355 P **P** 23 25 45.5 -0.7
baz=173,SNR=17
SRU **San Rafael Swe** 70.07 328 IAmb IAmb 23 25 59.8
comp=Z,39nm,0.9s
BBRC **Big Bear Solar** 70.09 320 P **P** 23 25 49.0 +1.7
baz=134
HEC **Hector,Ludlow** 70.13 321 P **P** 23 25 49.4 +2.0
baz=134
DRLN **Deer Lake** 70.14 9 IAmb IAmb 23 25 47.7
comp=Z,58nm,0.9s
SCI2 **San Clemente I** 70.22 318 P **P** 23 25 49.3 +1.4
baz=132
TUQ **Turquoise Moun** 70.31 322 P **P** 23 25 50.1 +1.6
baz=135,SNR=5.5
P17A **Butchel Ranch,** 70.46 328 IAmb IAmb 23 26 02.3
comp=Z,63nm,1.0s
RWWY **Rawlins** 70.51 331 P **P** 23 25 49.9 +0.2
RWWY IAmb IAmb 23 26 02.6
comp=Z,38nm,1.3s
BFSC **Mount Baldy Ra** 70.52 320 P **P** 23 25 51.2 +1.4
baz=133,SNR=5.5
RRX **Edison Barstow** 70.56 321 P **P** 23 25 51.6 +1.7
baz=134
GSC **Goldstone, Bar** 70.74 321 P **P** 23 25 53.1 +2.0
baz=134,SNR=7.9
GSC **Goldstone, Bar** 70.74 321 IAmb IAmb 23 26 04.8
comp=Z,35nm,1.2s
MWC **Mount Wilson** 70.75 319 P **P** 23 25 52.2 +0.9
MWC pmax pmax
comp=Z,36nm,1.1s
MWC **Mount Wilson** 70.75 319 P **P** 23 25 52.2 +0.9
MWC IAmb IAmb 23 26 04.8
comp=Z,36nm,1.1s
SHOC **Shoshone, Teco** 70.84 322 P **P** 23 25 53.4 +1.8
baz=134
DECC **Green Verdugo** 70.94 319 P **P** 23 25 53.8 +1.5
baz=132
K22A **Casper** 70.98 333 P **P** 23 25 53.2 +0.7
baz=144
SNCC **San Nicolas Is** 71.01 318 P **P** 23 25 53.8 +1.2
baz=131
RSSD **Black Hills** 71.16 335 P **P** 23 25 54.2 +0.6
baz=147
EDW2 **Edwards Air Fo** 71.16 320 P **P** 23 25 55.0 +1.4
baz=133,SNR=6.6
PSUT **Pine Spring** 71.37 325 IAmb IAmb 23 26 09.5
comp=Z,29nm,0.8s
LRMC **Laurel Mtn Rad** 71.38 321 P **P** 23 25 56.6 +1.6
baz=133
NLU **North Lily Min** 71.49 327 P **P** 23 25 56.1 +0.4
TPNV **Topopah Spring** 71.56 323 P **P** 23 25 58.3 +2.2
baz=135,SNR=19
SCZ2 **Santa Cruz Isl** 71.58 318 P **P** 23 25 57.7 +1.6
baz=132
FURC **Furnace Creek,** 71.58 322 P **P** 23 25 58.1 +2.1
baz=134,SNR=11
JLU **Jordanelle** 71.67 328 IAmb IAmb 23 26 09.9
comp=Z,54nm,1.1s
ARVC **Arvin** 71.83 320 P **P** 23 25 59.4 +1.8
baz=132
CTU **Camp Tracy** 71.89 328 P **P** 23 25 58.8 +0.8
ISA **Isabella, Lake** 71.98 320 P **P** 23 26 00.4 +1.9
baz=133,SNR=13
ISA **Isabella, Lake** 71.98 320 IAmb IAmb 23 26 12.3
comp=Z,37nm,0.9s
E28A **Huff** 72.00 338 P **P** 23 25 58.6 +0.2
E28A IAmb IAmb 23 26 00.1
comp=Z,42nm,0.8s
AGMN **Agassiz Nation** 72.01 342 P **P** 23 25 57.5 -0.8
baz=155,SNR=12
DUG **Dugway, Tooele** 72.05 327 P **P** 23 26 00.4 +1.5
baz=138,SNR=31
DUG **Dugway, Tooele** 72.05 327 IAmb IAmb 23 26 12.9
comp=Z,58nm,1.1s
R11A **Troy Canyon, C** 72.18 324 P **P** 23 26 01.8 +2.0
baz=136,SNR=21
CWC **Cottonwood Cre** 72.27 321 P **P** 23 26 02.3 +1.9
baz=133
PKM **Mcpherson Peak** 72.28 319 P **P** 23 26 02.1 +1.6
baz=132,SNR=8.9
BW06 **Boulder Array** 72.43 331 P **P** 23 26 01.5 +0.2
baz=142,SNR=7.0
BW06 **Boulder Array** 72.43 331 IAMs_20 IAMs_20 23 59 03.9
comp=Z,314nm,22.0s
PDAR **Pinedale Array** 72.43 331 P **P** 23 26 01.4 +0.2
comp=Z,1.7nm,0.7s,baz=142,slow=7.5,SNR=19
PDAR pP **pP** 23 26 13.3 +1.4
comp=Z,3.4nm,0.7s,baz=152,slow=8.0,SNR=12
PDAR LR LR 00 00 35.8
comp=Z,135nm,20.2s,baz=136,slow=38
PDAR **Pinedale Array** 72.43 331 P **P** 23 26 01.5 +0.2
PDAR pP **pP** 23 26 12.4 +0.5
VES **Vestal, Richgr** 72.46 320 P **P** 23 26 02.8 +1.5
baz=132
SMMC **Simmler** 72.67 319 P **P** 23 26 04.8 +2.2
baz=132
SPUT **South Promonto** 72.70 328 IAmb IAmb 23 26 16.3
comp=Z,47nm,1.1s
BGU **Big Grassy Mou** 72.70 327 IAmb IAmb 23 26 15.8
comp=Z,40nm,1.1s
TBI **Tubuai** 72.70 251 eLR LR 23 48 28.8
comp=Z,884nm,26.0s
MDND **Maddock** 72.75 340 P **P** 23 26 03.1 +0.3
baz=151,SNR=8.6
TIN **Tinemaha, Big** 72.78 322 P **P** 23 26 05.1 +1.7
baz=133
AHID **Auburn Hatcher** 73.15 330 IAmb IAmb 23 26 18.1
comp=Z,43nm,1.1s
PMOZ **Porto Moniz, M** 73.19 45 eLR LR 23 49 56.7
comp=Z,148nm,18.0s
MLAC **Mammoth, Mammo** 73.52 322 P **P** 23 26 09.8 +1.9
baz=133
KOWA **Kowa** 73.70 67 P **P** 23 26 07.4 -1.7
comp=Z,16nm,0.7s,baz=248,slow=6.5,SNR=34
LHV **Little Huntoon** 73.75 322 IAmb IAmb 23 26 22.9
comp=Z,39nm,0.9s
LHV IAMs_20 IAMs_20 23 52 35.0
comp=Z,306nm,22.0s
NVAR **Mina Array Bea** 73.76 323 P **P** 23 26 09.8 +0.6
comp=Z,6.8nm,0.8s,baz=146,slow=6.0,SNR=43
NVAR pP **pP** 23 26 21.4 +1.6
comp=Z,19nm,0.9s,baz=151,slow=6.4,SNR=22
NVAR LR LR 23 55 36.6
comp=Z,132nm,21.9s,baz=112,slow=33
NVAR **Mina Array Bea** 73.76 323 P **P** 23 26 10.8 +1.5
NVAR pP **sP** 23 26 21.8 -2.1
ULM **Lac du Bonnet** 73.78 343 P **P** 23 26 07.8 -1.0
comp=Z,7.1nm,0.4s,baz=150,slow=7.3,SNR=12
ULM pP **pP** 23 26 19.4 0.0
comp=Z,8.0nm,0.5s,baz=152,slow=6.3,SNR=6.8
ULM LR LR 00 01 39.5
comp=Z,67nm,20.4s,baz=145,slow=38
IMW **Indian Meadow** 73.94 331 IAmb IAmb 23 26 23.3
comp=Z,65nm,1.4s
FLWY **Flagg Ranch** 73.97 331 IAmb IAmb 23 26 23.7
comp=Z,78nm,1.1s
KVN **Kaiserville** 74.07 323 IAmb IAmb 23 26 24.6
comp=Z,44nm,1.0s
LAO **LASA Array** 74.15 335 P **P** 23 26 11.7 +0.6
baz=145,SNR=7.8
LAO **LASA Array** 74.15 335 IAmb IAmb 23 26 24.3
comp=Z,69nm,1.3s
RLMT **Red Lodge** 74.15 332 P **P** 23 26 12.3 +0.9
baz=142,SNR=8.4
RLMT **Red Lodge** 74.15 332 IAmb IAmb 23 26 24.2
comp=Z,77nm,1.4s
TIAR **Tiarei** 74.17 257 eT T 00 46 39.0
comp=Z,2.4nm,0.3s
LKWY **Lake** 74.21 331 IAMs_20 IAMs_20 00 00 50.1
comp=Z,276nm,18.0s
PPT2 **Papeete2** 74.37 257 eS S 23 35 58.9 +13
comp=Z,288nm,26.0s
PPT2 **Papeete2** 74.37 257 eLR LR 23 49 12.9
comp=Z,951nm,24.8s
PPT **Papeete** 74.38 257 LR LR 23 52 06.2
comp=Z,123nm,20.5s,baz=96,slow=30
YMR **Madison River** 74.55 331 P **P** 23 26 15.2 +1.5
YMR IAmb IAmb 23 26 28.1
comp=Z,45nm,1.0s
YHH **Holmes Hill** 74.59 331 IAmb IAmb 23 26 28.3
comp=Z,84nm,1.2s
SCHQ **Schefferville** 74.86 2 P **P** 23 26 14.0 -1.0
comp=Z,34nm,1.0s,baz=159,slow=4.7,SNR=19
SCHQ pP **pP** 23 26 25.7 0.0
comp=Z,33nm,1.0s,baz=216,slow=7.7,SNR=12
SCHQ LR LR 00 00 45.6
comp=Z,107nm,19.8s,baz=194,slow=37
SCHQ **Schefferville** 74.86 2 IAmb IAmb 23 26 26.8
comp=Z,58nm,1.1s
PAHR **Pah Rah Range** 75.25 323 P **P** 23 26 19.1 +1.3
PAHR IAmb IAmb 23 26 31.5
comp=Z,61nm,0.8s
RUBR **Rubicon Trail** 75.25 322 IAMs_20 IAMs_20 23 57 53.5
comp=Z,317nm,21.0s
HLID **Hailey** 75.34 328 P **P** 23 26 19.8 +1.5
baz=138,SNR=40
HLID **Hailey** 75.34 328 IAmb IAmb 23 26 32.4
comp=Z,41nm,1.0s
BOZ **Bozeman (W)** 75.56 331 P **P** 23 26 20.3 +0.9
baz=140,SNR=9.0
DLMT **Dillon** 75.83 331 P **P** 23 26 21.7 +0.8
DLMT IAmb IAmb 23 26 34.2
comp=Z,36nm,1.1s
MFID **Camas Ranch** 75.94 328 IAmb IAmb 23 26 35.1
comp=Z,46nm,1.1s
ORV **Oroville** 76.36 322 IAmb IAmb 23 26 37.6
comp=Z,53nm,0.9s
HRY **Holter Researc** 76.51 332 P **P** 23 26 25.8 +1.0
EGMT **Eagleton** 76.65 334 P **P** 23 26 26.0 +0.6
baz=142,SNR=8.8
O03E **Paynes Creek** 77.02 322 P **P** 23 26 28.0 +0.3
baz=131,SNR=10
PLID **Pearl Lake** 77.23 329 IAmb IAmb 23 26 42.5
comp=Z,41nm,0.9s
J08A **Circle Bar Ran** 77.26 326 P **P** 23 26 29.7 +0.6
O02D **Mt. Diablo Mer** 77.52 321 P **P** 23 26 31.3 +0.8
baz=130,SNR=6.8
MSO **Missoula** 77.55 331 P **P** 23 26 32.1 +1.5
baz=138,SNR=8.6
KCPM **Cahto Peak** 77.67 321 P **P** 23 26 31.9 +0.4
KCPM IAmb IAmb 23 26 45.3
comp=Z,30nm,0.9s
BMO **Blue Mountains** 77.71 328 IAmb IAmb 23 26 44.5
comp=Z,30nm,0.9s
VNDA **Vanda** 77.83 190 P **P** 23 26 30.8 -0.9
comp=Z,4.6nm,0.9s,baz=135,slow=5.3,SNR=23
N02D **Trinity Center** 77.98 322 P **P** 23 26 33.5 +0.4
baz=131,SNR=12
M04C **Macdoel** 78.02 323 P **P** 23 26 34.5 +1.2
baz=131,SNR=12
SYO **Syowa Base** 78.08 160‖ eP **P** 23 26 33.0 -0.2
SYO **Syowa Base** 78.08 160‖ eS sP sP 23 26 45.0 -2.7
SYO **Syowa Base** 78.08 160‖ eP PP PP 23 29 27.1 -2.2
K05A **Summer Lake** 78.12 324 IAmb IAmb 23 26 47.7
comp=Z,56nm,1.1s
TORD **Torodi Ar. Bea** 78.14 71 P **P** 23 26 32.6 -1.9
comp=Z,34nm,0.6s,baz=252,slow=5.3,SNR=178
TORD LR LR 00 00 24.4
comp=Z,1µm,18.9s,baz=230,slow=35
TORD **Torodi Ar. Bea** 78.14 71 P **P** 23 26 32.9 -1.5
TORD IAmb IAmb 23 26 34.3
comp=Z,55nm,1.0s
I07A **Izee** 78.30 326 P **P** 23 26 35.2 +0.4
M02C **Callahan** 78.34 322 P **P** 23 26 35.7 +0.6
baz=130,SNR=5.9
JTMT **Jette** 78.39 331 P **P** 23 26 36.0 +0.7

F10A	Beach Ranch, E	78.47	329	IAmb	IAmb	23 26 56.0	
	comp=Z,30nm,0.9s						
K04D	Chiloquin, OR	78.53	324	P	P	23 26 37.0	+0.9
	baz=132						
L04D	Klamath Falls	78.57	323	P	P	23 26 37.2	+0.8
	baz=131,SNR=5.5						
J05D	Fort Rock, OR	78.68	325	P	P	23 26 38.2	+1.2
	baz=132,SNR=7.0						
PINE	Pine Mountain	78.86	325	IAmb	IAmb	23 26 51.7	
	comp=Z,36nm,1.1s						
KRMB	Red Mountain	79.03	322	IAmb	IAmb	23 26 52.3	
	comp=Z,32nm,0.9s						
J04D	Umpqua Nationa	79.13	324	P	P	23 26 40.2	+0.6
	baz=131						
WALA	Waterton Lakes	79.20	332	IAmb	IAmb	23 26 53.0	
	comp=Z,41nm,1.0s						
WALA				IAms_20	IAms_20	23 59 58.2	
	comp=Z,387nm,22.0s						
L02E	Cave Junction	79.26	323	P	P	23 26 41.4	+1.4
	baz=130,SNR=7.1						
E09A	Wood Farm, Sta	79.30	329	P	P	23 26 40.5	+0.3
I05D	Terrebonne, OR	79.44	325	P	P	23 26 42.7	+1.7
	baz=132,SNR=10.0						
K02D	Willamette Mer	79.64	323	P	P	23 26 43.6	+1.4
	baz=130,SNR=8.2						
HAWA	Hanford	79.91	328	IAmb	IAmb	23 26 56.8	
	comp=Z,42nm,0.9s						
G05D	Wamic, OR	80.04	326	P	P	23 26 46.0	+1.8
	baz=132,SNR=5.6						
NEW	Newport	80.06	330	P	P	23 26 42.4	-1.8
	comp=Z,1.0nm,0.3s,baz=135,slow=8.0,SNR=5.5						
NEW	Newport	80.06	330	P	P	23 26 44.8	+0.5
	baz=136						
J01E	Myrtle Point	80.09	323	P	P	23 26 46.1	+1.7
	baz=130						
I03D	Drain, OR	80.11	324	P	P	23 26 45.5	+1.0
	baz=130,SNR=6.5						
H04A	Detroit Lake	80.12	325	IAmb	IAmb	23 26 57.3	
	comp=Z,32nm,0.8s						
BUCK	Buck Mountain	80.24	324	IAmb	IAmb	23 26 58.8	
	comp=Z,79nm,1.1s						
SUR	Sutherland	80.28	121	P	P	23 26 44.0	-2.2
	comp=Z,36nm,1.1s,baz=186,slow=3.6,SNR=7.9						
SUR	Sutherland	80.28	121	IAmb	IAmb	23 26 47.8	
	comp=Z,75nm,1.3s						
H04D	Lebanon	80.31	325	P	P	23 26 46.4	+0.7
	baz=131						
F05D	White Salmon	80.54	327	P	P	23 26 47.9	+1.1
	baz=132						
I02D	Swisshome	80.65	324	P	P	23 26 48.8	+1.4
	baz=130						
G03D	McMinnville, O	81.05	325	P	P	23 26 50.7	+1.2
	baz=131						
LTY	Liberty	81.07	328	IAmb	IAmb	23 27 02.8	
	comp=Z,38nm,1.1s						
PFVI	Vila Bisbo	81.27	45	eP	P	23 26 52.3	+1.4
	comp=Z,98nm,1.5s						
LON	Longmire	81.30	327	IAms_20	IAms_20	00 01 00.7	
	comp=Z,300nm,21.0s						
F04D	Rainier, OR	81.48	326	P	P	23 26 53.1	+1.3
	baz=131						
E04D	Cinebar	81.56	326	P	P	23 26 53.3	+1.1
	baz=131						
TSUM	Tsumeb	81.60	107	IAmb	IAmb	23 26 54.9	
	comp=Z,49nm,0.8s						
PBDV	Barranco-do-Ve	81.93	46	eP	P	23 26 55.4	+0.9
	comp=Z,31nm,1.6s						
PNCL	Nicolau / Gran	82.01	45	eP	P	23 26 55.5	+0.7
MESJ	Messejana	82.06	45	eP	P	23 26 55.9	+0.7
MESJ				IAmb	IAmb	23 27 01.2	
	comp=Z,8.3nm,0.8s						
MESJ	Messejana	82.06	45	eP	P	23 26 55.8	+0.7
MESJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MESJ	Messejana	82.06	45	eP	P	23 26 55.7	+0.6
	comp=Z,35nm,1.4s						
MESJ	Messejana	82.06	45	ePcP	PcP	23 27 01.2	+0.7
MESJ				i LQ	LQ	23 27 17.7	
PCVE	Castro Verde	82.07	45	eP	P	23 26 56.3	+1.2
	comp=Z,33nm,1.6s						
PCVE				epP	sP	23 27 08.1	-1.7
PVAQ	Vaqueiros	82.16	46	epP	pP	23 27 08.3	+1.9
PVAQ				A	A	23 27 57.7	
	comp=Z,42nm,1.5s						
PVAQ	Vaqueiros	82.16	46	eLR	LR	23 54 49.2	
	comp=Z,264nm,22.0s						
B06A	Marblemount	82.33	328	IAmb	IAmb	23 27 08.4	
	comp=Z,54nm,0.8s						
PBEJ	Beja	82.40	45	eP	P	23 26 57.8	+0.9
	comp=Z,17nm,1.3s						
B05A	Bryant	82.46	328	P	P	23 26 57.2	+0.3
	baz=132,SNR=6.0						
D03D	Eldon	82.48	327	P	P	23 26 58.1	+1.0
	baz=131,SNR=5.1						
PMTG	Montargil	82.73	44	eP	P	23 26 59.4	+0.8
PMTG				epP	pP	23 27 10.7	+1.3
NLWA	Neilton Lookou	82.78	327	P	P	23 26 59.6	+1.0
NLWA				IAmb	IAmb	23 27 12.0	
	comp=Z,34nm,1.0s						
PBAR	Barrancos	83.03	45	eP	P	23 27 01.0	+0.9
	comp=Z,23nm,1.4s						
PESTR	Estremoz	83.04	44	eP	P	23 27 00.9	+0.7
	comp=Z,26nm,1.4s						
A04D	Lummi Island	83.06	328	P	P	23 27 01.1	+1.1
	baz=132						
PMRV	Marv??o	83.47	44	eP	P	23 27 02.6	+0.2
PMRV	Marv??o	83.47	44	eLQ	LQ	23 51 53.1	
PMRV				eLR	LR	23 54 49.2	
	comp=Z,222nm,16.0s						
PCBR	Castelo Branco	83.64	44	eP	P	23 27 03.7	+0.5
	comp=Z,29nm,1.5s						
PCBR				epP	pP	23 27 15.6	+1.6
PVIS	Viseu	83.85	43	eP	P	23 27 03.2	-1.2
MTE	Manteigas	83.90	43	eP	P	23 27 05.1	+0.5
	comp=Z,50nm,1.2s						
MTE				epP	pP	23 27 16.7	+1.2
MTE	Manteigas	83.90	43	eLR	LR	23 54 57.0	
	comp=Z,407nm,18.0s						
MTE	Manteigas	83.90	43	IAmb	IAmb	23 27 06.7	
	comp=Z,50nm,1.2s						
LLLB	Lilloet	83.93	330	IAmb	IAmb	23 27 16.8	
	comp=Z,46nm,1.0s						
PVRL	Vila Real	84.27	42	eP	P	23 27 06.8	+0.3
	comp=Z,51nm,1.4s						
PVRL				epP	pP	23 27 18.8	+1.5
POLO	Lamas de Olo	84.27	42	eP	P	23 27 06.4	-0.2
	comp=Z,26nm,1.7s						
POLO				i LQ	LQ	23 27 23.6	
PGAV	Gavieira, Arco	84.30	41	eLR	LR	23 56 36.9	
	comp=Z,412nm,20.0s						
MVO	Moncorvo	84.64	43	eP	P	23 27 08.9	+0.5
	comp=Z,43nm,1.4s						
MVO				epP	pP	23 27 20.5	+1.3
MVO	Moncorvo	84.64	43	eLR	LR	23 55 27.8	
	comp=Z,416nm,20.0s						
BOSA	Boshof	85.13	119	P	P	23 27 10.3	-1.0
	comp=Z,27nm,1.0s,baz=248,slow=4.3,SNR=13						
BOSA				LR	LR	00 01 52.5	
	comp=Z,455nm,20.2s,baz=252,slow=33						
BOSA	Boshof	85.13	119	IAmb	IAmb	23 27 12.8	
	comp=Z,34nm,1.1s						
PBRG	Braganca	85.17	42	eP	P	23 27 11.4	+0.4
	comp=Z,58nm,1.3s						
PBRG				epP	pP	23 27 22.9	+1.1
NUUK	Nuuk	85.41	8	i P	P	23 27 12.2	+0.7
NUUK				IAmb	IAmb	23 27 13.2	
	comp=Z,51nm,1.1s						
NUUK				i		23 27 23.6	
PAB	San Pablo	85.53	45	IAmb	IAmb	23 27 13.9	
	comp=Z,25nm,1.1s						
ES12	SONSECA Array	85.85	45	IAms_20	IAms_20	00 00 55.3	
	comp=Z,407nm,20.0s						
ESDC	Sonseca Array	85.86	45	P	P	23 27 13.2	-1.3
	comp=Z,11nm,1.1s,baz=243,slow=5.2,SNR=28						
ESDC				pP	pP	23 27 26.1	+0.8
	comp=Z,12nm,1.2s,baz=251,slow=5.7,SNR=10						
ESDC				LR	LR	00 02 11.5	
	comp=Z,220nm,21.9s,baz=240,slow=33						
ESDC	Sonseca Array	85.86	45	P	P	23 27 14.4	-0.1
ESDC				pP	pP	23 27 25.6	+0.3
MAW	Mawson	85.86	164	P	P	23 27 14.1	+0.1
	comp=Z,24nm,1.1s,baz=213,slow=6.6,SNR=15						
MAW				LR	LR	00 05 30.2	
	comp=Z,287nm,19.9s,baz=233,slow=36						
MAW	Mawson	85.86	164	P	P	23 27 14.1	+0.1
MAW				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MAW	Mawson	85.86	164	IAmb	IAmb	23 27 16.0	
	comp=Z,9.4nm,1.3s						
ES04	SONSECA Array	85.86	45	IAms_20	IAms_20	00 00 02.6	
	comp=Z,419nm,21.0s						
ES19	SONSECA Array	85.91	45	IAms_20	IAms_20	00 00 51.9	
	comp=Z,482nm,22.0s						
SFJD	Kangerlussuaq	88.24	8	P	P	23 27 24.3	-1.0
	comp=Z,15nm,0.9s,baz=184,slow=6.2,SNR=3.1						
SFJD	Kangerlussuaq	88.24	8	P	P	23 27 24.3	-1.0
SFJD				pmax	pmax		
	comp=Z,25nm,1.1s						
SFJD	Kangerlussuaq	88.24	8	IAmb	IAmb	23 27 37.1	
	comp=Z,25nm,1.1s						
DY2G	Dye2	88.35	9⇑	i P	P	23 27 26.3	+0.1
DY2G				IAmb	IAmb	23 27 27.4	
	comp=Z,60nm,1.2s						
DY2G				i		23 27 37.8	
ANGG	Ammassalik, Gr	89.15	13	i P	P	23 27 29.8	+0.2
ANGG				IAmb	IAmb	23 27 30.7	
	comp=Z,46nm,1.1s						
ANGG				i		23 27 41.0	
YKA	Yellowknife Ar	89.62	341	P	P	23 27 31.6	-0.3
	comp=Z,31nm,1.0s,baz=117,slow=1.6,SNR=70						
YKA				pP	pP	23 27 43.2	+0.5
	comp=Z,48nm,0.9s,baz=134,slow=5.2,SNR=27						
YKA	Yellowknife Ar	89.62	341	P	P	23 27 31.8	-0.2
YKA				pP	pP	23 27 43.0	+0.3
ILULI	Ilulissat	90.30	7	P	P	23 27 35.9	+1.0
ILULI	Ilulissat	90.30	7	P	P	23 27 35.9	+1.0
ICESG	Greenland Ices	91.80	11⇑	i P	P	23 27 42.6	+0.2
ICESG				IAmb	IAmb	23 27 43.6	
	comp=Z,48nm,1.0s						
ICESG				i		23 27 54.5	
WRAK	Wrangell Islan	92.42	331	P	P	23 27 45.5	+0.5
	baz=124						
DLBC	Dease Lake	92.54	333	P	P	23 27 46.2	+0.5
DLBC				IAmb	IAmb	23 27 59.0	
	comp=Z,24nm,1.0s						
BORG	Borgarnes	92.67	19	P	P	23 27 46.4	+0.4
	comp=Z,12nm,0.7s,baz=244,slow=4.1,SNR=6.1						
BORG	Borgarnes	92.67	19	IAmb	IAmb	23 27 48.6	
	comp=Z,26nm,0.9s						
KEST	Kesra	93.58	53	P	P	23 27 49.7	-1.4
	comp=Z,4.7nm,0.9s,baz=268,slow=2.7,SNR=6.0						
KEST				LR	LR	00 10 16.1	
	comp=Z,366nm,19.4s,baz=206,slow=36						
CASY	Casey	93.71	180	IAmb	IAmb	23 27 53.5	
	comp=Z,17nm,1.1s						
SUMG	Summit	95.06	9	i P	P	23 27 57.9	+0.5
SUMG				IAmb	IAmb	23 28 00.5	
	comp=Z,19nm,1.1s						
SUMG				i		23 28 09.3	
SUMG	Summit	95.06	9	i P	P	23 27 57.8	+0.5
SUMG				i		23 28 09.2	
SUMG				pmax	pmax		
	comp=Z,19nm,1.1s						
SENIN	Lac Senin/Sane	96.22	43	IAms_20	IAms_20	00 14 03.7	
	comp=Z,315nm,19.0s						
BMRD	Maredsous	96.24	39	κP	P	23 28 02.0	-0.8
BMRD				dpP	pP	23 28 13.1	-0.6
BGES	Gesves	96.46	39	dP	P	23 28 02.6	-1.1
WLF	Walferdange	96.80	39	dP	P	23 28 05.5	+0.1
WLF				dpP	pP	23 28 16.1	-0.2
WLF	Walferdange	96.80	39	IAmb	IAmb	23 28 08.1	
	comp=Z,18nm,1.2s						
WLF				IAms_20	IAms_20	00 07 40.9	
	comp=Z,300nm,21.0s						
ECH	Echery	96.85	41	IAmb	IAmb	23 28 06.1	
	comp=Z,12nm,1.1s						
MSSA	Maissana	96.90	45	IAms_20	IAms_20	00 12 36.8	
	comp=Z,173nm,20.0s						
WDD	Wied Dalam	97.55	55	IAms_20	IAms_20	00 12 34.4	
	comp=Z,287nm,19.0s						
TUE	Stuetta	97.58	43	IAms_20	IAms_20	00 12 13.6	
	comp=Z,302nm,19.0s						
OSSC	Osservatorio P	97.78	47	P	P	23 28 09.1	-0.8
OSSC				IAms_20	IAms_20	00 14 21.2	
	comp=Z,199nm,20.0s						
ZCCA	Zocca	97.89	46	IAms_20	IAms_20	23 59 48.0	
	comp=Z,242nm,21.0s						
NEEM	North Greenlan	98.17	4	i P	P	23 28 11.3	0.0
NEEM				IAmb	IAmb	23 28 12.9	
	comp=Z,7.4nm,0.8s						
NEEM				i		23 28 22.9	
STU	Stuttgart	98.31	41	IAms_20	IAms_20	00 09 35.9	
	comp=Z,262nm,20.0s						
FETA	Feichten	98.66	43	eP	PP	23 32 20.4	+4.9
	comp=Z,5.3nm,1.5s						
TEOL	Teolo	98.70	45	P	P	23 28 13.4	-0.6
TEOL				IAmb	IAmb	23 28 15.4	
	comp=Z,16nm,0.9s						
RETA	Reutte	98.84	43	eP	P	23 28 14.1	-0.6
	comp=Z,3.7nm,1.0s						
AQU	L'Aquila	98.88	48	IAms_20	IAms_20	00 12 56.3	
	comp=Z,213nm,20.0s						
CTI	Castel Tesino	98.92	44	IAms_20	IAms_20	00 08 39.2	
	comp=Z,303nm,22.0s						
MOTA	Moosalm	99.01	43	eP	Pdif	23 28 14.7	-0.9
	comp=Z,7.3nm,1.2s						
SQTA	Sankt Quirin	99.04	43	eP	Pdif	23 28 14.9	-0.7
	comp=Z,9.3nm,1.0s						
INTR	Introdacqua	99.12	49	IAms_20	IAms_20	00 11 23.7	
	comp=Z,232nm,19.0s						
WAX	Waxell Ridge	99.21	331	IAms_20	IAms_20	00 12 33.2	
	comp=Z,350nm,21.0s						
WATA	Walderalm	99.31	43	eP	Pdif	23 28 16.8	-0.1
	comp=Z,2.6nm,0.5s						
WTTA	Wattenberg	99.33	43	eP	Pdif	23 28 17.1	+0.1
	comp=Z,7.7nm,1.1s						
TGL	Tana Glacier	99.33	332	IAms_20	IAms_20	23 58 41.3	
	comp=Z,163nm,20.0s						
INK	Inuvik	99.37	340	P	Pdif	23 28 14.9	-1.4
	comp=Z,1.5nm,0.5s,baz=79,slow=2.9,SNR=2.2						
INK				pP	pP	23 28 26.7	-0.6
	comp=Z,7.3nm,0.9s,baz=108,slow=3.1,SNR=5.0						
INK	Inuvik	99.37	340	P	Pdif	23 28 17.5	+1.1
STAL	STALIGIAL	99.69	44	IAms_20	IAms_20	00 09 41.5	
	comp=Z,293nm,22.0s						
ABTA	Abfaltersbach	99.72	44	eP	Pdif	23 28 18.3	-0.4
	comp=Z,5.3nm,1.1s						
GRFO	Grafenberg	99.88	41	IAms_20	IAms_20	00 10 22.3	
	comp=Z,280nm,22.0s						
GRA1	Grafenberg Arr	99.88	41	IAms_20	IAms_20	00 10 10.3	
	comp=Z,252nm,22.0s						
ZOU	Zoufplan	99.96	44	IAms_20	IAms_20	00 11 25.6	
	comp=Z,254nm,20.0s						
GLB	Gilahina Butte	100.04	332	IAms_20	IAms_20	00 12 37.3	
	comp=Z,254nm,20.0s						
TIP	Timpagrande	100.30	52	IAms_20	IAms_20	00 16 28.0	
	comp=Z,291nm,20.0s						
MYKA	Terra Mystica	100.42	44	eP	Pdif	23 28 21.6	-0.2
	comp=Z,4.1nm,1.1s						
MYKA				eP	PP	23 32 26.2	-2.5
	comp=Z,3.9nm,0.9s						
EUNU	Eureka	100.51	357	IAms_20	IAms_20	00 14 18.3	
	comp=Z,292nm,19.0s						
OBKA	Obir	100.97	44	eP	Pdif	23 28 24.1	-0.1
	comp=Z,2.0nm,0.8s						
OBKA				eP	PP	23 32 29.7	-3.3
	comp=Z,6.5nm,1.4s						
KLU	Klutina	101.00	332	IAms_20	IAms_20	00 13 41.5	
	comp=Z,269nm,19.0s						
GEC2	GERESS Array S	101.15	42	IAms_20	IAms_20	00 11 42.9	
	comp=Z,224nm,21.0s						
GERES	GERESS Array B	101.15	42	P	Pdif	23 28 21.5	-3.5
	comp=Z,1.0nm,0.9s,baz=204,slow=2.9,SNR=6.3						
GERES				pP	pPdif	23 28 35.7	-0.2
	comp=Z,0.3nm,0.8s,baz=286,slow=4.0,SNR=1.5						
MOA	Molln	101.20	43	eP	Pdif	23 28 24.7	-0.4
	comp=Z,5.3nm,1.4s						
MOA				eP	PP	23 32 32.7	-1.9
	comp=Z,6.1nm,1.6s						
SOKA	Soboth	101.34	44	eP	Pdif	23 28 25.3	-0.6
	comp=Z,2.7nm,1.4s						
SOKA				eP	PP	23 32 35.4	-0.4
	comp=Z,2.3nm,1.7s						
PAX	Paxson	101.36	333	IAms_20	IAms_20	00 17 31.0	
	comp=Z,192nm,19.0s						
CLL	Collm	101.48	39	i Pdif	Pdif	23 28 26.1	-0.1
	comp=Z,7.0nm,1.3s						
CLL				ePP	PP	23 32 42.0	+5.5
CLL				esSKSac	sSKSac	23 39 24.0	+2.6
CLL				ePS	PS	23 41 42.0	+1.5
CLL				ePPS	PPS	23 42 36.0	
CLL				eSS	SS	23 47 06.0	-0.3
CLL	Collm	101.48	39	i P	Pdif	23 28 26.1	-0.1
CLL				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CLL	Collm	101.48	39	IAms_20	IAms_20	00 09 35.5	
	comp=Z,325nm,22.0s						
ARSA	Arzberg	101.83	44	eP	PP	23 32 33.2	-6.2
	comp=Z,4.5nm,1.5s						
PWL	Port Wells	101.86	331	IAms_20	IAms_20	00 13 06.3	
	comp=Z,244nm,21.0s						
PRP	Porcupine Dome	102.34	336	IAms_20	IAms_20	00 12 17.8	
	comp=Z,224nm,21.0s						
SII	Sitkinak Islan	103.41	326	P	Pdif	23 28 36.7	+2.0
	baz=106						
NOA	NORSAR Array B	103.48	30	Pdiff	Pdif	23 28 31.1	-3.8
	comp=Z,3.2nm,1.3s,baz=253,slow=4.5,SNR=3.4						
TRF	Thorofare Moun	103.58	333	IAms_20	IAms_20	00 19 25.6	
	comp=Z,193nm,19.0s						
ITM	Ithomi	103.64	55	IAms_20	IAms_20	00 18 34.6	
	comp=Z,189nm,20.0s						
MORC	Moravsky Berou	103.82	42	IAms_20	IAms_20	00 12 20.7	
	comp=Z,276nm,22.0s						
PSZ	Piszkesteto	104.86	44	IAms_20	IAms_20	00 14 45.4	
	comp=Z,219nm,20.0s						
N18K	Kilae Creek	105.35	329	P	PKiKP	23 32 58.7	+1.8
	baz=104						
J20K	Nowinta River	105.42	333	P	PKiKP	23 32 58.4	+1.5
	baz=104						
SDPT	Sand Point	106.55	323	P	PKiKP	23 33 00.3	+1.1
	baz=102						
ALN	Alexandroupoli	107.62	52	IAms_20	IAms_20	00 19 18.0	
	comp=Z,179nm,19.0s						
A21K	Barrow	107.87	340	P	PKiKP	23 33 02.7	+1.4
	baz=100						
BALB	Balikesir	108.75	54	IAms_20	IAms_20	00 19 47.9	
	comp=Z,194nm,20.0s						
ISP	Isparta	110.45	56	IAms_20	IAms_20	00 21 22.8	
	comp=Z,178nm,22.0s						
DZM	Mont Dzumac	110.45	236	eLR	LR	00 06 00.3	
	comp=Z,492nm,23.8s						
ARCES	ARCESS Array B	110.83	22	PKKPbc	PKKPbc	23 44 05.8	-1.7
	comp=Z,2.2nm,1.0s,baz=86,slow=4.0,SNR=5.2						
AKASG	Malin Array Be	111.36	42	PKiKP	PKiKP	23 33 07.5	-0.9
	comp=Z,0.5nm,0.4s,baz=280,slow=2.3,SNR=4.3						
AKBB	Malin Array Si	111.36	42c	i PKIKP	PKiKP	23 33 08.7	+0.3
BRTR	Keskin Array B	113.15	55	PKiKP	PKiKP	23 33 12.0	-0.4
	comp=Z,0.8nm,0.4s,baz=190,slow=4.5,SNR=5.2						
OBN	Obninsk	115.98	38⇑	i PKIKP	PKiKP	23 33 17.5	+0.4
OBN				e		23 34 20.9	
OBN				ePPP	PPP	23 36 46.3	
OBN				eSS	SS	23 50 25.0	+3.6
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,164nm,19.0s						
KLMR	Klimovskoe	117.12	31	ePKIKP	PKPdf	23 33 18.4	-0.7
KLMR				e		23 34 25.8	
KLMR				pmax	pmax		
	comp=Z,16nm,1.2s						
KLMR	Klimovskoe	117.12	31	ePKPdf	PKPdf	23 33 18.4	-0.7
KLMR				AMP		23 33 32.2	
	comp=Z,16nm,1.2s						
KLMR				ePP	PP	23 34 25.9	-3.7
SOC	Sochi	118.01	51	i PKIKP	PKPdf	23 33 21.0	-0.4
SOC				e		23 34 34.1	
SOC				ePPP	PPP	23 37 07.5	
SOC				ePS	PS	23 44 25.2	+2.7
SOC				eSS	SS	23 51 01.6	+13
SOC				eSSS	SSS	23 55 15.8	
GURO	Guroymak-BITLI	119.53	56	PKPdf	PKiKP	23 33 25.1	+0.3
PRGR	Permogore	119.89	30	ePKIKP	PKPdf	23 33 22.9	-1.5
PRGR				pmax	pmax		
	comp=Z,11nm,0.8s						
SHA1	Shidzhatmaz	120.15	51	i PKIKP	PKPdf	23 33 24.3	-1.5
KIV	Kislovodsk	120.17	50	i PKIKP	PKiKP	23 33 26.2	+0.4
KIV				e		23 34 52.2	
KIV				ePS	PS	23 44 42.4	+0.3
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,73nm,22.0s						
KIV	Kislovodsk	120.17	50		PKiKP	23 33 25.9	+0.1
KBZ	Khabaz	120.32	51	PKP	PKPdf	23 33 25.6	-0.2
	comp=Z,8.2nm,0.9s,baz=226,slow=2.1,SNR=21						
KBZ				pPKP	pPKPdf	23 33 37.5	+0.4
	comp=Z,8.2nm,0.9s,baz=352,slow=5.7,SNR=8.0						
ZEI	Tsey	121.06	52	i PKIKP	PKiKP	23 33 27.8	+0.1
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GNI	Garni	121.69	55c	i PKIKP	PKiKP	23 33 29.9	+0.9
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GNI	Garni	121.69	55		PKPdf	23 33 28.9	0.0
H11S2	WAKE ISLAND Hyl	26.47	278	T	T	01 52 58.5	
	baz=102,slow=74,SNR=2082						
H11S1	WAKE ISLAND Hyl	26.47	278	T	T	01 52 55.2	
	baz=102,slow=74,SNR=1476						
H11S3	WAKE ISLAND Hyl	26.48	278	T	T	01 52 59.9	
	baz=102,slow=74,SNR=1336						
H11N3	WAKE ISLAND Hyl	26.52	280	T	T	01 53 00.3	
	baz=102,slow=74,SNR=1597						
H11N2	WAKE ISLAND Hyl	26.53	280	T	T	01 53 00.7	
	baz=102,slow=74,SNR=1323						
H11N1	WAKE ISLAND Hyl	26.54	280	T	T	01 52 59.1	
	baz=102,slow=74,SNR=1381						
TIXI	Tiksi	127.42	352	IAms_20	IAms_20	00 29 17.1	
	comp=Z,186nm,22.0s						
ARU	Arti	127.83	33	i PKIKP	PKiKP	23 33 40.7	+0.3
ARU						23 35 41.2	
ARU						23 40 49.0	
ARU				SS	SS	23 52 50.0	-2.1
ARU	Arti	127.83	33	PKPdf	PKPdf	23 33 40.2	+0.4
SVE	Sverdlovsk	128.73	32	ePKIKP	PKiKP	23 33 42.0	-0.2
SVE				pmax	pmax		
	comp=Z,13nm,1.3s						
NRIK	Noril'sk	129.09	10	PKP	PKPdf	23 33 40.5	-1.4
	comp=Z,3.2nm,0.8s,baz=343,slow=3.7,SNR=4.5						
NRIK	Noril'sk	129.09	10	PKIKP	PKiKP	23 33 43.3	+0.7
NRIK	Noril'sk	129.09	10	PKPdf	PKiKP	23 33 43.3	+0.7
ASAR	Alice Springs	130.38	210	PKP	PKPdf	23 33 45.9	0.0
	comp=Z,7.0nm,1.0s,baz=150,slow=2.3,SNR=28						
ASAR				pPKP	pPKPdf	23 33 57.7	+0.7
	comp=Z,2.6nm,0.6s,baz=128,slow=1.6,SNR=6.9						
ASAR	Alice Springs	130.38	210	PKPdf	PKPdf

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BOD                                     pmax    pmax
        comp=Z,17nm,1.1s
AAK  Ala-Archa      142.96  45  i PKIKP   PKPdf   23 34 07.0 -1.6
AAK  Ala-Archa      142.96  45    IAMs_20 IAMs_20 00 37 56.3
        comp=Z,154nm,19.0s
JKA  Kamikawa-asahi 143.80 319            PKPdf   23 34 10.5 +0.7
ASAJ Asahikawa      143.81 319  PKIKP     PKPdf   23 34 10.5 +0.7
BOOM Boomskoye usch 143.98  44    IAMs_20 IAMs_20 00 44 23.3
        comp=Z,163nm,22.0s
ZEA  Zeya           144.00 342 ePKIKP     PKPbc   23 34 08.4 +0.6
ZEA                                     pmax    pmax
        comp=Z,10.0nm,1.5s
ERM  Erimo          144.46 315  i PKIKP   PKPdf   23 34 12.0 +1.0
ERM  Erimo          144.46 315  PKPdf     PKPdf   23 34 11.9 +0.9
NIL  Nilore         145.04  60  PKIKP     PKPbc   23 34 11.4 -0.4
NIL  Nilore         145.04  60            PKPbc   23 34 11.4 -0.4
MAKZ Makanchi       145.18  34  PKIKP     PKPbc   23 34 11.7 -0.1
MAKZ                                    MLR     MLR
        comp=Z,300nm,22.0s
MAKZ Makanchi       145.18  34            PKPbc   23 34 11.7 -0.1
KSH  Kashi          145.28  49  PKPbc     PKPbc   23 34 12.3 -0.2
KSH                                     AMB     AMB
        comp=Z,130nm,6.9s
MKAR Makanchi Array 145.35  34  PKPbc     PKPbc   23 34 12.3  0.0
        comp=Z,38nm,0.8s,baz=320,slow=2.9,SNR=222
MKAR                                    pPKPbc  pPKPab  23 34 23.5  0.0
        comp=Z,34nm,0.8s,baz=322,slow=3.1,SNR=16
TARG Taragay, Kyrgy 145.56  44            PKPab   23 34 14.7 +0.7
DGZ  Jazzator, Alta 145.68  26  i PKIKP   PKPbc   23 34 13.6 +0.1
POO  Poona          146.14  87  ex        P       23 34 11.0
KLR  Kul'dur        146.17 334  i PKP2    PKPdf   23 34 14.2 +0.4
JTM  Tenmabayashi   146.42 314            PKPdf   23 34 14.6 +0.2
IRK  Irkutsk        147.81   6 ePKIKP     PKPdf   23 34 16.0 -0.4
IRK                                     pmax    pmax
        comp=Z,74nm,2.2s
MOY  Mondy          147.93  10 ePKP2      PKiKP   23 34 21.2 -0.5
MOY                                     pmax    pmax
        comp=Z,79nm,2.4s
FAKI Fak Fak        148.08 226  PKPab     PKPbc   23 34 21.9 +0.6
MMRI Maumere        148.75 204            PKPbc   23 34 23.2 +0.2
ZAK  Zakamensk      149.52   8 ePKHKP     PKPpre  23 34 20.3
ZAK                                     pmax    pmax
        comp=Z,46nm,1.2s
USRK Ussuriysk Ar.  149.80 327  PKPbc     PKPbc   23 34 24.6  0.0
        comp=Z,27nm,1.0s,baz=40,slow=2.5,SNR=6.7
USRK                                    pPKPbc  pPKPbc  23 34 37.0 +1.3
        comp=Z,37nm,0.9s,baz=24,slow=2.1,SNR=21
USRK Ussuriysk Ar.  149.80 327  PKPdf     PKPdf   23 34 20.6 +0.7
USRK                                    PKPbc   PKiKP   23 34 25.4 -0.2
WMQ  Urumqi         150.17  33 ePKPbc     PKPdf   23 34 21.1 +0.5
SWI  Sorong         150.24 228  PKP       PKiKP   23 34 28.0 +0.5
MJAR Matsushiro Arr 150.33 309  PKPbc     PKPbc   23 34 26.1 -0.1
        comp=Z,11nm,0.8s,baz=84,slow=2.1,SNR=28
MJAR                                    pPKPbc  pPKPbc  23 34 37.5 +0.2
        comp=Z,16nm,0.8s,baz=108,slow=3.9,SNR=12
MAJO Matsushiro     150.33 309  PKIKP     PKiKP   23 34 26.8 -0.2
MAJO Matsushiro     150.33 309            PKiKP   23 34 26.8 -0.2
MAT  Matsushiro     150.33 309  PKP       PKPbc   23 34 26.1 -0.1
HYB  Hyderabad      150.37  90  i PKP     PKPbc   23 34 26.0 -0.9
HYB                                     epPKP   pPKPbc  23 34 39.0 +0.9
MDJ  Mudanjiang     150.66 330  PKPbc     PKPdf   23 34 21.5 +0.3
MDJ                                     PP      PP      23 38 03.8 +1.0
MDJ                                     AMB     AMB
        comp=Z,100nm,5.7s
MDJ                                     LR      LR
        comp=Z,110nm,5.8s
MDJ                                     LR      LR
        comp=Z,92nm,5.4s
MDJ                                     LR      LR
        comp=Z,150nm,13.7s
SONM Songino Array  152.37   5  PKP       PKPdf   23 34 24.9 +1.0
        comp=Z,5.2nm,1.0s,baz=321,slow=0.3,SNR=26
SONM                                    PKPbc   PKPbc   23 34 31.0 +0.2
        comp=Z,7.3nm,0.5s,baz=302,slow=1.3,SNR=37
SONM                                    PKPab   pPKPbc  23 34 41.4 -0.6
        comp=Z,26nm,0.9s,baz=330,slow=1.8,SNR=20
SONM Songino Array  152.37   5  PKPdf     PKPdf   23 34 24.5 +0.6
SONM                                    PKPbc   PKiKP   23 34 31.4 +0.4
ULN  Ulaanbaatar    152.39   4  PKIKP     PKPdf   23 34 25.1 +1.1
ULN  Ulaanbaatar    152.39   4  PKPdf     PKPdf   23 34 25.1 +1.1
SANI Sanana         152.69 218  PKP       PKiKP   23 34 33.2 +0.7
CN2  Changchun      153.12 334 ePKPbc     PKPdf   23 34 20.3 -4.6
KSRS Korea Array    156.70 321  PKP       PKPdf   23 34 30.1 +0.1
        comp=Z,4.8nm,1.0s,baz=100,slow=0.8,SNR=16
KSRS                                    pPKP    pPKPdf  23 34 42.6 +1.4
        comp=Z,5.2nm,0.9s,baz=57,slow=0.8,SNR=7.5
KSRS                                    PKPab   PKPab   23 34 58.1 -1.2
        comp=Z,2.1nm,0.8s,baz=55,slow=1.2,SNR=4.5
KSRS                                    pPKPab  pPKPab  23 35 11.2 +1.0
        comp=Z,7.9nm,0.8s,baz=55,slow=4.1,SNR=6.3
KSAR Wonju Array Be 156.73 321  PKIKP     PKPdf   23 34 30.5 +0.4
KSAR                                            23 34 41.1
KSAR Wonju Array Be 156.73 321  PKPdf     PKPdf   23 34 30.5 +0.4
KSAR                                    PKPdif  pPKPdf  23 34 41.1 -0.2
GTA  Gaotai         159.10  22 ⇓PKP     PKPdf   23 34 34.3 +1.2
GTA                                     pPKP    pPKPdf  23 34 45.9 +1.4
GTA                                     sPKP            23 34 50.3
GTA                                     PKPab   PKPab   23 35 09.6 -0.2
GTA                                     LR      LR
        comp=Z,71nm,17.5s
GTA                                     LR      LR
        comp=Z,87nm,18.5s
GTA                                     LR      LR
        comp=Z,130nm,18.2s
HHC  Hu-ho-hao-te   159.43 356 ePKP     PKPdf   23 34 32.8 -0.7
BJI  Beijing        159.54 346  PKP       PKPdf   23 34 33.8 +0.4
BTO  Baotou         159.73 359  PKP       PKPdf   23 34 35.0 +1.2
BTO                                     PP      PP      23 38 58.8 +5.8
BTO                                     AMB     AMB
        comp=Z,390nm,8.4s
BTO                                     LR      LR
        comp=Z,390nm,13.2s
BTO                                     LR      LR
        comp=Z,560nm,12.8s
TIA  Tai'an         162.85 339  PKP       PKPdf   23 34 36.9 -0.2
LZH  Lanzhou        163.42  17 ePKP     PKPdf   23 34 39.5 +1.6
LZH                                     pPKP    sPKPdf  23 34 51.5 -1.3
LZH                                     sPKP            23 34 57.6
LZH                                     LR      LR
        comp=Z,180nm,19.5s
LZH                                     LR      LR
        comp=Z,160nm,20.1s
LZH                                     LR      LR
        comp=Z,160nm,20.7s
NJ2  Nanjing        165.71 327 ePKP     PKPdf   23 34 39.9 +0.2
XAN  Xi'an          166.27   3  PKP       PKPdf   23 34 41.3 +1.1
XAN                                     pPKP    pPKPdf  23 34 52.4 +1.0
XAN                                     PP      PP      23 39 30.8 +3.3
XAN                                     LR      LR
        comp=Z,230nm,18.0s
XAN                                     LR      LR
        comp=Z,200nm,22.8s
XAN                                     LR      LR
        comp=Z,240nm,19.5s
CD2  Chengdu        168.12  26  PKP       PKPdf   23 34 40.4 -1.3
MHMT Maesarieng     168.65  99  PKP       PKPdf   23 34 56.2 +14
UMPA Umpang Tak     168.90 110  PKP       PKPdf   23 34 56.2 +14
CM05 Chiang Mai Arr 169.63  99  PKP       PKPdf   23 34 44.3 +1.4
CMAR Chiang Mai Arr 169.64  98  PKP       PKPdf   23 34 42.5 -0.4
        comp=Z,2.9nm,0.3s,baz=284,slow=1.7,SNR=14
CMAR                                    pPKP    pPKPdf  23 34 54.1 -0.2
        comp=Z,1.2nm,0.4s,baz=262,slow=1.5,SNR=2.8
CMAR                                    PKPab   PKPab   23 35 56.2 -0.6
        comp=Z,1.0nm,0.3s,baz=248,slow=5.4,SNR=7.3
CMAR                                    pPKPab  pPKPab  23 36 06.8 -1.3
        comp=Z,2.2nm,0.8s,baz=258,slow=6.7,SNR=2.2
CMAR Chiang Mai Arr 169.64  98            PKPdf   23 34 43.3 +0.4
CM04 Chiang Mai Arr 169.66  99  PKP       PKPdf   23 34 56.3 +13
CM09 Chiang Mai Arr 169.69  98  PKP       PKPdf   23 34 56.5 +14
CHTO Chiang Mai     169.71  96  PKP2      PKPab   23 35 57.1  0.0
CHTO                                            00 34 42.1
CHTO Chiang Mai     169.71  96  PKP       PKPdf   23 34 43.8 +0.8
CHTO Chiang Mai     169.71  96  PKPdf     PKPdf   23 34 42.1 -0.8
CHTO                                    PKPab   PKPab   23 35 57.1  0.0
CMMT Chiang Mai     169.72  96  PKP       PKPdf   23 34 43.8 +0.8
LAMP Lampang        170.30  99  PKP       PKPdf   23 34 44.5 +1.2
UTTA Uttaradit      170.95 105  PKP       PKPdf   23 34 45.3 +1.7
KMI  Kunming        171.93  52 ⇑PKP     PKPdf   23 34 44.5 +0.2
KMI                                     pPKP    pPKPdf  23 34 55.6  0.0
KMI                                     sPKP            23 34 59.3
```

*JMA **24** 23:22:46.7±0.1, 30°.80N×139°.62E, h84km, M3.5*

*NEIC **24** 23:22:50.1±1.4, 30°.90N±0°.09×140°.0E±0°.1, h43km±10km, mb4.5/6, Error ellipse: s-maj=16.0km s-min=13.3km az=100.0*

*IDC **24** 23:22:50.8±2.7, 30°.88N×139°.79E, h46km±23km, mb3.6/12, mb1 3.8/14, mb1mx3.6/33, mbtmp3.8/14, ML2.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/36, Error ellipse: s-maj=26.3km s-min=19.2km az=99.0*

ISC 24 23:22:49.5±0.8, 30°.87N±0°.07×139°.80E±0°.07, h35km, n51, σ1§29/43, mb3.9/16, Southeast of Honshu

```
Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC       h m s     ISC
JAOM  Aogashimamukai    1.59 359    P     Pn        23 23 14.8 -0.4
JHJ2  Mitsune           2.24   0   eS    Sn        23 23 51.4 +1.0
JHJ2  Mitsune           2.24   0    Pn   Pn        23 23 24.2 +0.2
JHJ2                                 Sn   Sn        23 23 50.4  0.0
JHJ   Hachijo jima 2    2.25 360    P     Pn        23 23 24.4 +0.2
        11nm,0.3s,baz=72,slow=20,SNR=1.6
JHJ                                  S    Sn        23 23 51.9 +1.3
        45nm,0.3s,baz=107,slow=20,SNR=8.6
TTO1  TONANKAI O.B.S    3.75 318    P     Pn        23 23 43.1 -1.5
TTO1                                 eS   Sn        23 24 26.2 -1.1
BSO1  Boso 1            3.91  14    P     Pn        23 23 44.5 -2.0
BSO3  Boso 3            3.97   9    P     Pn        23 23 47.3 -0.3
BSO4  Boso 4            4.14   6   eS    Sn        23 24 37.9 +0.8
JKN2  Miekihoku         4.49 319   eS    Sn        23 24 44.5 -1.5
JTNC  Tanabenakahech    4.60 311    S    Sn        23 24 46.0 -2.9
JWT   Wachi             5.74 321    Pn   Pn        23 24 13.6 +1.3
JMN   Monobe            5.76 301    Pn   Pn        23 24 13.9 +1.3
MJAR  Matsushiro Arr    5.81 347    P    Pn        23 24 15.8 +2.6
        0.2nm,0.3s,baz=166,slow=12,SNR=13
MJAR                                 LR   LR        23 26 26.8
        comp=Z,82nm,20.1s,baz=200,slow=37
MJAR  Matsushiro Arr    5.81 347          Pn        23 24 13.6 +0.4
MAJO  Matsushiro        5.81 347    Pn   Pn        23 24 13.2  0.0
MAT   Matsushiro        5.81 347    P    Pn        23 24 13.8 +0.6
MAT                                  S    Sn        23 25 20.9 +2.2
MJB9  Matsu-Tunnel      5.82 347    Pn   Pn        23 24 13.4 +0.1
JHS   Saijyo            6.96 308    Pn   Pn        23 24 31.4 +2.3
JMM   Marumori          7.03   6    Pn   Pn        23 24 30.1 +0.2
ERM   Erimo            11.45  13    Pn   Pn        23 25 29.1 -1.3
KSRS  Korea Array      11.82 307    LR   LR        23 29 39.2
        comp=Z,35nm,21.2s,baz=120,slow=34
KLR   Kul'dur          19.33 344    P    P         23 27 11.1 -0.5
        0.1nm,0.3s,baz=141,slow=10,SNR=7.5
H11N2 WAKE ISLAND Hy 26.82 108      T    T         23 56 28.3
        baz=300,slow=75,SNR=176
H11N1 WAKE ISLAND Hy 26.83 108      T    T         23 56 30.0
        baz=300,slow=75,SNR=91
H11N3 WAKE ISLAND Hy 26.84 108      T    T         23 56 31.0
        baz=300,slow=75,SNR=77
H11S3 WAKE ISLAND Hy 27.29 111      T    T         23 57 08.6
        baz=303,slow=75,SNR=23
H11S1 WAKE ISLAND Hy 27.29 111      T    T         23 57 05.4
        baz=303,slow=75,SNR=57
H11S2 WAKE ISLAND Hy 27.30 111      T    T         23 57 07.2
        baz=303,slow=75,SNR=11
SONM  Songino Array    30.58 313    P    P         23 29 00.8 +0.8
        1.9nm,1.0s,baz=117,slow=8.0,SNR=8.6
SONM  Songino Array    30.58 313    P    P         23 29 00.6 +0.6
CMAR  Chiang Mai Arr   38.92 261    P    P         23 30 13.8 +1.7
        0.4nm,0.3s,baz=49,slow=9.7,SNR=1.4
ZALV  Zalesovo Beam    45.29 317    LR   LR        23 50 21.9
        comp=Z,33nm,20.5s,baz=310,slow=36
MKAR  Makanchi Array   46.50 307    P    P         23 31 13.4 +0.1
        0.6nm,0.8s,baz=95,slow=8.9,SNR=5.8
NRIK  Noril'sk         48.38 338    P    P         23 31 25.5 -2.0
        1.9nm,0.4s,baz=122,slow=8.7,SNR=4.9
WRAB  Tennant Creek    50.78 187    P    P         23 31 47.6 +1.3
WR0   Warramunga Arr   50.79 186    P    P         23 31 46.4  0.0
WR0                                  IAmb IAmb      23 31 49.2
        comp=Z,3.1nm,1.1s
WB2   Warramunga Arr   50.79 187    P    P         23 31 43.6 -2.8
WB2                                  IAmb IAmb      23 31 57.3
        comp=Z,4.6nm,1.1s
WRA   Warramunga Arr   50.79 187    P    P         23 31 45.0 -1.4
        comp=Z,0.2nm,0.4s,baz=5.3,slow=9.3,SNR=2.2
BRVK  Borovoye         53.94 316    P    P         23 32 09.1 -0.4
BRVK                                 IAmb IAmb      23 32 25.3
        comp=Z,2.9nm,0.7s
ASAR  Alice Springs    54.52 187    P    P         23 32 14.0  0.0
        comp=Z,0.3nm,0.8s,baz=18,slow=12,SNR=2.1
KNK   Knik Glacier     54.75  34    P    P         23 32 14.7 -0.6
KNK                                  IAmb IAmb      23 32 16.2
        comp=Z,8.6nm,0.6s
ILAR  Eielson Array    55.46  30    P    P         23 32 21.4 +1.1
        comp=Z,0.5nm,0.3s,baz=266,slow=5.2,SNR=3.0
FINES FINESS Array B   73.65 333    P    P         23 34 18.4 -0.7
        comp=Z,1.9nm,0.8s,baz=99,slow=8.7,SNR=2.2
AKASG Malin Array Be   78.35 323    P    P         23 34 46.0 -0.1
        comp=Z,1.4nm,0.8s,baz=50,slow=4.5,SNR=1.7
NOA   NORSAR Array B   79.34 337    P    P         23 34 51.0 -0.4
        comp=Z,0.6nm,0.8s,baz=43,slow=5.4,SNR=3.4
NVAR  Mina Array Bea   79.82  51    P    P         23 34 55.5 +0.8
        comp=Z,0.6nm,0.8s,baz=308,slow=7.3,SNR=3.2
EIL   Elat             86.58 303    LR   LR        00 20 53.4
        comp=Z,86nm,18.6s,baz=287,slow=40
TXAR  Lajitas Array    94.97  52    P    P         23 36 09.4 +0.6
        comp=Z,0.3nm,0.7s,baz=284,slow=3.2,SNR=4.2
H03N2 Juan Fernandez  147.24 105    T    T         02 27 05.2
        baz=281,slow=75,SNR=36
H03N3 Juan Fernandez  147.25 105    T    T         02 27 06.4
        baz=281,slow=75,SNR=35
H03N1 Juan Fernandez  147.25 105    T    T         02 27 08.5
        baz=281,slow=75,SNR=37
```

IDC 25 00:17:10.1±3.5, 4°.96S×135°.53E, h0km, mb3.3/1, mb1 3.9/3, mb1mx3.5/26, mbtmp3.6/3, ML3.9/2, MS3.9/1, Ms1 3.9/1, ms1mx2.8/16, Error ellipse: s-maj=137.8km s-min=18.3km az=86.0, Irian Jaya region

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC       h m s     ISC
WRA   Warramunga Arr   14.94 184    Pn   Pn        00 20 42.9 +0.1
        0.4nm,0.3s,baz=12,slow=13,SNR=12
WRA                                  Sn   Sn        00 23 32.8 +3.6
        0.4nm,0.3s,baz=1.9,slow=23,SNR=4.4
ASAR  Alice Springs    18.67 185    P    Pn        00 21 31.0 +0.8
        0.8nm,0.3s,baz=9.3,slow=9.1,SNR=61
ASAR                                 S    Sn        00 25 00.3 +0.7
        0.1nm,0.3s,baz=7.8,slow=28,SNR=2.6
JOW   Kunigami         32.37 348    LR   LR        00 36 38.6
        comp=Z,182nm,18.9s,baz=18,slow=36
MKAR  Makanchi Array   69.68 324    P    P         00 28 21.5 -0.2
        0.2nm,0.5s,baz=123,slow=7.1,SNR=2.3
```

*SJA **25** 00:50:04.5±0.7, 26°.92S×71°.01W, h51km±8km, ML4.5, MW4.4*

*NEIC **25** 00:50:06.6, 26°.95S×70°.89W, h39km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.88; $M_{\theta\theta}$0.22; $M_{\phi\phi}$-1.10; $M_{r\theta}$-0.75; $M_{\theta\phi}$-0.00; $M_{\phi r}$-1.30; Fault plane solution: $M_0$1.80000×10^{15} NP1:ϕ_s204.68000°, δ74.79000°, λ106.66000°. NP2:ϕ_s335.93000°, δ22.41000°, λ43.49000°. Principal axes: T 1.8067, Plg57.0000°, Azm137.0000°; N -0.0056, Plg16.0000°, Azm20.0000°; P -1.8010, Plg28.0000°, Azm281.0000°;*

*VAO **25** 00:50:06.5±0.4, 27°.06S×70°.64W, h38km, mb4.4*

*NEIC **25** 00:50:06.5±1.3, 26°.95S±0°.04×70°.89W±0°.04, h37km±6km, Error ellipse: s-maj=6.3km s-min=4.9km az=222.0*

*IDC **25** 00:50:07.5±0.6, 27°.00S×70°.59W, h51km±4km, mb3.8/7, mb1 4.0/11, mb1mx3.9/26, mbtmp4.0/11, MS3.3/7, Ms1 3.3/7, ms1mx3.1/24, Error ellipse: s-maj=19.9km s-min=14.8km az=97.0*

*GUC **25** 00:50:07.1±0.7, 26°.95S×70°.84W, h55km±9km, ML4.6, MW4.5*

ISC 25 00:50:06.8±0.5, 27°.00S±0°.03×70°.88W±0°.05, h51km±4km, n185, σ1§50/208, mb4.5/25, MS3.2/4, 1C-3D, Near coast of northern Chile

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC       h m s     ISC
GO03  Copiap           0.82 136    eP   Pn        00 50 21.5 -0.7
GO03                                 i S  Sn        00 50 33.2 -0.3
GO03                                 IAML           00 50 33.8
        comp=E,31μm,0.3s
GO03  Copiap           0.82 136          Pn        00 50 22.6 +0.3
GO03                                 Sn   Sn        00 50 33.2 -0.3
GO03  Copiap           0.82 136    eP   Pn        00 50 22.4 +0.2
GO03                                 eS   Sn        00 50 33.5  0.0
AC04  Llanos de Chal   1.21 188    eP   Pn        00 50 27.8 +0.4
AC04                                 i S  Sn        00 50 44.1 +1.4
AC04  Llanos de Chal   1.21 188          Pn        00 50 27.9 +0.5
AC02  Maricunga        1.57  84 ⇑iP     Pn        00 50 33.0 +0.3
AC02                                 i S  Sn        00 50 51.5 -0.7
AC02                                 IAML           00 50 52.8
        comp=E,17μm,0.3s
AC02  Maricunga        1.57  84    Pn   Pn        00 50 32.9 +0.1
AC02                                 Sn   Sn        00 50 51.4 -0.8
LCO   Las Campanas     2.01 176    i P  Pn        00 50 39.1 +0.6
LCO                                  i S  Sn        00 51 03.3 +0.8
LCO   Las Campanas     2.01 176    Pn   Pn        00 50 39.1 +0.6
GO02  Mina Guanaco     2.17  33    eP   Pn        00 50 40.3 -0.5
GO02                                 i S  Sn        00 51 05.3 -1.2
GO02                                 IAML           00 51 27.4
        comp=E,3μm,0.6s
GO02  Mina Guanaco     2.17  33    Pn   Pn        00 50 40.3 -0.5
PB14  IPOC Station P   2.41  10    eP   Pn        00 50 43.4 -0.7
PB14                                 i S  Sn        00 51 10.6 -1.8
PB14  IPOC Station P   2.41  10          Pn        00 50 43.3 -0.7
PB14  IPOC Station P   2.41  10    eP   Pn        00 50 43.2 -0.8
PB14                                 eS   Sn        00 51 11.7 -0.7
PB14                                 IAML           00 51 28.4
        comp=Z,1μm,0.6s
CO05  La Serena        2.92 186    eP   Pn        00 50 51.1 +0.3
CO05                                 IAML           00 51 43.4
        comp=E,2μm,0.5s
VCA   Vinchina         2.93 127    eP   Pn        00 50 54.0 +3.0
VCA                                  eS   Sn        00 51 42.5 +17
VCA                                  IAML           00 51 48.6
        comp=Z,908nm,1.3s
GO04  Tololo Observa   3.16 179 ⇓iP     Pn        00 50 55.1 +0.9
GO04  Tololo Observa   3.16 179          Pn        00 50 55.2 +0.9
GO04  Tololo Observa   3.16 179    eP   Pn        00 50 55.2 +0.9
GO04                                 eS   Sn        00 51 33.2 +2.4
PB10  IPOC Station P   3.49   5    eP   Pn        00 50 57.0 -1.6
PB10  IPOC Station P   3.49   5    Pn   Pn        00 50 56.6 -2.0
PB10  IPOC Station P   3.49   5    eP   Pn        00 50 57.0 -1.6
PB10                                 eS   Sn        00 51 37.0 -1.6
CO06  Fray Jorge       3.72 190    i P  Pn        00 51 01.1 -0.5
CO03  El Pedregal      3.83 178 ⇓iP     Pn        00 51 03.9 +0.7
CO03  El Pedregal      3.83 178    Pn   Pn        00 51 04.0 +0.7
ACCO  Cerro Coronel    3.91 156    eP   Pn        00 51 07.9 +3.2
ACCO                                 eS   Sn        00 52 06.5 +17
ACCO                                 IAML           00 52 18.7
        comp=Z,359nm,0.5s
PB15  IPOC Station P   3.99  19    eP   Pn        00 51 05.4 -0.2
PB15  IPOC Station P   3.99  19          Pn        00 51 05.3 -0.3
PB15  IPOC Station P   3.99  19    eP   Pn        00 51 05.7 +0.1
PB15                                 eS   Sn        00 52 00.0 +8.8
PB15                                 IAML           00 52 13.4
        comp=Z,1μm,0.2s
PB05  IPOC Station P   4.18   9 ⇓eP     Pn        00 51 06.4 -1.7
PB05  IPOC Station P   4.18   9    eP   Pn        00 51 06.5 -1.7
PB05                                 eS   Sn        00 51 52.8 -2.9
PB05                                 IAML           00 52 35.5
        comp=Z,375nm,0.8s
CO02  Combarbal        4.19 181          Pn        00 51 08.5 +0.3
ACLC  CERRO LA CRUZ    4.22 126    eP   Pn        00 51 10.4 +1.6
ACLC                                 eS   Sn        00 52 00.9 +4.0
ACLC                                 IAML           00 52 26.6
        comp=Z,262nm,1.7s
PB06  IPOC Station P   4.44  16          Pn        00 51 10.5 -1.2
PB06  IPOC Station P   4.44  16    eP   Pn        00 51 10.6 -1.2
PB06                                 eS   Sn        00 52 13.5 +11
PB06                                 IAML           00 52 34.6
        comp=Z,501nm,0.7s
FSA   Cafayete         4.48  80    eP   Pn        00 51 12.9 +0.6
PB04  IPOC Station P   4.70   8    eP   Pn        00 51 13.2 -2.1
PB04  IPOC Station P   4.70   8          Pn        00 51 13.4 -1.9
PB04  IPOC Station P   4.70   8    eP   Pn        00 51 13.4 -1.9
PB04                                 eS   Sn        00 52 05.2 -3.4
PB04                                 IAML           00 52 52.9
        comp=Z,396nm,0.5s
CYA   Choya            4.72 109    eP   Pn        00 51 16.3 +0.8
LVC   Limon Verde      4.72  23    P    Pn        00 51 15.8 -0.1
        comp=Z,3.6nm,0.3s,baz=203,slow=11,SNR=84
LVC                                  S    Sn        00 52 08.5 -1.1
        comp=Z,31nm,0.3s,baz=189,slow=19,SNR=3.3
LVC   Limon Verde      4.72  23    Pn   Pn        00 51 14.7 -1.2
LVC   Limon Verde      4.72  23    eP   Pn        00 51 15.9 -0.1
LVC   Limon Verde      4.72  23    eP   Pn        00 51 15.5 -0.4
LVC                                  eS   Sn        00 52 22.0 +12
LVC                                  IAML           00 52 38.4
        comp=Z,364nm,0.6s
ZON   Zonda            4.92 158    Pn   Pn        00 51 19.7 +1.5
ZON   Zonda            4.92 158    eP   Pn        00 51 20.3 +2.1
APLL  PUNTA DE LOS L   5.10 133    eP   Pn        00 51 22.0 +1.3
APLL                                 eS   Sn        00 52 18.4 +0.1
PB07  IPOC Station P   5.33  10          Pn        00 51 21.9 -2.1
AUSP  Uspallata        5.36 166    eP   Pn        00 51 27.0 +2.4
PB09  IPOC Station P   5.39  16    eP   Pn        00 51 24.0 -0.9
PB09                                 eS   Sn        00 52 39.5 +14
PB09                                 IAML           00 53 11.5
        comp=Z,552nm,0.8s
ASAL  Salagasta        5.84 163    eP   Pn        00 51 33.1 +2.1
ASAL                                 IAML           00 53 24.2
        comp=Z,80nm,1.4s
ROC1  El Roble         5.95 181    eP   Pn        00 51 32.2 -0.3
ROC1                                 eS   Sn        00 52 38.1 -1.5
VA01  Torpederas       6.04 186    Pn   Pn        00 51 33.3 -0.1
ARCO  CERRO ARCO       6.06 164    eP   Pn        00 51 37.5 +3.5
ARCO                                 IAML           00 53 20.4
        comp=Z,113nm,1.0s
AAGR  Agrelo           6.32 164    eP   Pn        00 51 39.5 +2.1
AAGR                                 IAML           00 53 39.6
        comp=Z,131nm,1.1s
MT05  Renca            6.37 179          Pn        00 51 37.9 -0.2
TA01  Diego Aracena    6.44   6    Pn   Pn        00 51 36.7 -2.4
MT03  Universidad Ad   6.48 177    Pn   Pn        00 51 39.9 +0.2
MT03  Universidad Ad   6.48 177    eP   Pn        00 51 40.3 +0.7
MT03                                 eS   Sn        00 52 54.5 +2.2
MT03                                 IAML           00 53 28.1
        comp=Z,163nm,1.2s
PB08  IPOC Station P   7.01  13    Pn   Pn        00 51 45.4 -1.9
PB11  IPOC Station P   7.30   9    Pn   Pn        00 51 48.6 -2.4
BO02  Sierra Bellavi   7.76 179    eP   Pn        00 51 56.1 -1.2
BO02                                 eS   Sn        00 53 19.8 -4.0
BO02                                 IAML           00 54 15.7
        comp=Z,69nm,0.9s
RFA   San Rafael       8.02 166    eP   Pn        00 52 00.0 -0.7
RFA                                  eP   Pn        00 52 00.3 -0.4
GO05  Huala            8.03 186    eP   Pn        00 51 58.1 -2.8
GO05                                 eS   Sn        00 53 24.3 -6.0
LAMA  Las Malvinas     8.04 170    eP   Pn        00 52 00.0 -0.9
H03N1 Juan Fernandez   9.46 225    T    T         01 01 55.0
        baz=52,slow=72,SNR=1904
H03N2 Juan Fernandez   9.47 225    T    T         01 01 57.1
        baz=52,slow=72,SNR=1225
H03N3 Juan Fernandez   9.47 225    T    T         01 01 55.9
        baz=52,slow=72,SNR=899
VA04  Juan Fernndez    9.54 224    Pn   Pn        00 52 20.5 -0.9
BI02  San Fabin de     9.64 182    Pn   Pn        00 52 21.7 -1.2
BI02  San Fabin de     9.64 182    eP   Pn        00 52 21.3 -1.6
LPAZ  La Paz          10.96  14    P    Pn        00 52 40.0 -1.6
        comp=Z,0.4nm,0.3s,baz=187,slow=5.2,SNR=9.0
LPAZ                                 LR   LR        00 57 26.5
        comp=Z,84nm,21.4s,baz=200,slow=40
LPAZ  La Paz          10.96  14    Pn   Pn        00 52 39.5 -2.1
LPAZ  La Paz          10.96  14    eP   Pn        00 52 37.9 -3.7
LPAZ  La Paz          10.96  14    eP   Pn        00 52 40.4 -1.3
LPAZ  La Paz          10.96  14    eP   Pn        00 52 40.3 -1.3
LC01  Cunco           11.89 184    Pn   Pn        00 52 53.9 +0.3
CPUP  Villa Florida   12.14  90    eP   Pn        00 52 53.8 -3.2
ITQB  Itaqui          12.83 105    eP   Pn        00 53 03.1 -3.4
TRQA  Tornquist       13.32 148    Pn   Pn        00 53 12.5 -0.8
PLCA  Paso Flores     13.70 179    P    Pn        00 53 18.4  0.0
        comp=Z,0.1nm,0.3s,baz=347,slow=18,SNR=2.3
PLCA                                 LR   LR        00 58 47.3
        comp=Z,138nm,18.2s,baz=350,slow=38
SIV   San Ignacio      14.25  42    P    Pn        00 53 26.0 +0.1
        comp=Z,0.4nm,0.3s,baz=251,slow=11,SNR=7.2
SIV                                  S    Sn        00 56 06.0 +3.4
        comp=Z,0.1nm,0.3s,baz=255,slow=18,SNR=1.1
CPSB  Cacapava Do Su  15.67 107    eP   Pn        00 53 42.8 -1.5
PLTB  Pedras Altas    15.78 112    eP   Pn        00 53 43.6 -2.2
PTLB  Pontes e Lacer  15.86  46    eP   Pn        00 53 46.4 -0.3
NNA   Nana            15.96 338    LR   LR        00 59 00.6
        comp=Z,82nm,19.2s,baz=142,slow=33
TRCB  Terra Rica      17.07  80          Pn        00 54 01.7 -0.3
TRCB                                 IAmb IAmb      00 54 03.8
        comp=Z,46nm,1.0s
VILB  Vilhena         17.19  38    eP   P         00 54 03.8 -0.7
PP1B  Ponte de Pedra  17.50  61    eP   Pn        00 54 06.8 -0.4
```

ETMB	**Extrema**	**17.65**	**15**	*eP*	**P**	**00 54 10.1**	**+0.6**
SALV	**Santo Antonio**	**17.92**	**55**	*eP*	**P**	**00 54 12.5**	**0.0**
COYC	**Coyhaique**	**18.56**	**183**	P	**P**	**00 54 19.3**	**+0.1**
CZSB	**Cruzeiro do Su**	**19.25**	**354**	*eP*	**Pn**	**00 54 28.7**	**+0.3**
TER01	**Tubaro-SC**	**19.31**	**100**	*eP*	**P**	**00 54 26.1**	**-1.5**
SAML	**Samuel**	**19.38**	**23**	*eP*	**Pn**	**00 54 29.4**	**-0.6**
FRTB	**Fartura**	**19.63**	**84**	*eP*	**P**	**00 54 30.4**	**-0.8**
ITRB	**Iturama**	**20.18**	**73**	*eP*	**P**	**00 54 36.1**	**-1.1**
ARAG	**Araguaiana, MT**	**20.98**	**61**	*eP*	**P**	**00 54 44.3**	**-1.7**
ATAH	**Atahualpa**	**21.01**	**339**	P	**P**	**00 54 48.1**	**+1.5**
	comp=Z,4.0nm,0.9s,baz=170,slow=9.6,SNR=2.3						
ATAH				LR	LR	01 01 51.0	
	comp=Z,60nm,21.7s,baz=190,slow=33						
BB19B	**Bebedouro**	**21.24**	**79**	*eP*	**P**	**00 54 46.9**	**-1.8**
PET01	**Itanhaem-SP**	**21.44**	**88**	*eP*	**P**	**00 54 50.2**	**-0.6**
RCLB	**Rio Claro- Sao**	**21.68**	**83**	*eP*	**P**	**00 54 51.6**	**-1.9**
VAO	**Valinhos**	**22.02**	**85**	*eP*	**P**	**00 54 55.1**	**-2.1**
SNDB	**Serra Nova Dou**	**23.70**	**55**	*eP*	**P**	**00 55 10.9**	**-3.2**
BDFB	**Brasilia**	**24.07**	**67**	P	**P**	**00 55 14.9**	**-2.7**
	comp=Z,3.3nm,0.6s,baz=268,slow=8.2,SNR=7.1						
BDFB	**Brasilia**	**24.07**	**67**	P	**P**	**00 55 16.7**	**-0.9**
BDFB				IAmb	IAmb	00 55 31.7	
	comp=Z,14nm,1.3s						
NPGB	**Novo Progresso**	**24.73**	**39**	*eP*	**P**	**00 55 23.1**	**-0.5**
MACA	**Manacapuru-AM**	**25.64**	**24**	*eP*	**P**	**00 55 32.0**	**+0.2**
PEXB	**Peixe**	**25.86**	**59**	*eP*	**P**	**00 55 33.2**	**-0.7**
ITTB	**Itaituba**	**26.76**	**35**	*eP*	**P**	**00 55 42.9**	**+1.0**
JANB	**Januaria**	**27.43**	**70**	*eP*	**P**	**00 55 46.6**	**-1.5**
PTGA	**Pitinga**	**28.15**	**24**	LR	LR	01 08 26.2	
	comp=Z,35nm,19.0s,baz=214,slow=39						
PTGA	**Pitinga**	**28.15**	**24**	*eP*	**P**	**00 55 55.1**	**+0.8**
SDBA	**SAO DESIDERIO**	**28.36**	**64**	*eP*	**P**	**00 55 55.7**	**-0.6**
SMTB	**Santa Maria do**	**28.48**	**55**	*eP*	**P**	**00 55 57.1**	**-0.3**
BSFB	**Barra de Sao F**	**28.78**	**80**	*eP*	**P**	**00 55 58.7**	**-1.3**
RIB01	**Linhares ES**	**29.00**	**81**	*eP*	**P**	**00 56 00.9**	**-1.0**
ORTC	**Ortega, Tolima**	**31.02**	**352**	*eP*	**P**	**00 56 18.8**	**-1.0**
ROSC	**El Rosal**	**31.83**	**353**	LR	LR	01 09 07.2	
	comp=Z,94nm,21.2s,baz=158,slow=36						
GDU01	**Guandu, BA**	**32.08**	**72**	*eP*	**P**	**00 56 27.2**	**-1.9**
PLMC	**San Jos del P**	**32.15**	**350**	*eP*	**P**	**00 56 26.4**	**-3.3**
GUY2C	**Guyana, Caldas**	**32.33**	**352**	*eP*	P	00 56 19.7	-12
RUSC	**La Rusia**	**32.77**	**356**	P	**P**	**00 56 36.2**	**+0.5**
RUSC				IAmb	IAmb	00 56 37.6	
	comp=Z,6.9nm,0.7s						
RUSC	**La Rusia**	**32.77**	**356**	*eP*	**P**	**00 56 35.0**	**-0.6**
NBPN	**Ponto Novo - B**	**33.05**	**67**	*eP*	**P**	**00 56 36.0**	**-1.6**
CBOC	**Ciudad Bolivar**	**33.05**	**351**	*eP*	**P**	**00 56 40.8**	**+3.0**
VA02	**Isla de Pascua**	**34.24**	**261**	P	**P**	**00 56 47.7**	**-0.2**
ZARC	**Zaragoza, Cauc**	**34.51**	**353**	*eP*	**P**	**00 56 49.4**	**-0.8**
UREC	**San Jos de Ur**	**34.84**	**352**	*eP*	**P**	**00 56 51.3**	**-1.8**
SMLC	**San Martn de**	**35.73**	**355**	*eP*	**P**	**00 56 59.0**	**-1.8**
NBPS	**Pedro II - PI**	**35.98**	**56**	*eP*	**P**	**00 57 01.8**	**-1.3**
NBMA	**Muriti-CE**	**36.19**	**63**	*eP*	**P**	**00 57 04.3**	**-0.5**
NBPB	**Pedra_Branca-C**	**36.66**	**60**	*eP*	**P**	**00 57 08.2**	**-0.6**
NBAN	**Anadia - AL**	**36.92**	**69**	*eP*	**P**	**00 57 09.9**	**-1.2**
NBLV	**Livramento - P**	**37.67**	**65**	*eP*	**P**	**00 57 18.1**	**+0.6**
NBMO	**Morrinhos-CE**	**37.75**	**57**	*eP*	**P**	**00 57 17.1**	**-0.8**
PMSA	**Palmer Station**	**38.03**	**175**	P	**P**	**00 57 20.9**	**+1.1**
PMSA				IAmb	IAmb	00 57 23.2	
	comp=Z,6.0nm,1.1s						
PMSA	**Palmer Station**	**38.03**	**175**	*eP*	**P**	**00 57 20.6**	**+0.8**
NBRF	**Rio Formoso -**	**38.41**	**68**	*eP*	**P**	**00 57 22.5**	**-1.0**
NBPA	**Parau_RN**	**38.47**	**63**	*eP*	**P**	**00 57 22.9**	**-1.1**
CVTR	**Volcan Turrial**	**38.87**	**340**	P	**P**	**00 57 28.9**	**+1.1**
HZTE	**Horizontes, Gu**	**40.12**	**337**	P	**P**	**00 57 37.6**	**-0.2**
VNA3	**Neumayer Olymp**	**55.50**	**160**	P	**P**	**00 59 36.5**	**+0.3**
VNA1	**Neumayer--Stat**	**55.77**	**159**	P	**P**	**00 59 38.9**	**+0.9**
VNA2	**Neumayer--Watz**	**56.12**	**159**	P	**P**	**00 59 40.5**	**-0.1**
	baz=292,slow=8.8						
SNAA	**Sanae**	**57.73**	**160**	P	**P**	**00 59 52.0**	**0.0**
SNAA	**Sanae**	**57.73**	**160**	P	**P**	**00 59 52.5**	**+0.4**
ZAIG	**Zacatecas**	**58.20**	**325**	P	**P**	**00 59 57.0**	**+0.7**
ZAIG				IAmb	IAmb	01 00 02.7	
	comp=Z,3.3nm,1.0s						
451A	**Vernon**	**59.03**	**345**	P	**P**	**01 00 02.2**	**+0.7**
QSPA	**South Pole Qui**	**63.21**	**180**	P	**P**	**01 00 31.3**	**+1.7**
QSPA				IAmb	IAmb	01 00 39.0	
	comp=Z,6.4nm,1.2s						
HPIG		**63.21**	**325**	P	**P**	**01 00 31.5**	**+1.4**
HPIG				IAmb	IAmb	01 00 33.6	
	comp=Z,11nm,1.5s						
JCT	**Junction City**	**63.50**	**332**	P	**P**	**01 00 32.3**	**+0.5**
JCT				IAmb	IAmb	01 00 34.3	
	comp=Z,5.3nm,0.8s						
SWET	**Sewanee**	**63.50**	**346**	P	**P**	**01 00 31.6**	**-0.1**
TX32	**Lajitas Array**	**64.23**	**328**	P	**P**	**01 00 37.4**	**+0.7**
TXAR	**Lajitas Array**	**64.23**	**328**	P	**P**	**01 00 38.3**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=156,slow=8.5,SNR=10.0						
TXAR				pP	**pP**	**01 00 52.3**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=152,slow=9.4,SNR=8.4						
TXAR				sP	**sP**	**01 00 58.3**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=149,slow=8.5,SNR=4.0						
TXAR	**Lajitas Array**	**64.23**	**328**	P	**P**	**01 00 37.2**	**+0.6**
TX31	**Lajitas Ar. Si**	**64.23**	**328**	P	**P**	**01 00 36.7**	**0.0**
TX31				IAmb	IAmb	01 00 53.0	
	comp=Z,4.0nm,0.8s						
MNTX	**Cornudas Mount**	**67.01**	**328**	P	**P**	**01 00 55.2**	**+0.7**
MNTX				IAmb	IAmb	01 01 10.3	
	comp=Z,2.9nm,0.8s						
CCM	**Cathedral Cave**	**67.48**	**343**	P	**P**	**01 00 58.0**	**+0.8**
CCM				IAmb	IAmb	01 00 58.2	
	comp=Z,4.9nm,0.7s						
P40A	**Paris**	**69.08**	**343**	P	**P**	**01 01 07.5**	**+0.3**
PV17	**East Wray Mesa**	**74.09**	**330**	P	**P**	**01 01 37.7**	**-0.1**
KNB	**Kanab**	**74.91**	**326**	P	**P**	**01 01 42.9**	**+0.5**
KNB				IAmb	IAmb	01 02 01.3	
	comp=Z,8.5nm,1.3s						
O20A	**White River Ci**	**75.30**	**331**	P	**P**	**01 01 45.7**	**+1.0**
O20A				IAmb	IAmb	01 01 47.9	
	comp=Z,5.5nm,0.9s						
SRU	**San Rafael Swe**	**75.48**	**329**	P	**P**	**01 01 46.6**	**+0.9**
SRU				IAmb	IAmb	01 01 48.5	
	comp=Z,3.3nm,0.8s						
CCUT	**Cedar City**	**75.59**	**326**	P	**P**	**01 01 47.9**	**+1.4**
CCUT				IAmb	IAmb	01 02 04.8	
	comp=Z,5.3nm,1.0s						
MSU	**Marysvale**	**75.77**	**328**	P	**P**	**01 01 47.8**	**+0.4**
P17A	**Butcher Ranch,**	**75.87**	**329**	P	**P**	**01 01 48.5**	**+0.5**
P17A				IAmb	IAmb	01 02 05.3	
	comp=Z,5.7nm,1.1s						
PSUT	**Pine Spring**	**76.60**	**327**	P	**P**	**01 01 51.3**	**-0.8**
DUG	**Dugway, Tooele**	**77.41**	**328**	P	**P**	**01 01 57.7**	**+1.2**
DUG				IAmb	IAmb	01 02 14.4	
	comp=Z,7.4nm,1.4s						
HWUT	**Hardware Ranch**	**77.96**	**330**	P	**P**	**01 02 00.9**	**+1.2**
HWUT				IAmb	IAmb	01 02 02.3	
	comp=Z,5.3nm,0.7s						
PDAR	**Pinedale Array**	**78.03**	**332**	P	**P**	**01 02 01.4**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=127,slow=6.7,SNR=7.8						
PDAR				pP	**pP**	**01 02 15.8**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=140,slow=4.8,SNR=3.6						
SPUT	**South Promonto**	**78.12**	**329**	P	**P**	**01 02 02.0**	**+1.5**
SPUT				IAmb	IAmb	01 02 03.4	
	comp=Z,5.7nm,0.9s						
NVAR	**Mina Array Bea**	**78.78**	**324**	P	**P**	**01 02 05.7**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=159,slow=6.3,SNR=5.7						
NVAR				pP	**pP**	**01 02 20.7**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=165,slow=7.0,SNR=3.8						
ELK	**Elko**	**78.99**	**327**	P	**P**	**01 02 06.3**	**+0.9**
LOHW	**Long Hollow**	**79.17**	**332**	P	**P**	**01 02 07.8**	**+1.5**
MAW	**Mawson**	**79.59**	**164**	P	**P**	**01 02 08.7**	**+0.7**
	comp=Z,5.2nm,0.9s,baz=238,slow=6.9,SNR=6.0						
YHH	**Holmes Hill**	**80.22**	**332**	P	**P**	**01 02 13.9**	**+1.8**
YHH				IAmb	IAmb	01 02 29.9	
	comp=Z,6.6nm,1.2s						
HLID	**Hailey**	**80.79**	**330**	P	**P**	**01 02 16.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**80.90**	**70**	P	**P**	**01 02 15.2**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=266,slow=4.9,SNR=11						
TORD				pP	**pP**	**01 02 29.9**	**-0.9**
	comp=Z,4.4nm,0.9s,baz=269,slow=5.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**80.90**	**70**	P	**P**	**01 02 15.2**	**-0.8**
TORD				IAmb	IAmb	01 02 16.1	
	comp=Z,3.3nm,0.8s						
MCMT	**McKenzie Canyo**	**81.10**	**331**	P	**P**	**01 02 18.7**	**+2.0**
BOSA	**Boshof**	**82.45**	**118**	LR	LR	01 36 05.4	
	comp=Z,28nm,19.3s,baz=207,slow=34						
WRA	**Warramunga Arr**	**127.32**	**210**	PKP	**PKiKP**	**01 09 06.8**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=147,slow=1.5,SNR=1.6						
WRA				pPKP	**pPKPdf**	**01 09 21.4**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=161,slow=1.5,SNR=1.5						
ZALV	**Zalesovo Beam**	**147.66**	**27**	PKPbc	**PKPbc**	**01 09 45.6**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=307,slow=3.2,SNR=12						
ZALV				pPKPbc	**pPKPbc**	**01 10 00.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=305,slow=4.3,SNR=5.6						
MKAR	**Makanchi Array**	**151.06**	**40**	PKPbc	**PKiKP**	**01 09 54.3**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=321,slow=2.3,SNR=30						
MKAR				pPKPbc	**pPKPbc**	**01 10 09.6**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=314,slow=2.1,SNR=11						

*KRSC **25** 00:57:23.3±0.4, 60.79N×165.78E, h2km±1km, ML4.6*
*IDC **25** 00:57:26.0±1.3, 60.44N×165.70E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.5/40, mbtmp3.7/6, ML5.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/43, Error ellipse: s-maj=38.2km s-min=16.8km az=179.0*
*MOS **25** 00:57:25.0±1.0, 60.74N×165.77E, h11km, mb4.2/1, Error ellipse: s-maj=26.5km s-min=14.1km az=86.9*
ISC 25 00:57:26.4±0.8, 60.78N±0.04×165.82E±0.06, h10km, n15, σ1§54/21, mb3.7/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.37**	**154**	PN	**Pg**	**00 57 32.5**	**-1.2**
TILK				S	**Sg**	**00 57 38.7**	**+0.1**
TILK	**Tilichiki**	**0.37**	**154**	*eP*	**Pg**	**00 57 32.5**	**-1.2**
TILK				*eS*	**Sg**	**00 57 38.7**	**+0.1**
KMSK	**Kamenskaya**	**1.71**	**6**	PN	**Pn**	**00 57 55.0**	**-1.1**
KMSK				S	**Sn**	**00 58 17.6**	**-0.4**
KMSK	**Kamenskaya**	**1.71**	**6**	*eP*	**Pn**	**00 57 55.0**	**-1.1**
KMSK				*eS*	**Sn**	**00 58 17.6**	**-0.4**
OSSR	**Ossora**	**2.06**	**223**	PN	**Pn**	**00 58 00.2**	**-0.9**
OSSR				S	**Sn**	**00 58 27.3**	**+0.5**
OSSR	**Ossora**	**2.06**	**223**	*eP*	**Pn**	**00 58 00.2**	**-0.9**
OSSR				*eS*	**Sn**	**00 58 27.3**	**+0.5**
PALN	**Palana**	**3.40**	**243**	PN	**Pn**	**00 58 20.1**	**+0.7**
PALN	**Palana**	**3.40**	**243**	*eP*	**Pn**	**00 58 20.1**	**+0.7**
SEY	**Seymchan**	**6.71**	**295**	Pn	**Pn**	**00 59 06.3**	**+1.4**
	0.3nm,0.3s,baz=98,slow=15,SNR=4.9						
SEY				Lg	Lg	01 00 56.4	
	0.7nm,0.3s,baz=53,slow=20,SNR=3.6						
MA2	**Magadan**	**7.60**	**267**	Pn	**Pn**	**00 59 17.5**	**+0.4**
	3.3nm,0.3s,baz=54,slow=18,SNR=6.3						
MA2				Sn	**Sn**	**01 00 38.4**	**-4.8**
	0.6nm,0.3s,baz=172,slow=23,SNR=1.3						
PETK	**Petropavlovsk-**	**8.87**	**214**	LR	LR	01 03 27.1	
	comp=Z,55nm,19.4s,baz=88,slow=42						
ILAR	**Eielson Array**	**21.59**	**59**	P	**P**	**01 02 18.6**	**+2.8**
	0.8nm,0.5s,baz=268,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**01 06 04.8**	**+0.8**
	0.3nm,0.5s,baz=44,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**84.36**	**210**	P	**P**	**01 09 58.0**	**-0.4**
	0.6nm,0.7s,baz=16,slow=5.7,SNR=5.3						
ASAR	**Alice Springs**	**88.04**	**209**	P	**P**	**01 10 16.8**	**+0.3**
	0.5nm,0.9s,baz=14,slow=5.1,SNR=2.9						

*IDC **25** 01:15:42.4±1.9, 6.44S×152.34E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/40, mbtmp3.8/5, ML2.1/1, Error ellipse: s-maj=75.5km s-min=25.1km az=124.0*
ISC 25 01:15:46.1±1.7, 6.6S±0.3×152.3E±0.3, h23km, n9, σ1§78/8, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**241**	Pn	**Pn**	**01 17 12.3**	**+1.5**
	3.4nm,0.3s,baz=52,slow=11,SNR=8.7						
PMG				Sn	**Sn**	**01 18 14.3**	**-2.4**
	4.3nm,0.3s,baz=108,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**21.91**	**231**	P	**P**	**01 20 37.9**	**-0.1**
	1.3nm,0.7s,baz=55,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**24.51**	**224**	P	**P**	**01 21 05.5**	**+1.5**
	2.3nm,0.8s,baz=52,slow=9.3,SNR=16						
SONM	**Songino Array**	**67.55**	**328**	P	**P**	**01 26 42.1**	**+1.3**
	0.3nm,0.3s,baz=133,slow=6.3,SNR=2.0						
ILAR	**Eielson Array**	**83.99**	**22**	P	**P**	**01 28 12.7**	**-1.6**
	0.3nm,0.3s,baz=232,slow=4.4,SNR=4.8						
H03S2	**Juan Fernandez**	**117.07**	**133**	T	T	03 41 22.3	
	baz=242,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**117.08**	**133**	T	T	03 41 23.7	
	baz=242,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**117.09**	**133**	T	T	03 41 22.5	
	baz=242,slow=74,SNR=18						
TORD	**Torodi Ar. Bea**	**150.31**	**285**	PKPbc	**PKPbc**	**01 35 36.2**	**-0.4**
	1.3nm,0.7s,baz=66,slow=3.3,SNR=4.0						
TORD				PKPab	**pPKPbc**	**01 35 41.6**	**-1.1**
	3.3nm,0.9s,baz=64,slow=2.0,SNR=3.6						

*DJA **25** 01:20:55.7±0.5, 2.N±5.×12.7E±.°, h83km±7km, M4.0/9, mb4.0/1, MLv4.0/9*
*NEIC **25** 01:20:56.1±2.1, 1.97N±0.10×127.0E±0.2, h99km±8km, mb4.3/14, Error ellipse: s-maj=31.0km s-min=8.3km az=68.0*
*IDC **25** 01:20:58.8±8.6, 1.77N×127.09E, h114km±79km, mb4.0/6, mb1 4.1/6, mb1mx3.5/47, mbtmp4.3/6, Error ellipse: s-maj=56.9km s-min=20.1km az=62.0*
ISC 25 01:20:57.0±0.6, 2.01N±0.06×127.31E±0.08, h112km, n31, σ1§49/34, mb4.4/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**177**	Pn	**Pn**	**01 21 19.6**	**-1.3**
TNTI				Sn	**Sn**	**01 21 35.6**	**-3.3**
TNTI	**Ternate**	**1.23**	**177**	P	**Pn**	**01 21 19.2**	**-1.6**
SGSI	**Sangihe**	**2.44**	**313**	P	**Pn**	**01 21 33.6**	**-2.1**
SGSI				S	**Sn**	**01 22 02.7**	**-2.7**
LBMI	**Labuha**	**2.63**	**176**	P	**Pn**	**01 21 37.7**	**-0.6**
KMSI	**Cibinong**	**3.62**	**247**	P	**Pn**	**01 21 50.7**	**-0.5**
SANI	**Sanana**	**4.24**	**198**	P	Pn	01 21 57.8	-1.8
GTOI	**Gorontalo**	**4.50**	**252**	P	**Pn**	**01 22 04.5**	**+1.3**
SWI	**Sorong**	**4.88**	**126**	P	**Pn**	**01 22 06.6**	**-1.6**
NLAI	**Namlea**	**5.21**	**182**	P	**Pn**	**01 22 11.9**	**-0.9**
KNRA	**Kununurra**	**17.63**	**175**		**P**	**01 24 54.5**	**-0.5**
KNRA				IAmb	IAmb	01 25 12.1	
	comp=Z,23nm,1.6s						
WB0	**Warramunga Arr**	**22.73**	**162**	P	**P**	**01 25 49.5**	**-0.3**
WB0				IAmb	IAmb	01 25 50.1	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**22.88**	**163**	P	**P**	**01 25 50.7**	**-0.5**
	comp=Z,6.6nm,0.3s,baz=341,slow=10,SNR=93						
WRA				PcP	**PcP**	**01 29 40.0**	**+1.6**
	comp=Z,1.0nm,1.1s,baz=3.4,slow=1.8,SNR=2.3						
WRA	**Warramunga Arr**	**22.88**	**163**	P	**P**	**01 25 49.9**	**-1.3**
WB2	**Warramunga Arr**	**22.88**	**163**	P	**P**	**01 25 50.6**	**-0.7**
WB2				IAmb	IAmb	01 25 51.6	
	comp=Z,10nm,0.5s						
WR0	**Warramunga Arr**	**22.96**	**162**	P	**P**	**01 25 51.0**	**-1.0**
PSA00	**Pilbara Seismi**	**24.54**	**197**	P	**P**	**01 26 05.6**	**-0.8**
PSA00				IAmb	IAmb	01 26 11.0	
	comp=Z,45nm,1.6s						
AS31	**Alice Springs**	**26.31**	**166**	P	**P**	**01 26 20.9**	**-1.5**
AS31				IAmb	IAmb	01 26 26.1	
	comp=Z,2.4nm,0.3s						
ASAR	**Alice Springs**	**26.32**	**166**	P	**P**	**01 26 22.3**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=345,slow=7.6,SNR=48						
ASAR				pP	**pP**	**01 26 48.8**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=354,slow=8.4,SNR=2.1						
ASAR				PcP	**PcP**	**01 29 47.1**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=358,slow=2.8,SNR=1.9						
BBOO	**Buckleboo**	**35.60**	**167**	P	**P**	**01 27 43.5**	**-0.5**
STKA	**Stephens Creek**	**36.33**	**159**	P	**P**	**01 27 50.3**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=332,slow=8.8,SNR=7.9						
STKA	**Stephens Creek**	**36.33**	**159**	IAmb	IAmb	01 27 53.8	
	comp=Z,7.7nm,1.9s						
MSVF	**Nonsavu**	**53.69**	**114**	P	**P**	**01 30 10.1**	**+2.3**
	comp=Z,12nm,1.0s,baz=203,slow=7.7,SNR=3.1						
MK31	**Makanchi Array**	**59.29**	**326**	P	**P**	**01 30 47.8**	**+0.8**
MKAR	**Makanchi Array**	**59.29**	**326**	P	**P**	**01 30 48.8**	**+1.8**
	comp=Z,0.9nm,0.4s,baz=116,slow=8.3,SNR=18						
MKAR				pP	**pP**	**01 31 15.0**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=118,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**59.29**	**326**	P	**P**	**01 30 47.8**	**+0.8**
NIL	**Nilore**	**59.43**	**308**	P	**P**	**01 30 45.6**	**-2.7**
NIL				IAmb	IAmb	01 30 58.6	
	comp=Z,5.0nm,0.9s						
ZALV	**Zalesovo Beam**	**62.37**	**333**	P	**P**	**01 31 07.1**	**-0.6**
VNDA	**Vanda**	**81.66**	**173**	P	**P**	**01 33 03.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=322,slow=6.5,SNR=3.8						
VNDA	**Vanda**	**81.66**	**173**	IAmb	IAmb	01 33 17.9	
	comp=Z,4.8nm,1.5s						
SII	**Sitkinak Islan**	**82.00**	**33**	P	**P**	**01 33 04.4**	**-0.1**
BCAR	**Beaver Creek A**	**88.64**	**27**	P	**P**	**01 33 39.0**	**+1.6**

*UCR **25** 01:28:36.4±1.7, 12.07N×86.73W, h99km±14km, ML3.0, MW4.5*
*INET **25** 01:28:36.4, 12.18N×86.70W, h76km, MW3.9*

*IDC **25** 01:28:38.4±2.5, 12.24N×86.06W, h151km±51km, mb3.0/2, mb1 3.6/3, mb1mx3.1/43, mbtmp3.5/3, MS2.1/1, Ms1 2.1/1, ms1mx2.0/14, Error ellipse: s-maj=226.5km s-min=46.7km az=62.0*
*SNET **25** 01:28:39.4±0.6, 11.99N×87.11W, h16km±999km, ML3.0*
ISC 25 01:28:36.6±0.9, 12.08N±0.08×86.70W±0.08, h122km, n35, σ1§38/39, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGN	**Cerro Negro**	**0.41**	**0**	*eP*	**Pn**	**01 28 53.0**	**-1.4**
ACON	**Acoyapa**	**1.50**	**94**	*eP*	**Pn**	**01 29 02.9**	**-1.3**
CNCH	**Conchagua**	**1.62**	**317**	*eS*	**Sn**	**01 29 25.7**	**-2.2**
CNCH	**Conchagua**	**1.62**	**317**	*eS*	**Sn**	**01 29 25.7**	**-2.2**
LCND	**La Caada**	**1.68**	**317**	*eS*	**Sn**	**01 29 25.8**	**-3.2**
HZTE	**Horizontes, Gu**	**1.74**	**141**	*eP*	**Pn**	**01 29 06.4**	**-0.6**
BUEV	**Buena Vista**	**1.80**	**135**	*eP*	**Pn**	**01 29 07.1**	**-0.7**
BUEV				*i S*	**Sn**	**01 29 29.5**	**-2.1**
VRLE	**La Escondida,**	**1.83**	**134**	*eP*	**Pn**	**01 29 07.0**	**-1.2**
GPS2	**Hotel Rincn d**	**1.87**	**135**	*i P*	**Pn**	**01 29 07.9**	**-0.8**
CNRM	**Centro Naciona**	**1.99**	**314**	*eS*	**Sn**	**01 29 36.5**	**+0.8**
CNRM	**Centro Naciona**	**1.99**	**314**	*eS*	**Sn**	**01 29 36.5**	**+0.8**
COLC	**Colonia**	**2.03**	**134**	*i P*	**Pn**	**01 29 09.9**	**-0.8**
CUI	**Cuipilapa**	**2.07**	**133**	*i P*	**Pn**	**01 29 10.5**	**-0.6**
ORTG	**Ortega, Santa**	**2.10**	**144**	*eP*	**Pn**	**01 29 11.2**	**-0.3**
PLVR	**Palo Verde**	**2.17**	**142**	*eP*	**Pn**	**01 29 12.3**	**-0.2**
ACAL	**Aguas Claras**	**2.18**	**131**	*i P*	**Pn**	**01 29 11.9**	**-0.5**
SAJU	**San Juanillo,**	**2.23**	**154**	*eP*	**Pn**	**01 29 12.2**	**-0.9**
ESPN	**Las Esperanzas**	**2.35**	**87**	*eP*	**Pn**	**01 29 14.4**	**-0.1**
GRZA	**Playa Garza**	**2.39**	**154**	*eP*	**Pn**	**01 29 14.3**	**-0.8**
JTS	**Las Juntas de**	**2.47**	**136**	P	**Pn**	**01 29 15.9**	**-0.3**
	38nm,0.3s,baz=354,slow=9.2,SNR=63						
JTS				S	**Sn**	**01 29 45.9**	**-0.7**
	34nm,0.3s,baz=338,slow=19,SNR=9.8						
JTS				LR	LR	01 29 53.7	
	comp=Z,42nm,21.6s,baz=277,slow=34						
JTS	**Las Juntas de**	**2.47**	**136**	*eP*	**Pn**	**01 29 15.9**	**-0.3**
TECO	**Alcaldia de Te**	**2.49**	**306**	*eP*	**Pn**	**01 29 15.6**	**-0.8**
TECO				*eS*	**Sn**	**01 29 44.2**	**-2.8**
TECO				IAML		01 29 48.9	
	comp=Z,81nm,0.1s						
INDI	**Punta indio, G**	**2.50**	**152**	*eP*	**Pn**	**01 29 15.9**	**-0.5**
ARE1	**Arenal 1**	**2.52**	**129**	*eP*	**Pn**	**01 29 16.4**	**-0.5**
COVE	**Coope Vega, Sa**	**2.63**	**121**	*eP*	**Pn**	**01 29 17.3**	**-0.9**
LFRS	**El Faro**	**2.77**	**304**	*eP*	**Pn**	**01 29 19.9**	**-0.1**
LFRS	**El Faro**	**2.77**	**304**	*eP*	**Pn**	**01 29 19.9**	**-0.1**
LAFE	**Finca La Fe, P**	**2.86**	**142**	*eP*	**Pn**	**01 29 21.1**	**-0.1**
LCR2	**La Lucha 2**	**3.52**	**131**	*eP*	**Pn**	**01 29 30.1**	**0.0**
RIMA	**Rio Macho**	**3.61**	**129**

0.4nm,0.6s,baz=26,slow=6.3,SNR=2.7
ASAR Alice Springs 81.45 205 pP pP 01 45 36.6 +0.8
0.5nm,0.7s,baz=21,slow=5.9,SNR=4.0
ESDC Sonseca Array 85.04 348 P **P** **01 45 27.6 0.0**
0.6nm,0.7s,baz=5.6,slow=5.0,SNR=6.7

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*CRAAG **25** 01:44:48.1, 37.05N×3.10E, MI2.6*
*MDD **25** 01:44:51.1±2.0, 37.23N×2.93E, h30km±56km, mb4.2/5, Error ellipse: s-maj=44.1km s-min=9.9km az=141.0, PRXIMO*
ISC 25 01:44:44.5±1.1, 37.12N±0.04×3.06E±0.05, h12km, n25, σ2°76/40, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.32**	**184**	P	**Pb**	**01 44 54.1**	**+1.9**
ABA	**Alger-Bouzarea**	**0.32**	**184**	P	**Pb**	**01 44 54.1**	**+1.9**
ABMS	**Boumerdes**	**0.50**	**138**	P	**Pn**	**01 44 57.8**	**+0.3**
ABMS	**Boumerdes**	**0.50**	**138**	P	**Pn**	**01 44 57.8**	**+0.3**
EMHD	**Djebel Mahouad**	**0.93**	**186**	P	**Pn**	**01 45 04.3**	**+0.8**
EMHD	**Djebel Mahouad**	**0.93**	**186**	P	**Pn**	**01 45 04.3**	**+0.8**
EIBI	**Ibiza**	**2.33**	**325**	P	**Pn**	**01 45 24.0**	**+1.3**
	3.4nm,0.1s,SNR=18						
EIBI				S	**Sn**	**01 45 48.9**	**-2.5**
	24nm,0.4s,SNR=8.4						
ETOS	**Mallorca**	**2.65**	**356**	P	**Pn**	**01 45 28.6**	**+1.6**
	4.3nm,0.1s,SNR=31						
ETOS				S	**Sn**	**01 45 57.2**	**-1.9**
	1.7nm,0.1s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.00**	**302**	P	**Pn**	**01 45 34.0**	**+2.1**
	0.5nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**01 46 03.8**	**-4.2**
	7.4nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**3.17**	**288**	S	**Sn**	**01 46 08.2**	**-3.7**
	SNR=7.9						
AFON	**Font Roja**	**3.24**	**299**	P	**Pn**	**01 45 38.3**	**+3.0**
	0.9nm,0.1s,SNR=7.9						
AFON				S	**Sn**	**01 46 11.2**	**-2.6**
	SNR=7.9						
ETOB	**Tobarra**	**3.95**	**294**	P	**Pn**	**01 45 46.8**	**+1.8**
	1.1nm,0.2s,SNR=8.9						
ETOB				S	**Sn**	**01 46 28.2**	**-3.1**
	0.9nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.01**	**309**	P	**Pn**	**01 45 48.3**	**+2.4**
	0.6nm,0.2s,SNR=7.9						
ECHE				S	**Sn**	**01 46 29.5**	**-3.3**
	2.0nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.25**	**321**	P	**Pn**	**01 45 51.0**	**+1.7**
	0.5nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**01 46 35.5**	**-3.5**
	1.8nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.38**	**332**	S	**Sn**	**01 46 38.0**	**-3.8**
	SNR=7.9						
EPOB	**Poblet**	**4.50**	**341**	P	**Pn**	**01 45 54.4**	**+1.9**
	0.3nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**01 46 40.2**	**-4.5**
	1.3nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**4.56**	**284**	P	**Pn**	**01 45 55.8**	**+2.3**
	0.6nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**01 46 43.1**	**-3.5**
	5.1nm,0.5s,SNR=7.9						
CFON	**Fontmartina**	**4.66**	**354**	P	**Pn**	**01 45 56.3**	**+1.6**
	3.0nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**01 46 45.9**	**-2.8**
	2.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.93**	**280**	P	**Pn**	**01 46 00.6**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**01 46 52.6**	**-2.9**
	2.0nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**4.93**	**347**	P	**Pn**	**01 46 01.6**	**+3.2**
	16nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**01 46 52.5**	**-3.0**
	2.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.36**	**359**	P	**Pn**	**01 46 06.4**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**5.41**	**351**	P	**Pn**	**01 46 08.4**	**+3.2**
	0.5nm,0.1s,SNR=7.9						
CLLI				S	**Sn**	**01 47 04.3**	**-3.2**
	1.0nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.45**	**345**	P	**Pn**	**01 46 08.4**	**+2.7**
	0.8nm,0.1s,SNR=7.9						
CSOR				S	**Sn**	**01 47 04.1**	**-4.3**
	4.3nm,0.7s,SNR=7.9						
PAB	**San Pablo**	**6.31**	**295**	P	**Pn**	**01 46 18.6**	**+1.2**
	0.5nm,0.3s,SNR=7.9						
ATE	**Arette**	**6.62**	**335**	P	**Pn**	**01 46 23.5**	**+1.9**
	0.1nm,0.1s,SNR=7.9						
ATE				S	**Sn**	**01 47 33.5**	**-3.4**
	1.8nm,0.3s,SNR=7.9						

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*IDC **25** 02:05:26.2±1.1, 29.79N×140.39E, h121km±15km, mb3.7/16, mb1 3.7/21, mb1mx3.6/51, mbtmp4.1/21, Error ellipse: s-maj=43.8km s-min=7.3km az=72.0*
*JMA **25** 02:05:26.1, 29.87N×140.88E, h145km, M4.5*
*NEIC **25** 02:05:26.8±2.2, 29.88N±0.07×140.6E±0.2, h129km±5km, mb4.1/14, Error ellipse: s-maj=20.5km s-min=8.5km az=72.0*
ISC 25 02:05:27.1±0.6, 29.95N±0.05×140.9E±0.1, h150km, n61, σ1°65/66, mb4.0/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.06**	**158**	P	**Pn**	**02 06 13.6**	**-1.8**
CBIJ				*eS*	**Sn**	**02 06 50.2**	**-2.4**
JCJ	**Chichijima**	**3.06**	**158**	P	**Pn**	**02 06 13.9**	**-1.4**
	102nm,0.3s,baz=311,slow=24,SNR=27						
JCJ				S	**Sn**	**02 06 51.4**	**-1.3**
	81nm,0.3s,baz=310,slow=23,SNR=8.8						
JCJ	**Chichijima**	**3.06**	**158**		**Pn**	**02 06 13.7**	**-1.6**
JHJ2	**Mitsune**	**3.28**	**344**	P	**Pn**	**02 06 18.9**	**+0.8**
JHJ2	**Mitsune**	**3.28**	**344**	Pn	**Pn**	**02 06 17.5**	**-0.5**
JHJ	**Hachijo jima 2**	**3.30**	**344**	P	**Pn**	**02 06 19.0**	**+0.7**
	27nm,0.3s,baz=86,slow=23,SNR=19						
JHJ				S	**Sn**	**02 06 56.3**	**-1.7**
	51nm,0.3s,baz=94,slow=23,SNR=9.6						
JHH2	**Haha-jima-NKT2**	**3.50**	**160**	P	**Pn**	**02 06 19.3**	**-1.6**
JHH2				S	**Sn**	**02 07 00.0**	**-2.5**
BSO1	**Boso 1**	**4.70**	**1**	P	**Pn**	**02 06 36.9**	**+0.9**
BSO1				*eS*	**Sn**	**02 07 30.5**	**+0.7**
TTO1	**TONANKAI O.B.S**	**5.05**	**318**	P	**Pn**	**02 06 41.4**	**+0.5**
JOD2	**Odawara 2**	**5.51**	**345**	P	**Pn**	**02 06 47.9**	**+0.6**
JOD2				*eS*	**Sn**	**02 07 50.1**	**+0.1**
JIE	**Ise**	**5.67**	**323**	P	**Pn**	**02 06 50.0**	**+0.7**
JTNC	**Tanabenakahech**	**5.91**	**312**	P	**Pn**	**02 06 52.9**	**+0.3**
JRY	**Ryogami san**	**6.28**	**345**	P	**Pn**	**02 06 58.3**	**+0.8**
JRY				S	**Sn**	**02 08 05.7**	**-2.6**
JYT	**Yasato**	**6.29**	**355**	Pn	**Pn**	**02 06 56.0**	**-1.7**
INU	**Inuyama**	**6.29**	**330**		**Pn**	**02 06 57.2**	**-0.5**
JGF	**Kuroka**	**6.37**	**333**		**Pn**	**02 06 58.9**	**+0.2**
MJAR	**Matsushiro Arr**	**6.95**	**342**	P	**Pn**	**02 07 07.4**	**+1.0**
	0.6nm,0.3s,baz=158,slow=11,SNR=14						
MJAR				S	**Sn**	**02 08 20.9**	**-3.4**
	0.2nm,0.3s,baz=130,slow=16,SNR=1.8						
MJAR	**Matsushiro Arr**	**6.95**	**342**		**Pn**	**02 07 06.6**	**+0.2**
MAJO	**Matsushiro**	**6.95**	**342**		**Pn**	**02 07 07.0**	**+0.5**
MAT	**Matsushiro**	**6.95**	**342**	P	**Pn**	**02 07 07.4**	**+1.0**
MAT				*eS*	**Sn**	**02 08 20.9**	**-3.4**
MJB9	**Matsu-Tunnel**	**6.95**	**342**		**Pn**	**02 07 07.0**	**+0.5**
JWT	**Wachi**	**7.04**	**321**		**Pn**	**02 07 07.3**	**-0.4**
JMM	**Marumori**	**7.90**	**360**		**Pn**	**02 07 18.5**	**-0.6**
JSD	**Sado**	**8.36**	**346**	Pn	**Pn**	**02 07 23.3**	**-1.9**
JMK	**Ichinoseki**	**8.99**	**2**	P	**Pn**	**02 07 33.4**	**-0.2**
JMK				*eS*	**Sn**	**02 09 07.1**	**-6.3**
ERM	**Erimo**	**12.19**	**8**	Pn	**Pn**	**02 08 15.4**	**-0.3**
ASAJ	**Asahikawa**	**14.21**	**5**	P	**P**	**02 08 42.8**	**-1.7**
	1.0nm,0.3s,baz=218,slow=7.2,SNR=4.5						
USA0B	**Ussuriysk Arra**	**15.88**	**336**	Pn	**Pn**	**02 09 01.9**	**-0.4**
USA0B				IAmb	IAmb	02 09 05.4	
	comp=Z,4.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**15.88**	**336**	P	**Pn**	**02 09 01.5**	**-0.8**
	baz=144,slow=10,SNR=6.6						
KLR	**Kul'dur**	**20.47**	**343**	P	**P**	**02 09 54.3**	**+1.4**
	comp=Z,3.3nm,0.5s,baz=160,slow=7.9,SNR=7.3						
SONM	**Songino Array**	**31.89**	**314**	P	**P**	**02 11 37.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.8,SNR=2.7						
SONM	**Songino Array**	**31.89**	**314**	IAmb	IAmb	02 11 45.8	
	comp=Z,1.5nm,1.2s						
SLVN	**Son La**	**34.29**	**264**	P	**P**	**02 11 55.6**	**-3.7**
SLVN				IAmb	IAmb	02 12 23.9	
	comp=Z,5.7nm,1.1s						
ZALV	**Zalesovo Beam**	**46.60**	**318**	P	**P**	**02 13 41.1**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=121,slow=11,SNR=3.8						
ZALV				PcP	**PcP**	**02 15 13.5**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=98,slow=6.0,SNR=2.4						
MK31	**Makanchi Array**	**47.80**	**308**	P	**P**	**02 13 49.1**	**-0.2**
MKAR	**Makanchi Array**	**47.80**	**308**	P	**P**	**02 13 49.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=92,slow=9.6,SNR=8.6						
NRIK	**Noril'sk**	**49.58**	**338**	P	**P**	**02 14 05.0**	**+2.5**
	comp=Z,3.1nm,0.5s,baz=110,slow=8.6,SNR=4.9						
NRIK	**Noril'sk**	**49.58**	**338**	IAmb	IAmb	02 14 05.5	
	comp=Z,9.2nm,1.3s						
WR0	**Warramunga Arr**	**49.99**	**188**	P	**P**	**02 14 06.8**	**+0.6**
WR0				IAmb	IAmb	02 14 15.5	
	comp=Z,5.2nm,1.2s						
WB2	**Warramunga Arr**	**49.99**	**188**	P	**P**	**02 14 06.5**	**+0.3**
WRA	**Warramunga Arr**	**50.00**	**188**	P	**P**	**02 14 06.6**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=2.7,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**50.00**	**188**	IAmb	IAmb	02 14 15.2	
	comp=Z,0.4nm,1.4s						
KURK	**Kurchatov**	**50.19**	**313**	P	**P**	**02 14 07.9**	**+0.6**
KURBB	**Kurchatov Arra**	**50.24**	**313**	P	**P**	**02 14 07.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=91,slow=9.8,SNR=6.4						
ASAR	**Alice Springs**	**53.72**	**188**	P	**P**	**02 14 34.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=0.1,slow=4.5,SNR=6.6						
BVAR	**Borovoye Array**	**55.18**	**316**	P	**P**	**02 14 44.5**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=189,slow=8.6,SNR=10.0						
BRVK	**Borovoye**	**55.24**	**316**	P	**P**	**02 14 43.4**	**-1.1**
BRVK				IAmb	IAmb	02 15 05.7	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**56.51**	**304**	P	**P**	**02 14 52.4**	**-1.3**
ARU	**Arti**	**61.48**	**321**	P	**P**	**02 15 28.3**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=115,slow=2.3,SNR=6.9						
ARU	**Arti**	**61.48**	**321**	IAmb	IAmb	02 15 29.4	
	comp=Z,5.0nm,0.9s						
ABKAR	**Akbulak array**	**62.30**	**313**	P	**P**	**02 15 33.6**	**+0.3**
AKTO	**Aktyubinsk**	**63.20**	**315**	P	**P**	**02 15 39.7**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=76,slow=12,SNR=6.3						
KIRV	**Kirov**	**65.70**	**325**	P	**P**	**02 15 57.2**	**+2.0**
	comp=Z,11nm,0.6s,baz=31,slow=12,SNR=4.3						
ARCES	**ARCESS Array B**	**70.48**	**340**	P	**P**	**02 16 27.9**	**+3.0**
	comp=Z,1.0nm,0.7s,baz=63,slow=7.1,SNR=7.7						
ARCES	**ARCESS Array B**	**70.48**	**340**	IAmb	IAmb	02 16 41.9	
	comp=Z,5.5nm,1.2s						
FINES	**FINESS Array B**	**74.89**	**333**	P	**P**	**02 16 53.3**	**+2.3**
	comp=Z,1.6nm,0.4s,baz=68,slow=5.0,SNR=41						
AKASG	**Malin Array Be**	**79.65**	**323**	P	**P**	**02 17 18.9**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=51,slow=5.5,SNR=5.9						
AKASG	**Malin Array Be**	**79.65**	**323**	IAmb	IAmb	02 17 20.3	
	comp=Z,1.3nm,1.1s						
AKBB	**Malin Array Si**	**79.65**	**323**	P	**P**	**02 17 17.8**	**0.0**
AKBB				IAmb	IAmb	02 17 19.6	
	comp=Z,4.1nm,0.6s						
NOA	**NORSAR Array B**	**80.55**	**338**	P	**P**	**02 17 24.0**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=45,slow=5.0,SNR=3.6						
BURAR	**Bucovina Array**	**83.60**	**322**	P	**P**	**02 17 39.8**	**+1.1**
BURAR				IAmb	IAmb	02 17 41.9	
	comp=Z,1.7nm,0.8s						

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*KRSC **25** 03:09:21.1±1.5, 60.79N×165.75E, h4km±19km, ML5.0*
*IDC **25** 03:09:22.9±0.8, 60.74N×165.98E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.7/52, mbtmp3.7/14, ML2.9/2, MS3.4/19, Ms1 3.4/19, ms1mx3.2/43, Error ellipse: s-maj=22.1km s-min=11.7km az=173.0*
*MOS **25** 03:09:22.8±1.6, 60.81N×165.71E, h10km, mb4.3/7, Error ellipse: s-maj=14.2km s-min=6.0km az=82.1*
*NERS **25** 03:09:23.2±0.0, 60.74N×165.64E, h8km*
ISC 25 03:09:25.0±0.5, 60.77N±0.04×165.76E±0.04, h15km, n70, σ2°03/74, mb3.8/18, MS3.3/17, 10C-3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.38**	**150**	PN	**Pg**	**03 09 30.1**	**-2.5**
TILK	**Tilichiki**	**0.38**	**150**	*eP*	**Pg**	**03 09 30.1**	**-2.5**
TILK				*eS*	**Sg**	**03 09 36.0**	**-1.8**
KMSK	**Kamenskaya**	**1.72**	**7**	PN	**Pn**	**03 09 52.6**	**-1.7**
KMSK				S	**Sn**	**03 10 14.9**	**-1.0**
KMSK	**Kamenskaya**	**1.72**	**7**	*eP*	**Pn**	**03 09 52.6**	**-1.7**
KMSK				*eS*	**Sn**	**03 10 14.9**	**-1.0**
OSSR	**Ossora**	**2.04**	**223**	PN	**Pn**	**03 09 57.7**	**-1.0**
OSSR				S	**Sb**	**03 10 25.1**	**-1.7**
OSSR	**Ossora**	**2.04**	**223**	*eP*	**Pn**	**03 09 57.7**	**-1.0**
OSSR				*eS*	**Sb**	**03 10 25.1**	**-1.7**
EVEN	**Evensk**	**3.35**	**293**	*eP*	**Pn**	**03 10 16.3**	**-0.4**
EVEN				*ePg*	**Pb**	**03 10 23.8**	**-0.2**
EVEN				Pgmax		03 10 29.3	
	210nm,0.5s						
EVEN				*eS*	**Sn**	**03 10 56.6**	**+0.5**
EVEN				*eSg*	**Sg**	**03 11 09.5**	**-2.9**
EVEN				Sgmax		03 11 17.7	
	2μm,0.8s						
EVEN				Sgmax		03 11 17.7	
	1μm,0.6s						
PALN	**Palana**	**3.37**	**242**	PN	**Pn**	**03 10 16.7**	**-0.3**
PALN	**Palana**	**3.37**	**242**	*eP*	**Pn**	**03 10 16.7**	**-0.3**
KBTR	**Krutoberegovo**	**4.83**	**200**	PN	**Pn**	**03 10 37.6**	**+0.6**
KBTR	**Krutoberegovo**	**4.83**	**200**	P	**Pn**	**03 10 37.6**	**+0.6**
OMS	**Omsukchan**	**5.07**	**295**	*eP*	**Pn**	**03 10 40.0**	**-0.4**
OMS				*eS*	**Sn**	**03 11 39.0**	**+0.3**
OMS				*eSg*	**Sg**	**03 12 04.2**	**-3.4**
OMS				Sgmax		03 12 13.4	
	260nm,0.7s						
KMNR	**Kamenistaya**	**5.81**	**213**	PN	**Pn**	**03 10 54.3**	**+3.7**
KMNR	**Kamenistaya**	**5.81**	**213**	P	**Pn**	**03 10 54.3**	**+3.7**
TUMR	**Tumrok**	**6.26**	**211**	PN	**Pn**	**03 11 00.2**	**+3.4**
TUMR	**Tumrok**	**6.26**	**211**	P	**Pn**	**03 11 00.2**	**+3.4**
KZV	**Kizimen**	**6.37**	**210**	PN	**Pn**	**03 11 01.7**	**+3.3**
KZV	**Kizimen**	**6.37**	**210**	P	**Pn**	**03 11 01.7**	**+3.3**
TLAR	**Talaya**	**6.52**	**279**	*eP*	**Pn**	**03 11 02.5**	**+2.2**
TLAR				*eS*	**Sn**	**03 12 16.7**	**+2.4**
TLAR				Sgmax		03 12 20.3	
	220nm,0.8s						
TLAR				*eSg*	**Sg**	**03 12 49.4**	**-4.6**
MKZ	**Mys Kozlova**	**6.59**	**201**	PN	**Pn**	**03 11 04.2**	**+3.0**
MKZ	**Mys Kozlova**	**6.59**	**201**	P	**Pn**	**03 11 04.2**	**+3.0**
SEY	**Seymchan**	**6.69**	**295**	Pn	**Pn**	**03 11 03.3**	**+0.7**
	0.8nm,0.3s,baz=94,slow=14,SNR=14						
SEY				Lg	Lg	03 12 55.5	
	2.3nm,0.3s,baz=9.8,slow=22,SNR=8.6						
SEY	**Seymchan**	**6.69**	**295**	*eP*	**Pn**	**03 11 03.2**	**+0.7**
SEY				*e*		03 12 50.6	
SEY				*eSg*	**Sg**	**03 12 54.9**	**-4.5**
SEY				Sgmax		03 13 05.6	
	130nm,0.9s						
SEY				Sgmax		03 13 05.6	
	40nm,0.8s						
BILL	**Bilibino**	**7.30**	**2**	*c iP*N	**Pn**	**03 11 11.1**	**+0.2**
BILL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BILL				MLR	MLR		
	comp=Z,396nm,9.0s						
MGD	**Magadan 1**	**7.48**	**271**	*eP*	**Pn**	**03 11 13.5**	**+0.1**
MA2	**Magadan**	**7.57**	**267**	Pn	**Pn**	**03 11 15.2**	**+0.5**
	comp=Z,6.4nm,0.3s,baz=74,slow=15,SNR=14						
MA2				Sn	**Sn**	**03 12 42.2**	**+2.1**
	comp=Z,2.4nm,0.3s,baz=173,slow=16,SNR=2.7						
MA2				LR	LR	03 14 12.2	
	comp=Z,92nm,18.1s,baz=88,slow=38						
GNL	**Ganaly**	**8.26**	**214**	PN	**Pn**	**03 11 25.3**	**+1.1**
GNL	**Ganaly**	**8.26**	**214**	P	**Pn**	**03 11 25.3**	**+1.1**
SUUS	**Susuman**	**8.57**	**291**	*eP*	**Pn**	**03 11 30.3**	**+1.9**
SUUS				*eSg*	Sn	03 13 54.6	+50
SUUS				Sgmax		03 14 20.6	
	comp=Z,60nm,0.8s						
PEA0B	**Petropavlovsk-**	**8.85**	**213**	*ePN*	**Pn**	**03 11 31.7**	**-0.5**
PETK	**Petropavlovsk-**	**8.85**	**213**	Pn	**Pn**	**03 11 33.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=46,slow=12,SNR=3.3						
PETK				LR	LR	03 15 25.1	
	comp=Z,302nm,20.9s,baz=35,slow=41						
OKH	**Okha**	**14.28**	**250**	*deP*	**Pn**	**03 12 43.3**	**-3.1**
OKH				MLR	MLR		
	comp=N,400nm,13.0s						
OKH				MLR	MLR		
	comp=E,500nm,13.0s						
OKH				MLR	MLR		
	comp=Z,300nm,11.0s						
YAK	**Yakutsk**	**17.18**	**290**	LR	LR	03 20 03.8	
	comp=Z,73nm,21.6s,baz=87,slow=37						
YAK	**Yakutsk**	**17.18**	**290**	*ceP*	**Pn**	**03 13 23.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	**18.06**	**322**	*ePP*	**Pn**	**03 13 33.4**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**20.55**	**224**	*ePP*	**P**	**03 14 02.3**	**-0.4**
COLA	**College**	**21.19**	**59**	*ePP*	**P**	**03 14 13.0**	**+3.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KDAK	**Kodiak Island**	**21.23**	**80**	LR	LR	03 22 28.0	
	comp=Z,108nm,20.1s,baz=287,slow=37						
ILAR	**Eielson Array**	**21.61**	**59**	P	**P**	**03 14 14.1**	**0.0**
	comp=Z,1.8nm,0.5s,baz=273,slow=8.5,SNR=5.9						
ILAR				LR	LR	03 23 23.8	
	comp=Z,119nm,18.9s,baz=265,slow=39						
ASAJ	**Asahikawa**	**21.66**	**230**	LR	LR	03 22 57.8	
	comp=Z,109nm,18.3s,baz=3.5,slow=38						
KLR	**Kul'dur**	**22.38**	**254**	P	**P**	**03 14 23.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=24,slow=9.7,SNR=6.4						
KLR				LR	LR	03 23 12.3	
	comp=Z,79nm,18.8s,baz=46,slow=37						
KLR	**Kul'dur**	**22.38**	**254**	*ePP*	**P**	**03 14 23.2**	**+0.8**
KLR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**26.00**	**246**	LR	LR	03 26 36.5	
	comp=Z,122nm,18.3s,baz=8.4,slow=40						
INK	**Inuvik**	**26.09**	**47**	LR	LR	03 26 16.9	
	comp=Z,95nm,19.0s,baz=264,slow=39						
HIA	**Hailar**	**28.17**	**267**	*ePP*	**P**	**03 15 16.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MJAR	**Matsushiro Arr**	**29.89**	**228**	LR	LR	03 27 32.2	
	comp=Z,58nm,21.6s,baz=15,slow=36						
KSRS	**Korea Array**	**33.27**	**243**	LR	LR	03 32 00.6	
	comp=Z,52nm,18.2s,baz=36,slow=41						
ULN	**Ulaanbaatar**	**35.33**	**276**	*ePP*	**P**	**03 16 20.0**	**+0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**35.64**	**52**	LR	LR	03 33 10.5	
	comp=Z,65nm,18.1s,baz=0.0,slow=40						
SONM	**Songino Array**	**35.67**	**276**	P	**P**	**03 16 25.1**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=86,slow=4.5,SNR=1.7						
JCJ	**Chichijima**	**37.27**	**216**	LR	LR	03 32 19.3	
	comp=Z,21nm,19.5s,baz=280,slow=37						
ZALV	**Zalesovo Beam**	**41.55**	**298**	LR	LR	03 36 16.3	
	comp=Z,90nm,19.0s,baz=46,slow=39						
DGZ	**Jazzator, Alta**	**43.36**	**292**	*ePP*	**P**	**03 17 27.9**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ARCES	**ARCESS Array B**	**46.93**	**342**	P	**P**	**03 17 55.2**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=26,slow=8.5,SNR=4.4						
ARCES	**ARCESS Array B**	**46.93**	**342**	*eP*	**P**	**03 17 56.8**	**+2.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.83**	**293**	P	**P**	**03 18 02.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=52,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**47.83**	**293**	*eP*	**P**	**03 18 02.4**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**48.21**	**306**	*ePP*	**P**	**03 18 04.9**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ARU	**Arti**	**49.92**	**316**	*c iP*	**P**	**03 18 19.1**	**+1.6**
ARU						03 19 31.6	
ARU						03 20 10.2	
ARU				S	**S**	**03 25 31.2**	**+4.5**
ARU				SS	**SS**	**03 29 02.1**	**+3.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s						
NVAR	**Mina Array Bea**	**50.73**	**80**	P	**P**	**03 18 23.4**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=287,slow=7.4,SNR=2.5						
PDAR	**Pinedale Array**	**51.47**	**70**	P	**P**	**03 18 29.6**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=333,slow=1.7,SNR=6.1						
PDAR				LR	LR	03 41 38.4	
	comp=Z,35nm,20.7s,baz=304,slow=38						
FINES	**FINESS Array B**	**54.25**	**337**	P	**P**	**03 18 49.9**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=358,slow=12,SNR=2.8						
FINES				LR	LR	03 46 48.0	
	comp=Z,34nm,18.1s,baz=24,slow=41						
NOA	**NORSAR Array B**	**56.95**	**346**	P	**P**	**03 19 08.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=22,slow=6.7,SNR=4.1						
NOA				LR	LR	03 44 47.0	
	comp=Z,12nm,19.9s,baz=330,slow=37						
OBN	**Obninsk**	**57.66**	**328**	*eP*	**P**	**03 19 13.5**	**-0.5**
OBN				*e*		03 21 23.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	**Malin Array Be**	**63.52**	**331**	LR	LR	03 50 03.8	
	comp=Z,22nm,19.8s,baz=310,slow=38						
GEYT	**Alibeck**	**65.44**	**304**	LR	LR	03 54 24.4	
	comp=Z,

PSA00			IAmb	IAmb	03 47 46.4	
	comp=Z,15nm,1.1s					
AS31	**Alice Springs**	**20.58 165**	P	**P**	**03 47 54.0**	**-0.1**
AS31			IAmb	IAmb	03 47 55.2	
	comp=Z,4.2nm,0.8s					
ASAR	**Alice Springs**	**20.58 165**	P	**P**	**03 47 54.4**	**+0.3**
	comp=Z,10nm,0.7s,baz=347,slow=12,SNR=86					
ASAR	**Alice Springs**	**20.58 165**	P	**P**	**03 47 54.0**	**-0.1**
STKA	**Stephens Creek**	**30.69 158**	P	**P**	**03 49 27.8**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=330,slow=9.1,SNR=6.5					
CM31	**Chiang Mai Arr**	**36.37 308**	P	**P**	**03 50 19.2**	**+2.5**
CMAR	**Chiang Mai Arr**	**36.37 308**	P	**P**	**03 50 18.5**	**+1.7**
CHTO	**Chiang Mai**	**36.57 309**	P	**P**	**03 50 19.4**	**+1.0**
MK31	**Makanchi Array**	**64.56 327**	P	**P**	**03 53 48.3**	**+0.4**
MK31			IAmb	IAmb	03 53 50.1	
	comp=Z,0.8nm,0.9s					
MKAR	**Makanchi Array**	**64.56 327**	P	**P**	**03 53 49.6**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=124,slow=8.0,SNR=8.4					
MKAR	**Makanchi Array**	**64.56 327**	P	**P**	**03 53 48.3**	**+0.5**
ZALV	**Zalesovo Beam**	**67.89 334**	P	**P**	**03 54 09.5**	**+0.6**
KURBB	**Kurchatov Arra**	**68.83 329**	P	**P**	**03 54 16.4**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=131,slow=5.7,SNR=11					
KURK	**Kurchatov**	**68.84 329**	P	**P**	**03 54 16.4**	**+1.5**
KKAR	**Karatay Array**	**69.77 319**	P	**P**	**03 54 22.6**	**+1.8**
ILAR	**Eielson Array**	**91.07 25**	P	P	03 56 20.0	+6.1
	comp=Z,0.6nm,0.7s,baz=256,slow=4.9,SNR=6.9					

NEIC ***25*** *03:44:00.2±1.1,4°.67S±0°.09×144°.10E±0°.06,h131km±9km, mb4.4/15, Error ellipse: s-maj=13.7km s-min=8.5km az=194.0*

IDC ***25*** *03:44:07.3±1.4,6°.13S×143°.51E,h0km,mb3.9/2, mb1 4.5/5,mb1mx3.8/38,mbtmp4.3/5,ML4.6/2,Error ellipse: s-maj=39.7km s-min=29.1km az=87.0*

ISC 25 03:44:01.1±0.8,4°.67S±0°.08×144°.14E±0°.10,h150km,n25, σ0.99/24,mb4.0/6,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.14**	**51**		**Pn**	**03 45 02.0**	**-1.3**
PMG	**Port Moresby**	**5.58**	**148**	Pn	**Pn**	**03 45 22.2**	**0.0**
	4.9nm,0.3s,baz=351,slow=7.7,SNR=11						
PMG				Sn	**Sn**	**03 46 26.0**	**+0.3**
	1.7nm,0.3s,baz=108,slow=20,SNR=1.3						
PMG	**Port Moresby**	**5.58**	**148**	Pn	**Pn**	**03 45 20.1**	**-2.2**
MTN	**Manton Dam**	**15.20**	**237**	Pn	**Pn**	**03 47 27.1**	**-1.1**
MTN				IAmb	IAmb	03 47 29.6	
	comp=Z,17nm,0.7s						
WB0	**Warramunga Arr**	**17.76**	**212**	P	**P**	**03 47 57.3**	**-0.6**
WB0				IAmb	IAmb	03 48 02.3	
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**17.85**	**211**	P	**Pn**	**03 47 59.3**	**-0.9**
WR0				IAmb	IAmb	03 48 01.1	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**17.92**	**211**	P	**P**	**03 47 59.2**	**-0.5**
WB2	**Warramunga Arr**	**17.93**	**211**	P	**P**	**03 47 59.4**	**-0.4**
WB2				IAmb	IAmb	03 48 02.0	
	comp=Z,31nm,0.8s						
WRA	**Warramunga Arr**	**17.94**	**211**	Pn	**Pn**	**03 48 00.9**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=32,slow=11,SNR=71						
WRA	**Warramunga Arr**	**17.94**	**211**	P	**P**	**03 47 59.4**	**-0.4**
KNRA	**Kununurra**	**18.66**	**233**	P	**P**	**03 48 07.3**	**-0.5**
SOEI	**Soe**	**20.35**	**255**	P	**P**	**03 48 26.2**	**0.0**
AS31	**Alice Springs**	**21.31**	**207**	P	**P**	**03 48 35.8**	**-0.5**
AS31				IAmb	IAmb	03 48 43.8	
	comp=Z,4.3nm,0.6s						
ASAR	**Alice Springs**	**21.32**	**207**	P	**P**	**03 48 37.2**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=34,slow=8.8,SNR=41						
ASAR	**Alice Springs**	**21.32**	**207**	P	**P**	**03 48 35.9**	**-0.4**
FORT	**Forrest**	**30.07**	**208**	P	**P**	**03 49 56.9**	**+0.5**
MSVF	**Nonsavu**	**35.62**	**114**	P	**P**	**03 50 45.1**	**+0.2**
TUWZ	**Tuamarina**	**45.27**	**148**	P	**P**	**03 52 05.2**	**+1.4**
MK31	**Makanchi Array**	**74.67**	**321**	P	**P**	**03 55 23.5**	**-0.8**
MKAR	**Makanchi Array**	**74.67**	**321**	P	pP	03 55 54.5	-6.6
	comp=Z,0.8nm,0.8s,baz=126,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**74.67**	**321**	P	**P**	**03 55 24.3**	**0.0**
MAKZ	**Makanchi**	**74.88**	**321**	P	**P**	**03 55 25.5**	**0.0**
TARG	**Taragay, Kyrgy**	**75.77**	**315**	P	**P**	**03 55 30.8**	**-0.3**
TARG				IAmb	IAmb	03 55 32.9	
	comp=Z,5.4nm,1.1s						
NIL	**Nilore**	**76.85**	**306**	P	**P**	**03 55 39.4**	**+2.5**
NIL				IAmb	IAmb	03 55 40.8	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**85.40**	**24**	P	pP	03 56 53.1	-6.0
	comp=Z,0.7nm,0.8s,baz=264,slow=5.2,SNR=4.8						

IDC 25 03:53:03.5±4.2,53°.57N×90°.91E,h0km,mb1 2.8/3, mb1mx2.8/57,mbtmp2.8/3,ML2.4/3,Error ellipse: s-maj=43.9km s-min=34.1km az=17.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.63**	**278**	*i*		04 14 33.2	
	baz=90,slow=306,SNR=1.7						
ZALV	**Zalesovo Beam**	**3.63**	**278**	Pn	Pn	03 54 02.9	+2.0
	0.5nm,0.3s,baz=97,slow=16,SNR=3.0						
ZALV				Lg	Lg	03 54 56.1	
	0.8nm,0.3s,baz=96,slow=24,SNR=6.5						
KURBB	**Kurchatov Arra**	**8.17**	**254**	Pn	Pn	03 55 02.6	-0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=4.5						
KURBB				Sn	Sn	03 56 34.7	-1.5
	0.0nm,0.3s,baz=68,slow=25,SNR=2.7						
KURBB				Lg	Lg	03 57 22.5	
	0.0nm,0.3s,baz=59,slow=31,SNR=5.3						
MKAR	**Makanchi Array**	**8.75**	**223**	Pn	Pn	03 55 11.8	+0.7
	0.1nm,0.3s,baz=38,slow=13,SNR=4.8						

PGC ***25*** *03:56:40.2±19.0,49°.15N×129°.82W,h10km,MLSn2.9/20, Mw3.5/20,Mw3.5/20,243km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*

IDC ***25*** *03:56:42.9±2.3,49°.37N×129°.45W,h0km,mb3.8/2, mb1 3.7/8,mb1mx3.4/68,mbtmp3.5/8,ML3.3/5,MS2.9/4, Ms1 2.9/4,ms1mx2.6/43,Error ellipse: s-maj=38.4km s-min=12.9km az=73.0*

NEIC ***25*** *03:56:43.3±1.9,49°.39N±0°.07×129°.6W±0°.2,h10km±2km, mb4.0/15,Mwr3.5(OTT),Error ellipse: s-maj=18.0km s-min=11.7km az=250.0*

ISC 25 03:56:43.1±1.0,49°.35N±0°.06×129°.39W±0°.08,h7km,n88, σ1.77/93,mb4.2/5,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.42**	**172**	P	Pn	03 56 58.9	-10
HOLB	**Holberg**	**1.52**	**32**	Pn	**Pn**	**03 57 09.1**	**-1.7**
HOLB				Sn	**Sn**	**03 57 25.1**	**-5.7**
EDB	**Eliza Dome**	**1.56**	**70**	Pn	**Pn**	**03 57 10.0**	**-1.3**
PACB	**Port Alice, BC**	**1.64**	**48**	Pn	**Pn**	**03 57 11.7**	**-0.6**
PACB				Sn	**Sn**	**03 57 33.7**	**+0.2**
MAYB	**Maynard**	**1.78**	**53**	Pn	**Pn**	**03 57 13.7**	**-0.7**
PHC	**Port Hardy**	**1.85**	**42**	Pn	**Pn**	**03 57 14.7**	**-0.5**
PHC				Sn	**Sn**	**03 57 39.5**	**+0.6**
ETB	**Estevan Point**	**1.86**	**88**	Pn	**Pn**	**03 57 14.1**	**-1.3**
WOSB	**Woss**	**2.00**	**65**	Pn	**Pn**	**03 57 17.4**	**0.0**
TLCB	**Telegraph Cove**	**2.04**	**53**	Pn	**Pn**	**03 57 17.7**	**0.0**
GDR	**Gold River**	**2.23**	**78**	Pn	**Pn**	**03 57 18.9**	**-1.5**
TOFB	**Tofino**	**2.29**	**94**	Pn	**Pn**	**03 57 19.1**	**-2.1**
TOFB				Sn	**Sn**	**03 57 47.7**	**-1.9**
NCRB	**Newcastle Ridg**	**2.40**	**63**	Pn	**Pn**	**03 57 23.4**	**+0.5**
BTB	**Buttle Lake**	**2.53**	**86**	Pn	**Pn**	**03 57 23.6**	**-1.0**
B012	**Ucluelet**	**2.56**	**98**	Sn	**Sn**	**03 57 52.6**	**-3.7**
OZB	**Mount Ozzard**	**2.58**	**97**	Pn	**Pn**	**03 57 23.1**	**-2.3**
OZB				Sn	**Sn**	**03 57 53.6**	**-3.5**
CBB	**Campbell River**	**2.70**	**74**	Pn	**Pn**	**03 57 25.9**	**-1.0**
BFSB	**Bamfield**	**2.84**	**99**	Pn	**Pn**	**03 57 26.2**	**-2.6**
BFSB				Sn	**Sn**	**03 58 00.8**	**-2.4**
B928	**Bamfield**	**2.84**	**99**	Pn	**Pn**	**03 57 26.5**	**-2.3**
B928				Sn	**Sn**	**03 57 59.9**	**-3.3**
BBB	**Bella Bella**	**2.95**	**15**	Pn	**Pn**	**03 57 30.2**	**-0.1**
	7.8nm,0.3s,baz=231,slow=8.1,SNR=66						
BBB				Sn	**Sn**	**03 58 04.7**	**-1.3**
	23nm,0.3s,baz=303,slow=22,SNR=16						
BBB	**Bella Bella**	**2.95**	**15**	Pn	**Pn**	**03 57 30.0**	**-0.3**
BBB				Sn	**Sn**	**03 58 04.2**	**-1.7**
BBB	**Bella Bella**	**2.95**	**15**		**Sn**	**03 58 05.8**	**-0.1**
MGB	**Mount Grey**	**3.10**	**95**	Pn	**Pn**	**03 57 31.2**	**-1.3**
MGB				Sn	**Sn**	**03 58 07.5**	**-2.4**
TXB	**Texada**	**3.24**	**82**	Pn	**Pn**	**03 57 35.1**	**+0.7**
OCP	**Olym-Cheeka Pk**	**3.32**	**107**	Pn	**Pn**	**03 57 33.6**	**-1.8**
PFB	**Port Renfrew**	**3.35**	**102**	Pn	**Pn**	**03 57 34.5**	**-1.4**
NLLB	**Nanaimo Lost L**	**3.54**	**90**	Pn	**Pn**	**03 57 37.1**	**-1.2**
SHB	**Sechelt**	**3.60**	**84**	Pn	**Pn**	**03 57 39.8**	**+0.4**
OBC	**Olympics--Boni**	**3.75**	**109**	Pn	**Pn**	**03 57 40.2**	**-1.3**
BUTB	**Butedale**	**3.76**	**9**	Pn	**Pn**	**03 57 40.6**	**-1.0**
BUTB				Sn	**Sn**	**03 58 25.2**	**-0.9**
PGC	**Sidney**	**3.97**	**98**	Pn	**Pn**	**03 57 47.7**	**+3.4**
BIB	**Bowen Island**	**3.97**	**87**	Pn	**Pn**	**03 57 44.8**	**+0.4**
WPB	**Watts Point**	**4.04**	**83**	Pn	**Pn**	**03 57 46.0**	**+0.8**
WSLR	**Whistler**	**4.26**	**77**	Pn	**Pn**	**03 57 50.3**	**+1.8**
HNBB	**Haney**	**4.46**	**88**	Pn	**Pn**	**03 57 51.2**	**+0.2**
VDB	**Vedder Mountai**	**4.79**	**91**	Pn	**Pn**	**03 57 55.7**	**+0.1**
A05A	**Maple Falls**	**4.80**	**91**	Pn	**Pn**	**03 57 55.6**	**-0.2**
A05A	**Maple Falls**	**4.80**	**91**		**Pn**	**03 57 57.2**	**+1.4**
UBRB	**Upper Baezaeko**	**4.87**	**41**	Pn	**Pn**	**03 57 59.2**	**+2.4**
MBW	**Mount Baker**	**4.95**	**94**	Pn	**Pn**	**03 57 57.9**	**-0.1**
LLLB	**Lillooet**	**5.00**	**73**	P	**Pn**	**03 58 00.3**	**+1.7**
LLLB	**Lillooet**	**5.00**	**73**		**Pn**	**03 58 00.1**	**+1.5**
JCW	**Jim Creek**	**5.07**	**100**	Pn	**Pn**	**03 57 59.6**	**+0.2**
HOPB	**Hope**	**5.21**	**87**	P	**Pn**	**03 58 01.3**	**0.0**
RPW	**Rockport**	**5.27**	**97**	P	**Pn**	**03 58 02.5**	**+0.2**
B06A	**Marblemount**	**5.27**	**96**	Pn	**Pn**	**03 58 02.7**	**+0.5**
FMW	**Mount Fremont**	**5.70**	**112**	P	**Pn**	**03 58 08.7**	**+0.3**
FSB	**Fort Saint Jam**	**6.01**	**29**	P	**Pn**	**03 58 14.4**	**+2.0**
LTY	**Liberty**	**6.18**	**107**	P	**Pn**	**03 58 14.3**	**-0.5**
LTY	**Liberty**	**6.18**	**107**	Pn	**Pn**	**03 58 15.6**	**+0.7**
PNT	**Penticton**	**6.39**	**87**	P	**Pn**	**03 58 17.6**	**+0.1**
B08A	**Colville Reser**	**6.71**	**95**	P	**Pn**	**03 58 21.2**	**-0.9**
D08A	**Wollman Farm,**	**7.36**	**104**	Pn	**Pn**	**03 58 32.5**	**+1.6**
YBH	**Yreka Blue Hor**	**8.94**	**146**	Pn	**Pn**	**03 58 53.5**	**+0.9**
	baz=308,slow=19,SNR=6.3						
YBH				LR	LR	04 01 55.2	
	comp=Z,42nm,20.3s,baz=342,slow=35						
NBC5	**NorthernBC 5**	**9.11**	**23**	P	**Pn**	**03 58 57.8**	**+2.9**
DLBC	**Dease Lake**	**9.11**	**358**	Pn	**Pn**	**03 58 55.5**	**+0.5**
	0.1nm,0.3s,baz=156,slow=19,SNR=2.2						
DLBC				LR	LR	04 01 44.9	
	comp=Z,64nm,19.6s,baz=150,slow=33						
WDC	**Whiskeytown Da**	**10.02**	**149**	Pn	**Pn**	**03 59 09.5**	**+2.1**
IMW	**Indian Meadow**	**13.79**	**106**	Pn	**Pn**	**03 59 58.8**	**-0.3**
MDPB	**Devils Postpil**	**13.88**	**144**	Pn	**Pn**	**04 00 04.1**	**+3.6**
TPAW	**Teton Pass**	**13.99**	**108**	Pn	**Pn**	**04 00 04.5**	**+2.6**
LOHW	**Long Hollow**	**14.14**	**107**	Pn	**Pn**	**04 00 04.7**	**+0.8**
RLMT	**Red Lodge**	**14.30**	**100**	Pn	**Pn**	**04 00 08.7**	**+2.6**
GLB	**Gilahina Butte**	**14.58**	**332**		**Pn**	**04 00 07.9**	**-1.7**
N25K	**Chitina, Valde**	**14.95**	**331**	Pn	**Pn**	**04 00 12.3**	**-2.4**
PDAR	**Pinedale Array**	**15.24**	**108**	Pn	**Pn**	**04 00 22.4**	**+3.7**
	0.1nm,0.3s,baz=305,slow=10,SNR=8.9						
PDAR				LR	LR	04 06 17.4	
	comp=Z,55nm,20.5s,baz=262,slow=38						
PDAR	**Pinedale Array**	**15.24**	**108**	Pn	**Pn**	**04 00 20.4**	**+1.6**
YKA	**Yellowknife Ar**	**15.50**	**26**	Pn	**Pn**	**04 00 20.5**	**-1.3**
	0.1nm,0.3s,baz=218,slow=11,SNR=1.8						
SRU	**San Rafael Swe**	**16.91**	**120**	Pn	**Pn**	**04 00 42.1**	**+1.7**
FFC	**Flin Flon**	**17.63**	**62**		**Pn**	**04 00 50.5**	**+1.4**
FFC				IAmb	IAmb	04 01 00.4	
	comp=Z,18nm,0.9s						
ILAR	**Eielson Array**	**18.04**	**335**	P	**P**	**04 00 55.2**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=151,slow=11,SNR=2.9						
PV14	**Lion Creek, Pa**	**18.27**	**119**	P	**Pn**	**04 00 57.9**	**+0.6**
PV14				IAmb	IAmb	04 01 05.0	
	comp=Z,5.4nm,1.0s						
PV20	**West Nyswonger**	**18.32**	**119**	P	**P**	**04 00 59.0**	**+1.0**
PV20				IAmb	IAmb	04 01 01.6	
	comp=Z,4.0nm,0.8s						
PV18	**Skein Mesa, Pa**	**18.42**	**119**	P	**Pn**	**04 01 00.3**	**+1.2**
MDM	**Murphy Dome**	**18.56**	**334**	P	**P**	**04 00 56.7**	**-3.5**
E28A	**Huff**	**19.36**	**87**	P	**P**	**04 01 09.3**	**+0.2**
E28A				IAmb	IAmb	04 01 13.6	
	comp=Z,14nm,1.1s						
MVCO	**Mesa Verde**	**19.38**	**121**	P	**P**	**04 01 08.7**	**-1.0**
MVCO				IAmb	IAmb	04 01 21.8	
	comp=Z,5.0nm,1.1s						
OGNE	**Ogallala**	**20.95**	**103**	P	**P**	**04 01 26.7**	**+0.1**
ULM	**Lac du Bonnet**	**21.55**	**75**	P	**P**	**04 01 34.9**	**+2.1**
	comp=Z,13nm,0.9s,baz=284,slow=11,SNR=13						
ULM	**Lac du Bonnet**	**21.55**	**75**	P	**P**	**04 01 34.5**	**+1.7**
KSCO	**Kaye Shedlock'**	**21.69**	**108**	P	**P**	**04 01 35.9**	**+1.3**
KSCO				IAmb	IAmb	04 01 37.6	
	comp=Z,10nm,0.9s						
AGMN	**Agassiz Nation**	**22.00**	**80**	P	**P**	**04 01 39.2**	**+1.6**
AGMN				IAmb	IAmb	04 01 45.6	
	comp=Z,9.2nm,1.1s						
ANMO	**Albuquerque**	**22.16**	**122**	P	**P**	**04 01 41.9**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=306,slow=8.7,SNR=4.6						
ANMO	**Albuquerque**	**22.16**	**122**	IAmb	IAmb	04 01 45.5	
	comp=Z,5.3nm,1.5s						
EYMN	**Ely**	**24.90**	**79**	P	**P**	**04 02 07.5**	**+1.0**
SPMN	**Marine on St.**	**24.99**	**85**	P	**P**	**04 02 08.1**	**+0.8**
SPMN				IAmb	IAmb	04 02 10.1	
	comp=Z,6.9nm,1.1s						
LPIG	**La Paz**	**29.31**	**142**	LR	LR	04 13 02.4	
	comp=Z,60nm,21.4s,baz=188,slow=33						
H11N2	**WAKE ISLAND Hy**	**58.22**	**264**	T	T	05 09 15.2	
	baz=43,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**58.22**	**263**	T	T	05 09 15.2	
	baz=43,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**58.24**	**263**	T	T	05 09 14.4	
	baz=43,slow=76,SNR=22						

ISK ***25*** *04:07:25.3,40°.25N×26°.28E,h9km,ML2.8/17*
DDA ***25*** *04:07:25.9,40°.25N×26°.31E,h7km±3km,ML2.6*
SOF ***25*** *04:07:26.0,40°.36N×26°.32E,h10km,MD2.8*
ATH ***25*** *04:07:26.6,40°.26N×26°.26E,h13km±4km,ML2.2/3,Error ellipse: s-maj=4.7km s-min=1.3km az=356.0*
THE ***25*** *04:07:26.3,40°.26N×26°.27E,h12km±1km,ML2.3/11,Error ellipse: s-maj=1.2km s-min=0.5km az=288.0*

ISC 25 04:07:26.1±0.8,40°.26N±0°.01×26°.29E±0°.02,h15km±6km, n61,σ0.51/91,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.20**	**46**	PG	**Pg**	**04 07 30.5**	**-0.2**
GELI				SG	**Sg**	**04 07 33.8**	**-0.1**
ECEA	**Canakkale, Ece**	**0.23**	**202**	*i* P	**Pg**	**04 07 31.2**	**0.0**
ECEA				*i* S	**Sg**	**04 07 34.8**	**+0.1**
ECEA				IAML		04 07 35.0	
	comp=N,3μm,0.3s						
ECEA				IAML		04 07 36.0	
	comp=E,2μm,0.3s						
GADA	**Gvkgeada**	**0.30**	**257**	P	**Pg**	**04 07 32.4**	**-0.1**
GADA				S	**Sg**	**04 07 37.2**	**+0.4**
	comp=E,875nm,0.3s						
EZN	**Ezine**	**0.43**	**176**	P	**Pg**	**04 07 34.3**	**-0.5**
EZN				S	**Sg**	**04 07 40.7**	**0.0**
	comp=E,545nm,0.2s						
EZN	**Ezine**	**0.43**	**176**	PG	**Pg**	**04 07 34.3**	**-0.5**
EZN				SG	**Sg**	**04 07 40.6**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**0.44**	**348**	*i* P	**Pg**	**04 07 35.1**	**+0.2**
CAVK				IAML		04 07 41.0	
	comp=N,305nm,0.4s						
CAVK				IAML		04 07 41.0	
	comp=E,327nm,0.3s						
CAVK				*i* S	**Sg**	**04 07 41.2**	**+0.3**
ERIK	**Erikli-Kesan**	**0.45**	**23**	PG	**Pg**	**04 07 34.9**	**-0.1**
ERIK				SG	**Sg**	**04 07 41.7**	**+0.6**
BOZC	**Bozcaada**	**0.46**	**203**	*i* P	**Pg**	**04 07 35.3**	**+0.1**
BOZC	**Bozcaada**	**0.46**	**203**	PG	**Pg**	**04 07 34.6**	**-0.6**
BOZC				SG	**Sg**	**04 07 41.2**	**-0.1**
ENEZ	**Enez**	**0.49**	**348**	P	**Pg**	**04 07 35.9**	**+0.1**
ENEZ				S	**Sb**	**04 07 43.0**	**-0.3**
	comp=E,802nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.56**	**159**	*i* P	**Pg**	**04 07 36.4**	**-0.7**
BAYC				*i* S	**Sg**	**04 07 44.4**	**-0.1**
SMTH	**Samothraki Isl**	**0.61**	**290**	P	**Pg**	**04 07 37.8**	**-0.4**
SMTH				S	**Sg**	**04 07 46.4**	**0.0**
	comp=E,280nm,0.1s						
SMTH	**Samothraki Isl**	**0.61**	**290**	P	**Pg**	**04 07 37.9**	**-0.3**
SMTH				S	**Sg**	**04 07 46.1**	**-0.2**
SMTH				AML	AML	04 07 50.9	
	comp=E,476μm,0.1s						
SMTH				AML	AML	04 07 51.4	
	comp=N,694μm,0.1s						
KESN	**Edirne-Kesan**	**0.64**	**28**	*i* P	**Pg**	**04 07 38.0**	**-0.8**
KESN				*i* S	**Sg**	**04 07 47.0**	**-0.4**
KESN				IAML		04 07 49.0	
	comp=N,194nm,0.3s						
KESN				IAML		04 07 50.0	
	comp=E,242nm,0.3s						
ALN	**Alexandroupoli**	**0.66**	**344**	P	**Pg**	**04 07 38.7**	**-0.3**
ALN				S	**Sb**	**04 07 48.7**	**+0.3**
	comp=E,202nm,0.2s						
ALN	**Alexandroupoli**	**0.66**	**344**	P	**Pg**	**04 07 39.3**	**+0.2**
ALN				S	**Sb**	**04 07 48.5**	**+0.1**
ALN				AML	AML	04 07 51.9	
	comp=E,380μm,0.2s						
ALN				AML	AML	04 07 52.0	
	comp=N,417μm,0.3s						
ALN	**Alexandroupoli**	**0.66**	**344**	PG	**Pg**	**04 07 38.8**	**-0.3**
ALN				SG	**Sb**	**04 07 48.3**	**-0.1**
KOCA	**Canakkale, Ayv**	**0.77**	**189**	*i* P	**Pg**	**04 07 40.4**	**-0.7**
KOCA				*i* S	**Sb**	**04 07 51.9**	**+0.5**
KOCA				IAML		04 07 56.0	
	comp=N,278nm,0.2s						
KRBG	**Karabiga-Canak**	**0.79**	**80**	PG	**Pg**	**04 07 40.7**	**-0.7**
RKY	**Sarkoy-Tekirda**	**0.80**	**58**	PG	**Pg**	**04 07 41.1**	**-0.6**
SART	**Tekirdag**	**0.81**	**58**	*i* P	**Pg**	**04 07 41.1**	**-0.7**
SART				*i* S	**Sg**	**04 07 52.4**	**0.0**
UKOP	**Uzunkopru-Edir**	**0.91**	**17**	PG	**Pg**	**04 07 43.5**	**-0.2**
LIA	**Limnos Island**	**0.92**	**247**	P	**Pg**	**04 07 43.2**	**-0.7**
LIA				S	**Sn**	**04 07 57.2**	**-0.2**
	comp=N,185nm,0.5s						
LIA	**Limnos Island**	**0.92**	**247**	P	**Pg**	**04 07 43.5**	**-0.5**
LIA				S	**Sb**	**04 07 56.5**	**+0.7**
LIA				AML	AML	04 07 59.8	
	comp=E,336μm,0.2s						
LIA				AML	AML	04 08 00.4	
	comp=N,332μm,0.4s						
KNL	**Balıkesir**	**0.95**	**89**	*i* P	**Pg**	**04 07 44.0**	**-0.5**
KNL				*i* S	**Sg**	**04 07 56.3**	**-0.6**
KNL				IAML		04 08 00.0	
	comp=N,162nm,0.5s						
KNL				IAML		04 08 02.0	
	comp=E,168nm,0.5s						
BUHA	**Balikesir, Bur**	**0.97**	**141**	*i* P	**Pg**	**04 07 44.6**	**-0.3**
BUHA				*i* S	**Sg**	**04 07 57.1**	**-0.5**
PRK	**Paraskevi**	**1.01**	**181**	P	**Pn**	**04 07 46.2**	**+0.4**
PRK				S	**Sb**	**04 07 59.5**	**+1.0**
	comp=E,362nm,0.4s						
PRK	**Paraskevi**	**1.01**	**181**	P	**Pn**	**04 07 46.0**	**+0.2**
RDO	**Rodhopi**	**1.05**	**328**	P	**Pg**	**04 07 45.8**	**-0.6**
RDO				S	**Sb**	**04 08 00.2**	**+0.6**
	comp=E,118nm,0.2s						
RDO	**Rodhopi**	**1.05**	**328**	P	**Pg**	**04 07 45.8**	**-0.6**
RDO	**Rodhopi**	**1.05**	**328**	PG	**Pg**	**04 07 45.9**	**-0.5**
MRMT	**Marmara Adasi**	**1.06**	**71**	PG	**Pg**	**04 07 45.2**	**-1.3**
GONE	**Gonen-Balikesi**	**1.09**	**101**	PN	**Pb**	**04 07 46.9**	**+0.2**
SIGR	**SIGRI**	**1.10**	**198**	P	**Pb**	**04 07 46.3**	**-0.5**
SIGR				S	**Sb**	**04 08 01.7**	**+0.8**
	comp=E,415nm,0.4s						
SIGR	**SIGRI**	**1.10**	**198**	P	**Pb**	**04 07 46.3**	**-0.5**
SIGR	**SIGRI**	**1.10**	**198**	PN	**Pb**	**04 07 46.4**	**-0.5**
BALY	**Balya**	**1.15**	**116**	*i* P	**Pn**	**04 07 48.3**	**+0.6**
BALY				*i* S	**Sb**	**04 08 02.2**	**-0.2**
BALY				IAML		04 08 05.0	
	comp=N,58nm,0.9s						
BALY				IAML		04 08 06.0	
	comp=E,104nm,0.3s						
TKR	**Tekirdag**	**1.20**	**52**	PN	**Pb**	**04 07 48.3**	**-0.2**
EDC	**Edincik**	**1.21**	**85**	PN	**Pn**	**04 07 48.8**	**+0.3**
THAS	**Thassos island**	**1.25**	**287**	P	**Pn**	**04 07 48.2**	**-0.8**
THAS				S	**Sb**	**04 08 05.2**	**+0.1**
	comp=E,78nm,0.4s						
THAS	**Thassos island**	**1.25**	**287**	P	**Pn**	**04 07 48.6**	**-0.4**
DKL	**Dikili**	**1.28**	**158**	PN	**Pn**	**04 07 49.7**	**+0.3**
CAND	**Candarli**	**1.36**	**163**	PN	**Pn**	**04 07 50.9**	**+0.3**
BALB	**Balikesir**	**1.37**	**116**	PN	**Pn**	**04 07 50.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.41**	**128**	*i* P	**Pg**	**04 07 53.0**	**-0.3**
STEP				*i* S	**Sn**	**04 08 10.3**	**+0.6**
STEP				IAML		04 08 13.0	
	comp=E,94nm,0.3s						
ZEDA	**zmir-Bergama**	**1.43**	**154**	*i* P	**Pb**	**04 07 52.4**	**-0

WMOK	**Wichita Mounta**	**2.07**	**207**		Pn	04 11 09.6	+0.4
WMOK				IAmb_Lg		04 11 40.0	
	comp=Z,60nm,0.7s						
LOOK	**Love County**	**2.61**	**172**	Pn	Pn	04 11 17.0	+0.5
U38A	**Gravette**	**2.61**	**92**		Pn	04 11 17.9	+1.3
KSU1	**Kansas State U**	**2.64**	**17**		Pn	04 11 17.6	+0.7
X37A	**Clayton**	**2.71**	**137**		Pn	04 11 18.5	+0.6
CBKS	**Cedar Bluff**	**2.79**	**324**	Pn	Pn	04 11 19.4	+0.3
HHAR	**Hobbs**	**2.99**	**95**		Pn	04 11 22.0	+0.2
Z35A	**Perchaven, San**	**3.26**	**174**	Pn	Pn	04 11 25.5	0.0
W39A	**Magazine**	**3.41**	**113**	Pn	Pn	04 11 26.5	-1.1
W39A				IAmb_Lg		04 12 25.9	
	comp=Z,33nm,0.7s						
AMTX	**Amarillo**	**3.71**	**244**	Pn	Pn	04 11 31.5	-0.3
AMTX				IAmb_Lg		04 12 38.2	
	comp=Z,65nm,0.7s						
U40A	**Yellville**	**3.85**	**92**		Pn	04 11 33.9	+0.2
U40A				IAmb_Lg		04 12 40.2	
	comp=Z,44nm,0.9s						
MIAR	**Mount Ida**	**3.88**	**120**		Pn	04 11 33.9	0.0
MIAR				IAmb_Lg		04 12 37.7	
	comp=Z,30nm,0.8s						
Z38A	**Mt. Pleasant**	**3.96**	**146**	Pn	Pn	04 11 34.6	-0.5
ABTX	**Abilene, Hawle**	**4.28**	**203**	Pn	Pn	04 11 39.4	-0.3
MGMO	**Mountain Grove**	**4.33**	**81**	Pn	Pn	04 11 39.4	-0.8
MGMO				IAmb_Lg		04 12 56.8	
	comp=Z,44nm,0.7s						
X40A	**Basin Creek Fa**	**4.43**	**117**	Pn	Pn	04 11 40.8	-0.8
P38A	**Dawn**	**4.43**	**46**	Pn	Pn	04 11 41.9	+0.3
P38A				IAmb_Lg		04 12 54.7	
	comp=Z,40nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.50**	**97**	Pn	Pn	04 11 43.6	+1.0
WHAR	**Wooly Hollow**	**4.52**	**105**	Pn	Pn	04 11 43.0	+0.2
WHAR				IAmb_Lg		04 13 06.6	
	comp=Z,26nm,0.8s						
N35A	**Tabor**	**4.55**	**19**		Pn	04 11 41.9	-1.3
WHTX	**Lake Whitney,**	**4.58**	**178**	Pn	Pn	04 11 43.4	-0.3
R40A	**Maddies Statio**	**4.59**	**67**	Pn	Pn	04 11 44.1	+0.3
R40A				IAmb_Lg		04 13 08.7	
	comp=Z,32nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.64**	**303**	Pn	Pn	04 11 44.4	-0.3
KSCO				IAmb_Lg		04 13 05.8	
	comp=Z,25nm,0.7s						
237A	**Washetta, Mont**	**4.81**	**161**	IAmb_Lg		04 13 12.9	
	comp=Z,21nm,0.8s						
BGNE	**Belgrade**	**4.84**	**355**	Pn	Pn	04 11 47.8	+0.6
MSTX	**Muleshoe**	**4.95**	**240**	Pn	Pn	04 11 49.1	+0.2
LCAR	**Lake Charles**	**5.25**	**94**	Pn	Pn	04 11 53.1	+0.3
LCAR				IAmb_Lg		04 13 21.7	
	comp=Z,29nm,0.9s						
CCM	**Cathedral Cave**	**5.29**	**72**	Pn	Pn	04 11 53.7	+0.3
CCM				IAmb_Lg		04 13 25.8	
	comp=Z,34nm,0.8s						
P40A	**Paris**	**5.29**	**55**	Pn	Pn	04 11 54.0	+0.5
P40A				IAmb_Lg		04 13 22.1	
	comp=Z,36nm,0.8s						
N38A	**Joes South For**	**5.43**	**38**	Pn	Pn	04 11 54.5	-0.8
N38A				IAmb_Lg		04 13 26.8	
	comp=Z,34nm,0.8s						
L34A	**Svendsen Farm,**	**5.46**	**10**	Pn	Pn	04 11 56.9	+1.1
L34A				IAmb_Lg		04 13 35.4	
	comp=Z,46nm,0.9s						
T25A	**Trinidad**	**5.47**	**278**		Pn	04 11 56.2	+0.1
T25A				IAmb_Lg		04 13 30.8	
	comp=Z,40nm,0.9s						
OGNE	**Ogallala**	**5.55**	**323**	Pn	Pn	04 11 57.1	0.0
OGNE				IAmb_Lg		04 13 38.9	
	comp=Z,49nm,0.8s						
435B	**Jarrell**	**5.78**	**180**	IAmb_Lg		04 13 51.5	
	comp=Z,22nm,0.9s						
PBMO	**Poplar Bluff**	**5.79**	**86**	Pn	Pn	04 11 59.9	-0.3
PBMO				IAmb_Lg		04 13 40.6	
	comp=Z,41nm,0.7s						
SCIA	**State Center**	**6.32**	**31**	IAmb_Lg		04 14 08.0	
	comp=Z,20nm,0.8s						
PARMO	**Parma**	**6.33**	**87**	IAmb_Lg		04 14 11.3	
	comp=Z,42nm,0.8s						
JCT	**Junction City**	**6.35**	**197**	IAmb_Lg		04 14 02.8	
	comp=Z,25nm,1.1s						
SDCO	**Great Sand Dun**	**6.39**	**283**	Pn	Pn	04 12 08.4	-0.4
N41A	**Harden Midland**	**6.71**	**50**	IAmb_Lg		04 14 06.5	
	comp=Z,34nm,0.7s						
HALT	**Halls**	**6.73**	**93**	IAmb_Lg		04 14 13.6	
	comp=Z,32nm,0.7s						
S44A	**Carbondale**	**6.78**	**78**	Pn	Pn	04 12 13.8	0.0
SIUC	**Southern Illin**	**6.81**	**78**	Pn	Pn	04 12 14.0	-0.3
W45A	**Hickory Valley**	**7.00**	**99**	IAmb_Lg		04 14 20.0	
	comp=Z,26nm,0.8s						
OXF	**Oxford**	**7.01**	**105**	Pn	Pn	04 12 17.0	0.0
OXF				IAmb_Lg		04 14 28.5	
	comp=Z,24nm,0.9s						
ISCO	**Idaho Springs**	**7.06**	**299**	Pn	Pn	04 12 16.5	-1.5
K38A	**Parkersburg**	**7.12**	**30**	IAmb_Lg		04 14 39.3	
	comp=Z,20nm,0.7s						
Y45A	**Yeager Farm, C**	**7.15**	**110**	IAmb_Lg		04 14 40.5	
	comp=Z,23nm,1.0s						
ECSD	**EROS Data Cent**	**7.19**	**6**	Pn	Pn	04 12 19.5	0.0
Q44A	**Meyer Farm, Va**	**7.20**	**69**	Pn	Pn	04 12 18.9	-0.8
L40A	**Anamosa**	**7.39**	**40**	Pn	Pn	04 12 21.9	-0.2
L40A				IAmb_Lg		04 14 38.0	
	comp=Z,14nm,0.8s						
HDIL	**Hopedale**	**7.64**	**56**	Pn	Pn	04 12 25.1	-0.5
PHWY	**Pilot Hill**	**7.71**	**310**	Pn	Pn	04 12 26.7	-0.2
BNM	**Barren Site**	**7.74**	**254**	Pn	Pn	04 12 28.0	+0.6
SUSD	**Miller**	**7.92**	**353**	IAmb_Lg		04 15 01.1	
	comp=Z,16nm,0.7s						
Y22D	**IRIS PASSCAL I**	**8.00**	**254**	IAmb_Lg		04 15 06.2	
	comp=Z,27nm,0.8s						
O44A	**Mansfield**	**8.03**	**61**	IAmb_Lg		04 14 57.9	
	comp=Z,21nm,0.8s						
MNTX	**Cornudas Mount**	**8.06**	**235**	Pn	Pn	04 12 31.0	-0.5
L42A	**Oliver, Polo**	**8.21**	**46**	IAmb_Lg		04 14 59.3	
	comp=Z,18nm,0.8s						
T47A	**Sharon Grove**	**8.45**	**84**	IAmb_Lg		04 15 02.5	
	comp=Z,12nm,0.7s						
JFWS	**Jewell Farm**	**8.50**	**40**	IAmb_Lg		04 15 13.4	
	comp=Z,12nm,0.7s						
M44A	**Midewin, Midew**	**8.87**	**54**	IAmb_Lg		04 15 15.0	
	comp=Z,19nm,0.9s						
X48A	**Hartselle**	**8.88**	**101**	IAmb_Lg		04 15 21.2	
	comp=Z,9.4nm,0.9s						
RSSD	**Black Hills**	**8.98**	**329**	IAmb_Lg		04 15 25.4	
	comp=Z,18nm,1.1s						
RWWY	**Rawlins**	**9.02**	**307**	IAmb_Lg		04 15 40.1	
	comp=Z,17nm,1.1s						
SFIN	**Lafayette**	**9.08**	**62**	IAmb_Lg		04 15 24.1	
	comp=Z,21nm,0.8s						
CLTN	**Cedars of Leba**	**9.13**	**90**	IAmb_Lg		04 15 30.1	
	comp=Z,9.6nm,0.8s						
K22A	**Casper**	**9.15**	**314**	IAmb_Lg		04 15 47.5	
	comp=Z,16nm,1.1s						
WCI	**Wyandotte Cave**	**9.17**	**76**	IAmb_Lg		04 15 23.8	
	comp=Z,17nm,0.9s						
K43A	**Burlington**	**9.42**	**47**	IAmb_Lg		04 15 37.0	
	comp=Z,17nm,0.8s						

*IDC **25** 04:48:57.4±0.5, 13.˚98N×144.˚78E, h184km±3km, mb3.2/7, mb1 3.6/7, mb1mx3.3/40, mbtmp3.7/7, MS3.3/2, Ms1 3.3/2, ms1mx2.8/12, Error ellipse: s-maj=31.0km s-min=16.5km az=98.0*

*NEIC **25** 04:48:58.0±1.2, 14.˚0N±0.˚1×144.˚6E±0.˚2, h184km±6km, mb3.9/6, Error ellipse: s-maj=26.2km s-min=14.0km az=106.0*

ISC 25 04:48:57.6±0.8, 14.˚0N±0.˚1×144.˚5E±0.˚2, h184km, n19, σ1§17/18, mb3.6/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.52**	**138**	P	**Pn**	**04 49 23.8**	**+0.8**
	189nm,0.3s,baz=117,slow=3.1,SNR=82						
GUMO				S	**Sn**	**04 49 42.5**	**+0.1**
	197nm,0.3s,baz=117,slow=23,SNR=25						
GUMO	**Guam**	**0.52**	**138**	Pn	**Pn**	**04 49 23.4**	**+0.5**
GUMO				Sn	**Sn**	**04 49 42.9**	**+0.4**
ANA2	**Anatahan**	**2.62**	**26**	Pn	**Pn**	**04 49 43.0**	**+1.1**
MJAR	**Matsushiro Arr**	**23.16**	**347**	P	**P**	**04 53 47.5**	**-0.3**
	0.8nm,0.4s,baz=181,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**23.16**	**347**	IAmb	IAmb	04 54 04.1	
	comp=Z,6.5nm,1.5s						
WB0	**Warramunga Arr**	**34.98**	**197**	P	**P**	**04 55 32.1**	**-0.4**
WB0				IAmb	IAmb	04 55 56.2	
	comp=Z,3.9nm,1.3s						
WR0	**Warramunga Arr**	**35.13**	**196**	P	**P**	**04 55 33.3**	**-0.4**
WR0				IAmb	IAmb	04 56 01.6	
	comp=Z,6.2nm,1.3s						
WB2	**Warramunga Arr**	**35.16**	**197**	P	**P**	**04 55 34.1**	**+0.1**
WRA	**Warramunga Arr**	**35.17**	**197**	P	**P**	**04 55 34.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=16,slow=8.8,SNR=29						
AS31	**Alice Springs**	**38.83**	**196**	P	**P**	**04 56 03.1**	**-1.8**
ASAR	**Alice Springs**	**38.83**	**196**	P	**P**	**04 56 05.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=14,slow=12,SNR=4.1						
PETK	**Petropavlovsk-**	**40.41**	**12**	LR	LR	05 09 20.3	
	comp=Z,37nm,21.8s,baz=32,slow=30						
SONM	**Songino Array**	**46.21**	**325**	LR	LR	05 17 07.1	
	comp=Z,38nm,20.0s,baz=70,slow=36						
MK31	**Makanchi Array**	**60.97**	**316**	P	**P**	**04 58 51.3**	**-0.1**
MK31				IAmb	IAmb	04 58 53.0	
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**60.97**	**316**	P	**P**	**04 58 52.8**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=92,slow=8.3,SNR=9.6						
ILAR	**Eielson Array**	**68.36**	**25**	P	**P**	**04 59 36.1**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=252,slow=6.2,SNR=4.2						
NVAR	**Mina Array Bea**	**86.95**	**51**	P	**P**	**05 01 22.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=264,slow=5.7,SNR=5.4						
PDAR	**Pinedale Array**	**91.94**	**45**	P	**P**	**05 01 45.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=242,slow=2.5,SNR=3.7						
LPAZ	**La Paz**	**148.42**	**98**	PKPbc	**PKPdf**	**05 08 22.4**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=279,slow=4.8,SNR=4.6						

*TUL **25** 04:49:02.7±1.5, 36.˚16N±0.˚02×96.˚95W±0.˚04, h4km±5km, ML3.0, mb_Lg3.0/84(NEIC), Error ellipse: s-maj=4.6km s-min=2.7km az=93.0*

NEIC 25 04:49:03.0±1.2, 36.˚17N±0.˚02×96.˚97W±0.˚05, h5km±2km, Error ellipse: s-maj=6.2km s-min=3.1km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.21**	**88**		Pg	04 49 07.0	-0.2
OK031	**S. Brethren Rd**	**0.24**	**153**		Pg	04 49 07.4	-0.2
OK029	**Liberty Lake**	**0.54**	**227**		Pg	04 49 13.4	+0.1
BLOK	**Blackwell**	**0.63**	**342**		Pg	04 49 14.7	-0.4
OK025	**Westminster Rd**	**0.65**	**207**		Pg	04 49 15.4	-0.1
BCOK	**Bluff Creek, N**	**0.72**	**226**		Pg	04 49 16.9	0.0
T35A	**Sooner Cattle**	**0.84**	**26**		Pg	04 49 18.7	-0.4
T35B	**Sooner Cattle**	**0.84**	**26**	P		04 49 18.6	
	baz=205,SNR=158						
T35B				S		04 49 30.4	
	baz=205						
OKCSW	**OKLAHOMA CITY**	**0.85**	**207**		Pg	04 49 18.8	-0.4
CROK	**Carrier**	**0.88**	**293**		Pg	04 49 20.1	+0.1
KAN13	**South Haven SW**	**0.94**	**335**		Pb	04 49 21.4	-0.4
FNO	**Franklin**	**0.97**	**201**		Pg	04 49 20.7	-0.9
GC02	**Grant County #**	**0.99**	**314**		Pg	04 49 21.8	-0.1
TUL1	**Leonard**	**0.99**	**104**	P		04 49 20.7	
	baz=285,SNR=143						
TUL1				S		04 49 33.7	
	baz=285						
KAN17	**Caldwell West**	**1.08**	**324**		Pg	04 49 23.5	-0.3
KAN09	**Caldwell North**	**1.10**	**332**	Pg	Pg	04 49 23.2	-0.9
KS20	**Mayfield South**	**1.16**	**336**		Pg	04 49 24.1	-1.1
OK032	**Salt Plains WL**	**1.18**	**303**		Pg	04 49 24.8	-0.9
KAN05	**Bluff City Nor**	**1.19**	**323**	Pg	Pg	04 49 25.7	-0.1
KAN10	**Anthony SW Sta**	**1.31**	**317**		Pn	04 49 27.3	-0.8
KAN08	**Anthony NE Sta**	**1.33**	**323**	Pn	Pn	04 49 27.7	-0.5
U32A	**Winter Ranch,**	**1.65**	**278**		Pn	04 49 33.1	+0.4
U32A	**Winter Ranch,**	**1.65**	**278**	P		04 49 33.5	
	baz=97,SNR=19						
X34A	**Smith Ranch, M**	**1.71**	**204**		Pn	04 49 34.0	+0.5
X37A	**Clayton**	**2.05**	**140**		Pn	04 49 38.9	+0.8
X37A	**Clayton**	**2.05**	**140**	P		04 49 38.7	
	baz=321,SNR=20						
X37A				S		04 50 04.7	
	baz=321						
WMOK	**Wichita Mounta**	**2.05**	**227**		Pn	04 49 38.9	+0.7
WMOK	**Wichita Mounta**	**2.05**	**227**	P		04 49 39.0	
	baz=46,SNR=84						
WMOK				S		04 50 06.4	
	baz=46						
U38A	**Gravette**	**2.11**	**82**		Pn	04 49 39.5	+0.6
U38A	**Gravette**	**2.11**	**82**	P		04 49 39.6	
	baz=263,SNR=66						
LOOK	**Love County**	**2.17**	**185**		Pn	04 49 40.2	+0.4
HHAR	**Hobbs**	**2.46**	**86**		Pn	04 49 44.4	+0.7
R32A	**Long Quarter,**	**2.65**	**329**		Pb	04 49 50.0	-0.9
W39A	**Magazine**	**2.77**	**109**		Pn	04 49 46.8	-1.2
W39A	**Magazine**	**2.77**	**109**	P		04 49 48.1	
	baz=292,SNR=25						
Z35A	**Perchaven, San**	**2.84**	**185**	Pn	Pn	04 49 48.5	-0.4
Z35A	**Perchaven, San**	**2.84**	**185**	P		04 49 49.0	
	baz=5.0,SNR=9.6						
KSU1	**Kansas State U**	**2.94**	**6**	Pn	Pn	04 49 50.6	+0.2
KSU1	**Kansas State U**	**2.94**	**6**	P		04 49 50.4	
	baz=185						
MIAR	**Mount Ida**	**3.21**	**119**		Pn	04 49 54.4	+0.3
MIAR	**Mount Ida**	**3.21**	**119**	P		04 49 54.3	
	baz=301,SNR=29						
Z38A	**Mt. Pleasant**	**3.33**	**150**	IAmb_Lg		04 50 49.7	
	comp=Z,32nm,0.8s						
U40A	**Yellville**	**3.34**	**86**		Pn	04 49 56.1	+0.3
U40A	**Yellville**	**3.34**	**86**	P		04 49 56.0	
	baz=268,SNR=36						
U40A				P		04 49 56.0	
	baz=268,SNR=36						
CBKS	**Cedar Bluff**	**3.44**	**321**	Pn	Pn	04 49 56.5	-0.8
CBKS				IAmb_Lg		04 50 55.6	
	comp=Z,28nm,0.7s						
X40A	**Basin Creek Fa**	**3.78**	**115**		Pn	04 50 01.9	+0.1
X40A	**Basin Creek Fa**	**3.78**	**115**	P		04 50 02.4	
	baz=298,SNR=9.8						
X40A				P		04 50 02.4	
	baz=298,SNR=9.8						
MGMO	**Mountain Grove**	**3.91**	**74**	Pn	Pn	04 50 04.6	+0.8
MGMO				IAmb_Lg		04 51 08.7	
	comp=Z,41nm,0.7s						
WHAR	**Wooly Hollow**	**3.91**	**102**	Pn	Pn	04 50 03.8	+0.1
FCAR	**Ozark Folk Cen**	**3.94**	**93**	Pn	Pn	04 50 03.7	-0.4
FCAR				IAmb_Lg		04 51 12.7	
	comp=Z,24nm,0.7s						
W41B	**Gary Mavity, V**	**3.97**	**103**	P		04 50 04.6	
	baz=286,SNR=28						
WLAR	**White Oak Lake**	**4.02**	**127**	Pn	Pn	04 50 05.1	-0.1
WLAR					Lg	04 51 12.9	
AMTX	**Amarillo**	**4.05**	**253**	Pn	Pn	04 50 05.0	-0.7
AMTX					LR	04 51 09.3	
AMTX				IAmb_Lg		04 51 17.0	
	comp=Z,21nm,0.7s						
ABTX	**Abilene, Hawle**	**4.17**	**213**	Pg	Pb	04 50 17.9	+1.1
ABTX				Sg	Sb	04 51 11.1	+3.7
ABTX				IAmb_Lg		04 51 17.4	
	comp=Z,19nm,1.1s						
WHTX	**Lake Whitney,**	**4.18**	**186**	Pn	Pn	04 50 07.9	+0.5
237A	**Washetta, Mont**	**4.26**	**167**	Pn	Pn	04 50 09.0	+0.4
R40A	**Maddies Statio**	**4.31**	**59**	Pn	Pn	04 50 09.1	-0.2
R40A				IAmb_Lg		04 51 22.5	
	comp=Z,28nm,0.8s						
P38A	**Dawn**	**4.40**	**37**	Pn	Pn	04 50 10.5	+0.1
P38A				IAmb_Lg		04 51 26.8	
	comp=Z,22nm,0.8s						
LCAR	**Lake Charles**	**4.71**	**89**	Pn	Pn	04 50 13.0	-1.8
LCAR					LR	04 51 27.8	
NATX	**Nacogdoches**	**4.80**	**156**	IAmb_Lg		04 51 47.7	
	comp=Z,20nm,1.0s						
N35A	**Tabor**	**4.80**	**12**	Pn	Pn	04 50 15.6	-0.4
N35A					LR	04 51 36.5	
CCM	**Cathedral Cave**	**4.95**	**66**	Pn	Pn	04 50 18.4	+0.3
CCM				IAmb_Lg		04 51 36.5	
	comp=Z,38nm,0.8s						
P40A	**Paris**	**5.14**	**48**	IAmb_Lg		04 51 43.6	
	comp=Z,27nm,0.8s						
HBAR	**Harrisburg**	**5.17**	**95**	IAmb_Lg		04 51 53.3	
	comp=Z,38nm,0.8s						
MSTX	**Muleshoe**	**5.24**	**247**	Pn	Pn	04 50 21.3	-0.7
PBMO	**Poplar Bluff**	**5.31**	**81**	IAmb_Lg		04 52 03.3	
	comp=Z,18nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.31**	**304**	Pn	Pn	04 50 23.7	+0.6
KSCO					LR	04 51 49.4	
BGNE	**Belgrade**	**5.32**	**350**	IAmb_Lg		04 51 58.9	
	comp=Z,24nm,0.7s						
LPAR	**Lepanto**	**5.45**	**94**	IAmb_Lg		04 52 06.5	
	comp=Z,27nm,0.8s						
N38A	**Joes South For**	**5.47**	**31**	IAmb_Lg		04 52 03.5	
	comp=Z,36nm,0.8s						
GNAR	**Gosnell**	**5.64**	**90**	IAmb_Lg		04 52 02.9	
	comp=Z,32nm,0.8s						
L34A	**Svendsen Farm,**	**5.81**	**4**	Pn	Pn	04 50 30.8	+0.9
L34A				IAmb_Lg		04 52 14.9	
	comp=Z,30nm,0.8s						
LNXT	**Lenox**	**6.06**	**88**	IAmb_Lg		04 52 22.9	
	comp=Z,31nm,0.7s						
T25A	**Trinidad**	**6.06**	**281**	Pn	Pn	04 50 33.4	0.0
T25A				IAmb_Lg		04 52 24.0	
	comp=Z,14nm,1.0s						
HENM	**Henderson Moun**	**6.07**	**83**	IAmb_Lg		04 52 15.8	
	comp=Z,36nm,0.7s						
JCT	**Junction City**	**6.14**	**203**	Pn	Pn	04 50 34.1	-0.4
JCT					LR	04 52 16.8	
JCT				IAmb_Lg		04 52 20.2	
	comp=Z,12nm,0.7s						
HALT	**Halls**	**6.19**	**90**	IAmb_Lg		04 52 21.2	
	comp=Z,27nm,0.7s						
OGNE	**Ogallala**	**6.20**	**322**	IAmb_Lg		04 52 31.0	
	comp=Z,16nm,0.8s						
S44A	**Carbondale**	**6.37**	**74**	Pn	Pn	04 50 37.3	-0.2
SIUC	**Southern Illin**	**6.40**	**74**	Pn	Pn	04 50 37.5	-0.4
W45A	**Hickory Valley**	**6.42**	**97**	IAmb_Lg		04 52 25.0	
	comp=Z,23nm,0.9s						
SCIA	**State Center**	**6.44**	**26**	Pn	Pn	04 50 38.8	+0.4
SCIA				IAmb_Lg		04 52 28.9	
	comp=Z,17nm,0.8s						
K31A	**O'Neill**	**6.59**	**348**	IAmb_Lg		04 52 45.4	
	comp=Z,30nm,1.0s						
N41A	**Harden Midland**	**6.61**	**45**	Pn	Pn	04 50 40.3	-0.4
Q44A	**Meyer Farm, Va**	**6.89**	**64**	Pn	Pn	04 50 44.4	-0.2
SDCO	**Great Sand Dun**	**7.01**	**286**		Lg	04 52 45.5	
K38A	**Parkersburg**	**7.24**	**25**	IAmb_Lg		04 53 07.9	
	comp=Z,14nm,0.9s						
L40A	**Anamosa**	**7.39**	**35**	Pn	Pn	04 50 51.1	-0.4
L40A				IAmb_Lg		04 52 57.7	
	comp=Z,11nm,0.8s						
WVT	**Waverly**	**7.40**	**88**		Lg	04 52 54.0	
HDIL	**Hopedale**	**7.46**	**52**	Pn	Pn	04 50 52.2	-0.2
OLIL	**Olney**	**7.51**	**67**		LR	04 52 55.7	
ECSD	**EROS Data Cent**	**7.56**	**2**	Pn	Pn	04 50 53.8	-0.2
ECSD					LR	04 53 03.2	
USIN	**University of**	**7.66**	**74**	IAmb_Lg		04 53 16.4	
	comp=Z,22nm,0.8s						
ISCO	**Idaho Springs**	**7.73**	**301**	Pn	Pn	04 50 55.8	-0.6
ISCO					LR	04 53 07.5	
ANMO	**Albuquerque**	**7.82**	**264**		Lg	04 53 18.4	
T47A	**Sharon Grove**	**7.98**	**81**	IAmb_Lg		04 53 25.6	
	comp=Z,15nm,0.9s						
L42A	**Oliver, Polo**	**8.14**	**42**	IAmb_Lg		04 53 21.4	
	comp=Z,24nm,0.9s						
MNTX	**Cornudas Mount**	**8.28**	**240**		LR	04 53 22.1	
I37A	**Lemond, Waseca**	**8.30**	**18**	Pg	Pg	04 51 35.2	-6.7
JFWS	**Jewell Farm**	**8.51**	**36**		Lg	04 53 29.6	
JFWS				IAmb_Lg		04 53 34.7	
	comp=Z,12nm,0.8s						
M44A	**Midewin, Midew**	**8.71**	**51**	IAmb_Lg		04 53 35.2	
	comp=Z,18nm,1.0s						
WCI	**Wyandotte Cave**	**8.77**	**73**		LR	04 53 34.7	
WCI				IAmb_Lg		04 53 39.4	
	comp=Z,14nm,0.7s						
SFIN	**Lafayette**	**8.83**	**59**	IAmb_Lg		04 53 42.2	
	comp=Z,14nm,0.7s						
TXAR	**Lajitas Array**	**8.84**	**221**		Lg	04 53 43.1	
TX32	**Lajitas Array**	**8.84**	**221**		Lg	04 53 42.5	
W50A	**Signal Mountai**	**9.54**	**92**	IAmb_Lg		04 54 13.6	
	comp=Z,8.1nm,0.8s						
R49A	**Shelbyville**	**9.65**	**74**	IAmb_Lg		04 54 15.5	
	comp=Z,11nm,1.1s						
K22A	**Casper**	**9.82**	**314**	IAmb_Lg		04 54 39.4	
	comp=Z,6.1nm,0.8s						
I42A	**Draeger Farm,**	**9.88**	**36**	IAmb_Lg		04 54 15.8	
	comp=Z,18nm,1.3s						
N47A	**Urbana**	**10.01**	**59**	IAmb_Lg		04 54 19.8	
	comp=Z,16nm,0.9s						

*MAN **25** 05:02:54.9, 13.˚64N×120.˚77E, h142km, mb4.2, ML3.0, MS2.7*

*IDC **25** 05:02:59.3±11.0, 13.˚68N×121.˚29E, h219km±121km, mb3.2/6, mb1 3.3/7, mb1mx3.0/40, mbtmp3.8/7, Error ellipse: s-maj=99.7km s-min=14.9km az=65.0*

ISC 25 05:02:53.8±0.9, 13.˚52N±0.˚10×120.˚6E±0.˚2, h157km±9km, n11, σ1§07/13, mb3.5/6, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.33**	**93⇑**	*e*P	**Pn**	**05 03 15.5**	**+0.3**
PGP				*i* S	**Sn**	**05 03 30.3**	**-1.3**
TGY	**Tagaytay City**	**0.66**	**28⇑**	*e*P	**Pn**	**05 03 16.6**	**-0.3**
LQP	**Lukban**	**1.07**	**57⇑**	*i*P	**Pn**	**05 03 20.5**	**+0.5**
LQP				*i* S	**Sn**	**05 03 41.1**	**+0.9**
PCPH	**Palayan**	**2.08**	**13⇓**	*e*P	**Pn**	**05 03 30.0**	**-0.3**
KAPI	**Kappang**	**18.43**	**183**	P	**Pn**	**05 07 01.0**	**+1.6**
	0.8nm,0.3s,baz=51,slow=13,SNR=4.5						
WRA	**Warramunga Arr**	**35.89**	**158**	P	**P**	**05 09 37.6**	**-1.3**
	1.1nm,0.7s,baz=326,slow=

URZ Urewera 22.55 195 P P 05 24 26.8 -0.6
5.3nm,0.6s,baz=60,slow=8.1,SNR=3.0
WRA Warramunga Arr 47.59 258 P P 05 27 57.2 -1.3
1.1nm,0.7s,baz=94,slow=6.4,SNR=22
ASAR Alice Springs 47.80 253 P P 05 27 59.4 -0.8
3.7nm,0.8s,baz=86,slow=8.0,SNR=39
PETK Petropavlovsk- 73.14 344 P P 05 30 47.7 -1.5
2.0nm,0.7s,baz=153,slow=10.0,SNR=4.7
ILAR Eielson Array 84.00 12 P P 05 31 47.8 +0.1
0.8nm,0.6s,baz=211,slow=7.0,SNR=7.1
BRTR Keskin Array B 145.72 318 PKPbc PKPbc 05 38 55.5 +0.3
2.5nm,0.8s,baz=97,slow=3.3,SNR=8.6

*IDC **25** 05:28:15.0±10.0, 35°.84N×70°.77E, h75km±122km, mb3.2/3, mb1 3.4/5, mb1mx3.1/40, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=95.0km s-min=36.7km az=122.0*
*NNC **25** 05:28:22.5±5.4, 36°.70N×69°.82E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=47.4km s-min=41.7km az=121.0*
ISC 25 05:28:27.9±1.5, 36°.7N±0°.1×70°.7E±0°.2, h200km, n9, σ2§58/11, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.40	359	⇓P	Pn	05 29 57.9	-2.4
	3.6nm,0.5s,baz=193,slow=17,SNR=32						
KK31				⇓S	Sn	05 31 13.2	-0.3
	2.3nm,0.3s,baz=199,slow=16,SNR=9.6						
GEYT	Alibeck	10.12	281	P	Pn	05 30 40.4	-8.2
	0.9nm,0.3s,baz=141,slow=9.3,SNR=5.1						
AB31	Akbulak array	14.80	331	⇑P	P	05 31 48.3	-0.1
	1.6nm,0.3s,baz=162,slow=12,SNR=85						
AB31				S	Sn	05 34 31.6	-1.4
	1.7nm,0.6s,baz=155,slow=23,SNR=4.9						
KURBB	Kurchatov Arra	15.01	20	P	P	05 31 54.6	+3.9
	0.0nm,0.3s,baz=204,slow=10,SNR=4.6						
AKTO	Aktyubinsk	16.50	330	P	Pn	05 32 11.3	+3.3
	0.4nm,0.3s,baz=126,slow=14,SNR=9.8						
AKTO	Aktyubinsk	16.50	330	⇓P	Pn	05 32 11.2	+3.3
	3.9nm,0.8s						
AKTO				⇑S	Sn	05 35 11.2	-2.2
	2.0nm,0.7s						
ZALV	Zalesovo Beam	19.83	25	P	Pn	05 32 47.0	-0.4
	0.8nm,0.4s,baz=210,slow=12,SNR=4.9						
WRA	Warramunga Arr	82.29	122	P	P	05 40 26.2	-1.0
	0.2nm,0.4s,baz=323,slow=5.0,SNR=11						
ASAR	Alice Springs	84.55	125	P	P	05 40 37.1	-1.5
	0.3nm,0.5s,baz=303,slow=5.4,SNR=1.9						

*TUL **25** 05:41:57.4±1.0, 36°.52N±0°.04×99°.00W±0°.05, h5km±7km, ML2.6, mb_Lg1.9/11(NEIC), Error ellipse: s-maj=7.6km s-min=4.0km az=133.0*
NEIC 25 05:41:56.9±0.3, 36°.54N±0°.05×99°.04W±0°.02, h7km±7km, Error ellipse: s-maj=7.4km s-min=2.3km az=173.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.16	170		Pg	05 42 01.0	+0.8
CROK	Carrier	0.85	92		Pg	05 42 13.2	0.0
GC02	Grant County #	1.00	71		Pg	05 42 16.0	-0.1
GC02				Sg	Sg	05 42 28.9	-0.1
KAN17	Caldwell West	1.14	63	Pg	Pg	05 42 18.1	-0.7
KAN09	Caldwell North	1.28	62	Pg	Pn	05 42 21.2	-0.1
KAN13	South Haven SW	1.34	69	Pn	Pn	05 42 21.9	-0.1
KS20	Mayfield South	1.38	59	IAmb_Lg		05 42 40.0	
	comp=Z,4.0nm,0.7s						
BCOK	Bluff Creek, N	1.45	127		Pn	05 42 23.6	+0.1
BLOK	Blackwell	1.48	81		Pb	05 42 24.6	-0.2
OK025	Westminster Rd	1.67	124	Pn	Pn	05 42 26.5	-0.1
WMOK	Wichita Mounta	1.81	173	Pn	Pn	05 42 28.7	+0.2
R32A	Long Quarter,	1.90	8	IAmb_Lg		05 42 57.1	
	comp=Z,2.6nm,0.8s						
T35A	Sooner Cattle	2.06	79		Pn	05 42 33.0	+1.0
T35A				IAmb_Lg		05 43 00.4	
	comp=Z,2.8nm,0.8s						
AMTX	Amarillo	2.71	233	IAmb_Lg		05 43 24.3	
	comp=Z,7.7nm,0.8s						
KSCO	Kaye Shedlock'	3.77	312	IAmb_Lg		05 44 07.7	
	comp=Z,6.7nm,0.8s						
HHAR	Hobbs	4.12	92	IAmb_Lg		05 44 15.6	
	comp=Z,3.1nm,0.7s						
T25A	Trinidad	4.35	280	IAmb_Lg		05 44 18.7	
	comp=Z,4.7nm,0.8s						

IDC 25 05:55:41.2±2.4, 7°.41S×128°.13E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.6/23, mbtmp3.9/3, ML4.2/2, Error ellipse: s-maj=290.0km s-min=31.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.84	155	Pn	Pn	05 58 56.9	-2.0
	1.2nm,0.3s,baz=331,slow=13,SNR=56						
WRA				Sn	Sn	06 01 20.2	-13
	1.0nm,0.3s,baz=336,slow=21,SNR=9.5						
ASAR	Alice Springs	17.09	162	Pn	P	05 59 43.5	-0.2
	0.7nm,0.3s,baz=340,slow=8.9,SNR=20						
ASAR				Sn	Sn	06 02 43.1	-9.5
	0.1nm,0.3s,baz=348,slow=26,SNR=2.5						
MKAR	Makanchi Array	67.56	328	P	P	06 06 39.5	0.0
	0.3nm,0.3s,baz=113,slow=8.3,SNR=6.4						

*TUL **25** 06:48:21.8±1.4, 36°.12N±0°.01×97°.04W±0°.02, h1km±7km, ML2.1, mb_Lg1.8/6(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=111.0*
NEIC 25 06:48:21.8±0.9, 36°.13N±0°.01×97°.07W±0°.02, h4km±7km, Error ellipse: s-maj=2.2km s-min=1.0km az=130.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	S. Brethren Rd	0.26	134	Pg	Pg	06 48 26.8	0.0
OK031				Sg	Sg	06 48 30.4	+0.2
QUOK	Quay	0.29	83	Pg	Pg	06 48 27.7	+0.2
QUOK				Sg	Sg	06 48 31.5	+0.2
OK029	Liberty Lake	0.46	223		Pg	06 48 30.9	+0.3
OK025	Westminster Rd	0.59	202	Pg	Pg	06 48 33.3	+0.1
BLOK	Blackwell	0.64	349	Pg	Pg	06 48 34.3	+0.2
BLOK				Sg	Sg	06 48 43.3	+1.0
BCOK	Bluff Creek, N	0.65	223		Pg	06 48 34.3	+0.1
BCOK				IAmb_Lg		06 48 43.1	
	comp=Z,13nm,0.8s						
BCOK				Sg	Sg	06 48 43.5	+0.8
OKCSW	OKLAHOMA CITY	0.79	203	Pg	Pg	06 48 36.5	-0.4
CROK	Carrier	0.83	297	Pg	Pg	06 48 38.0	+0.3
T35A	Sooner Cattle	0.90	30		Pg	06 48 38.9	-0.2
FNO	Franklin	0.92	197		Pg	06 48 38.6	-0.8
KAN13	South Haven SW	0.94	339	Pg	Pg	06 48 39.5	-0.3
KAN13				Sg	Sg	06 48 52.6	+0.6
GC02	Grant County #	0.96	319	Pg	Pg	06 48 40.2	0.0
KAN09	Caldwell North	1.09	336	Pg	Pg	06 48 42.8	0.0
KAN09				Sg	Sg	06 48 57.2	+0.2
KS20	Mayfield South	1.16	340	Pg	Pg	06 48 43.9	-0.2
KAN10	Anthony SW Sta	1.29	320	Pn	Pg	06 48 46.3	-0.2
X34A	Smith Ranch, M	1.65	202	Pn	Pn	06 48 51.5	-0.1
WMOK	Wichita Mounta	1.98	226	Pn	Pn	06 48 56.9	+0.9
WMOK				IAmb_Lg		06 49 26.3	
	comp=Z,4.3nm,0.9s						
X37A	Clayton	2.07	138	Pn	Pn	06 48 57.9	+0.5
MIAR	Mount Ida	3.26	118	Pn	Pn	06 49 14.4	+0.7
CBKS	Cedar Bluff	3.42	322	IAmb_Lg		06 50 12.6	
	comp=Z,5.6nm,0.9s						
WLAR	White Oak Lake	4.06	126	Pn	Pn	06 49 25.1	+0.4

*MAN **25** 06:56:02.5, 17°.95N×119°.44E, h87km, mb4.4, ML3.3, MS3.1*
*IDC **25** 06:56:04.0±1.1, 17°.61N×120°.26E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.6/46, mbtmp4.0/5, Error ellipse: s-maj=69.7km s-min=20.3km az=74.0*
ISC 25 06:56:09.1±1.1, 17°.6N±0°.1×120°.1E±0°.2, h35km, n6, σ1§11/6, mb3.8/5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.53	45	⇓*i*P	Pn	06 56 20.6	+0.4
KLR	Kul'dur	32.99	14	P	P	07 02 39.5	-1.1
	0.4nm,0.5s,baz=185,slow=12,SNR=2.8						
WRA	Warramunga Arr	39.81	159	P	P	07 03 38.6	-0.4
	1.3nm,0.7s,baz=340,slow=9.1,SNR=11						
ASAR	Alice Springs	43.14	161	P	P	07 04 06.5	+0.2
	0.8nm,0.6s,baz=344,slow=7.1,SNR=13						
KURBB	Kurchatov Arra	46.69	325	P	P	07 04 33.9	-0.5
	3.7nm,0.2s,baz=124,slow=8.4,SNR=4.0						
ARCES	ARCESS Array B	75.29	339	P	P	07 07 49.6	+1.4
	1.7nm,1.0s,baz=94,slow=8.2,SNR=4.0						

*IDC **25** 07:26:03.5±3.9, 11°.07S×163°.28E, h68km±27km, mb3.5/3, mb1 3.7/6, mb1mx3.4/42, mbtmp3.9/6, MS3.3/5, Ms1 3.3/5, ms1mx3.0/24, Error ellipse: s-maj=47.5km s-min=21.3km az=50.0*
ISC 25 07:25:58.2±2.2, 11°.2S±0°.2×163°.5E±0°.2, h31km, n14, σ1§09/7, mb3.7/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.93	296	P	Pn	07 26 56.4	0.0
	24nm,0.3s,baz=253,slow=4.1,SNR=5.3						
HNR				S	Sn	07 27 40.8	-0.8
	40nm,0.3s,baz=151,slow=19,SNR=1.4						
HNR				LR	LR	07 28 30.4	
	comp=Z,408nm,18.5s,baz=118,slow=40						
DZM	Mont Dzumac	11.20	166	P	Pn	07 28 43.2	+6.9
	0.4nm,0.3s,baz=127,slow=8.3,SNR=16						
DZM				S	Sn	07 30 40.0	-0.6
	0.1nm,0.3s,baz=135,slow=20,SNR=1.5						
DZM				LR	LR	07 32 19.0	
	comp=Z,103nm,18.0s,baz=42,slow=33						
PMG	Port Moresby	16.22	275	LR	LR	07 35 22.5	
	comp=Z,148nm,18.3s,baz=132,slow=35						
CTA	Charters Tower	18.86	240	P	Pn	07 30 18.3	+1.7
	0.2nm,0.3s,baz=69,slow=15,SNR=2.2						
WRA	Warramunga Arr	29.42	249	P	P	07 31 58.6	-0.6
	0.5nm,0.5s,baz=78,slow=9.1,SNR=12						
WRA				LR	LR	07 44 22.9	
	comp=Z,60nm,18.1s,baz=95,slow=38						
H11S2	WAKE ISLAND Hy	29.62	6	T	T	08 03 00.3	
	baz=188,slow=76,SNR=25						
H11S3	WAKE ISLAND Hy	29.63	6	T	T	08 03 01.6	
	baz=188,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	29.64	6	T	T	08 03 02.4	
	baz=188,slow=76,SNR=17						
GUMO	Guam	30.79	323	LR	LR	07 45 54.2	
	comp=Z,36nm,18.6s,baz=162,slow=39						
ASAR	Alice Springs	30.82	242	P	P	07 32 10.9	-0.6
	0.7nm,0.5s,baz=64,slow=10,SNR=19						
H11N1	WAKE ISLAND Hy	30.85	6	T	T	08 04 29.1	
	baz=188,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	30.86	6	T	T	08 04 34.1	
	baz=188,slow=76,SNR=19						
H11N2	WAKE ISLAND Hy	30.87	6	T	T	08 04 31.7	
	baz=188,slow=76,SNR=23						
MKAR	Makanchi Array	92.13	317	P	P	07 39 05.0	+0.3
	0.4nm,0.7s,baz=90,slow=5.4,SNR=4.0						

*IDC **25** 07:33:11.8±0.9, 0°.87S×121°.55E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/55, mbtmp4.0/8, ML4.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/31, Error ellipse: s-maj=51.7km s-min=16.9km az=66.0*
*DJA **25** 07:33:14.0±0.2, 1°S±2°×12°1E±°, h10km, M4.1/14, mb4.2/3, MLv4.1/14*
ISC 25 07:33:13.8±1.4, 0°.98S±0°.05×121°.47E±0°.06, h12km±10km, n21, σ0§98/24, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.19	69	P	Pg	07 33 18.0	0.0
LUWI	Luwuk	1.30	93	P	Pg	07 33 38.5	-0.3
MRSI	Marisa	1.52	18	P	Pb	07 33 41.3	-0.6
MRSI				S	Sg	07 34 03.2	+0.4
MPSI	Mapaga	2.05	310	P	Pn	07 33 47.1	-0.9
MPSI				S	Sn	07 34 14.8	+1.3
GTOI	Gorontalo	2.22	44	P	Pn	07 33 51.0	+0.6
TTSI	Tana Toraja	2.64	219	P	Pn	07 33 57.1	+0.9
TTSI				S	Sn	07 34 29.9	+1.8
KMSI	Cibinong	2.94	58	P	Pn	07 34 00.9	+0.5
BNSI	Bone	3.67	202	P	Pn	07 34 11.2	+0.9
KAPI	Kappang	4.36	203	Pn	Pn	07 34 21.0	+1.0
	8.3nm,0.3s,baz=61,slow=3.2,SNR=16						
KAPI				Sn	Sn	07 35 09.2	-1.5
	1.4nm,0.3s,baz=18,slow=19,SNR=1.3						
KAPI				LR	LR	07 35 48.1	
	comp=Z,97nm,18.3s,baz=80,slow=35						
BKSI	Bulukumba	4.52	197	P	Pn	07 34 23.1	+1.0
SANI	Sanana	4.64	103	P	Pn	07 34 24.2	+0.5
BSSI	Bau Bau, Buton	5.22	191	P	Pn	07 34 32.5	+0.7
	0.2nm23nm,0.6s						
EDFI	Ende, Flores	7.72	178	P	Pn	07 35 05.3	-1.0
WRA	Warramunga Arr	22.67	147	P	P	07 38 15.4	+0.1
	3.5nm,0.9s,baz=334,slow=9.7,SNR=25						
ASAR	Alice Springs	25.57	153	P	P	07 38 43.6	+0.7
	1.4nm,0.8s,baz=319,slow=7.9,SNR=9.6						
CMAR	Chiang Mai Arr	29.39	312	P	P	07 39 17.6	+0.3
	0.5nm,0.3s,baz=155,slow=6.7,SNR=5.2						
CMAR				LR	LR	07 52 35.0	
	comp=Z,12nm,18.4s,baz=135,slow=40						
KSRS	Korea Array	38.70	8	LR	LR	07 57 47.6	
	comp=Z,24nm,18.2s,baz=160,slow=38						
SONM	Songino Array	50.36	347	P	P	07 42 10.9	+0.1
	1.3nm,0.8s,baz=173,slow=8.9,SNR=6.7						
MKAR	Makanchi Array	58.66	329	P	P	07 43 10.6	-0.5
	1.1nm,0.6s,baz=134,slow=7.3,SNR=10						
ZALV	Zalesovo Beam	62.58	337	P	P	07 43 36.0	-1.7
	0.7nm,0.2s,baz=122,slow=5.4,SNR=4.5						
KURBB	Kurchatov Arra	63.05	331	P	P	07 43 39.9	-1.0
	1.8nm,0.8s,baz=127,slow=6.0,SNR=8.6						

*MOS **25** 07:34:07.9±1.2, 8°.33S×75°.48W, h116km, mb5.3/13, Error ellipse: s-maj=11.6km s-min=6.5km az=104.9*
*IDC **25** 07:34:08.7±0.4, 8°.40S×75°.61W, h116km±3km, mb4.5/24, mb1 4.7/32, mb1mx4.6/46, mbtmp5.0/32, MS3.6/7, Ms1 3.7/7, ms1mx3.2/35, Error ellipse: s-maj=9.2km s-min=6.8km az=64.0*
*NEIC **25** 07:34:09.4±2.1, 8°.41S±0°.06×75°.57W±0°.07, h117km±4km, Error ellipse: s-maj=10.0km s-min=8.2km az=89.0*
*ARE **25** 07:34:09±2.4, 8°.37S±0°.06×75°.71W±0°.07, h126km±2km, ML5.0, mb5.2/104(NEIC), Error ellipse: s-maj=9.6km s-min=8.0km az=72.0*
*BJI **25** 07:34:10.0±0.0, 8°.40S×75°.50W, h116km, mB5.0/13*
*VAO **25** 07:34:11.1±0.6, 8°.40S×75°.42W, h128km±4km, mb5.3*
*GCMT **25** 07:34:13.0±0.2, 8°.29S±0°.01×75°.50W±0°.02, h127km±2km, MW5.0/113, Moment Tensor Solution. s61,c69; s113,c156; Duration: 0 Moment tensor: Scale 1016Nm; M_{rr}=3.22±.10; $M_{\theta\theta}$-1.55±.11; $M_{\phi\phi}$4.77±.13; $M_{r\theta}$-1.94±.07; $M_{\theta\phi}$0.57±.12; $M_{r\phi}$0.23±.10; Best double couple: M_0=4.67300×10^16 NP1:φ=34.00000°, δ54.00000°, λ-46.00000°. NP2:φ=156.00000°, δ54.00000°, λ-133.00000°. Principal axes: T 4.8210, Plg0.0000°, Azm275.0000°; N -0.2960, Plg34.0000°, Azm185.0000°; P -4.5240, Plg56.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 07:34:09.0±0.4, 8°.38S±0°.04×75°.59W±0°.05, h119km±3km, h120km:pP-P, n673, σ0§91/679, mb5.1/91, 8C-23D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	2.93	77	*e*P	Pn	07 34 55.9	+1.6
ATAH	Atahualpa	3.04	294	P	Pn	07 34 56.3	+0.1
	404nm,0.3s,baz=65,slow=3.6,SNR=1330						
ATAH				S	Sn	07 35 32.8	+0.2
	258nm,0.3s,baz=272,slow=22,SNR=12						
NNA	Nana	3.79	199	P	Pn	07 35 05.7	-0.1
	88nm,0.3s,baz=0.4,slow=8.2,SNR=128						
NNA				S	Sn	07 35 46.7	-3.1
	2μm,0.3s,baz=256,slow=18,SNR=20						
TBTG	Tabatinga, AM	7.01	54	*e*P	Pn	07 35 50.2	+1.1
PTLC	Puerto Leguiza	8.53	5	*e*P	Pn	07 36 03.6	-6.1
OTAV	Otavalo	9.02	341	P	Pn	07 36 18.0	+1.2
OTAV	Otavalo	9.02	341	Pn	Pn	07 36 18.0	+1.2
OTAV	Otavalo	9.02	341	*e*P	Pn	07 36 18.0	+1.2
OTAV	Otavalo	9.02	341	*e*P	Pn	07 36 18.1	+1.2
CUSE	Cuicocha Este	9.07	342	*e*P	Pn	07 36 17.0	-0.4
PAC1	Pacto, Paraso	9.16	339	*e*P	Pn	07 36 18.9	+0.6
TULM	Tulcn-Chalpat	9.30	346	*e*P	Pn	07 36 21.8	+1.3
CPAS1	Pasto	9.66	350	*e*P	Pn	07 36 26.6	+1.3
CPAS2	Pasto	9.68	350	*e*P	Pn	07 36 25.6	+0.1
GCUF	Volcan Galeras	9.70	350	*e*P	Pn	07 36 25.6	-0.3
CCUFI	Cufio, Nario	9.70	350	*e*P	Pn	07 36 27.6	+1.6
CRUC	La Cruz	9.97	352	*e*P	Pn	07 36 27.6	-2.0
PTGL	Punta Galera	10.12	334	*e*P	Pn	07 36 31.4	+0.2
BBAC	Balboa, Cauca	10.46	351	*e*P	Pn	07 36 36.2	+0.2
SOTA	Rioblanco	10.49	354	*e*P	Pn	07 36 36.2	-0.5
GARC	Garzon, Huila	10.50	1	*e*P	Pn	07 36 34.2	-2.2
MACC	Macarena, Meta	10.60	9	*e*P	Pn	07 36 36.2	-1.5
MACC	Macarena, Meta	10.60	9	*e*P	Pn	07 36 35.2	-2.4
PCON	Cinco Dias	10.67	356	*e*P	Pn	07 36 40.9	+1.9
LPAZ	La Paz	10.71	138	P	Pn	07 36 39.5	-0.2
	3.2nm,0.3s,baz=340,slow=6.5,SNR=82						
LPAZ				LR	LR	07 41 10.2	
	comp=Z,512nm,18.2s,baz=324,slow=39						
LPAZ	La Paz	10.71	138	Pn	Pn	07 36 39.4	-0.3
LPAZ	La Paz	10.71	138	*e*P	Pn	07 36 39.0	-0.7
LPAZ	La Paz	10.71	138	*e*P	Pn	07 36 39.7	0.0
POPC	Popayan, Colom	10.90	354	*e*P	Pn	07 36 34.2	-7.7
BETC	Betania	10.99	1	*e*P	Pn	07 36 44.8	+1.9
MARP	Paez Belalcaza	11.15	358	*e*P	Pn	07 36 45.7	+0.4
GUVC	San Jose del G	11.25	15	*e*P	Pn	07 36 44.8	-1.5
MNMC	Minye Minye	12.17	152		Pn	07 36 57.5	-1.2
ORTC	Ortega, Tolima	12.21	2	*e*P	Pn	07 37 00.1	+1.0
SAML	Samuel	12.28	94	P	Pn	07 36 57.0	-2.9
SAML	Samuel	12.28	94		Pn	07 36 57.0	-2.9
YOTC	Yotoco, Valle	12.30	356	*e*P	Pn	07 37 01.0	+0.7
PSGCX	Pisagua	12.34	155	Pn	Pn	07 36 58.1	-2.8
PB11	IPOC Station P	12.69	154		Pn	07 37 03.7	-1.7
ANIL	Santa Ana	12.79	1	*e*P	Pn	07 37 08.7	+1.9
TOLC	Tolima	12.88	1	*e*P	P	07 37 13.5	-0.8
CHIC	Chingaza	13.05	8	*e*P	Pn	07 37 11.6	+1.1
ROSC	El Rosal	13.19	6	P	Pn	07 37 11.9	-0.3
	3.7nm,0.3s,baz=72,slow=20,SNR=2.1						
ROSC				LR	LR	07 43 30.9	
	comp=Z,161nm,18.1s,baz=66,slow=42						
ROSC	El Rosal	13.19	6	P	Pn	07 37 14.6	+2.4
ROSC	El Rosal	13.19	6	*e*P	P	07 37 23.0	+5.3
TA01	Diego Aracena	13.19	157	Pn	Pn	07 37 12.0	+0.3
PLMC	San Jos del P	13.21	357	*e*P	Pn	07 37 14.4	+2.2
PB08	IPOC Station P	13.25	153		Pn	07 37 11.8	-1.1
GUY2C	Guyana, Caldas	13.52	1	*e*P	P	07 37 19.2	-2.2
NORC	Norcasia	13.87	3	*e*P	P	07 37 25.9	+1.0
PB01	IPOC Station P	13.90	156		Pn	07 37 20.7	-0.3
PB07	IPOC Station P	14.36	158		Pn	07 37 27.8	+0.8
RUSC	La Rusia	14.40	10	*e*P	Pn	07 37 28.8	+1.0
HELC	Santa Helena	14.47	0	*e*P	P	07 37 30.7	-1.3
SOLC	Bahia Solano	14.62	353	*e*P	P	07 37 32.6	-0.6
PB04	IPOC Station P	14.83	160		Pn	07 37 33.9	+1.0
BARC	Barichara	15.06	9	*e*P	P	07 37 40.3	+1.9
DBBC	Dabeiba	15.31	358	*e*P	P	07 37 43.1	+2.2
PB06	IPOC Station P	15.37	159		Pn	07 37 38.5	-1.1
LVC	Limon Verde	15.54	156	P	Pn	07 37 42.1	+0.2
	1.2nm,0.3s,baz=315,slow=6.2,SNR=18						
LVC	Limon Verde	15.54	156	P	Pn	07 37 42.4	+0.5
LVC				pmax	pmax		
	comp=Z,72nm,1.1s						
LVC	Limon Verde	15.54	156	P	Pn	07 37 42.4	+0.5
LVC	Limon Verde	15.54	156	*e*P	Pn	07 37 42.4	+0.5
PTAC	Punta Ardita,	15.58	352	*e*P	P	07 37 43.1	-0.7
ZARC	Zaragoza, Cauc	15.78	3	*e*P	P	07 37 46.0	-0.1
VILB	Vilhena	15.79	108	*e*P	Pn	07 37 43.9	-0.9
PB15	IPOC Station P	15.87	159	P	Pn	07 37 46.1	+0.2
UREC	San Jos de Ur	16.02	0	*e*P	P	07 37 50.8	+2.0
SIV	San Ignacio	16.07	119	P	Pn	07 37 47.3	-0.9
	comp=Z,7.9nm,0.3s,baz=295,slow=11,SNR=256						
CACAO	El Cacao, Vera	16.48	341	*e*P	Pn	07 37 52.7	-0.6
PAYG	Puerto Ayora	16.52	297		Pn	07 37 53.8	-0.1
PAYG				IAmb	IAmb	07 38 38.3	
	comp=Z,134nm,1.4s						
OCAC	Ocana	16.66	8	*e*P	Pn	07 37 55.6	-0.1
UPD2	Meteti	16.99	352	*e*P	P	07 37 59.4	0.0
MOTC	Monteria, Cord	17.05	360	*e*P	Pn	07 38 01.3	+1.2
SMLC	San Martn de	17.13	5	*e*P	P	07 37 59.4	-1.6
PTGA	Pitinga	17.32	65	P	P	07 38 02.3	-0.8
	comp=Z,9.9nm,0.3s,baz=254,slow=15,SNR=55						
PTGA	Pitinga	17.32	65	P	P	07 38 01.8	-1.2
PTGA				IAmb	IAmb	07 38 19.6	
	comp=Z,91nm,0.6s						
PTGA	Pitinga	17.32	65	*e*P	P	07 38 02.1	-1.0
PTLB	Pontes e Lacer	17.55	115	*e*P	P	07 38 05.5	-0.2
GO02	Mina Guanaco	17.64	162	P	P	07 38 06.2	-0.7
UPA	Univ. de Panam	17.69	347	*e*P	Pn	07 38 08.0	+0.1
SDV	Santo Domingo	17.85	16	P	Pn	07 38 10.5	+0.5
	comp=Z,15nm,0.3s,baz=198,slow=10,SNR=13						
SDV	Santo Domingo	17.85	16	P	Pn	07 38 10.0	-0.1
SDV	Santo Domingo	17.85	16	*e*P	Pn	07 38 09.9	-0.1
SDV	Santo Domingo	17.85	16	*e*P	Pn	07 38 10.6	+0.5
BCIP	Isla Barro Col	17.94	346	P	Pn	07 38 11.6	+0.7
BCIP				pmax	pmax		
	comp=Z,229nm,1.5s						
BCIP	Isla Barro Col	17.94	346	P	Pn	07 38 11.6	+0.7
BCIP				IAmb	IAmb	07 38 51.4	
	comp=Z,229nm,1.5s						
BCIP	Isla Barro Col	17.94	346	*e*P	P	07 38 07.1	-2.8
SJCC	San Jacinto, C	18.16	1	P	Pn	07 38 13.8	+0.2
SJCC	San Jacinto, C	18.16	1	*e*P	Pn	07 38 14.7	+1.1
BOAV	Boa Vista	18.45	55	*e*P	P	07 38 16.0	+0.6
DRK0	Durika	19.11	336	P	Pn	07 38 24.3	-

ARAG Araguaiana, MT 24.35 110 eP P 07 39 16.4 +0.4
AUSP Uspallata 24.41 167 i P P 07 39 17.6 +0.8
MCPB Macapa, AP 24.76 72 eP P 07 39 19.8 0.0
CPUP Villa Florida 24.89 138 P P 07 39 20.9 +0.1
comp=Z,15nm,0.9s,baz=317,slow=10,SNR=16
CPUP Villa Florida 24.89 138 P P 07 39 20.2 -0.6
CPUP pmax pmax
comp=Z,21nm,0.8s
CPUP Villa Florida 24.89 138 P P 07 39 20.2 -0.6
CPUP Villa Florida 24.89 138 eP P 07 39 20.9 +0.1
ASAL Salagasta 24.89 166 i P P 07 39 23.4 +2.5
ARCO CERRO ARCO 25.11 167 i P P 07 39 26.0 +3.0
TGUH Tegucigalpa,Un 25.13 332 P P 07 39 23.6 +0.5
MT05 Renca 25.29 170 P P 07 39 25.6 +1.2
MT05 IAmb IAmb 07 39 53.4
comp=Z,71nm,1.0s
MRA San Martin 25.61 160 i P P 07 39 27.1 -0.4
PRPB Parauapebas 25.66 87 eP P 07 39 27.4 -0.6
TRCB Terra Rica 26.29 126 P P 07 39 32.6 -1.0
TRCB IAmb IAmb 07 39 36.6
comp=Z,57nm,0.7s
TRCB Terra Rica 26.29 126 eP P 07 39 33.7 +0.1
MTO3 Montecristo 26.44 329 P P 07 39 35.7 +0.6
MTO3 IAmb IAmb 07 39 37.3
comp=Z,45nm,1.0s
MDP Montagnes des 26.51 60 P P 07 39 35.6 0.0
comp=Z,13nm,0.4s,baz=231,slow=8.2,SNR=29
ESQI Esquipulas 26.56 329 P P 07 39 35.6 -0.5
ESQI IAmb IAmb 07 39 42.9
comp=Z,65nm,1.1s
PCMB Pacaembu 26.87 122 eP P 07 39 38.5 -0.3
ITRB Iturama 26.89 117 eP P 07 39 38.8 -0.2
PEXB Peixe 27.10 100 eP P 07 39 41.4 +0.5
ICMP Isla Caja de M 27.59 19 P P 07 39 45.1 0.0
SMTB Santa Maria do 27.68 93 eP P 07 39 46.1 0.0
MPR Mayaguez 27.71 17 P P 07 39 46.2 0.0
BDFB Brasilia 27.89 108 P P 07 39 48.6 +0.5
comp=Z,51nm,0.7s,baz=272,slow=11,SNR=80
BDFB LR LR 07 52 31.9
comp=Z,106nm,19.5s,baz=298,slow=40
SJG San Juan 27.92 19 P P 07 39 48.4 +0.4
comp=Z,49nm,0.5s,baz=169,slow=6.3,SNR=51
SJG San Juan 27.92 19 P P 07 39 47.6 -0.5
SJG pmax pmax
comp=Z,61nm,0.6s
SJG San Juan 27.92 19 P P 07 39 47.6 -0.5
SJG San Juan 27.92 19 eP P 07 39 47.5 -0.5
TMAB Tom-Au,PA,Br 28.00 79 eP P 07 39 48.6 -0.3
IPMB Ipameri, GO 28.27 112 eP P 07 39 51.3 -0.1
PETF Flores 28.83 331 P P 07 39 57.2 +1.1
BB19B Bebedouro 28.99 119 eP P 07 39 57.1 -0.5
FRTB Fartura 29.04 124 eP P 07 39 57.7 -0.4
CPSB Cacapava Do Su 30.15 140 eP P 07 40 07.6 -0.2
RCLB Rio Claro- Sao 30.36 121 eP P 07 40 07.9 -1.9
SDBA SAO DESIDERIO 30.43 100 eP P 07 40 10.6 +0.1
SPB Sao Paulo 30.91 123 eP P 07 40 14.0 -0.6
PLTB Pedras Altas 30.97 142 eP P 07 40 15.5 +0.4
VAO Valinhos 31.07 121 eP P 07 40 15.5 -0.6
JANB Januaria 31.31 105 eP P 07 40 18.3 0.0
PET01 Itanhaem-SP 31.34 124 eP P 07 40 17.7 -0.6
ROSB Rosrio 31.77 82 eP P 07 40 21.8 -0.4
SOR Soroa 31.82 347 P P 07 40 22.4 -0.1
SOR pmax pmax
comp=Z,44nm,1.5s
SOR Soroa 31.82 347 P P 07 40 22.4 -0.1
SOR IAmb IAmb 07 40 25.0
comp=Z,44nm,1.5s
MC01 Montes Claros 31.94 108 eP P 07 40 23.7 -0.1
TRQA Tornquist 32.00 159 eP P 07 40 23.1 -0.9
BSCB Bom Sucesso 32.26 116 eP P 07 40 26.5 -0.1
DIAM Diamantina, MG 32.53 111 eP P 07 40 29.3 +0.3
PLCA Paso Flores 32.53 173 P P 07 40 28.5 -0.1
comp=Z,1.3nm,0.4s,baz=354,slow=9.4,SNR=7.3
PLCA pP pP 07 40 53.5 -1.4
comp=Z,39nm,0.9s,baz=346,slow=9.7,SNR=33
PLCA PcP PcP 07 43 13.5 +0.8
comp=Z,4.3nm,0.7s,baz=54,slow=3.7,SNR=3.6
PLCA Paso Flores 32.53 173 P P 07 40 29.0 +0.4
PLCA pP 07 40 56.2 +1.3
PLCA IAmb IAmb 07 40 57.5
comp=Z,48nm,0.9s
PLCA Paso Flores 32.53 173 eP P 07 40 30.0 +1.4
NBPS Pedro II - PI 34.15 85 eP P 07 40 42.6 -0.4
TLIG Tlapa 34.35 319 P P 07 40 45.4 +0.7
061Z Ochoppi 34.43 352 P P 07 40 46.2 +1.1
LL02 Futaleuf 34.83 175 P P 07 40 50.4 +2.0
LL02 pP 07 41 15.9 +0.9
SJMB Sao Joao De Ma 34.92 111 eP P 07 40 48.5 -1.1
NBPN Ponto Novo - B 34.97 97 eP P 07 40 49.4 -0.6
BSFB Barra de Sao F 35.26 111 eP P 07 40 51.3 -1.1
CAM01 Campos-RJ 35.28 116 eP P 07 40 51.6 -1.0
NBMO Morrinhos-CE 35.70 84 eP P 07 40 55.7 -0.6
GDU01 Guandu, BA 35.71 102 eP P 07 40 56.5 +0.1
NAN01 Guarapari, ES 35.73 109 eP P 07 40 56.3 -0.2
RIB01 Linhares ES 35.78 111 eP P 07 40 56.2 -0.7
ALF01 Guarapari-ES 35.79 114 eP P 07 40 57.3 +0.4
GUA01 Guaratinga, BA 35.83 107 eP P 07 40 56.5 -0.8
NBPB Pedra_Branca-C 35.84 88 eP P 07 40 57.9 +0.4
CMC01 Camacan, BA 35.93 105 eP P 07 40 58.1 -0.1
NBIT Itapeh - BA 35.96 104 eP P 07 40 59.2 +0.7
NBMA Muriti-CE 36.48 91 eP P 07 41 02.2 -0.8
DWPF Disney Wildern 36.71 351 P P 07 41 05.6 +1.0
baz=170
656A Willston 38.12 350 P P 07 41 16.9 +0.4
NBPA Parau_RN 38.26 89 eP P 07 41 17.6 -0.4
NBLV Livramento - P 38.31 91 eP P 07 41 18.6 +0.2
NBAN Anadia - AL 38.83 95 eP P 07 41 22.3 -0.4
RCBR Riachuelo 39.45 89 P P 07 41 27.9 -0.1
comp=Z,29nm,0.8s,baz=346,slow=4.5,SNR=12
RCBR Riachuelo 39.45 89 eP P 07 41 28.0 +0.1
NBPV Pedro Velho 40.00 90 eP P 07 41 32.4 0.0
NBRF Rio Formoso - 40.00 94 eP P 07 41 32.2 -0.2
TIGA Tifton 40.33 349 P P 07 41 35.0 +0.1
baz=168
ZAIG Zacatecas 40.70 320 P P 07 41 39.3 +0.9
BRAL Brewton 40.83 345 P P 07 41 39.3 +0.3
baz=163
154A Montrose 41.39 350 P P 07 41 43.5 0.0
NHSC New Hope 41.49 354 P P 07 41 45.5 +1.2
baz=173,SNR=9.4
346A Big Creek Wild 41.72 342 P P 07 41 46.4 +0.2
346A IAmb IAmb 07 41 47.4
comp=Z,74nm,1.1s
344A Westbrook Farm 42.18 341 P P 07 41 49.9 0.0
344A IAmb IAmb 07 41 51.4
comp=Z,46nm,0.9s
GOGA Godfrey 42.23 350 P P 07 41 49.8 -0.6
baz=168,SNR=15
HKT Hockley 42.80 334d iP P 07 41 54.9 0.0
HKT pmax pmax
comp=Z,11nm,1.2s
VBMS Vicksburg 42.81 341 P P 07 41 54.8 -0.2
baz=158
833A Chaparral WMA, 43.13 329 P P 07 41 58.2 +0.4
baz=144,SNR=9.4
CNNC Cliffs of the 43.44 357 P P 07 42 00.8 +0.8
baz=177,SNR=7.9
KMSC Kings Mountain 43.62 353 P P 07 42 01.9 +0.3
baz=172,SNR=14
NATX Nacogdoches 43.88 336 P P 07 42 04.5 +0.9
baz=152,SNR=17
435B Jarrell 44.29 333 P P 07 42 07.8 +0.8
baz=148
Z41A Richland Creek 44.53 339 P P 07 42 08.8 0.0
baz=155
OXF Oxford 44.62 344 P P 07 42 08.3 -1.2
baz=160,SNR=12
JCT Junction City 45.09 330 P P 07 42 13.8 +0.4
baz=145,SNR=9.0
WHTX Lake Whitney, 45.26 334 P P 07 42 15.1 +0.5
baz=149,SNR=11
TZTN Tazewell 45.31 351 P P 07 42 14.4 -0.6
baz=169,SNR=11
EFI East Falkland 45.51 165 eP P 07 42 14.2 -2.1
EFI pmax pmax
comp=Z,340nm,3.0s
BLA Blacksburg 45.58 355 P P 07 42 17.3 +0.2
BLA pmax pmax
comp=Z,40nm,1.1s
BLA Blacksburg 45.58 355 P P 07 42 17.5 +0.4
baz=173,SNR=6.7
BLA Blacksburg 45.58 355 P P 07 42 17.3 +0.2
BLA IAmb IAmb 07 42 18.7
comp=Z,40nm,1.1s

HPIG 45.64 321 P P 07 42 18.1 +0.1
X40A Basin Creek Fa 45.66 340 P P 07 42 17.6 -0.1
baz=156,SNR=8.3
WVT Waverly 45.75 346 P P 07 42 16.5 -1.9
baz=163
JSRW J. Sargeant Re 45.88 357 P P 07 42 19.9 +0.5
HBAR Harrisburg 45.95 343 P P 07 42 19.1 -1.0
MIAR Mount Ida 45.97 339 P P 07 42 19.7 -0.4
baz=155,SNR=17
W41B Gary Mavity, V 46.09 341 P P 07 42 20.3 -0.8
baz=157,SNR=39
TXAR Lajitas Array 46.23 325 P P 07 42 23.2 +0.8
comp=Z,16nm,0.7s,baz=149,slow=8.8,SNR=228
TXAR PcP PcP 07 43 55.4 -0.8
comp=Z,4.2nm,0.8s,baz=149,slow=7.0,SNR=5.8
TXAR Lajitas Array 46.23 325 P P 07 42 22.6 +0.2
TX31 Lajitas Ar. Si 46.23 325 P P 07 42 22.7 +0.2
TX31 IAmb IAmb 07 42 23.8
comp=Z,54nm,0.8s
Z35A Perchaven, San 46.32 335 P P 07 42 22.9 -0.1
CBN Corbin Frederi 46.37 358 P P 07 42 24.2 +1.0
baz=178,SNR=13
CBN Corbin Frederi 46.37 358 P P 07 42 24.0 +0.7
T47A Sharon Grove 46.40 347 P P 07 42 22.1 -1.5
T47A IAmb IAmb 07 42 23.0
comp=Z,25nm,0.8s
T47A PcP 07 43 56.2 -0.4
R55A Marlinton 46.61 355 P P 07 42 25.5 +0.2
R55A IAmb IAmb 07 42 27.0
comp=Z,47nm,0.9s
R55A PcP PcP 07 43 58.0 +0.6
W39A Magazine 46.62 339 P P 07 42 25.5 +0.3
baz=155,SNR=32
W39A Magazine 46.62 339 P P 07 42 24.8 -0.5
W39A IAmb IAmb 07 42 26.6
comp=Z,40nm,0.9s
W39A PcP PcP 07 43 58.2 +0.8
ABTX Abilene, Hawle 46.78 332 P P 07 42 27.0 +0.4
baz=146,SNR=25
ABTX Abilene, Hawle 46.78 332 P P 07 42 27.0 +0.4
Q61A Milford 47.02 0 P P 07 42 29.8 +1.5
baz=180
U40A Yellville 47.37 341 P P 07 42 30.2 -0.8
baz=157,SNR=48
WCI Wyandotte Cave 47.43 349 P P 07 42 30.2 -1.3
baz=166
P60A Greenville 47.95 360 P P 07 42 36.2 +0.8
baz=180
MCWV Mont Chateau 47.96 356 P P 07 42 36.3 +0.7
baz=174,SNR=8.9
TUL1 Leonard 47.99 338 P P 07 42 35.7 -0.1
baz=153,SNR=23
P52A Corning 48.15 353 P P 07 42 36.0 -1.0
baz=171,SNR=20
WMOK Wichita Mounta 48.17 334 P P 07 42 36.2 -1.2
baz=149,SNR=11
P49A Miami Univ. Ec 48.42 351 P P 07 42 37.3 -1.7
baz=168,SNR=6.7
CCM Cathedral Cave 48.45 343 P P 07 42 37.7 -1.6
baz=159
O56A Blue Knob Stat 48.48 357 P P 07 42 40.0 +0.4
baz=176,SNR=31
O53A New Philadelph 48.66 354 P P 07 42 40.3 -0.6
baz=173,SNR=17
Q44A Meyer Farm, Va 48.67 346 P P 07 42 39.4 -1.6
LUPA Lehigh Univers 48.73 0 P P 07 42 42.3 +0.8
LUPA IAmb IAmb 07 42 43.5
comp=Z,54nm,1.1s
LUPA pP 07 43 07.4 -2.0
SSPA Standing Stone 48.82 358 P P 07 42 42.5 +0.3
baz=177
ACSO Alum Creek Sta 48.85 352 P P 07 42 41.3 -1.1
baz=170,SNR=21
CPNY Central Park 48.95 2 P P 07 42 43.2 +0.1
CPNY IAmb IAmb 07 42 44.5
comp=Z,31nm,0.8s
MNTX Cornudas Mount 48.99 326 P P 07 42 43.2 -0.4
baz=140,SNR=49
O49A Covington 49.00 351 P P 07 42 42.1 -1.4
O49A IAmb IAmb 07 42 43.4
comp=Z,42nm,1.0s
N59A State Game Lan 49.05 360 P P 07 42 44.7 +0.7
baz=180,SNR=18
T35A Sooner Cattle 49.15 338 P P 07 42 44.5 -0.2
T35A IAmb IAmb 07 42 45.9
comp=Z,81nm,1.4s
PAL Palisades 49.16 2 P P 07 42 44.6 -0.2
baz=182,SNR=8.8
N54A Moraine State 49.26 356 P P 07 42 45.5 0.0
baz=174,SNR=28
MSTX Muleshoe 49.39 330 P P 07 42 46.5 -0.2
baz=144,SNR=18
AMTX Amarillo 49.60 332 P P 07 42 47.9 -0.4
baz=145
U32A Winter Ranch, 49.66 335 P P 07 42 48.7 0.0
SFIN Lafayette 49.67 348 P P 07 42 47.0 -1.5
baz=165,SNR=6.2
KSPA Keystone Colle 49.69 360 P P 07 42 49.0 +0.3
KAN09 Caldwell North 49.76 337 P P 07 42 49.2 -0.2
KAN09 IAmb IAmb 07 42 50.5
comp=Z,54nm,0.9s
M54A Oil Creek Stat 49.78 356 P P 07 42 49.2 -0.3
baz=175,SNR=46
M53A WI Miller and 49.79 355 P P 07 42 49.4 -0.1
baz=173,SNR=8.5
KAN05 Bluff City Nor 49.84 337 P P 07 42 50.0 0.0
KAN05 IAmb IAmb 07 42 51.2
comp=Z,68nm,1.3s
M64A Tiverton 49.85 4 P P 07 42 50.4 +0.5
baz=186
KAN08 Anthony NE Sta 49.98 337 P P 07 42 50.8 -0.2
KAN08 IAmb IAmb 07 42 52.3
comp=Z,47nm,1.1s
L63A North Scituate 50.13 4 P P 07 42 52.5 +0.4
baz=185,SNR=5.6
L58A Harry Jones Me 50.18 360 P P 07 42 53.2 +0.7
baz=180,SNR=20
L64A Middleborough 50.26 5 P P 07 42 52.9 -0.1
baz=186,SNR=5.1
HDIL Hopedale 50.31 346 P P 07 42 51.8 -1.6
baz=162,SNR=65
BINY Binghamton 50.33 360 P P 07 42 54.2 +0.6
baz=180,SNR=23
ERPA Erie 50.41 356 P P 07 42 53.6 -0.6
baz=174,SNR=15
L61B Northampton 50.65 3 P P 07 42 55.9 0.0
baz=184,SNR=8.9
HRV Adam Dziewonsk 50.77 4 P P 07 42 57.2 +0.3
baz=185
K61A Williamstown 50.85 2 P P 07 42 58.1 +0.6
baz=183,SNR=10.0
K56A Middlesex 50.85 358 P P 07 42 57.3 -0.3
baz=178
K62A Royalston 50.89 3 P P 07 42 58.3 +0.6
baz=184,SNR=7.0
K63A Dunstable 50.96 4 P P 07 42 58.5 +0.2
baz=185,SNR=8.8
121A Cookes Peak, D 50.97 325 P P 07 42 59.7 +1.0
baz=137,SNR=16
AAM Ann Arbor 50.97 352 P P 07 42 57.9 -0.5
baz=170,SNR=5.7
KSU1 Kansas State U 51.12 339 P P 07 42 59.2 -0.4
baz=153,SNR=16
R32A Long Quarter, 51.31 337 P P 07 43 00.0 -1.0
MEDO Medina 51.36 357 P P 07 43 00.2 -1.1
MEDO IAmb IAmb 07 43 01.2
comp=Z,56nm,1.0s
J60A Lant Hill Farm 51.41 2 P P 07 43 02.3 +0.7
baz=183,SNR=19
J62A Henniker 51.47 4 P P 07 43 02.6 +0.5
baz=185
J58A Remsen 51.49 0 P P 07 43 02.4 +0.1
baz=180,SNR=12
J61A Chester 51.55 3 P P 07 43 03.7 +1.0
baz=184,SNR=22
L44A Lake County Fo 51.56 348 P P 07 43 01.3 -1.4
baz=164
J63A Strafford 51.58 4 P P 07 43 03.1 +0.3
baz=186
I58A Old Forge 51.83 1 P P 07 43 04.9 +0.2
baz=181,SNR=14
I59A Olmsteadville 51.95 2 P P 07 43 06.2 +0.6
baz=182,SNR=32
I60A Shoreham 52.02 2 P P 07 43 06.6 +0.5
baz=183,SNR=16
ANMO Albuquerque 52.04 328d iP P 07 43 06.7 0.0
ANMO pmax pmax

comp=Z,30nm,1.0s
ANMO Albuquerque 52.04 328 P P 07 43 07.0 +0.2
baz=140
CBKS Cedar Bluff 52.05 336 P P 07 43 06.5 -0.1
baz=149,SNR=7.9
I57A Carthage 52.07 360 P P 07 43 06.9 +0.4
baz=180,SNR=8.2
NCB Newcomb 52.12 1 P P 07 43 07.0 +0.1
NCB IAmb IAmb 07 43 08.6
comp=Z,53nm,1.2s
I62A Tamworth 52.15 4 P P 07 43 07.5 +0.4
baz=185
I64A Boothbay 52.33 5 P P 07 43 09.3 +0.8
baz=187
I63A Otisfield 52.38 5 P P 07 43 09.4 +0.6
baz=186,SNR=6.8
LBNH Lisbon 52.48 3 P P 07 43 09.9 +0.4
baz=184,SNR=17
H58A Gabriels 52.56 1 P P 07 43 10.4 +0.2
baz=182,SNR=24
TUC Tucson 52.58 322 P P 07 43 10.6 0.0
baz=134
H57A Richville 52.59 0 P P 07 43 10.3 -0.1
baz=180,SNR=24
T25A Trinidad 52.72 331 P P 07 43 12.2 +0.4
baz=143,SNR=50
H60A Morristown 52.76 3 P P 07 43 12.0 +0.4
baz=184,SNR=7.1
LONY Lake Ozonia 52.76 1 P P 07 43 11.6 0.0
baz=181,SNR=20
LONY Lake Ozonia 52.76 1 P P 07 43 11.0 -0.6
LONY IAmb IAmb 07 43 13.2
comp=Z,45nm,1.2s
H61A Lyndonville 52.77 3 P P 07 43 12.3 +0.6
baz=184,SNR=12
JFWS Jewell Farm 52.77 346 P P 07 43 10.0 -1.8
baz=162,SNR=15
H59A Cadyville 52.80 2 P P 07 43 12.3 +0.3
baz=182,SNR=34
H62A Milan 52.86 4 P P 07 43 12.9 +0.6
baz=186,SNR=7.0
N33A J Bar K, Exete 52.87 339 P P 07 43 11.9 -0.6
H63A New Sharon 53.03 5 P P 07 43 14.4 +0.8
baz=187,SNR=15
H64A Troy 53.09 6 P P 07 43 14.7 +0.7
baz=188,SNR=7.5
H65A Eastbrook 53.24 7 P P 07 43 16.0 +0.8
baz=189
I42A Draeger Farm, 53.41 348 P P 07 43 15.1 -1.3
KSCO Kaye Shedlock' 53.43 334 P P 07 43 17.1 +0.3
baz=146,SNR=8.9
H66A Whiting 53.44 7 P P 07 43 17.8 +1.3
baz=190
G63A Kingsbury 53.52 5 P P 07 43 18.0 +0.9
baz=187,SNR=13
G61A St-Isidore-de- 53.54 4 P P 07 43 18.4 +1.1
baz=185,SNR=23
G62A West of Eustis 53.54 4 P P 07 43 18.3 +1.0
baz=186,SNR=28
214A Organ Pipe Nat 53.60 320 P P 07 43 19.0 +1.0
baz=132,SNR=23
214A Organ Pipe Nat 53.60 320 P P 07 43 18.2 +0.2
PKME Peaks-Kenny Pk 53.70 6 P P 07 43 18.9 +0.5
baz=188,SNR=14
BGNE Belgrade 53.71 339 P P 07 43 18.8 +0.2
baz=152,SNR=11
SDCO Great Sand Dun 53.73 331 P P 07 43 19.6 +0.4
baz=142,SNR=138
SDCO Great Sand Dun 53.73 331 P P 07 43 19.4 +0.2
G64A Maxfield 53.74 6 P P 07 43 19.0 +0.3
baz=188,SNR=7.5
G65A Princeton 53.82 7 P P 07 43 19.9 +0.6
baz=190,SNR=11
W18A Petrified Fore 53.96 325 P P 07 43 21.3 +0.5
baz=137,SNR=7.7
ALGO Algonquin Park 54.13 358 P P 07 43 20.8 -0.8
baz=177,SNR=23
F63A Nahmakanta, Br 54.15 6 P P 07 43 22.0 +0.3
baz=188,SNR=6.6
F61A St Evariste 54.26 4 P P 07 43 22.5 -0.1
baz=186,SNR=7.3
F62A Pittston Farm, 54.26 5 P P 07 43 22.9 +0.3
baz=187,SNR=11
S22A 4UR Ranch, Cre 54.38 330 P P 07 43 23.8 -0.2
baz=141,SNR=24
F64A Sherman 54.38 6 P P 07 43 23.8 +0.4
baz=189,SNR=14
Q24A Divide 54.53 332 P P 07 43 25.2 +0.2
baz=143
E60A Ste Agathe de 54.63 4 P P 07 43 25.2 0.0
baz=185
E61A Lac Etchemin 54.75 4 P P 07 43 26.9 +0.8
baz=186,SNR=9.1
OGNE Ogallala 54.79 336 P P 07 43 26.4 -0.2
baz=148,SNR=7.9
MVCO Mesa Verde 54.83 328 P P 07 43 27.0 -0.2
baz=139,SNR=11
E63A Oxbow 54.93 6 P P 07 43 27.9 +0.5
baz=189,SNR=8.0
E64A Bridgewater 54.99 7 P P 07 43 28.1 +0.3
baz=189,SNR=9.2
E62A Clayton Lake 55.02 5 P P 07 43 28.8 +0.8
baz=187,SNR=19
WUAZ Wupatki 55.18 324 P P 07 43 30.2 +0.6
baz=135,SNR=35
ECSD EROS Data Cent 55.27 342 P P 07 43 28.6 -1.3
baz=154,SNR=40
ISCO Idaho Springs 55.41 332 P P 07 43 31.4 0.0
baz=143,SNR=11
D62A Allapoint, All 55.52 5 P P 07 43 32.0 +0.4
baz=188,SNR=19
D61A St Aubert, Com 55.54 4 P P 07 43 32.5 +0.8
baz=186
SPMN Marine on St. 55.56 345 P P 07 43 30.4 -1.5
baz=159,SNR=21
D63A Stockholm 55.57 6 P P 07 43 32.5 +0.6
baz=189,SNR=13
LATQ La Tuque 55.57 2 P P 07 43 32.3 +0.3
baz=183,SNR=25
GLA Glamis 55.60 320 P P 07 43 32.8 +0.3
baz=131
PDMCI Parker Dam,Lak 55.99 322 P P 07 43 35.8 +0.6
baz=132,SNR=6.2
IKP In-Ko-Pah, Jac 56.17 319 P P 07 43 37.1 +0.5
baz=129
N23A Red Feather La 56.44 333 P P 07 43 38.5 -0.1
baz=143,SNR=6.8
IRM Iron Mountain 56.52 321 P P 07 43 39.6 +0.6
baz=131,SNR=60
MONP2 Monument Peak 56.52 319 P P 07 43 39.4 +0.2
baz=129
SUSD Miller 56.66 340 P P 07 43 38.8 -1.0
baz=152,SNR=7.7
PMSA Palmer Station 56.89 174 P P 07 43 42.2 +1.2
PMSA IAmb IAmb 07 44 14.0
comp=Z,33nm,1.0s
PMSA Palmer Station 56.89 174 eP P 07 43 42.6 +1.5
O20A White River Ci 56.93 330 P P 07 43 41.9 -0.1
baz=140,SNR=22
BELC Belle Mtn. Jos 56.95 320 P P 07 43 42.6 +0.4
baz=130,SNR=24
109C Camp Elliot, M 56.97 318 P P 07 43 42.8 +0.7
baz=129
TPFO Pinon Flats 56.99 319 P P 07 43 43.1 +0.6
baz=130,SNR=16
PFO Pinyon Flats O 57.00 319 LR LR 08 05 54.5
comp=Z,47nm,19.1s,baz=202,slow=33
PFO Pinyon Flats O 57.00 319 P P 07 43 42.6 +0.1
PFO pmax pmax
comp=Z,20nm,0.9s
PFO Pinyon Flats O 57.00 319 P P 07 43 43.1 +0.6
baz=130,SNR=16
PFO Pinyon Flats O 57.00 319 P P 07 43 42.6 +0.1
PFO IAmb IAmb 07 43 44.2
comp=Z,20nm,0.9s
LSQQ Lebel-sur-Quev 57.20 359 P P 07 43 43.1 -0.4
baz=178
GMRC Granite Mounta 57.25 321 P P 07 43 44.7 +0.4
baz=131,SNR=18
MURC Murrieta 57.47 319 P P 07 43 46.3 +0.5
baz=129,SNR=9.3
RWWY Rawlins 57.65 332 P P 07 43 47.9 +0.8
HEC Hector,Ludlow 57.70 321 P P 07 43 48.6 +1.2
baz=130,SNR=6.3
EYMN Ely 57.82 347 P P 07 43 46.2 -1.7
baz=161,SNR=25
TUQ Turquoise Moun 57.84 321 P P 07 43 48.6 +0.2
baz=131,SNR=20

MATQ	**Matagami**	57.92	358	P	**P**	07 43 47.5 -1.0
	baz=178,SNR=14					
CHGQ	**Chibougamau**	58.05	1	P	**P**	07 43 49.1 -0.3
	baz=181,SNR=21					
K22A	**Casper**	58.10	333	P	**P**	07 43 50.1 -0.1
	baz=143,SNR=14					
CIS	**Catalina Islan**	58.15	318	P	**P**	07 43 51.5 +1.0
	baz=128					
BFSC	**Mount Baldy Ra**	58.17	319	P	**P**	07 43 51.1 +0.3
	baz=129,SNR=12					
RSSD	**Black Hills**	58.26	336	P	**P**	07 43 51.2 0.0
	baz=146					
FMP	**Fort Macarthur**	58.26	318	P	**P**	07 43 52.4 +1.2
	baz=128					
GSC	**Goldstone, Bar**	58.30	321	P	**P**	07 43 52.3 +0.7
	baz=130,SNR=15					
SHOC	**Shoshone, Teco**	58.36	322	P	**P**	07 43 52.6 +0.7
	baz=131,SNR=11					
DECC	**Green Verdugo**	58.62	319	P	**P**	07 43 54.3 +0.6
	baz=128					
EDW2	**Edwards Air Fo**	58.79	320	P	**P**	07 43 55.2 +0.3
	baz=129,SNR=8.1					
SNCC	**San Nicolas Is**	58.80	317	P	**P**	07 43 55.4 +0.5
	baz=127					
LRMC	**Laurel Mtn Rad**	58.96	320	P	**P**	07 43 56.9 +0.7
	baz=129,SNR=7.0					
TPNV	**Topopah Spring**	59.03	322	P	**P**	07 43 57.2 +0.5
	baz=131,SNR=39					
FURC	**Furnace Creek,**	59.09	322	P	**P**	07 43 57.8 +1.0
	baz=131,SNR=23					
AGMN	**Agassiz Nation**	59.20	344	P	**P**	07 43 56.4 -1.1
	baz=156,SNR=43					
DUG	**Dugway, Tooele**	59.31	327	P	**P**	07 43 58.9 +0.4
	baz=136,SNR=41					
ARVC	**Arvin**	59.48	319	P	**P**	07 43 60.0 +0.4
	baz=128,SNR=5.2					
R11A	**Troy Canyon, C**	59.57	324	P	**P**	07 44 00.9 +0.5
	baz=133,SNR=16					
BW06	**Boulder Array**	59.58	331	P	**P**	07 43 59.5 -1.0
	baz=140,SNR=15					
ISA	**Isabella, Lake**	59.58	320	P	**P**	07 44 00.8 +0.4
	baz=129,SNR=16					
PDAR	**Pinedale Array**	59.58	332	P	**P**	07 44 00.1 -0.4
	comp=Z,3.4nm,0.7s,baz=142,slow=7.5,SNR=42					
GRAC	**Grapevine Rang**	59.74	322	P	**P**	07 44 02.4 +1.0
	baz=130,SNR=5.1					
CWC	**Cottonwood Cre**	59.82	321	P	**P**	07 44 02.9 +0.8
	baz=130					
MDND	**Maddock**	59.88	342	P	**P**	07 44 02.6 +0.5
	baz=152,SNR=36					
PKM	**Mcpherson Peak**	59.97	319	P	**P**	07 44 03.8 +0.5
	baz=127,SNR=5.0					
VES	**Vestal, Richgr**	60.08	320	P	**P**	07 44 04.5 +0.8
	baz=128,SNR=8.6					
TIN	**Tinemaha, Big**	60.30	321	P	**P**	07 44 06.4 +1.1
	baz=130					
SMMC	**Simmler**	60.35	319	P	**P**	07 44 06.6 +1.0
	baz=127,SNR=8.2					
ULM	**Lac du Bonnet**	61.00	345	P	**P**	07 44 09.1 -0.5
	comp=Z,42nm,0.5s,baz=159,slow=7.0,SNR=67					
MLAC	**Mammoth, Mammo**	61.04	322	P	**P**	07 44 11.2 +0.7
	baz=129					
NVAR	**Mina Array Bea**	61.23	323	P	**P**	07 44 12.4 +0.7
	comp=Z,7.6nm,0.7s,baz=138,slow=7.7,SNR=79					
NVAR	**Mina Array Bea**	61.23	323	P	**P**	07 44 11.8 0.0
LAO	**LASA Array**	61.24	336	P	**P**	07 44 11.5 0.0
	baz=145,SNR=12					
YPP	**Pitchstone Pla**	61.31	332	P	**P**	07 44 11.8 -0.4
YPP				IAmb	IAmb	07 44 17.0
	comp=Z,24nm,1.4s					
HLID	**Hailey**	62.55	329	P	**P**	07 44 20.6 +0.2
	baz=136,SNR=29					
BOZ	**Bozeman (W)**	62.70	332	P	**P**	07 44 21.3 0.0
	baz=139,SNR=20					
SCHQ	**Schefferville**	63.40	6	P	**P**	07 44 25.0 -0.6
	comp=Z,13nm,0.7s,baz=193,slow=4.9,SNR=15					
EGMT	**Eagleton**	63.75	335	P	**P**	07 44 28.3 +0.1
	baz=142,SNR=7.4					
TAOE	**Nuku Hiva Isla**	63.76	264	*e*LR	LR	08 03 42.5
	comp=Z,275nm,28.9s					
O03E	**Paynes Creek**	64.51	322	P	**P**	07 44 32.4 -0.9
	baz=128,SNR=8.9					
MSO	**Missoula**	64.69	332	P	**P**	07 44 34.7 +0.4
	baz=137,SNR=49					
O02D	**Mt. Diablo Mer**	65.04	322	P	**P**	07 44 35.8 -0.9
	baz=127					
M04C	**Macdoel**	65.44	324	P	**P**	07 44 39.5 +0.1
	baz=128,SNR=16					
N02D	**Trinity Center**	65.47	322	P	**P**	07 44 38.2 -1.2
	baz=127,SNR=5.9					
M02C	**Callahan**	65.81	323	P	**P**	07 44 40.8 -0.8
	baz=127,SNR=9.1					
L04D	**Klamath Falls**	65.98	324	P	**P**	07 44 42.3 -0.5
	baz=128,SNR=15					
J05D	**Fort Rock, OR**	66.03	325	P	**P**	07 44 43.5 +0.4
	baz=129,SNR=20					
WALA	**Waterton Lakes**	66.32	334	P	**P**	07 44 45.4 +0.6
WALA				IAmb	IAmb	07 44 45.9
	comp=Z,26nm,0.8s					
J04D	**Umpqua Nationa**	66.50	325	P	**P**	07 44 46.6 +0.4
	baz=129,SNR=14					
L02E	**Cave Junction**	66.71	323	P	**P**	07 44 47.8 +0.5
	baz=127,SNR=9.2					
I05D	**Terrebonne, OR**	66.76	326	P	**P**	07 44 48.6 +1.0
	baz=130,SNR=17					
I04A	**Tendick Farm,**	67.02	325	P	**P**	07 44 49.0 -0.2
	baz=128					
K02D	**Willamette Mer**	67.07	323	P	**P**	07 44 50.1 +0.4
	baz=127,SNR=26					
NEW	**Newport**	67.22	331	P	**P**	07 44 50.2 -0.3
	baz=135,SNR=16					
G05D	**Wamic, OR**	67.33	327	P	**P**	07 44 52.0 +0.8
	baz=130,SNR=8.8					
I03D	**Drain, OR**	67.50	324	P	**P**	07 44 52.5 +0.3
	baz=128,SNR=8.0					
J01E	**Myrtle Point**	67.51	324	P	**P**	07 44 52.8 +0.6
	baz=127,SNR=6.3					
H04D	**Lebanon**	67.66	325	P	**P**	07 44 53.0 -0.1
	baz=128					
F05D	**White Salmon**	67.81	327	P	**P**	07 44 54.8 +0.6
	baz=130					
I02D	**Swisshome**	68.03	325	P	**P**	07 44 56.7 +1.2
	baz=127,SNR=5.6					
E04D	**Cinebar**	68.83	327	P	**P**	07 45 00.2 -0.2
	baz=129					
B06A	**Marblemount**	69.53	329	P	**P**	07 45 04.5 -0.2
B06A				IAmb	IAmb	07 45 05.6
	comp=Z,29nm,0.8s					
B05A	**Bryant**	69.68	329	P	**P**	07 45 05.3 -0.3
	baz=130,SNR=10					
D03D	**Eldon**	69.73	328	P	**P**	07 45 06.6 +0.7
	baz=129,SNR=8.9					
A05A	**Maple Falls**	70.14	329	P	**P**	07 45 08.3 -0.2
A05A				IAmb	IAmb	07 45 09.6
	comp=Z,40nm,0.8s					
A04D	**Lummi Island**	70.28	329	P	**P**	07 45 09.7 +0.4
	baz=130					
LIC	**Lamto**	71.83	81	*e*P	**P**	07 45 19.9 +0.5
	comp=Z,31nm,0.5s					
TIC	**Toumodi**	71.92	80	*e*P	**P**	07 45 21.0 +1.0
DBIC	**Dimbokro**	72.08	80	P	**P**	07 45 19.0 -1.9
DBIC	**Dimbokro**	72.08	80	P	**P**	07 45 19.0 -1.9
FRB	**Frobisher Bay**	72.12	3	P	**P**	07 45 19.2 -0.8
	comp=Z,13nm,0.6s,baz=182,slow=9.1					
KIC	**Kosan Boka**	72.14	81	*e*P	**P**	07 45 22.1 +0.8
	comp=Z,45nm,0.5s					
PPT2	**Papeete2**	72.31	254	*e*S	SKiKP	07 55 01.3 +15
	comp=Z,126nm,26.0s					
PPT2	**Papeete2**	72.31	254	*e*LR	LR	08 08 06.3
	comp=Z,344nm,30.0s					
PPT	**Papeete**	72.32	254	LR	LR	08 09 15.1
	comp=Z,137nm,18.3s,baz=138,slow=29					
BELA	**Belgrano 2**	72.58	172	P	**P**	07 45 22.9 +0.2
BELA				IAmb	IAmb	07 45 56.5
	comp=Z,87nm,1.7s					
VNA3	**Neumayer Olymp**	74.48	162	P	**P**	07 45 34.5 +0.5
VNA3	**Neumayer Olymp**	74.48	162	pP	pP	07 46 06.2 +2.3
VNA1	**Neumayer--Stat**	74.71	161	P	**P**	07 45 36.3 +1.0
VNA1	**Neumayer--Stat**	74.71	161	pP	pP	07 46 08.2 +2.9
SNAA	**Sanae**	76.69	162	P	**P**	07 45 47.2 +0.5
SNAA	**Sanae**	76.69	162	pP	pP	07 46 18.9 +2.1
SNAA	**Sanae**	76.69	162	P	**P**	07 45 47.1 +0.5
	comp=Z,5.7nm,0.6s,baz=274,slow=9.0,SNR=22					
SNAA	**Sanae**	76.69	162	*d*P	**P**	07 45 46.5 -0.2
SNAA				*i* *PP	**pP**	07 46 18.4 +1.6
SNAA				pmax	pmax	
	comp=Z,26nm,1.7s					
SNAA	**Sanae**	76.69	162	P	**P**	07 45 46.4 -0.2
SNAA				IAmb	IAmb	07 46 20.3
	comp=Z,65nm,0.9s					
YKA	**Yellowknife Ar**	76.78	343	P	**P**	07 45 46.5 -0.6
	comp=Z,6.5nm,0.5s,baz=136,slow=6.7,SNR=75					
YKA				pP	**pP**	07 46 14.7 -2.5
	comp=Z,5.1nm,0.9s,baz=136,slow=6.7,SNR=4.2					
YKA	**Yellowknife Ar**	76.78	343	P	**P**	07 45 46.1 -0.9
DY2G	**Dye2**	77.66	12	⇓*i*P	**P**	07 45 51.5 -0.7
DY2G				IAmb	IAmb	07 45 52.7
	comp=Z,54nm,1.0s					
DLBC	**Dease Lake**	79.66	334	P	**P**	07 46 03.4 +0.3
DLBC				IAmb	IAmb	07 46 04.9
	comp=Z,47nm,1.3s					
TORD	**Torodi Ar. Bea**	79.66	75	P	**P**	07 46 03.8 -0.2
	comp=Z,6.3nm,0.6s,baz=265,slow=4.1,SNR=24					
TORD				LR	LR	08 19 45.6
	comp=Z,48nm,18.6s,baz=190,slow=34					
TORD	**Torodi Ar. Bea**	79.66	75	P	**P**	07 46 03.0 -1.0
ICESG	**Greenland Ices**	81.23	12	*i* P	**P**	07 46 11.1 -0.5
ICESG				IAmb	IAmb	07 46 12.0
	comp=Z,31nm,1.1s					
ESDC	**Sonseca Array**	81.45	48	P	**P**	07 46 14.2 +1.0
	comp=Z,2.9nm,0.9s,baz=258,slow=5.7,SNR=12					
ESDC				pP	**pP**	07 46 42.8 -0.8
	comp=Z,4.0nm,1.1s,baz=267,slow=6.5,SNR=4.3					
ESDC				LR	LR	08 21 32.4
	comp=Z,10nm,18.7s,baz=275,slow=35					
ESDC	**Sonseca Array**	81.45	48	P	**P**	07 46 13.1 0.0
JIS	**Juneau Island**	81.49	333	P	**P**	07 46 12.9 +0.2
JIS				IAmb	IAmb	07 46 14.5
	comp=Z,36nm,1.1s					
QSPA	**South Pole Qui**	81.73	180	P	**P**	07 46 14.9 +0.7
	comp=Z,17nm,1.0s,baz=291,slow=1.3,SNR=26					
QSPA				pP	**pP**	07 46 45.5 +0.8
	comp=Z,11nm,0.7s,baz=148,slow=1.3,SNR=7.4					
QSPA	**South Pole Qui**	81.73	180	P	**P**	07 46 14.3 +0.1
QSPA				IAmb	IAmb	07 46 48.9
	comp=Z,92nm,1.6s					
BESE	**Bessie Mountai**	81.86	333	P	**P**	07 46 14.9 0.0
BESE				IAmb	IAmb	07 46 16.6
	comp=Z,48nm,1.0s					
SKAG	**Skagway**	82.52	334	P	**P**	07 46 18.9 +0.8
	baz=120,SNR=8.1					
SKAG	**Skagway**	82.52	334	P	**P**	07 46 18.3 +0.2
SKAG				IAmb	IAmb	07 46 19.7
	comp=Z,71nm,1.7s					
WHY	**Whitehorse**	82.94	335	P	**P**	07 46 20.6 +0.1
	baz=121,SNR=5.4					
HYT	**Haines Junctio**	84.14	334	P	**P**	07 46 27.1 +0.5
SUMG	**Summit**	84.28	11	⇓*i*P	**P**	07 46 27.1 -0.4
SUMG				IAmb	IAmb	07 46 28.6
	comp=Z,30nm,0.8s					
SUMG	**Summit**	84.28	11	⇓*i*P	**P**	07 46 27.0 -0.4
SUMG				pmax	pmax	
	comp=Z,30nm,0.8s					
PINM	**Pinnacle**	85.02	333	P	**P**	07 46 31.9 +0.9
	baz=116					
TABL	**Table Mountain**	85.57	333	P	**P**	07 46 33.5 -0.4
TABL				IAmb	IAmb	07 46 35.3
	comp=Z,32nm,0.9s					
MESA	**MESA**	85.82	333	P	**P**	07 46 35.9 +0.8
	baz=115					
CTG	**Chitna Glacier**	85.88	334	P	**P**	07 46 36.0 +0.7
	baz=115,SNR=8.6					
BARN	**Barnard Glacie**	86.06	334	P	**P**	07 46 36.2 -0.1
MFF	**Saint Martin d**	86.18	42	*e*P	**P**	07 46 36.6 -0.3
MFF				pmax	pmax	
	comp=Z,28nm,1.5s					
INK	**Inuvik**	86.51	342	P	**P**	07 46 37.9 -0.1
	comp=Z,21nm,0.8s,baz=96,slow=5.1,SNR=26					
INK	**Inuvik**	86.51	342	P	**P**	07 46 37.9 -0.1
	baz=123,SNR=22					
EPYK	**Eagle Plains**	86.56	339	P	**P**	07 46 38.2 -0.2
	baz=120,SNR=14					
CRQE	**Cirque**	86.57	333	P	**P**	07 46 39.0 +0.2
	baz=114,SNR=9.4					
M27K	**Edge Creek, AK**	86.70	335	P	**P**	07 46 39.6 +0.3
	baz=115,SNR=21					
MCARA	**McCarthy VSAT**	86.80	334	P	**P**	07 46 40.3 +0.7
	baz=114,SNR=16					
NEEM	**North Greenlan**	86.81	5	⇓*i*P	**P**	07 46 40.0 +0.2
NEEM				IAmb	IAmb	07 46 41.2
	comp=Z,78nm,1.3s					
KAIM	**Kayak Island**	86.86	332	P	**P**	07 46 40.6 +0.7
	baz=112,SNR=6.8					
HMT	**Hamilton**	86.94	332	P	**P**	07 46 40.7 +0.3
BCAR	**Beaver Creek A**	86.97	335	P	**P**	07 46 40.8 +0.4
L27K	**Beaver Creek,**	86.98	335	P	**P**	07 46 40.8 +0.3
	baz=115,SNR=39					
L27K	**Beaver Creek,**	86.98	335	P	**P**	07 46 40.4 -0.1
GLB	**Gilahina Butte**	87.17	333	P	**P**	07 46 41.4 -0.1
GLB				IAmb	IAmb	07 46 42.6
	comp=Z,34nm,1.0s					
M26K	**Nabesna, AK**	87.20	334	P	**P**	07 46 41.8 +0.2
	baz=114,SNR=8.0					
CAF	**Calviac**	87.22	44	*e*P	**P**	07 46 41.8 -0.3
CAF				pmax	pmax	
	comp=Z,8.0nm,0.5s					
BMRM	**Bremner River**	87.34	333	P	**P**	07 46 42.7 +0.4
	baz=112,SNR=8.7					
EGAK	**Eagle**	87.45	337	P	**P**	07 46 42.6 -0.1
	baz=116,SNR=36					
K27K	**Chicken**	87.49	336	P	**P**	07 46 43.4 +0.5
	baz=115					
N25K	**Chitina, Valde**	87.58	333	P	**P**	07 46 44.0 +0.5
	baz=112,SNR=6.1					
L26K	**Log Cabin Wild**	87.60	335	P	**P**	07 46 43.5 0.0
	baz=114,SNR=15					
EYAK	**Cordova Ski Ar**	87.70	332	P	**P**	07 46 44.4 +0.4
	baz=111					
HARP	**HAARP**	88.12	334	P	**P**	07 46 46.0 0.0
	baz=112,SNR=6.9					
KLU	**Klutina**	88.12	333	P	**P**	07 46 45.8 -0.2
	baz=111,SNR=34					
DOT	**Dot Lake**	88.14	335	P	**P**	07 46 45.5 -0.5
SCRK	**Sand Creek**	88.24	336	P	**P**	07 46 46.3 -0.3
	baz=113,SNR=52					
GLI	**Glacier Island**	88.44	332	P	**P**	07 46 47.2 -0.3
	baz=110					
M24K	**Tolsona, Glenn**	88.46	334	P	**P**	07 46 47.8 +0.1
	baz=111,SNR=22					
PAX	**Paxson**	88.47	335	P	**P**	07 46 47.0 -0.7
	baz=112,SNR=30					
RIDG	**Independent Ri**	88.50	335	P	**P**	07 46 47.7 -0.1
	baz=112,SNR=35					
VNDA	**Vanda**	88.54	191	P	**P**	07 46 48.8 +1.1
	comp=Z,2.5nm,0.9s,baz=118,slow=5.1,SNR=12					
VNDA				pP	**pP**	07 47 19.5 +0.9
	comp=Z,3.6nm,1.0s,baz=161,slow=3.0,SNR=8.1					
VNDA	**Vanda**	88.54	191	P	**P**	07 46 48.3 +0.5
VNDA				pmax	pmax	
	comp=Z,9.0nm,1.2s					
VNDA	**Vanda**	88.54	191	P	**P**	07 46 48.3 +0.5
DBG	**Daneborg**	89.21	13	*i* P	**P**	07 46 50.4 -0.4
SEW	**Seward**	89.29	331	P	**P**	07 46 50.6 -0.8
	baz=108,SNR=7.2					
WAT6	**Susitna Watana**	89.31	334	P	**P**	07 46 51.4 -0.4
	baz=110,SNR=36					
SML	**Sawmill**	89.31	333	P	**P**	07 46 51.3 -0.4
	baz=109,SNR=29					
PRP	**Porcupine Dome**	89.44	337	P	**P**	07 46 52.0 -0.3
	baz=112					
HDA	**Harding Lake**	89.60	336	P	**P**	07 46 52.3 -0.5
	baz=110,SNR=20					
PMR	**Palmer**	89.61	333	P	**P**	07 46 52.4 -0.4
	baz=108					
ILAR	**Eielson Array**	89.70	336	P	**P**	07 46 53.0 -0.3
	comp=Z,13nm,0.9s,baz=123,slow=2.4,SNR=56					
RC01	**Rabbit Creek A**	89.73	332	P	**P**	07 46 53.2 -0.3
	baz=108,SNR=8.6					
WAT1	**Susitna Watana**	89.75	334	P	**P**	07 46 53.3 -0.3
	baz=109					
BRSE	**Bradley Lake S**	89.80	331	P	**P**	07 46 53.9 0.0
	baz=107,SNR=8.3					
BMAR	**Burnt Mountain**	89.81	339	P	**P**	07 46 53.9 +0.1
POKR	**Poker Plat Res**	90.04	336	P	**P**	07 46 55.1 +0.2
	baz=110,SNR=5.7					
DOU	**Dourbes**	90.12	39	*d*P	**P**	07 46 56.3 +0.7
COLA	**College**	90.13	336	P	**P**	07 46 55.1 -0.1
COLA				pmax	pmax	
	comp=Z,53nm,0.9s					
COLA	**College**	90.13	336	P	**P**	07 46 54.9 -0.3
	baz=110					
COLA	**College**	90.13	336	P	**P**	07 46 55.1 -0.1
TCOL	**CIGO, UAF Yank**	90.13	336	P	**P**	07 46 55.1 -0.2
	baz=110,SNR=16					
KDAK	**Kodiak Island**	90.17	329	P	**P**	07 46 55.6 0.0
	baz=105					
MCK	**McKinley**	90.20	335	P	**P**	07 46 55.5 -0.1
	baz=109,SNR=9.6					
BMRD	**Maredsous**	90.27	39	*b*P	**P**	07 46 56.5 +0.2
OHAK	**Old Harbor**	90.39	328	P	**P**	07 46 56.9 +0.3
	baz=105					
H24K	**Noodor Dome**	90.46	337	P	**P**	07 46 57.1 +0.2
	baz=110,SNR=26					
NEA2	**Nenana**	90.53	336	P	**P**	07 46 56.8 -0.4
	baz=108,SNR=35					
BWN	**Browne**	90.56	335	P	**P**	07 46 56.7 -0.6
LPL	**La Plagne**	90.57	44	*e*P	**P**	07 46 56.6 -1.5
LPL				pmax	pmax	
	comp=Z,17nm,0.9s					
TRF	**Thorofare Moun**	90.69	334	P	**P**	07 46 57.8 -0.4
	baz=107,SNR=16					
SKT	**Skwentna**	90.81	333	P	**P**	07 46 58.7 +0.1
	baz=106,SNR=7.8					
I23K	**Minto, Yukon-K**	90.82	336	P	**P**	07 46 58.2 -0.2
	baz=108					
SPCR	**Spurr Chakacha**	90.91	332	P	**P**	07 46 58.5 -0.6
	baz=106					
DAG	**Danmarks Havn**	90.95	11	*i* P	**P**	07 46 58.3 -0.6
DAG				IAmb	IAmb	07 46 59.3
	comp=Z,13nm,1.0s					
DAG	**Danmarks Havn**	90.95	11	*i* P	**P**	07 46 58.2 -0.6
DAG				pmax	pmax	
	comp=Z,13nm,1.0s					
SYO	**Syowa Base**	90.95	161	⇓*e*P	**P**	07 46 57.2 -1.9
SYO	**Syowa Base**	90.95	161	⇓*e*pP	pP	07 47 29.3 -0.8
WLF	**Walferdange**	91.01	40	*d*P	**P**	07 47 01.1 +1.4
H23K	**Yukon River**	91.11	337	P	**P**	07 46 59.6 -0.2
	baz=108,SNR=8.6					
BPAW	**Bear Paw Mtn.**	91.18	335	P	**P**	07 46 59.8 -0.4
	baz=107,SNR=29					
BTNL	**Ternell**	91.18	39	*d*P	**P**	07 47 01.2 +0.7
MLY	**Manley**	91.34	336	P	**P**	07 46 60.0 -1.0
	baz=107,SNR=29					
PPLA	**Purkeypile**	91.36	334	P	**P**	07 47 00.5 -0.7
	baz=105					
M20K	**Styx River**	91.51	332	P	**P**	07 47 00.9 -1.0
	baz=105					
O19K	**Port Alsworth**	91.65	331	P	**P**	07 47 01.8 -0.6
	baz=104					
CHUM	**Lake Minchumin**	91.68	334	P	**P**	07 47 01.9 -0.6
	baz=106,SNR=7.6					
N19K	**Bonanza Creek**	91.88	331	P	**P**	07 47 02.7 -1.0
	baz=104,SNR=7.3					
TOLK	**Toolik Lake Re**	91.99	339	P	**P**	07 47 03.8 -0.1
	baz=108,SNR=10.0					
O18K	**Koktuh Hills**	92.01	330	P	**P**	07 47 03.7 -0.4
	baz=103					
M19K	**Big River Lodg**	92.10	332	P	**P**	07 47 03.8 -0.7
	baz=104					
K20K	**Telida**	92.30	334	P	**P**	07 47 04.6 -0.8
	baz=104,SNR=14					
L19K	**White Mountain**	92.37	333	P	**P**	07 47 04.9 -0.9
	baz=103,SNR=12					
N18K	**Kilae Creek**	92.52	331	P	**P**	07 47 05.8 -0.7
	baz=102,SNR=10					
J20K	**Nowinta River**	92.53	335	P	**P**	07 47 05.6 -0.8
	baz=104,SNR=10					
DAVA	**Damuels**	93.03	43	*e*P	**P**	07 47 09.6 +0.3
	comp=Z,8.0nm,0.8s					
FETA	**Feichten**	93.56	43	*e*P	**P**	07 47 12.8 +1.0
	comp=Z,14nm,1.5s					
RETA	**Reutte**	93.65	43	*e*P	**P**	07 47 12.3 +0.2
	comp=Z,9.7nm,2.0s					
MOTA	**Moosalm**	93.86	43	*e*P	**P**	07 47 13.1 -0.1
	comp=Z,8.1nm,1.0s					
SQTA	**Sankt Quirin**	93.91	43	*e*P	**P**	07 47 13.7 +0.3
	comp=Z,5.3nm,0.6s					
WATA	**Walderalm**	94.18	43	*e*P	**P**	07 47 14.8 +0.2
	comp=Z,4.2nm,0.7s					
WTTA	**Wattenberg**	94.21	43	*e*P	**P**	07 47 15.8 +1.0
	comp=Z,11nm,1.3s					
ABTA	**Abfaltersbach**	94.73	44	*e*P	**P**	07 47 17.3 +0.2
	comp=Z,10nm,1.0s					
KONO	**Kongsberg**	94.73	31	⇑*e*P	**P**	07 47 16.1 -0.5
KONO				pmax	pmax	
	comp=Z,26nm,1.7s					
KBA	**Koelnbreinsper**	95.34	43	*e*P	**P**	07 47 20.9 +1.0
	comp=Z,6.7nm,1.1s					
MYKA	**Terra Mystica**	95.49	44	*e*P	**P**	07 47 20.9 +0.4
	comp=Z,9.6nm,0.9s					
CLL	**Collm**	95.59	39	*e*P	**P**	07 47 20.0 -0.7
CLL				LmV		09 40 00.0
	comp=Z,100nm,20.2s					
CLL	**Collm**	95.59	39	*e*P	**P**	07 47 20.0 -0.7
NOA	**NORSAR Array B**	95.72	29	P	**P**	07 47 21.8 +0.6
	comp=Z,2.2nm,1.1s,baz=264,slow=4.5,SNR=3.4					
GERES	**GERESS Array B**	95.77	42	P	**P**	07 47 22.6 +0.9
	comp=Z,1.0nm,0.8s,baz=222,slow=1.8,SNR=7.2					
GERES				PKKPbc	**PKKPbc**	08 04 11.6 -1.4
	comp=Z,0.8nm,0.7s,baz=341,slow=2.1,SNR=4.2					
MOA	**Molln**	96.04	43	*e*P	**P**	07 47 23.1 +0.2
	comp=Z,11nm,1.4s					
OBKA	**Obir**	96.10	44	*e*P	**P**	07 47 23.4 +0.1
	comp=Z,9.3nm,1.6s					
BRG	**Berggiesshubel**	96.13	40	*e*P	**P**	07 47 23.3 +0.1
BRG				Amp		07 47 26.5
	comp=Z,14nm,1.7s					
SOKA	**Soboth**	96.45	44	*e*P	**P**	07 47 25.4 +0.5
	comp=Z,3.1nm,1.1s					
ARSA	**Arzberg**	96.84	43	*e*P	**P**	07 47 27.1 +0.6
	comp=Z,7.8nm,1.3s					
CONA	**Conrad Observa**	97.12	43	*e*P	Pdif	07 47 28.3 +0.3
	comp=Z,7.5nm,1.0s					
KBS	**Kingsbay**	97.69	11	*de*P	**P**	07 47 29.1 -0.6
KBS				pmax	pmax	
	comp=Z,12nm,1.2s					
MODS	**Modra-Piesok**	98.10	42	*e*P	Pdif	07 47 33.7 +1.5
MODS	**Modra-Piesok**	98.10	42	*e*PDIFF	Pdif	07 47 33.7 +1.5
ARCES	**ARCESS Array B**	101.68	21	PKKPbc	PKKPbc	08 03 52.9 -4.1
	comp=Z,0.4nm,0.4s,baz=72,slow=4.0,SNR=7.9					
FINES	**FINESS Array B**	102.89	29	PKKPbc	PKKPbc

ZAA0	**Zalesovo Array**	**131.90**	**15**		**PKPdf**	**07 53 07.3**	**-0.9**
ZALV	**Zalesovo Beam**	**131.90**	**15**	PKP	**PKPdf**	**07 53 08.3**	**+0.2**
	comp=Z,7.6nm,0.4s,baz=264,slow=1.5,SNR=33						
ZALV				pPKP	**pPKPdf**	**07 53 40.0**	**-0.5**
	comp=Z,7.2nm,0.7s,baz=298,slow=3.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**131.90**	**15**	PKPdf	**PKPdf**	**07 53 07.6**	**-0.5**
KURK	**Kurchatov**	**132.70**	**22**	PKIKP	**PKPdf**	**07 53 10.2**	**+0.4**
KURK	**Kurchatov**	**132.70**	**22**		**PKPdf**	**07 53 10.2**	**+0.4**
KURBB	**Kurchatov Arra**	**132.74**	**22**	PKP	**PKPdf**	**07 53 10.2**	**+0.3**
	comp=Z,5.3nm,0.9s,baz=316,slow=2.7,SNR=25						
KURBB				pPKP	**pPKPdf**	**07 53 41.5**	**-0.6**
	comp=Z,4.7nm,1.0s,baz=313,slow=2.5,SNR=6.8						
KLR	**Kul'dur**	**133.28**	**336**	PKP	**PKPdf**	**07 53 10.3**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=84,slow=2.9,SNR=10.0						
KLR				PP	**PP**	**07 55 38.1**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=16,slow=7.4,SNR=5.0						
KLR	**Kul'dur**	**133.28**	**336**	*d iPKIKP*	**PKPdf**	**07 53 09.8**	**-1.1**
DGZ	**Jazzator, Alta**	**136.43**	**16**	⇑*i PKIKP*	**PKPdf**	**07 53 17.3**	**+0.3**
AAK	**Ala-Archa**	**136.93**	**33**	PKP	**PKiKP**	**07 53 19.8**	**-0.2**
	comp=Z,4.4nm,0.4s,baz=261,slow=5.9,SNR=4.0						
AAK	**Ala-Archa**	**136.93**	**33**	⇓*i PKIKP*	**PKiKP**	**07 53 19.9**	**-0.2**
AAK				pmax	pmax		
	comp=Z,23nm,1.3s						
USRK	**Ussuriysk Ar.**	**137.00**	**331**	PKP	**PKPdf**	**07 53 18.7**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=273,slow=0.3,SNR=9.7						
USRK				pPKP	**pPKPdf**	**07 53 47.7**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=17,slow=1.5,SNR=2.0						
ASAR	**Alice Springs**	**137.05**	**221**	PKhKP	PKPpre	07 53 07.7	
	comp=Z,0.7nm,0.7s,baz=133,slow=3.1,SNR=12						
ASAR				PKP	**PKPdf**	**07 53 19.1**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=121,slow=1.9,SNR=19						
ASAR				pPKP	pPKPdf	07 53 49.2	-2.0
	comp=Z,8.3nm,0.9s,baz=123,slow=2.1,SNR=5.6						
MKAR	**Makanchi Array**	**137.31**	**22**	PKhKP	PKPpre	07 53 09.2	
	comp=Z,0.3nm,0.6s,baz=302,slow=2.9,SNR=3.7						
MKAR				PKP	**PKPdf**	**07 53 18.1**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=360,slow=1.9,SNR=19						
MKAR				pPKP	pPKPdf	07 53 50.7	-0.2
	comp=Z,3.1nm,0.8s,baz=358,slow=2.6,SNR=5.5						
MJAR	**Matsushiro Arr**	**138.42**	**318**	PKhKP	PKPpre	07 53 15.8	
	comp=Z,1.7nm,0.7s,baz=94,slow=7.9,SNR=4.5						
MJAR				PKP	**PKPdf**	**07 53 21.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=163,slow=1.3,SNR=5.2						
MSHR	**Mys Shultsa**	**138.61**	**330**	⇓*i PKIKP*	**PKPdf**	**07 53 20.3**	**-0.7**
MSHR				pmax	pmax		
	comp=Z,12nm,1.7s						
WRAB	**Tennant Creek**	**139.26**	**226**	*d iPKIKP*	**PKPdf**	**07 53 22.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,19nm,1.3s						
WRA	**Warramunga Arr**	**139.26**	**226**	PKhKP	PKPpre	07 53 14.7	
	comp=Z,1.9nm,0.5s,baz=134,slow=2.5,SNR=38						
WRA				PKP	**PKPdf**	**07 53 21.9**	**-1.0**
	comp=Z,5.8nm,0.5s,baz=134,slow=1.7,SNR=20						
WRA				pPKP	pPKPdf	07 53 53.8	-1.6
	comp=Z,11nm,0.9s,baz=130,slow=1.8,SNR=9.3						
WRA	**Warramunga Arr**	**139.26**	**226**		**PKPdf**	**07 53 22.6**	**-0.4**
ULN	**Ulaanbaatar**	**140.59**	**357**	⇓*i PKIKP*	**PKPdf**	**07 53 24.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SONM	**Songino Array**	**140.65**	**358**	PKhKP	PKPpre	07 53 17.1	
	comp=Z,2.0nm,0.6s,baz=334,slow=2.4,SNR=9.6						
SONM				pPKP	pPKPdf	07 53 54.7	-2.4
	comp=Z,2.2nm,0.7s,baz=0.6,slow=1.0,SNR=2.9						
WMQ	**Urumqi**	**141.80**	**20**	*e PKP*	**PKPdf**	**07 53 27.5**	**+0.6**
KSRS	**Korea Array**	**144.07**	**327**	PKP	**PKPab**	**07 53 28.6**	**-0.1**
	comp=Z,13nm,0.8s,baz=53,slow=2.9,SNR=36						
KSAR	**Wonju Array Be**	**144.10**	**327**	pPKPdf	pPKPdf	07 53 57.6	-5.8
JNU	**Nakatsue**	**145.29**	**319**		**PKPbc**	**07 53 31.2**	**-2.1**
KNRA	**Kununurra**	**146.04**	**225**	PKPdf	**PKPdf**	**07 53 35.0**	**+0.1**
PSA00	**Pilbara Seismi**	**146.60**	**207**	PKPdf	**PKPdf**	**07 53 36.0**	**+0.1**
PSA00				pPKPab	pPKPab	07 54 11.1	+0.8
BJI	**Beijing**	**146.77**	**343**	PKPbc	**PKPdf**	**07 53 36.0**	**+0.5**
BJI				sPKP		07 54 19.3	
BJI				PP	**PP**	**07 57 02.5**	**+1.6**
BJI				AMB	AMB		
	comp=Z,110nm,10.1s						
HHC	**Hu-ho-hao-te**	**147.04**	**350**	*e PKPbc*	**PKPbc**	**07 53 37.5**	**-0.8**
HHC				LR	LR		
	comp=Z,240nm,20.0s						
HHC				LR	LR		
	comp=Z,220nm,20.6s						
HHC				LR	LR		
	comp=Z,210nm,21.0s						
BTO	**Baotou**	**147.52**	**352**	*e PKPbc*	**PKPbc**	**07 53 39.0**	**-0.6**
GTA	**Gaotai**	**148.83**	**7**	⇑PKPbc	**PKPdf**	**07 53 39.8**	**+0.6**
GTA				pPKP	pPKPdf	07 54 07.0	-4.5
GTA				LR	LR		
	comp=Z,100nm,17.4s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,180nm,18.2s						
LZH	**Lanzhou**	**152.42**	**1**	⇑PKPbc	**PKiKP**	**07 53 52.5**	**+0.5**
LZH				pPKP	pPKPdf	07 54 16.0	-1.3
LZH				sPKP		07 54 26.8	
NJ2	**Nanjing**	**152.89**	**332**	⇑*i PKPbc*	**PKPbc**	**07 53 52.0**	**-0.7**
XAN	**Xi'an**	**154.13**	**351**	PKPbc	**PKPdf**	**07 53 47.5**	**+0.3**
XAN				PKPab	**PKPab**	**07 54 08.0**	**-1.3**
XAN				pPKP	pPKPdf	07 54 15.3	-4.4
XAN				LR	LR		
	comp=Z,330nm,14.4s						
XAN				LR	LR		
	comp=Z,190nm,17.3s						
XAN				LR	LR		
	comp=Z,270nm,16.3s						
XAN	**Xi'an**	**154.13**	**351**	PKP2	**PKPab**	**07 54 09.2**	**-0.1**
XAN	**Xi'an**	**154.13**	**351**		**PKPab**	**07 54 09.2**	**-0.1**
CD2	**Chengdu**	**157.57**	**1**	PKP	**PKPdf**	**07 53 51.5**	**-0.4**
KMI	**Kunming**	**163.27**	**5**	⇑PKP	**PKPdf**	**07 53 58.0**	**-0.5**
KMI				pPKP	pPKPdf	07 54 27.5	-3.5
CMAR	**Chiang Mai Arr**	**168.66**	**27**	PKP	**PKPdf**	**07 54 03.5**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=294,slow=1.4,SNR=13						
CMAR				pPKP	**pPKPdf**	**07 54 35.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=304,slow=2.5,SNR=1.6						
CMAR				PKPab	**PKPab**	**07 55 13.5**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=329,slow=6.2,SNR=8.0						
CMAR	**Chiang Mai Arr**	**168.66**	**27**		**PKPdf**	**07 54 02.6**	**-0.1**
CMAR				pPKPdf	**pPKPdf**	**07 54 37.0**	**+1.8**
CM05	**Chiang Mai Arr**	**168.71**	**28**	PKP	**PKPdf**	**07 54 06.7**	**+4.0**

*KRSZO **25** 07:43:02.3±0.9, 44°.16N×17°.80E, h3km±7km, ML2.6/6, Error ellipse: s-maj=2.7km s-min=2.4km az=45.0*
*RHSSO **25** 07:43:03.3±0.2, 44°.12N×17°.77E, h3km±2km, ML2.4/12*
*BEO **25** 07:43:03.1±0.3, 44°.22N×17°.77E, h0km, ML2.1/9*
*PDG **25** 07:43:07.5±0.1, 43°.98N×17°.95E, h0km±11km, ML2.6/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 25 07:43:03.0±1.1, 44°.16N±0°.02×17°.80E±0°.02, h3km±10km, n61, σ0=93/107, 4C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	**Doboj**	**0.61**	**21**	*e Pg*	**Pg**	**07 43 15.1**	**+0.3**
BLY	**Banja Luka**	**0.73**	**324**	*e Pg*	**Pg**	**07 43 16.7**	**-0.3**
BLY				*e Sg*	**Sg**	**07 43 24.5**	**-2.1**
BLY	**Banja Luka**	**0.73**	**324**	⇓*i Pg*	**Pg**	**07 43 16.7**	**-0.3**
BLY				*e Sg*	**Sg**	**07 43 27.2**	**+0.6**
BLY	**Banja Luka**	**0.73**	**324**	Pb	**Pg**	**07 43 16.8**	**-0.3**
	comp=Z,0.6nm,SNR=34						
RICI	**Ricice**	**0.82**	**216**	*e Pg*	**Pg**	**07 43 18.8**	**+0.1**
RICI				Sg	**Sb**	**07 43 30.9**	**-0.4**
HAPS	**Han Pijesak,BI**	**0.84**	**95**	*e Pg*	**Pg**	**07 43 18.6**	**-0.4**
HAPS				*e Sg*	**Sg**	**07 43 28.9**	**-1.0**
HAPS	**Han Pijesak,BI**	**0.84**	**95**	*e Pg*	**Pg**	**07 43 18.6**	**-0.4**
HAPS				*e Sg*	**Sg**	**07 43 30.6**	**+0.7**
MRAK	**Mrakovica**	**1.06**	**323**	*e Pg*	**Pg**	**07 43 22.3**	**-1.1**
MRAK				*e Sg*	**Sg**	**07 43 38.2**	**+0.9**
PRIJ	**Prijedor**	**1.12**	**317**	*e Sg*	**Sg**	**07 43 39.8**	**+0.7**
BBLS	**Lazići**	**1.20**	**104**	*e Pg*	**Pg**	**07 43 25.6**	**-0.4**
BBLS				*e Sg*	**Sg**	**07 43 42.1**	**+0.5**
BBLS	**Lazići**	**1.20**	**104**	*e Pg*	**Pg**	**07 43 25.4**	**-0.6**
BBLS				*e Sg*	**Sg**	**07 43 42.0**	**+0.5**
BBLS	**Lazići**	**1.20**	**104**	Pb	**Pg**	**07 43 26.0**	**0.0**
	comp=Z,0.8nm,SNR=13						
BBLS				Sb	**Sn**	**07 43 45.2**	**+1.6**
UPM	**Unac-Piva**	**1.25**	**140**	*e Pg*	**Pg**	**07 43 25.4**	**-1.6**
UPM				*e Sg*	**Sg**	**07 43 42.5**	**-0.7**
UPM	**Unac-Piva**	**1.25**	**140**	*e Pg*	**Pg**	**07 43 27.1**	**+0.1**
UPM				*i Sg*	**Sg**	**07 43 43.1**	**-0.1**
RUDO	**Rudo**	**1.26**	**115**	*e Pg*	**Pg**	**07 43 25.7**	**-1.5**
RUDO				*e Sg*	**Sg**	**07 43 43.9**	**+0.4**
STON	**Ston**	**1.29**	**183**	*e Pg*	**Pg**	**07 43 26.8**	**-1.0**
STON				*e Sg*	**Sn**	**07 43 46.2**	**+0.5**
STON	**Ston**	**1.29**	**183**	*e Pg*	**Pg**	**07 43 26.1**	**-1.6**
STON				*e Sg*	**Sg**	**07 43 43.3**	**-1.2**
STON	**Ston**	**1.29**	**183**	*e Pg*	**Pg**	**07 43 26.7**	**-1.0**
STON				Sg	**Sb**	**07 43 45.3**	**+0.4**
TEKS	**Tekeris**	**1.30**	**72**	*e Pg*	**Pg**	**07 43 27.4**	**-0.6**
TEKS				*e Sg*	**Sg**	**07 43 45.1**	**+0.2**
TEKS	**Tekeris**	**1.30**	**72**	*e Pg*	**Pg**	**07 43 27.3**	**-0.7**
TEKS				*e Sg*	**Sb**	**07 43 45.4**	**+0.1**
HVAR	**Hvar**	**1.39**	**225**	*e Pg*	**Pn**	**07 43 28.8**	**-0.5**
HVAR				Sg	**Sn**	**07 43 48.8**	**+0.7**
PLE	**Pljevlja**	**1.42**	**125**	⇓*i Pg*	**Pn**	**07 43 30.2**	**+0.3**
PLE				*i Sg*	**Sn**	**07 43 49.4**	**+0.2**
TREB	**Trebinje**	**1.50**	**164**	*e Pg*	**Pn**	**07 43 31.2**	**+0.4**
TREB				*e Sg*	**Sg**	**07 43 53.1**	**+1.9**
TREB	**Trebinje**	**1.50**	**164**	*e Pn*	**Pn**	**07 43 29.9**	**-0.9**
TREB				*e Sn*	**Sn**	**07 43 50.6**	**-0.3**
MORI	**Morici**	**1.54**	**260**	*e Pn*	**Pn**	**07 43 31.5**	**+0.2**
MORI				Sg	**Sg**	**07 43 53.6**	**+1.3**
DIVS	**Divibare**	**1.58**	**92**	*e Pg*	**Pn**	**07 43 31.7**	**-0.4**
DIVS				*e Sg*	**Sg**	**07 43 54.3**	**+0.4**
DIVS	**Divibare**	**1.58**	**92**	*e Pn*	**Pn**	**07 43 31.7**	**-0.4**
DIVS				*e Sn*	**Sb**	**07 43 53.6**	**+0.2**
DIVS	**Divibare**	**1.58**	**92**	Pg	**Pg**	**07 43 36.5**	**+3.1**
NKME	**Niksic**	**1.63**	**148**	⇑*i Pg*	**Pb**	**07 43 33.6**	**-0.1**
NKME				*i Sg*	**Sg**	**07 43 55.8**	**+0.5**
MOSL	**Moslavina**	**1.63**	**333**	*e Pn*	**Pn**	**07 43 31.7**	**-0.9**
ZIRJ	**Zirje**	**1.64**	**253**	*e Pn*	**Pn**	**07 43 33.2**	**+0.5**
ZIRJ				Sg	**Sg**	**07 43 56.8**	**+1.2**
FRGS	**Fruska Gora**	**1.75**	**55**	*e Pg*	**Pn**	**07 43 34.4**	**+0.1**
FRGS				*e Sg*	**Sb**	**07 43 58.5**	**+0.4**
FRGS	**Fruska Gora**	**1.75**	**55**	*e Pn*	**Pn**	**07 43 34.6**	**+0.3**
FRGS				*e Sn*	**Sb**	**07 43 58.7**	**+0.6**
FRGS	**Fruska Gora**	**1.75**	**55**	Pb	**Pn**	**07 43 35.0**	**+0.7**
	comp=Z,0.1nm,SNR=7.9						
FRGS				Sg	**Sn**	**07 43 56.4**	**-0.7**
HCY	**Herceg Novi**	**1.79**	**163**	*e Pn*	**Pn**	**07 43 34.4**	**-0.4**
HCY				*e Sn*	**Sn**	**07 43 57.8**	**-0.2**
HCY	**Herceg Novi**	**1.79**	**163**	⇓*i Pn*	**Pb**	**07 43 36.8**	**+0.4**
HCY				*i Sn*	**Sg**	**07 44 01.6**	**+1.2**
CEME	**Cevo**	**1.81**	**153**	*e Pn*	**Pb**	**07 43 36.5**	**-0.3**
CEME				*i Sn*	**Sg**	**07 44 02.1**	**+1.0**
KOME	**Kolasin**	**1.81**	**136**	⇑*i Pn*	**Pb**	**07 43 37.0**	**+0.1**
KOME				*i Sn*	**Sg**	**07 44 02.3**	**+1.1**
SJES	**Sjenica**	**1.82**	**119**	*e Pg*	**Pn**	**07 43 36.0**	**+0.7**
SJES				*e Sg*	**Sg**	**07 44 02.4**	**+1.0**
TRUS	**Trudelj**	**1.88**	**87**	*e Pn*	**Pn**	**07 43 36.3**	**+0.3**
KOVH	**Kovagotottos**	**1.94**	**6**	*e P*	**Pn**	**07 43 35.5**	**-1.3**
KOVH				*e S*	**Sn**	**07 43 59.8**	**-2.0**
KOVH	**Kovagotottos**	**1.94**	**6**	Pn	**Pn**	**07 43 35.5**	**-1.3**
	SNR=2.6						
KOVH				Sn	**Sn**	**07 43 59.8**	**-2.0**
DUGI	**Dugi Otok**	**1.98**	**266**	Sn	**Sb**	**07 44 05.1**	**+0.4**
BUM	**Brajici-Budva**	**2.03**	**156**	⇓*i Pn*	**Pb**	**07 43 41.0**	**+0.5**
BUM				*i Sn*	**Sg**	**07 44 07.5**	**-0.6**
PDG	**Podgorica**	**2.03**	**148**	*e Pn*	**Pn**	**07 43 37.8**	**-0.3**
PDG				*e Sn*	**Sn**	**07 44 03.5**	**-0.5**
TTG	**Podgorica**	**2.03**	**148**	⇑*i Pn*	**Pb**	**07 43 41.0**	**+0.4**
TTG				*i Sn*	**Sg**	**07 44 07.6**	**-0.7**
NVLJ	**Novalja**	**2.13**	**282**	Sn	**Sb**	**07 44 09.5**	**+0.3**
MORH	**Mrgy, Hungar**	**2.14**	**16**	*e P*	**Pn**	**07 43 38.2**	**-1.4**
MORH	**Mrgy, Hungar**	**2.14**	**16**	*e Pn*	**Pn**	**07 43 40.7**	**+1.1**
MORH				*e Sn*	**Sn**	**07 44 08.1**	**+1.4**
MORH	**Mrgy, Hungar**	**2.14**	**16**	Pg	**Pn**	**07 43 38.2**	**-1.4**
	SNR=3.0						
KALN	**Kalnik**	**2.19**	**335**	Sn	**Sn**	**07 44 09.4**	**+1.5**
DRME	**Dracevica, Mon**	**2.22**	**152**	*e Pn*	**Pn**	**07 43 41.0**	**+0.3**
DRME				*e Sn*	**Sn**	**07 44 08.0**	**-0.7**
DRME	**Dracevica, Mon**	**2.22**	**152**	⇓*i Pn*	**Pb**	**07 43 43.7**	**-0.1**
DRME				*i Sn*	**Sb**	**07 44 12.2**	**+0.6**
BEHE	**Becsehely**	**2.42**	**343**	*e P*	**Pn**	**07 43 43.6**	**+0.1**
BEHE	**Becsehely**	**2.42**	**343**	Pn	**Pn**	**07 43 43.6**	**+0.1**
	comp=Z,0.2nm,SNR=2.5						
ULC	**Ulcinj**	**2.44**	**154**	⇑*i Pn*	**Pb**	**07 43 46.7**	**-0.8**
ULC				*i Sn*	**Sb**	**07 44 17.5**	**-0.5**
SELS	**Selova**	**2.59**	**110**	*e Pn*	**Pn**	**07 43 46.1**	**+0.3**
BZS	**Buzias**	**3.08**	**60**	Sn	**Sn**	**07 44 27.0**	**-2.9**
OBKA	**Obir**	**3.28**	**317**	*e Pn*	**Pn**	**07 43 56.0**	**+0.6**
OBKA				*e Sn*	**Sn**	**07 44 34.8**	**-0.1**
MODS	**Modra-Piesok**	**4.23**	**355**	*e PN*	**Pn**	**07 44 08.9**	**+0.5**
MODS				*e SN*	**Sn**	**07 44 58.8**	**+0.6**
VYHS	**Vyhne**	**4.39**	**9**	*e PN*	**Pn**	**07 44 10.8**	**+0.2**
VYHS				*e SN*	**Sn**	**07 45 01.9**	**-0.4**

IDC 25 08:35:24.1±1.7, 7°.07S×128°.34E, h0km, mb4.1/1, mb1 4.3/4, mb1mx3.7/43, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=56.0km s-min=28.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.81**	**26**	Pn	**Pn**	08 37 05.8	+0.4
	1.6nm,0.3s,baz=251,slow=23,SNR=10						
SIJI				Sn	**Sn**	08 38 11.3	-13
	2.9nm,0.3s,baz=234,slow=23,SNR=7.9						
WRA	**Warramunga Arr**	**14.06**	**156**	Pn	**Pn**	08 38 43.7	-1.1
	1.3nm,0.3s,baz=335,slow=14,SNR=56						
WRA				Sn	**Sn**	08 41 05.2	-17
	0.6nm,0.3s,baz=342,slow=22,SNR=2.3						
ASAR	**Alice Springs**	**17.35**	**163**	P	**P**	08 39 28.8	-0.6
	0.9nm,0.3s,baz=344,slow=9.8,SNR=51						
ASAR				S	**Sn**	08 42 31.9	-10
	0.4nm,0.3s,baz=336,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**67.39**	**328**	P	**P**	08 46 21.3	-0.1
	0.9nm,0.5s,baz=116,slow=8.3,SNR=13						

*BJI **25** 08:41:04.7±0.0, 12°.67N×125°.03E, h65km, mB4.8/38, mb4.7/57, Ms4.3/35, Ms7 4.0/31*
*GCMT **25** 08:41:05.7±0.4, 12°.95N±0°.02×124°.91E±0°.02, h53km±2km, MW4.9/75, Moment Tensor Solution. s16,c18; s75,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.58±.20; $M_{\theta\theta}$2.30±.13; $M_{\phi\phi}$-2.87±.14; $M_{r\theta}$-0.81±.09; $M_{\phi\theta}$-0.23±.14; $M_{\phi r}$1.39±.12; Best double couple: $M_0$3.04500×10^{16} NP1:ϕ_s228.00000°, δ57.00000°, λ175.00000°. NP2: ϕ_s320.00000°, δ86.00000°, λ33.00000°. Principal axes: T 2.7300, Plg25.0000°, Azm189.0000°; N 0.6390, Plg57.0000°, Azm326.0000°; P -3.3610, Plg20.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MAN **25** 08:41:07.2, 12°.94N×124°.79E, h42km, mb5.8, ML4.8, MS5.2*
*IDC **25** 08:41:09.6±2.2, 12°.82N×124°.70E, h75km±19km, mb4.3/37, mb1 4.4/40, mb1mx4.2/72, mbtmp4.6/40, MS3.8/23, Ms1 3.8/23, ms1mx3.7/44, Error ellipse: s-maj=14.8km s-min=7.6km az=75.0*
*NEIC **25** 08:41:09.7±1.6, 12°.85N±0°.07×124°.8E±0°.1, h71km±6km, mb4.9/59, Error ellipse: s-maj=14.9km s-min=10.2km az=71.0*
*DJA **25** 08:41:13.0±0.4, 13°N±3°×12°5E±°, h93km±5km, M4.9/30, mB5.3/16, mb4.9/30, MLv5.4/2, Mw(mB)4.7/16*

ISC 25 08:41:09.4±0.5, 12°.85N±0°.03×124°.84E±0°.05, h71km±4km, h72km; pP-P, n255, σ1=60/257, mb4.8/77, 5C-9D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**1.28**	**248**	⇓*i P*	**Pn**	**08 41 29.4**	**-2.2**
MMPH				*i S*	**Sn**	**08 41 46.1**	**-2.1**
RCP	**Roxas**	**2.42**	**238**	⇓*e P*	**Pn**	**08 41 45.3**	**-1.4**
RCP				*e S*	**Sn**	**08 42 14.6**	**-0.7**
GQP	**Guinayangan**	**2.56**	**295**	⇓*e P*	**Pn**	**08 41 46.1**	**-2.5**
LLP	**Lapu-Lapu**	**2.66**	**199**	⇑*i P*	**Pn**	**08 41 48.8**	**-1.2**
LLP				*i S*	**Sn**	**08 42 21.7**	**+0.5**
LQP	**Lukban**	**3.45**	**292**	⇓*e P*	**Pn**	**08 41 58.7**	**-2.2**
JAP	**San Jose, Anti**	**3.52**	**234**	⇓*e P*	**Pn**	**08 42 03.0**	**+1.3**
JAP				*e S*	**Sn**	**08 42 42.7**	**+0.5**
TGY	**Tagaytay City**	**4.00**	**289**	*e P*	**Pn**	**08 42 08.2**	**-0.1**
CGP	**Cagayan de Oro**	**4.37**	**182**	⇓*e P*	**Pn**	**08 42 17.7**	**+4.3**
CGP				*e S*	**Sn**	**08 43 05.5**	**+2.6**
DCPH	**Dipolog City**	**4.48**	**199**	⇑*e P*	**Pn**	**08 42 15.0**	**+0.1**
DCPH				*e S*	**Sn**	**08 43 06.0**	**+0.2**
PCPH	**Palayan**	**4.52**	**307**	⇓*e P*	**Pn**	**08 42 15.2**	**-0.2**
BIPH	**Bislig**	**4.87**	**162**	⇑*i P*	**Pn**	**08 42 20.5**	**+0.3**
BIPH				*i S*	**Sn**	**08 43 12.4**	**-2.9**
DAV	**Davao City (W)**	**5.79**	**173**	P	**Pn**	**08 42 33.7**	**+1.0**
	10.0nm,0.3s,baz=232,slow=12,SNR=1.0						
DAV	**Davao City (W)**	**5.79**	**173**	Pn	**Pn**	**08 42 32.6**	**-0.1**
KCP	**Kidapawan**	**5.81**	**178**	⇓*e P*	**Pn**	**08 42 35.3**	**+2.2**
KCP				*i S*	**Sn**	**08 43 45.6**	**+7.2**
SZP	**Santa**	**6.31**	**318**	Pn	**Pn**	**08 42 41.8**	**+2.0**
SGSI	**Sangihe**	**9.13**	**176**	P	**Pn**	**08 43 21.2**	**+2.8**
	191nm,1.2s						
TNTI	**Ternate**	**12.26**	**168**	Pn	**Pn**	**08 44 02.5**	**+1.4**
GTOI	**Gorontalo**	**12.27**	**189**	P	**Pn**	**08 44 01.5**	**+0.2**
	856nm63nm,1.6s						
TOLI2	**Tolitoli**	**12.34**	**199**	Pn	**Pn**	**08 44 02.1**	**-0.1**
MRSI	**Marisa**	**12.62**	**193**	P	**Pn**	**08 44 08.1**	**+2.0**
	94nm,1.0s						
MPSI	**Mapaga**	**13.36**	**202**	P	**Pn**	**08 44 17.4**	**+1.3**
	24nm,0.9s						
LUWI	**Luwuk**	**13.95**	**189**	Pn	**Pn**	**08 44 21.6**	**-2.3**
LUWI	**Luwuk**	**13.95**	**189**	P	**Pn**	**08 44 25.7**	**+1.8**
	179nm,0.9s						
APSI	**Ampana**	**14.03**	**193**	P	**Pn**	**08 44 27.7**	**+2.8**
	2μm184nm,1.4s						
SANI	**Sanana**	**14.85**	**176**	P	**Pn**	**08 44 32.5**	**-3.0**
	800nm82nm,1.0s						
SIJI	**Sorong**	**15.05**	**154**	P	**P**	**08 44 41.8**	**-0.1**
	2.9nm,0.3s,baz=7.9,slow=7.7,SNR=5.4						
QIZ	**Qiongzhong**	**15.67**	**295**	P	**Pn**	**08 44 45.3**	**-0.8**
QIZ				S	**Sn**	**08 47 38.3**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,200nm,2.8s						
QIZ				LR	LR		
	comp=N,490nm,17.8s						
QIZ				LR	LR		
	comp=E,470nm,16.9s						
QIZ				LR	LR		
	comp=Z,540nm,18.6s						
NLAI	**Namlea**	**16.14**	**172**	P	**Pn**	**08 44 52.1**	**+0.1**
	56nm,0.8s						
TTSI	**Tana Toraja**	**16.56**	**198**	P	**Pn**	**08 44 57.9**	**+0.7**
	109nm,0.8s						
MSAI	**Masohi**	**16.59**	**166**	P	**P**	**08 45 02.4**	**+3.4**
MTKI	**Muara Teweh, K**	**16.88**	**216**	P	**P**	**08 45 03.5**	**+1.3**
BNSI	**Bone**	**17.77**	**196**	P	**Pn**	**08 45 15.4**	**+3.3**
	2μm87nm,1.6s						
KBKI	**Kotabaru**	**18.21**	**209**	P	Pn	08 45 26.2	+8.8
KAPI	**Kappang**	**18.45**	**196**	P	**Pn**	**08 45 20.6**	**+0.2**
	2.3nm,0.3s,baz=33,slow=7.8,SNR=12						
KAPI	**Kappang**	**18.45**	**196**	P	**P**	**08 45 19.3**	**-0.2**
KAPI				IAmb	IAmb	08 45 40.5	
	comp=Z,66nm,0.9s						
BKSI	**Bulukumba**	**18.65**	**195**	P	**Pn**	**08 45 23.9**	**+1.2**
	comp=Z,36nm,0.8s						
BBKI	**Banjar Baru**	**19.01**	**212**	P	**Pn**	**08 45 26.5**	**-0.5**
	comp=Z,38nm,1.1s						
GUMO	**Guam**	**19.51**	**86**	P	**P**	**08 45 31.9**	**+0.8**
	comp=Z,6.2nm,0.3s,baz=225,slow=4.9,SNR=12						
GUMO	**Guam**	**19.51**	**86**		**P**	**08 45 31.7**	**+0.6**
NJ2	**Nanjing**	**19.89**	**345**	⇓P	**Pn**	**08 45 39.0**	**+1.7**
NJ2				pP	**pP**	**08 45 52.3**	**+2.8**
NJ2				S	**Sn**	**08

CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 LR LR
comp=Z,670nm,17.2s
CD2 LR LR
comp=Z,620nm,15.8s
CD2 LR LR
comp=Z,330nm,15.8s
MDSI Maura Dua 26.80 231 P P 08 46 56.8 +14
KSI Kapahiang 27.52 235 P P 08 47 02.7 +13
RPSI Rantau Prapat 27.55 251 P **P** **08 46 51.2 +1.3**
MNSI Mandailing Nat 27.75 246 P P 08 47 04.3 +13
BJT Baijiatuau 28.12 346 P **P** **08 46 54.1 -0.5**
BJI Beijing 28.14 346 P **P** **08 46 54.3 -0.5**
BJI pP **pP** **08 47 11.3 +0.2**
BJI sP **sP** **08 47 17.8 -1.5**
BJI pmax pmax
comp=Z,15nm,1.1s
KNRA Kununurra 28.61 172 P **P** **08 46 59.3 +0.2**
KNRA IAmb IAmb 08 47 24.8
comp=Z,17nm,0.7s
JMM Marumori 28.69 27 P **P** **08 46 58.5 -1.2**
JMM IAmb IAmb 08 46 58.9
comp=Z,22nm,0.8s
LZH Lanzhou 29.88 324 *eP* **P** **08 47 13.5 +3.0**
LZH sP sP 08 47 39.5 +4.6
LZH SS SS 08 53 50.5 -22
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,79nm,5.4s
LZH LR LR
comp=Z,290nm,16.8s
LZH LR LR
comp=Z,250nm,16.3s
LZH LR LR
comp=Z,220nm,16.8s
HHC Hu-ho-hao-te 30.23 340 *eP* **P** **08 47 13.5 +0.1**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,51nm,4.9s
HHC LR LR
comp=Z,210nm,14.2s
HHC LR LR
comp=Z,220nm,13.6s
HHC LR LR
comp=Z,210nm,13.7s
BTO Baotou 30.56 337 *eP* **P** **08 47 18.8 +2.4**
BTO S **S** **08 52 17.0 +3.8**
BTO LR LR
comp=Z,430nm,13.0s
BTO LR LR
comp=Z,310nm,13.0s
BTO LR LR
comp=Z,500nm,11.4s
USA0B Ussuriysk Arra 31.84 10 P **P** **08 47 27.9 +0.4**
USA0B IAmb IAmb 08 47 28.3
comp=Z,24nm,0.8s
USRK Ussuriysk Ar. 31.84 10 P **P** **08 47 27.4 0.0**
comp=Z,21nm,0.7s,baz=196,slow=7.8,SNR=58
USRK LR LR 08 59 19.7
comp=Z,145nm,21.9s,baz=172,slow=34
USRK Ussuriysk Ar. 31.84 10 P **P** **08 47 27.6 +0.2**
MDJ Mudanjiang 31.92 6 P **P** **08 47 28.5 +0.4**
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ Mudanjiang 31.92 6 P **P** **08 47 27.9 -0.2**
MDJ IAmb IAmb 08 47 29.8
comp=Z,18nm,0.8s
WB0 Warramunga Arr 33.75 164 P **P** **08 47 43.0 -1.4**
WB0 IAmb IAmb 08 47 44.6
comp=Z,9.4nm,0.8s
WRAB Tennant Creek 33.89 164 P **P** **08 47 45.2 -0.4**
WRAB IAmb IAmb 08 48 08.1
comp=Z,14nm,1.1s
WRA Warramunga Arr 33.90 164 P **P** **08 47 43.8 -1.9**
comp=Z,5.3nm,0.7s,baz=341,slow=9.8,SNR=27
WRA S **S** **08 52 58.7 -6.6**
comp=Z,4.1nm,1.0s,baz=342,slow=12,SNR=5.1
WRA Warramunga Arr 33.90 164 P **P** **08 47 44.3 -1.4**
WR0 Warramunga Arr 33.97 164 P **P** **08 47 45.7 -0.6**
WR0 IAmb IAmb 08 47 56.0
comp=Z,7.9nm,0.6s
GTA Gaotai 34.48 325 *eP* **P** **08 47 51.0 +0.3**
GTA pP pP 08 48 04.8 -2.4
GTA sP sP 08 48 13.0 -2.3
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,46nm,4.7s
GTA LR LR
comp=Z,120nm,14.2s
GTA LR LR
comp=Z,120nm,13.8s
ASAJ Asahikawa 34.69 23 P **P** **08 47 51.2 -1.1**
comp=Z,6.7nm,0.8s,baz=241,slow=12,SNR=6.2
JKA Kamikawa-asahi 34.69 23 P **P** **08 47 51.2 -1.1**
LSA Lhasa 35.42 304 P **P** **08 48 00.3 +1.0**
KLR Kul'dur 36.72 8 P **P** **08 48 09.1 -0.5**
comp=Z,8.9nm,0.9s,baz=198,slow=5.4,SNR=23
KLR PcP **PcP** **08 50 31.2 +0.4**
comp=Z,4.4nm,0.8s,baz=254,slow=2.2,SNR=6.2
KLR LR LR 09 03 40.2
comp=Z,59nm,19.7s,baz=192,slow=37
GIRL Giralia 36.77 197 P **P** **08 48 10.5 +0.2**
AS31 Alice Springs 37.36 166 P **P** **08 48 15.2 -0.1**
ASAR Alice Springs 37.36 166 P **P** **08 48 14.9 -0.4**
comp=Z,8.9nm,0.6s,baz=340,slow=6.5,SNR=85
ASAR S **S** **08 53 57.0 -1.3**
comp=Z,4.3nm,1.0s,baz=348,slow=18,SNR=11
ASAR Alice Springs 37.36 166 P **P** **08 48 15.6 +0.3**
ULN Ulaanbaatar 37.94 340 P **P** **08 48 20.1 0.0**
ULN IAmb IAmb 08 48 39.3
comp=Z,13nm,0.8s
SONM Songino Array 38.13 340 P **P** **08 48 21.5 -0.2**
comp=Z,5.8nm,0.8s,baz=116,slow=35,SNR=16
SONM PcP **PcP** **08 50 35.4 0.0**
comp=Z,1.9nm,0.8s,baz=163,slow=5.6,SNR=2.6
SONM LR LR 09 04 17.2
comp=Z,142nm,20.5s,baz=154,slow=36
SONM Songino Array 38.13 340 P **P** **08 48 21.7 0.0**
SONM IAmb IAmb 08 48 36.9
comp=Z,12nm,1.1s
CTA Charters Tower 38.93 147 P **P** **08 48 28.7 +0.2**
comp=Z,3.0nm,0.7s,baz=324,slow=9.6,SNR=6.6
CTAO Charters Tower 38.93 147 P **P** **08 48 28.7 +0.2**
H11S3 WAKE ISLAND Hy 40.61 77 T T 09 32 18.2
baz=269,slow=75,SNR=69
H11S1 WAKE ISLAND Hy 40.62 77 T T 09 32 18.9
baz=269,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 40.63 77 T T 09 32 20.0
baz=269,slow=75,SNR=34
H11N1 WAKE ISLAND Hy 40.85 75 T T 09 32 41.6
baz=267,slow=74,SNR=566
H11N2 WAKE ISLAND Hy 40.86 75 T T 09 32 40.1
baz=267,slow=74,SNR=421
H11N3 WAKE ISLAND Hy 40.87 75 T T 09 32 43.1
baz=267,slow=74,SNR=613
HNR Honiara 41.30 121 LR LR 09 03 19.4
comp=Z,243nm,21.4s,baz=288,slow=32
FORT Forrest 43.49 176 P **P** **08 49 05.0 -0.7**
WMQ Urumqi 44.34 321 *eP* **P** **08 49 13.8 +1.1**
WMQ pmax pmax
comp=Z,16nm,0.8s
WMQ pmax pmax
comp=Z,71nm,3.8s
WMQ LR LR
comp=Z,400nm,14.5s
WMQ LR LR
comp=Z,330nm,15.7s
WMQ LR LR
comp=Z,190nm,23.3s
HYB Hyderabad 44.83 282 *i* P **P** **08 49 15.0 -1.9**
EIDS Eidsvold 45.79 146 P **P** **08 49 23.4 -0.9**
NWAO Narrogin (SRO) 46.09 189 P **P** **08 49 24.4 -2.1**
comp=Z,8.4nm,0.8s,baz=66,slow=10.0,SNR=1.8
STKA Stephens Creek 47.28 160 P **P** **08 49 35.9 +0.1**
comp=Z,35nm,0.8s,baz=334,slow=8.2,SNR=42
STKA LR LR 09 12 30.7
comp=Z,62nm,20.0s,baz=1.2,slow=40
STKA Stephens Creek 47.28 160 P **P** **08 49 36.1 +0.4**
PEA0B Petropavlovsk- 47.92 26 P **P** **08 49 41.4 +0.9**
PETK Petropavlovsk- 47.92 26 P **P** **08 49 41.2 +0.7**
comp=Z,18nm,0.8s,baz=202,slow=7.5,SNR=42
PETK PcP **PcP** **08 51 08.3 +0.5**
comp=Z,2.6nm,0.8s,baz=191,slow=1.5,SNR=1.7
PETK LR LR 09 10 01.8
comp=Z,101nm,19.5s,baz=225,slow=36
PETK Petropavlovsk- 47.92 26 P **P** **08 49 40.7 +0.2**
MK31 Makanchi Array 49.14 322 P **P** **08 49 50.1 0.0**
MK31 IAmb IAmb 08 50 10.8
comp=Z,13nm,1.3s
MKAR Makanchi Array 49.14 322 P **P** **08 49 50.1 +0.1**
comp=Z,4.0nm,1.0s,baz=116,slow=8.4,SNR=19
MKAR LR LR 09 09 45.6
comp=Z,91nm,19.9s,baz=126,slow=35
YAK Yakutsk 49.23 3 P **P** **08 49 49.6 -0.8**
comp=Z,9.8nm,0.3s,baz=345,slow=7.6,SNR=7.5
YAK LR LR 09 11 30.3
comp=Z,115nm,19.6s,baz=267,slow=37
YAK Yakutsk 49.23 3 P **P** **08 49 49.6 -0.8**
MAKZ Makanchi 49.34 322 P **P** **08 49 51.6 +0.1**
MAKZ IAmb IAmb 08 50 10.9
comp=Z,8.3nm,0.8s
TARG Taragay, Kyrgy 49.91 314 P **P** **08 49 57.4 +1.0**
KSH Kashi 50.48 311 P **P** **08 50 01.8 +1.3**
KSH pP pP 08 50 19.0 +1.3
KSH PP PP 08 52 04.8 +8.1
KSH S **S** **08 57 09.8 +0.5**
KSH pmax pmax
comp=Z,7.0nm,0.5s
KSH pmax pmax
comp=Z,67nm,4.9s
KSH LR LR
comp=Z,110nm,7.6s
NIL Nilore 51.15 303 P **P** **08 50 05.1 -0.4**
NIL IAmb IAmb 08 50 08.6
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 51.71 331 P **P** **08 50 08.4 -0.8**
ZAA0 IAmb IAmb 08 50 10.0
comp=Z,18nm,1.2s
ZALV Zalesovo Beam 51.71 331 P **P** **08 50 08.5 -0.7**
comp=Z,24nm,1.1s,baz=116,slow=6.8,SNR=19
ZALV LR LR 09 15 00.5
comp=Z,92nm,18.2s,baz=146,slow=39
KURK Kurchatov 53.16 325 P **P** **08 50 19.9 -0.1**
KURBB Kurchatov Arra 53.17 325 P **P** **08 50 19.9 -0.2**
comp=Z,6.5nm,0.8s,baz=121,slow=7.4,SNR=36
DZM Mont Dzumac 53.56 130 P **P** **08 50 24.7 +1.2**
comp=Z,11nm,0.6s,baz=352,slow=18,SNR=9.1
DZM Mont Dzumac 53.56 130 *eP* **P** **08 50 24.0 +0.5**
comp=Z,31nm,0.9s
DZM Mont Dzumac 53.56 130 *e*LR LR 09 06 00.0
comp=Z,148nm,27.8s
DZM Mont Dzumac 53.56 130 IAmb IAmb 08 50 48.6
comp=Z,19nm,1.2s
SEY Seymchan 53.70 15 P **P** **08 50 24.8 +1.0**
comp=Z,5.0nm,0.7s,baz=210,slow=6.1,SNR=16
GAR Garm 54.58 309 P **P** **08 50 30.1 -0.7**
KK31 Karatay Array 55.46 314 P **P** **08 50 36.1 -0.8**
KK31 IAmb IAmb 08 50 53.6
comp=Z,13nm,1.1s
KKAR Karatay Array 55.46 314 P **P** **08 50 36.4 -0.5**
KKAR IAmb IAmb 08 50 53.6
comp=Z,13nm,1.1s
KKAR Karatay Array 55.46 314 P **P** **08 50 36.0 -0.9**
AMKA Amchitka 58.17 37 P **P** **08 50 56.2 +0.4**
AMKA pP **pP** **08 51 13.7 +0.6**
TIXI Tiksi 58.82 1 LR LR 09 16 50.4
comp=Z,204nm,22.0s,baz=189,slow=36
BRVK Borovoye 58.83 325 P **P** **08 50 59.3 -1.2**
BRVK pP **pP** **08 51 17.4 -0.6**
MSVF Nonsavu 60.67 119 P **P** **08 51 15.9 +2.1**
comp=Z,14nm,0.8s,baz=37,slow=17,SNR=5.1
NRIK Noril'sk 61.19 346 P **P** **08 51 16.3 0.0**
comp=Z,19nm,1.0s,baz=126,slow=6.9,SNR=19
NRIK LR LR 09 20 00.1
comp=Z,73nm,18.0s,baz=146,slow=38
NRIK Noril'sk 61.19 346 P **P** **08 51 15.9 -0.4**
BILL Bilibino 61.33 16 P **P** **08 51 17.6 +0.3**
GEYT Alibeck 63.90 306 LR LR 09 23 33.1
comp=Z,110nm,18.6s,baz=170,slow=40
ABKAR Akbulak array 64.02 319 P **P** **08 51 34.8 -0.8**
ABKAR pP **pP** **08 51 51.3 -2.1**
ABKAR Akbulak array 64.02 319 P **P** **08 51 34.5 -1.0**
ABKAR IAmb IAmb 08 51 52.9
comp=Z,7.3nm,1.0s
NIKH Nikolski High 65.61 37 P **P** **08 51 45.5 -0.3**
baz=259
ARU Arti 66.32 326 P **P** **08 51 49.4 -0.8**
comp=Z,1.5nm,0.3s,baz=174,slow=3.7,SNR=8.9
ARU Arti 66.32 326 P **P** **08 51 49.2 -1.0**
ARU **pP** **08 52 05.8 -2.4**
ARU IAmb IAmb 08 52 06.8
comp=Z,9.1nm,0.6s
BKZ Black Stump Fm 70.64 140 P **P** **08 52 17.5 -0.1**
KIRV Kirov 71.53 328 P **P** **08 52 21.7 -0.8**
comp=Z,19nm,0.9s,baz=100,slow=6.1,SNR=6.0
RDOG Red Dog Mine 71.55 22 P **P** **08 52 24.4 +1.9**
baz=258
RDOG Red Dog Mine 71.55 22 P **P** **08 52 23.8 +1.3**
RDOG IAmb IAmb 08 52 26.6
comp=Z,15nm,1.3s
N18K Kilae Creek 73.64 30 P **P** **08 52 35.7 +0.6**
baz=267
O18K Koktuh Hills 73.94 31 P **P** **08 52 37.7 +0.8**
baz=268
L19K White Mountain 74.21 29 P **P** **08 52 39.4 +1.0**
baz=268,SNR=8.9
N19K Bonanza Creek 74.33 30 P **P** **08 52 40.1 +0.8**
baz=268,SNR=7.0
M19K Big River Lodg 74.41 29 P **P** **08 52 40.7 +1.1**
baz=268
J20K Nowinta River 74.61 27 P **P** **08 52 41.6 +0.9**
baz=268
K20K Telida 74.61 28 P **P** **08 52 42.0 +1.3**
baz=268,SNR=6.4
IMAR Indian Mountai 74.86 25 P **P** **08 52 42.2 +0.1**
M20K Styx River 75.01 29 P **P** **08 52 43.7 +0.5**
baz=269
KDAK Kodiak Island 75.28 33 P **P** **08 52 44.8 +0.2**
comp=Z,6.7nm,0.8s,baz=320,slow=5.0,SNR=7.0
KDAK Kodiak Island 75.28 33 IAmb IAmb 08 52 59.1
comp=Z,22nm,1.4s
CHUM Lake Minchumin 75.41 27 P **P** **08 52 46.0 +0.8**
baz=269,SNR=7.1
KBZ Khabaz 75.45 312 P **P** **08 52 46.5 +0.7**
comp=Z,0.8nm,0.6s,baz=86,slow=12,SNR=4.3
KBZ LR LR 09 30 32.8
comp=Z,57nm,18.2s,baz=85,slow=39
I21K Tanana 75.57 26 P **P** **08 52 47.2 +1.1**
baz=269
SKT Skwentna 75.77 29 P **P** **08 52 46.9 -0.5**
baz=271
BPAW Bear Paw Mtn. 76.00 27 P **P** **08 52 49.2 +0.5**
baz=270,SNR=25
BPAW Bear Paw Mtn. 76.00 27 P **P** **08 52 48.5 -0.1**
MLY Manley 76.09 26 P **P** **08 52 49.9 +0.6**
baz=270
MLY Manley 76.09 26 P **P** **08 52 49.8 +0.6**
MLY IAmb IAmb 08 52 50.9
comp=Z,17nm,0.9s
SUA Susitna One 76.15 29 P **P** **08 52 49.3 -0.4**
baz=271
TRF Thorofare Moun 76.31 27 P **P** **08 52 50.7 +0.1**
baz=271
TOLK Toolik Lake Re 76.52 22 P **P** **08 52 52.7 +1.1**
baz=271
H23K Yukon River 76.58 25 P **P** **08 52 52.9 +1.0**
baz=271
I23K Minto, Yukon-K 76.68 26 P **P** **08 52 53.2 +0.8**
baz=272
NEA2 Nenana 76.82 26 P **P** **08 52 53.6 +0.4**
baz=272,SNR=8.9
NEA2 Nenana 76.82 26 P **P** **08 52 53.5 +0.2**
NEA2 IAmb IAmb 08 52 55.1
comp=Z,15nm,0.8s
MCK McKinley 76.91 27 P **P** **08 52 53.6 -0.2**
baz=272,SNR=12
MCK McKinley 76.91 27 P **P** **08 52 53.4 -0.4**
PMR Palmer 76.92 29 P **P** **08 52 53.3 -0.6**
baz=273
WAT1 Susitna Watana 77.13 28 P **P** **08 52 54.5 -0.6**
baz=273
KNK Knik Glacier 77.25 29 P **P** **08 52 55.9 +0.1**
baz=273
H24K Noodor Dome 77.27 25 P **P** **08 52 56.6 +0.8**
baz=273
SML Sawmill 77.29 29 P **P** **08 52 55.8 -0.2**
baz=273
TCOL CIGO, UAF Yank 77.32 26 P **P** **08 52 56.2 +0.1**
baz=273
PWL Port Wells 77.34 30 P **P** **08 52 56.0 -0.3**
PWL IAmb IAmb 08 52 57.0
comp=Z,18nm,0.8s
WAT6 Susitna Watana 77.52 28 P **P** **08 52 57.5 +0.1**
baz=274
HDA Harding Lake 77.75 26 P **P** **08 52 57.7 -0.8**
baz=274,SNR=6.3
ILAR Eielson Array 77.75 26 P **P** **08 52 58.6 +0.1**
comp=Z,3.1nm,0.8s,baz=238,slow=5.5,SNR=12
ILAR LR LR 09 26 16.7
comp=Z,76nm,21.7s,baz=290,slow=35
SCM Sheep Creek Mo 77.76 29 P **P** **08 52 58.8 +0.1**
SCM IAmb IAmb 08 52 59.7
comp=Z,18nm,0.8s
KLU Klutina 78.46 29 P **P** **08 53 02.4 -0.2**
baz=276
BMAR Burnt Mountain 78.46 23 P **P** **08 53 03.5 +1.1**
PAX Paxson 78.52 28 P **P** **08 53 03.1 +0.2**
baz=276
RIDG Independent Ri 78.72 27 P **P** **08 53 03.7 -0.3**
baz=276,SNR=12
N25K Chitina, Valde 79.08 29 P **P** **08 53 06.3 +0.4**
baz=277
SCRK Sand Creek 79.08 27 P **P** **08 53 05.8 -0.1**
baz=277,SNR=6.7
BMRM Bremner River 79.15 30 P **P** **08 53 06.6 +0.3**
baz=277
L26K Log Cabin Wild 79.48 28 P **P** **08 53 08.8 +0.8**
baz=278,SNR=6.3
M26K Nabesna, AK 79.72 28 P **P** **08 53 09.9 +0.5**
baz=278,SNR=9.0
K27K Chicken 79.91 27 P **P** **08 53 11.3 +1.0**
baz=278
K27K Chicken 79.91 27 P **P** **08 53 11.2 +1.0**
K27K IAmb IAmb 08 53 12.5
comp=Z,14nm,1.1s
CRQE Cirque 79.91 30 P **P** **08 53 11.4 +0.9**
baz=278,SNR=6.4
L27K Beaver Creek, 80.16 27 P **P** **08 53 12.5 +0.7**
baz=279,SNR=8.6
BCAR Beaver Creek A 80.18 27 P **P** **08 53 12.4 +0.6**
EGAK Eagle 80.18 26 P **P** **08 53 11.7 -0.1**
baz=279
M27K Edge Creek, AK 80.25 28 P **P** **08 53 12.6 +0.3**
baz=279,SNR=6.7
CTG Chitna Glacier 80.72 30 P **P** **08 53 15.8 +0.9**
baz=280,SNR=8.9
SPITS Spitsbergen Ar 81.23 349 P **P** **08 53 16.6 -0.5**
comp=Z,5.1nm,0.7s,baz=80,slow=10,SNR=3.8
ARCES ARCESS Array B 81.30 339 P **P** **08 53 17.5 -0.2**
comp=Z,8.6nm,0.8s,baz=78,slow=6.3,SNR=13
PINM Pinnacle 81.41 30 P **P** **08 53 19.4 +0.9**
baz=281
EPYK Eagle Plains 81.69 24 P **P** **08 53 20.2 +0.3**
baz=283
INK Inuvik 82.42 22 P **P** **08 53 23.2 -0.3**
comp=Z,8.5nm,0.9s,baz=280,slow=7.9,SNR=8.8
INK Inuvik 82.42 22 P **P** **08 53 23.5 0.0**
baz=286
HYT Haines Junctio 82.59 29 P **P** **08 53 25.8 +1.0**
HYT IAmb IAmb 08 53 27.3
comp=Z,10nm,0.9s
BRTR Keskin Array B 82.83 309 P **P** **08 53 26.0 -0.5**
comp=Z,0.5nm,0.5s,baz=52,slow=12,SNR=2.5
FINES FINESS Array B 82.97 331 P **P** **08 53 25.9 -0.6**
comp=Z,2.4nm,0.7s,baz=74,slow=5.9,SNR=2.9
AKASG Malin Array Be 83.69 320 P **P** **08 53 28.6 -1.8**
comp=Z,0.3nm,0.3s,baz=65,slow=4.4,SNR=9.7
WHY Whitehorse 83.88 29 P **P** **08 53 32.4 +1.0**
baz=285
SKAG Skagway 83.98 30 P **P** **08 53 33.0 +1.3**
baz=285
C36M Paulatuk 85.29 19 P **P** **08 53 38.3 +0.2**
baz=294
DLBC Dease Lake 86.90 31 P **P** **08 53 46.2 -0.2**
comp=Z,4.1nm,1.1s,baz=269,slow=8.1,SNR=4.2
BURAR Bucovina Array 87.00 318 P **P** **08 53 46.8 -0.3**
BURAR IAmb IAmb 08 53 48.2
comp=Z,10nm,0.9s
MLR Muntele Rosu 87.08 316 P **P** **08 53 47.1 -0.5**
comp=Z,0.9nm,0.3s,baz=358,slow=6.3,SNR=3.4
KOLS Kolonicke sedl 88.50 320 *eP* **P** **08 53 53.9 -0.3**
CRVS Cervenica-Dubn 89.02 320 *eP* **P** **08 53 56.9 +0.3**
PPT Papeete 89.69 108 LR LR 09 25 00.5
comp=Z,76nm,21.5s,baz=311,slow=29
PPT2 Papeete2 89.70 108 *e*LR LR 09 22 42.9
comp=Z,224nm,24.5s
NOA NORSAR Array B 89.84 334 LR LR 09 36 54.7
comp=Z,74nm,21.8s,baz=65,slow=37
TBI Tubuai 91.14 114 *e*LR LR 09 23 19.8
comp=Z,228nm,28.5s
MAW Mawson 91.63 200 LR LR 09 31 53.4
comp=Z,46nm,19.1s,baz=54,slow=33
YKA Yellowknife Ar 91.98 24 P **P** **08 54 09.0 -1.0**
comp=Z,0.4nm,0.4s,baz=303,slow=4.1,SNR=6.0
YKA LR LR 09 36 28.3
comp=Z,44nm,21.6s,baz=0.0,slow=36
VNDA Vanda 92.65 172 P **P** **08 54 11.3 -1.4**
comp=Z,0.7nm,0.9s,baz=290,slow=7.9,SNR=5.3
VNDA LR LR 09 37 32.1
comp=Z,51nm,19.0s,baz=302,slow=36
VNDA Vanda 92.65 172 IAmb IAmb 08 54 16.8
comp=Z,1.3nm,0.9s
GERES GERESS Array B 93.81 322 LR LR 09 37 30.3
comp=Z,36nm,19.0s,baz=50,slow=36
I04A Tendick Farm, 96.93 42 P **P** **08 54 33.7 +0.5**
baz=295
YBH Yreka Blue Hor 97.60 44 P Pdif 08 54 36.9 +0.5
comp=Z,1.2nm,0.8s,baz=305,slow=4.1,SNR=4.8
J05D Fort Rock, OR 97.92 42 P Pdif 08 54 38.4 +0.5
baz=296
M04C Macdoel 98.17 44 P Pdif 08 54 39.7 +0.7
baz=295
O02D Mt. Diablo Mer 98.19 46 P Pdif 08 54 40.0 +0.9
baz=294
NVAR Mina Array Bea 102.08 46 P **Pdif** **08 54 57.1 +0.5**
comp=Z,1.1nm,0.8s,baz=283,slow=5.4,SNR=10
TXAR Lajitas Array 117.16 47 PKP **PKiKP** **08 59 48.1 +0.8**
comp=Z,0.9nm,0.9s,baz=339,slow=4.8,SNR=2.8
JTS Las Juntas de 142.53 54 *eP* **Pdif** **08 58 01.8 +5.1**
SJG San Juan 147.38 20 PKPbc **PKPbc** **09 00 45.4 -0.5**
comp=Z,8.6nm,0.3s,baz=323,slow=5.1,SNR=5.8
PLCA Paso Flores 149.11 157 PKPbc **PKPbc** **09 00 50.6 +0.6**
comp=Z,3.2nm,0.5s,baz=243,slow=2.5,SNR=18
ATAH Atahualpa 156.43 78 PKPab **PKPab** **09 01 28.4 +1.9**
comp=Z,9.2nm,0.8s,baz=307,slow=5.1,SNR=5.3
LPAZ La Paz 166.99 107 PKP **PKPdf** **09 01 09.7 +1.0**
comp=Z,0.9nm,0.8s,baz=14,slow=1.2,SNR=4.1

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*IDC **25** 08:47:09.2±1.2, 27°.86N×86°.30E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/65, mbtmp3.8/7, Error ellipse: s-maj=53.4km s-min=20.7km az=57.0*

ISC 25 08:47:14.6±1.5, 27°.9N±0°.2×86°.3E±0°.3, h35km, n8, σ0°19/8, mb3.8/7, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**25.31**	**33**	P	**P**	**08 52 38.0**	**0.0**
	0.7nm,0.6s,baz=210,slow=11,SNR=2.5						
ZALV	**Zalesovo Beam**	**26.05**	**358**	P	**P**	**08 52 44.4**	**0.0**
	0.7nm,0.4s,baz=170,slow=8.8,SNR=2.6						
FINES	**FINESS Array B**	**51.74**	**328**	P	**P**	**08 56 18.1**	**-0.1**
	2.0nm,0.7s,baz=72,slow=4.5,SNR=1.8						
HFS	**Hagfors**	**57.64**	**326**	P	**P**	**08 57 01.4**	**+0.3**
	1.1nm,0.6s,baz=91,slow=9.1,SNR=2.1						
NB2	**NORSAR Subarra**	**58.85**	**327**	P	**P**	**08 57 09.3**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=88,slow=6.9						
NOA	**NORSAR Array B**	**58.85**	**327**	P	**P**	**08 57 09.4**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=89,slow=7.0,SNR=3.0						
WRA	**Warramunga Arr**	**66.47**	**13°**	P	**P**	**08 58 00.9**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=323,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**68.80**	**133**	P	**P**	**08 58 15.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=315,slow=6.3,SNR=8.6						

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*IDC **25** 08:47:38.2±1.6, 30°.21S×176°.41W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/44, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=37.8km s-min=30.6km az=121.0*

ISC 25 08:47:41.8±1.5, 30°.15S±0°.10×176°.5W±0°.2, h24km, n7, σ0°65/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.54**	**305**	Pn	**Pn**	**08 48 08.4**	**+0.6**

	127nm,0.3s,baz=65,slow=11,SNR=27						
RAO				Sn	Sn	08 48 26.1	-0.8
	435nm,0.3s,baz=90,slow=20,SNR=7.3						
URZ	Urewera	9.67	212	Pn	Pn	08 49 59.0	-0.4
	1.0nm,0.3s,baz=250,slow=0.6,SNR=10.0						
URZ				Sn	Sn	08 51 47.5	+0.2
	1.5nm,0.3s,baz=223,slow=23,SNR=11						
ASAR	Alice Springs	44.44	266	P	P	08 55 51.9	+0.8
	0.2nm,0.3s,baz=105,slow=7.9,SNR=6.5						
WRA	Warramunga Arr	45.41	271	P	P	08 55 58.6	-0.1
	1.0nm,0.4s,baz=110,slow=8.0,SNR=18						
FINES	FINESS Array B	145.35	341	PKPbc	PKPdf	09 07 16.6	-0.3
	4.2nm,0.8s,baz=54,slow=2.8,SNR=14						
NOA	NORSAR Array B	148.69	353	PKPbc	PKPbc	09 07 25.8	-0.5
	0.7nm,0.8s,baz=15,slow=5.1,SNR=3.5						
AKASG	Malin Array Be	151.88	324	PKPbc	PKiKP	09 07 35.0	+0.4
	1.9nm,0.6s,baz=42,slow=2.8,SNR=5.5						

*IDC **25** 08:47:42.2±0.9, 27°.85N×86°.31E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/66, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=35.2km s-min=17.3km az=55.0*

ISC 25 08:47:47.8±0.9, 27°.9N±0°.2×86°.4E±0°.2, h35km, n13, σ0°.90/13, mb4.0/10, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.91	126	Pn	P	08 51 21.4	+0.1
	0.4nm,0.3s,baz=310,slow=12,SNR=1.3						
MKAR	Makanchi Array	19.11	351	P	P	08 52 07.5	-0.1
	0.2nm,0.3s,baz=180,slow=9.2,SNR=4.3						
KURBB	Kurchatov Arra	23.44	347	P	P	08 52 52.5	-1.2
	0.7nm,0.4s,baz=160,slow=9.5,SNR=2.5						
SONM	Songino Array	25.28	33	P	P	08 53 11.2	+0.4
	1.5nm,0.6s,baz=226,slow=10.0,SNR=4.4						
ZALV	Zalesovo Beam	26.03	358	P	P	08 53 18.6	+1.1
	2.6nm,0.6s,baz=178,slow=10,SNR=4.2						
MLR	Muntele Rosu	50.32	307	P	P	08 56 42.6	+1.4
	2.1nm,0.6s,baz=145,slow=5.8,SNR=3.6						
FINES	FINESS Array B	51.74	328	P	P	08 56 50.7	-0.7
	1.6nm,0.5s,baz=105,slow=8.6,SNR=7.6						
HFS	Hagfors	57.64	326	P	P	08 57 33.2	-1.0
	2.0nm,0.7s,baz=108,slow=9.5,SNR=3.8						
NB2	NORSAR Subarra	58.85	327	P	P	08 57 41.6	-1.1
	comp=Z,0.9nm,0.6s,baz=87,slow=7.4						
NOA	NORSAR Array B	58.85	327	P	P	08 57 41.9	-0.8
	comp=Z,0.6nm,0.6s,baz=87,slow=7.0,SNR=5.1						
WRA	Warramunga Arr	66.47	130	P	P	08 58 33.6	-0.4
	comp=Z,1.8nm,0.6s,baz=323,slow=6.7,SNR=17						
ASAR	Alice Springs	68.80	133	P	P	08 58 48.5	-0.2
	comp=Z,0.9nm,0.6s,baz=315,slow=6.3,SNR=12						
TORD	Torodi Ar. Bea	79.31	279	P	P	08 59 50.2	0.0
	comp=Z,0.6nm,0.7s,baz=49,slow=4.9,SNR=2.5						

*TUL **25** 08:47:53.1±1.2, 36°.34N±0°.01×96°.82W±0°.02, h1km±7km, ML3.0, mb_Lg2.9/88(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=83.0*

NEIC 25 08:47:53.4±1.1, 36°.35N±0°.01×96°.82W±0°.01, h1km±7km, Error ellipse: s-maj=1.9km s-min=1.1km az=134.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.20	153		Pg	08 47 57.2	0.0
QUOK				Sg	Sg	08 48 00.0	+0.3
OK031	S. Brethren Rd	0.39	182		Pg	08 48 01.0	0.0
OK031				Sg	Sg	08 48 06.4	+0.3
BLOK	Blackwell	0.52	322		Pg	08 48 03.4	0.0
BLOK				Sg	Sg	08 48 10.5	+0.4
T35A	Sooner Cattle	0.62	23		Pg	08 48 05.2	-0.1
T35A				Sg	Sg	08 48 13.3	0.0
T35B	Sooner Cattle	0.62	24	P		08 48 05.1	
	baz=203						
T35B				S		08 48 13.4	
	baz=203						
OK029	Liberty Lake	0.75	223		Pg	08 48 07.7	-0.1
OK029				Sg	Sg	08 48 17.7	+0.1
KAN13	South Haven SW	0.85	322		Pg	08 48 09.5	-0.2
OK025	Westminster Rd	0.87	209		Pg	08 48 09.7	-0.5
OK025				Sg	Sg	08 48 21.8	+0.4
TUL1	Leonard	0.94	117	P		08 48 10.8	
	baz=298,SNR=111						
TUL1				S		08 48 23.0	
	baz=298						
BCOK	Bluff Creek, N	0.94	223		Pg	08 48 11.1	-0.4
CROK	Carrier	0.95	280		Pg	08 48 11.2	-0.4
GC02	Grant County #	0.98	301		Pg	08 48 11.7	-0.4
KAN09	Caldwell North	1.01	321		Pg	08 48 12.2	-0.6
KAN17	Caldwell West	1.03	313		Pg	08 48 12.8	-0.4
KS20	Mayfield South	1.06	326		Pg	08 48 13.3	-0.4
OKCSW	OKLAHOMA CITY	1.07	208		Pg	08 48 12.9	-1.0
KAN05	Bluff City Nor	1.14	312		Pg	08 48 14.8	-0.4
FNO	Franklin	1.19	204	Pg	Pg	08 48 14.9	-1.2
OK032	Salt Plains WL	1.21	293		Pg	08 48 15.9	-0.7
KAN10	Anthony SW Sta	1.28	307		Pg	08 48 17.4	-0.7
U32A	Winter Ranch,	1.76	272		Pn	08 48 25.5	+0.5
U32A	Winter Ranch,	1.76	272	P		08 48 25.3	
	baz=91,SNR=9.6						
U32A				S		08 48 49.0	
	baz=91						
X34A	Smith Ranch, M	1.93	206		Pn	08 48 28.0	+0.6
U38A	Gravette	1.97	87		Pn	08 48 28.0	+0.1
U38A	Gravette	1.97	87	P		08 48 27.8	
	baz=268,SNR=169						
U38A				S		08 48 55.0	
	baz=268						
X37A	Clayton	2.12	146		Pn	08 48 30.0	+0.1
X37A	Clayton	2.12	146	P		08 48 29.7	
	baz=326,SNR=143						
X37A				S		08 48 59.5	
	baz=326						
WMOK	Wichita Mounta	2.27	225	Pn	Pn	08 48 32.7	+0.7
WMOK	Wichita Mounta	2.27	225	P		08 48 32.4	
	baz=44,SNR=34						
HHAR	Hobbs	2.33	91		Pn	08 48 33.3	+0.4
HHAR	Hobbs	2.33	91	P		08 48 33.1	
	baz=272						
LOOK	Love County	2.37	187		Pn	08 48 33.5	+0.1
LOOK				IAmb_Lg		08 49 13.3	
	comp=Z,44nm,0.8s						
R32A	Long Quarter,	2.56	325	Pn	Pn	08 48 36.0	0.0
R32A	Long Quarter,	2.56	325	P		08 48 36.0	
	baz=144,SNR=23						
W39A	Magazine	2.72	114		Pn	08 48 38.2	0.0
W39A				IAmb_Lg		08 49 21.7	
	comp=Z,47nm,0.7s						
W39A	Magazine	2.72	114	P		08 48 38.2	
	baz=296						
W39A				Sb		08 49 18.9	
	baz=296						
Z35A	Perchaven, San	3.03	187	IAmb_Lg		08 49 33.0	
	comp=Z,26nm,1.2s						
MIAR	Mount Ida	3.20	123		Pn	08 48 45.2	+0.4
MIAR				IAmb_Lg		08 49 42.5	
	comp=Z,26nm,0.8s						
MIAR	Mount Ida	3.20	123	P		08 48 45.2	
	baz=305,SNR=9.6						
U40A	Yellville	3.20	89	Pn	Pn	08 48 44.8	-0.1
U40A	Yellville	3.20	89	P		08 48 44.6	
	baz=271,SNR=73						
U40A				P		08 48 44.6	
	baz=271,SNR=73						
U40A				S		08 49 23.6	
	baz=271						
U40A				S		08 49 23.6	
	baz=271						
Z38A	Mt. Pleasant	3.43	153	IAmb_Lg		08 49 47.5	
	comp=Z,20nm,0.8s						
MGMO	Mountain Grove	3.74	76	IAmb_Lg		08 49 52.1	
	comp=Z,21nm,0.8s						
X40A	Basin Creek Fa	3.75	119	IAmb_Lg		08 49 59.8	
	comp=Z,31nm,0.7s						
X40A	Basin Creek Fa	3.75	119	P		08 48 53.0	
	baz=301,SNR=9.2						
X40A				P		08 48 53.0	
	baz=301,SNR=9.2						
X40A				S		08 49 37.8	
	baz=301						
X40A				S		08 49 37.8	
	baz=301						
WHAR	Wooly Hollow	3.83	105	IAmb_Lg		08 50 00.5	
	comp=Z,25nm,0.8s						
W41B	Gary Mavity, V	3.90	106	S		08 49 41.1	
	baz=289						
WLAR	White Oak Lake	4.04	130	IAmb_Lg		08 50 06.1	
	comp=Z,23nm,0.9s						
R40A	Maddies Statio	4.11	61	IAmb_Lg		08 50 08.1	
	comp=Z,18nm,0.9s						
R40A	Maddies Statio	4.11	61	P		08 48 57.2	
	baz=243						
AMTX	Amarillo	4.22	251	IAmb_Lg		08 50 15.9	
	comp=Z,16nm,1.0s						
CCM	Cathedral Cave	4.77	67	IAmb_Lg		08 50 32.0	
	comp=Z,18nm,0.8s						
CCAR	Cane Creek	4.79	119	IAmb_Lg		08 50 36.8	
	comp=Z,29nm,0.8s						
P40A	Paris	4.93	48	IAmb_Lg		08 50 26.6	
	comp=Z,22nm,0.7s						
BGNE	Belgrade	5.16	349	IAmb_Lg		08 50 47.6	
	comp=Z,22nm,0.7s						
PBMO	Poplar Bluff	5.16	83	IAmb_Lg		08 50 39.6	
	comp=Z,17nm,0.9s						
KSCO	Kaye Shedlock'	5.32	302	IAmb_Lg		08 50 51.7	
	comp=Z,18nm,0.8s						
435B	Jarrell	5.59	187	IAmb_Lg		08 50 59.0	
	comp=Z,11nm,0.8s						
SLM	Saint Louis	5.71	64	IAmb_Lg		08 50 52.6	
	comp=Z,17nm,0.9s						
143A	Socs Landing,	5.76	128	IAmb_Lg		08 51 00.9	
	comp=Z,15nm,0.8s						
OGNE	Ogallala	6.14	320	IAmb_Lg		08 51 16.0	
	comp=Z,16nm,0.7s						
S44A	Carbondale	6.20	75	IAmb_Lg		08 51 23.6	
	comp=Z,16nm,0.8s						
SIUC	Southern Illin	6.23	75	IAmb_Lg		08 51 14.7	
	comp=Z,21nm,0.8s						
W45A	Hickory Valley	6.32	99	IAmb_Lg		08 51 15.8	
	comp=Z,20nm,0.7s						
JCT	Junction City	6.36	204	IAmb_Lg		08 51 22.3	
	comp=Z,12nm,0.7s						
K31A	O'Neill	6.44	347	IAmb_Lg		08 51 34.4	
	comp=Z,18nm,0.8s						
Y45A	Yeager Farm, C	6.46	110	IAmb_Lg		08 51 22.6	
	comp=Z,13nm,0.8s						
Q44A	Meyer Farm, Va	6.70	65	IAmb_Lg		08 51 41.9	
	comp=Z,18nm,0.8s						
K38A	Parkersburg	7.03	25	IAmb_Lg		08 51 49.1	
	comp=Z,18nm,0.8s						
L40A	Anamosa	7.17	36	IAmb_Lg		08 51 45.0	
	comp=Z,13nm,0.8s						
OLIL	Olney	7.33	68	IAmb_Lg		08 51 45.9	
	comp=Z,18nm,0.9s						
O44A	Mansfield	7.59	57	IAmb_Lg		08 51 52.5	
	comp=Z,17nm,0.8s						
T47A	Sharon Grove	7.83	82	IAmb_Lg		08 52 12.3	
	comp=Z,12nm,0.9s						
L42A	Oliver, Polo	7.92	42	IAmb_Lg		08 52 06.3	
	comp=Z,14nm,0.8s						
P46A	Rosedale	8.26	64	IAmb_Lg		08 52 16.8	
	comp=Z,16nm,1.0s						
JFWS	Jewell Farm	8.29	36	IAmb_Lg		08 52 17.1	
	comp=Z,11nm,0.7s						
PHWY	Pilot Hill	8.36	309	IAmb_Lg		08 52 29.8	
	comp=Z,7.7nm,0.9s						
SFIN	Lafayette	8.63	59	IAmb_Lg		08 52 30.6	
	comp=Z,8.4nm,0.7s						
I40A	Norwalk	8.90	30	IAmb_Lg		08 52 42.9	
	comp=Z,7.3nm,0.8s						
P48A	Milroy	9.53	68	IAmb_Lg		08 53 14.5	
	comp=Z,8.9nm,1.1s						
I42A	Draeger Farm,	9.66	36	IAmb_Lg		08 53 04.9	
	comp=Z,8.5nm,0.8s						
K22A	Casper	9.79	313	IAmb_Lg		08 53 15.1	
	comp=Z,9.6nm,1.1s						
N47A	Urbana	9.81	59	IAmb_Lg		08 53 02.5	
	comp=Z,7.6nm,0.8s						

*IDC **25** 08:47:59.9±0.9, 70°.88N×7°.59W, h0km, mb3.7/3, mb1 3.9/8, mb1mx3.5/77, mbtmp3.8/8, ML3.3/4, MS3.3/17, Ms1 3.3/17, ms1mx3.1/57, Error ellipse: s-maj=26.8km s-min=9.1km az=25.0*

*NAO **25** 08:48:00.0±1.2, 70°.84N×6°.77W, ML4.0*

*DNK **25** 08:48:02.4±4.1, 70°.98N×7°.27W, h81km±470km, ML2.7*

*BER **25** 08:48:03.1±0.9, 70°.89N×6°.96W, h3km±9km, ML3.1, MW3.3, ML4.0(NAO), Confirmed Earthquake*

*REY **25** 08:48:07.1, 70°.48N×7°.57W, h10km*

*UPP **25** 08:48:31.5±3.6, 71°.16N×0°.23W, h0km, ML2.2, Suspected explosion*

ISC 25 08:48:00.3±0.6, 70°.98N±0°.05×6°.71W±0°.04, h10km, n124, σ3°.12/140, mb3.8/3, MS3.1/12, 3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	Jan Mayen East	0.52	272	⇓ i P	Pg	08 48 11.1	+0.7
JNE				e S	Sg	08 48 17.3	+0.1
JNE				IAML		08 48 20.3	
	comp=Z,7μm,0.7s						
JNW	Jan Mayen West	0.57	276	⇓ i P	Pg	08 48 11.8	+0.6
JNW				e S	Sg	08 48 18.5	-0.2
JNW				IAML		08 48 19.6	
	comp=Z,10μm,0.6s						
JMIC	Jan Mayen	0.59	272	Pn	Pg	08 48 11.8	+0.2
	baz=98,slow=2.8,SNR=587						
JMIC				Sn	Sg	08 48 19.3	-0.2
	baz=155,slow=19,SNR=34						
JMIC	Jan Mayen	0.59	272	Pg	Pg	08 48 11.9	+0.2
JMIC				Lg	Lg	08 48 19.4	
JMIC	Jan Mayen	0.59	272	Pg	Pg	08 48 11.9	+0.2
JMIC				Sg	Sg	08 48 19.4	0.0
JMIC				IAML		08 48 28.1	
	comp=Z,4μm,0.5s						
JMI	Jan Mayen	0.67	267	⇓ i P	Pg	08 48 13.4	+0.3
JMI				e S	Sg	08 48 21.8	0.0
JMI				IAML		08 48 24.5	
	comp=Z,6μm,0.3s						
DBG	Daneborg	5.24	316	i P	Pn	08 49 18.0	-0.5
DBG				i S	Sn	08 50 12.6	-6.3
DBG				IAML		08 50 25.8	
	comp=Z,3.5nm,0.4s						
DBG	Daneborg	5.24	316	Pn	Pn	08 49 17.4	-1.1
DBG				Sn	Sn	08 50 13.8	-5.0
ILEI	Leirhofn	5.81	223	S	Sn	08 50 30.3	-2.5
	baz=223						
ILEI				P	Pn	08 49 26.6	+0.4
	baz=223						
IDIM	Dimmadalss	6.28	222	P	Pn	08 49 33.9	+1.1
	baz=222						
IREN	Reynihlio	6.54	220	P	Pn	08 49 37.6	+1.2
	baz=220						
IMEL	Melhnausar	6.56	219	P	Pn	08 49 37.3	+0.7
	baz=219						
IMEL				S	Sn	08 50 49.5	-1.9
	baz=219						
DAG	Danmarks Havn	6.69	336	e	Pn	08 49 36.4	-1.9
	baz=146,slow=16						
DAG				i P	Pn	08 49 38.7	+0.4
DAG				i S	Sn	08 50 48.6	-5.9
DAG				IAML		08 50 53.1	
	comp=Z,4.4nm,0.3s						
IADA	Aoalbol	6.84	213	P	Pn	08 49 40.7	+0.2
	baz=213						
IADA				S	Sn	08 50 55.9	-2.4
	baz=213						
IVSH	V-Sauoahnukur	7.06	213	P	Pn	08 49 44.1	+0.6
	baz=212						
IKRE	Kreppuhraun	7.20	215	P	Pn	08 49 46.9	+1.4
	baz=215						
N2RO	R¸st	7.51	108	eP	Pn	08 49 50.7	+1.0
N2RO				eS	Sn	08 51 09.9	-4.9
N2RO				IAML		08 51 14.7	
	comp=Z,26nm,0.5s						
N2VA	Vr¸y	7.61	106	eP	Pn	08 49 51.5	+0.6
N2VA				eS	Sn	08 51 12.4	-4.7
N2VA				IAML		08 51 17.3	
	comp=Z,24nm,0.6s						
LOF	Lofoten	7.62	102	eP	Pn	08 49 51.7	+0.5
LOF				eS	Sn	08 51 12.8	-4.7
LOF				IAML		08 51 22.6	
	comp=Z,21nm,0.5s						
N2VI	Vinje	7.74	100	eP	Pn	08 49 53.8	+1.0
N2VI				eS	Sn	08 51 15.2	-5.0
N2VI				IAML		08 51 23.7	
	comp=Z,18nm,0.8s						
STEI	Steigen	8.27	101	eP	Pn	08 50 01.0	+0.9
STEI				eS	Sn	08 51 28.3	-5.2
STEI				IAML		08 51 36.8	
	comp=Z,16nm,0.5s						
BORG	Borgarnes	8.32	228	LR	LR	08 52 28.9	
	comp=Z,218nm,20.6s,baz=343,slow=34						
NBB30	Finnes	8.35	109	eS	Sn	08 51 30.2	-5.0
NBB30				IAML		08 51 37.3	
	comp=Z,28nm,0.5s						
N2NF	Nordfold	8.36	102	eP	Pn	08 50 02.0	+0.7
N2NF				eS	Sn	08 51 29.3	-6.2
N2NF				IAML		08 51 39.1	
	comp=Z,21nm,0.4s						
BJO1	Bjornoya	8.37	53	eP	Pn	08 50 02.9	+1.5
BJO1				IAML		08 52 53.5	
	comp=Z,11nm,0.8s						
NBB08	Skaug oppvekst	8.38	105	eP	Pn	08 50 02.4	+0.8
NBB08	Skaug oppvekst	8.38	105	eS	Sn	08 51 31.7	-4.3
NBB08	Skaug oppvekst	8.38	105	IAML		08 51 39.7	
	comp=Z,31nm,0.4s						
NBB05	Inndyr	8.40	108	eP	Pn	08 50 02.5	+0.7
NBB05				eS	Sn	08 51 31.7	-4.8
NBB05	Inndyr	8.40	108	IAML		08 51 39.3	
	comp=Z,26nm,0.4s						
NBB40	Tonnes	8.42	112	eP	Pn	08 50 02.7	+0.7
NBB40				eS	Sn	08 51 30.8	-6.2
NBB40				IAML		08 51 38.5	
	comp=Z,14nm,0.4s						
N2TV	Tørnvik	8.43	103	eP	Pn	08 50 03.3	+1.0
N2TV				eS	Sn	08 51 31.6	-5.7
N2TV				IAML		08 51 44.6	
	comp=Z,17nm,0.4s						
NBB13	Alf Garage	8.44	111	eP	Pn	08 50 02.5	+0.2
NBB13	Alf Garage	8.44	111	eS	Sn	08 51 31.3	-6.1
NBB13	Alf Garage	8.44	111	IAML		08 51 38.0	
	comp=Z,23nm,0.4s						
NBB15	Halsa Church	8.44	110	eP	Pn	08 50 03.2	+0.9
NBB15	Halsa Church	8.44	110	eS	Sn	08 51 32.1	-5.4
NBB15	Halsa Church	8.44	110	IAML		08 51 38.3	
	comp=Z,16nm,0.4s						
KONS	Konsvik	8.46	112	Pn	Pn	08 50 03.3	+0.7
KONS				Sn	Sn	08 51 31.9	-6.1
KONS	Konsvik	8.46	112	eP	Pn	08 50 03.4	+0.7
KONS				eS	Sn	08 51 31.8	-6.2
KONS				IAML		08 51 38.4	
	comp=Z,27nm,0.3s						
KONS				IAML		08 51 38.4	
	comp=Z,27nm,0.5s						
NBB17	Glomfjord Bør	8.51	109	eP	Pn	08 50 03.8	+0.4
NBB17	Glomfjord Bør	8.51	109	eS	Sn	08 51 34.1	-5.1
NBB17	Glomfjord Bør	8.51	109	IAML		08 51 39.7	
	comp=Z,45nm,0.4s						
STOK	Stokkvaagen	8.54	113	Pn	Pn	08 50 05.3	+1.6
STOK				Sn	Sn	08 51 34.1	-5.9
STOK	Stokkvaagen	8.54	113	eP	Pn	08 50 04.0	+0.3
STOK				eS	Sn	08 51 33.9	-6.0
STOK				IAML		08 52 10.7	
	comp=Z,2.2nm,0.9s						
HSPB	Hornsund (broa	8.55	35	Pn	Pn	08 50 07.4	+3.6
HSPB	Hornsund (broa	8.55	35	eP	Pn	08 50 06.5	+2.6
HSPB				eS	Sn	08 51 31.7	-8.5
HSPB				IAML		08 51 32.4	
	comp=Z,1.1nm,0.5s						
FAUS	Fauske	8.59	104	eP	Pn	08 50 05.1	+0.7
FAUS				eS	Sn	08 51 36.1	-5.1
FAUS				IAML		08 51 48.6	
	comp=Z,14nm,0.6s						
MOR8	Moi Rana	9.08	112	eP	Pn	08 50 11.7	+0.5
MOR8				eS	Sn	08 51 48.1	-5.1
MOR8				IAML		08 51 57.4	
	comp=Z,30nm,0.5s						
JETT	Jettan, Norway	9.24	86	eP	Pn	08 50 14.8	+1.4
KBS	Kingsbay	9.27	23	i P	Pn	08 50 16.1	+2.5
KBS	Kingsbay	9.27	23	Pn	Pn	08 50 16.1	+2.5
KBS				Sn	Sn	08 51 55.2	-2.5
KBS	Kingsbay	9.27	23	eP	Pn	08 50 13.3	-0.3
KBS				eS	Sn	08 51 49.3	-8.5
KBS				IAML		08 52 01.3	
	comp=Z,4.2nm,0.9s						
SPA0	Spitsbergen Ar	9.39	30	Pn	Pn	08 50 19.4	+4.0
	baz=218,slow=16						
SPA0	Spitsbergen Ar	9.39	30	Pn	Pn	08 50 19.4	+4.0
	baz=218,slow=16						
SPITS	Spitsbergen Ar	9.39	30	Pn	Pn	08 50 19.6	+4.2
	baz=220,slow=14,SNR=52						
NIKU	Nikkaluokta	9.54	97	P	Pn	08 50 19.2	+1.8
NIKU	Nikkaluokta	9.54	97	P	Pn	08 50 19.2	+1.8
NSS	Namsos	9.55	123	eP	Pn	08 50 18.7	+1.2
NSS				eS	Sn	08 51 57.9	-6.8
NSS				IAML		08 52 07.1	
	comp=Z,51nm,0.4s						
KIF	Kilpisjarvi	9.59	89	Pn	Pn	08 50 19.6	+1.5
KIF				Sn	Sn	08 52 01.6	-4.0
KIF	Kilpisjarvi	9.59	89	eP	Pn	08 50 18.2	+0.1
SALU	Saltoluokta	9.62	100	P	Pn	08 50 21.4	+2.8
SALU	Saltoluokta	9.62	100	P	Pn	08 50 21.4	+2.8
KOVU	Salmi	9.73	93	P	Pn	08 50 21.0	+0.9
KOVU	Salmi	9.73	93	P	Pn	08 50 21.0	+0.9
RATU	Laukkuluspa	9.74	96	P	Pn	08 50 21.9	+1.6
RATU	Laukkuluspa	9.74	96	P	Pn	08 50 21.9	+1.6
KUA	Kurravaara	9.92	95	P	Pn	08 50 24.3	+1.6
HAMF	Hammerfest	9.95	77	Pn	Pn	08 50 22.9	-0.1
HAMF	Hammerfest	9.95	77	eP	Pn	08 50 22.4	-0.7
HAMF				IAML		08 52 32.7	
	comp=Z,3.0nm,0.5s						
HOPEN	Hopen	10.33	43	Pn	Pn	08 50 32.6	+4.4
HOPEN	Hopen	10.33	43	Pn	Pn	08 50 32.6	+4.4
AKN	Aaknes	10.34	142	Pn	Pn	08 50 27.2	-1.3
AKN				Sn	Sn	08 52 16.9	-7.4
AKN	Aaknes	10.34	142	Pn	Pn	08 50 27.2	-1.3
AKN				Sn	Sn	08 52 16.9	-7.4
KTK1	Kautokeino	10.38	87	eP	Pn	08 50 29.2	+0.2
KTK1				eS	Sn	08 52 18.1	-7.0
KTK1				IAML		08 52 34.6	
	comp=Z,25nm,0.4s						
LANU	Lannavaara	10.41	92	P	Pn	08 50 30.2	+0.8
LANU	Lannavaara	10.41	92	P	Pn	08 50 30.2	+0.8
DUNU	Dundret	10.44	98	P	Pn	08 50 30.5	+0.8
DUNU	Dundret	10.44	98	P	Pn	08 50 30.5	+0.8
FOO	Floro	10.51	148	eP	Pn	08 50 28.9	-1.8
FOO				eS	Sn	08 52 18.1	-10
FOO				IAML		08 52 25.2	
	comp=Z,17nm,0.9s						
MASU	Masugnsbyn	10.72	95	P	Pn	08 50 35.0	+1.4
MASU	Masugnsbyn	10.72	95	P	Pn	08 50 35.0	+1.4
HEF	Hetta	10.79	89	eP	Pn	08 50 34.5	+0.1
DOMB	Dombas	10.91	137	eP	Pn	08 50 31.3	-4.9
DOMB				IAML		08 52 49.3	
	comp=Z,4.1nm,0.4s						
ARA0	ARCESS Array S	10.91	82	Pn	Pn	08 50 37.9	+1.7
	baz=289,slow=11						
ARA0	ARCESS Array S	10.91	82	Pn	Pn	08 50 37.9	+1.7
	baz=289,slow=11						
ARA0				eS	Sn	08 52 26.8	-11
ARA0				IAML		08 53 00.5	
	comp=Z,2.4nm,0.5s						
ARCES	ARCESS Array B	10.91	82	Pn	Pn	08 50 38.0	+1.8
	baz=291,slow=11,SNR=13

comp=Z,94nm,18.7s,baz=45,slow=34
FIA0 FINESS Array S 16.06 110 P **Pn 08 51 48.0 +2.2**
baz=317,slow=11
FIA0 FINESS Array S 16.06 110 P **Pn 08 51 48.0 +2.2**
baz=317,slow=11
FINES FINESS Array B 16.06 110 Pn **Pn 08 51 47.8 +2.0**
comp=Z,0.3nm,0.3s,baz=318,slow=9,9,SNR=12
FINES Sn **Sn 08 54 39.7 -3.9**
comp=Z,0.3nm,0.3s,baz=320,slow=24,SNR=2.3
KLMR Klimovskoe 20.80 95 *e*P Pn 08 52 43.7 +0.1
KLMR AMP 08 52 52.2
comp=Z,27nm,1.2s
KLMR *e*PP 08 55 32.3
DPC Dobruska-Polom 23.26 141 *e*P **P 08 53 10.9 +3.4**
FRB Frobisher Bay 23.80 284 LR LR 09 01 50.8
comp=Z,71nm,20.9s,baz=171,slow=35
KHC Kasperske Hory 23.88 146 *e*P **P 08 53 17.5 +3.8**
RES Resolute Bay 24.01 319 LR LR 09 02 15.5
comp=Z,118nm,20.3s,baz=106,slow=36
GERES GERESS Array B 24.18 146 P **P 08 53 18.2 +1.7**
comp=Z,1.0nm,0.8s,baz=358,slow=9.6,SNR=6.5
GERES LR LR 09 01 58.4
comp=Z,47nm,19.0s,baz=16,slow=34
VRAC Vranov 24.30 141 LR LR 09 02 59.7
comp=Z,32nm,19.7s,baz=338,slow=37
DAVOX Davos/Dischmat 25.55 153 LR LR 09 04 36.2
comp=Z,43nm,19.0s,baz=263,slow=39
KIRV Kirov 25.78 90 LR LR 09 02 54.6
comp=Z,46nm,20.0s,baz=9,9,slow=34
MLR Muntele Rosu 30.04 131 LR LR 09 07 12.6
comp=Z,287nm,18.3s,baz=350,slow=38
SCHQ Schefferville 30.11 269 LR LR 09 05 29.0
comp=Z,56nm,18.0s,baz=284,slow=35
ARU Arti 30.49 84 LR LR 09 06 04.9
comp=Z,59nm,21.3s,baz=254,slow=35
ESDC Sonseca Array 31.40 176 LR LR 09 05 52.2
comp=Z,47nm,20.6s,baz=325,slow=34
BRTR Keskin Array B 37.43 125 LR LR 09 11 10.8
comp=Z,34nm,20.8s,baz=303,slow=37
YKA Yellowknife Ar 37.82 314 LR LR 09 10 26.2
comp=Z,101nm,18.4s,baz=0.0,slow=36
KURBB Kurchatov Arra 41.79 72 P **P 08 55 53.2 +3.9**
comp=Z,0.4nm,0.2s,baz=323,slow=7.7,SNR=1.8
TORD Torodi Ar. Bea 58.03 170 P **P 08 57 55.5 +2.4**
comp=Z,1.4nm,0.6s,baz=349,slow=7.6,SNR=7.1

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*JMA **25** 08:49:28.9±0.2, 24°.90N×122°.85E, h21km±3km, M2.5*
*TAP **25** 08:49:28.6, 24°.85N×122°.87E, h37km, ML3.1, C*
ISC 25 08:49:28.9±1.1, 24°.86N±0°.06×122°.85E±0°.03, h30km±11km, n31, σ0°70/38, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**168**	P	**Pb**	**08 49 37.8**	**-0.3**
JYNG				S	**Sb**	**08 49 44.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.43**	**160**	P	**Pb**	**08 49 38.0**	**-0.2**
YOJ				*e*S	**Sb**	**08 49 44.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.43**	**160**	⇑*i*P	**Pb**	**08 49 38.0**	**-0.2**
	baz=162						
YOJ				S	**Sb**	**08 49 44.6**	**+0.1**
	baz=162						
TWB1	**Santiao Chiao**	**0.79**	**281**	*e*S	**Sb**	**08 49 54.5**	**-0.2**
	baz=281						
NTC	**Toucheng**	**0.93**	**270**	P	**Pn**	**08 49 45.7**	**-0.2**
	baz=279						
TIPB	**Shuangxi**	**0.94**	**277**	*e*S	**Sb**	**08 49 59.4**	**+0.7**
	baz=278						
TWC	**Suao**	**0.94**	**255**	P	**Pn**	**08 49 45.8**	**-0.3**
	baz=256						
TWC				S	**Sn**	**08 49 58.1**	**-0.5**
	baz=256						
IRIF	**Iriomote-Funau**	**0.96**	**123**	P	**Pb**	**08 49 46.9**	**-0.1**
PCYT	**Pengchaiyu**	**1.04**	**317**	*e*S	**Sb**	**08 50 02.9**	**+1.3**
	baz=326						
NDS	**Dongshan**	**1.05**	**258**	*e*P	**Pn**	**08 49 47.7**	**0.0**
	baz=259						
EWUT	**Wuta**	**1.06**	**247**	*e*P	**Pn**	**08 49 47.2**	**-0.5**
	baz=240						
TWE	**Neicheng**	**1.08**	**263**	*e*P	**Pn**	**08 49 48.6**	**+0.5**
	baz=269						
HATJ	**Hateruma jima**	**1.19**	**132**	P	**Pb**	**08 49 50.4**	**-0.4**
ENTT	**Nioudou**	**1.19**	**259**	*e*P	**Pb**	**08 49 50.7**	**-0.2**
	baz=260						
NWLT	**Wulai**	**1.23**	**266**	*e*P	**Pb**	**08 49 51.2**	**-0.3**
	baz=275						
JKRS	**Kuro-shima**	**1.23**	**120**	P	**Pb**	**08 49 51.1**	**-0.4**
JKRS				*e*S	**Sb**	**08 50 07.0**	**0.0**
NDT	**Datong Townshi**	**1.24**	**258**	*e*P	**Pb**	**08 49 51.7**	**-0.1**
	baz=249						
JIJ	**Ishigaki jima**	**1.28**	**113**	P	**Pn**	**08 49 51.3**	**+0.5**
JIJ				*e*S	**Sb**	**08 50 08.5**	**0.0**
NACB	**Ninganchiao**	**1.33**	**239**	*e*P	**Pb**	**08 49 52.8**	**-0.6**
	baz=240						
YHNB	**Yeheng**	**1.35**	**262**	*e*P	**Pn**	**08 49 52.2**	**+0.3**
	baz=263						
JISG	**Ishigakijimahi**	**1.36**	**101**	P	**Pb**	**08 49 52.8**	**-0.9**
NNSB	**Datong**	**1.40**	**252**	*e*P	**Pn**	**08 49 52.8**	**+0.2**
	baz=253						
NNSH	**Datong**	**1.40**	**252**	*e*P	**Pb**	**08 49 54.0**	**-0.5**
	baz=253						
ETLH	**Xiulin Townshi**	**1.41**	**243**	*e*P	**Pn**	**08 49 53.5**	**+0.8**
	baz=243						
NNS	**Nan Shan**	**1.41**	**253**	*e*S	**Sb**	**08 50 11.7**	**-0.6**
	baz=254						
FUSS	**Fushou**	**1.58**	**248**	*e*P	**Pn**	**08 49 56.4**	**+1.2**
	baz=236						
WHF	**Hehuan Shan**	**1.61**	**244**	*e*P	**Pn**	**08 49 56.9**	**+1.2**
	baz=245						
TDCB	**Techi**	**1.66**	**249**	*e*P	**Pn**	**08 49 56.7**	**+0.6**
	baz=238						
JTJ	**Tarama**	**1.70**	**97**	P	**Pb**	**08 49 58.1**	**-1.4**
JTJ				S	**Sn**	**08 50 17.9**	**+0.6**
CHGB	**Renai**	**1.72**	**243**	*e*P	**Pn**	**08 49 58.6**	**+1.5**
	baz=232						
WHP	**Taichung City**	**1.83**	**252**	*e*P	**Pb**	**08 50 00.3**	**-1.4**
	baz=241						

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*GCG **25** 08:53:53.2±0.3, 14°.60N×92°.65W, h139km, MD4.3*
*UCR **25** 08:54:04.3±0.7, 14°.05N×91°.94W, h34km±554km, ML3.7, mb4.3(NEIC)*
*NEIC **25** 08:54:04.7±1.5, 13°.96N±0°.07×92°.08W±0°.08, h49km±8km, mb4.3/38, Error ellipse: s-maj=12.4km s-min=8.8km az=45.0*
*SNET **25** 08:54:04.1±0.6, 14°.03N×91°.83W, h14km±477km, ML3.9*
*IDC **25** 08:54:07.5±3.8, 14°.29N×91°.68W, h70km±32km, mb3.8/12, mb1 4.0/14, mb1mx3.7/54, mbtmp4.1/14, ML3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.1/31, Error ellipse: s-maj=44.0km s-min=22.8km az=40.0*
ISC 25 08:54:03.7±0.7, 13°.90N±0°.07×92°.04W±0°.06, h50km, n114, σ1°28/117, mb4.2/21, MS3.6/4, 1C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.28**	**65**	⇑*i*P	**Pn**	**08 54 25.8**	**+0.3**
PCG	**Pacaya**	**1.47**	**71**	*e*P	**Pn**	**08 54 28.8**	**+0.8**
PCG				*e*S	Sn	08 54 56.7	+10
HUEH	**Huehuetenango**	**1.50**	**20**		**Pn**	**08 54 28.6**	**+0.1**
HUEH				Sn	**Sn**	**08 54 47.4**	**+0.5**
NBG	**Las Nubes**	**1.78**	**67**	*e*P	**Pn**	**08 54 34.4**	**+2.2**
NBG				*e*S	**Sn**	**08 55 01.1**	**+7.3**
SLOZ	**Alcaldia de Sa**	**2.19**	**87**	*e*P	**Pn**	**08 54 37.2**	**-0.6**
SLOZ				*e*S	**Sn**	**08 55 02.7**	**-1.0**
SLOZ				IAML		08 55 22.2	
	comp=Z,887nm,0.4s						
RTR	**El Retiro**	**2.32**	**90**	*e*P	**Pn**	**08 54 39.7**	**0.0**
RTR	**El Retiro**	**2.32**	**90**	*e*P	**Pn**	**08 54 39.7**	**0.0**
SBLS	**San Blas**	**2.35**	**91**	*e*P	**Pn**	**08 54 40.0**	**0.0**
SBLS				*e*S	**Sn**	**08 55 08.3**	**+0.5**
SBLS	**San Blas**	**2.35**	**91**	*e*P	**Pn**	**08 54 40.0**	**0.0**
SBLS				*e*S	**Sn**	**08 55 08.3**	**+0.5**
SNJE	**San Jose**	**2.36**	**91**	*e*P	**Pn**	**08 54 40.2**	**-0.1**
SNJE	**San Jose**	**2.36**	**91**	*e*P	**Pn**	**08 54 40.2**	**-0.1**
CCIG	**Comitan**	**2.37**	**358**		**Pn**	**08 54 40.8**	**+0.5**
CCIG	**Comitan**	**2.37**	**358**		**Sn**	**08 55 12.2**	**+4.0**
UNIC	**Universidad Ca**	**2.42**	**88**	*e*P	**Pn**	**08 54 40.5**	**-0.3**
UNIC	**Universidad Ca**	**2.42**	**88**	*e*P	**Pn**	**08 54 40.5**	**-0.3**
MTO3	**Montecristo**	**2.64**	**79**	*e*P	**Pn**	**08 54 44.0**	**-0.1**
MTO3	**Montecristo**	**2.64**	**79**	*e*P	**Pn**	**08 54 44.0**	**-0.1**
MTO3	**Montecristo**	**2.64**	**79**		**Pn**	**08 54 44.4**	**+0.3**
BOQS	**Boqueron**	**2.69**	**93**	*e*P	**Pn**	**08 54 44.5**	**-0.1**
BOQS	**Boqueron**	**2.69**	**93**	*e*P	**Pn**	**08 54 44.5**	**-0.1**
ESQI	**Esquipulas**	**2.70**	**76**		**Pn**	**08 54 44.8**	**+0.1**
UEES	**Universidad Ev**	**2.73**	**94**	*e*P	**Pn**	**08 54 45.1**	**0.0**
UEES	**Universidad Ev**	**2.73**	**94**	*e*P	**Pn**	**08 54 45.1**	**0.0**
SNET	**Serv Nac Est T**	**2.74**	**94**	*e*P	**Pn**	**08 54 45.5**	**+0.2**
SNET				IAML		08 55 26.9	
	comp=Z,657nm,0.3s						
SNET	**Serv Nac Est T**	**2.74**	**94**	*e*P	**Pn**	**08 54 45.5**	**+0.2**
SNET				IAML		08 55 26.9	
	comp=Z,657nm,0.3s						
SNET	**Serv Nac Est T**	**2.74**	**94**		**Pn**	**08 54 45.7**	**+0.5**
LFRS	**El Faro**	**2.91**	**95**	*e*P	**Pn**	**08 54 47.6**	**0.0**
LFRS	**El Faro**	**2.91**	**95**	*e*P	**Pn**	**08 54 47.6**	**0.0**
PAVA	**Las Pavas**	**3.02**	**93**	*e*P	**Pn**	**08 54 49.7**	**+0.5**
PAVA				*e*S	**Sn**	**08 55 24.6**	**+0.4**
PAVA				IAML		08 55 48.8	
	comp=Z,351nm,0.6s						
PAVA	**Las Pavas**	**3.02**	**93**	*e*P	**Pn**	**08 54 49.7**	**+0.5**
PAVA				*e*S	**Sn**	**08 55 24.6**	**+0.4**
PAVA				IAML		08 55 48.8	
	comp=Z,351nm,0.6s						
TECO	**Alcaldia de Te**	**3.19**	**96**	*e*P	**Pn**	**08 54 51.1**	**-0.3**
PQSS	**Presa 15 de Se**	**3.39**	**94**	*e*P	**Pn**	**08 54 53.5**	**-0.6**
PQSS				*e*S	**Sn**	**08 55 32.8**	**-0.4**
ALJI	**Alcalda de J**	**3.42**	**99**	IAML		08 55 48.3	
	comp=Z,295nm,0.6s						
ALJI	**Alcalda de J**	**3.42**	**99**	IAML		08 55 48.3	
	comp=Z,295nm,0.6s						
COEB	**Comit de Eme**	**3.43**	**96**	*e*P	**Pn**	**08 54 54.8**	**-0.1**
COEB				IAML		08 55 59.6	
	comp=Z,302nm,0.5s						
COEB	**Comit de Eme**	**3.43**	**96**	*e*P	**Pn**	**08 54 54.8**	**-0.1**
COEB				IAML		08 55 59.6	
	comp=Z,302nm,0.5s						
PETF	**Flores**	**3.66**	**35**		**Pn**	**08 54 59.2**	**+1.4**
TGUH	**Tegucigalpa,Un**	**4.63**	**88**	Pn	**Pn**	**08 55 11.5**	**+0.2**
CRIN	**San Cristobal**	**5.00**	**103**		**Pn**	**08 55 18.3**	**+1.9**
CNGN	**Cerro Negro**	**5.38**	**104**	Pn	**Pn**	**08 55 23.8**	**+2.2**
HZTE	**Horizontes, Gu**	**7.05**	**116**	Pn	**Pn**	**08 55 45.8**	**+1.4**
TLIG	**Tlapa**	**7.26**	**301**	Pn	**Pn**	**08 55 45.9**	**-1.5**
ORTG	**Ortega, Santa**	**7.33**	**118**	Pn	**Pn**	**08 55 49.4**	**+1.1**
DUNO	**Dulce Nombre,**	**7.45**	**120**		**Pn**	**08 55 51.8**	**+2.0**
JTS	**Las Juntas de**	**7.80**	**117**	P	**Pn**	**08 55 56.6**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=34,slow=18,SNR=1.5						
CAO2	**Cobano, Puntar**	**7.97**	**121**	Pn	**Pn**	**08 55 58.0**	**+0.9**
RIMA	**Rio Macho**	**9.00**	**116**		**Pn**	**08 56 13.4**	**+2.1**
SRBA	**San Rafael, Bu**	**9.69**	**118**	Pn	**Pn**	**08 56 22.8**	**+2.2**
DRK0	**Durika**	**9.77**	**117**		**Pn**	**08 56 24.2**	**+2.4**
SOR	**Soroa**	**12.31**	**43**	Pn	**Pn**	**08 56 56.6**	**+0.3**
HKT	**Hockley**	**16.35**	**348**	Pn	**Pn**	**08 57 50.1**	**+0.3**
342A	**Flagon Creek P**	**17.39**	**359**		**Pn**	**08 58 03.2**	**+0.4**
342A				IAmb	IAmb	08 58 11.8	
	comp=Z,20nm,1.0s						
CBOC	**Ciudad Bolivar**	**17.68**	**115**	*e*P	**Pn**	**08 58 01.5**	**-5.2**
NATX	**Nacogdoches**	**17.93**	**353**	P	**Pn**	**08 58 08.8**	**-0.7**
ZARC	**Zaragoza, Cauc**	**18.04**	**109**	*e*P	**P**	**08 58 09.7**	**-1.1**
HPIG		**18.18**	**318**	P	**Pn**	**08 58 12.5**	**-0.2**
VBMS	**Vicksburg**	**18.28**	**4**	P	**P**	**08 58 13.3**	**0.0**
VBMS				IAmb	IAmb	08 58 17.6	
	comp=Z,18nm,0.7s						
GUY2C	**Guyana, Caldas**	**18.55**	**116**	*e*P	**Pn**	**08 58 19.3**	**+1.6**
TXAR	**Lajitas Array**	**18.75**	**327**	P	**P**	**08 58 18.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=30						
TXAR	**Lajitas Array**	**18.75**	**327**		**Pn**	**08 58 19.2**	**-0.4**
TX31	**Lajitas Ar. Si**	**18.76**	**327**	P	**P**	**08 58 18.7**	**0.0**
TX31				IAmb	IAmb	08 58 24.8	
	comp=Z,21nm,1.0s						
TX32	**Lajitas Array**	**18.76**	**327**		**P**	**08 58 18.5**	**-0.2**
POPC	**Popayan, Colom**	**18.92**	**125**	*e*P	P	08 58 12.9	-7.9
ORTC	**Ortega, Tolima**	**19.32**	**119**	*e*P	**Pn**	**08 58 26.7**	**+0.3**
Z38A	**Mt. Pleasant**	**19.45**	**353**	P	**P**	**08 58 26.4**	**+0.2**
Z47A	**Carrollton**	**19.55**	**10**	P	**P**	**08 58 27.1**	**-0.2**
WLAR	**White Oak Lake**	**19.72**	**357**		**P**	**08 58 28.5**	**-0.6**
WLAR				IAmb	IAmb	08 58 35.6	
	comp=Z,20nm,0.8s						
ABTX	**Abilene, Hawle**	**19.89**	**341**	P	**P**	**08 58 31.2**	**+0.2**
ABTX				IAmb	IAmb	08 58 32.8	
	comp=Z,11nm,1.1s						
BARC	**Barichara**	**19.92**	**110**	*e*P	**Pn**	**08 58 33.5**	**-0.2**
CCAR	**Cane Creek**	**19.93**	**1**	P	**P**	**08 58 31.0**	**-0.3**
CCAR				IAmb	IAmb	08 59 04.8	
	comp=Z,12nm,0.5s						
LPIG	**La Paz**	**20.01**	**303**	LR	LR	09 07 06.0	
	comp=Z,59nm,18.3s,baz=135,slow=39						
CHIC	**Chingaza**	**20.27**	**115**	*e*P	Pn	08 58 37.1	-0.9
RUSC	**La Rusia**	**20.29**	**111**	*e*P	Pn	08 58 38.0	-0.3
MIAR	**Mount Ida**	**20.60**	**356**	P	**P**	**08 58 37.3**	**-1.3**
X37A	**Clayton**	**20.82**	**352**	P	**P**	**08 58 40.3**	**-0.7**
X37A				IAmb	IAmb	08 58 51.1	
	comp=Z,14nm,0.8s						
X48A	**Hartselle**	**20.95**	**12**	P	**P**	**08 58 41.2**	**-1.3**
X48A				IAmb	IAmb	08 58 51.2	
	comp=Z,10nm,0.8s						
MACC	**Macarena, Meta**	**21.44**	**121**	*e*P	**P**	**08 58 48.1**	**+0.2**
MNTX	**Cornudas Mount**	**21.53**	**328**	P	**P**	**08 58 48.7**	**0.0**
MNTX				IAmb	IAmb	08 58 50.9	
	comp=Z,8.1nm,0.8s						
FNO	**Franklin**	**21.80**	**348**	P	**P**	**08 58 49.5**	**-2.1**
MSTX	**Muleshoe**	**22.22**	**336**	P	**P**	**08 58 55.8**	**-0.5**
MSTX				IAmb	IAmb	08 58 58.8	
	comp=Z,8.9nm,0.8s						
CPCT	**Cooper Cave**	**22.50**	**16**	P	**P**	**08 58 58.6**	**-0.4**
CPCT				IAmb	IAmb	08 59 09.5	
	comp=Z,10nm,1.0s						
TKL	**Tuckaleechee C**	**22.90**	**18**	P	**P**	**08 59 02.0**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=190,slow=11,SNR=8.6						
TKL	**Tuckaleechee C**	**22.90**	**18**	P	**P**	**08 59 03.1**	**-0.2**
TKL				IAmb	IAmb	08 59 39.4	
	comp=Z,11nm,1.1s						
TZTN	**Tazewell**	**23.79**	**17**	P	**P**	**08 59 11.0**	**-0.9**
TZTN				IAmb	IAmb	08 59 32.6	
	comp=Z,9.8nm,0.9s						
ANMO	**Albuquerque**	**24.66**	**331**	P	**P**	**08 59 20.4**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=150,slow=12,SNR=26						
ANMO	**Albuquerque**	**24.66**	**331**	P	**P**	**08 59 21.6**	**+1.5**
ANMO				IAmb	IAmb	08 59 23.1	
	comp=Z,4.3nm,0.7s						
MTPU	**Mount Pierson**	**29.96**	**327**	P	**P**	**09 00 08.1**	**+0.3**
MTPU				IAmb	IAmb	09 00 12.7	
	comp=Z,6.5nm,1.4s						
SZCU	**Shurtz Canyon**	**30.12**	**325**	P	**P**	**09 00 09.6**	**+0.5**
CCUT	**Cedar City**	**30.25**	**325**	P	**P**	**09 00 10.4**	**+0.2**
RDMU	**Red Mountain**	**30.68**	**333**	P	**P**	**09 00 13.5**	**-0.4**
HWUT	**Hardware Ranch**	**32.40**	**332**	P	**P**	**09 00 28.9**	**-0.1**
HWUT				IAmb	IAmb	09 00 30.7	
	comp=Z,7.6nm,1.3s						
PDAR	**Pinedale Array**	**32.49**	**336**	P	**P**	**09 00 28.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=137,slow=11,SNR=2.9						
PDAR				PcP	**PcP**	**09 03 17.4**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=148,slow=5.8,SNR=4.9						
ELK	**Elko**	**33.55**	**327**	P	**P**	**09 00 40.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=135,slow=6.3,SNR=9.0						
ELK	**Elko**	**33.55**	**327**	P	**P**	**09 00 39.4**	**+0.3**
SNOW	**Snow King Moun**	**33.56**	**335**	P	**P**	**09 00 39.0**	**-0.2**
NVAR	**Mina Array Bea**	**33.72**	**321**	P	**P**	**09 00 42.3**	**+1.7**
	comp=Z,2.3nm,0.7s,baz=132,slow=8.5,SNR=26						
NVAR				PcP	**PcP**	**09 03 20.6**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=158,slow=5.0,SNR=3.8						
NVAR				LR	LR	09 16 30.1	
	comp=Z,76nm,19.2s,baz=108,slow=40						
PTGA	**Pitinga**	**34.94**	**112**	P	**P**	**09 00 51.7**	**+0.5**
PTGA				IAmb	IAmb	09 00 52.3	
	comp=Z,3.8nm,0.8s						
HLID	**Hailey**	**35.24**	**331**	P	**P**	**09 00 54.4**	**+0.8**
HLID				IAmb	IAmb	09 00 55.3	
	comp=Z,4.0nm,0.9s						
F10A	**Beach Ranch, E**	**38.38**	**331**	P	**P**	**09 01 20.5**	**+0.4**
LON	**Longmire**	**41.15**	**329**	P	**P**	**09 01 43.1**	**-0.1**
LON				IAmb	IAmb	09 01 46.5	
	comp=Z,4.4nm,0.8s						
SCHQ	**Schefferville**	**45.32**	**20**	LR	LR	09 22 17.6	
	comp=Z,170nm,20.1s,baz=212,slow=38						
YKA	**Yellowknife Ar**	**51.11**	**347**	P	**P**	**09 03 00.3**	**-0.8**
	comp=Z,2.8nm,0.8s,baz=147,slow=8.1,SNR=22						
YKA				PcP	**PcP**	**09 04 16.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=136,slow=5.0,SNR=7.5						
DLBC	**Dease Lake**	**52.73**	**336**	P	**P**	**09 03 14.9**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=146,slow=6.8,SNR=9.6						
DLBC	**Dease Lake**	**52.73**	**336**	P	**P**	**09 03 14.3**	**+1.0**
BCAR	**Beaver Creek A**	**60.11**	**336**	P	**P**	**09 04 05.9**	**+0.1**
INK	**Inuvik**	**60.52**	**344**	P	**P**	**09 04 08.0**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=122,slow=8.4,SNR=6.5						
INK	**Inuvik**	**60.52**	**344**	IAmb	IAmb	09 04 08.7	
	comp=Z,3.8nm,0.7s						
KDAK	**Kodiak Island**	**62.78**	**328**	P	**P**	**09 04 23.8**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=215,slow=1.0,SNR=4.3						
ILAR	**Eielson Array**	**62.91**	**337**	P	**P**	**09 04 23.8**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=120,slow=4.0,SNR=12						
ILAR	**Eielson Array**	**62.91**	**337**	P	**P**	**09 04 24.6**	**0.0**
NOA	**NORSAR Array B**	**84.25**	**28**	P	**P**	**09 06 27.7**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=309,slow=6.0,SNR=3.4						
ARCES	**ARCESS Array B**	**86.24**	**18**	P	**P**	**09 06 38.2**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=343,slow=3.8,SNR=6.4						
ARCES				LR	LR	09 45 18.4	
	comp=Z,37nm,19.3s,baz=105,slow=36						
CMAR	**Chiang Mai Arr**	**146.07**	**341**	PKPbc	**PKPab**	**09 13 39.4**	**-0.3**
	comp=Z,6.7nm,0.7s,baz=346,slow=4.2,SNR=30						
CMAR	**Chiang Mai Arr**	**146.07**	**341**		**PKPdf**	**09 13 38.2**	**-0.1**

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*TRN **25** 08:54:04.7, 14°.21N×58°.39W, h129km, MD3.9*
ISC 25 08:54:04.7±3.2, 14°.29N±0°.09×58°.5W±0°.2, h10km, n11, σ1°32/19, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.55**	**223**	*e*P	**Pg**	**08 54 35.1**	**+0.6**
BBGH				*e*S	**Sg**	**08 54 55.8**	**+1.0**
BCHC	**Barbados, Cave**	**1.61**	**225**	*e*S	**Sg**	**08 54 57.9**	**+1.4**
MPOM	**Morne Pois Mar**	**2.32**	**274**	*e*P	**Pn**	**08 54 44.0**	**+1.0**
MPOM				*e*S	**Sb**	**08 55 14.4**	**-1.0**
SLBI	**Saint Lucia, B**	**2.44**	**264**	*e*P	**Pb**	**08 54 46.5**	**-2.2**
SLBI				*e*S	**Sn**	**08 55 15.2**	**+0.5**
MCLT	**Moule a Chique**	**2.47**	**257**	*e*P	**Pb**	**08 54 48.4**	**-0.8**
BIM	**Bigot**	**2.53**	**276**	*e*P	**Pn**	**08 54 47.2**	**+1.2**
BIM				*e*S	**Sn**	**08 55 17.8**	**+0.9**
SLB	**Belfond**	**2.54**	**260**	*e*P	**Pb**	**08 54 48.8**	**-1.6**
SVV	**Soufriere Volc**	**2.84**	**251**	*e*P	**Pn**	**08 54 51.6**	**+1.5**
SVV				*e*S	**Sn**	**08 55 25.6**	**+1.2**
SVB	**Belmont**	**2.88**	**250**	*e*P	**Pn**	**08 54 51.4**	**+0.6**
SVB				*e*S	**Sn**	**08 55 25.8**	**+0.1**
GCMP	**Grenada, Carri**	**3.39**	**238**	*e*P	**Pn**	**08 54 57.9**	**+0.2**
GCMP				*e*S	**Sn**	**08 55 35.5**	**-2.5**
GRGR	**Grenville**	**3.77**	**236**	*e*P	**Pn**	**08 55 03.5**	**+0.5**
GRGR				*e*S	**Sn**	**08 55 46.3**	**-1.1**

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*IDC **25** 08:55:59.6±1.1, 3°.78N×31°.54W, h0km, mb3.9/10, mb1 4.2/10, mb1mx3.9/44, mbtmp3.9/10, MS3.7/8, Ms1 3.7/8, ms1mx3.4/29, Error ellipse: s-maj=36.8km s-min=22.2km az=151.0*
ISC 25 08:56:01.1±1.0, 3°.8N±0°.2×31°.5W±0°.2, h10km, n22, σ0°83/11, mb4.0/10, MS3.8/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.48**	**205**	LR	LR	09 01 35.8	
	comp=Z,297nm,20.4s,baz=316,slow=32						
H10N3	**ASCENSION HYDR**	**20.53**	**124**	T	T	09 21 44.0	
	baz=303,slow=75,SNR=78						
H10N2	**ASCENSION HYDR**	**20.54**	**124**	T	T	09 21 44.4	
	baz=303,slow=75,SNR=87						
H10N1	**ASCENSION HYDR**	**20.55**	**124**	T	T	09 21 45.5	
	baz=303,slow=75,SNR=136						
H10S3	**ASCENSION HYDR**	**21.03**	**127**	T	T	09 22 26.1	
	baz=305,slow=74,SNR=39						
H10S2	**ASCENSION HYDR**	**21.05**	**127**	T	T	09 22 27.4	
	baz=275,slow=74,SNR=18						
TORD	**Torodi Ar. Bea**	**34.12**	**72**	P	**P**	**09 02 45.4**	**-1.1**
	1.8nm,0.7s,baz=261,slow=8.6,SNR=7.4						
TORD				LR	LR	09 14 47.4	
	comp=Z,156nm,19.6s,baz=270,slow=33						
CPUP	**Villa Florida**	**38.97**	**218**	P	**P**	**09 03 28.2**	**+0.5**
	1.0nm,0.5s,baz=70,slow=10,SNR=4.8						
CPUP				LR	LR	09 19 23.0	
	comp=Z,130nm,18.4s,baz=50,slow=36						
LPAZ	**La Paz**	**41.31**	**240**	LR	LR	09 20 15.9	
	comp=Z,138nm,21.0s,baz=18,slow=35						
ROSC	**El Rosal**	**42.68**	**273**	LR	LR	09 20 51.8	
	comp=Z,147nm,20.7s,baz=53,slow=35						
ESDC	**Sonseca Array**	**43.59**	**31**	P	**P**	**09 04 07.2**	**+1.5**
	2.1nm,0.9s,baz=228,slow=9.0,SNR=8.2						
KEST	**Kesra**	**49.32**	**45**	LR	LR	09 25 17.8	
	comp=Z,71nm,21.2s,baz=284,slow=36						
PLCA	**Paso Flores**	**56.86**	**215**	LR	LR	09 30 04.9	
	comp=Z,50nm,19.3s,baz=5.5,slow=36						
SCHQ	**Schefferville**	**58.37**	**

	baz=291						
NWLT	**Wulai**	**0.87**	**279**	*e*P	**Pn**	**09 00 45.2**	**0.0**
	baz=277						
NWLT				*e*S	**Sb**	**09 00 56.3**	**+0.3**
	baz=277						
ETL	**Fush Village**	**0.90**	**237**	P	**Pn**	**09 00 45.4**	**-0.2**
	baz=236						
ETL				*e*S	**Sn**	**09 00 58.3**	**+0.4**
	baz=236						
NHDH	**Xindian Distri**	**0.90**	**291**	*e*P	**Pb**	**09 00 45.1**	**0.0**
	baz=289						
NHDH				*e*S	**Sn**	**09 00 57.8**	**-0.1**
	baz=289						
NACB	**Ninganchiao**	**0.91**	**239**	P	**Pb**	**09 00 45.2**	**-0.1**
	baz=238						
NACB				*e*S	**Sn**	**09 00 57.6**	**-0.6**
	baz=238						
TATO	**Taipei**	**0.94**	**291**	P	**Pn**	**09 00 45.5**	**-0.5**
	baz=289						
TATO				*e*S	**Sn**	**09 00 58.6**	**-0.1**
	baz=289						
YM01	**YM01**	**0.94**	**302**	*e*P	**Pb**	**09 00 46.6**	**+0.7**
	baz=300						
YM01				*e*S	**Sn**	**09 00 59.6**	**+0.5**
	baz=300						
YM08	**YM08**	**0.95**	**305**	P	**Pn**	**09 00 45.9**	**-0.4**
	baz=303						
YM08				S	**Sn**	**09 00 59.1**	**-0.1**
	baz=303						
TWD	**Chiawan**	**0.96**	**234**	*e*P	**Pb**	**09 00 46.9**	**+0.7**
	baz=233						
TWD				*e*S	**Sn**	**09 01 01.5**	**+2.1**
	baz=233						
YHNB	**Yeheng**	**0.98**	**272**	P	**Pb**	**09 00 46.7**	**+0.2**
	baz=270						
YHNB				S	**Sn**	**09 01 00.1**	**+0.1**
	baz=270						
ETLH	**Xiulin Townshi**	**0.99**	**244**	*e*P	**Pb**	**09 00 46.9**	**+0.2**
	baz=242						
ETLH				*e*S	**Sn**	**09 01 00.3**	**+0.1**
	baz=242						
NNSB	**Datong**	**1.00**	**258**	P	**Pn**	**09 00 46.7**	**-0.3**
	baz=256						
NNSB				*e*S	**Sn**	**09 01 00.6**	**+0.1**
	baz=256						
NNSH	**Datong**	**1.00**	**258**	*e*P	**Pn**	**09 00 46.5**	**-0.6**
	baz=256						
NNSH				*e*S	**Sn**	**09 01 01.9**	**+1.4**
	baz=256						
NNS	**Nan Shan**	**1.00**	**258**	P	**Pn**	**09 00 46.8**	**-0.3**
	baz=256						
NNS				S	**Sn**	**09 01 00.7**	**+0.1**
	baz=256						
ETM	**Tongmen**	**1.11**	**232**	*e*P	**Pb**	**09 00 48.4**	**-0.3**
	baz=231						
ETM				*e*S	**Sb**	**09 01 04.2**	**+1.5**
	baz=231						
FUSS	**Fushou**	**1.17**	**250**	*e*P	**Pn**	**09 00 49.4**	**-0.1**
	baz=249						
FUSS				*e*S	**Sb**	**09 01 05.2**	**+0.5**
	baz=249						
WHF	**Hehuan Shan**	**1.19**	**245**	*e*P	**Pn**	**09 00 49.5**	**-0.4**
	baz=244						
WHF				*e*S	**Sb**	**09 01 06.2**	**+0.7**
	baz=244						
IRIF	**Iriomote-Funau**	**1.21**	**105**	P	**Pn**	**09 00 49.2**	**-0.5**
TDCB	**Techi**	**1.24**	**252**	*e*P	**Pb**	**09 00 51.1**	**0.0**
	baz=250						
TDCB				*e*S	**Sb**	**09 01 07.2**	**+0.5**
	baz=250						
CHGB	**Renai**	**1.30**	**244**	*e*P	**Pb**	**09 00 52.2**	**+0.1**
	baz=242						
CHGB				*e*S	**Sb**	**09 01 09.5**	**+0.9**
	baz=242						
NSTT	**Nanjuang**	**1.32**	**270**	*e*P	**Pb**	**09 00 52.1**	**-0.3**
	baz=268						
NSTT				*e*S	**Sb**	**09 01 09.1**	**+0.3**
	baz=268						
WHP	**Taichung City**	**1.42**	**255**	*e*P	**Pb**	**09 00 54.0**	**-0.1**
	baz=254						
WHP				*e*S	**Sb**	**09 01 11.2**	**-0.6**
	baz=254						
JKRS	**Kuro-shima**	**1.48**	**106**	P	**Pn**	**09 00 53.4**	**-0.1**
HGSD	**Ruisui**	**1.48**	**219**	*e*P	**Pb**	**09 00 55.0**	**-0.1**
	baz=218						
HGSD				*e*S	**Sb**	**09 01 13.3**	**-0.2**
	baz=218						
JIJ	**Ishigaki jima**	**1.57**	**100**	P	**Pn**	**09 00 54.5**	**-0.2**
SSLB	**Suanglung**	**1.61**	**238**	*e*P	**Pn**	**09 00 55.4**	**0.0**
	baz=237						
SSLB				*e*S	**Sb**	**09 01 16.3**	**-1.0**
	baz=237						
YULB	**Yu-li**	**1.64**	**220**	*e*P	**Pb**	**09 00 56.7**	**-1.0**
	baz=219						
YULB				*e*S	**Sb**	**09 01 17.2**	**-0.7**
	baz=219						
EYUL	**Yuli**	**1.66**	**219**	*e*S	**Sb**	**09 01 17.2**	**-1.3**
	baz=218						
JISG	**Ishigakijimahi**	**1.69**	**92**	P	**Pn**	**09 00 56.6**	**+0.2**
ALS	**Alishan**	**1.88**	**233**	*e*S	**Sn**	**09 01 22.8**	**+0.3**
	baz=232						
CHN5	**Tsauling**	**1.93**	**238**	*e*P	**Pb**	**09 01 01.0**	**-1.8**
	baz=236						
CHN5				*e*S	**Sn**	**09 01 24.2**	**+0.8**
	baz=236						
TPUB	**Ta-pu**	**2.14**	**232**	*e*P	**Pb**	**09 01 04.2**	**-2.0**
	baz=230						
TPUB				*e*S	**Sn**	**09 01 29.0**	**+0.5**
	baz=230						
SLGT	**Liugui**	**2.33**	**226**	*e*P	**Pn**	**09 01 05.6**	**+0.3**
	baz=224						
SLGT				*e*S	**Sn**	**09 01 33.7**	**+0.4**
	baz=224						
TWM1	**Shoushan**	**2.60**	**226**	*e*P	**Pn**	**09 01 09.7**	**+0.7**
	baz=225						
TWM1				*e*S	**Sn**	**09 01 41.2**	**+1.4**
	baz=225						
MATB	**Ma-tsu**	**2.72**	**304**	*e*P	**Pn**	**09 01 10.8**	**+0.3**
	baz=302						
MATB				*e*S	**Sn**	**09 01 43.0**	**+0.2**
	baz=302						
SCZT	**Fangliau**	**2.82**	**217**	*e*S	**Sn**	**09 01 47.0**	**+1.7**
	baz=216						

*IDC **25** 09:00:57.9±1.7, 9°.67N×126°.33E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/45, mbtmp3.8/5, MS3.8/1, Ms1 3.8/1, ms1mx2.5/42, Error ellipse: s-maj=190.1km s-min=24.0km az=69.0*
*MAN **25** 09:01:07.6, 9°.74N×126°.17E, h17km, mb4.9, ML3.8, MS3.8*
ISC 25 09:01:03.8±1.1, 9°.86N±0°.08×126°.6E±0°.1, h35km, n10, σ2°44/10, mb3.4/5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.68**	**188⇑**	*i*P	**Pn**	**09 01 35.4**	**+4.6**
BIPH				*i* S	**Sn**	**09 01 50.5**	**-0.6**
CGP	**Cagayan de Oro**	**2.34**	**233⇑**	*e*P	**Pn**	**09 01 39.4**	**-0.4**
CGP				*e*S	**Sn**	**09 02 07.7**	**+0.4**
KCP	**Kidapawan**	**3.20**	**208‖**	*e*P	Pn	09 01 58.1	+6.4
RCP	**Roxas**	**4.14**	**294‖**	*e*P	**Pn**	**09 02 07.7**	**+3.1**
WRA	**Warramunga Arr**	**30.58**	**166**	P	**P**	**09 07 11.9**	**-2.6**
	0.6nm,1.0s,baz=343,slow=8.5,SNR=2.3						
ASAR	**Alice Springs**	**34.08**	**168**	P	**P**	**09 07 43.6**	**-1.6**
	0.4nm,0.8s,baz=351,slow=6.9,SNR=6.1						
MKAR	**Makanchi Array**	**52.54**	**323**	P	**P**	**09 10 13.4**	**-0.5**
	0.2nm,0.4s,baz=113,slow=9.3,SNR=4.3						
MSVF	**Nonsavu**	**57.75**	**118**	LR	LR	09 31 35.9	
	comp=Z,79nm,21.1s,baz=135,slow=32						
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**	**09 13 33.2**	**-0.6**
	1.0nm,0.7s,baz=77,slow=7.9,SNR=2.8						
FINES	**FINESS Array B**	**86.40**	**332**	P	**P**	**09 13 42.4**	**0.0**
	1.5nm,0.8s,baz=64,slow=4.4,SNR=6.4						

*IDC **25** 09:24:42.0±1.1, 25°.65N×143°.15E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/41, mbtmp3.6/6, Error ellipse: s-maj=44.9km s-min=17.9km az=79.0*
ISC 25 09:24:47.6±1.1, 25°.6N±0°.1×143°.1E±0°.3, h40km, n7, σ0°66/8, mb3.7/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.67**	**330**	Pn	**Pn**	**09 25 13.7**	**-0.6**
	92nm,0.3s,baz=256,slow=7.2,SNR=26						
JCJ				Sn	**Sn**	**09 25 35.6**	**+1.0**
	79nm,0.3s,baz=225,slow=22,SNR=19						

KLR	**Kul'dur**	**25.16**	**342**	P	**P**	**09 30 09.2**	**+0.3**
	1.4nm,0.6s,baz=191,slow=4.4,SNR=6.0						
WRA	**Warramunga Arr**	**46.11**	**191**	P	**P**	**09 33 08.5**	**+0.5**
	1.1nm,0.6s,baz=12,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**49.82**	**191**	P	**P**	**09 33 36.7**	**0.0**
	0.2nm,0.6s,baz=9.6,slow=6.1,SNR=1.3						
MKAR	**Makanchi Array**	**52.05**	**310**	P	**P**	**09 33 52.6**	**-0.7**
	0.4nm,0.8s,baz=81,slow=8.9,SNR=3.2						
ILAR	**Eielson Array**	**58.59**	**28**	P	**P**	**09 34 40.0**	**0.0**
	0.4nm,0.7s,baz=274,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	**79.61**	**334**	P	**P**	**09 36 50.6**	**+0.3**
	1.1nm,0.4s,baz=57,slow=5.1,SNR=17						

*UPA **25** 09:25:34.5±0.9, 6°.98N×76°.99W, h19km±12km, MW3.2*
*RSNC **25** 09:25:34.0±1.4, 6°.99N×77°.04W, h19km±5km, ML2.1*
ISC 25 09:25:33.1±1.2, 6°.97N±0°.03×77°.04W±0°.03, h12km±9km, n16, σ0°90/32, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.78**	**283**	*e*P	**Pg**	**09 25 47.5**	**-0.7**
PTAC				*e*S	**Sg**	**09 25 58.0**	**-0.4**
SOLC	**Bahia Solano**	**0.82**	**206**	*e*P	**Pg**	**09 25 49.3**	**+0.2**
SOLC				*e*S	**Sb**	**09 26 01.7**	**+1.3**
SOLC	**Bahia Solano**	**0.82**	**206**	*e*P	**Pg**	**09 25 49.3**	**+0.2**
SOLC				*e*S	**Sb**	**09 26 01.7**	**+1.3**
SOLC				*i*		09 26 05.8	
	comp=Z,52nm,0.3s						
DBBC	**Dabeiba**	**0.83**	**87**	*e*P	**Pg**	**09 25 49.5**	**+0.3**
DBBC				*e*S	**Sg**	**09 25 59.3**	**-0.8**
DBBC	**Dabeiba**	**0.83**	**87**	*e*P	**Pg**	**09 25 49.5**	**+0.3**
DBBC				*e*S	**Sg**	**09 25 59.7**	**-0.4**
CBOC	**Ciudad Bolivar**	**1.50**	**137**	*e*P	**Pn**	**09 25 59.5**	**-0.5**
CBOC				*e*S	**Sn**	**09 26 18.2**	**-1.4**
UREC	**San Jos de Ur**	**1.69**	**63**	*e*P	**Pn**	**09 26 03.1**	**+0.8**
UREC				*e*S	**Sb**	**09 26 26.2**	**+0.9**
UREC				*i*		09 26 28.8	
	comp=Z,24nm,0.2s						
HELC	**Santa Helena**	**1.69**	**117**	*e*P	**Pn**	**09 26 02.8**	**0.0**
HELC				*e*S	**Sn**	**09 26 23.2**	**-1.4**
HELC	**Santa Helena**	**1.69**	**117**	*e*P	**Pn**	**09 26 02.8**	**0.0**
HELC				*e*S	**Sn**	**09 26 23.2**	**-1.4**
HELC				*i*		09 26 27.9	
	comp=Z,15nm,0.3s						
UPD2	**Meteti**	**1.84**	**328**	*e*P	**Pn**	**09 26 04.4**	**-0.1**
UPD2				*e*S	**Sn**	**09 26 28.7**	**+1.1**
LCBC	**Los crdobas,**	**1.99**	**20**	*e*P	**Pn**	**09 26 07.1**	**+0.6**
LCBC				*e*S	**Sn**	**09 26 29.8**	**-1.6**
PLMC	**San Jos del P**	**2.19**	**160**	*e*P	**Pn**	**09 26 08.7**	**-0.6**
PLMC				*e*S	**Sn**	**09 26 35.7**	**-0.7**
ZARC	**Zaragoza, Cauc**	**2.23**	**76**	*e*P	**Pn**	**09 26 11.1**	**+1.2**
ZARC				*e*S	**Sn**	**09 26 37.0**	**-0.4**
ZARC				*i*		09 26 44.0	
	comp=Z,12nm,0.5s						
MONA	**Monteria**	**2.25**	**37**	*e*P	**Pn**	**09 26 10.0**	**-0.2**
MONA				*e*S	**Sn**	**09 26 37.2**	**-0.8**
MOTC	**Monteria, Cord**	**2.26**	**37**	*e*P	**Pn**	**09 26 10.0**	**-0.2**
MOTC				*e*S	**Sn**	**09 26 37.2**	**-0.8**
GUY2C	**Guyana, Caldas**	**2.41**	**136**	*e*P	**Pn**	**09 26 14.2**	**+1.5**
GUY2C				*e*S	**Sn**	**09 26 41.9**	**-0.5**

*TUL **25** 09:42:52.3±0.4, 36°.51N±0°.02×99°.02W±0°.04, h1km±7km, ML2.7, mb_Lg2.4/24(NEIC), Error ellipse: s-maj=4.6km s-min=2.4km az=115.0*
NEIC 25 09:42:52.4±0.7, 36°.53N±0°.02×99°.04W±0°.05, h6km±7km, Error ellipse: s-maj=5.5km s-min=2.4km az=103.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.15**	**167**		Pg	09 42 55.5	0.0
U32A				Sg	Sg	09 42 57.9	+0.3
OK032	**Salt Plains WL**	**0.72**	**67**		Pg	09 43 06.5	+0.2
OK032				Sg	Sg	09 43 16.1	+0.4
CROK	**Carrier**	**0.85**	**91**		Pg	09 43 08.6	-0.2
KAN10	**Anthony SW Sta**	**0.97**	**52**		Pg	09 43 10.9	-0.1
GC02	**Grant County #**	**1.00**	**71**		Pg	09 43 11.5	-0.2
KAN05	**Bluff City Nor**	**1.10**	**58**	Pg	Pg	09 43 13.4	-0.2
KAN08	**Anthony NE Sta**	**1.11**	**51**	Pg	Pg	09 43 13.4	-0.2
KAN12	**Harper NE Stat**	**1.14**	**47**		Pg	09 43 13.9	-0.3
KAN17	**Caldwell West**	**1.15**	**63**		Pg	09 43 14.1	-0.4
KAN09	**Caldwell North**	**1.29**	**62**		Pn	09 43 16.6	-0.4
KAN13	**South Haven SW**	**1.35**	**68**	Pn	Pn	09 43 17.5	-0.3
KS20	**Mayfield South**	**1.38**	**59**		Pn	09 43 18.3	0.0
BCOK	**Bluff Creek, N**	**1.45**	**126**		Pn	09 43 19.1	-0.1
OK029	**Liberty Lake**	**1.48**	**119**	Pn	Pn	09 43 19.7	+0.1
BLOK	**Blackwell**	**1.49**	**80**		Pn	09 43 19.9	+0.2
OK025	**Westminster Rd**	**1.67**	**124**		Pn	09 43 22.5	+0.2
WMOK	**Wichita Mounta**	**1.80**	**173**		Pn	09 43 24.4	+0.4
FNO	**Franklin**	**1.84**	**133**		Pn	09 43 24.7	+0.1
OK031	**S. Brethren Rd**	**1.87**	**107**	Pn	Pn	09 43 24.8	-0.2
R32A	**Long Quarter,**	**1.91**	**8**	Pn	Pb	09 43 27.2	-0.4
T35A	**Sooner Cattle**	**2.07**	**78**	IAmb_Lg		09 44 00.7	
	comp=Z,16nm,0.7s						
X34A	**Smith Ranch, M**	**2.16**	**152**	IAmb_Lg		09 44 00.6	
	comp=Z,14nm,1.0s						
U38A	**Gravette**	**3.75**	**90**	IAmb_Lg		09 44 53.3	
	comp=Z,7.0nm,1.0s						
KSCO	**Kaye Shedlock'**	**3.77**	**312**	IAmb_Lg		09 44 57.5	
	comp=Z,6.8nm,0.8s						
MSTX	**Muleshoe**	**3.98**	**231**	IAmb_Lg		09 45 00.8	
	comp=Z,6.0nm,0.8s						
HHAR	**Hobbs**	**4.12**	**92**	IAmb_Lg		09 45 04.3	
	comp=Z,4.8nm,0.9s						
T25A	**Trinidad**	**4.35**	**280**	IAmb_Lg		09 45 17.7	
	comp=Z,8.1nm,0.8s						
U40A	**Yellville**	**4.99**	**90**	IAmb_Lg		09 45 32.9	
	comp=Z,4.8nm,0.8s						
WHAR	**Wooly Hollow**	**5.62**	**101**	IAmb_Lg		09 45 58.7	
	comp=Z,9.2nm,1.1s						
P40A	**Paris**	**6.28**	**59**	IAmb_Lg		09 46 14.8	
	comp=Z,5.8nm,0.8s						
PBMO	**Poplar Bluff**	**6.93**	**85**	IAmb_Lg		09 46 47.5	
	comp=Z,4.3nm,0.9s						
MNTX	**Cornudas Mount**	**7.13**	**229**	IAmb_Lg		09 46 41.0	
	comp=Z,6.5nm,1.2s						

*IDC **25** 09:58:59.8±1.6, 26°.82S×176°.52W, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/36, mbtmp3.8/5, ML4.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=47.1km s-min=25.9km az=133.0*
ISC 25 09:59:05.0±1.3, 26°.8S±0°.1×176°.5W±0°.2, h35km, n9, σ1°42/8, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.72**	**207**	Pn	**Pn**	**09 59 45.2**	**-1.0**
	59nm,0.3s,baz=211,slow=19,SNR=2.6						
RAO				Sn	**Sn**	**10 00 19.3**	**+1.3**
	104nm,0.3s,baz=100,slow=22,SNR=7.3						
DZM	**Mont Dzumac**	**16.24**	**283**	LR	LR	10 07 49.8	
	comp=Z,118nm,18.4s,baz=236,slow=33						
CTA	**Charters Tower**	**34.73**	**273**	P	**P**	**10 05 53.5**	**+1.5**
	2.0nm,0.6s,baz=98,slow=13,SNR=2.6						
ASAR	**Alice Springs**	**44.75**	**263**	P	**P**	**10 07 14.6**	**-0.8**
	0.8nm,0.9s,baz=102,slow=6.9,SNR=6.3						
WRA	**Warramunga Arr**	**45.42**	**268**	P	**P**	**10 07 19.8**	**-0.9**
	1.6nm,0.8s,baz=108,slow=7.7,SNR=14						
NVAR	**Mina Array Bea**	**84.72**	**42**	P	**P**	**10 11 36.9**	**+1.2**
	0.2nm,0.6s,baz=225,slow=6.1,SNR=2.4						
YAK	**Yakutsk**	**98.46**	**337**	LR	LR	10 56 57.8	
	comp=Z,18nm,19.1s,baz=109,slow=35						
NOA	**NORSAR Array B**	**145.40**	**353**	PKPbc	**PKPbc**	**10 18 37.4**	**-1.3**
	0.8nm,0.8s,baz=12,slow=2.5,SNR=3.6						
AKASG	**Malin Array Be**	**149.13**	**327**	PKPbc	**PKPbc**	**10 18 48.8**	**-0.6**
	1.1nm,0.7s,baz=37,slow=3.4,SNR=1.8						

IDC 25 10:08:15.5±3.4, 32°.56S×178°.45W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/32, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=76.2km s-min=48.2km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.74**	**211**	Pn	Pn	10 09 54.4	-1.3
	0.4nm,0.3s,baz=266,slow=3.8,SNR=6.6						
URZ				Sn	Sn	10 11 08.7	-4.6
	0.6nm,0.3s,baz=256,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**42.66**	**269**	P	P	10 16 14.1	0.0
	0.3nm,0.6s,baz=100,slow=7.3,SNR=4.7						

WRA	**Warramunga Arr**	**43.84**	**275**	P	P	10 16 23.6	0.0
	0.5nm,0.5s,baz=113,slow=8.1,SNR=8.7						
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	PKPbc	10 27 58.8	-0.6
	1.6nm,0.9s,baz=83,slow=4.5,SNR=2.0						

IDC 25 10:10:26.3±2.3, 32°.51S×178°.92W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/28, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=53.5km s-min=34.7km az=67.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.59**	**208**	Pn	Pn	10 12 02.2	-2.1
	1.0nm,0.3s,baz=336,slow=10.0,SNR=1.8						
URZ				Sn	Sn	10 13 14.8	-5.4
	1.7nm,0.3s,baz=246,slow=16,SNR=6.6						
ASAR	**Alice Springs**	**42.26**	**270**	P	P	10 18 21.8	+0.2
	0.7nm,0.9s,baz=114,slow=7.8,SNR=6.9						
WRA	**Warramunga Arr**	**43.44**	**275**	P	P	10 18 31.1	0.0
	0.5nm,0.6s,baz=115,slow=7.6,SNR=8.2						
VNDA	**Vanda**	**45.92**	**186**	P	P	10 18 50.8	+0.5
	0.6nm,0.6s,baz=39,slow=6.5,SNR=6.4						
FINES	**FINESS Array B**	**146.83**	**338**	PKPbc	PKPdf	10 30 08.2	+0.3
	0.6nm,0.7s,baz=91,slow=6.1,SNR=4.1						

*IDC **25** 10:13:37.0±4.0, 64°.44S×177°.55E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.9/27, mbtmp3.9/3, ML3.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/15, Error ellipse: s-maj=141.2km s-min=38.2km az=70.0*
*NEIC **25** 10:13:39.9±0.5, 64°.5S±0°.1×176°.9E±0°.4, h10km±6km, mb4.4/10, Error ellipse: s-maj=30.9km s-min=13.2km az=57.0*
ISC 25 10:13:39.9±1.1, 64°.5S±0°.1×176°.7E±0°.3, h10km, n28, σ0°62/17, mb4.4/8, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.72**	**189**		**Pn**	**10 16 54.0**	**-0.1**
VNDA	**Vanda**	**13.82**	**193**	Pn	**Pn**	**10 16 54.5**	**-1.1**
	0.1nm,0.3s,baz=37,slow=18,SNR=9.4						
VNDA				LR	LR	10 20 50.4	
	comp=Z,208nm,21.1s,baz=39,slow=31						
VNDA	**Vanda**	**13.82**	**193**		**Pn**	**10 16 55.6**	**+0.1**
BKZ	**Black Stump Fm**	**25.41**	**360**	P	**P**	**10 19 06.8**	**-0.5**
BKZ				IAmb	IAmb	10 19 28.5	
	comp=Z,22nm,1.4s						
QSPA	**South Pole Qui**	**25.55**	**180**	P	**P**	**10 19 09.4**	**+0.8**
QSPA				IAmb	IAmb	10 19 19.4	
	comp=Z,10.0nm,1.1s						
URZ	**Urewera**	**26.31**	**1**	LR	LR	10 27 33.0	
	comp=Z,109nm,20.8s,baz=197,slow=32						
CASY	**Casey**	**26.44**	**236**	P	P	10 19 04.2	-12
ARMA	**Armidale**	**37.57**	**323**	P	**P**	**10 20 54.4**	**+0.1**
ARMA				IAmb	IAmb	10 21 21.7	
	comp=Z,13nm,1.4s						
PMSA	**Palmer Station**	**43.60**	**147**	P	**P**	**10 21 43.7**	**+0.1**
PMSA				IAmb	IAmb	10 21 53.3	
	comp=Z,3.3nm,0.9s						
H01W1	**Cape Leeuwin H**	**47.35**	**277**	T	T	11 13 06.0	
	baz=148,slow=75,SNR=157						
H01W2	**Cape Leeuwin H**	**47.36**	**277**	T	T	11 13 05.2	
	baz=148,slow=75,SNR=127						
H01W3	**Cape Leeuwin H**	**47.37**	**277**	T	T	11 13 05.5	
	baz=148,slow=75,SNR=119						
ASAR	**Alice Springs**	**49.39**	**305**	P	**P**	**10 22 30.1**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=154,slow=7.0,SNR=19						
ASAR	**Alice Springs**	**49.39**	**305**	P	**P**	**10 22 30.5**	**+1.0**
AS31	**Alice Springs**	**49.39**	**305**	P	**P**	**10 22 29.8**	**+0.3**
AS31				IAmb	IAmb	10 22 52.6	
	comp=Z,3.7nm,1.6s						
WR0	**Warramunga Arr**	**52.59**	**307**	P	**P**	**10 22 53.7**	**+0.2**
WB2	**Warramunga Arr**	**52.67**	**307**	P	**P**	**10 22 54.3**	**+0.2**
WRA	**Warramunga Arr**	**52.67**	**307**	P	**P**	**10 22 54.2**	**0.0**
	comp=Z,1.7nm,0.7s,baz=157,slow=6.6,SNR=12						
WRA				LR	LR	10 41 52.7	
	comp=Z,94nm,21.9s,baz=210,slow=32						
WRA	**Warramunga Arr**	**52.67**	**307**	P	**P**	**10 22 54.4**	**+0.2**
WB0	**Warramunga Arr**	**52.82**	**307**	P	**P**	**10 22 55.3**	**0.0**
WB0				IAmb	IAmb	10 23 14.6	
	comp=Z,7.2nm,1.4s						
H03S2	**Juan Fernandez**	**65.78**	**118**	T	T	11 36 45.0	
	baz=206,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**65.78**	**118**	T	T	11 36 46.3	
	baz=206,slow=74,SNR=21						
H03S3	**Juan Fernandez**	**65.79**	**118**	T	T	11 36 45.9	
	baz=206,slow=74,SNR=21						
H03N3	**Juan Fernandez**	**66.11**	**118**	T	T	11 37 09.0	
	baz=174,slow=76,SNR=11						
H03N2	**Juan Fernandez**	**66.13**	**118**	T	T	11 37 07.6	
	baz=174,slow=76,SNR=13						
H03N1	**Juan Fernandez**	**66.13**	**118**	T	T	11 37 07.9	
	baz=174,slow=76,SNR=12						
KBZ	**Khabaz**	**146.92**	**254**	PKPbc	**PKPbc**	**10 33 20.1**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=121,slow=0.5,SNR=5.1						
BRTR	**Keskin Array B**	**147.18**	**239**	PKPbc	**PKPbc**	**10 33 22.9**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=134,slow=3.6,SNR=6.2						

*TRN **25** 10:22:30.4, 13°.66N×58°.63W, h151km, MD3.6*
ISC 25 10:22:35.3±2.2, 14°.00N±0°.04×58°.7W±0°.1, h10km, n23, σ1°60/37, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.15**	**220**	*e*P	**Pg**	**10 22 58.7**	**+1.3**
BBSP				*e*S	**Sn**	**10 23 15.3**	**+2.0**
BBGH	**Gun Hill**	**1.19**	**224**	*e*P	**Pn**	**10 22 55.8**	**-2.1**
BBGH	**Gun Hill**	**1.19**	**224**	*e*P	**Pn**	**10 22 57.1**	**-0.9**
BBGH				*e*S	**Sn**	**10 23 16.5**	**+2.3**
MPOM	**Morne Pois Mar**	**2.13**	**282**	*e*P	**Pn**	**10 23 09.9**	**-1.1**
MPOM

ISC 25 10:25:36.8±0.7,**23°13'N**±0'.02×**121°47'E**±0'.02,**h25**km±4km,
n198,σ1°**15**/301,**mb4.0**/18,**MS3.3**/8,**11C-13D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=197	**0.10**	**253**	⇑	*i*	P	**Pb**	**10 25 41.6**	**+0.1**
CHKT	baz=197				*i*	S	**Sb**	**10 25 44.7**	**+0.1**
FULB	**Fuli** baz=300	**0.18**	**293**	⇑	*i*	P	**Pb**	**10 25 41.8**	**-0.4**
FULB	baz=300					S	**Sb**	**10 25 46.0**	**+0.1**
ECBN	**Changbin** baz=25	**0.19**	**354**	⇑	*i*	P	**Pb**	**10 25 42.6**	**+0.3**
ECBN	baz=25					S	**Sb**	**10 25 46.6**	**+0.5**
EDH	**Donghe** baz=203	**0.22**	**225**	⇑	*i*	P	**Pb**	**10 25 43.0**	**+0.3**
EDH	baz=203				*i*	S	**Sb**	**10 25 47.0**	**+0.3**
ECS	**Chishang** baz=251	**0.23**	**262**	⇓		P	**Pb**	**10 25 43.3**	**+0.3**
ECS	baz=251					S	**Sb**	**10 25 48.2**	**+1.1**
EYUL	**Yuli** baz=348	**0.26**	**327**			P	**Pb**	**10 25 43.5**	**+0.2**
EYUL	baz=348					S	**Sb**	**10 25 48.4**	**+0.7**
TWF1	**Yuli** baz=325	**0.27**	**324**	⇓	*i*	P	**Pb**	**10 25 43.3**	**-0.2**
TWF1	baz=325				*i*	S	**Sb**	**10 25 48.3**	**+0.2**
YULB	**Yu-li** baz=328	**0.31**	**329**	⇓	*i*	P	**Pb**	**10 25 43.6**	**-0.4**
YULB	baz=328					S	**Sb**	**10 25 48.0**	**-0.9**
YULB	**Yu-li**	**0.31**	**329**				**Pb**	**10 25 43.1**	**-0.9**
YULB				Sg			**Sb**	**10 25 48.7**	**-0.2**
HGSD	**Ruisui** baz=17	**0.36**	**353**	⇑	*i*	P	**Pb**	**10 25 44.6**	**-0.2**
HGSD	baz=17					S	**Sn**	**10 25 53.9**	**+1.0**
LONT	**Longtian** baz=235	**0.39**	**235**			P	**Pb**	**10 25 45.1**	**-0.1**
LONT	baz=235					S	**Sb**	**10 25 50.6**	**-0.2**
EHY	**Hungye** baz=337	**0.40**	**340**	⇓	*i*	P	**Pb**	**10 25 44.8**	**-0.6**
EHY	baz=337					S	**Sb**	**10 25 51.5**	**+0.2**
ELDTW	**Lidau** baz=276	**0.42**	**278**	⇓	*i*	P	**Pb**	**10 25 44.7**	**-1.1**
ELDTW	baz=276				*i*	S	**Sb**	**10 25 49.8**	**-2.2**
LDUT	**Ludao** baz=171	**0.45**	**180**		*e*	P	**Pb**	**10 25 46.6**	**+0.3**
LDUT	baz=171				*e*	S	**Sn**	**10 25 55.2**	**+0.2**
TWGBT	**Beinan** baz=231	**0.48**	**229**	⇑	*i*	P	**Pb**	**10 25 46.1**	**-0.5**
TWGBT	baz=231					S	**Sb**	**10 25 52.5**	**-0.8**
TTN	**Taitung** baz=208	**0.48**	**219**			P	**Pb**	**10 25 47.2**	**+0.5**
TTN	baz=208					S	**Sn**	**10 25 54.9**	**-0.8**
TWG	**Pinlang** baz=231	**0.48**	**230**	⇑	*i*	P	**Pb**	**10 25 46.2**	**-0.6**
TWG	baz=231				*i*	S	**Sb**	**10 25 52.6**	**-0.8**
TWG	**Pinlang**	**0.48**	**230**				**Pb**	**10 25 45.8**	**-0.9**
TWG				Sg			**Sb**	**10 25 52.4**	**-1.1**
TEGC	**Jichi Village** baz=23	**0.58**	**6**		*e*	P	**Pb**	**10 25 48.9**	**+0.4**
TEGC	baz=23				*e*	S	**Sn**	**10 25 58.7**	**+0.5**
STYH	**Taoyuan** baz=271	**0.64**	**274**			P	**Pb**	**10 25 48.7**	**-0.7**
STYH	baz=271					S	**Sb**	**10 25 56.6**	**-1.4**
ESL	**Shilin** baz=355	**0.68**	**357**			P	**Pb**	**10 25 50.6**	**+0.4**
ESL	baz=355					S	**Sn**	**10 26 00.6**	**-0.2**
ECL	**Taimali** baz=215	**0.71**	**222**			P	**Pb**	**10 25 49.2**	**-1.4**
ECL	baz=215					S	**Sb**	**10 25 57.9**	**-2.1**
ALS	**Alishan** baz=304	**0.72**	**302**	⇓	*i*	P	**Pb**	**10 25 50.5**	**-0.5**
ALS	baz=304					S	**Sb**	**10 25 59.5**	**-1.0**
TEYL	**Yanliau Villag** baz=31	**0.74**	**9**		*e*	P	**Pn**	**10 25 52.0**	**+0.2**
TEYL	baz=31				*e*	S	**Sn**	**10 26 03.4**	**+1.1**
SLGT	**Liugui** baz=259	**0.77**	**260**	⇓	*i*	P	**Pb**	**10 25 51.1**	**-0.5**
SLGT	baz=259					S	**Sb**	**10 26 00.6**	**-1.1**
TPUB	**Ta-pu** baz=289	**0.79**	**283**	⇓	*i*	P	**Pb**	**10 25 51.7**	**-0.3**
TPUB	baz=289					S	**Sb**	**10 26 01.5**	**-0.8**
TPUB	**Ta-pu**	**0.79**	**283**				**Pb**	**10 25 50.8**	**-1.2**
TPUB				Sg			**Sb**	**10 26 01.6**	**-0.8**
WTP	**Ta-pu** baz=277	**0.80**	**279**	⇓	*i*	P	**Pb**	**10 25 51.8**	**-0.3**
WTP	baz=277					S	**Sb**	**10 26 02.4**	**-0.1**
WHYT	**Xinyi Township** baz=318	**0.80**	**315**			P	**Pb**	**10 25 51.8**	**-0.4**
WHYT	baz=318				*e*	S	**Sb**	**10 26 01.5**	**-1.1**
SSLB	**Suanglung** baz=336	**0.81**	**324**			P	**Pb**	**10 25 51.1**	**-1.2**
SSLB	baz=336				*e*	S	**Sb**	**10 26 00.5**	**-2.4**
SSLB	**Suanglung**	**0.81**	**324**				**Pb**	**10 25 50.8**	**-1.5**
SGST	**Jiashian** baz=264	**0.82**	**267**	⇓	*i*	P	**Pb**	**10 25 51.3**	**-1.1**
SGST	baz=264					S	**Sb**	**10 26 02.2**	**-0.9**
ETM	**Tongmen** baz=356	**0.83**	**1**		*e*	P	**Pb**	**10 25 51.3**	**-1.4**
CHN4	**Tsaushan** baz=290	**0.84**	**285**	⇓	*i*	P	**Pb**	**10 25 52.7**	**-0.1**
CHN4	baz=290				*i*	S	**Sb**	**10 26 04.0**	**+0.3**
SSD	**Sandimen** baz=235	**0.86**	**244**		*e*	P	**Pb**	**10 25 52.8**	**-0.3**
CHN5	**Tsauling** baz=304	**0.86**	**303**	⇓	*i*	P	**Pb**	**10 25 53.2**	**-0.1**
CHN5	baz=304					S	**Sn**	**10 26 05.1**	**-0.3**
OWD	**Renai** baz=346	**0.86**	**342**		*e*	P	**Pb**	**10 25 52.1**	**-1.2**
CHN1	**Nanshi** baz=272	**0.87**	**274**	⇓	*i*	P	**Pb**	**10 25 53.3**	**0.0**
CHN1	baz=272				*i*	S	**Sn**	**10 26 06.6**	**+1.2**
TSMG	**Majia** baz=234	**0.87**	**241**		*e*	P	**Pb**	**10 25 53.0**	**-0.4**
TSMG	baz=234				*e*	S	**Sb**	**10 26 03.8**	**-0.8**
SNST	**Tainan City** baz=274	**0.90**	**276**			P	**Pn**	**10 25 53.9**	**-0.1**
SNST	baz=274				*e*	S	**Sn**	**10 26 06.8**	**+0.6**
SMLT	**Sun Moon Lake** baz=335	**0.92**	**325**			P	**Pn**	**10 25 53.5**	**-0.7**
SMLT	baz=335					S	**Sb**	**10 26 06.3**	**+0.4**
TWK	**Hsinying** baz=277	**0.92**	**279**	⇑	*i*	P	**Pn**	**10 25 54.0**	**-0.2**
TWK	baz=277					S	**Sb**	**10 26 06.1**	**+0.2**
MASBT	**Mashibuluo** baz=230	**0.93**	**236**			P	**Pn**	**10 25 53.2**	**-1.1**
MASBT	baz=230				*e*	S	**Sb**	**10 26 04.5**	**-1.7**
SCST	**Cishan** baz=252	**0.93**	**255**			P	**Pb**	**10 25 54.6**	**+0.3**
SCST	baz=252					S	**Sn**	**10 26 08.2**	**+1.3**
TAW	**Tawu** baz=210	**0.93**	**215**		*e*	P	**Pn**	**10 25 52.5**	**-1.9**
EAST	**Anshuo** baz=213	**0.94**	**218**	⇑	*i*	P	**Pn**	**10 25 53.0**	**-1.5**
TWD	**Chiawan**	**0.95**	**7**		*e*	P	**Pb**	**10 25 54.9**	**+0.1**
TWD					*e*	S	**Sn**	**10 26 07.6**	**+0.2**
TYC	**Yuchr** baz=338	**0.95**	**324**			P	**Pn**	**10 25 54.7**	**+0.1**
TYC	baz=338				*e*	S	**Sb**	**10 26 06.9**	**-0.1**
CHGB	**Renai** baz=349	**0.97**	**344**		*e*	P	**Pn**	**10 25 54.0**	**-1.1**
CHGB	baz=349				*e*	S	**Sb**	**10 26 05.7**	**-1.9**
WJS	**Zhushan** baz=318	**0.97**	**315**		*e*	P	**Pb**	**10 25 55.3**	**+0.3**
WJS	baz=318				*e*	S	**Sn**	**10 26 08.2**	**+0.3**
SGLT	**Jiouru** baz=242	**0.99**	**246**		*e*	P	**Pb**	**10 25 56.5**	**+1.1**
WGK	**Gukeng** baz=305	**1.00**	**304**			P	**Pb**	**10 25 55.9**	**+0.4**
WGK	baz=305				*e*	S	**Sn**	**10 26 09.5**	**+0.9**
TSPT	**Pingtung City** baz=240	**1.01**	**244**		*e*	P	**Pb**	**10 25 57.3**	**+1.7**
TWM1	**Shoushan** baz=250	**1.01**	**253**	⇑	*i*	P	**Pb**	**10 25 57.0**	**+1.2**
TWM1	baz=250					S	**Sn**	**10 26 12.0**	**+3.1**
CHN3	**Shinhua** baz=265	**1.02**	**267**	⇑	*i*	P	**Pb**	**10 25 57.3**	**+1.5**
CHN3	baz=265					S	**Sn**	**10 26 12.6**	**+3.5**
WDLH	**Douliu** baz=304	**1.02**	**303**		*e*	P	**Pb**	**10 25 56.2**	**+0.4**
WDLH	baz=304				*e*	S	**Sb**	**10 26 10.0**	**+1.1**
WHF	**Hehuan Shan** baz=6.0	**1.03**	**349**		*e*	P	**Pn**	**10 25 55.0**	**-1.1**
WHF	baz=6.0				*e*	S	**Sb**	**10 26 08.3**	**-1.2**
DPDB	**Guoxing** baz=342	**1.03**	**331**		*e*	P	**Pn**	**10 25 55.7**	**0.0**
DPDB	baz=342				*e*	S	**Sb**	**10 26 09.4**	**+0.2**
CHY	**Chiayi** baz=292	**1.03**	**291**		*e*	P	**Pb**	**10 25 56.2**	**+0.2**
CHY	baz=292				*e*	S	**Sb**	**10 26 09.6**	**+0.5**
ETL	**Fush Village**	**1.03**	**8**		*e*	P	**Pb**	**10 25 56.4**	**+0.3**
ETL					*e*	S	**Sn**	**10 26 08.9**	**-0.6**
WNT	**Mingjian** baz=318	**1.04**	**316**			P	**Pb**	**10 25 56.2**	**+0.1**
WNT	baz=318					S	**Sn**	**10 26 09.4**	**-0.1**
NACB	**Ninganchiao** baz=360	**1.05**	**6**		*e*	P	**Pn**	**10 25 54.9**	**-1.0**
NACB	baz=360				*e*	S	**Sn**	**10 26 09.6**	**-0.1**
NACB	**Ninganchiao**	**1.05**	**6**				**Pn**	**10 25 54.3**	**-1.7**
SSPT	**Xinbi** baz=224	**1.05**	**233**		*e*	P	**Pb**	**10 25 56.2**	**-0.2**
WCS	**Beigang Elemen** baz=342	**1.06**	**331**		*e*	P	**Pn**	**10 25 56.0**	**-0.1**
WCS	baz=342				*e*	S	**Sn**	**10 26 09.6**	**-0.4**
WNT1	**Nantou City** baz=319	**1.06**	**317**		*e*	P	**Pb**	**10 25 57.0**	**+0.4**
WNT1	baz=319				*e*	S	**Sb**	**10 26 10.3**	**+0.3**
ETLH	**Xiulin Townshi** baz=5.0	**1.07**	**1**		*e*	P	**Pn**	**10 25 55.3**	**-1.0**
LAY	**Lan-yu** baz=162	**1.09**	**176**		*e*	P	**Pn**	**10 25 55.8**	**-0.7**
LAY	baz=162				*e*	S	**Sn**	**10 26 09.5**	**-1.3**
SCZT	**Fangliau** baz=218	**1.09**	**226**		*e*	P	**Pn**	**10 25 56.0**	**-0.5**
SCZT	baz=218				*e*	S	**Sn**	**10 26 10.5**	**-0.3**
SLIU	**Shizi** baz=201	**1.10**	**214**		*e*	P	**Pn**	**10 25 55.3**	**-1.4**
SNJT	**Kaohsiung City** baz=248	**1.11**	**251**			P	**Pb**	**10 25 58.7**	**+1.3**
SNJT	baz=248					S	**Sb**	**10 26 15.2**	**+3.7**
ICHU	**Yijhu** baz=282	**1.12**	**282**		*e*	P	**Pn**	**10 25 57.2**	**+0.3**
ICHU	baz=282				*e*	S	**Sb**	**10 26 11.8**	**+0.1**
FUSS	**Fushou** baz=8.0	**1.13**	**349**		*e*	P	**Pn**	**10 25 56.4**	**-1.0**
FUSS	baz=8.0				*e*	S	**Sn**	**10 26 09.7**	**-2.5**
WTK	**Tuku** baz=300	**1.14**	**299**		*e*	P	**Pb**	**10 25 57.6**	**-0.3**
WTK	baz=300					S	**Sb**	**10 26 12.5**	**+0.3**
TAI1	**Yung-k'ang** baz=264	**1.15**	**266**		*e*	P	**Pb**	**10 25 58.6**	**+0.6**
TAI1	baz=264					S	**Sb**	**10 26 14.9**	**+2.4**
TWT	**Tachien** baz=350	**1.15**	**346**		*e*	P	**Pn**	**10 25 57.3**	**-0.3**
TWT	baz=350					S	**Sn**	**10 26 10.6**	**-2.1**
WWF	**Wufeng** baz=324	**1.15**	**322**		*e*	P	**Pb**	**10 25 58.4**	**+0.3**
WWF	baz=324				*e*	S	**Sb**	**10 26 13.8**	**+1.2**
TDCB	**Techi** baz=350	**1.16**	**346**		*e*	P	**Pn**	**10 25 57.1**	**-0.5**
TDCB	baz=350				*e*	S	**Sn**	**10 26 09.8**	**-2.8**
WYL	**Yuanlin Townsh** baz=317	**1.16**	**316**		*e*	P	**Pb**	**10 25 59.0**	**+0.7**
WYL	baz=317				*e*	S	**Sb**	**10 26 14.4**	**+1.5**
SCLT	**Jiali** baz=271	**1.18**	**272**		*e*	P	**Pb**	**10 25 58.5**	**0.0**
SCLT	baz=271					S	**Sb**	**10 26 15.3**	**+2.0**
CHN8	**Yiju** baz=280	**1.18**	**281**		*e*	P	**Pb**	**10 25 58.2**	**-0.4**
CHN8	baz=280					S	**Sb**	**10 26 14.7**	**+1.3**
KAU	**Kaohsiung** baz=259	**1.21**	**243**		*e*	P	**Pb**	**10 26 00.7**	**+1.6**
KAU	baz=259				*e*	S	**Sb**	**10 26 19.1**	**+4.9**
WHP	**Taichung City** baz=346	**1.24**	**337**		*e*	P	**Pb**	**10 25 59.6**	**0.0**
WHP	baz=346				*e*	S	**Sb**	**10 26 15.8**	**+0.6**
TCU	**Taichung** baz=327	**1.25**	**324**		*e*	P	**Pb**	**10 25 59.6**	**-0.1**
TCU	baz=327				*e*	S	**Sb**	**10 26 16.5**	**+1.1**
WSF	**Szhu** baz=294	**1.25**	**294**			P	**Pn**	**10 25 59.1**	**+0.4**
WSF	baz=294					S	**Sb**	**10 26 15.2**	**-0.3**
WCHH	**Zhanghua** baz=320	**1.26**	**319**		*e*	P	**Pn**	**10 25 59.5**	**+0.6**
WCHH	baz=320				*e*	S	**Sn**	**10 26 15.2**	**+0.2**
WRL	**Guolierlin Hig** baz=321	**1.26**	**308**		*e*	P	**Pn**	**10 25 59.1**	**+0.2**
WRL	baz=321				*e*	S	**Sn**	**10 26 15.1**	**-0.1**
WLCH	**Liuqiu** baz=213	**1.27**	**233**			P	**Pb**	**10 26 02.5**	**+2.4**
TWP	**Hsiaoliuchiu** baz=229	**1.29**	**233**		*e*	P	**Pb**	**10 26 01.9**	**+1.5**
TWP	baz=229				*e*	S	**Sb**	**10 26 22.2**	**+5.8**
NNSB	**Datong** baz=13	**1.29**	**356**		*e*	P	**Pn**	**10 25 59.1**	**-0.4**
NNSB	baz=13				*e*	S	**Sn**	**10 26 14.0**	**-2.1**
NNSH	**Datong** baz=11	**1.29**	**356**		*e*	P	**Pb**	**10 26 01.1**	**+0.5**
NNSH	baz=11				*e*	S	**Sn**	**10 26 13.4**	**-2.7**
HEN	**Hengchun** baz=194	**1.31**	**211**		*e*	P	**Pb**	**10 26 02.0**	**+1.3**
NNS	**Nan Shan** baz=14	**1.31**	**356**		*e*	P	**Pn**	**10 26 00.0**	**+0.3**
TWK1	**Hengchun** baz=194	**1.33**	**208**		*e*	P	**Pn**	**10 25 59.8**	**-0.1**
TWK1	baz=194				*e*	S	**Sn**	**10 26 16.8**	**0.0**
TWKBT	**Hengchun** baz=194	**1.33**	**207**		*e*	P	**Pn**	**10 25 59.9**	**0.0**
TWKBT	baz=194				*e*	S	**Sn**	**10 26 17.1**	**+0.3**
TSEB	**Hengchuen, Pin** baz=190	**1.33**	**203**		*e*	P	**Pb**	**10 26 00.5**	**-0.6**
TSEB	baz=190				*e*	S	**Sn**	**10 26 16.4**	**-0.4**
EWUT	**Wuta** baz=3.0	**1.34**	**12**		*e*	P	**Pn**	**10 26 00.2**	**+0.3**
EWUT	baz=3.0				*e*	S	**Sn**	**10 26 17.0**	**+0.1**
TWQ1	**Liyutan** baz=335	**1.37**	**332**			P	**Pb**	**10 26 01.7**	**-0.1**
TWQ1	baz=335					S	**Sb**	**10 26 19.9**	**+0.9**
WDJ	**Dajia District** baz=328	**1.43**	**328**		*e*	P	**Pb**	**10 26 02.8**	**-0.1**
WDJ	baz=328				*e*	S	**Sb**	**10 26 21.1**	**+0.4**
NSY	**Sanyi** baz=336	**1.44**	**333**			P	**Pb**	**10 26 03.1**	**+0.1**
NSY	baz=336					S	**Sb**	**10 26 22.1**	**+1.2**
NDT	**Datong Townshi** baz=18	**1.47**	**1**		*e*	P	**Pn**	**10 26 02.5**	**+0.8**
ENTT	**Nioudou** baz=7.0	**1.51**	**3**		*e*	P	**Pn**	**10 26 02.4**	**+0.1**
TWC	**Suao** baz=4.0	**1.51**	**13**		*e*	P	**Pn**	**10 26 02.9**	**+0.6**
TWC	baz=4.0				*e*	S	**Sb**	**10 26 22.6**	**-0.4**
NDS	**Dongshan** baz=11	**1.51**	**8**		*e*	P	**Pb**	**10 26 04.2**	**0.0**
NMLH	**Miaoli** baz=355	**1.53**	**336**		*e*	P	**Pb**	**10 26 04.7**	**+0.1**
NMLH	baz=355				*e*	S	**Sb**	**10 26 23.9**	**+0.3**
YHNB	**Yeheng** baz=13	**1.54**	**357**		*e*	P	**Pn**	**10 26 03.1**	**+0.4**
YHNB	**Yeheng**	**1.54**	**357**				**Pn**	**10 26 02.5**	**-0.2**
NSTT	**Nanjuang** baz=347	**1.56**	**344**		*e*	P	**Pb**	**10 26 04.6**	**-0.4**
NSTT	baz=347				*e*	S	**Sn**	**10 26 23.1**	**+0.8**
LIOB	**Emei** baz=347	**1.57**	**345**		*e*	P	**Pb**	**10 26 04.7**	**-0.5**
LIOB	baz=347				*e*	S	**Sb**	**10 26 25.5**	**+0.9**
TWE	**Neicheng** baz=9.0	**1.59**	**6**		*e*	P	**Pb**	**10 26 05.7**	**+0.1**
NWLT	**Wulai** baz=18	**1.64**	**1**		*e*	P	**Pn**	**10 26 05.1**	**+0.9**
WDGT	**Dungji** baz=273	**1.67**	**275**		*e*	P	**Pn**	**10 26 04.5**	**0.0**
HSN1	**Hsinchu** baz=348	**1.69**	**346**		*e*	P	**Pb**	**10 26 07.8**	**+0.5**
HSN1	baz=348				*e*	S	**Sb**	**10 26 28.1**	**-0.1**
SBCB	**Hsinchu** baz=347	**1.71**	**345**		*e*	P	**Pb**	**10 26 08.0**	**+0.3**
NTC	**Toucheng** baz=13	**1.75**	**11**		*e*	P	**Pb**	**10 26 07.3**	**-1.0**
PHUB	**P'eng-hu** baz=282	**1.79**	**283**		*e*	P	**Pn**	**10 26 06.2**	**+0.1**
PHUB	baz=282				*e*	S	**Sn**	**10 26 26.6**	**-1.4**
PNG	**Penghu** baz=284	**1.81**	**284**		*e*	P	**Pn**	**10 26 06.6**	**+0.1**
PNG	baz=284				*e*	S	**Sn**	**10 26 28.9**	**+0.2**
NHDH	**Xindian Distri** baz=19	**1.83**	**2**		*e*	P	**Pb**	**10 26 08.5**	**-1.1**
NHDH	baz=19				*e*	S	**Sn**	**10 26 29.2**	**+0.3**
TATO	**Taipei** baz=18	**1.84**	**0**		*e*	P	**Pn**	**10 26 07.7**	**+0.8**
TATO	baz=18				*e*	S	**Sn**	**10 26 29.8**	**+0.6**
TATO	**Taipei**	**1.84**	**0**				**Pn**	**10 26 07.0**	**+0.2**
TWA	**Mucha** baz=17	**1.84**	**3**		*e*	P	**Pn**	**10 26 07.8**	**+0.9**
TIPB	**Shuangxi** baz=11	**1.86**	**10**		*e*	P	**Pn**	**10 26 08.3**	**+1.1**
VCHM	**Qimei** baz=271	**1.88**	**273**		*e*	P	**Pn**	**10 26 06.8**	**-0.5**
JYNG	**Yonagunijimaku**	**1.89**	**45**			P	**Pn**	**10 26 08.0**	**+0.5**
JYNG						S	**Sn**	**10 26 31.3**	**+0.9**
TWB1	**Santiao Chiao** baz=6.0	**1.93**	**14**		*e*	P	**Pn**	**10 26 09.5**	**+1.4**
YOJ	**Yonaguni jima**	**1.94**	**46**			P	**Pn**	**10 26 08.8**	**+0.7**
YOJ					*e*	S	**Sn**	**10 26 32.5**	**+0.8**
YOJ	**Yonaguni jima** baz=63	**1.94**	**46**			P	**Pn**	**10 26 08.8**	**+0.7**
YOJ	baz=63					S	**Sn**	**10 26 30.7**	**-1.0**
YOJ	**Yonaguni jima**	**1.94**	**46**				**Pn**	**10 26 08.1**	**-0.1**
NWF	**Wu-fen Shan** baz=14	**1.95**	**8**		*e*	P	**Pn**	**10 26 10.0**	**+1.5**
NWF	baz=14				*e*	S	**Sb**	**10 26 35.7**	**-0.1**
WFSB	**Wu-fen Shan** baz=14	**1.95**	**8**		*e*	P	**Pn**	**10 26 09.4**	**+1.0**
WFSB	baz=14				*e*	S	**Sn**	**10 26 31.2**	**-0.9**
YM01	**YM01** baz=4.0	**2.01**	**3**		*e*	P	**Pn**	**10 26 10.3**	**+1.1**
HATJ	**Hateruma jima**	**2.33**	**66**			P	**Pn**	**10 26 13.9**	**+0.3**
HATJ					*e*	S	**Sn**	**10 26 41.5**	**0.0**
IRIF	**Iriomote-Funau**	**2.39**	**59**			P	**Pn**	**10 26 14.7**	**+0.3**
IRIF					*e*	S	**Sn**	**10 26 43.2**	**+0.2**
JKRS	**Kuro-shima**	**2.58**	**64**			P	**Pn**	**10 26 17.6**	**+0.7**
JKRS						S	**Sn**	**10 26 48.0**	**+0.5**
VWUC	**VWUC** baz=315	**2.62**	**315**		*e*	P	**Pn**	**10 26 17.2**	**-0.3**
JIJ	**Ishigaki jima**	**2.74**	**63**			P	**Pn**	**10 26 19.3**	**+0.1**
JIJ						S	**Sn**	**10 26 50.4**	**-1.1**
PTMZ	**Houxiangcun** baz=311	**2.87**	**312**		*e*	P	**Pn**	**10 26 21.8**	**+0.8**
JISG	**Ishigakijimahi**	**2.98**	**60**			P	**Pn**	**10 26 22.6**	**+0.1**
JISG						S	**Sn**	**10 26 57.3**	**-0.1**
KNM	**Kinmen** baz=293	**3.06**	**295**		*e*	P	**Pn**	**10 26 24.7**	**+1.1**
KNMB	**Chin-men Tao** baz=295	**3.12**	**296**		*e*	P	**Pn**	**10 26 23.6**	**-0.8**
KNMB	**Chin-men Tao**	**3.12**	**296**				**Pn**	**10 26 24.1**	**-0.3**
QZH	**Quanzhou**	**3.19**	**305**			Pn	**Pn**	**10 26 24.5**	**-0.9**
QZH						Sn	**Sn**	**10 26 59.3**	**-3.4**
QZH	comp=N,190nm,0.8s					smax	smax		
QZH	comp=E,170nm,0.7s					smax	smax		
QZH	comp=Z,510nm,14.2s					LR	LR		
JTJ	**Tarama**	**3.32**	**62**			P	**Pn**	**10 26 27.5**	**+0.3**
JTJ						S	**Sn**	**10 27 06.1**	**+0.3**
ZPLA	**Ao Xicun** baz=281	**3.51**	**284**		*e*	P	**Pn**	**10 26 29.8**	**0.0**
AXDP	**Jialang** baz=299	**3.65**	**300**		*e*	P	**Pn**	**10 26 32.3**	**+0.5**
MHZQ	**Yeshan** baz=323	**3.70**	**324**		*e*	P	**Pn**	**10 26 32.0**	**-0.4**
LYJJ	**Jianjiangzhen** baz=335	**3.74**	**336**		*e*	P	**Pn**	**10 26 33.1**	**0.0**
JIRB	**Irabujima**	**3.78**	**63**			P	**Pn**	**10 26 33.8**	**+0.2**
JIRB					*e*	S	**Sn**	**10 27 17.2**	**-0.1**
JMJ2	**Miyako jima3**	**3.88**	**65**			P	**Pn**	**10 26 35.6**	**+0.8**
JMJ2					*e*	S	**Sn**	**10 27 19.9**	**+0.3**
JMJ	**Miyako jima 2** baz=68	**3.88**	**64**		*e*	P	**Pn**	**10 26 35.3**	**+0.4**
JMJ	baz=68				*e*	S	**Sn**	**10 27 19.2**	**-0.5**
JIKM	**Ikemajima**	**3.89**	**62**			P	**Pn**	**10 26 35.2**	**+0.2**
JIKM						S	**Sn**	**10 27 19.0**	**-0.9**
JOGS	**Gusukube**	**3.95**	**65**			P	**Pn**	**10 26 36.8**	**+0.9**
JOGS					*e*	S	**Sn**	**10 27 22.8**	**+1.4**
NJ2	**Nanjing**	**9.19**	**346**		*e*	P	Pn	10 27 54.5	+6.7
NJ2						S	**Sn**	**10 29 35.3**	**+5.0**
NJ2	comp=Z,12nm,0.5s					pmax	pmax		
NJ2	comp=N,34nm,0.6s					smax	smax		
NJ2	comp=E,23nm,0.5s					smax	smax		
KSRS	**Korea Array**	**15.32**	**20**			P	**P**	**10 29 15.8**	**-0.1**

comp=E,0.3nm,0.3s,baz=193,slow=12,SNR=6.8
KSRS LR LR 10 35 06.2
comp=E,30nm,19.6s,baz=232,slow=36
MJAR Matsushiro Arr 19.70 43 P **Pn 10 30 11.5 +5.6**
comp=E,2.1nm,0.7s,baz=223,slow=7.9,SNR=5.8
JSD Sado 20.68 40 P **P 10 30 14.2 -0.7**
CHTO Chiang Mai 21.46 263 P **P 10 30 22.5 -1.1**
CM31 Chiang Mai Arr 21.56 262 P **P 10 30 23.1 -1.5**
CM31 IAmb IAmb 10 30 36.9
comp=Z,8.2nm,1.3s
CMAR Chiang Mai Arr 21.56 262 LR LR 10 39 39.1
comp=Z,68nm,19.0s,baz=170,slow=40
CMAR Chiang Mai Arr 21.56 262 P **P 10 30 25.8 +1.2**
GUMO Guam 24.12 109 P **P 10 30 49.9 -1.0**
SONM Songino Array 27.44 338 P **P 10 31 20.2 -0.6**
comp=Z,0.5nm,0.8s,baz=165,slow=10,SNR=2.6
SONM LR LR 10 43 21.5
comp=Z,94nm,18.2s,baz=134,slow=39
WMQ Urumqi 34.58 315 *eP* **P 10 32 26.5 +2.8**
MK31 Makanchi Array 39.28 317 P **P 10 33 03.3 -0.3**
MKAR Makanchi Array 39.28 317 P **P 10 33 04.1 +0.5**
comp=Z,1.2nm,0.7s,baz=108,slow=9.4,SNR=11
MKAR PcP **PcP 10 35 11.9 -0.2**
comp=Z,0.7nm,0.8s,baz=90,slow=4.9,SNR=4.2
MKAR LR LR 10 50 11.0
comp=Z,16nm,18.7s,baz=62,slow=38
MKAR Makanchi Array 39.28 317 P **P 10 33 01.5 -2.1**
MAKZ Makanchi 39.48 317 P **P 10 33 03.9 -1.4**
MAKZ IAmb IAmb 10 33 15.0
comp=Z,3.5nm,0.5s
PET Petropavlovsk 41.03 34 P **P 10 33 19.2 +1.2**
ZAA0 Zalesovo Array 41.27 328 P **P 10 33 19.2 -0.7**
ZAA0 IAmb IAmb 10 33 25.3
comp=Z,3.8nm,1.2s
ZALV Zalesovo Beam 41.27 328 P **P 10 33 19.5 -0.4**
comp=Z,1.2nm,0.4s,baz=116,slow=8.2,SNR=4.9
ZALV LR LR 10 51 40.1
comp=Z,31nm,19.4s,baz=111,slow=38
ZALV Zalesovo Beam 41.27 328 P **P 10 33 19.4 -0.6**
H11N1 WAKE ISLAND Hy 42.29 86 T T 11 18 40.4
baz=283,slow=74,SNR=123
H11N2 WAKE ISLAND Hy 42.30 86 T T 11 18 40.4
baz=283,slow=74,SNR=142
H11N3 WAKE ISLAND Hy 42.31 86 T T 11 18 40.6
baz=283,slow=74,SNR=125
H11S3 WAKE ISLAND Hy 42.39 88 T T 11 18 54.0
baz=284,slow=75,SNR=179
H11S1 WAKE ISLAND Hy 42.40 87 T T 11 18 51.2
baz=284,slow=75,SNR=136
H11S2 WAKE ISLAND Hy 42.41 88 T T 11 18 52.5
baz=284,slow=75,SNR=109
WRAB Tennant Creek 44.61 163 P **P 10 33 46.4 -0.9**
WRAB IAmb IAmb 10 33 59.6
comp=Z,8.8nm,1.4s
WRA Warramunga Arr 44.61 163 P **P 10 33 46.5 -0.9**
comp=Z,0.6nm,0.4s,baz=345,slow=8.7,SNR=24
WRA Warramunga Arr 44.61 163 P **P 10 33 45.9 -1.5**
WB2 Warramunga Arr 44.62 163 P **P 10 33 46.1 -1.2**
WB2 IAmb IAmb 10 34 01.0
comp=Z,9.9nm,1.4s
WR0 Warramunga Arr 44.69 162 P **P 10 33 46.6 -1.3**
WR0 IAmb IAmb 10 33 52.4
comp=Z,7.0nm,1.2s
GIRL Giralia 46.04 189 P **P 10 33 59.0 +0.4**
ASAR Alice Springs 48.06 165 P **P 10 34 14.2 -0.2**
comp=Z,0.3nm,0.4s,baz=343,slow=6.8,SNR=18
ASAR Alice Springs 48.06 165 P **P 10 34 13.9 -0.5**
GEYT Alibeck 55.56 301 LR LR 11 01 33.4
comp=Z,34nm,18.4s,baz=165,slow=39
STKA Stephens Creek 57.99 160 P **P 10 35 27.1 -0.3**
comp=Z,3.7nm,0.8s,baz=348,slow=9.4,SNR=3.0
STKA Stephens Creek 57.99 160 P **P 10 35 27.2 -0.2**
STKA IAmb IAmb 10 35 31.6
comp=Z,4.4nm,1.5s
KBZ Khabaz 66.34 309 P **P 10 36 22.4 -1.1**
comp=Z,1.0nm,0.6s,baz=117,slow=4.5,SNR=1.6
KDAK Kodiak Island 68.61 35 P **P 10 36 37.7 +0.1**
ILAR Eielson Array 70.03 27 P **P 10 36 47.8 +1.5**
comp=Z,0.3nm,0.5s,baz=283,slow=5.5,SNR=2.3
ARCES ARCESS Array B 70.61 338 LR LR 11 11 52.9
comp=Z,11nm,18.5s,baz=285,slow=39
FINES FINESS Array B 72.48 330 P **P 10 37 00.7 -0.4**
comp=Z,1.2nm,0.7s,baz=77,slow=4.1,SNR=5.4
FINES LR LR 11 11 15.8
comp=Z,37nm,18.8s,baz=98,slow=38
FINES FINESS Array B 72.48 330 P **P 10 37 00.6 -0.5**
NC405 NORSAR Array S 79.03 332 P **P 10 37 36.9 -1.7**
NOA NORSAR Array B 79.28 332 P **P 10 37 39.0 -1.0**
comp=Z,0.6nm,0.8s,baz=56,slow=7.9,SNR=3.7
NOA LR LR 11 16 51.0
comp=Z,18nm,19.4s,baz=60,slow=39
VTS Vitosha 80.44 312 P **P 10 37 46.2 -0.5**
VTS IAmb IAmb 10 37 47.9
comp=Z,3.4nm,0.8s
GERES GERESS Array B 83.82 321 P **P 10 38 04.4 0.0**
comp=Z,0.9nm,0.7s,baz=75,slow=5.7,SNR=7.2

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*JMA **25** 10:39:28.3±0.1,24°.71N×122°.82E,h16km±2km,M2.3*
*TAP **25** 10:39:28.1,24°.72N×122°.82E,h14km,ML3.0,D*
ISC 25 10:39:28.1±1.0,24°.71N±0°.04×122°.82E±0°.02,h16km±7km, n64,σ0°92/115,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**156**	P	**Pg**	**10 39 34.3**	**+0.1**
JYNG				S	**Sg**	**10 39 38.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.30**	**145**	P	**Pg**	**10 39 34.7**	**+0.2**
YOJ				S	**Sg**	**10 39 39.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.30**	**145**	*i* P	**Pg**	**10 39 34.8**	**+0.2**
	baz=134						
YOJ				S	**Sg**	**10 39 39.1**	**+0.1**
	baz=134						
TWB1	**Santiao Chiao**	**0.81**	**291**	*e*P	**Pg**	**10 39 43.4**	**-0.5**
	baz=293						
TWB1				*e*S	**Sg**	**10 39 53.7**	**-0.9**
	baz=293						
TWC	**Suao**	**0.89**	**263**	P	**Pb**	**10 39 44.5**	**-0.6**
	baz=265						
TWC				*e*S	**Sb**	**10 39 55.8**	**-1.0**
	baz=265						
IRIF	**Iriomote-Funau**	**0.91**	**114**	P	**Pb**	**10 39 45.2**	**-0.3**
IRIF				*e*S	**Sg**	**10 39 57.8**	**+0.1**
NTC	**Toucheng**	**0.91**	**279**	*e*P	**Pb**	**10 39 45.7**	**+0.2**
	baz=280						
NTC				*e*S	**Sg**	**10 39 58.0**	**+0.3**
	baz=280						
TIPB	**Shuangxi**	**0.94**	**286**	P	**Pb**	**10 39 45.7**	**-0.4**
	baz=299						
TIPB				*e*S	**Sb**	**10 39 57.7**	**-0.6**
	baz=299						
EWUT	**Wuta**	**0.99**	**254**	*e*P	**Pb**	**10 39 46.5**	**-0.3**
	baz=256						
EWUT				*e*S	**Sb**	**10 39 58.5**	**-1.0**
	baz=256						
NDS	**Dongshan**	**1.01**	**266**	*e*P	**Pb**	**10 39 46.8**	**-0.3**
	baz=267						
NDS				*e*S	**Sb**	**10 39 59.6**	**-0.6**
	baz=267						
NWF	**Wu-fen Shan**	**1.01**	**291**	*e*P	**Pb**	**10 39 46.9**	**-0.4**
	baz=293						
NWF				*e*S	**Sg**	**10 40 01.0**	**+0.1**
	baz=293						
WFSB	**Wu-fen Shan**	**1.01**	**291**	*e*P	**Pb**	**10 39 47.5**	**+0.3**
	baz=293						
WFSB				*e*S	**Sb**	**10 40 00.7**	**+0.4**
	baz=293						
TWE	**Neicheng**	**1.05**	**271**	P	**Pb**	**10 39 47.7**	**-0.1**
	baz=272						
TWE				*e*S	**Sb**	**10 40 01.7**	**+0.3**
	baz=272						
HATJ	**Hateruma jima**	**1.11**	**126**	P	**Pn**	**10 39 49.4**	**+0.4**
ENTT	**Nioudou**	**1.14**	**267**	*e*P	**Pn**	**10 39 49.2**	**-0.2**
	baz=268						
ENTT				*e*S	**Sb**	**10 40 03.6**	**-0.5**
	baz=268						
JKRS	**Kuro-shima**	**1.18**	**113**	P	**Pn**	**10 39 49.8**	**-0.2**
JKRS				S	**Sb**	**10 40 05.5**	**+0.3**
NDT	**Datong Townshi**	**1.20**	**265**	*e*P	**Pn**	**10 39 50.4**	**+0.3**
	baz=267						
NDT				*e*S	**Sn**	**10 40 06.1**	**0.0**
	baz=267						
NWLT	**Wulai**	**1.20**	**273**	*e*P	**Pb**	**10 39 50.6**	**+0.2**
	baz=275						
NWLT				*e*S	**Sb**	**10 40 05.3**	**-0.4**
	baz=275						
NHDH	**Xindian Distri**	**1.20**	**282**	*e*P	**Pn**	**10 39 50.5**	**+0.2**
	baz=285						
NHDH				*e*S	**Sb**	**10 40 05.2**	**-0.6**
	baz=285						
YM08	**YM08**	**1.21**	**293**	*e*P	**Pg**	**10 39 51.8**	**+0.3**
	baz=293						
YM01	**YM01**	**1.21**	**291**	*e*P	**Pn**	**10 39 50.1**	**-0.4**
	baz=291						
ETL	**Fush Village**	**1.22**	**243**	*e*P	**Pb**	**10 39 51.1**	**+0.3**
	baz=256						
ETL				*e*S	**Sg**	**10 40 07.9**	**+0.2**
	baz=256						
NACB	**Ninganchiao**	**1.24**	**245**	*e*P	**Pn**	**10 39 50.9**	**+0.2**
	baz=245						
NACB				*e*S	**Sb**	**10 40 06.7**	**-0.2**
	baz=245						
JIJ	**Ishigaki jima**	**1.25**	**106**	P	**Pn**	**10 39 50.5**	**-0.4**
TWD	**Chiawan**	**1.28**	**241**	*e*P	**Pb**	**10 39 51.8**	**0.0**
	baz=253						
TWD				*e*S	**Sb**	**10 40 07.8**	**-0.3**
	baz=253						
YHNB	**Yeheng**	**1.31**	**268**	*e*P	**Pn**	**10 39 51.9**	**0.0**
	baz=271						
YHNB				*e*S	**Sb**	**10 40 08.6**	**-0.6**
	baz=271						
ETLH	**Xiulin Townshi**	**1.32**	**248**	*e*P	**Pn**	**10 39 52.2**	**+0.3**
	baz=250						
ETLH				*e*S	**Sb**	**10 40 09.0**	**-0.3**
	baz=250						
NNSB	**Datong**	**1.34**	**258**	*e*P	**Pn**	**10 39 52.5**	**+0.2**
	baz=260						
NNSB				*e*S	**Sn**	**10 40 09.8**	**0.0**
	baz=260						
NNSH	**Datong**	**1.34**	**258**	*e*P	**Pn**	**10 39 52.7**	**+0.4**
	baz=260						
NNSH				*e*S	**Sn**	**10 40 09.7**	**-0.1**
	baz=260						
NNS	**Nan Shan**	**1.35**	**259**	P	**Pb**	**10 39 53.0**	**0.0**
	baz=260						
NNS				S	**Sn**	**10 40 09.8**	**-0.1**
	baz=260						
ETM	**Tongmen**	**1.42**	**239**	*e*P	**Pn**	**10 39 53.6**	**+0.3**
	baz=241						
ETM				*e*S	**Sn**	**10 40 12.0**	**+0.3**
	baz=241						
FUSS	**Fushou**	**1.51**	**252**	*e*P	**Pb**	**10 39 55.9**	**0.0**
	baz=254						
FUSS				*e*S	**Sn**	**10 40 14.2**	**0.0**
	baz=254						
WHF	**Hehuan Shan**	**1.53**	**249**	*e*P	**Pb**	**10 39 56.4**	**+0.1**
	baz=251						
WHF				*e*S	**Sb**	**10 40 15.8**	**+0.2**
	baz=251						
ESL	**Shilin**	**1.55**	**235**	*e*P	**Pn**	**10 39 55.2**	**+0.1**
	baz=237						
ESL				*e*S	**Sb**	**10 40 15.6**	**-0.2**
	baz=237						
TWT	**Tachien**	**1.57**	**253**	*e*P	**Pg**	**10 39 58.0**	**-0.3**
	baz=256						
TWT				*e*S	**Sn**	**10 40 16.1**	**+0.6**
	baz=256						
TDCB	**Techi**	**1.58**	**254**	*e*P	**Pb**	**10 39 57.3**	**+0.2**
	baz=256						
TDCB				*e*S	**Sb**	**10 40 17.6**	**+0.7**
	baz=256						
CHGB	**Renai**	**1.64**	**247**	*e*P	**Pb**	**10 39 57.8**	**-0.2**
	baz=250						
CHGB				*e*S	**Sb**	**10 40 18.6**	**+0.1**
	baz=250						
LIOB	**Emei**	**1.64**	**268**	*e*P	**Pb**	**10 39 58.3**	**+0.3**
	baz=271						
LIOB				*e*S	**Sg**	**10 40 20.9**	**-0.2**
	baz=271						
NSTT	**Nanjuang**	**1.66**	**268**	*e*P	**Pb**	**10 39 59.0**	**+0.8**
	baz=271						
NSTT				*e*S	**Sg**	**10 40 20.6**	**-0.9**
	baz=271						
OWD	**Renai**	**1.68**	**244**	*e*P	**Pn**	**10 39 57.7**	**+0.7**
	baz=247						
OWD				*e*S	**Sn**	**10 40 18.8**	**+0.6**
	baz=247						
WHP	**Taichung City**	**1.76**	**256**	*e*P	**Pb**	**10 40 00.8**	**+0.7**
	baz=259						
WHP				*e*S	**Sb**	**10 40 22.9**	**+0.9**
	baz=259						
HGSD	**Ruisui**	**1.76**	**227**	*e*P	**Pn**	**10 39 59.0**	**+1.0**
	baz=228						
HGSD				*e*S	**Sn**	**10 40 19.5**	**-0.6**
	baz=228						
WCS	**Beigang Elemen**	**1.86**	**250**	*e*P	**Pb**	**10 40 01.5**	**-0.2**
	baz=251						
YULB	**Yu-li**	**1.92**	**227**	*e*P	**Pn**	**10 40 00.6**	**+0.5**
	baz=215						
YULB				*e*S	**Sn**	**10 40 23.6**	**-0.3**
	baz=215						
EYUL	**Yuli**	**1.93**	**226**	*e*P	**Pn**	**10 40 00.8**	**+0.5**
	baz=227						
SSLB	**Suanglung**	**1.94**	**242**	*e*P	**Pn**	**10 40 01.7**	**+1.3**
	baz=245						
SSLB				*e*S	**Sb**	**10 40 26.6**	**-0.4**
	baz=245						
SMLT	**Sun Moon Lake**	**1.94**	**245**	*e*P	**Pn**	**10 40 01.6**	**+1.1**
	baz=231						
TYC	**Yuchr**	**1.96**	**246**	*e*P	**Pb**	**10 40 02.5**	**-0.9**
	baz=232						
FULB	**Fuli**	**2.06**	**223**	*e*P	**Pn**	**10 40 02.6**	**+0.5**
	baz=225						
FULB				*e*S	**Sn**	**10 40 27.8**	**+0.5**
	baz=225						
ALS	**Alishan**	**2.20**	**237**	*e*P	**Pn**	**10 40 06.0**	**+1.8**
	baz=240						
ALS				*e*S	**Sb**	**10 40 33.5**	**-1.2**
	baz=240						
EDH	**Donghe**	**2.22**	**219**	*e*P	**Pn**	**10 40 04.9**	**+0.7**
	baz=221						
EDH				*e*S	**Sn**	**10 40 29.2**	**-2.1**
	baz=221						
CHN5	**Tsauling**	**2.25**	**241**	*e*P	**Pb**	**10 40 07.4**	**-1.0**
	baz=244						
CHN5				*e*S	**Sb**	**10 40 36.1**	**+0.1**
	baz=244						
WGK	**Gukeng**	**2.30**	**244**	*e*P	**Pn**	**10 40 06.2**	**+0.8**
	baz=246						
LONT	**Longtian**	**2.37**	**221**	*e*S	**Sn**	**10 40 35.6**	**+0.4**
	baz=223						
STYH	**Taoyuan**	**2.42**	**231**	*e*P	**Pn**	**10 40 08.6**	**+1.6**
	baz=222						
STYH				*e*S	**Sn**	**10 40 37.3**	**+1.0**
	baz=222						
CHN4	**Tsaushan**	**2.45**	**237**	*e*P	**Pb**	**10 40 10.1**	**-1.6**
	baz=240						
CHN4				*e*S	**Sb**	**10 40 40.3**	**-1.4**
	baz=240						
TPUB	**Ta-pu**	**2.45**	**235**	*e*P	**Pn**	**10 40 09.6**	**+2.2**
	baz=238						
TPUB				*e*S	**Sb**	**10 40 40.0**	**-1.7**
	baz=238						
WTP	**Ta-pu**	**2.49**	**235**	*e*P	**Pn**	**10 40 10.2**	**+2.2**
	baz=238						
WTP				*e*S	**Sn**	**10 40 39.8**	**+1.7**
	baz=238						
TWK	**Hsinying**	**2.57**	**236**	*e*P	**Pn**	**10 40 10.8**	**+1.6**
	baz=239						
TWK				*e*S	**Sn**	**10 40 42.2**	**+2.0**
	baz=239						
CHN1	**Nanshi**	**2.59**	**235**	*e*P	**Pn**	**10 40 11.3**	**+1.9**
	baz=238						
CHN1				*e*S	**Sb**	**10 40 44.4**	**-1.4**
	baz=238						
SLGT	**Liugui**	**2.63**	**230**	*e*P	**Pn**	**10 40 12.0**	**+2.2**
	baz=233						
SLGT				*e*S	**Sb**	**10 40 44.7**	**-2.1**
	baz=233						
SSD	**Sandimen**	**2.80**	**226**	*e*P	**Pb**	**10 40 15.3**	**-2.5**
	baz=218						
TSMG	**Majia**	**2.82**	**225**	*e*P	**Pn**	**10 40 14.8**	**+2.3**
	baz=217						
MASBT	**Mashibuluo**	**2.90**	**224**	*e*P	**Pn**	**10 40 16.1**	**+2.5**
	baz=216						

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*TUL **25** 10:44:00±0.8,36°.74N±0°.02×98°.36W±0°.02,h8km±7km, ML2.6,mb_Lg2.4/25(NEIC),Error ellipse: s-maj=3.7km s-min=0.7km az=138.0*
NEIC 25 10:44:00.2±0.7,36°.75N±0°.02×98°.37W±0°.01,h11km±7km, Error ellipse: s-maj=3.0km s-min=1.6km az=180.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.14**	**66**		**Pg**	**10 44 03.3**	**-0.2**
OK032				Sg	**Sg**	**10 44 05.6**	**-0.1**
CROK	**Carrier**	**0.39**	**128**		**Pg**	**10 44 07.7**	**-0.3**
CROK				Sg	**Sg**	**10 44 13.1**	**0.0**
GC02	**Grant County #**	**0.42**	**75**		**Pg**	**10 44 08.4**	**-0.1**
GC02				Sg	**Sg**	**10 44 14.2**	**+0.1**
KAN10	**Anthony SW Sta**	**0.43**	**30**		**Pg**	**10 44 08.8**	**0.0**
KAN10				Sg	**Sg**	**10 44 15.0**	**+0.4**
KAN05	**Bluff City Nor**	**0.54**	**47**		**Pg**	**10 44 10.6**	**-0.1**
KAN05				Sg	**Sg**	**10 44 18.0**	**+0.3**
KAN17	**Caldwell West**	**0.57**	**58**		**Pg**	**10 44 11.1**	**-0.2**
KAN17				Sg	**Sg**	**10 44 18.8**	**0.0**
KAN08	**Anthony NE Sta**	**0.57**	**33**		**Pg**	**10 44 11.3**	**-0.1**
KAN12	**Harper NE Stat**	**0.62**	**28**		**Pg**	**10 44 12.2**	**-0.2**
U32A	**Winter Ranch,**	**0.63**	**235**		**Pg**	**10 44 12.2**	**-0.3**
U32A				Sg	**Sg**	**10 44 20.8**	**0.0**
KAN09	**Caldwell North**	**0.71**	**57**		**Pg**	**10 44 13.9**	**-0.1**
KAN13	**South Haven SW**	**0.76**	**69**		**Pg**	**10 44 14.6**	**-0.3**
KS20	**Mayfield South**	**0.81**	**53**		**Pg**	**10 44 15.4**	**-0.4**
BLOK	**Blackwell**	**0.92**	**89**		**Pg**	**10 44 17.2**	**-0.8**
OK029	**Liberty Lake**	**1.20**	**142**		**Pn**	**10 44 22.1**	**-0.9**
BCOK	**Bluff Creek, N**	**1.25**	**150**		**Pn**	**10 44 22.6**	**-1.0**
OK025	**Westminster Rd**	**1.43**	**144**		**Pn**	**10 44 25.9**	**-0.3**
QUOK	**Quay**	**1.46**	**113**		**Pn**	**10 44 26.4**	**-0.1**
OK031	**S. Brethren Rd**	**1.47**	**122**		**Pn**	**10 44 26.3**	**-0.4**
T35A	**Sooner Cattle**	**1.50**	**83**		**Pn**	**10 44 27.0**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.54**	**150**	Pn	**Pn**	**10 44 27.3**	**-0.3**
FNO	**Franklin**	**1.68**	**152**		**Pn**	**10 44 29.5**	**-0.1**
R32A	**Long Quarter,**	**1.69**	**351**		**Pb**	**10 44 31.0**	**-0.5**
WMOK	**Wichita Mounta**	**2.03**	**190**		**Pn**	**10 44 35.2**	**+0.7**
X34A	**Smith Ranch, M**	**2.19**	**168**		**Pn**	**10 44 38.0**	**+1.4**
X34A				IAmb_Lg		10 45 13.4	
	comp=Z,20nm,0.8s						
CBKS	**Cedar Bluff**	**2.33**	**333**	IAmb_Lg		10 45 18.4	
	comp=Z,18nm,0.7s						
U38A	**Gravette**	**3.22**	**94**		**Pn**	**10 44 50.3**	**-0.4**
U38A				IAmb_Lg		10 45 49.2	
	comp=Z,12nm,1.0s						
X37A	**Clayton**	**3.25**	**131**	Pn	**Pn**	**10 44 51.6**	**+0.4**
X37A				IAmb_Lg		10 45 47.0	
	comp=Z,13nm,0.7s						
AMTX	**Amarillo**	**3.27**	**236**		**Pn**	**10 44 52.5**	**+0.9**
HHAR	**Hobbs**	**3.59**	**96**		**Pn**	**10 44 56.5**	**+0.5**
W39A	**Magazine**	**4.03**	**111**	IAmb_Lg		10 46 09.9	
	comp=Z,8.3nm,0.8s						
U40A	**Yellville**	**4.46**	**93**		**Pn**	**10 45 07.9**	**+0.1**
U40A				IAmb_Lg		10 46 18.1	
	comp=Z,5.9nm,0.8s						
MIAR	**Mount Ida**	**4.48**	**118**	Pn	**Pn**	**10 45 08.8**	**+0.8**
MSTX	**Muleshoe**	**4.54**	**234**	IAmb_Lg		10 46 33.7	
	comp=Z,6.1nm,0.9s						
T25A	**Trinidad**	**4.86**	**276**	IAmb_Lg		10 46 37.3	
	comp=Z,7.9nm,0.7s						
MGMO	**Mountain Grove**	**4.90**	**83**	IAmb_Lg		10 46 39.8	
	comp=Z,6.1nm,0.8s						
OGNE	**Ogallala**	**5.08**	**327**	IAmb_Lg		10 46 51.6	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**5.82**	**75**	IAmb_Lg		10 47 02.5	
	comp=Z,4.9nm,0.8s						
JCT	**Junction City**	**6.37**	**191**	IAmb_Lg		10 47 32.1	
	comp=Z,6.8nm,1.1s						
PBMO	**Poplar Bluff**	**6.37**	**87**	IAmb_Lg		10 47 19.6	
	comp=Z,4.6nm,0.7s						

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*IDC **25** 11:14:41.5±1.0,36°.18N×97°.58W,h0km,mb2.9/1, mb1 3.8/6,mb1mx3.5/64,mbtmp3.6/6,ML4.1/4,MS3.0/4, Ms1 3.0/4,ms1mx2.7/18,Error ellipse: s-maj=15.3km s-min=11.1km az=150.0*
*ANF **25** 11:14:44.5±0.3,35°.98N×97°.54W,h6km,ML4.9/16,Error ellipse: s-maj=3.2km s-min=2.3km az=173.0*
*TUL **25** 11:14:44.1±1.6,35°.99N±0°.01×97°.57W±0°.02,h4km±6km, ML4.0,mb_Lg3.9/151(NEIC),Mwr3.7/42(NEIC),Error ellipse: s-maj=2.5km s-min=1.6km az=68.0*
*NEIC **25** 11:14:44.1,35°.99N×97°.57W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.83; $M_{\theta\theta}$=1.49; $M_{\phi\phi}$=-0.66; $M_{r\theta}$=-1.86; $M_{\theta\phi}$=3.86; $M_{r\phi}$=0.57; Fault plane solution: M_0=4.51000×10^{14} NP1:ϕ_s=189.67000°, δ=63.21000°,λ=-170.35000°. NP2:ϕ_s=95.29000°,δ=81.40000°, λ=-27.12000°. Principal axes: T 4.6707, Plg=12.0000°, Azm=145.0000°; N -0.3346, Plg=62.0000°, Azm=259.0000°; P -4.3361, Plg=25.0000°, Azm=49.0000°;*
*NEIC **25** 11:14:44.1±1.4,36°.005N±0°.009×97°.56W±0°.02,h5km±7km Error ellipse: s-maj=2.6km s-min=0.8km az=65.0*
ISC 25 11:14:44.2±0.8,36°.01N±0°.02×97°.56W±0°.02,h14km±6km, n273,σ1s49/312,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**158**		**Pg**	**11 14 48.6**	**-0.6**
OK029				Sg	**Sg**	**11 14 52.0**	**-0.6**
BCOK	**Bluff Creek, N**	**0.35**	**186**		**Pg**	**11 14 51.0**	**-0.4**
BCOK				Sg	**Sg**	**11 14 55.9**	**-0.4**
OK009	**Oakdale Elemen**	**0.44**	**165**		**Pg**	**11 14 52.6**	**-0.4**
OK009				Sg	**Sg**	**11 14 58.8**	**-0.1**
OK005	**Luther M Schoo**	**0.47**	**140**		**Pg**	**11 14 53.2**	**-0.2**
OK025	**Westminster Rd**	**0.47**	**157**		**Pg**	**11 14 53.1**	**-0.3**
OK001	**Jones High Sch**	**0.50**	**154**	Pg	**Pg**	**11 14 53.8**	**-0.3**
OK001				Sg	**Sg**	**11 15 00.6**	**-0.1**
OK031	**S. Brethren Rd**	**0.59**	**95**	Pg	**Pg**	**11 14 55.7**	**0.0**
OK031				Sg	**Sg**	**11 15 03.9**	**+0.4**
CROK	**Carrier**	**0.60**	**326**		**Pg**	**11 14 56.1**	**+0.2**
CROK				Sg	**Sg**	**11 15 04.6**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.61**	**170**		**Pg**	**11 14 55.6**	**-0.5**
OKCSW				Sg	**Sg**	**11 15 04.0**	**-0.3**
QUOK	**Quay**	**0.71**	**77**		**Pg**	**11 14 58.1**	**0.0**
QUOK				Sg	**Sg**	**11 15 07.7**	**+0.3**
FNO	**Franklin**	**0.76**	**170**		**Pg**	**11 14 58.4**	**-0.6**
FNO				Sg	**Sg**	**11 15 08.3**	**-0.7**
FNO				IAmb_Lg		11 15 08.9	
	comp=Z,2μm,0.8s						
BLOK	**Blackwell**	**0.80**	**20**		**Pg**	**11 14 59.8**	**+0.1**
BLOK				Sg	**Sg**	**11 15 10.4**	**+0.2**
GC02	**Grant County #**	**0.87**	**344**		**Pg**	**11 15 01.0**	**-0.1**
GC02				Sg	**Sb**	**11 15 13.3**	**+0.6**
OK011	**Prague**	**0.89**	**126**	Pg	**Pg**	**11 14 59.8**	**-1.6**
OK011				Sg	**Sg**	**11 15 12.8**	**-0.1**
OK032	**Salt Plains WL**	**0.95**	**327**		**Pg**	**11 15 02.3**	**-0.2**
OK032				Sg	**Sg**	**11 15 14.7**	**-0.3**
KAN13	**South Haven SW**	**1.00**	**4**		**Pg**	**11 15 03.5**	**-0.1**
KAN13				Sg	**Sb**	**11 15 17.2**	**+0.8**
KAN17	**Caldwell West**	**1.04**	**351**		**Pg**	**11 15 04.2**	**-0.1**
KAN17				Sg	**Sb**	**11 15 18.4**	**+0.8**
KAN05	**Bluff City Nor**	**1.12**	**347**		**Pg**	**11 15 05.6**	**-0.3**
KAN05				Sg	**Sb**	**11 15 20.9**	**+0.9**
KAN09	**Caldwell North**	**1.12**	**358**		**Pg**	**11 15 05.7**	**-0.2**
KAN09				Sg	**Sb**	**11 15 20.9**	**+0.9**
KAN10	**Anthony SW Sta**	**1.19**	**339**		**Pg**	**11 15 06.4**	**-0.7**
KAN10				Sg	**Sg**	**11 15 22.8**	**+0.1**
KS20	**Mayfield South**	**1.22**	**0**		**Pg**	**11 15 07.2**	**-0.4**
KS20				Sg	**Sb**	**11 15 23.9**	**+1.3**
U32A	**Winter Ranch,**	**1.22**	**288**		**Pg**	**11 15 06.9**	**-0.8**
U32A				Sg	**Sg**	**11 15 23.5**	**-0.1**
U32A				IAmb_Lg		11 15 25.8	
	comp=Z,566nm,0.9s						
U32A	**Winter Ranch,**	**1.22**	**288**

baz=38,SNR=859
WMOK S Sn 11 15 34.3 +1.4
baz=38
WMOK Wichita Mounta 1.61 218 Pn 11 15 12.9 +0.6
WMOK Wichita Mounta 1.61 218 P 11 15 12.9
baz=38,SNR=348
WMOK S 11 15 34.7
baz=38
LOOK Love County 2.04 171 Pn 11 15 19.7 +1.6
LOOK IAmb_Lg 11 15 52.4
comp=Z,426nm,0.7s
X37A Clayton 2.29 128 Pn 11 15 22.9 +1.5
X37A IAmb_Lg 11 16 02.7
comp=Z,540nm,1.1s
X37A Clayton 2.29 128 P 11 15 23.1
baz=309,SNR=267
X37A S 11 15 52.4
baz=309
R32A Long Quarter, 2.58 339 Pn 11 15 27.6 +2.1
R32A Long Quarter, 2.58 339 P 11 15 27.2
baz=159,SNR=191
R32A S 11 15 59.5
baz=159
U38A Gravette 2.60 80 Pn 11 15 27.5 +1.7
U38A Gravette 2.60 80 P 11 15 27.0
baz=261,SNR=358
Z35A Perchaven, San 2.69 174 Pn 11 15 28.3 +1.3
Z35A IAmb_Lg 11 16 16.2
comp=Z,320nm,1.1s
Z35A Perchaven, San 2.69 174 P 11 15 28.6
baz=355,SNR=50
Z35A S 11 16 02.4
baz=355
HHAR Hobbs 2.94 84 Pn 11 15 31.7 +1.1
HHAR Hobbs 2.94 84 P 11 15 32.1
baz=265
KSU1 Kansas State U 3.18 14 P **Pn 11 15 35.8 +2.1**
baz=194,SNR=9.2
KSU1 Sb **Sb 11 16 23.2 +4.2**
baz=194
KSU1 Kansas State U 3.18 14 Pn 11 15 35.9 +2.1
KSU1 IAmb_Lg 11 16 33.4
comp=Z,469nm,0.9s
KSU1 Kansas State U 3.18 14 P 11 15 35.6
baz=194,SNR=15
W39A Magazine 3.18 104 P **Pn 11 15 35.2 +1.4**
baz=286,SNR=26
W39A S **Sn 11 16 14.3 +2.7**
baz=286
W39A Magazine 3.18 104 Pn **Pn 11 15 35.2 +1.4**
W39A IAmb_Lg 11 16 34.7
comp=Z,444nm,0.9s
W39A Magazine 3.18 104 P 11 15 35.3
baz=286,SNR=132
W39A S 11 16 14.1
baz=286
CBKS Cedar Bluff 3.29 329 Pn **Pn 11 15 37.5 +2.2**
baz=148,SNR=20
CBKS Pb **Pb 11 15 44.8 +2.4**
baz=148
CBKS Sb **Sg 11 16 27.9 -2.0**
baz=148
CBKS Cedar Bluff 3.29 329 Pn 11 15 37.3 +1.9
CBKS IAmb_Lg 11 16 34.3
comp=Z,476nm,1.1s
CBKS Cedar Bluff 3.29 329 P 11 15 36.8
baz=148,SNR=25
CBKS S 11 16 17.0
baz=148
Z38A Mt. Pleasant 3.47 142 Pn 11 15 38.7 +0.9
Z38A IAmb_Lg 11 16 38.0
comp=Z,198nm,0.8s
Z38A Mt. Pleasant 3.47 142 P 11 15 38.8
baz=323,SNR=13
AMTX Amarillo 3.54 253 Pn **Pn 11 15 40.8 +1.9**
baz=70
AMTX Pb **Pb 11 15 46.6 -0.1**
baz=70
AMTX Sb **Sb 11 16 34.1 +4.4**
baz=70
AMTX Amarillo 3.54 253 Pn 11 15 40.6 +1.7
AMTX IAmb_Lg 11 16 37.1
comp=Z,248nm,0.8s
AMTX Amarillo 3.54 253 P 11 15 40.9
baz=70,SNR=21
MIAR Mount Ida 3.57 113 P **Pn 11 15 41.1 +1.9**
baz=295,SNR=55
MIAR S **Sn 11 16 23.6 +2.4**
baz=295
MIAR Mount Ida 3.57 113 Pn 11 15 40.9 +1.7
MIAR IAmb_Lg 11 16 44.9
comp=Z,255nm,0.8s
MIAR Mount Ida 3.57 113 P 11 15 40.7
baz=295,SNR=140
MIAR S 11 16 23.7
baz=295
ABTX Abilene, Hawle 3.79 208 P **Pn 11 15 43.4 +1.2**
baz=26,SNR=126
ABTX S **Sn 11 16 29.0 +2.4**
baz=26
ABTX Abilene, Hawle 3.79 208 Pn 11 15 42.8 +0.5
ABTX IAmb_Lg 11 16 42.3
comp=Z,238nm,0.7s
ABTX Abilene, Hawle 3.79 208 P 11 15 43.2
baz=26
U40A Yellville 3.83 83 P **Pn 11 15 43.3 +0.6**
baz=266,SNR=16
U40A Yellville 3.83 83 Pn 11 15 43.0 +0.3
U40A IAmb_Lg 11 16 46.3
comp=Z,268nm,0.8s
U40A Yellville 3.83 83 P 11 15 43.4
baz=266,SNR=42
U40A P 11 15 43.4
baz=266,SNR=42
WHTX Lake Whitney, 4.01 179 P **Pn 11 15 46.3 +1.1**
baz=359,SNR=5.8
WHTX Sb **Sb 11 16 45.6 +2.6**
baz=359
WHTX Lake Whitney, 4.01 179 Pn 11 15 45.5 +0.4
WHTX Lake Whitney, 4.01 179 P 11 15 46.2
baz=359,SNR=18
X40A Basin Creek Fa 4.16 110 P **Pn 11 15 48.8 +1.6**
baz=293,SNR=12
X40A Sn **Sn 11 16 37.8 +2.2**
baz=293
X40A Sb **Sg 11 16 53.7 -3.9**
baz=293
X40A Basin Creek Fa 4.16 110 Pn 11 15 49.0 +1.8
X40A IAmb_Lg 11 17 06.3
comp=Z,375nm,0.8s
X40A Basin Creek Fa 4.16 110 P 11 15 48.9
baz=293,SNR=24
X40A P 11 15 48.9
baz=293,SNR=24
237A Washetta, Mont 4.26 159 Pn 11 15 48.7 +0.2
237A IAmb_Lg 11 17 07.5
comp=Z,230nm,1.1s
237A Washetta, Mont 4.26 159 P 11 15 48.9
baz=340,SNR=18
237A S 11 16 38.4
baz=340
WLAR White Oak Lake 4.33 121 Pn 11 15 50.1 +0.5
WLAR IAmb_Lg 11 17 06.1
comp=Z,172nm,0.8s
WHAR Wooly Hollow 4.35 98 Pn 11 15 51.1 +1.1
WHAR IAmb_Lg 11 17 08.7
comp=Z,274nm,0.9s
MGMO Mountain Grove 4.41 73 Pn 11 15 51.2 +0.5
MGMO IAmb_Lg 11 17 11.3
comp=Z,205nm,0.7s
W41B Gary Mavity, V 4.41 99 P **Pn 11 15 51.6 +1.0**
baz=282
W41B Sn **Sn 11 16 42.7 +0.9**
baz=282
W41B Sb **Sg 11 17 01.0 -4.7**
baz=282
W41B Gary Mavity, V 4.41 99 P 11 15 51.6
baz=282,SNR=48
W41B S 11 16 42.7
baz=282
FCAR Ozark Folk Cen 4.41 90 Pn 11 15 51.9 +1.2
FCAR IAmb_Lg 11 17 09.9
comp=Z,292nm,1.0s
N33B J Bar K, Exete 4.72 1 S 11 16 50.1
baz=181
N33A J Bar K, Exete 4.72 1 Pn 11 15 55.4 +0.4
MSTX Muleshoe 4.74 246 Pn **Pn 11 15 56.9 +1.6**
baz=63,SNR=6.5
MSTX Pb **Pb 11 16 08.6 +1.5**
baz=63
MSTX Sb **Sb 11 17 10.0 +6.0**
baz=63
MSTX Muleshoe 4.74 246 Pn 11 15 56.5 +1.2
MSTX IAmb_Lg 11 17 14.6
comp=Z,141nm,0.7s
Z41A Richland Creek 4.79 124 P **Pn 11 15 56.9 +1.0**
baz=306
Z41A S **Sn 11 16 50.9 -0.3**
baz=306
Z41A Richland Creek 4.79 124 P 11 15 57.2
baz=306,SNR=7.9
Z41A P 11 15 57.2
baz=306,SNR=7.9
Z41A S 11 16 50.8
baz=306
Z41A S 11 16 50.8
baz=306
R40A Maddies Statio 4.80 60 Pn 11 15 57.1 +1.0
R40A IAmb_Lg 11 17 23.6
comp=Z,232nm,1.3s
R40A Maddies Statio 4.80 60 P 11 15 57.2
baz=243,SNR=50
P38A Dawn 4.82 40 Pn 11 15 57.1 +0.9
P38A IAmb_Lg 11 17 26.8
comp=Z,201nm,0.8s
P38A Dawn 4.82 40 P 11 15 57.2
baz=222,SNR=13
NATX Nacogdoches 4.88 150 Pn **Pn 11 15 57.4 +0.3**
KSCO Kaye Shedlock' 5.02 308 P **Pn 11 16 02.2 +3.0**
baz=125,SNR=7.3
KSCO Kaye Shedlock' 5.02 308 Pn **Pn 11 16 01.0 +1.9**
N35A Tabor 5.07 17 Pn 11 16 00.7 +0.9
N35A Tabor 5.07 17 P 11 16 01.4
baz=198,SNR=6.4
CCAR Cane Creek 5.19 112 Pn **Pn 11 16 03.0 +1.6**
CCAR Cane Creek 5.19 112 P 11 16 02.9
baz=295,SNR=9.4
LCAR Lake Charles 5.19 87 Pn 11 16 01.8 +0.3
LCAR IAmb_Lg 11 17 32.0
comp=Z,236nm,0.8s
435B Jarrell 5.21 180 P **Pn 11 16 02.5 +0.8**
baz=0.2
435B Sb **Sb 11 17 23.7 +6.1**
baz=0.2
435B Jarrell 5.21 180 Pn 11 16 01.9 +0.1
435B Jarrell 5.21 180 P 11 16 02.6
baz=0.2,SNR=5.9
BGNE Belgrade 5.41 355 P **Pn 11 16 05.4 +1.0**
baz=175
BGNE S **Sn 11 17 05.9 -0.6**
baz=175
BGNE Belgrade 5.41 355 Pn 11 16 05.3 +0.8
BGNE Belgrade 5.41 355 P 11 16 05.3
baz=175,SNR=9.1
CCM Cathedral Cave 5.45 66 P **Pn 11 16 06.5 +1.5**
baz=250
CCM Cathedral Cave 5.45 66 Pn **Pn 11 16 05.7 +0.7**
CCM IAmb_Lg 11 17 38.6
comp=Z,175nm,1.1s
CCM Cathedral Cave 5.45 66 P 11 16 05.7
baz=250,SNR=18
P40A Paris 5.61 50 Pn 11 16 07.9 +0.8
P40A IAmb_Lg 11 17 48.1
comp=Z,225nm,1.0s
T25A Trinidad 5.63 284 P **Pn 11 16 08.8 +1.2**
baz=100
T25A Trinidad 5.63 284 Pn 11 16 08.7 +1.1
HBAR Harrisburg 5.63 93 Pn **Pn 11 16 07.0 -0.5**
PBMO Poplar Bluff 5.80 80 Pn **Pn 11 16 10.7 +0.8**
JCT Junction City 5.83 199 P **Pn 11 16 11.2 +1.0**
baz=18,SNR=6.1
JCT Sb **Sg 11 17 44.7 -6.5**
baz=18
JCT Junction City 5.83 199 Pn **Pn 11 16 10.8 +0.5**
JCT Junction City 5.83 199 P 11 16 10.1
baz=18,SNR=17
N38A Joes South For 5.86 34 Pn 11 16 11.6 +1.0
LPAR Lepanto 5.92 92 Pn 11 16 11.7 +0.3
L34A Svendsen Farm, 6.02 8 Pn **Pn 11 16 13.6 +0.8**
OGNE Ogallala 6.05 326 P **Pn 11 16 15.4 +2.1**
baz=143,SNR=7.9
OGNE Ogallala 6.05 326 Pn 11 16 14.8 +1.6
OGNE IAmb_Lg 11 17 59.2
comp=Z,156nm,0.9s
143A Socs Landing, 6.07 121 Pn **Pn 11 16 14.3 +0.9**
143A IAmb_Lg 11 18 12.8
comp=Z,153nm,0.9s
GNAR Gosnell 6.12 88 Pn **Pn 11 16 15.2 +1.1**
HKT Hockley 6.22 166 Pn **Pn 11 16 14.6 -0.9**
PEBM Pemiscott Bayo 6.24 87 Pn **Pn 11 16 16.2 +0.4**
MET Memphis--Engin 6.28 96 Pn **Pn 11 16 16.8 +0.4**
PARMO Parma 6.34 82 Pn **Pn 11 16 18.2 +1.1**
342A Flagon Creek P 6.36 135 Pn **Pn 11 16 18.6 +1.1**
SLM Saint Louis 6.40 64 Pn **Pn 11 16 18.7 +0.7**
SLM IAmb_Lg 11 18 04.5
comp=Z,136nm,0.7s
PENMO Penman 6.43 84 Pn **Pn 11 16 18.6 +0.2**
LNXT Lenox 6.54 87 Pn **Pn 11 16 20.3 +0.4**
HENM Henderson Moun 6.57 81 Pn **Pn 11 16 21.4 +1.1**
SDCO Great Sand Dun 6.59 288 P **Pn 11 16 23.2 +2.2**
baz=103,SNR=12
SDCO Great Sand Dun 6.59 288 Pn 11 16 22.3 +1.3
SDCO Great Sand Dun 6.59 288 P 11 16 23.0
baz=103,SNR=25
K31A O'Neill 6.67 352 Pn **Pn 11 16 23.8 +2.1**
HALT Halls 6.67 88 Pn **Pn 11 16 21.7 0.0**
GLAT Glass 6.70 85 Pn **Pn 11 16 23.6 +1.5**
HICK Hickman 6.75 83 Pn **Pn 11 16 23.1 +0.2**
SCIA State Center 6.79 29 P **Pn 11 16 24.6 +1.3**
baz=211
SCIA State Center 6.79 29 Pn 11 16 24.9 +1.5
SCIA IAmb_Lg 11 18 21.8
comp=Z,247nm,0.7s
SCIA State Center 6.79 29 P 11 16 24.7
baz=211,SNR=7.4
OXF Oxford 6.83 100 P **Pn 11 16 25.3 +1.3**
baz=285
OXF Oxford 6.83 100 Pn **Pn 11 16 24.1 +0.1**
OXF IAmb_Lg 11 18 29.4
comp=Z,186nm,0.8s
S44A Carbondale 6.87 73 Pn 11 16 25.7 +1.2
W45A Hickory Valley 6.88 95 IAmb_Lg 11 18 30.4
comp=Z,213nm,0.7s
SIUC Southern Illin 6.90 73 Pn 11 16 25.9 +1.0
Y45A Yeager Farm, C 6.92 106 Pn 11 16 26.2 +1.0
Y45A IAmb_Lg 11 18 30.0
comp=Z,112nm,0.8s
VBMS Vicksburg 6.96 121 IAmb_Lg 11 18 39.4
comp=Z,111nm,1.1s
UTMT University of 7.04 85 Pn **Pn 11 16 27.2 +0.4**
N41A Harden Midland 7.05 46 Pn **Pn 11 16 26.9 -0.1**
735A Kenedy 7.14 182 Pn **Pn 11 16 28.0 -0.2**
735A IAmb_Lg 11 18 46.9
comp=Z,120nm,0.8s
P43A Skaggs, Pawnee 7.32 58 Pn 11 16 31.1 +0.5
P43A IAmb_Lg 11 18 44.8
comp=Z,184nm,0.8s
P43A Skaggs, Pawnee 7.32 58 P 11 16 31.3
baz=243,SNR=25
ANMO Albuquerque 7.33 264 Pn **Pn 11 16 33.6 +2.5**
comp=Z,0.1nm,0.3s,baz=128,slow=19,SNR=2.6
ANMO Pg **Pb 11 16 54.8 +3.4**
comp=Z,0.6nm,0.3s,baz=83,slow=15,SNR=13
ANMO Lg Lg 11 18 32.0
comp=Z,6.2nm,0.3s,baz=126,slow=19,SNR=7.3
ANMO LR LR 11 19 31.4
comp=Z,70nm,19.2s,baz=81,slow=40
ANMO Albuquerque 7.33 264 Sb **Sg 11 18 31.0 -8.5**
baz=79
ANMO Albuquerque 7.33 264 Pn 11 16 30.3 -0.8
Q44A Meyer Farm, Va 7.38 64 Pn 11 16 32.8 +1.2
Q44A Meyer Farm, Va 7.38 64 P 11 16 33.2
baz=249,SNR=7.1
ISCO Idaho Springs 7.40 303 P **Pn 11 16 33.0 +0.9**
baz=118,SNR=17
ISCO Idaho Springs 7.40 303 Pn **Pn 11 16 33.0 +0.9**
ISCO IAmb_Lg 11 18 48.7
comp=Z,91nm,0.8s
K38A Parkersburg 7.59 28 Pn 11 16 35.0 +0.5
BNM Barren Site 7.66 259 Pn **Pn 11 16 37.3 +1.7**
ECSD EROS Data Cent 7.75 5 P **Pn 11 16 36.4 -0.1**
baz=186,SNR=17
ECSD S **Sn 11 18 00.6 -3.4**
baz=186
ECSD EROS Data Cent 7.75 5 Pn **Pn 11 16 36.4 -0.1**
ECSD IAmb_Lg 11 18 53.4
comp=Z,82nm,0.8s
ECSD EROS Data Cent 7.75 5 P 11 16 36.4
baz=186,SNR=26
MNTX Cornudas Mount 7.80 239 P **Pn 11 16 39.1 +1.8**
baz=54,SNR=14
MNTX Cornudas Mount 7.80 239 Pn **Pn 11 16 37.8 +0.6**
146A Union 7.80 113 Pn **Pn 11 16 37.4 +0.2**
146A IAmb_Lg 11 19 12.6
comp=Z,144nm,1.1s
L40A Anamosa 7.80 37 Pn 11 16 37.5 +0.3
L40A IAmb_Lg 11 18 57.9
comp=Z,134nm,0.8s
PLAL Pickwick Lake 7.81 95 Pn **Pn 11 16 37.6 +0.3**
PLAL IAmb_Lg 11 18 57.7
comp=Z,82nm,0.9s
WVT Waverly 7.88 86 Pn **Pn 11 16 38.7 +0.3**
HDIL Hopedale 7.93 53 P **Pn 11 16 39.1 +0.1**
baz=238,SNR=26
HDIL Hopedale 7.93 53 Pn 11 16 39.2 +0.2
HDIL IAmb_Lg 11 18 58.9
comp=Z,203nm,0.8s
HDIL Hopedale 7.93 53 P 11 16 39.1
baz=238,SNR=20
OLIL Olney 8.01 67 Pn **Pn 11 16 41.0 +0.9**
PHWY Pilot Hill 8.13 313 Pn 11 16 42.7 +0.7
PHWY IAmb_Lg 11 19 19.7
comp=Z,77nm,1.1s
USIN University of 8.16 73 Pn **Pn 11 16 42.8 +0.7**
N23A Red Feather La 8.19 309 P **Pn 11 16 44.9 +2.2**
baz=124,SNR=11
O44A Mansfield 8.28 57 Pn 11 16 43.9 +0.1
O44A IAmb_Lg 11 19 11.2
comp=Z,147nm,0.7s
O44A Mansfield 8.28 57 P 11 16 43.8
baz=243,SNR=6.1
Z47A Carrollton 8.31 107 Pn **Pn 11 16 43.5 -0.8**
TX31 Lajitas Ar. Si 8.41 219 Pn 11 16 45.8 0.0
TX32 Lajitas Array 8.41 219 Pn 11 16 45.7 -0.1
TXAR Lajitas Array 8.41 219 Pn **Pn 11 16 44.9 -0.9**
comp=Z,0.4nm,0.3s,baz=42,slow=11,SNR=18
TXAR Pg **Pb 11 17 06.6 -3.1**
comp=Z,1.4nm,0.3s,baz=45,slow=13,SNR=8.9
TXAR Lg Lg 11 19 08.3
comp=Z,7.7nm,0.3s,baz=38,slow=20,SNR=5.9
TXAR Lajitas Array 8.41 219 Pn **Pn 11 16 46.4 +0.6**
T47A Sharon Grove 8.48 80 Pn 11 16 47.4 +0.9
SUSD Miller 8.49 353 S **Sn 11 18 19.6 -2.7**
baz=172
SUSD Miller 8.49 353 Pn **Pn 11 16 47.8 +1.0**
SUSD IAmb_Lg 11 19 19.5
comp=Z,125nm,0.8s
L42A Oliver, Polo 8.57 43 Pn 11 16 49.0 +1.2
L42A IAmb_Lg 11 19 37.2
comp=Z,93nm,0.7s
L42A Oliver, Polo 8.57 43 P 11 16 48.8
baz=228,SNR=7.4
I37A Lemond, Waseca 8.61 20 Pn 11 16 48.2 -0.1
I37A IAmb_Lg 11 19 32.5
comp=Z,183nm,1.0s
V48A Smith Brothers 8.72 89 Pn **Pn 11 16 51.8 +1.9**
V48A IAmb_Lg 11 19 29.4
comp=Z,68nm,0.8s
X48A Hartselle 8.74 97 Pn **Pn 11 16 50.9 +0.7**
X48A IAmb_Lg 11 19 26.2
comp=Z,74nm,0.8s
MVCO Mesa Verde 8.88 281 Pn **Pn 11 16 51.7 -0.5**
MVCO IAmb_Lg 11 19 49.3
comp=Z,60nm,1.0s
JFWS Jewell Farm 8.91 37 P **Pn 11 16 53.2 +0.7**
baz=222,SNR=11
JFWS Jewell Farm 8.91 37 Pn 11 16 53.0 +0.5
JFWS IAmb_Lg 11 19 26.2
comp=Z,100nm,0.8s
P46A Rosedale 8.95 63 Pn 11 16 53.5 +0.5
PV15 Paradox Valley 9.02 288 Pn **Pn 11 16 53.9 -0.3**
CLTN Cedars of Leba 9.10 86 Pn **Pn 11 16 56.3 +1.3**
CLTN IAmb_Lg 11 19 36.5
comp=Z,71nm,0.9s
121A Cookes Peak, D 9.14 251 Pn 11 16 56.7 +0.9
M44A Midewin, Midew 9.17 51 Pn 11 16 55.7 -0.3
PV02 Paradox Valley 9.19 287 Pn **Pn 11 16 57.1 +0.6**
PV02 IAmb_Lg 11 19 47.6
comp=Z,84nm,1.2s
PV13 Radium Mtn., P 9.25 287 IAmb_Lg 11 19 47.0
comp=Z,64nm,1.1s
WCI Wyandotte Cave 9.27 73 Pn **Pn 11 16 58.9 +1.5**
WCI IAmb_Lg 11 19 43.4
comp=Z,98nm,0.8s
PV03 Paradox Valley 9.29 287 Pn **Pn 11 16 57.8 0.0**
BLO Bloomington 9.31 67 Pn 11 16 59.1 +1.1
BLO IAmb_Lg 11 19 46.0
comp=Z,164nm,0.7s
PV11 David Mesa, Pa 9.31 288 IAmb_Lg 11 19 54.3
comp=Z,63nm,0.9s
SFIN Lafayette 9.32 59 Pn 11 16 58.8 +0.7
SFIN IAmb_Lg 11 20 00.9
comp=Z,78nm,0.8s
PV18 Skein Mesa, Pa 9.33 287 Pn **Pn 11 16 59.9 +1.5**
O20A White River Ci 9.37 299 Pn **Pn 11 16 59.2 +0.2**
O20A IAmb_Lg 11 19 53.7
comp=Z,58nm,1.3s
PV17 East Wray Mesa 9.38 287 Pn **Pn 11 17 00.1 +1.0**
Y49A Blount Mountai 9.40 100 Pn **Pn 11 17 00.1 +0.9**
Y49A IAmb_Lg 11 19 47.1
comp=Z,74nm,0.8s
RWWY Rawlins 9.42 310 Pn **Pn 11 17 01.1 +1.5**
PV10 Paradox Valley 9.46 288 IAmb_Lg 11 19 54.6
comp=Z,64nm,1.3s
RSSD Black Hills 9.50 331 P **Pn 11 17 02.0 +1.3**
baz=146
RSSD Black Hills 9.50 331 Pn 11 17 01.9 +1.2
RSSD IAmb_Lg 11 19 50.0
comp=Z,110nm,1.2s
RSSD Black Hills 9.50 331 P 11 17 01.6
baz=146,SNR=5.4
I40A Norwalk 9.50 32 Pn **Pn 11 17 01.4 +0.8**
I40A IAmb_Lg 11 19 56.6
comp=Z,75nm,1.0s
I40A Norwalk 9.50 32 P 11 17 01.3
baz=216,SNR=5.3
SWET Sewanee 9.50 91 Pn **Pn 11 17 01.6 +1.0**
SWET IAmb_Lg 11 19 53.4
comp=Z,83nm,0.8s
HQIL Hanson Quary C 9.52 50 IAmb_Lg 11 19 54.3
comp=Z,112nm,1.0s
U49A Red Boiling Sp 9.53 84 Pn **Pn 11 17 02.5 +1.5**
U49A IAmb_Lg 11 19 44.4
comp=Z,84nm,1.0s
K22A Casper 9.60 316 Pn **Pn 11 17 03.5 +1.4**
K22A IAmb_Lg 11 20 12.4
comp=Z,80nm,1.0s
L44A Lake County Fo 9.70 48 P **Pn 11 17 04.0 +0.7**
baz=234
L44A S **Sn 11 18 48.2 -3.9**
baz=234
L44A Lake County Fo 9.70 48 Pn **Pn 11 17 02.8 -0.5**
L44A IAmb_Lg 11 20 00.5
comp=Z,142nm,1.0s
K43A Burlington 9.78 44 Pn **Pn 11 17 04.1 -0.3**
K43A IAmb_Lg 11 20 00.6
comp=Z,107nm,0.9s
F33A 5 Mile Ranch, 9.87 5 Pn **Pn 11 17 05.7 +0.2**
F33A IAmb_Lg 11 20 03.3
comp=Z,83nm,0.9s
FPAL Fort Paine 9.88 95 Pn **Pn 11 17 05.5 -0.3**
FPAL IAmb_Lg 11 20 06.9
comp=Z,74nm,1.0s
SPMN Marine on St. 9.89 20 Pn **Pn 11 17 05.8 -0.1**
SPMN IAmb_Lg 11 20 13.0
comp=Z,72nm,0.8s
W18A Petrified Fore 9.96 268 Pn **Pn 11 17 06.3 -0.8**
R49A Shelbyville 10.15 73 Pn **Pn 11 17 09.5 0.0**
250A Grady 10.20 110 Pn **Pn 11 17 09.4 -0.8**
P48A Milroy 10.21 67 Pn **Pn 11 17 09.9 -0.4**
I42A Draeger Farm, 10.29 37 Pn 11 17 11.4 0.0
I42A Draeger Farm, 10.29 37 P 11 17 10.8
baz=223,SNR=8.9
T50A Nancy 10.29 81 Pn **Pn 11 17 12.3 +0.8**
F36A Milaca 10.30 16 Pn **Pn 11 17 11.5 -0.1**
RDMU Red Mountain 10.48 299 Pn **Pn 11 17 14.8 +0.7**
X51A Calhoun 10.48 94 Pn **Pn 11 17 14.8 +0.8**
N47A Urbana 10.50 59 Pn **Pn 11 17 14.7 +0.5**

Z51A	**Franklin**	**10.55**	**101**	Pn	**Pn**	**11 17 15.5**	**+0.5**
L46A	**Eue Claire**	**10.61**	**52**		**Pn**	**11 17 15.8**	**0.0**
CPCT	**Cooper Cave**	**10.62**	**89**	Pn	**Pn**	**11 17 15.8**	**-0.1**
V51A	**Loudon**	**10.72**	**87**	Pn	**Pn**	**11 17 17.9**	**+0.6**
SRU	**San Rafael Swe**	**10.74**	**291**	Pn	**Pn**	**11 17 17.6**	**-0.2**
P49A	**Miami Univ. Ec**	**10.76**	**67**	Pn	**Pn**	**11 17 17.4**	**-0.4**
G40A	**Rib Lake**	**10.80**	**29**	Pn	**Pn**	**11 17 18.1**	**-0.3**
R50A	**Paris**	**10.80**	**74**	Pn	**Pn**	**11 17 20.0**	**+1.5**
E28A	**Huff**	**10.81**	**348**	Pn	**Pn**	**11 17 18.1**	**-0.5**
152A	**Waverly Hall**	**11.13**	**104**	Pn	**Pn**	**11 17 23.4**	**+0.5**
TKL	**Tuckaleechee C**	**11.20**	**88**	Pn	**Pn**	**11 17 21.4**	**-2.4**
	comp=Z,0.2nnm,0.3s,baz=265,slow=11,SNR=1.8						
TKL				Lg	Lg	11 20 26.8	
	comp=Z,1.4nnm,0.3s,baz=149,slow=22,SNR=5.5						
TKL	**Tuckaleechee C**	**11.20**	**88**		**Pn**	**11 17 23.2**	**-0.7**
O49A	**Covington**	**11.22**	**64**	Pn	**Pn**	**11 17 23.6**	**-0.6**
WUAZ	**Wupatki**	**11.23**	**272**	Pn	**Pn**	**11 17 24.0**	**-0.5**
H43A	**Windswept, Lux**	**11.28**	**39**	Pn	**Pn**	**11 17 25.0**	**+0.1**
Y52A	**Lilburn**	**11.29**	**97**	Pn	**Pn**	**11 17 24.9**	**-0.1**
S51A	**Beattyville**	**11.31**	**78**	Pn	**Pn**	**11 17 26.1**	**+0.6**
TZTN	**Tazewell**	**11.33**	**83**	Pn	**Pn**	**11 17 25.9**	**+0.3**
V52A	**Sevierville**	**11.33**	**87**	Pn	**Pn**	**11 17 25.6**	**0.0**
X16A	**Lo Mia Camp, P**	**11.46**	**266**	Pn	**Pn**	**11 17 27.5**	**-0.1**
BW06	**Boulder Array**	**11.47**	**310**	Pn	**Pn**	**11 17 27.3**	**-0.4**
PD31	**Pinedale Array**	**11.47**	**310**	Pn	**Pn**	**11 17 27.7**	**0.0**
PDAR	**Pinedale Array**	**11.47**	**310**	Pn	**Pn**	**11 17 26.1**	**-1.6**
	comp=Z,0.4nnm,0.3s,baz=125,slow=16,SNR=13						
PDAR				Lg	Lg	11 20 43.2	
	comp=Z,0.5nm,0.3s,baz=105,slow=35,SNR=3.3						
PDAR				LR	LR	11 22 27.2	
	comp=Z,68nm,21.7s,baz=94,slow=41						
PDAR	**Pinedale Array**	**11.47**	**310**		**Pn**	**11 17 27.8**	**0.0**
E38A	**The Farm, Brul**	**11.50**	**21**	Pn	**Pn**	**11 17 27.0**	**-0.9**
N49A	**Columbus Grove**	**11.57**	**61**	Pn	**Pn**	**11 17 30.0**	**+1.1**
Q51A	**Peebles**	**11.68**	**71**	Pn	**Pn**	**11 17 30.7**	**+0.2**
L48A	**N Adams**	**11.81**	**56**	Pn	**Pn**	**11 17 31.5**	**-0.6**
U15A	**North Rim**	**11.91**	**276**	Pn	**Pn**	**11 17 34.0**	**+0.2**
COWI	**Conover**	**11.91**	**30**	Pn	**Pn**	**11 17 33.0**	**-0.5**
V53A	**Saluda**	**11.98**	**87**	Pn	**Pn**	**11 17 34.0**	**-0.5**
F42A	**Maple Grove Fa**	**12.06**	**33**	Pn	**Pn**	**11 17 34.6**	**-0.9**
J47A	**Sunmer**	**12.18**	**50**	Pn	**Pn**	**11 17 38.0**	**+0.7**
HWUT	**Hardware Ranch**	**12.26**	**301**	Pn	**Pn**	**11 17 40.3**	**+1.8**
AGMN	**Agassiz Nation**	**12.34**	**5**	Pn	**Pn**	**11 17 38.1**	**-1.3**
Q52A	**Bidwell**	**12.50**	**72**	Pn	**Pn**	**11 17 42.1**	**+0.5**
SNOW	**Snow King Moun**	**12.58**	**310**	Pn	**Pn**	**11 17 44.3**	**+1.3**
REDW	**Red Top Meadow**	**12.59**	**310**	Pn	**Pn**	**11 17 42.9**	**-0.2**
B35A	**Bob, Littlefor**	**12.66**	**12**	Pn	**Pn**	**11 17 41.7**	**-2.1**
RLMT	**Red Lodge**	**12.72**	**319**	Pn	**Pn**	**11 17 45.5**	**+0.8**
TPAW	**Teton Pass**	**12.72**	**310**	Pn	**Pn**	**11 17 44.3**	**-0.5**
U54A	**Nelsons Funny**	**12.72**	**83**	Pn	**Pn**	**11 17 45.4**	**+0.8**
P52A	**Corning**	**12.72**	**69**	Pn	**Pn**	**11 17 47.0**	**+2.3**
EYMN	**Ely**	**12.75**	**19**	P	**Pn**	**11 17 42.0**	**-2.9**
	baz=203						
EYMN	**Ely**	**12.75**	**19**	Pn	**Pn**	**11 17 42.8**	**-2.1**
CCUT	**Cedar City**	**12.76**	**282**	Pn	**Pn**	**11 17 45.6**	**+0.1**
N51A	**Ashland**	**12.87**	**63**	Pn	**Pn**	**11 17 46.4**	**-0.2**
D41A	**Chassel**	**12.92**	**29**	Pn	**Pn**	**11 17 48.8**	**+1.4**
IMW	**Indian Meadow**	**12.93**	**312**	Pn	**Pn**	**11 17 47.2**	**-0.5**
YNE	**Yellowstone No**	**13.04**	**317**		**Pn**	**11 17 50.6**	**+1.4**
E43A	**Lone Tree Farm**	**13.05**	**34**	Pn	**Pn**	**11 17 47.5**	**-1.6**
O52A	**Adamsville**	**13.05**	**67**	Pn	**Pn**	**11 17 49.8**	**+0.6**
P53A	**Whipple**	**13.26**	**70**	Pn	**Pn**	**11 17 52.2**	**+0.2**
GCMT	**Greycliff**	**13.37**	**321**	Pn	**Pn**	**11 17 54.1**	**+0.4**
O53A	**New Philadelph**	**13.55**	**67**	Pn	**Pn**	**11 17 55.2**	**-0.6**
Q54A	**Coxs Mills**	**13.61**	**72**	Pn	**Pn**	**11 17 57.0**	**+0.3**
I49A	**Point Hope**	**13.79**	**50**	Pn	**Pn**	**11 17 56.7**	**-2.4**
R55A	**Marlinton**	**14.10**	**76**	Pn	**Pn**	**11 18 02.8**	**-0.7**
ULM	**Lac du Bonnet**	**14.29**	**4**	Pn	Pn	11 17 57.9	-8.0
	comp=Z,0.4nm,0.3s,baz=190,slow=15,SNR=2.7						
ULM				Sn	Sn	11 20 32.5	-12
	comp=Z,1.3nm,0.3s,baz=88,slow=18,SNR=4.7						
ULM				Lg	Lg	11 22 02.5	
	comp=Z,0.1nm,0.3s,baz=319,slow=15,SNR=1.4						
ULM	**Lac du Bonnet**	**14.29**	**4**	Pn	**Pn**	**11 18 07.3**	**+1.4**
E46A	**Sault Ste Mari**	**14.36**	**40**	Pn	**Pn**	**11 18 09.5**	**+2.6**
T57A	**Hurt**	**14.76**	**81**	Pn	**Pn**	**11 18 13.1**	**+0.6**
M54A	**Oil Creek Stat**	**15.00**	**63**	Pn	**Pn**	**11 18 15.5**	**-0.2**
HRY	**Holter Researc**	**15.11**	**319**	Pn	**Pn**	**11 18 18.1**	**+0.8**
M55A	**Ridgway**	**15.64**	**64**	Pn	**Pn**	**11 18 26.5**	**+2.4**
SSPA	**Standing Stone**	**16.11**	**67**	Pn	**Pn**	**11 18 29.4**	**-0.8**
SADO	**Sadowa**	**16.51**	**52**	Pn	**Pn**	**11 18 31.4**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=272,slow=15,SNR=2.0						
SADO				LR	LR	11 24 58.3	
	comp=Z,82nm,18.5s,baz=232,slow=38						
SADO	**Sadowa**	**16.51**	**52**	Pn	**Pn**	**11 18 34.5**	**-0.8**
L56A	**Greenwood**	**16.68**	**62**	Pn	**Pn**	**11 18 38.3**	**+0.8**
M57A	**Sunshine Farm,**	**16.81**	**65**	Pn	**Pn**	**11 18 37.6**	**-1.5**
DELO	**Deloro Mine**	**17.40**	**55**		**P**	**11 18 48.6**	**+0.9**
PLVO	**Plevna**	**17.96**	**54**		**Pn**	**11 18 54.3**	**+1.0**
YBH	**Yreka Blue Hor**	**20.36**	**294**	P	**P**	**11 19 18.8**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=96,slow=18,SNR=2.1						
YBH				LR	LR	11 26 57.7	
	comp=Z,62nm,18.7s,baz=118,slow=36						

LJU 25 11:55:55.8, 45°.90N×15°.08E, h6km, ML0.5, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.17**	**341**	*i* Pg	Pg	11 55 59.2	0.0
PDKS				*i* Sg	Sg	11 56 01.9	+0.3
PDKS				IAML		11 56 02.4	
	comp=Z,14nm,0.1s						
LEGS	**Legarje**	**0.17**	**74**	*i* Pg	Pg	11 55 59.4	+0.1
LEGS				*e*Sg	Sg	11 56 02.0	+0.3
VISS	**Visnje**	**0.19**	**240**	*i* Pg	Pg	11 55 59.8	+0.2
VISS				*i* Sg	Sg	11 56 02.5	+0.3
VISS				IAML		11 56 03.9	
	comp=Z,3.7nm,0.1s						
CRES	**Cresnjev**	**0.28**	**106**	*e*Pg	Pg	11 56 01.2	0.0
CRES				*e*Sg	Sg	11 56 05.9	+1.1
CRES				IAML		11 56 07.2	
	comp=Z,2.3nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.33**	**308** ⇑	*i* Pg	Pg	11 56 02.4	+0.1
LOBO	**Lobor**	**0.74**	**69**	*e*Pg	Pn	11 56 15.4	+2.6
LOBO				Sg	Sg	11 56 17.7	-1.8
KALN	**Kalnik**	**0.99**	**76**	Sg	Sg	11 56 26.1	-1.5

VIE 25 11:56:15.2±0.6, 46°.21N×16°.04E, h5km±2km, mb1.4/3, ml1.6/5, Error ellipse: s-maj=3.5km s-min=2.0km az=138.0 26 km WSW of Varazdin, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ	**Puntijarka**	**0.30**	**189**	*e*Pg	Pg	11 56 20.1	-1.0
PTJ				Sg	Sg	11 56 23.9	-1.2
MOSL	**Moslavina**	**0.78**	**140**	*e*Pg	Pb	11 56 30.7	-0.5
MOSL				Sg	Sg	11 56 40.7	+0.5
SOKA	**Soboth**	**0.84**	**305**	*e*Pg	Pg	11 56 31.6	+0.3
	1.9nm,0.3s						
SOKA				*e*Sg	Sg	11 56 42.6	+0.4
	0.8nm,0.2s						
OBKA	**Obir**	**1.07**	**287**	*e*Pg	Pg	11 56 35.8	0.0
	2.2nm,0.5s						
OBKA				*e*Sg	Sb	11 56 51.3	+0.7
	2.8nm,0.3s						
ARSA	**Arzberg**	**1.10**	**342**	*e*Pg	Pg	11 56 36.5	+0.1
	1.4nm,0.4s						
ARSA				*e*Sg	Sb	11 56 51.6	+0.1
	5.7nm,0.6s						
CONA	**Conrad Observa**	**1.73**	**356**	*e*Pn	Pn	11 56 46.3	+0.3
CONA				*e*Sg	Sg	11 57 12.6	+1.9
	1.3nm,0.4s						
KBA	**Koelnbreinsper**	**2.05**	**296**	*e*Pn	Pn	11 56 50.4	0.0
	0.8nm,0.4s						
KBA				*e*Sn	Sn	11 57 17.6	+1.1
	0.1nm,0.1s						

MAN ***25*** *12:00:22.8, 6°.83N×126°.82E, h25km, mb4.7, ML3.6, MS3.5*
IDC ***25*** *12:00:24.4±2.4, 6°.69N×126°.88E, h61km±22km, mb3.8/11, mb1 4.0/12, mb1mx3.7/33, mbtmp4.1/12, ML4.2/1, MS3.1/7, Ms1 3.1/7, ms1mx2.8/48, Error ellipse: s-maj=29.6km s-min=11.4km az=59.0*
NEIC ***25*** *12:00:25.4±1.4, 6°.74N±0°.09×126°.8E±0°.1, h67km±7km, mb4.3/27, Error ellipse: s-maj=16.8km s-min=10.6km az=55.0*
DJA ***25*** *12:00:25.7±0.9, 7°N±7°×12°7E±°, h66km±7km, M4.7/10, mB5.4/5, mb4.7/10, MLv4.6/7, Mw(mB)4.9/5*

ISC 25 12:00:25.3±0.5, 6.73N±0°.05×126°.88E±0°.07, h74km, n64, σ1§80/66, mb4.3/22, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.34**	**285**	P	**Pn**	**12 00 46.6**	**-1.6**
	429nm,0.3s,baz=90,slow=1.1,SNR=50						
DAV				S	**Sn**	**12 01 04.0**	**-1.5**
	897nm,0.3s,baz=295,slow=23,SNR=46						
BIPH	**Bislig**	**1.54**	**340** ‖	*e*P	**Pn**	**12 00 47.2**	**-3.7**
BIPH				*e*S	**Sn**	**12 01 05.3**	**-4.9**
KCP	**Kidapawan**	**1.80**	**279** ‖	*i* P	**Pn**	**12 00 51.5**	**-2.9**
KCP				*i* S	**Sn**	**12 01 13.6**	**-2.9**
CGP	**Cagayan de Oro**	**2.77**	**309** ‖	*e*P	**Pn**	**12 01 06.6**	**-0.8**
CGP				*e*S	**Sn**	**12 01 37.6**	**-2.1**
SGSI	**Sangihe**	**3.31**	**204**	P	**Pn**	**12 01 14.4**	**-0.4**
TNTI	**Ternate**	**5.94**	**175**	Pn	**Pn**	**12 01 52.7**	**+2.0**
TNTI	**Ternate**	**5.94**	**175**	P	**Pn**	**12 01 50.9**	**+0.2**
	0.2nm26nm,0.5s						
GTOI	**Gorontalo**	**7.18**	**213**	P	**Pn**	**12 02 06.2**	**-1.4**
	0.1nm435nm46nm,0.8s						
MRSI	**Marisa**	**7.92**	**219**	P	**Pn**	**12 02 16.1**	**-1.8**
	0.2nm942nm63nm,0.7s						
TOLI2	**Tolitoli**	**8.25**	**228**		**Pn**	**12 02 19.0**	**-3.3**
SIJI	**Sorong**	**8.72**	**150**	P	**Pn**	**12 02 27.9**	**-0.9**
	2.7nm,0.3s,baz=117,slow=21,SNR=17						
SIJI				S	**Sn**	**12 03 57.8**	**-7.8**
	2.1nm,0.3s,baz=176,slow=23,SNR=6.8						
SIJI				LR	LR	12 06 38.9	
	comp=Z,47nm,18.5s,baz=207,slow=43						
MPSI	**Mapaga**	**9.42**	**228**	P	Pn	12 02 24.7	-14
FAKI	**Fak Fak**	**10.98**	**151**	Pn	**Pn**	**12 02 56.8**	**-2.8**
TTSI	**Tana Toraja**	**12.00**	**216**	P	**Pn**	**12 03 14.0**	**+0.5**
	20nm,1.0s						
EDFI	**Ende, Flores**	**16.22**	**199**	P	**Pn**	**12 04 10.1**	**+1.2**
	4.0nm,0.8s						
GUMO	**Guam**	**18.96**	**68**	LR	LR	12 11 27.6	
	comp=Z,34nm,20.5s,baz=204,slow=35						
MTN	**Manton Dam**	**19.90**	**168**	P	**P**	**12 04 51.7**	**+0.7**
MTN				IAmb	IAmb	12 04 56.5	
	comp=Z,14nm,0.5s						
KNRA	**Kununurra**	**22.34**	**175**	P	**P**	**12 05 18.2**	**+1.0**
KNRA				IAmb	IAmb	12 05 20.6	
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**27.35**	**164**	P	**P**	**12 06 03.6**	**0.0**
WB0				IAmb	IAmb	12 06 29.6	
	comp=Z,5.9nm,0.9s						
WRAB	**Tennant Creek**	**27.49**	**165**	P	**P**	**12 06 08.3**	**+3.5**
WRAB				IAmb	IAmb	12 06 27.8	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**27.50**	**165**	P	**P**	**12 06 04.5**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=342,slow=11,SNR=36						
WRA	**Warramunga Arr**	**27.50**	**165**	P	**P**	**12 06 03.5**	**-1.5**
WB2	**Warramunga Arr**	**27.50**	**165**	P	**P**	**12 06 05.4**	**+0.4**
WB2				IAmb	IAmb	12 06 31.2	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**27.57**	**164**	P	**P**	**12 06 05.8**	**+0.2**
WR0				IAmb	IAmb	12 06 24.1	
	comp=Z,12nm,1.5s						
PSA00	**Pilbara Seismi**	**28.96**	**194**	P	**P**	**12 06 18.9**	**+1.1**
PSA00				IAmb	IAmb	12 06 24.6	
	comp=Z,5.7nm,0.8s						
PSA00	**Pilbara Seismi**	**28.96**	**194**	P	**P**	**12 06 18.3**	**+0.4**
PSA00				IAmb	IAmb	12 06 44.1	
	comp=Z,10nm,1.5s						
CMAR	**Chiang Mai Arr**	**29.60**	**296**	LR	LR	12 18 44.4	
	comp=Z,36nm,18.2s,baz=192,slow=37						
AS31	**Alice Springs**	**30.98**	**167**	P	**P**	**12 06 35.9**	**+0.1**
ASAR	**Alice Springs**	**30.98**	**167**	P	**P**	**12 06 35.6**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=342,slow=7.4,SNR=30						
ASAR				PcP	**PcP**	**12 09 30.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=350,slow=2.4,SNR=9.3						
ASAR				LR	LR	12 21 42.7	
	comp=Z,61nm,19.4s,baz=112,slow=41						
ASAR	**Alice Springs**	**30.98**	**167**	P	**P**	**12 06 35.3**	**-0.5**
ASAR					**PcP**	**12 09 30.1**	**-0.5**
MORW	**Morawa**	**37.09**	**196**	P	**P**	**12 07 28.6**	**0.0**
FORT	**Forrest**	**37.31**	**178**	P	**P**	**12 07 30.9**	**+0.4**
ASAJ	**Asahikawa**	**39.71**	**18**	LR	LR	12 23 58.2	
	comp=Z,11nm,21.9s,baz=184,slow=36						
BBOO	**Buckleboo**	**40.27**	**168**	P	**P**	**12 07 55.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**40.49**	**193**	P	**P**	**12 07 56.1**	**-0.9**
STKA	**Stephens Creek**	**40.88**	**161**	P	**P**	**12 08 00.7**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=339,slow=4.5,SNR=10						
STKA	**Stephens Creek**	**40.88**	**161**	P	**P**	**12 07 60.0**	**-0.2**
ARMA	**Armidale**	**43.90**	**149**	P	**P**	**12 08 25.9**	**+1.0**
ARMA				IAmb	IAmb	12 08 47.2	
	comp=Z,8.3nm,1.1s						
SONM	**Songino Array**	**44.53**	**340**	P	**P**	**12 08 32.3**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=151,slow=9.4,SNR=5.5						
SONM	**Songino Array**	**44.53**	**340**	P	**P**	**12 08 30.4**	**+0.6**
PETK	**Petropavlovsk-**	**52.62**	**23**	P	**P**	**12 09 32.2**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=205,slow=6.7,SNR=5.3						
PETK	**Petropavlovsk-**	**52.62**	**23**	P	**P**	**12 09 33.1**	**+1.4**
MK31	**Makanchi Array**	**55.21**	**324**	P	**P**	**12 09 51.2**	**+0.5**
MK31				IAmb	IAmb	12 09 52.4	
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**55.21**	**324**	P	**P**	**12 09 49.8**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=118,slow=7.1,SNR=30						
MKAR				PcP	**PcP**	**12 10 52.8**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=119,slow=3.8,SNR=6.4						
MKAR	**Makanchi Array**	**55.21**	**324**	P	**P**	**12 09 50.8**	**+0.1**
MAKZ	**Makanchi**	**55.40**	**324**	P	**P**	**12 09 53.0**	**+1.0**
MAKZ				IAmb	IAmb	12 09 53.7	
	comp=Z,2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**58.01**	**332**	P	**P**	**12 10 10.8**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=124,slow=7.7,SNR=8.1						
ABKAR	**Akbulak array**	**69.95**	**320**	P	**P**	**12 11 27.4**	**-1.3**
AKTO	**Aktyubinsk**	**71.43**	**321**	LR	LR	12 45 17.1	
	comp=Z,28nm,18.7s,baz=115,slow=38						
POHA	**Pohakuloa**	**76.10**	**71**	P	**P**	**12 12 06.3**	**+0.3**
RDOG	**Red Dog Mine**	**76.45**	**21**	P	**P**	**12 12 07.1**	**+0.4**
RDOG				IAmb	IAmb	12 12 33.9	
	comp=Z,5.1nm,0.6s						
KDAK	**Kodiak Island**	**79.30**	**33**	P	**P**	**12 12 23.0**	**+0.3**
I23K	**Minto, Yukon-K**	**81.31**	**25**	P	**P**	**12 12 33.9**	**+0.6**
ILAR	**Eielson Array**	**82.35**	**26**	P	**P**	**12 12 37.9**	**-1.0**
	comp=Z,0.3nm,0.2s,baz=236,slow=4.9,SNR=1.8						
BMAR	**Burnt Mountain**	**83.28**	**23**	P	**P**	**12 12 44.6**	**+0.9**
BCAR	**Beaver Creek A**	**84.66**	**27**	P	**P**	**12 12 51.7**	**+0.9**
VNDA	**Vanda**	**86.36**	**173**	P	**P**	**12 12 59.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=334,slow=4.4,SNR=3.7						
VNDA	**Vanda**	**86.36**	**173**	P	**P**	**12 12 59.5**	**+0.6**
VNDA				IAmb	IAmb	12 12 59.9	
	comp=Z,2.3nm,1.3s						
MAW	**Mawson**	**86.60**	**200**	P	**P**	**12 13 00.7**	**+0.6**
ARCES	**ARCESS Array B**	**87.71**	**340**	P	**P**	**12 13 07.0**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=93,slow=6.1,SNR=5.5						
ARCES	**ARCESS Array B**	**87.71**	**340**	P	**P**	**12 13 06.4**	**+0.9**
ARCES				IAmb	IAmb	12 13 34.7	
	comp=Z,3.0nm,1.3s						
FINES	**FINESS Array B**	**89.28**	**332**	P	**P**	**12 13 14.3**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=98,slow=5.8,SNR=4.6						
NOA	**NORSAR Array B**	**96.18**	**334**	LR	LR	13 00 52.4	
	comp=Z,10nm,19.3s,baz=85,slow=38						
QSPA	**South Pole Qui**	**96.61**	**180**	P	**P**	**12 13 47.7**	**+0.8**
QSPA				IAmb	IAmb	12 14 00.6	
	comp=Z,0.9nm,1.1s						

TRN ***25*** *12:21:43.7, 13°.68N×58°.62W, h112km, MD3.8*

ISC 25 12:21:47.7±2.5, 13°.90N±0°.06×58°.9W±0°.1, h10km, n15, σ1§03/24, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.02**	**222**	*e*P	**Pg**	**12 22 06.5**	**-0.8**
BBGH				*e*S	**Sn**	**12 22 24.4**	**+2.0**
MPOM	**Morne Pois Mar**	**2.02**	**286**	*e*P	**Pn**	**12 22 22.1**	**+0.3**
MPOM				*e*S	**Sb**	**12 22 49.1**	**-0.5**
SLBI	**Saint Lucia, B**	**2.06**	**274**	*e*P	**Pn**	**12 22 21.5**	**-0.8**
SLBI				*e*S	**Sb**	**12 22 49.8**	**-1.0**
ILAM	**Ilet Lapin Mar**	**2.14**	**294**	*e*P	**Pn**	**12 22 22.8**	**-0.7**
ILAM				*e*S	**Sb**	**12 22 53.1**	**-0.1**
BIM	**Bigot**	**2.23**	**286**	*e*P	**Pn**	**12 22 24.7**	**-0.1**
BIM				*e*S	**Sb**	**12 22 55.5**	**-0.4**
FDF	**Fort de France**	**2.37**	**291**	*e*P	**Pn**	**12 22 27.6**	**+0.9**
FDF				*e*S	**Sb**	**12 22 59.4**	**-0.5**
DSLB	**Salisbury**	**2.92**	**302**	*e*P	**Pn**	**12 22 34.6**	**+0.4**
DSLB				*e*S	**Sn**	**12 23 11.7**	**+2.4**
MAGL	**Barre de l'ile**	**3.11**	**311**	*e*P	**Pn**	**12 22 37.6**	**+0.8**
MAGL				*e*S	**Sn**	**12 23 15.7**	**+1.7**
CBE	**Ff, Capester**	**3.42**	**309**	*e*P	**Pn**	**12 22 41.7**	**+0.5**
CBE				*e*S	**Sn**	**12 23 22.8**	**+0.9**
ABD	**La Joyeuse, An**	**3.61**	**316**	*e*S	**Sn**	**12 23 27.4**	**+1.1**
ANBD	**Bethesda, Anti**	**4.20**	**318**	*e*P	**Pn**	**12 22 51.9**	**0.0**
ANBD	**Bethesda, Anti**	**4.20**	**318**	*e*S	**Sn**	**12 23 40.4**	**-0.7**
BPA	**Boggy Peak**	**4.26**	**318**	*e*P	**Pn**	**12 22 52.2**	**-0.5**
BPA	**Boggy Peak**	**4.26**	**318**	*e*S	**Sn**	**12 23 41.4**	**-1.2**
ANWB	**Willy Bob**	**4.69**	**323**	*e*P	**Pn**	**12 22 58.6**	**0.0**

IDC 25 12:44:21.9±5.2, 29°.56S×178°.99W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/35, mbtmp3.6/2, Error ellipse: s-maj=218.2km s-min=84.5km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.30**	**266**	P	P	12 52 16.7	-1.0
	0.7nm,1.0s,baz=106,slow=7.3,SNR=1.9						
WRA	**Warramunga Arr**	**43.21**	**272**	P	P	12 52 25.5	+0.4
	0.3nm,0.3s,baz=111,slow=8.0,SNR=19						
FINES	**FINESS Array B**	**144.06**	**340**	PKP	PKPdf	13 03 58.1	-0.8
	0.7nm,0.6s,baz=66,slow=1.7,SNR=4.3						

IDC ***25*** *12:54:05.4±2.3, 33°.88N×117°.54W, h0km, mb1 3.6/6, mb1mx3.4/40, mbtmp3.3/6, ML3.4/6, Error ellipse: s-maj=31.4km s-min=7.2km az=44.0*
ANF ***25*** *12:54:06.1±0.2, 34°.08N×117°.45W, h12km±1km, ML4.3/43, Error ellipse: s-maj=1.4km s-min=1.2km az=25.0*
SCEDC ***25*** *12:54:07.0, 34°.09N×117°.45W, h6km*
PAS ***25*** *12:54:07.0±2.2, 34°.09N±0°.01×117°.45W±0°.01, h5km±6km, ML4.2/247, ML3.9/100(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=216.0*
NEIC ***25*** *12:54:07.1±2.2, 34°.10N±0°.01×117°.43W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=201.0*

ISC 25 12:54:07.1±0.8, 34°.08N±0°.02×117°.45W±0°.02, h11km±6km, n151, σ1§20/192, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFSC	**Central Fire S**	**0.14**	**80**		**Pg**	**12 54 10.1**	**-0.3**
CFSC					**Sg**	**12 54 12.8**	**-0.1**
RSBC	**Riverside Bore**	**0.15**	**137**		**Pg**	**12 54 10.1**	**-0.5**
RSBC	**Riverside Bore**	**0.15**	**137**		**Sg**	**12 54 12.4**	**-0.5**
BFSC	**Mount Baldy Ra**	**0.24**	**312**	P	**Pg**	**12 54 11.4**	**-0.8**
	baz=130,SNR=1000						
BFSC				S	**Sg**	**12 54 14.5**	**-1.0**
	baz=130						
BBRC	**Big Bear Solar**	**0.47**	**67**	P	**Pg**	**12 54 16.1**	**-0.3**
	baz=249,SNR=898						
BBRC				S	**Sg**	**12 54 22.6**	**-0.2**
	baz=249						
MURC	**Murrieta**	**0.52**	**156**	P	**Pg**	**12 54 16.8**	**-0.6**
	baz=337,SNR=1000						
MURC				S	**Sg**	**12 54 24.0**	**-0.3**
	baz=337						
MWC	**Mount Wilson**	**0.53**	**286**		**Pg**	**12 54 16.9**	**-0.5**
MWC				Sg	**Sg**	**12 54 24.2**	**-0.3**
MWC				IAML		12 54 24.9	
	comp=N,12μm,0.6s						
MWC				IAML		12 54 26.8	
	comp=E,11μm,0.3s						
GVRC	**Garvey Reservo**	**0.56**	**267**		**Pg**	**12 54 17.9**	**-0.1**
CBCC	**Caltech Broad**	**0.57**	**276**		**Pg**	**12 54 17.7**	**-0.5**
PASC	**Pasadena Art C**	**0.62**	**279**		**Pg**	**12 54 18.3**	**-0.8**
PASC				IAML		12 54 28.

baz=151,SNR=415
ISA Isabella, Lake 1.79 332 Pn Pn 12 54 37.9 -0.1
ISA IAML 12 55 06.4
comp=E,1μm,0.8s
IKP In-Ko-Pah, Jac 1.81 141 Pn Pn 12 54 37.8 -0.5
baz=323,SNR=158
IKP Pb **Pb 12 54 39.7 -0.6**
baz=323
IKP Sb **Sb 12 55 03.2 +0.1**
baz=323
SCZ2 Santa Cruz Isl 1.82 268 P **Pn 12 54 36.8 -1.5**
baz=86,SNR=46
TUQ Turquoise Moun 1.84 42 Pn **Pn 12 54 38.5 -0.3**
baz=223,SNR=136
TUQ Pg **Pb 12 54 41.2 +0.3**
baz=223
TUQ Sb **Sb 12 55 04.5 +0.4**
baz=223
RMX La Rumorosa 1.87 142 Pb 12 54 41.6 +0.3
RMX IAML 12 55 07.7
comp=N,1μm,0.6s
RMX IAML 12 55 08.5
comp=E,2μm,0.5s
CBX Cerro Bola 1.88 159 Pn 12 54 39.6 +0.3
SBC Santa Barbara 1.91 282 P **Pn 12 54 39.2 -0.3**
baz=100,SNR=25
IRM Iron Mountain 1.91 87 Pn **Pn 12 54 39.1 -0.5**
baz=269,SNR=532
IRM Pg **Pb 12 54 42.3 +0.3**
baz=269
IRM Sb **Sg 12 55 08.0 -0.6**
baz=269
SNCC San Nicolas Is 1.92 245 P **Pn 12 54 38.4 -1.3**
baz=63,SNR=14
SNCC San Nicolas Is 1.92 245 Pn 12 54 38.1 -1.6
SNCC IAML 12 55 07.8
comp=N,1μm,0.6s
SNCC IAML 12 55 08.4
comp=E,952nm,0.5s
SHOC Shoshone, Teco 2.05 28 Pb **Pb 12 54 44.6 +0.2**
baz=208,SNR=272
SHOC Sb **Sg 12 55 11.5 -1.7**
baz=208
PKM Mcpherson Peak 2.11 293 P **Pn 12 54 42.5 -0.1**
baz=112,SNR=134
VES Vestal, Richgr 2.21 323 P **Pn 12 54 44.2 +0.5**
baz=142,SNR=84
CCX Cicese 2.30 163 Pn 12 54 45.2 +0.3
CCX IAML 12 55 21.4
comp=N,759nm,0.5s
CCX IAML 12 55 22.4
comp=E,654nm,0.7s
CWC Cottonwood Cre 2.41 348 P **Pn 12 54 46.9 +0.3**
baz=167
GLA Glamis 2.42 114 P **Pn 12 54 45.9 -0.7**
baz=296,SNR=44
GLA Glamis 2.42 114 Pn 12 54 45.9 -0.7
GLA IAML 12 55 26.6
comp=E,926nm,0.5s
GLA IAML 12 55 28.4
comp=N,466nm,0.5s
FURC Furnace Creek, 2.43 11 Pg **Pb 12 54 51.9 +1.2**
baz=192,SNR=543
SMMC Simmler 2.43 301 P **Pn 12 54 46.8 0.0**
baz=120,SNR=60
NEE2 Needles Airpor 2.44 73 Pb **Pb 12 54 51.3 +0.4**
baz=255,SNR=23
NEE2 Sb **Sg 12 55 23.5 -1.9**
baz=255
CPBX Cerro Prieto 2.44 132 Pn 12 54 47.2 +0.3
GUVIX Guadalupe Vict 2.66 131 Pn **Pn 12 54 49.0 -0.9**
GUVIX IAML 12 55 36.9
comp=E,768nm,0.8s
VOG Valley Oaks Go 2.74 325 P **Pn 12 54 51.8 +0.8**
baz=144
VOG S **Sn 12 55 25.2 +1.2**
baz=144
PDMCI Parker Dam,Lak 2.75 84 P **Pn 12 54 51.2 +0.1**
baz=266,SNR=44
PAGB Antelope Grade 2.83 306 Pn 12 54 52.8 +0.5
PAGB IAML 12 55 48.6
comp=E,408nm,0.9s
PAGB IAML 12 55 51.1
comp=N,406nm,1.1s
GRAC Grapevine Rang 2.91 1 Pn **Pn 12 54 54.4 +1.0**
baz=181,SNR=15
GRAC Pg **Pg 12 55 01.8 -1.1**
baz=181
TPNV Topopah Spring 3.02 19 P **Pn 12 54 55.7 +0.7**
baz=199,SNR=56
TPNV Sb **Sg 12 55 41.6 -2.7**
baz=199
TPNV Topopah Spring 3.02 19 Pn **Pn 12 54 55.8 +0.7**
TPNV IAML 12 55 45.9
comp=N,601nm,0.5s
TPNV IAML 12 55 49.5
comp=N,461nm,0.7s
TIN Tinemaha, Big 3.04 348 P **Pn 12 54 56.3 +1.2**
baz=168,SNR=27
SHPR Sheep Range 3.06 37 Pn **Pn 12 54 56.2 +0.7**
SHPR IAML 12 55 45.2
comp=E,395nm,0.9s
SHPR IAML 12 55 49.8
comp=N,265nm,1.0s
W13A Hualapai Mount 3.11 70 Pn **Pn 12 54 56.0 -0.2**
113A Mohawk Valley, 3.34 112 Pn **Pn 12 54 59.0 -0.2**
PMPB Monarch Peak 3.48 309 Pn **Pn 12 55 01.4 +0.2**
PMPB IAML 12 56 07.8
comp=E,230nm,0.8s
PMPB IAML 12 56 11.4
comp=N,347nm,0.9s
Y14A Wickenburg 3.69 91 Pn **Pn 12 55 03.7 -0.4**
Y14A IAML 12 56 06.2
comp=E,137nm,0.8s
Y14A IAML 12 56 06.5
comp=N,191nm,0.8s
SFX San Felipe 3.74 143 Pn 12 55 04.5 -0.3
SFX IAML 12 56 04.6
comp=E,167nm,0.5s
SFX IAML 12 56 05.1
comp=N,254nm,0.6s
MDPB Devils Postpil 3.78 340 Pn **Pn 12 55 07.3 +1.8**
MDPB IAML 12 56 18.3
comp=N,236nm,0.8s
PRN Pahroc Range 3.85 30 Pn **Pn 12 55 07.7 +1.3**
PRN IAML 12 56 12.8
comp=N,243nm,0.5s
PRN IAML 12 56 41.3
comp=E,238nm,0.8s
TPH Tonopah 3.99 3 Pn 12 55 09.4 +1.1
SAO San Andreas Ge 4.22 310 Pn 12 55 10.5 -0.8
LHV Little Huntoon 4.25 349 Pn 12 55 14.0 +2.3
LHV IAML 12 56 31.6
comp=E,161nm,0.8s
LHV IAML 12 56 34.5
comp=N,122nm,1.0s
NV11 Mina Array Sit 4.38 353 Pn **Pn 12 55 14.8 +1.1**
NVAR Mina Array Bea 4.39 351 Pn **Pn 12 55 15.5 +1.6**
comp=N,1.0nm,0.3s,baz=175,slow=14,SNR=19
NVAR Pg **Pb 12 55 27.4 +3.0**
comp=N,9.2nm,0.3s,baz=166,slow=18,SNR=31
NVAR Lg Lg 12 56 30.2
comp=N,2.4nm,0.3s,baz=169,slow=34,SNR=2.0
NVAR Mina Array Bea 4.39 351 Pn **Pn 12 55 15.4 +1.4**
214A Organ Pipe Nat 4.43 117 P **Pn 12 55 15.8 +1.5**
baz=300
214A Organ Pipe Nat 4.43 117 Pn **Pn 12 55 14.6 +0.3**
LCMT Little Creek M 4.51 48 Pn 12 55 16.7 +1.3
LCMT IAML 12 56 32.8
comp=E,70nm,0.7s
LCMT IAML 12 56 38.1
comp=N,80nm,1.7s
R11A Troy Canyon, C 4.52 19 Pg **Pg 12 55 30.5 -3.2**
baz=200
R11A Sb **Sg 12 56 28.1 -4.1**
baz=200
R11A Troy Canyon, C 4.52 19 Pn 12 55 15.8 +0.2
R11A IAML 12 56 33.4
comp=E,76nm,0.7s
CMB Columbia Colle 4.61 330 Pn 12 55 17.3 +0.6
RYN Ryan 4.62 349 Pn 12 55 17.2 +0.3
WAKR Walker 4.70 341 Pn 12 55 18.3 +0.2
WAKR IAML 12 56 43.5
comp=N,173nm,1.0s
WAKR IAML 12 56 44.9
comp=E,111nm,1.1s
KNB Kanab 4.78 51 Pn **Pn 12 55 20.4 +1.3**
KNB IAML 12 56 48.5
comp=E,112nm,1.0s
KNB IAML 12 57 00.7
comp=N,122nm,1.3s
CCUT Cedar City 4.80 43 Pn **Pn 12 55 21.3 +1.8**
U15A North Rim 4.83 60 Pn 12 55 21.1 +1.2
U15A IAML 12 56 57.0
comp=E,133nm,1.3s
SZCU Shurtz Canyon 4.98 44 Pn 12 55 23.3 +1.3
X16A Lo Mia Camp, P 4.99 84 Pn 12 55 22.7 +0.6
KVN Kaiserville 4.99 354 Pn 12 55 22.4 +0.3
YERR Yerington 5.10 344 Pn **Pn 12 55 25.5 +1.9**
YERR IAML 12 57 05.4
comp=E,74nm,0.7s
YERR IAML 12 57 05.5
comp=N,58nm,1.2s
WUAZ Wupatki 5.20 72 P **Pn 12 55 27.4 +2.4**
baz=256,SNR=16
WUAZ Wupatki 5.20 72 Pn 12 55 26.0 +1.0
WUAZ IAML 12 56 56.7
comp=N,81nm,1.2s
WUAZ IAML 12 57 05.3
comp=N,68nm,0.9s
PNTR Pine Nut 5.29 342 Pn **Pn 12 55 28.1 +1.9**
PSUT Pine Spring 5.31 32 Pn **Pn 12 55 28.2 +1.8**
PSUT IAML 12 57 07.2
comp=E,87nm,1.3s
PSUT IAML 12 57 10.5
comp=N,73nm,1.2s
PKCU Pink Cliffs 5.36 50 Pn 12 55 26.5 -0.7
PKCU IAML 12 57 00.6
comp=N,108nm,1.6s
RUBR Rubicon Trail 5.42 337 Pn 12 55 28.3 +0.3
VCNR Virginia City 5.50 342 Pn **Pn 12 55 31.8 +2.7**
SPR3 Spring Creek 3 5.51 26 Pn **Pn 12 55 30.4 +1.1**
AFDM Forest Hills D 5.63 331 Pn 12 55 32.6 +1.9
MTPU Mount Pierson 5.81 46 Pn 12 55 34.5 +1.0
PAHR Pah Rah Range 5.83 345 Pn **Pn 12 55 36.1 +2.6**
TUC Tucson 5.86 106 P **Pn 12 55 33.3 -0.7**
baz=290
TUC Tucson 5.86 106 Pn 12 55 33.5 -0.4
TCRU Three Creeks R 6.06 40 Pn **Pn 12 55 38.9 +2.0**
MVU Marysvale 6.11 42 Pn 12 55 39.8 +2.3
MSU Marysvale 6.14 42 Pn 12 55 38.5 +0.6
X18A Snowflake 6.22 84 Pn **Pn 12 55 40.1 +1.1**
X18A Pb 12 55 40.7 -1.5
ORV Oroville 6.36 330 Pn 12 55 40.2 -0.5
GDXM Geysers 6.39 319 Pn 12 55 42.5 +1.3
W18A Petrified Fore 6.44 79 P **Pn 12 55 44.5 +2.4**
baz=263,SNR=20
W18A Petrified Fore 6.44 79 Pn 12 55 40.9 -1.2
HOPS Hopland Field 6.67 319 Pn **Pn 12 55 43.7 -1.3**
ELK Elko 6.88 14 Pn **Pn 12 55 49.5 +1.4**
comp=N,0.4nm,0.3s,baz=221,slow=12,SNR=8.8
ELK Pg Pg 12 56 13.1 -5.8
comp=N,2.4nm,0.3s,baz=229,slow=12,SNR=16
ELK Lg Lg 12 57 40.7
comp=N,1.0nm,0.3s,baz=293,slow=9.4,SNR=8.2
DUG Dugway, Tooele 7.14 30 Pg **Pg 12 56 21.5 -2.3**
baz=213
DUG Dugway, Tooele 7.14 30 Pn 12 55 51.4 -0.2
TMUT Trail Mountain 7.22 42 Pn **Pn 12 55 53.2 +0.3**
NLU North Lily Min 7.27 35 Pn 12 55 53.1 -0.2
319A Douglas 7.39 109 Pn **Pn 12 55 55.4 +0.4**
SRU San Rafael Swe 7.50 46 Pn **Pn 12 55 58.2 +1.7**
MPU Maple Canyon 7.53 36 Pn **Pn 12 55 56.0 -0.9**
P17A Butcher Ranch, 7.61 43 Pn **Pn 12 55 58.7 +0.6**
WDC Whiskeytown Da 7.65 329 Pn **Pn 12 55 58.8 +0.4**
BGU Big Grassy Mou 7.68 26 Pn 12 55 59.5 +0.5
PV05 Paradox Valley 7.85 57 Pn **Pn 12 56 03.6 +2.3**
MVCO Mesa Verde 7.93 64 Pn **Pn 12 56 04.3 +1.9**
SPUT South Promonto 8.23 27 Pn **Pn 12 56 04.2 -2.4**
121A Cookes Peak, D 8.23 98 P **Pn 12 56 07.7 +1.0**
baz=284,SNR=19
121A S **Sn 12 57 39.3 -0.4**
baz=284
121A Cookes Peak, D 8.23 98 Pn **Pn 12 56 07.6 +1.0**
WVOR Wild Horse Val 8.39 354 Pn **Pn 12 56 07.5 -1.3**
KHMM Horse Mountain 8.42 325 Pn **Pn 12 56 09.4 +0.3**
LENM Lemitar 8.69 87 Pn 12 56 12.8 0.0
YBH Yreka Blue Hor 8.70 333 Pn **Pn 12 56 16.5 +3.7**
comp=N,0.1nm,0.3s,baz=122,slow=9.5,SNR=2.0
YBH Lg Lg 12 58 39.4
comp=N,0.1nm,0.3s,baz=240,slow=4.3,SNR=4.0
Y22D IRIS PASSCAL I 8.73 87 Pn **Pn 12 56 13.1 -0.3**
BNM Barren Site 8.97 87 Pn **Pn 12 56 18.1 +1.3**
ANMO Albuquerque 9.11 81 Pn **Pn 12 56 20.5 +1.9**
comp=N,0.2nm,0.3s,baz=266,slow=15,SNR=3.8
ANMO Lg Lg 12 58 50.6
comp=N,0.1nm,0.3s,baz=98,slow=12,SNR=1.2
ANMO Albuquerque 9.11 81 Pn **Pn 12 56 19.8 +1.1**
MFID Camas Ranch 9.41 7 Pn **Pn 12 56 23.9 +1.3**
MNTX Cornudas Mount 10.42 100 Pn **Pn 12 56 37.8 +1.3**
PDAR Pinedale Array 10.65 33 Pn Pn 12 56 46.2 +6.5
comp=N,0.1nm,0.3s,baz=210,slow=10,SNR=8.0
YMR Madison River 11.70 23 Pn **Pn 12 56 54.6 +0.6**
TX31 Lajitas Ar. Si 12.65 108 Pn **Pn 12 57 08.9 +1.9**
TX32 Lajitas Array 12.65 108 Pn **Pn 12 57 09.3 +2.3**
TXAR Lajitas Array 12.65 108 Pn **Pn 12 57 09.2 +2.2**
comp=N,0.2nm,0.3s,baz=290,slow=12,SNR=13
TXAR Lajitas Array 12.65 108 Pn 12 57 08.5 +1.4

*TUL **25** 13:10:37.7±1.1, 35°.99N±0°.01×97°.56W±0°.02, h5km±7km, ML2.5, mb_Lg2.4/25(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=88.0*

NEIC 25 13:10:37.7±0.6, 36°.00N±0°.01×97°.56W±0°.02, h5km±9km, Error ellipse: s-maj=2.6km s-min=2.1km az=85.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**157**		Pg	13 10 42.2	+0.2
OK029				Sg	Sg	13 10 45.5	+0.6
BCOK	**Bluff Creek, N**	**0.34**	**186**		Pg	13 10 44.5	+0.1
BCOK				Sg	Sg	13 10 49.6	+0.7
OK025	**Westminster Rd**	**0.46**	**156**		Pg	13 10 46.6	+0.2
OK031	**S. Brethren Rd**	**0.59**	**94**		Pg	13 10 49.2	+0.2
OKCSW	**OKLAHOMA CITY**	**0.60**	**170**		Pg	13 10 49.2	0.0
CROK	**Carrier**	**0.61**	**326**		Pg	13 10 49.8	+0.4
QUOK	**Quay**	**0.71**	**76**		Pg	13 10 51.5	+0.2
FNO	**Franklin**	**0.75**	**170**		Pg	13 10 51.9	-0.2
BLOK	**Blackwell**	**0.81**	**20**	Pg	Pg	13 10 53.5	+0.3
GC02	**Grant County #**	**0.88**	**344**		Pg	13 10 54.6	0.0
OK032	**Salt Plains WL**	**0.96**	**327**		Pg	13 10 56.1	0.0
KAN13	**South Haven SW**	**1.01**	**4**		Pg	13 10 57.1	0.0
KAN17	**Caldwell West**	**1.05**	**351**		Pg	13 10 57.8	-0.1
KAN05	**Bluff City Nor**	**1.13**	**347**		Pg	13 10 59.3	-0.2
KAN09	**Caldwell North**	**1.13**	**358**	Pg	Pg	13 10 59.2	-0.2
KAN10	**Anthony SW Sta**	**1.20**	**339**		Pg	13 11 00.5	-0.2
U32A	**Winter Ranch,**	**1.22**	**288**	Pg	Pg	13 11 00.9	-0.3
KS20	**Mayfield South**	**1.23**	**0**	Pg	Pg	13 11 01.0	-0.2
T35A	**Sooner Cattle**	**1.25**	**42**	Pg	Pg	13 11 01.2	-0.4
X34A	**Smith Ranch, M**	**1.41**	**189**		Pn	13 11 04.2	+0.1
WMOK	**Wichita Mounta**	**1.61**	**219**	Pn	Pn	13 11 06.5	-0.3
LOOK	**Love County**	**2.03**	**171**	IAmb_Lg		13 11 44.5
	comp=Z,19nm,1.0s						
X37A	**Clayton**	**2.28**	**128**		Pn	13 11 16.6	+0.6
X37A				IAmb_Lg		13 11 54.8	
	comp=Z,13nm,0.9s						
R32A	**Long Quarter,**	**2.59**	**340**	Pn	Pn	13 11 19.4	-0.9
MIAR	**Mount Ida**	**3.57**	**113**	IAmb_Lg		13 12 38.9	
	comp=Z,6.6nm,0.7s						
U40A	**Yellville**	**3.83**	**83**	IAmb_Lg		13 12 37.8	
	comp=Z,10nm,0.9s						
X40A	**Basin Creek Fa**	**4.15**	**110**	IAmb_Lg		13 12 53.2	
	comp=Z,9.0nm,0.8s						
WHAR	**Wooly Hollow**	**4.35**	**98**	IAmb_Lg		13 13 01.6	
	comp=Z,6.3nm,0.8s						
MGMO	**Mountain Grove**	**4.41**	**73**	IAmb_Lg		13 12 56.5	
	comp=Z,5.3nm,0.7s						
LCAR	**Lake Charles**	**5.19**	**87**	IAmb_Lg		13 13 26.8	
	comp=Z,5.9nm,1.0s						
CCM	**Cathedral Cave**	**5.45**	**66**	IAmb_Lg		13 13 44.0	
	comp=Z,5.2nm,1.1s						
T25A	**Trinidad**	**5.63**	**284**	IAmb_Lg		13 13 38.8	
	comp=Z,5.2nm,0.9s						
PBMO	**Poplar Bluff**	**5.81**	**80**	IAmb_Lg		13 13 49.3	
	comp=Z,8.6nm,0.9s						
JCT	**Junction City**	**5.82**	**199**	IAmb_Lg		13 13 41.9	
	comp=Z,8.0nm,1.0s						
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		13 14 26.2	
	comp=Z,8.7nm,0.9s						

IDC 25 13:12:10.8±4.5, 3°.60S×145°.26E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/26, Error ellipse: s-maj=136.9km s-min=34.1km az=96.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**14.25**	**281**	LR	LR	13 20 55.6	
	comp=Z,190nm,21.4s,baz=319,slow=37						
WRA	**Warramunga Arr**	**19.43**	**212**	P	P	13 16 37.5	-1.5
	0.4nm,0.3s,baz=34,slow=10,SNR=32						
WRA				LR	LR	13 24 38.4	
	comp=Z,152nm,18.6s,baz=25,slow=38						
ASAR	**Alice Springs**	**22.77**	**208**	P	P	13 17 16.1	+0.9
	0.6nm,0.4s,baz=26,slow=12,SNR=12						
MKAR	**Makanchi Array**	**74.55**	**321**	P	P	13 23 51.8	+0.1
	0.5nm,0.7s,baz=101,slow=7.6,SNR=1.8						

*NEIC **25** 13:17:49.0±2.0, 0°.53S±0°.04×100°.60E±0°.09, h10km±2km, mb3.7/4, Error ellipse: s-maj=15.6km s-min=7.3km az=86.0*

*DJA **25** 13:17:50.0±0.2, 0°.S±2°×10°.0E±°, h10km, M4.1/12, mb4.0/1, MLv4.2/12*

ISC 25 13:17:48.6±0.7, 0°.35S±0°.04×100°.38E±0°.04, h10km, n19, σ2°.06/24, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.56**	**172**	P	**Pg**	**13 17 59.2**	**-0.3**
PDSI				S	**Sb**	**13 18 08.4**	**-0.2**
BKNI	**Bangkinang**	**0.94**	**44**	Pg	**Pg**	**13 18 05.9**	**-0.9**
BKNI	**Bangkinang**	**0.94**	**44**	P	**Pg**	**13 18 06.3**	**-0.5**
BKNI				S	**Sn**	**13 18 22.7**	**+1.2**
MNSI	**Mandailing Nat**	**1.40**	**325**	P	**Pn**	**13 18 13.5**	**-0.6**
MNSI				S	**Sn**	**13 18 34.0**	**+1.4**
RGRI	**Rengat**	**1.95**	**90**	P	**Pb**	**13 18 24.5**	**+0.2**
RGRI				S	**Sg**	**13 18 50.6**	**-0.8**
GSI	**Gunungsitoli**	**3.25**	**300**	Pn	**Pn**	**13 18 41.7**	**+2.0**
GSI	**Gunungsitoli**	**3.25**	**300**	P	**Pn**	**13 18 40.3**	**+0.6**
GSI				S	**Sn**	**13 19 19.1**	**+0.6**
MASI	**Maura Aman, Be**	**3.33**	**146**	P	**Pn**	**13 18 43.2**	**+2.3**
RPSI	**Rantau Prapat**	**3.36**	**334**	Pn	**Pn**	**13 18 45.5**	**+4.3**
JMBI	**JAMBI**	**3.50**	**111**	P	**Pn**	**13 18 45.8**	**+2.7**
KSI	**Kapahiang**	**3.95**	**146**	P	**Pn**	**13 18 52.0**	**+2.6**
LHSI	**Lahat**	**4.67**	**138**	P	**Pn**	**13 19 01.8**	**+2.7**
MDSI	**Maura Dua**	**5.59**	**137**	P	**Pn**	**13 19 14.5**	**+2.7**
TOLI2	**Tolitoli**	**20.45**	**86**	P	**P**	**13 22 23.6**	**-3.0**
TOLI2				IAmb	IAmb	13 22 39.9	
	comp=Z,3.6nm,0.9s						
ASAR	**Alice Springs**	**39.93**	**128**	P	**P**	**13 25 22.8**	**-0.6**
AS31	**Alice Springs**	**39.93**	**128**	P	**P**	**13 25 21.6**	**-1.7**
SONM	**Songino Array**	**48.28**	**5**	P	**P**	**13 26 31.0**	**+1.0**
SONM				IAmb	IAmb	13 26 31.3	
	comp=Z,0.7nm,0.9s						
MKAR	**Makanchi Array**	**49.56**	**344**	P	**P**	**13 26 41.5**	**+1.8**
STKA	**Stephens Creek**	**49.97**	**133**	P	**P**	**13 26 39.8**	**-3.3**

*IDC **25** 13:20:49.2±1.4, 18°.45N×46°.46W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/37, mbtmp3.9/6, ML4.2/1, MS3.5/21, Ms1 3.5/21, ms1mx3.2/45, Error ellipse: s-maj=35.8km s-min=29.0km az=125.0*

ISC 25 13:20:50.7±1.2, 18°.4N±0°.2×46°.5W±0°.2, h10km, n26, σ1°.38/6, mb3.8/6, MS3.5/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**14.56**	**205**	Pn	**Pn**	**13 24 17.0**	**0.0**
	1.1nm,0.3s,baz=27,slow=6.8,SNR=8.7						
MDP				LR	LR	13 28 40.7	
	comp=Z,59nm,19.2s,baz=9.5,slow=32						
SJG	**San Juan**	**18.71**	**272**	LR	LR	13 31 01.7	
	comp=Z,89nm,21.9s,baz=94,slow=33						
PTGA	**Pitinga**	**23.22**	**216**	P	**P**	**13 26 00.2**	**+2.0**
	1.1nm,0.3s,baz=33,slow=13,SNR=1.8						
PTGA				LR	LR	13 34 23.0	
	comp=Z,96nm,19.3s,baz=356,slow=35						
RCBR	**Riachuelo**	**26.26**	**156**	LR	LR	13 34 02.9	
	comp=Z,154nm,21.5s,baz=316,slow=30						
SCHQ	**Schefferville**	**39.54**	**342**	LR	LR	13 41 59.4	
	comp=Z,83nm,20.2s,baz=174,slow=32						
LPAZ	**La Paz**	**40.57**	**213**	P	**P**	**13 28 30.2**	**-1.1**
	0.8nm,0.8s,baz=42,slow=14,SNR=2.6						
LPAZ				LR	LR	13 44 07.5	
	comp=Z,43nm,21.8s,baz=5.0,slow=34						
H10N3	**ASCENSION HYDR**	**40.94**	**127**	T	T	14 12 02.0	
	baz=310,slow=75,SNR=202						
H10N2	**ASCENSION HYDR**	**40.94**	**127**	T	T	14 12 02.2	
	baz=310,slow=75,SNR=302						
H10N1	**ASCENSION HYDR**	**40.95**	**127**	T	T	14 12 03.4	
	baz=310,slow=75,SNR=335						
H10S3	**ASCENSION HYDR**	**41.53**	**128**	T	T	14 12 44.1	
	baz=308,slow=74,SNR=54						
H10S2	**ASCENSION HYDR**	**41.55**	**128**	T	T	14 12 44.9	
	baz=272,slow=74,SNR=32						
ESDC	**Sonseca Array**	**42.26**	**51**	LR	LR	13 43 54.2	
	comp=Z,24nm,18.7s,baz=270,slow=33						
CPUP	**Villa Florida**	**45.73**	**194**	P	**P**	**13 29 11.7**	**-0.5**
	1.8nm,0.8s,baz=23,slow=12,SNR=3.3						
CPUP				LR	LR	13 48 47.4	
	comp=Z,35nm,18.3s,baz=37,slow=37						
TORD	**Torodi Ar. Bea**	**46.53**	**89**	P	**P**	**13 29 19.1**	**+0.3**
	1.6nm,1.1s,baz=270,slow=7.2,SNR=3.9						
TORD				LR	LR	13 47 22.0	
	comp=Z,65nm,18.2s,baz=135,slow=34						
ULM	**Lac du Bonnet**	**50.40**	**321**	LR	LR	13 48 31.1	
	comp=Z,72nm,19.8s,baz=112,slow=33						
TXAR	**Lajitas Array**	**52.98**	**293**	P	P	13 30 13.3	+5.3
	0.3nm,0.6s,baz=111,slow=6.8,SNR=6.3						
TXAR				LR	LR	13 52 03.5	
	comp=Z,28nm,20.0s,baz=0.0,slow=35						
ANMO	**Albuquerque**	**55.31**	**300**	LR	LR	13 51 19.6	
	comp=Z,69nm,20.0s,baz=117,slow=33						
JMIC	**Jan Mayen**	**57.16**	**14**	LR	LR	13 48 33.2	
	comp=Z,40nm,20.0s,baz=244,slow=29						
PDAR	**Pinedale Array**	**58.07**	**309**	P	**P**	**13 30 44.5**	**0.0**
	0.8nm,0.9s,baz=99,slow=9.8,SNR=5.5						
PDAR				LR	LR	13 52 58.7	
	comp=Z,83nm,21.7s,baz=96,slow=33						
NOA	**NORSAR Array B**	**58.56**	**29**	LR	LR	13 52 32.1	
	comp=Z,15nm,18.1s,baz=75,slow=32						
ELK	**Elko**	**62.27**	**307**	LR	LR	13 59 44.8	
	comp=Z,44nm,18.3s,baz=122,slow=38						
PLCA	**Paso Flores**	**62.98**	**200**	LR	LR	14 01 26.1	
	comp=Z,30nm,19.1s,baz=142,slow=39						
PFO	**Pinyon Flats O**	**63.63**	**299**	LR	LR	13 57 38.2	
	comp=Z,65nm,21.4s,baz=70,slow=35						
ARCES	**ARCESS Array B**	**66.57**	**21**	LR	LR	13 54 04.6	
	comp=Z,24nm,22.0s,baz=195,slow=30						
BOSA	**Boshof**	**83.56**	**123**	LR	LR	14 05 11.8	
	comp=Z,58nm,18.6s,baz=187,slow=32						
KMBO	**Kilima Mbogo**	**84.38**	**93**	LR	LR	14 09 33.8	
	comp=Z,12nm,19.4s,baz=92,slow=35						

IDC 25 13:26:50.7±9.3, 32°.54S×178°.04W, h110km±86km, mb3.6/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=76.5km s-min=56.2km az=174.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94**	**213**	P	Pn	13 28 30.9	+1.1
	0.4nm,0.3s,baz=102,slow=9.3,SNR=2.1						
URZ				S	Sn	13 29 46.3	-0.9
	0.3nm,0.3s,baz=180,slow=20,SNR=2.6						
CTA	**Charters Tower**	**34.17**	**282**	P	P	13 33 26.1	+0.6
	0.8nm,0.3s,baz=113,slow=7.4,SNR=3.6						
ASAR	**Alice Springs**	**43.01**	**269**	P	P	13 34 39.5	0.0
	0.6nm,0.7s,baz=104,slow=7.2,SNR=15						
WRA	**Warramunga Arr**	**44.19**	**274**	P	P	13 34 48.5	-0.4
	1.2nm,0.4s,baz=113,slow=7.8,SNR=44						
FINES	**FINESS Array B**	**147.13**	**339**	PKPbc	PKPbc	13 46 19.1	-1.1
	1.4nm,0.9s,baz=98,slow=5.8,SNR=4.3						

*MEX **25** 13:56:56.5±0.4, 29°.96N×114°.32W, h14km±999km, MD3.8*

ECX 25 13:57:00.8±0.7, 30°.20N×114°.33W, h14km±57km, MD3.2, ML2.7, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.95**	**332**	*e*P	Pb	13 57 13.8	-5.3
SFX				*e*S	Sb	13 57 27.2	-4.4

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
SFX				IAML		13 57 29.8	
	comp=E,183nm,0.8s						
SFX				⇓e		13 57 29.8	
SPIG	**San Pedro Mart**	**1.29**	**311**	*e*P	Pn	13 57 19.1	-5.7
SPIG				*e*S	Sb	13 57 37.0	-4.9
SPIG	**San Pedro Mart**	**1.29**	**311**	*e*P	Pn	13 57 19.3	-5.6
SPIG				*e*S	Sb	13 57 37.0	-4.8
CBX	**Cerro Bola**	**2.91**	**317**	*e*P	Pn	13 57 42.5	-4.4
CBX				*e*S	Sn	13 58 18.7	-3.0
CBX	**Cerro Bola**	**2.91**	**317**	*e*P	Pn	13 57 47.1	+0.3
CBX				*e*S	Sn	13 58 22.7	+1.0
CBX				⇓*e*		13 58 33.5	
CBX				IAML		13 58 33.5	
	comp=E,42nm,1.0s						
TJIG	**Tijuana**	**3.00**	**319**	*e*P	Pn	13 57 43.7	-4.3
TJIG				*e*S	Sn	13 58 21.6	-2.2

*IDC **25** 14:13:01.5±2.1, 10°.10N×125°.88E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/34, mbtmp3.7/5, Error ellipse: s-maj=200.3km s-min=20.7km az=67.0*
*MAN **25** 14:13:09.0, 10°.08N×126°.02E, h13km, mb4.6, ML3.5, MS3.3*
ISC 25 14:13:06.2±1.2, 10°.20N±0°.09×126°.4E±0°.1, h35km, n12, σ1§18/12, mb3.8/5, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**2.36**	**273**	⇓*i*P		**Pn**	**14 13 43.1 +0.7**
LLP				*i* S		**Sn**	**14 14 09.4 -0.8**
CGP	**Cagayan de Oro**	**2.39**	**224**	⇑*e*P		**Pn**	**14 13 43.6 +0.8**
CGP				*e*S		**Sn**	**14 14 10.4 -0.5**
DCPH	**Dipolog City**	**3.37**	**242**	⇑*e*P		**Pn**	**14 13 58.0 +1.6**
DCPH				*e*S		**Sn**	**14 14 34.0 -1.2**
RCP	**Roxas**	**3.80**	**291**	⇑*e*P		**Pn**	**14 14 04.4 +2.1**
WRA	**Warramunga Arr**	**30.96**	**165**	P		**P**	**14 19 20.5 +0.2**
	0.6nm,0.6s,baz=342,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**34.45**	**168**	P		**P**	**14 19 51.5 +0.7**
	0.5nm,0.4s,baz=349,slow=6.9,SNR=20						
H11N1	**WAKE ISLAND Hy**	**40.19**	**72**	T		T	15 04 03.0
	baz=264,slow=74,SNR=32						
H11N2	**WAKE ISLAND Hy**	**40.21**	**72**	T		T	15 04 05.8
	baz=264,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.21**	**72**	T		T	15 04 04.5
	baz=264,slow=74,SNR=31						
MKAR	**Makanchi Array**	**52.14**	**323**	P		**P**	**14 22 12.7 -0.6**
	0.8nm,0.7s,baz=115,slow=8.1,SNR=6.3						
KURBB	**Kurchatov Arra**	**56.18**	**325**	P		**P**	**14 22 42.1 -0.4**
	0.7nm,0.6s,baz=128,slow=6.7,SNR=6.7						
FINES	**FINESS Array B**	**86.00**	**332**	P		**P**	**14 25 41.7 -1.1**
	0.4nm,0.5s,baz=90,slow=5.7,SNR=4.4						

*MEX **25** 14:18:11.1±0.4, 29°.75N×114°.44W, h10km, MD3.9*
ECX 25 14:18:12.0±0.8, 30°.23N×114°.19W, h0km±20km, MD3.2, ML2.9, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.98**	**325**	*e*P	Pg	14 18 29.9	-1.0
SFX				*e*S	Sg	14 18 42.9	-0.7
SFX				IAML		14 18 46.3	
	comp=E,256nm,0.8s						
SFX				⇓*e*		14 18 46.3	
SPIG	**San Pedro Mart**	**1.37**	**307**	*e*P	Pg	14 18 35.6	-2.7
SPIG				*e*S	Sg	14 18 54.8	-1.2
SPIG	**San Pedro Mart**	**1.37**	**307**	*e*P	Pg	14 18 35.7	-2.6
SPIG				*e*S	Sg	14 18 55.5	-0.5
CBX	**Cerro Bola**	**2.97**	**315**	*e*P	Pn	14 18 59.4	-1.1
CBX				*i* S	Sn	14 19 35.4	-1.4
CBX	**Cerro Bola**	**2.97**	**315**	*e*P	Pn	14 19 00.1	-0.3
CBX				IAML		14 19 49.9	
	comp=E,59nm,0.9s						
CBX				⇓*e*		14 19 49.9	
TJIG	**Tijuana**	**3.06**	**316**	*e*P	Pn	14 18 60.0	-1.7
TJIG				*e*S	Sn	14 19 36.5	-2.5

*IDC **25** 14:19:10.9±1.6, 27°.35N×85°.87E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/39, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=59.7km s-min=20.2km az=63.0*
ISC 25 14:19:13.8±1.6, 27°.4N±0°.2×86°.0E±0°.3, h19km, n7, σ1§29/7, mb3.6/5, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.84**	**124**	Pn		**Pn**	**14 22 41.9 -0.9**
	0.1nm,0.3s,baz=307,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**19.61**	**352**	P		**P**	**14 23 39.8 -1.3**
	0.3nm,0.3s,baz=177,slow=11,SNR=9.5						
KURBB	**Kurchatov Arra**	**23.91**	**348**	P		**P**	**14 24 25.3 -1.1**
	1.0nm,0.7s,baz=165,slow=9.6,SNR=5.2						
SONM	**Songino Array**	**25.90**	**32**	P		**P**	**14 24 46.2 +1.4**
	1.0nm,0.6s,baz=226,slow=7.7,SNR=4.6						
FINES	**FINESS Array B**	**52.04**	**328**	P		**P**	**14 28 22.2 +0.3**
	0.6nm,0.5s,baz=86,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**66.35**	**130**	P		**P**	**14 30 02.3 +0.7**
	0.4nm,0.4s,baz=322,slow=6.5,SNR=20						
ASAR	**Alice Springs**	**68.64**	**133**	P		**P**	**14 30 16.6 +0.6**
	0.3nm,0.8s,baz=305,slow=6.3,SNR=4.4						

IDC 25 15:01:13.1±1.9, 11°.69N×144°.63E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/40, mbtmp3.5/3, Error ellipse: s-maj=61.6km s-min=23.3km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.90**	**7**	Pn	Pn	15 01 46.8	0.0
	18nm,0.3s,baz=336,slow=17,SNR=15						
GUMO				Sn	Sn	15 02 08.3	-3.2
	91nm,0.3s,baz=354,slow=22,SNR=62						
WRA	**Warramunga Arr**	**33.03**	**198**	P		P	15 07 50.2 -0.2
	0.6nm,0.6s,baz=21,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**36.67**	**197**	P		P	15 08 21.9 +0.1
	0.3nm,0.5s,baz=23,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**44.53**	**284**	P		P	15 09 26.8 -0.2
	0.5nm,0.6s,baz=86,slow=7.3,SNR=4.5						

*IDC **25** 15:09:42.4±3.2, 15°.84S×174°.23W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/35, mbtmp3.7/5, ML3.4/1, MS3.6/11, Ms1 3.6/11, ms1mx3.3/32, Error ellipse: s-maj=183.1km s-min=24.0km az=148.0*
ISC 25 15:09:40.5±2.9, 16°.6S±0°.3×172°.4W±0°.5, h10km, n20, σ0§60/4, mb3.9/5, MS3.7/12, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.78**	**12**	Pn		**Pb**	**15 10 30.4 0.0**
	4.3nm,0.3s,baz=325,slow=5.7,SNR=5.0						
AFI				LR		LR	15 11 37.5
	comp=Z,351nm,20.7s,baz=214,slow=38						
MSVF	**Nonsavu**	**9.20**	**262**	LR		LR	15 14 08.9
	comp=Z,435nm,18.4s,baz=151,slow=35						
DZM	**Mont Dzumac**	**20.67**	**252**	*e*P		**P**	**15 14 21.0 +0.1**
	79nm,1.5s						
DZM				*e*LR		LR	15 19 04.0
	comp=Z,188nm,25.6s						
PPT	**Papeete**	**21.83**	**96**	LR		LR	15 21 35.0
	comp=Z,103nm,20.1s,baz=274,slow=30						
PPT2	**Papeete2**	**21.83**	**96**	*e*LR		LR	15 20 34.9
	comp=Z,230nm,25.2s						
TBI	**Tubuai**	**22.55**	**111**	*e*LR		LR	15 20 55.3
	comp=Z,368nm,26.5s						
PMG	**Port Moresby**	**40.00**	**275**	LR		LR	15 30 22.8
	comp=Z,107nm,21.4s,baz=125,slow=32						
WRA	**Warramunga Arr**	**50.51**	**258**	P		P	15 18 30.7 -8.7
	1.6nm,1.1s,baz=87,slow=7.8,SNR=5.0						
ASAR	**Alice Springs**	**50.66**	**253**	P		P	15 18 32.2 -8.2
	1.2nm,0.8s,baz=90,slow=7.9,SNR=13						
GUMO	**Guam**	**51.81**	**303**	LR		LR	15 38 30.4
	comp=Z,29nm,18.2s,baz=124,slow=35						
SIJI	**Sorong**	**57.62**	**280**	LR		LR	15 41 44.0
	comp=Z,86nm,21.7s,baz=60,slow=34						
JCJ	**Chichijima**	**61.91**	**314**	LR		LR	15 42 03.2
	comp=Z,70nm,18.4s,baz=112,slow=32						
MJAR	**Matsushiro Arr**	**70.50**	**320**	LR		LR	15 45 18.8
	comp=Z,42nm,21.5s,baz=190,slow=31						
PETK	**Petropavlovsk-**	**74.10**	**342**	LR		LR	15 54 21.7
	comp=Z,13nm,18.3s,baz=132,slow=37						
NVAR	**Mina Array Bea**	**74.61**	**41**	P		P	15 21 29.9 +10
	1.1nm,0.9s,baz=227,slow=9.7,SNR=7.5						
KSRS	**Korea Array**	**77.72**	**315**	LR		LR	15 51 57.0
	comp=Z,34nm,18.1s,baz=150,slow=33						
USRK	**Ussuriysk Ar.**	**78.95**	**323**	LR		LR	15 48 27.0
	comp=Z,86nm,21.9s,baz=107,slow=30						
PDAR	**Pinedale Array**	**82.55**	**41**	P		P	15 22 11.3 +7.3
	2.2nm,1.3s,baz=247,slow=3.5,SNR=5.2						
ILAR	**Eielson Array**	**83.47**	**11**	P		**P**	**15 22 08.3 +0.3**
	0.2nm,0.6s,baz=215,slow=6.2,SNR=1.9						
BRTR	**Keskin Array B**	**147.72**	**321**	PKPbc		**PKPbc**	**15 29 25.5 -0.5**
	0.4nm,0.5s,baz=45,slow=6.3,SNR=4.7						

*IDC **25** 15:25:39.5±4.4, 27°.00S×176°.17W, h49km±42km, mb3.8/6, mb1 4.1/7, mb1mx3.8/36, mbtmp4.1/7, ML4.3/2, MS3.5/9, Ms1 3.5/9, ms1mx3.3/29, Error ellipse: s-maj=48.2km s-min=25.1km az=175.0*
*NEIC **25** 15:25:53.6±1.3, 27°.57S±0°.06×177°.5W±0°.1, h98km±9km, mb4.6/13, Error ellipse: s-maj=18.2km s-min=8.7km az=80.0*
ISC 25 15:25:45.0±0.7, 27°.21S±0°.09×176°.2W±0°.1, h100km, n42, σ1§65/31, mb4.4/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.52**	**216**	P		**Pn**	**15 26 22.2 -2.1**
	180nm,0.3s,baz=87,slow=12,SNR=12						
RAO				S		**Sn**	**15 26 57.6 +3.1**
	152nm,0.3s,baz=99,slow=21,SNR=12						
NIUE	**Niue**	**9.96**	**37**	Pn		Pn	15 28 26.5 +21
MSVF	**Nonsavu**	**10.80**	**330**	LR		LR	15 31 43.5
	comp=Z,472nm,18.2s,baz=159,slow=34						
URZ	**Urewera**	**12.36**	**205**	P		**Pn**	**15 28 35.6 -1.7**
	0.5nm,0.3s,baz=257,slow=3.6,SNR=1.6						
URZ				S		**Sn**	**15 30 50.7 -2.4**
	0.8nm,0.3s,baz=209,slow=19,SNR=3.0						
RAR	**Rarotonga**	**16.16**	**72**	LR		LR	15 34 35.9
	comp=Z,181nm,18.8s,baz=234,slow=34						
DZM	**Mont Dzumac**	**16.55**	**284**	LR		LR	15 34 26.1
	comp=Z,162nm,21.2s,baz=73,slow=32						
DZM	**Mont Dzumac**	**16.55**	**284**	*e*Pn		**P**	**15 29 33.8 +1.8**
	13nm,0.8s						
DZM				*e*LR		LR	15 33 34.6
	comp=Z,240nm,24.9s						
TBI	**Tubuai**	**24.50**	**87**	*e*LR		LR	15 36 16.6
	comp=Z,117nm,22.5s						
PPT2	**Papeete2**	**26.40**	**74**	*e*LR		LR	15 37 14.4
	comp=Z,129nm,26.8s						
PPT	**Papeete**	**26.41**	**74**	LR		LR	15 39 01.5
	comp=Z,82nm,20.5s,baz=251,slow=30						
HNR	**Honiara**	**28.60**	**304**	P		**P**	**15 31 31.2 -0.7**
TOO	**Toolangi**	**33.72**	**242**	P		**P**	**15 32 15.5 -1.4**
TOO				IAmb	IAmb	15 32 23.1	
	comp=Z,6.4nm,1.1s						
CTA	**Charters Tower**	**34.98**	**274**	P		**P**	**15 32 28.9 +1.0**
	comp=Z,1.8nm,0.6s,baz=90,slow=4.0,SNR=2.2						
STKA	**Stephens Creek**	**36.81**	**252**	LR		LR	15 47 06.5
	comp=Z,158nm,19.0s,baz=183,slow=35						
PATS	**Pohnpei**	**41.86**	**320**	P		P	15 33 30.5 +5.0
AS31	**Alice Springs**	**44.93**	**263**	P		**P**	**15 33 48.4 -1.8**
ASAR	**Alice Springs**	**44.93**	**263**	P		**P**	**15 33 49.5 -0.7**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**44.93**	**263**	P		**P**	**15 33 49.2 -0.9**
WR0	**Warramunga Arr**	**45.45**	**268**	P		**P**	**15 33 53.2 -1.1**
WB2	**Warramunga Arr**	**45.62**	**268**	P		**P**	**15 33 53.8 -1.9**
WB2				IAmb	IAmb	15 34 10.7	
	comp=Z,8.5nm,1.0s						
WRAB	**Tennant Creek**	**45.63**	**268**	P		**P**	**15 33 54.5 -1.2**
WRAB				IAmb	IAmb	15 34 00.7	
	comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**45.63**	**268**	P		**P**	**15 33 54.2 -1.6**
	comp=Z,3.5nm,0.7s,baz=107,slow=7.6,SNR=31						
WRA	**Warramunga Arr**	**45.63**	**268**	P		**P**	**15 33 54.8 -1.0**
WB0	**Warramunga Arr**	**45.64**	**268**	P		**P**	**15 33 54.6 -1.2**
WB0				IAmb	IAmb	15 34 02.4	
	comp=Z,6.8nm,0.9s						
SBA	**Scott Base**	**51.33**	**185**	P		P	15 34 44.6 +6.0
SBA				IAmb	IAmb	15 34 57.3	
	comp=Z,2.9nm,0.8s						
KNRA	**Kununurra**	**52.10**	**271**	P		**P**	**15 34 45.1 -0.1**
KNRA				IAmb	IAmb	15 34 48.0	
	comp=Z,11nm,1.1s						
CASY	**Casey**	**58.67**	**207**	P		**P**	**15 35 34.9 +3.3**
QSPA	**South Pole Qui**	**62.89**	**180**	P		**P**	**15 36 03.1 +2.7**
QSPA				IAmb	IAmb	15 36 16.5	
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**76.55**	**324**	LR		LR	16 05 54.6
	comp=Z,20nm,21.8s,baz=135,slow=32						
PETK	**Petropavlovsk-**	**83.14**	**345**	LR		LR	16 10 13.7
	comp=Z,18nm,19.0s,baz=131,slow=32						
PLCA	**Paso Flores**	**83.54**	**133**	LR		LR	16 06 46.0
	comp=Z,18nm,21.6s,baz=192,slow=30						
NVAR	**Mina Array Bea**	**84.85**	**42**	P		**P**	**15 38 07.2 -1.5**
	comp=Z,1.0nm,0.9s,baz=223,slow=9.4,SNR=6.3						
TXAR	**Lajitas Array**	**89.36**	**56**	P		**P**	**15 38 29.6 -1.1**
	comp=Z,1.0nm,0.9s,baz=210,slow=7.2,SNR=8.2						
CMAR	**Chiang Mai Arr**	**93.83**	**289**	P		**P**	**15 38 52.0 +0.6**
	comp=Z,0.4nm,0.3s,baz=128,slow=5.8,SNR=1.6						
LPAZ	**La Paz**	**98.00**	**113**	LR		LR	16 15 32.5
	comp=Z,25nm,20.5s,baz=232,slow=30						
MKAR	**Makanchi Array**	**116.88**	**311**	PKP		**PKiKP**	**15 44 18.6 +0.9**
	comp=Z,0.5nm,0.8s,baz=100,slow=3.2,SNR=3.6						
NB2	**NORSAR Subarra**	**145.80**	**354**	PKP		**PKPbc**	**15 45 11.4 -0.6**
	comp=Z,6.3nm,1.0s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**145.80**	**354**	PKPbc		**PKPab**	**15 45 11.9 -0.6**
	comp=Z,3.2nm,0.9s,baz=15,slow=2.4,SNR=12						
HFS	**Hagfors**	**146.38**	**351**	PKPbc		**PKPbc**	**15 45 12.7 -1.0**
	comp=Z,1.4nm,0.6s,baz=114,slow=3.7,SNR=5.3						
AKASG	**Malin Array Be**	**149.57**	**327**	PKPbc		**PKiKP**	**15 45 22.9 -0.6**
	comp=Z,1.0nm,0.5s,baz=37,slow=3.2,SNR=6.1						
BRTR	**Keskin Array B**	**152.26**	**304**	PKP		**PKPdf**	**15 45 24.6 +2.1**
	comp=Z,0.4nm,0.5s,baz=117,slow=1.6,SNR=1.5						
BRTR				PKPab		**PKPab**	**15 45 41.1 +1.5**
	comp=Z,0.4nm,0.5s,baz=64,slow=3.4,SNR=1.6						
TORD	**Torodi Ar. Bea**	**165.88**	**172**	PKPab		**PKPab**	**15 46 39.0 +0.3**
	comp=Z,1.9nm,0.8s,baz=185,slow=4.3,SNR=7.4						

*SKHL **25** 15:36:37.7±0.2, 43°.90N×146°.10E, h112km±4km, mb4.9/6, msha6.1/4*
*MOS **25** 15:36:37.0±1.5, 43°.90N×146°.20E, h111km, mb4.0/2, Error ellipse: s-maj=15.9km s-min=12.6km az=135.1*
*JMA **25** 15:36:38.7±0.3, 43°.85N×146°.23E, h102km±2km, M3.7*
JMA Felt I J1.
*IDC **25** 15:36:41.2±2.7, 44°.33N×146°.05E, h122km±19km, mb3.4/4, mb1 3.4/6, mb1mx3.1/62, mbtmp3.7/6, MS3.3/1, Ms1 3.3/1, ms1mx2.2/33, Error ellipse: s-maj=57.9km s-min=20.7km az=168.0*
ISC 25 15:36:38.0±0.8, 43°.84N±0°.06×146°.24E±0°.05, h105km±5km, n41, σ1§08/59, mb3.7/6, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.33**	**305**	*e*PN		**Pn**	**15 36 53.5 +0.1**
YUK				*e*S		**Sn**	**15 37 05.2 +0.3**
YUK				pmax		pmax	
	comp=Z,1μm,0.2s						
YUK				pmax		pmax	
	comp=N,384nm,0.3s						
YUK				pmax		pmax	
	comp=E,667nm,0.1s						
YUK				smax		smax	
	comp=N,4μm,0.4s						
YUK				smax		smax	
	comp=E,7μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.33**	**305**	*e*P		**Pn**	**15 36 53.5 +0.1**
YUK				AMB		AMB	15 36 54.0
	comp=E,380nm,0.3s						
YUK				AMB		AMB	15 36 54.0
	comp=E,670nm,0.2s						
YUK				AMB		AMB	15 36 54.0
	comp=E,1μm,0.2s						
YUK				*e*S		**Sn**	**15 37 05.2 +0.3**
YUK				A		A	15 37 05.8
	comp=E,4μm,0.5s						
YUK				A		A	15 37 05.8
	comp=E,7μm,0.5s						
GRPR	**Tuman**	**0.37**	**294**	*e*PN		**Pn**	**15 36 53.7 +0.1**
GRPR				*e*S		**Sn**	**15 37 05.5 +0.3**
GRPR				pmax		pmax	
	comp=Z,582nm,0.2s						
GRPR				pmax		pmax	
	comp=N,593nm,0.1s						
GRPR				pmax		pmax	
	comp=E,678nm,0.1s						
GRPR				smax		smax	
	comp=N,5μm,0.3s						
GRPR				smax		smax	
	comp=E,5μm,0.3s						
GRPR	**Tuman**	**0.37**	**294**	*e*P		**Pn**	**15 36 53.7 +0.1**
GRPR				AMB		AMB	15 36 55.0
	comp=E,590nm,0.1s						
GRPR				AMB		AMB	15 36 55.0
	comp=E,680nm,0.1s						
GRPR				AMB		AMB	15 36 55.0
	comp=E,580nm,0.2s						
GRPR				*e*S		**Sn**	**15 37 05.5 +0.3**
GRPR				A		A	15 37 05.8
	comp=E,5μm,0.3s						
GRPR				A		A	15 37 05.8
	comp=E,5μm,0.3s						
GLVR	**Golovnino**	**0.53**	**259**	*e*PN		**Pn**	**15 36 55.2 +0.6**
GLVR				*e*S		**Sn**	**15 37 08.4 +1.4**
GLVR				pmax		pmax	
	comp=Z,1μm,0.1s						
GLVR				smax		smax	
	comp=N,6μm,0.3s						
GLVR				smax		smax	
	comp=E,4μm,0.3s						
GLVR	**Golovnino**	**0.53**	**259**	*e*P		**Pn**	**15 36 55.2 +0.6**
GLVR				AMB		AMB	15 36 56.0
	comp=E,1μm,0.1s						
GLVR				*e*S		**Sn**	**15 37 08.4 +1.4**
GLVR				A		A	15 37 08.8
	comp=E,6μm,0.3s						
GLVR				A		A	15 37 08.8
	comp=E,4μm,0.3s						
NEM2	**Nemuro 2**	**0.60**	**217**	P		**Pn**	**15 36 55.4 +0.3**
NEM2				*e*S		**Sn**	**15 37 07.9 0.0**
NMR	**Nemuro--Hokkai**	**0.60**	**218**	*e*PN		**Pn**	**15 36 55.5 +0.4**
NMR				*e*S		**Sn**	**15 37 08.0 +0.1**
NMR	**Nemuro--Hokkai**	**0.60**	**218**	*e*P		**Pn**	**15 36 55.5 +0.4**
NMR				*e*S		**Sn**	**15 37 08.0 +0.1**
RUSJ	**Misakicho**	**0.76**	**290**	*e*PN		**Pn**	**15 36 56.7 +0.2**
RUSJ				*e*S		**Sn**	**15 37 11.0 +0.7**
JRA	**Rausu**	**0.81**	**277**	P		**Pn**	**15 36 57.3 +0.4**
JNSB	**Nemuroshibetsu**	**0.90**	**266**	P		**Pn**	**15 36 58.5 +0.8**
JKHN	**Kushirohamanak**	**1.09**	**226**	P		**Pn**	**15 37 00.4 +0.6**
JNK	**Nakash**	**1.13**	**257**	P		**Pn**	**15 37 00.7 +0.4**
JAK	**Akkeshi**	**1.41**	**234**	P		**Pn**	**15 37 03.9 +0.5**
JAK				*e*S		**Sn**	**15 37 22.9 +0.2**
JTKR	**Abashiri--Toko**	**1.69**	**275**	P		**Pn**	**15 37 07.2 +0.4**
JTKR				*e*S		**Sn**	**15 37 29.0 +0.2**
KUR	**Kuril'sk**	**1.81**	**39**	*d i*PN		**Pn**	**15 37 08.9 +0.6**
KUR				*i* S		**Sn**	**15 37 32.5 +1.0**
KUR				pmax		pmax	
	comp=N,8.0nm,0.4s						
KUR				pmax		pmax	
	comp=Z,46nm,0.4s						
KUR				pmax		pmax	
	comp=E,11nm,0.2s						
KUR				smax		smax	
	comp=E,534nm,0.4s						
KUR				smax		smax	
	comp=N,187nm,0.1s						
KUR	**Kuril'sk**	**1.81**	**39**	*i* P		**Pn**	**15 37 09.0 +0.6**
KUR				AMB		AMB	15 37 09.0
	comp=N,10.0nm,0.4s						
KUR				AMB		AMB	15 37 09.0
	comp=N,50nm,0.4s						
KUR				AMB		AMB	15 37 09.0
	comp=N,10.0nm,0.2s						
KUR				*i* S		**Sn**	**15 37 32.6 +1.0**
KUR				A		A	15 37 33.0
	comp=N,520nm,0.2s						
KUR				A		A	15 37 33.0
	comp=N,400nm,0.2s						
JAR	**Ashorobuto**	**1.88**	**254**	P		**Pn**	**15 37 10.2 +1.0**
JOB	**Onbets**	**1.99**	**243**	P		**Pn**	**15 37 11.6 +1.0**
JOB				*e*S		**Sn**	**15 37 36.3 +0.8**
JMP	**Maruseppu**	**2.09**	**275**	P		**Pn**	**15 37 12.4 +0.5**
JMP				*e*S		**Sn**	**15 37 38.7 +0.9**
JCH	**Churui**	**2.43**	**241**	P		**Pn**	**15 37 16.8 +0.4**
JCH				*e*S		**Sn**	**15 37 45.3 -0.6**
JKA	**Kamikawa-asahi**	**2.64**	**277**	*e*P		**Pn**	**15 37 20.3 +1.2**
JKA				*e*S		**Sn**	**15 37 52.3 +1.6**
ASAJ	**Asahikawa**	**2.64**	**277**	P		**Pn**	**15 37 20.3 +1.1**
	comp=N,20nm,0.3s,baz=86,slow=16,SNR=320						
ASAJ				S		**Sn**	**15 37 52.2 +1.5**
	comp=N,3.2nm,0.3s,baz=352,slow=25,SNR=7.4						
ERM	**Erimo**	**2.91**	**232**	*e*PN		**Pn**	**15 37 24.1 +1.5**
YSS	**Yuzh-Sakhalins**	**3.96**	**323**	*e*P		**Pn**	**15 37 36.6 -0.1**
YSS				AMB	AMB	15 37 38.4	
	comp=N,20nm,0.5s						
MSHR	**Mys Shultsa**	**11.08**	**269**	⇑*e*PN		**Pn**	**15 39 12.1 -1.1**
PETK	**Petropavlovsk-**	**11.97**	**35**	P		**Pn**	**15 39 24.1 -1.0**
	comp=N,0.1nm,0.3s,baz=179,slow=12,SNR=5.4						
EKMR	**Ekimchan**	**12.75**	**321**	*e*P		**Pn**	**15 39 32.5 -2.8**
EKMR				AMB		AMB	15 39 36.0
	comp=N,40nm,1.0s						
TJN	**Taejon**	**16.23**	**249**	⇓*e*P		**P**	**15 40 21.1 +0.2**
BILL	**Bilibino**	**26.46**	**17**	*e*P		**P**	**15 42 05.3 +0.6**
BILL				pmax		pmax	
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**26.46**	**17**	*e*P		**P**	**15 42 05.3 +0.6**
ULN	**Ulaanbaatar**	**27.38**	**292**	⇑*e*P		**P**	**15 42 12.9 -0.5**
ULN				pmax		pmax	
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.38**	**292**	*e*P		**P**	**15 42 12.9 -0.5**
SONM	**Songino Array**	**27.82**	**292**	P		**P**	**15 42 16.6 -0.8**
	comp=Z,0.5nm,0.4s,baz=83,slow=9.3,SNR=6.2						
TIXI	**Tiksi**	**29.14**	**349**	⇑*e*P		**P**	**15 42 31.7 +3.2**
TIXI	**Tiksi**	**29.14**	**349**	*e*P		**P**	**15 42 31.7 +3.2**
MKAR	**Makanchi Array**	**43.95**	**297**	P		**P**	**15 44 33.3 -1.1**
	comp=Z,1.0nm,0.6s,baz=82,slow=8.1,SNR=8.7						
ARCES

*IGIL **25** 15:58:26.4, 35.49N±11.52W, h5km, ML2.2*
*MDD **25** 15:58:27.2±2.1, 35.52N×11.52W, h10km, mb3.6/7, Error ellipse: s-maj=19.3km s-min=16.3km az=0.0, PRXIMO*
*INMG **25** 15:58:28.0±1.1, 35.35N×11.57W, h31km, ML2.4, Error ellipse: s-maj=6.7km s-min=4.2km az=90.0*
*CNRM **25** 15:58:40.5, 34.11N×10.04W, h286km, Hypocentre not reviewed by the ISC*

ISC 25 15:58:26.5±3.0, 35.7N±0.1×11.3W±0.1, h10km, n51, σ2§18/74, **Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.48**	**53**	P	**Pb**	**15 59 09.4**	**-1.8**
	3.0nm,0.1s,SNR=7.9						
PFVI				S	**Sb**	**15 59 40.4**	**-1.4**
	4.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.48**	**53**	*e*Pn	**Pb**	**15 59 09.4**	**-1.8**
PFVI				*e*Sn	**Sn**	**15 59 40.3**	**+2.9**
PFVI				A	A	15 59 42.3	
	13nm,0.2s						
PTEO	**Sao Teotonio**	**2.81**	**47**	P	**Pb**	**15 59 14.3**	**-2.4**
PTEO				S	**Sb**	**15 59 49.1**	**-2.0**
	3.1nm,0.3s						
PTEO	**Sao Teotonio**	**2.81**	**47**	*e*Pn	**Pb**	**15 59 14.3**	**-2.4**
PTEO				*e*Sn	**Sb**	**15 59 49.1**	**-2.0**
PTEO				A	A	15 59 55.1	
	6.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.15**	**59**	P	**Pn**	**15 59 18.8**	**+2.6**
PBDV				S	**Sn**	**15 59 56.0**	**+2.2**
	3.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.15**	**59**	*e*Pn	**Pn**	**15 59 18.8**	**+2.6**
PBDV				*e*Sn	**Sn**	**15 59 56.0**	**+2.2**
PBDV				A	A	16 00 02.3	
	3.9nm,0.3s						
PCVE	**Castro Verde**	**3.29**	**52**	P	**Pn**	**15 59 20.9**	**+2.9**
PCVE	**Castro Verde**	**3.29**	**52**	*e*Pn	**Pn**	**15 59 20.9**	**+2.9**
PCVE				*e*Sn	**Sn**	**16 00 00.2**	**+3.1**
PCVE				A	A	16 00 02.3	
	5.7nm,0.5s						
MESJ	**Messejana**	**3.30**	**48**	*e*P	**Pn**	**15 59 20.3**	**+2.1**
MESJ				*e*S	**Sn**	**15 59 59.6**	**+2.1**
MESJ				IAML		16 00 02.2	
	comp=N,5.8nm,0.0s						
MESJ	**Messejana**	**3.30**	**48**	P	**Pb**	**15 59 22.2**	**-2.9**
MESJ				S	**Sn**	**15 59 59.6**	**+2.1**
MESJ	**Messejana**	**3.30**	**48**	*e*Pn	**Pb**	**15 59 22.2**	**-2.9**
MESJ				*e*Sn	**Sn**	**16 00 00.9**	**+3.4**
MESJ				A	A	16 00 08.1	
	comp=N,3.0nm,0.2s						
PNCL	**Nicolau / Gran**	**3.31**	**42**	P	**Pn**	**15 59 20.6**	**+2.3**
PNCL	**Nicolau / Gran**	**3.31**	**42**	*e*Pn	**Pn**	**15 59 20.6**	**+2.3**
PNCL				*e*Sn	**Sn**	**16 00 00.5**	**+2.8**
PNCL				A	A	16 00 05.2	
	comp=N,4.2nm,0.1s						
PVAQ	**Vaqueiros**	**3.38**	**58**	*e*Sn	**Sn**	**16 00 01.4**	**+2.0**
EGRO	**El Granado**	**3.60**	**58**	P	**Pn**	**15 59 25.0**	**+2.7**
	comp=N,0.8nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**16 00 07.1**	**+2.1**
	comp=N,3.1nm,0.3s,SNR=16						
PBEJ	**Beja**	**3.63**	**49**	*e*Sn	**Sn**	**16 00 07.7**	**+2.0**
PBEJ				A	A	16 00 11.4	
	comp=N,3.5nm,0.4s						
PMAFR	**Mafra**	**3.66**	**26**	S	**Sn**	**16 00 09.0**	**+2.6**
	comp=N,3.3nm,0.4s,SNR=7.9						
PMAFR	**Mafra**	**3.66**	**26**	*e*Pn	**Pn**	**15 59 25.6**	**+2.4**
PMAFR				*e*Sn	**Sn**	**16 00 09.4**	**+2.9**
PMAFR				A	A	16 00 12.0	
	comp=N,9.0nm,0.2s						
EVO	**Evora**	**3.89**	**42**	*e*Sn	**Sn**	**16 00 14.4**	**+2.3**
EVO				A	A	16 00 18.3	
	comp=N,5.9nm,0.1s						
PMTG	**Montargil**	**4.20**	**35**	P	**Pn**	**15 59 33.0**	**+2.5**
PMTG	**Montargil**	**4.20**	**35**	*e*Pn	**Pn**	**15 59 33.0**	**+2.5**
PMTG				*e*Sn	**Sn**	**16 00 21.3**	**+1.7**
PMTG				A	A	16 00 23.2	
	comp=N,2.4nm,0.1s						
PBAR	**Barrancos**	**4.25**	**53**	P	**Pn**	**15 59 35.6**	**+4.4**
PBAR	**Barrancos**	**4.25**	**53**	*e*Pn	**Pn**	**15 59 35.6**	**+4.4**
PBAR				*e*Sn	**Sn**	**16 00 22.9**	**+2.1**
PBAR				A	A	16 00 26.3	
	comp=N,2.7nm,0.3s						
EMIN	**Mina Concepcio**	**4.28**	**59**	P	**Pn**	**15 59 34.0**	**+2.3**
	comp=N,0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**16 00 23.1**	**+1.4**
	comp=N,2.8nm,0.4s,SNR=8.2						
PSBE	**So Bento**	**4.33**	**27**	*e*Sn	**Sn**	**16 00 26.6**	**+3.6**
PESTR	**Estremoz**	**4.37**	**42**	*e*Pn	**Pn**	**15 59 35.6**	**+2.8**
PESTR				*e*Sn	**Sn**	**16 00 25.8**	**+2.0**
PESTR				A	A	16 00 28.4	
	comp=N,1.7nm,0.3s						
ZHG	**ZHG**	**4.44**	**118**	P		15 59 31.3	
ZHG				S		16 00 17.8	
EBAD	**Badajoz**	**4.62**	**47**	P	**Pn**	**15 59 38.8**	**+2.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**16 00 31.7**	**+1.7**
	comp=N,1.8nm,0.3s,SNR=7.6						
PMRV	**Marv??o**	**4.88**	**38**	Pn	**Pn**	**15 59 42.5**	**+2.5**
PMRV	**Marv??o**	**4.88**	**38**	*e*Pn	**Pn**	**15 59 42.5**	**+2.5**
PMRV				*e*Sn	**Sn**	**16 00 37.5**	**+1.0**
PMRV				A	A	16 00 43.1	
	comp=N,2.7nm,0.4s						
PCBR	**Castelo Branco**	**5.16**	**35**	*e*Sn	**Sn**	**16 00 44.5**	**+1.2**
PCBR				A	A	16 00 44.7	
	comp=N,1.8nm,0.9s						
OUK	**Oukaimeden**	**5.30**	**146**	P		15 59 39.0	
OUK				S		16 00 30.1	
ECAB	**El Cabril**	**5.30**	**61**	P	**Pn**	**15 59 47.5**	**+1.8**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**16 00 47.4**	**+0.4**
	comp=N,0.3nm,0.3s,SNR=5.7						
EMIJ	**Mijas**	**5.37**	**78**	S	**Sn**	**16 00 48.5**	**-0.1**
	comp=N,1.9nm,0.3s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**5.64**	**154**	P		15 59 45.6	
TTIG				S		16 00 33.3	
EADA	**Adamuz**	**5.95**	**63**	P	**Pn**	**15 59 55.6**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 01 02.9**	**+0.1**
	comp=N,1.7nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**5.99**	**74**	S	**Sn**	**16 01 06.1**	**+2.1**
	comp=N,1.6nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**6.04**	**42**	S	**Sn**	**16 01 05.6**	**+0.6**
	comp=N,3.3nm,0.2s,SNR=7.9						
MD31	**MD31**	**6.10**	**115**	P		15 59 53.9	
MD31				S		16 00 50.3	
MDT	**Midelt**	**6.24**	**115**	P		15 59 55.2	
MDT				S		16 00 52.9	
ELGU	**Los Guajares,**	**6.33**	**77**	S	**Sn**	**16 01 11.7**	**-0.5**
	comp=N,2.1nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**6.33**	**25**	*e*S	**Sn**	**16 01 13.3**	**+0.9**
MVO	**Moncorvo**	**6.44**	**30**	S	**Sn**	**16 01 15.5**	**+0.6**
	comp=N,5.2nm,0.6s,SNR=7.9						
MVO	**Moncorvo**	**6.44**	**30**	*e*Sn	**Sn**	**16 01 16.4**	**+1.4**
EQUE	**Quentar**	**6.53**	**74**	S	**Sn**	**16 01 17.2**	**0.0**
	comp=N,2.1nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.70**	**21**	S	**Sn**	**16 01 20.9**	**-0.4**
	comp=N,1.8nm,0.4s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.73**	**20**	*e*Sn	**Sn**	**16 01 21.9**	**-0.2**
PGAV				A	A	16 01 24.8	
	comp=N,1.2nm,0.2s						
PAB	**San Pablo**	**6.75**	**53**	S	**Sn**	**16 01 21.1**	**-1.6**
	comp=N,8.1nm,0.8s,SNR=7.9						
EZAM	**Zamans**	**6.79**	**17**	S	**Sn**	**16 01 21.5**	**-2.0**
	comp=N,4.0nm,0.4s,SNR=7.9						
EQES	**Quesada**	**6.96**	**70**	S	**Sn**	**16 01 27.5**	**-0.2**
	comp=N,4.1nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**7.07**	**53**	S	**Sn**	**16 01 29.9**	**-0.6**
	comp=N,0.7nm,0.4s,baz=240,slow=23,SNR=7.0						
ECAL	**Calabor**	**7.21**	**28**	P	**Pn**	**16 00 13.6**	**+1.6**
	comp=N,0.7nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**16 01 33.9**	**-0.1**
	comp=N,1.1nm,0.5s,SNR=7.9						
SESP	**Santiago Espad**	**7.44**	**68**	S	**Sn**	**16 01 39.0**	**-0.8**
	comp=N,3.5nm,0.5s,SNR=7.9						
EMAZ	**Mazaricos**	**7.50**	**13**	P	**Pn**	**16 00 16.5**	**+0.7**
	comp=N,1.2nm,0.3s,SNR=7.9						
EMAZ				S	**Sn**	**16 01 39.7**	**-1.2**
	comp=N,2.9nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**7.52**	**46**	S	**Sn**	**16 01 41.2**	**-0.4**
	comp=N,1.0nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**8.35**	**66**	S	**Sn**	**16 01 59.7**	**-2.1**
	comp=N,1.4nm,0.5s,SNR=7.9						

*NEIC **25** 16:10:40.8±2.2, 30.09N±0.06×57.69E±0.02, h4km±4km, mb4.8/60, mb_Lg4.9(TEH), Error ellipse: s-maj=9.8km s-min=1.8km az=165.0*
*MOS **25** 16:10:40.3±1.6, 29.85N×57.84E, h15km, mb4.8/40, Error ellipse: s-maj=5.9km s-min=4.2km az=99.5*
*BJI **25** 16:10:41.8±0.0, 30.01N×57.41E, h31km, mB4.8/34, mb4.7/50, Ms4.4/35, Ms7 4.1/34*
*IDC **25** 16:10:41.1±0.5, 30.06N×57.70E, h0km, mb4.3/32, mb1 4.4/38, mb1mx4.3/57, mbtmp4.4/38, ML4.0/5, MS3.8/25, Ms1 3.8/25, ms1mx3.7/38, Error ellipse: s-maj=11.7km s-min=10.2km az=128.0*
*TEH **25** 16:10:41.4, 30.03N×57.62E, h11km, ML4.9*
*THR **25** 16:10:41.6±0.5, 30.04N×57.62E, h18km±5km, ML4.8*
*DSN **25** 16:10:43.8±0.6, 30.12N×57.54E, h10km, mb5.0/1, ML4.8/13, Error ellipse: s-maj=16.2km s-min=6.4km az=112.0*
*GCMT **25** 16:10:45.0±0.5, 29.89N±0.03×57.51E±0.02, h22km±2km, MW4.8/75, Moment Tensor Solution. s13,c15; s75,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.10; $M_{\theta\theta}$-0.85±.08; $M_{\phi\phi}$1.11±.08; $M_{r\theta}$0.33±.14; $M_{\theta\phi}$1.09±.07; $M_{\phi r}$1.05±.17; Best double couple: $M_0$1.73100×10^{16} NP1:ϕ_s73.00000°, δ65.00000°, λ11.00000°. NP2: ϕ_s338.00000°, δ80.00000°, λ154.00000°. Principal axes: T 2.1010, Plg25.0000°, Azm293.0000°; N -0.7450, Plg63.0000°, Azm139.0000°; P -1.3600, Plg10.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 16:10:42.1±0.3, 30.07N±0.03×57.72E±0.03, h10km, n419, σ1§94/433, **mb4.6**/102, **MS3.9**/33, **22C-12D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.26**	**217**	Pg	**Pg**	**16 10 45.8**	**-1.8**
CHMN	**Cheshme madani**	**0.26**	**217**	*e*Pg	**Pg**	**16 10 46.2**	**-1.4**
TVBK	**TV Kerman**	**0.84**	**264**	Pg	**Pg**	**16 10 56.6**	**-1.7**
TVBK	**TV Kerman**	**0.84**	**264**	*e*Pg	**Pg**	**16 10 56.8**	**-1.5**
TVBK				*e*Sg	**Sg**	**16 11 06.7**	**-2.5**
TVBK				*e*		16 11 08.2	
	comp=Z,14μm,0.4s						
KRBR	**Kerman**	**0.84**	**264**	*e*Pg	**Pg**	**16 10 56.3**	**-2.0**
KRBR				*e*Sg	**Sg**	**16 11 06.7**	**-2.6**
KRBR				IAML		16 11 12.2	
	comp=E,33μm,0.4s						
KRBR				IAML		16 11 14.2	
	comp=N,42μm,0.5s						
KRBR	**Kerman**	**0.84**	**264**	*e*Pg	**Pg**	**16 10 56.3**	**-2.0**
NGRK	**Negar Kerman**	**0.96**	**244**	Pg	**Pg**	**16 10 58.9**	**-1.7**
NGRK				Sg	**Sg**	**16 11 10.7**	**-2.5**
NGRK	**Negar Kerman**	**0.96**	**244**	*e*Pg	**Pg**	**16 10 58.9**	**-1.7**
NGRK				*e*Sg	**Sg**	**16 11 10.6**	**-2.6**
NGRK				*e*		16 11 14.8	
	comp=Z,41μm,0.4s						
KHGB	**Koh Gabri**	**1.12**	**286**	Pg	**Pg**	**16 11 01.6**	**-2.0**
KHGB	**Koh Gabri**	**1.12**	**286**	*e*Pg	**Pg**	**16 11 01.7**	**-1.9**
KBAM	**BAM**	**1.13**	**145**	*e*Pg	**Pb**	**16 11 03.3**	**-0.5**
KHNJ	**Kahnooj**	**2.12**	**180**	*e*Pn	**Pn**	**16 11 18.4**	**+0.8**
BSRN	**Basiran**	**2.24**	**32**	*e*Pn	**Pn**	**16 11 20.8**	**+1.4**
BSRN	**Basiran**	**2.24**	**32**	*e*Pn	**Pn**	**16 11 20.8**	**+1.4**
IBAF	**Bafgh**	**2.39**	**310**	Pn	**Pn**	**16 11 23.5**	**+2.0**
IBAF	**Bafgh**	**2.39**	**310**	*e*Pn	**Pn**	**16 11 23.3**	**+1.8**
IBAF				*e*		16 12 05.5	
	comp=Z,66μm,0.6s						
NHDN	**Nehbandan**	**2.40**	**56**	*e*Pn	**Pn**	**16 11 23.8**	**+2.2**
IKOO	**Kooshah**	**2.59**	**25**	Pn	**Pn**	**16 11 25.8**	**+1.5**
IKOO	**Kooshah**	**2.59**	**25**	*e*Pn	**Pn**	**16 11 26.1**	**+1.8**
IKOO				*e*		16 12 13.2	
	comp=Z,54μm,0.5s						
ZHSF	**Zahedan**	**2.69**	**99**	*e*Pn	**Pn**	**16 11 27.5**	**+1.8**
ZHSF	**Zahedan**	**2.69**	**99**	*e*Pn	**Pn**	**16 11 27.5**	**+1.8**
ZHDN	**Zahedan**	**2.77**	**103**	*e*Pn	**Pn**	**16 11 29.1**	**+2.4**
IBND	**Bandar-abas**	**2.81**	**202**	*e*Pn	**Pn**	**16 11 28.6**	**+1.5**
ITEG	**Tejag**	**2.95**	**17**	*e*Pn	**Pn**	**16 11 30.8**	**+1.6**
ITEG				*e*		16 11 39.5	
	comp=Z,61μm,0.7s						
IMEH	**Mehriz**	**2.98**	**297**	*e*Pn	**Pn**	**16 11 31.0**	**+1.3**
IMEH				*e*		16 11 40.7	
	comp=Z,25μm,0.4s						
GENO	**Geno**	**2.99**	**207**	*e*Pn	**Pn**	**16 11 31.4**	**+1.7**
BNDS	**Bandar-Abbas**	**2.99**	**207**	*e*Pn	**Pn**	**16 11 29.4**	**-0.4**
TPRV	**Parvadeh(Tabas**	**3.08**	**344**	*e*Pn	**Pn**	**16 11 32.1**	**+1.2**
IDAH	**Dahanechah**	**3.23**	**34**	*e*Pn	**Pn**	**16 11 36.1**	**+3.0**
IDAH				*e*		16 11 45.9	
	comp=Z,27μm,0.7s						
AFRZ	**Afriz**	**3.52**	**18**	*e*Pn	**Pn**	**16 11 38.5**	**+1.5**
IMON	**Monand**	**3.53**	**28**	*e*Pn	**Pn**	**16 11 39.7**	**+2.5**
IMON				*e*		16 11 57.6	
	comp=Z,22μm,0.6s						
YZKH	**Yazd**	**3.54**	**312**	*e*Pn	**Pn**	**16 11 37.6**	**+0.4**
YZKH	**Yazd**	**3.54**	**312**	*e*Pn	**Pn**	**16 11 37.6**	**+0.4**
TKDS	**Koohdasht(Taba**	**3.57**	**352**	*e*Pn	**Pn**	**16 11 39.5**	**+1.9**
ICHK	**Chekchek**	**3.57**	**308**	*e*Pn	**Pn**	**16 11 39.3**	**+1.5**
ICHK				*e*		16 12 47.4	
	comp=Z,22μm,0.6s						
LAR1	**LAR**	**3.79**	**232**	*e*Pn	**Pn**	**16 11 42.3**	**+1.7**
ISAD	**Sadrabad**	**3.92**	**299**	*e*Pn	**Pn**	**16 11 44.2**	**+1.5**
JHRM	**Jahrom**	**3.94**	**248**	*e*Pn	**Pn**	**16 11 44.2**	**+1.4**
TNSJ	**Nastanj**	**3.99**	**347**	*e*Pn	**Pn**	**16 11 44.9**	**+1.4**
SHME	**Shamm**	**4.24**	**200**	*i* P	**Pn**	**16 11 48.5**	**+1.7**
	SNR=20						
SHME	**Shamm**	**4.24**	**200**	*e*Pn	**Pn**	**16 11 48.7**	**+1.9**
BANOM	**Banah**	**4.32**	**197**	*i* P	**Pn**	**16 11 49.8**	**+1.9**
	SNR=53						
BANOM				S	**Sn**	**16 12 42.1**	**+3.7**
BANOM	**Banah**	**4.32**	**197**	*e*Pn	**Pn**	**16 11 50.0**	**+2.1**
QIR1	**Qir**	**4.38**	**250**	*e*Pn	**Pn**	**16 11 49.7**	**+0.9**
JSK1	**Jask**	**4.42**	**179**	*e*Pn	**Pn**	**16 11 50.5**	**+1.3**
SHI	**Shiraz**	**4.54**	**266**	*e*Pn	**Pn**	**16 11 53.0**	**+1.9**
ANAR	**Anarak**	**4.61**	**313**	*e*Pn	**Pn**	**16 11 53.8**	**+1.8**
LMD1	**Lamerd**	**4.84**	**237**	*e*Pn	**Pn**	**16 11 55.6**	**+0.6**
SRVN	**Saravan**	**4.89**	**122**	*e*Pn	**Pn**	**16 11 58.3**	**+2.4**
MSFE	**Esma-Masafi**	**4.89**	**197**	*i* P	**Pn**	**16 11 58.5**	**+2.7**
	SNR=38						
MSFE	**Esma-Masafi**	**4.89**	**197**	*e*Pn	**Pn**	**16 11 58.5**	**+2.7**
IRAM	**Ramesheh**	**4.90**	**292**	*e*Pn	**Pn**	**16 11 57.8**	**+1.7**
MDH	**Madha**	**4.92**	**195**	*i* P	**Pn**	**16 11 57.7**	**+1.6**
	SNR=38						
MDH	**Madha**	**4.92**	**195**	*e*Pn	**Pn**	**16 11 57.8**	**+1.7**
NASN	**Na'in**	**5.00**	**304**	*e*Pn	**Pn**	**16 11 57.8**	**+0.2**
NASN	**Na'in**	**5.00**	**304**	*e*Pn	**Pn**	**16 11 57.8**	**+0.2**
UOSS	**Minazif**	**5.28**	**195**	*i* P	**Pn**	**16 12 03.9**	**+2.8**
	SNR=9.2						
UOSS	**Minazif**	**5.28**	**195**	Pn	**Pn**	**16 12 01.3**	**+0.2**
UOSS	**Minazif**	**5.28**	**195**	*e*Pn	**Pn**	**16 12 03.7**	**+2.6**
KAZ1	**Kazerun**	**5.30**	**267**	*e*Pn	**Pn**	**16 12 01.9**	**+0.5**
KLNJ	**Kolanjah**	**5.37**	**282**	*e*Pn	**Pn**	**16 12 04.2**	**+1.6**
NAZ	**Nazwa, Dubai**	**5.38**	**200**	*i* P	**Pn**	**16 12 03.9**	**+1.4**
	SNR=67						
NAZ	**Nazwa, Dubai**	**5.38**	**200**	*e*Pn	**Pn**	**16 12 04.9**	**+2.4**
IGAR	**Gharneh**	**5.39**	**297**	*e*Pn	**Pn**	**16 12 04.3**	**+1.5**
IZEF	**Zefreh**	**5.40**	**303**	*e*Pn	**Pn**	**16 12 04.7**	**+1.8**
HATD	**Hatta, Dubai**	**5.41**	**195**	*i* P	**Pn**	**16 12 06.7**	**+3.8**
	SNR=17						
ASHO	**Ashiyiah**	**5.57**	**196**	*i* P	**Pn**	**16 12 07.5**	**+2.4**
	SNR=24						
FAQ	**Al Faqa, Dubai**	**5.63**	**200**	*i* P	**Pn**	**16 12 07.7**	**+1.8**
	SNR=16						
HRA	**Herat**	**5.76**	**41**	Pn	**Pn**	**16 12 05.1**	**-2.8**
ASUD	**Al Ashush, Dub**	**5.83**	**202**	*i* P	**Pn**	**16 12 11.3**	**+2.7**
	SNR=37						
AJN	**Ajban**	**6.00**	**205**	*i* P	**Pn**	**16 12 13.2**	**+2.2**
	SNR=7.6						
SOHO	**SOHO**	**6.01**	**190**	*i* P	**Pn**	**16 12 11.8**	**+0.8**
	SNR=28						
KRSH	**Karshahi**	**6.13**	**311**	*e*Pn	**Pn**	**16 12 14.7**	**+1.8**
IKLH	**Kolahrood**	**6.15**	**303**	*e*Pn	**Pn**	**16 12 16.1**	**+2.8**
IMOG	**Moghan**	**6.17**	**12**	*e*Pn	**Pn**	**16 12 16.1**	**+2.5**
JRKH	**Jarkhoshk**	**6.22**	**20**	*e*Pn	**Pn**	**16 12 16.3**	**+2.1**
ALNE	**Al Ain**	**6.24**	**197**	*i* P	**Pn**	**16 12 16.4**	**+2.1**
	SNR=18						
IANJ	**Anjilo**	**6.26**	**330**	*e*Pn	**Pn**	**16 12 16.4**	**+1.6**
ISFB	**Sefidab**	**6.31**	**314**	*e*Pn	**Pn**	**16 12 16.8**	**+1.6**
IPIR	**Pirpir**	**6.39**	**296**	*e*Pn	**Pn**	**16 12 18.7**	**+2.1**
IPAY	**Payeh**	**6.45**	**9**	*e*Pn	**Pn**	**16 12 20.1**	**+2.7**
QAMS	**Qamsar**	**6.50**	**306**	*e*Pn	**Pn**	**16 12 20.7**	**+2.6**
IMYA	**Miami**	**6.56**	**17**	*e*Pn	**Pn**	**16 12 20.9**	**+2.0**
IAKL	**Akhelmad**	**6.57**	**7**	*e*Pn	**Pn**	**16 12 21.4**	**+2.3**
ILAS	**Lasjerd**	**6.64**	**324**	*e*Pn	**Pn**	**16 12 21.9**	**+1.9**
ISHM	**Shahmirzad**	**6.82**	**328**	*e*Pn	**Pn**	**16 12 24.6**	**+2.1**
IKRD	**Kardeh**	**6.85**	**12**	*e*Pn	**Pn**	**16 12 25.8**	**+2.9**
WSAR	**Wadi Sarin**	**6.85**	**173**	Pn	**Pn**	**16 12 22.9**	**+0.2**
	comp=Z,9.8nm,0.3s,baz=11,slow=11,SNR=41						
WSAR				Sn	**Sn**	**16 13 40.4**	**-0.5**
	comp=Z,18nm,0.3s,baz=289,slow=11,SNR=5.8						
IFIR	**Firoozkooh**	**6.95**	**324**	*e*Pn	**Pn**	**16 12 25.2**	**+1.0**
ISFR	**Sfrayin**	**6.97**	**2**	*e*Pn	**Pn**	**16 12 27.1**	**+2.6**
IVRN	**Varamin**	**7.05**	**316**	*e*Pn	**Pn**	**16 12 27.7**	**+2.3**
IGLO	**Ghaloghah**	**7.19**	**334**	*e*Pn	**Pn**	**16 12 30.5**	**+3.0**
IDMV	**Damavand**	**7.28**	**320**	*e*Pn	**Pn**	**16 12 30.8**	**+2.0**
IQOM	**Qom**	**7.36**	**312**	*e*Pn	**Pn**	**16 12 31.5**	**+1.6**
IMND	**Minoodasht**	**7.42**	**346**	*e*Pn	**Pn**	**16 12 32.3**	**+1.8**
IHSB	**Hasanabad**	**7.62**	**316**	*e*Pn	**Pn**	**16 12 35.6**	**+2.3**
IPRN	**Peran**	**7.63**	**325**	*e*Pn	**Pn**	**16 12 35.5**	**+2.0**
GEYT	**Alibeck**	**7.84**	**2**	Pn	**Pn**	**16 12 37.3**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=185,slow=12,SNR=21						
GYA0	**ALIBECK ARRAY**	**7.84**	**2**	P	**Pn**	**16 12 38.5**	**+2.2**
GYA0B	**ALIBECK ARRAY**	**7.84**	**2**	Pn	**Pn**	**16 12 32.9**	**-3.4**
BMDN	**Meydan**	**8.37**	**298**	*e*Pn	**Pn**	**16 12 45.4**	**+1.7**
IRAZ	**Razeghan**	**8.45**	**311**	*e*Pn	**Pn**	**16 12 46.9**	**+2.2**
HAGD	**Aghdareh**	**8.66**	**305**	*e*Pn	**Pn**	**16 12 50.1**	**+2.4**
QALM	**Alamut, Qazvin**	**8.68**	**319**	*e*Pn	**Pn**	**16 12 49.8**	**+1.9**
HSAM	**Samen**	**8.76**	**300**	*e*Pn	**Pn**	**16 12 50.8**	**+1.7**
QABG	**Abgarm-Qazvin**	**8.85**	**312**	*e*Pn	**Pn**	**16 12 51.2**	**+0.9**
IGZV	**Ghazvin**	**8.89**	**317**	*e*Pn	**Pn**	**16 12 52.6**	**+1.7**
IDOB	**Doab**	**8.91**	**297**	*e*Pn	**Pn**	**16 12 52.4**	**+1.2**
QSDN	**Sirian**	**9.60**	**314**	*e*Pn	**Pn**	**16 13 03.0**	**+2.4**
IGHG	**Ghaleghazi**	**10.36**	**297**	*e*Pn	**Pn**	**16 13 11.9**	**+1.0**
KBL	**Kabul**	**10.56**	**62**	P	**Pn**	**16 13 11.7**	**-2.1**
KBL	**Kabul**	**10.56**	**62**	Pn	**Pn**	**16 13 11.7**	**-2.1**
IDHR	**Dehrash**	**10.63**	**299**	*e*Pn	**Pn**	**16 13 15.7**	**+1.0**
THW	**Thamme Wali**	**12.28**	**74**	P	**Pn**	**16 13 39.7**	**+2.6**
CEP	**Cherat**	**12.62**	**69**	P	**Pn**	**16 13 46.4**	**+4.6**
GAR	**Garm**	**13.67**	**46**		**Pn**	**16 13 54.5**	**-1.5**
NIL	**Nilore**	**13.67**	**71**	P	**Pn**	**16 13 56.0**	**-0.1**
NIL	**Nilore**	**13.67**	**71**	Pn	**Pn**	**16 13 56.0**	**-0.1**
CHCP	**Chirah Chowk**	**13.69**	**71**	P	**Pn**	**16 13 59.4**	**+3.1**
GNI	**Garni**	**14.61**	**317**	Pn	**P**	**16 14 13.2**	**-2.3**
	comp=Z,1.0nm,0.3s,baz=179,slow=19,SNR=1.8						
GNI	**Garni**	**14.61**	**317**	Pn	**Pn**	**16 14 07.4**	**-1.6**
BTK	**Batken**	**14.62**	**44**	P	**Pn**	**16 14 07.8**	**-1.3**
BTK	**Batken**	**14.62**	**44**	Pn	**Pn**	**16 14 07.8**	**-1.3**
MAK	**Makhachkala**	**15.24**	**330**	*e*P	**P**	**16 14 21.5**	**-0.8**
MAK				*e*S	**Sn**	**16 17 10.5**	**+4.3**
MAK				pmax	pmax		
	comp=Z,97nm,0.8s						
MAK				MLR	MLR		
	comp=Z,349nm,15.0s						
KZRT	**Kazreti**	**15.61**	**320**	P	**P**	**16 14 26.4**	**-0.1**
AKH	**Akhalkalaki**	**16.14**	**318**	P	**P**	**16 14 33.9**	**+1.4**
GROC	**Groznyy**	**16.20**	**327**	*e*P	**P**	**16 14 32.4**	**-0.6**
GROC				S	**Sn**	**16 17 35.1**	**+5.5**
GROC				pmax	pmax		
	comp=Z,23nm,0.4s						
GUDG	**Gudauri**	**16.31**	**323**	P	**P**	**16 14 36.3**	**+1.8**
KK31	**Karatay Array

KPKS Kokpek 21.39 46 *eP* **P 16 15 31.9 +1.9**
KPKS pmax pmax
comp=Z,16nm,0.9s
UZB Uzynbulak 21.43 47 *eP* **P 16 15 32.1 +1.6**
UZB pmax pmax
comp=Z,13nm,0.9s
ANN Anapa 21.73 318 *eP* **P 16 15 38.7 +5.3**
ANN *eS* Sn 16 19 40.1 -2.7
ANN pmax pmax
comp=Z,34nm,0.9s
BR131 Keskin Array S 21.92 303 P **P 16 15 32.1 -3.6**
BR131 pmax pmax
comp=Z,34nm,1.0s
BR131 Keskin Array S 21.92 303 P **P 16 15 32.1 -3.6**
BR131 IAmb IAmb 16 15 43.8
comp=Z,34nm,1.0s
BRTR Keskin Array B 21.92 303 P **P 16 15 36.1 +0.4**
comp=Z,5.7nm,0.8s,baz=121,slow=13,SNR=25
BRTR LR LR 16 25 06.9
comp=Z,199nm,18.7s,baz=106,slow=40
BRTR Keskin Array B 21.92 303 P **P 16 15 31.2 -4.5**
ANTO Ankara 22.58 302 P **P 16 15 38.3 -4.4**
ANTO pmax pmax
comp=Z,26nm,1.1s
ANTO Ankara 22.58 302 P **P 16 15 38.3 -4.4**
ANTO IAmb IAmb 16 16 06.6
comp=Z,26nm,1.1s
HYB Hyderabad 22.81 119 *i* P P 16 15 53.0 +7.8
ATD Arta Tunnel 23.05 220 P **P 16 15 49.8 +2.0**
comp=Z,8.1nm,0.8s,baz=253,slow=19,SNR=2.0
ATD LR LR 16 26 27.5
comp=Z,293nm,18.1s,baz=28,slow=41
BELG Belogornoye 23.51 344 LR LR 16 27 38.1
comp=Z,237nm,18.4s,baz=138,slow=43
BELG Belogornoye 23.51 344⇓ *eP* **P 16 15 53.5 +1.4**
BELG pmax pmax
comp=Z,5.0nm,1.0s
ELL Elmali 24.10 293 P **P 16 15 54.8 -3.3**
ELL pmax pmax
comp=Z,91nm,1.1s
ELL Elmali 24.10 293 P **P 16 15 54.8 -3.3**
VRH Novokhopyorsk 24.25 335 *eP* **P 16 16 00.1 +1.0**
VRH pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 24.74 18 P **P 16 16 02.8 -0.8**
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK Borovoye 24.74 18 P **P 16 16 02.8 -0.8**
BRVK IAmb IAmb 16 16 06.1
comp=Z,30nm,0.8s
BVAR Borovoye Array 24.74 18 P **P 16 16 04.1 +0.5**
comp=Z,35nm,0.8s,baz=196,slow=21,SNR=125
MAKZ Makanchi 25.15 42 P **P 16 16 06.3 -1.1**
MAKZ pmax pmax
comp=Z,77nm,1.2s
MAKZ Makanchi 25.15 42 P **P 16 16 06.3 -1.1**
MK31 Makanchi Array 25.32 42 P **P 16 16 07.0 -1.9**
MK31 pmax pmax
comp=Z,15nm,0.9s
MK31 Makanchi Array 25.32 42 P **P 16 16 07.0 -1.9**
MK31 IAmb IAmb 16 16 12.7
comp=Z,15nm,0.9s
MKAR Makanchi Array 25.32 42 P **P 16 16 10.6 +1.6**
comp=Z,11nm,0.7s,baz=228,slow=7.9,SNR=99
MKAR LR LR 16 27 08.0
comp=Z,224nm,20.3s,baz=232,slow=39
MKAR Makanchi Array 25.32 42 P **P 16 16 09.3 +0.4**
KURBB Kurchatov Arra 25.78 31 P **P 16 16 14.8 +1.8**
comp=Z,16nm,0.9s,baz=229,slow=9.3,SNR=86
KURK Kurchatov 25.89 31 P **P 16 16 14.8 +0.9**
KURK Kurchatov 25.89 31 P **P 16 16 14.8 +0.9**
KARP Karpathos 26.20 290 P **P 16 16 14.2 -2.8**
ARU Arti 26.35 1 P **P 16 16 20.5 +2.3**
comp=Z,0.4nm,0.3s,baz=184,slow=9.1,SNR=6.4
ARU LR LR 16 27 20.3
comp=Z,261nm,21.4s,baz=180,slow=38
ARU Arti 26.35 1*d i P* **P 16 16 21.2 +3.1**
ARU 16 17 03.9
ARU S **S 16 20 51.7 +0.7**
ARU SS **SnSn 16 21 58.8 +7.6**
ARU pmax pmax
comp=Z,12nm,1.6s
ARU MLR MLR
comp=Z,180nm,16.0s
LPSR Galich'ya Gora 26.41 334 *eP* **P 16 16 18.3 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SVE Sverdlovsk 26.82 4 *eP* **P 16 16 23.9 +1.5**
SVE pmax pmax
comp=Z,14nm,1.4s
SVE MLR MLR
comp=Z,355nm,15.0s
TIRR Tirgusor 27.21 310 P **P 16 16 22.8 -3.2**
TIRR pmax pmax
comp=Z,79nm,1.8s
TIRR Tirgusor 27.21 310 P **P 16 16 22.8 -3.2**
TPGR Topolog 27.36 311 ⇑P **P 16 16 27.1 -0.3**
WMQ Urumqi 27.44 52 *eP* **P 16 16 30.5 +2.4**
WMQ sP sP 16 16 45.8 +13
WMQ LR LR
comp=Z,630nm,20.9s
WMQ LR LR
comp=Z,350nm,20.9s
WMQ LR LR
comp=Z,270nm,18.1s
APE Apeiranthos 27.62 293 ⇑P **P 16 16 34.7 +4.8**
APE Apeiranthos 27.62 293 ⇑P **P 16 16 34.7 +4.8**
IDI Anoyia 28.04 289 P **P 16 16 35.3 +1.6**
comp=Z,3.1nm,0.7s,baz=94,slow=19,SNR=1.9
IDI Anoyia 28.04 289 ⇑P P 16 16 27.3 -6.3
IDI Anoyia 28.04 289 P **P 16 16 31.3 -2.3**
IDI IAmb IAmb 16 17 02.0
comp=Z,18nm,1.0s
VRI Vrincioaia 28.85 312 ⇑P **P 16 16 38.5 -2.2**
VRI Vrincioaia 28.85 312 ⇑P **P 16 16 38.5 -2.2**
PLOR Plostina 28.89 312 ⇑P **P 16 16 37.0 -4.1**
PLOR Plostina 28.89 312 ⇑P **P 16 16 37.0 -4.1**
TESR Tescani 29.15 313 ⇑P **P 16 16 41.6 -1.8**
MLR Muntele Rosu 29.22 311 P **P 16 16 46.2 +2.1**
comp=Z,2.6nm,0.7s,baz=15,slow=4.6,SNR=6.7
MLR LR LR 16 30 56.4
comp=Z,91nm,19.0s,baz=112,slow=42
MLR Muntele Rosu 29.22 311 ⇑P **P 16 16 46.7 +2.5**
OBN Obninsk 29.24 335 P **P 16 16 44.1 +0.2**
comp=Z,2.0nm,0.4s,baz=127,slow=19,SNR=4.9
OBN LR LR 16 31 01.5
comp=Z,33nm,18.6s,baz=6.5,slow=42
OBN Obninsk 29.24 335 *eP* **P 16 16 44.7 +0.7**
OBN *e* 16 17 38.1
OBN pmax pmax
comp=Z,14nm,1.2s
AKASG Malin Array Be 29.63 322 P **P 16 16 47.9 +0.4**
comp=Z,2.1nm,0.6s,baz=123,slow=8.3,SNR=14
AKASG PcP **PcP 16 19 51.3 -0.5**
comp=Z,1.3nm,0.6s,baz=91,slow=2.4,SNR=6.6
AKASG Malin Array Be 29.63 322*ceP* P 16 16 53.7 +6.2
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 29.63 322 P **P 16 16 44.0 -3.5**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 29.63 322 P **P 16 16 44.0 -3.5**
AKBB IAmb IAmb 16 16 56.1
comp=Z,6.3nm,0.6s
DGZ Jazzator, Alta 29.77 40*d i P* **P 16 16 50.8 +1.8**
DGZ pmax pmax
comp=Z,21nm,1.8s
VOIR 29.80 310 ⇑P P 16 16 43.9 -5.3
VOIR 29.80 310 ⇑P P 16 16 43.9 -5.2
VTS Vitosha 30.26 304 P **P 16 16 52.0 -1.3**
VTS pmax pmax
comp=Z,3.0nm,0.9s
VTS Vitosha 30.26 304 P **P 16 16 52.0 -1.3**
SHL Shillong 30.48 90 P **P 16 16 53.2 -2.3**
SHL pmax pmax
comp=Z,22nm,0.4s
SHL Shillong 30.48 90 P **P 16 16 53.2 -2.3**
BURAR Bucovina Array 30.49 314 ⇑P **P 16 16 55.7 +0.5**
BURAR Bucovina Array 30.49 314 ⇑P **P 16 16 55.7 +0.5**
BURAR Bucovina Array 30.49 314 P **P 16 16 53.5 -1.8**
BUR08 Bucovina Ar. S 30.51 314 P **P 16 16 52.2 -3.3**
ZAA0 Zalesovo Array 30.88 32 P **P 16 16 55.9 -2.6**
ZALV Zalesovo Beam 30.88 32 P **P 16 16 59.5 +1.1**
comp=Z,23nm,0.8s,baz=238,slow=9.4,SNR=45
ZALV LR LR 16 30 26.5
comp=Z,154nm,19.5s,baz=210,slow=38
ZALV Zalesovo Beam 30.88 32 *i* P **P 16 16 59.7 +1.2**
ZALV pmax pmax
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 30.88 32 P **P 16 16 55.5 -3.0**
KBN Korca 31.70 300 P **P 16 17 03.9 -2.1**
KBN pmax pmax
comp=Z,16nm,0.8s
KBN Korca 31.70 300 P **P 16 17 03.9 -2.1**
KBN IAmb IAmb 16 18 12.5
comp=Z,16nm,0.8s
MNK Minsk 32.48 327 *i* P **P 16 17 09.6 -3.0**
MNK *i* 16 18 17.4
MNK *i* SS SS 16 24 22.9 -24
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK pmax pmax
comp=N,2.0nm,0.6s
MNK pmax pmax
comp=Z,6.0nm,0.8s
MNK MLR MLR
comp=Z,68nm,15.0s
MNK MLR MLR
comp=E,47nm,23.0s
MNK MLR MLR
comp=N,394nm,15.0s
MNK Minsk 32.48 327 *i* P **P 16 17 09.6 -3.0**
comp=E,1.0nm,0.7s
MNK *i* P **P 16 17 09.6 -3.0**
comp=N,2.0nm,0.6s
MNK *i* P **P 16 17 09.6 -3.0**
comp=Z,6.0nm,0.8s,baz=307
MNK *i* pP sP 16 17 27.6 +10
MNK *i* sP pP 16 17 33.9 +18
MNK *i* PP **PnPn 16 18 17.4 -2.2**
MNK *i* S **S 16 22 19.1 -8.3**
MNK *i* sS sS 16 22 51.1 +18
MNK *i* SS **SnSn 16 24 23.0 +2.6**
MNK *i* LQ LQ 16 27 43.8
MNK *i* LR LR 16 29 35.0
MNK *i* LRM MLR 16 31 39.5
comp=Z,68nm,14.9s
MNK *i* LRM MLR 16 32 39.9
comp=E,47nm,22.7s
MNK *i* LRM MLR 16 32 39.9
comp=N,394nm,15.3s
UZH Uzhgorod 32.69 315 *eP* P 16 17 20.2 +5.8
UZH *e* 16 17 30.5
KOLS Kolonicke sedl 32.81 315 *eP* **P 16 17 17.3 +1.7**
KOLS Kolonicke sedl 32.81 315 *eP* **P 16 17 17.2 +1.7**
KLMR Klimovskoe 33.09 344 *eP* **P 16 17 17.0 -0.7**
KLMR pmax pmax
comp=Z,16nm,1.4s
KLMR Klimovskoe 33.09 344 *eP* **P 16 17 17.1 -0.7**
KLMR AMP 16 17 25.7
comp=Z,16nm,1.4s
KLMR LQ LQ 16 29 47.1
KLMR LQ LQ 16 29 47.1
KLMR LR LR 16 30 38.8
OJC Ojcow 34.78 316 *eP* **P 16 17 34.0 +1.3**
OJC Ojcow 34.78 316 P **P 16 17 31.6 -1.1**
OJC pmax pmax
comp=Z,10.0nm,1.0s
OJC Ojcow 34.78 316 P **P 16 17 31.6 -1.1**
OJC IAmb IAmb 16 17 34.7
comp=Z,9.7nm,1.0s
VSU Vasula 35.44 332⇑ *eP* **P 16 17 38.6 +0.4**
VSU pmax pmax
comp=Z,38nm,1.1s
GTA Gaotai 35.55 63 ⇓P **P 16 17 41.5 +1.9**
GTA pP sP 16 17 52.8 +8.5
GTA sP pP 16 17 57.0 +14
GTA pmax pmax
comp=Z,22nm,0.9s
GTA pmax pmax
comp=Z,64nm,4.7s
GTA LR LR
comp=Z,340nm,16.7s
GTA LR LR
comp=Z,140nm,15.6s
GTA LR LR
comp=Z,220nm,15.6s
GCIS Gornji Cirnik 36.28 308 *i* P **P 16 17 45.4 -0.2**
LEGS Legarje 36.51 308 *i* P **P 16 17 47.4 -0.2**
CONA Conrad Observa 36.56 311 *eP* **P 16 17 47.8 -0.3**
comp=Z,2.6nm,0.9s
ARSA Arzberg 36.63 310 *eP* **P 16 17 48.4 -0.2**
comp=Z,3.3nm,0.9s
KMBO Kilima Mbogo 36.66 216 P **P 16 17 50.6 +1.2**
comp=Z,1.4nm,0.7s,baz=45,slow=19,SNR=1.5
KMBO LR LR 16 34 59.0
comp=Z,148nm,18.4s,baz=90,slow=40
KMBO Kilima Mbogo 36.66 216⇓ *eP* P 16 17 56.6 +7.2
KMBO pmax pmax
comp=Z,2.0nm,0.8s
DPC Dobruska-Polom 36.93 315 *eP* **P 16 17 51.1 0.0**
DPC *e* 16 17 56.7
DPC Dobruska-Polom 36.93 315 *eP* **P 16 17 51.1 0.0**
DPC *ex* x 16 17 56.7
CEY Cerknica 37.08 307 *eP* **P 16 17 52.3 -0.3**
KSP Ksiaz 37.09 316 *eP* **P 16 17 53.7 +1.2**
OBKA Obir 37.14 308 *eP* **P 16 17 54.1 +1.1**
comp=Z,11nm,1.6s
CHVC Chvalec 37.16 315 *eP* **P 16 17 54.2 +1.1**
CRNS Crni Vrh 37.26 308 *eP* **P 16 17 53.5 -0.5**
MOA Molln 37.59 311 *eP* **P 16 17 56.5 -0.3**
comp=Z,8.0nm,1.1s
FIA1 FINESS Array S 37.64 336 P **P 16 17 55.0 -1.9**
FIA1 IAmb IAmb 16 18 05.4
comp=Z,7.9nm,0.6s
FINES FINESS Array B 37.64 336 P **P 16 17 57.2 +0.3**
comp=Z,2.6nm,0.6s,baz=130,slow=9.3,SNR=21
FINES FINESS Array B 37.64 336 *i* P **P 16 17 57.5 +0.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 37.64 336 P **P 16 17 57.4 +0.5**
MYKA Terra Mystica 37.77 308 *eP* **P 16 17 57.6 -0.8**
comp=Z,1.5nm,0.5s
KBA Koelnbreinsper 38.05 309 *eP* **P 16 18 01.4 +0.5**
comp=Z,8.2nm,0.8s
GEC2 GERESS Array S 38.18 312 P **P 16 18 00.4 -1.4**
GERES GERESS Array B 38.18 312 P **P 16 18 01.6 -0.2**
comp=Z,3.4nm,0.8s,baz=106,slow=8.7,SNR=19
GERES PcP **PcP 16 20 16.2 -0.1**
comp=Z,2.4nm,0.9s,baz=111,slow=3.0,SNR=4.2
GERES GERESS Array B 38.18 312 P **P 16 18 01.2 -0.6**
GERES **PcP 16 20 16.4 +0.1**
KHC Kasperske Hory 38.32 312 P **P 16 18 00.7 -2.3**
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 38.32 312 *eP* **P 16 18 02.5 -0.5**
KHC *ex* x 16 18 07.8
KHC Kasperske Hory 38.32 312 P **P 16 18 00.7 -2.3**
STAL STALIGIAL 38.35 308 P **P 16 18 01.6 -1.6**
MOY Mondy 38.45 43 *eP* **P 16 18 06.7 +2.6**
MOY pmax pmax
comp=Z,22nm,1.7s
ABTA Abfaltersbach 38.56 308 *eP* **P 16 18 04.4 -0.6**
comp=Z,5.6nm,0.8s
LZH Lanzhou 38.83 69 ⇓P **P 16 18 09.5 +2.0**
LZH pP sP 16 18 20.3 +8.1
LZH sP pP 16 18 26.5 +16
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,92nm,5.4s
LZH LR LR
comp=Z,200nm,16.8s
LZH LR LR
comp=Z,280nm,16.3s
LZH LR LR
comp=Z,180nm,17.6s
CHTO Chiang Mai 38.98 97 P **P 16 18 07.2 -1.5**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 38.98 97 P **P 16 18 10.1 +1.4**
comp=Z,8.3nm,1.1s
CHTO Chiang Mai 38.98 97 P **P 16 18 07.2 -1.5**
CMMT Chiang Mai 38.98 97 P **P 16 18 10.1 +1.3**
comp=Z,8.3nm,1.1s
CMAR Chiang Mai Arr 39.12 98 P **P 16 18 10.8 +0.8**
comp=Z,1.4nm,0.8s,baz=297,slow=7.4,SNR=7.7
CMAR PcP **PcP 16 20 20.0 +0.3**
comp=Z,1.0nm,0.6s,baz=274,slow=5.9,SNR=4.2
CMAR LR LR 16 38 41.8
comp=Z,155nm,18.2s,baz=332,slow=43
CMAR Chiang Mai Arr 39.12 98*ceP* **P 16 18 11.1 +1.1**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CLL Collm 39.22 316 *i* P **P 16 18 11.3 +0.9**
comp=Z,11nm,0.9s
CLL *e* 16 18 15.0
CLL *i* 16 18 19.4
CLL Collm 39.22 316 *i* P **P 16 18 11.3 +0.9**
CLL *e* 16 18 15.0
CLL *i* 16 18 19.4
CLL pmax pmax
comp=Z,11nm,0.9s
WTTA Wattenberg 39.24 309 *eP* **P 16 18 09.3 -1.5**
comp=Z,14nm,1.0s
WATA Walderalm 39.29 309 *eP* **P 16 18 09.7 -1.5**
comp=Z,10nm,1.0s
ZAK Zakamensk 39.51 46 *eP* **P 16 18 13.7 +0.8**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
SQTA Sankt Quirin 39.52 309 *eP* **P 16 18 11.3 -1.8**
comp=Z,11nm,1.0s
MOTA Moosalm 39.61 309 *eP* **P 16 18 12.2 -1.7**
comp=Z,10nm,1.0s
FETA Feichten 39.81 309 *eP* **P 16 18 13.5 -2.1**
comp=Z,9.7nm,0.9s
RETA Reutte 39.86 309 *eP* **P 16 18 14.4 -1.5**
comp=Z,5.8nm,1.1s
MBAR Mbarara 39.89 225 P **P 16 18 17.1 +0.6**
comp=Z,2.1nm,0.3s,baz=63,slow=12,SNR=5.1
MBAR Mbarara 39.89 225*ceP* **P 16 18 21.2 +4.6**
KMI Kunming 40.01 86 ⇑P **P 16 18 17.8 +0.2**
KMI sP sP 16 18 35.0 +12
KMI S **S 16 24 17.8 -5.7**
KMI pmax pmax
comp=Z,14nm,0.9s
KMI pmax pmax
comp=Z,71nm,5.5s
KMI LR LR
comp=Z,160nm,19.0s
KMI LR LR
comp=Z,130nm,22.0s
KMI LR LR
comp=Z,170nm,15.0s
DAVA Damuels 40.42 309 *eP* **P 16 18 19.4 -1.2**
comp=Z,22nm,1.1s
TUE Stuetta 40.69 308 P **P 16 18 21.5 -1.4**
TUE IAmb IAmb 16 18 30.8
comp=Z,7.9nm,0.6s
UTTA Uttaradit 40.81 98 P **P 16 18 26.2 +2.2**
comp=Z,9.9nm,0.7s
PHIT Phitsanulok 40.94 98 P **P 16 18 29.8 +4.8**
comp=Z,25nm,0.9s
SONM Songino Array 41.05 50 P **P 16 18 27.5 +1.7**
comp=Z,5.2nm,0.9s,baz=259,slow=9.2,SNR=31
SONM LR LR 16 37 13.0
comp=Z,239nm,21.1s,baz=260,slow=39
SONM Songino Array 41.05 50 P **P 16 18 25.3 -0.6**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 41.05 50 P **P 16 18 25.3 -0.6**
ULN Ulaanbaatar 41.50 50 P **P 16 18 28.0 -1.5**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 41.50 50 P **P 16 18 28.0 -1.5**
SENIN Lac Senin/Sane 42.09 307 P **P 16 18 33.5 -0.9**
BNI Bardonecchia 42.44 305 P **P 16 18 36.0 -1.2**
BNI pmax pmax
comp=Z,15nm,1.0s
BNI Bardonecchia 42.44 305 P **P 16 18 36.0 -1.2**
BNI IAmb IAmb 16 18 42.1
comp=Z,15nm,1.0s
NRIK Noril'sk 42.86 15 P **P 16 18 41.8 +1.6**
comp=Z,11nm,1.0s,baz=223,slow=5.9,SNR=14
NRIK LR LR 16 39 46.3
comp=Z,277nm,18.9s,baz=212,slow=41
NRIK Noril'sk 42.86 15 P **P 16 18 40.1 0.0**
NRIK pmax pmax
comp=Z,13nm,1.0s
NRIK Noril'sk 42.86 15 P **P 16 18 40.1 0.0**
NRIK IAmb IAmb 16 18 42.5
comp=Z,13nm,1.0s
GYA Guiyang 43.00 82 ⇑P **P 16 18 42.0 0.0**
GYA sP sP 16 19 01.0 +14
XAN Xi'an 43.21 71 P **P 16 18 44.0 +0.5**
XAN pP sP 16 18 55.5 +7.2
XAN pmax pmax
comp=Z,16nm,0.9s
XAN LR LR
comp=Z,340nm,15.7s
XAN LR LR
comp=Z,200nm,17.7s
XAN LR LR
comp=Z,320nm,16.7s
NC405 NORSAR Array S 43.26 329 P **P 16 18 42.5 -1.0**
BTO Baotou 43.38 61 *eP* **P 16 18 45.8 +0.9**
BTO S **S 16 25 12.5 -0.4**
BTO LR LR
comp=Z,840nm,22.2s
BTO LR LR
comp=Z,420nm,16.8s
BTO LR LR
comp=Z,880nm,20.0s
NB2 NORSAR Subarra 43.45 329 P **P 16 18 44.4 -0.7**
comp=Z,4.2nm,0.8s,baz=116,slow=8.6
NOA NORSAR Array B 43.45 329 P **P 16 18 44.8 -0.3**
comp=Z,1.4nm,0.8s,baz=115,slow=7.9,SNR=6.9
NOA LR LR 16 39 28.1
comp=Z,75nm,19.4s,baz=110,slow=40
ARCES ARCESS Array B 43.56 344 P **P 16 18 45.0 -0.8**
comp=Z,1.0nm,0.7s,baz=40,slow=1.5,SNR=2.8
ARCES LR LR 16 39 19.1
comp=Z,131nm,18.6s,baz=105,slow=39
ARCES ARCESS Array B 43.56 344 P **P 16 18 45.0 -0.8**
ARCES pmax pmax
comp=Z,31nm,1.8s
ARCES ARCESS Array B 43.56 344 P **P 16 18 45.0 -0.8**
ARCES IAmb IAmb 16 18 55.8
comp=Z,32nm,1.8s
HHC Hu-ho-hao-te 44.53 61 *eP* **P 16 18 53.5 -0.7**
HHC S **S 16 25 28.5 -1.3**
HHC ScS **SS 16 28 42.8 -6.4**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.3s
HHC LR LR
comp=Z,210nm,16.4s
HHC LR LR
comp=Z,140nm,16.7s
HHC LR LR
comp=Z,180nm,15.5s
OPO Ambohidratompo 49.41 193 P **P 16 19 34.0 +1.6**
comp=Z,4.3nm,0.6s,baz=28,slow=6.0,SNR=7.3
HIA Hailar 49.98 49 P **P 16 19 35.6 -0.8**
HIA pmax pmax
comp=Z,12nm,1.3s
HIA Hailar 49.98 49 P **P 16 19 35.6 -0.8**
HIA IAmb IAmb 16 19 38.8
comp=Z,12nm,1.3s
ESDC Sonseca Array 50.63 298 P **P 16 19 40.4 -1.1**
comp=Z,4.1nm,1.0s,baz=68,slow=7.5,SNR=16
ESDC LR LR 16 45 06.1
comp=Z,51nm,18.2s,baz=215,slow=41
ESDC Sonseca Array 50.63 298 P **P 16 19 39.2 -2.3**
PAB San Pablo 50.94 298 P **P 16 19 42.9 -1.0**
PAB pmax pmax
comp=Z,11nm,1.1s
PAB San Pablo 50.94 298 P **P 16 19 42.9 -1.0**
PAB IAmb IAmb 16 19 49.7
comp=Z,11nm,1.1s
NJ2 Nanjing 51.78 71 *eP* **P 16 19 49.0 -1.1**
NJ2 pmax pmax
comp=Z,13nm,0.5s
MTE Manteigas 53.21 300 P **P 16 20 00.1 -0.7**
TORD Torodi Ar. Bea 54.23 265 P **P 16 20 08.7 +0.3**
comp=Z,10nm,0.6s,baz=58,slow=7.3,SNR=20
TORD LR LR 16 43 36.9
comp=Z,113nm,18.6s,baz=290,slow=36
TORD Torodi Ar. Bea 54.23 265 P **P 16 20 07.9 -0.5**
TORD IAmb IAmb 16 20 16.5
comp=Z,13nm,1.5s
ZEA Zeya 54.47 43 *eP* **P 16 20 11.4 +1.8**
ZEA *eS* **S 16 27 48.3 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.2s

ZEA smax smax
comp=E,100nm,5.5s
ZEA MLR MLR
comp=Z,100nm,11.0s
YAK Yakutsk 55.51 33 *d iP* **P 16 20 16.4 -0.6**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 55.51 33 P **P 16 20 16.1 -0.9**
YAK IAmb IAmb 16 20 31.3
comp=Z,6.9nm,0.8s
TIXI Tiksi 55.83 21 P **P 16 20 18.8 -0.4**
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 55.83 21 P **P 16 20 18.8 -0.4**
TIXI IAmb IAmb 16 21 09.0
comp=Z,13nm,1.0s
KSRS Korea Array 57.62 62 P **P 16 20 32.5 +0.1**
comp=Z,2.1nm,0.7s,baz=278,slow=6.5,SNR=13
KSRS LR LR 16 48 35.7
comp=Z,67nm,21.9s,baz=287,slow=40
KLR Kul'dur 57.80 48 *de*P **P 16 20 33.7 +0.2**
KLR pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 58.97 54 P **P 16 20 41.4 -0.4**
comp=Z,2.2nm,0.8s,baz=263,slow=6.8,SNR=5.2
USRK LR LR 16 48 50.5
comp=Z,148nm,18.2s,baz=280,slow=39
LBTB Lobatse 62.84 213 P **P 16 21 08.0 -0.4**
LBTB pmax pmax
comp=Z,9.0nm,0.8s
LBTB Lobatse 62.84 213 P **P 16 21 08.0 -0.4**
LBTB IAmb IAmb 16 21 19.1
comp=Z,8.6nm,0.8s
SUMG Summit 63.43 340 *i* P **P 16 21 12.0 0.0**
SUMG IAmb IAmb 16 21 15.1
comp=Z,9.1nm,1.1s
SUMG Summit 63.43 340 *i* P **P 16 21 12.0 0.0**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 63.43 340 P **P 16 21 11.1 -1.0**
SUMG IAmb IAmb 16 21 15.3
comp=Z,7.5nm,1.0s
JWT Wachi 64.02 63 P **P 16 21 16.9 +0.9**
ICESG Greenland Ices 64.82 337 *e*P **P 16 21 20.8 -0.4**
NEEM North Greenlan 64.82 347 *e*P **P 16 21 21.3 +0.3**
YSS Yuzh-Sakhalins 65.50 49⇓*e*P **P 16 21 25.4 -0.1**
YSS *e*S S 16 30 01.8 -8.6
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS Yuzh-Sakhalins 65.50 49 P **P 16 21 24.7 -0.9**
MJAR Matsushiro Ar 65.74 61 LR LR 16 53 48.7
comp=Z,63nm,19.0s,baz=265,slow=39
BOSA Boshof 66.08 211 P **P 16 21 30.1 +0.6**
comp=Z,7.2nm,0.7s,baz=16,slow=5.3,SNR=8.1
BOSA LR LR 16 51 25.2
comp=Z,71nm,21.6s,baz=28,slow=37
BOSA Boshof 66.08 211 P **P 16 21 28.8 -0.7**
BOSA pmax pmax
comp=Z,46nm,1.7s
BOSA Boshof 66.08 211 P **P 16 21 28.8 -0.7**
DY2G Dye2 68.13 335 *e*P **P 16 21 43.0 +0.7**
BILL Bilibino 69.01 22 *e*P **P 16 21 47.8 +0.4**
BILL *e* 16 22 12.4
BILL *e* 16 24 19.1
BILL *e*PPP PPP 16 26 02.0
BILL pmax pmax
comp=Z,13nm,1.3s
PETK Petropavlovsk- 72.11 39 LR LR 16 56 43.6
comp=Z,71nm,18.6s,baz=303,slow=38
TOLK Toolik Lake Re 79.53 10 P **P 16 22 49.8 +1.1**
baz=336
TOLK Toolik Lake Re 79.53 10 P **P 16 22 49.9 +1.1**
C36M Paulatuk 80.87 1 P **P 16 22 55.4 -0.5**
baz=358
C36M Paulatuk 80.87 1 P **P 16 22 55.3 -0.5**
C36M IAmb IAmb 16 23 05.3
comp=Z,9.2nm,0.8s
IMAR Indian Mountai 81.24 12 P **P 16 22 58.1 +0.1**
BMAR Burnt Mountain 81.35 9 P **P 16 22 59.5 +0.9**
INK Inuvik 81.56 4 P **P 16 22 59.2 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 81.56 4 P **P 16 22 59.8 +0.3**
baz=350
INK Inuvik 81.56 4 P **P 16 22 59.2 -0.4**
INK IAmb IAmb 16 23 00.9
comp=Z,9.2nm,1.1s
H23K Yukon River 82.13 11 P **P 16 23 03.9 +1.2**
baz=336,SNR=20
H24K Noodor Dome 82.38 10 P **P 16 23 05.0 +1.0**
baz=338,SNR=9.3
MLY Manley 82.65 12 P **P 16 23 06.0 +0.5**
baz=335,SNR=5.8
J20K Nowinta River 82.77 13 P **P 16 23 07.1 +1.0**
baz=333
I23K Minto, Yukon-K 82.78 11 P **P 16 23 06.6 +0.5**
baz=337,SNR=8.7
I23K Minto, Yukon-K 82.78 11 P **P 16 23 06.4 +0.4**
I23K IAmb IAmb 16 23 07.9
comp=Z,7.7nm,0.9s
SCHQ Schefferville 82.98 331 P **P 16 23 07.2 -0.1**
comp=Z,1.8nm,0.7s,baz=90,slow=4.0,SNR=1.9
POKR Poker Plat Res 83.12 10 P **P 16 23 09.1 +1.2**
baz=338
MDM Murphy Dome 83.14 11 P **P 16 23 08.0 0.0**
EPYK Eagle Plains 83.23 6 P **P 16 23 08.5 0.0**
baz=347
NEA2 Nenana 83.34 11 P **P 16 23 09.3 +0.3**
baz=337
NEA2 Nenana 83.34 11 P **P 16 23 08.2 -0.8**
NEA2 IAmb IAmb 16 23 10.0
comp=Z,6.1nm,0.8s
CHUM Lake Minchumin 83.40 13 P **P 16 23 10.0 +0.7**
baz=334,SNR=6.0
BPAW Bear Paw Mtn. 83.45 12 P **P 16 23 10.1 +0.4**
baz=335,SNR=12
BPAW Bear Paw Mtn. 83.45 12 P **P 16 23 09.9 +0.2**
CCB Clear Creek Bu 83.50 11 P **P 16 23 08.7 -1.1**
CCB IAmb IAmb 16 25 14.9
comp=Z,2.7nm,0.6s
K20K Telida 83.52 14 P **P 16 23 10.8 +0.9**
baz=333
ILAR Eielson Array 83.53 10 P **P 16 23 09.6 -0.4**
comp=Z,2.3nm,0.8s,baz=330,slow=3.9,SNR=17
ILAR Eielson Array 83.53 10 P **P 16 23 09.5 -0.5**
HDA Harding Lake 83.86 11 P **P 16 23 10.4 -1.2**
baz=339
MCK McKinley 84.16 12 P **P 16 23 13.1 -0.1**
baz=337
EGAK Eagle 84.32 8 P **P 16 23 14.2 +0.2**
baz=344,SNR=14
EGAK Eagle 84.32 8 P **P 16 23 13.9 -0.1**
EGAK IAmb IAmb 16 23 15.4
comp=Z,11nm,1.0s
L19K White Mountain 84.40 15 P **P 16 23 15.3 +0.8**
baz=332
SCRK Sand Creek 84.71 9 P **P 16 23 17.1 +0.9**
baz=341
SCRK Sand Creek 84.71 9 P **P 16 23 16.5 +0.3**
RIDG Independent Ri 84.81 10 P **P 16 23 16.5 -0.1**
baz=340
K27K Chicken 84.92 9 P **P 16 23 18.0 +1.0**
baz=343
SKT Skwentna 85.28 13 P **P 16 23 19.4 +0.5**
baz=335,SNR=5.5
WAT6 Susitna Watana 85.43 12 P **P 16 23 19.6 -0.3**
baz=338
N19K Bonanza Creek 85.70 15 P **P 16 23 21.6 +0.5**
baz=332
L27K Beaver Creek, 85.88 9 P **P 16 23 22.9 +1.0**
baz=343,SNR=16
BCAR Beaver Creek A 85.88 9 P **P 16 23 22.8 +0.8**
SUA Susitna One 85.91 13 P **P 16 23 22.8 +0.6**
baz=336
SML Sawmill 86.05 12 P **P 16 23 22.9 +0.2**
baz=338,SNR=6.3
M24K Tolsona, Glenn 86.14 11 P **P 16 23 24.4 +1.2**
baz=339,SNR=5.2
M26K Nabesna, AK 86.35 10 P **P 16 23 25.0 +0.8**
baz=342,SNR=5.3
RC01 Rabbit Creek A 86.45 13 P **P 16 23 24.8 +0.1**
baz=336
M27K Edge Creek, AK 86.55 9 P **P 16 23 26.2 +0.9**
baz=343,SNR=12
KLU Klutina 86.76 11 P **P 16 23 27.1 +0.7**
baz=340,SNR=5.5
BMRM Bremner River 87.47 11 P **P 16 23 30.1 +0.4**
baz=341,SNR=5.3
YKA Yellowknife Ar 87.55 356 P **P 16 23 30.6 +0.6**
comp=Z,2.2nm,0.7s,baz=359,slow=4.3,SNR=15
CTG Chitna Glacier 87.97 9 P **P 16 23 32.9 +0.7**
baz=344
KDAK Kodiak Island 88.85 16 P **P 16 23 36.8 +0.6**
baz=334
WRA Warramunga Arr 88.87 114 P **P 16 23 36.4 -0.6**
comp=Z,0.7nm,0.7s,baz=328,slow=3.5,SNR=5.0
ASAR Alice Springs 90.53 117 P **P 16 23 45.0 +0.4**
comp=Z,0.8nm,0.9s,baz=306,slow=4.6,SNR=7.7
NVAR Mina Array Bea 111.75 357 PKiKP **PKiKP 16 29 17.9 +0.2**
comp=Z,0.3nm,0.7s,baz=352,slow=2.7,SNR=3.0
TXAR Lajitas Array 118.32 342 PKP **PKPdf 16 29 29.6 -0.7**
comp=Z,0.5nm,0.9s,baz=180,slow=0.9,SNR=5.5

IDC ***25*** *16:24:58.9±2.1, 43°.85N×105°.51W, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.4/42, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=69.9km s-min=8.6km az=149.0*
NEIC ***25*** *16:24:59.7±1.2, 43°.81N±0°.05×105°.29W±0°.06, h0km±2km, ML3.2/32, Error ellipse: s-maj=9.1km s-min=6.4km az=146.0*
ISC 25 16:24:59.1±1.1, 43°.82N±0°.06×105°.30W±0°.07, h0km, n28, σ0983/28, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**71**	Pg	**Pg**	**16 25 17.6**	**+0.1**
K22A	**Casper**	**1.47**	**218**		**Pn**	**16 25 25.2**	**-1.8**
PHWY	**Pilot Hill**	**2.52**	**183**		**Pn**	**16 25 41.5**	**0.0**
RWWY	**Rawlins**	**2.55**	**214**		**Pn**	**16 25 42.9**	**+1.0**
RWWY				IAML		16 26 19.0	
	133nm,0.6s						
RWWY				IAML		16 26 23.3	
	112nm,0.8s						
LAO	**LASA Array**	**2.94**	**348**		**Pn**	**16 25 48.0**	**+0.8**
RLMT	**Red Lodge**	**3.12**	**296**		**Pn**	**16 25 49.9**	**+0.1**
RLMT				IAML		16 26 38.0	
	77nm,0.3s						
RLMT				IAML		16 26 49.0	
	62nm,0.3s						
PD31	**Pinedale Array**	**3.28**	**253**		**Pn**	**16 25 51.4**	**-0.5**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**16 25 52.5**	**+0.6**
	4.9nm,0.3s,baz=74,slow=18,SNR=103						
PDAR				Lg	Lg	16 26 37.9	
	28nm,0.3s,baz=79,slow=32,SNR=9.3						
PDAR	**Pinedale Array**	**3.28**	**253**		**Pn**	**16 25 51.9**	**0.0**
BW06	**Boulder Array**	**3.28**	**253**		**Pn**	**16 25 52.2**	**+0.3**
BW06				IAML		16 26 40.2	
	43nm,0.3s						
BW06				IAML		16 26 44.3	
	41nm,0.3s						
YNE	**Yellowstone No**	**3.58**	**291**		**Pn**	**16 25 56.5**	**+0.5**
GCMT	**Greycliff**	**3.68**	**304**		**Pn**	**16 25 58.2**	**+0.9**
OGNE	**Ogallala**	**3.76**	**139**		**Pn**	**16 25 59.2**	**+0.9**
OGNE				IAML		16 27 02.5	
	50nm,1.1s						
OGNE				IAML		16 27 07.2	
	54nm,0.7s						
LOHW	**Long Hollow**	**3.85**	**269**		**Pn**	**16 26 01.0**	**+1.3**
FLWY	**Flagg Ranch**	**3.91**	**276**		**Pn**	**16 26 01.4**	**+0.9**
FLWY				IAML		16 27 10.9	
	28nm,2.0s						
ISCO	**Idaho Springs**	**4.02**	**183**		**Pn**	**16 26 02.4**	**+0.2**
REDW	**Red Top Meadow**	**4.06**	**265**		**Pn**	**16 26 03.6**	**+1.0**
REDW				IAML		16 27 12.8	
	22nm,0.4s						
REDW				IAML		16 27 16.0	
	26nm,1.1s						
E28A	**Huff**	**4.27**	**48**		**Pn**	**16 26 05.7**	**+0.4**
O20A	**White River Ci**	**4.28**	**212**		**Pn**	**16 26 06.4**	**+0.8**
O20A				IAML		16 27 13.9	
	comp=E,37nm,0.3s						
O20A				IAML		16 28 02.9	
	comp=N,24nm,1.9s						
BOZ	**Bozeman (W)**	**4.85**	**294**		**Pn**	**16 26 14.4**	**+1.0**
BOZ				IAML		16 27 36.4	
	comp=N,12nm,0.8s						
HWUT	**Hardware Ranch**	**5.12**	**247**		**Pn**	**16 26 17.2**	**+0.1**
HWUT				IAML		16 27 41.9	
	comp=N,12nm,0.8s						
HWUT				IAML		16 27 46.6	
	comp=N,13nm,1.1s						
HRY	**Holter Researc**	**5.44**	**304**		**Pn**	**16 26 22.0**	**+0.5**
SRU	**San Rafael Swe**	**6.12**	**222**		**Pn**	**16 26 31.3**	**+0.4**
PV16	**Nyswonger Mesa**	**6.14**	**208**	Pn	**Pn**	**16 26 32.1**	**+0.9**
ECSD	**EROS Data Cent**	**6.29**	**88**	Pn	**Pn**	**16 26 33.7**	**+0.6**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**16 26 57.5**	**+1.0**
	comp=N,0.6nm,0.3s,baz=61,slow=6.1,SNR=8.1						
ULM	**Lac du Bonnet**	**9.10**	**42**	Pn	**Pn**	**16 27 11.2**	**-0.4**
	comp=N,1.5nm,0.3s,baz=230,slow=12,SNR=8.0						
ULM				Lg	Lg	16 29 40.6	
	comp=N,0.7nm,0.3s,baz=319,slow=20,SNR=2.3						
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**16 35 14.7**	**-1.3**
	comp=N,1.2nm,0.9s,baz=317,slow=7.5,SNR=4.2						

IDC ***25*** *16:38:49.6±2.9, 35°.41N×69°.82E, h75km±26km, mb3.6/17, mb1 3.8/22, mb1mx3.6/39, mbtmp3.9/22, MS2.8/3, Ms1 3.0/3, ms1mx2.5/38, Error ellipse: s-maj=18.9km s-min=11.8km az=9.0*
NEIC ***25*** *16:38:51.2±2.1, 35°.39N±0°.06×69°.75E±0°.08, h97km±4km, mb4.4/14, Error ellipse: s-maj=9.7km s-min=8.3km az=100.0*
NNC ***25*** *16:38:53.7±1.5, 35°.78N×69°.47E, h105km±16km, mb3.9, mpv4.5, Error ellipse: s-maj=15.0km s-min=9.4km az=154.0*
ISC 25 16:38:50.9±0.5, 35°.43N±0°.05×69°.85E±0°.05, h100km, n97, σ2802/105, mb4.0/24, 11C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.11**	**217**		**Pn**	**16 39 11.8**	**-0.9**
CEP	**Cherat**	**2.33**	**133**	⇓P	**Pn**	**16 39 27.7**	**-0.2**
THW	**Thamme Wali**	**3.06**	**149**	P	**Pn**	**16 39 36.5**	**-1.0**
CHGR	**Chuyangaron**	**3.27**	**350**	Pn	**Pn**	**16 39 41.1**	**+0.7**
NIL	**Nilore**	**3.32**	**121**	Pn	**Pn**	**16 39 40.7**	**-0.2**
CHCP	**Chirah Chowk**	**3.32**	**121**	P	**Pn**	**16 39 40.6**	**-0.4**
GAR	**Garm**	**3.59**	**6**		**Pn**	**16 39 46.0**	**+1.4**
SARP	**Sargodha**	**4.21**	**145**	P	**Pn**	**16 39 51.4**	**-1.6**
DRK	**Karamyk**	**4.33**	**20**		**Pn**	**16 39 56.6**	**+1.8**
BTK	**Batken**	**4.69**	**9**	Pn	**Pn**	**16 40 01.2**	**+1.8**
AML	**Almayashu**	**7.33**	**23**	P	**Pn**	**16 40 35.7**	**0.0**
SNR=59							
SMLA	**Simla**	**7.47**	**123**	*e*P	**Pn**	**16 40 34.7**	**-2.5**
SMLA				*e*S	**Sn**	**16 41 56.5**	**-3.9**
SMLA				IAML		16 41 57.0	
	comp=E,276nm,0.1s						
SMLA				IAML		16 41 58.0	
	comp=N,312nm,0.4s						
KK31	**Karatay Array**	**7.68**	**4**	P	**Pn**	**16 40 38.9**	**-1.1**
	comp=N,17nm,0.5s,baz=193,slow=14,SNR=233						
KK31				⇑S	**Sn**	**16 41 59.8**	**-5.6**
	comp=N,28nm,0.7s,baz=200,slow=25,SNR=4.6						
KK31	**Karatay Array**	**7.68**	**4**	Pn	**Pn**	**16 40 39.9**	**-0.1**
KKAR	**Karatay Array**	**7.68**	**4**	Pn	**Pn**	**16 40 39.7**	**-0.3**
KKAR	**Karatay Array**	**7.68**	**4**		**Pn**	**16 40 40.0**	**0.0**
EKS2	**Erkin-Say**	**7.84**	**22**	P	**Pn**	**16 40 42.9**	**+0.6**
SNR=15							
AAK	**Ala-Archa**	**8.05**	**25**	P	**Pn**	**16 40 45.5**	**+0.4**
	comp=N,5.9nm,0.3s,baz=201,slow=6.6,SNR=12						
AAK				S	**Sn**	**16 42 13.9**	**-0.7**
	comp=N,2.9nm,0.3s,baz=342,slow=20,SNR=5.0						
AAK	**Ala-Archa**	**8.05**	**25**	P	**Pn**	**16 40 45.6**	**+0.4**
SNR=8.6							
AAK	**Ala-Archa**	**8.05**	**25**	⇓P	**Pn**	**16 40 45.3**	**+0.1**
	comp=N,21nm,0.6s						
AAK				⇑S	**Sn**	**16 42 14.7**	**+0.1**
	comp=N,34nm,0.5s						
AAK	**Ala-Archa**	**8.05**	**25**	Pn	**Pn**	**16 40 45.4**	**+0.1**
FRU1	**Bishkek**	**8.25**	**25**		**Pn**	**16 40 48.2**	**+0.4**
CHMS	**Chumysh**	**8.46**	**25**	P	**Pn**	**16 40 50.6**	**0.0**
SNR=24							
BOOM	**Boomskoye usch**	**8.50**	**32**	Pn	**Pn**	**16 40 53.2**	**+2.0**
DDI	**Dehra Dun**	**8.57**	**124**	*e*P	**Pn**	**16 40 51.5**	**-0.7**
DDI				*e*S	**Sn**	**16 42 22.1**	**-5.1**
USP	**Ospenovka**	**8.62**	**23**	P	**Pn**	**16 40 53.3**	**+0.6**
SNR=28							
TKM2	**Tokmak 2**	**8.71**	**29**	P	**Pn**	**16 40 53.0**	**-1.1**
SNR=28							
TKM2	**Tokmak 2**	**8.71**	**29**	⇑P	**Pn**	**16 40 53.2**	**-0.9**
	comp=N,13nm,0.8s						
TKM2				⇓S	**Sn**	**16 42 31.1**	**+0.5**
	comp=N,18nm,0.7s						
TARG	**Taragay, Kyrgy**	**8.85**	**42**	Pn	**Pn**	**16 40 54.9**	**-1.4**
MDOK	**Medeo**	**9.52**	**34**	⇑P	**Pn**	**16 41 07.1**	**+2.0**
	comp=N,7.2nm,0.6s						
GEYT	**Alibeck**	**9.75**	**288**	P	**Pn**	**16 41 07.7**	**-0.5**
	comp=N,0.9nm,0.3s,baz=160,slow=10,SNR=10						
GEYT				S	**Sn**	**16 42 54.7**	**-1.1**
	comp=N,0.9nm,0.3s,baz=58,slow=19,SNR=3.4						
GEYT				LR	LR	16 45 43.7	
	comp=N,36nm,20.3s,baz=185,slow=42						
GEYT	**Alibeck**	**9.75**	**288**		**Pn**	**16 41 06.4**	**-1.8**
GYA0B	**ALIBECK ARRAY**	**9.75**	**288**	⇑P	**Pn**	**16 41 05.7**	**-2.5**
PDGK	**Podgornoye**	**10.85**	**40**	⇓P	**Pn**	**16 41 24.8**	**+1.6**
	comp=N,5.4nm,1.1s						
PYUN	**Piuthan**	**13.34**	**120**	*e*P	**Pn**	**16 41 52.9**	**-3.6**
	comp=N,51nm,0.3s						
DANN	**Dangsing**	**13.75**	**117**	*e*P	**Pn**	**16 41 58.0**	**-3.9**
	comp=N,35nm,0.3s						
BHPL	**Bhopal**	**13.81**	**149**	*e*P	**Pn**	**16 41 57.8**	**-4.7**
BHPL				*e*S	Sn	16 44 22.3	-12
MAKZ	**Makanchi**	**14.57**	**35**	⇑P	**Pn**	**16 42 11.8**	**-0.1**
	comp=N,4.7nm,0.8s						
MAKZ	**Makanchi**	**14.57**	**35**		**Pn**	**16 42 13.1**	**+1.1**
GKN	**Gorkha**	**14.59**	**116**	*e*P	**Pn**	**16 42 09.3**	**-3.2**
	comp=N,27nm,0.2s						
MK31	**Makanchi Array**	**14.70**	**36**	⇑P	**P**	**16 42 15.9**	**-1.3**
	comp=N,2.0nm,0.6s,baz=213,slow=12,SNR=9.8						
MK31	**Makanchi Array**	**14.70**	**36**	Pn	**Pn**	**16 42 14.9**	**+1.1**
MKAR	**Makanchi Array**	**14.70**	**36**	P	**Pn**	**16 42 11.9**	**-1.8**
	comp=N,0.1nm,0.3s,baz=213,slow=12,SNR=2.7						
KKN	**Kakani**	**15.18**	**116**	*e*P	**Pn**	**16 42 15.7**	**-4.4**
	comp=N,22nm,0.5s						
PKI	**Pulchoki**	**15.40**	**116**	*e*P	**Pn**	**16 42 18.7**	**-4.2**
	comp=N,17nm,0.3s						
AB31	**Akbulak array**	**15.62**	**335**	⇓P	**Pn**	**16 42 22.9**	**-2.3**
	comp=N,9.3nm,0.5s,baz=154,slow=12,SNR=262						
AB31				⇑S	**Sn**	**16 45 09.2**	**-8.6**
	comp=N,2.2nm,0.6s,baz=152,slow=22,SNR=3.1						
ABKAR	**Akbulak array**	**15.62**	**335**	Pn	**Pn**	**16 42 24.4**	**-0.9**
ABKAR				IAmb	IAmb	16 42 27.0	
	comp=Z,15nm,0.6s						
ABKAR	**Akbulak array**	**15.62**	**335**	Pn	**Pn**	**16 42 24.2**	**-1.0**
KURBB	**Kurchatov Arra**	**16.44**	**20**	P	**Pn**	**16 42 33.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=211,slow=10,SNR=14						
KURBB	**Kurchatov Arra**	**16.44**	**20**	⇓P	**Pn**	**16 42 35.2**	**-0.2**
	comp=Z,6.1nm,0.8s						
KURK	**Kurchatov**	**16.55**	**20**	P	**Pn**	**16 42 33.8**	**-2.9**
RAMN	**Ramite**	**16.62**	**116**	*e*P	**Pn**	**16 42 35.7**	**-2.4**
	comp=Z,23nm,0.3s						
TAPN	**Taplejung**	**17.23**	**113**	*e*P	**Pn**	**16 42 42.9**	**-2.6**
AKTO	**Aktyubinsk**	**17.29**	**334**	P	**Pn**	**16 42 46.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=152,slow=13,SNR=22						
AKTO	**Aktyubinsk**	**17.29**	**334**	⇑P	**P**	**16 42 43.4**	**-2.3**
	comp=Z,17nm,0.8s						
BVAR	**Borovoye Array**	**17.60**	**1**	P	**Pn**	**16 42 49.7**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=208,slow=22,SNR=6.6						
BRVK	**Borovoye**	**17.63**	**1**	⇑P	**P**	**16 42 48.8**	**-0.7**
	comp=Z,9.7nm,0.9s						
BRVK	**Borovoye**	**17.63**	**1**		**Pn**	**16 42 49.9**	**0.0**
GNI	**Garni**	**20.37**	**291**	P	Pn	16 43 24.3	+1.7
	comp=Z,37nm,0.7s,baz=97,slow=1.4,SNR=23						
ZAA0	**Zalesovo Array**	**21.28**	**25**	⇑P	**P**	**16 43 29.1**	**+0.1**
	comp=Z,0.8nm,0.5s						
ZAA0	**Zalesovo Array**	**21.28**	**25**	P	**P**	**16 43 29.2**	**+0.1**
ZAA0				IAmb	IAmb	16 43 47.9	
	comp=Z,7.0nm,0.6s						
ZALV	**Zalesovo Beam**	**21.28**	**25**	P	**P**	**16 43 29.2**	**+0.2**
	comp=Z,6.4nm,0.5s,baz=218,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**21.28**	**25**	P	**P**	**16 43 29.5**	**+0.5**
SHL	**Shillong**	**21.34**	**111**	P	**P**	**16 43 30.3**	**+0.2**
KBZ	**Khabaz**	**22.30**	**300**	P	**P**	**16 43 39.4**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=275,slow=11,SNR=1.8						
ARU	**Arti**	**22.37**	**343**	P	**P**	**16 43 40.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=162,slow=14,SNR=1.8						
BRTR	**Keskin Array B**	**28.89**	**289**	P	**P**	**16 44 42.6**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**29.71**	**54**	P	**P**	**16 44 49.9**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=248,slow=10,SNR=1.8						
CM13	**Chiang Mai Arr**	**30.79**	**116**	P	**P**	**16 45 00.9**	**+3.7**
	comp=Z,44nmcomp=Z,4.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.79**	**116**	P	**P**	**16 44 59.5**	**+2.4**
	comp=Z,3.8nm,1.0s,baz=300,slow=8.5,SNR=16						
CMAR				LR	LR	16 59 46.6	
	comp=Z,23nm,19.8s,baz=174,slow=41						
CMAR	**Chiang Mai Arr**	**30.79**	**116**	P	**P**	**16 44 58.4**	**+1.2**
ELL	**Elmali**	**32.15**	**284**	P	**P**	**16 45 09.3**	**+0.2**
AKASG	**Malin Array Be**	**32.91**	**310**	P	**P**	**16 45 16.9**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=86,slow=7.2,SNR=13						
CHAI	**Chaiyaphum**	**34.66**	**116**	P	**P**	**16 45 34.0**	**+3.1**
NRIK	**Noril'sk**	**35.35**	**11**	P	**P**	**16 45 38.4**	**+2.1**
	comp=Z,2.7nm,0.8s,baz=315,slow=2.9,SNR=4.5						
IDI	**Anoyia**	**36.43**	**283**	P	**P**	**16 45 46.6**	**+0.7**
IDI				IAmb	IAmb	16 45 51.5	
	comp=Z,8.9nm,1.3s						
FIA1	**FINESS Array S**	**37.87**	**327**	P	**P**	**16 45 57.8**	**+0.2**
FIA1				IAmb	IAmb	16 46 00.3	
	comp=Z,9.1nm,1.1s						
FINES	**FINESS Array B**	**37.87**	**327**	P	**P**	**16 45 59.0**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=116,slow=8.7,SNR=6.4						
FINES	**FINESS Array B**	**37.87**	**327**	P	**P**	**16 45 58.0**	**+0.3**
ARCES	**ARCESS Array B**	**41.79**	**338**	P	**P**	**16 46 31.8**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=115,slow=8.1,SNR=6.4						
ARCES	**ARCESS Array B**	**41.79**	**338**	P	**P**	**16 46 30.5**	**+0.4**
ARCES				IAmb	IAmb	16 46 38.1	
	comp=Z,4.0nm,1.2s						
RPSI	**Rantau Prapat**	**42.27**	**134**	P	**P**	**16 46 35.6**	**+1.0**
RPSI				IAmb	IAmb	16 46 36.4	
	comp=Z,6.4nm,0.6s						
GSI	**Gunungsitoli**	**42.62**	**137**	P	**P**	**16 46 37.8**	**+0.3**
CLL	**Collm**	**43.15**	**310**	*e*P	**P**	**16 46 44.0**	**+2.7**
CLL				*e*PP	**PP**	**16 48 22.0**	**-1.2**
CLL				*ep*PP		16 48 43.0	
NB2	**NORSAR Subarra**	**44.69**	**324**	P	**P**	**16 46 54.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.69**	**324**	P	**P**	**16 46 54.6**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=99,slow=8.0,SNR=12						
NOA				LR	LR	17 06 30.0	
	comp=Z,18nm,21.6s,baz=190,slow=37						
KSRS	**Korea Array**	**46.12**	**70**	P	**P**	**16 47 06.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=270,slow=5.9,SNR=2.0						
ESDC	**Sonseca Array**	**57.14**	**298**	P	**P**	**16 48 28.8**	**+1.6**
	comp=Z,0.5nm,0.9s,baz=64,slow=6.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**64.76**	**268**	P	**P**	**16 49 19.4**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=45,slow=5.9,SNR=7.5						
ILAR	**Eielson Array**	**76.06**	**15**	P	**P**	**16 50 28.6**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=309,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**82.23**	**121**	P	**P**	**16 51 02.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=328,slow=5.1,SNR=15						
WRA	**Warramunga Arr**	**82.23**	**121**	P	**P**	**16 51 02.0**	**+0.8**
WB2	**Warramunga Arr**	**82.23**	**121**	P	**P**	**16 51 01.9**	**+0.6**
WB2				IAmb	IAmb	16 51 10.0	
	comp=Z,5.8nm,1.4s						
WR0	**Warramunga Arr**	**82.38**	**121**	P	**P**	**16 51 02.1**	**+0.1**
WR0				IAmb	IAmb	16 51 18.5	
	comp=Z,4.2nm,1.1s						
AS31	**Alice Springs**	**84.42**	**124**	P	**P**	**16

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.07**	**288**	P	Pn	17 20 17.0	-0.8
APSI	**Ampana**	**2.38**	**252**	P	Pn	17 20 22.2	+0.1
APSI				S	Sn	17 20 52.4	+1.0
SANI	**Sanana**	**2.80**	**132**	P	Pn	17 20 27.0	-0.9
TNTI	**Ternate**	**3.58**	**75**	P	Pn	17 20 38.5	-0.1
MPSI	**Mapaga**	**4.04**	**277**	P	Pn	17 20 44.4	-0.6
SGSI	**Sangihe**	**4.15**	**23**	P	Pn	17 20 46.4	-0.1
NLAI	**Namlea**	**4.42**	**134**	P	Pn	17 20 49.4	-0.8
TTSI	**Tana Toraja**	**4.99**	**235**	P	Pn	17 20 58.0	-0.1
BKSI	**Bulukumba**	**6.37**	**216**	P	Pn	17 21 18.4	+1.4

*AEIC **25** 17:26:32±2.6, 66°.16N±0°.04×141°.46W±0°.08, h11km±6km, ML3.0, ML3.2/74(NEIC), Error ellipse: s-maj=5.9km s-min=4.2km az=211.0*
*NEIC **25** 17:26:34.9±3.3, 66°.11N±0°.02×141°.41W±0°.08, h12km±6km, Error ellipse: s-maj=5.0km s-min=2.9km az=121.0*
*PGC **25** 17:26:34.6±3.1, 66°.14N×141°.32W, h1km, ML2.8/6, 247km northwest of Dawson, Yt Northern Alaska*
ISC 25 17:26:32.0±1.2,**66°.16N**±0°.03×**141°.37W**±0°.03,**h8**km±10km, **n81**,σ2§**43**/101,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**1.39**	**176**	Pn	**Pg**	**17 26 59.0**	**+0.4**
EGAK				Sn	**Sg**	**17 27 17.0**	**+0.4**
EGAK				IAML		17 27 20.8	
	428nm,0.8s						
FYU	**Fort Yukon**	**1.61**	**286**		**Pg**	**17 27 02.5**	**-0.3**
FYU				Sn	**Sg**	**17 27 24.3**	**+0.7**
BM01	**Burnt Mountain**	**1.80**	**318**		**Pg**	**17 27 07.5**	**+1.0**
BM03	**Burnt Mountain**	**1.80**	**316**		**Pg**	**17 27 07.6**	**+1.1**
BMAR	**Burnt Mountain**	**1.80**	**317**	Pn	**Pb**	**17 27 04.4**	**-0.8**
PRP	**Porcupine Dome**	**1.83**	**251**		**Pn**	**17 27 04.2**	**+0.4**
PRP				IAML		17 27 33.1	
	comp=N,186nm,0.6s						
PRP				IAML		17 27 36.8	
	comp=E,175nm,0.7s						
PRP	**Porcupine Dome**	**1.83**	**251**		**Sg**	**17 27 30.6**	**0.0**
EPYK	**Eagle Plains**	**1.90**	**81**		**Pb**	**17 27 07.1**	**+0.3**
EPYK				Sn	**Sb**	**17 27 32.0**	**+1.4**
K27K	**Chicken**	**2.16**	**188**		**Pb**	**17 27 10.4**	**-0.8**
K27K				IAML		17 27 42.6	
	comp=E,154nm,0.7s						
DAWY	**Dawson**	**2.26**	**157**	Pn	**Pb**	**17 27 12.1**	**-1.0**
DAWY				Sn	**Sb**	**17 27 40.8**	**-0.4**
DAWY	**Dawson**	**2.26**	**157**	Pn	**Pb**	**17 27 11.9**	**-1.2**
DAWY				IAML		17 27 50.3	
	comp=N,111nm,0.5s						
SCRK	**Sand Creek**	**2.46**	**208**		**Pb**	**17 27 14.9**	**-1.5**
SCRK				IAML		17 27 52.9	
	comp=E,114nm,0.5s						
IL31		**2.69**	**241**		**Pn**	**17 27 16.5**	**+1.1**
ILAR	**Eielson Array**	**2.69**	**241**	Pn	**Pn**	**17 27 15.8**	**+0.3**
POKR	**Poker Plat Res**	**2.72**	**250**		**Pn**	**17 27 16.9**	**+1.0**
POKR				IAML		17 28 07.2	
	comp=E,121nm,0.6s						
POKR	**Poker Plat Res**	**2.72**	**250**		**Sb**	**17 27 52.2**	**-2.1**
DOT	**Dot Lake**	**2.77**	**206**	Pn	**Pn**	**17 27 18.9**	**+2.3**
DOT				Sg	**Sb**	**17 27 57.8**	**+2.1**
DOT	**Dot Lake**	**2.77**	**206**	Pn	**Pn**	**17 27 18.9**	**+2.3**
RIDG	**Independent Ri**	**2.84**	**213**		**Pn**	**17 27 20.2**	**+2.6**
RIDG				IAML		17 28 09.2	
	comp=E,119nm,1.0s						
RIDG				IAML		17 28 11.7	
	comp=N,138nm,0.8s						
HDA	**Harding Lake**	**2.93**	**236**		**Pn**	**17 27 19.2**	**+0.4**
HDA				IAML		17 28 07.5	
	comp=N,74nm,0.8s						
HDA				IAML		17 28 07.6	
	comp=E,96nm,0.8s						
COLA	**College**	**2.99**	**247**	Pn	**Pn**	**17 27 20.4**	**+0.8**
TCOL	**CIGO, UAF Yank**	**3.00**	**247**	Pn	**Pn**	**17 27 20.6**	**+1.0**
CCB	**Clear Creek Bu**	**3.09**	**244**		**Pn**	**17 27 21.3**	**+0.3**
CCB				IAML		17 28 14.6	
	comp=E,53nm,0.7s						
CCB				IAML		17 28 14.7	
	comp=N,53nm,0.6s						
MDM	**Murphy Dome**	**3.10**	**250**		**Pn**	**17 27 21.9**	**+0.8**
MDM				IAML		17 28 16.9	
	comp=E,79nm,0.6s						
MDM				IAML		17 28 22.8	
	comp=N,57nm,0.8s						
BC03		**3.11**	**183**		**Pn**	**17 27 24.1**	**+2.9**
BCAR	**Beaver Creek A**	**3.11**	**183**	Pn	**Pn**	**17 27 23.3**	**+2.0**
L27K	**Beaver Creek,**	**3.12**	**184**	Pn	**Pn**	**17 27 23.6**	**+2.2**
L27K				IAML		17 28 16.9	
	comp=E,99nm,0.7s						
WRH	**Wood River Hil**	**3.29**	**242**		**Pn**	**17 27 23.9**	**+0.2**
WRH				IAML		17 28 22.5	
	comp=E,59nm,0.8s						
MENT	**Mentasta**	**3.39**	**198**		**Pn**	**17 27 24.1**	**-1.0**
I23K	**Minto, Yukon-K**	**3.46**	**257**		**Pn**	**17 27 26.5**	**+0.5**
I23K				IAML		17 28 25.9	
	comp=E,52nm,0.7s						
I23K				IAML		17 28 34.2	
	comp=N,54nm,0.9s						
NEA2	**Nenana**	**3.58**	**248**		**Pn**	**17 27 27.6**	**-0.2**
NEA2				IAML		17 28 30.1	
	comp=N,52nm,0.8s						
NEA2				IAML		17 28 30.7	
	comp=E,46nm,0.8s						
PAX	**Paxson**	**3.66**	**211**	Pn	**Pn**	**17 27 32.4**	**+3.5**
PAX				Sg	**Sb**	**17 28 25.1**	**+3.8**
PAX	**Paxson**	**3.66**	**211**		**Pn**	**17 27 28.8**	**-0.1**
INK	**Inuvik**	**3.73**	**51**	Pn	**Pn**	**17 27 32.6**	**+2.8**
INK				Sn	**Sn**	**17 28 16.1**	**+2.3**
INK	**Inuvik**	**3.73**	**51**	Pn	**Pn**	**17 27 31.8**	**+2.0**
BVCY	**Beaver Creek**	**3.77**	**176**	Sg	**Sg**	**17 28 30.3**	**-2.6**
M26K	**Nabesna, AK**	**3.84**	**191**		**Pn**	**17 27 32.8**	**+1.5**
BWN	**Browne**	**3.95**	**243**	Pn	**Pn**	**17 27 34.9**	**+2.0**
TOLK	**Toolik Lake Re**	**4.03**	**312**		**Pn**	**17 27 36.2**	**+2.3**
MCK	**McKinley**	**4.03**	**236**	Pn	**Pn**	**17 27 35.6**	**+1.6**
MCK				IAML		17 28 42.1	
	comp=E,24nm,0.8s						
YUK1	**Sand Pete Hill**	**4.04**	**174**	Sg	**Sg**	**17 28 37.6**	**-3.9**
MLY	**Manley**	**4.05**	**258**		**Pn**	**17 27 34.5**	**+0.3**
RND	**Reindeer**	**4.23**	**233**	Pn	**Pn**	**17 27 38.5**	**+1.8**
YUK2	**White River**	**4.40**	**177**	Pn	**Pn**	**17 27 41.5**	**+2.4**
YUK2				Sn	**Sn**	**17 28 31.5**	**+1.1**
YUK2				Sg	**Sg**	**17 28 49.5**	**-3.5**
YUK3	**Moose Creek**	**4.42**	**174**	Pn	**Pn**	**17 27 41.1**	**+1.6**
YUK3				Sg	**Sg**	**17 28 50.2**	**-3.6**
BPAW	**Bear Paw Mtn.**	**4.55**	**247**		**Pn**	**17 27 40.9**	**-0.2**
BPAW				IAML		17 29 02.0	
	comp=E,17nm,0.8s						
BPAW				IAML		17 29 04.7	
	comp=N,23nm,0.9s						
M24K	**Tolsona, Glenn**	**4.58**	**210**	Pn	**Pn**	**17 27 45.1**	**+3.6**
TRF	**Thorofare Moun**	**4.68**	**239**	Pn	**Pn**	**17 27 44.8**	**+1.8**
TRF				IAML		17 29 02.9	
	comp=E,18nm,1.0s						
TRF				IAML		17 29 17.1	
	comp=N,21nm,1.5s						
N25K	**Chitina, Valde**	**4.79**	**199**	Pn	**Pn**	**17 27 46.9**	**+2.5**
KTH	**Kantishna Hill**	**4.84**	**242**	Pn	**Pn**	**17 27 46.9**	**+1.8**
KTH				IAML		17 29 12.7	
	comp=E,19nm,1.0s						
KTH				IAML		17 29 15.2	
	comp=N,31nm,0.8s						
GLB	**Gilahina Butte**	**4.86**	**194**	Pn	**Pn**	**17 27 44.8**	**-0.6**
GLB				IAML		17 29 10.3	
	comp=E,19nm,0.9s						
YUK4	**Talbot Arm**	**4.98**	**165**	Pn	**Pn**	**17 27 48.4**	**+1.3**
YUK4				Sg	**Sb**	**17 29 04.6**	**+5.1**
PTPK	**Patty Peak**	**5.01**	**186**	Pn	**Pn**	**17 27 50.8**	**+3.2**
PTPK				Sg	**Sg**	**17 29 11.0**	**-1.8**
IMAR	**Indian Mountai**	**5.04**	**274**	Pn	**Pn**	**17 27 48.9**	**+1.1**
SCM	**Sheep Creek Mo**	**5.07**	**214**	Pn	**Pn**	**17 27 50.8**	**+2.5**
KLU	**Klutina**	**5.10**	**205**	Pn	**Pn**	**17 27 51.8**	**+3.2**
KLU				IAML		17 29 12.0	
	comp=E,21nm,1.1s						
KLU				IAML		17 29 15.1	
	comp=N,19nm,0.8s						
BARN	**Barnard Glacie**	**5.12**	**182**	Pn	**Pn**	**17 27 51.5**	**+2.5**
BARN				IAML		17 29 19.4	
	comp=E,13nm,1.3s						
BARN				IAML		17 29 27.2	
	comp=N,14nm,1.0s						
BALM	**Baldy**	**5.16**	**185**	Pn	**Pn**	**17 27 52.5**	**+2.9**
BALM				Sg	**Sg**	**17 29 15.5**	**-2.1**
CTGM	**Chitina Glacie**	**5.21**	**180**	Pn	**Pn**	**17 27 51.5**	**+1.2**
CTGM				Sg	**Sg**	**17 29 18.9**	**-0.4**
CTGM	**Chitina Glacie**	**5.21**	**180**		**Pn**	**17 27 53.4**	**+3.1**
CTGM				IAML		17 29 31.1	
	comp=N,12nm,2.8s						
CTGM				IAML		17 29 36.0	
	comp=E,15nm,1.3s						
KIAG	**Kiagna River**	**5.28**	**185**	Pn	**Pn**	**17 27 54.3**	**+3.2**
YUK5	**Granite Creek**	**5.28**	**161**	Pn	**Pn**	**17 27 53.6**	**+2.3**
SML	**Sawmill**	**5.33**	**218**	Pn	**Pn**	**17 27 55.1**	**+3.2**
SML				IAML		17 29 24.9	
	comp=E,21nm,1.1s						
SML				IAML		17 29 34.0	
	comp=N,22nm,1.2s						
LOGN	**Logan Glacier**	**5.36**	**178**	Sg	**Sg**	**17 29 21.3**	**-2.5**
LOGN	**Logan Glacier**	**5.36**	**178**	Pn	**Pn**	**17 27 55.5**	**+3.2**
LOGN				IAML		17 29 26.3	
	comp=N,17nm,1.0s						
YUK6	**Outpost Mounta**	**5.41**	**164**	Pn	**Pn**	**17 27 55.0**	**+2.0**
YUK6				Sg	**Sg**	**17 29 24.7**	**-0.7**
BMRM	**Bremner River**	**5.41**	**197**	Pn	**Pn**	**17 27 56.8**	**+3.9**
ISLE	**Juniper Island**	**5.59**	**185**	Pn	**Pn**	**17 27 59.8**	**+4.2**
HYT	**Haines Junctio**	**5.63**	**160**	Pn	**Pn**	**17 27 58.8**	**+2.8**
HYT				Sn	**Sn**	**17 29 02.4**	**+1.7**
HYT				Sg	**Sg**	**17 29 27.6**	**-4.8**
HYT	**Haines Junctio**	**5.63**	**160**	Pn	**Pn**	**17 27 59.1**	**+3.2**
PPLA	**Purkeypile**	**5.70**	**240**	Pn	**Pn**	**17 27 56.4**	**-0.5**
TABL	**Table Mountain**	**5.74**	**179**	Pn	**Pn**	**17 28 00.8**	**+3.2**
TABL				Sn	**Sn**	**17 29 05.9**	**+2.2**
TABL	**Table Mountain**	**5.74**	**179**	Pn	**Pn**	**17 28 00.5**	**+2.9**
WAX	**Waxell Ridge**	**5.77**	**187**	Pn	**Pn**	**17 28 00.5**	**+2.7**
YAH	**Yahtse**	**5.82**	**182**		**Pn**	**17 28 03.1**	**+4.4**
YUK7	**Dusty Glacier**	**5.83**	**164**	Pn	**Pn**	**17 28 00.4**	**+1.5**
FID	**Port Fidalgo**	**5.89**	**205**	Pn	**Pn**	**17 28 01.7**	**+2.3**
C36M	**Paulatuk**	**7.29**	**56**	Pn	**Pn**	**17 28 18.8**	**+0.2**
C36M				Sn	**Sn**	**17 29 38.7**	**-2.7**
C36M	**Paulatuk**	**7.29**	**56**	Pn	**Pn**	**17 28 19.9**	**+1.3**
DHRN	**Dharma Camp**	**8.73**	**74**	Pn	**Pn**	**17 28 40.0**	**+1.6**
DHRN				Sn	**Sn**	**17 30 10.4**	**-6.4**
KUKN	**Kugluktuk,NWT**	**10.38**	**69**	Sn	**Sn**	**17 30 50.8**	**-6.5**

*THR **25** 17:28:11.2±0.8, 30°.07N×57°.64E, h15km±9km, ML3.6*
*TEH **25** 17:28:11.2, 30°.03N×57°.61E, h14km, ML3.6*
ISC 25 17:28:10.9±1.7,**30°.04N**±0°.04×**57°.65E**±0°.04,**h4**km±17km, **n36**,σ1§**71**/38,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.20**	**208**	*e*Pg	**Pg**	**17 28 15.8**	**+0.9**
TVBK	**TV Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**17 28 26.3**	**-0.8**
TVBK				*e*		17 28 37.4	
	comp=Z,47μm,0.2s						
KRBR	**Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**17 28 26.3**	**-0.8**
KRBR				*e*Sg	**Sb**	**17 28 36.5**	**-1.6**
KRBR	**Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**17 28 26.3**	**-0.8**
NGRK	**Negar Kerman**	**0.89**	**244**	*e*Pg	**Pb**	**17 28 28.2**	**-0.9**
NGRK				*e*Sg	**Sb**	**17 28 40.0**	**-1.5**
NGRK				*e*		17 28 42.5	
	comp=Z,22μm,0.2s						
KHGB	**Koh Gabri**	**1.07**	**289**	*e*Pg	**Pg**	**17 28 31.1**	**-0.3**
KHGB				*e*		17 28 45.6	
	comp=Z,11μm,0.2s						
KBAM	**BAM**	**1.14**	**142**	*e*Pg	**Pb**	**17 28 32.9**	**-0.4**
KBAM				*e*		17 28 49.6	
	comp=Z,24μm,0.3s						
KHNJ	**Kahnooj**	**2.08**	**179**	*e*Pn	**Pn**	**17 28 47.3**	**+0.6**
BSRN	**Basiran**	**2.31**	**33**	*e*Pn	**Pn**	**17 28 50.2**	**+0.3**
BSRN				IAML		17 29 31.7	
	comp=N,282nm,0.2s						
BSRN				IAML		17 29 32.0	
	comp=E,319nm,0.5s						
BSRN	**Basiran**	**2.31**	**33**	*e*Pn	**Pn**	**17 28 50.2**	**+0.3**
IBAF	**Bafgh**	**2.37**	**311**	*e*Pn	**Pb**	**17 28 52.7**	**-1.5**
NHDN	**Nehbandan**	**2.47**	**56**	*e*Pn	**Pn**	**17 28 53.4**	**+1.2**
IKOO	**Kooshah**	**2.65**	**26**	*e*Pn	**Pn**	**17 28 55.5**	**+0.8**
ZHSF	**Zahedan**	**2.75**	**98**	*e*Pn	**Pn**	**17 28 57.2**	**+1.1**
ZHSF	**Zahedan**	**2.75**	**98**	*e*Pn	**Pn**	**17 28 57.2**	**+1.1**
ZHDN	**Zahedan**	**2.83**	**102**	*e*Pn	**Pn**	**17 28 58.6**	**+1.5**
GENO	**Geno**	**2.93**	**207**	*e*Pn	**Pb**	**17 29 00.9**	**-3.0**
GENO				*e*		17 29 09.3	
	comp=Z,1μm,0.3s						
BNDS	**Bandar-Abbas**	**2.93**	**207**	*e*Pn	**Pn**	**17 28 59.8**	**+1.3**
BNDS	**Bandar-Abbas**	**2.93**	**207**	*e*Pn	**Pn**	**17 28 59.8**	**+1.3**
IMEH	**Mehriz**	**2.94**	**298**	*e*Pn	**Pn**	**17 29 00.6**	**+1.9**
IMEH				*e*		17 29 07.7	
	comp=Z,2μm,0.2s						
ITEG	**Tejag**	**3.00**	**18**	*e*Pn	**Pn**	**17 29 00.2**	**+0.7**
TPRV	**Parvadeh(Tabas**	**3.09**	**345**	*e*Pn	**Pn**	**17 29 01.8**	**+1.1**
IDAH	**Dahanechah**	**3.30**	**35**	*e*		17 29 16.4	
	comp=Z,2μm,0.3s						
IDAH				*e*Pn	**Pn**	**17 29 05.6**	**+2.0**
YZKH	**Yazd**	**3.51**	**313**	*e*Pn	**Pn**	**17 29 07.8**	**+1.3**
YZKH	**Yazd**	**3.51**	**313**	*e*Pn	**Pn**	**17 29 07.8**	**+1.3**
ICHK	**Chekchek**	**3.54**	**309**	*e*Pn	**Pn**	**17 29 09.5**	**+2.5**
AFRZ	**Afriz**	**3.57**	**19**	*e*Pn	**Pn**	**17 29 08.1**	**+0.8**
TKDS	**Koohdasht(Taba**	**3.59**	**353**	*e*Pn	**Pn**	**17 29 08.4**	**+0.8**
ISAD	**Sadrabad**	**3.88**	**300**	*e*Pn	**Pn**	**17 29 13.7**	**+2.0**
ANAR	**Anarak**	**4.59**	**314**	*e*Pn	**Pn**	**17 29 23.2**	**+1.9**
IRAM	**Ramesheh**	**4.86**	**293**	*e*Pn	**Pn**	**17 29 27.9**	**+2.9**
SRVN	**Saravan**	**4.93**	**121**	*e*Pn	**Pn**	**17 29 28.3**	**+2.3**
KLNJ	**Kolanjah**	**5.31**	**282**	*e*Pn	**Pn**	**17 29 34.4**	**+3.0**
IZEF	**Zefreh**	**5.36**	**303**	*e*Pn	**Pn**	**17 29 35.0**	**+3.0**
KRSH	**Karshahi**	**6.11**	**311**	*e*Pn	**Pn**	**17 29 43.9**	**+1.8**
ISFB	**Sefidab**	**6.28**	**315**	*e*Pn	**Pn**	**17 29 47.0**	**+2.5**

*IDC **25** 17:29:29.0±1.9, 6°.86S×128°.45E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.2/25, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=62.7km s-min=29.9km az=81.0*
ISC 25 17:29:33.7±1.4,**6°.90S**±0°.07×**129°.1E**±0°.3,**h35**km,**n4**, σ3§**49**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.38**	**20**	Pn	**Pn**	**17 31 07.9**	**+2.7**
	0.5nm,0.3s,baz=240,slow=22,SNR=22						
SIJI				Sn	**Sn**	**17 32 13.6**	**-3.2**
	0.7nm,0.3s,baz=250,slow=23,SNR=13						
WRA	**Warramunga Arr**	**13.93**	**159**	Pn	**Pn**	**17 32 50.8**	**+2.1**
	0.1nm,0.3s,baz=341,slow=13,SNR=1.7						
WRA				Sn	**Sn**	**17 35 19.2**	**-3.1**
	0.2nm,0.3s,baz=334,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**17.30**	**165**	P	**P**	**17 33 35.6**	**+1.8**
	0.1nm,0.3s,baz=342,slow=8.8,SNR=18						
ASAR				S	**Sn**	**17 36 41.0**	**-3.2**
	0.0nm,0.3s,baz=348,slow=26,SNR=1.5						
MKAR	**Makanchi Array**	**67.65**	**327**	P	**P**	**17 40 25.3**	**-1.9**
	0.1nm,0.3s,baz=116,slow=8.2,SNR=1.6						

IDC 25 17:48:03.9±4.5,**4°.18S**×**149°.76E**,**h0**km,**mb3.0**/2, **mb1 3.4**/2,**mb1mx3.1**/43,**mbtmp3.1**/2,**Error ellipse: s-maj=170.1km s-min=55.1km az=111.0**,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**223**	P	P	17 52 57.8	+1.0
	0.4nm,0.8s,baz=46,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**24.69**	**217**	P	P	17 53 26.2	-0.6
	0.4nm,0.7s,baz=54,slow=8.9,SNR=10						
TORD	**Torodi Ar. Bea**	**147.24**	**288**	PKPbc	PKPbc	18 07 49.7	-0.6
	0.8nm,0.8s,baz=66,slow=2.5,SNR=2.7						

*NEIC **25** 17:57:18.0±2.3, 5°.79S±0°.06×151°.81E±0°.09, h35km±5km, mb4.4/14, Error ellipse: s-maj=13.0km s-min=7.5km az=112.0*
*IDC **25** 17:57:20.0±5.7, 5°.67S×151°.64E, h68km±48km, mb3.5/5, mb1 3.8/6, mb1mx3.3/41, mbtmp3.8/6, ML2.1/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/23, Error ellipse: s-maj=63.0km s-min=30.2km az=123.0*
ISC 25 17:57:17.7±0.6,**5°.81S**±0°.07×**151°.83E**±0°.09,**h36**km,**n32**, σ1§**55**/33,**mb4.3**/12,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.64**	**12**		**Pn**	**17 57 44.2**	**+0.2**
RABL				Sn	**Sn**	**17 58 06.4**	**+2.6**
RABL	**Rabaul**	**1.64**	**12**	P	**Pn**	**17 57 44.4**	**+0.4**
PMG	**Port Moresby**	**5.85**	**232**	P	**Pn**	**17 58 43.9**	**+2.0**
	3.0nm,0.3s,baz=57,slow=6.9,SNR=10						
PMG				S	**Sn**	**17 59 48.3**	**+0.6**
	13nm,0.3s,baz=323,slow=23,SNR=10						
PMG				LR	LR	18 00 16.1	
	comp=Z,73nm,20.1s,baz=18,slow=30						
PMG	**Port Moresby**	**5.85**	**232**		**Pn**	**17 58 43.6**	**+1.7**
PMG				Sn	**Sn**	**17 59 46.5**	**-1.3**
PMG	**Port Moresby**	**5.85**	**232**	P	**Pn**	**17 58 43.8**	**+1.9**
PMG	**Port Moresby**	**5.85**	**232**	P	**Pn**	**17 58 43.8**	**+1.9**
HNR	**Honiara**	**8.82**	**115**	LR	LR	18 02 27.3	
	comp=Z,216nm,20.9s,baz=190,slow=34						
HNR	**Honiara**	**8.82**	**115**	Pn	**Pn**	**17 59 23.7**	**+1.1**
EIDS	**Eidsvold**	**19.47**	**182**	P	**P**	**18 01 40.9**	**-0.6**
LIFNC	**LIFOU**	**21.10**	**136**	P	**P**	**18 01 56.9**	**-2.3**
MTN	**Manton Dam**	**21.57**	**250**	P	**P**	**18 02 02.3**	**-2.1**
MTN				IAmb	IAmb	18 02 09.9	
	comp=Z,25nm,1.6s						
WB0	**Warramunga Arr**	**21.91**	**229**	P	**P**	**18 02 07.6**	**-0.4**
WB0				IAmb	IAmb	18 02 24.6	
	comp=Z,28nm,1.8s						
WR0	**Warramunga Arr**	**21.92**	**228**	P	**P**	**18 02 07.1**	**-0.9**
WR0				IAmb	IAmb	18 02 30.7	
	comp=Z,23nm,1.6s						
WRAB	**Tennant Creek**	**22.04**	**229**	P	**P**	**18 02 09.0**	**-0.4**
WRAB				IAmb	IAmb	18 02 31.2	
	comp=Z,34nm,1.7s						
WB2	**Warramunga Arr**	**22.05**	**229**	P	**P**	**18 02 08.6**	**-0.9**
WB2				IAmb	IAmb	18 02 28.0	
	comp=Z,32nm,1.7s						
WRA	**Warramunga Arr**	**22.06**	**229**	P	**P**	**18 02 09.1**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=53,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**22.06**	**229**	P	**P**	**18 02 08.5**	**-1.1**
KNRA	**Kununurra**	**24.66**	**245**	P	**P**	**18 02 33.9**	**-1.5**
KNRA				IAmb	IAmb	18 02 39.3	
	comp=Z,7.0nm,0.8s						
AS31	**Alice Springs**	**24.76**	**222**	P	**P**	**18 02 35.8**	**-0.4**
ASAR	**Alice Springs**	**24.76**	**222**	P	**P**	**18 02 35.9**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=57,slow=9.0,SNR=45						
ASAJ	**Asahikawa**	**50.38**	**351**	LR	LR	18 25 10.0	
	comp=Z,37nm,19.2s,baz=176,slow=33						
PETK	**Petropavlovsk-**	**58.90**	**4**	P	**P**	**18 07 14.7**	**+1.7**
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**18 08 02.7**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=139,slow=4.7,SNR=4.0						
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**18 08 03.0**	**-1.9**
SONM				IAmb	IAmb	18 09 16.4	
	comp=Z,5.8nm,1.8s						
VNDA	**Vanda**	**71.87**	**178**	P	**P**	**18 08 37.8**	**+1.2**
VNDA				IAmb	IAmb	18 09 31.5	
	comp=Z,9.3nm,1.8s						
IMAR	**Indian Mountai**	**81.65**	**20**	P	**P**	**18 09 34.0**	**+2.2**
ILAR	**Eielson Array**	**83.45**	**22**	P	**P**	**18 09 39.6**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=241,slow=5.0,SNR=3.7						
CTGM	**Chitina Glacie**	**84.08**	**27**	P	**P**	**18 09 43.3**	**-1.4**
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**18 09 45.7**	**+0.7**
NVAR	**Mina Array Bea**	**93.46**	**52**	P	**P**	**18 10 28.4**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=246,slow=8.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.68**	**286**	PKPbc	**PKPdf**	**18 17 01.6**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=81,slow=2.2,SNR=11						
TORD	**Torodi Ar. Bea**	**149.68**	**286**		**PKPdf**	**18 17 01.9**	**+1.8**

*NEIC **25** 18:12:28.5±2.9, 10°.93S±0°.07×114°.78E±0°.08, h11km±5km, mb4.1/11, Error ellipse: s-maj=13.7km s-min=6.8km az=48.0*
*DJA **25** 18:12:30.5±1.6, 11°.S±11°.×11°.5E±°, h22km±21km, M4.2/9, MLv4.2/9*
*IDC **25** 18:12:35.9±4.0, 10°.67S×115°.13E, h65km±34km, mb3.5/10, mb1 3.7/12, mb1mx3.5/39, mbtmp3.9/12, ML3.8/2, Error ellipse: s-maj=27.3km s-min=12.3km az=55.0*
ISC 25 18:12:31.6±0.7,**10°.87S**±0°.07×**114°.99E**±0°.07,**h35**km,**n45**, σ1§**93**/43,**mb4.0**/10,**South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.19**	**6**	P	**Pn**	**18 13 05.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**2.53**	**341**	Pn	**Pn**	**18 13 09.7**	**-0.4**
JAGI	**Jajag, Banyuwa**	**2.53**	**341**	P	**Pn**	**18 13 09.7**	**-0.4**
SRBI	**Singaraja**	**2.78**	**5**	P	**Pn**	**18 13 14.5**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.83**	**42**	P	**Pn**	**18 13 14.4**	**+0.1**
TWSI				S	**Sn**	**18 13 47.7**	**+0.6**
PLAI	**Plampang**	**3.42**	**54**	P	**Pn**	**18 13 22.0**	**-0.4**
PLAI				S	**Sn**	**18 14 02.7**	**+0.9**
PWJI	**Pagerwojo**	**4.23**	**312**	P	**Pn**	**18 13 34.1**	**+0.5**
WBSI	**Waikabubak,

JHJ	**Hachijo jima 2**	**1.32 101**	P		**Pn**	**18 19 26.4 -1.4**
	6.1nm,0.3s,baz=221,slow=17,SNR=1.6					
JHJ			S		**S**	**18 20 06.0 +0.3**
	6.6nm,0.3s,baz=59,slow=19,SNR=1.7					
JTNC	**Tanabenakahech**	**2.23 282**	P		**Pn**	**18 19 31.0 -2.7**
JWY	**Kouya**	**2.35 291**	P		**Pn**	**18 19 32.7 -1.9**
BSO3	**Boso 3**	**2.36 53**	S		**S**	**18 20 16.5 -0.8**
BSO4	**Boso 4**	**2.37 47**	S		**S**	**18 20 16.7 -1.1**
JHU	**Hanno**	**2.61 19**	S		**S**	**18 20 19.3 -2.2**
JRY	**Ryogami san**	**2.68 12**	S		**S**	**18 20 21.6 -1.1**
MJAR	**Matsushiro Arr**	**3.15 360**	P		**Pn**	**18 19 40.0 -1.3**
	0.2nm,0.3s,baz=172,slow=11,SNR=24					
MAT	**Matsushiro**	**3.15 360**	P		**Pn**	**18 19 41.2 -0.1**
MAT			S		**S**	**18 20 29.8 -0.4**
JAI	**Aioi**	**3.19 278**	P		**Pn**	**18 19 38.9 -2.8**
JAG	**Ashikaga**	**3.19 18**	P		**Pn**	**18 19 40.9 -0.8**
JAG			S		**S**	**18 20 28.2 -2.7**
JYT	**Yasato**	**3.26 29**	P		**Pn**	**18 19 41.7 -0.6**
JYT			S		**S**	**18 20 28.7 -3.3**
JHO	**Hitachi**	**3.74 30**	P		**Pn**	**18 19 46.2 -0.8**
JHO			S		**S**	**18 20 37.9 -2.6**
KSRS	**Korea Array**	**9.34 299**	P		**Pn**	**18 20 50.6 -0.1**
	0.3nm,0.3s,baz=112,slow=13,SNR=8.5					
ASAJ	**Asahikawa**	**11.24 16**	P		**P**	**18 21 14.6 +0.9**
	0.4nm,0.3s,baz=234,slow=11,SNR=6.3					
SONM	**Songino Array**	**27.92 311**	P		**P**	**18 24 01.7 +1.8**
	0.5nm,0.7s,baz=140,slow=7.4,SNR=3.1					
MKAR	**Makanchi Array**	**43.96 305**	P		**P**	**18 26 14.8 +0.5**
	0.3nm,0.5s,baz=83,slow=9.4,SNR=4.4					
FINES	**FINESS Array B**	**70.81 332**	P		**P**	**18 29 21.6 +2.0**
	1.4nm,0.9s,baz=46,slow=8.2,SNR=3.4					

IDC ***25*** *18:22:21.8±0.5,2˚64S×139˚32E,h0km,mb4.6/19, mb1 4.7/22,mb1mx4.6/32,mbtmp4.6/22,ML4.5/3,MS4.6/23, Ms1 4.6/23,ms1mx4.3/38,Error ellipse: s-maj=19.0km s-min=11.2km az=75.0*

MOS ***25*** *18:22:24.1±0.9,2˚70S×139˚16E,h29km,mb5.1/19, MS4.5/7,Error ellipse: s-maj=10.6km s-min=5.6km az=103.7*

DJA ***25*** *18:22:24.7±0.2,3˚S±3˚×13˚9E±˚,h10km,M5.0/52, mB5.4/38,mb5.1/52,MLv5.6/5,Mw(mB)4.9/38, MwMwp4.8/6,Mwp5.2/6*

GCMT ***25*** *18:22:26.9±0.2,2˚55S±0˚01×139˚32E±0˚02,h12km, MW5.2/95,Moment Tensor Solution. s75,c101; s95,c144; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.45±.10; Mθθ-2.01±.07; Mφφ-0.44±.11; Mrθ-6.87±.20; Mrφ 1.06±.06; Mθφ5.28±.23; Best double couple: Mo9.01800×10^16 NP1:φs106.00000°,δ8.00000°, λ69.00000°. NP2:φs307.00000°,δ82.00000°,λ93.00000°. Principal axes: T 9.0130, Plg53.0000°, Azm221.0000°; N 0.0080, Plg3.0000°, Azm127.0000°; P -9.0220, Plg37.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***25*** *18:22:27.9±1.9,2˚68S±0˚07×139˚22E±0˚06,h40km±5km, mb5.1/122 Error ellipse: s-maj=10.3km s-min=8.9km az=204.0*

BJI ***25*** *18:22:27.1±0.0,2˚70S×139˚70E,h72km,mB5.1/54, mb4.7/72,Ms4.8/61,Ms7 4.5/57*

ISC 25 18:22:27.4±0.2,2.71S±0˚03×139˚21E±0˚04,h37km,n414,σ1§88/403,mb5.0/137,MS4.6/53,33C-20D,Fault plane solution: NP1:φs311.93631°,δ56.32431°,λ107.07632°. NP2:φs102.94988°,δ37.29731°,λ66.21655°. Principal axes: T Plg72.6670°, Azm266.1191°; N Plg14.1445°, Azm122.2697°; P Plg9.8123°, Azm29.7717°; **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.96**	**83**	P	**Pn**	**18 22 40.1**	**-4.2**
SRPI	**Serui, Papua**	**3.08**	**286**	P	**Pn**	**18 23 13.8**	**+0.3**
KMPI	**Kaimana, Papua**	**5.58**	**260**	P	**Pn**	**18 23 51.9**	**+4.0**
	3.3nm8μm624nm,0.9s						
MMPI	**Merauke**	**5.84**	**169**	P	**Pn**	**18 23 54.0**	**+2.5**
	33nm44μm2μm,0.6s						
FAKI	**Fak Fak**	**6.96**	**268**	Pn	**Pn**	**18 24 07.0**	**+0.2**
FAKI	**Fak Fak**	**6.96**	**268**	P	**Pn**	**18 24 07.6**	**+0.8**
	0.9nm4μm2μm172nm,1.1s						
SIJI	**Sorong**	**8.15**	**283**	Pn	**Pn**	**18 24 24.6**	**+1.4**
	17nm,0.3s,baz=69,slow=13,SNR=57						
SIJI				Sn	**Sn**	**18 25 56.6**	**+2.5**
	1.8nm,0.3s,baz=123,slow=22,SNR=1.5						
SIJI				LR	LR	18 28 10.6	
	comp=Z,3μm,21.3s,baz=96,slow=42						
SWI	**Sorong**	**8.16**	**283**	P	**Pn**	**18 24 24.9**	**+1.6**
	2μm1μm111nm,0.9s						
MANU	**Manus Island**	**8.17**	**86**	Pn	**Pn**	**18 24 24.1**	**+0.5**
SAUI	**Saumlaki**	**9.46**	**236**	Pn	**Pn**	**18 24 41.8**	**+0.6**
SAUI	**Saumlaki**	**9.46**	**236**	P	Pn	18 24 47.5	+6.3
BNDI	**Bandanaira**	**9.46**	**259**	P	**Pn**	**18 24 42.1**	**+0.9**
	3μm4μm305nm,0.7s						
MSAI	**Masohi**	**10.29**	**266**	P	**Pn**	**18 24 55.0**	**+2.5**
	240nm24nm,0.7s						
PMG	**Port Moresby**	**10.33**	**130**	Pn	**Pn**	**18 24 57.7**	**+4.6**
	1.8nm,0.3s,baz=328,slow=7.8,SNR=15						
PMG				LR	LR	18 29 56.9	
	comp=Z,3μm,20.2s,baz=286,slow=44						
PMG	**Port Moresby**	**10.33**	**130**	*de*P	**Pn**	**18 24 56.3**	**+3.2**
PMG				pmax	pmax		
	comp=Z,142nm,1.0s						
PMG	**Port Moresby**	**10.33**	**130**	Pn	**Pn**	**18 24 54.9**	**+1.8**
KDU	**Kakadu**	**11.95**	**214**	P	**Pn**	**18 25 13.3**	**-2.0**
	baz=12,SNR=258						
NLAI	**Namlea**	**12.11**	**267**	P	**Pn**	**18 25 18.7**	**+1.3**
	comp=Z,109nm,0.8s						
TNTI	**Ternate**	**12.34**	**286**	Pn	**Pn**	**18 25 23.0**	**+2.5**
TNTI	**Ternate**	**12.34**	**286**	P	**Pn**	**18 25 21.0**	**+0.5**
	comp=Z,717nmcomp=Z,38nm,1.2s						
MTN	**Manton Dam**	**12.86**	**218**	P	**Pn**	**18 25 25.6**	**-2.1**
	baz=13,SNR=61						
MTN	**Manton Dam**	**12.86**	**218**	Pn	**Pn**	**18 25 25.1**	**-2.6**
SANI	**Sanana**	**13.23**	**273**	P	**Pn**	**18 25 31.7**	**-1.1**
	comp=Z,1μmcomp=Z,158nm,0.8s						
SOEI	**Soe**	**16.42**	**244**		**Pn**	**18 26 16.0**	**+0.8**
SOEI	**Soe**	**16.42**	**244**	P	**P**	**18 26 16.4**	**-1.3**
	comp=Z,8μmcomp=Z,980nm,1.1s						
KNRA	**Kununurra**	**16.50**	**218**	P	**Pn**	**18 26 14.1**	**-2.0**
	baz=16,SNR=57						
KNRA	**Kununurra**	**16.50**	**218**		**Pn**	**18 26 14.5**	**-1.6**
GTOI	**Gorontalo**	**16.53**	**281**	P	**P**	**18 26 18.7**	**-0.1**
	comp=Z,437nmcomp=Z,35nm,1.0s						
GUMO	**Guam**	**17.13**	**19**	P	**P**	**18 26 26.6**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=164,slow=6.3,SNR=10						
GUMO				LR	LR	18 32 50.5	
	comp=Z,2μm,18.8s,baz=200,slow=37						
GUMO	**Guam**	**17.13**	**19**	P	**Pn**	**18 26 21.9**	**-2.2**
GUMO				pmax	pmax		
	comp=Z,324nm,1.6s						
GUMO	**Guam**	**17.13**	**19**	Pn	**Pn**	**18 26 21.9**	**-2.2**
GUMO				IAmb	IAmb	18 26 27.6	
	comp=Z,324nm,1.6s						
BATI	**Baumata**	**17.14**	**244**	P	**Pn**	**18 26 23.9**	**-0.4**
	comp=Z,3μmcomp=Z,306nm,0.9s						
MRSI	**Marisa**	**17.55**	**280**	P	**Pn**	**18 26 29.1**	**-0.2**
	comp=Z,741nmcomp=Z,78nm,1.1s						
WB0	**Warramunga Arr**	**17.60**	**195**	P	**Pn**	**18 26 26.7**	**-3.1**
WB0				IAmb	IAmb	18 26 34.2	
	comp=Z,310nm,1.2s						
APSI	**Ampana**	**17.64**	**275**	P	**P**	**18 26 32.0**	**+0.9**
	comp=Z,2μmcomp=Z,121nm,1.0s						
WR0	**Warramunga Arr**	**17.75**	**195**	P	**Pn**	**18 26 28.2**	**-3.5**
WR0				IAmb	IAmb	18 26 35.9	
	comp=Z,285nm,1.2s						
QIS	**Mount Isa**	**17.75**	**179**	P	**Pn**	**18 26 29.8**	**-1.9**
	baz=18,SNR=26						
WRAB	**Tennant Creek**	**17.77**	**195**	*de*P	**Pn**	**18 26 29.0**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,119nm,1.3s						
WRAB	**Tennant Creek**	**17.77**	**195**	P	**Pn**	**18 26 28.8**	**-3.1**
WRAB				IAmb	IAmb	18 27 01.4	
	comp=Z,159nm,0.8s						
WB2	**Warramunga Arr**	**17.78**	**195**	P	**Pn**	**18 26 27.9**	**-4.2**
WB2				IAmb	IAmb	18 26 59.5	
	comp=Z,174nm,0.9s						
WRA	**Warramunga Arr**	**17.78**	**195**	P	**Pn**	**18 26 28.9**	**-3.2**
	comp=Z,2.1nm,0.3s,baz=12,slow=13,SNR=57						
WRA				S	**Sn**	**18 29 41.2**	**-8.2**
	comp=Z,3.3nm,0.3s,baz=13,slow=22,SNR=8.7						
WRA				Lg	Lg	18 31 43.1	
	comp=Z,1.7nm,0.3s,baz=20,slow=26,SNR=1.9						
WRA				LR	LR	18 33 51.2	
	comp=Z,7μm,19.3s,baz=15,slow=39						
WRA	**Warramunga Arr**	**17.78**	**195**	*i* P	**Pn**	**18 26 28.8**	**-3.3**
WRA				pmax	pmax		
	comp=Z,51nm,0.9s						
WRA	**Warramunga Arr**	**17.78**	**195**	P	**Pn**	**18 26 25.6**	**-6.6**
MMRI	**Maumere**	**17.88**	**250**	P	**Pn**	**18 26 32.5**	**-0.9**
MMRI				IAmb	IAmb	18 26 57.2	
	comp=Z,118nm,1.0s						
MMRI	**Maumere**	**17.88**	**250**	P	**P**	**18 26 33.8**	**0.0**
	comp=Z,1μmcomp=Z,128nm,1.1s						
EDFI	**Ende, Flores**	**18.43**	**250**	P	**P**	**18 26 39.3**	**-0.6**
	comp=Z,370nmcomp=Z,26nm,1.2s						
CTA	**Charters Tower**	**18.59**	**159**	P	**Pn**	**18 26 41.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=325,slow=15,SNR=5.0						
CTA				Lg	Lg	18 32 09.1	
	comp=Z,0.6nm,0.3s,baz=81,slow=16,SNR=3.0						
CTA				LR	LR	18 33 59.5	
	comp=Z,2μm,18.1s,baz=346,slow=38						
CTAO	**Charters Tower**	**18.59**	**159**	P	**P**	**18 26 41.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,64nm,1.0s						
CTAO	**Charters Tower**	**18.59**	**159**	P	**P**	**18 26 41.2**	**-0.4**
TOLI2	**Tolitoli**	**18.81**	**281**	P	**P**	**18 26 43.4**	**-0.6**
BSSI	**Bau Bau, Buton**	**18.97**	**259**	P	**Pn**	**18 26 46.8**	**+0.1**
	comp=Z,1μmcomp=Z,71nm,0.9s						
BNSI	**Bone**	**19.14**	**264**	P	**Pn**	**18 26 49.4**	**+0.7**
	comp=Z,1μmcomp=Z,112nm,1.1s						
BKSI	**Bulukumba**	**19.22**	**262**	P	**Pn**	**18 26 49.3**	**-0.3**
TTSI	**Tana Toraja**	**19.37**	**269**	P	**Pn**	**18 26 51.4**	**-0.1**
	comp=Z,2μmcomp=Z,2μmcomp=Z,147nm,1.4s						
MPSI	**Mapaga**	**19.54**	**279**	P	**Pn**	**18 26 53.0**	**-0.5**
	comp=Z,2μmcomp=Z,729nmcomp=Z,27nm,0.8s						
KAPI	**Kappang**	**19.55**	**263**	P	**Pn**	**18 26 54.1**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=118,slow=9.9,SNR=3.5						
KAPI	**Kappang**	**19.55**	**263**	P	**Pn**	**18 26 53.4**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,124nm,1.5s						
KAPI	**Kappang**	**19.55**	**263**	P	**Pn**	**18 26 53.4**	**-0.2**
KAPI				IAmb	IAmb	18 27 16.1	
	comp=Z,124nm,1.5s						
WBSI	**Waikabubak, Su**	**20.86**	**250**	P	**P**	**18 27 04.9**	**-1.5**
	comp=Z,999nmcomp=Z,101nm,1.3s						
PATS	**Pohnpei**	**21.29**	**63**	P	**P**	**18 27 09.4**	**-1.6**
AS31	**Alice Springs**	**21.46**	**193**	P	**P**	**18 27 10.8**	**-2.0**
AS31				IAmb	IAmb	18 27 45.0	
	comp=Z,60nm,0.7s						
ASAR	**Alice Springs**	**21.46**	**193**	P	**P**	**18 27 11.7**	**-1.1**
	comp=Z,56nm,0.9s,baz=18,slow=9.2,SNR=108						
ASAR				S	**S**	**18 31 12.0**	**+3.0**
	comp=Z,72nm,0.9s,baz=14,slow=23,SNR=13						
ASAR				Lg	Lg	18 33 47.5	
	comp=Z,52nm,0.9s,baz=11,slow=30,SNR=3.2						
ASAR				LR	LR	18 36 32.0	
	comp=Z,3μm,21.4s,baz=18,slow=40						
ASAR	**Alice Springs**	**21.46**	**193**	P	**P**	**18 27 11.1**	**-1.6**
HNR	**Honiara**	**21.66**	**109**	P	**P**	**18 27 11.9**	**-3.0**
	comp=Z,62nm,1.0s,baz=291,slow=18,SNR=1.7						
HNR				LR	LR	18 35 48.1	
	comp=Z,668nm,20.8s,baz=286,slow=37						
HNR	**Honiara**	**21.66**	**109**	P	**P**	**18 27 14.5**	**-0.5**
HNR				pmax	pmax		
	comp=Z,158nm,0.9s						
HNR	**Honiara**	**21.66**	**109**	P	**P**	**18 27 14.5**	**-0.5**
PLAI	**Plampang**	**22.17**	**253**	P	**P**	**18 27 21.6**	**+1.2**
	comp=Z,757nmcomp=Z,82nm,0.8s						
TWSI	**Taliwang, Sumb**	**23.00**	**254**	P	**P**	**18 27 29.4**	**+0.2**
	comp=Z,335nmcomp=Z,29nm,1.4s						
KBKI	**Kotabaru**	**23.02**	**268**	P	**P**	**18 27 31.2**	**+1.8**
	comp=Z,728nmcomp=Z,84nm,1.3s						
SPMM	**Saputut**	**23.89**	**288**	P	**P**	**18 27 39.0**	**+1.1**
QLP	**Quilpie**	**24.23**	**169**	P	**P**	**18 27 38.7**	**-2.1**
	baz=24,SNR=7.2						
BBKI	**Banjar Baru**	**24.35**	**268**	P	**P**	**18 27 44.6**	**+2.5**
	comp=Z,2μmcomp=Z,135nm,1.4s						
MTKI	**Muara Teweh, K**	**24.36**	**274**	P	**P**	**18 27 44.0**	**+1.7**
	comp=Z,1μmcomp=Z,19nm,0.9s						
WRKA	**Warakurna**	**24.57**	**204**	P	**P**	**18 27 42.3**	**-1.7**
	baz=25,SNR=14						
EIDS	**Eidsvold**	**25.27**	**154**	P	**P**	**18 27 51.5**	**+1.2**
	baz=25,SNR=16						
EIDS	**Eidsvold**	**25.27**	**154**	P	**P**	**18 27 50.4**	**+0.1**
RMQ	**Roma**	**25.36**	**160**	P	**P**	**18 27 51.9**	**+0.8**
	baz=25,SNR=26						
KMMI	**Kalianget**	**25.52**	**259**	P	**P**	**18 27 55.1**	**+2.4**
	comp=Z,4μmcomp=Z,339nm,1.3s						
PSA00	**Pilbara Seismi**	**26.58**	**224**	P	**P**	**18 28 01.3**	**-0.9**
PSA00				IAmb	IAmb	18 28 29.0	
	comp=Z,79nm,0.8s						
PSA00	**Pilbara Seismi**	**26.58**	**224**	P	**P**	**18 28 01.2**	**-1.1**
PSA00				IAmb	IAmb	18 28 29.0	
	comp=Z,34nm,1.0s						
SBUM	**Sibu**	**27.46**	**281**	P	**P**	**18 28 09.0**	**-1.3**
PBKI	**Pangkalan Bun**	**27.51**	**269**	P	**P**	**18 28 16.9**	**+6.2**
STKA	**Stephens Creek**	**29.10**	**176**	P	**P**	**18 28 24.9**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=349,slow=9.5,SNR=8.1						
STKA				LR	LR	18 41 08.7	
	comp=Z,5μm,19.1s,baz=351,slow=39						
STKA	**Stephens Creek**	**29.10**	**176**	P	**P**	**18 28 25.4**	**+0.7**
	baz=29,SNR=6.1						
STKA	**Stephens Creek**	**29.10**	**176**	P	**P**	**18 28 24.4**	**-0.3**
STKA				pmax	pmax		
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**29.10**	**176**	P	**P**	**18 28 24.4**	**-0.3**
KSM	**Kuching**	**29.19**	**278**	P	**P**	**18 28 23.0**	**-2.7**
CMSA	**Cobar Meteorol**	**29.32**	**169**	P	**P**	**18 28 27.8**	**+1.2**
	baz=29,SNR=16						
JCJ	**Chichijima**	**29.77**	**5**	LR	LR	18 39 00.7	
	comp=Z,1μm,19.0s,baz=164,slow=34						
FORT	**Forrest**	**29.85**	**200**	P	**P**	**18 28 30.5**	**-0.8**
ARMA	**Armidale**	**29.97**	**158**	P	**P**	**18 28 33.5**	**+1.0**
	baz=30,SNR=5.1						
ARMA	**Armidale**	**29.97**	**158**	P	**P**	**18 28 31.0**	**-1.5**
ARMA				IAmb	IAmb	18 29 19.0	
	comp=Z,41nm,1.5s						
MEEK	**Meekatharra**	**30.93**	**218**	P	**P**	**18 28 40.9**	**-0.1**
	baz=31,SNR=8.0						
JOW	**Kunigami**	**31.21**	**341**	LR	LR	18 39 09.0	
	comp=Z,842nm,21.6s,baz=284,slow=32						
YULB	**Yu-li**	**31.27**	**327**	P	**P**	**18 28 45.2**	**+1.3**
GIRL	**Giralia**	**31.30**	**229**	P	**P**	**18 28 44.4**	**+0.2**
	baz=31,SNR=3.2						
GIRL	**Giralia**	**31.30**	**229**	P	**P**	**18 28 45.8**	**+1.6**
TPUB	**Ta-pu**	**31.56**	**326**	P	**P**	**18 28 45.1**	**-1.4**
TPUB				IAmb	IAmb	18 29 44.0	
	comp=Z,107nm,1.9s						
SSLB	**Suanglung**	**31.77**	**327**	P	**P**	**18 28 47.9**	**-0.5**
SSLB				IAmb	IAmb	18 29 09.0	
	comp=Z,56nm,1.5s						
YHNB	**Yeheng**	**32.26**	**329**	P	**P**	**18 28 52.1**	**-0.6**
YNG	**Young**	**32.58**	**166**	P	**P**	**18 28 56.8**	**+1.5**
	baz=33,SNR=5.9						
DZM	**Mont Dzumac**	**32.71**	**128**	P	**P**	**18 28 57.8**	**+1.0**
	comp=Z,9.8nm,1.1s,baz=340,slow=15,SNR=2.7						
DZM	**Mont Dzumac**	**32.71**	**128**	*e*P	P	18 29 02.3	+5.5
	comp=Z,60nm,1.4s						
DZM				*e*S	**S**	**18 34 18.4**	**+7.3**
	comp=Z,248nm,27.1s						
DZM				*e*LR	LR	18 37 42.5	
	comp=Z,2μm,23.2s						
DZM	**Mont Dzumac**	**32.71**	**128**	P	**P**	**18 28 56.4**	**-0.3**
DZM				IAmb	IAmb	18 29 03.7	
	comp=Z,67nm,1.7s						
CNB	**Canberra Magne**	**33.79**	**165**	P	**P**	**18 29 07.3**	**+1.4**
	baz=34,SNR=6.9						
QZH	**Quanzhou**	**34.00**	**325**	P	**P**	**18 29 07.0**	**-0.8**
QZH				S	**S**	**18 34 30.0**	**-0.7**
QZH				LR	LR		
	comp=Z,650nm,18.0s						
MORW	**Morawa**	**34.25**	**218**	P	**P**	**18 29 10.7**	**+0.8**
	baz=34,SNR=8.7						
MORW	**Morawa**	**34.25**	**218**	P	**P**	**18 29 10.2**	**+0.2**
MORW				IAmb	IAmb	18 29 13.4	
	comp=Z,44nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**34.28**	**51**	T	T	19 04 49.1	
	baz=235,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**34.30**	**51**	T	T	19 04 49.0	
	baz=235						
H11S1	**WAKE ISLAND Hy**	**34.30**	**51**	T	T	19 05 00.1	
	baz=235						
KASI	**Kota Agung**	**34.73**	**264**	P	**P**	**18 29 13.3**	**-1.0**
	comp=Z,42nm,1.0s						
BLDU	**Balidu**	**34.98**	**215**	P	**P**	**18 29 15.8**	**-0.4**
	baz=35,SNR=5.1						
MDSI	**Maura Dua**	**35.01**	**266**	P	**P**	**18 29 16.5**	**-0.2**
	comp=Z,305nmcomp=Z,36nm,1.2s						
KLBR	**Kellerberrin**	**35.14**	**213**	P	**P**	**18 29 17.6**	**0.0**
	baz=35,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**35.15**	**49**	T	T	19 05 53.6	
	baz=236,slow=74,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**35.15**	**49**	T	T	19 05 54.7	
	baz=236,slow=74,SNR=3.3						
H11N3	**WAKE ISLAND Hy**	**35.17**	**49**	T	T	19 05 59.9	
	baz=236						
TOO	**Toolangi**	**35.17**	**171**	P	**P**	**18 29 20.0**	**+2.1**
TOO				pmax	pmax		
	comp=Z,93nm,1.6s						
TOO	**Toolangi**	**35.17**	**171**	P	**P**	**18 29 20.0**	**+2.1**
JHJ	**Hachijo jima 2**	**35.63**	**1**	LR	LR	18 41 52.1	
	comp=Z,960nm,19.7s,baz=108,slow=33						
LHSI	**Lahat**	**35.65**	**267**	P	**P**	**18 29 24.0**	**+1.8**
	comp=Z,907nmcomp=Z,45nm,1.0s						
QIZ	**Qiongzhong**	**36.07**	**308**	P	**P**	**18 29 26.5**	**+0.8**
QIZ				S	**S**	**18 35 03.3**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,27nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,310nm,2.8s						
QIZ				LR	LR		
	comp=Z,550nm,16.3s						
QIZ				LR	LR		
	comp=Z,460nm,17.8s						
QIZ				LR	LR		
	comp=Z,450nm,18.0s						
NWAO	**Narrogin (SRO)**	**36.45**	**212**	P	**P**	**18 29 28.8**	**0.0**
	comp=Z,13nm,0.9s,baz=43,slow=11,SNR=2.7						
NWAO	**Narrogin (SRO)**	**36.45**	**212**	P	**P**	**18 29 28.2**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,69nm,1.5s						
NWAO	**Narrogin (SRO)**	**36.45**	**212**	P	**P**	**18 29 28.2**	**-0.6**
JNU	**Nakatsue**	**36.49**	**348**	P	**P**	**18 29 29.1**	**-0.1**
	comp=Z,15nm,1.1s,baz=31,slow=4.0,SNR=4.2						
JNU	**Nakatsue**	**36.49**	**348**	IAmb	IAmb	18 29 48.8	
	comp=Z,31nm,1.1s						
JSG	**Sagara**	**37.19**	**359**	P	**P**	**18 29 35.5**	**+0.5**
JRMM	**Jerantut**	**37.29**	**280**	P	P	18 29 31.0	-5.3
SSE	**Sheshan**	**37.74**	**334**	P	**P**	**18 29 40.3**	**+0.5**
SSE				S	**S**	**18 35 28.3**	**+0.4**
SSE				pmax	pmax		
	comp=Z,25nm,0.7s						
SSE				pmax	pmax		
	comp=Z,110nm,4.0s						
SSE				LR	LR		
	comp=Z,300nm,21.2s						
SSE				LR	LR		
	comp=Z,260nm,22.0s						
JHS	**Saijyo**	**37.94**	**352**	P	**P**	**18 29 41.0**	**-0.4**
JHS				IAmb	IAmb	18 30 07.2	
	comp=Z,76nm,1.8s						
JWT	**Wachi**	**37.96**	**355**	P	**P**	**18 29 40.2**	**-1.4**
JGF	**Kuroka**	**38.15**	**358**	P	**P**	**18 29 45.1**	**+1.9**
BKNI	**Bangkinang**	**38.28**	**274**	P	**P**	**18 29 43.0**	**-1.6**
BKNI	**Bangkinang**	**38.28**	**274**	P	**P**	**18 29 48.7**	**+4.1**
	comp=Z,87nm,1.2s						
JYT	**Yasato**	**38.74**	**1**	P	**P**	**18 29 46.5**	**-1.6**
JYT				IAmb	IAmb	18 30 38.4	
	comp=Z,25nm,1.1s						
IPM	**Ipoh**	**38.82**	**280**	P	**P**	**18 29 46.0**	**-3.2**
MJAR	**Matsushiro Arr**	**39.06**	**359**	P	**P**	**18 29 48.7**	**-2.1**
	comp=Z,1.5nm,0.6s,baz=173,slow=9.4,SNR=11						
MJAR				PcP	**PcP**	**18 32 02.7**	**+2.3**
	comp=Z,2.0nm,1.0s,baz=193,slow=2.6,SNR=4.2						
MJAR				ScP	**S**	**18 35 47.8**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=153,slow=3.9,SNR=4.5						
MJAR				LR	LR	18 44 06.2	
	comp=Z,839nm,20.5s,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**39.06**	**359**	P	**P**	**18 29 48.6**	**-2.2**
MAJO	**Matsushiro**	**39.06**	**359**	⇑*e*P	**P**	**18 29 51.1**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,16nm,1.6s						
MAJO	**Matsushiro**	**39.06**	**359**	P	**P**	**18 29 49.0**	**-1.7**
MAT	**Matsushiro**	**39.06**	**359**	P	**P**	**18 29 49.1**	**-1.7**
MAT				S	**S**	**18 35 46.6**	**-1.1**
KULM	**Kulim**	**39.33**	**282**	P	**P**	**18 29 50.0**	**-3.4**
NJ2	**Nanjing**	**39.60**	**332**	*e*P	**P**	**18 29 54.8**	**-0.6**
NJ2				S	**S**	**18 35 58.3**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,15nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,240nm,5.2s						
NJ2				LR	LR		
	comp=Z,540nm,15.6s						
NJ2				LR	LR		
	comp=Z,490nm,17.5s						
NJ2				LR	LR		
	comp=Z,740nm,18.0s						
MNSI	**Mandailing Nat**	**39.77**	**274**	P	**P**	**18 30 01.0**	**+3.9**
	comp=Z,18nm,1.4s						
SKNT	**Sakolnakorn**	**39.89**	**301**	P	**P**	**18 29 58.2**	**+0.2**
	comp=Z,14nm,1.1s						
FUNA	**Funafuti**	**40.19**	**100**	P	**P**	**18 30 01.1**	**+0.5**
JMM	**Marumori**	**40.39**	**2**	P	**P**	**18 30 01.6**	**-0.2**
JMM				IAmb	IAmb	18 30

comp=Z,109nmcomp=Z,11nm,1.0s
CM09 Chiang Mai Arr 44.82 300 P **P** **18 30 39.2 +1.0**
comp=Z,100nmcomp=Z,13nm,1.0s
CM09 Chiang Mai Arr 44.82 300 P **P** **18 30 39.2 +1.0**
comp=Z,100nmcomp=Z,13nm,1.0s
CM01 Chiang Mai Arr 44.84 300 P **P** **18 30 39.4 +1.1**
comp=Z,90nmcomp=Z,11nm,0.9s
CM01 Chiang Mai Arr 44.84 300 P **P** **18 30 39.0 +0.7**
comp=Z,90nmcomp=Z,11nm,0.9s
CM05 Chiang Mai Arr 44.85 300 P **P** **18 30 39.3 +1.0**
comp=Z,88nmcomp=Z,11nm,1.2s
CM05 Chiang Mai Arr 44.85 300 P **P** **18 30 39.4 +1.0**
comp=Z,88nmcomp=Z,11nm,1.2s
CM02 Chiang Mai Arr 44.86 300 P **P** **18 30 39.4 +0.9**
comp=Z,90nmcomp=Z,11nm,1.1s
CM02 Chiang Mai Arr 44.86 300 P **P** **18 30 39.4 +0.9**
comp=Z,90nmcomp=Z,11nm,1.1s
CM31 Chiang Mai Arr 44.87 300 P **P** **18 30 39.0 +0.4**
comp=Z,3μmcomp=Z,297nm,1.2s
CM31 Chiang Mai Arr 44.87 300 P **P** **18 30 38.6 0.0**
CMAR Chiang Mai Arr 44.87 300 P **P** **18 30 39.1 +0.6**
comp=Z,8.6nm,1.0s,baz=122,slow=6.3,SNR=45
CMAR Chiang Mai Arr 44.87 300 P **P** **18 30 38.2 -0.4**
CM15 Chiang Mai Arr 44.88 300 P **P** **18 30 39.5 +0.8**
comp=Z,225nmcomp=Z,13nm,1.2s
CM15 Chiang Mai Arr 44.88 300 P **P** **18 30 39.0 +0.3**
comp=Z,225nmcomp=Z,13nm,1.2s
CM13 Chiang Mai Arr 44.89 300 P **P** **18 30 39.5 +0.8**
comp=Z,93nmcomp=Z,11nm,0.9s
CM13 Chiang Mai Arr 44.89 300 P **P** **18 30 39.5 +0.8**
comp=Z,93nmcomp=Z,11nm,0.9s
KMI Kunming 44.90 310 ⇑P **P** **18 30 40.5 +1.6**
KMI pP sP 18 30 54.0 -0.3
KMI sP pP 18 31 02.0 +12
KMI PP **PP** **18 32 27.8 +3.5**
KMI S **S** **18 37 16.8 +2.0**
KMI sS sS 18 37 40.8 +8.0
KMI pmax pmax
comp=Z,15nm,1.6s
KMI pmax pmax
comp=Z,72nm,3.5s
KMI LR LR
comp=Z,350nm,21.1s
KMI LR LR
comp=Z,270nm,21.1s
KMI LR LR
comp=Z,400nm,25.4s
CMMT Chiang Mai 45.01 300 P **P** **18 30 39.9 +0.2**
comp=Z,11nm,1.0s
CMMT Chiang Mai 45.01 300 P **P** **18 30 39.0 -0.7**
comp=Z,11nm,1.0s
CHTO Chiang Mai 45.01 300 P **P** **18 30 38.9 -0.8**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 45.01 300 P **P** **18 30 39.9 +0.2**
comp=Z,11nm,1.0s
CHTO Chiang Mai 45.01 300 P **P** **18 30 38.9 -0.8**
XAN Xi'an 46.36 325 P **P** **18 30 50.5 +0.3**
XAN S **S** **18 37 36.0 +0.8**
XAN sS sS 18 38 07.5 +14
XAN pmax pmax
comp=Z,20nm,1.3s
XAN pmax pmax
comp=Z,230nm,3.6s
XAN LR LR
comp=Z,360nm,18.3s
XAN LR LR
comp=Z,280nm,15.8s
XAN LR LR
comp=Z,500nm,18.0s
YUK Yuzh-Kuril'sk 46.91 7 *e*P **P** **18 30 53.5 -0.7**
YUK *e* 18 32 25.5
YUK *e* 18 32 44.9
YUK *e*PPP PPP 18 33 27.8
YUK *e*S **S** **18 37 42.4 -0.2**
YUK *e* 18 40 44.1
YUK *e*SS **SS** **18 41 08.1 -1.8**
YUK *e*SSS SSS 18 42 11.4
YUK pmax pmax
comp=Z,272nm,1.8s
YUK MLR MLR
comp=Z,121nm,17.0s
YUK MLR MLR
comp=N,254nm,16.0s
YUK MLR MLR
comp=E,192nm,16.0s
USA0B Ussuriysk Arra 47.14 353 P **P** **18 30 55.1 -0.9**
USA0B pmax pmax
comp=Z,30nm,1.6s
USA0B Ussuriysk Arra 47.14 353 P **P** **18 30 55.1 -0.9**
USA0B IAmb IAmb 18 31 27.3
comp=Z,30nm,1.6s
USRK Ussuriysk Ar. 47.14 353 P **P** **18 30 55.8 -0.2**
comp=Z,2.4nm,0.8s,baz=174,slow=6.9,SNR=10
USRK LR LR 18 47 24.5
comp=Z,794nm,21.9s,baz=163,slow=32
USRK Ussuriysk Ar. 47.14 353 P **P** **18 30 54.4 -1.6**
BJI Beijing 47.49 336 P **P** **18 30 58.3 -0.5**
BJI PP **PP** **18 32 50.5 -0.1**
BJI S **S** **18 37 50.8 -0.3**
BJI SS **SS** **18 41 16.0 -3.4**
BJI pmax pmax
comp=Z,31nm,1.5s
BJI pmax pmax
comp=Z,110nm,3.5s
BJI LR LR
comp=Z,580nm,20.7s
BJI LR LR
comp=Z,440nm,16.9s
BJI LR LR
comp=Z,900nm,20.7s
CD2 Chengdu 47.52 317 P **P** **18 31 00.5 +1.3**
CD2 pP sP 18 31 12.8 -1.8
CD2 S **S** **18 37 50.5 -1.3**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 LR LR
comp=Z,460nm,14.7s
CD2 LR LR
comp=Z,520nm,18.1s
CD2 LR LR
comp=Z,660nm,18.0s
MDJ Mudanjiang 47.89 351 P **P** **18 31 01.8 0.0**
MDJ S **S** **18 38 00.5 +3.9**
MDJ pmax pmax
comp=Z,10.0nm,1.7s
MDJ pmax pmax
comp=Z,140nm,3.6s
MDJ LR LR
comp=Z,400nm,19.0s
MDJ LR LR
comp=Z,310nm,19.1s
MDJ LR LR
comp=Z,700nm,19.1s
CN2 Changchun 47.92 347 *e*P **P** **18 30 59.3 -2.8**
CN2 *e*S **S** **18 37 56.5 -0.5**
CN2 SS **SS** **18 41 21.5 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,8.2s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,700nm,19.0s
MLZ Mavora Lakes 49.48 153 P **P** **18 31 15.3 +1.2**
URZ Urewera 49.50 141 P **P** **18 31 15.3 +1.0**
URZ IAmb IAmb 18 31 47.0
comp=Z,16nm,1.0s
YSS Yuzh-Sakhalins 49.55 3 *e*P **P** **18 31 14.8 +0.3**
YSS *e* 18 33 07.4
YSS *e*PPP PPP 18 34 11.1
YSS *e*S **S** **18 38 17.4 -2.4**
YSS *e*PS PKiKP 18 38 35.9 -47
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=N,300nm,16.0s
YSS Yuzh-Sakhalins 49.55 3 P **P** **18 31 13.9 -0.5**
TUWZ Tuamarina 49.59 146 P **P** **18 31 15.2 +0.2**
RPZ Rata Peaks 49.64 150 P **P** **18 31 16.6 +1.3**
BKZ Black Stump Fm 49.66 142 P **P** **18 31 14.3 -1.3**
BKZ IAmb IAmb 18 31 40.7
comp=Z,33nm,1.3s

BSWZ Blackbirch Sta 49.74 146 P **P** **18 31 16.8 +0.6**
KHZ Kahutara 50.03 147 P **P** **18 31 17.9 -0.4**
HHC Hu-ho-hao-te 50.16 333 *e*P **P** **18 31 20.3 +0.9**
HHC S **S** **18 38 32.5 +3.7**
HHC ScS **ScS** **18 40 58.0 -10**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=Z,520nm,17.2s
HHC LR LR
comp=Z,340nm,15.0s
HHC LR LR
comp=Z,650nm,16.5s
BFZ Birch Farm 50.44 144 P **P** **18 31 21.4 -0.1**
BTO Baotou 50.69 331 *e*P **P** **18 31 24.3 +0.9**
BTO S **S** **18 38 40.3 +4.1**
BTO LR LR
comp=Z,2μm,18.7s
BTO LR LR
comp=Z,2μm,18.4s
BTO LR LR
comp=Z,3μm,18.4s
LZH Lanzhou 50.78 323 *e*P **P** **18 31 25.8 +1.5**
LZH S **S** **18 38 40.0 +2.3**
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,310nm,19.5s
LZH LR LR
comp=Z,380nm,20.6s
LZH LR LR
comp=Z,250nm,19.0s
KLR Kul'dur 52.13 354 *de*P **P** **18 31 33.2 -0.7**
KLR pmax pmax
comp=Z,22nm,1.5s
SHL Shillong 53.74 305 P **P** **18 31 45.7 -0.8**
SHL pmax pmax
comp=Z,18nm,0.9s
SHL Shillong 53.74 305 P **P** **18 31 45.7 -0.8**
SHL IAmb IAmb 18 31 47.4
comp=Z,18nm,0.9s
HIA Hailar 54.44 344 P **P** **18 31 51.3 +0.3**
HIA pmax pmax
comp=Z,26nm,1.5s
HIA Hailar 54.44 344 P **P** **18 31 51.3 +0.3**
HIA IAmb IAmb 18 31 52.2
comp=Z,26nm,1.5s
SKR Severo-Kuril's 55.12 13 *e*P **P** **18 31 51.1 -4.7**
SKR *e*S **S** **18 39 30.1 -5.9**
SKR MLR MLR
comp=Z,100nm,19.0s
GTA Gaotai 55.36 323 *e*P **P** **18 31 58.3 +0.3**
GTA S **S** **18 39 42.0 +2.0**
GTA SS **SS** **18 43 25.5 +0.4**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA pmax pmax
comp=Z,89nm,6.5s
GTA LR LR
comp=Z,170nm,17.8s
GTA LR LR
comp=Z,140nm,16.7s
GTA LR LR
comp=Z,260nm,18.5s
LSA Lhasa 56.10 309 P **P** **18 32 04.5 +0.7**
LSA pmax pmax
comp=Z,54nm,0.8s
ZEA Zeya 57.12 352 *e*P **P** **18 32 10.4 +0.3**
ZEA *e*S **S** **18 40 06.4 +3.8**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA smax smax
comp=N,100nm,12.7s
ZEA MLR MLR
comp=Z,200nm,17.0s
ULN Ulaanbaatar 57.67 335 *d i*P **P** **18 32 14.5 +0.2**
ULN pmax pmax
comp=Z,26nm,1.7s
ULN Ulaanbaatar 57.67 335 P **P** **18 32 14.4 +0.2**
ULN IAmb IAmb 18 32 16.4
comp=Z,28nm,1.4s
PEA0B Petropavlovsk- 57.74 13 P **P** **18 32 14.7 +0.3**
PEA0B pmax pmax
comp=Z,21nm,1.2s
PEA0B Petropavlovsk- 57.74 13 P **P** **18 32 14.7 +0.3**
PEA0B IAmb IAmb 18 32 41.1
comp=Z,21nm,1.1s
PETK Petropavlovsk- 57.74 13 P **P** **18 32 14.5 +0.1**
comp=Z,2.4nm,0.9s,baz=192,slow=13,SNR=5.0
PETK LR LR 18 53 29.0
comp=Z,406nm,21.8s,baz=197,slow=32
PET Petropavlovsk 57.88 14 *e*P **P** **18 32 19.7 +4.3**
PET *e*S **S** **18 40 15.2 +2.7**
PET pmax pmax
comp=Z,100nm,12.0s
PET pmax pmax
comp=Z,100nm,17.9s
PET MLR MLR
comp=Z,400nm,18.0s
PET MLR MLR
comp=Z,300nm,21.0s
SONM Songino Array 57.93 334 P **P** **18 32 16.3 +0.3**
comp=Z,1.4nm,0.5s,baz=154,slow=5.4,SNR=19
SONM LR LR 18 57 28.1
comp=Z,622nm,19.5s,baz=136,slow=36
SONM PKP2ab 19 02 31.1
comp=Z,0.9nm,1.0s,baz=334,slow=0.7,SNR=4.3
SONM Songino Array 57.93 334 P **P** **18 32 16.3 +0.3**
SONM pmax pmax
comp=Z,37nm,1.9s
SONM Songino Array 57.93 334 P **P** **18 32 16.3 +0.3**
SONM IAmb IAmb 18 32 32.6
comp=Z,37nm,1.9s
CIT Chita 58.70 342 *e*P **P** **18 32 21.4 +0.2**
CIT *e* 18 32 30.0
CIT pmax pmax
comp=Z,89nm,1.7s
ZAK Zakamensk 61.20 335 *e*P **P** **18 32 38.6 +0.1**
ZAK pmax pmax
comp=Z,25nm,1.4s
IRK Irkutsk 62.19 337 *e*P **P** **18 32 45.2 +0.2**
IRK pmax pmax
comp=Z,57nm,3.1s
MOY Mondy 63.12 334 *e*P **P** **18 32 52.2 +0.8**
MOY pmax pmax
comp=Z,55nm,2.5s
BOD Bodaibo 63.64 345 *e*P **P** **18 32 54.0 -0.5**
BOD pmax pmax
comp=Z,30nm,1.6s
YAK Yakutsk 64.97 355 *e*P **P** **18 33 02.7 -0.4**
YAK *e* 18 33 42.0
YAK *e* 18 35 24.7
YAK *e*S **S** **18 41 40.9 -1.2**
YAK *e*'SS **sS** **18 42 04.3 +5.9**
YAK *e* 18 42 50.0
YAK *e*SS **SS** **18 45 52.2 -2.4**
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,63nm,3.6s
YAK pmax pmax
comp=N,67nm,2.7s
YAK pmax pmax
comp=E,38nm,2.5s
YAK smax smax
comp=E,77nm,3.2s
YAK smax smax
comp=N,107nm,3.5s
YAK MLR MLR
comp=Z,453nm,16.0s
YAK MLR MLR
comp=N,346nm,20.0s
YAK Yakutsk 64.97 355 P **P** **18 33 02.3 -0.8**
YAK IAmb IAmb 18 33 04.9
comp=Z,27nm,0.9s
WMQ Urumqi 65.32 321 *e*P **P** **18 33 07.0 +1.1**
WMQ PcP **PcP** **18 33 38.3 +0.4**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax

comp=Z,66nm,3.7s
CASY Casey 66.58 192 P **P** **18 33 13.6 +0.2**
DGZ Jazzator, Alta 68.55 327 *ce*P **P** **18 33 27.0 +0.5**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 70.09 322 P **P** **18 33 35.8 -0.1**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 70.09 322 P **P** **18 33 35.8 -0.1**
MKAR Makanchi Array 70.09 322 P **P** **18 33 35.8 -0.1**
comp=Z,4.4nm,0.6s,baz=102,slow=7.5,SNR=41
MKAR Makanchi Array 70.09 322 P **P** **18 33 35.5 -0.3**
MAKZ Makanchi 70.29 322 P **P** **18 33 36.8 -0.3**
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 70.29 322 P **P** **18 33 36.8 -0.3**
MAKZ IAmb IAmb 18 33 45.1
comp=Z,18nm,1.1s
TARG Taragay, Kyrgy 70.93 316 P **P** **18 33 42.1 +0.5**
PPT Papeete 71.28 108 LR LR 19 03 01.0
comp=Z,202nm,19.6s,baz=282,slow=34
PPT2 Papeete2 71.28 108 *e*S **S** **18 43 06.8 +7.6**
comp=Z,396nm,32.2s
PPT2 *e*LQ LQ 18 52 32.7
comp=Z,1μm,38.8s
PPT2 *e*LR LR 18 55 33.3
comp=Z,462nm,26.5s
KSH Kashi 71.44 313 P **P** **18 33 46.5 +2.1**
KSH S **S** **18 43 06.5 +6.0**
KSH pmax pmax
comp=Z,17nm,1.5s
KSH LR LR
comp=Z,1μm,17.8s
KSH LR LR
comp=Z,670nm,11.8s
KSH LR LR
comp=Z,270nm,13.3s
NIL Nilore 71.72 307 P **P** **18 33 45.9 -0.2**
NIL pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 71.72 307 P **P** **18 33 45.9 -0.2**
NIL IAmb IAmb 18 33 47.8
comp=Z,23nm,0.8s
TBI Tubuai 71.80 114 *e*S **S** **18 43 11.2 +6.3**
comp=Z,709nm,37.8s
TBI Tubuai 71.80 114 *e*LR LR 18 55 46.0
comp=Z,196nm,24.5s
ZAA0 Zalesovo Array 72.18 330 P **P** **18 33 47.1 -1.2**
ZALV Zalesovo Beam 72.18 330 P **P** **18 33 47.2 -1.1**
comp=Z,2.1nm,0.6s,baz=96,slow=6.1,SNR=11
ZALV Zalesovo Beam 72.18 330 P **P** **18 33 46.7 -1.6**
BILL Bilibino 73.07 10 *e*P **P** **18 33 53.4 +0.1**
BILL *e* 18 34 01.6
BILL *e* 18 34 11.4
BILL pmax pmax
comp=Z,4.0nm,1.0s
KBL Kabul 75.33 307 P **P** **18 34 06.4 -1.1**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 75.33 307 P **P** **18 34 06.4 -1.1**
GAR Garm 75.47 311 P **P** **18 34 07.8 -0.3**
GAR IAmb IAmb 18 34 15.9
comp=Z,38nm,1.1s
VNDA Vanda 75.74 175 P **P** **18 34 09.1 +0.4**
comp=Z,9.8nm,0.8s,baz=325,slow=6.8,SNR=86
VNDA LR LR 19 07 46.2
comp=Z,1μm,18.1s,baz=350,slow=36
VNDA Vanda 75.74 175 P **P** **18 34 08.9 +0.2**
VNDA pmax pmax
comp=Z,17nm,1.1s
VNDA Vanda 75.74 175 P **P** **18 34 08.9 +0.2**
VNDA IAmb IAmb 18 34 18.6
comp=Z,17nm,1.1s
CHGR Chuyangaron 76.25 311 P **P** **18 34 12.0 -0.6**
CHGR IAmb IAmb 18 34 20.2
comp=Z,30nm,0.9s
KK31 Karatay Array 76.48 315 P **P** **18 34 13.2 -0.4**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KK31 Karatay Array 76.48 315 P **P** **18 34 13.2 -0.4**
KKAR Karatay Array 76.48 315 P **P** **18 34 13.0 -0.6**
KKAR Karatay Array 76.48 315 P **P** **18 34 12.9 -0.6**
SBA Scott Base 76.50 174 P **P** **18 34 14.0 +1.0**
SBA pmax pmax
comp=Z,87nm,1.9s
SBA Scott Base 76.50 174 P **P** **18 34 14.0 +1.0**
BRVK Borovoye 79.67 325 *ce*P **P** **18 34 31.4 +0.4**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK Borovoye 79.67 325 P **P** **18 34 30.1 -1.0**
NRIK Noril'sk 79.86 344 P **P** **18 34 32.2 +0.4**
comp=Z,10.0nm,1.0s,baz=124,slow=6.1,SNR=9.1
NRIK LR LR 19 11 50.1
comp=Z,173nm,18.2s,baz=138,slow=37
NRIK Noril'sk 79.86 344 P **P** **18 34 31.1 -0.7**
NRIK pmax pmax
comp=Z,14nm,1.2s
NRIK Noril'sk 79.86 344 P **P** **18 34 31.1 -0.7**
TAOE Nuku Hiva Isla 80.34 98 *e*LR LR 18 59 52.3
comp=Z,394nm,26.4s
SVW2 Sparrevohn 80.65 27 P **P** **18 34 36.8 +0.6**
SVW2 IAmb IAmb 18 34 38.9
comp=Z,25nm,1.4s
KDAK Kodiak Island 80.85 30 P **P** **18 34 36.8 -0.4**
baz=250
N19K Bonanza Creek 81.03 27 P **P** **18 34 39.3 +0.9**
baz=248,SNR=7.2
L19K White Mountain 81.39 26 P **P** **18 34 41.7 +1.5**
baz=247,SNR=10
M19K Big River Lodg 81.49 26 P **P** **18 34 42.1 +1.5**
baz=248
M20K Styx River 82.03 26 P **P** **18 34 44.8 +1.2**
baz=249
K20K Telida 82.17 25 P **P** **18 34 45.8 +1.6**
baz=248,SNR=8.3
MAW Mawson 82.32 202 P **P** **18 34 45.4 +0.5**
comp=Z,9.2nm,0.9s,baz=72,slow=6.7,SNR=13
MAW LR LR 19 09 05.8
comp=Z,1μm,19.6s,baz=62,slow=34
MAW Mawson 82.32 202 P **P** **18 34 45.3 +0.5**
baz=82,SNR=8.1
MAW Mawson 82.32 202 P **P** **18 34 44.5 -0.3**
MAW pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 82.32 202 P **P** **18 34 44.5 -0.3**
J20K Nowinta River 82.45 24 P **P** **18 34 46.5 +0.8**
baz=248,SNR=15
CHUM Lake Minchumin 83.10 25 P **P** **18 34 50.1 +1.2**
baz=249,SNR=6.8
IMAR Indian Mountai 83.30 22 P **P** **18 34 49.3 -0.7**
KTH Kantishna Hill 83.57 25 P **P** **18 34 50.7 -0.9**
I21K Tanana 83.69 23 P **P** **18 34 53.2 +1.2**
baz=250
BPAW Bear Paw Mtn. 83.72 24 IAmb IAmb 18 35 20.9
comp=Z,22nm,1.9s
GHO Glory Hole Cre 83.88 27 IAmb IAmb 18 34 54.4
comp=Z,26nm,1.4s
PWL Port Wells 83.89 28 P **P** **18 34 52.6 -0.6**
PWL IAmb IAmb 18 35 07.7
comp=Z,23nm,1.0s
KNK Knik Glacier 83.99 27 P **P** **18 34 53.9 +0.2**
baz=253
MLY Manley 84.13 24 P **P** **18 34 54.9 +0.6**
baz=251,SNR=14
MLY Manley 84.13 24 IAmb IAmb 18 34 57.6
comp=Z,18nm,1.2s
SML Sawmill 84.16 27 P **P** **18 34 54.7 +0.1**
baz=253
WAT1 Susitna Watana 84.36 26 P **P** **18 34 55.5 -0.1**
baz=253
RND Reindeer 84.40 25 IAmb IAmb 18 35 02.2
comp=Z,24nm,1.1s
MCK McKinley 84.47 25 P **P** **18 34 55.0 -1.1**
MCK pmax pmax
comp=Z,30nm,1.5s
MCK McKinley 84.47 25 P **P** **18 34 56.0 0.0**
baz=252
MCK McKinley 84.47 25 P **P** **18 34 55.0 -1.1**
MCK IAmb IAmb 18 35 04.8
comp=Z,30nm,1.5s
SCM Sheep Creek Mo 84.63 27 IAmb IAmb 18 34 58.6
comp=Z,26nm,1.2s
GEYT Alibeck 84.63 308 P **P** **18 34 57.7 +0.2**
comp=Z,24nm,0.5s,baz=190,slow=4.2,SNR=7.9
WAT6 Susitna Watana 84.65 26 P **P** **18 34 56.6 -0.5**
baz=254

NEA2	Nenana	84.67	24	P	P	18 34 57.2	+0.1
	baz=252,SNR=7.9						
NEA2	Nenana	84.67	24	IAmb	IAmb	18 34 59.2	
	comp=Z,22nm,1.4s						
I23K	Minto, Yukon-K	84.72	24	P	P	18 34 57.3	+0.1
	baz=252,SNR=14						
I23K	Minto, Yukon-K	84.72	24	IAmb	IAmb	18 34 59.6	
	comp=Z,16nm,1.1s						
H23K	Yukon River	84.86	23	P	P	18 34 58.4	+0.4
	baz=252						
WRH	Wood River Hil	85.04	25	P	P	18 34 57.6	-1.3
WRH				IAmb	IAmb	18 35 00.7	
	comp=Z,26nm,1.2s						
KLU	Klutina	85.18	28	P	P	18 34 59.9	+0.1
	baz=255						
KLU	Klutina	85.18	28	IAmb	IAmb	18 35 02.6	
	comp=Z,12nm,1.1s						
CCB	Clear Creek Bu	85.21	24	IAmb	IAmb	18 35 01.3	
	comp=Z,19nm,1.1s						
COLA	College	85.25	24	*c*eP	P	18 35 00.0	+0.1
COLA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HDA	Harding Lake	85.50	25	P	P	18 35 01.1	0.0
	baz=254,SNR=5.6						
HDA	Harding Lake	85.50	25	P	P	18 34 59.9	-1.3
HDA				IAmb	IAmb	18 35 02.4	
	comp=Z,11nm,1.2s						
H24K	Noodor Dome	85.52	23	P	P	18 35 01.7	+0.3
	baz=253						
KAIM	Kayak Island	85.52	29	P	P	18 35 02.6	+1.3
	baz=257						
IL31		85.62	24	IAmb	IAmb	18 35 16.4	
	comp=Z,7.9nm,0.8s						
ILAR	Eielson Array	85.62	24	P	P	18 35 00.1	-1.7
	comp=Z,7.4nm,1.0s,baz=258,slow=4.3,SNR=30						
ILAR				LR	LR	19 09 50.9	
	comp=Z,164nm,21.3s,baz=244,slow=33						
BMRM	Bremner River	85.67	28	P	P	18 35 03.1	+0.9
	baz=257						
BMRM	Bremner River	85.67	28	P	P	18 35 02.0	-0.2
BMRM				IAmb	IAmb	18 35 45.1	
	comp=Z,24nm,1.3s						
TOLK	Toolik Lake Re	85.74	20	P	P	18 35 03.1	+0.8
	baz=252						
TOLK	Toolik Lake Re	85.74	20	P	P	18 35 02.2	-0.2
SVE	Sverdlovsk	86.01	327	*e*P	P	18 35 08.4	+4.6
RIDG	Independent Ri	86.22	26	P	P	18 35 05.3	+0.4
	baz=256						
RIDG	Independent Ri	86.22	26	IAmb	IAmb	18 35 13.6	
	comp=Z,13nm,1.2s						
CRQM	Cirque	86.33	29	IAmb	IAmb	18 35 11.8	
	comp=Z,22nm,1.3s						
CRQE	Cirque	86.35	29	P	P	18 35 06.7	+1.1
	baz=258						
DOT	Dot Lake	86.54	26	P	P	18 35 05.8	-0.6
SCRK	Sand Creek	86.64	25	P	P	18 35 07.3	+0.3
	baz=257						
SCRK	Sand Creek	86.64	25	P	P	18 35 06.6	-0.4
ISLE	Juniper Island	86.68	29	IAmb	IAmb	18 35 26.2	
	comp=Z,18nm,1.3s						
L26K	Log Cabin Wild	86.71	26	P	P	18 35 08.2	+0.9
	baz=258						
ARU	Arti	87.07	327	*d i*P	P	18 35 09.3	+0.3
ARU						18 38 31.7	
ARU				S	SKSac	18 45 34.1	+0.7
ARU				SS	SS	18 51 29.5	+0.4
ARU				pmax	pmax		
	comp=Z,5.0nm,1.6s						
ARU				MLR	MLR		
	comp=Z,160nm,19.0s						
BARN	Barnard Glacie	87.09	29	P	P	18 35 08.3	-1.1
BARN				IAmb	IAmb	18 35 10.9	
	comp=Z,9.0nm,0.9s						
BMAR	Burnt Mountain	87.21	22	P	P	18 35 09.2	-0.3
CTG	Chitna Glacier	87.23	29	P	P	18 35 11.3	+1.3
	baz=260,SNR=5.5						
TABL	Table Mountain	87.23	29	IAmb	IAmb	18 35 38.8	
	comp=Z,16nm,1.0s						
CTGM	Chitina Glacie	87.23	29	IAmb	IAmb	18 35 12.2	
	comp=Z,19nm,1.2s						
M27K	Edge Creek, AK	87.24	27	P	P	18 35 10.8	+0.8
	baz=259,SNR=8.8						
QSPA	South Pole Qui	87.24	180	P	P	18 35 09.1	-0.8
	baz=308,slow=7.1						
QSPA	South Pole Qui	87.24	180	P	P	18 35 08.8	-1.1
L27K	Beaver Creek,	87.40	27	P	P	18 35 11.3	+0.8
	baz=259,SNR=14						
L27K	Beaver Creek,	87.40	27	IAmb	IAmb	18 35 17.2	
	comp=Z,11nm,1.2s						
BCAR	Beaver Creek A	87.42	27	P	P	18 35 09.8	-0.8
K27K	Chicken	87.48	26	P	P	18 35 11.8	+1.0
	baz=259,SNR=18						
K27K	Chicken	87.48	26	IAmb	IAmb	18 35 13.7	
	comp=Z,23nm,1.2s						
PINM	Pinnacle	87.61	30	P	P	18 35 12.6	+0.9
	baz=260						
EGAK	Eagle	88.01	25	P	P	18 35 13.5	0.0
	baz=260						
EGAK	Eagle	88.01	25	IAmb	IAmb	18 35 19.6	
	comp=Z,21nm,1.2s						
DAWY	Dawson	88.65	26	P	P	18 35 15.9	-0.6
HYT	Haines Junctio	89.06	29	IAmb	IAmb	18 35 25.1	
	comp=Z,15nm,1.2s						
BELG	Belogornoye	93.10	322	⇓*e*P	P	18 35 35.9	-1.4
BELG				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	Kislovodsk	96.57	314	*e*P	P	18 35 52.8	-0.8
KIV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ATD	Arta Tunnel	96.77	281	LR	LR	19 19 49.4	
	comp=Z,30nm,19.5s,baz=39,slow=36						
KLMR	Klimovskoe	97.08	331	*e*P	P	18 35 52.0	-3.3
KLMR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
KLMR	Klimovskoe	97.08	331	*e*P	P	18 35 52.1	-3.3
KLMR				AMP		18 35 59.7	
	comp=Z,7.0nm,1.3s						
APA	Apatity	98.49	338	⇓*i*P	P	18 35 54.9	-6.7
APA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
OBN	Obninsk	99.44	325	*e*P	Pdif	18 36 04.0	-2.1
OBN				*e*		18 40 10.6	
OBN				*e*PPP	PPP	18 42 17.1	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	Yellowknife Ar	99.83	27	LR	LR	19 17 11.0	
	comp=Z,397nm,22.0s,baz=0.0,slow=33						
ARCES	ARCESS Array B	100.67	341	P	Pdif	18 36 09.6	-1.7
	comp=Z,0.9nm,0.6s,baz=35,slow=4.4,SNR=9.3						
VNA1	Neumayer--Stat	103.68	191	Pdiff	Pdif	18 36 24.5	-0.1
KRLC	Kralicky	112.40	324	AMS	AMS	19 32 40.0	
	comp=Z,200nm,13.7s						
OSTC	Ostas	112.53	325	AMS	AMS	19 34 20.0	
	comp=Z,300nm,14.5s						
UPC	Upice	112.66	325	AMS	AMS	19 34 20.0	
	comp=Z,300nm,19.0s						
PVCC	Panska Ves	113.48	325	AMS	AMS	19 34 50.0	
	comp=Z,300nm,20.3s						
PRU	Pruhonice	113.74	325	AMS	AMS	19 34 40.0	
	comp=Z,300nm,14.9s						
KHC	Kasperske Hory	114.68	324	AMS	AMS	19 35 20.0	
	comp=Z,300nm,19.6s						
NKC	Novy Kostel	114.83	325	AMS	AMS	19 34 10.0	
	comp=Z,300nm,19.3s						
TXAR	Lajitas Array	114.86	59	PKKPbc	PKKPbc	18 51 46.8	+4.5
	comp=Z,0.5nm,0.9s,baz=93,slow=4.9,SNR=5.2						
JTS	Las Juntas de	135.52	78	*e*P	PKiKP	18 41 51.8	+5.5
TORD	Torodi Ar. Bea	136.74	286	PKP	PKPdf	18 41 46.2	-0.8
	comp=Z,14nm,0.6s,baz=52,slow=1.9,SNR=6.4						
TORD	Torodi Ar. Bea	136.74	286		PKiKP	18 41 48.4	-0.3
MTDJ	Mount Denham	140.84	64	*e*P	PKiKP	18 42 06.1	+9.0
NNA	Nana	141.31	113	*c i*PKIKP	PKPdf	18 41 52.4	-3.0
NNA				pmax	pmax		
	comp=Z,41nm,2.5s						
KIC	Kosan Boka	143.89	277	*e*PKIKP	PKPbc	18 41 58.7	+1.0
	comp=Z,40nm,1.4s						
TIC	Toumodi	144.15	278	*e*PKIKP	PKPbc	18 41 59.3	+0.8
LIC	Lamto	144.19	277	*e*PKIKP	PKPbc	18 41 58.5	-0.1
	comp=Z,113nm,1.7s						
MNMC	Minye Minye	144.32	129		PKPbc	18 41 59.2	0.0
DBBC	Dabeiba	144.46	82	*e*P	PKPdf	18 42 00.5	-0.6
YOTC	Yotoco, Valle	144.48	87	*e*P	PKPab	18 41 57.6	-1.9
PLMC	San Jos del P	144.52	85	*e*P	PKPab	18 41 58.6	-0.9
CBOC	Ciudad Bolivar	144.74	84	*e*P	PKPdf	18 42 01.4	-0.2
MARP	Paez Belalcaza	144.88	89	*e*P	PKPdf	18 42 01.5	-0.5
HELC	Santa Helena	145.20	83	*e*P	PKPbc	18 42 01.1	-1.2
GARC	Garzon, Huila	145.32	90	*e*P	PKPdf	18 42 04.4	+1.6
GUY2C	Guyana, Caldas	145.42	85	*e*P	PKPbc	18 42 01.4	-1.7
TOLC	Tolima	145.49	86	*e*P	PKPdf	18 41 59.5	-3.6
ORTC	Ortega, Tolima	145.58	87	*e*P	PKPdf	18 41 57.8	-5.2
ZARC	Zaragoza, Cauc	145.75	81	*e*P	PKPdf	18 42 02.7	-0.5
NORC	Norcasia	145.90	84	*e*P	PKPab	18 42 05.2	+0.6
SDDR	Presa de Saban	146.06	59	*e*P	PKPdf	18 42 00.5	-3.1
MACC	Macarena, Meta	146.97	90	*e*P	PKPdf	18 42 03.5	-1.7
CPUP	Villa Florida	147.00	152	PKPbc	PKPab	18 42 08.1	-0.2
	comp=Z,1.9nm,0.8s,baz=262,slow=6.6,SNR=2.4						
LPAZ	La Paz	147.04	126	PKPbc	PKPab	18 42 09.3	-0.2
	comp=Z,2.2nm,0.8s,baz=260,slow=2.6,SNR=7.0						
LPAZ	La Paz	147.04	126		PKPab	18 42 09.2	-0.4
LPAZ	La Paz	147.04	126	*e*P	PKPab	18 42 09.4	-0.2
CHIC	Chingaza	147.07	86	*e*P	PKPdf	18 42 05.2	-0.7
BARC	Barichara	147.49	82	*e*P	PKPdf	18 42 07.2	+0.8
RUSC	La Rusia	147.65	83		PKPdf	18 42 07.7	+0.7
RUSC	La Rusia	147.65	83	*e*P	PKPdf	18 42 06.2	-0.8
PAMC	Pamplona, Colo	147.89	81	*e*P	PKPdf	18 42 07.2	-0.2
ELOV	Elorza	151.10	80	*e*P	PKPab	18 42 25.1	-0.3
SIV	San Ignacio	152.66	133	PKPbc	PKPbc	18 42 21.2	-0.1
	comp=Z,0.9nm,0.8s,baz=221,slow=14,SNR=1.7						

ISK ***25*** *18:35:51.3, 37.°15N±28.°73E, h5km, ML4.0/35*
HLW ***25*** *18:35:51.4, 37.°29N±28.°71E, h11km±20km, Md4.4, Ml4.6*
NIC ***25*** *18:35:52.9±0.0, 37.°24N±28.°78E, h4km±2km, Ml4.1/5*
DDA ***25*** *18:35:52.8, 37.°14N±28.°69E, h15km±3km, MW4.2*
THE ***25*** *18:35:52.9, 37.°18N±28.°76E, h0km±1km, ML3.9/4, Error ellipse: s-maj=2.6km s-min=1.8km az=58.0*
IDC ***25*** *18:35:52.3±0.8, 37.°14N±28.°76E, h0km, mb4.0/12, mb1 4.1/18, mb1mx3.9/65, mbtmp4.0/18, ML4.2/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/37, Error ellipse: s-maj=15.9km s-min=13.8km az=151.0*
MOS ***25*** *18:35:52.9±1.1, 37.°18N±28.°72E, h11km, mb4.1/7, Error ellipse: s-maj=6.6km s-min=4.9km az=84.0*
NEIC ***25*** *18:35:53.4±1.5, 37.°12N±0.°05±28.°80E±0.°05, h1km±4km, Error ellipse: s-maj=7.6km s-min=5.6km az=188.0*
ISC 25 18:35:53.9±0.9, 37.°14N±0.°02±28.°71E±0.°01, h10km±6km, n292, σ1.9±56/339, mb3.9/19, MS3.1/5, 41C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.33	188	⇑*i*P	18 35 59.4	-1.0
DALY				*i* S	18 36 06.1	-1.2
DALY	Dalyan (Mula)	0.33	188	PG	18 35 59.5	-1.0
MULA	Mugla, Merkez-	0.33	290	⇓*i*P	18 35 59.6	-1.0
MULA				*i* S	18 36 05.0	0.0
YER	Yerkesik	0.34	269	P	18 35 59.9	-0.8
YER				S	18 36 06.2	+0.8
YER	Yerkesik	0.34	269	P	18 36 00.0	-0.8
YER	Yerkesik	0.34	269	PG	18 36 00.0	-0.8
YER				SG	18 36 05.6	+0.2
TAVA	DENIZLI_Tavas	0.36	27	⇑*i*P	18 35 59.3	-1.8
TAVA				*i* S	18 36 05.0	-0.9
CAEL	Denizli, Camel	0.49	92	⇑*i*P	18 36 01.9	-1.6
CAEL				*i* S	18 36 12.1	+0.2
CAME	Cameli-Denizli	0.51	113	PG	18 36 02.3	-1.7
TURN	Turunc	0.53	226	⇑*i*P	18 36 02.7	-1.5
TURN				*i* S	18 36 11.2	+0.1
TURN	Turunc	0.53	226	PG	18 36 02.8	-1.3
TURN				SG	18 36 11.5	-1.4
FETY	Fethiye	0.59	149	P	18 36 03.8	-1.6
FETY				S	18 36 14.6	-0.2
FETY	Fethiye	0.59	149	PG	18 36 03.9	-1.5
MRSB	Marmaris-Mugla	0.59	224	PG	18 36 03.9	-1.6
GOLH	Golhisar	0.69	82	⇑*i*P	18 36 04.4	-2.8
GOLH				*i* S	18 36 17.9	+0.3
MLSB	Milas	0.76	282	PG	18 36 07.7	-0.9
MLSB				SG	18 36 19.4	-0.4
AYDN	Tasoluk	0.84	308	⇓*i*P	18 36 09.1	-1.0
AYDN				*i* S	18 36 24.1	-0.3
DAT	Datca	1.00	246	P	18 36 11.5	-1.7
DAT				S	18 36 29.2	+0.9
DAT	Datca	1.00	246	⇑*i*P	18 36 11.3	-1.9
DAT				*i* S	18 36 29.3	+0.9
DAT	Datca	1.00	246	PG	18 36 11.4	-1.7
BDRM	Kayabasi	1.02	266	⇑*i*P	18 36 12.0	-1.4
BDRM				*i* S	18 36 28.3	-0.3
AYDB	Zeytinkoy-Aydi	1.03	321	PG	18 36 12.4	-1.4
ELL	Elmali	1.04	112	P	18 36 11.6	-2.3
ELL	Elmali	1.04	112	PG	18 36 12.1	-1.8
ELL	Elmali	1.04	112		18 36 11.6	-2.3
ELL	Elmali	1.04	112	P	18 36 12.9	-1.2
ARG	Arkhangelos	1.04	207	P	18 36 12.6	-1.3
ARG				S	18 36 30.4	+1.3
	4μm,0.7s					
ARG	Arkhangelos	1.04	207	PG	18 36 12.3	-1.6
ARG	Arkhangelos	1.04	207	S	18 36 32.3	+3.1
BODT	Bodrum	1.12	266	P	18 36 14.2	-1.3
BODT				S	18 36 31.7	+0.4
BODT	Bodrum	1.12	266	PN	18 36 14.1	-1.4
YKAV	Yalikavak-Bodr	1.14	269	PN	18 36 14.7	-1.2
AKAS	Kas	1.16	141	⇑*i*P	18 36 14.8	-1.3
AKAS	Kas	1.16	141	PN	18 36 13.8	-2.4
DIDI	Didim-Aydin	1.20	282	PN	18 36 15.5	-1.4
BRDR	BURDUR-Merkez	1.21	62	⇑*i*P	18 36 14.8	-2.4
BRDR				*i* S	18 36 35.2	+1.8
DDIM	Aydin, Didim	1.21	285	⇓*i*P	18 36 15.8	-1.5
DDIM				*i* S	18 36 34.4	+0.9
KSL	Kastellorizon	1.22	145	P	18 36 16.8	-0.2
KSL				AML	AML	18 36 39.8
	8.4nm,0.9s					
KSL				AML	AML	18 36 45.1
	10nm,0.9s					
GCAM	G?zelcaml?	1.30	296	⇓*i*P	Pn	18 36 17.4 -0.7
GCAM				*i* S	Sn	18 36 37.0 +1.4
GCAM	G?zelcaml?	1.30	296	PN	Pn	18 36 17.2 -1.0
BASM	Basmaki-Afyon	1.31	54	PN	Pn	18 36 16.3 -2.2
KORT	Korkueli	1.32	96	⇑*i*P	Pb	18 36 18.1 -0.8
KORT				*i* S	Sn	18 36 41.7 +5.5
KORT	Korkueli	1.32	96	PN	Pg	18 36 17.5 -1.8
DEMR	Demre-Antalya	1.32	133	PN	Pn	18 36 17.5 -0.9
KHL	Karahalli	1.34	28	PN	Pn	18 36 17.9 -0.9
NIS1	Nisyros Isl.	1.34	247	P	Pg	18 36 19.0 -0.7
NIS1	Nisyros Isl.	1.34	247	PN	Pn	18 36 18.6 -0.2
MANT	Manisa	1.35	355	⇑*i*P	Pn	18 36 17.9 -1.2
MANT				*i* S	Sg	18 36 37.0 -0.4
PASA	Karahalli, USA	1.35	27	⇑*i*P	Pn	18 36 16.9 -2.1
PASA				*i* S	Sn	18 36 39.4 +2.4
KULA	Kula-Manisa	1.37	358	P	Pn	18 36 18.2 -1.0
KULA				S	Sb	18 36 36.8 -0.5
KULA	Kula-Manisa	1.37	358	PN	Pn	18 36 18.2 -1.0
NISR	Nisiros	1.38	248	P	Pg	18 36 19.6 -0.8
NISR				S	Sn	18 36 39.8 +2.4
	7μm,0.9s					
KOSK	Kos Island	1.44	255	PN	Pn	18 36 19.8 -0.3
BUCA	Burdur, Bucak-	1.49	82	⇑*i*P	Pn	18 36 20.0 -0.8
BUCA				*i* S	Sg	18 36 44.5 +2.8
BCK	Bucak	1.53	78	PN	Pn	18 36 20.7 -0.7
AKUM	Antalya-Kumluc	1.55	122	*i* P	Pg	18 36 23.0 -0.6
AKUM				*i* S	Sg	18 36 48.8 +5.2
ANTB	Antalya	1.57	98	PN	Pn	18 36 21.3 -0.6
KEMT	Kemer-ANTALYA	1.57	109	PN	Pn	18 36 21.4 -0.5
USAK	Uak-Merkez	1.59	9	⇑*i*P	Pn	18 36 21.7 -0.5
USAK				*i* S	Sg	18 36 46.0 +1.1
KZIL	AFYON_Kizioren	1.59	45	*i* P	Pn	18 36 21.4 -0.8
KZIL				*i* S	Sg	18 36 48.7 +3.6
ISP	Isparta	1.59	64	P	Pn	18 36 22.2 -0.1
ISP	Isparta	1.59	64	PN	Pn	18 36 21.5 -0.8
ISP	Isparta	1.59	64		Pn	18 36 22.2 -0.1
SMG	Samos	1.59	291	P	Pn	18 36 21.7 -0.5
SMG				S	Sn	18 36 42.6 -0.3
	2μm,0.5s					
GOMA	Golmarmara-Man	1.68	338	PN	Pn	18 36 22.9 -0.5
GMLD	Gumuldur	1.70	304	PN	Pn	18 36 23.4 -0.3
DGB	zmir	1.71	303	⇓*i*P	Pn	18 36 23.0 -0.8
DGB				*i* S	Sg	18 36 50.6 +1.6
BAGO	Egridir - ISPA	1.85	62	*i* P	Pn	18 36 26.0 +0.2
BAGO				*i* S	Sg	18 36 54.5 +0.9
AKHS	Akhisar	1.87	338	⇓*i*P	Pn	18 36 24.9 -1.1
AKHS				*i* S	Sb	18 36 52.9 +1.2
DEMI	Demirci	1.90	0	*i* P	Pn	18 36 25.8 -0.7
DEMI				*i* S	Sg	18 36 56.4 +1.5
SHAP	Saphane-Kutahy	1.92	12	PN	Pn	18 36 26.2 -0.6
SHUT	Suhut-Afyon	2.02	45	PN	Pn	18 36 27.9 -0.3
KARP	Karpathos	2.03	219	P	Pn	18 36 29.0 +0.8
KARP				S	Sb	18 36 56.6 +0.4
	3μm,0.6s					
KARP	Karpathos	2.03	219	PN	Pn	18 36 27.6 -0.6
KARP	Karpathos	2.03	219		Pn	18 36 28.3 +0.1
KARP	Karpathos	2.03	219	⇑P	Pn	18 36 28.9 +0.8
KARP				AML	AML	18 37 01.2
	5.3nm,0.8s					
KARP				AML	AML	18 37 09.5
	7.2nm,0.7s					
GDZ	Gediz	2.03	17	*i* P	Pn	18 36 28.7 +0.3
AFYO	Afyonkarahisar	2.06	37	*i* P	Pb	18 36 30.0 -1.6
ZEYE	Izmir, Urla-Ze	2.06	303	*i* P	Pn	18 36 27.9 -0.7
ZEYE				*i* S	Sg	18 37 00.8 +0.5
URLA	Izmir	2.07	307	*i* P	Pn	18 36 28.0 -0.8
URLA	Izmir	2.07	307	PN	Pn	18 36 27.7 -1.1
FOCM	Foa	2.21	316	PN	Pn	18 36 30.3 -0.4
ZEDA	zmir-Bergama	2.23	325	*i* P	Pn	18 36 30.3 -0.6
KRBN	Karaburun	2.24	311	PN	Pn	18 36 31.1 0.0
YVAC	Isparta, Yalva	2.30	60	*i* P	Pn	18 36 33.0 +1.0
KEPZ	Antalya-Kepez	2.33	95	*i* P	Pb	18 36 33.9 -2.2
KEPZ				*i* S	Sg	18 37 07.6 -1.1
STEP	BALIKESIR_Sava	2.36	341	*i* P	Pn	18 36 31.7 -1.1
STEP				*i* S	Sg	18 37 09.2 -0.7
TVSB	Tavsanli	2.38	14	PN	Pn	18 36 32.3 -0.8
DKL	Dikili	2.39	324	PN	Pn	18 36 32.3 -0.9
CHOS	Chios island	2.44	301	P	Pn	18 36 33.7 -0.2
CHOS	Chios island	2.44	301	PN	Pn	18 36 33.8 -0.2
SEDI	Konya, Seydise	2.45	82	*i* P	Pn	18 36 35.2 +1.1
DURS	Dursunbey	2.46	356	*i* P	Pn	18 36 33.6 -0.6
DURS				*i* S	Sg	18 37 13.9 +0.9
DOGA	KONYA_Doganhis	2.54	67	*i* P	Pn	18 36 36.2 +0.9
DOGA				*i* S	Sn	18 37 07.0 +0.6
ANDZ	Kutahya, Merke	2.54	21	*i* P	Pn	18 36 35.1 -0.2
APE	Apeiranthos	2.54	269	⇓P	Pn	18 36 36.1 +0.8
APE	Apeiranthos	2.54	269	⇑S	Sb	18 37 09.5 -1.6
APE	Apeiranthos	2.54	269	PN	Pn	18 36 35.9 +0.6
APE	Apeiranthos	2.54	269	⇑P	Pn	18 36 36.0 +0.6
AUKIR	Kirka- Seyitga	2.57	33	*i* P	Pg	18 36 41.2 -2.0
BALB	Balikesir	2.58	346	PN	Pn	18 36 35.6 -0.1
BALB	Balikesir	2.58	346	Pn	Pn	18 36 35.6 -0.1
BUHA	Balikesir, Bur	2.68	332	*i* P	Pn	18 36 36.7 -0.4
BUHA				*i* S	Sg	18 37 24.2 +4.1
AYVA	Ayvalik	2.68	324	*i* P	Pn	18 36 37.2 0.0
SANT	Santorini	2.72	255	⇓P	Pn	18 36 38.2 +0.4
SANT	Santorini	2.72	255	PN	Pn	18 36 38.1 +0.3
SANT	Santorini	2.72	255		Pn	18 36 38.0 +0.2
BALY	Balya	2.73	342	*i* P	Pn	18 36 36.4 -1.5
BALY				*i* S	Sn	18 37 05.9 -5.1
ZKR	Zakros	2.86	226	PN	Pn	18 36 40.1 +0.5
SGAZ	Eskisehir, Sey	2.91	34	*i* P	Pn	18 36 40.4 0.0
AUBOZ	BOZOYUK	2.95	20	*i* P	Pb	18 36 45.2 -1.5
KONT	Konya--Tatoy	3.01	73	*i* P	Pn	18 36 42.4 +0.7
ULDT	Uludag	3.01	6	*i* P	Pn	18 36 42.5 +0.6
KDHN	Kadinhani	3.03	62	*i* P	Pn	18 36 42.4 +0.4
BORA	Eskisehir	3.05	26	*i* P	Pn	18 36 34.1 -8.3
BAYC	CANAKKALE_Bayr	3.10	327	*i* P	Pn	18 36 41.5 -1.5
KOCA	Canakkale, Ayv	3.10	320	*i* P	Pn	18 36 42.6 -0.4
IGD	Bursa	3.14	7	*i* P	Pn	18 36 42.9 -0.5
BILE	Bilecik/Merkez	3.15	16	*i* P	Pn	18 36 44.2 +0.6
EZN	Ezine	3.27	326	P	Pn	18 36 44.8 -0.4
KKBE	Karaman, Kazim	3.38	87	*i* P	Pn	18 36 47.1 +0.2
ERMK	Ermenek	3.41	97	*i* P	Pb	18 36 50.8 -3.7
ERMK				*i* S	Sb	18 37 34.5 -1.5
BOZC	Bozcaada	3.41	323	*i* P	Pn	18 36 46.5 -0.6
ALIN	Konya, Altinte	3.50	70	*i* P	Pn	18 36 48.4 -0.1
IDI	Anoyia	3.60	240	Pn	Pn	18 36 52.0 +2.1
	18nm,0.3s,baz=60,slow=14,SNR=223					
IDI				Sn	Sn	18 37 35.7 +3.1
	5.6nm,0.3s,baz=282,slow=22,SNR=2.8					
IDI	Anoyia	3.60	240	⇑P	Pn	18 36 51.4 +1.5
IDI	Anoyia	3.60	240	Pn	Pn	18 36 51.2 +1.3
AKMS	Akamas	3.62	125	P	Pn	18 36 50.6 +0.5
AKMS				AML	AML	18 37 22.2
	0.9nm,0.7s					
AKMS				AML	AML	18 37 32.9
	0.9nm,0.8s					
ALFC	Alefka	3.72	121	⇑P	Pn	18 36 51.7 +0.3
ALFC				AML	AML	18 37 41.9
	0.9nm,0.8s					
ALFC				AML	AML	18 37 42.5
	1.0nm,0.8s					
MDUB	Mudurnu	3.85	30	Pn	Pn	18 36 54.4 +1.1
NATA	Nata	3.92	126	P	Pn	18 36 55.0 +0.8
LEF	Lefka	3.94	120	⇑P	Pn	18 36 54.1 -0.3
LEF	Lefka	3.94	120	⇑S	Sn	18 37 41.0 +0.3
KESN	Edirne-Kesan	4.00	337	*i* P	Pn	18 36 55.1 -0.5
ATH	Athens Observa	4.05	283	P	Pn	18 36 58.8 +2.8
SZAC	Souni	4.14	124	⇑P	Pn	18 36 57.5 +0.3
SZAC				AML	AML	18 38 01.4
	1.0nm,0.5s					
SZAC				AML	AML	18 38 16.

SEV Sevastopol' 8.29 25 *eP* **Pn 18 37 56.7 +2.5**
SWA2 8.34 200 P **Pn 18 37 55.0 +0.1**
baz=200
SWA2 AMP 18 39 00.0
baz=200
SWA2 S **Sn 18 39 20.8 -8.3**
baz=200
YAL Yalta 8.41 28 *eP* **Pn 18 37 57.6 +1.7**
SRE Strehaia 8.59 333 ⇑P **Pn 18 37 59.2 +0.9**
MLR Muntele Rosu 8.59 347 Pn **Pn 18 37 59.3 +0.8**
0.5nm,0.3s,baz=151,slow=5.3,SNR=10
MLR LR LR 18 41 33.3
comp=Z,82nm,18.5s,baz=178,slow=40
MLR Muntele Rosu 8.59 347 ⇑P **Pn 18 37 59.6 +1.1**
MLR Muntele Rosu 8.59 347 Pn **Pn 18 37 58.8 +0.3**
VOIR 8.73 343 ⇓P **Pn 18 38 00.3 0.0**
SIM Simferopol' 8.80 26 *eP* Pn 18 37 53.4 -7.8
SIM S **Sn 18 39 35.0 -5.3**
SIM pmax pmax
comp=Z,35nm,0.5s
VRI Vrincioaia 8.84 351 ⇑P **Pn 18 38 03.0 +1.3**
PDG Podgorica 8.99 309 ⇑P **Pn 18 38 04.8 +1.0**
PDG Podgorica 8.99 309 Pn **Pn 18 38 05.8 +2.0**
SUDU Sudak 9.08 30 *eP* **Pn 18 38 06.1 +1.1**
EIL Elat 9.10 143 Pn **Pn 18 38 04.7 -0.5**
comp=Z,1.3nm,0.3s,baz=79,slow=0.3,SNR=11
EIL Sn **Sn 18 39 43.8 -4.0**
comp=Z,0.8nm,0.3s,baz=79,slow=16,SNR=2.7
DOPR Dopca 9.16 345 ⇑P **Pn 18 38 06.7 +0.6**
MDVR Moldovita 9.28 327 ⇓P **Pn 18 38 08.8 +0.9**
GZR Gura Zlata 9.37 333 ⇑P **Pn 18 38 10.7 +1.6**
DIVS Divibare 9.60 319 Pn **Pn 18 38 10.9 -1.3**
TIP Timpagrande 9.63 286 ⇓P **Pn 18 38 13.9 +1.3**
TIP Timpagrande 9.63 286 Pn **Pn 18 38 14.0 +1.3**
HKAT Jabal Katrina 9.68 151 P **Pn 18 38 12.4 -1.0**
baz=151
TR2 Tor 2 9.70 153 P **Pn 18 38 12.8 -0.7**
baz=153
HFRF Wahat Farafira 9.97 182 P **Pn 18 38 16.4 -0.8**
baz=183
ANN Anapa 10.09 38 *eP* **Pn 18 38 21.3 +2.4**
ANN *eS* **Sn 18 40 07.2 -4.9**
ANN pmax pmax
comp=Z,31nm,1.5s
TR1 Tor 1 10.12 153 P **Pn 18 38 18.9 -0.5**
baz=153
SOC Sochi 10.57 49 *eP* **Pn 18 38 28.1 +2.7**
SOC *eS* **Sn 18 40 21.6 -2.2**
SOC MLR MLR
comp=Z,104nm,16.0s
BURAR Bucovina Array 10.78 347 ⇑P **Pn 18 38 29.4 +1.1**
BURAR Bucovina Array 10.78 347 P **Pn 18 38 29.4 +1.1**
BURAR Bucovina Array 10.78 347 Pn **Pn 18 38 28.2 -0.1**
BUR08 Bucovina Ar. S 10.81 347 **Pn 18 38 29.6 +0.8**
CORL Corleone 12.26 278 Pn **Pn 18 38 49.0 +0.3**
INTR Introdacqua 12.41 298 Pn **Pn 18 38 53.8 +3.0**
ONI Oni 12.56 60 P **Pn 18 38 55.7 +3.0**
ONI Oni 12.56 60 **Pn 18 38 55.7 +3.0**
KIV Kislovodsk 12.61 53 *eP* **Pn 18 38 52.5 -0.9**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,33nm,12.0s
NRCA Norcia 13.23 300 Pn **Pn 18 39 04.6 +2.7**
GOF Gofitskoye 13.38 49⇑*eP* Pn 18 38 54.2 -10
AKASG Malin Array Be 13.56 1 Pn **Pn 18 39 06.2 0.0**
comp=Z,0.0nm,0.3s,baz=185,slow=12,SNR=8.4
AKBB Malin Array Si 13.56 1 P **Pn 18 39 06.8 +0.6**
AKBB Malin Array Si 13.56 1 Pn **Pn 18 39 06.8 +0.6**
OJC Ojcow 14.56 337 P **P 18 39 27.8 +1.3**
OJC Ojcow 14.56 337 P **P 18 39 27.8 +1.3**
VRAC Vranov 15.00 328 Pn **P 18 39 32.4 +0.9**
comp=Z,0.1nm,0.3s,baz=154,slow=10,SNR=3.4
KEST Kesra 15.65 271 Pn **P 18 39 40.5 +1.7**
comp=Z,0.2nm,0.3s,baz=247,slow=2.6,SNR=6.5
KEST Kesra 15.65 271 P **P 18 39 39.6 +0.8**
KEST IAmb IAmb 18 40 17.9
comp=Z,8.0nm,1.0s
DPC Dobruska-Polom 15.92 330 *eP* **P 18 39 43.6 +2.0**
DPC Dobruska-Polom 15.92 330 *eP* **P 18 39 43.6 +2.0**
GEC2 GERESS Array S 16.01 322 P **P 18 39 43.7 +1.0**
GERES GERESS Array B 16.01 322 Pn **P 18 39 44.1 +1.4**
comp=Z,0.1nm,0.3s,baz=130,slow=12,SNR=13
GERES GERESS Array B 16.01 322 P **P 18 39 42.7 0.0**
GERES GERESS Array B 16.01 322 P **P 18 39 42.7 0.0**
KHC Kasperske Hory 16.26 322 P **P 18 39 45.1 -0.3**
KHC pmax pmax
comp=Z,5.0nm,1.2s
KHC Kasperske Hory 16.26 322 *eP* **P 18 39 47.2 +1.8**
KHC Kasperske Hory 16.26 322 P **P 18 39 45.1 -0.3**
DAVOX Davos/Dischmat 16.96 310 Pn **P 18 39 54.4 +1.1**
comp=Z,0.1nm,0.3s,baz=135,slow=5.2,SNR=3.4
SUW Suwalki 17.30 349 P **P 18 39 56.8 0.0**
SUW pmax pmax
comp=Z,27nm,1.0s
SUW Suwalki 17.30 349 **P 18 39 56.8 0.0**
STU Stuttgart 18.36 315 P **P 18 40 09.3 +0.8**
STU pmax pmax
comp=Z,11nm,0.8s
STU Stuttgart 18.36 315 P **P 18 40 09.3 +0.8**
STU IAmb IAmb 18 40 12.0
comp=Z,11nm,0.8s
SENIN Lac Senin/Sane 18.39 307 P **P 18 40 11.3 +2.1**
SENIN IAmb IAmb 18 40 23.9
comp=Z,19nm,1.5s
BFO Black Forest 18.62 313 P **Pn 18 40 14.3 +2.5**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO Black Forest 18.62 313 P **Pn 18 40 14.3 +2.5**
BFO IAmb IAmb 18 40 15.7
comp=Z,9.4nm,1.1s
OBN Obninsk 18.76 14 *eP* **P 18 40 11.4 -1.5**
OBN pmax pmax
comp=Z,18nm,1.3s
ECH Echery 19.26 312 P **Pn 18 40 20.2 +0.7**
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 19.26 312 P **Pn 18 40 20.2 +0.7**
BELG Belogornoye 20.22 35 P **P 18 40 28.9 0.0**
comp=Z,19nm,0.9s,baz=252,slow=2.5,SNR=5.7
BELG LR LR 18 50 09.0
comp=Z,42nm,20.7s,baz=304,slow=42
BELG Belogornoye 20.22 35⇑*eP* **P 18 40 28.6 -0.3**
BELG pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 24.38 357 P **P 18 41 12.9 +0.9**
comp=Z,7.1nm,0.8s,baz=156,slow=10,SNR=17
FINES FINESS Array B 24.38 357 P **P 18 41 11.8 -0.1**
FIA1 FINESS Array S 24.38 357 P **P 18 41 12.2 +0.2**
KLMR Klimovskoe 24.70 13 *eP* **P 18 41 15.4 +0.5**
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 24.70 13 *eP* **P 18 41 15.4 +0.5**
KLMR AMP 18 41 19.4
comp=Z,14nm,1.4s
AKTO Aktyubinsk 24.79 48 P **P 18 41 15.5 -0.4**
comp=Z,3.1nm,0.8s,baz=256,slow=7.4,SNR=7.6
AKTO LR LR 18 54 32.8
comp=Z,56nm,18.5s,baz=306,slow=45
KIRV Kirov 25.35 26 LR LR 18 53 18.2
comp=Z,35nm,18.3s,baz=156,slow=41
ABKAR Abkulak array 25.59 52 P **P 18 41 23.8 +0.6**
ABKAR IAmb IAmb 18 41 37.5
comp=Z,2.2nm,0.8s
ABKAR Abkulak array 25.59 52 P **P 18 41 23.5 +0.4**
ESDC Sonseca Array 25.65 286 P **P 18 41 24.4 +0.6**
comp=Z,2.3nm,1.0s,baz=76,slow=8.8,SNR=7.8
ESDC Sonseca Array 25.65 286 P **P 18 41 24.4 +0.6**
ESDC IAmb IAmb 18 41 27.4
comp=Z,5.5nm,1.4s
PAB San Pablo 25.96 286 P **P 18 41 27.1 +0.4**
PAB pmax pmax
comp=Z,11nm,1.4s
PAB San Pablo 25.96 286 P **P 18 41 27.1 +0.4**
NOA NORSAR Array B 26.34 341 P **P 18 41 28.7 -1.2**
comp=Z,0.7nm,0.8s,baz=147,slow=8.5,SNR=3.2
PRGR Permogore 26.70 18 *eP* **P 18 41 29.6 -3.4**
PRGR pmax pmax
comp=Z,14nm,1.5s
ARU Arti 27.75 36 P **P 18 41 45.8 +3.2**
comp=Z,1.5nm,0.7s,baz=240,slow=11,SNR=6.1
ARU LR LR 18 53 10.9
comp=Z,85nm,20.8s,baz=104,slow=37
ARU Arti 27.75 36*c iP* **P 18 41 48.2 +5.7**
ARU 18 42 33.4
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 27.75 36 P **P 18 41 42.3 -0.2**
ARU IAmb IAmb 18 41 50.1
comp=Z,5.0nm,0.9s
KKAR Karatay Array 32.26 66 P **P 18 42 22.9 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,1.1s
KKAR Karatay Array 32.26 66 P **P 18 42 22.7 +0.1**
KKAR Karatay Array 32.26 66 P **P 18 42 22.9 +0.3**
KKAR IAmb IAmb 18 42 29.5
comp=Z,1.4nm,1.1s
ARCES ARCESS Array B 32.50 358 P **P 18 42 23.2 -1.2**
comp=Z,2.9nm,0.9s,baz=177,slow=4.5,SNR=6.5
ARCES ARCESS Array B 32.50 358 P **P 18 42 24.8 +0.4**
ARCES pmax pmax
comp=Z,23nm,1.5s
ARCES ARCESS Array B 32.50 358 P **P 18 42 24.8 +0.4**
BRVK Borovoye 32.84 48⇓*eP* **P 18 42 28.0 +0.5**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 33.97 232 P **P 18 42 37.1 -0.7**
comp=Z,3.1nm,0.5s,baz=36,slow=9.1,SNR=21
MKAR Makanchi Array 40.29 59 P **P 18 43 31.6 +0.5**
comp=Z,0.9nm,0.8s,baz=282,slow=5.7,SNR=4.5
MKAR PcP **PcP 18 45 34.6 -0.1**
comp=Z,1.0nm,0.7s,baz=255,slow=4.5,SNR=5.3
ZALV Zalesovo Beam 41.55 48 P **P 18 43 41.9 +0.4**
comp=Z,0.3nm,0.4s,baz=243,slow=9.8,SNR=3.6
ZALV Zalesovo Beam 41.55 48 *i P* **P 18 43 42.5 +1.1**
WMQ Urumqi 44.53 62 *eP* **P 18 44 08.8 +3.0**
SONM Songino Array 56.00 53 P **P 18 45 33.1 +0.4**
comp=Z,0.3nm,0.5s,baz=284,slow=5.8,SNR=2.4
SONM PcP **PcP 18 46 31.3 +0.2**
comp=Z,0.6nm,0.7s,baz=281,slow=4.5,SNR=3.8
SONM Songino Array 56.00 53 IAmb IAmb 18 46 02.8
comp=Z,3.7nm,1.6s
ULN Ulaanbaatar 56.41 52⇓*eP* **P 18 45 37.3 +1.6**
ULN pmax pmax
comp=Z,1.0nm,1.0s
HHC Hu-ho-hao-te 62.15 58 *eP* **P 18 46 15.5 +0.1**
CMAR Chiang Mai Arr 63.53 86 P **P 18 46 24.3 -0.5**
comp=Z,0.8nm,0.9s,baz=286,slow=7.9,SNR=6.1
CMAR Chiang Mai Arr 63.53 86 *i P* **P 18 46 26.1 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
WHN Wuhan 69.12 67 ⇑P P 18 47 12.3 +12
ULM Lac du Bonnet 80.22 328 LR LR 19 26 46.3
comp=Z,227nm,18.9s,baz=312,slow=38
MJAR Matsushiro Arr 81.86 50 P **P 18 48 12.7 -0.9**
comp=Z,2.5nm,1.0s,baz=320,slow=4.1,SNR=7.3

IDC 25 18:55:36.0±2.6, 2°76S×139°30E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/33, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=120.4km s-min=31.7km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.75**	**195**	P	Pn	18 59 43.8	-1.0
0.2nm,0.3s,baz=12,slow=13,SNR=13							
ASAR	**Alice Springs**	**21.43**	**194**	P	P	19 00 26.7	+0.8
0.6nm,0.5s,baz=18,slow=9.6,SNR=17							
MKAR	**Makanchi Array**	**70.19**	**322**	P	P	19 06 50.9	+0.1
0.5nm,0.9s,baz=112,slow=9.8,SNR=2.1							
VNDA	**Vanda**	**75.67**	**175**	P	P	19 07 22.5	-0.3
0.3nm,0.5s,baz=329,slow=7.8,SNR=2.2							

*NEIC **25** 19:03:06.3±2.1, 16°19S±0°10×176°5W±0°1, h338km±5km, mb4.8/155, Error ellipse: s-maj=16.2km s-min=11.7km az=132.0*
*NOU **25** 19:03:07.8, 16°46S×176°23W, h365km, MLv5.2, Fiji Islands Region*
*IDC **25** 19:03:07.2±1.2, 16°11S×176°54W, h348km±12km, mb4.1/20, mb1 4.2/21, mb1mx4.1/37, mbtmp4.8/21, Error ellipse: s-maj=14.9km s-min=9.4km az=147.0*
*BGR **25** 19:03:08.7±0.0, 15°61S×175°81W, h350km*
ISC 25 19:03:09.1±0.3, 16°31S±0°05×176°37W±0°05, h379km, n550, σ1§00/552, mb4.7/97, 22C-30D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.04**	**62**	P	**Pn**	**19 04 28.3**	**-2.4**
86nm,0.3s,baz=176,slow=1.7,SNR=79							
AFI				S	**S**	**19 05 33.3**	**-3.5**
9.9nm,0.3s,baz=222,slow=20,SNR=1.4							
AFI	**Afiamalu**	**5.04**	**62**	Pn	**Pn**	**19 04 28.2**	**-2.4**
AFI				Sn	**S**	**19 05 32.7**	**-4.1**
AFI	**Afiamalu**	**5.04**	**62**	P	**Pn**	**19 04 28.5**	**-2.2**
458nm,0.8s							
MSVF	**Nonsavu**	**5.52**	**254**	P	**Pn**	**19 04 37.4**	**+1.6**
14nm,0.3s,baz=86,slow=10,SNR=53							
MSVF				S	**S**	**19 05 47.9**	**+1.8**
baz=146,slow=23,SNR=10.0							
RIZ	**Raoul Island**	**12.95**	**186**	P	**P**	**19 05 55.6**	**-4.3**
RAO	**Raoul Island**	**12.96**	**186**	P	**P**	**19 05 57.3**	**-2.7**
31nm,0.3s,baz=51,slow=20,SNR=1.7							
RAO				S	**S**	**19 08 17.4**	**-4.2**
66nm,0.3s,baz=104,slow=23,SNR=2.5							
RAO	**Raoul Island**	**12.96**	**186**	P	**P**	**19 05 58.8**	**-1.2**
GLKZ	**Green Lake**	**12.97**	**186**	P	**P**	**19 05 58.1**	**-2.0**
GLKZ				S	**S**	**19 08 17.1**	**-4.6**
KNTN	**Kanton**	**14.21**	**19**	P	**P**	**19 06 14.3**	**+0.4**
MARNC	**Mare, Loyalty**	**15.62**	**248**	P	**P**	**19 06 28.9**	**-0.3**
MARNC	**Mare, Loyalty**	**15.62**	**248**	P	**P**	**19 06 29.5**	**+0.3**
2.9nm,0.8s							
SANVU	**Saraoutou**	**15.82**	**271**	P	**P**	**19 06 31.6**	**+0.2**
LIFNC	**LIFOU**	**16.16**	**252**	P	**P**	**19 06 33.7**	**-1.3**
PINNC	**Pines Island,**	**16.49**	**245**	P	**P**	**19 06 38.5**	**-0.1**
OUENC	**Ouen Island, N**	**16.96**	**246**		**P**	**19 06 42.7**	**-0.8**
OUENC				IAmb	IAmb	19 06 47.5	
comp=Z,31nm,0.9s							
OUENC	**Ouen Island, N**	**16.96**	**246**	P	**P**	**19 06 43.5**	**-0.1**
DZM	**Mont Dzumac**	**17.20**	**248**	P	**P**	**19 06 45.3**	**-1.1**
comp=Z,1.8nm,0.3s,baz=73,slow=17,SNR=32							
DZM	**Mont Dzumac**	**17.20**	**248**	P	**P**	**19 06 45.2**	**-1.1**
DZM				IAmb	IAmb	19 06 48.1	
comp=Z,36nm,0.9s							
DZM	**Mont Dzumac**	**17.20**	**248**	P	**P**	**19 06 47.2**	**+0.9**
ONTNC	**Ouen Toro**	**17.27**	**247**		**P**	**19 06 46.5**	**-0.4**
ONTNC				IAmb	IAmb	19 06 49.1	
comp=Z,66nm,1.0s							
ONTNC	**Ouen Toro**	**17.27**	**247**	P	**P**	**19 06 46.6**	**-0.3**
NOUC	**Port Laguerre**	**17.34**	**248**	P	**P**	**19 06 47.4**	**-0.3**
KOUNC	**Koumac, New Ca**	**18.82**	**254**	P	**P**	**19 07 02.7**	**-0.8**
OUZ	**Omahuta**	**20.86**	**204**		**P**	**19 07 24.1**	**+1.4**
OUZ				IAmb	IAmb	19 07 25.8	
comp=Z,73nm,1.0s							
MXZ	**Matakaoa Point**	**21.68**	**192**	P	**P**	**19 07 30.2**	**-0.1**
MXZ				S	S	19 11 23.1	+20
WMGZ	**Waiomatatini S**	**21.91**	**191**	P	**P**	**19 07 33.5**	**+1.2**
WMGZ				S	S	19 11 24.9	+18
HAZ	**Te Kaha**	**21.97**	**192**	P	**P**	**19 07 32.4**	**-0.5**
HAZ				S	S	19 11 32.8	+25
PUZ	**Puketiti**	**22.18**	**191**	P	**P**	**19 07 35.1**	**+0.3**
PUZ				S	S	19 11 28.9	+18
RUGZ	**Raukumara Rang**	**22.20**	**193**	P	**P**	**19 07 34.2**	**-0.8**
RUGZ				S	S	19 11 32.1	+21
OPRZ	**Ohinepanea**	**22.34**	**195**	P	**P**	**19 07 37.1**	**+0.9**
TWGZ	**Tauwhareparae**	**22.34**	**192**	P	**P**	**19 07 36.9**	**+0.6**
TWGZ				S	S	19 11 34.0	+20
KMRZ	**Kaimai**	**22.50**	**196**	P	**P**	**19 07 39.4**	**+1.8**
CNGZ	**Carnagh Statio**	**22.59**	**191**	P	**P**	**19 07 38.8**	**+0.3**
CNGZ				S	S	19 11 43.3	+26
URZ	**Urewera**	**22.60**	**193**	P	**P**	**19 07 36.2**	**-2.4**
comp=Z,27nm,0.4s,baz=30,slow=0.5,SNR=59							
URZ	**Urewera**	**22.60**	**193**		**P**	**19 07 36.5**	**-2.0**
URZ	**Urewera**	**22.60**	**193**	P	**P**	**19 07 36.3**	**-2.3**
URZ				S	S	19 11 38.3	+21
TKGZ	**Te Karaka**	**22.62**	**192**	P	**P**	**19 07 40.0**	**+1.3**
RRRZ	**Republican Roa**	**22.82**	**195**	P	**P**	**19 07 41.8**	**+1.3**
RIGZ	**Rimuhau**	**22.89**	**192**	P	**P**	**19 07 41.9**	**+0.6**
RIGZ				S	S	19 11 48.0	+26
SNGZ	**Shannon Statio**	**23.05**	**193**	P	**P**	**19 07 42.6**	**-0.1**
SNGZ				S	S	19 11 49.5	+25
BKZ	**Black Stump Fm**	**23.61**	**194**	P	**P**	**19 07 46.1**	**-1.7**
EIDS	**Eidsvold**	**31.65**	**248**	P	**P**	**19 08 57.2**	**-1.7**
WHZ	**Wether Hill Ro**	**32.28**	**201**	P	**P**	**19 09 03.9**	**-0.1**
ARMA	**Armidale**	**32.42**	**239**	P	**P**	**19 09 05.4**	**-0.3**
CTA	**Charters Tower**	**35.65**	**258**	P	**P**	**19 09 31.6**	**-1.6**
comp=Z,6.0nm,0.7s,baz=102,slow=9.1,SNR=5.6							
CTAO	**Charters Tower**	**35.65**	**258**	P	**P**	**19 09 32.7**	**-0.4**
PMG	**Port Moresby**	**36.17**	**276**	P	**P**	**19 09 36.8**	**-0.7**
comp=Z,27nm,0.7s,baz=100,slow=6.1,SNR=2.7							
PMG	**Port Moresby**	**36.17**	**276**	P	**P**	**19 09 37.0**	**-0.5**
PMG				IAmb	IAmb	19 09 42.3	
comp=Z,44nm,0.9s							
PMG	**Port Moresby**	**36.17**	**276**	P	**P**	**19 09 38.9**	**+1.4**
PMG	**Port Moresby**	**36.17**	**276**	P	**P**	**19 09 38.8**	**+1.3**
CAN	**Canberra**	**36.21**	**232**	P	**P**	**19 09 38.1**	**+0.4**
CAN				IAmb	IAmb	19 10 13.7	
comp=Z,75nm,1.7s							
MANU	**Manus Island**	**38.40**	**288**	P	**P**	**19 09 54.1**	**-1.9**
WAKE	**Wake Island**	**39.12**	**334**	P	**P**	**19 10 01.4**	**-0.4**
WAKE				IAmb	IAmb	19 10 01.6	
comp=Z,56nm,0.9s							
TOO	**Toolangi**	**39.68**	**230**	P	**P**	**19 10 07.3**	**+1.0**
TOO				IAmb	IAmb	19 10 07.8	
comp=Z,51nm,1.2s							
STKA	**Stephens Creek**	**41.10**	**240**	P	**P**	**19 10 17.9**	**+0.1**
comp=Z,7.1nm,0.5s,baz=79,slow=10.0,SNR=15							
STKA	**Stephens Creek**	**41.10**	**240**	P	**P**	**19 10 18.0**	**+0.1**
HMH	**Humu'ula Sheep**	**41.18**	**31**	P	**P**	**19 10 19.1**	**+0.2**
BBOO	**Buckleboo**	**45.88**	**240**	P	**P**	**19 10 55.1**	**-0.4**
WR0	**Warramunga Arr**	**46.66**	**258**		**P**	**19 11 00.7**	**-1.0**
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**19 11 02.0**	**-1.2**
comp=Z,6.5nm,0.5s,baz=91,slow=7.0,SNR=159							
WRA				S	**S**	**19 17 21.0**	**-3.8**
comp=Z,1.0nm,0.8s,baz=119,slow=14,SNR=1.4							
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**19 11 01.6**	**-1.5**
AS31	**Alice Springs**	**47.11**	**253**		**P**	**19 11 04.7**	**-0.4**
ASAR	**Alice Springs**	**47.11**	**253**	P	**P**	**19 11 04.7**	**-0.4**
comp=Z,45nm,0.5s,baz=89,slow=7.7,SNR=1351							
ASAR				ScP	**ScP**	**19 15 51.6**	**+4.5**
comp=Z,1.9nm,0.9s,baz=111,slow=4.5,SNR=4.6							
ASAR				S	**S**	**19 17 24.9**	**-3.4**
comp=Z,4.8nm,1.0s,baz=84,slow=17,SNR=14							
MTN	**Manton Dam**	**50.81**	**267**	P	**P**	**19 11 33.2**	**+0.3**
FAKI	**Fak Fak**	**52.21**	**279**	P	**P**	**19 11 42.6**	**-0.6**
FORT	**Forrest**	**52.45**	**244**	P	**P**	**19 11 43.6**	**-1.1**
FORT				IAmb	IAmb	19 11 45.2	
comp=Z,41nm,1.1s							
SIJI	**Sorong**	**53.80**	**281**	P	**P**	**19 11 54.0**	**-0.7**
comp=Z,28nm,0.7s,baz=102,slow=6.4,SNR=11							
SOEI	**Soe**	**58.04**	**269**	P	**P**	**19 12 25.6**	**+1.1**
PSA00	**Pilbara Seismi**	**60.20**	**254**	P	**P**	**19 12 39.2**	**+0.2**
PSA00				IAmb	IAmb	19 12 39.8	
comp=Z,29nm,0.9s							
PSA00	**Pilbara Seismi**	**60.20**	**254**	P	**P**	**19 12 38.8**	**-0.2**
PSA00				IAmb	IAmb	19 12 39.8	
comp=Z,18nm,1.1s							
NWAO	**Narrogin (SRO)**	**61.68**	**241**	P	**P**	**19 12 48.7**	**+0.1**
NWAO				IAmb	IAmb	19 13 18.3	
comp=Z,63nm,1.6s							
SBA	**Scott Base**	**62.13**	**184**	P	**P**	**19 12 53.9**	**+3.1**
VNDA	**Vanda**	**62.20**	**185**	P	**P**	**19 12 54.7**	**+3.5**
comp=Z,1.6nm,0.8s,baz=19,slow=5.5,SNR=8.9							
VNDA	**Vanda**	**62.20**	**185**	P	**P**	**19 12 53.6**	**+2.4**
MORW	**Morawa**	**62.91**	**245**	P	**P**	**19 12 56.6**	**-0.1**
MORW				IAmb	IAmb	19 13 21.9	
comp=Z,24nm,1.4s							
GIRL	**Giralia**	**65.22**	**252**	P	**P**	**19 13 12.5**	**+0.8**
JYT	**Yasato**	**66.45**	**323**	P	**P**	**19 13 18.4**	**-0.7**
JYT				IAmb	IAmb	19 13 19.7	
comp=Z,18nm,0.7s							
JMM	**Marumori**	**67.25**	**324**	P	**P**	**19 13 23.6**	**-0.5**
AMKA	**Amchitka**	**67.51**	**357**	P	**P**	**19 13 24.7**	**-0.7**
MJAR	**Matsushiro Arr**	**67.83**	**322**	P	**P**	**19 13 26.7**	**-1.1**
comp=Z,3.3nm,0.7s,baz=158,slow=6.0,SNR=12							
MJAR	**Matsushiro Arr**	**67.83**	**322**	P	**P**	**19 13 27.2**	**-0.5**
MAJO	**Matsushiro**	**67.83**	**322**	P	**P**	**19 13 26.9**	**-0.8**
MAT	**Matsushiro**	**67.83**	**322**	P	**P**	**19 13 26.8**	**-1.0**
ADK	**Adak**	**67.91**	**360**	P	**P**	**19 13 27.4**	**-0.4**
ATKA	**Atka Island**	**68.25**	**1**	P	**P**	**19 13 29.3**	**-0.6**
JWT	**Wachi**	**68.72**	**319**	P	**P**	**19 13 32.9**	**-0.3**
JWT				IAmb	IAmb	19 13 44.0	
comp=Z,30nm,1.6s							
JSD	**Sado**	**68.81**	**323**	P	**P**	**19 13 34.0**	**+0.3**
ERM	**Erimo**	**69.01**	**329**	P	**P**	**19 13 35.1**	**+0.3**
ERM				IAmb	IAmb	19 14 12.2	
comp=Z,25nm,1.2s							
SMY	**Shemya**	**69.25**	**354**	P	**P**	**19 13 35.2**	**-0.7**
SMY				IAmb	IAmb	19 13 35.6	
comp=Z,25nm,0.9s							
JHS	**Saijyo**	**70.01**	**318**	P	**P**	**19 13 41.2**	**+0.2**
JHS				IAmb	IAmb	19 13 42.2	
comp=Z,12nm,0.8s							
JNU	**Nakatsue**	**70.37**	**315**	P	**P**	**19 13 43.8**	**+0.5**
comp=Z,8.8nm,0.8s,baz=49,slow=1.9,SNR=6.5							
JNU	**Nakatsue**	**70.37**	**315**	P	**P**	**19 13 42.8**	**-0.5**
JNU				IAmb	IAmb	19 13 43.9	
comp=Z,13nm,0.9s							
UGM	**Wanagama**	**71.66**	**267**	P	**P**	**19 13 51.2**	**-0.2**
PET	**Petropavlovsk**	**72.34**	**344**	P	**P**	**19 13 53.9**	**-0.5**
YULB	**Yu-li**	**72.57**	**301**	P	**P**	**19 13 55.8**	**-0.6**
YULB				IAmb	IAmb	19 14 05.1	
comp=Z,27nm,1.6s							
PEA0B	**Petropavlovsk-**	**72.67**	**344**	P	**P**	**19 13 56.1**	**-0.3**
PEA0B				IAmb	IAmb	19 13 56.4	
comp=Z,13nm,0.8s							
PETK	**Petropavlovsk-**	**72.67**	**344**	P	**P**	**19 13 55.9**	**-0.4**
comp=Z,1.1nm,0.6s,baz=133,slow=8.7,SNR=22							
PETK	**Petropavlovsk-**	**72.67**	**344**	P	**P**	**19 13 55.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**72.90**	**332**	P	**P**	**19 13 57.7**	**-0.1**
SSLB	**Suanglung**	**73.03**	**302**	P	**P**	**19 13 58.1**	**-1.0**
SSLB				IAmb	IAmb	19 14 07.0	
comp=Z,46nm,1.7s							
TPUB	**Ta-pu**	**73.08**	**301**	P	**P**	**19 13 58.2**	**-1.2**
TPUB				IAmb	IAmb	19 14 20.5	
comp=Z,28nm,1.2s							
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**19 14 04.3**	**+1.7**
SCI2	**San Clemente I**	**73.83**	**48**	P	**P**	**19 14 04.8**	**+1.3**
baz=238							
SAO	**San Andreas Ge**	**73.93**	**43**	P	**P**	**19 14 05.2**	**+1.2**
SAO				IAmb	IAmb	19 14 06.2	
comp=Z,22nm,0.9s							
CHIR	**Chirikof Islan**	**73.96**	**12**	P	**P**	**19 14 03.5**	**-0.2**
PKM	**Mcpherson Peak**	**73.97**	**46**	P	**P**	**19 14 05.8**	**+1.3**
baz=236							
PMPB	**Monarch Peak**	**74.05**	**44**	P	**P**	**19 14 05.6**	**+0.8**
PMPB				IAmb	IAmb	19 14 07.1	
comp=Z,26nm,1.0s							
SMMC	**Simmler**	**74.09**	**45**	P	**P**	**19 14 06.9**	**+1.9**
baz=236							
HOPS	**Hopland Field**	**74.20**	**40**	P	**P**	**19 14 06.2**	**+0.7**
KMRM	**Mail Ridge**	**74.55**	**39**	P	**P**	**19 14 09.1**	**+1.5**
MWC	**Mount Wilson**	**74.83**	**47**	P	**P**	**19 14 10.0**	**+0.5**
MWC				IAmb	IAmb	19 14 11.1	
comp=Z,18nm,0.8s							
KSRS	**Korea Array**	**74.84**	**317**	P	**P**	**19 14 10.3**	**+1.2**
comp=Z,2.9nm,1.0s,baz=130,slow=6.2,SNR=7.9							
KSAR	**Wonju Array Be**	**74.86**	**317**	P	**P**	**19 14 09.9**	**+0.6**
KHMM	**Horse Mountain**	**74.94**	**39**	P	**P**	**19 14 11.0**	**+1.1**
KHMM		

AFDM IAmb IAmb 19 14 14.6
comp=Z,16nm,0.9s
ORV Oroville 75.52 41 P **P 19 14 13.6 +0.6**
ORV IAmb IAmb 19 14 14.6
comp=Z,11nm,0.8s
N02D Trinity Center 75.62 39 P **P 19 14 15.1 +1.5**
baz=233
PFO Pinyon Flats O 75.65 48 P **P 19 14 15.1 +1.1**
baz=239
PFO Pinyon Flats O 75.65 48 P **P 19 14 14.7 +0.7**
OHAK Old Harbor 75.75 13 P **P 19 14 13.6 -0.2**
baz=203
OHAK Old Harbor 75.75 13 P **P 19 14 13.7 -0.1**
OHAK IAmb IAmb 19 14 14.5
comp=Z,18nm,0.8s
LRMC Laurel Mtn Rad 75.76 46 P **P 19 14 15.8 +1.2**
baz=238
O03E Paynes Creek 75.76 40 P **P 19 14 15.4 +0.9**
baz=234
M02C Callahan 75.78 39 P **P 19 14 16.0 +1.5**
baz=233,SNR=16
SWSC Sam W. Stewart 75.78 49 P **P 19 14 15.6 +1.0**
baz=240
L02E Cave Junction 75.80 38 P **P 19 14 15.8 +1.2**
baz=232,SNR=6.3
CWC Cottonwood Cre 76.00 45 P **P 19 14 16.8 +0.8**
baz=237
YBH Yreka Blue Hor 76.07 38 P **P 19 14 17.3 +1.1**
YBH IAmb IAmb 19 14 18.5
comp=Z,18nm,0.8s
K02D Willamette Mer 76.09 37 P **P 19 14 17.5 +1.2**
baz=232,SNR=6.2
BELC Belle Mtn. Jos 76.17 48 P **P 19 14 17.8 +0.8**
baz=239,SNR=10.0
J01E Myrtle Point 76.23 37 P **P 19 14 18.6 +1.8**
baz=232
TIN Tinemaha, Big 76.23 44 P **P 19 14 18.7 +1.5**
baz=237
GSC Goldstone, Bar 76.28 47 P **P 19 14 18.5 +1.0**
baz=238,SNR=11
GSC Goldstone, Bar 76.28 47 P **P 19 14 18.0 +0.5**
GSC IAmb IAmb 19 14 19.3
comp=Z,15nm,1.1s
HEC Hector,Ludlow 76.36 47 P **P 19 14 18.7 +0.8**
baz=239,SNR=9.3
KDAK Kodiak Island 76.41 13 P **P 19 14 17.5 0.0**
baz=204
KDAK Kodiak Island 76.41 13 P **P 19 14 17.5 0.0**
KDAK IAmb IAmb 19 14 18.0
comp=Z,15nm,0.8s
USRK Ussuriysk Ar. 76.43 325 P **P 19 14 18.2 +0.3**
comp=Z,1.4nm,0.6s,baz=66,slow=7.0,SNR=3.3
USRK Ussuriysk Ar. 76.43 325 P **P 19 14 18.3 +0.4**
HUMO Hull Mountain 76.45 38 P **P 19 14 19.1 +0.9**
GLA Glamis 76.54 49 P **P 19 14 20.7 +1.8**
baz=240
L04D Klamath Falls 76.60 38 P **P 19 14 20.2 +1.1**
baz=233,SNR=7.8
M04C Macdoel 76.62 39 P **P 19 14 20.6 +1.3**
baz=234,SNR=5.4
GRAC Grapevine Rang 76.78 45 P **P 19 14 21.6 +1.5**
baz=238,SNR=5.2
GMRC Granite Mounta 76.81 48 P **P 19 14 21.5 +1.0**
baz=239,SNR=5.0
FURC Furnace Creek, 76.85 46 P **P 19 14 21.8 +1.4**
baz=238,SNR=6.7
IRM Iron Mountain 76.86 48 P **P 19 14 22.0 +1.3**
baz=240,SNR=14
NVAR Mina Array Bea 76.93 43 P **P 19 14 22.1 +0.9**
comp=Z,12nm,0.7s,baz=226,slow=9.1,SNR=74
NVAR Mina Array Bea 76.93 43 P **P 19 14 21.7 +0.5**
TUQ Turquoise Moun 76.96 47 P **P 19 14 22.5 +1.2**
baz=239,SNR=6.1
NV11 Mina Array Sit 77.03 43 P **P 19 14 22.2 +0.6**
NV11 IAmb IAmb 19 14 23.6
comp=Z,22nm,1.1s
113A Mohawk Valley, 77.18 50 P **P 19 14 23.5 +1.1**
113A IAmb IAmb 19 14 24.7
comp=Z,16nm,1.2s
J04D Umpqua Nationa 77.33 37 P **P 19 14 24.5 +1.3**
baz=233
KVN Kaiserville 77.41 43 P **P 19 14 24.6 +0.8**
KVN IAmb IAmb 19 14 25.5
comp=Z,14nm,0.8s
TPH Tonopah 77.46 44 P **P 19 14 25.0 +0.9**
I04A Tendick Farm, 77.49 37 P **P 19 14 24.7 +0.8**
baz=233
214A Organ Pipe Nat 77.50 51 P **P 19 14 25.6 +1.3**
baz=242,SNR=7.0
214A Organ Pipe Nat 77.50 51 P **P 19 14 25.5 +1.3**
214A IAmb IAmb 19 14 26.8
comp=Z,18nm,1.4s
TPNV Topopah Spring 77.52 45 P **P 19 14 25.5 +1.1**
baz=239,SNR=28
HSIG 77.58 55 P **P 19 14 25.2 +0.5**
HSIG IAmb IAmb 19 14 26.5
comp=Z,8.6nm,0.8s
MOD Modoc Plateau 77.62 39 P **P 19 14 25.4 +0.6**
MOD IAmb IAmb 19 14 26.7
comp=Z,16nm,1.1s
PDMCI Parker Dam,Lak 77.66 49 P **P 19 14 26.5 +1.6**
baz=240
K05A Summer Lake 77.75 38 P **P 19 14 26.6 +1.1**
K05A IAmb IAmb 19 14 27.7
comp=Z,22nm,1.1s
O18K Koktuh Hills 77.82 11 P **P 19 14 24.7 -0.6**
baz=201
J05D Fort Rock, OR 77.87 38 P **P 19 14 27.3 +1.2**
baz=234
MDJ Mudanjiang 78.03 324 P **P 19 14 26.5 -0.3**
W13A Hualapai Mount 78.23 48 P **P 19 14 29.2 +0.8**
PINE Pine Mountain 78.34 38 P **P 19 14 29.9 +1.1**
I05D Terrebonne, OR 78.44 37 P **P 19 14 30.1 +1.1**
baz=234
NJ2 Nanjing 78.46 308 *e*P **P 19 14 31.8 +2.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.8s
N18K Kilae Creek 78.48 10 P **P 19 14 28.6 -0.2**
baz=200
BRLK Bradley Lake 78.59 13 P **P 19 14 29.5 +0.1**
BRSE Bradley Lake S 78.60 13 P **P 19 14 29.8 +0.3**
baz=205
R11A Troy Canyon, C 78.70 44 P **P 19 14 31.6 +0.8**
baz=239,SNR=10
R11A Troy Canyon, C 78.70 44 P **P 19 14 32.0 +1.2**
N19K Bonanza Creek 78.85 11 P **P 19 14 30.2 -0.7**
baz=202
SVW2 Sparrevohn 78.92 10 P **P 19 14 31.6 +0.3**
E04D Cinebar 79.09 35 P **P 19 14 33.6 +1.2**
baz=232
TUC Tucson 79.19 52 P **P 19 14 35.3 +1.9**
baz=243
TUC Tucson 79.19 52 P **P 19 14 34.9 +1.5**
TUC IAmb IAmb 19 14 36.3
comp=Z,15nm,0.9s
SEW Seward 79.20 13 P **P 19 14 32.3 -0.4**
baz=206
F05D White Salmon 79.29 36 P **P 19 14 34.4 +0.8**
baz=233
D03D Eldon 79.41 34 P **P 19 14 35.1 +0.9**
baz=232
X16A Lo Mia Camp, P 79.67 50 P **P 19 14 37.4 +1.3**
X16A IAmb IAmb 19 14 38.8
comp=Z,16nm,0.9s
M19K Big River Lodg 79.88 10 P **P 19 14 35.8 -0.6**
baz=202
U15A North Rim 80.01 47 P **P 19 14 39.4 +1.4**
U15A IAmb IAmb 19 14 40.5
comp=Z,9.1nm,0.9s
RC01 Rabbit Creek A 80.03 13 P **P 19 14 37.0 -0.2**
baz=206
L19K White Mountain 80.06 10 P **P 19 14 37.3 0.0**
baz=201
M20K Styx River 80.09 11 P **P 19 14 37.2 -0.3**
baz=203
PWL Port Wells 80.13 14 P **P 19 14 37.2 -0.5**
PWL IAmb IAmb 19 14 38.0
comp=Z,17nm,1.0s
SUA Susitna One 80.16 12 P **P 19 14 37.7 -0.2**
baz=205,SNR=5.9
SUA Susitna One 80.16 12 P **P 19 14 37.5 -0.4**
ELK Elko 80.17 42 P **P 19 14 39.1 +0.4**
WUAZ Wupatki 80.23 49 P **P 19 14 40.5 +1.4**
baz=242
WUAZ Wupatki 80.23 49 P **P 19 14 40.2 +1.2**
WUAZ IAmb IAmb 19 14 41.6
comp=Z,11nm,1.1s

KAIM Kayak Island 80.26 16 P **P 19 14 38.9 +0.6**
baz=211,SNR=6.0
KAIM Kayak Island 80.26 16 P **P 19 14 38.6 +0.3**
G08A Pilot Rock 80.37 37 P **P 19 14 40.0 +0.5**
G08A IAmb IAmb 19 14 41.2
comp=Z,12nm,1.1s
B05A Bryant 80.39 33 P **P 19 14 40.0 +0.7**
baz=232
GLI Glacier Island 80.43 14 P **P 19 14 38.5 -0.8**
baz=209
EYAK Cordova Ski Ar 80.46 15 P **P 19 14 38.9 -0.5**
baz=210
SKT Skwentna 80.48 12 P **P 19 14 38.5 -0.9**
baz=204
KNK Knik Glacier 80.60 13 P **P 19 14 40.1 0.0**
baz=207
KNK Knik Glacier 80.60 13 P **P 19 14 40.1 0.0**
KNK IAmb IAmb 19 14 40.6
comp=Z,11nm,0.9s
HMT Hamilton 80.65 16 P **P 19 14 40.5 0.0**
HMT IAmb IAmb 19 14 41.1
comp=Z,15nm,1.1s
HAWA Hanford 80.67 36 P **P 19 14 41.1 +0.2**
HAWA IAmb IAmb 19 14 42.7
comp=Z,16nm,1.1s
X18A Snowflake 80.82 50 P **P 19 14 43.5 +1.3**
X18A IAmb IAmb 19 14 44.7
comp=Z,15nm,1.2s
HPIG 80.94 59 P **P 19 14 43.6 +0.7**
MVU Marysvale 81.07 46 P **P 19 14 44.6 +1.2**
BMO Blue Mountains 81.09 38 P **P 19 14 43.5 +0.3**
BMO IAmb IAmb 19 14 45.7
comp=Z,18nm,1.6s
BMRM Bremner River 81.11 15 P **P 19 14 42.7 -0.1**
baz=211,SNR=9.5
CUT Chulitna 81.11 12 P **P 19 14 42.5 -0.3**
baz=205
WAX Waxell Ridge 81.12 16 P **P 19 14 43.4 +0.5**
MESA MESA 81.14 17 P **P 19 14 43.8 +0.6**
baz=213
KLU Klutina 81.25 14 P **P 19 14 43.4 -0.2**
baz=210
K20K Telida 81.30 10 P **P 19 14 44.1 +0.4**
baz=202,SNR=16
CRQM Cirque 81.30 16 P **P 19 14 43.9 -0.1**
CRQE Cirque 81.31 16 P **P 19 14 44.1 +0.1**
baz=212,SNR=9.6
ISLE Juniper Island 81.39 16 P **P 19 14 44.2 -0.2**
DUG Dugway, Tooele 81.49 44 P **P 19 14 46.5 +1.0**
baz=240,SNR=7.0
121A Cookes Peak, D 81.56 53 P **P 19 14 48.1 +2.1**
baz=245
VRDI Verde Repeater 81.62 15 P **P 19 14 45.5 -0.2**
VRDI IAmb IAmb 19 14 46.4
comp=Z,15nm,1.0s
N25K Chitina, Valde 81.66 15 P **P 19 14 45.7 -0.1**
baz=211,SNR=14
N25K Chitina, Valde 81.66 15 P **P 19 14 45.5 -0.2**
GLB Gilahina Butte 81.72 15 P **P 19 14 45.6 -0.4**
GLB IAmb IAmb 19 14 46.6
comp=Z,15nm,0.8s
M24K Tolsona, Glenn 81.72 14 P **P 19 14 45.7 -0.3**
baz=209
F10A Beach Ranch, E 81.76 37 P **P 19 14 46.7 +0.1**
F10A IAmb IAmb 19 14 47.4
comp=Z,8.7nm,0.8s
WAT6 Susitna Watana 81.80 13 P **P 19 14 46.2 -0.3**
baz=208,SNR=9.5
WAT1 Susitna Watana 81.84 12 P **P 19 14 46.1 -0.5**
baz=207
BARN Barnard Glacie 81.95 16 P **P 19 14 47.5 +0.1**
CTG Chitna Glacier 81.96 16 P **P 19 14 47.5 +0.1**
baz=214,SNR=8.7
CTGM Chitina Glacie 81.96 16 P **P 19 14 47.4 0.0**
ZAIG Zacatecas 81.97 64 P **P 19 14 49.8 +1.3**
PLID Pearl Lake 82.00 38 P **P 19 14 48.4 +0.4**
PLID IAmb IAmb 19 14 50.4
comp=Z,9.9nm,0.8s
J20K Nowinta River 82.05 10 P **P 19 14 47.8 +0.2**
baz=202,SNR=22
TRF Thorofare Moun 82.06 12 P **P 19 14 46.8 -1.1**
baz=205,SNR=8.9
CHUM Lake Minchumin 82.08 10 P **P 19 14 47.1 -0.7**
baz=203
HLID Hailey 82.16 40 P **P 19 14 50.0 +1.2**
baz=239,SNR=18
HLID Hailey 82.16 40 P **P 19 14 49.7 +0.9**
HLID IAmb IAmb 19 14 51.0
comp=Z,9.8nm,0.9s
BPAW Bear Paw Mtn. 82.52 11 P **P 19 14 48.7 -1.3**
baz=205
SKAG Skagway 82.54 20 P **P 19 14 51.4 +1.3**
SKAG IAmb IAmb 19 14 52.6
comp=Z,9.7nm,0.8s
MCK McKinley 82.58 12 P **P 19 14 49.8 -0.6**
baz=207,SNR=7.0
M26K Nabesna, AK 82.74 15 P **P 19 14 51.3 +0.1**
baz=212,SNR=24
HYT Haines Junctio 82.94 18 P **P 19 14 52.8 +0.4**
HYT IAmb IAmb 19 14 53.8
comp=Z,13nm,1.0s
M27K Edge Creek, AK 82.98 15 P **P 19 14 52.7 +0.1**
baz=213,SNR=6.0
PV05 Paradox Valley 83.03 47 P **P 19 14 55.0 +1.4**
MNTX Cornudas Mount 83.07 54 P **P 19 14 55.2 +1.7**
baz=246
MNTX Cornudas Mount 83.07 54 P **P 19 14 55.0 +1.4**
MNTX IAmb IAmb 19 14 56.2
comp=Z,17nm,0.9s
NEW Newport 83.09 35 P **P 19 14 53.4 +0.1**
baz=236
BNM Barren Site 83.12 52 P **P 19 14 55.0 +0.9**
L26K Log Cabin Wild 83.18 14 P **P 19 14 53.7 +0.2**
baz=212,SNR=7.2
NEA2 Nenana 83.32 11 P **P 19 14 53.2 -0.9**
baz=206,SNR=6.8
I21K Tanana 83.33 10 P **P 19 14 54.1 0.0**
baz=204,SNR=8.3
MLY Manley 83.41 11 P **P 19 14 53.7 -0.8**
baz=205,SNR=16
RIDG Independent Ri 83.45 14 P **P 19 14 54.6 -0.1**
baz=210,SNR=9.1
BELA Belgrano 2 83.49 172 P **P 19 14 56.1 +1.2**
TX32 Lajitas Array 83.50 57 P **P 19 14 57.7 +1.8**
TX32 IAmb IAmb 19 14 59.1
comp=Z,24nm,1.2s
TXAR Lajitas Array 83.50 57 P **P 19 14 57.8 +1.9**
comp=Z,8.7nm,0.9s,baz=224,slow=5.2,SNR=53
DOT Dot Lake 83.55 14 P **P 19 14 55.0 -0.3**
DOT IAmb IAmb 19 14 56.0
comp=Z,20nm,1.0s
HDA Harding Lake 83.58 12 P **P 19 14 55.0 -0.4**
baz=208,SNR=25
HDA Harding Lake 83.58 12 P **P 19 14 55.0 -0.4**
ANMO Albuquerque 83.59 51 P **P 19 14 57.6 +1.2**
baz=245
ANMO Albuquerque 83.59 51 P **P 19 14 56.9 +0.6**
ANMO IAmb IAmb 19 14 58.5
comp=Z,11nm,0.9s
L27K Beaver Creek, 83.59 15 P **P 19 14 55.5 0.0**
baz=213,SNR=14
BCAR Beaver Creek A 83.60 15 P **P 19 14 55.6 0.0**
WHY Whitehorse 83.61 19 P **P 19 14 56.1 +0.4**
baz=220,SNR=6.9
WHY Whitehorse 83.61 19 P **P 19 14 55.8 +0.1**
CCB Clear Creek Bu 83.62 12 P **P 19 14 54.7 -0.8**
I23K Minto, Yukon-K 83.77 11 P **P 19 14 55.8 -0.5**
baz=206,SNR=13
IMAR Indian Mountai 83.80 9 P **P 19 14 56.4 0.0**
TCOL CIGO, UAF Yank 83.81 12 P **P 19 14 56.3 -0.2**
baz=208,SNR=5.9
COLA College 83.81 12 P **P 19 14 56.0 -0.4**
MDM Murphy Dome 83.81 12 P **P 19 14 55.7 -0.8**
SCRK Sand Creek 83.85 14 P **P 19 14 56.8 -0.1**
baz=211,SNR=18
SCRK Sand Creek 83.85 14 P **P 19 14 56.9 0.0**
SCRK IAmb IAmb 19 14 57.7
comp=Z,13nm,1.0s
IL31 83.92 12 P **P 19 14 56.4 -0.6**
ILAR Eielson Array 83.92 12 P **P 19 14 56.4 -0.7**
comp=Z,11nm,0.6s,baz=226,slow=6.1,SNR=69
POKR Poker Plat Res 84.11 12 P **P 19 14 57.5 -0.6**
baz=208,SNR=12
MSO Missoula 84.14 38 P **P 19 14 58.7 -0.1**
baz=239
MSO Missoula 84.14 38 P **P 19 14 58.6 -0.1**

DLMT Dillon 84.19 39 P **P 19 14 59.8 +0.7**
DLMT IAmb IAmb 19 15 01.1
comp=Z,27nm,1.2s
K27K Chicken 84.34 14 P **P 19 14 59.9 +0.7**
baz=213
H23K Yukon River 84.35 11 P **P 19 14 58.7 -0.5**
baz=206,SNR=8.5
PMSA Palmer Station 84.50 157 P **P 19 15 02.1 +2.0**
comp=Z,7.3nm,0.8s,baz=251,slow=3.9,SNR=9.3
PMSA Palmer Station 84.50 157 P **P 19 15 02.2 +2.2**
S22A 4UR Ranch, Cre 84.50 48 P **P 19 15 02.3 +1.3**
baz=245
QLMT Earthquake Lak 84.65 40 P **P 19 15 02.6 +1.2**
H24K Noodor Dome 84.67 11 P **P 19 14 59.3 -1.5**
baz=208
BOZ Bozeman (W) 84.90 40 P **P 19 15 03.6 +1.0**
baz=241,SNR=11
BOZ Bozeman (W) 84.90 40 P **P 19 15 03.4 +0.8**
BOZ IAmb IAmb 19 15 04.6
comp=Z,12nm,1.0s
ENH Enshi 85.01 303 P **P 19 15 03.8 +0.5**
DAWY Dawson 85.03 15 P **P 19 15 02.7 0.0**
DAWY IAmb IAmb 19 15 03.8
comp=Z,16nm,0.8s
BILL Bilibino 85.06 354 P **P 19 15 02.2 -0.5**
EGAK Eagle 85.19 14 P **P 19 15 03.4 +0.1**
baz=214,SNR=17
SDCO Great Sand Dun 85.45 49 P **P 19 15 06.1 +0.4**
baz=246
SDCO Great Sand Dun 85.45 49 P **P 19 15 06.0 +0.4**
MSTX Muleshoe 85.98 53 P **P 19 15 08.8 +0.7**
baz=248
MAW Mawson 86.00 199 P **P 19 15 08.1 +0.7**
comp=Z,3.8nm,0.8s,baz=146,slow=4.0,SNR=6.5
MAW Mawson 86.00 199 P **P 19 15 08.2 +0.8**
HIA Hailar 86.22 324 P **P 19 15 08.7 0.0**
SLVN Son La 86.63 293 P **P 19 15 11.5 +0.1**
SLVN IAmb IAmb 19 15 14.0
comp=Z,7.8nm,0.9s
BMAR Burnt Mountain 86.70 12 P **P 19 15 11.0 +0.4**
XAN Xi'an 86.86 307 P **P 19 15 13.5 +1.3**
XAN pP pP 19 16 37.8 -1.3
XAN pmax pmax
comp=Z,18nm,1.0s
TOLK Toolik Lake Re 86.89 10 P **P 19 15 11.6 +0.1**
baz=206
JCT Junction City 87.04 57 P **P 19 15 13.6 +0.5**
JCT IAmb IAmb 19 15 16.2
comp=Z,7.5nm,0.8s
HHC Hu-ho-hao-te 87.57 314 *e*P **P 19 15 16.5 +1.1**
HHC S **S 19 25 22.8 -1.4**
HHC pmax pmax
comp=Z,19nm,1.2s
HHC pmax pmax
comp=Z,120nm,6.9s
EDM Edmonton 87.77 32 P **P 19 15 15.8 -0.2**
ABTX Abilene, Hawle 87.92 55 P **P 19 15 18.1 +0.9**
baz=249
ABTX Abilene, Hawle 87.92 55 P **P 19 15 17.8 +0.6**
ABTX IAmb IAmb 19 15 18.9
comp=Z,13nm,0.8s
YAK Yakutsk 88.84 338 P **P 19 15 19.2 -1.5**
YAK IAmb IAmb 19 15 20.0
comp=Z,8.6nm,0.7s
KMI Kunming 88.86 296 ⇓P **P 19 15 24.3 +2.3**
KMI pmax pmax
comp=Z,8.0nm,0.9s
INK Inuvik 89.85 15 P **P 19 15 24.6 -0.7**
baz=221
INK Inuvik 89.85 15 P **P 19 15 24.7 -0.6**
CMAR Chiang Mai Arr 90.20 289 P **P 19 15 29.8 +1.7**
comp=Z,1.8nm,0.9s,baz=105,slow=2.5,SNR=13
CMAR Chiang Mai Arr 90.20 289 P **P 19 15 28.5 +0.4**
SYO Syowa Base 91.12 192 ⇓*e*PcP **PcP 19 15 36.4 +4.3**
NATX Nacogdoches 91.62 57 P **P 19 15 36.2 +1.8**
baz=252
NATX Nacogdoches 91.62 57 P **P 19 15 36.0 +1.6**
YKA Yellowknife Ar 92.08 24 P **P 19 15 36.0 +0.2**
comp=Z,3.2nm,0.9s,baz=240,slow=4.2,SNR=11
YKA Yellowknife Ar 92.08 24 P **P 19 15 35.7 0.0**
VNA3 Neumayer Olymp 92.19 176 P **P 19 15 38.8 +2.5**
KSU1 Kansas State U 92.44 50 P **P 19 15 38.9 +1.0**
baz=251
VNA2 Neumayer--Watz 92.65 176 P **P 19 15 36.0 -2.4**
C36M Paulatuk 93.02 16 P **P 19 15 39.5 -0.4**
baz=230
C36M Paulatuk 93.02 16 P **P 19 15 39.5 -0.4**
C36M IAmb IAmb 19 15 40.4
comp=Z,11nm,1.1s
ULN Ulaanbaatar 93.23 319 P **P 19 15 41.1 -0.4**
U38A Gravette 93.28 53 P **P 19 15 42.6 +0.6**
U38A IAmb IAmb 19 15 44.1
comp=Z,6.1nm,0.8s
W39A Magazine 93.37 54 P **P 19 15 43.0 +0.7**
baz=253
SONM Songino Array 93.63 319 P **P 19 15 43.3 -0.1**
comp=Z,0.7nm,0.6s,baz=134,slow=5.6,SNR=5.5
ECSD EROS Data Cent 93.93 46 P **P 19 15 44.5 -0.2**
baz=251
ECSD EROS Data Cent 93.93 46 P **P 19 15 44.5 -0.2**
ECSD IAmb IAmb 19 15 45.6
comp=Z,15nm,1.3s
U40A Yellville 94.43 54 P **P 19 15 47.8 +0.6**
baz=253
U40A Yellville 94.43 54 P **P 19 15 47.6 +0.4**
U40A IAmb IAmb 19 15 49.1
comp=Z,6.4nm,0.8s
W41B Gary Mavity, V 94.56 55 P **P 19 15 48.7 +0.9**
baz=254
WHAR Wooly Hollow 94.56 55 P **P 19 15 48.6 +0.8**
WHAR IAmb IAmb 19 15 49.6
comp=Z,10.0nm,0.9s
ZALV Zalesovo Beam 108.19 322 PKiKP **PKiKP 19 20 52.1 -0.3**
comp=Z,0.5nm,0.4s,baz=124,slow=2.0,SNR=3.6
MKAR Makanchi Array 109.42 314 PKiKP **PKiKP 19 20 54.3 -0.7**
comp=Z,1.3nm,0.7s,baz=72,slow=1.4,SNR=7.4
KK31 Karatay Array 117.79 310 **PKPdf 19 21 10.9 -0.3**
KKAR Karatay Array 117.79 310 **PKPdf 19 21 10.9 -0.3**
SPA0 Spitsbergen Ar 117.79 357 *e*PKPdf **PKPdf 19 21 09.7 -0.5**
HOPEN Hopen 118.77 354 *e*PKPdf **PKiKP 19 21 12.5 +0.4**
HSPB Hornsund (broa 118.99 357 *e*PKPdf **PKPdf 19 21 12.0 -0.4**
ARU Arti 122.59 327 PKPdf **PKPdf 19 21 19.1 -0.8**
HAMF Hammerfest 124.33 352 *e*PKPdf **PKPdf 19 21 22.2 -0.7**
ARA0 ARCESS Array S 125.08 351 *e*PKPdf **PKiKP 19 21 24.6 -0.2**
ARCES ARCESS Array B 125.08 351 PKhKP PKPpre 19 21 19.4
comp=Z,5.5nm,0.5s,baz=67,slow=4.3,SNR=3.8
ARCES PKP **PKPdf 19 21 24.3 -0.1**
comp=Z,5.3nm,0.5s,baz=11,slow=1.4,SNR=64
ARCES ARCESS Array B 125.08 351 **PKPdf 19 21 23.9 -0.4**
JETT Jettan, Norway 125.76 353 *e*PKPdf **PKiKP 19 21 26.0 -0.2**
TRO Tromso 125.86 353 *e*PKPdf **PKPdf 19 21 25.0 -0.8**
KTK1 Kautokeino 125.90 351 *e*PKPdf **PKPdf 19 21 25.0 -0.9**
GEYT Alibeck 127.73 306 PKP **PKiKP 19 21 31.0 0.0**
comp=Z,73nm,0.6s,baz=224,slow=4.1,SNR=4.2
LOF Lofoten 127.82 355 *e*PKPdf **PKPdf 19 21 29.2 -0.4**
STEI Steigen 127.87 354 *e*PKPdf **PKPdf 19 21 29.1 -0.6**
FAUS Fauske 128.40 354 *e*PKPdf **PKPdf 19 21 30.8 +0.1**
KLMR Klimovskoe 128.63 338 *e*PKPdf **PKPdf 19 21 30.1 -1.2**
KLMR AMP 19 21 31.9
comp=Z,6.0nm,1.0s
KONS Konsvik 129.46 355 *e*PKPdf **PKPdf 19 21 32.3 -0.4**
MOR8 Moi Rana 129.66 354 *e*PKPdf **PKPdf 19 21 33.2 0.0**
NSS Namsos 131.49 355 *e*PKPdf **PKPdf 19 21 34.7 -1.9**
FINES FINESS Array B 132.16 346 PKhKP PKPpre 19 21 28.9
comp=Z,0.8nm,0.6s,baz=348,slow=2.3,SNR=7.6
FINES PKP **PKPdf 19 21 38.2 +0.2**
comp=Z,2.3nm,0.6s,baz=43,slow=3.5,SNR=16
FINES FINESS Array B 132.16 346 **PKiKP 19 21 38.6 -0.5**
DOMB Dombas 134.16 356 *e*PKPdf **PKPdf 19 21 42.0 +0.1**
NB2 NORSAR Subarra 135.00 355 PKP **PKiKP 19 21 44.5 -0.5**
comp=Z,0.9nm,0.6s,baz=11,slow=4.0
NOA NORSAR Array B 135.00 355 PKP **PKiKP 19 21 44.7 -0.3**
comp=Z,1.2nm,0.7s,baz=14,slow=3.9,SNR=5.2
NC602 NORSAR Array S 135.27 354 *e*PKPdf **PKPdf 19 21 44.3 +0.4**
KONO Kongsberg 136.51 356 *e*PKPdf **PKPdf 19 21 46.1 -0.1**
AKASG Malin Array Be 140.01 335 PKhKP PKPpre 19 21 44.2
comp=Z,0.5nm,0.3s,baz=39,slow=4.3,SNR=6.6
AKASG Malin Array Be 140.01 335 **PKPdf 19 21 52.3 -0.6**
KMBO Kilima Mbogo 142.56 246 PKhKP PKPpre 19 21 56.8
comp=Z,3.8nm,0.8s,baz=30,slow=3.1,SNR=9.2
GAZ Gaziantep 143.80 312 PKPdf PKPbc 19 21 59.1 +0.4
BNN Bunyan 143.97 315 PKPdf PKPbc 19 21 59.8 +0.4
BUR08 Bucovina Ar. S 144.05 335 PKPbc 19 21 59.5 +0.2
BURAR Bucovina Array 144.06 335 ⇑P PKPbc 19 21 59.4 +0.1
BURAR Bucovina Array 144.06 335 PKPdf PKPbc 19 21 59.7 +0.4

KSP	Ksiaz	144.08	346	ePKPdf	PKPbc	19 21 59.4 +0.3
TLCR		144.28	329	⇑P	PKPbc	19 22 00.1 +0.2
CLL	Collm	144.29	350		PKPab	19 21 59.4 -0.4
CLL	Collm	144.29	350	ePKPbc	PKPab	19 21 59.6 -0.1
	baz=12,slow=3.0					
TESR	Tescani	144.32	332	⇓P	PKPab	19 22 00.1 +0.1
STRD	Stroud	144.32	6	eP	PKPab	19 21 59.4 -0.4
SCTR	Scanteiesti	144.32	330	⇓P	PKPdf	19 22 00.9 +0.2
OSTC	Ostas	144.37	346	ePKP	PKPab	19 22 00.3 +0.2
CHVC	Chvalec	144.38	346	ePKP	PKPab	19 22 00.4 +0.3
UPC	Upice	144.46	346	ePKP	PKPab	19 22 00.6 +0.2
GTTG	Gottingen	144.49	353	ePKPbc	PKPdf	19 22 00.8 0.0
	baz=12,slow=3.0					
IZVR	Izvoarele	144.53	330	⇑P	PKPdf	19 22 01.3 +0.3
DPC	Dobruska-Polom	144.54	346	ePKP	PKPdf	19 22 01.2 +0.2
BRG	Berggiesshubel	144.54	349	ePKPbc	PKPab	19 22 00.7 0.0
	baz=12,slow=3.0					
JURR	Jurilovca	144.55	328	⇑P	PKPdf	19 22 01.6 +0.5
OKC	Ostrava-Krasne	144.55	344	ePKP	PKPdf	19 22 01.0 0.0
NEUB	Neuenburg	144.58	351	ePKPbc	PKPab	19 22 00.8 0.0
	baz=12,slow=3.0					
FBE	Freiberg	144.60	349	ePKPbc	PKPdf	19 22 01.3 +0.3
	baz=12,slow=3.0					
CFR	Carcaliu	144.62	330	⇓P	PKPdf	19 22 01.3 +0.1
KRLC	Kraliky	144.68	345	ePKP	PKPab	19 22 01.3 0.0
ODBI	Odobesti	144.70	331	⇓P	PKPab	19 22 02.7 +1.3
TPGR	Topolog	144.71	329	⇑P	PKPab	19 22 01.9 +0.4
PVCC	Panska Ves	144.75	348	ePKP	PKPab	19 22 01.6 +0.1
MORC	Moravsky Berou	144.77	344	⇑P	PKPbc	19 22 01.0 -0.4
MORC	Moravsky Berou	144.77	344		PKPbc	19 22 01.1 -0.3
MORC	Moravsky Berou	144.77	344	ePKP	PKPdf	19 22 01.5 +0.1
VRI	Vrincioaia	144.77	332	⇑P	PKPdf	19 22 01.6 +0.1
HTL	Hartland	144.80	9	eP	PKPbc	19 22 01.0 -0.3
LANS	Liptovska Anna	144.80	342	ePKP	PKPab	19 22 02.3 +0.5
PLOR	Plostina	144.82	332	⇑P	PKPbc	19 22 01.7 +0.1
BUG	Bochum--Univer	144.84	356	ePKPbc	PKPbc	19 22 01.5 +0.1
	baz=12,slow=3.0					
ARCR	ARCALIA	144.84	335	⇑P	PKPab	19 22 02.2 +0.2
WOL	Wolverton	144.87	5	eP	PKPdf	19 22 01.1 -0.4
BR131	Keskin Array S	144.98	318		PKPdf	19 22 02.3 0.0
BRTR	Keskin Array B	144.98	318	PKP	PKPbc	19 22 02.7 +0.2
	comp=Z,9.0nm,0.8s,baz=53,slow=1.8,SNR=41					
BRTR	Keskin Array B	144.98	318		PKPdf	19 22 01.9 -0.3
KASTN	Kahler Asten	144.99	355	ePKPbc	PKPab	19 22 02.3 -0.1
	baz=12,slow=3.0					
TIRR	Tirgusor	145.00	328	⇑P	PKPdf	19 22 00.8 -1.1
TIRR	Tirgusor	145.00	328		PKPdf	19 22 01.6 -0.2
OZUR		145.02	333	⇑P	PKPab	19 22 03.1 +0.3
HARR	Harsova	145.07	329	⇑P	PKPab	19 22 02.8 -0.1
MOX	Moxa	145.16	351	ePKPbc	PKPbc	19 22 02.8 +0.3
	baz=12,slow=3.0					
ELSH	Elham, Standar	145.19	3	eP	PKPbc	19 22 02.8 +0.3
UBBA	Unterbreizbach	145.20	353	ePKPbc	PKPab	19 22 02.8 -0.2
	baz=12,slow=3.0					
PRA	Prague	145.21	348	ePKP	PKPbc	19 22 02.8 +0.2
PLN	Plauen	145.23	350	ePKPbc	PKPab	19 22 03.1 -0.2
	baz=12,slow=3.0					
WERD	Werda	145.24	350	ePKPbc	PKPab	19 22 03.2 -0.2
	baz=12,slow=3.0					
PRU	Pruhonice	145.27	348	ePKP	PKPbc	19 22 02.9 +0.1
DOPR	Dopca	145.29	333	⇑P	PKPab	19 22 03.8 0.0
GUNZ	Gunzen	145.32	350	ePKPbc	PKPab	19 22 03.7 0.0
	baz=12,slow=3.0					
WERN	Wernitzgruen	145.38	350	ePKPbc	PKPab	19 22 04.0 +0.1
	baz=12,slow=3.0					
MLR	Muntele Rosu	145.41	332	⇑P	PKPbc	19 22 03.3 -0.3
MLR	Muntele Rosu	145.41	332	PKPdf	PKPdf	19 22 03.1 +0.3
DYA	Yadsworthy	145.42	9	eP	PKPdf	19 22 02.6 +0.2
ISR	Istrita	145.42	331	⇓P	PKPab	19 22 04.2 -0.1
NKC	Novy Kostel	145.42	350	ePKP	PKPbc	19 22 03.4 +0.1
VRAC	Vranov	145.44	345	⇑P	PKPab	19 22 03.9 -0.3
VRAC	Vranov	145.44	345	ePKP	PKPbc	19 22 03.7 +0.3
ANTO	Ankara	145.44	319		PKPbc	19 22 03.7 -0.1
CJR	Cluj-Napoca	145.44	336	⇓P	PKPab	19 22 04.3 -0.1
VYHS	Vyhne	145.57	342	ePKP	PKPbc	19 22 04.0 +0.2
JAVC	Velka Javorina	145.57	344	ePKP	PKPab	19 22 05.1 +0.3
KOLL	Kolacno	145.62	343	ePKP	PKPab	19 22 04.6 -0.3
PBCC	Pribram	145.67	348	ePKP	PKPbc	19 22 04.2 +0.2
KRUC	Moravsky	145.72	345	ePKP	PKPbc	19 22 04.2 0.0
MANZ	Manzenberg	145.72	350	ePKPbc	PKPab	19 22 04.8 -0.5
	baz=12,slow=3.0					
DRGR		145.73	336	⇓P	PKPbc	19 22 04.8 +0.4
MEM	Membach	145.74	357	dPKPdf	PKPdf	19 22 02.9 -0.1
MEM				dPKiKP	PKiKP	19 22 07.1 -0.1
BTNL	Ternell	145.75	357	dPKPbc	PKPbc	19 22 04.3 0.0
PSZ	Piszkesteto	145.75	340		PKPdf	19 22 03.7 +0.5
BSTI	Sart Tilman	145.78	358	dPKPbc	PKPbc	19 22 04.6 +0.3
VOIR		145.85	333	⇓P	PKPbc	19 22 05.3 +0.5
SNF	Seneffe	145.89	359	dPKPbc	PKPbc	19 22 04.8 +0.2
SNF				dPKPab	PKPab	19 22 05.7 -0.1
SNF				dx	x	19 22 27.4
ROTZ	Rotzenmuhle	145.91	350	ePKPbc	PKPab	19 22 05.4 -0.6
	baz=12,slow=3.0					
BCLA	Clavier	145.95	358	dPKP	PKPbc	19 22 05.4 +0.6
MDUB	Mudurnu	146.08	321		PKPbc	19 22 05.5 -0.1
BMRD	Maredsous	146.09	359	dPKP	PKPbc	19 22 05.2 0.0
BMRD				dPKPab	PKPab	19 22 06.2 -0.4
BMRD				dx	x	19 22 29.0
MODS	Modra-Piesok	146.12	344	ePKP	PKPab	19 22 07.3 +0.4
MILB	Miltenberg	146.26	353	ePKPbc	PKPbc	19 22 06.3 +0.6
	baz=12,slow=3.0					
KHC	Kasperske Hory	146.28	348	ePKP	PKPbc	19 22 05.6 -0.3
KHC	Kasperske Hory	146.28	348	PKPdf	PKPbc	19 22 05.5 -0.3
LODK	Lodwar	146.28	251		PKPdf	19 22 05.2 +0.1
LODK				PKPbc	PKPab	19 22 08.0 -0.7
DOU	Dourbes	146.29	359	dPKPdf	PKPdf	19 22 04.1 +0.1
DEV	Deva	146.40	335	⇑P	PKPbc	19 22 06.5 +0.3
GEC2	GERESS Array S	146.53	348		PKPbc	19 22 06.7 +0.1
GEC2	GERESS Array S	146.53	348	ePKPbc	PKPbc	19 22 07.1 +0.5
	baz=12,slow=3.0					
GERES	GERESS Array B	146.53	348	PKPbc	PKPbc	19 22 06.5 -0.2
	comp=Z,4.6nm,0.7s,baz=42,slow=4.2,SNR=17					
GERES	GERESS Array B	146.53	348		PKPbc	19 22 06.7 +0.1
SIRR	Siria	146.56	337	⇑P	PKPbc	19 22 07.2 +0.5
RAZG	Razgrad	146.59	329	⇓P	PKPbc	19 22 07.4 +0.5
WLF	Walferdange	146.67	357	dPKPbc	PKPbc	19 22 07.5 +0.7
WLF				dPKPab	PKiKP	19 22 09.2 +0.1
WLF				dx	x	19 22 13.1
WLF	Walferdange	146.67	357		PKPbc	19 22 07.8 +0.9
WLF	Walferdange	146.67	357	ePKPbc	PKPab	19 22 08.0 -1.0
	baz=12,slow=3.0					
JVM	Valle D.L. Mar	146.84	7	eP	PKPbc	19 22 07.3 0.0
MMAI	Mount Meron Ar	146.85	306	PKPbc	PKPbc	19 22 08.2 +0.1
	comp=Z,9.9nm,0.6s,baz=50,slow=7.8,SNR=27					
JSA	Saint Aubin	146.87	7	eP	PKPbc	19 22 07.3 -0.1
CONA	Conrad Observa	146.90	345	i P	PKPbc	19 22 08.3 +0.7
	comp=Z,14nm,0.7s,SNR=10.0					
BZS	Buzias	147.12	336	⇓P	PKPbc	19 22 08.5 +0.3
STU	Stuttgart	147.31	353	ePKPbc	PKPbc	19 22 09.3 +0.7
	baz=12,slow=3.0					
MOA	Molln	147.35	347	i P	PKPbc	19 22 08.9 +0.1
	comp=Z,14nm,1.0s,SNR=5.7					
HERR	Herculane	147.42	335	⇑P	PKPbc	19 22 09.1 +0.1
ARSA	Arzberg	147.62	345	eP	PKPbc	19 22 10.0 +0.4
	comp=Z,8.6nm,1.0s					
FUR	Furstenfeldbru	147.62	350	ePKPbc	PKPbc	19 22 10.2 +0.7
	baz=12,slow=3.0					
BFO	Black Forest	147.84	354		PKPbc	19 22 10.0 -0.1
BFO	Black Forest	147.84	354	ePKPbc	PKPbc	19 22 10.7 +0.6
	baz=12,slow=3.0					
LEF	Lefka	147.84	311	⇑P	PKPbc	19 22 09.6 -0.9
FRGS	Fruska Gora	148.19	338	⇑P	PKPbc	19 22 11.5 +0.5
UBR	Ueberruh	148.27	352	ePKPbc	PKPbc	19 22 11.9 +0.6
	baz=12,slow=3.0					
SOKA	Soboth	148.27	345	i P	PKPbc	19 22 10.8 -0.5
	comp=Z,15nm,1.5s,SNR=5.8					
KBA	Koelnbreinsper	148.28	347	eP	PKPbc	19 22 11.7 +0.2
	comp=Z,7.7nm,0.5s					
PERS	Pernice	148.29	345	i PKPbc	PKPbc	19 22 10.8 -0.5
CLF	Chambon-Foret	148.36	2		PKiKP	19 22 12.5 -0.2
RETA	Reutte	148.36	351	eP	PKPbc	19 22 11.5 0.0
	comp=Z,14nm,1.1s					
WATA	Walderalm	148.37	350	i P	PKPbc	19 22 11.5 -0.1
	comp=Z,7.1nm,0.5s,SNR=5.9					
MBAR	Mbarara	148.41	240	PKP	PKPdf	19 22 08.6 -0.1
	comp=Z,1.1nm,0.3s,baz=63,slow=21,SNR=1.6					
MBAR				PKPbc	PKiKP	19 22 14.2 +0.1
	comp=Z,1.7nm,0.3s,baz=96,slow=13,SNR=5.3					
MBAR	Mbarara	148.41	240		PKiKP	19 22 13.7 -0.4
WTTA	Wattenberg	148.43	350	i P	PKPbc	19 22 12.1 +0.3
	comp=Z,20nm,0.6s,SNR=7.9					
MOTA	Moosalm	148.44	350	i P	PKPbc	19 22 11.8 -0.1
	comp=Z,17nm,1.1s,SNR=5.2					
SQTA	Sankt Quirin	148.55	350	eP	PKPbc	19 22 12.1 +0.1
	comp=Z,8.2nm,0.6s					
OBKA	Obir	148.55	345	eP	PKPbc	19 22 11.6 -0.4
	comp=Z,3.6nm,0.8s					
BALB	Balikesir	148.59	323		PKPbc	19 22 12.2 0.0
MYKA	Terra Mystica	148.64	347	eP	PKPbc	19 22 11.8 -0.4
	comp=Z,9.4nm,0.6s					
DAVA	Damuels	148.68	352	i P	PKPbc	19 22 12.6 +0.1
	comp=Z,25nm,1.1s,SNR=6.7					
ALN	Alexandroupoli	148.76	326		PKPbc	19 22 12.1 -0.5
ABTA	Abfaltersbach	148.77	348	i P	PKPbc	19 22 12.2 -0.4
	comp=Z,15nm,0.7s,SNR=9.5					
FETA	Feichten	148.82	351	i P	PKPbc	19 22 13.3 +0.5
	comp=Z,17nm,0.9s,SNR=6.5					
PDKS	Podkum	148.86	345	ePKPbc	PKPbc	19 22 12.5 -0.2
VTS	Vitosha	148.87	331	⇓P	PKPbc	19 22 13.2 +0.2
VTS	Vitosha	148.87	331	PKPdf	PKPdf	19 22 09.0 +0.3
VTS					PKPbc	19 22 13.1 0.0
CRNS	Crni Vrh	149.02	346	i PKPbc	PKPbc	19 22 12.8 -0.3
DIVS	Divibare	149.03	337		PKPbc	19 22 13.7 +0.4
ELL	Elmali	149.07	316		PKPbc	19 22 14.1 +0.4
TUE	Stuetta	149.56	352		PKPbc	19 22 14.9 +0.2
SENIN	Lac Senin/Sane	149.88	355		PKiKP	19 22 16.1 -0.1
SALO	Salr	150.22	350		PKPbc	19 22 16.0 0.0
PDG	Podgorica	150.73	336	⇓P	PKPbc	19 22 17.5 +0.2
PDG	Podgorica	150.73	336		PKPbc	19 22 17.1 -0.2
SSB	Saint Sauveur	151.11	359		PKiKP	19 22 18.6 0.0
FNA	Florina	151.18	331		PKPbc	19 22 18.4 -0.1
BNI	Bardonecchia	151.24	356		PKiKP	19 22 19.4 +0.4
ZCCA	Zocca	151.37	349		PKiKP	19 22 19.8 +0.6
KARP	Karpathos	151.58	317		PKPbc	19 22 19.6 +0.1
APE	Apeiranthos	151.66	321	⇑P	PKPbc	19 22 19.3 -0.4
AGG	Agios Georgios	152.07	328		PKPbc	19 22 19.6 -0.9
MURB	Monte Urbino	152.09	346		PKPbc	19 22 19.8 -0.6
SANT	Santorini	152.16	320	⇑P	PKPbc	19 22 19.7 -1.1
SANT	Santorini	152.16	320		PKPbc	19 22 19.7 -1.1
PGAV	Gavieira, Arco	152.46	19	ePKPbc	PKiKP	19 22 22.1 +0.6
PCAB	Cabril	152.77	19	ePKPbc	PKiKP	19 22 22.8 +0.7
PBRG	Braganca	153.07	17	ePKPbc	PKiKP	19 22 22.8 +0.1
PBRG	Braganca	153.07	17	ePKPab	PKPab	19 22 36.3 +0.6
POLO	Lamas de Olo	153.15	19	ePKPbc	PKiKP	19 22 23.5 +0.5
IDI	Anoyia	153.21	319	PKPbc	PKPbc	19 22 22.9 -0.2
	comp=Z,4.3nm,0.4s,baz=289,slow=11,SNR=17					
IDI	Anoyia	153.21	319	⇓P	PKiKP	19 22 23.6 +0.4
MVO	Moncorvo	153.58	18	ePKPdf	PKPdf	19 22 17.1 +1.4
MVO	Moncorvo	153.58	18	ePKPbc	PKiKP	19 22 24.7 +0.9
MVO	Moncorvo	153.58	18	ePKPab	PKPab	19 22 39.5 +1.6
PCAS	Casmilo, Conde	154.10	22	ePKPab	PKPab	19 22 40.5 +0.4
PMRV	Marv??o	155.04	21	ePKPab	PKPab	19 22 44.6 +0.5
ESDC	Sonseca Array	155.80	14	PKP	PKPdf	19 22 19.4 +0.6
	comp=Z,0.2nm,0.3s,baz=349,slow=1.8,SNR=5.3					
ESDC				PKPbc	PKPbc	19 22 27.1
	comp=Z,0.8nm,0.7s,baz=317,slow=1.7,SNR=4.8					
ESDC				PKPab	PKPab	19 22 47.5 +0.1
	comp=Z,1.0nm,0.8s,baz=345,slow=4.5,SNR=3.1					
PBEJ	Beja	156.12	23	ePKPdf	PKPdf	19 22 20.1 +0.9
PBEJ	Beja	156.12	23	ePKPab	PKPab	19 22 50.2 +1.4
KEST	Kesra	160.00	346	PKPab	PKPab	19 23 04.8 -1.0
	comp=Z,1.2nm,0.7s,baz=36,slow=13,SNR=4.1					
TORD	Torodi Ar. Bea	176.34	149	PKPab	PKPab	19 24 19.5 +1.1
	comp=Z,0.9nm,0.9s,baz=237,slow=3.6,SNR=4.2					

*IDC **25** 19:07:29.3±1.1,2°.68S×139°.21E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/33, mbtmp3.9/8, ML4.2/2, Error ellipse: s-maj=43.0km s-min=20.8km az=82.0*
*NEIC **25** 19:07:35.8±1.8,2°.8S±0°.1×139°.2E±0°.1, h39km±8km, mb4.1/17, Error ellipse: s-maj=18.2km s-min=13.4km az=46.0*
ISC 25 19:07:36.0±0.7,**2°.85**±0°.08×**139°.1E**±0°.1,**h46**km,**n32,**
σ1§**09**/33,**mb4.0**/12,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	6.88	269	Pn	Pn	19 09 15.3	+0.9
SIJI	Sorong	8.11	284	Pn	Pn	19 09 31.0	-0.3
	1.9nm,0.3s,baz=177,slow=22,SNR=9.8						
TNTI	Ternate	12.30	287	Pn	Pn	19 10 29.5	+0.8
MTN	Manton Dam	12.70	218		Pn	19 10 33.7	-0.4
SOEI	Soe	16.29	244	P	P	19 11 24.7	+0.5
KNRA	Kununurra	16.34	218		Pn	19 11 21.8	-0.6
WR0	Warramunga Arr	17.59	194	Pn	Pn	19 11 36.8	-1.2
WR0				IAmb	IAmb	19 11 44.2	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	17.63	195	P	Pn	19 11 38.6	+0.2
	comp=Z,1.1nm,0.3s,baz=8.9,slow=12,SNR=13						
WRA				S	Sn	19 14 50.3	-3.6
	comp=Z,0.1nm,0.3s,baz=15,slow=22,SNR=5.4						
WRA				Lg	Lg	19 16 46.9	
	baz=22,slow=25,SNR=1.6						
WRA	Warramunga Arr	17.63	195	P	Pn	19 11 37.9	-0.5
CTAO	Charters Tower	18.49	158	P	P	19 11 48.1	-0.3
TOLI2	Tolitoli	18.77	282	P	Pn	19 11 52.9	+0.6
AS31	Alice Springs	21.31	193	P	P	19 12 19.3	+0.2
AS31				IAmb	IAmb	19 12 24.8	
	comp=Z,3.9nm,0.6s						
ASAR	Alice Springs	21.31	193	P	P	19 12 19.4	+0.3
	comp=Z,2.7nm,0.5s,baz=19,slow=9.4,SNR=15						
ASAR				S	Sn	19 16 21.5	-1.1
	comp=Z,2.9nm,0.9s,baz=14,slow=25,SNR=7.2						
ASAR				Lg	Lg	19 18 48.1	
	comp=Z,1.5nm,1.1s,baz=14,slow=28,SNR=1.7						
ASAR	Alice Springs	21.31	193	P	P	19 12 18.8	-0.3
EIDS	Eidsvold	25.17	154	P	P	19 12 56.9	-0.3
EIDS				IAmb	IAmb	19 13 05.3	
	comp=Z,4.3nm,1.1s						
PSA00	Pilbara Seismi	26.43	224	P	P	19 13 09.2	+0.5
PSA00				IAmb	IAmb	19 13 21.5	
	comp=Z,5.0nm,1.2s						
PSA00	Pilbara Seismi	26.43	224	P	P	19 13 08.8	+0.2
PSA00				IAmb	IAmb	19 13 09.5	
	comp=Z,8.6nm,0.9s						
STKA	Stephens Creek	28.97	176	P	P	19 13 32.2	+0.9
STKA				IAmb	IAmb	19 13 34.2	
	comp=Z,5.1nm,1.5s						
MORW	Morawa	34.09	218	P	P	19 14 17.4	+1.0
SONM	Songino Array	58.02	335	P	P	19 17 22.3	-2.1
	comp=Z,0.2nm,0.4s,baz=158,slow=8.5,SNR=2.2						
MKAR	Makanchi Array	70.16	322	P	P	19 18 43.6	-0.3
	comp=Z,0.4nm,0.4s,baz=96,slow=8.2,SNR=6.3						
MKAR	Makanchi Array	70.16	322	P	P	19 18 43.1	-0.8
MAKZ	Makanchi	70.36	322	P	P	19 18 44.3	-0.8
MAKZ				IAmb	IAmb	19 18 52.4	
	comp=Z,4.3nm,1.1s						
ZALV	Zalesovo Beam	72.27	330	P	P	19 18 54.5	-2.0
	comp=Z,0.3nm,0.4s,baz=120,slow=8.7,SNR=2.1						
VNDA	Vanda	75.61	175	P	P	19 19 16.7	+1.1
	comp=Z,0.9nm,0.5s,baz=327,slow=6.6,SNR=13						
VNDA	Vanda	75.61	175	P	P	19 19 16.1	+0.4
VNDA				IAmb	IAmb	19 19 25.6	
	comp=Z,2.1nm,1.0s						
SBA	Scott Base	76.37	174	P	P	19 19 21.7	+1.8
ABKAR	Abkulak array	85.10	320	P	P	19 20 08.0	+0.8
ABKAR	Abkulak array	85.10	320	P	P	19 20 07.9	+0.8
ABKAR				IAmb	IAmb	19 20 11.0	
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	85.78	24	P	P	19 20 10.7	+0.5
	comp=Z,0.7nm,0.6s,baz=271,slow=5.7,SNR=4.9						
QSPA	South Pole Qui	87.10	180	P	P	19 20 17.1	+0.3
BMAR	Burnt Mountain	87.37	22	P	P	19 20 17.8	-0.1

*IDC **25** 19:08:10.5±2.6,26°.47N×53°.56E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.5/38, mbtmp3.7/8, ML3.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/53, Error ellipse: s-maj=56.8km s-min=26.4km az=29.0*
*OMAN **25** 19:08:12.0±0.7,26°.52N×53°.60E, h6km±8km, ml3.2/11, Error ellipse: s-maj=11.7km s-min=1.6km az=342.0*
*TEH **25** 19:08:12.0,26°.38N×53°.70E, h7km, ML3.7*
ISC 25 19:08:12.4±1.5,**26°.45N**±0°.04×**53°.61E**±0°.04,**h11**km±10km,
n53,σ1§**36**/58,**mb3.6**/6,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.97	336	ePg	Pn	19 08 31.9	-0.1
LMD1				e		19 08 56.1	
	comp=Z,21μm,0.4s						
LAR1	LAR	1.39	29	ePg	Pg	19 08 39.8	+0.6
JRN	Qarnain Island	1.65	205	ePn	Pn	19 08 42.4	+1.1
JRN	Qarnain Island	1.65	205	P	Pn	19 08 42.4	+1.1
JRN				S	Sg	19 09 05.8	+0.4
JHRM	Jahrom	2.05	359	ePn	Pg	19 08 50.8	-0.9
JHRM				e		19 09 34.0	
	comp=Z,7μm,0.4s						
QIR1	Qir	2.08	346	ePn	Pg	19 08 51.1	-1.3
AJN	Ajban	2.25	146	ePn	Pn	19 08 50.8	+1.3
SHME	Shamm	2.31	99	ePn	Pn	19 08 50.2	-0.1
NAZ	Nazwa, Dubai	2.35	128	ePn	Pn	19 08 52.7	+1.8
NAZ	Nazwa, Dubai	2.35	128	P	Pn	19 08 53.0	+2.0
	SNR=6.3						
NAZ				S	Sb	19 09 23.1	-0.7
ASUD	Al Ashush, Dub	2.39	139	ePn	Pn	19 08 52.8	+1.4
ASUD	Al Ashush, Dub	2.39	139	P	Pn	19 08 52.9	+1.5
	SNR=27						
ASUD				S	Sn	19 09 23.4	+2.8
SHMA	Al-Shehemyia	2.45	257	P	Pn	19 08 53.5	+1.2
SHMA				S	Sn	19 09 23.8	+1.5
FAQ	Al Faqa, Dubai	2.46	133	ePn	Pn	19 08 53.8	+1.3
FAQ	Al Faqa, Dubai	2.46	133	P	Pn	19 08 54.1	+1.6
	SNR=5.3						
BANOM	Banah	2.47	102	ePn	Pn	19 08 53.0	+0.4
BANOM	Banah	2.47	102	P	Pn	19 08 53.1	+0.5
	SNR=14						
GENO	Geno	2.47	67	ePn	Pn	19 08 53.2	+0.4
MASF	Masafi	2.53	114	P	Pn	19 08 54.2	+0.7
MSFE	Esma-Masafi	2.54	115	ePn	Pn	19 08 53.9	+0.4
GHWR	Ruwais	2.56	195	ePn	Pn	19 08 54.2	+0.4
MDH	Madha	2.68	115	ePn	Pn	19 08 56.0	+0.6
MDH	Madha	2.68	115	P	Pn	19 08 55.3	-0.1
TRNA	Turayna	2.76	232	P	Pn	19 08 57.5	+1.0
TRNA				S	Sn	19 09 30.4	+0.6
UOSS	Minazif	2.78	122	ePn	Pn	19 08 56.9	+0.1
UOSS	Minazif	2.78	122	P	Pn	19 08 57.5	+0.7
HATD	Hatta, Dubai	2.79	125	ePn	Pn	19 08 58.0	+1.0
HATD	Hatta, Dubai	2.79	125	P	Pn	19 08 58.3	+1.3
IBND	Bandar-abas	2.80	68	ePn	Pn	19 08 58.2	+1.1
ASHO	Ashiyiah	2.82	128	ePn	Pn	19 08 58.5	+1.0
ASHO	Ashiyiah	2.82	128	P	Pn	19 08 58.6	+1.2
	SNR=17						
ALNE	Al Ain	3.07	140	ePn	Pn	19 09 01.6	+0.8
SOHO	SOHO	3.51	130	ePn	Pn	19 09 07.6	+0.8
SOHO	SOHO	3.51	130	P	Pn	19 09 07.1	+0.3
UMZA	Um Al Zommool	3.98	159	ePn	Pn	19 09 14.7	+1.4
UMZA	Um Al Zommool	3.98	159	P	Pn	19 09 14.6	+1.3
NGRK	Negar Kerman	4.21	40	ePn	Pn	19 09 18.6	+1.7
NGRK				e		19 09 25.4	
	comp=Z,519nm,0.2s						
TVBK	TV Kerman	4.49	38	ePn	Pn	19 09 22.7	+2.0
TVBK				e		19 09 29.9	
	comp=Z,930nm,0.2s						
KHGB	Koh Gabri	4.66	32	ePn	Pn	19 09 25.3	+2.4
KHGB				e		19 10 30.3	
	comp=Z,330nm,0.6s						
CHMN	Cheshme madani	4.86	45	ePn	Pn	19 09 28.7	+3.0
CHMN				e		19 09 30.0	
	comp=Z,968nm,0.3s						
IMEH	Mehriz	5.00	10	ePn	Pn	19 09 30.5	+2.9
ISAD	Sadrabad	5.45	1	ePn	Pn	19 09 35.6	+1.8
WSAR	Wadi Sarin	5.57	124	Pn	Pn	19 09 35.7	+0.5
	comp=Z,0.4nm,0.3s,baz=318,slow=8.9,SNR=11						
WSAR				Sn	Sn	19 10 37.6	-1.6
	comp=Z,1.3nm,0.3s,baz=78,slow=22,SNR=5.7						
IPIR	Pirpir	6.65	340	ePn	Pn	19 09 53.0	+2.7
SRVN	Saravan	7.90	81	ePn	Pn	19 10 09.0	+1.6
GEYT	Alibeck	12.06	17	LR	LR	19 16 42.9	
	comp=Z

VA01 IAML 19 10 41.8
comp=E,4μm,0.3s
VA01 Torpederas 1.59 234 Pn 19 10 14.7 -0.2
LMEL Las Melosas 1.74 183 ⇑*i*P Pn 19 10 18.1 +1.2
LMEL *e*S Sn 19 10 41.5 +2.1
LMEL IAML 19 10 46.9
comp=N,4μm,0.3s
ACCO Cerro Coronel 1.75 31 *e*P Pn 19 10 18.0 +0.8
ACCO *e*S Sn 19 10 35.0 -4.8
MT09 Talagante 1.83 204 ⇑*i*P Pn 19 10 17.9 -0.1
MT09 *i*S Sn 19 10 41.6 +0.4
MT09 IAML 19 10 45.4
comp=E,4μm,0.3s
MT09 Talagante 1.83 204 Pn 19 10 17.9 -0.1
CO06 Fray Jorge 1.93 317 *e*P Pn 19 10 19.1 -0.1
CO06 *i*S Sn 19 10 41.7 -1.6
CO06 IAML 19 10 52.4
comp=N,2μm,0.5s
AROD Rodeo 2.00 16 *e*P Pn 19 10 21.8 +1.4
AROD *e*S Sn 19 10 47.9 +2.4
MT01 Popeta 2.00 208 ⇑*i*P Pn 19 10 19.7 -0.4
MT01 *i*S Sn 19 10 44.4 -0.6
MT01 IAML 19 10 51.3
comp=N,2μm,0.6s
MT01 Popeta 2.00 208 Pn 19 10 19.6 -0.4
VA05 Santo Domingo 2.00 219 *e*P Pn 19 10 19.7 -0.3
VA05 *i*S Sn 19 10 44.7 -0.2
VA05 Santo Domingo 2.00 219 Pn 19 10 20.0 0.0
GO04 Tololo Observa 2.01 343 *e*P Pn 19 10 20.3 -0.1
GO04 *i*S Sn 19 10 45.8 +0.3
GO04 Tololo Observa 2.01 343 Pn 19 10 20.8 +0.4
GO04 Tololo Observa 2.01 343 *e*P Pn 19 10 21.0 +0.6
GO04 *e*S Sn 19 10 47.0 +1.4
ACDV Cuesta del Vie 2.10 24 *e*P Pn 19 10 22.9 +1.4
ACDV *e*S Sn 19 10 49.3 +1.7
ACDV IAML 19 10 50.8
comp=Z,1μm,1.3s
CO05 La Serena 2.38 336 *e*P Pn 19 10 25.1 +0.1
CO05 *e*S Sn 19 10 52.9 -0.9
CO05 IAML 19 10 55.4
comp=E,2μm,0.2s
BO01 Tunca 2.43 199 ⇑*i*P Pn 19 10 25.2 -0.4
BO01 Tunca 2.43 199 Pn 19 10 25.2 -0.4
BO02 Sierra Bellavi 2.74 192 *e*P Pn 19 10 30.0 +0.2
BO02 Sierra Bellavi 2.74 192 Pn 19 10 30.0 +0.2
BO02 Sierra Bellavi 2.74 192 *e*P Pn 19 10 30.2 +0.4
BO02 IAML 19 11 07.8
comp=Z,1μm,0.8s
BO03 Pichilemu 2.85 212 *e*P Pn 19 10 29.6 -1.5
BO03 IAML 19 11 14.5
comp=N,957nm,0.5s
LAMA Las Malvinas 2.92 165 *e*P Pn 19 10 33.2 +1.1
RFA San Rafael 3.00 153 *e*P Pn 19 10 33.4 +0.2
LCO Las Campanas 3.12 350 ⇑*i*P Pn 19 10 35.1 0.0
LCO *i*S Sn 19 11 10.4 -1.4
LCO Las Campanas 3.12 350 Pn Pn 19 10 35.3 +0.2
GO05 Huala 3.27 207 *e*P Pn 19 10 35.1 -1.8
GO05 *e*S Sn 19 11 13.0 -2.1
GO05 Huala 3.27 207 Pn 19 10 35.1 -1.8
GO05 Huala 3.27 207 *e*P Pn 19 10 35.2 -1.7
PUMA Malargue 3.43 171 *e*P Pn 19 10 35.0 -3.9
VCA Vinchina 3.73 27 *e*P Pn 19 10 44.0 +0.8
VCA *e*S Sn 19 11 27.0 +0.7
VCA IAML 19 11 32.5
comp=Z,975nm,0.4s
ACLC CERRO LA CRUZ 3.81 46 *e*P Pn 19 10 43.7 -0.5
ACLC *e*S Sn 19 11 30.2 +2.1
ACLC IAML 19 11 32.0
comp=Z,1μm,1.3s
ML02 Panimavida 3.81 196 Pn 19 10 43.0 -1.0
AC04 Llanos de Chal 3.97 348 *e*P Pn 19 10 46.2 -0.1
AC04 Llanos de Chal 3.97 348 Pn Pn 19 10 46.1 -0.1
GO03 Copiap 4.49 359 *e*P Pn 19 10 53.3 -0.1
GO03 Copiap 4.49 359 Pn 19 10 52.5 -0.9
BI02 San Fabin de 4.65 192 *e*P Pn 19 10 54.7 -0.7
BI02 San Fabin de 4.65 192 Pn Pn 19 10 54.7 -0.7
CYA Choya 5.21 47 *e*P Pn 19 11 01.3 -1.8
CYA *e*S Sn 19 11 59.8 -2.1
CYA IAML 19 12 44.2
comp=Z,319nm,0.7s
AC02 Maricunga 5.32 10 Pn Pn 19 11 04.7 -0.2
GO02 Mina Guanaco 6.93 4 Pn 19 11 24.0 -2.6
LC01 Cunco 6.93 191 Pn Pn 19 11 24.8 -1.5
FSA Cafayete 6.98 32 *e*P Pn 19 11 20.0 -7.1
PB14 IPOC Station P 7.45 358 Pn Pn 19 11 30.1 -3.7
H03N1 Juan Fernandez 7.53 257 P Pn 19 11 36.0 +1.7
baz=121,slow=19,SNR=12
H03N1 T T 19 18 31.9
baz=81,slow=73,SNR=181
H03N3 Juan Fernandez 7.54 257 P Pn 19 11 35.9 +1.4
baz=121,slow=19,SNR=9.3
H03N3 T T 19 18 32.9
baz=81,slow=73,SNR=180
H03N2 Juan Fernandez 7.55 257 P Pn 19 11 36.2 +1.7
baz=121,slow=19,SNR=9.2
H03N2 T T 19 18 26.4
baz=81,slow=73,SNR=152
H03S1 Juan Fernandez 7.59 254 P Pn 19 11 33.6 -1.5
H03S1 T T 19 18 14.0
baz=84,slow=75,SNR=34
H03S3 Juan Fernandez 7.59 255 T T 19 18 20.1
baz=84,slow=75,SNR=32
H03S2 Juan Fernandez 7.61 254 T T 19 18 15.9
baz=84,slow=75,SNR=38
PB10 IPOC Station P 8.56 357 Pn Pn 19 11 45.4 -3.2
PLCA Paso Flores 8.62 182 P Pn 19 11 48.6 -0.8
comp=Z,0.5nm,0.3s,baz=355,slow=9.4,SNR=10
PLCA Paso Flores 8.62 182 Pn Pn 19 11 47.4 -1.9
TRQA Tornquist 8.93 134 Pn 19 11 51.7 -1.7
TRQA Tornquist 8.93 134 *e*P Pn 19 11 52.4 -1.0
PB06 IPOC Station P 9.37 3 Pn 19 11 56.2 -3.5
LVC Limon Verde 9.51 7 P Pn 19 11 57.9 -3.9
comp=Z,2.5nm,0.3s,baz=179,slow=8,2,SNR=13
LVC S Sn 19 13 51.6 +4.5
comp=Z,1.4nm,0.3s,baz=284,slow=12,SNR=1.3
LVC LR LR 19 16 05.7
comp=Z,79nm,19.4s,baz=210,slow=40
LVC Limon Verde 9.51 7 Pn Pn 19 11 57.5 -4.3
PB09 IPOC Station P 10.29 5 Pn Pn 19 12 09.0 -3.2
PB11 IPOC Station P 12.29 2 Pn Pn 19 12 35.4 -3.8
CPUP Villa Florida 12.55 66 P Pn 19 12 38.4 -4.0
comp=Z,0.7nm,0.3s,baz=241,slow=13,SNR=8.8
CPUP S Sn 19 15 03.9 +3.6
comp=Z,0.4nm,0.3s,baz=122,slow=15,SNR=1.2
CPUP LR LR 19 17 54.5
comp=Z,40nm,19.9s,baz=180,slow=39
CPUP Villa Florida 12.55 66 Pn Pn 19 12 38.0 -4.4
COYC Coyhaique 13.54 186 Pn Pn 19 12 57.3 +2.2
PLTB Pedras Altas 14.03 93 Pn Pn 19 12 57.6 -3.9
LPAZ La Paz 15.85 7 P Pn 19 13 25.6 +0.3
comp=Z,0.5nm,0.3s,baz=183,slow=7.1,SNR=31
LPAZ La Paz 15.85 7 Pn 19 13 25.5 +0.2
ITAB Concordia 16.36 77 Pn 19 13 30.5 -0.5
ITAB Concordia 16.36 77 *e*P P 19 13 32.1 +0.1
AQDB Aquidauana 17.33 52 P 19 13 41.3 -1.5
AQDB Aquidauana 17.33 52 *e*P P 19 13 41.5 -1.4
SIV San Ignacio 18.02 29 P P 19 13 49.5 -1.0
comp=Z,1.9nm,0.3s,baz=218,slow=11,SNR=35
TRCB Terra Rica 18.05 63 P P 19 13 49.3 -1.5
TRCB IAmb IAmb 19 13 52.5
comp=Z,46nm,0.9s
TRCB Terra Rica 18.05 63 *e*P P 19 13 50.0 -0.8
TER01 Tubaro-SC 18.46 84 *e*P P 19 13 55.4 +0.2
GO09 Cerro Castillo 19.23 184 P P 19 14 04.1 +0.8
PTLB Pontes e Lacer 19.36 34 *e*P P 19 14 05.6 +0.5
TIJ01 Guaruva-PR 19.69 75 *e*P P 19 14 05.7 -3.0
PCMB Pacaembu 19.77 63 *e*P P 19 14 09.0 -0.5
PP1B Ponte de Pedra 19.95 47 *e*P P 19 14 11.0 -0.5
FRTB Fartura 20.15 69 *e*P P 19 14 12.5 -1.1
SALV Santo Antonio 20.78 42 *e*P P 19 14 19.7 -0.8
VILB Vilhena 21.12 28 *e*P P 19 14 23.5 -0.6
PET01 Itanhaem-SP 21.55 75 *e*P P 19 14 27.9 -0.8
ITRB Itauma 21.59 60 *e*P P 19 14 27.8 -1.3
SPB Sao Paulo 21.74 73 *e*P P 19 14 30.0 -0.6
BB19B Bebedouro 22.17 66 *e*P P 19 14 33.4 -1.8
RCLB Rio Claro- Sao 22.23 70 *e*P P 19 14 35.5 -0.4
VAO Valinhos 22.39 72 *e*P P 19 14 36.5 -1.1
ETMB Extrema 22.47 10 *e*P P 19 14 38.5 +0.2
ARAG Araguaiana, MT 23.31 50 *e*P P 19 14 44.5 -2.0
PARB Paraibuna 23.33 74 *e*P P 19 14 45.6 -1.2
SAML Samuel 23.92 17 P P 19 14 51.4 -0.6
SAML IAmb IAmb 19 14 53.4
comp=Z,10nm,0.6s
SAML Samuel 23.92 17 *e*P P 19 14 52.1 +0.1
IPMB Ipameri, GO 24.25 60 *e*P P 19 14 53.4 -1.6
CZSB Cruzeiro do Su 24.37 354 *e*P P 19 14 58.6 +2.5
CLDB Colider 24.92 35 *e*P P 19 15 00.7 -0.4
BSCB Bom Sucesso 25.16 70 *e*P P 19 15 01.7 -1.6
VAS01 Vassouras-RJ 25.60 74 *e*P P 19 15 06.5 -0.8
BDFB Brasilia 25.93 56 P P 19 15 09.0 -1.4
comp=Z,17nm,0.7s,baz=225,slow=7.7,SNR=21
BDFB Brasilia 25.93 56 P P 19 15 09.0 -1.4
BDFB IAmb IAmb 19 15 10.6
comp=Z,31nm,1.2s
SNDB Serra Nova Dou 26.48 45 *e*P P 19 15 14.4 -0.8
DIAM Diamantina, MG 27.50 66 *e*P P 19 15 23.3 -1.2
MC01 Montes Claros 28.23 63 *e*P P 19 15 29.6 -1.4
PEXB Peixe 28.25 50 *e*P P 19 15 29.7 -1.4
NPGB Novo Progresso 28.47 32 *e*P P 19 15 31.0 -2.0
JANB Januaria 28.98 60 *e*P P 19 15 36.5 -1.2
SJMB Sao Joao De Ma 29.23 70 *e*P P 19 15 38.5 -1.2
BSFB Barra de Sao F 29.43 70 *e*P P 19 15 40.3 -1.3
MACA Manacapuru-AM 30.12 19 *e*P P 19 15 47.3 -0.3
SDBA SAO DESIDERIO 30.33 55 *e*P P 19 15 48.9 -0.7
NAN01 Guarapari, ES 30.54 70 *e*P P 19 15 50.1 -1.2
SMTB Santa Maria do 31.16 47 *e*P P 19 15 56.2 -0.7
GUA01 Guaratinga, BA 31.50 68 *e*P P 19 15 58.6 -1.2
PRPB Parauapebas 32.01 41 *e*P P 19 16 03.5 -0.8
CMC01 Camacan, BA 32.43 66 *e*P P 19 16 07.1 -0.9
NBIT Itapeh - BA 32.75 66 *e*P P 19 16 10.2 -0.6
PMSA Palmer Station 32.91 175 P P 19 16 13.1 +1.5
comp=Z,6.0nm,0.8s,baz=343,slow=6.4,SNR=6.1
PMSA Palmer Station 32.91 175 P P 19 16 12.6 +1.0
PMSA IAmb IAmb 19 16 13.8
comp=Z,7.0nm,0.8s
PMSA Palmer Station 32.91 175 *e*P P 19 16 13.4 +1.8
GDU01 Guandu, BA 33.38 64 *e*P P 19 16 14.9 -1.3
MALB Monte Alegre 33.59 30 *e*P P 19 16 17.2 -0.8
NBPN Ponto Novo - B 34.76 59 *e*P P 19 16 26.9 -1.2
BOAV Boa Vista 35.49 17 *e*P P 19 16 34.1 -0.3
MCPB Macapa, AP 35.88 32 *e*P P 19 16 37.2 -0.5
TMAB Tom-Au,PA,Br 36.11 39 *e*P P 19 16 38.5 -1.2
RUSC La Rusia 37.89 355 P P 19 16 56.1 +0.8
NBPS Pedro II - PI 38.48 50 *e*P P 19 16 58.9 -1.0
NBPB Pedra_Branca-C 38.88 54 *e*P P 19 17 02.2 -0.9
NBCL Cascavel-CE 40.72 54 *e*P P 19 17 17.7 -0.6
NBPV Pedro Velho 41.31 59 *e*P P 19 17 21.4 -1.8
VNA1 Neumayer--Stat 50.80 158 P P 19 18 36.3 -0.5
VNA2 Neumayer--Watz 51.15 158 P P 19 18 39.3 -0.2
SNAA Sanae 52.74 158 P P 19 18 51.8 +0.5
SNAA Sanae 52.74 158 P P 19 18 51.9 +0.5
comp=Z,11nm,0.6s,baz=278,slow=5.5,SNR=12
SNAA Sanae 52.74 158 P P 19 18 51.6 +0.2
QSPA South Pole Qui 58.13 180 P P 19 19 31.0 +0.8
VNDA Vanda 66.27 191 P P 19 20 25.5 +1.4
comp=Z,0.7nm,0.7s,baz=111,slow=8.0,SNR=2.6
VBMS Vicksburg 66.82 341 P P 19 20 28.9 +0.8
435B Jarrell 67.75 335 P P 19 20 35.2 +1.1
JCT Junction City 68.31 333 P P 19 20 38.6 +0.9
JCT IAmb IAmb 19 20 39.6
comp=Z,9.2nm,0.9s
V53A Saluda 68.46 349 P P 19 20 38.8 +0.3
V53A IAmb IAmb 19 20 39.3
comp=Z,4.2nm,0.8s
CPCT Cooper Cave 68.54 347 P P 19 20 39.5 +0.5
CPCT IAmb IAmb 19 20 40.2
comp=Z,4.0nm,0.8s
SWET Sewanee 68.59 346 P P 19 20 39.6 +0.4
OXF Oxford 68.70 343 P P 19 20 40.4 +0.4
TXAR Lajitas Array 68.91 329 P P 19 20 42.6 +1.1
comp=Z,1.7nm,0.6s,baz=154,slow=8.6,SNR=30
TXAR Lajitas Array 68.91 329 P P 19 20 42.5 +1.0
TX32 Lajitas Array 68.91 329 P P 19 20 42.7 +1.2
V48A Smith Brothers 69.28 346 P P 19 20 43.9 +0.4
V48A IAmb IAmb 19 20 44.6
comp=Z,8.1nm,0.8s
WVT Waverly 69.88 345 P P 19 20 47.2 +0.1
ABTX Abilene, Hawle 70.16 334 P P 19 20 49.3 +0.3
ABTX IAmb IAmb 19 20 50.7
comp=Z,6.7nm,0.8s
W39A Magazine 70.54 340 P P 19 20 52.2 +1.1
W39A IAmb IAmb 19 20 53.2
comp=Z,9.0nm,0.8s
LCAR Lake Charles 70.62 342 P P 19 20 52.0 +0.3
LCAR IAmb IAmb 19 20 52.7
comp=Z,7.6nm,0.6s
MNTX Cornudas Mount 71.69 329 P P 19 20 58.1 -0.1
MNTX IAmb IAmb 19 20 59.1
comp=Z,4.0nm,0.8s
CCM Cathedral Cave 72.53 343 P P 19 21 03.4 +0.3
CCM IAmb IAmb 19 21 04.3
comp=Z,10nm,1.0s
MSTX Muleshoe 72.56 332 P P 19 21 03.8 +0.3
MSTX IAmb IAmb 19 21 05.4
comp=Z,9.0nm,0.8s
AMTX Amarillo 72.94 333 P P 19 21 05.7 0.0
AMTX IAmb IAmb 19 21 07.4
comp=Z,5.6nm,0.8s
R40A Maddies Statio 73.01 342 P P 19 21 06.1 +0.2
319A Douglas 73.22 326 P P 19 21 08.5 +1.0
319A IAmb IAmb 19 21 10.2
comp=Z,8.2nm,0.8s
121A Cookes Peak, D 73.48 327 P P 19 21 10.3 +1.3
121A IAmb IAmb 19 21 11.9
comp=Z,7.0nm,0.8s
P40A Paris 74.12 343 P P 19 21 12.8 +0.4
SUR Sutherland 74.32 119 P P 19 21 14.0 -0.3
SUR IAmb IAmb 19 21 34.3
comp=Z,13nm,1.0s
LENM Lemitar 74.49 329 P P 19 21 16.5 +1.6
MAW Mawson 74.53 163 P P 19 21 14.8 +0.3
comp=Z,3.9nm,0.8s,baz=195,slow=6.2,SNR=9.1
MAW Mawson 74.53 163 P P 19 21 15.1 +0.6
ANMO Albuquerque 74.93 330 P P 19 21 19.1 +1.6
214A Organ Pipe Nat 75.42 323 P P 19 21 21.1 +0.9
T25A Trinidad 75.97 332 P P 19 21 24.8 +1.4
T25A IAmb IAmb 19 21 26.0
comp=Z,9.5nm,0.9s
L40A Anamosa 76.31 344 P P 19 21 25.0 +0.1
EMMW East Machias 76.48 2 P P 19 21 27.1 +1.4
EMMW IAmb IAmb 19 21 40.6
comp=Z,15nm,1.3s
X16A Lo Mia Camp, P 76.74 326 P P 19 21 29.1 +1.3
X16A IAmb IAmb 19 21 31.0
comp=Z,5.8nm,1.0s
GGN Saint George 76.91 2 P P 19 21 29.4 +1.2
SDCO Great Sand Dun 76.93 332 P P 19 21 29.9 +1.0
G62A West of Eustis 76.95 360 P P 19 21 29.9 +1.4
G62A IAmb IAmb 19 21 59.0
comp=Z,7.9nm,1.1s
E63A Oxbow 78.17 1 P P 19 21 36.2 +1.1
E63A IAmb IAmb 19 22 04.9
comp=Z,8.3nm,1.1s
E62A Clayton Lake 78.36 0 P P 19 21 37.0 +0.7
E62A IAmb IAmb 19 22 06.0
comp=Z,7.0nm,1.1s
KOWA Kowa 78.37 65 P P 19 21 36.1 -0.9
PV13 Radium Mtn., P 78.66 330 P P 19 21 39.5 +1.2
PV13 IAmb IAmb 19 21 40.5
comp=Z,5.1nm,0.9s
RAR Rarotonga 78.76 252 LR LR 19 49 27.9
comp=Z,64nm,21.9s,baz=222,slow=30
D62A Allapoint, All 78.82 1 P P 19 21 39.1 +0.4
D62A IAmb IAmb 19 21 40.6
comp=Z,5.4nm,0.9s
ECSD EROS Data Cent 79.27 341 P P 19 21 41.7 +0.4
ECSD IAmb IAmb 19 21 42.4
comp=Z,5.7nm,0.8s
BOSA Boshof 79.50 117 P P 19 21 42.5 -0.8
comp=Z,1.8nm,0.7s,baz=190,slow=6.1,SNR=3.3
BOSA pP **pP** 19 22 11.2 +0.3
comp=Z,3.0nm,0.9s,baz=176,slow=3.5,SNR=2.2
BOSA Boshof 79.50 117 P P 19 21 42.5 -0.8
BOSA IAmb IAmb 19 21 49.5
comp=Z,19nm,1.5s
KNB Kanab 79.51 326 P P 19 21 43.8 +0.9
KNB IAmb IAmb 19 21 45.8
comp=Z,5.9nm,1.0s
MTPU Mount Pierson 80.05 328 P P 19 21 47.1 +1.0
CCUT Cedar City 80.19 326 P P 19 21 48.4 +1.7
MVU Marysvale 80.43 328 P P 19 21 49.9 +1.9
MVU IAmb IAmb 19 21 50.9
comp=Z,7.8nm,0.9s
P17A Butcher Ranch, 80.58 329 P P 19 21 49.7 +1.1
PRN Pahroc Range 80.88 325 P P 19 21 51.9 +1.6
PSUT Pine Spring 81.21 327 P P 19 21 53.6 +1.5
LBTB Lobatse 81.61 114 P P 19 21 53.6 -1.0
LBTB IAmb IAmb 19 22 20.8
comp=Z,14nm,1.4s
CASY Casey 81.93 180 P P 19 21 56.4 +1.1
CASY IAmb IAmb 19 21 57.2
comp=Z,8.2nm,0.8s
TORD Torodi Ar. Bea 82.03 69 P P 19 21 56.8 +0.1
comp=Z,0.9nm,0.6s,baz=279,slow=7.3,SNR=5.2
TORD pP **pP** 19 22 24.3 +0.6
comp=Z,1.2nm,0.6s,baz=255,slow=4.9,SNR=4.1
TORD sP **sP** 19 22 33.6 -1.3
comp=Z,3.7nm,0.9s,baz=308,slow=1.4,SNR=7.7
TORD Torodi Ar. Bea 82.03 69 P P 19 21 56.2 -0.5
PDAR Pinedale Array 82.83 332 P P 19 22 00.9 +0.4
comp=Z,0.9nm,0.7s,baz=177,slow=2.5,SNR=4.9
PDAR Pinedale Array 82.83 332 P P 19 22 00.7 +0.2
LHV Little Huntoon 83.24 324 P P 19 22 04.1 +1.7
NVAR Mina Array Bea 83.28 324 P P 19 22 04.5 +1.6
comp=Z,1.3nm,0.7s,baz=154,slow=5.6,SNR=9.6
NVAR Mina Array Bea 83.28 324 P P 19 22 03.7 +0.8
ELK Elko 83.62 327 P P 19 22 05.4 +0.7
ULM Lac du Bonnet 85.11 344 P P 19 22 11.0 -0.6
comp=Z,1.3nm,0.7s,baz=146,slow=7.3,SNR=3.6
HLID Hailey 85.51 329 P P 19 22 14.6 +0.6
MCMT McKenzie Canyo 85.87 331 P P 19 22 16.9 +1.1
J08A Circle Bar Ran 87.16 327 P P 19 22 23.4 +1.4
PINE Pine Mountain 88.65 326 P P 19 22 30.5 +1.3
PINE IAmb IAmb 19 22 31.6
comp=Z,4.9nm,0.8s
ASAR Alice Springs 119.98 206 PKP **PKPdf** 19 28 25.4 -1.2
comp=Z,0.6nm,0.8s,baz=128,slow=1.4,SNR=3.0
FINES FINESS Array B 120.51 34 PKP **PKiKP** 19 28 26.4 0.0
comp=Z,0.4nm,0.4s,baz=236,slow=0.7,SNR=7.5
FINES FINESS Array B 120.51 34 PKPdf **PKPdf** 19 28 26.0 -0.3
ARCES ARCESS Array B 121.62 24 PKP **PKPdf** 19 28 28.1 -0.1
comp=Z,1.3nm,0.9s,baz=248,slow=4.8,SNR=1.6
WRA Warramunga Arr 123.20 208 PKP **PKPdf** 19 28 32.3 -0.6
comp=Z,1.2nm,0.6s,baz=162,slow=1.6,SNR=24
NRIK Noril'sk 140.63 12 PKhKP PKPpre 19 28 56.8
comp=Z,4.5nm,0.7s,baz=202,slow=3.7,SNR=3.9
BVAR Borovoye Array 144.79 42 PKP **PKPdf** 19 29 12.2 +0.4
comp=Z,1.2nm,0.6s,baz=213,slow=11,SNR=3.8
YAK Yakutsk 147.45 343 PKPbc **PKPbc** 19 29 18.9 +0.3
comp=Z,6.0nm,0.6s,baz=204,slow=1.1,SNR=12
KURBB Kurchatov Arra 150.38 42 PKPbc **PKiKP** 19 29 27.1 -0.1
comp=Z,4.9nm,0.6s,baz=302,slow=3.0,SNR=30
KURBB pPKPbc **pPKPbc** 19 29 56.3 +1.1
comp=Z,1.6nm,0.9s,baz=298,slow=3.1,SNR=3.6
ZALV Zalesovo Beam 151.76 32 PKPbc **PKiKP** 19 29 30.0 +0.1
comp=Z,9.2nm,0.4s,baz=313,slow=3.0,SNR=32
ZALV pPKPbc **pPKPbc** 19 29 58.7 -0.1
comp=Z,3.2nm,0.7s,baz=261,slow=3.0,SNR=2.9
MKAR Makanchi Array 154.29 47 PKPbc **PKPbc** 19 29 35.3 -0.1
comp=Z,1.3nm,1.0s,baz=318,slow=4.1,SNR=3.7
MJAR Matsushiro Arr 156.24 289 PKPab **PKPab** 19 29 58.9 +0.3
comp=Z,1.5nm,0.8s,baz=103,slow=2.1,SNR=6.6
SONM Songino Array 164.06 9 PKPab **PKPab** 19 30 33.1 +0.9
comp=Z,0.1nm,0.6s,baz=303,slow=4.3,SNR=4.3

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*SOME **25** 19:12:20.0,42°.22N×83°.93E,h15km*
*NNC **25** 19:12:23.1±1.8,42°.29N×83°.78E,h0km,mb3.7,mpv3.3,*
Error ellipse: s-maj=14.3km s-min=8.2km az=153.0
ISC 25 19:12:16.8±2.7,42°.2N±0°.1×83°.97E±0°.09,h10km,n30,
σ1§71/43,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 2.6nm,0.2s	**3.46**	**288**	*e*P		**Pb**	**Pb**	**19 13 17.5**	**-0.8**
SHLS	33nm,0.3s			*e*S			**Sb**	**19 13 59.3**	**-1.2**
SHLS	**Shalkode** 2.6nm,0.2s	**3.46**	**288**	Pg		**Pb**	**Pb**	**19 13 17.5**	**-0.8**
SHLS	33nm,0.3s			Lg		Lg	Lg	19 13 59.3	
PDGK	**Podgornoye** 7.2nm,0.2s	**3.49**	**291**	Pg		**Pg**	**Pg**	**19 13 22.0**	**-1.7**
PDGK				Lg		Lg	Lg	19 14 07.0	
PDGK	**Podgornoye** 1.4nm,0.5s	**3.49**	**291**	⇓Pg		**Pg**	**Pg**	**19 13 23.9**	**+0.2**
PDGK	7.4nm,0.4s			⇑Lg		Lg	Lg	19 14 07.2	
DJR	**Jarkent** 0.9nm,0.1s	**3.73**	**307**	*e*P		**Pg**	**Pg**	**19 13 27.8**	**-0.5**
DJR	2.6nm,0.2s			*e*S			**Sg**	**19 14 17.2**	**+0.5**
DJR	**Jarkent** 0.9nm,0.1s	**3.73**	**307**	Pg		**Pg**	**Pg**	**19 13 27.8**	**-0.5**
DJR	2.6nm,0.2s			Lg		Lg	Lg	19 14 17.2	
UZB	**Uzynbulak** 1.9nm,0.2s	**3.77**	**286**	*e*P		**Pg**	**Pg**	**19 13 27.6**	**-1.5**
UZB	16nm,0.5s			*e*S			**Sg**	**19 14 16.4**	**-1.6**
UZB	**Uzynbulak** 1.9nm,0.2s	**3.77**	**286**	Pg		**Pg**	**Pg**	**19 13 27.6**	**-1.5**
UZB	16nm,0.5s			Lg		Lg	Lg	19 14 16.4	
KPKS	**Kokpek** 2.3nm,0.1s	**4.09**	**290**	*e*P		**Pg**	**Pg**	**19 13 33.8**	**-1.4**
KPKS	18nm,0.2s			*e*S			**Sg**	**19 14 26.9**	**-1.4**
SATY	**Saty** 1.4nm,0.1s	**4.20**	**284**	*e*P		**Pg**	**Pg**	**19 13 35.4**	**-1.8**
SATY	7.7nm,0.3s			*e*S			**Sg**	**19 14 29.8**	**-1.8**
SATY	**Saty** 1.4nm,0.1s	**4.20**	**284**	Pg		**Pg**	**Pg**	**19 13 35.4**	**-1.8**
SATY	7.7nm,0.3s			Lg		Lg	Lg	19 14 29.8	
KAPS	**Kapalarasan** 2.8nm,0.3s	**4.56**	**314**	*e*P		**Pg**	**Pg**	**19 13 42.0**	**-2.1**
KAPS	2.9nm,0.3s			*e*S			**Sg**	**19 14 41.0**	**-2.2**
KAPS	**Kapalarasan** 2.8nm,0.3s	**4.56**	**314**	Pg		**Pg**	**Pg**	**19 13 42.0**	**-2.1**
KAPS	2.9nm,0.3s			Lg		Lg	Lg	19 14 40.9	
MK31	**Makanchi Array** 0.6nm,0.7s,baz=153,slow=14,SNR=8.5	**4.77**	**346**	Pg		**Pg**	**Pg**	**19 13 48.0**	**0.0**
MK31	0.8nm,0.5s,baz=140,slow=20,SNR=3.6			⇑Lg		Lg	Lg	19 14 50.6	
MDOK	**Medeo** 2.3nm,0.4s	**5.20**	**283**	*e*P		**Pg**	**Pg**	**19 13 53.8**	**-2.5**
MDOK	5.9nm,0.4s			*e*S			**Sg**	**19 15 01.5**	**-2.2**
MDOK	**Medeo** 2.3nm,0.4s	**5.20**	**283**	Pg		**Pg**	**Pg**	**19 13 53.8**	**-2.5**
MDOK	5.9nm,0.4s			Lg		Lg	Lg	19 15 01.5	
TNSS	**Tian-Shan** 3.3nm,0.7s	**5.25**	**282**	Pg		**Pg**	**Pg**	**19 13 58.2**	**+0.8**
TNSS	8.1nm,0.5s			Lg		Lg	Lg	19 15 09.0	
ZSN	**Zaisan** 3.4nm,0.5s	**5.31**	**7**	*e*P		**Pg**	**Pg**	**19 13 57.6**	**-0.8**
ZSN	4.6nm,0.4s			*e*S			**Sg**	**19 15 07.8**	**+0.7**
ZSN	**Zaisan** 3.4nm,0.5s	**5.31**	**7**	Pg		**Pg**	**Pg**	**19 13 57.6**	**-0.8**
ZSN	4.6nm,0.4s			Lg		Lg	Lg	19 15 07.8	
KTBS	**Karatobe** 1.9nm,0.5s	**5.56**	**288**	*e*P		**Pg**	**Pg**	**19 14 03.7**	**+0.4**
KTBS	5.3nm,0.4s			*e*S			**Sg**	**19 15 18.4**	**+3.0**
KTBS	**Karatobe** 1.9nm,0.5s	**5.56**	**288**	Pg		**Pg**	**Pg**	**19 14 03.7**	**+0.4**
KTBS	5.3nm,0.4s			Lg		Lg	Lg	19 15 18.4	
KUU	**Kurty** 1.4nm,0.4s	**5.85**	**290**	*e*P		**Pg**	**Pg**	**19 14 08.4**	**-0.3**
KUU	3.4nm,0.1s			*e*S			**Sg**	**19 15 26.3**	**+1.8**
KUU	**Kurty** 1.4nm,0.4s	**5.85**	**290**	Pg		**Pg**	**Pg**	**19 14 08.4**	**-0.3**
KUU	3.4nm,0.1s			Lg		Lg	Lg	19 15 26.3	
KST	**Kastek** 3.5nm,0.3s	**5.97**	**281**	*e*P		**Pg**	**Pg**	**19 14 09.9**	**-1.2**
KST	5.9nm,0.5s			*e*S			**Sg**	**19 15 28.8**	**+0.4**
KST	**Kastek** 3.5nm,0.3s	**5.97**	**281**	Pg		**Pg**	**Pg**	**19 14 09.9**	**-1.2**
KST	5.9nm,0.5s			Lg		Lg	Lg	19 15 28.8	

DGS	Degeres	6.13	283	eP		Pg	19 14 13.7	-0.5
	1.7nm,0.2s							
DGS				eS		Sg	19 15 35.6	+2.1
	4.2nm,0.3s							
DGS	Degeres	6.13	283	Pg		Pg	19 14 13.7	-0.5
	1.7nm,0.2s							
DGS				Lg		Lg	19 15 35.7	
	4.2nm,0.3s							
TKM2	Tokmak 2	6.23	280	⇓Sn		Sn	19 15 05.9	+5.6
	2.8nm,0.9s							
TKM2				⇑Lg		Lg	19 15 36.8	
	4.7nm,0.8s							
KRBS	Karabastau	6.27	287	eP		Pg	19 14 16.6	-0.3
	0.6nm,0.4s							
KRBS				eS		Sg	19 15 40.1	+2.0
	2.6nm,0.3s							
KRBS	Karabastau	6.27	287	Pg		Pg	19 14 16.6	-0.3
	0.6nm,0.4s							
KRBS				Lg		Lg	19 15 40.1	
	2.6nm,0.3s							

*IDC **25** 19:24:13.8±2.6,36°.39N×71°.22E,h239km±25km,mb3.4/13, mb1 3.5/20,mb1mx3.3/54,mbtmp4.1/20,Error ellipse: s-maj=18.8km s-min=13.9km az=173.0*
*NEIC **25** 19:24:14.7±1.1,36°.52N±0°.07×71°.2E±0°.1,h242km±6km, mb4.1/13,Error ellipse: s-maj=12.3km s-min=9.7km az=78.0*
*NNC **25** 19:24:18.9±2.7,36°.95N×71°.16E,h256km±36km,mb3.1, mpv4.1,Error ellipse: s-maj=28.1km s-min=16.2km az=14.0*

ISC 25 19:24:14.4±0.5,36°.51N±0°.05×71°.25E±0°.05,h250km,n92, σ1§61/100,mb3.7/15,9C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.59	344		Pn	19 25 02.1	-0.6
KBL	Kabul	2.66	223	Pn	Pn	19 25 02.8	-0.9
KBL				Sn	S	19 25 38.4	-4.0
CHGR	Chuyangaron	2.71	323	Pn	Pn	19 25 02.8	-1.1
CEP	Cherat	2.74	168	⇑P	Pn	19 25 04.1	-0.2
CHCP	Chirah Chowk	3.29	149	⇑P	Pn	19 25 10.4	+0.2
NIL	Nilore	3.29	149		Pn	19 25 10.4	+0.1
THW	Thamme Wali	3.73	174	⇑P	Pn	19 25 14.9	-0.3
SARP	Sargodha	4.73	165	P	Pn	19 25 26.2	-0.8
THN	Thein Dam	5.49	136	eP	Pn	19 25 37.4	+1.1
THN				eS	S	19 26 40.3	-1.3
AML	Almayashu	5.92	18	P	Pn	19 25 41.2	-0.7
	SNR=45						
EKS2	Erkin-Say	6.45	17	P	Pn	19 25 48.5	+0.4
	SNR=11						
KK31	Karatay Array	6.61	355	P	Pn	19 25 49.5	-0.5
	2.0nm,0.3s,baz=182,slow=13,SNR=78						
KK31				⇑S	S	19 27 00.8	-6.0
	7.5nm,0.5s,baz=166,slow=13,SNR=11						
KK31	Karatay Array	6.61	355	Pn	Pn	19 25 49.6	-0.4
KKAR	Karatay Array	6.61	355	Pn	Pn	19 25 49.4	-0.6
KKAR	Karatay Array	6.61	355		Pn	19 25 49.5	-0.6
AAK	Ala-Archa	6.61	21	P	Pn	19 25 50.5	+0.2
	7.0nm,0.3s,baz=162,slow=5.9,SNR=9.2						
AAK				S	S	19 27 03.6	-3.4
	2.3nm,0.3s,baz=333,slow=21,SNR=13						
AAK	Ala-Archa	6.61	21	P	Pn	19 25 51.5	+1.2
	SNR=7.0						
AAK	Ala-Archa	6.61	21	⇓P	Pn	19 25 50.6	+0.4
	7.2nm,0.3s						
AAK				⇑S	S	19 27 04.8	-2.2
	15nm,0.5s						
KBK	Karagaybulak	6.77	24	P	Pn	19 25 53.4	+1.1
	SNR=7.1						
ULHL	Ulahol	6.91	33	P	Pn	19 25 53.6	-0.4
	SNR=20						
CHMS	Chumysh	7.02	22	P	Pn	19 25 55.5	+0.3
	SNR=14						
TKM2	Tokmak 2	7.22	26	P	Pn	19 25 58.3	+0.3
	SNR=9.9						
TKM2	Tokmak 2	7.22	26	⇑P	Pn	19 25 57.9	-0.2
	22nm,0.7s						
TKM2				⇑S	S	19 27 17.9	-3.4
	15nm,1.1s						
SMLA	Simla	7.29	136	eP	Pn	19 25 58.5	-0.2
SMLA				eS	S	19 27 16.6	-5.8
SMLA				IAML		19 27 21.5	
	comp=N,77nm,0.2s						
SMLA				IAML		19 27 21.6	
	comp=E,82nm,0.2s						
TARG	Taragay, Kyrgy	7.29	42	Pn	Pn	19 25 57.9	-1.2
HRA	Herat	7.65	257	Pn	Pn	19 25 59.9	-3.5
MDOK	Medeo	8.00	32	P	Pn	19 26 07.8	0.0
	comp=E,6.0nm,0.4s						
PDGK	Podgornoye	9.29	40	⇑P	Pn	19 26 24.0	-0.1
	comp=E,3.1nm,0.6s						
KUDL	Kundal	9.45	151	eP	Pn	19 26 24.5	-1.5
KUDL				eS	S	19 28 03.4	-9.3
GEYT	Alibeck	10.57	282	P	Pn	19 26 40.5	+0.4
	comp=E,0.4nm,0.3s,baz=128,slow=9.6,SNR=5.1						
PYUN	Piuthan	12.99	127	eP	Pn	19 27 10.3	-0.2
	comp=E,17nm,0.2s						
MAKZ	Makanchi	13.03	35	⇓P	Pn	19 27 10.0	-0.6
	comp=E,23nm,0.9s						
MAKZ	Makanchi	13.03	35		Pn	19 27 10.3	-0.3
MK31	Makanchi Array	13.17	35	⇑P	Pn	19 27 12.4	+0.1
	comp=E,1.3nm,0.3s,baz=204,slow=18,SNR=90						
MK31	Makanchi Array	13.17	35	Pn	Pn	19 27 12.3	+0.1
MKAR	Makanchi Array	13.17	35	P	Pn	19 27 12.4	+0.1
	comp=E,1.3nm,0.3s,baz=226,slow=13,SNR=34						
MKAR	Makanchi Array	13.17	35		Pn	19 27 11.8	-0.4
DANN	Dangsing	13.33	124	eP	Pn	19 27 15.3	+0.6
	comp=E,8.5nm,0.3s						
GKN	Gorkha	14.14	123	eP	P	19 27 25.7	+0.7
	comp=E,17nm,0.3s						
KKN	Kakani	14.72	122	eP	Pn	19 27 33.8	+2.3
	comp=E,9.6nm,0.4s						
PKI	Pulchoki	14.94	123	eP	Pn	19 27 36.6	+2.3
KURBB	Kurchatov Arra	15.05	18	P	P	19 27 34.4	-0.1
	comp=E,0.1nm,0.3s,baz=207,slow=11,SNR=12						
AB31	Akbulak array	15.17	331	P	P	19 27 35.5	-0.4
	comp=E,1.4nm,0.3s,baz=151,slow=12,SNR=104						
ABKAR	Akbulak array	15.17	331	P	P	19 27 35.3	-0.6
ABKAR				IAmb	IAmb	19 27 39.1	
	comp=E,6.0nm,0.6s						
ABKAR	Akbulak array	15.17	331	P	P	19 27 35.0	-0.9
JIRN	Jiri	15.42	121	eP	Pn	19 27 42.6	+2.5
	comp=Z,16nm,0.3s						
RAMN	Ramite	16.15	122	eP	Pn	19 27 49.4	+0.8
BVAR	Borovoye Array	16.52	358	P	Pn	19 27 52.8	+0.3
	comp=Z,1.6nm,0.3s,baz=215,slow=12,SNR=6.1						
BRVK	Borovoye	16.56	358	P	P	19 27 51.8	+0.7
AKTO	Aktyubinsk	16.87	330	P	P	19 27 55.8	+1.3
	comp=Z,5.7nm,0.3s,baz=134,slow=11,SNR=44						
AKTO	Aktyubinsk	16.87	330	⇓P	P	19 27 55.7	+1.1
	comp=Z,20nm,0.6s						
LSA	Lhasa	17.99	106	P	P	19 28 08.2	+0.8
LSA				IAmb	IAmb	19 28 15.1	
	comp=Z,3.1nm,0.6s						
ZAA0	Zalesovo Array	19.82	24	P	P	19 28 27.0	+0.7
ZALV	Zalesovo Beam	19.82	24	P	P	19 28 26.9	+0.7
	comp=Z,0.6nm,0.3s,baz=212,slow=11,SNR=8.7						
ZALV	Zalesovo Beam	19.82	24	P	P	19 28 26.7	+0.4
SHL	Shillong	20.73	116	P	P	19 28 36.9	+0.4
ARU	Arti	21.69	341	P	P	19 28 46.3	+1.1
	comp=Z,1.5nm,0.4s,baz=150,slow=6.7,SNR=8.6						
ARU	Arti	21.69	341	P	P	19 28 46.1	+0.9
ARU				IAmb	IAmb	19 28 47.5	
	comp=Z,4.3nm,0.6s						
GTA	Gaotai	22.67	74	⇓P	P	19 28 57.5	+2.9
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KBZ	Khabaz	22.77	297	P	P	19 28 57.1	+1.9
	comp=Z,0.7nm,0.4s,baz=173,slow=2.5,SNR=3.9						
BELG	Belogornoye	23.00	321	P	P	19 28 58.9	+1.6
	comp=Z,35nm,1.1s,baz=254,slow=4.2,SNR=4.5						
SONM	Songino Array	28.17	55	P	P	19 29 46.5	+2.6
	comp=Z,0.6nm,0.7s,baz=252,slow=9.6,SNR=6.6						
SONM				PP	sP	19 30 58.8	-5.2
	comp=Z,0.9nm,1.1s,baz=253,slow=11,SNR=4.0						
AKASG	Malin Array Be	33.09	309	P	P	19 30 27.4	+0.7
	comp=Z,0.7nm,0.5s,baz=81,slow=7.1,SNR=4.5						
AKASG	Malin Array Be	33.09	309	P	P	19 30 27.1	+0.4
AKBB	Malin Array Si	33.09	309	P	P	19 30 27.4	+0.7
FIA1	FINESS Array S	37.58	326	P	P	19 31 05.7	+1.0
FINES	FINESS Array B	37.58	326	P	P	19 31 05.8	+1.1
	comp=Z,2.6nm,0.4s,baz=120,slow=9.8,SNR=44						
KEV	Kevo	40.86	338	P	P	19 31 32.7	+1.1
KEV				IAmb	IAmb	19 31 33.3	
	comp=Z,4.8nm,0.9s						
ARA0	ARCESS Array S	41.21	338	eP	P	19 31 36.0	+1.6
ARCES	ARCESS Array B	41.21	338	P	P	19 31 35.9	+1.4
	comp=Z,2.1nm,0.4s,baz=115,slow=8.3,SNR=25						
ARCES	ARCESS Array B	41.21	338	P	P	19 31 35.5	+1.0
ARCES				IAmb	IAmb	19 31 48.1	
	comp=Z,9.1nm,1.4s						
KTK1	Kautokeino	41.69	336	eP	P	19 31 39.5	+1.1
HAMF	Hammerfest	42.29	339	eP	P	19 31 45.0	+1.9
JETT	Jettan, Norway	42.83	336	eP	P	19 31 49.7	+2.1
TRO	Tromso	43.34	336	eP	P	19 31 52.6	+1.1
FAUS	Fauske	43.88	332	eP	P	19 31 56.6	+0.7
MOR8	Moi Rana	43.90	331	eP	P	19 31 56.5	+0.4
STEI	Steigen	44.05	333	eP	P	19 31 58.7	+1.5
NC602	NORSAR Array S	44.30	323	eP	P	19 31 59.5	+0.2
NB201	NORSAR Array S	44.45	323	P	P	19 32 00.8	+0.3
NB2	NORSAR Subarra	44.49	323	P	P	19 32 01.3	+0.4
	comp=Z,0.7nm,0.4s,baz=98,slow=7.9						
NB2	NORSAR Subarra	44.49	323	P	P	19 32 01.3	+0.4
	baz=98,slow=7.9						
NOA	NORSAR Array B	44.49	323	P	P	19 32 01.4	+0.5
	comp=Z,0.4nm,0.5s,baz=107,slow=7.2,SNR=8.1						
KONS	Konsvik	44.50	331	eP	P	19 32 01.8	+1.0
LOF	Lofoten	44.72	333	eP	P	19 32 03.7	+1.2
BJO1	Bjornoya	45.31	343	eP	P	19 32 07.0	-0.1
SNART	Snartemo	46.42	319	eP	P	19 32 15.4	-0.5
MBAR	Mbarara	52.67	235	P	P	19 33 04.7	+0.9
	comp=Z,1.0nm,0.2s,baz=20,slow=14,SNR=3.6						
TORD	Torodi Ar. Bea	65.92	269	P	P	19 34 32.5	-1.5
	comp=Z,0.8nm,0.5s,baz=47,slow=5.1,SNR=8.6						
YKA	Yellowknife Ar	81.22	3	P	P	19 36 03.6	+1.5
	comp=Z,0.3nm,0.5s,baz=0.0,slow=6.2,SNR=1.7						
WRA	Warramunga Arr	81.83	122	P	P	19 36 06.0	+0.1
	comp=Z,1.1nm,1.1s,baz=326,slow=4.9,SNR=2.8						
ASAR	Alice Springs	84.10	125	P	P	19 36 17.2	-0.2
	comp=Z,0.2nm,0.6s,baz=328,slow=4.9,SNR=1.5						

*MEX **25** 19:40:00.9±0.3,32°.12N×117°.04W,h5km±8km,MD3.4*

ECX 25 19:40:00.8±0.6,32°.06N×116°.98W,h9km±33km,MD1.7, ML1.6,1C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	Cerro Bola	0.37	47	*i* P	Pg	19 40 07.9	-0.3
CBX				*i* S	Sg	19 40 13.3	+0.2
CBX	Cerro Bola	0.37	47	eP	Pg	19 40 07.3	-0.8
CBX				eS	Sg	19 40 13.0	0.0
TJIG	Tijuana	0.45	35	*i* P	Pg	19 40 09.0	-0.7
TJIG				*i* S	Sg	19 40 15.5	-0.1
TJIG	Tijuana	0.45	35	eP	Pg	19 40 09.0	-0.7
TJIG				eS	Sg	19 40 15.6	0.0
OLP	Otay Lakes Par	0.55	5	eP	Pg	19 40 10.6	-0.8
OLP				eS	Sg	19 40 18.3	-0.3
BAR	Barrett	0.67	23	eP	Pg	19 40 12.5	-1.3
BAR				eS	Sg	19 40 21.6	-0.9
BAR				*e*		19 40 23.2	
BAR				IAML		19 40 23.2	
	comp=N,28nm,0.1s						
BAR				⇑*e*		19 40 24.1	
BAR				IAML		19 40 24.1	
	comp=E,33nm,0.1s						
SDRC	San Diego Road	0.67	3	eP	Pg	19 40 12.7	-1.1
SDRC				eS	Sg	19 40 22.0	-0.6
SDRC				IAML		19 40 22.8	
	comp=E,29nm,0.1s						
SDRC				⇓*e*		19 40 22.8	
EML	El Monte Cty P	0.83	8	eP	Pg	19 40 15.1	-1.8
IKP	In-Ko-Pah, Jac	0.94	51	eP	Pg	19 40 17.5	-1.5
YUH2	Yuha Desert	1.07	57	eP	Pg	19 40 20.0	-1.4
YUH2				eS	Sg	19 40 33.5	-1.8
SPIG	San Pedro Mart	1.64	128	*i* P	Pn	19 40 28.4	-1.8
SPIG				*i* S	Sn	19 40 49.4	-2.3

*NEIC **25** 19:41:36.4±1.7,15°.63S±0°.05×173°.0W±0°.1,h8km±5km, mb4.5/14,Error ellipse: s-maj=18.1km s-min=6.8km az=99.0*
*IDC **25** 19:41:37.1±1.3,15°.48S×173°.52W,h0km,mb4.1/5, mb1 4.3/5,mb1mx3.7/45,mbtmp4.1/5,MS3.6/5,Ms1 3.6/5, ms1mx3.1/32,Error ellipse: s-maj=53.5km s-min=26.7km az=136.0*

ISC 25 19:41:39.3±0.6,15°.64S±0°.08×173°.0W±0°.1,h29km,n42, σ1§61/28,mb4.4/11,MS3.3/7,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.07	34	Pn	Pn	19 42 11.4	-0.8
	37nm,0.3s,baz=186,slow=1.9,SNR=45						
AFI				Sn	Sn	19 42 33.1	-4.0
	492nm,0.3s,baz=72,slow=23,SNR=22						
AFI				LR	LR	19 43 10.9	
	comp=Z,239nm,20.7s,baz=220,slow=41						
NIUE	Niue	4.49	140	Pn	Pn	19 42 44.4	-1.0
MARNC	Mare, Loyalty	18.92	249		P	19 45 57.2	-0.7
OUENC	Ouen Island, N	20.23	247	P	P	19 46 11.2	-1.0
DZM	Mont Dzumac	20.50	249	eLR	LR	19 51 12.3	
	comp=Z,169nm,26.3s						
DZM	Mont Dzumac	20.50	249	P	P	19 46 16.1	+0.9
DZM				IAmb	IAmb	19 46 17.0	
	comp=Z,31nm,1.5s						
PPT	Papeete	22.50	98	LR	LR	19 54 18.6	
	comp=Z,64nm,18.5s,baz=349,slow=33						
PPT2	Papeete2	22.50	98	eLR	LR	19 51 51.9	
	comp=Z,70nm,25.2s						
TBI	Tubuai	23.43	113	eLR	LR	19 52 30.4	
	comp=Z,115nm,29.8s						
TBI	Tubuai	23.43	113	eT	T	20 10 59.3	
	comp=Z,7.2nm,0.4s						
URZ	Urewera	24.17	199	P	P	19 46 55.1	+2.1
	comp=Z,3.2nm,0.3s,baz=231,slow=2.9,SNR=7.0						
URZ	Urewera	24.17	199	P	P	19 46 50.9	-2.2
URZ				IAmb	IAmb	19 46 59.7	
	comp=Z,17nm,1.2s						
HNR	Honiara	27.13	280	LR	LR	19 56 10.1	
	comp=Z,83nm,20.3s,baz=14,slow=33						
QRZ	Quartz Range	28.08	204	P	P	19 47 28.3	-0.1
KHZ	Kahutara	29.10	201	P	P	19 47 37.0	-0.3
TAOE	Nuku Hiva Isla	32.74	82	eT	T	20 22 40.0	
	comp=Z,22nm,0.2s						
CTAO	Charters Tower	38.99	257	P	P	19 49 04.1	+0.6
CTAO				IAmb	IAmb	19 49 10.9	
	comp=Z,14nm,1.4s						
H11S2	WAKE ISLAND Hy	39.38	329	T	T	20 32 02.0	
	baz=145,slow=75,SNR=6.5						
H11S3	WAKE ISLAND Hy	39.39	329	T	T	20 32 03.0	
	baz=145,slow=75,SNR=5.8						
H11S1	WAKE ISLAND Hy	39.40	329	T	T	20 32 03.3	
	baz=145,slow=75,SNR=3.8						
H11N3	WAKE ISLAND Hy	40.32	330	T	T	20 33 08.6	
	baz=135,slow=74,SNR=4.1						
H11N1	WAKE ISLAND Hy	40.33	330	T	T	20 33 09.4	
	baz=135,slow=74,SNR=2.0						
H11N2	WAKE ISLAND Hy	40.34	330	T	T	20 31 59.0	
	baz=135,SNR=3.7						
STKA	Stephens Creek	44.28	240	P	P	19 49 45.5	-1.1
	comp=Z,1.2nm,0.4s,baz=109,slow=12,SNR=5.2						
STKA	Stephens Creek	44.28	240	P	P	19 49 45.4	-1.2
BBOO	Buckleboo	49.05	240	P	P	19 50 23.1	-0.9
WB0	Warramunga Arr	50.16	257	P	P	19 50 31.3	-1.3
WB0				IAmb	IAmb	19 50 50.9	
	comp=Z,7.8nm,1.5s						
WRA	Warramunga Arr	50.19	257	P	P	19 50 31.4	-1.5
	comp=Z,0.4nm,0.3s,baz=95,slow=7.9,SNR=26						
WRA	Warramunga Arr	50.19	257	P	P	19 50 31.4	-1.5
AS31	Alice Springs	50.43	252	P	P	19 50 33.5	-1.1
AS31				IAmb	IAmb	19 50 34.6	
	comp=Z,2.1nm,0.5s						
ASAR	Alice Springs	50.43	252	P	P	19 50 33.6	-1.1
	comp=Z,8.6nm,0.6s,baz=89,slow=7.5,SNR=140						
ASAR	Alice Springs	50.43	252	P	P	19 50 33.4	-1.3
KNRA	Kununurra	55.94	261	P	P	19 51 14.8	-0.5
KNRA				IAmb	IAmb	19 51 15.2	
	comp=Z,4.9nm,0.9s						
PEA0B	Petropavlovsk-	72.98	342	P	P	19 53 07.2	+1.2
PEA0B				IAmb	IAmb	19 53 15.4	
	comp=Z,17nm,1.4s						
NVAR	Mina Array Bea	74.23	42	P	P	19 53 18.3	+4.4
	comp=Z,0.1nm,0.3s,baz=243,slow=8.0,SNR=1.9						
QSPA	South Pole Qui	74.41	180	P	P	19 53 14.8	+0.3
QSPA				IAmb	IAmb	19 53 17.1	
	comp=Z,3.8nm,1.1s						
INK	Inuvik	88.40	14	LR	LR	20 25 35.5	
	comp=Z,179nm,20.2s,baz=110,slow=30						
TKL	Tuckaleechee C	98.31	55	LR	LR	20 34 16.4	
	comp=Z,102nm,18.8s,baz=128,slow=32						
ARCES	ARCESS Array B	124.90	352	PKP	PKPdf	20 00 36.4	+0.4
	comp=Z,0.4nm,0.6s,baz=1.9,slow=3.6,SNR=4.0						
ARCES	ARCESS Array B	124.90	352	PKPdf	PKiKP	20 00 36.6	+0.3
BRTR	Keskin Array B	146.60	321	PKPbc	PKPab	20 01 19.7	+0.1
	comp=Z,1.7nm,0.8s,baz=43,slow=2.8,SNR=6.1						
BRTR	Keskin Array B	146.60	321		PKPdf	20 01 18.0	+0.9

*NEIC **25** 19:48:46.9±2.1,18°.98N±0°.04×67°.61W±0°.03,h7km±7km, Error ellipse: s-maj=5.9km s-min=3.7km az=154.0*
*RSPR **25** 19:48:47.9,19°.10N×67°.79W,h62km±4km,MD2.8/10*
*OSPL **25** 19:48:48.6±1.0,18°.93N×67°.67W,h20km±8km,ML2.9*

ISC 25 19:48:46.7±1.6,18°.98N±0°.08×67°.61W±0°.03,h4km±12km, n56,σ0§85/64,12C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.69	137		Pb	19 49 00.9	-0.4
AGPR				IAML		19 49 12.5	
	comp=E,1μm,0.5s						
AGPR				IAML		19 49 13.6	
	comp=N,865nm,0.2s						
AGPR	Aguadilla, PR	0.69	137	*i* P	Pb	19 49 00.7	-0.6
AGPR				eS	Sb	19 49 10.7	-0.5
AGPR				IAML		19 49 15.5	
	comp=Z,498nm,0.2s						
PCDR	Punta Cana, DR	0.86	238	⇑eP	Pg	19 49 03.2	0.0
PCDR	Punta Cana, DR	0.86	238	eS	Sg	19 49 14.7	+0.3
PCDR	Punta Cana, DR	0.86	238		Pg	19 49 03.2	0.0
PCDR					Sg	19 49 14.7	+0.3
PCDR	Punta Cana, DR	0.86	238	IAML		19 49 17.4	
	comp=N,1μm,0.5s						
PCDR	Punta Cana, DR	0.86	238	*i* P	Pg	19 49 03.4	+0.2
PCDR				eS	Sg	19 49 12.8	-1.6
PCDR				IAML		19 49 17.0	
	comp=Z,1μm,0.5s						
MPR	Mayaguez	0.88	149		Pn	19 49 05.1	-0.7
MPR				IAML		19 49 21.3	
	comp=N,595nm,0.2s						
MPR	Mayaguez	0.88	149	*i* P	Pg	19 49 03.8	+0.2
MPR				eS	Sg	19 49 15.5	+0.5
MPR				IAML		19 49 19.0	
	comp=Z,150nm,0.5s						
LSP	Las Mesas	0.94	148	⇑eP	Pn	19 49 07.0	+0.3
LSP	Las Mesas	0.94	148		Pn	19 49 07.0	+0.3
AOPR	Arecibo Observ	1.03	127		Pg	19 49 05.9	-0.5
AOPR				IAML		19 49 29.1	
	comp=N,672nm,0.3s						
AOPR				IAML		19 49 35.1	
	comp=E,941nm,0.3s						
MLPR	Magueyes Islan	1.14	152		Pb	19 49 06.7	-2.2
MLPR				IAML		19 49 26.4	
	comp=N,527nm,0.4s						
MLPR				IAML		19 49 26.0	
	comp=E,605nm,0.6s						
EMPR	Esperanza - Ma	1.14	116	⇑eP	Pn	19 49 09.6	+0.3
EMPR	Esperanza - Ma	1.14	116	eS	Sn	19 49 26.8	+1.4
EMPR	Esperanza - Ma	1.14	116		Pb	19 49 08.1	-0.8
EMPR					Sn	19 49 24.9	-0.6
EMPR				IAML		19 49 29.8	
	comp=N,591nm,0.4s						
CELP	Cerrillos	1.33	132	⇑eP	Pb	19 49 12.0	-0.1
CELP	Cerrillos	1.33	132	eS	Sg	19 49 31.0	+1.7
CELP	Cerrillos	1.33	132		Pb	19 49 12.0	-0.1
CELP					Sg	19 49 31.0	+1.7
OBIP	Obispado Ponce	1.33	134	⇑eP	Pg	19 49 12.2	0.0
OBIP	Obispado Ponce	1.33	134	eS	Sg	19 49 31.2	+1.7
OBIP	Obispado Ponce	1.33	134		Pn	19 49 10.8	-1.2
OBIP					Sg	19 49 30.6	+1.1
OBIP				IAML		19 49 33.8	
	comp=E,558nm,0.4s						
OBIP				IAML		19 49 33.9	
	comp=N,412nm,0.5s						
ICMP	Isla Caja de M	1.50	136	⇑eP	Pb	19 49 15.0	+0.1
ICMP	Isla Caja de M	1.50	136	eS	Sg	19 49 35.7	+1.0
ICMP	Isla Caja de M	1.50	136		Pb	19 49 15.0	+0.1
ICMP					Sg	19 49 35.7	+1.0
ICMP	Isla Caja de M	1.50	136	IAML		19 49 40.9	
	comp=N,251nm,0.6s						
ICMP				IAML		19 49 41.8	
	comp=E,437nm,0.6s						
GCPR	Guaynabo City	1.59	114	⇑eP	Pb	19 49 16.3	-0.4
GCPR	Guaynabo City	1.59	114	eS	Sg	19 49 38.0	+0.1
GCPR	Guaynabo City	1.59	114		Pn	19 49 14.5	-1.1
GCPR	Guaynabo City	1.59	114		Sg	19 49 38.0	+0.1
SJG	San Juan	1.63	122		Pn	19 49 15.2	-1.0
SJG				IAML		19 49 40.6	
	comp=E,289nm,0.3s						
SJG				IAML		19 49 41.0	
	comp=E,303nm,0.3s						
DR12	Loma Pena Alta	1.69	264		Pn	19 49 16.4	-0.6
IGPR	InterUniversit	1.75	125	⇑eP	Pb	19 49 18.3	-1.0
IGPR	InterUniversit	1.75	125	eS	Sb	19 49 41.8	+0.2
IGPR	InterUniversit	1.75	125		Sb	19 49 41.8	+0.2
IGPR	InterUniversit	1.75	125	Pn	Pn	19 49 17.9	+0.2
PDPR	Patillas Dam,	1.78	122		Pn	19 49 17.5	-0.7
PDPR				IAML		19 49 48.1	
	comp=E,159nm,0.5s						
CBYP	Canovanas	1.81	113	⇑eP	Pn	19 49 18.8	+0.2
CBYP	Canovanas	1.81	113	eS	Sb	19 49 43.0	-0.4
CBYP	Canovanas	1.81	113		Pn	19 49 17.9	-0.7
CBYP	Canovanas	1.81	113		Sb	19 49 43.0	-0.4
HUMP	Col San Antoni	1.87	116	⇑eP	Pn	19 49 19.7	+0.4
HUMP	Col San Antoni	1.87	116	eS	Sb	19 49 44.7	-

baz=297
WFSB eS Sg 19 50 29.8 +0.4
baz=297
EWUT Wuta 0.58 236 eP Pg 19 50 22.6 +0.4
baz=231
EWUT eS Sb 19 50 31.1 -0.7
baz=231
TWE Neicheng 0.58 266 eP Pg 19 50 22.2 -0.1
baz=259
TWE eS Sb 19 50 31.7 -0.2
baz=259
TNOU National Taiwa 0.62 308 eP Pb 19 50 23.9 -0.2
baz=305
TNOU eS Sb 19 50 32.2 -0.7
baz=305
JYNG Yonagunijimaku 0.66 118 P Pg 19 50 23.7 -0.1
JYNG S Sg 19 50 33.0 +0.6
ENTT Nioudou 0.69 260 eP Pg 19 50 24.4 +0.2
baz=254
ENTT eS Sb 19 50 35.1 +0.2
baz=254
TWA Mucha 0.69 288 eP Pb 19 50 25.3 -0.1
baz=283
TWA eS Sg 19 50 33.7 +0.3
baz=283
YOJ Yonaguni jima 0.71 115 P Pg 19 50 24.6 -0.1
YOJ S Sg 19 50 34.3 +0.3
YOJ Yonaguni jima 0.71 115 eP Pg 19 50 24.6 -0.1
baz=119
YOJ eS Sg 19 50 34.6 +0.6
baz=119
NWLT Wulai 0.73 271 eP Pg 19 50 25.3 +0.2
baz=266
NWLT eS Sb 19 50 35.7 -0.5
baz=266
NHDH Xindian Distri 0.74 286 eP Pb 19 50 26.4 +0.3
baz=281
NHDH eS Sb 19 50 36.5 +0.2
baz=281
NDT Datong Townshi 0.74 257 eP Pb 19 50 25.9 -0.3
baz=253
NDT eS Sb 19 50 36.5 +0.1
baz=253
YM01 YM01 0.77 300 eP Pb 19 50 27.2 +0.5
baz=296
YM01 eS Sg 19 50 36.2 +0.3
baz=296
TATO Taipei 0.77 286 eP Pb 19 50 26.8 +0.1
baz=282
TATO eS Sb 19 50 37.0 -0.4
baz=282
YM08 YM08 0.77 303 eP Pg 19 50 26.3 +0.3
baz=299
YM08 eS Sg 19 50 36.0 -0.1
baz=299
ANP Anpu 0.83 301 eP Pg 19 50 26.4 -0.6
baz=297
ANP eS Sg 19 50 37.0 -0.8
baz=297
YHNB Yeheng 0.85 264 eP Pg 19 50 27.5 0.0
baz=270
YHNB eS Sb 19 50 39.1 -0.6
baz=270
ETL Fush Village 0.87 226 eP Pn 19 50 30.2 +0.6
baz=233
ETL eS Sg 19 50 39.5 +0.5
baz=233
NACB Ninganchiao 0.88 228 eP Pg 19 50 27.9 0.0
baz=225
NACB eS Sg 19 50 39.1 -0.2
baz=225
PCYT Pengchaiyu 0.89 346 eP Pg 19 50 28.2 +0.1
baz=346
PCYT eS Sg 19 50 39.4 -0.2
baz=346
NNSB Datong 0.91 248 eP Pg 19 50 28.0 -0.5
baz=235
NNSB eS Sb 19 50 40.9 -0.5
baz=235
NNSH Datong 0.91 248 eP Pg 19 50 28.3 -0.2
baz=235
NNSH eS Sb 19 50 40.8 -0.6
baz=235
NNS Nan Shan 0.91 249 eP Pg 19 50 28.7 +0.1
baz=235
NNS eS Sg 19 50 40.2 -0.1
baz=235
ETLH Xiulin Townshi 0.94 234 eP Pg 19 50 29.1 +0.1
baz=230
ETLH eS Sg 19 50 40.9 -0.3
baz=230
TWD Chiawan 0.94 224 eP Pg 19 50 29.5 +0.4
baz=230
TWD eS Sg 19 50 40.8 -0.6
baz=230
ETM Tongmen 1.09 223 eP Pn 19 50 32.4 -0.2
baz=202
ETM eS Sn 19 50 47.6 -0.3
baz=202
FUSS Fushou 1.10 242 eP Pg 19 50 32.4 +0.3
baz=240
FUSS eS Sg 19 50 46.5 +0.1
baz=240
WHF Hehuan Shan 1.13 237 eP Pb 19 50 32.6 -0.5
baz=235
WHF eS Sg 19 50 47.0 -0.6
baz=235
TWT Tachien 1.15 244 eP Pn 19 50 34.0 +0.4
baz=233
TWT eS Sg 19 50 48.5 +0.5
baz=233
TDCB Techi 1.16 244 eP Pb 19 50 33.0 -0.5
baz=233
TDCB eS Sb 19 50 47.9 -1.0
baz=233
LIOB Emei 1.18 264 eP Pb 19 50 33.4 -0.4
baz=281
LIOB eS Sn 19 50 52.0 +1.8
baz=281
NSTT Nanjuang 1.20 264 eP Pb 19 50 33.8 -0.1
baz=279
NSTT eS Sn 19 50 51.8 +1.3
baz=279
ESL Shilin 1.24 220 eP Pb 19 50 34.7 0.0
baz=199
ESL eS Sg 19 50 52.2 +1.3
baz=199
CHGB Renai 1.25 236 eP Pg 19 50 35.3 +0.2
baz=235
CHGB eS Sg 19 50 51.5 +0.2
baz=235
OWD Renai 1.31 232 eP Pg 19 50 36.3 +0.1
baz=231
OWD eS Sg 19 50 53.4 +0.2
baz=231
WHP Taichung City 1.33 249 eP Pn 19 50 35.9 -0.1
baz=233
WHP eS Sb 19 50 52.4 -1.2
baz=233
IRIF Iriomote-Funau 1.37 108 P Pn 19 50 36.4 0.0
IRIF S Sn 19 50 53.3 -1.4
NMLH Miaoli 1.40 261 eP Pg 19 50 38.2 +0.4
baz=276
WCS Beigang Elemen 1.45 241 eP Pg 19 50 39.3 +0.3
baz=240
WCS eS Sg 19 50 58.6 +0.7
baz=240
TWQ1 Liyutan 1.46 254 eP Pg 19 50 39.3 +0.3
baz=271
TWQ1 eS Sb 19 50 56.9 -0.3
baz=271
HGSD Ruisui 1.50 213 eP Pn 19 50 38.5 +0.2
baz=195
HGSD eS Sb 19 50 58.7 +0.2
baz=195
HATJ Hateruma jima 1.54 117 eS Sn 19 50 59.2 +0.2
EHY Hungye 1.54 216 eP Pn 19 50 39.1 +0.3
baz=195
EHY eS Sb 19 51 00.1 +0.5
baz=195
SMLT Sun Moon Lake 1.56 236 eP Pg 19 50 41.1 +0.2
baz=235
SMLT eS Sn 19 50 59.0 -0.5
baz=235
SSLB Suanglung 1.57 232 eP Pb 19 50 40.4 -0.1
baz=244
SSLB eS Sg 19 51 01.3 -0.4
baz=244

TYC Yuchr 1.58 237 eP Pg 19 50 41.3 0.0
baz=236
TYC eS Sg 19 51 01.9 +0.1
baz=236
JKRS Kuro-shima 1.64 108 P Pn 19 50 40.4 +0.2
JKRS S Sn 19 51 01.9 +0.5
YULB Yu-li 1.65 214 eP Pn 19 50 38.6 -1.8
baz=211
YULB eS Sn 19 51 01.1 -0.7
baz=211
EYUL Yuli 1.68 213 eP Pn 19 50 41.2 +0.5
baz=197
TWF1 Yuli 1.68 213 eP Pb 19 50 41.6 -0.7
baz=211
JIJ Ishigaki jima 1.72 103 P Pn 19 50 41.5 +0.2
JIJ S Sn 19 51 03.6 +0.1
FULB Fuli 1.81 211 eP Pn 19 50 42.6 0.0
baz=192
FULB eS Sn 19 51 05.6 -0.3
baz=192
JISG Ishigakijimahi 1.83 95 P Pn 19 50 43.8 +1.0
ALS Alishan 1.86 228 eP Pb 19 50 45.2 -0.2
baz=208
ALS eS Sg 19 51 12.1 +1.3
baz=208
CHN5 Tsauling 1.89 232 eP Pb 19 50 46.1 +0.3
baz=231
CHN5 eS Sg 19 51 12.3 +0.5
baz=231
WDLH Douliu 1.94 237 eP Pb 19 50 46.2 -0.4
baz=237
WDLH eS Sg 19 51 13.6 +0.2
baz=237
ELDTW Lidau 1.96 217 eP Pb 19 50 46.8 -0.4
baz=201
ELDTW eS Sn 19 51 09.4 -0.2
baz=201
WTK Tuku 2.05 239 eP Pb 19 50 47.7 -0.9
baz=239
WTK eS Sb 19 51 14.0 -0.3
baz=239
CHN4 Tsaushan 2.11 228 eP Pb 19 50 49.3 -0.2
baz=209
CHN4 eS Sg 19 51 17.5 -1.2
baz=209
TPUB Ta-pu 2.12 227 eP Pn 19 50 47.8 +1.0
baz=208
TPUB eS Sb 19 51 17.3 +1.2
baz=208
STYT Tauyuan 2.13 222 eP Pb 19 50 49.8 -0.2
baz=221
STYT eS Sn 19 51 14.0 +0.2
baz=221
TWK Hsinying 2.23 228 eP Pb 19 50 50.5 -1.2
baz=227
TWK eS Sg 19 51 22.0 -0.9
baz=227
CHN1 Nanshi 2.26 226 eP Pb 19 50 51.4 -0.8
baz=225
CHN1 eS Sb 19 51 20.1 -0.3
baz=225
SLGT Liugui 2.33 221 eP Pn 19 50 50.5 +0.8
baz=221
SLGT eS Sb 19 51 22.9 +0.7
baz=221
MASBT Mashibuluo 2.64 216 eP Pn 19 50 55.2 +1.3
baz=200
MASBT eS Sb 19 51 29.6 -1.5
baz=200

PRU ***25*** *19:53:11.2±0.0,51°.48N×16°.09E,h0km*
VIE ***25*** *19:53:11.6,51°.47N×16°.18E,h0km,ML2.7/3 71 km NW of Wroclaw Suspected Mining induced.*
IDC ***25*** *19:53:11.2±0.8,51°.45N×16°.11E,h0km,mb1 3.3/6, mb1mx3.1/66,mbtmp3.2/6,ML2.7/6,Error ellipse: s-maj=14.6km s-min=7.6km az=111.0*
ISC 25 19:53:09.1±0.8,**51°.59N**±0°.04×**16°.18E**±0°.03,**h0km,n41,** σ1§**68**/82,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**175**	*i* Pg	**Pg**	**19 53 23.4**	**-0.2**
KSP				eSg	**Sg**	**19 53 31.9**	**-1.5**
CHVC	**Chvalec**	**1.01**	**185**	ePG	**Pg**	**19 53 28.2**	**-0.3**
CHVC				eSG	**Sg**	**19 53 39.5**	**-2.0**
comp=Z,36nm,0.3s							
OSTC	**Ostas**	**1.04**	**179**	ePG	**Pg**	**19 53 28.8**	**-0.2**
OSTC				eSG	**Sg**	**19 53 40.0**	**-2.5**
comp=Z,33nm,0.4s							
UPC	**Upice**	**1.09**	**186**	ePG	**Pg**	**19 53 29.4**	**-0.7**
UPC				eSG	**Sg**	**19 53 42.1**	**-2.1**
DPC	**Dobruska-Polom**	**1.25**	**176**	ePG	**Pg**	**19 53 32.2**	**-0.8**
DPC				eSG	**Sg**	**19 53 47.1**	**-2.1**
comp=Z,27nm,0.5s							
PVCC	**Panska Ves**	**1.47**	**224**	ePG	**Pn**	**19 53 36.6**	**-0.3**
PVCC				eSG	**Sg**	**19 53 54.9**	**-1.5**
comp=Z,153nm,0.3s							
KRLC	**Kraliky**	**1.57**	**166**	ePG	**Pn**	**19 53 37.8**	**-0.5**
KRLC				eSG	**Sn**	**19 53 56.7**	**-2.6**
comp=Z,45nm,0.5s							
BRG	**Berggiesshubel**	**1.58**	**244**	Pn	**Pn**	**19 53 37.7**	**-0.7**
BRG				Pg	**Pb**	**19 53 39.1**	**-0.1**
BRG				Sg	**Sn**	**19 53 59.4**	**-0.1**
BRG				Amp		19 54 00.6	
comp=Z,45nm,0.3s							
PRU	**Pruhonice**	**1.92**	**214**	ePN	**Pn**	**19 53 42.0**	**-1.0**
PRU				ePG	**Pb**	**19 53 43.5**	**-1.4**
PRU				eSG	**Sn**	**19 54 07.4**	**-0.4**
comp=Z,27nm,0.5s							
CLL	**Collm**	**2.01**	**263**	ePn	**Pn**	**19 53 44.0**	**-0.3**
CLL				ePg	**Pg**	**19 53 47.0**	**-0.6**
CLL				*e*		19 53 50.0	
CLL				eSg	**Sg**	**19 54 13.0**	**-0.6**
comp=Z,12nm,0.4s							
MORC	**Moravsky Berou**	**2.02**	**154**	ePN	**Pn**	**19 53 44.0**	**-0.4**
MORC				eSG	**Sb**	**19 54 11.2**	**-1.1**
OKC	**Ostrava-Krasne**	**2.16**	**144**	ePG	**Pg**	**19 53 49.6**	**-0.8**
OKC				eSG	**Sb**	**19 54 15.6**	**-0.7**
comp=Z,37nm,0.7s							
VRAC	**Vranov**	**2.30**	**173**	Pn	**Pn**	**19 53 48.9**	**+0.6**
comp=Z,1.4nm,0.3s,baz=329,slow=16,SNR=15							
VRAC				Lg	Lg	19 54 19.8	
comp=Z,3.3nm,0.3s,baz=284,slow=22,SNR=12							
VRAC	**Vranov**	**2.30**	**173**	ePN	**Pn**	**19 53 47.9**	**-0.4**
VRAC				eSG	**Sb**	**19 54 19.8**	**-0.7**
PBCC	**Pribram**	**2.36**	**217**	ePN	**Pn**	**19 53 48.5**	**-0.7**
KRUC	**Moravsky**	**2.54**	**177**	ePN	**Pn**	**19 53 51.4**	**-0.2**
KRUC				eSG	**Sb**	**19 54 27.1**	**-0.2**
OJC	**Ojcow**	**2.67**	**120**	ePg	**Pg**	**19 54 02.5**	**+2.2**
OJC				eSg	**Sg**	**19 54 37.1**	**+2.2**
NKC	**Novy Kostel**	**2.73**	**241**	ePN	**Pn**	**19 53 54.4**	**+0.2**
NKC				ePG	**Pg**	**19 54 00.7**	**-0.7**
NKC				eSG	**Sg**	**19 54 35.3**	**-1.4**
comp=Z,29nm,0.3s							
JAVC	**Velka Javorina**	**2.90**	**160**	ePN	**Pn**	**19 53 53.7**	**-2.9**
KHC	**Kasperske Hory**	**2.98**	**215**	ePN	**Pn**	**19 53 57.3**	**-0.3**
KHC				ePG	**Pb**	**19 54 03.0**	**0.0**
KHC				eSN	**Sn**	**19 54 31.0**	**-3.0**
KHC				eSG	**Sb**	**19 54 42.0**	**+2.1**
comp=Z,11nm,0.4s							
GERES	**GERESS Array B**	**3.18**	**211**	Pn	**Pn**	**19 54 00.5**	**0.0**
comp=Z,0.7nm,0.3s,baz=26,slow=13,SNR=19							
GERES				Pg	**Pb**	**19 54 06.8**	**+0.3**
comp=Z,2.7nm,0.3s,baz=31,slow=17,SNR=42							
GERES				Sn	**Sn**	**19 54 35.6**	**-3.5**
comp=Z,1.6nm,0.3s,baz=36,slow=20,SNR=5.4							
GERES				Lg	Lg	19 54 47.9	
comp=Z,1.9nm,0.3s,baz=30,slow=25,SNR=5.2							
LANS	**Liptovska Anna**	**3.23**	**138**	ePG	**Pg**	**19 54 10.9**	**0.0**
LANS				eSG	**Sg**	**19 54 51.3**	**-1.4**
MODS	**Modra-Piesok**	**3.30**	**167**	ePG	**Pg**	**19 54 14.3**	**+1.9**
MODS				eSG	**Sg**	**19 54 57.4**	**+2.3**
VYHS	**Vyhne**	**3.54**	**150**	ePN	**Pn**	**19 54 05.8**	**+0.4**
VYHS				ePG	**Pg**	**19 54 16.0**	**-1.0**
VYHS				eSG	**Sg**	**19 55 03.1**	**+0.2**
CONA	**Conrad Observa**	**3.67**	**183**	ePn	**Pn**	**19 54 07.7**	**+0.4**
comp=Z,1.5nm,0.3s							
CONA				eSg	**Sb**	**19 55 02.5**	**+2.4**
comp=Z,5.6nm,0.3s							
MOA	**Molln**	**3.95**	**199**	ePn	**Pn**	**19 54 11.0**	**0.0**
comp=Z,0.6nm,0.2s							
MOA				eSg	**Sb**	**19 55 10.6**	**+2.7**
comp=Z,5.9nm,0.5s							
ARSA	**Arzberg**	**4.37**	**186**	ePn	**Pn**	**19 54 17.7**	**+1.0**
comp=Z,0.7nm,0.3s							
ARSA				eSg	**Sb**	**19 55 22.4**	**+2.4**
comp=Z,1.4nm,0.3s							
KBA	**Koelnbreinsper**	**4.88**	**203**	ePn	**Pn**	**19 54 23.9**	**-0.1**
comp=Z,1.6nm,0.3s							
KBA				eSg	**Sg**	**19 55 47.7**	**+1.8**
comp=Z,3.9nm,0.5s							
SOKA	**Soboth**	**4.98**	**189**	ePn	**Pn**	**19 54 26.4**	**+1.2**
comp=Z,0.5nm,0.4s							
SOKA				eSg	**Sb**	**19 55 39.8**	**+2.2**
comp=Z,1.2nm,0.5s							
OBKA	**Obir**	**5.20**	**193**	ePn	**Pb**	**19 54 43.0**	**+2.0**
comp=Z,1.0nm,0.3s							
OBKA				eSg	**Sb**	**19 55 48.4**	**+4.5**
comp=Z,1.9nm,0.4s							
WATA	**Walderalm**	**5.21**	**217**	ePn	**Pn**	**19 54 29.4**	**+0.9**
comp=Z,0.5nm,0.2s							
WATA				eSg	**Sb**	**19 55 47.1**	**+2.7**
comp=Z,1.4nm,0.3s							
WTTA	**Wattenberg**	**5.25**	**216**	ePn	**Pn**	**19 54 30.0**	**+1.0**
comp=Z,0.9nm,0.2s							
WTTA				eSg	**Sb**	**19 55 50.0**	**+4.5**
comp=Z,3.2nm,0.4s							
MOTA	**Moosalm**	**5.39**	**220**	ePn	**Pn**	**19 54 31.0**	**+0.2**
comp=Z,0.4nm,0.2s							
MOTA				eSn	**Sn**	**19 55 31.7**	**-2.0**
comp=Z,0.7nm,0.2s							
ABTA	**Abfaltersbach**	**5.41**	**208**	ePn	**Pn**	**19 54 31.9**	**+0.8**
comp=Z,0.7nm,0.4s							
RETA	**Reutte**	**5.42**	**223**	ePn	**Pn**	**19 54 30.7**	**-0.5**
comp=Z,0.8nm,0.3s							
RETA				eSg	**Sb**	**19 55 54.0**	**+3.9**
comp=Z,2.1nm,0.5s							
SQTA	**Sankt Quirin**	**5.45**	**218**	ePn	**Pn**	**19 54 31.9**	**+0.3**
comp=Z,0.9nm,0.1s							
SQTA				eSn	**Sn**	**19 55 36.2**	**+1.1**
comp=Z,1.6nm,0.3s							
DAVA	**Damuels**	**5.95**	**226**	ePn	**Pn**	**19 54 37.8**	**-0.8**
comp=Z,0.1nm,0.1s							
DAVA				eSn	**Sn**	**19 55 49.3**	**+1.7**
comp=Z,0.2nm,0.1s							
AKASG	**Malin Array Be**	**8.25**	**91**	Pn	**Pn**	**19 55 07.4**	**-2.6**
comp=Z,0.5nm,0.3s,baz=273,slow=14,SNR=4.3							
HFS	**Hagfors**	**8.67**	**352**	Pn	**Pn**	**19 55 16.8**	**+1.1**
comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=5.3							
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**19 55 52.5**	**+1.3**
comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=5.6							
ARCES	**ARCESS Array B**	**18.53**	**10**	Pn	**P**	**19 57 24.5**	**-2.3**
baz=192,slow=12,SNR=1.9							

IDC ***25*** *19:55:15.8±0.7,13°.91N×58°.42W,h0km,mb4.1/13, mb1 4.3/16,mb1mx4.0/65,mbtmp4.3/16,ML4.2/3,MS3.5/8, Ms1 3.5/8,ms1mx3.2/43,Error ellipse: s-maj=17.5km s-min=14.9km az=97.0*
TRN ***25*** *19:55:17.4,13°.86N×58°.41W,h73km,MD4.8*
NEIC ***25*** *19:55:21.1±2.1,13°.88N±0°.05×58°.70W±0°.05,h21km±5km, mb4.6/47,Error ellipse: s-maj=8.4km s-min=6.2km az=152.0*
ISC 25 19:55:20.0±1.7,**13°.87N**±0°.04×**58°.55W**±0°.06,**h27**km±12km, **n189,**σ1§**60**/180,**mb4.5**/28,**MS3.7**/6,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.17**	**229**	eP	**Pb**	**19 55 41.6**	**+0.1**
BBSP				eS	**Sb**	**19 55 57.9**	**+1.6**
BBGH	**Gun Hill**	**1.22**	**234**	eP	**Pb**	**19 55 41.7**	**-0.7**
BBGH				eS	**Sb**	**19 56 00.4**	**+2.6**
BBGH	**Gun Hill**	**1.22**	**234**		**Pb**	**19 55 41.6**	**-0.8**
BBGH				Sg	**Sn**	**19 55 56.7**	**-0.3**
BCHC	**Barbados, Cave**	**1.28**	**235**	eP	**Pb**	**19 55 42.7**	**-0.8**
BCHC				eS	**Sb**	**19 56 00.0**	**+0.5**
H05S1	**Guadeloupe/Mar**	**2.28**	**284**	Pn	**Pn**	**19 55 54.8**	**-1.2**
H05S1				Sn	**Sn**	**19 56 23.8**	**+0.5**
SNR=320							
H05S1				T	T	19 58 41.8	
SNR=12							
MPOM	**Morne Pois Mar**	**2.31**	**285**	eP	**Pn**	**19 55 56.4**	**0.0**
MPOM				eS	**Sn**	**19 56 25.3**	**+1.4**
MPOM	**Morne Pois Mar**	**2.31**	**285**		**Pn**	**19 55 55.2**	**-1.1**
MCLT	**Moule a Chique**	**2.33**	**266**	eP	**Pn**	**19 55 57.8**	**+1.2**
MCLT				eS	**Sn**	**19 56 25.8**	**+1.4**
MCLT	**Moule a Chique**	**2.33**	**266**		**Pn**	**19 55 52.5**	**-4.1**
SLBI	**Saint Lucia, B**	**2.36**	**274**	eP	**Pn**	**19 55 57.0**	**0.0**
SLBI				eS	**Sn**	**19 56 25.2**	**+0.2**
MVM	**Montagne Vaucl**	**2.37**	**287**	eP	**Pn**	**19 55 56.8**	**-0.4**
SLB	**Belfond**	**2.42**	**269**	eP	**Pn**	**19 55 59.6**	**+1.6**
SLB				eS	**Sn**	**19 56 28.6**	**+1.9**
ILAM	**Ilet Lapin Mar**	**2.42**	**292**	eP	**Pn**	**19 55 58.7**	**+0.8**
ILAM				eS	**Sn**	**19 56 26.6**	**-0.1**
ILAM	**Ilet Lapin Mar**	**2.42**	**292**		**Pn**	**19 55 57.1**	**-0.8**
LPMF	**Morne Lapointe**	**2.44**	**287**	eP	**Pn**	**19 55 57.6**	**-0.5**
ZAM	**Aeronautique**	**2.50**	**286**	eP	**Pn**	**19 55 58.5**	**-0.5**
TRMF	**Trois Ilets**	**2.51**	**286**	eP	**Pn**	**19 55 58.8**	**-0.4**
BIM	**Bigot**	**2.53**	**285**	eP	**Pn**	**19 55 58.9**	**-0.5**
BIM				eS	**Sn**	**19 56 28.8**	**-0.5**
BIM	**Bigot**	**2.53**	**285**		**Pn**	**19 55 58.8**	**-0.6**
SSV	**Crater Summit**	**2.62**	**258**	eP	**Pn**	**19 56 00.4**	**-0.4**
SSV				eS	**Sn**	**19 56 33.4**	**+1.5**
SVV	**Soufriere Volc**	**2.65**	**258**	eP	**Pn**	**19 56 01.5**	**+0.5**
SVV				eS	**Sn**	**19 56 33.7**	**+1.4**
FDF	**Fort de France**	**2.66**	**289**	eP	**Pn**	**19 55 59.9**	**-1.3**
FDF				eS	**Sn**	**19 56 32.8**	**+0.1**
FDF	**Fort de France**	**2.66**	**289**		**Pn**	**19 56 01.0**	**-0.2**
BAMF	**Morne Balai**	**2.69**	**291**	eP	**Pn**	**19 56 02.0**	**+0.4**
SVB	**Belmont**	**2.69**	**257**	eP	**Pn**	**19 56 00.9**	**-0.7**
SVB				eS	**Sn**	**19 56 32.9**	**-0.6**
SVB	**Belmont**	**2.69**	**257**		**Pn**	**19 56 01.0**	**-0.7**
CXM	**Morne La Croix**	**2.70**	**291**	eP	**Pn**	**19 56 02.7**	**+0.8**
PML	**Morne Lenard**	**2.71**	**290**	eP	**Pn**	**19 56 02.7**	**+0.8**
SVN	**Savane Anatole**	**2.71**	**291**	eP	**Pn**	**19 56 02.7**	**+0.7**
SVN	**Savane Anatole**	**2.71**	**291**		**Pn**	**19 56 01.7**	**-0.3**
PCM	**Pelee Case Pet**	**2.74**	**290**	eP	**Pn**	**19 56 03.0**	**+0.6**
DLPL	**La Plaine**	**2.99**	**299**	eP	**Pn**	**19 56 05.3**	**-0.4**
DLPL				eS	**Sn**	**19 56 40.4**	**-0.3**
DLPL	**La Plaine**	**2.99**	**299**	Pn	**Pn**	**19 56 03.3**	**-2.4**
GCMP	**Grenada, Carri**	**3.12**	**244**	eP	**Pn**	**19 56 07.1**	**-0.4**
GCMP				eS	**Sn**	**19 56 43.4**	**-0.5**
DSLB	**Salisbury**	**3.18**	**300**	eP	**Pn**	**19 56 08.1**	**-0.3**
DSLB				eS	**Sn**	**19 56 45.1**	**-0.4**
TOSP	**Speyside**	**3.21**	**217**	eP	**Pn**	**19 56 08.1**	**-0.6**
TOSP				eS	**Sn**	**19 56 44.8**	**-1.3**
TOSP	**Speyside**	**3.21**	**217**		**Pn**	**19 56 07.9**	**-0.8**
MAGL	**Barre de l'ile**	**3.35**	**308**	eP	**Pn**	**19 56 10.9**	**+0.2**
MAGL				eS	**Sn**	**19 56 49.4**	**-0.3**
H05N1	**Guadeloupe/Mar**	**3.43**	**315**	Pn	**Pn**	**19 56 10.8**	**-0.9**
H05N1				Sn	**Sn**	**19 56 49.7**	**-1.9**
SNR=351							
GRGR	**Grenville**	**3.48**	**241**	eP	**Pn**	**19 56 11.9**	**-0.6**
GRGR				eS	**Sn**	**19 56 52.3**	**-0.6**
GRGR	**Grenville**	**3.48**	**241**		**Pn**	**19 56 11.5**	**-1.0**
TDBA	**Terre de Bas,**	**3.57**	**304**	eP	**Pn**	**19 56 13.3**	**-0.4**
TDBA				eS	**Sn**	**19 56 54.4**	**-0.7**
TBG	**Guadaloupe-3**	**3.58**	**304**	eP	**Pn**	**19 56 13.1**	**-0.8**
TBG				eS	**Sn**	**19 56 56.3**	**+1.0**
CBE	**Ff, Capester**	**3.67**	**307**	eP	**Pn**	**19 56 15.0**	**-0.2**
CBE				eS	**Sn**	**19 56 57.1**	**-0.5**
ABD	**La Joyeuse, An**	**3.84**	**313**	eP	**Pn**	**19 56 17.2**	**-0.2**
ABD				eS	**Sn**	**19 57 00.8**	**-0.8**
TBH	**Brigand Hill**	**4.17**	**216**	eP	**Pn**	**19 56 22.8**	**+0.8**
TRN	**Trinidad (W)**	**4.25**	**221**	eP	**Pn**	**19 56 22.8**	**-0.3**
TRN	**Trinidad (W)**	**4.25**	**221**	eS	**Sn**	**19 57 08.0**	**-3.8**
ANBD	**Bethesda, Anti**	**4.42**	**316**	eP	**Pn**	**19 56 25.4**	**0.0**
ANBD	**Bethesda, Anti**	**4.42**	**316**	eS	**Sn**	**19 57 13.2**	**-2.8**
BPA	**Boggy Peak**	**4.48**	**315**	eP	**Pn**	**19 56 26.4**	**+0.1**
BPA	**Boggy Peak**	**4.48**	**315**	eS	**Sn**	**19 57 16.5**	**-1.2**
ANDO	**Antigua, Disas**	**4.51**	**316**	eS	**Sn**	**19 57 17.2**	**-1.0**
ANOC	**Antigua Open C**	**4.52**	**316**	eP	**Pn**	**19 56 26.2**	**-0.5**
ANOC	**Antigua Open C**	**4.52**	**316**	eS	**Sn**	**19 57 17.1**	**-1.4**
ANWB	**Willy Bob**	**4.89**	**321**	eP	**Pn**	**19 56 29.6**	**-2.2**
ANWB	**Willy Bob**	**4.89**	**321**	eS	**Sn**	**19 57 25.3**	**-2.3**
ANWB	**Willy Bob**	**4.89**	**321**	Pn	**Pn**	**19 56 30.0**	**-1.8**
NVDO	**Nevis, Disaste**	**5.08**	**310**	eP	**Pn**	**19 56 33.1**	**-1.3**
NVDO	**Nevis, Disaste**	**5.08**	**310**	eS	**Sn**	**19 57 31.0**	**-1.2**
SKI	**Saint Kitts**	**5.30**	**311**		**Pn**	**19 56 37.5**	**0.0**
SEUS	**St. Eustatius**	**5.58**	**311**	Pn	**Pn**	**19 56 40.4**	**-1.0**
PCRV	**Puerto La Cruz**	**7.00**	**239**	Pn	**Pn**	**19 57 01.9**	**+1.1**
13nm,0.3s,baz=64,slow=3.4,SNR=46							
PCRV				Sn	**Sn**	**19 58 15.5**	**-4.1**
baz=244,slow=21,SNR=1.0							
STVI	**Saint Thomas**	**7.59**	**307**	Pn	**Pn**	**19 57 08.8**	**-0.2**

CUPR	Culebra, Puert	7.83 305		Pn		19 57 11.7	-0.5
MTP	Monte Pirata	7.93 303	Pn	Pn		19 57 12.9	-0.8
HUMP	Col San Antoni	8.20 302		Pn		19 57 17.0	-0.4
CBYP	Canovanas	8.27 303		Pn		19 57 17.8	-0.6
PDPR	Patillas Dam,	8.28 301		Pn		19 57 17.8	-0.7
SJG	San Juan	8.43 301	Pn	Pn		19 57 20.4	-0.1
	3.1nm,0.3s,baz=105,slow=9.4,SNR=13						
SJG			Sn	Sn		19 58 51.2	-3.8
	1.1nm,0.3s,baz=309,slow=21,SNR=1.8						
SJG			LR	LR		20 01 04.2	
	comp=Z,166nm,21.5s,baz=216,slow=41						
SJG	San Juan	8.43 301		Pn		19 57 20.0	-0.5
SJG	San Juan	8.43 301	eP	Pn		19 57 20.8	+0.2
GCPR	Guaynabo City	8.48 302		Pn		19 57 21.2	+0.1
AOPR	Arecibo Observ	9.05 301		Pn		19 57 29.4	+0.3
MDP	Montagnes des	10.48 146	Pn	Pn		19 57 40.8	-7.8
	2.4nm,0.3s,baz=330,slow=16,SNR=23						
MDP			Sn	Sn		19 59 27.9	-17
	5.4nm,0.3s,baz=255,slow=20,SNR=9.2						
BAUV	El Baul	10.51 243	eP	Pn		19 57 48.7	-0.4
BAUV	El Baul	10.51 243	eS	Sn		19 59 38.3	-7.8
SDV	Santo Domingo	12.84 249	Pn	Pn		19 58 20.3	-0.8
	4.1nm,0.3s,baz=39,slow=9.4,SNR=4.0						
SDV			LR	LR		20 05 05.1	
	comp=Z,78nm,19.5s,baz=72,slow=45						
SDV	Santo Domingo	12.84 249	eP	Pn		19 58 19.8	-1.3
SDDR	Presa de Saban	13.23 294		Pn		19 58 23.6	-2.7
SDDR	Presa de Saban	13.23 294	eP	Pn		19 58 26.1	-0.2
PTGA	Pitinga	14.58 186	Pn	Pn		19 58 37.0	-7.6
	3.3nm,0.3s,baz=13,slow=14,SNR=10						
PTGA			Sn	Sn		20 01 07.7	-18
	2.3nm,0.3s,baz=90,slow=22,SNR=4.7						
PAMC	Pamplona, Colo	15.34 246	eP	Pn		19 58 52.2	-3.2
OCAC	Ocana	15.53 250	eP	Pn		19 58 56.3	-1.3
SMRC	Santa Marta, M	15.54 262	eP	P		19 58 59.8	-1.7
SMLC	San Martn de	16.03 253	eP	Pn		19 59 01.2	-2.6
BARC	Barichara	16.11 245	eP	P		19 59 07.4	-0.7
RUSC	La Rusia	16.36 242		Pn		19 59 08.7	+0.2
RUSC			IAmb	IAmb		19 59 17.9	
	comp=Z,59nm,0.9s						
RUSC	La Rusia	16.36 242	eP	P		19 59 11.3	+0.1
SJCC	San Jacinto, C	16.74 258		Pn		19 59 12.7	-0.3
SJCC			IAmb	IAmb		19 59 14.2	
	comp=Z,21nm,0.5s						
SJCC	San Jacinto, C	16.74 258	eP	Pn		19 59 11.1	-1.8
ZARC	Zaragoza, Cauc	17.23 250	eP	Pn		19 59 16.8	-2.1
CHIC	Chingaza	17.56 240	eP	Pn		19 59 21.3	-2.2
UREC	San Jos de Ur	17.75 252	eP	Pn		19 59 23.3	-2.2
ROSC	El Rosal	17.95 241	Pn	Pn		19 59 26.7	-1.6
NORC	Norcasia	18.07 244	eP	Pn		19 59 27.5	-1.9
HELC	Santa Helena	18.37 247	eP	P		19 59 31.1	-2.2
DBBC	Dabeiba	18.64 250	eP	P		19 59 32.8	-3.3
GUY2C	Guyana, Caldas	18.66 244	eP	P		19 59 35.5	-1.2
TOLC	Tolima	18.93 242	eP	P		19 59 39.0	-0.5
CBOC	Ciudad Bolivar	18.94 247	eP	P		19 59 36.9	-2.5
PLMC	San Jos del P	19.62 245	eP	P		19 59 44.3	-2.4
YOTC	Yotoco, Valle	20.12 242	eP	P		19 59 49.4	-2.8
NPGB	Novo Progresso	21.02 171	eP	P		20 00 07.9	+6.0
POPC	Popayan, Colom	21.16 239	eP	P		19 59 51.1	-12
PRPB	Parauapebas	21.72 156	eP	P		20 00 16.5	+7.2
SAML	Samuel	23.14 192	P	P		20 00 22.9	-1.4
SAML	Samuel	23.14 192	eP	P		20 00 28.6	+4.3
OTAV	Otavalo	23.91 237	P	P		20 00 30.2	-2.2
DRK0	Durika	24.61 262	P	P		20 00 37.4	-1.2
DRK0			IAmb	IAmb		20 01 02.7	
	comp=Z,28nm,0.8s						
SRBA	San Rafael, Bu	24.73 262	P	P		20 00 38.8	-0.8
SRBA			IAmb	IAmb		20 00 51.6	
	comp=Z,11nm,0.9s						
ETMB	Extrema	24.73 198	eP	P		20 00 44.9	+5.5
CLDB	Colider	24.74 174	eP	P		20 00 45.4	+5.9
NBPS	Pedro II - PI	24.85 136	eP	P		20 00 48.1	+7.5
SMTB	Santa Maria do	25.07 154	eP	P		20 00 49.7	+7.2
JTS	Las Juntas de	26.05 265	LR	LR		20 12 29.8	
	comp=Z,75nm,19.1s,baz=344,slow=40						
SNDB	Serra Nova Dou	26.67 164	eP	P		20 01 04.4	+7.4
VILB	Vilhena	26.70 184	eP	P		20 01 02.3	+5.0
NBPB	Pedra Branca-C	26.95 134	eP	P		20 01 07.3	+7.7
NBCL	Cascavel-CE	26.97 130	eP	P		20 01 08.0	+8.3
ATAH	Atahualpa	28.70 225	P	P		20 01 17.5	+1.8
	comp=Z,11nm,0.9s,baz=51,slow=4.0,SNR=7.5						
PTLB	Pontes e Lacer	29.14 181	eP	P		20 01 24.1	+5.1
BDFB	Brasilia	31.12 160	P	P		20 01 38.0	+1.3
	comp=Z,1.4nm,0.6s,baz=327,slow=17,SNR=1.8						
BDFB			LR	LR		20 13 43.3	
	comp=Z,126nm,19.7s,baz=308,slow=36						
BDFB	Brasilia	31.12 160	P	P		20 01 38.0	+1.3
TKL	Tuckaleechee C	31.38 318	LR	LR		20 13 30.2	
	comp=Z,43nm,21.4s,baz=128,slow=35						
LPAZ	La Paz	31.43 198	P	P		20 01 40.0	0.0
	comp=Z,0.6nm,0.3s,baz=18,slow=13,SNR=1.2						
LPAZ	La Paz	31.43 198	P	P		20 01 40.4	+0.5
LPAZ	La Paz	31.43 198	eP	P		20 01 43.6	+3.6
LMN	Caledonia Moun	32.31 352	P	P		20 01 47.0	+0.2
LMN			IAmb	IAmb		20 01 47.9	
	comp=Z,9.3nm,1.0s						
PB11	IPOC Station P	35.16 198	P	P		20 02 11.5	-0.5
DIAM	Diamantina, MG	35.17 155	eP	P		20 02 18.6	+6.5
PB08	IPOC Station P	35.37 197	P	P		20 02 16.2	+2.1
PB08			IAmb	IAmb		20 02 23.2	
	comp=Z,8.2nm,0.8s						
SADO	Sadowa	35.43 334	P	P		20 02 14.0	0.0
	comp=Z,3.4nm,0.8s,baz=141,slow=13,SNR=1.9						
SADO	Sadowa	35.43 334	P	P		20 02 13.9	0.0
SADO			IAmb	IAmb		20 02 38.0	
	comp=Z,10nm,1.2s						
PB01	IPOC Station P	36.32 197	P	P		20 02 22.0	+0.2
PB01			IAmb	IAmb		20 02 30.8	
	comp=Z,12nm,0.9s						
PB07	IPOC Station P	37.09 198	P	P		20 02 30.3	+1.9
LVC	Limon Verde	37.65 196	P	P		20 02 34.7	+1.3
	comp=Z,4.5nm,0.6s,baz=224,slow=22,SNR=6.2						
LVC	Limon Verde	37.65 196	P	P		20 02 35.0	+1.5
LVC			IAmb	IAmb		20 02 42.9	
	comp=Z,9.8nm,0.9s						
CCM	Cathedral Cave	37.68 316	P	P		20 02 33.9	+0.8
CCM			IAmb	IAmb		20 02 55.3	
	comp=Z,11nm,1.2s						
FRTB	Fartura	38.02 167	eP	P		20 02 41.8	+5.6
DUB01	Friburgo-RJ	39.09 156	eP	P		20 02 51.3	+6.0
CAM01	Campos-RJ	39.16 155	eP	P		20 02 52.9	+7.2
ESAR	Angra dos Reis	39.18 159	eP	P		20 02 52.6	+6.7
PB14	IPOC Station P	39.98 197	P	P		20 02 53.4	+0.5
PB14			IAmb	IAmb		20 03 01.8	
	comp=Z,14nm,1.1s						
CPUP	Villa Florida	39.98 178	P	P		20 02 50.9	-1.6
	comp=Z,1.3nm,0.5s,baz=357,slow=9.7,SNR=4.0						
CPUP	Villa Florida	39.98 178	P	P		20 02 50.6	-1.9
CPUP	Villa Florida	39.98 178	eP	P		20 02 58.3	+5.8
TIJ01	Guaruva-PR	40.05 167	eP	P		20 02 59.3	+6.0
GO02	Mina Guanaco	40.27 196	P	P		20 02 56.5	+1.2
ITAB	Concordia	41.34 171	eP	P		20 03 09.7	+6.0
SCHQ	Schefferville	41.38 353	P	P		20 03 04.5	+0.7
	comp=Z,4.7nm,0.9s,baz=196,slow=16,SNR=2.6						
SCHQ	Schefferville	41.38 353	P	P		20 03 04.3	+0.6
SCHQ			IAmb	IAmb		20 03 22.6	
	comp=Z,17nm,1.3s						
AC02	Maricunga	41.75 194	P	P		20 03 08.4	+0.7
AC02			IAmb	IAmb		20 03 17.9	
	comp=Z,26nm,1.4s						
CPSB	Cacapava Do Su	44.30 174	eP	P		20 03 33.4	+5.7
TXAR	Lajitas Array	44.39 298	P	P		20 03 28.9	+0.2
	comp=Z,0.8nm,0.8s,baz=121,slow=8.7,SNR=11						
TXAR	Lajitas Array	44.39 298	P	P		20 03 28.5	-0.3
TX32	Lajitas Array	44.39 298	P	P		20 03 28.3	-0.5
MSTX	Muleshoe	44.69 304	P	P		20 03 31.6	+0.6
MSTX			IAmb	IAmb		20 03 39.2	
	comp=Z,11nm,1.0s						
HPIG		45.78 294	P	P		20 03 40.6	+0.7
HPIG			IAmb	IAmb		20 04 01.0	
	comp=Z,8.4nm,1.2s						
CO03	El Pedregal	45.96 195	P	P		20 03 43.6	+2.5
MNTX	Cornudas Mount	46.29 301	P	P		20 03 44.2	+0.5
MNTX			IAmb	IAmb		20 03 45.8	
	comp=Z,5.1nm,0.9s						
VA03	San Esteban	47.77 194	P	P		20 03 54.8	-0.3
H10N3	ASCENSION HYDR	48.75 114	T	T		20 56 08.1	
	baz=295,slow=75,SNR=4.2						
H10N2	ASCENSION HYDR	48.76 114	T	T		20 56 05.1	
	baz=295,slow=75,SNR=4.4						
H10N1	ASCENSION HYDR	48.77 114	T	T		20 56 07.5	
	baz=295,slow=75,SNR=4.4						
MT09	Talagante	48.84 194	P	P		20 04 03.6	+0.1
BO01	Tunca	49.46 194	P	P		20 04 10.5	+2.5
BO02	Sierra Bellavi	49.77 193	P	P		20 04 11.2	+0.7
HSIG		50.65 296	P	P		20 04 17.7	+0.4
HSIG			IAmb	IAmb		20 04 22.6	
	comp=Z,5.9nm,0.5s						
TUC	Tucson	50.92 300	P	P		20 04 20.5	+1.1
KOWA	Kowa	52.77 82	P	P		20 04 36.3	+3.1
DBIC	Dimbokro	53.22 92	P	P		20 04 40.6	+3.9
PLCA	Paso Flores	55.46 191	P	P		20 04 51.4	-1.1
	comp=Z,2.5nm,0.7s,baz=2.6,slow=8.8,SNR=5.5						
PLCA	Paso Flores	55.46 191	P	P		20 04 53.3	+0.9
PLCA	Paso Flores	55.46 191	eP	P		20 04 57.2	+4.7
TORD	Torodi Ar. Bea	58.44 83	P	P		20 05 11.6	-2.4
	comp=Z,0.5nm,0.6s,baz=335,slow=6.4,SNR=1.7						
TORD			LR	LR		20 27 52.2	
	comp=Z,85nm,19.5s,baz=240,slow=34						
TORD	Torodi Ar. Bea	58.44 83	P	P		20 05 17.0	+3.0
TORD			IAmb	IAmb		20 05 22.8	
	comp=Z,3.4nm,0.9s						
KEST	Kesra	64.16 57	LR	LR		20 30 37.9	
	comp=Z,63nm,19.3s,baz=242,slow=33						
GERES	GERESS Array B	68.01 43	P	P		20 06 14.5	-2.6
	comp=Z,0.6nm,0.8s,baz=297,slow=11,SNR=2.2						
PDG	Podgorica	71.82 50	P	P		20 06 44.5	+4.0
PDG			IAmb	IAmb		20 07 03.9	
	comp=Z,4.2nm,0.5s						
DIVS	Divibare	72.29 48	P	P		20 06 47.3	+3.9
FINES	FINESS Array B	75.37 30	P	P		20 07 01.1	+0.1
	comp=Z,1.8nm,0.7s,baz=270,slow=1.9,SNR=6.6						
FINES	FINESS Array B	75.37 30	P	P		20 07 00.7	-0.2
BUR08	Bucovina Ar. S	75.70 44	P	P		20 07 04.2	+0.9
BUR08			IAmb	IAmb		20 07 14.7	
	comp=Z,5.4nm,1.1s						
BURAR	Bucovina Array	75.71 44	P	P		20 07 04.0	+0.6
BURAR			IAmb	IAmb		20 07 15.1	
	comp=Z,5.7nm,1.1s						
IDI	Anoyia	76.83 57	P	P		20 07 10.8	+0.8
	comp=Z,4.5nm,1.0s,baz=109,slow=22,SNR=3.0						
IDI	Anoyia	76.83 57	P	P		20 07 12.4	+2.4
KDAK	Kodiak Island	80.53 327	LR	LR		20 43 38.6	
	comp=Z,43nm,18.9s,baz=98,slow=36						
BRTR	Keskin Array B	82.93 51	P	P		20 07 47.4	+4.4

*BGR **25** 19:57:29.1±0.0, 59°.95N×154°.05W, h100km, mb4.9*
*BJI **25** 19:57:37.6±0.0, 61°.90N×152°.28W, h105km, mB5.0/47, mb5.3/74*
*NEIC **25** 19:57:41.9, 61°.97N×152°.09W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.19; $M_{\theta\theta}$-3.74; $M_{\phi\phi}$1.55; $M_{r\theta}$0.64; $M_{\theta\phi}$4.52; $M_{\phi r}$1.59; Fault plane solution: $M_0$5.83000×10^{16} NP1:ϕ_s340.60000°, δ70.47000°, λ156.64000°. NP2:ϕ_s78.81000°, δ68.06000°, λ21.12000°. Principal axes: T 5.1262, Plg30.0000°, Azm299.0000°; N 1.2155, Plg60.0000°, Azm123.0000°; P -6.3417, Plg2.0000°, Azm30.0000°;*
*MOS **25** 19:57:41.8±0.9, 62°.05N×152°.26W, h127km, mb5.0/43 Error ellipse: s-maj=8.9km s-min=4.0km az=94.7*
*NEIC **25** 19:57:42.5±1.5, 61°.97N±0°.04×152°.10W±0°.07, h124km±3km, Error ellipse: s-maj=5.2km s-min=4.9km az=140.0*
*AEIC **25** 19:57:43±1.4, 61°.95N±0°.03×152°.05W±0°.05, h126km±3km, ML5.2, mb4.9/216(NEIC), ML5.4/127(NEIC), Mwr5.1/88(NEIC), Error ellipse: s-maj=5.0km s-min=3.2km az=203.0*
*IDC **25** 19:57:44.0±0.6, 62°.10N×152°.29W, h129km±4km, mb4.6/44, mb1 4.7/47, mb1mx4.6/56, mbtmp5.0/47, MS3.6/15, Ms1 3.6/15, ms1mx3.4/47, Error ellipse: s-maj=9.1km s-min=6.2km az=30.0*
*GCMT **25** 19:57:45.0±0.2, 62°.13N±0°.01×152°.23W±0°.03, h131km±1km, MW5.2/130, Moment Tensor Solution. s59,c71; s130,c205; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.12; $M_{\theta\theta}$-4.43±.16; $M_{\phi\phi}$1.89±.16; $M_{r\theta}$0.83±.12; $M_{\theta\phi}$5.62±.13; $M_{\phi r}$1.83±.10; Best double couple: $M_0$6.98700×10^{16} NP1:ϕ_s79.00000°, δ70.00000°, λ20.00000°. NP2:ϕ_s342.00000°, δ71.00000°, λ158.00000°. Principal axes: T 6.2520, Plg28.0000°, Azm300.0000°; N 1.4700, Plg62.0000°, Azm123.0000°; P -7.7220, Plg1.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 19:57:42.8±0.3, **61°.97N**±0°.03×**152°.16W**±0°.02, **h125**km±2km, **h125**km:**pP-P, n1095**, σ1§**20**/1170, **mb4.9**/254, **193C-152D, Fault plane solution: NP1**:ϕ_s75.56207°, δ75.30164°, λ5.63062°. **NP2**:ϕ_s344.12909°, δ84.55421°, λ165.23349°. **Principal axes:** T Plg14.2718°, Azm299.0013°; N Plg74.2823°, Azm144.3277°; P Plg6.4483°, Azm30.6487°; **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	**Skwentna**	**0.30**	**88**	P	**Pn**	**19 57 59.8**	**-0.5**
	baz=265,SNR=1000						
SKT	**Skwentna**	**0.30**	**88**	Pn	**Pn**	**19 57 59.8**	**-0.5**
SKT				Sn	**Sn**	**19 58 12.8**	**-0.8**
SKT				IAML		19 58 13.7	
	comp=E,100μm,0.7s						
SKT				IAML		19 58 14.0	
	comp=N,127μm,1.0s						
M20K	**Styx River**	**0.47**	**260**	P	**Pn**	**19 58 00.7**	**-0.5**
	baz=81						
M20K	**Styx River**	**0.47**	**260**		**Pn**	**19 58 01.1**	**0.0**
M20K					**Sn**	**19 58 14.9**	**-0.2**
STLK	**Strandline Lak**	**0.50**	**162**		**Pn**	**19 58 00.9**	**-0.4**
SPNN	**North Nagishla**	**0.66**	**203**		**Pn**	**19 58 02.5**	**0.0**
SPNN					**Sn**	**19 58 17.5**	**+0.1**
SPCG	**Spurr Capps Gl**	**0.68**	**174**		**Pn**	**19 58 02.3**	**-0.3**
SPCG					**Sn**	**19 58 16.7**	**-1.0**
CRP	**Crater Peak**	**0.70**	**180**		**Pn**	**19 58 02.6**	**-0.2**
SPCP	**Crater Peak Br**	**0.71**	**180**		**Pn**	**19 58 02.6**	**-0.3**
SPCP					**Sn**	**19 58 17.8**	**-0.2**
BGL	**Barrier Glacie**	**0.72**	**189**		**Pn**	**19 58 02.6**	**-0.2**
SPBG	**Spurr Blockage**	**0.72**	**188**		**Pn**	**19 58 02.6**	**-0.3**
SPBG					**Sn**	**19 58 18.7**	**+0.7**
SPCN	**Chakachatna No**	**0.75**	**181**		**Pn**	**19 58 02.9**	**-0.2**
SPCR	**Spurr Chakacha**	**0.77**	**182**	P	**Pn**	**19 58 02.7**	**-0.5**
	baz=5.0,SNR=1000						
SPCR	**Spurr Chakacha**	**0.77**	**182**		**Pn**	**19 58 02.8**	**-0.5**
SPU	**Mount Spurr**	**0.79**	**176**		**Pn**	**19 58 02.7**	**-0.7**
SUA	**Susitna One**	**0.84**	**126**	P	**Pn**	**19 58 03.5**	**-0.4**
	baz=309,SNR=1000						
SUA	**Susitna One**	**0.84**	**126**		**Pn**	**19 58 03.6**	**-0.4**
SUA				Sn	**Sn**	**19 58 19.1**	**-0.7**
SUA				IAML		19 58 20.2	
	comp=E,55μm,0.5s						
SUA				IAML		19 58 20.4	
	comp=N,55μm,0.7s						
PPLA	**Purkeypile**	**0.93**	**359**	P	**Pn**	**19 58 04.8**	**+0.1**
	baz=176						
PPLA	**Purkeypile**	**0.93**	**359**	Pn	**Pn**	**19 58 04.8**	**+0.1**
CUT	**Chulitna**	**0.99**	**63**	P	**Pn**	**19 58 05.0**	**0.0**
	baz=243,SNR=646						
CUT	**Chulitna**	**0.99**	**63**	Pn	**Pn**	**19 58 04.9**	**-0.1**
CUT				Sn	**Sn**	**19 58 21.4**	**-0.5**
M19K	**Big River Lodg**	**1.06**	**267**	P	**Pn**	**19 58 05.8**	**+0.1**
	baz=86,SNR=1000						
M19K	**Big River Lodg**	**1.06**	**267**		**Pn**	**19 58 06.0**	**+0.2**
FIS	**Fire Island**	**1.24**	**131**		**Pn**	**19 58 08.1**	**+0.4**
FIS				IAML		19 58 30.1	
	comp=N,52μm,0.5s						
FIS				IAML		19 58 31.5	
	comp=E,48μm,0.8s						
L19K	**White Mountain**	**1.29**	**281**	P	**Pn**	**19 58 08.0**	**-0.1**
	baz=99,SNR=1000						
L19K	**White Mountain**	**1.29**	**281**		**Pn**	**19 58 08.0**	**-0.1**
CAPN	**Captain Cook N**	**1.30**	**158**	P	**Pn**	**19 58 09.0**	**+0.8**
	baz=340,SNR=40						
CAPN	**Captain Cook N**	**1.30**	**158**		**Pn**	**19 58 08.9**	**+0.7**
CAPN				Sn	**Sn**	**19 58 29.8**	**+2.3**
DFR	**Drift River**	**1.41**	**191**		**Pn**	**19 58 09.2**	**-0.3**
RDJH	**Redoubt Jeurge**	**1.42**	**193**		**Pn**	**19 58 09.6**	**-0.1**
RC01	**Rabbit Creek A**	**1.46**	**126**	P	**Pn**	**19 58 09.0**	**-1.0**
	baz=309,SNR=1000						
RC01	**Rabbit Creek A**	**1.46**	**126**		**Pn**	**19 58 09.0**	**-1.0**
RC01				Sn	**Sn**	**19 58 28.9**	**-1.8**
RC01				IAML		19 58 30.7	
	comp=N,34μm,0.7s						
RC01				IAML		19 58 31.0	
	comp=E,25μm,0.4s						
NCT	**North Crescent**	**1.46**	**195**		**Pn**	**19 58 10.0**	**-0.2**
NCT					**Sn**	**19 58 31.6**	**+0.6**
PMR	**Palmer**	**1.49**	**103**	P	**Pn**	**19 58 08.9**	**-1.4**
	baz=286,SNR=890						
PMR	**Palmer**	**1.49**	**103**		**Pn**	**19 58 08.7**	**-1.6**
PMR				Sn	**Sn**	**19 58 29.0**	**-2.3**
PMR				IAML		19 58 30.9	
	comp=E,23μm,0.5s						
RDWB	**Redoubt West**	**1.52**	**193**		**Pn**	**19 58 10.8**	**-0.2**
RDWB					**Sn**	**19 58 32.5**	**+0.2**
RSO	**Redoubt South**	**1.54**	**191**		**Pn**	**19 58 10.9**	**-0.3**
GHO	**Glory Hole Cre**	**1.54**	**96**		**Pn**	**19 58 10.0**	**-1.1**
HUR	**Hurricane**	**1.55**	**48**		**Pn**	**19 58 10.7**	**-0.3**
RED	**Redoubt Volcan**	**1.58**	**191**		**Pn**	**19 58 11.3**	**-0.3**
N19K	**Bonanza Creek**	**1.61**	**225**	P	**Pn**	**19 58 11.6**	**-0.3**
	baz=44,SNR=1000						
N19K	**Bonanza Creek**	**1.61**	**225**		**Pn**	**19 58 11.6**	**-0.3**
K20K	**Telida**	**1.65**	**328**	P	**Pn**	**19 58 11.9**	**-0.3**
	baz=146,SNR=1000						
K20K	**Telida**	**1.65**	**328**		**Pn**	**19 58 11.9**	**-0.3**
K20K					**Sn**	**19 58 34.1**	**-0.6**
KTH	**Kantishna Hill**	**1.69**	**19**		**Pn**	**19 58 12.3**	**-0.4**
KTH				Sn	**Sn**	**19 58 34.4**	**-1.2**
TRF	**Thorofare Moun**	**1.72**	**29**	P	**Pn**	**19 58 13.0**	**-0.2**
	baz=209,SNR=1000						
TRF	**Thorofare Moun**	**1.72**	**29**		**Pn**	**19 58 12.9**	**-0.2**
TRF				Sn	**Sn**	**19 58 36.6**	**+0.2**
TRF				IAML		19 58 38.2	
	comp=N,32μm,1.5s						
TRF				IAML		19 58 39.4	
	comp=E,21μm,0.9s						
SLKM	**Skilak Lake**	**1.74**	**147**		**Pn**	**19 58 12.0**	**-1.3**
SLKM					**Sn**	**19 58 34.2**	**-2.4**
WAT7	**Susitna Watana**	**1.77**	**59**		**Pn**	**19 58 13.1**	**-0.6**
SML	**Sawmill**	**1.82**	**93**	P	**Pn**	**19 58 12.9**	**-1.3**
	baz=276,SNR=1000						
SML	**Sawmill**	**1.82**	**93**	Pn	**Pn**	**19 58 12.9**	**-1.3**
SML				Sn	**Sn**	**19 58 36.7**	**-1.7**
SML				IAML		19 58 38.4	
	comp=N,35μm,0.6s						
KNK	**Knik Glacier**	**1.85**	**106**	P	**Pn**	**19 58 13.2**	**-1.4**
	baz=289,SNR=1000						
KNK	**Knik Glacier**	**1.85**	**106**		**Pn**	**19 58 13.1**	**-1.5**
KNK				Sn	**Sn**	**19 58 37.4**	**-1.6**
SVW2	**Sparrevohn**	**1.86**	**243**		**Pn**	**19 58 14.4**	**-0.3**
SVW2				Sn	**Sn**	**19 58 38.3**	**-0.8**
WAT1	**Susitna Watana**	**1.89**	**61**	P	**Pn**	**19 58 14.3**	**-0.7**
	baz=243						
WAT1	**Susitna Watana**	**1.89**	**61**		**Pn**	**19 58 14.5**	**-0.6**
O22K	**Cooper Landing**	**1.90**	**141**	P	**Pn**	**19 58 14.4**	**-0.8**
	baz=324						
O22K	**Cooper Landing**	**1.90**	**141**		**Pn**	**19 58 14.3**	**-0.8**
O20K	**Slope Mountain**	**1.91**	**187**	P	**Pn**	**19 58 14.9**	**-0.5**
	baz=7.9,SNR=240						
O20K	**Slope Mountain**	**1.91**	**187**		**Pn**	**19 58 14.8**	**-0.5**
CHUM	**Lake Minchumin**	**1.92**	**358**	P	**Pn**	**19 58 15.5**	**+0.1**
	baz=177						
CHUM	**Lake Minchumin**	**1.92**	**358**		**Pn**	**19 58 15.5**	**+0.1**
IVE	**Iliamna Volcan**	**2.00**	**192**		**Pn**	**19 58 15.8**	**-0.7**
IVE					**Sn**	**19 58 41.4**	**-1.0**
TT01	**Tatalina**	**2.03**	**299**		**Pn**	**19 58 16.7**	**0.0**
TTA	**Tatalina**	**2.04**	**300**	P	**Pn**	**19 58 16.8**	**-0.1**
	baz=116,SNR=74						
TTA	**Tatalina**	**2.04**	**300**		**Pn**	**19 58 16.8**	**-0.1**
TTA	**Tatalina**	**2.04**	**300**		**Sn**	**19 58 42.3**	**-0.7**
ILS	**Iliamna Low So**	**2.07**	**193**		**Pn**	**19 58 17.2**	**-0.1**
RND	**Reindeer**	**2.10**	**45**	P	**Pn**	**19 58 17.1**	**-0.6**
RND	**Reindeer**	**2.10**	**45**		**Pn**	**19 58 17.1**	**-0.6**
RND				IAML		19 58 44.8	
	comp=N,17μm,0.8s						
PWL	**Port Wells**	**2.15**	**120**		**Pn**	**19 58 16.4**	**-1.9**
PWL				IAML		19 58 46.4	
	comp=N,28μm,0.4s						
WAT6	**Susitna Watana**	**2.15**	**72**	P	**Pn**	**19 58 17.5**	**-1.0**
	baz=255,SNR=1000						
WAT6	**Susitna Watana**	**2.15**	**72**		**Pn**	**19 58 17.5**	**-1.0**
WAT6					**Sn**	**19 58 44.2**	**-1.6**
BPAW	**Bear Paw Mtn.**	**2.20**	**13**	P	**Pn**	**19 58 18.5**	**-0.5**
	baz=193,SNR=1000						
BPAW	**Bear Paw Mtn.**	**2.20**	**13**		**Pn**	**19 58 18.4**	**-0.5**
BPAW				IAML		19 58 47.1	
	comp=N,11μm,0.7s						
N18K	**Kilae Creek**	**2.22**	**236**	P	**Pn**	**19 58 18.8**	**-0.4**
	baz=54,SNR=1000						
N18K	**Kilae Creek**	**2.22**	**236**		**Pn**	**19 58 18.8**	**-0.4**
SEW	**Seward**	**2.29**	**144**	P	**Pn**	**19 58 18.4**	**-1.5**
	baz=327,SNR=1000						
SEW	**Seward**	**2.29**	**144**		**Pn**	**19 58 18.5**	**-1.5**
SCM	**Sheep Creek Mo**	**2.29**	**91**		**Pn**	**19 58 18.9**	**-1.2**
SCM	**Sheep Creek Mo**	**2.29**	**91**		**Sn**	**19

HIN IAML 19 59 08.8
comp=N,8μm,0.7s
HIN IAML 19 59 13.6
comp=E,8μm,0.8s
DIV Divide 3.17 103 Pn 19 58 29.5 -1.9
I21K Tanana 3.23 1 P **Pn 19 58 32.2 +0.2**
baz=181,SNR=1000
I21K Tanana 3.23 1 Pn 19 58 32.1 +0.1
PAX Paxson 3.26 69 P **Pn 19 58 32.0 -0.7**
PAX Paxson 3.26 69 P **Pn 19 58 32.2 -0.5**
baz=255,SNR=1000
PAX Paxson 3.26 69 Pn 19 58 32.0 -0.7
HARP HAARP 3.31 79 P **Pn 19 58 32.9 -0.3**
baz=265,SNR=469
HARP HAARP 3.31 79 Pn 19 58 33.0 -0.3
CCB Clear Creek Bu 3.33 34 Pn 19 58 32.5 -0.9
HDA Harding Lake 3.40 42 P **Pn 19 58 33.5 -0.9**
baz=226,SNR=1000
HDA Harding Lake 3.40 42 Pn 19 58 33.5 -0.9
HDA IAML 19 59 13.4
comp=E,5μm,0.3s
HDA IAML 19 59 15.6
comp=N,5μm,0.8s
EYAK Cordova Ski Ar 3.41 112 P **Pn 19 58 32.3 -2.2**
baz=298,SNR=1000
EYAK Cordova Ski Ar 3.41 112 Pn **Pn 19 58 32.1 -2.3**
I23K Minto, Yukon-K 3.43 20 P **Pn 19 58 34.3 -0.4**
baz=202,SNR=1000
I23K Minto, Yukon-K 3.43 20 Pn 19 58 34.2 -0.4
MDM Murphy Dome 3.48 29 Pn 19 58 34.8 -0.7
MDM IAML 19 59 16.9
comp=N,4μm,1.0s
TCOL CIGO, UAF Yank 3.50 32 P **Pn 19 58 35.1 -0.5**
baz=215,SNR=512
TCOL CIGO, UAF Yank 3.50 32 Pn 19 58 35.0 -0.6
TCOL IAML 19 59 21.7
comp=E,9μm,0.7s
I53US FAIRBANKS INFR 3.50 32 P **Pn 19 58 35.0 -0.6**
baz=210,slow=19,SNR=2.7
COLA College 3.50 32 P **Pn 19 58 35.0 -0.6**
COLA College 3.50 32 Pn 19 58 35.0 -0.6
COLA IAML 19 59 21.7
comp=E,10μm,0.7s
PS09 TAPS Pump Stn9 3.52 53 Pn 19 58 35.2 -0.7
PS08 TAPS Pump Stn8 3.53 41 Pn 19 58 35.3 -0.8
N25K Chitina, Valde 3.61 92 P **Pn 19 58 35.9 -1.3**
baz=279,SNR=1000
N25K Chitina, Valde 3.61 92 Pn **Pn 19 58 35.7 -1.5**
N25K IAML 19 59 21.5
comp=E,7μm,0.9s
IL31 3.68 38 Pn **Pn 19 58 37.2 -0.8**
ILAR Eielson Array 3.68 38 P **Pn 19 58 36.8 -1.2**
comp=E,660nm,0.3s,baz=223,slow=13,SNR=1888
ILAR S **Sn 19 59 21.9 +1.1**
comp=E,309nm,0.3s,baz=213,slow=16,SNR=2.6
ILAR Eielson Array 3.68 38 Pn **Pn 19 58 37.2 -0.9**
BMRM Bremner River 3.76 102 P **Pn 19 58 36.9 -2.3**
baz=289,SNR=1000
BMRM Bremner River 3.76 102 Pn 19 58 36.8 -2.3
BMRM IAML 19 59 23.0
comp=N,5μm,0.5s
BMRM IAML 19 59 31.1
comp=E,5μm,0.9s
PS07 TAPS Pump Stn7 3.77 26 Pn 19 58 38.8 -0.4
RIDG Independent Ri 3.79 59 P **Pn 19 58 39.5 -0.1**
baz=245,SNR=1000
RIDG Independent Ri 3.79 59 Pn 19 58 39.5 -0.1
RIDG IAML 19 59 25.2
comp=E,8μm,0.6s
RIDG IAML 19 59 31.5
comp=N,9μm,0.7s
POKR Poker Plat Res 3.80 32 P **Pn 19 58 39.3 -0.4**
baz=215,SNR=996
POKR Poker Plat Res 3.80 32 Pn 19 58 39.2 -0.4
Q23K Middleton Isla 3.83 129 P **Pn 19 58 37.9 -2.1**
baz=314,SNR=198
Q23K Middleton Isla 3.83 129 Pn **Pn 19 58 37.8 -2.2**
Q23K IAML 19 59 24.1
comp=E,5μm,0.8s
Q23K IAML 19 59 25.3
comp=N,4μm,0.9s
MID Middleton Isla 3.83 129 P **Pn 19 58 37.8 -2.2**
MID Middleton Isla 3.83 129 Pn 19 58 37.8 -2.2
MID IAML 19 59 23.8
comp=N,3μm,0.7s
MID IAML 19 59 24.1
comp=E,5μm,1.1s
KAWH Katmai 3.83 201 Pn 19 58 39.5 -0.6
KVTA Katmai Vly 10 3.93 205 Pn 19 58 41.1 -0.3
RAGM Ragged Mountai 3.96 110 Pn 19 58 39.4 -2.3
GLB Gilahina Butte 4.01 94 Pn 19 58 41.1 -1.4
GLB IAML 19 59 29.2
comp=E,5μm,0.7s
GLB IAML 19 59 38.6
comp=N,5μm,1.0s
KCE Katmai Mt Cerb 4.03 203 Pn 19 58 42.9 +0.1
MENT Mentasta 4.04 72 Pn 19 58 42.0 -0.8
MENT IAML 19 59 42.5
comp=N,7μm,0.6s
H23K Yukon River 4.04 15 P **Pn 19 58 42.6 -0.2**
baz=197,SNR=1000
H23K Yukon River 4.04 15 Pn 19 58 42.5 -0.3
PS06 TAPS Pump Stn6 4.04 14 Pn 19 58 42.6 -0.3
DOT Dot Lake 4.08 62 Pn 19 58 42.5 -0.9
IMAR Indian Mountai 4.09 351 Pn 19 58 43.5 0.0
KABR Katmai Barrier 4.10 201 Pn 19 58 43.3 -0.5
ANCK Angle Creek 4.13 205 Pn 19 58 44.0 -0.2
HMT Hamilton 4.16 110 Pn 19 58 42.0 -2.5
KDAK Kodiak Island 4.21 183 P **Pn 19 58 41.7 -3.3**
comp=N,54nm,0.3s,baz=52,slow=9.4,SNR=558
KDAK S **Sn 19 59 28.6 -4.8**
comp=N,121nm,0.3s,baz=210,slow=19,SNR=9.0
KDAK Kodiak Island 4.21 183 P **Pn 19 58 42.5 -2.5**
KDAK Kodiak Island 4.21 183 P **Pn 19 58 42.0 -3.1**
baz=3.3
KDAK Kodiak Island 4.21 183 Pn **Pn 19 58 42.5 -2.5**
L26K Log Cabin Wild 4.22 72 P **Pn 19 58 44.9 -0.4**
baz=259,SNR=724
L26K Log Cabin Wild 4.22 72 Pn 19 58 44.8 -0.4
VRDI Verde Repeater 4.22 96 Pn 19 58 43.7 -1.8
VRDI IAML 19 59 33.3
comp=N,4μm,0.5s
CAHL Cahill 4.23 203 Pn 19 58 45.1 -0.4
SCRK Sand Creek 4.24 58 P **Pn 19 58 44.7 -0.9**
baz=245,SNR=1000
SCRK Sand Creek 4.24 58 Pn **Pn 19 58 44.5 -1.0**
SCRK IAML 19 59 51.0
comp=N,3μm,1.2s
SCRK IAML 19 59 52.2
comp=E,2μm,0.7s
KJL Kejulik 4.29 205 Pn 19 58 45.5 -0.6
KAIM Kayak Island 4.29 115 P **Pn 19 58 43.2 -3.0**
baz=302,SNR=136
KAIM Kayak Island 4.29 115 Pn 19 58 44.7 -1.6
M26K Nabesna, AK 4.32 80 P **Pn 19 58 45.6 -1.0**
baz=268,SNR=875
M26K Nabesna, AK 4.32 80 Pn 19 58 45.6 -1.0
H24K Noodor Dome 4.32 24 P **Pn 19 58 46.0 -0.6**
baz=207,SNR=1000
H24K Noodor Dome 4.32 24 Pn 19 58 45.9 -0.7
BERG Berg Lake 4.39 107 Pn 19 58 45.4 -2.1
MCARA McCarthy VSAT 4.39 94 P **Pn 19 58 46.5 -1.0**
baz=282,SNR=318
SUCK Suckling Hills 4.50 111 Pn 19 58 47.9 -1.1
SUCK Suckling Hills 4.50 111 IAML 19 59 40.3
comp=N,2μm,0.5s
CRQM Cirque 4.51 102 Pn 19 58 47.6 -1.7
CRQM IAML 19 59 40.8
comp=N,5μm,0.6s
CRQM IAML 19 59 45.1
comp=E,4μm,1.4s
CRQE Cirque 4.53 102 P **Pn 19 58 47.6 -1.9**
baz=290,SNR=1000
KHIT Khitrov Hills 4.57 106 Pn 19 58 49.2 -0.8
GRIN Grindle Hills 4.61 108 Pn 19 58 49.7 -0.7
PRP Porcupine Dome 4.62 37 P **Pn 19 58 49.8 -0.9**
baz=222,SNR=635
PRP Porcupine Dome 4.62 37 Pn 19 58 49.9 -0.8
PRP Porcupine Dome 4.62 37 IAML 20 00 21.3
comp=N,2μm,0.7s
PLK5 Peulik 5 4.63 213 Pn 19 58 50.6 -0.1
TGL Tana Glacier 4.65 101 Pn 19 58 49.5 -1.6
TGL Tana Glacier 4.65 101 IAML 19 59 44.1
comp=N,4μm,0.6s
TGL IAML 19 59 44.8
comp=E,5μm,0.4s
PTPK Patty Peak 4.70 95 Pn 19 58 50.7 -1.1
PLK1 Peulik 1 4.74 210 Pn 19 58 51.8 -0.4
WAX Waxell Ridge 4.75 105 Pn 19 58 51.2 -1.2
WAX Waxell Ridge 4.75 105 IAML 19 59 48.0
comp=E,5μm,0.5s
PLK3 Peulik 3 4.77 208 Pn 19 58 52.6 0.0
BALM Baldy 4.79 97 Pn 19 58 51.5 -1.5
OHAK Old Harbor 4.80 187 P **Pn 19 58 49.7 -3.2**
baz=6.9,SNR=125
OHAK Old Harbor 4.80 187 Pn **Pn 19 58 49.5 -3.5**
KIAG Kiagna River 4.82 98 Pn 19 58 52.4 -1.0
M27K Edge Creek, AK 4.84 81 P **Pn 19 58 53.8 +0.2**
baz=270,SNR=1000
SNH Sunshine Point 4.87 108 Pn 19 58 52.2 -1.8
KULT Kultieth River 4.89 106 Pn 19 58 52.7 -1.6
PS05 TAPS Pump Stn5 4.91 7 Pn 19 58 54.6 +0.2
L27K Beaver Creek, 4.91 73 P **Pn 19 58 53.6 -0.9**
baz=261,SNR=1000
L27K Beaver Creek, 4.91 73 Pn 19 58 53.6 -0.9
BC03 4.93 73 Pn 19 58 53.9 -0.8
BCAR Beaver Creek A 4.93 73 Pn **Pn 19 58 53.6 -1.2**
ISLE Juniper Island 4.93 102 Pn 19 58 53.5 -1.4
ISLE Juniper Island 4.93 102 IAML 19 59 52.6
comp=E,4μm,0.7s
ISLE IAML 19 59 55.8
comp=N,4μm,0.6s
K27K Chicken 5.04 61 P **Pn 19 58 55.1 -1.1**
baz=250
K27K Chicken 5.04 61 Pn 19 58 55.0 -1.1
K27K IAML 19 59 52.1
comp=E,1μm,0.8s
K27K IAML 20 00 08.3
comp=N,2μm,0.9s
CYK Cape Yakataga 5.07 108 Pn 19 58 55.5 -1.1
BAGL Bagley Icefiel 5.09 103 Pn 19 58 55.5 -1.3
BARN Barnard Glacie 5.11 96 Pn 19 58 56.5 -0.8
BARN Barnard Glacie 5.11 96 IAML 19 59 55.8
comp=E,2μm,0.5s
BARN IAML 20 00 26.7
comp=N,2μm,1.0s
MESA MESA 5.27 105 P **Pn 19 58 57.8 -1.7**
baz=294,SNR=698
MESA MESA 5.27 105 Pn 19 58 57.8 -1.7
CTG Chitna Glacier 5.28 96 P **Pn 19 58 58.6 -1.0**
baz=286,SNR=867
CTGM Chitina Glacie 5.29 96 Pn 19 58 58.3 -1.4
CTGM IAML 19 59 59.1
comp=N,2μm,1.1s
CTGM IAML 20 00 02.9
comp=E,1μm,0.5s
YAH Yahtse 5.29 103 Pn 19 58 58.5 -1.3
YAH Yahtse 5.29 103 IAML 19 59 59.3
comp=N,3μm,0.5s
YAH IAML 19 59 59.3
comp=E,2μm,0.8s
BVCY Beaver Creek 5.31 80 Pn 19 58 59.3 -0.5
YUK2 White River 5.36 87 Pn 19 58 59.8 -0.7
LOGN Logan Glacier 5.48 97 Pn 19 59 01.3 -1.0
RKAV Rock Avalanche 5.50 103 Pn 19 59 01.5 -1.0
FYU Fort Yukon 5.51 30 Pn 19 59 01.8 -0.6
SII Sitkinak Islan 5.53 192 P **Pn 19 58 59.6 -3.2**
baz=10,SNR=20
SII Sitkinak Islan 5.53 192 Pn **Pn 19 58 59.6 -3.2**
YUK3 Moose Creek 5.54 87 Pn 19 59 02.5 -0.6
TABL Table Mountain 5.54 101 Pn 19 59 01.7 -1.4
EGAK Eagle 5.69 56 P **Pn 19 59 03.7 -1.3**
baz=245,SNR=1000
EGAK Eagle 5.69 56 Pn **Pn 19 59 03.6 -1.3**
CHX Chaix Hills 5.70 105 Pn 19 59 04.1 -1.0
SAMH Samovar Hills 5.83 103 Pn 19 59 06.5 -0.4
PCA Pinnacle 6.08 103 Pn 19 59 08.9 -1.3
PINM Pinnacle 6.08 103 P **Pn 19 59 09.1 -1.2**
baz=293,SNR=1000
DAWY Dawson 6.18 65 Pn **Pn 19 59 10.6 -0.9**
BM03 Burnt Mountain 6.35 27 Pn 19 59 12.7 -1.1
BMAR Burnt Mountain 6.37 27 Pn **Pn 19 59 13.0 -1.0**
BM01 Burnt Mountain 6.40 27 Pn 19 59 13.3 -1.1
CHIR Chirikof Islan 6.42 198 P **Pn 19 59 11.6 -3.2**
baz=15
CHIR Chirikof Islan 6.42 198 Pn **Pn 19 59 11.4 -3.4**
BCPM Bancas Point 6.42 103 Pn 19 59 13.4 -1.4
ANM Nome 6.50 299 P **Pn 19 59 16.4 +0.5**
ANM Nome 6.50 299 P **Pn 19 59 16.7 +0.9**
baz=108,SNR=91
ANM Nome 6.50 299 Pn **Pn 19 59 16.4 +0.5**
PS04 TAPS Pump Stn4 6.59 9 Pn 19 59 16.7 -0.3
YKU2 Yakutat 6.60 106 Pn 19 59 16.3 -0.8
PNL Peninsula 6.65 105 Pn 19 59 16.7 -1.3
YUK6 Outpost Mounta 6.69 93 Pn 19 59 17.6 -1.0
TOLK Toolik Lake Re 6.79 8 P **Pn 19 59 20.6 +0.9**
baz=190,SNR=524
TOLK Toolik Lake Re 6.79 8 Pn **Pn 19 59 20.4 +0.7**
VNHG Veniaminof 1 6.80 215 Pn 19 59 19.2 -0.8
VNFG Fog Glacier, M 6.85 217 Pn 19 59 20.0 -0.7
VNSG Veniaminof 6 6.86 214 Pn 19 59 20.1 -0.7
HYT Haines Junctio 7.13 93 Pn 19 59 23.2 -1.2
RDOG Red Dog Mine 7.61 328 P **Pn 19 59 33.1 +2.4**
baz=138,SNR=25
TNA Tin City 7.85 304 P **Pn 19 59 35.0 +1.0**
baz=110,SNR=81
TNA Tin City 7.85 304 Pn **Pn 19 59 35.0 +1.0**
SDPT Sand Point 7.92 217 P **Pn 19 59 37.1 +2.1**
baz=30,SNR=39
SDPT Sand Point 7.92 217 Pn **Pn 19 59 33.4 -1.6**
EPYK Eagle Plains 8.05 50 P **Pn 19 59 34.9 -1.7**
baz=244,SNR=1000
EPYK Eagle Plains 8.05 50 Pn 19 59 35.3 -1.4
CNBA Chernabura Isl 8.16 212 Pn 19 59 34.6 -3.5
PS4A Pavlof South-4 8.34 222 Pn 19 59 40.2 -0.4
HAG Hague Volcano 8.38 222 P **Pn 19 59 40.4 -0.8**
HAG Hague Volcano 8.38 222 Pn 19 59 40.4 -0.8
WHY Whitehorse 8.41 91 P **Pn 19 59 40.2 -1.5**
baz=286,SNR=107
WHY Whitehorse 8.41 91 Pn 19 59 40.1 -1.5
SKAG Skagway 8.62 99 P **Pn 19 59 43.1 -1.3**
baz=294,SNR=88
SKAG Skagway 8.62 99 Pn **Pn 19 59 43.0 -1.3**
GAMB Gambell 9.10 290 P **Pn 19 59 51.9 +1.1**
baz=93
GAMB Gambell 9.10 290 Pn **Pn 19 59 51.2 +0.4**
BESE Bessie Mountai 9.23 104 Pn **Pn 19 59 50.6 -2.1**
FALS False Pass 9.25 225 P **Pn 19 59 53.7 +0.8**
baz=35,SNR=21
FALS False Pass 9.25 225 Pn **Pn 19 59 52.3 -0.5**
A21K Barrow 9.56 351 P **Pn 19 59 55.4 -1.5**
baz=167,SNR=16
A21K Barrow 9.56 351 Pn **Pn 19 59 55.4 -1.5**
JIS Juneau Island 9.60 105 Pn **Pn 19 59 57.0 -0.6**
SIT Sitka 9.86 112 P **Pn 19 59 59.0 -2.0**
SIT Sitka 9.86 112 P **Pn 19 59 59.4 -1.6**
baz=307,SNR=86
SIT Sitka 9.86 112 Pn **Pn 19 59 59.0 -2.0**
INK Inuvik 10.06 43 P **Pn 20 00 01.2 -2.4**
comp=E,62nm,0.3s,baz=228,slow=17,SNR=333
INK LR LR 20 04 40.7
comp=E,315nm,19.0s,baz=182,slow=42
INK Inuvik 10.06 43 P **Pn 20 00 01.4 -2.2**
INK Inuvik 10.06 43 P **Pn 20 00 01.4 -2.2**
baz=240,SNR=367
INK Inuvik 10.06 43 Pn **Pn 20 00 01.4 -2.2**
AKUT Akutan 10.64 229 Pn **Pn 20 00 11.6 0.0**
UNV Unalaska Valle 11.13 229 P **Pn 20 00 18.4 +0.2**
baz=37
DLBC Dease Lake 11.54 98 P **Pn 20 00 22.8 -0.8**
comp=E,5.3nm,0.3s,baz=286,slow=12,SNR=83
DLBC S **Sn 20 02 27.1 -3.5**
comp=E,8.0nm,0.3s,baz=159,slow=6.5,SNR=2.2
DLBC LR LR 20 05 16.9
comp=E,336nm,21.4s,baz=302,slow=39
DLBC Dease Lake 11.54 98 Pn 20 00 22.6 -0.9
WRAK Wrangell Islan 11.55 110 P **Pn 20 00 23.6 -0.1**
baz=307,SNR=127
WRAK Wrangell Islan 11.55 110 Pn 20 00 24.1 +0.5
CRAG Craig 11.81 115 P **Pn 20 00 26.2 -0.9**
baz=311,SNR=17
CRAG Craig 11.81 115 Pn 20 00 26.2 -0.9
NIKH Nikolski High 12.69 232 P **Pn 20 00 39.9 +1.3**
baz=38,SNR=7.6
NIKH Nikolski High 12.69 232 Pn 20 00 37.6 -1.0
C36M Paulatuk 13.61 45 P **Pn 20 00 46.5 -3.9**
baz=251,SNR=383
C36M Paulatuk 13.61 45 Pn 20 00 46.5 -3.9
DIB Dawson Inlet, 13.68 121 Pn Pn 20 00 50.5 -0.8
RUBB Prince Rupert 13.81 114 P **Pn 20 00 53.4 +0.4**
MOBC Moresby Island 13.93 120 Pn 20 00 54.9 +0.4
ATKA Atka Island 15.38 241 Pn **Pn 20 01 12.4 -0.4**
BBB Bella Bella 16.23 116 P **P 20 01 24.3 +0.3**
comp=E,0.9nm,0.3s,baz=315,slow=12,SNR=11
BBB S **Sn 20 04 22.4 -1.1**
comp=E,1.0nm,0.3s,baz=79,slow=18,SNR=5.1
BBB Bella Bella 16.23 116 Pn 20 01 21.7 -1.6
BBB IAmb IAmb 20 01 31.2
comp=Z,115nm,1.1s
GSTR Great Sitkin T 16.24 243 P 20 01 23.9 -0.2
ADK Adak 16.66 244 P **P 20 01 28.9 +0.2**
ADK pmax pmax
comp=Z,424nm,0.8s
ADK Adak 16.66 244 P **P 20 01 28.9 +0.2**
KIWB Kanaga Island 16.88 245 Pn 20 01 31.3 +0.1
YKA Yellowknife Ar 17.35 72 P **P 20 01 36.4 +0.2**
comp=Z,14nm,0.3s,baz=281,slow=12,SNR=235
YKA LR LR 20 08 26.5
comp=Z,205nm,18.6s,baz=0.0,slow=37
YKA ScP **ScP 20 09 33.5 -0.3**
comp=Z,0.2nm,0.3s,baz=290,slow=1.7,SNR=7.7
YKA Yellowknife Ar 17.35 72 P **P 20 01 35.5 -0.8**
BILL Bilibino 18.27 307 *d iP* **P 20 01 46.6 +0.3**
BILL pmax pmax
comp=Z,70nm,1.0s
BILL MLR MLR
comp=Z,44nm,12.0s
BILL Bilibino 18.27 307 P **P 20 01 45.5 -0.8**
BILL IAmb IAmb 20 01 49.7
comp=Z,57nm,1.0s
AMKA Amchitka 18.76 249 P **P 20 01 51.5 -0.2**
LLLB Lillooet 20.07 111 P **P 20 02 06.6 +0.5**
LLLB IAmb IAmb 20 02 12.5
comp=Z,67nm,1.0s
SMY Shemya 20.19 258 P **P 20 02 08.1 +0.9**
SMY pmax pmax
comp=Z,46nm,1.0s
SMY Shemya 20.19 258 P **P 20 02 08.1 +0.9**
SMY IAmb IAmb 20 02 42.6
comp=Z,46nm,1.0s
PGC Sidney 20.86 117 P **P 20 02 15.6 +1.3**
PGC IAmb IAmb 20 02 19.1
comp=Z,51nm,0.8s
A05A Maple Falls 21.17 114 P **P 20 02 18.3 +0.5**
A05A IAmb IAmb 20 02 21.9
comp=Z,72nm,1.0s
NLWA Neilton Lookou 21.67 119 P **P 20 02 24.0 +0.8**
B05A Bryant 21.73 115 P **P 20 02 25.9 +2.1**
baz=320,SNR=19
B06A Marblemount 21.80 114 P **P 20 02 25.0 +0.6**
B06A IAmb IAmb 20 02 28.2
comp=Z,89nm,1.5s
D03D Eldon 21.88 118 P **P 20 02 27.1 +1.8**
baz=322,SNR=11
EDM Edmonton 22.24 95 P **P 20 02 29.1 +0.1**
EDM pmax pmax
comp=Z,88nm,0.9s
EDM Edmonton 22.24 95 P **P 20 02 29.1 +0.1**
EDM IAmb IAmb 20 02 32.2
comp=Z,88nm,0.9s
E03A Lebam 22.47 120 P **P 20 02 32.3 +1.0**
E03A IAmb IAmb 20 02 35.5
comp=Z,70nm,1.0s
E04D Cinebar 22.87 119 P **P 20 02 37.7 +2.5**
baz=323,SNR=11
RES Resolute Bay 23.42 34 P **P 20 02 40.0 -0.1**
comp=Z,58nm,0.6s,baz=262,slow=10,SNR=16
RES Resolute Bay 23.42 34 P **P 20 02 40.0 -0.1**
RES pmax pmax
comp=Z,125nm,0.9s
RES Resolute Bay 23.42 34 P **P 20 02 40.0 -0.1**
G03D McMinnville, O 23.68 122 P **P 20 02 45.0 +2.3**
baz=326,SNR=6.0
F05D White Salmon 23.87 118 P **P 20 02 46.7 +2.3**
baz=324,SNR=14
NEW Newport 23.91 109 P **P 20 02 46.1 +1.3**
comp=Z,12nm,0.6s,baz=318,slow=9.0,SNR=27
NEW ScP **ScP 20 09 49.6 -0.4**
comp=Z,2.2nm,0.7s,baz=301,slow=7.2,SNR=3.8
NEW LR LR 20 12 29.3
comp=Z,165nm,19.0s,baz=327,slow=37
NEW Newport 23.91 109 P **P 20 02 46.1 +1.3**
baz=318,SNR=18
NEW Newport 23.91 109 P **P 20 02 45.6 +0.9**
HAWA Hanford 24.28 115 P **P 20 02 48.6 +0.5**
I02D Swisshome 24.37 124 P **P 20 02 51.1 +2.3**
baz=327
G05D Wamic, OR 24.45 119 P **P 20 02 51.6 +1.9**
baz=324,SNR=13
H04D Lebanon 24.46 122 P **P 20 02 52.1 +2.4**
baz=326,SNR=11
WALA Waterton Lakes 24.78 104 P **P 20 02 53.2 +0.5**
WALA IAmb IAmb 20 03 23.3
comp=Z,35nm,1.1s
I03D Drain, OR 24.91 124 P **P 20 02 56.2 +2.5**
baz=327,SNR=5.8
SEY Seymchan 25.00 297 P **P 20 02 54.5 0.0**
comp=Z,35nm,0.8s,baz=96,slow=7.3,SNR=42
J01E Myrtle Point 25.13 125 P **P 20 02 58.6 +2.8**
baz=328,SNR=7.8
I05D Terrebonne, OR 25.18 120 P **P 20 02 58.5 +2.2**
baz=325,SNR=8.6
I04A Tendick Farm, 25.20 122 P **P 20 02 58.4 +1.9**
baz=327,SNR=16
KEBM Edson Butte 25.23 126 P **P 20 02 58.5 +1.7**
JTMT Jette 25.57 106 P **P 20 03 00.6 +0.6**
EUNU Eureka 25.62 22 P **P 20 02 59.5 -0.4**
EUNU IAmb IAmb 20 03 39.1
comp=Z,62nm,0.9s
K02D Willamette Mer 25.63 126 P **P 20 03 03.3 +2.8**
baz=329,SNR=25
J04D Umpqua Nationa 25.78 123 P **P 20 03 04.7 +2.7**
baz=327,SNR=9.5
PINE Pine Mountain 25.79 120 P **P 20 03 03.8 +1.7**
PINE IAmb IAmb 20 03 05.5
comp=Z,37nm,1.0s
HUMO Hull Mountain 25.98 125 P **P 20 03 05.2 +1.6**
HUMO IAmb IAmb 20 03 07.3
comp=Z,22nm,0.8s
J05D Fort Rock, OR 26.09 121 P **P 20 03 07.1 +2.5**
baz=327,SNR=20
L02E Cave Junction 26.12 126 P **P 20 03 07.2 +2.5**
baz=329
MSO Missoula 26.41 107 P **P 20 03 08.5 +1.0**
baz=319
MSO Missoula 26.41 107 P **P 20 03 07.9 +0.5**
BMO Blue Mountains 26.46 114 P **P 20 03 09.0 +1.1**
BMO pmax pmax
comp=Z,16nm,0.9s
BMO Blue Mountains 26.46 114 P **P 20 03 09.0 +1.1**
L04D Klamath Falls 26.57 124 P **P 20 03 11.2 +2.3**
baz=328,SNR=19
FFC Flin Flon 26.69 83 P **P 20 03 10.1 +0.3**
FFC pmax pmax
comp=Z,21nm,1.0s
FFC Flin Flon 26.69 83 P **P 20 03 10.1 +0.3**
YBH Yreka Blue Hor 26.82 125 P **P 20 03 13.8 +2.6**
comp=Z,17nm,0.9s,baz=10,slow=5.3,SNR=54
YBH pP **pP 20 03 41.2 +3.3**
comp=Z,17nm,0.9s,baz=359,slow=5.6,SNR=6.9
PLID Pearl Lake 26.84 112 P **P 20 03 11.9 +0.5**
M02C Callahan 27.06 126 P **P 20 03 16.3 +3.0**
baz=330,SNR=16
M04C Macdoel 27.12 124 P **P 20 03 16.4 +2.6**
baz=329,SNR=5.1
MA2 Magadan 27.20 291 P **P 20 03 14.4 +0.1**
comp=Z,14nm,0.8s,baz=14,slow=9.9,SNR=3.9
MA2 LR LR 20 14 42.6
comp=Z,89nm,21.2s,baz=88,slow=38
MA2 Magadan 27.20 291 *‖ eP* **P 20 03 14.6 +0.3**
MA2 pmax pmax
comp=Z,96nm,2.0s
MA2 Magadan 27.20 291 P **P 20 03 14.5 +0.2**
EGMT Eagleton 27.45 101 P **P 20 03 17.7 +1.0**
baz=316,SNR=15
EGMT Eagleton 27.45 101 P **P 20 03 17.4 +0.7**
EGMT IAmb IAmb 20 03 19.1
comp=Z,32nm,0.9s
N02D Trinity Center 27.48 126 P **P 20 03 20.1 +3.1**
baz=330,SNR=24
PEA0B Petropavlovsk- 27.66 274 P **P 20 03 17.7 -0.8**
PEA0B pmax pmax
comp=Z,19nm,1.0s
PEA0B Petropavlovsk- 27.66 274 P **P 20 03 17.7 -0.8**
PETK Petropavlovsk- 27.66 274 P **P 20 03 17.6 -0.8**

comp=Z,12nm,0.9s,baz=88,slow=8.0,SNR=21
WVOR Wild Horse Val 27.86 119 P P 20 03 22.0 +1.5
WVOR pmax pmax
comp=Z,24nm,1.0s
WVOR Wild Horse Val 27.86 119 P P 20 03 22.0 +1.5
WVOR IAmb IAmb 20 03 23.6
comp=Z,24nm,0.9s
WDC Whiskeytown Da 27.88 126 P P 20 03 22.2 +1.7
WDC pmax pmax
comp=Z,18nm,0.9s
WDC Whiskeytown Da 27.88 126 P P 20 03 22.2 +1.7
WDC IAmb IAmb 20 03 51.1
comp=Z,18nm,0.8s
FCC Fort Churchill 28.06 70 P P 20 03 22.7 +0.8
FCC pmax pmax
comp=Z,27nm,0.8s
FCC Fort Churchill 28.06 70 P P 20 03 22.7 +0.8
FCC IAmb IAmb 20 03 23.8
comp=Z,27nm,0.8s
O02D Mt. Diablo Mer 28.14 127 P P 20 03 25.3 +2.4
baz=331,SNR=5.9
BOZ Bozeman (W) 28.39 106 P P 20 03 26.0 +0.8
BOZ pmax pmax
comp=Z,21nm,1.5s
BOZ Bozeman (W) 28.39 106 P P 20 03 26.6 +1.4
baz=320,SNR=15
BOZ Bozeman (W) 28.39 106 P P 20 03 25.9 +0.8
O03E Paynes Creek 28.41 126 P P 20 03 27.0 +1.7
baz=330,SNR=20
HLID Hailey 28.74 112 P P 20 03 29.8 +1.4
baz=323,SNR=19
HLID Hailey 28.74 112 P P 20 03 29.1 +0.8
HOPS Hopland Field 29.07 129 P P 20 03 31.7 +0.7
HOPS IAmb IAmb 20 04 03.1
comp=Z,38nm,1.2s
YHH Holmes Hill 29.36 107 P P 20 03 35.7 +1.8
TULEG Thule 29.58 28 P P 20 03 34.8 -0.4
H17A Grant Village 29.79 107 P P 20 03 41.6 +3.9
baz=321
RLMT Red Lodge 29.83 104 P P 20 03 40.7 +2.7
baz=320,SNR=13
LAO LASA Array 30.06 99 P P 20 03 42.0 +2.1
baz=317,SNR=7.0
LAO LASA Array 30.06 99 P P 20 03 41.3 +1.4
LAO IAmb IAmb 20 03 42.6
comp=Z,19nm,0.8s
TIXI Tiksi 30.16 322 P P 20 03 40.3 -0.1
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI Tiksi 30.16 322 P P 20 03 40.3 -0.1
TIXI IAmb IAmb 20 03 41.3
comp=Z,25nm,1.0s
ELK Elko 30.68 117 P P 20 03 48.0 +2.4
comp=Z,15nm,0.9s,baz=319,slow=8.7,SNR=54
ELK pP **pP** **20 04 15.4 +2.8**
comp=Z,13nm,0.9s,baz=324,slow=7.3,SNR=6.2
ELK Elko 30.68 117 P P 20 03 47.2 +1.6
ELK pmax pmax
comp=Z,21nm,1.0s
ELK Elko 30.68 117 P P 20 03 47.2 +1.6
ELK IAmb IAmb 20 03 48.9
comp=Z,20nm,1.0s
NVAR Mina Array Bea 31.39 123 P P 20 03 53.9 +2.1
comp=Z,14nm,0.8s,baz=311,slow=9.1,SNR=91
NVAR pP **pP** **20 04 21.5 +2.6**
comp=Z,10nm,0.8s,baz=308,slow=8.9,SNR=6.8
NVAR PcP **PcP** **20 06 42.8 +0.6**
comp=Z,1.5nm,0.7s,baz=323,slow=2.8,SNR=3.1
NVAR pPcP 20 07 16.1
comp=Z,3.3nm,0.7s,baz=302,slow=2.1,SNR=6.0
NVAR ScP **ScP** **20 10 13.6 +0.3**
comp=Z,2.7nm,0.8s,baz=294,slow=3.1,SNR=9.8
NVAR Mina Array Bea 31.39 123 P P 20 03 53.5 +1.7
NVAR **pP** **20 04 21.3 +2.5**
NVAR **PcP** **20 06 43.6 +1.4**
SPUT South Promonto 31.42 113 P P 20 03 53.4 +1.5
SPUT IAmb IAmb 20 03 55.1
comp=Z,32nm,1.1s
SPUT pP **pP** **20 04 20.3 +1.3**
NV11 Mina Array Sit 31.44 123 P P 20 03 53.8 +1.7
NV11 IAmb IAmb 20 04 22.7
comp=Z,21nm,1.0s
BW06 Boulder Array 31.53 108 P P 20 03 54.7 +1.7
baz=322,SNR=6.9
PD31 Pinedale Array 31.53 108 P P 20 03 54.5 +1.6
PDAR Pinedale Array 31.53 108 P P 20 03 54.6 +1.7
comp=Z,5.5nm,0.5s,baz=321,slow=4.5,SNR=37
PDAR PcP **PcP** **20 06 42.6 0.0**
comp=Z,1.6nm,0.7s,baz=43,slow=1.7,SNR=2.8
PDAR pPcP 20 07 15.1
comp=Z,2.5nm,0.9s,baz=0.0,slow=0.3,SNR=3.6
PDAR ScP **ScP** **20 10 13.1 -0.7**
comp=Z,2.1nm,0.7s,baz=289,slow=0.1,SNR=12
PDAR LR LR 20 17 40.0
comp=Z,91nm,20.2s,baz=346,slow=38
PDAR Pinedale Array 31.53 108 P P 20 03 54.2 +1.2
DUG Dugway, Tooele 32.17 114 P P 20 03 59.6 +1.1
DUG pmax pmax
comp=Z,15nm,0.9s
DUG Dugway, Tooele 32.17 114 P P 20 04 00.5 +2.0
baz=326,SNR=23
DUG Dugway, Tooele 32.17 114 P P 20 03 59.6 +1.1
DUG IAmb IAmb 20 04 01.3
comp=Z,15nm,0.8s
ULM Lac du Bonnet 32.42 85 P P 20 04 01.4 +1.0
comp=Z,5.7nm,0.4s,baz=310,slow=8.5,SNR=13
ULM PcP **PcP** **20 06 44.4 -0.2**
comp=Z,4.0nm,0.4s,baz=118,slow=3.5,SNR=3.1
ULM ScP **ScP** **20 10 16.7 +0.4**
comp=Z,2.5nm,0.5s,baz=321,slow=12,SNR=3.1
ULM LR LR 20 17 01.4
comp=Z,78nm,18.3s,baz=40,slow=36
ULM Lac du Bonnet 32.42 85 P P 20 04 01.2 +0.8
ULM 20 06 44.4
ULM pmax pmax
comp=Z,17nm,1.0s
ULM Lac du Bonnet 32.42 85 P P 20 04 01.2 +0.8
ULM IAmb IAmb 20 04 45.1
comp=Z,16nm,1.0s
ULM **PcP** **20 06 44.4 -0.2**
R11A Troy Canyon, C 32.55 119 P P 20 04 03.7 +1.8
baz=329,SNR=35
TIN Tinemaha, Big 32.60 124 P P 20 04 05.3 +3.0
baz=331
NEEM North Greenlan 32.84 23⇓ *iP* **P 20 04 04.2 0.0**
NEEM IAmb IAmb 20 04 04.8
comp=Z,66nm,0.5s
NEEM *e* 20 04 43.0
GRAC Grapevine Rang 33.00 123 P P 20 04 08.2 +2.6
baz=330
RSSD Black Hills 33.01 100 P P 20 04 07.6 +1.7
baz=320
CWC Cottonwood Cre 33.20 124 P P 20 04 09.9 +2.4
baz=331
VES Vestal, Richgr 33.34 126 P P 20 04 10.2 +1.7
baz=332
SMMC Simmler 33.46 128 P P 20 04 12.3 +2.7
baz=333
TPNV Topopah Spring 33.48 122 P P 20 04 11.3 +1.3
TPNV pmax pmax
comp=Z,46nm,1.6s
TPNV Topopah Spring 33.48 122 P P 20 04 11.9 +1.9
baz=330,SNR=15
TPNV Topopah Spring 33.48 122 P P 20 04 11.3 +1.3
TPNV IAmb IAmb 20 04 42.9
comp=Z,46nm,1.6s
FURC Furnace Creek, 33.65 123 P P 20 04 13.7 +2.5
baz=331,SNR=9.9
ISA Isabella, Lake 33.73 126 P P 20 04 13.0 +1.0
ISA pmax pmax
comp=Z,14nm,0.9s
ISA Isabella, Lake 33.73 126 P P 20 04 13.8 +1.8
baz=332,SNR=8.3
ISA Isabella, Lake 33.73 126 P P 20 04 13.0 +1.0
ISA IAmb IAmb 20 04 42.2
comp=Z,14nm,0.8s
AGMN Agassiz Nation 33.78 87 P P 20 04 14.6 +2.4
baz=315
AGMN Agassiz Nation 33.78 87 P P 20 04 13.5 +1.2
AGMN IAmb IAmb 20 04 42.5
comp=Z,21nm,0.8s
MVU Marysvale 33.84 115 P P 20 04 14.4 +1.3
PKM Mcpherson Peak 33.91 128 P P 20 04 16.3 +2.7
baz=333,SNR=11
LRMC Laurel Mtn Rad 34.20 125 P P 20 04 18.2 +2.1
baz=332,SNR=8.7

O20A White River Ci 34.23 109 P P 20 04 18.0 +1.5
baz=324,SNR=16
UPNV Upernavik 34.24 32⇓ *iP* **P 20 04 16.4 +0.4**
UPNV IAmb IAmb 20 04 17.1
comp=Z,24nm,0.7s
EDW2 Edwards Air Fo 34.60 126 P P 20 04 21.1 +1.6
baz=332
YAK Yakutsk 34.62 306 P P 20 04 18.9 -0.3
comp=Z,74nm,0.8s,baz=212,slow=0.9,SNR=108
YAK LR LR 20 17 32.6
comp=Z,66nm,21.9s,baz=84,slow=34
YAK Yakutsk 34.62 306 *c iP* **P 20 04 18.8 -0.4**
YAK *e**PP **sP** **20 04 57.9 -3.3**
YAK *e* 20 05 37.3
YAK *e*S **S** **20 09 40.4 +1.5**
YAK *e*SS **SnSn** **20 11 57.2 -7.6**
YAK pmax pmax
comp=Z,149nm,0.8s
YAK pmax pmax
comp=N,39nm,1.0s
YAK pmax pmax
comp=E,49nm,1.1s
YAK pmax pmax
comp=Z,36nm,1.4s
YAK pmax pmax
comp=N,35nm,1.3s
YAK pmax pmax
comp=E,32nm,1.4s
YAK smax smax
comp=N,33nm,2.0s
YAK smax smax
comp=E,22nm,2.0s
YAK Yakutsk 34.62 306 P P 20 04 18.7 -0.6
NOR Nord 34.69 10⇓ *iP* **P 20 04 19.7 -0.1**
NOR IAmb IAmb 20 04 20.4
comp=Z,10nm,0.9s
NOR Nord 34.69 10⇓ *iP* **P 20 04 19.6 -0.1**
NOR pmax pmax
comp=Z,10.0nm,0.9s
GSC Goldstone, Bar 34.69 124 P P 20 04 22.7 +2.4
baz=331,SNR=16
B35A Bob, Littlefor 34.75 86 P P 20 04 20.9 +0.4
TUQ Turquoise Moun 34.92 123 P P 20 04 24.7 +2.3
baz=331,SNR=14
BFSC Mount Baldy Ra 35.30 126 P P 20 04 27.6 +2.0
baz=333,SNR=8.3
PV04 Paradox Valley 35.36 112 P 20 04 27.4 +1.3
PV04 IAmb IAmb 20 04 28.8
comp=Z,34nm,1.0s
GMRC Granite Mounta 35.60 123 P P 20 04 30.4 +2.2
baz=331,SNR=15
FRB Frobisher Bay 35.63 49 P P 20 04 28.6 +0.7
comp=Z,45nm,0.5s,baz=307,slow=9.5,SNR=41
ISCO Idaho Springs 35.68 107 P P 20 04 30.3 +1.3
ISCO pmax pmax
comp=Z,12nm,1.4s
ISCO Idaho Springs 35.68 107 P P 20 04 31.1 +2.0
baz=324
ISCO Idaho Springs 35.68 107 P P 20 04 30.3 +1.3
NEE2 Needles Airpor 36.03 121 P P 20 04 34.0 +2.4
baz=331
EYMN Ely 36.09 84 P P 20 04 33.4 +1.3
baz=316
EYMN Ely 36.09 84 P P 20 04 31.9 -0.2
EYMN IAmb IAmb 20 05 17.9
comp=Z,33nm,1.1s
BELC Belle Mtn. Jos 36.15 124 P P 20 04 34.8 +1.9
baz=332,SNR=11
TYV Tymovskoe 36.15 283 *eP* **P 20 04 32.9 +0.4**
TYV *e*S **S** **20 10 04.9 +2.2**
TYV pmax pmax
comp=Z,37nm,0.9s
TYV smax smax
comp=E,200nm,3.1s
PFO Pinyon Flats O 36.31 125 P P 20 04 36.0 +1.8
comp=E,6.5nm,0.6s,baz=331,slow=6.6,SNR=14
PFO pP **pP** **20 05 03.8 +1.9**
comp=E,12nm,0.9s,baz=332,slow=6.0,SNR=5.5
PFO Pinyon Flats O 36.31 125 P P 20 04 35.4 +1.2
PFO pmax pmax
comp=Z,16nm,1.0s
PFO Pinyon Flats O 36.31 125 P P 20 04 35.9 +1.6
baz=332,SNR=5.6
PFO Pinyon Flats O 36.31 125 P P 20 04 35.4 +1.2
PFO IAmb IAmb 20 05 04.5
comp=Z,16nm,1.0s
TPFO Pinon Flats 36.32 125 P P 20 04 35.8 +1.5
baz=332,SNR=6.2
IRM Iron Mountain 36.35 123 P P 20 04 36.7 +2.2
baz=332,SNR=15
MVCO Mesa Verde 36.52 112 P P 20 04 37.6 +1.4
baz=327,SNR=14
Q24A Divide 36.57 107 P P 20 04 38.6 +2.0
baz=325,SNR=6.1
PDMCI Parker Dam,Lak 36.63 121 P P 20 04 38.3 +1.6
baz=331
F36A Milaca 36.65 88 P P 20 04 37.1 +0.3
F36A IAmb IAmb 20 05 07.2
comp=Z,14nm,0.7s
WUAZ Wupatki 36.72 117 P P 20 04 40.0 +2.2
baz=329,SNR=24
WUAZ Wupatki 36.72 117 P P 20 04 39.1 +1.4
ECSD EROS Data Cent 36.78 93 P P 20 04 39.1 +1.1
baz=320
ECSD EROS Data Cent 36.78 93 P P 20 04 38.3 +0.3
ECSD IAmb IAmb 20 05 08.0
comp=Z,17nm,0.9s
S22A 4UR Ranch, Cre 36.82 110 P P 20 04 41.1 +2.4
baz=326,SNR=23
MONP2 Monument Peak 36.97 125 P P 20 04 42.0 +2.2
baz=333,SNR=15
SWSC Sam W. Stewart 37.16 124 P P 20 04 43.1 +1.9
baz=332,SNR=5.5
IKP In-Ko-Pah, Jac 37.30 125 P P 20 04 44.7 +2.2
baz=333,SNR=6.8
SDCO Great Sand Dun 37.41 108 P P 20 04 45.9 +2.2
baz=326,SNR=17
SDCO Great Sand Dun 37.41 108 P P 20 04 45.3 +1.6
SDCO IAmb IAmb 20 04 46.7
comp=Z,21nm,1.2s
KSCO Kaye Shedlock' 37.68 104 P P 20 04 47.8 +2.1
baz=324
T25A Trinidad 38.40 108 P P 20 04 54.0 +2.1
baz=326
SUMG Summit 38.44 26⇓ *iP* **P 20 04 52.3 +0.2**
SUMG IAmb IAmb 20 04 53.2
comp=Z,21nm,0.8s
SUMG Summit 38.44 26⇓ *iP* **P 20 04 52.2 +0.2**
SUMG pmax pmax
comp=Z,21nm,0.8s
SUMG Summit 38.44 26 P P 20 04 52.1 0.0
SUMG IAmb IAmb 20 04 53.3
comp=Z,22nm,0.8s
DAG Danmarks Havn 38.48 16⇓ *iP* **P 20 04 51.3 -0.5**
DAG IAmb IAmb 20 04 52.3
comp=Z,25nm,0.6s
DAG Danmarks Havn 38.48 16⇓ *iP* **P 20 04 51.3 -0.5**
DAG pmax pmax
comp=Z,25nm,0.6s
YSS Yuzh-Sakhalins 38.88 278⇑ *eP* **P 20 04 55.5 0.0**
YSS *e*S **S** **20 10 42.6 -1.4**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 38.88 278 P P 20 04 55.8 +0.2
YSS IAmb IAmb 20 04 57.9
comp=Z,23nm,0.8s
KBS Kingsbay 39.02 5⇓ *iP* **P 20 04 57.1 +0.8**
KBS IAmb IAmb 20 04 59.9
comp=Z,25nm,0.7s
KBS Kingsbay 39.02 5 P P 20 04 57.0 +0.7
KBS pmax pmax
comp=Z,12nm,0.8s
KBS Kingsbay 39.02 5 *eP* **P 20 04 57.3 +0.9**
KBS Kingsbay 39.02 5 P P 20 04 57.0 +0.7
GRNR Gornyy 39.06 287⇑ *iP* **P 20 04 57.2 +0.2**
GRNR *e*S **S** **20 10 48.3 +1.6**
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=Z,80nm,0.8s
GRNR smax smax
comp=N,1.0nm,0.5s
GRNR MLR MLR
comp=N,30nm,18.0s

GRNR MLR MLR
comp=Z,100nm,16.0s
CBKS Cedar Bluff 39.17 101 P P 20 04 59.9 +1.8
baz=324
214A Organ Pipe Nat 39.22 122 P P 20 05 00.7 +2.1
baz=332,SNR=8.2
ANMO Albuquerque 39.32 112 P P 20 05 01.4 +1.9
comp=Z,3.3nm,0.6s,baz=323,slow=9.9,SNR=12
ANMO Albuquerque 39.32 112 P P 20 05 01.1 +1.5
ANMO pmax pmax
comp=Z,36nm,1.9s
ANMO Albuquerque 39.32 112 P P 20 05 01.5 +1.9
baz=328
ANMO Albuquerque 39.32 112 P P 20 05 01.1 +1.5
ANMO IAmb IAmb 20 05 02.7
comp=Z,36nm,1.9s
E43A Lone Tree Farm 39.34 82 P P 20 04 59.4 0.0
E43A IAmb IAmb 20 05 31.3
comp=Z,12nm,0.7s
TUC Tucson 39.73 119 P P 20 05 05.2 +2.3
baz=331
SPA0 Spitsbergen Ar 39.92 4 *eP* **P 20 05 03.2 -0.5**
SPITS Spitsbergen Ar 39.92 4 P P 20 05 03.1 -0.7
comp=Z,6.1nm,0.4s,baz=19,slow=5.3,SNR=58
SPITS Spitsbergen Ar 39.92 4 P P 20 05 03.3 -0.5
SPITS pmax pmax
comp=Z,20nm,1.1s
DBG Daneborg 40.34 18⇓ *iP* **P 20 05 06.7 -0.6**
DBG IAmb IAmb 20 05 07.7
comp=Z,25nm,0.6s
KSU1 Kansas State U 40.40 98 P P 20 05 09.4 +1.2
baz=323,SNR=8.2
KSU1 Kansas State U 40.40 98 P P 20 05 08.8 +0.7
L40A Anamosa 40.61 90 P P 20 05 10.5 +0.6
L40A IAmb IAmb 20 05 41.3
comp=Z,30nm,0.8s
KIP Kipapa 40.72 188⇑ *eP* **P 20 05 11.3 +0.4**
KIP pmax pmax
comp=Z,142nm,1.7s
ICESG Greenland Ices 40.74 31⇓ *iP* **P 20 05 11.0 -0.1**
ICESG IAmb IAmb 20 05 11.8
comp=Z,62nm,0.8s
ICESG *i* 20 06 44.5
121A Cookes Peak, D 40.80 115 P P 20 05 14.2 +2.5
baz=330,SNR=6.0
DY2G Dye2 40.95 36⇓ *iP* **P 20 05 12.3 -0.4**
DY2G IAmb IAmb 20 05 14.9
comp=Z,25nm,0.6s
NUUK Nuuk 40.98 41⇓ *iP* **P 20 05 13.5 +0.9**
NUUK IAmb IAmb 20 05 14.7
comp=Z,53nm,1.1s
ZEA Zeya 40.99 297 *eP* **P 20 05 12.5 -0.3**
ZEA *e**PP **pP** **20 05 41.8 +0.6**
ZEA *e*S **S** **20 11 17.0 +1.8**
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.9s
ZEA MLR MLR
comp=Z,100nm,14.0s
HSPB Hornsund (broa 41.06 4 *eP* **P 20 05 13.2 0.0**
MATQ Matagami 41.18 72 P P 20 05 14.6 +0.1
baz=316,SNR=6.4
KAN10 Anthony SW Sta 41.30 101 P P 20 05 15.2 -0.5
KAN10 IAmb IAmb 20 05 17.4
comp=Z,21nm,0.7s
U32A Winter Ranch, 41.49 103 P P 20 05 17.9 +0.7
U32A IAmb IAmb 20 05 19.3
comp=Z,19nm,0.9s
AMTX Amarillo 41.50 107 P P 20 05 19.1 +1.8
baz=327
AMTX Amarillo 41.50 107 P P 20 05 18.4 +1.0
AMTX IAmb IAmb 20 05 19.9
comp=Z,50nm,1.5s
HOPEN Hopen 41.76 1 *eP* **P 20 05 19.1 +0.3**
MSTX Muleshoe 41.77 109 P P 20 05 21.3 +1.7
baz=328,SNR=36
LSQQ Lebel-sur-Quev 41.98 72 P P 20 05 21.0 -0.1
baz=317
SCHQ Schefferville 42.17 59 P P 20 05 22.9 +0.5
comp=Z,15nm,0.8s,baz=315,slow=9.1,SNR=10
SCHQ PP **PP** **20 07 04.7 +2.4**
comp=Z,12nm,0.9s,baz=317,slow=8.5,SNR=3.6
SCHQ Schefferville 42.17 59 P P 20 05 22.8 +0.3
SCHQ IAmb IAmb 20 05 23.7
comp=Z,27nm,1.1s
KLR Kul'dur 42.27 289 *c iP* **P 20 05 22.9 -0.4**
KLR pmax pmax
comp=Z,26nm,0.8s
NRIK Noril'sk 42.32 333 P P 20 05 23.9 +0.4
comp=Z,50nm,0.7s,baz=56,slow=6.4,SNR=52
NRIK ScP **ScP** **20 10 52.0 -1.1**
comp=Z,1.5nm,0.5s,baz=157,slow=3.5,SNR=3.5
NRIK Noril'sk 42.32 333 P P 20 05 23.7 +0.2
NRIK pmax pmax
comp=Z,44nm,0.8s
NRIK Noril'sk 42.32 333 P P 20 05 23.7 +0.2
ERM Erimo 42.42 273 P P 20 05 24.7 +0.1
ERM pmax pmax
comp=Z,21nm,1.0s
ERM Erimo 42.42 273 P P 20 05 24.6 +0.1
ERM IAmb IAmb 20 05 25.7
comp=Z,21nm,1.0s
MLOA Mauna Loa Obse 42.46 185 P P 20 05 25.9 +0.3
CHGQ Chibougamau 42.52 69 P P 20 05 24.8 -0.5
baz=317,SNR=7.2
MNTX Cornudas Mount 42.55 113 P P 20 05 28.1 +2.2
baz=330,SNR=17
WMOK Wichita Mounta 42.94 104 P P 20 05 30.2 +1.3
baz=326,SNR=32
BOD Bodaibo 43.31 309 *eP* **P 20 05 30.7 -0.9**
BOD pmax pmax
comp=Z,86nm,1.0s
SCO Scoresbysund 43.31 22⇓ *iP* **P 20 05 31.1 -0.3**
SCO IAmb IAmb 20 05 31.4
comp=Z,31nm,1.4s
SCO Scoresbysund 43.31 22 P P 20 05 31.3 -0.1
SCO pmax pmax
comp=Z,38nm,1.4s
SCO Scoresbysund 43.31 22 P P 20 05 31.3 -0.1
SCO IAmb IAmb 20 07 08.0
comp=Z,38nm,1.4s
TUL1 Leonard 43.36 100 P P 20 05 32.7 +0.4
baz=325
BJO1 Bjornoya 43.66 3 *eP* **P 20 05 34.6 +0.4**
CCM Cathedral Cave 43.75 94 P P 20 05 35.9 +0.5
baz=323
ALGO Algonquin Park 43.80 76 P P 20 05 35.9 +0.2
baz=319
SFIN Lafayette 43.87 88 P P 20 05 36.4 +0.1
baz=322
ANGG Ammassalik, Gr 43.91 33⇓ *iP* **P 20 05 35.6 -0.7**
ANGG IAmb IAmb 20 05 36.3
comp=Z,77nm,0.7s
ANGG Ammassalik, Gr 43.91 33 P P 20 05 35.4 -0.9
HHAR Hobbs 43.92 98 P P 20 05 36.3 -0.5
MGMO Mountain Grove 43.99 96 P P 20 05 36.8 -0.6
MGMO IAmb IAmb 20 06 07.5
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 44.31 107 P P 20 05 41.0 +1.0
baz=328,SNR=9.2
JTM Tenmabayashi 44.36 274 P P 20 05 40.0 -0.2
JTM IAmb IAmb 20 05 41.8
comp=Z,23nm,0.9s
U40A Yellville 44.37 97 P P 20 05 40.7 +0.3
baz=325,SNR=6.1
W39A Magazine 44.88 99 P P 20 05 44.7 +0.3
baz=325,SNR=6.3
W39A Magazine 44.88 99 P P 20 05 44.2 -0.2
PLVO Plevna 44.94 76 P P 20 05 44.6 -0.2
FCAR Ozark Folk Cen 45.09 97 P P 20 05 45.5 -0.5
NRS Narsarsuaq 45.18 41⇓ *iP* **P 20 05 47.0 +0.5**
NRS IAmb IAmb 20 05 47.3
comp=Z,48nm,0.6s
NRS Narsarsuaq 45.18 41⇓ *iP* **P 20 05 46.9 +0.5**
NRS pmax pmax
comp=Z,48nm,0.6s
NRS Narsarsuaq 45.18 41 P P 20 05 46.9 +0.5
TX31 Lajitas Ar. Si 45.33 113 P P 20 05 49.6 +1.5
TXAR Lajitas Array 45.34 113 P P 20 05 49.9 +1.7
comp=Z,5.1nm,0.5s,baz=300,slow=5.1,SNR=123
TXAR ScP **ScP** **20 11 06.8 +0.7**
comp=Z,0.9nm,0.8s,baz=356,slow=2.2,SNR=4.3
TXAR LR LR 20 26 51.4

comp=Z,92nm,19.2s,baz=0.0,slow=38
TXAR Lajitas Array 45.34 113 P **P 20 05 49.7 +1.5**
MIAR Mount Ida 45.51 99 P **P 20 05 49.7 +0.3**
MIAR Mount Ida 45.51 99 P **P 20 05 50.2 +0.8**
baz=326,SNR=10
MIAR Mount Ida 45.51 99 P **P 20 05 49.7 +0.3**
MIAR IAmb IAmb 20 05 50.9
comp=Z,18nm,0.8s
WHTX Lake Whitney, 45.84 105 P **P 20 05 53.1 +1.1**
baz=328
USA0B Ussuriysk Arra 45.94 284 P **P 20 05 52.0 -0.6**
USA0B pmax pmax
comp=Z,8.0nm,1.1s
USA0B Ussuriysk Arra 45.94 284 P **P 20 05 52.0 -0.6**
USRK Ussuriysk Ar. 45.94 284 P **P 20 05 51.9 -0.8**
comp=Z,5.4nm,0.8s,baz=27,slow=7.2,SNR=8.8
USRK Ussuriysk Ar. 45.94 284 P **P 20 05 51.7 -1.0**
WCI Wyandotte Cave 45.95 89 P **P 20 05 53.7 +0.9**
baz=323
J55A Hilton 45.97 78 P **P 20 05 52.9 +0.1**
M53A WI Miller and 46.06 82 P **P 20 05 54.5 +0.9**
baz=322
JCT Junction City 46.06 108 P **P 20 05 55.4 +1.6**
baz=329,SNR=21
LMQ La Malbaie 46.07 69 P **P 20 05 53.7 +0.1**
LMQ IAmb IAmb 20 06 11.5
comp=Z,14nm,0.6s
D61A St Aubert, Com 46.39 69 P **P 20 05 56.6 +0.5**
baz=320
LONY Lake Ozonia 46.40 74 P **P 20 05 55.9 -0.3**
baz=320
LONY Lake Ozonia 46.40 74 P **P 20 05 55.8 -0.5**
M54A Oil Creek Stat 46.48 81 P **P 20 05 57.6 +0.7**
baz=322
N53A Lisbon 46.48 83 P **P 20 05 57.5 +0.5**
K56A Middlesex 46.63 78 P **P 20 05 58.5 +0.3**
baz=321
FRNY Flat Rock 46.69 73 P **P 20 05 57.9 -0.5**
MDJ Mudanjiang 46.72 286 P **P 20 05 58.3 -0.4**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,98nm,6.4s
MDJ Mudanjiang 46.72 286 P **P 20 05 58.2 -0.5**
MDJ IAmb IAmb 20 05 59.4
comp=Z,20nm,1.0s
H58A Gabriels 46.74 74 P **P 20 05 58.7 -0.2**
baz=321
N54A Moraine State 46.75 82 P **P 20 05 60.0 +0.9**
baz=322
H59A Cadyville 46.79 74 P **P 20 05 59.1 -0.2**
baz=321,SNR=5.3
435B Jarrell 46.80 106 P **P 20 06 01.0 +1.5**
baz=328
JMM Marumori 46.80 271 P **P 20 05 59.2 -0.2**
JMM IAmb IAmb 20 06 00.2
comp=Z,22nm,0.9s
VLA Vladivostok 46.83 283*de*P **P 20 05 59.7 +0.2**
VLA pmax pmax
comp=Z,32nm,0.9s
WVT Waverly 46.91 92 P **P 20 06 01.8 +1.5**
baz=324
MOQ Mont Orford 46.92 72 P **P 20 06 00.1 -0.3**
Z41A Richland Creek 46.93 99 P **P 20 06 01.7 +1.3**
baz=326
I58A Old Forge 46.95 75 P **P 20 06 00.3 -0.2**
baz=321
D62A Allapoint, All 46.98 68 P **P 20 06 01.1 +0.4**
baz=320,SNR=10.0
D62A Allapoint, All 46.98 68 P **P 20 06 01.0 +0.3**
D62A IAmb IAmb 20 06 01.9
comp=Z,20nm,0.8s
J58A Remsen 47.06 76 P **P 20 06 01.6 +0.2**
baz=321
NCB Newcomb 47.07 75 P **P 20 06 00.7 -0.8**
E62A Clayton Lake 47.13 69 P **P 20 06 02.2 +0.3**
baz=320,SNR=9.3
E62A Clayton Lake 47.13 69 P **P 20 06 02.1 +0.3**
E62A IAmb IAmb 20 06 14.8
comp=Z,21nm,0.6s
G61A St-Isidore-de- 47.27 71 P **P 20 06 03.6 +0.6**
baz=321
H60A Morristown 47.30 73 P **P 20 06 02.9 -0.4**
baz=321
NATX Nacogdoches 47.32 102 P **P 20 06 05.1 +1.6**
baz=327
I59A Olmsteadville 47.37 75 P **P 20 06 03.5 -0.3**
baz=321
D63A Stockholm 47.43 67 P **P 20 06 04.5 +0.3**
baz=320,SNR=6.4
HIA Hailar 47.45 297 P **P 20 06 04.2 -0.2**
HIA pmax pmax
comp=Z,29nm,0.9s
HIA Hailar 47.45 297 P **P 20 06 04.2 -0.2**
HIA IAmb IAmb 20 06 05.5
comp=Z,29nm,0.9s
OXF Oxford 47.49 95 P **P 20 06 06.0 +1.2**
baz=325,SNR=9.5
F62A Pittston Farm, 47.49 70 P **P 20 06 05.0 +0.3**
baz=321,SNR=8.4
F62A Pittston Farm, 47.49 70 P **P 20 06 04.4 -0.3**
HAMF Hammerfest 47.64 2 *e*P **P 20 06 04.6 -0.9**
BINY Binghamton 47.64 78 P **P 20 06 06.5 +0.6**
baz=322,SNR=7.0
H61A Lyndonville 47.67 72 P **P 20 06 06.4 +0.2**
baz=321
PQI Presque Isle 47.75 68 P **P 20 06 06.6 -0.1**
PQI IAmb IAmb 20 06 07.3
comp=Z,25nm,1.4s
G62A West of Eustis 47.77 71 P **P 20 06 07.2 +0.4**
baz=321
E63A Oxbow 47.77 68 P **P 20 06 06.6 -0.2**
baz=321,SNR=8.3
L58A Harry Jones Me 47.83 78 P **P 20 06 07.9 +0.5**
baz=322,SNR=5.4
CIT Chita 47.85 304 *e*P **P 20 06 08.4 +1.0**
CIT *e* 21 06 33.6
CIT pmax pmax
comp=Z,275nm,1.2s
JSD Sado 47.86 274 P **P 20 06 07.1 -0.5**
JSD IAmb IAmb 20 06 08.4
comp=Z,21nm,0.8s
LBNH Lisbon 47.90 73 P **P 20 06 08.1 +0.2**
baz=321
O56A Blue Knob Stat 47.97 81 P **P 20 06 09.0 +0.5**
baz=322
H62A Milan 47.99 72 P **P 20 06 08.9 +0.3**
baz=321
SSPA Standing Stone 47.99 80 P **P 20 06 09.3 +0.7**
baz=322
SSPA Standing Stone 47.99 80 P **P 20 06 08.9 +0.3**
SSPA IAmb IAmb 20 06 24.4
comp=Z,27nm,1.3s
J60A Lant Hill Farm 48.00 75 P **P 20 06 08.9 +0.3**
baz=322
F63A Nahmakanta, Br 48.03 69 P **P 20 06 09.1 +0.3**
baz=321
F63A Nahmakanta, Br 48.03 69 P **P 20 06 08.8 0.0**
F63A IAmb IAmb 20 06 21.5
comp=Z,17nm,0.6s
E64A Bridgewater 48.03 68 P **P 20 06 08.8 -0.1**
baz=321,SNR=8.9
F64A Sherman 48.23 69 P **P 20 06 10.5 +0.1**
baz=321,SNR=13
G63A Kingsbury 48.26 70 P **P 20 06 11.0 +0.4**
baz=321
PKME Peaks-Kenny Pk 48.28 70 P **P 20 06 11.1 +0.4**
baz=321,SNR=5.3
HKT Hockley 48.31 105*ce*P **P 20 06 12.2 +1.2**
HKT pmax pmax
comp=Z,19nm,1.3s
J61A Chester 48.32 74 P **P 20 06 11.0 -0.1**
baz=322
JYT Yasato 48.40 271 P **P 20 06 11.2 -0.6**
JYT IAmb IAmb 20 06 12.4
comp=Z,18nm,0.7s
BORG Borgarnes 48.42 26 P **P 20 06 12.0 +0.5**
comp=Z,15nm,0.7s,baz=352,slow=2.1,SNR=12
BORG Borgarnes 48.42 26 P **P 20 06 12.1 +0.5**
BORG pmax pmax
comp=Z,16nm,0.8s
BORG Borgarnes 48.42 26 P **P 20 06 12.1 +0.6**
BORG IAmb IAmb 20 06 14.1
comp=Z,16nm,0.8s
K61A Williamstown 48.52 75 P **P 20 06 12.7 0.0**
baz=322
G64A Maxfield 48.53 69 P **P 20 06 12.8 +0.2**
baz=321
TRO Tromso 48.53 4 *e*P **P 20 06 12.4 +0.1**
KEV Kevo 48.56 0 P **P 20 06 11.8 -0.7**
KEV pmax pmax
comp=Z,14nm,0.8s
KEV Kevo 48.56 0 P **P 20 06 11.8 -0.7**
KEV IAmb IAmb 20 06 14.6
comp=Z,14nm,0.8s
I63A Otisfield 48.66 72 P **P 20 06 14.2 +0.5**
baz=322
JETT Jettan, Norway 48.66 3 *e*P **P 20 06 14.3 +0.9**
N59A State Game Lan 48.75 78 P **P 20 06 14.7 +0.2**
baz=322
ARA0 ARCESS Array S 48.77 1 *e*P **P 20 06 13.7 -0.5**
ARCES ARCESS Array B 48.77 1 P **P 20 06 13.6 -0.6**
comp=Z,5.3nm,0.5s,baz=1.1,slow=7.5,SNR=71
ARCES ARCESS Array B 48.77 1 P **P 20 06 13.6 -0.6**
ARCES pmax pmax
comp=Z,84nm,2.0s
ARCES ARCESS Array B 48.77 1 P **P 20 06 13.6 -0.6**
K62A Royalston 48.99 74 P **P 20 06 16.4 +0.1**
baz=322
MJB9 Matsu-Tunnel 49.09 273 P **P 20 06 17.1 +0.1**
MAJO Matsushiro 49.09 273*ce*P **P 20 06 16.7 -0.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 49.09 273 P **P 20 06 16.6 -0.4**
MAJO IAmb IAmb 20 06 18.0
comp=Z,15nm,0.9s
MAT Matsushiro 49.09 273 P **P 20 06 16.7 -0.4**
MAT *e*S **S 20 13 15.2 +3.0**
MJAR Matsushiro Arr 49.09 273 P **P 20 06 16.8 -0.3**
comp=Z,7.1nm,1.0s,baz=16,slow=7.2,SNR=23
MJAR PcP **PcP 20 07 38.4 -0.3**
comp=Z,3.1nm,1.1s,baz=60,slow=3.7,SNR=5.6
MJAR Matsushiro Arr 49.09 273 P **P 20 06 16.2 -0.9**
MJAR PcP **PcP 20 07 37.9 -0.8**
G65A Princeton 49.10 69 P **P 20 06 17.3 +0.3**
baz=322
G65A Princeton 49.10 69 P **P 20 06 16.9 0.0**
G65A IAmb IAmb 20 06 17.5
comp=Z,11nm,0.7s
H65A Eastbrook 49.19 70 P **P 20 06 17.9 +0.2**
baz=322
TKL Tuckaleechee C 49.21 89 P **P 20 06 19.0 +1.0**
comp=Z,3.6nm,0.4s,baz=301,slow=1.2,SNR=10
TKL Tuckaleechee C 49.21 89 P **P 20 06 18.2 +0.2**
TKL pmax pmax
comp=Z,11nm,0.8s
TKL Tuckaleechee C 49.21 89 P **P 20 06 18.2 +0.2**
CN2 Changchun 49.22 289 *e*P **P 20 06 17.5 -0.4**
CN2 *e*S **S 20 13 10.5 -3.3**
CN2 pmax pmax
comp=Z,80nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,12.0s
KTK1 Kautokeino 49.27 2 *e*P **P 20 06 17.6 -0.4**
GGN Saint George 49.48 68 P **P 20 06 19.9 +0.1**
EMMW East Machias 49.53 69 P **P 20 06 20.3 +0.1**
EMMW IAmb IAmb 20 06 21.1
comp=Z,17nm,0.7s
LOF Lofoten 49.78 7 *e*P **P 20 06 21.9 0.0**
LMN Caledonia Moun 49.79 66 P **P 20 06 21.8 -0.4**
STEI Steigen 50.07 6 *e*P **P 20 06 23.9 -0.1**
DRLN Deer Lake 50.15 58 P **P 20 06 24.9 0.0**
DRLN IAmb IAmb 20 06 25.9
comp=Z,21nm,0.8s
JGF Kuroka 50.25 273 P **P 20 06 25.8 -0.1**
JGF IAmb IAmb 20 06 28.2
comp=Z,14nm,0.8s
LVZ Lovozero 50.33 357 P **P 20 06 26.2 +0.1**
LVZ pmax pmax
comp=Z,101nm,1.9s
LVZ Lovozero 50.33 357 P **P 20 06 26.2 +0.1**
FAUS Fauske 50.62 6 *e*P **P 20 06 26.5 -1.7**
HODGE Hodges 51.09 89 P **P 20 06 33.0 +0.8**
HODGE IAmb IAmb 20 07 06.7
comp=Z,13nm,0.8s
IRK Irkutsk 51.18 310 *e*P **P 20 06 32.5 -0.1**
IRK pmax pmax
comp=Z,51nm,1.7s
KONS Konsvik 51.38 7 *e*P **P 20 06 33.0 -0.8**
JWT Wachi 51.43 274 P **P 20 06 34.3 -0.4**
JWT IAmb IAmb 20 06 35.2
comp=Z,13nm,0.9s
STOK Stokkvaagen 51.54 8 *e*P **P 20 06 35.7 +0.7**
GBN Guysborough 51.55 64 P **P 20 06 35.9 +0.5**
GBN IAmb IAmb 20 07 26.5
comp=Z,27nm,1.0s
MOR8 Moi Rana 51.78 7 *e*P **P 20 06 35.1 -1.8**
JHS Saijyo 52.74 276 P **P 20 06 44.3 -0.1**
JHS IAmb IAmb 20 06 45.0
comp=Z,13nm,0.8s
MOY Mondy 52.82 312 *e*P **P 20 06 46.5 +1.6**
MOY pmax pmax
comp=Z,86nm,1.8s
ZAK Zakamensk 53.06 309 *e*P **P 20 06 46.8 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.0s
KS19 Wonju Array Si 53.15 282 P **P 20 06 48.1 +0.8**
KSRS Korea Array 53.16 282 P **P 20 06 48.1 +0.7**
comp=Z,21nm,0.7s,baz=29,slow=6.9,SNR=93
KSRS ScP **ScP 20 11 38.8 -0.6**
comp=Z,1.6nm,0.8s,baz=29,slow=3.9,SNR=6.0
KSRS LR LR 20 31 34.3
comp=Z,49nm,20.0s,baz=40,slow=38
KSAR Wonju Array Be 53.19 282 P **P 20 06 47.6 -0.1**
KSAR Wonju Array Be 53.19 282 P **P 20 06 47.5 -0.1**
NSS Namsos 53.26 8 *e*P **P 20 06 46.5 -1.2**
ULN Ulaanbaatar 53.70 305*c i*P **P 20 06 52.1 +0.7**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 53.70 305 P **P 20 06 51.8 +0.4**
INCN Inchon 53.74 283 P **P 20 06 51.1 -0.6**
INCN pmax pmax
comp=Z,21nm,0.9s
INCN Inchon 53.74 283 P **P 20 06 51.1 -0.6**
INCN IAmb IAmb 20 06 52.2
comp=Z,21nm,0.9s
SONM Songino Array 53.98 305 P **P 20 06 54.6 +1.2**
comp=Z,42nm,0.8s,baz=36,slow=7.5,SNR=334
SONM ScP **ScP 20 11 40.6 -2.3**
comp=Z,2.2nm,1.1s,baz=94,slow=2.0,SNR=4.8
SONM Songino Array 53.98 305 P **P 20 06 54.6 +1.2**
SONM pP **pP 20 07 23.4 +0.3**
TJN Taejon 54.30 281*ce*P **P 20 06 56.1 +0.4**
DL2 Dalian 54.86 288 P **P 20 07 00.0 +0.3**
DL2 pmax pmax
comp=Z,51nm,1.1s
JTU Tsushima 54.87 278 P **P 20 07 00.1 +0.2**
JNU Nakatsue 55.34 276 P **P 20 07 03.0 -0.3**
DOMB Dombas 55.49 11 *e*P **P 20 07 02.9 -1.1**
PRGR Permogore 55.97 350 *e*P **P 20 07 08.0 +0.7**
PRGR pmax pmax
comp=Z,31nm,0.6s
ZAA0 Zalesovo Array 56.03 323 P **P 20 07 07.6 -0.3**
ZAA0 PcP **PcP 20 08 04.0 -0.6**
ZALV Zalesovo Beam 56.03 323 P **P 20 07 07.6 -0.3**
comp=Z,38nm,0.6s,baz=29,slow=7.0,SNR=171
ZALV PcP **PcP 20 08 04.1 -0.5**
comp=Z,4.8nm,0.5s,baz=30,slow=4.9,SNR=3.7
ZALV ScP **ScP 20 11 49.0 -2.6**
comp=Z,1.0nm,0.7s,baz=39,slow=9.3,SNR=2.7
ZALV PKP2bc 20 37 28.4
comp=Z,0.2nm,0.4s,baz=242,slow=3.2,SNR=3.8
ZALV Zalesovo Beam 56.03 323 *i* P **P 20 07 07.5 -0.3**
ZALV pmax pmax
comp=Z,42nm,0.6s
ZALV Zalesovo Beam 56.03 323 P **P 20 07 07.4 -0.5**
ZALV PcP **PcP 20 08 03.8 -0.7**
HYA Hoyanger 56.08 12 *e*P **P 20 07 08.8 +0.7**
BJI Beijing 56.34 293 P **P 20 07 10.5 +0.2**
BJI pP **pP 20 07 39.3 -0.9**
BJI PcP **PcP 20 08 06.8 +0.8**
BJI S **S 20 14 50.8 +0.2**
BJI pmax pmax
comp=Z,28nm,1.0s
BJI pmax pmax
comp=Z,150nm,4.5s
BJT Baijiatuau 56.36 293 P **P 20 07 10.2 -0.2**
BJT pmax pmax
comp=Z,21nm,0.9s
BJT Baijiatuau 56.36 293 P **P 20 07 10.2 -0.2**
BJT IAmb IAmb 20 07 11.7
comp=Z,20nm,0.9s
NC204 NORSAR Array S 56.39 10 P **P 20 07 09.7 -0.7**
NB2 NORSAR Subarra 56.66 10 P **P 20 07 10.8 -1.5**
comp=Z,4.0nm,0.6s,baz=351,slow=7.4
NB2 NORSAR Subarra 56.66 10 P **P 20 07 10.8 -1.5**
baz=351,slow=7.4
NOA NORSAR Array B 56.66 10 P **P 20 07 11.6 -0.7**
comp=Z,3.5nm,0.6s,baz=352,slow=7.0,SNR=30
SKAR Skarslia 56.76 11 *e*P **P 20 07 12.4 -0.6**
FIA1 FINESS Array S 56.90 1 P **P 20 07 13.2 -0.7**
FIA1 IAmb IAmb 20 07 46.0
comp=Z,16nm,0.9s
FINES FINESS Array B 56.90 1 P **P 20 07 13.8 -0.2**
comp=Z,5.1nm,0.6s,baz=8.9,slow=7.9,SNR=30
FINES FINESS Array B 56.90 1 P **P 20 07 13.6 -0.3**
NC602 NORSAR Array S 56.98 9 *e*P **P 20 07 13.7 -0.9**
KLMR Klimovskoe 57.17 353 *e*P **P 20 07 15.0 -0.8**
KLMR pmax pmax
comp=Z,34nm,0.6s
KLMR Klimovskoe 57.17 353 *e*P **P 20 07 15.1 -0.8**
KLMR AMP 20 07 18.3
comp=Z,34nm,0.6s
HHC Hu-ho-hao-te 57.65 297 *e*P **P 20 07 19.8 +0.1**
HHC pmax pmax
comp=Z,26nm,1.1s
HHC pmax pmax
comp=Z,100nm,5.2s
OSL Oslo 57.71 10 *e*P **P 20 07 19.8 +0.2**
KONO Kongsberg 57.90 11 P **P 20 07 20.6 -0.3**
KONO pmax pmax
comp=Z,47nm,1.5s
KONO Kongsberg 57.90 11 *e*P **P 20 07 20.4 -0.6**
KONO Kongsberg 57.90 11 P **P 20 07 20.6 -0.3**
BTO Baotou 58.50 298 *e*P **P 20 07 25.3 -0.3**
BTO S **S 20 15 17.3 -1.8**
BTO LR LR
comp=Z,610nm,14.0s
BTO LR LR
comp=Z,230nm,9.8s
BTO LR LR
comp=Z,440nm,14.2s
KIRV Kirov 58.62 347 P **P 20 07 27.6 +1.6**
comp=Z,41nm,0.7s,baz=300,slow=2.6,SNR=15
SVE Sverdlovsk 58.81 340*de*P **P 20 07 27.2 -0.1**
SVE pmax pmax
comp=Z,62nm,0.8s
DGZ Jazzator, Alta 59.00 319*c i*P **P 20 07 29.6 +0.7**
DGZ pmax pmax
comp=Z,25nm,1.7s
ARU Arti 59.52 341 P **P 20 07 31.8 -0.4**
comp=Z,26nm,0.6s,baz=14,slow=5.3,SNR=136
ARU Arti 59.52 341*c i*P **P 20 07 31.7 -0.4**
ARU *PP **pP 20 08 02.2 -0.2**
ARU 20 08 16.1
ARU S **S 20 15 33.4 +1.9**
ARU 20 17 13.1
ARU SS **SS 20 19 24.1 -3.6**
ARU pmax pmax
comp=Z,65nm,0.6s
ARU Arti 59.52 341 P **P 20 07 31.8 -0.4**
MTSE Matsula 59.61 2 *e*P **P 20 07 29.9 -2.8**
VSU Vasula 59.90 1 *e*P **P 20 07 36.5 +1.8**
VSU Vasula 59.90 1*ce*P **P 20 07 34.4 -0.3**
VSU *i* *PP **pP 20 08 05.5 +0.6**
VSU pmax pmax
comp=Z,43nm,0.8s
BORU Boraas 60.16 9 *i* P **P 20 07 36.4 -0.1**
ONAU Onsala 60.32 10 *i* P **P 20 07 37.1 -0.5**
SEM Semipalatinsk 60.47 324⇑*i*P **P 20 07 37.5 -1.6**
comp=Z,26nm,0.8s,baz=324
SEM Semipalatinsk 60.47 324*c i*P **P 20 07 37.4 -1.6**
SEM pmax pmax
comp=Z,26nm,0.8s
BRVK Borovoye 60.51 332 P **P 20 07 38.3 -0.7**
BRVK pmax pmax
comp=Z,41nm,0.8s
BRVK Borovoye 60.51 332 P **P 20 07 38.3 -0.7**
ESK Eskdalemuir 60.54 20 P **P 20 07 38.6 -0.6**
ESK pmax pmax
comp=Z,109nm,1.9s
ESK Eskdalemuir 60.54 20 P **P 20 07 38.6 -0.6**
FABU Falkenberg 60.78 9 *i* P **P 20 07 40.2 -0.6**
DEL Delary 61.39 9 *i* P **P 20 07 44.0 -0.9**
DEL *i* P **P 20 07 44.2 -0.6**
BLEU Blekinge 61.69 8 *i* P **P 20 07 46.5 -0.3**
BJUU Bjuv 61.72 9 *i* P **P 20 07 46.7 -0.4**
ZSN Zaisan 61.78 320⇑*i*P P 20 07 53.6 +5.9
comp=Z,22nm,0.8s,baz=320
ZSN Zaisan 61.78 320*c i*P P 20 07 53.5 +5.8
ZSN pmax pmax
comp=Z,22nm,0.8s
NJ2 Nanjing 61.80 286⇑*i*P **P 20 07 47.5 -0.5**
NJ2 pP **pP 20 08 17.8 -0.6**
NJ2 pmax pmax
comp=Z,38nm,0.8s
LUNU Lund 62.20 9 *i* P **P 20 07 49.0 -1.3**
LUNU *i* P **P 20 07 50.0 -0.3**
MOS Moscow 62.38 354 *e*P **P 20 07 50.3 -1.2**
MOS *e**PP **pP 20 08 22.9 +0.9**
MOS *e* 20 08 29.9
MOS *e*S **S 20 16 07.2 -0.6**
MOS pmax pmax
comp=Z,31nm,0.8s
PABE Paberze 62.83 2 *e*P **P 20 07 55.4 +0.9**
PABE Paberze 62.83 2 P **P 20 07 54.8 +0.3**
IIGN Ignalina 63.01 1 *e*P **P 20 07 55.4 -0.3**
IDID Didziasalis 63.05 1 *e*P **P 20 07 55.8 -0.2**
OBN Obninsk 63.06 354*de*P **P 20 07 56.0 0.0**
OBN *e**PP **pP 20 08 28.2 +1.7**
OBN *e* 20 08 31.4
OBN pmax pmax
comp=Z,18nm,0.6s
OBN Obninsk 63.06 354 P **P 20 07 55.5 -0.4**
MK31 Makanchi Array 63.15 321 P **P 20 07 55.7 -1.1**
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 63.15 321 P **P 20 07 55.7 -1.1**
MK31 IAmb IAmb 20 07 57.7
comp=Z,13nm,0.8s
MKAR Makanchi Array 63.15 321 P **P 20 07 56.0 -0.8**
comp=Z,22nm,0.8s,baz=43,slow=6.0,SNR=96
MKAR PP **PP 20 10 13.2 -3.3**
comp=Z,8.3nm,0.9s,baz=54,slow=11,SNR=4.8
MKAR Makanchi Array 63.15 321 P **P 20 07 56.0 -0.8**
MKAR Makanchi Array 63.15 321 P **P 20 07 56.0 -0.8**
MAKZ Makanchi 63.23 321 P **P 20 07 56.5 -0.8**
MAKZ pmax pmax
comp=Z,20nm,0.6s
MAKZ Makanchi 63.23 321 P **P 20 07 56.5 -0.8**
GTA Gaotai 63.64 305⇑P **P 20 08 00.5 +0.2**
GTA pP pP 20 08 32.0 +1.2
GTA pmax pmax
comp=Z,54nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.7s
GTA LR LR
comp=Z,74nm,15.6s
GTA LR LR
comp=Z,110nm,18.2s
GTA LR LR
comp=Z,86nm,16.0s
WMQ Urumqi 64.12 316 *e*P **P 20 08 03.8 +0.5**
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,100nm,3.7s
SUW Suwalki 64.30 3 *e*P **P 20 08 03.7 -0.5**
SUW Suwalki 64.30 3 *e*P **P 20 08 04.0 -0.2**
SUW Suwalki 64.30 3 P **P 20 08 04.6 +0.4**
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 64.30 3 P **P 20 08 04.6 +0.4**
XAN Xi'an 64.52 295 P **P 20 08 05.3 -0.7**
XAN pP pP 20 08 36.5 -0.1
XAN S **S 20 16 32.0 -3.0**
XAN pmax pmax
comp=Z,20nm,1.0s
XAN LR LR
comp=Z,170nm,17.3s

XAN LR LR
comp=Z,210nm,17.4s
XAN LR LR
comp=Z,110nm,17.3s
LZH Lanzhou 64.89 300 ⇑P P 20 08 08.8 +0.3
LZH pmax pmax
comp=Z,84nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,160nm,15.7s
LZH LR LR
comp=Z,160nm,16.8s
LZH LR LR
comp=Z,68nm,16.3s
BELG Belogornoye 64.91 347 P P 20 08 07.5 -0.6
comp=Z,72nm,0.8s,baz=344,slow=0.9,SNR=34
BELG Belogornoye 64.91 347*c i*P **P 20 08 07.4 -0.7**
BELG pmax pmax
comp=Z,15nm,0.9s
WHN Wuhan 65.11 288 ⇑P P 20 08 09.5 -0.3
WHN pmax pmax
comp=Z,48nm,0.9s
AKTO Aktyubinsk 65.39 339 P P 20 08 10.7 -0.6
comp=Z,26nm,0.7s,baz=17,slow=5.9,SNR=69
TDK Taldygorghan 65.91 323 *eP* **P 20 08 14.5 -0.3**
comp=Z,48nm,0.8s,baz=323
TDK Taldyqorghan 65.91 323 *eP* **P 20 08 14.4 -0.3**
TDK pmax pmax
comp=Z,48nm,0.8s
ABKAR Akbulak array 66.19 338 P P 20 08 15.8 -0.6
ABKAR Akbulak array 66.19 338 P P 20 08 15.9 -0.6
ABKAR IAmb IAmb 20 08 18.1
comp=Z,39nm,0.8s
CLL Collm 66.45 10⇓*i*P **P 20 08 20.6 +2.5**
comp=Z,12nm,1.1s
CLL *ep*P **pP 20 08 49.0 +0.3**
CLL *e*(PP) 20 10 41.0
CLL Collm 66.45 10 *i* P **P 20 08 16.4 -1.7**
CLL *e**SP **sP 20 08 58.0 -4.3**
CLL pmax pmax
comp=Z,12nm,1.1s
BCLA Clavier 66.53 16 *d*P **P 20 08 17.9 -0.6**
BRG Berggiesshubel 66.96 10 *e*P **P 20 08 21.1 -0.2**
BRG Amp 20 08 22.6
comp=Z,12nm,1.1s
BTLS Baital 67.06 326⇑*i*P **P 20 08 21.5 -0.5**
comp=Z,8.6nm,0.6s,baz=326
BTLS Baital 67.06 326*c i*P **P 20 08 21.5 -0.5**
BTLS pmax pmax
comp=Z,9.0nm,0.6s
KSP Ksiaz 67.16 8 *e*P **P 20 08 23.0 +0.4**
KPKS Kokpek 67.23 322⇑*i*P **P 20 08 23.0 -0.3**
comp=Z,20nm,0.7s,baz=322
KPKS Kokpek 67.23 322*c i*P **P 20 08 23.0 -0.3**
KPKS pmax pmax
comp=Z,20nm,0.7s
SHLS Shalkode 67.29 322⇑*i*P **P 20 08 22.6 -1.1**
comp=Z,17nm,0.8s,baz=321
SHLS Shalkode 67.29 322*c i*P **P 20 08 22.6 -1.1**
SHLS pmax pmax
comp=Z,17nm,0.8s
CHKK Chushkaly 67.36 324 *e*P **P 20 08 22.3 -1.7**
baz=324
CHKK Chushkaly 67.36 324 *e*P **P 20 08 22.3 -1.7**
CHVC Chvalec 67.40 8 *e*P **P 20 08 24.7 +0.6**
UZB Uzynbulak 67.43 322 *e*P **P 20 08 23.5 -1.1**
baz=322
UZB Uzynbulak 67.43 322 *e*P **P 20 08 23.5 -1.1**
NKC Novy Kostel 67.47 11 *e*P **P 20 08 25.1 +0.5**
NKC Novy Kostel 67.47 11 *e*P **P 20 08 25.1 +0.5**
UPC Upice 67.47 8 *e*P **P 20 08 25.0 +0.4**
UPC Upice 67.47 8 *e*P **P 20 08 25.0 +0.4**
ENH Enshi 67.50 292 P **P 20 08 24.7 -0.3**
ENH IAmb IAmb 20 08 25.3
comp=Z,27nm,0.9s
KUU Kurty 67.50 324 *e*P **P 20 08 23.9 -1.1**
comp=Z,15nm,0.9s,baz=324
KUU Kurty 67.50 324 *e*P **P 20 08 23.8 -1.1**
KUU pmax pmax
comp=Z,15nm,0.9s
DPC Dobruska-Polom 67.65 8 *e*P **P 20 08 26.5 +0.8**
DPC *e* 20 08 57.3
DPC Dobruska-Polom 67.65 8 *e*P **P 20 08 26.5 +0.8**
DPC *ep*P **pP 20 08 57.3 +0.9**
AKASG Malin Array Be 67.67 359 P **P 20 08 25.2 -0.6**
comp=Z,7.3nm,0.3s,baz=3.0,slow=6.2,SNR=42
AKASG Malin Array Be 67.67 359 P **P 20 08 25.1 -0.6**
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG Malin Array Be 67.67 359 P **P 20 08 25.1 -0.6**
AKASG IAmb IAmb 20 08 28.1
comp=Z,12nm,0.7s
AKBB Malin Array Si 67.67 359 P **P 20 08 25.2 -0.6**
AKBB pmax pmax
comp=Z,17nm,0.7s
AKBB Malin Array Si 67.67 359 P **P 20 08 25.2 -0.6**
AKBB IAmb IAmb 20 08 28.1
comp=Z,17nm,0.7s
SATY Saty 67.69 322 *e*P **P 20 08 25.1 -1.1**
comp=Z,14nm,1.4s,baz=322
SATY Saty 67.69 322 *e*P **P 20 08 25.1 -1.1**
SATY pmax pmax
comp=Z,14nm,1.4s
SSLB Suanglung 67.85 279 P **P 20 08 27.1 -0.3**
SSLB IAmb IAmb 20 08 34.9
comp=Z,45nm,1.6s
PRU Pruhonice 67.89 9 *e*P **P 20 08 27.6 +0.5**
PRU *e* 20 09 02.7
PRU Pruhonice 67.89 9 *e*P **P 20 08 27.6 +0.5**
PRU *ex* x 20 09 02.7
GRF Grafenberg Arr 67.90 12 *e*P **P 20 08 28.2 +0.9**
comp=Z,11nm,0.9s,baz=350,slow=5.6
OJC Ojcow 67.98 6 *e*P **P 20 08 30.2 +2.5**
OJC Ojcow 67.98 6 P **P 20 08 28.9 +1.2**
OJC pmax pmax
comp=Z,5.0nm,0.9s
OJC Ojcow 67.98 6 P **P 20 08 28.9 +1.2**
MDOK Medeo 67.98 323 *e*P **P 20 08 26.8 -1.3**
baz=323
MDOK Medeo 67.98 323 *e*P **P 20 08 26.7 -1.3**
PBCC Pribram 68.14 10 *e*P **P 20 08 29.2 +0.4**
MORC Moravsky Berou 68.30 7⇓P **P 20 08 30.4 +0.6**
MORC Moravsky Berou 68.30 7 P **P 20 08 30.1 +0.3**
MORC pmax pmax
comp=Z,6.0nm,0.7s
MORC Moravsky Berou 68.30 7 P **P 20 08 30.1 +0.3**
MORC Moravsky Berou 68.30 7 *e*P **P 20 08 29.9 +0.1**
SGDS Sogindy 68.38 325⇑*e*P **P 20 08 29.6 -0.8**
baz=325
SGDS Sogindy 68.38 325*ce*P **P 20 08 29.6 -0.8**
TPUB Ta-pu 68.42 279 P **P 20 08 30.3 -0.6**
CLF Chambon-Foret 68.45 18 P **P 20 08 31.1 +0.4**
CLF IAmb IAmb 20 09 09.2
comp=Z,36nm,1.2s
LVV L'vov 68.52 3 *e*P **P 20 08 32.5 +1.4**
USP Ospenovka 68.59 325 P **P 20 08 31.7 0.0**
SNR=18
TKM2 Tokmak 2 68.61 324 P **P 20 08 32.1 0.0**
SNR=21
KHC Kasperske Hory 68.66 10 P **P 20 08 32.0 0.0**
KHC pmax pmax
comp=Z,9.0nm,0.8s
KHC Kasperske Hory 68.66 10 *e*P **P 20 08 32.1 0.0**
KHC *ex* x 20 09 07.5
KHC Kasperske Hory 68.66 10 P **P 20 08 32.0 0.0**
VRAC Vranov 68.71 8⇑P **P 20 08 32.5 +0.2**
VRAC Vranov 68.71 8 *e*P **P 20 08 32.7 +0.4**
CHMS Chumysh 68.77 325 P **P 20 08 32.7 -0.1**
SNR=23
ECH Echery 68.92 15 P **P 20 08 33.8 +0.2**
ECH pmax pmax
comp=Z,25nm,1.5s
ECH Echery 68.92 15 P **P 20 08 33.8 +0.2**
ECH IAmb IAmb 20 08 38.4
comp=Z,25nm,1.5s
KRUC Moravsky 68.94 8 *e*P **P 20 08 34.0 +0.3**
BFO Black Forest 68.94 14 P **P 20 08 33.6 -0.2**
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 68.94 14 P **P 20 08 33.6 -0.2**
GEC2 GERESS Array S 68.96 10 P **P 20 08 33.5 -0.5**
GERES GERESS Array B 68.96 10 P **P 20 08 34.4 +0.4**
comp=Z,4.3nm,0.8s,baz=354,slow=4.0,SNR=14
GERES GERESS Array B 68.96 10 P **P 20 08 33.7 -0.3**

LANS Liptovska Anna 69.03 6 *eP* **P 20 08 35.9 +1.6**
LANS pmax pmax
comp=Z,6.0nm,0.6s
LANS Liptovska Anna 69.03 6 *eP* **P 20 08 35.9 +1.6**
KBK Karagaybulak 69.03 325 P **P 20 08 34.9 +0.2**
SNR=15
TARG Taragay, Kyrgy 69.08 322 P **P 20 08 35.3 0.0**
AAK Ala-Archa 69.17 325 P **P 20 08 31.9 -3.6**
SNR=5.5
AAK Ala-Archa 69.17 325*ce*P **P 20 08 35.5 0.0**
AAK pmax pmax
comp=Z,96nm,1.3s
AAK Ala-Archa 69.17 325 P **P 20 08 35.4 -0.1**
AAK IAmb IAmb 20 08 37.5
comp=Z,24nm,0.9s
JAVC Velka Javorina 69.22 7 *eP* **P 20 08 36.6 +1.1**
EKS2 Erkin-Say 69.34 325 P **P 20 08 37.2 +0.7**
SNR=26
KOLS Kolonicke sedl 69.36 4 *eP* **P 20 08 38.6 +2.3**
KOLS Kolonicke sedl 69.36 4 *eP* **P 20 08 38.6 +2.3**
CD2 Chengdu 69.41 297 P **P 20 08 36.8 -0.2**
CD2 pmax pmax
comp=Z,70nm,0.8s
MFF Saint Martin d 69.47 20 *eP* **P 20 08 36.5 -0.5**
MFF pmax pmax
comp=Z,13nm,1.0s
VYHS Vyhne 69.65 6 *eP* **P 20 08 40.3 +2.2**
VYHS pmax pmax
comp=Z,7.0nm,0.7s
VYHS Vyhne 69.65 6 *eP* **P 20 08 40.3 +2.2**
UZH Uzhgorod 69.66 4 *eP* **P 20 08 37.6 -0.5**
UZH *e* 20 08 59.0
UZH *e* 20 09 07.4
MODS Modra-Piesok 69.68 7 *eP* **P 20 08 38.9 +0.6**
MODS pmax pmax
comp=Z,15nm,1.4s
MODS Modra-Piesok 69.68 7 *eP* **P 20 08 38.9 +0.6**
DZA Taraz 69.77 327 *eP* **P 20 08 37.6 -1.4**
baz=327
DZA Taraz 69.77 327 *eP* **P 20 08 37.5 -1.4**
KK31 Karatay Array 69.78 328 P **P 20 08 37.8 -1.2**
KK31 pmax pmax
comp=Z,21nm,0.9s
KK31 Karatay Array 69.78 328 P **P 20 08 37.8 -1.2**
KK31 IAmb IAmb 20 08 40.5
comp=Z,21nm,0.8s
KKAR Karatay Array 69.78 328 P **P 20 08 38.0 -1.0**
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR Karatay Array 69.78 328 P **P 20 08 38.0 -1.0**
KKAR Karatay Array 69.78 328 P **P 20 08 38.1 -0.9**
KKAR IAmb IAmb 20 08 40.5
comp=Z,21nm,0.8s
AML Almayashu 69.86 325 P **P 20 08 40.5 +0.5**
SNR=14
MOA Molln 69.99 10 *eP* **P 20 08 40.8 +0.5**
CONA Conrad Observa 70.03 9 *i* P **P 20 08 41.2 +0.7**
SNR=8.5
RETA Reutte 70.04 12 *eP* **P 20 08 41.9 +1.3**
comp=Z,0.6nm,0.3s
DAVA Damuels 70.14 13 *eP* **P 20 08 42.1 +0.7**
comp=Z,1.8nm,0.6s
MOTA Moosalm 70.21 12 *eP* **P 20 08 42.3 +0.5**
comp=Z,1.5nm,0.4s
SORM Soroca 70.25 360⇑P **P 20 08 41.0 -0.7**
WATA Walderalm 70.27 12 *i* P **P 20 08 42.6 +0.6**
comp=Z,3.7nm,0.6s,SNR=6.3
PSZ Piszkesteto 70.28 6 *eP* **P 20 08 43.6 +1.6**
PSZ Piszkesteto 70.28 6 P **P 20 08 42.2 +0.1**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 70.28 6 P **P 20 08 42.2 +0.1**
WTTA Wattenberg 70.34 12 *i* P **P 20 08 43.1 +0.6**
comp=Z,7.6nm,0.8s,SNR=9.8
SQTA Sankt Quirin 70.34 12 *eP* **P 20 08 43.4 +0.9**
comp=Z,4.5nm,0.6s
SRO2 Moca 70.36 7 *eP* **P 20 08 43.2 +0.8**
SRO2 Moca 70.36 7 *eP* **P 20 08 43.2 +0.8**
FETA Feichten 70.49 12 *eP* **P 20 08 44.3 +0.9**
comp=Z,3.2nm,0.7s
KBA Koelnbreinsper 70.68 10 *eP* **P 20 08 45.2 +0.5**
ARSA Arzberg 70.68 9 *eP* **P 20 08 44.0 -0.5**
BUR08 Bucovina Ar. S 70.72 2 P **P 20 08 44.9 +0.1**
BURAR Bucovina Array 70.75 2⇑P **P 20 08 44.8 -0.1**
BURAR Bucovina Array 70.75 2 P **P 20 08 44.9 -0.1**
BURAR IAmb IAmb 20 08 48.3
comp=Z,8.1nm,0.6s
SENIN Lac Senin/Sane 70.76 15 P **P 20 08 45.1 -0.1**
SENIN IAmb IAmb 20 10 20.6
comp=Z,30nm,1.8s
TUE Stuetta 70.89 13 P **P 20 08 46.5 +0.5**
TUE IAmb IAmb 20 08 50.7
comp=Z,20nm,0.7s
ABTA Abfaltersbach 70.94 11 *eP* **P 20 08 46.7 +0.6**
comp=Z,0.5nm,0.3s
MYKA Terra Mystica 71.15 10 *eP* **P 20 08 47.5 +0.2**
ZOU Zoufplan 71.17 11 P **P 20 08 47.1 -0.4**
SOKA Soboth 71.22 9 *i* P **P 20 08 48.7 +0.9**
SNR=7.5
LFF La Frestale 71.23 20 *eP* **P 20 08 47.6 -0.1**
LFF pmax pmax
comp=Z,14nm,1.0s
PERS Pernice 71.26 9 *i* P **P 20 08 49.0 +1.0**
OBKA Obir 71.35 10 *i* P **P 20 08 49.2 +0.7**
SNR=20
DRGR 71.51 4⇑P **P 20 08 50.0 +0.5**
ROBS Robic 71.52 10 *i* P **P 20 08 49.1 -0.4**
CTI Castel Tesino 71.55 12 P **P 20 08 49.6 -0.2**
CTI pmax pmax
comp=Z,27nm,1.8s
CTI Castel Tesino 71.55 12 P **P 20 08 49.6 -0.2**
MOZS Mozjanca 71.55 10 *eP* **P 20 08 50.0 +0.3**
CJR Cluj-Napoca 71.62 3⇑P **P 20 08 50.1 0.0**
KSH Kashi 71.66 323 P **P 20 08 53.8 +3.2**
KSH sP sP 20 09 37.0 +1.5
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,120nm,3.6s
KSH LR LR
comp=Z,510nm,10.9s
KSH LR LR
comp=Z,270nm,11.8s
KSH LR LR
comp=Z,90nm,9.7s
TAS Tashkent 71.75 328 P **P 20 08 50.8 -0.2**
TAS pmax pmax
comp=Z,32nm,0.8s
TAS Tashkent 71.75 328 P **P 20 08 50.8 -0.2**
SALO Salr 71.86 13 P **P 20 08 51.5 0.0**
SALO IAmb IAmb 20 08 52.4
comp=Z,15nm,0.7s
BNI Bardonecchia 71.97 16 P **P 20 08 52.8 +0.4**
BNI pmax pmax
comp=Z,62nm,2.0s
BNI Bardonecchia 71.97 16 P **P 20 08 52.8 +0.4**
BNI IAmb IAmb 20 10 03.5
comp=Z,62nm,2.0s
SIRR Siria 72.00 5⇑P **P 20 08 53.1 +0.8**
GYA Guiyang 72.03 292⇑P **P 20 08 53.0 0.0**
GYA pP pP 20 09 24.8 +0.5
GYA pmax pmax
comp=Z,7.0nm,0.8s
GYA pmax pmax
comp=Z,32nm,3.5s
TEOL Teolo 72.23 12 P **P 20 08 54.4 +0.7**
TEOL IAmb IAmb 20 08 57.9
comp=Z,16nm,0.8s
OZUR 72.28 2⇓P **P 20 08 53.4 -0.7**
SJG San Juan 72.33 85 *eP* P 20 08 49.6 -5.0
DOPR Dopca 72.40 2⇓P **P 20 08 55.7 +1.0**
VRI Vrincioaia 72.51 1⇑P **P 20 08 54.4 -1.0**
PLOR Plostina 72.53 1⇑P **P 20 08 56.4 +0.9**
GOF Gofitskoye 72.62 349⇑*eP* **P 20 08 58.0 +1.9**
GOF pmax pmax
comp=Z,55nm,0.7s
PBRG Braganca 72.87 26 *eP* **P 20 08 58.5 +0.9**
MLR Muntele Rosu 72.88 1⇑P **P 20 08 57.5 -0.3**
MLR Muntele Rosu 72.88 1 P **P 20 08 57.6 -0.1**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 72.88 1 P **P 20 08 57.6 -0.1**
GZR Gura Zlata 72.91 4⇓P **P 20 08 58.0 +0.2**
VOIR 72.92 2⇓P **P 20 08 58.2 +0.2**

MSSA Maissana 73.04 14 P **P 20 08 58.3 -0.3**
PVRL Vila Real 73.17 27 *eP* **P 20 08 59.7 +0.3**
CFR Carcaliu 73.20 360⇑P **P 20 08 58.9 -0.5**
VLC Villacollemand 73.29 13 P **P 20 09 00.1 +0.1**
MVO Moncorvo 73.42 27 *eP* **P 20 09 01.5 +0.6**
MDVR Moldovita 73.49 5⇑P **P 20 09 01.6 +0.4**
TPGR Topolog 73.53 360⇑P **P 20 09 00.4 -1.0**
PVIS Viseu 73.67 28 *eP* **P 20 09 02.7 +0.4**
GAR Garm 73.69 327 P **P 20 09 02.2 -0.4**
HARR Harsova 73.69 360⇑P **P 20 09 02.8 +0.5**
KVAR Kislovodsk Arr 73.75 349 P **P 20 09 03.5 +0.7**
comp=Z,4.9nm,0.6s,baz=268,slow=24,SNR=10
KIV Kislovodsk 73.75 349⇑P **P 20 09 02.7 -0.1**
KIV Kislovodsk 73.75 349 *eP* **P 20 09 02.5 -0.3**
KIV *eS* **S 20 18 22.7 -0.7**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 73.75 349 P **P 20 09 02.9 +0.1**
KIV IAmb IAmb 20 09 06.1
comp=Z,20nm,0.8s
TIRR Tirgusor 73.92 360 P **P 20 09 03.4 -0.3**
TIRR pmax pmax
comp=Z,46nm,1.3s
TIRR Tirgusor 73.92 360 P **P 20 09 03.4 -0.3**
TIRR IAmb IAmb 20 09 38.5
comp=Z,46nm,1.3s
KBZ Khabaz 73.95 349 P **P 20 09 04.2 +0.4**
comp=Z,18nm,0.9s,baz=259,slow=1.1,SNR=23
MTE Manteigas 74.05 27 *eP* **P 20 09 05.4 +0.8**
MTE Manteigas 74.05 27 P **P 20 09 04.4 -0.2**
MTE IAmb IAmb 20 10 05.5
comp=Z,25nm,1.1s
DIVS Divibare 74.09 6 P **P 20 09 04.8 0.0**
NCK Nalchik 74.12 348⇓*eP* **P 20 09 05.2 +0.3**
NCK pmax pmax
comp=Z,44nm,0.9s
PCAS Casmilo, Conde 74.17 28 *eP* **P 20 09 05.9 +0.7**
CHGR Chuyangaron 74.31 328 P **P 20 09 05.9 -0.3**
MURB Monte Urbino 74.39 12 P **P 20 09 06.8 +0.3**
MURB IAmb IAmb 20 09 53.5
comp=Z,23nm,1.1s
PCBR Castelo Branco 74.59 27 *eP* **P 20 09 08.0 +0.4**
ZEI Tsey 74.79 348 *eP* **P 20 09 10.0 +1.0**
ZEI pmax pmax
comp=Z,12nm,1.0s
NRCA Norcia 74.87 11 P **P 20 09 09.8 +0.5**
KMI Kunming 74.90 295⇑P **P 20 09 08.8 -1.1**
KMI pmax pmax
comp=Z,14nm,1.2s
ONI Oni 75.03 348 P **P 20 09 11.2 +1.0**
ONI pmax pmax
comp=Z,9.0nm,0.8s
ONI Oni 75.03 348 P **P 20 09 11.2 +1.0**
PMAFR Mafra 75.04 29 *eP* **P 20 09 11.0 +0.8**
comp=Z,152nm,1.6s
PMTG Montargil 75.17 28 *eP* **P 20 09 11.1 +0.1**
LGD Lagodekhi 75.48 346 P **P 20 09 13.1 +0.4**
ESBB Sonseca Array 75.49 25 P **P 20 09 13.2 +0.3**
ESDC Sonseca Array 75.49 25 P **P 20 09 13.2 +0.3**
comp=Z,4.4nm,0.7s,baz=338,slow=5.8,SNR=32
ESDC Sonseca Array 75.49 25 P **P 20 09 13.2 +0.3**
PESTR Estremoz 75.50 28 *eP* **P 20 09 13.1 +0.2**
LSA Lhasa 75.53 307 P **P 20 09 14.3 +0.5**
LSA pmax pmax
comp=Z,130nm,0.8s
LSA Lhasa 75.53 307 P **P 20 09 15.0 +1.2**
LSA pmax pmax
comp=Z,25nm,0.7s
LSA Lhasa 75.53 307 P **P 20 09 15.0 +1.2**
LSA IAmb IAmb 20 09 17.8
comp=Z,25nm,0.7s
PAB San Pablo 75.53 25 P **P 20 09 13.5 +0.4**
PAB pmax pmax
comp=Z,19nm,1.4s
PAB San Pablo 75.53 25 P **P 20 09 13.5 +0.4**
VTS Vitosha 75.70 4⇑P **P 20 09 14.2 +0.1**
VTS Vitosha 75.70 4 P **P 20 09 13.4 -0.7**
VTS pmax pmax
comp=Z,4.0nm,0.9s
VTS Vitosha 75.70 4 P **P 20 09 13.4 -0.7**
PDG Podgorica 75.72 7⇑P **P 20 09 14.2 +0.2**
PDG Podgorica 75.72 7 P **P 20 09 13.7 -0.3**
MOTC Monteria, Cord 75.95 98 *eP* **P 20 09 15.5 -0.2**
PNCL Nicolau / Gran 76.01 29 *eP* **P 20 09 16.4 +0.6**
comp=Z,39nm,1.9s
AKH Akhalkalaki 76.20 348⇑P **P 20 09 17.8 +0.8**
AKH Akhalkalaki 76.20 348 P **P 20 09 19.5 +2.5**
PBAR Barrancos 76.29 28 *eP* **P 20 09 17.8 +0.5**
STIP Stip 76.59 4 *i* P **P 20 09 18.3 -0.6**
PVAQ Vaqueiros 76.88 28 *eP* **P 20 09 21.7 +1.0**
PVAQ Vaqueiros 76.88 28 P **P 20 09 21.4 +0.8**
AFI Afiamalu 77.20 200 LR LR 20 35 00.9
comp=Z,85nm,21.2s,baz=127,slow=29
GNI Garni 77.31 347 P **P 20 09 26.2 +2.9**
comp=Z,10.0nm,0.7s,baz=210,slow=13,SNR=6.9
GNI Garni 77.31 347*de*P **P 20 09 25.8 +2.5**
GNI pmax pmax
comp=Z,19nm,1.1s
GNI Garni 77.31 347 P **P 20 09 24.8 +1.5**
GNI IAmb IAmb 20 09 27.1
comp=Z,17nm,0.9s
ZARC Zaragoza, Cauc 77.46 98 *eP* **P 20 09 23.5 -0.7**
FNA Florina 77.46 5 P **P 20 09 23.3 -0.7**
FNA pmax pmax
comp=Z,10.0nm,0.9s
FNA Florina 77.46 5 P **P 20 09 23.3 -0.7**
ALN Alexandroupoli 77.47 1 P **P 20 09 23.7 -0.2**
ALN Alexandroupoli 77.47 1 P **P 20 09 23.7 -0.2**
GEYT Alibeck 77.47 336 P **P 20 09 24.6 +0.6**
comp=Z,17nm,0.9s,baz=270,slow=4.2,SNR=24
GEYT LR LR 20 49 23.2
comp=Z,54nm,18.9s,baz=50,slow=40
GYA0B ALIBECK ARRAY 77.47 336 P **P 20 09 24.3 +0.2**
GYA0B IAmb IAmb 20 09 27.2
comp=Z,19nm,0.8s
SLVN Son La 77.72 292 P **P 20 09 25.5 -0.2**
MDUB Mudurnu 77.87 357 P **P 20 09 26.7 +0.4**
NIL Nilore 77.91 323 P **P 20 09 26.2 -0.3**
NIL pmax pmax
comp=Z,14nm,0.7s
NIL Nilore 77.91 323 P **P 20 09 26.2 -0.3**
NIL IAmb IAmb 20 09 28.3
comp=Z,14nm,0.7s
SCTE Santa Cesarea 78.02 7 P **P 20 09 26.7 -0.3**
SCTE IAmb IAmb 20 11 07.3
comp=Z,27nm,1.0s
ANTO Ankara 78.43 356 P **P 20 09 29.6 +0.2**
ANTO pmax pmax
comp=Z,25nm,1.1s
ANTO Ankara 78.43 356 P **P 20 09 29.6 +0.2**
ANTO IAmb IAmb 20 09 33.7
comp=Z,25nm,1.1s
BR131 Keskin Array S 78.55 355 P **P 20 09 31.2 +1.1**
BR131 pmax pmax
comp=Z,18nm,1.1s
BR131 Keskin Array S 78.55 355 P **P 20 09 31.2 +1.1**
BR131 IAmb IAmb 20 09 33.9
comp=Z,18nm,1.1s
BRTR Keskin Array B 78.55 355 P **P 20 09 29.7 -0.4**
comp=Z,7.9nm,0.9s,baz=8.5,slow=2.5,SNR=16
BRTR Keskin Array B 78.55 355 P **P 20 09 29.6 -0.5**
TAPN Taplejung 78.94 308 *eP* **P 20 09 33.1 +0.5**
comp=Z,128nm,0.5s
SHL Shillong 78.96 304 P **P 20 09 32.1 -0.5**
SHL pmax pmax
comp=Z,26nm,0.8s
SHL Shillong 78.96 304 P **P 20 09 32.1 -0.5**
SHL IAmb IAmb 20 09 32.7
comp=Z,26nm,0.8s
BARC Barichara 79.03 97 *eP* **P 20 09 32.8 -0.3**
NORC Norcasia 79.14 99 *eP* **P 20 09 32.7 -0.8**
GUY2C Guyana, Caldas 79.21 99 *eP* **P 20 09 34.9 +0.5**
JIRN Jiri 79.22 310 *eP* **P 20 09 34.8 +0.6**
comp=Z,106nm,0.5s
AGG Agios Georgios 79.26 4 P **P 20 09 33.0 -0.8**
AGG pmax pmax
comp=Z,6.0nm,0.7s
AGG Agios Georgios 79.26 4 P **P 20 09 33.0 -0.8**
PPT Papeete 79.29 177 LR LR 20 35 44.1
comp=Z,73nm,20.3s,baz=348,slow=29
BNN Bunyan 79.32 354 P **P 20 09 34.7 +0.4**
KKN Kakani 79.43 311 *eP* **P 20 09 35.4 +0.2**
comp=Z,36nm,0.4s
DANN Dangsing 79.45 312 *eP* **P 20 09 35.9 +0.5**

comp=Z,276nm,0.8s
GKN Gorkha 79.46 311 *e*P P 20 09 35.4 +0.1
comp=Z,85nm,0.5s
ODAN Odare 79.50 308 *e*P P 20 09 35.5 -0.1
comp=Z,64nm,0.8s
PKI Pulchoki 79.58 310 *e*P P 20 09 35.9 -0.2
RUSC La Rusia 79.69 97 P P 20 09 36.1 -0.9
RUSC La Rusia 79.69 97 *e*P P 20 09 36.9 -0.1
MALT Malatya 79.70 352 P P 20 09 39.8 +3.5
RAMN Ramite 79.71 309 *e*P P 20 09 37.4 +0.7
comp=Z,50nm,0.4s
CORL Corleone 79.79 12 P P 20 09 37.6 +0.8
TOLC Tolima 79.79 100 *e*P P 20 09 37.3 0.0
PYUN Piuthan 79.95 313 *e*P P 20 09 37.9 -0.1
comp=Z,135nm,0.9s
HRA Herat 80.03 332 P P 20 09 37.9 -0.4
HRA IAmb IAmb 20 11 57.9
comp=Z,11nm,0.5s
KOLN Koldanda 80.04 312 *e*P P 20 09 38.5 0.0
comp=Z,84nm,0.9s
ORTC Ortega, Tolima 80.42 100 *e*P P 20 09 38.6 -1.7
CHIC Chingaza 80.49 98 *e*P P 20 09 39.2 -2.0
NONG Nongkai 80.93 291 P P 20 09 42.7 -0.3
comp=Z,26nm,1.4s
ITM Ithomi 81.08 5 P P 20 09 42.9 -0.7
ITM IAmb IAmb 20 09 47.3
comp=Z,12nm,0.7s
KEST Kesra 81.49 15 P P 20 09 46.3 +0.4
comp=Z,9.8nm,0.4s,baz=152,slow=1.6,SNR=27
KEST Kesra 81.49 15 P P 20 09 46.0 +0.1
KEST IAmb IAmb 20 09 47.1
comp=Z,21nm,1.1s
SKNT Sakolnakorn 81.52 290 P P 20 09 46.4 +0.2
comp=Z,18nm,1.2s
MDT Midelt 81.97 27 P P 20 09 49.5 +1.1
comp=Z,3.9nm,0.8s,baz=281,slow=6.3,SNR=6.6
CM33 Chiang Mai Arr 82.09 295 P P 20 09 48.0 -1.1
CHTO Chiang Mai 82.09 295 P P 20 09 48.3 -0.9
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 82.09 295 P P 20 09 48.2 -0.9
comp=Z,17nm,0.9s
CHTO Chiang Mai 82.09 295 P P 20 09 48.3 -0.9
CMMT Chiang Mai 82.09 295 P P 20 09 48.2 -1.0
comp=Z,344nmcomp=Z,17nm,0.9s
CMMT Chiang Mai 82.09 295 P P 20 09 48.0 -1.2
CM35 Chiang Mai Arr 82.12 295 P P 20 09 48.0 -1.3
OTAV Otavalo 82.17 104 P P 20 09 50.1 0.0
OTAV pmax pmax
comp=Z,6.0nm,1.0s
OTAV Otavalo 82.17 104 P P 20 09 50.1 0.0
OTAV Otavalo 82.17 104 *e*P P 20 09 49.6 -0.6
CM32 Chiang Mai Arr 82.28 295 P P 20 09 50.0 -0.1
CM36 Chiang Mai Arr 82.29 295 P P 20 09 50.0 -0.2
UTTA Uttaradit 82.35 293 P P 20 09 50.0 -0.4
CM09 Chiang Mai Arr 82.40 295 P P 20 09 50.7 -0.1
comp=Z,201nmcomp=Z,27nm,0.9s
CM09 Chiang Mai Arr 82.40 295 P P 20 09 50.0 -0.8
CM31 Chiang Mai Arr 82.41 295 P P 20 09 50.7 -0.2
CM31 Chiang Mai Arr 82.41 295 P P 20 09 50.6 -0.2
CM31 IAmb IAmb 20 09 51.5
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 82.41 295 P P 20 09 50.4 -0.5
comp=Z,23nm,0.8s,baz=6.7,slow=6.1,SNR=146
CMAR pP **pP** 20 10 24.0 +1.2
comp=Z,4.8nm,1.0s,baz=3.4,slow=6.2,SNR=2.8
CMAR LR LR 20 48 12.3
comp=Z,24nm,20.1s,baz=200,slow=37
CM15 Chiang Mai Arr 82.42 295 P P 20 09 50.6 -0.3
comp=Z,230nmcomp=Z,35nm,0.9s
CM15 Chiang Mai Arr 82.42 295 P P 20 09 50.7 -0.2
CM02 Chiang Mai Arr 82.43 295 P P 20 09 50.7 -0.2
comp=Z,306nmcomp=Z,47nm,0.9s
CM02 Chiang Mai Arr 82.43 295 P P 20 09 50.8 -0.2
CM01 Chiang Mai Arr 82.43 295 P P 20 09 50.8 -0.1
comp=Z,267nmcomp=Z,38nm,1.0s
CM01 Chiang Mai Arr 82.43 295 P P 20 09 50.9 0.0
CM04 Chiang Mai Arr 82.44 295 P P 20 09 50.9 -0.1
CM13 Chiang Mai Arr 82.46 295 P P 20 09 50.0 -1.1
CM05 Chiang Mai Arr 82.46 295 P P 20 09 51.0 -0.1
KHON Khomkaen 82.60 291 P P 20 09 51.7 -0.1
comp=Z,834nmcomp=Z,80nm,0.8s
PHIT Phitsanulok 82.90 293 P P 20 09 53.5 +0.2
comp=Z,62nm,0.9s
PHIT Phitsanulok 82.90 293 P P 20 09 53.5 +0.2
RAR Rarotonga 83.12 187 LR LR 20 40 35.7
comp=Z,60nm,20.1s,baz=283,slow=31
SRAK Srakaew 85.00 290 P P 20 10 02.5 -1.5
MMAI Mount Meron Ar 85.15 354 P P 20 10 07.4 +2.7
comp=Z,7.9nm,0.9s,baz=359,slow=6.7,SNR=8.6
FAKI Fak Fak 85.83 256 P P 20 10 07.0 -1.1
EIL Elat 88.50 354 P P 20 10 23.6 +2.8
comp=Z,6.2nm,0.8s,baz=152,slow=3.1,SNR=5.9
ATAH Atahualpa 88.72 108 P P 20 10 24.3 +1.9
comp=Z,8.1nm,0.7s,baz=154,slow=3.6,SNR=5.7
ATAH pP **pP** 20 10 55.9 +1.3
comp=Z,18nm,0.9s,baz=297,slow=1.5,SNR=6.1
PTGA Pitinga 91.67 88 P P 20 10 35.5 -0.2
KMBO Kilima Mbogo 118.89 349 PKP **PKiKP** 20 16 17.1 +0.5
comp=Z,1.2nm,0.5s,baz=28,slow=5.3,SNR=5.6
PLCA Paso Flores 121.37 118 PKP **PKPdf** 20 16 19.6 -0.7
comp=Z,2.6nm,0.8s,baz=125,slow=2.0,SNR=4.1
VNDA Vanda 142.08 195 PKP **PKPdf** 20 16 58.7 +0.8
comp=Z,0.7nm,0.6s,baz=47,slow=2.1,SNR=4.6
PMSA Palmer Station 142.15 136 SKPbc **SKPbc** 20 20 22.8 -1.1
comp=Z,8.9nm,0.9s,baz=112,slow=0.8,SNR=7.0
BOSA Boshof 146.60 4 PKPbc **PKPdf** 20 17 08.0 +0.6
comp=Z,19nm,1.0s,baz=341,slow=4.3,SNR=27
BOSA Boshof 146.60 4 PKP2 **PKPbc** 20 17 08.6 -0.6
BOSA Boshof 146.60 4 **PKPbc** 20 17 08.6 -0.6
MAW Mawson 164.22 234 PKPab **PKPab** 20 18 27.2 +3.0
comp=Z,1.7nm,0.4s,baz=88,slow=20,SNR=11

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*TRN **25** 20:09:44.0, 13°.81N×58°.51W, h107km, MD3.8*
ISC 25 20:09:43.2±2.6, 13°.90N±0°.05×58°.5W±0°.1, h10km, n33, σ1§49/50, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**230**	*e*P	**Pg**	**20 10 08.1**	**+1.1**
BBSP				*e*S	**Sg**	**20 10 25.0**	**+1.9**
BBGH	**Gun Hill**	**1.29**	**235**	*e*P	**Pn**	**20 10 07.9**	**+0.6**
BBGH				*e*S	**Sg**	**20 10 27.2**	**+2.3**
BCHC	**Barbados, Cave**	**1.35**	**236**	*e*S	**Sg**	**20 10 28.1**	**+1.2**
MPOM	**Morne Pois Mar**	**2.37**	**284**	*e*P	**Pn**	**20 10 22.0**	**-0.2**
MPOM				*e*S	**Sn**	**20 10 51.1**	**-0.2**
MCLT	**Moule a Chique**	**2.40**	**266**	*e*P	**Pn**	**20 10 24.2**	**+1.6**
MCLT				*e*S	**Sn**	**20 10 52.3**	**+0.2**
SLBI	**Saint Lucia, B**	**2.42**	**273**	*e*P	**Pn**	**20 10 22.7**	**-0.2**
SLBI				*e*S	**Sn**	**20 10 50.9**	**-1.7**
MVM	**Montagne Vaucl**	**2.43**	**286**	*e*P	**Pn**	**20 10 23.2**	**+0.2**
ILAM	**Ilet Lapin Mar**	**2.48**	**291**	*e*P	**Pn**	**20 10 24.7**	**+1.0**
ILAM				*e*S	**Sn**	**20 10 53.3**	**-0.7**
LPMF	**Morne Lapointe**	**2.50**	**286**	*e*P	**Pn**	**20 10 24.0**	**0.0**
ZAM	**Aeronautique**	**2.56**	**285**	*e*P	**Pn**	**20 10 24.7**	**-0.1**
TRMF	**Trois Ilets**	**2.57**	**285**	*e*P	**Pn**	**20 10 24.9**	**-0.1**
BIM	**Bigot**	**2.59**	**284**	*e*P	**Pn**	**20 10 24.8**	**-0.4**
BIM				*e*S	**Sn**	**20 10 53.2**	**-3.5**
BHS	**Barnard House**	**2.64**	**257**	*e*P	**Pn**	**20 10 25.5**	**-0.4**
SSV	**Crater Summit**	**2.70**	**258**	*e*P	**Pn**	**20 10 27.1**	**+0.3**
SSV				*e*S	**Sn**	**20 10 58.9**	**-0.7**
FDF	**Fort de France**	**2.72**	**288**	*e*P	**Pn**	**20 10 27.2**	**+0.2**
FDF				*e*S	**Sn**	**20 10 58.0**	**-2.0**
SVV	**Soufriere Volc**	**2.72**	**258**	*e*P	**Pn**	**20 10 27.2**	**+0.1**
SVV				*e*S	**Sn**	**20 10 58.8**	**-1.3**
BAMF	**Morne Balai**	**2.74**	**290**	*e*P	**Pn**	**20 10 28.4**	**+1.1**
PML	**Morne Lenard**	**2.76**	**289**	*e*P	**Pb**	**20 10 32.3**	**-0.5**
SVB	**Belmont**	**2.77**	**257**	*e*P	**Pn**	**20 10 27.8**	**+0.1**
SVB				*e*S	**Sn**	**20 10 58.8**	**-2.4**
PCM	**Pelee Case Pet**	**2.80**	**289**	*e*P	**Pn**	**20 10 28.7**	**+0.6**
GCMP	**Grenada, Carri**	**3.19**	**244**	*e*P	**Pn**	**20 10 32.9**	**-0.6**
GCMP				*e*S	**Sn**	**20 11 08.6**	**-3.1**
DSLB	**Salisbury**	**3.23**	**299**	*e*P	**Pn**	**20 10 34.0**	**-0.1**
DSLB				*e*S	**Sn**	**20 11 10.4**	**-2.2**
MAGL	**Barre de l'ile**	**3.39**	**307**	*e*P	**Pn**	**20 10 37.0**	**+0.8**
MAGL				*e*S	**Sn**	**20 11 15.9**	**-0.6**
GRGR	**Grenville**	**3.56**	**241**	*e*P	**Pn**	**20 10 36.9**	**-1.6**
GRGR				*e*S	**Sn**	**20 11 17.8**	**-2.9**
TDBA	**Terre de Bas,**	**3.62**	**303**	*e*P	**Pn**	**20 10 41.7**	**+2.4**
CBE	**Ff, Capester**	**3.71**	**306**	*e*P	**Pn**	**20 10 40.8**	**+0.1**
CBE				*e*S	**Sn**	**20 11 23.2**	**-1.3**
ABD	**La Joyeuse, An**	**3.87**	**312**	*e*P	**Pn**	**20 10 43.5**	**+0.7**
ABD				*e*S	**Sn**	**20 11 26.5**	**-1.9**
ANBD	**Bethesda, Anti**	**4.45**	**315**	*e*P	**Pn**	**20 10 52.2**	**+1.4**
ANBD	**Bethesda, Anti**	**4.45**	**315**	*e*S	**Sn**	**20 11 41.7**	**-1.1**
BPA	**Boggy Peak**	**4.51**	**314**	*e*P	**Pn**	**20 10 52.7**	**+1.0**
BPA	**Boggy Peak**	**4.51**	**314**	*e*S	**Sn**	**20 11 41.6**	**-2.8**
ANWB	**Willy Bob**	**4.92**	**320**	*e*P	**Pn**	**20 10 57.3**	**+0.1**
ANWB	**Willy Bob**	**4.92**	**320**	*e*S	**Sn**	**20 11 51.4**	**-2.8**

IDC 25 20:24:34.2±2.1, 25°.37N×99°.59E, h0km, mb3.2/2, mb1 3.2/3, mb1mx3.1/51, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=75.6km s-min=25.8km az=91.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.91**	**185**	Pn	Pn	20 26 15.8	-0.9
	0.1nm,0.3s,baz=10,slow=12,SNR=1.8						
CMAR				Pg	Pg	20 26 41.5	-5.0
	0.5nm,0.3s,baz=360,slow=17,SNR=9.0						
CMAR				Lg	Lg	20 28 10.3	
	0.2nm,0.3s,baz=18,slow=30,SNR=2.9						
SONM	**Songino Array**	**23.06**	**12**	P	P	20 29 41.4	+0.1
	0.6nm,1.2s,baz=196,slow=10,SNR=1.8						
MKAR	**Makanchi Array**	**25.44**	**332**	P	P	20 30 03.6	0.0
	0.6nm,0.8s,baz=135,slow=12,SNR=4.5						

MAN 25 20:25:34.5, 7°.70N×125°.46E, h8km, mb4.4, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**1.07**	**315⇓**	*e*P	Pg	20 25 53.7	-1.3
CGP				*e*S	Sg	20 26 08.1	-0.9

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*BJI **25** 20:38:20.9±0.0, 1°.86N×128°.81E, h150km, mB4.6/20, mb4.4/32*
*NEIC **25** 20:38:28.6±1.4, 2°.51N±0°.08×128°.25E±0°.07, h145km±6km, mb4.5/53, Error ellipse: s-maj=12.4km s-min=8.7km az=208.0*
*DJA **25** 20:38:28.5±0.4, 3°N±3°×128°8E±°, h137km±3km, M4.5/18, mB5.0/8, mb4.7/18, MLv4.5/13, Mw(mB)4.4/8*
*IDC **25** 20:38:29.7±0.7, 2°.52N×128°.37E, h160km±6km, mb3.9/15, mb1 4.0/17, mb1mx3.9/30, mbtmp4.3/17, MS3.4/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=18.1km s-min=7.8km az=68.0*
ISC 25 20:38:28.7±0.6, 2°.50N±0°.05×128°.25E±0°.06, h149km±5km, n127, σ1§14/135, mb4.4/53, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.93**	**207**	Pn	**Pn**	**20 39 03.5**	**+0.5**
TNTI	**Ternate**	**1.93**	**207**	P	**Pn**	**20 39 03.0**	**0.0**
TNTI				S	**Sn**	**20 39 29.8**	**+0.5**
SGSI	**Sangihe**	**2.96**	**294**	P	**Pn**	**20 39 14.7**	**-0.8**
SGSI				S	**Sn**	**20 39 51.4**	**-0.3**
SWI	**Sorong**	**4.50**	**138**	P	**Pn**	**20 39 31.1**	**-4.4**
SIJI	**Sorong**	**4.51**	**138**	P	**Pn**	**20 39 36.0**	**+0.4**
	3.6nm,0.3s,baz=265,slow=22,SNR=26						
SIJI				S	**Sn**	**20 40 28.2**	**+0.5**
	6.6nm,0.3s,baz=12,slow=23,SNR=9.5						
SANI	**Sanana**	**5.05**	**207**	P	**Pn**	**20 39 41.7**	**-1.1**
	0.2nm1μm41nm,0.8s						
GTOI	**Gorontalo**	**5.55**	**251**	P	**Pn**	**20 39 50.5**	**+1.0**
	0.7nm2μm187nm,0.6s						
NLAI	**Namlea**	**5.81**	**191**	P	**Pn**	**20 39 54.1**	**+1.1**
	0.1nm15nm,0.5s						
MSAI	**Masohi**	**5.84**	**173**	P	**Pn**	**20 39 54.0**	**+0.6**
	0.1nm3.9nm,0.4s						
MRSI	**Marisa**	**6.62**	**252**	P	**Pn**	**20 40 04.2**	**+0.5**
	1.1nm2μm249nm,0.5s						
FAKI	**Fak Fak**	**6.71**	**143**	Pn	**Pn**	**20 40 06.2**	**+1.3**
FAKI	**Fak Fak**	**6.71**	**143**	P	**Pn**	**20 40 06.8**	**+1.9**
	0.2nm40nm,1.3s						
APSI	**Ampana**	**7.42**	**243**	P	**Pn**	**20 40 14.8**	**+0.5**
	0.3nm82nm,1.0s						
TOLI2	**Tolitoli**	**7.59**	**260**	Pn	**Pn**	**20 40 16.1**	**-0.5**
MPSI	**Mapaga**	**8.62**	**256**	P	**Pn**	**20 40 31.6**	**+1.2**
	366nm27nm,0.6s						
TTSI	**Tana Toraja**	**10.06**	**237**	P	**Pn**	**20 40 49.0**	**-0.7**
	2μm135nm,0.8s						
BNSI	**Bone**	**10.64**	**230**	P	**Pn**	**20 40 58.9**	**+1.7**
	27nm,0.5s						
BKSI	**Bulukumba**	**11.23**	**226**	P	**Pn**	**20 41 07.7**	**+2.6**
	836nm73nm,0.5s						
KAPI	**Kappang**	**11.30**	**229**	P	**Pn**	**20 41 08.3**	**+2.4**
	3.8nm,0.3s,baz=36,slow=7.8,SNR=11						
KAPI				S	**Sn**	**20 43 08.6**	**-2.4**
	1.6nm,0.3s,baz=283,slow=21,SNR=3.7						
KAPI	**Kappang**	**11.30**	**229**	Pn	**Pn**	**20 41 07.6**	**+1.6**
BSSI	**Bau Bau, Buton**	**11.56**	**222**	P	**Pn**	**20 41 12.5**	**+3.1**
	37nm,1.4s						
EDFI	**Ende, Flores**	**12.95**	**210**	P	**Pn**	**20 41 29.4**	**+2.0**
	5.7nm,0.7s						
MTKI	**Mura Teweh, K**	**13.78**	**256**	P	**Pn**	**20 41 38.6**	**+0.6**
	693nm7.7nm,0.5s						
MTN	**Manton Dam**	**15.51**	**169**	Pn	**Pn**	**20 41 59.0**	**-0.6**
KNRA	**Kununurra**	**18.07**	**178**	P	**P**	**20 42 28.7**	**-0.2**
KNRA				IAmb	IAmb	20 42 30.0	
	comp=Z,11nm,0.6s						
GUMO	**Guam**	**19.79**	**55**	P	**P**	**20 42 48.7**	**+1.1**
GUMO				IAmb	IAmb	20 42 50.6	
	comp=Z,27nm,0.8s						
TPUB	**Ta-pu**	**21.96**	**341**	P	**P**	**20 43 08.8**	**-1.9**
TPUB				IAmb	IAmb	20 43 09.3	
	comp=Z,37nm,1.5s						
SSLB	**Suanglung**	**22.31**	**342**	P	**P**	**20 43 14.3**	**+0.1**
SSLB				IAmb	IAmb	20 43 36.1	
	comp=Z,18nm,1.2s						
WB0	**Warramunga Arr**	**22.93**	**165**	P	**P**	**20 43 19.6**	**-0.5**
WB0				IAmb	IAmb	20 43 21.3	
	comp=Z,17nm,0.6s						
WRA	**Warramunga Arr**	**23.09**	**165**	P	**P**	**20 43 20.8**	**-0.7**
	comp=Z,5.4nm,0.3s,baz=344,slow=11,SNR=94						
WRA				PcP	**PcP**	**20 47 05.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=270,slow=0.9,SNR=5.3						
WRA				LR	LR	20 52 56.3	
	comp=Z,110nm,21.9s,baz=210,slow=38						
WRA	**Warramunga Arr**	**23.09**	**165**	P	**P**	**20 43 19.6**	**-1.9**
WB2	**Warramunga Arr**	**23.09**	**165**	P	**P**	**20 43 20.8**	**-0.7**
WB2				IAmb	IAmb	20 43 22.8	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**26.58**	**168**	P	**P**	**20 43 52.6**	**-0.6**
ASAR	**Alice Springs**	**26.58**	**168**	P	**P**	**20 43 52.6**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=351,slow=7.7,SNR=63						
ASAR				pP	**pP**	**20 44 26.1**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=346,slow=8.0,SNR=4.0						
ASAR				PcP	**PcP**	**20 47 13.7**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=353,slow=2.1,SNR=31						
JNU	**Nakatsue**	**30.56**	**4**	P	**P**	**20 44 27.0**	**-1.3**
NJ2	**Nanjing**	**30.70**	**344**	*e*P	**P**	**20 44 30.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
JHS	**Saijyo**	**32.65**	**7**	P	**P**	**20 44 46.9**	**+0.3**
JHS				IAmb	IAmb	20 45 03.2	
	comp=Z,12nm,1.2s						
CMAR	**Chiang Mai Arr**	**32.80**	**301**	P	**P**	**20 44 49.8**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=118,slow=7.7,SNR=7.6						
CMAR				pP	**pwP**	**20 45 22.4**	**-0.3**
	comp=Z,1.5nm,1.1s,baz=118,slow=5.8,SNR=3.3						
CHTO	**Chiang Mai**	**32.95**	**302**	P	**P**	**20 44 49.9**	**+0.4**
FORT	**Forrest**	**33.09**	**180**	P	**P**	**20 44 49.5**	**-0.9**
JWT	**Wachi**	**33.29**	**11**	P	**P**	**20 44 51.5**	**-0.6**
JWT				IAmb	IAmb	20 44 52.6	
	comp=Z,13nm,1.2s						
KMI	**Kunming**	**33.32**	**315 ⇓**	P	**P**	**20 44 55.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MORW	**Morawa**	**33.50**	**200**	P	**P**	**20 44 53.0**	**-1.0**
MORW				IAmb	IAmb	20 44 56.7	
	comp=Z,14nm,1.3s						
INU	**Inuyama**	**33.69**	**13**	P	**P**	**20 44 54.6**	**-0.9**
INU				IAmb	IAmb	20 44 55.4	
	comp=Z,8.4nm,0.5s						
KSRS	**Korea Array**	**34.79**	**360**	P	**P**	**20 45 04.8**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=175,slow=9.5,SNR=14						
KS19	**Wonju Array Si**	**34.84**	**359**	P	**P**	**20 45 04.9**	**-0.6**
KS19				IAmb	IAmb	20 45 28.8	
	comp=Z,23nm,1.5s						
MJAR	**Matsushiro Arr**	**35.10**	**14**	P	**P**	**20 45 06.0**	**-1.7**
	comp=Z,2.6nm,0.4s,baz=179,slow=9.5,SNR=21						
MJAR	**Matsushiro Arr**	**35.10**	**14**	P	**P**	**20 45 05.2**	**-2.6**
MAJO	**Matsushiro**	**35.10**	**14**	P	**P**	**20 45 05.2**	**-2.5**
MAJO				IAmb	IAmb	20 45 07.4	
	comp=Z,4.8nm,0.6s						
MAT	**Matsushiro**	**35.10**	**14**	P	**P**	**20 45 05.8**	**-2.0**
EIDS	**Eidsvold**	**35.46**	**143**	P	**P**	**20 45 09.6**	**-1.3**
EIDS				IAmb	IAmb	20 45 10.9	
	comp=Z,4.4nm,0.6s						
BBOO	**Buckleboo**	**35.89**	**169**	P	**P**	**20 45 14.1**	**-0.4**
BBOO				IAmb	IAmb	20 45 20.1	
	comp=Z,17nm,1.1s						
XAN	**Xi'an**	**36.20**	**332**	P	**P**	**20 45 18.0**	**+0.8**
XAN				pP	pwP	20 45 51.5	-0.5
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**36.46**	**161**	P	**P**	**20 45 19.2**	**-0.2**
	comp=Z,15nm,0.3s,baz=338,slow=8.1,SNR=116						
STKA				PcP	**PcP**	**20 47 39.8**	**-0.5**
	comp=Z,6.0nm,1.1s,baz=344,slow=9.4,SNR=3.1						
STKA	**Stephens Creek**	**36.46**	**161**	P	**P**	**20 45 19.2**	**-0.2**
STKA				IAmb	IAmb	20 45 20.1	
	comp=Z,4.3nm,0.5s						
JSD	**Sado**	**36.54**	**13**	P	**P**	**20 45 18.4**	**-1.6**
JMM	**Marumori**	**37.03**	**17**	P	**P**	**20 45 23.2**	**-0.9**
JMM				IAmb	IAmb	20 45 25.7	
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**39.62**	**147**	P	**P**	**20 45 45.7**	**-0.3**
ARMA				IAmb	IAmb	20 45 46.8	
	comp=Z,9.6nm,0.6s						
JTM	**Tenmabayashi**	**39.84**	**15**	P	**P**	**20 45 47.1**	**-0.4**
LZH	**Lanzhou**	**40.33**	**329**	*e*P	**P**	**20 45 52.0**	**+0.1**
LZH				pP	pP	20 46 22.0	-1.9
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**40.87**	**64**	T	T	21 29 40.1	
	baz=258,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**40.88**	**64**	T	T	21 29 52.2	
	baz=258						
H11S1	**WAKE ISLAND Hy**	**40.88**	**64**	T	T	21 29 39.8	
	baz=258						
HHC	**Hu-ho-hao-te**	**41.04**	**341**	*e*P	**P**	**20 45 59.5**	**+1.9**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,63nm,4.9s						
H11N1	**WAKE ISLAND Hy**	**41.44**	**63**	T	T	21 30 12.7	
	baz=250,slow=75,SNR=9.1						
H11N2	**WAKE ISLAND Hy**	**41.45**	**63**	T	T	21 30 12.8	
	baz=250,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**41.46**	**63**	T	T	21 30 13.3	
	baz=250,slow=75,SNR=9.0						
USRK	**Ussuriysk Ar.**	**41.66**	**4**	P	**P**	**20 46 01.9**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=191,slow=8.7,SNR=5.0						
USRK	**Ussuriysk Ar.**	**41.66**	**4**	P	**P**	**20 46 01.7**	**-0.7**
SHL	**Shillong**	**41.82**	**307**	P	**P**	**20 46 04.8**	**+0.6**
TOO	**Toolangi**	**42.96**	**160**	P	**P**	**20 46 13.7**	**+0.7**
LSA	**Lhasa**	**44.38**	**311**	P	**P**	**20 46 26.4**	**+1.2**
LSA				IAmb	IAmb	20 46 28.8	
	comp=Z,3.8nm,0.6s						
GTA	**Gaotai**	**44.93**	**329 ⇑**	P	**P**	**20 46 29.5**	**+0.6**
GTA				pP	pP	20 47 02.3	+0.9
GTA				sP	sP	20 47 16.3	-1.5
GTA				PcP	**PcP**	**20 48 09.0**	**+1.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,26nm,5.1s						
GTA				LR	LR		
	comp=Z,88nm,15.3s						
GTA				LR	LR		
	comp=Z,100nm,16.0s						
GTA				LR	LR		
	comp=Z,97nm,16.0s						
ODAN	**Odare**	**46.01**	**306**	*e*P	**P**	**20 46 38.9**	**+1.1**
	comp=Z,17nm,0.7s						
RAMN	**Ramite**	**46.69**	**305**	*e*P	**P**	**20 46 44.6**	**+1.5**
	comp=Z,14nm,0.4s						
JIRN	**Jiri**	**47.32**	**306**	*e*P	**P**	**20 46 49.1**	**+1.1**
	comp=Z,14nm,0.3s						
PKI	**Pulchoki**	**47.91**	**306**	*e*P	**P**	**20 46 53.0**	**+0.4**
	comp=Z,6.1nm,0.4s						
ULN	**Ulaanbaatar**	**48.76**	**341**	P	**P**	**20 46 58.7**	**+0.2**
ULN				IAmb	IAmb	20 46 59.8	
	comp=Z,5.7nm,0.8s						
SONM	**Songino Array**	**48.95**	**341**	P	**P**	**20 47 00.1**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=152,slow=8.5,SNR=24						
SONM				pP	**pwP**	**20 47 36.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=162,slow=6.8,SNR=1.9						
SONM				PcP	**PcP**	**20 48 22.7**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=157,slow=4.6,SNR=5.9						
SONM	**Songino Array**	**48.95**	**341**	P	**P**	**20 46 59.8**	**-0.1**
KOLN	**Koldanda**	**49.47**	**305**	*e*P	**P**	**20 47 05.5**	**+1.2**
	comp=Z,18nm,0.5s						
DANN	**Dangsing**	**49.56**	**306**	*e*P	**P**	**20 47 06.0**	**+0.9**
	comp=Z,34nm,0.6s						
PYUN	**Piuthan**	**50.09**	**305**	*e*P	**P**	**20 47 10.3**	**+1.3**
	comp=Z,18nm,0.4s						
WMQ	**Urumqi**	**54.60**	**325**	*e*P	**P**	**20 47 44.0**	**+2.2**
PEA0B	**Petropavlovsk-**	**56.01**	**21**	P	**P**	**20 47 51.6**	**0.0**
PEA0B				IAmb	IAmb	20 47 58.8	
	comp=Z,9.4nm,1.1s						
PETK	**Petropavlovsk-**	**56.01**	**21**	P	**P**	**20 47 52.0**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=221,slow=5.9,SNR=3.8						
PETK	**Petropavlovsk-**	**56.01**	**21**	P	**P**	**20 47 51.6**	**-0.1**
YAK	**Yakutsk**	**59.40**	**1**	P	**P**	**20 48 14.5**	**-0.6**
MK31	**Makanchi Array**	**59.42**	**325**	P	**P**	**20 48 15.5**	**-0.2**
MK31				IAmb	IAmb	20 48 16.4	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**20 48 16.0**	**+0.3**
	comp=Z,4.8nm,0.4s,baz=117,slow=8.3,SNR=117						
MKAR				pP	**pwP**	**20 48 53.3**	**

TORD	**Torodi Ar. Bea**	**124.74**	**288**	PKP	**PKPdf**	**20 57 11.4**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=69,slow=1.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**124.74**	**288**		**PKPdf**	**20 57 11.0**	**-0.8**
LPAZ	**La Paz**	**158.84**	**131**	PKPab	**PKPab**	**20 58 48.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=225,slow=8.6,SNR=3.6						

*IDC **25** 20:56:13.6±0.9, 6°.68S×130°.25E, h0km, mb3.8/6, mb1 4.2/9, mb1mx3.9/32, mbtmp4.1/9, ML4.6/3, Error ellipse: s-maj=50.7km s-min=16.8km az=66.0*
*DJA **25** 20:56:21.4±0.3, 7°.5±2°.3×13°.1E±°, h140km±6km, M4.5/12, mb4.6/7, mB5.0/6, MLv4.6/12, Mw(mB)4.3/6*
*NEIC **25** 20:56:24±2.4, 6°.53S±0°.03×130°.7E±0°.1, h90km±8km, mb4.3/16, Error ellipse: s-maj=16.1km s-min=3.7km az=84.0*

ISC 25 20:56:24.0±0.5, 6°.63S±0°.04×130°.69E±0°.07, h100km, n51, σ2S05/51, mb3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.48**	**156**		**Pn**	**20 56 50.6**	**+0.5**
SAUI				Sn	**Sn**	**20 57 09.5**	**-0.3**
SAUI	**Saumlaki**	**1.48**	**156**	P	**Pn**	**20 56 50.3**	**+0.2**
SAUI				S	**Sn**	**20 57 11.8**	**+2.0**
BNDI	**Bandanaira**	**2.23**	**340**	P	**Pn**	**20 56 59.3**	**-0.3**
BNDI				S	**Sn**	**20 57 28.7**	**+1.9**
MSAI	**Masohi**	**3.70**	**332**	P	**Pn**	**20 57 18.1**	**-1.1**
MSAI				S	**Sn**	**20 58 02.5**	**+0.6**
FAKI	**Fak Fak**	**4.00**	**23**		**Pn**	**20 57 20.9**	**-2.3**
FAKI	**Fak Fak**	**4.00**	**23**	P	**Pn**	**20 57 21.0**	**-2.3**
FAKI				S	**Sn**	**20 58 06.7**	**-2.4**
KMPI	**Kaimana, Papua**	**4.21**	**46**	P	**Pn**	**20 57 23.9**	**-2.2**
NLAI	**Namlea**	**4.91**	**313**	P	**Pn**	**20 57 34.8**	**-0.7**
SIJI	**Sorong**	**5.75**	**6**	Pn	Pn	20 57 42.9	-4.1
	8.3nm,0.3s,baz=211,slow=22,SNR=32						
SIJI				Sn	Sn	20 58 43.5	-8.1
	15nm,0.3s,baz=130,slow=23,SNR=12						
SWI	**Sorong**	**5.75**	**6**	P	**Pn**	**20 57 44.6**	**-2.4**
MTN	**Manton Dam**	**6.20**	**176**		**Pn**	**20 57 52.6**	**-0.4**
SANI	**Sanana**	**6.53**	**314**	P	**Pn**	**20 57 56.4**	**-1.2**
	0.2nm596nm77nm,0.8s						
SOEI	**Soe**	**7.07**	**243**	Pn	**Pn**	**20 58 03.7**	**-1.4**
SOEI	**Soe**	**7.07**	**243**	P	**Pn**	**20 58 03.5**	**-1.6**
	0.4nm1μm81nm,0.6s						
SRPI	**Serui, Papua**	**7.28**	**50**	P	Pn	20 58 04.4	-3.4
BATI	**Baumata**	**7.80**	**242**	P	**Pn**	**20 58 13.4**	**-1.6**
	0.2nm1μm45nm,0.5s						
MMRI	**Maumere**	**8.61**	**256**	Pn	**Pn**	**20 58 25.6**	**-0.3**
EDFI	**Ende, Flores**	**9.16**	**256**	P	**Pn**	**20 58 31.6**	**-1.9**
	5.4nm,0.8s						
KNRA	**Kununurra**	**9.19**	**192**		**Pn**	**20 58 31.0**	**-2.8**
KAPI	**Kappang**	**11.00**	**278**	Sn	Sn	21 00 46.6	-13
	2.5nm,0.3s,baz=222,slow=18,SNR=4.8						
WBSI	**Waikabubak, Su**	**11.58**	**254**	P	**Pn**	**20 59 04.1**	**-2.1**
	31nm,1.0s						
TOLI2	**Toliboli**	**12.52**	**308**	Pn	**Pn**	**20 59 19.8**	**+1.1**
PLAI	**Plampang**	**12.98**	**259**	P	**Pn**	**20 59 22.2**	**-2.6**
	28nm,1.0s						
WB0	**Warramunga Arr**	**13.55**	**165**		Pn	20 59 27.6	-4.6
WRA	**Warramunga Arr**	**13.71**	**165**	Pn	Pn	20 59 29.6	-4.6
	4.4nm,0.3s,baz=347,slow=14,SNR=127						
WRA				Sn	Sn	21 01 54.3	-11
	3.8nm,0.3s,baz=332,slow=21,SNR=10						
WRA	**Warramunga Arr**	**13.71**	**165**		Pn	20 59 28.3	-5.9
AS31	**Alice Springs**	**17.22**	**170**		**P**	**21 00 16.1**	**-2.4**
AS31				IAmb	IAmb	21 00 19.5	
	comp=Z,5.4nm,0.5s						
ASAR	**Alice Springs**	**17.22**	**170**	P	**P**	**21 00 16.6**	**-1.9**
	comp=Z,2.6nm,0.3s,baz=343,slow=8.7,SNR=127						
ASAR				S	**Sn**	**21 03 21.9**	**-8.3**
	comp=Z,1.2nm,0.3s,baz=333,slow=14,SNR=13						
ASAR	**Alice Springs**	**17.22**	**170**		**P**	**21 00 16.8**	**-1.7**
PSA00	**Pilbara Seismi**	**18.18**	**214**		**Pn**	**21 00 29.6**	**-0.5**
PSA00				IAmb	IAmb	21 00 55.4	
	comp=Z,37nm,1.4s						
PSA00	**Pilbara Seismi**	**18.18**	**214**		**P**	**21 00 29.3**	**+0.2**
PSA00				IAmb	IAmb	21 00 34.4	
	comp=Z,8.7nm,1.4s						
UGM	**Wanagama**	**20.04**	**265**	P	**Pn**	**21 00 50.4**	**-1.6**
CTA	**Charters Tower**	**20.18**	**133**	P	**P**	**21 00 53.9**	**+3.1**
	comp=Z,4.2nm,0.7s,baz=312,slow=14,SNR=5.4						
CTAO	**Charters Tower**	**20.18**	**133**	P	**P**	**21 00 53.6**	**+2.7**
CTAO				IAmb	IAmb	21 00 58.0	
	comp=Z,15nm,1.2s						
FORT	**Forrest**	**24.16**	**186**	P	**P**	**21 01 33.2**	**+2.3**
MORW	**Morawa**	**26.26**	**210**	P	**P**	**21 01 50.2**	**+0.1**
BBOO	**Buckleboo**	**26.53**	**170**	P	**P**	**21 01 53.4**	**+1.0**
BBOO				IAmb	IAmb	21 02 15.8	
	comp=Z,30nm,1.2s						
STKA	**Stephens Creek**	**27.11**	**159**	P	**P**	**21 01 59.5**	**+1.9**
	comp=Z,2.6nm,0.6s,baz=328,slow=6.5,SNR=7.8						
STKA	**Stephens Creek**	**27.11**	**159**	P	**P**	**21 01 59.2**	**+1.5**
TOO	**Toolangi**	**33.62**	**158**	P	**P**	**21 02 57.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**40.02**	**309**	P	**P**	**21 03 49.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=127,slow=7.4,SNR=4.7						
JWT	**Wachi**	**41.92**	**6**	P	**P**	**21 04 05.2**	**+0.4**
JWT				IAmb	IAmb	21 04 20.4	
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**58.31**	**341**	P	**P**	**21 06 09.2**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=163,slow=5.4,SNR=2.7						
SONM	**Songino Array**	**58.31**	**341**	P	**P**	**21 06 08.7**	**+0.1**
MK31	**Makanchi Array**	**68.29**	**326**	P	**P**	**21 07 14.6**	**+0.2**
MK31				IAmb	IAmb	21 07 24.8	
	comp=Z,3.9nm,1.5s						
MKAR	**Makanchi Array**	**68.29**	**326**	P	**P**	**21 07 14.9**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=113,slow=8.6,SNR=25						
MAKZ	**Makanchi**	**68.47**	**326**	P	**P**	**21 07 15.9**	**+0.4**
MAKZ				IAmb	IAmb	21 07 42.6	
	comp=Z,1.7nm,0.8s						
VNDA	**Vanda**	**72.74**	**173**	P	**P**	**21 07 43.1**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=294,slow=10.0,SNR=1.9						
VNDA	**Vanda**	**72.74**	**173**	P	**P**	**21 07 42.5**	**+1.6**
QSPA	**South Pole Qui**	**83.35**	**180**	P	**P**	**21 08 40.9**	**+1.0**
QSPA				IAmb	IAmb	21 08 53.7	
	comp=Z,3.0nm,1.1s						
LPAZ	**La Paz**	**150.59**	**141**	PKPbc	**PKiKP**	**21 16 08.9**	**+2.1**
	comp=Z,0.9nm,0.4s,baz=166,slow=1.8,SNR=8.2						

IDC 25 21:14:11.8±1.3, 20°.29N×120°.50E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/42, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=68.9km s-min=22.4km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**18.29**	**19**	P	P	21 18 27.4	+0.2
	0.1nm,0.3s,baz=200,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**40.78**	**319**	P	P	21 21 55.9	+1.1
	0.2nm,0.5s,baz=118,slow=8.3,SNR=1.7						
WRA	**Warramunga Arr**	**42.22**	**160**	P	P	21 22 06.6	-0.2
	0.9nm,0.7s,baz=342,slow=9.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**43.22**	**330**	P	P	21 22 12.9	-1.6
	0.4nm,0.5s,baz=116,slow=6.6,SNR=3.5						
ASAR	**Alice Springs**	**45.60**	**163**	P	P	21 22 34.1	+0.1
	0.3nm,0.5s,baz=348,slow=7.6,SNR=4.7						

*IDC **25** 21:37:25.1±1.4, 28°.64S×177°.54W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/31, mbtmp3.7/3, Error ellipse: s-maj=43.6km s-min=17.4km az=114.0*

ISC 25 21:37:28.2±1.4, 29°.7S±0°.3×177°.2W±0°.2, h35km, n9, σ0S52/7, mb3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**304**	Pn	**Pn**	**21 37 42.9**	**+0.3**
	456nm,0.3s,baz=110,slow=6.0,SNR=57						
RAO				Sn	**Sn**	**21 37 52.8**	**-0.2**
	925nm,0.3s,baz=18,slow=20,SNR=13						
ASAR	**Alice Springs**	**43.86**	**266**	P	**P**	**21 45 31.6**	**+0.2**
	0.9nm,0.8s,baz=103,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**21 45 38.6**	**-0.2**
	0.6nm,0.5s,baz=109,slow=7.4,SNR=6.3						
NVAR	**Mina Array Bea**	**87.24**	**42**	P	**P**	**21 50 11.4**	**+0.2**
	0.6nm,0.8s,baz=226,slow=7.4,SNR=4.3						
H10N3	**ASCENSION HYDR**	**139.13**	**153**	T	T	00 34 03.7	
	baz=203,slow=74,SNR=5.4						
H10N1	**ASCENSION HYDR**	**139.14**	**153**	T	T	00 34 03.9	
	baz=203,slow=74,SNR=6.6						
H10N2	**ASCENSION HYDR**	**139.15**	**153**	T	T	00 34 03.2	
	baz=203,slow=74,SNR=6.4						
AKASG	**Malin Array Be**	**151.15**	**324**	PKPbc	**PKPbc**	**21 57 16.4**	**-0.9**
	0.8nm,0.4s,baz=46,slow=2.7,SNR=4.2						
MMAI	**Mount Meron Ar**	**152.04**	**285**	PKPbc	**PKiKP**	**21 57 20.6**	**+0.3**
	1.3nm,0.6s,baz=29,slow=3.3,SNR=3.3						

*SOME **25** 21:47:53.9, 37°.22N×78°.00E, h15km*
*NNC **25** 21:47:55.5±1.5, 37°.09N×78°.06E, h10km±6km, mb4.7, mpv4.6, Error ellipse: s-maj=11.1km s-min=9.1km az=126.0*
*NEIC **25** 21:47:57.5±2.6, 37°.26N±0°.08×78°.9E±0°.1, h10km±1km, mb4.3/17, Error ellipse: s-maj=15.2km s-min=13.3km az=121.0*
*BJI **25** 21:48:00.6±0.0, 37°.48N×78°.10E, h10km, mB4.2/9, mb3.9/10, ML4.3/6, Ms3.8/6, Ms7 3.6/6*
*IDC **25** 21:48:04.3±1.1, 37°.65N×78°.19E, h35km±5km, mb3.6/11, mb1 3.7/16, mb1mx3.5/72, mbtmp3.7/16, ML3.3/6, MS2.9/2, Ms1 3.0/2, ms1mx2.6/31, Error ellipse: s-maj=21.6km s-min=16.6km az=31.0*

ISC 25 21:47:58.6±0.4, 37°.32N±0°.02×78°.58E±0°.04, h10km, n119, σ2S76/117, mb4.0/16, 12C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**4.45**	**353**	Pn	**Pn**	**21 49 06.8**	**+0.3**
CHCP	**Chirah Chowk**	**5.66**	**231**	P	**Pn**	**21 49 25.3**	**+2.4**
NIL	**Nilore**	**5.68**	**231**	Pn	**Pn**	**21 49 24.5**	**+1.4**
SATY	**Saty**	**5.74**	**359**	*eP*	Pg	21 49 44.2	-4.3
	43nm,0.5s						
SATY				⇑*iS*	**Sg**	**21 51 03.8**	**+0.9**
	136nm,1.0s						
SATY	**Saty**	**5.74**	**359**	Pg	Pg	21 49 44.2	-4.3
	43nm,0.5s						
SATY				Lg	Lg	21 51 03.8	
	136nm,1.0s						
UZB	**Uzynbulak**	**5.83**	**3**	*eP*	Pb	21 49 45.0	+4.5
	21nm,0.3s						
UZB				*eS*	**Sg**	**21 51 04.8**	**-1.1**
	79nm,0.7s						
UZB	**Uzynbulak**	**5.83**	**3**	Pg	Pb	21 49 45.0	+4.5
	21nm,0.3s						
UZB				Lg	Lg	21 51 04.8	
	79nm,0.7s						
TNSS	**Tian-Shan**	**5.85**	**348**	Pg	**Pb**	**21 49 44.8**	**+3.9**
	46nm,0.4s						
TNSS				Lg	Lg	21 51 04.6	
	227nm,0.5s						
SHLS	**Shalkode**	**5.88**	**6**	*eP*	**Pg**	**21 49 49.0**	**-2.2**
	57nm,0.4s						
SHLS				*eS*	**Sg**	**21 51 11.8**	**+4.7**
	236nm,0.5s						
SHLS	**Shalkode**	**5.88**	**6**	Pg	**Pg**	**21 49 49.0**	**-2.2**
	57nm,0.4s						
SHLS				Lg	Lg	21 51 11.8	
	236nm,0.5s						
IZV	**Izvestkoviy**	**5.91**	**346**	*eP*	**Pb**	**21 49 44.1**	**+2.3**
	22nm,0.8s						
IZV				*eS*	**Sg**	**21 51 03.7**	**-4.6**
	133nm,0.6s						
IZV	**Izvestkoviy**	**5.91**	**346**	Pg	**Pb**	**21 49 44.1**	**+2.3**
	22nm,0.8s						
IZV				Lg	Lg	21 51 03.7	
	133nm,0.6s						
MDOK	**Medeo**	**5.96**	**349**	*eP*	**Pb**	**21 49 45.9**	**+3.2**
	26nm,0.5s						
MDOK				*eS*	**Sg**	**21 51 06.2**	**-3.6**
	120nm,0.4s						
MDOK	**Medeo**	**5.96**	**349**	⇑Pn	**Pn**	**21 49 25.7**	**-1.3**
	12nm,0.7s						
MDOK				⇓Pg	**Pb**	**21 49 45.5**	**+2.9**
	71nm,0.9s						
MDOK				⇓Lg	Lg	21 51 09.4	
	175nm,0.8s						
MDOK	**Medeo**	**5.96**	**349**	Pg	**Pb**	**21 49 45.9**	**+3.2**
	26nm,0.5s						
MDOK				Lg	Lg	21 51 06.2	
	120nm,0.4s						
AAA	**Alma-Ata**	**6.02**	**348**	*eP*	**Pb**	**21 49 47.4**	**+3.7**
	92nm,0.3s						
AAA				*eS*	**Sg**	**21 51 09.0**	**-3.0**
	190nm,0.9s						
AAA	**Alma-Ata**	**6.02**	**348**	Pg	**Pb**	**21 49 47.4**	**+3.7**
	92nm,0.3s						
AAA				Lg	Lg	21 51 09.0	
	190nm,0.9s						
KNDC	**Almaty**	**6.02**	**349**	⇑Pg	**Pb**	**21 49 46.2**	**+2.5**
	137nm,0.9s						
KNDC				⇑Lg	Lg	21 51 10.7	
	533nm,0.9s						
TKM2	**Tokmak 2**	**6.05**	**339**	⇑Pn	**Pn**	**21 49 27.2**	**-1.1**
	9.1nm,0.6s						
TKM2				⇑Pg	**Pb**	**21 49 45.5**	**+1.4**
	20nm,0.6s						
TKM2				⇑Lg	Lg	21 51 08.8	
	74nm,0.8s						
PDGK	**Podgornoye**	**6.05**	**6**	Pg	**Pg**	**21 49 51.3**	**-3.1**
	9.2nm,0.6s						
PDGK				Lg	Lg	21 51 15.8	
	59nm,0.6s						
PDGK	**Podgornoye**	**6.05**	**6**	⇓Pn	**Pn**	**21 49 27.8**	**-0.4**
	16nm,0.6s						
PDGK				⇓Lg	Lg	21 51 14.8	
	108nm,0.7s						
KST	**Kastek**	**6.06**	**342**	*eP*	**Pb**	**21 49 46.4**	**+2.0**
	43nm,1.0s						
KST				*eS*	Sb	21 51 07.2	+10
	78nm,0.5s						
KST	**Kastek**	**6.06**	**342**	Pg	**Pb**	**21 49 46.4**	**+2.0**
	43nm,1.0s						
KST				Lg	Lg	21 51 07.2	
	78nm,0.5s						
KPKS	**Kokpek**	**6.14**	**1**	*eP*	Pb	21 49 50.8	+5.0
	47nm,0.4s						
KPKS				*eS*	**Sg**	**21 51 14.7**	**-1.2**
	119nm,0.3s						
AAK	**Ala-Archa**	**6.17**	**331**	Pn	**Pn**	**21 49 28.8**	**-1.2**
	2.0nm,0.3s,baz=195,slow=5.9,SNR=2.8						
AAK				Lg	Lg	21 51 06.2	
	6.2nm,0.3s,baz=356,slow=22,SNR=1.7						
AAK	**Ala-Archa**	**6.17**	**331**	⇓Pg	**Pb**	**21 49 46.1**	**-0.2**
	40nm,0.7s						
AAK				⇑Lg	Lg	21 51 11.4	
	168nm,0.9s						
AAK	**Ala-Archa**	**6.17**	**331**	Pn	**Pn**	**21 49 29.2**	**-0.8**
SMLA	**Simla**	**6.28**	**191**	*eP*	Pn	21 49 36.4	+5.1
SMLA				*eS*	**Sn**	**21 50 48.1**	**+5.0**
DGS	**Degeres**	**6.29**	**341**	*eP*	**Pb**	**21 49 50.8**	**+2.4**
	48nm,0.4s						
DGS				*eS*	Sb	21 51 14.7	+11
	68nm,0.5s						
DGS	**Degeres**	**6.29**	**341**	Pg	**Pb**	**21 49 50.7**	**+2.4**
	48nm,0.4s						
DGS				Lg	Lg	21 51 14.7	
	68nm,0.5s						
CEP	**Cherat**	**6.45**	**239**	P	**Pn**	**21 49 33.6**	**-0.2**
KTBS	**Karatobe**	**6.55**	**348**	*eP*	Pb	21 49 58.0	+5.3
	14nm,0.5s						
KTBS				*eS*	**Sg**	**21 51 27.2**	**-1.6**
	125nm,0.3s						
KTBS	**Karatobe**	**6.55**	**348**	Pg	Pb	21 49 58.0	+5.3
	14nm,0.5s						
KTBS				Lg	Lg	21 51 27.2	
	125nm,0.3s						
CHKK	**Chushkaly**	**6.64**	**350**	*eP*	**Pb**	**21 49 58.8**	**+4.6**
	12nm,0.3s						
CHKK				*eS*	**Sg**	**21 51 28.7**	**-3.1**
	64nm,0.6s						
CHKK	**Chushkaly**	**6.64**	**350**	Pg	**Pb**	**21 49 58.8**	**+4.6**
	12nm,0.3s						
CHKK				Lg	Lg	21 51 28.7	
	64nm,0.6s						
GAR	**Garm**	**6.72**	**287**		**Pn**	**21 49 39.2**	**+1.8**
KRBS	**Karabastau**	**6.75**	**342**	*eP*	**Pb**	**21 49 59.0**	**+3.1**
	24nm,0.5s						
KRBS				*eS*	Sb	21 51 28.3	+12
	47nm,0.5s						
KRBS	**Karabastau**	**6.75**	**342**	Pg	**Pb**	**21 49 59.1**	**+3.1**
	24nm,0.5s						
KRBS				Lg	Lg	21 51 28.3	
	47nm,0.5s						
KUU	**Kurty**	**6.79**	**346**	*eP*	Pb	21 50 01.7	+5.0
	20nm,0.4s						
KUU				*eS*	**Sg**	**21 51 33.8**	**-2.7**
	72nm,0.5s						
KUU	**Kurty**	**6.79**	**346**	Pg	Pb	21 50 01.7	+5.0
	20nm,0.4s						
KUU				Lg	Lg	21 51 33.7	
	72nm,0.5s						
SGDS	**Sogindy**	**6.83**	**335**	Pg	**Pb**	**21 49 59.9**	**+2.5**
	17nm,0.6s						
SGDS				Lg	Lg	21 51 30.5	
	32nm,0.7s						
ARXS	**Arharly**	**6.91**	**356**	*eP*	**Pb**	**21 50 03.3**	**+4.4**
	51nm,0.4s						
ARXS				*eS*	**Sg**	**21 51 36.0**	**-4.5**
	81nm,0.5s						
ARXS	**Arharly**	**6.91**	**356**	Pg	**Pb**	**21 50 03.3**	**+4.4**
	51nm,0.4s						
ARXS				Lg	Lg	21 51 36.0	
	81nm,0.5s						
DJR	**Jarkent**	**7.07**	**7**	*eP*	Pg	21 50 09.0	-5.0
	12nm,0.5s						
DJR				*eS*	**Sg**	**21 51 45.8**	**+0.3**
	38nm,0.6s						
DJR	**Jarkent**	**7.07**	**7**	Pg	Pg	21 50 09.0	-5.0
	12nm,0.5s						
DJR				Lg	Lg	21 51 45.8	
	38nm,0.6s						
THW	**Thamme Wali**	**7.19**	**233**	P	**Pn**	**21 49 43.7**	**-0.2**
CHGR	**Chuyangaron**	**7.56**	**283**	Pn	**Pn**	**21 49 51.5**	**+2.6**
TDK	**Taldyqorghan**	**7.68**	**359**	*eP*	Pb	21 50 18.3	+6.4
	60nm,0.6s						
TDK				*eS*	**Sg**	**21 52 02.1**	**-2.9**
	125nm,1.2s						
TDK	**Taldyqorghan**	**7.68**	**359**	Pg	Pb	21 50 18.3	+6.4
	60nm,0.6s						
TDK				Lg	Lg	21 52 02.1	
	125nm,1.2s						
DZA	**Taraz**	**7.86**	**317**	*eP*	**Pb**	**21 50 16.5**	**+1.5**
	80nm,0.1s						
DZA				*eS*	Sb	21 51 58.7	+10
	94nm,0.7s						
DZA	**Taraz**	**7.86**	**317**	Pg	**Pb**	**21 50 16.5**	**+1.5**
	80nm,0.1s						
DZA				Lg	Lg	21 51 58.7	
	94nm,0.7s						
KAPS	**Kapalarasan**	**7.98**	**4**	*eP*	Pg	21 50 26.4	-5.0
	9.2nm,0.5s						
KAPS				*eS*	**Sg**	**21 52 16.2**	**+1.4**
	45nm,0.4s						
KAPS	**Kapalarasan**	**7.98**	**4**	Pg	Pg	21 50 26.4	-5.0
	9.2nm,0.5s						
KAPS				Lg	Lg	21 52 16.2	
	45nm,0.4s						
KBL	**Kabul**	**8.21**	**253**	Pn	Pn	21 49 55.0	-3.1
TAS	**Tashkent**	**8.23**	**302**	Pn	**Pn**	**21 50 01.0**	**+2.9**
BTLS	**Baital**	**8.44**	**338**	*eP*	Pg	21 50 30.2	-10
	6.7nm,0.4s						
BTLS				*eS*	Sg	21 52 22.5	-6.8
	8.5nm,0.7s						
BTLS	**Baital**	**8.44**	**338**	Pg	Pg	21 50 30.2	-10
	6.7nm,0.4s						
BTLS				Lg	Lg	21 52 22.5	
	8.5nm,0.7s						
KK31	**Karatay Array**	**8.45**	**316**	⇓Pn	Pn	21 49 55.4	-5.7
	0.3nm,0.2s,baz=134,slow=13,SNR=7.5						
KK31				⇓Pg	Pg	21 50 25.7	-15
	4.0nm,0.6s						
KK31				⇑Sn	**Sn**	**21 51 32.2**	**-4.4**
	1.1nm,0.3s						
KK31				⇓Lg	Lg	21 52 19.8	
	17nm,0.7s						
KK31	**Karatay Array**	**8.45**	**316**	Pn	**Pn**	**21 50 02.7**	**+1.5**
KKAR	**Karatay Array**	**8.45**	**316**	Pn	**Pn**	**21 50 03.5**	**+2.3**
KKAR	**Karatay Array**	**8.45**	**316**	Pn	**Pn**	**21 50 03.8**	**+2.6**
WMQ	**Urumqi**	**9.50**	**44**	*eP*	Pn	21 50 22.8	+7.2
WMQ				S	Sn	21 52 11.5	+9.0
WMQ				Sg		21 53 07.5	
WMQ				smax	smax		
	comp=N,42nm,1.5s						
WMQ				smax	smax		
	comp=E,67nm,0.9s						
WMQ				LR	LR		
	comp=N,230nm,7.7s						
WMQ				LR	LR		
	comp=E,330nm,8.9s						
WMQ				LR	LR		
	comp=Z,140nm,13.5s						
MAKZ	**Makanchi**	**9.82**	**14**	⇓Pn	**Pn**	**21 50 20.0**	**+0.2**
	8.4nm,0.6s						
MAKZ				⇑Sn	**Sn**	**21 52 15.2**	**+5.2**
	16nm,1.1s						
MAKZ	**Makanchi**	**9.82**	**14**		**Pn**	**21 50 19.2**	**-0.6**
MK31	**Makanchi Array**	**9.87**	**15**	Pn	**Pn**	**21 50 20.6**	**+0.2**
	3.3nm,0.5s,baz=199,slow=12,SNR=51						
MK31				⇓Sn	**Sn**	**21 52 17.5**	**+6.3**
	26nm,0.9s,baz=193,slow=20,SNR=5.8						
MK31	**Makanchi Array**	**9.87**	**15**	Pn	**Pn**	**21 50 19.7**	**-0.8**
MKAR	**Makanchi Array**	**9.87**	**15**	Pn	**Pn**	**21 50 20.9**	**+0.4**
	1.0nm,0.3s,baz=198,slow=13,SNR=41						
MKAR				Sn	**Sn**	**21 52 09.6**	**-1.7**
	0.7nm,0.3s,baz=198,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**9.87**	**15**	Pn	**Pn**	**21 50 19.0**	**-1.5**
ZSN	**Zaisan**	**11.14**	**23**	Pg	Pn	21 51 23.9	+46
	8.1nm,0.5s						
ZSN				Lg	Lg	21 53 54.5	
	26nm,0.7s						
SEM	**Semipalatinsk**	**13.14**	**5**	Pg	P	21 52 01.1	+45
	5.6nm,0.2s						
SEM				Lg	Lg	21 54 58.8	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**13.30**	**360**	Pn	**Pn**	**21 51 05.5**	**-2.0**
	0.0nm,0.3s,baz=186,slow=12,SNR=4.3						
KURBB				Lg	Lg	21 54 58.7	
	0.0nm,0.3s,baz=176,slow=27,SNR=5.3						
KURBB	**Kurchatov Arra**	**13.30**	**360**	⇓Pn	**Pn**	**21 51 05.7**	**-1.7**
	5.0nm,0.9s						
KURBB				⇑Lg	Lg	21 55 03.7	
	36nm,1.1s						
GEYT	**Alibeck**	**16.22**	**278**	Pn	**Pn**	**21 51 45.2**	**-1.5**
	0.3nm,0.3s,baz=218,slow=43,SNR=1.9						
GYA0B	**ALIBECK ARRAY**	**16.22**	**278**	Pn	**Pn**	**21 51 49.2**	**+2.6**
GYA0B				IAmb	IAmb	21 52 04.6	
	comp=Z,15nm,0.7s						
BVAR	**Borovoye Array**	**16.72**	**343**	Pn	**Pn**	**21 51 50.3**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=248,slow=22,SNR=7.4						
**BRVK

CMAR				LR	LR	22 06 49.2	
	comp=Z,20nm,18.9s,baz=120,slow=43						
ENH	**Enshi**	**26.55**	**96**	P	**P**	**21 53 32.5**	**-4.2**
ENH				IAmb	IAmb	21 53 51.6	
	comp=Z,7.1nm,1.2s						
HIA	**Hailar**	**31.87**	**55**	P	P	21 54 17.7	-6.1
BRTR	**Keskin Array B**	**34.96**	**288**	LR	LR	22 10 24.1	
	comp=Z,24nm,18.9s,baz=166,slow=39						
KLR	**Kul'dur**	**39.73**	**55**	P	P	21 55 33.7	+2.5
	comp=Z,0.8nm,0.5s,baz=278,slow=13,SNR=3.6						
BURAR	**Bucovina Array**	**39.97**	**302**	P	**P**	**21 55 34.3**	**+1.0**
FIA1	**FINESS Array S**	**40.30**	**324**	P	**P**	**21 55 33.7**	**-2.1**
FIA1				IAmb	IAmb	21 55 37.5	
	comp=Z,7.8nm,1.1s						
FINES	**FINESS Array B**	**40.31**	**324**	P	**P**	**21 55 34.0**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=108,slow=9.2,SNR=21						
FINES				pP	**sP**	**21 55 45.9**	**+5.2**
	comp=Z,3.2nm,0.5s,baz=111,slow=8.9,SNR=6.7						
FINES	**FINESS Array B**	**40.31**	**324**	P	**P**	**21 55 33.6**	**-2.1**
ARCES	**ARCESS Array B**	**42.82**	**336**	P	**P**	**21 55 54.5**	**-1.7**
	comp=Z,2.2nm,1.0s,baz=95,slow=9.1,SNR=1.9						
ARCES				pP	**sP**	**21 56 05.6**	**+4.3**
	comp=Z,0.7nm,0.7s,baz=102,slow=8.8,SNR=1.7						
ARCES	**ARCESS Array B**	**42.82**	**336**	P	**P**	**21 55 55.0**	**-1.2**
HFS	**Hagfors**	**46.21**	**321**	P	**P**	**21 56 20.8**	**-2.7**
	comp=Z,1.6nm,0.8s,baz=116,slow=9.8,SNR=1.5						
HFS				pP	**sP**	**21 56 32.4**	**+3.9**
	comp=Z,3.9nm,0.9s,baz=110,slow=8.5,SNR=2.8						
NC405	**NORSAR Array S**	**47.17**	**322**	P	**P**	**21 56 28.4**	**-2.6**
NB2	**NORSAR Subarra**	**47.42**	**322**	P	**P**	**21 56 30.6**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**47.42**	**322**	P	**P**	**21 56 31.0**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=90,slow=7.6,SNR=5.2						
NOA				pP	**sP**	**21 56 42.4**	**+4.4**
	comp=Z,1.3nm,0.6s,baz=90,slow=7.6,SNR=5.9						
TOLK	**Toolik Lake Re**	**68.48**	**17**	P	**P**	**21 58 59.1**	**-1.5**
IMAR	**Indian Mountai**	**69.43**	**20**	P	**P**	**21 59 05.3**	**-1.2**
BMAR	**Burnt Mountain**	**70.59**	**16**	P	**P**	**21 59 13.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**71.78**	**273**	P	**P**	**21 59 20.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=53,slow=4.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**71.78**	**273**	P	**P**	**21 59 20.4**	**-1.2**
TORD				IAmb	IAmb	21 59 45.7	
	comp=Z,2.0nm,1.3s						
KTH	**Kantishna Hill**	**72.07**	**21**	P	**P**	**21 59 21.4**	**-1.3**
KTH				IAmb	IAmb	21 59 36.7	
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**72.20**	**19**	P	**P**	**21 59 23.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=302,slow=4.6,SNR=5.6						
ILAR	**Eielson Array**	**72.20**	**19**	P	**P**	**21 59 21.5**	**-1.9**
BCAR	**Beaver Creek A**	**74.89**	**18**	P	**P**	**21 59 39.1**	**-0.2**
HYT	**Haines Junctio**	**77.85**	**17**	P	**P**	**21 59 55.9**	**-0.3**
HYT				IAmb	IAmb	22 00 10.3	
	comp=Z,2.5nm,0.7s						
YKA	**Yellowknife Ar**	**79.97**	**6**	P	**P**	**22 00 07.1**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=348,slow=4.7,SNR=3.4						
YKA				pP	**PcP**	**22 00 19.4**	**+4.3**
	comp=Z,1.0nm,0.7s,baz=349,slow=5.0,SNR=5.2						

JMA ***25*** *21:50:01.7±0.2, 24°.58N×121°.97E, h69km±4km, M2.8*
TAP ***25*** *21:50:01.8, 24°.67N×122°.00E, h68km, ML3.3, B*
ISC 25 21:50:01.8±1.2, 24°.68N±0°.02×121°.99E±0°.02, h71km±5km, n132, σ1§08/227, 13C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TWC	**Suao**	**0.15**	**243**	*i* P		**Pn**	**21 50 12.3**	**0.0**
	baz=244							
TWC				S		**Sn**	**21 50 19.7**	**-0.3**
	baz=244							
NTC	**Toucheng**	**0.23**	**320**	P		**Pn**	**21 50 12.7**	**+0.1**
	baz=319							
NTC				S		**Sn**	**21 50 20.2**	**-0.4**
	baz=319							
NDS	**Dongshan**	**0.26**	**260**	⇑*i* P		**Pn**	**21 50 13.3**	**+0.5**
	baz=262							
NDS				S		**Sn**	**21 50 21.0**	**0.0**
	baz=262							
TWE	**Neicheng**	**0.30**	**278**	P		**Pn**	**21 50 13.5**	**+0.5**
	baz=279							
TWE				S		**Sn**	**21 50 21.9**	**+0.5**
	baz=279							
EWUT	**Wuta**	**0.30**	**220**	⇑*i* P		**Pn**	**21 50 13.1**	**0.0**
	baz=222							
EWUT				S		**Sn**	**21 50 21.2**	**-0.2**
	baz=222							
TWB1	**Santiao Chiao**	**0.33**	**359**	P		**Pn**	**21 50 13.2**	**-0.1**
	baz=359							
TWB1				S		**Sn**	**21 50 21.1**	**-0.6**
	baz=359							
TIPB	**Shuangxi**	**0.33**	**332**	⇑*i* P		**Pn**	**21 50 13.4**	**+0.1**
	baz=332							
TIPB				S		**Sn**	**21 50 21.3**	**-0.5**
	baz=332							
ENTT	**Nioudou**	**0.39**	**265**	⇑*i* P		**Pn**	**21 50 14.1**	**+0.3**
	baz=265							
ENTT				S		**Sn**	**21 50 23.0**	**+0.4**
	baz=265							
EHP	**Heping Village**	**0.43**	**212**	*e* P		**Pn**	**21 50 13.8**	**-0.4**
	baz=212							
NWF	**Wu-fen Shan**	**0.44**	**334**	*e* P		**Pn**	**21 50 14.6**	**+0.4**
	baz=333							
NWF				*e* S		**Sn**	**21 50 23.1**	**-0.3**
	baz=333							
WFSB	**Wu-fen Shan**	**0.44**	**334**	*e* P		**Pn**	**21 50 14.7**	**+0.5**
	baz=333							
WFSB				*e* S		**Sn**	**21 50 23.2**	**-0.1**
	baz=333							
NDT	**Datong Townshi**	**0.44**	**260**	⇑*i* P		**Pn**	**21 50 14.6**	**+0.4**
	baz=261							
NDT				S		**Sn**	**21 50 23.9**	**+0.6**
	baz=261							
NWLT	**Wulai**	**0.46**	**283**	*e* P		**Pn**	**21 50 14.8**	**+0.4**
	baz=283							
NWLT				*e* S		**Sn**	**21 50 23.4**	**-0.2**
	baz=283							
TWA	**Mucha**	**0.48**	**309**	P		**Pn**	**21 50 14.8**	**+0.3**
	baz=309							
TWA				S		**Sn**	**21 50 24.0**	**+0.1**
	baz=309							
TNOU	**National Taiwa**	**0.51**	**337**	*e* P		**Pn**	**21 50 15.0**	**+0.2**
	baz=336							
TNOU				*e* S		**Sn**	**21 50 24.3**	**-0.1**
	baz=336							
NHDH	**Xindian Distri**	**0.51**	**304**	*e* P		**Pn**	**21 50 15.2**	**+0.4**
	baz=304							
NHDH				*e* S		**Sn**	**21 50 24.1**	**-0.3**
	baz=304							
NHY	**Taipei**	**0.53**	**313**	*e* P		**Pn**	**21 50 15.4**	**+0.5**
	baz=313							
NHY				*e* S		**Sn**	**21 50 25.1**	**+0.4**
	baz=313							
TATO	**Taipei**	**0.55**	**303**	*e* P		**Pn**	**21 50 15.5**	**+0.4**
	baz=303							
TATO				*e* S		**Sn**	**21 50 24.4**	**-0.6**
	baz=303							
YHNB	**Yeheng**	**0.56**	**269**	⇑*i* P		**Pn**	**21 50 15.7**	**+0.3**
	baz=270							
YHNB				S		**Sn**	**21 50 25.1**	**-0.4**
	baz=270							
TAP	**Taipei**	**0.57**	**309**	*e* P		**Pn**	**21 50 15.7**	**+0.3**
	baz=309							
TAP				*e* S		**Sn**	**21 50 25.4**	**0.0**
	baz=309							
YM01	**YM01**	**0.60**	**321**	*e* P		**Pn**	**21 50 16.1**	**+0.3**
	baz=320							
YM01				*e* S		**Sn**	**21 50 26.1**	**0.0**
	baz=320							
NNSB	**Datong**	**0.61**	**246**	⇑*i* P		**Pn**	**21 50 16.0**	**+0.1**
	baz=246							
NNSB				*e* S		**Sn**	**21 50 25.6**	**-0.8**
	baz=246							
NNSH	**Datong**	**0.61**	**246**	⇑*i* P		**Pn**	**21 50 16.1**	**+0.1**
	baz=246							
NNSH				*e* S		**Sn**	**21 50 26.3**	**0.0**
	baz=246							
NNS	**Nan Shan**	**0.61**	**247**	⇑*i* P		**Pn**	**21 50 16.1**	**+0.1**
	baz=247							
NNS				*e* S		**Sn**	**21 50 26.1**	**-0.3**
	baz=247							
ETL	**Fush Village**	**0.62**	**213**	*e* P		**Pn**	**21 50 15.3**	**-0.6**
	baz=214							
ETL				*e* S		**Sn**	**21 50 25.6**	**-0.7**
	baz=214							
NACB	**Ninganchiao**	**0.62**	**216**	⇑*i* P		**Pn**	**21 50 15.2**	**-0.7**
	baz=216							
NACB				*e* S		**Sn**	**21 50 26.2**	**-0.1**
	baz=216							
YM08	**YM08**	**0.63**	**324**	*i* P		**Pn**	**21 50 16.2**	**+0.2**
	baz=324							
YM08				*e* S		**Sn**	**21 50 25.6**	**-0.9**
	baz=324							
ETLH	**Xiulin Townshi**	**0.66**	**225**	⇑*i* P		**Pn**	**21 50 15.8**	**-0.6**
	baz=225							
ETLH				*e* S		**Sn**	**21 50 26.7**	**-0.5**
	baz=225							
ANP	**Anpu**	**0.67**	**320**	*e* S		**Sn**	**21 50 27.1**	**-0.3**
	baz=320							
TWS1	**Kuangyinshan**	**0.67**	**309**	⇓*i* P		**Pn**	**21 50 17.1**	**+0.6**
	baz=309							
TWS1				*i* S		**Sn**	**21 50 27.9**	**+0.7**
	baz=309							
NTST	**Danshui**	**0.69**	**315**	⇓*i* P		**Pn**	**21 50 17.3**	**+0.6**
	baz=314							
NTST				*e* S		**Sn**	**21 50 28.3**	**+0.6**
	baz=314							
TWD	**Chiawan**	**0.70**	**211**	P		**Pn**	**21 50 16.3**	**-0.4**
	baz=211							
TWD				*e* S		**Sn**	**21 50 27.0**	**-0.8**
	baz=211							
NTY	**Taoyuan**	**0.71**	**297**	*e* P		**Pn**	**21 50 17.6**	**+0.7**
	baz=297							
NTY				*e* S		**Sn**	**21 50 29.1**	**+1.1**
	baz=297							
HWA	**Hwalien**	**0.78**	**207**	*e* P		**Pn**	**21 50 17.7**	**-0.1**
	baz=207							
HWA				*e* S		**Sn**	**21 50 29.2**	**-0.3**
	baz=207							
NCU	**National Centr**	**0.79**	**292**	*i* P		**Pn**	**21 50 18.3**	**+0.5**
	baz=292							
NCU				S		**Sn**	**21 50 30.4**	**+0.8**
	baz=292							
NCUH	**Zhongli**	**0.79**	**292**	*e* P		**Pn**	**21 50 18.1**	**+0.3**
	baz=291							
NCUH				S		**Sn**	**21 50 30.2**	**+0.5**
	baz=291							
FUSS	**Fushou**	**0.81**	**238**	P		**Pn**	**21 50 18.4**	**+0.1**
	baz=238							
FUSS				*e* S		**Sn**	**21 50 31.1**	**+0.6**
	baz=238							
NJD	**Zhudong**	**0.83**	**274**	*e* S		**Sn**	**21 50 31.2**	**+0.8**
	baz=274							
ETM	**Tongmen**	**0.84**	**213**	*i* P		**Pn**	**21 50 17.5**	**-1.0**
	baz=213							
WHF	**Hehuan Shan**	**0.85**	**232**	P		**Pn**	**21 50 19.1**	**+0.1**
	baz=231							
WHF				S		**Sn**	**21 50 31.3**	**-0.4**
	baz=231							
TWT	**Tachien**	**0.86**	**241**	P		**Pn**	**21 50 19.4**	**+0.6**
	baz=241							
TWT				*e* S		**Sn**	**21 50 31.6**	**+0.2**
	baz=241							
TDCB	**Techi**	**0.87**	**241**	⇑*i* P		**Pn**	**21 50 19.4**	**+0.5**
	baz=241							
TDCB				S		**Sn**	**21 50 31.4**	**-0.2**
	baz=241							
TEYL	**Yanliau Villag**	**0.88**	**204**	*e* S		**Sn**	**21 50 31.2**	**-0.4**
	baz=205							
LIOB	**Emei**	**0.89**	**268**	*e* P		**Pn**	**21 50 19.4**	**+0.4**
	baz=268							
LIOB				*e* S		**Sn**	**21 50 31.9**	**0.0**
	baz=268							
HSN1	**Hsinchu**	**0.89**	**277**	S		**Sn**	**21 50 32.4**	**+0.6**
	baz=276							
JYNG	**Yonagunijimaku**	**0.90**	**104**	P		**Pn**	**21 50 19.0**	**0.0**
JYNG				*e* S		**Sn**	**21 50 31.6**	**-0.2**
NSTT	**Nanjuang**	**0.91**	**267**	P		**Pn**	**21 50 19.4**	**+0.3**
	baz=267							
NSTT				S		**Sn**	**21 50 32.2**	**+0.1**
	baz=267							
NHW	**Xinwu Township**	**0.92**	**291**	*e* P		**Pn**	**21 50 19.9**	**+0.5**
	baz=291							
NHW				*e* S		**Sn**	**21 50 33.3**	**+0.9**
	baz=291							
SBCB	**Hsinchu**	**0.92**	**277**	*e* S		**Sn**	**21 50 33.1**	**+0.6**
	baz=277							
HSN	**Hsinchu**	**0.94**	**278**	S		**Sn**	**21 50 32.5**	**-0.3**
	baz=279							
PCYT	**Pengchaiyu**	**0.95**	**4**	*e* P		**Pn**	**21 50 19.3**	**-0.4**
	baz=4.0							
YOJ	**Yonaguni jima**	**0.95**	**103**	P		**Pn**	**21 50 19.8**	**+0.1**
YOJ				S		**Sn**	**21 50 33.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.95**	**103**	P		**Pn**	**21 50 19.9**	**+0.2**
	baz=102							
YOJ				*e* S		**Sn**	**21 50 32.9**	**-0.1**
	baz=102							
CHGB	**Renai**	**0.97**	**231**	⇑*i* P		**Pn**	**21 50 20.4**	**+0.2**
	baz=231							
CHGB				*e* S		**Sn**	**21 50 32.9**	**-0.9**
	baz=231							
ESL	**Shilin**	**1.00**	**211**	P		**Pn**	**21 50 19.1**	**-1.3**
	baz=210							
NJN	**Zhunan**	**1.02**	**271**	*e* S		**Sn**	**21 50 35.2**	**+0.6**
	baz=270							
WHP	**Taichung City**	**1.03**	**248**	*e* P		**Pn**	**21 50 21.8**	**+1.0**
	baz=247							
WHP				*e* S		**Sn**	**21 50 35.6**	**+0.5**
	baz=247							
OWD	**Renai**	**1.04**	**226**	*e* P		**Pn**	**21 50 21.0**	**0.0**
	baz=226							
OWD				*e* S		**Sn**	**21 50 34.6**	**-0.6**
	baz=226							
TEGC	**Jichi Village**	**1.05**	**203**	*e* P		**Pn**	**21 50 21.1**	**+0.1**
	baz=203							
NMLH	**Miaoli**	**1.10**	**263**	*e* P		**Pn**	**21 50 22.0**	**+0.3**
	baz=263							
NMLH				S		**Sn**	**21 50 36.5**	**+0.1**
	baz=263							
NSY	**Sanyi**	**1.15**	**257**	*e* P		**Pn**	**21 50 23.1**	**+0.8**
	baz=257							
NSY				*e* S		**Sn**	**21 50 38.3**	**+0.7**
	baz=257							
WCS	**Beigang Elemen**	**1.16**	**238**	*e* P		**Pn**	**21 50 23.4**	**+1.0**
	baz=238							
DPDB	**Guoxing**	**1.17**	**237**	*e* P		**Pn**	**21 50 23.0**	**+0.5**
	baz=237							
DPDB				*e* S		**Sn**	**21 50 39.8**	**+1.8**
	baz=237							
SMLT	**Sun Moon Lake**	**1.27**	**232**	*e* P		**Pn**	**21 50 24.6**	**+0.7**
	baz=231							
SMLT				*e* S		**Sn**	**21 50 41.5**	**+1.0**
	baz=231							
WDJ	**Dajia District**	**1.28**	**255**	*e* S		**Sn**	**21 50 40.6**	**+0.2**
	baz=255							
HGSD	**Ruisui**	**1.29**	**204**	*e* P		**Pn**	**21 50 23.6**	**-0.5**
	baz=204							
TYC	**Yuchr**	**1.29**	**234**	*e* P		**Pn**	**21 50 24.9**	**+0.9**
	baz=233							
TYC				*e* S		**Sn**	**21 50 42.2**	**+1.4**
	baz=233							
SSLB	**Suanglung**	**1.30**	**227**	*e* P		**Pn**	**21 50 24.6**	**+0.4**
	baz=227							
SSLB				*e* S		**Sn**	**21 50 42.5**	**+1.5**
	baz=227							
EHY	**Hungye**	**1.32**	**208**	*e* P		**Pn**	**21 50 22.9**	**-1.5**
	baz=207							
WWF	**Wufeng**	**1.34**	**242**	*e* P		**Pn**	**21 50 25.8**	**+1.1**
	baz=242							
WWF				*e* S		**Sn**	**21 50 42.8**	**+0.9**
	baz=242							
WNT1	**Nantou City**	**1.42**	**238**	*e* S		**Sn**	**21 50 45.2**	**+1.4**
	baz=237							
WHYT	**Xinyi Township**	**1.43**	**227**	*e* S		**Sn**	**21 50 45.7**	**+1.6**
	baz=227							
YULB	**Yu-li**	**1.43**	**207**	*e* P		**Pn**	**21 50 24.2**	**-1.7**
	baz=206							
WJS	**Zhushan**	**1.44**	**234**	*e* P		**Pn**	**21 50 27.7**	**+1.8**
	baz=234							
WJS				*e* S		**Sn**	**21 50 45.4**	**+1.2**
	baz=234							
WNT	**Mingjian**	**1.44**	**237**	*e* P		**Pn**	**21 50 26.5**	**+0.6**
	baz=236							
WNT				*e* S		**Sn**	**21 50 45.1**	**+0.9**
	baz=236							
ECBN	**Changbin**	**1.44**	**200**	*e* P		**Pn**	**21 50 25.3**	**-0.7**
	baz=200							
ECBN				*e* S		**Sn**	**21 50 42.2**	**-2.1**
	baz=200							
EYUL	**Yuli**	**1.46**	**205**	*e* S		**Sn**	**21 50 45.7**	**+0.9**
	baz=205							
TWF1	**Yuli**	**1.47**	**206**	*e* P		**Pn**	**21 50 26.6**	**+0.2**
	baz=205							
ALS	**Alishan**	**1.59**	**223**	*e* P		**Pn**	**21 50 29.5**	**+1.2**
	baz=223							
ALS				*e* S		**Sn**	**21 50 49.7**	**+1.4**
	baz=223							
FULB	**Fuli**	**1.61**	**204**	*e* P		**Pn**	**21 50 27.6**	**-0.6**
	baz=203							
FULB				*e* S		**Sn**	**21 50 48.5**	**+0.3**
	baz=203							
CHN5	**Tsauling**	**1.61**	**228**	*e* P		**Pn**	**21 50 29.2**	**+0.8**
	baz=228							
CHN5				*e* S		**Sn**	**21 50 49.8**	**+1.3**
	baz=228							
IRIF	**Iriomote-Funau**	**1.62**	**102**	P		**Pn**	**21 50 28.5**	**+0.2**
IRIF				S		**Sn**	**21 50 48.5**	**+0.1**
WGK	**Gukeng**	**1.64**	**233**	*e* P		**Pn**	**21 50 29.5**	**+0.8**
	baz=233							
WGK				*e* S		**Sn**	**21 50 50.0**	**+1.0**
	baz=233							
WDLH	**Douliu**	**1.65**	**234**	*e* S		**Sn**	**21 50 50.0**	**+0.7**
	baz=233							
WRL	**Guolierlin Hig**	**1.67**	**243**	*e* S		**Sn**	**21 50 48.5**	**-1.1**
	baz=242							
ECS	**Chishang**	**1.73**	**204**	*e* P		**Pn**	**21 50 31.1**	**+1.3**
	baz=204							
ELDTW	**Lidau**	**1.73**	**211**	*e* P		**Pn**	**21 50 29.3**	**-0.7**
	baz=211							
ELDTW				*e* S		**Sn**	**21 50 51.0**	**-0.3**
	baz=211							
HATJ	**Hateruma jima**	**1.76**	**110**	P		**Pn**	**21 50 30.9**	**+0.6**
HATJ				*e* S		**Sn**	**21 50 52.2**	**+0.3**
WTK	**Tuku**	**1.77**	**236**	*e* P		**Pn**	**21 50 30.7**	**+0.4**
	baz=236							
WTK				*e* S		**Sn**	**21 50 51.8**	**-0.2**
	baz=236							
EDH	**Donghe**	**1.81**	**201**	*e* P		**Pn**	**21 50 29.9**	**-1.0**
	baz=200							
EDH				*e* S		**Sn**	**21 50 50.2**	**-2.8**
	baz=200							
CHN4	**Tsaushan**	**1.84**	**224**	*e* P		**Pn**	**21 50 32.9**	**+1.6**
	baz=224							
CHN4				*e* S		**Sn**	**21 50 56.0**	**+2.2**
	baz=224							
CHY	**Chiayi**	**1.85**	**231**	*e* P		**Pn**	**21 50 32.0**	**+0.5**
	baz=230							
CHY				*e* S		**Sn**	**21 50 54.7**	**+0.6**
	baz=230							
TPUB	**Ta-pu**	**1.85**	**223**	*e* P		**Pn**	**21 50 32.8**	**+1.2**
	baz=222							
TPUB				*e* S		**Sn**	**21 50 56.0**	**+1.9**
	baz=222							
STYH	**Taoyuan**	**1.87**	**217**	*e* P		**Pn**	**21 50 32.7**	**+1.0**
	baz=216							
STYH				*e* S		**Sn**	**21 50 55.9**	**+1.5**
	baz=216							
STYT	**Tauyuan**	**1.89**	**217**	*e* P		**Pn**	**21 50 33.5**	**+1.5**
	baz=216							
STYT				*e* S		**Sn**	**21 50 56.7**	**+1.8**
	baz=216							
JKRS	**Kuro-shima**	**1.89**	**103**	P		**Pn**	**21 50 32.7**	**+0.8**
JKRS				S		**Sn**	**21 50 55.3**	**+0.4**
WTP	**Ta-pu**	**1.90**	**222**	*e* P		**Pn**	**21 50 33.3**	**+1.1**
	baz=221							
WTP				*e* S		**Sn**	**21 50 57.0**	**+1.6**
	baz=221							
WSF	**Szhu**	**1.92**	**238**	*e* S		**Sn**	**21 50 56.1**	**+0.4**
	baz=237							
LONT	**Longtian**	**1.93**	**204**	*e* P		**Pn**	**21 50 31.5**	**-1.1**
	baz=204							
LONT				*e* S		**Sn**	**21 50 53.1**	**-2.9**
	baz=204							
TWK	**Hsinying**	**1.97**	**225**	*e* P		**Pn**	**21 50 34.6**	**+1.5**
	baz=224							
TWK				*e* S		**Sn**	**21 50 58.9**	**+2.0**
	baz=224							
JIJ	**Ishigaki jima**	**1.98**	**99**	P		**Pn**	**21 50 33.5**	**+0.3**
JIJ				S		**Sn**	**21 50 56.4**	**-0.8**
CHN1	**Nanshi**	**2.00**	**222**	*e* P		**Pn**	**21 50 34.2**	**+0.7**
	baz=222							
CHN1				*e* S		**Sn**	**21 51 00.4**	**+2.7**
	baz=222							
TWG	**Pinlang**	**2.03**	**205**	*e* S		**Sn**	**21 50 57.9**	**-0.5**
	baz=204							
TWGBT	**Beinan**	**2.03**	**205**	*e* S		**Sn**	**21 50 57.9**	**-0.5**
	baz=204							
ICHU	**Yijhu**	**2.04**	**230**	*e* P		**Pn**	**21 50 35.9**	**+1.8**
	baz=230							
SGST	**Jiashian**	**2.05**	**219**	*e* P		**Pn**	**21 50 34.5**	**+0.3**
	baz=219							
SGST				*e* S		**Sn**	**21 50 59.7**	**+1.0**
	baz=219							
LDUT	**Ludao**	**2.05**	**194**	*e* P		**Pn**	**21 50 32.5**	**-1.7**
	baz=193							
LDUT				*e* S		**Sn**	**21 50 54.5**	**-4.4**
	baz=193							
SLGT	**Liugui**	**2.08**	**217**	*e* P		**Pn**	**21 50 36.1**	**+1.5**
	baz=216							
SLGT				*e* S		**Sn**	**21 51 02.6**	**+3.0**
	baz=216							
CHN8	**Yiju**	**2.10**	**231**	*e* S		**Sn**	**21 51 01.4**	**+1.4**
	baz=231							
JISG	**Ishigakijimahi**	**2.11**	**92**	P		**Pn**	**21 50 35.5**	**+0.6**
JISG				S		**Sn**	**21 51 00.6**	**+0.4**
ECL	**Taimali**	**2.28**	**205**	*e* P		**Pn**	**21 50 36.9**	**-0.4**
	baz=204							
ECL				*e* S		**Sn**	**21 51 02.5**	**-1.9**
	baz=204							
SSD	**Sandimen**	**2.29**	**213**	*e* P		**Pn**	**21 50 38.9**	**+1.5**
	baz=213							
SSD				*e* S		**Sn**	**21 51 06.6**	**+1.9**
	baz=213							
TSMG	**Majia**	**2.32**	**212**	*e* P		**Pn**	**21 50 39.5**	**+1.7**
	baz=212							
TSMG				*e* S		**Sn**	**21 51 06.5**	**+1.1**
	baz=212							
VWUC	**VWUC**	**2.33**	**278**	P		**Pn**	**21 50 37.6**	**-0.3**
	baz=277							
VWUC				*e* S		**Sn**	**21 51 03.1**	**-2.5**
	baz=277							
MATB	**Ma-tsu**	**2.36**	**309**	*e* P		**Pn**	**21 50 38.4**	**0.0**
	baz=308							
MATB				*e* S		**Sn**	**21 51 05.5**	**-0.9**
	baz=308							
MSUT	**Lienchiang**	**2.39**	**309**	*e* P		**Pn**	**21 50 38.7**	**0.0**
	baz=308							
MSUT				*e* S		**Sn**	**21 51 06.0**	**-1.0**
	baz=308							
MASBT	**Mashibuluo**	**2.41**	**212**	*e* P		**Pn**	**21 50 39.8**	**+0.8**
	baz=211							
MASBT				*e* S		**Sn**	**21 51 09.3**	**+1.9**
	baz=211							
JTJ	**Tarama**	**2.46**	**90**	P		**Pn**	**21 50 41.1**	**+1.4**
JTJ				S		**Sn**	**21 51 10.2**	**+1.4**
PNG	**Penghu**	**2.49**	**244**	P		**Pn**	**21 50 39.2**	**-0.9**
	baz=243							
PNG				*e* S		**Sn**	**21 51 07.4**	**-1.9**
	baz=243							
PHUB	**P'eng-hu**	**2.50**	**243**	*e* S		**Sn**	**21 51 06.4**	**-3.2**
	baz=242							
EAST	**Anshuo**	**2.52**

baz=273

JMA ***25*** *21:52:25.1±0.1,24°.68N×122°.82E,h21km±2km,M2.5*
TAP ***25*** *21:52:25.3,24°.71N×122°.79E,h7km±1km,ML3.1,D*
ISC 25 21:52:23.1±1.2,**24°.71N**±0°.03×**122°.84E**±0°.02,**h1**km±10km,
n88,σ0s**74**/162,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.27**	**160**	P	**Pb**	**21 52 31.0**	**+0.2**
JYNG				S	**Sb**	**21 52 35.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.29**	**148**	P	**Pb**	**21 52 31.4**	**+0.3**
YOJ				S	**Sb**	**21 52 35.7**	**-0.7**
YOJ	**Yonaguni jima**	**0.29**	**148**	*i* P	**Pb**	**21 52 31.4**	**+0.3**
	baz=141						
YOJ				*i* S	**Sb**	**21 52 35.7**	**-0.7**
	baz=141						
TWB1	**Santiao Chiao**	**0.83**	**291**	*i* P	**Pb**	**21 52 40.1**	**-0.3**
	baz=292						
TWB1				*i* S	**Sg**	**21 52 50.5**	**+0.6**
	baz=292						
EGS		**0.84**	**280**	*i* P	**Pb**	**21 52 40.0**	**-0.4**
	baz=279						
EGS				*i* S	**Sb**	**21 52 51.6**	**-0.6**
	baz=279						
IRIF	**Iriomote-Funau**	**0.89**	**114**	P	**Pb**	**21 52 41.9**	**+0.5**
IRIF				S	**Sb**	**21 52 54.5**	**+0.8**
TWC	**Suao**	**0.91**	**264**	*i* P	**Pb**	**21 52 41.2**	**-0.4**
	baz=262						
TWC				*i* S	**Sg**	**21 52 52.3**	**-0.1**
	baz=262						
NTC	**Toucheng**	**0.93**	**279**	*i* P	**Pb**	**21 52 42.3**	**+0.2**
	baz=279						
NTC				*i* S	**Sb**	**21 52 54.8**	**-0.1**
	baz=279						
TIPB	**Shuangxi**	**0.96**	**286**	*i* P	**Pb**	**21 52 42.4**	**-0.2**
	baz=286						
EWUT	**Wuta**	**1.00**	**255**	*i* P	**Pb**	**21 52 43.9**	**+0.6**
	baz=253						
EWUT				*i* S	**Sg**	**21 52 55.9**	**+0.5**
	baz=253						
NDS	**Dongshan**	**1.03**	**266**	P	**Pb**	**21 52 43.5**	**-0.2**
	baz=265						
NDS				S	**Sg**	**21 52 56.5**	**+0.4**
	baz=265						
NWF	**Wu-fen Shan**	**1.03**	**291**	P	**Pb**	**21 52 43.7**	**-0.1**
	baz=291						
WFSB	**Wu-fen Shan**	**1.03**	**291**	*e*P	**Pb**	**21 52 43.7**	**0.0**
	baz=291						
ENA	**Nanau**	**1.04**	**255**	P	**Pb**	**21 52 44.1**	**+0.1**
	baz=253						
ENA				S	**Sg**	**21 52 57.5**	**+0.9**
	baz=253						
TNOU	**National Taiwa**	**1.07**	**295**	*e*P	**Pb**	**21 52 44.3**	**-0.1**
	baz=295						
TNOU				*e*S	**Sb**	**21 52 57.9**	**-0.9**
	baz=295						
TWE	**Neicheng**	**1.07**	**271**	P	**Pb**	**21 52 44.2**	**-0.2**
	baz=270						
TWE				S	**Sb**	**21 52 58.5**	**-0.4**
	baz=270						
EHP	**Heping Village**	**1.08**	**249**	*e*S	**Sb**	**21 52 59.2**	**0.0**
	baz=246						
HATJ	**Hateruma jima**	**1.09**	**126**	P	**Pn**	**21 52 45.5**	**0.0**
HATJ				S	**Sg**	**21 52 58.7**	**+0.5**
JKRS	**Kuro-shima**	**1.16**	**114**	P	**Pn**	**21 52 46.5**	**0.0**
JKRS				S	**Sg**	**21 53 00.7**	**+0.2**
ENTT	**Nioudou**	**1.16**	**267**	P	**Pb**	**21 52 45.9**	**-0.2**
	baz=266						
ENTT				S	**Sb**	**21 53 01.6**	**0.0**
	baz=266						
TWA	**Mucha**	**1.18**	**284**	P	**Pb**	**21 52 46.1**	**-0.1**
	baz=283						
TWA				*e*S	**Sb**	**21 53 01.4**	**-0.6**
	baz=283						
NDT	**Datong Townshi**	**1.21**	**265**	P	**Pb**	**21 52 46.8**	**-0.1**
	baz=264						
NDT				S	**Sg**	**21 53 02.2**	**0.0**
	baz=264						
NWLT	**Wulai**	**1.22**	**274**	P	**Pn**	**21 52 47.2**	**-0.2**
	baz=273						
NWLT				S	**Sg**	**21 53 02.0**	**-0.3**
	baz=273						
NHDH	**Xindian Distri**	**1.22**	**282**	P	**Pn**	**21 52 47.2**	**-0.2**
	baz=282						
NHDH				S	**Sg**	**21 53 02.1**	**-0.4**
	baz=282						
JIJ	**Ishigaki jima**	**1.23**	**106**	P	**Pb**	**21 52 47.0**	**-0.2**
JIJ				*e*S	**Sg**	**21 53 02.8**	**0.0**
YM08	**YM08**	**1.23**	**293**	P	**Pn**	**21 52 47.5**	**-0.1**
	baz=293						
YM08				*e*S	**Sb**	**21 53 03.0**	**-0.6**
	baz=293						
YM01	**YM01**	**1.23**	**291**	P	**Pg**	**21 52 46.8**	**0.0**
	baz=291						
ETL	**Fush Village**	**1.24**	**244**	P	**Pn**	**21 52 47.9**	**+0.3**
	baz=242						
ETL				S	**Sg**	**21 53 03.5**	**+0.6**
	baz=242						
NACB	**Ninganchiao**	**1.25**	**245**	P	**Pb**	**21 52 47.6**	**0.0**
	baz=243						
NACB				S	**Sg**	**21 53 03.3**	**-0.2**
	baz=243						
TATO	**Taipei**	**1.26**	**282**	P	**Pb**	**21 52 47.5**	**-0.1**
	baz=282						
TATO				*e*S	**Sg**	**21 53 03.7**	**+0.1**
	baz=282						
TWD	**Chiawan**	**1.30**	**241**	*e*P	**Pn**	**21 52 48.9**	**+0.6**
	baz=239						
TWD				*e*S	**Sg**	**21 53 05.1**	**+0.3**
	baz=239						
YHNB	**Yeheng**	**1.33**	**269**	*e*P	**Pg**	**21 52 48.5**	**-0.2**
	baz=268						
YHNB				*e*S	**Sg**	**21 53 05.5**	**-0.6**
	baz=268						
ETLH	**Xiulin Townshi**	**1.34**	**248**	*e*P	**Pb**	**21 52 49.5**	**+0.4**
	baz=247						
ETLH				*e*S	**Sg**	**21 53 06.4**	**+0.4**
	baz=247						
JISG	**Ishigakijimahi**	**1.34**	**95**	P	**Pg**	**21 52 48.4**	**-0.4**
NNSB	**Datong**	**1.36**	**258**	*e*P	**Pg**	**21 52 49.3**	**+0.1**
	baz=257						
NNSB				*e*S	**Sg**	**21 53 06.4**	**-0.4**
	baz=257						
NNSH	**Datong**	**1.36**	**258**	*e*P	**Pn**	**21 52 49.4**	**0.0**
	baz=257						
NNSH				*e*S	**Sg**	**21 53 06.8**	**0.0**
	baz=257						
NNS	**Nan Shan**	**1.36**	**259**	*e*P	**Pb**	**21 52 49.6**	**+0.1**
	baz=257						
NNS				*e*S	**Sg**	**21 53 06.5**	**-0.5**
	baz=257						
ETM	**Tongmen**	**1.44**	**239**	*e*P	**Pn**	**21 52 49.8**	**-0.5**
	baz=237						
ETM				*e*S	**Sg**	**21 53 09.1**	**-0.2**
	baz=237						
FUSS	**Fushou**	**1.53**	**253**	*e*P	**Pg**	**21 52 53.2**	**+0.8**
	baz=251						
FUSS				*e*S	**Sg**	**21 53 11.6**	**-0.6**
	baz=251						
WHF	**Hehuan Shan**	**1.54**	**249**	*e*P	**Pb**	**21 52 53.0**	**+0.3**
	baz=247						
WHF				*e*S	**Sg**	**21 53 12.2**	**-0.5**
	baz=247						
ESL	**Shilin**	**1.56**	**236**	*e*P	**Pn**	**21 52 52.3**	**+0.2**
	baz=233						
ESL				*e*S	**Sn**	**21 53 12.0**	**-0.9**
	baz=233						
TWT	**Tachien**	**1.58**	**254**	*e*P	**Pg**	**21 52 54.1**	**+0.6**
	baz=252						
TWT				*e*S	**Sg**	**21 53 14.6**	**+0.5**
	baz=252						
NJD	**Zhudong**	**1.59**	**271**	*e*P	**Pb**	**21 52 53.0**	**-0.4**
	baz=270						
NJD				*e*S	**Sb**	**21 53 13.9**	**-0.1**
	baz=270						
TDCB	**Techi**	**1.60**	**254**	*e*P	**Pg**	**21 52 53.9**	**+0.1**
	baz=252						
TDCB				*e*S	**Sn**	**21 53 13.8**	**-0.3**
	baz=252						
CHGB	**Renai**	**1.65**	**247**	*e*P	**Pn**	**21 52 54.1**	**+0.6**
	baz=246						
CHGB				*e*S	**Sn**	**21 53 15.1**	**-0.4**
	baz=246						
LIOB	**Emei**	**1.66**	**268**	*e*P	**Pb**	**21 52 54.4**	**-0.1**
	baz=267						
LIOB				*e*S	**Sn**	**21 53 14.7**	**-0.7**
	baz=267						
NSTT	**Nanjuang**	**1.68**	**268**	*e*P	**Pb**	**21 52 54.4**	**-0.4**
	baz=267						
NSTT				*e*S	**Sb**	**21 53 16.1**	**-0.3**
	baz=267						
JTJ	**Tarama**	**1.69**	**92**	P	**Pn**	**21 52 54.3**	**+0.5**
OWD	**Renai**	**1.69**	**244**	*e*P	**Pb**	**21 52 55.0**	**-0.2**
	baz=242						
OWD				*e*S	**Sn**	**21 53 16.7**	**+0.3**
	baz=242						
HGSD	**Ruisui**	**1.77**	**227**	*e*P	**Pn**	**21 52 55.7**	**+0.8**
	baz=225						
HGSD				*e*S	**Sn**	**21 53 17.2**	**-0.9**
	baz=225						
WHP	**Taichung City**	**1.78**	**256**	*e*P	**Pg**	**21 52 57.1**	**-0.2**
	baz=255						
WHP				*e*S	**Sb**	**21 53 19.4**	**-0.1**
	baz=255						
EHY	**Hungye**	**1.83**	**230**	*e*P	**Pn**	**21 52 56.6**	**+0.8**
	baz=227						
EHY				*e*S	**Sn**	**21 53 19.0**	**-0.7**
	baz=227						
NMLH	**Miaoli**	**1.87**	**265**	*e*P	**Pb**	**21 52 57.7**	**-0.5**
	baz=264						
NMLH				*e*S	**Sn**	**21 53 21.0**	**+0.4**
	baz=264						
WCS	**Beigang Elemen**	**1.88**	**250**	*e*P	**Pg**	**21 52 58.8**	**-0.3**
	baz=249						
WCS				*e*S	**Sb**	**21 53 21.6**	**-0.5**
	baz=249						
NSY	**Sanyi**	**1.92**	**262**	*e*P	**Pg**	**21 52 59.6**	**-0.3**
	baz=260						
NSY				*e*S	**Sn**	**21 53 22.4**	**+0.7**
	baz=260						
YULB	**Yu-li**	**1.93**	**227**	*e*P	**Pb**	**21 52 58.3**	**-0.7**
	baz=226						
YULB				*e*S	**Sn**	**21 53 22.3**	**+0.3**
	baz=226						
EYUL	**Yuli**	**1.94**	**226**	*e*S	**Sn**	**21 53 21.8**	**-0.5**
	baz=224						
SSLB	**Suanglung**	**1.95**	**242**	*e*P	**Pn**	**21 52 58.2**	**+0.8**
	baz=241						
SSLB				*e*S	**Sn**	**21 53 23.0**	**+0.4**
	baz=241						
SMLT	**Sun Moon Lake**	**1.95**	**246**	*e*P	**Pb**	**21 52 59.8**	**+0.2**
	baz=244						
SMLT				*e*S	**Sn**	**21 53 22.8**	**+0.1**
	baz=244						
TWF1	**Yuli**	**1.95**	**227**	*e*P	**Pb**	**21 52 58.7**	**-0.8**
	baz=225						
TWF1				*e*S	**Sn**	**21 53 22.8**	**+0.1**
	baz=225						
TYC	**Yuchr**	**1.98**	**247**	*e*P	**Pb**	**21 52 59.8**	**-0.2**
	baz=245						
TYC				*e*S	**Sn**	**21 53 23.6**	**+0.3**
	baz=245						
FULB	**Fuli**	**2.06**	**224**	*e*P	**Pn**	**21 52 59.2**	**+0.2**
	baz=222						
FULB				*e*S	**Sn**	**21 53 25.6**	**+0.3**
	baz=222						
WJS	**Zhushan**	**2.12**	**246**	*e*P	**Pb**	**21 53 01.2**	**-1.2**
	baz=244						
WJS				*e*S	**Sb**	**21 53 28.8**	**-0.4**
	baz=244						
WNT	**Mingjian**	**2.14**	**248**	*e*P	**Pn**	**21 53 01.2**	**+1.3**
	baz=246						
WNT				*e*S	**Sn**	**21 53 27.3**	**+0.2**
	baz=246						
ECS	**Chishang**	**2.19**	**223**	*e*P	**Pn**	**21 53 00.9**	**+0.2**
	baz=221						
ECS				*e*S	**Sn**	**21 53 28.3**	**-0.1**
	baz=221						
ALS	**Alishan**	**2.21**	**238**	*e*P	**Pb**	**21 53 03.1**	**-1.0**
	baz=236						
ALS				*e*S	**Sn**	**21 53 28.9**	**-0.4**
	baz=236						
EDH	**Donghe**	**2.23**	**219**	*e*P	**Pn**	**21 53 00.7**	**-0.5**
	baz=218						
EDH				*e*S	**Sn**	**21 53 27.2**	**-2.2**
	baz=218						
ELDTW	**Lidau**	**2.25**	**228**	*e*S	**Sn**	**21 53 29.1**	**-1.0**
	baz=226						
CHN5	**Tsauling**	**2.27**	**241**	*e*P	**Pb**	**21 53 04.1**	**-0.8**
	baz=240						
CHN5				*e*S	**Sn**	**21 53 31.4**	**+0.9**
	baz=240						
WGK	**Gukeng**	**2.32**	**244**	*e*S	**Sn**	**21 53 32.9**	**+1.3**
	baz=243						
WDLH	**Douliu**	**2.34**	**245**	*e*P	**Pn**	**21 53 04.1**	**+1.4**
	baz=243						
WDLH				*e*S	**Sn**	**21 53 32.8**	**+0.8**
	baz=243						
LONT	**Longtian**	**2.38**	**222**	*e*P	**Pn**	**21 53 04.0**	**+0.6**
	baz=220						
LONT				*e*S	**Sn**	**21 53 32.3**	**-0.9**
	baz=220						
LDUT	**Ludao**	**2.38**	**212**	*e*P	**Pn**	**21 53 03.0**	**-0.3**
	baz=210						
LDUT				*e*S	**Sn**	**21 53 31.6**	**-1.7**
	baz=210						
WRL	**Guolierlin Hig**	**2.39**	**251**	*e*S	**Sn**	**21 53 34.2**	**+0.9**
	baz=249						
STYH	**Taoyuan**	**2.43**	**231**	*e*P	**Pn**	**21 53 05.5**	**+1.5**
	baz=230						
STYH				*e*S	**Sn**	**21 53 34.7**	**+0.3**
	baz=230						
STYT	**Tauyuan**	**2.45**	**232**	*e*P	**Pn**	**21 53 04.5**	**+0.2**
	baz=230						
STYT				*e*S	**Sn**	**21 53 35.5**	**+0.6**
	baz=230						
CHN2	**Minshiung**	**2.46**	**242**	*e*S	**Sn**	**21 53 36.5**	**+1.4**
	baz=240						
WTK	**Tuku**	**2.46**	**246**	*e*S	**Sn**	**21 53 35.6**	**+0.5**
	baz=245						
TPUB	**Ta-pu**	**2.46**	**236**	*e*P	**Pn**	**21 53 06.2**	**+1.8**
	baz=234						
TPUB				*e*S	**Sn**	**21 53 36.8**	**+1.6**
	baz=234						
WTP	**Ta-pu**	**2.50**	**235**	*e*P	**Pn**	**21 53 06.3**	**+1.3**
	baz=233						
WTP				*e*S	**Sn**	**21 53 36.7**	**+0.4**
	baz=233						
TWK	**Hsinying**	**2.59**	**237**	*e*P	**Pn**	**21 53 08.0**	**+1.8**
	baz=235						
TWK				*e*S	**Sn**	**21 53 38.5**	**+0.1**
	baz=235						
CHN1	**Nanshi**	**2.60**	**235**	*e*P	**Pn**	**21 53 08.3**	**+2.0**
	baz=233						
CHN1				*e*S	**Sn**	**21 53 39.1**	**+0.4**
	baz=233						
SLGT	**Liugui**	**2.64**	**230**	*e*P	**Pn**	**21 53 09.0**	**+2.2**
	baz=228						
SLGT				*e*S	**Sn**	**21 53 41.0**	**+1.5**
	baz=228						
ECL	**Taimali**	**2.72**	**220**	*e*P	**Pn**	**21 53 07.5**	**-0.5**
	baz=218						
ECL				*e*S	**Sn**	**21 53 39.1**	**-2.5**
	baz=218						
SSD	**Sandimen**	**2.81**	**226**	*e*P	**Pn**	**21 53 10.9**	**+1.7**
	baz=225						
SSD				*e*S	**Sn**	**21 53 44.2**	**+0.4**
	baz=225						
TSMG	**Majia**	**2.83**	**226**	*e*P	**Pn**	**21 53 11.5**	**+2.0**
	baz=224						
TSMG				*e*S	**Sn**	**21 53 44.8**	**+0.5**
	baz=224						
MASBT	**Mashibuluo**	**2.91**	**225**	*e*P	**Pn**	**21 53 11.5**	**+1.0**
	baz=223						
MASBT				*e*S	**Sn**	**21 53 47.2**	**+1.0**
	baz=223						
EAST	**Anshuo**	**2.95**	**219**	*e*P	**Pn**	**21 53 10.9**	**-0.2**
	baz=217						

BJI ***25*** *21:53:21.9±0.0, 13°.04N×146°.39E, h19km, mB4.8/25, mb4.5/38, Ms4.3/10, Ms7 4.2/12*
IDC ***25*** *21:53:21.5±0.6, 13°.06N×146°.17E, h0km, mb4.2/26, mb1 4.3/26, mb1mx4.2/53, mbtmp4.2/26, Error ellipse: s-maj=14.8km s-min=13.4km az=76.0*
NEIC ***25*** *21:53:24.4±1.2, 13°.07N±0°.10×146°.19E±0°.07, h10km±1km, mb4.7/77, Error ellipse: s-min=17.5km s-min=10.3km az=204.0*
ISC 25 21:53:23.2±0.4,**13°.03N**±0°.07×**146°.22E**±0°.06,**h10**km,**n127,**
σ0s**93**/131,**mb4.6**/64,**MS4.2**/3,**1D,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.43**	**293**	Pn	**Pn**	**21 53 48.9**	**-0.2**
	225nm,0.3s,baz=141,slow=8.8,SNR=190						
GUMO				Sn	**Sg**	**21 54 08.4**	**-0.8**
	498nm,0.3s,baz=240,slow=22,SNR=8.5						
GUMO	**Guam**	**1.43**	**293**		**Pn**	**21 53 49.0**	**-0.2**
GUMO				Sn	**Sg**	**21 54 08.0**	**-1.2**
PATS	**Pohnpei**	**13.40**	**116**		**Pn**	**21 56 31.2**	**-2.4**
FAKI	**Fak Fak**	**21.06**	**222**	P	**P**	**21 58 08.4**	**+0.7**
FAKI				IAmb	IAmb	21 58 13.8	
	comp=Z,50nm,1.1s						
DAV	**Davao City (W)**	**21.16**	**256**	P	**P**	**21 58 08.9**	**+0.1**
	comp=Z,131nm,0.4s,baz=5.5,slow=3.2,SNR=2.5						
DAV	**Davao City (W)**	**21.16**	**256**	P	**P**	**21 58 08.2**	**-0.6**
JWT	**Wachi**	**24.22**	**338**	P	**P**	**21 58 39.6**	**-0.5**
JNU	**Nakatsue**	**24.42**	**328**	P	**P**	**21 58 41.3**	**-0.8**
	comp=Z,11nm,0.9s,baz=213,slow=19,SNR=3.4						
JNU	**Nakatsue**	**24.42**	**328**	P	**P**	**21 58 41.0**	**-1.1**
JNU				IAmb	IAmb	21 58 47.5	
	comp=Z,20nm,1.1s						
MJAR	**Matsushiro Arr**	**24.49**	**344**	P	**P**	**21 58 40.2**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=168,slow=10,SNR=2.5						
MJAR	**Matsushiro Arr**	**24.49**	**344**	P	**P**	**21 58 42.3**	**-0.3**
JHS	**Saijyo**	**24.88**	**334**	P	**P**	**21 58 45.1**	**-1.1**
JHS				IAmb	IAmb	21 59 00.0	
	comp=Z,22nm,1.0s						
JMM	**Marumori**	**25.20**	**350**	P	**P**	**21 58 48.6**	**-0.4**
YULB	**Yu-li**	**25.78**	**297**	P	**P**	**21 58 53.4**	**-1.1**
YULB				IAmb	IAmb	21 59 13.7	
	comp=Z,15nm,1.3s						
SSLB	**Suanglung**	**26.21**	**298**	P	**P**	**21 58 57.9**	**-0.5**
TOLI2	**Tolitoli**	**27.84**	**247**	P	**P**	**21 59 13.4**	**+0.2**
TOLI2				IAmb	IAmb	21 59 15.9	
	comp=Z,10.0nm,1.0s						
KSRS	**Korea Array**	**29.30**	**329**	P	**P**	**21 59 25.2**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=143,slow=9.3,SNR=4.8						
KSAR	**Wonju Array Be**	**29.31**	**329**	P	**P**	**21 59 25.4**	**-0.6**
NJ2	**Nanjing**	**31.43**	**312**	*e*P	**P**	**21 59 45.8**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SOEI	**Soe**	**31.43**	**225**	P	**P**	**21 59 45.1**	**+0.1**
KNRA	**Kununurra**	**33.35**	**212**	P	**P**	**22 00 01.8**	**+0.1**
KNRA				IAmb	IAmb	22 00 02.8	
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	**34.74**	**200**	P	**P**	**22 00 13.6**	**-0.2**
WB2	**Warramunga Arr**	**34.79**	**200**	P	**P**	**22 00 14.2**	**0.0**
WB2				IAmb	IAmb	22 00 14.9	
	comp=Z,6.2nm,0.8s						
WRA	**Warramunga Arr**	**34.79**	**200**	P	**P**	**22 00 13.7**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=21,slow=9.6,SNR=16						
KLR	**Kul'dur**	**38.02**	**345**	P	**P**	**22 00 40.3**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=181,slow=9.6,SNR=4.2						
AS31	**Alice Springs**	**38.41**	**198**	P	**P**	**22 00 45.5**	**+0.3**
ASAR	**Alice Springs**	**38.41**	**198**	P	**P**	**22 00 44.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=20,slow=11,SNR=14						
XAN	**Xi'an**	**39.77**	**308**	P	**P**	**22 00 56.5**	**0.0**
XAN				pP	sP	22 00 59.5	+2.8
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DZM	**Mont Dzumac**	**40.13**	**150**	P	**P**	**22 01 00.2**	**+0.6**
	comp=Z,6.1nm,0.8s,baz=92,slow=24,SNR=2.9						
DZM	**Mont Dzumac**	**40.13**	**150**	P	**P**	**22 01 00.9**	**+1.3**
DZM				IAmb	IAmb	22 01 07.4	
	comp=Z,27nm,1.4s						
PETK	**Petropavlovsk-**	**41.01**	**11**	P	**P**	**22 01 04.5**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=198,slow=7.0,SNR=2.3						
HHC	**Hu-ho-hao-te**	**41.05**	**319**	*e*P	**P**	**22 01 07.5**	**+0.4**
HHC				S	**S**	**22 07 18.8**	**-1.0**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,62nm,5.4s						
HHC				LR	LR		
	comp=Z,190nm,15.8s						
HHC				LR	LR		
	comp=Z,180nm,16.6s						
HHC				LR	LR		
	comp=Z,270nm,14.5s						
UGM	**Wanagama**	**41.12**	**242**	P	**P**	**22 01 07.7**	**-0.2**
BTO	**Baotou**	**41.92**	**318**	*e*P	**P**	**22 01 15.3**	**+1.1**
BTO				S	**S**	**22 07 34.5**	**+1.8**
BTO				LR	LR		
	comp=Z,570nm,20.9s						
BTO				LR	LR		
	comp=Z,510nm,15.9s						
BTO				LR	LR		
	comp=Z,1μm,24.1s						
LZH	**Lanzhou**	**44.39**	**309**	*e*P	**P**	**22 01 35.3**	**+0.9**
LZH				pP	pwP	22 01 41.0	-6.1
LZH				sP	sP	22 01 48.5	+14
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**44.87**	**186**	P	**P**	**22 01 36.2**	**-1.7**
	comp=Z,2.4nm,0.7s,baz=328,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**44.87**	**186**	P	**P**	**22 01 37.6**	**-0.3**
CM31	**Chiang Mai Arr**	**45.72**	**283**	P	**P**	**22 01 45.4**	**+0.4**
CM31				IAmb	IAmb	22 01 47.6	
	comp=Z,5.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**45.72**	**283**	P	**P**	**22 01 45.0**	**0.0**
	comp=Z,2.3nm,0.6s,baz=86,slow=6.3,SNR=13						
CMAR	**Chiang Mai Arr**	**45.72**	**283**	P	**P**	**22 01 45.4**	**+0.4**
BBOO	**Buckleboo**	**46.61**	**192**	P	**P**	**22 01 51.3**	**-0.3**
RPSI	**Rantau Prapat**	**47.88**	**262**	P	**P**	**22 02 01.6**	**-0.4**
RPSI				IAmb	IAmb	22 02 02.4	
	comp=Z,7.6nm,0.8s						
SONM	**Songino Array**	**47.94**	**324**	P	**P**	**22 02 02.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=136,slow=7.9,SNR=7.2						
SONM	**Songino Array**	**47.94**	**324**	P	**P**	**22 02 02.0**	**-0.1**
GTA	**Gaotai**	**48.52**	**312**	||P	**P**	**22 02 07.8**	**+1.1**
GTA				pP	pwP	22 02 16.5	-3.0
GTA				sP	sP	22 02 21.3	+14
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,50nm,5.1s						
GTA				LR	LR		
	comp=Z,120nm,17.4s						
GTA				LR	LR		
	comp=Z,110nm,16.7s						
GTA				LR	LR		
	comp=Z,160nm,18.5s						
GSI	**Gunungsitoli**	**49.55**	**260**	P	**P**	**22 02 14.1**	**-0.7**
LSA	**Lhasa**	**53.42**	**297**	Pn	**P**	**22 02 43.0**	**-1.1**
LSA				smax	smax		
	comp=N,20nm,0.9s						
LSA				smax	smax		
	comp=E,32nm,0.9s						
LSA	**Lhasa**	**53.42**	**297**	P	**P**	**22 02 43.3**	**-0.8**
LSA				IAmb	IAmb	22 03 01.2	
	comp=Z,4.6nm,0.7s						
BILL	**Bilibino**	**56.50**	**9**	P	**P**	**22 03 05.5**	**+0.4**
BILL				IAmb	IAmb	22 03 24.5	
	comp=Z,11nm,1.1s						
WMQ	**Urumqi**	**58.47**	**314**	*e*P	**P**	**22 03 23.0**	**+3.4**
SII	**Sitkinak Islan**	**62.63**	**33**	P	**P**	**22 03 48.6**	**+0.9**
MK31	**Makanchi Array**	**62.80**	**316**	P	**P**	**22 03 49.1**	**+0.1**
MK31				IAmb	IAmb	22 04 07.6	
	comp=Z,6.0nm,1.5s						
MKAR	**Makanchi Array**	**62.80**	**316**	P	**P**	**22 03 49.2**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=89,slow=8.8,SNR=27						
ZAA0	**Zalesovo Array**	**62.84**	**324**	P	**P**	**22 03 49.4**	**+0.3**
ZALV	**Zalesovo Beam**	**62.84**	**324**	P	**P**	**22 03 48.6**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=103,slow=6.2,SNR=9.2						
ZALV	**Zalesovo Beam**	**62.84**	**324**	P	**P**	**22 03 49.4**	**+0.3**
MAKZ	**Makanchi**	**63.02**	**316**	P	**P**	**22 03 51.1**	**+0.6**
MAKZ				IAmb	IAmb	22 03 52.3	
	comp=Z,9.3nm,1.4s						
KDAK	**Kodiak Island**	**63.85**	**32**	P	**P**	**22 03 56.6**	**+0.8**
	comp=Z,4.2nm,0.8s,baz=141,slow=12,SNR=4.6						

IL31				IAmb	IAmb	22 04 48.8
	comp=Z,2.4nm,0.7s					
ILAR	**Eielson Array**	**68.51**	**25**	P	**P**	**22 04 24.6 -1.0**
	comp=Z,0.9nm,0.5s,baz=255,slow=6.1,SNR=6.3					
ILAR	**Eielson Array**	**68.51**	**25**	P	**P**	**22 04 24.7 -0.8**
NIL	**Nilore**	**68.80**	**301**	P	**P**	**22 04 28.1 +0.1**
DOT	**Dot Lake**	**69.43**	**27**	P	**P**	**22 04 31.9 +0.5**
DOT				IAmb	IAmb	22 04 46.5
	comp=Z,3.8nm,1.0s					
BMAR	**Burnt Mountain**	**70.11**	**23**	P	**P**	**22 04 36.8 +1.4**
CTGM	**Chitina Glacie**	**70.19**	**30**	P	**P**	**22 04 36.8 +0.6**
CTGM				IAmb	IAmb	22 04 55.9
	comp=Z,4.7nm,0.8s					
TABL	**Table Mountain**	**70.20**	**30**	P	**P**	**22 04 36.7 +0.4**
BCAR	**Beaver Creek A**	**70.33**	**27**	P	**P**	**22 04 37.9 +1.0**
K27K	**Chicken**	**70.37**	**26**	P	**P**	**22 04 38.5 +1.4**
KK31	**Karatay Array**	**70.81**	**311**	P	**P**	**22 04 40.7 +0.5**
KK31				IAmb	IAmb	22 04 41.5
	comp=Z,4.1nm,1.1s					
KKAR	**Karatay Array**	**70.81**	**311**	P	**P**	**22 04 40.4 +0.2**
KKAR	**Karatay Array**	**70.81**	**311**	P	**P**	**22 04 40.8 +0.6**
KKAR				IAmb	IAmb	22 04 41.5
	comp=Z,4.1nm,1.1s					
EGAK	**Eagle**	**70.90**	**26**	P	**P**	**22 04 41.5 +1.2**
GAR	**Garm**	**71.01**	**307**	P	**P**	**22 04 42.0 +0.3**
BRVK	**Borovoye**	**71.24**	**322**	P	**P**	**22 04 42.9 +0.3**
BRVK				IAmb	IAmb	22 04 43.7
	comp=Z,15nm,1.5s					
CHGR	**Chuyangaron**	**71.93**	**307**	P	**P**	**22 04 47.4 +0.3**
HYT	**Haines Junctio**	**72.02**	**30**	P	**P**	**22 04 48.4 +1.1**
HYT				IAmb	IAmb	22 04 49.9
	comp=Z,5.4nm,0.9s					
KBL	**Kabul**	**72.24**	**302**	P	**P**	**22 04 49.7 +0.4**
KBL				IAmb	IAmb	22 04 51.5
	comp=Z,9.6nm,1.2s					
WHY	**Whitehorse**	**73.30**	**30**	P	**P**	**22 04 56.0 +1.2**
WHY				IAmb	IAmb	22 04 57.4
	comp=Z,5.7nm,1.1s					
INK	**Inuvik**	**74.38**	**22**	P	**P**	**22 05 00.6 -0.2**
	comp=Z,0.9nm,0.6s,baz=306,slow=5.9,SNR=4.6					
INK	**Inuvik**	**74.38**	**22**	P	**P**	**22 05 01.4 +0.5**
DLBC	**Dease Lake**	**75.74**	**33**	P	**P**	**22 05 10.5 +1.4**
	comp=Z,3.8nm,0.8s,baz=274,slow=4.9,SNR=9.8					
DLBC	**Dease Lake**	**75.74**	**33**	P	**P**	**22 05 10.3 +1.3**
DLBC				IAmb	IAmb	22 05 11.7
	comp=Z,7.4nm,1.1s					
ABKAR	**Akbulak array**	**77.83**	**318**	P	**P**	**22 05 20.9 0.0**
ABKAR	**Akbulak array**	**77.83**	**318**	P	**P**	**22 05 21.0 0.0**
ABKAR				IAmb	IAmb	22 05 35.3
	comp=Z,2.2nm,0.7s					
HRA	**Herat**	**77.84**	**303**	P	**P**	**22 05 21.9 +0.2**
HRA				IAmb	IAmb	22 05 37.1
	comp=Z,8.0nm,0.8s					
ARU	**Arti**	**77.97**	**325**	P	**P**	**22 05 21.3 -0.2**
ARU				IAmb	IAmb	22 05 36.5
	comp=Z,11nm,1.2s					
GYA0B	**ALIBECK ARRAY**	**80.64**	**307**	P	**P**	**22 05 37.0 +0.3**
GYA0B				IAmb	IAmb	22 05 48.8
	comp=Z,4.2nm,0.6s					
YBH	**Yreka Blue Hor**	**82.24**	**49**	P	**P**	**22 05 45.3 +0.2**
	comp=Z,1.0nm,0.8s,baz=196,slow=3.2,SNR=4.5					
YKA	**Yellowknife Ar**	**82.74**	**28**	P	**P**	**22 05 46.7 -0.5**
	comp=Z,0.6nm,0.6s,baz=285,slow=4.9,SNR=4.6					
PINE	**Pine Mountain**	**83.13**	**47**	P	**P**	**22 05 51.2 +1.4**
PINE				IAmb	IAmb	22 05 52.8
	comp=Z,5.6nm,0.9s					
B08A	**Colville Reser**	**83.31**	**42**	P	**P**	**22 05 51.0 +0.6**
MOD	**Modoc Plateau**	**83.97**	**49**	P	**P**	**22 05 54.8 +0.6**
MOD				IAmb	IAmb	22 05 55.6
	comp=Z,2.6nm,0.8s					
NEW	**Newport**	**84.77**	**42**	P	**P**	**22 05 59.1 +1.2**
	comp=Z,1.5nm,0.6s,baz=340,slow=4.1,SNR=3.0					
NEW	**Newport**	**84.77**	**42**	P	**P**	**22 05 59.2 +1.3**
NEW				IAmb	IAmb	22 05 59.8
	comp=Z,9.8nm,1.5s					
BELG	**Belogornoye**	**84.96**	**323**	P	**P**	**22 05 58.1 -0.6**
	comp=Z,4.4nm,0.8s,baz=231,slow=5.5,SNR=2.8					
RYN	**Ryan**	**86.02**	**51**	P	**P**	**22 06 06.1 +1.6**
NVAR	**Mina Array Bea**	**86.24**	**52**	P	**P**	**22 06 06.9 +1.2**
	comp=Z,1.0nm,0.9s,baz=254,slow=5.5,SNR=5.9					
NVAR	**Mina Array Bea**	**86.24**	**52**	P	**P**	**22 06 06.7 +1.0**
WALA	**Waterton Lakes**	**86.62**	**40**	P	**P**	**22 06 08.5 +1.3**
MFID	**Camas Ranch**	**86.83**	**46**	P	**P**	**22 06 09.5 +1.1**
MFID				IAmb	IAmb	22 06 10.5
	comp=Z,4.0nm,1.1s					
TPH	**Tonopah**	**87.15**	**52**	P	**P**	**22 06 10.8 +0.6**
HLID	**Hailey**	**87.79**	**46**	P	**P**	**22 06 14.1 +1.0**
HLID				IAmb	IAmb	22 06 15.2
	comp=Z,4.6nm,1.2s					
ELK	**Elko**	**87.95**	**49**	P	**P**	**22 06 14.9 +0.9**
ELK				IAmb	IAmb	22 06 16.2
	comp=Z,5.0nm,1.1s					
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**22 06 14.3 +1.0**
	comp=Z,1.4nm,0.8s,baz=41,slow=8.0,SNR=4.3					
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**22 06 14.6 +1.3**
ARCES				IAmb	IAmb	22 06 25.9
	comp=Z,7.2nm,1.4s					
R11A	**Troy Canyon, C**	**88.33**	**51**	P	**P**	**22 06 16.9 +1.2**
LRM	**Limekiln Ridge**	**88.49**	**43**	P	**P**	**22 06 17.2 +0.7**
BOZ	**Bozeman (W)**	**89.11**	**43**	P	**P**	**22 06 19.7 +0.5**
PSUT	**Pine Spring**	**89.58**	**51**	P	**P**	**22 06 22.4 +0.8**
PSUT				IAmb	IAmb	22 06 23.9
	comp=Z,3.4nm,1.0s					
DUG	**Dugway, Tooele**	**89.88**	**49**	P	**P**	**22 06 23.7 +0.7**
DUG				IAmb	IAmb	22 06 25.2
	comp=Z,4.9nm,1.2s					
RLMT	**Red Lodge**	**90.84**	**43**	P	**P**	**22 06 28.6 +1.2**
PDAR	**Pinedale Array**	**91.42**	**46**	P	**P**	**22 06 29.6 -0.6**
	comp=Z,0.3nm,0.8s,baz=318,slow=3.9,SNR=2.3					
FINES	**FINESS Array B**	**92.22**	**335**	P	**P**	**22 06 31.7 -1.4**
	comp=Z,2.4nm,0.5s,baz=60,slow=4.5,SNR=26					
KIC	**Kosan Boka**	**145.31**	**302**	*e*PKP1	**PKPdf**	**22 13 03.4 +1.0**
	comp=Z,20nm,0.7s					
TIC	**Toumodi**	**145.38**	**303**	*e*PKP1	**PKPdf**	**22 13 04.4 +1.8**
LIC	**Lamto**	**145.62**	**302**	*e*PKP1	**PKPbc**	**22 13 03.4 +0.3**
	comp=Z,117nm,1.7s					
LPAZ	**La Paz**	**146.63**	**100**	PKPbc	**PKPbc**	**22 13 07.2 +0.3**
	comp=Z,1.3nm,0.8s,baz=236,slow=2.7,SNR=5.1					
LPAZ	**La Paz**	**146.63**	**100**		**PKPbc**	**22 13 07.6 +0.7**

BJI ***25*** *21:55:18.2±0.0, 13°.05N×146°.43E, h14km, mB4.8/38, mb4.6/58, Ms4.5/38, Ms7 4.3/39*
IDC ***25*** *21:55:19.3±0.5, 13°.10N×146°.17E, h0km, mb4.3/31, mb1 4.5/31, mb1mx4.4/47, mbtmp4.3/31, MS4.1/16, Ms1 4.1/16, ms1mx4.0/23, Error ellipse: s-maj=13.8km s-min=11.7km az=91.0*
NEIC ***25*** *21:55:21.8±1.5, 13°.13N±0°.09×146°.21E±0°.07, h10km±1km, mb5.1/134, Error ellipse: s-maj=16.0km s-min=9.8km az=201.0*
MOS ***25*** *21:55:23.0±0.9, 13°.11N×146°.03E, h34km, mb5.0/24, MS4.2/5, Error ellipse: s-maj=9.1km s-min=5.6km az=112.5*
GCMT ***25*** *21:55:26.8±0.3, 13°.03N±0°.02×146°.33E±0°.03, h12km, MW4.9/86, Moment Tensor Solution. s26,c30; s86,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.90±.08; $M_{\theta\theta}$1.59±.07; $M_{\phi\phi}$0.31±.08; $M_{r\theta}$2.16±.25; $M_{\theta\phi}$0.73±.07; $M_{\phi r}$-1.20±.31; Best double couple: $M_0$3.04200×10^{16} NP1:ϕ_s282.00000°, δ72.00000°, λ-69.00000°. Principal axes: T 2.6320, Plg24.0000°, Azm355.0000°; N 0.8210, Plg20.0000°, Azm95.0000°; P -3.4510, Plg57.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 21:55:20.7±0.3, 13°.08N±0°.05×146°.22E±0°.05, h10km, n353, σ1.9 23/360, mb4.9/144, MS4.1/30, 15C-7D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.41**	**291**	Pn	**Pn**	**21 55 46.6**	**+0.2**
	345nm,0.3s,baz=143,slow=11,SNR=6.8						
GUMO				Sn	**Sg**	**21 56 05.3**	**-0.8**
	997nm,0.3s,baz=230,slow=20,SNR=7.9						
GUMO	**Guam**	**1.41**	**291**	P	**Pn**	**21 55 46.3**	**-0.1**
GUMO						21 56 05.3	
PATS	**Pohnpei**	**13.43**	**116**		**Pn**	**21 58 29.0**	**-2.4**
JCJ	**Chichijima**	**14.44**	**345**	LR	LR	22 03 59.4	
	comp=Z,875nm,19.4s,baz=146,slow=36						
SIJI	**Sorong**	**20.30**	**228**	P	**P**	**21 59 57.1**	**+0.1**
	18nm,0.8s,baz=265,slow=23,SNR=1.7						
JHJ	**Hachijo jima 2**	**20.79**	**345**	LR	LR	22 07 10.0	
	comp=Z,665nm,20.3s,baz=106,slow=34						
FAKI	**Fak Fak**	**21.10**	**222**	P	**P**	**22 00 05.7**	**0.0**
DAV	**Davao City (W)**	**21.18**	**256**	P	**P**	**22 00 07.5**	**+1.0**
JOW	**Kunigami**	**21.68**	**312**	LR	LR	22 07 46.8	
	comp=Z,791nm,19.6s,baz=127,slow=35						
PMG	**Port Moresby**	**22.36**	**178**	LR	LR	22 09 00.0	
	comp=Z,298nm,19.0s,baz=322,slow=37						
JMN	**Monobe**	**23.42**	**333**	P	**P**	**22 00 29.0**	**-1.1**
INU	**Inuyama**	**23.68**	**341**	P	**P**	**22 00 31.3**	**-1.2**
INU				IAmb	IAmb	22 00 54.0	
	comp=Z,71nm,1.5s						
JGF	**Kuroka**	**23.80**	**342**	P	**P**	**22 00 33.3**	**-0.6**
JWT	**Wachi**	**24.17**	**338**	P	**P**	**22 00 35.0**	**-2.2**
JWT				IAmb	IAmb	22 00 37.1	
	comp=Z,69nm,1.8s						
JNU	**Nakatsue**	**24.37**	**327**	P	**P**	**22 00 39.0**	**-0.2**
	comp=Z,14nm,0.8s,baz=140,slow=7.0,SNR=5.5						
JNU	**Nakatsue**	**24.37**	**327**	P	**P**	**22 00 38.3**	**-0.9**
JNU				IAmb	IAmb	22 00 54.3	
	comp=Z,77nm,1.3s						
MJAR	**Matsushiro Arr**	**24.44**	**344**	P	**P**	**22 00 38.0**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=195,slow=20,SNR=6.9						
MJAR				LR	LR	22 09 48.6	
	comp=Z,580nm,19.3s,baz=185,slow=36						
MJAR	**Matsushiro Arr**	**24.44**	**344**	P	**P**	**22 00 37.9**	**-1.8**
MJAR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MJAR	**Matsushiro Arr**	**24.44**	**344**	P	**P**	**22 00 37.9**	**-1.8**
MAJO	**Matsushiro**	**24.44**	**344**	P	**P**	**22 00 38.3**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,16nm,1.0s						
MAJO	**Matsushiro**	**24.44**	**344**	P	**P**	**22 00 38.3**	**-1.4**
MAT	**Matsushiro**	**24.44**	**344**	P	**P**	**22 00 36.0**	**-3.7**
MAT				S	**S**	**22 04 59.2**	**-0.6**
JHS	**Saijyo**	**24.83**	**334**		**P**	**22 00 42.7**	**-0.6**
JHS				IAmb	IAmb	22 01 10.5	
	comp=Z,56nm,1.0s						
YULB	**Yu-li**	**25.75**	**297**	P	**P**	**22 00 49.9**	**-1.9**
JSD	**Sado**	**25.84**	**345**	P	**P**	**22 00 50.7**	**-1.6**
JSD				IAmb	IAmb	22 01 10.4	
	comp=Z,112nm,1.8s						
SSLB	**Suanglung**	**26.18**	**298**	P	**P**	**22 00 55.0**	**-0.7**
SSLB				IAmb	IAmb	22 01 13.2	
	comp=Z,59nm,1.4s						
HNR	**Honiara**	**26.20**	**148**	LR	LR	22 10 37.6	
	comp=Z,765nm,20.2s,baz=303,slow=35						
TOLI2	**Tolitoli**	**27.86**	**247**	P	**P**	**22 01 10.5**	**-0.4**
TOLI2				IAmb	IAmb	22 01 27.4	
	comp=Z,35nm,1.6s						
TJN	**Taejon**	**28.72**	**327**	⇑*e*P	**P**	**22 01 19.4**	**+1.2**
ERM	**Erimo**	**28.95**	**355**	⇑*e*P	**P**	**22 01 21.0**	**+0.8**
ERM				pmax	pmax		
	comp=Z,30nm,1.4s						
KSRS	**Korea Array**	**29.26**	**329**	P	**P**	**22 01 22.4**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=145,slow=8.8,SNR=4.8						
KSAR	**Wonju Array Be**	**29.27**	**329**	P	**P**	**22 01 22.3**	**-0.8**
KSAR	**Wonju Array Be**	**29.27**	**329**		**P**	**22 01 22.3**	**-0.8**
KS19	**Wonju Array Si**	**29.32**	**329**	P	**P**	**22 01 22.6**	**-1.0**
KS19				IAmb	IAmb	22 02 00.3	
	comp=Z,48nm,1.6s						
NJ2	**Nanjing**	**31.39**	**311**	*e*P	**P**	**22 01 42.8**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SOEI	**Soe**	**31.47**	**225**	P	**P**	**22 01 42.0**	**-0.9**
KAPI	**Kappang**	**31.85**	**237**	P	**P**	**22 01 45.6**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=56,slow=11,SNR=2.1						
KAPI	**Kappang**	**31.85**	**237**	P	**P**	**22 01 45.6**	**-0.6**
KAPI				pmax	pmax		
	comp=Z,16nm,1.1s						
KAPI	**Kappang**	**31.85**	**237**	P	**P**	**22 01 45.6**	**-0.6**
VLA	**Vladivostok**	**32.39**	**340**	⇓*e*P	**P**	**22 01 50.0**	**-0.6**
VLA				pmax	pmax		
	comp=Z,17nm,1.1s						
USRK	**Ussuriysk Ar.**	**33.32**	**341**	P	**P**	**22 01 58.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=101,slow=7.5,SNR=4.9						
USRK				LR	LR	22 13 59.9	
	comp=Z,313nm,20.7s,baz=148,slow=34						
USRK	**Ussuriysk Ar.**	**33.32**	**341**	P	**P**	**22 01 58.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**33.32**	**341**	P	**P**	**22 01 58.2**	**-0.5**
KNRA	**Kununurra**	**33.39**	**212**	P	**P**	**22 01 59.0**	**-0.6**
KNRA				IAmb	IAmb	22 02 28.0	
	comp=Z,27nm,1.3s						
YSS	**Yuzh-Sakhalins**	**33.89**	**356**	⇑*e*P	P	22 01 56.3	-7.3
YSS				*e*SS	**SnSn**	**22 09 27.6**	**-6.0**
YSS				MLR	MLR		
	comp=N,200nm,18.0s						
YSS				MLR	MLR		
	comp=Z,300nm,18.0s						
MDJ	**Mudanjiang**	**34.49**	**339**	P	**P**	**22 02 08.6**	**-0.3**
WRAB	**Tennant Creek**	**34.83**	**200**	⇓*e*P	**P**	**22 02 11.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WB2	**Warramunga Arr**	**34.84**	**200**	P	**P**	**22 02 11.6**	**-0.6**
WRA	**Warramunga Arr**	**34.84**	**200**	P	**P**	**22 02 11.4**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=21,slow=9.8,SNR=7.9						
WRA				PcP	**PcP**	**22 04 45.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=16,slow=3.3,SNR=7.2						
WRA	**Warramunga Arr**	**34.84**	**200**	P	**P**	**22 02 11.0**	**-1.2**
WRA						22 04 45.3	
WRA	**Warramunga Arr**	**34.84**	**200**	P	**P**	**22 02 11.0**	**-1.2**
WRA					**PcP**	**22 04 45.3**	**-0.1**
QIZ	**Qiongzhong**	**35.41**	**284**	P	**P**	**22 02 16.3**	**-0.9**
QIZ				S	**S**	**22 07 52.8**	**+0.6**
QIZ				LR	LR		
	comp=Z,380nm,17.6s						
CN2	**Changchun**	**35.43**	**334**	*e*P	**P**	**22 02 18.3**	**+1.3**
CN2				*e*S	**S**	**22 07 51.3**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.8s						
CN2				pmax	pmax		
	comp=Z,100nm,10.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
BJT	**Baijiatuau**	**37.65**	**321**	P	**P**	**22 02 35.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuau**	**37.65**	**321**	P	**P**	**22 02 35.2**	**-0.8**
BJI	**Beijing**	**37.66**	**321**	P	**P**	**22 02 35.8**	**-0.3**
BJI				pP	**sP**	**22 02 39.3**	**+2.9**
BJI				sP	**pP**	**22 02 40.8**	**+4.5**
BJI				PP	**PnPn**	**22 04 03.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ENH	**Enshi**	**37.97**	**303**	P	**P**	**22 02 38.2**	**-0.7**
ENH				IAmb	IAmb	22 02 53.5	
	comp=Z,23nm,1.0s						
KLR	**Kul'dur**	**37.97**	**345**	P	**P**	**22 02 37.7**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=309,slow=8.0,SNR=7.1						
KLR	**Kul'dur**	**37.97**	**345**	⇑*e*P	**P**	**22 02 37.0**	**-1.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AS31	**Alice Springs**	**38.46**	**198**	P	**P**	**22 02 42.8**	**-0.3**
ASAR	**Alice Springs**	**38.46**	**198**	P	**P**	**22 02 42.6**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=23,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**38.46**	**198**	P	**P**	**22 02 41.9**	**-1.2**
ASAR	**Alice Springs**	**38.46**	**198**	P	**P**	**22 02 41.9**	**-1.2**
XAN	**Xi'an**	**39.74**	**308**	P	**P**	**22 02 53.0**	**-0.7**
XAN				pP	sP	22 02 56.5	+2.4
XAN				S	**S**	**22 08 54.3**	**-3.5**
XAN				pmax	pmax		
	comp=Z,13nm,1.2s						
XAN				LR	LR		
	comp=Z,210nm,19.8s						
XAN				LR	LR		
	comp=Z,390nm,19.0s						
XAN				LR	LR		
	comp=Z,610nm,21.4s						
DZM	**Mont Dzumac**	**40.18**	**150**	P	**P**	**22 02 58.3**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=278,slow=22,SNR=1.8						
DZM	**Mont Dzumac**	**40.18**	**150**	P	**P**	**22 02 57.5**	**+0.1**
DZM				IAmb	IAmb	22 03 17.4	
	comp=Z,70nm,1.8s						
SKNT	**Sakolnakorn**	**40.92**	**281**	P	**P**	**22 03 05.4**	**+1.7**
PEA0B	**Petropavlovsk-**	**40.96**	**11**	P	**P**	**22 03 03.5**	**0.0**
PEA0B				pmax	pmax		
	comp=Z,21nm,1.3s						
PEA0B	**Petropavlovsk-**	**40.96**	**11**	P	**P**	**22 03 03.5**	**0.0**
PETK	**Petropavlovsk-**	**40.96**	**11**	P	**P**	**22 03 03.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=172,slow=5.1,SNR=3.9						
PETK				LR	LR	22 20 49.8	
	comp=Z,195nm,19.7s,baz=196,slow=37						
PETK	**Petropavlovsk-**	**40.96**	**11**	P	**P**	**22 03 02.9**	**-0.6**
PETK	**Petropavlovsk-**	**40.96**	**11**		**P**	**22 03 02.9**	**-0.6**
HHC	**Hu-ho-hao-te**	**41.01**	**319**	*e*P	**P**	**22 03 04.8**	**+0.5**
HHC				S	**S**	**22 09 16.0**	**-0.7**
HHC				ScS	**ScS**	**22 13 02.5**	**-7.1**
HHC				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,4.9s						
HHC				LR	LR		
	comp=Z,330nm,14.2s						
HHC				LR	LR		
	comp=Z,390nm,14.7s						
HHC				LR	LR		
	comp=Z,410nm,15.4s						
UGM	**Wanagama**	**41.14**	**241**	P	**P**	**22 03 05.5**	**0.0**
BTO	**Baotou**	**41.89**	**318**	*e*P	**P**	**22 03 15.0**	**+3.6**
BTO				S	**S**	**22 09 35.5**	**+5.8**
BTO				pmax	pmax		
	comp=Z,47nm,1.9s						
BTO				pmax	pmax		
	comp=Z,330nm,7.6s						
BTO				LR	LR		
	comp=Z,960nm,19.4s						
BTO				LR	LR		
	comp=Z,770nm,21.7s						
BTO				LR	LR		
	comp=Z,2μm,22.2s						
HIA	**Hailar**	**42.16**	**334**	P	**P**	**22 03 13.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,17nm,1.1s						
HIA	**Hailar**	**42.16**	**334**	P	**P**	**22 03 13.2**	**-0.2**
KMI	**Kunming**	**42.62**	**293**	⇑P	**P**	**22 03 19.0**	**+1.2**
KMI				sP	pwP	22 03 28.3	-1.9
KMI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KMI				LR	LR		
	comp=Z,170nm,18.7s						
KMI				LR	LR		
	comp=Z,250nm,20.3s						
KMI				LR	LR		
	comp=Z,270nm,24.9s						
JOHN	**Johnston Islan**	**42.85**	**79**	P	**P**	**22 03 19.7**	**+0.3**
CD2	**Chengdu**	**42.88**	**301**	P	**P**	**22 03 18.5**	**-1.1**
CD2				pmax	pmax		
	comp=Z,30nm,1.2s						
PSA00	**Pilbara Seismi**	**43.09**	**217**	P	**P**	**22 03 21.6**	**+0.4**
PSA00				IAmb	IAmb	22 03 52.6	
	comp=Z,61nm,1.6s						
ZEA	**Zeya**	**43.25**	**344**	*e*P	**P**	**22 03 21.5**	**-0.7**
ZEA				*e*		22 09 51.5	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,16.0s						
ARMA	**Armidale**	**43.56**	**173**	P	**P**	**22 03 24.4**	**-0.6**
ARMA				IAmb	IAmb	22 03 57.8	
	comp=Z,52nm,1.8s						
LZH	**Lanzhou**	**44.36**	**309**	⇑P	**P**	**22 03 32.5**	**+0.9**
LZH				sP	pwP	22 03 46.5	+2.5
LZH				SS	SS	22 13 14.8	-10
LZH				pmax	pmax		
	comp=Z,32nm,1.1s						
LZH				pmax	pmax		
	comp=Z,54nm,4.3s						
LZH				LR	LR		
	comp=Z,190nm,18.4s						
LZH				LR	LR		
	comp=Z,190nm,17.9s						
LZH				LR	LR		
	comp=Z,170nm,19.5s						
STKA	**Stephens Creek**	**44.92**	**186**	P	**P**	**22 03 34.8**	**-1.0**
	comp=Z,4.4nm,0.8s,baz=14,slow=17,SNR=5.2						
STKA	**Stephens Creek**	**44.92**	**186**	P	**P**	**22 03 35.0**	**-0.8**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
STKA	**Stephens Creek**	**44.92**	**186**	P	**P**	**22 03 35.0**	**-0.8**
CM09	**Chiang Mai Arr**	**45.67**	**283**	P	**P**	**22 03 45.1**	**+3.1**
	comp=Z,7.1nm,0.6s						
CM09	**Chiang Mai Arr**	**45.67**	**283**	P	**P**	**22 03 45.1**	**+3.1**
	comp=Z,7.1nm,0.6s						
CM04	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**22 03 43.9**	**+1.8**
	comp=Z,87nmcomp=Z,9.4nm,0.7s						
CM04	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**22 03 44.0**	**+1.8**
	comp=Z,87nmcomp=Z,9.4nm,0.7s						
CM01	**Chiang Mai Arr**	**45.70**	**283**	P	**P**	**22 03 44.8**	**+2.5**
	comp=Z,6.7nm,0.7s						
CM01	**Chiang Mai Arr**	**45.70**	**283**	P	**P**	**22 03 44.9**	**+2.5**
	comp=Z,6.7nm,0.7s						
CM05	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 44.2**	**+1.8**
	comp=Z,5.0nm,0.6s						
CM05	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 44.3**	**+1.8**
	comp=Z,5.0nm,0.6s						
CM31	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 44.9**	**+2.4**
CM31	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 41.9**	**-0.5**
CM31				IAmb	IAmb	22 03 46.4	
	comp=Z,41nm,1.6s						
CMAR	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 42.6**	**+0.2**
	comp=Z,3.4nm,0.6s,baz=87,slow=6.3,SNR=12						
CMAR				LR	LR	22 22 20.5	
	comp=Z,173nm,21.3s,baz=126,slow=36						
CMAR	**Chiang Mai Arr**	**45.71**	**283**	P	**P**	**22 03 41.8**	**-0.6**
CM15	**Chiang Mai Arr**	**45.73**	**283**	P	**P**	**22 03 44.3**	**+1.7**
	comp=Z,7.1nm,0.6s						
CM15	**Chiang Mai Arr**	**45.73**	**283**	P	**P**	**22 03 44.0**	**+1.4**
	comp=Z,7.1nm,0.6s						
CM13	**Chiang Mai Arr**	**45.75**	**283**	P	**P**	**22 03 44.2**	**+1.5**
	comp=Z,66nmcomp=Z,6.0nm,0.7s						
CM13	**Chiang Mai Arr**	**45.75**	**283**	P	**P**

comp=Z,6.0nm,1.2s
MORW Morawa 51.05 214 P **P 22 04 23.8 +0.5**
MORW IAmb IAmb 22 04 30.1
comp=Z,41nm,1.6s
SHL Shillong 52.44 292 P **P 22 04 33.7 -0.4**
SHL pmax pmax
comp=Z,16nm,1.2s
SHL Shillong 52.44 292 P **P 22 04 33.7 -0.4**
LSA Lhasa 53.40 297 P **P 22 04 41.6 +0.1**
LSA pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 53.40 297 P **P 22 04 41.5 +0.1**
BILL Bilibino 56.45 9⇓ *e*P **P 22 05 02.7 +0.4**
BILL *e* 22 05 16.0
BILL *e* 22 06 07.0
BILL *e* 22 07 04.9
BILL pmax pmax
comp=Z,62nm,2.5s
BILL MLR MLR
comp=Z,101nm,19.0s
BILL Bilibino 56.45 9 P **P 22 05 02.1 -0.3**
BILL IAmb IAmb 22 05 17.2
comp=Z,36nm,1.3s
WMQ Urumqi 58.44 314 *e*P **P 22 05 20.0 +3.1**
WMQ pmax pmax
comp=Z,20nm,0.8s
WMQ pmax pmax
comp=Z,17nm,3.7s
WMQ LR LR
comp=Z,120nm,14.9s
WMQ LR LR
comp=Z,170nm,19.5s
WMQ LR LR
comp=Z,200nm,17.3s
DGZ Jazzator, Alta 60.07 320⇓ *e*P **P 22 05 29.2 +1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 62.77 316 P **P 22 05 46.7 +0.3**
MK31 pmax pmax
comp=Z,11nm,1.4s
MK31 Makanchi Array 62.77 316 P **P 22 05 46.7 +0.3**
MKAR Makanchi Array 62.77 316 P **P 22 05 46.6 +0.2**
comp=Z,2.4nm,0.5s,baz=92,slow=7.8,SNR=19
MKAR Makanchi Array 62.77 316 *ce*P P 22 05 51.2 +4.9
MKAR pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 62.80 324 **P 22 05 46.6 +0.3**
ZALV Zalesovo Beam 62.80 324 P **P 22 05 46.4 +0.1**
comp=Z,4.6nm,0.6s,baz=105,slow=6.8,SNR=13
ZALV LR LR 22 34 18.3
comp=Z,201nm,19.5s,baz=120,slow=37
ZALV Zalesovo Beam 62.80 324 P **P 22 05 46.3 -0.1**
O18K Koktuh Hills 63.22 29 P **P 22 05 50.8 +1.7**
baz=249
OHAK Old Harbor 63.27 32 **P 22 05 49.7 +0.3**
SVW2 Sparrevohn 63.51 27 P **P 22 05 52.0 +1.1**
SVW2 IAmb IAmb 22 05 52.9
comp=Z,25nm,1.7s
KDAK Kodiak Island 63.80 32 P **P 22 05 53.7 +0.7**
comp=Z,4.2nm,0.6s,baz=186,slow=4.8,SNR=2.8
KDAK Kodiak Island 63.80 32 P **P 22 05 53.9 +1.0**
KDAK pmax pmax
comp=Z,13nm,1.2s
KDAK Kodiak Island 63.80 32 P **P 22 05 53.9 +1.0**
KDAK IAmb IAmb 22 06 17.7
comp=Z,13nm,1.2s
N19K Bonanza Creek 63.90 28 P **P 22 05 55.6 +1.9**
baz=249
SHLS Shalkode 64.24 312 *e*P **P 22 05 55.2 -1.1**
comp=Z,18nm,1.6s,baz=312
SHLS Shalkode 64.24 312 *e*P **P 22 05 55.1 -1.2**
SHLS pmax pmax
comp=Z,18nm,1.6s
L19K White Mountain 64.24 26 P **P 22 05 57.4 +1.6**
baz=248
UZB Uzynbulak 64.56 312 *e*P **P 22 05 57.1 -1.3**
comp=Z,23nm,2.8s,baz=312
UZB Uzynbulak 64.56 312 *e*P **P 22 05 57.1 -1.3**
UZB pmax pmax
comp=Z,23nm,2.8s
PALK Pallekele 64.61 272 P **P 22 05 59.4 +0.4**
baz=174,slow=9.2
PALK Pallekele 64.61 272 P **P 22 05 59.0 -0.1**
PALK pmax pmax
comp=Z,41nm,1.3s
PALK Pallekele 64.61 272 P **P 22 05 59.0 -0.1**
SEM Semipalatinsk 64.74 320 *e*P **P 22 05 57.4 -2.1**
baz=320
SEM Semipalatinsk 64.74 320 *e*P **P 22 05 57.4 -2.1**
KPKS Kokpek 64.83 312 *e*P **P 22 05 59.5 -0.7**
baz=312
KPKS Kokpek 64.83 312 *e*P **P 22 05 59.4 -0.7**
SATY Saty 65.00 312 *e*P **P 22 06 01.6 +0.4**
baz=312
SATY Saty 65.00 312 *e*P **P 22 06 01.6 +0.4**
CNPM China Poot 65.01 30 P **P 22 06 01.4 +0.5**
K20K Telida 65.02 25 P **P 22 06 02.6 +1.8**
baz=248
HYB Hyderabad 65.14 283 *i* P **P 22 06 03.0 +0.5**
TDK Taldyqorghan 65.19 314 *e*P **P 22 06 03.3 +0.9**
baz=314
TDK Taldyqorghan 65.19 314 *e*P **P 22 06 03.2 +0.9**
J20K Nowinta River 65.29 25 P **P 22 06 04.0 +1.5**
baz=248
PPLA Purkeypile 65.65 26 P **P 22 06 05.9 +0.8**
PPLA IAmb IAmb 22 06 20.6
comp=Z,18nm,1.2s
MDOK Medeo 66.00 312 *e*P **P 22 06 07.1 -0.7**
baz=312
MDOK Medeo 66.00 312 *e*P **P 22 06 07.0 -0.7**
IMAR Indian Mountai 66.14 23 P **P 22 06 08.3 +0.3**
RC01 Rabbit Creek A 66.18 29 P **P 22 06 08.6 +0.3**
KTH Kantishna Hill 66.41 26 **P 22 06 10.3 +0.4**
KTH IAmb IAmb 22 06 24.9
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 66.56 25 P **P 22 06 11.8 +1.0**
baz=251
BPAW Bear Paw Mtn. 66.56 25 **P 22 06 11.1 +0.3**
BPAW IAmb IAmb 22 06 13.7
comp=Z,10nm,1.2s
KUU Kurty 66.56 312 *e*P **P 22 06 10.3 -1.0**
comp=Z,52nm,1.9s,baz=312
KUU Kurty 66.56 312 *e*P **P 22 06 10.2 -1.0**
KUU pmax pmax
comp=Z,52nm,1.9s
TRF Thorofare Moun 66.65 26 P **P 22 06 12.1 +0.5**
TRF IAmb IAmb 22 06 13.8
comp=Z,27nm,1.6s
GHO Glory Hole Cre 66.75 28 P **P 22 06 12.9 +0.8**
GHO IAmb IAmb 22 06 36.0
comp=Z,8.0nm,0.9s
MLY Manley 66.97 24 P **P 22 06 14.1 +0.7**
baz=251
MLY Manley 66.97 24 P **P 22 06 13.8 +0.3**
NRIK Noril'sk 67.04 341 P **P 22 06 13.1 -0.6**
comp=Z,7.1nm,0.6s,baz=110,slow=8.6,SNR=10
NRIK Noril'sk 67.04 341 P **P 22 06 13.4 -0.3**
NRIK pmax pmax
comp=Z,12nm,1.0s
NRIK Noril'sk 67.04 341 P **P 22 06 13.4 -0.3**
NRIK IAmb IAmb 22 06 27.8
comp=Z,12nm,0.9s
SCM Sheep Creek Mo 67.50 28 P **P 22 06 17.5 +0.6**
SCM pmax pmax
comp=Z,34nm,1.2s
SCM Sheep Creek Mo 67.50 28 P **P 22 06 17.5 +0.6**
WAT6 Susitna Watana 67.51 27 P **P 22 06 17.4 +0.4**
baz=254
I23K Minto, Yukon-K 67.56 24 P **P 22 06 17.7 +0.6**
baz=252
I23K Minto, Yukon-K 67.56 24 P **P 22 06 18.1 +1.0**
I23K IAmb IAmb 22 06 32.6
comp=Z,28nm,1.6s
SGDS Sogindy 67.78 312 *e*P **P 22 06 18.3 -0.7**
baz=312
SGDS Sogindy 67.78 312 *e*P **P 22 06 18.2 -0.7**
AAK Ala-Archa 67.84 311⇑ *e*P **P 22 06 19.9 +0.4**
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 67.84 311 P **P 22 06 19.8 +0.3**
CCB Clear Creek Bu 68.05 25 P **P 22 06 19.7 -0.5**
CCB IAmb IAmb 22 06 21.1
comp=Z,21nm,1.7s
BTLS Baital 68.28 313 *e*P **P 22 06 20.9 -1.1**
comp=Z,2.6nm,0.5s,baz=313
BTLS Baital 68.28 313 *e*P **P 22 06 20.9 -1.1**
BTLS pmax pmax
comp=Z,3.0nm,0.5s
HDA Harding Lake 68.34 25 P **P 22 06 23.3 +1.3**
baz=255
HDA Harding Lake 68.34 25 P **P 22 06 22.2 +0.2**
HDA IAmb IAmb 22 06 23.6
comp=Z,13nm,1.5s
H24K Noodor Dome 68.36 24 P **P 22 06 23.2 +1.0**
baz=253
KAIM Kayak Island 68.45 30 P **P 22 06 23.6 +0.8**
IL31 68.46 25 P **P 22 06 21.8 -1.0**
IL31 IAmb IAmb 22 06 23.2
comp=Z,26nm,1.6s
ILAR Eielson Array 68.46 25 P **P 22 06 21.9 -0.9**
comp=Z,1.5nm,0.5s,baz=256,slow=4.7,SNR=7.6
ILAR Eielson Array 68.46 25 P **P 22 06 22.0 -0.8**
ILAR Eielson Array 68.46 25 P **P 22 06 22.0 -0.8**
BMRM Bremner River 68.57 29 P **P 22 06 25.7 +2.1**
baz=258
BMRM Bremner River 68.57 29 P **P 22 06 24.0 +0.4**
BMRM IAmb IAmb 22 07 01.3
comp=Z,17nm,1.2s
N25K Chitina, Valde 68.71 29 P **P 22 06 25.6 +1.1**
baz=258
NIL Nilore 68.77 301 P **P 22 06 25.0 -0.4**
NIL pmax pmax
comp=Z,41nm,1.1s
NIL Nilore 68.77 301 P **P 22 06 25.0 -0.4**
GLB Gilahina Butte 69.04 29 P **P 22 06 27.0 +0.5**
GLB IAmb IAmb 22 06 29.6
comp=Z,27nm,1.5s
RIDG Independent Ri 69.07 26 P **P 22 06 27.9 +1.2**
baz=257
RIDG Independent Ri 69.07 26 P **P 22 06 26.6 0.0**
SCRK Sand Creek 69.49 26 P **P 22 06 30.0 +0.6**
baz=258
FYU Fort Yukon 69.59 23 P **P 22 06 30.3 +0.5**
MESA MESA 69.71 30 P **P 22 06 31.0 +0.1**
BMAR Burnt Mountain 70.06 23 P **P 22 06 34.1 +1.4**
CTGM Chitina Glacie 70.14 30 P **P 22 06 34.7 +1.2**
CTGM IAmb IAmb 22 06 36.9
comp=Z,32nm,1.5s
TABL Table Mountain 70.15 30 P **P 22 06 34.6 +1.0**
TABL IAmb IAmb 22 06 37.0
comp=Z,12nm,0.7s
L27K Beaver Creek, 70.26 27 P **P 22 06 35.1 +1.1**
baz=260
L27K Beaver Creek, 70.26 27 P **P 22 06 34.5 +0.5**
BCAR Beaver Creek A 70.28 27 P **P 22 06 34.7 +0.5**
K27K Chicken 70.33 26 P **P 22 06 35.9 +1.6**
baz=259
K27K Chicken 70.33 26 P **P 22 06 35.2 +0.8**
KK31 Karatay Array 70.77 311 P **P 22 06 37.4 -0.1**
KK31 pmax pmax
comp=Z,18nm,1.3s
KK31 Karatay Array 70.77 311 P **P 22 06 37.4 -0.1**
KK31 IAmb IAmb 22 06 53.4
comp=Z,18nm,1.3s
KKAR Karatay Array 70.77 311 P **P 22 06 37.2 -0.3**
KKAR pmax pmax
comp=Z,18nm,1.3s
KKAR Karatay Array 70.77 311 **P 22 06 37.8 +0.3**
KKAR Karatay Array 70.77 311 P **P 22 06 37.2 -0.3**
KKAR IAmb IAmb 22 06 53.3
comp=Z,18nm,1.3s
EGAK Eagle 70.86 26 P **P 22 06 39.2 +1.6**
baz=260
EGAK Eagle 70.86 26 **P 22 06 38.3 +0.8**
EGAK IAmb IAmb 22 06 53.0
comp=Z,13nm,1.2s
GAR Garm 70.98 307 P **P 22 06 39.0 +0.1**
BRVK Borovoye 71.20 322⇑ *e*P **P 22 06 40.4 +0.5**
BRVK pmax pmax
comp=Z,44nm,2.5s
BRVK Borovoye 71.20 322 P **P 22 06 40.3 +0.5**
BRVK IAmb IAmb 22 06 55.6
comp=Z,15nm,1.0s
DAWY Dawson 71.50 27 P **P 22 06 42.2 +0.6**
TAS Tashkent 71.70 309 P **P 22 06 43.9 +0.7**
TAS pmax pmax
comp=Z,32nm,0.4s
TAS Tashkent 71.70 309 P **P 22 06 43.9 +0.7**
CHGR Chuyangaron 71.90 307 P **P 22 06 44.9 +0.4**
HYT Haines Junctio 71.98 30 P **P 22 06 45.8 +1.2**
HYT IAmb IAmb 22 07 00.9
comp=Z,16nm,1.0s
KBL Kabul 72.21 302 P **P 22 06 47.1 +0.5**
KBL pmax pmax
comp=Z,44nm,1.4s
KBL Kabul 72.21 302 P **P 22 06 47.1 +0.5**
EPYK Eagle Plains 72.91 24 P **P 22 06 50.8 +0.9**
baz=264
EPYK Eagle Plains 72.91 24 P **P 22 06 50.5 +0.6**
EPYK IAmb IAmb 22 06 53.0
comp=Z,33nm,1.7s
BESE Bessie Mountai 73.16 32 **P 22 06 52.8 +1.2**
BESE IAmb IAmb 22 06 55.3
comp=Z,18nm,1.3s
WHY Whitehorse 73.25 30 **P 22 06 53.0 +0.8**
WHY IAmb IAmb 22 06 56.0
comp=Z,33nm,1.6s
JIS Juneau Island 73.40 33 P **P 22 06 54.2 +1.4**
JIS IAmb IAmb 22 07 08.5
comp=Z,15nm,1.2s
INK Inuvik 74.33 22 P **P 22 06 58.5 +0.4**
comp=Z,2.0nm,0.7s,baz=283,slow=6.0,SNR=6.6
INK Inuvik 74.33 22 P **P 22 06 58.5 +0.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 74.33 22 P **P 22 06 59.8 +1.7**
baz=266
INK Inuvik 74.33 22 P **P 22 06 58.5 +0.4**
DLBC Dease Lake 75.69 33 P **P 22 07 06.9 +0.6**
DLBC IAmb IAmb 22 07 10.2
comp=Z,35nm,1.4s
SVE Sverdlovsk 76.75 326 *e*P **P 22 07 13.0 +0.7**
SVE pmax pmax
comp=Z,42nm,1.6s
C36M Paulatuk 77.76 21 P **P 22 07 17.8 +0.2**
ABKAR Abkulak array 77.80 318 **P 22 07 17.6 -0.7**
ABKAR Abkulak array 77.80 318 **P 22 07 17.8 -0.5**
ABKAR IAmb IAmb 22 07 33.6
comp=Z,26nm,1.6s
HRA Herat 77.82 303 P **P 22 07 19.1 +0.1**
HRA IAmb IAmb 22 07 34.5
comp=Z,24nm,1.1s
ARU Arti 77.93 325 *d i*P **P 22 07 18.5 -0.4**
ARU PPP PPP 22 11 58.3
ARU S **S 22 17 13.7 +1.6**
ARU SS **SS 22 22 10.5 -2.0**
ARU pmax pmax
comp=Z,36nm,1.8s
ARU MLR MLR
comp=Z,200nm,18.0s
ARU Arti 77.93 325 P **P 22 07 18.9 0.0**
ARU IAmb IAmb 22 07 33.6
comp=Z,22nm,1.1s
NLWA Neilton Lookou 80.44 44 P **P 22 07 34.0 +1.2**
NLWA IAmb IAmb 22 07 37.0
comp=Z,21nm,1.4s
GEYT Alibeck 80.61 307 P **P 22 07 34.0 +0.1**
comp=Z,2.5nm,0.6s,baz=211,slow=8.3,SNR=5.3
GEYT LR LR 22 46 05.9
comp=Z,98nm,21.3s,baz=225,slow=38
HUMO Hull Mountain 81.87 48 **P 22 07 41.6 +1.1**
LON Longmire 81.93 44 P **P 22 07 41.9 +1.1**
LON pmax pmax
comp=Z,19nm,1.8s
LON Longmire 81.93 44 P **P 22 07 41.9 +1.1**
YBH Yreka Blue Hor 82.21 49 P **P 22 07 43.8 +1.4**
comp=Z,0.9nm,0.4s,baz=137,slow=1.7,SNR=5.4
YBH Yreka Blue Hor 82.21 49 P **P 22 07 43.8 +1.4**
YBH pmax pmax
comp=Z,12nm,1.5s
YBH Yreka Blue Hor 82.21 49 **P 22 07 43.8 +1.4**
WDC Whiskeytown Da 82.55 50 P **P 22 07 44.8 +0.7**
WDC pmax pmax
comp=Z,16nm,1.5s
WDC Whiskeytown Da 82.55 50 P **P 22 07 44.8 +0.7**
WDC IAmb IAmb 22 07 47.1
comp=Z,16nm,1.5s
YKA Yellowknife Ar 82.70 28 P **P 22 07 44.8 +0.4**
comp=Z,1.2nm,0.6s,baz=282,slow=4.7,SNR=8.5
YKA Yellowknife Ar 82.70 28 *ce*P **P 22 07 45.2 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 82.70 28 P **P 22 07 45.1 +0.7**
PINE Pine Mountain 83.10 47 **P 22 07 48.3 +1.1**
B08A Colville Reser 83.27 42 **P 22 07 48.4 +0.7**
B08A IAmb IAmb 22 07 49.9
comp=Z,30nm,1.8s
ORV Oroville 83.53 51 P **P 22 07 50.3 +1.1**
ORV pmax pmax
comp=Z,21nm,1.7s
ORV Oroville 83.53 51 **P 22 07 50.3 +1.1**
ORV IAmb IAmb 22 07 52.4
comp=Z,21nm,1.7s
AFDM Forest Hills D 84.05 52 **P 22 07 53.3 +1.4**
AFDM IAmb IAmb 22 07 55.5
comp=Z,18nm,1.6s
UOSS Minazif 84.60 294 P **P 22 07 55.1 +0.1**
NEW Newport 84.73 42 P **P 22 07 56.0 +0.9**
comp=Z,3.5nm,0.6s,baz=293,slow=3.9,SNR=9.1
NEW Newport 84.73 42 P **P 22 07 56.1 +0.9**
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 84.73 42 P **P 22 07 56.5 +1.2**
baz=284
NEW Newport 84.73 42 **P 22 07 56.0 +0.9**
SPITS Spitsbergen Ar 84.76 351 P **P 22 07 54.8 0.0**
SPITS pmax pmax
comp=Z,24nm,1.5s
KBS Kingsbay 84.88 352 P **P 22 07 55.8 +0.5**
KBS pmax pmax
comp=Z,9.0nm,1.1s
KBS Kingsbay 84.88 352 P **P 22 07 55.8 +0.5**
KBS IAmb IAmb 22 08 31.6
comp=Z,9.2nm,1.1s
BELG Belogornoye 84.92 323⇑ *e*P **P 22 07 55.6 -0.4**
BELG pmax pmax
comp=Z,1.0nm,1.0s
WVOR Wild Horse Val 85.03 48 P **P 22 07 58.2 +1.2**
WVOR pmax pmax
comp=Z,12nm,1.4s
WVOR Wild Horse Val 85.03 48 P **P 22 07 58.2 +1.2**
WVOR IAmb IAmb 22 08 00.3
comp=Z,12nm,1.4s
PAHR Pah Rah Range 85.09 51 P **P 22 07 58.3 +0.9**
BMO Blue Mountains 85.41 45 P **P 22 07 59.2 +0.4**
BMO pmax pmax
comp=Z,17nm,1.5s
BMO Blue Mountains 85.41 45 **P 22 07 59.2 +0.4**
BMO IAmb IAmb 22 08 02.0
comp=Z,17nm,1.4s
EDM Edmonton 85.77 36 P **P 22 08 00.9 +0.6**
EDM pmax pmax
comp=Z,58nm,1.8s
EDM Edmonton 85.77 36 **P 22 08 00.9 +0.6**
NVAR Mina Array Bea 86.20 52 P **P 22 08 04.3 +1.3**
comp=Z,1.1nm,0.6s,baz=271,slow=5.2,SNR=6.9
NVAR Mina Array Bea 86.20 52 P **P 22 08 03.9 +0.9**
KVN Kaiserville 86.21 51 P **P 22 08 03.5 +0.5**
KVN pmax pmax
comp=Z,18nm,1.8s
KVN Kaiserville 86.21 51 P **P 22 08 03.5 +0.5**
KVN IAmb IAmb 22 08 05.7
comp=Z,18nm,1.8s
NV11 Mina Array Sit 86.31 52 P **P 22 08 04.3 +0.8**
NV11 IAmb IAmb 22 08 06.2
comp=Z,15nm,1.6s
APA Apatity 86.40 339⇑ *i*P P 22 08 08.8 +5.7
APA *i* 22 11 30.0
APA pmax pmax
comp=Z,5.0nm,1.2s
APA MLR MLR
comp=Z,200nm,18.0s
WALA Waterton Lakes 86.58 40 **P 22 08 06.0 +1.4**
KLMR Klimovskoe 86.61 332 *e*P **P 22 08 05.9 +1.7**
KLMR pmax pmax
comp=Z,18nm,1.7s
KLMR Klimovskoe 86.61 332 *e*P **P 22 08 05.9 +1.7**
KLMR AMP 22 08 18.0
comp=Z,18nm,1.7s
MFID Camas Ranch 86.80 46 **P 22 08 06.4 +0.7**
MFID IAmb IAmb 22 08 09.0
comp=Z,30nm,1.6s
TPH Tonopah 87.11 52 P **P 22 08 08.7 +1.2**
TPH pmax pmax
comp=Z,91nm,1.8s
TPH Tonopah 87.11 52 P **P 22 08 08.7 +1.2**
HLID Hailey 87.75 46 **P 22 08 11.6 +1.2**
HLID IAmb IAmb 22 08 13.8
comp=Z,18nm,1.6s
ELK Elko 87.92 49 P **P 22 08 12.2 +0.9**
ELK pmax pmax
comp=Z,27nm,1.6s
ELK Elko 87.92 49 **P 22 08 12.2 +0.9**
ARCES ARCESS Array B 87.96 342 P **P 22 08 10.1 -0.5**
comp=Z,1.3nm,0.7s,baz=44,slow=6.6,SNR=4.1
TPNV Topopah Spring 88.15 53 P **P 22 08 13.3 +0.9**
baz=285
R11A Troy Canyon, C 88.29 51 P **P 22 08 14.5 +1.4**
baz=285
MCMT McKenzie Canyo 88.48 44 **P 22 08 14.4 +0.5**
BAR Barrett 88.90 57 P **P 22 08 16.5 +0.7**
BAR IAmb IAmb 22 08 17.9
comp=Z,26nm,1.6s
BOZ Bozeman (W) 89.07 43 P **P 22 08 17.3 +0.8**
BOZ pmax pmax
comp=Z,21nm,1.8s
BOZ Bozeman (W) 89.07 43 P **P 22 08 17.5 +1.0**
baz=288
BOZ Bozeman (W) 89.07 43 P **P 22 08 17.3 +0.8**
BOZ IAmb IAmb 22 08 19.8
comp=Z,22nm,1.8s
SPUT South Promonto 89.79 48 P **P 22 08 21.1 +1.1**
SPUT IAmb IAmb 22 08 23.4
comp=Z,30nm,1.7s
YHH Holmes Hill 89.84 44 **P 22 08 22.1 +1.7**
YHH IAmb IAmb 22 08 24.4
comp=Z,17nm,1.5s
DUG Dugway, Tooele 89.85 49 P **P 22 08 21.5 +1.2**
DUG pmax pmax
comp=Z,21nm,1.6s
DUG Dugway, Tooele 89.85 49 P **P 22 08 21.8 +1.5**
baz=287
DUG Dugway, Tooele 89.85 49 **P 22 08 21.5 +1.2**
DUG IAmb IAmb 22 08 23.5
comp=Z,21nm,1.6s
IMW Indian Meadow 90.06 45 P **P 22 08 22.3 +0.9**
IMW IAmb IAmb 22 08 24.2
comp=Z,16nm,1.8s
OBN Obninsk 90.24 327 *de*P **P 22 08 20.1 -1.4**
OBN *i* 22 08 34.3
OBN *e* 22 11 51.4
OBN *i* PPP PPP 22 13 57.2
OBN pmax pmax
comp=Z,7.0nm,1.7s
OBN MLR MLR
comp=Z,63nm,18.0s
HWUT Hardware Ranch 90.33 47 **P 22 08 23.5 +0.9**
HWUT IAmb IAmb 22 08 25.7
comp=Z,13nm,1.4s
KBZ Khabaz 90.45 315 P **P 22 08 23.3 +0.5**
comp=Z,0.6nm,0.5s,baz=124,slow=7.2,SNR=4.7
KBZ LR LR 22 53 19.8
comp=Z,80nm,19.1s,baz=54,slow=38
KIV Kislovodsk 90.52 315 *e*P **P 22 08 22.2 -1.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
RLMT Red Lodge 90.80 43 P **P 22 08 27.3 +2.6**
baz=290
RLMT Red Lodge 90.80 43 P **P 22 08 26.2 +1.5**
VNDA Vanda 90.89 177 P **P 22 08 24.7 +0.7**
VNDA pmax pmax
comp=Z,10.0nm,1.7s
VNDA Vanda 90.89 177 P **P 22 08 24.7 +0.7**
PDAR Pinedale Array 91.38 46 P **P 22 08 27.8 +0.3**
comp=Z,0.3nm,0.5s,baz=119,slow=1.9,SNR=3.7
PDAR LR LR 22 42 09.2
comp=Z,68nm,21.9s,baz=298,slow=31
FFC Flin Flon 91.53 33 P **P 22 08 28.5 +0.9**
FFC pmax pmax
comp=Z,14nm,1.7s
FFC Flin Flon 91.53 33 P **P 22 08 28.5 +0.9**
FFC IAmb IAmb 22 08 30.0
comp=Z,14nm,1.7s
FINES FINESS Array B 92.17 335 P **P 22 08 28.9 -1.5**
comp=Z,3.9nm,0.5s,baz=66,slow=4.7,SNR=23
FINES FINESS Array B 92.17 335 *i* P **P 22 08 29.8 -0.6**

FINES pmax pmax
comp=Z,4.0nm,0.5s
K22A Casper 93.52 45 P 22 08 37.9 +0.6
ANN Anapa 93.75 318⇑ eP P 22 08 36.6 -1.5
ANN pmax pmax
comp=Z,16nm,0.9s
N23A Red Feather La 94.56 46 P P 22 08 45.1 +2.9
baz=292
ANMO Albuquerque 96.32 52⇑ iP P 22 08 51.4 +1.1
ANMO pmax pmax
comp=Z,7.0nm,1.7s
NOA NORSAR Array B 97.98 340 P P 22 08 57.4 +0.4
comp=Z,0.6nm,0.7s,baz=48,slow=4.8,SNR=3.4
BRTR Keskin Array B 98.36 314 LR LR 22 56 38.8
comp=Z,47nm,20.9s,baz=59,slow=37
TORD Torodi Ar. Bea 136.23 305 PKP **PKPdf 22 14 44.5 +1.0**
comp=Z,0.4nm,0.6s,baz=36,slow=2.4,SNR=3.5
AC02 Maricunga 144.21 118 PKPdf 22 14 57.7 -0.6
PB07 IPOC Station P 144.56 109 PKPab 22 14 57.4 +0.3
PB11 IPOC Station P 145.00 106 PKPbc 22 14 57.4 -1.3
PB01 IPOC Station P 145.02 108 PKPbc 22 14 58.8 +0.2
KIC Kosan Boka 145.28 302 ePKIKP **PKPab 22 14 59.8 +0.1**
comp=Z,24nm,0.7s
LVC Limon Verde 145.32 111 PKPbc **PKPdf 22 15 00.7 +0.6**
comp=Z,3.3nm,0.7s,baz=283,slow=7.1,SNR=3.8
LVC Limon Verde 145.32 111 PKIKP **PKPbc 22 14 59.5 -0.4**
LVC Limon Verde 145.32 111 PKPbc 22 14 59.5 -0.4
TIC Toumodi 145.35 303 ePKIKP **PKPdf 22 15 00.3 +0.3**
LIC Lamto 145.59 302 ePKIKP **PKPdf 22 15 00.2 -0.2**
comp=Z,140nm,1.8s
LPAZ La Paz 146.64 100 PKPbc **PKPbc 22 15 04.9 +0.4**
comp=Z,1.4nm,0.5s,baz=319,slow=3.0,SNR=7.9
LPAZ La Paz 146.64 100 PKP2 **PKPdf 22 15 03.2 +0.3**
LPAZ La Paz 146.64 100 PKPdf 22 15 03.2 +0.3
SAML Samuel 150.86 85 PKIKP **PKPdf 22 15 08.5 -0.5**
SAML Samuel 150.86 85 PKPdf 22 15 08.5 -0.5
SIV San Ignacio 153.43 100 PKPbc **PKPbc 22 15 19.8 -0.6**
comp=Z,0.7nm,0.5s,baz=299,slow=2.2,SNR=3.9

*JMA **25** 22:23:08.6±0.2,30.°11N×139.°78E,h388km±4km,M3.5*
*IDC **25** 22:23:10.8±1.2,30.°04N×139.°47E,h347km±21km,mb3.1/3,mb1 3.1/9,mb1mx2.8/38,mbtmp3.9/9,Error ellipse: s-maj=64.0km s-min=14.7km az=76.0*
ISC 25 22:23:10.7±0.8,30.°14N±0.°07×139.°7E±0.°1,h350km,n27,σ0§94/34,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.97**	**2**	P	**Pn**	**22 24 11.2**	**+1.5**
JHJ	**Hachijo jima 2**	**2.98**	**2**	P	**Pn**	**22 24 10.8**	**+1.0**
	13nm,0.3s,baz=194,slow=24,SNR=1.4						
JHJ				S	**S**	**22 24 56.7**	**-0.6**
	15nm,0.3s,baz=74,slow=23,SNR=6.5						
CBIJ	**Chichi jima**	**3.75**	**143**	P	**Pn**	**22 24 17.3**	**0.0**
CBIJ				eS	**S**	**22 25 10.5**	**-0.4**
JCJ	**Chichijima**	**3.75**	**143**	P	**Pn**	**22 24 17.6**	**+0.3**
	11nm,0.3s,baz=353,slow=19,SNR=12						
JCJ				S	**S**	**22 25 09.4**	**-1.5**
	53nm,0.3s,baz=213,slow=23,SNR=18						
JHH2	**Haha-jima-NKT2**	**4.13**	**147**	P	**Pn**	**22 24 21.0**	**-0.1**
JHH2				S	**S**	**22 25 17.3**	**-0.6**
BSO1	**Boso 1**	**4.64**	**13**	P	**Pn**	**22 24 26.7**	**+1.0**
BSO1				eS	**S**	**22 25 27.3**	**+0.9**
BSO2	**Boso 2**	**4.69**	**11**	S	**S**	**22 25 28.3**	**+0.4**
BSO3	**Boso 3**	**4.71**	**8**	S	**S**	**22 25 28.3**	**+0.1**
BSO4	**Boso 4**	**4.87**	**6**	eS	**S**	**22 25 30.3**	**-1.5**
JIE	**Ise**	**4.93**	**330**	P	**Pn**	**22 24 30.3**	**+0.8**
HMMJ	**Hamamatsu 2**	**4.99**	**341**	P	**Pn**	**22 24 31.1**	**+1.0**
JKN2	**Miekihoku**	**5.00**	**326**	P	**Pn**	**22 24 30.9**	**+0.6**
JNY	**Yasuok**	**5.43**	**344**	P	**Pn**	**22 24 36.4**	**+1.4**
JAO	**Obara**	**5.51**	**339**	P	**Pn**	**22 24 37.1**	**+1.2**
JHU	**Hanno**	**5.71**	**357**	P	**Pn**	**22 24 37.8**	**-0.3**
JHU				eS	**S**	**22 25 48.2**	**-0.8**
JRY	**Ryogami san**	**5.90**	**354**	P	**Pn**	**22 24 40.9**	**+0.6**
JYT	**Yasato**	**6.09**	**4**	S	**S**	**22 25 55.9**	**-0.9**
JAG	**Ashikaga**	**6.27**	**358**	P	**Pn**	**22 24 43.6**	**-1.0**
JHO	**Hitachi**	**6.50**	**6**	P	**Pn**	**22 24 47.1**	**-0.1**
MJAR	**Matsushiro Arr**	**6.50**	**350**	P	**Pn**	**22 24 47.0**	**-0.3**
	0.2nm,0.3s,baz=170,slow=11,SNR=17						
MAT	**Matsushiro**	**6.51**	**350**	P	**Pn**	**22 24 46.8**	**-0.5**
MAT				eS	**S**	**22 26 03.6**	**-2.1**
KSRS	**Korea Array**	**12.19**	**310**	P	**P**	**22 25 54.8**	**+0.4**
	0.2nm,0.3s,baz=122,slow=13,SNR=5.9						
ASAJ	**Asahikawa**	**14.15**	**9**	P	**Pn**	**22 26 19.2**	**+1.7**
	0.5nm,0.3s,baz=218,slow=17,SNR=9.1						
USRK	**Ussuriysk Ar.**	**15.30**	**339**	P	**P**	**22 26 28.8**	**+0.3**
	baz=148,slow=9.3,SNR=8.6						
WRA	**Warramunga Arr**	**50.05**	**187**	P	**P**	**22 31 30.4**	**-0.8**
	0.6nm,0.3s,baz=0.8,slow=7.7,SNR=21						
ASAR	**Alice Springs**	**53.78**	**187**	P	**P**	**22 31 58.2**	**-0.2**
	0.4nm,0.6s,baz=6.0,slow=8.1,SNR=5.1						
FINES	**FINESS Array B**	**74.25**	**333**	P	**P**	**22 34 09.9**	**+0.1**
	2.3nm,1.0s,baz=79,slow=7.2,SNR=4.6						

*IDC **25** 23:01:40.3±1.7,9.°83N×125.°89E,h0km,mb3.6/5,mb1 3.8/5,mb1mx3.5/34,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1,ms1mx2.4/43,Error ellipse: s-maj=185.9km s-min=21.9km az=69.0*
*MAN **25** 23:01:46.0,9.°93N×126.°25E,h16km,mb4.7,ML3.6,MS3.5*
ISC 25 23:01:45.1±1.1,9.°97N±0.°08×126.°5E±0.°1,h35km,n15,σ1§19/12,mb3.5/5,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.78**	**184⇓**	iP	Pn	23 02 22.2	+8.7
BIPH				i S	**Sn**	**23 02 36.0**	**+1.2**
CGP	**Cagayan de Oro**	**2.32**	**230⇑**	iP	**Pn**	**23 02 19.4**	**-1.4**
CGP				i S	**Sn**	**23 02 48.6**	**+0.5**
LLP	**Lapu-Lapu**	**2.49**	**278⇓**	iP	**Pn**	**23 02 23.6**	**+0.4**
LLP				i S	**Sn**	**23 02 52.1**	**-0.4**
DAV	**Davao City (W)**	**3.02**	**197**	Lg	Lg	23 03 10.1	
	baz=232,slow=17,SNR=1.2						
DCPH	**Dipolog City**	**3.38**	**246⇑**	eP	**Pn**	**23 02 36.4**	**+1.0**
RCP	**Roxas**	**3.99**	**294⇑**	eP	**Pn**	**23 02 45.3**	**+1.5**
GUMO	**Guam**	**18.36**	**77**	LR	LR	23 13 23.3	
	comp=Z,22nm,18.3s,baz=266,slow=37						
WRA	**Warramunga Arr**	**30.72**	**165**	P	**P**	**23 07 58.6**	**+1.5**
	0.2nm,0.4s,baz=345,slow=9.3,SNR=1.4						
ASAR	**Alice Springs**	**34.21**	**168**	P	**P**	**23 08 27.1**	**-0.5**
	0.2nm,0.3s,baz=349,slow=7.1,SNR=11						
H11N1	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	23 52 42.3	
	baz=263,slow=74,SNR=28						
H11N2	**WAKE ISLAND Hy**	**40.16**	**71**	T	T	23 52 33.5	
	baz=263,slow=74,SNR=29						
H11N3	**WAKE ISLAND Hy**	**40.17**	**71**	T	T	23 52 40.6	
	baz=263,slow=74,SNR=26						
SONM	**Songino Array**	**41.37**	**340**	P	**P**	**23 09 28.5**	**+0.6**
	0.3nm,0.7s,baz=162,slow=8.2,SNR=2.6						
MKAR	**Makanchi Array**	**52.38**	**323**	P	**P**	**23 10 52.7**	**-1.3**
	0.7nm,0.8s,baz=116,slow=6.6,SNR=4.9						
FINES	**FINESS Array B**	**86.25**	**332**	P	**P**	**23 14 21.9**	**-1.1**
	3.1nm,1.1s,baz=77,slow=6.1,SNR=4.6						

*HEL **25** 23:16:21.4,67.°87N×20.°06E,h0km,ML1.5,Explosion*
UPP 25 23:16:21.9±0.1,67.°83N×20.°19E,h0km,ML1.8, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	23 16 24.8	+0.2
KUA				S	Sg	23 16 26.8	+0.4
KUA	**Kurravaara**	**0.14**	**23**	i P	Pg	23 16 24.8	+0.2
KUA				i S	Sg	23 16 26.8	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	23 16 26.4	+0.2
RATU				S	Sg	23 16 29.8	+0.6
RATU	**Laukkuluspa**	**0.23**	**270**	i P	Pg	23 16 26.4	+0.2
RATU				i S	Sg	23 16 29.8	+0.6
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 16 29.6	+0.1
KOVU				S	Sg	23 16 34.9	+0.2
KOVU	**Salmi**	**0.40**	**358**	i P	Pg	23 16 29.6	+0.1
KOVU				i S	Sg	23 16 34.9	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 16 30.4	+0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	i P	Pg	23 16 30.4	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 16 35.4	-0.2
LANU	**Lannavaara**	**0.71**	**71**	eP	Pg	23 16 35.3	-0.3
	baz=265						
LANU				eS	Sg	23 16 44.6	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 16 36.7	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	i P	Pg	23 16 36.7	-0.2
KIF	**Kilpisjarvi**	**1.21**	**11**	eP	Pg	23 16 43.7	-1.3
KIF	**Kilpisjarvi**	**1.21**	**11**	ePB	Pg	23 16 45.1	+0.2
KIF				MSG		23 16 58.0	
	comp=Z,4.4nm,0.2s						
KIF				eSB	Sb	23 17 01.1	-0.5
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 16 47.0	-1.4
PAJU	**Pajala**	**1.39**	**124**	eP	Pg	23 16 47.1	-1.3
HEF	**Hetta**	**1.43**	**64**	eP	Pn	23 16 47.8	-1.2
HEF	**Hetta**	**1.43**	**64**	ePG	Pn	23 16 48.1	-0.9
	baz=249						
HEF				MSG		23 17 05.2	
	comp=Z,2.0nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	ePG	Pn	23 16 49.5	-0.5
	baz=322						
KLF	**Kolari**	**1.57**	**111**	ePG	Pn	23 16 50.4	-0.5
TOF	**Tornio**	**2.39**	**135**	ePB	Pn	23 17 03.7	+1.5
TOF				MSG		23 17 34.2	
	comp=Z,2.2nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	ePB	Pb	23 17 05.1	-1.7
RNF	**Rovaniemi**	**2.57**	**116**	ePB	Pn	23 17 06.6	+1.8
	baz=298						
RNF				eSG	Sb	23 17 41.0	0.0
OLKF	**Oulanka, Finla**	**3.91**	**108**	eSG	Sg	23 18 23.8	-3.5

UPP 25 23:16:31.3±0.1,67.°81N×20.°21E,h0km,ML2.0, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**19**	P	Pg	23 16 34.5	+0.3
KUA				S	Sg	23 16 36.6	+0.4
RATU	**Laukkuluspa**	**0.23**	**273**	P	Pg	23 16 36.0	+0.3
RATU				S	Sg	23 16 39.1	+0.4
KOVU	**Salmi**	**0.41**	**358**	P	Pg	23 16 39.3	+0.1
KOVU				S	Sg	23 16 44.9	+0.4
NIKU	**Nikkaluokta**	**0.45**	**278**	P	Pg	23 16 40.0	+0.1
PAJU	**Pajala**	**1.37**	**124**	P	Pg	23 16 56.6	-0.9
PAJU				S	Sg	23 17 14.9	-0.4

*IDC **25** 23:20:48.6±1.9,33.°00S×179.°03W,h0km,mb3.9/2,mb1 4.1/3,mb1mx3.7/32,mbtmp3.9/3,ML3.9/1,Error ellipse: s-maj=45.6km s-min=42.8km az=81.0*
*WEL **25** 23:20:54.5±0.7,33.°S±13.°×17.°W±3.°4,h33km,M4.3/14,mB4.9/8,ML4.7/14,MLv4.5/14,Mw(mB)4.2/8,Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
*NEIC **25** 23:20:57.8±0.4,33.°29S±0.°08×179.°4W±0.°2,h43km±12km,mb4.3/4,Error ellipse: s-maj=32.1km s-min=2.6km az=110.0*
ISC 25 23:20:55.5±1.0,33.°25S±0.°08×179.°0W±0.°2,h45km,n50,σ1§45/54,mb4.1/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.08**	**13**	P	**Pn**	**23 21 50.8**	**-4.6**
GLKZ				S	**Sn**	**23 22 40.6**	**-1.2**
RAO	**Raoul Island**	**4.09**	**13**	Pn	**Pn**	**23 21 59.3**	**+3.7**
MXZ	**Matakaoa Point**	**4.83**	**206**	Pn	**Pn**	**23 22 05.8**	**+0.1**
WMGZ	**Waiomatatini S**	**5.03**	**204**	P	**Pn**	**23 22 07.3**	**-1.0**
WMGZ				S	**Sn**	**23 23 06.6**	**+1.4**
PKGZ	**Pakihiroa**	**5.21**	**206**	P	**Pn**	**23 22 10.4**	**-0.5**
PKGZ				S	**Sn**	**23 23 09.6**	**-0.1**
HAZ	**Te Kaha**	**5.21**	**209**	P	**Pn**	**23 22 10.5**	**-0.3**
HAZ				S	**Sn**	**23 23 09.8**	**+0.2**
PUZ	**Puketiti**	**5.31**	**204**	P	**Pn**	**23 22 11.6**	**-0.7**
PUZ				S	**Sn**	**23 23 11.7**	**-0.4**
RUGZ	**Raukumara Rang**	**5.43**	**209**	P	**Pn**	**23 22 15.3**	**+1.3**
TWGZ	**Tauwhareparae**	**5.50**	**206**	P	**Pn**	**23 22 14.8**	**-0.1**
TWGZ				S	**Sn**	**23 23 17.5**	**+0.6**
TKGZ	**Te Karaka**	**5.78**	**205**	P	**Pn**	**23 22 18.4**	**-0.3**
TKGZ				S	**Sn**	**23 23 20.2**	**-3.5**
MWZ	**Matawai**	**5.81**	**208**	P	**Pn**	**23 22 19.7**	**+0.5**
MWZ				S	**Sn**	**23 23 23.2**	**-1.2**
OPRZ	**Ohinepanea**	**5.84**	**217**	P	**Pn**	**23 22 21.2**	**+1.6**
URZ	**Urewera**	**5.92**	**211**	Pn	**Pn**	**23 22 19.3**	**-1.2**
	3.1nm,0.3s,baz=0.0,slow=6.1,SNR=19						
URZ				Sn	**Sn**	**23 23 24.9**	**-2.2**
	4.9nm,0.3s,baz=144,slow=20,SNR=9.0						
URZ	**Urewera**	**5.92**	**211**		**Pn**	**23 22 20.5**	**-0.1**
URZ	**Urewera**	**5.92**	**211**	P	**Pn**	**23 22 20.0**	**-0.5**
URZ				S	**Sn**	**23 23 25.3**	**-1.8**
PRGZ	**Paritu Road**	**6.20**	**203**	P	**Pn**	**23 22 25.5**	**+1.0**
MUGZ	**Murupara**	**6.25**	**212**	P	**Pn**	**23 22 24.5**	**-0.6**
SNGZ	**Shannon Statio**	**6.27**	**207**	P	**Pn**	**23 22 26.1**	**+0.6**
KNZ	**Kokohu**	**6.36**	**204**	P	**Pn**	**23 22 25.8**	**-0.8**
MHGZ	**Mahia Peninsul**	**6.40**	**202**	P	**Pn**	**23 22 25.9**	**-1.3**
RAHZ	**Arahi**	**6.48**	**208**	P	**Pn**	**23 22 30.1**	**+1.7**
MTHZ	**Maungataniwha**	**6.53**	**210**	P	**Pn**	**23 22 30.7**	**+1.6**
ARHZ	**Aropaoanui**	**6.82**	**207**	P	**Pn**	**23 22 33.2**	**+0.2**
BKZ	**Black Stump Fm**	**6.94**	**210**	Pn	**Pn**	**23 22 33.4**	**-1.3**
BKZ	**Black Stump Fm**	**6.94**	**210**	P	**Pn**	**23 22 34.8**	**+0.1**
KWHZ	**Kaweka Forest**	**7.18**	**210**	P	**Pn**	**23 22 37.6**	**-0.5**
HIZ	**Hauiti**	**7.24**	**222**	P	**Pn**	**23 22 42.0**	**+3.2**
NTVZ	**North Tongarir**	**7.25**	**215**	P	**Pn**	**23 22 38.7**	**-0.3**
TMVZ	**Te Maari**	**7.25**	**215**	P	**Pn**	**23 22 39.0**	**-0.1**
OTVZ	**Oturere**	**7.31**	**215**	P	**Pn**	**23 22 39.9**	**+0.1**
SNVZ	**South Ngauruho**	**7.34**	**215**	P	**Pn**	**23 22 40.1**	**-0.1**
KRHZ	**Kereru**	**7.39**	**209**	P	**Pn**	**23 22 39.8**	**-1.1**
FWVZ	**Far West T-bar**	**7.43**	**215**	P	**Pn**	**23 22 41.6**	**-0.1**
BFZ	**Birch Farm**	**8.34**	**206**	Pn	**Pn**	**23 22 53.4**	**-0.4**
AS31	**Alice Springs**	**42.19**	**271**	P	**P**	**23 28 42.8**	**-1.4**
ASAR	**Alice Springs**	**42.19**	**271**	P	**P**	**23 28 43.5**	**-0.7**
	0.5nm,0.4s,baz=109,slow=7.5,SNR=10.0						
ASAR	**Alice Springs**	**42.19**	**271**	P	**P**	**23 28 43.0**	**-1.2**
WR0	**Warramunga Arr**	**43.26**	**276**	P	**P**	**23 28 51.9**	**-0.9**
WR0				IAmb	IAmb	23 29 08.0	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**43.44**	**276**	P	**P**	**23 28 52.7**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=115,slow=7.9,SNR=21						
WRA	**Warramunga Arr**	**43.44**	**276**	P	**P**	**23 28 53.2**	**-1.0**
KNRA	**Kununurra**	**50.14**	**277**	P	**P**	**23 29 46.9**	**+0.2**
QSPA	**South Pole Qui**	**56.87**	**180**	P	**P**	**23 30 37.8**	**+2.3**
QSPA				IAmb	IAmb	23 30 40.6	
	comp=Z,3.5nm,1.2s						
H03S2	**Juan Fernandez**	**79.61**	**124**	T	T	01 01 20.1	
	baz=235,slow=74,SNR=4.7						
H03S1	**Juan Fernandez**	**79.62**	**124**	T	T	01 01 18.0	
	baz=235,slow=74,SNR=5.2						
H03S3	**Juan Fernandez**	**79.62**	**124**	T	T	01 01 18.6	
	baz=235,slow=74,SNR=4.4						
H03N3	**Juan Fernandez**	**79.81**	**123**	T	T	01 01 37.4	
	baz=239,slow=72,SNR=6.4						
H03N2	**Juan Fernandez**	**79.82**	**123**	T	T	01 01 35.0	
	baz=239,slow=72,SNR=5.5						
H03N1	**Juan Fernandez**	**79.83**	**123**	T	T	01 01 25.1	
	baz=239,slow=72,SNR=6.3						
FINES	**FINESS Array B**	**147.49**	**338**	PKPbc	**PKPdf**	**23 40 32.4**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=66,slow=3.4,SNR=9.7						
TORD	**Torodi Ar. Bea**	**159.98**	**182**	PKPab	**PKPab**	**23 41 30.3**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=174,slow=3.5,SNR=4.1						

*IDC **25** 23:34:57.5±1.6,43.°73N×105.°47W,h0km,mb3.9/1,mb1 3.8/5,mb1mx3.4/38,mbtmp3.6/5,ML2.9/3,Error ellipse: s-maj=48.4km s-min=8.2km az=149.0*
*NEIC **25** 23:34:58.9±1.6,43.°69N±0.°05×105.°26W±0.°06,h0km±2km,ML3.4/52,Error ellipse: s-maj=9.4km s-min=6.2km az=139.0*
ISC 25 23:34:57.9±1.0,43.°74N±0.°07×105.°26W±0.°07,h0km,n48,σ0§90/48,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**66**		**Pb**	**23 35 17.3**	**-0.2**
K22A	**Casper**	**1.43**	**221**	Pn	**Pn**	**23 35 23.0**	**-2.3**
K22A				IAML		23 35 47.4	
	comp=E,695nm,0.3s						
PHWY	**Pilot Hill**	**2.44**	**184**		**Pn**	**23 35 39.3**	**0.0**
RWWY	**Rawlins**	**2.51**	**216**		**Pn**	**23 35 40.6**	**+0.5**
RWWY				IAML		23 36 19.9	
	comp=E,174nm,0.7s						
LAO	**LASA Array**	**3.03**	**347**		**Pn**	**23 35 48.6**	**+1.5**
RLMT	**Red Lodge**	**3.19**	**297**	Pn	**Pn**	**23 35 50.0**	**+0.5**
RLMT				IAML		23 36 47.0	
	comp=E,76nm,0.3s						
RLMT				IAML		23 36 52.7	
	comp=E,62nm,0.3s						
PD31	**Pinedale Array**	**3.29**	**254**		**Pn**	**23 35 50.6**	**-0.3**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**23 35 50.5**	**-0.3**
	comp=E,7.5nm,0.3s,baz=78,slow=15,SNR=70						
PDAR				Lg	Lg	23 36 35.7	
	comp=E,33nm,0.3s,baz=75,slow=34,SNR=14						
PDAR	**Pinedale Array**	**3.29**	**254**		**Pn**	**23 35 50.3**	**-0.5**
BW06	**Boulder Array**	**3.29**	**254**		**Pn**	**23 35 51.2**	**+0.3**
BW06				IAML		23 36 39.0	
	comp=E,78nm,0.3s						
BW06				IAML		23 36 42.7	
	comp=E,83nm,0.3s						
YNE	**Yellowstone No**	**3.63**	**292**		**Pn**	**23 35 56.1**	**+0.5**
YNE				IAML		23 36 52.4	
	comp=N,70nm,0.3s						
YMP	**Mirror Lake Pl**	**3.66**	**288**		**Pn**	**23 35 56.4**	**+0.4**
OGNE	**Ogallala**	**3.67**	**138**		**Pn**	**23 35 56.9**	**+0.9**
GCMT	**Greycliff**	**3.75**	**305**		**Pn**	**23 35 58.3**	**+1.2**
LOHW	**Long Hollow**	**3.88**	**270**		**Pn**	**23 36 00.3**	**+1.3**
LOHW				IAML		23 37 02.5	
	comp=N,29nm,0.3s						
H17A	**Grant Village**	**3.89**	**282**		**Pn**	**23 36 00.2**	**+1.1**
H17A				IAML		23 37 02.4	
	comp=E,37nm,0.3s						
H17A				IAML		23 37 05.2	
	comp=N,39nm,0.4s						
ISCO	**Idaho Springs**	**3.95**	**184**	Pn	**Pn**	**23 36 00.3**	**+0.4**
FLWY	**Flagg Ranch**	**3.95**	**277**		**Pn**	**23 35 59.5**	**-0.4**
FLWY				IAML		23 37 13.0	
	comp=N,60nm,1.1s						
SNOW	**Snow King Moun**	**4.00**	**268**		**Pn**	**23 36 01.7**	**+1.0**
SNOW				IAML		23 37 15.3	
	comp=N,61nm,1.1s						
SNOW				IAML		23 37 16.7	
	comp=N,49nm,1.1s						
YPP	**Pitchstone Pla**	**4.04**	**279**		**Pn**	**23 36 02.1**	**+0.9**
REDW	**Red Top Meadow**	**4.09**	**267**	Pn	**Pn**	**23 36 03.1**	**+1.3**
REDW				IAML		23 37 12.3	
	comp=N,48nm,1.1s						
REDW				IAML		23 37 16.4	
	comp=N,46nm,1.1s						
TPAW	**Teton Pass**	**4.14**	**268**	Pn	**Pn**	**23 36 03.2**	**+0.6**
TPAW				IAML		23 37 20.4	
	comp=N,41nm,0.9s						
TPAW				IAML		23 37 25.0	
	comp=N,25nm,0.9s						
YHH	**Holmes Hill**	**4.15**	**287**	Pn	**Pn**	**23 36 04.1**	**+1.3**
O20A	**White River Ci**	**4.24**	**213**		**Pn**	**23 36 03.5**	**-0.3**
O20A				IAML		23 37 13.2	
	comp=E,45nm,0.4s						
O20A				IAML		23 37 25.2	
	comp=N,40nm,1.4s						
E28A	**Huff**	**4.29**	**47**		**Pn**	**23 36 06.3**	**+1.8**
AHID	**Auburn Hatcher**	**4.38**	**259**		**Pn**	**23 36 07.0**	**+1.2**
RDMU	**Red Mountain**	**4.51**	**227**		**Pn**	**23 36 08.2**	**+0.6**
RDMU				IAML		23 37 22.4	
	comp=N,26nm,1.0s						
RDMU				IAML		23 37 25.3	
	comp=E,40nm,1.0s						
BOZ	**Bozeman (W)**	**4.91**	**294**		**Pn**	**23 36 12.9**	**-0.1**
HWUT	**Hardware Ranch**	**5.12**	**248**	Pn	**Pn**	**23 36 15.6**	**-0.3**
HWUT				IAML		23 37 50.0	
	comp=E,24nm,1.0s						
HWUT				IAML		23 37 59.9	
	comp=E,28nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.12**	**156**		**Pn**	**23 36 15.1**	**-0.9**
EGMT	**Eagleton**	**5.31**	**325**		**Pn**	**23 36 19.4**	**+0.9**
EGMT				IAML		23 37 51.6	
	comp=E,22nm,0.7s						
HRY	**Holter Researc**	**5.51**	**305**		**Pn**	**23 36 21.9**	**+0.6**
MCMT	**McKenzie Canyo**	**5.56**	**284**		**Pn**	**23 36 23.1**	**+1.1**
PV22	**Blue Mesa, Par**	**5.84**	**208**		**Pn**	**23 36 26.7**	**+0.8**
SPUT	**South Promonto**	**5.84**	**248**		**Pn**	**23 36 26.5**	**+0.6**
PV20	**West Nyswonger**	**6.08**	**209**		**Pn**	**23 36 29.6**	**+0.5**
ECSD	**EROS Data Cent**	**6.26**	**87**	Pn	**Pn**	**23 36 31.6**	**+0.2**
TMUT	**Trail Mountain**	**6.30**	**227**		**Pn**	**23 36 32.8**	**+0.5**
NLU	**North Lily Min**	**6.34**	**236**		**Pn**	**23 36 32.5**	**-0.3**
BGU	**Big Grassy Mou**	**6.41**	**247**		**Pn**	**23 36 34.4**	**+0.7**
CBKS	**Cedar Bluff**	**6.44**	**138**	Pn	**Pn**	**23 36 34.9**	**+0.9**
T25A	**Trinidad**	**6.63**	**174**	Pn	**Pn**	**23 36 37.5**	**+0.9**
DUG	**Dugway, Tooele**	**6.65**	**240**	Pn	**Pn**	**23 36 36.6**	**-0.4**
F33A	**5 Mile Ranch,**	**6.71**	**69**		**Pn**	**23 36 37.9**	**+0.2**
ELK	**Elko**	**7.99**	**251**	Pn	**Pn**	**23 36 56.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=55,slow=12,SNR=1.8						
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**23 37 10.1**	**-0.7**
	comp=E,2.1nm,0.3s,baz=232,slow=14,SNR=13						
ULM				Lg	Lg	23 39 41.8	
	comp=E,0.2nm,0.3s,baz=153,slow=22,SNR=1.5						
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**23 37 39.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=52,slow=10,SNR=2.8						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**23 45 14.5**	**-0.8**
	comp=E,1.4nm,0.9s,baz=334,slow=6.0,SNR=5.0						

*ROM **26** 00:00:37.0±0.1,44.°518N±0.°007×7.°20E±0.°

comp=N,286μm,0.5s
RSP AML AML
comp=E,200μm,1.2s
MGRO Montegrosso 0.65 140 P **Pg 00 00 49.5 -0.4**
MGRO S **Sg 00 00 58.4 0.0**
MGRO Montegrosso 0.65 140 P **Pg 00 00 49.6 -0.3**
MGRO S **Sg 00 00 58.4 0.0**
MGRO AML AML
comp=N,278μm,1.2s
MGRO AML AML
comp=E,264μm,1.4s
MGRO AML AML
comp=N,278μm,1.2s
BNI Bardonecchia 0.65 323 P **Pg 00 00 50.0 0.0**
BNI S **Sg 00 00 58.8 +0.2**
BNI AML AML
comp=N,51μm,0.7s
BNI AML AML
comp=E,58μm,1.1s
SBF Sospel 0.69 167 *e*Pg **Pg 00 00 50.5 -0.2**
SBF *e*Sg **Sg 00 00 58.3 -1.4**
comp=E,78nm,0.2s
ESCA l'Escarene 0.71 171 Pg **Pg 00 00 51.0 -0.1**
ESCA Sg **Sg 00 01 00.4 -0.1**
MONC Moncucco Torin 0.73 43 P **Pg 00 00 51.9 +0.4**
RORO Rocca Rossa 0.74 125 P **Pg 00 00 51.2 -0.4**
RORO S **Sg 00 01 01.1 -0.1**
RORO Rocca Rossa 0.74 125 ⇑P **Pg 00 00 51.4 -0.2**
RORO S **Sg 00 01 01.1 -0.1**
RORO AML AML
comp=E,445μm,0.7s
RORO AML AML
comp=N,483μm,0.2s
OGMO Fort Saint-Gob 0.78 330 Pg **Pg 00 00 52.8 +0.4**
OGMO Sg **Sg 00 01 03.6 +1.0**
IMI Imperia 0.79 142 P **Pg 00 00 52.2 -0.4**
IMI S **Sg 00 01 02.5 -0.3**
IMI Imperia 0.79 142 P **Pg 00 00 52.1 -0.4**
IMI S **Sg 00 01 02.6 -0.2**
IMI AML AML
comp=E,410μm,1.1s
IMI AML AML
comp=N,436μm,0.3s
BURY Giardini Botan 0.79 162 P **Pg 00 00 52.4 -0.2**
BURY S **Sg 00 01 02.5 -0.3**
BURY Giardini Botan 0.79 162 P **Pg 00 00 52.4 -0.2**
BURY S **Sg 00 01 02.5 -0.3**
BURY AML AML
comp=N,188μm,1.5s
BURY AML AML
comp=E,194μm,0.5s
OGDI Digne 0.79 238 Pg **Pn 00 00 54.6 +0.2**
CANO Canova, Maglio 0.80 114 P **Pg 00 00 52.5 -0.2**
CANO S **Sg 00 01 03.1 0.0**
QLNO Quiliano 0.83 104 P **Pg 00 00 53.0 -0.4**
QLNO S **Sg 00 01 04.2 +0.1**
QLNO AML AML
comp=N,297μm,0.4s
QLNO AML AML
comp=E,342μm,0.2s
ROTM Rocchetta Tana 0.86 68 P **Pb 00 00 55.2 +0.9**
LSD Lago del Serru 0.93 356 P **Pg 00 00 55.4 +0.1**
LSD S **Sg 00 01 07.4 0.0**
LSD AML AML
comp=E,256μm,0.4s
LSD AML AML
comp=N,152μm,0.2s
PCP Piancastagn 0.94 89 P **Pg 00 00 55.3 -0.2**
PCP S **Sg 00 01 08.1 +0.3**
PCP AML AML
comp=E,356μm,0.5s
PCP AML AML
comp=N,383μm,0.2s
LPG La Plagne 1.02 341 *e*Pg **Pg 00 00 56.2 -0.8**
LPG *e*Sg **Sg 00 01 09.6 -0.8**
comp=N,28nm,0.2s
ORIF Oris-en-Rattie 1.03 292 *e*Pg **Pg 00 00 56.8 -0.5**
ORIF Oris-en-Rattie 1.03 292 *e*Pn **Pg 00 00 56.9 -0.4**
ORIF *e*Sg **Sg 00 01 09.8 -0.9**
comp=N,33nm,0.2s
GDM Grand'Maison 1.03 311 Pg **Pb 00 00 58.1 +0.7**
LPL La Plagne 1.04 341 *e*Pg **Pg 00 00 57.3 -0.2**
LPL *e*Sg **Sg 00 01 10.3 -0.8**
comp=N,55nm,0.3s
TRAV Traversella 1.04 20 P **Pg 00 00 56.0 -1.5**
FRF La Foret Royal 1.06 203 *e*Pg **Pg 00 00 56.9 -0.8**
FRF La Foret Royal 1.06 203 *e*P **Pn 00 00 58.7 +0.6**
FRF *e*Sg **Sg 00 01 11.0 -0.5**
comp=N,74nm,0.2s
CIRO Champorcher 1.09 13 ⇑P **Pg 00 00 56.4 -2.1**
CIRO AML AML
comp=N,45μm,1.4s
CIRO AML AML
comp=E,47μm,1.0s
RSL Roselend 1.23 340 Pg **Pn 00 01 01.6 +1.0**
MRGE Morge 1.24 355 ⇓P **Pb 00 01 01.7 +0.8**
GRN Grenoble 1.27 304 Pg **Pb 00 01 02.1 +0.8**
LMR La Mourre 1.31 204 *e*P **Pn 00 01 02.0 +0.5**
LMR *e*Sn **Sg 00 01 17.8 -1.6**
comp=E,74nm,0.2s
SMRF Simiane la Rot 1.31 245 *e*P **Pg 00 01 02.9 +0.4**
SMRF *e*Sn **Sg 00 01 18.9 -0.7**
comp=E,76nm,0.4s
BSTF la Bastide-des 1.31 241 Pn **Pg 00 01 03.8 +1.3**
RUSF Rustrel 1.39 245 Pn **Pg 00 01 04.3 +0.4**
ARTF Artigues 1.40 228 Pn **Pb 00 01 03.9 +0.4**
ARTF Sn **Sn 00 01 23.2 +2.1**
OGSM Saint Maurice 1.53 315 Pn **Pg 00 01 08.2 +1.6**
VIVF Saint-Julien-l 1.85 281 *e*P **Pn 00 01 10.4 +1.4**
VIVF *e*Sn **Sn 00 01 32.1 -0.3**
comp=E,13nm,0.3s
OG35 Corcelles 1.91 323 Pg **Pb 00 01 12.6 +0.4**
OG35 Sn **Sg 00 01 38.5 -0.2**
CABF La Chapelle 2.23 339 *e*P **Pn 00 01 16.2 +2.0**
CABF La Chapelle 2.23 339 *e*Pg **Pb 00 01 18.0 +0.4**
TUE Stuetta 2.44 37 ⇑P **Pn 00 01 17.4 0.0**
LASF Ste Croix 2.46 260 *e*Pn **Pn 00 01 16.6 -0.8**
LASF Ste Croix 2.46 260 *e*P **Pn 00 01 18.7 +1.3**
LASF Ste Croix 2.46 260 *e*Pg **Pg 00 01 23.7 -0.8**
LASF *e*Sn **Sn 00 01 46.1 -1.4**
comp=E,2.3nm,0.2s
SMF Signal de Mont 3.18 313 *e*P **Pn 00 01 29.4 +2.2**
SMF Signal de Mont 3.18 313 *e*Pg **Pb 00 01 36.2 +2.4**
SMF *e*S **Sn 00 02 08.4 +3.3**
SMF *e*Sg **Sg 00 02 17.3 -2.1**
comp=E,2.6nm,0.3s
HINF Hinteralfeld 3.29 356 *e*P **Pn 00 01 29.7 +0.9**
HINF *e*Sn **Sn 00 02 03.8 -4.2**
comp=E,2.2nm,0.4s
HAU Haudompre 3.52 350 *e*P **Pn 00 01 32.9 +0.9**
HAU *e*Sn **Sn 00 02 10.4 -3.3**
comp=E,3.4nm,0.3s
AVF Avril sur Loir 3.53 311 *e*P **Pn 00 01 34.0 +1.9**
AVF *e*Sn **Sn 00 02 11.3 -2.5**
AVF *e*Sg **Sg 00 02 28.8 -1.9**
comp=E,4.2nm,0.5s
LOR Lormes 3.61 320 *e*Pn **Pn 00 01 32.5 -0.6**
LOR Lormes 3.61 320 *e*P **Pn 00 01 35.0 +1.9**
LOR *e*Sn **Sn 00 02 13.0 -2.7**
comp=E,2.7nm,0.4s
BGF Bois d'Agland 3.68 305 *e*P **Pn 00 01 35.9 +1.7**
BGF Bois d'Agland 3.68 305 *e*Pg **Pb 00 01 43.9 +1.5**
BGF *e*Sg **Sg 00 02 33.3 -2.3**
comp=E,7.0nm,0.5s
CAF Calviac 3.70 278 *e*P **Pn 00 01 35.9 +1.5**
RETA Reutte 3.84 39 *e*Pn **Pn 00 01 40.2 +3.7**
comp=E,0.2nm,0.2s
CDF Champ du Feu 3.88 0 *e*Pn **Pn 00 01 34.9 -2.0**
CDF Champ du Feu 3.88 0 *e*P **Pn 00 01 37.6 +0.7**
CDF *e*Sn **Sn 00 02 18.8 -3.7**
comp=E,1.5nm,0.3s
MOTA Moosalm 3.90 43 *e*Pn **Pn 00 01 37.5 +0.2**
comp=E,0.3nm,0.2s
TCF Toulx Ste Croi 3.94 298 *e*P **Pn 00 01 39.8 +2.0**
TCF *e*Sg **Sg 00 02 41.8 -2.1**
comp=E,0.3nm,0.2s
SFTF Sexfontaines 3.97 338 *e*P **Pn 00 01 39.7 +1.6**
baz=154
SFTF *e*Sn **Sn 00 02 21.3 -3.3**
comp=E,2.2nm,0.2s
WTTA Wattenberg 4.11 47 *e*Pn **Pn 00 01 42.1 +1.8**
comp=E,0.5nm,0.3s
RJF Les Rejaudoux 4.13 283 *e*Pn **Pn 00 01 39.5 -0.8**
RJF Les Rejaudoux 4.13 283 *e*P **Pn 00 01 42.2 +1.9**
RJF *e*Sn **Sn 00 02 25.4 -3.1**
comp=E,1.2nm,0.3s
PAGF Fort de Pagny 4.15 346 *e*Pn **Pn 00 01 38.9 -1.7**
PAGF Fort de Pagny 4.15 346 *e*P **Pn 00 01 42.1 +1.5**
PAGF *e*Sn **Sn 00 02 26.1 -3.0**
comp=E,2.6nm,0.4s
MEZF Maizieres J'vi 4.24 340 *e*P **Pn 00 01 43.4 +1.6**
baz=153
MEZF *e*Sn **Sn 00 02 28.2 -3.1**
comp=E,3.5nm,0.4s
SAVF Savonnieres en 4.33 341 *e*Pn **Pn 00 01 41.8 -1.3**
baz=164
SAVF Savonnieres en 4.33 341 *e*P **Pn 00 01 45.1 +2.0**
SAVF *e*Sn **Sn 00 02 28.9 -4.6**
comp=E,2.2nm,0.3s
EPF Esparros 5.21 256 *e*P **Pn 00 01 58.6 +3.4**
MFF Saint Martin d 5.57 294 *e*P **Pn 00 02 03.0 +2.9**
ETSF Etsaut 5.88 257 *e*P Pn 00 02 09.3 +5.0
BAIF Baives 5.90 341 *e*P **Pn 00 02 06.7 +2.2**
KHC Kasperske Hory 6.33 41 *e*PN **Pn 00 02 10.5 -0.1**
KHC *e*SN **Sn 00 03 23.5 +0.6**
GRR Gorron 6.78 307 *e*P **Pn 00 02 20.5 +3.8**

DJA 26 00:04:25.9±0.5, 9°S±6°×12°4E±°, h95km±7km, M3.9/8, mb4.1/5, MLv3.8/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.71**	**166**	P	Pn	00 04 43.7	+0.5
SOEI				S	Sn	00 04 57.4	+1.4
BATI	**Baumata**	**1.21**	**200**	P	Pn	00 04 48.7	+0.2
BATI				S	Sn	00 05 06.6	+1.1
MMRI	**Maumere**	**1.88**	**283**	P	Pn	00 04 57.2	+0.5
MMRI				S	Sn	00 05 21.1	+0.9
EDFI	**Ende, Flores**	**2.39**	**277**	P	Pn	00 05 03.7	+0.2
EDFI				S	Sn	00 05 32.3	-0.1
WBSI	**Waikabubak, Su**	**4.67**	**263**	P	Pn	00 05 33.7	-0.5
PLAI	**Plampang** 0.1nm27nm,0.7s	**6.24**	**272**	P	Pn	00 05 55.8	+0.3
TWSI	**Taliwang, Sumb** 0.1nm9.8nm,1.3s	**7.13**	**272**	P	Pn	00 06 07.0	-0.6

IDC 26 00:07:02.5±5.8, 28°21N×139°68E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=429.0km s-min=32.7km az=82.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=4.5,slow=7.6,SNR=5.8	**48.15**	**187**	P	P	00 15 44.9	+0.3
ASAR	**Alice Springs** 0.2nm,0.7s,baz=15,slow=6.2,SNR=1.5	**51.88**	**187**	P	P	00 16 12.1	-0.7
FINES	**FINESS Array B** 0.4nm,0.4s,baz=46,slow=5.5,SNR=4.9	**75.96**	**333**	P	P	00 18 51.1	+0.1

*NOU **26** 00:10:13.5, 37°93S×176°52E, h206km, ML3.5, North Island, New Zealand*
WEL 26 00:10:22.8, 38°S±6°×17°6E±°, h130km±12km, M2.7/58, ML2.2/8, MLv2.7/58, Error ellipse: s-maj=0.0km s-min=0.0km az=102.2, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLRZ	**Highlands Stat**	**0.05**	**116**	P	Pn	00 10 41.4	+0.9
HSRZ	**Hossack Road**	**0.09**	**207**	P	Pn	00 10 41.3	+0.8
OMRZ	**Omania**	**0.14**	**26**	P	Pn	00 10 40.9	+0.3
HRRZ	**Handcock Road**	**0.16**	**184**	P	Pn	00 10 41.3	+0.7
MKRZ	**Makatiti**	**0.16**	**56**	P	Pn	00 10 46.1	+5.4
GRRZ	**Galatos Road**	**0.19**	**231**	P	Pn	00 10 41.5	+0.9
PRRZ	**Plateau Road**	**0.28**	**164**	P	Pn	00 10 41.5	+0.6
WPRZ	**Whakapapatarin**	**0.31**	**200**	P	Pn	00 10 41.9	+0.9
EDRZ	**Edgecumbe**	**0.37**	**71**	P	Pn	00 10 41.5	+0.1
MARZ	**Manawahe**	**0.39**	**51**	P	Pn	00 10 41.7	+0.4
OPRZ	**Ohinepanea**	**0.44**	**28**	P	Pn	00 10 41.3	-0.3
MUGZ	**Murupara**	**0.45**	**124**	P	Pn	00 10 41.8	+0.1
MRHZ	**Matea Rd**	**0.61**	**171**	P	Pn	00 10 43.2	+0.5
URZ	**Urewera**	**0.64**	**93**	P	Pn	00 10 42.4	-0.3
RTZ	**Ruatahuna**	**0.66**	**126**	P	Pn	00 10 43.3	+0.3
MTHZ	**Maungataniwha**	**0.75**	**146**	P	Pn	00 10 36.5	-7.2
RATZ	**Rangitukua**	**0.76**	**213**	P	Pn	00 10 44.2	+0.5
TOZ	**Tahuroa Road**	**0.80**	**308**	P	Pn	00 10 43.5	-0.4
RITZ	**Rihia Road**	**0.82**	**205**	P	Pn	00 10 45.0	+0.8
KATZ	**Kakaramea**	**0.88**	**212**	P	Pn	00 10 46.0	+1.2
RAGZ	**Rawiri**	**0.92**	**107**	P	Pn	00 10 45.2	+0.2
RAHZ	**Arahi**	**0.92**	**138**	P	Pn	00 10 45.8	+0.8
BKZ	**Black Stump Fm**	**0.95**	**171**	P	Pn	00 10 45.5	+0.3
NMHZ	**Naumai**	**0.95**	**155**	P	Pn	00 10 46.7	+1.3
MWZ	**Matawai**	**0.97**	**96**	P	Pn	00 10 45.1	-0.4
SNGZ	**Shannon Statio**	**0.99**	**124**	P	Pn	00 10 46.2	+0.6
NTVZ	**North Tongarir**	**0.99**	**209**	P	Pn	00 10 46.1	+0.3
TMVZ	**Te Maari**	**1.00**	**208**	P	Pn	00 10 46.1	+0.3
KRVZ	**Karewarewa**	**1.00**	**211**	P	Pn	00 10 46.1	+0.3
ETVZ	**East Tongariro**	**1.01**	**207**	P	Pn	00 10 46.4	+0.4
WTVZ	**West Tongariro**	**1.04**	**212**	P	Pn	00 10 46.5	+0.2
OTVZ	**Oturere**	**1.05**	**208**	P	Pn	00 10 46.9	+0.5
TWVZ	**Taurewa**	**1.07**	**218**	P	Pn	00 10 46.7	+0.2
SNVZ	**South Ngauruho**	**1.08**	**208**	P	Pn	00 10 47.0	+0.3
WHHZ	**Waihua**	**1.12**	**139**	P	Pn	00 10 47.4	+0.6
RUGZ	**Raukumara Rang**	**1.12**	**77**	P	Pn	00 10 45.3	-1.7
ARHZ	**Aropaoanui**	**1.17**	**152**	P	Pn	00 10 48.0	+0.7
HIZ	**Hauiti**	**1.17**	**256**	P	Pn	00 10 47.2	-0.1
FWVZ	**Far West T-bar**	**1.18**	**209**	P	Pn	00 10 47.8	+0.1
KWHZ	**Kaweka Forest**	**1.20**	**175**	P	Pn	00 10 48.1	+0.4
WNVZ	**Wahianoa**	**1.22**	**206**	P	Pn	00 10 48.2	+0.1
TKGZ	**Te Karaka**	**1.24**	**100**	P	Pn	00 10 47.9	-0.2
MOVZ	**Moawhango**	**1.25**	**200**	P	Pn	00 10 47.9	-0.3
MCHZ	**McNeill Hill**	**1.25**	**166**	P	Pn	00 10 49.0	+0.8
HAZ	**Te Kaha**	**1.27**	**68**	P	Pn	00 10 46.5	-1.8
BHHZ	**Black Hill Sta**	**1.27**	**188**	P	Pn	00 10 48.3	-0.2
TWGZ	**Tauwhareparae**	**1.33**	**88**	P	Pn	00 10 48.7	-0.4
KNZ	**Kokohu**	**1.34**	**127**	P	Pn	00 10 49.0	-0.1
KRHZ	**Kereru**	**1.41**	**178**	P	Pn	00 10 49.9	0.0
PRGZ	**Paritu Road**	**1.42**	**120**	P	Pn	00 10 49.9	-0.2
PKGZ	**Pakihiroa**	**1.45**	**77**	P	Pn	00 10 49.2	-1.2
CNGZ	**Carnagh Statio**	**1.52**	**100**	P	Pn	00 10 51.1	-0.1
CKHZ	**Cape Kidnapper**	**1.55**	**157**	P	Pn	00 10 51.7	+0.3
KUZ	**Kuaotunu**	**1.55**	**343**	P	Pn	00 10 49.3	-2.2
PUZ	**Puketiti**	**1.55**	**85**	P	Pn	00 10 50.1	-1.4
MHGZ	**Mahia Peninsul**	**1.56**	**127**	P	Pn	00 10 51.6	0.0
KAHZ	**Kahuranaki**	**1.63**	**164**	P	Pn	00 10 52.4	+0.1
ETAZ	**East Tamaki Re**	**1.68**	**319**	P	Pn	00 10 51.0	-1.9
WIAZ	**Waiheke Island**	**1.71**	**327**	P	Pn	00 10 51.4	-1.9
WMGZ	**Waiomatatini S**	**1.72**	**77**	P	Pn	00 10 52.0	-1.4
MXZ	**Matakaoa Point**	**1.72**	**68**	P	Pn	00 10 52.1	-1.4
AWAZ	**Awhitu Peninsu**	**1.75**	**311**	P	Pn	00 10 51.8	-2.1
WPHZ	**Waipukurau**	**1.83**	**177**	P	Pn	00 10 54.0	-0.8
TSZ	**Takapari Road**	**1.84**	**188**	P	Pn	00 10 54.0	-1.0
PXZ	**Pawanui**	**1.85**	**166**	P	Pn	00 10 54.4	-0.5
WTAZ	**Waiatarua**	**1.89**	**313**	P	Pn	00 10 53.4	-2.0
DREZ	**Durham Road**	**1.90**	**239**	P	Pn	00 10 52.9	-2.6
PRHZ	**Porangahau**	**2.05**	**173**	P	Pn	00 10 56.4	-1.0
DVHZ	**Dannevirke**	**2.07**	**183**	P	Pn	00 10 56.2	-1.4
ANWZ	**Angora Road**	**2.23**	**176**	P	Pn	00 10 58.5	-1.0
PRWZ	**Pori Road**	**2.33**	**186**	P	Pn	00 10 59.5	-1.4
BFZ	**Birch Farm**	**2.45**	**181**	P	Pn	00 11 00.3	-2.0
MRZ	**Mangatainoka R**	**2.49**	**193**	P	Pn	00 11 00.6	-2.2
OGWZ	**Otaki Gorge**	**2.73**	**198**	P	Pn	00 11 03.3	-2.5
MTW	**Mount Morrison**	**2.99**	**192**	P	Pn	00 11 06.0	-3.2
CAW	**Cannon Point**	**3.03**	**198**	P	Pn	00 11 06.6	-3.1
MSWZ	**Moikau Station**	**3.28**	**194**	P	Pn	00 11 09.6	-3.5
PLWZ	**Palliser**	**3.43**	**193**	P	Pn	00 11 11.1	-3.9
KHZ	**Kahutara**	**4.68**	**206**	P	Pn	00 11 27.1	-4.5

*NEIC **26** 00:27:04.7±1.0, 19°6N±0°1×65°64W±0°07, h31km±23km, Error ellipse: s-maj=21.3km s-min=7.3km az=196.0*
*RSPR **26** 00:27:05.2, 19°67N×65°64W, h28km±25km, MD3.4/4*
ISC 26 00:27:03.1±2.3, 19°6N±0°1×65°69W±0°07, h16km, n34, σ0°75/36, 8C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.29**	**187**	⇑*e*P	**Pb**	**00 27 27.2**	**+0.1**
CBYP	**Canovanas**	**1.29**	**187**	*e*S	**Sn**	**00 27 44.3**	**+0.8**
CBYP	**Canovanas**	**1.29**	**187**		**Pb**	**00 27 27.2**	**+0.1**
CBYP					**Sn**	**00 27 44.3**	**+0.8**
CBYP	**Canovanas** comp=N,76nm,0.2s	**1.29**	**187**	IAML		00 27 45.9	
CBYP				IAML		00 27 46.9	
GCPR	**Guaynabo City** comp=E,74nm,0.2s	**1.30**	**197**	⇑*e*P	**Pb**	**00 27 26.9**	**-0.2**
GCPR	**Guaynabo City**	**1.30**	**197**	*e*S	**Sn**	**00 27 44.2**	**+0.6**
GCPR	**Guaynabo City**	**1.30**	**197**		**Pb**	**00 27 26.9**	**-0.2**
GCPR					**Sn**	**00 27 44.2**	**+0.6**
GCPR	**Guaynabo City** comp=N,68nm,2.8s	**1.30**	**197**	IAML		00 28 11.4	
CUPR	**Culebra, Puert**	**1.30**	**163**	⇑*e*P	**Pg**	**00 27 27.5**	**-0.7**
CUPR	**Culebra, Puert**	**1.30**	**163**	*e*S	**Sn**	**00 27 43.8**	**+0.1**
CUPR	**Culebra, Puert**	**1.30**	**163**		**Pg**	**00 27 27.5**	**-0.7**
CUPR					**Sn**	**00 27 43.8**	**+0.1**
EMPR	**Esperanza - Ma**	**1.34**	**217**	Pn	**Pb**	**00 27 27.4**	**-0.4**
EMPR				IAML		00 27 43.6	
EMPR	comp=E,87nm,2.0s			IAML		00 28 13.2	
STVI	**Saint Thomas** comp=N,92nm,1.6s	**1.39**	**150**	Pn	**Pb**	**00 27 28.5**	**-0.2**
HUMP	**Col San Antoni**	**1.42**	**186**	⇑*e*P	**Pb**	**00 27 28.8**	**-0.4**
HUMP	**Col San Antoni**	**1.42**	**186**	*e*S	**Sn**	**00 27 47.4**	**+0.8**
HUMP	**Col San Antoni**	**1.42**	**186**		**Pb**	**00 27 28.8**	**-0.4**
HUMP					**Sn**	**00 27 47.4**	**+0.8**
MTP	**Monte Pirata**	**1.46**	**175**	⇑*e*P	**Pb**	**00 27 29.1**	**-0.7**
MTP	**Monte Pirata**	**1.46**	**175**	*e*S	**Sn**	**00 27 48.4**	**+0.8**
MTP	**Monte Pirata**	**1.46**	**175**		**Pb**	**00 27 29.1**	**-0.7**
MTP					**Sn**	**00 27 48.4**	**+0.8**
MTP	**Monte Pirata** comp=N,21nm,0.9s	**1.46**	**175**	IAML		00 27 55.6	
MTP				IAML		00 27 57.5	
SJG	**San Juan** comp=E,20nm,1.2s	**1.50**	**197**	Pn	**Pn**	**00 27 29.8**	**+0.3**
SJG				IAML		00 27 54.9	
SJG	comp=E,22nm,0.5s			IAML		00 27 57.0	
PDPR	**Patillas Dam,** comp=E,18nm,0.6s	**1.56**	**192**	Pn	**Pn**	**00 27 30.6**	**+0.4**
PDPR				IAML		00 28 28.0	
AOPR	**Arecibo Observ** comp=E,46nm,2.3s	**1.57**	**220**	⇑*e*P	**Pn**	**00 27 30.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.57**	**220**	*e*S	**Sn**	**00 27 51.6**	**+1.1**
AOPR	**Arecibo Observ**	**1.57**	**220**		**Pn**	**00 27 30.5**	**+0.1**
AOPR					**Sn**	**00 27 51.6**	**+1.1**
AOPR	**Arecibo Observ** comp=N,45nm,0.4s	**1.57**	**220**	IAML		00 27 56.8	
IGPR	**InterUniversit**	**1.63**	**194**	⇑*e*P	**Pb**	**00 27 32.2**	**-0.7**
OBIP	**Obispado Ponce** comp=E,19nm,1.6s	**1.74**	**210**	Pn	**Pb**	**00 27 33.7**	**-1.0**
OBIP				IAML		00 27 58.1	
OBIP	comp=N,16nm,2.0s			IAML		00 28 20.7	
LSP	**Las Mesas**	**1.91**	**224**	⇑*e*P	**Pb**	**00 27 36.2**	**-1.4**
LSP	**Las Mesas**	**1.91**	**224**		**Pb**	**00 27 36.2**	**-1.4**
MPR	**Mayaguez**	**1.92**	**226**	Pn	**Pb**	**00 27 36.7**	**-1.1**
MLPR	**Magueyes Islan**	**2.04**	**219**	Pn	**Pn**	**00 27 37.6**	**+0.9**
MLPR				IAML		00 28 11.5	
MLPR	comp=N,17nm,1.5s			IAML		00 28 17.4	
PCDR	**Punta Cana, DR** comp=E,17nm,1.6s	**2.75**	**248**	Pn	**Pn**	**00 27 47.0**	**+0.4**
SDDR	**Presa de Saban**	**5.32**	**265**	Pn	**Pn**	**00 28 23.1**	**+1.0**

*NNC **26** 00:32:35.2±11.0, 38°07N×70°45E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=108.5km s-min=61.4km az=165.0*
*KRNET **26** 00:32:44.9±0.1, 39°05N×70°31E, h0km, mb3.1*
ISC 26 00:32:45.0±1.0, 38°99N±0°06×70°37E±0°05, h10km, n12, σ2°38/23, 14C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm** baz=73	**0.04**	**283**	⇓*i*P	**Pg**	**00 32 46.1**	**-1.0**
GAR				⇓*i*S	**Sg**	**00 32 48.3**	**-0.3**
CHGR	**Chuyangaron** baz=47	**1.00**	**251**	⇑*i*P	**Pg**	**00 33 03.2**	**-1.1**
CHGR				⇑*i*S	**Sb**	**00 33 17.5**	**-0.3**
BTK	**Batken** baz=21	**1.12**	**18**	⇓*i*P	**Pg**	**00 33 05.2**	**-1.4**
BTK				⇓*i*S	**Sb**	**00 33 20.4**	**-0.9**
DRK	**Karamyk** baz=69	**1.22**	**66**	⇓*i*P	**Pn**	**00 33 08.5**	**+0.1**
DRK				⇓*i*S	**Sn**	**00 33 25.2**	**+0.1**
OHH	**Osh** baz=51	**2.41**	**50**	⇑*i*P	**Pb**	**00 33 26.7**	**-1.9**
OHH				⇑*i*S	**Sb**	**00 33 57.1**	**-1.3**
TRKS	**Terek-Say** baz=15	**2.60**	**13**	⇑*i*P	**Pn**	**00 33 28.0**	**+0.6**
TRKS				⇑*i*S	**Sn**	**00 33 59.3**	**+0.2**
SFK	**Sufi-Kurgan** baz=68	**2.63**	**66**	⇑*i*P	**Pn**	**00 33 30.1**	**+2.3**
SFK				⇑*i*S	**Sb**	**00 34 03.0**	**-1.9**
MNAS	**Manas** baz=25	**3.85**	**24**	⇑*e*P	**Pn**	**00 33 46.7**	**+2.2**
MNAS				⇑*i*S	**Sn**	**00 34 31.1**	**+1.2**
AML	**Almayashu** baz=39	**4.03**	**38**	⇑*e*P	**Pn**	**00 33 49.5**	**+2.3**
AML				⇑*i*S	**Sn**	**00 34 36.1**	**+1.4**
KK31	**Karatay Array** 1.7nm,0.5s,baz=182,slow=12,SNR=41	**4.11**	**1**	⇑Pn	**Pn**	**00 33 51.3**	**+3.3**
KK31	2.5nm,0.4s,baz=182,slow=25,SNR=5.9			⇓Sn	**Sg**	**00 34 55.2**	**-1.7**
TKM2	**Tokmak 2** 3.0nm,0.6s	**5.57**	**44**	⇑Pn	**Pn**	**00 34 11.3**	**+3.1**
TKM2	2.5nm,0.8s			⇓Sn	**Sn**	**00 35 19.9**	**+7.5**
AB31	**Akbulak array** 1.6nm,0.6s,baz=139,slow=13,SNR=36	**12.69**	**327**	⇓P	**Pn**	**00 35 45.1**	**-0.4**

*NCEDC **26** 00:40:22.4±2.1, 35°31N±0°05×120°98W±0°03, h6km±7km, ML3.0/9, ML2.5/38(NEIC), Error ellipse: s-maj=7.0km s-min=3.8km az=190.0*
NEIC 26 00:40:19.4±1.5, 35°19N±0°05×121°17W±0°03, h4km±8km, Error ellipse: s-maj=7.7km s-min=3.1km az=200.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAMR	**Ramage Ranch**	**0.51**	**29**		Pg	00 40 29.6	+0.4
PAPM	**Alder Peak**	**0.74**	**348**		Pb	00 40 35.2	+0.2
TSCN	**Private Proper**	**0.76**	**62**		Pg	00 40 34.2	+0.2
TCHL	**Shandon**	**0.80**	**51**		Pg	00 40 34.6	-0.2
TRAM	**Private Proper**	**0.88**	**56**		Pg	00 40 36.0	-0.3
PKD	**Bear Valley Ra**	**0.91**	**34**		Pg	00 40 36.4	-0.5
PAGB	**Antelope Grade**	**0.92**	**54**		Pg	00 40 36.5	-0.6
THIS	**South End of C**	**0.93**	**55**		Pg	00 40 37.1	-0.2
PMPB	**Monarch Peak**	**1.07**	**16**		Pg	00 40 40.0	+0.1
BSMM	**Soledad Missio**	**1.21**	**350**		Pg	00 40 42.6	-0.1
HAST	**Hastings Reser**	**1.24**	**346**		Pg	00 40 42.8	-0.4
LRV	**Little Rabbit**	**1.24**	**6**		Pn	00 40 43.8	+0.2
PDRM	**Domengine Ranc**	**1.32**	**29**		Pg	00 40 43.6	-1.1
BBNM	**San Benito**	**1.32**	**3**		Pn	00 40 44.2	-0.5
BJCM	**Johnson Can.**	**1.37**	**352**		Pn	00 40 44.8	-0.6
SCZ	**Santa Cruz**	**1.42**	**352**		Pn	00 40 45.2	-0.8
SAO	**San Andreas Ge**	**1.59**	**352**		Pb	00 40 48.9	-0.5
OSI	**Osito Audit: C**	**2.09**	**105**		Pn	00 40 55.8	+0.4
OSI				IAML		00 41 32.3	
OSI	comp=E,43nm,0.6s			IAML		00 41 38.1	
ISA	**Isabella, Lake** comp=N,43nm,0.8s	**2.25**	**77**		Pn	00 40 56.9	-0.7
ISA				IAML		00 41 29.2	
PASC	**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MDPB				IAML			00 41 58.5	
	comp=E,16nm,0.7s							
GSC	**Goldstone, Bar**	**3.57**	**87**		Pn		00 41 14.7	-1.1
GSC				IAML			00 42 19.2	
	comp=E,13nm,0.5s							
GSC				IAML			00 42 24.2	
	comp=N,12nm,1.5s							
WAKR	**Walker**	**3.59**	**22**		Pn		00 41 17.3	+1.2
WAKR				IAML			00 42 24.9	
	comp=E,11nm,0.7s							
LHV	**Little Huntoon**	**3.73**	**34**		Pn		00 41 18.6	+0.8
LHV				IAML			00 42 14.7	
	comp=N,8.1nm,1.3s							
LHV				IAML			00 42 34.0	
	comp=E,8.5nm,0.9s							
AFDM	**Forest Hills D**	**3.75**	**2**	Pn	Pn		00 41 18.3	+0.1
NVAR	**Mina Array Bea**	**3.97**	**35**	Pn	Pn		00 41 22.7	+1.3
NV11	**Mina Array Sit**	**4.04**	**36**		Pn		00 41 22.8	+0.6
YERR	**Yerington**	**4.09**	**22**		Pn		00 41 24.2	+1.2
YERR				IAML			00 42 50.5	
	comp=N,7.5nm,5.0s							
PFO	**Pinyon Flats O**	**4.20**	**111**	Pn	Pn		00 41 24.1	-0.3
PFO				IAML			00 42 21.9	
	comp=N,5.9nm,5.0s							
PFO				IAML			00 42 51.3	
	comp=N,6.1nm,0.1s							
TPH	**Tonopah**	**4.29**	**47**		Pn		00 41 27.2	+1.6
TPH	**Tonopah**	**4.29**	**47**	IAML			00 42 34.6	
	comp=E,5.3nm,4.1s							
TPH				IAML			00 42 42.3	
	comp=N,5.9nm,1.0s							
TPNV	**Topopah Spring**	**4.35**	**65**		Pn		00 41 27.3	+0.7
TPNV				IAML			00 42 43.0	
	comp=N,6.7nm,4.9s							
TPNV				IAML			00 42 50.6	
	comp=N,6.6nm,4.5s							
BAR	**Barrett**	**4.50**	**123**	Pn	Pn		00 41 28.0	-0.4

*IDC **26** 00:47:14.1±1.3, 60°.57N×150°.76W, h71km±21km, mb3.5/6, mb1 3.6/10, mb1mx3.3/42, mbtmp3.8/10, MS3.0/2, Ms1 3.0/2, ms1mx2.4/47, Error ellipse: s-maj=43.9km s-min=9.6km az=114.0*

*NEIC **26** 00:47:15.8±1.4, 60°.68N±0°.03×151°.20W±0°.05, h68km±5km, Error ellipse: s-maj=3.9km s-min=3.5km az=187.0*

*AEIC **26** 00:47:16±1.4, 60°.68N±0°.03×151°.19W±0°.05, h65km±4km, ML3.8, ML4.0/128(NEIC), Error ellipse: s-maj=3.8km s-min=3.6km az=187.0*

ISC 26 00:47:15.6±0.7, 60°.67N±0°.02×151°.17W±0°.03, h74km±5km, n276, σ0°.78/288, mb4.0/6, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.10**	**3**	P	**Pn**		**00 47 26.6**	**+0.3**
	baz=194							
CAPN	**Captain Cook N**	**0.10**	**3**		**Pn**		**00 47 26.5**	**+0.3**
CAPN				Sn	**Sn**		**00 47 35.5**	**+1.4**
CAPN				IAML			00 47 35.9	
	comp=E,15μm,0.6s							
SLKM	**Skilak Lake**	**0.49**	**108**		**Pn**		**00 47 28.3**	**-0.5**
SLKM					**Sn**		**00 47 37.6**	**-0.8**
RDT	**Redoubt**	**0.62**	**262**		**Pn**		**00 47 29.1**	**-0.9**
RDT					**Sn**		**00 47 39.2**	**-1.4**
FIS	**Fire Island**	**0.67**	**43**		**Pn**		**00 47 30.9**	**+0.5**
FIS				IAML			00 47 44.5	
	comp=N,7μm,0.6s							
FIS				IAML			00 47 45.3	
	comp=E,7μm,0.4s							
SPU	**Mount Spurr**	**0.68**	**320**		**Pn**		**00 47 29.7**	**-0.9**
O22K	**Cooper Landing**	**0.73**	**104**	P	**Pn**		**00 47 31.5**	**+0.4**
	baz=286							
O22K				S	**Sn**		**00 47 43.2**	**+0.5**
	baz=286							
O22K	**Cooper Landing**	**0.73**	**104**		**Pn**		**00 47 31.5**	**+0.4**
O22K					**Sn**		**00 47 43.2**	**+0.5**
SPCR	**Spurr Chakacha**	**0.74**	**317**	P	**Pn**		**00 47 30.4**	**-0.9**
	baz=136							
SPCR				S	**Sn**		**00 47 41.5**	**-1.4**
	baz=136							
SPCR	**Spurr Chakacha**	**0.74**	**317**		**Pn**		**00 47 30.4**	**-0.9**
SPCR					**Sn**		**00 47 41.5**	**-1.4**
CKN	**Chakachatna No**	**0.75**	**319**		**Pn**		**00 47 30.8**	**-0.6**
SPCN	**Chakachatna No**	**0.75**	**319**		**Pn**		**00 47 30.8**	**-0.6**
SPCN					**Sn**		**00 47 42.6**	**-0.4**
DFR	**Drift River**	**0.75**	**265**		**Pn**		**00 47 30.7**	**-0.8**
DFR	**Drift River**	**0.75**	**265**		**Pn**		**00 47 30.6**	**-0.9**
DFR					**Sn**		**00 47 42.1**	**-1.1**
SPCG	**Spurr Capps Gl**	**0.76**	**327**		**Pn**		**00 47 31.0**	**-0.5**
SPCP	**Crater Peak Br**	**0.77**	**322**		**Pn**		**00 47 31.2**	**-0.5**
SPCP					**Sn**		**00 47 43.0**	**-0.7**
CRP	**Crater Peak**	**0.77**	**322**		**Pn**		**00 47 31.3**	**-0.4**
RDN	**Redoubt North**	**0.80**	**260**		**Pn**		**00 47 31.3**	**-0.8**
RSO	**Redoubt South**	**0.81**	**256**	Pn	**Pn**		**00 47 31.6**	**-0.6**
RC01	**Rabbit Creek A**	**0.82**	**58**	P	**Pn**		**00 47 31.9**	**-0.3**
	baz=241							
RC01				S	**Sn**		**00 47 44.0**	**-0.4**
	baz=241							
RC01	**Rabbit Creek A**	**0.82**	**58**		**Pn**		**00 47 31.7**	**-0.4**
RC01	**Rabbit Creek A**	**0.82**	**58**		**Sn**		**00 47 44.0**	**-0.4**
SUA	**Susitna One**	**0.83**	**14**	P	**Pn**		**00 47 31.9**	**-0.5**
	baz=196							
SUA				S	**Sn**		**00 47 44.5**	**-0.3**
	baz=196							
SUA	**Susitna One**	**0.83**	**14**		**Pn**		**00 47 31.8**	**-0.5**
SUA				IAML			00 47 45.4	
	comp=N,2μm,0.6s							
SUA				IAML			00 47 45.5	
	comp=E,2μm,0.4s							
SUA	**Susitna One**	**0.83**	**14**		**Sn**		**00 47 44.5**	**-0.3**
RED	**Redoubt Volcan**	**0.83**	**253**		**Pn**		**00 47 31.7**	**-0.7**
RED					**Sn**		**00 47 43.9**	**-0.9**
SPBG	**Spurr Blockage**	**0.84**	**316**		**Pn**		**00 47 31.9**	**-0.6**
RDWB	**Redoubt West**	**0.84**	**259**		**Pn**		**00 47 31.9**	**-0.6**
BGL	**Barrier Glacie**	**0.85**	**316**		**Pn**		**00 47 31.9**	**-0.6**
NCT	**North Crescent**	**0.88**	**264**		**Pn**		**00 47 32.0**	**-0.9**
STLK	**Strandline Lak**	**0.90**	**339**		**Pn**		**00 47 32.9**	**-0.2**
STLK					**Sn**		**00 47 45.6**	**-0.5**
BRLK	**Bradley Lake**	**0.91**	**171**		**Pn**		**00 47 33.3**	**0.0**
BRLK				IAML			00 47 48.7	
	comp=E,6μm,0.2s							
O20K	**Slope Mountain**	**0.93**	**232**	P	**Pn**		**00 47 33.4**	**-0.1**
	baz=49							
O20K	**Slope Mountain**	**0.93**	**232**		**Pn**		**00 47 33.4**	**-0.1**
BRSE	**Bradley Lake S**	**0.95**	**167**	P	**Pn**		**00 47 33.7**	**0.0**
	baz=346							
BRSE				S	**Sn**		**00 47 47.4**	**+0.2**
	baz=346							
BRSE	**Bradley Lake S**	**0.95**	**167**		**Pn**		**00 47 33.7**	**0.0**
BRSE					**Sn**		**00 47 47.4**	**+0.2**
SEW	**Seward**	**1.02**	**123**	P	**Pn**		**00 47 34.7**	**+0.2**
	baz=304							
SEW	**Seward**	**1.02**	**123**		**Pn**		**00 47 33.9**	**-0.5**
SPNN	**North Nagishla**	**1.03**	**314**		**Pn**		**00 47 34.7**	**-0.1**
HOM	**Homer**	**1.04**	**194**	P	**Pn**		**00 47 35.4**	**+0.7**
	baz=12							
HOM				S	**Sn**		**00 47 50.2**	**+1.3**
	baz=12							
HOM	**Homer**	**1.04**	**194**		**Pn**		**00 47 35.4**	**+0.7**
HOM					**Sn**		**00 47 50.2**	**+1.3**
ILIM	**Iliamna**	**1.07**	**237**		**Pn**		**00 47 35.1**	**-0.1**
IVE	**Iliamna Volcan**	**1.13**	**236**		**Pn**		**00 47 35.6**	**-0.3**
CNPM	**China Poot**	**1.14**	**182**		**Pn**		**00 47 36.3**	**+0.2**
CNPM					**Sn**		**00 47 51.5**	**0.0**
ILS	**Iliamna Low So**	**1.18**	**234**		**Pn**		**00 47 36.6**	**-0.1**
SKT	**Skwentna**	**1.33**	**353**	P	**Pn**		**00 47 38.5**	**+0.1**
	baz=173							
SKT	**Skwentna**	**1.33**	**353**		**Pn**		**00 47 38.5**	**+0.1**
SKT	**Skwentna**	**1.33**	**353**	IAML			00 47 57.6	
	comp=N,3μm,0.3s							
PMR	**Palmer**	**1.36**	**46**	P	**Pn**		**00 47 38.7**	**-0.1**
	baz=228							
PMR				S	**Sn**		**00 47 56.0**	**-0.2**
	baz=228							
PMR	**Palmer**	**1.36**	**46**		**Pn**		**00 47 38.7**	**-0.1**
PMR					**Sn**		**00 47 56.0**	**-0.2**
PWL	**Port Wells**	**1.40**	**81**		**Pn**		**00 47 39.5**	**+0.1**
PWL	**Port Wells**	**1.40**	**81**	IAML			00 48 02.7	
	comp=N,3μm,0.7s							
PWL				IAML			00 48 04.4	
	comp=E,3μm,0.7s							
OPT	**Oil Point**	**1.45**	**226**	P	**Pn**		**00 47 40.5**	**+0.5**
	baz=44							
OPT	**Oil Point**	**1.45**	**226**		**Pn**		**00 47 40.5**	**+0.5**
P19K	**Oil Pt**	**1.45**	**226**	P	**Pn**		**00 47 40.5**	**+0.4**
	baz=44							
P19K				S	**Sn**		**00 47 59.6**	**+1.2**
	baz=44							
P19K	**Oil Pt**	**1.45**	**226**		**Pn**		**00 47 40.5**	**+0.4**
P19K					**Sn**		**00 47 59.6**	**+1.2**
KNK	**Knik Glacier**	**1.52**	**59**	P	**Pn**		**00 47 41.0**	**+0.1**
	baz=242							
KNK	**Knik Glacier**	**1.52**	**59**		**Pn**		**00 47 41.0**	**+0.1**
M20K	**Styx River**	**1.55**	**323**	P	**Pn**		**00 47 41.6**	**+0.2**
	baz=142							
M20K	**Styx River**	**1.55**	**323**		**Pn**		**00 47 41.6**	**+0.2**
GHO	**Glory Hole Cre**	**1.55**	**43**		**Pn**		**00 47 41.4**	**0.0**
GHO					**Sn**		**00 48 01.6**	**+0.6**
GHO	**Glory Hole Cre**	**1.55**	**43**	IAML			00 48 07.4	
	comp=N,2μm,0.7s							
N19K	**Bonanza Creek**	**1.64**	**277**	P	**Pn**		**00 47 42.0**	**-0.6**
	baz=93							
N19K	**Bonanza Creek**	**1.64**	**277**		**Pn**		**00 47 42.0**	**-0.6**
AU22	**Augustine Moun**	**1.70**	**221**		**Pn**		**00 47 44.0**	**+0.7**
AU22					**Sn**		**00 48 04.9**	**+0.6**
AU2	**Augustine Isla**	**1.71**	**222**		**Pn**		**00 47 44.1**	**+0.7**
AUL	**Augustine Lava**	**1.72**	**223**		**Pn**		**00 47 44.2**	**+0.7**
AUQ	**Augustine Qik'**	**1.73**	**222**		**Pn**		**00 47 44.4**	**+0.6**
AGU	**Augustine-Summ**	**1.73**	**222**		**Pn**		**00 47 44.5**	**+0.6**
AUCH	**Augustine Cone**	**1.74**	**222**		**Pn**		**00 47 44.5**	**+0.7**
AUW	**Augustine West**	**1.74**	**223**		**Pn**		**00 47 44.6**	**+0.8**
SML	**Sawmill**	**1.79**	**49**	P	**Pn**		**00 47 44.5**	**0.0**
	baz=232							
SML	**Sawmill**	**1.79**	**49**		**Pn**		**00 47 44.5**	**0.0**
SML	**Sawmill**	**1.79**	**49**	IAML			00 48 14.2	
	comp=E,1μm,0.9s							
SML				IAML			00 48 15.4	
	comp=N,1μm,0.9s							
CUT	**Chulitna**	**1.80**	**13**	P	**Pn**		**00 47 45.2**	**+0.6**
	baz=195							
CUT				S	**Sn**		**00 48 07.0**	**+0.5**
	baz=195							
CUT	**Chulitna**	**1.80**	**13**		**Pn**		**00 47 45.2**	**+0.6**
CUT					**Sn**		**00 48 07.0**	**+0.5**
GLI	**Glacier Island**	**2.01**	**82**	P	**Pn**		**00 47 46.5**	**-0.9**
	baz=266							
GLI	**Glacier Island**	**2.01**	**82**		**Pn**		**00 47 46.5**	**-0.9**
GLI	**Glacier Island**	**2.01**	**82**	IAML			00 48 19.1	
	comp=N,1μm,0.6s							
GLI				IAML			00 48 19.1	
	comp=E,1μm,0.6s							
O18K	**Koktuh Hills**	**2.17**	**250**	P	**Pn**		**00 47 49.1**	**-0.6**
	baz=66							
O18K				S	**Sn**		**00 48 14.6**	**-1.0**
	baz=66							
O18K	**Koktuh Hills**	**2.17**	**250**		**Pn**		**00 47 49.1**	**-0.6**
O18K					**Sn**		**00 48 14.6**	**-1.0**
SCM	**Sheep Creek Mo**	**2.19**	**56**		**Pn**		**00 47 49.9**	**0.0**
SCM	**Sheep Creek Mo**	**2.19**	**56**	IAML			00 48 25.3	
	comp=N,1μm,1.0s							
SCM				IAML			00 48 30.0	
	comp=E,1μm,0.8s							
SVW2	**Sparrevohn**	**2.20**	**283**		**Pn**		**00 47 48.9**	**-1.1**
JPK	**Jack Peak**	**2.27**	**78**		**Pn**		**00 47 50.6**	**-0.4**
PPLA	**Purkeypile**	**2.29**	**348**	P	**Pn**		**00 47 51.9**	**+0.5**
	baz=168							
PPLA	**Purkeypile**	**2.29**	**348**		**Pn**		**00 47 51.9**	**+0.5**
FID	**Port Fidalgo**	**2.31**	**86**		**Pn**		**00 47 50.0**	**-1.4**
FID					**Sn**		**00 48 16.9**	**-1.9**
FID	**Port Fidalgo**	**2.31**	**86**	IAML			00 48 27.4	
	comp=E,751nm,0.7s							
FID				IAML			00 48 29.8	
	comp=N,889nm,0.6s							
HIN	**Hinchinbrook I**	**2.32**	**95**		**Pn**		**00 47 50.6**	**-1.0**
HIN	**Hinchinbrook I**	**2.32**	**95**	IAML			00 48 36.1	
	comp=N,779nm,0.8s							
HIN				IAML			00 48 40.3	
	comp=E,730nm,0.8s							
N18K	**Kilae Creek**	**2.33**	**272**	P	**Pn**		**00 47 50.9**	**-0.8**
	baz=88							
N18K				S	**Sn**		**00 48 17.6**	**-1.7**
	baz=88							
N18K	**Kilae Creek**	**2.33**	**272**		**Pn**		**00 47 50.9**	**-0.8**
N18K					**Sn**		**00 48 17.6**	**-1.7**
L19K	**White Mountain**	**2.34**	**312**	P	**Pn**		**00 47 52.1**	**+0.3**
	baz=129							
L19K	**White Mountain**	**2.34**	**312**		**Pn**		**00 47 52.1**	**+0.3**
VMT	**TAPS Tl Valdez**	**2.38**	**78**		**Pn**		**00 47 52.5**	**+0.1**
VMT					**Sn**		**00 48 20.1**	**-0.5**
HUR	**Hurricane**	**2.43**	**17**		**Pn**		**00 47 54.6**	**+1.5**
WAT7	**Susitna Watana**	**2.44**	**26**		**Pn**		**00 47 53.5**	**+0.2**
WAT1	**Susitna Watana**	**2.50**	**29**	P	**Pn**		**00 47 54.2**	**+0.1**
	baz=211							
WAT1	**Susitna Watana**	**2.50**	**29**		**Pn**		**00 47 54.2**	**+0.1**
WAT6	**Susitna Watana**	**2.52**	**39**	P	**Pn**		**00 47 54.8**	**+0.2**
	baz=222							
WAT6				S	**Sn**		**00 48 23.9**	**-0.4**
	baz=222							
WAT6	**Susitna Watana**	**2.52**	**39**		**Pn**		**00 47 54.8**	**+0.2**
WAT6					**Sn**		**00 48 23.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.67**	**90**	P	**Pn**		**00 47 55.5**	**-0.8**
	baz=275							
EYAK	**Cordova Ski Ar**	**2.67**	**90**		**Pn**		**00 47 55.5**	**-0.8**
DIV	**Divide**	**2.68**	**78**		**Pn**		**00 47 56.0**	**-0.4**
KLU	**Klutina**	**2.68**	**70**	P	**Pn**		**00 47 56.5**	**0.0**
	baz=255							
KLU				S	**Sn**		**00 48 27.0**	**-1.0**
	baz=255							
KLU	**Klutina**	**2.68**	**70**		**Pn**		**00 47 56.5**	**0.0**
KLU					**Sn**		**00 48 27.0**	**-1.0**
KLU	**Klutina**	**2.68**	**70**	IAML			00 48 40.6	
	comp=N,548nm,0.5s							
KLU				IAML			00 48 44.7	
	comp=E,385nm,0.9s							
Q23K	**Middleton Isla**	**2.71**	**115**	P	**Pn**		**00 47 56.2**	**-0.7**
	baz=299							
Q23K	**Middleton Isla**	**2.71**	**115**		**Pn**		**00 47 56.2**	**-0.7**
MID	**Middleton Isla**	**2.72**	**115**		**Pn**		**00 47 56.2**	**-0.7**
M24K	**Tolsona, Glenn**	**2.80**	**57**	P	**Pn**		**00 47 59.1**	**+0.9**
	baz=242							
M24K	**Tolsona, Glenn**	**2.80**	**57**		**Pn**		**00 47 59.1**	**+0.9**
M24K	**Tolsona, Glenn**	**2.80**	**57**	IAML			00 48 47.8	
	comp=N,860nm,0.7s							
M24K				IAML			00 48 51.0	
	comp=E,802nm,0.7s							
TRF	**Thorofare Moun**	**2.83**	**8**	P	**Pn**		**00 47 59.5**	**+0.9**
	baz=189							
TRF				S	**Sn**		**00 48 32.0**	**+0.3**
	baz=189							
TRF	**Thorofare Moun**	**2.83**	**8**		**Pn**		**00 47 59.5**	**+0.9**
TRF					**Sn**		**00 48 31.9**	**+0.3**
TRF	**Thorofare Moun**	**2.83**	**8**	IAML			00 48 37.7	
	comp=E,676nm,0.5s							
KTH	**Kantishna Hill**	**2.90**	**2**		**Pn**		**00 48 00.4**	**+0.9**
KAWH	**Katmai**	**2.94**	**221**		**Pn**		**00 48 01.0**	**+0.9**
RND	**Reindeer**	**2.96**	**21**		**Pn**		**00 48 01.5**	**+1.2**
KDAK	**Kodiak Island**	**2.98**	**195**	P	**Pn**		**00 47 59.9**	**-0.6**
	baz=42,slow=12							
KDAK				S	**Sn**		**00 48 32.9**	**-2.2**
	baz=350,slow=17							
KDAK	**Kodiak Island**	**2.98**	**195**		**Pn**		**00 47 59.9**	**-0.6**
KDAK				IAML			00 48 48.5	
	comp=E,281nm,0.7s							
K20K	**Telida**	**3.03**	**334**	P	**Pn**		**00 48 01.6**	**+0.4**
	baz=152							
K20K	**Telida**	**3.03**	**334**		**Pn**		**00 48 01.6**	**+0.4**
KVTA	**Katmai Vly 10**	**3.11**	**224**		**Pn**		**00 48 02.8**	**+0.5**
KCE	**Katmai Mt Cerb**	**3.18**	**222**		**Pn**		**00 48 03.6**	**+0.4**
KABR	**Katmai Barrier**	**3.20**	**219**		**Pn**		**00 48 04.5**	**+0.9**
RAGM	**Ragged Mountai**	**3.22**	**92**		**Pn**		**00 48 02.4**	**-1.5**
TT01	**Tatalina**	**3.22**	**316**		**Pn**		**00 48 04.0**	**+0.2**
BMRM	**Bremner River**	**3.23**	**82**	P	**Pn**		**00 48 03.0**	**-0.9**
	baz=268							
BMRM	**Bremner River**	**3.23**	**82**		**Pn**		**00 48 03.0**	**-0.9**
BMRM	**Bremner River**	**3.23**	**82**	IAML			00 48 54.9	
	comp=E,482nm,0.8s							
MCK	**McKinley**	**3.25**	**18**	P	**Pn**		**00 48 03.1**	**-1.1**
	baz=200							
MCK	**McKinley**	**3.25**	**18**		**Pn**		**00 48 03.1**	**-1.1**
MCK	**McKinley**	**3.25**	**18**	IAML			00 48 48.7	
	comp=N,269nm,0.9s							
CHUM	**Lake Minchumin**	**3.27**	**351**	P	**Pn**		**00 48 04.8**	**+0.3**
	baz=170							
CHUM	**Lake Minchumin**	**3.27**	**351**		**Pn**		**00 48 04.8**	**+0.3**
N25K	**Chitina, Valde**	**3.32**	**71**	P	**Pn**		**00 48 05.5**	**+0.3**
	baz=257							
N25K	**Chitina, Valde**	**3.32**	**71**		**Pn**		**00 48 05.5**	**+0.3**
N25K	**Chitina, Valde**	**3.32**	**71**	IAML			00 48 58.0	
	comp=N,305nm,0.5s							
N25K				IAML			00 49 00.2	
	comp=E,310nm,0.6s							
HARP	**HAARP**	**3.36**	**56**	P	**Pn**		**00 48 06.3**	**+0.6**
	baz=242							
HARP	**HAARP**	**3.36**	**56**		**Pn**		**00 48 06.3**	**+0.6**
CAHL	**Cahill**	**3.37**	**221**		**Pn**		**00 48 05.9**	**+0.1**
HMT	**Hamilton**	**3.43**	**92**		**Pn**		**00 48 05.1**	**-1.6**
KAIM	**Kayak Island**	**3.44**	**99**		**Pn**		**00 48 05.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**3.45**	**1**	P	**Pn**		**00 48 07.5**	**+0.6**
	baz=182							
BPAW	**Bear Paw Mtn.**	**3.45**	**1**		**Pn**		**00 48 07.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**3.45**	**1**	IAML			00 48 50.1	
	comp=N,412nm,0.6s							
BPAW				IAML			00 48 50.6	
	comp=E,445nm,0.4s							
KJL	**Kejulik**	**3.46**	**223**		**Pn**		**00 48 07.6**	**+0.6**
PAX	**Paxson**	**3.56**	**47**		**Pn**		**00 48 09.1**	**+0.7**
BWN	**Browne**	**3.61**	**12**		**Pn**		**00 48 09.7**	**+0.6**
BWN	**Browne**	**3.61**	**12**	IAML			00 49 13.3	
	comp=E,366nm,1.1s							
OHAK	**Old Harbor**	**3.62**	**199**	P	**Pn**		**00 48 08.2**	**-1.0**
	baz=16							
OHAK	**Old Harbor**	**3.62**	**199**		**Pn**		**00 48 08.2**	**-1.0**
OHAK	**Old Harbor**	**3.62**	**199**	IAML			00 49 12.4	
	comp=E,173nm,0.6s							
GLB	**Gilahina Butte**	**3.66**	**75**		**Pn**		**00 48 09.6**	**-0.2**
GLB	**Gilahina Butte**	**3.66**	**75**	IAML			00 49 04.9	
	comp=N,251nm,0.5s							
GLB				IAML			00 49 06.9	
	comp=E,233nm,0.7s							
SUCK	**Suckling Hills**	**3.72**	**96**		**Pn**		**00 48 09.0**	**-1.6**
J20K	**Nowinta River**	**3.79**	**340**	P	**Pn**		**00 48 11.8**	**+0.3**
	baz=157							
J20K	**Nowinta River**	**3.79**	**340**		**Pn**		**00 48 11.8**	**+0.3**
VRDI	**Verde Repeater**	**3.81**	**78**	Pn	**Pn**		**00 48 11.0**	**-0.9**
VRDI				IAML			00 49 11.2	
	comp=N,189nm,0.8s							
CRQM	**Cirque**	**3.95**	**85**		**Pn**		**00 48 12.8**	**-1.0**
CRQM				IAML			00 48 59.7	
	comp=N,246nm,0.5s							
CRQM				IAML			00 49 24.1	
	comp=E,287nm,1.2s							
PLK1	**Peulik 1**	**4.01**	**227**		**Pn**		**00 48 14.2**	**-0.2**
MCARA	**McCarthy VSAT**	**4.03**	**76**	P	**Pn**		**00 48 14.8**	**+0.1**
	baz=264							
NEA2	**Nenana**	**4.06**	**13**	P	**Pn**		**00 48 15.5**	**+0.3**
	baz=195							
NEA2	**Nenana**	**4.06**	**13**		**Pn**		**00 48 15.5**	**+0.3**
WRH	**Wood River Hil**	**4.08**	**19**		**Pn**		**00 48 16.1**	**+0.7**
TGL	**Tana Glacier**	**4.10**	**85**	Pn	**Pn**		**00 48 14.5**	**-1.3**
TGL				IAML			00 49 22.8	
	comp=N,248nm,0.7s							
TGL				IAML			00 49 23.0	
	comp=E,181nm,0.7s							
WAX	**Waxell Ridge**	**4.11**	**89**		**Pn**		**00 48 14.5**	**-1.5**
WAX				IAML			00 49 29.1	
	comp=E,266nm,0.6s							
MENT	**Mentasta**	**4.21**	**54**		**Pn**		**00 48 16.3**	**-0.9**
MENT				IAML			00 49 37.1	
	comp=E,249nm,0.7s							
HDA	**Harding Lake**	**4.24**	**26**	P	**Pn**		**00 48 18.5**	**+0.9**
	baz=210							
HDA	**Harding Lake**	**4.24**	**26**		**Pn**		**00 48 18.4**	**+0.9**
HDA	**Harding Lake**	**4.24**	**26**	IAML			00 49 15.8	
	comp=N,154nm,0.9s							
HDA				IAML			00 49 29.7	
	comp=E,124nm,1.1s							
RIDG	**Independent Ri**	**4.28**	**41**	P	**Pn**		**00 48 19.2**	**+1.0**
	baz=227							
RIDG	**Independent Ri**	**4.28**	**41**		**Pn**		**00 48 19.3**	**+1.1**
RIDG				IAML			00 49 30.6	
	comp=N,164nm,0.8s							
PTPK	**Patty Peak**	**4.28**	**79**		**Pn**		**00 48 18.2**	**-0.1**
M26K	**Nabesna, AK**	**4.28**	**62**	P	**Pn**		**00 48 19.1**	**+0.9**
	baz=250							
M26K	**Nabesna, AK**	**4.28**	**62**		**Pn**		**00 48 19.1**	**+0.9**
CCB	**Clear Creek Bu**	**4.29**	**20**		**Pn**		**00 48 18.6**	**+0.4**
KIAG	**Kiagna River**	**4.32**	**83**		**Pn**		**00 48 18.1**	**-0.9**
ISLE	**Juniper Island**	**4.35**	**87**		**Pn**		**00 48 17.8**	**-1.5**
ISLE				IAML			00 49 40.7	
	comp=E,134nm,0.9s							
ISLE				IAML			00 49 48.8	
	comp=N,174nm,1.2s							
PS08	**TAPS Pump Stn8**	**4.38**	**25**		**Pn**		**00 48 20.3**	**+0.7**
MLY	**Manley**	**4.39**	**2**	P	**Pn**		**00 48 20.2**	**+0.5**
	baz=183							
MLY	**Manley**	**4.39**	**2**		**Pn**		**00 48 20.2**	**+0.5**
MLY	**Manley**	**4.39**	**2**	IAML			00 49 12.6	
	comp=N,128nm,1.0s							
SII	**Sitkinak Islan**	**4.41**	**202**	P	**Pn**		**00 48 19.5**	**-0.5**
	baz=19							
SII	**Sitkinak Islan**	**4.41**	**202**		**Pn**		**00 48 19.5**	**-0.5**
SII	**Sitkinak Islan**	**4.41**	**202**	IAML			00 49 36.0	
	comp=N,180nm,0.8s							
SII				IAML

baz=198
H24K Noodor Dome 5.40 15 Pn Pn 00 48 33.9 +0.4
K27K Chicken 5.41 48 P Pn 00 48 34.1 +0.5
baz=236
K27K Chicken 5.41 48 Pn 00 48 34.1 +0.5
PCA Pinnacle 5.44 91 Pn 00 48 34.6 +0.5
PINM Pinnacle 5.45 91 P Pn 00 48 34.6 +0.5
baz=281
IMAR Indian Mountai 5.46 349 Pn 00 48 34.2 -0.1
PRP Porcupine Dome 5.50 25 P Pn 00 48 35.1 +0.1
baz=210
PRP Porcupine Dome 5.50 25 Pn 00 48 36.2 +1.2
BCPM Bancas Point 5.78 92 Pn Pn 00 48 38.7 +0.1
PNL Peninsula 5.96 95 Pn 00 48 40.7 -0.4
VNHG Veniaminof 1 6.12 227 Pn 00 48 43.9 +0.5
EGAK Eagle 6.18 44 Pn Pn 00 48 44.4 +0.3
DAWY Dawson 6.45 53 Pn 00 48 48.1 +0.3
FYU Fort Yukon 6.49 21 Pn 00 48 49.2 +1.0
HYT Haines Junctio 6.70 83 Pn 00 48 50.8 -0.5
SDPT Sand Point 7.27 227 Pn Pn 00 48 58.9 0.0
BM03 Burnt Mountain 7.36 20 Pn 00 48 59.6 -0.7
BMAR Burnt Mountain 7.38 20 Pn Pn 00 49 00.8 +0.4
CNBA Chernabura Isl 7.39 221 Pn Pn 00 48 59.0 -1.6
BM01 Burnt Mountain 7.40 20 Pn 00 49 00.1 -0.7
ANM Nome 7.62 307 P Pn 00 49 02.7 -1.1
baz=114
ANM Nome 7.62 307 Pn Pn 00 49 04.4 +0.6
WHY Whitehorse 8.00 83 Pn Pn 00 49 08.5 -0.5
TOLK Toolik Lake Re 8.04 4 P Pn 00 49 08.6 -0.8
baz=186
TOLK Toolik Lake Re 8.04 4 Pn Pn 00 49 10.9 +1.4
BESE Bessie Mountai 8.53 97 Pn Pn 00 49 16.7 +0.5
JIS Juneau Island 8.87 98 Pn Pn 00 49 21.6 +0.9
SIT Sitka 8.96 107 Pn Pn 00 49 21.1 -0.9
TNA Tin City 9.02 310 Pn Pn 00 49 24.4 +1.6
WRAK Wrangell Islan 10.70 105 Pn Pn 00 49 46.9 +1.2
INK Inuvik 10.76 37 P Pn 00 49 44.2 -2.2
comp=E,0.3nm,0.3s,baz=248,slow=19,SNR=4.9
INK LR LR LR 00 54 52.3
comp=E,36nm,19.4s,baz=188,slow=43
INK Inuvik 10.76 37 Pn Pn 00 49 46.1 -0.3
CRAG Craig 10.86 111 Pn Pn 00 49 48.2 +0.2
MOBC Moresby Island 12.88 117 Pn Pn 00 50 15.2 -0.2
ATKA Atka Island 15.22 246 Pn Pn 00 50 47.3 +1.2
KIWB Kanaga Island 16.81 250 P 00 51 08.7 +1.7
YKA Yellowknife Ar 17.35 68 P Pn 00 51 09.5 -3.0
baz=277,slow=9.6,SNR=2.9
USRK Ussuriysk Ar. 46.74 286 LR LR 01 16 47.6
comp=E,30nm,20.2s,baz=188,slow=38
ARCES ARCESS Array B 50.07 2 P P 00 56 00.8 -1.4
comp=E,2.1nm,0.9s,baz=1.0,slow=7.3,SNR=5.7
ARCES ARCESS Array B 50.07 2 P P 00 56 01.4 -0.7
SONM Songino Array 55.13 307 P P 00 56 41.4 +1.4
comp=E,2.1nm,0.7s,baz=34,slow=7.6,SNR=13
SONM Songino Array 55.13 307 P P 00 56 41.1 +1.1
ZALV Zalesovo Beam 57.37 324 P P 00 56 54.2 -1.4
comp=E,0.3nm,0.3s,baz=12,slow=7.4,SNR=2.6
FINES FINESS Array B 58.20 2 P P 00 57 00.3 -1.0
comp=E,0.9nm,0.7s,baz=0.0,slow=9.9,SNR=4.0
FINES FINESS Array B 58.20 2 P P 00 57 01.9 +0.6
MKAR Makanchi Array 64.47 322 P P 00 57 43.4 -0.5
comp=E,0.3nm,0.6s,baz=41,slow=7.7,SNR=2.6
MKAR Makanchi Array 64.47 322 P P 00 57 44.3 +0.4
AKASG Malin Array Be 68.99 360 P P 00 58 13.6 +1.1
comp=E,0.3nm,0.4s,baz=9.1,slow=7.0,SNR=2.4

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*NEIC **26** 01:36:14.8±1.2, 25°.8S±0°.1×179°.8E±0°.1, h493km±9km, mb4.2/11, Error ellipse: s-maj=20.1km s-min=18.8km az=48.0*
*IDC **26** 01:36:15.2±1.4, 25°.73S×179°.68E, h503km±17km, mb3.4/5, mb1 3.6/8, mb1mx3.3/23, mbtmp4.3/8, Error ellipse: s-maj=29.6km s-min=17.5km az=165.0*
ISC 26 01:36:15.1±0.7, 25°.84S±0°.09×179°.7E±0°.1, h503km, n30, σ0^{s}97/28, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.01**	**148**	P	**P**	**01 37 34.7**	**+1.0**
105nm,0.3s,baz=111,slow=5.5,SNR=10							
RAO	**Raoul Island**	**4.01**	**148**	P	**P**	**01 37 34.0**	**+0.3**
MSVF	**Nonsavu**	**8.21**	**349**	P	**P**	**01 38 12.0**	**-1.9**
0.6nm,0.3s,baz=135,slow=14,SNR=4.2							
MSVF	**Nonsavu**	**8.21**	**349**	P	**P**	**01 38 11.5**	**-2.4**
PINNC	**Pines Island,**	**11.62**	**283**	P	**P**	**01 38 50.0**	**+0.3**
URZ	**Urewera**	**12.57**	**189**	P	**P**	**01 38 58.9**	**-0.6**
0.7nm,0.3s,baz=124,slow=13,SNR=1.7							
URZ				S	**S**	**01 41 12.5**	**-2.4**
0.5nm,0.3s,baz=293,slow=21,SNR=1.8							
DZM	**Mont Dzumac**	**12.67**	**284**	P	**P**	**01 39 01.4**	**+0.5**
0.6nm,0.3s,baz=99,slow=15,SNR=14							
DZM	**Mont Dzumac**	**12.67**	**284**	P	**P**	**01 39 01.5**	**+0.6**
ARMA	**Armidale**	**25.12**	**253**	P	**P**	**01 41 00.9**	**+1.3**
ARMA				IAmb	IAmb	01 41 02.7	
comp=Z,8.3nm,0.8s							
EIDS	**Eidsvold**	**25.78**	**265**	P	**P**	**01 41 05.8**	**+0.5**
CTAO	**Charters Tower**	**31.25**	**274**	P	**P**	**01 41 53.1**	**-0.1**
CTAO				IAmb	IAmb	01 41 55.1	
comp=Z,12nm,0.8s							
STKA	**Stephens Creek**	**33.77**	**251**	P	**P**	**01 42 14.9**	**+0.5**
comp=Z,1.6nm,0.4s,baz=108,slow=11,SNR=4.3							
AS31	**Alice Springs**	**41.47**	**263**	P	**P**	**01 43 17.9**	**+0.2**
AS31				IAmb	IAmb	01 43 19.9	
comp=Z,2.5nm,0.4s							
ASAR	**Alice Springs**	**41.47**	**263**	P	**P**	**01 43 18.1**	**+0.4**
comp=Z,2.1nm,0.3s,baz=90,slow=7.2,SNR=57							
WR0	**Warramunga Arr**	**41.84**	**268**	P	**P**	**01 43 20.2**	**-0.5**
WR0				IAmb	IAmb	01 43 21.4	
comp=Z,4.5nm,0.7s							
WRA	**Warramunga Arr**	**42.02**	**268**	P	**P**	**01 43 22.0**	**-0.1**
comp=Z,4.0nm,0.5s,baz=104,slow=8.0,SNR=26							
WRA	**Warramunga Arr**	**42.02**	**268**	P	**P**	**01 43 22.2**	**+0.1**
KNRA	**Kununurra**	**48.42**	**272**	P	**P**	**01 44 11.1**	**-0.1**
QSPA	**South Pole Qui**	**64.25**	**180**	P	**P**	**01 46 00.7**	**+0.7**
QSPA				IAmb	IAmb	01 46 03.1	
comp=Z,7.9nm,1.4s							
USA0B	**Ussuriysk Arra**	**82.24**	**328**	P	**P**	**01 47 44.3**	**+1.3**
NVAR	**Mina Array Bea**	**86.34**	**44**	P	**P**	**01 48 03.9**	**+0.2**
comp=Z,0.6nm,0.7s,baz=215,slow=7.4,SNR=4.8							
PINE	**Pine Mountain**	**88.08**	**39**	P	**P**	**01 48 11.8**	**0.0**
PINE				IAmb	IAmb	01 48 14.0	
comp=Z,4.0nm,0.8s							
TMUT	**Trail Mountain**	**91.38**	**46**	P	**P**	**01 48 27.1**	**-0.1**
TMUT				IAmb	IAmb	01 48 29.4	
comp=Z,2.4nm,0.7s							
TXAR	**Lajitas Array**	**91.70**	**58**	P	**P**	**01 48 29.6**	**+0.9**
comp=Z,0.7nm,0.8s,baz=201,slow=7.0,SNR=9.3							
TXAR	**Lajitas Array**	**91.70**	**58**	P	**P**	**01 48 28.9**	**+0.1**
NB2	**NORSAR Subarra**	**143.94**	**350**	PKP	PKPbc	01 54 50.8	-0.7
comp=Z,0.4nm,0.4s,baz=18,slow=3.2							
NOA	**NORSAR Array B**	**143.94**	**350**	PKP	PKPbc	01 54 50.2	-1.3
comp=Z,0.4nm,0.8s,baz=228,slow=17,SNR=5.1							
HFS	**Hagfors**	**144.38**	**348**	PKP	PKPbc	01 54 52.0	-0.8
comp=Z,2.2nm,0.4s,baz=64,slow=3.4,SNR=26							
AKASG	**Malin Array Be**	**146.42**	**325**	PKPbc	**PKPdf**	**01 54 56.4**	**-0.4**
comp=Z,0.4nm,0.3s,baz=41,slow=3.2,SNR=4.1							
MMAI	**Mount Meron Ar**	**148.19**	**291**	PKPbc	**PKPbc**	**01 55 04.5**	**0.0**
comp=Z,0.5nm,0.3s,baz=82,slow=6.0,SNR=4.1							

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*IDC **26** 02:01:44.1±0.8, 1°.69N×126°.69E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/37, mbtmp3.9/11, MS3.4/1, Ms1 3.4/1, ms1mx2.5/33, Error ellipse: s-maj=52.5km s-min=14.8km az=76.0*
*DJA **26** 02:01:50.0±0.5, 2°N±5°×12°7E±°, h46km±11km, M4.0/6, mb4.2/3, mB4.8/1, MLv3.9/6, Mw(mB)4.1/1*
*NEIC **26** 02:01:50.8±1.0, 1°.66N±0°.08×126°.8E±0°.1, h43km±6km, mb4.1/12, Error ellipse: s-maj=19.3km s-min=7.9km az=57.0*
ISC 26 02:01:49.5±0.6, 1°.80N±0°.07×126°.90E±0°.09, h35km, n32, σ1^{s}06/29, mb4.1/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**156**		**Pn**	**02 02 08.6**	**-0.1**
TNTI	**Ternate**	**1.12**	**156**	P	**Pn**	**02 02 08.8**	**0.0**
SGSI	**Sangihe**	**2.32**	**324**	P	**Pn**	**02 02 25.2**	**-0.1**
LBMI	**Labuha**	**2.50**	**166**	P	**Pn**	**02 02 29.9**	**+2.2**
KMSI	**Cibinong**	**3.17**	**247**	P	**Pn**	**02 02 38.2**	**+1.3**
GTOI	**Gorontalo**	**4.06**	**253**	P	**Pn**	**02 02 49.6**	**+0.4**
NLAI	**Namlea**	**5.01**	**178**	P	**Pn**	**02 03 03.4**	**+1.1**
0.1nm1μm25nm,0.9s							
TOLI2	**Tolitoli**	**6.16**	**264**	Pn	**Pn**	**02 03 17.8**	**-0.2**
KNRA	**Kununurra**	**17.46**	**174**		**Pn**	**02 05 48.9**	**-1.6**
KNRA				IAmb	IAmb	02 05 52.6	
comp=Z,12nm,1.0s							
WB0	**Warramunga Arr**	**22.66**	**161**	P	**P**	**02 06 46.5**	**-1.4**
WRA	**Warramunga Arr**	**22.81**	**162**	P	**P**	**02 06 48.5**	**-1.1**
comp=Z,5.6nm,0.6s,baz=341,slow=11,SNR=48							
WRA	**Warramunga Arr**	**22.81**	**162**	P	**P**	**02 06 48.4**	**-1.1**
WB2	**Warramunga Arr**	**22.81**	**162**	P	**P**	**02 06 48.4**	**-1.1**
WB2				IAmb	IAmb	02 06 49.8	
comp=Z,7.4nm,0.8s							
WR0	**Warramunga Arr**	**22.89**	**161**	P	**P**	**02 06 48.1**	**-2.2**
WR0				IAmb	IAmb	02 06 54.1	
comp=Z,9.9nm,1.3s							
PMG	**Port Moresby**	**23.05**	**119**	LR	LR	02 18 51.3	
comp=Z,96nm,18.8s,baz=188,slow=44							
AS31	**Alice Springs**	**26.21**	**165**	P	**P**	**02 07 21.0**	**-0.3**
ASAR	**Alice Springs**	**26.22**	**165**	P	**P**	**02 07 20.1**	**-1.2**
comp=Z,2.3nm,0.8s,baz=354,slow=16,SNR=21							
KSRS	**Korea Array**	**35.49**	**1**	P	**P**	**02 08 43.3**	**+0.4**
comp=Z,0.5nm,0.5s,baz=171,slow=8.5,SNR=2.0							
MJAR	**Matsushiro Arr**	**36.11**	**16**	P	**P**	**02 08 49.2**	**+0.9**
comp=Z,1.0nm,0.7s,baz=182,slow=9.5,SNR=4.7							
MJAR	**Matsushiro Arr**	**36.11**	**16**	IAmb	IAmb	02 09 17.9	
comp=Z,2.1nm,1.4s							
STKA	**Stephens Creek**	**36.28**	**159**	P	**P**	**02 08 50.2**	**+0.5**
comp=Z,1.1nm,0.4s,baz=20,slow=7.4,SNR=2.8							
STKA	**Stephens Creek**	**36.28**	**159**	IAmb	IAmb	02 08 54.4	
comp=Z,1.2nm,1.0s							
USRK	**Ussuriysk Ar.**	**42.46**	**5**	P	**P**	**02 09 41.9**	**+0.8**
comp=Z,0.9nm,0.6s,baz=199,slow=12,SNR=2.3							
SONM	**Songino Array**	**49.17**	**342**	P	**P**	**02 10 34.3**	**+0.1**
comp=Z,0.4nm,0.5s,baz=154,slow=8.3,SNR=4.1							
MK31	**Makanchi Array**	**59.23**	**326**	P	**P**	**02 11 48.0**	**+0.6**
MK31				IAmb	IAmb	02 11 49.8	
comp=Z,1.9nm,1.1s							
MKAR	**Makanchi Array**	**59.23**	**326**	P	**P**	**02 11 47.7**	**+0.3**
comp=Z,1.1nm,0.5s,baz=119,slow=7.6,SNR=12							
ZALV	**Zalesovo Beam**	**62.38**	**333**	P	**P**	**02 12 07.1**	**-1.5**
comp=Z,0.6nm,0.5s,baz=145,slow=5.3,SNR=1.9							
BRVK	**Borovoye**	**69.09**	**327**	P	**P**	**02 12 52.8**	**+0.9**
BRVK				IAmb	IAmb	02 12 54.9	
comp=Z,2.4nm,0.9s							
ABKAR	**Akbulak array**	**73.75**	**321**	P	**P**	**02 13 19.7**	**-0.4**
ARU	**Arti**	**76.65**	**328**	P	**P**	**02 13 37.3**	**+0.6**
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**02 14 01.9**	**-0.9**
comp=Z,0.6nm,0.5s,baz=328,slow=5.1,SNR=7.2							
KBZ	**Khabaz**	**84.42**	**314**	P	**P**	**02 14 19.0**	**+0.4**
comp=Z,0.5nm,0.3s,baz=141,slow=10,SNR=3.6							

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*SOME **26** 02:30:28.3, 42°.32N×80°.05E, h15km*
*KRNET **26** 02:30:29.7±0.1, 42°.23N×79°.95E, h16km, mb2.6*
*NNC **26** 02:30:30.6±3.3, 42°.46N×80°.05E, h0km, mb2.7, mpv2.2, Error ellipse: s-maj=22.5km s-min=20.3km az=135.0*
ISC 26 02:30:28.7±1.9, 42°.35N±0°.06×79°.99E±0°.05, h3km±12km, n25, σ1^{s}57/49, 10C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.89**	**334**	*eP*	**Pb**	**02 30 45.2**	**-1.7**
21nm,0.1s							
SHLS				*eS*	**Sb**	**02 30 57.6**	**-1.7**
103nm,0.2s							
PDGK	**Podgornoye**	**1.04**	**340**	⇑P	**Pb**	**02 30 47.7**	**-1.7**
1.0nm,0.5s							
PDGK				⇑S	**Sb**	**02 31 03.2**	**-0.4**
10nm,0.5s							
UZB	**Uzynbulak**	**1.07**	**318**	*eP*	**Pb**	**02 30 49.5**	**-0.4**
4.4nm,0.2s							
UZB				*eS*	**Sn**	**02 31 04.9**	**-1.2**
13nm,0.3s							
KTMS	**Ketmen**	**1.12**	**14**	*eP*	**Pb**	**02 30 50.0**	**-0.9**
21nm,0.2s							
KTMS				*eS*	**Sg**	**02 31 05.2**	**+0.4**
8.8nm,0.3s							
PRZ	**Przheval'sk**	**1.18**	**277**	⇑*iP*	**Pg**	**02 30 52.1**	**+0.7**
baz=84							
PRZ				⇑*iS*	**Sg**	**02 31 08.7**	**+2.0**
baz=84							
SATY	**Saty**	**1.36**	**302**	*eP*	**Pb**	**02 30 55.0**	**0.0**
3.1nm,0.3s							
SATY				*eS*	**Sg**	**02 31 14.4**	**+1.9**
18nm,0.1s							
KPKS	**Kokpek**	**1.47**	**320**	*eP*	**Pb**	**02 30 57.0**	**+0.3**
19nm,0.2s							
KPKS				*eS*	**Sg**	**02 31 17.7**	**+1.8**
42nm,0.4s							
TARG	**Taragay, Kyrgy**	**1.74**	**250**	⇑*iP*	**Pb**	**02 31 01.1**	**-0.5**
baz=53							
TARG				⇑*iS*	**Sb**	**02 31 24.2**	**+0.2**
baz=53							
ANVS	**Anan'yevo**	**1.77**	**285**	⇓*iP*	**Pg**	**02 31 02.5**	**-0.1**
baz=89							
ANVS				⇓*iS*	**Sg**	**02 31 27.3**	**+1.8**
baz=89							
DJR	**Jarkent**	**1.98**	**356**	*eP*	**Pb**	**02 31 05.5**	**0.0**
1.5nm,0.1s							
DJR				*eS*	**Sg**	**02 31 32.3**	**-0.2**
51nm,0.4s							
KDJ	**Kajisay**	**2.10**	**265**	⇓*iP*	**Pb**	**02 31 07.9**	**+0.4**
baz=68							
KDJ				⇓*iS*	**Sb**	**02 31 35.1**	**+1.1**
baz=68							
MDOK	**Medeo**	**2.31**	**291**	*eP*	**Pg**	**02 31 12.2**	**-0.8**
2.7nm,0.3s							
MDOK				*eS*	**Sg**	**02 31 44.0**	**+1.0**
5.9nm,0.5s							
ARXS	**Arharly**	**2.44**	**320**	*eP*	**Pb**	**02 31 13.7**	**+0.5**
2.6nm,0.4s							
ARXS				*eS*	**Sg**	**02 31 46.4**	**-0.7**
12nm,0.3s							
IZV	**Izvestkoviy**	**2.58**	**286**	*eP*	**Pb**	**02 31 16.3**	**+0.6**
3.4nm,0.3s							
IZV				*eS*	**Sg**	**02 31 50.9**	**-0.7**
12nm,0.3s							
CHKK	**Chushkaly**	**2.66**	**305**	*eP*	**Pb**	**02 31 17.4**	**+0.4**
1.8nm,0.2s							
CHKK				*eS*	**Sg**	**02 31 52.8**	**-1.4**
9.3nm,0.1s							
KTBS	**Karatobe**	**2.78**	**300**	*eP*	**Pb**	**02 31 19.4**	**+0.4**
2.0nm,0.4s							
KTBS				*eS*	**Sb**	**02 31 56.1**	**+2.7**
7.3nm,0.6s							
ULHL	**Ulahol**	**2.78**	**269**	⇑*iP*	**Pb**	**02 31 17.4**	**-1.8**
baz=71							
ULHL				⇑*iS*	**Sb**	**02 31 52.0**	**-1.7**
baz=71							
KAPS	**Kapalarasan**	**2.97**	**351**	*eP*	**Pb**	**02 31 22.9**	**+0.7**
0.4nm,0.2s							
KAPS				*eS*	**Sg**	**02 32 02.1**	**-1.9**
11nm,0.3s							
BOOM	**Boomskoye usch**	**3.00**	**274**	⇓*iP*	**Pb**	**02 31 20.6**	**-2.3**
baz=76							
BOOM				⇓*iS*	**Sb**	**02 31 57.4**	**-2.6**
baz=76							
KST	**Kastek**	**3.05**	**284**	*eP*	**Pb**	**02 31 25.2**	**+1.5**
5.2nm,0.5s							
KST				*eS*	**Sg**	**02 32 06.0**	**-0.6**
5.0nm,0.6s							
DGS	**Degeres**	**3.23**	**287**	*eP*	**Pb**	**02 31 27.1**	**+0.3**
2.4nm,0.4s							
DGS				*eS*	**Sb**	**02 32 09.2**	**+2.8**
3.5nm,0.5s							
TKM2	**Tokmak 2**	**3.29**	**281**	⇓*iP*	**Pb**	**02 31 24.7**	**-3.1**
baz=84							
TKM2				⇓*iS*	**Sb**	**02 32 04.9**	**-3.4**
baz=84							
TKM2	**Tokmak 2**	**3.29**	**281**	⇓Pn	**Pb**	**02 31 25.5**	**-2.4**
0.8nm,0.5s							
TKM2				⇓Lg	Lg	02 32 14.4	
1.9nm,0.3s							
KRBS	**Karabastau**	**3.44**	**294**	*eP*	**Pb**	**02 31 31.3**	**+1.1**
1.3nm,0.3s							
KRBS				*eS*	**Sg**	**02 32 16.6**	**-2.5**
4.1nm,0.3s							
MK31	**Makanchi Array**	**4.74**	**20**	⇑Pn	**Pn**	**02 31 42.2**	**+1.2**
0.1nm,0.2s,baz=201,slow=12,SNR=22							
MK31				⇑Sn	**Sn**	**02 32 37.8**	**+1.4**
0.2nm,0.3s,baz=202,slow=25							
MK31				⇓Lg	Lg	02 32 55.0	
0.2nm,0.3s,baz=194,slow=29							

WEL 26 02:41:39.2, 40°S±2°×17°7E±°, h22km±3km, M3.2/48, ML3.6/48, MLv3.2/48, Error ellipse: s-maj=0.0km s-min=0.0km az=54.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRHZ	**Kereru**	**0.16**	**291**	P	Pb	02 41 44.2	-0.7
KRHZ				S	Sb	02 41 48.7	-0.3
KAHZ	**Kahuranaki**	**0.26**	**112**	P	Pb	02 41 45.8	+0.3
KAHZ				S	Sn	02 41 52.4	-0.8
MCHZ	**McNeill Hill**	**0.28**	**22**	P	Pb	02 41 46.1	+0.5
MCHZ				S	Sn	02 41 51.9	-1.6
KWHZ	**Kaweka Forest**	**0.30**	**338**	P	Pb	02 41 46.0	+0.1
KWHZ				S	Sb	02 41 51.9	+1.3
PNHZ	**Pukenui**	**0.35**	**233**	P	Pb	02 41 47.1	+0.3
PNHZ				S	Sb	02 41 53.5	+1.5
WPHZ	**Waipukurau**	**0.38**	**195**	P	Pb	02 41 47.7	+0.6
WPHZ				S	Sn	02 41 54.5	-1.5
CKHZ	**Cape Kidnapper**	**0.40**	**84**	P	Pb	02 41 48.3	+0.8
CKHZ				S	Sn	02 41 56.0	-0.5
PXZ	**Pawanui**	**0.40**	**145**	P	Pb	02 41 48.2	+0.6
PXZ				S	Sn	02 41 56.9	+0.3
BHHZ	**Black Hill Sta**	**0.44**	**298**	P	Pb	02 41 48.2	0.0
BHHZ				S	Sb	02 41 55.9	+1.5
BKZ	**Black Stump Fm**	**0.54**	**354**	P	Pb	02 41 49.8	-0.1
BKZ				S	Sb	02 41 58.2	+0.9
ARHZ	**Aropaoanui**	**0.55**	**38**	P	Pb	02 41 50.7	+0.5
PRHZ	**Porangahau**	**0.57**	**175**	P	Pb	02 41 51.0	+0.5
PRHZ				S	Sn	02 42 01.6	+0.9
TSZ	**Takapari Road**	**0.59**	**232**	P	Pb	02 41 50.8	-0.1
NMHZ	**Naumai**	**0.63**	**17**	P	Pb	02 41 52.1	+0.5
DVHZ	**Dannevirke**	**0.67**	**207**	P	Pb	02 41 52.6	+0.4
DVHZ				S	Sn	02 42 02.8	-0.6
MOVZ	**Moawhango**	**0.69**	**295**	P	Pb	02 41 52.5	-0.1
ANWZ	**Angora Road**	**0.76**	**185**	P	Pb	02 41 53.8	+0.1
ANWZ				S	Sn	02 42 07.0	+1.5
WHHZ	**Waihua**	**0.81**	**40**	P	Pb	02 41 54.8	+0.3
WHHZ				S	Sn	02 42 07.6	+0.9
TUVZ	**Tukino**	**0.83**	**301**	P	Pn	02 41 55.3	-0.4
TUVZ				P	Pb	02 42 09.8	+15
WNVZ	**Wahianoa**	**0.83**	**296**	P	Pb	02 41 55.3	+0.3
WHVZ	**Whangaehu Hut**	**0.86**	**299**	P	Pb	02 41 55.8	+0.3
ETVZ	**East Tongariro**	**0.87**	**310**	P	Pb	02 41 55.9	+0.2
MRHZ	**Matea Rd**	**0.87**	**352**	P	Pb	02 41 55.7	+0.1
MTHZ	**Maungataniwha**	**0.87**	**14**	P	Pb	02 41 55.8	+0.1
OTVZ	**Oturere**	**0.88**	**307**	P	Pb	02 41 56.1	+0.3
SNVZ	**South Ngauruho**	**0.88**	**305**	P	Pb	02 41 56.1	+0.3
RAHZ	**Arahi**	**0.88**	**28**	P	Pb	02 41 56.0	+0.2
RAHZ				P	Pn	02 42 09.3	+13
TRVZ	**Turoa**	**0.88**	**297**	P	Pn	02 41 56.3	-0.2
DRZ	**Dome Shelter**	**0.88**	**298**	P	Pn	02 41 56.3	-0.3
TMVZ	**Te Maari**	**0.89**	**311**	P	Pb	02 41 56.1	+0.2
HATZ	**Hinemaiaia**	**0.89**	**335**	P	Pb	02 41 56.1	+0.2
FWVZ	**Far West T-bar**	**0.90**	**299**	P	Pb	02 41 56.3	+0.1
MTVZ	**Mangateitei**	**0.90**	**290**	P	Pn	02 41 57.4	+0.8
RITZ	**Rihia Road**	**0.91**	**323**	P	Pn	02 41 56.7	+0.1
NGZ	**Ngauruhoe**	**0.91**	**305**	P	Pn	02 41 57.1	+0.3
NTVZ	**North Tongarir**	**0.91**	**311**	P	Pb	02 41 56.5	+0.1
POWZ	**Post Office Ro**	**0.92**	**221**	P	Pb	02 41 56.4	-0.1
NNVZ	**North Ngauruho**	**0.93**	**307**	P	Pn	02 41 57.0	-0.1
KRVZ	**Karewarewa**	**0.94**	**310**	P	Pb	02 41 56.9	+0.2
WTVZ	**West Tongariro**	**0.95**	**307**	P	Pn	02 41 57.3	-0.1
PRWZ	**Pori Road**	**0.97**	**208**	P	Pb	02 41 56.9	-0.3
KATZ	**Kakaramea**	**0.99**	**317**	P	Pn	02 41 58.2	+0.3
BFZ	**Birch Farm**	**1.01**	**194**	P	Pb	02 41 56.8	-1.2
PKVZ	**Pokaka**	**1.03**	**293**	P	Pb	02 41 58.1	-0.2
RATZ	**Rangitukua**	**1.03**	**323**	P	Pn	02 41 58.6	+0.2
TWVZ	**Taurewa**	**1.07**	**305**	P	Pb	02 41 59.9	+0.8
OHWZ	**Ohakea**	**1.08**	**242**	P	Pb	02 42 00.4	+1.1
KNZ	**Kokohu**	**1.09**	**52**	P	Pn	02 41 57.6	-1.5
SNGZ	**Shannon Statio**	**1.10**	**34**	P	Pn	02 41 58.9	-0.4
WHTZ	**Whakaora**	**1.14**	**335**	P	Pb	02 42 02.0	+1.9
ALRZ	**Allen Road**	**1.15**	**351**	P	Pn	02 41 59.8	-0.2
MHGZ	**Mahia Peninsul**	**1.18**	**63**	P	Pn	02 41 59.0	-1.3
WATZ	**Wairara**	**1.18**	**327**	P	Pn	02 42 00.4	-0.1
PRRZ	**Plateau Road**	**1.21**	**354**	P	Pn	02 42 00.8	0.0
WAZ	**Wanganui**	**1.22**	**267**	P	Pb	02 42 02.4	+0.9
WPRZ	**Whakapapatarin**	**1.22**	**345**	P	Pn	02 42 00.7	-0.3
MRZ	**Mangatainoka R**	**1.22**	**218**	P	Pn	02 41 59.9	-1.0
MUGZ	**Murupara**	**1.23**	**8**	P	Pn	02 42 00.9	-0.2
CPWZ	**Castlepoint**	**1.24**	**193**	P	Pn	02 42 00.3	-0.9
PRGZ	**Paritu Road**	**1.28**	**53**	P	Pn	02 42 00.5	-1.4
HRRZ	**Handcock Road**	**1.32**	**350**	P	Pn	02 42 02.8	+0.3
KUTZ	**Kaahu Road**	**1.34**	**334**	P	Pn	02 42 02.4	-0.2
RRRZ	**Republican Roa**	**1.36**	**358**	P	Pn	02 42 02.8	0.0
RIGZ	**Rimuhau**	**1.36**	**44**	P	Pn	02 42 01.5	-1.4
HSRZ	**Hossack Road**	**1.41**	**350**	P	Pn	02 42 03.5	0.0
HLRZ	**Highlands Stat**	**1.46**	**353**	P	Pb	02 42 07.0	+1.4
TARZ	**Mount Tarawera**	**1.46**	**358**	P	Pn	02 42 04.7	+0.3
**TMWZ

comp=E,110nm,0.2s
MOON Moon Mountain 0.84 93 Pg 02 42 50.7 -0.1
I05D Terrebonne, OR 1.10 77 P **Pb 02 42 54.8 -0.6**
baz=258,SNR=9.2
I05D S **Sb 02 43 09.6 -0.2**
baz=258
I05D Terrebonne, OR 1.10 77 Pb 02 42 55.0 -0.5
G04A Mulino 1.13 13 Pb 02 42 54.8 -1.2
G03D McMinnville, O 1.15 345 P **Pb 02 42 55.5 -0.8**
baz=164,SNR=9.3
KWBU Kawak Butte, N 1.15 107 Pb 02 42 56.3 -0.1
J01E Myrtle Point 1.23 221 P **Pn 02 42 56.8 -0.7**
baz=40,SNR=34
J01E S **Sn 02 43 14.1 +0.1**
baz=40
TDH Tom, Dick, Har 1.40 32 Pn 02 42 59.6 -0.4
PINE Pine Mountain 1.40 102 Pb 02 43 00.6 -0.1
PINE IAML 02 43 20.1
comp=E,31nm,0.4s
PINE IAML 02 43 24.9
comp=N,22nm,1.1s
J05D Fort Rock, OR 1.42 125 Pg **Pb 02 43 00.8 -0.2**
baz=306
J05D Sg **Sg 02 43 20.2 0.0**
baz=306
HUMO Hull Mountain 1.50 183 Pb 02 43 01.8 -0.4
HUMO IAML 02 43 22.5
comp=N,17nm,0.2s
HIYU Hiyu Mountain 1.52 28 Pn 02 43 01.7 +0.1
K02D Willamette Mer 1.53 204 Pn **Pn 02 43 01.5 -0.2**
baz=23,SNR=46
K02D Pg **Pb 02 43 03.2 +0.3**
baz=23
G05D Wamic, OR 1.57 43 Pb **Pb 02 43 03.1 -0.4**
baz=224,SNR=28
G05D Sb **Sb 02 43 24.4 +1.1**
baz=224
G05D Wamic, OR 1.57 43 Pb 02 43 03.3 -0.2
CROR Criterion Ridg 1.58 56 Pn 02 43 02.8 +0.3
VLL Laurance Lake 1.59 31 Pb 02 43 03.4 -0.4
VIPM Ingram Point 1.64 75 Pb 02 43 04.0 +0.7
KEBM Edson Butte 1.65 222 Pn **Pb 02 43 04.3 -0.4**
L04D Klamath Falls 1.92 168 Pb **Pn 02 43 08.1 +1.0**
baz=349,SNR=18
L04D Sb **Sb 02 43 33.8 +0.2**
baz=349
MTMW Mount Mitchell 1.97 13 Pn 02 43 08.9 +1.1
K05A Summer Lake 1.97 134 Pn **Pn 02 43 08.0 +0.1**
K05A IAML 02 43 25.4
comp=N,15nm,4.7s
LVP Lakeview Peak 1.99 9 Pn 02 43 08.8 +0.7
L02E Cave Junction 2.02 196 Pb **Pb 02 43 10.7 -0.5**
baz=16,SNR=11
F05D White Salmon 2.03 28 Pb **Pb 02 43 10.6 -0.8**
baz=209
F05D Sb **Sb 02 43 37.9 +1.4**
baz=209
F05D White Salmon 2.03 28 Pb 02 43 10.9 -0.4
RVW Rose Valley 2.05 2 Pb 02 43 10.4 -1.2
CDFW Cedar Flats 2.09 15 Pb 02 43 11.7 -0.6
B203 Quarry, Mount 2.10 10 Pn 02 43 10.9 +1.5
FL2 Flat Top 2 2.12 9 Pn 02 43 11.6 +1.7
SOSW Source of Smit 2.20 13 Pn 02 43 08.5 -2.4
ERK Elk Rock 2.23 9 Pn 02 43 12.6 +1.2
B201 Coldwater, Mou 2.24 10 Pn 02 43 12.7 +1.3
TDL Tradedollar La 2.29 11 Pn 02 43 13.9 +1.7
YBH Yreka Blue Hor 2.37 178 Pn **Pn 02 43 14.0 +0.7**
YBH IAML 02 43 49.1
comp=E,8.1nm,4.6s
YBH IAML 02 44 22.9
comp=N,6.4nm,5.0s
I07A Izee 2.40 89 Pn **Pn 02 43 13.9 +0.2**
I07A IAML 02 43 50.8
comp=N,6.0nm,4.8s
RCM Mount Rainier- 2.84 15 Pn 02 43 21.8 +1.8
G08A Pilot Rock 3.01 65 Pn **Pn 02 43 20.7 -1.3**
G08A IAML 02 44 07.8
comp=E,5.4nm,4.4s
G08A IAML 02 44 10.0
comp=N,3.5nm,1.1s
GPW Glacier Peak 4.18 16 Pn 02 43 35.9 -2.5
GDXM Geysers 5.29 180 Pn 02 43 53.6 +0.2

*NOU **26** 02:47:52.5,37.51S×176.89E,h256km,ML3.9, North Island, New Zealand*
*WEL **26** 02:48:04.8±0.6,38.2S±4.4°×17.6E±.°,h158km±5km,M2.8/55, ML2.0/10,MLv2.8/55,Error ellipse: s-maj=0.0km s-min=0.0km az=44.2*
ISC 26 02:47:59.7±1.8,37.95S±0.06×176.50E±0.06, h200km±10km,n117,σ1.65/127,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.12**	**20**	P	**Pn**	**02 48 26.4**	**+0.5**
MARZ	**Manawahe**	**0.14**	**103**	P	**Pn**	**02 48 26.8**	**+0.9**
OMRZ	**Omania**	**0.19**	**214**	P	**Pn**	**02 48 26.9**	**+0.9**
KARZ	**Kaharoa**	**0.22**	**252**	P	**Pn**	**02 48 26.9**	**+0.9**
TARZ	**Mount Tarawera**	**0.28**	**180**	P	**Pn**	**02 48 27.5**	**+1.2**
NGRZ	**Ngongotaha**	**0.29**	**239**	P	**Pn**	**02 48 27.4**	**+1.2**
TGRZ	**Tauranga**	**0.29**	**319**	P	**Pn**	**02 48 26.9**	**+0.7**
HLRZ	**Highlands Stat**	**0.32**	**202**	P	**Pn**	**02 48 27.6**	**+1.3**
UTU	**Utuhina**	**0.33**	**228**	P	**Pn**	**02 48 27.6**	**+1.3**
RRRZ	**Republican Roa**	**0.39**	**179**	P	**Pn**	**02 48 27.4**	**+1.0**
HSRZ	**Hossack Road**	**0.41**	**210**	P	**Pn**	**02 48 27.8**	**+1.3**
KMRZ	**Kaimai**	**0.46**	**283**	P	**Pn**	**02 48 27.7**	**+1.0**
HRRZ	**Handcock Road**	**0.47**	**202**	P	**Pn**	**02 48 27.9**	**+1.2**
GRRZ	**Galatos Road**	**0.50**	**218**	P	**Pn**	**02 48 28.2**	**+1.4**
PRRZ	**Plateau Road**	**0.55**	**189**	P	**Pn**	**02 48 28.1**	**+1.1**
MUGZ	**Murupara**	**0.56**	**158**	P	**Pn**	**02 48 28.0**	**+1.0**
MUGZ				S	**S**	**02 48 47.1**	**-1.2**
URZ	**Urewera**	**0.57**	**123**	P	**Pn**	**02 48 27.6**	**+0.6**
URZ				S	**S**	**02 48 45.7**	**-2.5**
ALRZ	**Allen Road**	**0.62**	**192**	P	**Pn**	**02 48 28.5**	**+1.3**
WPRZ	**Whakapapatarin**	**0.63**	**205**	P	**Pn**	**02 48 28.7**	**+1.4**
KUTZ	**Kaahu Road**	**0.76**	**225**	P	**Pn**	**02 48 29.5**	**+1.5**
RTZ	**Ruatahuna**	**0.76**	**151**	P	**Pn**	**02 48 29.3**	**+1.2**
RTZ				S	**S**	**02 48 48.8**	**-1.4**
TOZ	**Tahuroa Road**	**0.82**	**285**	P	**Pn**	**02 48 29.7**	**+1.4**
TLZ	**Tolley Road**	**0.85**	**243**	P	**Pn**	**02 48 30.1**	**+1.6**
MRHZ	**Matea Rd**	**0.88**	**184**	P	**Pn**	**02 48 30.1**	**+1.3**
MRHZ				S	**S**	**02 48 50.0**	**-1.5**
MWZ	**Matawai**	**0.89**	**116**	P	**Pn**	**02 48 29.5**	**+0.7**
MWZ				S	**S**	**02 48 50.2**	**-1.1**
RAGZ	**Rawiri**	**0.90**	**127**	P	**Pn**	**02 48 30.5**	**+1.6**
RAGZ				S	**S**	**02 48 50.0**	**-1.5**
RUGZ	**Raukumara Rang**	**0.93**	**91**	P	**Pn**	**02 48 29.4**	**+0.3**
RUGZ				S	**S**	**02 48 48.5**	**-3.3**
MTHZ	**Maungataniwha**	**0.94**	**164**	P	**Pn**	**02 48 30.6**	**+1.5**
MTHZ				S	**S**	**02 48 50.9**	**-1.1**
WATZ	**Wairara**	**0.97**	**219**	P	**Pn**	**02 48 30.9**	**+1.7**
HAZ	**Te Kaha**	**1.03**	**79**	P	**Pn**	**02 48 30.1**	**+0.5**
SNGZ	**Shannon Statio**	**1.06**	**142**	P	**Pn**	**02 48 31.9**	**+2.1**
SNGZ				S	**S**	**02 48 52.2**	**-1.1**
RAHZ	**Arahi**	**1.06**	**155**	P	**Pn**	**02 48 32.0**	**+2.1**
RAHZ				S	**S**	**02 48 53.4**	**-0.1**
RATZ	**Rangitukua**	**1.08**	**212**	P	**Pn**	**02 48 31.7**	**+1.7**
TKGZ	**Te Karaka**	**1.17**	**115**	P	**Pn**	**02 48 32.5**	**+1.9**
NMHZ	**Naumai**	**1.17**	**168**	P	**Pn**	**02 48 33.2**	**+2.5**
TWGZ	**Tauwhareparae**	**1.19**	**101**	P	**Pn**	**02 48 32.8**	**+2.0**
BKZ	**Black Stump Fm**	**1.21**	**180**	P	**Pn**	**02 48 32.5**	**+1.5**
RIGZ	**Rimuhau**	**1.24**	**128**	P	**Pn**	**02 48 33.4**	**+2.2**
PKGZ	**Pakihiroa**	**1.25**	**88**	P	**Pn**	**02 48 32.7**	**+1.4**
WHHZ	**Waihua**	**1.26**	**153**	P	**Pn**	**02 48 33.6**	**+2.3**
NTVZ	**North Tongarir**	**1.32**	**209**	P	**Pn**	**02 48 33.9**	**+2.0**
TMVZ	**Te Maari**	**1.32**	**208**	P	**Pn**	**02 48 33.9**	**+1.9**
ETVZ	**East Tongariro**	**1.33**	**208**	P	**Pn**	**02 48 34.0**	**+1.9**
KUZ	**Kuaotunu**	**1.36**	**332**	P	**Pn**	**02 48 33.2**	**+1.0**
ARHZ	**Aropaoanui**	**1.36**	**164**	P	**Pn**	**02 48 34.6**	**+2.4**
WTVZ	**West Tongariro**	**1.36**	**211**	P	**Pn**	**02 48 34.3**	**+2.0**
OTVZ	**Oturere**	**1.38**	**208**	P	**Pn**	**02 48 34.6**	**+2.1**
PUZ	**Puketiti**	**1.39**	**95**	P	**Pn**	**02 48 33.8**	**+1.4**
SNVZ	**South Ngauruho**	**1.41**	**209**	P	**Pn**	**02 48 34.8**	**+2.0**
KNZ	**Kokohu**	**1.41**	**140**	P	**Pn**	**02 48 34.7**	**+2.2**
HIZ	**Hauiti**	**1.41**	**246**	P	**Pn**	**02 48 34.7**	**+2.1**
CNGZ	**Carnagh Statio**	**1.44**	**112**	P	**Pn**	**02 48 35.8**	**+2.9**
KWHZ	**Kaweka Forest**	**1.47**	**182**	P	**Pn**	**02 48 35.3**	**+2.2**
MXZ	**Matakaoa Point**	**1.48**	**75**	P	**Pn**	**02 48 34.9**	**+1.7**
MCHZ	**McNeill Hill**	**1.50**	**174**	P	**Pn**	**02 48 36.0**	**+2.7**
FWVZ	**Far West T-bar**	**1.50**	**210**	P	**Pn**	**02 48 35.6**	**+2.1**
WHVZ	**Whangaehu Hut**	**1.51**	**208**	P	**Pn**	**02 48 35.7**	**+2.0**
WMGZ	**Waiomatatini S**	**1.52**	**86**	P	**Pn**	**02 48 35.2**	**+1.7**
WNVZ	**Wahianoa**	**1.54**	**207**	P	**Pn**	**02 48 35.9**	**+2.0**
MOVZ	**Moawhango**	**1.57**	**202**	P	**Pn**	**02 48 35.6**	**+1.6**
BHHZ	**Black Hill Sta**	**1.57**	**193**	P	**Pn**	**02 48 35.8**	**+1.7**
WIAZ	**Waiheke Island**	**1.59**	**316**	P	**Pn**	**02 48 35.9**	**+1.6**
ETAZ	**East Tamaki Re**	**1.60**	**308**	P	**Pn**	**02 48 36.1**	**+1.8**
MHGZ	**Mahia Peninsul**	**1.63**	**138**	P	**Pn**	**02 48 37.1**	**+2.6**
KRHZ	**Kereru**	**1.69**	**184**	P	**Pn**	**02 48 37.3**	**+2.2**
AWAZ	**Awhitu Peninsu**	**1.73**	**300**	P	**Pn**	**02 48 37.1**	**+1.7**
MBAZ	**Motutapu North**	**1.74**	**312**	P	**Pn**	**02 48 37.6**	**+1.9**
CKHZ	**Cape Kidnapper**	**1.76**	**165**	P	**Pn**	**02 48 38.4**	**+2.6**
VRZ	**Vera Road**	**1.80**	**229**	P	**Pn**	**02 48 38.7**	**+2.5**
WTAZ	**Waiatarua**	**1.84**	**303**	P	**Pn**	**02 48 38.5**	**+1.9**
KAHZ	**Kahuranaki**	**1.86**	**171**	P	**Pn**	**02 48 39.4**	**+2.6**
ABAZ	**Army Bay**	**1.90**	**315**	P	**Pn**	**02 48 39.3**	**+2.2**
PNHZ	**Pukenui**	**1.97**	**187**	P	**Pn**	**02 48 39.8**	**+1.9**
PXZ	**Pawanui**	**2.09**	**172**	P	**Pn**	**02 48 41.4**	**+2.3**
WPHZ	**Wipukurau**	**2.11**	**181**	P	**Pn**	**02 48 41.5**	**+2.2**
TSZ	**Takapari Road**	**2.15**	**191**	P	**Pn**	**02 48 41.6**	**+1.9**
WAZ	**Wanganui**	**2.15**	**213**	P	**Pn**	**02 48 42.0**	**+2.3**
NEZ	**North Egmont**	**2.30**	**234**	P	**Pn**	**02 48 44.7**	**+3.2**
PRHZ	**Porangahau**	**2.31**	**178**	P	**Pn**	**02 48 43.7**	**+2.2**
DVHZ	**Dannevirke**	**2.36**	**186**	P	**Pn**	**02 48 43.7**	**+1.7**
POWZ	**Post Office Ro**	**2.50**	**193**	P	**Pn**	**02 48 45.5**	**+1.9**
ANWZ	**Angora Road**	**2.50**	**181**	P	**Pn**	**02 48 45.8**	**+2.3**
PRWZ	**Pori Road**	**2.63**	**189**	P	**Pn**	**02 48 47.1**	**+2.1**
WCZ	**Waipu Caves**	**2.65**	**319**	P	**Pn**	**02 48 47.6**	**+2.3**
BFZ	**Birch Farm**	**2.73**	**184**	P	**Pn**	**02 48 48.0**	**+1.8**
MRZ	**Mangatainoka R**	**2.80**	**195**	P	**Pn**	**02 48 48.4**	**+1.5**
TIWZ	**Tintock**	**2.86**	**189**	P	**Pn**	**02 48 49.6**	**+2.0**
HOWZ	**Holdsworth Sta**	**3.04**	**194**	P	**Pn**	**02 48 50.9**	**+1.1**
OGWZ	**Otaki Gorge**	**3.04**	**199**	P	**Pn**	**02 48 51.2**	**+1.5**
KIW	**Kapiti Island**	**3.16**	**203**	P	**Pn**	**02 48 52.2**	**+1.1**
MTW	**Mount Morrison**	**3.29**	**193**	P	**Pn**	**02 48 53.6**	**+0.8**
CAW	**Cannon Point**	**3.34**	**199**	P	**Pn**	**02 48 54.4**	**+1.1**
DUWZ	**D'Urville Isla**	**3.48**	**214**	P	**Pn**	**02 48 55.9**	**+0.9**
TRWZ	**Traveller**	**3.50**	**190**	P	**Pn**	**02 48 56.3**	**+1.1**
PAWZ	**Paruwai Farm**	**3.52**	**193**	P	**Pn**	**02 48 56.3**	**+0.7**
WEL	**Wellington**	**3.59**	**201**	P	**Pn**	**02 48 57.5**	**+1.2**
MSWZ	**Moikau Station**	**3.59**	**195**	P	**Pn**	**02 48 57.1**	**+0.7**
BHW	**Baring Head**	**3.67**	**200**	P	**Pn**	**02 48 58.1**	**+0.7**
TCW	**Tory Channel**	**3.68**	**207**	P	**Pn**	**02 48 58.4**	**+1.0**
PLWZ	**Palliser**	**3.74**	**195**	P	**Pn**	**02 48 58.8**	**+0.6**
TUWZ	**Tuamarina**	**4.00**	**209**	P	**Pn**	**02 49 01.8**	**+0.5**
NNZ	**Nelson**	**4.06**	**216**	P	**Pn**	**02 49 02.6**	**+0.5**
BSWZ	**Blackbirch Sta**	**4.27**	**207**	P	**Pn**	**02 49 05.5**	**+0.8**
THZ	**Tophouse**	**4.71**	**215**	P	**Pn**	**02 49 11.0**	**+0.7**
KHZ	**Kahutara**	**5.00**	**206**	P	**Pn**	**02 49 14.5**	**+0.5**
GVZ	**Greta Valley S**	**5.66**	**207**	P	**Pn**	**02 49 23.0**	**+0.4**
LTZ	**Lake Taylor**	**5.81**	**212**	P	**Pn**	**02 49 24.2**	**-0.1**
AMCZ	**Amberley**	**5.99**	**208**	P	**Pn**	**02 49 27.2**	**+0.5**
OKCZ	**Okains Bay**	**6.33**	**203**	P	**Pn**	**02 49 31.4**	**+0.3**
OXZ	**Oxford**	**6.35**	**211**	P	**Pn**	**02 49 30.3**	**-1.1**
MQZ	**McQueen's Vall**	**6.45**	**206**	P	**Pn**	**02 49 31.6**	**-1.0**
AKCZ	**Akaroa Harbour**	**6.51**	**204**	P	**Pn**	**02 49 33.6**	**+0.2**
RACZ	**Rakaia**	**6.65**	**208**	P	**Pn**	**02 49 34.8**	**-0.4**
MHCZ	**Mount Hutt**	**6.71**	**212**	P	**Pn**	**02 49 36.1**	**-0.1**
WACZ	**Wakanui South**	**6.95**	**209**	P	**Pn**	**02 49 39.0**	**-0.1**
TMZ	**Timaru**	**7.64**	**211**	P	**Pn**	**02 49 48.6**	**+0.3**
ODZ	**Otahua Downs**	**8.34**	**210**	P	**Pn**	**02 49 57.3**	**+0.1**

*IDC **26** 03:03:01.9±2.1,13.77N×91.06W,h0km,mb3.7/7, mb1 4.0/9,mb1mx3.7/49,mbtmp3.7/9,ML4.1/2,MS3.1/2, Ms1 3.1/2,ms1mx2.6/42,Error ellipse: s-maj=59.5km s-min=28.9km az=37.0*
*SNET **26** 03:03:03.8±3.3,13.65N×91.33W,h20km,ML4.0*
*NEIC **26** 03:03:04.5±1.6,13.7N±0.1×91.23W±0.06,h14km±7km, mb4.2/20,Md3.9/14(MEX),Error ellipse: s-maj=16.9km s-min=3.1km az=206.0*
*UCR **26** 03:03:04.4±3.3,13.65N×91.30W,h20km,ML3.8, mb4.2(NEIC)*
*INET **26** 03:03:08.7,13.68N×90.45W,h15km,MW3.8*
*GCG **26** 03:03:12.0±0.3,14.00N×90.98W,h0km±9km,MD4.0*
ISC 26 03:03:03.0±1.8,13.52N±0.06×91.16W±0.06,h16km±10km, n89,σ1.81/115,mb4.1/16,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.97**	**18**	*eP*	**Pn**	**03 03 22.9**	**+0.8**
PCG	**Pacaya**	**1.01**	**32**	*eP*	**Pn**	**03 03 24.3**	**+1.5**
NBG	**Las Nubes**	**1.32**	**36**	*eP*	**Pg**	**03 03 29.9**	**+1.4**
NBG				*eS*	**Sn**	**03 03 43.7**	**-0.6**
SLOZ	**Alcaldia de Sa**	**1.43**	**69**	*eP*	**Pg**	**03 03 30.3**	**-0.1**
SLOZ				*eS*	**Sg**	**03 03 49.9**	**+0.9**
SLOZ				*eS*	**Sg**	**03 03 49.9**	**+0.9**
SLOZ	comp=Z,1μm,0.5s			IAML		03 04 02.2	
RTR	**El Retiro**	**1.52**	**76**	*eP*	**Pg**	**03 03 31.6**	**-0.6**
RTR				*eS*	**Sg**	**03 03 57.9**	**+6.0**
RTR	**El Retiro**	**1.52**	**76**	*eP*	**Pg**	**03 03 31.6**	**-0.6**
RTR				*eS*	**Sg**	**03 03 57.9**	**+6.0**
SBLS	**San Blas**	**1.52**	**78**	*eP*	**Pg**	**03 03 31.2**	**-1.2**
SBLS	**San Blas**	**1.52**	**78**	*eP*	**Pg**	**03 03 31.2**	**-1.2**
SNJE	**San Jose**	**1.55**	**77**	*eP*	**Pg**	**03 03 32.2**	**-0.6**
SNJE	**San Jose**	**1.55**	**77**	*eP*	**Pg**	**03 03 32.2**	**-0.6**
THIG		**1.75**	**322**		**Pn**	**03 03 29.9**	**-2.7**
LALI	**Alcalda de L**	**1.79**	**91**	*eP*	**Pn**	**03 03 34.5**	**+1.3**
LALI				*eS*	**Sg**	**03 04 00.4**	**-0.1**
LALI	comp=Z,582nm,0.4s			IAML		03 04 14.2	
LALI	**Alcalda de L**	**1.79**	**91**	*eP*	**Pn**	**03 03 34.5**	**+1.3**
LALI				*eS*	**Sg**	**03 04 00.4**	**-0.1**
LALI	comp=Z,582nm,0.4s			IAML		03 04 14.2	
UEES	**Universidad Ev**	**1.87**	**84**	*eP*	**Pb**	**03 03 37.2**	**+0.3**
UEES				*eS*	**Sg**	**03 04 04.0**	**+0.7**
UEES	comp=Z,2μm,0.3s			IAML		03 04 07.0	
UEES	**Universidad Ev**	**1.87**	**84**	*eP*	**Pb**	**03 03 37.2**	**+0.3**
UEES				*eS*	**Sg**	**03 04 04.0**	**+0.7**
UEES	comp=Z,2μm,0.3s			IAML		03 04 07.0	
SNET	**Serv Nac Est T**	**1.88**	**85**	*eP*	**Pg**	**03 03 37.8**	**-1.3**
SNET				*eS*	**Sg**	**03 04 03.3**	**-0.2**
SNET	comp=Z,1μm,0.4s			IAML		03 04 07.1	
SNET	**Serv Nac Est T**	**1.88**	**85**	*eP*	**Pg**	**03 03 37.8**	**-1.3**
SNET				*eS*	**Sg**	**03 04 03.3**	**-0.2**
SNET	comp=Z,1μm,0.4s			IAML		03 04 07.1	
SNET	**Serv Nac Est T**	**1.88**	**85**	Pn	**Pb**	**03 03 36.0**	**-0.9**
MTO3	**Montecristo**	**1.95**	**63**	*eP*	**Pg**	**03 03 38.5**	**-1.9**
MTO3				*eS*	**Sg**	**03 04 04.6**	**-1.2**
MTO3	**Montecristo**	**1.95**	**63**	*eP*	**Pg**	**03 03 38.5**	**-1.9**
MTO3				*eS*	**Sg**	**03 04 04.6**	**-1.2**
MTO3	**Montecristo**	**1.95**	**63**	Pn	**Pb**	**03 03 37.2**	**-1.0**
LFRS	**El Faro**	**2.04**	**87**	*eP*	**Pb**	**03 03 39.8**	**0.0**
LFRS	**El Faro**	**2.04**	**87**	*eP*	**Pb**	**03 03 39.8**	**0.0**
ESQI	**Esquipulas**	**2.04**	**59**	*eP*	**Pb**	**03 03 39.6**	**-0.1**
ESQI				*eS*	**Sg**	**03 04 07.0**	**-1.7**
ESQI	comp=Z,934nm,0.5s			IAML		03 04 13.5	
ESQI	**Esquipulas**	**2.04**	**59**	Pn	**Pb**	**03 03 39.2**	**-0.5**
LBRS	**Las Brisas**	**2.07**	**84**	*eP*	**Pb**	**03 03 40.6**	**+0.5**
LBRS	**Las Brisas**	**2.07**	**84**	*eP*	**Pb**	**03 03 40.6**	**+0.5**
SJTE	**Alcalda de S**	**2.09**	**87**	*eP*	**Pb**	**03 03 40.9**	**+0.3**
SJTE				*eS*	**Sg**	**03 04 07.3**	**-3.1**
SJTE	**Alcalda de S**	**2.09**	**87**	*eP*	**Pb**	**03 03 40.9**	**+0.3**
SJTE				*eS*	**Sg**	**03 04 07.3**	**-3.1**
PAVA	**Las Pavas**	**2.17**	**85**	*eP*	**Pb**	**03 03 41.6**	**-0.3**
PAVA	**Las Pavas**	**2.17**	**85**	*eP*	**Pb**	**03 03 41.6**	**-0.3**
COEG	**Centro de Oper**	**2.21**	**87**	*eP*	**Pb**	**03 03 42.2**	**-0.5**
COEG				*eS*	**Sg**	**03 04 12.1**	**-2.2**
COEG	comp=Z,1μm,0.4s			IAML		03 04 22.3	
COEG	**Centro de Oper**	**2.21**	**87**	*eP*	**Pb**	**03 03 42.2**	**-0.5**
COEG				*eS*	**Sg**	**03 04 12.1**	**-2.2**
COEG	comp=Z,1μm,0.4s			IAML		03 04 22.3	
TECO	**Alcaldia de Te**	**2.31**	**89**	*eP*	**Pb**	**03 03 43.7**	**-0.6**
TECO				*eS*	**Sg**	**03 04 15.3**	**-2.0**
COEB	**Comit de Eme**	**2.55**	**90**	*eP*	**Pb**	**03 03 46.8**	**-1.7**
COEB				*eS*	**Sb**	**03 04 21.2**	**+1.5**
COEB	comp=Z,543nm,0.5s			IAML		03 04 35.5	
COEB	**Comit de Eme**	**2.55**	**90**	*eP*	**Pb**	**03 03 46.8**	**-1.7**
COEB				*eS*	**Sb**	**03 04 21.2**	**+1.5**
COEB	comp=Z,543nm,0.5s			IAML		03 04 35.5	
TECA	**Tecapa**	**2.58**	**90**	*eP*	**Pb**	**03 03 48.5**	**-0.6**
TECA	**Tecapa**	**2.58**	**90**	*eP*	**Pb**	**03 03 48.5**	**-0.6**
JUCU	**Jucuarın**	**2.84**	**95**	*eP*	**Pb**	**03 03 52.1**	**-1.3**
JUCU				*eS*	**Sb**	**03 04 27.2**	**-0.8**
JUCU	comp=Z,660nm,0.4s			IAML		03 04 37.4	
JUCU	**Jucuarın**	**2.84**	**95**	*eP*	**Pb**	**03 03 52.1**	**-1.3**
JUCU				*eS*	**Sb**	**03 04 27.2**	**-0.8**
JUCU	comp=Z,660nm,0.4s			IAML		03 04 37.4	
CCIG	**Comitan**	**2.90**	**341**		**Pn**	**03 03 49.8**	**+1.1**
LCND	**La Caada**	**3.19**	**93**	*eP*	**Pn**	**03 03 55.8**	**+3.4**
LCND				*eS*	**Sb**	**03 04 35.4**	**-2.4**
LCND	comp=Z,493nm,0.4s			IAML		03 04 47.6	
LCND	**La Caada**	**3.19**	**93**	*eP*	**Pn**	**03 03 55.8**	**+3.4**
LCND				*eS*	**Sb**	**03 04 35.4**	**-2.4**
LCND	comp=Z,493nm,0.4s			IAML		03 04 47.6	
PETF	**Flores**	**3.60**	**20**	Pn	**Pn**	**03 03 57.7**	**-0.3**
TGIG		**3.75**	**330**		**Pn**	**03 04 01.2**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.81**	**82**	Pn	**Pn**	**03 04 04.0**	**+2.9**
CRIN	**San Cristobal**	**4.08**	**101**	Pn	**Pn**	**03 04 08.3**	**+3.5**
CNGN	**Cerro Negro**	**4.46**	**103**	Pn	**Pn**	**03 04 12.8**	**+2.8**
ACON	**Acoyapa**	**6.04**	**104**	Pn	**Pn**	**03 04 34.1**	**+2.5**
HZTE	**Horizontes, Gu**	**6.11**	**117**	Pn	**Pn**	**03 04 36.2**	**+3.5**
ORTG	**Ortega, Santa**	**6.40**	**119**		**Pn**	**03 04 40.6**	**+3.9**
DUNO	**Dulce Nombre,**	**6.51**	**121**	Pn	**Pn**	**03 04 41.6**	**+3.4**
ESPN	**Las Esperanzas**	**6.81**	**100**	Pn	**Pn**	**03 04 45.4**	**+3.1**
JTS	**Las Juntas de**	**6.87**	**117**	Pn	**Pn**	**03 04 45.9**	**+2.9**
JTS	comp=Z,1.5nm,0.3s,baz=7.9,slow=20,SNR=4.9			Sn	**Sn**	**03 05 58.8**	**-2.2**
JTS	comp=Z,0.3nm,0.3s,baz=216,slow=22,SNR=0.9			Lg	Lg	03 06 35.0	
JTS	**Las Juntas de**	**6.87**	**117**	Pn	**Pn**	**03 04 46.4**	**+3.3**
CAO2	**Cobano, Puntar**	**7.05**	**122**	Pn	**Pn**	**03 04 48.9**	**+3.4**
RIMA	**Rio Macho**	**8.06**	**117**	Pn	**Pn**	**03 05 01.6**	**+2.0**
SRBA	**San Rafael, Bu**	**8.75**	**118**	Pn	**Pn**	**03 05 12.1**	**+3.1**
DRK0	**Durika**	**8.84**	**118**	Pn	**Pn**	**03 05 13.4**	**+3.1**
CBCY	**The Bluff, Cay**	**12.55**	**59**	Pn	**Pn**	**03 06 01.0**	**+0.1**
342A	**Flagon Creek P**	**17.80**	**357**		**P**	**03 07 10.4**	**-0.4**
TX31	**Lajitas Ar. Si**	**19.55**	**326**	P	**P**	**03 07 31.1**	**+1.0**
TX31	comp=Z,21nm,1.7s			IAmb	IAmb	03 07 35.1	
TX32	**Lajitas Array**	**19.55**	**326**	P	**P**	**03 07 30.2**	**+0.1**
TXAR	**Lajitas Array**	**19.55**	**326**	P	**P**	**03 07 31.5**	**+1.4**
TXAR	comp=Z,0.2nm,0.3s,baz=141,slow=12,SNR=19 **Lajitas Array**	**19.55**	**326**	P	**P**	**03 07 30.2**	**+0.1**
Z47A	**Carrollton**	**19.79**	**8**	P	**P**	**03 07 31.3**	**-1.3**
ABTX	**Abilene, Hawle**	**20.54**	**339**	P	**P**	**03 07 39.9**	**-0.8**
X37A	**Clayton**	**21.32**	**359**	P	**P**	**03 07 48.6**	**-0.5**
MNTX	**Cornudas Mount**	**22.31**	**327**	P	**P**	**03 07 59.5**	**-0.4**
TKL	**Tuckaleechee C**	**23.02**	**16**	P	**P**	**03 08 06.4**	**-0.9**
TKL	comp=Z,1.9nm,0.4s,baz=182,slow=11,SNR=8.0			LR	LR	03 17 28.3	
PBMO	comp=Z,46nm,20.3s,baz=170,slow=38 **Poplar Bluff**	**23.17**	**1**	P	**P**	**03 08 06.7**	**-2.1**
PBMO				IAmb	IAmb	03 08 29.8	
AMTX	comp=Z,5.0nm,0.8s **Amarillo**	**23.30**	**338**	P	**P**	**03 08 09.3**	**-0.9**
AMTX				IAmb	IAmb	03 08 35.3	
SIUC	comp=Z,4.8nm,0.6s **Southern Illin**	**24.16**	**4**	P	**P**	**03 08 19.0**	**+0.6**
SIUC				IAmb	IAmb	03 08 22.4	
319A	comp=Z,6.5nm,0.6s **Douglas**	**24.35**	**320**	P	**P**	**03 08 19.9**	**-0.5**
319A				IAmb	IAmb	03 08 23.2	
U54A	comp=Z,4.8nm,0.8s **Nelsons Funny**	**24.38**	**18**	P	**P**	**03 08 20.8**	**+0.2**
CCM	**Cathedral Cave**	**24.43**	**360**	P	**P**	**03 08 21.3**	**+0.4**
CCM				IAmb	IAmb	03 08 40.2	
S51A	comp=Z,4.6nm,0.9s **Beattyville**	**24.95**	**14**	P	**P**	**03 08 26.2**	**+0.7**
S51A				IAmb	IAmb	03 08 47.3	
ANMO	comp=Z,9.0nm,1.0s **Albuquerque**	**25.42**	**330**	P	**P**	**03 08 29.6**	**-0.6**
PV20	comp=Z,0.7nm,0.5s,baz=169,slow=9.9,SNR=4.3 **West Nyswon

PMOR	**Pomariorio Ree**	**45.27**	**319**	*e*T	T	04 13 11.9	
	comp=Z,8.2nm,0.2s						
TAOE	**Nuku Hiva Isla**	**48.47**	**332**	*e*LR	LR	03 39 12.7	
	comp=Z,965nm,26.9s						
RAO	**Raoul Island**	**48.70**	**277**	LR	LR	03 43 31.6	
	comp=Z,93nm,18.0s,baz=116,slow=33						
CPUP	**Villa Florida**	**52.79**	**84**	LR	LR	03 45 33.6	
	comp=Z,703nm,18.4s,baz=230,slow=33						
LPAZ	**La Paz**	**54.68**	**66**	P	**P**	**03 26 12.1**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=217,slow=10,SNR=4.3						
LPAZ				LR	LR	03 43 54.4	
	comp=Z,241nm,18.4s,baz=196,slow=30						
LPAZ	**La Paz**	**54.68**	**66**	IAmb	IAmb	03 26 16.6	
	comp=Z,4.6nm,1.4s						
ATAH	**Atahualpa**	**57.44**	**50**	LR	LR	03 45 10.2	
	comp=Z,325nm,19.6s,baz=205,slow=30						
MAW	**Mawson**	**58.23**	**181**	LR	LR	03 51 03.9	
	comp=Z,84nm,19.1s,baz=186,slow=35						
DZM	**Mont Dzumac**	**63.27**	**269**	LR	LR	03 48 53.9	
	comp=Z,180nm,18.9s,baz=170,slow=31						
DZM	**Mont Dzumac**	**63.27**	**269**	*e*LR	LR	03 46 01.8	
	comp=Z,360nm,22.7s						
BDFB	**Brasilia**	**66.52**	**84**	LR	LR	03 54 15.4	
	comp=Z,356nm,18.1s,baz=242,slow=34						
STKA	**Stephens Creek**	**69.65**	**244**	LR	LR	03 52 46.1	
	comp=Z,256nm,19.6s,baz=184,slow=31						
ROSC	**El Rosal**	**69.90**	**49**	LR	LR	03 53 18.2	
	comp=Z,214nm,20.4s,baz=248,slow=31						
H01W1	**Cape Leeuwin H**	**79.84**	**222**	T	T	04 57 23.6	
	baz=151,slow=75,SNR=41						
H01W2	**Cape Leeuwin H**	**79.84**	**222**	T	T	04 57 23.8	
	baz=151,slow=75,SNR=36						
H01W3	**Cape Leeuwin H**	**79.85**	**222**	T	T	04 57 24.9	
	baz=151,slow=75,SNR=30						
ASAR	**Alice Springs**	**80.27**	**243**	LR	LR	03 59 58.9	
	comp=Z,269nm,18.6s,baz=147,slow=32						
WB2	**Warramunga Arr**	**83.09**	**245**	P	**P**	**03 29 07.3**	**-1.0**
WB2				IAmb	IAmb	03 29 10.3	
	comp=Z,5.3nm,1.1s						
WRA	**Warramunga Arr**	**83.09**	**245**	P	**P**	**03 29 07.2**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=146,slow=4.6,SNR=9.3						
WRA				LR	LR	04 01 14.6	
	comp=Z,93nm,18.0s,baz=185,slow=32						
WRAB	**Tennant Creek**	**83.10**	**245**	P	**P**	**03 29 07.3**	**-1.0**
TXAR	**Lajitas Array**	**84.55**	**14**	P	**P**	**03 29 15.7**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=178,slow=5.9,SNR=1.7						
TXAR				LR	LR	04 00 33.4	
	comp=Z,54nm,20.0s,baz=0.0,slow=31						
SVN	**Savane Anatole**	**84.74**	**56**	P	**P**	**03 29 15.6**	**-1.0**
SUR	**Sutherland**	**86.89**	**147**	LR	LR	04 01 33.6	
	comp=Z,93nm,19.1s,baz=197,slow=31						
PFO	**Pinyon Flats O**	**87.77**	**2**	P	**P**	**03 29 32.0**	**+0.8**
PFO				IAmb	IAmb	03 29 37.5	
	comp=Z,5.4nm,1.4s						
BOSA	**Boshof**	**91.77**	**149**	LR	LR	04 05 10.2	
	comp=Z,210nm,19.8s,baz=189,slow=32						
NVAR	**Mina Array Bea**	**92.54**	**1**	LR	LR	04 02 42.4	
	comp=Z,220nm,19.3s,baz=118,slow=30						
H11N3	**WAKE ISLAND Hy**	**96.85**	**294**	T	T	05 17 51.4	
	baz=140,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**96.86**	**294**	T	T	05 17 52.4	
	baz=140						
H11N2	**WAKE ISLAND Hy**	**96.87**	**294**	T	T	05 17 52.7	
	baz=140,slow=75,SNR=17						
EKA	**Eskdalemuir Ar**	**144.40**	**62**	PKP	**PKPab**	**03 36 14.9**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=225,slow=3.5,SNR=3.5						
GERES	**GERESS Array B**	**150.73**	**81**	PKPbc	**PKPbc**	**03 36 33.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=252,slow=3.1,SNR=5.1						
CLL	**Collm**	**151.46**	**76**	*e*PKPdf	**PKPdf**	**03 36 32.0**	**+2.8**
CLL				*e*PKPbc	**pPKPbc**	**03 36 38.0**	**+0.2**
KBZ	**Khabaz**	**164.16**	**125**	PKPab	**PKPab**	**03 37 38.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=244,slow=6.4,SNR=3.7						

*ATH **26** 03:16:47.5, 38.˚76N×20.˚65E, h11km±1km, ML2.5/1, Error ellipse: s-maj=2.6km s-min=1.0km az=286.0*
*THE **26** 03:16:47.3, 38.˚76N×20.˚62E, h11km±1km, ML3.1/12, Error ellipse: s-maj=1.8km s-min=0.4km az=91.0*
ISC 26 03:16:46.3±0.8, 38.˚75N±0.˚02×20.˚61E±0.˚04, h16km±4km, n33, σ1§06/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.06**	**43**	P	**Pg**	**03 16 49.3**	**-0.1**
LKD2				S	**Sg**	**03 16 50.6**	**-0.9**
	28μm,0.1s						
LKD2	**Lefkada island**	**0.06**	**43**	P	**Pg**	**03 16 49.3**	**-0.1**
LKD2				S	**Sg**	**03 16 50.8**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.07**	**202**	P	**Pg**	**03 16 49.6**	**+0.2**
DRAG				S	**Sg**	**03 16 51.5**	**0.0**
	44μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.08**	**115**	P	**Pg**	**03 16 49.8**	**+0.3**
NYDR				S	**Sg**	**03 16 51.6**	**0.0**
	17μm,0.3s						
TSLK	**Tsoukalades, L**	**0.09**	**26**	P	**Pg**	**03 16 49.8**	**+0.2**
TSLK				S	**Sg**	**03 16 51.8**	**0.0**
	26μm,0.4s						
TSLK	**Tsoukalades, L**	**0.09**	**26**	P	**Pg**	**03 16 49.8**	**+0.2**
TSLK				S	**Sg**	**03 16 51.9**	**+0.1**
EVGI	**Lefkada island**	**0.13**	**163**	P	**Pb**	**03 16 50.8**	**+0.4**
EVGI				S	**Sb**	**03 16 53.4**	**+0.3**
	8μm,0.2s						
EVGI	**Lefkada island**	**0.13**	**163**	P	**Pb**	**03 16 50.8**	**+0.4**
EVGI				S	**Sb**	**03 16 53.6**	**+0.5**
FSK	**Fiskardo**	**0.29**	**187**	P	**Pb**	**03 16 53.4**	**+0.3**
FSK				S	**Sb**	**03 16 58.5**	**+0.9**
	2μm,0.4s						
FSK	**Fiskardo**	**0.29**	**187**	P	**Pb**	**03 16 53.4**	**+0.3**
FSK				S	**Sb**	**03 16 57.7**	**+0.1**
KEF5	**Kardakata, Kep**	**0.48**	**193**	P	**Pb**	**03 16 56.6**	**+0.2**
KEF5				S	**Sb**	**03 17 04.4**	**+1.2**
	3μm,0.5s						
KEF5	**Kardakata, Kep**	**0.48**	**193**	P	**Pb**	**03 16 56.6**	**+0.2**
KEF5				S	**Sb**	**03 17 04.4**	**+1.2**
KEF4	**Livadi, Kephal**	**0.51**	**196**	P	**Pb**	**03 16 57.1**	**+0.3**
KEF4				S	**Sn**	**03 17 05.6**	**-1.6**
	6μm,0.3s						
KEF4	**Livadi, Kephal**	**0.51**	**196**	P	**Pb**	**03 16 57.1**	**+0.3**
KEF4				S	**Sn**	**03 17 05.8**	**-1.4**
DMLN	**Damoulianata-K**	**0.54**	**200**	P	**Pb**	**03 16 57.6**	**+0.2**
DMLN				S	**Sb**	**03 17 06.2**	**+1.3**
	1μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.56**	**194**	P	**Pb**	**03 16 58.3**	**+0.6**
VLS	**Valsamata**	**0.57**	**181**	P	**Pb**	**03 16 58.0**	**+0.2**
VLS				S	**Sn**	**03 17 07.4**	**-1.4**
	762nm,0.4s						
VLS	**Valsamata**	**0.57**	**181**	P	**Pb**	**03 16 58.1**	**+0.2**
VLS				S	**Sn**	**03 17 07.4**	**-1.4**
VLS				AML	AML	03 17 07.5	
	comp=E,1398μm,0.4s						
VLS				AML	AML	03 17 07.8	
	comp=N,1071μm,0.3s						
ARGA	**Argostoli. Kep**	**0.58**	**190**	P	**Pn**	**03 16 59.3**	**-0.5**
ARGA				S	**Sn**	**03 17 07.9**	**-1.0**
KEF3	**Kipouria, Keph**	**0.58**	**201**	P	**Pg**	**03 16 57.8**	**+0.1**
KEF3				S	**Sb**	**03 17 06.8**	**+0.8**
	comp=N,2μm,0.3s						
KEF3	**Kipouria, Keph**	**0.58**	**201**	P	**Pb**	**03 16 58.1**	**0.0**
KEF3				S	**Sb**	**03 17 07.2**	**+1.2**
PSDA	**Pessada-Kefalo**	**0.63**	**182**	P	**Pb**	**03 16 59.2**	**+0.3**
PSDA				S	**Sn**	**03 17 09.1**	**-1.2**
PSDA	**Pessada-Kefalo**	**0.63**	**182**	P	**Pb**	**03 16 59.2**	**+0.3**
PSDA				S	**Sn**	**03 17 09.4**	**-0.9**
IGT	**Igoumenitsa**	**0.81**	**345**	P	**Pb**	**03 17 02.3**	**+0.3**
IGT				S	**Sn**	**03 17 15.0**	**+0.2**
	comp=N,722nm,0.5s						
VLMS	**Volimes, Zakyn**	**0.87**	**177**	P	**Pn**	**03 17 03.6**	**-0.3**
ANX	**Ano Chora**	**1.04**	**98**	P	**Pn**	**03 17 06.8**	**+0.5**
EFP	**Efpalio**	**1.07**	**107**	P	**Pg**	**03 17 07.2**	**+0.3**
KEK	**Kerkira**	**1.15**	**327**	P	**Pg**	**03 17 09.5**	**+1.0**
STON	**Ston**	**4.67**	**333**	*e*Pn	**Pn**	**03 17 56.6**	**+0.5**
STON				Sn	**Sn**	**03 18 47.7**	**-2.2**
HVAR	**Hvar**	**5.43**	**326**	*e*Pn	**Pn**	**03 18 07.4**	**+0.9**
HVAR				Sn	**Sn**	**03 19 05.9**	**-2.8**
ZIRJ	**Zirje**	**6.17**	**324**	*e*Pn	**Pn**	**03 18 17.3**	**+0.6**
ZIRJ				Sn	**Sn**	**03 19 23.7**	**-3.1**
MORI	**Morici**	**6.30**	**326**	*e*Pn	**Pn**	**03 18 20.0**	**+1.5**
MORI				Sn	**Sn**	**03 19 27.9**	**-2.3**
DUGI	**Dugi Otok**	**6.70**	**323**	*e*Pn	**Pn**	**03 18 25.4**	**+1.5**
DUGI				Sn	**Sn**	**03 19 37.3**	**-2.6**

IDC 26 03:17:46.5±2.0, 3.˚12N×128.˚10E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/53, mbtmp3.5/4, Error ellipse:
s-maj=153.0km s-min=22.9km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.72**	**165**	P	P	03 22 59.7	-0.8
	0.4nm,0.4s,baz=345,slow=11,SNR=10						
ASAR	**Alice Springs**	**27.22**	**168**	P	P	03 23 33.3	+0.9
	0.3nm,0.7s,baz=359,slow=7.4,SNR=2.2						
MKAR	**Makanchi Array**	**58.84**	**325**	P	P	03 27 46.8	-0.2
	0.3nm,0.4s,baz=114,slow=8.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**62.99**	**327**	P	P	03 28 15.2	+0.1
	0.4nm,0.5s,baz=125,slow=4.7,SNR=3.9						

*IDC **26** 03:20:55.1±1.6, 22.˚19S×173.˚73W, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.9/37, mbtmp3.8/8, ML5.0/1, MS3.9/5, Ms1 3.9/5, ms1mx3.2/44, Error ellipse: s-maj=63.6km s-min=22.6km az=161.0*
*NEIC **26** 03:20:57.3±1.7, 22.˚2S±0.˚2×173.˚7W±0.˚1, h10km±1km, mb4.2/6, Error ellipse: s-maj=39.3km s-min=13.8km az=192.0*
ISC 26 03:20:56.4±1.0, 22.˚2S±0.˚3×173.˚70W±0.˚09, h10km, n22, σ0§78/14, mb4.0/7, MS4.2/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.68**	**50**		Pn	03 21 59.4	-7.8
MSVF	**Nonsavu**	**8.93**	**298**	Pn	**Pn**	**03 23 04.5**	**-1.1**
	0.6nm,0.3s,baz=112,slow=11,SNR=5.2						
MSVF				LR	LR	03 25 56.2	
	comp=Z,205nm,18.6s,baz=110,slow=34						
MSVF	**Nonsavu**	**8.93**	**298**		**Pn**	**03 23 05.3**	**-0.2**
RAR	**Rarotonga**	**12.98**	**88**	Pn	**Pn**	**03 24 00.4**	**-0.6**
DZM	**Mont Dzumac**	**18.40**	**267**	P	**Pn**	**03 25 12.5**	**+0.6**
	0.1nm,0.3s,baz=94,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**18.40**	**267**	IAmb	IAmb	03 25 25.0	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**48.06**	**258**	P	**P**	**03 29 36.8**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=94,slow=8.3,SNR=17						
WR0	**Warramunga Arr**	**48.16**	**263**	P	**P**	**03 29 37.0**	**-0.3**
WB2	**Warramunga Arr**	**48.34**	**263**	P	**P**	**03 29 37.3**	**-1.3**
WB2				IAmb	IAmb	03 29 38.4	
	comp=Z,7.6nm,1.1s						
WRA	**Warramunga Arr**	**48.35**	**263**	P	**P**	**03 29 38.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=101,slow=8.4,SNR=8.0						
WRA	**Warramunga Arr**	**48.35**	**263**	IAmb	IAmb	03 29 38.4	
	comp=Z,0.3nm,1.0s						
RPN	**Rapa Nui**	**58.16**	**109**	LR	LR	03 52 58.0	
	comp=Z,52nm,18.3s,baz=208,slow=33						
MJAR	**Matsushiro Arr**	**73.96**	**321**	P	**P**	**03 32 32.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=107,slow=12,SNR=3.2						
MJAR	**Matsushiro Arr**	**73.96**	**321**	IAmb	IAmb	03 32 42.1	
	comp=Z,2.3nm,1.4s						
YBH	**Yreka Blue Hor**	**79.17**	**36**	LR	LR	04 04 27.1	
	comp=Z,104nm,18.3s,baz=269,slow=33						
RYN	**Ryan**	**79.55**	**41**	P	**P**	**03 33 03.6**	**-0.2**
RYN				IAmb	IAmb	03 33 07.3	
	comp=Z,4.0nm,1.3s						
NVAR	**Mina Array Bea**	**79.56**	**41**	P	**P**	**03 33 05.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=225,slow=8.2,SNR=11						
ELK	**Elko**	**82.85**	**41**	LR	LR	04 04 04.4	
	comp=Z,141nm,19.8s,baz=204,slow=31						
TXAR	**Lajitas Array**	**84.63**	**56**	P	**P**	**03 33 30.6**	**0.0**
	comp=Z,0.0nm,0.3s,baz=219,slow=7.0,SNR=1.3						
ILAR	**Eielson Array**	**89.10**	**11**	P	**P**	**03 33 51.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=187,slow=7.0,SNR=2.4						
ULM	**Lac du Bonnet**	**99.33**	**39**	LR	LR	04 14 09.3	
	comp=Z,65nm,18.7s,baz=174,slow=32						
AKASG	**Malin Array Be**	**146.35**	**333**	PKPbc	**PKPdf**	**03 40 36.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=40,slow=3.1,SNR=6.3						

*IDC **26** 03:35:11.2±1.1, 20.˚88S×178.˚49W, h591km±11km, mb3.9/24, mb1 4.0/26, mb1mx3.8/43, mbtmp4.8/26, Error ellipse: s-maj=11.6km s-min=9.8km az=107.0*
*NOU **26** 03:35:11.6, 21.˚03S×178.˚45W, h614km, MLv4.8, Fiji Islands Region*
*NEIC **26** 03:35:11.4±2.0, 20.˚9S±0.˚1×178.˚5W±0.˚1, h598km±6km, mb4.5/65, Error ellipse: s-maj=16.5km s-min=15.0km az=119.0*
ISC 26 03:35:11.3±0.3, 20.˚90S±0.˚06×178.˚52W±0.˚06, h600km, n288, σ1§29/283, mb4.5/83, 68C-26D, Fault plane solution: NP1: ϕ_s=326.98038°, δ12.87334°, λ14.07618°. **NP2:** ϕ_s=223.24445°, δ86.89381°, λ102.49912°. **Principal axes:** T Plg46.6897°, Azm146.1356°; N Plg12.4805°, Azm42.5562°; P Plg40.6184°, Azm301.6133°; **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.52**	**314**	P	**P**	**03 36 43.8**	**+3.1**
	26nm,0.3s,baz=103,slow=23,SNR=81						
MSVF	**Nonsavu**	**4.52**	**314**	P	**P**	**03 36 42.8**	**+2.1**
MSVF	**Nonsavu**	**4.52**	**314**	P	**P**	**03 36 43.6**	**+2.9**
NIUE	**Niue**	**8.28**	**79**	P	**P**	**03 37 15.1**	**+1.7**
	baz=8.2,SNR=9.4						
NIUE				S	**S**	**03 38 50.4**	**-3.0**
	baz=8.2						
NIUE	**Niue**	**8.28**	**79**	P	**P**	**03 37 12.9**	**-0.5**
NIUE	**Niue**	**8.28**	**79**	P	**P**	**03 37 14.8**	**+1.4**
RAO	**Raoul Island**	**8.34**	**176**	S	**S**	**03 38 51.8**	**-2.3**
	25nm,0.3s,baz=91,slow=22,SNR=2.2						
GLKZ	**Green Lake**	**8.35**	**176**	P	**P**	**03 37 12.7**	**-1.1**
AFI	**Afiamalu**	**9.47**	**44**	P	**P**	**03 37 24.2**	**-0.9**
	15nm,0.3s,baz=130,slow=2.3,SNR=12						
AFI				S	**S**	**03 39 10.1**	**-4.6**
	18nm,0.3s,baz=17,slow=23,SNR=9.3						
AFI	**Afiamalu**	**9.47**	**44**	P	**P**	**03 37 22.4**	**-2.7**
AFI	**Afiamalu**	**9.47**	**44**	P	**P**	**03 37 24.8**	**-0.3**
MARNC	**Mare, Loyalty**	**12.56**	**265**	P	**P**	**03 37 55.4**	**-0.3**
MARNC	**Mare, Loyalty**	**12.56**	**265**	P	**P**	**03 37 56.4**	**+0.7**
PINNC	**Pines Island,**	**13.15**	**260**	P	**P**	**03 38 00.6**	**-1.1**
LIFNC	**LIFOU**	**13.31**	**268**	P	**P**	**03 38 01.8**	**-1.6**
LIFNC	**LIFOU**	**13.31**	**268**	P	**P**	**03 38 03.1**	**-0.3**
YATNC	**Mamie plateau,**	**13.63**	**262**	P	**P**	**03 38 07.0**	**+0.4**
OUENC	**Ouen Island, N**	**13.69**	**261**	P	**P**	**03 38 07.2**	**-0.1**
DZM	**Mont Dzumac**	**14.04**	**263**	P	**P**	**03 38 10.8**	**-0.1**
	1.7nm,0.3s,baz=93,slow=8.8,SNR=25						
DZM	**Mont Dzumac**	**14.04**	**263**	P	**P**	**03 38 10.2**	**-0.7**
DZM	**Mont Dzumac**	**14.04**	**263**	P	**P**	**03 38 11.0**	**+0.2**
NOUC	**Port Laguerre**	**14.18**	**262**	P	**P**	**03 38 12.0**	**0.0**
SANVU	**Saraoutou**	**14.61**	**289**	P	**P**	**03 38 15.2**	**-0.9**
SANVU	**Saraoutou**	**14.61**	**289**	P	**P**	**03 38 17.2**	**+1.2**
GRZ	**Great Barrier**	**16.18**	**198**	P	**P**	**03 38 33.0**	**+2.9**
KUZ	**Kuaotunu**	**16.57**	**196**	P	**P**	**03 38 35.7**	**+2.0**
WIAZ	**Waiheke Island**	**16.78**	**198**	P	**P**	**03 38 37.9**	**+2.3**
MXZ	**Matakaoa Point**	**16.83**	**189**	P	**P**	**03 38 36.4**	**+0.3**
ETAZ	**East Tamaki Re**	**16.98**	**198**	P	**P**	**03 38 40.2**	**+2.7**
WMGZ	**Waiomatatini S**	**17.07**	**188**	P	**P**	**03 38 39.3**	**+1.0**
HAZ	**Te Kaha**	**17.10**	**190**	P	**P**	**03 38 37.8**	**-0.8**
RUGZ	**Raukumara Rang**	**17.32**	**190**	P	**P**	**03 38 41.1**	**+0.3**
PUZ	**Puketiti**	**17.34**	**189**	P	**P**	**03 38 41.2**	**+0.4**
OPRZ	**Ohinepanea**	**17.42**	**193**	P	**P**	**03 38 41.3**	**-0.1**
TWGZ	**Tauwhareparae**	**17.48**	**189**	P	**P**	**03 38 42.7**	**+0.6**
TOZ	**Tahuroa Road**	**17.56**	**196**	P	**P**	**03 38 44.3**	**+1.5**
MWZ	**Matawai**	**17.71**	**190**	P	**P**	**03 38 42.9**	**-1.3**
URZ	**Urewera**	**17.71**	**191**	P	**P**	**03 38 42.0**	**-2.1**
	9.6nm,0.3s,baz=297,slow=2.6,SNR=45						
URZ				S	**S**	**03 41 32.5**	**-4.4**
	0.4nm,0.3s,baz=29,slow=15,SNR=1.6						
URZ	**Urewera**	**17.71**	**191**	P	**P**	**03 38 43.0**	**-1.1**
URZ	**Urewera**	**17.71**	**191**	P	**P**	**03 38 42.5**	**-1.6**
CNGZ	**Carnagh Statio**	**17.75**	**188**	P	**P**	**03 38 44.7**	**+0.2**
RIGZ	**Rimuhau**	**18.03**	**189**	P	**P**	**03 38 47.4**	**+0.2**
PRGZ	**Paritu Road**	**18.23**	**189**	P	**P**	**03 38 50.1**	**+1.2**
MTHZ	**Maungataniwha**	**18.33**	**192**	P	**P**	**03 38 49.7**	**-0.2**
MHGZ	**Mahia Peninsul**	**18.45**	**189**	P	**P**	**03 38 52.0**	**+1.1**
RATZ	**Rangitukua**	**18.57**	**194**	P	**P**	**03 38 52.1**	**+0.1**
BKZ	**Black Stump Fm**	**18.70**	**192**	P	**P**	**03 38 51.5**	**-1.7**
TMVZ	**Te Maari**	**18.82**	**194**	P	**P**	**03 38 54.1**	**-0.3**
ETVZ	**East Tongariro**	**18.84**	**194**	P	**P**	**03 38 54.1**	**-0.4**
NNVZ	**North Ngauruho**	**18.86**	**194**	P	**P**	**03 38 55.2**	**+0.4**
SNVZ	**South Ngauruho**	**18.91**	**194**	P	**P**	**03 38 54.6**	**-0.6**
FWVZ	**Far West T-bar**	**18.99**	**194**	P	**P**	**03 38 56.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**19.01**	**194**	P	**P**	**03 38 56.0**	**-0.3**
WNVZ	**Wahianoa**	**19.05**	**194**	P	**P**	**03 38 55.8**	**-0.7**
OXZ	**Oxford**	**23.72**	**197**	P	**P**	**03 39 36.9**	**-1.1**
EIDS	**Eidsvold**	**28.27**	**255**	P	**P**	**03 40 18.9**	**+0.6**
	baz=28,SNR=4.6						
EIDS	**Eidsvold**	**28.27**	**255**	P	**P**	**03 40 17.9**	**-0.3**
EIDS				IAmb	IAmb	03 40 19.3	
	comp=Z,8.3nm,0.8s						
RMQ	**Roma**	**30.42**	**253**	P	**P**	**03 40 38.5**	**+1.7**
	baz=30,SNR=8.1						
MILA	**Mila**	**32.34**	**233**	P	**P**	**03 40 53.0**	**0.0**
	baz=32,SNR=3.1						
CTA	**Charters Tower**	**32.97**	**265**	P	**P**	**03 40 59.3**	**+0.8**
	comp=Z,35nm,0.5s,baz=93,slow=11,SNR=95						
CTAO	**Charters Tower**	**32.97**	**265**	P	**P**	**03 40 58.4**	**-0.1**
QLP	**Quilpie**	**34.48**	**253**	P	**P**	**03 41 11.6**	**+0.7**
	baz=34,SNR=6.7						
PMG	**Port Moresby**	**34.96**	**284**	P	**P**	**03 41 15.7**	**+0.6**
	comp=Z,48nm,0.8s,baz=99,slow=6.2,SNR=9.7						
PMG	**Port Moresby**	**34.96**	**284**	P	**P**	**03 41 15.0**	**-0.1**
STKA	**Stephens Creek**	**37.18**	**245**	P	**P**	**03 41 33.2**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=93,slow=9.4,SNR=7.1						
STKA	**Stephens Creek**	**37.18**	**245**	P	**P**	**03 41 34.3**	**+1.2**
	baz=37,SNR=4.3						
STKA	**Stephens Creek**	**37.18**	**245**	IAmb	IAmb	03 41 35.6	
	comp=Z,3.9nm,1.4s						
QIS	**Mount Isa**	**39.08**	**263**	P	**P**	**03 41 48.7**	**0.0**
	baz=39,SNR=6.7						
AS31	**Alice Springs**	**43.95**	**257**	P	**P**	**03 42 27.0**	**0.0**
ASAR	**Alice Springs**	**43.95**	**257**	P	**P**	**03 42 27.4**	**+0.4**
	comp=Z,23nm,0.6s,baz=96,slow=7.7,SNR=377						
ASAR				PcP	**PcP**	**03 43 58.1**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=90,slow=3.7,SNR=2.6						
ASAR				ScP	**ScP**	**03 46 55.7**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=104,slow=4.1,SNR=8.2						
ASAR				S	**S**	**03 48 12.5**	**-4.0**
	comp=Z,7.7nm,0.8s,baz=94,slow=16,SNR=26						
WB2	**Warramunga Arr**	**44.05**	**263**	P	**P**	**03 42 27.2**	**-0.6**
WRAB	**Tennant Creek**	**44.05**	**263**	P	**P**	**03 42 26.8**	**-0.9**
WRA	**Warramunga Arr**	**44.06**	**263**	P	**P**	**03 42 27.5**	**-0.3**
	comp=Z,28nm,0.6s,baz=97,slow=7.2,SNR=501						
WRA				ScP	**ScP**	**03 46 55.7**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=94,slow=3.4,SNR=2.9						
WRA				S	**S**	**03 48 11.4**	**-6.6**
	comp=Z,1.4nm,0.7s,baz=98,slow=13,SNR=7.1						
GENI	**Genyem**	**44.15**	**289**	P	**P**	**03 42 27.7**	**-0.8**
	comp=Z,5μmcomp=Z,105nm,0.9s						
KDU	**Kakadu**	**47.47**	**272**	P	**P**	**03 42 53.6**	**-0.1**
	baz=48,SNR=17						
MTN	**Manton Dam**	**48.68**	**271**	P	**P**	**03 43 01.9**	**-0.7**
	baz=49,SNR=11						
MTN	**Manton Dam**	**48.68**	**271**	P	**P**	**03 43 01.6**	**-1.1**
FORT	**Forrest**	**48.69**	**247**	P	**P**	**03 43 02.6**	**+0.1**
	baz=49,SNR=9.0						
WRKA	**Warakurna**	**48.89**	**255**	P	**P**	**03 43 04.2**	**+0.1**
	baz=49,SNR=66						
GUMO	**Guam**	**49.68**	**310**	P	**P**	**03 43 10.2**	**+0.3**
	comp=Z,28nm,0.5s,baz=190,slow=10,SNR=4.4						
GUMO	**Guam**	**49.68**	**310**	IAmb	IAmb	03 43 11.3	
	comp=Z,62nm,1.1s						
KNRA	**Kununurra**	**50.15**	**267**	P	**P**	**03 43 13.6**	**+0.2**
	baz=50,SNR=6.4						
KNRA	**Kununurra**	**50.15**	**267**	P	**P**	**03 43 12.4**	**-1.0**
KNRA				IAmb	IAmb	03 43 14.4	
	comp=Z,20nm,0.9s						
FAKI	**Fak Fak**	**51.12**	**284**	P	**P**	**03 43 20.3**	**-0.1**
	comp=Z,24nm,1.3s						
SWI	**Sorong**	**52.88**	**285**	P	**P**	**03 43 33.4**	**+0.4**
	comp=Z,2μmcomp=Z,197nm,0.8s						
NLAI	**Namlea**	**55.69**	**281**	P	**P**	**03 43 53.1**	**+0.4**
	comp=Z,1μmcomp=Z,39nm,0.6s						
SOEI	**Soe**	**56.03**	**272**	P	**P**	**03 43 55.8**	**+0.6**
SOEI	**Soe**	**56.03**	**272**	P	**P**	**03 43 56.6**	**+1.4**
	comp=Z,88nm,0.8s						
MEEK	**Meekatharra**	**57.33**	**251**	P	**P**	**03 44 03.5**	**-0.3**
	baz=57,SNR=6.7						
SBA	**Scott Base**	**57.44**	**

PINE Pine Mountain 83.20 38 P P 03 46 36.9 +1.0
MA2 Magadan 84.04 345 P P 03 46 39.1 -0.3
comp=Z,9.2nm,1.0s,baz=158,slow=19,SNR=1.9
GSI Gunungsitoli 84.76 273 P P 03 46 45.2 +1.1
comp=Z,35nm,1.6s
G08A Pilot Rock 85.23 38 P P 03 46 46.6 +0.9
BJT Baijiatuau 85.83 316 P P 03 46 47.4 -1.1
BJI Beijing 85.83 316 P P 03 46 49.3 +0.8
BJI pmax pmax
comp=Z,7.0nm,0.7s
ENH Enshi 85.86 304 P P 03 46 48.6 -0.3
ENH lAmb lAmb 03 46 51.0
comp=Z,22nm,1.0s
MESA MESA 86.09 17 P P 03 46 50.1 +0.6
MESA lAmb lAmb 03 46 51.6
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 86.14 14 lAmb lAmb 03 46 50.9
comp=Z,13nm,0.6s
N25K Chitina, Valde 86.60 16 lAmb lAmb 03 46 52.9
comp=Z,5.9nm,0.5s
F10A Beach Ranch, E 86.61 38 lAmb lAmb 03 46 54.2
comp=Z,7.4nm,1.1s
SEY Seymchan 86.65 347 P P 03 46 52.1 +0.3
comp=Z,5.8nm,0.6s,baz=176,slow=5.9,SNR=9.9
B08A Colville Reser 86.84 35 P P 03 46 53.2 +0.1
TRF Thorofare Moun 86.94 12 lAmb lAmb 03 46 54.4
comp=Z,14nm,0.8s
RND Reindeer 87.19 13 lAmb lAmb 03 46 55.6
comp=Z,14nm,0.7s
MCK McKinley 87.47 13 lAmb lAmb 03 46 57.5
comp=Z,6.8nm,0.8s
VNA3 Neumayer Olymp 87.78 176 P P 03 46 57.0 -0.2
XAN Xi'an 87.99 308 P P 03 46 59.8 +0.9
XAN pmax pmax
comp=Z,16nm,0.7s
XAN pmax pmax
comp=Z,71nm,4.3s
XAN Xi'an 87.99 308 P P 03 47 00.1 +1.2
NEA2 Nenana 88.21 12 P P 03 46 58.4 -0.7
VNA2 Neumayer--Watz 88.21 177 P P 03 46 59.8 +0.6
baz=180,slow=4.3
MLY Manley 88.28 11 lAmb lAmb 03 46 59.8
comp=Z,8.6nm,1.3s
WRH Wood River Hil 88.30 13 lAmb lAmb 03 47 00.3
comp=Z,8.4nm,0.7s
VNA1 Neumayer--Stat 88.44 177 P P 03 47 00.5 +0.2
DOT Dot Lake 88.47 15 lAmb lAmb 03 47 01.7
comp=Z,4.7nm,0.8s
HDA Harding Lake 88.48 13 lAmb lAmb 03 47 01.1
comp=Z,6.3nm,0.6s
CCB Clear Creek Bu 88.51 13 lAmb lAmb 03 47 01.0
comp=Z,7.6nm,0.8s
BCAR Beaver Creek A 88.54 16 P P 03 47 00.8 0.0
DLBC Dease Lake 88.61 23 P P 03 47 01.9 +0.7
comp=Z,0.9nm,0.6s,baz=291,slow=8.6,SNR=3.2
MDM Murphy Dome 88.70 12 lAmb lAmb 03 47 01.9
comp=Z,5.3nm,0.8s
IL31 88.81 13 P P 03 47 01.5 -0.3
IL31 lAmb lAmb 03 47 03.2
comp=Z,8.4nm,1.4s
ILAR Eielson Array 88.81 13 P P 03 47 01.9 0.0
comp=Z,1.7nm,0.4s,baz=224,slow=5.7,SNR=12
KMI Kunming 89.10 297 ⇑P P 03 47 06.5 +2.0
KMI pmax pmax
comp=Z,12nm,0.9s
LAMP Lampang 89.21 290 P P 03 47 07.6 +2.8
LAMP Lampang 89.21 290 P P 03 47 07.6 +2.8
comp=Z,24nm,0.9s
K27K Chicken 89.27 15 lAmb lAmb 03 47 06.1
comp=Z,3.6nm,0.8s
HHC Hu-ho-hao-te 89.28 315 *e*P P 03 47 05.5 +0.7
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,89nm,6.6s
PAYA Payao 89.31 291 P P 03 47 07.1 +1.8
PAYA Payao 89.31 291 P P 03 47 07.1 +1.8
comp=Z,10μm,0.8s
PLCA Paso Flores 89.35 134 P P 03 47 06.5 +1.3
comp=Z,2.8nm,0.8s,baz=251,slow=9.2,SNR=3.9
PD31 Pinedale Array 89.59 43 P P 03 47 06.7 +0.4
PDAR Pinedale Array 89.59 43 P P 03 47 07.5 +1.2
comp=Z,1.1nm,0.7s,baz=217,slow=3.4,SNR=13
PDAR Pinedale Array 89.59 43 P P 03 47 06.5 +0.1
CM02 Chiang Mai Arr 89.78 290 P P 03 47 10.3 +2.8
comp=Z,11nm,0.9s
CM02 Chiang Mai Arr 89.78 290 P P 03 47 10.3 +2.8
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 89.79 290 P P 03 47 09.5 +2.0
comp=Z,2.5nm,0.4s,baz=124,slow=3.9,SNR=12
CMAR Chiang Mai Arr 89.79 290 P P 03 47 08.1 +0.6
CM13 Chiang Mai Arr 89.81 290 P P 03 47 10.3 +2.7
comp=Z,8.2nm,1.0s
CM13 Chiang Mai Arr 89.81 290 P P 03 47 10.3 +2.7
comp=Z,8.2nm,1.0s
CMMT Chiang Mai 89.92 290 P P 03 47 09.9 +1.8
CMMT Chiang Mai 89.92 290 P P 03 47 09.9 +1.8
comp=Z,14nm,0.7s
CHTO Chiang Mai 89.92 290 P P 03 47 10.0 +1.9
CHTO Chiang Mai 89.92 290 P P 03 47 10.0 +1.9
comp=Z,14nm,0.8s
CHTO Chiang Mai 89.92 290 P P 03 47 07.6 -0.5
DAWY Dawson 89.98 16 lAmb lAmb 03 47 09.0
comp=Z,4.3nm,1.0s
EGAK Eagle 90.11 15 lAmb lAmb 03 47 09.3
comp=Z,3.4nm,0.7s
LZH Lanzhou 92.62 308 *e*P P 03 47 21.5 +1.1
LZH pP pwP 03 49 34.3 +1.0
LZH sP sP 03 50 37.0 +8.4
LZH pmax pmax
comp=Z,20nm,1.0s
WMOK Wichita Mounta 93.67 54 lAmb lAmb 03 47 22.4
comp=Z,3.8nm,0.8s
MKAR Makanchi Array 111.11 313 PKiKP PKiKP 03 52 36.5 -1.1
comp=Z,0.4nm,0.4s,baz=117,slow=1.4,SNR=6.9
KURK Kurchatov 113.95 317 PKiKP 03 52 41.7 -1.2
KURBB Kurchatov Arra 114.01 317 PKP PKPdf 03 52 41.7 -1.3
comp=Z,0.7nm,0.6s,baz=93,slow=1.9,SNR=7.7
BVAR Borovoye Array 119.07 320 PKP **PKPdf 03 52 51.5 -1.2**
comp=Z,1.5nm,0.4s,baz=218,slow=9.4,SNR=6.7
SPITS Spitsbergen Ar 122.23 356 PKP **PKPdf 03 52 57.8 -0.4**
comp=Z,2.0nm,0.6s,baz=60,slow=4.9,SNR=7.6
ARCES ARCESS Array B 129.22 349 PKP **PKPdf 03 53 11.4 -0.3**
comp=Z,1.6nm,0.5s,baz=40,slow=1.2,SNR=16
ARCES SKPbc SKPab 03 55 37.4 -0.3
comp=Z,1.8nm,0.7s,baz=40,slow=4.0,SNR=4.4
FINES FINESS Array B 136.01 343 PKhKP PKPpre 03 53 15.5
comp=Z,2.4nm,1.0s,baz=62,slow=4.5,SNR=4.6
FINES PKP **PKPdf 03 53 22.7 -1.9**
comp=Z,1.6nm,0.6s,baz=132,slow=2.8,SNR=6.3
FINES SKPbc **SKPbc 03 56 01.1 +0.2**
comp=Z,6.7nm,0.7s,baz=46,slow=2.7,SNR=23
NB2 NORSAR Subarra139.31 353 PKP **PKPdf 03 53 23.2 -7.5**
comp=Z,0.3nm,0.4s,baz=10,slow=3.2
NOA NORSAR Array B 139.31 353 PKhKP PKPpre 03 53 22.9
comp=Z,0.6nm,0.6s,baz=35,slow=1.3,SNR=4.7
NOA PKP **PKPdf 03 53 31.6 +0.9**
comp=Z,0.2nm,0.5s,baz=73,slow=1.8,SNR=3.7
NOA SKPbc **SKPbc 03 56 10.6 +0.2**
comp=Z,1.2nm,0.7s,baz=13,slow=4.3,SNR=4.9
GURO Guroymak-BITLI 141.00 306 PKPdf **PKPdf 03 53 31.6 -3.0**
AKASG Malin Array Be 143.12 330 PKhKP PKPpre 03 53 35.0
comp=Z,16nm,0.4s,baz=42,slow=4.3,SNR=114
AKASG SKPbc **SKPbc 03 56 19.8 -0.4**
comp=Z,2.0nm,0.8s,baz=43,slow=3.3,SNR=8.9
AKBB Malin Array Si 143.12 330 PKPpre 03 53 34.3
GAZ Gaziantep 145.05 305 PKPbc **PKPdf 03 53 42.2 +0.6**
SORM Soroca 145.28 328 ⇑P PKPdf 03 53 42.0 +0.4
BNN Bunyan 145.51 309 PKPbc **PKPdf 03 53 43.2 +0.8**
PURM Purcari 145.53 325 ⇑P PKPbc 03 53 44.0 +0.5
VASR Vaslui 146.56 326 ⇑P PKPbc 03 53 46.9 +0.5
KWP Kalwaria Pacla 146.73 335 *e*PKP PKPbc 03 53 47.1 +0.3
KWP Kalwaria Pacla 146.73 335 PKPbc **PKPbc 03 53 47.1 +0.3**
BR131 Keskin Array S 146.74 312 PKPbc **PKPbc 03 53 46.9 -0.5**
BRTR Keskin Array B 146.74 312 PKPbc **PKPbc 03 53 47.0 -0.3**
comp=Z,3.9nm,0.6s,baz=136,slow=3.9,SNR=16
BRTR SKPbc **SKPbc 03 56 28.9 -0.2**
comp=Z,0.6nm,0.7s,baz=122,slow=1.9,SNR=3.9
VLDR Vladesti 146.93 325 ⇑P PKPbc 03 53 48.3 +0.9
TLCR 146.94 323 ⇑P PKPbc 03 53 47.9 +0.4
SCTR Scanteiesti 147.08 325 ⇑P PKPbc 03 53 48.5 +0.6
BURAR Bucovina Array 147.16 330 ⇑P PKPbc 03 53 49.1 +0.9
JURR Jurilovca 147.16 323 ⇑P PKPbc 03 53 48.0 0.0
TESR Tescani 147.24 327 ⇑P PKPbc 03 53 47.8 -0.4
ANTO Ankara 147.27 312 PKPbc **PKPbc 03 53 48.0 -0.6**
CFR Carcaliu 147.32 324 ⇑P PKPbc 03 53 48.9 +0.4
OJC Ojcow 147.35 338 *e*PKP **PKPbc 03 53 48.6 +0.1**
TPGR Topolog 147.37 323 ⇑P PKPbc 03 53 49.3 +0.6
KOLS Kolonicke sedl 147.46 334 *e*PKP **PKiKP 03 53 49.9 -0.4**
TIRR Tirgusor 147.62 323 ⇑P PKPbc 03 53 48.0 -1.3
VRI Vrincioaia 147.63 326 ⇑P PKPbc 03 53 49.5 +0.1
PLOR Plostina 147.68 326 ⇑P PKPbc 03 53 49.6 +0.1
HARR Harsova 147.74 323 ⇑P PKPbc 03 53 50.2 +0.7
TLBR Topalu 147.77 323 ⇑P PKPbc 03 53 49.4 -0.3
MFTR Murfatlar 147.78 322 ⇑P PKPbc 03 53 50.1 +0.4
BISRR Bisoca 147.85 326 ⇑P PKPbc 03 53 50.1 +0.2
MANR Mangalia 147.90 322 ⇑P PKPbc 03 53 50.1 +0.1
TSMN Mangalia Port- 147.91 322 ⇑P PKiKP 03 53 51.1 -0.2
KSP Ksiaz 147.92 342 *e*PKP **PKPbc 03 53 50.6 +0.8**
OZUR 147.96 327 ⇑P PKPbc 03 53 50.4 +0.3
MDUB Mudurnu 148.08 314 PKPbc 03 53 49.9 -0.9
NEHR Nehoiu 148.15 326 ⇑P PKPbc 03 53 50.7 +0.1
OSTC Ostas 148.20 342⇑ *e*PKP **PKPbc 03 53 51.3 +0.7**
DOPR Dopca 148.25 328 ⇑P PKPbc 03 53 51.4 +0.5
MLR Muntele Rosu 148.29 326 ⇑P PKPbc 03 53 50.7 -0.4
UPC Upice 148.30 342⇑ *e*PKP **PKPbc 03 53 51.4 +0.6**
CLL Collm 148.34 346 ⇓*i*PKPbc **PKPbc 03 53 51.3 +0.4**
comp=Z,13nm,1.1s
CLL ⇑*i*PKPab **PKPab 03 53 56.6 +0.2**
comp=Z,8.0nm,0.6s
DPC Dobruska-Polom 148.35 342⇑ *e*PKP **PKPbc 03 53 51.5 +0.5**
DPC *e*PKPAB **PKPab 03 53 57.5 +0.9**
MORC Moravsky Berou 148.49 340 *e*PKP **PKPbc 03 53 52.0 +0.6**
MORC *e* 03 53 57.9
BRG Berggiesshubel 148.52 345 *i* PKP **PKPbc 03 53 51.9 +0.5**
BRG Amp 03 53 53.5
comp=Z,5.0nm,0.6s
CJR Cluj-Napoca 148.58 330 ⇑P PKPbc 03 53 51.7 0.0
PVCC Panska Ves 148.68 344⇑ *e*PKP **PKiKP 03 53 52.5 -0.2**
CSS Mathiatis 148.72 303 PKPbc 03 53 51.6 -0.7
VOIR 148.78 327 ⇑P PKPbc 03 53 52.6 +0.3
DRGR 148.93 331 ⇑P PKPbc 03 53 52.4 -0.2
PRA Prague 149.13 344⇑ *e*PKP **PKPbc 03 53 53.2 +0.4**
VYHS Vyhne 149.14 337 *e*PKP **PKPab 03 54 00.9 +1.0**
PRU Pruhonice 149.18 343⇑ *e*PKP **PKPbc 03 53 53.1 +0.1**
VRAC Vranov 149.19 341 *e*PKP **PKPbc 03 53 53.6 +0.5**
VRAC *e* 03 54 00.9
KOLL Kolacno 149.22 338 *e*PKP **PKiKP 03 53 53.9 0.0**
KOLL *e* 03 54 01.2
NKC Novy Kostel 149.47 346 *e*PKPAB **PKPab 03 54 01.4 +0.2**
KRUC Moravsky 149.47 341 *e*PKP **PKPbc 03 53 54.1 +0.4**
KRUC *e* 03 54 01.9
PBCC Pribram 149.60 344⇑ *e*PKP **PKPbc 03 53 54.0 0.0**
PBCC *e*PKPAB **PKPab 03 54 01.9 +0.2**
SMOL Smolenice 149.62 339 *e*PKP **PKiKP 03 53 55.1 +0.3**
SMOL *e* 03 54 03.0
MODS Modra-Piesok 149.79 339 *e*PKP **PKPbc 03 53 54.6 +0.1**
MODS *e* 03 54 04.9
SIRR Siria 149.79 332 ⇑P PKiKP 03 53 55.2 0.0
GZR Gura Zlata 149.94 329 ⇑P PKPbc 03 53 55.1 +0.1
ZST Bratislava 150.00 339 *e*PKP **PKiKP 03 53 55.5 0.0**
KHC Kasperske Hory 150.22 344⇑ *e*PKP **PKPbc 03 53 55.5 0.0**
KHC *e*PKPAB **PKPab 03 54 05.0 +0.6**
KHC Kasperske Hory 150.22 344 PKPbc 03 53 55.1 -0.4
KHC **PKPab 03 54 04.4 0.0**
SRE Strehaia 150.26 328 ⇑P PKPbc 03 53 56.0 +0.3
BZS Buzias 150.31 331 ⇑P PKPbc 03 53 55.2 -0.5
GERES GERESS Array B 150.45 344 PKPbc **PKPbc 03 53 56.3 +0.1**
comp=Z,2.4nm,0.6s,baz=35,slow=2.4,SNR=19
HERR Herculane 150.49 329 ⇑P PKPbc 03 53 56.4 +0.2
CONA Conrad Observa 150.64 340 *e*P **PKPbc 03 53 56.9 +0.3**
comp=Z,5.4nm,0.6s
MORH Mrgy, Hungar 151.11 335 ⇑P PKPbc 03 53 57.2 -0.3
MOA Molin 151.20 342 *e*P **PKPbc 03 53 57.8 0.0**
comp=Z,1.9nm,0.5s
FRGS Fruska Gora 151.47 332 ⇑P PKiKP 03 53 58.8 +0.1
VTS Vitosha 151.67 325 ⇑P PKiKP 03 53 59.5 +0.1
BOVS Bovan 151.75 328 ⇑P PKPbc 03 53 57.7 -1.3
WATA Walderalm 152.38 345 *e*P **PKPbc 03 54 00.1 -0.5**
comp=Z,4.1nm,0.5s
WTTA Wattenberg 152.44 345 *e*P **PKPbc 03 54 00.5 -0.2**
comp=Z,6.7nm,0.7s
SQTA Sankt Quirin 152.58 346 *e*P **PKPbc 03 54 01.0 0.0**
comp=Z,7.1nm,1.4s
ABTA Abfaltersbach 152.69 343 *e*P **PKPbc 03 54 00.5 -0.7**
comp=Z,3.4nm,0.5s
FNA Florina 153.94 324 PKPbc 03 54 02.4 -1.6
FNA PKPab **PKPab 03 54 19.2 -1.4**
ESDC Sonseca Array 160.71 13 PKPab **PKPab 03 54 50.2 +0.4**
comp=Z,1.3nm,1.0s,baz=19,slow=5.4,SNR=5.6
KEST Kesra 163.69 337 PKPab **PKPab 03 55 02.8 -0.3**
comp=Z,2.1nm,0.9s,baz=350,slow=12,SNR=2.7
TORD Torodi Ar. Bea 172.29 182 PKPab **PKPab 03 55 41.3 -0.1**
comp=Z,0.7nm,0.6s,baz=189,slow=3.4,SNR=6.4

*IDC **26** 03:40:48.5±4.1, 34°.72N×138°.92E, h80km±74km, mb3.0/2, mb1 3.2/2, mb1mx2.8/57, mbtmp3.3/2 Error ellipse: s-maj=174.0km s-min=33.1km az=63.0*
*JMA **26** 03:40:52.8±0.2, 35°.76N×138°.57E, h197km±2km, M2.3*
ISC 26 03:40:60.0±1.4, 35°.9N±0°.1×138°.58E±0°.09, h150km, n11, σ2°54/14, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRY	**Ryogami san**	**0.30**	**61**	P	**Pn**	**03 41 19.6**	**-0.9**
JYN	**Shimob**	**0.38**	**184**	P	**Pn**	**03 41 19.0**	**-1.9**
MJAR	**Matsushiro Arr**	**0.73**	**336**	P	**Pn**	**03 41 20.5**	**-2.2**
	0.3nm,0.3s,baz=168,slow=7.5,SNR=18						
MJAR				S	**Sn**	**03 41 42.1**	**+2.0**
	0.3nm,0.3s,baz=218,slow=13,SNR=14						
MAT	**Matsushiro**	**0.73**	**336**	P	**Pn**	**03 41 20.9**	**-1.8**
MAT				S	**Sn**	**03 41 41.7**	**+1.6**
MAT	**Matsushiro**	**0.73**	**336**	P	**Pn**	**03 41 21.1**	**-1.6**
MAT				*e*S	**Sn**	**03 41 41.5**	**+1.4**
JAG	**Ashikaga**	**0.90**	**52**	P	**Pn**	**03 41 22.0**	**-1.9**
JYTA	**Yamagatataniai**	**1.53**	**260**	P	**Pn**	**03 41 25.6**	**-4.2**
JFT	**Otama**	**2.17**	**40**	P	**Pn**	**03 41 34.2**	**-2.8**
JFT				*e*S	**Sn**	**03 42 05.0**	**-0.6**
JSD	**Sado**	**2.17**	**353**	P	**Pn**	**03 41 34.0**	**-3.1**
MKAR	**Makanchi Array**	**42.81**	**303**	P	**P**	**03 48 45.8**	**+3.0**
	0.3nm,0.8s,baz=87,slow=7.8,SNR=2.7						
WRA	**Warramunga Arr**	**55.66**	**185**	P	P	03 50 07.5	-13
	0.1nm,0.3s,baz=360,slow=7.5,SNR=5.3						

IDC 26 03:45:31.1±6.3, 27°.69N×86°.71E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/51, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=361.7km s-min=24.3km az=65.0, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.38**	**351**	P	P	03 49 58.8	+0.2
	0.2nm,0.3s,baz=175,slow=10,SNR=6.9						
KURBB	**Kurchatov Arra**	**23.73**	**347**	P	P	03 50 44.7	-0.1
	1.4nm,0.9s,baz=170,slow=9.3,SNR=9.5						
WRA	**Warramunga Arr**	**66.08**	**131**	P	P	03 56 20.2	0.0
	0.4nm,0.9s,baz=322,slow=6.6,SNR=7.5						
ASAR	**Alice Springs**	**68.41**	**134**	P	P	03 56 35.0	0.0
	0.4nm,0.8s,baz=311,slow=6.0,SNR=2.7						

*ASRS **26** 04:07:00.2±0.3, 50°N±2°×8°8E±°, h10km, MLh3.1/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **26** 04:07:03.5±2.9, 50°.02N×87°.32E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=22.3km s-min=14.3km az=65.0*
ISC 26 04:07:01.1±1.1, 50°.03N±0°.03×87°.59E±0°.03, h3km±12km, n12, σ0°80/21, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.29**	**349**	Pg	**Pg**	**04 07 07.4**	**+0.7**
CHBI				Sg	**Sg**	**04 07 11.5**	**+1.0**
AKAR	**Aktash**	**0.29**	**4**	Pg	**Pg**	**04 07 06.6**	**-0.1**
AKAR				Sg	**Sg**	**04 07 10.8**	**+0.2**
DGZ	**Jazzator, Alta**	**0.35**	**197**	Pg	**Pg**	**04 07 07.5**	**-0.3**
DGZ				Sg	**Sg**	**04 07 12.3**	**-0.1**
CUR	**Chagan-Uzun**	**0.50**	**82**	Pg	**Pg**	**04 07 10.2**	**-0.5**
CUR				Sg	**Sg**	**04 07 17.4**	**+0.3**
ULGR	**Ulagan, Altay**	**0.64**	**22**	Pg	**Pg**	**04 07 13.4**	**0.0**
ARTR	**Artybash**	**1.78**	**354**	Pg	**Pb**	**04 07 33.7**	**-0.7**
TEL	**Teeli**	**1.94**	**58**	Pg	**Pb**	**04 07 36.7**	**-0.4**
TEL				Sg	**Sg**	**04 08 02.8**	**-0.6**
UKR	**Ust'-Kan**	**2.01**	**298**	Pg	**Pb**	**04 07 37.5**	**-0.9**
UKR				Sg	**Sg**	**04 08 05.0**	**-0.7**
GALT	**Gorno-Altaysk,**	**2.19**	**332**	Pg	**Pg**	**04 07 43.1**	**0.0**
GALT				Sg	**Sg**	**04 08 10.6**	**-0.8**
MK31	**Makanchi Array**	**4.79**	**229**	⇑Pn	**Pn**	**04 08 15.9**	**+1.8**
	0.4nm,0.3s,baz=47,slow=12,SNR=38						
MK31				⇓Lg	Lg	04 09 32.3	
	1.9nm,0.4s,baz=46,slow=23,SNR=4.5						
MAKZ	**Makanchi**	**4.94**	**231**	⇓Pn	**Pn**	**04 08 17.6**	**+1.4**
	1.4nm,0.6s						
MAKZ				⇑Sn	**Sn**	**04 09 13.7**	**0.0**
	0.8nm,0.3s						
MAKZ				⇑Lg	Lg	04 09 38.0	
	2.7nm,0.5s						
KURBB	**Kurchatov Arra**	**5.83**	**279**	⇓Pn	**Pn**	**04 08 28.5**	**+0.1**
	2.0nm,0.6s						
KURBB				⇑Sn	**Sn**	**04 09 35.0**	**-0.7**
	3.5nm,0.5s						
KURBB				⇑Lg	Lg	04 10 04.7	
	6.3nm,0.6s						

ASRS 26 04:07:09.4±0.3, 50°N±2°×8°8E±°, h10km, MLh3.1/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.28**	**354**	Pg	Pb	04 07 16.5	0.0
CHBI				Sg	Sb	04 07 20.6	-0.7
AKAR	**Aktash**	**0.28**	**9**	Pg	Pg	04 07 15.6	+0.4
AKAR				Sg	Sg	04 07 19.8	+0.7
DGZ	**Jazzator, Alta**	**0.35**	**193**	Pg	Pg	04 07 16.6	+0.3
DGZ				Sg	Sg	04 07 21.3	+0.4
CUR	**Chagan-Uzun**	**0.52**	**83**	Sg	Sg	04 07 26.6	+0.3
ULGR	**Ulagan, Altay**	**0.64**	**24**	Pg	Pg	04 07 22.0	+0.2
ULGR				Sg	Sg	04 07 31.0	+0.7
ULGR	**Ulagan, Altay**	**0.64**	**24**	Sg	Pg	04 07 22.0	+0.2
ARTR	**Artybash**	**1.77**	**355**	Pg	Pg	04 07 42.8	-0.5
ARTR				Sg	Sg	04 08 06.9	+0.7
TEL	**Teeli**	**1.96**	**59**	Sg	Sg	04 08 12.7	+0.5
UKR	**Ust'-Kan**	**1.99**	**298**	Sg	Sg	04 08 13.8	+0.6
GALT	**Gorno-Altaysk,**	**2.17**	**333**	Sg	Sg	04 08 20.8	+1.6

*NEIC **26** 04:16:25.7±1.4, 27°.95S±0°.06×71°.4W±0°.1, h35km±72km, ML4.2(GUC), Error ellipse: s-maj=17.2km s-min=8.0km az=98.0*
*IDC **26** 04:16:26.7±0.8, 28°.11S×71°.05W, h38km±6km, mb3.3/3, mb1 3.6/7, mb1mx3.4/27, mbtmp3.5/7, ML3.3/4, Error ellipse: s-maj=30.1km s-min=21.5km az=137.0*
*GUC **26** 04:16:27.8±0.6, 28°.08S×71°.00W, h49km±2km, ML4.2*
ISC 26 04:16:25.2±0.7, 27°.95S±0°.04×71°.15W±0°.06, h28km±4km, n60, σ1°23/65, mb3.4/3, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.26**	**165**	⇑*i*P	**Pn**	**04 16 35.1**	**+1.8**
AC04				*i* S	**Sn**	**04 16 40.5**	**+2.1**
AC04	**Llanos de Chal**	**0.26**	**165**		**Pn**	**04 16 35.0**	**+1.8**
GO03	**Copiap**	**0.88**	**67**	*e*P	**Pn**	**04 16 43.3**	**+1.4**
GO03				*i* S	**Sn**	**04 16 55.2**	**+1.4**
GO03				IAML		04 16 56.5	
	comp=N,12μm,0.3s						
GO03	**Copiap**	**0.88**	**67**	Pn	**Pn**	**04 16 43.5**	**+1.7**
LCO	**Las Campanas**	**1.13**	**160**	*e*P	**Pb**	**04 16 45.5**	**-0.7**
LCO				*i* S	**Sb**	**04 16 58.9**	**-1.7**
LCO	**Las Campanas**	**1.13**	**160**		**Pb**	**04 16 45.8**	**-0.4**
CO05	**La Serena**	**1.96**	**182**	*e*P	**Pn**	**04 16 57.5**	**+0.8**
CO05				*i* S	**Sn**	**04 17 21.9**	**+1.6**
CO05				IAML		04 17 32.0	
	comp=E,2μm,0.3s						
AC02	**Maricunga**	**2.11**	**59**	⇓*i*P	**Pb**	**04 17 02.0**	**-1.1**
AC02				*i* S	**Sb**	**04 17 27.6**	**-1.5**
AC02				IAML		04 17 30.5	
	comp=E,2μm,0.3s						
AC02	**Maricunga**	**2.11**	**59**	Pn	**Pb**	**04 17 02.2**	**-0.9**
GO04	**Tololo Observa**	**2.23**	**172**	*e*P	**Pn**	**04 17 02.0**	**+1.4**
GO04				IAML		04 17 41.2	
	comp=E,4μm,0.2s						
GO04	**Tololo Observa**	**2.23**	**172**	Pn	**Pn**	**04 17 01.2**	**+0.6**
CO06	**Fray Jorge**	**2.75**	**189**	⇓*i*P	**Pn**	**04 17 07.4**	**-0.1**
CO03	**El Pedregal**	**2.91**	**172**	*e*P	**Pn**	**04 17 11.0**	**+1.3**
CO03				IAML		04 18 00.6	
	comp=E,730nm,0.1s						
CO03	**El Pedregal**	**2.91**	**172**		**Pn**	**04 17 10.2**	**+0.4**
GO02	**Mina Guanaco**	**3.11**	**27**	*e*P	**Pn**	**04 17 14.6**	**+2.0**
GO02				IAML		04 18 13.8	
	comp=N,679nm,0.3s						
GO02	**Mina Guanaco**	**3.11**	**27**	Pn	**Pn**	**04 17 14.7**	**+2.0**
CO02	**Combarbal**	**3.25**	**178**	⇑*i*P	**Pn**	**04 17 14.9**	**+0.5**
CO02	**Combarbal**	**3.25**	**178**		**Pn**	**04 17 15.2**	**+0.8**
PB14	**IPOC Station P**	**3.38**	**12**	Pn	**Pn**	**04 17 16.7**	**+0.3**
PB10	**IPOC Station P**	**4.45**	**7**	*e*P	**Pn**	**04 17 30.3**	**-0.6**
PB10	**IPOC Station P**	**4.45**	**7**	Pn	**Pn**	**04 17 30.5**	**-0.3**
VA03	**San Esteban**	**4.83**	**174**		**Pn**	**04 17 37.4**	**+1.3**
PB15	**IPOC Station P**	**4.96**	**18**	Pn	**Pn**	**04 17 38.9**	**+0.9**
PB06	**IPOC Station P**	**5.41**	**16**		**Pn**	**04 17 44.6**	**-0.4**
MT05	**Renca**	**5.43**	**176**	Pn	**Pn**	**04 17 44.7**	**+0.2**
MT03	**Universidad Ad**	**5.55**	**174**	Pn	**Pn**	**04 17 47.0**	**+0.9**
PB04	**IPOC Station P**	**5.67**	**9**	Pn	**Pn**	**04 17 46.7**	**-1.0**
LVC	**Limon Verde**	**5.69**	**21**	Pn	**Pn**	**04 17 48.9**	**+0.6**
	comp=N,0.9nm,0.3s,baz=189,slow=8.3,SNR=16						
LVC				Lg	Lg	04 19 11.4	
	comp=N,8.0nm,0.3s,baz=307,slow=18,SNR=3.9						
LVC	**Limon Verde**	**5.69**	**21**	Pn	**Pn**	**04 17 48.7**	**+0.5**
VA05	**Santo Domingo**	**5.70**	**184**	Pn	**Pn**	**04 17 46.2**	**-1.8**
MT09	**Talagante**	**5.81**	**179**		**Pn**	**04 17 49.3**	**-0.3**
MT01	**Popeta**	**5.89**	**181**		**Pn**	**04 17 49.5**	**-1.2**
PB07	**IPOC Station P**	**6.30**	**11**	Pn	**Pn**	**04 17 56.5**	**0.0**
BO01	**Tunca**	**6.42**	**180**	Pn	**Pn**	**04 17 57.2**	**-0.7**
BO02	**Sierra Bellavi**	**6.83**	**177**		**Pn**	**04 18 02.2**	**-1.4**
PB01	**IPOC Station P**	**7.04**	**13**	Pn	**Pn**	**04 18 05.7**	**-0.8**
GO05	**Huala**	**7.07**	**185**	Pn	**Pn**	**04 18 06.3**	**-0.5**
TA01	**Diego Aracena**	**7.41**	**7**	Pn	**Pn**	**04 18 12.2**	**+0.8**
PB08	**IPOC Station P**	**7.99**	**14**	Pn	**Pn**	**04 18 19.9**	**+0.2**
PB11	**IPOC Station P**	**8.27**	**10**	Pn	**Pn**	**04 18 23.4**	**0.0**
H03N1	**Juan Fernandez**	**8.64**	**229**	Pn	**Pn**	**04 18 26.9**	**-1.1**
	baz=109,slow=17,SNR=11						
H03N1				Sn	Sn	04 19 58.4	-6.0
H03N1				T	T	04 27 32.5	
	baz=54,slow=72,SNR=898						
H03N2	**Juan Fernandez**	**8.65**	**229**	Pn	**Pn**	**04 18 27.1**	**-1.1**
	baz=109

baz=112,slow=75,SNR=12
ZALV Zalesovo Beam 148.61 28 PKPbc PKPbc 04 36 09.7 +0.5
comp=N,0.9nm,0.4s,baz=270,slow=2.7,SNR=5.0
ZALV pPKPbc **sPKPbc 04 36 22.4 +0.9**
comp=N,1.0nm,0.4s,baz=307,slow=5.1,SNR=2.8
MKAR Makanchi Array 151.94 41 PKPbc PKPbc 04 36 17.1 -0.4
comp=N,0.3nm,0.6s,baz=349,slow=1.2,SNR=4.3
MKAR pPKPbc **sPKPbc 04 36 29.6 -0.3**
comp=N,0.9nm,0.7s,baz=330,slow=2.3,SNR=6.0

IDC 26 04:23:24.2±2.3, 14°.79N×147°.15E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/46, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=46.9km s-min=32.4km az=99.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.51**	**242**	Pn	Pn	04 24 06.5	+0.1
	12nm,0.3s,baz=60,slow=20,SNR=9.0						
GUMO				Sn	Sn	04 24 38.5	+0.8
	15nm,0.3s,baz=172,slow=22,SNR=2.6						
WRA	**Warramunga Arr**	**36.74**	**200**	P	P	04 30 33.5	-0.1
	0.5nm,1.1s,baz=24,slow=8.1,SNR=1.7						
ASAR	**Alice Springs**	**40.36**	**199**	P	P	04 31 03.7	-0.2
	0.3nm,0.7s,baz=25,slow=9.2,SNR=1.6						
MKAR	**Makanchi Array**	**62.18**	**315**	P	P	04 33 47.6	0.0
	0.4nm,0.6s,baz=95,slow=8.3,SNR=4.6						

IDC 26 04:41:53.5±1.8, 11°.01S×165°.60E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/32, mbtmp3.8/5, ML3.5/1, MS3.5/2, Ms1 3.4/2, ms1mx2.8/28, Error ellipse: s-maj=51.9km s-min=32.3km az=122.0

ISC 26 04:41:57.8±1.3, 11°.15S±0°.2×165°.6E±0°.3, h30km, n14, σ1§62/5, mb3.7/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.95**	**176**	Pn	**Pn**	**04 44 32.4**	**-0.2**
	0.3nm,0.3s,baz=349,slow=20,SNR=5.8						
CTA	**Charters Tower**	**20.65**	**242**	P	Pn	04 46 38.8	+1.1
	3.4nm,0.8s,baz=51,slow=13,SNR=2.4						
H11S2	**WAKE ISLAND Hy 29.41**	**2**	**T**	T	T	05 18 15.4	
	baz=181,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy 29.41**	**2**	**T**	T	T	05 18 16.0	
	baz=181,slow=76,SNR=62						
H11S1	**WAKE ISLAND Hy 29.43**	**2**	**T**	T	T	05 18 15.2	
	baz=181,slow=76,SNR=5.2						
STKA	**Stephens Creek**	**30.31**	**223**	LR	LR	05 01 11.1	
	comp=Z,71nm,18.2s,baz=200,slow=38						
H11N1	**WAKE ISLAND Hy 30.63**	**2**	**T**	T	T	05 19 46.9	
	baz=182,slow=76,SNR=43						
H11N3	**WAKE ISLAND Hy 30.64**	**2**	**T**	T	T	05 19 47.4	
	baz=182,slow=76,SNR=9.8						
H11N2	**WAKE ISLAND Hy 30.65**	**2**	**T**	T	T	05 19 48.2	
	baz=182,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**31.34**	**250**	P	**P**	**04 48 16.9**	**+0.9**
	3.7nm,0.8s,baz=82,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**32.65**	**243**	P	**P**	**04 48 27.8**	**+0.3**
	0.5nm,0.7s,baz=68,slow=9.6,SNR=5.9						
ILAR	**Eielson Array**	**83.60**	**19**	P	**P**	**04 54 24.0**	**+1.1**
	0.3nm,0.5s,baz=230,slow=5.4,SNR=2.5						
MKAR	**Makanchi Array**	**93.46**	**317**	P	**P**	**04 55 08.9**	**-1.7**
	0.2nm,0.7s,baz=103,slow=6.2,SNR=2.5						
PDAR	**Pinedale Array**	**93.69**	**47**	LR	LR	05 30 41.0	
	comp=Z,23nm,21.1s,baz=162,slow=31						

TRN 26 05:20:45.1, 13°.68N×58°.58W, h132km, MD3.6

ISC 26 05:20:48.2±2.9, 13°.94N±0°.06×58°.7W±0°.2, h10km, n22, σ1§01/30, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.12**	**222**	*e*	Pn	05 21 10.8	+0.9
BBGH	**Gun Hill**	**1.16**	**227**	*eP*	**Pn**	**05 21 09.7**	**-0.8**
BBGH				*eS*	**Sn**	**05 21 29.1**	**+2.7**
MPOM	**Morne Pois Mar**	**2.16**	**284**	*eP*	**Pn**	**05 21 23.8**	**-0.5**
MPOM				*eS*	**Sn**	**05 21 52.0**	**+0.8**
SLBI	**Saint Lucia, B**	**2.22**	**272**	*eP*	**Pn**	**05 21 24.4**	**-0.7**
SLBI				*eS*	**Sn**	**05 21 52.9**	**+0.3**
MVM	**Montagne Vaucl**	**2.22**	**286**	*eP*	**Pn**	**05 21 25.1**	**-0.1**
LPMF	**Morne Lapointe**	**2.29**	**286**	*eP*	**Pn**	**05 21 25.7**	**-0.5**
ZAM	**Aeronautique**	**2.35**	**286**	*eP*	**Pn**	**05 21 26.6**	**-0.3**
TRMF	**Trois Ilets**	**2.37**	**285**	*eP*	**Pn**	**05 21 26.6**	**-0.5**
BIM	**Bigot**	**2.38**	**284**	*eP*	**Pn**	**05 21 27.0**	**-0.4**
BIM				*eS*	**Sn**	**05 21 55.2**	**-1.4**
FDF	**Fort de France**	**2.51**	**289**	*eP*	**Pn**	**05 21 29.1**	**0.0**
BAMF	**Morne Balai**	**2.54**	**290**	*eP*	**Pn**	**05 21 29.7**	**+0.1**
SVB	**Belmont**	**2.58**	**255**	*eP*	**Pn**	**05 21 29.7**	**-0.4**
SVB				*eS*	**Sn**	**05 21 59.9**	**-1.6**
PCM	**Pelee Case Pet**	**2.59**	**290**	*eP*	**Pn**	**05 21 30.1**	**-0.2**
DSLB	**Salisbury**	**3.03**	**300**	*eP*	**Pn**	**05 21 36.2**	**-0.1**
DSLB				*eS*	**Sn**	**05 22 15.2**	**+2.4**
MAGL	**Barre de l'ile**	**3.21**	**309**	*eP*	**Pn**	**05 21 38.2**	**-0.5**
MAGL				*eS*	**Sn**	**05 22 18.8**	**+1.8**
CBE	**Ff, Capester**	**3.53**	**307**	*eP*	**Pn**	**05 21 43.1**	**-0.1**
CBE				*eS*	**Sn**	**05 22 25.1**	**+0.2**
ABD	**La Joyeuse, An**	**3.69**	**313**	*eP*	**Pn**	**05 21 45.9**	**+0.5**
ABD				*eS*	**Sn**	**05 22 29.4**	**+0.4**
ANBD	**Bethesda, Anti**	**4.28**	**317**	*eP*	**Pn**	**05 21 53.6**	**+0.1**
ANBD	**Bethesda, Anti**	**4.28**	**317**	*eS*	**Sn**	**05 22 43.8**	**+0.2**
BPA	**Boggy Peak**	**4.34**	**316**	*eP*	**Pn**	**05 21 54.3**	**-0.1**
BPA	**Boggy Peak**	**4.34**	**316**	*eS*	**Sn**	**05 22 43.9**	**-1.2**
ANWB	**Willy Bob**	**4.76**	**322**	*eP*	**Pn**	**05 21 58.8**	**-1.3**

IDC 26 05:23:38.9±1.3, 28°.34S×62°.81E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/35, mbtmp3.8/6, ML3.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/40, Error ellipse: s-maj=49.7km s-min=29.6km az=47.0

ISC 26 05:23:40.5±1.0, 28°.4S±0°.2×62°.8E±0°.2, h10km, n16, σ0§32/7, mb4.0/5, MS3.4/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.28**	**301**	P	**Pn**	**05 27 42.1**	**-0.1**
	0.2nm,0.3s,baz=121,slow=18,SNR=1.8						
OPO				S	Sn	05 30 42.3	-12
	0.5nm,0.3s,baz=133,slow=19,SNR=1.6						
H08S1	**Diego Garcia H**	**22.54**	**26**	T	T	05 52 07.2	
	baz=204						
H08S2	**Diego Garcia H**	**22.55**	**26**	T	T	05 52 09.2	
	baz=204						
H08S3	**Diego Garcia H**	**22.56**	**26**	T	T	05 52 09.5	
	baz=204						
BOSA	**Boshof**	**32.89**	**260**	LR	LR	05 41 07.3	
	comp=Z,69nm,21.1s,baz=77,slow=32						
KMBO	**Kilima Mbogo**	**36.44**	**314**	LR	LR	05 41 35.0	
	comp=Z,27nm,21.9s,baz=97,slow=30						
MAW	**Mawson**	**39.28**	**180**	LR	LR	05 45 39.0	
	comp=Z,58nm,18.2s,baz=51,slow=34						
H01W2	**Cape Leeuwin H**	**43.83**	**112**	T	T	06 18 29.9	
	baz=264,slow=74,SNR=6.0						
H01W3	**Cape Leeuwin H**	**43.83**	**112**	T	T	06 18 30.1	
	baz=264,slow=74,SNR=9.4						
H01W1	**Cape Leeuwin H**	**43.84**	**112**	T	T	06 18 24.8	
	baz=264,slow=74,SNR=9.2						
ASAR	**Alice Springs**	**63.26**	**104**	P	**P**	**05 34 09.5**	**-0.2**
	0.8nm,0.7s,baz=242,slow=6.7,SNR=8.9						
VNDA	**Vanda**	**64.48**	**166**	P	**P**	**05 34 16.9**	**+0.2**
	0.4nm,0.7s,baz=268,slow=7.2,SNR=2.4						
VNDA				LR	LR	05 58 57.5	
	comp=Z,62nm,19.5s,baz=244,slow=33						
WRA	**Warramunga Arr**	**65.02**	**100**	P	**P**	**05 34 21.0**	**-0.2**
	0.9nm,0.7s,baz=247,slow=6.1,SNR=9.6						
ZALV	**Zalesovo Beam**	**84.16**	**13**	P	**P**	**05 36 11.5**	**+0.1**
	0.7nm,0.3s,baz=213,slow=6.9,SNR=3.7						
SONM	**Songino Array**	**85.37**	**28**	P	**P**	**05 36 18.1**	**+0.3**
	0.2nm,0.5s,baz=208,slow=5.9,SNR=2.5						
YKA	**Yellowknife Ar**	**145.81**	**358**	PKPbc	**PKPdf**	**05 43 18.2**	**-0.5**
	0.8nm,0.8s,baz=352,slow=3.5,SNR=4.1						

JMA 26 05:58:30.6±0.7, 46°.72N×152°.72E, h30km, M4.1
IDC 26 05:58:38.6±3.5, 46°.70N×152°.38E, h103km±28km, mb3.4/3, mb1 3.4/6, mb1mx3.1/49, mbtmp3.7/6, Error ellipse: s-maj=59.0km s-min=27.7km az=154.0

ISC 26 05:58:30.3±1.6, 46°.5N±0°.2×152°.8E±0°.2, h35km, n19, σ2§85/14, mb4.0/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.86**	**241**	P	**Pn**	**05 59 55.8**	**+1.3**
NEM2				*eS*	**Sn**	**06 00 59.9**	**-0.5**
JRA	**Rausu**	**5.95**	**248**	P	**Pn**	**06 00 00.3**	**+4.5**
JAK	**Akkeshi**	**6.70**	**242**	P	**Pn**	**06 00 07.7**	**+1.6**
JAK				*eS*	**Sn**	**06 01 19.5**	**-1.6**
JMP	**Maruseppu**	**7.07**	**253**	P	**Pn**	**06 00 15.7**	**+4.5**
PETK	**Petropavlovsk-**	**7.39**	**24**	P	Pn	06 00 22.1	+6.6
	0.2nm,0.3s,baz=169,slow=11,SNR=3.0						
JKK2	**Kamakawa 2**	**7.53**	**254**	P	**Pn**	**06 00 22.0**	**+4.5**
ASAJ	**Asahikawa**	**7.53**	**256**	P	Pn	06 00 22.8	+5.2
	0.4nm,0.3s,baz=69,slow=14,SNR=5.1						
JCH	**Churui**	**7.73**	**244**	P	**Pn**	**06 00 22.2**	**+2.0**
JCH				*eS*	**Sn**	**06 01 43.9**	**-2.5**
JNBK	**Urakawa-nobuka**	**8.29**	**243**	P	**Pn**	**06 00 29.4**	**+1.5**
USRK	**Ussuriysk Ar.**	**14.77**	**269**	P	**P**	**06 02 00.5**	**-1.6**
	baz=79,slow=12,SNR=3.5						
H11N2	**WAKE ISLAND Hy 29.08**	**152**	**T**	T	T	06 35 46.4	
	baz=340,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy 29.09**	**152**	**T**	T	T	06 35 57.1	
	baz=340,slow=75,SNR=119						
H11N3	**WAKE ISLAND Hy 29.09**	**152**	**T**	T	T	06 36 02.0	
	baz=340,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy 30.16**	**153**	**T**	T	T	06 37 11.8	
	baz=340,slow=76,SNR=115						
H11S3	**WAKE ISLAND Hy 30.17**	**153**	**T**	T	T	06 37 12.4	
	baz=340,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy 30.18**	**153**	**T**	T	T	06 37 14.5	
	baz=340,slow=76,SNR=98						
FINES	**FINESS Array B**	**64.20**	**335**	P	**P**	**06 08 59.5**	**-1.5**
	1.9nm,1.0s,baz=26,slow=6.8,SNR=5.5						
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**	**06 09 46.5**	**-1.4**
	0.7nm,0.4s,baz=34,slow=6.5,SNR=4.3						
TXAR	**Lajitas Array**	**77.86**	**60**	P	**P**	**06 10 25.8**	**+1.4**
	0.1nm,0.6s,baz=291,slow=2.5,SNR=1.8						

IDC 26 06:09:58.4±0.7, 23°.66S×13°.43W, h0km, mb4.2/11, mb1 4.2/11, mb1mx4.0/29, mbtmp4.2/11, MS3.8/8, Ms1 3.8/8, ms1mx3.5/20, Error ellipse: s-maj=25.0km s-min=17.1km az=168.0
NEIC 26 06:10:00.9±1.5, 23°.6S±0°.1×13°.4W±0°.1, h10km±1km, mb4.6/24, Error ellipse: s-maj=24.4km s-min=18.4km az=174.0

ISC 26 06:10:00.3±0.6, 23°.6S±0°.1×13°.42W±0°.09, h10km, n41, σ1§18/37, mb4.4/18, MS3.8/8, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**27.93**	**306**	P	**P**	**06 15 50.9**	**-0.2**
BDFB	**Brasilia**	**33.47**	**277**	P	**P**	**06 16 39.5**	**-0.4**
	5.9nm,0.8s,baz=123,slow=6.0,SNR=9.7						
BDFB				LR	LR	06 28 10.4	
	comp=Z,332nm,19.4s,baz=106,slow=33						
BDFB	**Brasilia**	**33.47**	**277**	P	**P**	**06 16 39.6**	**-0.4**
BDFB				IAmb	IAmb	06 16 40.1	
	comp=Z,9.2nm,0.9s						
BOSA	**Boshof**	**34.98**	**107**	LR	LR	06 28 55.2	
	comp=Z,127nm,18.4s,baz=228,slow=32						
BOSA	**Boshof**	**34.98**	**107**	P	**P**	**06 16 52.9**	**-0.2**
LBTB	**Lobatse**	**35.51**	**100**	P	**P**	**06 16 57.4**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=311,slow=4.9,SNR=3.0						
LBTB	**Lobatse**	**35.51**	**100**	P	**P**	**06 16 57.2**	**-0.4**
TRCB	**Terra Rica**	**35.98**	**263**		**S**	**06 22 43.1**	**+2.7**
MATP	**Matopo**	**38.90**	**94**	P	**P**	**06 17 27.4**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=242,slow=7.1,SNR=4.4						
KOWA	**Kowa**	**38.96**	**15**	P	**P**	**06 17 27.0**	**+0.3**
	comp=Z,5.9nm,0.9s,baz=182,slow=8.9,SNR=5.5						
KOWA	**Kowa**	**38.96**	**15**	P	**P**	**06 17 27.4**	**+0.6**
KOWA				IAmb	IAmb	06 18 36.3	
	comp=Z,18nm,1.6s						
AQDB	**Aquidauana**	**39.21**	**266**	P	**P**	**06 17 29.4**	**+0.4**
AQDB				IAmb	IAmb	06 17 36.3	
	comp=Z,25nm,1.7s						
TORD	**Torodi Ar. Bea**	**39.40**	**24**	P	**P**	**06 17 30.6**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=204,slow=7.0,SNR=13						
TORD				LR	LR	06 30 33.8	
	comp=Z,164nm,20.9s,baz=170,slow=31						
TORD	**Torodi Ar. Bea**	**39.40**	**24**	P	**P**	**06 17 30.6**	**+0.1**
CPUP	**Villa Florida**	**39.76**	**257**	P	**P**	**06 17 33.5**	**+0.1**
	comp=Z,4.9nm,1.1s,baz=98,slow=8.9,SNR=2.8						
CPUP				LR	LR	06 31 13.8	
	comp=Z,140nm,19.3s,baz=111,slow=32						
CPUP	**Villa Florida**	**39.76**	**257**	P	**P**	**06 17 33.7**	**+0.2**
CPUP				IAmb	IAmb	06 17 58.0	
	comp=Z,23nm,1.5s						
LSZ	**Lusaka**	**39.99**	**86**	P	**P**	**06 17 35.1**	**-0.5**
SIV	**San Ignacio**	**45.30**	**271**	P	**P**	**06 18 18.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=121,slow=6.0,SNR=7.9						
SAML	**Samuel**	**49.69**	**278**	P	**P**	**06 18 51.4**	**-1.4**
SAML				IAmb	IAmb	06 18 54.1	
	comp=Z,7.9nm,1.1s						
AC02	**Maricunga**	**50.17**	**254**	P	**P**	**06 18 56.7**	**-0.2**
AC02				IAmb	IAmb	06 19 09.7	
	comp=Z,14nm,1.4s						
PLCA	**Paso Flores**	**50.42**	**236**	LR	LR	06 36 30.1	
	comp=Z,85nm,22.0s,baz=128,slow=32						
CO03	**El Pedregal**	**50.97**	**249**	P	**P**	**06 19 02.0**	**-0.5**
CO03				IAmb	IAmb	06 20 54.5	
	comp=Z,16nm,1.6s						
GO04	**Tololo Observa**	**51.15**	**249**	P	**P**	**06 19 03.4**	**-0.6**
CO02	**Combarbal**	**51.20**	**248**	P	**P**	**06 19 03.2**	**-0.9**
LPAZ	**La Paz**	**51.69**	**267**	P	**P**	**06 19 08.1**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=116,slow=6.6,SNR=3.6						
LPAZ				LR	LR	06 40 19.0	
	comp=Z,27nm,18.1s,baz=88,slow=35						
LPAZ	**La Paz**	**51.69**	**267**	P	**P**	**06 19 07.3**	**-1.3**
KEST	**Kesra**	**62.82**	**21**	LR	LR	06 46 04.7	
	comp=Z,66nm,18.5s,baz=243,slow=34						
MAW	**Mawson**	**63.19**	**155**	P	**P**	**06 20 27.3**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=275,slow=14,SNR=6.6						
MAW	**Mawson**	**63.19**	**155**	P	**P**	**06 20 28.8**	**+0.6**
ROSC	**El Rosal**	**65.72**	**287**	LR	LR	06 48 42.6	
	comp=Z,168nm,18.1s,baz=341,slow=35						
BRTR	**Keskin Array B**	**76.79**	**35**	P	**P**	**06 21 53.1**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=210,slow=6.5,SNR=5.1						
BRTR	**Keskin Array B**	**76.79**	**35**	P	**P**	**06 21 52.6**	**+0.3**
BR131	**Keskin Array S**	**76.79**	**35**	P	**P**	**06 21 52.8**	**+0.6**
BR131				IAmb	IAmb	06 21 54.3	
	comp=Z,3.4nm,0.9s						
PSZ	**Piszkesteto**	**77.22**	**22**	P	**P**	**06 21 53.8**	**-0.6**
PSZ				IAmb	IAmb	06 22 28.9	
	comp=Z,3.4nm,0.9s						
MLR	**Muntele Rosu**	**77.53**	**27**	P	**P**	**06 21 55.9**	**-0.4**
MLR				IAmb	IAmb	06 21 56.6	
	comp=Z,8.5nm,1.1s						
OJC	**Ojcow**	**79.17**	**21**	P	**P**	**06 22 04.8**	**-0.2**
OJC				IAmb	IAmb	06 22 08.6	
	comp=Z,11nm,1.6s						
AKASG	**Malin Array Be**	**83.00**	**26**	P	**P**	**06 22 25.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=116,slow=24,SNR=1.6						
AKASG	**Malin Array Be**	**83.00**	**26**	P	**P**	**06 22 24.3**	**-1.1**
SONM	**Songino Array**	**126.97**	**47**	PKP	**PKPdf**	**06 29 03.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=248,slow=1.6,SNR=4.7						
USRK	**Ussuriysk Ar.**	**145.06**	**45**	PKPbc	**PKPbc**	**06 29 35.7**	**-1.6**
	comp=Z,2.4nm,0.8s,baz=292,slow=3.8,SNR=5.1						
MJAR	**Matsushiro Arr**	**152.38**	**56**	PKPbc	**PKPdf**	**06 29 54.9**	**+4.9**
	comp=Z,2.6nm,1.0s,baz=323,slow=1.8,SNR=5.1						

IDC 26 06:14:57.5±5.1, 30°.64S×138°.07E, h0km, mb1 2.9/3, mb1mx2.9/27, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=106.6km s-min=18.7km az=38.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.26**	**113**	Pn	Pn	06 15 49.4	-0.5
	0.1nm,0.3s,baz=329,slow=17,SNR=2.0						
STKA				Sn	Sn	06 16 26.5	-2.9
	1.1nm,0.3s,baz=284,slow=18,SNR=2.9						
STKA				Lg	Lg	06 16 41.4	
	1.5nm,0.3s,baz=199,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**7.88**	**331**	Pn	Pn	06 16 55.3	+1.9
	0.1nm,0.3s,baz=151,slow=12,SNR=1.4						
ASAR				Sn	Sn	06 18 22.4	-0.9
	0.1nm,0.3s,baz=155,slow=22,SNR=5.4						
WRA	**Warramunga Arr**	**11.17**	**342**	Pn	Pn	06 17 37.6	-1.0
	0.1nm,0.3s,baz=162,slow=13,SNR=4.9						
WRA				Sn	Sn	06 19 38.5	-5.7
	0.0nm,0.3s,baz=159,slow=24,SNR=2.7						

IDC 26 06:21:47.5±0.8, 0°.62S×121°.68E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/36, mbtmp4.2/13, ML4.4/2, MS3.3/10, Ms1 3.3/10, ms1mx3.2/34, Error ellipse: s-maj=24.3km s-min=14.9km az=73.0
DJA 26 06:21:48.9±0.2, 1°.S±2°.×12°.2E±°, h10km, M4.6/16, mb4.8/13, mB5.1/9, MLv4.8/16, Mw(mB)4.4/9
NEIC 26 06:21:50.9±1.9, 0°.59S±0°.07×121°.82E±0°.06, h19km±3km, mb4.7/17, Error ellipse: s-maj=11.9km s-min=6.1km az=218.0

ISC 26 06:21:49.4±0.4, 0°.56S±0°.04×121°.73E±0°.05, h10km, n70, σ1§54/69, mb4.6/24, MS3.3/9, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.36**	**193**	P	**Pg**	**06 21 54.5**	**-2.1**
MRSI	**Marisa**	**1.05**	**12**	P	**Pg**	**06 22 07.4**	**-2.3**
LUWI	**Luwuk**	**1.15**	**115**		**Pb**	**06 22 10.3**	**-1.0**
GTOI	**Gorontalo**	**1.75**	**47**	P	**Pn**	**06 22 17.1**	**-2.7**
TOLI2	**Tolitoli**	**1.91**	**330**	Pn	**Pb**	**06 22 22.5**	**-2.0**
MPSI	**Mapaga**	**2.04**	**296**	P	**Pn**	**06 22 21.1**	**-2.7**
KMSI	**Cibinong**	**2.52**	**63**	P	**Pb**	**06 22 32.5**	**-2.2**
TTSI	**Tana Toraja**	**3.12**	**218**	P	**Pn**	**06 22 38.4**	**-0.4**
BNSI	**Bone**	**4.15**	**203**	P	**Pn**	**06 22 53.0**	**+0.2**
SANI	**Sanana**	**4.51**	**109**	P	**Pn**	**06 22 56.0**	**-1.8**
KAPI	**Kappang**	**4.85**	**204**	Pn	**Pn**	**06 23 02.1**	**-0.4**
	12nm,0.3s,baz=45,slow=6.7,SNR=30						
KAPI				Sn	**Sn**	**06 23 57.9**	**-0.8**
	2.8nm,0.3s,baz=66,slow=15,SNR=1.3						
KAPI				LR	LR	06 24 36.2	
	comp=Z,412nm,20.8s,baz=56,slow=35						
KAPI	**Kappang**	**4.85**	**204**	Pn	**Pn**	**06 23 01.8**	**-0.6**
BKB	**Balikpapan**	**4.88**	**262**		**Pn**	**06 23 05.2**	**+2.2**
BKB	**Balikpapan**	**4.88**	**262**	P	**Pn**	**06 23 00.2**	**-2.8**
BKSI	**Bulukumba**	**5.00**	**199**	P	**Pn**	**06 23 03.9**	**-0.6**
	0.8nm1μm140nm,0.9s						
NLAI	**Namlea**	**5.99**	**116**	P	**Pn**	**06 23 19.0**	**+0.8**
	0.9nm201nm,0.7s						
BBKI	**Banjar Baru**	**7.46**	**247**	P	**Pn**	**06 23 39.1**	**+0.6**
	0.3nm4μm41nm,0.8s						
MSAI	**Masohi**	**7.71**	**111**	P	**Pn**	**06 23 42.8**	**+1.0**
	0.2nm1μm17nm,0.6s						
EDFI	**Ende, Flores**	**8.14**	**180**	P	**Pn**	**06 23 46.4**	**-1.4**
	273nm22nm,0.9s						
SOEI	**Soe**	**9.48**	**165**	P	**Pn**	**06 24 07.3**	**+1.1**
	989nm68nm,0.9s						
SWI	**Sorong**	**9.53**	**92**	P	**Pn**	**06 24 08.7**	**+1.8**
	964nm77nm,0.8s						
SIJI	**Sorong**	**9.54**	**92**	Pn	**Pn**	**06 24 07.9**	**+0.9**
	5.0nm,0.3s,baz=274,slow=18,SNR=6.9						
SIJI				Sn	**Sn**	**06 25 56.9**	**+2.5**
	0.7nm,0.3s,baz=142,slow=23,SNR=1.5						
FAKI	**Fak Fak**	**10.77**	**103**	Pn	**Pn**	**06 24 22.2**	**-1.6**
FAKI	**Fak Fak**	**10.77**	**103**	P	**Pn**	**06 24 21.7**	**-2.2**
	545nm62nm,0.8s						
KASI	**Kota Agung**	**17.90**	**254**	P	**P**	**06 26 00.1**	**+0.8**
	67nm,0.9s						
MDSI	**Maura Dua**	**17.96**	**257**	P	**P**	**06 26 00.2**	**+0.2**
PSA00	**Pilbara Seismi**	**20.97**	**185**	P	**P**	**06 26 32.2**	**-0.6**
WB0	**Warramunga Arr**	**22.76**	**148**	P	**P**	**06 26 49.9**	**-2.2**
WRA	**Warramunga Arr**	**22.88**	**148**	P	**P**	**06 26 51.3**	**-2.1**
	3.8nm,0.8s,baz=329,slow=11,SNR=27						
WRA	**Warramunga Arr**	**22.88**	**148**	P	**P**	**06 26 52.3**	**-1.1**
WB2	**Warramunga Arr**	**22.89**	**148**	P	**P**	**06 26 51.6**	**-1.8**
WR0	**Warramunga Arr**	**23.00**	**148**	P	**P**	**06 26 52.7**	**-1.9**
WR0				IAmb	IAmb	06 27 02.4	
	comp=Z,16nm,0.7s						
ASAR	**Alice Springs**	**25.83**	**154**	P	**P**	**06 27 20.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=344,slow=13,SNR=9.6						
ASAR				PcP	**PcP**	**06 30 50.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=341,slow=2.4,SNR=3.4						
ASAR				LR	LR	06 38 28.6	
	comp=Z,88nm,18.1s,baz=310,slow=39						
PMG	**Port Moresby**	**26.79**	**110**	LR	LR	06 39 33.0	
	comp=Z,97nm,20.8s,baz=40,slow=40						
GUMO	**Guam**	**26.89**	**58**	LR	LR	06 37 45.6	
	comp=Z,33nm,19.9s,baz=220,slow=36						
JOW	**Kunigami**	**27.95**	**13**	LR	LR	06 37 57.6	
	comp=Z,126nm,21.3s,baz=300,slow=35						
CMAR	**Chiang Mai Arr**	**29.31**	**311**	P	**P**	**06 27 51.4**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=124,slow=8.3,SNR=2.2						
CMAR				LR	LR	06 41 21.6	
	comp=Z,46nm,19.2s,baz=178,slow=40						
KMI	**Kunming**	**31.46**	**326**	⇑P	**P**	**06 28 15.0**	**+3.4**
KMI				pmax	pmax		

*NNC **26** 06:22:44.3±0.5, 43.°53N×79.°22E, h0km, mb2.2, mpv2.7, Error ellipse: s-maj=3.9km s-min=2.8km az=0.0*
*KRNET **26** 06:22:44.7±0.1, 43.°50N×79.°24E, h15km, mb2.5*
*SOME **26** 06:22:45.0, 43.°50N×79.°22E, h10km*

ISC 26 06:22:44.1±1.0, 43.°52N±0.°02×79.°22E±0.°02, h14km±9km, n28, σ0s67/56, 10C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 1.6nm,0.1s	**0.28**	**135**	P	**Pb**	**06 22 50.4**	**-0.6**
PDGK	25nm,0.1s			S	**Sb**	**06 22 54.5**	**-1.0**
PDGK	**Podgornoye** 0.3nm,0.2s	**0.28**	**135**	⇑P	**Pb**	**06 22 50.3**	**-0.6**
PDGK	2.2nm,0.1s			⇑S	**Sb**	**06 22 54.3**	**-1.1**
KPKS	**Kokpek** baz=66	**0.40**	**262**	*e*P	**Pb**	**06 22 52.7**	**-0.2**
KPKS	baz=66			*e*S	**Sb**	**06 22 58.4**	**-0.5**
KPKS	**Kokpek** 16nm,0.1s	**0.40**	**262**	*e*P	**Pb**	**06 22 52.7**	**-0.2**
KPKS	32nm,0.2s			*e*S	**Sb**	**06 22 58.4**	**-0.5**
UZB	**Uzynbulak** baz=5.0	**0.40**	**201**	*e*P	**Pb**	**06 22 52.4**	**-0.7**
UZB	baz=5.0			*e*S	**Sg**	**06 22 57.8**	**+0.1**
UZB	**Uzynbulak** 6.5nm,0.1s	**0.40**	**201**	*e*P	**Pb**	**06 22 52.4**	**-0.7**
UZB	52nm,0.1s			*e*S	**Sg**	**06 22 57.8**	**+0.1**
UZB	**Uzynbulak** 6.5nm,0.1s	**0.40**	**201**	P	**Pb**	**06 22 52.4**	**-0.7**
UZB	52nm,0.1s			S	**Sg**	**06 22 57.8**	**+0.1**
SHLS	**Shalkode** baz=26	**0.41**	**154**	*e*P	**Pn**	**06 22 56.3**	**+0.6**
SHLS	baz=26			*e*S	**Sn**	**06 23 04.3**	**+1.2**
SHLS	**Shalkode** 2.4nm,0.2s	**0.41**	**154**	*e*P	**Pn**	**06 22 56.2**	**+0.6**
SHLS	8.7nm,0.2s			*e*S	**Sn**	**06 23 04.2**	**+1.2**
SHLS	**Shalkode** 2.4nm,0.2s	**0.41**	**154**	P	**Pn**	**06 22 56.3**	**+0.6**
SHLS	8.7nm,0.2s			S	**Sn**	**06 23 04.3**	**+1.2**
SATY	**Saty** baz=35	**0.76**	**232**	*e*P	**Pb**	**06 22 59.1**	**0.0**
SATY	baz=35			*e*S	**Sb**	**06 23 09.1**	**-0.2**
SATY	**Saty** 3.4nm,0.1s	**0.76**	**232**	*e*P	**Pb**	**06 22 59.0**	**0.0**
SATY	21nm,0.2s			*e*S	**Sb**	**06 23 09.1**	**-0.2**
SATY	**Saty** 3.4nm,0.1s	**0.76**	**232**	P	**Pb**	**06 22 59.2**	**+0.1**
SATY	21nm,0.2s			S	**Sg**	**06 23 08.9**	**+0.2**
KTMS	**Ketmen** baz=93	**0.82**	**95**	*e*P	**Pb**	**06 23 00.0**	**-0.3**
KTMS	baz=93			*e*S	**Sb**	**06 23 10.9**	**-0.4**
KTMS	**Ketmen** 3.7nm,0.1s	**0.82**	**95**	*e*P	**Pb**	**06 22 60.0**	**-0.3**
KTMS	5.1nm,0.2s			*e*S	**Sb**	**06 23 10.9**	**-0.4**
KTMS	**Ketmen** 3.7nm,0.1s	**0.82**	**95**	P	**Pb**	**06 22 60.0**	**-0.3**
KTMS	5.1nm,0.2s			S	**Sb**	**06 23 10.9**	**-0.4**
DJR	**Jarkent** 2.9nm,0.1s	**0.91**	**27**	*e*P	**Pn**	**06 23 02.5**	**0.0**
DJR	6.2nm,0.2s			*e*S	**Sn**	**06 23 15.0**	**-0.4**
DJR	**Jarkent** 2.9nm,0.1s	**0.91**	**27**	P	**Pn**	**06 23 02.5**	**0.0**
DJR	6.2nm,0.2s			S	**Sn**	**06 23 15.0**	**-0.4**
PRZ	**Przheval'sk** baz=12	**1.20**	**210**	⇓*i*P	**Pb**	**06 23 06.7**	**0.0**
PRZ	baz=12			⇓*i*S	**Sn**	**06 23 22.2**	**-0.7**
ARXS	**Arharly** 1.9nm,0.4s	**1.22**	**305**	*e*P	**Pg**	**06 23 07.7**	**+0.1**
ARXS	5.6nm,0.4s			*e*S	**Sg**	**06 23 24.0**	**+0.4**
ARXS	**Arharly** 1.9nm,0.4s	**1.22**	**305**	P	**Pg**	**06 23 07.7**	**+0.1**
ARXS	5.6nm,0.4s			S	**Sg**	**06 23 24.0**	**+0.4**
ANVS	**Anan'yevo** baz=39	**1.36**	**238**	⇑*i*P	**Pg**	**06 23 09.9**	**-0.3**
ANVS	baz=39			⇑*i*S	**Sg**	**06 23 28.3**	**+0.4**
TNSS	**Tian-Shan** 0.7nm,0.0s	**1.73**	**254**	P	**Pg**	**06 23 17.3**	**0.0**
TNSS	3.6nm,0.1s			S	**Sg**	**06 23 40.5**	**+0.6**
KAPS	**Kapalarasan** 0.7nm,0.3s	**1.76**	**3**	*e*P	**Pg**	**06 23 18.3**	**+0.3**
KAPS	5.5nm,0.3s			*e*S	**Sg**	**06 23 42.0**	**+1.2**
KDJ	**Kajisay** baz=28	**2.05**	**228**	⇑*i*P	**Pb**	**06 23 21.3**	**+0.1**
KDJ	baz=28			⇑*i*S	**Sg**	**06 23 48.4**	**-1.6**
TARG	**Taragay, Kyrgy** baz=12	**2.08**	**211**	⇑*i*P	**Pb**	**06 23 21.8**	**0.0**
TARG	baz=12			⇑*i*S	**Sb**	**06 23 48.8**	**+1.2**
ULHL	**Ulahol** baz=41	**2.54**	**241**	⇑*i*P	**Pb**	**06 23 28.1**	**-1.4**
ULHL	baz=41			⇑*i*S	**Sb**	**06 24 00.5**	**-0.1**
BOOM	**Boomskoye usch** baz=49	**2.62**	**248**	⇓*e*P	**Pb**	**06 23 29.3**	**-1.6**
BOOM	baz=49			⇓*i*S	**Sb**	**06 24 03.1**	**+0.1**

IDC 26 06:37:31.0±2.1, 1.°10N×126.°68E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=173.9km s-min=25.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=339,slow=11,SNR=15	**22.22**	**161**	P	P	06 42 28.5	-0.9
ASAR	**Alice Springs** 0.2nm,0.4s,baz=331,slow=6.8,SNR=6.5	**25.60**	**165**	P	P	06 43 03.0	+0.8
ASAR	comp=Z,75nm,18.1s,baz=160,slow=39			LR	LR	06 54 15.0	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=128,slow=8.0,SNR=6.3	**59.68**	**326**	P	P	06 47 37.3	-0.1

TRN 26 06:52:14.1, 15.°72N×61.°32W, h144km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.23**	**9**	*e*P	Pn	06 52 35.1	+1.4
MAGL				*e*S	Sn	06 52 49.6	+0.9
DSLB	**Salisbury**	**0.30**	**199**	*e*P	Pn	06 52 35.1	+1.1
TDBA	**Terre de Bas,**	**0.33**	**293**	*e*P	Pn	06 52 35.2	+1.2
TBG	**Guadaloupe-3**	**0.34**	**293**	*e*P	Pn	06 52 34.6	+0.6
DLPL	**La Plaine**	**0.39**	**170**	*e*P	Pn	06 52 36.2	+1.9
CBE	**Ff, Capester**	**0.45**	**322**	*e*P	Pn	06 52 35.8	+1.3
CBE				*e*S	Sn	06 52 50.9	+0.8
ABD	**La Joyeuse, An**	**0.77**	**348**	*e*P	Pn	06 52 37.9	+1.5
ABD				*e*S	Sn	06 52 54.5	+1.1
SVN	**Savane Anatole**	**0.88**	**170**	*e*P	Pn	06 52 38.5	+1.1
PCM	**Pelee Case Pet**	**0.90**	**173**	*e*P	Pn	06 52 38.7	+1.1
BAMF	**Morne Balai**	**0.91**	**170**	*e*P	Pn	06 52 38.6	+0.9
CXM	**Morne La Croix**	**0.91**	**171**	*e*P	Pn	06 52 39.0	+1.2
PML	**Morne Lenard**	**0.94**	**172**	*e*P	Pn	06 52 39.0	+1.2
FDF	**Fort de France**	**0.99**	**171**	*e*P	Pn	06 52 39.2	+0.8
FDF				*e*S	Sn	06 52 57.7	+1.0
ILAM	**Ilet Lapin Mar**	**1.03**	**155**	*e*P	Pn	06 52 39.5	+0.9
ZAM	**Aeronautique**	**1.17**	**166**	*e*P	Pn	06 52 40.8	+0.9
LPMF	**Morne Lapointe**	**1.19**	**163**	*e*P	Pn	06 52 40.6	+0.5
TRMF	**Trois Ilets**	**1.20**	**168**	*e*P	Pn	06 52 41.0	+0.8
BIM	**Bigot**	**1.22**	**169**	*e*P	Pn	06 52 41.3	+0.9
BIM				*e*S	Sn	06 53 01.6	+1.2
MVM	**Montagne Vaucl**	**1.23**	**160**	*e*P	Pn	06 52 41.2	+0.8
MPOM	**Morne Pois Mar**	**1.34**	**161**	*e*P	Pn	06 52 42.5	+0.9
MPOM				*e*S	Sn	06 53 03.4	+0.9
ANBD	**Bethesda, Anti**	**1.39**	**342**	*e*P	Pn	06 52 43.3	+1.3
ANBD				*e*S	Sn	06 53 03.7	+0.3
BPA	**Boggy Peak**	**1.42**	**339**	*e*P	Pn	06 52 43.5	+1.2
BPA				*e*S	Sn	06 53 04.6	+0.6
SLBI	**Saint Lucia, B**	**1.72**	**169**	*e*P	Pn	06 52 46.2	+0.6
SLBI				*e*S	Sn	06 53 11.2	+1.5
ANWB	**Willy Bob**	**1.99**	**347**	*e*P	Pn	06 52 49.8	+1.1
ANWB				*e*S	Sn	06 53 16.4	+1.0
MCLT	**Moule a Chique**	**2.03**	**170**	*e*S	Sn	06 53 17.3	+1.0
BBGH	**Gun Hill**	**3.08**	**146**	*e*S	Sn	06 53 39.7	+0.3
BBSP	**Saint Philip**	**3.16**	**145**	*e*S	Sn	06 53 41.1	-0.4

*IPEC **26** 06:56:57.6±0.1, 47.°94N×16.°41E, h15km±1km, MB-1.0, ML1.3/6, MS-1.0, Error ellipse: s-maj=0.9km s-min=0.5km az=93.0*
*PRU **26** 06:56:58.4±0.0, 48.°00N×16.°22E, h0km*

VIE 26 06:56:57.5±0.2, 47.°95N×16.°40E, h14km, mb1.5/2, ml1.4/4, Error ellipse: s-maj=2.0km s-min=1.6km az=32.0 1 km S of Ebreichsdorf, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa** 1.9nm,0.1s	**0.36**	**267**	*i* Pg	Pg	06 57 05.2	+0.4
CONA	4.6nm,0.3s			*e*Sg	Sb	06 57 10.6	-0.7
MODS	**Modra-Piesok**	**0.73**	**54**	*e*PG	Pn	06 57 13.8	+0.5
MODS				*e*SG	Sn	06 57 24.1	-0.2
MODS				*e*LG	Lg	06 57 26.6	
ARSA	**Arzberg** 0.3nm,0.1s	**0.92**	**221**	*e*Pg	Pb	06 57 15.1	0.0
ARSA	1.5nm,0.3s			Sg	Sg	06 57 26.7	-0.5
KRUC	**Moravsky** baz=179	**1.11**	**360**	*e*Pg	Pn	06 57 18.6	-0.1
KRUC	2.9nm,0.1s,baz=179			*e*Sg	Sb	06 57 32.9	0.0
KRUC	**Moravsky**	**1.11**	**360**	*e*PG	Pn	06 57 18.6	-0.1
KRUC				*e*SG	Sb	06 57 33.0	+0.1
VRAC	**Vranov** baz=185	**1.37**	**5**	*e*Pg	Pb	06 57 22.5	-0.3
VRAC	1.9nm,0.2s,baz=185			*e*Sg	Sb	06 57 40.7	+0.5
VRAC	**Vranov**	**1.37**	**5**	*e*PG	Pb	06 57 22.5	-0.3
VRAC				*e*SG	Sb	06 57 40.8	+0.6
MOA	**Molln** 0.4nm,0.2s	**1.44**	**267**	Pg	Pg	06 57 24.6	-0.5
MOA	0.7nm,0.2s			*e*Sg	Sg	06 57 44.9	+1.0
KHC	**Kasperske Hory**	**2.22**	**303**	*e*PG	Pb	06 57 36.3	-1.0
KHC				*e*SG	Sb	06 58 05.8	+1.2
DPC	**Dobruska-Polom**	**2.40**	**359**	*e*SG	Sg	06 58 12.8	-1.9

*TUL **26** 06:59:44.6±1.1, 35.°99N±0.°02×97.°57W±0.°05, h6km±6km, ML3.2, mb_Lg2.9/93(NEIC), Error ellipse: s-maj=6.3km s-min=2.2km az=65.0*

NEIC 26 06:59:44.8±1.0, 36.°00N±0.°02×97.°56W±0.°05, h8km±6km, Error ellipse: s-maj=6.5km s-min=2.2km az=67.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**158**		Pg	06 59 49.1	-0.2
BCOK	**Bluff Creek, N**	**0.35**	**187**		Pg	06 59 51.4	-0.3
OK009	**Oakdale Elemen**	**0.44**	**165**		Pg	06 59 53.2	0.0
OK025	**Westminster Rd**	**0.46**	**157**		Pg	06 59 53.6	-0.2
OK005	**Luther M Schoo**	**0.46**	**139**	Pg	Pg	06 59 53.6	-0.1
OK001	**Jones High Sch**	**0.49**	**153**	Pg	Pg	06 59 54.2	-0.2
OK031	**S. Brethren Rd**	**0.59**	**95**		Pg	06 59 56.2	0.0
OK031				Sg	Sg	07 00 04.4	+0.5
OKCSW	**OKLAHOMA CITY**	**0.60**	**171**		Pg	06 59 56.1	-0.4
OKCSW				Sg	Sg	07 00 04.5	+0.1
CROK	**Carrier**	**0.61**	**326**		Pg	06 59 56.6	0.0
QUOK	**Quay**	**0.71**	**76**		Pg	06 59 58.5	0.0
QUOK				Sg	Sg	07 00 08.3	+0.5
FNO	**Franklin**	**0.76**	**170**		Pg	06 59 58.8	-0.6
BLOK	**Blackwell**	**0.81**	**20**		Pg	07 00 00.3	-0.1
OK011	**Prague**	**0.88**	**126**	Pg	Pg	07 00 01.4	-0.3
GC02	**Grant County #**	**0.88**	**344**		Pg	07 00 01.6	-0.2
OK032	**Salt Plains WL**	**0.96**	**327**		Pg	07 00 02.8	-0.4
KAN13	**South Haven SW**	**1.01**	**4**		Pg	07 00 04.0	-0.2
KAN17	**Caldwell West**	**1.05**	**351**		Pg	07 00 04.8	-0.2
KAN05	**Bluff City Nor**	**1.13**	**347**		Pg	07 00 06.0	-0.5
KAN09	**Caldwell North**	**1.13**	**358**		Pg	07 00 06.1	-0.5
KAN10	**Anthony SW Sta**	**1.20**	**339**		Pb	07 00 07.2	-0.5
KS20	**Mayfield South**	**1.22**	**0**		Pb	07 00 07.8	-0.4
U32A	**Winter Ranch,** baz=108	**1.23**	**288**		Pb	07 00 07.5	-0.7
U32A	**Winter Ranch,** baz=108	**1.23**	**288**	P		07 00 07.4	
U32A				S		07 00 24.6	
T35A	**Sooner Cattle** baz=224,SNR=184	**1.24**	**43**		Pn	07 00 08.1	-0.3
T35B	**Sooner Cattle** baz=224	**1.24**	**43**	P		07 00 08.1	
T35B				S		07 00 24.6	
KAN08	**Anthony NE Sta**	**1.27**	**345**		Pn	07 00 08.3	-0.5
KS21	**Milan North St** comp=Z,92nm,0.9s	**1.28**	**356**	IAmb_Lg		07 00 26.6	
KAN12	**Harper NE Stat**	**1.34**	**345**		Pn	07 00 09.8	0.0
X34A	**Smith Ranch, M**	**1.42**	**189**		Pn	07 00 11.0	+0.1
TUL1	**Leonard** baz=274	**1.44**	**93**	P		07 00 10.6	
TUL1	baz=274			S		07 00 30.4	
WMOK	**Wichita Mounta**	**1.61**	**219**		Pn	07 00 13.1	-0.4
WMOK	**Wichita Mounta** baz=38,SNR=311	**1.61**	**219**	P		07 00 13.2	
WMOK	baz=38			S		07 00 34.8	
LOOK	**Love County**	**2.03**	**171**		Pn	07 00 20.0	+0.7
X37A	**Clayton**	**2.28**	**128**		Pn	07 00 23.5	+0.8
X37A	**Clayton** baz=309,SNR=66	**2.28**	**128**	P		07 00 23.5	
R32A	**Long Quarter,**	**2.58**	**340**		Pb	07 00 30.4	-1.0
R32A	**Long Quarter,** baz=159	**2.58**	**340**	S		07 00 59.8	
U38A	**Gravette**	**2.60**	**79**		Pn	07 00 28.0	+0.9
Z35A	**Perchaven, San**	**2.68**	**174**		Pn	07 00 28.8	+0.6
Z35A	**Perchaven, San** baz=354,SNR=26	**2.68**	**174**	P		07 00 29.0	
HHAR	**Hobbs**	**2.94**	**84**	Pn	Pn	07 00 32.4	+0.6
HHAR	**Hobbs** baz=266	**2.94**	**84**	P		07 00 32.3	
W39A	**Magazine**	**3.18**	**104**		Pn	07 00 35.5	+0.4
W39A	comp=Z,32nm,0.8s			IAmb_Lg		07 01 33.9	
W39A	**Magazine** baz=286,SNR=20	**3.18**	**104**	P		07 00 35.2	
W39A	baz=286			S		07 01 14.6	
KSU1	**Kansas State U**	**3.18**	**13**	Pn	Pn	07 00 35.9	+0.7
KSU1	comp=Z,53nm,0.9s			IAmb_Lg		07 01 34.4	
CBKS	**Cedar Bluff**	**3.30**	**329**	Pn	Pn	07 00 36.8	+0.1
CBKS	comp=Z,29nm,0.7s			IAmb_Lg		07 01 34.6	
Z38A	**Mt. Pleasant**	**3.46**	**141**		Pn	07 00 39.0	0.0
Z38A	comp=Z,24nm,0.8s			IAmb_Lg		07 01 38.0	
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	07 00 42.5	+2.3
AMTX	comp=Z,24nm,0.8s			IAmb_Lg		07 01 42.6	
MIAR	**Mount Ida**	**3.57**	**113**	Pn	Pn	07 00 40.9	+0.5
MIAR	comp=Z,28nm,0.8s			IAmb_Lg		07 01 46.0	
MIAR	**Mount Ida** baz=295,SNR=29	**3.57**	**113**	P		07 00 41.0	
MIAR	baz=295			S		07 01 24.5	
ABTX	**Abilene, Hawle**	**3.79**	**208**		Pn	07 00 43.7	+0.3
ABTX	comp=Z,22nm,0.8s			IAmb_Lg		07 01 42.1	
U40A	**Yellville**	**3.82**	**83**		Pn	07 00 43.9	-0.1
U40A	**Yellville** baz=266	**3.82**	**83**	P		07 00 43.8	
U40A	baz=266			P		07 00 43.8	
WHTX	**Lake Whitney,**	**4.00**	**179**		Pn	07 00 45.9	-0.5
WHTX	**Lake Whitney,** baz=359,SNR=13	**4.00**	**179**	P		07 00 47.2	
X40A	**Basin Creek Fa** comp=Z,41nm,0.8s	**4.15**	**110**		Pn	07 00 49.6	+1.2
X40A				IAmb_Lg		07 01 59.4	
WLAR	**White Oak Lake**	**4.33**	**121**	Pn	Pn	07 00 50.9	+0.1
WLAR	comp=Z,18nm,0.8s			IAmb_Lg		07 02 14.2	
WHAR	**Wooly Hollow**	**4.35**	**98**		Pn	07 00 51.3	+0.1
WHAR	comp=Z,33nm,1.0s			IAmb_Lg		07 02 09.1	
W41B	**Gary Mavity, V** baz=282,SNR=9.4	**4.41**	**99**	P		07 00 52.1	
W41B	baz=282			S		07 01 43.0	
MGMO	**Mountain Grove**	**4.41**	**73**		Pn	07 00 52.8	+0.8
MGMO	comp=Z,22nm,0.8s			IAmb_Lg		07 02 17.7	
FCAR	**Ozark Folk Cen**	**4.41**	**90**		Pn	07 00 52.2	+0.2
FCAR	comp=Z,20nm,0.7s			IAmb_Lg		07 02 01.8	
N33B	**J Bar K, Exete** baz=181	**4.73**	**1**	S		07 01 50.9	
N33A	**J Bar K, Exete**	**4.73**	**1**	Pn	Pn	07 00 56.5	+0.1
N33A	comp=Z,30nm,0.9s			IAmb_Lg		07 02 26.6	
MSTX	**Muleshoe**	**4.74**	**246**		Pn	07 00 57.1	+0.5
R40A	**Maddies Statio**	**4.80**	**60**		Pn	07 00 57.5	+0.1
R40A	**Maddies Statio** baz=243,SNR=16	**4.80**	**60**	P		07 00 57.7	
P38A	**Dawn**	**4.82**	**40**		Pn	07 00 57.5	-0.1
KSCO	**Kaye Shedlock'** comp=Z,18nm,0.8s	**5.02**	**308**	IAmb_Lg		07 02 33.1	
LCAR	**Lake Charles** comp=Z,23nm,0.9s	**5.19**	**87**	IAmb_Lg		07 02 33.9	
435B	**Jarrell** comp=Z,28nm,0.9s	**5.21**	**180**	IAmb_Lg		07 02 34.9	
BGNE	**Belgrade**	**5.42**	**355**	Pn	Pn	07 01 05.7	-0.1
BGNE	comp=Z,31nm,0.7s			IAmb_Lg		07 02 41.3	
CCM	**Cathedral Cave**	**5.45**	**66**		Pn	07 01 06.3	0.0
P40A	**Paris**	**5.61**	**49**		Pn	07 01 08.2	-0.2
P40A	comp=Z,18nm,0.7s			IAmb_Lg		07 02 46.2	
T25A	**Trinidad** comp=Z,26nm,0.9s	**5.63**	**284**	IAmb_Lg		07 02 45.3	
JCT	**Junction City**	**5.82**	**199**		Pn	07 01 11.1	-0.3
N38A	**Joes South For**	**5.87**	**34**		Pn	07 01 12.6	+0.6
OGNE	**Ogallala**	**6.05**	**326**		Pn	07 01 15.5	+0.8
OGNE	comp=Z,16nm,0.8s			IAmb_Lg		07 03 04.0	
143A	**Socs Landing,** comp=Z,16nm,0.8s	**6.06**	**121**	IAmb_Lg		07 03 12.7	
SLM	**Saint Louis** comp=Z,16nm,0.7s	**6.40**	**64**	IAmb_Lg		07 03 06.3	
SCIA	**State Center** comp=Z,22nm,0.7s	**6.80**	**29**	IAmb_Lg		07 03 29.1	
OXF	**Oxford**	**6.83**	**100**	Pn	Pn	07 01 23.9	-1.4
OXF	comp=Z,19nm,0.7s			IAmb_Lg		07 03 31.0	
Y45A	**Yeager Farm, C** comp=Z,14nm,0.8s	**6.92**	**106**	IAmb_Lg		07 03 30.4	
P43A	**Skaggs, Pawnee**	**7.32**	**58**	Pn	Pn	07 01 31.9	-0.1
P43A	comp=Z,16nm,0.9s			IAmb_Lg		07 03 40.8	
Q44A	**Meyer Farm, Va** comp=Z,17nm,0.7s	**7.38**	**64**	IAmb_Lg		07 03 45.8	
ECSD	**EROS Data Cent**	**7.75**	**5**	Pn	Pn	07 01 37.3	-0.6
MNTX	**Cornudas Mount**	**7.79**	**239**	Pn	Pn	07 01 38.3	-0.2
L40A	**Anamosa** comp=Z,14nm,0.8s	**7.80**	**37**	IAmb_Lg		07 03 57.5	
WVT	**Waverly** comp=Z,9.2nm,1.1s	**7.88**	**86**	IAmb_Lg		07 03 57.7	
Y22D	**IRIS PASSCAL I** comp=Z,13nm,0.8s	**7.92**	**259**	IAmb_Lg		07 04 17.6	
HDIL	**Hopedale**	**7.93**	**53**	Pn	Pn	07 01 39.5	-0.8
OLIL	**Olney** comp=Z,14nm,0.9s	**8.01**	**67**	IAmb_Lg		07 04 08.8	
PHWY	**Pilot Hill**	**8.13**	**313**	Pn	Pn	07 01 43.7	+0.3
O44A	**Mansfield**	**8.28**	**57**	Pn	Pn	07 01 45.1	0.0
O44A	comp=Z,13nm,0.9s			IAmb_Lg		07 04 05.9	
SUSD	**Miller** comp=Z,12nm,0.7s	**8.50**	**353**	IAmb_Lg		07 04 18.1	
L42A	**Oliver, Polo** comp=Z,12nm,0.7s	**8.58**	**43**	IAmb_Lg		07 04 37.7	
V48A	**Smith Brothers** comp=Z,7.5nm,0.8s	**8.72**	**89**	IAmb_Lg		07 04 29.4	
JFWS	**Jewell Farm**	**8.92**	**37**	Pn	Pn	07 01 54.1	+0.2
JFWS	comp=Z,11nm,0.8s			IAmb_Lg		07 04 31.6	
JFWS	**Jewell Farm** baz=222,SNR=5.2	**8.92**	**37**	P		07 01 54.4	
P46A	**Rosedale** comp=Z,16nm,0.8s	**8.95**	**63**	IAmb_Lg		07 04 35.5	
CLTN	**Cedars of Leba** comp=Z,7.0nm,1.0s	**9.10**	**86**	IAmb_Lg		07 04 31.0	
BLO	**Bloomington** comp=Z,14nm,0.8s	**9.31**	**67**	IAmb_Lg		07 04 45.7	
SFIN	**Lafayette** comp=Z,9.4nm,0.7s	**9.32**	**59**	IAmb_Lg		07 04 42.3	
SWET	**Sewanee** comp=Z,7.7nm,0.8s	**9.50**	**91**	IAmb_Lg		07 04 52.9	
RSSD	**Black Hills**	**9.50**	**331**	Pn	Pn	07 02 02.8	+0.7
K22A	**Casper**	**9.60**	**316**	Pn	Pn	07 02 03.3	-0.1
L44A	**Lake County Fo**	**9.70**	**48**	Pn	Pn	07 02 04.5	-0.1
K43A	**Burlington** comp=Z,14nm,0.8s	**9.79**	**44**	IAmb_Lg		07 05 03.8	
F33A	**5 Mile Ranch,**	**9.87**	**5**	Pn	Pn	07 02 05.5	-1.4
F33A	comp=Z,6.2nm,0.8s			IAmb_Lg		07 05 16.8	
FPAL	**Fort Paine** comp=Z,7.3nm,0.9s	**9.88**	**95**	IAmb_Lg		07 05 04.2	
SPMN	**Marine on St.**	**9.89**	**20**	Pn	Pn	07 02 05.8	-1.4
SPMN	comp=Z,7.1nm,0.8s			IAmb_Lg		07 05 13.4	
F36A	**Milaca**	**10.31**	**16**	Pn	Pn	07 02 10.1	-2.8
H43A	**Windswept, Lux**	**11.28**	**38**	Pn	Pn	07 02 24.6	-1.6
COWI	**Conover**	**11.91**	**30**	Pn	Pn	07 02 33.2	-1.7
EYMN	**Ely**	**12.75**	**19**	Pn	Pn	07 02 42.2	-4.2

*IDC **26** 07:00:07.0±0.4, 0.°80N×126.°05E, h0km, mb4.6/26, mb1 4.6/28, mb1mx4.6/37, mbtmp4.5/28, ML3.9/2, Error ellipse: s-maj=18.8km s-min=10.2km az=78.0*
*NEIC **26** 07:00:11.3±1.4, 0.°91N±0.°08×126.°17E±0.°05, h36km±3km, mb4.8/65, Error ellipse: s-maj=11.1km s-min=7.8km az=178.0*
*DJA **26** 07:00:12.7±0.3, 1.°N±3.°×12.°6E±.°, h55km±3km, M5.0/28, mb5.1/28, mB5.2/11, MLv5.0/14, Mw(mB)4.6/11, MwMwp5.9/6, Mwp5.9/6*
*MAN **26** 07:01:08.6, 5.°06N×125.°34E, h56km, mb4.9, ML3.8, MS3.7*

ISC 26 07:00:12.5±0.3, 0.°81N±0.°04×126.°16E±0.°05, h44km, n164, σ1s75/172, mb4.7/66, 3C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**92**	Pn	**Pn**	**07 00 31.8**	**-1.2**
TNTI	**Ternate**	**1.21**	**92**	P	**Pn**	**07 00 32.0**	**-1.0**
LBMI	**Labuha**	**1.97**	**137**	P	**Pn**	**07 00 42.7**	**-0.8**
KMSI	**Cibinong**	**2.19**	**264**	P	**Pn**	**07 00 45.7**	**-0.8**
SANI	**Sanana**	**2.85**	**183**	P	**Pn**	**07 00 54.1**	**-1.5**
SGSI	**Sangihe**	**2.92**	**348**	P	**Pn**	**07 00 56.7**	**+0.2**
GTOI	**Gorontalo**	**3.15**	**267**	P	**Pn**	**07 01 00.8**	**+1.1**
LUWI	**Luwuk**	**3.86**	**241**		**Pn**	**07 01 10.8**	**+1.4**
NLAI	**Namlea**	**4.13**	**167**	P	**Pn**	**07 01 13.8**	**+0.6**
MRSI	**Marisa**	**4.23**	**265**	P	**Pn**	**07 01 15.3**	**+0.8**
APSI	**Ampana**	**4.83**	**249**	P	**Pn**	**07 01 23.6**	**+0.9**
MSAI	**Masohi** 0.2nm24nm,0.5s	**4.97**	**146**	P	**Pn**	**07 01 28.3**	**+3.6**
SIJI	**Sorong** 1.4nm,0.3s,baz=284,slow=24,SNR=1.8	**5.37**	**108**	Pn	**Pn**	**07 01 28.4**	**-1.8**
TOLI2	**Tolitoli**	**5.38**	**273**	Pn	**Pn

FAKI	Fak Fak	7.13 121			Pn	07 01 53.8	-0.5
FAKI	Fak Fak	7.13 121	P		Pn	07 01 56.7	+2.4
	0.2nm702nm40nm,1.2s						
TTSI	Tana Toraja	7.41 239	P		Pn	07 01 58.1	-0.1
	1.2nm3μm408nm,0.8s						
BNSI	Bone	7.96 229	P		Pn	07 02 06.8	+1.0
	10nm2μm182nm,0.8s						
BKSI	Bulukumba	8.57 225	P		Pn	07 02 15.6	+1.4
	1μm113nm,0.8s						
KAPI	Kappang	8.63 228	Pn		Pn	07 02 10.8	-4.2
	3.4nm,0.3s,baz=54,slow=6.9,SNR=4.2						
KAPI			Sn		Sn	07 03 51.0	0.0
	baz=114,slow=19,SNR=1.4						
KAPI	Kappang	8.63 228	Pn		Pn	07 02 14.6	-0.4
BSSI	Bau Bau, Buton	8.93 219	P		Pn	07 02 21.5	+2.4
	47nm,0.8s						
CNOP	Candoni, Negro	9.62 339⇑	*i*P		Pn	07 02 28.7	+0.2
SAUI	Saumlaki	10.13 150	Pn		Pn	07 02 33.8	-1.7
MMRI	Maumere	10.17 203	Pn		Pn	07 02 35.6	-0.4
EDFI	Ende, Flores	10.49 205	P		Pn	07 02 42.1	+1.5
	409nm42nm,0.7s						
SOEI	Soe	10.67 190	Pn		Pn	07 02 42.2	-0.8
SOEI	Soe	10.67 190	P		Pn	07 02 47.9	+4.9
	2μm180nm,0.9s						
MTN	Manton Dam	14.44 160			Pn	07 03 33.6	-0.7
STKI	Sintang	14.70 267	P		Pn	07 03 37.8	0.0
KNRA	Kununurra	16.59 171	Pn		Pn	07 04 00.8	-1.2
KNRA			IAmb		IAmb	07 04 05.7	
	comp=Z,88nm,0.8s						
PWJI	Pagerwojo	16.79 238	P		P	07 04 06.9	+0.6
	comp=Z,162nm,0.9s						
PCJI	Pacitan	17.41 239	P		Pn	07 04 11.4	-1.0
	comp=Z,23μmcomp=Z,75nm,0.8s						
SMRI	Semarang	17.52 243	P		Pn	07 04 13.7	-0.1
	comp=Z,100nm,0.8s						
YOGI	Yogyakarta	17.99 241	P		P	07 04 21.2	+1.5
	comp=Z,17μmcomp=Z,239nm,0.8s						
KPJI	Karang Pucung	19.00 244	P		P	07 04 29.7	-1.0
	comp=Z,2μmcomp=Z,99nm,0.9s						
LEM	Lembang	20.00 247	P		P	07 04 40.2	-1.6
	comp=Z,30nm,0.9s						
PPBI	Pangkal Pinang	20.24 262	P		P	07 04 43.6	-0.6
TNG	Tangerang	20.68 250	P		P	07 04 47.9	-1.1
	comp=Z,374nm,0.5s						
MANU	Manus Island	21.39 98	P		P	07 04 54.9	-1.8
MANU			IAmb		IAmb	07 04 56.2	
	comp=Z,153nm,2.0s						
WB0	Warramunga Arr	21.99 159	P		P	07 05 02.2	-0.9
WRAB	Tennant Creek	22.13 159	P		P	07 05 03.5	-1.1
WRAB			IAmb		IAmb	07 05 13.9	
	comp=Z,67nm,1.0s						
WRA	Warramunga Arr	22.13 159	P		P	07 05 03.6	-1.0
	comp=Z,27nm,0.6s,baz=340,slow=11,SNR=131						
WRA			S		S	07 09 07.8	+1.7
	comp=Z,8.4nm,1.1s,baz=332,slow=16,SNR=5.8						
WRA	Warramunga Arr	22.13 159	P		P	07 05 02.9	-1.7
WB2	Warramunga Arr	22.14 159	P		P	07 05 03.6	-1.0
WR0	Warramunga Arr	22.22 159	P		P	07 05 04.5	-1.0
WR0			IAmb		IAmb	07 05 15.0	
	comp=Z,40nm,1.0s						
GUMO	Guam	22.45 55	P		P	07 05 06.2	-1.9
GUMO			IAmb		IAmb	07 05 48.5	
	comp=Z,94nm,1.4s						
MDSI	Maura Dua	22.58 256	P		P	07 05 08.2	-1.3
	comp=Z,12nm,1.0s						
YULB	Yu-li	22.93 348	P		P	07 05 07.9	-5.2
TPUB	Ta-pu	22.99 347	P		P	07 05 07.5	-6.1
TPUB			IAmb		IAmb	07 05 18.9	
	comp=Z,34nm,0.7s						
PSA00	Pilbara Seismi	23.09 195	P		P	07 05 14.7	+0.1
PSA00			IAmb		IAmb	07 05 18.1	
	comp=Z,19nm,0.7s						
PSA00	Pilbara Seismi	23.09 195	P		P	07 05 14.0	-0.6
PSA00			IAmb		IAmb	07 05 18.1	
	comp=Z,9.2nm,0.9s						
PMG	Port Moresby	23.25 116	P		P	07 05 15.3	-1.0
PMG			IAmb		IAmb	07 05 54.1	
	comp=Z,30nm,1.0s						
SSLB	Suanglung	23.39 348	P		P	07 05 12.9	-4.7
BKNI	Bangkinang	25.12 269	P		P	07 05 30.8	-2.8
AS31	Alice Springs	25.47 163	P		P	07 05 36.3	-0.4
ASAR	Alice Springs	25.47 163	P		P	07 05 37.0	+0.3
	comp=Z,11nm,0.6s,baz=340,slow=7.1,SNR=96						
ASAR			PcP		PcP	07 09 09.7	+1.8
	comp=Z,2.5nm,0.8s,baz=346,slow=2.1,SNR=6.0						
ASAR			S		S	07 10 04.7	+3.6
	comp=Z,3.4nm,1.1s,baz=345,slow=22,SNR=5.0						
JOW	Kunigami	25.95 4	P		P	07 05 42.4	+1.4
	comp=Z,42nm,0.8s,baz=216,slow=9.7,SNR=4.9						
JOW	Kunigami	25.95 4	P		P	07 05 38.9	-2.1
RPSI	Rantau Prapat	27.29 274	P		P	07 05 51.1	-2.1
RPSI			IAmb		IAmb	07 05 56.4	
	comp=Z,24nm,1.1s						
CHAI	Chaiyaphum	28.16 303	P		P	07 06 03.3	+2.3
	comp=Z,14nm,0.7s						
GSI	Gunungsitoli	28.58 271	P		P	07 06 03.5	-1.3
CTA	Charters Tower	28.62 138	P		P	07 06 06.8	+1.7
	comp=Z,1.2nm,0.3s,baz=331,slow=10,SNR=1.7						
MORW	Morawa	31.25 197	P		P	07 06 28.8	+0.5
FORT	Forrest	31.47 177	P		P	07 06 29.7	-0.4
NJ2	Nanjing	31.83 348	*e*P		P	07 06 33.3	+0.1
NJ2			pmax		pmax		
	comp=Z,8.0nm,0.5s						
CMAR	Chiang Mai Arr	31.95 305	P		P	07 06 34.1	-0.5
	comp=Z,0.7nm,0.3s,baz=141,slow=7.6,SNR=1.4						
CMAR			PcP		PcP	07 09 25.9	+1.7
	comp=Z,0.7nm,0.4s,baz=154,slow=2.8,SNR=4.6						
KMI	Kunming	33.10 319 ⇑⇑	P		P	07 06 49.0	+4.2
KMI			pmax		pmax		
	comp=Z,10.0nm,1.0s						
NWAO	Narrogin (SRO)	34.60 193	P		P	07 06 58.3	+0.8
	comp=Z,5.7nm,0.8s,baz=24,slow=10,SNR=2.3						
BBOO	Buckleboo	34.73 165	P		P	07 06 58.6	+0.1
JWT	Wachi	35.36 13	P		P	07 07 01.6	-2.3
JWT			IAmb		IAmb	07 07 06.3	
	comp=Z,23nm,1.0s						
EIDS	Eidsvold	35.48 139	P		P	07 07 03.3	-1.8
EIDS			IAmb		IAmb	07 07 19.7	
	comp=Z,10nm,1.1s						
STKA	Stephens Creek	35.65 157	P		P	07 07 06.7	+0.2
	comp=Z,15nm,0.8s,baz=337,slow=8.1,SNR=17						
STKA	Stephens Creek	35.65 157	P		P	07 07 06.1	-0.4
INU	Inuyama	35.82 15	P		P	07 07 06.3	-1.5
INU			IAmb		IAmb	07 07 10.0	
	comp=Z,34nm,1.5s						
KSRS	Korea Array	36.50 2	P		P	07 07 14.9	+1.3
	comp=Z,2.3nm,0.6s,baz=186,slow=9.9,SNR=6.1						
KSRS			PcP		PcP	07 09 38.1	+1.3
	comp=Z,0.7nm,0.5s,baz=138,slow=2.7,SNR=2.8						
CD2	Chengdu	36.70 327	P		P	07 07 15.3	-0.3
CD2			pmax		pmax		
	comp=Z,10.0nm,1.3s						
XAN	Xi'an	36.79 336	P		P	07 07 16.0	-0.2
XAN			pP		pP	07 07 28.0	+0.4
XAN			sP		sP	07 07 33.5	+0.8
XAN			pmax		pmax		
	comp=Z,8.0nm,1.1s						
XAN			pmax		pmax		
	comp=Z,42nm,5.4s						
MAJO	Matsushiro	37.26 16	P		P	07 07 19.2	-1.0
MAJO			IAmb		IAmb	07 07 24.2	
	comp=Z,35nm,1.6s						
MAT	Matsushiro	37.26 16	P		P	07 07 19.1	-1.1
MJAR	Matsushiro Arr	37.26 16	P		P	07 07 20.0	-0.2
	comp=Z,6.4nm,0.9s,baz=181,slow=9.0,SNR=15						
MJAR			PcP		PcP	07 09 41.2	+2.1
	comp=Z,1.8nm,0.7s,baz=160,slow=3.9,SNR=4.2						
MJAR	Matsushiro Arr	37.26 16	P		P	07 07 18.6	-1.6
JSD	Sado	38.68 15	P		P	07 07 31.1	-1.0
JSD			IAmb		IAmb	07 07 38.0	
	comp=Z,15nm,1.0s						
ARMA	Armidale	39.40 144	P		P	07 07 38.2	-0.2
BJT	Baijiatuau	40.07 348	P		P	07 07 41.5	-2.1
LZH	Lanzhou	40.75 332	*e*P		P	07 07 53.3	+3.7
LZH			pP		sP	07 08 06.5	+0.4
LZH			sP		pwP	07 08 13.5	+10
LZH			pmax		pmax		
	comp=Z,13nm,1.1s						
SHL	Shillong	41.21 309	P		P	07 07 51.3	-2.2
HHC	Hu-ho-hao-te	41.99 343	*e*P		P	07 07 59.5	-0.1
HHC			pmax		pmax		
	comp=Z,16nm,0.8s						
HHC			pmax		pmax		
	comp=Z,77nm,5.7s						
USA0B	Ussuriysk Arra	43.51 6	P		P	07 08 08.4	-3.3
USA0B			IAmb		IAmb	07 08 16.7	
	comp=Z,30nm,1.4s						
USRK	Ussuriysk Ar.	43.51 6	P		P	07 08 13.1	+1.4
	comp=Z,7.3nm,0.6s,baz=205,slow=7.7,SNR=15						
USRK	Ussuriysk Ar.	43.51 6	P		P	07 08 09.5	-2.2
MDJ	Mudanjiang	43.72 4	P		P	07 08 15.1	+1.7
MDJ			IAmb		IAmb	07 08 16.0	
	comp=Z,13nm,0.8s						
GTA	Gaotai	45.32 331	*e*P		P	07 08 33.0	+6.5
GTA			pP		sP	07 08 46.8	+3.7
GTA			sP		pwP	07 08 51.8	+11
GTA			pmax		pmax		
	comp=Z,7.0nm,0.7s						
HIA	Hailar	48.58 354	P		P	07 08 50.6	-1.0
SONM	Songino Array	49.88 343	P		P	07 09 02.1	+0.4
	comp=Z,1.9nm,0.9s,baz=159,slow=9.3,SNR=8.6						
SONM			PcP		PcP	07 10 22.3	+0.6
	comp=Z,2.6nm,0.9s,baz=168,slow=4.8,SNR=4.1						
WMQ	Urumqi	54.80 327	*e*P		P	07 09 39.0	+0.8
WMQ			pP		pP	07 09 42.8	-7.3
WMQ			pmax		pmax		
	comp=Z,35nm,0.7s						
WMQ			pmax		pmax		
	comp=Z,57nm,4.3s						
WMQ			LR		LR		
	comp=N,2μm,15.3s						
WMQ			LR		LR		
	comp=E,680nm,14.5s						
WMQ			LR		LR		
	comp=Z,730nm,21.1s						
PETK	Petropavlovsk-	58.33 22	P		P	07 10 04.2	+1.2
	comp=Z,2.8nm,0.5s,baz=172,slow=4.7,SNR=9.0						
PETK	Petropavlovsk-	58.33 22	P		P	07 10 01.4	-1.6
MK31	Makanchi Array	59.63 327	P		P	07 10 11.3	-0.9
MK31			IAmb		IAmb	07 10 19.6	
	comp=Z,4.7nm,0.8s						
MKAR	Makanchi Array	59.63 327	P		P	07 10 11.3	-1.0
	comp=Z,3.0nm,0.6s,baz=121,slow=7.6,SNR=33						
MKAR	Makanchi Array	59.63 327	P		P	07 10 11.0	-1.2
MAKZ	Makanchi	59.81 326	P		P	07 10 11.8	-1.7
MAKZ			IAmb		IAmb	07 10 20.2	
	comp=Z,6.0nm,0.8s						
DRK	Karamyk	62.62 315	P		P	07 10 30.9	-2.1
KBL	Kabul	62.86 309	P		P	07 10 31.9	-2.7
KBL			IAmb		IAmb	07 10 37.4	
	comp=Z,7.7nm,0.9s						
ZAA0	Zalesovo Array	62.93 334	P		P	07 10 32.9	-1.4
ZAA0			IAmb		IAmb	07 10 37.5	
	comp=Z,7.1nm,1.3s						
ZALV	Zalesovo Beam	62.93 334	P		P	07 10 34.2	-0.1
	comp=Z,2.5nm,0.6s,baz=118,slow=8.6,SNR=7.1						
ZALV	Zalesovo Beam	62.93 334	P		P	07 10 33.2	-1.1
GAR	Garm	63.49 314	P		P	07 10 36.2	-2.4
CHGR	Chuyangaron	64.20 313	P		P	07 10 41.5	-1.7
KK31	Karatay Array	64.98 318	P		P	07 10 46.5	-1.6
KKAR	Karatay Array	64.98 318	P		P	07 10 46.7	-1.4
BRVK	Borovoye	69.52 328	P		P	07 11 15.4	-1.2
BRVK			IAmb		IAmb	07 11 20.0	
	comp=Z,6.7nm,0.9s						
GEYT	Alibeck	72.28 310	P		P	07 11 34.6	+0.8
	comp=Z,174nm,0.9s,baz=165,slow=6.2,SNR=4.6						
NRIK	Noril'sk	73.11 347	P		P	07 11 38.5	+0.6
	comp=Z,6.0nm,0.7s,baz=110,slow=5.4,SNR=11						
NRIK	Noril'sk	73.11 347	P		P	07 11 37.0	-1.0
NRIK			IAmb		IAmb	07 11 41.1	
	comp=Z,9.9nm,0.9s						
ABKAR	Abkulak array	74.05 321	P		P	07 11 43.3	-0.6
ABKAR	Abkulak array	74.05 321	P		P	07 11 43.0	-0.8
ARU	Arti	77.09 328	P		P	07 11 59.8	-1.4
ARU			IAmb		IAmb	07 12 03.8	
	comp=Z,10.0nm,1.0s						
VNDA	Vanda	80.63 173	P		P	07 12 21.0	+0.9
	comp=Z,5.1nm,0.8s,baz=314,slow=6.6,SNR=30						
VNDA	Vanda	80.63 173	P		P	07 12 20.6	+0.5
MAW	Mawson	80.84 200	P		P	07 12 22.3	+0.9
	comp=Z,3.6nm,0.8s,baz=79,slow=6.2,SNR=8.7						
MAW	Mawson	80.84 200	P		P	07 12 20.9	-0.5
ATD	Arta Tunnel	83.28 281	P		P	07 12 35.5	+0.1
	comp=Z,4.9nm,0.4s,baz=77,slow=14,SNR=4.3						
ATD	Arta Tunnel	83.28 281	P		P	07 12 34.1	-1.4
KBZ	Khabaz	84.56 314	P		P	07 12 41.4	+0.1
	comp=Z,6.4nm,1.1s,baz=182,slow=2.5,SNR=6.4						
MLY	Manley	86.34 25	P		P	07 12 49.0	-0.8
MLY			IAmb		IAmb	07 12 56.0	
	comp=Z,3.8nm,1.0s						
I23K	Minto, Yukon-K	86.94 25	P		P	07 12 51.6	-1.0
I23K			IAmb		IAmb	07 12 55.7	
	comp=Z,6.6nm,1.1s						
CCB	Clear Creek Bu	87.56 25	P		P	07 12 53.9	-1.8
HDA	Harding Lake	87.92 26	P		P	07 12 55.9	-1.5
HDA			IAmb		IAmb	07 12 58.7	
	comp=Z,2.9nm,0.8s						
ILAR	Eielson Array	87.96 25	P		P	07 12 57.2	-0.3
	comp=Z,0.3nm,0.4s,baz=256,slow=4.1,SNR=4.8						
KMBO	Kilima Mbogo	88.92 269	P		P	07 13 04.7	+1.2
	comp=Z,2.8nm,0.7s,baz=74,slow=5.1,SNR=7.5						
DOT	Dot Lake	89.18 27	P		P	07 13 01.1	-2.3
DOT			IAmb		IAmb	07 13 05.8	
	comp=Z,2.8nm,1.0s						
SYO	Syowa Base	89.52 201⇓	*e*P		P	07 13 04.8	0.0
WAX	Waxell Ridge	89.79 30	P		P	07 13 04.9	-1.4
L27K	Beaver Creek,	90.20 27	P		P	07 13 06.3	-1.9
BCAR	Beaver Creek A	90.22 27	P		P	07 13 08.2	-0.1
QSPA	South Pole Qui	90.74 180	P		P	07 13 11.8	+1.1
	comp=Z,4.4nm,0.9s,baz=347,slow=3.4,SNR=7.3						
QSPA	South Pole Qui	90.74 180	P		P	07 13 11.6	+0.9
QSPA			IAmb		IAmb	07 13 14.4	
	comp=Z,5.4nm,1.0s						
DAWY	Dawson	91.23 26	P		P	07 13 11.3	-1.7
DAWY			IAmb		IAmb	07 13 16.2	
	comp=Z,3.0nm,1.1s						
BRTR	Keskin Array B	91.43 310	P		P	07 13 14.6	0.0
	comp=Z,1.5nm,0.8s,baz=126,slow=6.3,SNR=4.7						
BRTR	Keskin Array B	91.43 310	P		P	07 13 13.3	-1.2
EPYK	Eagle Plains	92.12 24	P		P	07 13 15.2	-1.8
EPYK			IAmb		IAmb	07 13 19.8	
	comp=Z,8.9nm,1.2s						
ARCES	ARCESS Array B	92.97 340	P		P	07 13 21.1	+0.2
	comp=Z,3.4nm,0.8s,baz=64,slow=5.5,SNR=5.6						
AKASG	Malin Array Be	93.78 321	P		P	07 13 26.7	+1.8
	comp=Z,0.5nm,0.5s,baz=67,slow=5.3,SNR=4.4						
FINES	FINESS Array B	94.11 332	P		P	07 13 28.7	+2.4
	comp=Z,3.3nm,0.9s,baz=352,slow=5.8,SNR=3.2						
C36M	Paulatuk	96.13 20	P		P	07 13 33.5	-1.8
BURAR	Bucovina Array	96.78 318	P		P	07 13 36.5	-2.4
BURAR			IAmb		IAmb	07 13 45.1	
	comp=Z,2.8nm,0.9s						
BUR08	Bucovina Ar. S	96.78 318	P		P	07 13 37.7	-1.2
BUR08			IAmb		IAmb	07 13 44.6	
	comp=Z,3.0nm,0.8s						
DION	Dionisos Attik	99.12 309	P		PKiKP	07 18 21.5	+1.7
ATHU	Athens Univers	99.25 309	P		PKiKP	07 18 21.9	+1.9
VLY	Voula,Athens	99.26 308	P		PKiKP	07 18 22.0	+2.0
VAM	Vamos	99.27 306	P		PKiKP	07 18 20.2	+0.1
IMMV	Iera Moni Meta	99.44 306	P		PKiKP	07 18 21.5	+1.1
ULM	Lac du Bonnet	117.77 29	PKP		PKiKP	07 18 55.1	+0.9
	comp=Z,0.7nm,0.4s,baz=313,slow=1.4,SNR=4.2						
TORD	Torodi Ar. Bea	123.23 286	PKP		PKiKP	07 19 06.2	+0.3
	comp=Z,2.4nm,0.7s,baz=63,slow=1.9,SNR=13						
TORD	Torodi Ar. Bea	123.23 286	PKPdf		PKiKP	07 19 06.1	+0.2
TXAR	Lajitas Array	123.80 53	PKP		PKiKP	07 19 07.9	+1.1
	comp=Z,0.5nm,0.7s,baz=273,slow=0.9,SNR=10.0						
CPUP	Villa Florida	154.41 173	PKPbc		PKiKP	07 20 10.0	+0.9
	comp=Z,3.1nm,0.9s,baz=90,slow=5.1,SNR=4.1						
LPAZ	La Paz	159.15 138	PKP		PKPdf	07 20 09.4	+1.6
	comp=Z,1.4nm,1.0s,baz=225,slow=10.0,SNR=3.8						
LPAZ			PKPab		PKPab	07 20 46.2	+1.6
	comp=Z,2.3nm,1.1s,baz=190,slow=3.3,SNR=4.2						
SIV	San Ignacio	163.32 155	PKP		PKPdf	07 20 12.9	+1.4
	comp=Z,2.2nm,1.0s,baz=234,slow=3.0,SNR=6.1						
SIV			PKPab		PKPab	07 21 03.4	+1.4
	comp=Z,0.6nm,0.5s,baz=242,slow=10,SNR=3.5						

*IDC **26** 07:03:17.0±1.5, 0.°25N×120.°51E, h0km, mb4.3/6, mb1 4.5/6, mb1mx3.8/53, mbtmp4.3/6, Error ellipse: s-maj=72.7km s-min=25.4km az=79.0*

ISC 26 07:03:24.2±1.4, 0.°3N±0.°2×120.°5E±0.°5, h55km, n7, σ0s63/7, mb4.2/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.23	147	P	P	07 08 35.5	-0.6
	10.0nm,0.7s,baz=325,slow=11,SNR=27						
ASAR	Alice Springs	27.12	152	P	P	07 09 03.0	+0.7
	2.1nm,0.6s,baz=344,slow=14,SNR=13						
KSRS	Korea Array	37.62	10	P	P	07 10 33.7	0.0
	1.6nm,0.7s,baz=179,slow=6.8,SNR=4.7						
STKA	Stephens Creek	37.69	150	P	P	07 10 34.6	+0.1
	3.9nm,0.6s,baz=331,slow=7.9,SNR=4.9						
VNDA	Vanda	80.88	172	P	P	07 15 31.2	-0.6
	1.5nm,0.7s,baz=311,slow=6.8,SNR=5.2						
QSPA	South Pole Qui	90.21	180	P	P	07 16 19.1	+0.5
	1.2nm,0.7s,baz=0.0,slow=4.0,SNR=3.1						
SIV	San Ignacio	164.31	174	PKPab	PKPab	07 24 16.4	-0.3
	1.1nm,0.6s,baz=206,slow=6.3,SNR=6.8						

*IDC **26** 05:00.4±0.2, 9.°19S×112.°70E, h0km, mb5.8/52, mb1 5.7/52, mb1mx5.7/53, mbtmp5.7/52, MS5.1/21, Ms1 5.1/21, ms1mx5.0/28, Error ellipse: s-maj=10.0km s-min=8.2km az=55.0*

*MOS **26** 07:05:05.7±1.0, 9.°00S×112.°68E, h42km, mb6.1/100, MS5.1/26, Error ellipse: s-maj=6.6km s-min=3.7km az=117.5*

*DJA **26** 07:05:08.0±0.2, 9.°S±2.°×11.°3E±.°, h58km±2km, M5.8/104, mB6.2/92, mb5.9/104, MLv6.3/24, Mw(mB)5.9/92, MwMwp5.7/66, Mwp5.8/66*

*KLM **26** 07:05:08, 9.°37S×112.°61E, h78km, mb5.8*

*NEIC **26** 07:05:08.4, 9.°32S×112.°65E, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}7.13; $M_{\theta\theta}$1.25; $M_{\phi\phi}$-8.38; $M_{r\theta}$2.17; $M_{\phi\theta}$1.20; $M_{\phi r}$0.26; Fault plane solution: $M_0$8.22000×10^{17} NP1:ϕ_s155.27000°, δ47.98000°, λ64.47000°. NP2:ϕ_s10.77000°, δ47.91000°, λ115.56000°. Principal axes: T 7.8721, Plg71.0000°, Azm353.0000°; N 0.6536, Plg19.0000°, Azm173.0000°; P -8.5257, Plg0.0000°, Azm263.0000°;*

*NEIC **26** 07:05:09, 9.°45S×112.°90E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.72; $M_{\theta\theta}$1.42; $M_{\phi\phi}$-7.15; $M_{r\theta}$4.42; $M_{\phi\theta}$1.94; $M_{\phi r}$-0.47; Fault plane solution: $M_0$8.15000×10^{17} NP1:ϕ_s15.00000°, δ47.00000°, λ136.00000°. NP2:ϕ_s139.00000°, δ59.00000°, λ52.00000°. Principal axes: T 8.5157, Plg57.0000°, Azm356.0000°; N -0.7860, Plg32.0000°, Azm161.0000°; P -7.7297, Plg7.0000°, Azm255.0000°;*

*NEIC **26** 07:05:09, 9.44S×112.°82E, h52km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.93; $M_{\theta\theta}$3.05; $M_{\phi\phi}$-8.98; $M_{r\theta}$3.16; $M_{\phi\theta}$3.17; $M_{\phi r}$0.41; Fault plane solution: $M_0$9.10000×10^{17} NP1:ϕ_s17.00000°, δ54.00000°, λ136.00000°. NP2:ϕ_s136.00000°, δ56.00000°, λ45.00000°. Principal axes: T 8.2218, Plg54.0000°, Azm348.0000°; N 1.5511, Plg36.0000°, Azm165.0000°; P -9.7729, Plg1.0000°, Azm256.0000°;*

*GCMT **26** 07:05:09.1±0.1, 9.°45S×112.°82E, h44km, MW5.9/160, Moment Tensor Solution. s160,c322; s153,c467; Duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.61±.01; $M_{\theta\theta}$0.26±.01; $M_{\phi\phi}$-0.86±.01; $M_{r\theta}$0.32±.01; $M_{\theta\phi}$0.28±.00; $M_{\phi r}$0.05±.01; Best double couple: $M_0$0.88000×10^{18} NP1:ϕ_s15.00000°, δ53.00000°, λ133.00000°. NP2:ϕ_s138.00000°, δ55.00000°, λ48.00000°. Principal axes: T 0.8250, Plg57.0000°, Azm348.0000°; N 0.1100, Plg33.0000°, Azm166.0000°; P -0.9350, Plg1.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **26** 07:05:10.1±2.2, 9.°26S±0.°07×112.°67E±0.°05, h52km±1km, mb5.9/202, Mwb5.9/38, Mwc5.9/39, Mww5.9, Mwc5.9(GCMT) Error ellipse: s-maj=11.5km s-min=8.3km az=171.0*

*NEIC **26** 07:05:20.6, 9.°73S×112.°99E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.84; $M_{\theta\theta}$1.89; $M_{\phi\phi}$-7.73; $M_{r\theta}$2.81; $M_{\phi\theta}$3.20; $M_{\phi r}$1.26; Fault plane solution: $M_0$8.23000×10^{17} NP1:ϕ_s135.15000°, δ51.66000°, λ47.62000°. NP2:ϕ_s10.94000°, δ54.59000°, λ130.44000°. Principal axes: T 7.7500, Plg58.0000°, Azm341.0000°; N 0.9549, Plg32.0000°, Azm165.0000°; P -8.7049, Plg2.0000°, Azm74.0000°;*

ISC 26 07:05:09.6±0.2, 9.°19S±0.°03×112.°69E±0.°03, h72km±1km, h72km:pP-P, n1906, σ1s50/2191, mb5.9/260, 252C-39D, Fault plane solution: NP1:ϕ_s356.17813°, δ54.01550°, λ117.46566°. NP2:ϕ_s134.67973°, δ44.11273°, λ57.57744°.

Principal axes: T Plg67.3917°, Azm324.2107°; N Plg21.9135°, Azm159.1944°; P Plg5.2908°, Azm67.0595°;

South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	Pagerwojo	1.45	323	P	Pn	07 05 34.4	+0.4
JAGI	Jajag, Banyuwa	1.61	64	Pn	Pn	07 05 36.0	-0.1
JAGI				Sn	Sn	07 05 57.0	+0.8
JAGI	Jajag, Banyuwa	1.61	64	P	Pn	07 05 36.1	-0.1
PCJI	Pacitan	1.79	303	P	Pn	07 05 38.1	-0.4
ABJI	Asem Bagus	2.06	48	P	Pn	07 05 44.5	+2.3
KMMI	Kalianget	2.47	31	P	Pn	07 05 49.3	+1.6
UGM	Wanagama	2.49	300		Pn	07 05 48.1	+0.2
UGM	Wanagama	2.49	300	P	Pn	07 05 48.2	+0.2
TBJI	Tambak Boyo	2.50	340	P	Pn	07 05 50.5	+2.4
DNP	Denpasar	2.54	79	P	Pn	07 05 47.8	-0.9
SRBI	Singaraja	2.72	67	P	Pn	07 05 51.9	+0.8
YOGI	Yogyakarta	2.73	300	P	Pn	07 05 51.0	-0.3
SMRI	Semarang	3.08	313	Pn	Pn	07 05 57.4	+1.4
SMRI	Semarang	3.08	313	P	Pn

48μm10μm1μm,1.1s
MMRI Maumere 9.45 87 Pn **Pn 07 07 18.9 -4.2**
MMRI Maumere 9.45 87 P **Pn 07 07 18.7 -4.4**
61μm31μm3μm,0.8s
LWLI Liwa 9.51 295 P **Pn 07 07 24.8 +0.8**
PPBI Pangkal Pinang 9.55 317 P **Pn 07 07 25.9 +1.5**
18μm460nm,0.8s
MDSI Maura Dua 9.65 298 P **Pn 07 07 25.7 -0.1**
21μm4μm155nm,0.9s
SMKI Samarinda 9.78 28 P Pn 07 07 33.1 +5.5
46μm24μm916nm,1.5s
PMBI Palembang 10.03 308 Pn **Pn 07 07 32.2 +1.2**
PMBI Palembang 10.03 308 P **Pn 07 07 32.8 +1.8**
24μm20μm857nm,1.1s
LHSI Lahat 10.55 300 P **Pn 07 07 38.1 +0.1**
9μm541nm,0.9s
KSM Kuching 10.85 347 P **Pn 07 07 44.0 +1.8**
BATI Baumata 10.87 96 P **Pn 07 07 39.0 -3.4**
27μm17μm1μm,0.6s
SOEI Soe 11.44 94 Pn **Pn 07 07 46.9 -3.4**
SOEI Soe 11.44 94 P **Pn 07 07 46.6 -3.7**
52μm28μm2μm,0.8s
KSI Kapahiang 11.44 298 P **Pn 07 07 49.8 -0.5**
29μm43μm5μm,0.7s
SBUM Sibu 11.57 358 P **Pn 07 07 56.0 +4.0**
DSRI Dabo 11.83 317 P **Pn 07 07 54.9 -0.7**
8μm3μm108nm,1.4s
MPSI Mapaga 11.88 38 P **Pn 07 07 59.9 +3.7**
35μm7μm318nm,0.8s
APSI Ampana 12.13 48 P **Pn 07 08 02.0 +2.4**
23μm6μm592nm,0.9s
LUWI Luwuk 12.89 52 **Pn 07 08 11.7 +1.7**
TOLI2 Tolitoli 13.02 39 Pn **Pn 07 08 13.0 +1.2**
KRJI Kerinci 13.20 302 P **Pn 07 08 12.3 -2.0**
28μm28μm2μm,0.8s
MRSI Marisa 13.30 44 P **Pn 07 08 18.6 +3.0**
23μm6μm669nm,0.9s
GIRL Giralia 13.46 174 Pn Pn 07 08 09.5 -8.1
PSA00 Pilbara Seismi 14.11 152 Pn 07 08 18.7 -7.5
PSA00 Pilbara Seismi 14.11 152 Pn 07 08 18.5 -7.7
GTOI Gorontalo 14.17 47 P **Pn 07 08 29.0 +2.0**
6μm632nm,0.8s
SPMM Sapulut 14.31 15 P **P 07 08 33.0 -0.9**
PDSI Padang 14.69 303 P **Pn 07 08 29.3 -4.4**
9μm4μm191nm,0.4s
KMSI Cibinong 14.85 50 P **P 07 08 40.2 +0.3**
1μm15μm2μm,0.9s
BKNI Bangkinang 14.96 309 Pn **Pn 07 08 36.6 -0.7**
BKNI Bangkinang 14.96 309 P **Pn 07 08 36.4 -0.9**
11μm9μm524nm,1.0s
SANI Sanana 15.01 63 P **Pn 07 08 38.8 +1.0**
24μm19μm1μm,1.9s
NLAI Namlea 15.49 68 P **Pn 07 08 45.4 +1.4**
11μm486nm,1.8s
SISI Saibi 15.62 299 P **Pn 07 08 40.5 -5.2**
12μm3μm195nm,0.8s
COCO West Island 15.86 258 P **Pn 07 08 46.9 -1.8**
COCO pmax pmax
comp=Z,930nm,1.0s
COCO West Island 15.86 258 **Pn 07 08 46.9 -1.8**
COCO IAmb IAmb 07 09 03.0
comp=Z,930nm,1.0s
MNSI Mandailing Nat 16.40 307 P **Pn 07 08 50.5 -4.9**
comp=Z,15μmcomp=Z,4μmcomp=Z,120nm,0.6s
JRMM Jerantut 16.50 321 P **Pn 07 08 56.0 -0.7**
KNRA Kununurra 16.96 114 Pn **Pn 07 08 59.2 -3.3**
KNRA IAmb IAmb 07 09 04.0
comp=Z,834nm,0.7s
PBSI Pulau Batu 16.97 302 P **Pn 07 08 58.9 -3.7**
comp=Z,22μmcomp=Z,5μmcomp=Z,254nm,0.5s
LBMI Labuha 17.01 61 P **Pn 07 09 03.4 +0.3**
comp=Z,15μmcomp=Z,1μm,1.5s
MSAI Masohi 17.15 71 P **Pn 07 09 03.6 -1.2**
comp=Z,1μmcomp=Z,82nm,0.5s
TNTI Ternate 17.65 57 P **P 07 09 12.2 +1.3**
TNTI IAmb IAmb 07 09 31.2
comp=Z,1μm,1.4s
TNTI Ternate 17.65 57 P **P 07 09 11.1 +0.2**
comp=Z,13μmcomp=Z,12μmcomp=Z,683nm,1.8s
BNDI Bandanaira 17.70 76 P **P 07 09 09.0 -2.5**
comp=Z,26μmcomp=Z,54μmcomp=Z,5μm,1.2s
IPM Ipoh 17.87 319 P **Pn 07 09 14.0 +0.4**
SGSI Sangihe 18.09 46 P **Pn 07 09 18.2 +1.9**
comp=Z,6μmcomp=Z,374nm,0.5s
RPSI Rantau Prapat 18.10 310 P **P 07 09 11.9 -3.9**
PSI Prapat 18.17 310 P **P 07 09 11.9 -4.8**
PSI pmax pmax
comp=Z,72nm,1.0s
GSI Gunungsitoli 18.31 304 P **P 07 09 13.8 -4.4**
comp=Z,13μmcomp=Z,3μmcomp=Z,213nm,0.6s
GSI Gunungsitoli 18.31 304 **P 07 09 13.6 -4.7**
GSI Gunungsitoli 18.31 304 PcP **P 07 09 13.6 -4.7**
SAUI Saumlaki 18.44 88 P **P 07 09 17.7 -2.0**
SAUI Saumlaki 18.44 88 P **P 07 09 17.3 -2.4**
comp=Z,21μmcomp=Z,29μmcomp=Z,3μm,0.8s
MTN Manton Dam 18.46 103 P **P 07 09 18.9 -1.0**
MTN IAmb IAmb 07 09 25.8
comp=Z,1μm,0.8s
KULM Kulim 18.73 320 P **P 07 09 22.0 -0.8**
TSI Tuntungan 18.89 311 P **P 07 09 23.6 -1.0**
comp=Z,30μmcomp=Z,155nm,1.4s
TPTI 19.79 308 P **P 07 09 33.1 -1.3**
comp=Z,3μmcomp=Z,598nmcomp=Z,34nm,0.8s
MORW Morawa 20.03 171 P **P 07 09 35.7 -1.1**
SKLT Songkhla 20.21 323 P Pn 07 09 41.0 -0.5
comp=Z,2μmcomp=Z,145nm,0.6s
SKLT Songkhla 20.21 323 P Pn 07 09 41.0 -0.4
comp=Z,2μmcomp=Z,145nm,0.6s
SWI Sorong 20.25 67 P **P 07 09 36.6 -2.7**
comp=Z,11μmcomp=Z,16μmcomp=Z,1μm,1.3s
SIJI Sorong 20.25 67 P **P 07 09 37.1 -2.3**
comp=Z,652nm,0.8s,baz=264,slow=7.3,SNR=33
SIJI S **S 07 13 18.9 -4.0**
comp=Z,59nm,0.8s,baz=270,slow=20,SNR=3.2
SIJI LR LR 07 18 14.3
comp=Z,7μm,20.9s,baz=236,slow=39
KCP Kidapawan 20.29 38‖*e*P Pn 07 09 41.7 -0.7
FAKI Fak Fak 20.41 73 P **P 07 09 40.9 -0.2**
FAKI IAmb IAmb 07 09 51.6
comp=Z,683nm,0.9s
FAKI Fak Fak 20.41 73 P **P 07 09 38.8 -2.4**
comp=Z,14μcomp=Z,10μcomp=Z,862nm,0.9s
DAV Davao City (W) 20.63 39 P **P 07 09 43.0 -0.5**
comp=Z,91nm,0.4s,baz=246,slow=10.0,SNR=2.0
DAV S **S 07 13 32.9 +2.6**
comp=Z,50nm,0.3s,baz=255,slow=20,SNR=1.1
DAV LR LR 07 18 29.5
comp=Z,37nm,20.5s,baz=204,slow=39
DAV Davao City (W) 20.63 39 P **P 07 09 44.8 +1.3**
DAV IAmb IAmb 07 10 05.6
comp=Z,334nm,0.8s
MLSI Meulaboh, Aceh 21.03 309 P **P 07 09 48.5 +0.8**
comp=Z,4μmcomp=Z,193nm,1.0s
CGP Cagayan de Oro 21.21 35‖*e*P **P 07 09 54.2 +4.5**
LHMI Lhok Sumawe 21.24 312 P **P 07 09 49.5 -0.5**
LHMI Lhok Sumawe 21.24 312 P **P 07 09 49.7 -0.3**
comp=Z,10μmcomp=Z,5μmcomp=Z,167nm,0.8s
KMPI Kaimana, Papua 21.59 77 P **P 07 09 53.9 +0.2**
comp=Z,17μmcomp=Z,1μm,1.2s
PKDT Phuket 22.19 319 P **P 07 10 01.2 +1.1**
comp=Z,10μmcomp=Z,255nm,0.9s
LLP Lapu-Lapu 22.39 30 *e*P **P 07 10 02.5 +0.2**
SURT Suratani 22.72 322 P **P 07 10 06.9 +1.0**
comp=Z,72nmcomp=Z,9.4nm,1.0s
RCP Roxas 22.91 26⇑*e*P **P 07 10 08.8 +1.0**
WB0 Warramunga Arr 23.47 119 P **P 07 10 11.1 -2.1**
WB0 IAmb IAmb 07 10 24.5
comp=Z,319nm,0.9s
WRA Warramunga Arr 23.49 119 P **P 07 10 11.3 -2.1**
comp=Z,212nm,0.7s,baz=293,slow=11,SNR=228
WRA PcP **PcP 07 13 57.6 +0.2**
comp=Z,15nm,0.6s,baz=305,slow=1.9,SNR=1.9
WRA S **S 07 14 23.0 +1.1**
comp=Z,40nm,0.7s,baz=290,slow=22,SNR=5.4
WRA P3KPbc 07 43 38.3
comp=Z,1.2nm,0.7s,baz=105,slow=4.2,SNR=10
WRA Warramunga Arr 23.49 119 P **P 07 10 11.3 -2.1**
WRAB Tennant Creek 23.50 119 P **P 07 10 11.8 -1.6**
WRAB pmax pmax
comp=Z,216nm,0.7s
WRAB Tennant Creek 23.50 119 P **P 07 10 11.8 -1.6**
WRAB IAmb IAmb 07 10 13.5
comp=Z,216nm,0.7s
WB2 Warramunga Arr 23.50 119 P **P 07 10 11.8 -1.7**
WR0 Warramunga Arr 23.67 119 P **P 07 10 13.6 -1.4**
WR0 IAmb IAmb 07 10 15.3
comp=Z,302nm,0.7s
PGP Puerto Galera 23.99 20⇑*e*P **P 07 10 19.7 +1.9**
NWAO Narrogin (SRO) 24.00 171 P **P 07 10 16.3 -1.4**
comp=Z,41nm,0.6s,baz=356,slow=9.9,SNR=29
NWAO S **S 07 14 30.9 +1.2**
comp=Z,46nm,0.5s,baz=342,slow=13,SNR=2.1
NWAO LR LR 07 21 09.2
comp=Z,9μm,18.2s,baz=345,slow=40
NWAO Narrogin (SRO) 24.00 171 P **P 07 10 16.8 -0.9**
NWAO pmax pmax
comp=Z,94nm,0.7s
NWAO Narrogin (SRO) 24.00 171 P **P 07 10 16.8 -0.9**
SRPI Serui, Papua 24.53 74 P **P 07 10 22.2 -0.5**
comp=Z,11μmcomp=Z,848nm,0.8s
ASAR Alice Springs 24.87 128 P **P 07 10 25.1 -0.8**
comp=Z,151nm,0.8s,baz=306,slow=8.8,SNR=153
ASAR PcP **PcP 07 14 01.3 +1.0**
comp=Z,18nm,0.7s,baz=340,slow=1.6,SNR=4.2
ASAR S **S 07 14 53.6 +10**
comp=Z,7.3nm,0.5s,baz=308,slow=20,SNR=2.0
ASAR P3KPbc 07 43 32.1
comp=Z,0.3nm,0.5s,baz=127,slow=4.4,SNR=4.8
ASAR Alice Springs 24.87 128 P **P 07 10 24.8 -1.0**
AS31 Alice Springs 24.88 128 P **P 07 10 25.0 -0.9**
PATY Pattaya 24.91 332 P **P 07 10 28.8 +2.7**
comp=Z,6μmcomp=Z,168nm,0.8s
PATY Pattaya 24.91 332 P **P 07 10 28.8 +2.7**
comp=Z,1μmcomp=Z,44nm,0.8s
SRAK Srakaew 25.35 335 P **P 07 10 28.4 -1.8**
comp=Z,12μmcomp=Z,851nm,0.5s
SRAK Srakaew 25.35 335 P **P 07 10 28.0 -2.2**
comp=Z,3μmcomp=Z,213nm,0.5s
PHET Kaeng Krachan 25.50 329 P **P 07 10 32.5 +1.0**
comp=Z,3μmcomp=Z,304nm,1.0s
PHET Kaeng Krachan 25.50 329 P **P 07 10 32.6 +1.0**
comp=Z,670nmcomp=Z,78nm,1.0s
H01W3 Cape Leeuwin H 25.61 177 P P 07 10 51.2 +19
baz=353,slow=11,SNR=6.8
H01W3 S S 07 15 15.9 +21
baz=52,slow=73,SNR=6.9
H01W1 Cape Leeuwin H 25.62 177 P P 07 10 50.0 +18
baz=353,slow=11,SNR=7.9
H01W1 S S 07 15 13.7 +19
baz=52,slow=73,SNR=7.4
H01W2 Cape Leeuwin H 25.63 177 P P 07 10 50.9 +19
baz=353,slow=11,SNR=9.0
H01W2 S S 07 15 17.5 +22
baz=52,slow=73,SNR=9.4
FORT Forrest 25.83 148 P **P 07 10 33.5 -0.9**
FORT IAmb IAmb 07 10 55.7
comp=Z,538nm,0.9s
SRDT SRDT 26.98 330 P **P 07 10 47.0 +2.2**
comp=Z,2μcomp=Z,62nm,1.2s
SRDT SRDT 26.98 330 P **P 07 10 47.1 +2.2**
comp=Z,2μcomp=Z,62nm,1.2s
CHAI Chaiyaphum 27.09 337 P **P 07 10 46.9 +1.1**
comp=Z,2μcomp=Z,222nm,0.8s
CHAI Chaiyaphum 27.09 337 P **P 07 10 47.0 +1.1**
comp=Z,401nmcomp=Z,55nm,0.8s
KHON Khomkaen 27.17 339 P **P 07 10 47.8 +1.2**
comp=Z,212nm,0.9s
KHON Khomkaen 27.17 339 P **P 07 10 47.0 +0.4**
comp=Z,53nm,0.9s
KHLT Khaolaem Dam 27.63 329 P **P 07 10 54.2 +3.6**
comp=Z,38nm,1.0s
KHLT Khaolaem Dam 27.63 329 P **P 07 10 54.2 +3.6**
comp=Z,38nm,1.0s
SZP Santa 27.65 16 P **P 07 10 51.4 +0.5**
SZP IAmb IAmb 07 11 24.0
comp=Z,403nm,1.3s
UTHA Uthaitani 27.87 332 P **P 07 10 54.9 +2.1**
comp=Z,268nmcomp=Z,25nm,1.0s
GENI Genyem 28.09 78 P **P 07 10 53.2 -1.7**
comp=Z,5μmcomp=Z,189nm,0.9s
PBKT Sadao Pong 28.09 336 P **P 07 10 57.8 +3.0**
comp=Z,52nm,0.7s
PBKT Sadao Pong 28.09 336 P **P 07 10 57.0 +2.2**
comp=Z,52nm,0.7s
QIZ Qiongzhong 28.18 354 P **P 07 10 57.8 +2.3**
QIZ pP **pP 07 11 10.0 -2.2**
QIZ sP **sP 07 11 16.3 -4.2**
QIZ S **S 07 15 42.8 +6.8**
QIZ sS **sS 07 16 04.5 +0.5**
QIZ pmax pmax
comp=Z,1μm,9.6s
QIZ LR LR
comp=Z,3μm,15.9s
QIZ LR LR
comp=Z,3μm,15.5s
QIZ LR LR
comp=Z,5μm,29.9s
NONG Nongkai 28.67 341 P **P 07 11 00.7 +0.8**
comp=Z,4μcomp=Z,219nm,0.8s
NONG Nongkai 28.67 341 P **P 07 11 00.0 +0.1**
comp=Z,4μcomp=Z,221nm,0.8s
PBA Port Blair 28.67 316 P P 07 10 59.9 -0.1
UMPA Umpang Tak 28.70 331 P **P 07 11 00.1 -0.2**
comp=Z,5μcomp=Z,180nm,0.7s
UMPA Umpang Tak 28.70 331 P **P 07 11 00.2 -0.1**
comp=Z,1μcomp=Z,45nm,0.7s
LOEI Loei 28.83 337 P **P 07 11 00.6 -0.7**
comp=Z,42nm,1.1s
LOEI Loei 28.83 337 P **P 07 11 00.7 -0.6**
comp=Z,41nm,1.1s
LAMP Lampang 30.40 335 P **P 07 11 16.9 +1.7**
comp=Z,2μcomp=Z,237nm,0.7s
CM31 Chiang Mai Arr 30.64 334 P **P 07 11 18.6 +1.3**
CM31 Chiang Mai Arr 30.64 334 P **P 07 11 19.0 +1.7**
SNR=20
CMAR Chiang Mai Arr 30.64 334 P **P 07 11 18.6 +1.2**
comp=Z,98nm,1.0s,baz=169,slow=8.3,SNR=116
CMAR PcP **PcP 07 14 16.6 +2.3**
comp=Z,22nm,0.9s,baz=196,slow=3.2,SNR=6.8
CMAR S **S 07 16 14.7 0.0**
comp=Z,0.9nm,0.3s,baz=168,slow=9.2,SNR=1.0
CMAR ScP **ScP 07 17 54.1 +3.3**
comp=Z,1.2nm,0.4s,baz=184,slow=0.9,SNR=2.1
CMAR PKiKP **PKiKP 07 21 45.9 +0.3**
comp=Z,1.1nm,0.4s,baz=242,slow=1.6,SNR=5.5
CMAR LR LR 07 24 34.7
comp=Z,8μm,18.8s,baz=212,slow=38
CMAR P3KP 07 44 12.2
comp=Z,3.7nm,0.6s,baz=308,slow=7.2,SNR=14
CMAR Chiang Mai Arr 30.64 334 P **P 07 11 18.4 +1.1**
MHMT Maesariang 30.85 332 P **P 07 11 20.0 +0.8**
comp=Z,2μcomp=Z,181nm,0.7s
CMMT Chiang Mai 30.95 334 P **P 07 11 20.0 -0.1**
comp=Z,1μcomp=Z,90nm,0.7s
CHTO Chiang Mai 30.95 334 P **P 07 11 20.8 +0.7**
CHTO pmax pmax
comp=Z,61nm,0.8s
CHTO Chiang Mai 30.95 334 P **P 07 11 20.8 +0.7**
CHTO Chiang Mai 30.95 334 P **P 07 11 21.5 +1.4**
CHTO P **P 07 11 21.5 +1.4**
SLVN Son La 31.53 344 P **P 07 11 26.2 +0.9**
BBOO Buckleboo 31.92 141 P **P 07 11 27.1 -1.5**
BBOO IAmb IAmb 07 11 28.5
comp=Z,139nm,1.1s
TWG Pinlang 32.85 14 P **P 07 11 38.0 +1.3**
TPUB Ta-pu 33.21 13 P **P 07 11 40.7 +0.8**
TPUB IAmb IAmb 07 11 43.9
comp=Z,128nm,1.0s
YULB Yu-li 33.45 14 P **P 07 11 41.6 -0.4**
SSLB Suanglung 33.75 14 P **P 07 11 45.2 +0.5**
SSLB IAmb IAmb 07 11 47.6
comp=Z,164nm,1.2s
PMG Port Moresby 34.01 93 P **P 07 11 47.2 +0.2**
comp=Z,55nm,0.8s,baz=284,slow=6.4,SNR=9.3
PMG S **S 07 17 04.9 -2.6**
comp=Z,14nm,0.8s,baz=282,slow=20,SNR=1.7
PMG Port Moresby 34.01 93 P **P 07 11 47.7 +0.7**
PMG pmax pmax
comp=Z,100nm,0.9s
PMG Port Moresby 34.01 93 P **P 07 11 47.7 +0.7**
PMG IAmb IAmb 07 12 08.5
comp=Z,100nm,0.9s
PMG Port Moresby 34.01 93 P **P 07 11 49.4 +2.4**
PMG Port Moresby 34.01 93 P **P 07 11 49.4 +2.4**
CTA Charters Tower 34.16 112 P **P 07 11 49.0 +0.6**
comp=Z,50nm,0.7s,baz=282,slow=11,SNR=59
CTA S **S 07 17 08.8 -1.0**
comp=Z,9.6nm,0.8s,baz=234,slow=18,SNR=1.4
CTA LR LR 07 26 09.7
comp=Z,9μm,21.1s,baz=282,slow=37
CTAO Charters Tower 34.16 112 P **P 07 11 48.9 +0.6**
CTAO pmax pmax
comp=Z,79nm,0.8s
CTAO Charters Tower 34.16 112 P **P 07 11 48.9 +0.6**
CTAO IAmb IAmb 07 12 09.9
comp=Z,80nm,0.8s
NACB Ninganchiao 34.28 15 P **P 07 11 48.3 -0.8**
QZH Quanzhou 34.41 10⇑*i*P **P 07 11 50.5 +0.3**
QZH sP **sP 07 12 12.0 -3.3**
QZH PP **PP 07 13 12.3 +2.8**
QZH S **S 07 17 15.0 +1.8**
QZH pmax pmax
comp=Z,850nm,5.7s
QZH LR LR
comp=Z,2μm,26.1s
QZH LR LR
comp=Z,2μm,18.5s
QZH LR LR
comp=Z,4μm,27.9s
YHNB Yeheng 34.70 14 P **P 07 11 53.9 +1.1**
YHNB IAmb IAmb 07 12 00.9
comp=Z,68nm,0.7s
YOJ Yonaguni jima 34.93 17 P **P 07 11 55.2 +0.5**
YOJ pmax pmax
comp=Z,62nm,0.8s
YOJ Yonaguni jima 34.93 17 P **P 07 11 55.2 +0.5**
TATO Taipei 35.02 14 P **P 07 11 56.6 +1.1**
TATO IAmb IAmb 07 12 03.2
comp=Z,129nm,1.0s
TATO Taipei 35.02 14 P **P 07 11 57.8 +2.3**
STKA Stephens Creek 35.05 134 P **P 07 11 55.4 -0.3**
comp=Z,94nm,0.7s,baz=311,slow=9.0,SNR=57
STKA S **S 07 17 20.6 -2.4**
comp=Z,11nm,0.8s,baz=235,slow=22,SNR=1.4
STKA Stephens Creek 35.05 134 P **P 07 11 55.6 -0.2**
STKA pmax pmax
comp=Z,36nm,0.7s
STKA Stephens Creek 35.05 134 P **P 07 11 55.6 -0.2**
KMI Kunming 35.45 344⇑P **P 07 12 02.0 +2.5**
KMI pP pP 07 12 18.5 +2.1
KMI sP sP 07 12 24.0 -0.5
KMI PP **PnPn 07 13 20.0 -0.5**
KMI PcP **PcP 07 14 30.0 +2.1**
KMI S **S 07 17 35.3 +5.6**
KMI sS sS 07 17 56.5 -1.5
KMI pmax pmax
comp=Z,77nm,1.2s
KMI pmax pmax
comp=Z,1μm,6.8s
KMI LR LR
comp=Z,1μm,13.1s
KMI LR LR
comp=Z,7μm,16.8s
KMI LR LR
comp=Z,4μm,19.3s
PALK Pallekele 35.82 296 LR LR 07 27 05.8
comp=Z,2μm,20.9s,baz=223,slow=37
PALK Pallekele 35.82 296 P **P 07 12 03.2 +0.6**
PALK pmax pmax
comp=Z,158nm,1.1s
PALK Pallekele 35.82 296 P **P 07 12 03.2 +0.6**
PALK IAmb IAmb 07 12 04.5
comp=Z,158nm,1.1s
GYA Guiyang 35.91 351⇑P **P 07 12 04.5 +1.2**
GYA pP pP 07 12 22.8 +2.7
GYA PP **PP 07 13 28.5 +2.2**
GYA PcP **PcP 07 14 30.5 +1.4**
GYA S **S 07 17 39.8 +3.3**
GYA pmax pmax
comp=Z,210nm,5.8s
GYA LR LR
comp=Z,630nm,12.2s
GYA LR LR
comp=Z,460nm,15.7s
GYA LR LR
comp=Z,810nm,13.3s
IMP Imphal 38.44 332 *e*P **P 07 12 24.3 -0.4**
IMP *ex* x 07 18 09.1
JOW Kunigami 38.87 22 P **P 07 12 28.8 +0.7**
comp=Z,142nm,0.7s,baz=223,slow=8.6,SNR=22
JOW Kunigami 38.87 22 P **P 07 12 29.1 +0.9**
JOW IAmb IAmb 07 12 31.8
comp=Z,150nm,0.8s
AGT Agartala 38.98 328 *e*P **P 07 12 30.2 +1.1**
AGT IAmb IAmb 07 12 32.4
comp=Z,414nm,0.3s
MDRS Chennai 39.08 304 *e*P **P 07 12 29.7 -0.3**
MDRS *i* x x 07 14 40.5
KOHI KOHIMA 39.12 333 *e*P **P 07 12 30.4 -0.1**
GUMO Guam 39.15 55 P **P 07 12 29.6 -1.1**
comp=Z,106nm,0.5s,baz=175,slow=11,SNR=15
GUMO Guam 39.15 55 P **P 07 12 30.2 -0.5**
GUMO pmax pmax
comp=Z,162nm,0.7s
GUMO Guam 39.15 55 P **P 07 12 30.2 -0.5**
GUMO IAmb IAmb 07 12 53.7
comp=Z,162nm,0.7s
GUMO Guam 39.15 55 P **P 07 12 30.6 -0.1**
ENH Enshi 39.35 356 P **P 07 12 32.6 +0.4**
ENH IAmb IAmb 07 12 34.7
comp=Z,128nm,0.7s
MOKO MOKOCHONG 39.47 334 *e*P **P 07 12 33.7 +0.4**
MOKO IAmb IAmb 07 12 35.8
comp=Z,803nm,0.3s
RABL Rabaul 39.50 85 P **P 07 12 34.5 +0.8**
RABL IAmb IAmb 07 12 54.0
comp=Z,96nm,0.7s
RABL Rabaul 39.50 85 P **P 07 12 35.2 +1.5**
WHN Wuhan 39.53 2⇑P **P 07 12 34.8 +1.2**
WHN S **S 07 18 31.8 +0.8**
WHN pmax pmax
comp=Z,85nm,0.6s
WHN pmax pmax
comp=Z,2μm,3.8s
WHN LR LR
comp=Z,4μm,14.8s
WHN LR LR
comp=Z,2μm,12.6s
WHN LR LR
comp=Z,11μm,26.5s
TRD Trivandrum 39.69 295 *e*P **P 07 12 36.0 +0.7**
TRD IAmb IAmb 07 12 36.6
comp=Z,189nm,0.3s
TRD *i* x x 07 12 51.8
H08S2 Diego Garcia H 39.78 269 P **P 07 12 38.2 +2.5**
baz=70,slow=11,SNR=7.7
H08S2 T T 07 54 49.1
baz=95,slow=76,SNR=26
H08S3 Diego Garcia H 39.79 269 P **P 07 12 37.9 +2.1**
baz=70,slow=11,SNR=15
H08S3 T T 07 54 49.2
baz=95,slow=76,SNR=27
H08S1 Diego Carcia H 39.80 269 P **P 07 12 37.9 +2.1**
baz=70,slow=11,SNR=19
H08S1 T T 07 54 50.2
baz=95,slow=76,SNR=22
LKP Lekhapani 39.80 336 *e*P **P 07 12 36.6 +0.6**
DGAR Diego Garcia 39.84 269 P **P 07 12 36.6 +0.1**
DGAR pmax pmax
comp=Z,206nm,0.8s
DGAR Diego Garcia 39.84 269 P **P 07 12 36.6 +0.1**
DGAR IAmb IAmb 07 12 39.1
comp=Z,206nm,0.8s
DGAR Diego Garcia 39.84 269 P **P 07 12 38.8 +2.3**
EIDS Eidsvold 39.85 119 P **P 07 12 37.2 +0.7**
SHL Shillong 40.04 330 P **P 07 12 38.4 +0.2**
SHL pmax pmax
comp=Z,338nm,0.7s
SHL Shillong 40.04 330 *e*P **P 07 12 38.4 +0.2**
SHL IAmb IAmb 07 12 40.8
comp=Z,370nm,1.0s
SHL Shillong 40.04 330 P **P 07 12 38.4 +0.2**
SHL Shillong 40.04 330 P **P 07 12 38.5 +0.3**
SNR=47
DIBR DIBRUGARH 40.30 335 *e*P **P 07 12 40.0 -0.1**
DIBR *i* x x 07 13 06.0
ITAN ITANAGAR 40.53 334 *e*P **P 07 12 42.5 +0.5**
CD2 Chengdu 40.78 348⇑P **P 07 12 44.8 +0.8**
CD2 pP pP 07 13 01.5 +0.4
CD2 S **S 07 18 51.3 +1.6**
CD2 pmax pmax
comp=Z,320nm,0.6s
CD2 pmax pmax
comp=Z,2μm,6.3s
CD2 LR LR
comp=Z,4μm,20.6s
CD2 LR LR
comp=Z,5μm,19.0s

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CD2                                   LR      LR
      comp=Z,4µm,23.1s
SSE   Sheshan        40.87  11  P       P       07 12 46.5 +1.8
SSE                              S       S       07 18 56.8 +5.8
SSE                              pmax    pmax
      comp=Z,97nm,0.8s
SSE                              pmax    pmax
      comp=Z,1µm,4.1s
SSE                              LR      LR
      comp=Z,730nm,20.4s
SSE                              LR      LR
      comp=Z,740nm,23.3s
TOO   Toolangi       40.91 139   P       P       07 12 45.4 +0.3
TOO                              pmax    pmax
      comp=Z,154nm,1.1s
TOO   Toolangi       40.91 139   P       P       07 12 45.4 +0.3
TOO                              IAmb    IAmb    07 13 06.2
      comp=Z,154nm,1.1s
DHUB  DHUBRI         41.37 328   eP      P       07 12 49.5 +0.6
DHUB                             IAmb    IAmb    07 12 51.4
      comp=Z,235nm,0.7s
NJ2   Nanjing        41.42   8⇑iP        P       07 12 51.0 +1.8
NJ2                              pP      pP      07 13 06.8 +0.4
NJ2                              sP      sP      07 13 13.8 -0.7
NJ2                              PP      PnPn    07 14 33.5 +2.0
NJ2                              PcP     PcP     07 14 47.0 +0.9
NJ2                              S       S       07 19 03.0 +3.8
NJ2                              sS      sS      07 19 31.0 +3.1
NJ2                              pmax    pmax
      comp=Z,110nm,0.6s
NJ2                              pmax    pmax
      comp=Z,2µm,3.5s
NJ2                              LR      LR
      comp=Z,3µm,19.0s
NJ2                              LR      LR
      comp=Z,2µm,18.0s
NJ2                              LR      LR
      comp=Z,4µm,21.8s
BOK   Bokaro         41.96 322   eP      P       07 12 54.0 +0.2
BOK                              IAmb    IAmb    07 12 56.8
      comp=Z,119nm,1.0s
ARMA  Armidale       41.99 126   P       P       07 12 55.2 +1.1
CAN   Canberra       42.11 134   P       P       07 12 55.4 +0.5
CAN                              pmax    pmax
      comp=Z,175nm,1.5s
CAN   Canberra       42.11 134   P       P       07 12 55.4 +0.5
HYB   Hyderabad      42.86 308   iP      P       07 13 01.0 -0.2
      comp=Z,260nm,1.0s
HYB                              epP     pP      07 13 18.0 -0.5
HYB                              ePP     PcP     07 14 50.0 -1.2
HYB                              eS      S       07 19 25.0 +4.2
HYB   Hyderabad      42.86 308   eP      P       07 13 00.7 -0.5
XAN   Xi'an          43.13 355   P       P       07 13 03.0 -0.2
XAN                              pP      pP      07 13 18.3 -2.2
XAN                              sP      sP      07 13 26.0 -2.5
XAN                              PP      PP      07 14 46.3 +1.5
XAN                              S       S       07 19 24.3 -0.1
XAN                              sS      sS      07 19 51.5 -1.8
XAN                              SS      SS      07 22 31.0 -8.8
XAN                              ScS     ScS     07 22 54.8 -2.1
XAN                              pmax    pmax
      comp=Z,100nm,0.7s
XAN                              pmax    pmax
      comp=Z,2µm,8.1s
XAN                              LR      LR
      comp=Z,5µm,20.3s
XAN                              LR      LR
      comp=Z,3µm,18.4s
XAN                              LR      LR
      comp=Z,8µm,21.4s
GTK   Tadong         43.15 328   eP      P       07 13 03.9 +0.3
LSA   Lhasa          43.87 333   P       P       07 13 10.8 +1.1
LSA                              pmax    pmax
      comp=Z,670nm,0.8s
LSA   Lhasa          43.87 333   P       P       07 13 11.1 +1.4
LSA                              pmax    pmax
      comp=Z,133nm,0.8s
LSA   Lhasa          43.87 333   P       P       07 13 11.1 +1.4
LSA                              IAmb    IAmb    07 13 11.9
      comp=Z,133nm,0.8s
LSA   Lhasa          43.87 333   P       P       07 13 11.1 +1.4
LSA                              P       P       07 13 11.1 +1.4
JSU   Suzuyama       43.89  22   P       P       07 13 09.8 +0.5
JSU                              IAmb    IAmb    07 13 11.7
      comp=Z,98nm,0.7s
TIA   Tai'an         45.35   5   P       P       07 13 20.8  0.0
TIA                              S       S       07 19 56.5 +0.1
TIA                              pmax    pmax
      comp=Z,120nm,0.7s
TIA                              pmax    pmax
      comp=Z,1µm,3.6s
TIA                              LR      LR
      comp=Z,3µm,16.7s
TIA                              LR      LR
      comp=Z,840nm,14.7s
TIA                              LR      LR
      comp=Z,3µm,18.1s
JNU   Nakatsue       45.50  22   P       P       07 13 22.2 +0.1
      comp=Z,55nm,0.8s,baz=259,slow=2.7,SNR=18
JNU   Nakatsue       45.52  22   P       P       07 13 21.5 -0.6
GOA   Goa            45.65 302   eP      P       07 13 23.4 -0.1
GOA                              IAmb    IAmb    07 13 24.5
      comp=Z,324nm,0.7s
LZH   Lanzhou        45.79 350⇑iP        P       07 13 25.8 +1.3
LZH                              pP      pP      07 13 39.3 -2.6
LZH                              sP      sP      07 13 47.0 -3.0
LZH                              PP      PP      07 15 15.8 +2.6
LZH                              S       S       07 20 04.5 +1.3
LZH                              sS      sS      07 20 29.8 -2.4
LZH                              pmax    pmax
      comp=Z,420nm,1.1s
LZH                              pmax    pmax
      comp=Z,2µm,4.9s
LZH                              LR      LR
      comp=Z,3µm,16.0s
LZH                              LR      LR
      comp=Z,4µm,14.4s
LZH                              LR      LR
      comp=Z,3µm,17.1s
JCJ   Chichijima     46.03  38   P       P       07 13 25.3 -1.0
      comp=Z,238nm,0.4s,baz=278,slow=14,SNR=20
JCJ   Chichijima     46.03  38   P       P       07 13 24.5 -1.8
JTU   Tsushima       46.27  19   P       P       07 13 28.2 +0.2
HNR   Honiara        46.61  94   P       P       07 13 29.7 -1.4
      comp=Z,156nm,0.6s,baz=234,slow=6.7,SNR=2.9
HNR                              S       S       07 20 11.6 -3.6
      comp=Z,49nm,0.4s,baz=297,slow=19,SNR=1.5
HNR                              LR      LR      07 34 58.1
      comp=Z,1µm,19.8s,baz=233,slow=39
HNR   Honiara        46.61  94   P       P       07 13 32.0 +0.9
HNR                              pmax    pmax
      comp=Z,1µm,1.3s
HNR   Honiara        46.61  94   P       P       07 13 32.0 +0.9
HNR   Honiara        46.61  94   P       P       07 13 32.0 +0.9
TIY   Taiyuan        46.65 360   eP      P       07 13 31.5 +0.4
TIY                              sP      sP      07 13 57.8 +1.2
TIY                              S       S       07 20 14.3 -0.9
TIY                              sS      sS      07 20 42.5 -1.9
TIY                              pmax    pmax
      comp=Z,88nm,0.8s
TIY                              pmax    pmax
      comp=Z,1µm,3.5s
TIY                              LR      LR
      comp=Z,810nm,12.6s
TIY                              LR      LR
      comp=Z,890nm,15.0s
TIY                              LR      LR
      comp=Z,2µm,25.3s
KSBUS Busan          46.84  18   P       P       07 13 33.6 +1.1
      SNR=11
KSBUS Busan          46.84  18   P       P       07 13 34.0 +1.5
      SNR=11
JMN   Monobe         47.19  24   P       P       07 13 35.5 +0.2
JMN                              IAmb    IAmb    07 13 38.7
      comp=Z,233nm,1.0s
POO   Poona          47.19 306   eP      P       07 13 35.2 -0.4
POO                              IAmb    IAmb    07 13 36.4
      comp=Z,534nm,1.0s
BHPL  Bhopal         47.21 314   eP      P       07 13 34.7 -1.0
KSDAG Daegu          47.25  18   P       P       07 13 37.0 +1.2
      SNR=12
TJN   Taejon         47.38  16ceP        P       07 13 37.2 +0.6
KSYOC YEONGCHEON     47.46  18   P       P       07 13 39.8 +2.5
      SNR=5.4
KSSAJ Sangju         47.63  17   P       P       07 13 39.2 +0.6
      SNR=10.0
KSEUS ULSEONG        47.73  17   P       P       07 13 40.2 +0.8
      SNR=7.6
KSMGY Mungyeong      47.83  17   P       P       07 13 40.9 +0.7
      SNR=29
KSADO Andong         47.87  18   P       P       07 13 44.0 +3.6
      SNR=11
JHS   Saijyo         48.01  23   P       P       07 13 41.7 +0.1
JHS                              IAmb    IAmb    07 13 44.9
      comp=Z,203nm,1.2s
KSCHJ Chungju        48.01  17   P       P       07 13 42.3 +0.8
      SNR=22
KSCHJ Chungju        48.01  17   P       P       07 13 42.3 +0.8
      SNR=21
DACB  Daecheong-do R 48.10  13   P       P       07 13 43.1 +0.9
      SNR=19
PATS  Pohnpei        48.17  72   P       P       07 13 42.8  -0.4
PATS                             IAmb    IAmb    07 14 22.2
      comp=Z,131nm,1.0s
INCN  Inchon         48.23  15   P       P       07 13 43.6 +0.4
INCN                             pmax    pmax
      comp=Z,45nm,0.9s
INCN  Inchon         48.23  15   P       P       07 13 43.6 +0.4
INCN  Inchon         48.23  15   P       P       07 13 44.8 +1.5
INCN                             P       P       07 13 44.8 +1.5
KSBAR Backryungdo    48.24  13   P       P       07 13 44.7 +1.4
      SNR=16
KSICN Icheon         48.25  16   P       P       07 13 44.4 +1.0
      SNR=6.1
KSGAH Ganghwa        48.39  15   P       P       07 13 45.3 +0.8
      SNR=82
KSYOW Yeongwol       48.43  17   P       P       07 13 48.4 +3.6
      SNR=8.5
KSTBA Taebaek        48.52  17   P       P       07 13 50.1 +4.5
      SNR=8.3
KSWJU Wonju          48.53  16   P       P       07 13 48.0 +2.4
      SNR=9.6
KSRS  Korea Array    48.54  16   P       P       07 13 46.4 +0.8
      comp=Z,52nm,0.9s,baz=205,slow=8.1,SNR=51
KSRS                             S       S       07 20 39.7  -2.1
      comp=Z,0.4nm,0.3s,baz=280,slow=27,SNR=1.0
KSRS                             LR      LR      07 37 19.0
      comp=Z,773nm,18.4s,baz=159,slow=40
DL2   Dalian         48.56   9⇑iP        P       07 13 45.8  0.0
DL2                              pP      pP      07 13 59.0  -4.4
DL2                              S       S       07 20 42.0  -0.1
DL2                              pmax    pmax
      comp=Z,250nm,0.7s
DL2                              pmax    pmax
      comp=Z,2µm,6.2s
DL2                              LR      LR
      comp=Z,1µm,22.0s
DL2                              LR      LR
      comp=Z,2µm,22.0s
DL2                              LR      LR
      comp=Z,3µm,29.2s
KS19  Wonju Array Si 48.57  16   P       P       07 13 46.3 +0.5
KS19                             IAmb    IAmb    07 13 49.9
      comp=Z,168nm,1.4s
KSMUS Musan          48.64  15   P       P       07 13 47.9 +1.6
      SNR=18
KSDDC Dongducheon    48.73  15   P       P       07 13 49.3 +2.2
      SNR=5.8
KSCHC Chuncheon      48.81  16   P       P       07 13 52.0 +4.2
      SNR=7.7
BJT   Baijiatuau     49.06   4   P       P       07 13 50.1 +0.5
BJT                              pmax    pmax
      comp=Z,240nm,1.0s
BJT   Baijiatuau     49.06   4   P       P       07 13 50.1 +0.5
BJI   Beijing        49.08   4   P       P       07 13 49.8 +0.1
BJI                              pP      pP      07 14 01.8  -5.5
BJI                              PP      PP      07 15 46.0 +1.9
BJI                              S       S       07 20 49.5 +0.1
BJI                              pmax    pmax
      comp=Z,210nm,0.6s
BJI                              pmax    pmax
      comp=Z,2µm,3.3s
BJI                              LR      LR
      comp=Z,2µm,21.2s
BJI                              LR      LR
      comp=Z,2µm,23.3s
BJI                              LR      LR
      comp=Z,4µm,23.3s
JWT   Wachi          49.16  25   P       P       07 13 50.5  0.0
JWT                              IAmb    IAmb    07 13 53.0
      comp=Z,137nm,0.7s
BTO   Baotou         49.60 357   eP      P       07 13 55.5 +1.7
BTO                              pP      pP      07 14 10.5  -1.0
BTO                              PP      PP      07 15 52.3 +3.3
BTO                              S       S       07 20 59.5 +2.6
BTO                              sS      sS      07 21 27.8 +1.5
BTO                              ScS     ScS     07 23 38.5  -0.4
BTO                              SS      SS      07 24 30.8 +0.6
BTO                              LR      LR
      comp=Z,9µm,18.2s
BTO                              LR      LR
      comp=Z,9µm,21.0s
HHC   Hu-ho-hao-te   49.80 359   eP      P       07 13 56.0 +0.7
HHC                              pP      pP      07 14 14.8 +1.9
HHC                              PP      PP      07 15 52.3 +1.6
HHC                              S       S       07 21 01.8 +2.2
HHC                              pmax    pmax
      comp=Z,120nm,0.8s
HHC                              pmax    pmax
      comp=Z,580nm,5.7s
HHC                              LR      LR
      comp=Z,2µm,19.4s
HHC                              LR      LR
      comp=Z,2µm,23.2s
HHC                              LR      LR
      comp=Z,2µm,20.6s
GTA   Gaotai         49.80 347 ⇑P        P       07 13 56.5 +1.1
GTA                              pP      pP      07 14 12.5  -0.6
GTA                              sP      sP      07 14 19.5  -1.6
GTA                              PcP     PcP     07 15 17.0 +1.7
GTA                              PP      PP      07 15 54.5 +3.6
GTA                              ScP     ScP     07 19 08.3 +3.6
GTA                              PcS     PcS     07 19 10.3  -2.0
GTA                              S       S       07 20 59.5  -0.3
GTA                              sS      sS      07 21 27.0  -2.2
GTA                              ScS     ScS     07 23 41.0 +0.6
GTA                              pmax    pmax
      comp=Z,67nm,1.0s
GTA                              pmax    pmax
      comp=Z,2µm,9.2s
GTA                              LR      LR
      comp=Z,2µm,22.3s
GTA                              LR      LR
      comp=Z,3µm,21.5s
GTA                              LR      LR
      comp=Z,3µm,24.3s
INU   Inuyama        49.90  26   P       P       07 13 55.3  -0.8
JGF   Kuroka         50.26  26   P       P       07 13 58.0  -0.9
JGF                              IAmb    IAmb    07 14 00.8
      comp=Z,111nm,0.7s
KOUNC Koumac, New Ca 50.94 109   P       P       07 14 05.9 +1.7
MAJO  Matsushiro     51.42  26   P       P       07 14 06.5  -1.1
MAJO                             pmax    pmax
      comp=Z,527nm,1.7s
MAJO  Matsushiro     51.42  26   P       P       07 14 06.5  -1.1
MAT   Matsushiro     51.42  26   P       P       07 14 06.3  -1.2
MAT                              S       S       07 21 18.2  -3.9
MJAR  Matsushiro Arr 51.42  26   P       P       07 14 06.1  -1.5
      comp=Z,74nm,0.7s,baz=193,slow=8.3,SNR=236
MJAR                             S       S       07 21 15.1  -7.1
      comp=Z,1.2nm,0.7s,baz=259,slow=11,SNR=1.1
MJAR                             LR      LR      07 37 46.2
      comp=Z,1µm,20.5s,baz=205,slow=38
MJAR  Matsushiro Arr 51.42  26   P       P       07 14 05.8  -1.8
MJAR                             pmax    pmax
      comp=Z,89nm,0.8s
MJAR  Matsushiro Arr 51.42  26   P       P       07 14 05.8  -1.8
MJAR                             IAmb    IAmb    07 14 09.0
      comp=Z,89nm,0.8s
MJB9  Matsu-Tunnel   51.43  26   P       P       07 14 06.6  -1.0
DDI   Dehra Dun      51.48 321   eP      P       07 14 06.7  -1.4
DDI                              IAmb    IAmb    07 14 08.8
      comp=Z,372nm,0.4s
SNY   Shenyang       51.74  10 ⇑P        P       07 14 08.5  -1.2
SNY                              sP      pwP     07 14 30.5 +3.0
SNY                              S       S       07 21 20.3  -5.9
SNY                              pmax    pmax
      comp=Z,1µm,5.0s
SNY                              LR      LR
      comp=Z,2µm,24.2s
SNY                              LR      LR
      comp=Z,2µm,26.0s
SNY                              LR      LR
      comp=Z,3µm,27.7s
JYT   Yasato         52.06  28   P       P       07 14 08.8  -3.5
JYT                              IAmb    IAmb    07 14 22.1
      comp=Z,97nm,0.6s
SMLA  Simla          52.59 321   eP      P       07 14 15.1  -1.2
JSD   Sado           52.70  25   P       P       07 14 16.4  -0.6
NOUC  Port Laguerre  52.95 111   P       P       07 14 20.5 +1.3
BHUJ  Bhuj           53.02 308   eP      P       07 14 20.1 +0.5
BHUJ                             ix      x       07 15 29.0
DZM   Mont Dzumac    53.08 111   P       P       07 14 19.5  -0.7
      comp=Z,25nm,0.9s,baz=278,slow=3.4,SNR=16
DZM                              LR      LR      07 36 52.1
      comp=Z,4µm,22.0s,baz=282,slow=36
DZM   Mont Dzumac    53.08 111   eP      P       07 14 19.7  -0.5
      comp=Z,171nm,1.1s
DZM                              eS      S       07 21 43.0  -2.5
      comp=Z,6µm,31.6s
DZM                              eLR     LR      07 29 45.1
      comp=Z,8µm,23.4s
DZM   Mont Dzumac    53.08 111   P       P       07 14 19.5  -0.7
DZM                              IAmb    IAmb    07 14 42.9
      comp=Z,72nm,0.9s
DZM   Mont Dzumac    53.08 111   P       P       07 14 21.6 +1.4
ONTNC Ouen Toro      53.11 111   P       P       07 14 21.1 +0.8
ONTNC                            IAmb    IAmb    07 14 41.6
      comp=Z,113nm,0.8s
ONTNC Ouen Toro      53.11 111   P       P       07 14 21.5 +1.2
OUENC Ouen Island, N 53.48 111   P       P       07 14 24.1 +1.0
OUENC                            IAmb    IAmb    07 14 46.0
      comp=Z,211nm,1.6s
OUENC Ouen Island, N 53.48 111   P       P       07 14 26.1 +3.1
YATNC Mamie plateau, 53.49 111   P       P       07 14 25.1 +2.0
SANVU Saraoutou      53.51 102   P       P       07 14 23.6 +0.2
SANVU Saraoutou      53.51 102   P       P       07 14 25.3 +2.0
JMM   Marumori       53.68  28   P       P       07 14 23.8  -0.3
LIFNC LIFOU          53.72 109   P       P       07 14 24.8  0.0
CN2   Changchun      53.99  11⇑iP        P       07 14 25.8  -0.5
CN2                              epP     pP      07 14 41.5  -2.6
CN2                              esP     pwP     07 14 48.8 +2.5
CN2                              PcP     PcP     07 15 29.3  -1.4
CN2                              PP      PP      07 16 29.8 +1.3
CN2                              eS      S       07 21 57.0 +0.1
CN2                              pmax    pmax
      comp=Z,150nm,0.8s
CN2                              pmax    pmax
      comp=Z,1µm,3.0s
CN2                              LR      LR
      comp=Z,2µm,18.0s
CN2                              LR      LR
      comp=Z,1µm,18.0s
CN2                              LR      LR
      comp=Z,2µm,21.0s
PINNC Pines Island,  54.05 111   P       P       07 14 27.8 +0.6
PINNC                            IAmb    IAmb    07 14 51.0
      comp=Z,84nm,0.9s
MSHR  Mys Shultsa    54.21  17ceP        P       07 14 28.1 +0.2
MSHR                             pmax    pmax
      comp=Z,45nm,0.9s
MSHR                             MLR     MLR
      comp=Z,408nm,19.0s
MARNC Mare, Loyalty  54.50 110   P       P       07 14 32.2 +1.7
MARNC Mare, Loyalty  54.50 110   P       P       07 14 34.6 +4.1
VLA   Vladivostok    54.92  17ciP        P       07 14 32.8  -0.2
VLA                              pmax    pmax
      comp=Z,198nm,1.7s
MDJ   Mudanjiang     55.69  15   P       P       07 14 38.5  -0.1
MDJ                              pP      pP      07 14 56.5 +0.1
MDJ                              sP      sP      07 15 03.0  -1.3
MDJ                              S       S       07 22 18.8  -0.8
MDJ                              pmax    pmax
      comp=Z,310nm,0.8s
MDJ                              pmax    pmax
      comp=Z,660nm,4.1s
MDJ                              LR      LR
      comp=Z,2µm,19.9s
MDJ                              LR      LR
      comp=Z,2µm,19.9s
MDJ                              LR      LR
      comp=Z,2µm,24.9s
MDJ   Mudanjiang     55.69  15   P       P       07 14 38.9 +0.3
USA0B Ussuriysk Arra 55.94  17   P       P       07 14 40.6 +0.2
USA0B                            pmax    pmax
      comp=Z,228nm,0.7s
USA0B Ussuriysk Arra 55.94  17   P       P       07 14 40.6 +0.2
USRK  Ussuriysk Ar.  55.94  17   P       P       07 14 40.5 +0.1
      comp=Z,287nm,0.8s,baz=198,slow=5.5,SNR=316
USRK                             S       S       07 22 17.7  -5.1
      comp=Z,1.3nm,0.6s,baz=208,slow=21,SNR=1.1
USRK                             LR      LR      07 40 13.7
      comp=Z,584nm,20.7s,baz=197,slow=38
RER   Riviere de l'E 55.97 251   P       P       07 14 42.2 +1.0
RER                              IAmb    IAmb    07 14 43.5
      comp=Z,125nm,0.8s
RER   Riviere de l'E 55.97 251   P       P       07 14 42.8 +1.6
JTM   Tenmabayashi   56.19  26   P       P       07 14 41.7  -0.5
NIL   Nilore         56.73 321   P       P       07 14 44.9  -1.4
NIL                              pmax    pmax
      comp=Z,198nm,0.7s
NIL   Nilore         56.73 321   P       P       07 14 44.9  -1.4
MSEY  Mahe Island    56.92 270   P       P       07 14 49.2 +1.2
MSEY  Mahe Island    56.92 270   P       P       07 14 49.5 +1.5
MSEY                             P       P       07 14 49.5 +1.5
ULN   Ulaanbaatar    57.02 355   P       P       07 14 48.6 +0.4
ULN                              pmax    pmax
      comp=Z,169nm,1.0s
ULN   Ulaanbaatar    57.02 355   P       P       07 14 48.6 +0.4
ULN                              IAmb    IAmb    07 14 50.7
      comp=Z,169nm,1.0s
ULN   Ulaanbaatar    57.02 355   P       P       07 14 48.9 +0.7
ULN                              P       P       07 14 48.9 +0.7
CASY  Casey          57.03 181   P       P       07 14 46.2  -1.6
SONM  Songino Array  57.04 355   P       P       07 14 48.8 +0.5
      comp=Z,88nm,0.6s,baz=174,slow=8.3,SNR=384
SONM                             PcP     PcP     07 15 43.6 +1.0
      comp=Z,33nm,0.8s,baz=167,slow=4.8,SNR=4.0
SONM                             S       S       07 22 33.0  -4.6
      comp=Z,0.6nm,0.2s,baz=240,slow=18,SNR=6.2
SONM                             LR      LR      07 42 21.3
      comp=Z,3µm,18.9s,baz=183,slow=39
SONM                             PKPPKP  P'P'df  07 44 40.0 +3.6
      comp=Z,1.1nm,0.8s,baz=245,slow=1.6,SNR=6.3
SONM                             P4KPbc          07 51 59.1
      comp=Z,1.1nm,0.6s,baz=158,slow=7.3,SNR=7.6
SONM  Songino Array  57.04 355   P       P       07 14 48.8 +0.5
SONM                             IAmb    IAmb    07 14 49.4
      comp=Z,98nm,0.8s
WMQ   Urumqi         57.43 339   eP      P       07 14 51.5 +0.4
WMQ                              PcP     PcP     07 15 45.5 +1.4
WMQ                              S       S       07 22 44.5 +1.7
WMQ                              pmax    pmax
      comp=Z,140nm,1.1s
WMQ                              pmax    pmax
      comp=Z,1µm,3.9s
WMQ                              LR      LR
      comp=Z,2µm,23.3s
WMQ                              LR      LR
      comp=Z,3µm,20.3s
WMQ                              LR      LR
      comp=Z,3µm,29.3s
JEW   Eniwo          58.05  25   P       P       07 14 54.2  -1.1
ERM   Erimo          58.10  26ceP        P       07 14 55.7  0.0
ERM                              pmax    pmax
      comp=Z,130nm,0.8s
ERM   Erimo          58.10  26   P       P       07 14 55.5  -0.1
ERM                              IAmb    IAmb    07 14 57.3
      comp=Z,129nm,0.8s
HIA   Hailar         58.53   5   P       P       07 14 58.2  -0.4
HIA                              pmax    pmax
      comp=Z,57nm,1.0s
HIA   Hailar         58.53   5   P       P       07 14 58.2  -0.4
HIA                              IAmb    IAmb    07 15 01.4
      comp=Z,57nm,1.0s
KSH   Kashi          59.22 327⇑iP        P       07 15 02.5  -1.2
KSH                              S       S       07 23 02.8  -3.6
KSH                              sS      sS      07 23 39.0 +1.1
KSH                              pmax    pmax
      comp=Z,73nm,0.8s
KSH                              pmax    pmax
      comp=Z,560nm,4.1s
KSH                              LR      LR
      comp=Z,2µm,16.8s
KSH                              LR      LR
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comp=Z,1μm,15.4s
KSH LR LR
comp=Z,4μm,19.2s
MLZ Mavora Lakes 59.51 138 P P 07 15 06.1 +0.5
MLZ IAmb IAmb 07 15 30.5
comp=Z,61nm,1.0s
ASAJ Asahikawa 59.57 25 P P 07 15 06.2 +0.3
ASAJ pmax pmax
comp=Z,104nm,0.9s
JKA Kamikawa-asahi 59.58 25 P P 07 15 06.2 +0.3
JKA IAmb IAmb 07 15 09.1
comp=Z,104nm,0.9s
ZAK Zakamensk 59.88 353 *e*P **P 07 15 07.6 -0.4**
ZAK pmax pmax
comp=Z,38nm,1.3s
TARG Taragay, Kyrgy 59.93 330 P P 07 15 09.7 +0.8
TARG IAmb IAmb 07 15 40.5
comp=Z,92nm,1.0s
WKZ Wanaka 59.94 137 P P 07 15 08.3 -0.2
WKZ IAmb IAmb 07 15 35.4
comp=Z,95nm,0.9s
KBL Kabul 59.98 319 P P 07 15 08.5 -0.7
KBL pmax pmax
comp=Z,97nm,0.7s
KBL Kabul 59.98 319 P P 07 15 08.5 -0.7
KBL IAmb IAmb 07 15 10.1
comp=Z,97nm,0.7s
KBL Kabul 59.98 319 P P 07 15 08.1 -1.1
SNR=36
PRZ Przheval'sk 60.22 331 P P 07 15 12.0 +1.5
PRZ pmax pmax
comp=Z,200nm,1.0s
PRZ Przheval'sk 60.22 331 P P 07 15 12.0 +1.5
WAKE Wake Island 60.23 62 P P 07 15 12.2 +1.4
WAKE IAmb IAmb 07 15 33.8
comp=Z,126nm,1.1s
SHLS Shalkode 60.24 332⇑*i*P **P 07 15 10.1 -0.6**
comp=Z,160nm,0.8s,baz=333
SHLS *i*S **S 07 23 17.9 -1.5**
baz=333
SHLS Shalkode 60.24 332*c i*P **P 07 15 10.0 -0.6**
SHLS *i*S **S 07 23 17.9 -1.5**
SHLS pmax pmax
comp=Z,160nm,0.8s
UZB Uzynbulak 60.44 332⇑*i*P **P 07 15 12.4 +0.4**
comp=Z,62nm,0.6s,baz=332
UZB *i*S **S 07 23 21.9 0.0**
comp=Z,89nm,2.7s,baz=332
UZB Uzynbulak 60.44 332*c i*P **P 07 15 12.3 +0.3**
UZB *i*S **S 07 23 21.9 0.0**
UZB pmax pmax
comp=Z,62nm,0.6s
UZB smax smax
comp=E,89nm,2.7s
KLR Kul'dur 60.53 14 PKP2bc 07 44 38.2
comp=E,3.7nm,1.0s,baz=11,slow=4.7,SNR=4.1
KLR Kul'dur 60.53 14*ce*P **P 07 15 11.6 -0.7**
KLR pmax pmax
comp=Z,49nm,0.8s
KLR MLR MLR
comp=Z,1μm,23.0s
H11N1 WAKE ISLAND Hy 60.60 61 P P 07 15 14.4 +1.3
baz=246,slow=12,SNR=4.1
H11N2 WAKE ISLAND Hy 60.61 61 P P 07 15 15.1 +1.9
baz=246,slow=12,SNR=5.4
H11N3 WAKE ISLAND Hy 60.62 61 P P 07 15 15.0 +1.8
baz=246,slow=12,SNR=6.5
SATY Saty 60.66 332⇑*i*P **P 07 15 13.8 +0.3**
comp=Z,99nm,1.2s,baz=332
SATY *i*S **S 07 23 24.8 +0.1**
comp=Z,98nm,2.4s,baz=332
SATY Saty 60.66 332*c i*P **P 07 15 13.8 +0.3**
SATY *i*S **S 07 23 24.8 +0.1**
SATY pmax pmax
comp=Z,99nm,1.2s
SATY smax smax
comp=N,98nm,2.4s
JLN Jalan Bani Buh 60.80 302 P P 07 15 14.9 +0.2
SNR=7.0
KPKS Kokpek 60.84 332⇑*i*P **P 07 15 14.9 +0.1**
comp=N,214nm,1.0s,baz=332
KPKS *i*S **S 07 23 27.4 +0.4**
comp=N,94nm,2.6s,baz=332
KPKS Kokpek 60.84 332*c i*P **P 07 15 14.8 +0.1**
KPKS *i*S **S 07 23 27.3 +0.4**
KPKS pmax pmax
comp=Z,214nm,1.0s
KPKS smax smax
comp=E,94nm,2.6s
YUK Yuzh-Kuril'sk 60.91 27 *e*P **P 07 15 15.0 +0.1**
YUK *e* 07 15 57.6
YUK *e* 07 17 29.6
YUK *e*PPP PPP 07 18 54.5
YUK *e*S **S 07 23 29.1 +1.6**
YUK *e* 07 25 00.5
YUK *e*SS **SS 07 27 30.7 +2.6**
YUK pmax pmax
comp=N,317nm,1.1s
YUK pmax pmax
comp=E,221nm,1.1s
YUK pmax pmax
comp=Z,319nm,1.1s
YUK MLR MLR
comp=N,442nm,21.0s
YUK MLR MLR
comp=E,308nm,21.0s
YUK MLR MLR
comp=Z,458nm,21.0s
CIT Chita 60.96 1 *e*P **P 07 15 16.5 +1.2**
CIT *e* 07 15 23.9
CIT *e* 07 15 51.8
CIT pmax pmax
comp=Z,690nm,2.9s
RPZ Rata Peaks 61.01 135 P P 07 15 16.2 +0.4
RPZ IAmb IAmb 07 15 34.1
comp=Z,152nm,1.0s
ULHL Ulahol 61.09 330 P P 07 15 16.6 +0.1
SNR=39
WBK Wadi Bani Khal 61.36 302 P P 07 15 19.1 +0.6
SNR=10
MDOK Medeo 61.38 331 *i* P **P 07 15 18.2 -0.2**
baz=331
MDOK *i*S **S 07 23 34.1 +0.1**
baz=331
MDOK Medeo 61.38 331 *i* P **P 07 15 18.2 -0.2**
MDOK *i*S **S 07 23 34.0 +0.1**
BOOM Boomskoye usch 61.42 330 P P 07 15 19.1 +0.4
BOOM pmax pmax
comp=Z,130nm,1.0s
BOOM Boomskoye usch 61.42 330 P P 07 15 19.1 +0.4
BOOM IAmb IAmb 07 15 19.9
comp=Z,130nm,1.0s
MOY Mondy 61.44 352 *e*P **P 07 15 19.3 +0.7**
MOY pmax pmax
comp=Z,249nm,2.7s
AAA Alma-Ata 61.48 331⇑*i*P **P 07 15 18.6 -0.4**
comp=Z,68nm,0.4s,baz=331
AAA *e*S **S 07 23 34.4 -0.7**
baz=331
AAA Alma-Ata 61.48 331*c i*P **P 07 15 18.5 -0.4**
AAA *e*S **S 07 23 34.3 -0.7**
AAA pmax pmax
comp=Z,68nm,0.4s
DRK Karamyk 61.49 325 P P 07 15 18.9 -0.5
DQM DQM 61.50 299 P P 07 15 19.9 +0.4
SNR=6.4
MHTO MHTO 61.55 300 P P 07 15 19.7 0.0
SNR=26
OXZ Oxford 61.59 134 P P 07 15 19.2 -0.5
OXZ IAmb IAmb 07 15 46.1
comp=Z,45nm,0.7s
IRK Irkutsk 61.61 354 *e*P **P 07 15 18.8 -0.8**
IRK *e* 07 23 38.4
IRK pmax pmax
comp=Z,259nm,2.0s
ARXS Arharly 61.81 332 *e*P **P 07 15 20.6 -0.6**
THZ Tophouse 61.83 133 P P 07 15 21.9 +0.5
THZ IAmb IAmb 07 15 52.6
comp=Z,87nm,0.9s
TKM2 Tokmak 2 61.91 330 P P 07 15 22.2 +0.2
SNR=110
WSAR Wadi Sarin 61.91 302 P P 07 15 22.5 +0.3
comp=Z,190nm,0.7s,baz=141,slow=6.3,SNR=109
WSAR S **S 07 23 37.7 -3.4**
comp=Z,5.4nm,0.9s,baz=117,slow=7.4,SNR=2.1
WSAR Wadi Sarin 61.91 302 P P 07 15 22.9 +0.7
SNR=19
CHKK Chushkaly 61.93 331⇑*i*P **P 07 15 21.3 -0.6**
baz=331
CHKK Chushkaly 61.93 331*i*P **P 07 15 21.3 -0.6**
MK31 Makanchi Array 61.97 337 P P 07 15 22.1 -0.1
MK31 pmax pmax
comp=Z,95nm,0.6s
MK31 Makanchi Array 61.97 337 P P 07 15 22.1 -0.1
MKAR Makanchi Array 61.97 337 P P 07 15 22.2 0.0
comp=Z,134nm,0.6s,baz=148,slow=7.3,SNR=636
MKAR S **S 07 23 40.2 -0.8**
comp=Z,0.7nm,0.9s,baz=148,slow=14,SNR=2.2
MKAR PKPPKP **P'P'df 07 44 32.8 +3.5**
comp=Z,1.8nm,1.1s,baz=336,slow=2.7,SNR=7.8
MKAR P4KPbc 07 52 21.4
comp=Z,0.8nm,0.7s,baz=123,slow=6.0,SNR=9.0
MKAR Makanchi Array 61.97 337 P P 07 15 22.4 +0.2
MKAR Makanchi Array 61.97 337 P P 07 15 22.4 +0.2
YSS Yuzh-Sakhalins 61.98 23*α i*P **P 07 15 22.3 +0.2**
YSS *e* 07 15 34.9
YSS *e**SP **pP 07 15 43.9 +3.6**
YSS *e* 07 17 38.3
YSS *e*S **S 07 23 38.8 -2.1**
YSS *e*SS **SS 07 27 47.0 +2.2**
YSS pmax pmax
comp=Z,2μm,3.5s
YSS pmax pmax
comp=Z,160nm,1.4s
YSS smax smax
comp=E,900nm,4.6s
YSS Yuzh-Sakhalins 61.98 23 P P 07 15 22.5 +0.4
JMDO Jabal Madar 61.99 301 P P 07 15 23.0 +0.2
SNR=15
GAR Garm 62.03 324 P P 07 15 21.5 -1.4
KBK Karagaybulak 62.04 329 P P 07 15 23.6 +0.7
SNR=99
SOCY Socotra 62.08 289 P P 07 15 23.0 -0.5
SOCY Socotra 62.08 289 P P 07 15 23.9 +0.3
MAKZ Makanchi 62.11 337 P P 07 15 22.9 -0.2
MAKZ pmax pmax
comp=Z,47nm,0.7s
MAKZ Makanchi 62.11 337 P P 07 15 22.9 -0.2
MAKZ IAmb IAmb 07 15 24.0
comp=Z,46nm,0.7s
TDK Taldyqorghan 62.16 333 *i* P **P 07 15 23.5 +0.1**
comp=Z,285nm,0.7s,baz=333
TDK *i*S **S 07 23 43.4 -0.1**
baz=333
TDK Taldyqorghan 62.16 333 *i* P **P 07 15 23.5 +0.1**
TDK *i*S **S 07 23 43.3 -0.1**
TDK pmax pmax
comp=Z,285nm,0.7s
AAK Ala-Archa 62.25 329 P P 07 15 24.9 +0.5
SNR=32
AAK Ala-Archa 62.25 329 P P 07 15 24.8 +0.5
AAK pmax pmax
comp=Z,125nm,1.0s
AAK Ala-Archa 62.25 329 P P 07 15 24.8 +0.5
AAK IAmb IAmb 07 15 26.8
comp=Z,125nm,0.9s
KUU Kurty 62.27 331⇑*i*P **P 07 15 23.9 -0.3**
comp=Z,161nm,0.6s,baz=331
KUU *i*S **S 07 23 44.2 -0.6**
comp=Z,286nm,4.6s,baz=331
KUU Kurty 62.27 331*c i*P **P 07 15 23.9 -0.3**
KUU *i*S **S 07 23 44.2 -0.6**
KUU pmax pmax
comp=Z,161nm,0.6s
KUU smax smax
comp=E,286nm,4.6s
AML Almayashu 62.30 328 P P 07 15 25.2 +0.3
SNR=21
AML Almayashu 62.30 328 *i* P **P 07 15 25.1 +0.1**
SNR=23
AML Almayashu 62.30 328 P P 07 15 25.5 +0.6
FRU1 Bishkek 62.31 329 P P 07 15 25.0 +0.5
FRU1 pmax pmax
comp=Z,142nm,0.9s
FRU1 Bishkek 62.31 329 P P 07 15 25.0 +0.5
SMDO Samad 62.32 302 P P 07 15 25.4 +0.3
SNR=20
SMDO P **P 07 15 25.4 +0.3**
SNR=20
CHMS Chumysh 62.38 329 P P 07 15 24.8 -0.2
SNR=21
KHZ Kahutara 62.44 133 P P 07 15 25.4 +0.1
KHZ IAmb IAmb 07 15 28.3
comp=Z,106nm,1.3s
BTK Batken 62.44 325 P P 07 15 25.4 -0.1
BTK pmax pmax
comp=Z,54nm,0.9s
BTK Batken 62.44 325 P P 07 15 25.4 -0.1
BTK IAmb IAmb 07 15 25.9
comp=Z,54nm,0.8s
BIDO Bidbid 62.45 302 P P 07 15 26.3 +0.5
SNR=34
BIDO P **P 07 15 26.3 +0.5**
SNR=34
SHAO Shalim 62.48 296 P P 07 15 26.4 +0.3
SHAO Shalim 62.48 296 P P 07 15 26.6 +0.6
CHGR Chuyangaron 62.50 323 P P 07 15 24.1 -1.9
EKS2 Erkin-Say 62.64 329 P P 07 15 27.5 +0.7
SNR=119
DGZ Jazzator, Alta 62.66 342*c i*P **P 07 15 27.1 +0.2**
DGZ pmax pmax
comp=Z,338nm,0.9s
USP Ospenovka 62.71 329 P P 07 15 27.1 0.0
SNR=10
KUR Kuril'sk 62.74 27*c i*P **P 07 15 26.1 -1.1**
KUR *i* 07 17 44.4
KUR *i*S **S 07 23 50.5 -0.1**
KUR *i* 07 24 18.1
KUR pmax pmax
comp=N,900nm,4.1s
KUR pmax pmax
comp=Z,2μm,4.1s
KUR pmax pmax
comp=Z,471nm,1.3s
KUR pmax pmax
comp=E,264nm,1.4s
KUR pmax pmax
comp=N,199nm,1.2s
KUR MLR MLR
comp=Z,600nm,19.0s
SGDS Sogindy 62.78 330⇑*i*P **P 07 15 27.3 -0.3**
comp=Z,48nm,0.8s,baz=330
SGDS *i*S **S 07 23 50.6 -0.7**
comp=Z,109nm,3.4s,baz=330
SGDS Sogindy 62.78 330*c i*P **P 07 15 27.3 -0.3**
SGDS *i*S **S 07 23 50.6 -0.7**
SGDS pmax pmax
comp=Z,48nm,0.8s
SGDS smax smax
comp=N,109nm,3.4s
BSY Bisya 62.91 301 P P 07 15 29.2 +0.3
SNR=8.6
DMTO DMTO 62.98 295 P P 07 15 29.7 +0.3
HOQ Hoqain 63.16 302 P P 07 15 31.0 +0.5
SNR=20
HOQ P **P 07 15 31.0 +0.5**
SNR=20
GRNR Gornyy 63.16 17⇑*i*P **P 07 15 30.5 +0.5**
GRNR *e*S **S 07 23 58.6 +2.8**
GRNR pmax pmax
comp=Z,30nm,1.3s
GRNR smax smax
comp=N,4.0nm,0.8s
GRNR MLR MLR
comp=E,140nm,11.0s
GRNR MLR MLR
comp=N,280nm,16.0s
GRNR MLR MLR
comp=Z,360nm,14.0s
BHW Baring Head 63.19 132 P P 07 15 30.0 -0.4
FWVZ Far West T-bar 63.28 129 P P 07 15 32.4 +1.1
OGWZ Otaki Gorge 63.29 131 P P 07 15 31.4 +0.3
WNVZ Wahianoa 63.33 129 P P 07 15 30.9 -0.7
OTVZ Oturere 63.35 129 P P 07 15 33.8 +2.1
UGL Uglegorsk 63.50 21*c i*P **P 07 15 33.0 +0.8**
UGL *e*S **S 07 23 59.8 -0.1**
UGL pmax pmax
comp=N,840nm,5.0s
UGL pmax pmax
comp=Z,2μm,4.0s
UGL pmax pmax
comp=Z,140nm,0.9s
UGL smax smax
comp=N,2μm,5.0s
UGL smax smax
comp=E,3μm,5.0s
RBK Rabkut 63.57 295 P P 07 15 33.8 +0.4
BHHZ Black Hill Sta 63.71 130 P P 07 15 33.4 -0.6
BHHZ S **pP 07 15 55.2 +3.4**
ARQ Araqi 63.72 302 P P 07 15 34.3 +0.1
SNR=8.3
TSZ Takapari Road 63.74 130 P P 07 15 34.2 +0.1
PRWZ Pori Road 63.84 131 P P 07 15 35.8 +1.1
PRWZ S **pP 07 15 56.5 +4.0**
MSVF Nonsavu 63.88 105 P P 07 15 36.7 +1.3
MSVF pmax pmax
comp=Z,112nm,0.9s
MSVF Nonsavu 63.88 105 P P 07 15 36.7 +1.3
MSVF IAmb IAmb 07 15 57.5
comp=Z,112nm,0.8s
ZEA Zeya 63.89 10*ce*P **P 07 15 35.2 +0.5**
ZEA *e*S **S 07 24 04.9 +0.3**
ZEA pmax pmax
comp=Z,300nm,3.7s
ZEA pmax pmax
comp=E,60nm,1.0s
ZEA pmax pmax
comp=N,70nm,0.9s
ZEA pmax pmax
comp=Z,160nm,0.8s
ZEA smax smax
comp=N,500nm,10.0s
ABPO Ambohimpanom 63.94 253 P P 07 15 36.9 +0.9
ABPO pmax pmax
comp=Z,48nm,0.9s
ABPO Ambohimpanom 63.94 253 P P 07 15 36.9 +0.9
KRHZ Kereru 63.97 130 P P 07 15 35.4 -0.2
KWHZ Kaweka Forest 63.98 129 P P 07 15 36.3 +0.5
KWHZ S **pP 07 15 59.3 +5.8**
BKZ Black Stump Fm 63.99 129 P P 07 15 35.4 -0.4
BKZ IAmb IAmb 07 16 02.9
comp=Z,88nm,0.9s
OPO Ambohidratompo 63.99 254 S **S 07 24 10.0 +2.5**
comp=Z,2.3nm,1.0s,baz=160,slow=12,SNR=1.4
DOK Doka 64.02 296 P P 07 15 36.1 -0.1
SOHO SOHO 64.03 302 *i* P **P 07 15 35.8 -0.4**
SNR=49
SOHO SOHO 64.03 302 P P 07 15 36.3 +0.1
SOHO P **P 07 15 36.3 +0.1**
BFZ Birch Farm 64.06 131 P P 07 15 35.8 -0.4
BFZ IAmb IAmb 07 16 14.4
comp=Z,63nm,0.8s
BFZ Birch Farm 64.06 131 P P 07 15 36.8 +0.6
DZA Taraz 64.08 327 *e*P **P 07 15 34.5 -1.7**
baz=327
DZA *i*S **S 07 24 05.8 -1.7**
baz=327
DZA Taraz 64.08 327 *e*P **P 07 15 34.5 -1.7**
DZA *i*S **S 07 24 05.8 -1.7**
WHFO Wadi Hawf 64.10 295 P P 07 15 36.6 -0.3
TAS Tashkent 64.15 325 P P 07 15 36.7 0.0
TAS pmax pmax
comp=Z,236nm,0.6s
TAS Tashkent 64.15 325 P P 07 15 36.7 0.0
BTLS Baital 64.22 331⇑*i*P **P 07 15 36.4 -0.7**
comp=Z,40nm,1.1s,baz=330
BTLS *i*S **S 07 24 06.3 -2.8**
comp=Z,32nm,2.0s,baz=330
BTLS Baital 64.22 331*c i*P **P 07 15 36.4 -0.7**
BTLS *i*S **S 07 24 06.3 -2.8**
BTLS pmax pmax
comp=Z,40nm,1.1s
BTLS smax smax
comp=E,32nm,2.0s
URZ Urewera 64.32 128 P P 07 15 37.2 -0.7
comp=E,20nm,0.6s,baz=261,slow=9.8,SNR=8.9
URZ Urewera 64.32 128 P P 07 15 37.5 -0.4
VOI Vohitsoka 64.32 250 P P 07 15 39.1 +0.7
VOI IAmb IAmb 07 15 39.9
comp=Z,83nm,0.7s
VOI Vohitsoka 64.32 250 P P 07 15 39.6 +1.2
SNR=7.5
ABTO Aybut 64.34 294 P P 07 15 38.8 +0.3
HRA Herat 64.48 315 P P 07 15 37.7 -1.5
UMZA Um Al Zommool 64.62 300 P P 07 15 39.9 -0.2
UMZA P **P 07 15 39.9 -0.2**
CHM Chimkent 64.63 326 *e*P **P 07 15 39.4 -0.5**
baz=326
CHM *e*S **S 07 24 10.1 -4.2**
baz=326
CHM Chimkent 64.63 326 *e*P **P 07 15 39.3 -0.5**
CHM *e*S **S 07 24 10.1 -4.2**
UOSS Minazif 64.64 303 *i* P **P 07 15 39.6 -0.7**
SNR=71
UOSS Minazif 64.64 303 P P 07 15 39.5 -0.7
UOSS Minazif 64.64 303 P P 07 15 40.1 -0.1
UOSS P **P 07 15 40.1 -0.1**
HATD Hatta, Dubai 64.65 303 *i* P **P 07 15 40.2 0.0**
SNR=106
HATD Hatta, Dubai 64.65 303 P P 07 15 40.8 +0.6
SNR=33
HATD P **P 07 15 40.8 +0.6**
SNR=33
ASHO Ashiyiah 64.65 303 *i* P **P 07 15 40.2 -0.1**
SNR=111
ASHO Ashiyiah 64.65 303 P P 07 15 40.7 +0.4
SNR=34
ALNE Al Ain 64.65 302 *i* P **P 07 15 40.2 -0.1**
SNR=12
ALNE Al Ain 64.65 302 P P 07 15 40.8 +0.5
SNR=21
ALNE P **P 07 15 40.8 +0.5**
SNR=21
KK31 Karatay Array 64.67 327 P P 07 15 39.6 -0.4
KK31 Karatay Array 64.67 327 P P 07 15 39.6 -0.4
KK31 IAmb IAmb 07 15 41.6
comp=Z,60nm,0.7s
KKAR Karatay Array 64.67 327 P P 07 15 39.6 -0.5
KKAR pmax pmax
comp=Z,60nm,0.7s
KKAR Karatay Array 64.67 327 P P 07 15 39.5 -0.5
KKAR Karatay Array 64.67 327 P P 07 15 39.5 -0.5
KKAR IAmb IAmb 07 15 41.6
comp=Z,60nm,0.7s
MDH Madha 64.70 304 *i* P **P 07 15 39.5 -1.1**
SNR=46
MDH Madha 64.70 304 P P 07 15 40.0 -0.6
SNR=24
MDH P **P 07 15 40.0 -0.6**
SNR=24
MSFE Esma-Masafi 64.84 304 *i* P **P 07 15 41.6 +0.1**
SNR=45
MASF Masafi 64.85 304 P P 07 15 42.2 +0.6
SNR=29
BANOM Banah 64.96 304 *i* P **P 07 15 42.0 -0.3**
SNR=15
BANOM Banah 64.96 304 P P 07 15 42.7 +0.4
SNR=7.7
BANOM P **P 07 15 42.7 +0.4**
SNR=7.7
FAQ Al Faqa, Dubai 65.06 303 *i* P **P 07 15 43.0 +0.1**
SNR=333
FAQ Al Faqa, Dubai 65.06 303 P P 07 15 43.4 +0.5
SNR=125
FAQ P **P 07 15 43.4 +0.5**
SNR=125
NAZ Nazwa, Dubai 65.10 303 *i* P **P 07 15 43.2 0.0**
SNR=33
NAZ Nazwa, Dubai 65.10 303 P P 07 15 43.3 +0.1
SNR=28
SHME Shamm 65.14 304 *i* P **P 07 15 43.5 0.0**
SNR=48
SHME Shamm 65.14 304 P P 07 15 43.8 +0.4
SNR=16
TYV Tymovskoe 65.20 20 *e*P **P 07 15 44.0 +0.7**
TYV *e*S **S 07 24 24.3 +3.4**
TYV pmax pmax
comp=Z,1μm,2.9s
TYV smax smax
comp=E,700nm,4.2s
TYV smax smax
comp=E,14nm,2.3s
ASUD Al Ashush, Dub 65.23 302 *i* P **P 07 15 44.4 +0.3**
SNR=20
ASUD Al Ashush, Dub 65.23 302 P P 07 15 44.7 +0.7
SNR=69
AJN Ajban 65.49 302 *i* P **P 07 15 45.2 -0.5**
SNR=19

AJN Ajban 65.49 302 P **P 07 15 45.5 -0.2**
SNR=32
SEM Semipalatinsk 65.71 338⇑*i*P **P 07 15 46.3 -0.7**
comp=E,92nm,0.7s,baz=338
SEM Semipalatinsk 65.71 338*c i*P **P 07 15 46.2 -0.7**
SEM pmax pmax
comp=Z,93nm,0.7s
NKL Nikolayevsk 66.51 18 *e*P **P 07 15 51.3 -0.3**
NKL *i* 07 16 17.7
NKL *i* 07 18 16.8
NKL *e*S **S 07 24 39.1 +2.4**
NKL *i* SS **SS 07 28 52.7 -2.6**
NKL pmax pmax
comp=E,17nm,0.6s
NKL pmax pmax
comp=N,409nm,0.8s
NKL pmax pmax
comp=Z,125nm,0.7s
NKL pmax pmax
comp=Z,204nm,3.9s
NKL smax smax
comp=E,16nm,1.0s
NKL smax smax
comp=N,1μm,1.2s
NKL MLR MLR
comp=N,14μm,14.0s
NKL MLR MLR
comp=E,1μm,14.0s
NKL MLR MLR
comp=Z,639nm,20.0s
KURBB Kurchatov Arra 66.54 337 P **P 07 15 51.8 -0.1**
comp=Z,50nm,0.7s,baz=141,slow=6.0,SNR=7.8
KURBB S **S 07 24 34.2 -2.9**
comp=Z,1.2nm,0.4s,baz=140,slow=13,SNR=4.9
KURBB P4KPbc 07 52 42.1
comp=Z,0.5nm,0.4s,baz=150,slow=3.6,SNR=6.1
KURK Kurchatov 66.58 337 P **P 07 15 51.8 -0.3**
BOD Bodaibo 66.78 1 *e*P **P 07 15 52.9 -0.4**
BOD pmax pmax
comp=Z,132nm,1.0s
MAW Mawson 67.01 199 P **P 07 15 54.1 -0.6**
comp=Z,34nm,0.8s,baz=64,slow=6.2,SNR=82
MAW S **S 07 24 41.4 -1.0**
comp=Z,3.3nm,0.3s,baz=75,slow=20,SNR=44
MAW LR LR 07 39 26.4
comp=Z,3μm,21.0s,baz=56,slow=31
MAW PKP2bc 07 44 21.6
comp=Z,7.1nm,0.8s,baz=254,slow=6.5,SNR=15
MAW Mawson 67.01 199 P **P 07 15 54.2 -0.4**
MAW pmax pmax
comp=Z,47nm,1.5s
MAW Mawson 67.01 199 P **P 07 15 54.2 -0.4**
ZAA0 Zalesovo Array 67.17 343 P **P 07 15 55.5 -0.3**
ZALV Zalesovo Beam 67.17 343 P **P 07 15 55.4 -0.5**
comp=Z,202nm,0.7s,baz=149,slow=4.3,SNR=598
ZALV S **S 07 24 41.4 -3.3**
comp=Z,2.6nm,0.6s,baz=163,slow=10,SNR=5.1
ZALV PKP2bc 07 44 19.2
comp=Z,0.8nm,0.5s,baz=343,slow=4.6,SNR=5.0
ZALV Zalesovo Beam 67.17 343 P **P 07 15 55.2 -0.6**
SLWR Sila 68.08 300 P **P 07 16 02.5 +0.3**
TRNA Turayna 68.73 301 P **P 07 16 06.4 +0.2**
KHOR Al-Khor Airpor 68.81 302 P **P 07 16 07.1 +0.4**
ASHT Ashkhabad 69.00 317 P **P 07 16 08.7 +1.0**
ASHT pmax pmax
comp=Z,188nm,1.0s
ASHT Ashkhabad 69.00 317 P **P 07 16 08.7 +1.0**
ASHT IAmb IAmb 07 16 09.4
comp=Z,188nm,1.0s
GEYT Alibeck 69.17 316 P **P 07 16 09.2 +0.5**
comp=Z,80nm,0.8s,baz=181,slow=12,SNR=120
GEYT S **S 07 25 06.9 -2.4**
comp=Z,0.8nm,0.5s,baz=135,slow=16,SNR=1.5
GEYT Alibeck 69.17 316 P **P 07 16 09.3 +0.5**
GYA0B ALIBECK ARRAY 69.17 316 P **P 07 16 09.3 +0.5**
GYA0B IAmb IAmb 07 16 10.5
comp=Z,107nm,0.9s
SHMA Al-Shehemyia 69.35 302 P **P 07 16 10.1 0.0**
SAKB Bahrain 69.75 302 P **P 07 16 12.6 0.0**
SKR Severo-Kuril's 70.50 28 *e*P **P 07 16 17.0 +0.4**
SKR *e* 07 18 49.0
SKR *e*S **S 07 25 24.7 +0.6**
SKR pmax pmax
comp=Z,800nm,3.8s
SKR pmax pmax
comp=Z,300nm,3.9s
SKR pmax pmax
comp=Z,117nm,0.7s
SKR MLR MLR
comp=Z,400nm,19.0s
HARA HARA 71.50 283 *i* P **P 07 16 24.2 +0.5**
HARA *e*S **SKiKP 07 25 52.2 -4.8**
BVAR Borovoye Array 71.66 335 P **P 07 16 22.2 -1.3**
comp=Z,16nm,0.6s,baz=196,slow=15,SNR=88
BRVK Borovoye 71.72 335 P **P 07 16 24.1 +0.1**
BRVK pmax pmax
comp=Z,31nm,0.7s
BRVK Borovoye 71.72 335 P **P 07 16 24.1 +0.1**
YAK Yakutsk 72.22 8 LR LR 07 51 22.5
comp=Z,868nm,18.4s,baz=228,slow=38
YAK Yakutsk 72.22 8*c i*P **P 07 16 26.5 -0.2**
YAK *e* 07 16 44.1
YAK *e**PP **pwP 07 16 47.5 +0.2**
YAK *e* 07 19 03.8
YAK *e*S **S 07 25 41.0 -2.6**
YAK *e**SS **sS 07 26 16.0 -0.3**
YAK *e* 07 26 25.0
YAK *e*SS **SS 07 30 24.2 +1.3**
YAK pmax pmax
comp=Z,332nm,0.9s
YAK pmax pmax
comp=E,25nm,1.0s
YAK pmax pmax
comp=N,45nm,0.9s
YAK pmax pmax
comp=Z,162nm,2.4s
YAK pmax pmax
comp=N,76nm,2.1s
YAK pmax pmax
comp=E,61nm,2.3s
YAK smax smax
comp=E,193nm,2.2s
YAK smax smax
comp=N,80nm,1.9s
YAK MLR MLR
comp=Z,1μm,22.0s
YAK MLR MLR
comp=N,974nm,22.0s
YAK MLR MLR
comp=E,956nm,22.0s
YAK Yakutsk 72.22 8 P **P 07 16 26.6 -0.2**
ATD Arta Tunnel 72.42 285 P **P 07 16 30.2 +1.2**
comp=E,25nm,0.9s,baz=91,slow=3.9,SNR=9.9
ATD Arta Tunnel 72.42 285 P **P 07 16 30.4 +1.4**
ATD Arta Tunnel 72.42 285 P **P 07 16 30.6 +1.6**
VNDA Vanda 72.83 170 P **P 07 16 29.6 -0.6**
comp=E,13nm,0.5s,baz=315,slow=7.1,SNR=67
VNDA PKPPKP **P'P'df 07 44 10.9 -1.8**
comp=E,1.3nm,0.9s,baz=235,slow=0.9,SNR=4.9
VNDA Vanda 72.83 170 P **P 07 16 29.6 -0.6**
PEA0B Petropavlovsk- 72.88 26 P **P 07 16 31.4 +0.5**
PEA0B pmax pmax
comp=Z,97nm,0.7s
PEA0B Petropavlovsk- 72.88 26 P **P 07 16 31.4 +0.5**
PEA0B IAmb IAmb 07 16 31.9
comp=Z,97nm,0.7s
PETK Petropavlovsk- 72.88 26 P **P 07 16 30.4 -0.5**
comp=Z,64nm,0.6s,baz=221,slow=2.6,SNR=152
PETK S **S 07 25 49.9 -1.7**
comp=Z,0.4nm,0.3s,baz=257,slow=18,SNR=1.5
PETK LR LR 07 50 38.5
comp=Z,360nm,20.2s,baz=234,slow=38
PETK Petropavlovsk- 72.88 26 P **P 07 16 31.1 +0.2**
PETK Petropavlovsk- 72.88 26 P **P 07 16 31.1 +0.2**
PET Petropavlovsk 73.25 27α *i*P **P 07 16 33.2 +0.3**
PET *e**PP **PcP 07 16 49.6 +0.5**
PET *e*S **S 07 25 56.6 +1.0**
PET *e*PS 07 26 34.3
PET *e*PPS PPS 07 26 45.3
PET *e*SS **SS 07 30 39.6 +0.6**
PET pmax pmax
comp=Z,151nm,0.6s
PET pmax pmax
comp=Z,800nm,13.4s
PET pmax pmax
comp=Z,800nm,12.6s
PET MLR MLR
comp=Z,900nm,18.0s
PET Petropavlovsk 73.25 27 P **P 07 16 33.3 +0.3**
PET IAmb IAmb 07 16 33.8
comp=Z,76nm,0.7s
SBA Scott Base 73.88 170 P **P 07 16 36.8 +0.4**
SBA pmax pmax
comp=Z,117nm,1.5s
SBA Scott Base 73.88 170 P **P 07 16 36.8 +0.4**
ABKAR Akbulak array 74.23 327 P **P 07 16 39.2 +0.4**
ABKAR Akbulak array 74.23 327 P **P 07 16 39.2 +0.4**
TEND Ethiopian Broa 74.24 285 *i* P **P 07 16 38.1 -1.5**
TEND *e*S S 07 26 21.4 +13
KIBK Kibwezi 74.47 270 P **P 07 16 42.4 +1.2**
KIBK Kibwezi 74.47 270 P **P 07 16 42.8 +1.6**
SNR=13
ANKE Ethiopia-Afar 74.98 283 *i* P **P 07 16 45.1 +0.7**
ANKE *e*S **S 07 26 26.0 +8.7**
MA2 Magadan 74.99 19 LR LR 07 51 07.3
comp=Z,311nm,21.9s,baz=224,slow=37
MA2 Magadan 74.99 19*ce*P **P 07 16 43.4 +0.4**
MA2 pmax pmax
comp=Z,172nm,0.8s
MA2 Magadan 74.99 19 P **P 07 16 43.6 +0.6**
MA2 IAmb IAmb 07 16 46.2
comp=Z,183nm,0.8s
DESE Dese 75.40 284 *e*P **P 07 16 45.1 -1.6**
DESE *e*S **S 07 26 30.2 +8.3**
SYO Syowa Base 75.44 201⇑*i*P **P 07 16 45.0 -0.5**
SYO Syowa Base 75.44 201⇑*e*PcP **PcP 07 17 00.8 +2.5**
SYO Syowa Base 75.44 201⇓*i*pP pP 07 17 04.0 +0.4
KMBO Kilima Mbogo 75.44 271 P **P 07 16 48.5 +1.6**
comp=Z,30nm,0.8s,baz=68,slow=8.2,SNR=56
KMBO S **S 07 26 23.8 +1.5**
comp=Z,0.5nm,0.3s,baz=74,slow=19,SNR=1.3
KMBO LR LR 07 44 30.8
comp=Z,3μm,21.9s,baz=72,slow=31
KMBO Kilima Mbogo 75.44 271*ce*P **P 07 16 48.3 +1.3**
KMBO pmax pmax
comp=Z,30nm,0.8s
DILA Dilla 75.75 279 *i* P **P 07 16 49.8 +1.2**
AAE Adis Abeba 75.80 282 *i* P **P 07 16 47.5 -1.6**
AAE *e*S S 07 26 35.6 +9.3
AAE *i* S S 07 26 35.6 +9.3
AKTO Aktyubinsk 75.92 327 P **P 07 16 48.8 +0.2**
comp=Z,169nm,0.7s,baz=126,slow=6.3,SNR=394
AKTO S **S 07 26 23.4 -2.3**
comp=Z,0.8nm,0.7s,baz=73,slow=19,SNR=1.5
LKRN Lenkeran, Azer 76.06 314 P **P 07 16 49.6 0.0**
MIDW Midway 77.04 58 P **P 07 16 56.3 +1.0**
MIDW IAmb IAmb 07 16 59.6
comp=Z,153nm,0.9s
LODK Lodwar 78.06 275 P **P 07 17 02.1 +0.6**
LODK Lodwar 78.06 275 P **P 07 17 03.2 +1.7**
SNR=8.4
MNGR Mingechevir, A 78.08 315 P **P 07 17 01.5 +0.6**
SEY Seymchan 78.08 17 S **S 07 26 44.2 -4.4**
comp=Z,1.5nm,0.7s,baz=232,slow=19,SNR=1.6
SEY LR LR 07 52 45.5
comp=Z,265nm,22.0s,baz=216,slow=37
SEKA Sheki 78.17 315 P **P 07 17 01.4 -0.1**
SVE Sverdlovsk 78.39 334*d i*P **P 07 17 02.8 +0.6**
SVE *e*S **S 07 26 56.3 +4.2**
SVE pmax pmax
comp=Z,362nm,0.8s
SVE MLR MLR
comp=Z,3μm,25.0s
GANJ Ganja 78.56 315 P **P 07 17 03.8 +0.2**
NAX Nakhchivan 78.60 313 P **P 07 17 04.0 +0.1**
MAK Makhachkala 78.67 317 *e*P **P 07 17 02.6 -1.5**
MAK *e**PP **pP 07 17 19.5 -3.3**
MAK *e* 07 20 00.2
MAK *e*S **S 07 26 54.6 -1.0**
MAK *e**SS **sS 07 27 23.6 -4.5**
MAK *e*SSS SSS 07 35 24.0
MAK pmax pmax
comp=Z,228nm,0.9s
MAK MLR MLR
comp=Z,619nm,20.0s
ZKTA Zakatala 78.74 316 P **P 07 17 04.6 0.0**
ARU Arti 79.07 333 P **P 07 17 06.1 +0.2**
comp=Z,39nm,0.4s,baz=128,slow=3.2,SNR=174
ARU S **S 07 26 55.8 -3.6**
comp=Z,0.4nm,0.3s,baz=72,slow=20,SNR=1.2
ARU Arti 79.07 333*c i*P **P 07 17 06.0 0.0**
ARU 07 17 14.4
ARU *PP **pP 07 17 23.0 -1.9**
ARU 07 20 03.3
ARU PPP PPP 07 21 51.0
ARU S **S 07 27 01.3 +1.9**
ARU 07 27 23.7
ARU pmax pmax
comp=Z,307nm,1.2s
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 79.07 333 P **P 07 17 06.0 0.0**
LGD Lagodekhi 79.08 316 P **P 07 17 07.3 +0.9**
GNI Garni 79.50 314 P **P 07 17 09.7 +0.8**
comp=Z,86nm,1.0s,baz=125,slow=0.4,SNR=37
GNI S **S 07 27 03.6 -1.4**
comp=Z,1.9nm,0.3s,baz=66,slow=19,SNR=1.1
GNI Garni 79.50 314 P **P 07 17 09.5 +0.6**
GNI Garni 79.50 314*ce*P **P 07 17 09.5 +0.6**
GNI pmax pmax
comp=Z,99nm,1.0s
GNI Garni 79.50 314 P **P 07 17 09.7 +0.8**
GNI IAmb IAmb 07 17 25.0
comp=Z,118nm,1.1s
GNI Garni 79.50 314 P **P 07 17 10.2 +1.3**
GROC Groznyy 79.91 317 *e*P **P 07 17 11.8 +0.9**
GROC *e* 07 17 18.2
GROC *e*S **S 07 27 08.0 -0.9**
GROC pmax pmax
comp=Z,414nm,0.9s
GEVA Gevas 80.07 312 P **P 07 17 12.9 +0.8**
KZRT Kazreti 80.19 315 P **P 07 17 13.2 +0.7**
SIRT Sirnak 80.26 311 P **P 07 17 13.6 +0.6**
SIRT IAmb IAmb 07 17 30.6
comp=Z,158nm,0.7s
NRIK Noril'sk 80.27 351 P **P 07 17 12.0 -0.2**
comp=Z,62nm,0.8s,baz=146,slow=5.6,SNR=49
NRIK S **S 07 27 08.2 -3.4**
comp=Z,1.0nm,0.3s,baz=151,slow=10,SNR=1.4
NRIK Noril'sk 80.27 351 P **P 07 17 12.2 0.0**
NRIK pmax pmax
comp=Z,135nm,1.3s
NRIK Noril'sk 80.27 351 P **P 07 17 12.2 0.0**
NRIK IAmb IAmb 07 17 15.7
comp=Z,135nm,1.2s
SMY Shemya 80.71 33 P **P 07 17 15.0 +0.1**
SMY pmax pmax
comp=Z,90nm,0.8s
SMY Shemya 80.71 33 P **P 07 17 15.0 +0.1**
SMY IAmb IAmb 07 17 16.1
comp=Z,90nm,0.8s
QSPA South Pole Qui 80.81 180 P **P 07 17 15.0 -0.6**
comp=Z,41nm,1.0s,baz=316,slow=1.8,SNR=56
QSPA South Pole Qui 80.81 180 P **P 07 17 14.9 -0.6**
QSPA IAmb IAmb 07 17 35.4
comp=Z,221nm,1.4s
AKH Akhalkalaki 80.83 315⇑P **P 07 17 17.6 +1.4**
AKH Akhalkalaki 80.83 315 P **P 07 17 17.5 +1.4**
KARS Kars 80.85 314 P **P 07 17 17.8 +1.6**
KARS pmax pmax
comp=Z,643nm,0.8s
KARS Kars 80.85 314 P **P 07 17 17.8 +1.6**
ZEI Tsey 81.05 316 *e*P **P 07 17 17.2 0.0**
ZEI pmax pmax
comp=Z,100nm,0.6s
ONI Oni 81.28 316 P **P 07 17 19.9 +1.6**
ONI pmax pmax
comp=Z,49nm,0.7s
ONI Oni 81.28 316 P **P 07 17 19.9 +1.6**
TIXI Tiksi 81.38 5*ce*P **P 07 17 17.4 -0.7**
TIXI Tiksi 81.38 5 P **P 07 17 17.7 -0.4**
MATP Matopo 81.44 251 P **P 07 17 20.4 +0.6**
comp=Z,92nm,0.8s,baz=109,slow=6.2
MATP S **S 07 27 27.2 +1.1**
comp=Z,0.8nm,0.4s,baz=168,slow=9.3,SNR=1.2
MARD Mardin 81.45 310 P **P 07 17 19.9 +0.5**
MARD IAmb IAmb 07 17 20.7
comp=Z,70nm,0.8s
NCK Nalchik 81.51 317*c i*P **P 07 17 20.4 +1.0**
NCK pmax pmax
comp=Z,129nm,0.8s
MBAR Mbarara 81.96 271 P **P 07 17 24.2 +1.5**
comp=Z,52nm,0.8s,baz=89,slow=7.2,SNR=52
MBAR S **S 07 27 34.5 +2.8**
comp=Z,1.6nm,0.2s,baz=54,slow=18,SNR=1.3
MBAR Mbarara 81.96 271 P **P 07 17 24.1 +1.5**
MBAR pmax pmax
comp=Z,65nm,0.8s
MBAR Mbarara 81.96 271 P **P 07 17 24.1 +1.5**
MBAR IAmb IAmb 07 17 24.8
comp=Z,65nm,0.8s
MBAR Mbarara 81.96 271 P **P 07 17 24.5 +1.9**
NEY Neytrino 82.02 316*c i*P **P 07 17 23.8 +1.5**
NEY pmax pmax
comp=Z,42nm,0.8s
PYA1 Pyatigorsk 82.05 317*c i*P **P 07 17 22.8 +0.5**
PYA1 pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 82.07 317 P **P 07 17 23.3 +1.0**
comp=Z,116nm,0.9s,baz=108,slow=4.3,SNR=168
KBZ S **S 07 27 29.2 -2.0**
comp=Z,1.7nm,0.9s,baz=100,slow=11,SNR=15
KBZ PKKPbc **PKKPbc 07 35 53.0 -0.1**
comp=Z,2.6nm,0.7s,baz=356,slow=1.7,SNR=6.8
KBZ Khabaz 82.07 317*ce*P **P 07 17 23.2 +0.9**
KBZ pmax pmax
comp=Z,178nm,1.0s
BCA Borcka 82.17 314⇑P **P 07 17 23.7 +0.8**
BATM Batumi 82.17 314⇓P **P 07 17 23.8 +0.9**
BATM Batumi 82.17 314⇓P **P 07 17 23.8 +0.9**
SHA1 Shidzhatmaz 82.23 317*c i*P **P 07 17 24.0 +0.5**
CHVG Ch'k'valeri 82.27 315⇑P **P 07 17 25.1 +1.6**
CHVG Ch'k'valeri 82.27 315⇑P **P 07 17 25.1 +1.6**
KVAR Kislovodsk Arr 82.28 317 P **P 07 17 24.4 +0.7**
comp=Z,26nm,0.8s,baz=31,slow=5.9,SNR=13
KVAR S **S 07 27 31.1 -2.6**
comp=Z,1.7nm,0.3s,baz=146,slow=20,SNR=1.2
KIV Kislovodsk 82.29 317⇑P **P 07 17 24.6 +1.0**
KIV Kislovodsk 82.29 317 *i* P **P 07 17 24.5 +0.8**
SNR=32
KIV Kislovodsk 82.29 317 *e*P **P 07 17 24.3 +0.7**
KIV *e*S **S 07 27 34.9 +1.1**
KIV pmax pmax
comp=Z,94nm,1.1s
KIV pmax pmax
comp=Z,340nm,3.7s
KIV Kislovodsk 82.29 317 P **P 07 17 24.5 +0.8**
KIV IAmb IAmb 07 17 26.3
comp=Z,60nm,0.7s
KIV Kislovodsk 82.29 317 P **P 07 17 24.7 +1.1**
LSZ Lusaka 82.37 256 P **P 07 17 25.6 +0.9**
LSZ pmax pmax
comp=Z,63nm,0.8s
LSZ Lusaka 82.37 256 P **P 07 17 25.6 +0.9**
LSZ IAmb IAmb 07 17 26.2
comp=Z,63nm,0.8s
GOF Gofitskoye 82.44 318⇑*i*P **P 07 17 24.8 +0.5**
GOF *e*S **S 07 27 36.8 +1.7**
GOF pmax pmax
comp=Z,141nm,0.8s
KOPT Kop Dagi 82.51 312 P **P 07 17 27.0 +1.9**
KOPT IAmb IAmb 07 17 32.1
comp=Z,111nm,0.8s
BELG Belogornoye 82.54 326 P **P 07 17 24.8 +0.3**
comp=Z,275nm,0.6s,baz=118,slow=1.6,SNR=98
BELG S **S 07 27 30.2 -5.5**
comp=Z,6.5nm,0.9s,baz=49,slow=19,SNR=1.1
BELG Belogornoye 82.54 326*c i*P **P 07 17 24.5 -0.1**
BELG pmax pmax
comp=Z,49nm,0.7s
AMKA Amchitka 82.99 35 P **P 07 17 27.3 +0.4**
KTUT Trabzon 83.34 313⇑P **P 07 17 30.2 +1.2**
BOSA Boshof 83.43 242 P **P 07 17 30.5 +0.5**
comp=Z,54nm,0.8s,baz=102,slow=5.1,SNR=60
BOSA S **S 07 27 46.8 +0.7**
comp=Z,2.5nm,0.9s,baz=135,slow=17,SNR=1.9
BOSA PKKPbc **PKKPbc 07 35 49.6 +0.7**
comp=Z,3.4nm,1.0s,baz=297,slow=4.5,SNR=4.1
BOSA LR LR 07 48 08.4
comp=Z,5μm,20.7s,baz=109,slow=31
BOSA Boshof 83.43 242 P **P 07 17 30.7 +0.7**
BOSA pmax pmax
comp=Z,73nm,0.9s
BOSA Boshof 83.43 242 P **P 07 17 30.7 +0.7**
BOSA IAmb IAmb 07 17 31.9
comp=Z,73nm,0.9s
MALT Malatya 83.53 310 P **P 07 17 31.4 +1.2**
LBTB Lobatse 83.56 246 S **S 07 27 43.2 -4.4**
comp=Z,1.5nm,0.7s,baz=180,slow=7.1,SNR=1.7
LBTB Lobatse 83.56 246 P **P 07 17 31.7 +1.0**
LBTB pmax pmax
comp=Z,85nm,0.9s
LBTB Lobatse 83.56 246 P **P 07 17 31.7 +1.0**
LBTB IAmb IAmb 07 17 32.7
comp=Z,85nm,0.9s
GHAJ Ghor Haditha 83.89 303 P **P 07 17 33.4 +1.4**
EIL Elat 84.01 301 P **P 07 17 33.7 +1.1**
comp=Z,79nm,0.8s,baz=144,slow=4.9,SNR=66
EIL S S 07 27 40.4 -11
comp=Z,2.0nm,0.6s,baz=157,slow=7.3,SNR=1.7
GAZ Gaziantep 84.13 309 P **P 07 17 34.2 +1.0**
GAZ IAmb IAmb 07 17 35.3
comp=Z,139nm,0.8s
SOC Sochi 84.19 316*c i*P **P 07 17 33.4 +0.1**
SOC *e**PP **pP 07 17 49.3 -3.0**
SOC *e* 07 20 44.9
SOC *e*PPP PPP 07 22 38.2
SOC *e*S **S 07 27 49.4 -3.4**
SOC *e* 07 27 56.4
SOC *e*SSS SSS 07 36 53.4
SOC pmax pmax
comp=Z,151nm,0.7s
SOC MLR MLR
comp=Z,1μm,24.0s
RCY Rachaya 84.23 305 *e*P **P 07 17 35.8 +1.9**
ITZ Itezhi-Tezhi 84.38 255 *e*P **P 07 17 34.4 -0.6**
ITZ Itezhi-Tezhi 84.38 255 *e*P **P 07 17 34.4 -0.6**
KIRV Kirov 84.41 332 P **P 07 17 34.5 +0.6**
comp=Z,310nm,0.8s,baz=117,slow=1.2,SNR=88
KIRV Kirov 84.41 332*ce*P **P 07 17 34.4 +0.4**
RAR Rarotonga 84.45 111 LR LR 07 49 48.5
comp=Z,56nm,21.7s,baz=272,slow=32
MMAI Mount Meron Ar 84.46 305 P **P 07 17 35.5 +0.5**
comp=Z,128nm,0.9s,baz=77,slow=7.3,SNR=85
MMAI S **S 07 27 54.4 -1.6**
comp=Z,0.5nm,0.3s,baz=158,slow=27,SNR=1.0
BHL Bhannes 84.48 305 *e*P **P 07 17 36.8 +1.7**
DQRL Deir Qamar 84.50 305 *e*P **P 07 17 37.0 +1.8**
KIWB Kanaga Island 85.21 36 P **P 07 17 38.8 +0.6**
VRH Novokhopyorsk 85.45 323 *e*P **P 07 17 39.5 +0.1**
VRH *e**SP **pwP 07 18 00.4 -0.2**
VRH *e*S **S 07 28 00.8 -4.1**
VRH pmax pmax
comp=Z,270nm,0.7s
VRH pmax pmax
comp=Z,180nm,0.8s
VRH smax smax
comp=E,770nm,2.0s
VRH MLR MLR
comp=Z,2μm,27.0s
ADK Adak 85.49 36 P **P 07 17 39.4 -0.2**
ADK pmax pmax
comp=Z,85nm,0.8s
ADK Adak 85.49 36 P **P 07 17 39.4 -0.2**
ADK IAmb IAmb 07 17 40.0
comp=Z,85nm,0.8s
BNN Bunyan 85.62 310 P **P 07 17 41.7 +1.0**
BILL Biiibino 85.78 18*d i*P **P 07 17 40.6 -0.1**
BILL *i* 07 20 59.3
BILL *i* S **SKSac 07 27 57.6 -2.0**
BILL *i* SSS SSS 07 37 23.2
BILL pmax pmax
comp=Z,28nm,0.8s
BILL Biiibino 85.78 18 P **P 07 17 40.7 -0.1**
GSTR Great Sitkin T 85.93 36 P **P 07 17 42.2 +0.4**
ANN Anapa 86.13 316 *e*P **P 07 17 41.0 -1.9**
ANN *e**PP **pP 07 17 57.7 -4.3**
ANN *e* 07 21 01.7
ANN *e*S **SKSac 07 28 00.8 -1.9**
ANN *e*SS **SS 07 33 48.3 -3.8**
ANN pmax pmax
comp=Z,130nm,0.8s
CSS Mathiatis 86.60 306 P **P 07 17 46.2 +0.7**
CSS IAmb IAmb 07 17 49.4
comp=Z,106nm,0.9s

SUR	**Sutherland**	**86.72**	**238**	P	**P**	**07 17 47.8**	**+1.3**
SUR				IAmb	IAmb	07 17 48.6	
comp=Z,58nm,1.2s							
SUR	**Sutherland**	**86.72**	**238**	P	**P**	**07 17 48.2**	**+1.7**
DIKM	**Dikmen**	**86.79**	**313**	⇑P	**P**	**07 17 47.4**	**+1.2**
VORD	**Divnogorie**	**86.82**	**323**	*e*P	**P**	**07 17 45.9**	**-0.2**
VORD				pmax	pmax		
comp=Z,140nm,0.7s							
SNOP	**Sinop**	**86.92**	**313**	P	**P**	**07 17 47.7**	**+0.9**
LEF	**Lefka**	**86.99**	**306**	⇑P	**P**	**07 17 48.2**	**+0.9**
ATKA	**Atka Island**	**87.05**	**36**	P	**P**	**07 17 46.6**	**-0.6**
VORR	**Voronezh**	**87.09**	**323**	*e*P	**P**	**07 17 47.0**	**-0.5**
VORR				pmax	pmax		
comp=Z,500nm,1.2s							
PRGR	**Permogore**	**87.45**	**334**	*e*P	**P**	**07 17 48.1**	**-0.9**
PRGR				*e*S	**SKSac**	**07 28 12.0**	**+1.9**
PRGR				pmax	pmax		
comp=Z,144nm,0.6s							
BR131	**Keskin Array S**	**87.50**	**311**	P	**P**	**07 17 49.9**	**0.0**
BR131				pmax	pmax		
comp=Z,163nm,0.9s							
BR131	**Keskin Array S**	**87.50**	**311**	P	**P**	**07 17 49.9**	**0.0**
BR131	**Keskin Array S**	**87.50**	**311**	P	**P**	**07 17 50.5**	**+0.6**
SNR=83							
BRTR	**Keskin Array B**	**87.50**	**311**	P	**P**	**07 17 50.1**	**+0.2**
comp=Z,99nm,0.8s,baz=126,slow=6.3,SNR=269							
BRTR				S	**S**	**07 28 19.8**	**-5.8**
comp=Z,0.5nm,0.4s,baz=202,slow=5.6,SNR=1.8							
BRTR	**Keskin Array B**	**87.50**	**311**	P	**P**	**07 17 50.4**	**+0.4**
LPSR	**Galich'ya Gora**	**87.55**	**324**	*e*P	**P**	**07 17 50.2**	**+0.6**
LPSR				*e**SP	**pwP**	**07 18 11.4**	**+0.6**
LPSR				*e*S	**S**	**07 28 21.7**	**-3.5**
LPSR				pmax	pmax		
comp=Z,470nm,0.9s							
LPSR				pmax	pmax		
comp=Z,390nm,0.7s							
LPSR				smax	smax		
comp=N,1μm,3.2s							
LPSR				MLR	MLR		
comp=Z,2μm,27.0s							
ILGA	**Ilgaz**	**87.76**	**312**	P	**P**	**07 17 52.0**	**+0.8**
ILGA				IAmb	IAmb	07 17 52.6	
comp=Z,45nm,0.8s							
BZK	**Bozkurt**	**87.77**	**313**	⇓P	**P**	**07 17 52.0**	**+1.1**
BZK	**Bozkurt**	**87.77**	**313**	P	**P**	**07 17 52.1**	**+1.1**
ANTO	**Ankara**	**88.16**	**311**	P	**P**	**07 17 53.5**	**+0.5**
ANTO				pmax	pmax		
comp=Z,59nm,0.9s							
ANTO	**Ankara**	**88.16**	**311**	P	**P**	**07 17 53.5**	**+0.5**
ANTO				IAmb	IAmb	07 17 54.3	
comp=Z,59nm,0.9s							
BR231	**Keskin MP Arra**	**88.17**	**311**	P	**P**	**07 17 53.6**	**+0.5**
BR231				IAmb	IAmb	07 17 54.4	
comp=Z,60nm,0.9s							
SIM	**Simferopol'**	**88.44**	**316***c*	*i*P	**P**	**07 17 53.4**	**-0.7**
SIM				*e*S	**S**	**07 28 35.0**	**+0.9**
SIM				pmax	pmax		
comp=Z,42nm,0.5s							
SNAA	**Sanae**	**89.09**	**197**	P	**P**	**07 17 57.3**	**+0.5**
SNAA	**Sanae**	**89.09**	**197**	PKKPdf	PKKPdf	07 35 33.8	+2.7
SNAA	**Sanae**	**89.09**	**197**	PKKPbc	PKKPbc	07 35 32.8	-4.2
comp=Z,2.5nm,0.6s,baz=276,slow=2.2,SNR=5.9							
SNAA	**Sanae**	**89.09**	**197***ce*	P	**P**	**07 17 57.2**	**+0.5**
SNAA				pmax	pmax		
comp=Z,119nm,1.3s							
SNAA	**Sanae**	**89.09**	**197**	P	**P**	**07 17 57.2**	**+0.5**
SNAA				IAmb	IAmb	07 17 58.5	
comp=Z,78nm,0.9s							
MOS	**Moscow**	**89.25**	**327**	*e*P	**P**	**07 17 56.9**	**-0.7**
MOS				*e*		07 18 06.3	
MOS				*e*		07 18 14.8	
MOS				*e*		07 21 25.8	
MOS				*e*S	**SKSac**	**07 28 22.8**	**+1.7**
MOS				pmax	pmax		
comp=Z,228nm,0.9s							
ISP	**Isparta**	**89.44**	**308**	P	**P**	**07 17 58.6**	**-0.5**
ISP				pmax	pmax		
comp=Z,47nm,1.1s							
ISP	**Isparta**	**89.44**	**308**	P	**P**	**07 17 58.6**	**-0.5**
ISP				IAmb	IAmb	07 18 20.9	
comp=Z,47nm,1.1s							
MDUB	**Mudurnu**	**89.49**	**311**	P	**P**	**07 17 59.6**	**+0.4**
OBN	**Obninsk**	**89.64**	**326**	P	**P**	**07 17 59.1**	**-0.3**
comp=Z,47nm,0.9s,baz=46,slow=1.8,SNR=46							
OBN				S	**S**	**07 28 42.1**	**-2.7**
comp=Z,5.2nm,0.4s,baz=72,slow=13,SNR=2.1							
OBN	**Obninsk**	**89.64**	**326**	⇑P	**P**	**07 17 59.8**	**+0.4**
OBN	**Obninsk**	**89.64**	**326***c*	*i*P	**P**	**07 17 59.7**	**+0.3**
OBN				*i*		07 21 27.0	
OBN				*i* S	**SKSac**	**07 28 29.2**	**+5.8**
OBN				pmax	pmax		
comp=Z,233nm,1.0s							
OBN				MLR	MLR		
comp=Z,2μm,26.0s							
OBN	**Obninsk**	**89.64**	**326**	P	**P**	**07 18 00.1**	**+0.7**
ELL	**Elmali**	**89.70**	**307**	P	**P**	**07 18 00.6**	**+0.2**
ELL				pmax	pmax		
comp=Z,156nm,0.8s							
ELL	**Elmali**	**89.70**	**307**	P	**P**	**07 18 00.6**	**+0.2**
AKAS	**Kas**	**89.84**	**307**	P	**P**	**07 18 00.3**	**-0.7**
KLMR	**Klimovskoe**	**89.91**	**332**	*e*P	**P**	**07 17 58.4**	**-2.1**
KLMR				*e*S	**SKSac**	**07 28 23.1**	**-1.7**
KLMR				*e*SS	**SS**	**07 34 43.0**	**-3.3**
KLMR				pmax	pmax		
comp=Z,131nm,0.9s							
KLMR				MLR	MLR		
comp=Z,1μm,22.0s							
KLMR	**Klimovskoe**	**89.91**	**332**	*e*P	**P**	**07 17 58.4**	**-2.1**
KLMR				AMP		07 18 01.3	
comp=Z,131nm,0.9s							
KLMR				*e*PP	PP	07 21 22.8	-11
KLMR				*e*S	**SKSac**	**07 28 23.2**	**-1.6**
KLMR				*e*S	**SKSac**	**07 28 23.2**	**-1.6**
KLMR				*e*SS	**SS**	**07 34 43.1**	**-3.3**
KLMR				*e*SS	**SS**	**07 34 43.1**	**-3.3**
KLMR				LQ	LQ	07 51 42.2	
KLMR				LQ	LQ	07 51 42.2	
KLMR				LR	LR	07 58 59.6	
KLMR				AMP		08 01 40.6	
comp=Z,1μm,21.9s							
NIKH	**Nikolski High**	**90.39**	**36**	P	**P**	**07 18 02.6**	**-0.4**
baz=255							
VNA2	**Neumayer--Watz**	**90.74**	**197**	P	**P**	**07 18 05.1**	**+0.7**
baz=110,slow=3.8							
VNA2	**Neumayer--Watz**	**90.74**	**197**	PKKPdf	PKKPdf	07 35 27.5	-0.7
VNA2	**Neumayer--Watz**	**90.74**	**197**	pP	pP	07 18 20.0	-3.1
VNA2	**Neumayer--Watz**	**90.74**	**197**	sP	sP	07 18 29.0	-1.5
KULA	**Kula-Manisa**	**91.02**	**309**	P	**P**	**07 18 07.0**	**+0.6**
YER	**Yerkesik**	**91.06**	**307**	P	**P**	**07 18 06.8**	**+0.2**
VNA1	**Neumayer--Stat**	**91.13**	**197**	P	**P**	**07 18 06.8**	**+0.7**
VNA1	**Neumayer--Stat**	**91.13**	**197**	PKKPdf	PKKPdf	07 35 30.1	+2.7
VNA1	**Neumayer--Stat**	**91.13**	**197**	pP	pP	07 18 22.1	-2.7
VNA1	**Neumayer--Stat**	**91.13**	**197**	sP	sP	07 18 30.9	-1.4
VNA3	**Neumayer Olymp**	**91.20**	**196**	P	**P**	**07 18 06.9**	**+0.4**
VNA3	**Neumayer Olymp**	**91.20**	**196**	PKKPdf	PKKPdf	07 35 27.3	0.0
ISK	**Istanbul-Kandi**	**91.20**	**311**	P	**P**	**07 18 06.9**	**-0.1**
DAT	**Datca**	**91.54**	**307**	P	**P**	**07 18 08.6**	**-0.3**
KARP	**Karpathos**	**91.66**	**306**	P	**P**	**07 18 10.1**	**+0.7**
KARP	**Karpathos**	**91.66**	**306**	P	**P**	**07 18 10.2**	**+0.8**
PURM	**Purcari**	**91.69**	**317**	⇓P	**P**	**07 18 09.6**	**+0.5**
BODT	**Bodrum**	**91.81**	**307**	P	**P**	**07 18 09.8**	**-0.2**
BALB	**Balikesir**	**91.82**	**310**	P	**P**	**07 18 10.4**	**+0.5**
BALB				IAmb	IAmb	07 18 10.8	
comp=Z,30nm,0.8s							
GAMB	**Gambell**	**91.89**	**26**	P	**P**	**07 18 11.2**	**+1.5**
baz=253							
GAMB	**Gambell**	**91.89**	**26**	P	**P**	**07 18 10.8**	**+1.1**
GAMB				IAmb	IAmb	07 18 11.6	
comp=Z,49nm,1.0s							
UNV	**Unalaska Valle**	**91.96**	**36**	P	**P**	**07 18 10.1**	**-0.2**
baz=257							
MANR	**Mangalia**	**92.06**	**314**	⇑P	**P**	**07 18 11.5**	**+0.6**
TLCR		**92.16**	**315**	⇑P	**P**	**07 18 11.2**	**-0.2**
TLCR		**92.16**	**315**	⇑P	**P**	**07 18 11.2**	**-0.2**
MFTR	**Murfatlar**	**92.25**	**314**	⇓P	**P**	**07 18 12.5**	**+0.7**
SMG	**Samos**	**92.29**	**308**	P	**P**	**07 18 12.5**	**+0.3**
TIRR	**Tirgusor**	**92.30**	**315**	⇑P	**P**	**07 18 12.2**	**+0.1**
TIRR	**Tirgusor**	**92.30**	**315**	P	**P**	**07 18 12.0**	**0.0**
TIRR				pmax	pmax		
comp=Z,61nm,0.8s							
TIRR	**Tirgusor**	**92.30**	**315**	P	**P**	**07 18 12.0**	**0.0**
TIRR				IAmb	IAmb	07 18 12.7	
comp=Z,61nm,0.8s							
ZKR	**Zakros**	**92.35**	**305**	P	**P**	**07 18 12.3**	**-0.2**
TPGR	**Topolog**	**92.37**	**315**	⇓P	**P**	**07 18 12.4**	**-0.1**
KIS	**Kishinev**	**92.49**	**317**	*e*P	**P**	**07 18 12.0**	**-0.9**
comp=Z,160nm,5.0s							
KIS				*e*S	**S**	**07 29 12.0**	**+0.9**
KIS				LQM		07 56 19.0	
comp=Z,400nm,24.0s							
KIS				*e*LR	LR	07 57 36.0	
comp=Z,500nm,23.0s							
KIS	**Kishinev**	**92.49**	**317**	*e*P	**P**	**07 18 12.0**	**-0.9**
KIS				*e*S	**S**	**07 29 12.0**	**+0.9**
KIS				pmax	pmax		
comp=Z,160nm,5.0s							
CVDA	**Cernavoda**	**92.55**	**314**	⇑P	**P**	**07 18 13.6**	**+0.4**
TLBR	**Topalu**	**92.58**	**315**	⇑P	**P**	**07 18 13.4**	**+0.1**
CFR	**Carcaliu**	**92.63**	**315**	⇑P	**P**	**07 18 13.5**	**0.0**
CFR	**Carcaliu**	**92.63**	**315**	⇑P	**P**	**07 18 13.5**	**0.0**
ICOR	**Ion Corvin**	**92.67**	**314**	⇓P	**P**	**07 18 14.6**	**+0.8**
HARR	**Harsova**	**92.68**	**315**	⇑P	**P**	**07 18 14.1**	**+0.3**
HARR	**Harsova**	**92.68**	**315**	⇑P	**P**	**07 18 14.1**	**+0.3**
VLDR	**Vladesti**	**92.78**	**316**	⇑P	**P**	**07 18 14.7**	**+0.5**
SCTR	**Scanteiesti**	**92.81**	**316**	⇓P	**P**	**07 18 13.9**	**-0.5**
NPS	**Neapolis**	**92.86**	**305**	P	**P**	**07 18 15.7**	**+0.8**
AKASG	**Malin Array Be**	**92.92**	**321**	P	**P**	**07 18 13.9**	**-0.8**
comp=Z,91nm,1.1s,baz=84,slow=4.5,SNR=28							
AKASG				PP	**PP**	**07 21 54.8**	**-3.5**
comp=Z,6.5nm,0.8s,baz=88,slow=6.2,SNR=4.5							
AKASG				S	**SKSac**	**07 28 42.5**	**+0.2**
comp=Z,0.2nm,0.3s,baz=105,slow=11,SNR=1.0							
AKASG				PKKPbc	**PKKPdf**	**07 35 24.6**	**-0.4**
comp=Z,0.2nm,0.3s,baz=277,slow=3.7,SNR=5.5							
AKASG	**Malin Array Be**	**92.92**	**321**	P	**P**	**07 18 14.1**	**-0.7**
AKASG				pmax	pmax		
comp=Z,40nm,1.0s							
AKASG	**Malin Array Be**	**92.92**	**321**	P	**P**	**07 18 14.1**	**-0.7**
AKASG				IAmb	IAmb	07 18 15.3	
comp=Z,40nm,0.9s							
AKBB	**Malin Array Si**	**92.92**	**321**	P	**P**	**07 18 14.2**	**-0.6**
AKBB				pmax	pmax		
comp=Z,39nm,0.9s							
AKBB	**Malin Array Si**	**92.92**	**321**	P	**P**	**07 18 14.2**	**-0.6**
AKBB				IAmb	IAmb	07 18 15.2	
comp=Z,39nm,0.9s							
VARL	**Varlezi**	**92.95**	**316**	⇑P	**P**	**07 18 14.4**	**-0.7**
LAST	**Lasithi**	**92.95**	**305**	P	**P**	**07 18 15.6**	**+0.2**
PRK	**Paraskevi**	**92.98**	**309**	P	**P**	**07 18 16.3**	**+1.0**
SORM	**Soroca**	**93.01**	**318**	⇑P	**P**	**07 18 13.7**	**-1.5**
SORM	**Soroca**	**93.01**	**318**	⇑P	**P**	**07 18 13.7**	**-1.5**
CHOS	**Chios island**	**93.01**	**308**	P	**P**	**07 18 15.2**	**-0.4**
EDRB	**Edirne**	**93.05**	**312**	P	**P**	**07 18 15.5**	**-0.1**
SANT	**Santorini**	**93.16**	**306**	⇑P	**P**	**07 18 15.4**	**-0.9**
APE	**Apeiranthos**	**93.21**	**307**	⇑P	**P**	**07 18 16.8**	**+0.3**
APE	**Apeiranthos**	**93.21**	**307**	P	**P**	**07 18 16.6**	**+0.1**
APE	**Apeiranthos**	**93.21**	**307**	⇑P	**P**	**07 18 16.8**	**+0.3**
SIGR	**SIGRI**	**93.30**	**309**	P	**P**	**07 18 16.6**	**-0.2**
ENEZ	**Enez**	**93.31**	**311**	P	**P**	**07 18 16.7**	**-0.1**
ALN	**Alexandroupoli**	**93.42**	**311**	P	**P**	**07 18 16.9**	**-0.4**
ALN	**Alexandroupoli**	**93.42**	**311**	P	**P**	**07 18 17.3**	**0.0**
ALN				pmax	pmax		
comp=Z,13nm,0.8s							
ALN	**Alexandroupoli**	**93.42**	**311**	P	**P**	**07 18 17.3**	**0.0**
GADA	**Gvkgeada**	**93.42**	**310**	P	**P**	**07 18 17.0**	**-0.3**
IDI	**Anoyia**	**93.45**	**305**	P	**P**	**07 18 18.1**	**+0.3**
comp=Z,8.4nm,0.5s,baz=63,slow=8.6,SNR=24							
IDI				S	S	07 29 07.4	-13
comp=Z,2.3nm,0.9s,baz=98,slow=13,SNR=1.8							
IDI				PKKPbc	**PKKPbc**	**07 35 25.2**	**+0.3**
comp=Z,2.1nm,0.8s,baz=232,slow=0.8,SNR=3.8							
IDI	**Anoyia**	**93.45**	**305**	⇑P	**P**	**07 18 18.5**	**+0.8**
IDI	**Anoyia**	**93.45**	**305**	P	**P**	**07 18 17.8**	**+0.1**
IDI	**Anoyia**	**93.45**	**305**	P	**P**	**07 18 18.0**	**+0.3**
GRER		**93.47**	**315**	⇑P	**P**	**07 18 18.9**	**+1.5**
ODBI	**Odobesti**	**93.48**	**316**	⇑P	**P**	**07 18 18.7**	**+1.3**
RAZG	**Razgrad**	**93.50**	**313**	⇑P	**P**	**07 18 17.3**	**-0.3**
TBI	**Tubuai**	**93.52**	**114**	*e*SKSac	**SKSac**	**07 28 45.4**	**-1.5**
comp=Z,652nm,23.9s							
TBI				*e*S	**S**	**07 29 17.0**	**-4.3**
comp=Z,685nm,32.0s							
TBI				*e*SP	SP	07 30 31.3	-3.3
comp=Z,789nm,37.0s							
TBI				*e*SS	**SS**	**07 35 40.0**	**+0.2**
comp=Z,1μm,31.8s							
TBI				*e*LQ	LQ	07 44 22.8	
comp=Z,3μm,33.0s							
TBI				*e*LR	LR	07 48 20.5	
comp=Z,3μm,24.0s,baz=249							
BISRR	**Bisoca**	**93.68**	**315**	⇑P	**P**	**07 18 19.9**	**+1.3**
VRI	**Vrincioaia**	**93.72**	**316**	⇑P	**P**	**07 18 19.1**	**+0.5**
VRI	**Vrincioaia**	**93.72**	**316**	⇑P	**P**	**07 18 19.1**	**+0.5**
SMTH	**Samothraki Isl**	**93.74**	**310**	P	**P**	**07 18 18.2**	**-0.6**
PLOR	**Plostina**	**93.77**	**316**	⇑P	**P**	**07 18 19.1**	**+0.2**
PLOR	**Plostina**	**93.77**	**316**	⇑P	**P**	**07 18 19.1**	**+0.2**
RDO	**Rodhopi**	**93.84**	**311**	P	**P**	**07 18 18.7**	**-0.5**
TESR	**Tescani**	**93.88**	**316**	⇑P	**P**	**07 18 19.0**	**-0.3**
LIA	**Limnos Island**	**93.92**	**310**	P	**P**	**07 18 19.2**	**-0.4**
FALS	**False Pass**	**93.94**	**35**	P	**P**	**07 18 19.3**	**0.0**
baz=260							
FALS	**False Pass**	**93.94**	**35**	P	**P**	**07 18 19.4**	**+0.1**
NEHR	**Nehoiu**	**93.95**	**315**	⇑P	**P**	**07 18 20.3**	**+0.6**
LVZ	**Lovozero**	**93.98**	**338***ce*	P	**P**	**07 18 18.3**	**-1.0**
LVZ				pmax	pmax		
comp=Z,12nm,1.0s							
JOF	**Joensuu**	**94.20**	**333**	P	**P**	**07 18 20.7**	**+0.3**
JOF				pmax	pmax		
comp=Z,103nm,1.1s							
MLR	**Muntele Rosu**	**94.20**	**315**	P	**P**	**07 18 20.9**	**-0.1**
comp=Z,14nm,0.7s,baz=59,slow=1.2,SNR=31							
MLR				PP	**PP**	**07 22 07.8**	**-0.9**
comp=Z,33nm,0.9s,baz=103,slow=3.7,SNR=7.7							
MLR				S	**SKSac**	**07 28 49.3**	**-0.6**
comp=Z,0.3nm,0.3s,baz=108,slow=13,SNR=1.0							
MLR	**Muntele Rosu**	**94.20**	**315**	⇑P	**P**	**07 18 21.1**	**+0.1**
MLR	**Muntele Rosu**	**94.20**	**315**	⇑P	**P**	**07 18 21.1**	**+0.1**
MLR	**Muntele Rosu**	**94.20**	**315**	P	**P**	**07 18 20.9**	**-0.1**
MLR				IAmb	IAmb	07 22 08.9	
comp=Z,42nm,1.0s							
PRAR	**RASCA**	**94.29**	**317**	⇑P	**P**	**07 18 19.4**	**-1.8**
THAS	**Thassos island**	**94.37**	**310**	P	**P**	**07 18 20.6**	**-1.1**
MNK	**Minsk**	**94.40**	**324**	*i* P	**P**	**07 18 22.2**	**+0.7**
MNK				*i* *PP	**pP**	**07 18 43.9**	**+3.2**
MNK				*i*		07 22 11.9	
MNK				*i* PPP	PPP	07 24 11.7	
MNK				*i* S	**SKSac**	**07 28 49.6**	**-0.6**
MNK				*i* *SS	**ScS**	**07 29 28.8**	**+0.1**
MNK				*i* PS	**PS**	**07 30 54.0**	**+1.7**
MNK				*i* SS	**SS**	**07 35 52.3**	**+1.2**
MNK				pmax	pmax		
comp=N,20nm,1.0s							
MNK				pmax	pmax		
comp=Z,71nm,1.1s							
MNK				pmax	pmax		
comp=E,4.0nm,0.7s							
MNK				MLR	MLR		
comp=Z,825nm,23.0s							
MNK				MLR	MLR		
comp=E,49nm,20.0s							
MNK				MLR	MLR		
comp=N,978nm,18.0s							
MNK	**Minsk**	**94.40**	**324**	*i* P	**P**	**07 18 22.2**	**+0.8**
comp=E,4.0nm,0.7s							
MNK				*i* P	**P**	**07 18 22.2**	**+0.8**
comp=N,20nm,1.0s							
MNK				*i* P	**P**	**07 18 22.2**	**+0.8**
comp=Z,71nm,1.1s,baz=100							
MNK				*i* pP	**pP**	**07 18 44.0**	**+3.2**
MNK				*i* sP	**sP**	**07 18 52.8**	**+4.5**
MNK				*i* PP	**PP**	**07 22 11.9**	**+2.2**
MNK				*i* PPP	PPP	07 24 11.8	
MNK				*i* SKS		07 28 25.3	
MNK				*i* S	**SKSac**	**07 28 49.6**	**-0.6**
MNK				*i* sS	**ScS**	**07 29 28.9**	**+0.2**
MNK				*i* PS	**PS**	**07 30 54.0**	**+1.7**
MNK				*i* SS	**SS**	**07 35 52.4**	**+1.2**
MNK				*i* SSS	SSS	07 39 13.1	
MNK				*i* LQ	LQ	07 55 10.4	
MNK				*i* LR	LR	07 58 28.1	
MNK				*i* LRM	MLR	08 02 07.9	
comp=Z,825nm,23.0s							
MNK				*i* LRM	MLR	08 02 20.7	
comp=E,49nm,20.4s							
MNK				*i* LRM	MLR	08 02 25.8	
comp=N,978nm,17.9s							
PPT2	**Papeete2**	**94.54**	**109**	*e*SKSac	**SKSac**	**07 28 50.5**	**-2.3**
comp=N,558nm,24.9s							
PPT2				*e*S	**S**	**07 29 25.8**	**-4.7**
comp=N,1μm,26.0s							
PPT2				*e*SP	**SP**	**07 30 43.8**	**-2.3**
comp=N,2μm,25.0s							
PPT2				*e*SS	**SS**	**07 35 54.6**	**-0.1**
comp=N,2μm,28.2s							
PPT2				*e*LQ	LQ	07 44 53.2	
comp=N,4μm,33.0s							
PPT2				*e*LR	LR	07 48 58.5	
comp=N,4μm,22.8s,baz=253							
DOPR	**Dopca**	**94.66**	**316**	⇑P	**P**	**07 18 23.1**	**+0.2**
HUMR	**Humele**	**94.74**	**314**	⇑P	**P**	**07 18 22.4**	**-0.8**
ANM	**Nome**	**94.78**	**25**	P	**P**	**07 18 23.8**	**+0.8**
ANM				pmax	pmax		
comp=Z,17nm,0.8s							
ANM	**Nome**	**94.78**	**25**	P	**P**	**07 18 24.1**	**+1.1**
baz=259,SNR=5.8							
ANM	**Nome**	**94.78**	**25**	P	**P**	**07 18 23.8**	**+0.8**
ANKY	**Antikythira Is**	**94.81**	**305**	P	**P**	**07 18 24.3**	**+0.5**
VOIR		**94.82**	**315**	⇑P	**P**	**07 18 22.9**	**-0.9**
VOIR		**94.82**	**315**	⇑P	**P**	**07 18 22.9**	**-0.9**
OUR	**Ouranopolis**	**94.89**	**310**	P	**P**	**07 18 23.6**	**-0.5**
BURAR	**Bucovina Array**	**95.01**	**317**	⇑P	**P**	**07 18 24.9**	**+0.4**
BURAR				⇑P	**P**	**07 18 25.0**	**+0.4**
BURAR	**Bucovina Array**	**95.01**	**317**	⇑P	**P**	**07 18 25.0**	**+0.4**
BURAR	**Bucovina Array**	**95.01**	**317**	P	**P**	**07 18 24.9**	**+0.4**
BUR08	**Bucovina Ar. S**	**95.03**	**317**	P	**P**	**07 18 25.1**	**+0.4**
KTHA	**Kythira Island**	**95.06**	**306**	P	**P**	**07 18 24.6**	**-0.4**
PAIG	**Paliouri**	**95.06**	**309**	P	**P**	**07 18 23.7**	**-1.2**
IDID	**Didziasalis**	**95.18**	**325**	*e*P	**P**	**07 18 25.9**	**+0.9**
SRS	**Serrai**	**95.29**	**311**	P	**P**	**07 18 24.8**	**-1.1**
PLG	**Polygyros**	**95.30**	**310**	P	**P**	**07 18 25.0**	**-1.0**
LKR	**Lokris**	**95.42**	**308**	P	**P**	**07 18 25.0**	**-1.6**
IIGN	**Ignalina**	**95.48**	**325**	*e*P	**P**	**07 18 27.4**	**+1.0**
ARCR	**ARCALIA**	**95.52**	**317**	⇑P	**P**	**07 18 27.5**	**+0.7**
ISAL	**Salakas**	**95.56**	**325**	*e*P	**P**	**07 18 27.4**	**+0.6**
HORT	**Hortiatis**	**95.59**	**310**	P	**P**	**07 18 26.0**	**-1.4**
VSU	**Vasula**	**95.64**	**328**	*e*P	**P**	**07 18 28.0**	**+0.9**
VSU	**Vasula**	**95.64**	**328***c*	*i*P	**P**	**07 18 27.3**	**+0.3**
VSU				pmax	pmax		
comp=Z,192nm,1.0s							
SDPT	**Sand Point**	**95.68**	**35**	P	**P**	**07 18 27.3**	**0.0**
baz=262							
LOT	**Lotru**	**95.71**	**315**	⇓P	**P**	**07 18 28.8**	**+0.9**
VTS	**Vitosha**	**95.74**	**312**	⇑P	**P**	**07 18 27.4**	**-0.8**
VTS	**Vitosha**	**95.74**	**312**	P	**P**	**07 18 27.5**	**-0.6**
VTS				pmax	pmax		
comp=Z,10.0nm,0.7s							
VTS	**Vitosha**	**95.74**	**312**	P	**P**	**07 18 27.5**	**-0.6**
VLX	**Vlachokerasia**	**95.75**	**307**	P	**P**	**07 18 27.4**	**-0.8**
KNT	**Kendrikon**	**95.81**	**311**	P	**P**	**07 18 27.1**	**-1.2**
AGG	**Agios Georgios**	**95.98**	**308**	P	**P**	**07 18 27.9**	**-1.3**
AGG	**Agios Georgios**	**95.98**	**308**	P	**P**	**07 18 27.9**	**-1.3**
AGG				pmax	pmax		
comp=Z,8.0nm,0.7s							
AGG	**Agios Georgios**	**95.98**	**308**	P	**P**	**07 18 27.9**	**-1.3**
CJR	**Cluj-Napoca**	**95.99**	**316**	⇓P	**P**	**07 18 29.5**	**+0.5**
CJR	**Cluj-Napoca**	**95.99**	**316**	⇓P	**P**	**07 18 29.5**	**+0.5**
LIT	**Litokhoron**	**95.99**	**310**	P	**P**	**07 18 28.1**	**-1.1**
KLV	**Kalavryta, Ach**	**96.01**	**307**	P	**P**	**07 18 27.9**	**-1.4**
LVV	**L'vov**	**96.08**	**319**	*e*P	**P**	**07 18 29.0**	**-0.3**
LVV				*e*		07 22 20.7	
LVV				*e*		07 29 01.5	
LVV				*e*S	**S**	**07 29 50.9**	**+8.5**
LVV				*e*PS	PS	07 31 09.0	-2.0
LVV				MLR	MLR		
comp=N,1μm,24.0s							
LVV				MLR	MLR		
comp=E,600nm,24.0s							
LVV				MLR	MLR		
comp=Z,1μm,24.0s							
VAY	**Valandovo**	**96.08**	**311**	*i* P	**P**	**07 18 28.3**	**-1.1**
ITM	**Ithomi**	**96.08**	**307**	P	**P**	**07 18 29.3**	**-0.3**
TRIZ	**Trizonia**	**96.11**	**308**	P	**P**	**07 18 28.8**	**-0.9**
GRG	**Griva**	**96.16**	**310**	P	**P**	**07 18 28.8**	**-1.1**
BMR	**Baia Mare**	**96.17**	**317**	⇑P	**P**	**07 18 30.7**	**+0.9**
BMR	**Baia Mare**	**96.17**	**317**	⇑P	**P**	**07 18 30.7**	**+0.9**
ANX	**Ano Chora**	**96.25**	**308**	P	**P**	**07 18 29.8**	**-0.7**
THL	**Klokotos Trika**	**96.29**	**309**	P	**P**	**07 18 28.0**	**-2.5**
RDOG	**Red Dog Mine**	**96.36**	**22**	P	**P**	**07 18 32.9**	**+2.8**
baz=261							
RDOG	**Red Dog Mine**	**96.36**	**22**	P	**P**	**07 18 32.3**	**+2.1**
RDOG				IAmb	IAmb	07 18 33

RAF Rauma 98.41 331 *e*P **P 07 18 36.3 -3.2**
PSZ Piszkesteto 98.61 317 ⇑P **P 07 18 38.3 -2.6**
PSZ Piszkesteto 98.61 317 *e*P **P 07 18 39.3 -1.6**
PSZ Piszkesteto 98.61 317 ⇑P **P 07 18 38.3 -2.6**
N18K Kilae Creek 98.63 30 P Pdif 07 18 40.9 +0.3
baz=267
PDG Podgorica 98.65 312 ⇑P **P 07 18 39.8 -1.2**
PDG Podgorica 98.65 312 P **P 07 18 40.5 -0.5**
PDG IAmb IAmb 07 18 41.7
comp=Z,34nm,1.3s
SVW2 Sparrevohn 98.81 29 P Pdif 07 18 42.0 +0.7
OJC Ojcow 98.83 320 *e*P **P 07 18 41.7 -0.1**
OJC Ojcow 98.83 320 P **P 07 18 41.6 -0.1**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 98.83 320 P **P 07 18 41.6 -0.1**
KLNR Kaliningrad 98.85 324 *e*P Pdif 07 18 42.3 +0.7
KLNR pmax pmax
comp=Z,78nm,1.0s
O18K Koktuh Hills 98.93 31 P Pdif 07 18 42.1 +0.2
baz=267
L19K White Mountain 99.20 28 P **Pdif 07 18 44.0 +0.9**
baz=268,SNR=16
SII Sitkinak Islan 99.32 34 P **Pdif 07 18 44.3 +0.6**
baz=268
N19K Bonanza Creek 99.33 30 P **Pdif 07 18 44.4 +0.6**
baz=268
JETT Jettan, Norway 99.34 339 *e*Pdif **Pdif 07 18 43.7 +0.2**
MORH Mrgy, Hungar 99.35 315 ⇑P **Pdif 07 18 43.8 -0.2**
MORH Mrgy, Hungar 99.35 315 *e*P **Pdif 07 18 42.9 -1.2**
M19K Big River Lodg 99.41 29 P **Pdif 07 18 45.1 +1.1**
baz=268
J20K Nowinta River 99.58 26 P **Pdif 07 18 45.9 +1.2**
baz=269,SNR=14
K20K Telida 99.60 27 P **Pdif 07 18 45.9 +1.1**
baz=269,SNR=23
KOVH Kovagotottos 99.72 315 *e*P **Pdif 07 18 44.7 -1.1**
OHAK Old Harbor 99.83 33 P **Pdif 07 18 45.9 0.0**
baz=268
TRO Tromso 99.86 339 *e*Pdif **Pdif 07 18 46.2 +0.5**
OKC Ostrava-Krasne 99.87 319 *e*P **Pdif 07 18 44.0 -2.3**
OKC MLR MLR
comp=Z,1μm,25.8s
OKC Ostrava-Krasne 99.87 319 *e*PDIFF **Pdif 07 18 44.0 -2.3**
OKC *e*PP PP 07 22 41.2 -11
OKC AMS AMS 08 06 40.0
comp=Z,1μm,25.8s
M20K Styx River 100.01 29 P **Pdif 07 18 47.5 +0.7**
baz=269
JAVC Velka Javorina 100.14 318 *e*PDIFF **Pdif 07 18 48.0 +0.3**
JAVC *e*PP **PP 07 22 51.3 -2.8**
KDAK Kodiak Island 100.22 33 P **Pdif 07 18 48.0 +0.3**
KDAK Kodiak Island 100.22 33 P **Pdif 07 18 47.9 +0.2**
baz=269
KDAK Kodiak Island 100.22 33 Pdif **Pdif 07 18 48.0 +0.3**
SPA0 Spitsbergen Ar 100.23 348 *e*Pdif **Pdif 07 18 47.2 -0.2**
SPITS Spitsbergen Ar 100.23 348 P **Pdif 07 18 47.0 -0.3**
comp=Z,36nm,0.7s,baz=94,slow=8.4,SNR=80
SPITS PKKPbc **PKKPbc 07 35 05.2 -2.6**
comp=Z,0.7nm,0.4s,baz=351,slow=2.6,SNR=6.6
MORC Moravsky Berou 100.26 319 ⇑P **Pdif 07 18 48.3 +0.1**
MORC Moravsky Berou 100.26 319 ⇑P **Pdif 07 18 48.3 +0.1**
MORC Moravsky Berou 100.26 319 *e*PDIFF **Pdif 07 18 48.3 +0.1**
MORC *e*PP **PP 07 22 51.6 -3.4**
CHUM Lake Minchumin 100.39 27 P **Pdif 07 18 49.5 +1.2**
baz=270
MODS Modra-Piesok 100.39 318 *e*P **Pdif 07 18 49.6 +0.9**
MODS Modra-Piesok 100.39 318 *e*PDIFF **Pdif 07 18 49.6 +0.9**
SPCR Spurr Chakacha 100.44 29 P **Pdif 07 18 48.6 -0.1**
baz=270
PPLA Purkeypile 100.45 28 P **Pdif 07 18 49.5 +0.7**
baz=270
ZST Bratislava 100.50 317 *e*P **Pdif 07 18 50.1 +1.0**
ZST Bratislava 100.50 317 *e*PDIFF **Pdif 07 18 50.1 +1.0**
HSPB Hornsund (broa 100.50 347 *e*Pdif **Pdif 07 18 48.4 -0.2**
I21K Tanana 100.51 25 P **Pdif 07 18 49.9 +1.1**
baz=271
SKT Skwentna 100.76 29 P **Pdif 07 18 49.2 -0.8**
baz=271
KRLC Kraliky 100.76 319 *e*P **Pdif 07 18 50.5 +0.1**
KRLC *e* 07 22 55.7
KRLC MLR MLR
comp=Z,1μm,24.5s
KRLC Kraliky 100.76 319 *e*PDIFF **Pdif 07 18 50.5 +0.1**
KRLC *e*PP **PP 07 22 55.7 -3.1**
KRLC AMS AMS 08 07 30.0
comp=Z,1μm,24.5s
VRAC Vranov 100.87 318 P **Pdif 07 18 52.1 +1.3**
comp=Z,1.1nm,0.3s,baz=97,slow=4.6,SNR=2.0
VRAC S **SKSac 07 29 21.3 -2.4**
comp=Z,1.1nm,0.3s,baz=121,slow=17,SNR=1.3
CNPM China Poot 100.94 31 Pdif **Pdif 07 18 50.6 -0.3**
BPAW Bear Paw Mtn. 100.97 26 P **Pdif 07 18 51.6 +0.7**
baz=272,SNR=26
KBS Kingsbay 101.02 349 *i* P **Pdif 07 18 50.2 -0.7**
KBS IAmb IAmb 07 18 51.1
comp=Z,53nm,0.9s
KBS Kingsbay 101.02 349 *e*Pdif **Pdif 07 18 50.4 -0.5**
MLY Manley 101.04 25 P **Pdif 07 18 52.0 +0.7**
baz=272,SNR=19
MLY Manley 101.04 25 Pdif **Pdif 07 18 52.0 +0.7**
DPC Dobruska-Polom 101.06 320 *e*P **Pdif 07 18 51.6 -0.1**
DPC MLR MLR
comp=Z,1μm,24.0s
DPC Dobruska-Polom 101.06 320 *e*PDIFF **Pdif 07 18 51.6 -0.1**
DPC *e*PP PP 07 22 49.0 -12
DPC AMS AMS 08 08 00.0
comp=Z,1μm,24.0s
OSTC Ostas 101.14 320 *e*PDIFF **Pdif 07 18 52.5 +0.5**
OSTC *e*PP PP 07 22 49.2 -12
OSTC AMS AMS 08 06 50.0
comp=Z,1μm,23.5s
BRSE Bradley Lake S 101.18 31 P **Pdif 07 18 51.6 -0.4**
baz=271
CHVC Chvalec 101.24 320 *e*PDIFF **Pdif 07 18 53.7 +1.3**
CHVC AMS AMS 08 07 00.0
comp=Z,1μm,26.3s
STEI Steigen 101.26 338 *e*Pdif **Pdif 07 18 51.5 -0.6**
UPC Upice 101.27 320 *e*P **Pdif 07 18 49.1 -3.4**
UPC *e* 07 23 00.1
UPC MLR MLR
comp=Z,1μm,24.5s
UPC Upice 101.27 320 *e*PDIFF **Pdif 07 18 49.1 -3.4**
UPC *e*PP **PP 07 23 00.1 -2.4**
UPC AMS AMS 08 07 00.0
comp=Z,1μm,24.5s
FAUS Fauske 101.27 337 *e*Pdif **Pdif 07 18 51.5 -0.7**
TRF Thorofare Moun 101.30 27 P **Pdif 07 18 52.7 +0.1**
baz=272,SNR=13
TOLK Toolik Lake Re 101.32 22 P **Pdif 07 18 53.6 +1.2**
baz=274,SNR=35
CONA Conrad Observa 101.32 317 *e*P **Pdif 07 18 52.0 -1.0**
comp=Z,0.3nm,0.2s
CUT Chulitna 101.34 28 P **Pdif 07 18 52.6 +0.1**
baz=272
H23K Yukon River 101.51 25 P **Pdif 07 18 54.6 +1.4**
baz=273,SNR=11
ARSA Arzberg 101.54 316 *e*P **Pdif 07 18 53.9 0.0**
comp=Z,0.3nm,0.2s
TREC Trest 101.59 318 *e*PP **PP 07 23 00.8 -4.2**
TREC AMS AMS 08 07 50.0
comp=Z,1μm,24.0s
I23K Minto, Yukon-K 101.62 25 P **Pdif 07 18 54.7 +1.0**
baz=273,SNR=27
RC01 Rabbit Creek A 101.64 29 P **Pdif 07 18 54.1 +0.1**
baz=272
O22K Cooper Landing 101.67 30 P **Pdif 07 18 54.0 -0.1**
baz=272
MOR8 Moi Rana 101.68 336 *e*Pdif **Pdif 07 18 53.0 -1.1**
NEA2 Nenana 101.78 26 P **Pdif 07 18 55.2 +0.7**
baz=273,SNR=7.3
SEW Seward 101.82 30 P **Pdif 07 18 54.6 -0.1**
baz=272
LOF Lofoten 101.88 338 *e*Pdif **Pdif 07 18 54.4 -0.5**
MCK McKinley 101.89 27 P **Pdif 07 18 55.3 +0.2**
baz=273,SNR=12
PMR Palmer 101.92 29 P **Pdif 07 18 54.8 -0.3**
baz=273
VAE Valguarnera 102.07 306 PP **PP 07 23 06.3 -2.7**
comp=Z,4.1nm,0.4s,baz=49,slow=8.6,SNR=1.2
WAT1 Susitna Watana 102.12 28 P **Pdif 07 18 56.3 +0.2**
baz=274
KONS Konsvik 102.19 336 *e*Pdif **Pdif 07 18 56.1 -0.1**
PVCC Panska Ves 102.19 320 AMS AMS 08 08 50.0
comp=Z,1μm,25.8s

H24K Noodor Dome 102.19 25 P **Pdif 07 18 57.5 +1.2**
baz=275,SNR=19
PRU Pruhonice 102.21 319 *e*P **Pdif 07 18 56.3 -0.4**
PRU MLR MLR
comp=Z,1μm,21.9s
PRU Pruhonice 102.21 319 *e*PDIFF **Pdif 07 18 56.3 -0.4**
PRU *e*PP PP 07 22 55.8 -14
PRU AMS AMS 08 13 00.0
comp=Z,1μm,21.9s
STOK Stokkvaagen 102.24 336 *e*Pdif **Pdif 07 18 56.5 0.0**
KNK Knik Glacier 102.25 29 P **Pdif 07 18 57.2 +0.6**
baz=273,SNR=11
PRA Prague 102.28 319 *e*PP **PP 07 23 02.3 -7.8**
PRA AMS AMS 08 13 10.0
comp=Z,1μm,21.0s
SML Sawmill 102.28 29 P **Pdif 07 18 57.3 +0.4**
baz=274,SNR=20
HFS Hagfors 102.39 330 P **Pdif 07 18 57.5 +0.2**
comp=Z,20nm,0.8s,baz=106,slow=3.2,SNR=22
HFS S **SKSac 07 29 26.2 -4.2**
comp=Z,2.1nm,1.0s,baz=145,slow=5.4,SNR=1.3
MOA Molln 102.39 317 *e*P **Pdif 07 18 56.7 -1.0**
comp=Z,0.5nm,0.3s
MOA *e*P **PP 07 23 07.7 -3.4**
comp=Z,7.9nm,0.8s
WAT6 Susitna Watana 102.51 28 P **Pdif 07 18 58.3 +0.3**
baz=274,SNR=24
BRG Berggiesshubel 102.58 320 *e*P **Pdif 07 18 58.8 +0.4**
BRG Amp 07 19 05.1
comp=Z,5.7nm,1.0s
ILAR Eielson Array 102.70 26 P **Pdif 07 18 57.5 -1.0**
comp=Z,2.7nm,0.7s,baz=289,slow=4.4,SNR=18
ILAR PP **PP 07 23 06.8 -5.9**
comp=Z,1.5nm,0.9s,baz=286,slow=3.9,SNR=2.8
ILAR PKKPbc **PKKPbc 07 34 57.5 -2.7**
comp=Z,1.7nm,0.6s,baz=100,slow=1.9,SNR=11
HDA Harding Lake 102.71 26 P **Pdif 07 18 58.0 -0.7**
baz=275,SNR=19
GERES GERESS Array B 102.77 318 P **Pdif 07 18 59.3 -0.1**
comp=Z,1.1nm,0.6s,baz=112,slow=3.2,SNR=5.7
GERES PP **PP 07 23 10.0 -3.9**
comp=Z,5.6nm,1.0s,baz=103,slow=5.9,SNR=5.2
GERES PKKPbc **PKKPbc 07 34 57.5 -2.2**
comp=Z,0.7nm,0.8s,baz=256,slow=3.9,SNR=4.5
KHC Kasperske Hory 102.84 318 *e*P **Pdif 07 18 57.0 -2.6**
KHC *e* 07 23 11.0
KHC MLR MLR
comp=Z,2μm,26.7s
KHC Kasperske Hory 102.84 318 *e*PDIFF **Pdif 07 18 57.0 -2.6**
KHC *ex* x 07 21 56.5
KHC *ex* x 07 22 19.0
KHC *e*PP PP 07 23 02.8 -12
KHC *ex* x 07 23 11.0
KHC AMS AMS 08 08 30.0
comp=Z,2μm,26.7s
NSS Namsos 102.85 334 *e*Pdif **Pdif 07 18 59.2 0.0**
CLL Collm 103.16 321 *e*Pdif **Pdif 07 19 02.0 +1.1**
CLL *es*Pdif **sPdif 07 19 25.0 -2.7**
CLL *e* 07 22 31.0
CLL *e*PP **PP 07 23 14.0 -2.6**
CLL *e*Sdif Sdif 07 30 36.0 -6.0
CLL *e*PPS PPS 07 33 19.0
CLL *e*PKKPdf **PKKPdf 07 35 05.0 -1.4**
CLL *e*SS **SS 07 37 48.0 -6.0**
CLL *e* 07 38 48.0
CLL *e*SSS SSS 07 41 42.0
CLL Collm 103.16 321 *e*P **Pdif 07 19 02.0 +1.1**
CLL *e* 07 23 14.0
CLL MLR MLR
comp=Z,1μm,25.1s
M24K Tolsona, Glenn 103.28 28 P **Pdif 07 19 02.4 +1.1**
baz=276,SNR=5.7
NC602 NORSAR Array S 103.41 330 *e*Pdif **Pdif 07 19 01.3 -0.5**
KLU Klutina 103.45 29 P **Pdif 07 19 03.1 +1.0**
baz=276,SNR=8.3
NB2 NORSAR Subarra 103.54 331 P **Pdif 07 19 02.4 -0.1**
comp=Z,18nm,1.4s,baz=77,slow=4.4
NB2 NORSAR Subarra 103.54 331 P **Pdif 07 19 02.4 -0.1**
baz=77,slow=4.4
NOA NORSAR Array B 103.54 331 Pdiff **Pdif 07 19 02.3 -0.2**
comp=Z,3.7nm,0.8s,baz=80,slow=4.6,SNR=8.4
NOA PP **PP 07 23 17.4 -1.8**
comp=Z,0.7nm,0.8s,baz=83,slow=8.0,SNR=1.7
NOA PKKPab **PKKPdf 07 35 10.6 +4.6**
comp=Z,1.0nm,0.8s,baz=124,slow=6.9,SNR=3.2
NKC Novy Kostel 103.55 319 *e*PP PP 07 23 09.6 -10
NKC AMS AMS 08 10 00.0
comp=Z,1μm,22.4s
ABTA Abfaltersbach 103.60 316 *e*P **PKiKP 07 23 21.2 -0.1**
comp=Z,12nm,1.0s
RIDG Independent Ri 103.70 27 P **Pdif 07 19 03.8 +0.6**
baz=277
HARP HAARP 103.72 28 P **Pdif 07 19 05.0 +1.8**
baz=276,SNR=6.2
OSL Oslo 103.89 330 *e*Pdif **Pdif 07 19 04.3 +0.4**
N25K Chitina, Valde 104.07 29 P **Pdif 07 19 05.8 +1.0**
baz=277,SNR=10
BMRM Bremner River 104.14 29 P **Pdif 07 19 06.0 +0.8**
baz=277,SNR=7.6
WTTA Wattenberg 104.18 316 *e*P **PKiKP 07 23 23.3 +0.8**
comp=Z,12nm,0.7s
WATA Walderalm 104.22 316 *e*P **PKiKP 07 23 23.0 +0.5**
comp=Z,5.5nm,0.7s
KAIM Kayak Island 104.36 30 P **Pdif 07 19 07.8 +1.7**
baz=276
NOR Nord 104.42 353 *i* P **Pdif 07 19 05.2 -0.7**
NOR IAmb IAmb 07 19 07.5
comp=Z,5.9nm,0.9s
NOR Nord 104.42 353 *i* P **Pdif 07 19 05.2 -0.7**
NOR pmax pmax
comp=Z,6.0nm,0.9s
L26K Log Cabin Wild 104.47 27 P **Pdif 07 19 08.0 +1.5**
baz=278,SNR=7.3
KONO Kongsberg 104.49 329 *e*Pdif **Pdif 07 19 06.4 -0.2**
MOTA Moosalm 104.54 317 *e*P **Pdif 07 19 04.7 -2.7**
comp=Z,4.0nm,0.9s
MOTA *e*P **PKiKP 07 23 20.6 -2.5**
comp=Z,10nm,0.9s
M26K Nabesna, AK 104.72 28 P **Pdif 07 19 09.1 +1.4**
baz=278,SNR=8.4
RETA Reutte 104.77 317 *e*P **Pdif 07 19 07.1 -1.2**
comp=Z,1.5nm,0.6s
FETA Feichten 104.81 316 *e*P **PKiKP 07 23 26.5 +2.9**
comp=Z,12nm,1.0s
K27K Chicken 104.87 26 P **Pdif 07 19 09.9 +1.7**
baz=280
CRQE Cirque 104.91 30 P **Pdif 07 19 10.0 +1.3**
baz=278,SNR=9.2
MOL Molde 105.07 332 *e*Pdif **Pdif 07 19 09.4 +0.3**
L27K Beaver Creek, 105.14 27 P **PKiKP 07 23 26.0 +2.4**
baz=280
DAVA Damuels 105.38 316 *e*P **PKiKP 07 23 25.3 +0.7**
comp=Z,16nm,0.7s
AKN Aaknes 105.39 332 *e*Pdif **Pdif 07 19 10.2 -0.4**
DAVOX Davos/Dischmat 105.41 316 Pdiff **Pdif 07 19 12.1 +0.8**
comp=Z,6.2nm,1.0s,baz=31,slow=6.1,SNR=7.1
DAVOX PKiKP **PKiKP 07 23 24.4 -0.3**
comp=Z,5.0nm,0.7s,baz=112,slow=5.4,SNR=4.4
KEST Kesra 106.12 305 Pdiff **Pdif 07 19 14.4 -0.1**
comp=Z,1.7nm,0.8s,baz=104,slow=6.4,SNR=2.2
KEST PKiKP **PKiKP 07 23 24.6 -1.6**
comp=Z,6.1nm,1.0s,baz=47,slow=2.8,SNR=4.0
KEST PKKPab **PKKPab 07 35 06.0 +1.7**
comp=Z,2.2nm,0.8s,baz=232,slow=2.3,SNR=4.7
PINM Pinnacle 106.40 30 P **PKiKP 07 23 27.9 +1.9**
baz=280
EPYK Eagle Plains 106.56 23 P **PKiKP 07 23 27.2 +1.0**
baz=285
INK Inuvik 107.17 21 PKiKP **PKiKP 07 23 27.7 +0.6**
comp=Z,4.2nm,0.8s,baz=26,slow=3.0,SNR=6.0
INK Inuvik 107.17 21 P **PKiKP 07 23 27.9 +0.8**
baz=289
DAG Danmarks Havn 107.73 350 ⇑*i*P **Pdif 07 19 20.1 -0.6**
DAG IAmb IAmb 07 19 21.2
comp=Z,7.0nm,1.1s
DAG Danmarks Havn 107.73 350 ⇑*i*P **Pdif 07 19 20.1 -0.6**
DAG pmax pmax
comp=Z,7.0nm,1.1s
NEEM North Greenlan 111.23 356 *i* P **Pdif 07 19 37.5 +0.8**
NEEM IAmb IAmb 07 19 38.3
comp=Z,6.0nm,0.8s
NEEM North Greenlan 111.23 356 *i* P **PKiKP 07 23 35.6 +0.6**
NEEM IAmb IAmb 07 23 38.3
comp=Z,31nm,0.9s
DLBC Dease Lake 111.90 30 PKiKP **PKiKP 07 23 37.5 +1.2**
comp=Z,4.5nm,0.7s,baz=301,slow=4.1,SNR=10

EKA Eskdalemuir Ar 112.09 326 Pdiff **Pdif 07 19 41.1 +0.6**
comp=Z,1.0nm,0.7s,baz=86,slow=3.8,SNR=3.6
EKA PKiKP **PKiKP 07 23 37.2 +0.5**
comp=Z,1.0nm,0.5s,baz=14,slow=1.4,SNR=6.8
EKA PKKPbc **PKKPbc 07 34 28.6 -1.9**
comp=Z,0.6nm,0.6s,baz=255,slow=3.3,SNR=3.9
TORD Torodi Ar. Bea 112.36 280 PKiKP **PKiKP 07 23 38.4 0.0**
comp=Z,10nm,0.6s,baz=58,slow=1.8,SNR=62
TORD PKKPab **PKKPab 07 34 38.8 +1.7**
comp=Z,2.2nm,1.0s,baz=329,slow=4.3,SNR=4.1
TORD PKKP **PKKPdf 07 34 51.5 +3.1**
comp=Z,3.3nm,0.8s,baz=298,slow=4.3,SNR=6.8
TULEG Thule 112.67 0 *i* P **PKiKP 07 23 38.1 +0.9**
TULEG IAmb IAmb 07 23 39.3
comp=Z,8.1nm,0.8s
TULEG *i* 07 24 26.4
SUMG Summit 114.31 351 *i* P **PKiKP 07 23 41.9 +0.8**
SUMG IAmb IAmb 07 23 42.4
comp=Z,6.2nm,0.8s
SUMG Summit 114.31 351 *i* PKIKP **PKiKP 07 23 41.9 +0.8**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
BBB Bella Bella 114.93 36 PKP PKPdf 07 23 42.9 +0.7
comp=Z,9.9nm,0.9s,baz=306,slow=5.3,SNR=4.3
UPNV Upernavik 116.09 356 *i* P **PKPdf 07 23 44.4 +0.5**
UPNV IAmb IAmb 07 23 45.4
comp=Z,13nm,0.6s
USHA Ushuaia 116.22 179 PKP **PKPdf 07 23 45.0 +0.3**
comp=Z,14nm,0.3s,baz=155,slow=0.4,SNR=3.0
ESBB Sonseca Array 116.27 310 **PKiKP 07 23 45.9 +0.6**
ESDC Sonseca Array 116.27 310 PKP **PKiKP 07 23 45.8 +0.4**
comp=Z,4.6nm,0.8s,baz=22,slow=2.9,SNR=28
ESDC PKKPbc **PKKPbc 07 34 15.9 +0.2**
comp=Z,0.9nm,0.9s,baz=278,slow=3.7,SNR=4.9
ESDC PKKP **PKKPdf 07 34 37.5 -4.1**
comp=Z,1.4nm,0.7s,baz=277,slow=4.3,SNR=6.4
PAB San Pablo 116.59 310 PKIKP **PKiKP 07 23 46.8 +0.8**
PAB San Pablo 116.59 310 PKPdf **PKiKP 07 23 46.8 +0.8**
ICESG Greenland Ices 117.51 349 *i* P **PKiKP 07 23 47.6 +0.4**
ICESG IAmb IAmb 07 23 47.9
comp=Z,11nm,0.7s
PBRG Braganca 117.91 313 *e*PKPdf **PKiKP 07 23 49.1 +0.7**
KOWA Kowa 117.98 282 PKPdf **PKiKP 07 23 49.3 +0.1**
KIC Kosan Boka 118.00 272 *e*PKP1 **PKiKP 07 23 50.1 +0.7**
comp=Z,41nm,0.6s
DBIC Dimbokro 118.15 273 PKIKP **PKiKP 07 23 49.7 +0.1**
DBIC Dimbokro 118.15 273 PKPdf **PKiKP 07 23 49.7 +0.1**
MVO Moncorvo 118.26 312 *e*PKPdf **PKiKP 07 23 49.4 +0.2**
MVO Moncorvo 118.26 312 *e*PP PP 07 25 07.5 +1.8
MVO Moncorvo 118.26 312 *e*SS SS 07 41 14.3 -2.0
MVO Moncorvo 118.26 312 *e*LQ LQ 07 56 36.3
MVO *e*LR LR 08 04 07.3
comp=Z,340nm,22.0s
LIC Lamto 118.27 272 *e*PKP1 **PKPdf 07 23 49.8 0.0**
comp=Z,85nm,0.6s
TIC Toumodi 118.31 273 *e*PKP1 **PKiKP 07 23 50.8 +0.8**
PVRL Vila Real 118.74 312 *e*PKPdf **PKiKP 07 23 51.2 +1.1**
POLO Lamas de Olo 118.78 312 *e*PKPdf **PKiKP 07 23 51.1 +0.9**
MTE Manteigas 118.82 311 *e*PKPdf **PKiKP 07 23 51.3 +1.0**
MTE Manteigas 118.82 311 *e*PP PP 07 24 59.0 -11
MTE Manteigas 118.82 311 *e*SS SS 07 41 14.7 -8.8
MTE Manteigas 118.82 311 *e*LQ LQ 07 56 43.7
MTE *e*LR LR 08 04 32.0
comp=Z,483nm,20.0s
MTE Manteigas 118.82 311 PKPdf **PKiKP 07 23 51.6 +1.4**
PCAB Cabril 118.86 313 *e*PKPdf **PKiKP 07 23 51.0 +0.7**
PCBR Castelo Branco 118.89 311 *e*PKPdf **PKiKP 07 23 51.3 +1.0**
PBAR Barrancos 118.91 309 *e*PKPdf **PKiKP 07 23 51.6 +1.2**
PMRV Marv??o 118.92 310 *e*PKPdf **PKiKP 07 23 51.3 +0.9**
PMRV Marv??o 118.92 310 *e*PP PP 07 25 10.9 +0.7
PMRV Marv??o 118.92 310 *e*LQ LQ 07 57 23.4
PMRV Marv??o 118.92 310 *e*LR LR 08 08 22.1
comp=Z,630nm,22.0s
PGAV Gavieira, Arco 118.98 313 *e*PKPdf **PKiKP 07 23 51.6 +1.0**
PGAV Gavieira, Arco 118.98 313 *e*PP PP 07 25 12.9 +2.3
PGAV Gavieira, Arco 118.98 313 *e*LQ LQ 07 56 49.0
PGAV Gavieira, Arco 118.98 313 *e*LR LR 08 07 09.1
comp=Z,678nm,20.0s
PVIS Viseu 119.01 312 *e*PKPdf **PKiKP 07 23 51.5 +0.9**
NLWA Neilton Lookou 119.08 40 **PKiKP 07 23 52.3 +1.7**
LLLB Lillooet 119.14 36 PKPdf **PKiKP 07 23 51.2 +0.7**
PESTR Estremoz 119.19 309 *e*PKPdf **PKiKP 07 23 51.8 +0.8**
PESTR Estremoz 119.19 309 PKPdf **PKiKP 07 23 51.7 +0.7**
D03D Eldon 119.53 40 P **PKiKP 07 23 53.2 +1.9**
baz=290,SNR=11
E03A Lebam 119.56 41 PKPdf **PKiKP 07 23 52.7 +1.3**
PBEJ Beja 119.58 309 *e*PKPdf **PKiKP 07 23 53.0 +1.2**
EVO Evora 119.59 309 *e*PKPdf **PKiKP 07 23 52.5 +0.8**
PVAQ Vaqueiros 119.60 308 *e*PKPdf **PKiKP 07 23 52.5 +0.7**
PVAQ Vaqueiros 119.60 308 *e*SS SS 07 41 41.7 +8.1
PVAQ Vaqueiros 119.60 308 *e*LQ LQ 07 58 24.5
PCAS Casmilo, Conde 119.61 311 *e*PKPdf **PKiKP 07 23 52.6 +0.8**
A05A Maple Falls 119.63 38 **PKiKP 07 23 51.9 +0.4**
PMTG Montargil 119.63 310 *e*PKPdf **PKiKP 07 23 52.2 +0.4**
PBDV Barranco-do-Ve 119.80 308 *e*PKPdf **PKiKP 07 23 53.8 +1.6**
PCVE Castro Verde 119.80 308 *e*PKPdf **PKiKP 07 23 53.3 +1.1**
B05A Bryant 119.89 39 P **PKiKP 07 23 53.4 +1.4**
baz=292,SNR=24
MESJ Messejana 119.90 308 *e*PKPdf **PKPdf 07 23 52.3 0.0**
MESJ *e*PP **PP 07 25 17.0 +0.1**
MESJ IAMs_20 IAMs_20 08 13 19.6
comp=Z,930nm,25.5s
MESJ Messejana 119.90 308 *e*PKIKP **PKPdf 07 23 52.2 0.0**
MESJ *e* 07 25 17.0
MESJ Messejana 119.90 308 *e*PKPdf **PKiKP 07 23 53.6 +1.2**
PSBE So Bento 119.96 310 *e*PKPdf **PKiKP 07 23 53.3 +0.8**
ANGG Ammassalik, Gr 120.03 346 ⇑*i*P **PKPdf 07 23 51.6 -0.1**
ANGG IAmb IAmb 07 23 51.9
comp=Z,20nm,0.6s
ANGG Ammassalik, Gr 120.03 346 **PKPdf 07 23 51.3 -0.4**
F04D Rainier, OR 120.08 42 P **PKiKP 07 23 55.1 +2.7**
baz=290
PNCL Nicolau / Gran 120.08 309 *e*PKPdf **PKiKP 07 23 53.7 +1.0**
B06A Marblemount 120.18 39 **PKiKP 07 23 53.4 +0.8**
E04D Cinebar 120.20 41 P **PKiKP 07 23 54.1 +1.4**
baz=290,SNR=8.7
D05A Enumclaw 120.35 40 **PKiKP 07 23 54.5 +1.6**
J01E Myrtle Point 120.37 45 P **PKiKP 07 23 54.6 +1.5**
baz=287,SNR=7.7
ISOG Isortoq, Green 120.39 347 ⇑*i*P **PKPdf 07 23 52.3 -0.1**
ISOG IAmb IAmb 07 23 53.0
comp=Z,25nm,0.7s
LIS Lisbon 120.41 310 *e*PP PP 07 25 20.7 +0.2
LIS IAMs_20 IAMs_20 08 21 15.5
comp=Z,7μm,62.8s
PMAFR Mafra 120.46 310 *e*PKPdf **PKiKP 07 23 54.5 +1.0**
PFVI Vila Bisbo 120.52 308 *e*PKPdf **PKiKP 07 23 54.1 +0.5**
I03D Drain, OR 120.61 44 P **PKiKP 07 23 55.1 +1.6**
baz=288,SNR=13
LON Longmire 120.62 41 PKIKP **PKiKP 07 23 54.4 +0.8**
LON Longmire 120.62 41 **PKiKP 07 23 54.4 +0.8**
K02D Willamette Mer 120.69 46 P **PKiKP 07 23 55.1 +1.2**
baz=287,SNR=6.0
BUCK Buck Mountain 120.71 44 PKPdf **PKiKP 07 23 55.3 +1.5**
H04D Lebanon 120.77 43 P **PKiKP 07 23 55.4 +1.5**
baz=289,SNR=15
L02E Cave Junction 120.89 46 P **PKiKP 07 23 55.8 +1.5**
baz=287
DY2G Dye2 121.01 350 ⇑*i*P **PKiKP 07 23 54.4 +0.4**
DY2G IAmb IAmb 07 23 55.1
comp=Z,43nm,0.6s
H04A Detroit Lake 121.09 43 PKPdf **PKiKP 07 23 55.1 +0.6**
F05D White Salmon 121.16 41 P **PKiKP 07 23 55.8 +1.1**
baz=291
LTY Liberty 121.16 40 **PKiKP 07 23 55.4 +0.7**
SFJD Kangerlussuaq 121.17 352 *i* P **PKiKP 07 23 54.0 +0.1**
SFJD Kangerlussuaq 121.17 352 *i* PKIKP **PKiKP 07 23 54.0 +0.1**
SFJD Kangerlussuaq 121.17 352 **PKiKP 07 23 54.4 +0.5**
HUMO Hull Mountain 121.22 45 PKPdf **PKiKP 07 23 56.2 +1.3**
I04A Tendick Farm, 121.23 44 P **PKiKP 07 23 55.6 +0.8**
baz=289,SNR=12
G05D Wamic, OR 121.48 42 P **PKiKP 07 23 56.7 +1.4**
baz=290,SNR=8.8
B08A Colville Reser 121.56 38 PKPdf **PKiKP 07 23 56.0 +0.6**
J04D Umpqua Nationa 121.61 45 P **PKiKP 07 23 57.2 +1.3**
baz=289,SNR=40
M02C Callahan 121.65 47 P **PKiKP 07 23 57.4 +1.6**
baz=287,SNR=21
YBH Yreka Blue Hor 121.66 46 PKP **PKPdf 07 23 55.5 -0.2**
comp=Z,8.6nm,0.9s,baz=262,slow=4.5,SNR=18
I05D Terrebonne, OR 121.78 43 P **PKiKP 07 23 57.4 +1.4**
baz=290,SNR=5.6
L04D Klamath Falls 121.80 46 P **PKiKP 07 23 57.2 +1.0**
baz=288,SNR=22

N02D	Trinity Center	121.88	47	P		PKiKP	07 23 57.9 +1.6
baz=287,SNR=25							
O02D	Mt. Diablo Mer	122.05	48	P		PKiKP	07 23 58.4 +1.7
baz=286,SNR=12							
K04D	Chiloquin, OR	122.06	45	P		PKiKP	07 23 58.1 +1.4
baz=289							
WDC	Whiskeytown Da	122.11	48	PKIKP		PKiKP	07 23 57.5 +0.8
WDC	Whiskeytown Da	122.11	48	PKPdf		PKiKP	07 23 57.5 +0.8
J05D	Fort Rock, OR	122.20	44	P		PKiKP	07 23 58.5 +1.6
baz=289,SNR=38							
HAWA	Hanford	122.22	40	PKPdf		PKiKP	07 23 58.2 +1.6
PINE	Pine Mountain	122.23	44	PKPdf		PKiKP	07 23 58.7 +1.6
M04C	Macdoel	122.26	46	P		PKiKP	07 23 58.4 +1.3
baz=288							
D08A	Wollman Farm,	122.34	39	PKPdf		PKiKP	07 23 58.2 +1.3
E08A	Dider Farm, El	122.48	40			PKiKP	07 23 58.6 +1.4
EDM	Edmonton	122.60	31	PKIKP		PKiKP	07 23 58.0 +0.7
EDM	Edmonton	122.60	31	PKPdf		PKiKP	07 23 58.0 +0.7
K05A	Summer Lake	122.62	45	PKPdf		PKiKP	07 23 59.3 +1.5
O03E	Paynes Creek	122.74	48	P		PKiKP	07 23 58.6 +0.6
baz=287,SNR=18							
NEW	Newport	122.94	37	PKP		PKiKP	07 23 58.3 +0.2
comp=Z,10nm,0.8s,baz=230,slow=1.0,SNR=27							
NEW	Newport	122.94	37	P		PKiKP	07 23 58.8 +0.7
baz=296							
NEW	Newport	122.94	37	PKPdf		PKiKP	07 23 58.8 +0.7
G08A	Pilot Rock	123.01	41	PKPdf		PKiKP	07 23 59.8 +1.3
E09A	Wood Farm, Sta	123.05	40	PKPdf		PKiKP	07 23 59.1 +0.8
I07A	Izee	123.10	43	PKPdf		PKiKP	07 24 00.1 +1.4
ORV	Oroville	123.18	49	PKIKP		PKiKP	07 23 59.4 +0.6
ORV	Oroville	123.18	49	PKPdf		PKiKP	07 23 59.4 +0.6
MOD	Modoc Plateau	123.31	46	PKPdf		PKiKP	07 24 00.4 +1.2
AFDM	Forest Hills D	123.75	49	PKPdf		PKiKP	07 24 00.9 +0.9
F10A	Beach Ranch, E	123.85	40			PKiKP	07 24 01.1 +1.1
NUUK	Nuuk	123.99	352	⇑	iP	PKiKP	07 24 00.2 +0.6
NUUK					IAmb	IAmb	07 24 01.0
comp=Z,25nm,0.8s							
J08A	Circle Bar Ran	124.06	43	PKPdf		PKiKP	07 24 02.0 +1.5
BMO	Blue Mountains	124.26	41	PKIKP		PKiKP	07 24 01.3 +0.4
BMO	Blue Mountains	124.26	41	PKPdf		PKiKP	07 24 01.3 +0.4
CMB	Columbia Colle	124.45	50	PKIKP		PKiKP	07 24 02.1 +0.7
CMB	Columbia Colle	124.45	50	PKPdf		PKiKP	07 24 02.1 +0.7
WALA	Waterton Lakes	124.45	35	PKPdf		PKiKP	07 24 01.6 +0.4
PAHR	Pah Rah Range	124.69	48			PKiKP	07 24 02.9 +0.9
H10N1	ASCENSION HYDR	124.72	254	PKP		PKiKP	07 24 03.4 +1.2
baz=107,slow=76,SNR=4.6							
PNTR	Pine Nut	124.72	49			PKiKP	07 24 03.2 +1.1
H10N2	ASCENSION HYDR	124.73	254	PKP		PKiKP	07 24 03.4 +1.2
baz=107,slow=76,SNR=8.7							
H10N3	ASCENSION HYDR	124.74	254	PKP		PKiKP	07 24 02.8 +0.5
baz=107,slow=76,SNR=5.5							
JTMT	Jette	124.87	37			PKiKP	07 24 02.7 +0.6
PLID	Pearl Lake	125.01	41	PKPdf		PKiKP	07 24 03.0 +0.5
YERR	Yerington	125.02	49			PKiKP	07 24 03.9 +1.2
WAKR	Walker	125.02	49	PKPdf		PKiKP	07 24 04.2 +1.4
COYC	Coyhaique	125.33	176	PKPdf		PKiKP	07 24 03.9 +1.0
SMMC	Simmler	125.50	53	P		PKiKP	07 24 05.4 +1.8
baz=285							
MSO	Missoula	125.51	38	P		PKiKP	07 24 03.7 +0.3
baz=298,SNR=52							
MSO	Missoula	125.51	38	PKPdf		PKiKP	07 24 03.7 +0.3
FRB	Frobisher Bay	125.52	1	PKP		PKPdf	07 24 02.2 0.0
comp=Z,22nm,0.8s,baz=346,slow=3.0,SNR=15							
NRS	Narsarsuaq	125.66	347	⇑	iP	PKiKP	07 24 03.1 +0.1
NRS					IAmb	IAmb	07 24 04.0
comp=Z,67nm,0.7s							
NRS	Narsarsuaq	125.66	347	⇑	iPKIKP	PKiKP	07 24 03.0 +0.1
NRS					pmax	pmax	
comp=Z,67nm,0.7s							
NRS	Narsarsuaq	125.66	347			PKiKP	07 24 03.0 +0.1
MLAC	Mammoth, Mammo	125.74	50	P		PKiKP	07 24 05.7 +1.4
baz=288							
PKM	Mcpherson Peak	125.76	53	P		PKiKP	07 24 06.0 +1.7
baz=285,SNR=9.5							
MFID	Camas Ranch	125.82	42	PKPdf		PKiKP	07 24 05.3 +1.2
KVN	Kaiserville	125.84	48	PKIKP		PKiKP	07 24 05.2 +0.8
KVN	Kaiserville	125.84	48	PKPdf		PKiKP	07 24 05.2 +0.8
NVAR	Mina Array Bea	125.89	49	PKP		PKiKP	07 24 05.2 +0.7
comp=Z,15nm,0.7s,baz=246,slow=2.3,SNR=75							
NVAR				PP		PP	07 25 57.8 +0.1
comp=Z,2.7nm,0.9s,baz=290,slow=5.6,SNR=1.2							
NVAR				PKKPbc		PKKPbc	07 33 39.5 -0.4
comp=Z,0.5nm,0.6s,baz=125,slow=3.6,SNR=4.0							
NVAR	Mina Array Bea	125.89	49			PKiKP	07 24 05.7 +1.2
NV11	Mina Array Sit	126.00	49			PKiKP	07 24 05.8 +1.1
VES	Vestal, Richgr	126.08	52	P		PKiKP	07 24 05.1 +0.4
baz=286							
TIN	Tinemaha, Big	126.38	50	P		PKiKP	07 24 07.0 +1.6
baz=288,SNR=16							
ARVC	Arvin	126.47	53	P		PKiKP	07 24 07.3 +1.9
baz=286,SNR=6.4							
FCC	Fort Churchill	126.49	17	PKIKP		PKiKP	07 24 04.8 +0.1
FCC	Fort Churchill	126.49	17	PKPdf		PKiKP	07 24 04.8 +0.1
ISA	Isabella, Lake	126.60	52	PKIKP		PKiKP	07 24 06.8 +1.0
ISA	Isabella, Lake	126.60	52	P		PKiKP	07 24 06.7 +0.9
baz=287,SNR=12							
ISA	Isabella, Lake	126.60	52	PKPdf		PKiKP	07 24 06.8 +0.9
CWC	Cottonwood Cre	126.68	51	P		PKiKP	07 24 07.3 +1.2
baz=288							
HLID	Hailey	126.69	42	P		PKiKP	07 24 07.5 +1.6
baz=296							
HLID	Hailey	126.69	42	PKPdf		PKiKP	07 24 07.2 +1.3
TPH	Tonopah	126.81	49	PKIKP		PKiKP	07 24 07.0 +0.7
TPH	Tonopah	126.81	49			PKiKP	07 24 07.0 +0.7
HRY	Holter Researc	126.83	37			PKiKP	07 24 06.7 +0.7
FFC	Flin Flon	126.89	24	PKIKP		PKiKP	07 24 06.0 +0.3
FFC	Flin Flon	126.89	24	PKPdf		PKiKP	07 24 06.0 +0.3
LRM	Limekiln Ridge	126.90	38			PKiKP	07 24 06.8 +0.5
BCYI	Bear Canyon	127.01	40			PKiKP	07 24 07.5 +0.9
DLMT	Dillon	127.03	39			PKiKP	07 24 07.6 +1.1
GRAC	Grapevine Rang	127.05	50	P		PKiKP	07 24 08.2 +1.6
baz=288,SNR=10							
DECC	Green Verdugo	127.11	54	P		PKiKP	07 24 07.6 +0.8
baz=286,SNR=5.9							
MCMT	McKenzie Canyo	127.12	40	PKPdf		PKiKP	07 24 08.0 +1.2
EDW2	Edwards Air Fo	127.20	53	P		PKiKP	07 24 08.2 +1.2
baz=286,SNR=23							
PASC	Pasadena Art C	127.25	54			PKiKP	07 24 08.1 +1.0
CIS	Catalina Islan	127.27	55	P		PKiKP	07 24 08.3 +1.1
baz=285							
LRMC	Laurel Mtn Rad	127.27	52	P		PKiKP	07 24 09.0 +1.7
baz=287							
ELK	Elko	127.28	45	PKP		PKiKP	07 24 08.4 +1.2
comp=Z,18nm,0.7s,baz=292,slow=2.5,SNR=54							
ELK	Elko	127.28	45	PKIKP		PKiKP	07 24 08.1 +0.9
ELK	Elko	127.28	45	PKPdf		PKiKP	07 24 08.1 +0.9
MWC	Mount Wilson	127.33	54	PKIKP		PKiKP	07 24 08.4 +0.9
MWC	Mount Wilson	127.33	54			PKiKP	07 24 08.4 +0.9
EGMT	Eagleton	127.35	35	P		PKiKP	07 24 07.3 +0.4
baz=303,SNR=37							
EGMT	Eagleton	127.35	35			PKiKP	07 24 07.7 +0.7
BOZ	Bozeman (W)	127.51	38	PKIKP		PKiKP	07 24 08.4 +1.0
BOZ	Bozeman (W)	127.51	38	P		PKiKP	07 24 08.5 +1.1
baz=300,SNR=41							
BOZ	Bozeman (W)	127.51	38			PKiKP	07 24 08.4 +1.0
FURC	Furnace Creek,	127.60	51	P		PKiKP	07 24 09.1 +1.5
baz=288,SNR=16							
BFSC	Mount Baldy Ra	127.65	54	P		PKiKP	07 24 08.8 +0.8
baz=286,SNR=7.6							
TPNV	Topopah Spring	127.91	50	PKIKP		PKiKP	07 24 09.4 +0.9
TPNV	Topopah Spring	127.91	50	P		PKiKP	07 24 09.7 +1.2
baz=289,SNR=13							
TPNV	Topopah Spring	127.91	50	PKPdf		PKiKP	07 24 09.4 +0.9
R11A	Troy Canyon, C	127.93	48	P		PKiKP	07 24 10.2 +1.7
baz=291							
R11A	Troy Canyon, C	127.93	48			PKiKP	07 24 10.0 +1.5
GSC	Goldstone, Bar	128.01	52	PKIKP		PKiKP	07 24 09.9 +1.2
GSC	Goldstone, Bar	128.01	52	P		PKiKP	07 24 10.5 +1.8
baz=288,SNR=15							
GSC	Goldstone, Bar	128.01	52	PKPdf		PKiKP	07 24 09.9 +1.2
QLMT	Earthquake Lak	128.01	39	PKPdf		PKiKP	07 24 09.8 +1.3
MURC	Murrieta	128.19	54	P		PKiKP	07 24 10.6 +1.6
baz=286,SNR=10.0							
PMOZ	Porto Moniz, M	128.22	305	eLR		LR	08 11 21.1
comp=Z,682nm,20.0s							
SHOC	Shoshone, Teco	128.23	51	P		PKiKP	07 24 11.0 +2.0
baz=288							
YHH	Holmes Hill	128.39	39	PKPdf		PKiKP	07 24 10.7 +1.3
109C	Camp Elliot, M	128.46	55	P		PKiKP	07 24 10.6 +1.2
baz=286							
HEC	Hector,Ludlow	128.52	53	P		PKiKP	07 24 11.7 +2.0
baz=288							
GCMT	Greycliff	128.59	37			PKiKP	07 24 10.3 +0.7
SPR3	Spring Creek 3	128.60	47	PKPdf		PKiKP	07 24 10.7 +0.7
TUQ	Turquoise Moun	128.65	52	P		PKiKP	07 24 11.8 +1.8
baz=288,SNR=9.7							
PRN	Pahroc Range	128.66	49	PKPdf		PKiKP	07 24 12.1 +2.1
H17A	Grant Village	128.75	39	P		PKiKP	07 24 12.2 +2.1
baz=300							
IMW	Indian Meadow	128.77	40			PKiKP	07 24 10.8 +0.6
PFO	Pinyon Flats O	128.78	54	PKP		PKiKP	07 24 11.4 +1.1
comp=Z,22nm,1.0s,baz=216,slow=1.5,SNR=19							
PFO				PP		PP	07 26 14.1 -2.7
comp=Z,2.0nm,0.8s,baz=298,slow=5.1,SNR=1.2							
PFO	Pinyon Flats O	128.78	54	PKIKP		PKiKP	07 24 11.1 +0.8
PFO	Pinyon Flats O	128.78	54	P		PKiKP	07 24 11.5 +1.2
baz=287,SNR=10							
PFO	Pinyon Flats O	128.78	54	PKPdf		PKiKP	07 24 11.1 +0.8
TPFO	Pinon Flats	128.78	54	P		PKiKP	07 24 11.6 +1.3
baz=287,SNR=9.9							
YNE	Yellowstone No	128.79	38			PKiKP	07 24 10.8 +0.7
TPAW	Teton Pass	128.96	40	PKPdf		PKiKP	07 24 10.6 0.0
SPUT	South Promonto	128.97	43			PKiKP	07 24 11.0 +0.5
MONP2	Monument Peak	129.01	55	P		PKiKP	07 24 12.5 +1.6
baz=286,SNR=9.5							
BELC	Belle Mtn. Jos	129.03	53	P		PKiKP	07 24 12.2 +1.4
baz=287,SNR=16							
GMRC	Granite Mounta	129.06	52	P		PKiKP	07 24 12.4 +1.6
baz=288,SNR=21							
REDW	Red Top Meadow	129.09	40	PKPdf		PKiKP	07 24 11.6 +0.9
SNOW	Snow King Moun	129.10	40			PKiKP	07 24 12.0 +1.2
LOHW	Long Hollow	129.12	40			PKiKP	07 24 11.6 +0.8
PSUT	Pine Spring	129.12	47	PKPdf		PKiKP	07 24 11.3 +0.4
RLMT	Red Lodge	129.19	38	P		PKiKP	07 24 11.5 +0.6
baz=302							
RLMT	Red Lodge	129.19	38	PKPdf		PKiKP	07 24 11.7 +0.8
DUG	Dugway, Tooele	129.20	45	PKIKP		PKiKP	07 24 11.5 +0.5
DUG	Dugway, Tooele	129.20	45	P		PKiKP	07 24 12.5 +1.5
baz=295,SNR=19							
DUG	Dugway, Tooele	129.20	45	PKPdf		PKiKP	07 24 11.4 +0.5
IKP	In-Ko-Pah, Jac	129.33	55	P		PKiKP	07 24 12.9 +1.5
baz=286,SNR=11							
HWUT	Hardware Ranch	129.44	43	PKPdf		PKiKP	07 24 11.9 +0.4
SWSC	Sam W. Stewart	129.50	55	P		PKiKP	07 24 13.6 +2.0
baz=287,SNR=6.7							
IRM	Iron Mountain	129.66	53	P		PKiKP	07 24 13.3 +1.4
baz=288							
NLU	North Lily Min	129.81	45	PKPdf		PKiKP	07 24 12.9 +0.6
CCUT	Cedar City	129.85	48			PKiKP	07 24 13.5 +1.0
JLU	Jordanelle	129.97	44			PKiKP	07 24 13.3 +0.7
LAO	LASA Array	130.08	34	P		PKiKP	07 24 13.8 +1.4
baz=306							
LAO	LASA Array	130.08	34			PKiKP	07 24 13.5 +1.1
MPU	Maple Canyon	130.09	45	PKPdf		PKiKP	07 24 13.4 +0.6
BW06	Boulder Array	130.20	40	P		PKiKP	07 24 13.8 +0.8
baz=300							
BW06	Boulder Array	130.20	40			PKPdf	07 24 13.3 +0.1
PD31	Pinedale Array	130.20	40			PKiKP	07 24 12.7 -0.3
PDAR	Pinedale Array	130.20	40	PKP		PKPdf	07 24 12.2 0.0
comp=Z,3.9nm,0.5s,baz=147,slow=1.4,SNR=44							
PDAR				SKPbc		SKPbc	07 27 31.1 +1.9
comp=Z,6.5nm,0.8s,baz=202,slow=2.1,SNR=8.9							
PDAR				SKKPbc		SKKPbc	07 37 13.4 +2.8
comp=Z,0.5nm,0.7s,baz=138,slow=6.9,SNR=3.8							
PDAR	Pinedale Array	130.20	40			PKPdf	07 24 12.6 +0.3
PLCA	Paso Flores	130.24	177	PKP		PKiKP	07 24 12.9 -0.1
comp=Z,6.5nm,1.1s,baz=176,slow=4.4,SNR=5.3							
PLCA				SKPbc		SKPbc	07 27 32.6 +3.4
comp=Z,4.5nm,0.9s,baz=219,slow=5.7,SNR=4.1							
PLCA	Paso Flores	130.24	177			PKiKP	07 24 14.5 +1.4
PLCA	Paso Flores	130.24	177	eP		PKiKP	07 24 14.6 +1.6
PDMCI	Parker Dam,Lak	130.40	52	P		PKiKP	07 24 14.6 +1.3
baz=289,SNR=5.9							
TMUT	Trail Mountain	130.70	45			PKiKP	07 24 14.6 +0.3
RDMU	Red Mountain	131.25	43			PKiKP	07 24 15.3 +0.1
Y14A	Wickenburg	131.41	52			PKiKP	07 24 15.4 0.0
WUAZ	Wupatki	132.11	50	P		PKiKP	07 24 18.9 +1.9
baz=292,SNR=8.8							
K22A	Casper	132.18	39	P		PKiKP	07 24 16.7 -0.2
baz=303							
K22A	Casper	132.18	39	PKPdf		PKPdf	07 24 16.3 +0.4
214A	Organ Pipe Nat	132.21	55	P		PKiKP	07 24 17.8 +0.7
baz=288,SNR=9.1							
RWWY	Rawlins	132.25	40			PKiKP	07 24 17.2 0.0
O20A	White River Ci	132.35	43	P		PKiKP	07 24 18.1 +0.7
baz=299,SNR=32							
O20A	White River Ci	132.35	43	PKPdf		PKiKP	07 24 17.6 +0.2
PV14	Lion Creek, Pa	132.64	45			PKiKP	07 24 18.4 +0.3
PV20	West Nyswonger	132.69	45			PKiKP	07 24 18.2 +0.1
ULM	Lac du Bonnet	132.71	25	PKP		PKPdf	07 24 16.6 +0.3
comp=Z,22nm,0.8s,baz=300,slow=3.5,SNR=32							
ULM				SKPbc		SKPab	07 27 39.4 +0.4
comp=Z,11nm,0.7s,baz=307,slow=4.7,SNR=6.1							
ULM	Lac du Bonnet	132.71	25	PKIKP		PKPdf	07 24 16.9 +0.5
ULM	Lac du Bonnet	132.71	25	PKPdf		PKPdf	07 24 16.9 +0.5
PV05	Paradox Valley	132.72	46			PKiKP	07 24 18.5 +0.3
PV17	East Wray Mesa	132.72	45	PKPdf		PKiKP	07 24 18.4 +0.2
PV22	Blue Mesa, Par	132.73	45			PKiKP	07 24 19.4 +1.2
PV11	David Mesa, Pa	132.78	45			PKiKP	07 24 18.4 0.0
MDND	Maddock	132.80	29	P		PKiKP	07 24 17.9 +0.1
baz=314							
MDND	Maddock	132.80	29			PKiKP	07 24 17.3 -0.5
RSSD	Black Hills	132.84	36	PKIKP		PKiKP	07 24 18.0 -0.3
RSSD	Black Hills	132.84	36	P		PKPdf	07 24 17.6 +0.5
baz=306							
RSSD	Black Hills	132.84	36	PKPdf		PKiKP	07 24 17.9 -0.3
PSMN	Pico do Norte,	132.86	313	ePP		PP	07 26 43.3 +0.6
CMLA	Cha da Macela	132.86	314	ePP		PP	07 26 42.2 -0.4
PV02	Paradox Valley	132.91	45			PKiKP	07 24 18.9 +0.3
PSET	Sete Cidades	132.97	314	ePP		PP	07 26 43.6 +0.2
E28A	Huff	133.12	31			PKiKP	07 24 18.2 -0.3
N23A	Red Feather La	133.48	41	P		PKiKP	07 24 21.1 +1.3
baz=302							
W18A	Petrified Fore	133.50	50	P		PKiKP	07 24 20.6 +0.8
baz=293,SNR=12							
MVCO	Mesa Verde	133.53	46	P		PKiKP	07 24 20.7 +0.8
baz=296,SNR=8.3							
PHWY	Pilot Hill	133.57	40			PKPdf	07 24 19.2 +0.5
TUC	Tucson	133.72	54	P		PKiKP	07 24 21.0 +0.8
baz=290							
PGRA	Graciosa	133.97	317	ePP		PP	07 26 49.5 -0.1
AGMN	Agassiz Nation	134.20	26	P		PKPdf	07 24 19.8 +0.6
baz=319							
AGMN	Agassiz Nation	134.20	26			PKPdf	07 24 19.3 0.0
BI02	San Fabin de	134.24	176	PKPdf		PKPdf	07 24 20.1 +0.2
ISCO	Idaho Springs	134.27	42	PKIKP		PKPdf	07 24 19.9 -0.2
ISCO	Idaho Springs	134.27	42	P		PKiKP	07 24 21.3 -0.1
baz=301,SNR=11							
ISCO	Idaho Springs	134.27	42	PKPdf		PKPdf	07 24 19.9 -0.2
ROSA	Rosais	134.30	316	ePP		PP	07 26 53.5 +1.8
S22A	4UR Ranch, Cre	134.46	45	P		PKiKP	07 24 22.8 +0.9
baz=298,SNR=8.6							
SCHQ	Schefferville	134.47	360	PKP		PKPdf	07 24 19.9 +0.4
comp=Z,27nm,0.8s,baz=29,slow=3.4,SNR=21							
SCHQ				SKPbc		SKPab	07 27 45.0 -1.5
comp=Z,7.9nm,0.9s,baz=58,slow=2.2,SNR=2.5							
D32A	Dogwood Acres,	134.54	28			PKPdf	07 24 19.9 0.0
Q24A	Divide	135.01	43	P		PKiKP	07 24 23.6 +0.7
baz=301							
SDCO	Great Sand Dun	135.38	44	P		PKiKP	07 24 24.0 +0.3
baz=300,SNR=11							
F33A	5 Mile Ranch,	135.82	29	PKPdf		PKPdf	07 24 23.1 +0.8
OGNE	Ogallala	135.91	38	P		PKiKP	07 24 23.9 -0.5
baz=306							
H07S1	FLORES T-PHASE	135.93	319	ePP		PP	07 26 59.8 -2.1
121A	Cookes Peak, D	136.00	52	P		PKiKP	07 24 25.7 +0.7
baz=293							
ANMO	Albuquerque	136.01	48	PKhKP		PKPpre	07 24 12.6
comp=Z,1.8nm,0.9s,baz=294,slow=4.6,SNR=5.9							
ANMO				PKP		PKiKP	07 24 25.0 0.0
comp=Z,14nm,0.8s,baz=217,slow=2.0,SNR=26							
ANMO				SKPbc		SKPab	07 27 52.0 -2.2
comp=Z,4.9nm,0.9s,baz=282,slow=5.2,SNR=7.1							
ANMO	Albuquerque	136.01	48	PKIKP		PKiKP	07 24 25.0 0.0
ANMO	Albuquerque	136.01	48	P		PKiKP	07 24 26.4 +1.4
baz=296							
EYMN	Ely	136.30	23	P		PKiKP	07 24 24.2 -0.7
baz=324							
EYMN	Ely	136.30	23	PKPdf		PKPdf	07 24 23.7 +0.5
T25A	Trinidad	136.44	44	P		PKiKP	07 24 25.8 0.0
baz=300,SNR=8.4							
BO01	Tunca	136.51	175			PKPdf	07 24 23.2 -0.9
KSCO	Kaye Shedlock'	136.64	41	P		PKiKP	07 24 25.6 -0.4
baz=304							
KSCO	Kaye Shedlock'	136.64	41	PKPdf		PKiKP	07 24 25.6 -0.4
K31A	O'Neill	136.78	34	PKPdf		PKPdf	07 24 24.6 +0.4
MT01	Popeta	137.03	175			PKPdf	07 24 25.3 +0.3
MT09	Talagante	137.13	175			PKPdf	07 24 23.6 -1.8
ECSD	EROS Data Cent	137.17	31	P		PKPdf	07 24 25.8 +0.8
baz=315							
ECSD	EROS Data Cent	137.17	31	PKPdf		PKiKP	07 24 25.9 -0.9
PLTB	Pedras Altas	137.22	197	eP		PKiKP	07 24 27.6 +0.3
E38A	The Farm, Brul	137.35	25	PKPdf		PKiKP	07 24 26.1 -0.9
SPMN	Marine on St.	137.91	27	PKPdf		PKPdf	07 24 27.1 +0.9
BGNE	Belgrade	137.92	35	P		PKPdf	07 24 26.6 +0.1
baz=311							
VA03	San Esteban	138.17	176			PKPdf	07 24 27.7 +0.4
MNTX	Cornudas Mount	138.20	52	P		PKiKP	07 24 30.8 +1.6
baz=294							
CPSB	Cacapava Do Su	138.44	198	eP		PKiKP	07 24 30.5 +0.6
TER01	Tubaro-SC	138.59	205	eP		PKPdf	07 24 29.0 +0.9
MATQ	Matagami	138.65	10	P		PKPdf	07 24 27.7 +0.3
baz=344							
CHGQ	Chibougamau	138.98	7	P		PKPdf	07 24 28.6 +0.5
baz=349							
MSTX	Muleshoe	139.16	48	P		PKPpre	07 24 21.8
baz=299							
LSQQ	Lebel-sur-Quev	139.44	10	P		PKPpre	07 24 19.8
baz=345							
R32A	Long Quarter,	139.47	39			PKiKP	07 24 30.7 -1.0
AMTX	Amarillo	139.49	46	P		PKPdf	07 24 23.8 -5.8
baz=301							
CO02	Combarbal	139.69	175			PKPdf	07 24 30.8 +0.6
ITQB	Itaqui	140.02	195	eP		PKiKP	07 24 32.4 -0.6
SCIA	State Center	140.22	31	P		PKPdf	07 24 24.8 -5.8
baz=318							
KSU1	Kansas State U	140.32	37	P		PKPdf	07 24 24.3 -6.5
baz=311							
ALF01	Guarapari-ES	140.50	221	eP		PKiKP	07 24 33.5 -0.7
TXAR	Lajitas Array	140.50	54	PKhKP		PKPpre	07 24 24.1
comp=Z,9.5nm,0.6s,baz=248,slow=2.4,SNR=95							
U32A	Winter Ranch,	140.50	42	PKPdf		PKPdf	07 24 32.5 +1.2
JFWS	Jewell Farm	140.86	27	P		PKPdf	07 24 25.5 -6.2
baz=322							
RIB01	Linhares ES	141.20	223	eP		PKiKP	07 24 35.3 -0.4
GLMI	Grayling	141.47	20	P		PKPdf	07 24 27.8 -4.9
baz=332							
WMOK	Wichita Mounta	141.58	44	P		PKPdf	07 24 28.5 -4.8
baz=304,SNR=20							
LATQ	La Tuque	141.65	6	P		PKPdf	07 24 27.9 -5.1
baz=351							
BSFB	Barra de Sao F	141.84	223	eP		PKiKP	07 24 35.6 -1.4
NAN01	Guarapari, ES	142.02	225	eP		PKiKP	07 24 36.5 -0.9
D61A	St Aubert, Com	142.04	3	P		PKPdf	07 24 29.7 -3.9
baz=355,SNR=7.2							
OK025	Westminster Rd	142.06	42			PKPdf	07 24 33.4 -0.7
SPB	Sao Paulo	142.06	210	eP		PKiKP	07 24 36.5 -0.9
ABTX	Abilene, Hawle	142.10	47	P		PKPdf	07 24 32.0 -2.3
baz=301,SNR=14							
ABTX	Abilene, Hawle	142.10	47			PKPdf	07 24 34.5 +0.2
OK031	S. Brethren Rd	142.16	41			PKPdf	07 24 33.7 -0.5
D62A	Allapoint, All	142.21	2	P		PKPdf	07 24 30.0 -4.0
baz=357,SNR=18							
ALGO	Algonquin Park	142.22	12	P		PKPdf	07 24 29.0 -5.0
baz=343							
D63A	Stockholm	142.27

baz=311,SNR=51
W39A Magazine 144.57 39 PKPbc 07 24 37.6 +0.3
H63A New Sharon 144.58 3 P PKPdf 07 24 37.7 -0.5
baz=355,SNR=120
Q44A Meyer Farm, Va 144.58 30 PKPdf PKPbc 07 24 37.6 +0.4
H62A Milan 144.59 5 P PKPdf 07 24 38.1 -0.1
baz=353,SNR=87
H62A Milan 144.59 5 PKPdf 07 24 38.1 -0.1
EMMW East Machias 144.61 0 PKPdf PKPdf 07 24 37.8 -0.4
H65A Eastbrook 144.61 1 P PKPdf 07 24 37.9 -0.3
baz=358,SNR=64
I57A Carthage 144.62 10 P PKPbc 07 24 37.7 +0.5
baz=346,SNR=46
J54A Appleton 144.63 14 PKPdf 07 24 38.1 -0.2
H64A Troy 144.64 2 P PKPdf 07 24 37.9 -0.4
baz=357,SNR=48
VT1 Waterbury 144.67 7 PKPdf 07 24 38.3 -0.1
WVL Waterville 144.69 3 PKPdf 07 24 38.1 -0.3
BB19B Bebedouro 144.72 211 eP PKPbc 07 24 38.5 +0.2
MEDO Medina 144.78 14 PKPab 07 24 37.5 0.0
NCB Newcomb 144.83 9 PKPdf 07 24 38.7 0.0
J55A Hilton 144.83 13 PKPdf 07 24 38.5 -0.1
LBNH Lisbon 144.85 6 PKIKP PKPdf 07 24 39.0 +0.3
LBNH Lisbon 144.85 6 P PKPdf 07 24 39.1 +0.3
baz=352,SNR=57
LBNH Lisbon 144.85 6 PKPdf 07 24 39.0 +0.3
P46A Rosedale 144.87 27 PKPdf 07 24 38.9 0.0
I58A Old Forge 144.98 10 P PKPdf 07 24 39.1 +0.1
baz=347,SNR=86
Z38A Mt. Pleasant 145.00 43 PKPdf 07 24 40.0 +0.7
M50A Fremont 145.03 21 PKPdf 07 24 39.1 0.0
J56A Wolcott 145.03 12 PKPdf 07 24 39.0 0.0
N49A Columbus Grove 145.03 23 PKPdf 07 24 39.5 +0.4
I59A Olmsteadville 145.05 8 P PKPdf 07 24 39.6 +0.6
baz=349,SNR=108
J57A Williamstown 145.07 11 PKPdf 07 24 39.7 +0.6
I60A Shoreham 145.08 8 P PKPdf 07 24 40.0 +0.9
baz=350,SNR=210
FCAR Ozark Folk Cen 145.11 37 PKPdf 07 24 39.2 -0.2
TRCB Terra Rica 145.12 204 PKPdf 07 24 39.7 -0.2
TRCB Terra Rica 145.12 204 eP PKPab 07 24 39.5 0.0
MIAR Mount Ida 145.12 40 PKIKP PKPdf 07 24 40.0 +0.5
MIAR Mount Ida 145.12 40 P PKPdf 07 24 40.0 +0.5
baz=310,SNR=285
MIAR Mount Ida 145.12 40 PKPdf 07 24 40.0 +0.5
I63A Otisfield 145.15 4 P PKPdf 07 24 40.1 +0.9
baz=354,SNR=84
I63A Otisfield 145.15 4 PKPdf 07 24 40.0 +0.8
OLIL Olney 145.16 29 PKPdf 07 24 39.9 +0.5
J58A Remsen 145.25 10 P PKPdf 07 24 40.2 +0.7
baz=346,SNR=176
J58A Remsen 145.25 10 PKPdf 07 24 40.1 +0.7
I62A Tamworth 145.26 5 P PKPdf 07 24 40.2 +0.8
baz=353,SNR=54
I62A Tamworth 145.26 5 PKPdf 07 24 40.1 +0.8
J59A Piesco 145.28 9 PKPdf 07 24 40.2 +0.7
MMNY Mt. Morris Dam 145.31 14 PKPab 07 24 40.1 +0.5
RCBR Riachuelo 145.32 246 PKPbc PKPab 07 24 40.8 +0.3
comp=Z,172nm,0.8s,baz=138,slow=3.0,SNR=60
RCBR Riachuelo 145.32 246 eP PKPab 07 24 41.3 +0.8
I64A Boothbay 145.34 3 P PKPab 07 24 40.2 +0.6
baz=356,SNR=28
HNH Hanover 145.34 6 PKPab 07 24 40.8 +1.2
ERPA Erie 145.35 17 P PKPab 07 24 40.5 +0.8
baz=338,SNR=38
ERPA Erie 145.35 17 PKPab 07 24 40.5 +0.8
S44A Carbondale 145.39 31 PKPab 07 24 40.5 +0.4
SIUC Southern Illin 145.39 31 PKPab 07 24 40.4 +0.3
MC01 Montes Claros 145.41 222 eP PKPab 07 24 41.0 +0.3
WHAR Wooly Hollow 145.42 37 PKPab 07 24 40.1 -0.1
PBMO Poplar Bluff 145.45 34 PKPbc 07 24 40.1 +0.1
M52A Chesterland 145.47 19 PKPab 07 24 41.0 +0.8
K56A Middlesex 145.48 13 P PKPab 07 24 40.8 +0.5
baz=342,SNR=56
ACCN Adirondack Com 145.48 8 PKPdf PKPab 07 24 40.8 +0.6
W41B Gary Mavity, V 145.53 38 P PKPab 07 24 40.6 0.0
baz=313,SNR=95
BLO Bloomington 145.54 27 PKIKP PKPab 07 24 41.0 +0.5
BLO Bloomington 145.54 27 PKPab 07 24 41.0 +0.5
NBLV Livramento - P 145.55 242 eP PKPbc 07 24 41.0 -0.1
LCAR Lake Charles 145.55 35 PKPab 07 24 40.9 +0.2
PCMB Pacaembu 145.58 207 eP PKPab 07 24 42.1 +0.9
O49A Covington 145.60 23 PKPab 07 24 41.3 +0.5
K57A Scipio Center 145.62 12 PKPab 07 24 41.2 +0.4
X40A Basin Creek Fa 145.62 39 P PKPab 07 24 42.1 +1.1
baz=311,SNR=20
X40A Basin Creek Fa 145.62 39 PKPab 07 24 40.9 -0.1
FFD Franklin Falls 145.64 6 PKPab 07 24 41.7 +1.0
MOIG Morelia 145.64 69 PKPab 07 24 42.3 +0.5
J60A Lant Hill Farm 145.66 8 P PKPab 07 24 41.5 +0.6
baz=349,SNR=49
J61A Chester 145.66 7 P PKPab 07 24 41.9 +1.1
baz=351,SNR=101
N51A Ashland 145.69 20 PKPdf PKPab 07 24 41.1 0.0
ALLY Alegheny Colle 145.74 17 PKPbc 07 24 41.0 +0.2
M53A WI Miller and 145.77 18 P PKPab 07 24 41.3 0.0
baz=336,SNR=126
M53A WI Miller and 145.77 18 PKPab 07 24 41.4 0.0
P48A Milroy 145.78 25 PKPab 07 24 41.4 0.0
GO02 Mina Guanaco 145.79 176 PKPab 07 24 42.4 +0.2
J62A Henniker 145.86 6 P PKPab 07 24 41.9 +0.2
baz=352,SNR=90
J63A Strafford 145.88 5 P PKPab 07 24 41.8 +0.2
baz=353,SNR=45
L56A Greenwood 145.96 14 PKPdf PKPbc 07 24 41.7 +0.2
WLAR White Oak Lake 145.97 40 PKPab 07 24 42.5 +0.2
USIN University of 145.98 29 PKPab 07 24 42.1 -0.1
M54A Oil Creek Stat 146.01 17 P PKPbc 07 24 41.5 -0.2
baz=338,SNR=158
M54A Oil Creek Stat 146.01 17 PKPbc 07 24 41.8 +0.2
P49A Miami Univ. Ec 146.01 24 P PKPbc 07 24 41.5 -0.2
baz=328,SNR=126
P49A Miami Univ. Ec 146.01 24 PKPdf PKPbc 07 24 41.7 0.0
ACSO Alum Creek Sta 146.08 22 P PKPbc 07 24 41.8 -0.1
baz=332,SNR=83
ACSO Alum Creek Sta 146.08 22 PKPbc 07 24 42.0 +0.1
NATX Nacogdoches 146.11 45 P PKPab 07 24 43.0 +0.1
baz=306
TRY Troy 146.12 8 PKPab 07 24 42.5 -0.1
HBAR Harrisburg 146.20 36 PKPab 07 24 42.8 -0.3
T45A Paducah 146.22 32 PKPbc 07 24 42.4 0.0
K61A Williamstown 146.24 8 P PKPbc 07 24 42.7 +0.4
baz=349,SNR=102
BINY Binghamton 146.24 12 P PKPbc 07 24 42.6 +0.2
baz=344,SNR=110
BINY Binghamton 146.24 12 PKPdf PKPbc 07 24 42.5 +0.2
PEBM Pemiscott Bayo 146.24 34 PKPbc 07 24 42.4 -0.1
GNAR Gosnell 146.27 34 PKPbc 07 24 42.5 0.0
HICK Hickman 146.27 33 PKPbc 07 24 42.8 +0.2
HKT Hockley 146.27 48 PKP2 PKPab 07 24 43.1 -0.4
HKT Hockley 146.27 48 PKPab 07 24 43.1 -0.4
M55A Ridgway 146.29 16 PKPdf PKPbc 07 24 42.3 -0.2
M55A PKPbc PKPab 07 24 43.5 +0.1
N53A Lisbon 146.30 19 PKPbc 07 24 42.1 -0.4
LPAR Lepanto 146.37 35 PKPbc 07 24 42.7 -0.2
K62A Royalston 146.37 7 P PKPbc 07 24 43.0 +0.4
baz=351,SNR=58
K62A Royalston 146.37 7 PKPbc 07 24 42.9 +0.2
WCI Wyandotte Cave 146.41 28 PKP2 PKPbc 07 24 42.7 -0.3
WCI Wyandotte Cave 146.41 28 P PKPbc 07 24 42.4 -0.5
baz=325
WCI Wyandotte Cave 146.41 28 PKPdf PKPbc 07 24 42.6 -0.3
WCI PKPbc PKPab 07 24 44.1 +0.2
N54A Moraine State 146.42 17 P PKPbc 07 24 42.4 -0.4
baz=337,SNR=114
N54A Moraine State 146.42 17 PKPdf 07 24 42.0 +0.5
L58A Harry Jones Me 146.42 12 P PKPab 07 24 43.7 -0.1
baz=345,SNR=175
K63A Dunstable 146.42 6 P PKPbc 07 24 43.1 +0.3
baz=352,SNR=46
K63A Dunstable 146.42 6 PKPbc 07 24 42.4 -0.4
L59A Walton 146.43 10 PKPbc 07 24 42.8 -0.1
Z41A Richland Creek 146.44 41 P PKPbc 07 24 43.3 +0.1
baz=310,SNR=36
NBPA Parau_RN 146.44 245 eP PKPbc 07 24 43.3 -0.4
GLAT Glass 146.44 33 PKPbc 07 24 42.7 -0.4
LNXT Lenox 146.46 34 PKPdf 07 24 42.2 +0.5
NBPN Ponto Novo - B 146.48 234 eP PKPab 07 24 44.5 -0.4
L61B Northampton 146.53 7 P PKPbc 07 24 42.7 -0.5
baz=350,SNR=37
O52A Adamsville 146.59 20 PKPdf 07 24 42.4 +0.5
O52A PKPbc PKPab 07 24 44.4 -0.1
HRV Adam Dziewonsk 146.60 6 PKP2 PKPbc 07 24 43.1 -0.3
baz=352
HRV Adam Dziewonsk 146.60 6 P PKPbc 07 24 43.0 -0.3
UTMT University of 146.62 33 PKPdf 07 24 42.7 +0.8
CCAR Cane Creek 146.66 39 PKPbc 07 24 43.5 -0.3
HALT Halls 146.68 34 PKPbc 07 24 43.1 -0.7
O53A New Philadelph 146.68 20 P PKPbc 07 24 43.2 -0.5
baz=334,SNR=58
O53A New Philadelph 146.68 20 PKPdf 07 24 42.4 +0.5
O53A PKPbc PKPab 07 24 44.5 -0.4
P51A Williamsport 146.71 22 PKPdf 07 24 42.3 +0.3
P51A PKPbc PKPab 07 24 44.5 -0.5
WES Weston 146.74 5 PKP2 PKPbc 07 24 43.1 -0.6
WES Weston 146.74 5 PKPbc 07 24 43.1 -0.6
WES PKPbc PKPab 07 24 44.7 -0.3
ITRB Iturama 146.79 210 eP PKPbc 07 24 44.8 +0.2
BCX Boston College 146.81 5 PKPdf 07 24 42.2 +0.2
BCX PKPbc PKPab 07 24 45.2 0.0
M57A Sunshine Farm, 146.82 14 PKPdf 07 24 42.9 +0.8
M57A PKPbc PKPab 07 24 45.1 -0.2
JANB Januaria 146.84 224 eP PKPbc 07 24 44.6 -0.2
R49A Shelbyville 146.86 26 PKPdf 07 24 42.9 +0.5
R49A PKPbc PKPab 07 24 45.3 -0.3
KSPA Keystone Colle 146.90 12 PKPdf 07 24 43.1 +0.8
KSPA PKPbc PKPab 07 24 45.5 -0.1
P52A Corning 146.91 21 P PKPdf 07 24 42.8 +0.4
baz=332,SNR=134
P52A Corning 146.91 21 PKPdf 07 24 42.7 +0.3
P52A PKPbc PKPab 07 24 45.1 -0.7
MET Memphis--Engin 146.92 35 PKPdf PKPdf 07 24 43.0 +0.5
MET PKPab 07 24 45.8 -0.1
Q51A Peebles 146.99 23 PKPdf 07 24 43.1 +0.5
Q51A PKPbc PKPab 07 24 45.5 -0.6
O54A Avella 147.01 19 PKPdf 07 24 43.5 +0.9
O54A PKPbc PKPab 07 24 45.8 -0.4
T47A Sharon Grove 147.02 30 PKPdf 07 24 43.5 +0.9
T47A PKPbc PKPab 07 24 45.8 -0.5
IPMB Ipameri, GO 147.07 215 eP PKPbc 07 24 44.5 -0.9
KSCT Kent School, K 147.13 9 PKPbc 07 24 43.8 -1.1
KSCT PKPbc PKPab 07 24 46.0 -0.5
NBMA Muriti-CE 147.15 241 eP PKPbc 07 24 45.4 -0.4
BRYW Bryant College 147.19 6 PKPdf 07 24 43.1 +0.4
BRYW PKPbc PKPab 07 24 46.1 -0.6
R50A Paris 147.23 25 PKPdf 07 24 43.2 +0.2
R50A PKPbc PKPab 07 24 45.7 +0.5
L64A Middleborough 147.23 5 P PKPbc 07 24 45.4 +0.3
baz=354,SNR=27
L64A Middleborough 147.23 5 PKPbc 07 24 44.3 -0.8
L64A PKPbc PKPab 07 24 46.2 -0.7
L63A North Scituate 147.23 6 P PKPbc 07 24 44.0 -1.1
baz=352,SNR=40
L63A North Scituate 147.23 6 PKPbc 07 24 44.0 -1.1
L63A PKPbc PKPab 07 24 46.2 -0.8
SSPA Standing Stone 147.30 15 P PKPbc 07 24 44.2 -1.2
baz=340
SSPA Standing Stone 147.30 15 PKPbc 07 24 44.1 -1.2
SSPA PKPbc PKPab 07 24 46.4 -0.8
P53A Whipple 147.31 20 PKPdf PKPdf 07 24 43.7 +0.7
P53A PKPbc PKPab 07 24 46.5 -0.8
W45A Hickory Valley 147.32 34 PKPdf 07 24 44.1 +1.0
W45A PKPbc PKPbc 07 24 46.3 +0.7
WVT Waverly 147.32 32 PKP2 PKPab 07 24 46.7 -0.8
WVT Waverly 147.32 32 P PKPdf 07 24 44.1 +0.9
baz=320
WVT Waverly 147.32 32 PKPdf 07 24 43.6 +0.5
WVT PKPbc PKPab 07 24 46.7 -0.8
PB10 IPOC Station P 147.35 174 PKPab 07 24 47.4 -0.5
N58A Sunbury 147.39 13 PKPdf PKPdf 07 24 44.1 +1.0
N58A PKPbc PKPab 07 24 46.7 -0.9
Q52A Bidwell 147.46 22 PKPdf 07 24 43.9 +0.6
Q52A PKPbc PKPbc 07 24 46.4 +0.5
O56A Blue Knob Stat 147.46 16 P PKPdf 07 24 44.5 +1.2
baz=339,SNR=84
O56A Blue Knob Stat 147.46 16 PKPdf 07 24 44.2 +0.9
O56A PKPbc PKPab 07 24 47.0 -1.0
N59A State Game Lan 147.52 12 P PKPbc 07 24 46.0 -0.1
baz=344,SNR=91
N59A State Game Lan 147.52 12 PKPdf PKPdf 07 24 44.5 +1.1
N59A PKPbc PKiKP 07 24 47.4 -0.8
M64A Tiverton 147.58 5 P PKPdf 07 24 44.5 +1.1
baz=353,SNR=12
M64A Tiverton 147.58 5 PKPdf PKPdf 07 24 43.7 +0.3
M64A PKPbc PKPbc 07 24 47.0 +0.9
ODNJ Ogdensburg 147.58 10 PKPdf PKPdf 07 24 44.4 +0.9
ODNJ PKPbc PKiKP 07 24 47.2 -1.0
TRNY Table Rock, Ra 147.59 10 PKPdf 07 24 44.3 +0.9
TRNY PKPbc PKiKP 07 24 47.2 -1.0
M63A Gales Ferry 147.64 7 PKPbc 07 24 45.7 -0.6
M63A PKPab PKPab 07 24 49.9 +1.4
MCWV Mont Chateau 147.66 18 P PKPdf 07 24 44.7 +1.0
baz=336,SNR=118
MCWV Mont Chateau 147.66 18 PKPdf PKPdf 07 24 44.5 +0.9
MCWV PKiKP 07 24 47.5 -0.9
OXF Oxford 147.66 36 PKIKP PKPdf 07 24 44.2 +0.5
OXF 07 24 47.5
OXF Oxford 147.66 36 P PKPdf 07 24 44.7 +0.9
baz=316,SNR=124
OXF Oxford 147.66 36 PKPdf PKPdf 07 24 44.2 +0.5
OXF PKPbc 07 24 47.5 +1.0
143A Socs Landing, 147.69 40 PKPdf PKPdf 07 24 44.7 +0.9
143A PKiKP 07 24 48.4 -0.3
WSPT Westport, CT 147.70 9 PKPdf PKPdf 07 24 44.4 +0.8
WSPT PKPbc 07 24 46.9 +0.5
441A DeRidder 147.72 45 PKPdf 07 24 45.1 +1.1
441A PKPab 07 24 49.5 +0.2
PB15 IPOC Station P 147.74 176 PKPdf PKPdf 07 24 43.4 -1.2
PB15 PKPbc PKiKP 07 24 49.0 -0.4
PAL Palisades 147.77 9 PKP2 PKiKP 07 24 47.7 -0.9
PAL Palisades 147.77 9 P PKPbc 07 24 45.2 -1.4
baz=348,SNR=57
PAL Palisades 147.77 9 PKiKP 07 24 47.7 -0.9
LUPA Lehigh Univers 147.91 12 PKPbc 07 24 47.9 +0.9
N62A Caumsett State 147.92 9 PKiKP 07 24 48.1 -0.8
342A Flagon Creek P 147.94 43 PKPdf PKPdf 07 24 45.2 +0.9
342A PKPbc PKPab 07 24 49.8 -0.3
Q54A Coxs Mills 147.95 20 PKPdf 07 24 44.7 +0.6
O54A PKPbc PKiKP 07 24 48.1 -0.9
CPNY Central Park 147.97 10 PKPdf PKPdf 07 24 45.3 +1.2
CPNY PKiKP 07 24 48.2 -0.8
U49A Red Boiling Sp 148.04 29 PKPdf 07 24 44.9 +0.5
U49A PKPbc PKiKP 07 24 48.9 -0.4
Y45A Yeager Farm, C 148.04 36 PKPdf PKPdf 07 24 44.9 +0.5
Y45A PKPbc PKiKP 07 24 49.2 -0.2
PLAL Pickwick Lake 148.06 33 PKPdf 07 24 43.0 -1.4
PLAL PKPbc PKPbc 07 24 48.1 +0.5
T50A Nancy 148.06 27 PKPdf PKPdf 07 24 45.0 +0.6
T50A PKPbc PKiKP 07 24 48.5 -0.9
CLTN Cedars of Leba 148.11 30 PKPdf 07 24 45.2 +0.8
R53A Hurricane 148.13 22 PKPdf 07 24 45.6 +1.1
V48A Smith Brothers 148.14 31 PKPdf 07 24 44.7 +0.1
NBCL Cascavel-CE 148.15 246 eP PKPbc 07 24 47.5 -1.0
PB06 IPOC Station P 148.23 176 PKPdf 07 24 44.9 -0.4
PB06 PKPbc PKiKP 07 24 49.9 -0.4
MVL Millersville 148.27 13 PKPdf 07 24 45.4 +0.8
MVL PKPbc PKiKP 07 24 49.1 -0.6
P57A Homestead Farm 148.35 16 PKPdf PKPdf 07 24 45.6 +0.9
P57A PKPbc PKiKP 07 24 49.3 -0.5
LVC Limon Verde 148.36 177 PKP PKPdf 07 24 47.2 +1.4
comp=Z,49nm,0.8s,baz=236,slow=1.2,SNR=33
LVC PKPbc PKiKP 07 24 50.8 -0.1
comp=Z,39nm,0.6s,baz=216,slow=1.4,SNR=27
LVC Limon Verde 148.36 177 PKIKP PKPdf 07 24 47.0 +1.2
LVC 07 24 50.9
LVC Limon Verde 148.36 177 PKPdf 07 24 47.0 +1.2
LVC PKPbc PKiKP 07 24 50.9 +0.1
LVC Limon Verde 148.36 177 eP 07 24 48.1 -1.1
AQDB Aquidauana 148.39 201 PKPdf PKPdf 07 24 46.3 +0.9
AQDB PKPbc PKPbc 07 24 49.5 +0.6
AQDB Aquidauana 148.39 201 eP PKPbc 07 24 47.8 -1.0
Q56A Snyder Ridge, 148.42 18 PKPdf 07 24 45.7 +0.8
Q56A PKPbc PKiKP 07 24 49.3 -0.7
Q56A PKPab PKPab 07 24 53.6 +1.8
WUPA West Chester U 148.50 12 PKPbc PKiKP 07 24 49.4 -0.7
TLIG Tlapa 148.51 71 PKPdf 07 24 46.3 +0.6
TLIG PKPbc PKiKP 07 24 51.5 +0.6
PB04 IPOC Station P 148.55 175 PKiKP 07 24 50.6 -0.4
VBMS Vicksburg 148.58 40 PKPdf 07 24 46.5 +1.2
VBMS PKPbc PKiKP 07 24 50.7 +0.1
P60A Greenville 148.61 12 P PKPdf 07 24 45.8 +0.7
baz=344,SNR=37
P60A Greenville 148.61 12 PKPdf PKPdf 07 24 46.1 +1.0
P60A PKPbc PKiKP 07 24 49.9 -0.5
SDMD Soldier's Deli 148.72 14 PKPdf 07 24 45.0 -0.4
SDMD PKPbc PKPbc 07 24 48.4 -0.8
NBPB Pedra_Branca-C 148.73 243 eP PKPdf 07 24 47.5 +1.4
BDFB Brasilia 148.79 218 PKP PKPdf 07 24 47.2 +0.9
comp=Z,46nm,0.5s,baz=134,slow=2.2,SNR=63
BDFB PKPbc PKiKP 07 24 51.0 -0.6
comp=Z,46nm,0.5s,baz=124,slow=1.9,SNR=46
BDFB Brasilia 148.79 218 PKPdf PKPdf 07 24 46.5 +0.2
BDFB PKPbc PKiKP 07 24 51.5 0.0
R55A Marlinton 148.82 20 PKPdf 07 24 46.4 +1.0
R55A PKPbc PKiKP 07 24 50.6 -0.3
R55A PKPab PKPab 07 24 54.9 +1.4
S54A Dingess, Beckl 148.84 22 PKPdf 07 24 46.6 +1.0
S54A PKPbc PKPbc 07 24 50.3 +0.7
S54A PKPab PKPab 07 24 54.9 +1.3
P61A Hammonton 148.91 11 PKiKP 07 24 50.6 -0.3
344A Westbrook Farm 148.94 41 PKPdf 07 24 46.5 +0.5
344A PKPbc PKiKP 07 24 52.1 +0.9
SWET Sewanee 149.00 31 PKPdf 07 24 46.4 +0.4
SWET PKPbc PKPbc 07 24 50.5 +0.4
X48A Hartselle 149.01 33 PKPdf 07 24 46.2 +0.2
X48A PKPbc PKPbc 07 24 50.5 +0.4
TZTN Tazewell 149.03 26 P PKPdf 07 24 47.0 +1.1
baz=328,SNR=44
TZTN Tazewell 149.03 26 PKPdf 07 24 46.6 +0.6
TZTN PKPbc PKiKP 07 24 51.4 0.0
SDBA SAO DESIDERIO 149.08 226 eP PKPdf 07 24 48.4 +1.7
PB07 IPOC Station P 149.18 175 PKPdf 07 24 47.1 +0.2
PB07 PKPbc PKiKP 07 24 52.3 0.0
146A Union 149.19 38 PKPdf 07 24 47.1 +0.8
146A PKPbc PKiKP 07 24 52.2 +0.4
V51A Loudon 149.29 28 PKPdf 07 24 47.5 +1.1
V51A PKPbc PKiKP 07 24 51.7 -0.2
W50A Signal Mountai 149.32 30 PKPdf 07 24 47.2 +0.7
W50A PKPbc PKiKP 07 24 51.7 -0.3
Z47A Carrollton 149.38 36 PKPdf 07 24 47.7 +1.1
Z47A PKPbc PKiKP 07 24 52.0 -0.2
CPCT Cooper Cave 149.50 28 PKPdf PKPdf 07 24 47.8 +1.1
CPCT PKPbc PKiKP 07 24 52.1 -0.2
V52A Sevierville 149.60 27 PKPdf 07 24 47.9 +1.0
V52A PKPbc PKiKP 07 24 52.7 +0.2
TKL Tuckaleechee C 149.67 27 PKP PKPdf 07 24 48.0 +0.9
comp=Z,109nm,1.0s,baz=51,slow=1.1,SNR=18
TKL PKPbc PKiKP 07 24 52.6 -0.1
comp=Z,153nm,0.7s,baz=322,slow=0.9,SNR=35
TKL Tuckaleechee C 149.67 27 PKPbc PKiKP 07 24 52.8 +0.1
S57A Dark Hollow, R 149.67 18 PKPdf 07 24 47.5 +0.6
S57A PKPbc PKiKP 07 24 52.4 -0.2
BLA Blacksburg 149.68 21 PKHKP PKPdf 07 24 47.7 +0.6
BLA Blacksburg 149.68 21 P PKPdf 07 24 47.9 +0.8
baz=334,SNR=15
BLA Blacksburg 149.68 21 PKPdf 07 24 47.6 +0.6
BLA PKPbc PKiKP 07 24 52.5 -0.2
FPAL Fort Paine 149.69 31 PKPdf PKPdf 07 24 47.9 +0.7
FPAL PKPbc PKiKP 07 24 52.5 -0.3
CBN Corbin Frederi 149.72 16 P PKPdf 07 24 48.1 +1.2
baz=340,SNR=16
CBN Corbin Frederi 149.72 16 PKPdf 07 24 47.3 +0.3
U54A Nelsons Funny 149.76 24 PKPdf 07 24 47.4 +0.1
U54A PKPbc PKiKP 07 24 52.9 0.0
346A Big Creek Wild 149.80 40 PKPdf PKPdf 07 24 48.7 +1.4
346A PKiKP 07 24 53.5 +0.4
R58B Mineral 149.80 17 PKPdf 07 24 48.0 +0.8
Y49A Blount Mountai 149.81 33 PKPdf 07 24 47.9 +0.6
Y49A PKPbc PKiKP 07 24 53.1 +0.1
PB01 IPOC Station P 149.88 176 PKPdf 07 24 48.2 +0.3
PB01 PKPbc PKiKP 07 24 54.1 +0.4
X51A Calhoun 150.05 30 PKPdf 07 24 48.7 +1.0
JSRW J. Sargeant Re 150.06 17 PKPdf 07 24 48.4 +0.9
W52A Murphy 150.07 28 PKPdf 07 24 48.9 +1.2
V53A Saluda 150.08 26 PKPdf 07 24 48.9 +1.1
T57A Hurt 150.27 20 PKPdf 07 24 49.0 +1.1
T57A PKPab PKPab 07 25 00.2 +0.8
TA01 Diego Aracena 150.30 175 PKPdf PKPdf 07 24 48.6 +0.2
TA01 PKPbc PKiKP 07 24 54.8 +0.3
U56A King 150.46 22 PKPdf 07 24 49.5 +1.2
U56A PKPab PKPab 07 25 01.4 +1.2
V55A Taylorsville 150.59 23 PKPdf 07 24 49.3 +0.9
BG3 Lake Jocassee 150.60 27 PKPdf 07 24 49.5 +1.0
BG3 PKPbc PKiKP 07 24 55.7 +1.0
BG3 PKPab PKPab 07 25 02.8 +1.9
PP1B Ponte de Pedra 150.69 205 eP PKPdf 07 24 50.7 +1.6
PB08 IPOC Station P 150.80 176 PKPdf 07 24 49.4 -0.3
T59A Double "B" Far 150.82 17 PKPdf PKPdf 07 24 50.2 +1.5
Z51A Franklin 150.88 32 PKPdf 07 24 50.2 +1.2
T60A Surry 150.89 16 PKPdf 07 24 50.4 +1.6
ARAG Araguaiana, MT 150.89 212 eP PKPdf 07 24 51.0 +1.5
NBPS Pedro II - PI 150.90 243 eP PKPdf 07 24 51.9 +2.2
Y52A Lilburn 151.00 30 PKPdf 07 24 50.7 +1.6
PB11 IPOC Station P 151.14 175 PKPdf 07 24 51.0 +1.0
KMSC Kings Mountain 151.16 24 P PKPdf 07 24 50.5 +1.2
baz=330,SNR=62
KMSC Kings Mountain 151.16 24 PKPdf 07 24 50.0 +0.7
KMSC PKPbc PKiKP 07 24 56.2 +0.4
KMSC PKPab PKPab 07 25 04.1 +1.0
PAULI Pauline 151.23 25 PKPdf 07 24 50.8 +1.4
PSGCX Pisagua 151.26 174 PKPdf PKPdf 07 24 50.0 -0.1
250A Grady 151.30 35 PKPdf 07 24 50.8 +1.1
V58A Windy Hill, Pi 151.41 20 PKPdf 07 24 50.1 +0.5
BRAL Brewton 151.44 37 P PKPdf 07 24 52.0 +2.1
baz=316,SNR=25
BRAL Brewton 151.44 37 PKPdf PKPdf 07 24 50.8 +0.9
BRAL PKPbc PKiKP 07 24 57.6 +1.2
HODGE Hodges 151.54 27 PKPdf 07 24 51.2 +1.2
HODGE PKPab PKPab 07 25 05.7 +1.0
152A Waverly Hall 151.62 32 PKPdf PKPdf 07 24 51.3 +1.2
PEXB Peixe 151.64 222 eP PKPdf 07 24 51.9 +1.2
GOGA Godfrey 151.66 29 PKIKP PKPdf 07 24 51.6 +1.5
GOGA Godfrey 151.66 29 P PKPdf 07 24 51.4 +1.3
baz=325,SNR=22
GOGA Godfrey 151.66 29 PKPdf 07 24 51.6 +1.5
W57A Gilead 151.67 22 PKPdf 07 24 50.8 +0.7
W57A PKPab PKPab 07 25 06.1 +0.9
MNMC Minye Minye 151.77 175 PKPdf 07 24 50.4 -0.6
MNMC PKPbc PKiKP 07 24 58.8 +0.9
JSC Jenkinsville 151.93 25 PKIKP PKPdf 07 24 52.2 +1.7
JSC Jenkinsville 151.93 25 PKPdf 07 24 52.2 +1.7
BIRD Birdtown, Kers 151.94 23 PKPdf PKPdf 07 24 51.1 +0.6
V61A Roper 152.20 16 PKPdf 07 24 51.0 +0.1
V61A PKPbc PKiKP 07 24 58.8 +0.9
CNNC Cliffs of the 152.32 19 P PKPdf 07 24 52.2 +1.2
baz=337,SNR=5.2
CNNC Cliffs of the 152.32 19 PKPdf 07 24 51.9 +0.9
352A Blakely 152.43 34 PKPdf 07 24 51.7 +0.3
352A PKPbc PKiKP 07 24 59.6 +1.1
X58A Rowland 152.44 22 PKPdf 07 24 52.0 +0.7
Y57A Sumter 152.51 24 PKPdf 07 24 51.5 +0.1
SALV Santo Antonio 152.55 205 eP PKPdf 07 24 53.2 +1.3
Y58A Scranton 152.90 23 PKPdf 07 24 52.8 +0.8
Y58A PKPab pPKPdf 07 25 11.5 -0.2
Y59A Loris 153.12 22 PKPdf 07 24 53.4 +1.1
Y59A PKPab pPKPdf 07 25 12.1 0.0
TIGA Tifton 153.18 32 P PKPdf 07 24 54.2 +1.7
baz=322
Y60A Bolivia 153.34 21 PKPab PKPab 07 25 13.0 +0.7
255A Hazlehurst 153.35 30 PKPdf 07 24 54.1 +1.4
255A PKiKP 07 25 01.5 +1.1
255A PKPab PKPab 07 25 13.8 +1.4
NHSC New Hope 153.39 25 P PKPdf 07 24 54.3 +1.6
baz=331
SMTB Santa Maria do 153.41 228 eP PKPdf 07 24 54.6 +1.3
RGRS Roger Stewart 153.56 25 PKiKP 07 25 02.0 +1.3
SNDB Serra Nova Dou 153.63 217 eP PKPdf 07 24 54.6 +1.0
ROSB Rosrio 153.96 244 eP PKPdf 07 24 54.4 +0.3
PTLB Pontes e Lacer 154.22 198 eP PKPdf 07 24 55.8 +1.5
SIV San Ignacio 154.23 194 PKP PKPdf 07 24 55.8 +1.4
comp=Z,6.7nm,0.6s,baz=162,slow=1.8,SNR=37
SIV PKPab PKPab 07 25 16.8 +0.3
comp=Z,23nm,0.8s,baz=156,slow=5.0,SNR=11
SIV PP PP 07 28 48.7 -1.2
comp=Z,10nm,1.1s,baz=195,slow=4.0,SNR=7.5
LPAZ La Paz 154.68 178 PKP PKPdf 07 24 56.9 +1.1
comp=Z,11nm,1.0s,baz=94,slow=1.9,SNR=27
LPAZ PKPab PKPab 07 25 19.8 +0.7
comp=Z,12nm,0.7s,baz=237,slow=8.4,SNR=8.6
LPAZ La Paz 154.68 178 eP PKPdf 07 24 56.5 +0.7
LPAZ La Paz 154.68 178 eP PKPdf 07 24 57.2 +1.4
CCIG Comitan 154.80 71 PKPdf PKPdf 07 24 55.1 -0.2
CCIG PKPab sPKPdf 07 25 20.8 -1.5
656A Willston 155.36 33 PKPab 07 25 22.4 +1.5

PETF	Flores	156.74	68		PKPdf	07 24 57.9	+0.2
PETF				PKPab	PKPab	07 25 28.6	+1.2
BBSR	BB Station	156.80	354		PKPab	07 25 27.6	+0.6
PRPB	Parauapebas	156.83	229	eP	PKPdf	07 24 58.7	+0.7
VILB	Vilhena	156.90	198	eP	PKPdf	07 24 59.1	+1.1
NNA	Nana	156.93	156	PKP	PKPdf	07 24 59.5	+1.4
comp=Z,13nm,0.9s,baz=108,slow=3.2,SNR=4.3							
CLDB	Colider	157.01	210	eP	PKPdf	07 24 59.0	+0.8
TMAB	Tom-Au,PA,Br	157.67	240	eP	PKPdf	07 25 00.5	+1.5
MTO3	Montecristo	157.81	74	PKPab	PKPab	07 25 32.7	+0.3
TGUH	Tegucigalpa,Un	159.86	74	PKPdf	PKPdf	07 25 02.1	+0.5
TGUH	Tegucigalpa,Un	159.86	74	eP	PKPdf	07 25 00.5	-1.2
NPGB	Novo Progresso	159.95	217	eP	PKPdf	07 25 02.8	+1.0
CRIN	San Cristobal	160.31	78		PKPab	07 25 43.6	+0.6
ATAH	Atahualpa	160.38	145	PKP	PKPdf	07 25 04.6	+1.9
comp=Z,13nm,0.8s,baz=242,slow=2.0,SNR=14							
ETMB	Extrema	161.09	183	eP	PKPdf	07 25 03.8	+0.9
SAML	Samuel	161.52	193	eP	PKPdf	07 25 04.3	+0.9
ORTG	Ortega, Santa	162.08	85		PKPdf	07 25 03.8	-0.2
MCPB	Macapa, AP	162.09	239	eP	PKPdf	07 25 05.3	+1.3
ACON	Acoyapa	162.22	79		PKPab	07 25 52.1	+0.8
ITTB	Itaituba	162.27	221	eP	PKPdf	07 25 05.5	+1.3
CZSB	Cruzeiro do Su	162.36	162	eP	PKPdf	07 25 05.0	+0.8
MALB	Monte Alegre	162.99	230	eP	PKPdf	07 25 06.2	+1.3
FSCY	Frank Sound, G	163.22	52	PKPab	PKPab	07 25 56.5	+1.1
RIMA	Rio Macho	163.66	87		PKPdf	07 25 05.9	+0.2
SRBA	San Rafael, Bu	164.16	89		PKPdf	07 25 06.8	+0.7
MDP	Montagnes des	164.89	255	PKP	PKPdf	07 25 07.4	+0.8
comp=Z,17nm,1.0s,baz=108,slow=3.1,SNR=4.0							
MDP				PKPab	PKPab	07 26 03.7	+0.5
comp=Z,28nm,0.9s,baz=105,slow=4.0,SNR=10							
OTAV	Otavalo	165.79	128	PKIKP	PKPdf	07 25 09.3	+1.4
OTAV	Otavalo	165.79	128		PKPdf	07 25 09.3	+1.4
OTAV	Otavalo	165.79	128⇑	eP	PKPdf	07 25 08.8	+0.9
OTAV	Otavalo	165.79	128	eP	PKPdf	07 25 09.5	+1.6
MACA	Manacapuru-AM	166.07	209	eP	PKPdf	07 25 08.5	+0.9
TBTG	Tabatinga, AM	166.47	169⇑	eP	PKPdf	07 25 08.1	+0.2
TULM	Tulcn-Chalpat	166.60	128	eP	PKPdf	07 25 11.0	+2.4
GTBY	Guantanamo Bay	166.93	34	eP	PKPdf	07 25 08.0	0.0
GCUF	Volcan Galeras	167.26	128	eP	PKPdf	07 25 09.6	+0.5
PTGA	Pitinga	167.73	217	PKP	PKPdf	07 25 08.8	-0.1
comp=Z,12nm,0.9s,baz=220,slow=2.4,SNR=16							
PTGA				PKPab	PKPab	07 26 14.8	-0.6
comp=Z,13nm,0.8s,baz=140,slow=5.5,SNR=7.1							
BBAC	Balboa, Cauca	167.82	125	eP	PKPdf	07 25 08.1	-1.1
POPC	Popayan, Colom	168.59	125	eP	PKPdf	07 25 00.2	-10
GARC	Garzon, Huila	169.30	130	eP	PKPdf	07 25 10.5	+0.3
MARP	Paez Belalcaza	169.34	126	eP	PKPdf	07 25 10.1	-0.2
SDDR	Presa de Saban	169.53	21		PKPdf	07 25 10.0	+0.1
SDDR					PKPab	07 26 24.2	+1.1
SOLC	Bahia Solano	169.57	106	eP	PKPdf	07 25 11.0	+1.0
YOTC	Yotoco, Valle	169.65	119	eP	PKPdf	07 25 08.1	-2.1
PLMC	San Jos del P	170.13	115	eP	PKPdf	07 25 10.5	0.0
DR12	Loma Pena Alta	170.25	12	PKPdf	PKPdf	07 25 11.5	+1.2
DR12					PKPab	07 26 26.9	+0.6
SMRT	St. Maarten	170.28	335		PKPdf	07 25 10.4	+0.1
MACC	Macarena, Meta	170.45	137	eP	PKPdf	07 25 10.1	-0.5
BOAV	Boa Vista	170.46	225	eP	PKPdf	07 25 11.5	+1.0
ORTC	Ortega, Tolima	170.53	123	eP	PKPdf	07 25 08.8	-1.8
STVI	Saint Thomas	170.61	346	PKPdf	PKPdf	07 25 09.8	-0.6
TOLC	Tolima	170.83	119	eP	PKPdf	07 25 12.0	+0.8
GCPR	Guaynabo City	170.85	353	PKPdf	PKPdf	07 25 10.3	-0.2
GCPR				PKPab	PKPab	07 26 28.4	-0.4
CBYP	Canovanas	170.86	351		PKPab	07 26 28.7	-0.3
DBBC	Dabeiba	170.93	103	eP	PKPdf	07 25 11.3	+0.4
MTP	Monte Pirata	170.98	349		PKPab	07 26 29.7	+0.2
HUMP	Col San Antoni	170.98	351	PKPdf	PKPdf	07 25 10.4	-0.2
HUMP					PKPab	07 26 29.9	+0.5
SJG	San Juan	171.06	353	PKIKP	PKPdf	07 25 10.0	-0.6
SJG						07 26 30.6	
SJG	San Juan	171.06	353		PKPdf	07 25 10.0	-0.6
SJG					PKPab	07 26 30.6	+0.8
GUY2C	Guyana, Caldas	171.09	116	eP	PKPdf	07 25 02.6	-8.8
PDPR	Patillas Dam,	171.13	352	PKPdf	PKPdf	07 25 10.2	-0.5
PDPR					PKPab	07 26 30.2	+0.1
CDVI	St. Croix	171.13	344	PKPab	PKPab	07 26 30.1	0.0
OBIP	Obispado Ponce	171.17	356		PKPdf	07 25 09.0	-1.7
OBIP				PKPab	PKPab	07 26 30.0	-0.3
ICMP	Isla Caja de M	171.32	355	PKPdf	PKPdf	07 25 10.6	-0.2
ICMP				PKPab	PKPab	07 26 31.0	+0.1
HELC	Santa Helena	171.33	109	eP	PKPdf	07 25 10.5	-1.0
NORC	Norcasia	171.69	115	eP	PKPdf	07 25 11.3	+0.1
MOTC	Monteria, Cord	171.74	92	eP	PKPdf	07 25 10.5	-0.7
UREC	San Jos de Ur	171.74	99	eP	PKPdf	07 25 09.1	-2.1
ROSC	El Rosal	171.81	121	PKP	PKPdf	07 25 11.9	+0.2
comp=Z,8.2nm,0.5s,baz=256,slow=0.9,SNR=12							
ROSC				PKPab	PKPab	07 26 34.9	+0.8
comp=Z,6.8nm,0.5s,baz=300,slow=8.1,SNR=2.0							
ROSC	El Rosal	171.81	121		PKPdf	07 25 11.2	-0.6
ROSC					PKPab	07 26 33.9	-0.2
FDF	Fort de France	171.83	313	PKIKP	PKPdf	07 25 10.7	-0.5
FDF	Fort de France	171.83	313		PKPdf	07 25 10.7	-0.5
VILC	Villavicencio,	171.90	128	eP	PKPdf	07 25 11.0	-0.4
BIM	Bigot	171.91	312		PKPdf	07 25 11.0	-0.2
BIM				PKPab	PKPab	07 26 35.0	+1.0
CHIC	Chingaza	172.18	125	eP	PKPdf	07 25 09.1	-2.8
SJCC	San Jacinto, C	172.21	84		PKPdf	07 25 11.9	+0.5
SJCC	San Jacinto, C	172.21	84	eP	PKPdf	07 25 10.1	-1.4
ZARC	Zaragoza, Cauc	172.34	102	eP	PKPdf	07 25 12.0	+0.5
PTGC	Puerto Gaitan,	173.11	136	eP	PKPdf	07 25 11.3	-0.5
RUSC	La Rusia	173.41	119		PKPdf	07 25 11.8	-0.7
RUSC	La Rusia	173.41	119	eP	PKPdf	07 25 12.0	-0.5
OCAC	Ocana	173.99	99	eP	PKPdf	07 25 12.1	-0.2
PAMC	Pamplona, Colo	174.36	109	eP	PKPdf	07 25 13.3	+0.5
SDV	Santo Domingo	176.71	95	PKP	PKPdf	07 25 12.4	-0.7
comp=Z,8.8nm,0.3s,baz=344,slow=2.8,SNR=6.0							
SDV				PP	PP	07 30 48.4	-0.8
comp=Z,17nm,0.4s,baz=346,slow=0.2,SNR=2.2							
PLCV	Puerto La Cruz	177.15	290		PKPab	07 26 59.6	+2.2
PCRV	Puerto La Cruz	177.19	291	PKPab	PKPab	07 26 59.6	+2.0
comp=Z,3.8nm,0.5s,baz=160,slow=8.4,SNR=3.8							
PCRV				PP	PP	07 30 48.8	-2.2
comp=Z,6.3nm,1.0s,baz=47,slow=4.1,SNR=3.7							

*TRN **26** 07:20:43.4, 13°.84N×58°.49W, h111km, MD4.4*

ISC 26 07:20:41.7±2.3, 13°.86N±0°.04×58°.4W±0°.1, h10km, n33, σ2°.03/49, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.28	234	eP	Pg	07 21 07.5	+1.2
BBSP				eS	Sn	07 21 25.3	+2.4
BBGH	Gun Hill	1.34	238	eP	Pg	07 21 07.8	+0.3
BBGH				eS	Sn	07 21 27.1	+2.8
BCHC	Barbados, Cave	1.40	239	eP	Pg	07 21 08.9	+0.2
BCHC				eS	Sg	07 21 29.0	+2.1
MPOM	Morne Pois Mar	2.46	284	eP	Pn	07 21 21.8	-0.2
MPOM				eS	Sn	07 21 51.1	-1.1
MCLT	Moule a Chique	2.48	267	eP	Pn	07 21 21.8	-0.4
MCLT				eS	Sn	07 21 50.9	-1.7
SLBI	Saint Lucia, B	2.51	274	eP	Pn	07 21 22.5	-0.1
SLBI				eS	Sn	07 21 52.5	-0.8
MVM	Montagne Vaucl	2.52	286	eP	Pn	07 21 22.5	-0.3
SLB	Belfond	2.57	270	eP	Pn	07 21 23.4	-0.1
LPMF	Morne Lapointe	2.60	286	eP	Pn	07 21 23.3	-0.5
ZAM	Aeronautique	2.65	286	eP	Pn	07 21 24.1	-0.5
TRMF	Trois Ilets	2.67	285	eP	Pn	07 21 24.5	-0.3
BIM	Bigot	2.68	284	eP	Pn	07 21 24.7	-0.3
BIM	Bigot	2.68	284	e	Pg	07 21 35.7	+2.5
BIM				eS	Sn	07 21 55.1	-2.5
SVV	Soufriere Volc	2.80	259	eP	Pn	07 21 27.4	+0.8
SVV				eS	Sn	07 21 58.3	-2.1
FDF	Fort de France	2.81	288	eP	Pn	07 21 27.1	+0.3
FDF				eS	Sn	07 21 59.3	-1.6
BAMF	Morne Balai	2.84	290	eP	Pn	07 21 27.6	+0.5
SVB	Belmont	2.84	259	eP	Pn	07 21 27.0	-0.2
SVB				eS	Sn	07 21 59.6	-2.0
PML	Morne Lenard	2.86	289	eP	Pn	07 21 29.7	+2.3
GCMP	Grenada, Carri	3.25	246	eP	Pn	07 21 32.4	-0.4
GCMP				eS	Sn	07 22 08.6	-3.1
TOSP	Speyside	3.29	220	eP	Pn	07 21 33.4	0.0
TOSP				eS	Sn	07 22 09.5	-3.2
DSLB	Salisbury	3.33	299	eP	Pn	07 21 34.2	+0.4
DSLB				eS	Sn	07 22 10.8	-2.6
MAGL	Barre de l'ile	3.48	307	eP	Pn	07 21 36.6	+0.6
GRGR	Grenville	3.61	242	eP	Pn	07 21 38.0	+0.2
GRGR				eS	Sn	07 22 16.9	-3.7
GRFF	Grenada Fort F	3.72	242	eP	Pn	07 21 39.0	-0.4
GRFF				eS	Sn	07 22 19.8	-3.5
CBE	Ff, Capester	3.81	306	eP	Pn	07 21 41.1	+0.6
ABD	La Joyeuse, An	3.96	311	eP	Pn	07 21 43.8	+1.2
ABD	La Joyeuse, An	3.96	311	e	Pn	07 21 46.7	+4.1
ABD				eS	Sn	07 22 26.4	-2.7
TRN	Trinidad (W)	4.34	223	eP	Pn	07 21 48.7	+0.9
TRN	Trinidad (W)	4.34	223	eS	Sn	07 22 34.0	-4.4
ANBD	Bethesda, Anti	4.54	315	eP	Pn	07 21 51.3	+0.8
ANBD	Bethesda, Anti	4.54	315	eS	Sn	07 22 39.3	-4.2
BPA	Boggy Peak	4.61	314	eP	Pn	07 21 51.5	0.0
BPA	Boggy Peak	4.61	314	eS	Sn	07 22 40.9	-4.2

*IDC **26** 08:00:53.2±0.7, 22°.26S×12°.22W, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/30, mbtmp4.2/13, MS4.1/3, Ms1 4.1/3, ms1mx3.5/29, Error ellipse: s-maj=21.2km s-min=17.5km az=143.0*

*NEIC **26** 08:00:55.7±1.6, 22°.60S±0°.10×12°.4W±0°.1, h10km±1km, mb4.9/49, Error ellipse: s-maj=17.9km s-min=14.4km az=140.0*

ISC 26 08:00:54.9±0.4, 22°.51S±0°.08×12°.31W±0°.07, h9km, n90, σ1°.66/73, mb4.8/37, MS4.1/3, 2C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	Horse Pasture	8.99	45	Pn	Pn	08 03 07.3	+2.3
H10S2	ASCENSION HYDR	13.66	350	T	T	08 17 35.8	
baz=170,slow=74,SNR=58							
H10S3	ASCENSION HYDR	13.67	350	T	T	08 17 36.7	
baz=50,slow=74,SNR=117							
H10N1	ASCENSION HYDR	14.73	351	T	T	08 19 01.1	
baz=171,slow=76,SNR=8.1							
H10N3	ASCENSION HYDR	14.74	351	T	T	08 18 57.3	
baz=171,slow=76,SNR=17							
H10N2	ASCENSION HYDR	14.75	351	T	T	08 18 56.1	
baz=171,slow=76,SNR=7.2							
TSUM	Tsumeb	28.10	89	P	P	08 06 47.7	+0.3
TSUM				IAmb	IAmb	08 06 51.1	
comp=Z,11nm,0.7s							
DBIC	Dimbokro	29.90	15	P	P	08 07 01.5	-1.7
SUR	Sutherland	30.88	116	P	P	08 07 12.6	+0.5
BOSA	Boshof	34.33	108	P	P	08 07 40.9	-1.2
comp=Z,16nm,0.7s,baz=279,slow=7.2,SNR=41							
BOSA				LR	LR	08 19 35.0	
comp=Z,327nm,19.5s,baz=154,slow=33							
BOSA	Boshof	34.33	108	P	P	08 07 42.4	+0.2
BDFB	Brasilia	34.37	275	P	P	08 07 42.4	-0.3
comp=Z,3.9nm,0.7s,baz=110,slow=6.9,SNR=5.0							
BDFB	Brasilia	34.37	275	P	P	08 07 42.3	-0.3
BDFB				IAmb	IAmb	08 08 29.2	
comp=Z,30nm,1.8s							
LBTB	Lobatse	34.71	102	P	P	08 07 45.4	-0.1
LBTB				IAmb	IAmb	08 07 46.1	
comp=Z,15nm,1.1s							
KOWA	Kowa	37.66	13	P	P	08 08 08.7	-1.9
comp=Z,8.3nm,0.9s,baz=219,slow=6.5,SNR=11							
KOWA	Kowa	37.66	13	P	P	08 08 09.1	-1.5
TORD	Torodi Ar. Bea	38.00	23	P	P	08 08 11.9	-1.6
comp=Z,15nm,0.7s,baz=200,slow=9.0,SNR=43							
TORD	Torodi Ar. Bea	38.00	23	P	P	08 08 11.7	-1.7
TORD				IAmb	IAmb	08 08 12.5	
comp=Z,15nm,0.8s							
LSZ	Lusaka	38.89	87	P	P	08 08 20.9	-0.3
LSZ				IAmb	IAmb	08 09 02.0	
comp=Z,35nm,2.0s							
CPUP	Villa Florida	41.02	255	P	P	08 08 40.4	+1.7
comp=Z,2.9nm,0.9s,baz=98,slow=10.0,SNR=3.0							
LPA	La Plata	41.55	242	ceP	P	08 08 43.5	+0.6
LPA				PP	PnPn	08 10 24.6	+1.0
LPA				S	S	08 15 07.9	+8.9
LPA				PKIKP	PKiKP	08 17 48.7	+1.2
TRQA	Tornquist	45.09	238	P	P	08 09 10.6	-0.9
TRQA				IAmb	IAmb	08 10 39.3	
comp=Z,40nm,1.8s							
SIV	San Ignacio	46.34	269	P	P	08 09 21.9	+0.3
comp=Z,2.1nm,0.9s,baz=117,slow=7.2,SNR=7.7							
MBAR	Mbarara	47.17	69	P	P	08 09 27.1	-1.3
MBAR				IAmb	IAmb	08 09 32.3	
comp=Z,20nm,1.4s							
VNA2	Neumayer--Watz	48.52	178	P	P	08 09 38.0	+0.2
SNAA	Sanae	49.48	176	P	P	08 09 44.6	-0.7
SNAA				IAmb	IAmb	08 10 30.9	
comp=Z,9.7nm,0.5s							
SAML	Samuel	50.56	277	P	P	08 09 53.7	-0.5
SAML				IAmb	IAmb	08 09 56.0	
comp=Z,13nm,1.2s							
MT09	Talagante	52.34	244	P	P	08 10 07.5	-0.1
MT09				IAmb	IAmb	08 11 45.1	
comp=Z,22nm,1.4s							
LPAZ	La Paz	52.77	266	P	P	08 10 10.7	-0.8
comp=Z,0.8nm,0.8s,baz=146,slow=16,SNR=2.9							
LPAZ	La Paz	52.77	266	P	P	08 10 11.0	-0.5
SYO	Syowa Base	55.90	160	‖eP	P	08 10 30.4	-2.3
SYO	Syowa Base	55.90	160	‖esP	sP	08 10 36.0	+1.1
VA04	Juan Fernndez	58.86	243		P	08 10 53.9	-0.3
PESTR	Estremoz	61.21	4	P	P	08 11 10.8	+0.8
PESTR				IAmb	IAmb	08 13 10.8	
comp=Z,9.9nm,1.4s							
KEST	Kesra	61.45	20	P	P	08 11 10.8	-1.0
comp=Z,6.0nm,0.9s,baz=54,slow=0.4,SNR=5.4							
KEST	Kesra	61.45	20	P	P	08 11 12.0	+0.2
KEST				IAmb	IAmb	08 11 26.7	
comp=Z,16nm,1.2s							
ESDC	Sonseca Array	62.35	7	P	P	08 11 14.5	-3.3
comp=Z,0.6nm,0.8s,baz=180,slow=7.8,SNR=5.5							
ESDC	Sonseca Array	62.35	7	P	P	08 11 16.0	-1.7
ESBB	Sonseca Array	62.35	7	P	P	08 11 19.7	+1.9
RER	Riviere de l'E	62.66	103	P	P	08 11 19.8	-0.6
MTE	Manteigas	62.74	4	P	P	08 11 21.8	+1.4
MTE				IAmb	IAmb	08 11 41.4	
comp=Z,16nm,1.2s							
ELOV	Elorza	63.16	291	eP	P	08 11 22.9	-0.8
MAW	Mawson	63.75	156	P	P	08 11 28.5	+1.8
comp=Z,4.1nm,0.8s,baz=291,slow=7.1,SNR=9.9							
MAW	Mawson	63.75	156	P	P	08 11 27.1	+0.4
CORL	Corleone	64.73	22	P	P	08 11 34.9	+1.4
MACC	Macarena, Meta	64.77	284	eP	P	08 11 32.5	-1.9
VILC	Villavicencio,	65.51	286	eP	P	08 11 38.2	-1.0
CHIC	Chingaza	65.77	286	eP	P	08 11 38.2	-3.1
ROSC	El Rosal	66.39	286	P	P	08 11 43.9	-1.3
ROSC				IAmb	IAmb	08 11 57.4	
comp=Z,10.0nm,0.8s							
OCAC	Ocana	67.08	290	eP	P	08 11 40.3	-9.0
TOLC	Tolima	67.17	285	eP	P	08 11 49.7	-0.4
NORC	Norcasia	67.20	287	eP	P	08 11 47.8	-2.3
IDI	Anoyia	67.44	32	P	P	08 11 52.0	+1.0
IDI				IAmb	IAmb	08 11 55.2	
comp=Z,7.9nm,1.0s							
GUY2C	Guyana, Caldas	67.49	286	eP	P	08 11 50.6	-1.7
ITM	Ithomi	67.57	29	P	P	08 11 52.2	+0.4
ITM				IAmb	IAmb	08 11 55.2	
comp=Z,7.5nm,0.9s							
QSPA	South Pole Qui	67.69	180	P	P	08 11 52.2	-0.2
QSPA				IAmb	IAmb	08 12 04.6	
comp=Z,6.6nm,0.9s							
HELC	Santa Helena	68.07	287	eP	P	08 11 51.6	-4.3
CBOC	Ciudad Bolivar	68.35	286	eP	P	08 11 53.5	-3.9
EIL	Elat	68.97	43	LR	LR	08 40 12.9	
comp=Z,146nm,19.2s,baz=310,slow=34							
TIR	Tirane	70.19	25	P	P	08 12 09.0	+1.0
FNA	Florina	70.33	27	P	P	08 12 09.8	+0.9
FNA				IAmb	IAmb	08 12 15.6	
comp=Z,8.0nm,1.2s							
PUK	Puka	70.80	25	P	P	08 12 14.2	+2.4
ALN	Alexandroupoli	72.45	30	P	P	08 12 23.0	+1.4
ABTA	Abfaltersbach	72.49	18	eP	P	08 12 28.7	+6.9
comp=Z,8.1nm,0.8s							
DIVS	Divibare	72.59	24	P	P	08 12 23.7	+1.2
DIVS				IAmb	IAmb	08 12 30.9	
comp=Z,19nm,1.7s							
SOKA	Soboth	73.17	19	eP	P	08 12 33.2	+7.3
comp=Z,2.5nm,0.6s							
ARSA	Arzberg	73.83	19	eP	P	08 12 36.5	+6.8
comp=Z,6.0nm,0.8s							
MOA	Molln	74.00	18	eP	P	08 12 36.6	+6.0
comp=Z,4.5nm,0.7s							
CONA	Conrad Observa	74.54	19	eP	P	08 12 40.7	+6.8
comp=Z,4.6nm,1.1s							
GERES	GERESS Array B	74.74	17	P	P	08 12 33.5	-1.5
comp=Z,0.4nm,0.6s,baz=185,slow=9.6,SNR=2.3							
GERES	GERESS Array B	74.74	17	P	P	08 12 37.2	+2.1
BR131	Keskin Array S	75.31	35	P	P	08 12 38.5	-0.1
BRTR	Keskin Array B	75.31	35	P	P	08 12 35.5	-3.1
comp=Z,0.5nm,0.3s,baz=208,slow=6.3,SNR=5.1							
BRTR	Keskin Array B	75.31	35	P	P	08 12 39.9	+1.2
SMOL	Smolenice	75.54	20	eP	P	08 12 43.0	+3.4
PSZ	Piszkesteto	75.83	22	P	P	08 12 41.4	0.0
PSZ				IAmb	IAmb	08 12 52.9	
comp=Z,26nm,1.8s							
BNN	Bunyan	75.88	37	P	P	08 12 42.5	+0.5
VYHS	Vyhne	75.98	21	eP	P	08 12 48.0	+5.9
MLR	Muntele Rosu	76.10	27	P	P	08 12 44.0	+1.0
MLR				IAmb	IAmb	08 12 50.1	
comp=Z,9.9nm,0.9s							
TIRR	Tirgusor	76.34	29	P	P	08 12 43.8	-0.4
BURAR	Bucovina Array	77.53	25	P	P	08 12 51.3	+0.3
VNDA	Vanda	80.13	179	LR	LR	08 43 57.1	
comp=Z,84nm,21.4s,baz=210,slow=32							
VNDA	Vanda	80.13	179	P	P	08 13 02.8	-2.1
AKASG	Malin Array Be	81.58	25	P	P	08 13 11.0	-1.8
comp=Z,1.3nm,0.6s,baz=224,slow=5.8,SNR=3.4							
AKASG	Malin Array Be	81.58	25	P	P	08 13 11.1	-1.6
AKBB	Malin Array Si	81.58	25	P	P	08 13 11.8	-1.0
CASY	Casey	81.65	160	P	P	08 13 13.6	+0.5
CASY				IAmb	IAmb	08 13 17.7	
comp=Z,13nm,1.2s							
D62A	Allapoint, All	86.06	325	P	P	08 13 35.6	-0.3
ASAR	Alice Springs	123.55	142	PKP	PKPdf	08 19 53.6	0.0
comp=Z,0.3nm,0.8s,baz=248,slow=1.0,SNR=2.2							
SONM	Songino Array	125.48	47	PKP	PKPdf	08 19 56.6	0.0
comp=Z,0.2nm,0.3s,baz=260,slow=2.6,SNR=1.8							

NNC 26 08:10:01.4±5.2, 37°.69N×71°.65E, h0km, mb3.9, mpv3.6, 2C-3D, Error ellipse: s-maj=54.7km s-min=31.1km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	5.41	23	⇑P	Pn	08 11 23.6	+0.2
7.0nm,0.4s							
AAK				⇓S	Sn	08 12 26.5	+0.1
5.7nm,0.6s							
KK31	Karatay Array	5.48	351	P	Pn	08 11 26.0	+1.7
1.5nm,0.3s,baz=174,slow=12,SNR=46							
KK31				⇓S	Sn	08 12 29.2	+1.1
6.0nm,0.4s,baz=142,slow=43,SNR=4.9							
TKM2	Tokmak 2	6.04	29	⇑P	Pn	08 11 31.2	-0.9
3.3nm,0.6s							
TKM2				⇓S	Sn	08 12 44.2	+2.2
1.9nm,0.6s							
AB31	Akbulak array	14.33	328	P	Pn	08 13 22.5	-2.9
0.4nm,0.4s,baz=133,slow=14,SNR=13							

*IDC **26** 08:16:21.0±1.4, 5°.88S×151°.54E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/34, mbtmp4.0/6, ML2.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/37, Error ellipse: s-maj=65.2km s-min=22.1km az=122.0*

ISC 26 08:16:27.0±1.3, 5°.9S±0°.2×151°.5E±0°.3, h41km, n8, σ1°.06/9, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.54	231	Pn	Pn	08 17 46.7	-0.3
4.9nm,0.3s,baz=42,slow=8.7,SNR=8.6							
PMG				Sn	Sn	08 18 49.8	+0.4
6.0nm,0.3s,baz=34,slow=8.8,SNR=4.2							
DZM	Mont Dzumac	21.57	140	LR	LR	08 28 13.5	
comp=Z,173nm,18.9s,baz=251,slow=33							
WRA	Warramunga Arr	21.75	229	P	P	08 21 13.8	-1.4
1.2nm,0.4s,baz=55,slow=10,SNR=23							
WRA				PcP	PcP	08 25 16.6	+1.7
1.0nm,1.1s,baz=43,slow=1.5,SNR=1.8							
ASAR	Alice Springs	24.47	222	P	P	08 21 42.0	-0.4
2.8nm,0.7s,baz=56,slow=8.6,SNR=32							
STKA	Stephens Creek	27.43	199	P	P	08 22 09.4	+0.4
9.5nm,1.2s,baz=45,slow=13,SNR=2.9							
MKAR	Makanchi Array	80.35	319	P	P	08 28 34.7	+0.6
0.1nm,0.6s,baz=116,slow=6.6,SNR=2.5							
ILAR	Eielson Array	83.68	22	P	P	08 28 50.1	-1.0
0.6nm,0.6s,baz=252,slow=5.8,S

*TRN **26** 08:51:11.8, 13.′96N×58.′58W, h78km, MD4.0*
ISC 26 08:51:12.2±2.5, 13.′99N±0.′05×58.′7W±0.′2, h10km, n21, σ1s03/35, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.17**	**221**	*eP*	**Pb**	**08 51 34.7**	**+0.1**
BBGH	**Gun Hill**	**1.21**	**226**	*eP*	**Pg**	**08 51 35.8**	**+0.2**
BBGH				*eS*	**Sg**	**08 51 52.1**	**+0.8**
BCHC	**Barbados, Cave**	**1.27**	**228**	*eP*	**Pb**	**08 51 36.7**	**+0.4**
MPOM	**Morne Pois Mar**	**2.17**	**282**	*eP*	**Pn**	**08 51 47.8**	**-0.7**
MPOM				*eS*	**Sn**	**08 52 16.6**	**+1.2**
MCLT	**Moule a Chique**	**2.23**	**263**	*eP*	**Pn**	**08 51 48.4**	**-0.8**
MCLT				*eS*	**Sn**	**08 52 16.3**	**-0.6**
SLBI	**Saint Lucia, B**	**2.24**	**271**	*eP*	**Pn**	**08 51 48.2**	**-1.2**
SLBI				*eS*	**Sn**	**08 52 17.9**	**+0.8**
FDF	**Fort de France**	**2.52**	**287**	*eP*	**Pn**	**08 51 53.6**	**+0.3**
FDF				*eS*	**Sn**	**08 52 24.5**	**+0.4**
SSV	**Crater Summit**	**2.54**	**255**	*eP*	**Pn**	**08 51 52.7**	**-1.0**
SSV				*eS*	**Sn**	**08 52 25.5**	**+0.7**
SVV	**Soufriere Volc**	**2.57**	**255**	*eP*	**Pn**	**08 51 54.6**	**+0.7**
SVV				*eS*	**Sn**	**08 52 25.0**	**-0.2**
SVB	**Belmont**	**2.61**	**254**	*eP*	**Pn**	**08 51 54.1**	**-0.5**
SVB				*eS*	**Sn**	**08 52 24.9**	**-1.5**
DSLB	**Salisbury**	**3.03**	**299**	*eP*	**Pn**	**08 52 00.6**	**+0.3**
GCMP	**Grenada, Carri**	**3.08**	**241**	*eP*	**Pn**	**08 52 00.7**	**-0.2**
GCMP				*eS*	**Sn**	**08 52 37.1**	**-0.7**
MAGL	**Barre de l'ile**	**3.19**	**308**	*eP*	**Pn**	**08 52 02.1**	**-0.4**
MAGL				*eS*	**Sn**	**08 52 39.2**	**-1.4**
TDBA	**Terre de Bas,**	**3.41**	**303**	*eP*	**Pn**	**08 52 06.2**	**+0.7**
TDBA				*eS*	**Sn**	**08 52 44.7**	**-1.4**
TBG	**Guadaloupe-3**	**3.42**	**303**	*eP*	**Pn**	**08 52 05.4**	**-0.2**
GRGR	**Grenville**	**3.45**	**238**	*eP*	**Pn**	**08 52 05.7**	**-0.4**
GRGR				*eS*	**Sn**	**08 52 45.4**	**-1.6**
CBE	**Ff, Capester**	**3.51**	**306**	*eP*	**Pn**	**08 52 07.6**	**+0.6**
CBE				*eS*	**Sn**	**08 52 47.3**	**-1.3**
ABD	**La Joyeuse, An**	**3.67**	**313**	*eP*	**Pn**	**08 52 09.8**	**+0.6**
ABD				*eS*	**Sn**	**08 52 52.0**	**-0.5**
BPA	**Boggy Peak**	**4.32**	**315**	*eP*	**Pn**	**08 52 18.1**	**0.0**
BPA	**Boggy Peak**	**4.32**	**315**	*eS*	**Sn**	**08 53 05.6**	**-3.0**
SKI	**Saint Kitts**	**5.14**	**311**	*e*	**Pn**	**08 52 31.3**	**+2.0**

*TRN **26** 08:56:50.0, 13.′95N×58.′71W, h94km, MD4.2*
ISC 26 08:56:48.7±2.0, 14.′01N±0.′04×58.′7W±0.′1, h10km, n39, σ1s29/57, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.16**	**219**	*eP*	**Pn**	**08 57 13.1**	**+2.0**
BBSP				*eS*	**Sn**	**08 57 28.9**	**+1.9**
BBGH	**Gun Hill**	**1.20**	**224**	*eP*	**Pg**	**08 57 12.1**	**+0.3**
BBGH				*eS*	**Sn**	**08 57 29.1**	**+1.2**
BCHC	**Barbados, Cave**	**1.25**	**226**	*eP*	**Pg**	**08 57 13.8**	**+1.0**
BCHC				*eS*	**Sn**	**08 57 32.0**	**+2.7**
MPOM	**Morne Pois Mar**	**2.13**	**282**	*eP*	**Pn**	**08 57 25.1**	**+0.6**
MPOM				*eS*	**Sn**	**08 57 49.8**	**-1.2**
MCLT	**Moule a Chique**	**2.19**	**262**	*eP*	**Pb**	**08 57 28.0**	**-0.6**
MCLT				*eS*	**Sn**	**08 57 54.4**	**+1.9**
SLBI	**Saint Lucia, B**	**2.20**	**271**	*eP*	**Pn**	**08 57 25.1**	**-0.4**
SLBI				*eS*	**Sn**	**08 57 51.4**	**-1.3**
SLCP	**Castries, St.**	**2.22**	**270**	*eP*	**Pn**	**08 57 26.2**	**+0.6**
SLCP				*eS*	**Sn**	**08 57 52.6**	**-0.5**
LPMF	**Morne Lapointe**	**2.26**	**285**	*eP*	**Pn**	**08 57 27.0**	**+0.8**
SLB	**Belfond**	**2.28**	**266**	*eP*	**Pn**	**08 57 28.8**	**+2.3**
ZAM	**Aeronautique**	**2.32**	**284**	*eP*	**Pn**	**08 57 27.7**	**+0.6**
BIM	**Bigot**	**2.35**	**283**	*eP*	**Pn**	**08 57 28.3**	**+0.8**
FDF	**Fort de France**	**2.48**	**287**	*eP*	**Pn**	**08 57 30.1**	**+0.8**
BAMF	**Morne Balai**	**2.50**	**289**	*eP*	**Pn**	**08 57 30.7**	**+1.1**
SSV	**Crater Summit**	**2.51**	**255**	*eP*	**Pn**	**08 57 30.0**	**+0.2**
SSV				*eS*	**Sn**	**08 57 59.9**	**-0.7**
PML	**Morne Lenard**	**2.52**	**288**	*eP*	**Pn**	**08 57 30.9**	**+1.1**
SVV	**Soufriere Volc**	**2.54**	**255**	*eP*	**Pn**	**08 57 30.9**	**+0.9**
SVV				*eS*	**Sn**	**08 57 59.9**	**-1.2**
PCM	**Pelee Case Pet**	**2.56**	**289**	*eP*	**Pn**	**08 57 31.4**	**+1.1**
SVB	**Belmont**	**2.58**	**254**	*eP*	**Pn**	**08 57 30.6**	**-0.1**
SVB				*eS*	**Sn**	**08 58 02.0**	**-0.2**
DLPL	**La Plaine**	**2.79**	**298**	*eP*	**Pn**	**08 57 34.4**	**+0.8**
DLPL				*eS*	**Sn**	**08 58 08.0**	**+0.7**
DSLB	**Salisbury**	**2.99**	**299**	*eP*	**Pn**	**08 57 37.3**	**+1.1**
DSLB				*eS*	**Sn**	**08 58 12.1**	**-0.1**
GCMP	**Grenada, Carri**	**3.05**	**241**	*eP*	**Pn**	**08 57 37.2**	**+0.1**
GCMP				*eS*	**Sn**	**08 58 11.4**	**-2.3**
MAGL	**Barre de l'ile**	**3.15**	**308**	*eP*	**Pn**	**08 57 39.5**	**+1.0**
MAGL				*eS*	**Sn**	**08 58 16.1**	**0.0**
TOSP	**Speyside**	**3.23**	**214**	*eP*	**Pn**	**08 57 39.3**	**-0.4**
TDBA	**Terre de Bas,**	**3.37**	**303**	*eP*	**Pn**	**08 57 42.9**	**+1.4**
TDBA				*eS*	**Sn**	**08 58 22.0**	**+0.4**
TBG	**Guadaloupe-3**	**3.38**	**303**	*eP*	**Pn**	**08 57 41.9**	**+0.2**
GRGR	**Grenville**	**3.43**	**237**	*eP*	**Pn**	**08 57 42.1**	**-0.2**
GRGR				*eS*	**Sn**	**08 58 21.2**	**-1.8**
TPR	**Prospect**	**3.46**	**216**	*eP*	**Pn**	**08 57 41.2**	**-1.5**
CBE	**Ff, Capester**	**3.47**	**306**	*eP*	**Pn**	**08 57 44.2**	**+1.3**
CBE				*eS*	**Sn**	**08 58 21.9**	**-2.3**
GRFF	**Grenada Fort F**	**3.54**	**237**	*eP*	**Pn**	**08 57 43.4**	**-0.5**
ABD	**La Joyeuse, An**	**3.64**	**313**	*eP*	**Pn**	**08 57 46.2**	**+1.1**
ABD				*eS*	**Sn**	**08 58 26.8**	**-1.3**
ANBD	**Bethesda, Anti**	**4.22**	**316**	*eP*	**Pn**	**08 57 53.1**	**-0.1**
ANBD	**Bethesda, Anti**	**4.22**	**316**	*eS*	**Sn**	**08 58 40.6**	**-2.0**
TRN	**Trinidad (W)**	**4.26**	**219**	*eP*	**Pn**	**08 57 53.9**	**+0.2**
TRN	**Trinidad (W)**	**4.26**	**219**	*eS*	**Sn**	**08 58 39.8**	**-3.7**
BPA	**Boggy Peak**	**4.28**	**315**	*eP*	**Pn**	**08 57 55.2**	**+1.1**
BPA	**Boggy Peak**	**4.28**	**315**	*eS*	**Sn**	**08 58 43.5**	**-0.7**
ANWB	**Willy Bob**	**4.69**	**321**	*eP*	**Pn**	**08 58 01.1**	**+1.4**
ANWB	**Willy Bob**	**4.69**	**321**	*eS*	**Sn**	**08 58 52.6**	**-1.6**
SKI	**Saint Kitts**	**5.10**	**311**	*eP*	**Pn**	**08 58 05.3**	**0.0**

*IDC **26** 08:59:30.2±1.8, 14.′87S×166.′91E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/46, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=49.4km s-min=29.8km az=128.0*
ISC 26 08:59:37.3±1.4, 15.′2S±0.′1×167.′0E±0.′2, h57km, n6, σ0s80/7, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.91**	**184**		**Pn**	**09 01 16.4**	**+0.3**
	0.9nm,0.3s,baz=131,slow=22,SNR=19						
DZM				Sn	**Sn**	**09 02 33.1**	**-0.3**
	0.5nm,0.3s,baz=116,slow=22,SNR=1.4						
CTA	**Charters Tower**	**20.39**	**253**	P	**P**	**09 04 10.4**	**+0.8**
	1.6nm,0.8s,baz=63,slow=11,SNR=1.4						
WRA	**Warramunga Arr**	**31.49**	**257**	P	**P**	**09 05 53.2**	**-0.8**
	0.2nm,0.5s,baz=86,slow=9.7,SNR=1.8						
ASAR	**Alice Springs**	**32.30**	**250**	P	**P**	**09 06 00.4**	**-0.7**
	0.4nm,0.6s,baz=74,slow=9.7,SNR=9.7						
ILAR	**Eielson Array**	**87.00**	**18**	P	**P**	**09 12 15.6**	**-0.4**
	0.5nm,0.4s,baz=224,slow=5.1,SNR=6.2						
MKAR	**Makanchi Array**	**97.34**	**316**	P	**P**	**09 13 05.1**	**+0.7**
	0.2nm,0.8s,baz=106,slow=3.7,SNR=2.4						

*TUL **26** 09:15:05.5±0.0, 35.′95N×96.′78W, h5km, ML3.0, mb_Lg2.8/65(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
NEIC 26 09:15:05.8±1.5, 35.′96N±0.′02×96.′81W±0.′03, h6km±5km, Error ellipse: s-maj=3.6km s-min=1.7km az=118.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.03**	**253**	Pg	Pg	09 15 06.9	-0.2
OK031				Sg	Sg	09 15 07.9	-0.1
QUOK	**Quay**	**0.22**	**21**	Pg	Pg	09 15 10.4	+0.1
QUOK				Sg	Sg	09 15 13.8	+0.5
OK005	**Luther M Schoo**	**0.44**	**226**	Pg	Pg	09 15 14.4	+0.1
OK005				Sg	Sg	09 15 20.6	+0.5
OK011	**Prague**	**0.48**	**168**	Pg	Pg	09 15 14.9	-0.3
OK011				Sg	Sg	09 15 21.7	+0.1
OK029	**Liberty Lake**	**0.55**	**253**		Pg	09 15 16.7	+0.2
OK029				Sg	Sg	09 15 23.9	+0.2
OK001	**Jones High Sch**	**0.56**	**225**	Pg	Pg	09 15 16.2	-0.4
OK001				Sg	Sg	09 15 24.4	+0.4
OK025	**Westminster Rd**	**0.58**	**229**		Pg	09 15 16.9	-0.1
OK025				Sg	Sg	09 15 25.0	+0.5
OK009	**Oakdale Elemen**	**0.63**	**233**	Pg	Pg	09 15 16.6	-1.3
BCOK	**Bluff Creek, N**	**0.72**	**245**		Pg	09 15 19.4	-0.3
BCOK				Sg	Sg	09 15 29.7	+0.6
OKCSW	**OKLAHOMA CITY**	**0.76**	**223**		Pg	09 15 19.9	-0.5
OKCSW				Sg	Sg	09 15 30.5	+0.2
TUL1	**Leonard**	**0.82**	**93**	P		09 15 20.6	
	baz=274,SNR=303						
TUL1				S		09 15 31.7	
	baz=274						
FNO	**Franklin**	**0.85**	**215**		Pg	09 15 21.5	-0.8
FNO				Sg	Sg	09 15 33.5	+0.1
FNO				IAmb_Lg		09 15 34.2	
	comp=Z,73nm,0.7s						
BLOK	**Blackwell**	**0.86**	**338**	Pg	Pg	09 15 22.3	-0.1
BLOK				Sg	Sg	09 15 34.0	+0.3
T35A	**Sooner Cattle**	**0.98**	**14**	Pg	Pg	09 15 24.2	-0.5
T35A				Sg	Sg	09 15 37.6	+0.2
T35B	**Sooner Cattle**	**0.98**	**14**	P		09 15 24.0	
	baz=194,SNR=123						
CROK	**Carrier**	**1.10**	**300**		Pg	09 15 26.5	-0.4
CROK				Sg	Sg	09 15 41.3	+0.2
KAN13	**South Haven SW**	**1.18**	**333**	Pg	Pg	09 15 28.1	-0.4
KAN13				Sg	Sg	09 15 43.8	0.0
GC02	**Grant County #**	**1.23**	**317**		Pg	09 15 28.8	-0.6
GC02				Sg	Sg	09 15 45.6	0.0
KAN17	**Caldwell West**	**1.33**	**325**	Pn	Pn	09 15 30.5	-0.4
KAN09	**Caldwell North**	**1.34**	**331**	Pn	Pn	09 15 30.8	-0.3
KS20	**Mayfield South**	**1.40**	**335**		Pn	09 15 31.7	-0.3
OK032	**Salt Plains WL**	**1.41**	**307**		Pn	09 15 32.2	+0.1
KAN05	**Bluff City Nor**	**1.43**	**323**	Pn	Pb	09 15 32.7	-0.2
KAN10	**Anthony SW Sta**	**1.56**	**319**	Pn	Pb	09 15 34.9	-0.1
KAN08	**Anthony NE Sta**	**1.57**	**324**	Pn	Pb	09 15 34.2	-0.1
X34A	**Smith Ranch, M**	**1.60**	**212**		Pn	09 15 34.9	+0.3
KAN12	**Harper NE Stat**	**1.64**	**325**	Pn	Pn	09 15 35.4	+0.1
X37A	**Clayton**	**1.80**	**139**		Pn	09 15 38.0	+0.6
X37A				IAmb_Lg		09 16 04.6	
	comp=Z,56nm,0.7s						
X37A	**Clayton**	**1.80**	**139**	P		09 15 38.1	
	baz=320,SNR=33						
X37A				S		09 16 02.4	
	baz=320						
U32A	**Winter Ranch,**	**1.82**	**284**		Pn	09 15 38.6	+0.9
U32A				IAmb_Lg		09 16 06.1	
	comp=Z,42nm,0.8s						
U32A	**Winter Ranch,**	**1.82**	**284**	P		09 15 38.6	
	baz=103						
U32A				S		09 16 04.1	
	baz=103						
LOOK	**Love County**	**1.99**	**189**		Pn	09 15 40.5	+0.6
LOOK				IAmb_Lg		09 16 10.9	
	comp=Z,27nm,1.0s						
U38A	**Gravette**	**2.02**	**76**		Pn	09 15 41.0	+0.6
U38A	**Gravette**	**2.02**	**76**	P		09 15 40.7	
	baz=257,SNR=104						
U38A				S		09 16 08.2	
	baz=257						
WMOK	**Wichita Mounta**	**2.02**	**233**		Pn	09 15 41.3	+0.8
WMOK	**Wichita Mounta**	**2.02**	**233**	P		09 15 41.2	
	baz=52						
WMOK				S		09 16 08.6	
	baz=52						
HHAR	**Hobbs**	**2.34**	**81**	Pn	Pn	09 15 45.6	+0.8
HHAR	**Hobbs**	**2.34**	**81**	P		09 15 45.2	
	baz=263						
W39A	**Magazine**	**2.58**	**106**		Pn	09 15 48.4	+0.3
W39A	**Magazine**	**2.58**	**106**	P		09 15 48.3	
	baz=288,SNR=24						
W39A				S		09 16 21.4	
	baz=288						
Z35A	**Perchaven, San**	**2.65**	**188**		Pn	09 15 49.8	+0.7
Z35A	**Perchaven, San**	**2.65**	**188**	P		09 15 49.6	
	baz=7.7,SNR=15						
Z35A				S		09 16 23.7	
	baz=7.7						
R32A	**Long Quarter,**	**2.89**	**329**		Pn	09 15 52.3	-0.1
R32A	**Long Quarter,**	**2.89**	**329**	S		09 16 28.6	
	baz=148						
MIAR	**Mount Ida**	**3.00**	**117**	Pn	Pn	09 15 54.6	+0.8
MIAR	**Mount Ida**	**3.00**	**117**	P		09 15 54.2	
	baz=299,SNR=20						
Z38A	**Mt. Pleasant**	**3.08**	**150**	Pn	Pn	09 15 56.2	+1.2
KSU1	**Kansas State U**	**3.14**	**3**	Pn	Pn	09 15 55.3	-0.5
KSU1	**Kansas State U**	**3.14**	**3**	S		09 16 35.2	
	baz=183						
U40A	**Yellville**	**3.22**	**82**		Pn	09 15 57.6	+0.6
U40A	**Yellville**	**3.22**	**82**	P		09 15 56.9	
	baz=264,SNR=17						
U40A				P		09 15 56.9	
	baz=264,SNR=17						
U40A				S		09 16 35.9	
	baz=264						
U40A				S		09 16 35.9	
	baz=264						
X40A	**Basin Creek Fa**	**3.57**	**113**		Pn	09 16 02.2	+0.5
CBKS	**Cedar Bluff**	**3.68**	**322**	Pn	Pn	09 16 03.4	+0.1
CBKS				IAmb_Lg		09 17 07.1	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**3.74**	**99**		Pn	09 16 04.3	+0.3
WHAR				IAmb_Lg		09 17 07.8	
	comp=Z,18nm,1.1s						
WLAR	**White Oak Lake**	**3.79**	**126**	Pn	Pn	09 16 03.6	-1.1
W41B	**Gary Mavity, V**	**3.80**	**101**	P		09 16 04.9	
	baz=283,SNR=25						
FCAR	**Ozark Folk Cen**	**3.80**	**90**		Pn	09 16 05.1	+0.2
FCAR				IAmb_Lg		09 17 08.0	
	comp=Z,18nm,0.7s						
MGMO	**Mountain Grove**	**3.84**	**71**	Pn	Pn	09 16 06.7	+1.2
WHTX	**Lake Whitney,**	**4.00**	**188**	Pn	Pn	09 16 06.3	-1.3
237A	**Washetta, Mont**	**4.04**	**168**	Pn	Pn	09 16 07.3	-0.9
ABTX	**Abilene, Hawle**	**4.07**	**216**	Pn	Pn	09 16 08.1	-0.6
AMTX	**Amarillo**	**4.12**	**256**	Pn	Pn	09 16 09.4	-0.1
AMTX				IAmb_Lg		09 17 24.7	
	comp=Z,14nm,0.8s						
R40A	**Maddies Statio**	**4.31**	**56**	Pn	Pn	09 16 12.3	+0.5
R40A				IAmb_Lg		09 17 20.1	
	comp=Z,13nm,0.7s						
P38A	**Dawn**	**4.48**	**34**		Pn	09 16 14.4	+0.1
P38A				IAmb_Lg		09 17 27.1	
	comp=Z,22nm,0.8s						
NATX	**Nacogdoches**	**4.55**	**156**	Pn	Pn	09 16 15.7	+0.4
LCAR	**Lake Charles**	**4.58**	**87**	Pn	Pn	09 16 13.4	-2.2
CCAR	**Cane Creek**	**4.61**	**115**	Pn	Pn	09 16 14.4	-1.6
T42A	**Van Buren**	**4.72**	**75**	Pn	Pn	09 16 16.8	-0.8
N33A	**J Bar K, Exete**	**4.80**	**354**	Pn	Pn	09 16 17.8	-0.8
CCM	**Cathedral Cave**	**4.92**	**63**	Pn	Pn	09 16 20.5	+0.3
CCM				IAmb_Lg		09 17 40.7	
	comp=Z,12nm,0.7s						
N35A	**Tabor**	**4.98**	**10**		Pn	09 16 20.7	-0.4
HBAR	**Harrisburg**	**5.02**	**93**	Pn	Pn	09 16 20.2	-1.4
P40A	**Paris**	**5.19**	**45**	Pn	Pn	09 16 24.5	+0.5
P40A				IAmb_Lg		09 17 51.2	
	comp=Z,16nm,0.7s						
435B	**Jarrell**	**5.21**	**187**	Pn	Pn	09 16 23.8	-0.4
PBMO	**Poplar Bluff**	**5.21**	**79**	Pn	Pn	09 16 23.5	-0.8
PBMO				IAmb_Lg		09 17 58.4	
	comp=Z,19nm,0.8s						
MSTX	**Muleshoe**	**5.29**	**250**	Pn	Pn	09 16 23.0	-2.4
GNAR	**Gosnell**	**5.51**	**88**	IAmb_Lg		09 18 05.8	
	comp=Z,17nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.54**	**305**		Pn	09 16 30.1	+1.1
KSCO				IAmb_Lg		09 18 13.1	
	comp=Z,9.5nm,0.8s						
HDBT	**Hernando Brdge**	**5.56**	**96**	Pn	Pn	09 16 26.6	-2.4
N38A	**Joes South For**	**5.58**	**29**	Pn	Pn	09 16 29.4	+0.1
N38A				IAmb_Lg		09 18 13.0	
	comp=Z,16nm,0.8s						
PEBM	**Pemiscott Bayo**	**5.63**	**86**	Pn	Pn	09 16 28.6	-1.4
PEBM				IAmb_Lg		09 18 09.3	
	comp=Z,21nm,0.7s						
L34A	**Svendsen Farm,**	**6.01**	**3**	IAmb_Lg		09 18 19.3	
	comp=Z,15nm,0.7s						
JCT	**Junction City**	**6.02**	**206**		Pn	09 16 34.7	-0.7
JCT				IAmb_Lg		09 18 32.4	
	comp=Z,8.0nm,0.9s						
HALT	**Halls**	**6.06**	**88**	Pn	Pn	09 16 37.3	+1.4
OXF	**Oxford**	**6.22**	**101**	Pn	Pn	09 16 37.4	-0.7
T25A	**Trinidad**	**6.23**	**283**	Pn	Pn	09 16 39.2	+0.7
S44A	**Carbondale**	**6.30**	**72**	Pn	Pn	09 16 40.2	+1.0
SIUC	**Southern Illin**	**6.33**	**72**	Pn	Pn	09 16 39.3	-0.4
SCIA	**State Center**	**6.56**	**24**	IAmb_Lg		09 18 38.2	
	comp=Z,12nm,0.8s						
N41A	**Harden Midland**	**6.66**	**43**	Pn	Pn	09 16 43.8	-0.3
T45A	**Paducah**	**6.66**	**78**	Pn	Pn	09 16 43.4	-0.8
K31A	**O'Neill**	**6.82**	**348**	IAmb_Lg		09 18 54.0	
	comp=Z,15nm,0.8s						
P43A	**Skaggs, Pawnee**	**6.84**	**55**	Pn	Pn	09 16 45.4	-1.2
P43A				IAmb_Lg		09 18 49.9	
	comp=Z,12nm,0.7s						
Q44A	**Meyer Farm, Va**	**6.86**	**62**	Pn	Pn	09 16 45.7	-1.2
Q44A				IAmb_Lg		09 18 56.5	
	comp=Z,13nm,0.7s						
PLAL	**Pickwick Lake**	**7.19**	**95**	Pn	Pn	09 16 50.9	-0.5
SDCO	**Great Sand Dun**	**7.20**	**287**	Pn	Pn	09 16 50.5	-1.3
WVT	**Waverly**	**7.27**	**86**	Pn	Pn	09 16 50.8	-1.8
K38A	**Parkersburg**	**7.37**	**24**	Pn	Pn	09 16 53.4	-0.5
K38A				IAmb_Lg		09 19 08.5	
	comp=Z,13nm,1.0s						
OLIL	**Olney**	**7.47**	**66**	Pn	Pn	09 16 57.9	+2.7
HDIL	**Hopedale**	**7.48**	**50**	Pn	Pn	09 16 55.1	-0.3
L40A	**Anamosa**	**7.48**	**34**	Pn	Pn	09 16 54.9	-0.5
L40A				IAmb_Lg		09 18 59.3	
	comp=Z,6.3nm,0.8s						
ECSD	**EROS Data Cent**	**7.76**	**1**	Pn	Pn	09 16 58.6	-0.7
O44A	**Mansfield**	**7.79**	**55**	Pn	Pn	09 17 00.3	+0.5
O44A				IAmb_Lg		09 19 13.4	
	comp=Z,11nm,0.8s						
T47A	**Sharon Grove**	**7.88**	**80**	Pn	Pn	09 17 00.2	-0.8
MNTX	**Cornudas Mount**	**8.30**	**242**	Pn	Pn	09 17 05.5	-1.3
P46A	**Rosedale**	**8.43**	**61**	Pn	Pn	09 17 08.3	-0.1
Y22D	**IRIS PASSCAL I**	**8.51**	**260**	IAmb_Lg		09 19 53.5	
	comp=Z,8.1nm,0.7s						
JFWS	**Jewell Farm**	**8.60**	**34**	IAmb_Lg		09 19 52.2	
	comp=Z,6.5nm,0.7s						
BLO	**Bloomington**	**8.77**	**66**	IAmb_Lg		09 19 52.4	
	comp=Z,12nm,0.7s						
TX31	**Lajitas Ar. Si**	**8.78**	**223**	Pn	Pn	09 17 11.8	-1.6
TXAR	**Lajitas Array**	**8.78**	**223**	Pn	Pn	09 17 12.2	-1.2
I40A	**Norwalk**	**9.23**	**29**	IAmb_Lg		09 19 59.0	
	comp=Z,4.9nm,0.8s						
K43A	**Burlington**	**9.40**	**42**	IAmb_Lg		09 20 19.9	
	comp=Z,9.6nm,0.9s						

*IDC **26** 09:28:34.3±1.5, 16.′88S×173.′97W, h214km±23km, mb3.9/4, mb1 3.9/7, mb1mx3.4/41, mbtmp4.3/7, Error ellipse: s-maj=33.7km s-min=21.9km az=144.0*
*NEIC **26** 09:28:35.3±0.8, 16.′89S±0.′06×173.′9W±0.′2, h229km±11km, mb4.5/17, Error ellipse: s-maj=21.9km s-min=8.8km az=80.0*
ISC 26 09:28:33.5±0.7, 16.′94S±0.′08×174.′06W±0.′08, h200km, n26, σ1s16/29, mb4.5/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.73**	**36**	P	**Pn**	**09 29 33.8**	**+1.8**
	44nm,0.3s,baz=176,slow=1.2,SNR=43						
AFI				S	**Sn**	**09 30 17.4**	**-0.6**
	59nm,0.3s,baz=242,slow=7.3,SNR=11						
NIUE	**Niue**	**4.46**	**119**	Pn	**Pn**	**09 29 42.9**	**+1.9**
NIUE				Sn	**Sn**	**09 30 34.8**	**+0.5**
MSVF	**Nonsavu**	**7.58**	**263**	P	**Pn**	**09 30 24.0**	**+2.6**
	0.5nm,0.3s,baz=97,slow=17,SNR=3.5						
DZM	**Mont Dzumac**	**19.07**	**251**	P	**P**	**09 32 42.4**	**+1.3**
	0.2nm,0.3s,baz=113,slow=17,SNR=1.9						
URZ	**Urewera**	**22.61**	**198**	P	**P**	**09 33 17.1**	**-0.1**
	5.9nm,0.6s,baz=41,slow=9.3,SNR=9.1						
URZ	**Urewera**	**22.61**	**198**	P	**P**	**09 33 16.6**	**-0.6**
BKZ	**Black Stump Fm**	**23.63**	**199**	P	**P**	**09 33 26.1**	**-0.4**
BKZ				IAmb	IAmb	09 33 35.6	
	comp=Z,19nm,1.2s						
QRZ	**Quartz Range**	**26.47**	**203**	P	**P**	**09 33 52.4**	**+0.3**
KHZ	**Kahutara**	**27.52**	**200**	P	**P**	**09 34 00.2**	**-1.2**
KHZ				IAmb	IAmb	09 34 17.3	
	comp=Z,32nm,1.2s						
LTZ	**Lake Taylor**	**28.27**	**202**	P	**P**	**09 34 07.5**	**-0.6**
WHZ	**Wether Hill Ro**	**32.53**	**204**	P	**P**	**09 34 46.8**	**+1.3**
WHZ				IAmb	IAmb	09 35 06.9	
	comp=Z,29nm,1.2s						
ARMA	**Armidale**	**34.02**	**240**	P	**P**	**09 34 58.1**	**-0.6**
ARMA				IAmb	IAmb	09 35 11.0	
	comp=Z,18nm,1.4s						
STKA	**Stephens Creek**	**42.73**	**241**	P	**P**	**09 36 11.5**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=67,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**42.73**	**241**	P	**P**	**09 36 10.9**	**-0.2**
WR0	**Warramunga Arr**	**48.70**	**258**	P	**P**	**09 36 57.1**	**-1.0**
WR0				IAmb	IAmb	09 37 24.7	
	comp=Z,7.

MORW	**Morawa**	**40.69**	**231**	P	**P**	**09 36 11.4**	**-0.3**
KSRS	**Korea Array**	**48.57**	**335**	P	**P**	**09 37 16.1**	**+1.8**
comp=Z,0.5nm,0.6s,baz=148,slow=7.1,SNR=2.3							
SONM	**Songino Array**	**66.73**	**329**	P	**P**	**09 39 21.7**	**-0.3**
comp=Z,0.3nm,0.3s,baz=125,slow=4.0,SNR=3.9							
SONM	**Songino Array**	**66.73**	**329**	P	**P**	**09 39 22.2**	**+0.1**
SONM				IAmb	IAmb	09 39 38.2	
comp=Z,3.6nm,1.4s							
YAK	**Yakutsk**	**69.93**	**349**	LR	LR	10 08 39.7	
comp=Z,45nm,21.5s,baz=90,slow=34							
VNDA	**Vanda**	**71.68**	**178**	P	**P**	**09 39 52.0**	**0.0**
VNDA				IAmb	IAmb	09 40 10.0	
comp=Z,6.2nm,1.4s							
CNPM	**China Poot**	**79.30**	**26**	P	**P**	**09 40 35.1**	**-0.9**
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**09 40 42.9**	**+0.2**
comp=Z,0.2nm,0.5s,baz=102,slow=6.2,SNR=2.7							
MKAR	**Makanchi Array**	**80.47**	**319**	P	**P**	**09 40 42.7**	**0.0**
ZALV	**Zalesovo Beam**	**81.51**	**327**	P	**P**	**09 40 46.6**	**-1.4**
comp=Z,0.6nm,0.5s,baz=137,slow=10,SNR=2.5							
HDA	**Harding Lake**	**83.51**	**23**	P	**P**	**09 40 58.0**	**-0.2**
HDA				IAmb	IAmb	09 41 04.7	
comp=Z,3.2nm,0.8s							
QSPA	**South Pole Qui**	**83.96**	**180**	P	**P**	**09 41 01.3**	**+0.6**
DAWY	**Dawson**	**86.35**	**24**	P	**P**	**09 41 12.9**	**+0.4**
DAWY				IAmb	IAmb	09 41 20.5	
comp=Z,3.1nm,1.4s							
NVAR	**Mina Array Bea**	**93.73**	**52**	P	**P**	**09 41 49.9**	**+1.9**
comp=Z,0.3nm,0.6s,baz=269,slow=6.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc	**PKPbc**	**09 48 20.8**	**-0.2**
comp=Z,2.7nm,0.8s,baz=66,slow=3.3,SNR=11							
TORD	**Torodi Ar. Bea**	**149.55**	**286**		**PKPdf**	**09 48 14.0**	**-2.4**

*IDC **26** 09:35:37.7±0.7, 6°.74N×72°.97W, h156km±10km, mb3.2/6, mb1 3.5/9, mb1mx3.3/30, mbtmp3.8/9, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=28.0km s-min=7.6km az=134.0*

*RSNC **26** 09:35:39.0±0.9, 6°.81N×73°.14W, h145km±4km, ML3.6, Mw3.8, Fault plane solution: NP1:φs118.00000°, δ6.00000°, λ-23.00000°.*

ISC 26 09:35:37.7±0.7, 6°.83N±0°.03×73°.11W±0°.04, h153km±6km, n52, σ1§29/91, mb3.5/6, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**198**	⇑*i*	*i*P	**Pn**	**09 35 58.8**	**0.0**
BARC					*e*S	**Sn**	**09 36 13.3**	**-1.5**
BARC					*i*		09 36 15.1	
comp=Z,1μm,0.2s								
PAMC	**Pamplona, Colo**	**0.65**	**38**	⇓*i*	*i*P	**Pn**	**09 36 01.6**	**+0.8**
PAMC					*e*S	**Sn**	**09 36 18.4**	**0.0**
PAMC					*i*		09 36 20.8	
comp=Z,662nm,0.5s								
RUSC	**La Rusia**	**0.93**	**179**	⇑*i*	*i*P	**Pn**	**09 36 02.7**	**-0.1**
RUSC					*e*S	**Sn**	**09 36 21.5**	**-0.4**
RUSC					*i*		09 36 22.7	
comp=Z,186nm,0.3s								
OCAC	**Ocana**	**1.42**	**351**	⇓*i*	*i*P	**Pn**	**09 36 06.9**	**0.0**
OCAC					*e*S	**Sn**	**09 36 28.6**	**-0.7**
OCAC					*i*		09 36 32.3	
comp=Z,861nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P	P	**Pn**	**09 36 11.5**	**+0.1**
ZARC					*e*S	**Sn**	**09 36 37.0**	**-0.4**
ZARC					*i*		09 36 43.3	
comp=Z,502nm,0.3s								
NORC	**Norcasia**	**2.16**	**235**	⇓*i*	*i*P	**Pn**	**09 36 14.8**	**-0.2**
NORC					*e*S	**Sn**	**09 36 42.8**	**-0.8**
NORC					*i*		09 36 45.8	
comp=Z,314nm,0.2s								
CNOCA	**NORCASIA, CALD**	**2.16**	**235**	*e*P	P	**Pn**	**09 36 15.3**	**+0.3**
CNOCA					*e*S	**Sn**	**09 36 43.2**	**-0.3**
SMLC	**San Martn de**	**2.18**	**334**	*e*P	P	**Pn**	**09 36 14.8**	**-0.4**
SMLC					*e*S	**Sn**	**09 36 43.9**	**-0.2**
SMLC					*i*		09 36 46.4	
comp=Z,457nm,0.1s								
CHIC	**Chingaza**	**2.27**	**196**	*e*P	P	**Pn**	**09 36 17.0**	**+0.3**
CHIC					*e*S	**Sn**	**09 36 45.9**	**-0.7**
CHIC					*i*		09 36 53.6	
comp=Z,146nm,0.5s								
ROSC	**El Rosal**	**2.31**	**212**	P	P	**Pn**	**09 36 18.8**	**+1.6**
comp=Z,35nm,0.3s,baz=54,slow=0.9,SNR=25								
ROSC					S	**Sn**	**09 36 47.8**	**+0.3**
comp=Z,35nm,0.3s,baz=134,slow=20,SNR=12								
ROSC	**El Rosal**	**2.31**	**212**	*e*P	P	**Pn**	**09 36 18.6**	**+1.4**
ROSC					*e*S	**Sn**	**09 36 47.9**	**+0.4**
ROSC					*i*		09 36 52.6	
comp=Z,332nm,0.5s								
HELC	**Santa Helena**	**2.49**	**255**	*e*P	P	**Pn**	**09 36 19.1**	**-0.2**
HELC					*e*S	**Sn**	**09 36 50.3**	**-0.9**
HELC					*i*		09 36 57.9	
comp=Z,168nm,0.3s								
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P	P	**Pn**	**09 36 19.6**	**-0.4**
UREC					*e*S	**Sn**	**09 36 49.9**	**-2.7**
UREC					*i*		09 37 00.7	
comp=Z,189nm,0.2s								
LL2C	**La Loma 2 Cana**	**2.73**	**353**	*e*P	P	**Pn**	**09 36 22.3**	**+0.4**
LL2C					*e*S	**Sn**	**09 36 57.1**	**+1.1**
LL2C					*i*		09 37 03.0	
comp=Z,247nm,0.2s								
LL1C	**La Loma 1 Cana**	**2.73**	**351**	*e*P	P	**Pn**	**09 36 22.0**	**+0.1**
LL1C					*e*S	**Sn**	**09 36 56.8**	**+0.7**
LL1C					*i*		09 37 06.3	
comp=Z,410nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	P	**Pn**	**09 36 23.2**	**+0.6**
GUY2C					*e*S	**Sn**	**09 36 57.8**	**+0.6**
GUY2C					*i*		09 37 05.5	
comp=Z,282nm,0.4s								
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	P	**Pn**	**09 36 22.5**	**+0.2**
VILC					*e*S	**Sn**	**09 36 56.5**	**-0.4**
VILC					*i*		09 37 01.1	
comp=Z,234nm,0.4s								
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇑*i*	*i*P	**Pn**	**09 36 21.9**	**-0.6**
PTGC					*e*S	**Sn**	**09 36 55.4**	**-1.8**
PTGC					*i*		09 36 58.1	
comp=Z,117nm,0.3s								
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	P	**Pn**	**09 36 26.7**	**+0.8**
CBOC					*e*S	**Sn**	**09 37 03.2**	**0.0**
CBOC					*i*		09 37 15.5	
comp=Z,79nm,0.6s								
DBBC	**Dabeiba**	**3.09**	**274**	*e*P	P	**Pn**	**09 36 26.5**	**+0.1**
DBBC					*e*S	**Sn**	**09 37 02.4**	**-1.6**
DBBC					*i*		09 37 09.6	
comp=Z,260nm,0.3s								
TOLC	**Tolima**	**3.13**	**225**	*e*P	P	**Pn**	**09 36 27.9**	**+0.7**
TOLC					*e*S	**Sn**	**09 37 05.2**	**-0.3**
TOLC					*i*		09 37 15.3	
comp=Z,169nm,0.5s								
CIBA1	**Ibague, SGC**	**3.17**	**222**	*e*P	P	**Pn**	**09 36 29.6**	**+2.0**
CIBA1					*e*S	**Sn**	**09 37 05.3**	**-0.9**
MOTC	**Monteria, Cord**	**3.19**	**308**	*e*P	P	**Pn**	**09 36 26.2**	**-1.5**
MOTC					*e*S	**Sn**	**09 37 04.2**	**-2.2**
MOTC					*i*		09 37 07.4	
comp=Z,66nm,0.2s								
SDV	**Santo Domingo**	**3.19**	**50**	P	P	**Pn**	**09 36 28.6**	**+0.7**
comp=Z,36nm,0.3s,baz=231,slow=11,SNR=12								
SDV					S	**Sn**	**09 37 05.5**	**-1.2**
comp=Z,20nm,0.3s,baz=284,slow=13,SNR=7.6								
ARGC	**Ariguani, Magd**	**3.22**	**340**	*e*P	P	**Pn**	**09 36 29.2**	**+1.2**
ARGC					*e*S	**Sn**	**09 37 06.5**	**-0.5**
ARGC					*i*		09 37 14.4	
comp=Z,60nm,0.4s								
ANIL	**Santa Ana**	**3.26**	**225**	*e*P	P	**Pn**	**09 36 29.3**	**+0.5**
ANIL					*e*S	**Sn**	**09 37 07.8**	**-0.5**
ANIL					*i*		09 37 16.9	
comp=Z,334nm,0.3s								
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	P	**Pn**	**09 36 33.2**	**+0.3**
ORTC					*e*S	**Sn**	**09 37 16.1**	**+0.3**
ORTC					*i*		09 37 21.2	
comp=Z,119nm,0.4s								
CVALL	**Valledupar, Ce**	**3.66**	**358**	*e*P	P	**Pn**	**09 36 33.0**	**-0.8**
CVALL					*e*S	**Sn**	**09 37 15.6**	**-1.6**
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	P	**Pn**	**09 36 32.9**	**-1.1**
SJCC					*e*S	**Sn**	**09 37 14.2**	**-3.4**
SJCC					*i*		09 37 19.0	
comp=Z,74nm,0.5s								
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	P	**Pn**	**09 36 34.7**	**+0.5**
PLMC					*e*S	**Sn**	**09 37 17.2**	**-0.8**
PLMC					*i*		09 37 27.7	
comp=Z,53nm,0.4s								
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P	P	**Pn**	**09 36 36.2**	**+0.6**
LCBC					*e*S	**Sn**	**09 37 21.2**	**+0.6**
GUVC	**San Jose del G**	**4.28**	**174**	*e*P	P	**Pn**	**09 36 41.7**	**-0.1**
GUVC					*e*S	**Sn**	**09 37 30.5**	**-1.2**
GUVC					*i*		09 37 33.8	
comp=Z,95nm,0.4s								
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P	P	**Pn**	**09 36 41.6**	**-0.4**
YOTC					*e*S	**Sn**	**09 37 31.3**	**-0.7**
SOLC	**Bahia Solano**	**4.32**	**262**	*e*P	P	**Pn**	**09 36 42.1**	**-0.1**
SOLC					*e*S	**Sn**	**09 37 31.0**	**-1.4**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	P	**Pn**	**09 36 43.4**	**-0.6**
SMRC					*e*S	**Sn**	**09 37 31.8**	**-3.8**
SMRC					*i*		09 37 33.1	
comp=Z,29nm,0.2s								
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P	P	**Pn**	**09 36 45.8**	**-1.6**
MACC					*e*S	**Sn**	**09 37 37.7**	**-4.1**
MACC					*i*		09 37 45.5	
comp=Z,26nm,0.6s								
MARP	**Paez Belalcaza**	**4.87**	**216**	*e*P	P	**Pn**	**09 36 50.1**	**+0.3**
MARP					*e*S	**Sn**	**09 37 45.1**	**-0.9**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	P	**Pn**	**09 36 53.1**	**-0.9**
GARC					*e*S	**Sn**	**09 37 49.7**	**-3.7**
GARC					*i*		09 37 55.1	
comp=Z,50nm,0.2s								
PCON	**Cinco Dias**	**5.54**	**216**	*e*P	P	**Pn**	**09 36 59.5**	**+0.5**
PCON					*e*S	**Sn**	**09 38 01.6**	**-0.7**
POPC	**Popayan, Colom**	**5.55**	**220**	*e*P	P	Pn	09 36 48.9	-10
POPC					*e*S	Sn	09 37 49.0	-13
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P	P	**Pn**	**09 37 08.8**	**-0.1**
BBAC					*e*S	**Sn**	**09 38 16.1**	**-4.1**
BBAC					*i*		09 38 24.6	
comp=Z,12nm,0.1s								
PCRV	**Puerto La Cruz**	**9.01**	**68**	P	P	**Pn**	**09 37 44.9**	**+0.1**
comp=Z,0.7nm,0.3s,baz=306,slow=8.3,SNR=3.0								
PCRV					S	**Sn**	**09 39 24.8**	**-0.1**
comp=Z,0.3nm,0.3s,baz=15,slow=15,SNR=1.5								
MDP	**Montagnes des**	**20.43**	**94**	LR	LR		09 48 17.2	
comp=Z,81nm,20.2s,baz=326,slow=37								
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**		**09 42 28.7**	**+0.3**
comp=Z,0.2nm,0.4s,baz=120,slow=8.9,SNR=5.6								
TXAR				PcP	**PcP**		**09 44 50.0**	**+0.9**
comp=Z,0.1nm,0.5s,baz=128,slow=2.6,SNR=2.1								
ANMO	**Albuquerque**	**41.52**	**317**	LR	LR		10 02 35.9	
comp=Z,62nm,18.5s,baz=93,slow=39								
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**		**09 43 55.9**	**+0.2**
comp=Z,1.6nm,0.4s,baz=155,slow=7.7,SNR=2.9								
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**		**09 44 02.8**	**+0.6**
comp=Z,0.2nm,0.5s,baz=126,slow=9.1,SNR=2.5								
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**		**09 44 03.2**	**+1.1**
comp=Z,1.3nm,0.7s,baz=184,slow=18,SNR=1.6								
NVAR	**Mina Array Bea**	**51.49**	**315**	P	**P**		**09 44 29.3**	**+1.2**
comp=Z,0.2nm,0.6s,baz=97,slow=7.5,SNR=2.7								
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**		**09 45 49.9**	**+0.1**
comp=Z,0.9nm,0.5s,baz=129,slow=7.2,SNR=3.7								
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKPdf**		**09 54 12.7**	**-2.2**
comp=Z,0.2nm,0.4s,baz=356,slow=2.2,SNR=2.2								
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**		**09 55 07.8**	**-1.1**
comp=Z,0.4nm,0.5s,baz=116,slow=3.6,SNR=12								

*THR **26** 09:37:06.8±0.7, 35°.91N×52°.85E, h15km±7km, ML3.6*

*TEH **26** 09:37:06.5, 35°.92N×52°.90E, h8km, ML3.7*

ISC 26 09:37:07.2±1.3, 35°.92N±0°.03×52°.88E±0°.03, h4km±14km, n65, σ1§18/66, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.17**	**342**	*e*Pg	**Pg**	**Pg**	**09 37 10.9**	**+0.2**
IALA				*e*Sg		**Sg**	**09 37 14.3**	**+1.3**
IFIR	**Firoozkooh**	**0.29**	**200**	*e*Pg	**Pg**	**Pg**	**09 37 12.8**	**-0.1**
IFIR				*e*			09 37 18.8	
comp=Z,41μm,0.3s								
ISHM	**Shahmirzad**	**0.35**	**108**	*e*Pg	**Pg**	**Pg**	**09 37 13.6**	**-0.5**
ISHM				*e*			09 37 21.9	
comp=Z,57μm,0.3s								
ILAS	**Lasjerd**	**0.54**	**173**	*e*Pg	**Pg**	**Pg**	**09 37 17.4**	**-0.2**
ILAS				*e*			09 37 25.6	
comp=Z,31μm,0.3s								
IPRN	**Peran**	**0.54**	**307**	*e*Pg	**Pg**	**Pg**	**09 37 17.7**	**0.0**
IPRN				*e*			09 37 26.6	
comp=Z,46μm,0.3s								
IDMV	**Damavand**	**0.77**	**244**	*e*Pg	**Pg**	**Pg**	**09 37 21.4**	**-0.5**
DAMV	**Damavand**	**0.79**	**249**	*e*Pg	**Pg**	**Pg**	**09 37 21.6**	**-0.7**
DAMV					IAML		09 37 35.8	
comp=E,2μm,0.2s								
DAMV	**Damavand**	**0.79**	**249**	*e*Pg	**Pg**	**Pg**	**09 37 21.7**	**-0.7**
IANJ	**Anjilo**	**0.96**	**118**	*e*Pg	**Pg**	**Pg**	**09 37 24.6**	**-1.0**
IANJ				*e*			09 37 39.4	
comp=Z,22μm,0.1s								
IGLO	**Ghaloghah**	**0.97**	**53**	*e*Pg	**Pg**	**Pg**	**09 37 24.8**	**-0.9**
IGLO				*e*			09 37 49.3	
comp=Z,18μm,0.5s								
TEH	**Tehran**	**1.23**	**262**	*e*Pg	**Pb**	**Pb**	**09 37 29.7**	**-1.4**
TEH				*e*			09 37 52.1	
comp=Z,14μm,0.4s								
IVRN	**Varamin**	**1.31**	**226**	*e*Pg	**Pn**	**Pn**	**09 37 31.5**	**-1.0**
IHSB	**Hasanabad**	**1.39**	**250**	*e*Pg	**Pn**	**Pn**	**09 37 32.6**	**-0.9**
IHSB				*e*			09 37 35.2	
comp=Z,8μm,0.2s								
CHTH	**Charan**	**1.42**	**270**	*e*Pg	**Pn**	**Pn**	**09 37 32.8**	**-1.3**
CHTH	**Charan**	**1.42**	**270**	*e*Pg	**Pn**	**Pn**	**09 37 32.8**	**-1.3**
ISFB	**Sefidab**	**1.65**	**199**	*e*Pg	**Pn**	**Pn**	**09 37 36.8**	**-0.2**
IMHD	**Mahdasht**	**1.81**	**263**	*e*Pn	**Pb**	**Pb**	**09 37 40.2**	**-0.8**
IMHD				*e*			09 37 44.2	
comp=Z,12μm,0.1s								
IQOM	**Qom**	**1.83**	**235**	*e*Pn	**Pn**	**Pn**	**09 37 40.1**	**+0.4**
IQOM				*e*			09 38 08.5	
comp=Z,15μm,0.5s								
QALM	**Alamut, Qazvin**	**1.88**	**287**	*e*Pn	**Pb**	**Pb**	**09 37 41.7**	**-0.5**
KRSH	**Karshahi**	**2.04**	**198**	*e*Pn	**Pn**	**Pn**	**09 37 42.7**	**+0.2**
IGZV	**Ghazvin**	**2.20**	**283**	*e*Pn	**Pb**	**Pb**	**09 37 46.9**	**-0.9**
IGZV				*e*			09 37 49.8	
comp=Z,5μm,0.5s								
IMND	**Minoodasht**	**2.44**	**56**	*e*Pn	**Pn**	**Pn**	**09 37 47.6**	**-0.2**
IMND				*e*			09 37 53.1	
comp=Z,3μm,0.2s								
IRAZ	**Razeghan**	**2.46**	**259**	*e*Pn	**Pn**	**Pn**	**09 37 49.9**	**+1.6**
QAMS	**Qamsar**	**2.50**	**210**	*e*Pn	**Pn**	**Pn**	**09 37 49.9**	**+1.0**
SHRO	**Shahrood**	**2.54**	**87**	*e*Pn	**Pn**	**Pn**	**09 37 50.1**	**+0.7**
SHRO	**Shahrood**	**2.54**	**87**	*e*Pn	**Pn**	**Pn**	**09 37 50.1**	**+0.7**
JIR1	**Jirandeh**	**2.61**	**288**	*e*Pn	**Pn**	**Pn**	**09 37 51.0**	**+0.7**
QABG	**Abgarm-Qazvin**	**2.69**	**266**	*e*Pn	**Pn**	**Pn**	**09 37 52.1**	**+0.6**
QABG				*e*			09 37 56.1	
comp=Z,2μm,0.4s								
ASAO	**Ashtian**	**2.71**	**240**	*e*Pn	**Pn**	**Pn**	**09 37 52.0**	**+0.3**
ASAO	**Ashtian**	**2.71**	**240**	*e*Pn	**Pn**	**Pn**	**09 37 52.0**	**+0.3**
IKLH	**Kolahrood**	**2.81**	**203**	*e*Pn	**Pn**	**Pn**	**09 37 53.5**	**+0.4**
IKLH				*e*			09 38 36.9	
comp=Z,4μm,0.3s								
ANAR	**Anarak**	**2.81**	**165**	*e*Pn	**Pn**	**Pn**	**09 37 53.2**	**+0.1**
IZEF	**Zefreh**	**3.05**	**189**	*e*Pn	**Pn**	**Pn**	**09 37 56.3**	**-0.2**
QSDN	**Sirdan**	**3.05**	**282**	*e*Pn	**Pn**	**Pn**	**09 37 58.2**	**+1.7**
MRVT	**Maraveh tapeh**	**3.11**	**55**	*e*Pn	**Pn**	**Pn**	**09 37 57.5**	**+0.3**
MRVT	**Maraveh tapeh**	**3.11**	**55**	*e*Pn	**Pn**	**Pn**	**09 37 57.5**	**+0.3**
NASN	**Na'in**	**3.11**	**181**	*e*Pn	**Pn**	**Pn**	**09 37 57.3**	**-0.1**
NASN	**Na'in**	**3.11**	**181**	*e*Pn	**Pn**	**Pn**	**09 37 57.3**	**-0.1**
HAGD	**Aghdareh**	**3.24**	**251**	*e*Pn	**Pn**	**Pn**	**09 38 01.5**	**+2.4**
IGAR	**Gharneh**	**3.57**	**191**	*e*Pn	**Pn**	**Pn**	**09 38 04.7**	**+1.0**
IPIR	**Pirpir**	**3.62**	**208**	*e*Pn	**Pn**	**Pn**	**09 38 06.5**	**+2.1**
IPIR				*e*			09 39 03.7	
comp=Z,988nm,0.4s								
SBZV	**Sabzevar**	**3.86**	**82**	*e*Pn	**Pn**	**Pn**	**09 38 08.1**	**+0.5**
HSAM	**Samen**	**3.90**	**245**	*e*Pn	**Pn**	**Pn**	**09 38 10.7**	**+2.5**
IALM	**Almaboladq**	**3.99**	**256**	*e*Pn	**Pn**	**Pn**	**09 38 11.7**	**+2.3**
BMDN	**Meydan**	**4.02**	**237**	*e*Pn	**Pn**	**Pn**	**09 38 12.1**	**+2.4**
BJRD	**Bojnurd**	**4.05**	**63**	*e*Pn	**Pn**	**Pn**	**09 38 10.6**	**+0.5**
BJRD	**Bojnurd**	**4.05**	**63**	*e*Pn	**Pn**	**Pn**	**09 38 10.6**	**+0.5**
ISAD	**Sadrabad**	**4.05**	**170**	*e*Pn	**Pn**	**Pn**	**09 38 10.1**	**-0.2**
IRAM	**Ramesheh**	**4.12**	**186**	*e*Pn	**Pn**	**Pn**	**09 38 12.3**	**+1.1**
TABS	**Tabas**	**4.16**	**122**	*e*Pn	**Pn**	**Pn**	**09 38 11.8**	**+0.2**
TABS	**Tabas**	**4.16**	**122**	*e*Pn	**Pn**	**Pn**	**09 38 11.8**	**+0.2**
TKDS	**Koohdasht(Taba**	**4.18**	**122**	*e*Pn	**Pn**	**Pn**	**09 38 12.0**	**+0.1**
TPRV	**Parvadeh(Tabas**	**4.27**	**131**	*e*Pn	**Pn**	**Pn**	**09 38 13.3**	**+0.2**
ISFR	**Sfrayin**	**4.28**	**73**	*e*Pn	**Pn**	**Pn**	**09 38 13.7**	**+0.3**
ISRB	**Sarab**	**4.59**	**296**	*e*Pn	**Pn**	**Pn**	**09 38 20.5**	**+2.9**
IMEH	**Mehriz**	**4.74**	**162**	*e*Pn	**Pn**	**Pn**	**09 38 20.0**	**+0.2**
IKFM	**Kafar-mosalman**	**4.78**	**241**	*e*Pn	**Pn**	**Pn**	**09 38 22.5**	**+2.5**
IBAF	**Bafgh**	**4.86**	**152**	*e*Pn	**Pn**	**Pn**	**09 38 21.7**	**+0.4**
GRMI	**Germi**	**4.91**	**307**	*e*Pn	**Pn**	**Pn**	**09 38 22.3**	**+0.4**
GRMI	**Germi**	**4.91**	**307**	*e*Pn	**Pn**	**Pn**	**09 38 22.3**	**+0.4**
KLNJ	**Kolanjah**	**5.01**	**193**	*e*Pn	**Pn**	**Pn**	**09 38 25.7**	**+2.1**
IGHG	**Ghaleghazi**	**5.41**	**255**	*e*Pn	**Pn**	**Pn**	**09 38 31.5**	**+2.6**
SHRT	**Shahrakht**	**6.51**	**108**	*e*Pn	**Pn**	**Pn**	**09 38 45.5**	**+1.7**
SHRT	**Shahrakht**	**6.51**	**108**	*e*Pn	**Pn**	**Pn**	**09 38 45.6**	**+1.7**
NHDN	**Nehbandan**	**7.49**	**125**	*e*Pn	**Pn**	**Pn**	**09 38 57.6**	**+0.2**

*MAN **26** 09:47:40.4, 15°.00N×119°.97E, h8km, mb5.2, ML4.2, MS4.3*

*NEIC **26** 09:47:47.4±2.0, 14°.94N±0°.09×120°.4E±0°.1, h66km±6km, mb4.5/51, Error ellipse: s-maj=17.7km s-min=12.1km az=74.0*

*IDC **26** 09:47:48.1±4.9, 14°.95N×120°.38E, h81km±45km, mb3.7/22, mb1 3.9/22, mb1mx3.7/63, mbtmp4.1/22, MS3.2/1, Ms1 3.2/1, ms1mx2.7/40, Error ellipse: s-maj=20.7km s-min=12.1km az=70.0*

ISC 26 09:47:45.4±0.4, 14°.84N±0°.05×120°.21E±0°.08, h55km, n101, σ1§54/99, mb4.3/45, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.02**	**136**	⇓*e*P		**Pn**	**09 48 05.7**	**+2.1**
TGY					*e*S	**Sn**	**09 48 18.2**	**+1.2**
LUBP	**Lubang**	**1.10**	**178**	⇓*e*P		**Pn**	**09 48 03.8**	**-0.9**
PCPH	**Palayan**	**1.11**	**50**	⇑*e*P		**Pn**	**09 48 01.4**	**-3.5**
PGP	**Puerto Galera**	**1.52**	**152**	⇑*e*P		**Pn**	**09 48 12.2**	**+1.9**
PGP				*i*	S	**Sn**	**09 48 35.1**	**+6.2**
SZP	**Santa**	**2.70**	**5**	Pn		**Pn**	**09 48 25.5**	**-0.9**
SIPP	**Brgy, Tapao**	**3.07**	**4**	⇓*e*P		**Pn**	**09 48 32.6**	**+1.1**
SIPP				*i*	S	Sn	09 49 26.5	+19
APYP	**Conner**	**3.16**	**18**	⇑*e*P		**Pn**	**09 48 32.2**	**-0.5**
APYP				*e*S		**Sn**	**09 49 15.0**	**+5.7**
TPUB	**Ta-pu**	**8.42**	**3**	Pn		**Pn**	**09 49 46.5**	**+1.7**
YULB	**Yu-li**	**8.57**	**7**	Pn		**Pn**	**09 49 47.3**	**+0.4**
SSLB	**Suanglung**	**8.93**	**4**	Pn		**Pn**	**09 49 52.1**	**+0.4**
NACB	**Ninganchiao**	**9.37**	**8**	Pn		**Pn**	**09 49 56.3**	**-1.6**
YHNB	**Yeheng**	**9.84**	**6**	Pn		**Pn**	**09 50 04.8**	**+0.5**
JOW	**Kunigami**	**14.10**	**31**	LR		LR	09 56 36.3	
comp=Z,109nm,20.1s,baz=35,slow=38								
CM31	**Chiang Mai Arr**	**20.69**	**283**	P		Pn	09 52 25.1	+1.2
CMAR	**Chiang Mai Arr**	**20.69**	**283**	P		Pn	09 52 23.9	0.0
5.9nm,0.9s,baz=97,slow=8.1,SNR=14								
CMAR	**Chiang Mai Arr**	**20.69**	**283**	P		Pn	09 52 24.5	+0.5
CHTO	**Chiang Mai**	**20.73**	**284**	P		**P**	**09 52 19.7**	**-1.9**
FAKI	**Fak Fak**	**21.30**	**145**	P		**P**	**09 52 25.0**	**-2.7**
FAKI				IAmb		IAmb	09 52 36.5	
comp=Z,26nm,1.2s								
CD2	**Chengdu**	**21.99**	**319**	P		**P**	**09 52 37.0**	**+2.0**
CD2				pmax		pmax		
comp=Z,30nm,0.7s								
KSRS	**Korea Array**	**23.54**	**16**	P		**P**	**09 52 50.0**	**-0.8**
comp=Z,0.8nm,0.6s,baz=201,slow=10,SNR=4.1								
JWT	**Wachi**	**24.51**	**31**	P		**P**	**09 52 59.1**	**-0.6**

CNPM IAmb IAmb 09 59 41.6
comp=Z,12nm,1.2s
RC01 Rabbit Creek A 77.17 30 P **P 09 59 32.5 -0.6**
RC01 IAmb IAmb 09 59 34.2
comp=Z,6.2nm,1.0s
MDM Murphy Dome 77.34 26 P **P 09 59 34.8 +0.7**
MDM IAmb IAmb 09 59 36.1
comp=Z,3.7nm,1.2s
DHH Diamond Head 77.44 71 P **P 09 59 31.6 -3.8**
SML Sawmill 77.74 29 P **P 09 59 37.3 +0.9**
ARCES ARCESS Array B 77.85 339 P **P 09 59 36.1 -0.7**
comp=Z,0.8nm,0.5s,baz=82,slow=6.5,SNR=15
ARCES ARCESS Array B 77.85 339 P **P 09 59 36.5 -0.3**
ARCES IAmb IAmb 09 59 45.8
comp=Z,5.7nm,1.2s
PWL Port Wells 77.88 30 P **P 09 59 35.5 -1.6**
ILAR Eielson Array 77.94 26 P **P 09 59 35.7 -1.7**
comp=Z,0.2nm,0.3s,baz=267,slow=3.2,SNR=5.0
BMAR Burnt Mountain 78.41 23 P **P 09 59 41.3 +1.3**
M24K Tolsona, Glenn 78.70 29 P **P 09 59 39.8 -1.9**
RIDG Independent Ri 78.99 27 P **P 09 59 43.0 -0.3**
RIDG IAmb IAmb 09 59 44.0
comp=Z,4.0nm,0.9s
FINES FINESS Array B 79.06 331 P **P 09 59 43.0 -0.6**
comp=Z,1.4nm,0.6s,baz=90,slow=5.7,SNR=9.0
FINES FINESS Array B 79.06 331 P **P 09 59 43.0 -0.6**
AKASG Malin Array Be 79.29 320 P **P 09 59 44.2 -0.8**
comp=Z,1.2nm,0.7s,baz=62,slow=5.7,SNR=4.1
EGAK Eagle 80.34 25 P **P 09 59 50.9 +0.4**
L27K Beaver Creek, 80.47 27 P **P 09 59 53.0 +1.8**
BCAR Beaver Creek A 80.48 27 P **P 09 59 52.9 +1.5**
DAWY Dawson 81.26 26 P **P 09 59 56.2 +0.7**
INK Inuvik 82.20 21 P **P 09 59 59.7 -0.5**
comp=Z,2.9nm,0.8s,baz=280,slow=9.9,SNR=5.7
INK Inuvik 82.20 21 IAmb IAmb 10 00 00.6
comp=Z,3.8nm,1.1s
BURAR Bucovina Array 82.50 317 P **P 10 00 03.0 +0.6**
BUR08 Bucovina Ar. S 82.50 317 P **P 10 00 03.4 +1.0**
BUR08 IAmb IAmb 10 00 03.6
comp=Z,3.1nm,0.7s
MLR Muntele Rosu 82.51 315 P **P 10 00 03.0 +0.5**
comp=Z,1.5nm,0.6s,baz=284,slow=2.4,SNR=6.7
MLR Muntele Rosu 82.51 315 IAmb IAmb 10 00 03.8
comp=Z,3.1nm,0.7s
C36M Paulatuk 84.89 19 P **P 10 00 13.6 -0.4**
C36M IAmb IAmb 10 00 13.7
comp=Z,3.3nm,0.8s
NC405 NORSAR Array S 85.78 332 P **P 10 00 17.2 -1.5**
NB2 NORSAR Subarra 86.03 333 P **P 10 00 18.6 -1.4**
comp=Z,1.8nm,0.7s,baz=66,slow=5.1
NOA NORSAR Array B 86.03 333 P **P 10 00 19.0 -1.0**
comp=Z,1.2nm,0.6s,baz=71,slow=4.4,SNR=5.1
YKA Yellowknife Ar 91.91 22 P **P 10 00 46.0 -1.6**
comp=Z,1.2nm,0.9s,baz=326,slow=3.4,SNR=2.4

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*IDC **26** 09:54:32.4±1.0, 36°.12N×97°.61W, h0km, mb1 3.8/7, mb1mx3.5/73, mbtmp3.5/7, ML3.1/6, Error ellipse: s-maj=13.1km s-min=10.7km az=138.0*
*NEIC **26** 09:54:33.5±1.3, 36°.008N±0°.009×97°.57W±0°.01, h5km±6km, Error ellipse: s-maj=1.9km s-min=1.0km az=116.0*
*NEIC **26** 09:54:33.5, 36°.01N×97°.57W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.29; $M_{\theta\theta}$1.47; $M_{\phi\phi}$-1.18; $M_{r\theta}$-1.35; $M_{\theta\phi}$2.35; $M_{\phi r}$-0.86; Fault plane solution: M_o3.15000×10^{14} NP1:ϕ_s287.18000°, δ72.76000°, λ15.26000°. NP2:ϕ_s192.56000°, δ75.44000°, λ162.17000°. Principal axes: T 3.5203, Plg23.0000°, Azm149.0000°; N -0.9618, Plg67.0000°, Azm335.0000°; P -2.5585, Plg2.0000°, Azm240.0000°;*
*TUL **26** 09:54:33.6±1.5, 35°.99N±0°.01×97°.57W±0°.02, h5km±6km, ML4.0, mb_Lg3.9/147(NEIC), Mwr3.6/53(NEIC) Error ellipse: s-maj=2.7km s-min=1.5km az=67.0*
*ANF **26** 09:54:33.7±0.3, 35°.98N×97°.59W, h6km, ML4.9/15, Error ellipse: s-maj=3.4km s-min=2.6km az=176.0*
ISC 26 09:54:33.7±0.9, **36°.01N**±0°.02×**97°.56W**±0°.02, **h11**km±7km, **n287**, σ1**9**, σ**28**/329, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**157**		**Pg**	**09 54 38.2**	**-0.4**
OK029				Sg	**Sg**	**09 54 41.4**	**-0.4**
BCOK	**Bluff Creek, N**	**0.35**	**186**		**Pg**	**09 54 40.3**	**-0.5**
BCOK				Sg	**Sg**	**09 54 45.4**	**-0.2**
OK009	**Oakdale Elemen**	**0.44**	**165**	Pg	**Pg**	**09 54 42.1**	**-0.3**
OK009				Sg	**Sg**	**09 54 48.1**	**-0.2**
OK025	**Westminster Rd**	**0.47**	**157**		**Pg**	**09 54 42.5**	**-0.3**
OK025				Sg	**Sg**	**09 54 49.2**	**+0.1**
OK005	**Luther M Schoo**	**0.47**	**139**	Pg	**Pg**	**09 54 42.6**	**-0.2**
OK005				Sg	**Sg**	**09 54 48.5**	**-0.6**
OK001	**Jones High Sch**	**0.50**	**153**	Pg	**Pg**	**09 54 43.2**	**-0.3**
OK001				Sg	**Sg**	**09 54 49.1**	**-1.1**
OK031	**S. Brethren Rd**	**0.59**	**95**		**Pg**	**09 54 45.2**	**0.0**
OK031				Sg	**Sg**	**09 54 53.4**	**+0.4**
CROK	**Carrier**	**0.60**	**326**	Pg	**Pg**	**09 54 45.5**	**+0.1**
CROK				Sg	**Sg**	**09 54 54.0**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**0.61**	**170**	Pg	**Pg**	**09 54 45.1**	**-0.5**
OKCSW				Sg	**Sg**	**09 54 53.5**	**-0.2**
QUOK	**Quay**	**0.71**	**77**		**Pg**	**09 54 47.5**	**0.0**
QUOK				Sg	**Sg**	**09 54 57.2**	**+0.4**
FNO	**Franklin**	**0.76**	**170**	Pg	**Pg**	**09 54 47.7**	**-0.8**
FNO				Sg	**Sg**	**09 54 58.0**	**-0.5**
BLOK	**Blackwell**	**0.80**	**20**		**Pg**	**09 54 49.2**	**-0.1**
BLOK					**Sg**	**09 55 00.3**	**+0.6**
GC02	**Grant County #**	**0.87**	**344**		**Pg**	**09 54 50.3**	**-0.3**
GC02				Sg	**Sg**	**09 55 02.5**	**+0.4**
OK011	**Prague**	**0.89**	**126**	Pg	**Pg**	**09 54 50.6**	**-0.2**
OK011				Sg	**Sg**	**09 55 00.8**	**-1.5**
OK032	**Salt Plains WL**	**0.95**	**327**		**Pg**	**09 54 51.7**	**-0.3**
OK032				Sg	**Sg**	**09 55 04.6**	**+0.2**
KAN13	**South Haven SW**	**1.00**	**4**		**Pg**	**09 54 53.0**	**-0.1**
KAN13				Sg	**Sb**	**09 55 06.7**	**+0.3**
KAN17	**Caldwell West**	**1.04**	**351**		**Pg**	**09 54 53.6**	**-0.3**
KAN17				Sg	**Sb**	**09 55 07.8**	**+0.3**
KAN05	**Bluff City Nor**	**1.12**	**347**		**Pg**	**09 54 55.0**	**-0.4**
KAN05				Sg	**Sg**	**09 55 10.1**	**+0.1**
KAN09	**Caldwell North**	**1.12**	**358**		**Pg**	**09 54 55.1**	**-0.2**
KAN09				Sg	**Sb**	**09 55 10.3**	**+0.5**
KAN10	**Anthony SW Sta**	**1.19**	**339**		**Pg**	**09 54 55.9**	**-0.7**
KAN10				Sg	**Sg**	**09 55 11.5**	**-0.7**
KS20	**Mayfield South**	**1.22**	**0**		**Pg**	**09 54 56.8**	**-0.4**
KS20				Sg	**Sg**	**09 55 12.9**	**-0.1**
U32A	**Winter Ranch,**	**1.22**	**288**		**Pg**	**09 54 56.3**	**-0.9**
U32A				Sg	**Sg**	**09 55 12.3**	**-0.7**
U32A	**Winter Ranch,**	**1.22**	**288**	P		09 54 56.3	
	baz=108						
U32A				S		09 55 13.5	
	baz=108						
T35A	**Sooner Cattle**	**1.24**	**43**		**Pg**	**09 54 57.1**	**-0.5**
T35A				Sg	**Sg**	**09 55 13.1**	**-0.6**
T35B	**Sooner Cattle**	**1.24**	**43**	P		09 54 57.1	
	baz=223,SNR=503						
T35B				S		09 55 14.4	
	baz=223						
KAN08	**Anthony NE Sta**	**1.26**	**345**		**Pg**	**09 54 57.3**	**-0.6**
KS21	**Milan North St**	**1.28**	**356**	IAmb_Lg		09 55 15.6	
	comp=Z,614nm,0.8s						
KAN12	**Harper NE Stat**	**1.33**	**345**		**Pn**	**09 54 58.6**	**+0.4**
X34A	**Smith Ranch, M**	**1.42**	**189**	Pn	**Pn**	**09 55 00.1**	**+0.6**
X34A				IAmb_Lg		09 55 17.6	
	comp=Z,481nm,1.2s						
TUL1	**Leonard**	**1.44**	**93**	P	**Pn**	**09 54 59.6**	**-0.2**
	baz=274,SNR=178						
TUL1				S	**Sb**	**09 55 19.4**	**+0.5**
	baz=274						
TUL1	**Leonard**	**1.44**	**93**	P		09 54 59.8	
	baz=274						
TUL1				S		09 55 19.5	
	baz=274						
WMOK	**Wichita Mounta**	**1.61**	**218**	P	**Pn**	**09 55 02.2**	**+0.1**
	baz=38,SNR=1000						
WMOK				S	**Sn**	**09 55 24.0**	**+1.1**
	baz=38						
WMOK	**Wichita Mounta**	**1.61**	**218**		**Pn**	**09 55 02.2**	**+0.1**
WMOK	**Wichita Mounta**	**1.61**	**218**	P		09 55 02.5	
	baz=38,SNR=1000						
WMOK				S		09 55 24.1	
	baz=38						
LOOK	**Love County**	**2.04**	**171**		**Pn**	**09 55 09.1**	**+1.2**
LOOK				IAmb_Lg		09 55 39.3	
	comp=Z,575nm,0.9s						
X37A	**Clayton**	**2.29**	**128**	Pn	**Pn**	**09 55 12.2**	**+0.9**
X37A				IAmb_Lg		09 55 52.3	
	comp=Z,486nm,0.9s						
X37A	**Clayton**	**2.29**	**128**	P		09 55 12.3	
	baz=309,SNR=134						
R32A	**Long Quarter,**	**2.58**	**340**	Pn	**Pn**	**09 55 16.5**	**+1.1**
R32A	**Long Quarter,**	**2.58**	**340**	P		09 55 16.5	
	baz=159,SNR=157						
R32A				S		09 55 48.8	
	baz=159						
U38A	**Gravette**	**2.60**	**80**	Pn	**Pn**	**09 55 17.4**	**+1.6**
U38A	**Gravette**	**2.60**	**80**	P		09 55 17.0	
	baz=261,SNR=83						
Z35A	**Perchaven, San**	**2.69**	**174**	Pn	**Pn**	**09 55 17.5**	**+0.6**
Z35A	**Perchaven, San**	**2.69**	**174**	P		09 55 18.1	
	baz=354,SNR=38						
Z35A				S		09 55 52.0	
	baz=354						
HHAR	**Hobbs**	**2.95**	**84**	Pn	**Pn**	**09 55 21.3**	**+0.8**
HHAR	**Hobbs**	**2.95**	**84**	P		09 55 21.5	
	baz=265						
KSU1	**Kansas State U**	**3.18**	**14**	P	**Pn**	**09 55 25.0**	**+1.4**
	baz=194,SNR=19						
KSU1				Sb	**Sb**	**09 56 12.6**	**+3.7**
	baz=194						
KSU1	**Kansas State U**	**3.18**	**14**		**Pn**	**09 55 24.5**	**+0.9**
KSU1				IAmb_Lg		09 56 22.9	
	comp=Z,427nm,0.8s						
KSU1	**Kansas State U**	**3.18**	**14**	P		09 55 25.0	
	baz=194,SNR=24						
KSU1				S		09 56 03.7	
	baz=194						
W39A	**Magazine**	**3.19**	**104**	P	**Pn**	**09 55 24.8**	**+1.0**
	baz=286,SNR=39						
W39A				S	**Sn**	**09 56 03.8**	**+2.1**
	baz=286						
W39A	**Magazine**	**3.19**	**104**		**Pn**	**09 55 24.4**	**+0.7**
W39A				IAmb_Lg		09 56 17.1	
	comp=Z,361nm,0.8s						
W39A	**Magazine**	**3.19**	**104**	P		09 55 24.7	
	baz=286,SNR=56						
W39A				S		09 56 03.3	
	baz=286						
CBKS	**Cedar Bluff**	**3.29**	**329**	P	**Pn**	**09 55 27.0**	**+1.8**
	baz=148,SNR=25						
CBKS				Sb	**Sg**	**09 56 17.3**	**-2.1**
	baz=148						
CBKS	**Cedar Bluff**	**3.29**	**329**		**Pn**	**09 55 26.5**	**+1.3**
CBKS				IAmb_Lg		09 56 26.3	
	comp=Z,405nm,0.7s						
CBKS	**Cedar Bluff**	**3.29**	**329**	P		09 55 26.3	
	baz=148,SNR=44						
Z38A	**Mt. Pleasant**	**3.47**	**141**	Pn	**Pn**	**09 55 28.3**	**+0.6**
Z38A				IAmb_Lg		09 56 23.5	
	comp=Z,179nm,0.9s						
Z38A	**Mt. Pleasant**	**3.47**	**141**	P		09 55 28.3	
	baz=323,SNR=6.0						
AMTX	**Amarillo**	**3.54**	**253**	P	**Pn**	**09 55 30.2**	**+1.4**
AMTX							
	baz=70						
				Sb	**Sb**	**09 56 20.9**	**+1.4**
	baz=70						
AMTX	**Amarillo**	**3.54**	**253**	Pn	**Pn**	**09 55 29.8**	**+1.1**
AMTX				IAmb_Lg		09 56 26.4	
	comp=Z,239nm,0.8s						
AMTX	**Amarillo**	**3.54**	**253**	P		09 55 30.3	
	baz=70,SNR=16						
MIAR	**Mount Ida**	**3.57**	**113**	P	**Pn**	**09 55 30.9**	**+1.8**
	baz=295,SNR=56						
MIAR				S	**Sn**	**09 56 13.4**	**+2.1**
	baz=295						
MIAR	**Mount Ida**	**3.57**	**113**	Pn	**Pn**	**09 55 30.9**	**+1.8**
MIAR				IAmb_Lg		09 56 35.3	
	comp=Z,329nm,0.8s						
MIAR	**Mount Ida**	**3.57**	**113**	P		09 55 30.8	
	baz=295,SNR=80						
MIAR				S		09 56 13.6	
	baz=295						
ABTX	**Abilene, Hawle**	**3.79**	**208**	P	**Pn**	**09 55 32.9**	**+0.8**
	baz=26,SNR=126						
ABTX				Sb	**Sb**	**09 56 28.1**	**+1.5**
	baz=26						
ABTX	**Abilene, Hawle**	**3.79**	**208**		**Pn**	**09 55 32.6**	**+0.5**
ABTX				IAmb_Lg		09 56 32.0	
	comp=Z,273nm,0.8s						
ABTX	**Abilene, Hawle**	**3.79**	**208**	P		09 55 32.6	
	baz=26						
U40A	**Yellville**	**3.83**	**83**	P	**Pn**	**09 55 32.7**	**+0.1**
	baz=266,SNR=20						
U40A				Sb	**Sg**	**09 56 33.3**	**-3.3**
	baz=266						
U40A	**Yellville**	**3.83**	**83**		**Pn**	**09 55 32.9**	**+0.3**
U40A				IAmb_Lg		09 56 36.4	
	comp=Z,394nm,0.9s						
U40A	**Yellville**	**3.83**	**83**	P		09 55 32.9	
	baz=266,SNR=15						
U40A				P		09 55 32.9	
	baz=266,SNR=15						
WHTX	**Lake Whitney,**	**4.01**	**179**	Pn	**Pn**	**09 55 35.5**	**+0.5**
	baz=359,SNR=7.0						
WHTX				Pb	**Pb**	**09 55 43.2**	**-1.1**
	baz=359						
WHTX				Sb	**Sb**	**09 56 36.1**	**+3.3**
	baz=359						
WHTX	**Lake Whitney,**	**4.01**	**179**	Pn	**Pn**	**09 55 35.8**	**+0.8**
WHTX	**Lake Whitney,**	**4.01**	**179**	P		09 55 35.6	
	baz=359,SNR=23						
X40A	**Basin Creek Fa**	**4.16**	**110**	P	**Pn**	**09 55 38.4**	**+1.3**
	baz=293,SNR=7.2						
X40A				Sb	**Sg**	**09 56 43.9**	**-3.3**
	baz=293						
X40A	**Basin Creek Fa**	**4.16**	**110**		**Pn**	**09 55 38.2**	**+1.1**
X40A	**Basin Creek Fa**	**4.16**	**110**	P		09 55 38.1	
	baz=293,SNR=19						
X40A				P		09 55 38.1	
	baz=293,SNR=19						
237A	**Washetta, Mont**	**4.25**	**159**	P		09 55 38.7	
	baz=340,SNR=10						
237A				S		09 56 29.5	
	baz=340						
237A	**Washetta, Mont**	**4.26**	**159**		**Pn**	**09 55 38.6**	**+0.2**
WLAR	**White Oak Lake**	**4.33**	**121**		**Pn**	**09 55 39.3**	**-0.2**
WLAR				IAmb_Lg		09 57 01.3	
	comp=Z,210nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**98**		**Pn**	**09 55 40.1**	**+0.3**
WHAR				IAmb_Lg		09 56 51.4	
	comp=Z,344nm,1.0s						
MGMO	**Mountain Grove**	**4.41**	**73**		**Pn**	**09 55 41.7**	**+1.1**
MGMO				IAmb_Lg		09 57 05.1	
	comp=Z,308nm,0.8s						
W41B	**Gary Mavity, V**	**4.41**	**99**	Pn	**Pn**	**09 55 41.8**	**+1.2**
	baz=282						
W41B				Pb	**Pb**	**09 55 51.2**	**0.0**
	baz=282						
W41B				S	**Sn**	**09 56 32.6**	**+0.7**
	baz=282						
W41B				Sb	**Sg**	**09 56 50.5**	**-4.9**
	baz=282						
W41B	**Gary Mavity, V**	**4.41**	**99**	P		09 55 41.4	
	baz=282,SNR=22						
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	**Pn**	**09 55 41.1**	**+0.5**
FCAR				IAmb_Lg		09 56 59.5	
	comp=Z,307nm,1.0s						
N33A	**J Bar K, Exete**	**4.72**	**1**	Pn	**Pn**	**09 55 44.4**	**-0.4**
N33A				IAmb_Lg		09 57 15.1	
	comp=Z,357nm,0.7s						
MSTX	**Muleshoe**	**4.74**	**246**	P	**Pn**	**09 55 46.4**	**+1.2**
	baz=63,SNR=8.4						
MSTX	**Muleshoe**	**4.74**	**246**	Pn	**Pn**	**09 55 46.2**	**+1.0**
MSTX				IAmb_Lg		09 57 07.5	
	comp=Z,187nm,1.0s						
Z41A	**Richland Creek**	**4.79**	**124**	P	**Pn**	**09 55 46.2**	**+0.4**
	baz=306						
Z41A				S	**Sn**	**09 56 41.1**	**-0.2**
	baz=306						
Z41A	**Richland Creek**	**4.79**	**124**	P		09 55 46.2	
	baz=306						
Z41A				P		09 55 46.2	
	baz=306						
R40A	**Maddies Statio**	**4.80**	**60**		**Pn**	**09 55 46.8**	**+0.8**
R40A				IAmb_Lg		09 57 08.6	
	comp=Z,131nm,0.8s						
R40A	**Maddies Statio**	**4.80**	**60**	P		09 55 46.7	
	baz=243,SNR=36						
P38A	**Dawn**	**4.82**	**40**	Pn	**Pn**	**09 55 47.4**	**+1.2**
P38A				IAmb_Lg		09 57 10.4	
	comp=Z,209nm,0.7s						
P38A	**Dawn**	**4.82**	**40**	P		09 55 47.4	
	baz=222,SNR=11						
NATX	**Nacogdoches**	**4.88**	**150**	Pn	**Pn**	**09 55 47.0**	**0.0**
KSCO	**Kaye Shedlock'**	**5.02**	**308**		**Pn**	**09 55 50.8**	**+1.7**
KSCO				IAmb_Lg		09 57 19.2	
	comp=Z,141nm,0.8s						
N35A	**Tabor**	**5.07**	**17**		**Pn**	**09 55 50.1**	**+0.5**
CCAR	**Cane Creek**	**5.19**	**112**		**Pn**	**09 55 51.4**	**+0.1**
LCAR	**Lake Charles**	**5.19**	**87**		**Pn**	**09 55 51.7**	**+0.3**
LCAR				IAmb_Lg		09 57 23.0	
	comp=Z,245nm,1.0s						
435B	**Jarrell**	**5.21**	**180**	P	**Pn**	**09 55 52.0**	**+0.4**
	baz=0.1,SNR=12						
435B				Sb	**Sb**	**09 57 13.9**	**+6.4**
	baz=0.1						
435B	**Jarrell**	**5.21**	**180**		**Pn**	**09 55 52.2**	**+0.6**
435B				IAmb_Lg		09 57 32.4	
	comp=Z,316nm,0.8s						
435B	**Jarrell**	**5.21**	**180**	P		09 55 52.0	
	baz=0.1,SNR=9.7						
T42A	**Van Buren**	**5.31**	**77**		**Pn**	**09 55 55.0**	**+2.1**
T42A				IAmb_Lg		09 57 30.7	
	comp=Z,154nm,0.9s						
BGNE	**Belgrade**	**5.41**	**355**	P	**Pn**	**09 55 54.7**	**+0.4**
	baz=175,SNR=6.2						
BGNE				S	**Sn**	**09 56 55.3**	**-1.3**
	baz=175						
BGNE	**Belgrade**	**5.41**	**355**		**Pn**	**09 55 55.1**	**+0.7**
BGNE	**Belgrade**	**5.41**	**355**	P		09 55 54.8	
	baz=175,SNR=18						
CCM	**Cathedral Cave**	**5.45**	**66**	P	**Pn**	**09 55 55.3**	**+0.5**
	baz=250						
CCM	**Cathedral Cave**	**5.45**	**66**		**Pn**	**09 55 55.6**	**+0.7**
CCM				IAmb_Lg		09 57 33.3	
	comp=Z,136nm,0.7s						
CCM	**Cathedral Cave**	**5.45**	**66**	P		09 55 55.2	
	baz=250,SNR=10						
P40A	**Paris**	**5.61**	**50**		**Pn**	**09 55 57.7**	**+0.7**
P40A				IAmb_Lg		09 57 38.2	
	comp=Z,188nm,0.8s						
T25A	**Trinidad**	**5.62**	**284**	P	**Pn**	**09 55 58.0**	**+0.5**
	baz=100						
T25A				Sb	**Sb**	**09 57 26.2**	**+6.7**
	baz=100						
T25A	**Trinidad**	**5.62**	**284**		**Pn**	**09 55 57.8**	**+0.3**
HBAR	**Harrisburg**	**5.63**	**93**		**Pn**	**09 55 55.9**	**-1.5**
PBMO	**Poplar Bluff**	**5.81**	**80**		**Pn**	**09 56 00.8**	**+1.0**
JCT	**Junction City**	**5.83**	**199**	Pn	**Pn**	**09 56 00.8**	**+0.7**
	baz=18,SNR=9.4						
JCT				Pb	**Pb**	**09 56 18.6**	**+3.3**
	baz=18						
JCT				Sb	**Sg**	**09 57 34.0**	**-6.8**
	baz=18						
JCT	**Junction City**	**5.83**	**199**	Pn	**Pn**	**09 55 59.8**	**-0.2**
JCT	**Junction City**	**5.83**	**199**	P		09 56 00.2	
	baz=18,SNR=21						
N38A	**Joes South For**	**5.86**	**34**		**Pn**	**09 56 00.5**	**0.0**
N38A	**Joes South For**	**5.86**	**34**	P		09 56 00.5	
	baz=217,SNR=8.0						
LPAR	**Lepanto**	**5.92**	**92**		**Pn**	**09 56 00.3**	**-1.0**
L34A	**Svendsen Farm,**	**6.02**	**8**	Pn	**Pn**	**09 56 02.9**	**+0.2**
OGNE	**Ogallala**	**6.05**	**326**	P	**Pn**	**09 56 04.7**	**+1.5**
	baz=143,SNR=12						
OGNE				S	**Sn**	**09 57 13.6**	**+1.2**
	baz=143						
OGNE	**Ogallala**	**6.05**	**326**	Pn	**Pn**	**09 56 05.0**	**+1.8**
OGNE				IAmb_Lg		09 57 54.0	
	comp=Z,202nm,0.9s						
OGNE	**Ogallala**	**6.05**	**326**	P		09 56 04.7	
	baz=143,SNR=15						
143A	**Socs Landing,**	**6.07**	**121**		**Pn**	**09 56 04.0**	**+0.7**
143A				IAmb_Lg		09 57 51.9	
	comp=Z,142nm,0.8s						
HKT	**Hockley**	**6.21**	**166**		**Pn**	**09 56 06.0**	**+0.6**
PEBM	**Pemiscott Bayo**	**6.24**	**87**	Pn	**Pn**	**09 56 06.0**	**+0.3**
MET	**Memphis--Engin**	**6.28**	**96**	Pn	**Pn**	**09 56 05.2**	**-1.0**
342A	**Flagon Creek P**	**6.36**	**135**		**Pn**	**09 56 08.1**	**+0.8**
441A	**DeRidder**	**6.39**	**144**	Pn	**Pn**	**09 56 07.5**	**-0.4**
SLM	**Saint Louis**	**6.40**	**64**		**Pn**	**09 56 08.0**	**+0.1**
SLM				IAmb_Lg		09 58 10.3	
	comp=Z,168nm,0.8s						
SDCO	**Great Sand Dun**	**6.59**	**288**	P	**Pn**	**09 56 12.5**	**+1.7**
	baz=103,SNR=21						
SDCO				Sb	**Sg**	**09 57 58.0**	**-7.4**
	baz=103						
SDCO	**Great Sand Dun**	**6.59**	**288**		**Pn**	**09 56 12.0**	**+1.1**
SDCO				IAmb_Lg		09 58 10.7	
	comp=Z,97nm,0.9s						
SDCO	**Great Sand Dun**	**6.59**	**288**	P		09 56 12.5	
	baz=103,SNR=30						
K31A	**O'Neill**	**6.67**	**352**		**Pn**	**09 56 11.8**	**+0.2**
HALT	**Halls**	**6.67**	**88**	Pn	**Pn**	**09 56 12.4**	**+0.8**
GLAT	**Glass**	**6.70**	**85**	Pn	**Pn**	**09 56 12.4**	**+0.3**
Q24A	**Divide**	**6.71**	**298**	P	**Pn**	**09 56 14.3**	**+1.8**
	baz=114						
SCIA	**State Center**	**6.79**	**29**	P	**Pn**	**09 56 14.0**	**+0.7**
	baz=211,SNR=7.7						
SCIA	**State Center**	**6.79**	**29**		**Pn**	**09 56 14.2**	**+0.9**
OXF	**Oxford**	**6.84**	**100**	P	**Pn**	**09 56 13.6**	**-0.3**
	baz=285						
OXF				S	**Sn**	**09 57 31.6**	**0.0**
	baz=285						
OXF	**Oxford**	**6.84**	**100**	Pn	**Pn**	**09 56 13.8**	**-0.1**
OXF				IAmb_Lg		09 58 11.5	
	comp=Z,211nm,0.9s						
S44A	**Carbondale**	**6.87**	**73**	Pn	**Pn**	**09 56 15.2**	**+0.8**
W45A	**Hickory Valley**	**6.88**	**95**	Pn	**Pn**	**09 56 16.1**	**+1.6**
W45A				IAmb_Lg		09 58 28.9	
	comp=Z,257nm,0.8s						
SIUC	**Southern Illin**	**6.90**	**73**	Pn	**Pn**	**09 56 15.8**	**+1.0**
Y45A	**Yeager Farm, C**	**6.93**	**106**	Pn	**Pn**	**09 56 15.5**	**+0.4**
Y45A				IAmb_Lg		09 58 19.6	
	comp=Z,111nm,0.8s						
VBMS	**Vicksburg**	**6.96**	**121**	Pn	**Pn**	**09 56 15.5**	**0.0**
VBMS				IAmb_Lg		09 58 29.1	
	comp=Z,119nm,1.1s						
N41A	**Harden Midland**	**7.05**	**46**		**Pn**	**09 56 17.6**	**+0.7**
N41A	**Harden Midland**	**7.05**	**46**	P		09 56 18.0	
	baz=230,SNR=5.7						
735A	**Kenedy**	**7.14**	**182**		**Pn**	**09 56 19.0**	**+1.0**
735A				IAmb_Lg		09 58 36.3	
	comp=Z,138nm,0.8s						
344A	**Westbrook Farm**	**7.28**	**127**	Pn	**Pn**	**09 56 19.5**	**-0.5**
P43A	**Skaggs, Pawnee**	**7.32**	**58**		**Pn**	**09 56 20.9**	**+0.4**
P43A				IAmb_Lg		09 58 34.4	
	comp=Z,194nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.32**	**58**	P		09 56 20.8	
	baz=243,SNR=11						
ANMO	**Albuquerque**	**7.33**	**264**	Pn	**Pn**	**09 56 19.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=79,slow=15,SNR=1.5						
ANMO				Pg	**Pb**	**09 56 43.8**	**+2.7**
	comp=Z,0.8nm,0.3

WVT	Waverly	7.88	86	Sb	Sg	09 58 36.3	-10	
	baz=272							
WVT	Waverly	7.88	86	Pn	Pn	09 56 27.5	-0.7	
WVT				IAmb_Lg		09 58 59.6		
	comp=Z,68nm,0.8s							
Y22D	IRIS PASSCAL I	7.91	259	Pn	Pn	09 56 28.1	-0.7	
Y22D				IAmb_Lg		09 58 51.5		
	comp=Z,172nm,0.8s							
HDIL	Hopedale	7.93	53	P	Pn	09 56 28.6	-0.3	
	baz=238,SNR=44							
HDIL	Hopedale	7.93	53	Pn	Pn	09 56 28.5	-0.3	
HDIL	Hopedale	7.93	53	P		09 56 28.6		
	baz=238,SNR=13							
LENM	Lemitar	7.93	259	Pn	Pn	09 56 30.3	+1.2	
OLIL	Olney	8.01	67	Pn	Pn	09 56 30.2	+0.2	
PHWY	Pilot Hill	8.12	313		Pn	09 56 31.6	-0.2	
USIN	University of	8.16	73	IAmb_Lg		09 59 05.8		
	comp=Z,184nm,0.9s							
346A	Big Creek Wild	8.17	122	Pn	Pn	09 56 32.4	+0.2	
N23A	Red Feather La	8.18	309	Pn	Pn	09 56 33.6	+0.9	
	baz=124,SNR=17							
N23A				Pg	Pg	09 57 07.0	-3.4	
	baz=124							
O44A	Mansfield	8.28	57		Pn	09 56 33.5	-0.2	
O44A				IAmb_Lg		09 58 60.0		
	comp=Z,160nm,0.8s							
Z47A	Carrollton	8.31	107	Pn	Pn	09 56 35.3	+1.1	
TX31	Lajitas Ar. Si	8.41	219		Pn	09 56 35.6	0.0	
TX31	Lajitas Ar. Si	8.41	219	P		09 56 35.8		
	baz=36,SNR=12							
TX32	Lajitas Array	8.41	219		Pn	09 56 35.6	0.0	
TXAR	Lajitas Array	8.41	219	Pn	Pn	09 56 35.1	-0.6	
	comp=Z,0.4nm,0.3s,baz=45,slow=12,SNR=26							
TXAR				Lg	Lg	09 58 55.6		
	comp=Z,11nm,0.3s,baz=45,slow=25,SNR=6.8							
TXAR	Lajitas Array	8.41	219	Pn	Pn	09 56 36.0	+0.3	
T47A	Sharon Grove	8.48	80		Pn	09 56 36.4	-0.1	
SUSD	Miller	8.49	353	S	Sn	09 58 09.3	-3.0	
	baz=172							
SUSD	Miller	8.49	353	Pn	Pn	09 56 36.5	-0.1	
L42A	Oliver, Polo	8.58	43	Pn	Pn	09 56 37.7	-0.1	
L42A				IAmb_Lg		09 59 26.8		
	comp=Z,95nm,0.8s							
L42A	Oliver, Polo	8.58	43	P		09 56 38.1		
	baz=228,SNR=6.7							
I37A	Lemond, Waseca	8.61	20	Pn	Pn	09 56 38.2	+0.1	
V48A	Smith Brothers	8.72	89	Pn	Pn	09 56 39.8	0.0	
V48A				IAmb_Lg		09 59 12.5		
	comp=Z,105nm,1.1s							
X48A	Hartselle	8.75	97	Pn	Pn	09 56 40.8	+0.7	
X48A				IAmb_Lg		09 59 17.2		
	comp=Z,78nm,0.8s							
MVCO	Mesa Verde	8.87	281	Pn	Pn	09 56 43.0	+0.9	
MVCO				IAmb_Lg		09 59 38.1		
	comp=Z,57nm,0.9s							
JFWS	Jewell Farm	8.92	37	P	Pn	09 56 42.3	-0.1	
	baz=222,SNR=18							
JFWS	Jewell Farm	8.92	37		Pn	09 56 41.7	-0.7	
JFWS				IAmb_Lg		09 59 27.2		
	comp=Z,128nm,0.8s							
JFWS	Jewell Farm	8.92	37	P		09 56 42.5		
	baz=222,SNR=9.8							
P46A	Rosedale	8.95	63		Pn	09 56 42.8	-0.1	
P46A				IAmb_Lg		09 59 24.4		
	comp=Z,145nm,0.8s							
PV15	Paradox Valley	9.02	288	Pn	Pn	09 56 43.7	-0.4	
CLTN	Cedars of Leba	9.10	86	Pn	Pn	09 56 45.9	+1.0	
CLTN				IAmb_Lg		09 59 20.3		
	comp=Z,89nm,1.0s							
121A	Cookes Peak, D	9.14	251	Pn	Pn	09 56 44.5	-1.2	
121A				IAmb_Lg		09 59 44.5		
	comp=Z,68nm,1.1s							
PV07	Paradox Valley	9.17	289	Pn	Pn	09 56 46.8	+0.7	
M44A	Midewin, Midew	9.18	51		Pn	09 56 46.1	+0.1	
PV02	Paradox Valley	9.19	287	Pn	Pn	09 56 46.2	-0.2	
PV02				IAmb_Lg		09 59 35.0		
	comp=Z,57nm,1.1s							
PV13	Radium Mtn., P	9.25	287	IAmb_Lg		09 59 36.3		
	comp=Z,69nm,1.1s							
WCI	Wyandotte Cave	9.27	73	Pn	Pn	09 56 48.1	+0.8	
WCI				IAmb_Lg		09 59 33.9		
	comp=Z,111nm,0.8s							
PV11	David Mesa, Pa	9.31	288	IAmb_Lg		09 59 41.8		
	comp=Z,95nm,1.1s							
BLO	Bloomington	9.31	67		Pn	09 56 48.1	+0.2	
SFIN	Lafayette	9.32	59		Pn	09 56 47.8	-0.1	
SFIN				IAmb_Lg		09 59 55.5		
	comp=Z,67nm,0.7s							
PV18	Skein Mesa, Pa	9.33	287	IAmb_Lg		09 59 46.1		
	comp=Z,65nm,1.3s							
O20A	White River Ci	9.37	299	Pn	Pn	09 56 49.2	+0.4	
PV19	Morning Glory	9.40	288	IAmb_Lg		09 59 39.2		
	comp=Z,55nm,1.2s							
Y49A	Blount Mountai	9.40	100	Pn	Pn	09 56 49.0	-0.2	
Y49A				IAmb_Lg		09 59 39.8		
	comp=Z,76nm,0.8s							
RWWY	Rawlins	9.42	310		Pn	09 56 51.1	+1.6	
RSSD	Black Hills	9.50	331	P	Pn	09 56 51.8	+1.2	
	baz=146							
RSSD	Black Hills	9.50	331	Pn	Pn	09 56 51.5	+0.9	
RSSD				IAmb_Lg		09 59 39.4		
	comp=Z,85nm,1.1s							
I40A	Norwalk	9.50	32		Pn	09 56 49.6	-0.9	
I40A				IAmb_Lg		09 59 47.5		
	comp=Z,75nm,0.8s							
I40A	Norwalk	9.50	32	P		09 56 49.4		
	baz=216,SNR=5.5							
SWET	Sewanee	9.51	91	Pn	Pn	09 56 50.8	+0.3	
SWET				IAmb_Lg		09 59 41.3		
	comp=Z,122nm,1.0s							
U49A	Red Boiling Sp	9.53	84	Pn	Pn	09 56 50.9	0.0	
U49A				IAmb_Lg		09 59 34.0		
	comp=Z,93nm,1.0s							
K22A	Casper	9.60	316	P	Pn	09 56 52.7	+0.8	
	baz=131,SNR=9.1							
K22A	Casper	9.60	316	Pn	Pn	09 56 52.2	+0.3	
K22A				IAmb_Lg		10 00 01.7		
	comp=Z,87nm,1.1s							
L44A	Lake County Fo	9.70	48	P	Pn	09 56 53.5	+0.3	
	baz=234							
L44A	Lake County Fo	9.70	48		Pn	09 56 53.0	-0.1	
K43A	Burlington	9.78	44		Pn	09 56 54.0	-0.3	
K43A				IAmb_Lg		09 59 53.0		
	comp=Z,107nm,0.8s							
F33A	5 Mile Ranch,	9.87	5	Pn	Pn	09 56 54.8	-0.6	
F33A				IAmb_Lg		09 59 55.0		
	comp=Z,83nm,0.9s							
FPAL	Fort Paine	9.88	95	Pn	Pn	09 56 55.1	-0.6	
FPAL				IAmb_Lg		09 59 53.5		
	comp=Z,70nm,0.8s							
SPMN	Marine on St.	9.89	20	P	Pn	09 56 56.5	+0.7	
	baz=203							
SPMN	Marine on St.	9.89	20		Pn	09 56 55.3	-0.4	
SPMN				IAmb_Lg		09 59 47.3		
	comp=Z,119nm,1.0s							
BRAL	Brewton	10.01	116	Pn	Pn	09 56 57.4	0.0	
250A	Grady	10.20	110	Pn	Pn	09 57 00.1	0.0	
P48A	Milroy	10.21	67		Pn	09 56 59.6	-0.6	
X18A	Snowflake	10.23	265	Pn	Pn	09 57 01.2	+0.5	
I42A	Draeger Farm,	10.29	37	Pn	Pn	09 57 00.7	-0.6	
T50A	Nancy	10.29	81	Pn	Pn	09 57 01.2	-0.1	
F36A	Milaca	10.30	16	Pn	Pn	09 57 01.3	-0.1	
RDMU	Red Mountain	10.47	299	Pn	Pn	09 57 04.5	+0.5	
X51A	Calhoun	10.49	94	Pn	Pn	09 57 04.0	+0.1	
N47A	Urbana	10.50	59	Pn	Pn	09 57 04.5	+0.4	
Z51A	Franklin	10.55	101	Pn	Pn	09 57 04.2	-0.6	
L46A	Eue Claire	10.62	52		Pn	09 57 04.9	-0.8	
CPCT	Cooper Cave	10.62	89	Pn	Pn	09 57 05.8	+0.1	
V51A	Loudon	10.72	87		Pn	09 57 07.0	-0.2	
SRU	San Rafael Swe	10.74	291	Pn	Pn	09 57 08.4	+0.7	
P49A	Miami Univ. Ec	10.76	67	Pn	Pn	09 57 07.7	0.0	
G40A	Rib Lake	10.80	29		Pn	09 57 07.8	-0.5	
E28A	Huff	10.81	348		Pn	09 57 08.1	-0.3	
152A	Waverly Hall	11.13	104	Pn	Pn	09 57 11.9	-0.9	
TKL	Tuckaleechee C	11.20	88	Pn	Pn	09 57 13.4	-0.4	
	comp=Z,0.1nm,0.3s,baz=276,slow=23,SNR=0.9							
TKL				Lg	Lg	10 00 18.5		
	comp=Z,1.2nm,0.3s,baz=153,slow=22,SNR=5.0							
TKL	Tuckaleechee C	11.20	88	Pn	Pn	09 57 13.8	0.0	
O49A	Covington	11.22	64	Pn	Pn	09 57 13.2	-0.9	
451A	Vernon	11.25	115	Pn	Pn	09 57 13.7	-0.7	
H43A	Windswept, Lux	11.28	39	Pn	Pn	09 57 13.6	-1.2	
H43A	Windswept, Lux	11.28	39	P		09 57 13.1		
	baz=225,SNR=7.2							
TMUT	Trail Mountain	11.30	291	Pn	Pn	09 57 14.6	-0.9	
S51A	Beattyville	11.32	78		Pn	09 57 15.6	+0.3	
TZTN	Tazewell	11.33	83	Pn	Pn	09 57 15.8	+0.3	
V52A	Sevierville	11.33	87	Pn	Pn	09 57 15.6	+0.1	
HPIG		11.38	220	Pn	Pn	09 57 15.9	-0.5	
352A	Blakely	11.45	110	Pn	Pn	09 57 16.9	-0.2	
PD31	Pinedale Array	11.47	310		Pn	09 57 17.0	-0.6	
PDAR	Pinedale Array	11.47	310	Pn	Pn	09 57 16.9	-0.6	
	comp=Z,0.6nm,0.3s,baz=125,slow=14,SNR=14							
PDAR				Lg	Lg	10 00 25.5		
	comp=Z,0.9nm,0.3s,baz=116,slow=30,SNR=3.3							
PDAR	Pinedale Array	11.47	310	Pn	Pn	09 57 17.1	-0.5	
BW06	Boulder Array	11.47	310		Pn	09 57 17.0	-0.6	
E38A	The Farm, Brul	11.51	21	Pn	Pn	09 57 17.1	-0.8	
N49A	Columbus Grove	11.58	61	Pn	Pn	09 57 18.4	-0.5	
Q51A	Peebles	11.69	71		Pn	09 57 20.2	-0.1	
L48A	N Adams	11.81	56		Pn	09 57 21.1	-0.9	
GOGA	Godfrey	11.89	99	Pn	Pn	09 57 23.3	+0.2	
COWI	Conover	11.91	30	Pn	Pn	09 57 22.8	-0.6	
V53A	Saluda	11.98	87	Pn	Pn	09 57 25.8	+1.3	
F42A	Maple Grove Fa	12.06	33	Pn	Pn	09 57 24.9	-0.6	
HWUT	Hardware Ranch	12.26	301	Pn	Pn	09 57 28.6	+0.2	
AGMN	Agassiz Nation	12.34	5	P	Pn	09 57 26.3	-3.0	
	baz=186,SNR=6.4							
AGMN				S	Sn	09 59 38.6	-8.2	
	baz=186							
AGMN	Agassiz Nation	12.34	5	Pn	Pn	09 57 27.9	-1.4	
AAM	Ann Arbor	12.48	56		Pn	09 57 30.1	-1.1	
LAO	LASA Array	12.49	331		Pn	09 57 30.5	-0.9	
LOHW	Long Hollow	12.57	311	Pn	Pn	09 57 32.5	-0.1	
SNOW	Snow King Moun	12.58	310	Pn	Pn	09 57 33.1	+0.3	
REDW	Red Top Meadow	12.59	310	Pn	Pn	09 57 32.4	-0.5	
TPAW	Teton Pass	12.71	310	Pn	Pn	09 57 34.7	+0.1	
RLMT	Red Lodge	12.72	319	Pn	Pn	09 57 34.9	+0.2	
U54A	Nelsons Funny	12.72	83	Pn	Pn	09 57 34.8	+0.2	
P52A	Corning	12.73	69		Pn	09 57 34.0	-0.6	
EYMN	Ely	12.75	19	P	Pn	09 57 31.6	-3.2	
	baz=203,SNR=8.0							
EYMN	Ely	12.75	19	Pn	Pn	09 57 34.3	-0.6	
G45A	Suttons Bay	12.77	41	Pn	Pn	09 57 34.5	-0.6	
N51A	Ashland	12.87	63		Pn	09 57 35.7	-0.8	
D41A	Chassel	12.92	29	Pn	Pn	09 57 38.0	+0.7	
IMW	Indian Meadow	12.93	312	Pn	Pn	09 57 37.5	-0.1	
YNE	Yellowstone No	13.04	317	Pn	Pn	09 57 39.3	+0.2	
E43A	Lone Tree Farm	13.05	34	Pn	Pn	09 57 37.0	-1.9	
O52A	Adamsville	13.05	67	Pn	Pn	09 57 39.2	+0.1	
S54A	Dingess, Beckl	13.13	77	Pn	Pn	09 57 39.6	-0.6	
GLMI	Grayling	13.21	44	Pn	Pn	09 57 39.2	-1.9	
V55A	Taylorsville	13.25	86	Pn	Pn	09 57 40.8	-1.0	
P53A	Whipple	13.26	70	Pn	Pn	09 57 41.6	-0.3	
GCMT	Greycliff	13.37	321	Pn	Pn	09 57 43.0	-0.5	
K50A	Casco	13.38	55	Pn	Pn	09 57 42.3	-1.1	
O53A	New Philadelph	13.55	67	Pn	Pn	09 57 44.9	-0.9	
Q54A	Coxs Mills	13.61	72	Pn	Pn	09 57 47.5	+0.8	
I49A	Point Hope	13.79	50	Pn	Pn	09 57 48.4	-0.6	
BLA	Blacksburg	13.83	80	Pn	Pn	09 57 49.3	-0.4	
R55A	Marlinton	14.10	76	Pn	Pn	09 57 54.2	+0.8	
O54A	Avella	14.16	68	Pn	Pn	09 57 54.3	+0.2	
ULM	Lac du Bonnet	14.29	4	Pn	Pn	09 57 50.8	-5.0	
	comp=Z,0.4nm,0.3s,baz=183,slow=10,SNR=3.4							
ULM				Sn	Sn	10 00 20.2	-14	
	comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=4.9							
ULM				Lg	Lg	10 01 51.0		
	comp=Z,0.3nm,0.3s,baz=291,slow=22,SNR=1.3							
ULM	Lac du Bonnet	14.29	4		Pn	09 57 55.9	+0.1	
E46A	Sault Ste Mari	14.36	40	Pn	Pn	09 57 57.6	+0.8	
N54A	Moraine State	14.62	65	Pn	Pn	09 58 00.9	+0.4	
ALLY	Alegheny Colle	14.69	62	Pn	Pn	09 58 01.9	+0.5	
T57A	Hurt	14.76	81	Pn	Pn	09 58 02.0	-0.4	
Q56A	Snyder Ridge,	14.89	73	Pn	Pn	09 58 04.0	-0.2	
M54A	Oil Creek Stat	15.00	63	Pn	Pn	09 58 05.3	-0.3	
EGMT	Eagleton	15.02	327		Pn	09 58 05.0	-0.9	
O56A	Blue Knob Stat	15.54	68	Pn	Pn	09 58 13.0	+0.3	
M55A	Ridgway	15.64	64	Pn	Pn	09 58 13.5	-0.5	
MEDO	Medina	16.35	58	Pn	Pn	09 58 21.7	-1.5	
SADO	Sadowa	16.51	52	Pn	Pn	09 58 20.8	-4.3	
	comp=Z,0.4nm,0.3s,baz=238,slow=13,SNR=1.7							
L56A	Greenwood	16.68	62	Pn	Pn	09 58 28.1	+0.7	
NVAR	Mina Array Bea	16.70	285	Pn	Pn	09 58 28.2	+0.4	
	comp=Z,0.0nm,0.3s,baz=104,slow=15,SNR=1.3							
M57A	Sunshine Farm,	16.81	65	Pn	Pn	09 58 28.9	-0.1	
J55A	Hilton	16.83	58	Pn	Pn	09 58 26.9	-2.3	
DELO	Deloro Mine	17.40	55	Pn	Pn	09 58 35.6	-0.7	
BINY	Binghamton	17.83	63		P	09 58 44.4	+2.0	
KSPA	Keystone Colle	17.86	65		Pn	09 58 42.6	+0.5	
PLVO	Plevna	17.96	54		Pn	09 58 43.7	+0.4	
J57A	Williamstown	18.14	59		Pn	09 58 45.0	-0.4	

IDC ***26*** *10:04:08.2±3.1, 36°.60N×71°.68E, h76km±29km, mb4.0/33, mb1 4.1/39, mb1mx4.0/64, mbtmp4.3/39, MS3.3/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=13.8km s-min=9.9km az=17.0*

BJI ***26*** *10:04:10.2±0.0, 36°.56N×71°.65E, h89km, mB4.6/15, mb4.7/27, Ms3.9/3, Ms7 3.5/3*

NEIC ***26*** *10:04:11.0±1.3, 36°.74N±0°.05×71°.47E±0°.06, h92km±5km, mb4.5/84, Error ellipse: s-maj=7.0km s-min=6.7km az=80.0*

MOS ***26*** *10:04:10.2±1.2, 36°.72N×71°.69E, h104km, mb4.5/32, Error ellipse: s-maj=6.9km s-min=4.2km az=95.0*

NNC ***26*** *10:04:12.1±4.2, 36°.94N×71°.08E, h94km±127km, mb4.5, mpv4.8, Error ellipse: s-maj=41.6km s-min=24.5km az=154.0*

ISC 26 10:04:10.9±0.3, 36°.69N±0°.03×71°.63E±0°.03, h100km, n349, σ1§63/358, mb4.4/88, 13C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.53	336		Pn	10 04 50.0	-0.6
CHGR	Chuyangaron	2.78	316		Pn	10 04 52.1	-1.7
DRK	Karamyk	2.79	3		Pn	10 04 54.2	+0.1
CEP	Cherat	2.87	175	P	Pn	10 04 56.8	+1.7
KBL	Kabul	3.01	225	PN	Pn	10 04 57.3	+0.3
KBL				S	Sn	10 05 32.9	+0.5
KBL	Kabul	3.01	225		Pn	10 04 57.3	+0.3
KBL	Kabul	3.01	225	P	Pn	10 04 57.6	+0.6
KBL				S	Sn	10 05 34.9	+2.5
NIL	Nilore	3.31	156	PN	Pn	10 05 02.7	+1.8
NIL	Nilore	3.31	156		Pn	10 05 02.7	+1.8
NIL				Sn	Sn	10 05 42.1	+2.7
BTK	Batken	3.42	350	PN	Pn	10 05 03.1	+0.7
BTK	Batken	3.42	350		Pn	10 05 03.1	+0.7
THW	Thamme Wali	3.89	179	P	Pn	10 05 09.0	+0.4
KSH	Kashi	4.44	49	P	Pn	10 05 12.3	-3.8
KSH				S	Sn	10 05 57.5	-9.2
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.4s						
TAS	Tashkent	4.97	339	PN	Pn	10 05 22.2	-1.1
TAS	Tashkent	4.97	339	Pn	Pn	10 05 22.1	-1.1
THN	Thein Dam	5.42	140	*e*P	Pn	10 05 30.8	+1.5
THN				*e*S	Sn	10 06 29.3	-1.1
AML	Almayashu	5.67	16	P	Pn	10 05 33.4	+0.4
	SNR=353						
AML	Almayashu	5.67	16	*i* P	Pn	10 05 33.2	+0.2
	SNR=221						
EKS2	Erkin-Say	6.19	15	P	Pn	10 05 41.1	+1.2
	SNR=51						
AAK	Ala-Archa	6.34	20	P	Pn	10 05 43.2	+1.3
	SNR=34						
AAK	Ala-Archa	6.34	20	⇑P	Pn	10 05 42.8	+0.9
	42nm,0.4s						
AAK				⇓S	Sn	10 06 51.0	-1.9
	161nm,1.0s						
AAK	Ala-Archa	6.34	20	PN	Pn	10 05 42.8	+0.9
AAK	Ala-Archa	6.34	20	Pn	Pn	10 05 42.5	+0.6
KK31	Karatay Array	6.46	353	⇓P	Pn	10 05 42.9	-0.6
	122nm,0.3s,baz=179,slow=13,SNR=2491						
KK31				⇓S	Sn	10 06 51.7	-4.1
	72nm,0.5s,baz=182,slow=22,SNR=8.3						
KK31	Karatay Array	6.46	353	PN	Pn	10 05 42.9	-0.6
KK31	Karatay Array	6.46	353		Pn	10 05 43.3	-0.2
KKAR	Karatay Array	6.46	353	PN	Pn	10 05 43.7	+0.2
KKAR	Karatay Array	6.46	353	Pn	Pn	10 05 42.7	-0.8
KKAR	Karatay Array	6.46	353		Pn	10 05 43.7	+0.2
KBK	Karagaybulak	6.49	22	P	Pn	10 05 45.2	+1.3
	SNR=5.8						
FRU1	Bishkek	6.54	20	PN	Pn	10 05 45.1	+0.6
FRU1	Bishkek	6.54	20		Pn	10 05 45.1	+0.6
ULHL	Ulahol	6.60	31	P	Pn	10 05 46.4	+0.9
	SNR=9.2						
BOOM	Boomskoye usch	6.68	29	PN	Pn	10 05 47.2	+0.6
BOOM	Boomskoye usch	6.68	29		Pn	10 05 47.2	+0.6
CHMS	Chumysh	6.74	20	P	Pn	10 05 48.1	+0.8
	SNR=26						
USP	Ospenovka	6.93	18	P	Pn	10 05 52.0	+2.2
	SNR=32						
TKM2	Tokmak 2	6.93	25	P	Pn	10 05 51.0	+0.9
	SNR=65						
TKM2	Tokmak 2	6.93	25	⇓P	Pn	10 05 50.8	+0.8
	26nm,0.5s						
TKM2				⇓S	Sn	10 07 07.8	+0.3
	49nm,0.8s						
TKM2	Tokmak 2	6.93	25	PN	Pn	10 05 50.8	+0.8
TARG	Taragay, Kyrgy	6.95	42	Pn	Pn	10 05 50.5	0.0
SMLA	Simla	7.21	139	*e*P	Pn	10 05 53.2	-0.4
SMLA				*ex*	x	10 07 07.3	
SMLA				IAML		10 07 15.9	
	comp=E,950nm,0.7s						
SMLA				IAML		10 07 18.5	
	comp=N,727nm,0.5s						
AAA	Alma-Ata	7.67	30	*e*PN	Pn	10 06 15.7	+16
MDOK	Medeo	7.69	31	⇑P	Pn	10 06 02.4	+2.2
	comp=N,10nm,0.6s						
MDOK	Medeo	7.69	31	PN	Pn	10 06 02.4	+2.2
PRZ	Przheval'sk	7.80	40	PN	Pn	10 06 02.4	+0.7
PRZ	Przheval'sk	7.80	40		Pn	10 06 02.4	+0.7
HRA	Herat	7.99	256		Pn	10 06 01.6	-2.9
DDI	Dehra Dun	8.31	138	*e*P	Pn	10 06 08.8	+0.2
DDI				*e*S	Sn	10 07 35.2	-5.7
DDI				IAML		10 07 40.8	
	comp=N,1μm,0.4s						
DDI				IAML		10 07 40.9	
	comp=E,398nm,0.4s						
BTLS	Baital	8.54	12	*e*PN	Pn	10 06 10.9	-0.8
BTLS				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PDGK	Podgornoye	8.96	40	⇑P	Pn	10 06 17.6	+0.1
	comp=Z,8.9nm,0.7s						
PDGK	Podgornoye	8.96	40	PN	Pn	10 06 17.6	+0.1
NDI	New Delhi	9.27	148	*e*P	Pn	10 06 18.2	-3.4
NDI				*e*S	Sn	10 07 53.3	-11
KUDL	Kundal	9.46	153	*e*P	Pn	10 06 20.5	-3.7
KUDL				*e*S	Sn	10 07 56.9	-12
GEYT	Alibeck	10.84	281	P	Pn	10 06 37.2	-5.8
	comp=Z,13nm,0.3s,baz=92,slow=12,SNR=56						
GEYT				S	Sn	10 08 30.1	-12
	comp=Z,12nm,0.3s,baz=123,slow=16,SNR=9.4						
GEYT				LR	LR	10 12 24.2	
	comp=Z,75nm,18.6s,baz=90,slow=46						
GEYT	Alibeck	10.84	281	Pn	Pn	10 06 38.3	-4.7
GYA0	ALIBECK ARRAY	10.84	281	P	Pn	10 06 37.6	-5.4
GYA0B	ALIBECK ARRAY	10.84	281	⇑P	Pn	10 06 37.6	-5.3
GYA0B				⇑S	Sn	10 08 31.2	-11
GYA0B	ALIBECK ARRAY	10.84	281	Pn	Pn	10 06 37.7	-5.3
MAKZ	Makanchi	12.71	34	P	Pn	10 07 06.4	-1.5
MAKZ	Makanchi	12.71	34		Pn	10 07 06.4	-1.5
MK31	Makanchi Array	12.84	35	P	Pn	10 07 09.9	+0.2
MK31	Makanchi Array	12.84	35	Pn	Pn	10 07 09.9	+0.2
MKAR	Makanchi Array	12.84	35	P	Pn	10 07 08.0	-1.7
	comp=Z,0.2nm,0.3s,baz=224,slow=14,SNR=22						
MKAR	Makanchi Array	12.84	35	P	Pn	10 07 08.0	-1.7
MKAR	Makanchi Array	12.84	35	Pn	Pn	10 07 09.9	+0.2
PYUN	Piuthan	12.86	129	*e*P	Pn	10 07 06.3	-3.8
	comp=Z,254nm,0.3s						
DANN	Dangsing	13.18	126	*e*P	Pn	10 07 10.6	-3.8
	comp=Z,108nm,0.3s						
KOLN	Koldanda	13.47	128	*e*P	Pn	10 07 14.3	-3.9
	comp=Z,56nm,0.3s						
GKN	Gorkha	13.98	125	*e*P	Pn	10 07 21.3	-3.5
	comp=Z,110nm,0.3s						
WMQ	Urumqi	14.17	55	*e*P	Pn	10 07 29.5	+2.5
BHPL	Bhopal	14.31	158	*e*P	Pn	10 07 26.9	-2.0
BHPL				*i* x	x	10 07 34.8	
BHPL				*e*S	Sn	10 09 55.6	-11
KKN	Kakani	14.55	124	*e*P	Pn	10 07 27.5	-4.7
	comp=Z,72nm,0.5s						
PKI	Pulchoki	14.78	124	*e*P	Pn	10 07 31.0	-4.2
	comp=Z,70nm,0.4s						
KURBB	Kurchatov Arra	14.79	17	P	Pn	10 07 33.5	-1.2
	comp=Z,0.4nm,0.3s,baz=207,slow=9.4,SNR=7.9						
GUN	Gumba	14.88	122	*e*P

comp=Z,3.1nm,0.3s,baz=224,slow=10,SNR=18
ZALV LR LR 10 16 43.5
comp=Z,64nm,19.7s,baz=46,slow=38
MHTO MHTO 19.66 221 P **Pn 10 08 34.5 +0.2**
JRN Qarnain Island 19.89 239 P **P 10 08 33.8 -0.7**
HYB Hyderabad 20.15 160 *i* P **P 10 08 38.0 +0.7**
HYB *es*P **sP 10 09 10.0 -0.3**
HYB *e*S Sn 10 12 30.0 +2.9
GHWR Ruwais 20.52 237 P **P 10 08 41.0 -0.2**
SHMA Al-Shehemyia 20.66 244 P **P 10 08 42.4 -0.3**
SAKB Bahrain 20.90 245 P **P 10 08 44.8 -0.5**
TRNA Turayna 21.17 241 P **P 10 08 47.7 -0.5**
SLWR Sila 21.26 239 P **P 10 08 48.4 -0.7**
GNI Garni 21.32 288 P **P 10 08 49.0 -0.8**
comp=Z,12nm,0.6s,baz=328,slow=19,SNR=2.1
GNI Garni 21.32 288 *ce*P **P 10 08 52.2 +2.4**
GNI pmax pmax
comp=Z,36nm,1.7s
GNI Garni 21.32 288 P **P 10 08 48.6 -1.2**
GNI IAmb IAmb 10 09 16.3
comp=Z,16nm,0.7s
ARU Arti 21.62 340 P **P 10 08 53.0 +0.2**
comp=Z,3.4nm,0.6s,baz=149,slow=9.9,SNR=10
ARU Arti 21.62 340 *c i*P **P 10 08 52.9 +0.2**
ARU 10 09 24.1
ARU S **S 10 12 47.1 +0.8**
ARU SS **SnSn 10 13 26.6 +7.2**
ARU pmax pmax
comp=Z,8.0nm,0.5s
ARU Arti 21.62 340 P **P 10 08 52.2 -0.5**
ARU IAmb IAmb 10 09 00.7
comp=Z,19nm,0.7s
ZEI Tsey 22.12 295 *e*P **P 10 09 02.8 +4.4**
ZEI pmax pmax
comp=Z,12nm,0.6s
GTA Gaotai 22.32 74 *e*P **P 10 08 57.0 -3.5**
GTA pP pP 10 09 18.0 -3.1
GTA sP sP 10 09 29.3 -4.7
GTA pmax pmax
comp=Z,6.0nm,0.6s
ONI Oni 22.43 294 P **P 10 08 59.1 -2.3**
ONI pmax pmax
comp=Z,12nm,0.8s
ONI Oni 22.43 294 P **P 10 08 59.1 -2.3**
ONI IAmb IAmb 10 09 26.9
comp=Z,12nm,0.8s
NCK Nalchik 22.43 296 *i* P **P 10 09 03.4 +2.0**
NCK pmax pmax
comp=Z,16nm,0.8s
KBZ Khabaz 22.97 297 P **P 10 09 07.0 +0.2**
comp=Z,3.3nm,0.9s,baz=122,slow=8.6,SNR=7.8
KBZ Khabaz 22.97 297 *ce*P **P 10 09 07.5 +0.8**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
NEY Neytrino 23.03 295 *i* P **P 10 09 09.5 +1.9**
BELG Belogornoye 23.06 320 P **P 10 09 07.2 -0.4**
comp=Z,14nm,0.6s,baz=308,slow=4.6,SNR=4.7
BELG Belogornoye 23.06 320 *i* P **P 10 09 07.5 0.0**
BELG pmax pmax
comp=Z,5.0nm,0.8s
SHA1 Shidzhatmaz 23.14 297 *i* P **P 10 09 09.8 +1.1**
KVAR Kislovodsk Arr 23.14 297 P **P 10 09 08.1 -0.5**
comp=Z,3.8nm,0.6s,baz=267,slow=23,SNR=1.9
KVAR S **S 10 13 20.6 +8.4**
comp=Z,6.9nm,0.7s,baz=0.6,slow=12,SNR=2.1
KIV Kislovodsk 23.15 297 *e*P **P 10 09 10.4 +1.8**
KIV *e*S **S 10 13 14.9 +2.6**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,29nm,14.0s
KIV Kislovodsk 23.15 297 P **P 10 09 06.0 -2.6**
KIV IAmb IAmb 10 09 31.9
comp=Z,13nm,0.6s
DOK Doka 23.69 225 P **P 10 09 14.0 +0.4**
SNR=8.4
WHFO Wadi Hawf 24.45 225 P **P 10 09 20.5 0.0**
RBK Rabkut 24.54 223 P **P 10 09 21.7 +0.4**
ABTO Aybut 25.17 225 P **P 10 09 27.1 0.0**
LZH Lanzhou 25.88 82 *e*P **P 10 09 35.0 +1.5**
LZH pP pP 10 10 00.5 +3.3
LZH sP sP 10 10 12.0 +2.7
LZH pmax pmax
comp=Z,18nm,1.0s
KIRV Kirov 26.30 333 *ce*P **P 10 09 38.5 +1.7**
ANN Anapa 26.99 298 *e*P **P 10 09 41.0 -2.2**
ANN *e**PP **pP 10 10 03.2 -2.9**
ANN *e*S **S 10 14 09.8 -3.4**
ANN *e**SS **sS 10 14 46.4 -7.2**
ANN pmax pmax
comp=Z,25nm,0.9s
CD2 Chengdu 27.23 93 P **P 10 09 46.5 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 27.81 55 P **P 10 09 51.1 +0.4**
comp=Z,1.2nm,0.7s,baz=248,slow=10,SNR=5.9
SONM Songino Array 27.81 55 P **P 10 09 50.3 -0.4**
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 27.81 55 P **P 10 09 50.3 -0.4**
BR131 Keskin Array S 29.86 288 P **P 10 10 07.7 -1.3**
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 29.86 288 P **P 10 10 07.7 -1.3**
BR131 IAmb IAmb 10 10 12.5
comp=Z,5.6nm,0.7s
BRTR Keskin Array B 29.86 288 P **P 10 10 09.1 +0.2**
comp=Z,2.5nm,0.7s,baz=110,slow=8.8,SNR=8.2
BRTR Keskin Array B 29.86 288 *i* P **P 10 10 10.8 +1.8**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 29.86 288 P **P 10 10 08.8 -0.2**
CMAR Chiang Mai Arr 30.10 120 P **P 10 10 09.9 -1.3**
comp=Z,1.1nm,0.4s,baz=312,slow=9.5,SNR=1.8
CMAR Chiang Mai Arr 30.10 120 P **P 10 10 10.5 -0.6**
CMAR Chiang Mai Arr 30.10 120 P **P 10 10 10.5 -0.6**
OBN Obninsk 30.13 319 *ce*P **P 10 10 13.8 +2.9**
OBN *e**PP **pP 10 10 34.1 -0.1**
OBN *e* 10 11 14.3
OBN *e*SS SS 10 17 09.1 -5.1
OBN pmax pmax
comp=Z,9.0nm,0.5s
PALK Pallekele 30.43 162 P **P 10 10 14.0 0.0**
comp=Z,7.5nm,0.8s,baz=193,slow=14,SNR=2.0
PALK Pallekele 30.43 162 P **P 10 10 14.4 +0.4**
PALK pmax pmax
comp=Z,32nm,1.4s
PALK Pallekele 30.43 162 P **P 10 10 14.4 +0.4**
CSS Mathiatis 30.97 278 P **P 10 10 16.6 -2.0**
CSS IAmb IAmb 10 10 35.5
comp=Z,9.1nm,1.1s
HHC Hu-ho-hao-te 31.22 70 *e*P **P 10 10 23.0 +2.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,55nm,6.6s
AKASG Malin Array Be 33.22 308 P **P 10 10 38.5 +0.4**
comp=Z,1.9nm,0.5s,baz=80,slow=6.8,SNR=11
AKASG Malin Array Be 33.22 308 *ce*P **P 10 10 40.2 +2.1**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 33.22 308 P **P 10 10 37.9 -0.2**
AKBB Malin Array Si 33.22 308 P **P 10 10 37.3 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 33.22 308 P **P 10 10 37.3 -0.8**
AKBB IAmb IAmb 10 10 40.9
comp=Z,3.8nm,0.8s
ELL Elmali 33.25 283 P **P 10 10 38.1 -0.6**
ELL pmax pmax
comp=Z,32nm,0.7s
ELL Elmali 33.25 283 P **P 10 10 38.1 -0.6**
MNK Minsk 34.72 315 *i* P P 10 10 58.0 +6.9
MNK *i* *PP sP 10 11 20.7 -5.9
MNK *i* *SP pP 10 11 32.5 +18
MNK *i* 10 12 17.3
MNK *i* S S 10 16 21.5 +7.8
MNK *i* *SS **ScP 10 17 01.2 +2.5**
MNK pmax pmax
comp=E,2.0nm,1.4s
MNK pmax pmax
comp=N,26nm,1.1s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=N,74nm,19.0s
MNK MLR MLR
comp=Z,71nm,18.0s
MNK MLR MLR
comp=E,3.0nm,18.0s
MNK Minsk 34.72 315 *i* P P 10 10 58.0 +7.0
comp=E,2.0nm,1.4s
MNK *i* P P 10 10 58.0 +7.0
comp=N,26nm,1.1s
MNK *i* P P 10 10 58.0 +7.0
comp=Z,10.0nm,0.8s,baz=282
MNK *i* pP sP 10 11 20.7 -5.9
MNK *i* sP pP 10 11 32.5 +18
MNK *i* PP **PP 10 12 17.4 +5.9**
MNK *i* S S 10 16 21.6 +7.9
MNK *i* sS **ScP 10 17 01.2 +2.5**
MNK *i* SS **SS 10 18 45.7 -2.3**
MNK *i* LR LR 10 25 19.1
MNK *i* LRM MLR 10 26 36.3
comp=N,74nm,19.1s
MNK *i* LRM MLR 10 26 45.1
comp=Z,71nm,17.9s
MNK *i* LRM MLR 10 26 54.0
comp=E,3.0nm,17.9s
MLR Muntele Rosu 35.13 299 P **P 10 10 56.5 +1.6**
comp=E,7.1nm,0.8s,baz=127,slow=3.3,SNR=12
MLR Muntele Rosu 35.13 299 P **P 10 10 55.2 +0.3**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 35.13 299 P **P 10 10 55.1 +0.3**
MLR IAmb IAmb 10 11 00.9
comp=Z,7.2nm,0.8s
BURAR Bucovina Array 35.61 303 P **P 10 10 57.4 -1.5**
BUR08 Bucovina Ar. S 35.62 303 P **P 10 10 58.5 -0.5**
KARP Karpathos 35.70 282 P **P 10 10 58.5 -1.3**
LVZ Lovozero 37.47 338 P **P 10 11 15.2 +0.8**
LVZ pmax pmax
comp=Z,9.0nm,0.9s
LVZ Lovozero 37.47 338 P **P 10 11 15.2 +0.8**
IDI Anoyia 37.55 282 P **P 10 11 16.3 +0.8**
comp=Z,4.0nm,0.6s,baz=358,slow=7.3,SNR=3.7
IDI Anoyia 37.55 282 P **P 10 11 14.6 -0.9**
IDI IAmb IAmb 10 11 20.4
comp=Z,5.4nm,0.8s
KOLS Kolonicke sedl 37.58 305 *e*P **P 10 11 18.1 +2.6**
KOLS Kolonicke sedl 37.58 305 *e*P **P 10 11 18.1 +2.6**
FIA1 FINESS Array S 37.61 326 P **P 10 11 15.3 -0.3**
FINES FINESS Array B 37.61 326 P **P 10 11 16.3 +0.7**
comp=Z,1.7nm,0.3s,baz=122,slow=7.3,SNR=24
FINES LR LR 10 27 01.8
comp=Z,44nm,20.2s,baz=86,slow=36
FINES FINESS Array B 37.61 326 *i* P **P 10 11 16.7 +1.1**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 37.61 326 P **P 10 11 15.9 +0.4**
CRVS Cervenica-Dubn 38.12 305 *e*P **P 10 11 22.9 +2.9**
CRVS Cervenica-Dubn 38.12 305 *e*P **P 10 11 22.9 +2.9**
AGG Agios Georgios 38.62 289 P **P 10 11 23.4 -0.9**
AGG pmax pmax
comp=Z,6.0nm,1.4s
AGG Agios Georgios 38.62 289 P **P 10 11 23.4 -0.9**
AGG IAmb IAmb 10 11 27.6
comp=Z,6.4nm,1.4s
NJ2 Nanjing 38.95 83 *e*P **P 10 11 29.0 +1.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
FNA Florina 38.98 292 P **P 10 11 26.7 -0.7**
FNA pmax pmax
comp=Z,3.0nm,0.7s
FNA Florina 38.98 292 P **P 10 11 26.6 -0.7**
FNA IAmb IAmb 10 11 29.1
comp=Z,3.4nm,0.7s
ITM Ithomi 39.36 286 P **P 10 11 30.1 -0.5**
MORC Moravsky Berou 40.66 306 P **P 10 11 40.4 -0.8**
MORC pmax pmax
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 40.66 306 P **P 10 11 40.4 -0.8**
KEV Kevo 40.81 338 P **P 10 11 42.0 -0.1**
KEV pmax pmax
comp=Z,5.0nm,0.9s
KEV Kevo 40.81 338 P **P 10 11 42.0 -0.1**
KEV IAmb IAmb 10 12 07.7
comp=Z,4.9nm,0.9s
ARA0 ARCESS Array S 41.16 337 *e*P **P 10 11 46.3 +1.3**
ARCES ARCESS Array B 41.16 337 P **P 10 11 46.1 +1.1**
comp=Z,1.5nm,0.4s,baz=113,slow=8.2,SNR=24
ARCES LR LR 10 29 54.9
comp=Z,95nm,19.0s,baz=90,slow=38
ARCES ARCESS Array B 41.16 337 P **P 10 11 45.4 +0.4**
ARCES pmax pmax
comp=Z,11nm,1.2s
ARCES ARCESS Array B 41.16 337 P **P 10 11 45.4 +0.4**
ARCES IAmb IAmb 10 11 47.2
comp=Z,11nm,1.2s
VRAC Vranov 41.30 306 P **P 10 11 47.0 +0.6**
comp=Z,3.1nm,0.8s,baz=87,slow=9.1,SNR=5.0
DPC Dobruska-Polom 41.42 307 *e*P **P 10 11 49.8 +2.4**
DPC Dobruska-Polom 41.42 307 *e*P **P 10 11 49.8 +2.4**
KTK1 Kautokeino 41.65 336 *e*P **P 10 11 50.0 +1.0**
CONA Conrad Observa 41.90 304 *e*P **P 10 11 53.4 +2.1**
comp=Z,1.3nm,0.6s
HAMF Hammerfest 42.24 338 *e*P **P 10 11 55.1 +1.5**
SOKA Soboth 42.60 302 *e*P **P 10 11 59.1 +2.0**
comp=Z,2.1nm,0.5s
JETT Jettan, Norway 42.79 336 *e*P **P 10 12 00.0 +1.8**
TIP Timpagrande 42.80 291 P **P 10 11 57.0 -1.8**
TIP IAmb IAmb 10 12 19.5
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 42.91 308 *e*P **P 10 12 00.9 +1.6**
BRG Amp 10 12 02.9
comp=Z,4.3nm,0.9s
SGRT San Giovanni R 42.95 295 P **P 10 11 59.8 -0.1**
SGRT IAmb IAmb 10 12 15.7
comp=Z,7.2nm,0.9s
MOA Molln 42.97 304 *e*P **P 10 12 01.9 +1.9**
comp=Z,1.9nm,0.7s
HFS Hagfors 43.23 322 P **P 10 12 02.8 +1.0**
comp=Z,5.2nm,0.5s,baz=98,slow=9.1,SNR=29
GERES GERESS Array B 43.23 305 P **P 10 12 02.9 +0.7**
comp=Z,0.3nm,0.3s,baz=67,slow=7.6,SNR=4.8
GERES GERESS Array B 43.23 305 P **P 10 12 01.7 -0.5**
KHC Kasperske Hory 43.29 306 *e*P **P 10 12 04.2 +1.7**
KHC Kasperske Hory 43.29 306 *e*P **P 10 12 04.2 +1.7**
TRO Tromso 43.30 336 *e*P **P 10 12 03.0 +0.7**
FAUS Fauske 43.87 332 *e*P **P 10 12 08.3 +1.4**
MOR8 Moi Rana 43.90 330 *e*P **P 10 12 07.4 +0.2**
STEI Steigen 44.03 333 *e*P **P 10 12 09.6 +1.4**
NC405 NORSAR Array S 44.30 323 P **P 10 12 10.2 -0.2**
KSRS Korea Array 44.34 71 P **P 10 12 10.6 -0.4**
comp=Z,1.2nm,0.7s,baz=279,slow=7.3,SNR=2.6
NC602 NORSAR Array S 44.35 322 *e*P **P 10 12 11.1 +0.3**
NC602 NORSAR Array S 44.35 322 P **P 10 12 10.6 -0.2**
NC303 NORSAR Array S 44.48 323 P **P 10 12 11.5 -0.3**
KONS Konsvik 44.49 331 *e*P **P 10 12 13.1 +1.2**
NB201 NORSAR Array S 44.50 323 P **P 10 12 12.0 -0.1**
NB2 NORSAR Subarra 44.53 323 P **P 10 12 12.7 +0.3**
comp=Z,1.4nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.53 323 P **P 10 12 12.7 +0.3**
baz=97,slow=7.9
NOA NORSAR Array B 44.53 323 P **P 10 12 13.1 +0.7**
comp=Z,2.2nm,0.6s,baz=97,slow=7.7,SNR=13
KLR Kul'dur 44.62 54 *i* P **P 10 12 15.1 +1.9**
KLR pmax pmax
comp=Z,1.0nm,1.2s
LOF Lofoten 44.70 333 *e*P **P 10 12 13.4 -0.1**
NBO00 NORSAR Array S 44.75 323 P **P 10 12 14.0 0.0**
CTI Castel Tesino 45.01 301 P **P 10 12 15.3 -1.1**
CTI pmax pmax
comp=Z,19nm,1.5s
CTI Castel Tesino 45.01 301 P **P 10 12 15.3 -1.1**
SQTA Sankt Quirin 45.11 303 *e*P **P 10 12 17.9 +0.6**
comp=Z,1.2nm,0.3s
BJO1 Bjornoya 45.24 342 *e*P **P 10 12 18.9 +1.2**
KONO Kongsberg 45.26 321 P **P 10 12 17.8 -0.3**
KONO pmax pmax
comp=Z,26nm,1.4s
KONO Kongsberg 45.26 321 *e*P **P 10 12 18.9 +0.9**
KONO Kongsberg 45.26 321 P **P 10 12 17.8 -0.3**
TIXI Tiksi 45.41 22 P **P 10 12 19.5 +0.5**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 45.41 22 P **P 10 12 19.5 +0.5**
TIXI IAmb IAmb 10 12 31.1
comp=Z,8.6nm,0.9s
FETA Feichten 45.47 303 *e*P **P 10 12 20.8 +0.7**
comp=Z,0.8nm,0.4s
SKAR Skarslia 45.94 322 *e*P **P 10 12 24.9 +1.4**
DAVA Damuels 45.99 304 *i* P **P 10 12 25.3 +1.0**
comp=Z,5.7nm,0.5s
DAVOX Davos/Dischmat 46.08 303 P **P 10 12 24.6 -0.4**
comp=Z,1.5nm,0.3s,baz=256,slow=1.9,SNR=5.4
TUE Stuetta 46.50 302 P **P 10 12 26.8 -1.4**
TUE IAmb IAmb 10 12 54.8
comp=Z,5.9nm,1.1s
SPA0 Spitsbergen Ar 47.42 347 *e*P **P 10 12 35.6 +0.8**
SPITS Spitsbergen Ar 47.42 347 P **P 10 12 35.4 +0.6**
comp=Z,2.1nm,0.6s,baz=121,slow=9.8,SNR=4.5
SPITS Spitsbergen Ar 47.42 347 P **P 10 12 35.3 +0.6**
SPITS pmax pmax
comp=Z,10.0nm,1.2s
SENIN Lac Senin/Sane 47.91 303 P **P 10 12 38.8 -0.4**
SENIN IAmb IAmb 10 12 42.1
comp=Z,3.8nm,0.7s
JNU Nakatsue 48.05 76 P **P 10 12 40.1 -0.2**
comp=Z,1.1nm,0.8s,baz=270,slow=7.1
JNU Nakatsue 48.05 76 P **P 10 12 41.2 +0.9**
KMBO Kilima Mbogo 49.33 228 P **P 10 12 50.4 -0.1**
comp=Z,2.6nm,0.8s,baz=16,slow=9.5,SNR=6.1
KMBO Kilima Mbogo 49.33 228 *i* P **P 10 12 51.9 +1.4**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KEST Kesra 49.46 289 P **P 10 12 51.8 +0.7**
comp=Z,2.8nm,0.7s,baz=341,slow=4.6,SNR=4.3
KIBK Kibwezi 49.84 226 P **P 10 12 54.0 -0.1**
SSB Saint Sauveur 50.04 302 P **P 10 12 54.9 -0.4**
SSB pmax pmax
comp=Z,7.0nm,1.0s
SSB Saint Sauveur 50.04 302 P **P 10 12 54.9 -0.4**
SSB IAmb IAmb 10 13 00.4
comp=Z,7.1nm,1.0s
EKA Eskdalemuir Ar 52.50 316 P **P 10 13 14.1 +0.6**
comp=Z,0.7nm,0.3s,baz=68,slow=7.1,SNR=14
MBAR Mbarara 53.03 235 P **P 10 13 18.0 0.0**
MBAR pmax pmax
comp=Z,8.0nm,0.7s
MBAR Mbarara 53.03 235 P **P 10 13 18.0 0.0**
ESBB Sonseca Array 57.81 298 P **P 10 13 51.8 -0.2**
ESDC Sonseca Array 57.82 298 P **P 10 13 52.6 +0.6**
comp=Z,3.3nm,0.8s,baz=57,slow=7.0,SNR=21
ESDC Sonseca Array 57.82 298 P **P 10 13 52.2 +0.3**
ESDC IAmb IAmb 10 13 53.6
comp=Z,4.0nm,1.1s
PAB San Pablo 58.14 298 P **P 10 13 54.2 0.0**
PAB pmax pmax
comp=Z,9.0nm,1.3s
PAB San Pablo 58.14 298 P **P 10 13 54.2 0.0**
PAB IAmb IAmb 10 14 05.5
comp=Z,8.7nm,1.3s
BILL Bilibino 58.22 26 *e*P **P 10 13 57.9 +3.7**
BILL *e* 10 16 06.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
PEA0B Petropavlovsk- 59.48 44 *i* P **P 10 14 06.1 +2.9**
SUMG Summit 61.05 341 *i* P **P 10 14 15.6 +1.6**
SUMG Summit 61.05 341 P **P 10 14 14.8 +0.8**
SUMG pmax pmax
comp=Z,4.0nm,0.8s
SUMG Summit 61.05 341 P **P 10 14 14.8 +0.8**
SUMG IAmb IAmb 10 14 41.1
comp=Z,4.1nm,0.8s
VOI Vohitsoka 62.82 206 P **P 10 14 27.4 +1.3**
VOI IAmb IAmb 10 14 28.0
comp=Z,6.5nm,0.9s
TORD Torodi Ar. Bea 66.23 269 P **P 10 14 47.1 -1.4**
comp=Z,6.4nm,0.4s,baz=50,slow=6.2,SNR=126
TORD Torodi Ar. Bea 66.23 269 P **P 10 14 46.2 -2.3**
TORD IAmb IAmb 10 14 47.6
comp=Z,4.3nm,0.7s
KOWA Kowa 70.06 273 P **P 10 15 11.8 -0.7**
TOLK Toolik Lake Re 70.61 15 P **P 10 15 15.6 +0.6**
TOLK IAmb IAmb 10 15 16.4
comp=Z,3.4nm,0.5s
IMAR Indian Mountai 71.84 18 P **P 10 15 22.4 0.0**
BMAR Burnt Mountain 72.64 14 P **P 10 15 27.8 +0.6**
FYU Fort Yukon 73.26 15 P **P 10 15 31.7 +0.9**
MLY Manley 73.35 17 P **P 10 15 32.1 +0.7**
I23K Minto, Yukon-K 73.58 17 P **P 10 15 33.8 +1.1**
INK Inuvik 73.64 9 P **P 10 15 33.8 +0.9**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 73.64 9 P **P 10 15 33.8 +0.9**
C36M Paulatuk 73.64 6 P **P 10 15 33.3 +0.4**
C36M IAmb IAmb 10 15 33.8
comp=Z,3.6nm,0.7s
MDM Murphy Dome 74.00 16 P **P 10 15 35.5 +0.4**
NEA2 Nenana 74.11 17 P **P 10 15 36.2 +0.4**
ILAR Eielson Array 74.46 16 P **P 10 15 37.2 -0.7**
comp=Z,0.9nm,0.7s,baz=318,slow=5.4,SNR=8.9
ILAR Eielson Array 74.46 16 P **P 10 15 37.4 -0.4**
ILAR Eielson Array 74.46 16 P **P 10 15 37.4 -0.4**
KTH Kantishna Hill 74.53 18 P **P 10 15 38.9 +0.6**
KTH IAmb IAmb 10 15 39.3
comp=Z,5.4nm,0.5s
PPLA Purkeypile 74.74 19 P **P 10 15 39.9 +0.2**
PPLA IAmb IAmb 10 16 00.2
comp=Z,8.8nm,1.3s
MCK McKinley 74.87 17 P **P 10 15 40.0 -0.3**
MCK pmax pmax
comp=Z,3.0nm,0.5s
MCK McKinley 74.87 17 P **P 10 15 40.0 -0.3**
MCK IAmb IAmb 10 15 41.2
comp=Z,3.2nm,0.5s
LBTB Lobatse 75.16 222 P **P 10 15 42.9 +0.4**
LBTB pmax pmax
comp=Z,13nm,1.4s
LBTB Lobatse 75.16 222 P **P 10 15 42.9 +0.4**
LBTB IAmb IAmb 10 16 11.8
comp=Z,13nm,1.4s
TSUM Tsumeb 75.43 232 P **P 10 15 43.2 -0.9**
TSUM IAmb IAmb 10 15 49.2
comp=Z,7.4nm,1.2s
EGAK Eagle 75.64 14 P **P 10 15 45.7 +1.1**
EGAK IAmb IAmb 10 16 14.1
comp=Z,7.2nm,1.4s
RIDG Independent Ri 75.80 16 P **P 10 15 45.9 +0.3**
RIDG IAmb IAmb 10 15 55.8
comp=Z,6.9nm,1.4s
DOT Dot Lake 76.05 16 P **P 10 15 47.8 +0.7**
K27K Chicken 76.13 15 P **P 10 15 48.5 +1.1**
DAWY Dawson 76.62 13 P **P 10 15 50.4 +0.1**
SCM Sheep Creek Mo 76.88 18 P **P 10 15 51.9 +0.1**
SCM pmax pmax
comp=Z,13nm,1.5s
SCM Sheep Creek Mo 76.88 18 P **P 10 15 51.9 +0.1**
SCM IAmb IAmb 10 16 03.6
comp=Z,13nm,1.5s
M24K Tolsona, Glenn 76.92 17 P **P 10 15 52.5 +0.6**
M24K IAmb IAmb 10 16 04.9
comp=Z,9.4nm,0.9s
L27K Beaver Creek, 77.05 15 P **P 10 15 53.2 +0.6**
BCAR Beaver Creek A 77.05 15 P **P 10 15 53.6 +1.0**
MORW Morawa 77.58 141 P **P 10 15 56.6 +0.6**
MORW IAmb IAmb 10 16 23.0
comp=Z,16nm,1.4s
BOSA Boshof 78.22 221 P **P 10 15 59.3 -0.3**
comp=Z,2.4nm,0.7s,baz=23,slow=4.7,SNR=3.3
BOSA Boshof 78.22 221 P **P 10 15 59.9 +0.3**
BOSA pmax pmax
comp=Z,8.0nm,1.2s
BOSA Boshof 78.22 221 P **P 10 15 59.9 +0.3**
BOSA IAmb IAmb 10 16 23.2
comp=Z,7.7nm,1.1s
KDAK Kodiak Island 78.83 22 P **P 10 16 03.2 +0.7**
KDAK pmax pmax
comp=Z,7.0nm,1.1s
KDAK Kodiak Island 78.83 22 P **P 10 16 03.2 +0.7**
KDAK IAmb IAmb 10 16 23.8
comp=Z,7.0nm,1.1s
OHAK Old Harbor 79.07 23 P **P 10 16 04.3 +0.5**
HYT Haines Junctio 79.95 14 P **P 10 16 09.8 +1.0**
YKA Yellowknife Ar 81.03 3 P **P 10 16 14.1 -0.3**
comp=Z,1.6nm,0.7s,baz=354,slow=4.9,SNR=5.5
WB0 Warramunga Arr 81.58 122 P **P 10 16 17.7 -0.2**
WRA Warramunga Arr 81.66 122 P **P 10 16 17.9 -0.3**
comp=Z,1.8nm,0.7s,baz=324,slow=4.9,SNR=46
WRA Warramunga Arr 81.66 122 P **P 10 16 18.0 -0.3**
WRA Warramunga Arr 81.66 122 P **P 10 16 18.5 +0.3**
WB2 Warramunga Arr 81.67 122 P **P 10 16 18.4 +0.1**
WB2 IAmb IAmb 10 16 45.3

comp=Z,9.1nm,1.3s
WR0 Warramunga Arr 81.81 122 P **P 10 16 19.1 +0.1**
AS31 Alice Springs 83.95 125 P **P 10 16 30.2 +0.1**
ASAR Alice Springs 83.95 125 P **P 10 16 29.7 -0.3**
comp=Z,2.1nm,0.7s,baz=314,slow=4.9,SNR=35
ASAR Alice Springs 83.95 125 P **P 10 16 30.2 +0.1**
ASAR Alice Springs 83.95 125 P **P 10 16 30.1 +0.1**
FORT Forrest 85.43 134 P **P 10 16 38.1 +0.9**
CTA Charters Tower 90.16 115 P **P 10 16 59.9 -0.3**
comp=Z,1.7nm,0.6s,baz=288,slow=0.6,SNR=2.1
CTAO Charters Tower 90.16 115 P **P 10 17 00.6 +0.4**
CTAO pmax pmax
comp=Z,8.0nm,1.2s
CTAO Charters Tower 90.16 115 P **P 10 17 00.6 +0.4**

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*IDC **26** 10:13:05.1±0.7,6'.77N×72".92W,h160km±8km,mb3.4/8, mb1 3.7/12,mb1mx3.4/32,mbtmp4.0/12,Error ellipse: s-maj=20.1km s-min=8.0km az=129.0*
*RSNC **26** 10:13:06.3±1.1,6'.82N×73".14W,h149km±4km,ML3.9, Mw4.0,Fault plane solution: NP1:φs19.00000°, δ51.00000°,λ-2.00000°.*
*NEIC **26** 10:13:06.3±1.1,6'.89N±0'.06×73".10W±0'.08,h148km±8km, mb4.2/61,ML3.9(RSNC),Error ellipse: s-maj=11.6km s-min=9.1km az=94.0*
ISC 26 10:13:05.2±0.6,6'.82N±0'.03×73".11W±0'.03,h154km±5km, n144,σ1°54/188,mb4.1/38,15C-16D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**197**	⇓iP	**Pn**	**10 13 26.7**	**+0.3**
BARC				eS	**Sn**	**10 13 41.8**	**-0.8**
BARC				i		10 13 43.0	
comp=Z,2μm,0.3s
PAMC Pamplona, Colo 0.66 39 ⇑iP **Pn 10 13 29.6 +1.1**
PAMC eS **Sn 10 13 46.4 +0.2**
PAMC i 10 13 49.9
comp=Z,849nm,0.5s
RUSC La Rusia 0.93 178 Pn 10 13 30.6 +0.2
RUSC La Rusia 0.93 178 ⇓iP **Pn 10 13 30.6 +0.2**
RUSC eS **Sn 10 13 49.2 -0.4**
RUSC i 10 13 51.0
comp=Z,737nm,0.4s
PTBC PUERTO BERRIO, 1.36 258 eP **Pn 10 13 33.4 -0.4**
PTBC eS **Sn 10 13 54.6 -1.0**
OCAC Ocana 1.42 352 ⇑iP **Pn 10 13 34.8 +0.3**
OCAC eS **Sn 10 13 56.6 -0.4**
OCAC i 10 14 05.2
comp=Z,2μm,0.3s
ZARC Zaragoza, Cauc 1.85 291 eP **Pn 10 13 38.9 -0.1**
ZARC eS **Sn 10 14 04.2 -0.7**
ZARC i 10 14 10.1
comp=Z,783nm,0.4s
NORC Norcasia 2.15 234 ⇑eP **Pn 10 13 42.3 -0.1**
NORC eS **Sn 10 14 10.6 -0.5**
NORC i 10 14 16.1
comp=Z,516nm,0.3s
SMLC San Martn de 2.18 334 ⇓eP **Pn 10 13 42.7 -0.1**
SMLC eS **Sn 10 14 11.3 -0.5**
SMLC i 10 14 15.0
comp=Z,593nm,0.3s
CHIC Chingaza 2.27 196 ⇓eP **Pn 10 13 44.5 +0.3**
CHIC eS **Sn 10 14 13.9 -0.3**
CHIC i 10 14 19.3
comp=Z,629nm,0.4s
ROSC El Rosal 2.31 211 P **Pn 10 13 46.5 +1.8**
comp=Z,106nm,0.3s,baz=243,slow=6.4,SNR=90
ROSC S **Sn 10 14 16.8 +1.8**
comp=Z,158nm,0.3s,baz=99,slow=23,SNR=5.4
ROSC El Rosal 2.31 211 ⇓eP **Pn 10 13 46.5 +1.8**
ROSC eS **Sn 10 14 14.4 -0.6**
ROSC i 10 14 21.1
comp=Z,2μm,0.4s
HELC Santa Helena 2.48 255 ⇓eP **Pn 10 13 46.6 -0.2**
HELC eS **Sn 10 14 18.5 -0.2**
HELC i 10 14 24.8
comp=Z,425nm,0.3s
UREC San Jos de Ur 2.57 291 ⇓eP **Pn 10 13 46.4 -1.1**
UREC eS **Sn 10 14 16.5 -3.6**
UREC i 10 14 28.7
comp=Z,389nm,0.2s
SOCV Socops 2.67 57 ⇑iP **Pn 10 13 48.5 -0.1**
SOCV eS **Sn 10 14 20.6 -1.5**
LL2C La Loma 2 Cana 2.73 353 ⇓eP **Pn 10 13 50.0 +0.5**
LL2C eS **Sn 10 14 24.2 +0.5**
LL2C i 10 14 32.5
comp=Z,625nm,0.3s
LL1C La Loma 1 Cana 2.74 351 ⇓eP **Pn 10 13 51.4 +1.9**
LL1C eS **Sn 10 14 25.8 +2.0**
GUY2C Guyana, Caldas 2.75 235 ⇑iP **Pn 10 13 50.7 +0.6**
GUY2C eS **Sn 10 14 24.2 -0.4**
GUY2C i 10 14 33.1
comp=Z,544nm,0.6s
VILC Villavicencio, 2.75 192 ⇓eP **Pn 10 13 50.0 +0.1**
VILC eS **Sn 10 14 23.9 -0.6**
VILC i 10 14 27.5
comp=Z,857nm,0.4s
PTGC Puerto Gaitan, 2.78 159 ⇓iP **Pn 10 13 49.9 -0.2**
PTGC i 10 13 50.4
comp=Z,1μm,0.2s
PTGC eS **Sn 10 14 23.3 -1.6**
CBOC Ciudad Bolivar 3.04 252 ⇑eP **Pn 10 13 53.9 +0.5**
CBOC eS **Sn 10 14 29.6 -1.1**
CBOC i 10 14 43.2
comp=Z,140nm,0.5s
DBBC Dabeiba 3.08 274 ⇑iP **Pn 10 13 54.1 +0.2**
TOLC Tolima 3.13 225 eP **Pn 10 13 54.8 +0.1**
TOLC eS **Sn 10 14 30.6 -2.4**
TOLC i 10 14 43.0
comp=Z,387nm,0.3s
MOTC Monteria, Cord 3.19 308 ⇓eP **Pn 10 13 53.6 -1.5**
MOTC eS **Sn 10 14 30.4 -3.5**
MOTC i 10 14 34.5
comp=Z,250nm,0.6s
SDV Santo Domingo 3.20 50 P **Pn 10 13 54.7 -0.8**
comp=Z,105nm,0.3s,baz=230,slow=10,SNR=33
SDV S **Sn 10 14 32.7 -1.7**
comp=Z,48nm,0.3s,baz=261,slow=23,SNR=7.7
SDV Santo Domingo 3.20 50 **Pn 10 13 55.8 +0.3**
SDV Santo Domingo 3.20 50 ⇑eP **Pn 10 13 56.1 +0.6**
SDV i 10 13 57.0
comp=Z,276nm,0.2s
SDV eS **Sn 10 14 33.0 -1.4**
ARGC Ariguani, Magd 3.22 340 ⇑iP **Pn 10 13 56.9 +1.3**
ARGC eS **Sn 10 14 34.8 +0.1**
ARGC i 10 14 42.4
comp=Z,182nm,0.3s
ANIL Santa Ana 3.25 225 eP **Pn 10 13 56.8 +0.5**
ANIL eS **Sn 10 14 35.5 -0.3**
ORTC Ortega, Tolima 3.59 216 ⇑eP **Pn 10 14 00.6 +0.2**
ORTC eS **Sn 10 14 43.2 -0.1**
ORTC i 10 14 48.1
comp=Z,259nm,0.2s
ELOV Elorza 3.61 87 ⇑iP **Pn 10 14 01.1 +0.5**
ELOV eS **Sn 10 14 40.4 -3.0**
CVALL Valledupar, Ce 3.66 358 eP **Pn 10 14 00.6 -0.7**
CVALL eS **Sn 10 14 41.6 -3.3**
CVALL i 10 14 49.4
comp=Z,243nm,0.4s
SJCC San Jacinto, C 3.67 326 Pn **Pn 10 14 00.7 -0.8**
SJCC San Jacinto, C 3.67 326 ⇓eP **Pn 10 14 00.3 -1.2**
SJCC eS **Sn 10 14 41.1 -4.1**
SJCC i 10 14 56.4
comp=Z,140nm,0.7s
PLMC San Jos del P 3.69 239 ⇑eP **Pn 10 14 02.0 +0.4**
PLMC i 10 14 03.9
comp=Z,317nm,0.2s
PLMC eS **Sn 10 14 43.3 -2.1**
LCBC Los crdobas, 3.81 302 eP **Pn 10 14 03.5 +0.3**
LCBC eS **Sn 10 14 46.0 -2.0**
LCBC i 10 14 52.5
comp=Z,156nm,0.2s
GUVC San Jose del G 4.28 173 eP **Pn 10 14 09.1 -0.2**
GUVC eS **Sn 10 14 55.9 -3.3**
GUVC i 10 15 01.9
comp=Z,190nm,0.2s
YOTC Yotoco, Valle 4.28 229 ⇑eP **Pn 10 14 08.5 -1.0**
SOLC Bahia Solano 4.31 262 eP **Pn 10 14 09.9 +0.3**
SOLC i 10 14 13.4
comp=Z,53nm,0.5s
SOLC eS **Sn 10 15 00.1 +0.2**
SMRC Santa Marta, M 4.45 346 eP **Pn 10 14 11.5 0.0**
SMRC eS **Sn 10 14 58.7 -4.5**
SMRC i 10 15 02.4
comp=Z,90nm,0.4s
PTAC Punta Ardita, 4.67 274 eP **Pn 10 14 13.7 -0.8**
PTAC i 10 14 14.6
comp=Z,74nm,0.2s
PTAC eS **Sn 10 15 04.5 -3.9**
MACC Macarena, Meta 4.71 189 ⇓iP **Pn 10 14 13.7 -1.2**
MACC i 10 14 14.3
comp=Z,123nm,0.4s
MACC eS **Sn 10 15 03.6 -5.7**
BETC Betania 4.72 210 eP **Pn 10 14 14.5 -0.7**
BETC eS **Sn 10 15 02.6 -7.1**
BETC i 10 15 12.8
comp=Z,74nm,0.4s
DABV Dabajuro 4.75 31 ⇓eP **Pn 10 14 15.6 +0.1**
DABV eS **Sn 10 15 06.6 -3.7**
MARP Paez Belalcaza 4.86 216 eP **Pn 10 14 17.4 +0.1**
MARP eS **Sn 10 15 11.8 -1.5**
URIC Uribia, Colomb 4.97 13 **Pn 10 14 17.8 -0.6**
URIC Uribia, Colomb 4.97 13 eP **Pn 10 14 17.3 -1.1**
URIC eS **Sn 10 15 10.5 -5.0**
URIC i 10 15 19.6
comp=Z,37nm,0.5s
MALC Bahia Malaga 5.05 237 eP **Pn 10 14 20.8 +1.4**
MALC i 10 14 22.9
comp=Z,110nm,0.4s
MALC eS **Sn 10 15 19.7 +2.4**
GARC Garzon, Huila 5.18 207 ⇓eP **Pn 10 14 20.8 -0.6**
GARC i 10 14 24.2
comp=Z,120nm,0.2s
GARC eS **Sn 10 15 14.5 -6.3**
PCON Cinco Dias 5.54 216 ⇓eP **Pn 10 14 28.0 +1.6**
PCON i 10 14 28.4
comp=Z,42nm,0.3s
PCON eS **Sn 10 15 28.4 -1.4**
POPC Popayan, Colom 5.54 220 ⇑eP Pn 10 14 16.2 -10
POPC eS Sn 10 15 16.1 -13
SOTA Rioblanco 5.82 217 eP **Pn 10 14 30.1 +0.1**
SOTA i 10 14 36.5
comp=Z,52nm,0.8s
BBAC Balboa, Cauca 6.30 221 eP **Pn 10 14 36.0 -0.3**
BBAC i 10 14 39.4
comp=Z,30nm,0.2s
BBAC eS **Sn 10 15 44.3 -3.3**
HATO Hato, Curacao 6.72 37 Pn **Pn 10 14 41.5 0.0**
BCIP Isla Barro Col 7.05 290 Pn **Pn 10 14 47.0 +0.9**
OTAV Otavalo 8.44 219 **Pn 10 15 06.3 +1.4**
PCRV Puerto La Cruz 9.02 68 P **Pn 10 15 10.3 -2.0**
comp=Z,1.6nm,0.3s,baz=222,slow=8.1,SNR=9.5
PEZE Perez Zeledon, 10.77 284 Pn **Pn 10 15 36.3 +0.9**
RIMA Rio Macho 11.03 286 Pn **Pn 10 15 39.2 +0.1**
MTDJ Mount Denham 12.13 340 Pn **Pn 10 15 52.4 -0.8**
SDDR Presa de Saban 12.21 8 Pn **Pn 10 15 54.7 +0.4**
DR12 Loma Pena Alta 12.44 17 Pn **Pn 10 15 58.2 +1.1**
MPR Mayaguez 12.73 27 Pn **Pn 10 15 59.9 -0.9**
SJG San Juan 13.11 31 P **Pn 10 16 02.9 -2.9**
comp=Z,1.3nm,0.3s,baz=223,slow=21,SNR=1.8
SJG San Juan 13.11 31 Pn **Pn 10 16 05.1 -0.7**
GCPR Guaynabo City 13.31 30 Pn **Pn 10 16 09.2 +0.9**
LPAZ La Paz 23.49 168 P **P 10 18 00.6 -1.3**
comp=Z,0.3nm,0.5s,baz=347,slow=16,SNR=1.1
LPAZ La Paz 23.49 168 P **P 10 18 02.2 +0.3**
656A Willston 24.12 340 P **P 10 18 05.6 -1.2**
451A Vernon 26.47 335 P **P 10 18 28.4 +0.3**
LVC Limon Verde 29.54 172 P **P 10 18 57.4 +1.6**
LVC IAmb IAmb 10 19 23.2
comp=Z,5.0nm,1.1s
Y49A Blount Mountai 29.59 337 P **P 10 18 56.1 +0.3**
Y49A IAmb IAmb 10 19 16.5
comp=Z,8.6nm,1.4s
V48A Smith Brothers 31.41 338 P **P 10 19 13.0 +1.2**
V48A IAmb IAmb 10 19 14.5
comp=Z,4.6nm,0.7s
W45A Hickory Valley 31.84 335 P **P 10 19 15.2 -0.4**
WVT Waverly 32.13 337 P **P 10 19 18.9 +0.8**
WVT IAmb IAmb 10 19 20.6
comp=Z,3.1nm,0.9s
WHAR Wooly Hollow 33.37 331 P **P 10 19 29.5 +0.6**
WHAR IAmb IAmb 10 19 30.8
comp=Z,3.5nm,0.9s
LCAR Lake Charles 33.47 333 P **P 10 19 30.7 +0.9**
LCAR IAmb IAmb 10 19 31.6
comp=Z,2.3nm,0.6s
P52A Corning 33.66 347 P **P 10 19 31.5 +0.1**
P52A IAmb IAmb 10 19 33.9
comp=Z,5.0nm,0.8s
PBMO Poplar Bluff 33.75 335 P **P 10 19 32.9 +0.8**
FCAR Ozark Folk Cen 33.77 332 P **P 10 19 32.9 +0.5**
FCAR IAmb IAmb 10 19 33.2
comp=Z,8.8nm,1.4s
U40A Yellville 34.50 331 P **P 10 19 39.5 +0.9**
KSPA Keystone Colle 34.67 356 P **P 10 19 40.6 +0.6**
KSPA IAmb IAmb 10 19 44.7
comp=Z,5.4nm,1.1s
P46A Rosedale 35.03 341 P **P 10 19 44.6 +1.5**
M54A Oil Creek Stat 35.03 351 P **P 10 19 44.6 +1.5**
CCM Cathedral Cave 35.17 335 P **P 10 19 45.4 +1.0**
BINY Binghamton 35.32 356 P **P 10 19 46.4 +0.8**
BINY IAmb IAmb 10 20 04.8
comp=Z,7.6nm,1.3s
L56A Greenwood 35.39 354 P **P 10 19 47.1 +0.8**
L56A IAmb IAmb 10 19 59.7
comp=Z,12nm,1.5s
SFIN Lafayette 35.68 342 P **P 10 19 49.6 +0.9**
R40A Maddies Statio 35.81 334 P **P 10 19 50.7 +0.8**
R40A IAmb IAmb 10 19 50.9
comp=Z,2.9nm,0.5s
TX31 Lajitas Ar. Si 36.47 312 P **P 10 19 56.1 +0.4**
TX31 IAmb IAmb 10 19 57.0
comp=Z,2.6nm,0.7s
TX32 Lajitas Array 36.47 312 P **P 10 19 56.6 +0.9**
TXAR Lajitas Array 36.47 312 P **P 10 19 56.5 +0.9**
comp=Z,0.6nm,0.5s,baz=128,slow=9.0,SNR=16
TXAR Lajitas Array 36.47 312 P **P 10 19 56.8 +1.2**
DELO Deloro Mine 37.75 355 P **P 10 20 06.5 +0.3**
G62A West of Eustis 38.31 3 P **P 10 20 12.3 +1.4**
MNTX Cornudas Mount 38.98 314 P **P 10 20 17.8 +1.1**
JFWS Jewell Farm 38.99 340 P **P 10 20 17.1 +0.5**
I42A Draeger Farm, 39.44 342 P **P 10 20 20.8 +0.5**
I42A IAmb IAmb 10 20 21.3
comp=Z,3.2nm,0.6s
LMN Caledonia Moun 39.54 9 P **P 10 20 21.2 +0.2**
LMN IAmb IAmb 10 20 33.0
comp=Z,7.4nm,1.1s
E62A Clayton Lake 39.77 4 P **P 10 20 22.6 -0.3**
E62A IAmb IAmb 10 20 38.3
comp=Z,5.5nm,1.2s
D62A Allapoint, All 40.26 4 P **P 10 20 28.2 +1.3**
D62A IAmb IAmb 10 20 48.5
comp=Z,6.7nm,1.3s
E46A Sault Ste Mari 40.56 348 P **P 10 20 30.1 +0.6**
E46A IAmb IAmb 10 20 31.1
comp=Z,3.5nm,0.6s
ECSD EROS Data Cent 42.15 334 P **P 10 20 42.8 +0.4**
SDCO Great Sand Dun 42.55 321 P **P 10 20 47.0 +0.8**
SUSD Miller 43.74 333 P **P 10 20 55.4 +0.1**
EYMN Ely 43.87 342 P **P 10 20 57.1 +0.8**
EYMN IAmb IAmb 10 20 58.5
comp=Z,6.5nm,1.3s
ISCO Idaho Springs 43.91 323 P **P 10 20 57.6 +0.5**
PV13 Radium Mtn., P 44.91 319 P **P 10 21 06.1 +1.2**
PV12 Saucer Basin, 44.99 320 P **P 10 21 06.5 +1.0**
PV12 IAmb IAmb 10 21 22.6
comp=Z,6.4nm,1.4s
WUAZ Wupatki 45.23 315 P **P 10 21 08.4 +1.0**
WUAZ IAmb IAmb 10 21 10.3
comp=Z,3.7nm,0.8s
Y14A Wickenburg 45.65 312 P **P 10 21 11.7 +1.0**
LCMT Little Creek M 47.28 315 P **P 10 21 24.4 +1.0**
ULM Lac du Bonnet 47.29 340 P **P 10 21 22.8 -0.3**
comp=Z,3.3nm,0.5s,baz=150,slow=6.4,SNR=6.5
MSU Marysvale 47.31 318 P **P 10 21 24.7 +1.0**
MVU Marysvale 47.33 318 P **P 10 21 24.7 +0.8**
TCRU Three Creeks R 47.54 318 P **P 10 21 26.6 +1.1**
TCRU IAmb IAmb 10 21 28.3
comp=Z,3.3nm,0.9s
PDAR Pinedale Array 48.08 324 P **P 10 21 30.1 +0.5**
comp=Z,0.5nm,0.5s,baz=123,slow=9.5,SNR=8.5
PDAR Pinedale Array 48.08 324 P **P 10 21 29.6 0.0**
SCHQ Schefferville 48.14 5 P **P 10 21 28.4 -1.1**
comp=Z,1.8nm,0.5s,baz=141,slow=3.9,SNR=4.9
SCHQ Schefferville 48.14 5 P **P 10 21 29.0 -0.5**
BGU Big Grassy Mou 49.15 320 P **P 10 21 38.3 +0.7**
BGU IAmb IAmb 10 21 39.2
comp=Z,2.8nm,0.7s
REDW Red Top Meadow 49.20 324 P **P 10 21 38.8 +0.7**
REDW IAmb IAmb 10 21 39.7
comp=Z,2.5nm,0.7s
TPAW Teton Pass 49.33 324 P **P 10 21 39.3 +0.2**
BOZ Bozeman (W) 50.98 326 P **P 10 21 52.0 +0.6**
MCMT McKenzie Canyo 51.22 324 P **P 10 21 53.8 +0.4**
BCYI Bear Canyon 51.25 323 P **P 10 21 53.6 0.0**
NVAR Mina Array Bea 51.49 315 P **P 10 21 56.2 +0.8**
comp=Z,0.3nm,0.6s,baz=125,slow=7.8,SNR=2.8
WVOR Wild Horse Val 53.53 319 P **P 10 22 10.8 +0.5**
WVOR IAmb IAmb 10 22 13.2
comp=Z,2.9nm,1.1s
I07A Izee 54.87 320 P **P 10 22 20.9 +1.0**
G08A Pilot Rock 55.12 322 P **P 10 22 22.6 +1.0**
G08A IAmb IAmb 10 22 23.1
comp=Z,2.1nm,0.7s
PINE Pine Mountain 55.66 319 P **P 10 22 26.3 +0.7**
PINE IAmb IAmb 10 22 27.8
comp=Z,4.7nm,0.9s
YBH Yreka Blue Hor 55.94 317 P **P 10 22 27.5 -0.1**
YBH IAmb IAmb 10 22 37.5
comp=Z,3.4nm,1.2s
EDM Edmonton 56.62 332 P **P 10 22 32.0 -0.1**
YKA Yellowknife Ar 63.26 340 P **P 10 23 17.1 0.0**
comp=Z,1.3nm,0.5s,baz=129,slow=7.3,SNR=6.8
INK Inuvik 73.03 340 P **P 10 24 18.1 +0.2**
comp=Z,0.5nm,0.5s,baz=28,slow=3.6,SNR=4.2
INK Inuvik 73.03 340 P **P 10 24 18.4 +0.5**
BCAR Beaver Creek A 74.36 334 P **P 10 24 27.5 +1.6**
DOT Dot Lake 75.51 334 P **P 10 24 33.2 +0.8**
DOT IAmb IAmb 10 24 34.9
comp=Z,4.5nm,1.4s
PPLA Purkeypile 78.98 333 P **P 10 24 52.2 +0.3**
PPLA IAmb IAmb 10 25 18.9
comp=Z,9.9nm,1.3s
MKAR Makanchi Array 122.32 20 PKP **PKPdf 10 31 41.1 -1.1**
comp=Z,0.2nm,0.3s,baz=302,slow=3.0,SNR=2.6
ASAR Alice Springs 149.12 234 PKPbc **PKPbc 10 32 35.4 -0.9**
comp=Z,0.5nm,0.6s,baz=114,slow=3.6,SNR=7.4
ASAR Alice Springs 149.12 234 **PKPbc 10 32 34.8 -1.4**
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc 10 32 38.6 -0.7**
comp=Z,0.5nm,0.4s,baz=109,slow=2.8,SNR=15
WRA Warramunga Arr 150.34 241 **PKPbc 10 32 38.3 -1.1**

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*IDC **26** 10:16:46.2±0.8,10'.11S×124".64E,h0km,mb4.0/9, mb1 4.2/11,mb1mx4.0/33,mbtmp4.1/11,ML4.5/2,MS3.2/5, Ms1 3.2/5,ms1mx2.8/34,Error ellipse: s-maj=36.2km s-min=16.2km az=72.0*
*DJA **26** 10:16:53.6±0.3,10'.5±.5'×12".5E±.", h46km±6km,M4.9/13, mB5.4/6,mb5.0/13,MLv4.9/10,Mw(mB)4.8/6*
*NEIC **26** 10:16:54.0±2.0,10'.25S±0'.07×124'.61E±0'.08,h39km±7km, mb4.3/15,Error ellipse: s-maj=12.5km s-min=8.2km az=55.0*
ISC 26 10:16:52.3±0.5,10'.28S±0'.06×124'.71E±0'.07,h35km,n68, σ1°90/63,mb4.2/16,MS3.3/3,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.68**	**320**	Pn	**Pn**	**10 17 06.4**	**+0.9**
SOEI	**Soe**	**0.68**	**320**	P	**Pn**	**10 17 06.4**	**+0.9**
BATI	**Baumata**	**1.03**	**274**	P	**Pn**	**10 17 12.4**	**+2.1**
MMRI	**Maumere**	**2.94**	**304**	Pn	**Pn**	**10 17 37.8**	**+1.3**
MMRI	**Maumere**	**2.94**	**304**	P	**Pn**	**10 17 37.8**	**+1.3**
EDFI	**Ende, Flores**	**3.34**	**297**	P	**Pn**	**10 17 42.7**	**+0.5**
WBSI	**Waikabubak, Su**	**5.28**	**276**	P	**Pn**	**10 18 09.0**	**+0.2**
0.8nm3μm184nm,0.7s
BSSI Bau Bau, Buton 5.86 314 P **Pn 10 18 19.1 +2.4**
0.5nm1μm145nm,0.8s
KNRA Kununurra 6.66 144 Pn **Pn 10 18 30.5 +2.7**
BKSI Bulukumba 6.70 317 P **Pn 10 18 29.6 +1.4**
0.2nm57nm,1.0s
MTN Manton Dam 6.79 113 Pn **Pn 10 18 31.8 +2.3**
SAUI Saumlaki 6.89 71 Pn Pn 10 18 34.9 +4.0
PLAI Plampang 6.99 281 P **Pn 10 18 32.4 +0.2**
1.7nm6μm416nm,0.4s
KAPI Kappang 7.17 316 Pn **Pn 10 18 37.0 +2.3**
1.5nm,0.3s,baz=214,slow=14,SNR=6.4
KAPI LR LR 10 21 54.5
comp=Z,132nm,19.8s,baz=151,slow=44
KAPI Kappang 7.17 316 **Pn 10 18 36.4 +1.7**
BNSI Bone 7.41 322 P Pn 10 18 41.1 +3.1
0.2nm48nm,1.4s
TWSI Taliwang, Sumb 7.87 281 P **Pn 10 18 44.9 +0.5**
0.3nm1μm70nm,0.8s
TTSI Tana Toraja 8.67 326 P **Pn 10 18 57.6 +2.3**
14nm,0.8s
FAKI Fak Fak 10.46 46 Pn **Pn 10 19 22.7 +2.8**
JAGI Jajag, Banyuwa 10.57 279 Pn **Pn 10 19 19.7 -1.7**
PSA00 Pilbara Seismi 12.17 202 Pn **Pn 10 19 44.6 +1.4**
PSA00 Pilbara Seismi 12.17 202 Pn **Pn 10 19 43.9 +0.7**
WB0 Warramunga Arr 13.28 136 **Pn 10 19 58.5 +0.1**
WRA Warramunga Arr 13.36 137 Pn **Pn 10 19 58.6 -1.0**
2.6nm,0.3s,baz=323,slow=13,SNR=81
WRA Sn Sn 10 22 15.8 -11
3.2nm,0.3s,baz=309,slow=16,SNR=2.6
WRA LR LR 10 24 46.8
comp=Z,55nm,21.1s,baz=160,slow=36
WRA Warramunga Arr 13.36 137 **Pn 10 20 00.4 +0.8**
WRAB Tennant Creek 13.36 137 **Pn 10 20 00.5 +0.9**
WB2 Warramunga Arr 13.37 137 Pn **Pn 10 20 00.5 +0.8**
WR0 Warramunga Arr 13.51 137 Pn **Pn 10 20 02.9 +1.3**
UGM Wanagama 14.21 278 Pn **Pn 10 20 10.5 -0.6**
UGM Wanagama 14.21 278 P **Pn 10 20 11.3 +0.2**
144nm,2.0s
AS31 Alice Springs 15.95 148 Pn **Pn 10 20 33.4 -0.7**
AS31 IAmb IAmb 10 20 51.1
comp=Z,6.4nm,0.5s
ASAR Alice Springs 15.95 148 Pn **Pn 10 20 33.3 -0.8**
comp=Z,2.0nm,0.3s,baz=321,slow=12,SNR=199
ASAR Sn **Sn 10 23 20.5 -9.4**
comp=Z,2.7nm,0.3s,baz=308,slow=20,SNR=18
ASAR Alice Springs 15.95 148 **Pn 10 20 33.8 -0.3**
CBJI Citeko 18.08 281 P **P 10 20 59.9 -1.1**
MORW Morawa 20.38 202 P Pn 10 21 26.9 -1.4
KASI Kota Agung 20.57 282 P **P 10 21 26.7 -1.5**
comp=Z,1μmcomp=Z,134nm,1.0s
FORT Forrest 20.64 172 P Pn 10 21 30.8 -0.5
PMG Port Moresby 22.13 90 LR LR 10 32 30.9
comp=Z,99nm,18.7s,baz=279,slow=43
CTA Charters Tower 22.94 118 P **P 10 21 54.6 +1.0**
comp=Z,2.3nm,1.0s,baz=322,slow=23,SNR=3.0
NWAO Narrogin (SRO) 23.57 196 P **P 10 22 00.5 +0.7**
comp=Z,8.5nm,1.0s,baz=32,slow=9.7,SNR=5.3
NWAO Narrogin (SRO) 23.57 196 P **P 10 22 01.2 +1.4**
NWAO IAmb IAmb 10 22 13.7
comp=Z,31nm,1.4s
BBOO Buckleboo 24.75 157 P **P 10 22 12.4 +1.8**
STKA Stephens Creek 26.57 146 P **P 10 22 28.0 +0.8**
comp=Z,2.7nm,0.9s,baz=278,slow=8.8,SNR=3.1
STKA Stephens Creek 26.57 146 P **P 10 22 29.1 +1.9**
CMAR Chiang Mai Arr 38.23 318 LR LR 10 43 18.9
comp=Z,30nm,19.3s,baz=183,slow=42
JHS Saijyo 45.72 10 P **P 10 25 10.6 +0.4**
JHS IAmb IAmb 10 25 11.5
comp=Z,16nm,1.2s
JWT Wachi 46.42 12 P **P 10 25 16.9 +1.3**
KSRS Korea Array 47.57 3 P **P 10 25 21.9 -2.6**
comp=Z,1.0nm,0.8s,baz=186,slow=10.0,SNR=3.3
MJAR Matsushiro Arr 48.27 15 P **P 10 25 28.0 -2.0**
comp=Z,2.1nm,0.8s,baz=181,slow=9.4,SNR=7.1
USRK Ussuriysk Ar. 54.62 6 P **P 10 26 15.2 -2.2**
comp=Z,1.7nm,0.6s,baz=193,slow=7.6,SNR=9.5
USRK Ussuriysk Ar. 54.62 6 P **P 10 26 17.3 0.0**
SONM Songino Array 60.10 346 P **P 10 26 54.7 -1.4**
comp=Z,0.3nm,0.3s,baz=148,slow=8.5,SNR=3.8
MK31 Makanchi Array 68.26 330 P **P 10 27 48.8 -0.8**
MK31 IAmb IAmb 10 27 49.2
comp=Z,1.5nm,0.8s
MKAR Makanchi Array 68.26 330 P **P 10 27 48.3 -1.2**
comp=Z,1.9nm,0.5s,baz=133,slow=7.8,SNR=23
MKAR Makanchi Array 68.26 330 P **P 10 27 48.8 -0.8**
MAKZ Makanchi 68.42 330 P **P 10 27 51.0 +0.4**
MAKZ IAmb IAmb 10 28 13.0
comp=Z,2.5nm,1.3s
VNDA Vanda 69.90 172 P **P 10 28 01.1 +1.8**
VNDA IAmb IAmb 10 28 02.4
comp=Z,3.8nm,1.5s
MAW Mawson 70.02 201 P **P 10 28 02.1 +2.0**
ZALV Zalesovo Beam 72.34 337 P **P 10 28 12.0 -2.3**
comp=Z,1.3nm,0.6s,baz=132,slow=4.2,SNR=6.2
QSPA South Pole Qui 79.72 180 P **P 10 28 57.9 +1.4**

QSPA				IAmb	IAmb	10 29 25.1	
	comp=Z,7.6nm,1.3s						
ABKAR	**Akbulak array**	**81.89**	**323**	P	**P**	**10 29 07.2**	**-0.9**
ABKAR	**Akbulak array**	**81.89**	**323**	P	**P**	**10 29 08.0**	**-0.1**
ABKAR				IAmb	IAmb	10 29 17.7	
	comp=Z,2.0nm,1.4s						
SNAA	**Sanae**	**91.24**	**195**		**P**	**10 29 54.5**	**+0.8**
SNAA				IAmb	IAmb	10 30 20.2	
	comp=Z,5.7nm,1.5s						
ILAR	**Eielson Array**	**98.53**	**26**	LR	LR	11 13 06.1	
	comp=Z,11nm,19.0s,baz=200,slow=34						
LPAZ	**La Paz**	**150.71**	**154**	PKPbc	**PKiKP**	**10 36 42.2**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=348,slow=2.8,SNR=13						
LPAZ	**La Paz**	**150.71**	**154**	PKPdf	**PKPdf**	**10 36 35.2**	**-1.9**
BDFB	**Brasilia**	**153.26**	**196**	PKPbc	**PKiKP**	**10 36 46.9**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=37,slow=26,SNR=2.5						
BDFB	**Brasilia**	**153.26**	**196**	PKPdf	**PKPdf**	**10 36 38.3**	**-2.0**
BDFB					**PKiKP**	**10 36 46.3**	**-1.6**

IDC 26 10:55:29.7±3.1, 11°.00S×113°.61E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/45, mbtmp3.4/3, Error ellipse: s-maj=156.9km s-min=27.9km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85**	**117**	P	P	11 00 24.8	+0.6
	0.6nm,0.6s,baz=289,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**23.07**	**126**	P	P	11 00 36.9	-0.3
	0.5nm,0.7s,baz=308,slow=9.9,SNR=11						
MKAR	**Makanchi Array**	**63.99**	**337**	P	P	11 06 04.8	-0.1
	0.5nm,0.8s,baz=134,slow=6.2,SNR=4.0						

*IDC **26** 11:26:05.5±1.4, 9°.12S×112°.75E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.8/42, mbtmp4.0/9, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=49.8km s-min=19.7km az=52.0*

*DJA **26** 11:26:10.1±0.3, 10°.S±4°.×11°.3E±°, h10km, M4.5/14, mb4.7/7, mB5.2/3, MLv4.3/14, Mw(mB)4.6/3*

*NEIC **26** 11:26:13.5±1.1, 9°.4S±0°.1×112°.68E±0°.07, h64km±8km, mb4.0/10, Error ellipse: s-maj=14.6km s-min=9.6km az=179.0*

ISC 26 11:26:10.5±0.6, 9°.37S±0°.09×112°.65E±0°.07, h35km, n55, σ2s44/50, mb4.0/14, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.57**	**328**	P	**Pn**	**11 26 39.6**	**+3.6**
JAGI	**Jajag, Banyuwa**	**1.73**	**59**	Pn	**Pn**	**11 26 40.5**	**+2.4**
JAGI	**Jajag, Banyuwa**	**1.73**	**59**	P	**Pn**	**11 26 41.2**	**+3.0**
PCJI	**Pacitan**	**1.86**	**309**	P	**Pn**	**11 26 43.4**	**+3.5**
ABJI	**Asem Bagus**	**2.21**	**45**	P	Pn	11 26 50.2	+5.4
UGM	**Wanagama**	**2.55**	**304**		**Pn**	**11 26 53.1**	**+3.7**
UGM	**Wanagama**	**2.55**	**304**	P	**Pn**	**11 26 53.2**	**+3.7**
DNP	**Denpasar**	**2.62**	**75**	P	**Pn**	**11 26 53.9**	**+3.5**
KMMI	**Kalianget**	**2.65**	**30**	P	**Pn**	**11 26 54.5**	**+3.8**
SRBI	**Singaraja**	**2.84**	**64**	P	**Pn**	**11 26 57.8**	**+4.4**
SMRI	**Semarang**	**3.17**	**316**	Pn	**Pn**	**11 27 00.4**	**+2.4**
SMRI	**Semarang**	**3.17**	**316**	P	**Pn**	**11 27 01.3**	**+3.3**
KPJI	**Karang Pucung**	**4.20**	**298**	P	**Pn**	**11 27 16.3**	**+4.3**
TWSI	**Taliwang, Sumb**	**4.23**	**82**	P	**Pn**	**11 27 16.0**	**+3.5**
PLAI	**Plampang**	**5.09**	**84**	P	**Pn**	**11 27 27.7**	**+3.3**
	0.4nm88nm,0.7s						
CISI	**Cisompet, Garu**	**5.11**	**290**	Pn	**Pn**	**11 27 27.7**	**+3.0**
CNJI	**Cibinong**	**5.83**	**290**	P	**Pn**	**11 27 37.9**	**+3.4**
	0.5nm2um99nm,1.2s						
WBSI	**Waikabubak, Su**	**6.66**	**93**	P	**Pn**	**11 27 49.0**	**+3.0**
	0.2nm40nm,0.8s						
XMI	**Christmas Isla**	**6.94**	**260**	P	**Pn**	**11 27 50.8**	**+1.0**
	165nm,0.7s						
XMIS	**Christmas Isla**	**6.98**	**260**	Pn	**Pn**	**11 27 51.8**	**+1.5**
XMIS	**Christmas Isla**	**6.98**	**260**	P	**Pn**	**11 27 50.7**	**+0.3**
	109nm,0.4s						
BSSI	**Bau Bau, Buton**	**8.40**	**68**	P	**Pn**	**11 28 13.9**	**+4.0**
	30nm,0.7s						
BKSI	**Bulukumba**	**8.43**	**62**	P	**Pn**	**11 28 14.5**	**+4.2**
	18nm,0.6s						
EDFI	**Ende, Flores**	**8.95**	**87**	P	**Pn**	**11 28 20.9**	**+3.4**
	5.8nm,0.7s						
KSI	**Kapahiang**	**11.49**	**299**	P	**Pn**	**11 28 55.2**	**+3.0**
GIRL	**Giralia**	**13.29**	**174**	Pn	**Pn**	**11 29 17.6**	**+0.8**
FAKI	**Fak Fak**	**20.50**	**73**	P	**P**	**11 30 45.1**	**-0.7**
WB0	**Warramunga Arr**	**23.42**	**119**	P	**P**	**11 31 16.3**	**-0.4**
WB0				IAmb	IAmb	11 31 22.5	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**23.44**	**119**	P	**P**	**11 31 16.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=290,slow=11,SNR=13						
WRA	**Warramunga Arr**	**23.44**	**119**	P	**P**	**11 31 16.9**	**0.0**
WB2	**Warramunga Arr**	**23.45**	**119**	P	**P**	**11 31 16.6**	**-0.4**
WB2				IAmb	IAmb	11 31 37.8	
	comp=Z,6.0nm,1.1s						
WR0	**Warramunga Arr**	**23.62**	**119**	P	**P**	**11 31 18.6**	**-0.1**
WR0				IAmb	IAmb	11 31 41.3	
	comp=Z,4.2nm,0.9s						
ASAR	**Alice Springs**	**24.80**	**128**	P	**P**	**11 31 30.2**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=302,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**24.80**	**128**	P	**P**	**11 31 29.0**	**-0.5**
AS31	**Alice Springs**	**24.80**	**128**	P	**P**	**11 31 29.4**	**-0.1**
FORT	**Forrest**	**25.70**	**148**	P	**P**	**11 31 36.7**	**-0.8**
H08S2	**Diego Garcia H**	**39.73**	**269**	T	T	12 16 57.4	
	baz=94,slow=76						
H08S3	**Diego Garcia H**	**39.75**	**269**	T	T	12 17 03.8	
	baz=94,slow=76						
H08S1	**Diego Carcia H**	**39.75**	**269**	T	T	12 17 04.3	
	baz=94,slow=76						
MJAR	**Matsushiro Arr**	**51.60**	**26**	P	**P**	**11 35 11.3**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=190,slow=9.5,SNR=5.1						
USRK	**Ussuriysk Ar.**	**56.12**	**17**	P	**P**	**11 35 44.8**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=120,slow=4.3,SNR=6.5						
USRK	**Ussuriysk Ar.**	**56.12**	**17**	P	**P**	**11 35 45.7**	**-0.7**
SONM	**Songino Array**	**57.22**	**355**	P	**P**	**11 35 53.1**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=178,slow=8.2,SNR=6.7						
SONM	**Songino Array**	**57.22**	**355**	P	**P**	**11 35 54.6**	**+0.2**
SONM				IAmb	IAmb	11 35 55.8	
	comp=Z,0.8nm,1.0s						
ASAJ	**Asahikawa**	**59.75**	**25**	LR	LR	12 02 15.9	
	comp=Z,16nm,18.8s,baz=111,slow=36						
KLR	**Kul'dur**	**60.71**	**14**	P	**P**	**11 36 16.9**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=194,slow=8.4,SNR=4.4						
MK31	**Makanchi Array**	**62.12**	**337**	P	**P**	**11 36 27.2**	**-0.8**
MK31				IAmb	IAmb	11 36 27.8	
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**62.12**	**337**	P	**P**	**11 36 27.5**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=146,slow=7.5,SNR=19						
MKAR	**Makanchi Array**	**62.12**	**337**	P	**P**	**11 36 26.9**	**-1.1**
KKAR	**Karatay Array**	**64.79**	**327**	P	**P**	**11 36 44.5**	**-1.2**
ZALV	**Zalesovo Beam**	**67.33**	**343**	P	**P**	**11 37 00.2**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=168,slow=2.9,SNR=6.2						
PETK	**Petropavlovsk-**	**73.06**	**26**	P	**P**	**11 37 36.4**	**-0.5**
ABKAR	**Akbulak array**	**74.36**	**327**	P	**P**	**11 37 44.1**	**-0.4**
ABKAR				IAmb	IAmb	11 37 45.2	
	comp=Z,2.7nm,1.0s						
SEY	**Seymchan**	**78.26**	**17**	P	**P**	**11 38 06.2**	**-0.2**
	baz=117,slow=0.1						
BRTR	**Keskin Array B**	**87.58**	**311**	P	**P**	**11 38 55.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=164,slow=4.9,SNR=4.3						

*TUL **26** 11:30:47.3±1.9, 36°.52N±0°.03×99°.01W±0°.04, h5km±2km, ML3.2, mb_Lg3.0/74(NEIC), Error ellipse: s-maj=5.2km s-min=4.7km az=232.0*

NEIC 26 11:30:48.2±1.4, 36°.53N±0°.03×98°.91W±0°.04, h5km±2km, Error ellipse: s-maj=6.0km s-min=4.8km az=287.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.17**	**206**	Pg	Pg	11 30 50.6	-0.8
U32A				Sg	Sg	11 30 53.0	-0.7
U32A	**Winter Ranch,**	**0.17**	**206**	P		11 30 50.7	
	baz=28,SNR=1000						
OK032	**Salt Plains WL**	**0.63**	**64**		Pg	11 31 00.7	+0.4
OK032				Sg	Sb	11 31 09.7	-1.0
CROK	**Carrier**	**0.75**	**92**		Pg	11 31 02.8	+0.3
CROK					Sg	11 31 11.9	-0.3
KAN10	**Anthony SW Sta**	**0.88**	**48**		Pg	11 31 05.1	0.0
KAN10				Sg	Sg	11 31 17.0	+0.4
GC02	**Grant County #**	**0.90**	**69**		Pg	11 31 05.6	+0.1
GC02				Sg	Sb	11 31 18.0	-0.7
KAN05	**Bluff City Nor**	**1.01**	**55**		Pg	11 31 07.5	-0.1
KAN05				Sg	Sg	11 31 20.9	+0.1
KAN08	**Anthony NE Sta**	**1.03**	**47**	Pg	Pg	11 31 07.7	-0.2
KAN08				Sg	Sg	11 31 21.2	+0.1
KAN17	**Caldwell West**	**1.05**	**61**		Pg	11 31 08.2	-0.1
KAN17				Sg	Sg	11 31 22.2	+0.2
KAN09	**Caldwell North**	**1.20**	**59**		Pg	11 31 10.8	-0.4
KAN13	**South Haven SW**	**1.25**	**67**		Pg	11 31 11.2	-0.9
KAN13				Sg	Sg	11 31 28.1	-0.2
KS20	**Mayfield South**	**1.29**	**57**		Pn	11 31 12.3	-0.6
BCOK	**Bluff Creek, N**	**1.37**	**129**		Pn	11 31 13.1	-0.8
BLOK	**Blackwell**	**1.38**	**80**		Pn	11 31 13.9	-0.2
OK029	**Liberty Lake**	**1.39**	**121**		Pn	11 31 13.3	-0.9
OK025	**Westminster Rd**	**1.59**	**126**		Pn	11 31 16.9	0.0
OKCSW	**OKLAHOMA CITY**	**1.64**	**133**		Pn	11 31 17.5	-0.2
FNO	**Franklin**	**1.77**	**136**		Pn	11 31 19.7	+0.3
OK031	**S. Brethren Rd**	**1.77**	**108**		Pn	11 31 19.8	+0.4
WMOK	**Wichita Mounta**	**1.79**	**177**		Pn	11 31 18.8	-1.0
WMOK	**Wichita Mounta**	**1.79**	**177**	P		11 31 18.7	
	baz=357,SNR=287						
WMOK				S		11 31 43.5	
	baz=357						
QUOK	**Quay**	**1.81**	**101**		Pn	11 31 20.8	+0.7
R32A	**Long Quarter,**	**1.90**	**5**		Pn	11 31 21.4	+0.2
R32A	**Long Quarter,**	**1.90**	**5**	P		11 31 21.5	
	baz=185						
R32A				S		11 31 47.6	
	baz=185						
T35A	**Sooner Cattle**	**1.97**	**78**		Pn	11 31 22.7	+0.6
T35B	**Sooner Cattle**	**1.97**	**78**	P		11 31 22.7	
	baz=259,SNR=61						
T35B				Sb		11 31 50.9	
	baz=259						
X34A	**Smith Ranch, M**	**2.12**	**155**		Pb	11 31 25.8	-1.2
CBKS	**Cedar Bluff**	**2.37**	**344**		Pn	11 31 27.9	+0.1
CBKS	**Cedar Bluff**	**2.37**	**344**	P		11 31 29.0	
	baz=164						
CBKS				S		11 32 00.1	
	baz=164						
TUL1	**Leonard**	**2.60**	**103**	P		11 31 30.9	
	baz=285,SNR=76						
AMTX	**Amarillo**	**2.79**	**235**		Pn	11 31 34.2	+0.7
LOOK	**Love County**	**2.90**	**150**		Pn	11 31 35.8	+0.8
LOOK				IAmb_Lg		11 32 25.2	
	comp=Z,35nm,1.0s						
KSU1	**Kansas State U**	**3.15**	**35**	Pn	Pn	11 31 39.2	+0.8
KSU1	**Kansas State U**	**3.15**	**35**	P		11 31 39.0	
	baz=216						
Z35A	**Perchaven, San**	**3.47**	**156**		Pn	11 31 42.6	-0.2
Z35A	**Perchaven, San**	**3.47**	**156**	P		11 31 43.3	
	baz=338						
X37A	**Clayton**	**3.48**	**123**		Pn	11 31 43.1	+0.2
X37A				IAmb_Lg		11 32 46.6	
	comp=Z,59nm,1.1s						
X37A	**Clayton**	**3.48**	**123**	P		11 31 42.8	
	baz=305,SNR=22						
U38A	**Gravette**	**3.65**	**90**		Pn	11 31 45.9	+0.6
KSCO	**Kaye Shedlock'**	**3.85**	**311**		Pn	11 31 48.5	+0.3
KSCO				IAmb_Lg		11 32 54.7	
	comp=Z,40nm,0.8s						
ABTX	**Abilene, Hawle**	**3.94**	**189**	Pn	Pn	11 31 49.0	-0.4
HHAR	**Hobbs**	**4.02**	**92**	Pn	Pn	11 31 50.9	+0.5
HHAR				IAmb_Lg		11 33 00.5	
	comp=Z,25nm,0.9s						
MSTX	**Muleshoe**	**4.06**	**232**		Pn	11 31 51.1	0.0
N33A	**J Bar K, Exete**	**4.36**	**15**		Pn	11 31 54.6	-0.5
N33A				IAmb_Lg		11 33 07.8	
	comp=Z,24nm,0.8s						
W39A	**Magazine**	**4.37**	**106**		Pn	11 31 54.9	-0.3
W39A				IAmb_Lg		11 33 17.5	
	comp=Z,27nm,0.7s						
W39A	**Magazine**	**4.37**	**106**	P		11 31 55.5	
	baz=289						
T25A	**Trinidad**	**4.45**	**279**		Pn	11 31 56.8	+0.3
T25A				IAmb_Lg		11 33 09.0	
	comp=Z,23nm,0.7s						
Z38A	**Mt. Pleasant**	**4.59**	**134**		Pn	11 31 58.1	-0.1
Z38A				IAmb_Lg		11 33 17.2	
	comp=Z,17nm,0.8s						
WHTX	**Lake Whitney,**	**4.69**	**165**		Pn	11 31 58.5	-1.0
MIAR	**Mount Ida**	**4.78**	**113**		Pn	11 32 01.3	+0.5
MIAR	**Mount Ida**	**4.78**	**113**	P		11 32 01.0	
	baz=296,SNR=37						
U40A	**Yellville**	**4.89**	**90**		Pn	11 32 02.8	+0.5
U40A				IAmb_Lg		11 33 33.3	
	comp=Z,27nm,0.7s						
U40A	**Yellville**	**4.89**	**90**	P		11 32 02.2	
	baz=274,SNR=8.5						
U40A				P		11 32 02.2	
	baz=274,SNR=8.5						
BGNE	**Belgrade**	**4.91**	**7**		Pn	11 32 02.1	-0.6
BGNE				IAmb_Lg		11 33 31.9	
	comp=Z,18nm,0.8s						
N35A	**Tabor**	**5.02**	**30**	Pn	Pn	11 32 03.8	-0.4
OGNE	**Ogallala**	**5.04**	**332**		Pn	11 32 05.0	+0.5
237A	**Washetta, Mont**	**5.20**	**149**	IAmb_Lg		11 33 43.8	
	comp=Z,30nm,0.8s						
P38A	**Dawn**	**5.25**	**52**		Pn	11 32 08.0	+0.7
P38A				IAmb_Lg		11 33 33.6	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Fa**	**5.36**	**111**	Pn	Pn	11 32 09.2	+0.4
MGMO	**Mountain Grove**	**5.36**	**81**	Pn	Pn	11 32 09.1	+0.2
MGMO				IAmb_Lg		11 33 43.6	
	comp=Z,28nm,0.8s						
SDCO	**Great Sand Dun**	**5.40**	**285**	Pn	Pn	11 32 09.7	+0.1
SDCO				IAmb_Lg		11 33 43.8	
	comp=Z,14nm,1.1s						
WHAR	**Wooly Hollow**	**5.51**	**101**	Pn	Pn	11 32 10.6	-0.4
WHAR				IAmb_Lg		11 33 49.1	
	comp=Z,22nm,1.0s						
FCAR	**Ozark Folk Cen**	**5.53**	**95**		Pn	11 32 11.4	+0.3
WLAR	**White Oak Lake**	**5.53**	**119**	Pn	Pn	11 32 09.5	-1.7
R40A	**Maddies Statio**	**5.57**	**70**		Pn	11 32 12.4	+0.7
R40A				IAmb_Lg		11 33 46.9	
	comp=Z,17nm,0.8s						
L34A	**Svendsen Farm,**	**5.77**	**19**		Pn	11 32 13.6	-0.9
435B	**Jarrell**	**5.84**	**169**	Pn	Pn	11 32 14.1	-1.3
435B				IAmb_Lg		11 34 00.2	
	comp=Z,19nm,0.8s						
NATX	**Nacogdoches**	**5.92**	**142**	Pn	Pn	11 32 15.7	-0.8
NATX				IAmb_Lg		11 34 12.3	
	comp=Z,14nm,1.0s						
JCT	**Junction City**	**6.08**	**187**	Pn	Pn	11 32 18.1	-0.7
JCT				IAmb_Lg		11 34 03.8	
	comp=Z,25nm,1.1s						
K31A	**O'Neill**	**6.09**	**1**	Pn	Pn	11 32 19.6	+0.8
N38A	**Joes South For**	**6.15**	**44**	Pn	Pn	11 32 19.0	-0.7
P40A	**Paris**	**6.19**	**59**	Pn	Pn	11 32 19.5	-0.7
ISCO	**Idaho Springs**	**6.21**	**304**		Pn	11 32 20.9	+0.2
LCAR	**Lake Charles**	**6.28**	**92**	Pn	Pn	11 32 20.5	-0.9
T42A	**Van Buren**	**6.29**	**83**	Pn	Pn	11 32 21.9	+0.2
T42A				IAmb_Lg		11 34 11.1	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**6.30**	**74**	Pn	Pn	11 32 21.7	0.0
CCM				IAmb_Lg		11 34 16.1	
	comp=Z,20nm,0.8s						
ANMO	**Albuquerque**	**6.34**	**258**		Pn	11 32 23.1	+0.6
CCAR	**Cane Creek**	**6.40**	**112**	Pn	Pn	11 32 21.9	-1.2
BNM	**Barren Site**	**6.74**	**252**	Pn	Pn	11 32 27.9	-0.1
HBAR	**Harrisburg**	**6.76**	**96**	Pn	Pn	11 32 27.5	-0.5
PBMO	**Poplar Bluff**	**6.82**	**85**	Pn	Pn	11 32 27.8	-1.1
PBMO				IAmb_Lg		11 34 41.1	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**6.95**	**38**	IAmb_Lg		11 34 34.9	
	comp=Z,24nm,0.8s						
PHWY	**Pilot Hill**	**6.98**	**315**	Pn	Pn	11 32 30.6	-0.8
Y22D	**IRIS PASSCAL I**	**6.99**	**252**	IAmb_Lg		11 34 46.9	
	comp=Z,22nm,1.1s						
LENM	**Lemitar**	**7.00**	**253**	Pn	Pn	11 32 31.7	+0.2
SLM	**Saint Louis**	**7.20**	**70**	Pn	Pn	11 32 32.7	-1.4
MNTX	**Cornudas Mount**	**7.21**	**230**	Pn	Pn	11 32 34.4	+0.1
MNTX				IAmb_Lg		11 34 48.1	
	comp=Z,13nm,1.1s						
ECSD	**EROS Data Cent**	**7.41**	**13**		Pn	11 32 36.8	-0.2
N41A	**Harden Midland**	**7.56**	**54**	Pn	Pn	11 32 37.9	-1.2
S44A	**Carbondale**	**7.80**	**79**	Pn	Pn	11 32 41.1	-1.2
S44A				IAmb_Lg		11 35 00.1	
	comp=Z,22nm,0.7s						
SIUC	**Southern Illin**	**7.83**	**78**	Pn	Pn	11 32 42.4	-0.4
SIUC				IAmb_Lg		11 35 00.2	
	comp=Z,21nm,0.8s						
OXF	**Oxford**	**8.00**	**102**	Pn	Pn	11 32 43.6	-1.5
W45A	**Hickory Valley**	**8.02**	**97**	IAmb_Lg		11 35 09.3	
	comp=Z,16nm,0.8s						
P43A	**Skaggs, Pawnee**	**8.03**	**64**	Pn	Pn	11 32 45.8	+0.3
L40A	**Anamosa**	**8.13**	**45**	Pn	Pn	11 32 46.3	-0.5
PV16	**Nyswonger Mesa**	**8.16**	**286**	Pn	Pn	11 32 46.6	-0.8
Q44A	**Meyer Farm, Va**	**8.19**	**70**	Pn	Pn	11 32 47.7	0.0
TX31	**Lajitas Ar. Si**	**8.21**	**210**	Pn	Pn	11 32 47.1	-1.0
TX32	**Lajitas Array**	**8.21**	**210**	Pn	Pn	11 32 46.8	-1.3
TXAR	**Lajitas Array**	**8.21**	**210**	Pn	Pn	11 32 46.6	-1.5
RWWY	**Rawlins**	**8.25**	**311**	IAmb_Lg		11 35 27.9	
	comp=Z,12nm,1.1s						
T45A	**Paducah**	**8.25**	**84**	Pn	Pn	11 32 47.9	-0.6
RSSD	**Black Hills**	**8.53**	**334**	Pn	Pn	11 32 52.3	-0.2
RSSD				IAmb_Lg		11 35 25.2	
	comp=Z,8.4nm,0.8s						
HDIL	**Hopedale**	**8.54**	**59**	Pn	Pn	11 32 52.3	-0.1
OLIL	**Olney**	**8.86**	**72**	IAmb_Lg		11 35 29.4	
	comp=Z,15nm,0.9s						
O44A	**Mansfield**	**8.97**	**63**	IAmb_Lg		11 35 41.6	
	comp=Z,16nm,0.8s						
L42A	**Oliver, Polo**	**9.01**	**50**	IAmb_Lg		11 35 38.3	
	comp=Z,12nm,0.8s						
USIN	**University of**	**9.08**	**78**	IAmb_Lg		11 35 50.1	
	comp=Z,19nm,0.9s						
JFWS	**Jewell Farm**	**9.23**	**44**	Pn	Pn	11 33 01.6	-0.3
JFWS				IAmb_Lg		11 35 50.1	
	comp=Z,12nm,0.7s						
T47A	**Sharon Grove**	**9.49**	**84**	IAmb_Lg		11 35 47.6	
	comp=Z,7.2nm,0.8s						
F33A	**5 Mile Ranch,**	**9.51**	**11**	Pn	Pn	11 33 04.4	-1.3
I40A	**Norwalk**	**9.71**	**38**	IAmb_Lg		11 36 00.1	
	comp=Z,6.5nm,0.9s						
PDAR	**Pinedale Array**	**10.30**	**310**	Pn	Pn	11 33 16.8	-0.1
I42A	**Draeger Farm,**	**10.60**	**43**	Pn	Pn	11 33 19.6	-1.1

IDC 26 11:34:15.7±2.8, 6°.71S×147°.78E, h0km, mb3.2/2, mb1 3.8/4, mb1mx3.5/31, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=82.9km s-min=29.2km az=99.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.75**	**193**	Pn	Pn	11 35 01.2	+0.1
	46nm,0.3s,baz=17,slow=9.3,SNR=70						
PMG				Sn	Sn	11 35 28.8	-6.3
	41nm,0.3s,baz=357,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**18.53**	**223**	P	P	11 38 32.9	-1.1
	0.4nm,0.3s,baz=47,slow=11,SNR=20						
ASAR	**Alice Springs**	**21.50**	**217**	P	P	11 39 05.5	-0.8
	0.5nm,0.3s,baz=45,slow=9.1,SNR=24						
MKAR	**Makanchi Array**	**78.53**	**320**	P	P	11 46 19.3	+0.2
	0.1nm,0.4s,baz=98,slow=6.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**146.01**	**284**	PKPbc	PKPbc	11 53 58.8	+0.2
	0.4nm,0.7s,baz=86,slow=3.9,SNR=2.2						

*TAP **26** 11:47:53.6, 24°.96N×122°.76E, h30km, ML2.9, D*

*JMA **26** 11:47:55.0±0.2, 24°.85N×122°.67E, h23km±3km, M1.9*

ISC 26 11:47:53.8±1.1, 24°.90N±0°.04×122°.67E±0°.02, h15km±8km, n58, σ0s73/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**150**	P	**Pg**	**11 48 04.2**	**+0.3**
JYNG				*e*S	**Sb**	**11 48 11.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.53**	**144**	P	**Pb**	**11 48 04.9**	**0.0**
YOJ				*e*S	**Sg**	**11 48 11.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.53**	**144**	*i* P	**Pg**	**11 48 04.6**	**+0.2**
	baz=156						
YOJ				S	**Sb**	**11 48 11.9**	**-0.4**
	baz=156						
TWB1	**Santiao Chiao**	**0.63**	**280**	P	**Pg**	**11 48 06.3**	**+0.2**
	baz=274						
TWB1				*e*S	**Sg**	**11 48 14.5**	**0.0**
	baz=274						
NTC	**Toucheng**	**0.76**	**267**	*e*P	**Pn**	**11 48 09.7**	**-0.3**
	baz=263						
TIPB	**Shuangxi**	**0.77**	**276**	*i* P	**Pb**	**11 48 08.9**	**0.0**
	baz=271						
TIPB				*e*S	**Sb**	**11 48 20.4**	**+1.2**
	baz=271						
TWC	**Suao**	**0.80**	**249**	*i* P	**Pb**	**11 48 09.4**	**0.0**
	baz=247						
TWC				S	**Sg**	**11 48 19.9**	**+0.1**
	baz=247						
NWF	**Wu-fen Shan**	**0.82**	**282**	*e*P	**Pb**	**11 48 10.1**	**+0.2**
	baz=277						
NWF				*e*S	**Sb**	**11 48 20.4**	**-0.5**
	baz=277						
WFSB	**Wu-fen Shan**	**0.82**	**282**	*e*P	**Pb**	**11 48 09.5**	**-0.3**
	baz=277						
NDS	**Dongshan**	**0.91**	**253**	P	**Pb**	**11 48 11.3**	**+0.1**
	baz=251						
NDS				S	**Sn**	**11 48 24.8**	**0.0**
	baz=251						
PCYT	**Pengchaiyu**	**0.91**	**324**	*e*P	**Pb**	**11 48 10.5**	**-0.7**

	baz=258					
CHGB	**Renai**	**1.60 239**	P	**Pb**	**11 48 23.5**	**+0.4**
	baz=224					
CHGB			*e*S	**Sb**	**11 48 42.9**	**-0.3**
	baz=224					
WHP	**Taichung City**	**1.69 249**	P	**Pg**	**11 48 25.7**	**-0.5**
	baz=255					
WHP			*e*S	**Sg**	**11 48 47.1**	**-1.0**
	baz=255					
HGSD	**Ruisui**	**1.80 219**	*e*P	**Pn**	**11 48 24.8**	**+0.5**
	baz=211					
DPDB	**Guoxing**	**1.81 242**	*e*P	**Pn**	**11 48 25.4**	**+1.0**
	baz=230					
WCS	**Beigang Elemen**	**1.81 243**	*e*P	**Pb**	**11 48 27.1**	**+0.6**
	baz=231					
TWQ1	**Liyutan**	**1.81 253**	*e*P	**Pb**	**11 48 26.2**	**-0.5**
	baz=265					
EHY	**Hungye**	**1.85 222**	*e*P	**Pn**	**11 48 25.0**	**0.0**
	baz=223					
SMLT	**Sun Moon Lake**	**1.90 238**	*e*P	**Pn**	**11 48 26.8**	**+1.0**
	baz=225					
SSLB	**Suanglung**	**1.92 235**	*e*P	**Pn**	**11 48 26.9**	**+1.0**
	baz=223					
YULB	**Yu-li**	**1.95 220**	*e*P	**Pn**	**11 48 25.6**	**-0.8**
	baz=222					
YULB			*e*S	**Sb**	**11 48 51.7**	**-1.6**
	baz=222					
TWF1	**Yuli**	**1.98 219**	*e*P	**Pn**	**11 48 27.2**	**+0.4**
	baz=234					
FULB	**Fuli**	**2.11 217**	*e*P	**Pn**	**11 48 29.6**	**+1.0**
	baz=208					
ALS	**Alishan**	**2.19 231**	*e*P	**Pb**	**11 48 31.7**	**-1.6**
	baz=220					
CHN5	**Tsauling**	**2.23 235**	*e*P	**Pb**	**11 48 32.4**	**-1.4**
	baz=223					
ELDTW	**Lidau**	**2.27 222**	*e*P	**Pn**	**11 48 32.2**	**+1.3**
	baz=223					
EDH	**Donghe**	**2.29 213**	*e*P	**Pn**	**11 48 30.0**	**-1.0**
	baz=215					
STYH	**Taoyuan**	**2.44 226**	*e*P	**Pn**	**11 48 34.0**	**+1.0**
	baz=217					
CHN4	**Tsaushan**	**2.44 231**	*e*P	**Pb**	**11 48 36.0**	**-1.5**
	baz=232					
TPUB	**Ta-pu**	**2.45 230**	*e*P	**Pn**	**11 48 33.8**	**+0.6**
	baz=220					
WTP	**Ta-pu**	**2.50 229**	*e*P	**Pn**	**11 48 35.9**	**+1.9**
	baz=220					
TWK	**Hsinying**	**2.57 231**	*e*P	**Pn**	**11 48 36.0**	**+1.0**
	baz=231					
SLGT	**Liugui**	**2.65 225**	*e*P	**Pn**	**11 48 37.6**	**+1.7**
	baz=225					
MASBT	**Mashibuluo**	**2.94 220**	*e*P	**Pn**	**11 48 41.8**	**+1.8**
	baz=213					
SLIU	**Shizi**	**3.17 213**	*e*P	**Pn**	**11 48 45.1**	**+1.9**
	baz=215					

IDC 26 11:50:38.5±4.2, 29°.50N×141°.81E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/35, mbtmp3.5/5, ML2.7/3, Error ellipse: s-maj=214.0km s-min=23.9km az=76.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.42**	**172**	Pn	Pn	11 51 18.1	-1.2
	3.1nm,0.3s,baz=310,slow=18,SNR=1.4						
JCJ				Sn	Sb	11 51 53.4	0.0
	12nm,0.3s,baz=281,slow=21,SNR=1.9						
JHJ	**Hachijo jima 2**	**4.00**	**335**	Pn	Pn	11 51 40.8	-0.3
	1.3nm,0.3s,baz=54,slow=16,SNR=1.7						
JHJ				Sn	Sn	11 52 22.2	-6.4
	4.3nm,0.3s,baz=119,slow=9.6,SNR=2.1						
MJAR	**Matsushiro Arr**	**7.64**	**338**	Pn	Pn	11 52 30.5	-0.6
	0.1nm,0.3s,baz=160,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**49.68**	**189**	P	P	11 59 32.4	+0.1
	0.7nm,0.8s,baz=6.9,slow=7.4,SNR=8.4						
ASAR	**Alice Springs**	**53.41**	**189**	P	P	12 00 00.3	+0.1
	0.3nm,0.9s,baz=2.9,slow=5.6,SNR=5.5						

TAP 26 11:54:30.9, 24°.34N×121°.76E, h58km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.11**	**10**	*e*P	Pn	11 54 40.7	+1.0
	baz=2.0						
EWUT				*e*S	Sn	11 54 46.9	+0.8
	baz=2.0						
ETL	**Fush Village**	**0.21**	**215**	*e*P	Pn	11 54 41.0	+0.8
	baz=227						
ETL				*e*S	Sn	11 54 47.7	+0.8
	baz=227						
NACB	**Ninganchiao**	**0.22**	**223**	P	Pn	11 54 40.5	+0.3
	baz=233						
NACB				S	Sn	11 54 46.5	-0.4
	baz=233						
ETLH	**Xiulin Townshi**	**0.28**	**243**	P	Pn	11 54 40.8	0.0
	baz=243						
ETLH				*e*S	Sn	11 54 48.6	+0.8
	baz=243						
TWC	**Suao**	**0.29**	**17**	P	Pn	11 54 41.7	+1.0
	baz=15						
TWC				*e*S	Sn	11 54 48.8	+1.1
	baz=15						
TWD	**Chiawan**	**0.29**	**210**	*e*P	Pn	11 54 41.0	+0.2
	baz=221						
TWD				*e*S	Sn	11 54 48.1	+0.3
	baz=221						
NDS	**Dongshan**	**0.30**	**353**	P	Pn	11 54 41.2	+0.4
	baz=345						
NDS				*e*S	Sn	11 54 48.8	+0.8
	baz=345						
NDT	**Datong Townshi**	**0.35**	**320**	*e*P	Pn	11 54 41.4	+0.2
	baz=320						
ENTT	**Nioudou**	**0.35**	**330**	P	Pn	11 54 41.7	+0.4
	baz=331						
ENTT				*e*S	Sn	11 54 48.4	-0.3
	baz=331						
NNSB	**Datong**	**0.35**	**285**	P	Pn	11 54 41.6	+0.2
	baz=285						
NNSB				S	Sn	11 54 49.2	+0.3
	baz=285						
NNSH	**Datong**	**0.35**	**285**	P	Pn	11 54 41.5	+0.2
	baz=289						
NNSH				S	Sn	11 54 49.4	+0.5
	baz=289						
NNS	**Nan Shan**	**0.36**	**287**	P	Pn	11 54 41.8	+0.3
	baz=287						
NNS				*e*S	Sn	11 54 49.6	+0.5
	baz=287						
TWE	**Neicheng**	**0.39**	**348**	P	Pn	11 54 42.2	+0.6
	baz=346						
TWE				*e*S	Sn	11 54 50.2	+0.9
	baz=346						
ETM	**Tongmen**	**0.44**	**213**	*e*P	Pn	11 54 42.8	+0.8
	baz=213						
ETM				*e*S	Sn	11 54 49.8	-0.4
	baz=213						
FUSS	**Fushou**	**0.47**	**260**	*e*P	Pn	11 54 43.2	+0.5
	baz=260						
FUSS				*e*S	Sn	11 54 51.6	+0.4
	baz=260						
YHNB	**Yeheng**	**0.48**	**314**	P	Pn	11 54 42.7	+0.1
	baz=308						
YHNB				*e*S	Sn	11 54 50.4	-0.6
	baz=308						
WHF	**Hehuan Shan**	**0.49**	**247**	P	Pn	11 54 43.3	+0.3
	baz=244						
WHF				*e*S	Sn	11 54 51.9	+0.1
	baz=244						
NWLT	**Wulai**	**0.50**	**332**	P	Pn	11 54 42.5	-0.2
	baz=332						
NWLT				*e*S	Sn	11 54 50.8	-0.5
	baz=332						
NTC	**Toucheng**	**0.52**	**7**	*e*P	Pn	11 54 44.1	+1.1
	baz=359						
NTC				*e*S	Sn	11 54 52.1	+0.5
	baz=359						
TWT	**Tachien**	**0.54**	**261**	*e*P	Pn	11 54 44.2	+0.9
	baz=256						
TWT				*e*S	Sn	11 54 53.1	+0.8
	baz=256						
TDCB	**Techi**	**0.55**	**262**	*e*P	Pn	11 54 43.9	+0.4
	baz=256						
TDCB				*e*S	Sn	11 54 53.4	+0.9
	baz=256						
ESL	**Shilin**	**0.60**	**210**	*e*P	Pn	11 54 44.1	+0.3
	baz=214						
CHGB	**Renai**	**0.60**	**243**	*e*P	Pn	11 54 44.5	+0.4
	baz=239						
CHGB				*e*S	Sn	11 54 54.8	+1.2
	baz=239						
CHGB	**Renai**	**0.60**	**243**	*e*S	Sn	11 54 54.5	+1.0
	baz=34						
TIPB	**Shuangxi**	**0.64**	**6**	*e*P	Pn	11 54 45.2	+0.8
	baz=356						
TIPB				*e*S	Sn	11 54 55.1	+1.0
	baz=356						
TWB1	**Santiao Chiao**	**0.70**	**17**	P	Pn	11 54 45.9	+0.8
	baz=28						
TWB1				*e*S	Sn	11 54 55.7	+0.3
	baz=28						
WHP	**Taichung City**	**0.74**	**266**	*e*P	Pn	11 54 46.7	+1.1
	baz=266						
WHP				*e*S	Sn	11 54 57.4	+1.0
	baz=266						
WHP	**Taichung City**	**0.74**	**266**	*e*P	Pn	11 54 46.7	+1.1
	baz=21						
LIOB	**Emei**	**0.74**	**295**	*e*P	Pn	11 54 45.9	+0.3
	baz=295						
LIOB				*e*S	Sn	11 54 57.0	+0.7
	baz=295						
YM01	**YM01**	**0.82**	**348**	*e*P	Pn	11 54 47.8	+1.2
	baz=337						
SSLB	**Suanglung**	**0.91**	**234**	*e*P	Pn	11 54 48.5	+0.7
	baz=235						

TAP 26 11:54:32.1, 23°.54N×120°.80E, h14km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.03**	**165**	*i* P	Pg	11 54 35.4	+0.4
	baz=155						
ALS				*i* S	Sg	11 54 37.7	+0.8
	baz=155						
CHN5	**Tsauling**	**0.12**	**297**	*i* P	Pb	11 54 36.1	-0.2
	baz=296						
CHN5				S	Sb	11 54 38.8	-0.3
	baz=296						
WDLH	**Douliu**	**0.28**	**302**	*e*P	Pb	11 54 39.1	+0.2
	baz=301						
WDLH				*e*S	Sb	11 54 44.4	+1.0
	baz=301						
SSLB	**Suanglung**	**0.28**	**31**	P	Pb	11 54 38.8	-0.3
	baz=36						
SSLB				S	Sg	11 54 42.8	+0.7
	baz=36						
TPUB	**Ta-pu**	**0.28**	**212**	P	Pg	11 54 38.5	+0.5
	baz=207						
TPUB				*e*S	Sb	11 54 43.2	-0.5
	baz=207						
WJS	**Zhushan**	**0.29**	**347**	*e*P	Pb	11 54 39.2	+0.2
	baz=347						
WJS				*e*S	Sb	11 54 44.6	+0.9
	baz=347						
WTP	**Ta-pu**	**0.34**	**210**	P	Pb	11 54 39.7	-0.3
	baz=208						
WTP				*e*S	Sb	11 54 44.9	-0.3
	baz=208						
CHY	**Chiayi**	**0.34**	**263**	*e*P	Pg	11 54 39.5	+0.4
	baz=262						
CHY				*e*S	Sb	11 54 45.4	0.0
	baz=262						
WNT	**Mingjian**	**0.35**	**343**	*e*P	Pb	11 54 40.4	+0.2
	baz=344						
WNT				*e*S	Sb	11 54 46.2	+0.7
	baz=344						
STYH	**Taoyuan**	**0.37**	**183**	*e*P	Pg	11 54 39.6	0.0
	baz=179						
STYH				*e*S	Sb	11 54 45.9	-0.2
	baz=179						
STYT	**Tauyuan**	**0.38**	**185**	*e*P	Pb	11 54 40.6	0.0
	baz=180						
STYT				*e*S	Sb	11 54 46.5	+0.1
	baz=180						
ELDTW	**Lidau**	**0.41**	**150**	P	Pb	11 54 40.8	-0.4
	baz=146						
ELDTW				*e*S	Sg	11 54 46.5	+0.7
	baz=146						
CHN1	**Nanshi**	**0.43**	**215**	P	Pb	11 54 41.3	-0.3
	baz=215						
CHN1				*e*S	Sb	11 54 48.5	+0.5
	baz=215						
EHY	**Hungye**	**0.48**	**94**	*e*P	Pb	11 54 42.1	-0.3
	baz=95						
EHY				*e*S	Sb	11 54 49.0	-0.4
	baz=95						
YULB	**Yu-li**	**0.48**	**108**	P	Pb	11 54 42.1	-0.3
	baz=108						
YULB				*e*S	Sg	11 54 48.5	+0.4
	baz=108						
TWF1	**Yuli**	**0.50**	**112**	*e*P	Pb	11 54 42.5	-0.2
	baz=113						
TWF1				*e*S	Sb	11 54 49.5	-0.3
	baz=113						
SLGT	**Liugui**	**0.56**	**194**	*e*P	Pn	11 54 45.4	-0.3
	baz=184						
FULB	**Fuli**	**0.57**	**127**	*e*P	Pb	11 54 44.4	+0.5
	baz=127						
CHGB	**Renai**	**0.62**	**34**	P	Pb	11 54 45.0	+0.1
	baz=34						
ESL	**Shilin**	**0.64**	**65**	*e*P	Pb	11 54 45.7	+0.5
	baz=73						
WHP	**Taichung City**	**0.74**	**11**	*e*S	Sn	11 54 58.9	-0.6
	baz=21						

*IDC **26** 11:57:59.1±3.5, 39°.78N×20°.81E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.3/34, mbtmp3.6/3, Error ellipse: s-maj=348.9km s-min=29.6km az=136.0*
*ATH **26** 11:58:01.9, 39°.05N×21°.67E, h13km±1km, ML2.8/21, Error ellipse: s-maj=1.8km s-min=0.7km az=116.0*
*THE **26** 11:58:02.0, 39°.07N×21°.69E, h6km±1km, ML2.9/16, Error ellipse: s-maj=1.1km s-min=0.5km az=191.0*
ISC 26 11:58:02.0±0.9, 39°.07N±0°.02×21°.66E±0°.02, h11km±6km, n76, σ0s95/113, mb3.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.19**	**142**	P	**Pg**	**11 58 05.8**	**-0.3**
EVR				S	**Sg**	**11 58 09.0**	**0.0**
	5μm,0.4s						
EVR	**Evrytania**	**0.19**	**142**	P	**Pg**	**11 58 05.8**	**-0.3**
EVR				S	**Sg**	**11 58 09.1**	**0.0**
EVR				AML	AML	11 58 09.3	
	comp=N,10633μm,0.5s						
EVR				AML	AML	11 58 09.3	
	comp=E,9738μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.37**	**98**	P	**Pg**	**11 58 09.3**	**0.0**
MAKR				S	**Sg**	**11 58 15.1**	**+0.8**
MAKR				AML	AML	11 58 16.5	
	comp=N,3790μm,0.3s						
MAKR				AML	AML	11 58 17.4	
	comp=E,2205μm,0.4s						
PVO	**Paravola**	**0.46**	**193**	P	**Pg**	**11 58 10.3**	**-0.8**
PVO				S	**Sg**	**11 58 17.8**	**+0.7**
PVO	**Paravola**	**0.46**	**193**	P	**Pg**	**11 58 10.2**	**-0.8**
PVO				S	**Sg**	**11 58 17.8**	**+0.7**
ANX	**Ano Chora**	**0.51**	**157**	P	**Pg**	**11 58 11.3**	**-0.7**
ANX				S	**Sb**	**11 58 19.9**	**-0.6**
	comp=E,3μm,0.4s						
ANX	**Ano Chora**	**0.51**	**157**	P	**Pg**	**11 58 11.4**	**-0.7**
ANX				S	**Sg**	**11 58 19.0**	**+0.1**
ANX				AML	AML	11 58 20.9	
	comp=E,6014μm,0.4s						
ANX				AML	AML	11 58 21.4	
	comp=N,6916μm,0.4s						
AGG	**Agios Georgios**	**0.52**	**95**	P	**Pg**	**11 58 11.7**	**-0.5**
AGG				S	**Sg**	**11 58 19.8**	**+0.6**
	comp=N,1μm,0.4s						
AGG	**Agios Georgios**	**0.52**	**95**	P	**Pg**	**11 58 11.8**	**-0.5**
AGG				S	**Sg**	**11 58 18.6**	**-0.6**
AGG				AML	AML	11 58 21.5	
	comp=E,2140μm,0.6s						
AGG				AML	AML	11 58 25.6	
	comp=N,2810μm,0.4s						
THL	**Klokotos Trika**	**0.57**	**29**	P	**Pg**	**11 58 12.4**	**-0.7**
THL				S	**Sg**	**11 58 20.9**	**+0.3**
	comp=N,770nm,0.5s						
THL	**Klokotos Trika**	**0.57**	**29**	P	**Pg**	**11 58 12.4**	**-0.7**
THL				S	**Sg**	**11 58 21.1**	**+0.6**
THL				AML	AML	11 58 22.4	
	comp=N,1990μm,0.4s						
THL				AML	AML	11 58 27.2	
	comp=E,1094μm,0.5s						
EFP	**Efpalio**	**0.67**	**163**	P	**Pg**	**11 58 14.0**	**-0.9**
EFP				S	**Sg**	**11 58 24.4**	**+0.8**
	comp=E,2μm,0.5s						
EFP	**Efpalio**	**0.67**	**163**	P	**Pg**	**11 58 13.9**	**-0.9**
EFP				AML	AML	11 58 26.4	
	comp=E,4959μm,0.4s						
EFP				AML	AML	11 58 29.2	
	comp=N,3164μm,0.5s						
SERG	**Sergoula**	**0.72**	**154**	P	**Pg**	**11 58 14.9**	**-1.0**
SERG				S	**Sg**	**11 58 24.5**	**-0.9**
SERG				AML	AML	11 58 27.3	
	comp=N,4033μm,0.3s						
SERG				AML	AML	11 58 29.2	
	comp=E,3868μm,0.3s						
TRIZ	**Trizonia**	**0.77**	**155**	P	**Pg**	**11 58 15.8**	**-1.0**
TRIZ				S	**Sb**	**11 58 27.8**	**0.0**
	comp=E,2μm,0.5s						
TRIZ	**Trizonia**	**0.77**	**155**	P	**Pg**	**11 58 15.9**	**-1.0**
TSLK	**Tsoukalades, L**	**0.82**	**253**	P	**Pg**	**11 58 17.7**	**-0.1**
TSLK				S	**Sb**	**11 58 30.1**	**+0.9**
	comp=E,755nm,0.5s						
TSLK	**Tsoukalades, L**	**0.82**	**253**	P	**Pg**	**11 58 17.7**	**-0.1**
LKD2	**Lefkada island**	**0.83**	**251**	P	**Pg**	**11 58 17.7**	**-0.3**
LKD2				S	**Sb**	**11 58 30.9**	**+1.4**
	comp=E,742nm,0.4s						
LKD2	**Lefkada island**	**0.83**	**251**	P	**Pg**	**11 58 17.7**	**-0.3**
LKD2				AML	AML	11 58 35.5	
	comp=N,1362μm,0.2s						
LKD2				AML	AML	11 58 38.9	
	comp=E,1372μm,0.4s						
NYDR	**Nydri-Lefkada**	**0.83**	**245**	P	**Pg**	**11 58 17.7**	**-0.3**
NYDR				S	**Sb**	**11 58 30.3**	**+0.8**
	comp=E,435nm,0.5s						
JAN	**Janina**	**0.86**	**313**	P	**Pg**	**11 58 18.3**	**-0.3**
JAN				S	**Sb**	**11 58 31.5**	**+1.0**
	comp=E,650nm,0.3s						
JAN	**Janina**	**0.86**	**313**	P	**Pg**	**11 58 18.3**	**-0.3**
JAN				S	**Sg**	**11 58 30.0**	**+0.2**
JAN				AML	AML	11 58 32.1	
	comp=N,1500μm,0.4s						
JAN				AML	AML	11 58 35.1	
	comp=E,1085μm,0.3s						
LAKA	**Lakka**	**0.86**	**163**	P	**Pg**	**11 58 17.4**	**-1.2**
LAKA				AML	AML	11 58 36.2	
	comp=E,2069μm,0.4s						
LAKA				AML	AML	11 58 38.4	
	comp=N,1608μm,0.5s						
DLFA	**Delphi**	**0.88**	**132**	P	**Pg**	**11 58 18.8**	**-0.1**
DLFA				S	**Sg**	**11 58 30.5**	**+0.1**
ALIK	**Aliki, Aigiali**	**0.88**	**156**	P	**Pg**	**11 58 18.3**	**-0.6**
EVGI	**Lefkada island**	**0.90**	**241**	P	**Pg**	**11 58 18.7**	**-0.6**
EVGI				S	**Sn**	**11 58 33.5**	**0.0**
EVGI	**Lefkada island**	**0.90**	**241**	P	**Pg**	**11 58 18.8**	**-0.6**
KPRO	**Kipourio**	**0.92**	**346**	P	**Pg**	**11 58 18.4**	**-1.3**
KPRO				S	**Sb**	**11 58 32.9**	**+0.7**
	comp=N,872nm,0.3s						
KPRO	**Kipourio**	**0.92**	**346**	P	**Pg**	**11 58 18.3**	**-1.3**
KPRO				S	**Sb**	**11 58 32.9**	**+0.7**
KPRO				AML	AML	11 58 36.3	
	comp=N,2010μm,0.4s						
KPRO				AML	AML	11 58 42.7	
	comp=E,1449μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.93**	**246**	P	**Pg**	**11 58 19.2**	**-0.7**
DRAG				S	**Sn**	**11 58 34.5**	**+0.3**
RLS	**Riolos of Patr**	**1.02**	**189**	P	**Pg**	**11 58 21.1**	**-0.5**
RLS				S	**Sn**	**11 58 37.0**	**+0.6**
	comp=E,980nm,0.5s						
RLS	**Riolos of Patr**	**1.02**	**189**	P	**Pg**	**11 58 21.1**	**-0.5**
RLS				AML	AML	11 58 39.7	
	comp=E,1091μm,0.7s						
RLS				AML	AML	11 58 43.2	
	comp=N,872μm,0.4s						
FSK	**Fiskardo**	**1.05**	**235**	P	**Pb**	**11 58 22.6**	**+0.5**
FSK	**Fiskardo**	**1.05**	**235**	P	**Pg**	**11 58 20.9**	**-1.3**
FSK				AML	AML	11 58 44.6	
	comp=E,1295μm,0.3s						
FSK				AML	AML	11 58 45.4	
	comp=N,806μm,0.3s						
KLV	**Kalavryta, Ach**	**1.09**	**159**	P	**Pg**	**11 58 21.9**	**-1.1**
KLV				S	**Sb**	**11 58 37.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.09**	**159**	P	**Pg**	**11 58 21.8**	**-1.2**
KLV				AML	AML	11 58 40.7	
	comp=N,513μm,0.5s						
KLV				AML	AML	11 58 41.0	
	comp=E,579μm,0.7s						
LKR	**Lokris**	**1.12**	**111**	P	**Pg**	**11 58 22.9**	**-0.7**
LKR				AML	AML	11 58 43.0	
	comp=E,315μm,0.2s						
LKR				AML	AML	11 58 43.6	
	comp=N,350μm,0.3s						
IGT	**Igoumenitsa**	**1.13**	**295**	P	**Pg**	**11 58 23.3**	**-0.4**
IGT	**Igoumenitsa**	**1.13**	**295**	P	**Pg**	**11 58 23.1**	**-0.7**
PENT	**Pentalofos**	**1.20**	**341**	P	**Pg**	**11 58 24.3**	**-0.7**
LIT	**Litokhoron**	**1.22**	**32**	P	**Pg**	**11 58 24.6**	**-0.8**
LIT				S	**Sn**	**11 58 42.1**	**+0.7**
	comp=N,718nm,0.4s						
LIT	**Litokhoron**	**1.22**	**32**	P	**Pg**	**11 58 24.0**	**-1.3**
LIT				AML	AML	11 58 44.5	
	comp=N,1448μm,0.4s						
LIT				AML	AML	11 58 47.1	
	comp=E,1489μm,0.4s						
KEF5	**Kardakata, Kep**	**1.22**	**230**	P	**Pg**	**11 58 23.7**	**-1.8**
VLS	**Valsamata**	**1.22**	**224**	P	**Pg**	**11 58 23.6**	**-1.8**
VLS				AML	AML	11 58 47.9	
	comp=E,487μm,0.2s						
VLS				AML	AML	11 58 51.4	
	comp=N,617μm,0.2s						
SMIA	**Simia**	**1.22**	**98**	P	**Pg**	**11 58 24.8**	**-0.6**
XOR	**Xorichti**	**1.23**	**75**	P	**Pg**	**11 58 24.6**	**-1.0**
XOR				S	**Sn**	**11 58 42.5**	**+0.9**
	comp=N,330nm,0.4s						
XOR	**Xorichti**	**1.23**	**75**	P	**Pg**	**11 58 24.5**	**-1.0**
XOR				AML	AML	11 58 46.4	
	comp=E,435μm,0.4s						
XOR				AML	AML	11 58 46.6	
	comp=N,916μm,0.4s						
NEO	**Neokhori**	**1.24**	**78**	P	**Pg**	**11 58 25.1**	**-0.7**
KZN	**Kozani**	**1.24**	**4**	P	**Pg**	**11 58 24.1**	**-1.8**
KZN				S	**Sn**	**11 58 42.9**	**+0.8**
	comp=N,288nm,0.6s						
KZN	**Kozani**	**1.24**	**4**	P	**Pg**	**11 58 23.7**	**-2.2**
KZN				AML	AML	11 58 46.1	
	comp=N,538μm,0.4s						
KZN				AML	AML	11 58 46.4	
	comp=E,952μm,0.3s						
KEF4	**Livadi, Kephal**	**1.26**	**231**	P	**Pn**	**11 58 24.6**	**-0.8**
KEF4	**Livadi, Kephal**	**1.26**	**231**	P	**Pn**	**11 58 24.7**	**-0.8**
PSDA	**Pessada-Kefalo**	**1.27**	**222**	P	**Pn**	**11 58 24.6**	**-1.0**
PSDA				S	**Sn**	**11 58 44.4**	**+1.8**
PSDA	**Pessada-Kefalo**	**1.27**	**222**	P	**Pn**	**11 58 24.6**	**-1.0**
ARGA	**Argostoli. Kep**	**1.28**	**227**	P	**Pn**	**11 58 25.9**	**+0.2**
DMLN	**Damoulianata-K**	**1.30**	**231**	P	**Pn**	**11 58 25.3**	**-0.8**
DMLN				S	**Sn**	**11 58 45.7**	**+2.2**
	comp=E,810nm,0.5s						
KEF3	**Kipouria, Keph**	**1.34**	**230**	P	**Pn**	**11 58 25.5**	**-1.1**
NEST	**Nestorio**	**1.43**	**341**	P	**Pb**	**11 58 28.6**	**0.0**
NEST				AML	AML	11 58 52.6	
	comp=N,619μm,0.7s						
NEST				AML	AML	11 58 58.9	
	comp=E,701μm,0.6s						
LTK	**Loutraki**	**1.46**	**135**	P	**Pn**	**11 58 28.3**	**0.0**
VIL2	**Platees**	**1.52**	**124**	P	**Pb**	**11 58 30.3**	**+0.1**
VIL2				AML	AML	11 58 59.0	
	comp=N,300μm,0.5s						
VIL2				AML	AML	11 59 02.7	
	comp=E,420μm,0.5s						
AMT	**Artemida-Makis**	**1.53**	**179**	P	**Pb**	**11 58 30.3**	**0.0**
FNA	**Florina**	**1.73**	**353**	P	**Pn**	**11 58 32.7**	**+0.7**
DION	**Dionisos Attik**	**2.04**	**118**	P	**Pn**	**11 58 36.7**	**+0.5**
OHR	**Ohrid**	**2.15**	**342**	*i* Pn	**Pb**	**11 58 40.4**	**-0.5**
VAY	**Valandovo**	**2.36**	**17**	*i* Pn	**Pb**	**11 58 42.9**	**-1.6**
STIP	**Stip**	**2.66**	**9**	*i* Pn	**Pn**	**11 58 47.0**	**+2.3**
STON	**Ston**	**4.84**	**323**	*e*Pn	**Pn**	**11 59 15.5**	**+0.9**
STON				Sn	**Sn**	**12 00 09.9**	**-0.8**
RICI	**Ricice**	**5.58**	**324**	*e*Pn	**Pn**	**11 59 26.4**	**+1.4**
RICI				Sn	**Sn**	**12 00 28.9**	**-0.2**
ZIRJ	**Zirje**	**6.44**	**317**	*e*Pn	**Pn**	**11 59 37.6**	**+1.0**
ZIRJ				Sn	**Sn**	**12 00 48.0**	**-2.1**

TORD	**Torodi Ar. Bea**	**31.28**	**220**	P	**P**	**12 04 22.0 +0.1**
	comp=E,0.4nm,0.7s,baz=24,slow=10.0,SNR=1.0					
MKAR	**Makanchi Array**	**44.08**	**59**	P	**P**	**12 06 10.4 +0.5**
	comp=E,0.6nm,0.5s,baz=281,slow=6.1,SNR=7.7					
ZALV	**Zalesovo Beam**	**44.44**	**49**	P	**P**	**12 06 11.6 -0.9**
	comp=E,0.6nm,0.5s,baz=267,slow=8.7,SNR=3.7					

*TRN **26** 12:01:23.2, 13.′86N×58.′47W, h87km, MD4.1*
ISC 26 12:01:22.8±2.4, 13.′95N±0.′04×58.′5W±0.′1, h10km, n33, σ1°03/45, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**228**	*e*P	**Pg**	**12 01 47.9**	**+1.3**
BBSP				*e*S	**Sn**	**12 02 03.2**	**+0.2**
BBGH	**Gun Hill**	**1.29**	**232**	*e*P	**Pn**	**12 01 47.0**	**+0.2**
BBGH				*e*S	**Sg**	**12 02 05.2**	**+0.9**
BCHC	**Barbados, Cave**	**1.35**	**233**	*e*P	**Pg**	**12 01 48.9**	**+0.2**
BCHC				*e*S	**Sn**	**12 02 05.8**	**+0.1**
MPOM	**Morne Pois Mar**	**2.32**	**283**	*e*P	**Pn**	**12 02 01.2**	**+0.1**
SLBI	**Saint Lucia, B**	**2.38**	**272**	*e*P	**Pn**	**12 02 01.6**	**-0.4**
SLBI				*e*S	**Sn**	**12 02 30.4**	**-0.9**
SLB	**Belfond**	**2.45**	**268**	*e*P	**Pn**	**12 02 03.7**	**+0.7**
SLB				*e*S	**Sn**	**12 02 32.5**	**-0.5**
LPMF	**Morne Lapointe**	**2.46**	**285**	*e*P	**Pn**	**12 02 03.2**	**+0.2**
ZAM	**Aeronautique**	**2.51**	**285**	*e*P	**Pn**	**12 02 04.0**	**+0.3**
TRMF	**Trois Ilets**	**2.53**	**284**	*e*P	**Pn**	**12 02 04.2**	**+0.3**
FDF	**Fort de France**	**2.67**	**287**	*e*P	**Pn**	**12 02 06.1**	**+0.1**
FDF				*e*S	**Sn**	**12 02 36.9**	**-1.4**
SSV	**Crater Summit**	**2.67**	**257**	*e*P	**Pn**	**12 02 05.9**	**-0.1**
SVV	**Soufriere Volc**	**2.70**	**257**	*e*P	**Pn**	**12 02 06.9**	**+0.7**
SVV	**Soufriere Volc**	**2.70**	**257**	*e*P	**Pn**	**12 02 07.8**	**+1.6**
PML	**Morne Lenard**	**2.71**	**288**	*e*P	**Pn**	**12 02 07.0**	**+0.5**
SVB	**Belmont**	**2.74**	**256**	*e*P	**Pn**	**12 02 06.1**	**-0.8**
SVB				*e*S	**Sn**	**12 02 38.7**	**-1.4**
PCM	**Pelee Case Pet**	**2.75**	**289**	*e*P	**Pn**	**12 02 07.6**	**+0.6**
DSLB	**Salisbury**	**3.18**	**298**	*e*P	**Pn**	**12 02 13.3**	**-0.4**
DSLB				*e*S	**Sn**	**12 02 50.4**	**-0.5**
GCMP	**Grenada, Carri**	**3.18**	**243**	*e*P	**Pn**	**12 02 13.1**	**+0.2**
GCMP				*e*S	**Sn**	**12 02 48.5**	**-2.5**
TOSP	**Speyside**	**3.29**	**217**	*e*P	**Pn**	**12 02 13.3**	**-1.1**
MAGL	**Barre de l'ile**	**3.33**	**307**	*e*P	**Pn**	**12 02 16.3**	**+1.3**
MAGL				*e*S	**Sn**	**12 02 55.1**	**+0.4**
MAGL				*e*S	Sb	12 02 55.8	-6.8
GRGR	**Grenville**	**3.55**	**240**	*e*P	**Pn**	**12 02 18.9**	**+0.9**
GRGR				*e*S	**Sn**	**12 02 57.5**	**-2.6**
TDBA	**Terre de Bas,**	**3.56**	**303**	*e*P	**Pn**	**12 02 19.2**	**+1.1**
TBG	**Guadaloupe-3**	**3.57**	**302**	*e*P	**Pn**	**12 02 17.8**	**-0.4**
CBE	**Ff, Capester**	**3.66**	**306**	*e*P	**Pn**	**12 02 19.9**	**+0.4**
CBE				*e*S	**Sn**	**12 03 01.7**	**-1.0**
GRFF	**Grenada Fort F**	**3.66**	**239**	*e*P	**Pn**	**12 02 19.4**	**-0.1**
ABD	**La Joyeuse, An**	**3.81**	**312**	*e*P	**Pn**	**12 02 21.6**	**0.0**
ABD				*e*S	**Sn**	**12 03 04.9**	**-1.6**
ANBD	**Bethesda, Anti**	**4.39**	**315**	*e*P	**Pn**	**12 02 30.5**	**+0.9**
ANBD	**Bethesda, Anti**	**4.39**	**315**	*e*S	**Sn**	**12 03 20.0**	**-0.9**
BPA	**Boggy Peak**	**4.46**	**314**	*e*P	**Pn**	**12 02 31.2**	**+0.7**
BPA	**Boggy Peak**	**4.46**	**314**	*e*S	**Sn**	**12 03 21.1**	**-1.4**
ANWB	**Willy Bob**	**4.86**	**320**	*e*P	**Pn**	**12 02 36.0**	**0.0**
ANWB	**Willy Bob**	**4.86**	**320**	*e*S	**Sn**	**12 03 29.9**	**-2.4**
SKI	**Saint Kitts**	**5.28**	**310**	*e*	Pn	12 02 36.0	-5.9

*TRN **26** 12:07.′41.3, 13.′83N×58.′52W, h87km, MD4.2*
ISC 26 12:07:39.1±1.9, 13.′86N±0.′04×58.′5W±0.′1, h10km, n45, σ1°56/60, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.28**	**236**	*e*P	**Pb**	**12 08 04.6**	**+1.3**
BBGH				*e*S	**Sn**	**12 08 21.9**	**+1.6**
MCLT	**Moule a Chique**	**2.41**	**267**	*e*P	**Pn**	**12 08 19.8**	**+1.2**
MCLT				*e*S	**Sn**	**12 08 48.6**	**+0.4**
SLBI	**Saint Lucia, B**	**2.44**	**274**	*e*P	**Pn**	**12 08 20.1**	**+1.0**
SLBI				*e*S	**Sn**	**12 08 47.2**	**-1.7**
MVM	**Montagne Vaucl**	**2.46**	**287**	*e*P	**Pn**	**12 08 20.2**	**+0.9**
SLCP	**Castries, St.**	**2.46**	**274**	*e*	**Pn**	**12 08 19.8**	**+0.5**
SLB	**Belfond**	**2.50**	**270**	*e*P	**Pn**	**12 08 20.8**	**+0.9**
SLB				*e*S	**Sn**	**12 08 49.8**	**-0.7**
ZAM	**Aeronautique**	**2.58**	**286**	*e*P	**Pn**	**12 08 21.6**	**+0.6**
BIM	**Bigot**	**2.61**	**285**	*e*P	**Pn**	**12 08 22.6**	**+1.2**
SSV	**Crater Summit**	**2.70**	**259**	*e*P	**Pn**	**12 08 22.2**	**-0.5**
SVV	**Soufriere Volc**	**2.73**	**259**	*e*P	**Pn**	**12 08 24.5**	**+1.5**
SVV				*e*S	**Sn**	**12 08 55.8**	**-0.3**
FDF	**Fort de France**	**2.74**	**289**	*e*P	**Pn**	**12 08 24.1**	**+0.9**
FDF				*e*S	**Sn**	**12 08 56.4**	**-0.1**
BAMF	**Morne Balai**	**2.77**	**290**	*e*P	**Pn**	**12 08 25.2**	**+1.6**
SVB	**Belmont**	**2.77**	**258**	*e*P	**Pn**	**12 08 24.6**	**+1.0**
SVB				*e*S	**Sn**	**12 08 56.0**	**-1.2**
CXM	**Morne La Croix**	**2.79**	**290**	*e*P	**Pn**	**12 08 25.6**	**+1.7**
PCM	**Pelee Case Pet**	**2.83**	**290**	*e*P	**Pn**	**12 08 26.0**	**+1.6**
DLPL	**La Plaine**	**3.06**	**299**	*e*P	**Pn**	**12 08 28.7**	**+1.0**
DLPL				*e*S	**Sn**	**12 09 03.9**	**-0.6**
GCMP	**Grenada, Carri**	**3.19**	**245**	*e*P	**Pn**	**12 08 29.7**	**+0.3**
GCMP				*e*S	**Sn**	**12 09 05.4**	**-2.0**
TOSP	**Speyside**	**3.25**	**219**	*e*P	**Pn**	**12 08 31.2**	**+1.1**
DSLB	**Salisbury**	**3.26**	**299**	*e*P	**Pn**	**12 08 31.8**	**+1.4**
DSLB				*e*S	**Sn**	**12 09 09.7**	**+0.4**
MAGL	**Barre de l'ile**	**3.42**	**308**	*e*P	**Pn**	**12 08 34.0**	**+1.4**
GRGR	**Grenville**	**3.55**	**241**	*e*P	**Pn**	**12 08 35.0**	**+0.6**
GRGR				*e*S	**Sn**	**12 09 15.5**	**-0.9**
TDBA	**Terre de Bas,**	**3.65**	**303**	*e*P	**Pn**	**12 08 37.0**	**+1.4**
TDBA				*e*S	**Sn**	**12 09 17.2**	**-1.6**
TBG	**Guadaloupe-3**	**3.66**	**303**	*e*P	**Pn**	**12 08 36.0**	**+0.2**
GRFF	**Grenada Fort F**	**3.66**	**241**	*e*P	**Pn**	**12 08 35.7**	**-0.2**
CBE	**Ff, Capester**	**3.75**	**306**	*e*P	**Pn**	**12 08 38.3**	**+1.2**
CBE				*e*S	**Sn**	**12 09 18.9**	**-2.4**
ABD	**La Joyeuse, An**	**3.91**	**312**	*e*P	**Pn**	**12 08 40.4**	**+1.2**
ABD				*e*S	**Sn**	**12 09 23.6**	**-1.6**
TRN	**Trinidad (W)**	**4.29**	**222**	*e*P	**Pn**	**12 08 45.8**	**+1.3**
TRN				*e*S	**Sn**	**12 09 30.7**	**-4.0**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*e*P	**Pn**	**12 08 48.4**	**+1.2**
ANBD	**Bethesda, Anti**	**4.49**	**315**	*e*S	**Sn**	**12 09 38.1**	**-1.5**
BPA	**Boggy Peak**	**4.55**	**315**	*e*P	**Pn**	**12 08 49.7**	**+1.6**
BPA	**Boggy Peak**	**4.55**	**315**	*e*S	**Sn**	**12 09 39.5**	**-1.7**
ANWB	**Willy Bob**	**4.96**	**320**	*e*P	**Pn**	**12 08 54.8**	**+1.1**
ANWB	**Willy Bob**	**4.96**	**320**	*e*S	**Sn**	**12 09 48.1**	**-3.0**
SKI	**Saint Kitts**	**5.37**	**311**	*e*P	**Pn**	**12 09 01.2**	**+1.8**
OCAC	**Ocana**	**15.61**	**251**	*e*P	**Pn**	**12 11 22.6**	**+3.1**
SMLC	**San Martn de**	**16.10**	**253**	*e*P	**Pn**	**12 11 23.3**	**-2.4**
BARC	**Barichara**	**16.18**	**245**	*e*P	**P**	**12 11 33.2**	**+3.1**
ZARC	**Zaragoza, Cauc**	**17.30**	**250**	*e*P	**Pn**	**12 11 39.0**	**-1.9**
NORC	**Norcasia**	**18.14**	**245**	*e*P	**Pn**	**12 11 50.4**	**-1.0**
HELC	**Santa Helena**	**18.44**	**247**	*e*P	**Pn**	**12 11 54.2**	**-1.2**
DBBC	**Dabeiba**	**18.72**	**250**	*e*P	**P**	**12 11 56.3**	**-1.9**
GUY2C	**Guyana, Caldas**	**18.73**	**244**	*e*P	**P**	**12 11 58.4**	**-0.3**
TOLC	**Tolima**	**19.00**	**243**	*e*P	**Pn**	**12 12 03.4**	**+1.2**
CBOC	**Ciudad Bolivar**	**19.01**	**247**	*e*P	**P**	**12 11 58.8**	**-2.7**
PLMC	**San Jos del P**	**19.68**	**245**	*e*P	**P**	**12 12 08.1**	**-0.7**

*INET **26** 12:11:46.5, 11.′09N×86.′19W, h86km, MW3.1*
UCR 26 12:11:52.1±1.4, 10.′97N×86.′25W, h57km±18km, MW3.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.80**	**104**	*i* P	Pn	12 12 07.0	-0.5
LAPC	**Finca la Perla**	**0.83**	**104**	*i* P	Pn	12 12 07.2	-0.7
LAPC				*i* S	Sn	12 12 19.1	-0.2
BUEV	**Buena Vista**	**0.84**	**102**	*e*P	Pn	12 12 07.8	-0.3
BUEV				*i* S	Sn	12 12 20.7	+0.9
GPS2	**Hotel Rincn d**	**0.91**	**104**	*e*P	Pn	12 12 08.8	-0.1
GPS2				*e*S	Sn	12 12 22.0	+0.7
GUAB	**Guayabo de Bag**	**1.04**	**105**	*i* P	Pn	12 12 10.6	+0.1
SAJU	**San Juanillo,**	**1.04**	**150**	*e*P	Pn	12 12 10.8	+0.1
SAJU				*e*S	Sn	12 12 24.4	0.0
COLC	**Colonia**	**1.07**	**107**	*i* P	Pn	12 12 10.8	-0.2
COLC				*i* S	Sn	12 12 26.8	+1.8
HORNC	**Hornillas**	**1.08**	**104**	*i* P	Pn	12 12 11.5	+0.2
CUI	**Cuipilapa**	**1.11**	**106**	*i* P	Pn	12 12 11.8	+0.2
GRZA	**Playa Garza**	**1.21**	**150**	*e*P	Pn	12 12 13.0	+0.2
GRZA				*e*S	Sn	12 12 28.0	-0.3
INDI	**Punta indio, G**	**1.32**	**146**	*e*P	Pn	12 12 14.5	+0.1
JTS	**Las Juntas de**	**1.44**	**118**	*e*P	Pn	12 12 16.2	+0.2
ARE1	**Arenal 1**	**1.59**	**109**	*e*P	Pn	12 12 18.4	+0.5
LAFE	**Finca La Fe, P**	**1.75**	**131**	*e*P	Pn	12 12 20.2	0.0
COVE	**Coope Vega, Sa**	**1.83**	**98**	*e*P	Pn	12 12 20.6	-0.7
RIMA	**Rio Macho**	**2.64**	**117**	*e*P	Pn	12 12 33.0	+0.5

*NEIC **26** 12:23:34.9±0.9, 20.′7S±0.′2×174.′5W±0.′2, h430km±11km, mb4.0/11, Error ellipse: s-maj=33.0km s-min=27.3km az=196.0*
*IDC **26** 12:24:04.5±5.8, 19.′33S×178.′10W, h532km±36km, mb3.1/3, mb1 3.3/4, mb1mx2.8/35, mbtmp4.0/4, Error ellipse: s-maj=147.6km s-min=35.3km az=146.0*
ISC 26 12:24:01.2±2.5, 20.′3S±0.′3×177.′8W±0.′3, h500km, n19, σ1°27/18, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**302**	P	**P**	**12 25 25.1**	**-0.5**
	4.0nm,0.3s,baz=100,slow=23,SNR=17						
MSVF	**Nonsavu**	**4.69**	**302**	P	**P**	**12 25 25.7**	**+0.1**
ARMA	**Armidale**	**29.33**	**244**	P	P	12 29 22.9	0.0
ARMA				IAmb	IAmb	12 29 25.0	
	comp=Z,19nm,1.4s						
CTA	**Charters Tower**	**33.70**	**264**	P	**P**	**12 30 00.9**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=86,slow=11,SNR=5.7						
CTAO	**Charters Tower**	**33.70**	**264**	P	**P**	**12 30 01.3**	**+0.9**
CTAO				IAmb	IAmb	12 30 08.8	
	comp=Z,11nm,1.5s						
BBOO	**Buckleboo**	**42.81**	**243**	P	P	12 31 11.9	-2.6
WR0	**Warramunga Arr**	**44.63**	**262**	P	**P**	**12 31 29.6**	**+0.7**
WR0				IAmb	IAmb	12 31 57.7	
	comp=Z,6.0nm,1.2s						
AS31	**Alice Springs**	**44.75**	**257**	P	**P**	**12 31 30.1**	**+0.3**
ASAR	**Alice Springs**	**44.75**	**257**	P	**P**	**12 31 30.4**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=98,slow=8.0,SNR=34						
ASAR				PcP	**pP**	**12 33 00.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=105,slow=4.1,SNR=7.3						
ASAR	**Alice Springs**	**44.75**	**257**	P	**P**	**12 31 29.9**	**+0.1**
WB0	**Warramunga Arr**	**44.80**	**262**	P	**P**	**12 31 30.4**	**+0.2**
WB0				IAmb	IAmb	12 31 38.0	
	comp=Z,6.3nm,1.3s						
WB2	**Warramunga Arr**	**44.81**	**262**	P	**P**	**12 31 30.6**	**+0.3**
WB2				IAmb	IAmb	12 31 46.7	
	comp=Z,1.8nm,1.1s						
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**12 31 29.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=98,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**44.82**	**262**	P	**P**	**12 31 30.0**	**-0.3**
FORT	**Forrest**	**49.55**	**246**	P	**P**	**12 32 05.5**	**-0.4**
KNRA	**Kununurra**	**50.86**	**266**	P	**P**	**12 32 15.4**	**-0.3**
KNRA				IAmb	IAmb	12 32 23.1	
	comp=Z,9.3nm,1.2s						
FAKI	**Fak Fak**	**51.64**	**283**	P	**P**	**12 32 21.6**	**+0.2**
FAKI				IAmb	IAmb	12 32 31.2	
	comp=Z,24nm,1.0s						
GERES	**GERESS Array B**	**150.06**	**345**	PKPbc	**PKPdf**	**12 42 52.8**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=2.2,slow=5.0,SNR=4.5						
GERES	**GERESS Array B**	**150.06**	**345**		**PKPdf**	**12 42 46.5**	**-3.0**

*YARS **26** 12:30:23.6±0.0, 65.′98N×138.′81E, h8km*
*NERS **26** 12:30:25.7±0.0, 66.′07N×138.′78E, h9km*
ISC 26 12:30:23.9±0.7, 65.′93N±0.′04×138.′93E±0.′03, h10km, n20, σ2°10/48, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.82**	**71**	*i* Pn	**Pn**	**12 30 55.7**	**+0.5**
	9.1nm,0.2s						
MOMR				*e*Pg	**Pb**	**12 30 57.3**	**+0.1**
	474nm,0.7s						
MOMR				*e*Pg	**Pb**	**12 30 57.3**	**+0.1**
	89nm,0.2s						
MOMR				*e*Pg	**Pb**	**12 30 57.3**	**+0.1**
	277nm,0.3s						
MOMR				*e*Sn	**Sb**	**12 31 19.7**	**-0.4**
	1μm,0.3s						
MOMR				*e*Sn	**Sb**	**12 31 19.7**	**-0.4**
	1μm,0.3s						
UNR	**Ust'-Nera**	**2.27**	**125**	*e*Pg	**Pg**	**12 31 07.3**	**+0.1**
	318nm,0.3s						
UNR				*i* Sg	**Sg**	**12 31 41.7**	**+5.1**
	280nm,0.2s						
UNR				*i* Sg	**Sg**	**12 31 41.7**	**+5.1**
	441nm,0.4s						
BTGS	**Batagay**	**2.42**	**317**	*e*Pn	**Pn**	**12 31 01.9**	**-1.6**
	1.5nm,0.2s						
BTGS				*e*Pg	**Pb**	**12 31 07.2**	**-0.3**
	105nm,0.5s						
BTGS				*e*Pg	**Pb**	**12 31 07.2**	**-0.3**
	24nm,0.2s						
BTGS				*e*Pg	**Pb**	**12 31 07.2**	**-0.3**
	81nm,0.2s						
BTGS				*i* Sb	**Sb**	**12 31 37.3**	**-0.1**
BTGS				*i* Lg	Lg	12 31 38.3	
BTGS				*i* Sg	**Sg**	**12 31 41.3**	**-0.4**
	650nm,0.5s						
BTGS				*i* Sg	**Sg**	**12 31 41.3**	**-0.4**
	235nm,0.4s						
DEPR	**Deputatskiy**	**3.50**	**6**	*i* Lg	Lg	12 32 12.9	
YBGR	**Belaya Gora**	**3.84**	**44**	*i* Pn	**Pn**	**12 31 22.9**	**-0.1**
	2.6nm,0.2s						
YBGR				*e*Pg	**Pb**	**12 31 32.6**	**+0.9**
	85nm,0.5s						
YBGR				*i* Sg	**Sg**	**12 32 30.5**	**+3.3**
	76nm,0.6s						
SUUS	**Susuman**	**5.11**	**124**	*e*P	**Pn**	**12 31 42.3**	**+1.9**
SUUS				*e*Pg	**Pg**	**12 31 59.2**	**-2.4**
SUUS				Pgmax		12 32 00.6	
	30nm,0.5s						
SUUS				*e*Sg	**Sg**	**12 33 04.9**	**-2.7**
SUUS				Sgmax		12 33 11.7	
	230nm,0.5s						
SUUS				Sgmax		12 33 11.7	
	120nm,0.4s						
YAK	**Yakutsk**	**5.64**	**230**	*e*Pn	**Pn**	**12 31 48.1**	**+0.4**
	12nm,0.4s						
YAK				*e*Sn	**Sn**	**12 32 52.6**	**+0.1**
	81nm,0.9s						
YAK				*e*Sn	**Sn**	**12 32 52.6**	**+0.1**
	45nm,0.6s						
TBGR	**Tabaga**	**5.82**	**229**	*e*Pn	**Pn**	**12 31 51.4**	**+1.3**
	65nm,0.4s						
TBGR				*e*Sn	**Sn**	**12 32 57.6**	**+0.9**
	247nm,0.8s						
TBGR				*e*Sn	**Sn**	**12 32 57.6**	**+0.9**
	142nm,0.7s						
SEY	**Seymchan**	**6.55**	**111**	*e*P	Pn	12 32 05.6	+5.5
SEY				*e*Pg	**Pg**	**12 32 25.7**	**-3.4**
SEY				*e*Sg	**Sg**	**12 33 51.1**	**-2.7**
SEY				Sgmax		12 33 59.7	
	70nm,0.5s						
TIXI	**Tiksi**	**6.80**	**332**	*e*Pn	**Pn**	**12 32 03.5**	**0.0**
	11nm,0.2s						
TIXI				*i* Lg	Lg	12 33 57.1	
TIXI				*i* Sg	**Sg**	**12 34 05.8**	**+4.1**
	72nm,0.4s						
TIXI				*i* Sg	**Sg**	**12 34 05.8**	**+4.1**
	124nm,0.6s						
TLAR	**Talaya**	**7.70**	**122**	*e*P	**Pn**	**12 32 19.1**	**+3.2**
TLAR				*e*Pg	**Pg**	**12 32 47.8**	**-3.3**
TLAR				*e*Sg	**Sg**	**12 34 28.6**	**-2.0**
TLAR				Sgmax		12 34 44.2	
	80nm,0.4s						
TLAR				Sgmax		12 34 44.2	
	50nm,0.4s						
MGD	**Magadan 1**	**7.97**	**132**	*e*Sg	**Sg**	**12 34 37.5**	**-1.8**
MGD				Sgmax		12 34 47.1	
	80nm,0.5s						
OMS	**Omsukchan**	**8.09**	**107**	*e*Sg	**Sg**	**12 34 40.9**	**-2.3**
CGD	**Chagda**	**8.17**	**212**	*e*Pn	**Pn**	**12 32 23.6**	**+1.2**
	31nm,0.3s						
CGD				*i* Sn	**Sn**	**12 33 52.4**	**-2.2**
	151nm,0.4s						
CGD				*i* Sn	**Sn**	**12 33 52.6**	**-2.0**
	147nm,0.3s						
MA2	**Magadan**	**8.36**	**134**	*e*Sg	**Sg**	**12 34 52.2**	**+0.3**
MA2				Sgmax		12 35 02.1	
	40nm,0.7s						
MA2	**Magadan**	**8.36**	**134**	*i* Lg	Lg	12 34 52.2	
ALDR	**Aldan**	**9.65**	**227**	*i* Pn	**Pn**	**12 32 43.2**	**+0.4**
	2.4nm,0.6s						
ALDR				*i* Sn	**Sn**	**12 34 33.1**	**+2.0**
	6.5nm,0.8s						
ALDR				*i* Lg	Lg	12 35 30.9	
ALDR				*i* Lg	Lg	12 35 30.9	
OLMR	**Olekminsk**	**10.01**	**245**	*i* Pn	**Pn**	**12 32 47.9**	**+0.4**
CLNS	**Chul'man**	**11.30**	**223**	*i* Sn	**Sn**	**12 35 13.6**	**+2.1**
CLNS				*i* Lg	Lg	12 36 23.3	
IENR	**Iengra**	**11.85**	**221**	*i* Pn	**Pn**	**12 33 13.3**	**+0.6**
IENR				*i* Sn	**Sn**	**12 35 27.1**	**+2.2**
IENR				*i* Lg	Lg	12 36 40.8	

IDC 26 12:32:23.6±4.9, 22.′58S×178.′09W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/23, mbtmp3.5/2, Error ellipse: s-maj=280.9km s-min=70.6km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.99**	**259**	P	P	12 40 32.3	-0.8
	0.3nm,0.4s,baz=96,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**44.27**	**264**	P	P	12 40 35.8	+0.5
	0.5nm,0.4s,baz=101,slow=8.4,SNR=12						
AKASG	**Malin Array Be**	**144.77**	**330**	PKP	PKPbc	12 52 01.6	+0.4
	0.2nm,0.3s,baz=48,slow=2.6,SNR=7.2						

*IDC **26** 12:51:50.0±0.5, 51.′76N×176.′26W, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.0/64, mbtmp4.1/21, ML3.7/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/62, Error ellipse: s-maj=20.7km s-min=11.8km az=161.0*
*AEIC **26** 12:51:57±1.5, 51.′61N±0.′06×176.′11W±0.′05, h44km±5km, Error ellipse: s-maj=9.2km s-min=4.5km az=174.0*
*NEIC **26** 12:51:58.3±1.7, 51.′73N±0.′08×176.′13W±0.′05, h51km±5km, mb4.2/99, ML4.2(AEIC), Error ellipse: s-maj=11.9km s-min=4.5km az=170.0*
ISC 26 12:51:57.3±0.9, 51.′66N±0.′10×176.′15W±0.′04, h53km±7km, n253, σ1°07/246, mb4.2/46, MS2.9/6, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.26**	**323**		**Pn**	**12 52 06.3**	**-0.1**
ETKA					**Sn**	**12 52 12.5**	**-0.4**
GSCK	**Great Sitkin C**	**0.36**	**359**		**Pn**	**12 52 07.6**	**+0.4**
GSCK					**Sn**	**12 52 15.3**	**+1.0**
GSIG	**Igitkin Island**	**0.36**	**23**		**Pn**	**12 52 07.2**	**0.0**
GSMY	**Great Sitkin M**	**0.39**	**8**		**Pn**	**12 52 07.9**	**+0.3**
GSTD	**Great Sitkin T**	**0.40**	**0**		**Pn**	**12 52 08.1**	**+0.4**
ADK	**Adak**	**0.40**	**305**		**Pn**	**12 52 07.4**	**-0.2**
ADK	**Adak**	**0.40**	**305**		**Sn**	**12 52 15.2**	**+0.1**
GSTR	**Great Sitkin T**	**0.44**	**7**		**Pn**	**12 52 08.7**	**+0.5**
KIRH	**Kanaga Island**	**0.64**	**293**		**Pn**	**12 52 10.8**	**+0.5**
KIWB	**Kanaga Island**	**0.65**	**288**		**Pn**	**12 52 10.8**	**+0.2**
KIKV	**Kanaga Island**	**0.67**	**290**		**Pn**	**12 52 11.1**	**+0.3**
KIMD	**Kanaga Island**	**0.68**	**279**		**Pn**	**12 52 11.0**	**+0.1**
KIMD					**Sn**	**12 52 21.3**	**+0.5**
KICM	**Kanaga Island**	**0.70**	**293**		**Pn**	**12 52 11.6**	**+0.4**
TAFP	**Tanaga Falls P**	**1.17**	**283**		**Pn**	**12 52 18.2**	**+1.0**
TAFP					**Sn**	**12 52 33.9**	**+1.8**
TASE	**Tanaga Southea**	**1.19**	**279**		**Pn**	**12 52 18.5**	**+0.9**
ATKA	**Atka Island**	**1.33**	**65**	Pn	**Pn**	**12 52 19.1**	**-0.4**
ATKA	**Atka Island**	**1.33**	**65**		**Sn**	**12 52 35.8**	**-0.2**
KOKL	**Mount Kliuchef**	**1.38**	**60**		**Pn**	**12 52 20.8**	**+0.6**
KOFP	**Korovin Flat P**	**1.41**	**63**		**Pn**	**12 52 21.0**	**+0.4**
GAEA	**Gareloi East**	**1.62**	**276**		**Pn**	**12 52 24.8**	**+1.4**
GALAA	**Gareloi Lava P**	**1.64**	**275**		**Pn**	**12 52 25.0**	**+1.3**
CERAA	**Semis' Rag'd T**	**2.60**	**277**		**Pn**	**12 52 37.6**	**+0.7**
CEAP	**Semis' Anvil P**	**2.67**	**279**		**Pn**	**12 52 38.9**	**+1.1**
CESW	**Semis' Southwe**	**2.67**	**277**		**Pn**	**12 52 38.6**	**+0.7**
CESW					**Sn**	**12 53 10.7**	**+1.7**
AMKA	**Amchitka**	**2.85**	**266**		**Pn**	**12 52 40.9**	**+0.6**
LSPA	**Little Sitkin**	**3.29**	**277**		**Pn**	**12 52 47.7**	**+1.4**
LSPA					**Sn**	**12 53 28.0**	**+3.9**
LSNW	**Little Sitkin**	**3.33**	**278**		**Pn**	**12 52 47.8**	**+1.1**
LSSA	**Little Sitkin**	**3.33**	**277**		**Pn**	**12 52 48.1**	**+1.3**
NIKH	**Nikolski High**	**4.67**	**71**	P	**Pn**	**12 53 06.9**	**+1.8**
	baz=256						
NIKH	**Nikolski High**	**4.67**	**71**		**Pn**	**12 53 06.5**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**5.25**	**68**		**Pn**	**12 53 15.4**	**+2.4**
MAPS	**Pakushin South**	**6.00**	**65**		**Pn**	**12 53 26.1**	**+2.8**
SMY	**Shemya

MCK	McKinley	18.73	39	P	Pn	12 56 13.4	+1.2
	baz=242,SNR=5.5						
MCK	McKinley	18.73	39	P	Pn	12 56 12.6	+0.4
MCK				IAmb	IAmb	12 56 15.0	
	comp=Z,7.1nm,0.5s						
WAT6	Susitna Watana	18.73	43	P	Pn	12 56 12.0	-0.4
	baz=247						
BWN	Browne	18.73	38	P	Pn	12 56 13.3	+1.1
BWN				IAmb	IAmb	12 56 34.6	
	comp=Z,32nm,1.3s						
EYAK	Cordova Ski Ar	18.99	50	P	Pn	12 56 15.2	-0.1
EYAK				IAmb	IAmb	12 56 40.8	
	comp=Z,23nm,1.3s						
NEA2	Nenana	19.09	37	P	Pn	12 56 16.2	-0.3
	baz=240						
NEA2	Nenana	19.09	37	P	Pn	12 56 15.9	-0.6
KLU	Klutina	19.16	47	P	Pn	12 56 17.3	-0.2
I23K	Minto, Yukon-K	19.27	35	P	Pn	12 56 18.4	-0.2
	baz=238,SNR=7.7						
I23K	Minto, Yukon-K	19.27	35	P	Pn	12 56 18.4	-0.2
I23K				IAmb	IAmb	12 56 36.2	
	comp=Z,7.2nm,0.7s						
WRH	Wood River Hil	19.40	38	P	P	12 56 18.4	-0.3
H23K	Yukon River	19.57	33	P	Pn	12 56 22.1	-0.1
	baz=236						
MDM	Murphy Dome	19.59	36	P	P	12 56 20.9	+0.2
MDM				IAmb	IAmb	12 56 38.4	
	comp=Z,7.9nm,0.5s						
CCB	Clear Creek Bu	19.59	38	P	P	12 56 20.9	+0.2
BMRM	Bremner River	19.64	49	P	Pn	12 56 22.2	-0.8
BMRM				IAmb	IAmb	12 56 42.1	
	comp=Z,13nm,1.1s						
TCOL	CIGO, UAF Yank	19.68	37	P	Pn	12 56 22.3	-1.1
COLA	College	19.68	37	P	Pn	12 56 24.9	+1.4
	baz=241						
COLA	College	19.68	37	P	Pn	12 56 23.2	-0.3
HARP	HAARP	19.79	45	P	Pn	12 56 26.3	+1.5
	baz=251						
N25K	Chitina, Valde	19.80	48	P	Pn	12 56 24.4	-0.7
HDA	Harding Lake	19.81	39	P	Pn	12 56 25.2	+0.1
	baz=244,SNR=15						
HDA	Harding Lake	19.81	39	P	Pn	12 56 23.7	-1.3
HDA				IAmb	IAmb	12 56 25.8	
	comp=Z,11nm,0.6s						
PAX	Paxson	19.84	43	P	Pn	12 56 24.5	-1.0
	baz=249,SNR=8.2						
PAX	Paxson	19.84	43	P	Pn	12 56 25.0	-0.5
IL31		20.00	38	P	Pn	12 56 26.5	-0.7
ILAR	Eielson Array	20.00	38	P	P	12 56 23.1	-2.0
	comp=Z,0.8nm,0.3s,baz=229,slow=10,SNR=29						
ILAR	Eielson Array	20.00	38	P	Pn	12 56 26.9	-0.3
MA2	Magadan	20.11	306	LR	LR	13 04 03.5	
	comp=Z,38nm,20.3s,baz=108,slow=37						
GLB	Gilahina Butte	20.13	48	P	Pn	12 56 28.6	-0.2
GLB				IAmb	IAmb	12 56 42.2	
	comp=Z,12nm,1.3s						
H24K	Noodor Dome	20.16	34	P	Pn	12 56 28.3	-0.8
	baz=239,SNR=11						
VRDI	Verde Repeater	20.24	49	P	P	12 56 28.4	+0.4
VRDI				IAmb	IAmb	12 56 50.1	
	comp=Z,9.9nm,1.3s						
RIDG	Independent Ri	20.39	42	P	P	12 56 29.7	+0.3
	baz=248						
RIDG	Independent Ri	20.39	42	P	P	12 56 30.0	+0.6
RIDG				IAmb	IAmb	12 56 55.2	
	comp=Z,7.2nm,0.8s						
MENT	Mentasta	20.59	44	P	P	12 56 32.2	+0.6
DOT	Dot Lake	20.68	42	P	P	12 56 32.9	+0.3
DOT				IAmb	IAmb	12 56 45.8	
	comp=Z,7.1nm,0.8s						
M26K	Nabesna, AK	20.75	46	P	Pn	12 56 37.0	+0.8
	baz=254						
L26K	Log Cabin Wild	20.78	44	P	P	12 56 34.3	+0.7
	baz=252						
SCRK	Sand Creek	20.83	41	P	P	12 56 34.2	0.0
	baz=249						
SCRK	Sand Creek	20.83	41	P	P	12 56 34.0	-0.3
SCRK				IAmb	IAmb	12 56 35.5	
	comp=Z,12nm,0.8s						
PRP	Porcupine Dome	20.85	37	P	Pn	12 56 36.8	-0.7
	baz=243						
PRP	Porcupine Dome	20.85	37	P	Pn	12 56 36.5	-1.0
TOLK	Toolik Lake Re	21.25	27	P	P	12 56 39.6	+0.9
	baz=230						
TOLK	Toolik Lake Re	21.25	27	P	P	12 56 39.2	+0.5
L27K	Beaver Creek,	21.45	45	P	P	12 56 41.0	+0.2
	baz=254						
L27K	Beaver Creek,	21.45	45	P	P	12 56 41.7	+0.8
FYU	Fort Yukon	21.45	34	P	P	12 56 40.5	-0.2
FYU				IAmb	IAmb	12 57 04.6	
	comp=Z,27nm,1.5s						
BCAR	Beaver Creek A	21.47	45	P	P	12 56 41.3	+0.2
K27K	Chicken	21.64	42	P	P	12 56 43.7	+0.9
	baz=251,SNR=8.1						
K27K	Chicken	21.64	42	P	P	12 56 43.4	+0.6
K27K				IAmb	IAmb	12 57 05.5	
	comp=Z,9.3nm,1.1s						
BMAR	Burnt Mountain	22.10	32	P	P	12 56 48.8	+1.0
EGAK	Eagle	22.26	40	P	P	12 56 49.8	+0.3
	baz=250,SNR=5.6						
EGAK	Eagle	22.26	40	P	P	12 56 49.6	+0.2
EGAK				IAmb	IAmb	12 57 05.3	
	comp=Z,13nm,1.3s						
DAWY	Dawson	22.77	43	P	P	12 56 55.1	+0.1
EPYK	Eagle Plains	24.52	38	P	P	12 57 12.1	+0.7
	baz=252						
EPYK	Eagle Plains	24.52	38	P	P	12 57 12.2	+0.8
EPYK				IAmb	IAmb	12 57 23.6	
	comp=Z,6.3nm,1.2s						
INK	Inuvik	26.29	35	P	P	12 57 25.6	-1.7
	comp=Z,0.6nm,0.3s,baz=229,slow=7.6,SNR=7.9						
INK				PcP	PcP	13 00 52.3	+0.2
	comp=Z,1.3nm,0.5s,baz=302,slow=0.9,SNR=9.3						
INK	Inuvik	26.29	35	P	P	12 57 27.7	+0.4
ASAJ	Asahikawa	28.36	271	P	P	12 57 45.5	-0.6
	comp=Z,2.4nm,0.5s,baz=54,slow=13,SNR=6.7						
YAK	Yakutsk	30.48	311	LR	LR	13 10 16.2	
	comp=Z,32nm,20.7s,baz=94,slow=36						
YKA	Yellowknife Ar	33.84	47	PcP	PcP	13 01 12.4	+0.7
	comp=Z,0.5nm,0.6s,baz=179,slow=4.8,SNR=8.2						
H11N2	WAKE ISLAND Hy	34.53	209	T	T	13 35 18.4	
	baz=18,slow=76,SNR=637						
H11N3	WAKE ISLAND Hy	34.54	209	T	T	13 35 17.8	
	baz=18,slow=76,SNR=540						
H11N1	WAKE ISLAND Hy	34.55	209	T	T	13 35 20.5	
	baz=18,slow=76,SNR=557						
USRK	Ussuriysk Ar.	34.90	279	P	P	12 58 43.3	-0.2
	comp=Z,1.7nm,0.7s,baz=135,slow=43,SNR=2.3						
USRK				PcP	PcP	13 01 15.3	+0.1
	comp=Z,1.5nm,0.7s,baz=136,slow=39,SNR=2.7						
COR	Corvallis	35.30	80	P	P	12 58 48.2	+1.2
MAT	Matsushiro	35.46	263	P	P	12 58 48.9	+0.4
MJAR	Matsushiro Arr	35.46	263	P	P	12 58 47.9	-0.6
	comp=Z,1.4nm,0.8s,baz=43,slow=6.8,SNR=8.3						
MJAR				LR	LR	13 12 30.8	
	comp=Z,19nm,20.3s,baz=120,slow=35						
H11S1	WAKE ISLAND Hy	35.74	209	T	T	13 36 42.9	
	baz=17,slow=76,SNR=300						
H11S2	WAKE ISLAND Hy	35.76	209	T	T	13 36 49.5	
	baz=17,slow=76,SNR=302						
H11S3	WAKE ISLAND Hy	35.76	209	T	T	13 36 49.6	
	baz=17,slow=76,SNR=232						
B08A	Colville Reser	35.88	72	P	P	12 58 52.2	+0.3
H04A	Detroit Lake	35.94	79	P	P	12 58 53.1	+0.6
HAWA	Hanford	36.69	75	P	P	12 58 58.9	+0.1
JHJ	Hachijo jima 2	36.77	257	LR	LR	13 17 22.7	
	comp=Z,32nm,18.4s,baz=111,slow=42						
PINE	Pine Mountain	37.17	80	P	P	12 59 04.8	+1.6
PINE				IAmb	IAmb	12 59 20.9	
	comp=Z,4.9nm,1.1s						
EDM	Edmonton	37.23	62	P	P	12 59 03.2	-0.1
EDM				IAmb	IAmb	12 59 26.5	
	comp=Z,10.0nm,1.3s						
NEW	Newport	37.23	71	P	P	12 59 04.5	+1.1
	baz=298						
NEW	Newport	37.23	71	P	P	12 59 04.6	+1.1
NEW				IAmb	IAmb	12 59 17.9	
	comp=Z,5.1nm,0.7s						
K05A	Summer Lake	37.77	81	P	P	12 59 08.0	-0.3
I07A	Izee	37.89	79	P	P	12 59 09.7	+0.5
I07A				IAmb	IAmb	12 59 24.4	
	comp=Z,6.4nm,0.8s						
WALA	Waterton Lakes	38.73	68	P	P	12 59 16.7	+0.5
WALA				IAmb	IAmb	12 59 17.8	
	comp=Z,6.6nm,1.2s						
MSO	Missoula	39.81	72	P	P	12 59 25.8	+0.6
	baz=301						
MSO	Missoula	39.81	72	P	P	12 59 25.9	+0.8
MSO				IAmb	IAmb	12 59 44.2	
	comp=Z,2.5nm,0.6s						
HRY	Holter Researc	41.12	71	P	P	12 59 36.6	+0.6
HLID	Hailey	41.27	76	P	P	12 59 36.4	-0.9
HLID				IAmb	IAmb	12 59 52.3	
	comp=Z,3.5nm,0.8s						
KSRS	Korea Array	41.28	272	P	P	12 59 36.7	-0.5
	comp=Z,2.6nm,0.9s,baz=57,slow=9.7,SNR=9.9						
KSRS				LR	LR	13 14 19.2	
	comp=Z,13nm,22.0s,baz=18,slow=33						
DLMT	Dillon	41.38	73	P	P	12 59 37.7	-0.5
BCYI	Bear Canyon	41.46	75	P	P	12 59 40.1	+1.2
MCMT	McKenzie Canyo	41.52	74	P	P	12 59 40.3	+0.9
EGMT	Eagleton	41.65	68	P	P	12 59 39.6	-0.6
EGMT				IAmb	IAmb	12 59 59.5	
	comp=Z,3.2nm,0.8s						
BOZ	Bozeman (W)	41.83	72	P	P	12 59 42.6	+0.8
	baz=302						
BOZ	Bozeman (W)	41.83	72	P	P	12 59 42.6	+0.8
BOZ				IAmb	IAmb	12 59 56.1	
	comp=Z,3.6nm,0.7s						
NVAR	Mina Array Bea	41.88	85	P	P	12 59 42.6	+0.2
	comp=Z,0.3nm,0.5s,baz=305,slow=6.4,SNR=3.1						
NVAR				PcP	PcP	13 01 38.4	+1.1
	comp=Z,0.2nm,0.5s,baz=295,slow=2.5,SNR=4.8						
ELK	Elko	42.38	80	P	P	12 59 47.2	+0.7
YHH	Holmes Hill	42.73	72	P	P	12 59 49.8	+0.5
YHH				IAmb	IAmb	13 00 03.8	
	comp=Z,3.1nm,0.8s						
RLMT	Red Lodge	43.48	71	P	P	12 59 57.0	+1.6
	baz=304						
RLMT	Red Lodge	43.48	71	P	P	12 59 56.2	+0.9
RLMT				IAmb	IAmb	13 00 10.7	
	comp=Z,2.9nm,0.7s						
TPNV	Topopah Spring	44.07	85	P	P	12 59 59.8	-0.3
TPNV				IAmb	IAmb	13 00 15.4	
	comp=Z,3.6nm,0.8s						
PSUT	Pine Spring	44.56	82	P	P	13 00 06.3	+2.2
BW06	Boulder Array	44.64	74	P	P	13 00 05.2	+0.6
	baz=306						
BW06	Boulder Array	44.64	74	P	P	13 00 05.6	+0.9
BW06				IAmb	IAmb	13 00 19.2	
	comp=Z,4.6nm,0.8s						
PD31	Pinedale Array	44.64	74	P	P	13 00 05.6	+0.9
PD31				IAmb	IAmb	13 00 19.2	
	comp=Z,3.8nm,0.8s						
PDAR	Pinedale Array	44.64	74	P	P	13 00 05.2	+0.5
	comp=Z,1.4nm,0.5s,baz=306,slow=3.9,SNR=23						
PDAR				PcP	PcP	13 01 45.7	-0.8
	comp=Z,0.2nm,0.5s,baz=307,slow=1.8,SNR=0.9						
RDMU	Red Mountain	45.94	77	P	P	13 00 16.0	+1.0
SRU	San Rafael Swe	46.25	79	P	P	13 00 18.3	+0.9
SRU				IAmb	IAmb	13 00 35.1	
	comp=Z,5.0nm,0.8s						
O20A	White River Ci	47.01	76	P	P	13 00 23.9	+0.6
	baz=308						
O20A	White River Ci	47.01	76	P	P	13 00 23.9	+0.6
PV03	Paradox Valley	47.81	79	P	P	13 00 30.3	+0.7
PV03				IAmb	IAmb	13 00 44.1	
	comp=Z,4.7nm,0.8s						
SONM	Songino Array	47.99	298	PcP	PcP	13 01 57.7	-0.4
	comp=Z,1.0nm,0.5s,baz=85,slow=2.4,SNR=5.4						
HHC	Hu-ho-hao-te	49.20	287	eP	P	13 00 42.0	+1.9
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,69nm,7.6s						
SDCO	Great Sand Dun	50.17	77	P	P	13 00 49.0	+1.3
	baz=310						
SPITS	Spitsbergen Ar	50.20	357	P	P	13 00 46.0	-1.1
	comp=Z,0.6nm,0.4s,baz=31,slow=8.6,SNR=4.9						
T25A	Trinidad	51.23	77	P	P	13 00 57.1	+1.5
	baz=311						
ECSD	EROS Data Cent	51.62	65	P	P	13 00 57.0	-1.2
	baz=309						
ECSD	EROS Data Cent	51.62	65	P	P	13 00 57.0	-1.2
ECSD				IAmb	IAmb	13 01 19.8	
	comp=Z,2.3nm,1.0s						
MNTX	Cornudas Mount	54.27	82	P	P	13 01 19.4	+1.5
	baz=314						
ZALV	Zalesovo Beam	55.03	315	LR	LR	13 26 45.3	
	comp=Z,22nm,18.3s,baz=34,slow=38						
E43A	Lone Tree Farm	55.19	57	P	P	13 01 23.9	-0.5
E43A				IAmb	IAmb	13 01 24.3	
	comp=Z,3.0nm,0.5s						
LZH	Lanzhou	56.89	288	eP	P	13 01 34.0	-2.8
LZH				pP	pP	13 01 47.8	-3.3
LZH				sP	sP	13 01 54.3	-2.8
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
P40A	Paris	56.95	67	P	P	13 01 36.6	-0.3
TXAR	Lajitas Array	56.98	83	P	P	13 01 37.7	+0.3
	comp=Z,1.3nm,0.8s,baz=294,slow=4.5,SNR=18						
TXAR				PcP	PcP	13 02 33.1	+0.9
	comp=Z,0.3nm,0.6s,baz=249,slow=1.5,SNR=3.7						
TXAR	Lajitas Array	56.98	83	P	P	13 01 37.2	-0.2
ARCES	ARCESS Array B	58.09	351	P	P	13 01 44.4	-0.1
	comp=Z,1.7nm,0.9s,baz=30,slow=7.3,SNR=3.7						
ARCES				PcP	PcP	13 02 34.2	-1.5
	comp=Z,1.4nm,0.8s,baz=17,slow=1.2,SNR=3.6						
U40A	Yellville	58.64	70	P	P	13 01 47.9	-1.0
	baz=314						
SFIN	Lafayette	59.16	63	P	P	13 01 51.7	-0.7
	baz=314						
T42A	Van Buren	59.20	68	P	P	13 01 51.3	-1.4
FCAR	Ozark Folk Cen	59.39	70	P	P	13 01 53.3	-0.8
KURBB	Kurchatov Arra	60.12	315	P	P	13 01 57.8	-1.0
	comp=Z,1.5nm,0.4s,baz=41,slow=7.0,SNR=6.3						
WMQ	Urumqi	60.57	304	eP	P	13 02 05.0	+2.9
CCAR	Cane Creek	60.97	71	P	P	13 02 05.2	+0.3
MKAR	Makanchi Array	61.14	310	P	P	13 02 04.2	-1.8
	comp=Z,0.4nm,0.4s,baz=57,slow=6.8,SNR=8.2						
MKAR	Makanchi Array	61.14	310	P	P	13 02 04.5	-1.4
OXF	Oxford	61.94	69	P	P	13 02 11.4	0.0
	baz=315						
O52A	Adamsville	62.22	60	P	P	13 02 12.7	-0.5
M54A	Oil Creek Stat	62.38	57	P	P	13 02 14.0	-0.3
N54A	Moraine State	62.60	58	P	P	13 02 15.2	-0.5
	baz=316						
N54A	Moraine State	62.60	58	P	P	13 02 15.4	-0.3
K56A	Middlesex	62.74	55	P	P	13 02 16.8	+0.1
	baz=316						
S51A	Beattyville	63.02	63	P	P	13 02 18.3	-0.4
FPAL	Fort Paine	64.11	67	P	P	13 02 25.4	-0.4
V53A	Saluda	64.88	64	P	P	13 02 30.6	-0.2
V53A				IAmb	IAmb	13 02 31.3	
	comp=Z,2.9nm,0.8s						
KMI	Kunming	65.32	280	⇑P	P	13 02 34.0	-0.1
KMI				pP	sP	13 02 52.3	-2.3
KMI				pmax	pmax		
	comp=Z,14nm,0.8s						
KMSC	Kings Mountain	66.08	63	P	P	13 02 38.7	+0.1
	baz=317						
HODGE	Hodges	66.23	65	P	P	13 02 39.6	+0.1
JSC	Jenkinsville	66.76	64	P	P	13 02 43.4	+0.5
W57A	Gilead	66.82	62	P	P	13 02 43.2	-0.1
SIJI	Sorong	68.49	239	P	P	13 02 53.3	-0.7
	comp=Z,12nm,0.7s,baz=354,slow=10,SNR=4.0						
ABKAR	Abkulak array	68.70	324	P	P	13 02 55.2	+0.3
ABKAR	Abkulak array	68.70	324	P	P	13 02 54.6	-0.3
ABKAR				IAmb	IAmb	13 03 19.3	
	comp=Z,3.1nm,1.5s						
KKAR	Karatay Array	69.40	314	P	P	13 02 59.2	-0.2
CMAR	Chiang Mai Arr	72.62	278	P	P	13 03 18.8	-0.4
	comp=Z,2.8nm,0.7s,baz=26,slow=7.0,SNR=12						
CMAR	Chiang Mai Arr	72.62	278	P	P	13 03 19.2	0.0
CTA	Charters Tower	78.65	216	P	P	13 03 53.6	+0.1
	comp=Z,2.5nm,0.9s,baz=342,slow=3.2,SNR=2.4						
KNRA	Kununurra	82.33	233	P	P	13 04 14.1	+0.8
WB0	Warramunga Arr	83.20	226	P	P	13 04 17.3	-0.4
WB0				IAmb	IAmb	13 04 44.1	
	comp=Z,6.0nm,1.5s						
WR0	Warramunga Arr	83.30	226	P	P	13 04 18.3	0.0
WR0				IAmb	IAmb	13 04 40.8	
	comp=Z,6.3nm,1.2s						
WB2	Warramunga Arr	83.37	226	P	P	13 04 18.2	-0.4
WRA	Warramunga Arr	83.38	226	P	P	13 04 18.4	-0.2
	comp=Z,1.1nm,0.5s,baz=32,slow=5.6,SNR=14						
WRA	Warramunga Arr	83.38	226	P	P	13 04 17.7	-0.9
AS31	Alice Springs	86.83	225	P	P	13 04 36.3	+0.5
ASAR	Alice Springs	86.83	225	P	P	13 04 36.4	+0.5
	comp=Z,1.9nm,0.7s,baz=26,slow=4.8,SNR=33						
ASAR	Alice Springs	86.83	225	P	P	13 04 36.1	+0.2
STKA	Stephens Creek	91.08	215	P	P	13 04 56.3	+0.6
	comp=Z,3.1nm,0.6s,baz=347,slow=6.8,SNR=4.3						
STKA	Stephens Creek	91.08	215	P	P	13 04 56.6	+1.0
STKA				IAmb	IAmb	13 04 57.4	
	comp=Z,1.2nm,0.8s						
TORD	Torodi Ar. Bea	115.44	2	PKP	PKiKP	13 10 32.6	-0.8
	comp=Z,0.4nm,0.4s,baz=346,slow=2.2,SNR=7.8						
H03N2	Juan Fernandez	119.64	107	T	T	15 21 59.6	
	baz=317,slow=77,SNR=217						
H03N1	Juan Fernandez	119.65	107	T	T	15 22 00.9	
	baz=317,slow=77,SNR=383						
H03N3	Juan Fernandez	119.65	107	T	T	15 22 00.2	
	baz=317,slow=77,SNR=302						
QSPA	South Pole Qui	141.41	180	PKhKP	PKPpre	13 11 15.9	
	comp=Z,0.8nm,0.7s,baz=285,slow=0.4,SNR=2.3						
MAW	Mawson	147.72	218	PKPbc	PKPbc	13 11 34.2	-0.2
	comp=Z,2.9nm,0.9s,baz=50,slow=3.4,SNR=6.0						
MAW	Mawson	147.72	218		PKPbc	13 11 35.0	+0.5
BOSA	Boshof	151.96	317	PKPbc	PKPbc	13 11 45.9	-0.4
	comp=Z,4.8nm,0.5s,baz=10,slow=2.8,SNR=22						

*IDC **26** 12:56:38.1±1.2, 63°.84S×172°.13E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/35, mbtmp4.0/4, ML3.9/1, MS3.8/6, Ms1 3.7/6, ms1mx3.4/21, Error ellipse: s-maj=54.7km s-min=28.4km az=69.0*

*NEIC **26** 12:56:43.1±3.0, 63°.9S±0°.1×171°.2E±0°.5, h15km±4km, mb4.5/9, Error ellipse: s-maj=33.1km s-min=14.3km az=83.0*

ISC 26 12:56:41.0±0.7, 63°.86S±0°.09×171°.6E±0°.2, h10km, n43, σ1§48/23, mb4.3/7, MS3.8/8, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNDA	Vanda	14.05	189		Pn		Pn	12 59 58.8	-1.0
	0.5nm,0.3s,baz=34,slow=17,SNR=28								
VNDA					LR		LR	13 04 17.4	
	comp=Z,449nm,20.1s,baz=17,slow=32								
VNDA	Vanda	14.05	189				Pn	13 00 00.6	+0.8
SBA	Scott Base	14.14	184				Pn	13 00 00.9	0.0
MLZ	Mavora Lakes	18.64	352				P	13 00 57.4	-1.1
MLZ					IAmb		IAmb	13 01 12.9	
	comp=Z,49nm,1.5s								
LBZ	Lake Benmore	19.53	357	P	Pn		Pn	13 01 09.8	+0.3
LBZ					IAmb		IAmb	13 01 20.4	
	comp=Z,42nm,1.3s								
QSPA	South Pole Qui	26.23	180	P	P		P	13 02 14.7	-1.1
	comp=Z,5.8nm,0.9s,baz=22,slow=5.0,SNR=10								
QSPA					LR		LR	13 11 18.2	
	comp=Z,220nm,18.1s,baz=30,slow=34								
QSPA	South Pole Qui	26.23	180	P	P		P	13 02 15.7	-0.1
STKA	Stephens Creek	37.09	315	LR	LR		LR	13 16 51.0	
	comp=Z,90nm,18.1s,baz=205,slow=33								
MAW	Mawson	39.31	215	LR	LR		LR	13 19 55.0	
	comp=Z,142nm,18.7s,baz=75,slow=35								
MAW	Mawson	39.31	215	P	P		P	13 04 11.1	+1.7
DZM	Mont Dzumac	41.91	353	eP	P		P	13 04 34.0	+2.5
	comp=Z,29nm,1.4s								
DZM	Mont Dzumac	41.91	353	eLR			LR	13 15 52.0	
	comp=Z,192nm,29.7s								
H01W1	Cape Leeuwin H	45.03	282	T	T		T	13 53 55.7	
	baz=147,slow=75,SNR=62								
H01W2	Cape Leeuwin H	45.03	282	T	T		T	13 53 57.2	
	baz=147,slow=75,SNR=52								
H01W3	Cape Leeuwin H	45.05	282	T	T		T	13 53 56.9	
	baz=147,slow=75,SNR=60								
RAR	Rarotonga	46.76	38	LR	LR		LR	13 20 17.3	
	comp=Z,73nm,18.4s,baz=274,slow=30								
ASAR	Alice Springs	47.20	310	P	P		P	13 05 13.9	+0.2
	comp=Z,0.4nm,1.0s,baz=154,slow=7.2,SNR=1.9								
TBI	Tubuai	47.95	51	eLR			LR	13 18 01.9	
	comp=Z,146nm,28.8s,baz=233								
TBI	Tubuai	47.95	51	eT	T		T	13 55 55.9	
	comp=Z,11nm,0.3s								
WR0	Warramunga Arr	50.44	313	P	P		P	13 05 38.9	+0.4
WR0					IAmb		IAmb	13 05 43.7	
	comp=Z,4.0nm,1.1s								
WB2	Warramunga Arr	50.51	313	P	P		P	13 05 40.0	+0.9
WB2					IAmb		IAmb	13 05 40.5	
	comp=Z,9.9nm,1.4s								
WRA	Warramunga Arr	50.52	313	P	P		P	13 05 40.3	+1.1
WB0	Warramunga Arr	50.66	313	P	P		P	13 05 40.0	-0.3
WB0					IAmb		IAmb	13 06 05.9	
	comp=Z,10nm,1.4s								
PPT2	Papeete2	53.26	48	eLR			LR	13 20 39.2	
	comp=Z,143nm,26.5s,baz=213								
PPT2	Papeete2	53.26	48	eT	T		T	14 02 34.8	
	comp=Z,3.1nm,0.3s								
PPT	Papeete	53.28	48	LR	LR		LR	13 23 58.2	
	comp=Z,59nm,19.1s,baz=160,slow=31								
VAH	Vaihoa	56.10	49	eT	T		T	14 06 06.7	
	comp=Z,76nm,0.3s								
PMOR	Pomariorio Ree	56.23	49	eT	T		T	14 06 16.8	
	comp=Z,3.4nm,0.3s								
H03S2	Juan Fernandez	68.06	122	T	T		T	14 22 04.5	
	baz=206,slow=74,SNR=82								
H03S1	Juan Fernandez	68.06	122	T	T		T	14 21 59.1	
	baz=206,slow=74,SNR=62								
H03S3	Juan Fernandez	68.07	122	T	T		T	14 21 58.5	
	baz=206,slow=74,SNR=65								
TRQA	Tornquist	69.97	137	P	P		P	13 07 55.3	+3.1
H08S2	Diego Garcia H	87.17	259	T	T		T	14 46 53.9	
	baz=153,slow=76,SNR=86								
H08S1	Diego Garcia H	87.18	259	T	T		T	14 46 54.7	
	baz=153,slow=76,SNR=82								
H08S3	Diego Garcia

0.2nm,0.6s,baz=304,slow=9.1,SNR=4.8
MKAR Makanchi Array 62.25 337 P **P 13 17 24.1 -0.4**
0.3nm,0.6s,baz=145,slow=6.7,SNR=4.3

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*VAO **26** 13:09:18.7±0.6, 7.'04N×73.'65W, h179km±5km, mb4.2*
*NEIC **26** 13:09:22.6±1.4, 6.'76N±0.'06×73.'08W±0.'07, h156km±6km, mb4.2/183, Error ellipse: s-maj=9.8km s-min=9.3km az=72.0*
*RSNC **26** 13:09:22.9±1.1, 6.'80N×73.'12W, h150km±4km, ML4.0, Mw4.2, Fault plane solution: NP1:φ$_s$133.00000°, δ46.00000°, λ-164.00000°.*
*IDC **26** 13:09:22.9±1.2, 6.'68N×72.'99W, h178km±11km, mb3.6/13, mb1 3.8/17, mb1mx3.6/42, mbtmp4.1/17, Error ellipse: s-maj=16.2km s-min=11.2km az=60.0*
ISC 26 13:09:22.1±0.5,**6.79N**±0.'02×**73.10W**±0.'03,**h161**km±5km, **n304**,σ1**30**/339,**mb4.2**/100,**12C-12D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**202**	⇓*iP*			**Pn**	**13 09 43.4**	**-0.6**
BARC				*eS*			**Sn**	**13 09 58.7**	**-2.1**
BARC				*i*				13 10 01.0	
	comp=Z,2μm,0.2s								
PAMC	**Pamplona, Colo**	**0.68**	**36**	⇓*eP*			**Pn**	**13 09 46.2**	**0.0**
PAMC				*eS*			**Sn**	**13 10 03.0**	**-1.6**
PAMC				*i*				13 10 05.7	
	comp=Z,3μm,0.5s								
RUSC	**La Rusia**	**0.89**	**179**	Pn			**Pn**	**13 09 47.3**	**-0.4**
RUSC				Sn			**Sn**	**13 10 05.5**	**-1.7**
RUSC	**La Rusia**	**0.89**	**179**	⇓*iP*			**Pn**	**13 09 47.2**	**-0.4**
RUSC				*eS*			**Sn**	**13 10 06.1**	**-1.2**
RUSC				*i*				13 10 07.8	
	comp=Z,1μm,0.4s								
PTBC	**PUERTO BERRIO,**	**1.37**	**260**	*eP*			**Pn**	**13 09 50.3**	**-0.9**
PTBC				*eS*			**Sn**	**13 10 11.6**	**-1.9**
OCAC	**Ocana**	**1.45**	**352**	⇑*eP*			**Pn**	**13 09 51.5**	**-0.7**
OCAC				*eS*			**Sn**	**13 10 14.0**	**-1.4**
OCAC				*i*				13 10 19.4	
	comp=Z,4μm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	⇑*eP*			**Pn**	**13 09 55.6**	**-0.9**
ZARC				*eS*			**Sn**	**13 10 21.6**	**-1.4**
ZARC				*i*				13 10 27.3	
	comp=Z,1μm,0.4s								
NORC	**Norcasia**	**2.14**	**235**	⇑*eP*			**Pn**	**13 09 59.2**	**-0.4**
NORC				*eS*			**Sn**	**13 10 27.1**	**-1.3**
NORC				*i*				13 10 34.9	
	comp=Z,906nm,0.2s								
SMLC	**San Martn de**	**2.22**	**334**	*eP*			**Pn**	**13 09 59.6**	**-0.8**
SMLC				*eS*			**Sn**	**13 10 28.6**	**-1.4**
SMLC				*i*				13 10 31.5	
	comp=Z,1μm,0.1s								
CHIC	**Chingaza**	**2.24**	**196**	⇓*iP*			**Pn**	**13 10 01.0**	**0.0**
CHIC				*eS*			**Sn**	**13 10 30.7**	**-0.5**
CHIC				*i*				13 10 34.8	
	comp=Z,357nm,0.4s								
ROSC	**El Rosal**	**2.29**	**212**	P			**Pn**	**13 10 02.7**	**+1.1**
	comp=Z,137nm,0.3s,baz=242,slow=3.8,SNR=102								
ROSC				S			**Sn**	**13 10 29.5**	**-2.6**
	comp=Z,94nm,0.3s,baz=279,slow=23,SNR=8.3								
ROSC	**El Rosal**	**2.29**	**212**	Pn			**Pn**	**13 10 02.8**	**+1.2**
ROSC	**El Rosal**	**2.29**	**212**	⇓*iP*			**Pn**	**13 10 02.9**	**+1.2**
ROSC				*eS*			**Sn**	**13 10 31.2**	**-0.9**
ROSC				*i*				13 10 41.3	
	comp=Z,827nm,0.4s								
HELC	**Santa Helena**	**2.48**	**256**	*eP*			**Pn**	**13 10 03.5**	**-0.4**
HELC				*eS*			**Sn**	**13 10 35.5**	**-0.7**
HELC				*i*				13 10 43.2	
	comp=Z,774nm,0.3s								
UREC	**San Jos de Ur**	**2.59**	**292**	*eP*			**Pn**	**13 10 02.3**	**-2.6**
UREC				*eS*			**Sn**	**13 10 34.7**	**-3.4**
UREC				*i*				13 10 45.6	
	comp=Z,1μm,0.2s								
SOCV	**Socops**	**2.68**	**56**	*eP*			**Pn**	**13 10 04.8**	**-1.2**
SOCV				*eS*			**Sn**	**13 10 37.3**	**-2.6**
VILC	**Villavicencio,**	**2.73**	**192**	⇓*eP*			**Pn**	**13 10 06.4**	**-0.3**
VILC				*eS*			**Sn**	**13 10 40.7**	**-0.5**
VILC				*i*				13 10 51.6	
	comp=Z,309nm,0.7s								
GUY2C	**Guyana, Caldas**	**2.74**	**235**	⇑*eP*			**Pn**	**13 10 07.4**	**+0.3**
GUY2C				*eS*			**Sn**	**13 10 41.6**	**-0.2**
GUY2C				*i*				13 10 50.6	
	comp=Z,636nm,0.3s								
PTGC	**Puerto Gaitan,**	**2.75**	**159**	⇓*eP*			**Pn**	**13 10 06.3**	**-0.6**
PTGC				*eS*			**Sn**	**13 10 39.0**	**-2.5**
LL2C	**La Loma 2 Cana**	**2.77**	**353**	*eP*			**Pn**	**13 10 06.7**	**-0.3**
LL2C				*eS*			**Sn**	**13 10 40.8**	**-1.1**
LL2C				*i*				13 10 48.5	
	comp=Z,1μm,0.3s								
LL1C	**La Loma 1 Cana**	**2.77**	**351**	⇓*eP*			**Pn**	**13 10 08.2**	**+1.1**
LL1C				*eS*			**Sn**	**13 10 42.6**	**+0.6**
CBOC	**Ciudad Bolivar**	**3.04**	**252**	⇑*iP*			**Pn**	**13 10 11.1**	**+0.6**
CBOC				*eS*			**Sn**	**13 10 44.8**	**-3.2**
CBOC				*i*				13 10 59.3	
	comp=Z,291nm,0.7s								
DBBC	**Dabeiba**	**3.09**	**274**	⇑*eP*			**Pn**	**13 10 10.8**	**-0.4**
TOLC	**Tolima**	**3.11**	**225**	⇓*eP*			**Pn**	**13 10 11.9**	**+0.3**
TOLC				*eS*			**Sn**	**13 10 49.2**	**-0.8**
TOLC				*i*				13 10 56.9	
	comp=Z,608nm,0.3s								
SDV	**Santo Domingo**	**3.21**	**49**	P			**Pn**	**13 10 13.0**	**+0.2**
	comp=Z,36nm,0.3s,baz=220,slow=4.0,SNR=9.5								
SDV				S			**Sn**	**13 10 49.0**	**-3.0**
	comp=Z,61nm,0.3s,baz=240,slow=19,SNR=28								
SDV	**Santo Domingo**	**3.21**	**49**	Pn			**Pn**	**13 10 12.2**	**-0.5**
SDV	**Santo Domingo**	**3.21**	**49**	*eP*			**Pn**	**13 10 12.7**	**-0.1**
SDV				*eS*			**Sn**	**13 10 50.2**	**-1.9**
SDV				*i*				13 10 52.0	
	comp=Z,130nm,0.4s								
SDV	**Santo Domingo**	**3.21**	**49**	*eP*			**Pn**	**13 10 13.3**	**+0.6**
MOTC	**Monteria, Cord**	**3.22**	**308**	⇑*eP*			**Pn**	**13 10 10.5**	**-2.1**
MOTC				*eS*			**Sn**	**13 10 47.9**	**-4.0**
MOTC				*i*				13 11 05.8	
	comp=Z,532nm,0.6s								
ANIL	**Santa Ana**	**3.23**	**225**	⇑*eP*			**Pn**	**13 10 13.5**	**+0.3**
ANIL				*eS*			**Sn**	**13 10 52.3**	**-0.4**
ARGC	**Ariguani, Magd**	**3.25**	**340**	⇓*eP*			**Pn**	**13 10 13.5**	**+0.5**
ARGC				*eS*			**Sn**	**13 10 51.0**	**-1.7**
ARGC				*i*				13 11 04.3	
	comp=Z,230nm,0.5s								
ORTC	**Ortega, Tolima**	**3.57**	**217**	*eP*			**Pn**	**13 10 17.2**	**0.0**
ORTC				*eS*			**Sn**	**13 10 59.2**	**-0.8**
ORTC				*i*				13 11 07.0	
	comp=Z,363nm,0.4s								
ELOV	**Elorza**	**3.60**	**86**	*eP*			**Pn**	**13 10 17.0**	**-0.5**
ELOV				*eS*			**Sn**	**13 10 57.8**	**-2.8**
PLMC	**San Jos del P**	**3.68**	**240**	⇑*eP*			**Pn**	**13 10 18.9**	**+0.4**
PLMC				*eS*			**Sn**	**13 10 59.8**	**-2.7**
PLMC				*i*				13 11 07.0	
	comp=Z,182nm,0.3s								
CVALL	**Valledupar, Ce**	**3.70**	**358**	⇓*eP*			**Pn**	**13 10 17.7**	**-1.1**
CVALL				*eS*			**Sn**	**13 10 58.8**	**-4.1**
CVALL				*i*				13 11 06.1	
	comp=Z,210nm,0.5s								
SJCC	**San Jacinto, C**	**3.71**	**326**	Pn			**Pn**	**13 10 17.5**	**-1.5**
SJCC	**San Jacinto, C**	**3.71**	**326**	⇑*eP*			**Pn**	**13 10 17.2**	**-1.7**
SJCC				*eS*			**Sn**	**13 10 58.6**	**-4.6**
SJCC				*i*				13 11 03.5	
	comp=Z,335nm,0.4s								
LCBC	**Los crdobas,**	**3.83**	**303**	*eP*			**Pn**	**13 10 19.6**	**-0.9**
LCBC				*eS*			**Sn**	**13 11 01.0**	**-4.9**
LCBC				*i*				13 11 08.1	
	comp=Z,350nm,0.3s								
GUVC	**San Jose del G**	**4.25**	**174**	*eS*			**Sn**	**13 11 13.2**	**-2.5**
GUVC				*i*				13 11 18.7	
	comp=Z,256nm,0.3s								
YOTC	**Yotoco, Valle**	**4.27**	**229**	*eP*			**Pn**	**13 10 26.0**	**-0.2**
YOTC				*eS*			**Sn**	**13 11 12.2**	**-4.0**
SOLC	**Bahia Solano**	**4.32**	**263**	*eP*			**Pn**	**13 10 27.2**	**+0.4**
SOLC				*i*				13 11 13.2	
	comp=Z,76nm,0.4s								
SMRC	**Santa Marta, M**	**4.48**	**346**	*eP*			**Pn**	**13 10 28.6**	**-0.4**
SMRC				*eS*			Sn	13 11 15.6	-5.6
SMRC				*i*				13 11 19.6	
	comp=Z,151nm,0.4s								
MACC	**Macarena, Meta**	**4.67**	**189**	⇓*eP*			**Pn**	**13 10 30.0**	**-1.5**
MACC				*i*				13 10 30.8	
	comp=Z,120nm,0.4s								
MACC				*eS*			**Sn**	**13 11 19.7**	**-6.0**
PTAC	**Punta Ardita,**	**4.69**	**275**	*eP*			**Pn**	**13 10 30.3**	**-1.3**
PTAC				*i*				13 10 31.4	
	comp=Z,140nm,0.2s								
PTAC				*eS*			**Sn**	**13 11 22.2**	**-3.7**
BETC	**Betania**	**4.70**	**210**	*eP*			**Pn**	**13 10 31.4**	**-0.5**
BETC				*eS*			Sn	13 11 15.5	-11
BETC				*i*				13 11 22.6	
	comp=Z,79nm,0.6s								
DABV	**Dabajuro**	**4.77**	**31**	*eP*			**Pn**	**13 10 32.4**	**-0.4**
DABV				*eS*			Sn	13 11 21.6	-6.4
MARP	**Paez Belalcaza**	**4.84**	**216**	*eP*			**Pn**	**13 10 33.6**	**-0.3**
URIC	**Uribia, Colomb**	**5.00**	**13**	Pn			Pn	13 10 32.0	-3.7
MALC	**Bahia Malaga**	**5.04**	**237**	*eP*			**Pn**	**13 10 38.5**	**+2.2**
MALC				*eS*			**Sn**	**13 11 34.2**	**0.0**
GARC	**Garzon, Huila**	**5.16**	**208**	⇑*eP*			**Pn**	**13 10 37.4**	**-0.7**
GARC				*i*				13 11 42.9	
	comp=Z,96nm,0.3s								
UPD2	**Meteti**	**5.17**	**290**	*eP*			**Pn**	**13 10 36.5**	**-1.5**
UPD2				*eS*			**Sn**	**13 11 31.8**	**-5.5**
UPD2				*i*				13 11 38.4	
	comp=Z,194nm,0.4s								
PCON	**Cinco Dias**	**5.52**	**217**	*eP*			**Pn**	**13 10 43.6**	**+0.5**
POPC	**Popayan, Colom**	**5.52**	**220**	⇑*eP*			Pn	13 10 33.4	-9.5
POPC				*eS*			Sn	13 11 25.1	-21
SOTA	**Rioblanco**	**5.80**	**217**	*eP*			**Pn**	**13 10 47.5**	**+0.7**
SOTA				*i*				13 12 10.2	
	comp=Z,23nm,0.6s								
BBAC	**Balboa, Cauca**	**6.29**	**221**	*eP*			**Pn**	**13 10 54.3**	**+1.4**
BBAC				*i*				13 10 55.5	
	comp=Z,31nm,0.1s								
BBAC				*eS*			**Sn**	**13 12 00.4**	**-3.8**
HATO	**Hato, Curacao**	**6.74**	**37**	Pn			**Pn**	**13 10 58.4**	**-0.3**
BCIP	**Isla Barro Col**	**7.08**	**290**	Pn			**Pn**	**13 11 01.2**	**-2.0**
OTAV	**Otavalo**	**8.42**	**220**	*eP*			Pn	13 11 15.2	-6.3
PCRV	**Puerto La Cruz**	**9.02**	**68**	P			**Pn**	**13 11 29.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=220,slow=24,SNR=1.8								
SRBA	**San Rafael, Bu**	**10.44**	**284**	Pn			**Pn**	**13 11 48.4**	**+0.4**
RIMA	**Rio Macho**	**11.05**	**286**	Pn			**Pn**	**13 11 55.7**	**-0.3**
JAKH	**Jacmel**	**11.39**	**3**	Pn			**Pn**	**13 12 00.6**	**+0.4**
MTDJ	**Mount Denham**	**12.16**	**340**	Pn			**Pn**	**13 12 12.5**	**+2.2**
TRN	**Trinidad (W)**	**12.18**	**71**	*e*			**P**	**13 12 16.3**	**-0.1**
JTS	**Las Juntas de**	**12.22**	**287**	P			**Pn**	**13 12 13.2**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=148,slow=12,SNR=1.7								
SDDR	**Presa de Saban**	**12.25**	**8**	Pn			**Pn**	**13 12 12.2**	**+0.9**
ORTG	**Ortega, Santa**	**12.72**	**287**	P			**P**	**13 12 24.5**	**+2.0**
AOPR	**Arecibo Observ**	**13.05**	**28**	P			**P**	**13 12 26.0**	**0.0**
TOSP	**Speyside**	**13.19**	**69**	P			**P**	**13 12 27.9**	**+0.3**
GTBY	**Guantanamo Bay**	**13.20**	**352**	P			**Pn**	**13 12 26.3**	**+2.7**
BOAV	**Boa Vista**	**13.28**	**109**	*eP*			**P**	**13 12 28.9**	**+0.3**
CBCY	**The Bluff, Cay**	**14.40**	**334**	P			**P**	**13 12 42.1**	**+1.1**
CZSB	**Cruzeiro do Su**	**14.43**	**178**	*eP*			**P**	**13 12 39.0**	**-2.4**
PTGA	**Pitinga**	**15.09**	**119**	P			**P**	**13 12 49.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=288,slow=13,SNR=10								
MACA	**Manacapuru-AM**	**15.86**	**128**	*eP*			**P**	**13 13 00.4**	**+3.2**
SNET	**Serv Nac Est T**	**17.28**	**295**	P			**P**	**13 13 13.3**	**+0.3**
MTO3	**Montecristo**	**17.67**	**297**	P			**P**	**13 13 18.1**	**+0.7**
ESQI	**Esquipulas**	**17.72**	**297**	P			**P**	**13 13 17.8**	**0.0**
ETMB	**Extrema**	**17.87**	**157**	*eP*			**Pn**	**13 13 18.9**	**-2.0**
SOR	**Soroa**	**18.55**	**330**	P			**P**	**13 13 26.9**	**+0.2**
SOR				IAmb			IAmb	13 13 43.6	
	comp=Z,18nm,1.3s								
ITTB	**Itaituba**	**20.58**	**122**	*eP*			**P**	**13 13 49.2**	**+0.6**
MALB	**Monte Alegre**	**20.67**	**114**	*eP*			Pn	13 13 52.3	-1.8
CCIG	**Comitan**	**20.88**	**298**	P			**P**	**13 13 54.7**	**+2.6**
CCIG				IAmb			IAmb	13 14 14.6	
	comp=Z,13nm,1.3s								
MCPB	**Macapa, AP**	**22.17**	**108**	*eP*			**P**	**13 14 05.9**	**+0.5**
NPGB	**Novo Progresso**	**22.41**	**127**	*eP*			**P**	**13 14 07.2**	**-0.5**
VILB	**Vilhena**	**23.43**	**147**	*eP*			**P**	**13 14 17.3**	**+0.2**
LPAZ	**La Paz**	**23.45**	**168**	P			**P**	**13 14 17.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=333,slow=5.7,SNR=8.0								
LPAZ	**La Paz**	**23.45**	**168**	P			**P**	**13 14 17.4**	**-0.4**
LPAZ	**La Paz**	**23.45**	**168**	*eP*			**P**	**13 14 16.4**	**-1.5**
CLDB	**Colider**	**24.59**	**135**	*eP*			**P**	**13 14 26.8**	**-0.8**
SIV	**San Ignacio**	**25.58**	**152**	P			**P**	**13 14 34.8**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=335,slow=6.7,SNR=7.1								
PTLB	**Pontes e Lacer**	**26.07**	**148**	*eP*			**P**	**13 14 39.9**	**-1.0**
PB11	**IPOC Station P**	**26.60**	**173**	P			**P**	**13 14 45.2**	**-0.6**
250A	**Grady**	**27.91**	**336**	P			**P**	**13 14 58.4**	**+1.2**
JSC	**Jenkinsville**	**28.38**	**346**	P			**P**	**13 15 02.8**	**+1.5**
HODGE	**Hodges**	**28.59**	**344**	P			**P**	**13 15 04.0**	**+0.8**
HODGE				IAmb			IAmb	13 15 18.9	
	comp=Z,4.3nm,1.1s								
Z51A	**Franklin**	**28.67**	**339**	P			**P**	**13 15 05.9**	**+1.9**
Y52A	**Lilburn**	**28.79**	**341**	P			**P**	**13 15 06.1**	**+1.1**
Y52A				IAmb			IAmb	13 15 07.1	
	comp=Z,9.5nm,1.2s								
KMSC	**Kings Mountain**	**29.21**	**346**	P			**P**	**13 15 10.4**	**+1.6**
KMSC				IAmb			IAmb	13 15 24.9	
	comp=Z,7.2nm,1.2s								
Y49A	**Blount Mountai**	**29.62**	**337**	P			**P**	**13 15 13.6**	**+1.3**
Y49A				IAmb			IAmb	13 15 14.4	
	comp=Z,4.5nm,0.6s								
Z47A	**Carrollton**	**29.73**	**334**	P			**P**	**13 15 14.7**	**+1.4**
Z47A				IAmb			IAmb	13 15 15.8	
	comp=Z,7.8nm,0.9s								
U59A	**Littleton**	**29.73**	**352**	P			**P**	**13 15 14.0**	**+0.7**
U59A				IAmb			IAmb	13 15 15.2	
	comp=Z,4.0nm,0.8s								
SMTB	**Santa Maria do**	**29.81**	**121**	*eP*			**P**	**13 15 14.4**	**+0.1**
FPAL	**Fort Paine**	**29.93**	**339**	P			**P**	**13 15 15.5**	**+0.4**
FPAL				IAmb			IAmb	13 15 24.5	
	comp=Z,6.7nm,1.2s								
V53A	**Saluda**	**30.09**	**344**	P			**P**	**13 15 16.3**	**-0.2**
V53A				IAmb			IAmb	13 15 35.5	
	comp=Z,7.5nm,1.4s								
T59A	**Double "B" Far**	**30.31**	**353**	P			**P**	**13 15 19.1**	**+0.7**
T59A				IAmb			IAmb	13 15 21.0	
	comp=Z,4.0nm,0.8s								
X48A	**Hartselle**	**30.39**	**337**	P			**P**	**13 15 20.2**	**+1.1**
X48A				IAmb			IAmb	13 15 21.4	
	comp=Z,4.6nm,0.7s								
CPCT	**Cooper Cave**	**30.39**	**341**	P			**P**	**13 15 19.9**	**+0.8**
CPCT				IAmb			IAmb	13 15 41.5	
	comp=Z,11nm,1.5s								
W50A	**Signal Mountai**	**30.42**	**340**	P			**P**	**13 15 19.9**	**+0.5**
W50A				IAmb			IAmb	13 15 21.7	
	comp=Z,3.4nm,0.6s								
V51A	**Loudon**	**30.66**	**342**	P			**P**	**13 15 23.0**	**+1.5**
V51A				IAmb			IAmb	13 15 24.1	
	comp=Z,8.2nm,0.9s								
ARAG	**Araguaiana, MT**	**30.73**	**137**	*eP*			**P**	**13 15 21.3**	**-1.0**
PEXB	**Peixe**	**31.00**	**127**	*eP*			**P**	**13 15 24.1**	**-0.5**
TZTN	**Tazewell**	**31.12**	**344**	P			**P**	**13 15 26.8**	**+1.3**
TZTN				IAmb			IAmb	13 15 28.5	
	comp=Z,10nm,1.2s								
PLAL	**Pickwick Lake**	**31.26**	**336**	P			**P**	**13 15 28.0**	**+1.2**
PLAL				IAmb			IAmb	13 15 29.4	
	comp=Z,8.4nm,1.2s								
V48A	**Smith Brothers**	**31.44**	**338**	P			**P**	**13 15 29.8**	**+1.4**
CLTN	**Cedars of Leba**	**31.58**	**339**	P			**P**	**13 15 30.8**	**+1.2**
AQDB	**Aquidauana**	**32.05**	**148**	*eP*			**P**	**13 15 32.7**	**-1.1**
WVT	**Waverly**	**32.17**	**337**	P			**P**	**13 15 35.5**	**+0.8**
T47A	**Sharon Grove**	**32.66**	**339**	P			**P**	**13 15 40.0**	**+1.1**
BDFB	**Brasilia**	**33.38**	**132**	P			**P**	**13 15 44.7**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=292,slow=11,SNR=6.3								
BDFB	**Brasilia**	**33.38**	**132**	P			**P**	**13 15 45.3**	**-0.3**
BDFB				IAmb			IAmb	13 15 45.7	
	comp=Z,2.9nm,0.6s								
WHAR	**Wooly Hollow**	**33.40**	**331**	P			**P**	**13 15 45.9**	**+0.4**
WHAR				IAmb			IAmb	13 15 46.7	
	comp=Z,4.4nm,0.9s								
MIAR	**Mount Ida**	**33.46**	**328**	P			**P**	**13 15 45.4**	**-0.6**
MIAR				IAmb			IAmb	13 16 13.6	
	comp=Z,5.0nm,1.3s								
WCI	**Wyandotte Cave**	**33.50**	**341**	P			**P**	**13 15 47.5**	**+1.2**
WCI				IAmb			IAmb	13 15 47.9	
	comp=Z,4.3nm,0.8s								
LCAR	**Lake Charles**	**33.51**	**333**	P			**P**	**13 15 46.8**	**+0.5**
LCAR				IAmb			IAmb	13 15 48.0	
	comp=Z,4.3nm,0.6s								
O56A	**Blue Knob Stat**	**33.69**	**352**	P			**P**	**13 15 48.5**	**+0.6**
O56A				IAmb			IAmb	13 16 14.4	
	comp=Z,10nm,1.4s								
P52A	**Corning**	**33.69**	**347**	P			**P**	**13 15 49.1**	**+1.2**
P52A				IAmb			IAmb	13 15 50.1	
	comp=Z,5.3nm,0.7s								
PBMO	**Poplar Bluff**	**33.78**	**335**	P			**P**	**13 15 49.8**	**+1.1**
FCAR	**Ozark Folk Cen**	**33.81**	**332**	P			**P**	**13 15 49.1**	**+0.2**
SDBA	**SAO DESIDERIO**	**33.91**	**124**	*eP*			**P**	**13 15 49.5**	**-0.7**
N59A	**State Game Lan**	**34.06**	**356**	P			**P**	**13 15 52.5**	**+1.3**
N59A				IAmb			IAmb	13 16 06.1	
	comp=Z,5.2nm,1.2s								
W39A	**Magazine**	**34.07**	**329**	P			**P**	**13 15 52.3**	**+1.0**
S44A	**Carbondale**	**34.09**	**337**	P			**P**	**13 15 51.9**	**+0.6**
S44A				IAmb			IAmb	13 15 52.5	
	comp=Z,9.5nm,1.1s								
SIUC	**Southern Illin**	**34.09**	**337**	P			**P**	**13 15 52.0**	**+0.7**
U40A	**Yellville**	**34.53**	**331**	P			**P**	**13 15 55.8**	**+0.6**
ITRB	**Iturama**	**34.56**	**140**	*eP*			**P**	**13 15 55.0**	**-0.6**
OLIL	**Olney**	**34.57**	**339**	P			**P**	**13 15 56.2**	**+0.7**
N54A	**Moraine State**	**34.58**	**351**	P			**P**	**13 15 56.9**	**+1.3**
N54A				IAmb			IAmb	13 16 17.8	
	comp=Z,5.9nm,1.1s								
Z35A	**Perchaven, San**	**34.63**	**323**	P			**P**	**13 15 56.8**	**+0.8**
KSPA	**Keystone Colle**	**34.70**	**356**	P			**P**	**13 15 58.0**	**+1.4**
KSPA				IAmb			IAmb	13 16 17.4	
	comp=Z,12nm,1.3s								
IPMB	**Ipameri, GO**	**34.78**	**135**	*eP*			**P**	**13 15 57.3**	**-0.3**
AC04	**Llanos de Chal**	**34.85**	**177**	P			**P**	**13 15 58.5**	**+0.5**
L63A	**North Scituate**	**34.95**	**2**	P			**P**	**13 15 58.6**	**-0.1**
HHAR	**Hobbs**	**35.00**	**330**	P			**P**	**13 15 58.5**	**-0.7**
HHAR				IAmb			IAmb	13 15 59.9	
	comp=Z,3.1nm,0.7s								
Q44A	**Meyer Farm, Va**	**35.05**	**338**	P			**P**	**13 16 00.4**	**+0.8**
Q44A				IAmb			IAmb	13 16 20.9	
	comp=Z,5.1nm,0.8s								
P46A	**Rosedale**	**35.06**	**341**	P			**P**	**13 16 00.6**	**+0.9**
M54A	**Oil Creek Stat**	**35.06**	**351**	P			**P**	**13 16 01.1**	**+1.4**
M54A				IAmb			IAmb	13 16 02.3	
	comp=Z,11nm,1.3s								
CCM	**Cathedral Cave**	**35.21**	**335**	P			**P**	**13 16 01.6**	**+0.7**
BINY	**Binghamton**	**35.35**	**356**	P			**P**	**13 16 04.7**	**+2.5**
BINY				IAmb			IAmb	13 16 12.6	
	comp=Z,12nm,1.4s								
PCMB	**Pacaembu**	**35.43**	**143**	*eP*			**P**	**13 16 01.9**	**-1.1**
SFIN	**Lafayette**	**35.72**	**342**	P			**P**	**13 16 05.8**	**+0.5**
R40A	**Maddies Statio**	**35.84**	**334**	P			**P**	**13 16 06.7**	**+0.3**
JANB	**Januaria**	**35.86**	**127**	*eP*			**P**	**13 16 05.6**	**-1.2**
OK031	**S. Brethren Rd**	**36.27**	**326**	P			**P**	**13 16 09.6**	**-0.4**
CPUP	**Villa Florida**	**36.31**	**156**	*eP*			**P**	**13 16 10.1**	**-0.4**
NBCL	**Cascavel-CE**	**36.43**	**107**	*eP*			**P**	**13 16 12.0**	**+0.3**
TXAR	**Lajitas Array**	**36.49**	**312**	P			**P**	**13 16 13.0**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=127,slow=9.2,SNR=36								
TXAR				PcP			**PcP**	**13 18 32.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=108,slow=5.0,SNR=2.9								
TXAR	**Lajitas Array**	**36.49**	**312**	P			**P**	**13 16 12.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**36.50**	**312**	P			**P**	**13 16 12.4**	**+0.2**
TX31				IAmb			IAmb	13 16 13.3	
	comp=Z,5.3nm,0.7s								
TX32	**Lajitas Array**	**36.50**	**312**	P			**P**	**13 16 12.7**	**+0.5**
WMOK	**Wichita Mounta**	**36.51**	**323**	P			**P**	**13 16 11.9**	**-0.3**
WMOK				IAmb			IAmb	13 16 12.6	
	comp=Z,2.7nm,0.7s								
P40A	**Paris**	**36.78**	**335**	P			**P**	**13 16 14.4**	**+0.1**
T35A	**Sooner Cattle**	**36.81**	**328**	P			**P**	**13 16 14.0**	**-0.6**
T35A				IAmb			IAmb	13 16 17.5	
	comp=Z,4.3nm,0.8s

comp=Z,5.7nm,1.4s
P17A Butcher Ranch, 46.92 320 P **P** **13 17 37.5 +0.7**
P17A IAmb IAmb 13 17 38.7
comp=Z,3.6nm,0.9s
KNB Kanab 47.02 316 P **P** **13 17 39.0 +1.4**
KNB IAmb IAmb 13 17 40.1
comp=Z,4.4nm,0.9s
MTPU Mount Pierson 47.10 317 P **P** **13 17 39.5 +1.0**
LCMT Little Creek M 47.31 315 P **P** **13 17 41.0 +1.2**
LCMT IAmb IAmb 13 17 42.6
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 47.32 340 P **P** **13 17 39.0 -0.5**
comp=Z,3.6nm,0.4s,baz=149,slow=6.4,SNR=9.0
ULM Lac du Bonnet 47.32 340 P **P** **13 17 38.8 -0.7**
ULM IAmb IAmb 13 17 39.9
comp=Z,4.1nm,0.5s
MSU Marysvale 47.34 318 P **P** **13 17 41.1 +1.0**
SZCU Shurtz Canyon 47.49 316 P **P** **13 17 41.9 +0.6**
SZCU IAmb IAmb 13 17 42.8
comp=Z,2.1nm,0.6s
JLU Jordanelle 48.00 321 P **P** **13 17 45.7 +0.5**
NLU North Lily Min 48.04 319 P **P** **13 17 46.3 +0.8**
BW06 Boulder Array 48.11 324 P **P** **13 17 46.1 +0.1**
BW06 IAmb IAmb 13 17 47.3
comp=Z,4.5nm,1.3s
PD31 Pinedale Array 48.11 324 P **P** **13 17 46.0 0.0**
PDAR Pinedale Array 48.11 324 P **P** **13 17 46.3 +0.3**
comp=Z,1.1nm,0.6s,baz=125,slow=8.5,SNR=12
PDAR Pinedale Array 48.11 324 P **P** **13 17 46.0 0.0**
SCHQ Schefferville 48.17 5 P **P** **13 17 45.9 0.0**
comp=Z,1.3nm,0.5s,baz=90,slow=15,SNR=2.0
PSUT Pine Spring 48.48 317 P **P** **13 17 49.8 +0.9**
HWUT Hardware Ranch 48.64 322 P **P** **13 17 50.7 +0.7**
DUG Dugway, Tooele 48.65 319 P **P** **13 17 50.9 +0.8**
SPR3 Spring Creek 3 49.03 317 P **P** **13 17 53.5 +0.3**
GSC Goldstone, Bar 49.10 312 P **P** **13 17 54.4 +0.9**
BGU Big Grassy Mou 49.18 320 P **P** **13 17 54.1 0.0**
BGU IAmb IAmb 13 17 55.6
comp=Z,4.6nm,0.6s
REDW Red Top Meadow 49.23 324 P **P** **13 17 54.8 +0.3**
REDW IAmb IAmb 13 17 56.1
comp=Z,4.6nm,0.6s
SNOW Snow King Moun 49.23 324 P **P** **13 17 55.2 +0.6**
SNOW IAmb IAmb 13 17 56.9
comp=Z,3.2nm,0.8s
TPAW Teton Pass 49.36 324 P **P** **13 17 55.1 -0.5**
TPNV Topopah Spring 49.40 314 P **P** **13 17 56.7 +0.8**
RLMT Red Lodge 49.42 327 P **P** **13 17 56.1 +0.2**
R11A Troy Canyon, C 49.58 316 P **P** **13 17 57.8 +0.6**
R11A IAmb IAmb 13 17 59.2
comp=Z,6.2nm,1.4s
IMW Indian Meadow 49.60 324 P **P** **13 17 57.9 +0.5**
IMW IAmb IAmb 13 17 58.7
comp=Z,2.7nm,0.7s
YNE Yellowstone No 49.75 326 P **P** **13 17 59.2 +0.7**
GCMT Greycliff 50.06 327 P **P** **13 18 01.3 +0.6**
YHH Holmes Hill 50.09 325 P **P** **13 18 02.2 +1.1**
YHB Horse Butte 50.26 325 P **P** **13 18 02.0 -0.3**
ELK Elko 50.51 319 P **P** **13 18 04.4 +0.1**
BOZ Bozeman (W) 51.02 326 P **P** **13 18 08.4 +0.5**
MCMT McKenzie Canyo 51.25 324 P **P** **13 18 10.7 +0.9**
BCYI Bear Canyon 51.28 323 P **P** **13 18 10.9 +0.9**
NV11 Mina Array Sit 51.41 315 P **P** **13 18 11.7 +0.7**
HLID Hailey 51.47 322 P **P** **13 18 12.0 +0.7**
NVAR Mina Array Bea 51.52 315 P **P** **13 18 12.8 +1.0**
comp=Z,0.9nm,0.7s,baz=116,slow=7.2,SNR=9.9
NVAR Mina Array Bea 51.52 315 P **P** **13 18 12.6 +0.8**
LRM Limekiln Ridge 51.61 326 P **P** **13 18 13.0 +0.6**
KVN Kaiserville 51.65 315 P **P** **13 18 12.9 +0.1**
MDPB Devils Postpil 51.73 313 P **P** **13 18 14.2 +0.8**
RYN Ryan 51.76 315 P **P** **13 18 14.2 +0.7**
HRY Holter Researc 51.81 327 P **P** **13 18 14.2 +0.5**
PAGB Antelope Grade 51.84 311 P **P** **13 18 14.6 +0.5**
PAGB IAmb IAmb 13 18 15.4
comp=Z,5.5nm,0.9s
MFID Camas Ranch 52.26 321 P **P** **13 18 17.7 +0.6**
MFID IAmb IAmb 13 18 19.4
comp=Z,2.6nm,0.7s
YERR Yerington 52.42 315 P **P** **13 18 19.1 +0.7**
YERR IAmb IAmb 13 18 20.3
comp=Z,2.6nm,0.9s
PNTR Pine Nut 52.72 315 P **P** **13 18 20.9 +0.3**
PNTR IAmb IAmb 13 18 25.1
comp=Z,2.8nm,0.7s
PAHR Pah Rah Range 52.83 316 P **P** **13 18 22.2 +0.8**
PLID Pearl Lake 53.25 323 P **P** **13 18 24.2 -0.3**
PLID IAmb IAmb 13 18 33.4
comp=Z,6.7nm,1.4s
WVOR Wild Horse Val 53.56 319 P **P** **13 18 26.0 -0.7**
WVOR IAmb IAmb 13 18 29.7
comp=Z,3.6nm,1.1s
JTMT Jette 53.76 327 P **P** **13 18 28.6 +0.6**
JTMT IAmb IAmb 13 18 30.2
comp=Z,4.7nm,0.9s
I07A Izee 54.90 320 P **P** **13 18 36.8 +0.5**
I07A IAmb IAmb 13 18 37.5
comp=Z,1.9nm,0.5s
G08A Pilot Rock 55.15 322 P **P** **13 18 38.3 +0.3**
G08A IAmb IAmb 13 18 39.4
comp=Z,3.2nm,0.7s
PINE Pine Mountain 55.69 319 P **P** **13 18 43.2 +1.2**
EDM Edmonton 56.66 332 P **P** **13 18 48.0 -0.5**
KRMB Red Mountain 56.71 316 P **P** **13 18 49.4 +0.1**
H04A Detroit Lake 56.89 320 P **P** **13 18 49.9 -0.4**
H04A IAmb IAmb 13 18 51.7
comp=Z,5.4nm,1.1s
B08A Colville Reser 56.93 325 P **P** **13 18 50.7 +0.2**
B08A IAmb IAmb 13 18 51.1
comp=Z,1.9nm,0.7s
LTY Liberty 57.15 323 P **P** **13 18 53.3 +1.2**
LTY IAmb IAmb 13 18 53.7
comp=Z,2.4nm,0.7s
BUCK Buck Mountain 57.19 319 P **P** **13 18 52.8 +0.2**
KBO Bosley Butte 57.20 317 P **P** **13 18 53.0 +0.4**
KEBM Edson Butte 57.54 317 P **P** **13 18 56.5 +1.6**
NLWA Neilton Lookou 59.14 322 P **P** **13 19 06.8 +0.9**
YKA Yellowknife Ar 63.30 340 P **P** **13 19 33.3 -0.3**
comp=Z,3.7nm,0.8s,baz=146,slow=4.5,SNR=11
YKA Yellowknife Ar 63.30 340 P **P** **13 19 33.5 0.0**
INK Inuvik 73.06 340 P **P** **13 20 34.4 +0.2**
comp=Z,1.4nm,0.7s,baz=90,slow=7.2,SNR=5.5
INK Inuvik 73.06 340 P **P** **13 20 34.7 +0.5**
LOGN Logan Glacier 73.41 332 P **P** **13 20 37.4 +0.7**
LOGN IAmb IAmb 13 20 53.4
comp=Z,9.4nm,1.3s
EPYK Eagle Plains 73.42 338 P **P** **13 20 37.1 +0.7**
EPYK IAmb IAmb 13 20 39.7
comp=Z,5.2nm,1.3s
DAWY Dawson 73.67 335 P **P** **13 20 38.4 +0.4**
TORD Torodi Ar. Bea 73.73 78 P **P** **13 20 36.7 -2.4**
comp=Z,1.5nm,0.9s,baz=286,slow=6.5,SNR=5.0
TORD Torodi Ar. Bea 73.73 78 IAmb IAmb 13 20 37.4
comp=Z,2.2nm,0.9s
BCAR Beaver Creek A 74.40 334 P **P** **13 20 43.6 +1.4**
EGAK Eagle 74.62 336 P **P** **13 20 44.5 +1.1**
DOT Dot Lake 75.54 334 P **P** **13 20 49.8 +1.0**
DOT IAmb IAmb 13 20 51.2
comp=Z,7.6nm,1.4s
BMAR Burnt Mountain 76.69 338 P **P** **13 20 55.6 +0.4**
ILAR Eielson Array 77.00 335 P **P** **13 20 57.0 +0.1**
comp=Z,0.5nm,0.5s,baz=110,slow=2.4,SNR=4.9
RND Reindeer 77.59 333 P **P** **13 21 01.4 +1.1**
RND IAmb IAmb 13 21 02.1
comp=Z,3.2nm,0.7s
BPAW Bear Paw Mtn. 78.63 334 P **P** **13 21 06.3 +0.3**
OHAK Old Harbor 79.01 327 P **P** **13 21 08.4 +0.4**
PPLA Purkeypile 79.02 333 P **P** **13 21 08.5 +0.2**
ARCES ARCESS Array B 86.69 20 P **P** **13 21 46.6 -0.9**
comp=Z,0.7nm,0.7s,baz=298,slow=3.8,SNR=1.3
MKAR Makanchi Array 122.34 20 PKP **PKPdf** **13 27 57.5 -0.9**
comp=Z,0.2nm,0.3s,baz=332,slow=2.3,SNR=5.6
ASAR Alice Springs 149.11 234 PKPbc **PKPdf** **13 28 48.2 +0.2**
comp=Z,0.6nm,0.5s,baz=122,slow=3.3,SNR=14
WRA Warramunga Arr 150.34 241 PKPbc **PKPdf** **13 28 51.7 +1.7**
comp=Z,0.9nm,0.6s,baz=109,slow=2.3,SNR=10

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*IDC **26** 13:22:40.6±2.0, 1°.67N×126°.08E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/35, mbtmp3.6/3, Error ellipse: s-maj=179.8km s-min=24.9km az=65.0*
*DJA **26** 13:22:46.9±0.8, 2°N±4°×12°6E±°, h96km±17km, M3.2/6, MLv3.2/6*
ISC 26 13:22:47.5±1.1, 1°.77N±0°.09×126°.4E±0°.1, h47km, n6, σ1§42/7, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.37**	**136**	P	**Pn**	**13 23 11.6**	**+1.3**
SGSI	**Sangihe**	**2.10**	**335**	P	**Pn**	**13 23 20.7**	**+0.5**
SGSI				S	**Sn**	**13 23 46.5**	**+1.4**
GTOI	**Gorontalo**	**3.59**	**252**	P	**Pn**	**13 23 41.6**	**+1.0**
WRA	**Warramunga Arr**	**22.94**	**161**	P	**P**	**13 27 46.5**	**-1.4**
	1.4nm,0.3s,baz=338,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.31**	**164**	P	**P**	**13 28 18.5**	**-0.6**
	0.3nm,0.3s,baz=343,slow=10,SNR=12						
MKAR	**Makanchi Array**	**58.98**	**326**	P	**P**	**13 32 41.3**	**-1.1**
	0.3nm,0.3s,baz=119,slow=7.7,SNR=6.2						

NEIC 26 13:26:50.5±0.6, 35°.998N±0°.010×97°.57W±0°.01, h4km±7km, mb_Lg3.2/113, Error ellipse: s-maj=1.6km s-min=1.0km az=150.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**155**		Pg	13 26 55.3	+0.5
OK029				Sg	Sg	13 26 57.8	+0.1
BCOK	**Bluff Creek, N**	**0.34**	**185**		Pg	13 26 57.5	+0.4
BCOK				Sg	Sg	13 27 01.7	+0.2
OK025	**Westminster Rd**	**0.46**	**156**		Pg	13 26 59.8	+0.5
OK005	**Luther M Schoo**	**0.46**	**138**		Pg	13 26 59.8	+0.4
OK005				Sg	Sg	13 27 05.2	-0.1
OK031	**S. Brethren Rd**	**0.59**	**94**		Pg	13 27 02.4	+0.5
OKCSW	**OKLAHOMA CITY**	**0.60**	**170**		Pg	13 27 02.2	+0.2
OKCSW				Sg	Sg	13 27 09.8	0.0
CROK	**Carrier**	**0.61**	**327**		Pg	13 27 02.6	+0.4
CROK				Sg	Sg	13 27 10.2	+0.2
QUOK	**Quay**	**0.72**	**76**		Pg	13 27 04.7	+0.4
QUOK				Sg	Sg	13 27 13.5	-0.1
FNO	**Franklin**	**0.75**	**169**		Pg	13 27 04.8	-0.1
BLOK	**Blackwell**	**0.81**	**20**		Pg	13 27 06.4	+0.3
GC02	**Grant County #**	**0.88**	**345**		Pg	13 27 07.4	0.0
GC02				Sg	Sg	13 27 18.7	-0.2
OK032	**Salt Plains WL**	**0.96**	**327**		Pg	13 27 08.7	-0.1
OK032				Sg	Sg	13 27 20.4	-0.8
KAN13	**South Haven SW**	**1.01**	**4**		Pg	13 27 10.0	0.0
KAN13				Sg	Sg	13 27 23.2	+0.1
KAN17	**Caldwell West**	**1.06**	**351**		Pg	13 27 10.7	-0.1
KAN17				Sg	Sg	13 27 24.4	-0.1
KAN05	**Bluff City Nor**	**1.14**	**348**		Pg	13 27 12.1	-0.2
KAN09	**Caldwell North**	**1.14**	**358**		Pg	13 27 12.2	-0.1
KAN10	**Anthony SW Sta**	**1.20**	**339**		Pg	13 27 13.2	-0.3
U32A	**Winter Ranch,**	**1.22**	**289**		Pg	13 27 13.3	-0.5
U32A	**Winter Ranch,**	**1.22**	**289**	P		13 27 13.4	
	baz=108						
U32A				S		13 27 30.4	
	baz=108						
KS20	**Mayfield South**	**1.23**	**1**		Pg	13 27 13.9	-0.1
T35A	**Sooner Cattle**	**1.25**	**43**		Pg	13 27 14.2	-0.3
T35B	**Sooner Cattle**	**1.25**	**43**	P		13 27 14.2	
	baz=223,SNR=82						
KAN08	**Anthony NE Sta**	**1.27**	**345**		Pg	13 27 14.4	-0.4
KS21	**Milan North St**	**1.29**	**357**	IAmb_Lg		13 27 32.6	
	comp=Z,113nm,0.8s						
X34A	**Smith Ranch, M**	**1.41**	**189**		Pn	13 27 17.1	+0.2
TUL1	**Leonard**	**1.45**	**93**	P		13 27 16.9	
	baz=274,SNR=84						
TUL1				S		13 27 36.8	
	baz=274						
WMOK	**Wichita Mounta**	**1.60**	**219**	Pn	Pn	13 27 19.4	-0.2
WMOK	**Wichita Mounta**	**1.60**	**219**	P		13 27 19.5	
	baz=38,SNR=57						
WMOK				S		13 27 41.1	
	baz=38						
LOOK	**Love County**	**2.03**	**171**		Pn	13 27 26.0	+0.6
X37A	**Clayton**	**2.28**	**127**		Pn	13 27 29.6	+0.7
X37A	**Clayton**	**2.28**	**127**	P		13 27 29.7	
	baz=309,SNR=41						
X37A				S		13 27 59.7	
	baz=309						
R32A	**Long Quarter,**	**2.59**	**340**		Pn	13 27 33.7	+0.6
R32A	**Long Quarter,**	**2.59**	**340**	S		13 28 06.1	
	baz=159						
U38A	**Gravette**	**2.61**	**79**		Pn	13 27 33.9	+0.4
U38A	**Gravette**	**2.61**	**79**	P		13 27 34.2	
	baz=261,SNR=12						
Z35A	**Perchaven, San**	**2.67**	**174**		Pn	13 27 35.0	+0.7
Z35A	**Perchaven, San**	**2.67**	**174**	P		13 27 35.0	
	baz=354,SNR=16						
HHAR	**Hobbs**	**2.95**	**83**	Pn	Pn	13 27 38.3	+0.1
W39A	**Magazine**	**3.19**	**103**	Pn	Pn	13 27 41.5	+0.2
W39A				IAmb_Lg		13 28 40.3	
	comp=Z,89nm,0.8s						
W39A	**Magazine**	**3.19**	**103**	P		13 27 41.8	
	baz=286,SNR=13						
W39A				S		13 28 20.6	
	baz=286						
KSU1	**Kansas State U**	**3.19**	**14**	IAmb_Lg		13 28 39.4	
	comp=Z,69nm,0.8s						
KSU1	**Kansas State U**	**3.19**	**14**	P		13 27 42.4	
	baz=194,SNR=7.8						
CBKS	**Cedar Bluff**	**3.30**	**329**	IAmb_Lg		13 28 39.0	
	comp=Z,53nm,0.7s						
Z38A	**Mt. Pleasant**	**3.46**	**141**	Pn	Pn	13 27 45.0	-0.1
Z38A				IAmb_Lg		13 28 44.4	
	comp=Z,50nm,0.9s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	13 27 46.5	+0.2
AMTX				IAmb_Lg		13 28 51.2	
	comp=Z,50nm,0.9s						
MIAR	**Mount Ida**	**3.57**	**113**	Pn	Pn	13 27 47.1	+0.4
MIAR				IAmb_Lg		13 28 49.8	
	comp=Z,51nm,0.7s						
MIAR	**Mount Ida**	**3.57**	**113**	P		13 27 47.8	
	baz=295,SNR=26						
MIAR				S		13 28 30.3	
	baz=295						
ABTX	**Abilene, Hawle**	**3.78**	**208**	IAmb_Lg		13 28 49.0	
	comp=Z,48nm,0.8s						
U40A	**Yellville**	**3.83**	**83**	Pn	Pn	13 27 49.8	-0.4
WHTX	**Lake Whitney,**	**4.00**	**179**		Pn	13 27 52.1	-0.4
WHTX	**Lake Whitney,**	**4.00**	**179**	P		13 27 52.7	
	baz=359,SNR=12						
X40A	**Basin Creek Fa**	**4.16**	**110**	Pn	Pn	13 27 54.6	-0.1
X40A				IAmb_Lg		13 29 05.7	
	comp=Z,80nm,0.8s						
237A	**Washetta, Mont**	**4.25**	**159**		Pn	13 27 55.6	-0.3
WLAR	**White Oak Lake**	**4.33**	**121**	Pn	Pn	13 27 57.0	0.0
WLAR				IAmb_Lg		13 29 16.6	
	comp=Z,41nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**98**	Pn	Pn	13 27 57.6	+0.2
WHAR				IAmb_Lg		13 29 17.2	
	comp=Z,48nm,0.7s						
W41B	**Gary Mavity, V**	**4.41**	**99**	P		13 27 58.2	
	baz=282,SNR=8.1						
W41B				S		13 28 49.3	
	baz=282						
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	Pn	13 27 57.9	-0.4
FCAR				IAmb_Lg		13 29 16.7	
	comp=Z,56nm,1.0s						
MGMO	**Mountain Grove**	**4.42**	**73**	Pn	Pn	13 27 58.3	0.0
MGMO				IAmb_Lg		13 29 17.1	
	comp=Z,39nm,0.8s						
MSTX	**Muleshoe**	**4.73**	**246**	Pn	Pn	13 28 02.8	+0.1
N33B	**J Bar K, Exete**	**4.73**	**1**	S		13 28 56.8	
	baz=181						
N33A	**J Bar K, Exete**	**4.73**	**1**	IAmb_Lg		13 29 32.3	
	comp=Z,52nm,0.8s						
R40A	**Maddes Statio**	**4.81**	**60**		Pn	13 28 03.6	-0.1
R40A				IAmb_Lg		13 29 20.5	
	comp=Z,31nm,1.0s						
R40A	**Maddes Statio**	**4.81**	**60**	P		13 28 03.9	
	baz=243,SNR=12						
P38A	**Dawn**	**4.83**	**40**	Pn	Pn	13 28 04.0	+0.1
P38A				IAmb_Lg		13 29 31.3	
	comp=Z,31nm,0.7s						
N35A	**Tabor**	**5.08**	**17**	Pn	Pn	13 28 06.7	-0.8
CCAR	**Cane Creek**	**5.19**	**112**	Pn	Pn	13 28 08.0	-0.9
LCAR	**Lake Charles**	**5.20**	**87**	Pn	Pn	13 28 08.6	-0.4
LCAR				IAmb_Lg		13 29 40.2	
	comp=Z,55nm,0.9s						
435B	**Jarrell**	**5.20**	**180**	Pn	Pn	13 28 09.0	-0.1
435B				IAmb_Lg		13 29 49.1	
	comp=Z,49nm,0.8s						
BGNE	**Belgrade**	**5.42**	**355**	Pn	Pn	13 28 11.6	-0.5
CCM	**Cathedral Cave**	**5.46**	**66**	Pn	Pn	13 28 12.3	-0.3
CCM				IAmb_Lg		13 29 47.3	
	comp=Z,33nm,0.8s						
P40A	**Paris**	**5.62**	**49**	Pn	Pn	13 28 14.5	-0.2
P40A				IAmb_Lg		13 29 55.9	
	comp=Z,37nm,0.7s						
T25A	**Trinidad**	**5.62**	**284**	IAmb_Lg		13 29 52.2	
	comp=Z,39nm,0.8s						
OGNE	**Ogallala**	**6.05**	**326**	IAmb_Lg		13 30 11.2	
	comp=Z,24nm,0.7s						
OGNE	**Ogallala**	**6.05**	**326**	P		13 28 21.6	
	baz=143,SNR=7.7						
143A	**Socs Landing,**	**6.07**	**121**	IAmb_Lg		13 30 08.9	
	comp=Z,30nm,0.8s						
SLM	**Saint Louis**	**6.41**	**64**	IAmb_Lg		13 30 21.1	
	comp=Z,26nm,0.7s						
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		13 30 32.8	
	comp=Z,39nm,0.7s						
SCIA	**State Center**	**6.80**	**29**	P		13 28 31.3	
	baz=211,SNR=6.0						
OXF	**Oxford**	**6.84**	**100**	IAmb_Lg		13 30 29.9	
	comp=Z,42nm,0.8s						
W45A	**Hickory Valley**	**6.88**	**95**	IAmb_Lg		13 30 45.5	
	comp=Z,42nm,0.9s						
Y45A	**Yeager Farm, C**	**6.93**	**106**	IAmb_Lg		13 30 38.0	
	comp=Z,27nm,0.8s						
VBMS	**Vicksburg**	**6.96**	**121**	IAmb_Lg		13 30 51.1	
	comp=Z,21nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.33**	**58**	IAmb_Lg		13 30 50.2	
	comp=Z,34nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.33**	**58**	P		13 28 38.1	
	baz=243,SNR=6.0						
146A	**Union**	**7.80**	**113**	IAmb_Lg		13 31 15.2	
	comp=Z,27nm,1.1s						
PLAL	**Pickwick Lake**	**7.81**	**95**	IAmb_Lg		13 31 03.1	
	comp=Z,16nm,0.8s						
L40A	**Anamosa**	**7.81**	**37**	IAmb_Lg		13 31 04.1	
	comp=Z,26nm,0.8s						
WVT	**Waverly**	**7.89**	**86**	IAmb_Lg		13 31 06.4	
	comp=Z,16nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.91**	**259**	IAmb_Lg		13 31 13.7	
	comp=Z,26nm,0.8s						
O44A	**Mansfield**	**8.29**	**57**	IAmb_Lg		13 31 18.9	
	comp=Z,24nm,0.9s						
SUSD	**Miller**	**8.50**	**353**	IAmb_Lg		13 31 42.9	
	comp=Z,28nm,1.0s						
L42A	**Oliver, Polo**	**8.59**	**43**	IAmb_Lg		13 31 23.1	
	comp=Z,19nm,0.8s						
V48A	**Smith Brothers**	**8.73**	**89**	IAmb_Lg		13 31 28.6	
	comp=Z,16nm,0.9s						
JFWS	**Jewell Farm**	**8.93**	**37**	IAmb_Lg		13 31 44.0	
	comp=Z,20nm,0.8s						
P46A	**Rosedale**	**8.96**	**63**	IAmb_Lg		13 31 41.8	
	comp=Z,31nm,0.8s						
CLTN	**Cedars of Leba**	**9.10**	**86**	IAmb_Lg		13 31 44.2	
	comp=Z,14nm,0.9s						
WCI	**Wyandotte Cave**	**9.28**	**73**	IAmb_Lg		13 31 47.1	
	comp=Z,25nm,0.9s						
BLO	**Bloomington**	**9.32**	**67**	IAmb_Lg		13 31 52.8	
	comp=Z,28nm,0.7s						
SFIN	**Lafayette**	**9.33**	**59**	IAmb_Lg		13 31 55.1	
	comp=Z,19nm,0.7s						
Y49A	**Blount Mountai**	**9.41**	**100**	IAmb_Lg		13 32 01.2	
	comp=Z,14nm,0.8s						
SWET	**Sewanee**	**9.51**	**91**	IAmb_Lg		13 31 55.1	
	comp=Z,16nm,0.8s						
I40A	**Norwalk**	**9.52**	**32**	IAmb_Lg		13 32 04.2	
	comp=Z,14nm,0.9s						
U49A	**Red Boiling Sp**	**9.54**	**83**	IAmb_Lg		13 31 51.1	
	comp=Z,18nm,1.0s						
L44A	**Lake County Fo**	**9.71**	**48**	IAmb_Lg		13 32 07.8	
	comp=Z,21nm,0.9s						
K43A	**Burlington**	**9.79**	**44**	IAmb_Lg		13 32 19.2	
	comp=Z,23nm,0.9s						
F33A	**5 Mile Ranch,**	**9.88**	**5**	IAmb_Lg		13 32 08.9	
	comp=Z,14nm,1.0s						
FPAL	**Fort Paine**	**9.89**	**95**	IAmb_Lg		13 32 12.3	
	comp=Z,12nm,0.8s						
SPMN	**Marine on St.**	**9.90**	**20**	IAmb_Lg		13 32 09.8	
	comp=Z,12nm,0.8s						

IDC 26 13:32:39.5±2.1, 10°.16S×125°.98E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=118.2km s-min=27.4km az=57.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.63**	**141**	Pn	Pn	13 35 40.9	+0.2
	0.2nm,0.3s,baz=316,slow=14,SNR=9.0						
WRA				Sn	Sn	13 38 04.2	+2.0
	0.1nm,0.3s,baz=322,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**15.41**	**152**	Pn	Pn	13 36 17.9	-0.6
	0.1nm,0.3s,baz=319,slow=11,SNR=16						
ASAR				Sn	Sn	13 39 11.0	+0.9
	0.0nm,0.3s,baz=317,slow=22,SNR=2.0						
MKAR	**Makanchi Array**	**68.79**	**329**	P	P	13 43 45.6	+0.1
	0.2nm,0.4s,baz=144,slow=6.9,SNR=2.9						

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*NEIC **26** 13:35:39.2±1.4, 17°.8S±0°.2×178°.8W±0°.1, h559km±9km, mb4.4/18, Error ellipse: s-maj=24.4km s-min=15.3km az=153.0*
*IDC **26** 13:35:39.6±2.6, 17°.94S×178°.77W, h568km±21km, mb3.0/4, mb1 3.2/6, mb1mx2.8/42, mbtmp3.9/6, Error ellipse: s-maj=105.3km s-min=25.3km az=152.0*
ISC 26 13:35:39.3±0.6, 17°.9S±0°.1×178°.74W±0°.09, h579km, n30, σ1§27/30, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**273**	P	**P**	**13 36 56.1**	**-1.0**
	1.1nm,0.3s,baz=283,slow=23,SNR=5.6						
MSVF	**Nonsavu**	**3.06**	**273**	P	**P**	**13 36 55.8**	**-1.4**
NIUE	**Niue**	**8.44**	**99**	P	**P**	**13 37 38.5**	**-3.7**
MARNC	**Mare, Loyalty**	**12.95**	**252**	P	**P**	**13 38 27.1**	**-0.6**
DZM	**Mont Dzumac**	**14.53**	**251**	P	**P**	**13 38 45.5**	**+1.9**
	0.3nm,0.3s,baz=30,slow=22,SNR=2.0						
DZM	**Mont Dzumac**	**14.53**	**251**	P	**P**	**13 38 44.6**	**+1.0**
EIDS	**Eidsvold**	**28.97**	**250**	P	**P**	**13 40 51.2**	**-2.1**
EIDS				IAmb	IAmb	13 40 59.0	
	comp=Z,5.9nm,1.2s						
JOHN	**Johnston Islan**	**35.60**	**15**	P	**P**	**13 41 48.7**	**-0.7**
TOO	**Toolangi**	**36.92**	**231**	P	**P**	**13 41 59.9**	**-0.2**
TOO				IAmb	IAmb	13 42 22.3	
	comp=Z,51nm,1.4s						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**13 42 12.4**	**+0.6**
	comp=Z,5.4nm,1.2s,baz=101,slow=10,SNR=4.0						
STKA	**Stephens Creek**	**38.35**	**241**	P	**P**	**13 42 12.2**	**+0.3**
TAOE	**Nuku Hiva Isla**	**38.54**	**82**	P	**P**	**13 42 13.9**	**+0.2**
TAOE				IAmb	IAmb	13 42 26.6	
	comp=Z,151nm,1.5s						
MCQ	**Macquarie Isla**	**40.35**	**200**	P	**P**	**13 42 28.8**	**+1.4**
BBOO	**Buckleboo**	**43.13**	**241**	P	**P**	**13 42 50.7**	**+1.0**
BBOO				IAmb	IAmb	13 43 08.3	
	comp=Z,26nm,1.4s						
KIP	**Kipapa**	**44.05**	**28**	P	**P**	**13 42 57.5**	**+0.7**
KIP				IAmb	IAmb	13 43 13.0	
	comp=Z,44nm,1.2s						
WR0	**Warramunga Arr**	**44.13**	**260**	P	**P**	**13 42 58.5**	**+0.9**
WR0				IAmb	IAmb	13 43 11.7	
	comp=Z,6.4nm,1.4s						
WB0	**Warramunga Arr**	**44.29**	**260**	P	**P**	**13 42 58.9**	**0.0**
WB0				IAmb	IAmb	13 43 05.4	
	comp=Z,8

*IDC **26** 13:47:54.6±0.6, 55°.53S×27°.47W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/29, mbtmp4.4/13, ML4.0/1, MS3.6/9, Ms1 3.5/9, ms1mx3.4/19, Error ellipse: s-maj=20.6km s-min=15.1km az=53.0*
*NEIC **26** 13:47:59.6±1.3, 55°.6S±0°.1×27°.7W±0°.2, h34km±5km, mb4.9/48, Error ellipse: s-maj=17.1km s-min=12.7km az=219.0*
ISC 26 13:47:55.8±0.5, **55°.60S**±0°.07×**27°.53W**±0°.09, **h10**km, **n131**, σ0**°72**/122, **mb4.8**/25, **MS3.6**/8, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.33**	**281**	Pn	**Pn**	**13 49 15.3**	**0.0**
VNA1	**Neumayer--Stat**	**17.28**	**158**	P	**P**	**13 51 59.1**	**+0.8**
VNA1				S	**S**	**13 55 16.2**	**-1.6**
VNA3	**Neumayer Olymp**	**17.48**	**161**	P	**P**	**13 52 00.9**	**+0.3**
VNA2	**Neumayer--Watz**	**17.68**	**158**	P	**P**	**13 52 03.7**	**+1.0**
	baz=312,slow=12						
VNA2				S	**Sn**	**13 55 16.1**	**-2.4**
EFI	**East Falkland**	**18.44**	**270**	P	**P**	**13 52 11.6**	**+0.4**
EFI				IAmb	IAmb	13 52 38.3	
	comp=Z,112nm,1.5s						
SNAA	**Sanae**	**19.23**	**156**	P	**P**	**13 52 20.4**	**+0.6**
SNAA	**Sanae**	**19.23**	**156**	P	**P**	**13 52 20.4**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=311,slow=7.8,SNR=25						
SNAA				LR	LR	13 58 22.0	
	comp=Z,150nm,18.2s,baz=12,slow=32						
SNAA	**Sanae**	**19.23**	**156**		**P**	**13 52 20.1**	**+0.3**
PMSA	**Palmer Station**	**20.05**	**228**	P	Pn	13 52 30.7	+0.3
	comp=Z,4.8nm,0.8s,baz=66,slow=7.8,SNR=6.5						
PMSA				LR	LR	13 58 36.2	
	comp=Z,65nm,20.2s,baz=64,slow=32						
PMSA	**Palmer Station**	**20.05**	**228**	P	**P**	**13 52 29.8**	**+1.1**
PMSA	**Palmer Station**	**20.05**	**228**	*eP*	Pn	13 52 30.5	0.0
BELA	**Belgrano 2**	**22.51**	**184**	P	**P**	**13 52 55.3**	**+0.2**
MG01	**Puerto William**	**22.64**	**255**	P	**P**	**13 52 55.9**	**-0.8**
MG02	**Cerro Sombrero**	**24.29**	**259**	P	**P**	**13 53 12.4**	**-0.6**
GO09	**Cerro Castillo**	**26.68**	**260**	P	**P**	**13 53 33.5**	**-1.1**
TRQA	**Tornquist**	**28.97**	**293**	P	**P**	**13 53 55.1**	**-0.2**
TRQA				IAmb	IAmb	13 53 56.7	
	comp=Z,9.7nm,0.7s						
TRQA	**Tornquist**	**28.97**	**293**	*eP*	**P**	**13 53 55.4**	**+0.1**
PLTB	**Pedras Altas**	**30.05**	**312**	P	**P**	**13 54 05.1**	**+0.2**
PLTB	**Pedras Altas**	**30.05**	**312**	*eP*	**P**	**13 54 04.7**	**-0.2**
PLCA	**Paso Flores**	**31.73**	**280**	LR	LR	14 08 24.7	
	comp=Z,58nm,18.0s,baz=148,slow=39						
PLCA	**Paso Flores**	**31.73**	**280**	*eP*	**P**	**13 54 21.3**	**+1.6**
TIJ01	**Guaruva-PR**	**34.09**	**324**	*eP*	**P**	**13 54 41.7**	**+1.3**
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**13 54 45.9**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=24,slow=0.8,SNR=46						
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**13 54 45.3**	**+0.3**
QSPA				IAmb	IAmb	13 54 52.2	
	comp=Z,11nm,1.4s						
VAS01	**Vassouras-RJ**	**35.33**	**334**	*eP*	**P**	**13 54 51.1**	**+0.1**
CAM01	**Campos-RJ**	**35.34**	**337**	*eP*	**P**	**13 54 51.2**	**+0.1**
VAO	**Valinhos**	**35.60**	**328**	*eP*	**P**	**13 54 54.8**	**+1.3**
CPUP	**Villa Florida**	**36.37**	**311**	P	**P**	**13 54 59.5**	**-0.5**
	comp=Z,6.5nm,0.8s,baz=138,slow=7.9,SNR=7.2						
CPUP				LR	LR	14 08 10.2	
	comp=Z,90nm,20.2s,baz=155,slow=33						
CPUP	**Villa Florida**	**36.37**	**311**	P	**P**	**13 54 59.7**	**-0.3**
CPUP	**Villa Florida**	**36.37**	**311**	*eP*	**P**	**13 54 59.6**	**-0.3**
GO05	**Huala**	**36.57**	**285**	P	**P**	**13 55 00.5**	**-1.2**
BO01	**Tunca**	**36.57**	**287**	P	**P**	**13 55 01.0**	**-0.7**
BO01				IAmb	IAmb	13 55 01.5	
	comp=Z,20nm,1.4s						
BSCB	**Bom Sucesso**	**36.89**	**333**	*eP*	**P**	**13 55 05.2**	**+0.6**
MT09	**Talagante**	**36.99**	**288**	P	**P**	**13 55 03.9**	**-1.5**
MT01	**Popeta**	**37.06**	**287**	P	**P**	**13 55 04.5**	**-1.4**
MT01				IAmb	IAmb	13 55 05.3	
	comp=Z,11nm,0.8s						
MT05	**Renca**	**37.15**	**288**	P	**P**	**13 55 06.4**	**-0.2**
VA05	**Santo Domingo**	**37.42**	**287**	P	**P**	**13 55 08.1**	**-0.7**
VA03	**San Esteban**	**37.53**	**289**	P	**P**	**13 55 09.0**	**-0.9**
VA03				IAmb	IAmb	13 55 12.7	
	comp=Z,11nm,0.6s						
BSFB	**Barra de Sao F**	**38.07**	**339**	*eP*	**P**	**13 55 14.1**	**-0.4**
NAN01	**Guarapari, ES**	**38.89**	**341**	*eP*	**P**	**13 55 21.2**	**-0.2**
DIAM	**Diamantina, MG**	**39.21**	**335**	*eP*	**P**	**13 55 24.4**	**+0.2**
GO04	**Tololo Observa**	**39.68**	**292**	P	**P**	**13 55 27.2**	**-0.9**
GO04				IAmb	IAmb	13 55 28.6	
	comp=Z,15nm,0.8s						
ITRB	**Iturama**	**39.76**	**325**	*eP*	**P**	**13 55 29.5**	**+0.9**
GUA01	**Guaratinga, BA**	**40.06**	**342**	*eP*	**P**	**13 55 31.2**	**0.0**
LCO	**Las Campanas**	**40.55**	**293**	P	**P**	**13 55 35.5**	**0.0**
LCO				IAmb	IAmb	13 55 36.0	
	comp=Z,20nm,0.7s						
MAW	**Mawson**	**40.63**	**144**	P	**P**	**13 55 36.3**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=235,slow=9.0,SNR=6.6						
MAW				LR	LR	14 09 50.3	
	comp=Z,96nm,21.1s,baz=240,slow=32						
MAW	**Mawson**	**40.63**	**144**	P	**P**	**13 55 35.4**	**+0.1**
MC01	**Montes Claros**	**40.80**	**336**	*eP*	**P**	**13 55 37.1**	**-0.3**
AQDB	**Aquidauana**	**40.94**	**318**	P	**P**	**13 55 37.5**	**-0.8**
AQDB	**Aquidauana**	**40.94**	**318**	*eP*	**P**	**13 55 38.0**	**-0.4**
CMC01	**Camacan, BA**	**41.21**	**342**	*eP*	**P**	**13 55 40.3**	**-0.3**
AC04	**Llanos de Chal**	**41.39**	**293**	P	**P**	**13 55 41.9**	**-0.2**
GO03	**Copiap**	**41.45**	**295**	P	**P**	**13 55 42.0**	**-0.6**
GO03				IAmb	IAmb	13 55 43.5	
	comp=Z,21nm,0.8s						
AC02	**Maricunga**	**41.50**	**296**	P	**P**	**13 55 43.7**	**+0.1**
AC02				IAmb	IAmb	13 55 46.1	
	comp=Z,23nm,0.8s						
NBIT	**Itapeh - BA**	**41.62**	**343**	*eP*	**P**	**13 55 43.6**	**-0.3**
JANB	**Januaria**	**42.48**	**336**	*eP*	**P**	**13 55 51.2**	**+0.1**
GDU01	**Guandu, BA**	**42.82**	**343**	*eP*	**P**	**13 55 53.4**	**-0.4**
BDFB	**Brasilia**	**42.88**	**330**	LR	LR	14 11 46.0	
	comp=Z,73nm,18.0s,baz=125,slow=33						
GO02	**Mina Guanaco**	**43.11**	**297**	P	**P**	**13 55 56.5**	**+0.1**
GO02				IAmb	IAmb	13 55 57.8	
	comp=Z,35nm,1.1s						
ARAG	**Araguaiana, MT**	**43.97**	**325**	*eP*	**P**	**13 56 04.0**	**+1.0**
PB14	**IPOC Station P**	**43.97**	**297**	P	**P**	**13 56 02.3**	**-1.1**
PB14				IAmb	IAmb	13 56 21.4	
	comp=Z,29nm,1.4s						
LVC	**Limon Verde**	**44.91**	**300**	P	**P**	**13 56 12.1**	**+1.1**
	comp=Z,15nm,0.6s,baz=117,slow=3.0,SNR=17						
LVC	**Limon Verde**	**44.91**	**300**	P	**P**	**13 56 11.3**	**+0.3**
LVC				IAmb	IAmb	13 56 13.7	
	comp=Z,15nm,0.7s						
LVC	**Limon Verde**	**44.91**	**300**	*eP*	**P**	**13 56 12.0**	**+1.1**
PB10	**IPOC Station P**	**44.97**	**298**	P	**P**	**13 56 10.6**	**-0.4**
SALV	**Santo Antonio**	**45.12**	**320**	*eP*	**P**	**13 56 12.6**	**+0.3**
SDBA	**SAO DESIDERIO**	**45.17**	**336**	*eP*	**P**	**13 56 12.7**	**-0.1**
NBPN	**Ponto Novo - B**	**45.74**	**342**	*eP*	**P**	**13 56 16.5**	**-0.7**
PB09	**IPOC Station P**	**45.76**	**300**	P	**P**	**13 56 18.3**	**+0.8**
PB09				IAmb	IAmb	13 56 20.3	
	comp=Z,36nm,1.5s						
BOSA	**Boshof**	**46.05**	**77**	P	**P**	**13 56 20.1**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=209,slow=5.4,SNR=6.9						
BOSA				LR	LR	14 11 24.8	
	comp=Z,80nm,19.0s,baz=195,slow=31						
BOSA	**Boshof**	**46.05**	**77**	P	**P**	**13 56 20.2**	**+0.5**
BOSA				IAmb	IAmb	13 56 47.5	
	comp=Z,12nm,1.4s						
PB07	**IPOC Station P**	**46.13**	**300**	P	**P**	**13 56 20.3**	**-0.1**
PB07				IAmb	IAmb	13 56 45.0	
	comp=Z,19nm,1.2s						
PEXB	**Peixe**	**46.33**	**331**	*eP*	**P**	**13 56 22.3**	**+0.5**
SBA	**Scott Base**	**46.51**	**184**	P	**P**	**13 56 23.1**	**+0.5**
PB01	**IPOC Station P**	**46.52**	**301**	P	**P**	**13 56 23.8**	**+0.4**
VNDA	**Vanda**	**47.01**	**183**	P	**P**	**13 56 27.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=189,slow=8.2,SNR=11						
VNDA	**Vanda**	**47.01**	**183**	P	**P**	**13 56 26.9**	**+0.4**
PB08	**IPOC Station P**	**47.12**	**302**	P	**P**	**13 56 28.7**	**+0.3**
PB08				IAmb	IAmb	13 56 31.8	
	comp=Z,15nm,0.7s						
SIV	**San Ignacio**	**47.13**	**314**	P	**P**	**13 56 27.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=178,slow=6.9,SNR=7.5						
TA01	**Diego Aracena**	**47.26**	**300**	P	**P**	**13 56 29.5**	**+0.4**
TA01				IAmb	IAmb	13 56 38.2	
	comp=Z,20nm,1.1s						
SNDB	**Serra Nova Dou**	**47.31**	**328**	*eP*	**P**	**13 56 30.3**	**+0.8**
H10S2	**ASCENSION HYDR**	**47.63**	**17**	T	T	14 47 58.0	
	baz=189,slow=74,SNR=48						
H10S3	**ASCENSION HYDR**	**47.63**	**17**	T	T	14 47 57.4	
	baz=31,slow=74,SNR=82						
PB11	**IPOC Station P**	**47.69**	**301**	P	**P**	**13 56 32.6**	**+0.1**
PSGCX	**Pisagua**	**48.05**	**301**	P	**P**	**13 56 34.9**	**-0.5**
PSGCX				IAmb	IAmb	13 56 36.0	
	comp=Z,8.0nm,0.7s						
MNMC	**Minye Minye**	**48.20**	**302**	P	**P**	**13 56 37.0**	**+0.3**
H10N1	**ASCENSION HYDR**	**48.75**	**17**	T	T	14 49 21.6	
	baz=189,slow=75,SNR=51						
H10N3	**ASCENSION HYDR**	**48.75**	**17**	T	T	14 49 22.8	
	baz=189,slow=75,SNR=54						
H10N2	**ASCENSION HYDR**	**48.76**	**17**	T	T	14 49 22.2	
	baz=189,slow=75,SNR=53						
LBTB	**Lobatse**	**49.07**	**74**	P	**P**	**13 56 43.6**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=234,slow=10,SNR=2.8						
LBTB	**Lobatse**	**49.07**	**74**	P	**P**	**13 56 43.1**	**0.0**
LBTB				IAmb	IAmb	13 56 58.0	
	comp=Z,12nm,1.2s						
SMTB	**Santa Maria do**	**49.24**	**333**	*eP*	**P**	**13 56 45.2**	**+0.8**
VILB	**Vilhena**	**49.52**	**316**	*eP*	**P**	**13 56 45.7**	**-0.9**
CLDB	**Colider**	**49.81**	**322**	*eP*	**P**	**13 56 48.2**	**-0.5**
LPAZ	**La Paz**	**49.96**	**305**	P	**P**	**13 56 51.1**	**+0.6**
	comp=Z,15nm,0.6s,baz=138,slow=5.5,SNR=84						
LPAZ	**La Paz**	**49.96**	**305**	P	**P**	**13 56 50.6**	**0.0**
LPAZ	**La Paz**	**49.96**	**305**	*eP*	**P**	**13 56 51.2**	**+0.6**
NBPA	**Parau_RN**	**50.30**	**348**	*eP*	**P**	**13 56 51.8**	**-0.7**
NBPB	**Pedra_Branca-C**	**50.84**	**344**	*eP*	**P**	**13 56 56.5**	**0.0**
NBPS	**Pedro II - PI**	**52.27**	**342**	*eP*	**P**	**13 57 07.3**	**0.0**
PRPB	**Parauapebas**	**52.41**	**332**	*eP*	**P**	**13 57 08.7**	**+0.4**
NBMO	**Morrinhos-CE**	**53.10**	**344**	*eP*	**P**	**13 57 12.9**	**-0.5**
NPGB	**Novo Progresso**	**53.24**	**325**	*eP*	**P**	**13 57 14.4**	**-0.1**
ROSB	**Rosrio**	**54.23**	**339**	*eP*	**P**	**13 57 21.6**	**0.0**
SAML	**Samuel**	**54.35**	**315**	*eP*	**P**	**13 57 21.9**	**-0.6**
ETMB	**Extrema**	**54.82**	**311**	*eP*	**P**	**13 57 25.4**	**-0.5**
MALB	**Monte Alegre**	**57.79**	**328**	*eP*	**P**	**13 57 47.8**	**+0.7**
MCPB	**Macapa, AP**	**58.57**	**331**	*eP*	**P**	**13 57 53.3**	**+0.7**
MACA	**Manacapuru-AM**	**58.70**	**320**	*eP*	**P**	**13 57 52.4**	**-1.1**
BOAV	**Boa Vista**	**63.80**	**323**	*eP*	**P**	**13 58 27.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**72.76**	**30**	P	**P**	**13 59 24.5**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=199,slow=5.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**72.76**	**30**	P	**P**	**13 59 24.5**	**+0.4**
SDV	**Santo Domingo**	**73.55**	**315**	LR	LR	14 30 54.7	
	comp=Z,93nm,21.2s,baz=174,slow=35						
KMBO	**Kilima Mbogo**	**75.06**	**69**	LR	LR	14 29 39.2	
	comp=Z,41nm,21.4s,baz=96,slow=33						
ASAR	**Alice Springs**	**99.48**	**163**	P	**Pdif**	**14 01 38.2**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=181,slow=4.6,SNR=7.7						
FINES	**FINESS Array B**	**124.08**	**28**	PKP	**PKPdf**	**14 06 52.3**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=169,slow=3.9,SNR=10						
ARCES	**ARCESS Array B**	**130.60**	**22**	PKP	**PKPdf**	**14 07 04.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=191,slow=2.8,SNR=8.1						
INK	**Inuvik**	**145.33**	**321**		**PKPbc**	**14 07 31.4**	**-0.6**
EPYK	**Eagle Plains**	**145.96**	**317**		**PKPdf**	**14 07 33.7**	**+0.3**
DAWY	**Dawson**	**146.35**	**313**		**PKPdf**	**14 07 34.4**	**+0.3**
BCAR	**Beaver Creek A**	**147.05**	**310**	PKPbc	**PKPdf**	**14 07 36.8**	**+1.5**
L27K	**Beaver Creek,**	**147.07**	**310**	PKPdf	**PKPdf**	**14 07 35.4**	**+0.1**
EGAK	**Eagle**	**147.29**	**313**		**PKPdf**	**14 07 36.6**	**+1.1**
HDA	**Harding Lake**	**149.62**	**312**		**PKPbc**	**14 07 43.8**	**-0.2**
ILAR	**Eielson Array**	**149.67**	**312**	PKPbc	**PKPbc**	**14 07 43.8**	**-0.4**
	comp=Z,7.8nm,0.8s,baz=128,slow=1.8,SNR=48						
ILAR	**Eielson Array**	**149.67**	**312**		**PKPbc**	**14 07 43.1**	**-1.0**
CCB	**Clear Creek Bu**	**150.03**	**312**		**PKPbc**	**14 07 43.8**	**-1.2**
WRH	**Wood River Hil**	**150.12**	**311**		**PKPbc**	**14 07 44.4**	**-0.8**
MDM	**Murphy Dome**	**150.27**	**312**		**PKPbc**	**14 07 44.4**	**-1.2**
SONM	**Songino Array**	**150.89**	**86**	PKPbc	**PKPbc**	**14 07 47.5**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=238,slow=2.2,SNR=6.4						
MLY	**Manley**	**151.33**	**312**		**PKPbc**	**14 07 47.4**	**-0.8**

*NEIC **26** 13:52:11.6±0.3, 19°.16N±0°.02×65°.91W±0°.04, h38km±45km, Error ellipse: s-maj=5.8km s-min=2.7km az=105.0*
*RSPR **26** 13:52:12.6, 19°.16N×65°.91W, h39km±4km, MD3.0/9*
ISC 26 13:52:10.6±2.0, **19°.2N**±0°.1×**65°.91W**±0°.03, **h28**km, **n36**, σ0**°23**/46, **8C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovas**	**0.88**	**177**	⇑*eP*	**Pb**	**13 52 27.4**	**+0.1**
CBYP	**Canovas**	**0.88**	**177**	*eS*	**Sn**	**13 52 39.2**	**0.0**
CBYP	**Canovas**	**0.88**	**177**		**Pb**	**13 52 27.4**	**+0.1**
CBYP					**Sn**	**13 52 39.2**	**0.0**
EMPR	**Esperanza - Ma**	**0.90**	**221**	⇑*eP*	**Pn**	**13 52 27.7**	**+0.3**
EMPR	**Esperanza - Ma**	**0.90**	**221**	*eS*	**Sb**	**13 52 39.4**	**+0.1**
EMPR	**Esperanza - Ma**	**0.90**	**221**		**Pn**	**13 52 27.7**	**+0.3**
EMPR					**Sb**	**13 52 39.4**	**+0.1**
HUMP	**Col San Antoni**	**1.01**	**177**	⇑*eP*	**Pb**	**13 52 29.3**	**-0.2**
HUMP	**Col San Antoni**	**1.01**	**177**	*eS*	**Sb**	**13 52 42.4**	**0.0**
HUMP	**Col San Antoni**	**1.01**	**177**		**Pb**	**13 52 29.3**	**-0.2**
HUMP					**Sb**	**13 52 42.4**	**0.0**
CUPR	**Culebra, Puert**	**1.03**	**145**	⇑*eP*	**Pb**	**13 52 29.7**	**-0.1**
CUPR	**Culebra, Puert**	**1.03**	**145**	*eS*	**Sb**	**13 52 42.6**	**-0.3**
CUPR	**Culebra, Puert**	**1.03**	**145**		**Pb**	**13 52 29.7**	**-0.1**
CUPR					**Sb**	**13 52 42.6**	**-0.3**
SJG	**San Juan**	**1.06**	**193**		**Pb**	**13 52 30.4**	**-0.1**
SJG				IAML		13 52 44.8	
	66nm,0.3s						
MTP	**Monte Pirata**	**1.10**	**162**	⇓*eP*	**Pn**	**13 52 30.6**	**+0.3**
MTP	**Monte Pirata**	**1.10**	**162**	*eS*	**Sn**	**13 52 44.5**	**-0.1**
MTP	**Monte Pirata**	**1.10**	**162**		**Pn**	**13 52 30.6**	**+0.3**
MTP					**Sn**	**13 52 44.5**	**-0.1**
AOPR	**Arecibo Observ**	**1.14**	**225**	⇑*eP*	**Pn**	**13 52 31.0**	**+0.3**
AOPR	**Arecibo Observ**	**1.14**	**225**	*eS*	**Sn**	**13 52 45.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.14**	**225**		**Pn**	**13 52 31.0**	**+0.3**
AOPR					**Sn**	**13 52 45.1**	**-0.4**
IGPR	**InterUniversit**	**1.20**	**189**	⇑*eP*	**Pb**	**13 52 32.6**	**-0.1**
IGPR	**InterUniversit**	**1.20**	**189**	*eS*	**Sn**	**13 52 47.0**	**+0.1**
IGPR	**InterUniversit**	**1.20**	**189**		**Sn**	**13 52 47.0**	**+0.1**
STVI	**Saint Thomas**	**1.21**	**131**	⇓*eP*	**Pn**	**13 52 31.9**	**+0.3**
STVI	**Saint Thomas**	**1.21**	**131**	*eS*	**Sn**	**13 52 47.0**	**0.0**
STVI	**Saint Thomas**	**1.21**	**131**		**Pn**	**13 52 31.9**	**+0.3**
STVI					**Sn**	**13 52 47.0**	**0.0**
CELP	**Cerrillos**	**1.25**	**211**	⇑*eP*	**Pn**	**13 52 32.4**	**+0.1**
CELP	**Cerrillos**	**1.25**	**211**	*eS*	**Sn**	**13 52 48.2**	**0.0**
CELP	**Cerrillos**	**1.25**	**211**		**Pn**	**13 52 32.4**	**+0.1**
CELP					**Sn**	**13 52 48.2**	**0.0**
OBIP	**Obispado Ponce**	**1.29**	**211**	⇓*eP*	**Pn**	**13 52 33.2**	**+0.4**
OBIP	**Obispado Ponce**	**1.29**	**211**	*eS*	**Sn**	**13 52 48.9**	**-0.2**
OBIP	**Obispado Ponce**	**1.29**	**211**		**Pn**	**13 52 33.2**	**+0.4**
OBIP					**Sn**	**13 52 48.9**	**-0.2**
LSP	**Las Mesas**	**1.48**	**229**	⇑*eP*	**Pn**	**13 52 35.8**	**+0.3**
LSP	**Las Mesas**	**1.48**	**229**	*eS*	**Sn**	**13 52 53.7**	**-0.3**
LSP	**Las Mesas**	**1.48**	**229**		**Pn**	**13 52 35.8**	**+0.3**
LSP					**Sn**	**13 52 53.7**	**-0.3**
ANWB	**Willy Bob**	**4.18**	**110**	Pn	**Pn**	**13 53 12.4**	**-0.1**
ANWB				IAML		13 55 09.7	
	54nm,1.1s						
SDDR	**Presa de Saban**	**5.09**	**269**	Pn	**Pn**	**13 53 25.0**	**-0.2**
SDDR				IAML		13 55 42.8	
	13nm,2.5s						
SDDR				IAML		13 56 45.7	
	16nm,3.0s						

*IDC **26** 14:03:24.9±2.4, 8°.53S×112°.50E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/35, mbtmp3.4/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/13, Error ellipse: s-maj=142.5km s-min=26.5km az=50.0*
*DJA **26** 14:03:34.6±0.6, 9°S±3°×11°2E±°, h37km±13km, M4.0/15, mb4.2/3, MLv3.8/15*
ISC 26 14:03:34.7±1.1, **8°.7S**±0°.1×**112°.43E**±0°.04, **h80**km±13km, **n19**, σ1**°11**/26, **mb3.3**/4, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.95**	**319**	P	**Pn**	**14 03 53.4**	**+0.3**
PWJI				S	**Sn**	**14 04 06.5**	**-0.4**
PCJI	**Pacitan**	**1.36**	**294**	P	**Pn**	**14 03 58.8**	**+0.7**
PCJI				S	**Sn**	**14 04 15.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.72**	**81**	P	**Pn**	**14 04 02.5**	**-0.4**
JAGI				S	**Sn**	**14 04 22.4**	**-2.0**
TBJI	**Tambak Boyo**	**2.00**	**343**	P	**Pn**	**14 04 07.4**	**+0.8**
ABJI	**Asem Bagus**	**2.02**	**62**	P	**Pn**	**14 04 07.5**	**+0.7**
ABJI				S	**Sn**	**14 04 32.8**	**+1.5**
UGM	**Wanagama**	**2.06**	**294**	P	**Pn**	**14 04 08.6**	**+1.1**
UGM				S	**Sn**	**14 04 32.3**	**-0.1**
KMMI	**Kalianget**	**2.27**	**42**	P	**Pn**	**14 04 10.2**	**0.0**
YOGI	**Yogyakarta**	**2.31**	**293**	P	**Pn**	**14 04 12.4**	**+1.7**
SMRI	**Semarang**	**2.59**	**310**	P	**Pn**	**14 04 16.1**	**+1.5**
DNP	**Denpasar**	**2.75**	**89**	P	**Pn**	**14 04 17.8**	**+1.2**
SRBI	**Singaraja**	**2.83**	**77**	P	**Pn**	**14 04 18.2**	**+0.5**
KPJI	**Karang Pucung**	**3.74**	**292**	P	**Pn**	**14 04 30.1**	**0.0**
TWSI	**Taliwang, Sumb**	**4.40**	**90**	P	**Pn**	**14 04 39.6**	**+0.5**
TWSI				S	**Sn**	**14 05 28.8**	**-0.3**
PLAI	**Plampang**	**5.28**	**91**	P	**Pn**	**14 04 51.5**	**+0.3**
	0.1nm35nm,1.5s						
PLAI				S	**Sn**	**14 05 53.4**	**+2.6**
	0.1nm35nm,1.5s						
EDFI	**Ende, Flores**	**9.15**	**91**	P	**Pn**	**14 05 43.3**	**-0.8**
	3.4nm,1.2s						
WRA	**Warramunga Arr**	**23.93**	**120**	P	**P**	**14 08 41.2**	**-0.4**
	0.2nm,0.4s,baz=296,slow=12,SNR=5.1						
WRA				LR	LR	14 19 27.0	
	comp=Z,44nm,18.2s,baz=170,slow=40						
ASAR	**Alice Springs**	**25.34**	**128**	P	**P**	**14 08 55.7**	**+1.3**
	0.2nm,0.5s,baz=304,slow=9.4,SNR=9.1						
STKA	**Stephens Creek**	**35.53**	**134**	P	**P**	**14 10 23.3**	**-0.8**
	0.6nm,0.5s,baz=318,slow=14,SNR=1.0						
MKAR	**Makanchi Array**	**61.47**	**337**	P	**P**	**14 13 42.2**	**-0.7**
	0.3nm,0.5s,baz=154,slow=6.1,SNR=4.2						

KMA 26 14:14:35.4±0.7, **36°.46N×128°.03E**, **h16**km±4km, **Error ellipse: s-maj=3.8km s-min=2.0km az=32.0, South Korea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSSAJ	**Sangju**	**0.11**	**116**	P	Pg	14 14 39.0	+0.1
	SNR=32						
KSSAJ	**Sangju**	**0.11**	**116**	P	Pg	14 14 39.0	+0.1
	SNR=32						
KSSAJ				S	Sg	14 14 41.4	+0.3
KSBON	**Boeun**	**0.19**	**283**	P	Pb	14 14 40.5	-0.2
	SNR=19						
KSBON	**Boeun**	**0.19**	**283**	P	Pb	14 14 40.5	-0.2
	SNR=19						
KSBON				S	Sb	14 14 43.8	-0.3
KSMGY	**Mungyeong**	**0.20**	**6**	P	Pg	14 14 40.1	-0.1
	SNR=26						
KSMGY	**Mungyeong**	**0.20**	**6**	P	Pg	14 14 40.1	-0.1
	SNR=26						
OKCB	**Cheongsan-myeo**	**0.22**	**240**	P	Pg	14 14 40.7	+0.2
	SNR=11						
OKCB	**Cheongsan-myeo**	**0.22**	**240**	P	Pg	14 14 40.7	+0.2
	SNR=11						

*KRNET **26** 14:56:15.9±0.1, 40°.65N×69°.69E, h15km, mb2.5*
ISC 26 14:56:15.0±1.8, **40°.68N**±0°.05×**69°.72E**±0°.08, **h15**km±16km, **n7**, σ1**°34**/13, **7C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.04**	**126**	⇑*iP*	**Pn**	**14 56 36.1**	**+0.9**
	baz=24						
BTK				⇑*iS*	**Sg**	**14 56 49.8**	**+1.0**
	baz=24						
TRKS	**Terek-Say**	**1.37**	**51**	⇓*iP*	**Pb**	**14 56 41.6**	**+1.2**
	baz=54						
TRKS				⇓*iS*	**Sg**	**14 57 00.6**	**+1.3**
	baz=54						
GAR	**Garm**	**1.74**	**164**	⇑*iP*	**Pg**	**14 56 48.1**	**-0.3**
	baz=63						
GAR				⇑*iS*	**Sg**	**14 57 10.8**	**-0.2**
	baz=63						
CHGR	**Chuyangaron**	**2.06**	**192**	⇓*eP*	**Pb**	**14 56 53.1**	**+0.9**
	baz=92						
CHGR				⇓*iS*	**Sg**	**14 57 19.8**	**-1.6**
	baz=92						
KK31	**Karatay Array**

MDH	**Madha**	**2.56 113**	P	**Pb**	**15 08 48.3**	**-2.2**
MDH			S	**Sb**	**15 09 20.8**	**-1.7**
UOSS	**Minazif**	**2.66 121**	*e*Pn	**Pn**	**15 08 49.0**	**+1.3**
UOSS	**Minazif**	**2.66 121**	P	**Pb**	**15 08 49.5**	**-2.6**
HATD	**Hatta, Dubai**	**2.67 124**	*e*Pn	**Pb**	**15 08 49.8**	**-2.5**
HATD	**Hatta, Dubai**	**2.67 124**	P	**Pb**	**15 08 50.2**	**-2.2**
HATD			S	**Sb**	**15 09 23.6**	**-2.0**
ASHO	**Ashiyiah**	**2.70 127**	*e*Pn	**Pb**	**15 08 50.4**	**-2.5**
ASHO	**Ashiyiah**	**2.70 127**	P	**Pb**	**15 08 50.7**	**-2.1**
	SNR=9.2					
ASHO			S	**Sb**	**15 09 24.0**	**-2.5**
TRNA	**Turayna**	**2.76 235**	P	**Pn**	**15 08 49.2**	**+0.1**
TRNA			S	**Sn**	**15 09 22.9**	**-0.1**
SAKB	**Bahrain**	**2.86 263**	P	**Pn**	**15 08 50.0**	**-0.5**
ALNE	**Al Ain**	**2.94 140**	*e*Pn	**Pn**	**15 08 53.0**	**+1.4**
ALNE	**Al Ain**	**2.94 140**	P	**Pb**	**15 08 54.1**	**-2.9**
ALNE			S	**Sb**	**15 09 30.6**	**-2.8**
SOHO	**SOHO**	**3.38 130**	*e*Pn	**Pn**	**15 08 59.2**	**+1.6**
SOHO	**SOHO**	**3.38 130**	P	**Pn**	**15 08 59.7**	**+2.1**
UMZA	**Um Al Zommool**	**3.85 159**	P	**Pn**	**15 09 07.0**	**+2.9**
ARQ	**Araqi**	**3.94 139**	P	**Pn**	**15 09 05.7**	**+0.3**
ARQ			S	**Sn**	**15 09 54.9**	**+2.6**
NGRK	**Negar Kerman**	**4.24 39**	*e*Pn	**Pn**	**15 09 10.5**	**+0.7**
NGRK			*e*		15 10 04.4	
	comp=Z,355nm,0.2s					
HOQ	**Hoqain**	**4.28 129**	P	**Pn**	**15 09 11.8**	**+1.8**
HOQ			S	**Sn**	**15 10 01.4**	**+0.8**
KHGB	**Koh Gabri**	**4.70 31**	*e*Pn	**Pn**	**15 09 16.7**	**+0.7**
KHGB			*e*		15 10 16.8	
	comp=Z,173nm,0.3s					
BSY	**Bisya**	**4.80 138**	P	**Pn**	**15 09 19.2**	**+2.0**
CHMN	**Cheshme madani**	**4.88 43**	*e*Pn	**Pn**	**15 09 20.7**	**+2.2**
CHMN			*e*		15 09 21.8	
	comp=Z,534nm,0.3s					
IMEH	**Mehriz**	**5.09 9**	*e*Pn	**Pn**	**15 09 23.3**	**+1.9**
SMDO	**Samad**	**5.13 129**	P	**Pn**	**15 09 23.8**	**+1.9**
WSAR	**Wadi Sarin**	**5.45 124**	P	**Pn**	**15 09 27.6**	**+1.6**
	SNR=5.9					
ISAD	**Sadrabad**	**5.55 360**	*e*Pn	**Pn**	**15 09 27.6**	**-0.1**
JMDO	**Jabal Madar**	**5.64 134**	P	**Pn**	**15 09 30.3**	**+1.7**

TEH ***26*** *15:10:05.9, 26°.36N×53°.66E, h9km, ML3.3*
OMAN ***26*** *15:10:09.3±0.2, 26°.56N×53°.64E, h32km±2km, ml2.8/6, Error ellipse: s-maj=2.6km s-min=1.3km az=346.0*
ISC 26 15:10:05.7±1.3, 26°.38N±0°.03×53°.67E±0°.04, h1km±12km, n36, σ1°75/46, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.06**	**335**	*e*Pg	**Pg**	**15 10 26.4**	**+0.4**
LMD1				*e*Sg	**Sn**	**15 10 41.8**	**-1.3**
LMD1				*e*		15 10 50.3	
	comp=Z,8μm,0.5s						
LAR1	**LAR**	**1.43**	**26**	*e*Pg	**Pg**	**15 10 33.6**	**+0.5**
JRN	**Qarnain Island**	**1.61**	**208**	*e*Pn	**Pg**	**15 10 36.2**	**-0.4**
JRN	**Qarnain Island**	**1.61**	**208**	P	**Pg**	**15 10 38.8**	**+2.2**
JRN				S	**Sg**	**15 10 59.7**	**+2.2**
AJN	**Ajban**	**2.16**	**146**	P	**Pb**	**15 10 45.7**	**0.0**
AJN				S	**Sg**	**15 11 13.8**	**-1.4**
SHME	**Shamm**	**2.24**	**98**	*e*Pn	**Pn**	**15 10 44.5**	**+0.6**
SHME	**Shamm**	**2.24**	**98**	P	**Pb**	**15 10 45.1**	**-1.8**
SHME				S	**Sn**	**15 11 13.0**	**+0.8**
NAZ	**Nazwa, Dubai**	**2.27**	**127**	*e*Pn	**Pb**	**15 10 45.8**	**-1.6**
NAZ	**Nazwa, Dubai**	**2.27**	**127**	P	**Pb**	**15 10 47.0**	**-0.3**
ASUD	**Al Ashush, Dub**	**2.30**	**139**	*e*Pn	**Pb**	**15 10 47.0**	**-0.9**
ASUD	**Al Ashush, Dub**	**2.30**	**139**	P	**Pb**	**15 10 47.6**	**-0.3**
	SNR=11						
ASUD				S	**Sb**	**15 11 17.5**	**+0.7**
FAQ	**Al Faqa, Dubai**	**2.38**	**133**	*e*Pn	**Pn**	**15 10 46.7**	**+0.9**
BANOM	**Banah**	**2.40**	**100**	*e*Pn	**Pn**	**15 10 47.0**	**+0.8**
BANOM	**Banah**	**2.40**	**100**	P	**Pb**	**15 10 48.0**	**-1.8**
	SNR=7.9						
MASF	**Masafi**	**2.45**	**114**	P	**Pb**	**15 10 49.2**	**-1.4**
	SNR=6.4						
MSFE	**Esma-Masafi**	**2.46**	**114**	*e*Pn	**Pb**	**15 10 48.5**	**-2.2**
SHMA	**Al-Shehemyia**	**2.49**	**259**	P	**Pn**	**15 10 47.7**	**+0.4**
GHWR	**Ruwais**	**2.51**	**197**	*e*Pn	**Pn**	**15 10 48.0**	**+0.4**
GHWR	**Ruwais**	**2.51**	**197**	P	**Pn**	**15 10 48.3**	**+0.7**
GHWR				S	**Sb**	**15 11 19.6**	**-3.4**
MDH	**Madha**	**2.60**	**114**	*e*Pn	**Pn**	**15 10 50.1**	**+1.3**
MDH	**Madha**	**2.60**	**114**	P	**Pb**	**15 10 50.5**	**-2.6**
UOSS	**Minazif**	**2.69**	**121**	*e*Pn	**Pn**	**15 10 50.9**	**+0.8**
UOSS	**Minazif**	**2.69**	**121**	P	**Pn**	**15 10 51.8**	**+1.7**
HATD	**Hatta, Dubai**	**2.71**	**124**	*e*Pn	**Pn**	**15 10 50.4**	**+0.1**
HATD	**Hatta, Dubai**	**2.71**	**124**	P	**Pb**	**15 10 52.6**	**-2.3**
ASHO	**Ashiyiah**	**2.74**	**128**	P	**Pb**	**15 10 52.7**	**-2.7**
	SNR=8.6						
ASHO				S	**Sb**	**15 11 26.5**	**-3.0**
ALNE	**Al Ain**	**2.98**	**140**	*e*Pn	**Pn**	**15 10 54.5**	**+0.4**
ALNE	**Al Ain**	**2.98**	**140**	P	**Pb**	**15 10 56.3**	**-3.3**
ALNE				S	**Sn**	**15 11 31.9**	**+1.4**
SOHO	**SOHO**	**3.42**	**130**	*e*Pn	**Pn**	**15 11 01.5**	**+1.4**
UMZA	**Um Al Zommool**	**3.89**	**159**	*e*Pn	**Pn**	**15 11 07.8**	**+1.2**
UMZA	**Um Al Zommool**	**3.89**	**159**	P	**Pn**	**15 11 09.0**	**+2.4**
ARQ	**Araqi**	**3.98**	**139**	P	**Pn**	**15 11 10.0**	**+2.1**
ARQ				S	**Sn**	**15 11 57.3**	**+2.0**
HOQ	**Hoqain**	**4.32**	**129**	P	**Pn**	**15 11 14.4**	**+1.9**
HOQ				S	**Sn**	**15 12 04.2**	**+0.7**
KHGB	**Koh Gabri**	**4.69**	**31**	*e*Pn	**Pn**	**15 11 20.2**	**+2.5**
KHGB				*e*		15 12 19.0	
	comp=Z,157nm,0.3s						
CHMN	**Cheshme madani**	**4.87**	**44**	*e*Pn	**Pn**	**15 11 23.0**	**+2.7**
CHMN				*e*		15 11 24.1	
	comp=Z,417nm,0.3s						
WSAR	**Wadi Sarin**	**5.48**	**124**	P	**Pn**	**15 11 29.9**	**+1.4**

MEX ***26*** *15:13:14.1±1.1, 32°.52N×115°.39W, h11km±66km, MD3.5*
ECX ***26*** *15:13:14.2±0.6, 32°.40N×115°.52W, h0km±3km, MD2.5, ML2.7*
ISC 26 15:13:12.8±1.0, 32°.44N±0°.04×115°.47W±0°.03, h27km±7km, n29, σ0°76/48, 20C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.14**	**97**	⇑*e*P	**Pb**	**15 13 17.6**	**-0.5**
CPBX				*e*S	**Sb**	**15 13 20.6**	**-1.0**
CPBX				⇑*e*		15 13 25.0	
CPBX				IAML		15 13 25.0	
	comp=E,7μm,0.2s						
POTX	**Potabilizadora**	**0.17**	**356**	⇓*e*P	**Pb**	**15 13 18.1**	**-0.1**
POTX				*e*S	**Sb**	**15 13 21.9**	**0.0**
ZC06	**Zona comercial**	**0.17**	**22**	⇓*e*P	**Pb**	**15 13 18.6**	**+0.2**
ZC06				*e*S	**Sb**	**15 13 22.7**	**+0.5**
UABX	**UABC, Campus M**	**0.20**	**8**	⇑*e*P	**Pb**	**15 13 19.0**	**+0.4**
UABX				*e*S	**Sb**	**15 13 23.2**	**+0.7**
POT2	**Potabilizadora**	**0.20**	**21**	⇑*e*P	**Pn**	**15 13 19.2**	**-0.8**
POT2				⇑*e*P	**Pn**	**15 13 19.3**	**-0.8**
POT2				*e*S	**Sb**	**15 13 23.7**	**+1.0**
POT2				*e*S	**Sb**	**15 13 23.9**	**+1.2**
ZC01	**Zona Comercial**	**0.21**	**336**	⇑*e*P	**Pb**	**15 13 18.8**	**0.0**
ZC01				*e*S	**Sb**	**15 13 23.1**	**+0.2**
ICBC	**Inst. de Cultu**	**0.23**	**360**	⇑*e*P	**Pb**	**15 13 19.5**	**+0.5**
ICBC				*e*S	**Sb**	**15 13 24.1**	**+1.0**
MBIG	**Mexicali**	**0.23**	**97**	*e*P	**Pb**	**15 13 17.5**	**-1.5**
MBIG				*i* P	**Pb**	**15 13 19.6**	**+0.6**
MBIG				*e*S	**Sb**	**15 13 21.2**	**-2.1**
MBIG				*i* S	**Sb**	**15 13 24.9**	**+1.6**
CEA0	**Mexicali**	**0.27**	**322**	⇑*e*P	**Pb**	**15 13 19.5**	**0.0**
CEA0				*e*S	**Sb**	**15 13 23.8**	**-0.3**
SGL	**Mount Signal**	**0.30**	**315**	⇑*i*P	**Pb**	**15 13 19.8**	**-0.2**
GUVIX	**Guadalupe Vict**	**0.36**	**112**	*e*P	**Pn**	**15 13 22.1**	**-0.2**
DREC	**Desert Rsrch C**	**0.37**	**3**	⇑*i*P	**Pn**	**15 13 22.2**	**-0.2**
WESC	**Westside Schoo**	**0.39**	**326**	⇑*e*P	**Pn**	**15 13 21.9**	**-0.8**
YUH2	**Yuha Desert**	**0.43**	**299**	⇑*e*P	**Pb**	**15 13 21.9**	**-0.2**
COK2	**Cook Ranch 2**	**0.47**	**332**	⇑*i*P	**Pn**	**15 13 23.4**	**-0.3**
EMSC	**East Mesa**	**0.51**	**54**	⇑*e*P	**Pn**	**15 13 24.6**	**+0.3**
COA	**Coachella**	**0.52**	**34**	⇑*i*P	**Pn**	**15 13 24.6**	**+0.2**
RMX	**La Rumorosa**	**0.54**	**288**	⇑*e*P	**Pb**	**15 13 22.8**	**-1.0**
RMX				*e*S	**Sb**	**15 13 29.4**	**-1.9**
SWSC	**Sam W. Stewart**	**0.58**	**331**	*e*P	**Pn**	**15 13 24.8**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.58**	**292**	⇑*e*P	**Pb**	**15 13 24.5**	**0.0**
CRR	**Carrizo Plain**	**0.61**	**317**	⇑*i*P	**Pn**	**15 13 25.5**	**-0.2**
MONP2	**Monument Peak**	**0.92**	**300**	*e*P	**Pb**	**15 13 30.8**	**+0.5**
CBX	**Cerro Bola**	**1.02**	**263**	*i* P	**Pb**	**15 13 32.2**	**+0.4**
CBX				*i* S	**Sb**	**15 13 45.3**	**+0.4**
CBX	**Cerro Bola**	**1.02**	**263**	*e*P	**Pb**	**15 13 32.2**	**+0.4**
CBX				*e*S	**Sb**	**15 13 45.2**	**+0.4**
CBX				IAML		15 13 45.9	
	comp=E,321nm,0.2s						
CBX				*e*		15 13 45.9	
CBX				*e*		15 13 45.9	
TJIG	**Tijuana**	**1.02**	**270**	*e*P	**Pb**	**15 13 31.9**	**+0.2**
TJIG				*e*S	**Sn**	**15 13 44.7**	**-0.1**
TJIG	**Tijuana**	**1.02**	**270**	*e*P	**Pb**	**15 13 31.9**	**+0.2**
BAR	**Barrett**	**1.04**	**284**	*e*P	**Pb**	**15 13 32.6**	**+0.4**
BAR				*e*S	**Sb**	**15 13 45.9**	**+0.4**
BAR				⇑*e*		15 13 47.1	
BAR				IAML		15 13 47.1	
	comp=E,203nm,0.1s						
SDRC	**San Diego Road**	**1.28**	**284**	*e*P	**Pb**	**15 13 36.4**	**+0.2**
SDRC				⇑*e*		15 13 53.3	
SDRC				IAML		15 13 53.3	
	comp=N,95nm,0.2s						
SPIG	**San Pedro Mart**	**1.39**	**180**	*i* P	**Pn**	**15 13 37.5**	**+0.9**
SPIG				*i* S	**Sb**	**15 13 55.7**	**0.0**

MOS ***26*** *15:22:54.9±1.0, 2°.48N×125°.98E, h42km, mb5.1/49, Error ellipse: s-maj=8.8km s-min=4.7km az=111.0*
BJI ***26*** *15:22:57.0±0.0, 2°.21N×126°.11E, h75km, mB4.8/35, mb4.9/55, Ms4.4/9, Ms7 4.2/2*
NEIC ***26*** *15:22:58.7±1.5, 2°.46N±0°.07×126°.06E±0°.07, h60km±6km, mb5.0/104, Error ellipse: s-maj=10.5km s-min=8.9km az=47.0*
IDC ***26*** *15:22:60.0±1.7, 2°.38N×126°.00E, h69km±15km, mb4.5/27, mb1 4.5/30, mb1mx4.5/34, mbtmp4.8/30, MS3.2/14, Ms1 3.3/14, ms1mx3.0/32, Error ellipse: s-maj=15.2km s-min=8.4km az=82.0*
GCMT ***26*** *15:22:59.7±0.4, 2°.51N±0°.03×126°.27E±0°.03, h55km±2km, MW4.8/55, Moment Tensor Solution. s38,c44; s55,c76; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}1.93±.13; $M_{\theta\theta}$-0.03±.09; $M_{\phi\phi}$-1.90±.09; $M_{r\theta}$0.35±.06; $M_{\theta\phi}$-0.27±.08; $M_{\phi r}$0.61±.08; Best double couple: $M_0$2.06000×10^16 NP1:φs181.00000°, δ36.00000°, λ78.00000°. NP2: φs15.00000°, δ55.00000°, λ98.00000°. Principal axes: T 2.0710, Plg78.0000°, Azm316.0000°; N -0.0170, Plg7.0000°, Azm191.0000°; P -2.0490, Plg9.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***26*** *15:23:00.7±0.2, 2°N±2°×12°6E±°, h77km±2km, M4.9/44, mb5.0/44, mB5.4/13, MLv5.0/15, Mw(mB)4.8/13, MwMwp4.4/3, Mwp4.8/3*
KLM ***26*** *15:23:01, 2°.35N×126°.32E, h93km, mb4.9*
ISC 26 15:22:59.3±0.4, 2°.38N±0°.03×126°.14E±0°.04, h69km±3km, h69km:pP-P, n485, σ1°60/519, mb4.9/131, 102C-29D, Fault plane solution: NP1:φs8.32513°, δ81.88538°, λ109.91933°. **NP2:**φs119.60716°, δ21.44642°, λ22.70929°. **Principal axes:** T Plg49.2845°, Azm299.9988°; N Plg19.7116°, Azm185.3969°; P Plg33.9408°, Azm81.4440°; **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.43**	**335**	P	**Pn**	**15 23 24.2**	**+0.8**
SGSI				S	**Sn**	**15 23 42.1**	**+0.6**
TNTI	**Ternate**	**2.01**	**142**		**Pn**	**15 23 32.2**	**+1.0**
TNTI	**Ternate**	**2.01**	**142**	P	**Pn**	**15 23 32.5**	**+1.3**
TNTI				S	**Sn**	**15 23 56.8**	**+1.4**
GTOI	**Gorontalo**	**3.58**	**241**	P	**Pn**	**15 23 54.6**	**+2.2**
SANI	**Sanana**	**4.40**	**182**	P	**Pn**	**15 24 04.4**	**+0.7**
SANI				S	**Sn**	**15 24 50.5**	**-3.2**
MRSI	**Marisa**	**4.61**	**246**	P	**Pn**	**15 24 10.2**	**+3.7**
MRSI				S	**Sn**	**15 25 00.5**	**+1.8**
DAV	**Davao City (W)**	**4.69**	**353**	P	**Pn**	**15 24 09.3**	**+1.6**
	26nm,0.3s,baz=225,slow=8.2,SNR=4.7						
DAV				S	**Sn**	**15 25 03.2**	**+2.3**
	21nm,0.3s,baz=212,slow=22,SNR=4.8						
KCP	**Kidapawan**	**4.72**	**347**	⇑*e*P	**Pn**	**15 24 09.9**	**+1.8**
KCP				*i* S	**Sn**	**15 25 05.2**	**+3.7**
TOLI2	**Tolitoli**	**5.50**	**257**	Pn	**Pn**	**15 24 19.6**	**+0.8**
APSI	**Ampana**	**5.55**	**234**	P	**Pn**	**15 24 24.1**	**+4.6**
	3.0nm1μm6μm684nm,0.8s						
NLAI	**Namlea**	**5.66**	**170**	P	**Pn**	**15 24 21.8**	**+0.8**
	1.8nm4μm97nm,0.5s						
NLAI				S	**Sn**	**15 25 20.7**	**-4.0**
	1.8nm4μm97nm,0.5s						
SWI	**Sorong**	**6.05**	**122**	P	**Pn**	**15 24 26.8**	**+0.6**
	0.2nm65nm,1.0s						
SIJI	**Sorong**	**6.06**	**122**	P	**Pn**	**15 24 27.0**	**+0.6**
	1.6nm,0.3s,baz=337,slow=5.0,SNR=8.9						
CGP	**Cagayan de Oro**	**6.21**	**347**	⇓*e*P	**Pn**	**15 24 31.4**	**+3.0**
MSAI	**Masohi**	**6.33**	**154**	P	**Pn**	**15 24 33.1**	**+3.0**
	0.2nm402nm22nm,0.5s						
MSAI				S	**Sn**	**15 25 41.7**	**+0.6**
	0.2nm402nm22nm,0.5s						
MPSI	**Mapaga**	**6.56**	**252**	P	**Pn**	**15 24 35.8**	**+2.5**
	1.0nm2μm3μm370nm,0.7s						
FAKI	**Fak Fak**	**8.06**	**131**	Pn	**Pn**	**15 24 55.8**	**+2.0**
FAKI	**Fak Fak**	**8.06**	**131**	P	**Pn**	**15 24 56.3**	**+2.5**
	46nm,0.8s						
TTSI	**Tana Toraja**	**8.30**	**230**	P	**Pn**	**15 25 01.6**	**+4.5**
	2μm297nm,1.0s						
BNSI	**Bone**	**9.04**	**222**	P	**Pn**	**15 25 09.1**	**+1.9**
	51nm,0.8s						
BKSI	**Bulukumba**	**9.73**	**218**	P	**Pn**	**15 25 20.0**	**+3.4**
	25nm,0.6s						
KAPI	**Kappang**	**9.73**	**221**	P	**Pn**	**15 25 15.1**	**-1.5**
	1.0nm,0.3s,baz=79,slow=12,SNR=2.4						
KAPI				S	**Sn**	**15 27 05.0**	**+0.6**
	0.8nm,0.3s,baz=333,slow=20,SNR=1.2						
KAPI				LR	LR	15 29 45.9	
	comp=Z,62nm,20.2s,baz=28,slow=42						
KAPI	**Kappang**	**9.73**	**221**	P	**Pn**	**15 25 15.5**	**-1.1**
KAPI						15 27 05.0	
KAPI	**Kappang**	**9.73**	**221**	Pn	**Pn**	**15 25 15.5**	**-1.1**
SPMM	**Sapulut**	**9.93**	**284**	P	**Pn**	**15 25 22.0**	**+2.6**
BSSI	**Bau Bau, Buton**	**10.17**	**214**	P	**Pn**	**15 25 26.1**	**+3.4**
	39nm,1.0s						
KBKI	**Kotabaru**	**11.46**	**241**	P	**Pn**	**15 25 42.2**	**+2.0**
	41nm,1.0s						
MTKI	**Maumu Teweh, K**	**11.72**	**254**	P	**Pn**	**15 25 46.8**	**+3.0**
	2μm49nm,0.7s						
EDFI	**Ende, Flores**	**11.91**	**202**	P	**Pn**	**15 25 50.0**	**+3.5**
	14nm,0.9s						
SOEI	**Soe**	**12.20**	**189**	P	**Pn**	**15 25 54.8**	**+4.4**
	56nm,0.8s						
JCNP	**Jose Panganiba**	**12.31**	**344**	⇑*e*P	**Pn**	**15 25 53.5**	**+1.6**
BBKI	**Banjar Baru**	**12.70**	**243**	P	**Pn**	**15 25 58.8**	**+1.7**
	31nm,1.6s						
WBSI	**Waikabubak, Su**	**13.71**	**209**	P	**Pn**	**15 26 14.4**	**-2.7**
	63nm,0.9s						
PLAI	**Plampang**	**13.91**	**217**	P	**Pn**	**15 26 17.2**	**-2.1**
	79nm,0.8s						
SBUM	**Sibu**	**13.91**	**271**	P	**Pn**	**15 26 17.0**	**-2.3**
TWSI	**Taliwang, Sumb**	**14.39**	**220**	P	**Pn**	**15 26 26.2**	**+1.5**
	435nm51nm,0.9s						
STKI	**Sintang**	**14.84**	**261**	P	**Pn**	**15 26 31.3**	**+1.6**
	32nm,0.9s						
GENI	**Genyem**	**14.87**	**109**	P	**Pn**	**15 26 28.9**	**-1.1**
	2μm104nm,1.2s						
MTN	**Manton Dam**	**15.92**	**162**	P	**Pn**	**15 26 38.5**	**-0.7**
	baz=16,SNR=11						
MTN	**Manton Dam**	**15.92**	**162**	Pn	**Pn**	**15 26 37.9**	**-1.3**
SZP	**Santa**	**16.08**	**340**	Pn	**Pn**	**15 26 39.3**	**-1.9**
KDU	**Kakadu**	**16.24**	**157**	P	**Pn**	**15 26 40.8**	**-2.4**
	baz=16,SNR=10						
PWJI	**Pagerwojo**	**17.64**	**234**	P	**Pn**	**15 27 00.7**	**0.0**
	46nm,0.8s						
KNRA	**Kununurra**	**18.13**	**172**	P	**Pn**	**15 27 06.6**	**+0.1**
	baz=18,SNR=11						
KNRA	**Kununurra**	**18.13**	**172**	P	**Pn**	**15 27 06.0**	**0.0**
SMRI	**Semarang**	**18.26**	**239**	P	**Pn**	**15 27 07.5**	**0.0**
SMRI				IAmb	IAmb	15 27 25.4	
	comp=Z,125nm,1.2s						
UGM	**Wanagama**	**18.63**	**237**	P	**Pn**	**15 27 10.6**	**-1.0**
UGM				IAmb	IAmb	15 27 39.3	
	comp=Z,165nm,1.3s						
PPBI	**Pangkal Pinang**	**20.50**	**257**	P	**Pn**	**15 27 36.2**	**+1.4**
	comp=Z,4μmcomp=Z,32nm,0.5s						
LEM	**Lembang**	**20.63**	**244**	P	**Pn**	**15 27 34.4**	**+0.9**
LEM				pmax	pmax		
	comp=Z,32nm,0.7s						
LEM	**Lembang**	**20.63**	**244**	P	**Pn**	**15 27 35.3**	**-1.1**
	comp=Z,20nm,0.7s						
TWG	**Pinlang**	**20.91**	**347**	P	**Pn**	**15 27 32.9**	**-3.4**
YULB	**Yu-li**	**21.41**	**348**	P	**Pn**	**15 27 37.6**	**-4.1**
TPUB	**Ta-pu**	**21.47**	**346**	P	**Pn**	**15 27 39.4**	**-3.0**
TPUB				IAmb	IAmb	15 27 44.9	
	comp=Z,57nm,0.8s						
GUMO	**Guam**	**21.61**	**58**	P	**P**	**15 27 45.8**	**+2.0**
	comp=Z,19nm,0.6s,baz=20,slow=12,SNR=4.2						
GUMO	**Guam**	**21.61**	**58**	IAmb	IAmb	15 27 47.9	
	comp=Z,26nm,0.8s						
SSLB	**Suanglung**	**21.87**	**347**	P	**P**	**15 27 44.0**	**-2.6**
PMBI	**Palembang**	**22.00**	**256**	P	**P**	**15 27 47.8**	**-0.3**
YOJ	**Yonaguni jima**	**22.16**	**352**	P	**P**	**15 27 47.6**	**-2.1**
YOJ				pmax	pmax		
	comp=Z,45nm,1.2s						
YOJ	**Yonaguni jima**	**22.16**	**352**	P	**P**	**15 27 47.6**	**-2.1**
YOJ				IAmb	IAmb	15 27 49.2	
	comp=Z,45nm,1.2s						
BLSI	**Bandar Lampung**	**22.25**	**250**	P	**P**	**15 27 53.4**	**+2.6**
	comp=Z,108nm,0.7s						
MYKOM	**Kota Tinggi**	**22.28**	**269**	P	**P**	**15 27 53.0**	**+1.8**
YHNB	**Yeheng**	**22.63**	**349**	P	**P**	**15 27 52.2**	**-2.6**
YHNB				IAmb	IAmb	15 27 57.1	
	comp=Z,30nm,0.7s						
JMBI	**JAMBI**	**22.84**	**260**	P	**P**	**15 27 59.8**	**+2.7**
	comp=Z,2μmcomp=Z,57nm,0.5s						
TATO	**Taipei**	**22.91**	**349**	P	**P**	**15 27 55.4**	**-2.2**
TATO				IAmb	IAmb	15 27 59.2	
	comp=Z,32nm,0.8s						
MDSI	**Maura Dua**	**22.98**	**253**	P	**P**	**15 27 59.1**	**+0.6**
	comp=Z,559nmcomp=Z,18nm,0.8s						
QIZ	**Qiongzhong**	**22.99**	**317**	P	**P**	**15 27 55.8**	**-2.7**
QIZ				S	**S**	**15 32 04.5**	**+0.8**
KASI	**Kota Agung**	**23.00**	**250**	P	**P**	**15 27 59.7**	**+1.0**
	comp=Z,62nm,0.9s						
KNMB	**Chin-men Tao**	**23.20**	**342**	P	**P**	**15 27 58.7**	**-1.7**
KNMB				IAmb	IAmb	15 28 15.7	
	comp=Z,37nm,1.0s						
LWLI	**Liwa**	**23.25**	**252**	P	**P**	**15 28 01.0**	**-0.2**
	comp=Z,58nm,0.7s						
WB0	**Warramunga Arr**	**23.45**	**160**	P	**P**	**15 28 02.5**	**-0.4**
WB0				IAmb	IAmb	15 28 03.9	
	comp=Z,46nm,1.0s						
WRAB	**Tennant Creek**	**23.59**	**160**	*ce*P	**P**	**15 28 04.4**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,53nm,1.3s						
WRAB	**Tennant Creek**	**23.59**	**160**	P	**P**	**15 28 04.0**	**-0.1**
WRAB				IAmb	IAmb	15 28 24.4	
	comp=Z,32nm,0.8s						
WRA	**Warramunga Arr**	**23.60**	**160**	P	**P**	**15 28 04.4**	**+0.2**
	comp=Z,21nm,0.4s,baz=334,slow=11,SNR=123						
WRA				S	**S**	**15 32 12.3**	**-1.3**
	comp=Z,13nm,0.9s,baz=319,slow=16,SNR=11						
WRA	**Warramunga Arr**	**23.60**	**160**	P	**P**	**15 28 02.8**	**-1.4**
WRA	**Warramunga Arr**	**23.60**	**160**	P	**P**	**15 28 02.8**	**-1.4**
WB2	**Warramunga Arr**	**23.60**	**160**	P	**P**	**15 28 04.4**	**+0.1**
	baz=24						
WB2	**Warramunga Arr**	**23.60**	**160**	P	**P**	**15 28 03.7**	**-0.5**
WB2				IAmb	IAmb	15 28 24.5	
	comp=Z,35nm,0.7s						
JRMM	**Jerantut**	**23.68**	**274**	P	**P**	**15 28 07.0**	**+2.0**
WR0	**Warramunga Arr**	**23.68**	**160**	P	**P**	**15 28 04.9**	**-0.1**
WR0				IAmb	IAmb	15 28 06.3	
	comp=Z,22nm,0.7s						
PMG	**Port Moresby**	**23.99**	**119**	LR	LR	15 39 43.1	
	comp=Z,82nm,18.6s,baz=305,slow=42						
PMG	**Port Moresby**	**23.99**	**119**	P	**P**	**15 28 08.2**	**+0.4**
PMG				pmax	pmax		
	comp=Z,31nm,1.2s						
PMG	**Port Moresby**	**23.99**	**119**	P	**P**	**15 28 08.2**	**+0.4**
JOW	**Kunigami**	**24.40**	**5**	P	**P**	**15 28 13.1**	**+1.7**
	comp=Z,29nm,0.7s,baz=203,slow=8.1,SNR=8.6						
JOW	**Kunigami**	**24.40**	**5**	P	**P**	**15 28 13.5**	**+2.1**
JOW				IAmb	IAmb	15 28 15.6	
	comp=Z,47nm,0.8s						
PSA00	**Pilbara Seismi**	**24.59**	**194**	P	**P**	**15 28 13.5**	**+0.4**
PSA00	**Pilbara Seismi**	**24.59**	**194**	P	**P**	**15 28 13.3**	**+0.2**
PSA00				IAmb	IAmb	15 28 15.4	
	comp=Z,31nm,0.8s						
IPM	**Ipoh**	**25.16**	**275**	P	**P**	**15 28 19.0**	**+0.5**
KULM	**Kulim**

comp=Z,23nm,1.4s
CM33 Chiang Mai Arr 31.24 303 P **P 15 29 13.0 +0.3**
ENH Enshi 31.92 332 P **P 15 29 17.7 -0.8**
ENH IAmb IAmb 15 29 18.9
comp=Z,31nm,0.8s
KSKWJ Gwangju 32.62 1 P **P 15 29 25.6 +1.0**
SNR=6.2
KSKWJ Gwangju 32.62 1 P **P 15 29 25.6 +1.0**
SNR=6.2
MORW Morawa 32.73 196 P **P 15 29 26.6 +0.9**
baz=33,SNR=16
MORW Morawa 32.73 196 P **P 15 29 25.4 -0.3**
MORW IAmb IAmb 15 29 27.4
comp=Z,26nm,0.8s
SUCA Sunchang 32.84 2 P **P 15 29 28.0 +1.5**
SNR=12
SUCA Sunchang 32.84 2 P **P 15 29 28.0 +1.5**
SNR=12
FORT Forrest 33.02 177 P **P 15 29 28.7 +0.6**
baz=33,SNR=17
FORT Forrest 33.02 177 P **P 15 29 28.4 +0.3**
KSJEO Jeonju 33.41 2 P **P 15 29 33.0 +1.5**
SNR=9.5
KSJEO Jeonju 33.41 2 P **P 15 29 33.0 +1.5**
SNR=9.5
OKCB Cheongsan-myeo 33.83 2 P **P 15 29 36.4 +1.3**
SNR=24
OKCB Cheongsan-myeo 33.83 2 P **P 15 29 36.4 +1.3**
SNR=24
TJN Taejon 33.85 2*ce*P **P 15 29 34.9 -0.3**
KSBON Boeun 33.99 2 P **P 15 29 38.5 +2.0**
SNR=44
KSBON Boeun 33.99 2 P **P 15 29 38.5 +2.0**
SNR=44
BLDU Ballidu 34.02 195 P **P 15 29 37.6 +0.8**
baz=34,SNR=23
KSMGY Mungyeong 34.15 3 P **P 15 29 39.4 +1.5**
SNR=25
KSMGY Mungyeong 34.15 3 P **P 15 29 39.4 +1.5**
SNR=25
INU Inuyama 34.32 16 P **P 15 29 39.9 +0.5**
INU IAmb IAmb 15 29 41.2
comp=Z,23nm,0.9s
PBA Port Blair 34.37 287 P P 15 29 37.1 -2.9
KSCHJ Chungju 34.37 3 P **P 15 29 41.2 +1.5**
SNR=21
KSCHJ Chungju 34.37 3 P **P 15 29 42.0 +2.2**
SNR=19
KSCHJ Chungju 34.37 3 P **P 15 29 41.2 +1.5**
SNR=21
KSCHJ Chungju 34.37 3 P **P 15 29 42.0 +2.2**
SNR=19
JGF Kuroka 34.66 16 P **P 15 29 40.4 -1.9**
JGF IAmb IAmb 15 29 43.7
comp=Z,9.5nm,0.9s
KSYOW Yeongwol 34.69 3 P **P 15 29 44.2 +1.7**
SNR=24
KSYOW Yeongwol 34.69 3 P **P 15 29 44.2 +1.7**
SNR=24
KLBR Kellerberrin 34.71 193 P **P 15 29 43.9 +1.1**
baz=35,SNR=5.4
KSAR Wonju Array Be 34.93 2 P **P 15 29 44.3 -0.3**
KSAR Wonju Array Be 34.93 2 P **P 15 29 44.3 -0.3**
INCN Inchon 34.94 1 P **P 15 29 44.6 -0.1**
INCN pmax pmax
comp=Z,22nm,0.8s
INCN Inchon 34.94 1 P **P 15 29 44.6 -0.1**
INCN IAmb IAmb 15 29 47.3
comp=Z,22nm,0.8s
KSRS Korea Array 34.94 2 P **P 15 29 46.0 +1.3**
comp=Z,14nm,0.8s,baz=183,slow=9.2,SNR=60
KSRS PcP **PcP 15 32 17.4 +1.5**
comp=Z,3.3nm,0.8s,baz=194,slow=2.9,SNR=11
KSRS LR LR 15 45 05.4
comp=Z,27nm,20.4s,baz=195,slow=38
KS19 Wonju Array Si 34.99 2 P **P 15 29 44.5 -0.6**
KS19 IAmb IAmb 15 29 48.5
comp=Z,16nm,0.8s
KSDGY Daegwallycong 35.22 3 P **P 15 29 49.0 +1.9**
SNR=15
KSDGY Daegwallycong 35.22 3 P **P 15 29 49.0 +1.9**
SNR=15
XAN Xi'an 35.37 335 P **P 15 29 47.0 -1.5**
XAN pP pP 15 30 02.5 -2.0
XAN S **S 15 35 17.5 -0.6**
XAN pmax pmax
comp=Z,12nm,0.6s
XAN pmax pmax
comp=Z,74nm,3.8s
XAN LR LR
comp=Z,120nm,17.3s
XAN LR LR
comp=Z,87nm,14.4s
CD2 Chengdu 35.40 326 P **P 15 29 48.5 -0.3**
CD2 pmax pmax
comp=Z,30nm,0.8s
KSJMJ Jumunjin 35.41 4 P **P 15 29 50.8 +2.1**
SNR=10
KSJMJ Jumunjin 35.41 4 P **P 15 29 50.8 +2.1**
SNR=10
MUN Mundaring 35.45 195 P **P 15 29 50.0 +0.9**
baz=36,SNR=14
MJAR Matsushiro Arr 35.77 17 P **P 15 29 50.8 -1.2**
comp=Z,12nm,0.9s,baz=186,slow=9.6,SNR=46
MJAR PcP **PcP 15 32 20.1 +1.6**
comp=Z,2.3nm,0.7s,baz=173,slow=4.1,SNR=5.7
MJAR LR LR 15 44 27.5
comp=Z,32nm,21.2s,baz=210,slow=36
MJAR Matsushiro Arr 35.77 17 P **P 15 29 50.7 -1.2**
MJAR 15 32 20.1
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 35.77 17 P **P 15 29 50.7 -1.2**
MJAR IAmb IAmb 15 29 54.0
comp=Z,10nm,0.9s
MAJO Matsushiro 35.78 17 *i*P **P 15 29 51.6 -0.3**
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 35.78 17 P **P 15 29 50.5 -1.4**
MAJO IAmb IAmb 15 29 52.6
comp=Z,13nm,0.8s
MAT Matsushiro 35.78 17 P **P 15 29 51.5 -0.4**
MAT *e*S **S 15 35 21.0 -3.3**
KSSKC Sokcho 35.81 3 P P 15 29 58.2 +6.1
SNR=5.2
NWAO Narrogin (SRO) 36.11 193 P **P 15 29 56.5 +1.7**
baz=36,SNR=7.7
STKA Stephens Creek 37.09 158 P **P 15 30 04.3 +1.1**
comp=Z,15nm,0.6s,baz=335,slow=9.3,SNR=34
STKA S **S 15 35 40.8 -3.7**
comp=Z,1.5nm,0.7s,baz=112,slow=19,SNR=1.7
STKA LR LR 15 44 46.2
comp=Z,92nm,20.0s,baz=2.7,slow=35
STKA Stephens Creek 37.09 158 P **P 15 30 04.2 +1.1**
baz=37,SNR=26
STKA Stephens Creek 37.09 158 P **P 15 30 03.8 +0.6**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 37.09 158 P **P 15 30 03.8 +0.6**
JSD Sado 37.19 16 P **P 15 30 02.8 -1.1**
JSD IAmb IAmb 15 30 04.7
comp=Z,17nm,0.8s
JMM Marumori 37.79 19 P **P 15 30 09.5 +0.6**
BJT Baijiatuau 38.54 348 P **P 15 30 14.2 -1.1**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 38.54 348 P **P 15 30 14.2 -1.1**
BJT IAmb IAmb 15 30 15.6
comp=Z,18nm,0.6s
BJI Beijing 38.56 348 P **P 15 30 14.5 -0.9**
BJI pmax pmax
comp=Z,30nm,0.8s
LZH Lanzhou 39.38 331 *e*P **P 15 30 23.0 +0.5**
LZH pP pP 15 30 38.3 -0.5
LZH sP sP 15 30 46.0 -0.6
LZH pmax pmax
comp=Z,46nm,1.1s
SHL Shillong 40.22 308 P **P 15 30 28.8 -0.9**
SHL pmax pmax
comp=Z,54nm,0.7s
SHL Shillong 40.22 308 P **P 15 30 28.8 -0.9**
MSHR Mys Shultsa 40.28 6*ce*P **P 15 30 26.6 -3.0**
MSHR pmax pmax
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 40.50 343 *e*P **P 15 30 34.5 +2.8**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.6s
ARMA Armidale 40.68 145 P **P 15 30 35.2 +1.9**
baz=41,SNR=5.1
BTO Baotou 40.75 341 *e*P **P 15 30 36.8 +3.0**
CN2 Changchun 41.25 359 *e*P **P 15 30 40.3 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
ARPS Mount Arapiles 41.60 161 P **P 15 30 42.6 +2.0**
baz=42,SNR=5.1
USA0B Ussuriysk Arra 41.97 6 P **P 15 30 43.3 -0.2**
USA0B pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 41.97 6 P **P 15 30 43.3 -0.2**
USRK Ussuriysk Ar. 41.97 6 P **P 15 30 44.7 +1.2**
comp=Z,9.5nm,0.7s,baz=182,slow=7.4,SNR=23
USRK Ussuriysk Ar. 41.97 6 P **P 15 30 43.8 +0.3**
MDJ Mudanjiang 42.17 4 P **P 15 30 46.5 +1.3**
MDJ pP pwP 15 31 03.3 -0.7
MDJ sP sP 15 31 10.3 +0.9
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,130nm,6.0s
MDJ Mudanjiang 42.17 4 P **P 15 30 45.2 0.0**
MDJ IAmb IAmb 15 30 47.7
comp=Z,16nm,0.8s
LSA Lhasa 42.90 313 P **P 15 30 52.3 +0.4**
LSA Lhasa 42.90 313 P **P 15 30 51.6 -0.3**
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 42.90 313 P **P 15 30 51.6 -0.3**
LSA IAmb IAmb 15 30 53.9
comp=Z,24nm,0.7s
GTA Gaotai 43.96 330 ⇑P **P 15 30 59.5 -0.4**
GTA pP pP 15 31 15.8 -0.6
GTA PcP **PcP 15 32 46.5 +1.8**
GTA pmax pmax
comp=Z,12nm,0.9s
GTA pmax pmax
comp=Z,57nm,8.4s
GTA LR LR
comp=Z,71nm,13.1s
GTA LR LR
comp=Z,120nm,16.3s
ASAJ Asahikawa 44.05 17 P **P 15 31 02.3 +2.0**
comp=Z,18nm,0.8s,baz=226,slow=11,SNR=13
ASAJ Asahikawa 44.05 17 P **P 15 31 00.0 -0.3**
ASAJ pmax pmax
comp=Z,26nm,0.9s
JKA Kamikawa-asahi 44.05 17 P **P 15 30 60.0 -0.4**
JKA IAmb IAmb 15 31 03.0
comp=Z,26nm,0.9s
GUN Gumba 46.06 307 *e*P **P 15 31 16.8 -0.2**
comp=Z,170nm,0.6s
GUN Gumba 46.06 307 *e*P **P 15 31 17.0 0.0**
PKI Pulchoki 46.28 307 *e*P **P 15 31 18.0 -0.8**
comp=Z,37nm,0.7s
YSS Yuzh-Sakhalins 46.69 16 *e*P **P 15 31 21.5 +0.3**
YSS pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 46.92 5*ce*P **P 15 31 20.5 -2.5**
KLR pmax pmax
comp=Z,8.0nm,0.9s
HIA Hailar 47.03 354 P **P 15 31 23.4 -0.5**
HIA pmax pmax
comp=Z,31nm,1.1s
HIA Hailar 47.03 354 P **P 15 31 23.4 -0.5**
HIA IAmb IAmb 15 31 25.7
comp=Z,32nm,1.1s
GKN Gorkha 47.09 307 *e*P **P 15 31 24.1 -0.7**
comp=Z,60nm,0.7s
DANN Dangsing 47.93 307 *e*P **P 15 31 30.9 -0.7**
comp=Z,201nm,0.7s
ULN Ulaanbaatar 48.22 343*ce*P **P 15 31 33.2 -0.1**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 48.22 343 P **P 15 31 32.5 -0.8**
ULN IAmb IAmb 15 31 34.0
comp=Z,17nm,1.2s
SONM Songino Array 48.39 342 P **P 15 31 34.4 -0.1**
comp=Z,5.6nm,0.6s,baz=154,slow=9.0,SNR=17
SONM PcP **PcP 15 33 00.9 +0.8**
comp=Z,4.5nm,0.8s,baz=164,slow=5.2,SNR=9.6
SONM LR LR 15 52 59.8
comp=Z,39nm,20.7s,baz=278,slow=37
SONM Songino Array 48.39 342 P **P 15 31 33.3 -1.2**
SONM pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 48.39 342 P **P 15 31 33.3 -1.2**
GRNR Gornyy 48.99 9⇑*i*P **P 15 31 40.3 +1.3**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,30nm,15.0s
GRNR MLR MLR
comp=N,30nm,12.0s
HYB Hyderabad 49.03 291 *i*P **P 15 31 39.0 -0.8**
ZEA Zeya 51.20 1 *e*P **P 15 31 55.8 +0.2**
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 51.60 341 *e*P **P 15 31 57.5 -1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
MOY Mondy 53.45 341 *e*P **P 15 32 12.6 +0.2**
MOY pmax pmax
comp=Z,8.0nm,1.2s
WMQ Urumqi 53.50 326 *e*P **P 15 32 12.8 -0.1**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,83nm,4.9s
BOD Bodaibo 56.11 352 *e*P **P 15 32 31.9 +0.5**
BOD pmax pmax
comp=Z,48nm,0.7s
PETK Petropavlovsk- 56.89 22 P **P 15 32 38.1 +1.0**
comp=Z,8.8nm,0.8s,baz=186,slow=6.8,SNR=24
PETK PcP **PcP 15 33 33.1 +1.2**
comp=Z,3.0nm,0.8s,baz=174,slow=1.5,SNR=2.2
PETK Petropavlovsk- 56.89 22 P **P 15 32 37.4 +0.3**
ZSN Zaisan 57.32 328 *e*P **P 15 32 38.9 -1.3**
baz=328
ZSN Zaisan 57.32 328 *e*P **P 15 32 38.9 -1.3**
DGZ Jazzator, Alta 57.48 331 *i*P **P 15 32 41.1 -0.4**
DGZ pmax pmax
comp=Z,1.0nm,0.3s
SHLS Shalkode 58.01 321 *e*P **P 15 32 41.2 -4.1**
baz=321
SHLS Shalkode 58.01 321 *e*P **P 15 32 41.2 -4.1**
UZB Uzynbulak 58.28 321 *e*P **P 15 32 45.3 -2.0**
baz=321
UZB Uzynbulak 58.28 321 *e*P **P 15 32 45.2 -2.0**
MK31 Makanchi Array 58.33 326 P **P 15 32 46.5 -0.8**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 58.33 326 P **P 15 32 46.5 -0.8**
MK31 IAmb IAmb 15 32 48.3
comp=Z,7.7nm,0.5s
MKAR Makanchi Array 58.33 326 P **P 15 32 46.8 -0.6**
comp=Z,10nm,0.4s,baz=122,slow=8.0,SNR=138
MKAR PcP **PcP 15 33 38.5 +0.7**
comp=Z,15nm,0.8s,baz=120,slow=4.8,SNR=21
MKAR LR LR 16 00 38.4
comp=Z,31nm,18.1s,baz=112,slow=39
MKAR Makanchi Array 58.33 326 P **P 15 32 46.3 -1.0**
PRZ Przheval'sk 58.35 320 P **P 15 32 46.7 -1.1**
PRZ pmax pmax
comp=Z,15nm,0.9s
PRZ Przheval'sk 58.35 320 P **P 15 32 46.7 -1.1**
PRZ IAmb IAmb 15 32 50.1
comp=Z,15nm,0.8s
MAKZ Makanchi 58.51 326 P **P 15 32 47.6 -1.0**
MAKZ pmax pmax
comp=Z,10.0nm,0.5s
MAKZ Makanchi 58.51 326 P **P 15 32 47.6 -1.0**
SATY Saty 58.63 321 *e*P **P 15 32 48.5 -1.2**
baz=320
SATY Saty 58.63 321 *e*P **P 15 32 48.4 -1.2**
MDOK Medeo 59.55 320 *e*P **P 15 32 55.1 -0.9**
baz=320
MDOK Medeo 59.55 320 *e*P **P 15 32 55.1 -0.9**
YAK Yakutsk 59.57 2 P **P 15 32 55.6 +0.1**
comp=Z,15nm,0.7s,baz=8.6,slow=0.9,SNR=21
YAK LR LR 15 59 41.3
comp=Z,23nm,20.9s,baz=124,slow=37
YAK Yakutsk 59.57 2*c i*P **P 15 32 55.9 +0.4**
YAK *e**PP **pwP 15 33 14.6 -0.5**
YAK *e* 15 33 40.6
YAK *e* 15 35 13.4
YAK *e*S **S 15 41 01.3 +1.2**
YAK *e* 15 42 33.8
YAK *e*SS **SS 15 44 51.6 -4.9**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=Z,40nm,3.0s
YAK pmax pmax
comp=N,34nm,3.7s
YAK pmax pmax
comp=E,16nm,2.6s
YAK smax smax
comp=E,45nm,3.4s
YAK smax smax
comp=N,31nm,3.2s
YAK Yakutsk 59.57 2 P **P 15 32 54.8 -0.7**
ULHL Ulahol 59.64 319 P **P 15 32 56.0 -0.8**
SNR=6.0
CHKK Chushkaly 59.92 321 *e*P **P 15 32 56.9 -1.5**
baz=321
CHKK Chushkaly 59.92 321 *e*P **P 15 32 56.8 -1.5**
BOOM Boomskoye usch 59.95 319 P **P 15 32 57.2 -1.6**
BOOM 15 33 44.2
BOOM pmax pmax
comp=Z,3.0nm,0.6s
BOOM Boomskoye usch 59.95 319 P **P 15 32 57.2 -1.6**
BOOM **PcP 15 33 44.2 -0.2**
MA2 Magadan 60.15 14 LR LR 15 58 43.5
comp=Z,10nm,19.0s,baz=298,slow=36
KUU Kurty 60.35 321 *e*P **P 15 32 59.8 -1.5**
comp=Z,16nm,0.6s,baz=320
KUU Kurty 60.35 321 *e*P **P 15 32 59.8 -1.5**
KUU pmax pmax
comp=Z,16nm,0.6s
TKM2 Tokmak 2 60.37 319 P **P 15 33 01.4 -0.4**
SNR=17
SGDS Sogindy 61.24 319 *e*P **P 15 33 06.0 -1.5**
baz=319
SGDS Sogindy 61.24 319 *e*P **P 15 33 05.9 -1.5**
USP Ospenovka 61.24 319 P **P 15 33 07.0 -0.4**
SNR=13
AML Almayashu 61.28 318 P **P 15 33 08.3 +0.2**
SNR=7.9
EKS2 Erkin-Say 61.45 318 P **P 15 33 09.3 +0.4**
SNR=8.2
ZAA0 Zalesovo Array 61.52 334 P **P 15 33 07.2 -1.8**
ZALV Zalesovo Beam 61.52 334 P **P 15 33 07.5 -1.5**
comp=Z,3.0nm,0.5s,baz=128,slow=6.1,SNR=15
ZALV PcP **PcP 15 33 49.5 -0.7**
comp=Z,2.4nm,0.7s,baz=126,slow=4.2,SNR=4.2
ZALV Zalesovo Beam 61.52 334 *i*P **P 15 33 07.9 -1.1**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 61.52 334 P **P 15 33 06.5 -2.5**
SEM Semipalatinsk 61.53 328 *e*P **P 15 33 06.8 -2.7**
baz=328
SEM Semipalatinsk 61.53 328 *e*P **P 15 33 06.7 -2.7**
KBL Kabul 61.88 308 P **P 15 33 10.6 -1.5**
KBL pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 61.88 308 P **P 15 33 10.6 -1.5**
BTLS Baital 62.34 321 *e*P **P 15 33 13.4 -1.3**
comp=Z,2.8nm,0.7s,baz=321
BTLS Baital 62.34 321 *e*P **P 15 33 13.4 -1.3**
BTLS pmax pmax
comp=Z,3.0nm,0.7s
GAR Garm 62.41 313 P **P 15 33 13.9 -1.6**
BTK Batken 62.44 315 P **P 15 33 15.2 -0.4**
BTK pmax pmax
comp=Z,13nm,1.3s
BTK Batken 62.44 315 P **P 15 33 15.2 -0.4**
BTK IAmb IAmb 15 33 16.9
comp=Z,13nm,1.3s
CHGR Chuyangaron 63.13 313 P **P 15 33 18.3 -2.0**
KK31 Karatay Array 63.82 318 P **P 15 33 23.1 -1.5**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 63.82 318 P **P 15 33 23.1 -1.5**
KK31 IAmb IAmb 15 33 26.0
comp=Z,6.3nm,0.7s
KKAR Karatay Array 63.82 318 P **P 15 33 23.2 -1.4**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 63.82 318 P **P 15 33 23.1 -1.4**
KKAR Karatay Array 63.82 318 P **P 15 33 23.2 -1.4**
KKAR IAmb IAmb 15 33 26.0
comp=Z,6.3nm,0.7s
AMKA Amchitka 65.95 33 P **P 15 33 37.9 -0.3**
BRVK Borovoye 68.20 327*ce*P **P 15 33 51.5 -1.0**
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 68.20 327 P **P 15 33 50.2 -2.3**
BRVK IAmb IAmb 15 33 53.1
comp=Z,13nm,0.8s
TIXI Tiksi 69.19 1*ce*P **P 15 33 59.1 +0.9**
TIXI Tiksi 69.19 1 P **P 15 33 57.9 -0.3**
TIXI IAmb IAmb 15 34 01.9
comp=Z,15nm,1.0s
BILL Bilibino 71.00 15⇓*e*P **P 15 34 08.0 -1.4**
BILL *e* 15 34 27.7
BILL *e* 15 36 43.1
BILL *e*S **S 15 43 22.8 +3.0**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,27nm,16.0s
GEYT Alibeck 71.28 309 P **P 15 34 11.4 -0.4**
comp=Z,219nm,1.1s,baz=196,slow=15,SNR=6.3
GEYT PcP **pwP 15 34 32.3 +0.3**
comp=Z,6.2nm,0.7s,baz=105,slow=4.6,SNR=8.1
GEYT LR LR 16 09 55.9
comp=Z,21nm,18.7s,baz=75,slow=40
GEYT Alibeck 71.28 309 IAmb IAmb 15 34 19.5
comp=Z,148nm,0.8s
NRIK Noril'sk 71.59 347 P **P 15 34 13.2 +0.3**
comp=Z,38nm,0.8s,baz=122,slow=6.0,SNR=52
NRIK Noril'sk 71.59 347*ce*P **P 15 34 13.6 +0.7**
NRIK pmax pmax
comp=Z,42nm,0.9s
NRIK Noril'sk 71.59 347 P **P 15 34 12.8 -0.1**
SOCY Socotra 72.06 282 P **P 15 34 13.9 -3.0**
RER Riviere de l'E 72.66 247 P **P 15 34 18.8 -1.5**
ABKAR Akbulak array 72.82 321 P **P 15 34 19.8 -0.9**
SVE Sverdlovsk 74.80 329 *e*P **P 15 34 31.8 -0.3**
SVE pmax pmax
comp=Z,19nm,0.7s
ARU Arti 75.76 328*c i*P **P 15 34 36.5 -1.1**
ARU 15 34 47.9
ARU *PP **pP 15 34 53.3 -2.4**
ARU 15 37 22.1
ARU S **S 15 44 15.8 +1.8**
ARU SS **SS 15 49 06.3 -0.7**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 75.76 328 P **P 15 34 35.7 -1.9**
ARU IAmb IAmb 15 34 37.5
comp=Z,11nm,0.7s
SDPT Sand Point 78.64 34 P **P 15 34 54.9 +1.2**
ABPO Ambohimpanom 80.31 250 P **P 15 35 03.4 -0.4**
ABPO pmax pmax
comp=Z,15nm,0.9s
ABPO Ambohimpanom 80.31 250 P **P 15 35 03.4 -0.4**
ABPO IAmb IAmb 15 35 06.1
comp=Z,15nm,0.9s
VOI Vohitsoka 81.01 248 P **P 15 35 06.8 -0.7**
KIRV Kirov 81.07 329*ce*P **P 15 35 06.6 -0.2**
BELG Belogornoye 81.11 323 *i*P **P 15 35 06.5 -0.6**
BELG pmax pmax
comp=Z,3.0nm,0.6s
VNDA Vanda 82.17 173 P **P 15 35 13.5 +1.3**
comp=Z,1.9nm,0.6s,baz=319,slow=6.5,SNR=18
VNDA Vanda 82.17 173 P **P 15 35 12.7 +0.5**
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 82.17 173 P **P 15 35 12.7 +0.5**

MAW	Mawson	82.29	200	P	P	15 35 14.7	+1.7
	comp=Z,6.9nm,0.8s,baz=75,slow=6.5,SNR=8.2						
MAW	Mawson	82.29	200	P	P	15 35 14.5	+1.5
	baz=82,SNR=7.5						
MAW	Mawson	82.29	200	P	P	15 35 14.2	+1.2
MAW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAW	Mawson	82.29	200	P	P	15 35 14.2	+1.2
ZEI	Tsey	82.69	313	eP	P	15 35 15.7	-0.3
ZEI				pmax	pmax		
	comp=Z,15nm,0.9s						
N19K	Bonanza Creek	82.75	29	P	P	15 35 18.0	+2.2
	baz=262						
L19K	White Mountain	82.77	28	P	P	15 35 18.1	+2.3
	baz=261						
AKH	Akhalkalaki	82.92	311	⇑P	P	15 35 17.4	+0.3
M19K	Big River Lodg	82.95	28	P	P	15 35 19.1	+2.5
	baz=262						
K20K	Telida	83.30	27	P	P	15 35 20.9	+2.4
	baz=262						
J20K	Nowinta River	83.38	26	P	P	15 35 21.2	+2.4
	baz=262						
KBZ	Khabaz	83.48	314	P	P	15 35 19.2	-0.4
	comp=Z,1.5nm,0.5s,baz=6.4,slow=2.1,SNR=5.9						
KBZ	Khabaz	83.48	314	eP	P	15 35 18.9	-0.8
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
M20K	Styx River	83.53	28	P	P	15 35 21.9	+2.2
	baz=263						
RSO	Redoubt South	83.55	30	P	P	15 35 20.8	+0.8
KIV	Kislovodsk	83.64	314	eP	P	15 35 20.7	0.0
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
IMAR	Indian Mountai	83.81	24	P	P	15 35 22.4	+1.4
GURO	Guroymak-BITLI	83.92	308	P	P	15 35 21.9	-0.4
GURO				IAmb	IAmb	15 35 25.0	
	comp=Z,16nm,0.8s						
CNPM	China Poot	84.21	31	P	P	15 35 23.9	+0.8
CNPM				IAmb	IAmb	15 35 25.3	
	comp=Z,16nm,0.8s						
BRLK	Bradley Lake	84.41	30	P	P	15 35 24.3	+0.1
BRLK				IAmb	IAmb	15 35 26.1	
	comp=Z,17nm,0.8s						
BRSE	Bradley Lake S	84.48	30	P	P	15 35 25.3	+0.8
	baz=265						
BPAW	Bear Paw Mtn.	84.75	26	P	P	15 35 27.7	+1.9
	baz=265						
MLY	Manley	84.94	25	P	P	15 35 28.7	+1.9
	baz=265						
MLY	Manley	84.94	25	P	P	15 35 27.9	+1.2
RC01	Rabbit Creek A	85.08	29	P	P	15 35 28.8	+1.3
	baz=266						
RC01	Rabbit Creek A	85.08	29	P	P	15 35 27.5	+0.1
RC01				IAmb	IAmb	15 35 29.4	
	comp=Z,15nm,0.7s						
SEW	Seward	85.15	30	P	P	15 35 29.5	+1.7
	baz=266						
H23K	Yukon River	85.51	24	P	P	15 35 31.3	+1.8
	baz=266						
I23K	Minto, Yukon-K	85.53	25	P	P	15 35 31.4	+1.7
	baz=266						
I23K	Minto, Yukon-K	85.53	25	P	P	15 35 30.4	+0.8
NEA2	Nenana	85.62	26	P	P	15 35 32.0	+1.9
	baz=266						
TOLK	Toolik Lake Re	85.71	21	P	P	15 35 32.9	+2.3
	baz=266						
TOLK	Toolik Lake Re	85.71	21	P	P	15 35 30.9	+0.4
TOLK				IAmb	IAmb	15 35 34.4	
	comp=Z,8.5nm,0.9s						
SML	Sawmill	85.80	28	P	P	15 35 32.7	+1.6
	baz=267						
MDM	Murphy Dome	86.00	25	P	P	15 35 31.5	-0.5
CCB	Clear Creek Bu	86.17	25	P	P	15 35 32.7	-0.1
H24K	Noodor Dome	86.19	24	P	P	15 35 34.8	+1.9
	baz=267						
KLMR	Klimovskoe	86.29	331	eP	P	15 35 31.2	-2.2
KLMR				pmax	pmax		
	comp=Z,45nm,0.7s						
KLMR	Klimovskoe	86.29	331	eP	P	15 35 31.3	-2.2
KLMR				AMP		15 35 34.4	
	comp=Z,45nm,0.7s						
HDA	Harding Lake	86.53	26	P	P	15 35 34.6	0.0
ILAR	Eielson Array	86.57	25	P	P	15 35 34.3	-0.5
	comp=Z,0.9nm,0.7s,baz=246,slow=4.9,SNR=10						
MOS	Moscow	87.21	326	eP	P	15 35 36.7	-1.3
MOS				e		15 35 52.2	
MOS				pmax	pmax		
	comp=Z,59nm,0.8s						
ANN	Anapa	87.42	315	eP	P	15 35 36.9	-2.4
ANN				e*PP	pP	15 35 52.1	-5.5
ANN				e		15 39 00.0	
ANN				eS	SKSac	15 45 58.4	-2.8
ANN				eSS	SS	15 52 01.2	+0.3
ANN				eSSS	SSS	15 55 32.9	
ANN				pmax	pmax		
	comp=Z,68nm,0.7s						
RIDG	Independent Ri	87.44	26	P	P	15 35 40.0	+0.9
	baz=270						
BMAR	Burnt Mountain	87.54	23	P	P	15 35 40.3	+0.8
DOT	Dot Lake	87.79	27	P	P	15 35 40.9	+0.1
OBN	Obninsk	87.82	325	⇑P	P	15 35 40.7	-0.2
OBN	Obninsk	87.82	325	c iP	P	15 35 40.4	-0.6
OBN				e		15 39 04.6	
OBN				ePPP	PPP	15 41 03.3	
OBN				eS	SKSac	15 45 56.9	-6.2
OBN				pmax	pmax		
	comp=Z,28nm,0.6s						
OBN				MLR	MLR		
	comp=Z,29nm,19.0s						
OBN	Obninsk	87.82	325	P	P	15 35 40.1	-0.9
K27K	Chicken	88.66	26	P	P	15 35 46.8	+2.0
	baz=273						
L27K	Beaver Creek,	88.82	27	P	P	15 35 47.2	+1.5
	baz=273						
L27K	Beaver Creek,	88.82	27	P	P	15 35 44.8	-0.8
BCAR	Beaver Creek A	88.84	27	P	P	15 35 46.2	+0.5
KMBO	Kilima Mbogo	88.94	269	P	P	15 35 47.8	+0.3
	comp=Z,4.1nm,0.9s,baz=46,slow=8.6,SNR=9.4						
BZK	Bozkurt	90.02	312	⇓P	P	15 35 50.8	-0.8
BZK	Bozkurt	90.02	312	P	P	15 35 50.8	-0.8
ILGA	Ilgaz	90.28	311	P	P	15 35 51.5	-1.8
ILGA				IAmb	IAmb	15 35 53.7	
	comp=Z,7.8nm,0.8s						
BRTR	Keskin Array B	90.42	310	P	P	15 35 52.5	-1.2
	comp=Z,2.6nm,0.8s,baz=131,slow=5.1,SNR=11						
BRTR				LR	LR	16 22 08.2	
	comp=Z,13nm,19.4s,baz=126,slow=39						
BRTR	Keskin Array B	90.42	310	P	P	15 35 52.4	-1.4
SYO	Syowa Base	90.96	201	⇑eP	PP	15 39 33.8	+1.6
ARA0	ARCESS Array S	91.50	340	eP	P	15 35 57.5	-0.4
ARCES	ARCESS Array B	91.50	340	P	P	15 35 57.2	-0.8
	comp=Z,10nm,0.8s,baz=69,slow=6.6,SNR=20						
ARCES				PKiKP	PKiKP	15 40 50.1	+0.8
	comp=Z,0.4nm,0.5s,baz=260,slow=0.5,SNR=4.5						
ARCES	ARCESS Array B	91.50	340	P	P	15 35 57.1	-0.8
ARCES				pmax	pmax		
	comp=Z,15nm,0.9s						
ARCES	ARCESS Array B	91.50	340	P	P	15 35 57.1	-0.8
INK	Inuvik	91.62	21	P	P	15 35 57.7	-0.8
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	Inuvik	91.62	21	P	P	15 35 59.4	+0.9
	baz=281						
INK	Inuvik	91.62	21	P	P	15 35 57.7	-0.8
INK				IAmb	IAmb	15 36 00.1	
	comp=Z,5.2nm,1.2s						
SPA0	Spitsbergen Ar	91.68	349	eP	P	15 35 58.3	-0.4
SPITS	Spitsbergen Ar	91.68	349	P	P	15 35 58.5	-0.2
SPITS				pmax	pmax		
	comp=Z,12nm,0.9s						
HAMF	Hammerfest	91.89	341	eP	P	15 35 58.9	-0.8
KBS	Kingsbay	92.22	350	eP	P	15 35 59.4	-1.8
BJO1	Bjornoya	92.26	345	eP	P	15 36 00.3	-1.1
KTK1	Kautokeino	92.40	339	eP	P	15 36 01.3	-0.8
AKASG	Malin Array Be	92.56	321	P	P	15 36 02.3	-0.9
	comp=Z,12nm,0.6s,baz=66,slow=4.8,SNR=22						
AKASG				LR	LR	16 21 34.3	
	comp=Z,20nm,20.7s,baz=100,slow=38						
AKASG	Malin Array Be	92.56	321	P	P	15 36 01.0	-2.2
AKASG				IAmb	IAmb	15 36 03.4	
	comp=Z,5.9nm,1.0s						
AKBB	Malin Array Si	92.56	321	P	P	15 36 00.8	-2.4
AKBB				pmax	pmax		
	comp=Z,11nm,0.9s						
AKBB	Malin Array Si	92.56	321	P	P	15 36 00.8	-2.4
FINES	FINESS Array B	92.73	332	P	P	15 36 03.0	-0.8
	comp=Z,9.2nm,0.7s,baz=73,slow=5.4,SNR=23						
FINES	FINESS Array B	92.73	332	P	P	15 36 03.0	-0.8
MNK	Minsk	92.88	325	i P	P	15 36 06.3	+1.7
MNK				i *PP	pP	15 36 23.3	+0.2
MNK				i		15 39 48.7	
MNK				i PPP	PPP	15 41 48.9	
MNK				i S	SKSac	15 46 34.3	+1.9
MNK				i *SS	S	15 47 04.8	+0.1
MNK				i PS	PnS	15 48 27.2	+0.2
MNK				i SS	SS	15 53 22.6	+3.4
MNK				i SSS	SSS	15 57 02.7	
MNK				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,14nm,0.7s						
MNK				MLR	MLR		
	comp=N,331nm,22.0s						
MNK				MLR	MLR		
	comp=E,10.0nm,17.0s						
MNK				MLR	MLR		
	comp=Z,79nm,23.0s						
MNK	Minsk	92.88	325	i P	P	15 36 06.4	+1.8
	comp=E,4.0nm,0.9s						
MNK				i P	P	15 36 06.4	+1.8
	comp=N,14nm,0.7s						
MNK				i P	P	15 36 06.4	+1.8
	comp=Z,9.0nm,0.5s,baz=262						
MNK				i pP	pP	15 36 23.4	+0.2
MNK				i sP	sP	15 36 30.2	-0.2
MNK				i PP	PP	15 39 48.7	+1.1
MNK				i PPP	PPP	15 41 49.0	
MNK				i S	SKSac	15 46 34.4	+1.9
MNK				i sS	S	15 47 04.8	+0.2
MNK				i PS	PnS	15 48 27.3	+0.2
MNK				i SS	SS	15 53 22.7	+3.4
MNK				i SSS	SSS	15 57 02.8	
MNK				i LR	LR	16 10 40.4	
MNK				i LRM	MLR	16 17 44.6	
	comp=N,331nm,21.6s						
MNK				i LRM	MLR	16 17 48.4	
	comp=E,10.0nm,16.5s						
MNK				i LRM	MLR	16 18 18.3	
	comp=Z,79nm,22.9s						
JETT	Jettan, Norway	93.24	340	eP	P	15 36 05.9	-0.2
SORM	Soroca	93.44	318	⇑P	P	15 36 06.4	-0.9
SORM	Soroca	93.44	318	⇑P	P	15 36 06.4	-0.9
TLCR		93.49	315	⇑P	P	15 36 07.1	-0.5
TLCR		93.49	315	⇑P	P	15 36 07.1	-0.5
TRO	Tromso	93.72	340	eP	P	15 36 07.5	-0.7
TPGR	Topolog	93.81	315	⇑P	P	15 36 07.1	-2.1
TIRR	Tirgusor	93.87	315	⇑P	P	15 36 08.6	-0.8
TIRR	Tirgusor	93.87	315	⇑P	P	15 36 08.6	-0.8
CFR	Carcaliu	93.97	315	⇑P	P	15 36 09.4	-0.4
CFR	Carcaliu	93.97	315	⇑P	P	15 36 09.4	-0.4
ODBI	Odobesti	94.64	316	⇑P	P	15 36 13.1	+0.2
C36M	Paulatuk	94.67	20	P	P	15 36 12.9	+0.4
	baz=290						
C36M	Paulatuk	94.67	20	P	P	15 36 12.3	-0.2
C36M				IAmb	IAmb	15 36 14.0	
	comp=Z,4.9nm,0.9s						
TESR	Tescani	94.82	317	⇑P	P	15 36 13.6	-0.2
VRI	Vrincioaia	94.86	316	⇑P	P	15 36 14.0	0.0
VRI	Vrincioaia	94.86	316	⇑P	P	15 36 14.0	0.0
PLOR	Plostina	94.91	316	⇑P	P	15 36 14.1	-0.2
PLOR	Plostina	94.91	316	⇑P	P	15 36 14.1	-0.2
BISRR	Bisoca	94.92	316	⇑P	P	15 36 14.7	+0.4
PRAR	RASCA	94.97	318	⇑P	P	15 36 14.4	-0.1
NEHR	Nehoiu	95.22	316	⇑P	P	15 36 15.9	+0.2
MLR	Muntele Rosu	95.46	316	⇑P	P	15 36 16.5	-0.3
MLR	Muntele Rosu	95.46	316	P	P	15 36 15.8	-1.0
MLR				pmax	pmax		
	comp=Z,11nm,0.8s						
MLR	Muntele Rosu	95.46	316	P	P	15 36 15.8	-1.0
STEI	Steigen	95.54	339	eP	P	15 36 15.6	-0.9
BURAR	Bucovina Array	95.61	318	⇑P	P	15 36 17.6	+0.2
BURAR	Bucovina Array	95.61	318	⇑P	P	15 36 17.6	+0.2
BURAR	Bucovina Array	95.61	318	P	P	15 36 17.1	-0.4
BUR08	Bucovina Ar. S	95.61	318	P	P	15 36 16.6	-0.8
FAUS	Fauske	95.71	339	eP	P	15 36 16.3	-1.0
VOIR		96.09	316	⇑P	P	15 36 19.0	-0.7
VOIR		96.09	316	⇑P	P	15 36 19.0	-0.7
MOR8	Moi Rana	96.45	338	eP	P	15 36 18.7	-2.1
BMR	Baia Mare	96.74	318	⇑P	P	15 36 22.1	-0.4
BMR	Baia Mare	96.74	318	⇑P	P	15 36 22.1	-0.4
KONS	Konsvik	96.83	338	eP	P	15 36 21.7	-0.7
CJR	Cluj-Napoca	96.86	317	⇑P	P	15 36 21.8	-1.2
CJR	Cluj-Napoca	96.86	317	⇑P	P	15 36 21.8	-1.2
CBBR	Cluj-Babes-Bol	96.88	317	⇑P	P	15 36 23.5	+0.4
KOLS	Kolonicke sedl	97.29	320	eP	Pdif	15 36 25.7	+0.7
KOLS	Kolonicke sedl	97.29	320	ePDIFF	Pdif	15 36 25.7	+0.7
DRGR		97.44	318	⇑P	P	15 36 25.7	0.0
DRGR		97.44	318	⇑P	P	15 36 25.7	0.0
CRVS	Cervenica-Dubn	97.82	320	eP	Pdif	15 36 28.0	+0.6
CRVS	Cervenica-Dubn	97.82	320	ePDIFF	Pdif	15 36 28.0	+0.6
VTS	Vitosha	97.87	313	⇑P	P	15 36 26.2	-1.7
VTS	Vitosha	97.87	313	P	P	15 36 26.4	-1.5
VTS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VTS	Vitosha	97.87	313	P	P	15 36 26.4	-1.5
VTS				IAmb	IAmb	15 36 27.9	
	comp=Z,4.6nm,0.8s						
NSS	Namsos	98.03	337	eP	P	15 36 26.3	-1.5
SIRR	Siria	98.26	317	⇑P	P	15 36 29.3	-0.1
BZS	Buzias	98.42	317	⇑P	P	15 36 28.6	-1.5
BZS	Buzias	98.42	317	⇑P	P	15 36 28.6	-1.5
MDVR	Moldovita	98.53	316	⇑P	Pdif	15 36 31.0	+0.3
OJC	Ojcow	98.57	321	P	P	15 36 29.8	-0.8
OJC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OJC	Ojcow	98.57	321	P	P	15 36 29.8	-0.8
PSZ	Piszkesteto	99.06	319	P	Pdif	15 36 32.5	-0.5
PSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PSZ	Piszkesteto	99.06	319	P	Pdif	15 36 32.5	-0.5
PSZ				IAmb	IAmb	15 36 33.8	
	comp=Z,5.9nm,0.9s						
NB2	NORSAR Subarra	99.72	333	P	Pdif	15 36 34.3	-1.3
	comp=Z,3.5nm,0.8s,baz=68,slow=4.4						
NB2	NORSAR Subarra	99.72	333	P	Pdif	15 36 34.3	-1.3
	baz=68,slow=4.4						
NOA	NORSAR Array B	99.72	333	P	Pdif	15 36 34.5	-1.1
	comp=Z,2.5nm,0.8s,baz=69,slow=4.4,SNR=8.9						
NOA				LR	LR	16 24 17.3	
	comp=Z,19nm,21.9s,baz=265,slow=37						
BRG	Berggiesshubel	101.96	323	eP	Pdif	15 36 46.2	+0.5
BRG				Amp		15 36 47.9	
	comp=Z,12nm,1.5s						
SNART	Snartemo	102.70	332	i	Pdif	15 36 51.3	+2.5
GERES	GERESS Array B	102.77	321	P	Pdif	15 36 49.3	-0.1
	comp=Z,1.5nm,0.9s,baz=61,slow=6.3,SNR=9.7						
PDAR	Pinedale Array	112.75	41	PKKPbc	PKKPbc	15 52 16.9	-1.5
	comp=Z,0.3nm,0.6s,baz=152,slow=4.1,SNR=3.5						
RSSD	Black Hills	115.61	38	P	PKPdf	15 41 35.1	+0.9
	baz=302						
ANMO	Albuquerque	118.36	48	c iPKIKP	PKiKP	15 41 39.9	+0.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,2.5s						
ANMO	Albuquerque	118.36	48	P	PKiKP	15 41 41.6	+1.7
	baz=296						
ECSD	EROS Data Cent	120.22	35	P	PKiKP	15 41 43.6	+0.6
	baz=308						
MNTX	Cornudas Mount	120.55	51	P	PKiKP	15 41 45.9	+1.9
	baz=295						
MSTX	Muleshoe	121.52	47	P	PKiKP	15 41 47.4	+1.4
	baz=298						
SCHQ	Schefferville	121.98	9	PKP	PKiKP	15 41 46.6	+0.5
	comp=Z,5.5nm,0.5s,baz=355,slow=1.9,SNR=6.8						
TORD	Torodi Ar. Bea	122.77	287	PKP	PKiKP	15 41 48.8	0.0
	comp=Z,3.9nm,0.8s,baz=50,slow=1.9,SNR=17						
TORD	Torodi Ar. Bea	122.77	287	PKPdf	PKPdf	15 41 48.3	-0.2
TXAR	Lajitas Array	122.88	53	PKP	PKiKP	15 41 49.9	+1.2
	comp=Z,0.6nm,0.8s,baz=234,slow=0.7,SNR=6.6						
WMOK	Wichita Mounta	124.00	45	P	PKiKP	15 41 51.4	+0.7
	baz=302						
JFWS	Jewell Farm	124.26	32	P	PKiKP	15 41 50.9	0.0
	baz=314						
LSQQ	Lebel-sur-Quev	124.99	18	P	PKiKP	15 41 52.5	+0.3
	baz=332						
CHGQ	Chibougamau	125.00	16	P	PKiKP	15 41 53.0	+0.8
	baz=335						
JCT	Junction City	125.38	50	P	PKiKP	15 41 55.0	+1.4
	baz=298						
CCM	Cathedral Cave	126.97	37	P	PKiKP	15 41 57.6	+1.1
	baz=311						
U40A	Yellville	127.05	40	P	PKiKP	15 41 57.6	+0.9
	baz=308						
W39A	Magazine	127.15	41	P	PKiKP	15 41 58.1	+1.2
	baz=307						
ALGO	Algonquin Park	127.32	21	P	PKiKP	15 41 57.4	+0.5
	baz=329						
MIAR	Mount Ida	127.67	42	P	PKiKP	15 42 00.3	+2.3
	baz=306						
LATQ	La Tuque	127.73	16	P	PKiKP	15 41 57.4	-0.3
	baz=336						
WVT	Waverly	130.29	36	P	PKiKP	15 42 03.9	+0.7
	baz=313						
H65A	Eastbrook	131.40	14	P	PKiKP	15 42 06.2	+1.1
	baz=341						
H66A	Whiting	131.53	13	P	PKiKP	15 42 06.3	+0.9
	baz=342						
LPAZ	La Paz	160.29	135	PKP	PKPdf	15 42 55.0	+2.1
	comp=Z,1.8nm,0.8s,baz=81,slow=1.9,SNR=6.0						
LPAZ	La Paz	160.29	135	PKIKP	PKPdf	15 42 55.0	+2.1

JMA 26 15:37:48.3, 33°.91N×136°.45E, h29km, M3.5, 5C-5D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	Miekihoku	0.36	336	⇓P	Pb	15 37 56.3	-0.2
JKN2				S	Sb	15 38 02.0	-0.1
JMMH	Miemihama	0.36	256	⇑P	Pb	15 37 56.2	-0.4
JMMH				S	Sb	15 38 02.1	-0.1
TTO1	TONANKAI O.B.S	0.40	136	⇓P	Pb	15 37 56.9	0.0
TTO1				X		15 38 05.6	
TTO2	TONANKAI O.B.S	0.51	110	P	Pb	15 37 58.9	+0.2
JIE	Ise	0.53	24	⇓P	Pb	15 37 59.0	-0.1
JIE				S	Sb	15 38 06.2	-0.3
JTNC	Tanabenakahech	0.70	263	⇑P	Pb	15 38 01.5	-0.6
JTNC				S	Sb	15 38 11.6	+0.1
JWY	Kouya	0.78	294	⇑P	Pb	15 38 02.9	-0.4
JWY				S	Sb	15 38 13.7	+0.2
TSUJ	Tsu 2	0.80	358	⇓P	Pn	15 38 03.0	-0.6
TSUJ				S	Sn	15 38 14.4	-0.1
TTO4	TONANKAI O.B.S	0.91	84	P	Pn	15 38 03.6	-1.3
TTO4				S	Sn	15 38 16.0	-0.9
JWM	Minabe	0.91	266	⇑P	Pn	15 38 04.7	-0.5
JWM				S	Sn	15 38 17.2	-0.2
JAA	Atsumi	0.92	38	⇑P	Pn	15 38 04.4	-0.9
JAA				S	Sn	15 38 16.4	-1.1
JHE	Heguri	0.97	320	⇓P	Pn	15 38 05.7	-0.4
JHE				S	Sb	15 38 19.3	+0.1
TK02	Tokai 2	1.09	88	P	Pn	15 38 05.8	-1.6
MAT	Matsushiro	3.00	28	P	Pn	15 38 34.3	+0.5
MAT				eS	Sn	15 39 07.5	-1.3

*IDC **26** 16:10:04.9±0.7, 6°.27N×117°.05E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/44, mbtmp3.9/16, MS3.4/11, Ms1 3.4/11, ms1mx3.1/36, Error ellipse: s-maj=34.3km s-min=14.8km az=68.0*

*NEIC **26** 16:10:11.8±2.0, 6°.28N±0°.08×116°.9E±0°.1, h15km±2km, mb4.6/34, Error ellipse: s-maj=16.0km s-min=10.3km az=70.0*

*DJA **26** 16:10:12.5±1.7, 6°N±3°×11°7E±°, h19km±13km, M4.7/31, mB5.3/13, mb4.7/31, MLv4.8/6, Mw(mB)4.7/13*

ISC 26 16:10:11.0±0.4, 6°.07N±0°.05×116°.81E±0°.06, h10km, n127, σ2°88/109, mb4.4/49, MS3.5/12, 1C, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	6.32	141	Pn	Pn	16 11 45.7	+1.3
MPSI	Mapaga	6.47	151	P	Pn	16 11 47.9	+1.5
	0.1nm302nm15nm,0.8s						
MTKI	Muara Teweh, K	7.22	195	P	Pn	16 11 58.2	+1.5
	0.2nm34nm,0.7s						
MRSI	Marisa	7.55	137	P	Pn	16 12 04.4	+3.1
	0.3nm721nm87nm,0.7s						
STKI	Sintang	7.99	222	P	Pn	16 12 04.8	-2.5
	0.3nm2μm21nm,1.0s						
APSI	Ampana	8.45	145	P	Pn	16 12 18.3	+4.7
	30nm,1.1s						
TTSI	Tana Toraja	9.54	162	P	Pn	16 12 31.0	+2.5
	1μm94nm,0.9s						
BNSI	Bone	10.91	162	P	Pn	16 12 51.9	+4.6
	37nm,1.0s						
KAPI	Kappang	11.39	165	Pn	Pn	16 12 57.4	+3.5
	1.0nm,0.3s,baz=348,slow=9.3,SNR=5.1						
KAPI				LR	LR	16 18 15.3	
	comp=Z,96nm,21.9s,baz=14,slow=42						
BKSI	Bulukumba	11.79	164	P	Pn	16 13 04.4	+5.0
	572nm44nm,1.2s						
QIZ	Qiongzhong	14.56	333	P	Pn	16 13 38.0	+0.7
QIZ				S	Sn	16 16 19.0	+0.1
QIZ				pmax	pmax		
	comp=Z,17nm,1.4s						
QIZ				LR	LR		
	comp=N,240nm,7.9s						
QIZ				LR	LR		
	comp=E,200nm,2.9s						
QIZ				LR	LR		
	comp=Z,260nm,16.3s						
TWSI	Taliwang, Sumb	14.71	180	P	Pn	16 13 40.4	+1.1
	comp=Z,27nm,1.2s						
PLAI	Plampang	14.83	176	P	Pn	16 13 41.4	+0.4
	comp=Z,1μmcomp=Z,116nm,0.8s						
EDFI	Ende, Flores	15.50	162	P	Pn	16 13 53.0	+3.0
	comp=Z,237nmcomp=Z,25nm,1.1s						
MMRI	Maumere	15.58	160	Pn	Pn	16 13 53.1	+2.2
MMRI				IAmb	IAmb	16 14 08.6	
	comp=Z,78nm,1.2s						
MMRI	Maumere	15.58	160	P	Pn	16 13 53.6	+2.7
	comp=Z,53nm,1.7s						
LEM	Lembang	15.75	216	P	Pn	16 13 54.5	+1.2
	comp=Z,18nm,1.8s						
RGRI	Rengat	15.79	247	P	Pn	16 13 49.3	-4.4
WBSI	Waikabubak, Su	15.81	171	P	Pn	16 13 57.5	+3.5
	comp=Z,66nm,1.0s						
CBJI	Citeko	15.89	219	P	P	16 13 57.9	-0.8
	comp=Z,3μmcomp=Z,35nm,0.9s						
MDSI	Maura Dua	16.40	231	P	Pn	16 14 02.1	+0.6
	comp=Z,10nm,1.0s						
BKNI	Bangkinang	16.74	251		P	16 14 08.5	+0.4
BKNI				IAmb	IAmb	16 14 10.3	
	comp=Z,52nm,1.0s						
KHON	Khomkaen	17.09	308	P	P

CM09 Chiang Mai Arr 21.29 307 P **P** **16 15 01.9 +3.9**
comp=Z,158nmcomp=Z,21nm,1.0s
CM01 Chiang Mai Arr 21.30 307 P **P** **16 15 01.5 +3.4**
comp=Z,128nmcomp=Z,16nm,1.0s
CM01 Chiang Mai Arr 21.30 307 P **P** **16 15 01.6 +3.4**
comp=Z,128nmcomp=Z,16nm,1.0s
CM05 Chiang Mai Arr 21.30 307 P **P** **16 15 01.9 +3.8**
comp=Z,93nmcomp=Z,11nm,1.1s
CM05 Chiang Mai Arr 21.30 307 P **P** **16 15 01.0 +2.9**
comp=Z,93nmcomp=Z,11nm,1.1s
CM02 Chiang Mai Arr 21.32 307 P **P** **16 15 01.6 +3.3**
comp=Z,109nmcomp=Z,15nm,1.0s
CM02 Chiang Mai Arr 21.32 307 P **P** **16 15 01.7 +3.4**
comp=Z,109nmcomp=Z,15nm,1.0s
CM31 Chiang Mai Arr 21.34 307 P **P** **16 15 02.0 +3.5**
comp=Z,508nm,0.4s
CM31 Chiang Mai Arr 21.34 307 P **P** **16 14 56.7 -1.8**
CM31 IAmb IAmb 16 15 06.3
comp=Z,22nm,1.1s
CMAR Chiang Mai Arr 21.34 307 P **P** **16 14 56.3 -2.2**
comp=Z,2.3nm,0.5s,baz=134,slow=8.9,SNR=3.4
CMAR LR LR 16 23 31.6
comp=Z,214nm,18.9s,baz=167,slow=38
CMAR Chiang Mai Arr 21.34 307 P **P** **16 14 56.5 -2.0**
CM13 Chiang Mai Arr 21.34 307 P **P** **16 15 01.9 +3.4**
comp=Z,96nmcomp=Z,13nm,1.0s
CM13 Chiang Mai Arr 21.34 307 P **P** **16 15 02.0 +3.4**
comp=Z,96nmcomp=Z,13nm,1.0s
CM15 Chiang Mai Arr 21.35 307 P **P** **16 15 02.4 +3.8**
CM15 Chiang Mai Arr 21.35 307 P **P** **16 15 02.0 +3.4**
CM32 Chiang Mai Arr 21.52 307 P **P** **16 15 07.0 +6.6**
CMMT Chiang Mai 21.53 308 P **P** **16 15 03.7 +3.2**
comp=Z,6.9nm,1.1s
CMMT Chiang Mai 21.53 308 P **P** **16 15 03.8 +3.2**
comp=Z,6.9nm,1.1s
CHTO Chiang Mai 21.53 308 P **P** **16 15 03.7 +3.1**
comp=Z,7.2nm,1.1s
CHTO Chiang Mai 21.53 308 P **P** **16 15 00.0 -0.6**
KMI Kunming 23.25 326 ⇑P **P** **16 15 22.3 +3.3**
KMI pmax pmax
comp=Z,10.0nm,1.5s
KNRA Kununurra 24.64 151 P **P** **16 15 31.5 -0.4**
KNRA IAmb IAmb 16 15 39.5
comp=Z,32nm,1.4s
NJ2 Nanjing 25.92 4 *e*P **P** **16 15 44.3 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PSA00 Pilbara Seismi 27.63 174 P **P** **16 15 58.7 -0.3**
PSA00 IAmb IAmb 16 16 04.2
comp=Z,10nm,1.1s
XAN Xi'an 28.78 346 P **P** 16 16 19.8 +11
XAN pmax pmax
comp=Z,7.0nm,0.8s
SHL Shillong 30.73 312 P **P** **16 16 23.9 -2.8**
WB0 Warramunga Arr 30.96 146 P **P** 16 16 25.9 -2.7
WB0 IAmb IAmb 16 16 52.8
comp=Z,4.8nm,1.1s
WRA Warramunga Arr 31.07 147 P P 16 16 25.6 -4.0
comp=Z,0.8nm,0.8s,baz=332,slow=9.5,SNR=5.7
WB2 Warramunga Arr 31.08 147 P P 16 16 26.7 -3.0
WB2 IAmb IAmb 16 16 33.6
comp=Z,12nm,1.4s
WR0 Warramunga Arr 31.20 146 P P 16 16 27.2 -3.5
WR0 IAmb IAmb 16 16 34.5
comp=Z,5.4nm,1.1s
KSRS Korea Array 32.84 16 P P 16 16 38.9 -6.1
comp=Z,0.2nm,0.7s,baz=267,slow=28,SNR=2.1
KSRS LR LR 16 32 27.5
comp=Z,37nm,18.4s,baz=202,slow=41
ASAR Alice Springs 33.94 151 P P 16 16 51.5 -3.2
comp=Z,0.5nm,0.8s,baz=337,slow=9.3,SNR=6.7
ASAR PcP **PcP** **16 19 27.8 -5.5**
comp=Z,0.9nm,0.9s,baz=330,slow=1.5,SNR=6.2
ASAR Alice Springs 33.94 151 P **P** **16 16 55.8 +1.1**
ASAR **PcP** **16 19 31.2 -2.0**
BTO Baotou 34.92 351 *e*P **P** **16 17 06.0 +2.8**
BTO S **S** **16 22 38.3 +3.6**
BTO LR LR
comp=N,320nm,15.8s
BTO LR LR
comp=E,360nm,11.5s
MORW Morawa 34.94 181 P **P** **16 17 03.7 +0.5**
MORW IAmb IAmb 16 17 19.8
comp=Z,16nm,1.2s
HHC Hu-ho-hao-te 34.95 353 *e*P **P** **16 17 06.0 +2.6**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,98nm,6.6s
GUN Gumba 36.50 310 *e*P **P** **16 17 20.2 +3.0**
comp=Z,64nm,0.7s
GTA Gaotai 36.57 338 *e*P **P** **16 17 17.8 +0.5**
GTA pP sP 16 17 22.5 +0.6
GTA sP pP 16 17 25.0 +4.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
PKI Pulchoki 36.69 309 *e*P **P** **16 17 21.2 +2.4**
comp=Z,23nm,0.6s
KKN Kakani 36.90 310 *e*P **P** **16 17 21.6 +1.2**
comp=Z,34nm,0.9s
GKN Gorkha 37.50 309 *e*P **P** **16 17 26.6 +1.1**
comp=Z,52nm,0.8s
FORT Forrest 38.19 164 P **P** **16 17 33.3 +2.4**
CN2 Changchun 38.34 10 *e*P **P** **16 17 36.8 +4.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,100nm,16.0s
CN2 LR LR
comp=E,100nm,16.0s
CN2 LR LR
comp=Z,100nm,18.0s
DANN Dangsing 38.34 309 *e*P **P** **16 17 33.7 +0.9**
comp=Z,39nm,0.7s
JMM Marumori 38.44 31 P **P** **16 17 31.1 -1.9**
JMM IAmb IAmb 16 17 53.7
comp=Z,17nm,1.2s
PATS Pohnpei 41.24 87 P **P** **16 17 55.6 -1.1**
SONM Songino Array 42.56 350 P P 16 18 00.3 -6.8
comp=Z,0.3nm,0.3s,baz=169,slow=8.5,SNR=1.8
SONM LR LR 16 37 09.8
comp=Z,55nm,18.0s,baz=83,slow=38
STKA Stephens Creek 44.52 149 P P 16 18 18.0 -5.0
comp=Z,2.4nm,0.7s,baz=350,slow=11,SNR=3.3
STKA Stephens Creek 44.52 149 P **P** **16 18 21.9 -1.1**
KLR Kul'dur 44.83 14 P P 16 18 17.6 -7.6
comp=Z,0.3nm,0.3s,baz=297,slow=23,SNR=1.5
KLR LR LR 16 37 34.5
comp=Z,41nm,18.6s,baz=186,slow=37
WMQ Urumqi 45.47 330 *e*P **P** **16 18 30.0 -0.5**
WMQ pP pP 16 18 33.0 -0.8
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,57nm,3.9s
NIL Nilore 48.77 310 P **P** **16 18 56.4 -0.1**
MK31 Makanchi Array 50.26 330 P **P** **16 19 05.9 -1.7**
MKAR Makanchi Array 50.26 330 P **P** **16 19 03.5 -4.1**
comp=Z,1.1nm,0.6s,baz=126,slow=7.5,SNR=11
MKAR PcP **PcP** **16 20 22.1 -4.4**
comp=Z,0.5nm,0.8s,baz=126,slow=4.0,SNR=1.9
MKAR Makanchi Array 50.26 330 P **P** **16 19 05.6 -2.0**
KBL Kabul 52.33 309 P **P** **16 19 22.7 -0.9**
KBL IAmb IAmb 16 19 26.9
comp=Z,9.6nm,1.0s
ZALV Zalesovo Beam 54.32 337 P P 16 19 31.9 -5.6
comp=Z,0.3nm,0.3s,baz=159,slow=4.5,SNR=1.7
KKAR Karatay Array 54.92 320 P **P** **16 19 42.0 -0.2**
KKAR Karatay Array 54.92 320 P **P** **16 19 42.3 +0.1**
KKAR IAmb IAmb 16 19 55.5
comp=Z,1.9nm,1.1s
YAK Yakutsk 56.66 7 LR LR 16 45 41.6
comp=Z,38nm,19.2s,baz=174,slow=38
PEA0B Petropavlovsk- 57.52 28 P **P** **16 19 59.6 -0.9**
PETK Petropavlovsk- 57.52 28 P **P** **16 19 58.9 -1.6**
HRA Herat 57.60 307 P **P** **16 20 00.9 -0.8**
HRA IAmb IAmb 16 20 18.1
comp=Z,4.0nm,1.0s
MA2 Magadan 59.33 19 LR LR 16 47 09.1
comp=Z,39nm,19.2s,baz=128,slow=38
GEYT Alibeck 61.78 310 LR LR 16 50 48.4
comp=Z,23nm,19.7s,baz=80,slow=40
NRIK Noril'sk 66.04 349 P P 16 20 51.6 -6.0
comp=Z,6.4nm,0.9s,baz=148,slow=9.5,SNR=4.1
NRIK Noril'sk 66.04 349 P **P** **16 20 55.2 -2.5**
BHW Baring Head 70.94 138 P **P** **16 21 29.4 +0.6**

VOI Vohitsoka 73.94 245 P **P** **16 21 48.7 +1.5**
VOI IAmb IAmb 16 22 08.2
comp=Z,11nm,1.2s
KBZ Khabaz 74.21 314 LR LR 16 58 50.1
comp=Z,26nm,19.6s,baz=7.5,slow=39
KMBO Kilima Mbogo 79.74 268 P P 16 22 15.5 -4.8
comp=Z,2.2nm,0.2s,baz=49,slow=22,SNR=2.7
BRTR Keskin Array B 80.91 309 P P 16 22 21.0 -5.0
comp=Z,0.3nm,0.3s,baz=115,slow=6.8,SNR=1.5
MAW Mawson 82.68 198 P **P** **16 22 31.7 -2.8**
comp=Z,2.6nm,0.9s,baz=56,slow=15,SNR=3.6
MAW Mawson 82.68 198 P **P** **16 22 33.1 -1.4**
AKASG Malin Array Be 83.82 320 P P 16 22 36.4 -4.4
comp=Z,0.8nm,0.7s,baz=82,slow=4.1,SNR=2.2
FINES FINESS Array B 85.07 331 P P 16 22 42.5 -4.4
comp=Z,1.4nm,0.7s,baz=83,slow=16,SNR=3.6
FINES LR LR 17 02 28.0
comp=Z,22nm,20.8s,baz=182,slow=37
FINES FINESS Array B 85.07 331 P **P** **16 22 43.3 -3.6**
BPAW Bear Paw Mtn. 85.55 26 P **P** **16 22 47.6 -1.7**
MLY Manley 85.58 25 P **P** **16 22 48.6 -0.9**
MLY IAmb IAmb 16 22 53.2
comp=Z,3.2nm,0.9s
BURAR Bucovina Array 86.64 317 P **P** **16 22 53.8 -1.3**
BUR08 Bucovina Ar. S 86.65 317 P **P** **16 22 54.0 -1.2**
BUR08 IAmb IAmb 16 22 58.9
comp=Z,3.3nm,0.8s
VNDA Vanda 87.11 171 P P 16 22 53.7 -2.9
comp=Z,0.8nm,0.9s,baz=315,slow=7.0,SNR=3.7
VNDA Vanda 87.11 171 P **P** **16 22 57.1 +0.5**
NOA NORSAR Array B 92.20 332 LR LR 17 07 13.4
comp=Z,9.8nm,20.5s,baz=275,slow=37

*NEIC **26** 16:19:56.9±2.1, 11°.08S±0°.10×161°.9E±0°.1, h10km±1km, mb4.1/8, Error ellipse: s-maj=21.0km s-min=12.7km az=228.0*
*IDC **26** 16:20:00.9±2.6, 11°.10S×161°.86E, h46km±23km, mb3.5/8, mb1 3.7/10, mb1mx3.5/37, mbtmp3.8/10, ML3.8/2, MS3.2/8, Ms1 3.2/8, ms1mx3.0/25, Error ellipse: s-maj=26.5km s-min=16.9km az=72.0*
ISC 26 16:19:59.8±0.6, 11°.09S±0°.07×161°.98E±0°.08, h36km, n37, σ1§38/33, mb3.8/9, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.60**	**309**	P	**Pn**	**16 20 38.7**	**-0.5**
	24nm,0.3s,baz=79,slow=0.6,SNR=17						
HNR				S	**Sn**	**16 21 09.4**	**-0.1**
	34nm,0.3s,baz=226,slow=14,SNR=4.3						
HNR				LR	LR	16 21 28.8	
	comp=Z,76nm,19.6s,baz=36,slow=35						
HNR	**Honiara**	**2.60**	**309**	Pn	**Pn**	**16 20 38.6**	**-0.6**
HNR	**Honiara**	**2.60**	**309**	P	**Pn**	**16 20 39.7**	**+0.5**
SANVU	**Saraoutou**	**6.67**	**131**		**Pn**	**16 21 35.7**	**+0.4**
SANVU	**Saraoutou**	**6.67**	**131**	P	**Pn**	**16 21 35.8**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.66**	**167**	P	**Pn**	**16 22 18.0**	**+1.7**
LIFNC	**LIFOU**	**10.87**	**153**	Pn	**Pn**	**16 22 33.0**	**+0.2**
LIFNC	**LIFOU**	**10.87**	**153**	P	**Pn**	**16 22 33.3**	**+0.4**
NOUC	**Port Laguerre**	**11.70**	**160**	P	**Pn**	**16 22 46.6**	**+2.4**
DZM	**Mont Dzumac**	**11.72**	**159**	P	**Pn**	**16 22 46.4**	**+1.8**
	0.6nm,0.3s,baz=55,slow=9.1,SNR=16						
DZM				S	**Sn**	**16 24 51.8**	**-2.5**
	0.2nm,0.3s,baz=243,slow=22,SNR=1.6						
DZM				LR	LR	16 26 21.9	
	comp=Z,116nm,20.3s,baz=6.0,slow=32						
DZM	**Mont Dzumac**	**11.72**	**159**	*e*P	**Pn**	**16 22 47.0**	**+2.4**
	6.7nm,0.5s						
DZM				*e*LR	LR	16 25 05.0	
	comp=Z,171nm,24.1s						
DZM	**Mont Dzumac**	**11.72**	**159**	P	**Pn**	**16 22 46.7**	**+2.1**
YATNC	**Mamie plateau,**	**11.87**	**157**	P	**Pn**	**16 22 47.4**	**+0.8**
ONTNC	**Ouen Toro**	**11.94**	**160**	Pn	**Pn**	**16 22 48.6**	**+1.1**
OUENC	**Ouen Island, N**	**12.18**	**158**	Pn	**Pn**	**16 22 52.1**	**+1.3**
PINNC	**Pines Island,**	**12.59**	**156**	Pn	**Pn**	**16 22 58.4**	**+2.0**
PMG	**Port Moresby**	**14.69**	**275**	LR	LR	16 29 11.1	
	comp=Z,99nm,18.1s,baz=114,slow=38						
MSVF	**Nonsavu**	**16.90**	**115**	LR	LR	16 29 17.1	
	comp=Z,105nm,20.1s,baz=177,slow=33						
EIDS	**Eidsvold**	**17.56**	**215**	P	**Pn**	**16 24 01.6**	**-0.1**
CTA	**Charters Tower**	**17.58**	**238**	P	**P**	**16 24 06.2**	**+3.3**
	0.4nm,0.3s,baz=74,slow=12,SNR=15						
ARMA	**Armidale**	**21.50**	**205**	P	**P**	**16 24 44.0**	**-1.6**
ARMA				IAmb	IAmb	16 24 49.0	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**27.97**	**219**	P	**P**	**16 25 45.5**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=48,slow=12,SNR=1.0						
STKA				LR	LR	16 36 48.0	
	comp=Z,180nm,19.3s,baz=19,slow=36						
STKA	**Stephens Creek**	**27.97**	**219**	IAmb	IAmb	16 26 11.0	
	comp=Z,2.9nm,1.4s						
WRA	**Warramunga Arr**	**28.02**	**248**	P	**P**	**16 25 46.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=78,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**29.50**	**241**	P	**P**	**16 26 00.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=62,slow=10,SNR=7.7						
ASAR				PcP	**PcP**	**16 29 06.1**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=78,slow=3.3,SNR=3.0						
ASAR				LR	LR	16 37 12.7	
	comp=Z,103nm,18.7s,baz=65,slow=35						
BBOO	**Buckleboo**	**32.17**	**224**	P	**P**	**16 26 23.5**	**-0.7**
KNRA	**Kununurra**	**32.62**	**258**	P	**P**	**16 26 27.8**	**-0.5**
DHH	**Diamond Head**	**50.94**	**51**	P	**P**	**16 28 58.5**	**+0.6**
ASAJ	**Asahikawa**	**57.70**	**344**	LR	LR	16 53 35.3	
	comp=Z,23nm,19.3s,baz=148,slow=35						
KSRS	**Korea Array**	**57.90**	**328**	LR	LR	16 55 43.3	
	comp=Z,17nm,18.0s,baz=102,slow=37						
VNDA	**Vanda**	**66.42**	**180**	P	**P**	**16 30 45.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=354,slow=4.8,SNR=4.7						
VNDA	**Vanda**	**66.42**	**180**	IAmb	IAmb	16 31 08.3	
	comp=Z,4.3nm,1.4s						
SONM	**Songino Array**	**76.56**	**325**	P	**P**	**16 31 46.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=150,slow=6.1,SNR=1.8						
SONM	**Songino Array**	**76.56**	**325**	IAmb	IAmb	16 31 58.1	
	comp=Z,1.3nm,1.0s						
ILAR	**Eielson Array**	**84.76**	**20**	P	**P**	**16 32 29.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=246,slow=5.1,SNR=5.2						
NVAR	**Mina Array Bea**	**88.89**	**51**	P	**P**	**16 32 51.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=233,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**91.04**	**317**	P	**P**	**16 33 00.1**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=84,slow=8.4,SNR=2.2						

*IDC **26** 16:26:52.7±0.4, 13°.70N×144°.75E, h120km±4km, mb3.5/11, mb1 3.7/12, mb1mx3.4/56, mbtmp3.9/12, Error ellipse: s-maj=25.8km s-min=13.1km az=76.0*
*NEIC **26** 16:26:53.5±1.1, 13°.67N±0°.10×144°.7E±0°.1, h122km±1km, mb4.3/22, Error ellipse: s-maj=14.6km s-min=14.0km az=102.0*
ISC 26 16:26:50.5±0.6, 13°.75N±0°.08×144°.7E±0°.1, h100km, n41, σ1§58/39, mb4.2/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.21**	**140**	LR	LR	16 26 53.2	
	comp=Z,27nm,20.5s,baz=353,slow=3.2						
GUMO				P	Pn	16 27 10.4	+5.7
	1μm,0.3s,baz=346,slow=0.8,SNR=1543						
GUMO				S	**Sn**	**16 27 22.9**	**+7.5**
	1μm,0.3s,baz=196,slow=23,SNR=19						
PATS	**Pohnpei**	**15.02**	**116**	Pn	**Pn**	**16 30 17.6**	**0.0**
SIJI	**Sorong**	**19.72**	**224**	P	**Pn**	**16 31 14.6**	**-0.1**
	0.8nm,0.3s,baz=51,slow=14,SNR=2.9						
FAKI	**Fak Fak**	**20.68**	**218**	P	**P**	**16 31 24.5**	**+1.9**
FAKI				IAmb	IAmb	16 31 40.0	
	comp=Z,16nm,1.0s						
YULB	**Yu-li**	**24.16**	**297**	P	**P**	**16 31 58.5**	**+1.0**
YULB				IAmb	IAmb	16 32 23.4	
	comp=Z,13nm,1.3s						
NACB	**Ninganchiao**	**24.18**	**299**	P	**P**	**16 31 57.3**	**-0.4**
NACB				IAmb	IAmb	16 32 00.1	
	comp=Z,13nm,0.8s						
SSLB	**Suanglung**	**24.59**	**297**	P	**P**	**16 32 01.4**	**0.0**
SSLB				IAmb	IAmb	16 32 06.5	
	comp=Z,9.0nm,0.9s						
JSD	**Sado**	**24.86**	**348**	P	**P**	**16 32 05.2**	**+1.4**
JSD				IAmb	IAmb	16 32 10.7	
	comp=Z,35nm,1.5s						
KSRS	**Korea Array**	**27.96**	**331**	P	**P**	**16 32 31.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=146,slow=10,SNR=6.5						
MTN	**Manton Dam**	**29.66**	**208**	P	**P**	**16 32 46.1**	**-0.7**
MTN				IAmb	IAmb	16 33 13.5	
	comp=Z,4.7nm,0.9s						
SOEI	**Soe**	**30.95**	**222**	P	**P**	**16 32 58.1**	**-0.3**

KNRA Kununurra 33.23 209 P **P** **16 33 17.2 -1.0**
KNRA IAmb IAmb 16 33 32.6
comp=Z,19nm,1.5s
CTAO Charters Tower 33.66 177 P **P** **16 33 22.3 +0.4**
CTAO IAmb IAmb 16 33 43.4
comp=Z,5.3nm,1.2s
WB0 Warramunga Arr 34.83 197 P **P** **16 33 31.1 -0.9**
WB0 IAmb IAmb 16 33 57.7
comp=Z,5.8nm,1.2s
WR0 Warramunga Arr 34.97 197 P **P** **16 33 32.5 -0.8**
WR0 IAmb IAmb 16 33 38.5
comp=Z,6.2nm,1.3s
WB2 Warramunga Arr 35.00 197 P **P** **16 33 32.7 -0.9**
WB2 IAmb IAmb 16 33 35.0
comp=Z,4.5nm,1.1s
WRA Warramunga Arr 35.01 197 P **P** **16 33 32.9 -0.6**
comp=Z,1.3nm,0.4s,baz=19,slow=9.0,SNR=20
WRA Warramunga Arr 35.01 197 P **P** **16 33 32.3 -1.3**
AS31 Alice Springs 38.66 196 P **P** **16 34 03.7 -0.9**
ASAR Alice Springs 38.66 196 P **P** **16 34 03.9 -0.7**
comp=Z,0.6nm,0.6s,baz=18,slow=13,SNR=26
ASAR PcP **PcP** **16 36 14.6 -0.3**
comp=Z,0.5nm,0.9s,baz=26,slow=2.4,SNR=2.6
ASAR Alice Springs 38.66 196 P **P** **16 34 03.5 -1.1**
DZM Mont Dzumac 41.48 149 P **P** **16 34 28.1 +0.2**
comp=Z,2.0nm,0.6s,baz=342,slow=6.4,SNR=1.7
DZM Mont Dzumac 41.48 149 IAmb IAmb 16 34 41.2
comp=Z,9.3nm,1.3s
CMAR Chiang Mai Arr 44.15 282 P **P** **16 34 50.5 +1.0**
comp=Z,0.7nm,0.6s,baz=81,slow=6.4,SNR=5.8
STKA Stephens Creek 45.47 184 P **P** **16 34 58.2 -1.4**
comp=Z,1.9nm,0.5s,baz=352,slow=7.0,SNR=4.8
STKA Stephens Creek 45.47 184 IAmb IAmb 16 34 59.0
comp=Z,2.1nm,1.4s
SONM Songino Array 46.52 325 P **P** **16 35 08.7 +0.7**
comp=Z,0.5nm,0.5s,baz=141,slow=9.3,SNR=2.5
SONM Songino Array 46.52 325 IAmb IAmb 16 35 10.0
comp=Z,0.6nm,0.8s
BBOO Buckleboo 47.03 190 P **P** **16 35 10.9 -1.1**
FORT Forrest 47.09 200 P **P** **16 35 11.9 -0.5**
MORW Morawa 50.80 213 P **P** **16 35 39.6 -1.2**
MK31 Makanchi Array 61.28 316 P **P** **16 36 55.6 +0.2**
MKAR Makanchi Array 61.28 316 P **P** **16 36 55.8 +0.4**
comp=Z,0.7nm,0.5s,baz=96,slow=8.4,SNR=15
MKAR Makanchi Array 61.28 316 P **P** **16 36 55.4 0.0**
KURK Kurchatov 64.38 320 P **P** **16 37 16.1 +0.4**
KURBB Kurchatov Arra 64.42 320 P **P** **16 37 16.1 +0.1**
comp=Z,1.5nm,0.6s,baz=103,slow=6.7,SNR=14
ILAR Eielson Array 68.48 25 P **P** **16 37 38.6 -3.1**
comp=Z,0.3nm,0.4s,baz=252,slow=5.6,SNR=2.0
BVAR Borovoye Array 69.72 322 P **P** **16 37 48.7 -0.9**
comp=Z,0.4nm,0.3s,baz=77,slow=10,SNR=4.7
NVAR Mina Array Bea 86.92 51 P **P** **16 39 25.1 +0.2**
comp=Z,0.4nm,0.7s,baz=281,slow=5.4,SNR=3.1
TORD Torodi Ar. Bea 134.66 305 PKP **PKPdf** **16 45 57.9 -0.5**
comp=Z,0.4nm,0.5s,baz=33,slow=3.8,SNR=2.2
LPAZ La Paz 148.18 99 PKPbc **PKPbc** **16 46 26.2 -0.3**
comp=Z,0.3nm,0.5s,baz=167,slow=4.2,SNR=4.0

*IDC **26** 16:59:03.0±1.4, 30°.14N×80°.89E, h0km, mb3.5/9, mb1 3.7/9, mb1mx3.5/34, mbtmp3.6/9, MS2.9/2, Ms1 3.0/2, ms1mx2.4/30, Error ellipse: s-maj=42.9km s-min=19.1km az=58.0*
*NDI **26** 16:59:08.1±3.2, 30°.04N×80°.70E, h10km, ML3.6*
ISC 26 16:59:06.0±0.6, 29°.98N±0°.07×80°.68E±0°.05, h23km, n18, σ1§57/21, mb3.5/7, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**2.30**	**279**	*e*P	**Pb**	**16 59 46.7**	**-0.1**
DDI				*e*S	**Sb**	**17 00 15.5**	**+0.7**
DDI				IAML		17 00 19.4	
	comp=N,633nm,0.8s						
DDI				IAML		17 00 19.7	
	comp=E,646nm,0.7s						
SMLA	**Simla**	**3.24**	**292**	*e*P	**Pn**	**16 59 59.0**	**+3.6**
SMLA				IAML		17 00 46.2	
	comp=E,222nm,0.6s						
SMLA				IAML		17 00 47.5	
	comp=N,181nm,0.5s						
NDI	**New Delhi**	**3.28**	**248**	*e*P	**Pn**	**16 59 56.5**	**+0.5**
NDI				*e*S	**Sn**	**17 00 33.0**	**-1.4**
KUDL	**Kundal**	**4.09**	**245**	*ex*	**Pn**	**17 00 05.5**	**-1.7**
KUDL				*i* x	x	17 00 24.4	
BHPL	**Bhopal**	**7.31**	**204**	*e*P	**Pn**	**17 00 53.4**	**+1.9**
BHPL				*e*S	**Sn**	**17 02 13.2**	**-0.6**
BHPL				*e*S	**Sn**	**17 02 14.3**	**+0.6**
GTK	**Tadong**	**7.45**	**109**	*e*P	**Pn**	**17 00 55.8**	**+2.3**
GTK				*e*S	**Sn**	**17 02 16.7**	**-0.6**
MKAR	**Makanchi Array**	**16.84**	**4**	Pn	**Pn**	**17 03 00.1**	**-0.1**
	comp=N,0.1nm,0.3s,baz=188,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	**20.19**	**120**	P	**P**	**17 03 38.9**	**-0.3**
	comp=N,0.7nm,0.6s,baz=324,slow=9.5,SNR=8.0						
KURBB	**Kurchatov Arra**	**20.69**	**356**	P	**P**	**17 03 42.4**	**-1.9**
	comp=N,1.3nm,0.7s,baz=183,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**24.14**	**6**	P	**P**	**17 04 17.4**	**-2.7**
	comp=N,0.8nm,0.6s,baz=41,slow=27,SNR=4.8						
AKTO	**Aktyubinsk**	**26.59**	**327**	LR	LR	17 16 19.3	
	comp=N,25nm,21.7s,baz=61,slow=39						
SONM	**Songino Array**	**26.62**	**41**	P	**P**	**17 04 41.0**	**-1.8**
	comp=N,0.8nm,0.9s,baz=226,slow=9.8,SNR=2.1						
KSRS	**Korea Array**	**39.67**	**66**	P	**P**	**17 06 35.6**	**-0.6**
	comp=N,0.4nm,0.6s,baz=276,slow=8.7,SNR=3.4						
FINES	**FINESS Array B**	**47.35**	**328**	P	**P**	**17 07 38.3**	**+0.4**
	comp=N,0.7nm,0.4s,baz=120,slow=8.2,SNR=8.0						
ARCES	**ARCESS Array B**	**50.24**	**338**	P	**P**	**17 08 00.6**	**+0.7**
	comp=N,1.1nm,0.7s,baz=106,slow=6.7,SNR=3.5						
NOA	**NORSAR Array B**	**54.38**	**326**	LR	LR	17 32 14.7	
	comp=N,13nm,18.8s,baz=290,slow=37						
WRA	**Warramunga Arr**	**71.63**	**127**	P	**P**	**17 10 25.7**	**-0.2**
	comp=N,0.3nm,0.6s,baz=321,slow=5.8,SNR=2.2						
ASAR	**Alice Springs**	**73.87**	**130**	P	**P**	**17 10 39.5**	**+0.3**
	comp=N,0.3nm,0.5s,baz=313,slow=6.3,SNR=14						

SJA 26 17:28:14.5±0.7, 29°.99S×66°.82W, h28km±4km, ML3.9, MW4.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.57**	**348**	*e*P	Pn	17 28 26.6	-0.3
ACLC				*e*S	Sn	17 28 35.9	+0.4
ACLC				IAML		17 28 36.9	
	comp=Z,10μm,0.2s						
VCA	**Vinchina**	**1.74**	**315**	*e*P	Pb	17 28 45.2	-0.7
VCA				*e*S	Sb	17 29 07.6	+0.2
VCA				IAML		17 29 12.2	
	comp=Z,1μm,0.4s						
CYA	**Choya**	**1.78**	**30**	*e*P	Pn	17 28 31.9	-11
CYA				IAML		17 29 16.6	
	comp=Z,833nm,0.2s						
RTLL	**Cerro Villicun**	**1.96**	**226**	*e*P	Pb	17 28 48.3	-1.2
RTLL				*e*S	Sb	17 29 15.1	+1.6
RTLL				IAML		17 29 17.1	
	comp=Z,579nm,0.4s						
ACDV	**Cuesta del Vie**	**2.00**	**264**	*e*P	Pb	17 28 48.7	-1.7
ACDV				*e*S	Sb	17 29 15.5	+0.5
ACDV				IAML		17 29 15.9	
	comp=Z,630nm,0.6s						
ACCO	**Cerro Coronel**	**2.03**	**252**	*e*P	Pb	17 28 49.8	-1.2
ACCO				*e*S	Sb	17 29 16.4	+0.4
ACCO				IAML		17 29 17.4	
	comp=Z,675nm,0.2s						
AROD	**Rodeo**	**2.31**	**265**	*e*P	Pb	17 28 53.7	-2.0
AROD				*e*S	Sb	17 29 23.2	-0.7
MRA	**San Martin**	**2.60**	**159**	*e*P	Pb	17 28 58.4	-2.1
MRA				*e*S	Sb	17 29 32.5	+0.4
MRA				IAML		17 29 42.4	
	comp=Z,737nm,0.4s						
RTLS	**Leoncito**	**2.79**	**229**	*e*P	Pn	17 29 00.3	+2.7
RTLS				IAML		17 29 49.0	
	comp=Z,320nm,0.7s						
ASAL	**Salagasta**	**3.12**	**213**	*e*P	Pn	17 29 04.8	+3.0
ASAL		

GO04				*e*S	Sb	17 29 52.5	-4.3
AAGR	**Agrelo**	**3.53**	**209**	*e*P	Pn	17 29 11.2	+3.7
AAGR				*e*S	Sb	17 30 03.5	+4.6
AAGR				IAML		17 30 12.5	
	comp=Z,320nm,0.6s						
GO03	**Copiap**	**3.83**	**308**	*e*P	Pn	17 29 13.9	+2.2
GO03				*e*S	Sn	17 29 54.5	-1.3
VA03	**San Esteban**	**4.22**	**228**	*e*P	Pn	17 29 20.3	+3.2
VA03				*e*S	Sb	17 30 17.0	-1.8
VA03				IAML		17 30 25.8	
	comp=Z,152nm,0.5s						
MT03	**Universidad Ad**	**4.70**	**221**	*e*P	Pn	17 29 28.0	+4.3
MT03				IAML		17 30 48.2	
	comp=Z,108nm,0.7s						
SLA	**San Lorenzo**	**5.38**	**13**	*e*P	Pn	17 29 32.0	-1.0
SLA				IAML		17 31 27.0	
	comp=Z,59nm,1.0s						
HJA	**Humahuaca**	**6.87**	**11**	*e*P	Pn	17 29 57.7	+4.0
HJA				IAML		17 32 18.9	
	comp=Z,14nm,0.7s						

*IDC **26** 17:40:41.2±1.0, 2°78S×139°26E, h0km, mb3.8/7, mb1 4.0/10, mb1mx3.9/29, mbtmp3.9/10, ML3.9/2, MS3.4/8, Ms1 3.4/8, ms1mx2.9/40, Error ellipse: s-maj=34.2km s-min=19.4km az=72.0*
*DJA **26** 17:40:42.5±0.5, 2°S±6°×14°0E±°, h92km±4km, M4.6/10, mb4.4/10, MLv4.7/4*
*NEIC **26** 17:40:44.8±2.8, 2°8S±0°.1×139°.5E±0°.1, h34km±5km, mb4.1/10, Error ellipse: s-maj=18.8km s-min=12.4km az=52.0*

ISC 26 17:40:47.2±0.6, 2°88S±0°08×139°28E±0°07, h46km, n37, σ2§14/34, mb3.9/9, MS3.3/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.93**	**72**	P	**Pn**	**17 40 59.6**	**-4.2**
GENI				S	**Sn**	**17 41 14.1**	**-2.0**
SRPI	**Serui, Papua**	**3.20**	**288**	P	**Pn**	**17 41 33.6**	**-1.4**
MMPI	**Merauke**	**5.65**	**169**	P	**Pn**	**17 42 11.0**	**+2.3**
	1.3nm315nm,1.0s						
FAKI	**Fak Fak**	**7.03**	**270**		**Pn**	**17 42 27.6**	**0.0**
FAKI	**Fak Fak**	**7.03**	**270**	P	**Pn**	**17 42 28.6**	**+1.0**
	0.1nm29nm,0.7s						
SIJI	**Sorong**	**8.26**	**284**	Pn	**Pn**	**17 42 42.3**	**-2.2**
	1.2nm,0.3s,baz=272,slow=22,SNR=6.1						
SWI	**Sorong**	**8.27**	**284**	P	**Pn**	**17 42 42.5**	**-2.1**
	16nm,0.7s						
PMG	**Port Moresby**	**10.16**	**130**	Pn	**Pn**	**17 43 08.5**	**-2.0**
	0.1nm,0.3s,baz=293,slow=1.6,SNR=2.4						
PMG				LR	LR	17 48 04.9	
	comp=Z,87nm,21.3s,baz=300,slow=43						
PMG	**Port Moresby**	**10.16**	**130**		**Pn**	**17 43 06.5**	**-4.0**
MTN	**Manton Dam**	**12.77**	**219**		**Pn**	**17 43 45.2**	**-0.9**
KNRA	**Kununurra**	**16.40**	**219**	P	**Pn**	**17 44 33.8**	**-0.5**
KNRA				IAmb	IAmb	17 44 42.9	
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**16.41**	**245**	P	**P**	**17 44 38.7**	**+2.0**
SOEI	**Soe**	**16.41**	**245**	P	**P**	**17 44 37.1**	**+0.4**
	comp=Z,69nm,0.9s						
BATI	**Baumata**	**17.13**	**244**	P	**P**	**17 44 46.0**	**+1.4**
	comp=Z,30nm,0.7s						
GUMO	**Guam**	**17.28**	**19**	LR	LR	17 51 52.8	
	comp=Z,79nm,18.7s,baz=203,slow=39						
WB0	**Warramunga Arr**	**17.45**	**196**	P	**Pn**	**17 44 47.5**	**+0.1**
WR0	**Warramunga Arr**	**17.59**	**195**	P	**Pn**	**17 44 48.0**	**-1.1**
WR0				IAmb	IAmb	17 44 59.6	
	comp=Z,7.0nm,0.8s						
WB2	**Warramunga Arr**	**17.63**	**195**	P	**Pn**	**17 44 49.2**	**-0.3**
WB2				IAmb	IAmb	17 45 02.0	
	comp=Z,8.9nm,0.7s						
WRA	**Warramunga Arr**	**17.63**	**196**	P	**Pn**	**17 44 48.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=23,slow=13,SNR=14						
WRA				S	**Sn**	**17 48 00.1**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=13,slow=22,SNR=5.3						
WRA				Lg	Lg	17 50 12.3	
	comp=Z,0.0nm,0.3s,baz=15,slow=32,SNR=4.7						
WRA	**Warramunga Arr**	**17.63**	**196**	P	**Pn**	**17 44 49.9**	**+0.3**
CTA	**Charters Tower**	**18.40**	**159**	P	**Pn**	**17 45 05.0**	**+5.9**
	comp=Z,0.1nm,0.3s,baz=316,slow=14,SNR=2.3						
CTA				Lg	Lg	17 50 31.3	
	comp=Z,0.1nm,0.3s,baz=239,slow=16,SNR=1.9						
AS31	**Alice Springs**	**21.31**	**194**	P	**P**	**17 45 31.2**	**+1.0**
AS31				IAmb	IAmb	17 45 45.5	
	comp=Z,2.8nm,0.5s						
ASAR	**Alice Springs**	**21.31**	**194**	P	**P**	**17 45 30.6**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=22,slow=9.9,SNR=32						
ASAR				S	Sn	17 49 31.6	-2.2
	comp=Z,1.6nm,0.9s,baz=13,slow=25,SNR=4.4						
ASAR				Lg	Lg	17 52 03.7	
	comp=Z,1.2nm,0.9s,baz=12,slow=28,SNR=2.6						
ASAR				LR	LR	17 54 31.4	
	comp=Z,287nm,19.9s,baz=16,slow=39						
HNR	**Honiara**	**21.54**	**108**	LR	LR	17 54 46.3	
	comp=Z,71nm,19.2s,baz=16,slow=39						
STKA	**Stephens Creek**	**28.92**	**176**	LR	LR	17 59 34.8	
	comp=Z,204nm,18.7s,baz=22,slow=39						
CMAR	**Chiang Mai Arr**	**45.02**	**300**	P	**P**	**17 48 58.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=117,slow=7.2,SNR=2.5						
ASAJ	**Asahikawa**	**46.88**	**3**	LR	LR	18 07 38.9	
	comp=Z,23nm,18.8s,baz=160,slow=35						
PETK	**Petropavlovsk-**	**57.90**	**13**	LR	LR	18 12 00.6	
	comp=Z,22nm,22.0s,baz=148,slow=32						
SONM	**Songino Array**	**58.12**	**334**	P	**P**	**17 50 37.1**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=123,slow=7.6,SNR=1.8						
SONM				LR	LR	18 16 15.4	
	comp=Z,28nm,19.2s,baz=92,slow=37						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**17 51 55.5**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=108,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**17 51 54.2**	**-1.6**
MAKZ	**Makanchi**	**70.47**	**322**	P	**P**	**17 51 56.4**	**-0.6**
MAKZ				IAmb	IAmb	17 51 57.1	
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**72.37**	**330**	P	**P**	**17 52 07.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=151,slow=7.4,SNR=2.1						
VNDA	**Vanda**	**75.56**	**175**	P	**P**	**17 52 28.5**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=327,slow=6.3,SNR=7.2						
VNDA	**Vanda**	**75.56**	**175**	P	**P**	**17 52 26.8**	**+0.3**
VNDA				IAmb	IAmb	17 52 29.0	
	comp=Z,3.3nm,1.3s						
ILAR	**Eielson Array**	**85.75**	**24**	P	**P**	**17 53 21.9**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=267,slow=5.0,SNR=7.3						
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**17 53 28.6**	**+0.8**

*IDC **26** 17:52:54.3±1.1, 33°04S×178°34W, h0km, mb4.1/5, mb1 4.3/7, mb1mx3.9/29, mbtmp4.2/7, ML4.4/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/28, Error ellipse: s-maj=31.7km s-min=23.5km az=105.0*
*WEL **26** 17:52:57.0±0.8, 33°S±10°×17°9W±2°5, h33km, M4.3/16, mB4.9/9, ML4.7/16, MLv4.6/16, Mw(mB)4.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.0*
*NEIC **26** 17:53:01.9±0.7, 33°.19S±0°.07×178°.7W±0°.2, h37km±17km, mb4.3/12, Error ellipse: s-maj=30.1km s-min=7.0km az=74.0*

ISC 26 17:52:57.7±0.9, 32°95S±0°07×178°3W±0°1, h32km, n65, σ1§52/85, mb4.2/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**5**	P	**Pn**	**17 53 50.0**	**-2.6**
GLKZ				S	**Sn**	**17 54 31.0**	**-3.9**
RAO	**Raoul Island**	**3.70**	**5**	Pn	**Pn**	**17 53 53.5**	**+0.8**
	39nm,0.3s,baz=66,slow=20,SNR=1.9						
RAO				Sn	**Sn**	**17 54 32.4**	**-2.8**
	50nm,0.3s,baz=60,slow=24,SNR=2.0						
MXZ	**Matakaoa Point**	**5.38**	**210**	Pn	**Pn**	**17 54 14.6**	**-1.2**
MXZ	**Matakaoa Point**	**5.38**	**210**	P	**Pn**	**17 54 12.5**	**-3.3**
WMGZ	**Waiomatatini S**	**5.56**	**208**	P	**Pn**	**17 54 18.1**	**0.0**
WMGZ				S	**Sn**	**17 55 20.9**	**0.0**
PKGZ	**Pakihiroa**	**5.76**	**210**	P	**Pn**	**17 54 19.7**	**-1.3**
PKGZ				S	**Sn**	**17 55 26.5**	**+0.6**
HAZ	**Te Kaha**	**5.78**	**213**	P	**Pn**	**17 54 20.4**	**-0.8**
HAZ				S	**Sn**	**17 55 27.2**	**+0.9**
PUZ	**Puketiti**	**5.84**	**208**	P	**Pn**	**17 54 21.0**	**-1.0**
PUZ				S	**Sn**	**17 55 27.0**	**-0.9**
RUGZ	**Raukumara Rang**	**6.00**	**212**	P	**Pn**	**17 54 24.4**	**+0.1**
RUGZ				S	**Sn**	**17 55 32.0**	**+0.2**
TWGZ	**Tauwhareparae**	**6.04**	**209**	P	**Pn**	**17 54 24.2**	**-0.7**
TWGZ				S	**Sn**	**17 55 32.6**	**-0.3**
CNGZ	**Carnagh Statio**	**6.22**	**206**	P	**Pn**	**17 54 26.2**	**-1.0**
MWZ	**Matawai**	**6.37**	**211**	P	**Pn**	**17 54 28.3**	**-1.0**
MWZ				S	**Sn**	**17 55 39.9**	**-1.0**
URZ	**Urewera**	**6.49**	**214**	Pn	**Pn**	**17 54 30.4**	**-0.6**
	5.9nm,0.3s,baz=268,slow=2.2,SNR=31						
URZ				Sn	**Sn**	**17 55 42.1**	**-1.8**
	3.7nm,0.3s,baz=131,slow=21,SNR=7.3						
URZ	**Urewera**	**6.49**	**214**	P	**Pn**	**17 54 30.5**	**-0.5**
URZ				S	**Sn**	**17 55 43.8**	**-0.2**
RIGZ	**Rimuhau**	**6.58**	**208**	P	**Pn**	**17 54 32.3**	**0.0**
RIGZ				S	**Sn**	**17 55 45.5**	**-0.7**
PRGZ	**Paritu Road**	**6.72**	**207**	P	**Pn**	**17 54 33.0**	**-1.2**
PRGZ				S	**Sn**	**17 55 47.0**	**-2.7**
SNGZ	**Shannon Statio**	**6.82**	**210**	P	**Pn**	**17 54 35.6**	**0.0**
SNGZ				S	**Sn**	**17 55 51.6**	**-0.5**
MUGZ	**Murupara**	**6.83**	**215**	P	**Pn**	**17 54 36.2**	**+0.6**
MUGZ				S	**Sn**	**17 55 49.5**	**-2.8**
RTZ	**Ruatahuna**	**6.84**	**213**	P	**Pn**	**17 54 35.5**	**-0.4**
KNZ	**Kokohu**	**6.89**	**207**	P	**Pn**	**17 54 34.3**	**-2.1**
RAHZ	**Arahi**	**7.04**	**211**	P	**Pn**	**17 54 38.7**	**+0.1**
RAHZ				S	**Sn**	**17 55 58.8**	**+1.3**
MTHZ	**Maungataniwha**	**7.10**	**213**	P	**Pn**	**17 54 39.8**	**+0.4**
MTHZ				S	**Sn**	**17 55 57.5**	**-1.4**
WHHZ	**Waihua**	**7.11**	**210**	P	**Pn**	**17 54 40.7**	**+1.2**
WHHZ				S	**Sn**	**17 55 57.6**	**-1.6**
ARHZ	**Aropaoanui**	**7.37**	**210**	P	**Pn**	**17 54 43.0**	**-0.1**
ARHZ				S	**Sn**	**17 56 01.8**	**-3.7**
BKZ	**Black Stump Fm**	**7.51**	**213**		**Pn**	**17 54 43.7**	**-1.3**
BKZ	**Black Stump Fm**	**7.51**	**213**	P	**Pn**	**17 54 45.1**	**0.0**
BKZ				S	**Sn**	**17 56 05.2**	**-3.9**
MCHZ	**McNeill Hill**	**7.65**	**211**	P	**Pn**	**17 54 46.9**	**0.0**
MCHZ				S	**Sn**	**17 56 11.0**	**-1.4**
RITZ	**Rihia Road**	**7.67**	**217**	P	**Pn**	**17 54 46.7**	**-0.5**
CKHZ	**Cape Kidnapper**	**7.67**	**208**	P	**Pn**	**17 54 46.6**	**-0.6**
CKHZ				S	**Sn**	**17 56 09.9**	**-3.1**
KWHZ	**Kaweka Forest**	**7.75**	**212**	P	**Pn**	**17 54 47.7**	**-0.7**
TMVZ	**Te Maari**	**7.85**	**217**	P	**Pn**	**17 54 49.8**	**0.0**
NTVZ	**North Tongarir**	**7.85**	**217**	P	**Pn**	**17 54 50.3**	**+0.5**
SNVZ	**South Ngauruho**	**7.94**	**217**	P	**Pn**	**17 54 51.5**	**+0.6**
KRHZ	**Kereru**	**7.95**	**211**	P	**Pn**	**17 54 49.6**	**-1.5**
BHHZ	**Black Hill Sta**	**7.97**	**213**	P	**Pn**	**17 54 50.7**	**-0.6**
FWVZ	**Far West T-bar**	**8.03**	**217**	P	**Pn**	**17 54 54.7**	**+2.3**
MOVZ	**Moawhango**	**8.05**	**215**	P	**Pn**	**17 54 54.3**	**+1.8**
WNVZ	**Wahianoa**	**8.06**	**216**	P	**Pn**	**17 54 55.3**	**+2.5**
TSZ	**Takapari Road**	**8.47**	**212**	P	**Pn**	**17 54 56.4**	**-1.9**
MRZ	**Mangatainoka R**	**9.13**	**211**	P	**Pn**	**17 55 04.6**	**-2.6**
OUENC	**Ouen Island, N**	**16.83**	**305**	Pn	**P**	**17 56 52.6**	**-0.3**
DZM	**Mont Dzumac**	**17.34**	**305**	LR	LR	18 02 39.4	
	comp=Z,169nm,19.0s,baz=126,slow=34						
LIFNC	**LIFOU**	**17.70**	**310**		**P**	**17 57 03.2**	**+0.8**
EIDS	**Eidsvold**	**27.74**	**278**	P	**P**	**17 58 43.6**	**+0.2**
EIDS				IAmb	IAmb	17 58 44.5	
	comp=Z,4.9nm,1.1s						
TOO	**Toolangi**	**29.83**	**251**	P	**P**	**17 58 59.9**	**-2.0**
STKA	**Stephens Creek**	**33.76**	**261**	LR	LR	18 11 13.8	
	comp=Z,85nm,19.3s,baz=39,slow=33						
CTA	**Charters Tower**	**34.07**	**283**	P	**P**	**17 59 41.6**	**+2.3**
	comp=Z,3.4nm,0.7s,baz=111,slow=9.0,SNR=6.6						
CTAO	**Charters Tower**	**34.07**	**283**	P	**P**	**17 59 41.4**	**+2.1**
CTAO				IAmb	IAmb	17 59 42.0	
	comp=Z,5.2nm,0.8s						
BBOO	**Buckleboo**	**38.12**	**257**	P	**P**	**18 00 12.9**	**-1.0**
AS31	**Alice Springs**	**42.80**	**270**	P	**P**	**18 00 52.4**	**-0.4**
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**18 00 53.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=110,slow=7.4,SNR=36						
ASAR	**Alice Springs**	**42.81**	**270**	P	**P**	**18 00 52.8**	**+0.1**
WR0	**Warramunga Arr**	**43.85**	**275**	P	**P**	**18 01 01.6**	**+0.4**
WR0				IAmb	IAmb	18 01 02.8	
	comp=Z,4.0nm,1.1s						
WB2	**Warramunga Arr**	**44.01**	**275**	P	**P**	**18 01 02.6**	**+0.1**
WB2				IAmb	IAmb	18 01 03.4	
	comp=Z,5.2nm,0.5s						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**18 01 02.8**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=115,slow=7.6,SNR=48						
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**18 01 02.5**	**-0.1**
WB0	**Warramunga Arr**	**44.06**	**275**	P	**P**	**18 01 03.3**	**+0.4**
WB0				IAmb	IAmb	18 01 04.0	
	comp=Z,6.2nm,0.9s						
QSPA	**South Pole Qui**	**57.16**	**180**	P	**P**	**18 02 42.2**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=30,slow=2.3,SNR=7.5						
QSPA	**South Pole Qui**	**57.16**	**180**	P	**P**	**18 02 43.0**	**+1.7**
QSPA				IAmb	IAmb	18 02 56.5	
	comp=Z,4.9nm,1.2s						
KSRS	**Korea Array**	**86.14**	**320**	P	**P**	**18 05 37.3**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=136,slow=6.8,SNR=3.3						
FINES	**FINESS Array B**	**147.44**	**338**	PKPbc	**PKPbc**	**18 12 38.9**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=47,slow=4.2,SNR=29						
NB2	**NORSAR Subarra**	**151.23**	**350**	PKP	**PKiKP**	**18 12 48.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**151.23**	**350**	PKPbc	**PKiKP**	**18 12 49.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=17,slow=4.6,SNR=3.8						
MMAI	**Mount Meron Ar**	**151.82**	**279**	PKPbc	**PKiKP**	**18 12 51.3**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=116,slow=6.6,SNR=2.8						
AKASG	**Malin Array Be**	**153.14**	**319**	PKPbc	**PKiKP**	**18 12 53.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=46,slow=2.7,SNR=2.3						

GUC 26 18:05:12.5±0.6, 23°99S×67°23W, h241km±9km, ML3.6, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.06**	**311**	*i*P	Pn	18 05 54.7	-0.6
LVC				*i*S	S	18 06 27.4	-1.4
PB15	**IPOC Station P**	**2.20**	**290**	⇑*i*P	Pn	18 05 56.6	+0.2
PB15				*i*S	S	18 06 30.1	-0.8
GO02	**Mina Guanaco**	**2.45**	**241**	⇑*i*P	Pn	18 05 58.9	0.0
GO02				*i*S	S	18 06 34.7	-0.7
PB06	**IPOC Station P**	**2.50**	**300**	⇑*i*P	Pn	18 05 59.6	+0.2
PB06				*i*S	S	18 06 35.1	-1.1
PB06				IAML		18 06 36.7	
	comp=N,99nm,0.1s						
PB09	**IPOC Station P**	**2.86**	**319**	*e*P	Pn	18 06 03.6	+0.4
PB09				*i*S	S	18 06 42.0	-1.1
PB09				IAML		18 06 45.1	
	comp=N,43nm,0.4s						
PB05	**IPOC Station P**	**2.95**	**292**	*e*P	Pn	18 06 04.7	+0.5
PB05				*i*S	S	18 06 43.4	-1.3
PB05				IAML		18 06 47.3	
	comp=E,38nm,0.2s						
PB03	**IPOC Station P**	**3.02**	**309**	⇑*i*P	Pn	18 06 05.0	+0.1
PB03				*i*S	S	18 06 44.7	-1.5
PB03				IAML		18 06 46.6	
	comp=N,101nm,0.2s						
PB10	**IPOC Station P**	**3.08**	**278**	⇑*i*P	Pn	18 06 06.4	+1.1
PB10				*i*S	S	18 06 46.7	-0.4
PB04	**IPOC Station P**	**3.15**	**301**	⇑*i*P	Pn	18 06 06.9	+0.5
PB04				*i*S	S	18 06 47.6	-1.2
PB04				IAML		18 06 49.9	
	comp=N,84nm,0.5s						
PB07	**IPOC Station P**	**3.33**	**312**	⇑*i*P	Pn	18 06 08.4	+0.1
PB07				*i*S	S	18 06 50.7	-1.7
PB01	**IPOC Station P**	**3.60**	**324**	⇑*i*P	Pn	18 06 11.1	-0.3
PB01				*i*S	S	18 06 55.9	-2.0
PB02	**IPOC Station P**	**3.62**	**317**	⇑*i*P	Pn	18 06 11.8	+0.1
PB02				*i*S	S	18 06 55.7	-2.7
PB08	**IPOC Station P**	**4.22**	**335**	*e*P	Pn	18 06 19.5	+0.5
PB08				*e*S	S	18 07 10.0	-1.7
MNMC	**Minye Minye**	**5.31**	**335**	⇑*i*P	Pn	18 06 32.6	+0.4
MNMC				*i*S	S	18 07 32.5	-3.1

DJA 26 18:08:22.3±0.4, 11°S±4°×11°9E±°, h70km±20km, M3.9/9, mb4.1/5, MLv3.7/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.34**	**12**	P	Pn	18 08 46.1	+0.9
PLAI	**Plampang**	**2.49**	**328**	P	Pn	18 09 02.7	+2.0
PLAI				S	Sn	18 09 29.1	-0.9
TWSI	**Taliwang, Sumb**	**3.11**	**315**	P	Pn	18 09 08.6	-0.5
TWSI				S	Sn	18 09 44.1	-1.1
EDFI	**Ende, Flores**	**3.36**	**49**	P	Pn	18 09 12.7	+0.2
EDFI				S	Sn	18 09 51.1	-0.2
MMRI	**Maumere**	**3.85**	**53**	P	Pn	18 09 20.0	+0.8
MMRI				S	Sn	18 10 00.6	-2.6
DNP	**Denpasar**	**4.46**	**300**	P	Pn	18 09 28.0	+0.5
BATI	**Baumata**	**4.54**	**81**	P	Pn	18 09 29.8	+1.2
BSSI	**Bau Bau, Buton**	**4.98**	**16**	P	Pn	18 09 37.1	+2.5
	0.2nm37nm,1.4s						
SOEI	**Soe**	**5.21**	**77**	P	Pn	18 09 38.3	+0.4
	0.1nm18nm,1.2s						
JAGI	**Jajag, Banyuwa**	**5.48**	**296**	P	Pn	18 09 40.7	-0.7
	0.8nm250nm,0.9s						
BKSI	**Bulukumba**	**5.69**	**10**	P	Pn	18 09 45.7	+1.4
	0.1nm21nm,1.4s						
BKSI				S	Sn	18 10 49.7	+1.4
	0.1nm21nm,1.4s						

*IDC **26** 18:09:05.0±4.9, 37°.14N×71°.42E, h72km±33km, mb3.5/9, mb1 3.7/13, mb1mx3.4/52, mbtmp3.9/13, ML3.9/5, Error ellipse: s-maj=55.1km s-min=20.9km az=170.0*
*NEIC **26** 18:09:09.3±1.5, 37°.41N±0°.07×71°.25E±0°.05, h97km±8km, mb4.0/3, Error ellipse: s-maj=9.9km s-min=5.6km az=177.0*
*NNC **26** 18:09:09.8±10.0, 37°.77N×70°.87E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=102.7km s-min=74.2km az=122.0*

ISC 26 18:09:06.4±0.6, 37°09N±0°07×71°29E±0°07, h106km, n51, σ2§48/49, mb3.7/9, 3C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.06**	**338**		**Pn**	**18 09 39.0**	**-1.1**
CHGR	**Chuyangaron**	**2.30**	**314**	Pn	**Pn**	**18 09 42.6**	**-0.5**
BTK	**Batken**	**2.99**	**353**		**Pn**	**18 09 52.2**	**0.0**
KBL	**Kabul**	**3.13**	**216**	Pn	Pn	18 10 00.8	+6.7
CEP	**Cherat**	**3.29**	**171**	P	Pn	18 10 03.1	+6.8
CHCP	**Chirah Chowk**	**3.78**	**154**	P	Pn	18 10 09.4	+6.7
NIL	**Nilore**	**3.78**	**154**	Pn	Pn	18 10 09.4	+6.6
THW	**Thamme Wali**	**4.30**	**175**	P	Pn	18 10 16.0	+6.3
AML	**Almayashu**	**5.37**	**19**	P	**Pn**	**18 10 23.7**	**-0.7**
	SNR=29						
EKS2	**Erkin-Say**	**5.89**	**18**	P	**Pn**	**18 10 31.0**	**-0.2**
	SNR=7.9						
KK31	**Karatay Array**	**6.04**	**355**	⇑P	**Pn**	**18 10 32.2**	**-1.0**
	1.2nm,0.2s,baz=178,slow=12						
KK31				⇑S	**Sn**	**18 11 34.0**	**-6.9**
	8.2nm,0.3s,baz=174,slow=22						
KK31	**Karatay Array**	**6.04**	**355**		**Pn**	**18 10 31.9**	**-1.3**
KKAR	**Karatay Array**	**6.04**	**355**	Pn	**Pn**	**18 10 31.6**	**-1.6**
KKAR	**Karatay Array**	**6.04**	**355**		**Pn**	**18 10 31.9**	**-1.3**
AAK	**Ala-Archa**	**6.07**	**23**	P	**Pn**	**18 10 33.8**	**+0.1**
	SNR=5.2						
ULHL	**Ulahol**	**6.42**	**35**	P	**Pn**	**18 10 38.4**	**-0.1**
	SNR=11						
CHMS	**Chumysh**	**6.48**	**23**	P	**Pn**	**18 10 38.7**	**-0.4**
	SNR=20						
BOOM	**Boomskoye usch**	**6.48**	**32**		**Pn**	**18 10 38.6**	**-0.7**
USP	**Ospenovka**	**6.65**	**21**	P	**Pn**	**18 10 40.3**	**-1.1**
	SNR=18						
TKM2	**Tokmak 2**	**6.70**	**28**	P	**Pn**	**18 10 42.0**	**-0.4**
	SNR=20						
SMLA	**Simla**	**7.68**	**139**	*e*P	**Pn**	**18 10 58.9**	**+3.4**
SMLA				*e*S	**Sn**	**18 12 17.0**	**-3.9**
SMLA				IAML		18 12 25.4	
	comp=E,116nm,0.3s						
SMLA				IAML		18 12 25.6	
	comp=N,94nm,0.1s						
DDI	**Dehra Dun**	**8.79**	**138**	*e*S	**Sn**	**18 12 39.8**	**-8.1**
GEYT	**Alibeck**	**10.50**	**279**	P	**Pn**	**18 11 32.3**	**-1.4**
	comp=N,0.5nm,0.3s,baz=100,slow=12,SNR=2.2						
GEYT				S	**Sn**	**18 13 23.9**	**-5.4**
	comp=N,1.0nm,0.3s,baz=100,slow=25,SNR=2.3						
GEYT	**Alibeck**	**10.50**	**279**		**Pn**	**18 11 32.9**	**-0.9**
MK31	**Makanchi Array**	**12.68**	**37**	Pn	**Pn**	**18 12 00.9**	**-1.9**
MKAR	**Makanchi Array**	**12.68**	**37**	P	**Pn**	**18 12 00.3**	**-2.5**
	comp=N,0.4nm,0.3s,baz=223,slow=15,SNR=28						
MKAR	**Makanchi Array**	**12.68**	**37**		**Pn**	**18 12 00.0**	**-2.8**
KURBB	**Kurchatov Arra**	**14.49**	**19**	P	**Pn**	**18 12 29.1**	**+3.0**
	comp=N,0.1nm,0.3s,baz=208,slow=10,SNR=5.4						
KURK	**Kurchatov**	**14.60**	**19**	P	**Pn**	**18 12 29.1**	**+1.6**
AB31	**Akbulak array**	**14.69**	**329**	P	**Pn**	**18 12 25.6**	**-3.1**
	comp=N,0.2nm,0.2s,baz=139,slow=14,SNR=18						
ABKAR	**Akbulak array**	**14.69**	**329**	Pn	**Pn**	**18 12 26.2**	**-2.5**
ABKAR	**Akbulak array**	**14.69**	**329**	Pn	**Pn**	**18 12 26.5**	**-2.2**
BHPL	**Bhopal**	**14.78**	**157**	*e*P	**Pn**	**18 12 30.6**	**+0.6**
BVAR	**Borovoye Array**	**15.95**	**358**	P	**Pn**	**18 12 45.8**	**+1.3**
	comp=N,0.5nm,0.

NVAR	**Mina Array Bea**	**9.39**	**123**	Pn	**Pn**	**18 24 19.4**	**+2.8**
	0.0nm,0.3s,baz=302,slow=14,SNR=1.6						
PDAR	**Pinedale Array**	**13.70**	**89**	LR	LR	18 30 48.1	
	comp=Z,62nm,18.4s,baz=298,slow=38						
YKA	**Yellowknife Ar**	**20.13**	**19**	P	**Pn**	**18 26 36.7**	**+0.1**
	1.7nm,0.9s,baz=203,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**20.13**	**19**	P	**P**	**18 26 32.9**	**-1.9**
ECSD	**EROS Data Cent**	**22.77**	**80**	P	**P**	**18 27 02.9**	**-0.5**
ECSD				IAmb	IAmb	18 27 10.4	
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**23.23**	**340**	P	**P**	**18 27 09.2**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=159,slow=5.8,SNR=1.9						
TXAR	**Lajitas Array**	**24.50**	**119**	P	**P**	**18 27 19.9**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=287,slow=9.3,SNR=4.2						
SCHQ	**Schefferville**	**40.15**	**52**	LR	LR	18 47 07.8	
	comp=Z,27nm,19.4s,baz=30,slow=37						
H11N3	**WAKE ISLAND Hy**	**58.55**	**268**	T	T	19 34 54.6	
	baz=49,slow=75,SNR=156						
H11N2	**WAKE ISLAND Hy**	**58.55**	**268**	T	T	19 34 54.9	
	baz=49,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**58.56**	**268**	T	T	19 34 55.0	
	baz=49,slow=75,SNR=84						
H11S1	**WAKE ISLAND Hy**	**59.48**	**267**	T	T	19 36 08.3	
	baz=50,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**59.48**	**267**	T	T	19 36 04.4	
	baz=50,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hy**	**59.49**	**267**	T	T	19 36 06.7	
	baz=50,slow=75,SNR=18						
FINES	**FINESS Array B**	**72.83**	**13**	P	**P**	**18 33 28.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=303,slow=13,SNR=1.7						
SONM	**Songino Array**	**76.63**	**326**	P	**P**	**18 33 51.6**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=54,slow=3.0,SNR=4.5						

DDA ***26*** *18:40:33.4,40.°53N×23.°41E,7km±2km,MW4.3*
SOF ***26*** *18:40:40.2,40.°42N×24.°04E,h5km,MD4.5*
MOS ***26*** *18:40:41.3±1.4,40.°47N×23.°96E,h13km,mb4.3/5,Error ellipse: s-maj=6.2km s-min=3.6km az=90.0*
ISK ***26*** *18:40:41.5,40.°49N×23.°97E,h14km,ML4.3/29*
IDC ***26*** *18:40:41.2±0.7,40.°42N×23.°96E,h0km,mb3.8/18, mb1 3.9/25,mb1mx3.8/48,mbtmp3.8/25,ML3.8/6,MS3.2/18, Ms1 3.2/18,ms1mx3.0/51,Error ellipse: s-maj=11.9km s-min=10.8km az=104.0*
ATH ***26*** *18:40:41.7,40.°36N×23.°96E,h27km±3km,ML4.1/27,Error ellipse: s-maj=3.1km s-min=1.1km az=359.0*
NEIC ***26*** *18:40:43.0±1.9,40.°39N±0.°04×23.°99E±0.°05,h13km±5km, Error ellipse: s-maj=6.0km s-min=5.5km az=132.0*
PDG ***26*** *18:40:42.0±0.5,40.°43N×24.°00E,h15km,ML3.9/13,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
MED_RC ***26*** *18:40:42.0±0.5,40.°46N×23.°96E,h16km±3km,MW4.3/14, Moment Tensor Solution.Mantle waves: s14,c16; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-1.30±.41; Mθθ2.88±.31; Mφφ-1.58±.26; Mrθ0.85±.59; Mθφ-1.28±.23; Mφr1.57±.64; Best double couple: M0:3.32000×1015 NP1:φs142.00000°,δ58.00000°, λ-27.00000°. NP2:φs247.00000°,δ68.00000°, λ-145.00000°. Principal axes: T 3.2600, Plg6.0000°, Azm13.0000°; N 0.1200, Plg49.0000°, Azm276.0000°; P -3.3900, Plg40.0000°, Azm108.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***26*** *18:40:42.8,40.°46N×23.°96E,h12km,ML4.0/14 Error ellipse: s-maj=0.9km s-min=0.4km az=325.0*
NEIC ***26*** *18:40:42.8,40.°46N×23.°97E,h16km,Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr0.03; Mθθ1.34; Mφφ-1.37; Mrθ-0.15; Mθφ-1.05; Mφr-0.30; Fault plane solution: M0:1.74000×1015 NP1:φs333.50000°, δ81.73000°,λ-6.21000°. NP2:φs64.39000°,δ83.85000°, λ-171.68000°. Principal axes: T 1.6993, Plg1.0000°, Azm199.0000°; N 0.0880, Plg80.0000°, Azm101.0000°; P -1.7873, Plg10.0000°, Azm289.0000°;*
BEO ***26*** *18:40:43.8±0.6,40.°54N×24.°05,h12km±2km,ML4.3/13*
PRU ***26*** *18:40:48.6±0.0,40.°82N×23.°83E,h10km,M4.4*
ISC 26 18:40:42.5±0.7,40.°45N±0.°02×23.°94E±0.°01,h12km±4km, n493,σ1§48/561,mb4.0/25,MS3.0/13,39C-28D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.12**	**166**	P	**Pb**	**18 40 46.5**	**-0.3**
OUR				S	**Sb**	**18 40 48.6**	**+0.8**
OUR	**Ouranopolis**	**0.12**	**166**	P	**Pb**	**18 40 46.3**	**-0.5**
OUR				S	**Sb**	**18 40 48.7**	**+1.0**
OUR	**Ouranopolis**	**0.12**	**166**	PG	**Pb**	**18 40 46.5**	**-0.3**
OUR				SG	**Sb**	**18 40 48.7**	**+1.0**
PLG	**Polygyros**	**0.39**	**259**	P	**Pb**	**18 40 50.8**	**-0.6**
PLG				S	**Sg**	**18 40 56.2**	**+0.8**
	117μm,0.3s						
PLG	**Polygyros**	**0.39**	**259**	P	**Pb**	**18 40 51.0**	**-0.4**
PLG				S	**Sb**	**18 40 56.4**	**-1.0**
PLG				AML	AML	18 40 57.8	
PLG				AML	AML	18 40 57.8	
PAIG	**Paliouri**	**0.56**	**201**	P	**Pb**	**18 40 54.0**	**-0.3**
PAIG				S	**Sb**	**18 41 02.4**	**+0.1**
	23μm,0.6s						
PAIG	**Paliouri**	**0.56**	**201**	P	**Pb**	**18 40 54.0**	**-0.3**
PAIG				AML	AML	18 41 05.8	
	comp=E,44231μm,0.4s						
PAIG				AML	AML	18 41 06.5	
	comp=N,35199μm,0.4s						
SOH	**Sokhos**	**0.58**	**310**	P	**Pb**	**18 40 54.3**	**-0.4**
SOH				S	**Sb**	**18 41 02.0**	**-1.0**
	comp=N,39μm,0.4s						
SOH	**Sokhos**	**0.58**	**310**	P	**Pb**	**18 40 54.3**	**-0.4**
SOH				S	**Sb**	**18 41 02.3**	**-0.7**
SOH				AML	AML	18 41 02.9	
	comp=N,67068μm,0.3s						
SOH				AML	AML	18 41 04.7	
KVLA	**Kavala**	**0.59**	**35**	P	**Pn**	**18 40 55.1**	**-1.7**
KVLA				S	**Sb**	**18 41 03.0**	**-0.2**
KVLA				AML	AML	18 41 05.4	
	comp=E,48657μm,0.5s						
KVLA				AML	AML	18 41 05.6	
	comp=N,26151μm,0.3s						
THAS	**Thassos island**	**0.61**	**75**	P	**Pb**	**18 40 54.2**	**-1.0**
THAS				S	**Sg**	**18 41 02.0**	**-0.5**
	comp=N,34μm,0.4s						
THAS	**Thassos island**	**0.61**	**75**	P	**Pb**	**18 40 54.2**	**-1.0**
THAS				AML	AML	18 41 04.9	
	comp=E,84859μm,0.4s						
THAS				AML	AML	18 41 05.1	
	comp=N,50156μm,0.3s						
HORT	**Hortiatis**	**0.66**	**283**	P	**Pb**	**18 40 55.5**	**-0.6**
HORT				S	**Sb**	**18 41 05.4**	**+0.1**
	comp=N,13μm,0.4s						
HORT	**Hortiatis**	**0.66**	**283**	P	**Pb**	**18 40 55.4**	**-0.6**
HORT				S	**Sb**	**18 41 05.0**	**-0.2**
HORT				AML	AML	18 41 07.2	
	comp=N,21737μm,0.1s						
HORT				AML	AML	18 41 09.2	
	comp=E,29232μm,0.6s						
HORT	**Hortiatis**	**0.66**	**283**	PG	**Pg**	**18 40 55.2**	**-0.2**
HORT				SG	**Sb**	**18 41 04.8**	**-0.5**
KAVA	**Kavala**	**0.70**	**38**	P	**Pb**	**18 40 55.9**	**-0.8**
KAVA				S	**Sb**	**18 41 05.2**	**-1.0**
KAVA	**Kavala**	**0.70**	**38**	P	**Pb**	**18 40 55.8**	**-0.8**
KAVA				S	**Sb**	**18 41 05.7**	**-0.5**
KAVA				AML	AML	18 41 07.3	
	comp=N,55631μm,0.4s						
KAVA				AML	AML	18 41 07.6	
	comp=E,44015μm,0.4s						
SRS	**Serrai**	**0.72**	**338**	*e*Pg	**Pb**	**18 40 56.5**	**-0.5**
SRS				*e*Sg	**Sb**	**18 41 06.7**	**-0.2**
SRS	**Serrai**	**0.72**	**338**	P	**Pb**	**18 40 56.4**	**-0.5**
SRS				S	**Sb**	**18 41 07.1**	**+0.2**
	comp=E,22μm,0.4s						
SRS	**Serrai**	**0.72**	**338**	P	**Pb**	**18 40 56.5**	**-0.5**
SRS				AML	AML	18 41 10.2	
	comp=E,64481μm,0.4s						
SRS				AML	AML	18 41 10.6	
	comp=N,21932μm,0.2s						
THE	**Thessaloniki**	**0.77**	**284**	P	**Pg**	**18 40 57.0**	**-0.4**
THE				S	**Sb**	**18 41 08.0**	**-0.2**
	comp=N,6μm,0.5s						
THE	**Thessaloniki**	**0.77**	**284**	P	**Pg**	**18 40 57.0**	**-0.4**
THE				AML	AML	18 41 12.3	
	comp=E,10205μm,0.2s						
THE				AML	AML	18 41 13.6	
	comp=N,14123μm,0.6s						
LIA	**Limnos Island**	**1.10**	**120**	P	**Pg**	**18 41 03.0**	**-0.7**
LIA				S	**Sn**	**18 41 18.5**	**-0.4**
LIA	**Limnos Island**	**1.10**	**120**	P	**Pb**	**18 41 02.8**	**-0.7**
LIA				AML	AML	18 41 20.7	
	comp=E,19544μm,0.6s						
LIA				AML	AML	18 41 20.9	
	comp=N,23358μm,0.5s						
MMB	**Musomiste**	**1.15**	**352**	Pg	**Pn**	**18 41 03.7**	**-0.8**
LIT	**Litokhoron**	**1.17**	**253**	Pn	**Pb**	**18 41 04.4**	**-0.3**
LIT				Sn	**Sn**	**18 41 20.8**	**+0.2**
SMTH	**Samothraki Isl**	**1.21**	**89**	P	**Pn**	**18 41 03.9**	**-1.4**
SMTH				S	**Sg**	**18 41 21.9**	**+0.4**
	comp=N,3μm,0.6s						
SMTH	**Samothraki Isl**	**1.21**	**89**	P	**Pn**	**18 41 03.9**	**-1.4**
SMTH				AML	AML	18 41 23.1	
	comp=E,7704μm,0.6s						
SMTH				AML	AML	18 41 24.2	
	comp=N,4498μm,0.6s						
XOR	**Xorichti**	**1.23**	**208**	P	**Pn**	**18 41 04.8**	**-0.8**
XOR				S	**Sn**	**18 41 21.8**	**-0.3**
	comp=N,4μm,0.6s						
XOR	**Xorichti**	**1.23**	**208**	P	**Pn**	**18 41 04.8**	**-0.8**
XOR				AML	AML	18 41 24.9	
	comp=N,9868μm,0.5s						
XOR				AML	AML	18 41 26.1	
	comp=E,3935μm,0.6s						
NEO	**Neokhori**	**1.27**	**206**	P	**Pn**	**18 41 05.5**	**-0.7**
NEO				S	**Sn**	**18 41 22.9**	**-0.3**
NEO	**Neokhori**	**1.27**	**206**	P	**Pn**	**18 41 05.3**	**-0.9**
NEO				AML	AML	18 41 24.6	
	comp=E,10004μm,0.6s						
NEO				AML	AML	18 41 27.7	
	comp=N,19499μm,0.5s						
GRG	**Griva**	**1.28**	**294**	P	**Pg**	**18 41 06.6**	**-0.5**
VAY	**Valandovo**	**1.36**	**310**	*e*Pg	**Pg**	**18 41 08.2**	**-0.4**
VAY				*e*Sg	**Sg**	**18 41 26.5**	**+0.3**
VAY	**Valandovo**	**1.36**	**310**	*i* Pn	**Pb**	**18 41 07.7**	**-0.2**
RZN	**Rozhen**	**1.37**	**25**	*i* P	**Pg**	**18 41 07.7**	**-1.1**
RDO	**Rodhopi**	**1.40**	**60**	P	**Pn**	**18 41 06.9**	**-1.0**
RDO				AML	AML	18 41 28.4	
	comp=N,10514μm,0.6s						
RDO				AML	AML	18 41 29.9	
	comp=E,15846μm,0.6s						
RDO	**Rodhopi**	**1.40**	**60**	PN	**Pn**	**18 41 06.9**	**-1.0**
KTI	**Kastanea**	**1.40**	**268**	P	**Pn**	**18 41 07.8**	**-0.2**
LRSO	**Larissa Observ**	**1.42**	**237**	P	**Pn**	**18 41 08.1**	**-0.1**
GADA	**Gvkgeada**	**1.52**	**99**	P	**Pn**	**18 41 08.8**	**-0.7**
GADA				S	**Sb**	**18 41 29.2**	**-0.6**
	comp=E,2μm,0.7s						
GADA	**Gvkgeada**	**1.52**	**99**	PN	**Pn**	**18 41 08.5**	**-1.0**
KKB	**Krupnik**	**1.56**	**336**	P	**Pb**	**18 41 10.2**	**-1.1**
KDZ	**Kurdzhali**	**1.64**	**42**	PN	**Pn**	**18 41 09.6**	**-1.6**
SKY	**Skiros Island**	**1.64**	**163**	P	**Pn**	**18 41 10.8**	**-0.4**
SKY				S	**Sb**	**18 41 32.7**	**-0.7**
	comp=E,4μm,0.6s						
SKY	**Skiros Island**	**1.64**	**163**	P	**Pn**	**18 41 11.1**	**-0.2**
SKY				AML	AML	18 41 40.3	
	comp=E,7714μm,0.5s						
SKY				AML	AML	18 41 40.5	
	comp=N,7910μm,0.6s						
ALN	**Alexandroupoli**	**1.66**	**74**	P	**Pn**	**18 41 10.5**	**-1.0**
ALN				S	**Sb**	**18 41 33.5**	**-0.4**
	comp=N,3μm,0.7s						
ALN	**Alexandroupoli**	**1.66**	**74**	P	**Pn**	**18 41 10.5**	**-1.0**
ALN				AML	AML	18 41 39.9	
	comp=N,5239μm,0.8s						
ALN				AML	AML	18 41 40.1	
	comp=E,6367μm,0.6s						
ALN	**Alexandroupoli**	**1.66**	**74**	P	**Pn**	**18 41 10.8**	**-0.7**
ALN	**Alexandroupoli**	**1.66**	**74**	PN	**Pn**	**18 41 10.6**	**-1.0**
ALN	**Alexandroupoli**	**1.66**	**74**	Pn	**Pn**	**18 41 10.8**	**-0.7**
KZN	**Kozani**	**1.67**	**266**	P	**Pb**	**18 41 12.6**	**-0.6**
KZN	**Kozani**	**1.67**	**266**	P	**Pb**	**18 41 12.3**	**-1.0**
KZN				AML	AML	18 41 38.1	
	comp=E,6555μm,0.6s						
KZN				AML	AML	18 41 39.7	
	comp=N,8239μm,0.7s						
ENEZ	**Enez**	**1.71**	**80**	P	**Pn**	**18 41 11.3**	**-0.9**
ENEZ	**Enez**	**1.71**	**80**	PN	**Pn**	**18 41 11.2**	**-0.9**
CAVK	**Edirne/Enez-Ca**	**1.71**	**81**	*i* P	**Pb**	**18 41 12.3**	**-1.7**
CAVK				*i* S	**Sg**	**18 41 38.5**	**+0.9**
CAVK				IAML		18 41 42.0	
	comp=N,4μm,0.7s						
CAVK				IAML		18 41 42.0	
	comp=E,4μm,0.8s						
THL	**Klokotos Trika**	**1.73**	**240**	P	**Pn**	**18 41 12.7**	**+0.3**
THL				S	**Sn**	**18 41 34.5**	**+0.1**
	comp=E,4μm,0.9s						
THL	**Klokotos Trika**	**1.73**	**240**	P	**Pn**	**18 41 12.8**	**+0.3**
THL				AML	AML	18 41 54.1	
	comp=N,8956μm,0.9s						
THL				AML	AML	18 41 54.2	
	comp=E,5709μm,0.8s						
BOZC	**Bozcaada**	**1.73**	**110**	*i* P	**Pn**	**18 41 11.9**	**-0.5**
BOZC				*i* S	**Sg**	**18 41 39.1**	**+1.0**
BOZC				IAML		18 41 44.0	
	comp=N,884nm,1.0s						
BOZC				IAML		18 41 45.0	
	comp=E,1μm,0.6s						
BOZC	**Bozcaada**	**1.73**	**110**	PN	**Pn**	**18 41 11.7**	**-0.7**
PLD	**Plovdiv**	**1.75**	**19**	PN	**Pn**	**18 41 11.8**	**-0.9**
PLD	**Plovdiv**	**1.75**	**19**	*i* P	**Pb**	**18 41 13.5**	**-1.1**
PLD	**Plovdiv**	**1.75**	**19**	Pg	**Pg**	**18 41 16.6**	**+0.5**
ECEA	**Canakkale, Ece**	**1.75**	**103**	*i* P	**Pn**	**18 41 12.4**	**-0.4**
ECEA				*i* S	**Sg**	**18 41 39.1**	**+0.1**
ECEA				IAML		18 41 44.0	
	comp=N,2μm,0.7s						
ECEA				IAML		18 41 59.0	
	comp=E,1μm,0.6s						
STIP	**Stip**	**1.82**	**314**	*i* Pn	**Pn**	**18 41 13.0**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.82**	**176**	P	**Pn**	**18 41 13.3**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.82**	**176**	P	**Pn**	**18 41 13.3**	**-0.4**
AGG	**Agios Georgios**	**1.89**	**222**	P	**Pn**	**18 41 15.0**	**+0.2**
AGG	**Agios Georgios**	**1.89**	**222**	P	**Pn**	**18 41 15.1**	**+0.2**
AGG	**Agios Georgios**	**1.89**	**222**	P	**Pn**	**18 41 14.9**	**+0.2**
AGG				SN	**Sn**	**18 41 37.1**	**-1.5**
AGG	**Agios Georgios**	**1.89**	**222**	PN	**Pn**	**18 41 14.5**	**-0.2**
AGG	**Agios Georgios**	**1.89**	**222**	Pn	**Pn**	**18 41 14.9**	**+0.1**
AGG				Sn	**Sn**	**18 41 37.1**	**-1.5**
SIGR	**SIGRI**	**1.92**	**129**	P	**Pn**	**18 41 15.0**	**-0.1**
SIGR				S	**Sb**	**18 41 39.6**	**-1.9**
	comp=E,4μm,0.6s						
SIGR	**SIGRI**	**1.92**	**129**	P	**Pn**	**18 41 15.0**	**-0.1**
SIGR				AML	AML	18 41 48.0	
	comp=N,9208μm,0.6s						
SIGR				AML	AML	18 41 50.4	
	comp=E,5995μm,0.6s						
SIGR	**SIGRI**	**1.92**	**129**	PN	**Pn**	**18 41 14.9**	**-0.1**
EZN	**Ezine**	**1.93**	**108**	P	**Pn**	**18 41 15.0**	**-0.2**
EZN	**Ezine**	**1.93**	**108**	P	**Pn**	**18 41 14.4**	**-0.8**
EZN	**Ezine**	**1.93**	**108**	PN	**Pn**	**18 41 14.4**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.93**	**91**	PN	**Pn**	**18 41 14.5**	**-0.7**
KOCA	**Canakkale, Ayv**	**1.93**	**119**	*i* P	**Pn**	**18 41 15.3**	**0.0**
KOCA				*i* S	**Sg**	**18 41 46.0**	**+1.3**
KOCA				IAML		18 41 49.0	
	comp=E,2μm,0.5s						
KOCA				IAML		18 41 50.0	
	comp=N,2μm,0.5s						
LKR	**Lokris**	**1.94**	**202**	P	**Pn**	**18 41 15.1**	**-0.2**
ERIK	**Erikli-Kesan**	**1.97**	**83**	PN	**Pn**	**18 41 15.0**	**-0.7**
FNA	**Florina**	**1.98**	**280**	*e*Pn	**Pn**	**18 41 16.8**	**+0.8**
FNA				*e*Sn	**Sb**	**18 41 44.2**	**+0.9**
FNA	**Florina**	**1.98**	**280**	P	**Pn**	**18 41 16.8**	**+0.8**
FNA	**Florina**	**1.98**	**280**	P	**Pn**	**18 41 16.7**	**+0.7**
FNA				AML	AML	18 41 47.6	
	comp=N,3065μm,0.7s						
FNA				AML	AML	18 41 49.6	
	comp=E,2765μm,0.7s						
FNA	**Florina**	**1.98**	**280**	P	**Pn**	**18 41 16.8**	**+0.8**
FNA	**Florina**	**1.98**	**280**	PN	**Pn**	**18 41 16.2**	**+0.2**
FNA	**Florina**	**1.98**	**280**		**Pn**	**18 41 16.8**	**+0.8**
DIM	**Dimitrovgrad**	**2.00**	**36**	P	**Pn**	**18 41 16.2**	**+0.1**
DIM	**Dimitrovgrad**	**2.00**	**36**	Pg	**Pg**	**18 41 19.8**	**-1.0**
MAKR	**Makrakomi, Fth**	**2.00**	**225**	P	**Pb**	**18 41 17.3**	**-1.7**
MAKR				AML	AML	18 42 01.9	
	comp=E,4850μm,1.5s						
MAKR				AML	AML	18 42 03.2	
	comp=N,6422μm,1.5s						
EREA	**Eretria**	**2.03**	**180**	P	**Pn**	**18 41 16.6**	**0.0**
EREA	**Eretria**	**2.03**	**180**	P	**Pn**	**18 41 16.7**	**0.0**
EREA				AML	AML	18 41 58.0	
	comp=E,4213μm,1.0s						
EREA				AML	AML	18 41 58.4	
	comp=N,4172μm,0.7s						
KPRO	**Kipourio**	**2.04**	**257**	P	**Pn**	**18 41 17.3**	**+0.5**
PGB	**Panagyurishte**	**2.10**	**4**	P	**Pn**	**18 41 17.4**	**-0.3**
PGB	**Panagyurishte**	**2.10**	**4**	Pg	**Pg**	**18 41 21.3**	**-1.6**
KESN	**Edirne-Kesan**	**2.12**	**79**	*i* P	**Pn**	**18 41 17.4**	**-0.7**
KESN				*i* S	**Sg**	**18 41 50.5**	**-0.1**
KESN				IAML		18 41 53.0	
	comp=N,1μm,0.6s						
KESN				IAML		18 42 01.0	
	comp=E,1μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**2.12**	**109**	*i* P	**Pn**	**18 41 17.7**	**-0.1**
BAYC				*i* S	**Sg**	**18 41 51.3**	**+0.7**
BAYC				IAML		18 41 52.0	
	comp=N,555nm,0.8s						
BAYC				IAML		18 41 52.0	
	comp=E,394nm,0.4s						
PRK	**Paraskevi**	**2.16**	**123**	P	**Pn**	**18 41 18.9**	**+0.6**
PRK	**Paraskevi**	**2.16**	**123**	P	**Pb**	**18 41 19.4**	**-2.1**
PRK				AML	AML	18 41 56.4	
	comp=N,11685μm,0.7s						
PRK				AML	AML	18 41 59.2	
	comp=E,9046μm,0.7s						
PENT	**Pentalofos**	**2.16**	**264**	P	**Pn**	**18 41 19.5**	**+1.0**
NEST	**Nestorio**	**2.21**	**270**	P	**Pn**	**18 41 20.2**	**+1.0**
NEST				AML	AML	18 42 00.7	
	comp=N,3948μm,1.1s						
NEST				AML	AML	18 42 04.9	
	comp=E,3468μm,1.0s						
VTS	**Vitosha**	**2.23**	**346**	*e*Pn	**Pn**	**18 41 20.2**	**+0.7**
VTS				*e*Sn	**Sn**	**18 41 46.5**	**-0.6**
VTS	**Vitosha**	**2.23**	**346**	⇑P	**Pn**	**18 41 20.3**	**+0.9**
VTS	**Vitosha**	**2.23**	**346**	P	**Pn**	**18 41 20.4**	**+0.9**
VTS	**Vitosha**	**2.23**	**346**	Pn	**Pn**	**18 41 20.4**	**+0.9**
VTS	**Vitosha**	**2.23**	**346**	P	**Pn**	**18 41 20.4**	**+0.9**
EVR	**Evrytania**	**2.25**	**228**	P	**Pn**	**18 41 20.4**	**+0.7**
EVR	**Evrytania**	**2.25**	**228**	P	**Pn**	**18 41 20.6**	**+0.9**
DLFA	**Delphi**	**2.27**	**210**	P	**Pn**	**18 41 19.9**	**0.0**
VIL2	**Platees**	**2.30**	**193**	P	**Pn**	**18 41 20.8**	**+0.5**
BOSS	**Bosilegrad**	**2.32**	**332**	*e*Pn	**Pn**	**18 41 21.6**	**+1.0**
BOSS				*e*Sn	**Sn**	**18 41 49.8**	**+0.7**
DION	**Dionisos Attik**	**2.37**	**180**	P	**Pn**	**18 41 21.3**	**0.0**
DION	**Dionisos Attik**	**2.37**	**180**	P	**Pn**	**18 41 21.3**	**0.0**
DION				AML	AML	18 42 07.8	
	comp=N,3755μm,1.1s						
DION				AML	AML	18 42 11.7	
	comp=E,3463μm,0.6s						
AYVA	**Ayvalik**	**2.40**	**117**	*i* P	**Pn**	**18 41 22.2**	**+0.5**
AYVA				IAML		18 42 08.0	
	comp=E,691nm,0.9s						
AYVA				IAML		18 42 10.0	
	comp=N,987nm,0.7s						
KBN	**Korca**	**2.41**	**275**	P	**Pn**	**18 41 22.7**	**+0.8**
KBN	**Korca**	**2.41**	**275**		**Pn**	**18 41 22.7**	**+0.8**
SKO	**Skopje**	**2.42**	**310**	*i* Pn	**Pn**	**18 41 23.2**	**+1.2**
ANX	**Ano Chora**	**2.43**	**221**	P	**Pn**	**18 41 22.8**	**+0.7**
ANX	**Ano Chora**	**2.43**	**221**	P	**Pn**	**18 41 22.8**	**+0.7**
KARY	**Karystos**	**2.45**	**171**	P	**Pn**	**18 41 22.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.48**	**83**	PN	**Pn**	**18 41 22.0**	**-0.8**
OHR	**Ohrid**	**2.48**	**286**	*i* Pn	**Pn**	**18 41 24.1**	**+1.3**
ATH	**Athens Observa**	**2.48**	**184**	P	**Pn**	**18 41 23.1**	**+0.3**
ATH	**Athens Observa**	**2.48**	**184**	P	**Pn**	**18 41 22.9**	**+0.1**
ATH				AML	AML	18 42 13.4	
	comp=E,1960μm,0.7s						
ATH				AML	AML	18 42 18.1	
	comp=N,2310μm,0.8s						
ATH	**Athens Observa**	**2.48**	**184**	P	**Pn**	**18 41 22.8**	**+0.1**
ATHU	**Athens Univers**	**2.48**	**183**	P	**Pn**	**18 41 22.7**	**-0.1**
ATHU	**Athens Univers**	**2.48**	**183**	P	**Pn**	**18 41 22.8**	**0.0**
JAN	**Janina**	**2.50**	**253**	P	**Pn**	**18 41 24.8**	**+1.7**
SERG	**Sergoula**	**2.50**	**216**	P	**Pn**	**18 41 23.4**	**+0.2**
EDRB	**Edirne**	**2.53**	**56**	P	**Pn**	**18 41 22.9**	**-0.6**
EDRB	**Edirne**	**2.53**	**56**	PN	**Pn**	**18 41 22.9**	**-0.6**
TRIZ	**Trizonia**	**2.54**	**215**	P	**Pn**	**18 41 23.9**	**+0.4**
LTK	**Loutraki**	**2.54**	**198**	P	**Pn**	**18 41 23.5**	**-0.1**
KRBG	**Karabiga-Canak**	**2.56**	**90**	PN	**Pn**	**18 41 23.4**	**-0.5**
EFP	**Efpalio**	**2.56**	**219**	P	**Pn**	**18 41 24.4**	**+0.5**
EFP	**Efpalio**	**2.56**	**219**	P	**Pn**	**18 41 24.6**	**+0.6**
LOUT	**Loutraki**	**2.57**	**197**	P	**Pn**	**18 41 24.1**	**+0.1**
BUHA	**Balikesir, Bur**	**2.59**	**111**	*i* P	**Pn**	**18 41 24.7**	**+0.4**
BUHA				*i* S	**Sg**	**18 42 06.7**	**+1.1**
BUHA				IAML		18 42 07.0	
	comp=N,778nm,0.9s						
BUHA				IAML		18 42 23.0	
	comp=E,747nm,0.7s						
VLY	**Voula,Athens**	**2.60**	**183**	P	**Pn**	**18 41 24.5**	**+0.1**
THAL	**Thalero**	**2.61**	**203**	P	**Pn**	**18 41 24.8**	**+0.3**
PVO	**Paravola**	**2.62**	**226**	P	**Pn**	**18 41 25.5**	**+0.8**
CHOS	**Chios island**	**2.63**	**141**	P	**Pn**	**18 41 25.3**	**+0.4**
CHOS	**Chios island**	**2.63**	**141**	P	**Pn**	**18 41 25.4**	**+0.4**
CHOS				AML	AML	18 42 08.5	
	comp=N,4209μm,0.6s						
CHOS				AML	AML	18 42 11.5	
	comp=E,4907μm,0.7s						
CHOS	**Chios island**	**2.63**	**141**	PN	**Pn**	**18 41 25.4**	**+0.5**
DKL	**Dikili**	**2.67**	**120**	PN	**Pn**	**18 41 25.5**	**+0.2**
LAKA	**Lakka**	**2.68**	**215**	P	**Pn**	**18 41 26.3**	**+0.7**
KNL	**Balıkesir**	**2.74**	**93**	*i* P	**Pn**	**18 41 27.2**	**+0.8**
KNL			

KLYT Kilyos 3.95 77 PN Pn 18 41 43.2 +0.3
DRME Dracevica, Mon 3.98 297 *e*Pn Pn 18 41 46.5 +3.1
DRME Dracevica, Mon 3.98 297⇓*i*Pn Pn 18 41 44.7 +1.3
DRME *i* Sn Sn 18 42 30.3 +0.3
PDG Podgorica 4.04 301 ⇓P Pn 18 41 45.8 +1.6
PDG Podgorica 4.04 301 *e*Pn Pn 18 41 46.4 +2.2
PDG Podgorica 4.04 301 Pn Pn 18 41 45.2 +1.0
TTG Podgorica 4.04 301⇑*i*Pn Pn 18 41 45.5 +1.3
TTG *i* Sn Sn 18 42 31.7 +0.2
SGRR Singureni 4.06 21 ⇓P Pn 18 41 44.6 +0.2
SGRR Singureni 4.06 21 Pn 18 41 44.6 +0.2
MANT Manisa 4.07 117 Pn 18 41 45.6 +0.7
SJES Sjenica 4.08 315 *e*Pn Pn 18 41 46.3 +1.4
SJES *e*Sn Sn 18 42 32.1 -0.6
KOME Kolasin 4.09 307⇓*i*Pn Pn 18 41 46.1 +1.1
KOME *i* Sn Sn 18 42 33.0 +0.1
BUC1 Bucharest 4.19 21 ⇓P Pn 18 41 46.5 +0.3
BUC1 Bucharest 4.19 21 P Pn 18 41 46.5 +0.3
BUC1 Bucharest 4.19 21 Pn 18 41 46.5 +0.3
SCTE Santa Cesarea 4.21 267 Pn 18 41 47.3 +0.8
BUM Brajici-Budva 4.22 298⇑*i*Pn Pn 18 41 48.1 +1.3
BUM *i* Sn Sn 18 42 36.2 +0.1
SANT Santorini 4.24 163 Pn Pn 18 41 46.7 -0.4
SRE Strehaia 4.24 353 ⇑P Pn 18 41 49.4 +2.4
SRE Strehaia 4.24 353 P Pn 18 41 49.4 +2.4
SRE Strehaia 4.24 353 Pn 18 41 49.4 +2.4
KUBS Kucevo 4.30 338 *e*Pn Pn 18 41 47.6 -0.2
SVIS Svilajnac 4.32 333 *e*Pn Pn 18 41 47.9 -0.1
CEME Cevo 4.32 301⇑*i*Pn Pn 18 41 49.2 +1.1
CEME *i* Sn Sn 18 42 38.3 -0.1
NKY Niksic 4.40 304 *e*Pn Pn 18 41 50.4 +1.2
NKY *i* Sn Sn 18 42 40.2 -0.2
NKME Niksic 4.40 303⇑*i*Pn Pn 18 41 50.4 +1.2
NKME *i* Sn Sn 18 42 40.4 0.0
RASA Rasa 4.45 31 ⇑P Pn 18 41 50.3 +0.5
RASA Rasa 4.45 31 Pn 18 41 50.3 +0.5
PLE Pljevlja 4.45 312⇓*i*Pn Pn 18 41 51.2 +1.2
PLE *i* Sn Sn 18 42 41.7 -0.1
STFAR Stefanesti-Arg 4.47 9 ⇓P Pn 18 41 51.4 +1.2
STFAR Stefanesti-Arg 4.47 9 Pn 18 41 51.4 +1.2
PSN Preselentsi 4.51 43 P Pn 18 41 50.3 -0.4
LEHL Lehliu 4.55 27 ⇓P Pn 18 41 52.1 +0.9
LEHL Lehliu 4.55 27 Pn 18 41 52.1 +0.9
HCY Herceg Novi 4.56 298 *e*Pn Pn 18 41 52.9 +1.6
HCY Herceg Novi 4.56 298⇑*i*Pn Pn 18 41 52.6 +1.3
HCY *i* Sn Sn 18 42 44.1 -0.1
SULR 4.56 21 ⇓P Pn 18 41 51.3 0.0
TRUS Trudelj 4.59 326 *e*Pn Pn 18 41 51.9 +0.1
TRUS *e*Sn Sn 18 42 43.4 -1.7
MDVR Moldovita 4.63 340 ⇓P Pn 18 41 54.4 +2.0
MDVR Moldovita 4.63 340 Pn 18 41 54.4 +2.0
ICOR Ion Corvin 4.65 37 ⇑P Pn 18 41 53.1 +0.6
ICOR Ion Corvin 4.65 37 Pn 18 41 53.1 +0.6
RUDO Rudo 4.65 314 *e*Pn Pn 18 41 53.0 +0.4
UPM Unac-Piva 4.66 308 *e*Pn Pn 18 41 54.8 +1.9
UPM Unac-Piva 4.66 308⇑*i*Pn Pn 18 41 54.0 +1.1
UPM *i* Sn Sn 18 42 46.7 -0.4
DIVS Divibare 4.68 322 *e*Pn Pn 18 41 53.5 +0.5
DIVS *e*Sn Sn 18 42 45.2 -2.1
DIVS Divibare 4.68 322 *e*Pn Pn 18 41 53.6 +0.5
DIVS Divibare 4.68 322 Pn 18 41 53.4 +0.3
BRY Bratogost 4.73 303 *e*Pn Pn 18 41 56.1 +2.3
BRY Bratogost 4.73 303⇑*i*Pn Pn 18 41 55.0 +1.2
BRY *i* Sn Sn 18 42 48.3 -0.4
TREB Trebinje 4.77 300 *e*Pn Pn 18 41 56.8 +2.6
BBLS Lazići 4.80 317 *e*Pn Pn 18 41 55.9 +1.2
BBLS Lazići 4.80 317 *e*Pn Pn 18 41 55.1 +0.4
MTUR Matau 4.84 9 ⇑P Pn 18 41 56.4 +1.1
MTUR Matau 4.84 9 P Pn 18 41 56.4 +1.1
MTUR Matau 4.84 9 Pn 18 41 56.4 +1.1
MFTR Murfatlar 4.99 40 ⇑P Pn 18 41 57.5 +0.2
MFTR Murfatlar 4.99 40 Pn 18 41 57.5 +0.2
LOT Lotru 5.00 359 ⇓P Pn 18 41 57.9 +0.4
LOT Lotru 5.00 359 Pn 18 41 57.9 +0.4
GZR Gura Zlata 5.01 351 ⇓P Pn 18 41 59.6 +1.9
GZR Gura Zlata 5.01 351 P Pn 18 41 59.6 +1.9
GZR Gura Zlata 5.01 351 Pn 18 41 59.6 +1.9
EFOR EFORIE 5.02 42 ⇓P Pn 18 41 58.1 +0.4
EFOR EFORIE 5.02 42 Pn 18 41 58.1 +0.4
ISR Istrita 5.04 21 ⇑P Pn 18 41 59.1 +1.0
VOIR 5.05 9 ⇓P Pn 18 41 59.1 +0.9
VOIR 5.05 9 P Pn 18 41 59.1 +0.9
VOIR 5.05 9 Pn 18 41 59.1 +0.9
TLBR Topalu 5.09 35 ⇓P Pn 18 41 58.4 -0.3
TLBR Topalu 5.09 35 Pn 18 41 58.4 -0.3
TIRR Tirgusor 5.19 38 ⇑P Pn 18 42 00.1 +0.1
TIRR Tirgusor 5.19 38 P Pn 18 42 00.1 +0.1
TIRR Tirgusor 5.19 38 Pn 18 41 59.5 -0.5
TIRR Tirgusor 5.19 38 Pn 18 42 00.1 +0.1
IDI Anoyia 5.21 171 Pn Pn 18 42 00.7 +0.4
comp=E,5.3nm,0.3s,baz=9.8,slow=14,SNR=30
IDI Sn Sn 18 42 58.0 -2.4
comp=E,0.3nm,0.3s,baz=40,slow=22,SNR=1.0
IDI Lg Lg 18 43 25.3
comp=E,0.7nm,0.3s,baz=278,slow=19,SNR=1.0
IDI LR LR 18 43 57.6
comp=E,147nm,21.5s,baz=340,slow=38
IDI Anoyia 5.21 171 ⇑P Pn 18 42 00.0 -0.3
IDI Anoyia 5.21 171 Pn Pn 18 42 00.3 0.0
TEKS Tekeris 5.24 323 *e*Pn Pn 18 42 00.4 -0.3
TEKS Tekeris 5.24 323 *e*Pn Pn 18 41 59.9 -0.8
MLR Muntele Rosu 5.25 16 Pn Pn 18 42 02.2 +1.3
comp=E,3.6nm,0.3s,baz=222,slow=5.0,SNR=34
MLR Sn Sn 18 43 03.9 +2.5
comp=E,6.2nm,0.3s,baz=11,slow=20,SNR=3.2
MLR Lg Lg 18 43 23.9
comp=E,3.6nm,0.3s,baz=109,slow=21,SNR=3.4
MLR Muntele Rosu 5.25 16 ⇑P Pn 18 42 02.3 +1.3
MLR Muntele Rosu 5.25 16 Pn Pn 18 42 01.8 +0.9
STON Ston 5.26 299 *e*Pn Pn 18 42 01.1 +0.1
STON Ston 5.26 299 *e*Pn Pn 18 42 02.6 +1.5
STON Sn Sn 18 42 59.5 -2.1
BZS Buzias 5.44 342 ⇓P Pn 18 42 03.7 +0.3
BZS Buzias 5.44 342 P Pn 18 42 03.7 +0.3
BZS Buzias 5.44 342 Pn 18 42 03.7 +0.3
BISRR Bisoca 5.48 21 ⇑P Pn 18 42 05.5 +1.4
BISRR Bisoca 5.48 21 Pn 18 42 05.5 +1.4
DEV Deva 5.48 352 ⇑P Pn 18 42 05.5 +1.5
DEV Deva 5.48 352 P Pn 18 42 05.5 +1.5
DEV Deva 5.48 352 Pn 18 42 05.5 +1.5
KARP Karpathos 5.51 152 Pn Pn 18 42 04.0 -0.5
MATE Matera 5.52 274 ⇓P Pn 18 42 04.7 +0.2
MATE Matera 5.52 274 Pn 18 42 04.7 +0.2
FRGS Fruska Gora 5.60 328 *e*Pn Pn 18 42 06.3 +0.6
FRGS Fruska Gora 5.60 328 ⇑P Pn 18 42 08.0 +2.4
FRGS Fruska Gora 5.60 328 *e*Pn Pn 18 42 05.6 -0.1
FRGS Fruska Gora 5.60 328 Pn 18 42 08.0 +2.4
DOPR Dopca 5.61 10 ⇓P Pn 18 42 07.0 +1.1
DOPR Dopca 5.61 10 Pn 18 42 07.0 +1.1
CFR Carcaliu 5.64 32 ⇑P Pn 18 42 06.3 +0.1
CFR Carcaliu 5.64 32 P Pn 18 42 06.3 +0.1
CFR Carcaliu 5.64 32 Pn 18 42 06.3 +0.1
MDB Medias 5.70 3 ⇑P Pn 18 42 07.7 +0.7
MDB Medias 5.70 3 P Pn 18 42 07.7 +0.7
MDB Medias 5.70 3 Pn 18 42 07.7 +0.7
ISP Isparta 5.75 115 P Pn 18 42 07.2 -0.6
ISP Isparta 5.75 115 Pn Pn 18 42 07.2 -0.6
PLOR Plostina 5.75 19 ⇑P Pn 18 42 09.4 +1.7
PLOR Plostina 5.75 19 P Pn 18 42 09.4 +1.7
PLOR Plostina 5.75 19 Pn 18 42 09.4 +1.7
ODBI Odobesti 5.78 22 ⇓P Pn 18 42 09.7 +1.6
ODBI Odobesti 5.78 22 Pn 18 42 09.7 +1.6
VRI Vrincioaia 5.78 20 ⇓P Pn 18 42 09.7 +1.5
VRI Vrincioaia 5.78 20 P Pn 18 42 09.7 +1.5
VRI Vrincioaia 5.78 20 Pn 18 42 09.7 +1.5
OZUR 5.80 13 ⇑P Pn 18 42 09.8 +1.4
OZUR 5.80 13 Pn 18 42 09.8 +1.4
RICI Ricice 5.92 303 *e*Pn Pn 18 42 12.4 +2.4
TLCR 5.93 36 ⇓P Pn 18 42 10.7 +0.5
TLCR 5.93 36 P Pn 18 42 10.7 +0.5
TLCR 5.93 36 Pn 18 42 10.7 +0.5
ELL Elmali 5.96 126 P Pn 18 42 11.3 +0.6
ELL Elmali 5.96 126 Pn Pn 18 42 11.2 +0.6
SIRR Siria 6.05 345 ⇑P Pn 18 42 12.5 +0.7
SIRR Siria 6.05 345 Pn 18 42 12.5 +0.7
DOB Doboj 6.07 317 *e*Pn Pn 18 42 12.7 +0.6
HVAR Hvar 6.23 298 *e*Pn Pn 18 42 15.4 +1.2
SGRT San Giovanni R 6.33 285 Pn Pn 18 42 15.0 -0.8
TESR Tescani 6.37 17 ⇑P Pn 18 42 17.0 +0.8
TESR Tescani 6.37 17 Pn 18 42 17.0 +0.8

DRGR 6.40 352 ⇑P Pn 18 42 18.2 +1.5
DRGR 6.40 352 P Pn 18 42 18.2 +1.5
DRGR 6.40 352 Pn 18 42 18.2 +1.5
MGRS Mrkonjic Grad 6.44 310 *e*Pn Pn 18 42 18.8 +1.6
BLY Banja Luka 6.58 313 *e*Pn Pn 18 42 20.9 +1.8
MESR Meseseni 6.74 354 ⇓P Pn 18 42 23.3 +2.0
MESR Meseseni 6.74 354 Pn 18 42 23.2 +2.0
MRAK Mrakovica 6.90 314 *e*Pn Pn 18 42 24.9 +1.3
MORH Mrgy, Hungar 6.94 328 ⇑P Pn 18 42 24.1 +0.1
MORH Mrgy, Hungar 6.94 328 *e*P Pn 18 42 23.6 -0.4
MORH Mrgy, Hungar 6.94 328 *e*Pn Pn 18 42 23.6 -0.4
MORH Mrgy, Hungar 6.94 328 Pn 18 42 24.1 +0.1
ZIRJ Zirje 6.96 300 *e*Pn Pn 18 42 25.5 +1.3
ZIRJ Sn Sn 18 43 40.0 -3.3
MORI Morici 7.01 302 *e*Pn Pn 18 42 26.6 +1.7
MORI Sn Sn 18 43 40.8 -3.7
KOVH Kovagotottos 7.07 325 *e*P Pn 18 42 25.5 -0.2
PRAR RASCA 7.10 13 ⇑P Pn 18 42 28.0 +1.7
PRAR RASCA 7.10 13 Pn 18 42 28.0 +1.7
PAOL Paolisi 7.14 278 Pn 18 42 27.9 +0.9
BURAR Bucovina Array 7.22 7 ⇓P Pn 18 42 29.0 +1.0
BURAR Bucovina Array 7.22 7 Pn 18 42 28.2 +0.2
BURAR Bucovina Array 7.22 7 Pn 18 42 29.0 +1.0
BUR08 Bucovina Ar. S 7.25 7 Pn 18 42 28.3 0.0
UDBI Udbina 7.29 307 *e*Pn Pn 18 42 31.0 +2.1
MOSL Moslavina 7.37 317 *e*Pn Pn 18 42 31.2 +1.2
MOSL Sn Sn 18 43 48.6 -4.9
KIS Kishinev 7.43 27 *e*P Pn 18 42 32.0 +1.2
KIS *e*S Sn 18 44 02.0 +7.0
KIS *e*LR LR 18 44 30.0
comp=E,100nm,7.0s
KIS Kishinev 7.43 27 *e*P Pn 18 42 32.0 +1.2
KIS *e*S Sn 18 44 02.0 +7.0
KIS MLR MLR
comp=Z,100nm,7.0s
BR131 Keskin Array S 7.47 92 *i* P Pn 18 42 33.8 +2.3
BR131 Keskin Array S 7.47 92 Pn 18 42 30.7 -0.8
BRTR Keskin Array B 7.47 92 Pn Pn 18 42 31.9 +0.5
comp=Z,0.4nm,0.3s,baz=259,slow=11,SNR=9.8
BRTR Sn Sn 18 43 52.6 -3.6
comp=Z,0.1nm,0.3s,baz=272,slow=16,SNR=1.2
BRTR Lg Lg 18 44 42.2
baz=280,slow=17,SNR=2.0
BRTR Keskin Array B 7.47 92 *ce*P Pn 18 42 34.5 +3.0
BRTR pmax pmax
comp=Z,2.0nm,0.5s
DUGI Dugi Otok 7.48 301 *e*Pn Pn 18 42 32.5 +1.0
DUGI Sn Sn 18 43 52.6 -3.7
INTR Introdacqua 7.73 285 Pn 18 42 35.1 +0.1
NVLJ Novalja 7.86 304 *e*Pn Pn 18 42 38.3 +1.7
KALN Kalnik 7.88 319 *i* Pn Pn 18 42 37.7 +0.8
KALN Sn Sn 18 43 59.8 -6.2
BEHE Becsehely 7.96 321 *e*P Pn 18 42 40.8 +2.8
BEHE Becsehely 7.96 321 *e*Pn Pn 18 42 34.8 -3.2
PTJ Puntijarka 7.98 316 *e*Pn Pn 18 42 39.3 +0.9
VAE Valguarnera 8.00 251 Pn Pn 18 42 41.9 +3.3
comp=Z,1.0nm,0.3s,baz=324,slow=17,SNR=1.8
VAE Sn Sn 18 44 09.1 0.0
comp=Z,1.1nm,0.3s,baz=172,slow=11,SNR=4.1
PSZ Piszkesteto 8.01 340 *e*P Pn 18 42 38.6 -0.2
PSZ Piszkesteto 8.01 340 P Pn 18 42 38.4 -0.4
PSZ Piszkesteto 8.01 340 Pn 18 42 38.4 -0.4
OZLJ Ozalj 8.07 313 *e*Pn Pn 18 42 41.3 +1.8
LOBO Lobor 8.09 317 *e*Pn Pn 18 42 40.9 +1.1
LOBO Sn Sn 18 44 05.0 -6.2
BOJS Bojanci 8.13 311 *e*Pn Pn 18 42 41.7 +1.4
MPLH Magyarpolny 8.16 328 *e*P Pn 18 42 42.1 +1.4
CRES Cresnjev 8.21 314 *e*Pn Pn 18 42 42.7 +1.3
UZH Uzhgorod 8.26 352 *e*P Pn 18 42 46.7 +4.5
UZH *e*S Sn 18 44 21.7 +6.3
SORM Soroca 8.30 21 ⇓P Pn 18 42 42.8 0.0
SORM Soroca 8.30 21 P Pn 18 42 42.8 0.0
SORM Soroca 8.30 21 Pn 18 42 42.8 0.0
LEGS Legarje 8.36 314 *i* Pn Pn 18 42 45.3 +1.8
KOLS Kolonicke sedl 8.56 353 *e*P Pn 18 42 47.9 +1.6
KOLS Kolonicke sedl 8.56 353 *e*PN Pn 18 42 47.9 +1.6
KOLS *e*PG Pg 18 43 25.6 -0.8
KOLS *e*SG Sg 18 45 14.9 -2.3
VYHS Vyhne 8.83 337 *e*P Pn 18 42 54.9 +4.9
VYHS Vyhne 8.83 337 *e*PN Pn 18 42 54.9 +4.9
PERS Pernice 8.90 317 *e*Pn Pn 18 42 52.0 +1.0
PERS *e*Sn Sn 18 44 24.7 -6.5
SOP Sopron 8.97 326 *e*P Pn 18 42 52.7 +0.8
MURB Monte Urbino 8.97 292 Pn 18 42 52.6 +0.6
SOKA Soboth 8.97 317 *i* P Pn 18 42 52.9 +0.9
comp=Z,1.1nm,0.2s,SNR=7.6
ARSA Arzberg 9.12 321 *e*P Pn 18 42 55.1 +1.2
comp=Z,9.2nm,0.6s
OBKA Obir 9.12 315 *i* P Pn 18 42 56.3 +2.2
comp=Z,5.3nm,0.4s,SNR=13
MODS Modra-Piesok 9.24 331 *e*P Pn 18 42 58.8 +3.2
MODS Modra-Piesok 9.24 331 *e*PN Pn 18 42 58.8 +3.2
CONA Conrad Observa 9.46 325 *e*P Pn 18 43 00.0 +1.4
comp=Z,4.4nm,0.8s,SNR=4.9
MYKA Terra Mystica 9.70 313 *e*P Pn 18 43 04.3 +2.4
comp=Z,5.7nm,0.5s,SNR=5.9
ZOU Zoufplan 10.03 311 Pn 18 43 07.5 +0.9
KBA Koelnbreinsper 10.13 314 *i* P Pn 18 43 09.7 +1.8
comp=Z,2.3nm,0.4s,SNR=7.1
MOA Molln 10.15 320 *e*P Pn 18 43 10.3 +2.3
comp=Z,0.8nm,0.3s
OKC Ostrava-Krasne 10.24 338 AMS AMS 18 47 40.0
comp=Z,300nm,11.8s
TEOL Teolo 10.25 303 Pn 18 43 09.1 -0.3
VRAC Vranov 10.27 332 Pn Pn 18 43 07.4 -2.4
comp=Z,0.3nm,0.3s,baz=120,slow=15,SNR=1.5
VRAC LR LR 18 47 10.8
comp=Z,54nm,18.3s,baz=156,slow=38
ABTA Abfaltersbach 10.40 311 *e*P Pn 18 43 12.1 +0.5
comp=Z,4.6nm,0.6s
CTI Castel Tesino 10.56 306 P Pn 18 43 13.8 0.0
CTI Castel Tesino 10.56 306 Pn 18 43 13.8 0.0
TREC Trest 10.68 329 AMS AMS 18 47 30.0
comp=Z,300nm,9.6s
VLC Villacollemand 10.70 295 Pn Pn 18 43 15.3 -0.3
ANN Anapa 10.85 62 *e*P Pn 18 43 15.6 -1.9
ANN *e*S Sn 18 45 16.0 -2.8
ANN pmax pmax
comp=Z,15nm,0.8s
KRLC Kraliky 10.86 335 AMS AMS 18 47 50.0
comp=Z,200nm,10.2s
AKASG Malin Array Be 10.89 18 Pn Pn 18 43 17.3 -0.9
comp=Z,1.8nm,0.3s,baz=204,slow=11,SNR=8.9
AKASG Sn Sn 18 45 24.4 +4.5
comp=Z,0.5nm,0.3s,baz=194,slow=21,SNR=2.1
AKASG Lg Lg 18 46 30.0
comp=Z,0.3nm,0.3s,baz=196,slow=30,SNR=1.8
AKBB Malin Array Si 10.89 18 P Pn 18 43 17.4 -0.8
AKBB Malin Array Sn 10.89 18 Pn Pn 18 43 17.4 -0.8
GERES GERESS Array B 11.11 322 Pn Pn 18 43 22.7 +1.4
comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=8.5
GERES Sn Sn 18 45 26.7 +1.2
comp=Z,0.4nm,0.3s,baz=209,slow=30,SNR=6.6
GERES LR LR 18 48 04.5
comp=Z,106nm,18.8s,baz=164,slow=40
WTTA Wattenberg 11.19 312 *e*P Pn 18 43 26.8 +4.4
comp=Z,4.9nm,0.2s,SNR=17
DPC Dobruska-Polom 11.25 334 AMS AMS 18 48 00.0
comp=Z,300nm,8.7s
WATA Walderalm 11.26 312 *e*P Pn 18 43 26.4 +3.0
comp=Z,5.4nm,0.5s,SNR=6.0
MSSA Maissana 11.35 295 Pn Pn 18 43 26.1 +1.6
KHC Kasperske Hory 11.37 323 *e*P Pn 18 43 24.2 -0.6
KHC MLR MLR
comp=Z,300nm,11.5s
KHC Kasperske Hory 11.37 323 *e*PN Pn 18 43 24.2 -0.6
KHC AMS AMS 18 47 30.0
comp=Z,300nm,11.5s
SQTA Sankt Quirin 11.41 311 *e*P Pn 18 43 26.5 +1.1
comp=Z,2.1nm,0.4s
OSTC Ostas 11.46 334 AMS AMS 18 48 10.0
comp=Z,200nm,10.7s
UPC Upice 11.49 334 AMS AMS 18 48 10.0
comp=Z,200nm,8.4s
MOTA Moosalm 11.54 311 *e*P Pn 18 43 28.7 +1.6
comp=Z,1.5nm,0.2s
CHVC Chvalec 11.54 334 AMS AMS 18 48 20.0
comp=Z,200nm,10.9s
FETA Feichten 11.59 309 *e*P Pn 18 43 29.4 +1.5
comp=Z,2.6nm,0.7s
PRU Pruhonice 11.60 328 AMS AMS 18 48 00.0
comp=Z,300nm,9.2s
PRA Prague 11.71 328 AMS AMS 18 48 10.0
comp=Z,200nm,10.8s

MMAI Mount Meron Ar 11.81 125 Pn Pn 18 43 33.4 +2.5
comp=Z,0.5nm,0.3s,baz=321,slow=11,SNR=4.3
MMAI LR LR 18 48 51.2
comp=Z,57nm,18.6s,baz=340,slow=42
DAVOX Davos/Dischmat 11.99 306 Pn Pn 18 43 33.2 -0.1
comp=Z,0.6nm,0.3s,baz=156,slow=17,SNR=5.8
DAVOX LR LR 18 49 07.4
comp=Z,187nm,20.3s,baz=92,slow=42
TUE Stuetta 12.19 304 Pn 18 43 35.5 -0.6
DAVA Damuels 12.22 309 *e*P Pn 18 43 40.0 +3.4
comp=Z,0.8nm,0.2s
KEST Kesra 12.43 252 Pn Pn 18 43 40.4 +1.1
baz=81,slow=11,SNR=1.1
NKC Novy Kostel 12.68 324 AMS AMS 18 48 20.0
comp=Z,200nm,13.9s
BFO Black Forest 13.65 310 P Pn 18 43 55.8 -0.1
BFO Black Forest 13.65 310 Pn 18 43 55.8 -0.1
MNK Minsk 14.30 9 *i* P Pn 18 44 04.0 -0.8
MNK *i* S Sn 18 46 41.4 -1.9
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK Minsk 14.30 9 *i* P Pn 18 44 04.1 -0.7
MNK *i* P Pn 18 44 04.1 -0.7
comp=N,10.0nm,0.9s
MNK *i* P Pn 18 44 04.1 -0.7
comp=Z,5.0nm,0.7s,baz=192
MNK *i* PP PnPn 18 44 12.0 -0.6
MNK *i* S Sn 18 46 41.4 -1.8
MNK *i* SS SnSn 18 46 57.8 +2.1
MNK *i* LR LR 18 49 21.7
KIV Kislovodsk 14.32 70 *e*P P 18 44 08.1 -4.3
KIV pmax pmax
comp=Z,3.0nm,1.1s
KIV MLR MLR
comp=Z,21nm,12.0s
KLNR Kaliningrad 14.38 351 *i* P P 18 44 10.1 -2.7
KLNR pmax pmax
comp=Z,24nm,0.2s
KBZ Khabaz 14.45 71 Pn Pn 18 44 18.5 +4.9
comp=Z,0.1nm,0.3s,baz=302,slow=9.5,SNR=2.3
OBN Obninsk 16.90 26 Pn Pn 18 44 38.4 -0.3
comp=Z,1.4nm,0.3s,baz=59,slow=23,SNR=3.9
OBN Obninsk 16.90 26⇓*e*P P 18 44 39.0 -1.8
OBN *e*S Sn 18 47 50.3 +3.9
OBN pmax pmax
comp=Z,31nm,1.4s
OBN MLR MLR
comp=Z,56nm,17.0s
MOS Moscow 17.76 26 *e*P P 18 44 53.7 +3.4
MOS *e* 18 48 09.9
MOS pmax pmax
comp=Z,49nm,1.2s
VSU Vasula 18.12 5 *i* P P 18 44 57.5 +3.4
VSU pmax pmax
comp=Z,28nm,1.0s
BELG Belogornoye 20.12 46 P Pn 18 45 17.4 -0.6
comp=Z,8.7nm,0.9s,baz=44,slow=14,SNR=3.7
BELG LR LR 18 52 51.7
comp=Z,42nm,21.6s,baz=329,slow=36
BELG Belogornoye 20.12 46 *i* P Pn 18 45 17.3 -0.7
BELG pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 20.72 345 P Pn 18 45 23.5 -1.4
comp=Z,3.0nm,1.0s,baz=163,slow=17,SNR=1.4
HFS LR LR 18 54 29.0
comp=Z,27nm,18.3s,baz=160,slow=40
FINES FINESS Array B 21.06 3 P P 18 45 25.7 -0.6
comp=Z,1.0nm,0.6s,baz=229,slow=12,SNR=1.2
FINES LR LR 18 54 30.1
comp=Z,56nm,21.4s,baz=182,slow=39
ESDC Sonseca Array 21.34 277 P P 18 45 31.8 +2.2
comp=Z,1.4nm,0.6s,baz=71,slow=9.5,SNR=9.9
ESDC LR LR 18 55 29.8
comp=Z,45nm,18.4s,baz=125,slow=42
ESDC Sonseca Array 21.34 277 IAmb IAmb 18 45 33.5
comp=Z,1.2nm,1.0s
NB2 NORSAR Subarra 22.05 343 P P 18 45 37.0 0.0
comp=Z,9.9nm,1.0s,baz=151,slow=11
NOA NORSAR Array B 22.05 343 P P 18 45 36.8 -0.2
comp=Z,4.8nm,0.9s,baz=153,slow=10,SNR=5.9
NOA LR LR 18 54 32.2
comp=Z,33nm,19.0s,baz=150,slow=38
KLMR Klimovskoe 22.57 20 *e*P P 18 45 40.3 -2.2
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 22.57 20 *e*P P 18 45 40.4 -2.1
KLMR AMP 18 45 48.1
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 23.29 319 P P 18 45 49.5 -0.5
comp=Z,1.1nm,0.7s,baz=105,slow=9.6,SNR=5.9
MDT Midelt 24.07 261 P P 18 45 56.8 -1.1
comp=Z,1.2nm,0.7s,baz=0.0,slow=9.1,SNR=2.3
KIRV Kirov 24.30 33 P P 18 46 01.1 +1.5
comp=Z,6.9nm,0.6s,baz=135,slow=4.3,SNR=1.5
KIRV Kirov 24.30 33 *ce*P P 18 46 02.7 +3.1
PRGR Permogore 24.98 25 *e*P P 18 46 03.2 -2.5
PRGR pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 25.70 56 P P 18 46 15.1 +2.7
comp=Z,1.0nm,0.5s,baz=259,slow=5.2,SNR=2.2
AKTO LR LR 18 58 35.0
comp=Z,29nm,19.6s,baz=283,slow=42
GEYT Alibeck 26.51 84 P P 18 46 24.9 +5.0
comp=Z,23nm,0.5s,baz=235,slow=18,SNR=2.1
GEYT LR LR 18 59 01.2
comp=Z,43nm,18.4s,baz=65,slow=42
ARU Arti 27.59 43 P P 18 46 29.2 -0.2
comp=Z,0.2nm,0.3s,baz=330,slow=20,SNR=1.4
ARU LR LR 18 57 46.3
comp=Z,51nm,18.2s,baz=246,slow=37
ARU Arti 27.59 43 *d* *i*P P 18 46 38.7 +9.3
ARU 18 47 22.7
ARU SS SS 18 52 41.3 -25
ARU pmax pmax
comp=Z,6.0nm,1.3s
ARU Arti 27.59 43 P P 18 46 28.8 -0.6
ARU IAmb IAmb 18 46 57.9
comp=Z,9.7nm,1.4s
ARCES ARCESS Array B 29.16 1 P P 18 46 44.7 +1.5
comp=Z,2.8nm,0.9s,baz=195,slow=10,SNR=4.1
ARCES LR LR 18 58 37.4
comp=Z,71nm,18.1s,baz=265,slow=37
TORD Torodi Ar. Bea 33.48 222 P P 18 47 22.2 +0.4
comp=Z,1.0nm,0.7s,baz=29,slow=9.3,SNR=4.4
TORD Torodi Ar. Bea 33.48 222 IAmb IAmb 18 47 37.2
comp=Z,1.3nm,1.0s
BRVK Borovoye 33.56 52 *i* P P 18 47 23.8 +1.6
BRVK pmax pmax
comp=Z,2.0nm,1.1s
BORG Borgarnes 35.49 328 P P 18 47 39.2 +0.5
comp=Z,7.3nm,1.0s,baz=46,slow=11,SNR=3.2
BORG Borgarnes 35.49 328 IAmb IAmb 18 47 41.1
comp=Z,37nm,1.4s
NIL Nilore 39.51 84 P P 18 48 12.5 -0.7
NIL pmax pmax
comp=Z,9.0nm,1.0s
NIL Nilore 39.51 84 P P 18 48 12.5 -0.7
NIL IAmb IAmb 18 48 14.4
comp=Z,9.1nm,1.0s
MKAR Makanchi Array 41.87 61 P P 18 48 34.3 +1.8
comp=Z,0.9nm,0.7s,baz=274,slow=7.3,SNR=9.9
MKAR Makanchi Array 41.87 61 P P 18 48 32.3 -0.1
MKAR Makanchi Array 41.87 61 P P 18 48 32.3 -0.1
ZAA0 Zalesovo Array 42.20 50 P P 18 48 33.1 -1.9
ZAA0 IAmb IAmb 18 48 42.8
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 42.20 50 P P 18 48 35.3 +0.3
comp=Z,3.1nm,0.7s,baz=273,slow=8.8,SNR=8.1
ZALV Zalesovo Beam 42.20 50 *i* P P 18 48 38.0 +3.0
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV Zalesovo Beam 42.20 50 P P 18 48 33.1 -1.9
SUMG Summit 43.72 337 *i* P 18 48 57.4 +10
WMQ Urumqi 46.35 64 *e*P P 18 49 09.8 +1.3
SONM Songino Array 56.97 53 P P 18 50 28.8 +1.0
comp=Z,0.1nm,0.3s,baz=302,slow=2.7,SNR=1.6
HHC Hu-ho-hao-te 63.57 58 *e*P P 18 51 13.3 +0.2
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,47nm,6.6s
CMAR Chiang Mai Arr 66.99 85 P P 18 51 34.2 -1.3
comp=Z,0.8nm,0.8s,baz=316,slow=6.4,SNR=3.6
BOSA Boshof 68.72 179 LR LR 19 24 13.0

comp=Z,48nm,18.3s,baz=7.5,slow=38
INK Inuvik 70.25 351 LR LR 19 26 13.1
comp=Z,36nm,18.8s,baz=182,slow=39
KLR Kul'dur 70.42 41 *i* P P 18 52 01.0 +4.6
KLR pmax pmax
comp=Z,2.0nm,1.3s
MA2 Magadan 71.12 26 LR LR 19 26 51.9
comp=Z,30nm,18.5s,baz=82,slow=39
IMAR Indian Mountai 73.88 359 P **P** **18 52 18.1 +1.2**
V61A Roper 74.75 304 P **P** **18 52 22.8 +0.4**
ILAR Eielson Array 74.87 356 P **P** **18 52 24.2 +1.5**
comp=Z,0.2nm,0.7s,baz=18,slow=3.2,SNR=2.2
KSRS Korea Array 75.84 53 P **P** **18 52 30.1 +1.4**
comp=Z,0.3nm,0.5s,baz=230,slow=18,SNR=1.5
KSRS LR LR 19 29 23.0
comp=Z,23nm,18.3s,baz=320,slow=38

*NEIC **26** 18:44:39.7±2.4, 56°.13S±0°.08×27°.6W±0°.2, h106km±6km, mb4.6/35, Error ellipse: s-maj=15.2km s-min=10.0km az=64.0*
*IDC **26** 18:44:42.6±2.6, 56°.17S×27°.51W, h132km±23km, mb4.1/10, mb1 4.2/12, mb1mx4.0/24, mbtmp4.6/12, MS3.2/4, Ms1 3.2/4, ms1mx2.9/17, Error ellipse: s-maj=17.7km s-min=14.5km az=57.0*
ISC 26 18:44:39.8±0.4, 56°.18S±0°.07×27°.63W±0°.08, h112km, n105, σ1§14/108, mb4.5/24, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.42**	**287**		**Pn**	**18 45 58.8**	**+0.7**
VNA1	**Neumayer--Stat**	**16.76**	**157**	P	**P**	**18 48 28.2**	**+0.5**
VNA1				S	**S**	**18 51 43.2**	**+6.7**
VNA3	**Neumayer Olymp**	**16.95**	**160**	P	**Pn**	**18 48 29.7**	**0.0**
VNA2	**Neumayer--Watz**	**17.16**	**157**	P	**P**	**18 48 32.1**	**0.0**
baz=313,slow=13							
VNA2				S	**Sn**	**18 51 40.9**	**-2.1**
EFI	**East Falkland**	**18.39**	**271**	P	**P**	**18 48 45.2**	**-0.6**
EFI				IAmb	IAmb	18 48 51.5	
comp=Z,38nm,1.1s							
SNAA	**Sanae**	**18.72**	**156**	P	**P**	**18 48 49.3**	**-0.1**
SNAA	**Sanae**	**18.72**	**156**	P	**P**	**18 48 49.3**	**-0.1**
comp=Z,6.3nm,0.3s,baz=304,slow=10,SNR=215							
SNAA				S	**S**	**18 52 10.2**	**-6.0**
comp=Z,0.1nm,0.3s,baz=172,slow=23,SNR=1.7							
SNAA	**Sanae**	**18.72**	**156**	P	**P**	**18 48 49.2**	**-0.1**
PMSA	**Palmer Station**	**19.63**	**229**	P	**Pn**	**18 49 01.4**	**-0.1**
comp=Z,6.5nm,0.3s,baz=78,slow=6.8,SNR=81							
PMSA				LR	LR	18 54 37.5	
comp=Z,53nm,19.6s,baz=69,slow=30							
PMSA	**Palmer Station**	**19.63**	**229**	P	**Pn**	**18 49 00.9**	**-0.6**
BELA	**Belgrano 2**	**21.93**	**184**	P	**P**	**18 49 22.8**	**-0.9**
MG02	**Cerro Sombrero**	**24.14**	**260**	P	**P**	**18 49 44.9**	**-0.1**
GO09	**Cerro Castillo**	**26.53**	**262**	P	**P**	**18 50 05.3**	**-1.4**
PLTB	**Pedras Altas**	**30.41**	**313**	P	**P**	**18 50 41.4**	**+0.1**
PLTB				IAmb	IAmb	18 50 42.8	
comp=Z,6.7nm,0.9s							
QSPA	**South Pole Qui**	**34.07**	**180**	P	**P**	**18 51 14.0**	**+1.0**
GO05	**Huala**	**36.68**	**286**	P	**P**	**18 51 34.2**	**-1.4**
GO05				IAmb	IAmb	18 51 41.3	
comp=Z,10nm,1.1s							
CPUP	**Villa Florida**	**36.72**	**312**	P	**P**	**18 51 36.0**	**+0.1**
comp=Z,1.5nm,0.5s,baz=181,slow=6.8,SNR=4.1							
CPUP				LR	LR	19 07 17.2	
comp=Z,27nm,18.0s,baz=12,slow=37							
CPUP	**Villa Florida**	**36.72**	**312**	P	**P**	**18 51 34.1**	**-1.9**
MT09	**Talagante**	**37.12**	**289**	P	**P**	**18 51 38.1**	**-1.4**
MT09				IAmb	IAmb	18 51 51.3	
comp=Z,8.2nm,1.1s							
MT01	**Popeta**	**37.19**	**288**	P	**P**	**18 51 38.6**	**-1.3**
CO03	**El Pedregal**	**39.26**	**292**	P	**P**	**18 51 56.7**	**-0.7**
MAW	**Mawson**	**40.19**	**144**	P	**P**	**18 52 04.9**	**+0.5**
comp=Z,3.0nm,0.4s,baz=238,slow=8.3,SNR=13							
MAW				PcP	**PcP**	**18 54 06.9**	**+0.7**
comp=Z,1.7nm,0.5s,baz=256,slow=7.1,SNR=4.4							
MAW	**Mawson**	**40.19**	**144**	P	**P**	**18 52 04.6**	**+0.2**
SUR	**Sutherland**	**40.91**	**75**	P	**P**	**18 52 11.4**	**+0.3**
comp=Z,2.1nm,0.9s,baz=142,slow=19,SNR=0.8							
SUR	**Sutherland**	**40.91**	**75**	P	**P**	**18 52 10.9**	**-0.2**
AC02	**Maricunga**	**41.72**	**297**	P	**P**	**18 52 18.9**	**+0.8**
AC02				IAmb	IAmb	18 52 19.8	
comp=Z,10nm,0.9s							
GO02	**Mina Guanaco**	**43.34**	**298**	P	**P**	**18 52 31.3**	**+0.3**
PB14	**IPOC Station P**	**44.19**	**298**	P	**P**	**18 52 36.5**	**-1.3**
PB14				IAmb	IAmb	18 52 44.8	
comp=Z,9.0nm,1.1s							
LVC	**Limon Verde**	**45.16**	**301**	P	**P**	**18 52 46.6**	**+1.1**
LVC				IAmb	IAmb	18 52 49.2	
comp=Z,14nm,1.0s							
PB10	**IPOC Station P**	**45.20**	**298**	P	**P**	**18 52 45.5**	**+0.1**
SBA	**Scott Base**	**45.93**	**184**	P	**P**	**18 52 51.1**	**+0.6**
SBA				IAmb	IAmb	18 52 53.3	
comp=Z,14nm,1.1s							
BOSA	**Boshof**	**46.24**	**76**	P	**P**	**18 52 53.6**	**-0.1**
comp=Z,3.7nm,0.8s,baz=191,slow=5.7,SNR=6.0							
BOSA	**Boshof**	**46.24**	**76**	P	**P**	**18 52 53.4**	**-0.4**
VNDA	**Vanda**	**46.43**	**183**	P	**P**	**18 52 55.7**	**+1.2**
comp=Z,9.9nm,0.7s,baz=190,slow=6.3,SNR=60							
VNDA				LR	LR	19 11 27.4	
comp=Z,18nm,18.1s,baz=346,slow=35							
VNDA	**Vanda**	**46.43**	**183**	P	**P**	**18 52 55.7**	**+1.2**
VNDA				IAmb	IAmb	18 52 56.7	
comp=Z,11nm,0.8s							
PB01	**IPOC Station P**	**46.77**	**301**	P	**P**	**18 52 58.6**	**+0.7**
PB01				IAmb	IAmb	18 52 59.9	
comp=Z,11nm,0.7s							
PB08	**IPOC Station P**	**47.38**	**302**	P	**P**	**18 53 02.6**	**-0.4**
PB08				IAmb	IAmb	18 53 04.7	
comp=Z,6.9nm,0.5s							
PB11	**IPOC Station P**	**47.95**	**302**	P	**P**	**18 53 07.3**	**+0.2**
PB11				IAmb	IAmb	18 53 09.2	
comp=Z,11nm,0.9s							
PSGCX	**Pisagua**	**48.31**	**301**	P	**P**	**18 53 09.9**	**+0.1**
PSGCX				IAmb	IAmb	18 53 11.6	
comp=Z,8.0nm,1.0s							
MNMC	**Minye Minye**	**48.46**	**302**	P	**P**	**18 53 12.1**	**+0.9**
LBTB	**Lobatse**	**49.28**	**74**	P	**P**	**18 53 17.2**	**0.0**
LBTB				IAmb	IAmb	18 53 18.2	
comp=Z,4.8nm,0.8s							
H10N1	**ASCENSION HYDR**	**49.32**	**17**	T	T	19 47 21.6	
baz=188,slow=76,SNR=1.4							
H10N3	**ASCENSION HYDR**	**49.32**	**17**	T	T	19 46 59.5	
baz=188,slow=76,SNR=4.8							
H10N2	**ASCENSION HYDR**	**49.33**	**17**	T	T	19 47 23.3	
baz=188,slow=76,SNR=2.7							
LPAZ	**La Paz**	**50.26**	**306**	P	**P**	**18 53 26.3**	**+1.0**
comp=Z,6.1nm,0.3s,baz=97,slow=4.7,SNR=52							
LPAZ				PcP	**PcP**	**18 54 43.8**	**+1.1**
comp=Z,1.7nm,0.5s,baz=125,slow=2.5,SNR=2.4							
LPAZ	**La Paz**	**50.26**	**306**	P	**P**	**18 53 26.2**	**+1.0**
LPAZ				IAmb	IAmb	18 53 27.0	
comp=Z,6.8nm,0.8s							
LPAZ					**PcP**	**18 54 43.9**	**+1.3**
SAML	**Samuel**	**54.73**	**315**	P	**P**	**18 53 57.1**	**-0.3**
SAML				IAmb	IAmb	18 53 58.4	
comp=Z,4.9nm,1.1s							
DBIC	**Dimbokro**	**65.39**	**25**	P	**P**	**18 55 09.8**	**-0.4**
OTAV	**Otavalo**	**69.53**	**304**	P	**P**	**18 55 37.3**	**+0.4**
OTAV				IAmb	IAmb	18 55 39.8	
comp=Z,4.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P	**P**	**18 56 00.0**	**+1.2**
comp=Z,3.1nm,0.5s,baz=202,slow=6.4,SNR=28							
TORD				LR	LR	19 24 52.3	
comp=Z,26nm,18.0s,baz=155,slow=33							
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P	**P**	**18 55 59.7**	**+0.9**
MDT	**Midelt**	**90.79**	**19**	P	**P**	**18 57 29.5**	**-0.4**
comp=Z,1.9nm,0.8s,baz=262,slow=1.4,SNR=2.7							
STKA	**Stephens Creek**	**91.81**	**171**	P	**P**	**18 57 35.7**	**+0.8**
comp=Z,1.0nm,0.5s,baz=338,slow=2.8,SNR=3.3							
ASAR	**Alice Springs**	**98.93**	**163**	P	**P**	**18 58 06.8**	**-0.6**
comp=Z,1.4nm,0.9s,baz=192,slow=4.3,SNR=13							
WRA	**Warramunga Arr**	**102.65**	**163**	P	**Pdif**	**18 58 23.5**	**-0.6**
comp=Z,0.8nm,1.0s,baz=200,slow=4.7,SNR=2.4							
NVAR	**Mina Array Bea**	**121.22**	**293**	PKP	**PKPdf**	**19 03 19.1**	**+0.1**
comp=Z,0.5nm,0.7s,baz=163,slow=4.4,SNR=3.8							
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**19 03 24.2**	**-0.2**
comp=Z,2.2nm,0.8s,baz=225,slow=4.9,SNR=7.0							
CMAR	**Chiang Mai Arr**	**125.25**	**111**	PKP	**PKPdf**	**19 03 27.6**	**+0.5**
comp=Z,0.5nm,0.6s,baz=201,slow=4.8,SNR=2.9							
ARCES	**ARCESS Array B**	**131.16**	**22**	PKP	**PKPdf**	**19 03 35.9**	**-0.8**
comp=Z,1.3nm,0.6s,baz=228,slow=1.5,SNR=8.9							
ARCES	**ARCESS Array B**	**131.16**	**22**		**PKPdf**	**19 03 36.6**	**-0.1**
MKAR	**Makanchi Array**	**137.16**	**72**	PKP	**PKPdf**	**19 03 48.3**	**-0.4**
comp=Z,0.3nm,0.5s,baz=202,slow=1.6,SNR=5.8							
MKAR				SKPbc	**SKPbc**	**19 07 08.2**	**-3.1**
comp=Z,0.3nm,0.7s,baz=249,slow=1.2,SNR=2.7							
MKAR	**Makanchi Array**	**137.16**	**72**		**PKiKP**	**19 03 50.6**	**0.0**
KURBB	**Kurchatov Arra**	**137.58**	**65**	PKP	**PKPdf**	**19 03 47.9**	**-1.4**
comp=Z,0.2nm,0.4s,baz=249,slow=2.6,SNR=1.8							
ZALV	**Zalesovo Beam**	**142.65**	**64**	PKhKP	PKPpre	19 03 53.6	
comp=Z,0.5nm,0.3s,baz=227,slow=4.4,SNR=4.2							
INK	**Inuvik**	**145.75**	**321**	P	**PKPbc**	**19 04 04.2**	**+0.2**
baz=107							
EPYK	**Eagle Plains**	**146.35**	**317**	P	**PKPbc**	**19 04 05.9**	**-0.1**
baz=108							
CTG	**Chitna Glacier**	**146.45**	**306**	P	**PKPbc**	**19 04 07.0**	**+0.4**
baz=112							
L27K	**Beaver Creek,**	**147.41**	**310**	P	**PKPbc**	**19 04 09.1**	**0.0**
baz=109							
K27K	**Chicken**	**147.81**	**311**	P	**PKPbc**	**19 04 10.7**	**+0.6**
baz=107							
BMRM	**Bremner River**	**147.94**	**305**	P	**PKPbc**	**19 04 11.0**	**+0.5**
baz=110							
L26K	**Log Cabin Wild**	**148.05**	**309**	P	**PKPbc**	**19 04 11.0**	**+0.3**
baz=108							
BTO	**Baotou**	**148.44**	**101**	*e*PKPbc	**PKPbc**	**19 04 12.5**	**-0.1**
SCRK	**Sand Creek**	**148.60**	**311**	P	**PKPbc**	**19 04 12.6**	**+0.4**
baz=106							
KLU	**Klutina**	**148.72**	**306**	P	**PKiKP**	**19 04 13.5**	**-0.4**
baz=108,SNR=5.6							
RIDG	**Independent Ri**	**148.91**	**310**	P	**PKPbc**	**19 04 13.7**	**+0.8**
baz=106							
M24K	**Tolsona, Glenn**	**149.02**	**307**	P	**PKPbc**	**19 04 13.8**	**+0.5**
baz=107							
PRP	**Porcupine Dome**	**149.62**	**313**	P	**PKPbc**	**19 04 14.7**	**0.0**
baz=102							
WAT6	**Susitna Watana**	**149.86**	**307**	P	**PKPbc**	**19 04 15.9**	**+0.4**
baz=106,SNR=12							
SML	**Sawmill**	**149.91**	**305**	P	**PKPbc**	**19 04 15.8**	**+0.3**
baz=106							
SEW	**Seward**	**149.91**	**302**	P	**PKiKP**	**19 04 16.2**	**-0.1**
baz=109							
HDA	**Harding Lake**	**149.97**	**311**	P	**PKPbc**	**19 04 15.9**	**+0.5**
baz=103							
ILAR	**Eielson Array**	**150.02**	**312**	PKPbc	**PKPbc**	**19 04 15.4**	**-0.1**
comp=Z,7.7nm,0.8s,baz=135,slow=1.8,SNR=56							
ILAR	**Eielson Array**	**150.02**	**312**		**PKiKP**	**19 04 16.5**	**+0.1**
WAT1	**Susitna Watana**	**150.28**	**307**	P	**PKPbc**	**19 04 16.7**	**+0.4**
baz=105							
POKR	**Poker Plat Res**	**150.32**	**312**	P	**PKPbc**	**19 04 15.9**	**-0.4**
baz=102							
RC01	**Rabbit Creek A**	**150.35**	**304**	P	**PKPbc**	**19 04 17.1**	**+0.6**
baz=107							
BRSE	**Bradley Lake S**	**150.41**	**301**	P	**PKPbc**	**19 04 17.1**	**+0.4**
baz=108							
H24K	**Noodor Dome**	**150.64**	**314**	P	**PKPbc**	**19 04 17.4**	**+0.3**
baz=100,SNR=7.8							
KDAK	**Kodiak Island**	**150.66**	**296**	P	**PKPbc**	**19 04 17.8**	**+0.5**
baz=111							
MCK	**McKinley**	**150.67**	**309**	P	**PKiKP**	**19 04 17.9**	**+0.1**
baz=103,SNR=7.2							
NEA2	**Nenana**	**150.90**	**311**	P	**PKPbc**	**19 04 17.4**	**-0.2**
baz=101,SNR=9.7							
SONM	**Songino Array**	**150.98**	**87**	PKPbc	**PKPbc**	**19 04 18.4**	**-0.1**
comp=Z,4.0nm,0.7s,baz=217,slow=3.7,SNR=22							
SONM	**Songino Array**	**150.98**	**87**		**PKPbc**	**19 04 18.8**	**+0.2**
I23K	**Minto, Yukon-K**	**151.13**	**312**	P	**PKPbc**	**19 04 17.9**	**-0.3**
baz=100							
TRF	**Thorofare Moun**	**151.20**	**308**	P	**PKPbc**	**19 04 18.8**	**+0.2**
baz=102,SNR=6.3							
SKT	**Skwentna**	**151.42**	**305**	P	**PKPbc**	**19 04 19.4**	**+0.5**
baz=104							
TOLK	**Toolik Lake Re**	**151.62**	**319**	P	**PKPbc**	**19 04 19.6**	**+0.3**
baz=93,SNR=17							
BPAW	**Bear Paw Mtn.**	**151.63**	**309**	P	**PKPbc**	**19 04 19.3**	**-0.1**
baz=101,SNR=21							
MLY	**Manley**	**151.69**	**311**	P	**PKPbc**	**19 04 19.6**	**0.0**
baz=99							
PPLA	**Pueyepile**	**151.92**	**307**	P	**PKPbc**	**19 04 20.1**	**-0.2**
baz=102							
M20K	**Styx River**	**152.13**	**304**	P	**PKPbc**	**19 04 20.2**	**-0.4**
baz=103							
N19K	**Bonanza Creek**	**152.51**	**302**	P	**PKPbc**	**19 04 21.1**	**-0.5**
baz=104							
O18K	**Koktuh Hills**	**152.60**	**300**	P	**PKPbc**	**19 04 21.3**	**-0.4**
baz=106							
K20K	**Telida**	**152.85**	**307**	P	**PKPbc**	**19 04 22.0**	**-0.1**
baz=100							
J20K	**Nowinta River**	**153.01**	**309**	P	**PKPbc**	**19 04 22.5**	**+0.1**
baz=98							

*SOME **26** 18:54:46.6, 39°.05N×74°.90E, h0km*
*NNC **26** 18:54:48.5±2.1, 39°.08N×74°.89E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=14.9km s-min=8.5km az=178.0*
ISC 26 18:54:50.3±2.5, 39°.2N±0°.1×74°.94E±0°.06, h10km, n17, σ2§64/25, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.77**	**340**	*e*P	**Pb**	**18 55 58.0**	**+1.0**
3.1nm,0.2s							
MRKS				*e*S	**Sg**	**18 56 49.3**	**-2.2**
7.8nm,0.6s							
MRKS	**Merke**	**3.77**	**340**	Pg	**Pb**	**18 55 58.0**	**+1.0**
3.1nm,0.2s							
MRKS				Lg	Lg	18 56 49.5	
7.8nm,0.6s							
KST	**Kastek**	**3.92**	**11**	*e*P	**Pg**	**18 56 01.6**	**-3.7**
2.9nm,0.3s							
KST				*e*S	**Sg**	**18 56 55.2**	**-1.0**
9.5nm,0.7s							
KST	**Kastek**	**3.92**	**11**	Pg	**Pg**	**18 56 01.6**	**-3.7**
2.9nm,0.3s							
KST				Lg	Lg	18 56 55.2	
9.5nm,0.7s							
DGS	**Degeres**	**4.09**	**9**	*e*P	**Pg**	**18 56 07.3**	**-1.3**
DGS				*e*S	**Sg**	**18 57 05.0**	**+3.3**
DGS	**Degeres**	**4.09**	**9**	Pg	**Pg**	**18 56 07.3**	**-1.3**
DGS				Lg	Lg	18 57 05.0	
SGDS	**Sogindy**	**4.26**	**357**	Pg	**Pg**	**18 56 09.6**	**-2.3**
1.5nm,0.4s							
SGDS				Lg	Lg	18 57 08.5	
4.1nm,0.7s							
KRBS	**Karabastau**	**4.53**	**7**	*e*P	**Pg**	**18 56 14.4**	**-2.7**
1.8nm,0.5s							
KRBS				*e*S	**Sg**	**18 57 17.0**	**+1.3**
2.9nm,0.3s							
KRBS	**Karabastau**	**4.53**	**7**	Pg	**Pg**	**18 56 14.4**	**-2.7**
1.8nm,0.5s							
KRBS				Lg	Lg	18 57 17.0	
2.9nm,0.3s							
SATY	**Saty**	**4.67**	**33**	*e*P	**Pg**	**18 56 16.0**	**-3.6**
4.0nm,0.4s							
SATY				*e*S	**Sg**	**18 57 20.3**	**+0.3**
9.5nm,0.5s							
SATY	**Saty**	**4.67**	**33**	Pg	**Pg**	**18 56 16.0**	**-3.6**
4.0nm,0.4s							
SATY				Lg	Lg	18 57 20.3	
9.5nm,0.5s							
KTBS	**Karatobe**	**4.70**	**16**	*e*P	**Pg**	**18 56 16.8**	**-3.5**
3.5nm,0.5s							
KTBS				*e*S	**Sg**	**18 57 21.7**	**+0.6**
7.7nm,1.0s							
KTBS	**Karatobe**	**4.70**	**16**	Pg	**Pg**	**18 56 16.8**	**-3.5**
3.5nm,0.5s							
KTBS				Lg	Lg	18 57 21.7	
7.7nm,1.0s							
KPKS	**Kokpek**	**5.12**	**32**	*e*P	**Pg**	**18 56 24.9**	**-3.3**
5.7nm,0.3s							
KPKS				*e*S	**Sg**	**18 57 35.4**	**+1.0**
12nm,0.5s							
KK31	**Karatay Array**	**5.14**	**321**	⇑Pn	**Pn**	**18 56 07.7**	**+0.4**
0.2nm,0.3s,baz=140,slow=16,SNR=5.3							
KK31				⇑Pg	Pg	18 56 22.7	-6.0
1.4nm,0.6s,baz=144,slow=17,SNR=4.5							
KK31				⇑Sn	**Sn**	**18 57 09.2**	**+2.5**
1.0nm,0.5s							
KK31				⇑Lg	Lg	18 57 34.9	
3.7nm,0.8s							
PDGK	**Podgornoye**	**5.37**	**38**	Pg	**Pb**	**18 56 27.0**	**+2.8**
1.1nm,0.5s							
PDGK				Lg	Lg	18 57 39.2	
2.8nm,0.9s							
PDGK	**Podgornoye**	**5.37**	**38**	⇑Pg	**Pb**	**18 56 26.7**	**+2.4**
3.7nm,0.9s							
PDGK				⇓Lg	Lg	18 57 40.2	
7.7nm,0.8s							

*DJA **26** 19:01:35.3±0.7, 3°N±4°×12°8E±°, h40km±10km, M4.2/15, mB4.9/6, mb4.3/15, MLv4.2/10, Mw(mB)4.2/6*
*IDC **26** 19:01:36.1±2.4, 3°.12N×128°.45E, h70km±21km, mb3.5/12, mb1 3.6/13, mb1mx3.5/33, mbtmp3.7/13, Error ellipse: s-maj=41.5km s-min=11.3km az=77.0*
ISC 26 19:01:33.9±0.6, 3°.31N±0°.06×128°.60E±0°.07, h45km, n36, σ1§82/39, mb3.9/12, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.81**	**206**	P	**Pn**	**19 02 17.2**	**+0.9**
TNTI				S	**Sn**	**19 02 52.0**	**+3.1**
SGSI	**Sangihe**	**3.09**	**277**	P	**Pn**	**19 02 20.4**	**+0.2**
SGSI				S	**Sn**	**19 02 54.6**	**-1.4**
SWI	**Sorong**	**4.92**	**147**	P	**Pn**	**19 02 48.7**	**+3.3**
0.1nm19nm,0.8s							
SIJI	**Sorong**	**4.93**	**147**	P	**Pn**	**19 02 47.9**	**+2.4**
3.0nm,0.3s,baz=110,slow=13,SNR=43							
SIJI				S	**Sn**	**19 03 39.0**	**-2.3**
2.3nm,0.3s,baz=194,slow=22,SNR=7.9							
SANI	**Sanana**	**5.93**	**206**	P	**Pn**	**19 02 59.5**	**+0.3**
0.2nm1000nm42nm,0.8s							
GTOI	**Gorontalo**	**6.19**	**245**	P	**Pn**	**19 03 03.2**	**+0.5**
0.2nm690nm49nm,0.6s							
NLAI	**Namlea**	**6.67**	**193**	P	**Pn**	**19 03 11.8**	**+2.4**
0.1nm1μm14nm,0.6s							
FAKI	**Fak Fak**	**7.18**	**149**	P	**Pn**	**19 03 19.4**	**+3.0**
0.1nm14nm,1.2s							
APSI	**Ampana**	**8.12**	**239**	P	**Pn**	**19 03 29.2**	**0.0**
0.1nm462nm25nm,1.4s							
MPSI	**Mapaga**	**9.19**	**251**	P	**Pn**	**19 03 45.0**	**+1.1**
15nm,0.7s							
TTSI	**Tana Toraja**	**10.81**	**234**	P	**Pn**	**19 04 05.2**	**-1.0**
18nm,0.9s							
BNSI	**Bone**	**11.43**	**228**	P	**Pn**	**19 04 13.7**	**-1.0**
14nm,0.8s							
BKSI	**Bulukumba**	**12.05**	**225**	P	**Pn**	**19 04 22.7**	**-0.4**
12nm,1.4s							
BSSI	**Bau Bau, Buton**	**12.40**	**221**	P	**Pn**	**19 04 28.7**	**+0.8**
24nm,1.3s							
SOEI	**Soe**	**13.68**	**198**	P	**Pn**	**19 04 47.5**	**+2.1**
EDFI	**Ende, Flores**	**13.82**	**210**	P	**Pn**	**19 04 50.3**	**+2.9**
8.3nm,0.9s							
BATI	**Baumata**	**14.30**	**200**	P	**Pn**	**19 04 54.8**	**+1.0**
15nm,1.5s							
WBSI	**Waikabubak, Su**	**15.80**	**215**	P	**Pn**	**19 05 13.7**	**+0.2**
31nm,1.1s							
PLAI	**Plampang**	**16.18**	**222**	P	**P**	**19 05 20.8**	**-0.1**
31nm,0.9s							
TWSI	**Taliwang, Sumb**	**16.73**	**224**	P	**P**	**19 05 28.6**	**+1.7**
15nm,1.1s							
WRA	**Warramunga Arr**	**23.78**	**167**	P	**P**	**19 06 41.0**	**-1.6**
0.4nm,0.4s,baz=344,slow=10,SNR=9.5							
WRA				S	**S**	**19 10 52.8**	**-2.4**
0.8nm,0.9s,baz=348,slow=18,SNR=3.0							
ASAR	**Alice Springs**	**27.30**	**169**	P	**P**	**19 07 12.3**	**-2.2**
0.2nm,0.3s,baz=350,slow=7.9,SNR=7.4							
ASAR				PcP	**PcP**	**19 10 31.4**	**-2.0**
0.2nm,0.6s,baz=357,slow=1.9,SNR=4.4							
ASAR				ScP	**ScP**	**19 14 06.0**	**-4.4**
0.2nm,0.7s,baz=348,slow=3.3,SNR=4.5							
KSRS	**Korea Array**	**33.99**	**359**	P	**P**	**19 08 14.6**	**+1.3**
0.4nm,0.5s,baz=179,slow=9.5,SNR=2.7							
MJAR	**Matsushiro Arr**	**34.24**	**14**	P	**P**	**19 08 16.4**	**+0.9**
0.4nm,0.5s,baz=184,slow=8.4,SNR=2.2							
STKA	**Stephens Creek**	**37.11**	**162**	P	**P**	**19 08 38.2**	**-1.9**
1.0nm,0.4s,baz=332,slow=15,SNR=2.1							
H11S3	**WAKE ISLAND Hy**	**40.20**	**65**	T	T	19 52 34.5	
baz=253,slow=75,SNR=8.8							
H11S2	**WAKE ISLAND Hy**	**40.22**	**65**	T	T	19 52 22.3	
baz=253,slow=75,SNR=10.0							
H11S1	**WAKE ISLAND Hy**	**40.22**	**65**	T	T	19 52 21.6	
baz=253,slow=75,SNR=7.4							
H11N2	**WAKE ISLAND Hy**	**40.77**	**63**	T	T	19 52 06.8	
SNR=5.0							
USRK	**Ussuriysk Ar.**	**40.83**	**4**	P	**P**	**19 09 12.8**	**+1.7**
1.0nm,0.4s,baz=181,slow=8.2,SNR=6.0							
SONM	**Songino Array**	**48.31**	**340**	P	**P**	**19 10 11.6**	**+0.7**
1.0nm,0.5s,baz=153,slow=8.2,SNR=9.3							
SONM				PcP	**PcP**	**19 11 36.8**	**-0.4**
0.6nm,0.5s,baz=152,slow=4.9,SNR=4.2							
PETK	**Petropavlovsk-**	**55.13**	**21**	P	**P**	**19 11 03.0**	**+1.3**
1.7nm,0.7s,baz=199,slow=5.3,SNR=5.5							
MKAR	**Makanchi Array**	**58.97**	**325**	P	**P**	**19 11 29.3**	**+0.3**
0.4nm,0.3s,baz=112,slow=7.7,SNR=14							
ZALV	**Zalesovo Beam**	**61.82**	**332**	P	**P**	**19 11 47.5**	**-0.7**
0.3nm,0.3s,baz=120,slow=8.5,SNR=2.6							
ILAR	**Eielson Array**	**84.68**	**25**	P	**P**	**19 14 02.6**	**-0.1**
0.1nm,0.5s,baz=244,slow=6.1,SNR=4.6							
ARCES	**ARCESS Array B**	**91.49**	**340**	P	**P**	**19 14 35.1**	**-0.2**
0.9nm,0.7s,baz=72,slow=12,SNR=1.4							

**IDC 26 19:56:23.2±9.1, 30°.26S×177°.41W, h35km±62km, mb3.5/2, mb1 3.8/2, mb1mx3.4/20, mbtmp3.7/2, Error ellipse: s-

H03N1	Juan Fernandez	84.44	123	T	T	21 42 58.7
	baz=257,slow=73,SNR=8.3					
PDAR	Pinedale Array	85.08	42	P	P	20 09 46.5 0.0
	0.9nm,0.9s,baz=207,slow=1.7,SNR=5.8					
LPAZ	La Paz	99.62	111	LR	LR	20 46 16.8
	comp=Z,20nm,18.5s,baz=325,slow=30					

PRE 26 20:52:03.4±1.1,21.°54S×33.°46E,h5km,ML2.8
ISC 26 20:52:02.1±1.2,21.°4S±0.°1×33.°4E±0.°2,h13km,n6,
σ2°20/12,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGG	Maguga Dam	5.06	203	eP	Pn	20 53 19.6	+1.7
MAGG				eS	Sn	20 54 14.2	-2.0
MAGG				IAML		20 54 19.9	
	comp=Z,14nm,0.4s						
HAGI	HAGI	5.12	203	eP	Pn	20 53 19.9	+1.1
HAGI				eS	Sn	20 54 14.2	-3.6
HAGI				IAML		20 54 53.0	
	comp=Z,22nm,0.7s						
CRLN	Carolina, Mapu	5.54	214	eP	Pn	20 53 26.3	+1.7
CRLN				eS	Sn	20 54 27.9	-0.4
CLK	Chileka	5.88	15	i P	Pn	20 53 30.5	+1.5
CLK				S	Sn	20 54 34.0	-2.4
CLK	Chileka	5.88	15	i P	Pn	20 53 30.5	+1.5
CLK				S	Sn	20 54 34.0	-2.4
SLR	Silverton	6.40	227	eP	Pn	20 53 37.5	+1.2
SLR				eS	Sn	20 54 48.0	-1.4
SLR				IAML		20 55 29.5	
	comp=Z,17nm,0.5s						

SOME 26 20:54:35.7,44.°67N×83.°92E,h15km
NNC 26 20:54:35.1±2.1,44.°50N×83.°90E,h0km,mb3.9,mpv3.6,
Error ellipse: s-maj=17.8km s-min=7.3km az=123.0
ISC 26 20:54:36.0±1.6,44.°60N±0.°07×83.°93E±0.°08,h10km,n26,
σ2°29/34,3C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	2.48	333	⇑Pg	Pg	20 55 21.0	-2.5
	12nm,0.5s,baz=144,slow=18,SNR=11						
MK31				⇓Lg	Lg	20 55 54.9	
	53nm,0.5s,baz=154,slow=29,SNR=6.1						
MAKZ	Makanchi	2.60	329	⇑Pg	Pg	20 55 25.1	-0.7
	9.1nm,0.5s						
MAKZ				⇓Lg	Lg	20 55 59.5	
	66nm,0.7s						
KTMS	Ketmen	2.83	247	eP	Pb	20 55 26.3	-0.3
	6.2nm,0.4s						
KTMS				eS	Sb	20 56 02.8	+1.5
	103nm,0.4s						
KTMS	Ketmen	2.83	247	Pg	Pb	20 55 26.3	-0.3
	6.2nm,0.4s						
KTMS				Lg	Lg	20 56 02.8	
	103nm,0.4s						
ZSN	Zaisan	2.92	13	eP	Pb	20 55 28.6	+0.4
	21nm,0.4s						
ZSN				eS	Sg	20 56 06.6	-3.3
	155nm,0.8s						
ZSN	Zaisan	2.92	13	Pg	Pb	20 55 28.6	+0.4
	21nm,0.4s						
ZSN				Lg	Lg	20 56 06.2	
	155nm,0.8s						
DJR	Jarkent	2.98	266	eP	Pb	20 55 30.3	+1.2
	1.6nm,0.5s						
DJR				eS	Sg	20 56 09.2	-2.3
	5.8nm,0.3s						
DJR	Jarkent	2.98	266	Pg	Pb	20 55 30.3	+1.2
	1.6nm,0.5s						
DJR				Lg	Lg	20 56 10.0	
	5.8nm,0.3s						
KAPS	Kapalarasan	3.32	284	eP	Pg	20 55 37.9	-1.6
	1.1nm,0.5s						
KAPS				eS	Sg	20 56 22.9	+0.4
	5.7nm,0.7s						
KAPS	Kapalarasan	3.32	284	Pg	Pg	20 55 37.9	-1.6
	1.1nm,0.5s						
KAPS				Lg	Lg	20 56 22.9	
	5.7nm,0.7s						
PDGK	Podgornoye	3.45	250	Pg	Pb	20 55 36.9	-0.4
	4.6nm,0.4s						
PDGK				Lg	Lg	20 56 20.7	
	42nm,0.5s						
PDGK	Podgornoye	3.45	250	⇓Pg	Pb	20 55 37.9	+0.7
	12nm,0.6s						
PDGK				⇑Lg	Lg	20 56 20.5	
	81nm,0.7s						
SHLS	Shalkode	3.54	247	eP	Pn	20 55 34.5	+3.4
	40nm,0.4s						
SHLS				eS	Sn	20 56 16.9	+3.9
	337nm,0.5s						
SHLS	Shalkode	3.54	247	Pg	Pn	20 55 33.7	+2.6
	40nm,0.4s						
SHLS				Lg	Lg	20 56 15.2	
	337nm,0.5s						
UZB	Uzynbulak	3.83	249	eP	Pb	20 55 45.4	+1.6
	11nm,0.5s						
UZB				eS	Sg	20 56 35.4	-3.7
	48nm,0.6s						
UZB	Uzynbulak	3.83	249	Pg	Pb	20 55 42.1	-1.7
	11nm,0.5s						
UZB				Lg	Lg	20 56 29.4	
	48nm,0.6s						
KPKS	Kokpek	3.95	255	eP	Pb	20 55 47.5	+1.8
	50nm,0.5s						
KPKS				eS	Sg	20 56 38.9	-3.9
	107nm,0.6s						
TDK	Taldyqorghan	3.95	278	eP	Pg	20 55 48.7	-2.9
	31nm,0.3s						
TDK				eS	Sg	20 56 41.2	-1.7
	254nm,0.9s						
TDK	Taldyqorghan	3.95	278	Pg	Pg	20 55 48.7	-2.9
	31nm,0.3s						
TDK				Lg	Lg	20 56 41.2	
	254nm,0.9s						
SATY	Saty	4.28	251	eP	Pg	20 55 55.7	-2.3
	9.3nm,0.4s						
SATY				eS	Sg	20 56 53.5	0.0
	36nm,0.4s						
SATY	Saty	4.28	251	Pg	Pb	20 55 51.0	-0.4
	5.1nm,0.2s						
SATY				Lg	Lg	20 56 44.8	
	36nm,0.4s						
KURS	Kuram	4.30	257	eP	Pg	20 55 55.2	-3.2
	7.4nm,0.5s						
KURS				eS	Sg	20 56 52.2	-1.8
	37nm,0.7s						
KURS	Kuram	4.30	257	Pg	Pg	20 55 55.2	-3.2
	7.4nm,0.5s						
KURS				Lg	Lg	20 56 52.2	
	37nm,0.7s						
MDOK	Medeo	5.18	256	Pg	Pg	20 56 12.2	-2.9
	6.0nm,0.6s						
MDOK				⇓Lg	Lg	20 57 20.9	
	27nm,0.7s						
KURBB	Kurchatov Arra	7.04	331	⇓Lg	Lg	20 58 17.9	
	69nm,0.7s						
OTUK	Ortayu	8.80	299	⇓Lg	Lg	20 59 18.9	
	12nm,0.8s						

FUNV 26 20:57:35.8,10.°42N×62.°95W,h17km,MW3.4
TRN 26 20:57:35.8,10.°25N×62.°94W,h44km,MD3.2
ISC 26 20:57:32.8±1.9,10.°51N±0.°06×62.°93W±0.°03,h16km±15km,
n14,σ1°55/23,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.34	298	eP	Pb	20 57 41.9	+1.3
CRUV				eS	Sb	20 57 46.9	+1.1
TPP	Pointe-a-Pierr	1.47	98	eP	Pn	20 57 59.4	+0.7
TRN	Trinidad (W)	1.51	85	eP	Pb	20 58 01.5	+1.1
TRN				eS	Sn	20 58 20.1	+1.5
GRGR	Grenville	2.04	38	eP	Pg	20 58 11.2	-0.8
GRGR				eS	Sg	20 58 38.0	-0.4
GRGR	Grenville	2.04	38	eP	Pb	20 58 09.6	0.0
GRGR				eS	Sb	20 58 35.5	+0.8
TPR	Prospect	2.22	72	eP	Pb	20 58 12.2	-0.3
PRGV	PARIAGUAN	2.43	224	eP	Pn	20 58 13.0	+1.1
PRGV				eS	Sn	20 58 40.6	-0.8
GCMP	Grenada, Carri	2.45	37	eP	Pb	20 58 16.3	-0.2
GCMP				eS	Sb	20 58 45.8	-0.8
TOSP	Speyside	2.48	71	eP	Pb	20 58 16.4	-0.6
RIOV	Rio Grande	2.67	156	eP	Pn	20 58 16.4	+1.2
RIOV				eS	Sn	20 58 46.1	-1.1
BIRV	Birongo	3.29	270	eP	Pn	20 58 25.2	+1.5
BIRV				eS	Sn	20 59 01.3	-1.2
CACV	CAICARA DEL OR	4.62	231	eP	Pn	20 58 37.7	-4.3
CACV				eS	Sn	20 59 23.3	-12
BENV	Beln	4.63	264	eP	Pn	20 58 44.5	+2.2
BENV				eS	Sn	20 59 33.9	-1.9
BAUV	El Baul	5.28	253	eP	Pn	20 58 51.4	+0.2
BAUV				eS	Sn	20 59 47.2	-4.4

ATH 26 21:05:23.1,38.°62N×23.°41E,h16km±4km,ML1.1/4,Error
ellipse: s-maj=4.9km s-min=1.1km az=176.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.32	276	P	Pg	21 05 29.1	-0.7
LKR				AML	AML	21 05 35.2	
	comp=N,93μm,0.1s						
LKR				AML	AML	21 05 41.2	
	comp=E,100μm,0.1s						
VIL2	Platees	0.42	195	P	Pb	21 05 31.9	-0.2
VIL2				S	Sb	21 05 39.0	+0.8
VIL2				AML	AML	21 05 40.3	
	comp=E,75μm,0.3s						
VIL2				AML	AML	21 05 41.5	
	comp=N,39μm,0.3s						
EREA	Eretria	0.46	115	P	Pg	21 05 31.9	-0.4
EREA				S	Sg	21 05 38.7	+0.3
EREA				AML	AML	21 05 39.9	
	comp=E,48μm,0.2s						
EREA				AML	AML	21 05 43.5	
	comp=N,49μm,0.4s						
DION	Dionisos Attik	0.68	142	P	Pb	21 05 36.9	+0.3
DION				S	Sg	21 05 45.1	-0.3
NEO	Neokhori	0.70	348	P	Pg	21 05 36.7	-0.2
NEO				S	Sg	21 05 46.3	+0.1
NEO				AML	AML	21 05 50.5	
	comp=E,56μm,0.3s						
NEO				AML	AML	21 05 50.6	
	comp=N,70μm,0.3s						
XOR	Xorichti	0.77	347	P	Pg	21 05 37.9	-0.2
VLY	Voula,Athens	0.82	158	P	Pb	21 05 37.9	-1.1

TIR 26 21:06:19.9,41.°88N×20.°12E,h4km±1km,Md2.5,Ml2.2
BEO 26 21:06:20.8±0.2,41.°94N×20.°23E,h1km±3km,ML2.0/9
PDG 26 21:06:20.7±0.2,41.°88N×20.°09E,h10km,ML2.5/14,Error
ellipse: s-maj=0.2km s-min=0.3km az=0.0
SKO 26 21:06:21.3,41.°90N×20.°18E,h14km
ISC 26 21:06:19.6±1.1,41.°83N±0.°02×20.°15E±0.°02,h6km±9km,
n55,σ1°02/89,5C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	Peshkopia	0.26	124	P	Pb	21 06 26.8	0.0
	baz=127						
PHP				S	Sb	21 06 31.7	+0.1
	baz=127						
PHP				AMP			
	comp=N,2.7nm,0.2s,baz=127						
PUK	Puka	0.28	318	P	Pg	21 06 25.7	+0.5
	baz=316						
PUK				S	Sg	21 06 29.3	+0.3
	baz=316						
PUK				AMP			
	comp=E,4.0nm,0.2s,baz=316						
TIR	Tirane	0.53	204	eSg	Sg	21 06 32.4	-4.2
TIR	Tirane	0.53	204	ePg	Pn	21 06 40.8	+7.1
TIR	Tirane	0.53	204	P	Pb	21 06 31.3	0.0
	baz=200						
TIR				S	Sb	21 06 40.1	+1.0
	baz=200						
TIR				AMP			
	comp=N,0.2nm,0.1s,baz=200						
TIR	Tirane	0.53	204	i Pg	Pn	21 06 32.7	-1.0
BCI	Bajram Curri	0.54	354	P	Pg	21 06 30.1	+0.1
	baz=356						
BCI				S	Sg	21 06 37.9	+0.9
	baz=356						
BCI				AMP			
	comp=N,0.6nm,0.2s,baz=356						
ULC	Ulcinj	0.69	281	i Pg	Pg	21 06 32.9	+0.1
ULC	Ulcinj	0.69	281	⇓iPg	Pg	21 06 32.7	-0.1
ULC				i Sg	Sb	21 06 42.9	-0.9
PVY	Plav	0.77	350	⇓iPg	Pg	21 06 34.3	-0.2
PVY				i Sg	Sb	21 06 45.8	-0.6
DRME	Dracevica, Mon	0.80	297	ePn	Pg	21 06 34.3	-0.7
DRME	Dracevica, Mon	0.80	297	ePg	Pg	21 06 34.5	-0.5
DRME				i Sg	Sb	21 06 46.5	-0.5
OHR	Ohrid	0.87	146	i Pg	Pb	21 06 37.6	+0.5
OHR				i Sg	Sn	21 06 51.3	-0.2
OHR				eLg	Lg	21 06 52.8	
	comp=N,44nm,0.3s						
PDG	Podgorica	0.89	312	ePg	Pg	21 06 36.1	-0.6
PDG				eSg	Sg	21 06 48.4	+0.1
PDG	Podgorica	0.89	312	ePn	Pg	21 06 35.7	-1.0
PDG	Podgorica	0.89	312	i Pg	Pg	21 06 36.1	-0.6
PDG				i Sg	Sb	21 06 50.3	+0.7
TTG	Podgorica	0.89	312	⇓iPg	Pg	21 06 36.1	-0.6
TTG				i Sg	Sb	21 06 49.5	-0.1
SKO	Skopje	0.97	81	i Pg	Pb	21 06 39.0	+0.1
SKO				i Sg	Sb	21 06 51.8	-0.1
SKO				eLg	Lg	21 06 52.5	
	comp=N,2.3nm,0.4s						
BUM	Brajici-Budva	1.04	297	⇑iPg	Pg	21 06 39.1	-0.5
BUM				i Sg	Sb	21 06 54.7	+0.6
BEY	Berane	1.06	350	i Pg	Pb	21 06 40.3	0.0
IVA	Berane	1.06	350	⇑iPg	Pg	21 06 39.3	-0.5
IVA				i Sg	Sb	21 06 55.3	+0.9
KOME	Kolasin	1.12	335	⇓iPg	Pg	21 06 40.4	-0.7
KOME				i Sg	Sn	21 06 57.2	-0.5
CEME	Cevo	1.16	308	⇓iPg	Pg	21 06 40.7	-1.1
CEME				i Sg	Sn	21 06 58.4	-0.2
NKME	Niksic	1.29	317	⇑iPg	Pn	21 06 43.3	-0.9
NKME				i Sg	Sn	21 07 02.6	+0.8
NKY	Niksic	1.30	319	⇑iPg	Pn	21 06 43.6	-0.8
NKY				i Sg	Sn	21 07 03.1	+0.9
HCY	Herceg Novi	1.38	297	ePn	Pn	21 06 44.6	-0.7
HCY	Herceg Novi	1.38	297	ePg	Pn	21 06 44.9	-0.4
HCY				i Sg	Sg	21 07 05.6	+1.8
FNA	Florina	1.40	138	P	Pg	21 06 46.6	+0.3
	baz=138						
SJES	Sjenica	1.43	355	ePg	Pn	21 06 44.3	-1.9
SJES				eSg	Sb	21 07 03.4	-1.9
STIP	Stip	1.53	94	i Pn	Pg	21 06 50.7	+1.8
STIP				eLg	Lg	21 07 16.7	
	comp=N,2.7nm,0.3s						
SELS	Selova	1.56	27	ePg	Pn	21 06 47.2	-0.7
SELS				eSg	Sn	21 07 06.0	-2.5
BARS	Barje	1.58	51	ePg	Pn	21 06 46.7	-1.4
BARS				eSg	Sn	21 07 07.2	-1.7
BARS	Barje	1.58	51	i Pn	Pn	21 06 47.2	-0.9
PLE	Pljevlja	1.60	340	⇓iPg	Pn	21 06 49.0	+0.5
PLE				i Sg	Sg	21 07 11.8	+0.8
TREB	Trebinje	1.60	304	ePn	Pb	21 06 49.8	+0.2
TREB				eSn	Sg	21 07 11.2	+0.2
TREB	Trebinje	1.60	304	ePn	Pn	21 06 48.6	+0.2
BRY	Bratogost	1.60	312	ePn	Pn	21 06 48.0	-0.6
BRY	Bratogost	1.60	312	⇓iPg	Pn	21 06 49.0	+0.4
BRY				i Sg	Sg	21 07 12.2	+1.1
UPM	Unac-Piva	1.65	327	ePn	Pg	21 06 51.7	+0.5
UPM	Unac-Piva	1.65	327	⇑iPn	Pn	21 06 49.8	+0.5
UPM				i Sn	Sg	21 07 13.3	+0.7
BOSS	Bosilegrad	1.86	68	ePg	Pn	21 06 52.3	+0.4
BOSS				eSg	Sn	21 07 15.3	-0.4
RUDO	Rudo	1.88	342	ePn	Pn	21 06 53.0	+0.8
VAY	Valandovo	1.89	105	ePn	Pn	21 06 53.1	+0.8
STON	Ston	2.09	301	ePn	Pb	21 06 57.2	-0.7
STON				eSg	Sg	21 07 27.3	+0.6
STON	Ston	2.09	301	ePn	Pn	21 06 55.4	+0.3
STON	Ston	2.09	301	ePn	Pb	21 06 56.9	-1.0
STON				Sn	Sb	21 07 23.4	-0.7
BBLS	Lazići	2.10	345	ePg	Pb	21 06 57.3	-0.9
BBLS				eSg	Sb	21 07 24.6	0.0
BBLS	Lazići	2.10	345	ePn	Pb	21 06 57.2	-0.9
DIVS	Divibare	2.27	357	ePg	Pb	21 07 00.6	-0.4
DIVS				eSg	Sb	21 07 29.0	-0.3
DIVS	Divibare	2.27	357	ePn	Pn	21 06 58.5	+0.8
HVAR	Hvar	3.05	297	ePn	Pn	21 07 10.4	+2.1
HVAR				Sn	Sn	21 07 45.2	+0.1
ZIRJ	Zirje	3.79	300	ePn	Pn	21 07 20.1	+1.7
ZIRJ				Sn	Sn	21 08 03.2	0.0
MORI	Morici	3.85	303	ePn	Pn	21 07 20.6	+1.3
MORI				Sn	Sn	21 08 06.5	+1.8
UDBI	Udbina	4.19	312	ePn	Pn	21 07 26.3	+2.3
DUGI	Dugi Otok	4.32	302	ePn	Pn	21 07 26.4	+0.6
DUGI				Sn	Sn	21 08 16.4	0.0

JMA 26 21:37:57.3±0.1,24.°40N×121.°93E,h10km±4km,M2.4
TAP 26 21:37:57.4,24.°42N×121.°91E,h16km,ML2.8,B
ISC 26 21:37:57.2±0.8,24.°41N±0.°02×121.°93E±0.°02,h16km±6km,
n71,σ0°46/115,7C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.14	284	⇑iP	Pg	21 38 01.2	+0.1
	baz=280						
EWUT				S	Sg	21 38 03.6	-0.1
	baz=280						
EHP	Heping Village	0.20	241	P	Pg	21 38 02.0	+0.1
	baz=233						
EHP				S	Sb	21 38 05.5	-0.6
	baz=233						
TWC	Suao	0.21	339	⇑iP	Pg	21 38 02.2	0.0
	baz=352						
TWC				i S	Sg	21 38 04.8	-0.7
	baz=352						
NDS	Dongshan	0.30	319	⇑iP	Pg	21 38 03.8	+0.2
	baz=320						
NDS				S	Sg	21 38 07.3	-0.6
	baz=320						
ETL	Fush Village	0.38	229	P	Pg	21 38 05.0	+0.1
	baz=227						
ETL				eS	Sg	21 38 10.4	+0.3
	baz=227						
NACB	Ninganchiao	0.39	233	⇓iP	Pg	21 38 05.0	-0.1
	baz=232						
NACB				S	Sg	21 38 10.4	-0.1
	baz=232						
TWE	Neicheng	0.39	322	⇑iP	Pg	21 38 05.4	+0.1
	baz=324						
TWE				S	Sg	21 38 10.2	-0.4
	baz=324						
ENTT	Nioudou	0.41	305	⇑iP	Pg	21 38 05.7	+0.2
	baz=304						
ENTT				S	Sg	21 38 10.8	-0.3
	baz=304						
NDT	Datong Townshi	0.43	297	⇑iP	Pb	21 38 06.2	-0.2
	baz=296						
NDT				S	Sg	21 38 11.4	-0.3
	baz=296						
TWD	Chiawan	0.45	223	⇓iP	Pg	21 38 06.2	0.0
	baz=225						
TWD				eS	Sg	21 38 12.3	-0.1
	baz=225						
ETLH	Xiulin Townshi	0.46	244	⇑iP	Pg	21 38 06.3	-0.2
	baz=244						
ETLH				eS	Sb	21 38 13.1	-0.6
	baz=244						
NNSB	Datong	0.50	272	⇓iP	Pg	21 38 07.2	0.0
	baz=272						
NNSB				S	Sg	21 38 13.4	-0.7
	baz=272						
NNS	Nan Shan	0.51	274	⇓iP	Pg	21 38 07.4	0.0
	baz=273						
NNS				i S	Sg	21 38 13.8	-0.5
	baz=273						
HWA	Hwalien	0.52	215	eP	Pb	21 38 08.3	+0.3
	baz=218						
NWLT	Wulai	0.54	313	P	Pg	21 38 07.9	+0.1
	baz=307						
NWLT				S	Sg	21 38 14.3	-0.8
	baz=307						
TIPB	Shuangxi	0.57	350	P	Pg	21 38 08.6	+0.1
	baz=349						
TIPB				S	Sg	21 38 15.4	-0.7
	baz=349						
YHNB	Yeheng	0.57	297	⇓iP	Pb	21 38 08.8	-0.2
	baz=299						
YHNB				S	Sg	21 38 15.6	-0.6
	baz=299						
ETM	Tongmen	0.60	222	P	Pg	21 38 08.9	-0.1
	baz=229						
ETM				eS	Sg	21 38 17.0	+0.1
	baz=229						
TWB1	Santiao Chiao	0.60	5	eP	Pg	21 38 09.3	+0.2
	baz=359						
TWB1				eS	Sg	21 38 16.2	-0.8
	baz=359						
TEYL	Yanliau Villag	0.62	210	eP	Pb	21 38 10.1	+0.4
	baz=217						
FUSS	Fushou	0.65	256	eP	Pg	21 38 10.1	+0.1
	baz=256						
FUSS				eS	Sg	21 38 18.3	-0.4
	baz=256						
TWA	Mucha	0.65	331	eP	Pb	21 38 10.3	0.0
	baz=320						
TWA				eS	Sg	21 38 18.1	-0.6
	baz=320						
WHF	Hehuan Shan	0.66	247	⇓iP	Pg	21 38 10.1	-0.3
	baz=255						
WHF				S	Sg	21 38 19.4	+0.2
	baz=255						
NHDH	Xindian Distri	0.67	326	eP	Pn	21 38 11.8	-0.3
	baz=317						
NHDH				eS	Sg	21 38 18.7	-0.4
	baz=317						
NWF	Wu-fen Shan	0.67	348	eP	Pb	21 38 10.9	+0.2
	baz=339						
NWF				eS	Sg	21 38 18.7	-0.7
	baz=339						
WFSB	Wu-fen Shan	0.67	348	eP	Pb	21 38 10.9	+0.3
	baz=339						
WFSB				eS	Sg	21 38 18.8	-0.6
	baz=339						
TATO	Taipei	0.69	324	eP	Pb	21 38 11.1	+0.1
	baz=315						
TATO				eS	Sg	21 38 19.8	-0.3
	baz=315						
TWT	Tachien	0.71	257	P	Pb	21 38 11.5	+0.2
	baz=258						
TWT				eS	Sb	21 38 20.9	0.0
	baz=258						
TDCB	Techi	0.72	258	eP	Pg	21 38 11.3	-0.1
	baz=252						
TDCB				eS	Sg	21 38 20.6	-0.4
	baz=252						
ESL	Shilin	0.75	218	eP	Pg	21 38 11.4	-0.4
	baz=224						
TNOU	National Taiwa	0.75	349	eP	Pb	21 38 12.2	+0.3
	baz=342						
TNOU				eS	Sg	21 38 21.2	-0.7
	baz=342						
CHGB	Renai	0.78	244	P	Pg	21 38 12.2	-0.2
	baz=252						
CHGB				eS	Sb	21 38 23.0	+0.1
	baz=252						
YM01	YM01	0.81	336	eP	Pb	21 38 13.5	+0.6
	baz=335						
YM01				eS	Sb	21 38 24.6	+1.0
	baz=335						
OWD	Renai	0.83	237	eP	Pg	21 38 13.2	-0.1
	baz=236						
TWS1	Kuangyinshan	0.83	326	eP	Pn	21 38 14.3	0.0
	baz=318						
TWS1				eS	Sn	21 38 26.3	0.0
	baz=318						
YM08	YM08	0.84	338	eP	Pb	21 38 13.7	+0.2
	baz=338						
ANP	Anpu	0.86	334	eP	Pb	21 38 14.4	+0.5
	baz=334						
LIOB	Emei	0.87	286	eP	Pb	21 38 14.6	+0.6
	baz=285						
LIOB				eS	Sb	21 38 25.5	+0.1
	baz=285						
EGFH	Guangfu	0.87	212	eP	Pg	21 38 12.3	-1.8
	baz=228						
NSTT	Nanjuang	0.88	285	eP	Pb	21 38 14.4	+0.3
	baz=276						
NSTT				eS	Sg	21 38 25.4	-0.4
	baz=276						
WHP	Taichung City	0.91	262	eP	Pb	21 38 15.2	+0.5
	baz=263						
WHP				eS	Sg	21 38 26.3	-0.5
	baz=263						
JYNG	Yonagunijimaku	0.92	87	P	Pb	21 38 14.9	0.0
JYNG				eS	Sb	21 38 27.9	+0.9

YOJ	**Yonaguni jima**	**0.98**	**87**	P		**Pb**	**21 38 16.0**	**0.0**
YOJ				*e*S		**Sb**	**21 38 28.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.98**	**87**	*e*P		**Pb**	**21 38 15.9**	**0.0**
	baz=75							
YOJ				*e*S		**Sb**	**21 38 28.1**	**-0.6**
	baz=75							
WCS	**Beigang Elemen**	**1.00**	**250**	*e*P		**Pn**	**21 38 16.6**	**0.0**
	baz=249							
HGSD	**Ruisui**	**1.02**	**207**	*e*P		**Pn**	**21 38 18.1**	**+1.2**
	baz=224							
EHY	**Hungye**	**1.06**	**212**	*e*P		**Pb**	**21 38 17.0**	**-0.2**
	baz=223							
SMLT	**Sun Moon Lake**	**1.08**	**241**	*e*P		**Pn**	**21 38 18.5**	**+0.6**
	baz=248							
SSLB	**Suanglung**	**1.09**	**236**	P		**Pg**	**21 38 18.1**	**-0.1**
	baz=244							
SSLB				*e*S		**Sb**	**21 38 31.6**	**-0.1**
	baz=244							
TYC	**Yuchr**	**1.10**	**243**	*e*P		**Pn**	**21 38 18.4**	**+0.3**
	baz=243							
YULB	**Yu-li**	**1.17**	**210**	*e*P		**Pb**	**21 38 18.6**	**-0.5**
	baz=211							
EYUL	**Yuli**	**1.20**	**208**	*e*P		**Pg**	**21 38 21.1**	**+0.8**
	baz=224							
TWF1	**Yuli**	**1.20**	**209**	*e*P		**Pn**	**21 38 19.1**	**-0.4**
	baz=224							
FULB	**Fuli**	**1.34**	**206**	*e*P		**Pb**	**21 38 22.0**	**0.0**
	baz=222							
ALS	**Alishan**	**1.37**	**229**	*e*P		**Pg**	**21 38 23.5**	**-0.1**
	baz=217							
CHKT	**Chengkung**	**1.40**	**202**	*e*P		**Pn**	**21 38 21.9**	**-0.3**
	baz=186							
CHN5	**Tsauling**	**1.40**	**235**	*e*P		**Pg**	**21 38 24.6**	**+0.4**
	baz=237							
ELDTW	**Lidau**	**1.48**	**215**	*e*P		**Pn**	**21 38 24.1**	**+0.8**
	baz=202							
EDH	**Donghe**	**1.54**	**202**	*e*P		**Pn**	**21 38 24.1**	**0.0**
	baz=189							
CHN4	**Tsaushan**	**1.62**	**230**	*e*P		**Pg**	**21 38 28.0**	**-0.3**
	baz=232							
TPUB	**Ta-pu**	**1.62**	**227**	*e*P		**Pn**	**21 38 25.1**	**-0.2**
	baz=230							
STYH	**Taoyuan**	**1.63**	**221**	*e*P		**Pb**	**21 38 26.7**	**-0.2**
	baz=223							
IRIF	**Iriomote-Funau**	**1.64**	**92**	P		**Pn**	**21 38 25.2**	**-0.3**
IRIF				*e*S		**Sn**	**21 38 46.1**	**-0.2**
STYT	**Tauyuan**	**1.64**	**221**	*e*P		**Pb**	**21 38 27.8**	**+0.6**
	baz=223							
HATJ	**Hateruma jima**	**1.75**	**101**	P		**Pn**	**21 38 27.4**	**+0.5**
HATJ				*e*S		**Sn**	**21 38 49.7**	**+0.9**
TWK	**Hsinying**	**1.75**	**230**	*e*P		**Pb**	**21 38 29.4**	**+0.4**
	baz=232							
CHN1	**Nanshi**	**1.77**	**227**	*e*P		**Pb**	**21 38 30.3**	**+0.9**
	baz=230							
JKRS	**Kuro-shima**	**1.90**	**95**	P		**Pn**	**21 38 29.5**	**+0.5**
JKRS				S		**Sn**	**21 38 52.9**	**+0.2**
JIJ	**Ishigaki jima**	**2.02**	**91**	P		**Pn**	**21 38 30.6**	**0.0**
JIJ				*e*S		**Sn**	**21 38 54.5**	**-1.0**
JISG	**Ishigakijimahi**	**2.17**	**85**	P		**Pn**	**21 38 32.4**	**-0.4**
JISG				*e*S		**Sn**	**21 38 59.4**	**0.0**
JTJ	**Tarama**	**2.53**	**84**	P		**Pn**	**21 38 38.4**	**+0.7**
JTJ				*e*S		**Sn**	**21 39 08.5**	**+0.2**

*IDC **26** 21:39:02.6±0.5, 35°.07S×111°.35W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/28, mbtmp4.2/11, MS4.0/14, Ms1 4.0/14, ms1mx3.9/18, Error ellipse: s-maj=24.1km s-min=17.4km az=92.0*

*NEIC **26** 21:39:04.9±1.0, 35°.0S±0°.1×111°.3W±0°.1, h10km±1km, mb4.7/88, Error ellipse: s-maj=19.4km s-min=14.4km az=180.0*

*GCMT **26** 21:39:04.9±0.2, 35°.40S±0°.03×111°.36W±0°.02, h15km, MW4.9/109, Moment Tensor Solution. s36,c42; s109,c154; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.76±.16; Mθθ0.41±.10; Mφφ2.35±.11; Mrθ-1.53±.25; Mθφ-0.93±.06; Mφr0.04±.18; Best double couple: M0=3.09600×10^16^ NP1:φs=357.00000°, δ42.00000°, λ-57.00000°. NP2:φs=136.00000°, δ56.00000°, λ-116.00000°. Principal axes: T 2.7960, Plg7.0000°, Azm245.0000°; N 0.5960, Plg22.0000°, Azm152.0000°; P -3.3960, Plg67.0000°, Azm352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 21:39:04.1±0.4, 35°.02S±0°.08×111°.33W±0°.09, h10km, n176, σ0.98/0/145, mb4.7/53, MS4.0/17, 18C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.05**	**13**	LR	LR	21 43 13.5	
	comp=Z,599nm,20.7s,baz=181,slow=31						
H03S2	**Juan Fernandez**	**26.69**	**97**	T	T	22 12 49.9	
	baz=256,slow=75,SNR=45						
H03S1	**Juan Fernandez**	**26.71**	**97**	T	T	22 12 47.3	
	baz=256,slow=75,SNR=44						
H03S3	**Juan Fernandez**	**26.71**	**97**	T	T	22 12 41.1	
	baz=256,slow=75,SNR=42						
H03N2	**Juan Fernandez**	**26.77**	**96**	T	T	22 12 49.6	
	baz=244,slow=80,SNR=14						
H03N3	**Juan Fernandez**	**26.77**	**96**	T	T	22 12 53.4	
	baz=244,slow=80						
H03N1	**Juan Fernandez**	**26.79**	**96**	T	T	22 12 51.3	
	baz=244,slow=80						
PLCA	**Paso Flores**	**32.47**	**112**	P	**P**	**21 45 34.4**	**-0.4**
	3.8nm,0.8s,baz=285,slow=8.1,SNR=4.4						
PLCA				LR	LR	21 55 31.8	
	comp=Z,160nm,21.1s,baz=272,slow=30						
PLCA	**Paso Flores**	**32.47**	**112**	P	**P**	**21 45 34.6**	**-0.2**
PLCA				IAmb	IAmb	21 45 44.7	
	comp=Z,11nm,1.1s						
MT09	**Talagante**	**33.15**	**100**	P	**P**	**21 45 41.0**	**+0.1**
TBI	**Tubuai**	**35.07**	**279**	*e*S	**S**	**21 51 29.1**	**-0.8**
	comp=Z,56nm,26.5s						
TBI				*e*LR	LR	21 55 14.6	
	comp=Z,1μm,26.5s,baz=113						
TBI	**Tubuai**	**35.07**	**279**	*e*T	T	22 22 49.7	
	comp=Z,5.4nm,0.3s						
MEH	**Mehetia**	**36.81**	**288**	*e*T	T	22 24 55.3	
	comp=Z,17nm,0.3s						
TAOE	**Nuku Hiva Isla**	**37.06**	**308**	*e*LR	LR	21 56 12.9	
	comp=Z,484nm,26.6s						
TIAR	**Tiarei**	**37.99**	**287**	*e*T	T	22 26 23.6	
	comp=Z,2.1nm,0.3s						
PPT2	**Papeete2**	**38.15**	**287**	*e*S	**S**	**21 52 15.7**	**-1.5**
	comp=Z,71nm,25.2s						
PPT2				*e*LR	LR	21 56 32.5	
	comp=Z,1μm,26.5s,baz=126						
PPT	**Papeete**	**38.16**	**287**	LR	LR	21 57 27.1	
	comp=Z,451nm,21.7s,baz=134,slow=29						
LVC	**Limon Verde**	**38.90**	**83**	P	P	21 46 36.0	+5.6
	comp=Z,7.8nm,0.9s,baz=264,slow=7.1,SNR=3.0						
LVC	**Limon Verde**	**38.90**	**83**	P	**P**	**21 46 30.1**	**-0.3**
PB11	**IPOC Station P**	**39.70**	**79**	P	**P**	**21 46 36.3**	**-0.6**
PB11				IAmb	IAmb	21 46 40.1	
	comp=Z,26nm,1.6s						
MNMC	**Minye Minye**	**40.08**	**78**	P	**P**	**21 46 42.2**	**+2.0**
PMSA	**Palmer Station**	**40.99**	**151**	P	**P**	**21 46 44.7**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=5.1,slow=18,SNR=3.7						
LPAZ	**La Paz**	**42.79**	**75**	P	**P**	**21 47 03.4**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=229,slow=6.9,SNR=8.7						
LPAZ				LR	LR	22 01 24.0	
	comp=Z,188nm,18.6s,baz=213,slow=31						
LPAZ	**La Paz**	**42.79**	**75**	P	**P**	**21 47 02.1**	**-0.7**
OTAV	**Otavalo**	**46.61**	**48**	P	**P**	**21 47 31.6**	**-1.5**
OTAV				IAmb	IAmb	21 47 37.4	
	comp=Z,12nm,1.5s						
CPUP	**Villa Florida**	**46.77**	**95**	LR	LR	22 03 39.4	
	comp=Z,366nm,19.6s,baz=260,slow=32						
PLTB	**Pedras Altas**	**47.73**	**103**	P	**P**	**21 47 40.6**	**-0.7**
SAML	**Samuel**	**51.00**	**71**	P	**P**	**21 48 05.5**	**-0.9**
CDITO	**Canoas**	**51.02**	**37**		**S**	**21 55 25.4**	**+1.6**
ROSC	**El Rosal**	**52.75**	**49**	P	**P**	**21 48 21.3**	**+1.4**
	comp=Z,4.4nm,0.4s,baz=278,slow=15,SNR=3.6						
ROSC				LR	LR	22 07 21.0	
	comp=Z,215nm,19.0s,baz=238,slow=32						
ROSC	**El Rosal**	**52.75**	**49**	P	**P**	**21 48 19.9**	**0.0**
ROSC				IAmb	IAmb	21 48 28.8	
	comp=Z,11nm,0.8s						
BELA	**Belgrano 2**	**53.25**	**165**	P	**P**	**21 48 23.8**	**+1.4**
RUSC	**La Rusia**	**54.34**	**49**	P	**P**	**21 48 32.8**	**+1.2**
RUSC				IAmb	IAmb	21 48 41.5	
	comp=Z,7.2nm,0.8s						
QSPA	**South Pole Qui**	**55.18**	**180**	P	**P**	**21 48 37.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=91,slow=0.7,SNR=14						
QSPA	**South Pole Qui**	**55.18**	**180**	P	**P**	**21 48 38.0**	**+1.3**
VNDA	**Vanda**	**55.42**	**195**	LR	LR	22 06 30.4	
	comp=Z,116nm,21.3s,baz=92,slow=30						
CMWZ	**Cape Campbell**	**57.08**	**239**	P	**P**	**21 48 52.2**	**+1.7**
BDFB	**Brasilia**	**59.45**	**88**	LR	LR	22 12 51.3	
	comp=Z,383nm,18.1s,baz=235,slow=34						
VNA3	**Neumayer Olymp**	**60.86**	**159**	P	**P**	**21 49 16.5**	**+0.2**
VNA3	**Neumayer Olymp**	**60.86**	**159**	PcP	**PcP**	**21 50 00.2**	**+0.3**
VNA3	**Neumayer Olymp**	**60.86**	**159**	sP	sP	21 49 23.8	+4.5
VNA1	**Neumayer--Stat**	**61.53**	**158**	P	**P**	**21 49 21.7**	**+0.9**
VNA1	**Neumayer--Stat**	**61.53**	**158**	PcP	**PcP**	**21 50 02.4**	**-0.1**
VNA2	**Neumayer--Watz**	**61.67**	**159**	P	**P**	**21 49 22.3**	**+0.5**
	baz=242,slow=6.2						
VNA2	**Neumayer--Watz**	**61.67**	**159**	PcP	**PcP**	**21 50 00.4**	**-2.8**
VNA2	**Neumayer--Watz**	**61.67**	**159**	sP	sP	21 49 28.0	+3.3
SNAA	**Sanae**	**62.64**	**160**	P	**P**	**21 49 28.4**	**0.0**
SNAA	**Sanae**	**62.64**	**160**	P	**P**	**21 49 29.2**	**+0.9**
SNAA				IAmb	IAmb	21 49 42.2	
	comp=Z,6.5nm,1.0s						
TX31	**Lajitas Ar. Si**	**64.42**	**7**	P	**P**	**21 49 40.9**	**+0.4**
TX32	**Lajitas Array**	**64.42**	**7**	P	**P**	**21 49 41.1**	**+0.6**
TXAR	**Lajitas Array**	**64.42**	**7**	P	**P**	**21 49 41.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=189,slow=9.4,SNR=11						
TXAR				LR	LR	22 13 08.9	
	comp=Z,53nm,19.1s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**64.42**	**7**	P	**P**	**21 49 41.0**	**+0.5**
JCT	**Junction City**	**66.05**	**11**	P	**P**	**21 49 51.7**	**+0.6**
MNTX	**Cornudas Mount**	**66.60**	**6**	P	**P**	**21 49 54.5**	**-0.1**
121A	**Cookes Peak, D**	**67.28**	**3**	P	**P**	**21 49 59.5**	**+0.5**
121A				IAmb	IAmb	21 50 01.3	
	comp=Z,7.5nm,1.1s						
MSTX	**Muleshoe**	**69.10**	**8**	P	**P**	**21 50 10.2**	**-0.2**
MSTX				IAmb	IAmb	21 50 11.7	
	comp=Z,5.4nm,0.8s						
X18A	**Snowflake**	**69.20**	**1**	P	**P**	**21 50 11.6**	**+0.5**
X18A				IAmb	IAmb	21 50 13.4	
	comp=Z,6.8nm,1.1s						
GSC	**Goldstone, Bar**	**70.14**	**355**	P	**P**	**21 50 17.5**	**+0.7**
U15A	**North Rim**	**71.09**	**359**	P	**P**	**21 50 22.6**	**-0.1**
U15A				IAmb	IAmb	21 50 25.8	
	comp=Z,14nm,1.7s						
SHPR	**Sheep Range**	**71.25**	**357**	P	**P**	**21 50 23.0**	**-0.6**
DZM	**Mont Dzumac**	**71.56**	**256**	*e*LR	LR	22 12 13.5	
	comp=Z,422nm,30.7s						
KNB	**Kanab**	**71.68**	**359**	P	**P**	**21 50 26.0**	**-0.2**
KNB				IAmb	IAmb	21 50 29.1	
	comp=Z,8.1nm,1.4s						
TPNV	**Topopah Spring**	**71.75**	**356**	P	**P**	**21 50 27.1**	**+0.6**
TPNV				IAmb	IAmb	21 50 30.3	
	comp=Z,7.1nm,1.1s						
MVCO	**Mesa Verde**	**71.91**	**2**	P	**P**	**21 50 27.7**	**+0.1**
PKCU	**Pink Cliffs**	**72.10**	**359**	P	**P**	**21 50 28.6**	**-0.3**
CCUT	**Cedar City**	**72.23**	**358**	P	**P**	**21 50 29.7**	**+0.2**
CCUT				IAmb	IAmb	21 50 33.0	
	comp=Z,9.7nm,1.3s						
SDCO	**Great Sand Dun**	**72.60**	**5**	P	**P**	**21 50 32.4**	**+0.6**
SDCO				IAmb	IAmb	21 50 50.0	
	comp=Z,12nm,1.9s						
HHAR	**Hobbs**	**72.76**	**15**	P	**P**	**21 50 33.0**	**+0.6**
HHAR				IAmb	IAmb	21 50 46.1	
	comp=Z,6.5nm,0.9s						
TPH	**Tonopah**	**72.93**	**355**	P	**P**	**21 50 34.3**	**+0.7**
PV12	**Saucer Basin,**	**73.01**	**2**	P	**P**	**21 50 34.4**	**+0.3**
PV12				IAmb	IAmb	21 50 35.2	
	comp=Z,3.9nm,0.7s						
PV14	**Lion Creek, Pa**	**73.06**	**2**	P	**P**	**21 50 34.9**	**+0.5**
U40A	**Yellville**	**73.07**	**16**	P	**P**	**21 50 34.6**	**+0.4**
PV04	**Paradox Valley**	**73.08**	**2**	P	**P**	**21 50 34.6**	**+0.1**
PV04				IAmb	IAmb	21 50 35.2	
	comp=Z,8.4nm,1.0s						
R11A	**Troy Canyon, C**	**73.11**	**357**	P	**P**	**21 50 35.4**	**+0.7**
MVU	**Marysvale**	**73.16**	**359**	P	**P**	**21 50 35.5**	**+0.5**
CMB	**Columbia Colle**	**73.17**	**353**	P	**P**	**21 50 34.8**	**0.0**
CMB				IAmb	IAmb	21 50 48.4	
	comp=Z,8.0nm,1.4s						
LCAR	**Lake Charles**	**73.18**	**17**	P	**P**	**21 50 34.0**	**-0.9**
LCAR				IAmb	IAmb	21 50 36.4	
	comp=Z,13nm,1.4s						
LHV	**Little Huntoon**	**73.21**	**354**	P	**P**	**21 50 36.0**	**+1.1**
LHV				IAmb	IAmb	21 50 39.0	
	comp=Z,5.9nm,0.9s						
PSUT	**Pine Spring**	**73.22**	**358**	P	**P**	**21 50 36.4**	**+1.0**
PSUT				IAmb	IAmb	21 50 56.0	
	comp=Z,5.6nm,1.1s						
TCRU	**Three Creeks R**	**73.27**	**359**	P	**P**	**21 50 35.8**	**+0.1**
TCRU				IAmb	IAmb	21 50 37.2	
	comp=Z,5.8nm,0.6s						
NV11	**Mina Array Sit**	**73.36**	**354**	P	**P**	**21 50 36.8**	**+0.7**
NV11				IAmb	IAmb	21 50 38.9	
	comp=Z,6.3nm,0.9s						
NVAR	**Mina Array Bea**	**73.37**	**354**	P	**P**	**21 50 37.4**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=191,slow=6.8,SNR=17						
NVAR				LR	LR	22 16 15.3	
	comp=Z,84nm,19.4s,baz=106,slow=30						
NVAR	**Mina Array Bea**	**73.37**	**354**	P	**P**	**21 50 36.0**	**-0.3**
RYN	**Ryan**	**73.58**	**354**	P	**P**	**21 50 37.5**	**0.0**
RYN				IAmb	IAmb	21 50 43.7	
	comp=Z,8.2nm,1.5s						
SRU	**San Rafael Swe**	**73.76**	**1**	P	**P**	**21 50 38.4**	**-0.1**
SRU				IAmb	IAmb	21 50 38.9	
	comp=Z,4.8nm,0.8s						
TMUT	**Trail Mountain**	**73.95**	**0**	P	**P**	**21 50 39.4**	**-0.4**
KVN	**Kaiserville**	**73.97**	**355**	P	**P**	**21 50 40.1**	**+0.4**
PBMO	**Poplar Bluff**	**74.03**	**17**	P	**P**	**21 50 39.9**	**0.0**
PBMO				IAmb	IAmb	21 50 53.4	
	comp=Z,4.6nm,0.6s						
SYO	**Syowa Base**	**74.07**	**170**	∥*e*pP	**P**	**21 50 40.9**	**+1.1**
T42A	**Van Buren**	**74.11**	**17**	P	**P**	**21 50 39.9**	**-0.5**
P17A	**Butcher Ranch,**	**74.12**	**0**	P	**P**	**21 50 40.2**	**-0.4**
NLU	**North Lily Min**	**74.61**	**359**	P	**P**	**21 50 43.1**	**-0.3**
ISCO	**Idaho Springs**	**74.64**	**5**	P	**P**	**21 50 43.4**	**-0.3**
ELK	**Elko**	**75.48**	**357**	P	**P**	**21 50 48.9**	**+0.3**
BGU	**Big Grassy Mou**	**75.59**	**359**	P	**P**	**21 50 49.4**	**+0.3**
BGU				IAmb	IAmb	21 50 51.8	
	comp=Z,12nm,1.6s						
P38A	**Dawn**	**76.07**	**14**	P	**P**	**21 50 52.0**	**+0.4**
Q44A	**Meyer Farm, Va**	**76.40**	**18**	P	**P**	**21 50 53.7**	**+0.2**
MOD	**Modoc Plateau**	**76.99**	**353**	P	**P**	**21 50 57.7**	**+0.7**
MOD				IAmb	IAmb	21 51 05.2	
	comp=Z,4.7nm,0.7s						
WVOR	**Wild Horse Val**	**77.37**	**354**	P	**P**	**21 50 59.8**	**+0.7**
K22A	**Casper**	**77.42**	**4**	P	**P**	**21 50 59.7**	**+0.3**
BW06	**Boulder Array**	**77.43**	**1**	P	**P**	**21 50 59.4**	**-0.1**
BW06				IAmb	IAmb	21 51 01.4	
	comp=Z,5.4nm,0.9s						
PD31	**Pinedale Array**	**77.43**	**1**	P	**P**	**21 50 58.9**	**-0.7**
PD31				IAmb	IAmb	21 51 01.4	
	comp=Z,4.4nm,0.8s						
PDAR	**Pinedale Array**	**77.43**	**1**	P	**P**	**21 50 59.0**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=160,slow=4.7,SNR=24						
PDAR				LR	LR	22 20 33.3	
	comp=Z,39nm,18.5s,baz=358,slow=32						
PDAR	**Pinedale Array**	**77.43**	**1**	P	**P**	**21 50 59.1**	**-0.5**
MAW	**Mawson**	**77.60**	**178**	P	**P**	**21 50 59.9**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=186,slow=8.7,SNR=7.9						
MAW				LR	LR	22 22 57.2	
	comp=Z,73nm,18.3s,baz=228,slow=34						
MAW	**Mawson**	**77.60**	**178**	P	**P**	**21 51 01.0**	**+1.0**
K05A	**Summer Lake**	**77.86**	**353**	P	**P**	**21 51 01.8**	**-0.1**
K05A				IAmb	IAmb	21 51 16.6	
	comp=Z,7.6nm,1.0s						
HUMO	**Hull Mountain**	**77.98**	**351**	P	**P**	**21 51 02.9**	**+0.6**
REDW	**Red Top Meadow**	**78.01**	**0**	P	**P**	**21 51 02.5**	**-0.3**
TPAW	**Teton Pass**	**78.14**	**0**	P	**P**	**21 51 03.2**	**-0.3**
TPAW				IAmb	IAmb	21 51 05.8	
	comp=Z,4.9nm,0.9s						
HLID	**Hailey**	**78.26**	**358**	P	**P**	**21 51 04.5**	**+0.5**
HLID				IAmb	IAmb	21 51 07.1	
	comp=Z,8.1nm,0.9s						
LOHW	**Long Hollow**	**78.26**	**1**	P	**P**	**21 51 04.4**	**+0.3**
LOHW				IAmb	IAmb	21 51 17.5	
	comp=Z,12nm,1.6s						
J08A	**Circle Bar Ran**	**78.28**	**355**	P	**P**	**21 51 04.8**	**+0.8**
J08A				IAmb	IAmb	21 51 07.6	
	comp=Z,8.4nm,1.1s						
PINE	**Pine Mountain**	**78.93**	**353**	P	**P**	**21 51 08.1**	**+0.3**
PINE				IAmb	IAmb	21 51 11.0	
	comp=Z,7.2nm,0.8s						
P52A	**Corning**	**79.03**	**23**	P	**P**	**21 51 08.4**	**+0.3**
P52A				IAmb	IAmb	21 51 09.1	
	comp=Z,7.3nm,0.8s						
RSSD	**Black Hills**	**79.05**	**5**	P	**P**	**21 51 08.6**	**+0.1**
RSSD				IAmb	IAmb	21 51 10.9	
	comp=Z,5.7nm,0.6s						
I07A	**Izee**	**79.08**	**354**	P	**P**	**21 51 08.7**	**+0.2**
I07A				IAmb	IAmb	21 51 11.8	
	comp=Z,5.7nm,0.9s						
MCMT	**McKenzie Canyo**	**79.48**	**359**	P	**P**	**21 51 10.9**	**+0.1**
ECSD	**EROS Data Cent**	**79.52**	**11**	P	**P**	**21 51 10.8**	**0.0**
O52A	**Adamsville**	**79.56**	**23**	P	**P**	**21 51 10.7**	**-0.4**
RLMT	**Red Lodge**	**79.79**	**1**	P	**P**	**21 51 13.1**	**+0.7**
PLID	**Pearl Lake**	**79.85**	**357**	P	**P**	**21 51 13.1**	**+0.3**
PLID				IAmb	IAmb	21 51 15.7	
	comp=Z,13nm,1.5s						
G08A	**Pilot Rock**	**80.23**	**355**	P	**P**	**21 51 15.2**	**+0.5**
BOZ	**Bozeman (W)**	**80.24**	**360**	P	**P**	**21 51 15.3**	**+0.5**
BOZ				IAmb	IAmb	21 51 17.7	
	comp=Z,12nm,1.6s						
F36A	**Milaca**	**82.10**	**12**	P	**P**	**21 51 24.9**	**+0.4**
F36A				IAmb	IAmb	21 51 27.0	
	comp=Z,6.9nm,1.1s						
NEW	**Newport**	**83.07**	**356**	P	**P**	**21 51 30.3**	**+0.8**
NEW				IAmb	IAmb	21 51 32.4	
	comp=Z,11nm,1.4s						
E43A	**Lone Tree Farm**	**83.94**	**17**	P	**P**	**21 51 34.5**	**+0.5**
E43A				IAmb	IAmb	21 51 35.1	
	comp=Z,5.6nm,0.8s						
STKA	**Stephens Creek**	**84.54**	**235**	P	**P**	**21 51 38.9**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=53,slow=8.6,SNR=5.0						
ULM	**Lac du Bonnet**	**85.99**	**10**	LR	LR	22 26 12.7	
	comp=Z,36nm,20.0s,baz=246,slow=33						
H11S2	**WAKE ISLAND Hy**	**94.09**	**290**	T	T	23 36 45.8	
	baz=125						
H11S1	**WAKE ISLAND Hy**	**94.10**	**290**	T	T	23 36 50.8	
	baz=125,slow=74						
H11S3	**WAKE ISLAND Hy**	**94.10**	**290**	T	T	23 36 47.3	
	baz=125,slow=74						
ASAR	**Alice Springs**	**95.01**	**237**	P	**P**	**21 52 25.8**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=115,slow=3.3,SNR=4.1						
SCHQ	**Schefferville**	**97.31**	**24**	LR	LR	22 32 49.0	
	comp=Z,51nm,19.1s,baz=244,slow=33						
H01W1	**Cape Leeuwin H**	**98.50**	**216**	T	T	23 43 02.5	
	baz=146						
H01W2	**Cape Leeuwin H**	**98.50**	**216**	T	T	23 43 03.2	
	baz=146,slow=74						
H01W3	**Cape Leeuwin H**	**98.51**	**216**	T	T	23 43 05.6	
	baz=146,slow=74						
ESDC	**Sonseca Array**	**123.53**	**62**	PKP	**PKPdf**	**21 58 01.8**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=213,slow=2.8,SNR=2.4						
NOA	**NORSAR Array B**	**135.55**	**36**	PKP	**PKPdf**	**21 58 22.9**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=282,slow=2.2,SNR=3.9						
CLL	**Collm**	**137.33**	**50**	*e*PP	PP	22 01 14.0	+1.0
KHC	**Kasperske Hory**	**137.67**	**53**	*e*PKPDF	**PKiKP**	**21 58 29.3**	**-0.8**
GERES	**GERESS Array B**	**137.74**	**54**	PKP	**PKPdf**	**21 58 28.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=312,slow=6.5,SNR=2.6						
CKRC	**Cesky Krumlov**	**138.14**	**54**	*e*PKPDF	**PKiKP**	**21 58 30.3**	**-0.7**
FINES	**FINESS Array B**	**142.31**	**32**	PKhKP	PKPpre	21 58 31.9	
	comp=Z,1.0nm,0.6s,baz=316,slow=5.8,SNR=6.4						
SIRR	**Siria**	**143.10**	**58**	∥P	PKPab	21 58 33.6	+0.2
TRPA	**Tarpa**	**143.62**	**55**	∥P	PKPab	21 58 35.9	+0.5
GZR	**Gura Zlata**	**143.89**	**59**	∥P	PKPab	21 58 34.2	-2.5
NRIK	**Noril'sk**	**144.07**	**349**	PKP	PKPbc	21 58 37.2	+0.2
	comp=Z,1.6nm,0.5s,baz=0.4,slow=3.0,SNR=5.5						
VTS	**Vitosha**	**144.15**	**64**	∥P	**PKPab**	**21 58 37.6**	**-0.2**
IDI	**Anoyia**	**144.42**	**77**	∥P	**PKPab**	**21 58 39.1**	**+0.2**
ARCR	**ARCALIA**	**144.92**	**56**	∥P	**PKPab**	**21 58 40.0**	**-0.3**
APE	**Apeiranthos**	**145.27**	**74**	∥P	**PKPbc**	**21 58 41.1**	**-0.8**
HUMR	**Humele**	**145.46**	**61**	∥P	**PKPdf**	**21 58 41.8**	**-0.3**
BURAR	**Bucovina Array**	**145.46**	**55**	∥P	**PKPab**	**21 58 42.7**	**+0.3**
VOIR		**145.49**	**59**	∥P	**PKPdf**	**21 58 42.3**	**0.0**
DOPR	**Dopca**	**145.70**	**58**	∥P	**PKPdf**	**21 58 42.1**	**-0.4**
MLR	**Muntele Rosu**	**146.11**	**59**	∥P	**PKPdf**	**21 58 43.6**	**+0.2**
PLOR	**Plostina**	**146.59**	**58**	∥P	**PKPab**	**21 58 46.9**	**+0.2**
VRI	**Vrincioaia**	**146.64**	**58**	∥P	**PKPbc**	**21 58 46.1**	**+0.4**
BTO	**Baotou**	**147.09**	**292**	*e*PKPbc	**PKPdf**	**21 58 42.8**	**-2.4**
SORM	**Soroca**	**147.49**	**54**	∥P	**PKPbc**	**21 58 47.4**	**-0.6**
AKASG	**Malin Array Be**	**147.56**	**49**	PKPbc	**PKPdf**	**21 58 46.3**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=290,slow

DLPL	La Plaine	3.13	298	Pn	Pn	22 24 13.4 +1.1
GCMP	Grenada, Carri	3.26	245	eP	Pn	22 24 14.4 +0.2
GCMP				eS	Sn	22 24 51.5 -1.2
TOSP	Speyside	3.31	220	eP	Pn	22 24 16.3 +1.5
TOSP				eS	Sn	22 24 52.0 -1.7
TOSP	Speyside	3.31	220		Pn	22 24 14.8 +0.1
TOSP				Sn	Sn	22 24 52.6 -1.2
DSLB	Salisbury	3.33	298	eP	Pn	22 24 15.7 +0.6
DSLB				eS	Sn	22 24 52.2 -2.1
MAGL	Barre de l'ile	3.48	307	eP	Pn	22 24 17.9 +0.7
MAGL				eS	Sn	22 24 56.8 -1.3
BOT	Bacolet	3.52	221	eP	Pn	22 24 19.1 +1.4
TPR	Prospect	3.54	221	eP	Pn	22 24 20.2 +2.2
H05N1	Guadeloupe/Mar	3.55	314	Pn	Pn	22 24 17.8 -0.3
H05N1	SNR=61					
				Sn	Sn	22 24 57.0 -2.8
GRGR	Grenville	3.62	242	eP	Pn	22 24 19.7 +0.6
GRGR				eS	Sn	22 25 01.8 +0.1
GRGR	Grenville	3.62	242	Pn	Pn	22 24 19.6 +0.5
TDBA	Terre de Bas,	3.71	302	eP	Pn	22 24 22.7 +2.4
TDBA				eS	Sn	22 25 00.8 -3.0
TBG	Guadaloupe-3	3.72	302	eP	Pn	22 24 20.5 +0.1
TBG				eS	Sn	22 25 01.2 -2.8
GRFF	Grenada Fort F	3.73	241	eP	Pn	22 24 20.8 +0.2
CBE	Ff, Capester	3.81	306	eP	Pn	22 24 22.6 +0.9
ABD	La Joyeuse, An	3.96	311	eP	Pn	22 24 24.6 +0.8
ABD				eS	Sn	22 25 08.2 -1.8
TRN	Trinidad (W)	4.35	223	eP	Pn	22 24 30.8 +1.7
TRN	Trinidad (W)	4.35	223	e	Pb	22 24 39.4 -0.3
TRN				eS	Sn	22 25 17.8 -1.8
ANBD	Bethesda, Anti	4.54	315	eP	Pn	22 24 32.6 +0.9
ANBD	Bethesda, Anti	4.54	315	eS	Sn	22 25 22.1 -2.1
BPA	Boggy Peak	4.60	314	eP	Pn	22 24 33.2 +0.6
TPP	Pointe-a-Pierr	4.63	221	eP	Pn	22 24 33.6 +0.6
ANWB	Willy Bob	5.00	320	eP	Pn	22 24 38.3 +0.3
ANWB	Willy Bob	5.00	320	eS	Sn	22 25 33.6 -2.0
SKI	Saint Kitts	5.43	310	eP	Pn	22 24 45.0 +1.0
SKI	Saint Kitts	5.43	310	Pn	Pn	22 24 45.0 +1.0
SMRT	St. Maarten	6.13	313		Pn	22 24 53.7 0.0
PCRV	Puerto La Cruz	7.13	240	Pn	Pn	22 25 09.4 +2.0
PCRV	5.4nm,0.3s,baz=38,slow=6.0,SNR=21					
				Sn	Sn	22 26 22.9 -5.3
	baz=82,slow=17,SNR=1.1					
CUPR	Culebra, Puert	7.96	305		Pn	22 25 20.1 +1.3
SJG	San Juan	8.57	300	Pn	Pn	22 25 27.1 -0.1
SJG	2.3nm,0.3s,baz=131,slow=20,SNR=2.8					
				Sn	Sn	22 27 00.4 -3.3
	1.0nm,0.3s,baz=32,slow=18,SNR=1.1					
SJG				LR	LR	22 29 11.6
	comp=Z,83nm,21.8s,baz=224,slow=40					
SJG	San Juan	8.57	300	Pn	Pn	22 25 27.6 +0.5
AOPR	Arecibo Observ	9.19	300		Pn	22 25 37.5 +1.8
MDP	Montagnes des	10.39	146	Pn	Pn	22 25 48.0 -4.1
	2.3nm,0.3s,baz=339,slow=19,SNR=27					
MDP				Sn	Sn	22 27 36.6 -12
	2.6nm,0.3s,baz=54,slow=24,SNR=8.0					
MDP				LR	LR	22 30 03.8
	comp=Z,52nm,21.9s,baz=295,slow=39					
PTGA	Pitinga	14.59	186	Pn	Pn	22 26 46.1 -3.4
	1.4nm,0.3s,baz=280,slow=23,SNR=5.7					
PTGA				Sn	Sn	22 29 18.8 -12
	1.4nm,0.3s,baz=268,slow=22,SNR=5.7					
OCAC	Ocana	15.68	251	eP	P	22 27 08.8 +0.5
SMLC	San Martn de	16.18	254	eP	P	22 27 13.1 -0.6
BARC	Barichara	16.25	245	eP	P	22 27 19.2 +4.5
ZARC	Zaragoza, Cauc	17.38	250	eP	Pn	22 27 32.2 -1.5
CHIC	Chingaza	17.70	240	eP	P	22 27 36.3 +5.4
ROSC	El Rosal	18.09	242	LR	LR	22 36 16.5
	comp=Z,173nm,20.7s,baz=49,slow=43					
NORC	Norcasia	18.21	245	eP	P	22 27 38.9 +2.7
DBBC	Dabeiba	18.79	251	eP	Pn	22 27 43.3 +0.1
GUY2C	Guyana, Caldas	18.80	244	eP	Pn	22 27 44.6 +0.9
CBOC	Ciudad Bolivar	19.09	247	eP	P	22 27 46.6 +0.6
MACC	Macarena, Meta	19.21	234	eP	Pn	22 27 52.7 +4.5
PLMC	San Jos del P	19.76	245	eP	Pn	22 27 55.4 +0.6
HRV	Adam Dziewonsk	30.73	341	P	P	22 29 36.7 -1.3
LPAZ	La Paz	31.47	198	P	P	22 29 46.0 +0.5
	0.4nm,0.5s,baz=51,slow=8.9,SNR=1.8					
LPAZ	La Paz	31.47	198	P	P	22 29 44.5 -1.0
LMN	Caledonia Moun	32.34	352	P	P	22 29 51.4 -0.8
LMN				IAmb	IAmb	22 29 54.8
	comp=Z,5.6nm,0.9s					
SCHQ	Schefferville	41.40	353	P	P	22 31 11.4 +2.2
	comp=Z,3.4nm,0.8s,baz=153,slow=6.9,SNR=3.8					
SCHQ	Schefferville	41.40	353	P	P	22 31 08.2 -0.9
SCHQ				IAmb	IAmb	22 31 12.4
	comp=Z,4.9nm,0.9s					
TXAR	Lajitas Array	44.54	298	P	P	22 31 36.7 +1.6
	comp=Z,0.4nm,0.8s,baz=129,slow=9.9,SNR=5.0					
TXAR	Lajitas Array	44.54	298	P	P	22 31 35.6 +0.6
MNTX	Cornudas Mount	46.43	301	P	P	22 31 50.8 +0.8
MNTX				IAmb	IAmb	22 31 53.5
	comp=Z,3.8nm,1.0s					
ULM	Lac du Bonnet	47.36	328	P	P	22 31 57.9 +1.0
	comp=Z,2.3nm,0.7s,baz=153,slow=2.3,SNR=2.5					
ULM	Lac du Bonnet	47.36	328	P	P	22 31 56.7 -0.2
H10N3	ASCENSION HYDR	48.60	114	T	T	23 24 12.2
	baz=295,slow=74,SNR=3.7					
H10N2	ASCENSION HYDR	48.61	114	T	T	23 24 06.5
	baz=295,slow=74,SNR=4.6					
H10N1	ASCENSION HYDR	48.63	114	T	T	23 24 06.6
	baz=295,slow=74,SNR=3.6					
PDAR	Pinedale Array	52.44	314	P	P	22 32 37.5 +1.5
	comp=Z,0.7nm,0.7s,baz=120,slow=8.7,SNR=6.7					
PDAR	Pinedale Array	52.44	314	P	P	22 32 36.1 +0.1
ESDC	Sonseca Array	54.02	51	P	P	22 32 49.0 +1.6
	comp=Z,0.5nm,0.8s,baz=261,slow=8.6,SNR=4.1					
ESDC	Sonseca Array	54.02	51	P	P	22 32 46.5 -0.9
NVAR	Mina Array Bea	58.01	307	P	P	22 33 15.3 -0.9
	comp=Z,0.2nm,0.6s,baz=108,slow=4.0,SNR=2.5					
TORD	Torodi Ar. Bea	58.28	83	P	P	22 33 19.3 +1.1
	comp=Z,1.0nm,0.7s,baz=283,slow=6.4,SNR=3.9					
TORD	Torodi Ar. Bea	58.28	83	P	P	22 33 18.5 +0.3
TORD				IAmb	IAmb	22 33 34.6
	comp=Z,2.8nm,1.4s					
GERES	GERESS Array B	67.91	43	P	P	22 34 22.8 +1.1
	comp=Z,0.5nm,0.6s,baz=247,slow=6.5,SNR=5.0					
BCAR	Beaver Creek A	74.76	332	P	P	22 35 02.8 0.0
FINES	FINESS Array B	75.29	30	P	P	22 35 07.1 +1.3
	comp=Z,2.7nm,0.7s,baz=275,slow=3.7,SNR=18					
ILAR	Eielson Array	76.93	334	P	P	22 35 16.8 +1.6
	comp=Z,0.9nm,0.9s,baz=103,slow=5.3,SNR=6.9					
AKASG	Malin Array Be	77.90	41	P	P	22 35 20.2 -0.6
	comp=Z,0.1nm,0.2s,baz=318,slow=10,SNR=1.5					

*TRN **26** 22:26:55.4, 13°.94N×58°.41W, h87km, MD4.0*

ISC 26 22:26:55.1±2.6, 13°.99N±0°.06×58°.5W±0°.1, h10km, n34, σ1§05/39, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.31	228	eP	Pn	22 27 19.3	-0.2
BBSP				eS	Sb	22 27 36.8	+0.1
BBGH	Gun Hill	1.36	232	eP	Pn	22 27 20.4	+0.2
BBGH	Gun Hill	1.36	232	e	Pn	22 27 20.5	+0.3
BBGH				eS	Sg	22 27 40.4	+1.5
BCHC	Barbados, Cave	1.42	234	e	Pb	22 27 22.0	+0.3
MPOM	Morne Pois Mar	2.37	281	eP	Pn	22 27 34.5	+0.4
MPOM				eS	Sn	22 28 02.6	-0.8
MCLT	Moule a Chique	2.43	264	eP	Pn	22 27 37.0	+2.1
MVM	Montagne Vaucl	2.43	284	eP	Pn	22 27 35.0	+0.1
SLBI	Saint Lucia, B	2.44	271	eP	Pn	22 27 35.7	+0.6
SLBI				eS	Sn	22 28 04.1	-1.0
SLCP	Castries, St.	2.46	271	eP	Pn	22 27 36.0	+0.7
LPMF	Morne Lapointe	2.50	284	eP	Pn	22 27 35.7	-0.2
SLB	Belfond	2.52	267	eS	Sn	22 28 07.0	+0.1
ZAM	Aeronautique	2.56	283	eP	Pn	22 27 36.4	-0.3
TRMF	Trois Ilets	2.58	283	eP	Pn	22 27 36.5	-0.4
BIM	Bigot	2.59	282	eP	Pn	22 27 36.9	-0.3
BIM				eS	Sn	22 28 05.3	-3.4
FDF	Fort de France	2.71	286	eP	Pn	22 27 39.1	+0.2
FDF				eS	Sn	22 28 10.9	-0.9
BAMF	Morne Balai	2.74	288	eP	Pn	22 27 39.8	+0.6
PML	Morne Lenard	2.76	287	eP	Pn	22 27 40.0	+0.5
SVN	Savane Anatole	2.76	288	eP	Pn	22 27 40.5	+1.0
SVV	Soufriere Volc	2.76	256	eP	Pn	22 27 40.5	+1.0
PCM	Pelee Case Pet	2.79	288	eP	Pn	22 27 39.9	-0.1
SVB	Belmont	2.81	256	eP	Pn	22 27 40.0	-0.2
SVB				eS	Sn	22 28 12.2	-1.9
DLPL	La Plaine	3.01	297	eP	Pn	22 27 42.8	-0.2
DSLB	Salisbury	3.21	297	eP	Pn	22 27 46.1	+0.4
TOSP	Speyside	3.35	217	e	Pn	22 27 38.0	-10
MAGL	Barre de l'ile	3.36	306	eP	Pn	22 27 48.2	+0.6
TDBA	Terre de Bas,	3.59	301	eP	Pn	22 27 52.4	+1.5
TBG	Guadaloupe-3	3.60	301	eP	Pn	22 27 50.6	-0.4
CBE	Ff, Capester	3.68	305	eP	Pn	22 27 53.4	+1.3
ABD	La Joyeuse, An	3.83	311	eP	Pn	22 27 54.1	-0.1
TRN	Trinidad (W)	4.39	221	eP	Pn	22 28 01.4	-0.5
ANBD	Bethesda, Anti	4.41	314	e	Pn	22 28 04.5	+2.4
BPA	Boggy Peak	4.47	313	eP	Pn	22 28 03.0	-0.1
ANWB	Willy Bob	4.87	319	eP	Pn	22 28 08.1	-0.3
SKI	Saint Kitts	5.30	309	e	Pn	22 28 10.3	-4.1

*THR **26** 22:40:34.6±0.4, 28°.18N×58°.38E, h14km±9km, ML3.0*
*TEH **26** 22:40:37.9, 28°.31N×58°.30E, h78km, ML3.1*
*OMAN **26** 22:40:40.6±0.5, 27°.90N×58°.38E, h29km±22km, mb5.5/1, ml3.5/15, Error ellipse: s-maj=30.5km s-min=3.3km az=22.0*
*DSN **26** 22:40:40.2±1.7, 27°.73N×58°.39E, h10km, ML2.9/7, Error ellipse: s-maj=36.9km s-min=9.2km az=151.0*

ISC 26 22:40:37.1±1.6, 28°.16N±0°.04×58°.38E±0°.06, h31km±16km, n61, σ1§33/73, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.63	251	ePg	Pn	22 40 53.5	+3.6
KBAM	BAM	0.98	4	ePg	Pn	22 40 55.6	+0.8
KBAM				eSg	Sb	22 41 09.3	+1.1
KBAM				e		22 41 10.2	
	comp=Z,9μm,0.3s						
IBND	Bandar-abas	1.77	247	e		22 41 08.1	
	comp=Z,4μm,0.4s						
IBND				ePg	Pb	22 41 07.8	-1.2
CHMN	Cheshme madani	1.85	337	e		22 41 08.6	
	comp=Z,1μm,0.3s						
CHMN				ePg	Pn	22 41 07.4	+0.4
NGRK	Negar Kerman	2.07	316	ePg	Pn	22 41 10.5	+0.5
NGRK				e		22 41 12.8	
	comp=Z,2μm,0.2s						
GENO	Geno	2.10	249	ePn	Pn	22 41 11.3	+1.1
GENO				e		22 41 45.4	
	comp=Z,1μm,0.2s						
BNDS	Bandar-Abbas	2.10	249	ePn	Pn	22 41 11.5	+1.2
BNDS				IAML		22 41 37.3	
	comp=N,92nm,0.3s						
BNDS				IAML		22 41 38.0	
	comp=E,102nm,0.3s						
BNDS	Bandar-Abbas	2.10	249	ePn	Pn	22 41 11.5	+1.2
KRBR	Kerman	2.30	322	ePn	Pn	22 41 14.3	+1.1
KRBR				eSg	Sb	22 41 46.6	+0.3
KRBR	Kerman	2.30	322	ePn	Pn	22 41 14.3	+1.1
ZHDN	Zahedan	2.47	59	ePn	Pn	22 41 17.1	+1.8
ZHSF	Zahedan	2.55	55	ePn	Pn	22 41 17.6	+1.1
ZHSF	Zahedan	2.55	55	ePn	Pn	22 41 17.6	+1.1
KHGB	Koh Gabri	2.76	324	ePn	Pn	22 41 19.3	-0.2
SHME	Shamm	2.90	224	eP	Pn	22 41 21.8	+0.8
	SNR=30						
SHME				S	Sn	22 41 55.4	+0.5
SHME	Shamm	2.90	224	ePn	Pn	22 41 22.1	+1.1
SHME	Shamm	2.90	224	P	Pn	22 41 22.2	+1.1
	SNR=5.5						
SHME				S	Sn	22 41 55.9	+1.0
BANOM	Banah	2.90	220	eP	Pn	22 41 21.5	+0.4
	SNR=11						
BANOM				S	Sn	22 41 54.7	-0.3
BANOM	Banah	2.90	220	ePn	Pn	22 41 21.6	+0.4
BANOM	Banah	2.90	220	P	Pn	22 41 21.8	+0.7
	SNR=81						
BANOM				S	Sn	22 41 54.0	-0.9
MDH	Madha	3.40	214	i P	Pn	22 41 27.2	-0.8
	SNR=7.3						
MDH	Madha	3.40	214	ePn	Pn	22 41 27.2	-0.8
MDH	Madha	3.40	214	P	Pn	22 41 28.2	+0.1
	SNR=8.5						
MASF	Masafi	3.41	216	P	Pn	22 41 30.7	+2.5
MASF				S	Sn	22 42 07.4	-0.3
MSFE	Esma-Masafi	3.42	216	P	Pn	22 41 29.5	+1.2
MSFE	Esma-Masafi	3.42	216	ePn	Pn	22 41 28.5	+0.1
NHDN	Nehbandan	3.54	24	ePn	Pn	22 41 30.3	+0.3
SRVN	Saravan	3.64	101	ePn	Pn	22 41 35.7	+4.3
UOSS	Minazif	3.75	212	P	Pn	22 41 33.7	+0.9
UOSS	Minazif	3.75	212	ePn	Pn	22 41 32.5	-0.3
UOSS	Minazif	3.75	212	P	Pn	22 41 35.1	+2.3
UOSS				S	Sn	22 42 12.6	-3.3
HATD	Hatta, Dubai	3.88	212	ePn	Pn	22 41 34.4	-0.3
NAZ	Nazwa, Dubai	3.99	218	P	Pn	22 41 37.3	+1.3
ASHO	Ashiyiah	4.04	212	i P	Pn	22 41 38.4	+1.6
	SNR=17						
ASHO	Ashiyiah	4.04	212	ePn	Pn	22 41 37.5	+0.7
ASHO	Ashiyiah	4.04	212	P	Pn	22 41 39.3	+2.5
	SNR=17						
ASHO				S	Sn	22 42 23.2	+0.1
FAQ	Al Faqa, Dubai	4.22	217	i P	Pn	22 41 41.0	+1.7
	SNR=7.8						
FAQ	Al Faqa, Dubai	4.22	217	ePn	Pn	22 41 39.8	+0.5
FAQ	Al Faqa, Dubai	4.22	217	P	Pn	22 41 40.5	+1.3
	SNR=7.8						
FAQ				S	Sn	22 42 26.2	-1.3
IKOO	Kooshah	4.29	7	ePn	Pn	22 41 40.0	-0.4
SOHO	SOHO	4.34	203	i P	Pn	22 41 40.0	-0.9
	SNR=26						
SOHO	SOHO	4.34	203	ePn	Pn	22 41 39.3	-1.6
SOHO	SOHO	4.34	203	P	Pn	22 41 40.7	-0.2
ASUD	Al Ashush, Dub	4.46	219	i P	Pn	22 41 44.1	+1.5
	SNR=14						
ASUD	Al Ashush, Dub	4.46	219	P	Pn	22 41 42.7	+0.1
	SNR=14						
BIDO	Bidbid	4.62	183	P	Pn	22 41 44.5	-0.3
HOQ	Hoqain	4.66	192	P	Pn	22 41 45.0	-0.4
	SNR=11						
AJN	Ajban	4.70	221	P	Pn	22 41 47.1	+1.3
WSAR	Wadi Sarin	4.90	177	P	Pn	22 41 49.2	+0.4
	SNR=86						
WSAR				S	Sn	22 42 41.9	-2.5
TPRV	Parvadeh(Tabas	5.07	344	ePn	Pn	22 41 50.4	-0.6
SMDO	Samad	5.09	183	P	Pn	22 41 51.6	+0.3
	SNR=7.2						
BSY	Bisya	5.50	191	P	Pn	22 41 58.7	+1.8
BSY				S	Sn	22 42 59.2	+0.2
TKDS	Koohdasht(Taba	5.54	349	ePn	Pn	22 41 58.6	+1.0
WBK	Wadi Bani Khal	5.55	174	P	Pn	22 41 58.0	+0.3
	SNR=102						
SHRT	Shahrakht	5.71	16	ePn	Pn	22 42 00.8	+0.9
SHRT	Shahrakht	5.71	16	ePn	Pn	22 42 00.8	+0.9
JMDO	Jabal Madar	5.77	183	P	Pn	22 42 01.4	+0.8
AHBU	AHRAM	6.27	278	ePn	Pn	22 42 08.7	+1.2
GHWR	Ruwais	6.48	231	P	Pn	22 42 09.1	-1.2
KLNJ	Kolanjah	6.56	297	ePn	Pn	22 42 11.5	-0.2
TRNA	Turayna	7.27	244	P	Pn	22 42 20.3	-0.9

*IDC **26** 22:42:10.9±0.4, 17°.93S×174°.55W, h0km, mb4.6/21, mb1 4.8/22, mb1mx4.8/24, mbtmp4.6/22, ML4.5/1, MS5.4/26, Ms1 5.4/26, ms1mx5.4/28, Error ellipse: s-maj=18.0km s-min=14.2km az=132.0*
*NEIC **26** 22:42:12.6, 18°.01S×174°.05W, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.11; $M_{\theta\theta}$=5.27; $M_{\phi\phi}$5.38; $M_{r\theta}$0.84; $M_{\theta\phi}$1.52; $M_{\phi r}$1.74; Fault plane solution: $M_0$5.86000×10^{17} NP1:ϕ_s53.83000°, δ83.12000°, λ16.45000°. NP2:ϕ_s321.81000°, δ73.67000°, λ172.83000°. Principal axes: T 6.1339, Plg16.0000°, Azm279.0000°; N -0.5869, Plg72.0000°, Azm76.0000°; P -5.5469, Plg7.0000°, Azm187.0000°;*
*NEIC **26** 22:42:13.2±1.5, 18°.02S±0°.07×174°.07W±0°.07, h7km±2km, mb5.5/123, Ms_20 5.6/430, Mwb5.8/41, Mwc5.9(GCMT) Error ellipse: s-maj=10.7km s-min=9.6km az=190.0*
*NOU **26** 22:42:14.2, 18°.19S×174°.02W, h0km, MLv5.6, Tonga Islands*
*BJI **26** 22:42:14.4±0.0, 17°.88S×173°.87W, h23km, mB5.8/71, mb5.1/64, Ms5.7/78, Ms7 5.5/74*
*MOS **26** 22:42:16.5±2.4, 18°.00S×174°.32W, h28km, mb5.5/20, MS5.5/42, Error ellipse: s-maj=8.4km s-min=7.6km az=104.2*
*NEIC **26** 22:42:21, 18°.20S×174°.20W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.99; $M_{\theta\theta}$-5.41; $M_{\phi\phi}$9.40; $M_{r\theta}$-1.38; $M_{\theta\phi}$2.44; $M_{\phi r}$1.80; Fault plane solution: $M_0$8.82000×10^{17} NP1:ϕ_s51.00000°, δ63.00000°, λ-19.00000°. NP2:ϕ_s150.00000°, δ73.00000°, λ-152.00000°. Principal axes: T 9.9678, Plg6.0000°, Azm278.0000°; N -3.1526, Plg58.0000°, Azm178.0000°; P -6.8152, Plg32.0000°, Azm12.0000°;*
*GCMT **26** 22:42:21.2±0.1, 18°.19S×174°.20W, h13km, MW5.9/160, Moment Tensor Solution. s148,c304; s160,c533; Duration: 2§1 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.38±.01; $M_{\theta\theta}$-0.53±.01; $M_{\phi\phi}$0.90±.01; $M_{r\theta}$-0.12±.01; $M_{\theta\phi}$0.23±.00; $M_{\phi r}$0.22±.01; Best double couple: $M_0$0.81600×10^{18} NP1:ϕ_s51.00000°, δ62.00000°, λ-17.00000°. NP2:ϕ_s149.00000°, δ75.00000°, λ-151.00000°. Principal axes: T 0.9750, Plg9.0000°, Azm278.0000°; N -0.3180, Plg58.0000°, Azm174.0000°; P -0.6570, Plg31.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **26** 22:42:22.7±0.0, 17°.56S×173°.65W, h33km, Ms5.5*

ISC 26 22:42:15.9±0.4, 18°.06S±0°.04×174°.13W±0°.04, h23km±2km, h23km:pP-P, n949, σ1§87/764, mb5.4/155, MS5.6/284, 88C-35D, Fault plane solution: NP1:ϕ_s53.53069°, δ86.29288°, λ33.29830°. **NP2:**ϕ_s321.09888°, δ56.78041°, λ175.56737°. **Principal axes:** T Plg25.6649°, Azm282.5574°; N Plg56.5196°, Azm59.1526°; P Plg19.9786°, Azm182.4968°; **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.11	105	P	Pn	22 43 14.9	-2.4
	baz=4.2,SNR=197						
NIUE				S	Sn	22 44 05.4	+0.7
	baz=4.2						
NIUE	Niue	4.11	105		Pn	22 43 15.4	-1.9
NIUE				Sn	Sn	22 44 04.1	-0.6
NIUE	Niue	4.11	105	P	Pn	22 43 16.0	-1.3
AFI	Afiamalu	4.71	29	Pn	Pn	22 43 22.8	-2.8
	22nm,0.3s,baz=165,slow=6.9,SNR=12						
AFI				Sn	Sn	22 44 16.4	-3.1
	81nm,0.3s,baz=120,slow=20,SNR=4.4						
AFI				LR	LR	22 45 04.3	
	comp=Z,24μm,18.3s,baz=220,slow=36						
AFI	Afiamalu	4.71	29	P	Pn	22 43 23.1	-2.5
AFI						22 44 15.5	
AFI	Afiamalu	4.71	29	Pn	Pn	22 43 23.1	-2.5
AFI				Sn	Sn	22 44 15.5	-4.1
AFI	Afiamalu	4.71	29	P	Pn	22 43 25.3	-0.3
MSVF	Nonsavu	7.45	271	Pn	Pn	22 44 04.1	+0.8
	2.3nm,0.3s,baz=104,slow=13,SNR=24						
MSVF				LR	LR	22 46 29.6	
	comp=Z,151μm,20.4s,baz=105,slow=37						
MSVF	Nonsavu	7.45	271	P	Pn	22 44 03.9	+0.5
MSVF	Nonsavu	7.45	271	Pn	Pn	22 44 03.9	+0.5
MSVF	Nonsavu	7.45	271	P	Pn	22 44 07.0	+3.6
RAR	Rarotonga	13.88	105	Pn	Pn	22 45 28.8	-2.5
	6.6nm,0.3s,baz=255,slow=10,SNR=14						
RAR				Sn	Sn	22 48 00.2	-4.6
	1.6nm,0.3s,baz=338,slow=19,SNR=1.9						
RAR				LR	LR	22 49 46.1	
	comp=Z,25μm,18.9s,baz=258,slow=32						
RAR	Rarotonga	13.88	105	P	Pn	22 45 28.5	-2.8
RAR	Rarotonga	13.88	105	Pn	Pn	22 45 28.5	-2.8
RAR	Rarotonga	13.88	105	P	Pn	22 45 31.7	+0.4
KNTN	Kanton	15.38	9	P	Pn	22 45 53.6	+2.1
MARNC	Mare, Loyalty	17.13	256	Pn	Pn	22 46 12.9	-1.0
MARNC	Mare, Loyalty	17.13	256	P	P	22 46 17.4	+2.0
LIFNC	LIFOU	17.78	258	P	Pn	22 46 21.9	-0.1
LIFNC	LIFOU	17.78	258	P	P	22 46 24.4	+1.8
PINNC	Pines Island,	17.86	252		Pn	22 46 22.5	-0.4
PINNC	Pines Island,	17.86	252	P	Pn	22 46 22.9	0.0
SANVU	Saraoutou	18.07	276	P	P	22 46 26.2	+0.4
SANVU	Saraoutou	18.07	276	P	P	22 46 27.8	+2.0
YATNC	Mamie plateau,	18.27	254	P	P	22 46 29.1	+1.1
OUENC	Ouen Island, N	18.37	253	P	P	22 46 29.2	0.0
OUENC				IAmb	IAmb	22 46 41.2	
	comp=Z,590nm,1.6s						
OUENC	Ouen Island, N	18.37	253	P	Pn	22 46 29.7	+0.5
DZM	Mont Dzumac	18.68	254	P	P	22 46 31.8	-0.8
	comp=Z,0.0nm,0.3s,baz=11,slow=13,SNR=4.5						
DZM				LR	LR	22 52 36.5	
	comp=Z,25μm,19.3s,baz=86,slow=34						
DZM	Mont Dzumac	18.68	254	eP	P	22 46 32.7	+0.1
	comp=Z,584nm,1.4s						
DZM				eLR	LR	22 50 52.8	
	comp=Z,66μm,25.4s						
DZM	Mont Dzumac	18.68	254	P	P	22 46 31.7	-1.0
DZM				IAmb	IAmb	22 46 46.4	
	comp=Z,509nm,1.5s						
DZM	Mont Dzumac	18.68	254	P	Pn	22 46 35.5	+2.4
ONTNC	Ouen Toro	18.71	254	P	P	22 46 33.0	+0.2
ONTNC				IAmb	IAmb	22 46 42.0	
	comp=Z,223nm,1.1s						
ONTNC	Ouen Toro	18.71	254	P	Pn	22 46 33.5	+0.2
NOUC	Port Laguerre	18.81	254	P	Pn	22 46 37.7	+3.1
OUZ	Omahuta	20.27	210	P	P	22 46 49.4	-0.5
OUZ				IAMs_20	IAMs_20	22 52 45.9	
	comp=Z,24μm,21.0s						
KOUNC	Koumac, New Ca	20.52	260	P	P	22 46 52.9	+0.2
MXZ	Matakaoa Point	20.53	197	IAMs_20	IA

comp=Z,40nm,0.4s
QRZ Quartz Range 25.43 204 IAMs_20 IAMs_20 22 56 40.0
comp=Z,20μm,19.0s
TUWZ Tuamarina 25.43 201 P **P** **22 47 40.0 -1.9**
NNZ Nelson 25.45 202 IAMs_20 IAMs_20 22 56 50.6
comp=Z,14μm,21.0s
VAH Vaihoa 25.54 88 *e*P **P** **22 47 44.0 +1.0**
comp=Z,129nm,1.3s
VAH Vaihoa 25.54 88 *e*T T 23 14 14.0
comp=Z,42nm,0.2s
THZ Tophouse 26.09 202 IAMs_20 IAMs_20 22 56 37.7
comp=Z,14μm,20.0s
KHZ Kahutara 26.45 201 P **P** **22 47 50.9 -0.1**
KHZ IAMs_20 IAMs_20 22 56 43.1
comp=Z,13μm,19.0s
HNR Honiara 26.57 285 LR LR 22 56 39.5
comp=Z,25μm,20.3s,baz=118,slow=33
LTZ Lake Taylor 27.21 202 P **P** **22 47 56.3 -1.7**
LTZ IAmb IAmb 22 48 11.5
comp=Z,52nm,0.8s
LTZ IAMs_20 IAMs_20 22 58 07.3
comp=Z,19μm,20.0s
OXZ Oxford 27.77 202 P **P** **22 48 02.3 -0.6**
OXZ IAmb IAmb 22 48 12.2
comp=Z,85nm,1.0s
OXZ IAMs_20 IAMs_20 22 58 25.1
comp=Z,14μm,18.0s
RPZ Rata Peaks 28.47 203 P **P** **22 48 09.5 +0.3**
RPZ IAmb IAmb 22 48 17.6
comp=Z,63nm,1.1s
WKZ Wanaka 30.18 204 IAMs_20 IAMs_20 23 00 19.0
comp=Z,14μm,19.0s
MLZ Mavora Lakes 30.99 205 IAMs_20 IAMs_20 23 01 20.3
comp=Z,10μm,20.0s
WHZ Wether Hill Ro 31.49 204 P **P** **22 48 33.5 -2.4**
WHZ IAMs_20 IAMs_20 23 00 02.5
comp=Z,10μm,20.0s
PYZ Puysegur Point 32.22 205 IAMs_20 IAMs_20 23 01 45.9
comp=Z,12μm,21.0s
EIDS Eidsvold 33.06 251 P **P** **22 48 48.1 -1.8**
baz=33,SNR=7.0
ARMA Armidale 33.43 242 P **P** **22 48 50.4 -2.9**
baz=33,SNR=3.8
TAOE Nuku Hiva Isla 34.24 79 *e*S **S** **22 54 26.4 +0.1**
TAOE comp=Z,2μm,24.4s *e*LR LR 22 57 57.7
comp=Z,24μm,27.2s
TAOE Nuku Hiva Isla 34.24 79 *e*T T 23 25 03.6
comp=Z,308nm,0.3s
RMQ Roma 35.25 250 P **P** **22 49 07.3 -1.7**
baz=35,SNR=9.5
CNB Canberra Magne 36.61 235 P **P** **22 49 18.9 -1.7**
baz=36,SNR=8.0
PATS Pohnpei 36.77 310 P **P** **22 49 24.2 +2.2**
baz=37,SNR=3.8
CAN Canberra 36.90 235 P **P** **22 49 21.7 -1.3**
CAN pmax pmax
comp=Z,57nm,1.1s
CAN MLR MLR
comp=Z,6μm,19.0s
CAN Canberra 36.90 235 P **P** **22 49 21.7 -1.3**
CTAO Charters Tower 37.44 260 P **P** **22 49 24.7 -3.0**
CTAO pmax pmax
comp=Z,58nm,0.8s
CTAO MLR MLR
comp=Z,13μm,22.0s
CTAO Charters Tower 37.44 260 P **P** **22 49 24.7 -3.0**
CTAO IAmb IAmb 22 49 36.1
comp=Z,58nm,0.8s
CTAO Charters Tower 37.44 260 IAMs_20 IAMs_20 23 02 14.5
comp=Z,13μm,22.0s
PMG Port Moresby 38.51 278 P **P** **22 49 34.3 -2.5**
PMG pmax pmax
comp=Z,78nm,1.1s
PMG MLR MLR
comp=Z,11μm,19.0s
PMG Port Moresby 38.51 278 P **P** **22 49 34.2 -2.5**
PMG IAmb IAmb 22 49 51.7
comp=Z,78nm,1.1s
PMG Port Moresby 38.51 278 P **P** **22 49 41.0 +4.2**
PMG Port Moresby 38.51 278 P **P** **22 49 40.9 +4.2**
CMSA Cobar Meteorol 38.65 242 P **P** **22 49 35.6 -2.2**
baz=38,SNR=8.8
QLP Quilpie 39.30 250 P **P** **22 49 42.9 -0.4**
baz=39,SNR=4.0
TAU Tasmania Unive 40.92 224 IAMs_20 IAMs_20 23 03 58.4
comp=Z,9μm,21.0s
H11S2 WAKE ISLAND Hy 40.92 332 T T 23 34 00.8
baz=149,slow=76
H11S3 WAKE ISLAND Hy 40.93 332 T T 23 34 02.1
baz=149,slow=76
H11S1 WAKE ISLAND Hy 40.94 332 T T 23 34 01.5
baz=149,slow=76
PTCN Pitcairn Islan 41.40 108 IAMs_20 IAMs_20 23 02 02.6
comp=Z,10μm,21.0s
H11N3 WAKE ISLAND Hy 41.91 333 T T 23 34 45.8
baz=151,slow=76,SNR=33
H11N1 WAKE ISLAND Hy 41.91 333 T T 23 34 36.8
baz=151,slow=76,SNR=130
H11N2 WAKE ISLAND Hy 41.92 333 T T 23 34 46.0
baz=151,slow=76,SNR=44
STKA Stephens Creek 42.15 242 P **P** **22 50 02.6 -4.2**
comp=Z,9.0nm,0.8s,baz=88,slow=9.3,SNR=13
STKA LR LR 23 04 18.9
comp=Z,10μm,21.4s,baz=76,slow=32
STKA Stephens Creek 42.15 242 P **P** **22 50 05.4 -1.3**
baz=42,SNR=12
STKA Stephens Creek 42.15 242 P **P** **22 50 05.3 -1.5**
STKA pmax pmax
comp=Z,8.0nm,1.1s
STKA Stephens Creek 42.15 242 P **P** **22 50 05.3 -1.5**
BBOO Buckleboo 46.91 242 P **P** **22 50 42.9 -1.9**
BBOO IAmb IAmb 22 50 49.8
comp=Z,57nm,1.1s
WR0 Warramunga Arr 48.42 259 P **P** **22 50 53.6 -3.1**
WR0 IAmb IAmb 22 51 03.4
comp=Z,60nm,1.3s
WB0 Warramunga Arr 48.58 259 P **P** **22 50 54.6 -3.3**
WB2 Warramunga Arr 48.59 259 P **P** **22 50 53.8 -4.2**
WB2 IAmb IAmb 22 51 04.7
comp=Z,64nm,1.0s
WRAB Tennant Creek 48.60 259 P **P** **22 50 54.9 -3.2**
WRAB pmax pmax
comp=Z,74nm,1.2s
WRAB MLR MLR
comp=Z,11μm,20.0s
WRAB Tennant Creek 48.60 259 P **P** **22 50 54.9 -3.2**
WRAB IAmb IAmb 22 51 01.5
comp=Z,74nm,1.2s
WRA Warramunga Arr 48.61 259 P P 22 50 53.4 -4.8
comp=Z,7.4nm,0.6s,baz=95,slow=7.8,SNR=30
WRA LR LR 23 09 49.4
comp=Z,13μm,21.9s,baz=95,slow=34
WRA Warramunga Arr 48.61 259 P **P** **22 50 54.2 -3.9**
WRA pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 48.61 259 P **P** **22 50 54.2 -3.9**
AS31 Alice Springs 48.67 254 P **P** **22 50 54.5 -4.1**
AS31 IAmb IAmb 22 51 04.7
comp=Z,28nm,0.9s
ASAR Alice Springs 48.67 254 P **P** **22 50 54.3 -4.4**
comp=Z,61nm,0.9s,baz=89,slow=7.2,SNR=95
ASAR LR LR 23 12 20.5
comp=Z,5μm,18.2s,baz=94,slow=38
ASAR Alice Springs 48.67 254 P **P** **22 50 55.3 -3.3**
ASAR Alice Springs 48.67 254 P **P** **22 50 55.3 -3.3**
GUMO Guam 51.23 305 P **P** **22 51 15.6 -2.5**
GUMO pmax pmax
comp=Z,72nm,1.0s
GUMO Guam 51.23 305 P **P** **22 51 15.6 -2.5**
GUMO IAmb IAmb 22 51 28.0
comp=Z,72nm,1.0s
GUMO Guam 51.23 305 P P 22 51 23.7 +5.7
MTN Manton Dam 52.86 267 P **P** **22 51 27.8 -2.5**
baz=53,SNR=3.4
MTN Manton Dam 52.86 267 P **P** **22 51 28.6 -1.7**
MTN IAmb IAmb 22 51 40.9
comp=Z,48nm,0.8s
FORT Forrest 53.62 245 P **P** **22 51 33.5 -2.2**
FORT IAmb IAmb 22 51 39.2
comp=Z,65nm,0.9s
SAUI Saumlaki 53.93 273 IAMs_20 IAMs_20 23 14 43.6
comp=Z,6μm,19.0s
KNRA Kununurra 54.52 263 P **P** **22 51 41.7 -0.7**
baz=54,SNR=5.4
KNRA Kununurra 54.52 263 P **P** **22 51 39.2 -3.2**
FAKI Fak Fak 54.61 279 IAMs_20 IAMs_20 23 15 37.5
comp=Z,5μm,19.0s
SWI Sorong 56.26 281 P **P** **22 51 58.5 +3.6**
comp=Z,2μmcomp=Z,1μmcomp=Z,66nm,0.8s
NLAI Namlea 59.35 277 P **P** **22 52 19.4 +2.7**
comp=Z,4μmcomp=Z,18nm,1.2s
SOEI Soe 60.14 269 P **P** **22 52 20.1 -2.2**
SOEI IAMs_20 IAMs_20 23 16 18.2
comp=Z,5μm,20.0s
SOEI Soe 60.14 269 P **P** **22 52 21.1 -1.2**
comp=Z,3μmcomp=Z,221nm,1.3s
SBA Scott Base 60.55 185 P **P** **22 52 22.5 -1.4**
SBA pmax pmax
comp=Z,34nm,0.9s
SBA MLR MLR
comp=Z,4μm,18.0s
SBA Scott Base 60.55 185 P **P** **22 52 22.5 -1.4**
SBA IAmb IAmb 22 52 35.2
comp=Z,34nm,0.9s
SBA Scott Base 60.55 185 IAMs_20 IAMs_20 23 17 39.2
comp=Z,4μm,18.0s
VNDA Vanda 60.67 186 P **P** **22 52 23.9 -0.9**
comp=Z,8.4nm,1.1s,baz=20,slow=6.7,SNR=8.8
VNDA LR LR 23 12 56.0
comp=Z,1μm,21.9s,baz=18,slow=30
VNDA Vanda 60.67 186 P **P** **22 52 24.3 -0.5**
VNDA pmax pmax
comp=Z,100nm,2.0s
VNDA Vanda 60.67 186 P **P** **22 52 24.3 -0.5**
VNDA IAmb IAmb 22 52 41.1
comp=Z,100nm,1.9s
SANI Sanana 60.79 278 P **P** **22 52 28.7 +2.1**
comp=Z,3μmcomp=Z,927nmcomp=Z,26nm,1.5s
PSA00 Pilbara Seismi 61.81 255 P **P** **22 52 30.1 -3.3**
PSA00 Pilbara Seismi 61.81 255 P **P** **22 52 31.5 -1.9**
PSA00 IAmb IAmb 22 52 36.2
comp=Z,52nm,1.0s
MEEK Meekatharra 62.19 249 P **P** **22 52 34.5 -1.4**
baz=62,SNR=3.2
MMRI Maumere 62.37 270 IAMs_20 IAMs_20 23 19 57.2
comp=Z,3μm,18.0s
KLBR Kellerberrin 62.40 243 P **P** **22 52 35.3 -2.0**
baz=62,SNR=8.0
DAV Davao City (W) 64.52 287 IAMs_20 IAMs_20 23 20 29.8
comp=Z,4μm,19.0s
WBSI Waikabubak, Su 64.81 268 P P 22 53 01.7 +8.3
APSI Ampana 65.26 278 P **P** **22 52 58.2 +1.9**
comp=Z,609nmcomp=Z,54nm,1.2s
BNSI Bone 65.62 273 P P 22 53 07.0 +8.4
MPSI Mapaga 67.32 278 P **P** **22 53 09.2 -0.3**
comp=Z,2μmcomp=Z,23nm,0.9s
KBKI Kotabaru 69.69 273 P P 22 53 34.0 +10
MJAR Matsushiro Arr 70.53 321 P **P** **22 53 25.6 -3.4**
comp=Z,9.6nm,1.1s,baz=150,slow=6.8,SNR=16
MJAR LR LR 23 24 47.2
comp=Z,310nm,18.1s,baz=145,slow=36
MJAR Matsushiro Arr 70.53 321 P **P** **22 53 27.2 -1.8**
MJAR pmax pmax
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 70.53 321 P **P** **22 53 27.2 -1.8**
MAJO Matsushiro 70.53 321 *i* P **P** **22 53 31.8 +2.8**
MAJO pmax pmax
comp=Z,35nm,1.0s
MAT Matsushiro 70.53 321 P **P** **22 53 27.5 -1.5**
MAT S **S** **23 02 40.2 -1.0**
BBKI Banjar Baru 70.90 273 P P 22 53 39.4 +7.6
JSD Sado 71.50 322 P **P** **22 53 33.0 -1.8**
JSD IAmb IAmb 22 53 45.4
comp=Z,31nm,1.0s
ERM Erimo 71.62 328 IAMs_20 IAMs_20 23 23 12.8
comp=Z,3μm,20.0s
YUK Yuzh-Kuril'sk 71.82 331 *i* P **P** **22 53 33.8 -2.8**
YUK *i* 22 56 13.9
YUK *i* PPP PPP 22 58 00.6
YUK pmax pmax
comp=Z,308nm,1.1s
KUR Kuril'sk 71.84 333 *e*P **P** **22 53 36.9 +0.2**
KUR *e* 22 53 50.7
KUR 22 56 15.6
KUR pmax pmax
comp=Z,900nm,7.3s
KUR MLR MLR
comp=Z,2μm,15.0s
KUR MLR MLR
comp=N,1μm,12.0s
KUR MLR MLR
comp=E,500nm,12.0s
QSPA South Pole Qui 72.00 180 P **P** **22 53 37.8 +0.2**
QSPA South Pole Qui 72.00 180 IAMs_20 IAMs_20 23 22 51.4
comp=Z,2μm,19.0s
SPMM Sapulut 72.04 281 P **P** **22 53 39.0 +0.3**
PWJI Pagerwojo 72.46 267 P P 22 53 48.8 +7.6
JHS Saijyo 72.74 317 P **P** **22 53 41.8 -0.6**
JHS IAmb IAmb 22 53 53.4
comp=Z,53nm,1.1s
PCJI Pacitan 73.01 267 P P 22 53 49.7 +5.3
SKR Severo-Kuril's 73.28 341 *e*P **P** **22 53 44.1 -1.1**
SKR *e*S **SKiKP** **23 03 15.9 +0.4**
SKR pmax pmax
comp=Z,200nm,6.4s
SKR pmax pmax
comp=Z,300nm,6.8s
SKR pmax pmax
comp=Z,39nm,1.1s
SKR MLR MLR
comp=Z,700nm,16.0s
SKR MLR MLR
comp=Z,800nm,18.0s
SZP Santa 73.43 295 IAMs_20 IAMs_20 23 20 08.5
comp=Z,4μm,22.0s
CNBA Chernabura Isl 73.64 9 IAMs_20 IAMs_20 23 20 27.5
comp=Z,2μm,20.0s
PKM Mcpherson Peak 73.70 44 P P 22 53 56.0 +7.7
baz=234
UGM Wanagama 73.71 267 IAMs_20 IAMs_20 23 24 30.7
comp=Z,4μm,21.0s
SAO San Andreas Ge 73.77 42 IAMs_20 IAMs_20 23 17 46.6
comp=Z,3μm,22.0s
SMRI Semarang 74.03 268 P P 22 53 57.6 +7.1
PBKI Pangkalan Bun 74.15 272 P P 22 53 59.5 +8.4
PASC Pasadena Art C 74.37 46 IAMs_20 IAMs_20 23 18 15.5
comp=Z,3μm,21.0s
ARVC Arvin 74.49 44 P P 22 53 58.1 +5.5
baz=234
PET Petropavlovsk 74.61 343 *e*P **P** **22 53 52.4 -0.4**
PET *e*S **S** **23 03 27.7 +0.7**
PET pmax pmax
comp=Z,400nm,9.5s
VES Vestal, Richgr 74.74 44 P **P** **22 53 56.3 +2.2**
baz=234,SNR=7.5
JCC Jacoby Creek, 74.78 37 IAMs_20 IAMs_20 23 20 57.3
comp=Z,2μm,19.0s
MONP2 Monument Peak 74.87 47 P P 22 54 02.3 +7.1
baz=236
EDW2 Edwards Air Fo 74.91 45 P P 22 54 00.1 +4.9
baz=235
PEA0B Petropavlovsk- 74.95 343 P **P** **22 53 54.2 -0.7**
PEA0B pmax pmax
comp=Z,99nm,1.6s
PEA0B Petropavlovsk- 74.95 343 P **P** **22 53 54.1 -0.7**
PEA0B IAmb IAmb 22 54 04.5
comp=Z,98nm,1.6s
PETK Petropavlovsk- 74.95 343 P **P** **22 53 53.3 -1.6**
comp=Z,8.8nm,0.9s,baz=148,slow=8.7,SNR=11
PETK LR LR 23 19 50.5
comp=Z,2μm,21.9s,baz=154,slow=30
PETK Petropavlovsk- 74.95 343 P **P** **22 53 54.3 -0.5**
PETK Petropavlovsk- 74.95 343 P **P** **22 53 54.3 -0.5**
LPIG La Paz 75.03 58 LR LR 23 19 04.7
comp=Z,2μm,20.6s,baz=239,slow=29
ISA Isabella, Lake 75.04 44 P **P** **22 53 58.3 +2.4**
baz=234,SNR=11
O02D Mt. Diablo Mer 75.09 38 P **P** **22 53 58.9 +2.8**
baz=230,SNR=6.8
SLBS Sierra La Lagu 75.13 59 IAMs_20 IAMs_20 23 19 33.8
comp=Z,3μm,19.0s
STKI Sintang 75.19 275 P **P** **22 54 01.5 +4.3**
CMB Columbia Colle 75.22 41 IAMs_20 IAMs_20 23 18 53.8
comp=Z,3μm,21.0s
PFO Pinyon Flats O 75.24 47 P **P** **22 53 56.0 -1.2**
PFO pmax pmax
comp=Z,23nm,0.4s
PFO MLR MLR
comp=Z,2μm,20.0s
PFO Pinyon Flats O 75.24 47 P **P** **22 53 56.0 -1.2**
PFO Pinyon Flats O 75.24 47 IAMs_20 IAMs_20 23 18 48.6
comp=Z,2μm,20.0s
CHIR Chirikof Islan 75.24 11 IAMs_20 IAMs_20 23 20 53.5
comp=Z,3μm,20.0s
SBUM Sibu 75.26 278 P **P** **22 53 58.0 +0.4**
YULB Yu-li 75.31 301 IAMs_20 IAMs_20 23 23 24.2
comp=Z,3μm,21.0s
KPJI Karang Pucung 75.39 267 P **P** **22 54 01.5 +3.2**
comp=Z,68nm,1.1s
NACB Ninganchiao 75.43 302 IAMs_20 IAMs_20 23 23 21.2
comp=Z,2μm,21.0s
YSS Yuzh-Sakhalins 75.45 331 ⇓ *e*P **P** **22 53 57.5 -0.4**
YSS *e**SP **pP** **22 54 01.6 -3.5**
YSS *e*S **S** **23 03 36.5 -0.2**
YSS *e* 23 04 06.8
YSS *e*SS **SS** **23 08 32.0 +4.0**
YSS MLR MLR
comp=Z,1μm,16.0s
YSS MLR MLR
comp=E,800nm,15.0s
WDC Whiskeytown Da 75.49 38 IAMs_20 IAMs_20 23 22 26.1
comp=Z,3μm,20.0s
N02D Trinity Center 75.65 38 P **P** **22 54 01.7 +2.4**
baz=230,SNR=7.5
CWC Cottonwood Cre 75.75 44 P **P** **22 54 02.0 +1.9**
baz=234
O03E Paynes Creek 75.75 39 P **P** **22 54 01.6 +1.7**
baz=231,SNR=9.8
SSLB Suanglung 75.77 301 IAMs_20 IAMs_20 23 23 38.3
comp=Z,3μm,21.0s
TPUB Ta-pu 75.81 301 P **P** **22 53 58.3 -2.3**
TPUB IAMs_20 IAMs_20 23 22 48.5
comp=Z,3μm,21.0s
M02C Callahan 75.83 37 P **P** **22 54 02.7 +2.4**
baz=230,SNR=6.9
YHNB Yeheng 75.83 302 P **P** **22 54 00.1 -0.6**
YHNB IAMs_20 IAMs_20 23 25 48.0
comp=Z,3μm,21.0s
L02E Cave Junction 75.90 36 P **P** **22 54 02.5 +1.9**
baz=229
SII Sitkinak Islan 76.20 11 IAMs_20 IAMs_20 23 21 51.9
comp=Z,2μm,20.0s
K02D Willamette Mer 76.22 36 P **P** **22 54 04.8 +2.3**
baz=229,SNR=7.6
J01E Myrtle Point 76.38 35 P P 22 54 09.9 +6.6
baz=229
GMRC Granite Mounta 76.44 46 P **P** **22 54 06.1 +2.0**
baz=236,SNR=6.7
IRM Iron Mountain 76.45 47 P **P** **22 54 06.4 +2.4**
baz=237,SNR=9.0
FURC Furnace Creek, 76.57 44 P P 22 54 10.3 +5.8
baz=235
TUQ Turquoise Moun 76.62 46 P P 22 54 10.0 +5.0
baz=236,SNR=6.7
M04C Macdoel 76.67 37 P P 22 54 10.5 +5.3
baz=230,SNR=8.3
L04D Klamath Falls 76.67 37 P **P** **22 54 07.3 +2.1**
baz=230,SNR=6.9
KSM Kuching 76.75 276 P **P** **22 54 07.0 +0.9**
NVAR Mina Array Bea 76.77 42 P **P** **22 54 06.2 +0.3**
comp=Z,5.7nm,0.7s,baz=227,slow=8.3,SNR=29
NVAR LR LR 23 20 09.7
comp=Z,3μm,21.6s,baz=237,slow=30
NVAR Mina Array Bea 76.77 42 P **P** **22 54 04.6 -1.3**
214A Organ Pipe Nat 76.95 50 P P 22 54 12.0 +5.2
baz=239
I03D Drain, OR 77.05 35 P P 22 54 13.3 +6.3
baz=229
PDMCI Parker Dam,Lak 77.23 47 P **P** **22 54 11.2 +2.9**
baz=238
TPNV Topopah Spring 77.25 44 P **P** **22 54 10.9 +2.3**
baz=236,SNR=12
TPNV Topopah Spring 77.25 44 IAMs_20 IAMs_20 23 21 12.6
comp=Z,3μm,20.0s
UGL Uglegorsk 77.33 332 *e*P **P** **22 54 12.7 +4.2**
UGL pmax pmax
comp=Z,50nm,0.9s
TJN Taejon 77.35 315 *ce*P **P** **22 54 13.3 +4.4**
J04D Umpqua Nationa 77.44 36 P **P** **22 54 11.3 +1.7**
baz=230
KSRS Korea Array 77.58 316 P **P** **22 54 08.4 -1.7**
comp=Z,9.5nm,1.0s,baz=132,slow=5.9,SNR=22
KSRS LR LR 23 24 59.6
comp=Z,2μm,18.8s,baz=132,slow=33
KSRS Korea Array 77.58 316 P **P** **22 54 08.4 -1.7**
KSAR Wonju Array Be 77.59 316 P **P** **22 54 09.8 -0.5**
KSAR Wonju Array Be 77.59 316 P **P** **22 54 09.8 -0.5**
I04A Tendick Farm, 77.63 36 P **P** **22 54 12.4 +2.1**
baz=230,SNR=6.2
MOD Modoc Plateau 77.64 38 IAMs_20 IAMs_20 23 23 47.8
comp=Z,2μm,19.0s
COR Corvallis 77.65 35 IAMs_20 IAMs_20 23 21 36.2
comp=Z,3μm,20.0s
KDAK Kodiak Island 77.66 12 IAMs_20 IAMs_20 23 20 43.3
comp=Z,3μm,22.0s
DBJI Dramaga 77.68 267 P **P** **22 54 13.3 +2.0**
comp=Z,6μmcomp=Z,51nm,0.9s
K05A Summer Lake 77.81 37 P **P** **22 54 10.7 -0.9**
H04D Lebanon 77.92 35 P **P** **22 54 14.0 +2.0**
baz=229,SNR=8.8
J05D Fort Rock, OR 77.96 37 P **P** **22 54 14.2 +1.8**
baz=236,SNR=25
QZH Quanzhou 78.21 301 ⇑ *i*P **P** **22 54 17.0 +3.0**
QZH S **S** **23 04 09.8 +2.1**
QZH pmax pmax
comp=Z,650nm,7.4s
QZH LR LR
comp=Z,760nm,19.4s
QZH LR LR
comp=Z,950nm,19.9s
QZH LR LR
comp=Z,2μm,28.9s
TYV Tymovskoe 78.41 334 *e*P **P** **22 54 17.6 +3.2**
TYV *e* 23 04 09.8
TYV pmax pmax
comp=Z,21nm,1.8s
TYV pmax pmax
comp=Z,200nm,3.9s
INCN Inchon 78.44 316 IAMs_20 IAMs_20 23 26 37.5
comp=Z,2μm,19.0s
R11A Troy Canyon, C 78.47 43 P **P** **22 54 16.7 +1.4**
baz=236,SNR=25
VLA Vladivostok 78.48 323 *i* P **P** **22 54 18.8 +3.8**
VLA pmax pmax
comp=Z,13nm,0.9s
I05D Terrebonne, OR 78.57 36 P **P** **22 54 17.7 +2.1**
baz=230,SNR=5.4
MSHR Mys Shultsa 78.57 322 *ce*P **P** **22 54 19.2 +3.6**
MSHR pmax pmax
comp=Z,11nm,1.2s
TUC Tucson 78.61 51 P **P** **22 54 18.6 +2.5**
baz=240
TUC Tucson 78.61 51 IAMs_20 IAMs_20 23 20 53.9
comp=Z,3μm,20.0s
SSE Sheshan 79.01 308 P **P** **22 54 18.3 +0.1**
SSE S **S** **23 04 17.3 +1.2**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,270nm,8.8s
SSE LR LR
comp=Z,390nm,20.4s
SSE LR LR
comp=Z,710nm,20.8s
USRK Ussuriysk Ar. 79.09 324 P **P** **22 54 14.5 -3.9**
comp=Z,0.7nm,0.6s,baz=32,slow=5.4,SNR=2.2
USRK LR LR 23 23 55.9
comp=Z,2μm,19.8s,baz=121,slow=32
USRK Ussuriysk Ar. 79.09 324 P **P** **22 54 18.7 +0.3**
USRK Ussuriysk Ar. 79.09 324 P **P** **22 54 18.7 +0.3**
O18K Koktuh Hills 79.15 10 P **P** **22 54 19.1 +0.7**
baz=198
E04D Cinebar 79.33 33 P **P** **22 54 21.8 +2.2**
baz=229,SNR=8.1
CNPM China Poot 79.54 12 P **P** **22 54 20.6 +0.1**
CNPM IAmb IAmb 22 54 27.1
comp=Z,46nm,1.0s
CNPM IAMs_20 IAMs_20 23 21 54.1
comp=Z,3μm,22.0s
PPBI Pangkal Pinang 79.58 271 P **P** **22 54 22.0 +0.2**
comp=Z,6μmcomp=Z,38nm,1.3s
O19K Port Alsworth 79.62 10 P **P** **22 54 21.1 +0.2**
baz=199
D03D Eldon 79.71 32 P **P** **22 54 23.1 +1.4**
baz=229,SNR=7.8
WUAZ Wupatki 79.80 47 P **P** **22 54 25.6 +2.9**
baz=239,SNR=8.2
O20K Slope Mountain 79.80 11 P **P** **22 54 22.5 +0.5**
baz=201

BRLK	**Bradley Lake**	**79.83**	**12**	P	**P**	**22 54 21.2**	**-0.9**
BRLK				IAmb	IAmb	22 54 28.5	
	comp=Z,56nm,1.1s						
BRLK				IAMs_20	IAMs_20	23 22 01.3	
	comp=Z,3μm,22.0s						
BRSE	**Bradley Lake S**	**79.84**	**12**	P	**P**	**22 54 22.6**	**+0.5**
	baz=202,SNR=6.9						
ELK	**Elko**	**80.03**	**41**	P	**P**	**22 54 23.2**	**-0.7**
ELK				pmax	pmax		
	comp=Z,15nm,1.0s						
ELK				MLR	MLR		
	comp=Z,2μm,20.0s						
ELK	**Elko**	**80.03**	**41**	P	**P**	**22 54 23.2**	**-0.7**
ELK				IAMs_20	IAMs_20	23 22 10.3	
	comp=Z,2μm,20.0s						
KASI	**Kota Agung**	**80.13**	**267**	P	**P**	**22 54 21.7**	**-3.0**
N19K	**Bonanza Creek**	**80.18**	**10**	P	**P**	**22 54 23.8**	**-0.2**
	baz=199						
PGC	**Sidney**	**80.26**	**31**	P	**P**	**22 54 24.2**	**-0.4**
SVW2	**Sparrevohn**	**80.28**	**9**	P	**P**	**22 54 24.4**	**-0.1**
SEW	**Seward**	**80.43**	**12**	P	**P**	**22 54 25.2**	**-0.1**
	baz=204						
SEW	**Seward**	**80.43**	**12**	P	**P**	**22 54 24.8**	**-0.4**
G08A	**Pilot Rock**	**80.49**	**36**	P	**P**	**22 54 26.1**	**0.0**
G08A				IAmb	IAmb	22 54 33.9	
	comp=Z,44nm,1.1s						
PMBI	**Palembang**	**80.64**	**270**	IAMs_20	IAMs_20	23 29 05.4	
	comp=Z,2μm,21.0s						
A04D	**Lummi Island**	**80.68**	**32**	P	**P**	**22 54 28.9**	**+2.1**
	baz=229						
B05A	**Bryant**	**80.69**	**32**	P	**P**	**22 54 28.4**	**+1.5**
	baz=229,SNR=6.3						
MDJ	**Mudanjiang**	**80.71**	**323**	P	**P**	**22 54 28.5**	**+1.4**
MDJ				pP	pP	22 54 36.0	+1.6
MDJ				S	**S**	**23 04 36.5**	**+3.1**
MDJ				pmax	pmax		
	comp=Z,16nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,930nm,8.3s						
MDJ				LR	LR		
	comp=Z,2μm,15.7s						
MDJ				LR	LR		
	comp=Z,2μm,18.5s						
MDJ				LR	LR		
	comp=Z,3μm,22.8s						
MDJ	**Mudanjiang**	**80.71**	**323**	IAMs_20	IAMs_20	23 24 25.7	
	comp=Z,2μm,20.0s						
CAPN	**Captain Cook N**	**80.71**	**11**	IAMs_20	IAMs_20	23 22 45.1	
	comp=Z,3μm,21.0s						
O22K	**Cooper Landing**	**80.72**	**12**	IAMs_20	IAMs_20	23 22 38.3	
	comp=Z,2μm,22.0s						
MDSI	**Maura Dua**	**80.74**	**268**	P	**P**	**22 54 27.0**	**-1.0**
	comp=Z,17nm,0.9s						
LTY	**Liberty**	**80.78**	**34**	P	**P**	**22 54 27.1**	**-0.4**
HAWA	**Hanford**	**80.85**	**35**	P	**P**	**22 54 27.9**	**0.0**
HAWA				IAmb	IAmb	22 54 35.2	
	comp=Z,41nm,1.1s						
HAWA				IAMs_20	IAMs_20	23 23 57.8	
	comp=Z,2μm,20.0s						
NKL	**Nikolayevsk**	**80.92**	**334**	*e*P	**P**	**22 54 26.3**	**-1.7**
NKL				*e*S	**S**	**23 04 28.9**	**-6.3**
NKL				pmax	pmax		
	comp=E,12nm,1.0s						
NKL				pmax	pmax		
	comp=Z,22nm,1.3s						
NKL				smax	smax		
	comp=E,20nm,0.8s						
NKL				smax	smax		
	comp=N,960nm,1.2s						
121A	**Cookes Peak, D**	**80.94**	**52**	P	**P**	**22 54 31.8**	**+2.9**
	baz=242						
GRNR	**Gornyy**	**81.10**	**331⇑**	*i*P	**P**	**22 54 29.9**	**+0.8**
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,270nm,14.0s						
BMO	**Blue Mountains**	**81.16**	**37**	P	**P**	**22 54 28.5**	**-1.2**
BMO				pmax	pmax		
	comp=Z,27nm,1.1s						
BMO				MLR	MLR		
	comp=Z,2μm,19.0s						
BMO	**Blue Mountains**	**81.16**	**37**	P	**P**	**22 54 28.5**	**-1.2**
BMO				IAMs_20	IAMs_20	23 25 33.1	
	comp=Z,2μm,19.0s						
A05A	**Maple Falls**	**81.17**	**32**	P	**P**	**22 54 29.5**	**0.0**
MFID	**Camas Ranch**	**81.19**	**39**	P	**P**	**22 54 29.3**	**-0.6**
MFID				IAMs_20	IAMs_20	23 26 46.8	
	comp=Z,2μm,18.0s						
NJ2	**Nanjing**	**81.22**	**308**	*e*P	**P**	**22 54 31.8**	**+1.7**
NJ2				S	**S**	**23 04 41.3**	**+2.0**
NJ2				SKS	**SKSac**	**23 04 47.3**	**-0.8**
NJ2				sS	**sS**	**23 04 53.8**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,880nm,8.1s						
NJ2				LR	LR		
	comp=Z,1μm,18.5s						
NJ2				LR	LR		
	comp=Z,730nm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
FIS	**Fire Island**	**81.23**	**11**	IAMs_20	IAMs_20	23 22 49.9	
	comp=Z,2μm,21.0s						
RC01	**Rabbit Creek A**	**81.28**	**12**	P	**P**	**22 54 30.6**	**+0.8**
	baz=203,SNR=6.7						
RC01	**Rabbit Creek A**	**81.28**	**12**	P	**P**	**22 54 29.6**	**-0.1**
RC01				IAmb	IAmb	22 54 35.6	
	comp=Z,50nm,1.2s						
DUG	**Dugway, Tooele**	**81.28**	**43**	P	**P**	**22 54 28.9**	**-1.6**
DUG				pmax	pmax		
	comp=Z,13nm,1.1s						
DUG				MLR	MLR		
	comp=Z,2μm,22.0s						
DUG	**Dugway, Tooele**	**81.28**	**43**	P	**P**	**22 54 32.3**	**+1.8**
	baz=238,SNR=5.7						
DUG	**Dugway, Tooele**	**81.28**	**43**	P	**P**	**22 54 28.9**	**-1.6**
DUG				IAMs_20	IAMs_20	23 22 30.3	
	comp=Z,2μm,22.0s						
HIN	**Hinchinbrook I**	**81.32**	**13**	IAMs_20	IAMs_20	23 22 49.0	
	comp=Z,3μm,22.0s						
KAIM	**Kayak Island**	**81.38**	**15**	IAMs_20	IAMs_20	23 22 58.7	
	comp=Z,3μm,22.0s						
M20K	**Styx River**	**81.41**	**10**	P	**P**	**22 54 30.9**	**+0.3**
	baz=200						
L19K	**White Mountain**	**81.42**	**9**	P	**P**	**22 54 31.1**	**+0.5**
	baz=198						
SUA	**Susitna One**	**81.43**	**11**	P	**P**	**22 54 31.2**	**+0.5**
	baz=202						
SUA	**Susitna One**	**81.43**	**11**	P	**P**	**22 54 30.5**	**-0.3**
SUA				IAmb	IAmb	22 54 36.6	
	comp=Z,30nm,0.9s						
SUA				IAMs_20	IAMs_20	23 23 08.1	
	comp=Z,3μm,22.0s						
EPT	**El Paso**	**81.55**	**53**	IAMs_20	IAMs_20	23 23 27.7	
	comp=Z,3μm,20.0s						
D08A	**Wollman Farm,**	**81.59**	**35**	P	**P**	**22 54 31.3**	**-0.5**
D08A				IAmb	IAmb	22 54 39.1	
	comp=Z,43nm,1.1s						
GLI	**Glacier Island**	**81.62**	**13**	P	**P**	**22 54 32.3**	**+0.6**
	baz=206,SNR=6.0						
GLI	**Glacier Island**	**81.62**	**13**	P	**P**	**22 54 31.6**	**0.0**
GLI				IAMs_20	IAMs_20	23 23 00.1	
	comp=Z,2μm,21.0s						
FID	**Port Fidalgo**	**81.64**	**13**	IAMs_20	IAMs_20	23 22 58.3	
	comp=Z,3μm,22.0s						
SUCK	**Suckling Hills**	**81.66**	**15**	IAMs_20	IAMs_20	23 22 56.2	
	comp=Z,3μm,20.0s						
RAGM	**Ragged Mountai**	**81.72**	**14**	IAMs_20	IAMs_20	23 22 36.8	
	comp=Z,3μm,21.0s						
SKT	**Skwentna**	**81.77**	**11**	P	**P**	**22 54 32.4**	**0.0**
	baz=202						
SKT	**Skwentna**	**81.77**	**11**	IAMs_20	IAMs_20	23 23 08.1	
	comp=Z,2μm,22.0s						
HMT	**Hamilton**	**81.78**	**14**	IAMs_20	IAMs_20	23 23 00.2	
	comp=Z,3μm,21.0s						
GZH	**Guangzhou**	**81.79**	**297**	P	**P**	**22 54 34.5**	**+1.2**
GZH				S	**S**	**23 04 44.3**	**-1.2**
GZH				pmax	pmax		
	comp=Z,500nm,3.9s						
GZH				LR	LR		
	comp=Z,800nm,19.6s						
GZH				LR	LR		
	comp=Z,810nm,19.0s						
KNK	**Knik Glacier**	**81.82**	**12**	P	**P**	**22 54 33.5**	**+0.8**
	baz=204						
KNK	**Knik Glacier**	**81.82**	**12**	P	**P**	**22 54 32.8**	**+0.1**
KNK				IAmb	IAmb	22 54 39.0	
	comp=Z,30nm,1.0s						
KNK				IAMs_20	IAMs_20	23 23 11.5	
	comp=Z,2μm,22.0s						
PMR	**Palmer**	**81.86**	**12**	P	**P**	**22 54 37.4**	**+4.6**
	baz=204,SNR=5.4						
F10A	**Beach Ranch, E**	**81.87**	**36**	P	**P**	**22 54 32.9**	**-0.5**
F10A				IAmb	IAmb	22 54 40.2	
	comp=Z,37nm,1.0s						
PLID	**Pearl Lake**	**82.05**	**37**	P	**P**	**22 54 33.8**	**-0.8**
PLID				IAmb	IAmb	22 54 40.8	
	comp=Z,86nm,1.8s						
HLID	**Hailey**	**82.12**	**39**	P	**P**	**22 54 36.5**	**+1.6**
	baz=236,SNR=32						
B08A	**Colville Reser**	**82.17**	**33**	P	**P**	**22 54 34.7**	**-0.2**
SML	**Sawmill**	**82.21**	**12**	P	P	22 54 39.7	+5.0
	baz=205						
MESA	**MESA**	**82.21**	**16**	IAMs_20	IAMs_20	23 23 01.7	
	comp=Z,3μm,21.0s						
WAX	**Waxell Ridge**	**82.22**	**15**	IAMs_20	IAMs_20	23 23 02.8	
	comp=Z,3μm,22.0s						
BMRM	**Bremner River**	**82.25**	**14**	P	**P**	**22 54 35.8**	**+0.8**
	baz=208,SNR=8.9						
BMRM	**Bremner River**	**82.25**	**14**	P	**P**	**22 54 35.2**	**+0.1**
BMRM				IAmb	IAmb	22 54 51.4	
	comp=Z,57nm,1.1s						
BMRM				IAMs_20	IAMs_20	23 22 55.8	
	comp=Z,2μm,22.0s						
Y22D	**IRIS PASSCAL I**	**82.30**	**51**	IAMs_20	IAMs_20	23 23 14.5	
	comp=Z,2μm,20.0s						
LLLB	**Lillooet**	**82.32**	**31**	P	**P**	**22 54 35.4**	**-0.2**
MNTX	**Cornudas Mount**	**82.37**	**53**	P	**P**	**22 54 38.8**	**+2.5**
	baz=243						
MNTX	**Cornudas Mount**	**82.37**	**53**	IAMs_20	IAMs_20	23 22 53.5	
	comp=Z,2μm,21.0s						
KLR	**Kul'dur**	**82.37**	**328**	*ce*P	**P**	**22 54 38.8**	**+3.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CUT	**Chulitna**	**82.39**	**11**	P	**P**	**22 54 35.8**	**+0.2**
	baz=203,SNR=7.1						
CUT	**Chulitna**	**82.39**	**11**	IAMs_20	IAMs_20	23 23 37.5	
	comp=Z,3μm,22.0s						
CRQM	**Cirque**	**82.42**	**15**	IAMs_20	IAMs_20	23 23 10.3	
	comp=Z,3μm,21.0s						
YAH	**Yahtse**	**82.42**	**16**	IAMs_20	IAMs_20	23 22 48.1	
	comp=Z,3μm,22.0s						
CRQE	**Cirque**	**82.42**	**15**	P	**P**	**22 54 35.4**	**-0.6**
	baz=210						
KLU	**Klutina**	**82.43**	**13**	P	**P**	**22 54 36.7**	**+0.7**
	baz=207						
KLU	**Klutina**	**82.43**	**13**	P	**P**	**22 54 34.5**	**-1.4**
KLU				IAMs_20	IAMs_20	23 23 46.4	
	comp=Z,2μm,21.0s						
SCM	**Sheep Creek Mo**	**82.44**	**12**	P	**P**	**22 54 35.7**	**-0.3**
SCM				pmax	pmax		
	comp=Z,40nm,1.0s						
SCM				MLR	MLR		
	comp=Z,2μm,22.0s						
SCM	**Sheep Creek Mo**	**82.44**	**12**	P	**P**	**22 54 35.7**	**-0.3**
SCM				IAmb	IAmb	22 54 42.8	
	comp=Z,40nm,1.0s						
SCM				IAMs_20	IAMs_20	23 23 28.6	
	comp=Z,2μm,22.0s						
ISLE	**Juniper Island**	**82.48**	**15**	IAMs_20	IAMs_20	23 23 10.7	
	comp=Z,3μm,22.0s						
MA2	**Magadan**	**82.48**	**343**	*i*P	**P**	**22 54 39.5**	**+3.3**
MA2				pmax	pmax		
	comp=Z,13nm,1.2s						
TGL	**Tana Glacier**	**82.49**	**15**	IAMs_20	IAMs_20	23 23 22.0	
	comp=Z,3μm,21.0s						
PPLA	**Purkeypile**	**82.52**	**10**	P	**P**	**22 54 39.2**	**+2.8**
	baz=201						
DL2	**Dalian**	**82.54**	**315⇓**	*i*P	**P**	**22 54 35.5**	**-1.4**
DL2				S	**S**	**23 04 53.8**	**+1.2**
DL2				pmax	pmax		
	comp=Z,25nm,1.3s						
DL2				pmax	pmax		
	comp=Z,710nm,7.9s						
DL2				LR	LR		
	comp=Z,2μm,16.9s						
DL2				LR	LR		
	comp=Z,710nm,19.7s						
DL2				LR	LR		
	comp=Z,2μm,21.2s						
BCPM	**Bancas Point**	**82.63**	**17**	IAMs_20	IAMs_20	23 23 24.8	
	comp=Z,3μm,21.0s						
TABL	**Table Mountain**	**82.64**	**16**	IAMs_20	IAMs_20	23 22 55.1	
	comp=Z,3μm,22.0s						
MVCO	**Mesa Verde**	**82.66**	**47**	P	P	22 54 43.4	+5.5
	baz=241						
K20K	**Telida**	**82.66**	**9**	P	**P**	**22 54 37.3**	**+0.3**
	baz=199,SNR=5.8						
TXAR	**Lajitas Array**	**82.67**	**56**	P	**P**	**22 54 38.4**	**+0.4**
	comp=Z,3.2nm,1.2s,baz=238,slow=5.2,SNR=12						
TXAR				PKKPbc	PKKPbc	23 13 11.8	+8.3
	comp=Z,0.2nm,0.5s,baz=14,slow=0.5,SNR=4.2						
TXAR				LR	LR	23 23 26.0	
	comp=Z,2μm,21.7s,baz=0.0,slow=30						
TXAR	**Lajitas Array**	**82.67**	**56**	P	**P**	**22 54 38.3**	**+0.4**
CN2	**Changchun**	**82.68**	**321**	*e*P	**P**	**22 54 40.0**	**+2.4**
CN2				*es*P	sP	22 54 46.8	-0.7
CN2				*e*S	**S**	**23 04 56.5**	**+2.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.5s						
CN2				pmax	pmax		
	comp=Z,800nm,6.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
SNY	**Shenyang**	**82.77**	**318**	⇓P	**P**	**22 54 39.3**	**+1.2**
SNY				SKS	**S**	**23 04 56.5**	**+1.7**
SNY				pmax	pmax		
	comp=Z,24nm,2.0s						
SNY				LR	LR		
	comp=Z,760nm,16.8s						
SNY				LR	LR		
	comp=Z,670nm,20.1s						
SNY				LR	LR		
	comp=Z,1μm,19.2s						
N25K	**Chitina, Valde**	**82.82**	**14**	P	**P**	**22 54 39.0**	**+1.0**
	baz=208,SNR=16						
N25K	**Chitina, Valde**	**82.82**	**14**	P	**P**	**22 54 36.2**	**-1.8**
N25K				IAmb	IAmb	22 54 44.0	
	comp=Z,31nm,0.9s						
N25K				IAMs_20	IAMs_20	23 23 46.8	
	comp=Z,2μm,21.0s						
HWUT	**Hardware Ranch**	**82.83**	**42**	IAMs_20	IAMs_20	23 23 28.3	
	comp=Z,3μm,22.0s						
GLB	**Gilahina Butte**	**82.86**	**14**	P	**P**	**22 54 38.0**	**-0.1**
GLB				IAmb	IAmb	22 54 44.7	
	comp=Z,54nm,1.3s						
M24K	**Tolsona, Glenn**	**82.92**	**13**	P	**P**	**22 54 38.2**	**-0.3**
	baz=207						
LOGN	**Logan Glacier**	**83.01**	**16**	P	**P**	**22 54 38.9**	**-0.2**
LOGN				IAmb	IAmb	22 54 45.3	
	comp=Z,27nm,1.0s						
LOGN				IAMs_20	IAMs_20	23 23 27.7	
	comp=Z,3μm,22.0s						
WAT6	**Susitna Watana**	**83.03**	**12**	P	**P**	**22 54 39.0**	**-0.2**
	baz=205,SNR=21						
ANMO	**Albuquerque**	**83.04**	**50**	*ce*P	**P**	**22 54 42.2**	**+2.3**
ANMO				pmax	pmax		
	comp=Z,37nm,1.7s						
ANMO	**Albuquerque**	**83.04**	**50**	P	**P**	**22 54 42.5**	**+2.6**
	baz=242						
ANMO	**Albuquerque**	**83.04**	**50**	IAMs_20	IAMs_20	23 27 39.1	
	comp=Z,2μm,18.0s						
CTG	**Chitna Glacier**	**83.04**	**15**	P	**P**	**22 54 38.6**	**-0.7**
	baz=211						
BARN	**Barnard Glacie**	**83.04**	**15**	P	**P**	**22 54 39.0**	**-0.3**
BARN				IAmb	IAmb	22 54 46.0	
	comp=Z,44nm,1.1s						
BARN				IAMs_20	IAMs_20	23 23 28.7	
	comp=Z,3μm,22.0s						
CTGM	**Chitina Glacie**	**83.04**	**15**	P	**P**	**22 54 38.4**	**-0.8**
CTGM				IAmb	IAmb	22 54 45.8	
	comp=Z,23nm,0.9s						
CTGM				IAMs_20	IAMs_20	23 23 39.7	
	comp=Z,3μm,22.0s						
PV01	**Paradox Valley**	**83.06**	**46**	P	**P**	**22 54 39.2**	**-0.8**
PV01				IAmb	IAmb	22 54 48.2	
	comp=Z,53nm,1.2s						
WAT1	**Susitna Watana**	**83.10**	**12**	P	**P**	**22 54 39.1**	**-0.3**
	baz=204						
QIZ	**Qiongzhong**	**83.26**	**292**	P	**P**	**22 54 41.5**	**+0.4**
QIZ				sP	**sP**	**22 54 50.5**	**-0.5**
QIZ				PP	**PP**	**22 57 53.8**	**+0.8**
QIZ				S	**S**	**23 05 07.5**	**+6.8**
QIZ				SS	**SS**	**23 10 27.5**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,310nm,6.9s						
QIZ				LR	LR		
	comp=Z,1μm,27.5s						
QIZ				LR	LR		
	comp=Z,1μm,18.1s						
QIZ				LR	LR		
	comp=Z,2μm,24.5s						
NEW	**Newport**	**83.29**	**34**	P	**P**	**22 54 39.7**	**-1.0**
NEW				pmax	pmax		
	comp=Z,22nm,1.3s						
NEW				MLR	MLR		
	comp=Z,2μm,18.0s						
NEW	**Newport**	**83.29**	**34**	P	**P**	**22 54 41.9**	**+1.2**
	baz=233						
NEW	**Newport**	**83.29**	**34**	P	**P**	**22 54 39.7**	**-1.0**
NEW	**Newport**	**83.29**	**34**	IAMs_20	IAMs_20	23 30 00.3	
	comp=Z,2μm,18.0s						
KTH	**Kantishna Hill**	**83.34**	**10**	P	**P**	**22 54 41.0**	**+0.4**
KTH				IAmb	IAmb	22 54 47.1	
	comp=Z,33nm,1.1s						
TRF	**Thorofare Moun**	**83.36**	**11**	P	**P**	**22 54 40.9**	**+0.1**
	baz=203,SNR=22						
TRF	**Thorofare Moun**	**83.36**	**11**	P	**P**	**22 54 40.8**	**0.0**
TRF				IAmb	IAmb	22 54 50.4	
	comp=Z,38nm,0.9s						
TRF				IAMs_20	IAMs_20	23 24 32.0	
	comp=Z,3μm,21.0s						
HARP	**HAARP**	**83.40**	**13**	P	**P**	**22 54 41.5**	**+0.6**
	baz=208						
J20K	**Nowinta River**	**83.42**	**9**	P	**P**	**22 54 41.7**	**+0.8**
	baz=199,SNR=25						
RND	**Reindeer**	**83.57**	**11**	P	**P**	**22 54 41.1**	**-0.7**
RND				pmax	pmax		
	comp=Z,44nm,1.0s						
RND				MLR	MLR		
	comp=Z,3μm,22.0s						
RND	**Reindeer**	**83.57**	**11**	P	**P**	**22 54 41.1**	**-0.7**
RND				IAmb	IAmb	22 54 48.2	
	comp=Z,44nm,1.0s						
RND				IAMs_20	IAMs_20	23 24 23.6	
	comp=Z,3μm,22.0s						
AHID	**Auburn Hatcher**	**83.73**	**41**	IAMs_20	IAMs_20	23 28 25.1	
	comp=Z,2μm,18.0s						
BPAW	**Bear Paw Mtn.**	**83.84**	**10**	P	**P**	**22 54 42.5**	**-0.6**
	baz=202,SNR=6.3						
BPAW	**Bear Paw Mtn.**	**83.84**	**10**	P	**P**	**22 54 42.1**	**-1.0**
MCK	**McKinley**	**83.86**	**11**	P	**P**	**22 54 43.1**	**-0.1**
MCK				pmax	pmax		
	comp=Z,46nm,1.0s						
MCK				MLR	MLR		
	comp=Z,3μm,22.0s						
MCK	**McKinley**	**83.86**	**11**	P	**P**	**22 54 43.3**	**+0.1**
	baz=204,SNR=22						
MCK	**McKinley**	**83.86**	**11**	P	**P**	**22 54 43.0**	**-0.1**
MCK				IAMs_20	IAMs_20	23 24 33.2	
	comp=Z,3μm,22.0s						
M26K	**Nabesna, AK**	**83.89**	**14**	P	**P**	**22 54 44.0**	**+0.5**
	baz=210,SNR=34						
PAYG	**Puerto Ayora**	**83.94**	**89**	IAMs_20	IAMs_20	23 23 19.6	
	comp=Z,2μm,21.0s						
WHN	**Wuhan**	**84.01**	**305**	⇑P	**P**	**22 54 44.8**	**+0.1**
WHN				S	**S**	**23 05 07.8**	**-0.1**
WHN				SS	**SS**	**23 10 34.5**	**-2.5**
WHN				pmax	pmax		
	comp=Z,230nm,1.8s						
WHN				pmax	pmax		
	comp=Z,1μm,7.5s						
WHN				LR	LR		
	comp=Z,4μm,20.5s						
WHN				LR	LR		
	comp=Z,2μm,16.1s						
WHN				LR	LR		
	comp=Z,6μm,31.6s						
S22A	**4UR Ranch, Cre**	**84.08**	**47**	P	**P**	**22 54 47.5**	**+2.2**
	baz=242,SNR=44						
M27K	**Edge Creek, AK**	**84.11**	**14**	P	**P**	**22 54 45.8**	**+1.1**
	baz=211,SNR=30						
BWN	**Browne**	**84.16**	**11**	P	**P**	**22 54 44.6**	**-0.2**
MENT	**Mentasta**	**84.19**	**13**	P	**P**	**22 54 44.9**	**-0.1**
MENT				IAmb	IAmb	22 54 51.3	
	comp=Z,34nm,1.2s						
REDW	**Red Top Meadow**	**84.19**	**41**	IAMs_20	IAMs_20	23 28 22.4	
	comp=Z,2μm,18.0s						
MSO	**Missoula**	**84.22**	**37**	P	**P**	**22 54 46.6**	**+1.0**
	baz=236,SNR=7.3						
MSO	**Missoula**	**84.22**	**37**	P	**P**	**22 54 45.3**	**-0.3**
MSO				IAmb	IAmb	22 54 52.7	
	comp=Z,40nm,1.4s						
O20A	**White River Ci**	**84.25**	**45**	P	**P**	**22 54 47.2**	**+1.2**
	baz=241						
SNOW	**Snow King Moun**	**84.31**	**41**	IAMs_20	IAMs_20	23 28 26.4	
	comp=Z,2μm,18.0s						
H03S2	**Juan Fernandez**	**84.32**	**124**	T	T	00 27 53.8	
	baz=248,slow=74,SNR=2247						
H03S1	**Juan Fernandez**	**84.33**	**124**	T	T	00 27 55.9	
	baz=172,slow=74,SNR=2038						
H03S3	**Juan Fernandez**	**84.33**	**124**	T	T	00 28 00.6	
	SNR=2114						
L26K	**Log Cabin Wild**	**84.35**	**14**	P	**P**	**22 54 46.2**	**+0.4**
	baz=209,SNR=7.0						
TIA	**Tai'an**	**84.40**	**311**	P	**P**	**22 54 46.3**	**-0.3**
TIA				S	**S**	**23 05 09.3**	**-2.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TIA				pmax	pmax		
	comp=Z,630nm,7.1s						
TIA				LR	LR		
	comp=Z,1μm,16.7s						
TIA				LR	LR		
	comp=Z,1μm,16.7s						
TIA				LR	LR		
	comp=Z,2μm,21.2s						
H03N2	**Juan Fernandez**	**84.43**	**123**	T	T	00 28 02.4	
	baz=256,slow=73,SNR=726						
H03N3	**Juan Fernandez**	**84.44**	**123**	T	T	00 28 04.7	
	baz=256,slow=73,SNR=565						
H03N1	**Juan Fernandez**	**84.45**	**123**	T	T	00 28 02.4	
	baz=256,slow=73,SNR=315						
LOHW	**Long Hollow**	**84.48**	**41**	IAMs_20	IAMs_20	23 28 51.0	
	comp=Z,2μm,19.0s						
LRM	**Limekiln Ridge**	**84.53**	**38**	P	**P**	**22 54 46.4**	**-0.9**
NEA2	**Nenana**	**84.62**	**11**	P	**P**	**22 54 47.0**	**0.0**
	baz=204,SNR=16						
NEA2	**Nenana**	**84.62**	**11**	P	**P**	**22 54 45.7**	**-1.4**
NEA2				IAMs_20	IAMs_20	23 27 43.4	
	comp=Z,3μm,20.0s						
RIDG	**Independent Ri**	**84.66**	**13**	P	**P**	**22 54 47.5**	**+0.2**
	baz=208,SNR=22						
RIDG	**Independent Ri**	**84.66**	**13**	P	**P**	**22 54 47.0**	**-0.3**
RIDG				IAmb	IAmb	22 54 53.3	
	comp=Z,44nm,1.2s						
RIDG				IAMs_20	IAMs_20	23 25 10.4	
	comp=Z,2μm,22.0s						
WRH	**Wood River Hil**	**84.68**	**11**	P	**P**	**22 54 46.7**	**-0.7**
WRH				IAMs_20	IAMs_20	23 24 59.1	
	comp=Z,3μm,22.0s						
I21K	**Tanana**	**84.69**	**9**	P	**P**	**22 54 47.4**	**0.0**
	baz=201,SNR=19						
BW06	**Boulder Array**	**84.70**	**42**	P	**P**	**22 54 49.4**	**+1.1**
	baz=240,SNR=6.9						
BW06	**Boulder Array**	**84.70**	**42**	P	**P**	**22 54 47.5**	**-0.8**
BW06				IAmb	IAmb	22 54 60.0	
	comp=Z,31nm,1.1s						
BW06				IAMs_20	IAMs_20	23 29

DOT	**Dot Lake**	**84.74**	**13**	P	**P**	**22 54 47.3**	**-0.4**
DOT				IAmb	IAmb	22 54 54.2	
	comp=Z,38nm,1.0s						
MLY	**Manley**	**84.75**	**10**	P	**P**	**22 54 47.3**	**-0.4**
	baz=202,SNR=38						
MLY	**Manley**	**84.75**	**10**	P	**P**	**22 54 46.9**	**-0.8**
MLY				IAmb	IAmb	22 54 53.5	
	comp=Z,28nm,1.1s						
HDA	**Harding Lake**	**84.84**	**11**	P	**P**	**22 54 48.0**	**-0.2**
	baz=206,SNR=31						
HDA	**Harding Lake**	**84.84**	**11**	P	**P**	**22 54 47.7**	**-0.5**
HDA				IAmb	IAmb	22 54 55.2	
	comp=Z,35nm,0.9s						
BOZ	**Bozeman (W)**	**84.89**	**39**	P	**P**	**22 54 48.2**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,42nm,1.2s						
BOZ				MLR	MLR		
	comp=Z,2μm,22.0s						
BOZ	**Bozeman (W)**	**84.89**	**39**	P	**P**	**22 54 50.2**	**+1.1**
	baz=238,SNR=70						
BOZ	**Bozeman (W)**	**84.89**	**39**	P	**P**	**22 54 48.2**	**-0.9**
BOZ				IAmb	IAmb	22 54 57.0	
	comp=Z,42nm,1.1s						
BOZ				IAMs_20	IAMs_20	23 24 35.9	
	comp=Z,2μm,22.0s						
CCB	**Clear Creek Bu**	**84.90**	**11**	P	**P**	**22 54 47.9**	**-0.5**
CCB				IAMs_20	IAMs_20	23 25 04.7	
	comp=Z,2μm,22.0s						
H17A	**Grant Village**	**84.90**	**40**	P	**P**	**22 54 51.5**	**+2.2**
	baz=239						
JRMM	**Jerantut**	**84.93**	**276**	P	**P**	**22 54 50.0**	**+0.2**
SDCO	**Great Sand Dun**	**85.01**	**48**	P	**P**	**22 54 52.4**	**+2.4**
	baz=243,SNR=7.0						
SCRK	**Sand Creek**	**85.05**	**13**	P	**P**	**22 54 49.4**	**0.0**
	baz=209,SNR=25						
SCRK	**Sand Creek**	**85.05**	**13**	P	**P**	**22 54 48.5**	**-0.9**
SCRK				IAMs_20	IAMs_20	23 25 21.6	
	comp=Z,2μm,22.0s						
MAW	**Mawson**	**85.06**	**199**	P	**P**	**22 54 48.7**	**-0.7**
	comp=Z,7.2nm,1.0s,baz=109,slow=5.5,SNR=12						
MAW				LR	LR	23 30 27.4	
	comp=Z,2μm,19.9s,baz=116,slow=34						
MAW	**Mawson**	**85.06**	**199**	P	**P**	**22 54 49.7**	**+0.3**
MAW	**Mawson**	**85.06**	**199**	P	**P**	**22 54 49.7**	**+0.3**
I23K	**Minto, Yukon-K**	**85.08**	**10**	P	**P**	**22 54 48.6**	**-0.7**
	baz=204,SNR=42						
I23K	**Minto, Yukon-K**	**85.08**	**10**	P	**P**	**22 54 48.6**	**-0.7**
I23K				IAMs_20	IAMs_20	23 25 23.6	
	comp=Z,2μm,22.0s						
TCOL	**CIGO, UAF Yank**	**85.09**	**11**	P	**P**	**22 54 49.8**	**+0.4**
	baz=205						
TCOL	**CIGO, UAF Yank**	**85.09**	**11**	P	**P**	**22 54 48.9**	**-0.5**
TCOL				IAMs_20	IAMs_20	23 25 33.9	
	comp=Z,2μm,21.0s						
COLA	**College**	**85.09**	**11**	P	**P**	**22 54 48.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,81nm,1.0s						
COLA				MLR	MLR		
	comp=Z,2μm,21.0s						
COLA	**College**	**85.09**	**11**	P	**P**	**22 54 48.8**	**-0.6**
COLA	**College**	**85.09**	**11**	IAMs_20	IAMs_20	23 25 33.9	
	comp=Z,2μm,21.0s						
MDM	**Murphy Dome**	**85.10**	**11**	P	**P**	**22 54 48.4**	**-1.1**
MDM				IAMs_20	IAMs_20	23 25 12.2	
	comp=Z,3μm,22.0s						
IL31		**85.18**	**11**	P	**P**	**22 54 48.5**	**-1.2**
ILAR	**Eielson Array**	**85.18**	**11**	P	**P**	**22 54 48.2**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=217,slow=6.0,SNR=30						
ILAR				LR	LR	23 26 19.5	
	comp=Z,919nm,21.8s,baz=218,slow=31						
ILAR	**Eielson Array**	**85.18**	**11**	P	**P**	**22 54 49.1**	**-0.8**
ILAR	**Eielson Array**	**85.18**	**11**	P	**P**	**22 54 49.1**	**-0.8**
BKNI	**Bangkinang**	**85.19**	**272**	IAMs_20	IAMs_20	23 32 05.8	
	comp=Z,2μm,21.0s						
BKNI	**Bangkinang**	**85.19**	**272**	P	P	22 55 00.4	+9.3
IMAR	**Indian Mountai**	**85.19**	**8**	P	**P**	**22 54 49.9**	**0.0**
MSTX	**Muleshoe**	**85.33**	**52**	P	**P**	**22 54 53.6**	**+2.1**
	baz=245						
HRY	**Holter Researc**	**85.37**	**38**	P	**P**	**22 54 50.8**	**-0.6**
POKR	**Poker Plat Res**	**85.39**	**11**	P	**P**	**22 54 50.3**	**-0.6**
	baz=205,SNR=7.0						
POKR	**Poker Plat Res**	**85.39**	**11**	P	**P**	**22 54 50.1**	**-0.8**
POKR	**Poker Plat Res**	**85.39**	**11**	IAMs_20	IAMs_20	23 25 31.8	
	comp=Z,2μm,21.0s						
COYC	**Coyhaique**	**85.42**	**136**	IAMs_20	IAMs_20	23 26 26.8	
	comp=Z,2μm,20.0s						
K27K	**Chicken**	**85.51**	**14**	P	**P**	**22 54 52.5**	**+1.0**
	baz=210						
K27K	**Chicken**	**85.51**	**14**	P	**P**	**22 54 51.3**	**-0.2**
K27K				IAmb	IAmb	22 54 58.9	
	comp=Z,42nm,1.2s						
H23K	**Yukon River**	**85.67**	**10**	P	**P**	**22 54 51.3**	**-1.0**
	baz=203,SNR=7.2						
ISCO	**Idaho Springs**	**85.87**	**46**	P	**P**	**22 54 55.5**	**+1.2**
	baz=242						
H24K	**Noodor Dome**	**85.97**	**11**	P	**P**	**22 54 53.0**	**-0.9**
	baz=205						
RLMT	**Red Lodge**	**86.07**	**40**	P	**P**	**22 54 56.2**	**+1.1**
	baz=240,SNR=7.6						
RLMT	**Red Lodge**	**86.07**	**40**	P	**P**	**22 54 53.1**	**-2.0**
PRP	**Porcupine Dome**	**86.11**	**12**	P	**P**	**22 54 54.4**	**-0.2**
	baz=207,SNR=22						
PRP	**Porcupine Dome**	**86.11**	**12**	P	**P**	**22 54 54.0**	**-0.7**
PRP				IAmb	IAmb	22 55 01.2	
	comp=Z,51nm,1.2s						
N23A	**Red Feather La**	**86.16**	**45**	P	**P**	**22 54 57.4**	**+1.8**
	baz=242						
DAWY	**Dawson**	**86.16**	**15**	P	**P**	**22 54 54.5**	**-0.3**
DAWY				IAmb	IAmb	22 55 01.8	
	comp=Z,50nm,1.1s						
RDOG	**Red Dog Mine**	**86.26**	**4**	IAMs_20	IAMs_20	23 25 52.9	
	comp=Z,2μm,22.0s						
EGAK	**Eagle**	**86.36**	**14**	P	**P**	**22 54 56.3**	**+0.6**
	baz=211,SNR=30						
EGAK	**Eagle**	**86.36**	**14**	P	**P**	**22 54 55.4**	**-0.3**
EGAK				IAmb	IAmb	22 55 02.5	
	comp=Z,34nm,1.1s						
EGAK				IAMs_20	IAMs_20	23 25 40.3	
	comp=Z,2μm,22.0s						
IPM	**Ipoh**	**86.49**	**276**	P	**P**	**22 54 57.0**	**-0.6**
AMTX	**Amarillo**	**86.54**	**52**	IAMs_20	IAMs_20	23 25 04.8	
	comp=Z,3μm,22.0s						
MNSI	**Mandailing Nat**	**86.72**	**272**	P	**P**	**22 55 02.3**	**+3.6**
	comp=Z,731nmcomp=Z,22nm,1.2s						
BJT	**Baijiatuan**	**86.79**	**314**	IAMs_20	IAMs_20	23 31 53.4	
	comp=Z,2μm,20.0s						
BJI	**Beijing**	**86.79**	**314**	P	**P**	**22 54 58.0**	**-0.4**
BJI				pP	**pP**	**22 55 05.3**	**-0.6**
BJI				sP	**sP**	**22 55 07.0**	**-1.3**
BJI				PP	**PP**	**22 58 19.0**	**-2.4**
BJI				SKS	**SKSac**	**23 05 25.5**	**+1.5**
BJI				S	**ScS**	**23 05 39.5**	**-3.3**
BJI				SS	**SS**	**23 11 18.0**	**+0.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BJI				pmax	pmax		
	comp=Z,820nm,8.9s						
BJI				LR	LR		
	comp=Z,980nm,19.4s						
BJI				LR	LR		
	comp=Z,2μm,18.6s						
BJI				LR	LR		
	comp=Z,3μm,20.0s						
BILL	**Bilibino**	**87.05**	**353**	*d iP*	**P**	**22 55 01.9**	**+2.9**
BILL				*e*		22 55 09.0	
BILL				*e*		22 58 30.3	
BILL				*i* S	**SKSac**	**23 05 26.3**	**+2.0**
BILL				*i* SS	**SS**	**23 11 15.1**	**-5.0**
BILL				pmax	pmax		
	comp=Z,54nm,1.2s						
BILL	**Bilibino**	**87.05**	**353**	IAMs_20	IAMs_20	23 30 22.1	
	comp=Z,2μm,19.0s						
KULM	**Kulim**	**87.09**	**276**	P	**P**	**22 55 00.0**	**-0.5**
ABTX	**Abilene, Hawle**	**87.17**	**54**	P	**P**	**22 55 02.7**	**+2.2**
	baz=246						
ZEA	**Zeya**	**87.34**	**329**	*eP*	**P**	**22 55 00.2**	**-0.5**
ZEA				pmax	pmax		
	comp=Z,300nm,7.8s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.2s						
SKLT	**Songkhla**	**87.71**	**278**	P	**P**	**22 55 05.4**	**+2.0**
SKLT	**Songkhla**	**87.71**	**278**	P	**P**	**22 55 05.0**	**+1.6**
	comp=Z,1μmcomp=Z,94nm,1.3s						
ENH	**Enshi**	**87.76**	**303**	P	**P**	**22 55 02.6**	**-0.7**
SKNT	**Sakolnakorn**	**87.76**	**289**	P	**P**	**22 55 05.8**	**+2.2**
RPSI	**Rantau Prapat**	**87.92**	**273**	P	**P**	**22 55 02.8**	**-1.7**
RPSI				IAMs_20	IAMs_20	23 37 23.7	
	comp=Z,2μm,20.0s						
PSI	**Prapat**	**87.96**	**274**	P	**P**	**22 55 02.8**	**-2.0**
PSI				pmax	pmax		
	comp=Z,53nm,1.1s						
PSI				MLR	MLR		
	comp=Z,2μm,20.0s						
435B	**Jarrell**	**88.08**	**57**	IAMs_20	IAMs_20	23 26 24.7	
	comp=Z,2μm,22.0s						
EDM	**Edmonton**	**88.11**	**32**	P	**P**	**22 55 03.7**	**-0.8**
EDM				pmax	pmax		
	comp=Z,61nm,1.4s						
EDM	**Edmonton**	**88.11**	**32**	P	**P**	**22 55 03.7**	**-0.8**
PLCA	**Paso Flores**	**88.25**	**132**	P	**P**	**22 55 07.7**	**+2.0**
	comp=Z,4.7nm,1.0s,baz=216,slow=3.9,SNR=6.0						
PLCA				LR	LR	23 25 51.4	
	comp=Z,2μm,21.9s,baz=252,slow=30						
TOLK	**Toolik Lake Re**	**88.27**	**9**	P	**P**	**22 55 06.0**	**+1.1**
	baz=203						
TOLK	**Toolik Lake Re**	**88.27**	**9**	P	**P**	**22 55 04.6**	**-0.3**
TIY	**Taiyuan**	**88.43**	**310**	*eP*	**P**	**22 55 06.8**	**+0.3**
TIY				pP	**sP**	**22 55 16.0**	**-0.4**
TIY				sP	**pP**	**22 55 19.0**	**+5.0**
TIY				S	**S**	**23 05 46.5**	**-4.4**
TIY				sS	**sS**	**23 06 03.0**	**-0.4**
TIY				LR	LR		
	comp=Z,550nm,14.8s						
TIY				LR	LR		
	comp=Z,560nm,14.4s						
TIY				LR	LR		
	comp=Z,2μm,22.1s						
KHON	**Khomkaen**	**88.60**	**288**	P	P	22 55 18.8	+11
WMOK	**Wichita Mounta**	**88.66**	**53**	IAMs_20	IAMs_20	23 27 56.1	
	comp=Z,3μm,21.0s						
GYA	**Guiyang**	**88.67**	**298**	⇑P	**P**	**22 55 09.0**	**+1.1**
GYA				pP	sP	22 55 18.0	+0.1
GYA				pmax	pmax		
	comp=Z,110nm,8.5s						
GYA				LR	LR		
	comp=Z,89nm,21.5s						
GYA				LR	LR		
	comp=Z,180nm,19.1s						
GYA				LR	LR		
	comp=Z,260nm,22.1s						
LAO	**LASA Array**	**88.69**	**40**	P	**P**	**22 55 09.0**	**+1.5**
	baz=242						
GSI	**Gunungsitoli**	**88.78**	**272**	P	**P**	**22 55 07.7**	**-0.9**
GSI	**Gunungsitoli**	**88.78**	**272**	P	**P**	**22 55 09.0**	**+0.4**
	comp=Z,90nm,1.5s						
NONG	**Nongkai**	**88.88**	**289**	P	P	22 55 18.6	+10
RSSD	**Black Hills**	**88.88**	**43**	P	**P**	**22 55 07.2**	**-1.4**
RSSD				pmax	pmax		
	comp=Z,20nm,1.1s						
RSSD				MLR	MLR		
	comp=Z,1μm,19.0s						
RSSD	**Black Hills**	**88.88**	**43**	P	**P**	**22 55 09.9**	**+1.3**
	baz=243						
RSSD	**Black Hills**	**88.88**	**43**	P	**P**	**22 55 07.2**	**-1.4**
RSSD				IAmb	IAmb	22 55 16.1	
	comp=Z,20nm,1.1s						
HIA	**Hailar**	**88.89**	**323**	IAMs_20	IAMs_20	23 30 31.2	
	comp=Z,2μm,20.0s						
HKT	**Hockley**	**89.17**	**58**	*i* P	**P**	**22 55 13.8**	**+3.9**
HKT				pmax	pmax		
	comp=Z,70nm,1.9s						
HKT	**Hockley**	**89.17**	**58**	IAMs_20	IAMs_20	23 28 19.9	
	comp=Z,2μm,20.0s						
CHAI	**Chaiyaphum**	**89.22**	**287**	P	P	22 55 15.6	+5.1
SNET	**Serv Nac Est T**	**89.44**	**76**	IAMs_20	IAMs_20	23 25 05.4	
	comp=Z,2μm,20.0s						
XAN	**Xi'an**	**89.62**	**306**	P	**P**	**22 55 12.0**	**-0.1**
XAN				pP	pP	22 55 21.0	+1.4
XAN				sP	sP	22 55 25.5	+3.4
XAN				PP	**PP**	**22 58 43.3**	**-1.0**
XAN				SKS	**SKSac**	**23 05 39.5**	**-1.9**
XAN				S	**ScS**	**23 06 05.5**	**-1.1**
XAN				pmax	pmax		
	comp=Z,37nm,1.4s						
XAN				pmax	pmax		
	comp=Z,660nm,7.9s						
XAN				LR	LR		
	comp=Z,970nm,20.6s						
XAN				LR	LR		
	comp=Z,1μm,22.0s						
XAN				LR	LR		
	comp=Z,2μm,21.7s						
XAN	**Xi'an**	**89.62**	**306**	P	**P**	**22 55 13.3**	**+1.2**
XAN				pmax	pmax		
	comp=Z,104nm,1.3s						
XAN				MLR	MLR		
	comp=Z,2μm,22.0s						
XAN	**Xi'an**	**89.62**	**306**	P	**P**	**22 55 13.3**	**+1.2**
TPTI		**89.75**	**273**	P	**P**	**22 55 14.4**	**+1.3**
	comp=Z,304nmcomp=Z,18nm,1.4s						
SYO	**Syowa Base**	**89.86**	**192**	‖ *eP*	**P**	**22 55 12.8**	**+0.3**
SYO	**Syowa Base**	**89.86**	**192**	‖ *e*PcP	**PcP**	**22 55 13.4**	**-0.4**
SURT	**Suratani**	**89.98**	**279**	P	P	22 55 25.2	+11
SURT	**Suratani**	**89.98**	**279**	P	P	22 55 25.3	+11
	comp=Z,21nmcomp=Z,2.1nm,1.2s						
OK029	**Liberty Lake**	**90.07**	**52**	IAMs_20	IAMs_20	23 28 51.3	
	comp=Z,3μm,20.0s						
OK025	**Westminster Rd**	**90.08**	**53**	IAMs_20	IAMs_20	23 29 09.5	
	comp=Z,2μm,20.0s						
PKDT	**Phuket**	**90.09**	**278**	P	P	22 55 23.0	+8.4
VNA3	**Neumayer Olymp**	**90.28**	**175**	P	**P**	**22 55 15.3**	**+0.7**
VNA3	**Neumayer Olymp**	**90.28**	**175**	pP	pP	22 55 23.1	+1.2
SNAA	**Sanae**	**90.30**	**177**	P	**P**	**22 55 14.4**	**-0.2**
SNAA	**Sanae**	**90.30**	**177**	pP	pP	22 55 23.1	+1.1
SNAA	**Sanae**	**90.30**	**177**	P	**P**	**22 55 13.4**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,20nm,1.1s						
SNAA				MLR	MLR		
	comp=Z,2μm,18.0s						
SNAA	**Sanae**	**90.30**	**177**	P	**P**	**22 55 13.4**	**-1.2**
SNAA				IAmb	IAmb	22 55 22.1	
	comp=Z,20nm,1.1s						
SNAA				IAMs_20	IAMs_20	23 35 44.4	
	comp=Z,2μm,18.0s						
HHC	**Hu-ho-hao-te**	**90.32**	**313**	*eP*	**P**	**22 55 18.5**	**+3.2**
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,400nm,6.6s						
PHET	**Kaeng Krachan**	**90.44**	**283**	P	P	22 55 22.7	+6.5
PHET	**Kaeng Krachan**	**90.44**	**283**	P	P	22 55 22.8	+6.6
	comp=Z,210nmcomp=Z,22nm,1.2s						
OK031	**S. Brethren Rd**	**90.59**	**52**	IAMs_20	IAMs_20	23 29 15.1	
	comp=Z,3μm,20.0s						
NATX	**Nacogdoches**	**90.76**	**57**	IAMs_20	IAMs_20	23 28 40.9	
	comp=Z,2μm,21.0s						
VNA2	**Neumayer--Watz**	**90.77**	**176**	P	**P**	**22 55 17.9**	**+1.2**
	baz=190,slow=3.7						
VNA2	**Neumayer--Watz**	**90.77**	**176**	pP	pP	22 55 25.3	+1.1
VNA2	**Neumayer--Watz**	**90.77**	**176**	sP	sP	22 55 29.1	+2.3
VNA1	**Neumayer--Stat**	**90.97**	**175**	P	**P**	**22 55 18.9**	**+1.2**
VNA1	**Neumayer--Stat**	**90.97**	**175**	pP	pP	22 55 25.7	+0.6
INK	**Inuvik**	**91.01**	**14**	P	**P**	**22 55 17.8**	**+0.2**
INK				pmax	pmax		
	comp=Z,14nm,1.1s						
INK	**Inuvik**	**91.01**	**14**	P	**P**	**22 55 17.4**	**-0.2**
	baz=218,SNR=5.7						
INK	**Inuvik**	**91.01**	**14**	P	**P**	**22 55 17.8**	**+0.2**
PHIT	**Phitsanulok**	**91.06**	**288**	P	P	22 55 25.2	+6.1
PHIT	**Phitsanulok**	**91.06**	**288**	P	P	22 55 25.2	+6.2
	comp=Z,313nmcomp=Z,24nm,1.2s						
EFI	**East Falkland**	**91.10**	**146**	*i* P	**P**	**22 55 22.2**	**+3.6**
EFI				pmax	pmax		
	comp=Z,28nm,1.1s						
UTTA	**Uttaradit**	**91.11**	**288**	P	P	22 55 24.4	+5.1
UTTA	**Uttaradit**	**91.11**	**288**	P	P	22 55 24.5	+5.2
	comp=Z,61nmcomp=Z,5.8nm,1.3s						
CRIN	**San Cristobal**	**91.15**	**77**	IAMs_20	IAMs_20	23 25 20.6	
	comp=Z,2μm,22.0s						
X37A	**Clayton**	**91.21**	**54**	IAMs_20	IAMs_20	23 28 48.6	
	comp=Z,3μm,21.0s						
YAK	**Yakutsk**	**91.27**	**337**	*ceP*	**P**	**22 55 23.4**	**+4.4**
YAK				pmax	pmax		
	comp=Z,24nm,1.3s						
BTO	**Baotou**	**91.30**	**312**	P	**P**	**22 55 21.0**	**+1.2**
BTO				LR	LR		
	comp=Z,4μm,19.6s						
BTO				LR	LR		
	comp=Z,5μm,18.2s						
SRDT	**SRDT**	**91.35**	**285**	P	P	22 55 31.1	+11
SRDT	**SRDT**	**91.35**	**285**	P	P	22 55 31.0	+11
	comp=Z,51nm,1.5s						
TGUH	**Tegucigalpa,Un**	**91.36**	**76**	IAMs_20	IAMs_20	23 26 04.3	
	comp=Z,2μm,21.0s						
UTHA	**Ulthaitani**	**91.43**	**286**	P	P	22 55 27.0	+6.2
	comp=Z,96nmcomp=Z,8.9nm,1.1s						
KMI	**Kunming**	**91.55**	**296**	⇑P	**P**	**22 55 23.3**	**+1.8**
KMI				pP	sP	22 55 30.8	-0.7
KMI				sP	pP	22 55 34.0	+5.0
KMI				PP	**PP**	**22 59 01.8**	**+1.8**
KMI				SKS	**SKSac**	**23 05 49.8**	**-3.5**
KMI				S	**S**	**23 06 18.5**	**-2.1**
KMI				sS	pS	23 06 29.3	-1.0
KMI				SS	**SS**	**23 12 25.5**	**-2.2**
KMI				pmax	pmax		
	comp=Z,14nm,1.7s						
KMI				pmax	pmax		
	comp=Z,500nm,8.2s						
KMI				LR	LR		
	comp=Z,750nm,22.2s						
KMI				LR	LR		
	comp=Z,2μm,24.5s						
KMI				LR	LR		
	comp=Z,4μm,24.5s						
KMI	**Kunming**	**91.55**	**296**	IAMs_20	IAMs_20	23 31 24.7	
	comp=Z,3μm,20.0s						
KSU1	**Kansas State U**	**91.93**	**49**	IAMs_20	IAMs_20	23 29 01.4	
	comp=Z,2μm,21.0s						
KHLT	**Khaolaem Dam**	**91.98**	**285**	P	P	22 55 36.0	+13
KHLT	**Khaolaem Dam**	**91.98**	**285**	P	P	22 55 36.1	+13
	comp=Z,30nm,1.4s						
UMPA	**Umpang Tak**	**92.17**	**286**	P	P	22 55 35.8	+12
UMPA	**Umpang Tak**	**92.17**	**286**	P	P	22 55 35.9	+12
	comp=Z,12nm,1.1s						
LAMP	**Lampang**	**92.18**	**289**	P	P	22 55 30.0	+5.7
LAMP	**Lampang**	**92.18**	**289**	P	P	22 55 30.1	+5.8
	comp=Z,10nm,1.2s						
JTS	**Las Juntas de**	**92.36**	**80**	*i* P	**P**	**22 55 29.5**	**+4.3**
JTS				pmax	pmax		
	comp=Z,28nm,1.0s						
JTS	**Las Juntas de**	**92.36**	**80**	IAMs_20	IAMs_20	23 26 42.0	
	comp=Z,2μm,21.0s						
MIAR	**Mount Ida**	**92.58**	**55**	P	**P**	**22 55 27.8**	**+2.0**
	baz=250						
MIAR	**Mount Ida**	**92.58**	**55**	IAMs_20	IAMs_20	23 30 02.0	
	comp=Z,2μm,21.0s						
CD2	**Chengdu**	**92.60**	**302**	P	**P**	**22 55 26.0**	**0.0**
CD2				PP	**PP**	**22 59 09.5**	**+1.5**
CD2				SKS	**SKSac**	**23 05 54.0**	**-4.6**
CD2				S	**ScS**	**23 06 30.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,1.3s						
CD2				pmax	pmax		
	comp=Z,510nm,9.0s						
CD2				LR	LR		
	comp=Z,970nm,15.5s						
CD2				LR	LR		
	comp=Z,930nm,17.2s						
CD2				LR	LR		
	comp=Z,1μm,15.2s						
W39A	**Magazine**	**92.64**	**54**	P	**P**	**22 55 28.2**	**+2.2**
	baz=250						
CM04	**Chiang Mai Arr**	**92.74**	**288**	P	P	22 55 32.7	+5.9
	comp=Z,207nmcomp=Z,24nm,1.2s						
CM09	**Chiang Mai Arr**	**92.74**	**288**	P	P	22 55 33.6	+6.7
	comp=Z,179nmcomp=Z,22nm,1.2s						
CM09	**Chiang Mai Arr**	**92.74**	**288**	P	P	22 55 33.0	+6.1
	comp=Z,179nmcomp=Z,22nm,1.2s						
CM01	**Chiang Mai Arr**	**92.76**	**288**	P	P	22 55 33.8	+6.8
	comp=Z,219nmcomp=Z,25nm,1.3s						
CM05	**Chiang Mai Arr**	**92.77**	**288**	P	P	22 55 32.3	+5.3
	comp=Z,129nmcomp=Z,17nm,1.2s						
CM05	**Chiang Mai Arr**	**92.77**	**288**	P	P	22 55 32.4	+5.4
	comp=Z,129nmcomp=Z,17nm,1.2s						
CM02	**Chiang Mai Arr**	**92.78**	**288**	P	P	22 55 33.6	+6.6
	comp=Z,181nmcomp=Z,20nm,1.4s						
CM02	**Chiang Mai Arr**	**92.78**	**288**	P	P	22 55 33.0	+6.0
	comp=Z,181nmcomp=Z,20nm,1.4s						
CM31	**Chiang Mai Arr**	**92.79**	**288**	P	P	22 55 33.6	+6.5
	comp=Z,383nm,1.2s						
CMAR	**Chiang Mai Arr**	**92.79**	**288**	P	**P**	**22 55 25.0**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=151,slow=2.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**92.79**	**288**	*i* P	**P**	**22 55 29.7**	**+2.6**
CMAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.79**	**288**	P	**P**	**22 55 26.1**	**-1.0**
CM15	**Chiang Mai Arr**	**92.80**	**288**	P	P	22 55 33.3	+6.2
	comp=Z,159nmcomp=Z,19nm,1.1s						
YKA	**Yellowknife Ar**	**92.80**	**24**	P	**P**	**22 55 24.1**	**-2.0**
	comp=Z,4.2nm,1.0s,baz=229,slow=3.9,SNR=3.7						
YKA				LR	LR	23 32 23.1	
	comp=Z,2μm,19.1s,baz=0.0,slow=32						
CM13	**Chiang Mai Arr**	**92.81**	**288**	P	P	22 55 33.4	+6.2
	comp=Z,142nmcomp=Z,18nm,1.2s						
CM13	**Chiang Mai Arr**	**92.81**	**288**	P	P	22 55 33.5	+6.3
CMMT	**Chiang Mai**	**92.89**	**289**	P	**P**	**22 55 30.3**	**+2.8**
CMMT	**Chiang Mai**	**92.89**	**289**	P	**P**	**22 55 30.3**	**+2.8**
CHTO	**Chiang Mai**	**92.89**	**289**	P	**P**	**22 55 26.3**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,30nm,1.2s						
CHTO				MLR	MLR		
	comp=Z,2μm,22.0s						
CHTO	**Chiang Mai**	**92.89**	**289**	P	**P**	**22 55 30.3**	**+2.7**
	comp=Z,27nm,1.2s						
CHTO	**Chiang Mai**	**92.89**	**289**	P	**P**	**22 55 26.3**	**-1.2**
CHTO				IAmb	IAmb	22 55 38.4	
	comp=Z,30nm,1.1s						
CHTO	**Chiang Mai**	**92.89**	**289**	IAMs_20	IAMs_20	23 32 15.8	
	comp=Z,2μm,22.0s						
CM32	**Chiang Mai Arr**	**92.93**	**289**	P	P	22 55 37.0	+9.3
HDC	**Heredia**	**93.06**	**81**	IAMs_20	IAMs_20	23 27 05.5	
	comp=Z,2μm,21.0s						
NNA	**Nana**	**93.12**	**104**	IAMs_20	IAMs_20	23 26 59.0	
	comp=Z,3μm,22.0s						
ESPN	**Las Esperanzas**	**93.55**	**78**	IAMs_20	IAMs_20	23 27 16.3	
	comp=Z,3μm,22.0s						
ECSD	**EROS Data Cent**	**93.62**	**45**	P	**P**	**22 55 34.8**	**+4.4**
	baz=248,SNR=8.9						
U40A	**Yellville**	**93.75**	**53**	P	**P**	**22 55 33.2**	**+2.0**
	baz=

SONM				PP	**PP**	**22 59 35.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=1.7						
SONM				LR	LR	23 34 25.4	
	comp=Z,539nm,21.7s,baz=112,slow=33						
SONM	**Songino Array**	**96.35**	**318**	P	**P**	**22 55 42.2**	**-0.7**
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**96.35**	**318**	P	**P**	**22 55 42.2**	**-0.7**
F36A	**Milaca**	**96.43**	**44**	P	**P**	**22 55 41.2**	**-1.9**
F36A				IAmb	IAmb	22 55 50.4	
	comp=Z,15nm,1.1s						
ULM	**Lac du Bonnet**	**96.43**	**39**	P	**P**	**22 55 43.0**	**0.0**
	comp=Z,1.7nm,0.7s,baz=201,slow=8.3,SNR=1.8						
ULM				LR	LR	23 35 26.0	
	comp=Z,2μm,18.7s,baz=254,slow=33						
ULM	**Lac du Bonnet**	**96.43**	**39**	P	**P**	**22 55 43.0**	**0.0**
PB01	**IPOC Station P**	**96.58**	**115**	IAMs_20	IAMs_20	23 31 08.3	
	comp=Z,2μm,19.0s						
PB11	**IPOC Station P**	**96.91**	**113**	IAMs_20	IAMs_20	23 28 20.1	
	comp=Z,2μm,21.0s						
PLAL	**Pickwick Lake**	**97.01**	**56**	IAMs_20	IAMs_20	23 34 32.4	
	comp=Z,2μm,21.0s						
B35A	**Bob, Littlefor**	**97.11**	**42**	P	**P**	**22 55 45.4**	**-0.8**
B35A				IAmb	IAmb	22 55 52.1	
	comp=Z,17nm,1.3s						
TIXI	**Tiksi**	**97.37**	**344**	*i* P	Pdif	22 55 52.6	+5.8
WVT	**Waverly**	**97.54**	**55**	IAMs_20	IAMs_20	23 32 34.2	
	comp=Z,2μm,20.0s						
JFWS	**Jewell Farm**	**97.73**	**47**	IAMs_20	IAMs_20	23 32 27.0	
	comp=Z,2μm,22.0s						
GTA	**Gaotai**	**98.29**	**309**	*e*P	Pdif	22 55 54.3	+2.4
GTA				pP	pP	22 55 59.0	-0.4
GTA				sP	sP	22 56 02.3	+0.4
GTA				SKS	**SKSac**	**23 06 24.0**	**-4.6**
GTA				S	**S**	**23 07 14.5**	**-4.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,150nm,6.0s						
GTA				LR	LR		
	comp=Z,860nm,18.7s						
GTA				LR	LR		
	comp=Z,2μm,23.5s						
GTA				LR	LR		
	comp=Z,3μm,24.3s						
EYMN	**Ely**	**98.40**	**42**	P	Pdif	22 55 53.0	+0.9
	baz=252						
EYMN	**Ely**	**98.40**	**42**	IAMs_20	IAMs_20	23 37 53.4	
	comp=Z,1μm,19.0s						
LPAZ	**La Paz**	**99.55**	**111**	P	**Pdif**	**22 55 59.9**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=262,slow=8.5,SNR=2.5						
LPAZ				LR	LR	23 31 00.8	
	comp=Z,5μm,21.7s,baz=266,slow=29						
P49A	**Miami Univ. Ec**	**100.83**	**52**	IAMs_20	IAMs_20	23 38 20.1	
	comp=Z,2μm,19.0s						
MTDJ	**Mount Denham**	**101.52**	**74**	IAMs_20	IAMs_20	23 31 21.4	
	comp=Z,2μm,22.0s						
GLMI	**Grayling**	**102.17**	**47**	IAMs_20	IAMs_20	23 35 44.2	
	comp=Z,2μm,22.0s						
AAM	**Ann Arbor**	**102.27**	**49**	IAMs_20	IAMs_20	23 39 42.1	
	comp=Z,2μm,19.0s						
ACSO	**Alum Creek Sta**	**102.29**	**52**	IAMs_20	IAMs_20	23 35 00.8	
	comp=Z,2μm,21.0s						
LSA	**Lhasa**	**102.71**	**297**	IAMs_20	IAMs_20	23 36 51.8	
	comp=Z,2μm,22.0s						
M53A	**Wi Miller and**	**104.26**	**51**	IAMs_20	IAMs_20	23 37 11.8	
	comp=Z,2μm,20.0s						
N54A	**Moraine State**	**104.67**	**51**	IAMs_20	IAMs_20	23 36 25.8	
	comp=Z,2μm,21.0s						
CNNC	**Cliffs of the**	**105.17**	**57**	IAMs_20	IAMs_20	23 37 08.3	
	comp=Z,2μm,22.0s						
SAML	**Samuel**	**106.76**	**105**	IAMs_20	IAMs_20	23 36 56.2	
	comp=Z,2μm,20.0s						
WMQ	**Urumqi**	**108.09**	**311**	IAMs_20	IAMs_20	23 41 32.3	
	comp=Z,1μm,20.0s						
GRTK	**Grand Turk**	**108.15**	**73**	IAMs_20	IAMs_20	23 37 41.2	
	comp=Z,2μm,22.0s						
HNH	**Hanover**	**110.72**	**49**	IAMs_20	IAMs_20	23 43 04.7	
	comp=Z,2μm,20.0s						
ZALV	**Zalesovo Beam**	**110.88**	**322**	PKiKP	**PKiKP**	**23 00 47.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=124,slow=2.6,SNR=2.4						
ZALV				PP	**PP**	**23 01 23.6**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=76,slow=6.1,SNR=1.4						
ZALV				PKKPbc	**PKKPab**	**23 11 58.8**	**+4.9**
	comp=Z,0.8nm,0.8s,baz=247,slow=3.1,SNR=4.3						
TULEG	**Thule**	**111.00**	**14**	IAMs_20	IAMs_20	23 42 45.6	
	comp=Z,2μm,20.0s						
LBNH	**Lisbon**	**111.03**	**49**	IAMs_20	IAMs_20	23 40 21.8	
	comp=Z,2μm,22.0s						
I62A	**Tamworth**	**111.42**	**49**	IAMs_20	IAMs_20	23 42 23.2	
	comp=Z,1μm,20.0s						
SJG	**San Juan**	**111.99**	**77**	IAMs_20	IAMs_20	23 39 43.1	
	comp=Z,1μm,22.0s						
MKAR	**Makanchi Array**	**112.17**	**314**	Pdiff	**Pdif**	**22 56 51.3**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=90,slow=2.0,SNR=2.4						
MKAR				PKiKP	**PKiKP**	**23 00 47.5**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=35,slow=3.5,SNR=3.5						
MKAR				PKKPbc	**PKKPbc**	**23 11 41.9**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=224,slow=4.0,SNR=2.8						
E62A	**Clayton Lake**	**112.87**	**46**	IAMs_20	IAMs_20	23 46 37.4	
	comp=Z,1μm,18.0s						
F63A	**Nahmakanta, Br**	**113.12**	**47**	IAMs_20	IAMs_20	23 46 00.2	
	comp=Z,1μm,19.0s						
D62A	**Allapoint, All**	**113.21**	**46**	IAMs_20	IAMs_20	23 44 12.4	
	comp=Z,2μm,21.0s						
F64A	**Sherman**	**113.65**	**47**	IAMs_20	IAMs_20	23 46 26.3	
	comp=Z,2μm,20.0s						
SABA	**Saba**	**114.59**	**78**	IAMs_20	IAMs_20	23 44 54.0	
	comp=Z,1μm,18.0s						
KURK	**Kurchatov**	**114.66**	**318**	*i* PKIKP	PKPdf	23 00 53.0	-1.2
KURBB	**Kurchatov Arra**	**114.72**	**318**	PKiKP	PKPdf	23 00 53.0	-1.3
	comp=Z,0.6nm,0.2s,baz=97,slow=1.7,SNR=2.2						
KURBB				PKKPbc	**PKKPbc**	**23 11 34.2**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=270,slow=3.8,SNR=4.1						
GRGR	**Grenville**	**114.83**	**85**	IAMs_20	IAMs_20	23 42 04.6	
	comp=Z,1μm,22.0s						
BVAR	**Borovoye Array**	**119.53**	**321**	PKP	**PKPdf**	**23 01 00.8**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=69,slow=8.0,SNR=3.3						
BRVK	**Borovoye**	**119.58**	**321**	*i* PKIKP	**PKiKP**	**23 01 06.2**	**+2.5**
BRVK	**Borovoye**	**119.58**	**321**	IAMs_20	IAMs_20	23 49 29.1	
	comp=Z,1μm,20.0s						
SPITS	**Spitsbergen Ar**	**119.63**	**358**	PKIKP	**PKPdf**	**23 01 03.0**	**-0.1**
SUMG	**Summit**	**119.93**	**14**	IAMs_20	IAMs_20	23 49 54.3	
	comp=Z,1μm,21.0s						
NRS	**Narsarsuaq**	**123.92**	**27**	IAMs_20	IAMs_20	23 55 22.3	
	comp=Z,1μm,18.0s						
SVE	**Sverdlovsk**	**124.00**	**327**	*i* PKIKP	**PKiKP**	**23 01 14.4**	**+2.2**
SVE				pmax	pmax		
	comp=Z,17nm,1.6s						
SVE				MLR	MLR		
	comp=Z,1μm,19.0s						
ANGG	**Ammassalik, Gr**	**124.53**	**20**	IAMs_20	IAMs_20	23 54 56.1	
	comp=Z,1μm,20.0s						
SCO	**Scoresbysund**	**124.96**	**11**	IAMs_20	IAMs_20	23 52 33.3	
	comp=Z,1μm,20.0s						
ARU	**Arti**	**125.21**	**327**	PKP	**PKPdf**	**23 01 13.2**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=155,slow=2.2,SNR=12						
ARU	**Arti**	**125.21**	**327**	*i* PKIKP	**PKiKP**	**23 01 16.7**	**+2.0**
ARU						23 03 03.2	
ARU						23 08 25.1	
ARU				PS	**PS**	**23 12 59.5**	**-5.7**
ARU				SS	SS	23 19 58.3	-1.4
ARU				SSS	SSS	23 24 36.8	
ARU				MLR	MLR		
	comp=Z,1μm,17.0s						
ARU	**Arti**	**125.21**	**327**	PKPdf	**PKPdf**	**23 01 14.0**	**-0.3**
ARU				IAMs_20	IAMs_20	23 53 38.2	
	comp=Z,1μm,19.0s						
KEV	**Kevo**	**126.71**	**351**	IAMs_20	IAMs_20	00 04 39.1	
	comp=Z,945nm,20.0s						
LVZ	**Lovozero**	**126.93**	**347**	IAMs_20	IAMs_20	23 53 32.2	
	comp=Z,1μm,21.0s						
ARCES	**ARCESS Array B**	**127.13**	**351**	PKP	**PKPdf**	**23 01 14.3**	**-3.3**
	comp=Z,2.8nm,0.9s,baz=23,slow=4.9,SNR=1.4						
AKTO	**Aktyubinsk**	**127.61**	**320**	PKP	**PKPdf**	**23 01 15.3**	**-3.8**
	comp=Z,0.9nm,0.5s,baz=112,slow=5.4,SNR=2.3						
PRGR	**Permogore**	**128.32**	**337**	*e*PKIKP	**PKPdf**	**23 01 19.6**	**-0.5**
PRGR				pmax	pmax		
	comp=Z,12nm,1.1s						
KIRV	**Kirov**	**128.59**	**333**	*c i* PKIKP	**PKiKP**	**23 01 24.3**	**+3.0**
BORG	**Borgarnes**	**129.89**	**15**	IAMs_20	IAMs_20	23 52 34.7	
	comp=Z,2μm,21.0s						
BOSA	**Boshof**	**129.96**	**202**	PKP	**PKiKP**	**23 01 25.7**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=184,slow=6.0,SNR=2.5						
GEYT	**Alibeck**	**130.49**	**305**	PKP	**PKPdf**	**23 01 22.0**	**-3.0**
	comp=Z,0.7nm,0.6s,baz=158,slow=4.2,SNR=1.3						
KLMR	**Klimovskoe**	**131.03**	**339**	*e*PKIKP	**PKPdf**	**23 01 24.7**	**-0.5**
KLMR				*e*		23 03 47.6	
KLMR				pmax	pmax		
	comp=Z,35nm,1.5s						
KLMR	**Klimovskoe**	**131.03**	**339**	*e*PKPdf	**PKPdf**	**23 01 24.8**	**-0.5**
KLMR				AMP		23 01 31.5	
	comp=Z,35nm,1.5s						
KLMR				*e*PP	**PP**	**23 03 47.6**	**+5.7**
BELG	**Belogornoye**	**132.72**	**326**	PKP	**PKiKP**	**23 01 30.6**	**+0.7**
	comp=Z,17nm,0.9s,baz=126,slow=2.6,SNR=2.2						
BELG	**Belogornoye**	**132.72**	**326**	*i* PKIKP	**PKiKP**	**23 01 32.7**	**+2.9**
FINES	**FINESS Array B**	**134.37**	**347**	PKhKP	PKPpre	23 01 24.1	
	comp=Z,7.3nm,1.1s,baz=328,slow=4.9,SNR=3.1						
MOS	**Moscow**	**135.37**	**335**	*i* PKIKP	**PKiKP**	**23 01 36.8**	**+1.7**
MOS				*e*		23 04 09.1	
OBN	**Obninsk**	**136.24**	**335**	*d i* PKIKP	**PKiKP**	**23 01 40.7**	**+3.8**
OBN				*e*		23 04 21.9	
OBN				*e*		23 08 43.5	
OBN				pmax	pmax		
	comp=Z,26nm,1.3s						
OBN	**Obninsk**	**136.24**	**335**	IAMs_20	IAMs_20	00 05 42.6	
	comp=Z,815nm,19.0s						
NOA	**NORSAR Array B**	**136.90**	**356**	PKP	**PKPdf**	**23 01 33.7**	**-2.7**
	comp=Z,1.5nm,1.0s,baz=59,slow=12,SNR=3.0						
MAK	**Makhachkala**	**136.99**	**314**	*i* P	**Pdif**	**22 58 43.4**	**-0.3**
MAK				*i*		23 01 40.0	
MAK				*e*		23 04 21.4	
MAK				*e*		23 08 50.0	
MAK				pmax	pmax		
	comp=Z,137nm,1.7s						
KONO	**Kongsberg**	**138.38**	**357**	IAMs_20	IAMs_20	00 11 06.3	
	comp=Z,830nm,21.0s						
KBZ	**Khabaz**	**139.72**	**318**	PKP	**PKPdf**	**23 01 40.0**	**-2.0**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.0,SNR=1.8						
KBZ	**Khabaz**	**139.72**	**318**	*c i*PKIKP	**PKiKP**	**23 01 44.3**	**0.0**
KIV	**Kislovodsk**	**139.75**	**318**	*e*PKIKP	**PKiKP**	**23 01 43.9**	**-0.7**
KIV				*e*		23 04 37.9	
KIV				*e*SS	SS	23 22 55.3	-1.8
KIV				*e*SSS	SSS	23 28 13.4	
KIV				MLR	MLR		
	comp=Z,1μm,24.0s						
KIV	**Kislovodsk**	**139.75**	**318**	IAMs_20	IAMs_20	00 01 42.9	
	comp=Z,1μm,22.0s						
SHA1	**Shidzhatmaz**	**139.87**	**318**	*i* PKIKP	**PKiKP**	**23 01 45.0**	**0.0**
MNK	**Minsk**	**139.88**	**340**	*i* PKIKP	**PKiKP**	**23 01 50.6**	**+6.2**
MNK				*i*		23 04 48.7	
MNK				*i* PPP	PPP	23 07 51.2	
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,728nm,18.0s						
MNK				MLR	MLR		
	comp=Z,980nm,23.0s						
MNK				MLR	MLR		
	comp=E,32nm,18.0s						
MNK	**Minsk**	**139.88**	**340**	*i* PKP	**PKiKP**	**23 01 50.7**	**+6.3**
	comp=E,2.0nm,0.9s						
MNK				*i* PKP	**PKiKP**	**23 01 50.7**	**+6.3**
	comp=N,9.0nm,0.9s						
MNK				*i* PKP	**PKiKP**	**23 01 50.7**	**+6.3**
	comp=Z,6.0nm,0.9s,baz=214						
MNK				*i* PP	PP	23 04 48.8	+11
MNK				*i* PPP	PPP	23 07 51.2	
MNK				*i* SKS	SKSdf	23 08 34.1	-17
MNK				*i* SKKS	**SKKSdf**	**23 18 25.4**	**+5.1**
MNK				*i* SS	SS	23 22 36.2	-21
MNK				*i* SSS	SSS	23 28 20.8	
MNK				*i* LR	LR	23 53 13.1	
MNK				*i* LRM	MLR	00 01 06.3	
	comp=N,728nm,17.8s						
MNK				*i* LRM	MLR	00 01 39.4	
	comp=Z,980nm,22.9s						
MNK				*i* LRM	MLR	00 02 02.3	
	comp=E,32nm,17.8s						
PABE	**Paberze**	**140.17**	**344**	IAMs_20	IAMs_20	00 12 10.4	
	comp=Z,1μm,22.0s						
SUW	**Suwalki**	**141.70**	**344**	*e*PKP	**PKPdf**	**23 01 46.2**	**+1.0**
SOC	**Sochi**	**141.80**	**319**	*e*PKIKP	**PKPdf**	**23 01 45.6**	**-0.2**
SOC				*i*		23 01 50.0	
SOC				*e*PPP	PPP	23 08 05.3	
SOC				*e*SS	SS	23 23 21.2	+0.4
SOC				*e*SSS	SSS	23 28 40.8	
SOC				MLR	MLR		
	comp=Z,760nm,16.0s						
AKASG	**Malin Array Be**	**142.49**	**336**	PKP	**PKPdf**	**23 01 42.5**	**-4.3**
	comp=Z,2.0nm,0.7s,baz=39,slow=4.1,SNR=2.4						
AKASG	**Malin Array Be**	**142.49**	**336**	PKiKP	**PKPdf**	**23 01 45.4**	**-1.3**
AKASG	**Malin Array Be**	**142.49**	**336**		**PKPdf**	**23 01 45.4**	**-1.3**
AKBB	**Malin Array Si**	**142.49**	**336**	PKiKP	**PKPdf**	**23 01 46.2**	**-0.5**
AKBB	**Malin Array Si**	**142.49**	**336**	PKPdf	**PKPdf**	**23 01 46.2**	**-0.5**
GURO	**Guroymak-BITLI**	**142.51**	**311**	PKPdf	**PKPdf**	**23 01 45.1**	**-2.3**
ANN	**Anapa**	**142.52**	**322**	*i* PKIKP	**PKPdf**	**23 01 45.3**	**-1.7**
ANN				*e*		23 04 54.5	
ANN				*e*		23 08 55.6	
ANN				*e*SS	SS	23 23 21.3	-7.5
ANN				pmax	pmax		
	comp=Z,18nm,1.3s						
RGN	**Rugen**	**143.13**	**353**	IAMs_20	IAMs_20	00 10 11.2	
	comp=Z,1μm,21.0s						
KMBO	**Kilima Mbogo**	**143.71**	**242**	PKP	PKPbc	23 01 48.1	+0.3
	comp=Z,5.9nm,1.1s,baz=90,slow=4.5,SNR=9.4						
KMBO	**Kilima Mbogo**	**143.71**	**242**	*i* PKIKP	**PKPdf**	**23 01 49.2**	**-1.2**
KMBO	**Kilima Mbogo**	**143.71**	**242**		PKPbc	23 01 48.1	+0.3
BEL	**Belsk**	**144.30**	**344**	*e*PKP	**PKPdf**	**23 01 51.3**	**+1.4**
SORM	**Soroca**	**144.85**	**334**	⇑P	**PKPdf**	**23 01 50.8**	**-0.1**
SORM	**Soroca**	**144.85**	**334**	⇑PKIKP	**PKPdf**	**23 01 50.8**	**-0.1**
LVV	**L'vov**	**145.12**	**339**	*e*PKIKP	**PKPdf**	**23 01 52.1**	**+0.7**
LVV				MLR	MLR		
	comp=E,800nm,20.0s						
LVV				MLR	MLR		
	comp=N,400nm,19.0s						
LVV				MLR	MLR		
	comp=Z,800nm,20.0s						
NRDL	**Niedersach Rie**	**145.48**	**355**	*e*PKPbc	**PKiKP**	**23 01 55.1**	**-0.7**
	baz=8.7,slow=2.8						
KIS	**Kishinev**	**145.52**	**332**	⇑*i*PKP	**PKPab**	**23 01 54.3**	**+1.8**
	comp=Z,330nm,8.2s						
KIS				LRM	MLR	00 04 04.0	
	comp=Z,300nm,21.0s						
KIS	**Kishinev**	**145.52**	**332**	*c i*PKIKP	**PKPab**	**23 01 54.3**	**+1.8**
KIS				pmax	pmax		
	comp=Z,330nm,8.2s						
FLTG	**Flechtingen**	**145.54**	**354**	*e*PKPbc	**PKiKP**	**23 01 55.2**	**-0.8**
	baz=8.7,slow=2.8						
KWP	**Kalwaria Pacla**	**145.71**	**340**	*e*PKP	**PKPdf**	**23 01 50.8**	**-1.7**
ASSE	**Asse, Remlinge**	**145.80**	**355**	*e*PKPbc	**PKiKP**	**23 01 55.8**	**-0.6**
	baz=8.7,slow=2.8						
IBBN	**Ibbenburen**	**145.80**	**358**	*e*PKPbc	**PKiKP**	**23 01 55.7**	**-0.8**
	baz=8.7,slow=2.8						
OJC	**Ojcow**	**146.03**	**344**	*e*PKP	**PKPdf**	**23 01 53.1**	**+0.1**
OJC	**Ojcow**	**146.03**	**344**	PKiKP	**PKPdf**	**23 01 52.6**	**-0.4**
OJC				MLR	MLR		
	comp=Z,1μm,20.0s						
OJC	**Ojcow**	**146.03**	**344**	PKPdf	**PKPdf**	**23 01 52.6**	**-0.4**
OJC				IAMs_20	IAMs_20	00 06 55.6	
	comp=Z,1μm,20.0s						
CLZ	**Clausthal**	**146.11**	**355**	*e*PKPbc	**PKiKP**	**23 01 57.2**	**-0.1**
	baz=8.7,slow=2.8						
KSP	**Ksiaz**	**146.25**	**348**	*e*PKP	**PKPdf**	**23 01 53.9**	**+0.5**
CLL	**Collm**	**146.35**	**352**	*e*PKPbc	**PKPdf**	**23 01 53.0**	**-0.4**
CLL				*i* PKiKP	**PKiKP**	**23 01 57.4**	**-0.3**
	comp=Z,88nm,1.2s						
CLL				*e*		23 06 30.0	
CLL				*e*PSKS		23 15 36.0	
CLL				*e*PPS	PPS	23 17 54.0	
CLL				*e*SS	SS	23 24 18.0	+6.6
CLL				*e*		23 27 06.0	
CLL				*e*SSS	SSS	23 29 30.0	
CLL				LmV		00 16 00.0	
	comp=Z,900nm,20.2s						
CLL	**Collm**	**146.35**	**352**	*e*PKIKP	**PKPdf**	**23 01 53.0**	**-0.4**
CLL				*i*		23 01 57.4	
	comp=Z,88nm,1.2s						
CLL	**Collm**	**146.35**	**352**	IAMs_20	IAMs_20	00 04 51.3	
	comp=Z,1μm,22.0s						
CLL	**Collm**	**146.35**	**352**	*e*PKPbc	**PKiKP**	**23 01 57.5**	**-0.2**
	baz=8.7,slow=2.8						
GTTG	**Gottingen**	**146.44**	**355**	*e*PKPbc	**PKiKP**	**23 01 58.1**	**+0.2**
	baz=8.7,slow=2.8						
KOLS	**Kolonicke sedl**	**146.46**	**340**	*e*PKP2	**PKPbc**	**23 01 54.6**	**-0.5**
KOLS	**Kolonicke sedl**	**146.46**	**340**	*e*PKP	**PKPbc**	**23 01 54.6**	**-0.5**
BURAR	**Bucovina Array**	**146.54**	**336**	⇑P	**PKPab**	**23 01 56.9**	**+0.4**
BURAR	**Bucovina Array**	**146.54**	**336**	⇑PKP2	**PKPab**	**23 01 56.9**	**+0.4**
BURAR	**Bucovina Array**	**146.54**	**336**	PKPdf	**PKPdf**	**23 01 52.4**	**-1.7**
OSTC	**Ostas**	**146.54**	**348**	*e*PKP	**PKPbc**	**23 01 54.7**	**-0.6**
OSTC				*ex*	x	23 24 05.4	
OSTC				AMS	AMS	00 05 30.0	
	comp=Z,2μm,24.1s						
CHVC	**Chvalec**	**146.54**	**348**	*e*PKP	**PKPdf**	**23 01 54.5**	**+0.6**
CHVC				AMS	AMS	00 05 40.0	
	comp=Z,1μm,21.7s						
NEUB	**Neuenburg**	**146.60**	**353**	*e*PKPbc	**PKiKP**	**23 01 58.4**	**+0.2**
	baz=8.7,slow=2.8						
UPC	**Upice**	**146.63**	**348**	*e*PKHKP	**PKPdf**	**23 01 51.9**	**-2.1**
UPC				*e*		23 01 56.2	
UPC				MLR	MLR		
	comp=Z,1μm,21.9s						
UPC	**Upice**	**146.63**	**348**	*e*PKP	**PKPdf**	**23 01 51.9**	**-2.1**
UPC				*ep*PKP	**PKPab**	**23 01 56.2**	**-0.4**
UPC				AMS	AMS	00 05 30.0	
	comp=Z,1μm,21.9s						
BRG	**Berggiesshubel**	**146.64**	**351**	*e*PKP	**PKPbc**	**23 01 55.5**	**-0.1**
BRG				Amp		23 02 01.6	
	comp=Z,124nm,1.9s						
BRG	**Berggiesshubel**	**146.64**	**351**	P	PKiKP	23 02 11.0	+13
BRG				Amp		23 02 15.3	
	comp=Z,70nm,1.7s						
BRG	**Berggiesshubel**	**146.64**	**351**	*e*PKPbc	**PKiKP**	**23 01 58.5**	**+0.2**
	baz=8.7,slow=2.8						
BUG	**Bochum--Univer**	**146.68**	**358**	*e*PKPbc	**PKiKP**	**23 01 58.7**	**+0.3**
	baz=8.7,slow=2.8						
FBE	**Freiberg**	**146.68**	**351**	*e*PKPbc	**PKiKP**	**23 01 59.0**	**+0.5**
	baz=8.7,slow=2.8						
UZH	**Uzhgorod**	**146.72**	**340**	*e*PKP2	**PKPbc**	**23 01 55.5**	**-0.3**
DPC	**Dobruska-Polom**	**146.72**	**348**	*e*PKP2	**PKPbc**	**23 01 55.7**	**-0.2**
DPC				*e*SS	SS	23 24 09.1	-6.7
DPC				MLR	MLR		
	comp=Z,1μm,22.5s						
DPC	**Dobruska-Polom**	**146.72**	**348**	*e*PKP	**PKPbc**	**23 01 55.7**	**-0.2**
DPC				*ex*	x	23 24 09.1	
DPC				AMS	AMS	00 05 50.0	
	comp=Z,1μm,22.5s						
VLDR	**Vladesti**	**146.72**	**331**	⇑P	**PKPbc**	**23 01 56.4**	**+0.5**
CRVS	**Cervenica-Dubn**	**146.74**	**341**	*e*PKP2	**PKPab**	**23 01 56.7**	**-0.4**
CRVS	**Cervenica-Dubn**	**146.74**	**341**	*e*PKP	**PKPab**	**23 01 56.7**	**-0.4**
OKC	**Ostrava-Krasne**	**146.80**	**345**	*e*PKHKP	**PKPdf**	**23 01 52.3**	**-2.0**
OKC				MLR	MLR		
	comp=Z,800nm,19.6s						
OKC	**Ostrava-Krasne**	**146.80**	**345**	*e*PKP	**PKPdf**	**23 01 52.3**	**-2.0**
OKC				AMS	AMS	00 07 30.0	
	comp=Z,800nm,19.6s						
TESR	**Tescani**	**146.84**	**333**	⇑P	**PKPbc**	**23 01 56.9**	**+0.6**
GHRR		**146.86**	**332**	⇑P	**PKiKP**	**23 02 00.7**	**+1.8**
TLCR		**146.87**	**330**	⇑P	**PKPab**	**23 01 57.6**	**-0.1**
TLCR		**146.87**	**330**	⇑PKP2	**PKPab**	**23 01 57.6**	**-0.1**
PVCC	**Panska Ves**	**146.87**	**350**	*e*PKP2	**PKPbc**	**23 01 56.0**	**-0.2**
PVCC				MLR	MLR		
	comp=Z,1μm,19.8s						
PVCC	**Panska Ves**	**146.87**	**350**	*e*PKP	**PKPbc**	**23 01 56.0**	**-0.2**
PVCC				AMS	AMS	00 12 00.0	
	comp=Z,1μm,19.8s						
KASTN	**Kahler Asten**	**146.87**	**357**	*e*PKPbc	**PKiKP**	**23 01 59.2**	**+0.3**
	baz=8.7,slow=2.8						
KRLC	**Kraliky**	**146.88**	**347**	*e*PKP2	**PKPbc**	**23 01 55.8**	**-0.5**
KRLC				MLR	MLR		
	comp=Z,1μm,21.5s						
KRLC	**Kraliky**	**146.88**	**347**	*e*PKP	**PKPbc**	**23 01 55.8**	**-0.5**
KRLC				AMS	AMS	00 13 10.0	
	comp=Z,1μm,21.5s						
ILGA	**Ilgaz**	**146.91**	**320**	IAMs_20	IAMs_20	00 16 23.1	
	comp=Z,771nm,20.0s						
MORC	**Moravsky Berou**	**147.00**	**346**	⇑P	**PKPab**	**23 01 57.7**	**-0.4**
MORC	**Moravsky Berou**	**147.00**	**346**	⇑PKP2	**PKPab**	**23 01 57.7**	**-0.4**
MORC	**Moravsky Berou**	**147.00**	**346**	*e*PKP	**PKPbc**	**23 01 56.5**	**-0.2**
TRPA	**Tarpa**	**147.07**	**339**	*e*PKPpB		23 01 56.8	
TRPA	**Tarpa**	**147.07**	**339**	*e*P	**PKPab**	**23 01 57.7**	**-0.7**
LANS	**Liptovska Anna**	**147.09**	**343**	*e*PKP2	**PKPab**	**23 01 58.3**	**-0.2**
LANS	**Liptovska Anna**	**147.09**	**343**	*e

DOU			*dx*		x	23 02 19.2	
PSZ	**Piszkesteto**	**148.09 342**	⇑P		**PKPbc**	**23 02 00.6**	**+0.8**
PSZ	**Piszkesteto**	**148.09 342**	⇑*e*PKP		**PKPbc**	**23 01 58.7**	**-1.0**
PSZ	**Piszkesteto**	**148.09 342**	*e*P		**PKiKP**	**23 02 00.8**	**-0.7**
PSZ	**Piszkesteto**	**148.09 342**	PKP2		**PKPbc**	**23 01 59.5**	**-0.3**
PSZ			MLR		MLR		
	comp=Z,1μm,20.0s						
PSZ	**Piszkesteto**	**148.09 342**	PKPbc		**PKPbc**	**23 01 59.5**	**-0.3**
PSZ			IAMs_20		IAMs_20	00 07 39.3	
	comp=Z,1μm,20.0s						
GRA1	**Grafenberg Arr**	**148.15 353**	IAMs_20		IAMs_20	00 20 12.9	
	comp=Z,934nm,20.0s						
GRF	**Grafenberg Arr**	**148.15 353**	*e*PKPbc		**PKPab**	**23 02 03.3**	**+0.6**
	baz=8.7,slow=2.8						
GRF			*e*L		L	00 20 12.5	
	comp=Z,926nm,21.5s						
GRFO	**Grafenberg**	**148.16 353**	IAMs_20		IAMs_20	00 10 60.0	
	comp=Z,1μm,22.0s						
DRGR		**148.16 338**	⇑P		**PKPbc**	**23 02 00.6**	**+0.6**
DRGR		**148.16 338**	⇑PKP2		**PKPbc**	**23 02 00.6**	**+0.6**
ANTO	**Ankara**	**148.17 319**	PKIKP		**PKPdf**	**23 01 56.1**	**-0.9**
ANTO	**Ankara**	**148.17 319**	PKPdf		**PKPdf**	**23 01 56.1**	**-0.9**
MILB	**Miltenberg**	**148.19 356**	*e*PKPbc		**PKPab**	**23 02 02.9**	**+0.2**
	baz=8.7,slow=2.8						
MODS	**Modra-Piesok**	**148.37 345**	*e*PKP2		**PKPab**	**23 02 02.9**	**-0.7**
MODS	**Modra-Piesok**	**148.37 345**	*e*PKP		**PKiKP**	**23 02 02.8**	**+0.8**
VOIR		**148.37 334**	⇑P		**PKiKP**	**23 02 01.7**	**-0.5**
VOIR		**148.37 334**	⇑PKP2		**PKiKP**	**23 02 01.7**	**-0.5**
KHC	**Kasperske Hory**	**148.39 350**	*e*PKP2		**PKPbc**	**23 01 59.9**	**-0.6**
KHC			MLR		MLR		
	comp=Z,2μm,24.4s						
KHC	**Kasperske Hory**	**148.39 350**	*e*PKP		**PKPbc**	**23 01 59.9**	**-0.6**
KHC			*ep*PKP		**pPKPdf**	**23 02 04.5**	**-0.1**
KHC			*ex*		x	23 24 27.2	
KHC			AMS		AMS	00 10 00.0	
	comp=Z,2μm,24.4s						
KHC	**Kasperske Hory**	**148.39 350**	PKPdf		**PKPdf**	**23 01 55.9**	**-1.1**
WLF	**Walferdange**	**148.47 360**	*dp*PKPdf		**pPKPdf**	**23 02 05.1**	**+0.4**
WLF			*dx*		x	23 02 19.7	
WLF	**Walferdange**	**148.47 360**	PKHKP		**PKPdf**	**23 01 56.2**	**-0.9**
WLF			MLR		MLR		
	comp=Z,2μm,21.0s						
WLF	**Walferdange**	**148.47 360**	PKPdf		**PKPdf**	**23 01 56.2**	**-0.9**
WLF	**Walferdange**	**148.47 360**	*e*PKPbc		**PKPab**	**23 02 04.3**	**+0.4**
	baz=8.7,slow=2.8						
WET	**Wettzell**	**148.48 351**	*e*PKPbc		**PKPab**	**23 02 03.5**	**-0.5**
	baz=8.7,slow=2.8						
BSZH	**Besenyszg**	**148.53 341**	⇑*e*PKP		**PKPbc**	**23 02 00.2**	**-0.6**
CKRC	**Cesky Krumlov**	**148.56 349**	*e*PKP		**PKPdf**	**23 01 57.6**	**+0.3**
CKRC			*ex*		x	23 24 37.8	
ZST	**Bratislava**	**148.58 346**	*e*PKP2		**PKPbc**	**23 02 01.5**	**+0.6**
ZST	**Bratislava**	**148.58 346**	*e*PKP		**PKPbc**	**23 02 01.5**	**+0.6**
ZST			*e*			23 02 06.1	
GEC2	**GERESS Array S**	**148.64 350**	PKPdf		**PKPdf**	**23 01 57.0**	**-0.5**
GEC2	**GERESS Array S**	**148.64 350**	*e*PKPbc		**PKPab**	**23 02 04.2**	**-0.5**
	baz=8.7,slow=2.8						
GERES	**GERESS Array B**	**148.64 350**	PKPbc		**PKPdf**	**23 01 57.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=55,slow=3.7,SNR=1.7						
GERES			PKPab		**PKPbc**	**23 02 01.1**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=29,slow=3.0,SNR=32						
GERES			PKKP		**PKKPdf**	**23 10 51.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=316,slow=5.6,SNR=3.6						
GERES	**GERESS Array B**	**148.64 350**	PKPdf		**PKPdf**	**23 01 57.5**	**0.0**
LOT	**Lotru**	**148.89 335**	⇑P		**PKiKP**	**23 02 02.8**	**-0.6**
SIRR	**Siria**	**148.98 339**	⇑P		**PKPbc**	**23 02 01.9**	**-0.1**
CONA	**Conrad Observa**	**149.11 347**	*e*P		**PKPbc**	**23 02 02.1**	**-0.4**
	comp=Z,64nm,1.4s,SNR=24						
SOP	**Sopron**	**149.19 346**	⇑*e*PKP		**PKPbc**	**23 02 02.1**	**-0.4**
SOP	**Sopron**	**149.19 346**	*e*P		**PKPab**	**23 02 08.3**	**+1.5**
AMBH	**Ambrzfalva**	**149.23 340**	⇑*e*PKP		**PKPbc**	**23 02 02.0**	**-0.6**
AMBH			*e*PKPpB			23 02 06.3	
EGYH	**Egyhazaskeszo**	**149.25 345**	*e*PKPDF		**PKPdf**	**23 01 58.3**	**-0.1**
EGYH	**Egyhazaskeszo**	**149.25 345**	*e*P		**PKiKP**	**23 02 03.3**	**-0.6**
STU	**Stuttgart**	**149.25 356**	*e*PKPbc		**PKPab**	**23 02 06.0**	**-1.0**
	baz=8.7,slow=2.8						
MBAR	**Mbarara**	**149.30 235**	PKHKP		**PKPdf**	**23 01 58.0**	**-1.7**
MBAR	**Mbarara**	**149.30 235**	PKPdf		**PKPdf**	**23 01 58.0**	**-1.7**
GZR	**Gura Zlata**	**149.32 336**	⇑P		**PKiKP**	**23 02 05.8**	**+1.6**
GZR	**Gura Zlata**	**149.32 336**	⇑PKP2		**PKiKP**	**23 02 05.8**	**+1.6**
MPLH	**Magyarpolny**	**149.43 344**	⇑*e*PKP		**PKPbc**	**23 02 01.6**	**-1.5**
MPLH	**Magyarpolny**	**149.43 344**	*e*P		**PKPbc**	**23 02 03.1**	**0.0**
MOA	**Molln**	**149.51 349**	*e*P		**PKPbc**	**23 02 02.6**	**-0.7**
	comp=Z,23nm,1.4s						
BZS	**Buzias**	**149.56 338**	⇑P		**PKPbc**	**23 02 02.8**	**-0.7**
BZS	**Buzias**	**149.56 338**	⇑PKHKP		**PKPbc**	**23 02 02.8**	**-0.7**
FUR	**Furstenfeldbru**	**149.65 353**	*e*PKPbc		**PKPab**	**23 02 06.9**	**-1.9**
	baz=8.7,slow=2.8						
BFO	**Black Forest**	**149.74 357**	IAMs_20		IAMs_20	00 09 42.8	
	comp=Z,934nm,21.0s						
BFO	**Black Forest**	**149.74 357**	*e*PKPbc		**PKiKP**	**23 02 07.0**	**+2.1**
	baz=8.7,slow=2.8						
VLAD	**Vladila**	**149.80 333**	⇑P		**PKiKP**	**23 02 06.0**	**+0.9**
ARSA	**Arzberg**	**149.83 347**	*e*P		**PKPbc**	**23 02 03.5**	**-0.7**
	comp=Z,21nm,1.4s						
HERR	**Herculane**	**149.89 336**	⇑P		**PKPbc**	**23 02 04.6**	**+0.3**
MORH	**Mrgy, Hungar**	**150.00 342**	⇑P		**PKiKP**	**23 02 05.0**	**-0.4**
MORH	**Mrgy, Hungar**	**150.00 342**	⇑*e*PKP		**PKPbc**	**23 02 02.4**	**-2.1**
MORH	**Mrgy, Hungar**	**150.00 342**	*e*P		**PKPbc**	**23 02 03.0**	**-1.5**
GHAJ	**Ghor Haditha**	**150.08 302**	PKPdf		**PKPdf**	**23 01 58.6**	**-1.5**
GHAJ			IAMs_20		IAMs_20	00 14 11.9	
	comp=Z,861nm,20.0s						
MDVR	**Moldovita**	**150.24 337**	⇑P		**PKPbc**	**23 02 05.6**	**+0.4**
UBR	**Ueberruh**	**150.26 354**	*e*PKPbc		**PKiKP**	**23 02 08.2**	**+2.2**
	baz=8.7,slow=2.8						
KOVH	**Kovagotottos**	**150.27 343**	⇑*e*PKP		**PKPbc**	**23 02 04.3**	**-0.9**
KOVH	**Kovagotottos**	**150.27 343**	*e*P		**PKPbc**	**23 02 05.3**	**+0.2**
CSS	**Mathiatis**	**150.36 310**	PKPdf		**PKPdf**	**23 01 58.6**	**-2.0**
CSS			IAMs_20		IAMs_20	00 17 11.2	
	comp=Z,1μm,20.0s						
RETA	**Reutte**	**150.38 353**	*e*P		**PKPbc**	**23 02 05.8**	**+0.2**
	comp=Z,20nm,1.2s						
KBA	**Koelnbreinsper**	**150.42 350**	*e*P		**PKPbc**	**23 02 03.6**	**-2.1**
	comp=Z,6.9nm,0.7s						
WATA	**Walderalm**	**150.43 352**	*e*P		**PKPbc**	**23 02 04.8**	**-0.9**
	comp=Z,42nm,2.1s						
SOKA	**Soboth**	**150.48 347**	*e*P		**PKPbc**	**23 02 04.8**	**-1.0**
	comp=Z,31nm,1.3s,SNR=15						
MOTA	**Moosalm**	**150.48 353**	*e*P		**PKPbc**	**23 02 06.0**	**+0.2**
	comp=Z,38nm,1.2s,SNR=7.1						
WTTA	**Wattenberg**	**150.49 352**	*e*P		**PKPbc**	**23 02 05.5**	**-0.5**
	comp=Z,61nm,1.8s,SNR=6.5						
FRGS	**Fruska Gora**	**150.58 340**	⇑P		**PKPab**	**23 02 10.0**	**-2.7**
SQTA	**Sankt Quirin**	**150.59 353**	*e*P		**PKPbc**	**23 02 05.8**	**-0.3**
	comp=Z,24nm,1.1s,SNR=8.5						
DAVA	**Damuels**	**150.67 354**	*e*P		**PKPbc**	**23 02 06.4**	**+0.1**
	comp=Z,44nm,1.0s						
OBKA	**Obir**	**150.74 348**	*e*P		**PKPbc**	**23 02 06.0**	**-0.4**
	comp=Z,13nm,1.8s						
ISP	**Isparta**	**150.80 317**	IAMs_20		IAMs_20	00 20 35.6	
	comp=Z,1μm,20.0s						
MYKA	**Terra Mystica**	**150.80 349**	*e*P		**PKPbc**	**23 02 06.0**	**-0.5**
	comp=Z,13nm,1.0s						
FETA	**Feichten**	**150.84 353**	*e*P		**PKPbc**	**23 02 05.2**	**-1.6**
	comp=Z,37nm,1.1s						
ABTA	**Abfaltersbach**	**150.87 351**	*e*P		**PKPbc**	**23 02 05.6**	**-1.1**
	comp=Z,23nm,0.9s						
ALN	**Alexandroupoli**	**151.39 327**	PKIKP		**PKPdf**	**23 02 01.0**	**-0.9**
ALN	**Alexandroupoli**	**151.39 327**	PKPdf		**PKPdf**	**23 02 01.0**	**-0.9**
VTS	**Vitosha**	**151.42 333**	⇑P		**PKPbc**	**23 02 07.4**	**-0.8**
VTS	**Vitosha**	**151.42 333**	PKIKP		**PKPdf**	**23 02 00.4**	**-1.8**
VTS	**Vitosha**	**151.42 333**	PKPdf		**PKPdf**	**23 02 00.4**	**-1.8**
DIVS	**Divibare**	**151.45 338**	PKPdf		**PKPdf**	**23 02 02.0**	**0.0**
TUE	**Stuetta**	**151.52 355**	PKPdf		**PKPdf**	**23 02 00.3**	**-1.9**
SENIN	**Lac Senin/Sane**	**151.75 358**	IAMs_20		IAMs_20	00 18 54.9	
	comp=Z,1μm,19.0s						
PDG	**Podgorica**	**153.17 338**	IAMs_20		IAMs_20	00 20 04.1	
	comp=Z,989nm,20.0s						
FNA	**Florina**	**153.72 333**	PKIKP		**PKPdf**	**23 02 04.5**	**-1.0**
FNA	**Florina**	**153.72 333**	PKPdf		**PKPdf**	**23 02 04.5**	**-1.0**
KARP	**Karpathos**	**154.32 317**	IAMs_20		IAMs_20	00 24 17.0	
	comp=Z,798nm,22.0s						
MTE	**Manteigas**	**154.91 25**	IAMs_20		IAMs_20	00 17 46.9	
	comp=Z,992nm,21.0s						
IDI	**Anoyia**	**155.93 319**	IAMs_20		IAMs_20	00 17 42.0	
	comp=Z,730nm,22.0s						
EVO	**Evora**	**156.28 28**	PKP		**PKPdf**	**23 02 14.3**	**+5.4**
UCM	**Universidad Co**	**156.48 18**	PKP		**PKPdf**	**23 02 10.5**	**+1.3**
MESJ	**Messejana**	**156.75 29**	*e*PKPdf		**PKPdf**	**23 02 07.4**	**-2.2**
MESJ			*e*SS		SS	23 26 06.8	-0.3
MESJ			IAMs_20		IAMs_20	00 03 01.0	
	comp=Z,2μm,26.3s						
MESJ	**Messejana**	**156.75 29**	*e*PKIKP		**PKPdf**	**23 02 07.3**	**-2.2**
MESJ			*e*SS		SS	23 27 08.0	+61
ESDC	**Sonseca Array**	**156.84 20**	PKP		**PKPdf**	**23 02 08.5**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=300,slow=2.8,SNR=2.1						
ESDC			PKPab		**PKPab**	**23 02 39.0**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=314,slow=1.8,SNR=3.3						
ESDC			PP		**PP**	**23 06 17.1**	**+0.4**
	comp=Z,1.3nm,1.2s,baz=348,slow=4.5,SNR=3.9						
MAHO	**Mahon**	**158.20 3**	PKP		**PKPdf**	**23 02 12.4**	**+1.1**
VSL	**Villasalto**	**158.43 353**	IAMs_20		IAMs_20	00 21 58.8	
	comp=Z,1μm,20.0s						
SFS	**San Fernando**	**158.79 28**	PKP		**PKPdf**	**23 02 12.7**	**+0.5**
EMAL	**Malaga-Limoner**	**159.28 24**	PKP		**PKPdf**	**23 02 15.5**	**+2.8**
CEU	**Ceuta**	**159.63 27**	PKP		**PKPdf**	**23 02 13.8**	**+0.7**
CART	**Cartagena**	**159.63 16**	PKP		**PKPdf**	**23 02 13.1**	**0.0**
CART	**Cartagena**	**159.63 16**	IAMs_20		IAMs_20	00 13 07.5	
	comp=Z,642nm,20.0s						
AVE	**Averroes**	**160.70 36**	PKP		**PKPdf**	**23 02 20.8**	**+6.4**
PVLZ	**Peæn de**	**160.71 26**	PKP		**PKPdf**	**23 02 17.1**	**+2.8**
MELI	**Melilla**	**161.14 23**	PKP		**PKPdf**	**23 02 13.2**	**-1.6**
IFR	**Ifrane**	**161.72 31**	PKP		**PKPdf**	**23 02 15.6**	**-0.1**
KEST	**Kesra**	**162.13 351**	PKP		**PKPdf**	**23 02 12.3**	**-3.7**
	comp=Z,2.5nm,0.9s,baz=323,slow=5.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**173.67 140**	PKP		**PKPdf**	**23 02 22.8**	**-1.7**
	comp=Z,2.7nm,1.1s,baz=209,slow=2.3,SNR=8.0						
TORD			PKPab		**PKPab**	**23 03 54.4**	**+0.6**
	comp=Z,4.0nm,1.1s,baz=204,slow=3.3,SNR=5.2						
TORD			PP		**PP**	**23 07 47.4**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=182,slow=2.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**173.67 140**			**PKPdf**	**23 02 21.7**	**-2.7**

*IDC **26** 23:08:13.0±0.8, 17.°20S×175.°12W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.2/19, mbtmp4.0/9, MS4.2/1, Ms1 4.2/1, ms1mx3.4/34 Error ellipse: s-maj=36.7km s-min=22.9km az=147.0*

*NEIC **26** 23:08:14.3±1.4, 18.°0S±0.°1×174.°07W±0.°08, h32km±6km, mb4.7/37, Error ellipse: s-maj=18.7km s-min=10.2km az=189.0*

ISC 26 23:08:14.7±0.5, 18.°0S±0.°1×174.°09W±0.°07, h35km, n82, σ1§76/62, mb4.6/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.09**	**106**	Pn	**Pn**	**23 09 13.7**	**-1.1**
NIUE				Sn	**Sn**	**23 09 59.9**	**-1.5**
MSVF	**Nonsavu**	**7.49**	**271**	Pn	**Pn**	**23 10 00.9**	**-0.7**
LIFNC	**LIFOU**	**17.82**	**258**		**P**	**23 12 21.0**	**+0.5**
PINNC	**Pines Island,**	**17.91**	**252**	P	**Pn**	**23 12 20.4**	**-0.6**
PINNC				IAmb	IAmb	23 12 29.3	
	comp=Z,70nm,1.5s						
SANVU	**Saraoutou**	**18.10**	**275**	P	**Pn**	**23 12 22.7**	**-0.7**
SANVU				IAmb	IAmb	23 12 32.9	
	comp=Z,59nm,1.1s						
OUENC	**Ouen Island, N**	**18.42**	**253**	P	**P**	**23 12 26.6**	**-0.5**
DZM	**Mont Dzumac**	**18.72**	**254**	P	**P**	**23 12 29.8**	**-0.7**
ONTNC	**Ouen Toro**	**18.75**	**254**	P	**P**	**23 12 30.6**	**-0.2**
URZ	**Urewera**	**21.59**	**199**	P	**P**	**23 13 02.9**	**+1.5**
PAE	**Paea**	**23.33**	**93**	*e*T	T	23 37 22.6	
	comp=Z,6.8nm,0.3s						
PPT2	**Papeete2**	**23.34**	**93**	*e*LR	LR	23 18 58.9	
	comp=Z,2μm,27.0s						
PPT2	**Papeete2**	**23.34**	**93**	*e*T	T	23 37 24.7	
	comp=Z,7.2nm,0.3s						
PPT	**Papeete**	**23.34**	**93**	LR	LR	23 19 53.9	
	comp=Z,539nm,21.3s,baz=268,slow=29						
TBI	**Tubuai**	**23.63**	**107**	*e*T	T	23 37 32.1	
	comp=Z,12nm,0.4s						
BFZ	**Birch Farm**	**24.07**	**198**	P	**P**	**23 13 26.3**	**-0.5**
MSWZ	**Moikau Station**	**25.05**	**199**	P	**P**	**23 13 35.1**	**-0.6**
BHW	**Baring Head**	**25.16**	**200**	P	**P**	**23 13 36.4**	**-0.3**
PLWZ	**Palliser**	**25.19**	**199**	P	**P**	**23 13 37.5**	**+0.6**
VAH	**Vaihoa**	**25.50**	**88**	*e*T	T	23 40 04.4	
	comp=Z,7.9nm,0.3s						
MLZ	**Mavora Lakes**	**31.04**	**205**	P	**P**	**23 14 29.0**	**-0.3**
MLZ				IAmb	IAmb	23 14 36.2	
	comp=Z,14nm,1.1s						
EIDS	**Eidsvold**	**33.11**	**251**	P	**P**	**23 14 46.5**	**-1.1**
TAOE	**Nuku Hiva Isla**	**34.19**	**79**	*e*T	T	23 50 56.0	
	comp=Z,48nm,0.2s						
H11N3	**WAKE ISLAND Hy**	**41.88**	**333**	T	T	00 00 44.7	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**41.88**	**333**	T	T	00 00 44.2	
	baz=156						
H11N2	**WAKE ISLAND Hy**	**41.90**	**333**	T	T	00 00 45.2	
	baz=156						
WR0	**Warramunga Arr**	**48.46**	**259**	P	**P**	**23 16 53.0**	**-1.1**
WR0				IAmb	IAmb	23 17 00.4	
	comp=Z,12nm,1.3s						
WB0	**Warramunga Arr**	**48.62**	**259**	P	**P**	**23 16 54.1**	**-1.3**
WB2	**Warramunga Arr**	**48.64**	**259**	P	**P**	**23 16 55.1**	**-0.5**
WB2				IAmb	IAmb	23 17 03.3	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**48.65**	**259**	P	**P**	**23 16 54.0**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=98,slow=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**48.65**	**259**	P	**P**	**23 16 55.2**	**-0.5**
AS31	**Alice Springs**	**48.71**	**254**	P	**P**	**23 16 54.8**	**-1.3**
ASAR	**Alice Springs**	**48.72**	**254**	P	**P**	**23 16 53.4**	**-2.7**
	comp=Z,6.0nm,0.8s,baz=89,slow=8.1,SNR=34						
ASAR	**Alice Springs**	**48.72**	**254**	P	**P**	**23 16 54.8**	**-1.3**
KNRA	**Kununurra**	**54.56**	**263**	P	**P**	**23 17 39.2**	**-0.7**
MJAR	**Matsushiro Arr**	**70.52**	**321**	P	P	23 19 20.7	-5.3
	comp=Z,0.9nm,0.3s,baz=159,slow=5.2,SNR=2.3						
QSPA	**South Pole Qui**	**72.04**	**180**	P	**P**	**23 19 35.5**	**+0.5**
QSPA				IAmb	IAmb	23 19 41.8	
	comp=Z,8.4nm,1.0s						
PETK	**Petropavlovsk-**	**74.91**	**343**	P	**P**	**23 19 48.7**	**-3.0**
	comp=Z,1.1nm,0.6s,baz=162,slow=9.7,SNR=2.0						
YBH	**Yreka Blue Hor**	**76.07**	**37**	P	**P**	**23 19 58.9**	**+0.1**
YBH				IAmb	IAmb	23 20 09.2	
	comp=Z,8.1nm,1.1s						
NVAR	**Mina Array Bea**	**76.71**	**42**	P	**P**	**23 20 06.7**	**+4.1**
	comp=Z,1.1nm,0.7s,baz=229,slow=8.2,SNR=5.7						
NVAR	**Mina Array Bea**	**76.71**	**42**	P	**P**	**23 20 03.7**	**+1.0**
KVN	**Kaiserville**	**77.20**	**41**	P	**P**	**23 20 05.9**	**+0.6**
KSRS	**Korea Array**	**77.57**	**316**	P	**P**	**23 20 08.1**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=133,slow=6.8,SNR=6.2						
MOD	**Modoc Plateau**	**77.58**	**38**	P	**P**	**23 20 07.8**	**+0.5**
MOD				IAmb	IAmb	23 20 16.6	
	comp=Z,12nm,1.4s						
SHPR	**Sheep Range**	**77.67**	**45**	P	**P**	**23 20 07.4**	**-0.6**
SHPR				IAmb	IAmb	23 20 17.7	
	comp=Z,7.0nm,1.4s						
K05A	**Summer Lake**	**77.75**	**37**	P	**P**	**23 20 08.3**	**0.0**
H04A	**Detroit Lake**	**78.27**	**35**	P	**P**	**23 20 08.0**	**-3.0**
H04A				IAmb	IAmb	23 20 21.2	
	comp=Z,14nm,1.3s						
PINE	**Pine Mountain**	**78.39**	**36**	P	**P**	**23 20 11.0**	**-0.9**
WVOR	**Wild Horse Val**	**78.88**	**38**	P	P	23 20 07.7	-6.8
WVOR				IAmb	IAmb	23 20 24.6	
	comp=Z,11nm,1.4s						
I07A	**Izee**	**79.38**	**37**	P	**P**	**23 20 17.9**	**+0.7**
I07A				IAmb	IAmb	23 20 27.2	
	comp=Z,8.9nm,1.4s						
CCUT	**Cedar City**	**79.44**	**45**	P	**P**	**23 20 17.4**	**-0.4**
MFID	**Camas Ranch**	**81.13**	**39**	P	**P**	**23 20 24.7**	**-1.9**
D08A	**Wollman Farm,**	**81.53**	**35**	P	**P**	**23 20 28.5**	**-0.1**
TMUT	**Trail Mountain**	**81.80**	**44**	P	**P**	**23 20 29.9**	**-0.7**
TMUT				IAmb	IAmb	23 20 38.7	
	comp=Z,11nm,1.1s						
F10A	**Beach Ranch, E**	**81.81**	**36**	P	**P**	**23 20 29.8**	**-0.4**
F10A				IAmb	IAmb	23 20 38.6	
	comp=Z,7.9nm,1.2s						
SPUT	**South Promonto**	**82.05**	**42**	P	**P**	**23 20 32.1**	**+0.5**
SPUT				IAmb	IAmb	23 20 40.9	
	comp=Z,7.9nm,1.4s						
PMSA	**Palmer Station**	**82.07**	**156**	P	**P**	**23 20 30.5**	**-0.7**
PMSA				IAmb	IAmb	23 20 38.4	
	comp=Z,9.0nm,1.5s						
TXAR	**Lajitas Array**	**82.61**	**56**	P	P	23 20 41.3	+6.5
	comp=Z,1.7nm,1.2s,baz=219,slow=5.8,SNR=7.3						
DLMT	**Dillon**	**84.14**	**39**	P	**P**	**23 20 42.6**	**+0.3**
DLMT				IAmb	IAmb	23 20 52.0	
	comp=Z,9.9nm,1.4s						
H03S2	**Juan Fernandez**	**84.31**	**124**	T	T	00 53 57.5	
	baz=250,slow=75,SNR=59						
H03S1	**Juan Fernandez**	**84.33**	**124**	T	T	00 53 56.2	
	baz=250,slow=75,SNR=52						
H03S3	**Juan Fernandez**	**84.33**	**124**	T	T	00 53 54.7	
	baz=250,slow=75,SNR=56						
H03N2	**Juan Fernandez**	**84.43**	**123**	T	T	00 54 01.2	
	baz=257,slow=72,SNR=22						
H03N3	**Juan Fernandez**	**84.43**	**123**	T	T	00 54 00.4	
	baz=257,slow=72,SNR=19						
H03N1	**Juan Fernandez**	**84.45**	**123**	T	T	00 54 00.5	
	baz=257,slow=72,SNR=6.2						
BW06	**Boulder Array**	**84.64**	**42**	P	**P**	**23 20 43.9**	**-1.1**
BW06				IAmb	IAmb	23 20 58.4	
	comp=Z,6.5nm,1.2s						
PDAR	**Pinedale Array**	**84.64**	**42**	P	**P**	**23 20 48.7**	**+3.6**
	comp=Z,0.9nm,0.8s,baz=255,slow=2.9,SNR=4.8						
CCB	**Clear Creek Bu**	**84.84**	**11**	P	**P**	**23 20 45.1**	**-0.1**
CCB				IAmb	IAmb	23 20 53.1	
	comp=Z,9.2nm,1.5s						
MAW	**Mawson**	**85.12**	**199**	P	P	23 20 53.2	+6.4
	comp=Z,0.8nm,0.7s,baz=64,slow=8.9,SNR=3.6						
MAW	**Mawson**	**85.12**	**199**	P	**P**	**23 20 46.4**	**-0.3**
ILAR	**Eielson Array**	**85.12**	**11**	P	**P**	**23 20 47.7**	**+1.1**
	comp=Z,0.9nm,1.1s,baz=214,slow=5.3,SNR=5.8						
ABTX	**Abilene, Hawle**	**87.11**	**54**	P	**P**	**23 20 56.2**	**-1.0**
HHC	**Hu-ho-hao-te**	**90.31**	**313**	*e*P	**P**	**23 21 15.3**	**+3.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
VNA3	**Neumayer Olymp**	**90.32**	**175**	P	P	23 21 16.4	+4.7
VNA2	**Neumayer--Watz**	**90.81**	**176**	P	**P**	**23 21 16.2**	**+2.2**
	baz=193,slow=2.7						
VNA1	**Neumayer--Stat**	**91.02**	**175**	P	**P**	**23 21 19.0**	**+4.1**
CLL	**Collm**	**146.31**	**352**	*e*PKiKP	**PKiKP**	**23 27 54.0**	**-0.6**
CLL				*i* pPKPdf	**pPKPdf**	**23 27 57.9**	**-3.7**
	comp=Z,16nm,1.7s						
DPC	**Dobruska-Polom**	**146.68**	**348**	*e*PKP	**PKiKP**	**23 28 01.9**	**+6.4**
BRTR	**Keskin Array B**	**147.70**	**318**	PKPbc	**PKiKP**	**23 27 57.2**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=101,slow=2.5,SNR=4.5						
KHC	**Kasperske Hory**	**148.35**	**350**	*e*PKP	**PKPab**	**23 28 01.6**	**+1.1**
KHC				*ex*	x	23 28 19.3	
CKRC	**Cesky Krumlov**	**148.53**	**349**	*e*PKP	**PKPab**	**23 28 03.7**	**+2.5**
GERES	**GERESS Array B**	**148.60**	**350**	PKPbc	**PKiKP**	**23 28 00.2**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=316,slow=8.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**173.68**	**139**	PKPab	PKPab	23 29 58.6	+7.7
	comp=Z,0.9nm,1.0s,baz=238,slow=5.6,SNR=3.8						

*BJI **26** 23:20:32.2±0.0, 21.°82S×178.°76W, h580km, mB5.3/20, mb5.3/61*

*MOS **26** 23:20:33.6±0.9, 22.°03S×179.°26W, h581km, mb5.1/9, Error ellipse: s-maj=9.1km s-min=8.1km az=75.5*

*BGR **26** 23:20:34.8±0.0, 22.°62S×178.°81W, h600km*

*IDC **26** 23:20:34.2±0.8, 21.°96S×179.°28W, h578km±8km, mb4.5/24, mb1 4.6/24, mb1mx4.6/26, mbtmp5.4/24, Error ellipse: s-maj=10.5km s-min=9.1km az=151.0*

*NEIC **26** 23:20:34±1.7,

TARA	Tarawa	24.48 341	P	P	23 25 09.8	+1.1
	comp=Z,297nm,0.9s					
WKZ	Wanaka	24.72 200	P	P	23 25 10.0	-0.5
MLZ	Mavora Lakes	25.50 201	P	P	23 25 17.9	+0.5
MLZ			IAmb	IAmb	23 25 39.4	
	comp=Z,149nm,1.9s					
WHZ	Wether Hill Ro	26.02 201	P	P	23 25 23.1	+1.2
WHZ			IAmb	IAmb	23 25 23.6	
	comp=Z,43nm,0.7s					
EIDS	Eidsvold	27.39 257	P	P	23 25 34.5	+0.4
	baz=27,SNR=17					
EIDS	Eidsvold	27.39 257	IAmb	IAmb	23 25 35.6	
	comp=Z,62nm,0.9s					
ARMA	Armidale	27.41 246	P	P	23 25 35.8	+1.4
	baz=27,SNR=44					
ARMA	Armidale	27.41 246	P	P	23 25 35.9	+1.4
TBI	Tubuai	27.45 99	eP	P	23 25 35.8	+1.0
	comp=Z,367nm,1.0s					
PAE	Paea	28.18 86	eP	P	23 25 41.6	+0.5
	comp=Z,25nm,1.1s					
PPT2	Papeete2	28.20 86	eP	P	23 25 42.0	+0.6
	comp=Z,210nm,1.2s					
PPT	Papeete	28.20 86	P	P	23 25 42.4	+1.0
	comp=Z,208nm,1.0s,baz=52,slow=2.3,SNR=16					
PPTF	Pamatai, Papee	28.21 86	P	P	23 25 42.3	+0.8
TIAR	Tiarei	28.42 86	eP	P	23 25 43.9	+0.6
	comp=Z,25nm,1.0s					
RMQ	Roma	29.50 255	P	P	23 25 53.9	+1.4
	baz=30,SNR=53					
MEH	Mehetia	29.53 88	eP	P	23 25 53.0	+0.1
	comp=Z,86nm,1.1s					
CNB	Canberra Magne	30.45 237	P	P	23 26 01.8	+1.1
	baz=30,SNR=22					
PMOR	Pomariorio Ree	30.46 82	eP	P	23 26 01.3	+0.5
	comp=Z,488nm,1.2s					
VAH	Vaihoa	30.63 83	eP	P	23 26 02.6	+0.3
	comp=Z,287nm,1.0s					
CAN	Canberra	30.74 237	IAmb	IAmb	23 26 05.0	
	comp=Z,64nm,1.0s					
CTA	Charters Tower	32.25 267	PcP	PcP	23 28 47.0	+0.5
	comp=Z,15nm,0.8s,baz=83,slow=3.0,SNR=4.4					
CTA			ScP	ScP	23 31 38.1	+2.6
	comp=Z,6.4nm,1.0s,baz=179,slow=5.1,SNR=7.0					
CTAO	Charters Tower	32.25 267	P	P	23 26 16.6	+0.5
CTAO			pmax	pmax		
	comp=Z,120nm,1.1s					
CTAO	Charters Tower	32.25 267	P	P	23 26 16.6	+0.5
CMSA	Cobar Meteorol	32.62 246	P	P	23 26 19.5	+0.5
	baz=33,SNR=85					
QLP	Quilpie	33.55 255	P	P	23 26 27.3	+0.4
	baz=34,SNR=14					
TOO	Toolangi	34.10 235	P	P	23 26 32.0	+0.6
	baz=34,SNR=16					
TOO	Toolangi	34.10 235	P	P	23 26 32.1	+0.6
TOO			pmax	pmax		
	comp=Z,58nm,0.9s					
TOO	Toolangi	34.10 235	P	P	23 26 32.1	+0.6
TOO			IAmb	IAmb	23 26 32.9	
	comp=Z,58nm,0.8s					
PMG	Port Moresby	34.63 286	P	P	23 26 36.3	+0.2
	comp=Z,216nm,0.9s,baz=96,slow=5.7,SNR=36					
PMG	Port Moresby	34.63 286	deP	P	23 26 36.0	-0.1
PMG			pmax	pmax		
	comp=Z,288nm,1.0s					
PMG	Port Moresby	34.63 286	P	P	23 26 36.3	+0.2
PMG	Port Moresby	34.63 286	P	P	23 26 36.3	+0.2
PMG	Port Moresby	34.63 286	P	P	23 26 36.3	+0.2
TAU	Tasmania Unive	34.76 225	P	P	23 26 37.2	+0.5
TAU			pmax	pmax		
	comp=Z,437nm,2.0s					
TAU	Tasmania Unive	34.76 225	P	P	23 26 37.2	+0.5
STKA	Stephens Creek	36.13 246	P	P	23 26 48.8	+0.6
	comp=Z,50nm,0.9s,baz=91,slow=9.7,SNR=56					
STKA			ScP	ScP	23 31 51.6	+2.4
	comp=Z,12nm,0.9s,baz=0.9,slow=6.5,SNR=6.6					
STKA	Stephens Creek	36.13 246	P	P	23 26 48.9	+0.6
	baz=36,SNR=13					
STKA	Stephens Creek	36.13 246	P	P	23 26 48.9	+0.6
STKA					23 31 51.7	
STKA			pmax	pmax		
	comp=Z,15nm,1.1s					
STKA	Stephens Creek	36.13 246	P	P	23 26 48.9	+0.6
STKA			ScP	ScP	23 31 51.7	+2.4
PATS	Pohnpei	36.17 320	P	P	23 26 50.1	+1.3
	baz=36,SNR=5.5					
PATS	Pohnpei	36.17 320	P	P	23 26 49.3	+0.5
ARPS	Mount Arapiles	36.72 238	P	P	23 26 53.2	+0.2
	baz=37,SNR=6.3					
QIS	Mount Isa	38.33 264	P	P	23 27 05.9	-0.4
	baz=38,SNR=13					
TAOE	Nuku Hiva Isla	39.73 77	eP	P	23 27 17.6	-0.2
	comp=Z,497nm,1.0s					
TAOE	Nuku Hiva Isla	39.73 77	P	P	23 27 18.6	+0.8
TAOE	Nuku Hiva Isla	39.73 77	P	P	23 27 19.9	+2.1
	comp=Z,301nm,1.0s					
BBOO	Buckleboo	40.88 245	IAmb	IAmb	23 27 27.3	
	comp=Z,86nm,0.9s					
AS31	Alice Springs	43.09 258	IAmb	IAmb	23 27 45.3	
	comp=Z,66nm,1.1s					
ASAR	Alice Springs	43.09 258	P	P	23 27 44.1	-0.1
	comp=Z,145nm,0.8s,baz=99,slow=7.8,SNR=852					
ASAR			PcP	PcP	23 29 20.6	0.0
	comp=Z,21nm,0.8s,baz=97,slow=4.9,SNR=8.6					
ASAR			ScP	ScP	23 32 18.7	+1.9
	comp=Z,7.4nm,0.7s,baz=112,slow=4.5,SNR=6.7					
ASAR			S	S	23 33 26.8	-2.3
	comp=Z,32nm,1.1s,baz=95,slow=16,SNR=28					
WR0	Warramunga Arr	43.11 264	P	P	23 27 44.2	-0.1
WR0			IAmb	IAmb	23 27 44.6	
	comp=Z,79nm,0.9s					
WRAB	Tennant Creek	43.29 264	P	P	23 27 45.0	-0.7
WRAB			pmax	pmax		
	comp=Z,173nm,0.9s					
WRAB	Tennant Creek	43.29 264	P	P	23 27 45.0	-0.7
WRA	Warramunga Arr	43.30 264	P	P	23 27 43.9	-1.9
	comp=Z,122nm,0.7s,baz=100,slow=8.8,SNR=381					
WRA			PcP	PcP	23 29 21.5	+0.1
	comp=Z,14nm,0.9s,baz=97,slow=4.0,SNR=7.1					
WRA			ScP	ScP	23 32 19.8	+2.1
	comp=Z,21nm,0.8s,baz=99,slow=4.3,SNR=17					
WRA			S	S	23 33 28.9	-3.1
	comp=Z,7.2nm,0.8s,baz=102,slow=13,SNR=8.9					
WRA	Warramunga Arr	43.30 264	P	P	23 27 44.7	-1.1
WRA			pmax	pmax		
	comp=Z,15nm,0.8s					
WRA	Warramunga Arr	43.30 264	P	P	23 27 44.7	-1.1
KDU	Kakadu	46.88 273	P	P	23 28 12.7	-0.4
	baz=47,SNR=37					
KHU	Kahuku	47.06 31	P	P	23 28 14.4	-0.2
KHU			pmax	pmax		
	comp=Z,245nm,1.4s					
KHU	Kahuku	47.06 31	P	P	23 28 14.4	-0.2
HMH	Humu'ula Sheep	47.43 31	P	P	23 28 18.3	+0.8
HMH			IAmb	IAmb	23 28 19.3	
	comp=Z,92nm,0.9s					
NPOC	North of Pu'u	47.43 32	P	P	23 28 17.6	+0.4
FORT	Forrest	47.67 248	P	P	23 28 18.3	-0.6
	baz=48,SNR=45					
FORT	Forrest	47.67 248	P	P	23 28 18.3	-0.6
SRPI	Serui, Papua	47.71 289	P	P	23 28 21.2	+1.9
	comp=Z,274nm,0.8s					
DHH	Diamond Head	47.83 27	P	P	23 28 20.7	+0.7
DHH	Diamond Head	47.83 27	P	P	23 28 20.7	+0.7
WRKA	Warakurna	47.98 256	P	P	23 28 21.1	-0.2
	baz=48,SNR=174					
HLK	Haleakala	48.07 29	P	P	23 28 22.5	+0.4
MTN	Manton Dam	48.08 272	P	P	23 28 21.6	-0.5
	baz=48,SNR=32					
MTN	Manton Dam	48.08 272	P	P	23 28 21.5	-0.5
KNRA	Kununurra	49.46 268	P	P	23 28 32.1	-0.1
	baz=49,SNR=55					
GUMO	Guam	49.94 312	P	P	23 28 34.9	-0.9
	comp=Z,109nm,0.4s,baz=160,slow=5.7,SNR=30					
GUMO			ScP	ScP	23 32 46.6	+1.0
	comp=Z,11nm,0.3s,baz=235,slow=14,SNR=5.1					
GUMO	Guam	49.94 312	P	P	23 28 34.3	-1.4
GUMO			pmax	pmax		
	comp=Z,425nm,1.3s					
GUMO	Guam	49.94 312	P	P	23 28 34.3	-1.4
GUMO	Guam	49.94 312	P	P	23 28 37.4	+1.7
FAKI	Fak Fak	50.78 285	P	P	23 28 41.5	-0.4
FAKI	Fak Fak	50.78 285	P	P	23 28 41.7	-0.2
	comp=Z,169nm,1.2s					
SIJI	Sorong	52.57 287	P	P	23 28 53.9	-0.9
	comp=Z,533nm,0.8s,baz=90,slow=4.9,SNR=148					
SWI	Sorong	52.58 287	P	P	23 28 54.6	-0.2
	comp=Z,7μmcomp=Z,1μm,0.8s					
MSAI	Masohi	53.59 283	P	P	23 29 02.4	+0.4
	comp=Z,36nm,0.6s					
NLAI	Namlea	55.29 282	P	P	23 29 13.6	-0.3
	comp=Z,2μmcomp=Z,151nm,1.2s					
SOEI	Soe	55.44 273	P	P	23 29 16.3	+1.2
	comp=Z,5μmcomp=Z,558nm,1.0s					
BATI	Baumata	55.85 272	P	P	23 29 19.3	+1.5
	comp=Z,1μmcomp=Z,149nm,0.7s					
LBMI	Labuha	56.03 285	P	P	23 29 19.6	+0.5
	comp=Z,3μmcomp=Z,289nm,0.8s					
PSA00	Pilbara Seismi	56.24 258	P	P	23 29 19.8	-0.6
PSA00			IAmb	IAmb	23 29 20.8	
	comp=Z,134nm,1.0s					
PSA00	Pilbara Seismi	56.24 258	IAmb	IAmb	23 29 20.8	
	comp=Z,72nm,1.1s					
VNDA	Vanda	56.30 185	P	P	23 29 21.9	+2.1
	comp=Z,1.7nm,0.7s,baz=4.2,slow=6.7,SNR=17					
MEEK	Meekatharra	56.37 252	P	P	23 29 20.2	-1.0
	baz=56,SNR=22					
KLBR	Kellerberrin	56.40 246	P	P	23 29 21.0	-0.4
	baz=56,SNR=51					
NWAO	Narrogin (SRO)	56.69 244	P	P	23 29 23.2	-0.1
	comp=Z,39nm,0.7s,baz=117,slow=7.6,SNR=29					
NWAO	Narrogin (SRO)	56.69 244	P	P	23 29 23.1	-0.2
	baz=57,SNR=21					
NWAO	Narrogin (SRO)	56.69 244	IAmb	IAmb	23 29 24.1	
	comp=Z,89nm,1.2s					
TNTI	Ternate	56.78 286	P	P	23 29 23.5	-0.7
TNTI	Ternate	56.78 286	P	P	23 29 24.0	-0.2
	comp=Z,3μmcomp=Z,190nm,1.0s					
SANI	Sanana	56.79 283	P	P	23 29 23.5	-0.7
	comp=Z,2μmcomp=Z,166nm,1.0s					
BLDU	Ballidu	57.42 247	P	P	23 29 27.7	-0.6
	baz=57,SNR=8.1					
MUN	Mundaring	57.66 245	P	P	23 29 29.9	0.0
	baz=58,SNR=14					
MMRI	Maumere	57.71 274	IAmb	IAmb	23 29 31.1	
	comp=Z,200nm,1.1s					
MMRI	Maumere	57.71 274	P	P	23 29 30.1	-0.4
	comp=Z,193nm,0.9s					
EDFI	Ende, Flores	58.18 273	P	P	23 29 33.0	-0.8
	comp=Z,1μmcomp=Z,107nm,0.9s					
MORW	Morawa	58.22 249	P	P	23 29 33.4	-0.3
	baz=58,SNR=24					
MORW	Morawa	58.22 249	P	P	23 29 33.4	-0.3
MORW			IAmb	IAmb	23 29 34.3	
	comp=Z,99nm,1.1s					
H01W1	Cape Leeuwin H	59.02 242	P	P	23 29 39.9	+1.2
SGSI	Sangihe	59.75 288	P	P	23 29 44.1	0.0
	comp=Z,7μmcomp=Z,154nm,0.6s					
WBSI	Waikabubak, Su	60.00 271	P	P	23 29 45.9	0.0
	comp=Z,2μmcomp=Z,101nm,0.8s					
LUWI	Luwuk	60.13 282	P	P	23 29 46.5	-0.1
GTOI	Gorontalo	60.62 284	P	P	23 29 50.5	+0.6
	comp=Z,575nmcomp=Z,84nm,0.9s					
BKSI	Bulukumba	60.86 276	P	P	23 29 51.0	-0.5
	comp=Z,731nmcomp=Z,94nm,0.8s					
GIRL	Giralia	61.07 256	P	P	23 29 53.6	+0.9
	baz=61,SNR=15					
GIRL	Giralia	61.07 256	P	P	23 29 53.4	+0.6
APSI	Ampana	61.20 282	P	P	23 29 54.5	+0.8
	comp=Z,132nm,1.0s					
BNSI	Bone	61.23 277	P	P	23 29 54.0	+0.1
	comp=Z,113nm,1.4s					
KAPI	Kappang	61.32 276	P	P	23 29 54.3	-0.2
	comp=Z,10.0nm,0.6s,baz=124,slow=5.2,SNR=7.1					
KAPI	Kappang	61.32 276	P	P	23 29 54.1	-0.4
KAPI			pmax	pmax		
	comp=Z,23nm,0.9s					
KAPI	Kappang	61.32 276	P	P	23 29 54.1	-0.4
DAV	Davao City (W)	61.33 292	P	P	23 29 54.8	+0.3
	comp=Z,133nm,0.4s,baz=13,slow=3.6,SNR=7.1					
DAV	Davao City (W)	61.33 292	P	P	23 29 54.5	0.0
JCJ	Chichijima	61.48 321	P	P	23 29 55.4	+0.2
MRSI	Marisa	61.52 283	P	P	23 29 55.0	-0.8
	comp=Z,62nm,1.0s					
PLAI	Plampang	61.78 272	P	P	23 29 57.1	-0.4
	comp=Z,2μmcomp=Z,272nm,1.1s					
TTSI	Tana Toraja	62.02 279	P	P	23 29 59.2	+0.2
	comp=Z,34nm,1.2s					
CASY	Casey	62.11 206	P	P	23 29 59.3	+0.6
CASY			IAmb	IAmb	23 29 60.0	
	comp=Z,41nm,1.1s					
TWSI	Taliwang, Sumb	62.64 271	P	P	23 30 02.7	-0.3
	comp=Z,1μmcomp=Z,147nm,1.0s					
TOLI2	Tolitoli	62.84 283	P	P	23 30 03.5	-0.8
TOLI2			IAmb	IAmb	23 30 04.8	
	comp=Z,104nm,1.0s					
MPSI	Mapaga	63.31 282	P	P	23 30 06.6	-0.7
	comp=Z,5μmcomp=Z,158nm,0.8s					
KBKI	Kotabaru	65.28 277	P	P	23 30 21.0	+1.3
	comp=Z,59nm,1.0s					
KMMI	Kalianget	65.93 272	P	P	23 30 25.4	+1.6
	comp=Z,124nm,1.1s					
BBKI	Banjar Baru	66.44 276	P	P	23 30 27.7	+0.7
	comp=Z,82nm,1.4s					
MTKI	Muara Teweh, K	67.36 279	P	P	23 30 32.6	-0.1
	comp=Z,49nm,0.9s					
PWJI	Pagerwojo	67.60 270	P	P	23 30 33.8	-0.3
	comp=Z,2μmcomp=Z,170nm,0.6s					
QSPA	South Pole Qui	68.05 180	P	P	23 30 37.1	+1.0
PCJI	Pacitan	68.12 270	P	P	23 30 37.2	0.0
	comp=Z,6μmcomp=Z,751nm,0.6s					
SPMM	Sapulut	68.27 285	P	P	23 30 39.0	+0.8
UGM	Wanagama	68.82 270	P	P	23 30 41.2	-0.4
UGM	Wanagama	68.82 270	P	P	23 30 42.4	+0.9
	comp=Z,253nm,0.8s					
SMRI	Semarang	69.20 271	P	P	23 30 44.1	+0.3
SMRI	Semarang	69.20 271	P	P	23 30 44.1	+0.3
	comp=Z,205nm,1.0s					
PBKI	Pangkalan Bun	69.65 275	P	P	23 30 48.5	+2.0
	comp=Z,16μmcomp=Z,223nm,1.1s					
JMM	Marumori	70.45 327	IAmb	IAmb	23 30 52.1	
	comp=Z,98nm,1.1s					
KPJI	Karang Pucung	70.50 270	P	P	23 30 51.0	-0.5
	comp=Z,186nm,0.8s					
JGF	Kuroka	70.55 324	IAmb	IAmb	23 30 52.3	
	comp=Z,23nm,0.8s					
INU	Inuyama	70.55 323	P	P	23 30 51.3	0.0
INU			IAmb	IAmb	23 30 52.7	
	comp=Z,40nm,1.0s					
MJAR	Matsushiro Arr	70.78 325	P	P	23 30 52.5	-0.2
	comp=Z,46nm,0.8s,baz=162,slow=5.4,SNR=74					
MJAR	Matsushiro Arr	70.78 325	IAmb	IAmb	23 30 53.7	
	comp=Z,36nm,0.8s					
MAJO	Matsushiro	70.78 325	P	P	23 30 52.8	+0.2
MAJO			pmax	pmax		
	comp=Z,46nm,0.8s					
MAJO	Matsushiro	70.78 325	P	P	23 30 52.8	+0.2
MAJO			IAmb	IAmb	23 30 53.7	
	comp=Z,46nm,0.8s					
MAT	Matsushiro	70.78 325	P	P	23 30 52.7	+0.1
MJB9	Matsu-Tunnel	70.79 325	IAmb	IAmb	23 30 53.7	
	comp=Z,54nm,0.7s					
STKI	Sintang	70.90 278	P	P	23 30 54.4	+0.6
SBUM	Sibu	71.17 281	P	P	23 30 56.0	+0.6
JMN	Monobe	71.21 320	IAmb	IAmb	23 30 57.3	
	comp=Z,79nm,1.0s					
JCJI	Jatiwangi	71.41 270	P	P	23 30 56.8	0.0
	comp=Z,245nm,1.0s					
JWT	Wachi	71.42 322	IAmb	IAmb	23 30 58.0	
	comp=Z,65nm,0.9s					
JSU	Suzuyama	71.82 316	IAmb	IAmb	23 30 59.8	
	comp=Z,60nm,0.7s					
JSD	Sado	71.87 326	P	P	23 31 00.3	+1.4
JSD			IAmb	IAmb	23 31 01.3	
	comp=Z,57nm,0.6s					
KSM	Kuching	72.52 279	P	P	23 31 03.0	-0.2
ERM	Erimo	72.61 332	ceP	P	23 31 04.7	+1.7
ERM			pmax	pmax		
	comp=Z,21nm,0.7s					
ERM	Erimo	72.61 332	P	P	23 31 04.5	+1.5
ERM			IAmb	IAmb	23 31 06.7	
	comp=Z,38nm,0.8s					
JNU	Nakatsue	72.62 318	IAmb	IAmb	23 31 04.9	
	comp=Z,92nm,1.1s					
YOJ	Yonaguni jima	72.71 306	IAmb	IAmb	23 31 04.6	
	comp=Z,52nm,0.7s					
CBJI	Citeko	72.76 270	P	P	23 31 03.5	-1.1
	comp=Z,167nm,0.8s					
YULB	Yu-li	73.41 304	IAmb	IAmb	23 31 10.6	
	comp=Z,40nm,0.8s					
ADK	Adak	73.62 2	P	P	23 31 08.6	0.0
ADK			pmax	pmax		
	comp=Z,79nm,0.8s					
ADK	Adak	73.62 2	P	P	23 31 08.6	0.0
ADK			IAmb	IAmb	23 31 09.3	
	comp=Z,79nm,0.8s					
YHNB	Yeheng	74.05 305	IAmb	IAmb	23 31 13.2	
	comp=Z,107nm,1.0s					
TATO	Taipei	74.14 306	P	P	23 31 12.3	+0.2
JKA	Kamikawa-asahi	74.54 332	IAmb	IAmb	23 31 16.5	
	comp=Z,56nm,0.8s					
NIKH	Nikolski High	75.22 6	P	P	23 31 17.5	0.0
	baz=190,SNR=5.5					
KASI	Kota Agung	75.26 270	P	P	23 31 16.7	-2.0
	comp=Z,123nm,1.1s					
LWLI	Liwa	75.85 270	P	P	23 31 25.8	+3.7
	comp=Z,8μmcomp=Z,71nm,0.6s					
MDSI	Maura Dua	75.93 271	P	P	23 31 20.8	-1.6
	comp=Z,47nm,0.8s					
QZH	Quanzhou	76.32 304	⇓iP	P	23 31 25.0	+0.7
QZH			pmax	pmax		
	comp=Z,78nm,0.8s					
UNV	Unalaska Valle	76.35 8	P	P	23 31 23.4	-0.3
	baz=192					
YSS	Yuzh-Sakhalins	76.76 334	eP	P	23 31 27.5	+1.3
YSS			pmax	pmax		
	comp=Z,50nm,0.8s					
YSS	Yuzh-Sakhalins	76.76 334	P	P	23 31 26.9	+0.7
YSS			IAmb	IAmb	23 31 30.0	
	comp=Z,43nm,0.7s					
LHSI	Lahat	76.78 271	P	P	23 31 27.1	0.0
	comp=Z,49nm,1.1s					
TJN	Taejon	76.94 318	c iP	P	23 31 28.6	+1.2
PET	Petropavlovsk	77.17 346	⇓iP	P	23 31 28.2	0.0
PET			pmax	pmax		
	comp=Z,63nm,0.6s					
PET	Petropavlovsk	77.17 346	P	P	23 31 28.1	-0.1
PET			IAmb	IAmb	23 31 29.2	
	comp=Z,182nm,1.8s					
KSRS	Korea Array	77.29 319	P	P	23 31 30.4	+1.1
	comp=Z,12nm,0.9s,baz=139,slow=5.8,SNR=65					
KSAR	Wonju Array Be	77.31 319	P	P	23 31 31.2	+1.8
KSAR	Wonju Array Be	77.31 319	P	P	23 31 31.2	+1.8
PEA0B	Petropavlovsk-	77.46 346	ceP	P	23 31 30.4	+0.6
PEA0B	Petropavlovsk-	77.46 346	IAmb	IAmb	23 31 31.2	
	comp=Z,79nm,0.8s					
PETK	Petropavlovsk-	77.46 346	P	P	23 31 29.4	-0.5
	comp=Z,52nm,0.7s,baz=133,slow=6.9,SNR=98					
JMBI	JAMBI	77.48 273	P	P	23 31 32.9	+2.0
	comp=Z,200nm,0.8s					
CHNA	Chernabura Isl	78.37 11	P	P	23 31 34.6	0.0
	baz=198					
SDPT	Sand Point	78.70 11	P	P	23 31 36.1	-0.3
	baz=198					
UGL	Uglegorsk	78.75 335	eP	P	23 31 37.7	+0.9
UGL			e		23 31 44.0	
UGL			pmax	pmax		
	comp=Z,120nm,0.9s					
USA0B	Ussuriysk Arra	79.60 327	IAmb	IAmb	23 31 43.9	
	comp=Z,76nm,1.1s					
USRK	Ussuriysk Ar.	79.60 327	P	P	23 31 42.9	+1.5
	comp=Z,46nm,0.9s,baz=125,slow=3.5,SNR=70					
MAW	Mawson	79.75 200	P	P	23 31 42.4	+0.4
	comp=Z,9.5nm,0.7s,baz=138,slow=7.3,SNR=31					
MAW	Mawson	79.75 200	P	P	23 31 42.4	+0.4
	baz=80,SNR=25					
MAW	Mawson	79.75 200	P	P	23 31 42.3	+0.4
NJ2	Nanjing	80.00 310	⇓P	P	23 31 44.8	+1.0
NJ2			pmax	pmax		
	comp=Z,52nm,0.8s					
JRMM	Jerantut	80.66 278	P	P	23 31 48.0	+0.3
TKX	Tecate	80.74 49		pP	23 33 48.7	-1.5
VES	Vestal, Richgr	80.89 46	P	P	23 31 49.4	+1.0
	baz=234,SNR=5.6					
MURC	Murrieta	80.90 48	P	P	23 31 50.0	+1.5
	baz=236					
BFSC	Mount Baldy Ra	80.94 48	P	P	23 31 48.8	0.0
	baz=236					
MONP2	Monument Peak	81.05 49	P	P	23 31 51.1	+1.6
	baz=236,SNR=7.3					
EDW2	Edwards Air Fo	81.08 47	P	P	23 31 50.6	+1.2
	baz=235					
MDJ	Mudanjiang	81.13 326	P	P	23 31 50.5	+1.2
MDJ			pmax	pmax		
	comp=Z,56nm,0.8s					
MDJ			pmax	pmax		
	comp=Z,640nm,11.2s					
MDJ	Mudanjiang	81.13 326	IAmb	IAmb	23 31 51.6	
	comp=Z,40nm,0.8s					
IKP	In-Ko-Pah, Jac	81.14 50	P	P	23 31 51.7	+1.9
	baz=237					
O02D	Mt. Diablo Mer	81.16 40	P	P	23 31 52.1	+2.4
	baz=231,SNR=9.5					
ISA	Isabella, Lake	81.20 46	P	P	23 31 51.1	+1.1
ISA			pmax	pmax		
	comp=Z,15nm,0.9s					
ISA	Isabella, Lake	81.20 46	P	P	23 31 51.7	+1.7
	baz=235,SNR=5.9					
ISA	Isabella, Lake	81.20 46	P	P	23 31 51.1	+1.1
CMB	Columbia Colle	81.34 43	P	P	23 31 51.4	+0.7
CMB			pmax	pmax		
	comp=Z,13nm,1.0s					
CMB	Columbia Colle	81.34 43	P	P	23 31 51.4	+0.7
PFO	Pinyon Flats O	81.42 49	P	P	23 31 52.4	+1.1
	baz=236					
TPFO	Pinon Flats	81.42 49	P	P	23 31 52.4	+1.1
	baz=236					
WDC	Whiskeytown Da	81.56 40	P	P	23 31 52.9	+1.2
WDC			pmax	pmax		
	comp=Z,16nm,1.1s					
WDC	Whiskeytown Da	81.56 40	P	P	23 31 52.9	+1.2
N02D	Trinity Center	81.71 40	P	P	23 31 54.7	+2.2
	baz=231					
O03E	Paynes Creek	81.83 41	P	P	23 31 54.6	+1.5
	baz=232,SNR=6.4					
M02C	Callahan	81.88 39	P	P	23 31 55.5	+2.1
	baz=231,SNR=8.7					
CWC	Cottonwood Cre	81.90 45	P	P	23 31 54.8	+1.0
	baz=235					
MDPB	Devils Postpil	81.94 44	P	P	23 31 55.1	+1.1
BELC	Belle Mtn. Jos	81.95 48	P	P	23 31 55.6	+1.6
	baz=237,SNR=8.5					
GSC	Goldstone, Bar	82.12 47	P	P	23 31 55.5	+0.7
GSC			pmax	pmax		
	comp=Z,12nm,1.0s					
GSC	Goldstone, Bar	82.12 47	P	P	23 31 56.0	+1.3
	baz=236,SNR=7.3					
GSC	Goldstone, Bar	82.12 47	P	P	23 31 55.5	+0.7
MNSI	Mandailing Nat	82.15 274	P	P	23 31 53.8	-1.5
	comp=Z,2μmcomp=Z,70nm,0.8s					
YBH	Yreka Blue Hor	82.18 39	P	P	23 31 55.9	+1.0
YBH			pmax	pmax		
	comp=Z,8.0nm,0.9s					
YBH	Yreka Blue Hor	82.18 39	P	P	23 31 55.9	+1.0
HEC	Hector,Ludlow	82.18 48	P	P	23 31 56.2	+1.1
	baz=236					
IPM	Ipoh	82.22 278	P	P	23 31 56.0	+0.3
GLA	Glamis	82.26 50	P	P	23 31 57.6	+2.1
GLA			pmax	pmax		
	comp=Z,28nm,1.0s					
GLA	Glamis	82.26 50	P	P	23 31 57.6	+2.1
	baz=238					
GLA	Glamis	82.26 50	P	P	23 31 57.6	+2.1
GLA			IAmb	IAmb	23 31 58.4	
	comp=Z,28nm,0.9s					
GRNR	Gornyy	82.35 333

RYN Ryan 82.87 43 P **P 23 31 58.8 +0.3**
KULM Kulim 82.88 279 P **P 23 31 59.0 +0.1**
NVAR Mina Array Bea 82.90 44 P **P 23 32 00.2 +1.4**
comp=Z,8.1nm,0.9s,baz=222,slow=8.8,SNR=42
NVAR PKKPbc **PKKPbc 23 50 17.8 -0.3**
comp=Z,0.4nm,0.6s,baz=96,slow=2.1,SNR=3.6
PAHR Pah Rah Range 82.96 42 P **P 23 31 59.9 +1.0**
NV11 Mina Array Sit 83.00 44 P **P 23 32 00.1 +1.0**
HSIG 83.04 55 IAmb IAmb 23 32 01.7
comp=Z,25nm,1.0s
I03D Drain, OR 83.05 37 P **P 23 32 00.9 +1.8**
baz=231
214A Organ Pipe Nat 83.14 52 P **P 23 32 01.7 +1.8**
baz=239,SNR=5.9
214A Organ Pipe Nat 83.14 52 P **P 23 32 00.8 +1.0**
KLR Kul'dur 83.27 330 *de*P **P 23 32 01.1 +1.0**
KLR pmax pmax
comp=Z,31nm,0.9s
TPH Tonopah 83.39 45 P **P 23 32 01.9 +0.7**
TPH pmax pmax
comp=Z,66nm,1.1s
TPH Tonopah 83.39 45 P **P 23 32 01.9 +0.7**
TPH IAmb IAmb 23 32 03.4
comp=Z,66nm,1.1s
TPNV Topopah Spring 83.41 46 P **P 23 32 02.1 +0.8**
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 83.41 46 P **P 23 32 02.4 +1.1**
baz=236,SNR=7.6
TPNV Topopah Spring 83.41 46 P **P 23 32 02.1 +0.8**
PDMCI Parker Dam,Lak 83.41 49 P **P 23 32 03.0 +1.9**
baz=238
J04D Umpqua Nationa 83.46 38 P **P 23 32 03.1 +1.7**
baz=232
RPSI Rantau Prapat 83.47 276 IAmb IAmb 23 32 02.4
comp=Z,58nm,0.9s
TIA Tai'an 83.48 313 ⇓P **P 23 32 02.3 +0.9**
TIA pmax pmax
comp=Z,93nm,1.0s
SKLT Songkhla 83.63 280 P **P 23 32 04.2 +1.5**
comp=Z,81nm,1.2s
I04A Tendick Farm, 83.64 38 P **P 23 32 03.3 +1.2**
baz=231
MOD Modoc Plateau 83.70 40 P **P 23 32 03.6 +1.0**
K05A Summer Lake 83.85 39 P **P 23 32 04.8 +1.4**
H04D Lebanon 83.91 37 P **P 23 32 05.1 +1.8**
baz=231
O18K Koktuh Hills 83.92 12 P **P 23 32 03.2 +0.2**
baz=202
J05D Fort Rock, OR 83.99 38 P **P 23 32 05.6 +1.7**
baz=232,SNR=9.0
W13A Hualapai Mount 84.01 49 P **P 23 32 05.6 +1.2**
Y14A Wickenburg 84.02 50 P **P 23 32 05.3 +1.0**
P19K Oil Pt 84.12 13 P **P 23 32 04.1 +0.1**
baz=204
GSI Gunungsitoli 84.20 274 P **P 23 32 06.4 +0.9**
GSI Gunungsitoli 84.20 274 P **P 23 32 06.4 +0.9**
comp=Z,2µcomp=Z,205nm,0.9s
O19K Port Alsworth 84.40 12 P **P 23 32 05.3 0.0**
baz=203
CNPM China Poot 84.44 14 IAmb IAmb 23 32 07.0
comp=Z,32nm,0.9s
PRN Pahroc Range 84.46 46 P **P 23 32 07.7 +1.3**
N18K Kilae Creek 84.56 11 P **P 23 32 05.9 -0.2**
baz=202
O20K Slope Mountain 84.64 13 P **P 23 32 06.7 +0.1**
baz=205
BRSE Bradley Lake S 84.74 14 P **P 23 32 07.6 +0.5**
baz=206,SNR=10
TUC Tucson 84.80 52 P **P 23 32 10.1 +2.0**
TUC pmax pmax
comp=Z,17nm,0.9s
TUC Tucson 84.80 52 P **P 23 32 10.1 +2.0**
baz=240
TUC Tucson 84.80 52 P **P 23 32 10.1 +2.0**
TUC IAmb IAmb 23 32 11.1
comp=Z,17nm,0.8s
N19K Bonanza Creek 84.94 12 P **P 23 32 07.5 -0.6**
baz=203,SNR=6.9
MA2 Magadan 84.96 345 P **P 23 32 08.4 +0.3**
comp=Z,39nm,0.8s,baz=151,slow=4.8,SNR=16
MA2 Magadan 84.96 345 *ce*P **P 23 32 07.8 -0.3**
MA2 pmax pmax
comp=Z,46nm,0.8s
MA2 Magadan 84.96 345 P **P 23 32 07.5 -0.6**
MA2 IAmb IAmb 23 32 09.1
comp=Z,53nm,0.9s
SYO Syowa Base 85.00 193 ⇓*e*P **P 23 32 07.6 -0.7**
SYO Syowa Base 85.00 193 ⇑*e*pP pP 23 34 11.7 -0.7
TPTI 85.30 275 P **P 23 32 11.0 +0.2**
comp=Z,18nm,1.1s
KHON Khomkaen 85.33 290 P **P 23 32 12.2 +1.3**
comp=Z,2µcomp=Z,224nm,1.0s
SEW Seward 85.36 14 P **P 23 32 10.0 0.0**
baz=208
SEW Seward 85.36 14 IAmb IAmb 23 32 11.0
comp=Z,19nm,0.9s
319A Douglas 85.45 54 P **P 23 32 13.3 +2.0**
319A IAmb IAmb 23 32 14.4
comp=Z,30nm,0.9s
LCMT Little Creek M 85.46 47 P **P 23 32 12.7 +1.4**
J08A Circle Bar Ran 85.65 40 IAmb IAmb 23 34 25.6
comp=Z,22nm,1.5s
PATY Pattaya 85.68 286 P **P 23 32 14.9 +2.3**
comp=Z,157nm,0.8s
SPCR Spurr Chakacha 85.75 13 P **P 23 32 11.4 -0.5**
baz=205
KNB Kanab 85.75 47 P **P 23 32 13.8 +1.1**
KNB pmax pmax
comp=Z,62nm,1.9s
KNB Kanab 85.75 47 P **P 23 32 13.8 +1.1**
KNB IAmb IAmb 23 34 27.1
comp=Z,62nm,1.9s
NONG Nongkai 85.76 291 P **P 23 32 14.0 +1.1**
comp=Z,23µcomp=Z,137nm,1.0s
COYC Coyhaique 85.79 138 P **P 23 32 14.5 +1.9**
COYC IAmb IAmb 23 32 15.1
comp=Z,41nm,0.8s
U15A North Rim 85.81 48 IAmb IAmb 23 32 15.7
comp=Z,17nm,0.8s
CHAI Chaiyaphum 85.89 289 P **P 23 32 14.6 +1.1**
comp=Z,814nmcomp=Z,90nm,0.9s
WUAZ Wupatki 85.99 49 P **P 23 32 15.4 +1.5**
baz=239
SURT Suratani 85.99 281 P **P 23 32 16.9 +2.8**
comp=Z,35nmcomp=Z,4.2nm,1.1s
PKDT Phuket 86.00 280 P **P 23 32 15.9 +1.8**
comp=Z,2µcomp=Z,58nm,1.2s
L19K White Mountain 86.14 11 P **P 23 32 14.5 +0.8**
baz=202,SNR=24
HPIG 86.17 59 P **P 23 32 15.5 +0.5**
HPIG IAmb IAmb 23 32 17.1
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 86.17 14 P **P 23 32 14.0 +0.2**
baz=207,SNR=7.9
RC01 Rabbit Creek A 86.17 14 IAmb IAmb 23 32 15.1
comp=Z,60nm,1.3s
BJT Baijiatuau 86.18 316 IAmb IAmb 23 32 15.8
comp=Z,28nm,0.8s
M20K Styx River 86.19 12 P **P 23 32 14.1 +0.1**
baz=204
BJI Beijing 86.19 316 P **P 23 32 15.3 +0.9**
BJI pmax pmax
comp=Z,48nm,0.8s
PWL Port Wells 86.29 15 IAmb IAmb 23 32 15.4
comp=Z,34nm,0.8s
SUA Susitna One 86.29 13 P **P 23 32 14.5 0.0**
baz=206,SNR=11
SUA Susitna One 86.29 13 IAmb IAmb 23 32 15.3
comp=Z,36nm,0.6s
PKCU Pink Cliffs 86.32 47 P **P 23 32 17.1 +1.6**
PKCU IAmb IAmb 23 34 30.6
comp=Z,37nm,1.3s
GYA Guiyang 86.43 300 ⇑P **P 23 32 17.0 +0.9**
SLVN Son La 86.48 295 P **P 23 32 16.9 +0.5**
SLVN IAmb IAmb 23 32 18.4
comp=Z,15nm,0.9s
SNAA Sanae 86.52 179 P **P 23 32 15.0 -0.6**
SNAA Sanae 86.52 179 pP pP 23 34 20.2 -0.7
SNAA Sanae 86.52 179 *i*P **P 23 32 14.4 -1.2**
SNAA pmax pmax
comp=Z,14nm,2.3s
SKT Skwentna 86.59 13 P **P 23 32 14.9 -1.0**
baz=206,SNR=5.1
GLI Glacier Island 86.60 15 P **P 23 32 16.1 +0.3**
baz=210,SNR=7.9

GLI Glacier Island 86.60 15 IAmb IAmb 23 32 16.9
comp=Z,57nm,0.8s
EYAK Cordova Ski Ar 86.65 16 P **P 23 32 16.5 +0.5**
baz=211
VNA3 Neumayer Olymp 86.70 177 P **P 23 32 15.9 -0.5**
VNA3 Neumayer Olymp 86.70 177 pP pP 23 34 21.6 0.0
MTPU Mount Pierson 86.72 47 P **P 23 32 18.9 +1.4**
MTPU IAmb IAmb 23 34 32.6
comp=Z,30nm,1.6s
KNK Knik Glacier 86.75 14 P **P 23 32 17.1 +0.5**
baz=208,SNR=8.8
E07A Sunnyside 86.76 36 P **P 23 32 18.4 +1.4**
PMR Palmer 86.76 14 P **P 23 32 16.7 +0.2**
baz=208
PMR Palmer 86.76 14 IAmb IAmb 23 32 17.7
comp=Z,50nm,1.7s
PHET Kaeng Krachan 86.78 285 P **P 23 32 19.9 +2.1**
comp=Z,2µcomp=Z,277nm,0.8s
HAWA Hanford 86.84 37 P **P 23 32 18.5 +1.1**
W18A Petrified Fore 86.95 50 P **P 23 32 19.9 +1.5**
baz=240
LL02 Futaleuf 87.03 136 P **P 23 32 19.7 +1.2**
LL02 IAmb IAmb 23 32 20.8
comp=Z,19nm,1.2s
121A Cookes Peak, D 87.12 53 P **P 23 32 20.6 +1.4**
baz=242
VNA2 Neumayer--Watz 87.12 177 P **P 23 32 18.2 -0.2**
baz=192,slow=4.0
VNA2 S **S 23 42 07.8 -1.3**
VNA2 Neumayer--Watz 87.12 177 pP pP 23 34 24.2 +0.4
SML Sawmill 87.13 14 P **P 23 32 18.6 +0.2**
baz=208
SML Sawmill 87.13 14 IAmb IAmb 23 32 28.9
comp=Z,12nm,0.9s
LOEI Loei 87.17 290 P **P 23 32 20.4 +0.8**
comp=Z,16µcomp=Z,49nm,1.1s
CUT Chulitna 87.24 13 P **P 23 32 18.9 +0.1**
baz=207,SNR=9.6
MFID Camas Ranch 87.27 41 P **P 23 32 20.5 +0.9**
PPLA Purkeypile 87.29 12 P **P 23 32 18.3 -0.9**
baz=205
PPLA Purkeypile 87.29 12 IAmb IAmb 23 35 01.4
comp=Z,12nm,0.4s
BMRM Bremner River 87.30 16 P **P 23 32 19.8 +0.6**
baz=212,SNR=6.5
BMRM Bremner River 87.30 16 IAmb IAmb 23 32 20.7
comp=Z,28nm,0.9s
MESA MESA 87.35 18 P **P 23 32 20.7 +1.0**
baz=214
VNA1 Neumayer--Stat 87.36 177 P **P 23 32 19.2 -0.3**
VNA1 S **S 23 42 14.1 +2.9**
VNA1 Neumayer--Stat 87.36 177 pP pP 23 34 24.7 -0.2
K20K Telida 87.37 11 P **P 23 32 19.8 +0.3**
baz=203,SNR=20
KLU Klutina 87.42 15 P **P 23 32 20.2 +0.4**
baz=211,SNR=6.7
KLU Klutina 87.42 15 IAmb IAmb 23 32 21.1
comp=Z,11nm,0.8s
TIY Taiyuan 87.46 312 *e*P **P 23 32 22.0 +1.4**
TIY S **S 23 42 13.0 -0.4**
TIY pmax pmax
comp=Z,65nm,0.7s
CRQM Cirque 87.51 17 IAmb IAmb 23 32 20.4
comp=Z,39nm,0.9s
CRQE Cirque 87.52 17 P **P 23 32 19.8 -0.5**
baz=213,SNR=6.4
PHIT Phitsanulok 87.78 289 P **P 23 32 24.2 +1.8**
comp=Z,2µcomp=Z,216nm,0.8s
SRDT SRDT 87.80 286 P **P 23 32 24.9 +2.4**
comp=Z,4µcomp=Z,72nm,1.1s
N25K Chitina, Valde 87.85 16 P **P 23 32 22.7 +0.9**
baz=212,SNR=9.9
N25K Chitina, Valde 87.85 16 IAmb IAmb 23 32 23.3
comp=Z,20nm,0.8s
F10A Beach Ranch, E 87.89 38 IAmb IAmb 23 32 24.0
comp=Z,10nm,0.9s
M24K Tolsona, Glenn 87.89 15 P **P 23 32 23.0 +1.0**
baz=210
GLB Gilahina Butte 87.91 16 IAmb IAmb 23 32 23.5
comp=Z,15nm,0.8s
WAT6 Susitna Watana 87.94 14 P **P 23 32 22.4 +0.1**
baz=209,SNR=22
WAT1 Susitna Watana 87.98 14 P **P 23 32 22.3 0.0**
baz=208
UTHA Uthaitani 87.99 288 P **P 23 32 25.4 +2.0**
comp=Z,631nmcomp=Z,68nm,1.2s
TMUT Trail Mountain 88.02 46 P **P 23 32 24.5 +1.1**
TMUT IAmb IAmb 23 32 26.1
comp=Z,16nm,1.0s
MCARA McCarthy VSAT 88.06 17 P **P 23 32 23.7 +1.0**
baz=213
MCARA McCarthy VSAT 88.06 17 IAmb IAmb 23 32 25.1
comp=Z,27nm,1.0s
J20K Nowinta River 88.11 11 P **P 23 32 23.1 +0.3**
baz=203,SNR=18
KTH Kantishna Hill 88.14 12 IAmb IAmb 23 32 23.6
comp=Z,27nm,0.9s
LOGN Logan Glacier 88.15 18 IAmb IAmb 23 32 24.9
comp=Z,22nm,1.0s
BARN Barnard Glacie 88.16 17 IAmb IAmb 23 32 25.2
comp=Z,28nm,0.9s
XAN Xi'an 88.17 308 P **P 23 32 25.0 +1.1**
XAN pmax pmax
comp=Z,95nm,0.9s
CHUM Lake Minchumin 88.17 12 P **P 23 32 22.6 -0.6**
baz=205,SNR=9.8
TRF Thorofare Moun 88.17 13 P **P 23 32 23.0 -0.4**
baz=207,SNR=39
CTG Chitna Glacier 88.17 17 P **P 23 32 24.2 +0.8**
baz=215
CTGM Chitina Glacie 88.17 17 IAmb IAmb 23 32 25.1
comp=Z,25nm,0.9s
HLID Hailey 88.21 41 P **P 23 32 25.6 +1.5**
baz=237,SNR=12
CTU Camp Tracy 88.37 45 P **P 23 32 26.1 +1.1**
SRU San Rafael Swe 88.38 46 IAmb IAmb 23 32 27.0
comp=Z,14nm,0.9s
HARP HAARP 88.39 15 P **P 23 32 24.8 +0.6**
baz=211
ZEA Zeya 88.42 331 *e*P **P 23 32 25.5 +1.0**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
P17A Butcher Ranch, 88.42 46 P **P 23 32 26.6 +1.4**
MNTX Cornudas Mount 88.54 55 P **P 23 32 27.2 +1.5**
baz=243
MNTX Cornudas Mount 88.54 55 IAmb IAmb 23 32 28.1
comp=Z,15nm,0.8s
BPAW Bear Paw Mtn. 88.62 12 P **P 23 32 24.0 -1.3**
baz=206,SNR=5.7
MCK McKinley 88.70 13 P **P 23 32 25.4 -0.3**
baz=208,SNR=11
MCK McKinley 88.70 13 IAmb IAmb 23 32 27.0
comp=Z,21nm,1.0s
UMPA Umpang Tak 88.76 288 P **P 23 32 30.1 +3.1**
comp=Z,9µcomp=Z,43nm,1.0s
TX32 Lajitas Array 88.82 58 IAmb IAmb 23 32 29.9
comp=Z,23nm,1.1s
TXAR Lajitas Array 88.82 58 P **P 23 32 28.7 +1.6**
comp=Z,12nm,0.9s,baz=217,slow=5.4,SNR=97
TXAR PKKPbc **PKKPbc 23 50 03.9 +0.4**
comp=Z,0.7nm,0.6s,baz=83,slow=2.0,SNR=12
M26K Nabesna, AK 88.93 16 P **P 23 32 27.5 +0.8**
baz=213,SNR=10
LAMP Lampang 89.00 290 P **P 23 32 29.9 +1.8**
comp=Z,2µcomp=Z,222nm,0.9s
PLCA Paso Flores 89.04 134 P **P 23 32 29.4 +1.4**
comp=Z,8.7nm,0.9s,baz=237,slow=5.1,SNR=10
PLCA Paso Flores 89.04 134 P **P 23 32 28.4 +0.4**
PLCA pmax pmax
comp=Z,12nm,0.9s
PLCA Paso Flores 89.04 134 P **P 23 32 28.4 +0.4**
PLCA IAmb IAmb 23 32 29.7
comp=Z,12nm,0.9s
PV14 Lion Creek, Pa 89.04 48 P **P 23 32 28.7 +0.6**
PV14 IAmb IAmb 23 34 41.7
comp=Z,13nm,1.4s
KMI Kunming 89.05 298 ⇑P **P 23 32 29.5 +1.1**
KMI pP pwP 23 34 36.5 -2.1
KMI pmax pmax
comp=Z,41nm,1.4s
PV03 Paradox Valley 89.10 48 P **P 23 32 28.8 +0.4**
PV03 IAmb IAmb 23 34 45.0
comp=Z,14nm,1.6s
PV12 Saucer Basin, 89.16 48 P **P 23 32 29.6 +0.9**
PV12 IAmb IAmb 23 32 30.6

comp=Z,15nm,1.4s
M27K Edge Creek, AK 89.18 16 P **P 23 32 28.9 +0.8**
baz=214,SNR=16
ANMO Albuquerque 89.23 52 *c i*P **P 23 32 30.1 +1.1**
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 89.23 52 P **P 23 32 30.2 +1.2**
baz=242
ANMO Albuquerque 89.23 52 P **P 23 32 29.9 +0.8**
ANMO IAmb IAmb 23 32 31.0
comp=Z,9.6nm,1.0s
PV01 Paradox Valley 89.23 48 P **P 23 32 29.2 +0.2**
PV22 Blue Mesa, Par 89.28 48 P **P 23 32 30.7 +1.5**
HIA Hailar 89.28 325 *i*P **P 23 32 29.0 +0.3**
HIA pmax pmax
comp=Z,21nm,1.2s
I21K Tanana 89.41 11 P **P 23 32 29.1 +0.2**
baz=205,SNR=27
NEA2 Nenana 89.44 13 P **P 23 32 28.1 -0.9**
baz=208,SNR=10
MLY Manley 89.50 12 P **P 23 32 28.6 -0.8**
baz=206,SNR=18
MLY Manley 89.50 12 IAmb IAmb 23 32 29.6
comp=Z,15nm,1.2s
CM04 Chiang Mai Arr 89.52 290 P **P 23 32 32.3 +1.8**
comp=Z,677nmcomp=Z,97nm,1.0s
CM09 Chiang Mai Arr 89.52 290 P **P 23 32 32.6 +2.1**
comp=Z,638nmcomp=Z,87nm,0.9s
WRH Wood River Hil 89.53 13 IAmb IAmb 23 32 30.1
comp=Z,25nm,0.9s
CM01 Chiang Mai Arr 89.54 290 P **P 23 32 32.6 +2.0**
comp=Z,631nmcomp=Z,89nm,0.9s
CM05 Chiang Mai Arr 89.55 290 P **P 23 32 32.3 +1.7**
comp=Z,501nmcomp=Z,69nm,0.9s
CM02 Chiang Mai Arr 89.56 290 P **P 23 32 32.6 +1.9**
comp=Z,619nmcomp=Z,86nm,0.9s
CM31 Chiang Mai Arr 89.57 290 P **P 23 32 32.4 +1.6**
CMAR Chiang Mai Arr 89.57 290 P **P 23 32 32.6 +1.8**
comp=Z,53nm,0.9s,baz=133,slow=3.2,SNR=171
CMAR PP **PP 23 36 15.0 +1.5**
comp=Z,1.3nm,0.4s,baz=220,slow=18,SNR=3.1
CMAR Chiang Mai Arr 89.57 290 *ce*P **P 23 32 32.5 +1.8**
CMAR pmax pmax
comp=Z,55nm,0.9s
CM15 Chiang Mai Arr 89.58 290 P **P 23 32 32.6 +1.8**
comp=Z,594nmcomp=Z,76nm,1.0s
CM13 Chiang Mai Arr 89.59 290 P **P 23 32 32.7 +1.9**
comp=Z,537nmcomp=Z,77nm,0.9s
RIDG Independent Ri 89.61 15 P **P 23 32 30.0 0.0**
baz=212,SNR=8.9
RIDG Independent Ri 89.61 15 IAmb IAmb 23 32 31.2
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 89.62 315 *e*P **P 23 32 30.5 -0.1**
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,360nm,6.6s
CMMT Chiang Mai 89.71 290 P **P 23 32 32.7 +1.3**
comp=Z,108nm,0.9s
CHTO Chiang Mai 89.71 290 P **P 23 32 32.8 +1.4**
CHTO pmax pmax
comp=Z,78nm,0.9s
CHTO Chiang Mai 89.71 290 P **P 23 32 32.7 +1.4**
comp=Z,109nm,0.9s
CHTO Chiang Mai 89.71 290 P **P 23 32 32.8 +1.4**
DOT Dot Lake 89.72 15 IAmb IAmb 23 32 31.6
comp=Z,15nm,1.0s
HDA Harding Lake 89.72 13 P **P 23 32 29.9 -0.4**
baz=210,SNR=9.2
HDA Harding Lake 89.72 13 IAmb IAmb 23 32 31.0
comp=Z,8.3nm,0.6s
CCB Clear Creek Bu 89.74 13 IAmb IAmb 23 32 30.8
comp=Z,25nm,1.2s
L27K Beaver Creek, 89.78 16 P **P 23 32 31.1 +0.4**
baz=214,SNR=5.5
BCAR Beaver Creek A 89.79 16 P **P 23 32 31.0 +0.3**
MCMT McKenzie Canyo 89.84 41 P **P 23 32 32.6 +0.9**
AHID Auburn Hatcher 89.85 43 P **P 23 32 32.4 +0.6**
AHID IAmb IAmb 23 32 34.5
comp=Z,8.9nm,0.9s
I23K Minto, Yukon-K 89.87 12 P **P 23 32 30.5 -0.5**
baz=208,SNR=10
I23K Minto, Yukon-K 89.87 12 IAmb IAmb 23 32 32.4
comp=Z,30nm,1.7s
MDM Murphy Dome 89.93 13 IAmb IAmb 23 32 31.8
comp=Z,20nm,1.0s
TCOL CIGO, UAF Yank 89.93 13 P **P 23 32 31.2 -0.1**
baz=209
TCOL CIGO, UAF Yank 89.93 13 IAmb IAmb 23 32 31.8
comp=Z,16nm,0.8s
COLA College 89.93 13 P **P 23 32 31.2 0.0**
COLA pmax pmax
comp=Z,17nm,0.8s
COLA College 89.93 13 P **P 23 32 31.2 0.0**
COLA IAmb IAmb 23 32 31.8
comp=Z,17nm,0.8s
SCRK Sand Creek 90.01 15 P **P 23 32 32.1 +0.2**
baz=212,SNR=7.1
SCRK Sand Creek 90.01 15 IAmb IAmb 23 32 33.2
comp=Z,9.6nm,1.1s
IL31 90.05 13 IAmb IAmb 23 32 32.5
comp=Z,30nm,1.6s
ILAR Eielson Array 90.05 13 P **P 23 32 31.2 -0.6**
comp=Z,5.3nm,0.8s,baz=220,slow=5.3,SNR=29
POKR Poker Plat Res 90.23 13 P **P 23 32 32.6 -0.1**
baz=209
REDW Red Top Meadow 90.31 43 P **P 23 32 34.8 +0.9**
REDW IAmb IAmb 23 32 36.0
comp=Z,7.5nm,0.9s
MHMT Maesarieng 90.34 289 P **P 23 32 36.4 +2.1**
comp=Z,36nm,0.8s
O20A White River Ci 90.42 46 P **P 23 32 35.4 +1.0**
baz=241
O20A White River Ci 90.42 46 P **P 23 32 34.5 0.0**
BILL Bilibino 90.44 355 *c i*P **P 23 32 33.8 +0.2**
BILL *e* 23 36 15.4
BILL *e*PPP PPP 23 38 19.4
BILL *e*S **SKSac 23 42 06.2 -2.7**
BILL pmax pmax
comp=Z,39nm,1.1s
BILL Bilibino 90.44 355 P **P 23 32 34.1 +0.5**
BILL IAmb IAmb 23 32 35.0
comp=Z,24nm,0.8s
H23K Yukon River 90.44 12 P **P 23 32 33.6 -0.1**
baz=207
K27K Chicken 90.52 15 P **P 23 32 35.1 +1.1**
baz=214
K27K Chicken 90.52 15 IAmb IAmb 23 32 35.9
comp=Z,13nm,1.1s
BTO Baotou 90.52 314 *e*P **P 23 32 36.5 +1.7**
BTO S **S 23 42 44.5 +3.4**
CD2 Chengdu 90.67 303 P **P 23 32 37.3 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.8s
BW06 Boulder Array 90.84 44 P **P 23 32 37.0 +0.7**
baz=240,SNR=6.1
PDAR Pinedale Array 90.84 44 P **P 23 32 37.0 +0.7**
comp=Z,4.0nm,0.9s,baz=204,slow=3.3,SNR=21
PDAR PKKPbc **PKKPbc 23 49 58.1 -1.1**
comp=Z,0.6nm,0.8s,baz=88,slow=3.4,SNR=4.3
BOZ Bozeman (W) 90.97 40 P **P 23 32 37.8 +1.0**
BOZ pmax pmax
comp=Z,32nm,1.8s
BOZ Bozeman (W) 90.97 40 P **P 23 32 38.3 +1.5**
baz=239,SNR=7.8
BOZ Bozeman (W) 90.97 40 P **P 23 32 37.8 +1.0**
BOZ IAmb IAmb 23 34 52.0
comp=Z,32nm,1.8s
PRP Porcupine Dome 90.98 13 P **P 23 32 36.9 +0.6**
baz=211
PRP Porcupine Dome 90.98 13 IAmb IAmb 23 32 37.9
comp=Z,8.5nm,1.2s
SDCO Great Sand Dun 91.20 50 P **P 23 32 38.8 +0.6**
baz=243
DAWY Dawson 91.23 16 IAmb IAmb 23 32 38.8
comp=Z,7.4nm,0.9s
EGAK Eagle 91.36 15 P **P 23 32 38.3 +0.4**
baz=215,SNR=9.3
EGAK Eagle 91.36 15 IAmb IAmb 23 32 39.1
comp=Z,9.1nm,0.8s
MSTX Muleshoe 91.52 54 P **P 23 32 40.5 +0.9**
baz=244
MSTX Muleshoe 91.52 54 P **P 23 32 39.9 +0.4**
MSTX IAmb IAmb 23 32 41.0
comp=Z,9.8nm,0.8s
YNE Yellowstone No 91.66 42 pP 23 34 40.4 -5.7
T25A Trinidad 91.70 50 P **P 23 32 41.0 +0.6**

baz=244
T25A Trinidad 91.70 50 IAmb IAmb 23 32 41.9
comp=Z,6.3nm,0.9s
MT01 Popeta 91.79 128 IAmb IAmb 23 32 42.0
comp=Z,29nm,0.8s
833A Chaparral WMA, 91.79 60 P **P** **23 32 41.7 +0.9**
baz=246
ISCO Idaho Springs 92.05 48 P **P** **23 32 43.0 +0.9**
baz=243
JCT Junction City 92.34 58 P **P** **23 32 43.8 +0.5**
baz=246
LZH Lanzhou 92.81 308 *e*P **P** **23 32 45.3 -0.2**
LZH pmax pmax
comp=Z,58nm,1.1s
YAK Yakutsk 93.11 338 P **P** **23 32 45.8 -0.1**
comp=Z,22nm,0.6s,baz=357,slow=0.6,SNR=12
YAK Yakutsk 93.11 338 *c*e**P** **P** **23 32 45.3 -0.6**
YAK pmax pmax
comp=Z,47nm,0.8s
YAK Yakutsk 93.11 338 P **P** **23 32 45.9 -0.1**
CO02 Combarbal 93.22 125 P **P** **23 32 47.3 -0.2**
CO02 IAmb IAmb 23 32 48.4
comp=Z,21nm,0.9s
EPYK Eagle Plains 93.75 16 P **P** **23 32 49.1 +0.2**
baz=219
EPYK Eagle Plains 93.75 16 IAmb IAmb 23 32 49.5
comp=Z,5.1nm,0.8s
ULN Ulaanbaatar 95.78 319 P **P** **23 32 58.7 0.0**
ULN pmax pmax
comp=Z,19nm,1.6s
ULN Ulaanbaatar 95.78 319 P **P** **23 32 58.7 0.0**
ULN IAmb IAmb 23 33 06.2
comp=Z,19nm,1.6s
INK Inuvik 96.03 16 P **P** **23 32 58.8 -0.2**
comp=Z,2.1nm,0.6s,baz=216,slow=7.9,SNR=6.1
INK Inuvik 96.03 16 P **P** **23 32 58.9 -0.2**
baz=222
SONM Songino Array 96.17 319 P **P** **23 33 00.4 0.0**
comp=Z,2.6nm,0.8s,baz=127,slow=4.8,SNR=10
SONM PP **PP** **23 37 01.6 -2.3**
comp=Z,5.4nm,1.3s,baz=134,slow=8.0,SNR=5.3
SONM Songino Array 96.17 319 IAmb IAmb 23 33 06.6
comp=Z,3.8nm,0.9s
GTA Gaotai 97.07 310 ⇓P **P** **23 33 05.0 +0.4**
GTA pP pP 23 35 09.0 -1.8
GTA pmax pmax
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 98.36 25 PKKPbc PKKPbc 23 49 36.5 -3.2
comp=Z,0.4nm,0.4s,baz=336,slow=8.5,SNR=4.8
ESPN Las Esperanzas 98.96 80 pwP 23 35 23.1 +0.1
TIXI Tiksi 99.93 345 *i* P **Pdif** **23 33 17.7 +1.3**
ZALV Zalesovo Beam 110.97 321 PKiKP **PKiKP** **23 38 00.2 -1.2**
comp=Z,3.4nm,0.6s,baz=127,slow=0.2,SNR=20
ZALV SKP 23 40 41.5
comp=Z,1.5nm,0.7s,baz=151,slow=3.4,SNR=4.3
MKAR Makanchi Array 111.42 313 Pdiff **Pdif** **23 34 09.9 +1.7**
comp=Z,1.0nm,0.7s,baz=103,slow=5.2,SNR=11
MKAR PKiKP **PKiKP** **23 38 01.4 -1.2**
comp=Z,2.2nm,0.5s,baz=199,slow=1.1,SNR=30
MKAR SKP 23 40 42.8
comp=Z,1.7nm,0.7s,baz=82,slow=2.6,SNR=5.1
MKAR PKKPbc **PKKPbc** **23 48 58.7 -1.4**
comp=Z,0.8nm,0.8s,baz=277,slow=4.2,SNR=6.8
MKAR PKKPab **PKKPab** **23 49 10.9 +0.9**
comp=Z,1.0nm,0.8s,baz=276,slow=4.8,SNR=8.8
MKAR Makanchi Array 111.42 313 *c i* PKIKP **PKiKP** **23 38 01.3 -1.3**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
NRIK Noril'sk 111.54 338 *c i* PKIKP **PKiKP** **23 38 01.0 -1.1**
TKM2 Tokmak 2 115.57 308 P **PKPdf** **23 38 09.9 -1.0**
SNR=10
CHMS Chumysh 116.20 308 P **PKPdf** **23 38 10.6 -1.4**
SNR=7.6
USP Ospenovka 116.41 308 P **PKPdf** **23 38 11.1 -1.2**
SNR=10
EKS2 Erkin-Say 116.88 308 P **PKPdf** **23 38 12.8 -0.5**
SNR=7.8
AML Almayashu 116.88 307 P **PKPdf** **23 38 13.2 -0.5**
SNR=17
BDFB Brasilia 119.27 124 PKKPbc PKKPbc 23 48 34.0 +0.6
comp=Z,3.0nm,0.7s,baz=32,slow=7.0,SNR=5.4
OPO Ambohidratompo 119.28 232 PKP **PKiKP** **23 38 18.9 0.0**
comp=Z,5.8nm,0.7s,baz=115,slow=1.3,SNR=9.1
NEEM North Greenlan 119.29 11 ⇓*i* P **PKPdf** **23 38 16.6 -0.6**
NEEM IAmb IAmb 23 38 17.1
comp=Z,8.1nm,0.6s
BVAR Borovoye Array 119.51 319 PKP **PKPdf** **23 38 16.0 -1.9**
comp=Z,6.5nm,0.5s,baz=218,slow=9.4,SNR=62
BVAR SKP 23 40 58.6
comp=Z,5.1nm,1.0s,baz=183,slow=10,SNR=6.4
BVAR Borovoye Array 119.51 319 PKIKP **PKPdf** **23 38 16.0 -1.9**
BRVK Borovoye 119.57 319 *c i* PKIKP **PKPdf** **23 38 17.2 -0.8**
BRVK pmax pmax
comp=Z,13nm,1.3s
BRVK Borovoye 119.57 319 PKPdf **PKPdf** **23 38 17.4 -0.6**
KBL Kabul 119.62 298 PKIKP **PKPdf** **23 38 19.0 0.0**
KBL Kabul 119.62 298 PKPdf **PKPdf** **23 38 19.0 0.0**
KBS Kingsbay 122.81 357 *i* P **PKPdf** **23 38 23.6 +0.1**
KBS IAmb IAmb 23 38 24.0
comp=Z,31nm,0.9s
KBS Kingsbay 122.81 357 *e*PKPdf **PKPdf** **23 38 23.5 -0.1**
SPA0 Spitsbergen Ar 123.31 356 *e*PKPdf **PKPdf** **23 38 24.2 -0.4**
DAG Danmarks Havn 124.35 5 ⇓*i* P **PKPdf** **23 38 25.1 -1.4**
DAG IAmb IAmb 23 38 25.8
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 124.35 5 ⇓*i* PKIKP **PKPdf** **23 38 25.1 -1.4**
DAG pmax pmax
comp=Z,7.0nm,0.7s
BOSA Boshof 124.40 206 PKP **PKPdf** **23 38 28.2 -0.2**
comp=Z,4.8nm,0.8s,baz=148,slow=1.9,SNR=8.2
HSPB Hornsund (broa 124.49 356 *e*PKPdf **PKPdf** **23 38 26.7 -0.1**
SVE Sverdlovsk 124.59 325 *e*PKIKP **PKPdf** **23 38 26.8 -0.7**
SVE pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 124.89 13 ⇓*i* P **PKPdf** **23 38 28.0 -0.2**
SUMG IAmb IAmb 23 38 28.9
comp=Z,11nm,1.0s
SUMG Summit 124.89 13 ⇓*i* PKIKP **PKPdf** **23 38 28.0 -0.2**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 124.89 13 PKPdf **PKPdf** **23 38 28.3 +0.1**
ARU Arti 125.80 325 PKP **PKPdf** **23 38 29.7 -0.1**
comp=Z,7.5nm,0.5s,baz=121,slow=1.1,SNR=41
ARU PP **PP** **23 40 30.0 -2.4**
comp=Z,2.7nm,1.0s,baz=103,slow=3.1,SNR=7.3
ARU SKP 23 41 10.3
comp=Z,1.7nm,0.5s,baz=331,slow=4.7,SNR=5.1
ARU Arti 125.80 325 *i* PKIKP **PKPdf** **23 38 29.7 -0.1**
ARU 23 44 46.9
ARU Arti 125.80 325 PKPdf **PKPdf** **23 38 28.6 -1.3**
ABKAR Abkulak array 126.40 316 PKPdf **PKPdf** **23 38 30.6 -0.6**
ABKAR Abkulak array 126.40 316 PKPdf **PKPdf** **23 38 30.9 -0.4**
DBG Daneborg 126.48 7 *i* P **PKPdf** **23 38 29.9 -0.7**
DBG IAmb IAmb 23 38 30.7
comp=Z,7.2nm,0.8s
DY2G Dye2 126.53 21 ⇑*i* P **PKPdf** **23 38 31.1 -0.2**
DY2G IAmb IAmb 23 38 31.8
comp=Z,12nm,0.6s
ICESG Greenland Ices 126.98 17 *i* P **PKPdf** **23 38 31.5 -0.7**
ICESG IAmb IAmb 23 38 32.0
comp=Z,6.9nm,0.7s
LBTB Lobatse 127.40 209 PKP **PKPdf** **23 38 34.3 +0.1**
comp=Z,1.8nm,0.5s,baz=165,slow=2.7,SNR=6.6
GEYT Alibeck 128.64 302 PKP **PKiKP** **23 38 36.4 -0.2**
comp=Z,12nm,0.7s,baz=208,slow=2.9,SNR=19
UOSS Minazif 129.39 285 PKPdf **PKPdf** **23 38 37.6 -0.1**
ISOG Isortoq, Green 129.48 20 *i* P **PKPdf** **23 38 35.4 -1.1**
ISOG IAmb IAmb 23 38 36.6
comp=Z,5.2nm,0.7s
HAMF Hammerfest 129.53 350 *e*PKPdf **PKPdf** **23 38 35.2 -1.3**
KIRV Kirov 129.71 329 *c i* PKIKP **PKPdf** **23 38 37.2 0.0**
MATP Matopo 129.88 215 PKP **PKPdf** **23 38 39.1 +0.1**
comp=Z,4.5nm,0.6s,baz=167,slow=1.8,SNR=11
PRGR Permogore 129.93 334 *e*PKIKP **PKPdf** **23 38 36.0 -1.5**
PRGR *e* 23 41 04.4
PRGR pmax pmax
comp=Z,32nm,1.4s
ARA0 ARCESS Array S 130.20 349 *e*PKPdf **PKPdf** **23 38 37.4 -0.5**
ARCES ARCESS Array B 130.20 349 PKP **PKPdf** **23 38 37.4 -0.5**
comp=Z,6.3nm,0.5s,baz=22,slow=1.4,SNR=27
ARCES SKPbc **SKPab** **23 41 08.0 +0.4**
comp=Z,9.9nm,0.8s,baz=33,slow=5.4,SNR=10
KTK1 Kautokeino 131.06 349 *e*PKPdf **PKPdf** **23 38 39.5 0.0**
TRO Tromso 131.15 352 *e*PKPdf **PKPdf** **23 38 38.8 -0.8**
KLMR Klimovskoe 132.80 335 *e*PKHKP PKPpre 23 38 33.1
KLMR pmax pmax
comp=Z,23nm,1.4s
KLMR Klimovskoe 132.80 335 *e*PKPdf PKPpre 23 38 33.2
KLMR AMP 23 38 44.4
comp=Z,23nm,1.4s
KLMR *e*SKPab SKPbc 23 41 03.9 -13
BELG Belogornoye 133.13 322 *i* PKIKP **PKPdf** **23 38 44.1 +0.3**
STEI Steigen 133.22 353 *e*PKPdf **PKPdf** **23 38 44.0 +0.4**
FAUS Fauske 133.73 352 *e*PKPdf **PKPdf** **23 38 44.9 +0.3**
LSZ Lusaka 134.23 218 PKIKP **PKPdf** **23 38 47.5 +0.3**
LSZ Lusaka 134.23 218 **PKPdf** **23 38 47.5 +0.3**
MOR8 Moi Rana 134.99 352 *e*PKPdf **PKPdf** **23 38 45.5 -1.5**
TSUM Tsumeb 135.86 203 PKP **PKPdf** **23 38 50.6 +0.4**
comp=Z,2.6nm,0.5s,baz=113,slow=1.4,SNR=4.2
MOS Moscow 136.68 330 *i* PKIKP **PKPdf** **23 38 48.8 -1.6**
FINES FINESS Array B 136.90 343 PKhKP PKPpre 23 38 38.0
comp=Z,1.1nm,0.4s,baz=7.6,slow=1.4,SNR=12
FINES PKP **PKPdf** **23 38 50.1 -0.5**
comp=Z,8.4nm,0.7s,baz=86,slow=2.5,SNR=14
FINES SKPbc **SKPbc** **23 41 29.4 +0.1**
comp=Z,11nm,1.0s,baz=107,slow=2.0,SNR=8.2
GROC Groznyy 137.23 310 *e*PKIKP **PKPdf** **23 38 51.0 -0.8**
GROC *e* 23 41 42.1
GROC *e* 23 41 58.4
GROC pmax pmax
comp=Z,12nm,0.4s
OBN Obninsk 137.53 330 ⇓*i* PKIKP **PKPdf** **23 38 51.9 0.0**
OBN *e* 23 41 04.8
OBN *e*PPP PPP 23 44 51.7
OBN pmax pmax
comp=Z,41nm,1.7s
KMBO Kilima Mbogo 137.64 242 PKhKP PKPpre 23 38 43.7
comp=Z,0.8nm,0.4s,baz=146,slow=0.7,SNR=5.0
KMBO PKP **PKPdf** **23 38 54.7 +0.9**
comp=Z,5.1nm,0.9s,baz=236,slow=0.4,SNR=12
MEF Metsahovi 138.38 342 *e*P PKPpre 23 38 40.1
RAF Rauma 138.38 345 *e*P PKPpre 23 38 40.0
ZEI Tsey 138.68 310 *i* PKIKP **PKiKP** **23 38 56.4 -0.7**
ZEI pmax pmax
comp=Z,12nm,1.0s
GNI Garni 138.72 306 *c i* PKIKP **PKPdf** **23 38 54.5 -0.4**
GNI pmax pmax
comp=Z,24nm,1.3s
GNI Garni 138.72 306 **PKPdf** **23 38 55.8 +0.9**
VSU Vasula 139.09 339 *e*P PKPpre 23 38 44.0
KBZ Khabaz 139.10 312 PKhKP PKPpre 23 38 46.9
comp=Z,1.7nm,0.8s,baz=133,slow=2.2,SNR=4.9
KBZ PKP **PKPdf** **23 38 54.2 -0.9**
comp=Z,3.0nm,0.7s,baz=24,slow=7.6,SNR=4.4
KBZ SKPbc **SKPbc** **23 41 36.5 +0.4**
comp=Z,2.7nm,0.8s,baz=85,slow=3.9,SNR=4.9
KBZ Khabaz 139.10 312 *c i* PKIKP **PKiKP** **23 38 57.2 -0.4**
KIV Kislovodsk 139.18 312 *e*PKIKP **PKPdf** **23 38 55.1 -0.4**
KIV pmax pmax
comp=Z,6.0nm,1.1s
SHA1 Shidzhatmaz 139.27 312 *i* PKIKP **PKPdf** **23 38 55.6 -0.2**
AKH Akhalkalaki 139.34 308 ⇑P **PKPdf** **23 38 48.4 -7.6**
NEY Neytrino 139.37 311 *i* PKIKP **PKPdf** **23 38 56.3 +0.3**
AAL Aland 139.54 345 *e*P PKPpre 23 38 45.0
CLDR Caldiran 139.56 305 *e*P **PKPdf** **23 38 50.0 -6.5**
DOMB Dombas 139.60 354 *e*PKPdf **PKPdf** **23 38 48.7 -6.9**
AKN Aaknes 139.65 356 *e*PKPdf **PKPdf** **23 38 50.0 -5.7**
MTSE Matsula 139.79 342 *e*P PKPpre 23 38 44.5
CUKT Cukurca 140.16 302 *e*P **PKPdf** **23 38 50.9 -6.6**
NB2 NORSAR Subarra 140.34 352 PKP **PKPdf** **23 38 50.2 -6.8**
comp=Z,1.6nm,0.4s,baz=10,slow=3.2
NOA NORSAR Array B 140.34 352 PKhKP PKPpre 23 38 50.3
comp=Z,7.8nm,0.8s,baz=16,slow=4.7,SNR=26
NOA PKP **PKPdf** **23 38 58.1 +1.1**
comp=Z,0.8nm,0.5s,baz=22,slow=3.4,SNR=3.3
NOA SKPbc **SKPbc** **23 41 39.1 +0.3**
comp=Z,5.0nm,0.8s,baz=15,slow=4.3,SNR=10.0
FOO Floro 140.34 357 *e*PKPdf **PKPdf** **23 38 55.5 -1.3**
UPP Uppsala 140.36 347 *e*P PKPdf 23 38 48.3 -8.6
SENK Senkaya-Erzuru 140.40 308 *e*P **PKPdf** **23 38 53.3 -4.7**
NC602 NORSAR Array S 140.59 352 *e*PKPdf **PKPdf** **23 38 50.9 -6.5**
BCA Borcka 140.69 309 ⇑P **PKPdf** **23 38 53.1 -5.1**
SKAR Skarslia 141.02 354 *e*PKPdf **PKPdf** **23 38 57.9 -0.3**
GURO Guroymak-BITLI 141.12 305 *e*P **PKPdf** **23 38 55.6 -3.6**
FURI Furi 141.35 256 **PKPdf** **23 39 01.5 +0.9**
VRTB Varto-Mus 141.42 306 *i* P **PKPdf** **23 38 58.0 -1.8**
OSL Oslo 141.47 352 *e*PKPdf **PKPdf** **23 38 54.4 -4.5**
IDID Didziasalis 141.53 336 *e*P **PKPdf** **23 38 54.9 -4.3**
ISAL Salakas 141.56 337 *e*P **PKPdf** **23 38 55.6 -3.6**
KARO Karliova-Bingo 141.69 306 *e*P **PKPdf** **23 38 57.1 -3.2**
IIGN Ignalina 141.69 337 *e*P **PKPdf** **23 38 55.8 -3.7**
MNK Minsk 141.69 335 *i* PKHKP **PKPdf** **23 38 55.0 -4.5**
MNK *i* 23 45 10.9
MNK *i* SS SS 23 59 55.7 -0.9
MNK *i* SSS SSS 00 05 25.0
MNK pmax pmax
comp=E,2.0nm,1.3s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=Z,28nm,1.5s
MNK Minsk 141.69 335 *i* PKP **PKPdf** **23 38 55.1 -4.5**
comp=E,2.0nm,1.3s
MNK *i* PKP **PKPdf** **23 38 55.1 -4.5**
comp=N,8.0nm,1.0s
MNK *i* PKP **PKPdf** **23 38 55.1 -4.5**
comp=Z,28nm,1.4s,baz=223
MNK *i* pPKP **pPKPdf** **23 41 07.8 -6.6**
MNK *i* sPKP 23 42 03.0
MNK *i* PP **sPKPdf** **23 42 05.5 -4.7**
MNK *i* SKS **SKSdf** **23 45 11.0 -3.5**
MNK *i* PPP PPP 23 45 21.5
MNK *i* SKKS **SKKSdf** **23 54 31.6 -6.0**
MNK *i* SS **SS** **23 59 55.8 -0.8**
MNK *i* SSS SSS 00 05 25.0
MNK *i* LR LR 00 34 01.3
LODK Lodwar 141.71 246 **PKPdf** **23 38 57.0 -3.9**
SVAN Silvan-Diyarba 141.85 304 *e*P **PKPdf** **23 38 57.3 -3.1**
KONO Kongsberg 141.89 353 PKHKP **PKPdf** **23 38 55.5 -4.2**
KONO Kongsberg 141.89 353 *e*PKPdf **PKPdf** **23 38 55.8 -3.9**
KONO Kongsberg 141.89 353 **PKPdf** **23 38 55.5 -4.2**
ODD1 Odda 141.92 355 *e*PKPdf **PKPdf** **23 38 56.1 -3.7**
YEDI Yedisu-Bingol 142.03 306 *e*P **PKPdf** **23 38 57.9 -2.9**
BNGB Bingl 142.05 306 *e*P **PKPdf** **23 38 57.9 -2.9**
KTUT Trabzon 142.16 309 ⇑P **PKPdf** **23 38 56.6 -4.2**
KTUT Trabzon 142.16 309 *e*P **PKPdf** **23 38 57.9 -2.9**
PABE Paberze 142.37 338 *e*P **PKPdf** **23 38 58.1 -2.5**
BLS5 Blasjo 142.42 355 *e*PKPdf **PKPdf** **23 38 57.5 -3.2**
MAZI Mazidag 142.59 303 P **PKPdf** **23 38 59.2 -2.6**
PBUR Paburge 142.60 341 *e*P **PKPdf** **23 38 58.1 -2.9**
KMY Karmoy 142.71 356 *e*PKPdf **PKPdf** **23 38 57.3 -3.9**
ESPY Espiye-Giresun 142.93 309 P **PKPdf** **23 38 59.5 -2.7**
MBAR Mbarara 143.14 236 *d i* PKIKP PKPbc 23 39 02.1 +0.2
MBAR Mbarara 143.14 236 PKPbc 23 39 02.3 +0.4
TJOU Tjoern 143.18 350 *i* P PKPab 23 38 59.7 -0.4
SVRC Sivrice-ELAZID 143.24 305 *e*P **PKPdf** **23 39 02.4 -0.6**
HOMB Homborsund 143.37 353 *i* P PKPbc 23 39 00.9 -0.1
HOMB Homborsund 143.37 353 *e*PKPbc PKPab 23 39 00.9 +0.1
BORU Boraas 143.37 349 *i* P PKPab 23 39 00.1 -0.7
SNART Snartemo 143.43 354 *i* P PKPab 23 39 01.0 -0.1
SNART Snartemo 143.43 354 *e*PKPbc PKPab 23 39 01.0 0.0
LEWI Lewis, Hebride 143.49 7 *e*P PKPab 23 39 00.7 -0.6
ILIC ilic-Erzincan 143.50 307 *e*P **PKPdf** **23 39 03.6 +0.2**
LINV Loch Inver, As 143.66 5 *e*P PKPbc 23 39 01.5 -0.4
ONAU Onsala 143.75 350 *i* P PKPbc 23 39 01.2 -1.0
AKASG Malin Array Be 143.77 329 PKP PKPbc 23 39 01.6 -0.8
comp=Z,44nm,0.5s,baz=42,slow=4.1,SNR=259
AKASG SKPbc **SKPbc** **23 41 47.5 0.0**
comp=Z,18nm,0.9s,baz=43,slow=2.6,SNR=20
AKBB Malin Array Si 143.77 329 *d i* PKIKP PKPbc 23 39 01.6 -0.9
SUW Suwalki 143.84 338 *e*PKP PKPbc 23 39 02.3 -0.3
SUW Suwalki 143.84 338 *e*P PKPab 23 39 02.7 0.0
URFA Urfa 143.85 304 *e*P **PKPdf** **23 39 04.2 +0.2**
MALT Malatya 143.93 305 *e*P **PKPdf** **23 39 04.6 +0.5**
FABU Falkenberg 143.98 349 *i* P PKPbc 23 39 02.1 -0.8
BLEU Blekinge 144.00 346 *i* P PKPbc 23 39 01.9 -1.2
RSDY Resadiye-TOKAT 144.11 309 *e*P **PKPab** **23 39 04.9 +0.6**
DEL Delary 144.27 348 *i* P PKPbc 23 39 03.3 -0.5
KAC Achnashellach 144.29 6 *e*P PKPbc 23 39 03.5 -0.3
KLNR Kaliningrad 144.33 341 *i* PKIKP PKPbc 23 39 04.0 -0.1
MCD Coleburn Disti 144.36 4 *e*P **PKPdf** **23 39 03.4 -0.7**
SIM Simferopol' 144.40 318 *c i* PKIKP **PKPdf** **23 39 03.8 -0.8**
SIM pmax pmax
comp=Z,199nm,1.2s
KPL Plockton 144.41 6 *e*P **PKPdf** **23 39 03.8 -0.3**
MDO Dochfour 144.42 5 *e*P **PKPdf** **23 39 03.7 -0.5**
SVSK Karacayir 144.50 309 *e*P **PKPab** **23 39 06.0 +0.3**
DARE Darende-Malaty 144.56 306 *e*P **PKPab** **23 39 06.2 0.0**
TOKT Tokat 144.69 309 *i* P **PKPab** **23 39 06.2 -0.4**
KVT Kavak 144.78 311 *i* P **PKPab** **23 39 06.8 -0.1**
BJUU Bjuv 144.80 348 *i* P **PKPdf** **23 39 04.9 +0.1**
SNOP Sinop 144.99 313 *i* P PKPbc 23 39 06.9 +0.4
MUD Monsted U'grnd 145.06 352 ⇓*i* P **PKPbc** **23 39 06.1 -0.1**
MUD *i* P **PKPbc** **23 39 06.2 -0.1**
MUD IAmb IAmb 23 39 06.8
comp=Z,42nm,0.7s
MUD Monsted U'grnd 145.06 352 ⇓*i* PKIKP **PKPbc** **23 39 06.0 -0.1**
MUD pmax pmax
comp=Z,43nm,0.7s
DRUM Mains of Drumt 145.07 3 *e*P **PKPdf** **23 39 05.3 0.0**
DIKM Dikmen 145.10 312 ⇑P **PKPdf** **23 39 05.1 -0.8**
DIKM Dikmen 145.10 312 *e*P **PKPab** **23 39 07.5 -0.5**
LUNU Lund 145.14 347 *i* P **PKPdf** **23 39 06.0 +0.5**
GAZ Gaziantep 145.16 304 *e*P **PKPbc** **23 39 07.5 +0.2**
BSD Bornholm Skovb 145.30 346 *e*P **PKPbc** **23 39 06.9 -0.1**
BSD Bornholm Skovb 145.30 346 ⇓*i* P **PKPbc** **23 39 06.5 -0.5**
BSD IAmb IAmb 23 39 08.6
comp=Z,77nm,0.8s
BSD Bornholm Skovb 145.30 346 ⇓*i* PKIKP **PKPbc** **23 39 06.5 -0.5**
BSD pmax pmax
comp=Z,77nm,0.8s
KMRS Kahramanmaras 145.31 305 *i* P **PKPbc** **23 39 08.1 +0.4**
SARI SarD1z-Kayseri 145.41 306 *i* P **PKPbc** **23 39 08.7 +0.6**
INVG Invergeldie, C 145.46 5 *e*P **PKPdf** **23 39 06.5 +0.5**
LAWE Loch Awe, Argy 145.50 6 *e*P **PKPbc** **23 39 07.0 -0.5**
EBH Black Hill 145.67 4 *e*P **PKPbc** **23 39 07.9 -0.2**
BNN Bunyan 145.70 307 *e*P **PKPdf** **23 39 07.6 +0.4**
BZK Bozkurt 145.83 313 ⇑P **PKPbc** **23 39 09.1 +0.1**
BZK Bozkurt 145.83 313 *i* P **PKPbc** **23 39 09.5 +0.6**
SORM Soroca 145.88 326 ⇑P **PKPdf** **23 39 06.3 -0.7**
SORM Soroca 145.88 326 ⇑PKIKP **PKPdf** **23 39 06.3 -0.7**
EDI Edinburgh 146.02 4 *e*P **PKPbc** **23 39 08.9 -0.1**
PGBU Glenifferbraes 146.03 5 *e*P **PKPbc** **23 39 08.4 -0.6**
ESY Stoneypath 146.06 3 *e*P **PKPbc** **23 39 08.8 -0.3**
CORM Corum 146.11 310 *i* P **PKPbc** **23 39 10.8 +0.8**
KOZT Kozan 146.13 305 *i* P **PKPbc** **23 39 10.2 +0.2**
TAHT Tahtakopru-Hat 146.16 303 *e*P **PKPbc** **23 39 10.0 -0.1**
EBL Broad Law 146.18 4 *e*P **PKPbc** **23 39 09.5 +0.1**
YAYL Yayladag 146.31 302 *e*P **PKPbc** **23 39 10.3 -0.4**
CEYT Ceyhan 146.33 304 *i* P **PKPbc** **23 39 11.1 +0.6**
KIS Kishinev 146.35 325 *e*pPKP pPKPdf 23 41 20.0 -2.6
KIS Kishinev 146.35 325 ⇑P **PKPbc** **23 39 09.7 -0.5**
KIS Kishinev 146.35 325 *d i* PKIKP **PKPbc** **23 39 09.8 -0.5**
KIS *e* 23 41 20.0
KIS pmax pmax
comp=Z,100nm,1.3s
KIS Kishinev 146.35 325 *e*LR LR 00 40 31.0
comp=Z,120nm,19.0s
KIS Kishinev 146.35 325 ⇓*i* PKP **PKPbc** **23 39 09.8 -0.5**
comp=Z,100nm,1.3s
GKP Gorka Klasztor 146.37 342 *e*PKP **PKPbc** **23 39 10.1 +0.1**
GKP Gorka Klasztor 146.37 342 *e*P **PKPbc** **23 39 10.3 +0.3**
BEL Belsk 146.45 337 *e*PKP **PKPbc** **23 39 10.9 +0.6**
EKA Eskdalemuir Ar 146.61 4 SKPbc **SKPbc** **23 41 52.3 -1.5**
comp=Z,0.5nm,0.5s,baz=343,slow=1.9,SNR=6.2
CANT Cankiri 146.66 311 *i* P **PKPbc** **23 39 11.8 +0.4**
KURC Kurucasile-Bar 146.73 314 *i* P **PKPbc** **23 39 10.1 -1.3**
NEWG New Galloway 146.74 5 *e*P **PKPbc** **23 39 10.0 -1.0**
LVV L'vov 146.75 332 *e*PKIKP **PKPbc** **23 39 11.0 -0.2**
IAS Iasi 146.90 326 ⇑P **PKPbc** **23 39 10.9 -0.8**
IAS Iasi 146.90 326 ⇑PKIKP **PKPbc** **23 39 10.9 -0.8**
GAL1 Galloway 146.94 6 *e*P **PKPbc** **23 39 11.3 -0.3**
LNIZ Loecknitz 146.96 345 *e*PKPbc **PKPbc** **23 39 12.3 +0.7**
baz=18,slow=2.3
LNIZ *e*PKPab **PKPab** **23 39 15.5 +0.6**
baz=17,slow=4.2
BR131 Keskin Array S 146.99 310 PKP2 **PKPbc** **23 39 12.1 -0.3**
BR131 Keskin Array S 146.99 310 PKPbc **PKPbc** **23 39 12.1 -0.3**
BRTR Keskin Array B 146.99 310 PKPbc **PKPdf** **23 39 10.7 +1.4**
comp=Z,28nm,0.7s,baz=140,slow=4.4,SNR=155
BRTR Keskin Array B 146.99 310 PKP2 **PKPbc** **23 39 12.2 -0.2**
BRTR Keskin Array B 146.99 310 PKPbc **PKPbc** **23 39 12.2 -0.2**
YAYX Yaylak 147.16 308 P **PKPbc** **23 39 12.5 -0.3**
EDMD Edmundbyers 147.18 3 *e*P **PKPbc** **23 39 11.7 -0.5**
MERS Mersin 147.31 304 *i* P **PKPbc** **23 39 13.2 0.0**
BSEG Bad Segeberg 147.33 350 *e*PKPbc **PKPbc** **23 39 13.2 +0.6**
baz=18,slow=2.3
BSEG *e*PKPab **PKPab** **23 39 16.9 +0.5**
baz=17,slow=4.2
TLCR 147.45 322 ⇑P **PKPbc** **23 39 12.8 -0.4**
TLCR 147.45 322 ⇑PKIKP **PKPbc** **23 39 12.8 -0.4**
BIR Birlad 147.45 324 ⇑P **PKPbc** **23 39 13.7 +0.5**
BIR Birlad 147.45 324 ⇑PKP2 **PKPbc** **23 39 13.7 +0.5**
KWP Kalwaria Pacla 147.46 333 *e*PKP **PKPbc** **23 39 13.3 +0.2**
PRAR RASCA 147.47 327 ⇑P **PKPbc** **23 39 13.3 +0.1**
ANTO Ankara 147.53 311 PKIKP **PKPdf** **23 39 09.9 -0.2**
ANTO Ankara 147.53 311 **PKPdf** **23 39 09.9 -0.2**
LOD Lodumlu 147.54 311 *i* P **PKPbc** **23 39 14.0 +0.3**
IOMK Kirk Michael 147.56 6 *e*P **PKPbc** **23 39 12.3 -0.9**
SCTR Scanteiesti 147.62 323 ⇑P **PKiKP** **23 39 14.4 -0.6**
GDLE Glaisdale, N Y 147.63 2 *e*P **PKPbc** **23 39 13.1 -0.3**
GHRR 147.70 324 ⇑P **PKiKP** **23 39 14.6 -0.6**
KULU Kulu 147.70 309 *e*P **PKPbc** **23 39 14.0 -0.2**
KIZK Mersin 147.72 304 *i* P **PKPbc** **23 39 14.1 -0.1**
BURAR Bucovina Array 147.80 328 ⇑P **PKiKP** **23 39 14.9 -0.6**
BURAR Bucovina Array 147.80 328 ⇑PKP2 **PKiKP** **23 39 14.9 -0.6**
BURAR Bucovina Array 147.80 328 PKPbc **PKiKP** **23 39 15.2 -0.3**
SCHL Schela 147.81 323 ⇑P **PKPbc** **23 39 14.4 +0.4**
TESR Tescani 147.81 326 ⇑P **PKPbc** **23 39 13.1 -1.0**
IZVR Izvoarele 147.82 323 ⇑P **PKPbc** **23 39 14.6 +0.5**
CFR Carcaliu 147.84 322 ⇑P **PKPdf** **23 39 10.1 -0.2**
CFR Carcaliu 147.84 322 ⇑PKHKP **PKPdf** **23 39 10.1 -0.2**
TPGR Topolog 147.87 322 ⇑P **PKPbc** **23 39 13.8 -0.5**
SILI Silifke-Mersin 147.92 304 *i* P **PKPbc** **23 39 14.8 +0.1**
RUE Ruedersdorf 147.99 345 *e*PKPbc **PKPbc** **23 39 14.9 +0.6**
baz=18,slow=2.3
RUE *e*PKPab **PKPab** **23 39 19.6 +0.4**
baz=17,slow=4.2
PETR Petresti 148.01 324 ⇑P **PKiKP** **23 39 15.2 -0.6**
KEBE Keben-Mersin 148.06 304 P **PKPbc** **23 39 15.4 +0.3**
ODBI Odobesti 148.08 324 ⇑P **PKiKP** **23 39 15.9 -0.1**
TIRR Tirgusor 148.10 321 ⇑P **PKPbc** **23 39 13.4 -1.5**
TIRR Tirgusor 148.10 321 ⇑PKHKP **PKPbc** **23 39 13.4 -1.5**
OJC Ojcow 148.14 337 *e*PKP **PKPbc** **23 39 14.9 +0.1**
IKL Isikli 148.14 304 P **PKPbc** **23 39 15.1 -0.1**
KOLS Kolonicke sedl 148.18 333 *e*PKHKP **PKPdf** **23 39 11.0 +0.2**
KOLS Kolonicke sedl 148.18 333 *e*PKP **PKPdf** **23 39 11.0 +0.2**
KOLS *e* 23 39 15.8
VRI Vrincioaia 148.19 325 ⇑P **PKPbc** **23 39 13.6 -1.5**
VRI Vrincioaia 148.19 325 ⇑PKHKP **PKPbc** **23 39 13.6 -1.5**
STHS Stebnicka Huta 148.23 334 *e*PKHKP **PKPbc** **23 39 15.0 -0.1**
STHS Stebnicka Huta 148.23 334 *e*PKP **PKPbc** **23 39 15.0 -0.1**
PLOR Plostina 148.24 325 ⇑P **PKPbc** **23 39 14.4 -0.8**
HARR Harsova 148.25 322 ⇑P **PKPbc** **23 39 15.5 +0.3**
HARR Harsova 148.25 322 ⇑PKP2 **PKPbc** **23 39 15.5 +0.3**
MFTR Murfatlar 148.26 321 ⇑P **PKiKP** **23 39 16.0 -0.4**
TLBR Topalu 148.26 322 ⇑P **PKPbc** **23 39 14.7 -0.5**
AKKU Akkuyu-Mersin 148.27 304 P **PKPbc** **23 39 15.2 -0.4**
TEVE Tevekalti-Mers 148.27 304 P **PKPbc** **23 39 15.9 +0.2**
MANR Mangalia 148.37 320 ⇑P **PKPbc** **23 39 15.8 +0.3**
MDUB Mudurnu 148.38 313 P **PKPbc** **23 39 15.8 -0.1**
CVDA Cernavoda 148.39 321 ⇑P **PKPbc** **23 39 15.1 -0.4**

ICOR	Ion Corvin	148.66	321	⇑P	PKPbc	23 39 16.5	+0.2
TRPA	Tarpa	148.67	331	⇑P	PKPbc	23 39 15.6	-0.5
TRPA	Tarpa	148.67	331	⇑ePKP	PKPbc	23 39 15.1	-1.1
TRPA	Tarpa	148.67	331	eP	PKPbc	23 39 15.9	-0.2
TRPA	Tarpa	148.67	331	ePKPDF	PKPdf	23 39 10.3	-1.3
FLTG	Flechtingen	148.69	348	ePKPbc	PKPbc	23 39 16.4	+0.3
	baz=18,slow=2.3						
FLTG				ePKPab	PKPab	23 39 22.0	-0.1
	baz=17,slow=4.2						
FLTG				epPKPbc	pPKPab	23 41 34.1	+3.5
YLL	Llanberis	148.70	6	eP	PKPbc	23 39 14.7	-1.3
NRDL	Niedersach Rie	148.75	349	ePKPbc	PKiKP	23 39 16.8	-0.3
	baz=18,slow=2.3						
KSP	Ksiaz	148.78	341	ePKP	PKiKP	23 39 17.0	-0.3
DOPR	Dopca	148.83	326	⇑P	PKPbc	23 39 16.7	0.0
MLR	Muntele Rosu	148.85	325	⇑P	PKPbc	23 39 16.2	-0.7
MLR	Muntele Rosu	148.85	325	⇑PKHKP	PKPbc	23 39 16.2	-0.7
SAUV	Serdivan-Sakar	148.85	314	i P	PKPbc	23 39 16.6	-0.2
GULT	Gulveren	148.87	313	i P	PKPbc	23 39 16.9	-0.1
CIFT	Cifteler, Eski	148.96	311	P	PKPbc	23 39 16.9	-0.4
SRCK	Saricakaya, Es	148.97	312	i P	PKPbc	23 39 16.9	-0.3
ASSE	Asse, Remlinge	148.99	348	ePKPbc	PKiKP	23 39 17.4	-0.2
	baz=18,slow=2.3						
LEHL	Lehliu	149.01	322	⇑P	PKPbc	23 39 17.1	0.0
FOEL	Foel Wylfa	149.03	5	eP	PKPbc	23 39 16.6	-0.4
LLW	Llanuwychllyn	149.04	5	eP	PKPbc	23 39 15.9	-1.0
OKC	Ostrava-Krasne	149.05	338	ePKHKP	PKPbc	23 39 16.6	-0.4
OKC				e		23 39 24.2	
OKC	Ostrava-Krasne	149.05	338	⇑ePKP	PKPbc	23 39 16.6	-0.4
OKC				ePKPAB	PKPab	23 39 24.2	+0.5
OSTC	Ostas	149.06	341	⇑ePKP	PKPbc	23 39 17.5	+0.4
OSTC				ePKPAB	PKPab	23 39 25.1	+1.3
CHVC	Chvalec	149.08	341	⇑ePKP	PKPbc	23 39 17.3	+0.2
CHVC				ePKPAB	PKPab	23 39 24.6	+0.8
LEF	Lefka	149.09	302	⇑P	PKPbc	23 39 17.7	+0.2
LEF	Lefka	149.09	302	i P	PKPbc	23 39 17.8	+0.2
SILT	Sile	149.11	315	eP	PKPbc	23 39 17.5	+0.1
LANS	Liptovska Anna	149.14	336	ePKP2	PKiKP	23 39 18.6	+0.4
LANS	Liptovska Anna	149.14	336	ePKP	PKiKP	23 39 18.6	+0.4
UPC	Upice	149.16	341	ePKHKP	PKPbc	23 39 17.9	+0.6
UPC				e		23 39 25.0	
UPC	Upice	149.16	341	⇑ePKP	PKPbc	23 39 17.9	+0.6
UPC				ePKPAB	PKPab	23 39 25.0	+0.8
GAZI	Gazipasa	149.20	304	i P	PKPbc	23 39 16.9	-1.0
SULR		149.20	323	⇑P	PKPbc	23 39 16.5	-1.0
CBBR	Cluj-Babes-Bol	149.20	329	⇑P	PKPdf	23 39 13.3	+0.9
DPC	Dobruska-Polom	149.21	340	ePKHKP	PKPbc	23 39 18.1	+0.6
DPC				e		23 39 25.6	
DPC	Dobruska-Polom	149.21	340	⇑ePKP	PKPbc	23 39 18.1	+0.6
DPC				ePKPAB	PKPab	23 39 25.6	+1.2
MESR	Meseseni	149.21	330	⇑P	PKPbc	23 39 17.5	0.0
CJR	Cluj-Napoca	149.22	329	⇑P	PKPdf	23 39 13.5	+0.9
CJR	Cluj-Napoca	149.22	329	⇑PKHKP	PKPdf	23 39 13.5	+0.9
MDB	Medias	149.23	327	⇑P	PKiKP	23 39 18.1	-0.3
MDB	Medias	149.23	327	⇑PKHKP	PKiKP	23 39 18.1	-0.3
HRT	Hereke	149.25	314	eP	PKPbc	23 39 17.6	-0.3
CLL	Collm	149.26	345	ePKPdf	PKPdf	23 39 13.0	+0.6
CLL				⇓i PKPbc	PKPbc	23 39 17.8	+0.3
	comp=Z,110nm,0.9s						
CLL				⇑i PKPab	PKPab	23 39 24.7	+0.2
	comp=Z,52nm,0.8s						
CLL				epPKPdf	pPKPdf	23 41 26.0	-1.6
CLL				eSKPdf	SKPdf	23 41 52.0	+0.6
CLL	Collm	149.26	345	⇓i PKHKP	PKPbc	23 39 17.8	+0.3
CLL				i		23 39 24.7	
CLL				pmax	pmax		
	comp=Z,110nm,0.9s						
CLL				pmax	pmax		
	comp=Z,52nm,0.8s						
KECS	Kecovo	149.27	334	ePKP2	PKiKP	23 39 18.9	+0.5
KECS	Kecovo	149.27	334	ePKP	PKiKP	23 39 18.9	+0.5
CWF	Charnwood Fore	149.29	3	eP	PKPbc	23 39 17.0	-0.5
IBBN	Ibbenburen	149.29	352	ePKPbc	PKiKP	23 39 18.1	-0.2
	baz=18,slow=2.3						
KRLC	Kraliky	149.30	340	ePKHKP	PKPbc	23 39 17.5	-0.2
KRLC				e		23 39 25.4	
KRLC	Kraliky	149.30	340	⇑ePKP	PKPbc	23 39 17.5	-0.2
KRLC				ePKPAB	PKPab	23 39 25.4	+0.6
MORC	Moravsky Berou	149.31	339	⇑P	PKPbc	23 39 17.8	+0.1
MORC	Moravsky Berou	149.31	339	⇑PKHKP	PKPbc	23 39 17.8	+0.1
MORC	Moravsky Berou	149.31	339	ePKP	PKPbc	23 39 18.0	+0.3
CLZ	Clausthal	149.32	348	ePKPbc	PKiKP	23 39 18.4	0.0
	baz=18,slow=2.3						
CLZ				ePKPab	PKPab	23 39 25.4	+0.5
	baz=17,slow=4.2						
WACR	West Acre	149.35	0	eP	PKPdf	23 39 14.6	+2.1
VOIR		149.36	325	⇑P	PKPbc	23 39 16.1	-1.9
VOIR		149.36	325	⇑PKHKP	PKPbc	23 39 16.1	-1.9
ADVT	Abdulvahap	149.39	313	P	PKPbc	23 39 17.8	-0.4
BRG	Berggiesshubel	149.42	344	ePKPbc	PKiKP	23 39 18.5	-0.1
	baz=18,slow=2.3						
BRG				ePKPab	PKPab	23 39 25.7	+0.5
	baz=17,slow=4.2						
HLM1	Long Mynd	149.43	4	eP	PKPbc	23 39 17.2	-0.7
LTVH	Ltavrtes, Hu	149.52	331	⇑P	PKiKP	23 39 18.6	-0.3
LTVH	Ltavrtes, Hu	149.52	331	⇑ePKP	PKPbc	23 39 18.0	-0.2
LTVH	Ltavrtes, Hu	149.52	331	ePKPDF	PKPdf	23 39 12.2	-0.7
FBE	Freiberg	149.53	344	ePKPbc	PKiKP	23 39 19.1	+0.2
	baz=18,slow=2.3						
FBE				ePKPab	PKPab	23 39 26.4	+0.8
	baz=17,slow=4.2						
ISK	Istanbul-Kandi	149.54	315	P	PKPbc	23 39 17.0	-1.5
ISK	Istanbul-Kandi	149.54	315	eP	PKPbc	23 39 17.9	-0.6
KAVV	Kandilli-Istan	149.54	315	eP	PKiKP	23 39 19.4	+0.2
PVCC	Panska Ves	149.57	343	ePKHKP	PKPbc	23 39 18.3	+0.1
PVCC	Panska Ves	149.57	343	⇑ePKP	PKPbc	23 39 18.3	+0.1
YLV	Yalova	149.57	314	eP	PKPbc	23 39 18.3	-0.4
DRGR		149.58	330	⇑P	PKPbc	23 39 18.1	-0.4
DRGR		149.58	330	⇑PKHKP	PKPbc	23 39 18.1	-0.4
NEUB	Neuenburg	149.64	346	ePKPbc	PKiKP	23 39 18.9	-0.1
	baz=18,slow=2.3						
NEUB				ePKPab	PKPab	23 39 26.2	+0.2
	baz=17,slow=4.2						
SGRR	Singureni	149.64	323	⇑P	PKPbc	23 39 17.9	-0.7
SHUT	Suhut-Afyon	149.66	310	i P	PKPbc	23 39 18.5	-0.5
GTTG	Gottingen	149.68	349	ePKPbc	PKiKP	23 39 19.1	-0.1
	baz=18,slow=2.3						
RAZG	Razgrad	149.74	321	⇑P	PKPbc	23 39 18.7	-0.2
CTKS	Kestanelik-??a	149.81	316	eP	PKPbc	23 39 19.2	+0.1
VYHS	Vyhne	149.91	336	ePKHKP	PKPbc	23 39 19.3	+0.1
VYHS				e		23 39 27.9	
VYHS	Vyhne	149.91	336	ePKP	PKPbc	23 39 19.3	+0.1
VYHS				e		23 39 27.9	
ARMT	Armutlu	149.91	314	eP	PKPbc	23 39 18.5	-0.9
MCH1	Michaelchurch	149.94	5	eP	PKPbc	23 39 18.3	-0.8
PSZ	Piszkesteto	149.96	334	⇑P	PKiKP	23 39 19.7	-0.3
PSZ	Piszkesteto	149.96	334	eP	PKPdf	23 39 14.8	+1.0
PSZ	Piszkesteto	149.96	334	⇑ePKP	PKPbc	23 39 19.4	+0.1
PSZ	Piszkesteto	149.96	334	⇑PKHKP	PKiKP	23 39 19.7	-0.3
PSZ	Piszkesteto	149.96	334	PKPbc	PKPbc	23 39 19.4	+0.1
HUMR	Humele	150.00	324	⇑P	PKPbc	23 39 19.1	-0.4
MDNY	Mudanya-Bursa	150.00	314	eP	PKiKP	23 39 20.1	-0.1
SLVT	Silivri	150.00	316	eP	PKPbc	23 39 19.6	0.0
PRA	Prague	150.02	342	ePKIKP	PKPbc	23 39 19.4	+0.1
PRA				e		23 39 28.2	
PRA	Prague	150.02	342	ePKPDF	PKPbc	23 39 19.4	+0.1
PRA				⇑ePKP	PKiKP	23 39 22.6	+2.7
PRA				ePKPAB	PKPab	23 39 28.2	+0.5
LOT	Lotru	150.02	327	⇑P	PKPbc	23 39 18.6	-1.0
VRAC	Vranov	150.03	339	PKPbc	PKiKP	23 39 19.8	-0.2
VRAC				PKPab	PKPab	23 39 27.6	-0.2
	comp=Z,23nm,0.7s,baz=41,slow=6.6,SNR=7.1						
VRAC	Vranov	150.03	339	⇑P	PKPbc	23 39 19.2	-0.2
VRAC	Vranov	150.03	339	ePKP	PKPbc	23 39 19.6	+0.2
TVSB	Tavsanli	150.03	312	eP	PKPbc	23 39 19.8	-0.1
JAVC	Velka Javorina	150.04	337	ePKP	PKiKP	23 39 20.8	+0.7
PRU	Pruhonice	150.06	342	ePKIKP	PKPbc	23 39 18.5	-0.9
PRU				e		23 39 28.3	
PRU	Pruhonice	150.06	342	⇑ePKP	PKPbc	23 39 18.5	-0.9
PRU				ePKPAB	PKPab	23 39 28.3	+0.4
BCK	Bucak	150.06	308	eP	PKPbc	23 39 19.0	-0.9
COPA	Copaceanca	150.12	323	⇑P	PKPdf	23 39 15.1	+1.1
DEV	Deva	150.15	328	⇑P	PKPbc	23 39 19.4	-0.3
DEV	Deva	150.15	328	⇑PKIKP	PKPbc	23 39 19.4	-0.3
MOX	Moxa	150.20	346	ePKPbc	PKiKP	23 39 20.2	-0.1
	baz=18,slow=2.3						
MOX				ePKPab	PKPab	23 39 28.5	+0.1
	baz=17,slow=4.2						
BUG	Bochum--Univer	150.21	352	ePKPbc	PKiKP	23 39 20.0	-0.2
	baz=18,slow=2.3						
STRD	Stroud	150.21	4	eP	PKPbc	23 39 19.0	-0.7
PLN	Plauen	150.22	345	ePKPbc	PKiKP	23 39 20.3	0.0
	baz=18,slow=2.3						
PLN				ePKPab	PKPab	23 39 29.0	+0.5
	baz=17,slow=4.2						
WERD	Werda	150.22	345	ePKPbc	PKiKP	23 39 20.4	0.0
	baz=18,slow=2.3						
WERD				ePKPab	PKPab	23 39 29.0	+0.4
	baz=17,slow=4.2						
KASTN	Kahler Asten	150.28	350	ePKPbc	PKiKP	23 39 20.4	-0.1
	baz=18,slow=2.3						
BSZH	Besenyszg	150.29	333	⇑P	PKiKP	23 39 20.5	-0.1
BSZH	Besenyszg	150.29	333	eP	PKPdf	23 39 06.4	-7.7
GUNZ	Gunzen	150.30	345	ePKPbc	PKiKP	23 39 20.7	+0.2
	baz=18,slow=2.3						
GUNZ				ePKPab	PKPab	23 39 29.6	+0.7
	baz=17,slow=4.2						
KRUC	Moravsky	150.31	339	ePKP	PKPbc	23 39 20.1	+0.1
WERN	Wernitzgruen	150.36	345	ePKPbc	PKiKP	23 39 21.0	+0.4
	baz=18,slow=2.3						
WERN				ePKPab	PKPab	23 39 30.4	+1.2
	baz=17,slow=4.2						
CRLT	Corlu	150.36	316	P	PKPdf	23 39 03.1	-11
UBBA	Unterbreizbach	150.37	348	ePKPbc	PKiKP	23 39 20.3	-0.1
	baz=18,slow=2.3						
NKC	Novy Kostel	150.39	345	ePKIKP	PKPbc	23 39 20.3	+0.1
NKC				e		23 39 29.8	
NKC	Novy Kostel	150.39	345	⇑ePKP	PKPbc	23 39 20.3	+0.1
NKC				ePKPAB	PKPab	23 39 29.8	+0.5
TREC	Trest	150.39	340	ePKIKP	PKPbc	23 39 20.1	-0.2
TREC				e		23 39 29.5	
TREC	Trest	150.39	340	⇑ePKP	PKPbc	23 39 20.1	-0.2
TREC				ePKPAB	PKPab	23 39 29.5	+0.1
KCTX	Karacabey (Bur	150.40	314	i P	PKPbc	23 39 20.1	-0.5
KORT	Korkueli	150.41	307	eP	PKPbc	23 39 20.5	-0.3
SMOL	Smolenice	150.42	337	ePKIKP	PKiKP	23 39 21.1	+0.3
SMOL				e		23 39 30.7	
SMOL	Smolenice	150.42	337	ePKP	PKiKP	23 39 21.1	+0.3
SMOL				e		23 39 30.7	
SIRR	Siria	150.46	330	⇑P	PKPdf	23 39 14.5	0.0
PBCC	Pribram	150.49	342	ePKPDF	PKPdf	23 39 14.1	-0.3
PBCC				⇑ePKP	PKPbc	23 39 20.4	0.0
PBCC				ePKPAB	PKPab	23 39 30.2	+0.5
GZR	Gura Zlata	150.56	328	⇑P	PKPbc	23 39 20.1	-0.7
GZR	Gura Zlata	150.56	328	⇑PKIKP	PKPbc	23 39 20.1	-0.7
MODS	Modra-Piesok	150.59	337	ePKIKP	PKPdf	23 39 15.8	+1.2
MODS	Modra-Piesok	150.59	337	ePKP	PKPdf	23 39 15.8	+1.2
MODS				e		23 39 22.1	
MODS				e		23 39 32.4	
EDRB	Edirne	150.60	318	P	PKPbc	23 39 20.4	-0.5
EDRB	Edirne	150.60	318	eP	PKPbc	23 39 20.5	-0.5
VLAD	Vladila	150.66	324	⇑P	PKiKP	23 39 21.4	+0.1
SRO2	Moca	150.68	335	ePKIKP	PKPbc	23 39 20.2	-0.7
SRO2				e		23 39 31.6	
SRO2	Moca	150.68	335	ePKP	PKPbc	23 39 20.2	-0.7
SRO2				e		23 39 31.6	
MANZ	Manzenberg	150.70	345	ePKPbc	PKiKP	23 39 21.5	+0.1
	baz=18,slow=2.3						
WOL	Wolverton	150.72	3	eP	PKPbc	23 39 20.5	-0.4
MRMT	Marmara Adasi	150.73	315	i P	PKPbc	23 39 20.3	-1.1
ZST	Bratislava	150.80	337	ePKIKP	PKiKP	23 39 21.6	0.0
ZST				e		23 39 31.2	
ZST	Bratislava	150.80	337	ePKP	PKiKP	23 39 21.5	0.0
ZST				e		23 39 31.1	
AMBH	Ambrzfalva	150.83	331	⇑P	PKiKP	23 39 21.9	+0.2
AMBH	Ambrzfalva	150.83	331	⇑ePKP	PKPbc	23 39 21.4	+0.2
ELL	Elmali	150.84	307	eP	PKPbc	23 39 21.6	-0.2
SRE	Strehaia	150.85	326	⇑P	PKPbc	23 39 21.3	-0.1
SRE	Strehaia	150.85	326	⇑PKIKP	PKPbc	23 39 21.3	-0.1
ROTZ	Rotzenmuhle	150.88	345	ePKPbc	PKiKP	23 39 21.8	+0.1
	baz=18,slow=2.3						
ROTZ				ePKPab	PKPab	23 39 32.6	+1.3
	baz=17,slow=4.2						
ELSH	Elham, Standar	150.93	360	eP	PKPbc	23 39 21.4	0.0
BZS	Buzias	150.96	329	⇑P	PKPdf	23 39 14.8	-0.4
BZS	Buzias	150.96	329	⇑PKIKP	PKPdf	23 39 14.8	-0.4
KULA	Kula-Manisa	151.01	311	P	PKiKP	23 39 22.4	-0.1
KULA	Kula-Manisa	151.01	311	P	PKPbc	23 39 21.6	-0.5
BALB	Balikesir	151.02	313	eP	PKPbc	23 39 21.5	-0.5
BEBN	Eben Emael	151.03	354	dPKPab	PKPab	23 39 31.9	0.0
HERR	Herculane	151.10	327	⇑P	PKPbc	23 39 21.2	-0.8
KHC	Kasperske Hory	151.10	342	ePKIKP	PKPdf	23 39 14.9	-0.5
KHC				e		23 39 33.0	
KHC	Kasperske Hory	151.10	342	ePKPDF	PKPdf	23 39 14.9	-0.5
KHC				⇑ePKP	PKPbc	23 39 21.6	-0.3
KHC				ePKPAB	PKPab	23 39 33.0	+0.7
KHC	Kasperske Hory	151.10	342	PKPbc	PKiKP	23 39 22.1	-0.1
KHC				PKPab	PKPab	23 39 33.1	+0.7
AHRW	Bad Neuenahr-A	151.11	352	ePKPbc	PKiKP	23 39 22.3	+0.1
	baz=18,slow=2.3						
UCC	Uccle	151.15	355	dPKPbc	PKPbc	23 39 21.9	0.0
UCC				dPKPab	PKPab	23 39 31.9	-0.4
CKRC	Cesky Krumlov	151.17	341	ePKPDF	PKPdf	23 39 15.2	-0.3
CKRC				⇑ePKP	PKPbc	23 39 22.2	+0.1
CKRC				ePKPAB	PKPab	23 39 31.4	-1.2
MEM	Membach	151.18	353	dPKPdf	PKPdf	23 39 15.6	+0.2
MEM				dPKP	PKPbc	23 39 21.7	-0.3
MEM				dPKPab	PKPab	23 39 31.8	-0.8
GRF	Grafenberg Arr	151.18	346	ePKPbc	PKiKP	23 39 22.5	+0.1
	baz=18,slow=2.3						
GRF				ePKPab	PKPab	23 39 33.3	+0.7
	baz=17,slow=4.2						
GRFO	Grafenberg	151.18	346	PKIKP	PKiKP	23 39 22.6	+0.3
GRFO					PKPab	23 39 33.4	+0.8
GRFO	Grafenberg	151.18	346		PKiKP	23 39 22.6	+0.3
GRFO					PKPab	23 39 33.4	+0.8
BTNL	Ternell	151.19	353	dPKPbc	PKPbc	23 39 22.0	-0.1
BTNL				dPKPab	PKPab	23 39 32.5	-0.2
TNS	Taunus Mts	151.22	350	ePKPbc	PKiKP	23 39 22.6	+0.1
	baz=18,slow=2.3						
TNS				ePKPab	PKPab	23 39 32.8	0.0
	baz=17,slow=4.2						
BSTI	Sart Tilman	151.25	354	dPKPbc	PKPbc	23 39 22.1	0.0
AKAS	Kas	151.25	306	i P	PKPbc	23 39 22.2	-0.6
AKAS	Kas	151.25	306	PKPab	PKPab	23 39 33.1	-0.5
WET	Wettzell	151.28	343	ePKPbc	PKiKP	23 39 22.7	+0.1
	baz=18,slow=2.3						
WET				ePKPab	PKPab	23 39 33.8	+0.7
	baz=17,slow=4.2						
KSL	Kastellorizon	151.30	306	P	PKPbc	23 39 21.3	-1.4
GEC2	GERESS Array S	151.33	342	PKPbc	PKPbc	23 39 22.3	-0.1
GEC2				PKPab	PKPab	23 39 33.6	+0.2
GEC2	GERESS Array S	151.33	342	ePKPbc	PKiKP	23 39 22.7	-0.1
	baz=18,slow=2.3						
GEC2				ePKPab	PKPab	23 39 33.9	+0.5
	baz=17,slow=4.2						
GERES	GERESS Array B	151.33	342	PKP	PKPdf	23 39 15.4	-0.4
	comp=Z,1.9nm,0.9s,baz=75,slow=1.5,SNR=12						
GERES				PKPbc	PKPbc	23 39 22.4	-0.1
	comp=Z,11nm,0.6s,baz=33,slow=2.3,SNR=80						
GERES				PKPab	PKPab	23 39 33.7	+0.3
	comp=Z,7.5nm,0.7s,baz=30,slow=4.5,SNR=13						
GERES	GERESS Array B	151.33	342	PKPbc	PKPbc	23 39 22.2	-0.3
GERES				PKPab	PKPab	23 39 33.6	+0.2
BANR	Banloc	151.36	329	⇑P	PKiKP	23 39 22.9	+0.1
EGYH	Egyhazaskeszo	151.37	336	⇑ePKP	PKPdf	23 39 18.1	+2.4
EGYH	Egyhazaskeszo	151.37	336	eP	PKPdf	23 39 19.0	+3.2
ERIK	Erikli-Kesan	151.39	316	P	PKPbc	23 39 22.3	-0.4
DYA	Yadsworthy	151.40	6	eP	PKPbc	23 39 21.2	-1.3
BHOU	Houvegnez	151.43	353	dPKP	PKiKP	23 39 22.8	-0.1
BHOU				dPKPab	PKPab	23 39 33.8	+0.1
SOP	Sopron	151.43	337	⇑ePKP	PKPbc	23 39 22.1	-0.5
SOP	Sopron	151.43	337	eP	PKPbc	23 39 22.6	0.0
BCLA	Clavier	151.44	354	dPKPab	PKPab	23 39 33.4	-0.2
BCLA				dpPKP	pPKPbc	23 41 37.9	+1.4
SNF	Seneffe	151.44	355	dPKPbc	PKPbc	23 39 22.5	0.0
SNF				dPKPab	PKPab	23 39 33.5	-0.2
MILB	Miltenberg	151.45	348	ePKPbc	PKiKP	23 39 23.0	+0.1
	baz=18,slow=2.3						
CONA	Conrad Observa	151.46	339	eP	PKPdf	23 39 16.3	+0.2
	comp=Z,3.9nm,0.9s						
CONA				eP	PKPbc	23 39 22.9	+0.1
	comp=Z,14nm,0.6s,SNR=17						
CONA				eP	PKPab	23 39 34.6	+0.6
	comp=Z,27nm,0.8s						
FETY	Fethiye	151.49	307	P	PKPbc	23 39 22.7	-0.5
FETY	Fethiye	151.49	307	i P	PKPbc	23 39 22.1	-1.1
BGES	Gesves	151.50	354	dPKP	PKPbc	23 39 22.2	-0.4
BGES				dPKPab	PKPab	23 39 33.5	-0.4
MPLH	Magyarpolny	151.50	336	eP	PKPdf	23 39 16.3	+0.3
MPLH	Magyarpolny	151.50	336	⇑ePKP	PKPbc	23 39 22.1	-0.7
MPLH	Magyarpolny	151.50	336	ePKPDF	PKPdf	23 39 14.8	-1.2
MDVR	Moldovita	151.52	328	⇑P	PKPbc	23 39 22.4	-0.6
GELI	Tayfur-Gelibol	151.56	316	i P	PKPbc	23 39 22.5	-0.6
ALN	Alexandroupoli	151.56	317	P	PKPbc	23 39 22.1	-1.0
ALN	Alexandroupoli	151.56	317	PKPab	PKPab	23 39 34.8	+0.3
ENEZ	Enez	151.59	317	P	PKPbc	23 39 22.4	-0.8
ENEZ	Enez	151.59	317	i P	PKPbc	23 39 22.6	-0.6
TIH	Tihany	151.59	335	⇑ePKP	PKPbc	23 39 21.9	-1.0
TIH	Tihany	151.59	335	eP	PKPbc	23 39 23.0	0.0
BMRD	Maredsous	151.60	355	dPKPbc	PKPbc	23 39 22.7	-0.2
BMRD				dPKPab	PKPab	23 39 34.3	-0.1
RDO	Rodhopi	151.74	318	P	PKPbc	23 39 22.8	-0.7
AYDB	Zeytinkoy-Aydi	151.81	310	P	PKPbc	23 39 23.9	-0.1
DOU	Dourbes	151.82	355	dPKP	PKPbc	23 39 23.3	-0.1
MORH	Mrgy, Hungar	151.84	333	⇑P	PKPbc	23 39 22.9	-0.6
MORH	Mrgy, Hungar	151.84	333	eP	PKPdf	23 39 15.9	-0.6
MORH	Mrgy, Hungar	151.84	333	⇑ePKP	PKPbc	23 39 23.0	-0.6
MORH	Mrgy, Hungar	151.84	333	eP	PKPbc	23 39 22.7	-0.8
MORH	Mrgy, Hungar	151.84	333	ePKPDF	PKPdf	23 39 15.6	-0.9
YER	Yerkesik	151.88	309	P	PKPbc	23 39 23.8	-0.3
YER	Yerkesik	151.88	309	eP	PKPbc	23 39 24.0	-0.1
EZN	Ezine	151.96	315	P	PKiKP	23 39 24.6	+0.4
EZN	Ezine	151.96	315	eP	PKPbc	23 39 23.2	-0.8
GADA	Gvkgeada	152.04	316	P	PKPbc	23 39 22.8	-1.4
MOA	Molln	152.05	340	eP	PKPdf	23 39 16.7	-0.1
MOA				eP	PKPbc	23 39 23.6	-0.4
MOA				i P	PKPab	23 39 36.7	+0.3
	comp=Z,19nm,1.1s						
WLF	Walferdange	152.09	353	dPKPbc	PKiKP	23 39 24.3	+0.1
WLF				dPKPab	PKPab	23 39 36.3	-0.2
WLF	Walferdange	152.09	353	ePKPbc	PKiKP	23 39 25.1	+0.9
	baz=18,slow=2.3						
WLF				ePKPab	PKPab	23 39 36.6	+0.2
	baz=17,slow=4.2						
SMTH	Samothraki Isl	152.13	317	P	PKPbc	23 39 23.2	-1.2
BOZC	Bozcaada	152.13	315	P	PKPbc	23 39 23.6	-0.8
FRGS	Fruska Gora	152.15	330	⇑P	PKPbc	23 39 23.9	-0.4
FRGS	Fruska Gora	152.15	330	eP	PKPbc	23 39 23.8	-0.5
KOVH	Kovagotottos	152.16	334	eP	PKPdf	23 39 17.0	0.0
KOVH	Kovagotottos	152.16	334	⇑ePKP	PKPbc	23 39 24.1	-0.2
KOVH	Kovagotottos	152.16	334	ePKPDF	PKPdf	23 39 16.5	-0.5
ARSA	Arzberg	152.16	338	eP	PKPdf	23 39 16.0	-1.0
	comp=Z,0.9nm,0.6s						
ARSA				eP	PKPbc	23 39 23.7	-0.6
ARSA				eP	PKPab	23 39 37.1	+0.2
	comp=Z,8.3nm,0.7s						
MLSB	Milas	152.18	309	i P	PKPbc	23 39 24.3	-0.4
VTS	Vitosha	152.20	323	⇑P	PKPbc	23 39 24.5	-0.2
VTS	Vitosha	152.20	323	⇑PKIKP	PKPbc	23 39 24.5	-0.2
PRK	Paraskevi	152.30	314	P	P

DAVOX Davos/Dischmat 154.23 346 PKP **PKPdf 23 39 20.0 -0.2**
comp=Z,5.4nm,0.7s,baz=261,slow=1.2,SNR=12
DAVOX PKPbc **PKPbc 23 39 29.3 +0.4**
comp=Z,11nm,0.7s,baz=4.2,slow=2.8,SNR=12
DAVOX PKPab **PKPab 23 39 46.5 +0.6**
comp=Z,18nm,0.7s,baz=358,slow=4.4,SNR=14
XOR Xorichti 154.23 317 P **PKiK 23 39 27.5 -1.5**
SANT Santorini 154.25 309 ⇑P **PKiK 23 39 27.9 -1.2**
PHP Peshkopia 154.37 324 P **PKiK 23 39 28.4 -0.8**
PUK Puka 154.41 326 PKPbc **PKiK 23 39 27.7 -1.6**
FNA Florina 154.45 322 P **PKiK 23 39 28.6 -0.8**
FNA Florina 154.45 322 PKIKP **PKiK 23 39 28.7 -0.8**
FNA 23 39 46.7
FNA Florina 154.45 322 PKPbc **PKiK 23 39 28.7 -0.8**
FNA PKPab **PKPab 23 39 46.7 -0.3**
PDG Podgorica 154.46 327 *e*P **PKiK 23 39 28.4 -0.9**
PDG Podgorica 154.46 327 PKPab **PKPab 23 39 47.2 +0.4**
BRY Bratogost 154.46 329 *e*P **PKiK 23 39 28.2 -1.3**
OHR Ohrid 154.56 323 *i* P **PKPab 23 39 47.3 -0.1**
TUE Stuetta 154.64 346 PKPab **PKPab 23 39 48.4 +0.7**
DRME Dracevica, Mon 154.67 327 *e*P **PKPbc 23 39 31.1 +1.3**
VLY Voula,Athens 154.68 314 P **PKiK 23 39 28.9 -1.0**
TREB Trebinje 154.69 329 *e*P **PKiK 23 39 28.4 -1.4**
STON Ston 154.88 330 *e*P **PKiK 23 39 27.7 -2.4**
TIR Tirane 154.91 325 ⇑P **PKPab 23 39 48.3 -0.5**
TIR Tirane 154.91 325 PKIKP **PKiK 23 39 30.1 -0.2**
TIR Tirane 154.91 325 PKPdif **PKiK 23 39 30.1 -0.2**
IDI Anoyia 155.15 307 PKPdf **PKPdf 23 39 21.6 0.0**
KRND KRANIDI 155.36 313 P **PKPab 23 39 49.7 -1.2**
LAKA Lakka 155.66 316 P **PKPab 23 39 52.8 +0.6**
BNI Bardonecchia 156.53 349 PKIKP **PKPdf 23 39 23.7 +0.5**
BNI Bardonecchia 156.53 349 PKPdf **PKPdf 23 39 23.7 +0.5**
AQU L'Aquila 157.14 335 *e*P **PKPab 23 39 53.1 -5.4**
INTR Introdacqua 157.23 334 PKPdf **PKPdf 23 39 23.9 -0.2**
TIP Timpagrande 158.12 325 ⇑P **PKPab 23 39 59.0 -3.9**
ESDC Sonseca Array 161.94 12 PKPab **PKPab 23 40 19.2 -0.2**
comp=Z,6.4nm,1.1s,baz=340,slow=4.4,SNR=15
ESDC Sonseca Array 161.94 12 PKPab **PKPab 23 40 19.7 +0.2**
KEST Kesra 164.44 333 PKPab **PKPab 23 40 31.2 +0.5**
comp=Z,15nm,0.9s,baz=284,slow=4.2,SNR=15
TORD Torodi Ar. Bea 171.13 186 PKP **PKPdf 23 39 35.8 -1.2**
comp=Z,5.2nm,0.8s,baz=328,slow=1.3,SNR=10
TORD PKPab **PKPab 23 40 58.7 -1.8**
comp=Z,3.2nm,0.7s,baz=170,slow=3.9,SNR=6.3

DDA ***26*** *23:36:59.8, 37.°92N×26.°03E, h7km±5km, ML1.0*
ISK 26 23:36:58.1, 37.°74N×26.°83E, h8km, ML1.6/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.31**	**8**	*i* P	Pg	23 37 04.6	+0.3
DGB				*i* S	Sg	23 37 09.7	+1.3
DGB				IAML		23 37 11.0	
	comp=E,25nm,0.2s						
GCAM	**G?zelcaml?**	**0.32**	**98**	*i* P	Pg	23 37 05.0	+0.5
GCAM				*i* S	Sb	23 37 10.3	-1.1
GCAM				IAML		23 37 11.0	
	comp=E,31nm,0.1s						
GCAM				IAML		23 37 15.0	
	comp=N,34nm,0.2s						
GCAM	**G?zelcaml?**	**0.32**	**98**	PG	Pg	23 37 05.0	+0.5
GCAM				SG	Sb	23 37 10.2	-1.2
ZEYE	**Izmir, Urla-Ze**	**0.56**	**333**	*i* P	Pb	23 37 09.5	-0.6
ZEYE				*i* S	Sg	23 37 17.2	+1.0
ZEYE				IAML		23 37 20.0	
	comp=E,20nm,0.3s						
URLA	**Izmir**	**0.64**	**343**	*i* P	Pb	23 37 11.1	-0.5
URLA				*i* S	Sb	23 37 19.9	-0.8
URLA				IAML		23 37 21.0	
	comp=E,9.5nm,0.7s						
URLA				IAML		23 37 24.0	
	comp=N,7.3nm,0.4s						
URLA	**Izmir**	**0.64**	**343**	PG	Pg	23 37 10.8	+0.3
URLA				SG	Sb	23 37 20.3	-0.4
BODT	**Bodrum**	**0.78**	**150**	PG	Pb	23 37 13.7	-0.2
BODT				SG	Sb	23 37 24.8	+0.2
AYDB	**Zeytinkoy-Aydi**	**0.86**	**76**	PG	Pb	23 37 15.1	-0.3
AYDB				SG	Sb	23 37 27.6	+0.4
CHOS	**Chios island**	**0.89**	**317**	PG	Pb	23 37 15.8	0.0
APE	**Apeiranthos**	**1.23**	**237**	PN	Pg	23 37 22.1	+0.3

INET ***26*** *23:39:58.3, 9.°42N×83.°82W, h44km, MW3.2*
UPA 26 23:40:01.0±1.6, 9.°33N×83.°87W, h11km±5km, MW4.0, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	**Durika**	**0.62**	**96**	*e*P	Pg	23 40 13.4	+0.4
DRK0				*i* S	Sb	23 40 23.2	+0.4
HDC	**Heredia**	**0.71**	**340**	⇓*i*P	Pb	23 40 15.8	+0.2
HDC				*i* S	Sn	23 40 26.9	-1.4
BATAN	**Batan**	**0.91**	**32**	⇑*i*P	Pg	23 40 18.4	-0.1
BATAN				*e*S	Sb	23 40 31.5	+0.6
PIRO	**Carate, Puerto**	**1.06**	**150**	*e*P	Pb	23 40 20.5	-0.8
PIRO				*e*S	Sb	23 40 35.2	0.0
BRU2	**Volcan**	**1.28**	**114**	*e*P	Pn	23 40 22.6	-2.4
BRU2				*e*S	Sb	23 40 41.4	-0.3
BC3P	**Paso Ancho**	**1.34**	**112**	*e*P	Pn	23 40 24.9	-1.0
BC3P				*e*S	Sb	23 40 43.4	-0.2
CNI2	**El Empalme, Bo**	**1.38**	**86**	*e*P	Pn	23 40 24.0	-2.3
CNI2				*i* S	Sn	23 40 41.8	-2.8
JTS	**Las Juntas de**	**1.44**	**312**	*e*P	Pn	23 40 25.4	-1.6
JTS				*e*S	Sn	23 40 44.7	-1.2
BCO2	**Palmira**	**1.46**	**114**	*e*P	Pn	23 40 26.1	-1.3
BCO2				*e*S	Sn	23 40 45.8	-0.8
LNBQ3	**Los Naranjos,**	**1.51**	**111**	*e*P	Pn	23 40 26.8	-1.3
LNBQ3				*e*S	Sn	23 40 45.8	-2.1
DVD	**David**	**1.66**	**122**	*e*P	Pn	23 40 29.9	-0.2
DVD				*e*S	Sb	23 40 52.0	-0.4
PEDE3	**Pedregal, Chir**	**1.71**	**123**	*e*P	Pn	23 40 30.4	-0.4
PEDE3				*e*S	Sn	23 40 52.1	-0.5
LOMA3	**Las Lomas, Chi**	**1.71**	**121**	*e*P	Pn	23 40 30.5	-0.3
LOMA3				*e*S	Sb	23 40 53.5	-0.5
CHGR2	**Aguacate**	**1.75**	**103**	*e*S	Sn	23 40 52.2	-1.4
GMAL	**Guarumal, Vera**	**3.03**	**121**	*e*P	Pn	23 40 47.3	-1.7
CACAO	**El Cacao, Vera**	**3.57**	**123**	*e*P	Pn	23 40 56.4	0.0
CACAO				*e*S	Sn	23 41 38.1	-0.5

IDC ***26*** *23:52:17.4±0.5, 18.°14S×174.°57W, h0km, mb4.6/14, mb1 4.9/14, mb1mx4.7/27, mbtmp4.6/14, MS4.7/21, Ms1 4.7/21, ms1mx4.6/28, Error ellipse: s-maj=23.7km s-min=16.6km az=133.0*
NOU ***26*** *23:52:18.9, 17.°98S×174.°00W, h0km, MLv5.3, Tonga Islands*
MOS ***26*** *23:52:20.9±1.7, 18.°20S×174.°32W, h25km, mb5.2/32, Error ellipse: s-maj=10.7km s-min=8.2km az=46.2*
GCMT ***26*** *23:52:23.8±0.1, 18.°14S±0.°01×174.°20W±0.°01, h14km, MW5.4/149, Moment Tensor Solution. s75,c116; s149,c278; Duration: 1⅓2 Moment tensor: Scale 10^17 Nm; Mrr-1.01±.04; Mθθ-0.70±.02; Mφφ1.71±.03; Mrθ0.03±.05; Mθφ0.55±.02; Mφr0.78±.06; Best double couple: M0 1.63200×10^17 NP1:φs33.00000°, δ34.00000°, λ-60.00000°. NP2:φs178.00000°, δ61.00000°, λ-108.00000°. Principal axes: T 2.0230, Plg14.0000°, Azm282.0000°; N -0.7770, Plg16.0000°, Azm187.0000°; P -1.2420, Plg68.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***26*** *23:52:23.8±1.7, 18.°22S±0.°07×174.°24W±0.°07, h35km±5km, mb5.1/207 Error ellipse: s-maj=9.7km s-min=9.2km az=184.0*
ISC 26 23:52:22.9±0.3, 18.°21S±0.°05×174.°20W±0.°04, h35km, n477, σ1⅓49/397, mb5.1/141, MS4.8/27, 33C-12D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.14**	**103**	P	**Pn**	**23 53 20.8**	**-2.8**
	baz=4.2,SNR=24						
NIUE				S	**Sn**	**23 54 06.9**	**-3.9**
	baz=4.2						
NIUE	**Niue**	**4.14**	**103**		**Pn**	**23 53 21.6**	**-2.0**
NIUE				Sn	**Sn**	**23 54 08.7**	**-2.1**
NIUE	**Niue**	**4.14**	**103**	P	**Pn**	**23 53 21.8**	**-1.9**
AFI	**Afiamalu**	**4.87**	**29**	Pn	Pn	23 53 28.9	-4.9
	9.7nm,0.3s,baz=41,slow=9.4,SNR=8.4						
AFI				Sn	**Sn**	**23 54 25.7**	**-3.3**
	46nm,0.3s,baz=63,slow=23,SNR=5.9						
AFI	**Afiamalu**	**4.87**	**29**	P	**Pn**	**23 53 31.6**	**-2.2**
AFI						23 54 22.9	
AFI	**Afiamalu**	**4.87**	**29**		**Pn**	**23 53 31.6**	**-2.2**
AFI				Sn	**Sn**	**23 54 22.9**	**-6.2**
AFI	**Afiamalu**	**4.87**	**29**	P	Pn	23 53 29.1	-4.7
MSVF	**Nonsavu**	**7.40**	**272**	Pn	**Pn**	**23 54 08.7**	**+0.1**
	1.0nm,0.3s,baz=109,slow=14,SNR=11						
MSVF				LR	LR	23 56 33.4	
	comp=Z,37μm,19.9s,baz=85,slow=36						
MSVF	**Nonsavu**	**7.40**	**272**	Pn	**Pn**	**23 54 08.6**	**0.0**
MSVF	**Nonsavu**	**7.40**	**272**	P	**Pn**	**23 54 09.7**	**+1.2**
RAO	**Raoul Island**	**11.51**	**197**	P	**Pn**	**23 55 04.5**	**-0.2**
RAO	**Raoul Island**	**11.51**	**197**	Pn	**Pn**	**23 55 04.5**	**-0.2**
FUNA	**Funafuti**	**11.57**	**325**	Pn	**Pn**	**23 55 08.1**	**+2.3**
RAR	**Rarotonga**	**13.90**	**105**	Pn	Pn	23 55 34.1	-3.5
	2.4nm,0.3s,baz=248,slow=7.3,SNR=5.3						
RAR				LR	LR	23 59 48.4	
	comp=Z,7μm,18.1s,baz=268,slow=32						
KNTN	**Kanton**	**15.53**	**9**		**P**	**23 56 02.8**	**-0.6**
MARNC	**Mare, Loyalty**	**17.04**	**256**	P	**P**	**23 56 20.4**	**+0.4**
MARNC	**Mare, Loyalty**	**17.04**	**256**	P	**P**	**23 56 22.1**	**+2.1**
LIFNC	**LIFOU**	**17.69**	**259**	P	**P**	**23 56 27.8**	**+0.6**
LIFNC				IAmb	IAmb	23 56 33.8	
	comp=Z,261nm,1.2s						
PINNC	**Pines Island,**	**17.75**	**253**	P	**P**	**23 56 28.6**	**+0.7**
PINNC				IAmb	IAmb	23 56 43.7	
	comp=Z,217nm,1.4s						
PINNC	**Pines Island,**	**17.75**	**253**	P	**P**	**23 56 30.1**	**+2.1**
SANVU	**Saraoutou**	**18.02**	**276**		**P**	**23 56 31.3**	**+0.3**
SANVU	**Saraoutou**	**18.02**	**276**	P	**P**	**23 56 33.9**	**+3.0**
YATNC	**Mamie plateau,**	**18.17**	**255**	P	**P**	**23 56 34.8**	**+2.2**
OUENC	**Ouen Island, N**	**18.27**	**254**		**Pn**	**23 56 35.0**	**+1.3**
OUENC				IAmb	IAmb	23 57 02.0	
	comp=Z,166nm,1.5s						
OUENC	**Ouen Island, N**	**18.27**	**254**	P	**Pn**	**23 56 36.5**	**+2.7**
DZM	**Mont Dzumac**	**18.58**	**255**	*e*P	**P**	**23 56 36.7**	**-0.5**
	comp=Z,156nm,1.4s						
DZM				*e*S	**Sn**	**23 59 57.4**	**-7.1**
	comp=Z,1μm,21.1s						
DZM				*e*LR	LR	00 00 54.1	
	comp=Z,14μm,25.1s						
DZM	**Mont Dzumac**	**18.58**	**255**	P	**Pn**	**23 56 38.0**	**+0.4**
DZM	**Mont Dzumac**	**18.58**	**255**	P	**Pn**	**23 56 38.8**	**+1.2**
ONTNC	**Ouen Toro**	**18.61**	**254**	Pn	**Pn**	**23 56 39.2**	**+1.4**
ONTNC				IAmb	IAmb	23 56 57.9	
	comp=Z,182nm,1.4s						
ONTNC	**Ouen Toro**	**18.61**	**254**	P	**Pn**	**23 56 40.1**	**+2.2**
NOUC	**Port Laguerre**	**18.71**	**255**	P	**Pn**	**23 56 41.4**	**+2.2**
KOUNC	**Koumac, New Ca**	**20.43**	**260**	P	Pn	23 57 01.9	+2.3
URZ	**Urewera**	**21.37**	**199**	P	**P**	**23 57 06.0**	**-1.3**
	comp=Z,12nm,0.5s,baz=354,slow=19,SNR=2.8						
URZ	**Urewera**	**21.37**	**199**	P	**P**	**23 57 07.5**	**+0.2**
TARA	**Tarawa**	**23.21**	**326**	P	**P**	**23 57 24.4**	**-2.7**
PAE	**Paea**	**23.42**	**93**	*e*T	T	00 21 05.3	
	comp=Z,31nm,0.3s						
PPT2	**Papeete2**	**23.43**	**92**	*e*LQ	LQ	00 02 06.8	
	comp=Z,4μm,25.8s						
PPT2				*e*LR	LR	00 03 07.7	
	comp=Z,16μm,26.0s						
PPT2	**Papeete2**	**23.43**	**92**	*e*T	T	00 21 06.5	
	comp=Z,30nm,0.3s						
PPT	**Papeete**	**23.43**	**92**	LR	LR	00 04 10.8	
	comp=Z,4μm,19.6s,baz=260,slow=30						
TIAR	**Tiarei**	**23.65**	**92**	*e*T	T	00 21 22.1	
	comp=Z,4.4nm,0.4s						
TBI	**Tubuai**	**23.67**	**107**	*e*LQ	LQ	00 02 15.7	
	comp=Z,2μm,27.5s						
TBI				*e*LR	LR	00 03 20.4	
	comp=Z,13μm,27.8s						
TBI	**Tubuai**	**23.67**	**107**	*e*T	T	00 21 29.8	
	comp=Z,26nm,0.3s						
MEH	**Mehetia**	**24.84**	**93**	*e*T	T	00 22 51.8	
	comp=Z,33nm,0.2s						
TUWZ	**Tuamarina**	**25.27**	**201**	P	**P**	**23 57 46.0**	**+0.1**
PMOR	**Pomariorio Ree**	**25.40**	**87**	*e*T	T	00 23 31.3	
	comp=Z,11nm,0.3s						
BSWZ	**Blackbirch Sta**	**25.55**	**201**	P	**P**	**23 57 50.3**	**+1.8**
VAH	**Vaihoa**	**25.61**	**87**	*e*T	T	00 23 47.9	
	comp=Z,14nm,0.2s						
HNR	**Honiara**	**26.55**	**286**	P	**P**	**23 57 57.4**	**-0.4**
HNR				pmax	pmax		
	comp=Z,301nm,1.3s						
HNR	**Honiara**	**26.55**	**286**	P	**P**	**23 57 57.4**	**-0.4**
LTZ	**Lake Taylor**	**27.05**	**202**	P	**P**	**23 58 02.0**	**0.0**
OXZ	**Oxford**	**27.61**	**202**	P	**P**	**23 58 03.2**	**-3.8**
OXZ				IAmb	IAmb	23 58 07.3	
	comp=Z,41nm,1.0s						
WKZ	**Wanaka**	**30.02**	**204**	P	**P**	**23 58 29.0**	**+0.5**
WHZ	**Wether Hill Ro**	**31.33**	**204**	P	**P**	**23 58 40.9**	**+0.9**
EIDS	**Eidsvold**	**32.95**	**251**	P	**P**	**23 58 52.6**	**-1.8**
	baz=33,SNR=4.5						
EIDS	**Eidsvold**	**32.95**	**251**	P	**P**	**23 58 52.0**	**-2.5**
EIDS				IAmb	IAmb	23 59 03.6	
	comp=Z,37nm,1.2s						
ARMA	**Armidale**	**33.30**	**242**	P	**P**	**23 58 58.0**	**+0.4**
ARMA				IAmb	IAmb	23 59 14.6	
	comp=Z,34nm,1.4s						
TAOE	**Nuku Hiva Isla**	**34.33**	**79**	*e*LR	LR	00 08 01.0	
	comp=Z,6μm,27.1s						
RMQ	**Roma**	**35.14**	**250**	P	**P**	**23 59 10.9**	**-2.6**
	baz=35,SNR=6.4						
PATS	**Pohnpei**	**36.82**	**310**	P	**P**	**23 59 28.0**	**+0.1**
CTAO	**Charters Tower**	**37.35**	**261**	P	**P**	**23 59 31.7**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,21nm,1.0s						
CTAO	**Charters Tower**	**37.35**	**261**	P	**P**	**23 59 31.7**	**-0.8**
CTAO				IAmb	IAmb	23 59 48.4	
	comp=Z,22nm,0.9s						
PMG	**Port Moresby**	**38.47**	**278**	P	**P**	**23 59 42.2**	**+0.3**
PMG				pmax	pmax		
	comp=Z,32nm,1.0s						
PMG	**Port Moresby**	**38.47**	**278**	P	**P**	**23 59 42.2**	**+0.3**
PMG				IAmb	IAmb	00 00 11.2	
	comp=Z,32nm,0.9s						
MANU	**Manus Island**	**40.97**	**289**	P	**P**	**00 00 02.2**	**-0.5**
MANU				IAmb	IAmb	00 00 29.8	
	comp=Z,26nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**41.02**	**332**	T	T	00 44 05.3	
	baz=149,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**41.03**	**332**	T	T	00 44 07.8	
	baz=149,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.04**	**332**	T	T	00 44 04.1	
	baz=149,slow=75,SNR=10						
PTCN	**Pitcairn Island**	**41.41**	**107**	P	**P**	**00 00 07.4**	**+1.1**
H11N3	**WAKE ISLAND Hy**	**42.01**	**333**	T	T	00 44 38.3	
	baz=151,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**42.01**	**333**	T	T	00 44 39.3	
	baz=151,slow=76,SNR=66						
STKA	**Stephens Creek**	**42.02**	**242**	P	**P**	**00 00 07.9**	**-3.3**
	comp=Z,8.1nm,1.0s,baz=86,slow=6.2,SNR=7.0						
STKA				LR	LR	00 14 32.4	
	comp=Z,2μm,21.1s,baz=73,slow=32						
STKA	**Stephens Creek**	**42.02**	**242**	P	**P**	**00 00 08.2**	**-3.0**
	baz=42,SNR=6.9						
STKA	**Stephens Creek**	**42.02**	**242**	P	**P**	**00 00 08.5**	**-2.7**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**42.02**	**242**	P	**P**	**00 00 08.5**	**-2.7**
H11N2	**WAKE ISLAND Hy**	**42.03**	**333**	T	T	00 44 39.9	
	baz=151,slow=76,SNR=28						
BBOO	**Buckleboo**	**46.78**	**242**	P	**P**	**00 00 50.1**	**+0.9**
BBOO				IAmb	IAmb	00 00 52.3	
	comp=Z,23nm,1.1s						
WR0	**Warramunga Arr**	**48.33**	**259**	P	**P**	**00 00 59.1**	**-2.3**
WB0	**Warramunga Arr**	**48.49**	**259**	P	**P**	**00 00 59.5**	**-3.2**
WB0				IAmb	IAmb	00 01 04.4	
	comp=Z,34nm,1.2s						
WB2	**Warramunga Arr**	**48.51**	**259**	IAmb	IAmb	00 01 04.6	
	comp=Z,25nm,1.0s						
WRAB	**Tennant Creek**	**48.51**	**259**	P	**P**	**00 01 01.0**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,69nm,1.4s						
WRAB	**Tennant Creek**	**48.51**	**259**	P	**P**	**00 01 01.0**	**-1.8**
WRA	**Warramunga Arr**	**48.52**	**259**	P	**P**	**00 00 59.7**	**-3.2**
	comp=Z,15nm,1.0s,baz=95,slow=7.0,SNR=26						
WRA	**Warramunga Arr**	**48.52**	**259**	*e*P	**P**	**00 01 02.9**	**0.0**
WRA				pmax	pmax		
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**48.57**	**254**	P	**P**	**00 00 59.8**	**-3.4**
AS31				IAmb	IAmb	00 01 05.9	
	comp=Z,16nm,0.8s						
ASAR	**Alice Springs**	**48.57**	**254**	P	**P**	**00 00 59.8**	**-3.5**
	comp=Z,50nm,0.9s,baz=89,slow=8.3,SNR=128						
ASAR	**Alice Springs**	**48.57**	**254**	P	**P**	**00 01 00.7**	**-2.6**
ASAR	**Alice Springs**	**48.57**	**254**	P	**P**	**00 01 00.7**	**-2.6**
GUMO	**Guam**	**51.27**	**305**	P	**P**	**00 01 22.6**	**-1.1**
GUMO				pmax	pmax		
	comp=Z,23nm,0.9s						
GUMO	**Guam**	**51.27**	**305**	P	**P**	**00 01 22.6**	**-1.1**
GUMO				IAmb	IAmb	00 01 41.9	
	comp=Z,23nm,0.8s						
MTN	**Manton Dam**	**52.79**	**267**	P	**P**	**00 01 33.3**	**-1.9**
MTN				IAmb	IAmb	00 01 38.5	
	comp=Z,20nm,0.8s						
FORT	**Forrest**	**53.51**	**245**	P	**P**	**00 01 37.3**	**-3.0**
WRKA	**Warakurna**	**53.56**	**252**	P	**P**	**00 01 37.9**	**-2.9**
	baz=54,SNR=17						
KNRA	**Kununurra**	**54.44**	**263**	P	**P**	**00 01 44.8**	**-2.5**
	baz=55,SNR=6.8						
KNRA	**Kununurra**	**54.44**	**263**	P	**P**	**00 01 44.8**	**-2.5**
SOEI	**Soe**	**60.08**	**269**	P	**P**	**00 02 26.6**	**-0.6**
SBA	**Scott Base**	**60.40**	**185**	P	**P**	**00 02 29.7**	**+1.4**
SBA				pmax	pmax		
	comp=Z,24nm,1.2s						
SBA	**Scott Base**	**60.40**	**185**	P	**P**	**00 02 29.7**	**+1.4**
SBA				IAmb	IAmb	00 02 39.8	
	comp=Z,24nm,1.1s						
VNDA	**Vanda**	**60.52**	**186**	P	**P**	**00 02 29.9**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=7.9,slow=6.9,SNR=14						
VNDA				LR	LR	00 22 59.7	
	comp=Z,282nm,21.9s,baz=28,slow=30						
VNDA	**Vanda**	**60.52**	**186**	P	**P**	**00 02 29.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,29nm,1.5s						
VNDA	**Vanda**	**60.52**	**186**	P	**P**	**00 02 29.8**	**+0.7**
VNDA				IAmb	IAmb	00 02 30.9	
	comp=Z,29nm,1.5s						
PSA00	**Pilbara Seismi**	**61.71**	**255**	P	**P**	**00 02 36.2**	**-1.9**
PSA00				IAmb	IAmb	00 02 40.8	
	comp=Z,18nm,1.1s						
MJAR	**Matsushiro Arr**	**70.61**	**321**	P	**P**	**00 03 33.0**	**-1.8**
	comp=Z,6.0nm,0.9s,baz=161,slow=5.8,SNR=8.0						
MJAR				LR	LR	00 28 24.0	
	comp=Z,251nm,21.9s,baz=145,slow=31						
MAT	**Matsushiro**	**70.61**	**321**	P	**P**	**00 03 32.9**	**-2.0**
QSPA	**South Pole Qui**	**71.85**	**180**	P	**P**	**00 03 42.2**	**+0.1**
VES	**Vestal, Richgr**	**74.89**	**44**	P	**P**	**00 04 04.2**	**+3.9**
	baz=234						
PETK	**Petropavlovsk-**	**75.07**	**343**	P	**P**	**00 04 00.7**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=151,slow=9.4,SNR=6.9						
PETK				LR	LR	00 34 12.7	
	comp=Z,289nm,19.0s,baz=143,slow=34						
PETK	**Petropavlovsk-**	**75.07**	**343**	P	**P**	**00 04 01.9**	**+1.0**
PETK	**Petropavlovsk-**	**75.07**	**343**	P	**P**	**00 04 01.9**	**+1.0**
ISA	**Isabella, Lake**	**75.19**	**44**	P	**P**	**00 04 03.9**	**+1.8**
ISA				pmax	pmax		
	comp=Z,29nm,1.5s						
ISA	**Isabella, Lake**	**75.19**	**44**	P	**P**	**00 04 03.6**	**+1.5**
	baz=234						
ISA	**Isabella, Lake**	**75.19**	**44**	P	**P**	**00 04 03.9**	**+1.8**
ISA				IAmb	IAmb	00 04 07.2	
	comp=Z,29nm,1.4s						
CMB	**Columbia Colle**	**75.37**	**41**	P	**P**	**00 04 03.9**	**+0.8**
CMB				pmax	pmax		
	comp=Z,12nm,1.2s						
CMB	**Columbia Colle**	**75.37**	**41**	P	**P**	**00 04 03.9**	**+0.8**
YSS	**Yuzh-Sakhalins**	**75.55**	**331**	*i* P	**P**	**00 04 05.1**	**+1.3**
YSS				pmax	pmax		
	comp=Z,58nm,1.6s						
ORV	**Oroville**	**75.62**	**39**	P	**P**	**00 04 05.3**	**+0.9**
ORV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ORV	**Oroville**	**75.62**	**39**	P	**P**	**00 04 05.3**	**+0.9**
WDC	**Whiskeytown Da**	**75.65**	**38**	P	**P**	**00 04 06.3**	**+1.8**
WDC				pmax	pmax		
	comp=Z,41nm,1.5s						
WDC	**Whiskeytown Da**	**75.65**	**38**	P	**P**	**00 04 06.3**	**+1.8**
WDC				IAmb	IAmb	00 04 09.5	
	comp=Z,41nm,1.5s						
N02D	**Trinity Center**	**75.81**	**38**	P	**P**	**00 04 07.4**	**+1.8**
	baz=230						
CWC	**Cottonwood Cre**	**75.90**	**44**	P	**P**	**00 04 07.6**	**+1.3**
	baz=234						
O03E	**Paynes Creek**	**75.90**	**39**	P	**P**	**00 04 08.0**	**+1.9**
	baz=231						
M02C	**Callahan**	**75.99**	**37**	P	**P**	**00 04 08.0**	**+1.4**
	baz=230						
GSC	**Goldstone, Bar**	**76.10**	**45**	P	**P**	**00 04 07.6**	**+0.3**
GSC				pmax	pmax		
	comp=Z,12nm,1.3s						
GSC	**Goldstone, Bar**	**76.10**	**45**	P	**P**	**00 04 07.6**	**+0.3**
HEC	**Hector,Ludlow**	**76.15**	**46**	P	**P**	**00 04 08.4**	**+0.8**
	baz=236						
WAKR	**Walker**	**76.25**	**41**	IAmb	IAmb	00 04 12.6	
	comp=Z,20nm,1.2s						
YBH	**Yreka Blue Hor**	**76.29**	**37**	IAmb	IAmb	00 04 17.7	
	comp=Z,30nm,1.4s						
PNTR	**Pine Nut**	**76.50**	**41**	P	**P**	**00 04 10.9**	**+1.2**
PNTR				IAmb	IAmb	00 04 19.8	
	comp=Z,20nm,1.0s						
VCNR	**Virginia City**	**76.59**	**41**	P	**P**	**00 04 10.5**	**+0.3**
VCNR				IAmb	IAmb	00 04 19.5	
	comp=Z,27nm,1.5s						
HUMO	**Hull Mountain**	**76.71**	**36**	P	**P**	**00 04 11.7**	**+1.1**
HUMO				IAmb	IAmb	00 04 15.8	
	comp=Z,27nm,1.4s						
RYN	**Ryan**	**76.90**	**42**	IAmb	IAmb	00 04 21.3	
	comp=Z,23nm,1.5s			

comp=Z,20nm,1.3s
KNB Kanab 79.73 46 P **P 00 04 28.6 +1.0**
J08A Circle Bar Ran 79.75 38 P **P 00 04 28.4 +0.9**
J08A IAmb IAmb 00 04 36.5
comp=Z,34nm,1.4s
U15A North Rim 79.78 46 P **P 00 04 29.0 +1.0**
SPR3 Spring Creek 3 79.80 43 P **P 00 04 28.0 -0.1**
PSUT Pine Spring 79.85 44 P **P 00 04 28.7 +0.4**
SZCU Shurtz Canyon 79.86 45 P **P 00 04 29.4 +1.1**
WUAZ Wupatki 79.95 47 P **P 00 04 30.2 +1.4**
baz=239
WUAZ Wupatki 79.95 47 P **P 00 04 29.9 +1.1**
BRLK Bradley Lake 79.99 12 P **P 00 04 28.9 +0.6**
BRLK IAmb IAmb 00 04 37.3
comp=Z,21nm,1.1s
LON Longmire 80.02 34 P **P 00 04 28.9 +0.1**
LON pmax pmax
comp=Z,9.0nm,1.3s
LON Longmire 80.02 34 P **P 00 04 28.9 +0.1**
D05A Enumclaw 80.20 33 P **P 00 04 30.3 +0.6**
PKCU Pink Cliffs 80.30 45 P **P 00 04 32.3 +1.4**
PKCU IAmb IAmb 00 04 42.8
comp=Z,39nm,1.4s
G08A Pilot Rock 80.64 36 IAmb IAmb 00 04 41.1
comp=Z,28nm,1.2s
MTPU Mount Pierson 80.70 45 IAmb IAmb 00 04 38.3
comp=Z,30nm,1.5s
B05A Bryant 80.85 32 P **P 00 04 36.0 +2.9**
baz=229
E07A Sunnyside 80.94 35 P **P 00 04 34.8 +1.1**
E07A IAmb IAmb 00 04 42.6
comp=Z,27nm,1.2s
LTY Liberty 80.94 34 P **P 00 04 34.0 +0.2**
HAWA Hanford 81.01 35 IAmb IAmb 00 04 43.7
comp=Z,37nm,1.4s
121A Cookes Peak, D 81.08 52 P **P 00 04 36.1 +1.1**
NJ2 Nanjing 81.26 308 *e*P **P 00 04 38.5 +2.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BMO Blue Mountains 81.32 37 IAmb IAmb 00 04 40.2
comp=Z,22nm,1.4s
E08A Dider Farm, El 81.33 35 P **P 00 04 35.8 +0.1**
E08A IAmb IAmb 00 04 45.3
comp=Z,31nm,1.4s
BELA Belgrano 2 81.33 172 IAmb IAmb 00 04 40.0
comp=Z,22nm,1.2s
DUG Dugway, Tooele 81.43 43 P **P 00 04 37.5 +0.9**
DUG pmax pmax
comp=Z,14nm,1.5s
DUG Dugway, Tooele 81.43 43 P **P 00 04 37.5 +0.9**
baz=238
DUG Dugway, Tooele 81.43 43 P **P 00 04 37.5 +0.9**
GLI Glacier Island 81.78 13 P **P 00 04 39.4 +1.6**
E09A Wood Farm, Sta 81.84 35 P **P 00 04 38.3 -0.1**
E09A IAmb IAmb 00 04 48.3
comp=Z,20nm,1.2s
PMSA Palmer Station 81.93 156 P **P 00 04 39.1 +0.4**
PMSA IAmb IAmb 00 04 40.6
comp=Z,24nm,1.3s
TMUT Trail Mountain 82.01 44 P **P 00 04 40.8 +0.9**
TMUT IAmb IAmb 00 04 44.7
comp=Z,27nm,1.3s
F10A Beach Ranch, E 82.03 36 IAmb IAmb 00 04 48.7
comp=Z,29nm,1.1s
PLID Pearl Lake 82.20 37 IAmb IAmb 00 04 49.3
comp=Z,17nm,1.1s
HLID Hailey 82.27 39 P **P 00 04 41.9 +0.9**
baz=236
HLID Hailey 82.27 39 IAmb IAmb 00 04 51.1
comp=Z,16nm,1.1s
SRU San Rafael Swe 82.37 45 P **P 00 04 42.4 +0.8**
SRU pmax pmax
comp=Z,20nm,1.2s
SRU San Rafael Swe 82.37 45 P **P 00 04 42.4 +0.8**
SRU IAmb IAmb 00 04 52.4
comp=Z,20nm,1.2s
P17A Butcher Ranch, 82.41 44 P **P 00 04 42.9 +1.1**
P17A IAmb IAmb 00 04 52.9
comp=Z,25nm,1.4s
BMRM Bremner River 82.41 14 P **P 00 04 41.3 +0.1**
BMRM IAmb IAmb 00 04 50.9
comp=Z,28nm,1.2s
KLR Kul'dur 82.46 328 *i* P **P 00 04 43.0 +1.4**
KLR pmax pmax
comp=Z,10.0nm,2.0s
LLLB Lillooet 82.48 31 P **P 00 04 41.8 0.0**
LLLB IAmb IAmb 00 04 51.7
comp=Z,25nm,1.4s
MNTX Cornudas Mount 82.51 53 P **P 00 04 43.9 +1.5**
baz=243
MNTX Cornudas Mount 82.51 53 P **P 00 04 43.5 +1.2**
SCM Sheep Creek Mo 82.59 12 IAmb IAmb 00 04 50.0
comp=Z,22nm,1.1s
MA2 Magadan 82.61 343 LR LR 00 37 30.0
comp=Z,160nm,19.9s,baz=162,slow=33
BNM Barren Site 82.69 51 P **P 00 04 44.3 +0.8**
CN2 Changchun 82.75 321 *e*P **P 00 04 44.0 +0.7**
CN2 *e*S **S 00 14 59.0 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,21.0s
TX31 Lajitas Ar. Si 82.80 56 P **P 00 04 45.3 +1.3**
TX32 Lajitas Array 82.80 56 P **P 00 04 45.2 +1.1**
TXAR Lajitas Array 82.80 56 P **P 00 04 45.8 +1.8**
comp=Z,2.8nm,1.0s,baz=224,slow=5.2,SNR=16
TXAR LR LR 00 33 28.6
comp=Z,494nm,21.6s,baz=0.0,slow=30
SNY Shenyang 82.84 318 ⇓P **P 00 04 43.3 -0.4**
SNY S **S 00 15 01.3 +1.6**
SNY pmax pmax
comp=Z,21nm,1.9s
SNY LR LR
comp=Z,260nm,17.1s
SNY LR LR
comp=Z,230nm,15.4s
SNY LR LR
comp=Z,340nm,18.7s
N25K Chitina, Valde 82.98 14 IAmb IAmb 00 04 53.2
comp=Z,14nm,1.1s
PV10 Paradox Valley 83.00 46 P **P 00 04 44.5 -0.5**
PV10 IAmb IAmb 00 04 55.5
comp=Z,21nm,1.0s
PV19 Morning Glory 83.01 46 P **P 00 04 45.7 +0.7**
PV19 IAmb IAmb 00 04 54.4
comp=Z,32nm,1.3s
PV17 East Wray Mesa 83.01 46 P **P 00 04 45.2 +0.2**
PV14 Lion Creek, Pa 83.01 46 IAmb IAmb 00 04 54.4
comp=Z,17nm,1.0s
PV18 Skein Mesa, Pa 83.03 46 P **P 00 04 45.4 +0.3**
PV18 IAmb IAmb 00 04 53.9
comp=Z,12nm,1.0s
PV13 Radium Mtn., P 83.04 46 IAmb IAmb 00 04 49.4
comp=Z,30nm,1.4s
PV16 Nyswonger Mesa 83.05 46 IAmb IAmb 00 04 56.0
comp=Z,28nm,1.2s
PV03 Paradox Valley 83.07 46 IAmb IAmb 00 04 54.1
comp=Z,17nm,1.2s
PV11 David Mesa, Pa 83.08 46 IAmb IAmb 00 04 55.4
comp=Z,25nm,1.1s
PV04 Paradox Valley 83.10 46 IAmb IAmb 00 04 56.2
comp=Z,20nm,1.1s
PV02 Paradox Valley 83.12 46 P **P 00 04 46.2 +0.5**
PV02 IAmb IAmb 00 04 56.4
comp=Z,21nm,1.2s
ANMO Albuquerque 83.18 50 P **P 00 04 46.9 +0.9**
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO Albuquerque 83.18 50 P **P 00 04 46.8 +0.9**
baz=242
ANMO Albuquerque 83.18 50 P **P 00 04 46.9 +0.9**
ANMO IAmb IAmb 00 04 57.2
comp=Z,18nm,1.2s
BARN Barnard Glacie 83.20 15 P **P 00 04 46.4 +0.9**
BARN IAmb IAmb 00 04 52.5
comp=Z,21nm,1.1s
PV01 Paradox Valley 83.20 46 IAmb IAmb 00 04 54.8
comp=Z,13nm,1.0s
PV22 Blue Mesa, Par 83.25 46 P **P 00 04 47.8 +1.5**
PV07 Paradox Valley 83.30 46 P **P 00 04 47.5 +1.0**
PV15 Paradox Valley 83.37 46 P **P 00 04 46.6 -0.3**
PV15 IAmb IAmb 00 04 57.4
comp=Z,13nm,1.0s
NEW Newport 83.45 34 P **P 00 04 47.3 +0.5**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 83.45 34 P **P 00 04 47.3 +0.5**
TRF Thorofare Moun 83.51 11 P **P 00 04 46.4 -0.5**
baz=203
TRF Thorofare Moun 83.51 11 IAmb IAmb 00 05 01.8
comp=Z,20nm,1.2s
J20K Nowinta River 83.58 9 P **P 00 04 46.8 -0.2**
baz=199
RND Reindeer 83.73 11 IAmb IAmb 00 04 50.3
comp=Z,31nm,1.4s
RDMU Red Mountain 83.74 44 IAmb IAmb 00 04 58.9
comp=Z,13nm,1.1s
MCK McKinley 84.01 11 P **P 00 04 48.3 -1.0**
baz=204
MCK McKinley 84.01 11 IAmb IAmb 00 04 58.6
comp=Z,22nm,1.1s
M26K Nabesna, AK 84.04 14 P **P 00 04 49.0 -0.5**
baz=210
HYT Haines Junctio 84.11 17 P **P 00 04 49.5 -0.5**
HYT IAmb IAmb 00 04 57.7
comp=Z,17nm,1.4s
S22A 4UR Ranch, Cre 84.22 47 P **P 00 04 52.7 +1.4**
baz=242
H03S2 Juan Fernandez 84.29 124 T T 01 37 56.8
baz=250,slow=75,SNR=411
H03S1 Juan Fernandez 84.30 124 T T 01 37 57.7
baz=250,slow=75,SNR=369
H03S3 Juan Fernandez 84.31 124 T T 01 37 57.3
baz=250,slow=75,SNR=327
BWN Browne 84.32 11 P **P 00 04 51.2 +0.4**
TPAW Teton Pass 84.35 41 IAmb IAmb 00 05 02.3
comp=Z,24nm,1.2s
MSO Missoula 84.38 37 P **P 00 04 52.4 +0.7**
baz=236
MSO Missoula 84.38 37 IAmb IAmb 00 05 00.5
comp=Z,28nm,1.4s
O20A White River Ci 84.41 45 P **P 00 04 53.4 +1.3**
baz=241
O20A White River Ci 84.41 45 P **P 00 04 52.6 +0.5**
O20A IAmb IAmb 00 05 00.6
comp=Z,18nm,1.2s
H03N2 Juan Fernandez 84.41 123 T T 01 37 54.9
baz=257,slow=73,SNR=135
H03N3 Juan Fernandez 84.41 123 T T 01 38 10.3
baz=257,slow=73,SNR=113
H03N1 Juan Fernandez 84.42 123 T T 01 38 00.5
baz=257,slow=73,SNR=97
IMW Indian Meadow 84.57 40 P **P 00 04 53.5 +0.6**
LOHW Long Hollow 84.63 41 IAmb IAmb 00 05 03.5
comp=Z,14nm,1.1s
QLMT Earthquake Lak 84.76 39 P **P 00 04 55.0 +1.2**
NEA2 Nenana 84.78 11 P **P 00 04 51.7 -1.4**
baz=204
RIDG Independent Ri 84.82 13 P **P 00 04 52.8 -0.6**
baz=208
BW06 Boulder Array 84.86 42 P **P 00 04 54.4 +0.1**
baz=240
BW06 Boulder Array 84.86 42 IAmb IAmb 00 04 57.7
comp=Z,19nm,1.2s
PD31 Pinedale Array 84.86 42 IAmb IAmb 00 04 57.7
comp=Z,17nm,1.2s
PDAR Pinedale Array 84.86 42 P **P 00 04 54.3 -0.1**
comp=Z,6.8nm,1.0s,baz=217,slow=3.7,SNR=20
PDAR LR LR 00 39 03.9
comp=Z,404nm,18.3s,baz=282,slow=33
MAW Mawson 84.90 199 LR LR 00 40 30.6
comp=Z,462nm,19.7s,baz=87,slow=34
MAW Mawson 84.90 199 P **P 00 04 53.6 -0.3**
baz=85,SNR=5.0
DOT Dot Lake 84.90 13 IAmb IAmb 00 04 56.3
comp=Z,25nm,1.4s
MLY Manley 84.90 10 P **P 00 04 52.4 -1.4**
baz=202
MLY Manley 84.90 10 IAmb IAmb 00 05 04.6
comp=Z,16nm,1.4s
HDA Harding Lake 85.00 12 P **P 00 04 53.4 -0.9**
baz=206
HDA Harding Lake 85.00 12 IAmb IAmb 00 05 03.0
comp=Z,17nm,1.0s
BOZ Bozeman (W) 85.05 39 P **P 00 04 55.8 +0.6**
baz=238
BOZ Bozeman (W) 85.05 39 IAmb IAmb 00 05 05.5
comp=Z,17nm,1.1s
CCB Clear Creek Bu 85.05 11 IAmb IAmb 00 05 01.7
comp=Z,15nm,1.0s
YHH Holmes Hill 85.09 40 IAmb IAmb 00 05 07.4
comp=Z,17nm,1.1s
SDCO Great Sand Dun 85.16 48 P **P 00 04 56.9 +0.8**
baz=243
SDCO Great Sand Dun 85.16 48 P **P 00 04 56.1 0.0**
SCRK Sand Creek 85.21 13 P **P 00 04 55.1 -0.4**
baz=209
I23K Minto, Yukon-K 85.24 10 P **P 00 04 54.5 -0.9**
baz=204
I23K Minto, Yukon-K 85.24 10 IAmb IAmb 00 05 09.4
comp=Z,15nm,1.1s
COLA College 85.25 11 P **P 00 04 54.6 -0.9**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 85.25 11 P **P 00 04 54.6 -0.9**
IL31 85.34 11 IAmb IAmb 00 04 58.9
comp=Z,24nm,1.4s
ILAR Eielson Array 85.34 11 P **P 00 04 54.6 -1.3**
comp=Z,1.9nm,0.5s,baz=227,slow=5.5,SNR=25
MSTX Muleshoe 85.47 52 P **P 00 04 58.0 +0.4**
K27K Chicken 85.67 14 P **P 00 04 59.7 +2.1**
baz=210
ISCO Idaho Springs 86.02 46 P **P 00 05 00.6 +0.3**
ISCO pmax pmax
comp=Z,6.0nm,1.4s
ISCO Idaho Springs 86.02 46 P **P 00 05 00.6 +0.3**
RLMT Red Lodge 86.23 40 P **P 00 05 02.3 +1.2**
baz=240
RLMT Red Lodge 86.23 40 IAmb IAmb 00 05 11.6
comp=Z,21nm,1.5s
DAWY Dawson 86.32 15 IAmb IAmb 00 05 08.3
comp=Z,13nm,1.1s
EGAK Eagle 86.52 14 P **P 00 05 02.4 +0.6**
EGAK IAmb IAmb 00 05 10.4
comp=Z,15nm,1.2s
BJI Beijing 86.85 314 P **P 00 05 04.3 +0.3**
BJI pmax pmax
comp=Z,12nm,2.0s
BILL Bilibino 87.18 353⇑*e*P **P 00 05 06.7 +1.7**
BILL *e* 00 08 28.1
BILL *e*PPP PPP 00 10 22.2
BILL pmax pmax
comp=Z,28nm,1.3s
BILL MLR MLR
comp=Z,290nm,19.0s
ABTX Abilene, Hawle 87.31 55 P **P 00 05 07.3 +0.9**
baz=246
ABTX Abilene, Hawle 87.31 55 P **P 00 05 06.7 +0.2**
PLCA Paso Flores 88.19 132 P **P 00 05 11.2 +0.4**
comp=Z,1.8nm,0.8s,baz=254,slow=7.2,SNR=2.9
PLCA LR LR 00 35 32.3
comp=Z,558nm,21.8s,baz=250,slow=29
PLCA Paso Flores 88.19 132 *e*P **P 00 05 12.4 +1.7**
PLCA pmax pmax
comp=Z,2.0nm,0.8s
GSI Gunungsitoli 88.72 272 P **P 00 05 12.9 -0.7**
RSSD Black Hills 89.03 43 P **P 00 05 14.5 -0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 89.03 43 P **P 00 05 14.5 -0.1**
HKT Hockley 89.31 58 P **P 00 05 16.3 +0.5**
HKT pmax pmax
comp=Z,7.0nm,1.2s
HKT Hockley 89.31 58 P **P 00 05 16.3 +0.5**
XAN Xi'an 89.65 306 P **P 00 05 16.5 -1.1**
XAN pmax pmax
comp=Z,8.0nm,1.4s
XAN pmax pmax
comp=Z,310nm,4.9s
SYO Syowa Base 89.71 192⇑*e*P **P 00 05 16.4 -0.7**
VNA3 Neumayer Olymp 90.14 175 P **P 00 05 18.7 -0.5**
SNAA Sanae 90.15 177 P **P 00 05 18.6 -0.7**
SNAA Sanae 90.15 177 *i* P **P 00 05 18.0 -1.3**
SNAA pmax pmax
comp=Z,11nm,1.2s
SNAA Sanae 90.15 177 IAmb IAmb 00 05 19.5
comp=Z,13nm,1.3s
MT01 Popeta 90.28 126 P **P 00 05 21.1 +0.5**
HHC Hu-ho-hao-te 90.38 313 *e*P **P 00 05 24.3 +3.5**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,270nm,5.7s
PHET Kaeng Krachan 90.41 283 P P 00 05 28.7 +7.3
VNA2 Neumayer--Watz 90.62 176 P **P 00 05 21.0 -0.4**
baz=191,slow=3.3
VNA2 Neumayer--Watz 90.62 176 PcP **PcP 00 05 24.0 +1.5**
VNA1 Neumayer--Stat 90.83 175 P **P 00 05 21.9 -0.4**
VNA1 Neumayer--Stat 90.83 175 PcP **PcP 00 05 25.1 +1.7**
INK Inuvik 91.17 14 IAmb IAmb 00 05 26.1
comp=Z,14nm,1.4s
BTO Baotou 91.36 312 *e*P **P 00 05 27.5 +2.1**
BTO S **S 00 16 26.8 +4.7**
BTO LR LR
comp=Z,890nm,18.4s
BTO LR LR
comp=Z,1μm,19.0s
YAK Yakutsk 91.39 337 LR LR 00 43 05.4
comp=Z,63nm,18.9s,baz=95,slow=33
CO02 Combarbal 91.48 123 P **P 00 05 27.2 +0.8**
KMI Kunming 91.56 296 ⇑P **P 00 05 27.8 +1.0**
KMI pP pP 00 05 38.3 +0.6
KMI sP sP 00 05 43.0 +1.4
KMI pmax pmax
comp=Z,10.0nm,1.5s
KMI LR LR
comp=Z,360nm,21.7s
KMI LR LR
comp=Z,490nm,22.6s
KMI LR LR
comp=Z,990nm,24.6s
CO03 El Pedregal 91.86 123 P **P 00 05 28.3 +0.2**
GO04 Tololo Observa 92.03 123 P **P 00 05 28.6 -0.4**
LCO Las Campanas 92.54 122 P **P 00 05 33.6 +2.1**
LCO pmax pmax
comp=Z,22nm,1.1s
LCO Las Campanas 92.54 122 P **P 00 05 33.6 +2.1**
CD2 Chengdu 92.62 302 P **P 00 05 33.3 +1.9**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
MIAR Mount Ida 92.72 55 P **P 00 05 31.6 -0.1**
MIAR pmax pmax
comp=Z,11nm,1.4s
MIAR Mount Ida 92.72 55 P **P 00 05 31.6 -0.1**
MIAR IAmb IAmb 00 05 42.6
comp=Z,11nm,1.4s
CM04 Chiang Mai Arr 92.72 288 P P 00 05 39.5 +7.4
U38A Gravette 92.76 53 P **P 00 05 32.3 +0.5**
CMAR Chiang Mai Arr 92.77 288 P **P 00 05 31.2 -1.1**
comp=Z,0.9nm,0.3s,baz=112,slow=2.4,SNR=1.4
CMAR LR LR 00 43 00.4
comp=Z,358nm,21.7s,baz=159,slow=33
CMAR Chiang Mai Arr 92.77 288 *i* P **P 00 05 36.0 +3.7**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 92.77 288 P **P 00 05 32.7 +0.3**
W39A Magazine 92.78 54 P **P 00 05 33.3 +1.3**
baz=250
W39A Magazine 92.78 54 P **P 00 05 32.5 +0.5**
CMMT Chiang Mai 92.88 289 P P 00 05 40.5 +7.7
CHTO Chiang Mai 92.88 289 P **P 00 05 33.2 +0.4**
CHTO pmax pmax
comp=Z,19nm,1.4s
CHTO Chiang Mai 92.88 289 P P 00 05 40.9 +8.1
CHTO Chiang Mai 92.88 289 P **P 00 05 33.2 +0.4**
YKA Yellowknife Ar 92.97 24 LR LR 00 42 25.5
comp=Z,296nm,19.2s,baz=0.0,slow=32
HHAR Hobbs 93.04 53 P **P 00 05 33.0 -0.2**
HHAR IAmb IAmb 00 05 43.3
comp=Z,7.9nm,1.4s
ECSD EROS Data Cent 93.77 45 P **P 00 05 36.7 +0.3**
baz=248
ECSD EROS Data Cent 93.77 45 IAmb IAmb 00 05 46.1
comp=Z,8.7nm,1.2s
U40A Yellville 93.89 53 P **P 00 05 38.0 +0.9**
baz=250
W41B Gary Mavity, V 93.96 54 P **P 00 05 38.8 +1.4**
baz=251
WHAR Wooly Hollow 93.97 54 P **P 00 05 38.1 +0.7**
LZH Lanzhou 94.27 306 *e*P P 00 05 44.3 +5.2
LZH pP pP 00 05 49.0 -1.0
LZH sP sP 00 05 52.0 -1.9
LZH pmax pmax
comp=Z,10.0nm,1.1s
P38A Dawn 94.49 50 P **P 00 05 39.0 -0.7**
P38A IAmb IAmb 00 05 49.5
comp=Z,9.6nm,1.4s
F33A 5 Mile Ranch, 94.75 43 P **P 00 05 41.1 +0.3**
F33A IAmb IAmb 00 05 50.2
comp=Z,9.3nm,1.2s
R40A Maddies Statio 94.97 51 P **P 00 05 42.0 0.0**
R40A IAmb IAmb 00 05 52.1
comp=Z,12nm,1.2s
LCAR Lake Charles 95.09 54 P **P 00 05 42.0 -0.6**
LCAR IAmb IAmb 00 05 46.4
comp=Z,14nm,1.5s
T42A Van Buren 95.45 53 P **P 00 05 44.5 +0.4**
T42A IAmb IAmb 00 05 54.1
comp=Z,7.9nm,1.1s
AGMN Agassiz Nation 95.91 41 P **P 00 05 45.5 -0.5**
AGMN IAmb IAmb 00 05 54.2
comp=Z,14nm,1.4s
BOD Bodaibo 95.94 329 *e*P P 00 05 35.8 -10
BOD pmax pmax
comp=Z,13nm,1.0s
I37A Lemond, Waseca 96.05 46 P **P 00 05 45.9 -0.8**
F36A Milaca 96.58 44 P **P 00 05 49.3 +0.2**
F36A IAmb IAmb 00 05 58.9
comp=Z,8.2nm,1.1s
ULM Lac du Bonnet 96.58 39 P **P 00 05 51.4 +2.4**
comp=Z,2.4nm,0.9s,baz=229,slow=2.9,SNR=3.4
ULM LR LR 00 45 09.4
comp=Z,618nm,19.2s,baz=268,slow=33
ULM Lac du Bonnet 96.58 39 IAmb IAmb 00 05 52.2
comp=Z,9.0nm,1.3s
SPMN Marine on St. 96.85 45 P **P 00 05 50.0 -0.4**
L40A Anamosa 96.94 48 P **P 00 05 50.6 -0.2**
LPAZ La Paz 99.56 111 LR LR 00 41 03.7
comp=Z,1μm,21.8s,baz=274,slow=29
NRIK Noril'sk 109.81 338*e*P **Pdif 00 06 52.3 +4.8**
NRIK pmax pmax
comp=Z,17nm,1.1s
MKAR Makanchi Array 112.23 314 PKiKP **PKiKP 00 10 53.6 -1.4**
comp=Z,0.6nm,0.7s,baz=126,slow=1.4,SNR=4.0
KURK Kurchatov 114.73 318 *i* PKIKP PKPdf 00 10 57.9 -1.7
KURBB Kurchatov Arra 114.79 318 PKiKP PKPdf 00 10 57.9 -1.7
comp=Z,0.4nm,0.7s,baz=92,slow=2.2,SNR=4.5
BVAR Borovoye Array 119.60 321 PKP **PKPdf 00 11 08.8 -0.2**
comp=Z,0.6nm,0.6s,baz=187,slow=12,SNR=5.3
SVE Sverdlovsk 124.09 327 *e*PKIKP **PKiKP 00 11 18.5 +0.8**
ARU Arti 125.30 327 PKP **PKPdf 00 11 19.7 -0.1**
comp=Z,0.5nm,0.5s
ARU Arti 125.30 327 *i* PKIKP **PKPdf 00 11 17.1 -2.6**
ARU 00 13 06.7
ARU 00 18 25.7
ARU SS SS 00 30 10.6 +5.5
ABKAR Akbulak array 126.84 318 PKPdf **PKPdf 00 11 22.7 -0.2**
ARCES ARCESS Array B 127.27 351 PKP **PKPdf 00 11 23.0 -0.2**
comp=Z,2.1nm,0.8s,baz=270,slow=1.2,SNR=3.5
KLMR Klimovskoe 131.14 339 *e*PKIKP **PKPdf 00 11 27.5 -3.2**
KLMR pmax pmax
comp=Z,17nm,1.6s
KLMR Klimovskoe 131.14 339 *e*PKPdf **PKPdf 00 11 27.6 -3.2**
KLMR AMP 00 11 39.6
comp=Z,17nm,1.6s
OBN Obninsk 136.35 335⇓*e*PKIKP **PKiKP 00 11 42.4 +0.1**
OBN *e* 00 14 22.6
OBN pmax pmax
comp=Z,4.0nm,1.2s
AKASG Malin Array Be 142.60 335 PKP **PKPdf 00 11 51.4 -0.8**
comp=Z,0.3nm,0.4s,baz=37,slow=3.2,SNR=5.1
KMBO Kilima Mbogo 143.58 241 PKP PKPbc 00 11 53.1 +0.3
comp=Z,2.3nm,1.1s,baz=96,slow=5.0,SNR=5.6
SORM Soroca 144.96 333 ⇓P **PKPab 00 11 53.6 -2.1**
SORM Soroca 144.96 333 ⇓PKIKP **PKPab 00 11 53.6 -2.1**
OJC Ojcow 146.16 344 *e*PKP **PKPab 00 12 01.3 +1.2**
KSP Ksiaz 146.39 348 *e*PKP **PKPab 00 12 02.4 +1.5**
CLL Collm 146.49 352 *e*PKPbc **PKPdf 00 11 59.0 +0.1**
comp=Z,13nm,1.1s
CLL *i* PKPbc **PKPbc 00 12 01.0 +0.7**
comp=Z,54nm,1.6s
CLL *i* PKiKP **PKiKP 00 12 04.4 +1.1**
comp=Z,22nm,1.0s
CLL *i* pPKPdf pPKPbc 00 12 11.6 0.0

CLL	**Collm**	**146.49 352**	*e*PKIKP		**PKPdf**	**00 11 59.0 +0.1**
CLL			*i*			00 12 02.2
CLL			*i*			00 12 04.4
CLL			pmax	pmax		
	comp=Z,13nm,1.1s					
BURAR	**Bucovina Array**	**146.65 336**	⇑P		**PKPdf**	**00 12 00.3 +0.8**
BURAR	**Bucovina Array**	**146.65 336**	⇑PKP2		**PKPdf**	**00 12 00.3 +0.8**
OSTC	**Ostas**	**146.67 348**	*e*PKP		**PKPdf**	**00 12 00.0 +0.7**
CHVC	**Chvalec**	**146.68 348**	*e*PKP		**PKPdf**	**00 11 59.3 0.0**
UPC	**Upice**	**146.76 348**	*e*PKP2		**PKiKP**	**00 12 04.5 +0.6**
UPC	**Upice**	**146.76 348**	*e*PKP		**PKiKP**	**00 12 04.5 +0.6**
BRG	**Berggiesshubel**	**146.77 351**	*e*PKP		**PKPdf**	**00 12 00.4 +1.0**
BRG			Amp			00 12 06.8
	comp=Z,79nm,2.0s					
UZH	**Uzhgorod**	**146.83 340**	*e*PKP2		**PKPab**	**00 12 02.9 +0.2**
DPC	**Dobruska-Polom**	**146.85 348**	*e*PKP2		**PKPdf**	**00 12 00.7 +1.0**
DPC	**Dobruska-Polom**	**146.85 348**	*e*PKP		**PKPdf**	**00 12 00.7 +1.0**
TESR	**Tescani**	**146.95 333**	⇑P		**PKPdf**	**00 12 00.3 +0.4**
PVCC	**Panska Ves**	**147.01 350**	*e*PKP2		**PKPdf**	**00 12 01.5 +1.7**
PVCC	**Panska Ves**	**147.01 350**	*e*PKP		**PKPdf**	**00 12 01.5 +1.7**
KRLC	**Kraliky**	**147.01 347**	*e*PKP2		**PKPdf**	**00 12 00.9 +1.0**
KRLC	**Kraliky**	**147.01 347**	*e*PKP		**PKPdf**	**00 12 00.9 +1.0**
MORC	**Moravsky Berou**	**147.12 346**	⇑P		**PKPdf**	**00 12 00.8 +0.7**
MORC	**Moravsky Berou**	**147.12 346**	⇑PKIKP		**PKPdf**	**00 12 00.8 +0.7**
MORC	**Moravsky Berou**	**147.12 346**	*e*PKP		**PKPdf**	**00 11 59.7 -0.4**
BMR	**Baia Mare**	**147.24 338**	⇑P		**PKPdf**	**00 12 01.9 +1.6**
BMR	**Baia Mare**	**147.24 338**	⇑PKP2		**PKPdf**	**00 12 01.9 +1.6**
TPGR	**Topolog**	**147.40 329**	⇑P		**PKPdf**	**00 11 58.0 -2.7**
ARCR	**ARCALIA**	**147.42 336**	⇑P		**PKPbc**	**00 12 03.0 -0.1**
VRI	**Vrincioaia**	**147.42 332**	⇑P		**PKPbc**	**00 12 04.8 +1.6**
VRI	**Vrincioaia**	**147.42 332**	⇑PKP2		**PKPbc**	**00 12 04.8 +1.6**
PLOR	**Plostina**	**147.46 332**	⇓P		**PKPdf**	**00 12 01.9 +1.1**
PLOR	**Plostina**	**147.46 332**	⇓PKIKP		**PKPdf**	**00 12 01.9 +1.1**
PRU	**Pruhonice**	**147.53 349**	*e*PKP2		**PKPdf**	**00 12 02.5 +1.8**
PRU	**Pruhonice**	**147.53 349**	*e*PKP		**PKPdf**	**00 12 02.5 +1.8**
LODK	**Lodwar**	**147.54 247**			**PKPdf**	**00 12 04.0 +2.0**
NKC	**Novy Kostel**	**147.61 352**	*e*PKP2		**PKPab**	**00 12 06.8 +1.0**
NKC	**Novy Kostel**	**147.61 352**	*e*PKP		**PKPab**	**00 12 06.8 +1.0**
OZUR		**147.64 334**	⇓P		**PKPdf**	**00 12 00.3 -0.8**
VRAC	**Vranov**	**147.78 347**	*e*PKP		**PKPdf**	**00 12 00.6 -0.6**
BRTR	**Keskin Array B**	**147.78 318**	PKPbc		**PKPbc**	**00 12 04.0 -0.5**
	comp=Z,2.1nm,0.7s,baz=126,slow=3.7,SNR=10					
BRTR	**Keskin Array B**	**147.78 318**			**PKPdf**	**00 12 03.8 +2.1**
JAVC	**Velka Javorina**	**147.95 345**	*e*PKP		**PKPdf**	**00 12 01.7 +0.2**
BMRD	**Maredsous**	**147.97 1**	*dp*PKPdf		**pPKPdf**	**00 12 12.5 -0.1**
BMRD			*dx*		x	00 12 32.2
CJR	**Cluj-Napoca**	**148.01 337**	⇑P		**PKPbc**	**00 12 04.5 -0.3**
CJR	**Cluj-Napoca**	**148.01 337**	⇑PKP2		**PKPbc**	**00 12 04.5 -0.3**
MLR	**Muntele Rosu**	**148.05 333**	⇑P		**PKPdf**	**00 12 04.0 +2.1**
MLR	**Muntele Rosu**	**148.05 333**	PKP2		**PKPdf**	**00 12 04.0 +2.1**
MLR	**Muntele Rosu**	**148.05 333**			**PKPdf**	**00 12 04.0 +2.1**
KRUC	**Moravsky**	**148.05 347**	*e*PKP		**PKPdf**	**00 12 00.8 -0.8**
PSZ	**Piszkesteto**	**148.21 342**	⇑P		**PKPbc**	**00 12 04.8 -0.6**
PSZ	**Piszkesteto**	**148.21 342**	PKP2		**PKPbc**	**00 12 04.8 -0.6**
PSZ	**Piszkesteto**	**148.21 342**			**PKPbc**	**00 12 04.8 -0.6**
DRGR		**148.28 338**	⇑P		**PKPdf**	**00 12 04.5 +2.3**
DRGR		**148.28 338**	⇑PKP2		**PKPdf**	**00 12 04.5 +2.3**
GRF	**Grafenberg Arr**	**148.29 353**	*e*PKPdf		**PKPbc**	**00 12 05.3 -0.1**
	baz=10.0,slow=1.7					
VOIR		**148.48 334**	⇑P		**PKPbc**	**00 12 05.2 -0.9**
VOIR		**148.48 334**	⇑PKP2		**PKPbc**	**00 12 05.2 -0.9**
KHC	**Kasperske Hory**	**148.52 350**	*e*PKIKP		**PKPdf**	**00 12 03.1 +0.6**
KHC	**Kasperske Hory**	**148.52 350**	*e*PKP		**PKPdf**	**00 12 03.1 +0.6**
WLF	**Walferdange**	**148.62 360**	*d*PKP		**PKPbc**	**00 12 05.5 -0.8**
WLF			*dp*PKPdf		**pPKPdf**	**00 12 13.3 -0.4**
WLF			*dx*		x	00 12 45.7
CKRC	**Cesky Krumlov**	**148.70 349**	*e*PKP		**PKPdf**	**00 12 05.3 +2.6**
GERES	**GERESS Array B**	**148.78 350**	PKPbc		**PKPbc**	**00 12 06.2 -0.6**
	comp=Z,3.1nm,1.0s,baz=48,slow=2.0,SNR=9.7					
GERES	**GERESS Array B**	**148.78 350**			**PKPbc**	**00 12 06.0 -0.9**
SIRR	**Siria**	**149.10 338**	⇑P		**PKPbc**	**00 12 06.4 -1.2**
CONA	**Conrad Observa**	**149.24 347**	*e*P		**PKPbc**	**00 12 06.8 -1.2**
	comp=Z,20nm,1.4s					
AMBH	**Ambrzfalva**	**149.34 340**	*e*PKP		**PKiKP**	**00 12 09.6 +0.3**
MPLH	**Magyarpolny**	**149.55 344**	*e*PKP		**PKPbc**	**00 12 08.9 +0.2**
MOA	**Molin**	**149.64 349**	*e*P		**PKPbc**	**00 12 08.2 -0.7**
	comp=Z,13nm,1.2s					
BZS	**Buzias**	**149.67 338**	⇑P		**PKPdf**	**00 12 03.5 -0.8**
BZS	**Buzias**	**149.67 338**	⇑PKIKP		**PKPdf**	**00 12 03.5 -0.8**
BFO	**Black Forest**	**149.89 357**	PKHKP		**PKPbc**	**00 12 08.4 -1.1**
BFO	**Black Forest**	**149.89 357**			**PKPbc**	**00 12 08.4 -1.1**
ARSA	**Arzberg**	**149.96 347**	*e*P		**PKPbc**	**00 12 09.7 0.0**
	comp=Z,13nm,2.5s					
HERR	**Herculane**	**150.00 336**	⇑P		**PKPdf**	**00 12 07.6 +2.7**
MORH	**Mrgy, Hungar**	**150.12 342**	⇑P		**PKPdf**	**00 12 05.0 0.0**
MDVR	**Moldovita**	**150.35 337**	⇑P		**PKPdf**	**00 12 08.1 +2.6**
KOVH	**Kovagotottos**	**150.39 343**	*e*PKP		**PKPbc**	**00 12 10.2 -0.5**
RETA	**Reutte**	**150.52 353**	*e*P		**PKPbc**	**00 12 11.2 +0.1**
	comp=Z,12nm,1.4s					
KBA	**Koelnbreinsper**	**150.55 349**	*e*P		**PKPbc**	**00 12 12.1 +0.8**
	comp=Z,0.9nm,0.4s					
WATA	**Walderalm**	**150.57 352**	*e*P		**PKPbc**	**00 12 10.4 -0.9**
	comp=Z,13nm,1.4s					
SOKA	**Soboth**	**150.61 347**	*e*P		**PKPbc**	**00 12 10.2 -1.2**
	comp=Z,6.5nm,1.3s					
MOTA	**Moosalm**	**150.62 353**	*e*P		**PKPbc**	**00 12 10.6 -0.9**
	comp=Z,14nm,1.3s					
WTTA	**Wattenberg**	**150.63 352**	*e*P		**PKPbc**	**00 12 11.0 -0.6**
	comp=Z,7.4nm,1.1s					
FRGS	**Fruska Gora**	**150.70 340**	⇑P		**PKPdf**	**00 12 09.1 +3.1**
SQTA	**Sankt Quirin**	**150.73 352**	*e*P		**PKPbc**	**00 12 11.1 -0.6**
	comp=Z,11nm,1.2s					
DAVA	**Damuels**	**150.81 354**	*e*P		**PKPbc**	**00 12 11.9 0.0**
	comp=Z,13nm,1.1s					
OBKA	**Obir**	**150.87 348**	*e*P		**PKPbc**	**00 12 11.2 -0.8**
	comp=Z,3.9nm,1.1s					
MYKA	**Terra Mystica**	**150.93 349**	*e*P		**PKPbc**	**00 12 10.7 -1.4**
	comp=Z,3.6nm,0.7s					
FETA	**Feichten**	**150.98 353**	*e*P		**PKPbc**	**00 12 11.9 -0.5**
	comp=Z,8.9nm,1.3s					
ABTA	**Abfaltersbach**	**151.01 350**	*e*P		**PKPdf**	**00 12 08.9 +2.3**
	comp=Z,6.4nm,0.8s					
VTS	**Vitosha**	**151.52 332**	⇑P		**PKPbc**	**00 12 13.1 -0.6**
VTS	**Vitosha**	**151.52 332**	⇑PKIKP		**PKPbc**	**00 12 13.1 -0.6**
VTS	**Vitosha**	**151.52 332**			**PKPbc**	**00 12 13.0 -0.6**
DIVS	**Divibare**	**151.57 338**			**PKPbc**	**00 12 12.9 -0.7**
TUE	**Stuetta**	**151.67 355**			**PKPbc**	**00 12 13.4 -0.5**
TORD	**Torodi Ar. Bea**	**173.60 141**	PKP		**PKPdf**	**00 12 30.4 +0.8**
	comp=Z,2.3nm,1.0s,baz=326,slow=0.5,SNR=3.9					
TORD			PKPab		**PKPab**	**00 13 59.7 +0.9**
	comp=Z,2.4nm,0.9s,baz=186,slow=7.4,SNR=3.9					
TORD	**Torodi Ar. Bea**	**173.60 141**			**PKPdf**	**00 12 31.2 +1.6**

KLM ***26*** *23:55:36, 0.32N×96.83E, h10km, mb4.8*
DJA ***26*** *23:55:37.3±1.3, 0.7N±3.3°×9.7°E±.7°, h32km±18km, M5.1/13, mb5.1/9, mB5.6/10, MLv5.2/13, Mw(mB)5.1/10, MwMw7.1/1, Mwp6.9/1*
IDC ***26*** *23:55:40.1±0.5, 0.18N×96.89E, h37km±3km, mb4.2/17, mb1 4.3/18, mb1mx4.1/33, mbtmp4.4/18, ML3.3/1, MS3.8/2, Ms1 3.9/2, ms1mx3.6/42, Error ellipse: s-maj=20.7km s-min=10.5km az=49.0*
NEIC ***26*** *23:55:42.1±2.5, 0.42N±0.08×97.0E±0.1, h35km±1km, mb4.9/53, Error ellipse: s-maj=17.5km s-min=12.9km az=255.0*

ISC 26 23:55:40.9±0.4, 0.28N±0.05×96.99E±0.07, h35km, n163, σ1.52/163, mb4.8/56, MS4.3/5, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.17**	**30**		**Pn**	**23 55 58.8**	**-1.9**
GSI	**Gunungsitoli**	**1.17**	**30**	P	**Pn**	**23 55 59.0**	**-1.8**
GSI				S	**Sn**	**23 56 15.7**	**+0.2**
MNSI	**Mandailing Nat**	**2.63**	**79**	P	**Pn**	**23 56 19.2**	**-1.7**
MNSI				S	**Sn**	**23 56 47.7**	**-4.0**
TPTI		**2.96**	**4**	P	**Pn**	**23 56 22.7**	**-2.7**
TPTI				S	**Sn**	**23 56 55.6**	**-4.2**
TSI	**Tuntungan**	**3.56**	**26**	P	**Pn**	**23 56 30.5**	**-3.2**
BKNI	**Bangkinang**	**4.05**	**89**	Pn	**Pn**	**23 56 42.3**	**+1.9**
BKNI	**Bangkinang**	**4.05**	**89**	P	**Pn**	**23 56 38.6**	**-1.8**
RGRI	**Rengat**	**5.38**	**97**	P	**Pn**	**23 56 56.7**	**-2.0**
IPM	**Ipoh**	**5.79**	**44**	P	**Pn**	**23 57 04.0**	**-0.4**
KULM	**Kulim**	**6.17**	**36**	P	**Pn**	**23 57 08.0**	**-1.6**
MASI	**Maura Aman, Be**	**6.25**	**123**	P	**Pn**	**23 57 08.4**	**-2.3**
JRMM	**Jerantut**	**6.54**	**57**	P	**Pn**	**23 57 14.0**	**-0.7**
KSI	**Kapahiang**	**6.83**	**125**	P	**Pn**	**23 57 16.9**	**-1.8**
	257nm,1.0s						
PKDT	**Phuket**	**7.67**	**10**	P	Pn	23 57 36.9	+6.7
PKDT	**Phuket**	**7.67**	**10**	P	Pn	23 57 37.0	+6.8
	4μm27nm,1.0s						
LHSI	**Lahat**	**7.70**	**122**	P	**Pn**	**23 57 28.7**	**-1.9**
	0.7nm2μm187nm,1.1s						
SKLT	**Songkhla**	**7.74**	**28**	P	**Pn**	**23 57 29.5**	**-1.6**
	0.1nm899nm44nm,1.0s						
SKLT	**Songkhla**	**7.74**	**28**	P	**Pn**	**23 57 29.0**	**-2.1**
	899nm44nm,1.0s						
PMBI	**Palembang**	**8.40**	**112**	P	**Pn**	**23 57 38.6**	**-1.7**
MDSI	**Maura Dua**	**8.60**	**124**	P	Pn	23 57 39.7	-3.3
	1μm88nm,0.9s						
SRIT	**Nakonsritamara**	**8.66**	**17**	Pn	**Pn**	**23 57 41.7**	**-2.0**
LWLI	**Liwa**	**8.80**	**127**	P	Pn	23 57 42.2	-3.7
	10μm123nm,0.6s						
KASI	**Kota Agung**	**9.46**	**128**	P	Pn	23 57 49.7	-5.0
	57nm,1.0s						
UTHA	**Uthaitani**	**15.37**	**9**	P	**P**	**23 59 19.0**	**-0.6**
	17nm,0.9s						
UMPA	**Umpang Tak**	**15.93**	**7**	P	**P**	**23 59 26.0**	**+0.3**
	4μm40nm,1.0s						
UMPA	**Umpang Tak**	**15.93**	**7**	P	**P**	**23 59 26.1**	**+0.3**
	1μm10.0nm,1.0s						
CHAI	**Chaiyaphum**	**16.28**	**17**	P	**P**	**23 59 29.2**	**-0.5**
	610nm71nm,1.0s						
CHAI	**Chaiyaphum**	**16.28**	**17**	P	**P**	**23 59 29.3**	**-0.5**
	152nm18nm,1.0s						
PBKT	**Sadao Pong**	**16.65**	**13**		**P**	**23 59 32.5**	**-1.2**
KHON	**Khomkaen**	**16.96**	**20**	P	**P**	**23 59 38.1**	**+0.9**
	16μm29nm,1.1s						
KHON	**Khomkaen**	**16.96**	**20**	P	**P**	**23 59 38.0**	**+0.9**
	4μm7.2nm,1.1s						
PHIT	**Phitsanulok**	**17.13**	**11**	P	**P**	**23 59 39.0**	**-0.1**
	2μm272nm,1.1s						
PHIT	**Phitsanulok**	**17.13**	**11**	P	**P**	**23 59 39.1**	**-0.1**
	590nm67nm,1.1s						
LOEI	**Loei**	**17.62**	**14**	P	P	23 59 57.2	+13
PALK	**Pallekele**	**17.67**	**294**	LR	LR	00 05 38.7	
	comp=Z,456nm,19.3s,baz=221,slow=34						
UTTA	**Uttaradit**	**17.70**	**11**	P	**P**	**23 59 45.4**	**+0.1**
	346nm46nm,0.9s						
UTTA	**Uttaradit**	**17.70**	**11**	P	**P**	**23 59 45.5**	**+0.1**
	86nm11nm,0.9s						
CM05	**Chiang Mai Arr**	**18.11**	**6**	P	**P**	**23 59 50.3**	**+0.4**
	143nm15nm,1.1s						
CM05	**Chiang Mai Arr**	**18.11**	**6**	P	**P**	**23 59 50.4**	**+0.4**
	143nm15nm,1.1s						
CM04	**Chiang Mai Arr**	**18.11**	**6**	P	**P**	**23 59 50.0**	**+0.1**
	220nm27nm,0.9s						
CM04	**Chiang Mai Arr**	**18.11**	**6**	P	**P**	**23 59 50.0**	**+0.1**
	220nm27nm,0.9s						
CM13	**Chiang Mai Arr**	**18.12**	**6**	P	**P**	**23 59 49.8**	**-0.2**
	142nm16nm,0.9s						
CM13	**Chiang Mai Arr**	**18.12**	**6**	P	**Pn**	**23 59 49.0**	**-1.0**
	142nm16nm,0.9s						
CM01	**Chiang Mai Arr**	**18.13**	**6**	P	**P**	**23 59 50.6**	**+0.5**
	205nm26nm,1.0s						
CM01	**Chiang Mai Arr**	**18.13**	**6**	P	**P**	**23 59 50.7**	**+0.6**
	205nm26nm,1.0s						
CM02	**Chiang Mai Arr**	**18.14**	**6**	P	**P**	**23 59 50.3**	**+0.1**
	159nm24nm,1.0s						
CM02	**Chiang Mai Arr**	**18.14**	**6**	P	**P**	**23 59 50.4**	**+0.2**
	159nm24nm,1.0s						
CM09	**Chiang Mai Arr**	**18.15**	**6**	P	**P**	**23 59 50.9**	**+0.6**
	22nm,1.0s						
CM09	**Chiang Mai Arr**	**18.15**	**6**	P	**P**	**23 59 51.0**	**+0.6**
	22nm,1.0s						
CM15	**Chiang Mai Arr**	**18.15**	**6**	P	**P**	**23 59 50.8**	**+0.4**
	23nm,0.9s						
CM15	**Chiang Mai Arr**	**18.15**	**6**	P	**P**	**23 59 50.9**	**+0.5**
	23nm,0.9s						
CM31	**Chiang Mai Arr**	**18.16**	**6**		**Pn**	**23 59 49.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.16**	**6**	P	**Pn**	**23 59 49.3**	**-1.1**
	0.0nm,0.3s,baz=196,slow=11,SNR=25						
CMAR				pP	**pwP**	**00 00 01.3**	**-2.0**
	0.6nm,0.3s,baz=200,slow=10,SNR=9.4						
CMAR				LR	LR	00 07 30.5	
	comp=Z,242nm,19.4s,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**18.16**	**6**	P	**Pn**	**23 59 48.3**	**-2.2**
LAMP	**Lampang**	**18.31**	**8**	P	**P**	**23 59 53.3**	**+1.2**
	651nm20nm,0.7s						
CMMT	**Chiang Mai**	**18.51**	**6**	P	**P**	**23 59 53.7**	**-0.7**
	666nm27nm,1.0s						
CMMT	**Chiang Mai**	**18.51**	**6**	P	**P**	**23 59 53.0**	**-1.4**
	666nm27nm,1.0s						
CHTO	**Chiang Mai**	**18.51**	**6**	P	**P**	**23 59 53.8**	**-0.6**
	547nm27nm,1.1s						
CHTO	**Chiang Mai**	**18.51**	**6**		**P**	**23 59 52.6**	**-1.8**
SLVN	**Son La**	**21.98**	**17**	P	**P**	**00 00 31.2**	**-0.9**
SLVN				IAmb	IAmb	00 00 43.5	
	comp=Z,53nm,1.0s						
KAPI	**Kappang**	**23.33**	**103**	P	**P**	**00 00 44.8**	**-1.5**
	comp=Z,15nm,1.0s,baz=275,slow=4.5,SNR=4.9						
KMI	**Kunming**	**25.31**	**12**	⇑P	**P**	**00 01 07.3**	**+2.7**
KMI				pP	pP	00 01 15.0	+1.8
KMI				sP	sP	00 01 19.5	+2.6
KMI				PP	**PnPn**	**00 01 45.0**	**+4.8**
KMI				S	**S**	**00 05 31.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
KMI				pmax	pmax		
	comp=Z,160nm,5.2s						
KMI				LR	LR		
	comp=N,160nm,14.3s						
KMI				LR	LR		
	comp=E,410nm,13.7s						
KMI				LR	LR		
	comp=Z,430nm,12.5s						
SHL	**Shillong**	**25.61**	**349**	P	**P**	**00 01 07.3**	**-0.1**
H08S2	**Diego Garcia H**	**25.67**	**252**	T	T	00 28 41.8	
	baz=72,slow=75,SNR=426						
H08S3	**Diego Garcia H**	**25.67**	**252**	T	T	00 28 36.7	
	baz=72,slow=75,SNR=504						
H08S1	**Diego Carcia H**	**25.69**	**252**	T	T	00 28 53.6	
	baz=72,slow=75,SNR=499						
GYA	**Guiyang**	**27.64**	**19**	*e*P	P	00 01 36.5	+11
GYA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CD2	**Chengdu**	**31.13**	**11**	P	**P**	**00 02 00.3**	**+3.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TPUB	**Ta-pu**	**32.41**	**43**	P	**P**	**00 02 09.4**	**+1.7**
YULB	**Yu-li**	**32.94**	**44**	P	**P**	**00 02 13.4**	**+1.1**
YULB				IAmb	IAmb	00 02 24.8	
	comp=Z,18nm,0.7s						
SSLB	**Suanglung**	**32.96**	**43**	P	**P**	**00 02 12.6**	**0.0**
SSLB				IAmb	IAmb	00 02 24.8	
	comp=Z,18nm,0.7s						
XAN	**Xi'an**	**35.39**	**17**	P	P	00 02 41.8	+8.3
XAN				pP	sP	00 02 51.5	+5.6
XAN				sP	pwP	00 02 55.3	+6.9
XAN				S	S	00 08 20.5	+15
XAN				sS	ScP	00 08 38.3	-8.2
XAN				pmax	pmax		
	comp=Z,31nm,1.0s						
XAN				pmax	pmax		
	comp=Z,260nm,10.3s						
XAN				LR	LR		
	comp=N,350nm,14.6s						
XAN				LR	LR		
	comp=E,400nm,14.4s						
XAN				LR	LR		
	comp=Z,380nm,13.6s						
LZH	**Lanzhou**	**36.19**	**9**	*e*P	P	00 02 51.0	+11
LZH				pP	sP	00 03 00.5	+7.6
LZH				sP	pwP	00 03 05.0	+10
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				LR	LR		
	comp=N,260nm,12.7s						
LZH				LR	LR		
	comp=E,630nm,17.1s						
LZH				LR	LR		
	comp=Z,260nm,18.7s						
NJ2	**Nanjing**	**37.75**	**31**	*e*P	**P**	**00 02 55.3**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
H01W3	**Cape Leeuwin H**	**38.48**	**157**	T	T	00 44 06.2	
	baz=333,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**38.50**	**157**	T	T	00 44 18.0	
	baz=333,slow=76,SNR=25						
H01W1	**Cape Leeuwin H**	**38.50**	**157**	T	T	00 44 04.0	
	baz=333,slow=76,SNR=27						
GTA	**Gaotai**	**39.02**	**3**	*e*P	P	00 03 16.8	+12
GTA				pP	sP	00 03 25.3	+8.4
GTA				sP	pwP	00 03 30.5	+12
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,110nm,8.4s						
GTA				LR	LR		
	comp=N,200nm,13.9s						
GTA				LR	LR		
	comp=E,280nm,17.1s						
GTA				LR	LR		
	comp=Z,180nm,17.9s						
WRKA	**Warakurna**	**39.38**	**132**	P	**P**	**00 03 07.3**	**-0.1**
	baz=39,SNR=3.2						
NIL	**Nilore**	**39.98**	**328**	P	**P**	**00 03 11.4**	**-0.9**
NIL				IAmb	IAmb	00 03 23.0	
	comp=Z,14nm,0.7s						
WB0	**Warramunga Arr**	**41.71**	**121**	P	**P**	**00 03 24.8**	**-2.0**
WB0				IAmb	IAmb	00 03 26.1	
	comp=Z,33nm,0.8s						
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**00 03 25.7**	**-1.3**
	comp=Z,24nm,0.8s,baz=299,slow=9.1,SNR=50						
WRA				pP	**pP**	**00 03 36.6**	**+0.7**
	comp=Z,4.0nm,0.4s,baz=304,slow=9.0,SNR=5.4						
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**00 03 25.1**	**-1.8**
WB2	**Warramunga Arr**	**41.75**	**121**	P	**P**	**00 03 25.1**	**-2.0**
WB2				IAmb	IAmb	00 03 26.5	
	comp=Z,45nm,0.9s						
BTO	**Baotou**	**41.84**	**15**	*e*P	**P**	**00 03 31.0**	**+3.4**
BTO				S	**S**	**00 09 48.5**	**+5.2**
BTO				LR	LR		
	comp=N,1μm,20.6s						
BTO				LR	LR		
	comp=E,2μm,14.6s						
WR0	**Warramunga Arr**	**41.92**	**121**	P	**P**	**00 03 26.5**	**-2.0**
HHC	**Hu-ho-hao-te**	**42.49**	**16**	*e*P	**P**	**00 03 36.5**	**+3.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,91nm,5.7s						
AS31	**Alice Springs**	**43.02**	**126**	P	**P**	**00 03 35.1**	**-2.3**
ASAR	**Alice Springs**	**43.02**	**126**	P	**P**	**00 03 36.1**	**-1.3**
	comp=Z,4.6nm,0.7s,baz=296,slow=8.2,SNR=14						
ASAR				pP	**pP**	**00 03 47.9**	**+1.5**
	comp=Z,2.6nm,0.9s,baz=290,slow=6.6,SNR=4.9						
WMQ	**Urumqi**	**44.13**	**350**	*e*P	**P**	**00 03 44.8**	**-1.3**
WMQ				pP	sP	00 03 57.3	-1.1
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,8.9s						
PRZ	**Przheval'sk**	**45.22**	**341**	P	**P**	**00 03 54.9**	**0.0**
PRZ				IAmb	IAmb	00 04 08.4	
	comp=Z,36nm,1.5s						
DRK	**Karamyk**	**45.30**	**332**	P	**P**	**00 03 55.2**	**-0.5**
GAR	**Garm**	**45.63**	**331**	P	**P**	**00 03 57.8**	**-0.3**
GAR				IAmb	IAmb	00 04 09.6	
	comp=Z,17nm,0.9s						
CHGR	**Chuyangaron**	**45.94**	**329**	P	**P**	**00 03 59.2**	**-1.4**
INCN	**Inchon**	**46.02**	**33**	P	**P**	**00 04 00.1**	**-1.0**
BOOM	**Boomskoye usch**	**46.09**	**338**	P	**P**	**00 04 02.2**	**+0.4**
BOOM				IAmb	IAmb	00 04 14.1	
	comp=Z,6.6nm,0.8s						
BTK	**Batken**	**46.22**	**332**	P	**P**	**00 04 03.5**	**+0.7**
UOSS	**Minazif**	**46.42**	**305**		**P**	**00 04 04.0**	**-0.4**
KSAR	**Wonju Array Be**	**46.69**	**34**	P	**P**	**00 04 07.6**	**+1.3**
KSRS	**Korea Array**	**46.72**	**34**	P	**P**	**00 04 05.8**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=223,slow=8.0,SNR=8.8						
KSRS				pP	**pP**	**00 04 16.1**	**+0.8**
	comp=Z,9.4nm,0.9s,baz=220,slow=8.1,SNR=10						
KS19	**Wonju Array Si**	**46.72**	**34**	P	**P**	**00 04 06.5**	**-0.1**
KS19				IAmb	IAmb	00 04 22.9	
	comp=Z,14nm,0.9s						
HRA	**Herat**	**46.98**	**320**	P	**P**	**00 04 08.7**	**-0.3**
JMN	**Monobe**	**47.99**	**42**	P	**P**	**00 04 17.3**	**+0.7**
SONM	**Songino Array**	**48.06**	**9**	P	**P**	**00 04 17.3**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=184,slow=9.2,SNR=8.5						
SONM				pP	**sP**	**00 04 28.7**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=190,slow=9.4,SNR=5.9						
SONM				PcP	**PcP**	**00 05 42.5**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=182,slow=5.2,SNR=3.6						
SONM	**Songino Array**	**48.06**	**9**	P	**P**	**00 04 17.0**	**0.0**

ARCES **ARCESS Array B** 83.32 340 P **P** 00 08 03.5 -0.4
comp=Z,6.6nm,1.1s,baz=99,slow=5.6,SNR=4.3
ARCES pP **pP** 00 08 15.2 +2.1
comp=Z,2.8nm,0.7s,baz=102,slow=4.0,SNR=2.7
KRUC Moravsky 83.62 319 *e*P **P** 00 08 05.1 -0.7
CONA Conrad Observa 83.84 318 *e*P **P** 00 08 06.0 -1.1
comp=Z,4.3nm,1.4s
ARSA Arzberg 83.99 317 *e*P **P** 00 08 07.8 0.0
comp=Z,7.7nm,1.7s
SOKA Soboth 84.27 317 *e*P **P** 00 08 08.8 -0.5
comp=Z,2.7nm,0.9s
MYKA Terra Mystica 85.22 317 *e*P **P** 00 08 13.3 -0.7
comp=Z,7.6nm,1.4s
GEC2 GERESS Array S 85.36 319 IAmb IAmb 00 08 26.6
comp=Z,9.9nm,1.2s
GERES GERESS Array B 85.36 319 P **P** 00 08 14.2 -0.6
comp=Z,1.2nm,0.9s,baz=97,slow=5.4,SNR=13
GERES pP **pP** 00 08 25.6 +1.5
comp=Z,3.8nm,1.1s,baz=108,slow=4.3,SNR=8.6
GERES PKKPbc **PKKPbc** 00 26 26.1 +4.8
comp=Z,0.3nm,0.4s,baz=139,slow=11,SNR=5.0
CLL Collm 86.01 321 *e*pP pP 00 08 28.0 +0.9
WTTA Wattenberg 86.63 317 *e*P **P** 00 08 19.5 -1.7
comp=Z,3.3nm,1.0s
RETA Reutte 87.24 317 *e*P **P** 00 08 20.8 -3.2
comp=Z,4.3nm,1.1s
NB2 NORSAR Subarra 87.70 331 P **P** 00 08 24.4 -1.5
comp=Z,15nm,1.4s,baz=95,slow=5.1
NOA NORSAR Array B 87.70 331 P **P** 00 08 25.1 -0.8
comp=Z,2.4nm,0.9s,baz=93,slow=5.0,SNR=4.6
NOA pP **pP** 00 08 36.0 +0.8
comp=Z,3.0nm,1.0s,baz=95,slow=4.8,SNR=5.6
ULM Lac du Bonnet 128.47 11 PKP **PKPdf** 00 14 42.8 -1.4
comp=Z,2.1nm,0.8s,baz=0.4,slow=1.9,SNR=3.4
NVAR Mina Array Bea 129.64 36 PKP **PKPdf** 00 14 48.3 +1.3
comp=Z,1.4nm,0.9s,baz=279,slow=2.1,SNR=6.3
PDAR Pinedale Array 130.95 26 PKP **PKPdf** 00 14 48.6 -0.8
comp=Z,0.2nm,0.4s,baz=297,slow=36,SNR=2.2
NLU North Lily Min 131.97 30 **PKPdf** 00 14 52.0 +0.5
MIAR Mount Ida 143.96 15 PKPab 00 15 10.3 -0.2
CPUP Villa Florida 144.19 222 PKP **PKPab** 00 15 11.4 -0.2
comp=Z,6.6nm,0.8s,baz=140,slow=1.5,SNR=13
CPUP pPKP **pPKPdf** 00 15 22.6 -0.9
comp=Z,4.9nm,0.9s,baz=60,slow=4.2,SNR=4.5
TX31 Lajitas Ar. Si 144.55 32 **PKPab** 00 15 13.1 +0.1
TX32 Lajitas Array 144.55 32 **PKPab** 00 15 12.9 -0.1
TXAR Lajitas Array 144.55 32 PKP **PKPab** 00 15 12.9 -0.1
comp=Z,4.0nm,0.8s,baz=260,slow=1.6,SNR=47
TXAR pPKP **pPKPdf** 00 15 25.0 +0.7
comp=Z,4.9nm,0.9s,baz=247,slow=2.6,SNR=12

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*ATH **27** 00:22:42.8,34°.99N×23°.40E,h73km±3km, ML3.1/10, Error ellipse: s-maj=5.6km s-min=1.6km az=42.0*
*IDC **27** 00:22:43.7±2.6, 35°.11N×23°.40E, h33km±21km, mb3.5/9, mb1 3.5/11, mb1mx3.4/48, mbtmp3.7/11, ML3.3/2, Error ellipse: s-maj=21.2km s-min=20.2km az=6.0*
*THE **27** 00:22:44.9, 34°.94N×23°.25E, h21km±2km, ML3.1/6, Error ellipse: s-maj=2.9km s-min=1.0km az=77.0*
ISC 27 00:22:43.3±1.1, 34°.93N±0°.05×23°.24E±0°.04, h34km±3km, n56, σ1°.60/67, mb3.7/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.48**	**50**	P	**Pn**	**00 22 53.0**	**-0.7**
KNDR				S	**Sn**	**00 23 01.1**	**+0.1**
2μm,0.7s							
GVD	**Gavdhos**	**0.71**	**97**	P	**Pb**	**00 22 58.1**	**+0.9**
GVD				S	**Sn**	**00 23 08.4**	**+1.9**
2μm,0.4s							
GVD	**Gavdhos**	**0.71**	**97**	P	**Pb**	**00 22 58.2**	**+1.0**
GVD				S	**Sn**	**00 23 08.6**	**+2.0**
GVD				AML	AML	00 23 12.6	
comp=E,3841μm,0.5s							
GVD				AML	AML	00 23 16.1	
comp=N,3299μm,0.3s							
GVDS	**Gavdos**	**0.71**	**97**	P	**Pb**	**00 22 57.8**	**+0.6**
GVDS				S	**Sn**	**00 23 07.9**	**+1.3**
comp=N,1μm,0.4s							
IMMV	**Iera Moni Meta**	**0.81**	**49**	P	**Pb**	**00 22 59.3**	**+0.3**
IMMV				S	**Sn**	**00 23 10.6**	**+1.5**
comp=N,1μm,0.6s							
IMMV	**Iera Moni Meta**	**0.81**	**49**	P	**Pb**	**00 22 58.9**	**0.0**
IMMV				S	**Sn**	**00 23 11.2**	**+2.1**
IMMV				AML	AML	00 23 15.7	
comp=N,3421μm,0.7s							
IMMV				AML	AML	00 23 21.4	
comp=E,3012μm,0.9s							
VAM	**Vamos**	**0.92**	**59**	P	**Pb**	**00 23 01.1**	**+0.2**
VAM				S	**Sb**	**00 23 14.8**	**+2.0**
comp=E,1μm,0.7s							
VAM	**Vamos**	**0.92**	**59**	P	**Pb**	**00 23 00.6**	**-0.3**
VAM				S	**Sb**	**00 23 13.2**	**+0.3**
VAM				AML	AML	00 23 18.1	
comp=E,3252μm,0.6s							
VAM				AML	AML	00 23 22.3	
comp=N,2651μm,0.7s							
ANKY	**Antikythira Is**	**0.94**	**3**	P	**Pb**	**00 23 02.2**	**+1.1**
ANKY				S	**Sb**	**00 23 14.8**	**+1.5**
comp=N,1μm,0.7s							
ANKY	**Antikythira Is**	**0.94**	**3**	P	**Pb**	**00 23 02.2**	**+1.1**
ANKY				S	**Sb**	**00 23 15.3**	**+2.0**
ANKY				AML	AML	00 23 21.7	
comp=E,3175μm,0.7s							
ANKY				AML	AML	00 23 26.9	
comp=N,2769μm,0.7s							
PRNS	**Prines Rethymn**	**1.12**	**67**	P	**Pb**	**00 23 03.2**	**-1.0**
SIVA	**Sivas**	**1.30**	**86**	P	**Pb**	**00 23 06.3**	**-0.7**
SIVA				S	**Sb**	**00 23 22.7**	**-0.8**
SIVA				AML	AML	00 23 36.2	
comp=E,2105μm,1.0s							
SIVA				AML	AML	00 23 40.3	
comp=N,1514μm,0.7s							
KTHA	**Kythira Island**	**1.33**	**354**	P	**Pb**	**00 23 07.9**	**+0.2**
KTHA	**Kythira Island**	**1.33**	**354**	P	**Pb**	**00 23 07.5**	**-0.3**
KTHA				AML	AML	00 23 38.5	
comp=N,905μm,0.5s							
KTHA				AML	AML	00 23 40.7	
comp=E,2182μm,0.5s							
IDI	**Anoyia**	**1.40**	**75**	Pg	**Pb**	**00 23 07.8**	**-1.1**
comp=E,5.9nm,0.3s,baz=246,slow=12,SNR=51							
IDI				Lg	Lg	00 23 23.8	
comp=E,12nm,0.3s,baz=292,slow=20,SNR=6.5							
IDI	**Anoyia**	**1.40**	**75**	P	**Pb**	**00 23 07.9**	**-1.0**
IDI	**Anoyia**	**1.40**	**75**	P	**Pb**	**00 23 06.9**	**-2.1**
IDI				AML	AML	00 23 37.0	
comp=N,480μm,0.5s							
IDI				AML	AML	00 23 50.1	
comp=E,361μm,0.8s							
VLI	**Veliai**	**1.80**	**352**	P	**Pb**	**00 23 14.4**	**-1.3**
VLI	**Veliai**	**1.80**	**352**	P	**Pb**	**00 23 14.3**	**-1.3**
VLI				AML	AML	00 23 51.2	
comp=N,740μm,0.9s							
VLI				AML	AML	00 23 51.9	
comp=E,662μm,1.2s							
LAST	**Lasithi**	**1.85**	**82**	P	**Pb**	**00 23 14.5**	**-2.1**
LAST				AML	AML	00 24 05.3	
comp=N,398μm,1.1s							
LAST				AML	AML	00 24 12.4	
comp=E,301μm,1.3s							
NPS	**Neapolis**	**1.98**	**80**	P	**Pb**	**00 23 16.2**	**-2.5**
NPS				AML	AML	00 24 12.3	
comp=E,362μm,1.0s							
NPS				AML	AML	00 24 14.4	
comp=N,309μm,0.9s							
MHLO	**Agia Marina, M**	**2.00**	**28**	P	**Pb**	**00 23 15.6**	**-3.4**
THR3	**Thira Island,**	**2.30**	**49**	P	**Pn**	**00 23 19.4**	**+0.6**
APE	**Apeiranthos**	**2.83**	**40**	P	**Pn**	**00 23 26.8**	**+0.6**
VILL	**Villia**	**3.23**	**1**	P	**Pn**	**00 23 32.6**	**+1.0**
EREA	**Eretria**	**3.53**	**9**	P	**Pn**	**00 23 36.9**	**+1.2**
LKR	**Lokris**	**3.72**	**357**	P	**Pn**	**00 23 40.0**	**+1.7**
KYMI	**Kymi, Euboea I**	**3.76**	**10**	P	**Pn**	**00 23 39.5**	**+0.6**
PSDA	**Pessada-Kefalo**	**3.83**	**327**	P	**Pn**	**00 23 40.6**	**+0.8**
EVR	**Evrytania**	**4.14**	**344**	P	**Pn**	**00 23 46.9**	**+2.7**
AGG	**Agios Georgios**	**4.15**	**350**	P	**Pn**	**00 23 46.0**	**+1.7**
NEO	**Neokhori**	**4.37**	**360**	P	**Pn**	**00 23 48.8**	**+1.5**
XOR	**Xorichti**	**4.43**	**360**	P	**Pn**	**00 23 49.5**	**+1.4**
OHR	**Ohrid**	**6.47**	**343**	*i* Pn	**Pn**	**00 24 17.2**	**+1.1**
STIP	**Stip**	**6.81**	**353**	*i* Pn	**Pn**	**00 24 21.2**	**+0.5**
VAE	**Valguarnera**	**7.57**	**292**	Sn	**Sn**	**00 25 53.7**	**-2.3**
comp=N,0.7nm,0.3s,baz=106,slow=14,SNR=2.1							
STON	**Ston**	**9.03**	**333**	*e*Pn	**Pn**	**00 24 47.9**	**-3.2**
STON				Sn	Sn	00 26 19.8	-12
HVAR	**Hvar**	**9.78**	**329**	*e*Pn	**Pn**	**00 24 58.8**	**-2.7**
HVAR				Sn	Sn	00 26 38.0	-12
MMAI	**Mount Meron Ar**	**10.28**	**97**	Pn	**Pn**	**00 25 06.6**	**-1.9**
comp=N,0.3nm,0.3s,baz=246,slow=11,SNR=1.9							
MMAI				Sn	Sn	00 26 52.6	-10
comp=N,0.3nm,0.3s,baz=301,slow=24,SNR=1.5							
ZIRJ	**Zirje**	**10.51**	**328**	*e*Pn	**Pn**	**00 25 09.1**	**-2.3**
ZIRJ				Sn	Sn	00 26 56.5	-11
MORI	**Morici**	**10.65**	**329**	*e*Pn	**Pn**	**00 25 11.2**	**-2.2**
MORI				Sn	Sn	00 26 59.1	-12
DUGI	**Dugi Otok**	**11.03**	**328**	*e*Pn	**Pn**	**00 25 16.6**	**-2.1**
DUGI				Sn	Sn	00 27 08.1	-13
EIL	**Elat**	**11.21**	**115**	Pn	**Pn**	**00 25 19.4**	**-1.8**
comp=N,0.2nm,0.3s,baz=221,slow=20,SNR=1.7							
EIL				Sn	Sn	00 27 14.2	-11
comp=N,0.1nm,0.3s,baz=54,slow=18,SNR=1.0							
KRLC	**Kraliky**	**15.86**	**345**	*e*P	**Pn**	**00 26 25.4**	**+1.5**
KHC	**Kasperske Hory**	**15.88**	**336**	*e*P	**P**	**00 26 28.9**	**+1.4**
DPC	**Dobruska-Polom**	**16.22**	**344**	*e*P	**P**	**00 26 32.0**	**+0.7**
OSTC	**Ostas**	**16.44**	**344**	*e*P	**P**	**00 26 35.0**	**+1.4**
ESDC	**Sonseca Array**	**22.11**	**290**	P	**P**	**00 27 37.7**	**+2.0**
comp=N,0.3nm,0.8s,baz=87,slow=12,SNR=1.5							
HFS	**Hagfors**	**25.97**	**349**	P	**P**	**00 28 10.8**	**-1.6**
comp=N,1.1nm,0.5s,baz=151,slow=9.1,SNR=8.1							
EKA	**Eskdalemuir Ar**	**27.34**	**326**	P	**P**	**00 28 24.9**	**0.0**
comp=N,1.3nm,0.7s,baz=121,slow=9.2,SNR=1.4							
TORD	**Torodi Ar. Bea**	**29.15**	**227**	P	**P**	**00 28 44.0**	**+2.7**
comp=N,1.0nm,0.5s,baz=28,slow=8.7,SNR=2.5							
ARCES	**ARCESS Array B**	**34.68**	**1**	P	**P**	**00 29 27.8**	**-1.5**
comp=N,2.6nm,0.9s,baz=191,slow=8.9,SNR=5.2							
KMBO	**Kilima Mbogo**	**38.19**	**157**	P	**P**	**00 30 01.1**	**+1.0**
comp=N,0.7nm,0.6s,baz=349,slow=16,SNR=2.3							
MKAR	**Makanchi Array**	**45.22**	**56**	P	**P**	**00 30 55.9**	**-1.2**
comp=N,0.3nm,0.4s,baz=266,slow=8.1,SNR=6.6							
ZALV	**Zalesovo Beam**	**46.30**	**46**	P	**P**	**00 31 03.8**	**-1.6**
comp=N,0.6nm,0.4s,baz=277,slow=9.8,SNR=3.0							
SONM	**Songino Array**	**60.85**	**50**	P	**P**	**00 32 51.7**	**-0.6**
comp=N,0.4nm,0.4s,baz=286,slow=8.0,SNR=3.2							

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*IDC **27** 00:31:33.2±0.7, 52°.25N×169°.52W, h0km, mb4.2/27, mb1 4.4/29, mb1mx4.2/64, mbtmp4.2/29, ML3.9/2, Error ellipse: s-maj=21.5km s-min=13.0km az=170.0*
*MOS **27** 00:31:35.7±1.0, 52°.17N×169°.44W, h28km, mb4.6/28, MS4.5/6, Error ellipse: s-maj=10.1km s-min=6.4km az=93.7*
*AEIC **27** 00:31:37±1.9, 52°.17N±0°.05×169°.38W±0°.07, h22km±5km, Error ellipse: s-maj=7.8km s-min=6.0km az=158.0*
*NEIC **27** 00:31:38.3±1.7, 52°.24N±0°.06×169°.42W±0°.06, h30km±6km, mb4.5/139, ML4.0/45(AEIC), Error ellipse: s-maj=8.6km s-min=5.4km az=163.0*
ISC 27 00:31:38.9±0.5, 52°.26N±0°.07×169°.42W±0°.04, h37km±1km, n448, σ1°.21/431, mb4.5/121, MS4.7/15, 8C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.79**	**25**	P	**Pn**	**00 31 52.9**	**-0.7**
baz=202,SNR=61							
NIKH	**Nikolski High**	**0.79**	**25**		**Pn**	**00 31 52.9**	**-0.7**
NIKH				Sn	**Sn**	**00 32 04.6**	**+0.4**
OKSP	**Okmok Steeple**	**1.21**	**34**		**Pn**	**00 31 59.0**	**-0.3**
OKCE	**Okmok Cone E**	**1.40**	**33**		**Pn**	**00 32 02.3**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.40**	**36**		**Pn**	**00 32 01.8**	**-0.2**
OKNC	**Okmok New Cone**	**1.44**	**33**		**Pn**	**00 32 03.0**	**+0.7**
OKFG	**Magazine Ridge**	**1.47**	**38**		**Pn**	**00 32 02.6**	**-0.3**
OKFG					**Sn**	**00 32 23.5**	**+2.7**
MGOD	**Makushin Gods**	**2.18**	**44**		**Pn**	**00 32 13.0**	**+0.4**
MGOD					**Sn**	**00 32 41.0**	**+2.7**
MSW	**Makushin Switc**	**2.30**	**43**		**Pn**	**00 32 14.8**	**+0.5**
MNAT	**Makushin Natee**	**2.32**	**44**		**Pn**	**00 32 14.6**	**+0.1**
UNV	**Unalaska Valle**	**2.37**	**47**	P	**Pn**	**00 32 15.6**	**+0.4**
baz=227,SNR=31							
UNV	**Unalaska Valle**	**2.37**	**47**		**Pn**	**00 32 15.1**	**-0.1**
UNV					**Sn**	**00 32 44.6**	**+1.7**
MTBL	**Makushin Table**	**2.38**	**43**		**Pn**	**00 32 16.3**	**+0.9**
AKMO	**Akutan Morgan**	**2.75**	**47**		**Pn**	**00 32 22.2**	**+1.7**
AKRB	**Akutan Reef Bi**	**2.75**	**46**		**Pn**	**00 32 22.4**	**+2.0**
ZRO	**Akutan Zero**	**2.77**	**47**		**Pn**	**00 32 21.4**	**+0.7**
AKLV	**Akutan Long Va**	**2.82**	**46**		**Pn**	**00 32 24.2**	**+2.7**
AKGG	**Akutan Green G**	**2.83**	**45**		**Pn**	**00 32 23.9**	**+2.3**
KOFP	**Korovin Flat P**	**2.88**	**272**		**Pn**	**00 32 22.7**	**+0.6**
AKUT	**Akutan**	**2.89**	**48**	Pn	**Pn**	**00 32 23.3**	**+1.0**
KOKL	**Mount Kliuchef**	**2.94**	**273**		**Pn**	**00 32 24.4**	**+1.4**
ATKA	**Atka Island**	**2.94**	**271**	Pn	**Pn**	**00 32 22.7**	**-0.2**
ATKA				Sn	**Sn**	**00 32 56.1**	**-0.9**
ATKA	**Atka Island**	**2.94**	**271**		**Sn**	**00 32 59.1**	**+2.2**
WECS	**Westdahl Cape**	**3.59**	**49**		**Pn**	**00 32 34.7**	**+2.6**
GSTR	**Great Sitkin T**	**4.09**	**270**		**Pn**	**00 32 39.3**	**+0.5**
GSMY	**Great Sitkin M**	**4.09**	**270**		**Pn**	**00 32 39.3**	**+0.4**
GSTD	**Great Sitkin T**	**4.15**	**270**		**Pn**	**00 32 39.9**	**+0.2**
ISLZ	**Isanotski Laza**	**4.21**	**52**		**Pn**	**00 32 42.6**	**+2.1**
FALS	**False Pass**	**4.42**	**52**	Pn	**Pn**	**00 32 44.4**	**+1.1**
ADK	**Adak**	**4.50**	**268**	P	**Pn**	**00 32 44.5**	**+0.1**
ADK						00 33 35.9	
ADK	**Adak**	**4.50**	**268**	Pn	**Pn**	**00 32 44.5**	**+0.1**
ADK				Sn	**Sn**	**00 33 35.9**	**+0.5**
KIWB	**Kanaga Island**	**4.79**	**268**		**Pn**	**00 32 49.0**	**+0.5**
KIKV	**Kanaga Island**	**4.80**	**269**		**Pn**	**00 32 49.3**	**+0.8**
KIMD	**Kanaga Island**	**4.85**	**267**		**Pn**	**00 32 49.6**	**+0.2**
SPIA	**Saint Paul Isl**	**4.95**	**355**	P	**Pn**	**00 32 53.3**	**+2.7**
baz=174							
SPIA	**Saint Paul Isl**	**4.95**	**355**	Pn	**Pn**	**00 32 53.4**	**+2.7**
TAFP	**Tanaga Falls P**	**5.29**	**270**		**Pn**	**00 32 56.0**	**+0.6**
TASE	**Tanaga Southea**	**5.34**	**269**		**Pn**	**00 32 56.8**	**+0.8**
SDPT	**Sand Point**	**6.13**	**56**	P	**Pn**	**00 33 08.2**	**+1.3**
baz=242							
SDPT	**Sand Point**	**6.13**	**56**	Pn	**Pn**	**00 33 07.5**	**+0.6**
CNBA	**Chernabura Isl**	**6.40**	**62**		**Pn**	**00 33 10.3**	**-0.2**
CNBA				Sn	**Sn**	**00 34 19.5**	**-2.6**
CHNA	**Chernabura Isl**	**6.40**	**62**	P	**Pn**	**00 33 10.9**	**+0.4**
baz=250							
CERAA	**Semis' Rag'd T**	**6.73**	**271**		**Pn**	**00 33 16.0**	**+1.0**
CESW	**Semis' Southwe**	**6.80**	**271**		**Pn**	**00 33 17.2**	**+1.2**
AMKA	**Amchitka**	**7.05**	**267**	Pn	**Pn**	**00 33 19.0**	**-0.4**
LSPA	**Little Sitkin**	**7.40**	**272**		**Pn**	**00 33 25.9**	**+1.6**
CHIR	**Chirikof Islan**	**8.87**	**61**	Pn	**Pn**	**00 33 43.7**	**-0.6**
SII	**Sitkinak Islan**	**9.87**	**58**	Pn	**Pn**	**00 33 57.6**	**-0.4**
SMY	**Shemya**	**10.07**	**279**	P	**Pn**	**00 33 59.9**	**-0.8**
SMY	**Shemya**	**10.07**	**279**	Pn	**Pn**	**00 33 59.9**	**-0.8**
OHAK	**Old Harbor**	**10.56**	**56**	P	**Pn**	**00 34 07.2**	**-0.2**
baz=248							
OHAK	**Old Harbor**	**10.56**	**56**	Pn	**Pn**	**00 34 06.8**	**-0.7**
O18K	**Koktuh Hills**	**10.98**	**41**	P	**Pn**	**00 34 13.2**	**-0.1**
baz=232							
KDAK	**Kodiak Island**	**11.12**	**54**	Pn	**Pn**	**00 34 14.1**	**-1.0**
1.7nm,0.3s,baz=234,slow=3.6,SNR=18							
KDAK				Sn	**Sn**	**00 36 12.5**	**-5.5**
0.0nm,0.3s,baz=162,slow=19,SNR=1.4							
KDAK	**Kodiak Island**	**11.12**	**54**	P	**Pn**	**00 34 14.6**	**-0.5**
KDAK	**Kodiak Island**	**11.12**	**54**	P	**Pn**	**00 34 14.9**	**-0.2**
baz=247							
KDAK	**Kodiak Island**	**11.12**	**54**	Pn	**Pn**	**00 34 14.6**	**-0.5**
N18K	**Kilae Creek**	**11.26**	**36**	P	**Pn**	**00 34 18.7**	**+1.7**
baz=227							
GAMB	**Gambell**	**11.61**	**355**	P	**Pn**	**00 34 21.9**	**0.0**
baz=173							
GAMB	**Gambell**	**11.61**	**355**	Pn	**Pn**	**00 34 20.6**	**-1.2**
SVW2	**Sparrevohn**	**11.65**	**35**	Pn	**Pn**	**00 34 24.6**	**+2.2**
N19K	**Bonanza Creek**	**11.86**	**38**	P	**Pn**	**00 34 25.5**	**+0.1**
baz=230							
CNPM	**China Poot**	**12.50**	**47**	Pn	**Pn**	**00 34 34.7**	**+0.6**
ANM	**Nome**	**12.52**	**8**	P	**Pn**	**00 34 35.2**	**+1.0**
baz=191							
L19K	**White Mountain**	**12.66**	**33**	P	**Pn**	**00 34 37.6**	**+1.4**
baz=224,SNR=10							
BRLK	**Bradley Lake**	**12.77**	**47**	Pn	**Pn**	**00 34 37.0**	**-0.8**
BRSE	**Bradley Lake S**	**12.83**	**47**	P	**Pn**	**00 34 38.9**	**+0.4**
baz=242							
TNA	**Tin City**	**13.37**	**3**	Pn	**Pn**	**00 34 48.1**	**+2.4**
SEW	**Seward**	**13.57**	**47**	P	**Pn**	**00 34 48.6**	**0.0**
baz=243							
SEW	**Seward**	**13.57**	**47**		**Pn**	**00 34 48.5**	**0.0**
SKT	**Skwentna**	**13.71**	**38**	P	**Pn**	**00 34 53.5**	**+3.0**
baz=232							
SKT	**Skwentna**	**13.71**	**38**	Pn	**Pn**	**00 34 53.0**	**+2.6**
SUA	**Susitna One**	**13.71**	**40**	P	**Pn**	**00 34 51.2**	**+0.6**
baz=236							
SUA	**Susitna One**	**13.71**	**40**	Pn	**Pn**	**00 34 50.9**	**+0.3**
RC01	**Rabbit Creek A**	**13.92**	**43**	P	**Pn**	**00 34 53.8**	**+0.5**
baz=239							
RC01	**Rabbit Creek A**	**13.92**	**43**	Pn	**Pn**	**00 34 53.4**	**+0.1**
PPLA	**Purkeypile**	**14.05**	**34**	Pn	**P**	**00 34 59.7**	**-2.8**
J20K	**Nowinta River**	**14.35**	**28**	P	**Pn**	**00 35 01.8**	**+2.7**
baz=220							
PWL	**Port Wells**	**14.41**	**45**		**Pn**	**00 34 59.2**	**-0.8**
PMR	**Palmer**	**14.43**	**42**	P	**Pn**	**00 35 01.6**	**+1.4**
PMR	**Palmer**	**14.43**	**42**	Pn	**Pn**	**00 35 01.6**	**+1.4**
SML	**Sawmill**	**14.87**	**42**	Pn	**Pn**	**00 35 06.2**	**0.0**
KTH	**Kantishna Hill**	**14.92**	**33**	Pn	**Pn**	**00 35 07.5**	**+0.6**
GLI	**Glacier Island**	**14.96**	**46**	P	**Pn**	**00 35 06.7**	**-0.7**
baz=244							
GLI	**Glacier Island**	**14.96**	**46**	Pn	**Pn**	**00 35 05.2**	**-2.2**
HIN	**Hinchinbrook I**	**15.03**	**48**	Pn	**Pn**	**00 35 07.1**	**-1.3**
HIN				IAmb	IAmb	00 35 09.5	
comp=Z,58nm,1.3s							
TRF	**Thorofare Moun**	**15.07**	**35**	P	**Pn**	**00 35 09.0**	**0.0**
baz=230							
TRF	**Thorofare Moun**	**15.07**	**35**	Pn	**Pn**	**00 35 10.3**	**+1.3**
FID	**Port Fidalgo**	**15.18**	**47**	Pn	**Pn**	**00 35 08.0**	**-2.3**
FID				IAmb	IAmb	00 35 09.2	
comp=Z,15nm,0.8s							
BPAW	**Bear Paw Mtn.**	**15.26**	**32**	P	**Pn**	**00 35 12.1**	**+0.8**
baz=227,SNR=13							
BPAW	**Bear Paw Mtn.**	**15.26**	**32**	P	**P**	**00 35 14.9**	**-0.9**
BPAW				IAmb	IAmb	00 35 28.9	
comp=Z,11nm,0.7s							
SCM	**Sheep Creek Mo**	**15.29**	**43**	IAmb	IAmb	00 35 12.2	
comp=Z,20nm,0.5s							
EYAK	**Cordova Ski Ar**	**15.43**	**48**	P	**Pn**	**00 35 12.6**	**-1.0**
baz=248							
EYAK	**Cordova Ski Ar**	**15.43**	**48**	Pn	**Pn**	**00 35 11.9**	**-1.7**
WAT6	**Susitna Watana**	**15.51**	**40**	P	**Pn**	**00 35 14.5**	**-0.2**
baz=238							
RND	**Reindeer**	**15.55**	**36**	P	**P**	**00 35 18.2**	**-0.8**
RND				pmax	pmax		
comp=Z,6.0nm,0.9s							
RND	**Reindeer**	**15.55**	**36**		**P**	**00 35 18.2**	**-0.8**
MCK	**McKinley**	**15.72**	**35**	P	**Pn**	**00 35 16.7**	**-0.6**
baz=232							
I21K	**Tanana**	**15.72**	**28**	P	**Pn**	**00 35 16.2**	**-1.1**
baz=223,SNR=8.4							
KLU	**Klutina**	**15.74**	**45**	P	**Pn**	**00 35 15.7**	**-1.9**
baz=244,SNR=16							
KLU	**Klutina**	**15.74**	**45**	IAmb	IAmb	00 35 17.6	
comp=Z,21nm,0.5s							
BWN	**Browne**	**15.81**	**33**	Pn	**Pn**	**00 35 19.1**	**+0.6**
KAIM	**Kayak Island**	**15.84**	**51**	Pn	**Pn**	**00 35 19.3**	**+0.4**
IMAR	**Indian Mountai**	**15.86**	**24**	P	**P**	**00 35 21.7**	**-0.7**
RAGM	**Ragged Mountai**	**15.87**	**49**	Pn	**Pn**	**00 35 19.0**	**-0.2**
RAGM				IAmb	IAmb	00 35 21.1	
comp=Z,70nm,1.5s							
M24K	**Tolsona, Glenn**	**15.90**	**43**	P	**Pn**	**00 35 19.2**	**-0.5**
baz=242							
M24K	**Tolsona, Glenn**	**15.90**	**43**	Pn	**Pn**	**00 35 18.8**	**-0.9**
M24K				IAmb	IAmb	00 35 41.7	
comp=Z,17nm,0.7s							
MLY	**Manley**	**15.98**	**30**	P	**Pn**	**00 35 20.1**	**-0.6**
baz=225,SNR=16							
BMRM	**Bremner River**	**16.11**	**48**	P	**Pn**	**00 35 21.2**	**-1.1**
baz=248							
BMRM	**Bremner River**	**16.11**	**48**		**Pn**	**00 35 21.2**	**-1.1**
BMRM				IAmb	IAmb	00 35 30.5	
comp=Z,16nm,0.8s							
NEA2	**Nenana**	**16.21**	**32**	P	**Pn**	**00 35 23.0**	**-0.5**
baz=230							
NEA2	**Nenana**	**16.21**	**32**	P	**P**	**00 35 25.0**	**-1.3**
N25K	**Chitina, Valde**	**16.36**	**45**	P	**Pn**	**00 35 24.1**	**-1.4**
baz=246,SNR=6.8							
N25K	**Chitina, Valde**	**16.36**	**45**	Pn	**Pn**	**00 35 24.9**	**-0.7**
HARP	**HAARP**	**16.46**	**42**	P	**Pn**	**00 35 25.8**	**-0.9**
baz=243							
I23K	**Minto, Yukon-K**	**16.49**	**31**	P	**Pn**	**00 35 26.2**	**-0.7**
baz=228,SNR=7.7							
I23K	**Minto, Yukon-K**	**16.49**	**31**	P	**P**	**00 35 29.7**	**+0.5**
GLB	**Gilahina Butte**	**16.64**	**46**	P	**Pn**	**00 35 28.3**	**-0.8**
CRQM	**Cirque**	**16.71**	**49**	P	**Pn**	**00 35 30.1**	**0.0**
CRQM				IAmb	IAmb	00 35 31.0	
comp=Z,15nm,0.6s							
MDM	**Murphy Dome**	**16.73**	**32**	P	**P**	**00 35 31.1**	**-0.9**
VRDI	**Verde Repeater**	**16.73**	**47**	Pn	**Pn**	**00 35 29.8**	**-

SNR=5.1
INK Inuvik 23.45 33 P **P 00 36 43.6 -0.9**
comp=Z,4.7nm,0.5s,baz=250,slow=9.4,SNR=26
INK Inuvik 23.45 33 P **P 00 36 44.0 -0.5**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 23.45 33 P **P 00 36 43.3 -1.1**
baz=245,SNR=10
INK Inuvik 23.45 33 P **P 00 36 44.0 -0.5**
C36M Paulatuk 27.04 34 P **P 00 37 17.3 +0.2**
baz=254
C36M Paulatuk 27.04 34 P **P 00 37 17.9 +0.9**
C36M IAmb IAmb 00 37 20.8
comp=Z,3.7nm,0.6s
YKA Yellowknife Ar 30.34 49 P **P 00 37 47.3 +0.8**
comp=Z,1.3nm,0.5s,baz=288,slow=11,SNR=24
TIXI Tiksi 32.81 329 *i* P **P 00 38 09.3 +1.1**
NEW Newport 33.07 76 P **P 00 38 11.5 +0.8**
comp=Z,1.3nm,0.5s,baz=321,slow=6.5,SNR=2.5
NEW Newport 33.07 76 P **P 00 38 10.0 -0.7**
baz=297
NEW Newport 33.07 76 P **P 00 38 10.9 +0.2**
NEW IAmb IAmb 00 38 30.1
comp=Z,3.3nm,1.0s
EDM Edmonton 33.22 66 P **P 00 38 12.3 +0.3**
EDM pmax pmax
comp=Z,6.0nm,0.7s
EDM Edmonton 33.22 66 P **P 00 38 12.3 +0.3**
EDM IAmb IAmb 00 38 14.7
comp=Z,5.9nm,0.7s
YAK Yakutsk 33.22 311 *i* P **P 00 38 13.2 +1.4**
YAK pmax pmax
comp=Z,9.0nm,0.7s
N02D Trinity Center 33.45 91 P **P 00 38 14.2 0.0**
baz=306
PLID Pearl Lake 35.29 80 P **P 00 38 28.5 -1.7**
PLID IAmb IAmb 00 38 31.9
comp=Z,5.8nm,1.1s
MSO Missoula 35.65 76 P **P 00 38 32.6 -0.5**
baz=300
MSO Missoula 35.65 76 P **P 00 38 33.2 +0.1**
AFDM Forest Hills D 35.73 92 P **P 00 38 34.1 +0.2**
AFDM IAmb IAmb 00 39 00.2
comp=Z,2.5nm,0.9s
KLR Kul'dur 36.47 289 *i* P **P 00 38 38.4 -1.6**
KLR pmax pmax
comp=Z,3.0nm,0.6s
HLID Hailey 37.07 81 P **P 00 38 44.8 -0.5**
baz=303
HLID Hailey 37.07 81 P **P 00 38 45.9 +0.6**
H11N2 WAKE ISLAND Hy 37.35 219 T T 01 18 49.2
baz=24,slow=76,SNR=16
H11N3 WAKE ISLAND Hy 37.35 219 T T 01 18 43.6
baz=24,slow=76,SNR=20
H11N1 WAKE ISLAND Hy 37.37 219 T T 01 18 50.6
baz=24,slow=76,SNR=20
EGMT Eagleton 37.53 72 P **P 00 38 49.2 +0.1**
baz=299
BOZ Bozeman (W) 37.65 77 P **P 00 38 50.2 -0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 37.65 77 P **P 00 38 50.5 +0.3**
baz=302
BOZ Bozeman (W) 37.65 77 P **P 00 38 50.2 -0.1**
BOZ IAmb IAmb 00 38 52.5
comp=Z,1.8nm,0.6s
H11S1 WAKE ISLAND Hy 38.53 218 T T 01 20 06.0
baz=23,slow=76,SNR=177
H11S2 WAKE ISLAND Hy 38.55 218 T T 01 19 59.8
baz=23,slow=76,SNR=153
YHH Holmes Hill 38.55 77 P **P 00 38 59.0 +1.0**
YHH IAmb IAmb 00 39 00.4
comp=Z,3.5nm,0.6s
H11S3 WAKE ISLAND Hy 38.55 218 T T 01 20 15.1
baz=23,slow=76,SNR=128
FLWY Flagg Ranch 39.03 78 P **P 00 39 02.8 +0.9**
MJAR Matsushiro Arr 39.66 268 P **P 00 39 07.3 +0.3**
comp=Z,1.1nm,0.5s,baz=44,slow=7.9,SNR=2.1
MAJO Matsushiro 39.66 268 P **P 00 39 06.9 -0.1**
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 39.66 268 P **P 00 39 06.9 -0.1**
MAJO IAmb IAmb 00 39 09.2
comp=Z,4.2nm,0.8s
OSI Osito Audit: C 39.90 96 P **P 00 39 09.9 +0.8**
LAO LASA Array 40.28 72 P **P 00 39 13.0 +0.9**
LAO IAmb IAmb 00 39 14.8
comp=Z,3.4nm,0.8s
SNCC San Nicolas Is 40.34 98 P **P 00 39 11.1 -1.6**
BW06 Boulder Array 40.45 79 P **P 00 39 12.3 -1.5**
baz=305,SNR=5.6
BW06 Boulder Array 40.45 79 IAmb IAmb 00 39 16.1
comp=Z,2.7nm,0.7s
PD31 Pinedale Array 40.45 79 P **P 00 39 13.3 -0.5**
PDAR Pinedale Array 40.45 79 P **P 00 39 14.4 +0.6**
comp=Z,2.0nm,0.5s,baz=298,slow=3.4,SNR=23
PDAR Pinedale Array 40.45 79 P **P 00 39 14.0 +0.2**
SCI2 San Clemente I 41.12 97 P **P 00 39 17.9 -1.1**
baz=314
BOD Bodaibo 42.04 309 *e*P **P 00 39 25.1 -1.2**
BOD pmax pmax
comp=Z,7.0nm,0.6s
O20A White River Ci 42.81 81 P **P 00 39 32.2 -0.9**
baz=308
O20A White River Ci 42.81 81 P **P 00 39 31.8 -1.2**
O20A IAmb IAmb 00 39 48.2
comp=Z,8.9nm,1.1s
PV13 Radium Mtn., P 43.68 84 P **P 00 39 40.5 +0.3**
PV13 IAmb IAmb 00 40 03.1
comp=Z,4.9nm,0.9s
N23A Red Feather La 43.74 79 P **P 00 39 39.9 -0.7**
baz=307
PV01 Paradox Valley 43.85 84 P **P 00 39 42.0 +0.5**
NEEM North Greenlan 45.10 16 *i* P **P 00 39 51.7 +0.6**
NEEM IAmb IAmb 00 39 52.8
comp=Z,6.7nm,0.5s
AGMN Agassiz Nation 45.30 64 P **P 00 39 52.2 -0.5**
baz=304
KSRS Korea Array 45.39 277 P **P 00 39 53.2 -0.2**
comp=Z,2.1nm,0.8s,baz=57,slow=7.7,SNR=9.5
TJN Taejon 46.42 276 *ce*P **P 00 40 01.7 +0.1**
B35A Bob, Littlefor 46.45 63 IAmb IAmb 00 40 03.0
comp=Z,4.5nm,0.6s
NRIK Noril'sk 46.51 332 P **P 00 40 01.7 -0.2**
comp=Z,3.7nm,0.4s,baz=73,slow=7.5,SNR=6.6
NRIK Noril'sk 46.51 332 *i* P **P 00 40 02.4 +0.5**
NRIK pmax pmax
comp=Z,2.0nm,0.5s
T25A Trinidad 47.02 82 P **P 00 40 06.5 -0.1**
baz=310
ANMO Albuquerque 47.21 86 *i* P **P 00 40 08.0 -0.1**
ANMO pmax pmax
comp=Z,6.0nm,4.4s
ECSD EROS Data Cent 47.54 70 P **P 00 40 09.0 -1.3**
baz=307,SNR=5.8
ECSD EROS Data Cent 47.54 70 P **P 00 40 09.9 -0.4**
ECSD IAmb IAmb 00 40 11.1
comp=Z,3.9nm,0.5s
319A Douglas 47.90 91 P **P 00 40 11.2 -2.1**
EYMN Ely 47.90 62 P **P 00 40 11.9 -1.2**
baz=306
EYMN Ely 47.90 62 P **P 00 40 13.4 +0.3**
EYMN IAmb IAmb 00 40 14.5
comp=Z,5.5nm,1.1s
F36A Milaca 48.02 66 P **P 00 40 14.6 +0.6**
F36A IAmb IAmb 00 40 15.5
comp=Z,2.5nm,0.9s
E38A The Farm, Brul 48.67 64 IAmb IAmb 00 40 20.4
comp=Z,3.8nm,0.8s
L34A Svendsen Farm, 48.76 72 P **P 00 40 20.0 +0.2**
SPMN Marine on St. 48.80 66 P **P 00 40 19.4 -0.6**
baz=307
KBS Kingsbay 49.07 360 P **P 00 40 23.3 +1.7**
KBS pmax pmax
comp=Z,11nm,1.4s
KBS Kingsbay 49.07 360 P **P 00 40 23.3 +1.7**
KBS IAmb IAmb 00 40 46.0
comp=Z,11nm,1.4s
SPITS Spitsbergen Ar 49.78 358 P **P 00 40 26.7 -0.3**
comp=Z,1.1nm,0.4s,baz=54,slow=4.2,SNR=14
DAG Danmarks Havn 49.91 8 *i* P **P 00 40 27.4 -0.7**
DAG IAmb IAmb 00 40 29.1
comp=Z,5.6nm,0.7s
DAG Danmarks Havn 49.91 8 *i* P **P 00 40 27.3 -0.7**
DAG pmax pmax
comp=Z,6.0nm,0.7s

MNTX Cornudas Mount 50.07 88 P **P 00 40 29.8 -0.1**
baz=314
MNTX Cornudas Mount 50.07 88 P **P 00 40 30.6 +0.7**
MSTX Muleshoe 50.12 84 P **P 00 40 30.1 -0.3**
baz=313
COWI Conover 50.30 63 P **P 00 40 31.3 -0.1**
COWI IAmb IAmb 00 40 32.4
comp=Z,2.1nm,0.5s
SUMG Summit 50.90 17 *i* P **P 00 40 36.0 0.0**
SUMG IAmb IAmb 00 40 38.1
comp=Z,8.1nm,0.8s
SUMG Summit 50.90 17 *i* P **P 00 40 36.0 0.0**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 50.90 17 P **P 00 40 36.7 +0.7**
ULN Ulaanbaatar 50.96 301 *ce*P **P 00 40 36.9 +0.3**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 50.96 301 P **P 00 40 36.7 +0.1**
ULN IAmb IAmb 00 40 38.4
comp=Z,2.6nm,0.7s
KAN09 Caldwell North 51.13 77 P **P 00 40 36.5 -1.3**
E43A Lone Tree Farm 51.30 62 P **P 00 40 39.2 +0.3**
E43A IAmb IAmb 00 40 45.4
comp=Z,4.5nm,0.8s
SONM Songino Array 51.33 301 P **P 00 40 38.5 -0.8**
comp=Z,1.9nm,0.9s,baz=55,slow=7.3,SNR=10
SONM PcP **PcP 00 41 54.1 +0.4**
comp=Z,0.8nm,0.6s,baz=75,slow=3.8,SNR=4.4
SONM Songino Array 51.33 301 P **P 00 40 39.9 +0.6**
SONM pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 51.33 301 P **P 00 40 39.9 +0.6**
SONM IAmb IAmb 00 40 41.6
comp=Z,7.0nm,1.5s
JFWS Jewell Farm 51.69 67 P **P 00 40 41.9 0.0**
JFWS pmax pmax
comp=Z,4.0nm,0.6s
JFWS Jewell Farm 51.69 67 P **P 00 40 41.1 -0.7**
baz=310
JFWS Jewell Farm 51.69 67 P **P 00 40 41.9 0.0**
JFWS IAmb IAmb 00 40 42.7
comp=Z,3.7nm,0.6s
I42A Draeger Farm, 51.81 65 P **P 00 40 42.5 -0.3**
I42A IAmb IAmb 00 40 49.9
comp=Z,4.2nm,0.6s
DBG Daneborg 52.03 10 *i* P **P 00 40 43.7 -0.3**
DBG IAmb IAmb 00 40 44.9
comp=Z,6.8nm,0.5s
QUOK Quay 52.31 77 P **P 00 40 45.6 -1.0**
QUOK IAmb IAmb 00 41 13.0
comp=Z,6.9nm,0.9s
TX31 Lajitas Ar. Si 52.78 89 P **P 00 40 50.5 +0.3**
TX31 IAmb IAmb 00 41 16.1
comp=Z,7.8nm,0.9s
TX32 Lajitas Array 52.78 89 P **P 00 40 50.5 +0.3**
TX32 IAmb IAmb 00 41 16.1
comp=Z,2.7nm,0.9s
TXAR Lajitas Array 52.78 89 P **P 00 40 50.1 -0.1**
comp=Z,0.9nm,0.6s,baz=305,slow=5.6,SNR=20
TXAR Lajitas Array 52.78 89 P **P 00 40 50.7 +0.4**
TXAR Lajitas Array 52.78 89 P **P 00 40 50.7 +0.4**
P40A Paris 52.84 71 P **P 00 40 49.6 -0.9**
HHC Hu-ho-hao-te 52.93 291 *e*P **P 00 40 52.3 +1.0**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,160nm,6.6s
ICESG Greenland Ices 53.48 20 *i* P **P 00 40 54.4 -0.8**
ICESG IAmb IAmb 00 40 56.8
comp=Z,5.7nm,0.8s
HDIL Hopedale 53.76 69 P **P 00 40 56.8 -0.3**
baz=311
DY2G Dye2 54.02 25 *i* P **P 00 40 59.2 +0.2**
DY2G IAmb IAmb 00 41 00.7
comp=Z,4.8nm,0.6s
W39A Magazine 54.73 76 P **P 00 41 02.6 -1.7**
baz=313
LSQQ Lebel-sur-Quev 54.77 54 P **P 00 41 03.9 -0.5**
baz=311
I49A Point Hope 55.12 62 P **P 00 41 06.1 -1.0**
SFIN Lafayette 55.13 67 P **P 00 41 06.0 -1.1**
baz=312
SFIN Lafayette 55.13 67 P **P 00 41 07.4 +0.3**
SFIN IAmb IAmb 00 41 24.2
comp=Z,6.2nm,1.0s
SCO Scoresbysund 55.34 13 P **P 00 41 09.6 +1.4**
SCO pmax pmax
comp=Z,20nm,1.0s
SCO Scoresbysund 55.34 13 P **P 00 41 09.6 +1.4**
CHGQ Chibougamau 55.47 51 P **P 00 41 08.6 -0.9**
baz=312
SCHQ Schefferville 55.54 43 P **P 00 41 10.5 +0.6**
comp=Z,8.5nm,1.1s,baz=297,slow=6.5,SNR=4.9
SCHQ Schefferville 55.54 43 P **P 00 41 10.7 +0.8**
N47A Urbana 55.58 66 P **P 00 41 09.7 -0.7**
SADO Sadowa 56.53 59 P **P 00 41 19.4 +2.3**
SADO IAmb IAmb 00 41 20.9
comp=Z,7.1nm,1.4s
WCI Wyandotte Cave 57.04 69 P **P 00 41 20.3 -0.6**
baz=313
ZALV Zalesovo Beam 57.48 318 P **P 00 41 23.6 -0.2**
comp=Z,1.4nm,0.5s,baz=48,slow=7.4,SNR=7.8
ZALV Zalesovo Beam 57.48 318 *i* P **P 00 41 24.0 +0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 57.48 318 P **P 00 41 24.3 +0.5**
ACSO Alum Creek Sta 57.54 65 P **P 00 41 24.0 -0.4**
baz=313
WVT Waverly 57.60 72 P **P 00 41 25.9 +1.1**
baz=314
KEV Kevo 57.71 353 P **P 00 41 24.6 -0.4**
KEV pmax pmax
comp=Z,16nm,1.2s
KEV Kevo 57.71 353 P **P 00 41 24.6 -0.4**
ERPA Erie 57.89 61 P **P 00 41 26.1 -0.6**
baz=314
ARCES ARCESS Array B 58.03 354 P **P 00 41 26.9 -0.4**
comp=Z,1.0nm,0.4s,baz=7.0,slow=11,SNR=14
ARCES ARCESS Array B 58.03 354 P **P 00 41 27.7 +0.3**
ARCES pmax pmax
comp=Z,12nm,1.4s
ARCES ARCESS Array B 58.03 354 P **P 00 41 27.7 +0.3**
ARCES IAmb IAmb 00 41 43.4
comp=Z,12nm,1.4s
PLAL Pickwick Lake 58.25 73 P **P 00 41 29.0 -0.4**
PLAL IAmb IAmb 00 41 31.3
comp=Z,2.5nm,0.7s
M54A Oil Creek Stat 58.48 62 P **P 00 41 30.3 -0.6**
baz=314
NACB Ninganchiao 58.50 269 P **P 00 41 31.1 -0.1**
U49A Red Boiling Sp 58.52 70 P **P 00 41 30.9 -0.4**
U49A IAmb IAmb 00 41 50.2
comp=Z,4.2nm,1.1s
N54A Moraine State 58.69 62 P **P 00 41 31.9 -0.5**
baz=314
H57A Richville 58.69 57 P **P 00 41 31.7 -0.6**
baz=314
LVZ Lovozero 58.82 350 *ce*P **P 00 41 35.3 +2.4**
LVZ pmax pmax
comp=Z,29nm,1.7s
LVZ Lovozero 58.82 350 P **P 00 41 32.7 -0.2**
K56A Middlesex 58.91 59 P **P 00 41 33.7 -0.2**
baz=314
I57A Carthage 58.92 57 P **P 00 41 33.4 -0.5**
baz=314
LONY Lake Ozonia 58.99 56 P **P 00 41 34.5 0.0**
baz=314
LONY Lake Ozonia 58.99 56 P **P 00 41 34.5 0.0**
LONY IAmb IAmb 00 41 54.5
comp=Z,5.9nm,1.2s
M55A Ridgway 59.00 61 P **P 00 41 35.3 +0.8**
O54A Avella 59.02 63 P **P 00 41 34.5 -0.1**
J57A Williamstown 59.11 58 P **P 00 41 35.7 +0.5**
L56A Greenwood 59.18 60 P **P 00 41 36.0 +0.3**
L56A IAmb IAmb 00 41 50.6
comp=Z,4.8nm,0.7s
FRNY Flat Rock 59.35 55 P **P 00 41 36.4 -0.4**
FRNY IAmb IAmb 00 41 46.7
comp=Z,2.8nm,1.1s
DGZ Jazzator, Alta 59.40 313 *e*P **P 00 41 38.0 +0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
H59A Cadyville 59.43 56 P **P 00 41 37.3 -0.2**
baz=315
MOQ Mont Orford 59.68 54 P **P 00 41 39.7 +0.4**

TZTN Tazewell 59.78 68 P **P 00 41 39.1 -0.9**
J59A Piesco 59.84 57 P **P 00 41 40.8 +0.5**
J59A IAmb IAmb 00 41 51.0
comp=Z,10.0nm,1.5s
O56A Blue Knob Stat 59.94 62 P **P 00 41 40.5 -0.7**
baz=315
O56A Blue Knob Stat 59.94 62 **P 00 41 40.8 -0.3**
BINY Binghamton 59.97 59 P **P 00 41 40.7 -0.5**
baz=315
BINY Binghamton 59.97 59 P **P 00 41 42.1 +1.0**
BINY IAmb IAmb 00 41 45.0
comp=Z,7.0nm,1.2s
M57A Sunshine Farm, 59.97 60 P **P 00 41 41.3 +0.1**
M57A IAmb IAmb 00 42 04.6
comp=Z,6.0nm,1.1s
D62A Allapoint, All 59.98 51 P **P 00 41 40.7 -0.5**
baz=316
D62A Allapoint, All 59.98 51 P **P 00 41 41.9 +0.7**
D62A IAmb IAmb 00 41 52.3
comp=Z,4.4nm,1.1s
H60A Morristown 59.99 55 P **P 00 41 41.8 +0.5**
baz=315
CPCT Cooper Cave 59.99 70 P **P 00 41 40.8 -0.6**
CPCT IAmb IAmb 00 41 47.9
comp=Z,7.6nm,1.3s
SSPA Standing Stone 60.05 61 P **P 00 41 41.0 -0.8**
baz=315
SSPA Standing Stone 60.05 61 P **P 00 41 41.8 0.0**
S54A Dingess, Beckl 60.16 66 P **P 00 41 42.6 -0.1**
S54A IAmb IAmb 00 41 44.5
comp=Z,5.2nm,0.8s
F62A Pittston Farm, 60.39 52 P **P 00 41 43.7 -0.3**
baz=316
D63A Stockholm 60.47 50 P **P 00 41 44.1 -0.4**
baz=316
R55A Marlinton 60.49 65 P **P 00 41 45.5 +0.6**
R55A IAmb IAmb 00 41 45.7
comp=Z,7.1nm,1.2s
G62A West of Eustis 60.60 53 P **P 00 41 45.0 -0.4**
baz=316
BORG Borgarnes 60.74 15 P **P 00 41 47.7 +1.6**
BORG pmax pmax
comp=Z,40nm,1.4s
BORG Borgarnes 60.74 15 P **P 00 41 47.6 +1.6**
E63A Oxbow 60.76 51 P **P 00 41 46.0 -0.6**
E63A IAmb IAmb 00 41 57.5
comp=Z,4.4nm,1.0s
E64A Bridgewater 61.05 51 P **P 00 41 48.2 -0.3**
baz=316
K61A Williamstown 61.05 57 P **P 00 41 48.4 -0.2**
baz=316
BLA Blacksburg 61.08 66 P **P 00 41 48.6 -0.3**
baz=315
F64A Sherman 61.20 51 P **P 00 41 49.0 -0.5**
baz=316
F64A Sherman 61.20 51 P **P 00 41 49.9 +0.4**
F64A IAmb IAmb 00 41 52.8
comp=Z,9.4nm,1.4s
MVL Millersville 61.33 61 P **P 00 41 50.8 +0.3**
MVL IAmb IAmb 00 41 52.2
comp=Z,10nm,1.5s
T57A Hurt 61.89 65 P **P 00 41 54.8 +0.5**
T57A IAmb IAmb 00 42 22.9
comp=Z,5.8nm,1.1s
HODGE Hodges 62.17 69 P **P 00 41 55.4 -0.8**
HODGE IAmb IAmb 00 42 09.8
comp=Z,6.2nm,1.2s
JSC Jenkinsville 62.70 69 P **P 00 41 59.0 -0.8**
JSC pmax pmax
comp=Z,6.0nm,1.3s
JSC Jenkinsville 62.70 69 P **P 00 41 59.0 -0.8**
JSC IAmb IAmb 00 42 00.8
comp=Z,6.0nm,1.3s
W57A Gilead 62.80 67 P **P 00 41 59.8 -0.6**
T59A Double "B" Far 62.85 64 P **P 00 42 00.8 +0.1**
LMN Caledonia Moun 62.89 49 P **P 00 42 02.0 +1.2**
DRLN Deer Lake 63.54 43 P **P 00 42 06.6 +1.5**
WMQ Urumqi 63.58 308 *e*P **P 00 42 08.5 +3.0**
BRVK Borovoye 63.79 324 *ce*P **P 00 42 07.7 +1.0**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 63.79 324 P **P 00 42 07.0 +0.3**
BRVK IAmb IAmb 00 42 09.3
comp=Z,8.4nm,1.4s
MK31 Makanchi Array 63.86 313 P **P 00 42 06.7 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,1.5s
MK31 Makanchi Array 63.86 313 P **P 00 42 06.7 -0.6**
MK31 IAmb IAmb 00 42 08.1
comp=Z,4.6nm,1.5s
MKAR Makanchi Array 63.86 313 P **P 00 42 05.8 -1.5**
comp=Z,0.7nm,0.4s,baz=54,slow=5.8,SNR=12
MKAR Makanchi Array 63.86 313 P **P 00 42 06.8 -0.5**
MKAR Makanchi Array 63.86 313 P **P 00 42 06.8 -0.5**
Y58A Scranton 63.88 68 P **P 00 42 08.2 +0.7**
MAKZ Makanchi 63.99 314 P **P 00 42 07.8 -0.3**
MAKZ pmax pmax
comp=Z,1.0nm,0.9s
MAKZ Makanchi 63.99 314 P **P 00 42 07.8 -0.3**
NHSC New Hope 64.17 69 P **P 00 42 09.1 -0.4**
baz=317
CD2 Chengdu 64.38 288 *e*P **P 00 42 12.8 +1.9**
ARU Arti 64.70 333 *d i*P **P 00 42 12.6 0.0**
ARU 00 42 43.9
ARU S **S 00 50 53.0 +3.2**
ARU SS **SS 00 55 00.6 +0.6**
ARU pmax pmax
comp=Z,7.0nm,1.3s
ARU Arti 64.70 333 P **P 00 42 12.4 -0.2**
GBN Guysborough 64.74 48 P **P 00 42 14.0 +1.0**
FINES FINESS Array B 65.97 352 P **P 00 42 20.2 -0.5**
comp=Z,2.6nm,0.6s,baz=13,slow=8.8,SNR=16
NB2 NORSAR Subarra 67.05 360 P **P 00 42 27.4 -0.3**
comp=Z,1.2nm,0.6s,baz=360,slow=6.5
NOA NORSAR Array B 67.05 360 P **P 00 42 27.6 -0.1**
comp=Z,1.7nm,0.6s,baz=360,slow=6.3,SNR=9.7
KMI Kunming 69.27 284 ⇑P **P 00 42 44.0 +1.6**
KMI pmax pmax
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 69.82 313 IAmb IAmb 00 42 49.4
comp=Z,7.6nm,1.4s
AKTO Aktyubinsk 70.09 330 P **P 00 42 46.9 +0.1**
comp=Z,3.0nm,0.6s,baz=60,slow=7.4,SNR=7.0
ABKAR Akbulak array 70.51 328 IAmb IAmb 00 42 51.0
comp=Z,3.2nm,0.9s
OBN Obninsk 70.84 345 ⇑*e*P **P 00 42 52.0 +0.8**
OBN *e* 00 45 27.8
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,280nm,18.0s
BELG Belogornoye 71.18 337 *i* P **P 00 42 54.3 +1.0**
BELG pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 71.85 318 IAmb IAmb 00 42 59.6
comp=Z,5.2nm,0.8s
KKAR Karatay Array 71.85 318 IAmb IAmb 00 42 59.6
comp=Z,5.2nm,0.8s
KSH Kashi 72.43 312 P **P 00 43 05.0 +3.8**
KSH pP pP 00 43 13.0 +0.6
KSH pmax pmax
comp=Z,8.0nm,0.4s
KSH pmax pmax
comp=Z,110nm,2.8s
MNK Minsk 72.64 350 *i* P P 00 42 55.4 -6.6
MNK *i* S **S 00 52 17.9 -6.0**
MNK *i* 00 52 59.5
MNK *i* SSS SSS 01 00 18.5
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=E,1.0nm,0.6s
MNK MLR MLR
comp=E,7.0nm,16.0s
MNK MLR MLR
comp=Z,165nm,22.0s
MNK MLR MLR
comp=N,160nm,20.0s
MNK Minsk 72.64 350 *i* P P 00 42 55.4 -6.6
comp=E,1.0nm,0.6s
MNK *i* P P 00 42 55.4 -6.6
comp=N,6.0nm,0.7s
MNK *i* P P 00 42 55.4 -6.6
comp=Z,9.0nm,0.6s,baz=11

MNK			*i* PcP	pP	00 43 12.8	-0.3
MNK			*i* PP	**PP**	**00 45 36.6**	**-6.5**
MNK			*i* PPP	PPP	00 47 21.1	
MNK			*i* S	**S**	**00 52 17.9**	**-6.0**
MNK			*i* SS	**SS**	**00 56 57.9**	**-4.3**
MNK			*i* SSS	SSS	01 00 18.6	
MNK			*i* LQ	LQ	01 08 38.2	
MNK			*i* LR	LR	01 14 31.5	
MNK			*i* LRM	MLR	01 17 09.2	
	comp=E,7.0nm,16.1s					
MNK			*i* LRM	MLR	01 17 19.3	
	comp=N,160nm,20.4s					
MNK			*i* LRM	MLR	01 17 19.3	
	comp=Z,165nm,22.1s					
AKASG	**Malin Array Be**	**76.21 348**	P	**P**	**00 43 22.2**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=15,slow=5.8,SNR=11					
AKBB	**Malin Array Si**	**76.21 348**	*ceP*	**P**	**00 43 22.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**76.61 283**	P	**P**	**00 43 26.4**	**+0.8**
	comp=Z,4.8nm,0.7s,baz=27,slow=6.3,SNR=11					
CM01	**Chiang Mai Arr**	**76.63 283**	P	**P**	**00 43 29.3**	**+3.5**
	comp=Z,10.0nm,1.0s					
CM05	**Chiang Mai Arr**	**76.65 283**	P	**P**	**00 43 28.4**	**+2.5**
	comp=Z,8.3nm,1.1s					
CLL	**Collm**	**76.79 358**	*eP*	**P**	**00 43 27.0**	**+0.9**
CLL	**Collm**	**76.79 358**	*eP*	**P**	**00 43 27.0**	**+0.9**
BRG	**Berggiesshubel**	**77.20 358**	*eP*	**P**	**00 43 29.1**	**+0.6**
BRG			Amp		00 43 30.8	
	comp=Z,4.7nm,0.9s					
CHVC	**Chvalec**	**77.42 356**	*eP*	**P**	**00 43 30.7**	**+0.9**
OSTC	**Ostas**	**77.45 356**	*eP*	**P**	**00 43 32.3**	**+2.4**
OSTC			AMS	AMS	01 21 20.0	
	comp=Z,300nm,17.0s					
UPC	**Upice**	**77.51 356**	AMS	AMS	01 24 40.0	
	comp=Z,300nm,21.9s					
PVCC	**Panska Ves**	**77.53 357**	AMS	AMS	01 20 50.0	
	comp=Z,300nm,18.7s					
DPC	**Dobruska-Polom**	**77.65 356**	*eP*	**P**	**00 43 32.0**	**+0.9**
DPC			MLR	MLR		
	comp=Z,300nm,20.7s					
DPC	**Dobruska-Polom**	**77.65 356**	*eP*	**P**	**00 43 32.0**	**+0.9**
DPC			AMS	AMS	01 22 20.0	
	comp=Z,300nm,20.7s					
NKC	**Novy Kostel**	**77.87 359**	*eP*	**P**	**00 43 33.0**	**+0.7**
NKC			MLR	MLR		
	comp=Z,400nm,24.4s					
NKC	**Novy Kostel**	**77.87 359**	*eP*	**P**	**00 43 33.0**	**+0.7**
NKC			AMS	AMS	01 21 10.0	
	comp=Z,400nm,24.4s					
KRLC	**Kraliky**	**77.91 356**	*eP*	**P**	**00 43 33.2**	**+0.7**
KRLC			MLR	MLR		
	comp=Z,200nm,17.8s					
KRLC	**Kraliky**	**77.91 356**	*eP*	**P**	**00 43 33.2**	**+0.7**
KRLC			AMS	AMS	01 26 10.0	
	comp=Z,200nm,17.8s					
PRA	**Prague**	**78.00 357**	AMS	AMS	01 22 00.0	
	comp=Z,400nm,22.4s					
PRU	**Pruhonice**	**78.07 357**	AMS	AMS	01 22 10.0	
	comp=Z,300nm,15.2s					
OKC	**Ostrava-Krasne**	**78.08 355**	AMS	AMS	01 28 30.0	
	comp=Z,400nm,22.0s					
MORC	**Moravsky Berou**	**78.17 355**	*eP*	**P**	**00 43 35.4**	**+1.4**
VRAC	**Vranov**	**78.68 356**	*eP*	**P**	**00 43 38.5**	**+1.8**
LANS	**Liptovska Anna**	**78.69 354**	*eP*	**P**	**00 43 38.7**	**+1.9**
LANS			pmax	pmax		
	comp=Z,4.0nm,1.1s					
LANS	**Liptovska Anna**	**78.69 354**	*eP*	**P**	**00 43 38.7**	**+1.9**
KOLS	**Kolonicke sedl**	**78.69 352**	*eP*	**P**	**00 43 38.3**	**+1.5**
KOLS	**Kolonicke sedl**	**78.69 352**	*eP*	**P**	**00 43 38.3**	**+1.5**
TREC	**Trest**	**78.74 357**	AMS	AMS	01 22 20.0	
	comp=Z,400nm,19.2s					
KRUC	**Moravsky**	**78.94 356**	*eP*	**P**	**00 43 39.8**	**+1.7**
KHC	**Kasperske Hory**	**78.96 358**	*eP*	**P**	**00 43 39.3**	**+1.0**
KHC			MLR	MLR		
	comp=Z,400nm,19.5s					
KHC	**Kasperske Hory**	**78.96 358**	*eP*	**P**	**00 43 39.3**	**+1.0**
KHC			AMS	AMS	01 19 50.0	
	comp=Z,400nm,19.5s					
JAVC	**Velka Javorina**	**79.08 355**	*eP*	**P**	**00 43 40.5**	**+1.5**
GERES	**GERESS Array B**	**79.24 358**	P	**P**	**00 43 40.6**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=28,slow=4.2,SNR=8.8					
CKRC	**Cesky Krumlov**	**79.25 357**	AMS	AMS	01 32 10.0	
	comp=Z,300nm,14.4s					
BFO	**Black Forest**	**79.77 2**	*i* P	**P**	**00 43 46.1**	**+3.4**
CONA	**Conrad Observa**	**80.09 356**	*eP*	**P**	**00 43 45.7**	**+1.1**
	comp=Z,6.2nm,1.1s					
MOA	**Molln**	**80.22 357**	*eP*	P	00 43 49.8	+4.6
	comp=Z,2.5nm,0.9s					
KVAR	**Kislovodsk Arr**	**80.24 337**	P	**P**	**00 43 45.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=12,slow=20,SNR=3.2					
KIV	**Kislovodsk**	**80.24 337**	*eP*	**P**	**00 43 45.9**	**+0.5**
KIV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
KBZ	**Khabaz**	**80.40 337**	*ceP*	**P**	**00 43 46.4**	**+0.3**
KBZ			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SHA1	**Shidzhatmaz**	**80.45 337**	*eP*	**P**	**00 43 48.3**	**+1.6**
RETA	**Reutte**	**80.63 360**	*eP*	**P**	**00 43 49.1**	**+1.6**
	comp=Z,3.5nm,0.9s					
MOTA	**Moosalm**	**80.78 360**	*eP*	**P**	**00 43 50.9**	**+2.6**
	comp=Z,3.1nm,0.8s					
ARSA	**Arzberg**	**80.78 357**	*eP*	**P**	**00 43 48.4**	**+0.3**
	comp=Z,3.0nm,1.1s					
WATA	**Walderalm**	**80.78 359**	*eP*	**P**	**00 43 49.4**	**+1.1**
	comp=Z,1.4nm,0.5s					
DAVA	**Damuels**	**80.83 0**	*eP*	**P**	**00 43 51.4**	**+2.8**
	comp=Z,5.9nm,1.1s					
WTTA	**Wattenberg**	**80.85 359**	*eP*	**P**	**00 43 50.1**	**+1.4**
	comp=Z,2.5nm,0.6s					
SQTA	**Sankt Quirin**	**80.90 360**	*eP*	**P**	**00 43 50.0**	**+1.1**
	comp=Z,4.5nm,0.9s					
KBA	**Koelnbreinsper**	**81.01 358**	*eP*	**P**	**00 43 51.3**	**+1.7**
	comp=Z,10nm,1.4s					
FETA	**Feichten**	**81.10 360**	*eP*	**P**	**00 43 52.3**	**+2.3**
	comp=Z,8.6nm,1.3s					
GEYT	**Alibeck**	**81.10 324**	P	**P**	**00 43 50.0**	**0.0**
	comp=Z,8.1nm,0.6s,baz=3,3,slow=7.5,SNR=4.0					
ABTA	**Abfaltersbach**	**81.36 359**	*eP*	**P**	**00 43 52.9**	**+1.5**
	comp=Z,5.3nm,1.3s					
SOKA	**Soboth**	**81.37 357**	*eP*	**P**	**00 43 52.3**	**+0.9**
	comp=Z,3.9nm,1.2s					
OBKA	**Obir**	**81.55 357**	*eP*	**P**	**00 43 53.0**	**+0.6**
	comp=Z,2.4nm,0.9s					
MLR	**Muntele Rosu**	**81.74 349**	P	**P**	**00 43 54.6**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=308,slow=5.6,SNR=3.9					
MNGR	**Mingechevir, A**	**82.07 333**	P	**P**	**00 43 55.3**	**+0.2**
GANJ	**Ganja**	**82.40 333**	P	**P**	**00 43 57.3**	**+0.4**
LKRN	**Lenkeran, Azer**	**83.49 331**	P	**P**	**00 44 02.8**	**+0.3**
NAX	**Nakhchivan**	**84.00 333**	P	**P**	**00 44 05.4**	**+0.2**
WRA	**Warramunga Arr**	**86.91 232**	P	**P**	**00 44 17.8**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=34,slow=5.9,SNR=3.5					
ESDC	**Sonseca Array**	**87.57 11**	P	**P**	**00 44 22.6**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=346,slow=4.7,SNR=10					
ASAR	**Alice Springs**	**90.30 230**	P	**P**	**00 44 34.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=27,slow=4.6,SNR=8.1					
BBGH	**Gun Hill**	**91.44 66**	*e*	P	00 44 48.0	+6.8
MMAI	**Mount Meron Ar**	**92.35 339**	P	**P**	**00 44 44.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=353,slow=5.8,SNR=3.0					
H03N2	**Juan Fernandez**	**115.91 112**	T	T	02 57 21.6	
	baz=313					
H03N1	**Juan Fernandez**	**115.92 112**	T	T	02 57 23.7	
	baz=313					
H03N3	**Juan Fernandez**	**115.93 112**	T	T	02 57 20.6	
	baz=313					
BOSA	**Boshof**	**153.97 329**	PKPbc	**PKiKP**	**00 51 34.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=40,slow=3.1,SNR=4.9					

*NEIC **27** 00:33:44.0±2.1, 52°.3N±0°.2×169°.4W±0°.2, h49km±53km, Error ellipse: s-maj=33.5km s-min=8.7km az=151.0*

AEIC 27 00:33:42.8±2.2, 52°.21N±0°.06×169°.45W±0°.10, h38km±10km, ML3.4/18, Error ellipse: s-maj=10.5km s-min=6.2km az=134.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.84**	**25**	Pn	Pn	00 33 58.1	-0.1
OKSP	**Okmok Steeple**	**1.26**	**34**		Pn	00 34 03.7	-0.1
OKCE	**Okmok Cone E**	**1.44**	**32**		Pn	00 34 07.3	+0.9
OKFG	**Magazine Ridge**	**1.52**	**37**		Pn	00 34 07.3	0.0
OKFG					Sn	00 34 27.3	+1.4
MSW	**Makushin Switc**	**2.34**	**42**		Pn	00 34 19.9	+1.2
MSW					Sn	00 34 49.4	+3.2
MNAT	**Makushin Natee**	**2.36**	**44**		Pn	00 34 19.9	+1.0
UNV	**Unalaska Valle**	**2.41**	**46**		Pn	00 34 20.6	+1.0
UNV					Sn	00 34 50.0	+2.1
GSMY	**Great Sitkin M**	**4.08**	**270**		Pn	00 34 44.3	+1.7
GSTD	**Great Sitkin T**	**4.13**	**270**		Pn	00 34 44.6	+1.3

*IDC **27** 00:34:08.0±1.4, 52°.37N×169°.52W, h0km, mb3.9/17, mb1 4.1/19, mb1mx3.9/63, mbtmp3.9/19, ML3.6/2, Error ellipse: s-maj=36.6km s-min=17.4km az=174.0*

*NEIC **27** 00:34:10.6±1.4, 52°.15N±0°.05×169°.31W±0°.08, h16km±12km, Error ellipse: s-maj=8.1km s-min=5.5km az=131.0*

*AEIC **27** 00:34:10.7±1.3, 52°.15N±0°.03×169°.36W±0°.09, h17km±8km, ML3.5/16, Error ellipse: s-maj=8.2km s-min=4.0km az=80.0*

ISC 27 00:34:08.8±0.8, 52°.2N±0°.1×169°.32W±0°.07, h10km, n49, σ1§54/52, mb4.0/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.87**	**19**		**Pg**	**00 34 27.5**	**+2.0**
OKTU	**Okmok Mt. Tuli**	**1.46**	**32**		**Pn**	**00 34 35.7**	**+0.5**
OKFG	**Magazine Ridge**	**1.52**	**34**	*i*	**Pn**	**00 34 36.9**	**+0.9**
OKFG					**Sn**	**00 34 57.8**	**+2.0**
MGOD	**Makushin Gods**	**2.21**	**41**		**Pn**	**00 34 45.5**	**0.0**
MGOD					**Sn**	**00 35 16.0**	**+3.1**
KOSE	**Korovin Southe**	**2.91**	**276**		**Pn**	**00 34 57.6**	**+2.4**
AKUT	**Akutan**	**2.92**	**46**	Pn	**Pn**	**00 34 56.5**	**+1.3**
KOFP	**Korovin Flat P**	**2.94**	**274**		**Pn**	**00 34 57.0**	**+1.4**
ATKA	**Atka Island**	**3.00**	**273**		**Pn**	**00 34 57.0**	**+0.7**
GSTR	**Great Sitkin T**	**4.15**	**272**		**Pn**	**00 35 13.2**	**+1.0**
GSMY	**Great Sitkin M**	**4.16**	**271**		**Pn**	**00 35 13.4**	**+1.2**
ADK	**Adak**	**4.56**	**270**	Pn	**Pn**	**00 35 18.8**	**+1.1**
KIWB	**Kanaga Island**	**4.85**	**270**	Pn	**Pn**	**00 35 23.0**	**+1.3**
SPIA	**Saint Paul Isl**	**5.06**	**354**	Pn	**Pn**	**00 35 26.9**	**+2.3**
SDPT	**Sand Point**	**6.14**	**55**	Pn	**Pn**	**00 35 40.9**	**+1.5**
CNBA	**Chernabura Isl**	**6.39**	**61**	Pn	**Pn**	**00 35 44.8**	**+1.9**
AMKA	**Amchitka**	**7.11**	**268**	Pn	**Pn**	**00 35 53.7**	**+1.1**
CHIR	**Chirikof Islan**	**8.87**	**60**	Pn	**Pn**	**00 36 17.2**	**+0.4**
SMY	**Shemya**	**10.14**	**280**	Pn	**Pn**	**00 36 35.4**	**+1.1**
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**00 36 48.6**	**+0.8**
	0.5nm,0.3s,baz=235,slow=17,SNR=1.2						
KDAK				Sn	**Sn**	**00 38 46.3**	**-6.0**
	0.1nm,0.3s,baz=300,slow=20,SNR=0.9						
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**00 36 48.2**	**+0.4**
SVW2	**Sparrevohn**	**11.70**	**35**	Pn	**Pn**	**00 36 56.7**	**+1.1**
GAMB	**Gambell**	**11.72**	**355**	Pn	**Pn**	**00 36 53.2**	**-2.6**
CNPM	**China Poot**	**12.53**	**47**	Pn	**Pn**	**00 37 06.9**	**0.0**
ANM	**Nome**	**12.62**	**8**	Pn	**Pn**	**00 37 08.6**	**+0.5**
TTA	**Tatalina**	**12.92**	**28**	Pn	**Pn**	**00 37 11.2**	**-1.1**
TNA	**Tin City**	**13.47**	**2**	Pn	**Pn**	**00 37 21.1**	**+1.5**
SEW	**Seward**	**13.60**	**46**	Pn	**Pn**	**00 37 21.5**	**+0.1**
SUA	**Susitna One**	**13.75**	**40**	Pn	**Pn**	**00 37 24.0**	**+0.4**
SKT	**Skwentna**	**13.75**	**37**	Pn	**Pn**	**00 37 25.8**	**+2.2**
ILAR	**Eielson Array**	**17.11**	**34**	P	**Pn**	**00 38 07.1**	**-0.7**
	0.1nm,0.3s,baz=234,slow=11,SNR=2.1						
PETK	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**00 38 39.8**	**-0.8**
	2.1nm,0.3s,baz=89,slow=13,SNR=14						
INK	**Inuvik**	**23.51**	**33**	P	**P**	**00 39 17.7**	**-0.7**
	1.8nm,0.4s,baz=251,slow=8.4,SNR=5.8						
YKA	**Yellowknife Ar**	**30.36**	**49**	P	**P**	**00 40 21.5**	**+1.2**
	0.5nm,0.4s,baz=288,slow=10,SNR=11						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**00 41 48.7**	**+1.5**
	0.7nm,0.6s,baz=291,slow=3.8,SNR=3.9						
KSRS	**Korea Array**	**45.46**	**277**	P	**P**	**00 42 28.1**	**+0.3**
	0.6nm,0.3s,baz=58,slow=8.2,SNR=2.1						
SPITS	**Spitsbergen Ar**	**49.89**	**358**	P	**P**	**00 43 00.5**	**-1.2**
	0.7nm,0.4s,baz=40,slow=6.6,SNR=7.4						
SONM	**Songino Array**	**51.44**	**301**	P	**P**	**00 43 13.6**	**-0.3**
	0.4nm,0.3s,baz=63,slow=6.6,SNR=2.9						
TXAR	**Lajitas Array**	**52.72**	**89**	P	**P**	**00 43 24.6**	**+1.0**
	0.2nm,0.5s,baz=306,slow=5.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**57.60**	**318**	P	**P**	**00 43 58.3**	**-0.1**
	1.1nm,0.4s,baz=40,slow=5.3,SNR=2.2						
ARCES	**ARCESS Array B**	**58.14**	**354**	P	**P**	**00 44 00.8**	**-1.1**
	0.9nm,0.4s,baz=15,slow=7.2,SNR=7.6						
MKAR	**Makanchi Array**	**63.98**	**313**	P	**P**	**00 44 40.4**	**-1.6**
	0.4nm,0.3s,baz=51,slow=6.1,SNR=8.5						
FINES	**FINESS Array B**	**66.09**	**352**	P	**P**	**00 44 54.4**	**-0.9**
	2.2nm,0.9s,baz=2.0,slow=7.7,SNR=8.1						
NB2	**NORSAR Subarra**	**67.16**	**360**	P	**P**	**00 45 01.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**67.16**	**360**	P	**P**	**00 45 01.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=0.6,slow=6.3,SNR=3.8						
AKASG	**Malin Array Be**	**76.32**	**348**	P	**P**	**00 45 56.0**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=18,slow=6.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**76.69**	**283**	P	**P**	**00 45 59.5**	**-0.5**
	comp=Z,1.2nm,0.3s,baz=24,slow=6.7,SNR=4.2						
GERES	**GERESS Array B**	**79.35**	**358**	P	**P**	**00 46 14.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=16,slow=7.5,SNR=2.7						
KBZ	**Khabaz**	**80.52**	**337**	P	**P**	**00 46 21.4**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=59,slow=5.9,SNR=4.5						
ESDC	**Sonseca Array**	**87.66**	**11**	P	**P**	**00 46 57.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=342,slow=4.2,SNR=2.6						

*IDC **27** 00:45:32.3±1.6, 4°.92N×75°.72W, h0km, mb3.7/1, mb1 3.9/2, mb1mx3.3/27, mbtmp3.9/2, ML2.7/1, Error ellipse: s-maj=40.1km s-min=16.3km az=174.0*

*RSNC **27** 00:45:34.6±1.5, 5°.03N×75°.53W, h3km±3km, ML3.2, Mw3.8, Fault plane solution: NP1,φs=85.00000°, δ85.00000°, λ157.00000°.*

ISC 27 00:45:33.4±0.9, 5°.00N±0°.02×75°.61W±0°.02, h10km±6km, n42, σ1§87/69, 4C-8D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAN1	**Manizales, Cal**	**0.11**	**51**	↑*iP*	**Pg**	**00 45 37.4**	**+1.1**
CMAN1				*eS*	**Sg**	**00 45 39.2**	**+0.8**
GUY2C	**Guyana, Caldas**	**0.33**	**48**	↑*iP*	**Pg**	**00 45 39.5**	**-0.5**
GUY2C				*eS*	**Sg**	**00 45 43.1**	**-1.4**
GUY2C				*i*		00 45 46.9	
	comp=Z,3μm,0.5s						
TOLC	**Tolima**	**0.50**	**145**	↓*iP*	**Pg**	**00 45 43.1**	**-0.1**
ANIL	**Santa Ana**	**0.55**	**158**	↓*iP*	**Pg**	**00 45 44.0**	**-0.1**
ANIL				*eS*	**Sg**	**00 45 51.7**	**+0.3**
ANIL				*i*		00 45 56.6	
	comp=Z,5μm,0.3s						
CIBA1	**Ibague, SGC**	**0.67**	**146**	*eS*	**Sb**	**00 45 55.7**	**-0.9**
PLMC	**San Jos del P**	**0.68**	**262**	↓*iP*	**Pn**	**00 45 48.5**	**-0.6**
PLMC				*eS*	**Sn**	**00 45 59.5**	**-0.3**
PLMC				*i*		00 46 01.5	
	comp=Z,1μm,0.3s						
NORC	**Norcasia**	**0.92**	**53**	↑*eP*	**Pg**	**00 45 50.1**	**-1.0**
NORC				*eS*	**Sg**	**00 45 59.9**	**-3.3**
CBOC	**Ciudad Bolivar**	**0.94**	**335**	↓*eP*	**Pb**	**00 45 51.6**	**-0.3**
CBOC				*eS*	**Sb**	**00 46 04.4**	**-0.3**
CBOC				*i*		00 46 06.2	
	comp=Z,593nm,0.8s						
ORTC	**Ortega, Tolima**	**1.15**	**162**	↓*iP*	**Pb**	**00 45 55.1**	**-0.2**
ORTC				*eS*	**Sn**	**00 46 11.1**	**-0.2**
ORTC				*i*		00 46 12.2	
	comp=Z,1μm,0.4s						
HELC	**Santa Helena**	**1.18**	**4**	*eP*	**Pg**	**00 45 55.1**	**-1.0**
HELC				*eS*	**Sb**	**00 46 11.5**	**-0.2**
HELC				*i*		00 46 20.9	
	comp=Z,297nm,0.6s						
YOTC	**Yotoco, Valle**	**1.25**	**216**	↑*iP*	**Pn**	**00 45 56.6**	**-0.4**
YOTC				*eS*	**Sn**	**00 46 13.9**	**-0.2**
YOTC				*i*		00 46 15.6	
	comp=Z,382nm,0.2s						
ROSC	**El Rosal**	**1.29**	**97**	Pg	**Pg**	**00 45 58.2**	**0.0**
	comp=Z,41nm,0.3s,baz=196,slow=7.4,SNR=55						
ROSC				Lg	Lg	00 46 16.9	
	comp=Z,68nm,0.3s,baz=181,slow=21,SNR=14						
ROSC	**El Rosal**	**1.29**	**97**	↓*eP*	**Pg**	**00 45 58.5**	**+0.2**
ROSC				*eS*	**Sg**	**00 46 14.1**	**-1.0**
ROSC				*i*		00 46 21.3	
	comp=Z,178nm,0.3s						
PIZC	**Pizarro, Choco**	**1.75**	**269**	*eP*	**Pg**	**00 46 07.3**	**+0.5**
PIZC				*eS*	**Sg**	**00 46 30.0**	**+0.4**
CHIC	**Chingaza**	**1.91**	**101**	↓*eP*	**Pg**	**00 46 09.2**	**-0.8**
CHIC				*eS*	**Sg**	**00 46 34.3**	**-0.5**
CHIC				*i*		00 46 41.9	
	comp=Z,93nm,0.6s						
PTBC	**PUERTO BERRIO,**	**1.91**	**37**	*eS*	**Sn**	**00 46 30.4**	**+0.3**
MALC	**Bahia Malaga**	**1.98**	**240**	*eP*	**Pg**	**00 46 11.1**	**-0.4**
DBBC	**Dabeiba**	**2.09**	**343**	*eP*	**Pb**	**00 46 11.7**	**+0.2**
DBBC				*eS*	**Sg**	**00 46 40.6**	**0.0**
DBBC				*i*		00 46 51.6	
	comp=Z,865nm,0.6s						
VILC	**Villavicencio,**	**2.10**	**115**	*eP*	**Pb**	**00 46 12.3**	**+0.5**
VILC				*eS*	**Sb**	**00 46 36.9**	**-1.1**
VILC				*i*		00 46 45.2	
	comp=Z,186nm,0.5s						
SOLC	**Bahia Solano**	**2.17**	**304**	*eP*	**Pb**	**00 46 12.3**	**-0.4**
SOLC				*eS*	**Sb**	**00 46 41.0**	**+1.4**
SOLC				*i*		00 46 52.8	
	comp=Z,76nm,0.5s						
MARP	**Paez Belalcaza**	**2.17**	**189**	↓*eP*	**Pb**	**00 46 13.2**	**+0.2**
MARP				*eS*	**Sg**	**00 46 42.6**	**-0.7**
MARP				*i*		00 46 44.8	
	comp=Z,80nm,0.3s						
BETC	**Betania**	**2.31**	**176**	*eP*	**Pb**	**00 46 15.5**	**+0.3**
BETC				*eS*	**Sn**	**00 46 41.9**	**+1.7**
BETC				*i*		00 46 48.3	
	comp=Z,226nm,0.4s						
ZARC	**Zaragoza, Cauc**	**2.58**	**17**	*eP*	**Pb**	**00 46 19.5**	**-0.4**
ZARC				*eS*	**Sn**	**00 46 49.0**	**+2.2**
ZARC				*i*		00 46 58.8	
	comp=Z,126nm,0.6s						
RUSC	**La Rusia**	**2.66**	**71**	*eP*	**Pb**	**00 46 20.6**	**-0.9**
RUSC				*eS*	**Sn**	**00 46 49.6**	**+0.1**
RUSC				*i*		00 47 09.3	
	comp=Z,39nm,0.7s						
POPC	**Popayan, Colom**	**2.67**	**204**	*eP*	Pn	00 46 09.5	-7.1
POPC				*eS*	**Sn**	**00 46 43.4**	**-5.8**
POPC				*i*		00 46 46.8	
	comp=Z,66nm,0.6s						
UREC	**San Jos de Ur**	**2.73**	**2**	*eP*	**Pb**	**00 46 21.6**	**-0.8**
UREC				*i*		00 46 32.8	
	comp=Z,37nm,0.4s						
UREC				*eS*	**Sb**	**00 46 56.9**	**+0.9**
PCON	**Cinco Dias**	**2.77**	**197**	*eP*	**Pb**	**00 46 24.2**	**+0.8**
PCON				*eS*	**Sb**	**00 46 55.6**	**-2.0**
PCON				*i*		00 47 09.6	
	comp=Z,122nm,0.4s						
GARC	**Garzon, Huila**	**2.80**	**178**	*eP*	**Pb**	**00 46 21.6**	**-2.1**
GARC				*eS*	**Sb**	**00 46 59.6**	**+1.5**
GARC				*i*		00 47 03.8	
	comp=Z,413nm,0.3s						
BARC	**Barichara**	**2.88**	**57**	*eP*	**Pb**	**00 46 23.7**	**-1.4**
BARC				*eS*	**Sn**	**00 46 57.1**	**+2.5**
BARC				*i*		00 47 04.0	
	comp=Z,67nm,0.4s						
SOTA	**Rioblanco**	**3.02**	**199**	*eP*	**Pb**	**00 46 27.0**	**-0.5**
SOTA				*i*		00 47 15.4	
	comp=Z,109nm,0.7s						
MACC	**Macarena, Meta**	**3.34**	**148**	*eP*	**Pn**	**00 46 28.4**	**+2.7**
MACC				*i*		00 47 20.6	
	comp=Z,123nm,0.6s						
BBAC	**Balboa, Cauca**	**3.38**	**209**	*eP*	**Pb**	**00 46 30.0**	**-3.6**
BBAC				*eS*	**Sn**	**00 47 08.7**	**+1.8**
BBAC				*i*		00 47 24.9	
	comp=Z,32nm,0.4s						
PAMC	**Pamplona, Colo**	**3.71**	**51**	*eP*	**Pb**	**00 46 36.4**	**-3.0**
PAMC				*eS*	**Sn**	**00 47 15.8**	**+0.5**
PAMC				*i*		00 47 33.0	
	comp=Z,37nm,0.5s						
MOTC	**Monteria, Cord**	**3.75**	**359**	*eP*	**Pb**	**00 46 35.7**	**-4.0**
MOTC				*i*		00 47 51.5	
	comp=Z,20nm,0.6s						
OCAC	**Ocana**	**3.94**	**35**	*eP*	**Pb**	**00 46 39.1**	**-3.9**
OCAC				*eS*	**Sn**	**00 47 19.8**	**-0.6**
OCAC				*i*		00 47 50.2	
	comp=Z,92nm,0.5s						
SMLC	**San Martn de**	**4.07**	**22**	*eP*	**Pb**	**00 46 41.6**	**-3.6**
SMLC				*i*		00 47 47.1	
	comp=Z,40nm,0.5s						
GCUF	**Volcan Galeras**	**4.13**	**205**	*eP*	**Pn**	**00 46 39.7**	**+2.6**
PTLC	**Puerto Leguiza**	**4.87**	**170**	*eP*	**Pb**	**00 46 54.5**	**-4.3**
PTLC				*i*		00 48 20.1	
	comp=Z,39nm,0.5s						
SDV	**Santo Domingo**	**6.27**	**52**	Pn	**Pn**	**00 47 09.8**	**+3.7**
	comp=Z,1.7nm,0.3s,baz=270,slow=3.0,SNR=1.3						
SDV				Sn	**Sn**	**00 48 22.3**	**+4.4**
	comp=Z,2.8nm,0.3s,baz=288,slow=16,SNR=1.5						
SIV	**San Ignacio**	**25.34**	**146**	P	**P**	**00 51 01.6**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=326,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**146.05**	**234**	PKPbc	**PKPdf**	**01 05 14.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=125,slow=3.8,SNR=8.0						
WRA	**Warramunga Arr**	**147.29**	**240**	PKPbc	**PKPdf**	**01 05 16.8**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.03**	**31**	LR	LR	00 55 43.7	
	comp=Z,46nm,20.8s,baz=179,slow=26						
URZ	**Urewera**	**21.24**	**199**	P	P	00 58 19.7	+0.5
	9.2nm,0.8s,baz=0.0,slow=13,SNR=2.0						
URZ				S	S	01 02 17.0	+0.8
	6.3nm,0.8s,baz=333,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**48.27**	**259**	P	P	01 02 15.0	+0.2
	0.5nm,0.8s,baz=97,slow=7.6,SNR=2.0						
ASAR	**Alice Springs**	**48.32**	**254**	P	P	01 02 15.0	-0.2
	4.8nm,0.3s,baz=90,slow=8.4,SNR=16						
H03S2	**Juan Fernandez**	**84.46**	**124**	T	T	02 39 16.8	
	baz=250,slow=75,SNR=4.8						
H03S1	**Juan Fernandez**	**84.48**	**124**	T	T	02 39 17.8	
	baz=250,slow=75,SNR=3.4						
H03S3	**Juan Fernandez**	**84.48**	**124**	T	T	02 39 15.9	
	baz=250,slow=75,SNR=3.6						
PDAR	**Pinedale Array**	**85.06**	**42**	P	P	01 06 09.8	+0.3
	0.4nm,0.7s,baz=220,slow=5.4,SNR=4.9						
ILAR	**Eielson Array**	**85.43**	**11**	P	P	01 06 09.9	-0.7
	0.2nm,0.6s,baz=209,slow=5.2,SNR=2.1						

*IDC **27** 01:05:32.7±0.5, 41°.84N×119°.63W, h0km, mb4.0/11, mb1 4.1/17, mb1mx3.9/47, mbtmp3.9/17, ML3.3/6, MS3.9/16, Ms1 3.9/16, ms1mx3.7/47, Error ellipse: s-maj=8.6km s-min=5.9km az=11.0*

*ANF **27** 01:05:33.9±1.2, 41°.79N×119°.81W, h4km±10km, ML4.6/27, Error ellipse: s-maj=2.7km s-min=1.5km az=37.0*

*REN **27** 01:05:33.6±2.9, 41°.89N±0°.04×119°.62W±0°.05, h11km±3km, ML4.6/6, mb4.4/49(NEIC), ML4.6/94(SEA), ML4.2/66(NEIC), Mwr4.6/114(NEIC), Error ellipse: s-maj=5.6km s-min=5.3km az=121.0*

*SEA **27** 01:05:34.4±2.8, 41°.81N±0°.04×119°.65W±0°.04, h0km±3km, Error ellipse: s-maj=5.5km s-min=4.5km az=155.0*

*NEIC **27** 01:05:34.1, 41°.92N×119°.65W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.53; $M_{\theta\theta}$=3.01; $M_{\phi\phi}$=5.55; $M_{r\theta}$=-3.51; $M_{\theta\phi}$=0.46; $M_{\phi r}$=-7.24; Fault plane solution: M_0=9.39000×10^{15} NP1:φs=27.95000°, δ=79.42000°, λ=-69.92000°. NP2:φs=144.62000°, δ=22.59000°, λ=-151.44000°. Principal axes: T 10.1732, Plg32.0000°, Azm101.0000°; N -1.8380, Plg20.0000°, Azm204.0000°; P -8.3352, Plg52.0000°, Azm321.0000°;*

*NEIC **27** 01:05:34.3±1.9, 41°.93N±0°.04×119°.72W±0°.06, h7km±1km Error ellipse: s-maj=6.2km s-min=5.4km az=72.0*

ISC 27 01:05:33.2±1.1, 41°.82N±0°.02×119°.63W±0°.02, h2km±8km, n255, σ1$45/267, mb4.4/23, MS4.0/8, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.51**	**280**	Pg	**Pg**	**01 05 43.6**	**+0.6**
MOD				Sg	**Sg**	**01 05 51.0**	**+1.3**
MOD				IAML		01 05 55.4	
	comp=N,23μm,0.6s						
LKVW	**Lakeview**	**0.68**	**307**		**Pg**	**01 05 45.9**	**-0.4**
WVOR	**Wild Horse Val**	**0.96**	**50**		**Pg**	**01 05 51.1**	**-0.6**
WVOR				Sg	**Sg**	**01 06 03.7**	**-0.5**
WVOR				IAML		01 06 07.5	
	comp=N,10μm,0.8s						
K05A	**Summer Lake**	**1.31**	**315**	Pn	**Pg**	**01 05 57.6**	**-0.6**
K05A				Sn	**Sg**	**01 06 15.0**	**-0.3**
LASM	**Arnica Sink**	**1.47**	**262**		**Pn**	**01 06 00.4**	**-0.7**
LTIM	**Timbered Crate**	**1.54**	**246**		**Pn**	**01 06 01.6**	**-0.2**
HOG	**Hogback Mounta**	**1.60**	**286**		**Pn**	**01 06 02.1**	**-0.8**
LBCM	**Butte Creek Ri**	**1.62**	**234**		**Pn**	**01 06 02.9**	**-0.1**
M04C	**Macdoel**	**1.65**	**270**	P	**Pn**	**01 06 02.4**	**-1.0**
	baz=86,SNR=798						
M04C	**Macdoel**	**1.65**	**270**		**Pn**	**01 06 02.5**	**-0.9**
HATC	**Hat Creek Radi**	**1.70**	**235**		**Pn**	**01 06 04.3**	**+0.3**
J08A	**Circle Bar Ran**	**1.76**	**29**	Pn	**Pn**	**01 06 03.4**	**-1.5**
J08A				Sg	**Sb**	**01 06 28.3**	**-0.7**
K04D	**Chiloquin, OR**	**1.77**	**298**	P	**Pn**	**01 06 04.0**	**-1.0**
	baz=115,SNR=145						
BMRR	**Black Mountain**	**1.78**	**197**		**Pb**	**01 06 07.5**	**+0.8**
J05D	**Fort Rock, OR**	**1.89**	**322**	P	**Pn**	**01 06 05.6**	**-1.1**
	baz=139,SNR=939						
J05D				S	**Sn**	**01 06 31.2**	**0.0**
	baz=139						
LMEM	**Manzanita Entr**	**1.94**	**230**		**Pb**	**01 06 09.7**	**+0.2**
L04D	**Klamath Falls**	**2.03**	**282**	P	**Pn**	**01 06 07.4**	**-1.3**
	baz=99,SNR=222						
L04D				S	**Sn**	**01 06 33.8**	**-0.9**
	baz=99						
LSHM	**Sage Hen Hill**	**2.08**	**241**		**Pn**	**01 06 08.9**	**-0.3**
PINE	**Pine Mountain**	**2.20**	**334**	Pn	**Pn**	**01 06 09.9**	**-1.1**
LOY	**Loyalton**	**2.20**	**192**		**Pb**	**01 06 14.7**	**+0.8**
PEAR	**Peavine Mounta**	**2.22**	**187**		**Pb**	**01 06 13.8**	**-0.5**
O03E	**Paynes Creek**	**2.24**	**228**	P	**Pn**	**01 06 11.3**	**-0.1**
	baz=45,SNR=450						
I07A	**Izee**	**2.27**	**2**	Pn	**Pn**	**01 06 10.5**	**-1.3**
I07A				IAML		01 06 54.0	
	comp=E,2μm,1.6s						
YBH	**Yreka Blue Hor**	**2.31**	**269**	Pn	**Pn**	**01 06 11.3**	**-1.1**
	comp=E,17nm,0.3s,baz=57,slow=10,SNR=248						
YBH				Lg	Lg	01 06 45.1	
	comp=E,56nm,0.3s,baz=188,slow=23,SNR=9.8						
YBH	**Yreka Blue Hor**	**2.31**	**269**		**Pn**	**01 06 11.5**	**-0.8**
J04D	**Umpqua Nationa**	**2.32**	**309**	P	**Pn**	**01 06 11.9**	**-0.8**
	baz=126,SNR=99						
KBF	**Kyburz Flat**	**2.35**	**191**		**Pb**	**01 06 15.9**	**-0.5**
VPK	**Verdi Peak**	**2.36**	**188**		**Pb**	**01 06 17.2**	**+0.6**
IND	**Independence**	**2.43**	**192**		**Pb**	**01 06 18.3**	**+0.5**
M02C	**Callahan**	**2.45**	**261**	P	**Pn**	**01 06 12.8**	**-1.6**
	baz=78,SNR=142						
M02C				S	**Sn**	**01 06 43.4**	**-1.6**
	baz=78						
N02D	**Trinity Center**	**2.46**	**251**	P	**Pn**	**01 06 13.3**	**-1.2**
	baz=68,SNR=180						
VCNR	**Virginia City**	**2.52**	**180**		**Pn**	**01 06 16.9**	**+1.5**
VCNR				IAML		01 07 03.6	
	comp=E,1μm,0.8s						
VCNR				IAML		01 07 09.9	
	comp=N,1μm,0.8s						
WDC	**Whiskeytown Da**	**2.52**	**242**		**Pn**	**01 06 14.7**	**-0.5**
HUMO	**Hull Mountain**	**2.59**	**289**		**Pn**	**01 06 15.0**	**-1.3**
HUMO				IAML		01 06 58.6	
	comp=N,1μm,1.2s						
HUMO				IAML		01 07 01.2	
	comp=E,825nm,0.9s						
ORV	**Oroville**	**2.67**	**213**	Pn	**Pn**	**01 06 18.4**	**+1.1**
I05D	**Terrebonne, OR**	**2.82**	**334**	P	**Pn**	**01 06 18.8**	**-0.5**
	baz=152,SNR=20						
I05D				Sb	**Sg**	**01 07 01.1**	**-2.6**
	baz=152						
I04A	**Tendick Farm,**	**2.85**	**315**	P	**Pn**	**01 06 18.9**	**-0.9**
	baz=132,SNR=148						
O02D	**Mt. Diablo Mer**	**2.90**	**237**	P	**Pn**	**01 06 19.7**	**-0.8**
	baz=54						
O02D				Sb	**Sb**	**01 07 02.5**	**+0.9**
	baz=54						
L02E	**Cave Junction**	**2.98**	**278**	P	**Pn**	**01 06 20.8**	**-0.8**
	baz=94,SNR=347						
L02E				Sb	**Sb**	**01 07 03.9**	**-0.1**
	baz=94						
KVN	**Kaiserville**	**3.00**	**157**	Pn	**Pn**	**01 06 24.6**	**+2.6**
KVN				IAML		01 07 14.8	
	comp=E,381nm,0.7s						
AFDM	**Forest Hills D**	**3.04**	**200**	Pn	**Pn**	**01 06 23.4**	**+0.9**
SUTB	**Sutter Butte**	**3.06**	**213**		**Pn**	**01 06 25.6**	**+2.9**
K02D	**Willamette Mer**	**3.12**	**288**	P	**Pn**	**01 06 23.3**	**-0.3**
	baz=104,SNR=1000						
K02D				Sb	**Sb**	**01 07 06.4**	**-1.7**
	baz=104						
KRMB	**Red Mountain**	**3.22**	**266**	Pn	**Pn**	**01 06 25.2**	**+0.3**
KRMB				IAML		01 07 35.1	
	comp=N,415nm,1.8s						
KHMM	**Horse Mountain**	**3.23**	**254**	Pn	**Pn**	**01 06 26.2**	**+1.1**
KHMM				IAML		01 07 29.9	
	comp=N,581nm,2.3s						
KHMM				IAML		01 07 33.5	
	comp=E,519nm,2.6s						
MFID	**Camas Ranch**	**3.23**	**59**		**Pn**	**01 06 24.3**	**-0.8**
RYN	**Ryan**	**3.29**	**165**	Pn	**Pn**	**01 06 28.4**	**+2.4**
RYN				IAML		01 07 26.3	
	comp=E,387nm,1.6s						
RYN				IAML		01 07 28.1	
	comp=N,340nm,1.2s						
WAKR	**Walker**	**3.31**	**177**	Pn	**Pn**	**01 06 29.5**	**+3.2**
I03D	**Drain, OR**	**3.32**	**306**	P	**Pn**	**01 06 25.2**	**-1.0**
	baz=122,SNR=10.0						
I03D				Sb	**Sb**	**01 07 14.5**	**+0.8**
	baz=122						
BUCK	**Buck Mountain**	**3.42**	**315**	Pn	**Pn**	**01 06 27.8**	**+0.1**
BUCK				IAML		01 07 29.6	
	comp=E,661nm,1.7s						
KBO	**Bosley Butte**	**3.45**	**278**	Pn	**Pn**	**01 06 28.2**	**+0.1**
KBO				IAML		01 07 37.3	
	comp=N,787nm,1.6s						
J01E	**Myrtle Point**	**3.45**	**294**	P	**Pn**	**01 06 27.2**	**-0.8**
	baz=110,SNR=13						
JCC	**Jacoby Creek,**	**3.46**	**255**	Pn	**Pn**	**01 06 28.2**	**+0.1**
JCC				IAML		01 07 39.0	
	comp=N,568nm,2.2s						
JCC				IAML		01 07 43.6	
	comp=E,506nm,2.0s						
BMO	**Blue Mountains**	**3.48**	**28**	Pn	**Pn**	**01 06 29.3**	**+0.8**
BMO				IAML		01 07 28.9	
	comp=E,435nm,0.5s						
BMO				IAML		01 07 33.1	
	comp=E,952nm,2.0s						
ELK	**Elko**	**3.48**	**106**	Pn	**Pn**	**01 06 28.6**	**0.0**
	comp=E,4.9nm,0.3s,baz=311,slow=17,SNR=61						
ELK				Pg	**Pb**	**01 06 34.2**	**-1.5**
	comp=E,23nm,0.3s,baz=293,slow=18,SNR=70						
ELK				Lg	Lg	01 07 20.8	
	comp=E,67nm,0.3s,baz=31,slow=23,SNR=7.9						
ELK	**Elko**	**3.48**	**106**	Pn	**Pn**	**01 06 29.5**	**+0.8**
ELK				IAML		01 07 28.3	
	comp=E,300nm,1.4s						
G08A	**Pilot Rock**	**3.51**	**8**	Pn	**Pn**	**01 06 28.7**	**-0.2**
G08A				IAML		01 07 24.2	
	comp=E,448nm,0.9s						
NVAR	**Mina Array Bea**	**3.53**	**163**	Pn	**Pn**	**01 06 30.9**	**+1.6**
	comp=E,4.0nm,0.3s,baz=340,slow=12,SNR=72						
NVAR				Lg	Lg	01 07 25.1	
	comp=E,9.5nm,0.3s,baz=336,slow=34,SNR=1.4						
NVAR				LR	LR	01 08 19.3	
	comp=E,3μm,18.5s,baz=344,slow=46						
NVAR	**Mina Array Bea**	**3.53**	**163**	Pn	**Pn**	**01 06 31.3**	**+2.0**
H04D	**Lebanon**	**3.54**	**321**	P	**Pn**	**01 06 28.7**	**-0.4**
	baz=138						
H04D				Sb	**Sb**	**01 07 21.6**	**+1.7**
	baz=138						
G05D	**Wamic, OR**	**3.64**	**341**	P	**Pn**	**01 06 31.7**	**+1.0**
	baz=159,SNR=24						
G05D				Sb	**Sb**	**01 07 25.4**	**+2.5**
	baz=159						
KEBM	**Edson Butte**	**3.64**	**288**		**Pn**	**01 06 30.6**	**-0.1**
KEBM				IAML		01 07 35.9	
	comp=E,645nm,1.4s						
KEBM				IAML		01 07 44.0	
	comp=N,814nm,1.3s						
LHV	**Little Huntoon**	**3.66**	**166**	Pn	**Pn**	**01 06 34.5**	**+3.6**
LHV				IAML		01 07 39.2	
	comp=E,609nm,1.2s						
LHV				IAML		01 07 49.8	
	comp=N,537nm,1.0s						
I02D	**Swisshome**	**3.85**	**308**	P	**Pn**	**01 06 34.3**	**+0.8**
	baz=124,SNR=9.3						
MDPB	**Devils Postpil**	**4.20**	**174**	Pn	**Pn**	**01 06 39.2**	**+0.7**
PLID	**Pearl Lake**	**4.21**	**38**	Pn	**Pn**	**01 06 38.5**	**-0.1**
PLID				IAML		01 07 59.2	
	comp=N,257nm,1.3s						
PLID				IAML		01 08 00.7	
	comp=N,288nm,1.2s						
HLID	**Hailey**	**4.22**	**64**	P	**Pn**	**01 06 39.4**	**+0.6**
	baz=248						
HLID	**Hailey**	**4.22**	**64**	Pn	**Pn**	**01 06 39.1**	**+0.3**
MLAC	**Mammoth, Mammo**	**4.22**	**171**	P	**Pn**	**01 06 37.7**	**-1.1**
	baz=352						
F05D	**White Salmon**	**4.28**	**343**	P	**Pn**	**01 06 41.1**	**+1.7**
	baz=161						
F05D				Sb	**Sb**	**01 07 44.8**	**+3.5**
	baz=161						
G03D	**McMinnville, O**	**4.30**	**323**	P	**Pn**	**01 06 39.8**	**+0.1**
	baz=140						
G03D				Sb	**Sb**	**01 07 45.0**	**+3.0**
	baz=140						
F10A	**Beach Ranch, E**	**4.50**	**22**		**Pn**	**01 06 42.1**	**-0.5**
F10A				IAML		01 08 12.7	
	comp=E,397nm,1.2s						
F10A				IAML		01 08 19.7	
	comp=N,423nm,1.5s						
HAWA	**Hanford**	**4.58**	**1**	Pn	**Pn**	**01 06 42.1**	**-1.4**
HAWA				IAML		01 08 07.7	
	comp=N,268nm,1.3s						
HAWA				IAML		01 08 20.4	
	comp=N,239nm,1.2s						
R11A	**Troy Canyon, C**	**4.65**	**137**	P	**Pn**	**01 06 46.0**	**+1.3**
	baz=320						
R11A				Sb	**Sg**	**01 08 01.9**	**-0.7**
	baz=320						
TIN	**Tinemaha, Big**	**4.88**	**167**	P	**Pn**	**01 06 47.7**	**0.0**
	baz=348						
F04D	**Rainier, OR**	**4.92**	**331**	P	**Pn**	**01 06 47.1**	**-1.0**
	baz=149						
BGU	**Big Grassy Mou**	**5.04**	**98**	Pn	**Pn**	**01 06 51.1**	**+1.0**
BGU				IAML		01 08 21.4	
	comp=N,277nm,2.2s						
GRAC	**Grapevine Rang**	**5.12**	**159**	P	**Pn**	**01 06 51.5**	**+0.5**
	baz=341						
GRAC				Sb	**Sg**	**01 08 14.7**	**-3.1**
	baz=341						
E04D	**Cinebar**	**5.19**	**337**	P	**Pn**	**01 06 50.5**	**-1.4**
	baz=155						
DUG	**Dugway, Tooele**	**5.41**	**105**	P	**Pn**	**01 06 56.8**	**+1.8**
	baz=290						
DUG	**Dugway, Tooele**	**5.41**	**105**	Pn	**Pn**	**01 06 56.4**	**+1.4**
SPUT	**South Promonto**	**5.41**	**93**	Pn	**Pn**	**01 06 55.5**	**+0.3**
VOG	**Valley Oaks Go**	**5.49**	**178**	P	**Pn**	**01 06 54.7**	**-1.3**
	baz=358						
VOG				Sb	**Sg**	**01 08 24.8**	**-4.8**
	baz=358						
CWC	**Cottonwood Cre**	**5.50**	**167**	P	**Pn**	**01 06 57.4**	**+1.1**
	baz=348						
PSUT	**Pine Spring**	**5.50**	**125**	Pn	**Pn**	**01 06 59.6**	**+3.1**
TPNV	**Topopah Spring**	**5.52**	**151**	P	**Pn**	**01 06 59.8**	**+3.2**
	baz=333						
TPNV	**Topopah Spring**	**5.52**	**151**	Pn	**Pn**	**01 06 59.3**	**+2.7**
PRN	**Pahroc Range**	**5.65**	**140**	Pn	**Pn**	**01 07 01.8**	**+3.5**
FURC	**Furnace Creek,**	**5.76**	**157**	P	**Pn**	**01 07 02.7**	**+3.0**
	baz=339						
MCMT	**McKenzie Canyo**	**5.79**	**56**	Pn	**Pn**	**01 07 00.9**	**+0.5**
D04E	**Lakebay**	**5.81**	**338**	P	**Pn**	**01 07 00.8**	**+0.3**
	baz=156						
NLU	**North Lily Min**	**6.02**	**105**	Pn	**Pn**	**01 07 04.7**	**+1.2**
HWUT	**Hardware Ranch**	**6.04**	**89**	Pn	**Pn**	**01 07 04.8**	**+1.1**
ISA	**Isabella, Lake**	**6.21**	**171**	Pg	**Pg**	**01 07 33.3**	**+1.1**
	baz=352						
D03D	**Eldon**	**6.23**	**338**	P	**Pn**	**01 07 07.0**	**+0.9**
	baz=155,SNR=14						
SHOC	**Shoshone, Teco**	**6.46**	**155**	P	**Pn**	**01 07 11.4**	**+2.0**
	baz=338						
MSO	**Missoula**	**6.46**	**37**	P	**Pn**	**01 07 10.6**	**+1.2**
	baz=221						
MSO	**Missoula**	**6.46**	**37**	Pn	**Pn**	**01 07 10.8**	**+1.3**
LRMC	**Laurel Mtn Rad**	**6.51**	**166**	P	**Pn**	**01 07 12.5**	**+2.4**
	baz=347						
LRM	**Limekiln Ridge**	**6.56**	**50**	Pn	**Pn**	**01 07 11.0**	**+0.1**
SZCU	**Shurtz Canyon**	**6.57**	**128**	Pn	**Pn**	**01 07 13.4**	**+2.3**
MVU	**Marysvale**	**6.57**	**118**	Pn	**Pn**	**01 07 11.7**	**+0.5**
MSU	**Marysvale**	**6.59**	**118**	Pn	**Pn**	**01 07 13.7**	**+2.3**
B05A	**Bryant**	**6.68**	**346**	P	**Pn**	**01 07 10.7**	**-1.6**
	baz=164,SNR=18						
NEW	**Newport**	**6.69**	**15**	Pn	**Pn**	**01 07 14.0**	**+1.5**
	comp=N,0.2nm,0.3s,baz=192,slow=10,SNR=4.3						
NEW				Lg	Lg	01 09 01.5	
	comp=N,1.7nm,0.3s,baz=121,slow=23,SNR=6.7						
NEW	**Newport**	**6.69**	**15**	P	**Pn**	**01 07 13.9**	**+1.4**
	baz=196						
NEW	**Newport**	**6.69**	**15**		**Pn**	**01 07 13.5**	**+1.0**
MTPU	**Mount Pierson**	**6.85**	**121**	Pn	**Pn**	**01 07 17.4**	**+2.4**
GSC	**Goldstone, Bar**	**6.87**	**160**	P	**Pn**	**01 07 13.4**	**-1.7**
	baz=342						
LCMT	**Little Creek M**	**6.89**	**132**	Pn	**Pn**	**01 07 18.1**	**+2.7**
TMUT	**Trail Mountain**	**6.89**	**109**	Pn	**Pn**	**01 07 17.5**	**+1.9**
BOZ	**Bozeman (W)**	**6.92**	**54**	P	**Pn**	**01 07 17.0**	**+1.2**
	baz=240						
TUQ	**Turquoise Moun**	**7.00**	**154**	P	**Pn**	**01 07 18.2**	**+1.3**
	baz=337						
EDW2	**Edwards Air Fo**	**7.04**	**169**	P	**Pn**	**01 07 17.2**	**-0.2**
	baz=350						
KNB	**Kanab**	**7.12**	**130**	Pn	**Pn**	**01 07 20.9**	**+2.3**
A04D	**Lummi Island**	**7.24**	**344**	P	**Pn**	**01 07 20.4**	**+0.4**
	baz=161						
HRY	**Holter Researc**	**7.43**	**46**	Pn	**Pn**	**01 07 22.5**	**-0.4**
BW06	**Boulder Array**	**7.53**	**79**	P	**Pn**	**01 07 26.8**	**+2.6**
	baz=267						
PDAR	**Pinedale Array**	**7.53**	**79**	Pn	**Pn**	**01 07 26.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=20						
PDAR				Lg	Lg	01 09 27.7	
	baz=261,slow=29,SNR=2.1						
PDAR				LR	LR	01 11 05.0	
	comp=N,457nm,20.2s,baz=356,slow=44						
RDMU	**Red Mountain**	**7.69**	**96**	Pn	**Pn**	**01 07 27.7**	**+1.3**
BELC	**Belle Mtn. Jos**	**8.31**	**159**	P	**Pn**	**01 07 35.5**	**+0.6**
	baz=341						
PFO	**Pinyon Flats O**	**8.56**	**162**	Lg	Lg	01 10 05.1	
	comp=N,0.1nm,0.3s,baz=242,slow=16,SNR=1.7						
PFO				LR	LR	01 11 02.6	
	comp=N,663nm,20.4s,baz=358,slow=38						
O20A	**White River Ci**	**8.78**	**97**	P	**Pn**	**01 07 42.9**	**+1.6**
	baz=285						
WUAZ	**Wupatki**	**9.01**	**132**	P	**Pn**	**01 07 46.7**	**+2.2**
	baz=317						
PV02	**Paradox Valley**	**9.10**	**110**	Pn	**Pn**	**01 07 47.7**	**+1.9**
MVCO	**Mesa Verde**	**9.75**	**114**	P	**Pn**	**01 07 56.2**	**+1.4**
	baz=302						
K22A	**Casper**	**9.76**	**81**	P	**Pn**	**01 07 54.5**	**-0.2**
	baz=270						
K22A	**Casper**	**9.76**	**81**	Pn	**Pn**	**01 07 55.8**	**+1.0**
N23A	**Red Feather La**	**10.33**	**91**	P	**Pn**	**01 08 05.4**	**+2.7**
	baz=280						
PHWY	**Pilot Hill**	**10.64**	**88**	Pn	**Pn**	**01 08 07.8**	**+0.9**
S22A	**4UR Ranch, Cre**	**10.65**	**108**	P	**Pn**	**01 08 08.8**	**+1.6**
	baz=297						
ISCO	**Idaho Springs**	**10.82**	**96**	P	**Pn**	**01 08 10.0**	**+0.7**
	baz=286						
ISCO	**Idaho Springs**	**10.82**	**96**	Pn	**Pn**	**01 08 11.4**	**+2.0**
Q24A	**Divide**	**11.41**	**100**	P	**Pn**	**01 08 20.3**	**+2.9**
	baz=289						
SDCO	**Great Sand Dun**	**11.61**	**106**	P	**Pn**	**01 08 22.8**	**+2.6**
	baz=295						
SDCO	**Great Sand Dun**	**11.61**	**106**	Pn	**Pn**	**01 08 22.7**	**+2.6**
TUC	**Tucson**	**11.82**	**141**	P	**Pn**	**01 08 25.5**	**+2.6**
	baz=326						
ANMO	**Albuquerque**	**12.40**	**119**	Pn	**Pn**	**01 08 35.0**	**+4.1**
	comp=N,0.1nm,0.3s,baz=310,slow=12,SNR=4.5						
ANMO				Lg	Lg	01 12 08.3	
	baz=202,slow=18,SNR=1.0						
ANMO				LR	LR	01 14 04.5	
	comp=N,664nm,21.2s,baz=5.5,slow=41						
ANMO	**Albuquerque**	**12.40**	**119**	P	**Pn**	**01 08 34.7**	**+3.8**
	baz=308						
ANMO	**Albuquerque**	**12.40**	**119**		**Pn**	**01 08 34.3**	**+3.4**
T25A	**Trinidad**	**12.65**	**107**	P	**Pn**	**01 08 37.3**	**+2.9**
	baz=297						
121A	**Cookes Peak, D**	**13.22**	**131**	P	**Pn**	**01 08 44.3**	**+2.2**
	baz=318						
HSIG		**14.59**	**148**	P	**P**	**01 09 08.1**	**+0.8**
MNTX	**Cornudas Mount**	**15.22**	**127**	P	**P**	**01 09 13.6**	**-0.8**
	baz=316						
MNTX	**Cornudas Mount**	**15.22**	**127**	P	**P**	**01 09 15.3**	**+0.9**
SUSD	**Miller**	**15.32**	**73**	P	**P**	**01 09 16.0**	**+0.6**
SUSD				IAmb	IAmb	01 09 27.2	
	comp=Z,22nm,0.7s						
CBKS	**Cedar Bluff**	**15.47**	**95**	P	**P**	**01 09 16.0**	**-1.1**
AMTX	**Amarillo**	**15.68**	**110**	P	**Pn**	**01 09 16.7**	**+1.4**
	baz=302						
AMTX	**Amarillo**	**15.68**	**110**	P	**P**	**01 09 22.0**	**+2.5**
AMTX				IAmb	IAmb	01 09 40.8	
	comp=Z,19nm,1.1s						
BGNE	**Belgrade**	**16.07**	**84**	P	**P**	**01 09 24.2**	**+0.5**
BGNE				IAmb	IAmb	01 09 27.1	
	comp=Z,26nm,0.8s						
R32A	**Long Quarter,**	**16.35**	**95**	P	**P**	**01 09 27.2**	**+0.3**
R32A				IAmb	IAmb	01 09 33.8	
	comp=Z,44nm,1.4s						
ECSD	**EROS Data Cent**	**17.00**	**76**	P	**Pn**	**01 09 32.5**	**+0.4**
	baz=272						
ECSD	**EROS Data Cent**	**17.00**	**76**	P	**P**	**01 09 34.3**	**+0.2**
KAN10	**Anthony SW Sta**	**17.26**	**99**	P	**P**	**01 09 38.4**	**+1.3**
KAN10				IAmb	IAmb	01 09 43.5	
	comp=Z,26nm,1.2s						
F33A	**5 Mile Ranch,**	**17.30**	**69**	P	**Pn**	**01 09 36.2**	**+0.5**
L34A	**Svendsen Farm,**	**17.31**	**82**	P	**Pn**	**01 09 36.4**	**+0.4**
L34A				IAmb	IAmb	01 09 50.8	
	comp=Z,13nm,0.5s						
KAN17	**Caldwell West**	**17.54**	**99**	P	**P**	**01 09 41.8**	**+1.7**
KAN17				IAmb	IAmb	01 09 46.6	
	comp=Z,48nm,1.5s						
KS20	**Mayfield South**	**17.62**	**98**	P	**Pn**	**01 09 40.4**	**+0.5**
KS20				IAmb	IAmb	01 09 47.4	
	comp=Z,30nm,1.5s						
KSU1	**Kansas State U**	**17.72**	**91**	P	**P**	**01 09 43.6**	**+1.6**
	baz=286						
DLBC	**Dease Lake**	**17.89**	**342**	LR	LR	01 16 16.4	
	comp=Z,207nm,20.2s,baz=72,slow=36						
TXAR	**Lajitas Array**	**17.95**	**129**	P	**P**	**01 09 47.4**	**+2.6**
	comp=Z,0.0nm,0.3s,baz=325,slow=8.3,SNR=16						
TXAR				LR	LR	01 17 44.2	
	comp=Z,336nm,20.6s,baz=0.0,slow=41						
AGMN	**Agassiz Nation**	**17.96**	**61**	P	**Pn**	**01 09 43.4**	**-0.7**
N35A	**Tabor**	**18.03**	**85**	P	**Pn**	**01 09 44.8**	**-0.1**
N35A				IAmb	IAmb	01 09 52.4	
	comp=Z,64nm,1.2s						
ABTX	**Abilene, Hawle**	**18.34**	**114**	P	**P**	**01 09 50.5**	**+1.6**
	baz=306						
ULM	**Lac du Bonnet**	**18.46**	**55**	P	**Pn**	**01 09 51.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=253,slow=8.0,SNR=4.4						
ULM				Lg

T42A	Van Buren	22.50	93	P		P	01 10 34.2	+0.1
HKT	Hockley	22.55	114	P		P	01 10 35.9	+1.4
HKT				IAmb		IAmb	01 10 41.6	
comp=Z,33nm,1.4s								
I42A	Draeger Farm,	22.55	74	P		P	01 10 34.9	+0.3
I42A				IAmb		IAmb	01 10 39.8	
comp=Z,14nm,1.1s								
P43A	Skaggs, Pawnee	22.87	85	P		P	01 10 37.0	-0.9
Q44A	Meyer Farm, Va	23.45	87	P		P	01 10 44.6	+0.8
O44A	Mansfield	23.52	84	P		P	01 10 44.0	-0.6
S44A	Carbondale	23.65	90	P		P	01 10 45.3	-0.6
S44A				IAmb		IAmb	01 10 50.3	
comp=Z,24nm,1.2s								
SIUC	Southern Illin	23.67	90	P		P	01 10 43.5	-2.5
SFIN	Lafayette	24.48	82	P		P	01 10 53.9	+0.2
baz=284								
SFIN	Lafayette	24.48	82	P		P	01 10 54.6	+0.9
SFIN				IAmb		IAmb	01 10 58.3	
comp=Z,8.4nm,0.8s								
W45A	Hickory Valley	24.66	96	P		P	01 10 56.6	+1.3
L46A	Eue Claire	24.72	78	P		P	01 10 55.9	+0.1
USIN	University of	24.75	88	P		P	01 10 57.4	+1.3
OXF	Oxford	24.77	97	P		P	01 10 57.2	+0.9
baz=296								
OXF	Oxford	24.77	97	P		P	01 10 57.2	+0.9
N25K	Chitina, Valde	24.86	331	P		P	01 10 55.5	-1.5
baz=131								
WVT	Waverly	25.28	92	P		P	01 11 02.2	+1.4
baz=293								
PLAL	Pickwick Lake	25.56	95	P		P	01 11 02.9	-0.6
PLAL				IAmb		IAmb	01 11 09.0	
comp=Z,13nm,1.1s								
WCI	Wyandotte Cave	25.69	87	P		P	01 11 04.4	-0.2
baz=289								
WCI	Wyandotte Cave	25.69	87	P		P	01 11 04.2	-0.4
SCRK	Sand Creek	26.30	336	P		P	01 11 09.9	-0.1
baz=136								
P49A	Miami Univ. Ec	26.47	83	P		P	01 11 12.2	+0.5
baz=286								
WAT6	Susitna Watana	26.62	331	P		P	01 11 10.9	-2.1
baz=128								
INK	Inuvik	27.57	349	P		P	01 11 20.6	-0.7
comp=Z,0.8nm,0.8s,baz=124,slow=9.8,SNR=2.4								
INK	Inuvik	27.57	349	P		P	01 11 21.6	+0.3
baz=157								
INK	Inuvik	27.57	349	P		P	01 11 19.7	-1.6
ILAR	Eielson Array	27.76	335	P		P	01 11 23.4	+0.4
comp=Z,1.3nm,0.9s,baz=150,slow=8.0,SNR=13								
ILAR				LR		LR	01 21 59.8	
comp=Z,315nm,19.1s,baz=126,slow=36								
TRF	Thorofare Moun	28.07	331	P		P	01 11 23.6	-2.4
baz=126								
TKL	Tuckaleechee C	28.49	91	P		P	01 11 29.2	-0.6
comp=Z,5.7nm,1.2s,baz=293,slow=7.7,SNR=2.8								
TKL				LR		LR	01 24 03.8	
comp=Z,296nm,18.2s,baz=281,slow=39								
BPAW	Bear Paw Mtn.	28.71	332	P		P	01 11 31.3	-0.2
baz=126								
MLY	Manley	29.18	333	P		P	01 11 34.5	-1.2
baz=128								
H23K	Yukon River	29.29	335	P		P	01 11 37.1	+0.4
baz=130								
SADO	Sadowa	29.41	70	LR		LR	01 24 07.7	
comp=Z,258nm,21.8s,baz=314,slow=38								
GOGA	Godfrey	29.68	95	P		P	01 11 40.4	0.0
baz=297								
J20K	Nowinta River	29.90	330	P		P	01 11 41.5	-0.5
baz=122								
LSQQ	Lebel-sur-Quev	30.46	62	P		P	01 11 47.0	-0.2
baz=273								
KMSC	Kings Mountain	30.52	90	P		P	01 11 48.8	+0.9
baz=294								
IMAR	Indian Mountai	30.76	333	P		P	01 11 50.4	+0.8
H57A	Richville	32.10	70	P		P	01 12 02.5	+0.9
baz=281								
NHSC	New Hope	32.27	93	P		P	01 12 03.4	+0.2
baz=297								
L58A	Harry Jones Me	32.31	75	P		P	01 12 05.2	+1.6
baz=285								
H58A	Gabriels	32.96	70	P		P	01 12 10.0	+0.8
baz=282								
SCHQ	Schefferville	36.56	51	P		P	01 12 40.7	+0.5
comp=Z,8.3nm,1.3s,baz=276,slow=14,SNR=3.5								
SCHQ				LR		LR	01 28 19.7	
comp=Z,289nm,21.6s,baz=328,slow=37								
SCHQ	Schefferville	36.56	51	P		P	01 12 41.0	+0.9
SCHQ				IAmb		IAmb	01 13 00.9	
comp=Z,9.0nm,1.2s								
ANWB	Willy Bob	54.57	98	P		P	01 15 03.1	0.0
YAK	Yakutsk	62.53	330	LR		LR	01 43 06.1	
comp=Z,114nm,21.0s,baz=93,slow=36								
ARCES	ARCESS Array B	66.04	13	LR		LR	01 46 26.9	
comp=Z,90nm,19.5s,baz=90,slow=37								
FINES	FINESS Array B	73.39	16	P		P	01 17 06.9	+0.6
comp=Z,2.2nm,0.8s,baz=324,slow=6.9,SNR=3.9								
FINES	FINESS Array B	73.39	16	P		P	01 17 07.3	+0.9
MNMC	Minye Minye	76.26	132	P		P	01 17 22.9	-0.9
MNMC				IAmb		IAmb	01 17 47.3	
comp=Z,4.4nm,1.1s								
NIUE	Niue	76.36	228	P		P	01 17 23.0	-1.0
JCJ	Chichijima	78.11	296	LR		LR	01 46 47.5	
comp=Z,105nm,19.7s,baz=328,slow=32								
CLL	Collm	78.50	28	*e*pP		pP	01 17 39.0	+2.1
ESDC	Sonseca Array	80.07	45	P		P	01 17 45.4	+0.8
comp=Z,0.7nm,0.9s,baz=311,slow=5.5,SNR=4.6								
SONM	Songino Array	81.89	331	P		P	01 17 53.5	-0.7
comp=Z,0.8nm,0.3s,baz=46,slow=4.2,SNR=5.5								
SONM	Songino Array	81.89	331	P		P	01 17 53.1	-1.1
SONM				IAmb		IAmb	01 17 57.1	
comp=Z,1.4nm,0.6s								
ZALV	Zalesovo Beam	82.33	346	P		P	01 17 56.6	+0.4
comp=Z,0.6nm,0.5s,baz=1.5,slow=3.6,SNR=2.3								
AKASG	Malin Array Be	83.93	19	P		P	01 18 04.1	-0.4
comp=Z,0.2nm,0.4s,baz=339,slow=4.2,SNR=1.8								
HHC	Hu-ho-hao-te	85.56	324	*e*P		P	01 18 10.0	-3.1
HHC				pmax		pmax		
comp=Z,16nm,0.7s								
HHC				pmax		pmax		
comp=Z,80nm,6.6s								
NJ2	Nanjing	88.91	314	*e*P		P	01 18 27.3	-2.0
NJ2				pmax		pmax		
comp=Z,10.0nm,0.5s								
MKAR	Makanchi Array	89.65	345	P		P	01 18 33.2	+0.6
comp=Z,0.3nm,0.7s,baz=13,slow=4.1,SNR=3.1								
WMQ	Urumqi	91.28	341	*e*P		P	01 18 40.5	+0.2

NEIC ***27*** *01:14:38.9±1.1,52°.24N±0°.08×169°.34W±0°.10, h27km±17km, Error ellipse: s-maj=12.8km s-min=7.8km az=160.0*

AEIC 27 01:14:37±1.5, 52°.14N±0°.03×169°.33W±0°.07, h15km±6km, ML3.6/13, Error ellipse: s-maj=6.4km s-min=2.9km az=112.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.89	19		Pg	01 14 54.3	+0.1
OKTU	Okmok Mt. Tuli	1.47	31		Pn	01 15 02.5	-0.5
OKER	Okmok East Rim	1.53	30		Pn	01 15 03.2	-0.7
MAPS	Pakushin South	2.21	40		Pn	01 15 12.3	-0.8
MNAT	Makushin Natee	2.37	41		Pn	01 15 15.8	+0.5
UNV	Unalaska Valle	2.42	44		Pn	01 15 16.5	+0.5
MTBL	Makushin Table	2.44	40		Pn	01 15 17.4	+1.1
AKUT	Akutan	2.93	46	Pn	Pn	01 15 22.1	-0.9
ATKA	Atka Island	3.00	273	Pn	Pn	01 15 24.0	+0.1
GSTR	Great Sitkin T	4.15	272	Pn	Pn	01 15 40.4	+0.6
FALS	False Pass	4.46	50	Pn	Pn	01 15 42.2	-1.8
ADK	Adak	4.55	270	Pn	Pn	01 15 45.4	+0.1
KIWB	Kanaga Island	4.84	270	Pn	Pn	01 15 49.6	+0.4
AMKA	Amchitka	7.10	268	Pn	Pn	01 16 20.8	+0.6
TTA	Tatalina	12.94	28	Pn	Pn	01 17 39.1	-1.1

IDC ***27*** *01:14:58.8±1.0, 52°.34N×169°.53W, h0km, mb4.1/17, mb1 4.2/19, mb1mx4.1/48, mbtmp4.1/19, ML3.8/2, Error ellipse: s-maj=28.9km s-min=15.6km az=173.0*

AEIC ***27*** *01:15:02±3.5, 52°.19N±0°.06×169°.44W±0°.08, h18km±4km, Error ellipse: s-maj=9.5km s-min=5.6km az=150.0*

NEIC ***27*** *01:15:04.9±2.5, 52°.31N±0°.05×169°.48W±0°.04, h38km±7km, mb4.3/56, ML3.8/40(AEIC), Error ellipse: s-maj=8.1km s-min=1.6km az=160.0*

ISC 27 01:15:03.3±0.6, 52°.20N±0°.09×169°.38W±0°.05, h30km, n152, σ1$39/148, mb4.3/47, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.84	22		Pn	01 15 17.5	-1.6
NIKH	Nikolski High	0.84	22		Sn	01 15 32.7	+2.3
OKCE	Okmok Cone E	1.44	30		Pn	01 15 27.4	+0.1
OKCE					Sb	01 15 47.6	+0.2
OKNC	Okmok New Cone	1.48	31		Pn	01 15 28.3	+0.4
MAPS	Pakushin South	2.19	41		Pn	01 15 37.6	0.0
MAPS					Sn	01 16 05.8	+2.2
MSW	Makushin Switc	2.33	41		Pn	01 15 40.0	+0.5
MNAT	Makushin Natee	2.35	43		Pn	01 15 40.5	+0.7
MNAT					Sn	01 16 09.6	+2.1
UNV	Unalaska Valle	2.40	45		Pn	01 15 40.8	+0.4
UNV					Sn	01 16 10.9	+2.1
MTBL	Makushin Table	2.41	41		Pn	01 15 42.1	+1.4
AKMO	Akutan Morgan	2.78	46		Pn	01 15 48.1	+2.4
AKRB	Akutan Reef Bi	2.78	44		Pn	01 15 48.0	+2.3
AKBBA	Akutan Broad B	2.82	46		Pn	01 15 48.4	+2.2
AKGG	Akutan Green G	2.86	44		Pn	01 15 48.5	+1.7
KOFP	Korovin Flat P	2.90	273		Pn	01 15 47.8	+0.3
AKUT	Akutan	2.91	47	Pn	Pn	01 15 49.4	+1.8
ATKA	Atka Island	2.97	272	Pn	Pn	01 15 47.7	-0.6
ATKA	Atka Island	2.97	272		Sn	01 16 23.9	+1.1
KOKL	Mount Kliuchef	2.97	274		Pn	01 15 49.3	+0.9
GSTR	Great Sitkin T	4.12	271	Pn	Pn	01 16 04.4	+0.2
GSMY	Great Sitkin M	4.12	271		Pn	01 16 04.6	+0.4
GSTD	Great Sitkin T	4.17	271		Pn	01 16 05.2	+0.3
ADK	Adak	4.52	269	Pn	Pn	01 16 09.7	+0.1
KIWB	Kanaga Island	4.81	269	Pn	Pn	01 16 14.1	+0.5
KIKV	Kanaga Island	4.82	269		Pn	01 16 14.4	+0.6
KIMD	Kanaga Island	4.88	268		Pn	01 16 14.5	0.0
SPIA	Saint Paul Isl	5.02	355	Pn	Pn	01 16 18.5	+2.1
TAFP	Tanaga Falls P	5.32	270		Pn	01 16 20.8	+0.2
TASE	Tanaga Southea	5.36	270		Pn	01 16 21.4	+0.1
GAEA	Gareloi East	5.80	270		Pn	01 16 29.0	+1.7
CERAA	Semis' Rag'd T	6.75	272		Pn	01 16 41.2	+0.9
CESW	Semis' Southwe	6.83	272		Pn	01 16 42.4	+1.1
AMKA	Amchitka	7.07	268	Pn	Pn	01 16 47.2	+2.5
LSPA	Little Sitkin	7.43	273		Pn	01 16 51.1	+1.5
LSNW	Little Sitkin	7.47	273		Pn	01 16 51.1	+1.1
SMY	Shemya	10.10	280	Pn	Pn	01 17 29.0	+2.8
OHAK	Old Harbor	10.57	55	Pn	Pn	01 17 31.3	-1.3
KDAK	Kodiak Island	11.14	53	Pn	Pn	01 17 38.4	-1.8
0.5nm,0.3s,baz=276,slow=8.0,SNR=10							
KDAK				Sn	Sn	01 19 38.8	-4.8
0.1nm,0.3s,baz=274,slow=16,SNR=1.4							
KDAK	Kodiak Island	11.14	53	Pn	Pn	01 17 38.6	-1.7
TNA	Tin City	13.43	3	Pn	Pn	01 18 14.7	+3.3
SEW	Seward	13.60	47	Pn	Pn	01 18 12.5	-1.3
O22K	Cooper Landing	13.65	45	Pn	Pn	01 18 12.9	-1.7
PWL	Port Wells	14.43	45	Pn	Pn	01 18 23.3	-2.0
GHO	Glory Hole Cre	14.64	41		P	01 18 32.1	-2.0
SML	Sawmill	14.90	42		P	01 18 35.4	-1.6
KTH	Kantishna Hill	14.96	33		P	01 18 35.9	-1.7
HIN	Hinchinbrook I	15.05	48	Pn	Pn	01 18 31.1	-2.5
TRF	Thorofare Moun	15.11	34		P	01 18 38.2	-1.2
BPAW	Bear Paw Mtn.	15.30	32	Pn	Pn	01 18 38.7	+1.8
BPAW				IAmb	IAmb	01 18 53.9	
comp=Z,5.5nm,0.7s							
SCM	Sheep Creek Mo	15.32	42		Pn	01 18 34.8	-2.5
SCM				IAmb	IAmb	01 18 50.2	
comp=Z,12nm,0.6s							
KLU	Klutina	15.76	45		Pn	01 18 40.9	-2.0
KLU				IAmb	IAmb	01 18 48.2	
comp=Z,8.0nm,0.5s							
IMAR	Indian Mountai	15.91	24	P	P	01 18 49.0	+0.9
M24K	Tolsona, Glenn	15.93	42	Pn	Pn	01 18 43.6	-1.5
M24K				IAmb	IAmb	01 18 56.0	
comp=Z,9.3nm,0.7s							
MLY	Manley	16.02	29		P	01 18 49.0	-0.4
BMRM	Bremner River	16.14	47		P	01 18 49.3	-1.4
BMRM				IAmb	IAmb	01 19 13.8	
comp=Z,13nm,1.1s							
N25K	Chitina, Valde	16.39	45	Pn	Pn	01 18 48.9	-2.0
WRH	Wood River Hil	16.50	34	Pn	Pn	01 18 52.2	-0.1
I23K	Minto, Yukon-K	16.53	31	P	P	01 18 53.8	-1.1
GLB	Gilahina Butte	16.67	46	Pn	Pn	01 18 53.4	-1.0
ILAR	Eielson Array	17.10	34	P	Pn	01 18 58.3	-1.5
comp=Z,0.2nm,0.3s,baz=226,slow=11,SNR=5.5							
ILAR	Eielson Array	17.10	34	P	Pn	01 18 59.9	+0.1
RIDG	Independent Ri	17.27	38		P	01 19 02.7	-0.4
BARN	Barnard Glacie	17.52	49		Pn	01 19 05.4	+0.3
DOT	Dot Lake	17.52	39		P	01 19 05.8	-0.2
SCRK	Sand Creek	17.71	38		Pn	01 19 07.2	-0.3
EGAK	Eagle	19.18	38	P	P	01 19 24.6	+0.5
HYT	Haines Junctio	19.41	51	P	Pn	01 19 29.6	+1.5
HYT				IAmb	IAmb	01 19 30.7	
comp=Z,14nm,0.5s							
BMAR	Burnt Mountain	19.49	29	P	P	01 19 27.6	+0.1
PEA0B	Petropavlovsk-	19.90	286	P	P	01 19 31.3	-0.8
PETK	Petropavlovsk-	19.90	286	P	P	01 19 31.0	-1.2
comp=Z,3.4nm,0.3s,baz=90,slow=13,SNR=48							
PETK	Petropavlovsk-	19.90	286	P	P	01 19 30.6	-1.5
SKAG	Skagway	20.27	56	P	Pn	01 19 38.8	+0.6
SKAG				IAmb	IAmb	01 19 53.5	
comp=Z,13nm,0.8s							
WHY	Whitehorse	20.65	52	P	Pn	01 19 44.4	+1.7
WHY				IAmb	IAmb	01 19 52.0	
comp=Z,8.1nm,0.8s							
EPYK	Eagle Plains	21.54	36	P	P	01 19 48.5	-1.3
EPYK				IAmb	IAmb	01 19 55.0	
comp=Z,8.2nm,0.8s							
INK	Inuvik	23.49	33	P	P	01 20 08.9	-1.1
comp=Z,2.7nm,0.4s,baz=236,slow=7.6,SNR=13							
INK	Inuvik	23.49	33	P	P	01 20 09.1	-1.0
C36M	Paulatuk	27.07	34	P	P	01 20 44.6	+1.9
C36M				IAmb	IAmb	01 20 58.6	
comp=Z,4.8nm,1.1s							
NLWA	Neilton Lookou	29.38	81	P	P	01 21 08.0	+4.5
YKA	Yellowknife Ar	30.36	49	P	P	01 21 12.6	+0.6
comp=Z,0.6nm,0.4s,baz=272,slow=7.8,SNR=19							
YKA	Yellowknife Ar	30.36	49	P	P	01 21 12.8	+0.8
BUCK	Buck Mountain	31.47	86	P	P	01 21 24.6	+2.5
H11N2	WAKE ISLAND Hy	37.31	219	T	T	02 02 04.0	
baz=23,slow=74							
MCMT	McKenzie Canyo	37.32	78	P	P	01 22 14.1	+1.2
H11N3	WAKE ISLAND Hy	37.32	219	T	T	02 02 01.1	
baz=23,slow=74							
H11N1	WAKE ISLAND Hy	37.33	219	T	T	02 02 11.0	
baz=23							
BOZ	Bozeman (W)	37.64	76	P	P	01 22 17.8	+2.3
YHB	Horse Butte	38.35	77	P	P	01 22 24.0	+2.4
YHB				IAmb	IAmb	01 22 41.7	
comp=Z,5.9nm,0.8s							
H11S1	WAKE ISLAND Hy	38.50	218	T	T	02 03 28.2	
baz=23,slow=76,SNR=95							
H11S2	WAKE ISLAND Hy	38.52	218	T	T	02 03 35.6	
baz=23,slow=55,SNR=55							
H11S3	WAKE ISLAND Hy	38.52	218	T	T	02 03 30.3	
baz=23,slow=76,SNR=53							
YNE	Yellowstone No	38.93	76	P	P	01 22 29.7	+3.3
YNE				IAmb	IAmb	01 22 30.4	
comp=Z,4.0nm,0.6s							
PDAR	Pinedale Array	40.44	79	P	P	01 22 39.3	+0.3
comp=Z,0.7nm,0.6s,baz=306,slow=3.8,SNR=8.3							
PDAR	Pinedale Array	40.44	79	P	P	01 22 39.7	+0.7
KSRS	Korea Array	45.42	277	P	P	01 23 18.6	-0.4
comp=Z,1.4nm,0.7s,baz=59,slow=7.0,SNR=9.5							
B35A	Bob, Littlefor	46.45	63	P	P	01 23 26.6	-0.5
B35A				IAmb	IAmb	01 23 28.2	
comp=Z,4.3nm,1.2s							
SUMG	Summit	50.95	17	*i* P	P	01 24 01.7	-0.1
SUMG				IAmb	IAmb	01 24 02.4	
comp=Z,3.0nm,0.8s							
SUMG	Summit	50.95	17	P	P	01 24 02.1	+0.4
SUMG				IAmb	IAmb	01 24 02.6	
comp=Z,5.1nm,1.0s							
SONM	Songino Array	51.38	301	P	P	01 24 03.6	-1.4
comp=Z,0.6nm,0.6s,baz=65,slow=7.5,SNR=5.1							
SONM	Songino Array	51.38	301	P	P	01 24 05.1	0.0
TX31	Lajitas Ar. Si	52.76	89	P	P	01 24 15.9	+0.5
TX31				IAmb	IAmb	01 24 43.9	
comp=Z,5.2nm,1.1s							
TX32	Lajitas Array	52.76	89	P	P	01 24 15.7	+0.2
TX32				IAmb	IAmb	01 24 29.5	
comp=Z,2.0nm,0.9s							
TXAR	Lajitas Array	52.76	89	P	P	01 24 15.7	+0.2
comp=Z,0.6nm,0.8s,baz=294,slow=5.2,SNR=9.0							
TXAR	Lajitas Array	52.76	89	P	P	01 24 16.1	+0.6
P40A	Paris	52.84	71	P	P	01 24 15.0	-0.8
P40A				IAmb	IAmb	01 24 31.2	
comp=Z,4.6nm,0.8s							
ZALV	Zalesovo Beam	57.55	318	P	P	01 24 47.5	-2.0
comp=Z,0.8nm,0.4s,baz=49,slow=7.6,SNR=3.2							
ZALV	Zalesovo Beam	57.55	318	P	P	01 24 48.8	-0.7
KEV	Kevo	57.77	353	P	P	01 24 50.3	-0.6
ARCES	ARCESS Array B	58.09	354	P	P	01 24 51.9	-1.3
comp=Z,0.9nm,0.4s,baz=18,slow=7.7,SNR=14							
ARCES	ARCESS Array B	58.09	354	P	P	01 24 52.0	-1.1
LVZ	Lovozero	58.89	350	P	P	01 24 57.9	-0.9
L56A	Greenwood	59.19	60	P	P	01 25 01.2	0.0
L56A				IAmb	IAmb	01 25 23.5	
comp=Z,5.3nm,1.1s							
SSPA	Standing Stone	60.06	61	P	P	01 25 06.9	-0.3
SSPA				IAmb	IAmb	01 25 19.4	
comp=Z,3.3nm,0.8s							
LMN	Caledonia Moun	62.91	49	P	P	01 25 26.6	+0.2
WMQ	Urumqi	63.63	308	*e*P	P	01 25 33.8	+2.5
BRVK	Borovoye	63.85	325	P	P	01 25 32.0	-0.5
BRVK				IAmb	IAmb	01 25 44.9	
comp=Z,2.5nm,0.6s							
MK31	Makanchi Array	63.92	313	P	P	01 25 31.9	-1.2
MK31				IAmb	IAmb	01 25 32.9	
comp=Z,0.8nm,0.7s							
MKAR	Makanchi Array	63.92	313	P	P	01 25 31.2	-1.8
comp=Z,0.6nm,0.3s,baz=50,slow=6.7,SNR=15							
MKAR	Makanchi Array	63.92	313	P	P	01 25 31.8	-1.3
MAKZ	Makanchi	64.05	314	P	P	01 25 32.9	-1.0
MAKZ				IAmb	IAmb	01 25 33.2	
comp=Z,1.9nm,1.1s							
ARU	Arti	64.77	333	P	P	01 25 37.7	-0.7
ARU				IAmb	IAmb	01 25 39.2	
comp=Z,2.9nm,1.0s							
FIA1	FINESS Array S	66.04	352	P	P	01 25 45.9	-0.6
FINES	FINESS Array B	66.04	352	P	P	01 25 45.6	-0.9
comp=Z,1.4nm,0.4s,baz=4.5,slow=7.7,SNR=17							
NC405	NORSAR Array S	67.04	359	P	P	01 25 51.6	-1.4
NB2	NORSAR Subarra	67.11	360	P	P	01 25 52.7	-0.8
comp=Z,0.9nm,0.6s,baz=1.8,slow=6.5							
NOA	NORSAR Array B	67.11	360	P	P	01 25 52.6	-0.9
comp=Z,1.1nm,0.6s,baz=1.3,slow=6.4,SNR=5.3							
BOOM	Boomskoye usch	70.11	314	P	P	01 26 12.9	+0.3
ABKAR	Akbulak array	70.58	328	P	P	01 26 14.7	-0.5
CHGR	Chuyangaron	76.19	317	P	P	01 26 48.4	-0.1
AKASG	Malin Array Be	76.28	348	P	P	01 26 47.5	-1.1
comp=Z,1.3nm,0.4s,baz=15,slow=5.7,SNR=11							
AKBB	Malin Array Si	76.28	348	P	P	01 26 47.9	-0.7
AKBB				IAmb	IAmb	01 26 49.0	
comp=Z,2.3nm,0.7s							
CMAR	Chiang Mai Arr	76.65	283	P	P	01 26 51.9	+0.6
comp=Z,1.4nm,0.3s,baz=29,slow=7.6,SNR=4.6							
KWP	Kalwaria Pacla	78.03	352	P	P	01 26 58.6	0.0
GERES	GERESS Array B	79.30	358	P	P	01 27 05.4	-0.3
comp=Z,0.6nm,0.6s,baz=16,slow=6.1,SNR=5.2							
GERES	GERESS Array B	79.30	358	P	P	01 27 06.1	+0.5
BUR08	Bucovina Ar. S	79.76	350	P	P	01 27 08.0	-0.2
BUR08				IAmb	IAmb	01 27 26.6	
comp=Z,2.8nm,1.3s							
BURAR	Bucovina Array	79.79	350	P	P	01 27 08.1	-0.2
BURAR				IAmb	IAmb	01 27 08.6	
comp=Z,1.1nm,0.8s							
CONA	Conrad Observa	80.15	356	*e*P	P	01 27 10.4	+0.2
comp=Z,2.6nm,1.2s							
MOA	Molln	80.28	358	*e*P	P	01 27 20.0	+9.1
comp=Z,3.1nm,1.1s							
KBZ	Khabaz	80.47	337	P	P	01 27 12.4	+0.5
comp=Z,2.2nm,0.8s,baz=320,slow=3.1,SNR=6.7							
MOTA	Moosalm	80.84	360	*e*P	P	01 27 14.9	+0.8
comp=Z,7.2nm,1.5s							
ARSA	Arzberg	80.84	357	*e*P	P	01 27 12.0	-1.9
comp=Z,3.3nm,0.9s							
DAVA	Damuels	80.89	1	*e*P	P	01 27 13.5	-0.9
comp=Z,8.9nm,1.4s							
SQTA	Sankt Quirin	80.96	360	*e*P	P	01 27 15.8	+1.1
comp=Z,5.6nm,1.3s							
KBA	Koelnbreinsper	81.08	358	*e*P	P	01 27 16.5	+1.1
comp=Z,5.8nm,1.0s							
FETA	Feichten	81.16	360	*e*P	P	01 27 16.8	+1.0
comp=Z,4.6nm,1.2s							
GEYT	Alibeck	81.17	324	P	P	01 27 15.8	0.0
comp=Z,7.8nm,0.6s,baz=55,slow=13,SNR=4.3							
ABTA	Abfaltersbach	81.42	359	*e*P	P	01 27 16.6	-0.4
comp=Z,4.7nm,1.4s							
SOKA	Soboth	81.43	357	*e*P	P	01 27 17.7	+0.5
comp=Z,3.1nm,0.9s							
OBKA	Obir	81.62	357	*e*P	P	01 27 18.7	+0.5
comp=Z,1.7nm,0.7s							
ESDC	Sonseca Array	87.63	11	P	P	01 27 47.9	-0.7
comp=Z,0.4nm,0.6s,baz=336,slow=3.9,SNR=5.3							
ESDC	Sonseca Array	87.63	11	P	P	01 27 48.6	0.0
ESDC				IAmb	IAmb	01 27 55.9	
comp=Z,3.9nm,1.5s							
ASAR	Alice Springs	90.28	230	P	P	01

PATS	**Pohnpei**	**15.71 359**	P	**Pn**	**01 18 44.7**	**-0.6**
	baz=16,SNR=7.3					
PATS	**Pohnpei**	**15.71 359**	Pn	**Pn**	**01 18 46.0**	**+0.7**
PINNC	**Pines Island,**	**16.01 149**	P	**P**	**01 18 52.4**	**0.0**
CTA	**Charters Tower**	**16.26 226**	Pn	**Pn**	**01 18 50.1**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=62,slow=16,SNR=6.2					
CTAO	**Charters Tower**	**16.26 226**	P	**Pn**	**01 18 50.1**	**-2.3**
CTAO			pmax	pmax		
	comp=Z,24nm,0.9s					
CTAO	**Charters Tower**	**16.26 226**	Pn	**Pn**	**01 18 50.1**	**-2.3**
EIDS	**Eidsvold**	**17.81 203**	P	**P**	**01 19 13.5**	**+1.2**
	baz=18,SNR=4.3					
EIDS	**Eidsvold**	**17.81 203**	P	**P**	**01 19 13.2**	**+0.9**
GENI	**Genyem**	**19.39 288**	P	**P**	**01 19 29.9**	**+0.1**
	comp=Z,3μmcomp=Z,99nm,0.7s					
RMQ	**Roma**	**19.76 207**	P	**Pn**	**01 19 35.6**	**+0.2**
	baz=20,SNR=14					
MSVF	**Nonsavu**	**20.82 117**	P	Pn	01 19 47.2	-0.8
	comp=Z,35nm,0.8s,baz=284,slow=7.4,SNR=15					
MSVF			LR	LR	01 26 33.1	
	comp=Z,366nm,18.9s,baz=207,slow=33					
MSVF	**Nonsavu**	**20.82 117**	P	Pn	01 19 47.7	-0.3
MSVF			pmax	pmax		
	comp=Z,47nm,0.9s					
MSVF	**Nonsavu**	**20.82 117**		Pn	01 19 47.7	-0.3
MSVF	**Nonsavu**	**20.82 117**	P	Pn	01 19 49.5	+1.5
QIS	**Mount Isa**	**21.64 236**	P	**P**	**01 19 54.6**	**+0.4**
	baz=22,SNR=6.8					
QLP	**Quilpie**	**22.18 216**	P	**P**	**01 20 00.9**	**+1.0**
	baz=22,SNR=3.8					
ARMA	**Armidale**	**22.31 196**	P	**P**	**01 20 03.2**	**+1.8**
	baz=22,SNR=15					
ARMA	**Armidale**	**22.31 196**	P	**P**	**01 20 02.6**	**+1.2**
CMSA	**Cobar Meteorol**	**25.46 206**	P	**P**	**01 20 31.2**	**-0.3**
	baz=26,SNR=5.6					
WR0	**Warramunga Arr**	**25.68 242**	P	**P**	**01 20 31.9**	**-1.8**
WR0			IAmb	IAmb	01 20 46.1	
	comp=Z,42nm,1.1s					
WB0	**Warramunga Arr**	**25.74 243**	P	**P**	**01 20 32.8**	**-1.5**
WB0			IAmb	IAmb	01 20 46.6	
	comp=Z,88nm,1.5s					
WRAB	**Tennant Creek**	**25.84 242**	*ce*P	**P**	**01 20 34.2**	**-1.0**
WRAB			pmax	pmax		
	comp=Z,23nm,1.0s					
WB2	**Warramunga Arr**	**25.84 242**	P	**P**	**01 20 34.5**	**-0.7**
	baz=26					
WB2	**Warramunga Arr**	**25.84 242**	P	**P**	**01 20 33.8**	**-1.4**
WB2			IAmb	IAmb	01 20 47.6	
	comp=Z,53nm,1.2s					
WRA	**Warramunga Arr**	**25.86 242**	P	**P**	**01 20 34.1**	**-1.2**
	comp=Z,14nm,0.9s,baz=68,slow=9.5,SNR=50					
WRA			PcP	**PcP**	**01 24 04.2**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=72,slow=1.7,SNR=2.7					
WRA			LR	LR	01 30 32.0	
	comp=Z,610nm,18.7s,baz=75,slow=36					
WRA	**Warramunga Arr**	**25.86 242**	P	**P**	**01 20 34.5**	**-0.8**
WRA	**Warramunga Arr**	**25.86 242**	P	**P**	**01 20 34.5**	**-0.8**
GUMO	**Guam**	**26.23 329**	P	**P**	**01 20 40.7**	**+2.1**
	comp=Z,12nm,0.3s,baz=204,slow=12,SNR=1.7					
GUMO			LR	LR	01 29 50.5	
	comp=Z,222nm,21.9s,baz=138,slow=34					
GUMO	**Guam**	**26.23 329**	P	**P**	**01 20 38.0**	**-0.6**
GUMO			pmax	pmax		
	comp=Z,117nm,1.3s					
GUMO	**Guam**	**26.23 329**	P	**P**	**01 20 38.0**	**-0.6**
MTN	**Manton Dam**	**27.23 259**	P	**P**	**01 20 46.4**	**-1.3**
CNB	**Canberra Magne**	**27.55 196**	P	**P**	**01 20 53.1**	**+2.6**
	baz=28,SNR=8.2					
CAN	**Canberra**	**27.66 197**	P	**P**	**01 20 54.9**	**+3.5**
CAN			pmax	pmax		
	comp=Z,32nm,0.8s					
CAN	**Canberra**	**27.66 197**	P	**P**	**01 20 54.9**	**+3.5**
CAN			IAmb	IAmb	01 20 55.9	
	comp=Z,32nm,0.8s					
STKA	**Stephens Creek**	**27.73 212**	P	**P**	**01 20 51.5**	**-0.5**
	comp=Z,8.6nm,0.6s,baz=48,slow=15,SNR=17					
STKA			LR	LR	01 32 20.2	
	comp=Z,682nm,18.3s,baz=12,slow=38					
STKA	**Stephens Creek**	**27.73 212**	P	**P**	**01 20 51.9**	**-0.1**
	baz=28,SNR=12					
STKA	**Stephens Creek**	**27.73 212**	P	**P**	**01 20 51.3**	**-0.7**
STKA			pmax	pmax		
	comp=Z,5.0nm,1.1s					
STKA	**Stephens Creek**	**27.73 212**	P	**P**	**01 20 51.3**	**-0.7**
ASAR	**Alice Springs**	**27.77 235**	P	**P**	**01 20 51.2**	**-1.3**
	comp=Z,4.7nm,0.9s,baz=64,slow=8.9,SNR=10					
ASAR			PcP	**PcP**	**01 24 08.6**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=67,slow=2.8,SNR=3.6					
ASAR			ScP	**ScP**	**01 27 49.9**	**+2.2**
	comp=Z,2.3nm,1.1s,baz=64,slow=4.2,SNR=5.5					
SIJI	**Sorong**	**28.37 285**	P	**P**	**01 20 58.2**	**+0.2**
	comp=Z,3.2nm,0.3s,baz=66,slow=19,SNR=1.8					
SIJI			LR	LR	01 34 24.9	
	comp=Z,1μm,18.7s,baz=160,slow=41					
AFI	**Afiamalu**	**29.44 102**	LR	LR	01 30 57.8	
	comp=Z,1μm,18.8s,baz=283,slow=32					
KNRA	**Kununurra**	**29.87 254**	P	**P**	**01 21 10.8**	**-0.4**
	baz=30,SNR=7.5					
KNRA	**Kununurra**	**29.87 254**	P	**P**	**01 21 10.1**	**-1.2**
KNRA			IAmb	IAmb	01 21 20.2	
	comp=Z,52nm,1.4s					
RAO	**Raoul Island**	**29.88 136**	LR	LR	01 32 20.2	
	comp=Z,530nm,18.8s,baz=324,slow=35					
MSAI	**Masohi**	**30.00 279**	P	**P**	**01 21 16.8**	**+4.3**
KNTN	**Kanton**	**30.15 80**	P	**P**	**01 21 13.7**	**-0.1**
KNTN			IAmb	IAmb	01 21 15.7	
	comp=Z,38nm,0.8s					
KNTN	**Kanton**	**30.15 80**	P	**P**	**01 21 14.8**	**+1.0**
BBOO	**Buckleboo**	**31.57 218**	P	**P**	**01 21 25.6**	**-0.5**
	baz=32,SNR=10					
BBOO	**Buckleboo**	**31.57 218**	P	**P**	**01 21 25.7**	**-0.5**
BBOO			IAmb	IAmb	01 21 36.6	
	comp=Z,39nm,0.9s					
WRKA	**Warakurna**	**32.97 237**	P	**P**	**01 21 37.1**	**-1.4**
	baz=33,SNR=8.2					
SANI	**Sanana**	**33.15 280**	P	**P**	**01 21 41.4**	**+1.2**
	comp=Z,31nm,1.4s					
URZ	**Urewera**	**33.59 153**	P	**P**	**01 21 44.2**	**+0.5**
	comp=Z,24nm,0.7s,baz=322,slow=5.2,SNR=9.1					
URZ	**Urewera**	**33.59 153**	P	**P**	**01 21 44.6**	**+0.9**
URZ			IAmb	IAmb	01 21 46.0	
	comp=Z,26nm,0.8s					
SOEI	**Soe**	**33.87 266**	P	**P**	**01 21 50.7**	**+4.1**
	comp=Z,37nm,1.0s					
BKZ	**Black Stump Fm**	**34.08 155**	P	**P**	**01 21 47.8**	**-0.2**
THZ	**Tophouse**	**35.02 161**	P	**P**	**01 21 55.9**	**-0.2**
TUWZ	**Tuamarina**	**35.06 160**	P	**P**	**01 21 56.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**35.30 160**	P	**P**	**01 21 58.3**	**-0.1**
MSWZ	**Moikau Station**	**35.52 158**	P	**P**	**01 21 58.6**	**-1.8**
PLWZ	**Palliser**	**35.65 158**	P	**P**	**01 22 00.2**	**-1.4**
LTZ	**Lake Taylor**	**35.76 163**	P	**P**	**01 22 02.8**	**+0.4**
KHZ	**Kahutara**	**35.81 161**	P	**P**	**01 22 01.8**	**-1.0**
KHZ			IAmb	IAmb	01 22 02.9	
	comp=Z,34nm,0.7s					
MMRI	**Maumere**	**35.92 268**	P	**P**	**01 22 01.8**	**-2.3**
	comp=Z,10μmcomp=Z,78nm,0.8s					
OXZ	**Oxford**	**36.19 163**	P	**P**	**01 22 05.2**	**-0.8**
OXZ			IAmb	IAmb	01 22 09.4	
	comp=Z,83nm,1.5s					
EDFI	**Ende, Flores**	**36.45 267**	P	**P**	**01 22 07.1**	**-1.7**
	comp=Z,19nm,1.3s					
LUWI	**Luwuk**	**36.51 280**	P	**P**	**01 22 07.6**	**-1.5**
LUWI			IAmb	IAmb	01 22 21.0	
	comp=Z,58nm,1.1s					
GTOI	**Gorontalo**	**36.70 283**	P	**P**	**01 22 10.6**	**-0.2**
	comp=Z,240nmcomp=Z,20nm,0.8s					
MQZ	**McQueen's Vall**	**36.71 163**	P	**P**	**01 22 09.6**	**-0.9**
MQZ			IAmb	IAmb	01 22 10.6	
	comp=Z,69nm,1.2s					
BKSI	**Bulukumba**	**38.33 273**	P	**P**	**01 22 23.5**	**-1.1**
	comp=Z,18nm,1.1s					
BNSI	**Bone**	**38.48 274**	P	**P**	**01 22 22.3**	**-3.5**
	comp=Z,43nm,1.3s					
WBSI	**Waikabubak, Su**	**38.68 266**	P	**P**	**01 22 24.6**	**-3.0**
KAPI	**Kappang**	**38.74 273**	P	**P**	**01 22 28.1**	**+0.1**
	comp=Z,10nm,1.0s,baz=162,slow=16,SNR=3.8					
KAPI			LR	LR	01 40 56.5	
	comp=Z,188nm,18.4s,baz=47,slow=40					
KAPI	**Kappang**	**38.74 273**	P	**P**	**01 22 27.4**	**-0.6**
KAPI			pmax	pmax		
	comp=Z,41nm,1.2s					
KAPI	**Kappang**	**38.74 273**	P	**P**	**01 22 27.4**	**-0.6**
TOLI2	**Tolitoli**	**38.98 283**	P	**P**	**01 22 27.9**	**-2.1**
PSA00	**Pilbara Seismi**	**39.30 247**	P	**P**	**01 22 30.8**	**-1.9**
PSA00	**Pilbara Seismi**	**39.30 247**	P	**P**	**01 22 31.0**	**-1.7**
PSA00			IAmb	IAmb	01 22 39.5	
	comp=Z,36nm,1.1s					
PLAI	**Plampang**	**40.31 267**	P	**P**	**01 22 38.1**	**-3.1**
	comp=Z,71nm,0.8s					
MEEK	**Meekatharra**	**41.70 240**	P	**P**	**01 22 52.1**	**-0.3**
	baz=42,SNR=7.2					
RAR	**Rarotonga**	**41.87 112**	P	**P**	**01 22 54.1**	**+0.2**
	comp=Z,14nm,0.7s,baz=254,slow=2.3,SNR=2.4					
SPMM	**Sapulut**	**44.14 286**	P	**P**	**01 23 12.0**	**-0.4**
SBUM	**Sibu**	**47.59 282**	P	**P**	**01 23 40.0**	**+0.4**
JMN	**Monobe**	**48.52 332**	P	**P**	**01 23 47.9**	**+1.4**
INU	**Inuyama**	**48.56 336**	P	**P**	**01 23 47.8**	**+1.0**
INU			IAmb	IAmb	01 23 56.7	
	comp=Z,52nm,1.5s					
MJAR	**Matsushiro Arr**	**49.16 338**	P	**P**	**01 23 50.7**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=174,slow=8.9,SNR=1.9					
MJAR			LR	LR	01 46 52.3	
	comp=Z,102nm,18.2s,baz=170,slow=39					
MAT	**Matsushiro**	**49.16 338**	P	**P**	**01 23 50.3**	**-1.1**
MAT			*e*S	**S**	**01 30 53.0**	**-2.1**
JWT	**Wachi**	**49.16 335**	P	**P**	**01 23 51.3**	**0.0**
JWT			IAmb	IAmb	01 24 03.6	
	comp=Z,48nm,1.5s					
KSM	**Kuching**	**49.21 280**	P	**P**	**01 23 51.0**	**-1.2**
PPT	**Papeete**	**51.03 105**	LR	LR	01 40 56.3	
	comp=Z,368nm,21.7s,baz=282,slow=30					
PPT2	**Papeete2**	**51.03 105**	*e*S	**S**	**01 31 20.0**	**-2.0**
	comp=Z,263nm,29.8s					
PPT2			*e*LQ	LQ	01 36 21.0	
	comp=Z,348nm,30.0s					
PPT2			*e*LR	LR	01 38 32.7	
	comp=Z,830nm,23.2s,baz=270					
TBI	**Tubuai**	**51.63 113**	*e*S	**S**	**01 31 28.8**	**-1.1**
	comp=Z,198nm,30.5s					
TBI			*e*LQ	LQ	01 36 41.9	
	comp=Z,888nm,31.8s					
TBI			*e*LR	LR	01 38 53.7	
	comp=Z,773nm,25.2s,baz=288					
TJN	**Taejon**	**53.82 329**	*ce*P	**P**	**01 24 26.5**	**+0.3**
KSRS	**Korea Array**	**54.38 330**	P	**P**	**01 24 31.1**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=148,slow=7.7,SNR=23					
KSRS			LR	LR	01 47 49.2	
	comp=Z,93nm,18.3s,baz=112,slow=36					
KSAR	**Wonju Array Be**	**54.39 330**	P	**P**	**01 24 31.1**	**+0.8**
KSAR	**Wonju Array Be**	**54.39 330**	P	**P**	**01 24 31.1**	**+0.8**
KS19	**Wonju Array Si**	**54.44 330**	P	**P**	**01 24 30.8**	**0.0**
KS19			IAmb	IAmb	01 24 40.2	
	comp=Z,36nm,1.2s					
ASAJ	**Asahikawa**	**54.79 346**	P	**P**	**01 24 33.6**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=83,slow=8.1,SNR=2.0					
ASAJ			LR	LR	01 45 06.7	
	comp=Z,434nm,21.6s,baz=174,slow=33					
INCN	**Inchon**	**55.05 329**	P	**P**	**01 24 36.4**	**+1.2**
INCN			pmax	pmax		
	comp=Z,83nm,1.5s					
INCN	**Inchon**	**55.05 329**	P	**P**	**01 24 36.4**	**+1.2**
QIZ	**Qiongzhong**	**55.52 300**	P	**P**	**01 24 39.0**	**+0.1**
QIZ			S	**S**	**01 32 26.0**	**+3.2**
QIZ			LR	LR		
	comp=Z,250nm,19.4s					
QIZ			LR	LR		
	comp=Z,380nm,18.2s					
QIZ			LR	LR		
	comp=Z,590nm,23.5s					
NJ2	**Nanjing**	**55.72 319**	*e*P	**P**	**01 24 42.0**	**+2.0**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
YSS	**Yuzh-Sakhalins**	**57.44 347**	*e*P	**P**	**01 24 52.3**	**+0.3**
YSS			pmax	pmax		
	comp=Z,30nm,1.1s					
USRK	**Ussuriysk Ar.**	**58.15 338**	P	**P**	**01 24 57.4**	**+0.3**
	comp=Z,3.7nm,0.7s,baz=134,slow=5.5,SNR=5.9					
USRK	**Ussuriysk Ar.**	**58.15 338**	P	**P**	**01 24 57.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**58.15 338**	P	**P**	**01 24 57.1**	**+0.1**
IPM	**Ipoh**	**58.92 281**	P	**P**	**01 25 03.0**	**-0.1**
MDJ	**Mudanjiang**	**59.42 336**	P	**P**	**01 25 10.0**	**+4.1**
MDJ			pP	pP	01 25 11.8	-2.6
MDJ			pmax	pmax		
	comp=Z,11nm,1.6s					
MDJ			LR	LR		
	comp=Z,250nm,19.9s					
MDJ			LR	LR		
	comp=Z,180nm,18.5s					
MDJ			LR	LR		
	comp=Z,430nm,21.4s					
CN2	**Changchun**	**60.52 333**	*e*P	P	01 25 22.0	+8.5
CN2			pmax	pmax		
	comp=Z,30nm,1.0s					
COCO	**West Island**	**60.69 261**	*ce*P	**P**	**01 25 12.2**	**-3.0**
PEA0B	**Petropavlovsk-**	**61.84 359**	P	**P**	**01 25 22.8**	**+0.6**
PEA0B			pmax	pmax		
	comp=Z,59nm,1.2s					
PEA0B	**Petropavlovsk-**	**61.84 359**	P	**P**	**01 25 22.8**	**+0.6**
PETK	**Petropavlovsk-**	**61.84 359**	P	**P**	**01 25 22.1**	**-0.1**
	comp=Z,11nm,1.0s,baz=116,slow=6.8,SNR=12					
PETK			LR	LR	01 48 19.1	
	comp=Z,193nm,21.4s,baz=170,slow=32					
PETK	**Petropavlovsk-**	**61.84 359**	P	**P**	**01 25 21.9**	**-0.3**
PETK	**Petropavlovsk-**	**61.84 359**	P	**P**	**01 25 21.9**	**-0.3**
KLR	**Kul'dur**	**62.56 341**	*ce*P	**P**	**01 25 27.1**	**0.0**
KLR			pmax	pmax		
	comp=Z,14nm,1.3s					
BJT	**Baijiatuau**	**62.56 324**	P	**P**	**01 25 27.9**	**+0.6**
BJT			pmax	pmax		
	comp=Z,6.0nm,0.7s					
BJT	**Baijiatuau**	**62.56 324**	P	**P**	**01 25 27.9**	**+0.6**
AMKA	**Amchitka**	**62.71 14**	P	**P**	**01 25 27.9**	**-0.2**
XAN	**Xi'an**	**63.60 315**	P	**P**	**01 25 33.3**	**-1.1**
XAN			PP	**PP**	**01 27 57.3**	**+2.6**
XAN			S	**S**	**01 34 08.8**	**+2.1**
XAN			pmax	pmax		
	comp=Z,7.0nm,0.9s					
XAN			pmax	pmax		
	comp=Z,150nm,7.3s					
XAN			LR	LR		
	comp=Z,190nm,18.7s					
XAN			LR	LR		
	comp=Z,240nm,17.3s					
XAN			LR	LR		
	comp=Z,360nm,19.5s					
KMI	**Kunming**	**64.07 303**	⇑P	P	01 25 43.8	+5.9
KMI			pP	sP	01 25 48.5	-1.1
KMI			sP	pP	01 25 51.5	+5.0
KMI			PP	**PP**	**01 28 03.8**	**+4.7**
KMI			S	**S**	**01 34 14.5**	**+1.3**
KMI			SS	**SS**	**01 38 23.3**	**+0.6**
KMI			pmax	pmax		
	comp=Z,9.0nm,1.2s					
KMI			pmax	pmax		
	comp=Z,170nm,9.2s					
KMI			LR	LR		
	comp=Z,150nm,21.8s					
KMI			LR	LR		
	comp=Z,270nm,21.5s					
KMI			LR	LR		
	comp=Z,360nm,21.0s					
KIWB	**Kanaga Island**	**64.08 16**	P	**P**	**01 25 37.6**	**+0.5**
ADK	**Adak**	**64.24 17**	P	**P**	**01 25 38.3**	**+0.1**
ADK			pmax	pmax		
	comp=Z,30nm,0.6s					
ADK	**Adak**	**64.24 17**	P	**P**	**01 25 38.2**	**+0.1**
CM04	**Chiang Mai Arr**	**64.79 295**	P	**P**	**01 25 44.1**	**+1.6**
	comp=Z,124nmcomp=Z,13nm,0.9s					
CM09	**Chiang Mai Arr**	**64.80 295**	P	**P**	**01 25 44.6**	**+2.1**
	comp=Z,254nmcomp=Z,14nm,1.1s					
CM01	**Chiang Mai Arr**	**64.82 295**	P	**P**	**01 25 44.3**	**+1.7**
	comp=Z,158nmcomp=Z,14nm,0.9s					
CM02	**Chiang Mai Arr**	**64.83 295**	P	P	01 25 54.2	+11
CM31	**Chiang Mai Arr**	**64.84 295**	P	**P**	**01 25 42.9**	**+0.1**
CM31			IAmb	IAmb	01 25 44.8	
	comp=Z,15nm,0.9s					
CMAR	**Chiang Mai Arr**	**64.84 295**	P	**P**	**01 25 43.0**	**+0.2**
	comp=Z,7.8nm,0.8s,baz=124,slow=4.8,SNR=23					
CMAR			LR	LR	01 54 24.9	
	comp=Z,109nm,19.7s,baz=159,slow=36					
CMAR	**Chiang Mai Arr**	**64.84 295**	P	**P**	**01 25 43.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**64.84 295**	P	**P**	**01 25 43.2**	**+0.4**
CM15	**Chiang Mai Arr**	**64.86 295**	P	**P**	**01 25 44.8**	**+1.9**
	comp=Z,369nmcomp=Z,14nm,1.0s					
CHTO	**Chiang Mai**	**64.96 296**	P	**P**	**01 25 43.0**	**-0.6**
CHTO			pmax	pmax		
	comp=Z,23nm,1.3s					
CHTO	**Chiang Mai**	**64.96 296**	P	**P**	**01 25 45.0**	**+1.4**
	comp=Z,18nm,1.5s					
CHTO	**Chiang Mai**	**64.96 296**	P	**P**	**01 25 43.0**	**-0.6**
CHTO			IAmb	IAmb	01 25 52.5	
	comp=Z,23nm,1.2s					
HHC	**Hu-ho-hao-te**	**65.80 323**	*e*P	P	01 25 58.5	+10
HHC			pmax	pmax		
	comp=Z,18nm,0.9s					
HHC			pmax	pmax		
	comp=Z,130nm,6.6s					
CD2	**Chengdu**	**65.80 310**	P	**P**	**01 25 52.0**	**+3.1**
CD2			S	**S**	**01 34 37.5**	**+3.5**
CD2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
CD2			pmax	pmax		
	comp=Z,190nm,5.5s					
CD2			LR	LR		
	comp=Z,240nm,20.8s					
CD2			LR	LR		
	comp=Z,330nm,21.2s					
CD2			LR	LR		
	comp=Z,360nm,24.2s					
HIA	**Hailar**	**67.23 334**	*i* P	**P**	**01 25 58.5**	**+0.9**
HIA			pmax	pmax		
	comp=Z,28nm,1.1s					
HIA	**Hailar**	**67.23 334**	P	**P**	**01 25 58.1**	**+0.5**
HIA			IAmb	IAmb	01 26 07.1	
	comp=Z,26nm,1.1s					
NIKH	**Nikolski High**	**67.65 21**	P	**P**	**01 25 59.3**	**-0.8**
	baz=215					
ZEA	**Zeya**	**67.87 341**	*e*P	**P**	**01 26 03.1**	**+1.6**
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.3s					
LZH	**Lanzhou**	**68.22 315**	*e*P	**P**	**01 26 05.0**	**+0.7**
LZH			pP	pP	01 26 11.3	-1.7
LZH			sP	sP	01 26 14.3	-1.9
LZH			pmax	pmax		
	comp=Z,16nm,1.1s					
LZH			LR	LR		
	comp=Z,250nm,14.9s					
LZH			LR	LR		
	comp=Z,240nm,15.7s					
LZH			LR	LR		
	comp=Z,200nm,18.4s					
VNDA	**Vanda**	**68.55 179**	P	**P**	**01 26 05.6**	**+0.2**
	comp=Z,8.5nm,0.8s,baz=338,slow=6.5,SNR=40					
VNDA			LR	LR	01 50 41.7	
	comp=Z,291nm,21.4s,baz=3.0,slow=31					
VNDA	**Vanda**	**68.55 179**	P	**P**	**01 26 05.6**	**+0.2**
VNDA			pmax	pmax		
	comp=Z,11nm,0.9s					
VNDA	**Vanda**	**68.55 179**	P	**P**	**01 26 05.6**	**+0.2**
VNDA			IAmb	IAmb	01 26 08.2	
	comp=Z,11nm,0.8s					
MA2	**Magadan**	**68.61 356**	LR	LR	01 52 03.4	
	comp=Z,103nm,21.9s,baz=194,slow=32					
MA2	**Magadan**	**68.61 356**	*ce*P	**P**	**01 26 05.9**	**-0.1**
MA2			pmax	pmax		
	comp=Z,33nm,2.5s					
SBA	**Scott Base**	**68.99 178**	P	**P**	**01 26 09.3**	**+1.1**
SBA			pmax	pmax		
	comp=Z,18nm,1.2s					
SBA	**Scott Base**	**68.99 178**	P	**P**	**01 26 09.3**	**+1.1**
SBA			IAmb	IAmb	01 26 10.2	
	comp=Z,18nm,1.2s					
UNV	**Unalaska Valle**	**69.19 21**	P	**P**	**01 26 09.0**	**-0.7**
	baz=217					
FALS	**False Pass**	**71.11 22**	P	**P**	**01 26 20.5**	**-0.9**
	baz=220					
ULN	**Ulaanbaatar**	**72.59 326**	P	**P**	**01 26 31.5**	**+0.8**
ULN			pmax	pmax		
	comp=Z,62nm,1.1s					
ULN	**Ulaanbaatar**	**72.59 326**	P	**P**	**01 26 31.4**	**+0.8**
SDPT	**Sand Point**	**72.59 23**	P	**P**	**01 26 29.6**	**-0.7**
	baz=223					
GTA	**Gaotai**	**72.61 316**	*e*P	**P**	**01 26 31.5**	**+0.5**
GTA			pP	pP	01 26 36.0	-3.8
GTA			sP	sP	01 26 38.8	-4.2
GTA			pmax	pmax		
	comp=Z,11nm,1.0s					
GTA			pmax	pmax		
	comp=Z,100nm,8.0s					
GTA			LR	LR		
	comp=Z,110nm,17.5s					
GTA			LR	LR		
	comp=Z,210nm,21.5s					
GTA			LR	LR		
	comp=Z,170nm,20.7s					
SONM	**Songino Array**	**72.93 326**	P	**P**	**01 26 33.3**	**+0.6**
	comp=Z,19nm,0.7s,baz=136,slow=5.7,SNR=84					
SONM	**Songino Array**	**72.93 326**	P	**P**	**01 26 33.1**	**+0.4**
SONM			pmax	pmax		
	comp=Z,45nm,1.0s					
SONM	**Songino Array**	**72.93 326**	P	**P**	**01 26 33.1**	**+0.4**
SHL	**Shillong**	**73.36 300**	P	**P**	**01 26 35.2**	**-0.6**
SHL			pmax	pmax		
	comp=Z,75nm,1.2s					
SHL	**Shillong**	**73.36 300**	P	**P**	**01 26 35.2**	**-0.6**
YAK	**Yakutsk**	**74.27 346**	*i* P	**P**	**01 26 40.7**	**+0.6**
YAK			pmax	pmax		
	comp=Z,11nm,0.9s					
YAK	**Yakutsk**	**74.27 346**	P	**P**	**01 26 40.4**	**+0.3**
BOD	**Bodaibo**	**75.78 337**	*e*P	**P**	**01 26 48.5**	**-0.4**
BOD			pmax	pmax		
	comp=Z,24nm,1.6s					
SII	**Sitkinak Islan**	**75.97 25**	P	**P**	**01 26 49.8**	**-0.2**
	baz=228					
GAMB	**Gambell**	**75.97 13**	P	**P**	**01 26 50.2**	**+0.4**
	baz=210					
ZAK	**Zakamensk**	**76.06 327**	*e*P	**P**	**01 26 49.9**	**-0.9**
ZAK			pmax	pmax		
	comp=Z,13nm,1.1s					
OHAK	**Old Harbor**	**76.78 25**	P	**P**	**01 26 54.7**	**+0.2**
	baz=229					
OHAK	**Old Harbor**	**76.78 25**	P	**P**	**01 26 55.0**	**+0.5**
OHAK			IAmb	IAmb	01 26 55.7	
	comp=Z,21nm,0.7s					
BILL	**Bilibino**	**77.01 3**	*ce*P	**P**	**01 26 55.9**	**+0.2**
BILL			*i*		01 27 05.4	
BILL			*e*S	**S**	**01 36 34.9**	**-7.1**
BILL			pmax	pmax		
	comp=Z,26nm,1.0s					
BILL			MLR	MLR		
	comp=Z,94nm,19.0s					
BILL	**Bilibino**	**77.01 3**	P	**P**	**01 26 55.8**	**+0.1**
BILL			IAmb	IAmb	01 27 06.0	
	comp=Z,27nm,0.9s					
KDAK	**Kodiak Island**	**77.43 24**	P	**P**	**01 26 58.6**	**+0.4**
	comp=Z,17nm,0.7s,baz=267,slow=4.8,SNR=14					
KDAK	**Kodiak Island**	**77.43 24**	P	**P**	**01 26 58.8**	**+0.6**
KDAK			pmax	pmax		
	comp=Z,15nm,0.8s					
KDAK	**Kodiak Island**	**77.43 24**	P	**P**	**01 26 58.4**	**+0.2**
	baz=230					
KDAK	**Kodiak Island**	**77.43 24**	P	**P**	**01 26 58.8**	**+0.6**
KDAK			IAmb	IAmb	01 26 59.5	
	comp=Z,15nm,0.8s					
O18K	**Koktuh Hills**	**77.80 22**	P	**P**	**01 26 60.0**	**-0.3**
	baz=227	

SEW	**Seward**	80.16	24	P	P	01 27 13.2	+0.1
SEW				IAmb	IAmb	01 27 14.3	
	comp=Z,26nm,0.8s						
O22K	**Cooper Landing**	80.28	23	P	P	01 27 14.2	+0.4
	baz=232						
O22K	**Cooper Landing**	80.28	23	P	P	01 27 13.7	-0.2
SUA	**Susitna One**	80.51	22	P	P	01 27 14.8	-0.4
	baz=231						
SUA	**Susitna One**	80.51	22	P	P	01 27 14.4	-0.8
SKT	**Skwentna**	80.55	21	P	P	01 27 14.6	-0.7
	baz=230						
K20K	**Telida**	80.59	20	P	P	01 27 16.0	+0.6
	baz=227,SNR=7.2						
RC01	**Rabbit Creek A**	80.66	23	P	P	01 27 15.7	-0.1
	baz=232						
RC01	**Rabbit Creek A**	80.66	23	P	P	01 27 15.1	-0.8
RC01				IAmb	IAmb	01 27 16.9	
	comp=Z,19nm,0.9s						
PPLA	**Purkeypile**	80.92	21	P	P	01 27 17.2	-0.2
	baz=229						
QSPA	**South Pole Qui**	81.02	180	LR	LR	02 01 04.0	
	comp=Z,155nm,18.2s,baz=17,slow=34						
QSPA	**South Pole Qui**	81.02	180	P	P	01 27 17.5	-0.5
QSPA				IAmb	IAmb	01 27 19.2	
	comp=Z,27nm,0.9s						
PWL	**Port Wells**	81.06	23	P	P	01 27 17.2	-0.8
J20K	**Nowinta River**	81.12	19	P	P	01 27 19.0	+0.7
	baz=227,SNR=9.3						
PMR	**Palmer**	81.20	23	P	P	01 27 18.7	0.0
PMR				pmax	pmax		
	comp=Z,13nm,0.8s						
PMR	**Palmer**	81.20	23	P	P	01 27 18.8	+0.1
	baz=232						
PMR	**Palmer**	81.20	23	P	P	01 27 18.7	0.0
CUT	**Chulitna**	81.28	22	P	P	01 27 19.0	0.0
	baz=231						
CUT	**Chulitna**	81.28	22	P	P	01 27 19.1	0.0
CUT				IAmb	IAmb	01 27 28.9	
	comp=Z,15nm,0.8s						
KNK	**Knik Glacier**	81.34	23	P	P	01 27 20.0	+0.5
	baz=233						
KNK	**Knik Glacier**	81.34	23	P	P	01 27 19.6	0.0
KNK				IAmb	IAmb	01 27 22.4	
	comp=Z,14nm,0.7s						
GHO	**Glory Hole Cre**	81.39	22	P	P	01 27 19.5	-0.3
GHO				IAmb	IAmb	01 27 21.0	
	comp=Z,17nm,0.8s						
CHUM	**Lake Minchumin**	81.52	20	P	P	01 27 20.3	-0.1
	baz=229,SNR=5.0						
RDOG	**Red Dog Mine**	81.54	14	P	P	01 27 22.3	+1.8
	baz=218						
RDOG	**Red Dog Mine**	81.54	14	P	P	01 27 22.2	+1.8
RDOG				IAmb	IAmb	01 27 23.5	
	comp=Z,18nm,0.7s						
GLI	**Glacier Island**	81.56	24	P	P	01 27 20.8	+0.1
	baz=234						
SML	**Sawmill**	81.63	23	P	P	01 27 21.5	+0.4
	baz=233						
SML	**Sawmill**	81.63	23	P	P	01 27 21.1	0.0
SML				IAmb	IAmb	01 27 22.5	
	comp=Z,26nm,0.9s						
KTH	**Kantishna Hill**	81.78	20	P	P	01 27 20.5	-1.4
KTH				IAmb	IAmb	01 27 22.1	
	comp=Z,18nm,1.1s						
TRF	**Thorofare Moun**	81.94	21	P	P	01 27 22.0	-0.8
	baz=231						
TRF	**Thorofare Moun**	81.94	21	P	P	01 27 21.3	-1.5
SCM	**Sheep Creek Mo**	82.03	23	P	P	01 27 22.6	-0.6
SCM				pmax	pmax		
	comp=Z,23nm,0.9s						
SCM	**Sheep Creek Mo**	82.03	23	P	P	01 27 22.6	-0.6
SCM				IAmb	IAmb	01 27 24.7	
	comp=Z,23nm,0.9s						
BPAW	**Bear Paw Mtn.**	82.11	20	P	P	01 27 23.0	-0.5
	baz=230						
WAT1	**Susitna Watana**	82.17	22	P	P	01 27 23.7	-0.2
	baz=233						
WAT6	**Susitna Watana**	82.32	22	P	P	01 27 24.9	+0.1
	baz=233						
KLU	**Klutina**	82.38	24	P	P	01 27 25.3	+0.3
	baz=235						
KLU	**Klutina**	82.38	24	P	P	01 27 26.0	+0.9
KLU				IAmb	IAmb	01 27 34.4	
	comp=Z,14nm,1.0s						
RND	**Reindeer**	82.41	21	P	P	01 27 24.5	-0.7
RND				pmax	pmax		
	comp=Z,26nm,1.1s						
RND	**Reindeer**	82.41	21	P	P	01 27 24.5	-0.7
RND				IAmb	IAmb	01 27 36.7	
	comp=Z,26nm,1.1s						
IMAR	**Indian Mountai**	82.47	18	P	P	01 27 25.5	+0.1
I21K	**Tanana**	82.48	19	P	P	01 27 26.2	+0.8
	baz=229,SNR=15						
MCK	**McKinley**	82.58	21	P	P	01 27 25.7	-0.3
MCK				pmax	pmax		
	comp=Z,61nm,1.0s						
MCK	**McKinley**	82.58	21	P	P	01 27 25.4	-0.7
	baz=232,SNR=16						
MCK	**McKinley**	82.58	21	P	P	01 27 25.7	-0.3
BMRM	**Bremner River**	82.61	24	P	P	01 27 25.8	-0.4
	baz=236						
M24K	**Tolsona, Glenn**	82.63	23	P	P	01 27 27.0	+0.6
	baz=235						
M24K	**Tolsona, Glenn**	82.63	23	P	P	01 27 27.3	+0.9
BWN	**Browne**	82.67	20	P	P	01 27 26.7	+0.3
WMQ	**Urumqi**	82.69	316	*e*P	P	01 27 32.5	+5.4
WMQ				sP	pP	01 27 35.5	-0.5
WMQ				pmax	pmax		
	comp=Z,16nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,40nm,3.6s						
MLY	**Manley**	82.79	19	P	P	01 27 26.8	-0.3
	baz=230,SNR=23						
MLY	**Manley**	82.79	19	P	P	01 27 26.6	-0.5
MLY				IAmb	IAmb	01 27 38.2	
	comp=Z,19nm,1.0s						
N25K	**Chitina, Valde**	82.97	24	P	P	01 27 28.5	+0.3
	baz=236						
NEA2	**Nenana**	83.07	20	P	P	01 27 27.4	-1.1
	baz=232,SNR=18						
NEA2	**Nenana**	83.07	20	P	P	01 27 27.6	-0.9
HARP	**HAARP**	83.19	23	P	P	01 27 29.2	0.0
	baz=236						
GLB	**Gilahina Butte**	83.19	24	P	P	01 27 29.2	0.0
GLB				IAmb	IAmb	01 27 41.5	
	comp=Z,19nm,0.9s						
I23K	**Minto, Yukon-K**	83.32	20	P	P	01 27 29.4	-0.4
	baz=232,SNR=7.6						
I23K	**Minto, Yukon-K**	83.32	20	P	P	01 27 29.5	-0.3
WRH	**Wood River Hil**	83.33	20	P	P	01 27 28.9	-1.0
WRH				IAmb	IAmb	01 27 39.8	
	comp=Z,23nm,1.0s						
CCB	**Clear Creek Bu**	83.53	20	P	P	01 27 29.9	-1.0
CCB				IAmb	IAmb	01 27 40.6	
	comp=Z,16nm,1.0s						
TCOL	**CIGO, UAF Yank**	83.65	20	P	P	01 27 30.8	-0.6
	baz=233,SNR=5.3						
COLA	**College**	83.66	20	P	P	01 27 30.5	-1.0
COLA				pmax	pmax		
	comp=Z,39nm,0.9s						
COLA	**College**	83.66	20	P	P	01 27 30.5	-1.0
H23K	**Yukon River**	83.68	19	P	P	01 27 31.9	+0.2
	baz=231,SNR=21						
HDA	**Harding Lake**	83.69	21	P	P	01 27 31.3	-0.4
	baz=234,SNR=11						
HDA	**Harding Lake**	83.69	21	IAmb	IAmb	01 27 41.9	
	comp=Z,18nm,1.0s						
IL31		83.93	21	IAmb	IAmb	01 27 43.2	
	comp=Z,18nm,1.1s						
ILAR	**Eielson Array**	83.93	21	P	P	01 27 32.0	-0.8
	comp=Z,6.2nm,0.8s,baz=263,slow=4.4,SNR=43						
ILAR				LR	LR	02 00 53.2	
	comp=Z,101nm,20.5s,baz=248,slow=33						
ILAR	**Eielson Array**	83.93	21	P	P	01 27 31.6	-1.3
ILAR	**Eielson Array**	83.93	21	P	P	01 27 31.6	-1.3
POKR	**Poker Plat Res**	83.94	20	P	P	01 27 32.2	-0.8
	baz=234						
MAW	**Mawson**	83.95	203	P	P	01 27 32.9	-0.2
	comp=Z,17nm,0.8s,baz=94,slow=6.1,SNR=33						
MAW				LR	LR	02 02 21.5	
	comp=Z,121nm,18.7s,baz=63,slow=34						
MAW	**Mawson**	83.95	203	P	P	01 27 33.0	0.0
	baz=84,SNR=9.1						
MAW	**Mawson**	83.95	203	P	P	01 27 32.6	-0.4
MAW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MAW	**Mawson**	83.95	203	P	P	01 27 32.6	-0.4
CTG	**Chitna Glacier**	83.96	25	P	P	01 27 33.5	+0.2
	baz=239						
CTGM	**Chitina Glacie**	83.96	25	IAmb	IAmb	01 27 44.8	
	comp=Z,22nm,1.1s						
PINM	**Pinnacle**	83.99	26	P	P	01 27 33.7	+0.3
	baz=240						
M26K	**Nabesna, AK**	84.03	24	P	P	01 27 34.4	+0.8
	baz=238,SNR=7.4						
RIDG	**Independent Ri**	84.06	22	P	P	01 27 33.7	0.0
	baz=236,SNR=10.0						
H24K	**Noodor Dome**	84.23	19	P	P	01 27 34.9	+0.4
	baz=233,SNR=8.5						
L26K	**Log Cabin Wild**	84.23	23	P	P	01 27 35.1	+0.6
	baz=237						
DOT	**Dot Lake**	84.30	22	P	P	01 27 34.9	0.0
M27K	**Edge Creek, AK**	84.45	24	P	P	01 27 36.7	+0.9
	baz=239,SNR=9.3						
SCRK	**Sand Creek**	84.51	22	P	P	01 27 36.4	+0.4
	baz=237,SNR=17						
SCRK	**Sand Creek**	84.51	22	IAmb	IAmb	01 27 46.9	
	comp=Z,16nm,0.9s						
L27K	**Beaver Creek,**	84.84	23	P	P	01 27 38.5	+0.9
	baz=239,SNR=7.2						
L27K	**Beaver Creek,**	84.84	23	IAmb	IAmb	01 27 49.0	
	comp=Z,13nm,1.1s						
DGZ	**Jazzator, Alta**	84.87	322	*i* P	P	01 27 37.9	-0.3
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
K27K	**Chicken**	85.25	22	P	P	01 27 40.8	+1.2
	baz=238						
K27K	**Chicken**	85.25	22	IAmb	IAmb	01 27 51.5	
	comp=Z,18nm,1.2s						
TOLK	**Toolik Lake Re**	85.44	17	P	P	01 27 41.0	+0.5
	baz=231						
TOLK	**Toolik Lake Re**	85.44	17	IAmb	IAmb	01 27 42.2	
	comp=Z,9.4nm,0.8s						
HYT	**Haines Junctio**	85.53	26	P	P	01 27 41.0	-0.3
SKAG	**Skagway**	85.91	28	P	P	01 27 43.9	+1.0
	baz=245						
SKAG	**Skagway**	85.91	28	IAmb	IAmb	01 27 57.8	
	comp=Z,29nm,1.1s						
EGAK	**Eagle**	85.98	22	P	P	01 27 44.2	+1.0
	baz=239						
EGAK	**Eagle**	85.98	22	IAmb	IAmb	01 27 54.5	
	comp=Z,19nm,1.0s						
DAWY	**Dawson**	86.29	23	IAmb	IAmb	01 27 56.4	
	comp=Z,16nm,1.1s						
WHY	**Whitehorse**	86.62	27	P	P	01 27 47.4	+0.8
	baz=245						
O02D	**Mt. Diablo Mer**	87.14	49	P	P	01 27 50.7	+1.1
	baz=256						
MK31	**Makanchi Array**	87.24	318	P	P	01 27 48.8	-1.0
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	**Makanchi Array**	87.24	318	P	P	01 27 48.8	-1.0
MKAR	**Makanchi Array**	87.24	318	P	P	01 27 49.4	-0.4
	comp=Z,4.8nm,0.5s,baz=99,slow=5.7,SNR=51						
MKAR				PKKPbc	PKKPbc	01 45 40.6	-2.1
	comp=Z,0.7nm,0.7s,baz=298,slow=1.8,SNR=8.0						
I02D	**Swisshome**	87.37	45	P	P	01 27 51.4	+1.0
	baz=255						
M02C	**Callahan**	87.39	48	P	P	01 27 50.7	0.0
	baz=256						
MAKZ	**Makanchi**	87.45	318	P	P	01 27 49.8	-1.0
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	87.45	318	P	P	01 27 49.8	-1.0
MAKZ				IAmb	IAmb	01 27 59.9	
	comp=Z,9.6nm,0.9s						
ZALV	**Zalesovo Beam**	87.81	325	P	P	01 27 50.8	-1.5
	comp=Z,2.7nm,0.5s,baz=114,slow=5.8,SNR=12						
ZALV				PKKPbc	PKKPdf	01 45 38.6	+2.6
	comp=Z,0.6nm,0.4s,baz=289,slow=1.9,SNR=3.6						
ZALV				LR	LR	02 06 12.4	
	comp=Z,93nm,21.3s,baz=62,slow=35						
DLBC	**Dease Lake**	88.04	30	P	P	01 27 53.9	+0.4
	comp=Z,1.2nm,0.5s,baz=186,slow=6.9,SNR=3.6						
EPYK	**Eagle Plains**	88.37	21	P	P	01 27 55.9	+1.2
	baz=243						
KSH	**Kashi**	90.00	310	P	P	01 28 12.8	+10
KSH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,66nm,3.0s						
NVAR	**Mina Array Bea**	90.16	51	P	P	01 28 05.2	+1.2
	comp=Z,1.8nm,0.8s,baz=245,slow=7.0,SNR=14						
NVAR	**Mina Array Bea**	90.16	51	P	P	01 28 04.7	+0.6
INK	**Inuvik**	90.31	20	P	P	01 28 03.1	-0.6
	comp=Z,1.2nm,0.6s,baz=270,slow=5.8,SNR=2.0						
INK	**Inuvik**	90.31	20	P	P	01 28 03.2	-0.6
INK				pmax	pmax		
	comp=Z,11nm,1.3s						
INK	**Inuvik**	90.31	20	P	P	01 28 04.7	+0.9
	baz=246						
INK	**Inuvik**	90.31	20	P	P	01 28 03.2	-0.6
I07A	**Izee**	90.41	46	P	P	01 28 05.3	+0.3
FURC	**Furnace Creek,**	90.91	53	P	P	01 28 08.9	+1.6
	baz=260						
TPH	**Tonopah**	90.92	52	IAmb	IAmb	01 28 21.8	
	comp=Z,13nm,0.8s						
HEC	**Hector,Ludlow**	91.05	55	P	P	01 28 09.5	+1.4
	baz=260						
BELC	**Belle Mtn. Jos**	91.18	56	P	P	01 28 10.0	+1.2
	baz=260						
GMRC	**Granite Mounta**	91.59	55	P	P	01 28 11.8	+1.1
	baz=260						
SYO	**Syowa Base**	91.61	198‖	*e*P	P	01 28 09.4	-0.5
SYO	**Syowa Base**	91.61	198‖	*es*P	P	01 28 15.6	+5.7
NRIK	**Noril'sk**	91.77	340	*ce*P	P	01 28 09.3	-1.2
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
IRM	**Iron Mountain**	91.90	56	P	P	01 28 12.9	+0.8
	baz=260						
BMO	**Blue Mountains**	92.10	45	P	P	01 28 12.9	+0.1
BMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BMO	**Blue Mountains**	92.10	45	P	P	01 28 12.8	+0.1
ELK	**Elko**	92.90	49	P	P	01 28 17.9	+1.2
	comp=Z,1.1nm,0.7s,baz=248,slow=3.8,SNR=5.7						
ELK	**Elko**	92.90	49	P	P	01 28 17.5	+0.8
ELK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ELK	**Elko**	92.90	49	P	P	01 28 17.5	+0.8
BELA	**Belgrano 2**	92.98	177	IAmb	IAmb	01 28 16.3	
	comp=Z,14nm,1.0s						
C36M	**Paulatuk**	93.90	20	P	P	01 28 20.8	+0.4
	baz=255						
C36M	**Paulatuk**	93.90	20	IAmb	IAmb	01 28 30.7	
	comp=Z,16nm,1.1s						
HLID	**Hailey**	93.94	47	P	P	01 28 19.9	-1.5
	baz=261						
KKAR	**Karatay Array**	94.66	313	P	P	01 28 22.5	-2.0
KKAR	**Karatay Array**	94.66	313	P	P	01 28 22.5	-2.0
BRVK	**Borovoye**	96.08	323	*ce*P	P	01 28 29.2	-1.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOZ	**Bozeman (W)**	96.18	45	P	P	01 28 31.6	0.0
	baz=264						
YKA	**Yellowknife Ar**	96.41	28	P	P	01 28 32.8	+0.8
	comp=Z,0.7nm,0.8s,baz=268,slow=4.4,SNR=4.3						
YKA				LR	LR	02 06 16.8	
	comp=Z,142nm,20.6s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	97.37	48	P	Pdif	01 28 37.4	+0.1
	comp=Z,0.6nm,0.7s,baz=221,slow=1.3,SNR=6.1						
SNAA	**Sanae**	98.59	186	Pdiff	P	01 28 41.6	-0.3
SNAA	**Sanae**	98.59	186	*ce*P	Pdif	01 28 41.9	0.0
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SNAA	**Sanae**	98.59	186	IAmb	IAmb	01 28 43.7	
	comp=Z,7.7nm,1.4s						
VNA3	**Neumayer Olymp**	99.58	184	Pdiff	Pdif	01 28 45.5	-0.7
VNA2	**Neumayer--Watz**	99.72	185	Pdiff	Pdif	01 28 47.4	+0.6
	baz=170,slow=5.0						
VNA1	**Neumayer--Stat**	100.06	184	Pdiff	Pdif	01 28 48.0	-0.3
TXAR	**Lajitas Array**	101.05	62	P	Pdif	01 28 56.4	+2.7
	comp=Z,0.1nm,0.5s,baz=229,slow=8.2,SNR=2.4						
TXAR				PP	PP	01 33 01.4	-1.2
	comp=Z,0.3nm,0.9s,baz=268,slow=8.1,SNR=3.9						
ARCES	**ARCESS Array B**	112.48	344	PKiKP	PKiKP	01 33 38.0	-0.9
	comp=Z,2.5nm,0.9s,baz=44,slow=2.7,SNR=3.6						
KBZ	**Khabaz**	114.66	314	PKKPbc	PKKPbc	01 44 22.6	-0.4
	comp=Z,0.5nm,0.5s,baz=225,slow=2.9,SNR=3.6						
KIV	**Kislovodsk**	114.76	314	*e*PKIKP	PKPdf	01 33 44.5	+0.4
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SHA1	**Shidzhatmaz**	114.83	314	*i* PKIKP	PKiKP	01 33 44.0	-0.4
OBN	**Obninsk**	115.33	327	*i* PKIKP	PKPdf	01 33 46.1	+1.5
OBN				*e*		01 34 45.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	117.17	337	PKP	PKPdf	01 33 47.0	-1.0
	comp=Z,1.5nm,0.8s,baz=75,slow=5.9,SNR=4.0						
W52A	**Murphy**	117.55	55		PKPdf	01 33 49.0	-0.7
M53A	**WI Miller and**	118.80	48	P	PKPdf	01 33 50.9	-0.9
	baz=284						
ALGO	**Algonquin Park**	119.34	42	P	PKPdf	01 33 51.8	-0.9
	baz=289						
N54A	**Moraine State**	119.42	48	P	PKPdf	01 33 52.2	-0.8
	baz=285						
M54A	**Oil Creek Stat**	119.52	47	P	PKPdf	01 33 52.1	-1.1
	baz=285						
KMSC	**Kings Mountain**	119.64	55	P	PKPdf	01 33 53.1	-0.5
	baz=280						
BLA	**Blacksburg**	119.96	52	P	PKPdf	01 33 53.5	-0.8
	baz=282						
MNK	**Minsk**	120.11	329	*i* PKIKP	PKPdf	01 33 51.5	-2.4
MNK				*i*		01 35 16.8	
MNK				*i* PPP	PPP	01 37 49.8	
MNK				*i*		01 41 00.8	
MNK				*i* PS	PS	01 45 07.2	-2.1
MNK				*i* SS	SS	01 51 43.0	-0.4
MNK				*i* SSS	SSS	01 56 09.8	
MNK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,51nm,16.0s						
MNK				MLR	MLR		
	comp=E,8.0nm,20.0s						
MNK				MLR	MLR		
	comp=Z,125nm,25.0s						
MNK	**Minsk**	120.11	329	*i* PKP	PKPdf	01 33 51.5	-2.4
	comp=E,2.0nm,0.9s						
MNK				*i* PKP	PKPdf	01 33 51.5	-2.4
	comp=N,6.0nm,0.9s						
MNK				*i* PKP	PKPdf	01 33 51.5	-2.4
	comp=Z,5.0nm,0.8s,baz=61						
MNK				*i* PP	PP	01 35 16.9	-1.9
MNK				*i* SKP		01 37 24.2	
MNK				*i* PKS	PKSdf	01 37 28.2	-2.1
MNK				*i* PPP	PPP	01 37 49.8	
MNK				*i* SKS	SKSdf	01 41 00.9	-3.0
MNK				*i* PS	PS	01 45 07.2	-2.0
MNK				*i* SS	SS	01 51 43.0	-0.3
MNK				*i* SSS	SSS	01 56 09.8	
MNK				*i* LQ	LQ	02 18 28.2	
MNK				*i* LR	LR	02 22 25.4	
MNK				*i* LRM	MLR	02 24 56.8	
	comp=N,51nm,15.9s						
MNK				*i* LRM	MLR	02 24 60.0	
	comp=E,8.0nm,20.4s						
MNK				*i* LRM	MLR	02 25 23.5	
	comp=Z,125nm,24.8s						
O56A	**Blue Knob Stat**	120.64	48	P	PKPdf	01 33 54.4	-1.0
	baz=285						
SSPA	**Standing Stone**	121.04	48	P	PKPdf	01 33 55.4	-0.7
	baz=286						
AKASG	**Malin Array Be**	121.20	325	PKP	PKPdf	01 33 55.1	-1.0
	comp=Z,1.9nm,0.6s,baz=59,slow=2.0,SNR=9.2						
BOSA	**Boshof**	121.49	229	PKP	PKPdf	01 33 57.5	0.0
	comp=Z,2.2nm,0.9s,baz=114,slow=5.4,SNR=3.6						
BOSA	**Boshof**	121.49	229	PKIKP	PKPdf	01 33 57.0	-0.6
BOSA	**Boshof**	121.49	229		PKPdf	01 33 57.0	-0.6
I57A	**Carthage**	121.61	44	P	PKPdf	01 33 56.2	-0.9
	baz=290						
J58A	**Remsen**	122.06	44	P	PKPdf	01 33 57.1	-1.0
	baz=290						
L58A	**Harry Jones Me**	122.09	46	P	PKPdf	01 33 57.4	-0.8
	baz=288						
I58A	**Old Forge**	122.16	44	P	PKPdf	01 33 57.7	-0.5
	baz=290						
H58A	**Gabriels**	122.44	43	P	PKPdf	01 33 58.0	-0.7
	baz=291						
N59A	**State Game Lan**	122.50	47	P	PKPdf	01 33 58.4	-0.6
	baz=288						
NB2	**NORSAR Subarra**	122.70	342	PKPdf	PKPdf	01 33 58.1	-0.7
	comp=Z,0.8nm,0.6s,baz=38,slow=1.8						
NOA	**NORSAR Array B**	122.70	342	PKP	PKPdf	01 33 57.8	-1.0
	comp=Z,1.1nm,0.6s,baz=42,slow=1.8,SNR=5.8						
I59A	**Olmsteadville**	122.86	43	P	PKPdf	01 33 58.9	-0.7
	baz=291						
I60A	**Shoreham**	123.24	43	P	PKPdf	01 33 59.8	-0.5
	baz=292						
H60A	**Morristown**	123.36	42	P	PKPdf	01 33 59.0	-1.5
	baz=293						
J60A	**Lant Hill Farm**	123.37	44	P	PKPdf	01 34 00.4	-0.2
	baz=291						
PAL	**Palisades**	123.81	46	P	PKPdf	01 34 01.3	-0.1
	baz=290						
G61A	**St-Isidore-de-**	123.84	41	P	PKPdf	01 33 58.5	-2.9
	baz=294						
J61A	**Chester**	123.92	43	P	PKPdf	01 34 01.7	+0.1
	baz=292						
LBNH	**Lisbon**	124.00	42	P	PKPdf	01 34 01.7	0.0
	baz=293						
PB01	**IPOC Station P**	124.14	123	PKPdf	PKPdf	01 34 02.1	-0.7
L61B	**Northampton**	124.17	44	P	PKPdf	01 34 02.0	-0.1
	baz=291						
J62A	**Henniker**	124.47	43	P	PKPdf	01 34 02.4	-0.3
	baz=293						
G62A	**West of Eustis**	124.51	40	P	PKPdf	01 34 01.6	-1.1
	baz=295						
E62A	**Clayton Lake**	124.53	39	P	PKPdf	01 34 00.9	-1.8
	baz=297						
F62A	**Pittston Farm,**	124.58	39	P	PKPdf	01 34 02.5	-0.2
	baz=296						
PB11	**IPOC Station P**	124.58	121		PKPdf	01 34 03.5	-0.2
D62A	**Allapoint, All**	124.61	38	P	PKPdf	01 34 02.4	-0.4
	baz=298						
PB08	**IPOC Station P**	124.83	122	PKPdf	PKPdf	01 34 03.4	-1.1
MNMC	**Minye Minye**	124.91	121	PKPdf	PKPdf	01 34 04.3	-0.3
F63A	**Nahmakanta, Br**	125.20	39	P	PKPdf	01 34 04.0	0.0
	baz=297						
PKME	**Peaks-Kenny Pk**	125.28	40	P	PKPdf	01 34 03.7	-0.4
	baz=296						
KWP	**Kalwaria Pacla**	125.37	326	*e*PKPdf	PKPdf	01 34 04.1	-0.1
H64A	**Troy**	125.60	41	P	PKPdf	01 34 03.6	-1.2
	baz=296						
KOLS	**Kolonicke sedl**	125.99	326	*e*PKIKP	PKiKP	01 34 06.0	+0.2
KOLS	**Kolonicke sedl**	125.99	326	*e*PKP	PKiKP	01 34 06.0	+0.2
L65A	**Cape Cod Natio**	126.13	44

comp=Z,200nm,24.0s
DIVS Divibare 129.89 322 PKPdf **PKPdf 01 34 11.2 -1.9**
CONA Conrad Observa 130.04 328 *e*P **PKPdf 01 34 12.3 -1.0**
comp=Z,6.0nm,1.9s
CPSB Cacapava Do Su 130.21 143 *e*P **PKiKP 01 34 18.1 +3.2**
CKRC Cesky Krumlov 130.27 330 *e*PKPDF **PKPdf 01 34 13.6 0.0**
CKRC *ex* x 01 34 22.1
CKRC AMS AMS 02 34 20.0
comp=Z,300nm,27.8s
KHC Kasperske Hory 130.42 330 *e*PKIKP **PKiKP 01 34 14.5 -0.2**
KHC *e* 01 34 23.6
KHC MLR MLR
comp=Z,200nm,23.5s
KHC Kasperske Hory 130.42 330 *e*PKPDF **PKiKP 01 34 14.5 -0.2**
KHC *ex* x 01 34 23.6
KHC AMS AMS 02 31 00.0
comp=Z,200nm,23.5s
CPUP Villa Florida 130.52 136 PKP **PKPdf 01 34 14.2 -0.5**
comp=Z,1.7nm,0.6s,baz=224,slow=0.8,SNR=7.5
GERES GERESS Array B 130.55 330 PKP **PKPdf 01 34 14.0 -0.2**
comp=Z,1.1nm,0.6s,baz=79,slow=2.9,SNR=11
FNA Florina 130.64 317 PKIKP **PKPdf 01 34 14.2 -0.4**
FNA Florina 130.64 317 PKPdf **PKPdf 01 34 14.2 -0.4**
ARSA Arzberg 130.65 327 *e*P **PKPdf 01 34 14.5 +0.2**
comp=Z,1.4nm,0.8s
MOA Molln 130.92 329 *e*P **PKPdf 01 34 15.2 +0.3**
comp=Z,4.2nm,1.2s
SOKA Soboth 131.27 327 *e*P **PKiKP 01 34 22.3 +5.7**
comp=Z,3.8nm,1.0s
SDV Santo Domingo 131.40 86 *e*P **PKPdf 01 34 17.0 +0.1**
OBKA Obir 131.63 327 *e*P **PKiKP 01 34 23.4 +6.1**
comp=Z,6.0nm,1.2s
ETMB Extrema 131.65 112 *e*P **PKiKP 01 34 19.6 +1.4**
KBA Koelnbreinsper 131.90 328 *e*P **PKiKP 01 34 20.3 +2.3**
comp=Z,2.8nm,0.8s
MYKA Terra Mystica 132.04 328 *e*P **PKiKP 01 34 19.2 +1.1**
comp=Z,1.0nm,0.4s
ABTA Abfaltersbach 132.55 329 *e*P **PKPdf 01 34 16.1 -2.0**
comp=Z,2.7nm,0.8s
WATA Walderalm 132.62 330 *e*P **PKPdf 01 34 16.1 -2.2**
comp=Z,3.5nm,1.0s
WTTA Wattenberg 132.64 330 *e*P **PKPdf 01 34 17.1 -1.2**
comp=Z,2.3nm,0.7s
STAL STALIGIAL 132.77 328 PKPdf **PKPdf 01 34 17.2 -1.2**
MOTA Moosalm 132.85 330 *e*P **PKPdf 01 34 17.8 -0.9**
comp=Z,3.2nm,0.7s
RETA Reutte 132.92 330 *e*P **PKiKP 01 34 23.3 +3.4**
comp=Z,3.5nm,1.4s
FETA Feichten 133.26 330 *e*P **PKPdf 01 34 18.4 -1.1**
comp=Z,3.5nm,1.0s
DAVA Damuels 133.49 331 *e*P **PKPdf 01 34 19.9 0.0**
comp=Z,4.9nm,0.9s
PTLB Pontes e Lacer 135.44 123 *e*P **PKiKP 01 34 26.8 +1.1**
PP1B Ponte de Pedra 137.68 129 *e*P **PKiKP 01 34 29.6 -0.8**
PET01 Itanhaem-SP 138.40 143 *e*P **PKiKP 01 34 33.3 +1.7**
MACA Manacapuru-AM 139.04 105 *e*P **PKiKP 01 34 32.4 -0.8**
BOAV Boa Vista 140.56 97 *e*P **PKiKP 01 34 35.9 -0.4**
IPMB Ipameri, GO 142.35 135 *e*P **PKiKP 01 34 38.6 -1.3**
DUB01 Friburgo-RJ 142.92 147 *e*P **PKiKP 01 34 42.4 +1.4**
CAM01 Campos-RJ 143.51 147 *e*P **PKiKP 01 34 42.4 +0.3**
SNDB Serra Nova Dou 143.73 124 *e*P **PKiKP 01 34 41.3 -1.5**
BDFB Brasilia 144.05 133 PKP **PKPab 01 34 37.6 +0.2**
comp=Z,22nm,0.7s,baz=250,slow=2.1,SNR=46
PBRG Braganca 144.83 341 *e*PKP **PKPab 01 34 39.2 -0.3**
PBRG *i* LQ LQ 01 34 47.7
ALF01 Guarapari-ES 145.00 147 *e*P **PKiKP 01 34 45.3 +0.1**
DIAM Diamantina, MG 145.11 141 *e*P **PKPdf 01 34 43.1 +1.3**
PGAV Gavieira, Arco 145.15 343 *i* LQ LQ 01 34 49.8
PCAB Cabril 145.31 342 *e*PKP **PKPbc 01 34 41.1 0.0**
MVO Moncorvo 145.50 341 *e*PKP **PKPdf 01 34 41.6 -0.2**
MVO *i* LQ LQ 01 34 51.0
MALB Monte Alegre 145.54 107 *e*P **PKPab 01 34 43.1 +0.2**
POLO Lamas de Olo 145.55 342 *e*PKP **PKPbc 01 34 42.0 0.0**
POLO *i* LQ LQ 01 34 51.5
PVRL Vila Real 145.62 342 *e*PKP **PKPab 01 34 42.6 +0.2**
PVRL *i* LQ LQ 01 34 51.7
ESBB Sonseca Array 145.68 336 PKPdf **PKPdf 01 34 41.8 -0.3**
ESDC Sonseca Array 145.68 336 PKPbc **PKPdf 01 34 41.9 -0.2**
comp=Z,5.1nm,1.0s,baz=12,slow=3.5,SNR=18
ESDC Sonseca Array 145.68 336 PKPdf **PKPdf 01 34 42.2 +0.1**
PEXB Peixe 146.04 128 *e*P **PKiKP 01 34 46.8 -0.8**
MC01 Montes Claros 146.12 139 *e*P **PKPab 01 34 45.3 +0.3**
PVIS Viseu 146.18 341 *e*PKP **PKPbc 01 34 44.0 +0.1**
PVIS *i* LQ LQ 01 34 54.1
SJMB Sao Joao De Ma 146.28 145 *e*P **PKiKP 01 34 47.5 -0.4**
MTE Manteigas 146.35 341 *e*PKK 01 34 44.9
MTE *i* LQ LQ 01 34 55.5
COI Coimbra 146.81 342 *i* LQ LQ 01 34 55.7
PCBR Castelo Branco 146.84 340 *e*PKP **PKPbc 01 34 46.0 +0.2**
PCBR *i* LQ LQ 01 34 55.3
PCAS Casmilo, Conde 146.97 342 *e*PKP **PKPbc 01 34 46.3 +0.1**
PCAS *i* LQ LQ 01 34 55.2
JANB Januaria 147.06 136 *e*P **PKPab 01 34 48.6 -0.1**
PMRV Marv??o 147.18 340 *e*PKP **PKPbc 01 34 46.8 0.0**
PMRV *i* LQ LQ 01 34 55.6
PSBE So Bento 147.56 342 *e*PKP **PKPab 01 34 49.2 -0.7**
PSBE *i* LQ LQ 01 34 59.7
NAN01 Guarapari, ES 147.57 145 *e*P **PKPbc 01 34 48.6 +0.1**
PESTR Estremoz 147.75 340 *e*PKP **PKPab 01 34 50.8 +0.1**
PESTR *i* LQ LQ 01 35 00.6
PMTG Montargil 147.78 341 *e*PKP **PKPbc 01 34 48.5 +0.1**
PMTG *i* LQ LQ 01 34 57.0
PRPB Parauapebas 147.94 117 *e*P **PKPbc 01 34 49.7 0.0**
MCPB Macapa, AP 148.10 105 *e*P **PKPdf 01 34 47.5 +0.6**
PBAR Barrancos 148.17 338 *i* LQ LQ 01 34 59.0
EVO Evora 148.19 340 *i* LQ LQ 01 34 57.0
PMAFR Mafra 148.22 342 *i* LQ LQ 01 35 01.8
SDBA SAO DESIDERIO 148.44 132 *e*P **PKPbc 01 34 49.3 -1.6**
SMTB Santa Maria do 148.48 123 *e*P **PKPbc 01 34 49.3 -1.7**
PBEJ Beja 148.60 339 *i* LQ LQ 01 35 04.5
PNCL Nicolau / Gran 148.75 340 *i* LQ LQ 01 34 51.2
MESJ Messejana 148.89 340 *i* LQ LQ 01 35 04.8
PCVE Castro Verde 149.01 339 *e*PKP **PKPbc 01 34 52.3 +0.6**
PCVE *i* LQ LQ 01 35 01.3
ROSB Rosrio 154.47 116 *e*P **PKPdf 01 34 59.8 +3.3**
NBMA Muriti-CE 156.28 133 *e*P **PKPdf 01 35 02.5 +3.5**
NBRF Rio Formoso - 157.77 142 *e*P **PKPdf 01 35 04.9 +4.0**

IDC 27 01:29:28.0±39.0, 52°.79S×28°.41E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/21, mbtmp3.6/2, Error ellipse: s-maj=1090.0km s-min=72.7km az=120.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.79**	**167**	P		01 37 58.2	-0.3
	0.7nm,0.8s,baz=234,slow=6.8,SNR=3.7						
ASAR	**Alice Springs**	**80.31**	**116**	P		01 41 40.9	-0.1
	11nm,0.4s,baz=212,slow=4.5,SNR=8.1						
WRA	**Warramunga Arr**	**83.54**	**114**	P		01 41 58.3	+0.4
	0.5nm,0.8s,baz=216,slow=4.9,SNR=1.8						

IDC 27 01:38:11.0±1.7, 2°.69S×139°.30E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/31, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=87.7km s-min=27.9km az=81.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.82**	**195**	P		Pn 01 42 20.2	-0.5
	0.5nm,0.3s,baz=17,slow=12,SNR=15						
WRA				S		Sn 01 45 30.2	-10
	0.1nm,0.3s,baz=14,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**21.50**	**194**	P		P 01 43 01.4	-0.2
	14nm,0.4s,baz=22,slow=10,SNR=13						
MKAR	**Makanchi Array**	**70.13**	**322**	P		P 01 49 25.6	+0.1
	0.3nm,0.5s,baz=108,slow=7.3,SNR=5.7						
VNDA	**Vanda**	**75.75**	**175**	P		P 01 49 58.3	+0.2
	0.6nm,0.6s,baz=331,slow=8.2,SNR=7.7						
QSPA	**South Pole Qui**	**87.26**	**180**	P		P 01 50 59.4	0.0
	1.3nm,0.6s,baz=352,slow=4.8,SNR=14						

*IDC **27** 01:39:17.9±1.4, 52°.50N×169°.54W, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.8/54, mbtmp3.8/14, ML3.7/1, Error ellipse: s-maj=40.6km s-min=19.0km az=176.0*
*AEIC **27** 01:39:19±2.0, 52°.11N±0°.04×169°.35W±0°.03, h16km±5km, Error ellipse: s-maj=7.0km s-min=1.2km az=157.0*
*NEIC **27** 01:39:22.5±1.8, 52°.23N±0°.02×169°.43W±0°.07, h37km±12km, mb4.0/5, ML3.4/32(AEIC), Error ellipse:*

2015 JUL

s-maj=6.7km s-min=1.8km az=61.0
ISC 27 01:39:19.7±2.7, 52°.2N±0°.1×169°.40W±0°.07, h18km±15km, n56, σ1§05/55, mb3.8/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**23**		**Pb**	**01 39 36.2**	**+0.2**
NIKH				Sn	**Sn**	**01 39 48.9**	**-0.1**
OKSP	**Okmok Steeple**	**1.26**	**32**		**Pn**	**01 39 42.2**	**-0.3**
OKCE	**Okmok Cone E**	**1.45**	**31**		**Pn**	**01 39 45.5**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.45**	**34**		**Pn**	**01 39 45.3**	**+0.1**
OKNC	**Okmok New Cone**	**1.49**	**31**		**Pn**	**01 39 46.1**	**+0.5**
OKNC					**Sg**	**01 40 07.3**	**-0.5**
MAPS	**Pakushin South**	**2.20**	**41**		**Pn**	**01 39 55.7**	**+0.3**
MAPS					**Sn**	**01 40 23.7**	**+1.5**
MSW	**Makushin Switc**	**2.34**	**41**		**Pn**	**01 39 58.1**	**+0.8**
MNAT	**Makushin Natee**	**2.36**	**43**		**Pn**	**01 39 58.2**	**+0.6**
MNAT					**Sn**	**01 40 27.1**	**+1.0**
UNV	**Unalaska Valle**	**2.41**	**45**		**Pn**	**01 39 58.5**	**+0.2**
UNV					**Sn**	**01 40 27.8**	**+0.5**
MTBL	**Makushin Table**	**2.42**	**41**		**Pn**	**01 39 59.6**	**+1.1**
KOFP	**Korovin Flat P**	**2.89**	**274**		**Pn**	**01 40 05.9**	**+1.0**
AKUT	**Akutan**	**2.93**	**47**	Pn	**Pn**	**01 40 07.5**	**+2.2**
ATKA	**Atka Island**	**2.95**	**272**	Pn	**Pn**	**01 40 05.4**	**-0.4**
KOKL	**Mount Kliuchef**	**2.96**	**275**		**Pn**	**01 40 07.5**	**+1.7**
AKSA	**Akutan Strait**	**2.96**	**47**		**Pn**	**01 40 07.0**	**+1.2**
GSTR	**Great Sitkin T**	**4.11**	**271**	Pn	**Pn**	**01 40 22.8**	**+1.2**
GSMY	**Great Sitkin M**	**4.11**	**271**		**Pn**	**01 40 22.5**	**+0.9**
GSTD	**Great Sitkin T**	**4.16**	**271**		**Pn**	**01 40 23.1**	**+0.7**
ADK	**Adak**	**4.51**	**269**	Pn	**Pn**	**01 40 27.8**	**+0.7**
KIWB	**Kanaga Island**	**4.80**	**269**	Pn	**Pn**	**01 40 30.8**	**-0.3**
SPIA	**Saint Paul Isl**	**5.02**	**355**	Pn	**Pn**	**01 40 36.2**	**+2.1**
TAFP	**Tanaga Falls P**	**5.31**	**270**		**Pn**	**01 40 39.0**	**+0.9**
TASE	**Tanaga Southea**	**5.35**	**270**		**Pn**	**01 40 40.0**	**+1.3**
CESW	**Semis' Southwe**	**6.82**	**272**		**Pn**	**01 41 00.5**	**+1.7**
AMKA	**Amchitka**	**7.06**	**268**	Pn	**Pn**	**01 41 02.7**	**+0.6**
KDAK	**Kodiak Island**	**11.15**	**53**	Pn	**Pn**	**01 41 57.1**	**-1.0**
	0.3nm,0.3s,baz=188,slow=5.1,SNR=11						
KDAK	**Kodiak Island**	**11.15**	**53**	Pn	**Pn**	**01 41 59.3**	**+1.2**
YAH	**Yahtse**	**17.29**	**51**	Pn	**Pn**	**01 43 18.2**	**-1.9**
HYT	**Haines Junctio**	**19.43**	**51**		**Pn**	**01 43 47.7**	**+1.6**
HYT				IAmb	IAmb	01 43 49.0	
	comp=Z,5.3nm,0.7s						
BMAR	**Burnt Mountain**	**19.50**	**29**		**P**	**01 43 46.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**19.89**	**286**		**P**	**01 43 49.6**	**-0.4**
PEA0B				IAmb	IAmb	01 44 09.8	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**01 43 49.0**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=90,slow=12,SNR=22						
PETK	**Petropavlovsk-**	**19.89**	**286**		**P**	**01 43 49.2**	**-0.8**
INK	**Inuvik**	**23.51**	**33**	P	**P**	**01 44 26.8**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=237,slow=7.3,SNR=7.1						
INK	**Inuvik**	**23.51**	**33**	P	**P**	**01 44 27.0**	**-1.2**
C36M	**Paulatuk**	**27.09**	**34**		**P**	**01 45 00.5**	**-0.4**
C36M				IAmb	IAmb	01 45 19.0	
	comp=Z,4.7nm,1.1s						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**01 45 30.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=287,slow=11,SNR=8.9						
YKA	**Yellowknife Ar**	**30.37**	**49**	P	**P**	**01 45 29.7**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**37.30**	**219**	T	T	02 27 17.2	
	baz=24,slow=76,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**37.31**	**219**	T	T	02 27 26.4	
	baz=24,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**37.32**	**219**	T	T	02 27 20.6	
	baz=24,slow=76,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.49**	**218**	T	T	02 27 51.4	
	baz=23,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	02 27 52.6	
	baz=23,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**38.51**	**218**	T	T	02 27 56.1	
	baz=23,slow=76,SNR=26						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**01 46 58.1**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=10,slow=41,SNR=3.0						
KSRS	**Korea Array**	**45.41**	**277**	P	**P**	**01 47 37.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=59,slow=10,SNR=1.4						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**01 48 35.0**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=303,slow=6.2,SNR=4.7						
ARCES	**ARCESS Array B**	**58.10**	**354**	P	**P**	**01 49 09.9**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=22,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**63.92**	**313**	P	**P**	**01 49 49.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=54,slow=7.4,SNR=5.6						
FINES	**FINESS Array B**	**66.05**	**352**	P	**P**	**01 50 03.6**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=347,slow=5.7,SNR=6.9						
FINES	**FINESS Array B**	**66.05**	**352**	P	**P**	**01 50 04.2**	**-0.7**
NOA	**NORSAR Array B**	**67.12**	**360**	P	**P**	**01 50 11.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=1.4,slow=6.5,SNR=1.9						
AKASG	**Malin Array Be**	**76.28**	**348**	P	**P**	**01 51 05.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=14,slow=5.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**76.64**	**283**	P	**P**	**01 51 09.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=39,slow=7.5,SNR=1.5						
KBZ	**Khabaz**	**80.47**	**337**	P	**P**	**01 51 31.1**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=68,slow=5.4,SNR=2.4						
ESDC	**Sonseca Array**	**87.64**	**11**	P	**P**	**01 52 06.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=335,slow=5.7,SNR=2.1						

*DJA **27** 01:44:10.4±0.6, 9°.5±3°.3×10°.7E±°, h74km±21km, M4.4/13, mb4.7/2, mB5.1/1, MLv4.2/13, Mw(mB)4.4/1*
*IDC **27** 01:44:12.8±4.0, 8°.19S×108°.45E, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.8/38, mbtmp4.3/4, Error ellipse: s-maj=211.7km s-min=23.8km az=50.0*
ISC 27 01:44:10.7±1.2, 9°.34S±0°.08×107°.04E±0°.06, h22km, n18, σ1§59/21, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**2.02**	**3**	P	**Pn**	**01 44 43.5**	**+0.1**
CNJI				S	**Sb**	**01 45 10.5**	**-0.8**
LEM	**Lembang**	**2.56**	**13**	P	**Pn**	**01 44 52.5**	**+1.5**
LEM				S	**Sb**	**01 45 28.4**	**+1.3**
KPJI	**Karang Pucung**	**2.73**	**43**	P	**Pn**	**01 44 55.7**	**+2.4**
KPJI				S	**Sb**	**01 45 32.1**	**+0.1**
DBJI	**Dramaga**	**2.78**	**354**	P	**Pn**	**01 44 54.4**	**+0.5**
TNG	**Tangerang**	**3.17**	**353**	P	**Pn**	**01 45 00.6**	**+1.3**
UGM	**Wanagama**	**3.73**	**68**	P	**Pn**	**01 45 07.0**	**0.0**
UGM				S	**Sn**	**01 45 48.9**	**-1.4**
SMRI	**Semarang**	**4.06**	**56**	P	**Pn**	**01 45 11.1**	**-0.5**
PCJI	**Pacitan**	**4.25**	**75**	P	**Pn**	**01 45 14.7**	**+0.6**
KASI	**Kota Agung**	**4.55**	**326**	P	**Pn**	**01 45 17.2**	**-1.1**
KASI				S	**Sn**	**01 46 07.8**	**-2.7**
PWJI	**Pagerwojo**	**4.89**	**75**	P	**Pn**	**01 45 22.9**	**-0.1**
	0.6nm2μm34nm,0.4s						
PWJI				S	**Sn**	**01 46 15.3**	**-3.6**
	0.6nm2μm34nm,0.4s						
WRA	**Warramunga Arr**	**28.40**	**115**	P	**P**	**01 50 02.1**	**-1.7**
	0.3nm,0.6s,baz=290,slow=10,SNR=1.5						
CMAR	**Chiang Mai Arr**	**28.75**	**344**	P	**P**	**01 50 06.7**	**-0.2**
	0.8nm,0.4s,baz=172,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**29.36**	**122**	P	**P**	**01 50 13.7**	**+1.3**
	0.4nm,0.8s,baz=301,slow=9.6,SNR=2.1						
H08S2	**Diego Garcia H**	**34.20**	**270**	T	T	02 28 31.7	
	baz=90,slow=74						
H08S3	**Diego Garcia H**	**34.21**	**270**	T	T	02 28 33.5	
	baz=90,slow=74						
H08S1	**Diego Carcia H**	**34.22**	**270**	T	T	02 28 37.6	
	baz=90						
MKAR	**Makanchi Array**	**60.09**	**341**	P	**P**	**01 54 17.6**	**+1.4**
	1.5nm,0.6s,baz=143,slow=8.2,SNR=15						
TXAR	**Lajitas Array**	**145.04**	**51**	PKP	**PKPdf**	**02 03 48.6**	**+1.4**
	0.3nm,0.7s,baz=305,slow=3.2,SNR=4.1						

IDC 27 01:51:14.6±6.0, 18°.47S×174°.16W, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.5/23, mbtmp3.5/2, Error ellipse: s-maj=463.9km s-min=37.0km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.50**	**259**	P	P	02 00 00.9	+1.3
	0.4nm,0.7s,baz=94,slow=7.9,SNR=2.0						
ASAR	**Alice Springs**	**48.53**	**254**	P	P	01 59 58.9	-1.0
	11nm,0.3s,baz=89,slow=7.9,SNR=11						
H03S2	**Juan Fernandez**	**84.12**	**124**	T	T	03 37 01.0	
	baz=250,slow=75,SNR=3.3						
H03S1	**Juan Fernandez**	**84.14**	**124**	T	T	03 36 59.7	
	baz=250,slow=75,SNR=3.6						
H03S3	**Juan Fernandez**	**84.14**	**124**	T	T	03 36 58.0	
	baz=250,slow=75,SNR=4.0						
PDAR	**Pinedale Array**	**85.03**	**42**	P	P	02 03 52.4	0.0
	0.3nm,0.7s,baz=224,slow=2.5,SNR=3.6						

*NEIC **27** 02:21:54.4±1.9, 60°.98N±0°.02×150°.94W±0°.02, h16km±4km, Error ellipse: s-maj=3.4km s-min=1.3km az=191.0*

*AEIC **27** 02:21:54±1.9, 60°.98N±0°.02×150°.94W±0°.02, h16km±4km, ML3.4, ML3.7/116(NEIC), Error ellipse: s-maj=3.2km s-min=1.4km az=191.0*
*ANF **27** 02:21:54.3±0.3, 60°.99N×150°.92W, h19km±2km, ML3.8/55, Error ellipse: s-maj=2.1km s-min=2.0km az=140.0*
*IDC **27** 02:21:57.2±1.4, 61°.00N×150°.94W, h45km±16km, mb3.7/6, mb1 3.7/10, mb1mx3.4/55, mbtmp3.8/10, ML3.2/4, Error ellipse: s-maj=29.6km s-min=10.1km az=110.0*
ISC 27 02:21:54.3±0.6, 60°.99N±0°.02×150°.91W±0°.02, h21km±3km, n199, σ1§16/236, mb4.1/6, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.25**	**208**	P	**Pn**	**02 22 02.5**	**+2.3**
	baz=26,SNR=34						
CAPN	**Captain Cook N**	**0.25**	**208**		**Pn**	**02 22 02.4**	**+2.3**
FIS	**Fire Island**	**0.37**	**64**		**Pb**	**02 22 03.3**	**+1.3**
SUA	**Susitna One**	**0.49**	**10**	P	**Pb**	**02 22 03.8**	**-0.4**
	baz=191,SNR=85						
SUA				S	**Sb**	**02 22 10.7**	**-0.2**
	baz=191						
SUA	**Susitna One**	**0.49**	**10**		**Pb**	**02 22 03.8**	**-0.4**
SUA					**Sb**	**02 22 10.7**	**-0.2**
RC01	**Rabbit Creek A**	**0.58**	**79**	P	**Pb**	**02 22 05.3**	**-0.6**
	baz=260,SNR=1000						
RC01				S	**Sb**	**02 22 13.4**	**-0.3**
	baz=260						
RC01	**Rabbit Creek A**	**0.58**	**79**		**Pb**	**02 22 05.3**	**-0.6**
RC01					**Sb**	**02 22 13.4**	**-0.3**
RC01				IAML		02 22 14.3	
	comp=N,5μm,0.4s						
SLKM	**Skilak Lake**	**0.59**	**144**		**Pb**	**02 22 05.7**	**-0.3**
SLKM					**Sb**	**02 22 14.0**	**0.0**
SPU	**Mount Spurr**	**0.59**	**290**		**Pb**	**02 22 05.4**	**-0.6**
SPCG	**Spurr Capps Gl**	**0.62**	**300**		**Pb**	**02 22 06.0**	**-0.5**
SPCG					**Sb**	**02 22 14.7**	**-0.2**
SPCN	**Chakachatna No**	**0.66**	**292**		**Pb**	**02 22 06.7**	**-0.5**
SPCP	**Crater Peak Br**	**0.66**	**296**		**Pb**	**02 22 06.8**	**-0.6**
SPCP					**Sb**	**02 22 15.5**	**-0.7**
SPCR	**Spurr Chakacha**	**0.67**	**289**	P	**Pb**	**02 22 06.6**	**-0.7**
	baz=109,SNR=241						
SPCR				S	**Sb**	**02 22 15.4**	**-0.8**
	baz=109						
SPCR	**Spurr Chakacha**	**0.67**	**289**		**Pb**	**02 22 06.6**	**-0.7**
SPCR					**Sb**	**02 22 15.3**	**-0.8**
STLK	**Strandline Lak**	**0.68**	**320**		**Pb**	**02 22 06.9**	**-0.6**
SPBG	**Spurr Blockage**	**0.76**	**292**		**Pb**	**02 22 08.2**	**-0.6**
O22K	**Cooper Landing**	**0.77**	**130**	P	**Pb**	**02 22 08.8**	**-0.2**
	baz=311						
O22K				S	**Sb**	**02 22 19.2**	**+0.2**
	baz=311						
O22K	**Cooper Landing**	**0.77**	**130**		**Pb**	**02 22 08.8**	**-0.2**
O22K					**Sb**	**02 22 19.0**	**0.0**
SPNN	**North Nagishla**	**0.95**	**295**		**Pb**	**02 22 11.4**	**-0.6**
DFR	**Drift River**	**0.95**	**246**		**Pb**	**02 22 11.4**	**-0.7**
DFR					**Sb**	**02 22 24.2**	**-0.1**
RDJH	**Redoubt Jeurge**	**1.01**	**248**		**Pb**	**02 22 12.4**	**-0.7**
RDJH					**Sb**	**02 22 25.7**	**-0.2**
SKT	**Skwentna**	**1.04**	**344**	P	**Pb**	**02 22 12.7**	**-0.9**
	baz=164,SNR=226						
SKT				S	**Sb**	**02 22 26.4**	**-0.4**
	baz=164						
SKT	**Skwentna**	**1.04**	**344**		**Pb**	**02 22 13.1**	**-0.5**
RSO	**Redoubt South**	**1.05**	**241**		**Pb**	**02 22 13.0**	**-0.8**
PMR	**Palmer**	**1.05**	**54**	P	**Pb**	**02 22 12.0**	**-1.8**
	baz=236,SNR=43						
PMR				S	**Sb**	**02 22 25.3**	**-1.8**
	baz=236						
PMR	**Palmer**	**1.05**	**54**		**Pb**	**02 22 11.9**	**-1.8**
RDWB	**Redoubt West**	**1.07**	**243**		**Pb**	**02 22 13.3**	**-0.8**
RDWB					**Sb**	**02 22 27.0**	**-0.7**
RED	**Redoubt Volcan**	**1.08**	**239**		**Pb**	**02 22 13.4**	**-0.8**
RED					**Sb**	**02 22 27.5**	**-0.3**
NCT	**North Crescent**	**1.08**	**248**		**Pb**	**02 22 13.4**	**-0.8**
NCT					**Sb**	**02 22 27.3**	**-0.6**
SEW	**Seward**	**1.14**	**140**	P	**Pn**	**02 22 14.4**	**-0.5**
	baz=321,SNR=82						
SEW				S	**Sb**	**02 22 29.1**	**-0.5**
	baz=321						
SEW	**Seward**	**1.14**	**140**		**Pn**	**02 22 14.5**	**-0.5**
BRLK	**Bradley Lake**	**1.23**	**179**		**Pn**	**02 22 16.0**	**-0.2**
BRLK					**Sb**	**02 22 32.2**	**+0.1**
BRLK				IAML		02 22 32.8	
	comp=E,1μm,0.5s						
BRLK				IAML		02 22 32.9	
	comp=N,900nm,0.3s						
O20K	**Slope Mountain**	**1.24**	**224**	P	**Pn**	**02 22 16.8**	**+0.4**
	baz=42,SNR=38						
O20K				S	**Sb**	**02 22 33.0**	**+0.5**
	baz=42						
O20K	**Slope Mountain**	**1.24**	**224**		**Pn**	**02 22 16.8**	**+0.4**
BRSE	**Bradley Lake S**	**1.25**	**176**	P	**Pn**	**02 22 16.2**	**-0.3**
	baz=356,SNR=56						
BRSE				S	**Sn**	**02 22 32.7**	**0.0**
	baz=356						
BRSE	**Bradley Lake S**	**1.25**	**176**		**Pn**	**02 22 16.1**	**-0.5**
BRSE					**Sn**	**02 22 32.6**	**-0.1**
KNK	**Knik Glacier**	**1.26**	**69**	P	**Pn**	**02 22 16.2**	**-0.5

PPLA	Purkeypile	2.01	343		Pn	02 22 27.9 +0.8
AUQ	Augustine Qik'	2.06	218		Pb	02 22 29.9 -1.0
AGU	Augustine-Summ	2.06	219		Pb	02 22 29.9 -1.0
AUCH	Augustine Cone	2.06	219		Pb	02 22 30.0 -1.0
AUW	Augustine West	2.06	219		Pb	02 22 30.0 -1.0
HUR	Hurricane	2.09	16		Pn	02 22 28.8 +0.8
WAT7	Susitna Watana	2.10	27		Pn	02 22 29.5 +1.2
WAT1	Susitna Watana	2.16	30	P	Pn	02 22 30.2 +1.1
	baz=212					
WAT1	Susitna Watana	2.16	30		Pn	02 22 30.5 +1.4
FID	Port Fidalgo	2.18	94		Pn	02 22 29.5 +0.2
FID				IAML		02 22 59.0
	comp=E,597nm,0.6s					
FID				IAML		02 23 03.6
	comp=N,439nm,0.4s					
WAT6	Susitna Watana	2.20	42	P	Pn	02 22 30.7 +1.0
	baz=225,SNR=54					
WAT6	Susitna Watana	2.20	42		Pn	02 22 31.0 +1.3
L19K	White Mountain	2.23	304	P	Pn	02 22 30.9 +0.9
	baz=121,SNR=103					
L19K				S	Sn	02 22 57.8 +0.8
	baz=121					
L19K	White Mountain	2.23	304		Pn	02 22 31.0 +0.9
HIN	Hinchinbrook I	2.25	103	Pn	Pn	02 22 30.6 +0.3
HIN				IAML		02 23 00.5
	comp=E,328nm,0.9s					
HIN				IAML		02 23 13.0
	comp=N,280nm,0.8s					
SVW2	Sparrevohn	2.27	275		Pn	02 22 30.6 0.0
SVW2				IAML		02 23 05.5
	comp=N,361nm,0.4s					
O18K	Koktuh Hills	2.41	244	P	Pn	02 22 32.7 +0.1
	baz=60,SNR=78					
O18K	Koktuh Hills	2.41	244		Pn	02 22 32.6 +0.1
N18K	Kilae Creek	2.46	265	P	Pn	02 22 33.3 +0.2
	baz=81,SNR=62					
N18K				S	Sn	02 23 02.5 +0.1
	baz=81					
N18K	Kilae Creek	2.46	265		Pn	02 22 33.2 +0.2
KLU	Klutina	2.47	76	P	Pn	02 22 34.3 +1.0
	baz=260,SNR=51					
KLU	Klutina	2.47	76		Pn	02 22 34.5 +1.2
KLU				IAML		02 23 09.7
	comp=N,417nm,0.5s					
KLU				IAML		02 23 14.2
	comp=E,285nm,0.5s					
TRF	Thorofare Moun	2.49	6	P	Pn	02 22 34.9 +1.2
	baz=187,SNR=66					
TRF	Thorofare Moun	2.49	6	Pn	Pn	02 22 34.8 +1.2
TRF				IAML		02 23 11.7
	comp=E,380nm,0.4s					
TRF				IAML		02 23 13.8
	comp=N,465nm,0.5s					
DIV	Divide	2.50	84		Pn	02 22 34.8 +1.0
M24K	Tolsona, Glenn	2.53	62	P	Pn	02 22 36.3 +2.1
	baz=246,SNR=91					
M24K	Tolsona, Glenn	2.53	62	Pn	Pn	02 22 36.4 +2.2
M24K				IAML		02 23 12.5
	comp=E,467nm,0.5s					
EYAK	Cordova Ski Ar	2.57	98	P	Pn	02 22 34.8 +0.1
	baz=282,SNR=11					
EYAK	Cordova Ski Ar	2.57	98	Pn	Pn	02 22 35.3 +0.7
KTH	Kantishna Hill	2.58	360	Pn	Pn	02 22 36.0 +1.2
KTH				IAML		02 23 21.3
	comp=E,311nm,0.9s					
KTH				IAML		02 23 22.2
	comp=N,322nm,0.7s					
RND	Reindeer	2.62	21	Pn	Pn	02 22 37.0 +1.6
RND				IAML		02 23 18.3
	comp=N,284nm,0.8s					
RND				IAML		02 23 22.7
	comp=E,239nm,0.6s					
Q23K	Middleton Isla	2.76	122	Pn	Pn	02 22 37.7 +0.5
Q23K				IAML		02 23 49.5
	comp=E,214nm,2.3s					
MID	Middleton Isla	2.77	122	Pn	Pn	02 22 38.9 +1.6
MID				IAML		02 23 49.4
	comp=E,208nm,2.2s					
K20K	Telida	2.80	329	P	Pn	02 22 38.6 +0.8
	baz=147,SNR=45					
K20K	Telida	2.80	329		Pn	02 22 38.6 +0.8
MCK	McKinley	2.91	18	P	Pn	02 22 40.9 +1.6
	baz=200,SNR=31					
MCK	McKinley	2.91	18	Pn	Pn	02 22 41.9 +2.6
MCK				IAML		02 23 26.7
	comp=N,320nm,1.1s					
MCK				IAML		02 23 29.6
	comp=E,234nm,0.7s					
CHUM	Lake Minchumin	2.98	348	P	Pn	02 22 41.2 +1.0
	baz=167,SNR=136					
CHUM	Lake Minchumin	2.98	348		Pn	02 22 41.2 +1.0
BMRM	Bremner River	3.08	88	P	Pn	02 22 42.0 +0.3
	baz=273,SNR=26					
BMRM	Bremner River	3.08	88	Pn	Pn	02 22 42.3 +0.6
BMRM				IAML		02 23 29.5
	comp=E,202nm,0.4s					
BMRM				IAML		02 23 32.5
	comp=N,218nm,0.8s					
HARP	HAARP	3.09	60	P	Pn	02 22 44.2 +2.4
	baz=245,SNR=41					
TT01	Tatalina	3.09	311		Pn	02 22 42.4 +0.6
N25K	Chitina, Valde	3.11	76	P	Pn	02 22 43.1 +0.9
	baz=261,SNR=37					
N25K	Chitina, Valde	3.11	76		Pn	02 22 43.1 +0.9
N25K				IAML		02 23 32.7
	comp=E,129nm,0.7s					
N25K				IAML		02 23 32.7
	comp=N,160nm,0.5s					
BPAW	Bear Paw Mtn.	3.13	359	P	Pn	02 22 42.9 +0.7
	baz=180,SNR=41					
BPAW	Bear Paw Mtn.	3.13	359	Pn	Pn	02 22 43.0 +0.7
PAX	Paxson	3.25	50	Pn	Pn	02 22 43.6 -0.5
BWN	Browne	3.27	11	Pn	Pn	02 22 45.9 +1.6
KDAK	Kodiak Island	3.32	196	P	Pn	02 22 46.4 +1.4
	comp=N,3.7nm,0.3s,baz=38,slow=12,SNR=30					
KDAK				S	Sn	02 23 25.2 +1.5
	comp=N,3.0nm,0.3s,baz=336,slow=20,SNR=2.1					
KDAK	Kodiak Island	3.32	196	P	Pn	02 22 46.4 +1.4
	baz=14					
KDAK	Kodiak Island	3.32	196	Pn	Pn	02 22 46.0 +1.0
HMT	Hamilton	3.34	98	Pn	Pn	02 22 46.4 +1.2
KAIM	Kayak Island	3.39	105	Pn	Pn	02 22 45.2 -0.6
GLB	Gilahina Butte	3.47	79		Pn	02 22 48.0 +1.0
GLB				IAML		02 23 44.0
	comp=N,177nm,0.8s					
J20K	Nowinta River	3.54	336	P	Pn	02 22 48.6 +0.8
	baz=154,SNR=87					
J20K	Nowinta River	3.54	336		Pn	02 22 48.7 +0.8
VRDI	Verde Repeater	3.63	83	Pn	Pn	02 22 50.4 +1.0
VRDI				IAML		02 23 43.9
	comp=N,87nm,0.8s					
NEA2	Nenana	3.72	12	P	Pn	02 22 51.0 +0.5
	baz=194,SNR=8.2					
NEA2	Nenana	3.72	12		Pn	02 22 51.4 +1.0
WRH	Wood River Hil	3.73	19		Pn	02 22 52.0 +1.4
WRH				IAML		02 23 53.6
	comp=N,97nm,1.1s					
WRH				IAML		02 23 56.5
	comp=E,86nm,0.8s					
CRQM	Cirque	3.81	90	Pn	Pn	02 22 52.6 +0.7
CRQM				IAML		02 23 53.1
	comp=E,140nm,0.8s					
CRQM				IAML		02 23 59.8
	comp=N,156nm,1.1s					
CRQE	Cirque	3.83	90	P	Pn	02 22 52.4 +0.3
	baz=277,SNR=14					
MCARA	McCarthy VSAT	3.84	81	P	Pn	02 22 53.1 +1.0
	baz=268					
MCARA	McCarthy VSAT	3.84	81	Pn	Pn	02 22 53.5 +1.4
HDA	Harding Lake	3.89	26	P	Pn	02 22 53.0 +0.3
	baz=210,SNR=19					
HDA	Harding Lake	3.89	26	Pn	Pn	02 22 52.2 -0.6
HDA				IAML		02 23 56.2
	comp=E,124nm,0.8s					
MENT	Mentasta	3.92	57	Pn	Pn	02 22 52.6 -0.6
MENT				IAML		02 23 57.1
	comp=N,128nm,0.9s					
CCB	Clear Creek Bu	3.94	20		Pn	02 22 54.8 +1.4
CCB				IAML		02 23 56.1
	comp=E,113nm,0.9s					
RIDG	Independent Ri	3.95	43	P	Pn	02 22 56.0 +2.3
	baz=228,SNR=14					
RIDG	Independent Ri	3.95	43		Pn	02 22 56.6 +2.9
RIDG				IAML		02 24 00.1
	comp=N,125nm,1.4s					
RIDG				IAML		02 24 04.1
	comp=E,112nm,0.7s					
OHAK	Old Harbor	3.97	199	P	Pn	02 22 54.7 +0.9
	baz=17					
OHAK	Old Harbor	3.97	199	Pn	Pn	02 22 55.0 +1.2
WAX	Waxell Ridge	4.00	94	Pn	Pn	02 22 54.1 -0.3
WAX				IAML		02 24 00.2
	comp=E,122nm,1.1s					
M26K	Nabesna, AK	4.03	66	P	Pn	02 22 55.2 +0.5
	baz=253,SNR=8.6					
MLY	Manley	4.06	1	P	Pn	02 22 55.7 +0.5
	baz=181,SNR=59					
MLY	Manley	4.06	1		Pn	02 22 55.9 +0.7
KULT	Kultieth River	4.11	97		Pn	02 22 55.2 -0.6
PTPK	Patty Peak	4.11	83		Pn	02 22 57.0 +1.1
TCOL	CIGO, UAF Yank	4.14	18	P	Pn	02 22 56.7 +0.4
	baz=201,SNR=10					
TCOL	CIGO, UAF Yank	4.14	18	Pn	Pn	02 22 57.0 +0.8
COLA	College	4.15	18	P	Pn	02 22 56.6 +0.3
	baz=201					
COLA	College	4.15	18	Pn	Pn	02 22 56.7 +0.5
DOT	Dot Lake	4.17	47	Pn	Pn	02 22 59.0 +2.4
BALM	Baldy	4.17	86		Pn	02 22 57.7 +0.9
MDM	Murphy Dome	4.17	16		Pn	02 22 57.9 +1.3
MDM				IAML		02 24 06.4
	comp=N,67nm,0.7s					
KIAG	Kiagna River	4.17	87		Pn	02 22 57.3 +0.4
IL31		4.22	24		Pn	02 22 59.5 +2.2
ILAR	Eielson Array	4.22	24	P	Pn	02 22 59.5 +2.1
	comp=N,3.2nm,0.3s,baz=211,slow=14,SNR=48					
ILAR				S	Sn	02 23 47.0 +1.0
	comp=N,2.6nm,0.3s,baz=219,slow=18,SNR=5.9					
ILAR	Eielson Array	4.22	24	Pn	Pn	02 22 59.2 +1.8
I23K	Minto, Yukon-K	4.24	9	P	Pn	02 22 58.4 +0.9
	baz=190,SNR=27					
I23K	Minto, Yukon-K	4.24	9		Pn	02 22 58.8 +1.3
I23K				IAML		02 24 12.4
	comp=N,61nm,1.0s					
I21K	Tanana	4.24	354	P	Pn	02 22 58.2 +0.7
	baz=173,SNR=20					
I21K	Tanana	4.24	354		Pn	02 22 58.5 +0.9
SCRK	Sand Creek	4.40	44	P	Pn	02 23 01.4 +1.5
	baz=230,SNR=11					
SCRK	Sand Creek	4.40	44	Pn	Pn	02 23 01.8 +1.9
POKR	Poker Plat Res	4.44	19	P	Pn	02 23 02.0 +1.6
	baz=203					
POKR	Poker Plat Res	4.44	19		Pn	02 23 01.8 +1.5
POKR	Poker Plat Res	4.44	19		Pn	02 23 01.9 +1.6
POKR				IAML		02 24 12.9
	comp=E,55nm,0.8s					
POKR				IAML		02 24 15.9
	comp=N,65nm,0.8s					
BARN	Barnard Glacie	4.50	85	Pn	Pn	02 23 02.7 +1.4
BARN				IAML		02 24 13.5
	comp=E,52nm,0.6s					
BARN				IAML		02 24 19.0
	comp=N,51nm,1.0s					
PS07	TAPS Pump Stn7	4.50	14		Pn	02 23 02.9 +1.7
M27K	Edge Creek, AK	4.52	68	P	Pn	02 23 03.6 +2.1
	baz=256					
M27K	Edge Creek, AK	4.52	68		Pn	02 23 04.3 +2.8
YAH	Yahtse	4.55	94	Pn	Pn	02 23 01.8 -0.3
YAH				IAML		02 24 21.2
	comp=N,86nm,1.9s					
YAH				IAML		02 24 32.8
	comp=E,68nm,2.7s					
CTG	Chitna Glacier	4.67	86	P	Pn	02 23 04.5 +1.0
	baz=274					
CTGM	Chitina Glacie	4.67	86	Pn	Pn	02 23 04.7 +1.1
CTGM				IAML		02 24 20.9
	comp=N,44nm,1.8s					
BCAR	Beaver Creek A	4.78	60	Pn	Pn	02 23 07.3 +2.3
LOGN	Logan Glacier	4.84	88	Pn	Pn	02 23 07.0 +1.0
LOGN				IAML		02 24 21.0
	comp=E,38nm,1.0s					
LOGN				IAML		02 24 30.7
	comp=N,45nm,1.1s					
H23K	Yukon River	4.90	7	P	Pn	02 23 07.6 +0.9
	baz=188,SNR=20					
H23K	Yukon River	4.90	7		Pn	02 23 07.9 +1.3
YUK2	White River	4.91	76		Pn	02 23 08.3 +1.5
PS06	TAPS Pump Stn6	4.92	6		Pn	02 23 08.2 +1.3
H24K	Noodor Dome	5.06	14	P	Pn	02 23 10.2 +1.3
	baz=197,SNR=15					
H24K	Noodor Dome	5.06	14		Pn	02 23 10.4 +1.5
PRP	Porcupine Dome	5.16	26	P	Pn	02 23 12.1 +1.8
	baz=211,SNR=11					
PRP	Porcupine Dome	5.16	26		Pn	02 23 11.9 +1.6
PRP				IAML		02 24 36.6
	comp=N,36nm,0.9s					
PRP				IAML		02 24 41.5
	comp=E,43nm,1.0s					
IM05	Indian Mountai	5.17	347		Pn	02 23 11.2 +0.9
IMAR	Indian Mountai	5.18	347		Pn	02 23 11.0 +0.6
PCA	Pinnacle	5.34	95	Pn	Pn	02 23 13.3 +0.6
EGAK	Eagle	5.86	45	Pn	Pn	02 23 21.6 +1.8
FYU	Fort Yukon	6.14	22	Pn	Pn	02 23 26.4 +2.9
DAWY	Dawson	6.16	55		Pn	02 23 25.8 +1.8
HYT	Haines Junctio	6.54	86	Pn	Pn	02 23 30.8 +1.4
BMAR	Burnt Mountain	7.03	20	Pn	Pn	02 23 37.7 +1.8
BM01	Burnt Mountain	7.06	20		Pn	02 23 38.5 +2.3
TOLK	Toolik Lake Re	7.71	4	P	Pn	02 23 47.9 +2.7
	baz=185,SNR=6.9					
TOLK	Toolik Lake Re	7.71	4	Pn	Pn	02 23 48.5 +3.4
WHY	Whitehorse	7.84	85	P	Pn	02 23 47.7 +0.6
	baz=279					
WHY	Whitehorse	7.84	85	Pn	Pn	02 23 47.9 +0.8
TNA	Tin City	8.92	308	Pn	Pn	02 24 04.2 +2.6
INK	Inuvik	10.42	38	P	Pn	02 24 25.2 +2.9
	comp=E,0.1nm,0.3s,baz=235,slow=14,SNR=2.2					
INK	Inuvik	10.42	38		Pn	02 24 25.7 +3.5
YKA	Yellowknife Ar	17.12	69	P	Pn	02 25 52.5 +0.7
	comp=E,0.1nm,0.3s,baz=293,slow=14,SNR=4.5					
PDAR	Pinedale Array	30.66	107	P	P	02 28 07.9 +0.7
	comp=E,0.2nm,0.5s,baz=357,slow=6.3,SNR=2.9					
SONM	Songino Array	55.04	307	P	P	02 31 24.7 +0.6
	comp=E,0.4nm,0.3s,baz=35,slow=9.0,SNR=4.1					
HFS	Hagfors	58.63	9	P	P	02 31 48.7 -0.4
	comp=E,3.0nm,0.9s,baz=338,slow=3.4,SNR=2.2					
EKA	Eskdalemuir Ar	61.25	20	P	P	02 32 06.1 -1.1
	comp=E,1.3nm,0.8s,baz=334,slow=6.3,SNR=2.1					
AKTO	Aktyubinsk	66.52	340	P	P	02 32 41.0 -0.9
	comp=E,0.8nm,0.4s,baz=18,slow=6.4,SNR=2.2					
AKASG	Malin Array Be	68.67	360	P	P	02 32 54.4 -1.1
	comp=E,0.8nm,0.5s,baz=354,slow=5.2,SNR=3.3					
BOSA	Boshof	147.53	6	PKPbc	PKPbc	02 41 36.2 -0.1
	comp=E,1.4nm,0.7s,baz=284,slow=4.2,SNR=3.6					

HLW ***27*** *02:23:38.8, 35.06N×22.86E, h9km±20km, Md4.6, Ml4.2*
IDC ***27*** *02:23:41.2±0.7, 34.96N×22.94E, h0km, mb4.3/29, mb1 4.3/41, mb1mx4.2/61, mbtmp4.2/41, ML3.7/10, MS3.1/5, Ms1 3.1/5, ms1mx2.7/60, Error ellipse: s-maj=15.6km s-min=12.0km az=180.0*
MED_RC ***27*** *02:23:42.0±0.7, 34.69N×22.81E, h19km±2km, MW4.3/7, Moment Tensor Solution. Mantle waves: s7, c12; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}2.69±.88; $M_{\theta\theta}$-3.19±.46; $M_{\phi\phi}$0.50±.56; $M_{r\theta}$1.29±.39; $M_{r\phi}$0.24±.40; $M_{\theta\phi}$0.75±.69; Best double couple: $M_0$3.33000×10^{15} NP1:ϕ_s291.00000°, δ36.00000°, λ118.00000°. NP2: ϕ_s78.00000°, δ59.00000°, λ71.00000°. Principal axes: T 3.1900, Plg70.0000°, Azm305.0000°; N 0.2800, Plg16.0000°, Azm88.0000°; P -3.4600, Plg12.0000°, Azm181.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MOS ***27*** *02:23:42.7±1.1, 34.89N×22.91E, h24km, mb4.7/23 Error ellipse: s-maj=7.2km s-min=3.5km az=77.3*
ISK ***27*** *02:23:43.5, 34.87N×22.93E, h12km, ML4.0/20*
ATH ***27*** *02:23:44.5, 34.91N×22.96E, h10km±31km, ML3.9/5, Error ellipse: s-maj=31.6km s-min=2.3km az=0.0*
THE ***27*** *02:23:44.0, 34.86N×22.90E, h0km±4km, ML3.8/5, Error ellipse: s-maj=4.9km s-min=1.3km az=231.0*
NEIC ***27*** *02:23:45.4±2.3, 34.82N±0.09×22.87E±0.07, h29km±5km, mb4.5/51, Error ellipse: s-maj=13.0km s-min=7.6km az=202.0*

ISC 27 02:23:40.8±1.3, 34.83N±0.03×22.84E±0.03, h2km±7km, n443, σ1S55/467, mb4.5/56, MS3.1/4, 30C-5D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	Palaiochora Ch	0.81	59	P	Pg	02 23 56.7	+0.4
KNDR				S	Sb	02 24 08.7	-0.2
	8μm,0.4s						
KNDR	Palaiochora Ch	0.81	59	PG	Pg	02 23 56.7	+0.4
GVD	Gavdhos	1.03	89	P	Pb	02 24 01.7	+0.4
GVD				S	Sn	02 24 16.9	-0.4
	7μm,0.4s						
GVD	Gavdhos	1.03	89	P	Pb	02 24 01.7	+0.4
GVD				AML	AML	02 24 23.5	
	comp=E,15205μm,0.4s						
GVD				AML	AML	02 24 29.8	
	comp=N,15254μm,0.4s						
GVD	Gavdhos	1.03	89	PG	Pn	02 24 02.7	+0.4
GVD				SG	Sn	02 24 16.8	-0.5
GVDS	Gavdos	1.03	89	P	Pg	02 24 01.3	+0.7
GVDS				S	Sb	02 24 15.9	+0.5
	comp=N,4μm,0.4s						
GVDS	Gavdos	1.03	89	PG	Pb	02 24 01.5	+0.1
GVDS				SG	Sb	02 24 15.0	-0.4
ANKY	Antikythira Is	1.10	20	P	Pb	02 24 03.0	+0.3
ANKY				S	Sn	02 24 19.0	-0.2
	comp=N,7μm,0.5s						
ANKY	Antikythira Is	1.10	20	P	Pb	02 24 03.0	+0.3
ANKY				AML	AML	02 24 25.5	
	comp=N,13426μm,0.6s						
ANKY				AML	AML	02 24 31.2	
	comp=E,15189μm,0.9s						
IMMV	Iera Moni Meta	1.13	56	P	Pb	02 24 03.4	+0.3
IMMV				S	Sn	02 24 20.4	+0.5
	comp=E,8μm,0.7s						
IMMV	Iera Moni Meta	1.13	56	P	Pb	02 24 03.4	+0.3
IMMV				AML	AML	02 24 31.7	
	comp=N,13426μm,0.7s						
IMMV				AML	AML	02 24 33.6	
	comp=E,15950μm,0.8s						
IMMV	Iera Moni Meta	1.13	56	PG	Pn	02 24 04.1	+0.4
IMMV				SG	Sn	02 24 18.9	-1.0
VAM	Vamos	1.26	62	P	Pg	02 24 05.2	+0.3
VAM				S	Sn	02 24 24.2	+1.2
VAM	Vamos	1.26	62	P	Pg	02 24 05.2	+0.3
VAM				AML	AML	02 24 28.1	
	comp=E,11265μm,0.6s						
VAM				AML	AML	02 24 32.3	
	comp=N,11768μm,0.5s						
KTHA	Kythira Island	1.44	7	P	Pg	02 24 09.0	+0.6
KTHA	Kythira Island	1.44	7	P	Pg	02 24 09.0	+0.6
KTHA				AML	AML	02 24 40.6	
	comp=E,10888μm,1.2s						
KTHA				AML	AML	02 24 42.7	
	comp=N,4591μm,0.5s						
KTHA	Kythira Island	1.44	7	PN	Pg	02 24 09.7	+1.3
SIVA	Sivas	1.63	83	P	Pg	02 24 12.8	+0.7
SIVA	Sivas	1.63	83	P	Pg	02 24 12.8	+0.7
IDI	Anoyia	1.74	74	Pn	Pg	02 24 14.3	+0.1
	comp=N,32nm,0.3s,baz=239,slow=13,SNR=272						
IDI				Sn	Sb	02 24 35.9	-0.2
	comp=N,51nm,0.3s,baz=322,slow=18,SNR=3.4						
IDI	Anoyia	1.74	74	P	Pg	02 24 14.4	+0.1
IDI	Anoyia	1.74	74	P	Pg	02 24 14.4	+0.1
IDI	Anoyia	1.74	74	PN	Pb	02 24 13.6	0.0
IDI				SN	Sn	02 24 34.7	-0.4
IDI	Anoyia	1.74	74		Pg	02 24 14.4	+0.1
VLI	Veliai	1.89	2	P	Pg	02 24 17.3	+0.3
VLI	Veliai	1.89	2	P	Pg	02 24 17.3	+0.3
HRKL	Herakleio	1.92	75	P	Pg	02 24 17.5	-0.1
HRKL	Herakleio	1.92	75	PN	Pb	02 24 16.1	-0.4
HRKL				SN	Sn	02 24 39.3	0.0
LAST	Lasithi	2.19	80	P	Pb	02 24 21.2	-0.1
LAST	Lasithi	2.19	80	P	Pb	02 24 21.2	-0.1
MHLO	Agia Marina, M	2.25	34	P	Pb	02 24 21.1	-1.2
NPS	Neapolis	2.32	78	P	Pb	02 24 23.1	-0.3
NPS	Neapolis	2.32	78	P	Pb	02 24 23.1	-0.3
ITM	Ithomi	2.46	343	P	Pb	02 24 25.1	-0.8
ITM	Ithomi	2.46	343	PN	Pb	02 24 25.3	-0.6
ITM	Ithomi	2.46	343	Pn	Pb	02 24 25.0	-0.8
KRND	KRANIDI	2.56	6	P	Pb	02 24 26.6	-1.0
SANT	Santorini	2.63	53	PN	Pn	02 24 25.8	+1.4
SANT	Santorini	2.63	53	Pn	Pn	02 24 25.8	+1.4
ZKR	Zakros	2.79	83	P	Pb	02 24 29.3	-2.1
ZKR	Zakros	2.79	83	PN	Pn	02 24 28.7	+2.2
APE	Apeiranthos	3.13	44	P	Pn	02 24 32.8	+1.6
APE	Apeiranthos	3.13	44	P	Pn	02 24 32.8	+1.6
APE	Apeiranthos	3.13	44	PN	Pn	02 24 33.3	+2.1
LOUT	Loutraki	3.16	2	P	Pn	02 24 34.5	+2.9
LTK	Loutraki	3.19	2	P	Pn	02 24 35.0	+2.9
ATH	Athens Observa	3.22	12	P	Pn	02 24 35.6	+3.2
ATH	Athens Observa	3.22	12	P	Pn	02 24 35.6	+3.2
ATHU	Athens Univers	3.23	13	P	Pn	02 24 35.2	+2.6
KARY	Karystos	3.45	21	P	Pn	02 24 37.8	+2.2
ALIK	Aliki, Aigiali	3.48	351	P	Pb	02 24 40.3	-2.8
KARP	Karpathos	3.61	77	PN	Pn	02 24 39.6	+1.7
KARP	Karpathos	3.61	77	Pn	Pn	02 24 39.1	+1.2
EFP	Efpalio	3.67	348	P	Pb	02 24 43.4	-3.1
EREA	Eretria	3.69	13	P	Pn	02 24 41.5	+2.5
LKR	Lokris	3.82	2	P	Pn	02 24 43.1	+2.4
KOSK	Kos Island	3.87	59	PN	Pn	02 24 43.2	+1.8
SLUM	Salum	3.88	148	S	Sn	02 25 26.5	-1.1
	baz=150						
SLUM				AMP		02 25 00.0	
	baz=150						
KEF3	Kipouria, Keph	3.92	330	P	Pn	02 24 44.0	+1.9
KYMI	Kymi, Euboea I	3.93	15	P	Pn	02 24 44.6	+2.3
KEF5	Kardakata, Kep	3.94	332	P	Pn	02 24 44.4	+2.0
KEF4	Livadi, Kephal	3.94	331	P	Pn	02 24 44.2	+1.9
DMLN	Damoulianata-K	3.94	330	P	Pn	02 24 44.2	+1.8
FSK	Fiskardo	4.06	334	P	Pn	02 24 46.4	+2.4
EVR	Evrytania	4.17	349	P	Pn	02 24 50.0	+4.4
AGG	Agios Georgios	4.21	355	P	Pn	02 24 49.0	+2.9
AGG	Agios Georgios	4.21	355	P	Pn	02 24 48.6	+2.5
AGG	Agios Georgios	4.21	355	PN	Pn	02 24 49.4	+3.3
AGG	Agios Georgios	4.21	355	Pn	Pn	02 24 48.6	+2.5
BODT	Bodrum	4.26	57	PN	Pn	02 24 48.9	+2.1
DAT	Datca	4.29	62	P	Pn	02 24 48.3	+0.9
DAT	Datca	4.29	62	PN	Pn	02 24 49.4	+2.0
CHOS	Chios island	4.39	35	PN	Pn	02 24 50.5	+1.8
ARG	Arkhangelos	4.53	71	PN	Pn	02 24 52.9	+2.4
GCAM	G?zelcaml?	4.56	50	PN	Pn	02 24 53.4	+2.5
URLA	Izmir	4.64	39	PN	Pn	02 24 54.7	+2.6
MLSB	Milas	4.70	57	PN	Pn	02 24 55.2	+2.4
TURN	Turunc	4.80	65	PN	Pn	02 24 56.7	+2.5
YER	Yerkesik	4.98	61	P	Pn	02 24 58.9	+2.2
YER	Yerkesik	4.98	61	P	Pn	02 24 58.9	+2.2
YER	Yerkesik	4.98	61	PN	Pn	02 24 59.5	+2.8
DALY

VAE Sn **Sn** 02 26 51.4 -1.0
comp=N,2.0nm,0.3s,baz=116,slow=5.6,SNR=3.8
VAE Valguarnera 7.31 294 Pn 02 25 28.6 -0.1
PUK Puka 7.57 343 Pn 02 25 33.5 +1.2
VTS Vitosha 7.79 2 ⇓P Pn 02 25 37.2 +1.9
VTS Vitosha 7.79 2 ⇓P Pn 02 25 37.2 +1.9
VTS Vitosha 7.79 2 Pn **Pn 02 25 36.0 +0.7**
DRME Dracevica, Mon 7.89 340 *e*Pn **Pn 02 25 36.5 -0.1**
PDG Podgorica 8.09 341 *e*Pn **Pn 02 25 39.0 -0.4**
PDG Podgorica 8.09 341 Pn **Pn 02 25 40.9 +1.6**
CORL Corleone 8.28 294 Pn **Pn 02 25 45.0 +2.9**
HCY Herceg Novi 8.33 337 *e*Pn **Pn 02 25 41.5 -1.2**
HNAT Natroun 8.38 126 P **Pn 02 25 43.7 +0.3**
baz=127
RYAN Fayoum 8.53 130 P **Pn 02 25 45.6 +0.3**
baz=131
RYAN AMP 02 27 00.0
baz=131
CSS Mathiatis 8.62 86 Pn **Pn 02 25 47.4 +0.7**
TREB Trebinje 8.62 337 *e*Pn **Pn 02 25 45.7 -1.0**
MDUB Mudurnu 8.70 47 Pn **Pn 02 25 51.0 +3.2**
BRY Bratogost 8.73 339 *e*Pn **Pn 02 25 47.3 -1.0**
BOVS Bovan 8.84 355 ⇑P **Pn 02 25 48.6 -1.0**
UPM Unac-Piva 8.91 341 *e*Pn **Pn 02 25 50.8 +0.1**
HFRF Wahat Farafira 8.98 147 P **Pn 02 25 52.0 +0.5**
baz=147
STON Ston 8.98 335 *e*Pn **Pn 02 25 50.0 -1.5**
STON Ston 8.98 335 *e*Pn **Pn 02 25 50.5 -1.0**
STON Sn Sn 02 27 21.9 -11
KOT Kottamia 9.03 120 P **Pn 02 25 51.6 -0.8**
baz=121
GLL Jalalah 9.15 122 P **Pn 02 25 53.8 -0.3**
baz=123
RUDO Rudo 9.18 344 *e*Pn **Pn 02 25 52.3 -2.0**
BR231 Keskin MP Arra 9.36 55 Pn **Pn 02 25 59.8 +2.9**
ANTO Ankara 9.39 55 P **Pn 02 25 59.8 +2.6**
ANTO Ankara 9.39 55 Pn **Pn 02 25 59.8 +2.6**
BBLS Lazići 9.41 345 *e*Pn **Pn 02 25 55.8 -1.7**
NBNS Bani Suef 9.49 128 P **Pn 02 25 58.1 -0.5**
baz=129
DIVS Divibare 9.52 347 *e*Pn **Pn 02 25 57.6 -1.4**
DIVS Divibare 9.52 347 Pn **Pn 02 25 57.6 -1.4**
HVAR Hvar 9.71 331 *e*Pn **Pn 02 26 00.2 -1.3**
HVAR Sn Sn 02 27 39.0 -12
RICI Ricice 9.72 335 *e*Pn **Pn 02 26 00.7 -1.0**
RICI Sn Sn 02 27 39.4 -12
SUZ Suez 9.80 118 P **Pn 02 26 02.1 -0.8**
baz=119
BRTR Keskin Array B 9.89 57 Pn **Pn 02 26 06.2 +1.9**
comp=N,0.3nm,0.3s,baz=236,slow=16,SNR=7.5
BRTR Keskin Array B 9.89 57 Pn **Pn 02 26 05.7 +1.4**
BR131 Keskin Array S 9.90 57 P **Pn 02 26 05.4 +1.2**
BR131 Keskin Array S 9.90 57 Pn **Pn 02 26 05.4 +1.2**
MDVR Moldovita 9.98 355 ⇑P **Pn 02 26 03.1 -2.2**
TEKS Tekeris 10.04 346 *e*Pn **Pn 02 26 03.7 -2.4**
HERR Herculane 10.05 358 ⇑P **Pn 02 26 07.2 +1.0**
ZNM Zenema 10.10 120 P **Pn 02 26 06.6 -0.2**
baz=121
ZIRJ Zirje 10.43 330 *e*Pn **Pn 02 26 10.0 -1.4**
ZIRJ Sn Sn 02 27 56.7 -12
MGRS Mrkonjic Grad 10.55 337 *e*Pn **Pn 02 26 12.8 -0.3**
GZR Gura Zlata 10.55 360 ⇑P **Pn 02 26 14.1 +0.9**
GZR Gura Zlata 10.55 360 ⇑P **Pn 02 26 14.1 +0.9**
FRGS Fruska Gora 10.58 348 *e*Pn **Pn 02 26 12.0 -1.4**
MORI Morici 10.58 331 *e*Pn **Pn 02 26 12.5 -0.9**
MORI Sn Sn 02 28 01.4 -11
MMAI Mount Meron Ar 10.60 96 Pn **Pn 02 26 13.1 -0.7**
comp=N,4.3nm,0.3s,baz=262,slow=11,SNR=12
MMAI Sn **Sn** **02 28 06.7 -6.4**
comp=N,4.1nm,0.3s,baz=314,slow=31,SNR=5.7
MMAI LR LR 02 32 09.2
comp=N,75nm,19.4s,baz=350,slow=48
MMAI Mount Meron Ar 10.60 96 **Pn 02 26 13.1 -0.7**
ILGA Ilgaz 10.60 51 Pn **Pn 02 26 15.2 +1.3**
LOT Lotru 10.63 4 ⇑P **Pn 02 26 16.5 +2.2**
ISR Istrita 10.66 14 ⇑P **Pn 02 26 15.0 +0.3**
ISR Istrita 10.66 14 ⇑P **Pn 02 26 15.0 +0.3**
GRB Gharib 10.71 125 P **Pn 02 26 14.6 -0.7**
baz=126
VOIR 10.73 8 ⇑P **Pn 02 26 17.3 +1.6**
VOIR 10.73 8 ⇑P **Pn 02 26 17.3 +1.6**
BLY Banja Luka 10.82 338 *e*Pn **Pn 02 26 15.8 -0.9**
BZS Buzias 10.82 355 ⇑P **Pn 02 26 16.9 +0.2**
BZS Buzias 10.82 355 ⇑P **Pn 02 26 16.9 +0.2**
HDK1 Dakhla 10.85 147 P **Pn 02 26 17.5 +0.2**
baz=147
MLR Muntele Rosu 10.91 12 Pn **Pn 02 26 19.3 +1.1**
comp=N,0.4nm,0.3s,baz=173,slow=5.4,SNR=9.0
MLR Muntele Rosu 10.91 12 ⇑P **Pn 02 26 19.6 +1.4**
MLR Muntele Rosu 10.91 12 ⇑P **Pn 02 26 19.6 +1.4**
MLR Muntele Rosu 10.91 12 Pn **Pn 02 26 18.4 +0.3**
DUGI Dugi Otok 10.95 329 *e*Pn **Pn 02 26 17.4 -1.1**
DUGI Sn Sn 02 28 09.9 -12
NRCA Norcia 11.01 319 Pn **Pn 02 26 21.7 +2.2**
KEST Kesra 11.07 279 Pn **Pn 02 26 22.5 +2.2**
comp=N,0.1nm,0.3s,baz=341,slow=16,SNR=1.9
KEST LR LR 02 30 53.2
comp=N,48nm,19.7s,baz=256,slow=39
BISRR Bisoca 11.11 14 ⇑P **Pn 02 26 23.7 +3.0**
MRAK Mrakovica 11.14 338 *e*Pn **Pn 02 26 19.4 -1.9**
GHAJ Ghor Haditha 11.24 105 Pn **Pn 02 26 21.1 -1.5**
DOPR Dopca 11.30 9 ⇑P **Pn 02 26 18.9 -4.4**
PLOR Plostina 11.39 14 P Pn 02 26 30.9 +6.3
AKRG Al Kharijah 11.41 142 P **Pn 02 26 24.7 -0.1**
baz=143
VRI Vrincioaia 11.42 14 ⇓P **Pn 02 26 25.8 +0.8**
VRI Vrincioaia 11.42 14 ⇓P **Pn 02 26 25.8 +0.8**
GTR Jabal at Tayr 11.43 142 P **Pn 02 26 25.3 +0.1**
baz=143
SIRR Siria 11.46 356 ⇑P **Pn 02 26 25.5 -0.1**
EIL Elat 11.47 113 Pn **Pn 02 26 24.8 -0.8**
comp=N,2.5nm,0.3s,baz=208,slow=4.9,SNR=17
EIL Sn Sn 02 28 24.8 -10
comp=N,1.4nm,0.3s,baz=130,slow=17,SNR=2.6
EIL Elat 11.47 113 **Pn 02 26 24.8 -0.8**
EIL Sn 02 28 24.8 -10
NVLJ Novalja 11.49 330 *e*Pn **Pn 02 26 25.3 -0.6**
NVLJ Sn Sn 02 28 22.8 -12
HBST Basata 11.54 116 P **Pn 02 26 25.3 -1.3**
baz=116
NUB Nuweibaa 11.57 117 P **Pn 02 26 25.4 -1.7**
baz=118
KOVH Kovagotottos 11.81 344 *e*PN **Pn 02 26 29.9 -0.4**
KOVH Kovagotottos 11.81 344 *e*P **Pn 02 26 31.6 +1.3**
MORH Mrgy, Hungar 11.81 346 ⇑P **Pn 02 26 28.7 -1.6**
MORH Mrgy, Hungar 11.81 346 *e*P **Pn 02 26 29.5 -0.8**
MORH Mrgy, Hungar 11.81 346 *e*Pn **Pn 02 26 28.7 -1.6**
DRGR 11.95 360 ⇑P **Pn 02 26 32.5 +0.2**
DRGR 11.95 360 ⇑P **Pn 02 26 32.5 +0.2**
TESR Tescani 12.02 13 ⇓P Pn 02 26 38.2 +4.9
OZLJ Ozalj 12.15 335 *e*Pn **Pn 02 26 34.7 -0.3**
PDKS Podkum 12.70 334 *e*Pn **Pn 02 26 42.5 0.0**
BURAR Bucovina Array 12.90 7 ⇑P Pn 02 26 51.2 +5.9
BURAR Bucovina Array 12.90 7 ⇑P Pn 02 26 51.2 +5.9
MPLH Magyarpolny 12.96 344 *e*PN **Pn 02 26 46.7 +0.6**
MPLH Magyarpolny 12.96 344 *e*P Pn 02 26 53.8 +7.8
PERS Pernice 13.16 336 *i* Pn **Pn 02 26 47.8 -1.0**
SOKA Soboth 13.23 336 *e*P **Pn 02 26 50.6 +0.8**
comp=N,4.6nm,0.9s
OBKA Obir 13.25 334 *e*P **Pn 02 26 51.7 +1.7**
comp=N,3.5nm,0.6s
PSZ Piszkesteto 13.27 351 *e*PN **P 02 26 56.4 -3.9**
ARSA Arzberg 13.58 338 *e*P **Pn 02 26 56.3 +1.8**
comp=N,5.1nm,0.8s
SOP Sopron 13.68 342 *e*PN **Pn 02 26 58.2 +2.4**
MYKA Terra Mystica 13.69 332 *e*P **Pn 02 26 58.5 +2.5**
comp=N,1.1nm,0.5s
STAL STALIGIAL 13.76 329 Pn **Pn 02 26 58.3 +1.3**
ZOU Zoufplan 13.89 330 Pn **Pn 02 27 00.9 +2.0**
VYHS Vyhne 13.98 349 *e*P **Pn 02 27 03.9 +4.0**
VYHS Vyhne 13.98 349 *e*PN **Pn 02 27 03.9 +4.0**
CTI Castel Tesino 14.06 326 P **Pn 02 27 02.3 +1.1**
CTI Castel Tesino 14.06 326 Pn **Pn 02 27 02.3 +1.1**
CONA Conrad Observa 14.09 340 *e*P **Pn 02 27 04.4 +2.9**
comp=N,2.0nm,0.8s
KOLS Kolonicke sedl 14.10 358 *e*P **P 02 27 08.0 -1.5**
KOLS Kolonicke sedl 14.10 358 *e*PN **P 02 27 08.0 -1.5**
MODS Modra-Piesok 14.15 345 *e*P **P 02 27 08.9 -1.2**
MODS Modra-Piesok 14.15 345 *e*PN **P 02 27 08.9 -1.2**
KBA Koelnbreinsper 14.17 333 *e*P **Pn 02 27 05.1 +2.4**
comp=N,4.4nm,0.6s
ABTA Abfaltersbach 14.23 330 *e*P **Pn 02 27 06.3 +2.8**
comp=N,1.4nm,0.8s

SMOL Smolenice 14.26 345 *e*P **P 02 27 10.9 -0.3**
SMOL Smolenice 14.26 345 *e*PN **P 02 27 10.9 -0.3**
MOA Molln 14.50 336 *e*P **Pn 02 27 09.4 +2.2**
comp=N,2.5nm,0.8s
LANS Liptovska Anna 14.53 351 *e*P **P 02 27 14.4 +0.1**
LANS Liptovska Anna 14.53 351 *e*PN **P 02 27 14.4 +0.1**
JAVC Velka Javorina 14.54 346 *e*PN P 02 27 20.0 +5.6
MARD Mardin 14.72 75 Pn **Pn 02 27 10.9 +0.7**
KOPT Kop Dagi 14.95 65 Pn **Pn 02 27 15.7 +2.2**
KRUC Moravsky 15.00 343 *e*PN **P 02 27 21.2 +1.7**
WTTA Wattenberg 15.01 329 *e*P **Pn 02 27 15.9 +1.8**
comp=N,1.0nm,0.4s
WATA Walderalm 15.09 329 *e*P **Pn 02 27 17.5 +2.4**
comp=N,2.2nm,0.5s
SQTA Sankt Quirin 15.15 328 *e*P **Pn 02 27 18.7 +2.6**
comp=N,2.8nm,0.5s
VRAC Vranov 15.19 344 Pn **Pn 02 27 15.7 -0.7**
comp=N,0.2nm,0.3s,baz=175,slow=9.7,SNR=3.8
VRAC Vranov 15.19 344 *e*PN **P 02 27 21.6 0.0**
FETA Feichten 15.21 327 *e*P **Pn 02 27 19.2 +2.3**
comp=N,5.2nm,1.0s
MOTA Moosalm 15.30 328 *e*P **Pn 02 27 20.4 +2.5**
comp=N,4.8nm,1.0s
CKRC Cesky Krumlov 15.35 338 *e*P **P 02 27 21.2 -2.1**
DAVOX Davos/Dischmat 15.43 325 Pn **Pn 02 27 19.9 +0.2**
comp=N,0.1nm,0.3s,baz=156,slow=20,SNR=2.3
DAVOX Sn Sn 02 30 00.3 -11
comp=N,0.1nm,0.3s,baz=266,slow=19,SNR=2.1
MORC Moravsky Berou 15.44 347 P **P 02 27 25.9 +1.5**
MORC pmax pmax
comp=Z,4.0nm,0.8s
MORC Moravsky Berou 15.44 347 P **P 02 27 25.9 +1.5**
MORC Moravsky Berou 15.44 347 *e*PN **P 02 27 25.8 +1.4**
TUE Stuetta 15.47 323 P **P 02 27 23.9 -1.1**
TUE IAmb IAmb 02 27 46.2
comp=Z,11nm,0.9s
OJC Ojcow 15.54 353 P **P 02 27 26.2 +0.7**
OJC pmax pmax
comp=Z,9.0nm,0.9s
OJC Ojcow 15.54 353 P **P 02 27 26.2 +0.7**
RETA Reutte 15.55 328 *e*P **Pn 02 27 23.4 +2.1**
comp=Z,2.7nm,0.8s
GEC2 GERESS Array S 15.56 337 P **P 02 27 23.9 -1.9**
GERES GERESS Array B 15.56 337 Pn **Pn 02 27 21.7 +0.4**
comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=6.7
GERES GERESS Array B 15.56 337 **Pn 02 27 21.3 0.0**
DAVA Damuels 15.80 326 *e*P **P 02 27 27.4 -1.1**
comp=Z,3.4nm,0.9s
GURO Guroymak-BITLI 15.84 71 **Pn 02 27 25.8 +0.7**
KHC Kasperske Hory 15.85 337 *e*P **Pn 02 27 27.2 +2.2**
KHC Kasperske Hory 15.85 337 *e*P **Pn 02 27 27.2 +2.2**
KHC *ex* x 02 27 31.0
KHC Kasperske Hory 15.85 337 **Pn 02 27 27.2 +2.2**
KRLC Kraliky 15.87 346 *e*P **Pn 02 27 27.3 +2.0**
KRLC Kraliky 15.87 346 *e*P **Pn 02 27 27.3 +2.0**
DPC Dobruska-Polom 16.23 345 *e*P **Pn 02 27 30.0 +0.1**
DPC Dobruska-Polom 16.23 345 *e*P **Pn 02 27 30.0 +0.1**
OSTC Ostas 16.45 345 *e*P **P 02 27 35.8 +0.3**
AKASG Malin Array Be 16.53 14 Pn **Pn 02 27 31.9 -1.9**
comp=Z,8.7nm,0.3s,baz=210,slow=9.9,SNR=33
AKASG Sn **Sn** **02 30 34.0 -3.7**
baz=199,slow=22,SNR=1.6
AKASG Malin Array Be 16.53 14 Pn **Pn 02 27 30.6 -3.1**
AKASG IAmb IAmb 02 27 36.5
comp=Z,6.7nm,0.5s
AKBB Malin Array Si 16.53 14 *c e*P **Pn 02 27 31.5 -2.3**
AKBB Malin Array Si 16.53 14 Pn **Pn 02 27 31.3 -2.4**
BRG Berggiesshubel 17.29 341 *e*P **P 02 27 47.1 +2.3**
BRG Amp 02 27 53.0
comp=Z,12nm,1.4s
SHA1 Shidzhatmaz 17.70 54 *i* P **Pn 02 27 46.9 -1.9**
KIV Kislovodsk 17.81 53 *e*P **Pn 02 27 49.1 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 17.81 53 P **P 02 27 50.4 -0.4**
ONI Oni 17.83 58 P **Pn 02 27 50.5 +0.3**
ONI pmax pmax
comp=Z,4.0nm,0.7s
ONI Oni 17.83 58 P **Pn 02 27 50.5 +0.3**
KBZ Khabaz 17.86 54 P **P 02 27 51.0 -0.2**
comp=Z,0.2nm,0.3s,baz=229,slow=3.7,SNR=12
KBZ Khabaz 17.86 54 P **P 02 27 51.0 -0.2**
KBZ Khabaz 17.86 54 P **P 02 27 51.0 -0.2**
CLL Collm 17.94 340 *e*P **P 02 27 53.0 +0.9**
CLL *e* 02 27 57.0
CLL *e*pPP 02 28 11.0
CLL *e*PPP PPP 02 28 13.0
CLL Collm 17.94 340 *e*P **P 02 27 53.0 +0.9**
CLL Collm 17.94 340 P **Pn 02 27 51.9 +0.4**
GNI Garni 18.16 67 P **P 02 27 54.8 +0.1**
comp=Z,0.3nm,0.3s,baz=142,slow=19,SNR=4.0
GNI Garni 18.16 67 P **P 02 27 55.3 +0.6**
GNI pmax pmax
comp=Z,9.0nm,1.0s
GNI Garni 18.16 67 P **P 02 27 55.3 +0.6**
NCK Nalchik 18.24 55 *i* P **Pn 02 27 53.2 -2.0**
NCK pmax pmax
comp=Z,6.0nm,0.8s
GOF Gofitskoye 18.51 50⇑ *e*P **Pn 02 28 00.3 +1.9**
SUW Suwalki 19.18 1 *e*P **P 02 28 05.6 -0.1**
SUW Suwalki 19.18 1 P **P 02 28 04.3 -1.4**
SUW pmax pmax
comp=Z,49nm,0.5s
SUW Suwalki 19.18 1 P **P 02 28 04.3 -1.4**
MNK Minsk 19.99 9 *i* P **P 02 28 12.0 -2.4**
MNK *i* S **S 02 31 59.2 -0.6**
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK MLR MLR
comp=N,52nm,17.0s
MNK MLR MLR
comp=Z,68nm,23.0s
MNK MLR MLR
comp=E,4.0nm,20.0s
MNK Minsk 19.99 9 *i* P **P 02 28 12.1 -2.4**
comp=E,1.0nm,0.7s
MNK *i* P **P 02 28 12.1 -2.4**
comp=N,10.0nm,0.8s
MNK *i* P **P 02 28 12.1 -2.4**
comp=Z,24nm,0.9s,baz=14
MNK *i* PP **PnPn** **02 28 28.4 -1.7**
MNK *i* PPP PPP 02 28 36.1
MNK *i* S **S** **02 31 59.2 -0.5**
MNK *i* SS **SnSn** **02 32 17.5 +1.9**
MNK *i* SSS SSS 02 32 30.4
MNK *i* LQ LQ 02 34 17.6
MNK *i* LR LR 02 35 34.2
MNK *i* LRM MLR 02 37 23.4
comp=N,52nm,16.6s
MNK *i* LRM MLR 02 37 27.3
comp=Z,68nm,23.0s
MNK *i* LRM MLR 02 37 42.0
comp=E,4.0nm,20.4s
MNK *i* ScS **ScS** **02 39 54.9 +4.8**
VORD Divnogorie 20.06 31 *e*P **P 02 28 15.1 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.5s
IIGN Ignalina 20.66 5 *e*P **P 02 28 21.4 -0.3**
IDID Didziasalis 20.67 6 *e*P **P 02 28 21.2 -0.6**
PABE Paberze 20.69 2 *e*P **P 02 28 21.7 -0.4**
PABE Paberze 20.69 2 P **P 02 28 20.5 -1.5**
ISAL Salakas 20.87 5 *e*P **P 02 28 23.2 -0.8**
BSD Bornholm Skovb 21.02 347 *i* P **P 02 28 25.5 -0.2**
BSD Bornholm Skovb 21.02 347 *i* P **P 02 28 25.4 -0.2**
LPSR Galich'ya Gora 21.15 28 *e*P **P 02 28 27.8 +0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VRH Novokhopyorsk 21.31 34 *e*P **P 02 28 27.3 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.4s
LUNU Lund 21.79 346 *i* P **P 02 28 34.5 +0.6**
ESDC Sonseca Array 21.84 291 P **P 02 28 36.5 +1.8**
comp=Z,1.6nm,0.6s,baz=90,slow=11,SNR=23
ESDC Sonseca Array 21.84 291 P **P 02 28 36.2 +1.5**
BLEU Blekinge 22.01 350 *i* P **P 02 28 35.4 -0.9**
BJUU Bjuv 22.29 345 *e*P **P 02 28 40.5 +1.3**
OBN Obninsk 22.41 21 P **P 02 28 39.3 -1.3**
comp=Z,4.9nm,0.6s,baz=278,slow=20,SNR=5.7
OBN Obninsk 22.41 21 *e*P **P 02 28 38.9 -1.7**
OBN *i* 02 28 47.8

OBN *e* 02 29 00.7
OBN pmax pmax
comp=Z,18nm,0.8s
OBN MLR MLR
comp=Z,46nm,20.0s
OBN Obninsk 22.41 21 P **P 02 28 41.0 +0.5**
OBN IAmb IAmb 02 28 41.9
comp=Z,24nm,0.7s
DEL Delary 22.50 347 *i* P **P 02 28 41.6 +0.1**
MDT Midelt 22.87 273 P **P 02 28 46.6 +0.8**
comp=Z,1.3nm,0.6s,baz=75,slow=15,SNR=6.0
FABU Falkenberg 23.22 346 *e*P **P 02 28 50.3 +1.3**
MOS Moscow 23.26 21 *e*P **P 02 28 48.3 -1.2**
MOS *e* 02 29 16.7
MOS *e*S **S** **02 33 02.4 0.0**
MOS *e*SS **SnSn** **02 33 38.6 +2.9**
MOS pmax pmax
comp=Z,36nm,1.1s
VSU Vasula 23.79 5 *i* P **P 02 28 54.9 +0.3**
VSU pmax pmax
comp=Z,46nm,1.2s
BORU Boraas 23.80 347 *i* P **P 02 28 54.9 +0.1**
BELG Belogornoye 24.91 38 P **P 02 29 03.6 -1.4**
comp=Z,34nm,0.7s,baz=255,slow=1.5,SNR=17
PUL Pulkovo 25.44 9 *i* P **P 02 29 08.8 -0.9**
PUL pmax pmax
comp=Z,47nm,0.8s
HFS Hagfors 26.01 350 P **P 02 29 13.9 -1.1**
comp=Z,7.3nm,0.5s,baz=153,slow=11,SNR=51
HFS Hagfors 26.01 350 P **P 02 29 13.9 -1.1**
KONO Kongsberg 26.31 345 *e*P **P 02 29 17.3 -0.4**
OSL Oslo 26.34 346 *e*P **P 02 29 19.0 +1.0**
FINES FINESS Array B 26.72 3 P **P 02 29 19.9 -1.4**
comp=Z,2.6nm,0.4s,baz=158,slow=11,SNR=24
FINES PcP **PcP** **02 32 44.7 +0.1**
comp=Z,0.8nm,0.5s,baz=207,slow=0.6,SNR=4.4
FINES FINESS Array B 26.72 3 *c e*P **P 02 29 20.7 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.4s
NC602 NORSAR Array S 26.93 348 *e*P **P 02 29 23.6 +0.3**
EKA Eskdalemuir Ar 27.25 327 P **P 02 29 26.5 +0.3**
comp=Z,1.3nm,0.6s,baz=133,slow=8.0,SNR=6.3
NB2 NORSAR Subarra 27.28 348 P **P 02 29 25.9 -0.6**
comp=Z,1.3nm,0.6s,baz=157,slow=10
NB2 NORSAR Subarra 27.28 348 P **P 02 29 25.9 -0.6**
baz=157,slow=10
NOA NORSAR Array B 27.28 348 P **P 02 29 26.8 +0.4**
comp=Z,0.6nm,0.4s,baz=158,slow=9.8,SNR=11
NOA LR LR 02 41 51.4
comp=Z,34nm,19.3s,baz=125,slow=40
NOA NORSAR Array B 27.28 348 P **P 02 29 26.8 +0.4**
SKAR Skarslia 27.52 344 *e*P **P 02 29 29.8 +1.1**
ASK Askoy 28.10 341 *e*P **P 02 29 34.2 +0.4**
KLMR Klimovskoe 28.18 17 *e*P **P 02 29 32.2 -2.2**
KLMR Klimovskoe 28.18 17 *e*P **P 02 29 32.3 -2.2**
DOMB Dombas 28.60 346 *e*P **P 02 29 39.2 +0.9**
MOL Molde 29.38 346 *e*P **P 02 29 47.7 +2.6**
KIRV Kirov 29.58 28 P **P 02 29 45.3 -1.6**
comp=Z,6.4nm,0.5s,baz=247,slow=10,SNR=2.6
KIRV Kirov 29.58 28 *c e*P **P 02 29 46.1 -0.8**
KIRV Kirov 29.58 28 P **P 02 29 45.3 -1.6**
AKTO Aktyubinsk 29.88 48 P **P 02 29 48.5 -1.2**
comp=Z,1.6nm,0.7s,baz=257,slow=11,SNR=6.6
NSS Namsos 30.46 351 *e*P **P 02 29 56.0 +1.3**
ABKAR Akbulak array 30.75 51 P **P 02 29 56.0 -1.4**
KOWA Kowa 31.54 237 P **P 02 30 06.2 +1.5**
comp=Z,2.1nm,0.8s,baz=40,slow=7.9,SNR=2.5
MOR8 Moi Rana 31.77 354 *e*P **P 02 30 07.5 +1.3**
ARU Arti 32.46 37 P **P 02 30 11.6 -0.8**
comp=Z,0.8nm,0.3s,baz=199,slow=9.3,SNR=3.7
ARU Arti 32.46 37 *c i*P **P 02 30 10.6 -1.8**
ARU 02 31 17.0
ARU S **S** **02 35 28.0 +0.3**
ARU SS **SnSn** **02 37 19.2 -0.9**
ARU pmax pmax
comp=Z,7.0nm,1.3s
ARU Arti 32.46 37 P **P 02 30 10.6 -1.8**
ARU IAmb IAmb 02 30 12.3
comp=Z,7.7nm,1.3s
FAUS Fauske 32.89 355 *e*P **P 02 30 16.3 +0.3**
STEI Steigen 33.44 355 *e*P **P 02 30 21.0 +0.2**
KTK1 Kautokeino 34.24 0 *e*P **P 02 30 27.7 0.0**
ARA0 ARCESS Array S 34.79 2 *e*P **P 02 30 31.6 -1.0**
ARCES ARCESS Array B 34.79 2 P **P 02 30 31.5 -1.1**
comp=Z,2.8nm,0.5s,baz=176,slow=8.7,SNR=25
ARCES PcP **PcP** **02 33 06.0 +0.3**
comp=Z,0.6nm,0.4s,baz=180,slow=2.3,SNR=5.1
ARCES LR LR 02 45 33.4
comp=Z,57nm,18.6s,baz=25,slow=38
ARCES ARCESS Array B 34.79 2 P **P 02 30 31.0 -1.5**
ARCES pmax pmax
comp=Z,21nm,1.5s
ARCES ARCESS Array B 34.79 2 P **P 02 30 31.0 -1.5**
JETT Jettan, Norway 34.81 359 *e*P **P 02 30 32.0 -0.8**
TRO Tromso 34.93 358 *e*P **P 02 30 32.9 -0.8**
CHGR Chuyangaron 37.01 70 P **P 02 30 52.6 +0.5**
KK31 Karatay Array 37.55 63 P **P 02 30 56.0 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 37.55 63 P **P 02 30 56.0 -0.5**
KK31 IAmb IAmb 02 30 57.9
comp=Z,6.2nm,0.7s
KKAR Karatay Array 37.55 63 P **P 02 30 55.8 -0.7**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 37.55 63 P **P 02 30 55.8 -0.7**
KKAR IAmb IAmb 02 30 57.9
comp=Z,6.2nm,0.7s
KKAR Karatay Array 37.55 63 P **P 02 30 56.2 -0.3**
BRVK Borovoye 37.90 46 P **P 02 30 58.5 -0.8**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 37.90 46 P **P 02 30 58.5 -0.8**
BRVK IAmb IAmb 02 30 59.5
comp=Z,4.9nm,0.8s
ARSB Arslanbob 39.55 65 P **P 02 31 12.5 -0.9**
ARSB pmax pmax
comp=Z,14nm,0.8s
ARSB Arslanbob 39.55 65 P **P 02 31 12.5 -0.9**
ARSB IAmb IAmb 02 31 13.5
comp=Z,14nm,0.8s
AAK Ala-Archa 40.51 63 P **P 02 31 21.8 +0.3**
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 40.51 63 P **P 02 31 21.8 +0.3**
AAK IAmb IAmb 02 31 22.9
comp=Z,12nm,1.2s
BOOM Boomskoye usch 41.59 63 P **P 02 31 30.8 +0.5**
BOOM pmax pmax
comp=Z,6.0nm,0.6s
BOOM Boomskoye usch 41.59 63 P **P 02 31 30.8 +0.5**
BOOM IAmb IAmb 02 31 32.9
comp=Z,5.7nm,0.6s
HOPEN Hopen 41.79 1 *e*P **P 02 31 31.2 -0.1**
HSPB Hornsund (broa 42.40 358 *e*P **P 02 31 37.5 +1.2**
SPA0 Spitsbergen Ar 43.54 358 *e*P **P 02 31 46.0 +0.5**
SPITS Spitsbergen Ar 43.54 358 P **P 02 31 46.1 +0.5**
SPITS pmax pmax
comp=Z,12nm,1.1s
KBS Kingsbay 44.44 357 *e*P **P 02 31 53.9 +1.2**
MAKZ Makanchi 45.33 56 P **P 02 31 59.0 -1.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 45.33 56 P **P 02 31 59.0 -1.3**
MAKZ IAmb IAmb 02 32 00.6
comp=Z,4.3nm,1.1s
MK31 Makanchi Array 45.54 56 P **P 02 32 00.7 -1.3**
MK31 pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 45.54 56 P **P 02 32 00.7 -1.3**
MK31 IAmb IAmb 02 32 02.8
comp=Z,6.9nm,1.0s
MKAR Makanchi Array 45.54 56 P **P 02 32 01.4 -0.5**
comp=Z,4.6nm,0.6s,baz=281,slow=6.7,SNR=54
MKAR PcP **PcP** **02 33 41.1 +0.4**
comp=Z,2.0nm,0.6s,baz=271,slow=3.9,SNR=4.8
MKAR Makanchi Array 45.54 56 P **P 02 32 00.8 -1.1**
ZAA0 Zalesovo Array 46.61 46 P **P 02 32 08.7 -1.5**
ZALV Zalesovo Beam 46.61 46 P **P 02 32 08.9 -1.3**
comp=Z,5.7nm,0.5s,baz=270,slow=9.5,SNR=25
ZALV PcP **PcP** **02 33 44.3 +0.1**
comp=Z,1.1nm,0.5s,baz=288,slow=5.9,SNR=1.9
ZALV Zalesovo Beam 46.61 46 P **P 02 32 08.6 -1.6**
DGZ Jazzator, Alta 48.58 51 *i* P **P 02 32 23.8 -2.0**

DGZ pmax pmax
comp=Z,3.0nm,1.0s
NRIK Noril'sk 48.99 25 P P 02 32 27.8 -0.7
comp=Z,1.7nm,0.5s,baz=252,slow=7.7,SNR=2.1
NRIK LR LR 02 54 26.9
comp=Z,25nm,18.6s,baz=32,slow=38
NRIK Noril'sk 48.99 25 P P 02 32 27.8 -0.7
NRIK IAmb IAmb 02 32 29.0
comp=Z,2.2nm,0.8s
WMQ Urumqi 49.81 59 *eP* **P 02 32 37.3 +2.0**
ZAK Zakamensk 58.39 48 *eP* **P 02 33 36.5 -1.3**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
GTA Gaotai 59.79 61 *eP* P 02 33 39.0 -8.7
GTA pP pP 02 33 43.5 -3.8
GTA sP sP 02 33 46.3 -0.9
GTA pmax pmax
comp=Z,4.0nm,0.4s
SONM Songino Array 61.16 50 P P 02 33 56.6 -0.4
comp=Z,2.4nm,0.9s,baz=285,slow=8.7,SNR=10
SONM Songino Array 61.16 50 P P 02 33 56.3 -0.6
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 61.16 50 P P 02 33 56.3 -0.6
SONM IAmb IAmb 02 33 57.6
comp=Z,4.2nm,1.2s
ULN Ulaanbaatar 61.56 50 P P 02 33 59.2 -0.5
ULN pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 61.56 50 P P 02 33 59.2 -0.5
ULN IAmb IAmb 02 34 00.3
comp=Z,3.6nm,0.7s
BOSA Boshof 63.14 178 P P 02 34 11.8 +1.6
comp=Z,1.4nm,0.6s,baz=10,slow=11,SNR=1.8
BOSA Boshof 63.14 178 P P 02 34 11.5 +1.3
BOSA pmax pmax
comp=Z,14nm,1.5s
BOSA Boshof 63.14 178 P P 02 34 11.5 +1.3
CMAR Chiang Mai Arr 68.50 82 P P 02 34 45.3 +0.2
comp=Z,0.9nm,0.3s,baz=282,slow=6.3,SNR=4.3
MEDO Medina 74.36 312 P P 02 35 19.9 -0.2
KLR Kul'dur 75.25 40 P P 02 35 25.1 -0.1
comp=Z,2.9nm,0.5s,baz=305,slow=7.1,SNR=10
KLR Kul'dur 75.25 40 *ceP* **P 02 35 23.7 -1.5**
KLR pmax pmax
comp=Z,4.0nm,0.7s
KLR Kul'dur 75.25 40 P P 02 35 25.1 -0.1
INK Inuvik 75.67 351 P P 02 35 26.9 -0.2
comp=Z,1.6nm,0.6s,baz=6.4,slow=8.1,SNR=4.0
INK Inuvik 75.67 351 P P 02 35 27.0 -0.2
INK Inuvik 75.67 351 P P 02 35 27.0 -0.2
INK IAmb IAmb 02 35 53.8
comp=Z,7.7nm,1.4s
MA2 Magadan 76.58 24 P P 02 35 32.4 -0.2
comp=Z,6.6nm,0.6s,baz=315,slow=4.3,SNR=3.7
MA2 Magadan 76.58 24 P P 02 35 32.2 -0.4
YKA Yellowknife Ar 77.17 341 P P 02 35 36.5 +0.8
comp=Z,0.9nm,0.6s,baz=35,slow=5.5,SNR=5.9
BMAR Burnt Mountain 77.61 355 P P 02 35 40.1 +1.8
EPYK Eagle Plains 77.91 352 P P 02 35 40.6 +0.7
EPYK IAmb IAmb 02 35 41.6
comp=Z,6.2nm,0.8s
USRK Ussuriysk Ar. 78.41 44 P P 02 35 42.5 -0.6
comp=Z,3.8nm,0.6s,baz=297,slow=5.1,SNR=22
USRK Ussuriysk Ar. 78.41 44 P P 02 35 41.9 -1.1
COWI Conover 78.81 319 P P 02 35 46.1 +0.9
COWI IAmb IAmb 02 35 47.6
comp=Z,7.6nm,0.8s
IMAR Indian Mountai 79.48 359 P P 02 35 50.1 +1.5
ULM Lac du Bonnet 79.51 325 P P 02 35 49.2 +0.2
comp=Z,3.6nm,0.7s,baz=14,slow=6.2,SNR=5.0
KSAR Wonju Array Be 79.97 51 P P 02 35 51.6 -0.1
KSAR Wonju Array Be 79.97 51 P P 02 35 51.6 -0.1
KSRS Korea Array 79.99 51 P P 02 35 51.6 -0.2
comp=Z,2.6nm,0.6s,baz=304,slow=4.8,SNR=12
MDM Murphy Dome 80.30 356 P P 02 35 54.1 +1.1
MDM IAmb IAmb 02 35 55.2
comp=Z,4.0nm,0.8s
MLY Manley 80.34 357 P P 02 35 54.6 +1.3
MLY IAmb IAmb 02 35 57.8
comp=Z,4.7nm,0.8s
ILAR Eielson Array 80.40 356 P P 02 35 54.6 +1.1
comp=Z,0.8nm,0.6s,baz=355,slow=3.9,SNR=6.3
ILAR Eielson Array 80.40 356 P P 02 35 54.7 +1.1
ILAR Eielson Array 80.40 356 P P 02 35 54.7 +1.1
DAWY Dawson 80.44 352 P P 02 35 55.4 +1.6
DAWY IAmb IAmb 02 35 55.8
comp=Z,3.3nm,0.7s
K27K Chicken 80.75 353 P P 02 35 56.7 +1.2
K27K IAmb IAmb 02 35 58.2
comp=Z,6.0nm,1.0s
HDA Harding Lake 80.77 356 P P 02 35 55.5 0.0
HDA IAmb IAmb 02 35 57.2
comp=Z,5.3nm,0.7s
WRH Wood River Hil 80.77 356 P P 02 35 55.4 -0.1
BPAW Bear Paw Mtn. 81.28 357 P P 02 35 58.7 +0.3
BPAW IAmb IAmb 02 35 59.8
comp=Z,3.9nm,0.7s
F36A Milaca 81.29 321 P P 02 35 57.9 -0.8
F36A IAmb IAmb 02 36 00.5
comp=Z,3.9nm,0.8s
DOT Dot Lake 81.31 354 P P 02 36 00.3 +1.9
DOT IAmb IAmb 02 36 01.0
comp=Z,5.9nm,1.0s
BCAR Beaver Creek A 81.67 353 P P 02 36 02.1 +1.7
L27K Beaver Creek, 81.68 353 P P 02 36 02.0 +1.5
L40A Anamosa 82.55 317 P P 02 36 05.7 +0.4
PETK Petropavlovsk- 84.05 25 P P 02 36 11.8 -1.1
comp=Z,0.8nm,0.7s,baz=328,slow=5.1,SNR=1.8
ECSD EROS Data Cent 84.35 321 P P 02 36 15.4 +0.7
MJAR Matsushiro Arr 86.95 47 P P 02 36 28.5 +0.7
comp=Z,1.0nm,0.4s,baz=322,slow=3.8,SNR=4.2

NEIC ***27*** *02:29:39.4±2.1, 55°.93N±0°.07×160°.64W±0°.09, h155km±5km, Error ellipse: s-maj=11.3km s-min=6.2km az=156.0*
IDC ***27*** *02:29:39.2±2.9, 56°.25N×160°.87W, h134km±22km, mb3.5/14, mb1 3.6/17, mb1mx3.4/51, mbtmp3.9/17, Error ellipse: s-maj=30.2km s-min=15.0km az=27.0*
AEIC ***27*** *02:29:40±2.5, 55°.85N±0°.07×160°.61W±0°.09, h150km±3km, ML3.4/48, mb4.1/16(NEIC), ML3.6/14(NEIC), Error ellipse: s-maj=11.3km s-min=5.9km az=157.0*
ISC 27 02:29:39.5±0.6, 56°.02N±0°.06×160°.62W±0°.04, h144km±6km, n134, σ1§23/150, mb3.9/21, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNWF	**Veniaminof 8**	**0.61**	**77**		**Pn**	**02 30 02.8**	**+1.9**
VNFG	**Fog Glacier, M**	**0.66**	**66**	P	**Pn**	**02 30 02.9**	**+1.7**
baz=234							
VNFG	**Fog Glacier, M**	**0.66**	**66**		**Pn**	**02 30 02.9**	**+1.7**
SDPT	**Sand Point**	**0.68**	**173**	P	**Pn**	**02 30 01.4**	**+0.2**
baz=352							
SDPT				S	**Sn**	**02 30 17.4**	**-0.3**
baz=352							
SDPT	**Sand Point**	**0.68**	**173**		**Pn**	**02 30 01.4**	**+0.2**
SDPT					**Sn**	**02 30 17.4**	**-0.3**
SDPT				IAML		02 30 18.3	
comp=E,593nm,0.8s							
VNHG	**Veniaminof 1**	**0.84**	**76**		**Pn**	**02 30 03.7**	**+1.2**
VNSG	**Veniaminof 6**	**0.87**	**82**		**Pn**	**02 30 03.9**	**+1.2**
VNSG					**Sn**	**02 30 21.7**	**+1.4**
PS1A	**Pavlof South-1**	**0.87**	**227**		**Pn**	**02 30 02.9**	**+0.2**
PS1A					**Sn**	**02 30 20.4**	**+0.2**
PVV	**Pavlof Volcano**	**0.93**	**226**		**Pn**	**02 30 03.3**	**+0.3**
PVV					**Sn**	**02 30 21.7**	**+0.8**
PS4A	**Pavlof South-4**	**0.97**	**226**		**Pn**	**02 30 03.7**	**+0.2**
PS4A					**Sn**	**02 30 22.3**	**+0.6**
HAG	**Hague Volcano**	**1.01**	**226**		**Pn**	**02 30 04.2**	**+0.4**
HAG					**Sn**	**02 30 23.2**	**+0.9**
DT1	**Dutton Round H**	**1.31**	**227**		**Pn**	**02 30 06.7**	**0.0**
CHNA	**Chernabura Isl**	**1.33**	**153**	P	**Pn**	**02 30 06.3**	**-0.5**
baz=331							
CHNA				S	**Sn**	**02 30 26.2**	**-1.4**
baz=331							
CNBA	**Chernabura Isl**	**1.34**	**153**		**Pn**	**02 30 06.2**	**-0.8**
CNBA					**Sn**	**02 30 26.2**	**-1.6**
CNBA				IAML		02 30 28.2	
comp=N,514nm,0.4s							
CNBA				IAML		02 30 28.7	
comp=E,416nm,0.3s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.97**	**235**	P	**Pn**	**02 30 13.6**	**-0.3**
baz=57							
FALS				S	**Sn**	**02 30 39.1**	**-1.2**
baz=57							
FALS	**False Pass**	**1.97**	**235**		**Pn**	**02 30 13.6**	**-0.3**
FALS	**False Pass**	**1.97**	**235**		**Sn**	**02 30 39.1**	**-1.2**
ISLZ	**Isanotski Laza**	**2.19**	**235**		**Pn**	**02 30 16.4**	**-0.2**
ISLZ					**Sn**	**02 30 44.2**	**-0.8**
SSLN	**Shishaldin Nor**	**2.27**	**239**		**Pn**	**02 30 18.0**	**+0.5**
WESE	**West Dahl East**	**2.75**	**237**		**Pn**	**02 30 22.8**	**-0.7**
CHIR	**Chirikof Islan**	**2.82**	**92**	P	**Pn**	**02 30 24.5**	**+0.2**
baz=273							
CHIR				S	**Sn**	**02 30 57.7**	**-1.1**
baz=273							
CHIR	**Chirikof Islan**	**2.82**	**92**		**Pn**	**02 30 24.2**	**-0.1**
CHIR					**Sn**	**02 30 57.9**	**-1.0**
CHIR				IAML		02 30 59.8	
comp=E,235nm,0.6s							
AKSA	**Akutan Strait**	**3.48**	**239**		**Pn**	**02 30 33.2**	**+0.5**
AKUT	**Akutan**	**3.51**	**240**	Pn	**Pn**	**02 30 33.1**	**-0.1**
ANCK	**Angle Creek**	**3.55**	**50**		**Pn**	**02 30 35.2**	**+1.6**
SII	**Sitkinak Islan**	**3.63**	**79**	P	**Pn**	**02 30 34.3**	**-0.4**
baz=262							
SII	**Sitkinak Islan**	**3.63**	**79**		**Pn**	**02 30 34.3**	**-0.4**
KVTA	**Katmai Vly 10**	**3.74**	**49**		**Pn**	**02 30 37.6**	**+1.4**
UNV	**Unalaska Valle**	**4.03**	**240**	P	**Pn**	**02 30 38.9**	**-1.1**
baz=57							
UNV	**Unalaska Valle**	**4.03**	**240**		**Pn**	**02 30 38.9**	**-1.1**
MSW	**Makushin Switc**	**4.13**	**242**		**Pn**	**02 30 40.6**	**-0.6**
OHAK	**Old Harbor**	**4.23**	**70**	P	**Pn**	**02 30 42.1**	**-0.4**
baz=254							
OHAK	**Old Harbor**	**4.23**	**70**		**Pn**	**02 30 42.2**	**-0.3**
OHAK				IAML		02 31 31.2	
comp=N,68nm,0.3s							
OHAK				IAML		02 31 31.4	
comp=E,54nm,0.3s							
KDAK	**Kodiak Island**	**4.75**	**65**	P	**Pn**	**02 30 49.0**	**-0.3**
comp=E,2.4nm,0.3s,baz=280,slow=6.0,SNR=52							
KDAK				S	**Sn**	**02 31 40.8**	**-3.0**
comp=E,7.0nm,0.3s,baz=258,slow=22,SNR=19							
KDAK	**Kodiak Island**	**4.75**	**65**		**Pn**	**02 30 48.9**	**-0.5**
KDAK	**Kodiak Island**	**4.75**	**65**	IAML		02 31 42.6	
comp=E,38nm,0.3s							
KDAK				IAML		02 31 43.2	
comp=E,36nm,0.3s							
O18K	**Koktuh Hills**	**4.81**	**35**	P	**Pn**	**02 30 52.0**	**+1.8**
baz=218							
O18K	**Koktuh Hills**	**4.81**	**35**		**Pn**	**02 30 52.0**	**+1.8**
N18K	**Kilae Creek**	**5.29**	**26**	P	**Pn**	**02 30 57.8**	**+1.2**
baz=209							
N18K	**Kilae Creek**	**5.29**	**26**		**Pn**	**02 30 57.8**	**+1.2**
NIKH	**Nikolski High**	**5.69**	**241**	Pn	**Pn**	**02 31 00.1**	**-1.8**
SVW2	**Sparrevohn**	**5.73**	**25**	Pn	**Pn**	**02 31 03.2**	**0.7**
N19K	**Bonanza Creek**	**5.79**	**31**	P	**Pn**	**02 31 04.8**	**+1.5**
baz=216							
N19K	**Bonanza Creek**	**5.79**	**31**		**Pn**	**02 31 04.8**	**+1.5**
O20K	**Slope Mountain**	**5.88**	**43**	P	**Pn**	**02 31 06.5**	**+2.0**
baz=228							
O20K	**Slope Mountain**	**5.88**	**43**		**Pn**	**02 31 06.5**	**+2.0**
CNPM	**China Poot**	**6.13**	**51**		**Pn**	**02 31 08.3**	**+0.5**
BRLK	**Bradley Lake**	**6.40**	**50**	Pn	**Pn**	**02 31 12.8**	**+1.4**
BRSE	**Bradley Lake S**	**6.46**	**51**	P	**Pn**	**02 31 12.2**	**0.0**
baz=238							
BRSE	**Bradley Lake S**	**6.46**	**51**		**Pn**	**02 31 12.2**	**0.0**
SPU	**Mount Spurr**	**6.84**	**37**	Pn	**Pn**	**02 31 18.9**	**+1.6**
SLKM	**Skilak Lake**	**7.09**	**46**		**Pn**	**02 31 20.9**	**+0.2**
SEW	**Seward**	**7.20**	**51**	P	**Pn**	**02 31 22.1**	**+0.1**
baz=239							
SEW	**Seward**	**7.20**	**51**	Pn	**Pn**	**02 31 22.3**	**+0.3**
SKT	**Skwentna**	**7.59**	**34**	Pn	**Pn**	**02 31 29.2**	**+1.9**
RC01	**Rabbit Creek A**	**7.63**	**44**	Pn	**Pn**	**02 31 28.0**	**+0.2**
PWL	**Port Wells**	**8.06**	**48**	Pn	**Pn**	**02 31 32.9**	**-0.7**
K20K	**Telida**	**8.07**	**22**	P	**Pn**	**02 31 35.7**	**+2.0**
baz=207							
K20K	**Telida**	**8.07**	**22**		**Pn**	**02 31 35.7**	**+2.0**
PMR	**Palmer**	**8.16**	**42**	Pn	**Pn**	**02 31 34.9**	**-0.1**
KNK	**Knik Glacier**	**8.32**	**44**	Pn	**Pn**	**02 31 37.2**	**+0.2**
GLI	**Glacier Island**	**8.60**	**50**	P	**Pn**	**02 31 39.1**	**-1.6**
baz=241							
GLI	**Glacier Island**	**8.60**	**50**	Pn	**Pn**	**02 31 39.7**	**-1.0**
SML	**Sawmill**	**8.60**	**43**	Pn	**Pn**	**02 31 40.4**	**-0.4**
HIN	**Hinchinbrook I**	**8.64**	**54**		**Pn**	**02 31 40.6**	**-0.8**
FID	**Port Fidalgo**	**8.80**	**52**	Pn	**Pn**	**02 31 42.0**	**-1.5**
SCM	**Sheep Creek Mo**	**9.00**	**44**	Pn	**Pn**	**02 31 44.8**	**-1.3**
EYAK	**Cordova Ski Ar**	**9.04**	**54**	Pn	**Pn**	**02 31 46.0**	**-0.6**
KLU	**Klutina**	**9.39**	**48**	Pn	**Pn**	**02 31 50.3**	**-1.1**
BPAW	**Bear Paw Mtn.**	**9.41**	**27**	Pn	**Pn**	**02 31 52.3**	**+0.7**
M24K	**Tolsona, Glenn**	**9.61**	**45**	Pn	**Pn**	**02 31 53.8**	**-0.5**
BMRM	**Bremner River**	**9.73**	**53**	Pn	**Pn**	**02 31 56.2**	**+0.4**
N25K	**Chitina, Valde**	**10.01**	**49**	Pn	**Pn**	**02 31 59.2**	**-0.4**
MLY	**Manley**	**10.25**	**24**	Pn	**Pn**	**02 32 04.3**	**+1.6**
GLB	**Gilahina Butte**	**10.27**	**51**	Pn	**Pn**	**02 32 02.6**	**-0.5**
CRQM	**Cirque**	**10.32**	**55**	Pn	**Pn**	**02 32 04.4**	**+0.6**
ADK	**Adak**	**10.33**	**253**	Pn	**Pn**	**02 32 02.9**	**-0.9**
VRDI	**Verde Repeater**	**10.35**	**53**	Pn	**Pn**	**02 32 03.8**	**-0.3**
WAX	**Waxell Ridge**	**10.35**	**57**	Pn	**Pn**	**02 32 04.8**	**+0.6**
IMAR	**Indian Mountai**	**10.53**	**16**	Pn	**Pn**	**02 32 06.9**	**+0.5**
KIWB	**Kanaga Island**	**10.59**	**254**	Pn	**Pn**	**02 32 06.9**	**-0.4**
MCARA	**McCarthy VSAT**	**10.60**	**52**	Pn	**Pn**	**02 32 08.3**	**+1.0**
I23K	**Minto, Yukon-K**	**10.68**	**26**	Pn	**Pn**	**02 32 09.1**	**+0.7**
RIDG	**Independent Ri**	**11.05**	**39**	Pn	**Pn**	**02 32 12.3**	**-1.0**
ILAR	**Eielson Array**	**11.07**	**32**	P	**Pn**	**02 32 11.3**	**-2.2**
comp=E,0.1nm,0.3s,baz=221,slow=12,SNR=2.3							
ILAR				S	**Sn**	**02 34 10.0**	**-5.6**
comp=E,0.2nm,0.3s,baz=193,slow=6.9,SNR=4.8							
BARN	**Barnard Glacie**	**11.10**	**55**	Pn	**Pn**	**02 32 15.0**	**+0.9**
DOT	**Dot Lake**	**11.28**	**41**	Pn	**Pn**	**02 32 15.7**	**-0.6**
LOGN	**Logan Glacier**	**11.34**	**57**	Pn	**Pn**	**02 32 18.3**	**+1.1**
SCRK	**Sand Creek**	**11.49**	**39**	Pn	**Pn**	**02 32 19.1**	**-0.1**
L27K	**Beaver Creek,**	**11.83**	**46**	Pn	**Pn**	**02 32 22.9**	**-0.6**
BCAR	**Beaver Creek A**	**11.85**	**46**	Pn	**Pn**	**02 32 23.1**	**-0.7**
K27K	**Chicken**	**12.22**	**41**	Pn	**Pn**	**02 32 30.1**	**+1.5**
EGAK	**Eagle**	**12.96**	**40**	Pn	**Pn**	**02 32 39.7**	**+1.6**
HYT	**Haines Junctio**	**13.00**	**59**	P	**P**	**02 32 47.0**	**+3.2**
DAWY	**Dawson**	**13.26**	**44**	Pn	**Pn**	**02 32 42.6**	**+0.6**
DAWY				P	**P**	**02 32 48.6**	**+2.1**
TOLK	**Toolik Lake Re**	**13.63**	**17**	P	**P**	**02 32 51.9**	**+1.3**
BMAR	**Burnt Mountain**	**13.67**	**27**	Pn	**Pn**	**02 32 48.8**	**+1.6**
EPYK	**Eagle Plains**	**15.38**	**38**		**P**	**02 33 09.9**	**-0.1**
EPYK				IAmb	IAmb	02 33 10.2	
comp=Z,7.2nm,1.1s							
INK	**Inuvik**	**17.44**	**34**	P	**P**	**02 33 32.1**	**-0.5**
comp=Z,0.4nm,0.3s,baz=244,slow=12,SNR=9.7							
INK	**Inuvik**	**17.44**	**34**	P	**P**	**02 33 31.9**	**-0.7**
YKA	**Yellowknife Ar**	**23.95**	**55**	P	**P**	**02 34 41.3**	**+1.4**
comp=Z,0.9nm,0.7s,baz=280,slow=7.7,SNR=7.5							
YKA	**Yellowknife Ar**	**23.95**	**55**	P	**P**	**02 34 40.8**	**+0.9**
PETK	**Petropavlovsk-**	**24.07**	**281**	P	**P**	**02 34 40.9**	**-0.4**
comp=Z,0.7nm,0.6s,baz=81,slow=10.0,SNR=1.9							
NVAR	**Mina Array Bea**	**33.04**	**104**	P	**P**	**02 36 04.0**	**+2.8**
comp=Z,0.5nm,0.6s,baz=313,slow=9.5,SNR=5.0							
PAGB	**Antelope Grade**	**33.99**	**109**	P	**P**	**02 36 11.1**	**+1.8**
PDAR	**Pinedale Array**	**34.95**	**90**	P	**P**	**02 36 18.4**	**+0.7**
comp=Z,0.2nm,0.3s,baz=280,slow=5.4,SNR=4.6							
PDAR				ScP	**ScP**	**02 42 19.8**	**+1.4**
comp=Z,0.1nm,0.5s,baz=48,slow=1.3,SNR=2.1							
LCMT	**Little Creek M**	**36.84**	**101**	P	**P**	**02 36 33.9**	**+0.2**
LCMT				IAmb	IAmb	02 36 43.7	
comp=Z,2.5nm,0.7s							
O20A	**White River Ci**	**37.43**	**93**	P	**P**	**02 36 40.8**	**+2.1**
O20A				IAmb	IAmb	02 36 41.2	
comp=Z,2.5nm,0.6s							
Y14A	**Wickenburg**	**39.24**	**104**	P	**P**	**02 36 54.5**	**+0.8**
Y14A				IAmb	IAmb	02 36 55.9	
comp=Z,2.6nm,0.3s							
MNTX	**Cornudas Mount**	**45.12**	**99**	P	**P**	**02 37 43.5**	**+2.1**
R40A	**Maddies Statio**	**47.65**	**82**	P	**P**	**02 38 00.8**	**-0.2**
TXAR	**Lajitas Array**	**47.88**	**99**	P	**P**	**02 38 04.5**	**+1.6**
comp=Z,0.6nm,0.7s,baz=303,slow=6.9,SNR=9.3							
TXAR	**Lajitas Array**	**47.88**	**99**	P	**P**	**02 38 04.7**	**+1.8**
T42A	**Van Buren**	**49.21**	**82**	P	**P**	**02 38 12.0**	**-0.9**
T42A				IAmb	IAmb	02 38 27.6	
comp=Z,2.9nm,1.2s							
DELO	**Deloro Mine**	**51.16**	**66**	P	**P**	**02 38 28.1**	**+0.7**
DELO				IAmb	IAmb	02 38 53.7	
comp=Z,3.9nm,1.3s							
OXF	**Oxford**	**51.97**	**83**	P	**P**	**02 38 34.0**	**+0.4**
SSPA	**Standing Stone**	**53.78**	**69**	P	**P**	**02 38 47.0**	**+0.2**
SSPA				IAmb	IAmb	02 39 02.0	
comp=Z,7.6nm,1.4s							
FINES	**FINESS Array B**	**62.76**	**356**	P	**P**	**02 39 47.6**	**-1.1**
comp=Z,3.4nm,0.8s,baz=27,slow=9.0,SNR=12							
FINES	**FINESS Array B**	**62.76**	**356**	P	**P**	**02 39 47.7**	**-1.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NB2	**NORSAR Subarra**	**63.10**	**4**	P	**P**	**02 39 50.3**	**-0.8**
comp=Z,1.2nm,0.7s,baz=354,slow=6.9							
NOA	**NORSAR Array B**	**63.10**	**4**	P	**P**	**02 39 50.4**	**-0.7**
comp=Z,1.1nm,0.7s,baz=355,slow=6.5,SNR=5.3							
ARU	**Arti**	**63.50**	**337**	P	**P**	**02 39 52.5**	**-1.2**
comp=Z,0.5nm,0.3s,baz=7.0,slow=4.5,SNR=5.6							
ARU	**Arti**	**63.50**	**337**	P	**P**	**02 39 52.5**	**-1.2**
HFS	**Hagfors**	**64.10**	**3**	P	**P**	**02 39 56.9**	**-0.7**
comp=Z,1.5nm,0.4s,baz=25,slow=5.1,SNR=14							
MKAR	**Makanchi Array**	**64.81**	**317**	P	**P**	**02 40 01.0**	**-1.5**
comp=Z,0.1nm,0.4s,baz=46,slow=6.2,SNR=1.9							
MKAR	**Makanchi Array**	**64.81**	**317**	P	**P**	**02 40 02.3**	**-0.2**
EKA	**Eskdalemuir Ar**	**67.49**	**14**	P	**P**	**02 40 19.3**	**0.0**
comp=Z,1.1nm,0.5s,baz=339,slow=5.6,SNR=10							
AKTO	**Aktyubinsk**	**69.16**	**335**	P	**P**	**02 40 28.7**	**-1.2**
comp=Z,1.8nm,0.6s,baz=31,slow=8.0,SNR=12							
ABKAR	**Akbulak array**	**69.78**	**333**	P	**P**	**02 40 32.7**	**-0.9**
AKASG	**Malin Array Be**	**73.33**	**353**	P	**P**	**02 40 53.6**	**-1.2**
comp=Z,3.3nm,0.4s,baz=7.5,slow=5.8,SNR=9.4							
AKASG	**Malin Array Be**	**73.33**	**353**	P	**P**	**02 40 53.4**	**-1.5**
AKBB	**Malin Array Si**	**73.33**	**353**	P	**P**	**02 40 53.9**	**-1.0**
AKBB				IAmb	IAmb	02 40 54.0	
comp=Z,4.9nm,0.6s							
KWP	**Kalwaria Pacla**	**74.68**	**358**	P	**P**	**02 41 02.7**	**-0.1**
KBZ	**Khabaz**	**78.65**	**343**	P	**P**	**02 41 25.6**	**+0.5**
comp=Z,1.3nm,0.7s,baz=355,slow=4.3,SNR=4.4							

NEIC ***27*** *02:31:16.6±2.7, 19°.07S±0°.10×175°.75W±0°.09, h226km±6km, mb4.8/122, Error ellipse: s-maj=13.8km s-min=12.1km az=178.0*
BJI ***27*** *02:31:18.9±0.0, 18°.34S×176°.07W, h231km, mB5.0/19, mb5.0/36*
IDC ***27*** *02:31:18.9±0.8, 19°.22S×175°.90W, h252km±7km, mb4.3/18, mb1 4.5/19, mb1mx4.4/22, mbtmp4.8/19, Error ellipse: s-maj=13.5km s-min=10.2km az=124.0*
BGR ***27*** *02:31:20.2±0.0, 19°.31S×176°.88W, h250km*
GCMT ***27*** *02:31:20.6±0.4, 19°.18S±0°.03×175°.70W±0°.03, h259km±2km, MW5.1/66, Moment Tensor Solution. s35,c37; s66,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.89±.26; $M_{\theta\theta}$0.01±.32; $M_{\phi\phi}$-0.89±.26; $M_{r\theta}$-5.14±.26; $M_{\theta\phi}$-0.61±.20; $M_{\phi r}$-2.44±.18; Best double couple: $M_0$5.78900×10^{16} NP1:ϕ_s2.00000°, δ8.00000°, λ28.00000°. NP2:ϕ_s244.00000°, δ86.00000°, λ97.00000°. Principal axes: T 5.9070, Plg48.0000°, Azm161.0000°; N -0.2370, Plg7.0000°, Azm63.0000°; P -5.6700, Plg41.0000°, Azm327.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***27*** *02:31:23.0, 19°.09S×175°.84W, h292km, MLv5.0, Tonga Islands*
ISC 27 02:31:18.1±0.5, 19°.26S±0°.04×175°.74W±0°.04, h250km±4km, h251km; pP-P, n429, σ1§35/436, mb4.8/96, 61C-30D, Fault plane solution: NP1:ϕ_s273.19870°, δ87.02236°, λ79.92635°. **NP2:ϕ_s**166.89961°, δ10.50016°, λ163.43842°. **Principal axes:** T Plg47.0541°, Azm172.7394°; N Plg10.0599°, Azm273.7274°; P Plg41.1882°, Azm12.6583°; **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.49**	**89**	P	**Pn**	**02 32 38.4**	**-1.5**
baz=5.4,SNR=46							
NIUE				S	**S**	**02 33 40.5**	**-4.8**
baz=5.4							
NIUE	**Niue**	**5.49**	**89**		**Pn**	**02 32 38.8**	**-1.2**
NIUE				Sn	**S**	**02 33 41.0**	**-4.3**
MSVF	**Nonsavu**	**6.09**	**283**	P	**Pn**	**02 32 49.5**	**+2.0**
20nm,0.3s,baz=122,slow=12,SNR=62							
MSVF				S	**S**	**02 34 01.6**	**+2.7**
baz=106,slow=19,SNR=0.7							
MSVF	**Nonsavu**	**6.09**	**283**	Pn	**Pn**	**02 32 48.7**	**+1.2**
MSVF				Sn	**S**	**02 34 00.2**	**+1.2**
MSVF	**Nonsavu**	**6.09**	**283**	P	**Pn**	**02 32 49.9**	**+2.4**
AFI	**Afiamalu**	**6.53**	**36**	P	Pn	02 32 48.4	-4.6
17nm,0.3s,baz=243,slow=9.0,SNR=10							
AFI				S	S	02 33 56.2	-13
46nm,0.3s,baz=234,slow=18,SNR=9.2							
AFI	**Afiamalu**	**6.53**	**36**	Pn	Pn	02 32 48.5	-4.5
RAO	**Raoul Island**	**10.15**	**191**	S	**S**	**02 35 28.0**	**-4.5**
40nm,0.3s,baz=62,slow=23,SNR=2.0							
GLKZ	**Green Lake**	**10.16**	**191**	P	**Pn**	**02 33 37.6**	**-1.0**
GLKZ				S	**S**	**02 35 26.0**	**-6.7**
FUNA	**Funafuti**	**11.74**	**335**	P	**Pn**	**02 33 58.5**	**-0.1**
RAR	**Rarotonga**	**15.11**	**100**	P	Pn	02 34 50.6	+11
1.4nm,0.3s,baz=270,slow=14,SNR=2.6							
RAR				S	**S**	**02 37 32.6**	**+6.5**
1.2nm,0.3s,baz=308,slow=19,SNR=1.6							
RAR	**Rarotonga**	**15.11**	**100**	P	**Pn**	**02 34 40.2**	**+0.6**
RAR				IAmb	IAmb	02 34 56.6	
comp=Z,61nm,1.1s							
RAR	**Rarotonga**	**15.11**	**100**	P	**Pn**	**02 34 43.1**	**+3.5**
MARNC	**Mare, Loyalty**	**15.38**	**259**	P	**Pn**	**02 34 43.4**	**+0.4**
MARNC	**Mare, Loyalty**	**15.38**	**259**	P	**Pn**	**02 34 45.2**	**+2.3**
**PIN

TIAR	Tiarei	25.09	90	eP		P	02 36 21.6 +1.3
	comp=Z,8.9nm,1.0s						
LTZ	Lake Taylor	25.55	201	P		P	02 36 24.0 -0.2
LTZ				IAmb		IAmb	02 36 29.4
	comp=Z,31nm,1.0s						
MEH	Mehetia	26.25	92	eT		T	03 02 57.6
	comp=Z,41nm,0.2s						
LBZ	Lake Benmore	27.68	202	P		P	02 36 42.8 -0.3
LBZ				IAmb		IAmb	02 36 49.4
	comp=Z,51nm,1.4s						
EIDS	Eidsvold	31.24	253	P		P	02 37 15.0 +0.2
	baz=31,SNR=13						
EIDS	Eidsvold	31.24	253	P		P	02 37 14.9 +0.2
RMQ	Roma	33.42	251	P		P	02 37 34.6 +1.0
	baz=34,SNR=13						
CNB	Canberra Magne	34.68	235	P		P	02 37 45.6 +1.2
	baz=35,SNR=4.9						
CAN	Canberra	34.97	235	P		P	02 37 47.7 +0.9
CAN				IAmb		IAmb	02 37 48.5
	comp=Z,52nm,1.4s						
CTAO	Charters Tower	35.75	262	P		P	02 37 53.6 -0.1
CMSA	Cobar Meteorol	36.75	243	P		P	02 38 01.8 -0.1
	baz=37,SNR=12						
PMG	Port Moresby	37.19	280	P		P	02 38 06.0 +0.2
PMG	Port Moresby	37.19	280	P		P	02 38 06.0 +0.2
PMG	Port Moresby	37.19	280	P		P	02 38 06.3 +0.5
QLP	Quilpie	37.47	251	P		P	02 38 07.9 -0.1
	baz=38,SNR=5.5						
TOO	Toolangi	38.35	233	P		P	02 38 16.6 +1.4
	baz=39,SNR=5.1						
TOO	Toolangi	38.35	233	P		P	02 38 15.6 +0.4
TOO				IAmb		IAmb	02 39 02.9
	comp=Z,40nm,1.4s						
TAU	Tasmania Unive	39.00	225	P		P	02 38 23.9 +3.4
MANU	Manus Island	39.95	291	P		P	02 38 30.0 +1.3
STKA	Stephens Creek	40.25	243	P		P	02 38 31.1 +0.2
	comp=Z,12nm,0.8s,baz=83,slow=8.7,SNR=15						
STKA	Stephens Creek	40.25	243	P		P	02 38 31.4 +0.5
	baz=40,SNR=5.1						
STKA	Stephens Creek	40.25	243	P		P	02 38 31.4 +0.5
QIS	Mount Isa	41.91	260	P		P	02 38 43.8 -0.9
	baz=42,SNR=5.7						
BBOO	Buckleboo	45.01	243	P		P	02 39 08.8 -0.3
	baz=45,SNR=19						
BBOO	Buckleboo	45.01	243	P		P	02 39 08.0 -1.1
BBOO				IAmb		IAmb	02 39 36.7
	comp=Z,56nm,1.5s						
GENI	Genyem	46.17	285	P		P	02 39 18.2 -0.2
	comp=Z,3μmcomp=Z,196nm,1.0s						
WR0	Warramunga Arr	46.71	260	P		P	02 39 20.9 -1.6
WR0				IAmb		IAmb	02 39 22.9
	comp=Z,34nm,1.1s						
WC3	Warramunga Arr	46.86	260	P		P	02 39 22.1 -1.6
	baz=47						
WB0	Warramunga Arr	46.87	261	P		P	02 39 22.4 -1.3
WB0				IAmb		IAmb	02 39 24.2
	comp=Z,37nm,0.9s						
AS31	Alice Springs	46.88	255	P		P	02 39 23.1 -0.8
AS31				IAmb		IAmb	02 39 25.7
	comp=Z,20nm,0.8s						
WB2	Warramunga Arr	46.88	260	P		P	02 39 22.8 -1.0
	baz=47						
WB2	Warramunga Arr	46.88	260	P		P	02 39 23.0 -0.9
WB2				IAmb		IAmb	02 39 24.4
	comp=Z,54nm,1.2s						
ASAR	Alice Springs	46.89	255	P		P	02 39 22.9 -0.9
	comp=Z,61nm,0.6s,baz=87,slow=8.3,SNR=264						
ASAR				PcP		PcP	02 40 52.2 -0.2
	comp=Z,3.3nm,0.8s,baz=91,slow=4.6,SNR=2.3						
ASAR				S		S	02 45 51.6 -3.9
	comp=Z,5.2nm,0.9s,baz=92,slow=15,SNR=21						
ASAR	Alice Springs	46.89	255	P		P	02 39 23.3 -0.6
ASPA	Alice Springs	46.89	255	P		P	02 39 22.9 -1.0
	baz=47						
WRA	Warramunga Arr	46.90	260	P		P	02 39 22.9 -1.1
	comp=Z,14nm,0.3s,baz=97,slow=7.6,SNR=217						
WRA				PcP		PcP	02 40 51.9 -0.6
	comp=Z,3.0nm,1.0s,baz=95,slow=3.3,SNR=2.2						
WRA				S		S	02 45 51.8 -3.9
	comp=Z,2.9nm,0.9s,baz=97,slow=13,SNR=6.2						
WRA	Warramunga Arr	46.90	260	P		P	02 39 22.9 -1.1
KDU	Kakadu	50.08	269	P		P	02 39 47.3 -0.8
	baz=50,SNR=9.0						
GUMO	Guam	50.70	307	P		P	02 39 51.4 -1.4
GUMO				IAmb		IAmb	02 39 52.6
	comp=Z,31nm,0.8s						
MTN	Manton Dam	51.30	269	P		P	02 39 56.2 -1.1
	baz=51,SNR=6.7						
MTN	Manton Dam	51.30	269	P		P	02 39 57.0 -0.3
FORT	Forrest	51.74	246	P		P	02 40 00.0 -0.4
FORT				IAmb		IAmb	02 40 00.1
	comp=Z,25nm,0.9s						
WRKA	Warakurna	51.86	253	P		P	02 40 00.6 -0.8
	baz=52,SNR=60						
KNRA	Kununurra	52.88	265	P		P	02 40 08.3 -0.6
	baz=53,SNR=6.9						
KNRA	Kununurra	52.88	265	P		P	02 40 08.7 -0.2
NLAI	Namlea	58.01	278	P		P	02 40 44.6 -0.7
	comp=Z,145μmcomp=Z,2μmcomp=Z,34nm,1.5s						
SOEI	Soe	58.61	270	P		P	02 40 51.2 +1.6
SOEI	Soe	58.61	270	P		P	02 40 50.6 +0.9
	comp=Z,1μmcomp=Z,185nm,0.9s						
BATI	Baumata	59.05	269	P		P	02 40 53.6 +1.0
	comp=Z,32nm,1.1s						
TNTI	Ternate	59.24	283	P		P	02 40 52.9 -0.9
SBA	Scott Base	59.25	184	P		P	02 40 57.1 +4.2
SBA				IAmb		IAmb	02 40 57.9
	comp=Z,20nm,1.0s						
VNDA	Vanda	59.34	186	P		P	02 40 54.2 +0.7
	comp=Z,7.5nm,1.0s,baz=12,slow=6.1,SNR=22						
VNDA	Vanda	59.34	186	P		P	02 40 56.6 +3.1
VNDA				IAmb		IAmb	02 40 57.6
	comp=Z,15nm,1.1s						
SANI	Sanana	59.46	279	P		P	02 40 54.4 -1.0
	comp=Z,70nm,1.0s						
PSA00	Pilbara Seismi	60.03	256	P		P	02 40 58.3 -0.9
PSA00				IAmb		IAmb	02 40 59.5
	comp=Z,29nm,0.8s						
MEEK	Meekatharra	60.34	250	P		P	02 41 00.5 -0.7
	baz=60,SNR=4.1						
KLBR	Kellerberrin	60.51	244	P		P	02 41 01.9 -0.4
	baz=61,SNR=5.0						
NWAO	Narrogin (SRO)	60.83	242	P		P	02 41 06.1 +1.8
NWAO				IAmb		IAmb	02 41 23.5
	comp=Z,24nm,1.3s						
EDFI	Ende, Flores	61.34	270	P		P	02 41 07.1 -1.0
	comp=Z,28nm,1.1s						
MUN	Mundaring	61.78	243	P		P	02 41 10.4 -0.3
	baz=62,SNR=4.1						
GIRL	Giralia	64.94	253	P		P	02 41 32.6 +1.1
PLAI	Plampang	65.01	269	P		P	02 41 31.2 -0.9
	comp=Z,68nm,1.1s						
TOLI2	Tolitoli	65.46	280	P		P	02 41 35.1 +0.2
TOLI2				IAmb		IAmb	02 41 44.5
	comp=Z,17nm,1.2s						
MPSI	Mapaga	66.00	279	P		P	02 41 37.7 -0.7
JHJ2	Mitsune	67.18	320	P		P	02 41 44.7 -0.7
JYT	Yasato	69.15	323	P		P	02 41 57.5 -0.1
JMM	Marumori	69.99	325	P		P	02 42 00.6 -2.0
JGF	Kuroka	70.37	321	P		P	02 42 03.8 -1.2
JGF				IAmb		IAmb	02 42 05.4
	comp=Z,20nm,1.0s						
INU	Inuyama	70.40	320	P		P	02 42 04.4 -0.8
INU				IAmb		IAmb	02 42 05.8
	comp=Z,52nm,1.4s						
MJAR	Matsushiro Arr	70.51	322	P		P	02 42 04.9 -0.9
	comp=Z,37nm,0.8s,baz=156,slow=6.0,SNR=60						
MJAR	Matsushiro Arr	70.51	322	P		P	02 42 04.7 -1.2
MAJO	Matsushiro	70.51	322	P		P	02 42 04.8 -1.1
MAT	Matsushiro	70.51	322	P		P	02 42 05.0 -0.9
SPMM	Sapulut	70.79	282	P		P	02 42 08.0 -0.1
QSPA	South Pole Qui	70.81	180	P		P	02 42 09.1 +1.7
QSPA				IAmb		IAmb	02 42 10.6
	comp=Z,37nm,1.1s						
JWT	Wachi	71.34	319	P		P	02 42 10.5 -0.3
JWT				IAmb		IAmb	02 42 11.7
	comp=Z,21nm,0.9s						
JSD	Sado	71.52	323	P		P	02 42 11.7 -0.2
NIKH	Nikolski High	72.17	4	P		P	02 42 16.5 +1.2
	baz=187						
JKA	Kamikawa-asahi	73.69	330	P		P	02 42 24.4 0.0
JKA				IAmb		IAmb	02 42 27.9
	comp=Z,42nm,1.4s						
SBUM	Sibu	73.92	278	P		P	02 42 27.0 +0.5
YULB	Yu-li	74.63	302	IAmb		IAmb	02 42 30.6
	comp=Z,9.3nm,0.8s						
NACB	Ninganchiao	74.77	303	P		P	02 42 29.9 -1.3
CHNA	Chernabura Isl	75.07	10	P		P	02 42 32.9 +0.8
	baz=196						
SSLB	Suanglung	75.09	302	IAmb		IAmb	02 42 32.7
	comp=Z,20nm,0.9s						
YHNB	Yeheng	75.19	303	P		P	02 42 32.5 -1.1
YHNB				IAmb		IAmb	02 42 33.8
	comp=Z,35nm,1.1s						
KSM	Kuching	75.37	277	P		P	02 42 35.0 +0.2
PEA0B	Petropavlovsk-	75.65	344	IAmb		IAmb	02 42 36.3
	comp=Z,40nm,1.1s						
PETK	Petropavlovsk-	75.65	344	P		P	02 42 34.6 -0.9
	comp=Z,18nm,0.9s,baz=162,slow=11,SNR=24						
EDW2	Edwards Air Fo	76.82	46	P		P	02 42 42.5 -0.1
	baz=235						
ISA	Isabella, Lake	76.95	45	P		P	02 42 43.2 -0.1
	baz=235						
ISA	Isabella, Lake	76.95	45	P		P	02 42 40.2 -3.1
LRMC	Laurel Mtn Rad	77.38	45	P		P	02 42 46.0 +0.3
	baz=235						
KSRS	Korea Array	77.40	317	P		P	02 42 46.2 +0.6
	comp=Z,8.0nm,1.0s,baz=138,slow=6.1,SNR=36						
KS19	Wonju Array Si	77.46	317	P		P	02 42 46.2 +0.2
KS19				IAmb		IAmb	02 42 47.6
	comp=Z,28nm,1.4s						
CWC	Cottonwood Cre	77.66	44	P		P	02 42 48.2 +0.8
	baz=235						
BELC	Belle Mtn. Jos	77.70	47	P		P	02 42 48.0 +0.4
	baz=237						
GSC	Goldstone, Bar	77.86	46	P		P	02 42 50.0 +1.6
	baz=236						
HEC	Hector,Ludlow	77.92	46	P		P	02 42 49.7 +1.0
	baz=236						
GMRC	Granite Mounta	78.36	47	P		P	02 42 51.6 +0.5
	baz=237						
NVAR	Mina Array Bea	78.67	42	P		P	02 42 54.3 +1.4
	comp=Z,2.4nm,0.7s,baz=223,slow=8.7,SNR=14						
NVAR	Mina Array Bea	78.67	42	P		P	02 42 53.2 +0.4
214A	Organ Pipe Nat	78.88	50	P		P	02 42 55.4 +1.5
	baz=239						
TPNV	Topopah Spring	79.16	45	P		P	02 42 56.4 +0.9
	baz=236						
TPNV	Topopah Spring	79.16	45	P		P	02 42 55.5 0.0
USA0B	Ussuriysk Arra	79.16	325	P		P	02 42 55.4 +0.3
USA0B				IAmb		IAmb	02 42 57.2
	comp=Z,25nm,1.1s						
USRK	Ussuriysk Ar.	79.16	325	P		P	02 42 56.6 +1.5
	comp=Z,9.1nm,0.8s,baz=125,slow=3.6,SNR=34						
W13A	Hualapai Mount	79.76	47	P		P	02 43 00.3 +1.5
H04D	Lebanon	79.77	35	P		P	02 43 00.4 +2.0
	baz=230						
PRN	Pahroc Range	80.21	45	P		P	02 43 02.0 +0.9
TUC	Tucson	80.54	51	P		P	02 43 03.8 +0.9
	baz=240						
TUC	Tucson	80.54	51	P		P	02 43 03.9 +1.0
O18K	Koktuh Hills	80.59	10	P		P	02 43 01.9 -0.5
	baz=200						
MDJ	Mudanjiang	80.75	324	P		P	02 43 04.8 +1.2
MDJ				pmax		pmax	
	comp=Z,65nm,1.0s						
MDJ				pmax		pmax	
	comp=Z,170nm,3.5s						
MDJ	Mudanjiang	80.75	324	P		P	02 43 04.5 +0.9
NJ2	Nanjing	80.75	309	eP		P	02 43 06.0 +2.1
NJ2				pmax		pmax	
	comp=Z,6.0nm,0.5s						
X16A	Lo Mia Camp, P	81.12	49	P		P	02 43 06.1 +0.1
E04D	Cinebar	81.17	34	P		P	02 43 06.0 +0.3
	baz=230						
N18K	Kilae Creek	81.26	10	P		P	02 43 05.2 -0.8
	baz=199						
I07A	Izee	81.31	37	P		P	02 43 07.0 +0.4
BRSE	Bradley Lake S	81.32	13	P		P	02 43 06.1 -0.2
	baz=204						
D03D	Eldon	81.53	33	P		P	02 43 07.5 -0.1
	baz=229						
U15A	North Rim	81.56	47	P		P	02 43 09.3 +0.9
PMSA	Palmer Station	81.57	156	P		P	02 43 09.1 +1.5
PMSA				IAmb		IAmb	02 43 10.5
	comp=Z,20nm,1.4s						
N19K	Bonanza Creek	81.61	10	P		P	02 43 07.0 -0.9
	baz=200						
SEW	Seward	81.92	13	P		P	02 43 09.0 -0.3
	baz=205						
G08A	Pilot Rock	82.34	37	P		P	02 43 12.1 0.0
SPU	Mount Spurr	82.39	11	P		P	02 43 11.6 -0.2
MTPU	Mount Pierson	82.47	45	P		P	02 43 14.3 +1.1
A04D	Lummi Island	82.49	32	P		P	02 43 12.2 -0.3
	baz=230						
B05A	Bryant	82.51	33	P		P	02 43 13.0 +0.3
	baz=230						
CN2	Changchun	82.64	321	eP		P	02 43 14.3 +0.8
CN2				eS		S	02 53 07.3 -2.1
CN2				pmax		pmax	
	comp=Z,40nm,1.0s						
CRAG	Craig	82.74	23	P		P	02 43 13.9 +0.3
	baz=220						
RC01	Rabbit Creek A	82.75	12	P		P	02 43 13.1 -0.5
	baz=205						
L19K	White Mountain	82.84	10	P		P	02 43 13.8 -0.3
	baz=200						
121A	Cookes Peak, D	82.87	52	P		P	02 43 16.9 +1.7
KAIM	Kayak Island	82.92	15	P		P	02 43 14.2 -0.3
	baz=210						
DUG	Dugway, Tooele	83.18	43	P		P	02 43 14.9 -1.6
	baz=238						
PMR	Palmer	83.34	12	P		P	02 43 16.6 +0.1
	baz=205						
MAW	Mawson	83.44	199	P		P	02 43 18.4 +1.2
	comp=Z,3.0nm,0.6s,baz=129,slow=8.1,SNR=12						
MAW	Mawson	83.44	199	P		P	02 43 18.6 +1.4
	baz=84,SNR=11						
MAW	Mawson	83.44	199	P		P	02 43 18.4 +1.2
JRMM	Jerantut	83.54	276	P		P	02 43 19.0 +0.2
SML	Sawmill	83.69	13	P		P	02 43 17.4 -1.1
	baz=206						
F10A	Beach Ranch, E	83.73	37	IAmb		IAmb	02 43 22.9
	comp=Z,5.7nm,0.7s						
TMUT	Trail Mountain	83.77	45	P		P	02 43 20.8 +1.1
BMRM	Bremner River	83.78	15	P		P	02 43 18.1 -0.9
	baz=209						
SCM	Sheep Creek Mo	83.93	13	IAmb		IAmb	02 43 20.6
	comp=Z,22nm,1.0s						
KLU	Klutina	83.94	14	P		P	02 43 20.2 +0.5
	baz=208						
HLID	Hailey	84.00	40	P		P	02 43 20.9 +0.2
	baz=236						
HLID	Hailey	84.00	40	P		P	02 43 21.3 +0.6
K20K	Telida	84.08	10	P		P	02 43 19.7 -0.7
	baz=200						
FRIM	Kepong	84.12	275	P		P	02 43 22.0 +0.3
SRU	San Rafael Swe	84.13	45	P		P	02 43 21.4 0.0
P17A	Butcher Ranch,	84.17	45	P		P	02 43 23.0 +1.4
MNTX	Cornudas Mount	84.30	54	P		P	02 43 21.8 -0.4
	baz=243						
MNTX	Cornudas Mount	84.30	54	P		P	02 43 23.3 +1.1
MNTX				IAmb		IAmb	02 43 25.4
	comp=Z,10nm,1.1s						
N25K	Chitina, Valde	84.34	14	P		P	02 43 21.1 -0.7
	baz=209						
N25K	Chitina, Valde	84.34	14	IAmb		IAmb	02 43 22.9
	comp=Z,31nm,1.5s						
BNM	Barren Site	84.48	51	P		P	02 43 24.3 +1.0
WAT6	Susitna Watana	84.51	13	P		P	02 43 22.2 -0.6
	baz=206,SNR=5.1						
MCARA	McCarthy VSAT	84.53	15	P		P	02 43 22.5 -0.2
	baz=211						
WAT1	Susitna Watana	84.57	12	P		P	02 43 22.2 -0.6
	baz=206						
TX31	Lajitas Ar. Si	84.59	57	P		P	02 43 25.0 +1.2
TX31				IAmb		IAmb	02 43 27.1
	comp=Z,24nm,1.2s						
TX32	Lajitas Array	84.59	57	P		P	02 43 24.9 +1.0
TXAR	Lajitas Array	84.59	57	P		P	02 43 25.8 +1.9
	comp=Z,2.8nm,1.0s,baz=215,slow=8.2,SNR=25						
TXAR				pP		pwP	02 44 25.8 +0.2
	comp=Z,2.4nm,1.1s,baz=220,slow=5.4,SNR=3.5						
TXAR	Lajitas Array	84.59	57	P		P	02 43 24.9 +1.0
BARN	Barnard Glacie	84.60	16	IAmb		IAmb	02 43 25.1
	comp=Z,35nm,1.4s						
CTG	Chitna Glacier	84.60	16	P		P	02 43 22.7 -0.5
	baz=212						
TNA	Tin City	84.76	3	P		P	02 43 23.6 -0.1
	baz=187						
PV17	East Wray Mesa	84.78	47	P		P	02 43 26.2 +1.5
PV17				IAmb		IAmb	02 44 30.1
	comp=Z,9.0nm,1.3s						
KTH	Kantishna Hill	84.79	11	IAmb		IAmb	02 43 24.0
	comp=Z,10nm,0.9s						
TRF	Thorofare Moun	84.81	11	P		P	02 43 23.2 -1.0
	baz=204,SNR=7.9						
TRF	Thorofare Moun	84.81	11	IAmb		IAmb	02 43 24.4
	comp=Z,16nm,0.8s						
J20K	Nowinta River	84.83	9	P		P	02 43 23.9 -0.2
	baz=200,SNR=9.3						
CHUM	Lake Minchumin	84.85	10	P		P	02 43 23.3 -0.9
	baz=202,SNR=5.9						
ANMO	Albuquerque	84.97	50	P		P	02 43 26.4 +0.7
	baz=242						
ANMO	Albuquerque	84.97	50	P		P	02 43 26.6 +0.9
RND	Reindeer	85.04	12	P		P	02 43 25.2 0.0
RND				IAmb		IAmb	02 43 26.6
	comp=Z,26nm,1.0s						
H03N2	Juan Fernandez	85.05	124	T		T	04 16 31.0
	baz=257,slow=72,SNR=56						
H03N3	Juan Fernandez	85.05	124	T		T	04 16 32.2
	baz=257,slow=72,SNR=48						
H03N1	Juan Fernandez	85.07	124	T		T	04 16 31.6
	baz=257,slow=72,SNR=36						
IPM	Ipoh	85.10	276	P		P	02 43 27.0 +0.4
NEW	Newport	85.13	35	P		P	02 43 25.7 -0.3
	baz=234						
BPAW	Bear Paw Mtn.	85.28	11	P		P	02 43 25.8 -0.5
	baz=203						
MCK	McKinley	85.32	12	P		P	02 43 25.9 -0.6
	baz=205,SNR=13						
MCK	McKinley	85.32	12	IAmb		IAmb	02 43 27.2
	comp=Z,21nm,0.9s						
M26K	Nabesna, AK	85.41	15	P		P	02 43 27.3 +0.2
	baz=211,SNR=8.4						
BWN	Browne	85.62	11	P		P	02 43 27.9 -0.1
BWN				IAmb		IAmb	02 43 28.6
	comp=Z,19nm,0.8s						
M27K	Edge Creek, AK	85.65	15	P		P	02 43 28.1 -0.2
	baz=212,SNR=8.3						
KULM	Kulim	85.72	277	P		P	02 43 31.0 +1.4
L26K	Log Cabin Wild	85.87	14	P		P	02 43 29.0 -0.3
	baz=210						
S22A	4UR Ranch, Cre	86.00	48	P		P	02 43 31.6 +0.8
	baz=242						
NEA2	Nenana	86.07	11	P		P	02 43 29.3 -0.9
	baz=205						
I21K	Tanana	86.11	10	P		P	02 43 29.9 -0.4
	baz=202,SNR=7.0						
WRH	Wood River Hil	86.15	12	IAmb		IAmb	02 43 31.2
	comp=Z,23nm,1.0s						
RIDG	Independent Ri	86.16	13	P		P	02 43 29.1 -1.6
	baz=209						
RIDG	Independent Ri	86.16	13	IAmb		IAmb	02 43 32.3
	comp=Z,11nm,1.1s						
O20A	White River Ci	86.17	45	P		P	02 43 29.2 -2.4
	baz=241						
MLY	Manley	86.18	10	P		P	02 43 29.7 -1.0
	baz=204,SNR=7.7						
MLY	Manley	86.18	10	P		P	02 43 29.8 -1.0
DOT	Dot Lake	86.25	14	IAmb		IAmb	02 43 32.1
	comp=Z,8.8nm,0.9s						
L27K	Beaver Creek,	86.26	15	P		P	02 43 30.5 -0.6
	baz=212						
HDA	Harding Lake	86.31	12	P		P	02 43 30.8 -0.6
	baz=207,SNR=7.2						
HDA	Harding Lake	86.31	12	IAmb		IAmb	02 43 33.4
	comp=Z,9.2nm,0.9s						
CCB	Clear Creek Bu	86.36	12	IAmb		IAmb	02 43 32.0
	comp=Z,14nm,1.1s						
SKLT	Songkhla	86.38	279	P		P	02 43 35.8 +3.0
RPSI	Rantau Prapat	86.48	274	P		P	02 43 32.5 -0.9
RPSI				IAmb		IAmb	02 43 33.6
	comp=Z,14nm,1.0s						
BJT	Baijiatuau	86.52	314	P		P	02 43 33.1 +0.2
BJT				IAmb		IAmb	02 43 34.6
	comp=Z,30nm,1.4s						
BJI	Beijing	86.53	314	P		P	02 43 33.3 +0.4
BJI				PcP		PcP	02 43 36.3 +1.3
BJI				pmax		pmax	
	comp=Z,18nm,1.3s						
I23K	Minto, Yukon-K	86.53	11	P		P	02 43 31.5 -0.8
	baz=205						
SCRK	Sand Creek	86.55	13	P		P	02 43 32.3 -0.4
	baz=210						
SCRK	Sand Creek	86.55	13	P		P	02 43 32.0 -0.7
TCOL	CIGO, UAF Yank	86.55	12	P		P	02 43 31.6 -0.8
	baz=206						
TCOL	CIGO, UAF Yank	86.55	12	IAmb		IAmb	02 43 33.0
	comp=Z,15nm,0.8s						
COLA	College	86.56	12	P		P	02 43 32.3 -0.2
	baz=206						
COLA	College	86.56	12	P		P	02 43 31.6 -0.9
COLA				IAmb		IAmb	02 43 33.0
	comp=Z,14nm,0.8s						
MDM	Murphy Dome	86.56	11	IAmb		IAmb	02 43 33.0
	comp=Z,11nm,1.0s						
PDAR	Pinedale Array	86.61	42	P		P	02 43 33.9 +0.3
	comp=Z,0.7nm,0.6s,baz=249,slow=4.1,SNR=9.0						
PDAR				pP		pwP	02 44 36.1 +0.3
	comp=Z,2.1nm,0.9s,baz=222,slow=4.0,SNR=7.4						
IL31		86.65	12	IAmb		IAmb	02 43 33.6
	comp=Z,13nm,1.3s						
ILAR	Eielson Array	86.65	12	P		P	02 43 32.4 -0.6
	comp=Z,5.8nm,1.1s,baz=220,slow=5.4,SNR=18						
ILAR				pP		pP	02 44 33.7 +1.3
	comp=Z,4.4nm,1.1s,baz=221,slow=6.1,SNR=4.9						
BOZ	Bozeman (W)	86.78	39	P		P	02 43 34.6 +0.4
	baz=238						
SDCO	Great Sand Dun	86.94	48	P		P	02 43 34.6 -0.7
	baz=243						
K27K	Chicken	87.03	14	P		P	02 43 34.6 -0.2
	baz=212						
GSI	Gunungsitoli	87.30	272	P		P	02 43 36.8 -0.5
GSI				IAmb		IAmb	02 43 38.9
	comp=Z,26nm,0.9s						
H24K	Noodor Dome	87.42	11	P		P	02 43 36.8 +0.1
	baz=206						
PRP	Porcupine Dome	87.58	12	P		P	02 43 37.5 -0.1
	baz=208						
DAWY	Dawson	87.70	15	IAmb		IAmb	02 43 39.5
	comp=Z,6.9nm,0.9s						
EGAK	Eagle	87.87	14	P		P	02 43 38.5 -0.3
	baz=212						
SYO	Syowa Base	88.39	192⇑	eP		P	02 43 41.8 +0.5
PLCA	Paso Flores	88.56	133	P		P	02 43 45.3 +2.4
	comp=Z,3.3nm,1.1s,baz=252,slow=6.4,SNR=2.9						
XAN	Xi'an	89.09	307	P		P	02 43 45.8 +0.5
XAN				pmax		pmax	
	comp=Z,36nm,1.2s						
XAN				pmax		pmax	
	comp=Z,99nm,5.2s						
SNAA	Sanae	89.18	178	P		P	02 43 45.4 +0.3
SNAA	Sanae	89.18

baz=219
INK Inuvik 92.53 14 IAmb IAmb 02 44 01.7
comp=Z,9.9nm,1.2s
LZH Lanzhou 93.72 307 *e*P **P** **02 44 08.0 +1.2**
LZH pP pP 02 45 04.0 -2.7
LZH sP sP 02 45 28.5 -4.0
LZH pmax pmax
comp=Z,24nm,1.0s
JTS Las Juntas de 94.06 81 P **P** **02 44 09.2 +0.5**
JTS IAmb IAmb 02 44 15.8
comp=Z,12nm,0.8s
YKA Yellowknife Ar 94.51 24 P **P** **02 44 09.7 +0.2**
comp=Z,0.3nm,0.6s,baz=236,slow=4.4,SNR=3.2
YKA Yellowknife Ar 94.51 24 P **P** **02 44 11.9 +2.4**
MIAR Mount Ida 94.51 55 P **P** **02 44 07.8 -2.4**
baz=250
ECSD EROS Data Cent 95.54 46 P **P** **02 44 14.6 -0.1**
baz=249
ULN Ulaanbaatar 95.83 319 P **P** **02 44 16.0 -0.2**
ULN IAmb IAmb 02 44 17.8
comp=Z,9.3nm,1.1s
SONM Songino Array 96.23 318 P **P** **02 44 17.7 -0.3**
comp=Z,2.7nm,0.4s,baz=134,slow=4.2,SNR=8.0
J62A Henniker 112.95 50 P **PKiKP** **02 49 25.2 -0.2**
baz=265
ARCES ARCESS Array B 128.07 351 PKP **PKPdf** **02 49 53.5 -0.1**
comp=Z,1.3nm,0.4s,baz=27,slow=1.4,SNR=15
ARCES ARCESS Array B 128.07 351 **PKPdf** **02 49 53.3 -0.4**
FINES FINESS Array B 135.15 345 PKhKP PKPpre 02 50 01.5
comp=Z,1.8nm,0.9s,baz=5.7,slow=5.6,SNR=1.0
FINES PKP **PKiKP** **02 50 08.0 -0.7**
comp=Z,3.3nm,1.0s,baz=33,slow=3.3,SNR=1.8
FINES FINESS Array B 135.15 345 **PKPdf** **02 50 07.2 0.0**
MNK Minsk 140.46 338 *i* PKP **PKPdf** **02 50 13.3 -3.9**
comp=E,2.0nm,0.9s
MNK *i* PKP **PKPdf** **02 50 13.3 -3.9**
comp=N,39nm,0.9s
MNK *i* PKP **PKPdf** **02 50 13.3 -3.9**
comp=Z,6.0nm,0.7s,baz=34
MNK *i* pPKP **pPKPdf** **02 51 14.7 -5.4**
MNK *i* PP **PP** **02 53 15.1 -3.2**
MNK *i* SKP 02 53 24.6
MNK *i* PKS **PKSdf** **02 53 49.2 -3.7**
MNK *i* PPP PPP 02 56 21.8
MNK *i* SKS **SKSdf** **02 57 00.1 -3.1**
MNK *i* SKKS **SKKSdf** **03 06 25.3 -5.4**
MNK *i* PPS PPS 03 09 27.8
MNK *i* SPP SPP 03 09 27.8
MNK *i* SS **SS** **03 11 20.8 -0.8**
MNK *i* SSS SSS 03 16 36.9
MNK *i* LRM MLR 03 52 05.8
comp=N,122nm,25.6s
MNK *i* LRM MLR 03 52 38.6
comp=E,3.0nm,17.1s
MNK *i* LRM MLR 03 53 14.7
comp=Z,118nm,21.0s
AKASG Malin Array Be 142.91 334 PKhKP PKPpre 02 50 17.6
comp=Z,0.8nm,0.4s,baz=38,slow=4.1,SNR=5.1
AKASG Malin Array Be 142.91 334 PKPpre 02 50 16.7
BEL Belsk 144.99 342 *e*PKP **PKPab** **02 50 25.5 +0.1**
BSEG Bad Segeberg 145.07 354 *e*PKPbc **PKPab** **02 50 26.3 +0.7**
baz=11,slow=2.8
SORM Soroca 145.20 331 ⇑P **PKPdf** **02 50 24.2 -1.5**
RUE Ruedersdorf 146.02 350 *e*PKPbc **PKPab** **02 50 29.3 +0.1**
baz=11,slow=2.8
KWP Kalwaria Pacla 146.28 338 *e*PKP **PKPbc** **02 50 29.3 +0.1**
FLTG Flechtingen 146.54 352 *e*PKPbc **PKPbc** **02 50 30.5 +0.7**
baz=11,slow=2.8
OJC Ojcow 146.72 342 *e*PKP **PKPbc** **02 50 30.4 +0.1**
IBBN Ibbenburen 146.90 356 *e*PKPbc **PKPab** **02 50 32.2 -0.5**
baz=11,slow=2.8
BURAR Bucovina Array 146.96 334 ⇑P **PKPbc** **02 50 32.1 +0.8**
KOLS Kolonicke sedl 147.03 338 *e*PKP **PKPab** **02 50 32.7 -0.7**
KSP Ksiaz 147.07 346 *e*PKP **PKPbc** **02 50 31.9 +0.6**
CLZ Clausthal 147.13 353 *e*PKPbc **PKiKP** **02 50 32.8 -0.8**
baz=11,slow=2.8
TESR Tescani 147.18 331 ⇑P **PKPbc** **02 50 32.1 +0.3**
CLL Collm 147.28 350 *i* PKPbc **PKPbc** **02 50 32.2 +0.3**
comp=Z,25nm,0.9s
CLL *i* PKPab **PKPab** **02 50 34.2 -0.1**
comp=Z,21nm,1.1s
CLL *e* 02 50 42.0
CLL *e*PKiKP **pPKPab** **02 51 36.0 +0.8**
CLL *e* 02 51 40.0
CLL Collm 147.28 350 *e*PKPbc **PKPbc** **02 50 32.9 +1.0**
baz=11,slow=2.8
CRVS Cervenica-Dubn 147.34 339 *e*PKP **PKPab** **02 50 35.1 +0.5**
OSTC Ostas 147.35 346⇑*e*PKP **PKPbc** **02 50 33.0 +0.9**
CHVC Chvalec 147.36 346⇑*e*PKP **PKPbc** **02 50 32.6 +0.4**
CFR Carcaliu 147.44 328 ⇑P **PKPbc** **02 50 32.9 +0.5**
DPC Dobruska-Polom 147.52 346⇑*e*PKP **PKiKP** **02 50 33.6 -0.9**
BRTR Keskin Array B 147.52 315 PKPbc **PKPbc** **02 50 33.0 -0.1**
comp=Z,14nm,1.1s,baz=120,slow=2.6,SNR=22
BRG Berggiesshubel 147.53 349 *e*PKP **PKPbc** **02 50 33.3 +0.8**
BRG Amp 02 50 34.8
comp=Z,10nm,0.9s
BRG Berggiesshubel 147.53 349 *e*PKPbc **PKiKP** **02 50 33.8 -0.6**
baz=11,slow=2.8
NEUB Neuenburg 147.57 351 *e*PKPbc **PKiKP** **02 50 33.8 -0.7**
baz=11,slow=2.8
FBE Freiberg 147.59 349 *e*PKPbc **PKiKP** **02 50 34.3 -0.2**
baz=11,slow=2.8
TRPA Tarpa 147.60 337 ⇑P **PKPbc** **02 50 33.4 +0.6**
BMR Baia Mare 147.62 335 ⇑P **PKiKP** **02 50 34.4 -0.4**
VRI Vrincioaia 147.62 330 ⇓P **PKPbc** **02 50 32.7 -0.3**
KRLC Kraliky 147.67 345⇑*e*PKP **PKPbc** **02 50 33.6 +0.6**
PVCC Panska Ves 147.74 348⇑*e*PKP **PKPbc** **02 50 33.8 +0.7**
ARCR ARCALIA 147.74 334 ⇑P **PKiKP** **02 50 34.2 -0.9**
MORC Moravsky Berou 147.75 344 ⇑P **PKPbc** **02 50 32.8 -0.4**
MORC Moravsky Berou 147.75 344 *e*PKP **PKPbc** **02 50 33.5 +0.3**
HARR Harsova 147.88 327 ⇑P **PKPbc** **02 50 33.6 -0.1**
MOX Moxa 148.14 351 *e*PKPbc **PKiKP** **02 50 35.4 -0.4**
baz=11,slow=2.8
MOX *e*PKPab **PKPab** **02 50 38.1 +0.3**
baz=11,slow=4.1
DOPR Dopca 148.17 332 ⇑P **PKiKP** **02 50 35.6 -0.4**
PLN Plauen 148.21 350 *e*PKPbc **PKiKP** **02 50 35.6 -0.3**
baz=11,slow=2.8
WERD Werda 148.23 350 *e*PKPbc **PKiKP** **02 50 35.7 -0.3**
baz=11,slow=2.8
WERD *e*PKPab **PKPab** **02 50 38.4 +0.3**
baz=11,slow=4.1
PRU Pruhonice 148.26 347⇑*e*PKP **PKiKP** **02 50 35.4 -0.6**
MLR Muntele Rosu 148.27 330 ⇑P **PKPbc** **02 50 34.9 0.0**
GUNZ Gunzen 148.30 350 *e*PKPbc **PKiKP** **02 50 35.9 -0.2**
baz=11,slow=2.8
GUNZ *e*PKPab **PKPab** **02 50 39.0 +0.5**
baz=11,slow=4.1
NKC Novy Kostel 148.41 350⇑*e*PKP **PKiKP** **02 50 36.0 -0.3**
NKC *e*PKPAB **PKPab** **02 50 39.1 +0.2**
VRAC Vranov 148.42 345 ⇑P **PKiKP** **02 50 35.8 -0.6**
VRAC Vranov 148.42 345 *e*PKP **PKPbc** **02 50 35.4 +0.4**
VYHS Vyhne 148.54 341 *e*PKP **PKiKP** **02 50 36.0 -0.6**
JAVC Velka Javorina 148.55 343 *e*PKP **PKPbc** **02 50 36.0 +0.6**
DRGR 148.65 335 ⇑P **PKPbc** **02 50 36.2 +0.6**
KRUC Moravsky 148.70 345 *e*PKP **PKPbc** **02 50 35.9 +0.3**
BTNL Ternell 148.70 358 *dx* x 02 51 09.0
BTNL Ternell 148.70 358 *d*PKPbc **PKPbc** **02 50 35.9 +0.3**
BTNL Ternell 148.70 358 *d*PKPab **PKPab** **02 50 39.2 -0.8**
MANZ Manzenberg 148.71 350 *e*PKPbc **PKiKP** **02 50 37.0 0.0**
baz=11,slow=2.8
PSZ Piszkesteto 148.71 340 ⇓P **PKPbc** **02 50 36.4 +0.6**
VOIR 148.72 331 ⇑P **PKiKP** **02 50 36.7 -0.5**
BSTI Sart Tilman 148.72 358 *d*PKP **PKPbc** **02 50 35.8 +0.1**
ROTZ Rotzenmuhle 148.90 350 *e*PKPbc **PKiKP** **02 50 37.6 +0.3**
baz=11,slow=2.8
ROTZ *e*PKPab **PKPab** **02 50 41.4 +0.5**
baz=11,slow=4.1
TNS Taunus Mts 148.92 355 *e*PKPbc **PKiKP** **02 50 37.5 0.0**
baz=11,slow=2.8
BMRD Maredsous 149.02 359 *d*PKPab **PKPab** **02 50 40.9 -0.5**
BMRD Maredsous 149.02 359 *d*PKPbc **PKPbc** **02 50 36.4 0.0**
MODS Modra-Piesok 149.10 343 *e*PKP **PKiKP** **02 50 39.0 +1.2**
GRF Grafenberg Arr 149.13 351 *e*PKPbc **PKiKP** **02 50 38.6 +0.8**
baz=11,slow=2.8
MILB Miltenberg 149.23 354 *e*PKPbc **PKiKP** **02 50 38.2 +0.2**
baz=11,slow=2.8
MILB *e*PKPab **PKPab** **02 50 41.9 -0.3**
baz=11,slow=4.1
KHC Kasperske Hory 149.27 348⇑*e*PKP **PKPbc** **02 50 37.2 +0.1**
KHC *e*PKPAB **PKPab** **02 50 42.5 0.0**
KHC *ex* x 02 52 43.0
ZST Bratislava 149.31 343 *e*PKP **PKiKP** **02 50 38.5 +0.3**
WET Wettzell 149.39 349 *e*PKPbc **PKiKP** **02 50 38.9 +0.5**
baz=11,slow=2.8
WET *e*PKPab **PKPab** **02 50 43.7 +0.8**
baz=11,slow=4.1
CKRC Cesky Krumlov 149.41 347⇑*e*PKP **PKPbc** **02 50 37.6 +0.1**
SIRR Siria 149.49 336 ⇑P **PKPdf** **02 50 34.0 +1.1**
GEC2 GERESS Array S 149.51 348 *e*PKPbc **PKiKP** **02 50 39.1 +0.3**
baz=11,slow=2.8
GEC2 *e*PKPab **PKPab** **02 50 43.8 +0.2**
baz=11,slow=4.1
GERES GERESS Array B 149.51 348 PKPbc **PKPbc** **02 50 38.0 +0.2**
comp=Z,3.3nm,0.9s,baz=64,slow=3.1,SNR=20
GERES GERESS Array B 149.51 348 **PKPbc** **02 50 37.5 -0.4**
WLF Walferdange 149.62 358 *d*PKP **PKiKP** **02 50 38.9 +0.1**
WLF Walferdange 149.62 358 *e*PKPbc **PKiKP** **02 50 39.7 +0.9**
baz=11,slow=2.8
WLF *e*PKPab **PKPab** **02 50 44.6 +0.7**
baz=11,slow=4.1
GZR Gura Zlata 149.75 334 ⇑P **PKPbc** **02 50 38.5 0.0**
CONA Conrad Observa 149.88 344 *e*P **PKiKP** **02 50 39.1 -0.4**
comp=Z,9.4nm,1.1s
BZS Buzias 150.04 335 ⇑P **PKPdf** **02 50 34.9 +1.1**
SRE Strehaia 150.15 332 ⇑P **PKiKP** **02 50 40.8 +0.8**
HERR Herculane 150.32 333 ⇑P **PKPbc** **02 50 40.0 +0.3**
MOA Molln 150.34 346 *e*P **PKPbc** **02 50 39.8 +0.1**
comp=Z,7.0nm,1.2s
MORH Mrgy, Hungar 150.62 339 ⇑P **PKPbc** **02 50 40.1 -0.2**
MDVR Moldovita 150.69 334 ⇑P **PKPbc** **02 50 40.0 -0.6**
BFO Black Forest 150.81 354 *e*PKPbc **PKiKP** **02 50 41.9 +0.6**
baz=11,slow=2.8
BFO *e*PKPab **PKPab** **02 50 49.0 +0.1**
baz=11,slow=4.1
FRGS Fruska Gora 151.12 337 ⇑P **PKiKP** **02 50 42.1 0.0**
SOKA Soboth 151.25 344 *e*P **PKPbc** **02 50 42.0 0.0**
comp=Z,12nm,1.1s
KBA Koelnbreinsper 151.27 347 *e*P **PKPbc** **02 50 41.8 -0.3**
comp=Z,8.6nm,1.2s
PERS Pernice 151.27 344 *e*PKPbc **PKPbc** **02 50 41.2 -0.7**
PERS *e*PKPab **PKPab** **02 50 50.6 -0.2**
RETA Reutte 151.35 351 *e*P **PKPbc** **02 50 41.7 -0.4**
comp=Z,5.1nm,1.0s
WATA Walderalm 151.36 350 *e*P **PKPbc** **02 50 41.6 -0.6**
comp=Z,3.2nm,0.5s
WTTA Wattenberg 151.42 349 *i* P **PKPbc** **02 50 42.2 -0.2**
comp=Z,9.0nm,0.8s,SNR=6.7
MOTA Moosalm 151.43 350 *i* P **PKPbc** **02 50 42.4 -0.1**
comp=Z,11nm,1.0s,SNR=4.3
OBKA Obir 151.53 345 *e*P **PKPbc** **02 50 42.2 -0.4**
comp=Z,5.1nm,1.4s
SQTA Sankt Quirin 151.53 350 *e*P **PKPbc** **02 50 42.5 -0.1**
comp=Z,9.4nm,1.0s
BOVS Bovan 151.62 333 ⇑P **PKPbc** **02 50 42.4 -0.4**
MYKA Terra Mystica 151.63 346 *e*P **PKPbc** **02 50 41.8 -1.0**
comp=Z,2.3nm,0.5s
DAVA Damuels 151.67 352 *e*P **PKPbc** **02 50 42.5 -0.5**
comp=Z,12nm,1.1s
VTS Vitosha 151.72 330 ⇑P **PKiKP** **02 50 43.9 +0.3**
ABTA Abfaltersbach 151.76 348 *i* P **PKPbc** **02 50 42.8 -0.3**
comp=Z,9.4nm,0.7s,SNR=8.5
FETA Feichten 151.81 351 *e*P **PKiKP** **02 50 43.5 -0.1**
comp=Z,8.4nm,1.1s
LJU Ljubljana 151.97 345 *e*PKPbc **PKPbc** **02 50 43.3 -0.3**
CRNS Crni Vrh 152.00 345 *i* PKPbc **PKPbc** **02 50 43.2 -0.4**
ESDC Sonseca Array 158.45 18 PKPab **PKPab** **02 51 21.8 0.0**
comp=Z,2.3nm,1.1s,baz=335,slow=5.2,SNR=6.1
ESDC Sonseca Array 158.45 18 PKPab **PKPab** **02 51 21.5 -0.2**
KEST Kesra 162.99 346 PKPab **PKPab** **02 51 39.4 -2.2**
comp=Z,4.9nm,1.0s,baz=45,slow=5.7,SNR=3.4

IDC ***27*** *02:58:37.3±2.8, 48°.30N×153°.23E, h139km±23km, mb3.3/10, mb1 3.5/12, mb1mx3.3/53, mbtmp3.7/12, MS3.4/2, Ms1 3.5/2, ms1mx2.6/28 Error ellipse: s-maj=36.4km s-min=16.5km az=170.0*

ISC 27 02:58:34.3±1.1, 48°.0N±0°.2×153°.4E±0°.1, h117km, n19, σ2§20/13, mb3.5/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.82**	**26**	P	**Pn**	**02 59 57.9**	**-0.3**
	1.1nm,0.3s,baz=192,slow=14,SNR=14						
PETK				S	**Sn**	**03 01 08.4**	**+4.7**
	0.0nm,0.3s,baz=271,slow=21,SNR=1.2						
ASAJ	**Asahikawa**	**8.45**	**247**	P	**Pn**	**03 00 37.5**	**+3.7**
	0.6nm,0.3s,baz=69,slow=14,SNR=4.5						
MJAR	**Matsushiro Arr**	**16.00**	**230**	LR	LR	03 07 37.0	
	comp=Z,23nm,21.1s,baz=25,slow=34						
H11N2	**WAKE ISLAND Hy 30.23**	**154**		T	T	03 36 54.6	
	baz=342,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy 30.24**	**154**		T	T	03 37 11.9	
	baz=342,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy 30.24**	**154**		T	T	03 36 43.6	
	baz=342,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy 31.33**	**155**		T	T	03 38 17.5	
	baz=343,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy 31.34**	**155**		T	T	03 38 26.8	
	baz=343,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy 31.35**	**155**		T	T	03 38 29.8	
	baz=343,slow=76,SNR=42						
ILAR	**Eielson Array**	**35.47**	**40**	P	**P**	**03 05 18.5**	**-0.5**
	0.4nm,0.6s,baz=264,slow=7.9,SNR=8.2						
INK	**Inuvik**	**40.51**	**33**	P	**P**	**03 06 01.1**	**-0.1**
	1.7nm,0.6s,baz=254,slow=6.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**42.06**	**305**	P	**P**	**03 06 12.3**	**-1.7**
	0.7nm,0.4s,baz=65,slow=5.1,SNR=2.0						
MKAR	**Makanchi Array**	**46.56**	**296**	P	**P**	**03 06 48.8**	**-1.2**
	0.5nm,0.6s,baz=70,slow=8.8,SNR=6.0						
NVAR	**Mina Array Bea**	**61.70**	**63**	P	**P**	**03 08 40.0**	**-0.2**
	0.2nm,0.4s,baz=285,slow=7.3,SNR=2.1						
FINES	**FINESS Array B**	**63.02**	**335**	P	**P**	**03 08 46.5**	**-1.8**
	0.9nm,0.4s,baz=37,slow=7.0,SNR=16						
PDAR	**Pinedale Array**	**63.87**	**54**	P	**P**	**03 08 54.9**	**+0.4**
	0.6nm,0.8s,baz=284,slow=2.7,SNR=5.4						
NOA	**NORSAR Array B**	**67.13**	**341**	P	**P**	**03 09 13.5**	**-1.4**
	0.2nm,0.3s,baz=28,slow=6.6,SNR=2.3						
TXAR	**Lajitas Array**	**76.72**	**61**	P	**P**	**03 10 12.8**	**+0.1**
	0.4nm,0.6s,baz=299,slow=4.6,SNR=9.3						
TXAR				LR	LR	03 45 53.0	
	comp=Z,135nm,18.0s,baz=0.0,slow=37						
GERES	**GERESS Array B**	**77.44**	**334**	P	**P**	**03 10 15.0**	**-1.4**
	0.5nm,0.6s,baz=19,slow=6.2,SNR=3.8						

NEIC ***27*** *02:59:35.7±2.9, 22°.55S±0°.08×174°.6W±0°.1, h10km±1km, mb5.1/7, Error ellipse: s-maj=18.3km s-min=11.7km az=124.0*

IDC ***27*** *02:59:35.5±0.6, 22°.57S×174°.90W, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.6/43, mbtmp4.6/20, ML5.1/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/38, Error ellipse: s-maj=22.4km s-min=14.9km az=129.0*

MOS ***27*** *02:59:36.0±1.4, 22°.67S×174°.83W, h21km, mb5.3/25, Error ellipse: s-maj=11.8km s-min=9.8km az=116.7*

NOU ***27*** *02:59:37.4, 22°.72S×174°.21W, h44km, MLv5.7, Tonga Islands Region*

GCMT ***27*** *02:59:38.7±0.4, 22°.96S±0°.04×174°.27W±0°.03, h28km±1km, MW4.9/72, Moment Tensor Solution. s22,c23; s72,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_n2.88±.22; $M_{\theta\theta}$-1.34±.13; $M_{\phi\phi}$-1.54±.13; $M_{r\theta}$1.50±.19; $M_{\theta\phi}$-0.83±.07; $M_{\phi r}$0.74±.17; Best double couple: $M_0$3.06200×10^{16} NP1:ω±216.00000°, δ30.00000°, λ76.00000°. NP2: φ±52.00000°, δ61.00000°, λ98.00000°. Principal axes: T 3.4030, Plg73.0000°, Azm341.0000°; N -0.6830, Plg7.0000°, Azm228.0000°; P -2.7200, Plg16.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 02:59:34.8±0.3, 22°.64S±0°.05×174°.45W±0°.06, h10km, n278, σ2§21/259, mb5.0/64, MS4.0/20, 30C-8D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.52**	**51**	Pn	**Pn**	**03 00 54.2**	**-2.9**
NIUE	**Niue**	**5.52**	**51**	P	**Pn**	**03 00 55.1**	**-2.0**
RAO	**Raoul Island**	**7.28**	**205**	Pn	**Pn**	**03 01 20.7**	**-0.6**
	154nm,0.3s,baz=311,slow=13,SNR=7.3						
RAO				Sn	**Sn**	**03 02 38.4**	**-5.7**
	125nm,0.3s,baz=94,slow=23,SNR=6.4						
RAO	**Raoul Island**	**7.28**	**205**	P	**Pn**	**03 01 19.9**	**-1.4**
RAO	**Raoul Island**	**7.28**	**205**	Pn	**Pn**	**03 01 19.9**	**-1.4**
RAO	**Raoul Island**	**7.28**	**205**	P	**Pn**	**03 01 20.7**	**-0.6**
MSVF	**Nonsavu**	**8.57**	**303**	Pn	**Pn**	**03 01 42.2**	**+3.1**
	2.4nm,0.3s,baz=135,slow=13,SNR=17						
MSVF				LR	LR	03 04 34.4	
	comp=Z,2μm,19.6s,baz=157,slow=37						
MSVF	**Nonsavu**	**8.57**	**303**	P	**Pn**	**03 01 38.3**	**-0.8**
MSVF	**Nonsavu**	**8.57**	**303**	P	Pn	03 01 43.1	+4.0
AFI	**Afiamalu**	**9.05**	**17**	Pn	**Pn**	**03 01 45.5**	**-0.2**
	14nm,0.3s,baz=205,slow=14,SNR=11						
AFI				Sn	**Sn**	**03 03 19.8**	**-8.0**
	9.2nm,0.3s,baz=259,slow=19,SNR=1.9						
AFI	**Afiamalu**	**9.05**	**17**	P	**Pn**	**03 01 44.3**	**-1.4**
AFI	**Afiamalu**	**9.05**	**17**	Pn	**Pn**	**03 01 44.3**	**-1.4**
AFI	**Afiamalu**	**9.05**	**17**	P	**Pn**	**03 01 44.8**	**-0.9**
RAR	**Rarotonga**	**13.70**	**87**	Pn	**Pn**	**03 02 47.4**	**-1.8**
	34nm,0.3s,baz=258,slow=11,SNR=38						
RAR				Sn	Sn	03 05 08.3	-13
	4.0nm,0.3s,baz=78,slow=20,SNR=2.0						
RAR				LR	LR	03 07 55.1	
	comp=Z,914nm,18.3s,baz=268,slow=35						
RAR	**Rarotonga**	**13.70**	**87**	Pn	Pn	03 02 47.3	-1.9
RAR	**Rarotonga**	**13.70**	**87**	P	**Pn**	**03 02 47.5**	**-1.7**
MARNC	**Mare, Loyalty**	**16.28**	**271**		**P**	**03 03 26.6**	**-0.1**
PINNC	**Pines Island,**	**16.72**	**267**		**P**	**03 03 32.5**	**+1.0**
LIFNC	**LIFOU**	**17.12**	**273**		**P**	**03 03 34.4**	**-1.6**
LIFNC				IAmb	IAmb	03 03 45.7	
	comp=Z,151nm,1.0s						
LIFNC	**LIFOU**	**17.12**	**273**	P	**P**	**03 03 36.4**	**+0.4**
URZ	**Urewera**	**17.17**	**203**	P	**Pn**	**03 03 36.2**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=25,slow=20,SNR=2.4						
URZ				S	Sn	03 06 30.1	-16
	comp=Z,1.0nm,0.3s,baz=31,slow=23,SNR=6.4						
URZ	**Urewera**	**17.17**	**203**	P	**P**	**03 03 37.0**	**+0.6**
YATNC	**Mamie plateau,**	**17.27**	**268**	P	**P**	**03 03 39.1**	**+1.4**
OUENC	**Ouen Island, N**	**17.29**	**267**	P	**P**	**03 03 36.2**	**-1.6**
OUENC	**Ouen Island, N**	**17.29**	**267**	P	**P**	**03 03 37.6**	**-0.3**
	comp=Z,49nm,1.1s						
ONTNC	**Ouen Toro**	**17.65**	**267**	P	**P**	**03 03 40.8**	**-1.1**
ONTNC	**Ouen Toro**	**17.65**	**267**	P	**P**	**03 03 43.1**	**+1.2**
	comp=Z,42nm,1.2s						
DZM	**Mont Dzumac**	**17.68**	**268**	P	**P**	**03 03 42.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=88,slow=18,SNR=19						
DZM	**Mont Dzumac**	**17.68**	**268**	*e*P	**P**	**03 03 42.2**	**-0.2**
	comp=Z,92nm,1.1s						
DZM				*e*LR	LR	03 07 43.5	
	comp=Z,627nm,21.4s						
DZM	**Mont Dzumac**	**17.68**	**268**	P	**P**	**03 03 42.0**	**-0.4**
DZM	**Mont Dzumac**	**17.68**	**268**	P	**P**	**03 03 43.6**	**+1.2**
NOUC	**Port Laguerre**	**17.81**	**268**	P	**P**	**03 03 44.8**	**+1.1**
SANVU	**Saraoutou**	**18.75**	**289**	P	**Pn**	**03 03 55.0**	**+0.5**
SANVU				IAmb	IAmb	03 04 11.1	
	comp=Z,79nm,0.8s						
KOUNC	**Koumac, New Ca**	**19.88**	**272**	P	**Pn**	**03 04 07.2**	**-0.8**
PLWZ	**Palliser**	**20.76**	**202**	P	**P**	**03 04 15.8**	**0.0**
TUWZ	**Tuamarina**	**21.12**	**205**	P	**P**	**03 04 19.7**	**0.0**
BSWZ	**Blackbirch Sta**	**21.39**	**205**	P	**P**	**03 04 22.8**	**+0.2**
TBI	**Tubuai**	**23.01**	**97**	*e*S	S	03 08 43.4	-7.3
	comp=Z,154nm,21.8s						
TBI				*e*LQ	LQ	03 09 06.9	
	comp=Z,994nm,27.8s						
TBI				*e*LR	LR	03 10 10.3	
	comp=Z,447nm,31.5s						
PAE	**Paea**	**23.85**	**83**	*e*T	T	03 29 20.2	
	comp=Z,3.3nm,0.3s						
PPT2	**Papeete2**	**23.88**	**82**	*e*S	**S**	**03 08 58.0**	**-7.1**
	comp=Z,125nm,22.1s						
PPT2				*e*LQ	LQ	03 09 36.0	
	comp=Z,737nm,25.5s						
PPT2				*e*LR	LR	03 10 38.7	
	comp=Z,448nm,21.2s						
PPT2	**Papeete2**	**23.88**	**82**	*e*T	T	03 29 23.0	
	comp=Z,3.4nm,0.3s						
PPT	**Papeete**	**23.88**	**82**	LR	LR	03 12 27.6	
	comp=Z,513nm,19.3s,baz=264,slow=32						
FOZ	**Fox Glacier**	**24.57**	**208**	P	**P**	**03 04 54.3**	**-0.6**
FOZ				IAmb	IAmb	03 05 09.1	
	comp=Z,73nm,1.1s						
LHI	**Lord Howe Isla**	**25.14**	**244**	P	**P**	**03 04 56.6**	**-3.5**
HNR	**Honiara**	**27.83**	**294**	LR	LR	03 15 56.1	
	comp=Z,192nm,18.9s,baz=173,slow=36						
ARMA	**Armidale**	**31.23**	**248**	P	**P**	**03 05 54.4**	**-0.4**
ARMA				IAmb	IAmb	03 05 57.5	
	comp=Z,16nm,1.0s						
EIDS	**Eidsvold**	**31.55**	**258**	P	**P**	**03 05 55.8**	**-1.7**
EIDS				IAmb	IAmb	03 05 56.6	
	comp=Z,23nm,1.2s						
TAOE	**Nuku Hiva Isla**	**35.64**	**73**	*e*LR	LR	03 16 05.7	
	comp=Z,274nm,21.6s						
CTAO	**Charters Tower**	**36.61**	**266**	P	**P**	**03 06 39.4**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,25nm,1.2s						
CTAO	**Charters Tower**	**36.61**	**266**	P	**P**	**03 06 39.4**	**-2.2**
CTAO				IAmb	IAmb	03 06 40.5	
	comp=Z,25nm,1.2s						
PMG	**Port Moresby**	**39.05**	**283**	LR	LR	03 19 54.2	
	comp=Z,148nm,20.1s,baz=157,slow=32						
PMG	**Port Moresby**	**39.05**	**283**	*de*P	**P**	**03 07 00.2**	**-1.9**
PMG				pmax	pmax		
	comp=Z,70nm,1.0s						
PMG	**Port Moresby**	**39.05**	**283**	P	**P**	**03 06 59.5**	**-2.7**
PMG				IAmb	IAmb	03 07 02.0	
	comp=Z,61nm,0.9s						
PMG	**Port Moresby**	**39.05**	**283**	P	**P**	**03 07 01.6**	**-0.5**
PMG	**Port Moresby**	**39.05**	**283**	P	**P**	**03 07 01.4**	**-0.7**
STKA	**Stephens Creek**	**39.92**	**247**	P	**P**	**03 07 08.7**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=85,slow=11,SNR=10						
STKA				LR	LR	03 23 22.2	
	comp=Z,398nm,18.6s,baz=50,slow=36						
STKA	**Stephens Creek**	**39.92**	**247**	P	**P**	**03 07 08.4**	**-0.8**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	**Stephens Creek**	**39.92**	**247**	P	**P**	**03 07 08.4**	**-0.8**
BBOO	**Buckleboo**	**44.62**	**246**	P	**P**	**03 07 45.6**	**-2.0**
BBOO				IAmb	IAmb	03 07 50.1	
	comp=Z,91nm,1.8s						
AS31	**Alice Springs**	**47.28**	**258**	P	**P**	**03 08 06.1**	**-2.6**
ASAR	**Alice Springs**	**47.28**	**258**	P	**P**	**03 08 06.2**	**-2.5**
	comp=Z,23nm,1.0s,baz=92,slow=8.0,SNR=97						
ASAR				PcP	**PcP**	**03 09 42.3**	**+2.4**
	comp=Z,2.3nm,0.9s,baz=101,slow=4.4,SNR=1.2						
ASAR				LR	LR	03 28 23.3	
	comp=Z,439nm,18.4s,baz=106,slow=37						
WR0	**Warramunga Arr**	**47.42**	**263**	P	**P**	**03 08 06.7**	**-3.1**
WR0				IAmb	IAmb	03 08 12.7	
	comp=Z,9.1nm,1.0s						
WB2	**Warramunga Arr**	**47.59**	**263**	P	**P**	**03 08 07.8**	**-3.4**
WB2				IAmb	IAmb	03 08 10.7	
	comp=Z,

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SOEI  Soe                  59.87 272  P     P     03 09 40.7  -0.6
TNTI  Ternate              61.19 284  P     P     03 09 48.1  -2.1
LUWI  Luwuk                64.57 280  P     P     03 10 10.3  -2.4
TOLI2 Tolitoli             67.27 281  P     P     03 10 26.8  -3.3
TOLI2                                 IAmb  IAmb  03 10 29.1
      comp=Z,11nm,0.9s
MJAR  Matsushiro Arr       73.91 322  P     P     03 11 10.1   0.0
      comp=Z,3.8nm,0.6s,baz=155,slow=6.3,SNR=8.6
MJAR  Matsushiro Arr       73.91 322  P     P     03 11 10.1   0.0
MAJO  Matsushiro           73.91 322  i P   P     03 11 08.6  -1.6
MAJO                                  pmax  pmax
      comp=Z,12nm,1.2s
MAT   Matsushiro           73.91 322  P     P     03 11 09.7  -0.5
JOW   Kunigami             74.08 309  LR    LR    03 37 34.5
      comp=Z,56nm,20.7s,baz=158,slow=31
JTM   Tenmabayashi         75.44 327  P     P     03 11 20.2 +1.3
JKA   Kamikawa-asahi       77.20 330  P     P     03 11 29.6 +0.8
JKA                                   IAmb  IAmb  03 11 32.4
      comp=Z,32nm,1.0s
ASAJ  Asahikawa            77.21 330  P     P     03 11 30.9 +2.1
      comp=Z,26nm,1.0s,baz=228,slow=14,SNR=11
ASAJ  Asahikawa            77.21 330  P     P     03 11 29.6 +0.7
ASAJ                                  pmax  pmax
      comp=Z,32nm,1.0s
TPUB  Ta-pu                77.91 302  P     P     03 11 31.4  -1.9
ISA   Isabella, Lake       78.54  44  P     P     03 11 34.6  -2.0
ISA                                   pmax  pmax
      comp=Z,15nm,1.5s
ISA   Isabella, Lake       78.54  44  P     P     03 11 34.6  -2.0
ISA                                   IAmb  IAmb  03 11 52.6
      comp=Z,15nm,1.4s
PEA0B Petropavlovsk-       79.22 343  P     P     03 11 40.7 +0.8
PEA0B                                 pmax  pmax
      comp=Z,53nm,1.3s
PEA0B Petropavlovsk-       79.22 343  P     P     03 11 40.6 +0.8
PETK  Petropavlovsk-       79.22 343  P     P     03 11 41.0 +1.2
      comp=Z,17nm,0.9s,baz=126,slow=7.5,SNR=20
PETK  Petropavlovsk-       79.22 343  P     P     03 11 40.4 +0.5
YSS   Yuzh-Sakhalins       79.31 332  eP    P     03 11 42.4 +2.0
YSS                                   eS    S     03 21 38.3  -2.5
YSS                                   pmax  pmax
      comp=Z,40nm,0.8s
YSS                                   MLR   MLR
      comp=Z,100nm,18.0s
YBH   Yreka Blue Hor       79.96  37  P     P     03 11 46.7 +2.5
      comp=Z,2.1nm,0.7s,baz=198,slow=3.2,SNR=3.7
NVAR  Mina Array Bea       80.37  41  P     P     03 11 50.3 +3.6
      comp=Z,0.9nm,0.4s,baz=216,slow=9.0,SNR=7.1
MAW   Mawson               80.65 199  P     P     03 11 49.9 +2.5
      comp=Z,3.3nm,0.6s,baz=131,slow=5.3,SNR=14
MAW   Mawson               80.65 199  P     P     03 11 50.0 +2.5
MAW                                   pmax  pmax
      comp=Z,4.0nm,1.0s
MAW   Mawson               80.65 199  P     P     03 11 50.0 +2.5
KSRS  Korea Array          80.69 317  P     P     03 11 49.7 +1.6
      comp=Z,7.4nm,1.0s,baz=136,slow=6.1,SNR=26
KSRS                                  LR    LR    03 45 12.7
      comp=Z,42nm,18.5s,baz=149,slow=34
KSAR  Wonju Array Be       80.70 317  P     P     03 11 49.2 +1.0
KSAR  Wonju Array Be       80.70 317  P     P     03 11 49.2 +1.0
VLA   Vladivostok          81.95 323  i P   P     03 11 53.2  -1.5
VLA                                   pmax  pmax
      comp=Z,22nm,1.2s
MSHR  Mys Shultsa          82.00 323ceP     P     03 11 54.4  -0.6
MSHR                                  pmax  pmax
      comp=Z,21nm,1.3s
TYV   Tymovskoe            82.37 334  eP    P     03 11 58.2 +1.5
TYV                                   pmax  pmax
      comp=Z,14nm,0.9s
USRK  Ussuriysk Ar.        82.61 324  P     P     03 12 00.0 +1.9
      comp=Z,22nm,1.0s,baz=137,slow=3.4,SNR=35
USRK  Ussuriysk Ar.        82.61 324  P     P     03 11 59.4 +1.3
USRK  Ussuriysk Ar.        82.61 324  P     P     03 11 59.4 +1.3
USA0B Ussuriysk Arra       82.61 324  P     P     03 11 59.4 +1.3
USA0B                                 pmax  pmax
      comp=Z,40nm,1.2s
USA0B Ussuriysk Arra       82.61 324  P     P     03 11 59.4 +1.3
TCRU  Three Creeks R       84.15  44  P     P     03 12 07.8 +1.2
TCRU                                  IAmb  IAmb  03 12 23.0
      comp=Z,13nm,1.1s
G08A  Pilot Rock           84.36  36  P     P     03 12 09.5 +2.2
G08A                                  IAmb  IAmb  03 12 22.8
      comp=Z,18nm,1.2s
B05A  Bryant               84.71  32  P     P     03 12 11.7 +2.9
      baz=227
SYO   Syowa Base           85.34 192⇑eP     P     03 12 11.6  -0.2
SYO   Syowa Base           85.34 192⇓ePcP   PcP   03 12 15.4 +0.6
MNTX  Cornudas Mount       85.34  53  P     P     03 12 16.0 +3.6
      baz=240
PLCA  Paso Flores          85.40 132  LR    LR    03 42 33.9
      comp=Z,91nm,19.3s,baz=260,slow=30
TXAR  Lajitas Array        85.47  56  P     P     03 12 16.8 +3.6
      comp=Z,4.0nm,0.9s,baz=205,slow=8.0,SNR=15
SNAA  Sanae                85.76 177  P     P     03 12 17.1 +3.1
SNAA  Sanae                85.76 177  pP    pP    03 12 23.9 +9.2
SNAA  Sanae                85.76 177  sP    sP    03 12 27.9  +13
SNAA  Sanae                85.76 177  i P   P     03 12 13.2  -0.8
SNAA                                  pmax  pmax
      comp=Z,12nm,1.1s
SNAA  Sanae                85.76 177  P     P     03 12 15.1 +1.1
SNAA                                  IAmb  IAmb  03 12 29.1
      comp=Z,16nm,1.2s
VNA3  Neumayer Olymp       85.77 175  P     P     03 12 14.9 +1.0
VNA3  Neumayer Olymp       85.77 175  pP    pP    03 12 23.2 +8.5
VNA3  Neumayer Olymp       85.77 175  sP    sP    03 12 27.6  +13
SUA   Susitna One          85.96  11  P     P     03 12 17.3 +2.4
      baz=202
KLR   Kul'dur              86.07 328  P     P     03 12 17.5 +1.9
      comp=Z,5.2nm,1.1s,baz=142,slow=2.5,SNR=9.3
KLR   Kul'dur              86.07 328ceP     P     03 12 14.5  -1.1
KLR                                   pmax  pmax
      comp=Z,8.0nm,1.1s
ANMO  Albuquerque          86.21  50  P     P     03 12 20.8 +3.9
      comp=Z,4.6nm,0.9s,baz=239,slow=5.9,SNR=8.7
ANMO  Albuquerque          86.21  50ceP     P     03 12 15.9  -1.0
ANMO                                  pmax  pmax
      comp=Z,18nm,2.5s
ANMO  Albuquerque          86.21  50  P     P     03 12 20.8 +3.9
      baz=239
VNA2  Neumayer--Watz       86.24 176  P     P     03 12 18.2 +1.9
      baz=203,slow=3.7
VNA2  Neumayer--Watz       86.24 176  pP    pP    03 12 25.3 +8.3
VNA2  Neumayer--Watz       86.24 176  sP    sP    03 12 30.5  +13
PV01  Paradox Valley       86.43  46  P     P     03 12 17.7  -0.2
VNA1  Neumayer--Stat       86.45 175  pP    pP    03 12 26.3 +8.3
VNA1  Neumayer--Stat       86.45 175  sP    sP    03 12 31.6  +13
K20K  Telida               87.21   9  P     P     03 12 23.7 +2.9
      baz=199
S22A  4UR Ranch, Cre       87.39  47  P     P     03 12 26.3 +3.5
      baz=239
KTH   Kantishna Hill       87.88  10  P     P     03 12 25.3 +1.2
KTH                                   IAmb  IAmb  03 12 30.2
      comp=Z,9.2nm,1.0s
TRF   Thorofare Moun       87.89  11  P     P     03 12 26.3 +2.0
      baz=202
RPSI  Rantau Prapat        87.91 274  P     P     03 12 24.7  -0.7
PSI   Prapat               87.95 274  P     P     03 12 24.7  -1.1
PSI                                   pmax  pmax
      comp=Z,37nm,1.1s
J20K  Nowinta River        87.97   9  P     P     03 12 27.2 +2.7
      baz=199
SDCO  Great Sand Dun       88.30  48  P     P     03 12 30.8 +3.7
      baz=240
PDAR  Pinedale Array       88.30  42  P     P     03 12 29.4 +2.5
      comp=Z,1.1nm,0.8s,baz=204,slow=5.1,SNR=8.2
GSI   Gunungsitoli         88.63 272  P     P     03 12 29.0 +0.2
GSI   Gunungsitoli         88.63 272  P     P     03 12 26.6  -2.2
WRH   Wood River Hil       89.22  11  P     P     03 12 31.5 +1.2
WRH                                   IAmb  IAmb  03 12 46.6
      comp=Z,20nm,1.2s
I21K  Tanana               89.24   9  P     P     03 12 33.0 +2.6
      baz=201
MLY   Manley               89.29  10  P     P     03 12 32.4 +1.6
      baz=202
HDA   Harding Lake         89.37  12  P     P     03 12 33.3 +2.2
      baz=205
HDA   Harding Lake         89.37  12  P     P     03 12 31.7 +0.6
HDA                                   IAmb  IAmb  03 13 03.4
      comp=Z,7.3nm,0.9s
CCB   Clear Creek Bu       89.43  11  P     P     03 12 31.7 +0.4
CCB                                   IAmb  IAmb  03 12 45.6
      comp=Z,24nm,1.7s
SCRK  Sand Creek           89.56  13  P     P     03 12 35.0 +2.9
      baz=208
COLA  College              89.63  11  i P   P     03 12 30.8  -1.4
COLA                                  pmax  pmax
      comp=Z,8.0nm,1.0s
MDM   Murphy Dome          89.64  11  P     P     03 12 33.6 +1.3
MDM                                   IAmb  IAmb  03 12 41.1
      comp=Z,8.7nm,1.1s
IL31                       89.71  11  P     P     03 12 31.6  -0.9
ILAR  Eielson Array        89.71  11  P     P     03 12 34.6 +1.9
      comp=Z,2.6nm,0.9s,baz=218,slow=5.3,SNR=18
ILAR  Eielson Array        89.71  11  P     P     03 12 34.0 +1.3
IMAR  Indian Mountai       89.75   8  P     P     03 12 34.4 +1.6
POKR  Poker Plat Res       89.92  11  P     P     03 12 35.0 +1.3
POKR                                  IAmb  IAmb  03 12 42.5
      comp=Z,12nm,1.4s
ENH   Enshi                89.97 303  P     P     03 12 35.9 +1.1
K27K  Chicken              90.01  14  P     P     03 12 37.4 +3.3
      baz=210
GYA   Guiyang              90.57 298  eP    P     03 12 39.5 +1.7
GYA                                   pP    pwP   03 12 51.5 +2.1
GYA                                   pmax  pmax
      comp=Z,3.0nm,1.1s
BILL  Bilibino             91.53 353  eP    P     03 12 40.5  -0.6
BILL                                  e           03 16 21.7
BILL                                  pmax  pmax
      comp=Z,6.0nm,1.0s
BILL                                  MLR   MLR
      comp=Z,138nm,20.0s
HKT   Hockley              91.83  58  i P   P     03 12 41.0  -2.3
HKT                                   pmax  pmax
      comp=Z,7.0nm,1.4s
XAN   Xi'an                92.06 306  P     P     03 12 45.8 +1.4
XAN                                   pP    pwP   03 12 56.8 +0.8
XAN                                   PP    PP    03 16 35.3  +11
XAN   Xi'an                92.06 306  S     S     03 23 51.3 +4.5
XAN                                   pmax  pmax
      comp=Z,28nm,1.1s
XAN                                   pmax  pmax
      comp=Z,110nm,5.4s
EDM   Edmonton             92.14  32  P     P     03 12 44.7 +0.4
EDM                                   pmax  pmax
      comp=Z,12nm,1.2s
EDM   Edmonton             92.14  32  P     P     03 12 44.7 +0.4
EDM                                   IAmb  IAmb  03 13 05.3
      comp=Z,12nm,1.2s
LAO   LASA Array           92.39  40        P     03 12 44.0  -1.6
RSSD  Black Hills          92.44  43  P     P     03 12 46.5 +0.4
RSSD                                  pmax  pmax
      comp=Z,13nm,1.4s
RSSD  Black Hills          92.44  43  P     P     03 12 46.5 +0.4
RSSD                                  IAmb  IAmb  03 13 01.5
      comp=Z,13nm,1.4s
BMAR  Burnt Mountain       92.52  11  P     P     03 12 46.9 +1.2
HHC   Hu-ho-hao-te         93.22 313  eP    P     03 12 49.3  -0.4
HHC                                   pmax  pmax
      comp=Z,8.0nm,0.7s
HHC                                   pmax  pmax
      comp=Z,100nm,6.6s
KMI   Kunming              93.26 296  ⇑P    P     03 12 52.5 +2.1
KMI                                   pP    pwP   03 13 02.3 +0.3
KMI                                   sP    sP    03 13 05.0  +14
KMI                                   pmax  pmax
      comp=Z,18nm,1.3s
KMI                                   pmax  pmax
      comp=Z,61nm,3.5s
KMI                                   LR    LR
      comp=E,93nm,22.1s
KMI                                   LR    LR
      comp=Z,110nm,19.7s
CMAR  Chiang Mai Arr       93.93 288  P     P     03 12 54.9 +1.6
      comp=Z,12nm,1.1s,baz=129,slow=2.4,SNR=31
CMAR                                  LR    LR    03 55 13.8
      comp=Z,22nm,19.3s,baz=90,slow=36
CHTO  Chiang Mai           94.07 289  P     P     03 12 54.8 +0.8
CHTO                                  pmax  pmax
      comp=Z,23nm,1.4s
CHTO  Chiang Mai           94.07 289  P     P     03 12 56.6 +2.7
CHTO  Chiang Mai           94.07 289  P     P     03 12 54.8 +0.8
CD2   Chengdu              94.72 301  eP    P     03 12 55.8  -1.0
LZH   Lanzhou              96.69 306  eP    P     03 13 09.3 +3.5
LZH                                   pP    pwP   03 13 19.5 +2.1
LZH                                   sP    sP    03 13 24.5  +18
LZH                                   pmax  pmax
      comp=Z,20nm,1.1s
ECSD  EROS Data Cent       97.04  46  P     P     03 13 06.8  -0.2
ECSD                                  IAmb  IAmb  03 13 32.8
      comp=Z,5.6nm,1.2s
YKA   Yellowknife Ar       97.10  24  P     Pdif  03 13 09.1 +2.3
      comp=Z,0.6nm,0.7s,baz=225,slow=3.4,SNR=2.7
YKA                                   LR    LR    03 52 00.2
      comp=Z,61nm,19.7s,baz=0.0,slow=32
YKA   Yellowknife Ar       97.10  24  P     Pdif  03 13 09.5 +2.7
SONM  Songino Array        99.54 318  LR    LR    03 52 42.4
      comp=Z,31nm,21.2s,baz=97,slow=32
GTA   Gaotai               100.89 308  eP    Pdif  03 13 27.0 +2.6
GTA                                   pP    pwP   03 13 34.0  -2.1
GTA                                   sP    sP    03 13 37.5  +12
GTA                                   pmax  pmax
      comp=Z,3.0nm,1.0s
WMQ   Urumqi               110.83 310  eP    PKiKP 03 18 06.0  -2.2
MKAR  Makanchi Array       115.07 312  PKP   PKPdf 03 18 16.7 +0.5
      comp=Z,0.4nm,0.5s,baz=122,slow=1.9,SNR=5.1
MKAR  Makanchi Array       115.07 312  i PKIKP PKPdf 03 18 16.2  0.0
MKAR  Makanchi Array       115.07 312        PKPdf 03 18 16.2 +0.1
BRVK  Borovoye             122.90 319c i PKIKP PKPdf 03 18 30.6  -0.4
BRVK                                  pmax  pmax
      comp=Z,4.0nm,1.7s
HSPB  Hornsund (broa       125.37 357  ePKP   PKPdf 03 18 35.8 +0.7
ARU   Arti                 128.84 325  i PKIKP PKPdf 03 18 40.7  -1.5
ARU                                               03 20 45.3
ARU                                               03 25 48.9
ARCES ARCESS Array B 131.59 351  PKP   PKiKP 03 18 48.9 +0.8
      comp=Z,2.0nm,0.8s,baz=20,slow=2.9,SNR=5.0
OBN   Obninsk              140.19 332  ePKIKP PKPdf 03 19 02.0  -1.4
OBN                                   pmax  pmax
      comp=Z,4.0nm,0.7s
GOF   Gofitskoye           142.15 315⇑ePKIKP PKiKP 03 19 14.9 +4.6
KIV   Kislovodsk           142.81 314  i PKIKP PKPdf 03 19 06.3  -2.4
KIV                                   pmax  pmax
      comp=Z,3.0nm,1.1s
SHA1  Shidzhatmaz          142.92 314  i PKIKP PKPdf 03 19 07.4  -1.7
BCA   Borcka               144.47 310  ⇓P    PKPdf 03 19 12.1 +0.5
ANN   Anapa                145.82 318c i PKP2  PKPab 03 19 15.1 +0.4
ANN                                   e           03 26 15.8
ANN                                   pmax  pmax
      comp=Z,73nm,1.0s
MBAR  Mbarara              146.30 230  i PKP2  PKPdf 03 19 16.0 +0.2
AKASG Malin Array Be       146.46 332  PKPbc PKPbc 03 19 16.4 +0.4
      comp=Z,5.8nm,0.7s,baz=39,slow=4.1,SNR=27
AKASG Malin Array Be       146.46 332  PKP2  PKPdf 03 19 15.8 +1.2
AKASG Malin Array Be       146.46 332        PKPdf 03 19 15.8 +1.2
AKBB  Malin Array Si       146.46 332  i PKIKP PKPdf 03 19 12.5  -2.1
SORM  Soroca               148.73 330  ⇑P    PKPbc 03 19 22.3  0.0
SORM  Soroca               148.73 330  ⇑PKP2 PKPbc 03 19 22.3  0.0
KWP   Kalwaria Pacla       149.86 338  ePKP  PKPab 03 19 32.5 +1.9
BURAR Bucovina Array       150.51 332  ⇑P    PKPbc 03 19 27.6 +0.7
BURAR Bucovina Array       150.51 332  ⇑PKIKP PKPbc 03 19 27.6 +0.7
KOLS  Kolonicke sedl       150.60 337  ePKIKP PKiKP 03 19 29.6 +2.0
KOLS  Kolonicke sedl       150.60 337  ePKP   PKiKP 03 19 29.6 +2.0
KSP   Ksiaz                150.63 346  ePKP   PKiKP 03 19 29.0 +1.4
TESR  Tescani              150.70 329  ⇑P    PKPbc 03 19 28.1 +0.8
BRTR  Keskin Array B       150.72 312  PKPbc PKPbc 03 19 28.4 +0.8
      comp=Z,2.5nm,0.7s,baz=100,slow=3.4,SNR=10
CLL   Collm                150.81 350  ePKPbc PKPbc 03 19 28.0 +0.7
CLL                                   i pPKPbc sPKPbc 03 19 32.1 +3.9
      comp=Z,13nm,1.1s
CLL                                   i           03 19 40.7
CLL   Collm                150.81 350  ePKIKP PKPbc 03 19 28.0 +0.7
UZH   Uzhgorod             150.85 337  ePKIKP PKPbc 03 19 28.2 +0.7
UZH                                   e           03 19 30.7
UZH                                   i           03 19 34.6
CRVS  Cervenica-Dubn       150.91 338  ePKP   PKPab 03 19 33.0  -1.9
OSTC  Ostas                150.92 346⇑ePKP   PKiKP 03 19 29.6 +1.4
TPGR  Topolog              150.99 325  ⇑P    PKiKP 03 19 31.4 +2.8
BRG   Berggiesshubel       151.07 349  ePKP  PKiKP 03 19 29.6 +1.1
BRG                                   Amp         03 19 33.7
      comp=Z,11nm,1.2s
BRG   Berggiesshubel       151.07 349  P     PKPab 03 19 41.5 +6.1
BRG                                   Amp         03 19 48.4
      comp=Z,8.5nm,0.8s
DPC   Dobruska-Polom       151.09 346  ePKIKP PKiKP 03 19 30.2 +1.6
DPC   Dobruska-Polom       151.09 346⇑ePKP   PKiKP 03 19 30.2 +1.6
VRI   Vrincioaia           151.14 328  ⇑P    PKPbc 03 19 27.6  -0.7
VRI   Vrincioaia           151.14 328  ⇑PKIKP PKPbc 03 19 27.6  -0.7
PLOR  Plostina             151.19 329  ⇓P    PKPab 03 19 38.1 +1.9
KRLC  Kraliky              151.23 345  ePKIKP PKiKP 03 19 30.1 +1.2
KRLC  Kraliky              151.23 345⇑ePKP   PKiKP 03 19 30.1 +1.2
MORC  Moravsky Berou       151.32 344  ePKP  PKiKP 03 19 30.2 +1.1
MORC                                  e           03 19 41.3
LANS  Liptovska Anna       151.34 341  ePKIKP PKiKP 03 19 31.7 +2.5
LANS  Liptovska Anna       151.34 341  ePKP  PKiKP 03 19 31.7 +2.5
DOPR  Dopca                151.69 330  ⇑P    PKiKP 03 19 31.2 +1.2
MLR   Muntele Rosu         151.79 329  ⇑P    PKiKP 03 19 31.6 +1.3
MLR   Muntele Rosu         151.79 329  ⇑PKIKP PKiKP 03 19 31.6 +1.3
VRAC  Vranov               151.99 345  ⇑P    PKiKP 03 19 34.6 +4.1
VRAC  Vranov               151.99 345  e     PKPab 03 19 42.0 +2.6
JAVC  Velka Javorina       152.12 343  ePKP  PKiKP 03 19 32.6 +1.8
DRGR                       152.21 334  ⇓P    PKPbc 03 19 30.1  -0.7
DRGR                       152.21 334  ⇓PKIKP PKPbc 03 19 30.1  -0.7
VOIR                       152.25 330  ⇑P    PKPbc 03 19 30.9  0.0
VOIR                       152.25 330  ⇑PKIKP PKPbc 03 19 30.9  0.0
KRUC  Moravsky             152.27 345  ePKP  PKiKP 03 19 32.2 +1.2
KRUC                                  e           03 19 41.8
PSZ   Piszkesteto          152.29 339  ⇑P    PKPab 03 19 39.7  -1.1
MODS  Modra-Piesok         152.68 343  ePKP  PKiKP 03 19 35.6 +3.7
KHC   Kasperske Hory       152.81 348  ePKIKP PKiKP 03 19 33.9 +1.7
KHC                                   e           03 19 43.0
KHC   Kasperske Hory       152.81 348⇑ePKP   PKiKP 03 19 33.9 +1.7
KHC                                   ePKPAB PKPab 03 19 43.0 +0.1
CKRC  Cesky Krumlov        152.97 347⇑ePKP   PKiKP 03 19 34.3 +1.8
CKRC                                  ePKPAB PKPab 03 19 42.1  -1.4
SIRR  Siria                153.05 335  ⇑P    PKiKP 03 19 33.6 +0.8
GERES GERESS Array B       153.06 348  PKPbc PKiKP 03 19 33.6 +0.8
      comp=Z,0.2nm,0.3s,baz=354,slow=3.9,SNR=4.0
GERES GERESS Array B       153.06 348  PKIKP PKPbc 03 19 32.3  -0.3
GERES GERESS Array B       153.06 348        PKPbc 03 19 32.3  -0.3
GZR   Gura Zlata           153.30 332  ⇓P    PKiKP 03 19 34.7 +1.3
CONA  Conrad Observa       153.45 344  eP    PKiKP 03 19 35.1 +1.5
      comp=Z,4.4nm,1.2s
MOA   Molln                153.90 347  eP    PKPab 03 19 46.4  -1.1
      comp=Z,5.8nm,1.1s
ARSA  Arzberg              154.17 344  eP    PKPbc 03 19 35.4 +0.4
      comp=Z,8.2nm,1.7s
MDVR  Moldovita            154.24 333  ⇑P    PKiKP 03 19 41.6 +6.3
KBA   Koelnbreinsper       154.82 347  eP    PKPab 03 19 45.4  -6.2
      comp=Z,3.5nm,0.8s
SOKA  Soboth               154.82 345  eP    PKPab 03 19 45.3  -6.2
      comp=Z,11nm,1.5s
RETA  Reutte               154.86 352  eP    PKPab 03 19 58.0 +6.4
      comp=Z,6.1nm,1.5s
WATA  Walderalm            154.89 350  eP    PKPab 03 19 51.0  -0.9
      comp=Z,9.4nm,1.5s
MOTA  Moosalm              154.95 351  eP    PKPab 03 19 50.2  -2.0
      comp=Z,7.6nm,1.7s
SQTA  Sankt Quirin         155.06 351  eP    PKPab 03 19 50.5  -2.0
      comp=Z,3.2nm,0.8s
OBKA  Obir                 155.10 345  eP    PKPab 03 19 54.0 +1.3
      comp=Z,2.4nm,0.9s
DAVA  Damuels              155.17 353  eP    PKPab 03 20 00.4 +7.4
      comp=Z,9.5nm,1.3s
ABTA  Abfaltersbach        155.30 348  eP    PKPab 03 19 41.8  -12
      comp=Z,3.6nm,0.9s
FETA  Feichten             155.32 351  eP    PKPab 03 19 49.7  -4.0
      comp=Z,3.2nm,1.0s
ESDC  Sonseca Array        161.19  23  PKPab PKPab 03 20 21.6 +2.4
      comp=Z,0.3nm,0.6s,baz=313,slow=4.6,SNR=1.7
```

*ATH **27** 03:00:07.2, 38°.11N×20°.44E, h18km±1km, ML2.5/2, Error ellipse: s-maj=2.8km s-min=1.6km az=232.0*
*THE **27** 03:00:07.3, 38°.10N×20°.44E, h15km, ML2.0/5, Error ellipse: s-maj=1.0km s-min=0.4km az=250.0*

ISC 27 03:00:07.1±1.1, 38°.11N±0°.03×20°.45E±0°.05, h18km±4km, n28, σ0°35/48, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGA	**Argostoli. Kep**	**0.07**	**19**	P	**Pg**	**03 00 11.3**	**+0.8**
ARGA				S	**Sg**	**03 00 13.6**	**+0.7**
ARG2	**Argostoli**	**0.08**	**24**	P	**Pg**	**03 00 10.2**	**-0.4**
ARG2				S	**Sg**	**03 00 12.4**	**-0.5**
LXRA	**Lixouri, Kepha**	**0.10**	**355**	P	**Pg**	**03 00 10.7**	**0.0**
LXRA				S	**Sg**	**03 00 13.3**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.11**	**86**	P	**Pg**	**03 00 10.7**	**-0.1**
PSDA				S	**Sg**	**03 00 13.3**	**0.0**
PSDA	**Pessada-Kefalo**	**0.11**	**86**	P	**Pg**	**03 00 10.8**	**-0.1**
PSDA				S	**Sg**	**03 00 13.4**	**0.0**
KEF3	**Kipouria, Keph**	**0.12**	**321**	P	**Pg**	**03 00 10.9**	**-0.1**
KEF3				S	**Sg**	**03 00 13.7**	**0.0**
KEF3	**Kipouria, Keph**	**0.12**	**321**	P	**Pg**	**03 00 10.9**	**-0.1**
KEF3				S	**Sg**	**03 00 13.8**	**+0.1**
VLS	**Valsamata**	**0.13**	**57**	P	**Pg**	**03 00 11.0**	**-0.1**
VLS				S	**Sg**	**03 00 13.7**	**-0.2**
VLS	**Valsamata**	**0.13**	**57**	P	**Pg**	**03 00 11.0**	**-0.1**
VLS				S	**Sg**	**03 00 13.8**	**0.0**
VLS				AML	AML	03 00 13.9	
	comp=N,11632μm,0.1s						
VLS				AML	AML	03 00 14.3	
	comp=E,8689μm,0.1s						
DMLN	**Damoulianata-K**	**0.14**	**336**	P	**Pg**	**03 00 11.2**	**-0.1**
DMLN				S	**Sg**	**03 00 13.6**	**-0.6**
KEF4	**Livadi, Kephal**	**0.15**	**353**	P	**Pg**	**03 00 11.2**	**-0.1**
KEF4				S	**Sg**	**03 00 14.4**	**+0.2**
KEF4	**Livadi, Kephal**	**0.15**	**353**	P	**Pg**	**03 00 11.3**	**-0.1**
KEF4				S	**Sg**	**03 00 14.5**	**+0.2**
KEF5	**Kardakata, Kep**	**0.17**	**5**	P	**Pg**	**03 00 11.5**	**-0.1**
KEF5				S	**Sg**	**03 00 14.7**	**-0.1**
KEF5	**Kardakata, Kep**	**0.17**	**5**	P	**Pg**	**03 00 11.5**	**-0.1**
KEF5				S	**Sg**	**03 00 14.7**	**-0.1**
VLMS	**Volimes, Zakyn**	**0.28**	**143**	P	**Pg**	**03 00 13.4**	**0.0**
VLMS				S	**Sg**	**03 00 18.1**	**+0.4**
	comp=E,600nm,0.1s						
VLMS	**Volimes, Zakyn**	**0.28**	**143**	P	**Pg**	**03 00 13.4**	**0.0**
VLMS				AML	AML	03 00 18.9	
	comp=E,1222μm,0.1s						
VLMS				AML	AML	03 00 19.4	
	comp=N,1111μm,0.1s						
FSK	**Fiskardo**	**0.36**	**14**	P	**Pg**	**03 00 14.5**	**-0.2**
FSK				S	**Sg**	**03 00 20.1**	**+0.2**
	comp=N,262nm,0.2s						
FSK	**Fiskardo**	**0.36**	**14**	P	**Pg**	**03 00 14.5**	**-0.2**
LTHK	**Lithakia**	**0.50**	**142**	P	**Pg**	**03 00 16.7**	**-0.5**
LTHK				S	**Sb**	**03 00 24.5**	**+0.2**
	comp=N,145nm,0.3s						
EVGI	**Lefkada island**	**0.54**	**18**	P	**Pg**	**03 00 17.6**	**-0.3**
EVGI				S	**Sb**	**03 00 26.2**	**+0.7**
EVGI	**Lefkada island**	**0.54**	**18**	P	**Pg**	**03 00 17.6**	**-0.3**
DRAG	**Dragano-Lefkad**	**0.59**	**10**	P	**Pb**	**03 00 18.3**	**-0.5**
DRAG				S	**Sb**	**03 00 27.9**	**+1.1**
	comp=N,290nm,0.1s						
NYDR	**Nydri-Lefkada**	**0.64**	**18**	P	**Pb**	**03 00 19.4**	**-0.3**
LKD2	**Lefkada island**	**0.70**	**14**	P	**Pb**	**03 00 20.8**	**0.0**
LKD2				S	**Sn**	**03 00 32.4**	**-0.2**
	comp=N,78nm,0.3s						
LKD2	**Lefkada island**	**0.70**	**14**	P	**Pb**	**03 00 20.5**	**-0.3**
TSLK	**Tsoukalades, L**	**0.74**	**13**	P	**Pb**	**03 00 21.4**	**0.0**
TSLK	**Tsoukalades, L**	**0.74**	**13**	P	**Pb**	**03 00 21.3**	**-0.1**
IGT	**Igoumenitsa**	**1.43**	**356**	P	**Pb**	**03 00 32.8**	**-0.4**

IDC 27 03:03:57.0±3.4, 19°.52S×176°.33W, h0km, mb3.4/2, mb1 3.9/2, mb1mx3.5/41, mbtmp3.4/2, Error ellipse: s-maj=356.5km s-min=35.9km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.28**	**256**	P	P	03 12 23.7	-1.0
	1.0nm,0.8s,baz=99,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**46.30**	**261**	P	P	03 12 25.4	+0.5
	0.4nm,0.3s,baz=94,slow=8.0,SNR=7.8						
TXAR	**Lajitas Array**	**85.21**	**57**	P	P	03 16 35.7	-0.2
	0.1nm,0.6s,baz=202,slow=3.8,SNR=2.3						
AKASG	**Malin Array Be**	**142.88**	**333**	PKP	PKPdf	03 23 33.4	+0.9
	0.4nm,0.3s,baz=34,slow=3.2,SNR=2.0						

IDC 27 03:17:13.7±3.9, 5°.40S×142°.74E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.4/35, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=121.6km s-min=34.6km az=93.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.61**	**209**	Pn	Pn	03 21 06.3	-1.8
	0.4nm,0.3s,baz=30,slow=11,SNR=7.7						
WRA				Sn	Sn	03 24 00.5	-13
	0.2nm,0.3s,baz=353,slow=13,SNR=2.0						
WRA				Lg	Lg	03 25 51.7	

0.2nm,0.3s,baz=29,slow=26,SNR=3.4
ASAR Alice Springs 20.06 204 P P 03 21 49.5 +0.8
2.6nm,0.9s,baz=30,slow=12,SNR=14
ASAR Lg Lg 03 27 43.9
1.1nm,0.8s,baz=30,slow=30,SNR=2.6
MKAR Makanchi Array 74.37 322 P P 03 28 53.5 0.0
0.4nm,0.6s,baz=100,slow=7.5,SNR=4.7

*GCG **27** 03:18:14.4±0.7, 13°.02N×91°.06W, h0km±28km, MD4.0*
*INET **27** 03:18:15.6, 13°.24N×90°.81W, h15km, MW3.9*
*IDC **27** 03:18:18.1±1.4, 13°.58N×90°.33W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/28, mbtmp4.0/4, ML4.1/1, Error ellipse: s-maj=98.1km s-min=23.1km az=52.0*
*SNET **27** 03:18:22.2±1.3, 13°.42N×90°.73W, h13km±6km, ML3.7*
*UCR **27** 03:18:22.3±1.3, 13°.43N×90°.73W, h14km±6km, ML3.6, mb4.0(NEIC)*
*NEIC **27** 03:18:25.1±3.0, 13°.37N±0°.09×90°.69W±0°.07, h45km±9km, mb4.0/19, Error ellipse: s-maj=13.7km s-min=8.5km az=209.0*

ISC 27 03:18:24.6±1.5, 13°.32N±0°.07×90°.74W±0°.07, h45km±14km, n71, σ1°38/78, mb4.0/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**1.07**	**7**	*eP*	**Pn**	**03 18 41.2**	**-2.3**
FUG	**Fuego 3**	**1.13**	**355**	*eP*	**Pn**	**03 18 41.6**	**-2.6**
FUG				*i* S	**Sn**	**03 19 02.7**	**+4.1**
SLOZ	**Alcaldia de Sa**	**1.16**	**53**	*eP*	**Pn**	**03 18 42.6**	**-1.9**
SLOZ				*eS*	**Sn**	**03 18 57.1**	**-2.2**
SLOZ				IAML		03 19 12.1	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**1.20**	**64**	*eP*	**Pn**	**03 18 43.6**	**-1.6**
SBLS	**San Blas**	**1.20**	**64**	*eP*	**Pn**	**03 18 43.6**	**-1.6**
RTR	**El Retiro**	**1.21**	**61**	*eP*	**Pn**	**03 18 43.2**	**-2.0**
RTR	**El Retiro**	**1.21**	**61**	*eP*	**Pn**	**03 18 43.2**	**-2.0**
SNJE	**San Jose**	**1.23**	**63**	*eP*	**Pn**	**03 18 43.8**	**-1.7**
SNJE	**San Jose**	**1.23**	**63**	*eP*	**Pn**	**03 18 43.8**	**-1.7**
NBG	**Las Nubes**	**1.32**	**17**	*eP*	**Pn**	**03 18 46.5**	**-0.3**
LALI	**Alcalda de L**	**1.39**	**83**	*eP*	**Pn**	**03 18 46.2**	**-1.3**
LALI				*eS*	**Sn**	**03 19 05.6**	**+0.9**
LALI				IAML		03 19 16.9	
	comp=Z,560nm,0.4s						
LALI	**Alcalda de L**	**1.39**	**83**	*eP*	**Pn**	**03 18 46.2**	**-1.3**
LALI				*eS*	**Sn**	**03 19 05.6**	**+0.9**
LALI				IAML		03 19 16.9	
	comp=Z,560nm,0.4s						
SNET	**Serv Nac Est T**	**1.51**	**76**	*eP*	**Pn**	**03 18 48.1**	**-1.2**
SNET				IAML		03 19 16.4	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.51**	**76**	*eP*	**Pn**	**03 18 48.1**	**-1.2**
SNET				IAML		03 19 16.4	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.51**	**76**	Pn	**Pn**	**03 18 47.9**	**-1.4**
LFRS	**El Faro**	**1.66**	**79**	*eP*	**Pn**	**03 18 50.3**	**-1.1**
LFRS	**El Faro**	**1.66**	**79**	*eP*	**Pn**	**03 18 50.3**	**-1.1**
LBRS	**Las Brisas**	**1.70**	**76**	*eP*	**Pn**	**03 18 50.7**	**-1.1**
LBRS	**Las Brisas**	**1.70**	**76**	*eP*	**Pn**	**03 18 50.7**	**-1.1**
SJTE	**Alcalda de S**	**1.71**	**80**	*eP*	**Pn**	**03 18 51.1**	**-0.9**
SJTE	**Alcalda de S**	**1.71**	**80**	*eP*	**Pn**	**03 18 51.1**	**-0.9**
MTO3	**Montecristo**	**1.71**	**51**	*eP*	**Pn**	**03 18 51.4**	**-0.9**
MTO3				*eS*	**Sn**	**03 19 13.0**	**-0.1**
MTO3	**Montecristo**	**1.71**	**51**	*eP*	**Pn**	**03 18 51.4**	**-0.9**
MTO3				*eS*	**Sn**	**03 19 13.0**	**-0.1**
MTO3	**Montecristo**	**1.71**	**51**	Pn	**Pn**	**03 18 51.3**	**-0.9**
PAVA	**Las Pavas**	**1.79**	**77**	*eP*	**Pn**	**03 18 52.7**	**-0.5**
PAVA				IAML		03 19 25.5	
	comp=Z,1μm,0.4s						
PAVA	**Las Pavas**	**1.79**	**77**	*eP*	**Pn**	**03 18 52.7**	**-0.5**
PAVA				IAML		03 19 25.5	
	comp=Z,1μm,0.4s						
COEG	**Centro de Oper**	**1.83**	**80**	IAML		03 19 30.6	
	comp=Z,964nm,0.4s						
COEG	**Centro de Oper**	**1.83**	**80**	IAML		03 19 30.6	
	comp=Z,964nm,0.4s						
ESQI	**Esquipulas**	**1.83**	**48**	*eP*	**Pn**	**03 18 53.2**	**-0.5**
ESQI				*eS*	**Sn**	**03 19 16.3**	**+0.5**
ESQI	**Esquipulas**	**1.83**	**48**	Pn	**Pn**	**03 18 53.3**	**-0.5**
HUEH	**Huehuetenango**	**2.12**	**340**	*eP*	**Pn**	**03 18 56.5**	**-1.4**
HUEH				*eS*	**Sn**	**03 19 23.2**	**+0.2**
CCIG	**Comitan**	**3.24**	**335**	Pn	**Pn**	**03 19 13.2**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.44**	**77**	Pn	**Pn**	**03 19 15.5**	**-0.4**
CRIN	**San Cristobal**	**3.65**	**99**	Pn	**Pn**	**03 19 17.8**	**-0.8**
PETF	**Flores**	**3.67**	**13**	Pn	**Pn**	**03 19 17.9**	**-1.0**
CNGN	**Cerro Negro**	**4.02**	**101**	Pn	**Pn**	**03 19 24.5**	**+0.8**
HZTE	**Horizontes, Gu**	**5.66**	**117**	Pn	**Pn**	**03 19 46.2**	**0.0**
ORTG	**Ortega, Santa**	**5.94**	**119**	Pn	**Pn**	**03 19 49.8**	**-0.4**
DUNO	**Dulce Nombre,**	**6.06**	**122**	Pn	**Pn**	**03 19 51.0**	**-0.8**
ESPN	**Las Esperanzas**	**6.38**	**99**	Pn	**Pn**	**03 19 57.0**	**+0.9**
JTS	**Las Juntas de**	**6.41**	**117**	Pn	**Pn**	**03 19 56.0**	**-0.5**
CAO2	**Cobano, Puntar**	**6.59**	**123**	Pn	**Pn**	**03 19 58.5**	**-0.5**
TLIG	**Tlapa**	**8.65**	**300**	Pn	**Pn**	**03 20 27.2**	**-0.2**
SOR	**Soroa**	**11.94**	**37**	Pn	**Pn**	**03 21 14.9**	**+2.5**
SJCC	**San Jacinto, C**	**15.61**	**101**	P	**P**	**03 22 05.2**	**-0.1**
352A	**Blakely**	**18.85**	**16**	P	**Pn**	**03 22 43.0**	**+1.2**
352A				IAmb	IAmb	03 22 45.4	
	comp=Z,13nm,0.8s						
RUSC	**La Rusia**	**18.89**	**111**	P	**Pn**	**03 22 43.9**	**+0.9**
Z47A	**Carrollton**	**19.94**	**7**	P	**P**	**03 22 53.8**	**+1.0**
Z47A				IAmb	IAmb	03 23 00.3	
	comp=Z,6.7nm,0.8s						
TXAR	**Lajitas Array**	**19.95**	**325**	P	**P**	**03 22 53.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=17						
TXAR	**Lajitas Array**	**19.95**	**325**	P	**P**	**03 22 52.4**	**-0.6**
TX31	**Lajitas Ar. Si**	**19.95**	**325**	P	**P**	**03 22 52.4**	**-0.6**
TX31				IAmb	IAmb	03 22 56.7	
	comp=Z,7.6nm,1.1s						
TX32	**Lajitas Array**	**19.95**	**325**	P	**P**	**03 22 52.7**	**-0.3**
Y49A	**Blount Mountai**	**20.82**	**10**	P	**P**	**03 23 02.0**	**-0.3**
GOGA	**Godfrey**	**21.07**	**17**	P	**P**	**03 23 06.6**	**+1.6**
GOGA				IAmb	IAmb	03 23 08.4	
	comp=Z,7.7nm,1.0s						
FPAL	**Fort Paine**	**21.63**	**12**	P	**P**	**03 23 13.0**	**+1.9**
FPAL				IAmb	IAmb	03 23 14.5	
	comp=Z,5.7nm,0.9s						
MNTX	**Cornudas Mount**	**22.70**	**326**	P	**P**	**03 23 22.1**	**-0.6**
MNTX				IAmb	IAmb	03 23 24.4	
	comp=Z,4.8nm,0.8s						
CPCT	**Cooper Cave**	**22.74**	**13**	P	**P**	**03 23 24.8**	**+1.8**
U49A	**Red Boiling Sp**	**23.52**	**10**	P	**P**	**03 23 31.7**	**+1.1**
TZTN	**Tazewell**	**24.01**	**14**	P	**P**	**03 23 37.4**	**+2.2**
TZTN				IAmb	IAmb	03 23 59.4	
	comp=Z,6.9nm,1.1s						
121A	**Cookes Peak, D**	**24.68**	**324**	P	**P**	**03 23 39.4**	**-2.2**
121A				IAmb	IAmb	03 23 44.5	
	comp=Z,3.8nm,0.7s						
V58A	**Windy Hill, Pi**	**24.71**	**23**	P	**P**	**03 23 43.1**	**+1.5**
V58A				IAmb	IAmb	03 23 45.2	
	comp=Z,5.5nm,1.1s						
MTPU	**Mount Pierson**	**31.15**	**326**	P	**P**	**03 24 41.3**	**+1.7**
MTPU				IAmb	IAmb	03 24 43.0	
	comp=Z,4.1nm,1.0s						
NVAR	**Mina Array Bea**	**34.97**	**321**	P	**P**	**03 25 12.6**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=125,slow=7.8,SNR=13						
NVAR				PcP	**PcP**	**03 27 44.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=129,slow=3.0,SNR=4.0						
NVAR	**Mina Array Bea**	**34.97**	**321**	P	**P**	**03 25 14.6**	**+1.8**
ULM	**Lac du Bonnet**	**37.07**	**355**	P	**P**	**03 25 27.8**	**-2.6**
	comp=Z,1.7nm,0.6s,baz=186,slow=5.9,SNR=3.1						
SIV	**San Ignacio**	**41.33**	**134**	P	**P**	**03 26 05.2**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=308,slow=9.8,SNR=11						
INK	**Inuvik**	**61.44**	**343**	P	**P**	**03 28 37.5**	**+1.4**
BMAR	**Burnt Mountain**	**64.35**	**340**	P	**P**	**03 28 53.7**	**-1.8**
MLY	**Manley**	**65.55**	**336**	P	**P**	**03 29 01.4**	**-2.0**
MLY				IAmb	IAmb	03 29 01.9	
	comp=Z,1.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**147.01**	**343**	PKPbc	**PKPdf**	**03 38 02.6**	**+1.2**
	comp=Z,1.2nm,0.4s,baz=335,slow=4.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**147.01**	**343**	PKPbc	**PKPdf**	**03 38 01.9**	**+0.5**

NEIC 27 03:43:43.3±1.1, 37°.082N±0°.008×97°.99W±0°.06, h6km±7km, Error ellipse: s-maj=6.4km s-min=1.0km az=94.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN05	**Bluff City Nor**	**0.10**	**74**	Pg	Pg	03 43 45.5	+0.1
KAN05				Sg	Sg	03 43 47.3	+0.4
KAN10	**Anthony SW Sta**	**0.10**	**295**	Pg	Pg	03 43 44.9	-0.6
KAN10				Sg	Sg	03 43 46.2	-0.7
KAN08	**Anthony NE Sta**	**0.14**	**5**	Pg	Pg	03 43 46.0	-0.3
KAN08				Sg	Sg	03 43 48.2	-0.1
KAN17	**Caldwell West**	**0.18**	**102**	Pg	Pg	03 43 47.1	+0.2
KAN17				Sg	Sg	03 43 50.0	+0.7
KAN06	**Argonia West S**	**0.20**	**32**		Pg	03 43 47.1	-0.2
KAN06					Sg	03 43 50.0	+0.2
KAN12	**Harper NE Stat**	**0.21**	**358**	Pg	Pg	03 43 47.2	-0.4
KAN12				Sg	Sg	03 43 50.4	-0.1
GC02	**Grant County #**	**0.25**	**156**		Pg	03 43 48.3	0.0
GC02				Sg	Sg	03 43 52.1	+0.6
KAN09	**Caldwell North**	**0.30**	**80**	Pg	Pg	03 43 49.2	0.0
KAN09				Sg	Sg	03 43 54.0	+0.8
KS21	**Milan North St**	**0.33**	**52**		Pg	03 43 49.7	-0.1
KS21					Sg	03 43 54.3	+0.2
OK032	**Salt Plains WL**	**0.33**	**213**		Pg	03 43 49.4	-0.4
KS20	**Mayfield South**	**0.38**	**67**		Pg	03 43 50.5	-0.1
KS20				Sg	Sg	03 43 56.0	+0.4
KAN13	**South Haven SW**	**0.41**	**100**		Pg	03 43 51.3	0.0
KAN13				Sg	Sg	03 43 57.1	+0.4
CROK	**Carrier**	**0.58**	**180**		Pg	03 43 54.1	-0.4
CROK				Sg	Sg	03 44 02.2	+0.3
BLOK	**Blackwell**	**0.70**	**117**		Pg	03 43 56.4	-0.3
BLOK				Sg	Sg	03 44 06.0	+0.2
U32A	**Winter Ranch,**	**1.07**	**230**		Pg	03 44 02.9	-1.0
U32A	**Winter Ranch,**	**1.07**	**230**	P		03 44 02.9	
	baz=48						
T35A	**Sooner Cattle**	**1.19**	**98**		Pg	03 44 05.4	-0.8
T35B	**Sooner Cattle**	**1.19**	**98**	P		03 44 05.4	
	baz=279,SNR=124						
T35B				S		03 44 21.2	
	baz=279						
OK029	**Liberty Lake**	**1.35**	**161**		Pn	03 44 08.0	-0.9
QUOK	**Quay**	**1.37**	**131**		Pn	03 44 08.5	-0.6
BCOK	**Bluff Creek, N**	**1.46**	**168**		Pn	03 44 09.8	-0.4
R32A	**Long Quarter,**	**1.46**	**337**		Pn	03 44 09.4	-0.9
R32A	**Long Quarter,**	**1.46**	**337**	P		03 44 09.5	
	baz=157						
R32A				S		03 44 28.4	
	baz=157						
OK031	**S. Brethren Rd**	**1.46**	**140**		Pn	03 44 09.8	-0.5
OK025	**Westminster Rd**	**1.59**	**161**		Pn	03 44 11.8	-0.2
OKCSW	**OKLAHOMA CITY**	**1.73**	**165**	Pn	Pn	03 44 13.8	-0.2
FNO	**Franklin**	**1.88**	**165**	Pn	Pn	03 44 16.1	0.0
TUL1	**Leonard**	**2.12**	**123**	P		03 44 19.4	
	baz=304,SNR=35						
CBKS	**Cedar Bluff**	**2.21**	**322**	P		03 44 21.0	
	baz=141						
CBKS				S		03 44 49.1	
	baz=141						
KSU1	**Kansas State U**	**2.29**	**28**	Pn	Pn	03 44 22.2	+0.5
KSU1				IAmb_Lg		03 44 54.6	
	comp=Z,52nm,0.7s						
KSU1	**Kansas State U**	**2.29**	**28**	P		03 44 22.1	
	baz=209						
KSU1				S		03 44 50.5	
	baz=209						
WMOK	**Wichita Mounta**	**2.43**	**196**		Pn	03 44 23.8	+0.2
WMOK	**Wichita Mounta**	**2.43**	**196**	P		03 44 23.6	
	baz=15						
X34A	**Smith Ranch, M**	**2.48**	**177**	Pn	Pn	03 44 24.9	+0.6
U38A	**Gravette**	**2.96**	**101**		Pn	03 44 31.1	+0.1
U38A	**Gravette**	**2.96**	**101**	P		03 44 31.4	
	baz=284,SNR=15						
LOOK	**Love County**	**3.15**	**168**		Pn	03 44 33.7	+0.2
X37A	**Clayton**	**3.27**	**139**	Pn	Pn	03 44 35.9	+0.7
X37A				IAmb_Lg		03 45 30.9	
	comp=Z,35nm,0.9s						
HHAR	**Hobbs**	**3.35**	**103**	Pn	Pn	03 44 36.4	+0.1
HHAR	**Hobbs**	**3.35**	**103**	P		03 44 36.8	
	baz=285						
N33A	**J Bar K, Exete**	**3.67**	**6**	Pn	Pn	03 44 41.6	+0.8
AMTX	**Amarillo**	**3.71**	**235**		Pn	03 44 41.8	+0.4
AMTX				IAmb_Lg		03 45 47.3	
	comp=Z,37nm,0.8s						
Z35A	**Perchaven, San**	**3.79**	**171**	Pn	Pn	03 44 43.5	+1.1
W39A	**Magazine**	**3.89**	**118**	Pn	Pn	03 44 44.2	+0.6
W39A	**Magazine**	**3.89**	**118**	P		03 44 44.1	
	baz=300,SNR=9.4						
KSCO	**Kaye Shedlock'**	**4.14**	**299**	Pn	Pn	03 44 47.0	-0.2
U40A	**Yellville**	**4.19**	**98**		Pn	03 44 47.8	0.0
U40A				IAmb_Lg		03 45 54.3	
	comp=Z,27nm,0.7s						
U40A	**Yellville**	**4.19**	**98**	P		03 44 47.5	
	baz=282,SNR=16						
U40A				P		03 44 47.5	
	baz=282,SNR=16						
N35A	**Tabor**	**4.19**	**25**	Pn	Pn	03 44 48.5	+0.6
BGNE	**Belgrade**	**4.32**	**358**	Pn	Pn	03 44 48.8	-0.8
BGNE				IAmb_Lg		03 46 02.6	
	comp=Z,24nm,0.8s						
P38A	**Dawn**	**4.33**	**53**	Pn	Pn	03 44 50.3	+0.6
P38A				IAmb_Lg		03 45 59.3	
	comp=Z,20nm,0.8s						
P38A	**Dawn**	**4.33**	**53**	P		03 44 49.6	
	baz=236						
MIAR	**Mount Ida**	**4.39**	**124**	Pn	Pn	03 44 51.2	+0.6
MIAR				IAmb_Lg		03 46 14.8	
	comp=Z,20nm,1.1s						
MIAR	**Mount Ida**	**4.39**	**124**	P		03 44 50.8	
	baz=307,SNR=15						
Z38A	**Mt. Pleasant**	**4.54**	**146**	Pn	Pn	03 44 53.0	+0.5
Z38A				IAmb_Lg		03 46 10.3	
	comp=Z,28nm,0.8s						
MGMO	**Mountain Grove**	**4.57**	**87**		Pn	03 44 53.6	+0.5
MGMO				IAmb_Lg		03 46 09.0	
	comp=Z,17nm,0.9s						
ABTX	**Abilene, Hawle**	**4.65**	**198**	Pn	Pn	03 44 53.9	-0.3
R40A	**Maddies Statio**	**4.69**	**73**	Pn	Pn	03 44 54.7	0.0
R40A	**Maddies Statio**	**4.69**	**73**	P		03 44 54.7	
	baz=257,SNR=16						
FCAR	**Ozark Folk Cen**	**4.87**	**102**	Pn	Pn	03 44 57.2	0.0
FCAR				IAmb_Lg		03 46 24.4	
	comp=Z,12nm,1.0s						
X40A	**Basin Creek Fa**	**4.92**	**120**		Pn	03 44 58.0	+0.1
X40A				IAmb_Lg		03 46 27.5	
	comp=Z,17nm,0.7s						
X40A	**Basin Creek Fa**	**4.92**	**120**	P		03 44 57.8	
	baz=303,SNR=12						
X40A				P		03 44 57.8	
	baz=303,SNR=12						
WHAR	**Wooly Hollow**	**4.94**	**110**	Pn	Pn	03 44 57.6	-0.6
WHAR				IAmb_Lg		03 46 27.7	
	comp=Z,18nm,0.8s						
OGNE	**Ogallala**	**4.98**	**322**	Pn	Pn	03 44 59.2	+0.4
OGNE				IAmb_Lg		03 46 34.4	
	comp=Z,16nm,0.8s						
MSTX	**Muleshoe**	**4.99**	**233**	Pn	Pn	03 44 59.8	+0.9
MSTX	**Muleshoe**	**4.99**	**233**	S		03 45 57.2	
	baz=50						
WHTX	**Lake Whitney,**	**5.10**	**175**	Pn	Pn	03 44 59.6	-0.7
T25A	**Trinidad**	**5.13**	**273**	Pn	Pn	03 45 00.6	-0.5
T25A				IAmb_Lg		03 46 29.7	
	comp=Z,12nm,0.8s						
WLAR	**White Oak Lake**	**5.23**	**129**	Pn	Pn	03 45 01.5	-0.6
WLAR				IAmb_Lg		03 46 37.1	
	comp=Z,14nm,0.7s						
P40A	**Paris**	**5.27**	**61**	Pn	Pn	03 45 01.6	-1.1
P40A				IAmb_Lg		03 46 33.6	
	comp=Z,17nm,0.7s						
237A	**Washetta, Mont**	**5.38**	**160**	Pn	Pn	03 45 04.3	+0.2
237A				IAmb_Lg		03 46 43.4	
	comp=Z,10nm,0.8s						
CCM	**Cathedral Cave**	**5.44**	**78**	Pn	Pn	03 45 05.2	+0.2
T42A	**Van Buren**	**5.51**	**88**	Pn	Pn	03 45 06.0	0.0
T42A	**Van Buren**	**5.51**	**88**	P		03 45 05.8	
	baz=273,SNR=7.1						
K31A	**O'Neill**	**5.56**	**354**	Pn	Pn	03 45 07.0	+0.3
CCAR	**Cane Creek**	**5.97**	**120**	Pn	Pn	03 45 12.7	+0.4
CCAR				IAmb_Lg		03 47 01.7	
	comp=Z,13nm,0.8s						
NATX	**Nacogdoches**	**5.98**	**152**	IAmb_Lg		03 47 03.4	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**6.06**	**91**	Pn	Pn	03 45 13.6	+0.1
PBMO				IAmb_Lg		03 46 55.2	
	comp=Z,16nm,0.8s						
SCIA	**State Center**	**6.07**	**36**	Pn	Pn	03 45 14.5	+0.9
SCIA				IAmb_Lg		03 46 57.8	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**6.29**	**177**	IAmb_Lg		03 47 10.2	
	comp=Z,9.3nm,0.7s						
PARMO	**Parma**	**6.61**	**91**	IAmb_Lg		03 47 12.9	
	comp=Z,21nm,0.8s						
N41A	**Harden Midland**	**6.64**	**55**	Pn	Pn	03 45 21.2	-0.2
HDBT	**Hernando Brdge**	**6.70**	**104**	Pn	Pn	03 45 21.6	-0.7
JCT	**Junction City**	**6.76**	**193**	IAmb_Lg		03 47 35.3	
	comp=Z,17nm,1.0s						
S44A	**Carbondale**	**6.98**	**82**	Pn	Pn	03 45 25.9	-0.3
S44A	**Carbondale**	**6.98**	**82**	P		03 45 26.1	
	baz=268,SNR=5.5						
SIUC	**Southern Illin**	**7.01**	**82**	Pn	Pn	03 45 24.9	-1.7
PHWY	**Pilot Hill**	**7.17**	**308**	IAmb_Lg		03 47 29.8	
	comp=Z,13nm,1.0s						
L40A	**Anamosa**	**7.21**	**44**	Pn	Pn	03 45 28.4	-0.9
L40A				IAmb_Lg		03 47 37.3	
	comp=Z,17nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.31**	**73**	Pn	Pn	03 45 29.8	-0.9
OXF	**Oxford**	**7.43**	**108**	Pn	Pn	03 45 32.1	-0.2
OXF				IAmb_Lg		03 47 47.8	
	comp=Z,9.9nm,0.9s						
HDIL	**Hopedale**	**7.62**	**60**	Pn	Pn	03 45 34.6	-0.3
I37A	**Lemond, Waseca**	**7.75**	**25**	IAmb_Lg		03 47 59.4	
	comp=Z,7.8nm,0.7s						
O44A	**Mansfield**	**8.06**	**65**	IAmb_Lg		03 47 60.0	
	comp=Z,13nm,0.7s						
L42A	**Oliver, Polo**	**8.09**	**50**	IAmb_Lg		03 48 05.9	
	comp=Z,14nm,0.8s						
MNTX	**Cornudas Mount**	**8.13**	**231**	Pn	Pn	03 45 43.4	+1.4
WVT	**Waverly**	**8.22**	**94**	Pn	Pn	03 45 42.4	-0.8
JFWS	**Jewell Farm**	**8.32**	**43**	Pn	Pn	03 45 43.2	-1.3
JFWS				IAmb_Lg		03 48 07.1	
	comp=Z,11nm,0.7s						
RSSD	**Black Hills**	**8.40**	**329**	IAmb_Lg		03 48 21.4	
	comp=Z,6.5nm,1.1s						
RWWY	**Rawlins**	**8.49**	**306**	IAmb_Lg		03 48 18.2	
	comp=Z,11nm,1.1s						
K22A	**Casper**	**8.60**	**313**	IAmb_Lg		03 48 26.0	
	comp=Z,7.9nm,1.0s						
T47A	**Sharon Grove**	**8.70**	**87**	Pn	Pn	03 45 49.4	-0.4
P46A	**Rosedale**	**8.84**	**70**	Pn	Pn	03 45 52.4	+0.7
F33A	**5 Mile Ranch,**	**8.84**	**8**	IAmb_Lg		03 48 19.8	
	comp=Z,6.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**9.07**	**213**	Pn	Pn	03 45 53.9	-1.1
TXAR	**Lajitas Array**	**9.07**	**213**	Pn	Pn	03 45 54.2	-0.8
SFIN	**Lafayette**	**9.12**	**66**	IAmb_Lg		03 48 33.4	
	comp=Z,11nm,0.8s						
BLO	**Bloomington**	**9.27**	**74**	Pn	Pn	03 45 57.9	+0.3
U49A	**Red Boiling Sp**	**9.81**	**90**	Pn	Pn	03 46 05.7	+0.8
FPAL	**Fort Paine**	**10.37**	**100**	Pn	Pn	03 46 12.3	-0.4

*IDC **27** 03:46:26.0±21.0, 22°.33S×175°.57W, h79km±138km, mb4.1/3, mb1 4.2/4, mb1mx3.6/23, mbtmp4.3/4, ML5.0/1, Error ellipse: s-maj=215.5km s-min=46.8km az=128.0*
*NEIC **27** 03:46:31.3±1.6, 21°.45±0°.2×175°.4W±0°.1, h154km±16km, mb4.1/13, Error ellipse: s-maj=27.1km s-min=15.5km az=206.0*

ISC 27 03:46:31.0±0.9, 21°.5S±0°.2×175°.4W±0°.1, h150km, n26, σ1°29/20, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.68**	**66**	Pn	**Pn**	**03 47 52.7**	**-0.8**
MSVF	**Nonsavu**	**7.19**	**300**	P	**Pn**	**03 48 14.8**	**+1.0**
	0.8nm,0.3s,baz=116,slow=15,SNR=7.0						
KHZ	**Kahutara**	**22.84**	**201**	P	**P**	**03 51 21.5**	**+0.3**
LTZ	**Lake Taylor**	**23.61**	**203**	P	**P**	**03 51 28.1**	**-0.2**
LTZ				IAmb	IAmb	03 51 46.8	
	comp=Z,17nm,1.1s						
PYZ	**Puysegur Point**	**28.63**	**206**	P	**P**	**03 52 11.3**	**-2.0**
CTAO	**Charters Tower**	**35.80**	**265**	P	**P**	**03 53 15.6**	**-0.6**
CTAO				IAmb	IAmb	03 53 18.6	
	comp=Z,4.6nm,1.0s						
STKA	**Stephens Creek**	**39.56**	**246**	P	**P**	**03 53 47.3**	**-0.3**
	comp=Z,3.3nm,1.1s,baz=80,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**39.56**	**246**	P	**P**	**03 53 48.1**	**+0.5**
BBOO	**Buckleboo**	**44.29**	**245**	P	**P**	**03 54 25.6**	**-0.5**
AS31	**Alice Springs**	**46.65**	**257**	P	**P**	**03 54 46.4**	**+1.6**
ASAR	**Alice Springs**	**46.65**	**257**	P	**P**	**03 54 44.0**	**-0.8**
	comp=Z,12nm,0.3s,baz=93,slow=8.2,SNR=20						
WR0	**Warramunga Arr**	**46.67**	**262**	P	**P**	**03 54 44.0**	**-0.9**
WR0				IAmb	IAmb	03 54 51.6	
	comp=Z,5.4nm,1.1s						
WB0	**Warramunga Arr**	**46.84**	**263**	P	**P**	**03 54 45.1**	**-1.1**
WB0				IAmb	IAmb	03 55 01.8	
	comp=Z,3.5nm,1.0s						
WB2	**Warramunga Arr**	**46.85**	**262**	P	**P**	**03 54 45.0**	**-1.3**
WB2				IAmb	IAmb	03 54 47.4	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**46.86**	**262**	P	**P**	**03 54 44.8**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=95,slow=8.1,SNR=11						

MKZ				eS	Sn	04 04 58.4	-1.1
TUMR	**Tumrok**	**1.26**	**248**	eP	Pn	04 04 44.4	0.0
TUMR				eS	Sn	04 05 01.2	+1.0
KZV	**Kizimen**	**1.26**	**240**	eP	Pn	04 04 43.7	-0.8
KOZ	**Kozyrevsk**	**1.34**	**284**	i P	Pn	04 04 46.0	+0.6
KOZ				eS	Sn	04 05 04.1	+2.1
SRDR	**Sredinnyy**	**1.50**	**293**	eP	Pn	04 04 48.1	+0.5
SRDR				eS	Sn	04 05 07.1	+1.2
BKI	**Bering**	**2.22**	**103**	eP	Pn	04 04 58.2	+0.7
BKI				eS	Sn	04 05 24.5	+0.8
KII	**Karymskiy**	**2.35**	**224**	eP	Pn	04 04 59.8	+0.5
SPN	**Mys Shipunski**	**2.96**	**206**	eP	Pn	04 05 06.2	-1.4
SPN				eS	Sn	04 05 39.9	-1.9
NLC	**Nalytchevo**	**3.08**	**214**	eP	Pn	04 05 09.7	+0.4
NLC				eS	Sn	04 05 44.2	-0.7
SDLR	**Sedlovina**	**3.15**	**219**	eP	Pn	04 05 10.3	-0.1
KRX	**Arik**	**3.17**	**222**	eP	Pn	04 05 11.4	+0.7
KRER	**Koryakskii**	**3.18**	**221**	eP	Pn	04 05 11.5	+0.7
SMAR	**Somma**	**3.19**	**220**	eP	Pn	04 05 11.1	+0.1
AVH	**Avacha**	**3.21**	**220**	eP	Pn	04 05 11.8	+0.6
GNL	**Ganaly**	**3.22**	**232**	eP	Pn	04 05 11.9	+0.6
UGLR	**Uglovaya**	**3.23**	**219**	eP	Pn	04 05 11.8	+0.4
KOK	**Koryaka**	**3.23**	**221**	eP	Pn	04 05 11.9	+0.5
DALK	**Dalny**	**3.40**	**218**	eP	Pn	04 05 12.4	-1.2
DALK				eS	Sn	04 05 51.9	-0.7
PET	**Petropavlovsk**	**3.44**	**218**	eP	Pn	04 05 14.1	-0.1
PET				eS	Sn	04 05 54.0	+0.4
PALN	**Palana**	**3.54**	**341**	P	Pn	04 05 20.4	+4.8
PETK	**Petropavlovsk-**	**3.74**	**226**	Pn	Pn	04 05 18.2	-0.1
	1.9nm,0.3s,baz=65,slow=15,SNR=36						
PETK				Sn	Sn	04 06 06.2	+5.2
	1.1nm,0.3s,baz=116,slow=13,SNR=5.4						
PETK				LR	LR	04 07 01.2	
	comp=Z,212nm,20.8s,baz=47,slow=42						
KRMR	**Karymshinskiy**	**3.78**	**221**	eP	Pn	04 05 19.4	+0.5
KRMR				eS	Sn	04 06 02.3	+0.2
GRL	**Gorelyy**	**4.03**	**219**	eP	Pn	04 05 23.8	+1.4
MTVR	**Mutnovka**	**4.05**	**217**	eP	Pn	04 05 23.5	+0.8
MTVR				eS	Sn	04 06 10.5	+1.7
KDTR	**Khodutka, Kamc**	**4.65**	**213**	eP	Pn	04 05 31.7	+0.8
KDTR				eS	Sn	04 06 23.4	-0.2
MA2	**Magadan**	**7.22**	**307**	LR	LR	04 09 07.0	
	comp=Z,76nm,19.0s,baz=99,slow=42						
ASAJ	**Asahikawa**	**17.10**	**235**	LR	LR	04 15 14.6	
	comp=Z,76nm,18.3s,baz=48,slow=38						
MJAR	**Matsushiro Arr**	**25.19**	**230**	LR	LR	04 20 33.0	
	comp=Z,36nm,18.8s,baz=35,slow=39						
ILAR	**Eielson Array**	**26.10**	**49**	P	**P**	**04 09 52.5**	**-0.3**
	0.6nm,0.9s,baz=265,slow=7.8,SNR=5.4						
H11N2	**WAKE ISLAND Hy 36.17**	**172**		T	T	04 49 59.0	
	baz=356,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy 36.17**	**172**		T	T	04 50 02.9	
	baz=356,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy 36.17**	**172**		T	T	04 49 59.4	
	baz=356,slow=76,SNR=32						
NVAR	**Mina Array Bea**	**53.74**	**73**	P	**P**	**04 13 42.9**	**+1.6**
	0.6nm,0.8s,baz=293,slow=5.8,SNR=1.8						
PDAR	**Pinedale Array**	**55.19**	**64**	P	**P**	**04 13 51.4**	**-0.4**
	0.4nm,0.8s,baz=260,slow=4.4,SNR=2.6						
FINES	**FINESS Array B**	**58.15**	**337**	P	**P**	**04 14 10.7**	**-1.5**
	1.3nm,0.7s,baz=59,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**68.50**	**69**	P	**P**	**04 15 21.8**	**+0.4**
	0.8nm,0.8s,baz=288,slow=4.1,SNR=8.2						

*IDC **27** 04:07:43.2±8.2, 18°.32N×108°.00W, h0km, mb3.4/4, mb1 3.9/6, mb1mx3.7/40, mbtmp3.5/6, ML3.5/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/23, Error ellipse: s-maj=136.4km s-min=69.2km az=143.0*

ISC 27 04:07:51.4±7.3, 18°.7N±0°.7×108°.1W±0°.5, h35km, n8, σ0.44/6, mb3.4/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**5.77**	**339**	LR	LR	04 10 58.6	
	comp=Z,180nm,18.2s,baz=156,slow=32						
TXAR	**Lajitas Array**	**11.31**	**20**	Pn	**Pn**	**04 10 30.9**	**+0.1**
	0.1nm,0.3s,baz=207,slow=14,SNR=11						
TXAR				LR	LR	04 14 16.0	
	comp=Z,88nm,18.1s,baz=0.0,slow=34						
ANMO	**Albuquerque**	**16.24**	**5**	Pn	**P**	**04 11 39.4**	**-0.4**
	0.1nm,0.3s,baz=198,slow=9.6,SNR=8.8						
ANMO				LR	LR	04 17 39.9	
	comp=Z,54nm,19.1s,baz=188,slow=36						
PFO	**Pinyon Flats O**	**16.64**	**335**	LR	LR	04 16 53.1	
	comp=Z,135nm,19.7s,baz=205,slow=32						
NVAR	**Mina Array Bea**	**21.59**	**338**	P	**P**	**04 12 38.7**	**+0.3**
	1.3nm,0.8s,baz=168,slow=12,SNR=6.7						
NVAR				LR	LR	04 19 51.7	
	comp=Z,76nm,20.0s,baz=102,slow=33						
ELK	**Elko**	**22.82**	**346**	P	**P**	**04 12 51.9**	**+0.3**
	1.2nm,0.7s,baz=174,slow=9.1,SNR=5.0						
PDAR	**Pinedale Array**	**24.02**	**357**	P	**P**	**04 13 03.8**	**+0.4**
	0.7nm,0.8s,baz=177,slow=6.9,SNR=7.0						
ILAR	**Eielson Array**	**52.81**	**340**	P	**P**	**04 17 02.9**	**-0.2**
	0.6nm,0.8s,baz=157,slow=6.8,SNR=7.3						

*NIED **27** 04:34:29.5, 39°.51N×139°.60E, h23km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.44; Mθφ0.12; Mθθ-1.56; Mrθ-0.22; Mφφ-0.38; Mφr0.61; Fault plane solution: M0 1.68000×10^14 NP1: φs359.00000°, δ56.00000°, λ74.00000°. NP2: φs206.00000°, δ37.00000°, λ112.00000°.*

JMA 27 04:34:29.5, 39°.51N×139°.60E, h23km±1km, M3.6, 2C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTB	**Tobi-shima**	**0.32**	**186**	↑↑P	Pb	04 34 36.4	-0.2
JTB				S	Sb	04 34 41.3	-0.1
JYW	**Yuwa**	**0.47**	**86**	P	Pb	04 34 38.8	-0.4
JYW				S	Sb	04 34 46.1	+0.4
JYYZ	**Yamagatayuza**	**0.56**	**152**	↓↓P	Pb	04 34 40.9	+0.3
JYYZ				eS	Sb	04 34 48.7	+0.6
JOG3	**Oga3**	**0.57**	**316**	↑↑P	Pb	04 34 38.5	-2.4
JOG3				S	Sb	04 34 45.1	-3.5
JRG	**Rokugo**	**0.81**	**98**	↓↓P	Pb	04 34 44.5	-0.4
JRG				S	Sb	04 34 55.6	+0.2
JYK	**Kaneyama**	**0.83**	**135**	↓↓P	Pb	04 34 44.6	-0.7
JYK				S	Sb	04 34 55.8	-0.3
JYA	**Atsumi**	**0.92**	**174**	P	Pb	04 34 46.4	-0.4
JYA				S	Sb	04 34 58.7	+0.1
JAH	**Hinai**	**1.05**	**49**	↓↓P	Pn	04 34 48.4	-0.4
JAH				S	Sb	04 35 02.4	+0.2
JAW	**Awa shima**	**1.09**	**195**	P	Pn	04 34 49.4	+0.1
JAW				eS	Sn	04 35 03.6	0.0
JIW	**Iwasaki**	**1.13**	**16**	P	Pn	04 34 49.7	-0.2
JIW				eS	Sb	04 35 04.5	0.0
MAT	**Matsushiro**	**3.16**	**201**	P	Pn	04 35 18.8	+0.9
MAT				S	Sn	04 35 54.5	-0.3

*IDC **27** 04:49:42.2±0.4, 52°.46N×169°.63W, h0km, mb5.9/36, mb1 5.9/38, mb1mx5.9/39, mbtmp5.8/38, ML5.1/2, MS6.8/17, Ms1 6.8/17, ms1mx6.5/23, Error ellipse: s-maj=11.8km s-min=6.3km az=4.0*

*BJI **27** 04:49:42.1±0.0, 52°.40N×169°.60W, h10km, mB6.7/61, mb6.2/90, Ms7.2/92, Ms7 7.1/88*

*NEIC **27** 04:49:43.3, 52°.36N×169°.67W, h29km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.83; Mθθ-0.61; Mφφ-0.21; Mrθ0.81; Mθφ-0.55; Mφr0.42; Fault plane solution: M0 1.30000×10^19 NP1: φs226.91000°, δ23.01000°, λ77.11000°. NP2: φs60.87000°, δ67.60000°, λ95.41000°. Principal axes: T 1.2106, Plg67.0000°, Azm341.0000°; N 0.1658, Plg5.0000°, Azm239.0000°; P -1.3765, Plg22.0000°, Azm147.0000°;*

*MOS **27** 04:49:44.2±1.0, 52°.38N×169°.69W, h24km, mb6.5/119, MS6.9/77 Error ellipse: s-maj=6.5km s-min=3.7km az=98.8*

*AEIC **27** 04:49:45±2.8, 52°.21N±0°.04×169°.40W±0°.07, h23km±3km, Error ellipse: s-maj=6.9km s-min=4.7km az=137.0*

*BGR **27** 04:49:45.8±0.0, 52°.79N×169°.57W, h10km, mb6.4, mB_BB6.7, Ms6.8*

*NEIC **27** 04:49:46.4±2.3, 52°.38N±0°.04×169°.45W±0°.08, h29km±1km, mb6.4/880, Ms_20 6.9/433, Mwb6.7/65, Mwc6.9/105, Mww6.9, ML6.4/69(AEIC), Mwc6.9(GCMT), Error ellipse: s-maj=9.6km s-min=4.8km az=134.0*

*GCMT **27** 04:49:52.4±0.0, 52°.21N×169°.42W, h27km, MW6.9/172, Moment Tensor Solution. s172, c478; s171, c860; Duration: 6:9 Moment tensor: Scale 10^19Nm; Mrr1.99±.01; Mθφ-1.58±.01; Mθθ-0.40±.01; Mrθ1.82±.02; Mφφ-0.83±.00; Mφr0.88±.02; Best double couple: M0 2.84400×10^19 NP1: φs242.00000°, δ22.00000°, λ88.00000°. NP2: φs64.00000°, δ68.00000°, λ91.00000°. Principal axes: T 2.8350, Plg67.0000°, Azm335.0000°; N 0.0220, Plg1.0000°, Azm243.0000°; P -2.8520, Plg23.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 04:49:52.52°.16N×169°.40W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr1.90; Mθφ-1.52; Mφφ-0.37; Mrθ1.86; Mθφ-0.85; Mφr0.98; Fault plane solution: M0 2.86000×10^19 NP1: φs242.00000°, δ21.00000°, λ90.00000°. NP2: φs62.00000°, δ69.00000°, λ90.00000°. Principal axes: T 2.8208, Plg66.0000°, Azm332.0000°; N 0.0745, Plg0.0000°, Azm242.0000°; P -2.8953, Plg24.0000°, Azm152.0000°;*

*NEIC **27** 04:49:54.52°.28N×169°.82W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr1.99; Mθφ-1.67; Mφφ-0.32; Mrθ1.85; Mθφ-0.75; Mφr1.08; Fault plane solution: M0 2.93000×10^19 NP1: φs251.00000°, δ22.00000°, λ99.00000°. NP2: φs61.00000°, δ69.00000°, λ86.00000°. Principal axes: T 2.9268, Plg66.0000°, Azm325.0000°; N -0.0009, Plg3.0000°, Azm63.0000°; P -2.9259, Plg23.0000°, Azm154.0000°;*

*NEIC **27** 04:50:00.5, 51°.97N×169°.10W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr2.24; Mθφ-1.69; Mφφ-0.55; Mrθ1.73; Mθφ-0.82; Mφr1.57; Fault plane solution: M0 3.19000×10^19 NP1: φs250.80000°, δ22.44000°, λ107.42000°. NP2: φs52.06000°, δ68.64000°, λ82.96000°. Principal axes: T 3.2861, Plg66.0000°, Azm310.0000°; N -0.1905, Plg7.0000°, Azm55.0000°; P -3.0956, Plg23.0000°, Azm147.0000°;*

ISC 27 04:49:45.7±0.3, 52°.28N±0°.03×169°.54W±0°.02, h28km±1km, h28km: pP-P, n2455, σ1981/2490, mb6.4/697, MS6.9/360, 936C-64D, Fault plane solution: NP1: φs77.78293°, δ56.21021°, λ109.38593°. **NP2: φs225.46103°, δ38.37498°,** λ63.61761°. **Principal axes:** T Plg71.3702°, Azm35.0669°; N Plg16.0133°, Azm246.7103°; P Plg9.2702°, Azm154.0253°; **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**30**	P	**Pb**	**04 50 00.8**	**-0.4**
	baz=211,SNR=1000						
NIKH	**Nikolski High**	**0.81**	**30**		**Pb**	**04 50 00.2**	**-1.0**
OKSP	**Okmok Steeple**	**1.24**	**37**		**Pn**	**04 50 05.7**	**-1.4**
OKCE	**Okmok Cone E**	**1.42**	**35**		**Pn**	**04 50 09.6**	**-0.1**
OKCE					**Sn**	**04 50 26.9**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.43**	**39**		**Pn**	**04 50 09.1**	**-0.7**
OKNC	**Okmok New Cone**	**1.46**	**35**		**Pn**	**04 50 10.4**	**+0.2**
OKNC					**Sn**	**04 50 28.2**	**-0.1**
OKFG	**Magazine Ridge**	**1.50**	**40**		**Pn**	**04 50 10.1**	**-0.7**
MAPS	**Pakushin South**	**2.19**	**45**		**Pn**	**04 50 19.5**	**-0.7**
MAPS					**Sn**	**04 50 48.4**	**+1.9**
MGOD	**Makushin Gods**	**2.21**	**46**		**Pn**	**04 50 20.1**	**-0.5**
MGOD					**Sn**	**04 50 48.4**	**+1.4**
MSW	**Makushin Switc**	**2.33**	**44**		**Pn**	**04 50 22.2**	**0.0**
MNAT	**Makushin Natee**	**2.36**	**46**		**Pn**	**04 50 22.5**	**0.0**
MNAT					**Sn**	**04 50 52.1**	**+1.6**
UNV	**Unalaska Valle**	**2.41**	**48**	P	**Pn**	**04 50 22.6**	**-0.6**
	baz=231,SNR=680						
UNV	**Unalaska Valle**	**2.41**	**48**		**Pn**	**04 50 23.0**	**-0.2**
UNV					**Sn**	**04 50 54.4**	**+2.6**
AKRB	**Akutan Reef Bi**	**2.79**	**47**		**Pn**	**04 50 29.9**	**+1.4**
AKMO	**Akutan Morgan**	**2.79**	**48**		**Pn**	**04 50 29.9**	**+1.4**
KOFP	**Korovin Flat P**	**2.80**	**272**		**Pn**	**04 50 30.3**	**+1.7**
AKBBA	**Akutan Broad B**	**2.83**	**48**		**Pn**	**04 50 30.0**	**+0.9**
AKLV	**Akutan Long Va**	**2.86**	**47**		**Pn**	**04 50 31.0**	**+1.5**
AKLV					**Sn**	**04 51 06.3**	**+3.3**
KOKL	**Mount Kliuchef**	**2.87**	**273**		**Pn**	**04 50 31.3**	**+1.8**
ATKA	**Atka Island**	**2.87**	**270**	Pn	**Pn**	**04 50 29.6**	**+0.1**
AKGG	**Akutan Green G**	**2.87**	**46**		**Pn**	**04 50 31.1**	**+1.5**
AKUT	**Akutan**	**2.93**	**49**	Pn	**Pn**	**04 50 30.4**	**+0.1**
AKSA	**Akutan Strait**	**2.97**	**50**		**Pn**	**04 50 31.6**	**+0.8**
WESP	**Westdahl Peak**	**3.64**	**50**		**Pn**	**04 50 41.3**	**+1.1**
WEBT	**Westdahl Beart**	**3.68**	**49**		**Pn**	**04 50 42.0**	**+1.3**
GSTR	**Great Sitkin T**	**4.02**	**270**	Pn	**Pn**	**04 50 46.0**	**+0.7**
GSMY	**Great Sitkin M**	**4.02**	**269**		**Pn**	**04 50 46.5**	**+1.2**
SSBA	**Shishaldin**	**4.08**	**50**		**Pn**	**04 50 47.4**	**+1.1**
SSLS	**Shishaldin Sou**	**4.11**	**51**		**Pn**	**04 50 47.8**	**+1.2**
SSLN	**Shishaldin Nor**	**4.17**	**50**		**Pn**	**04 50 49.2**	**+1.8**
ISLZ	**Isanotski Laza**	**4.26**	**52**		**Pn**	**04 50 49.8**	**+1.2**
ISNN	**Isanotski Nort**	**4.28**	**51**		**Pn**	**04 50 51.7**	**+2.7**
ADK	**Adak**	**4.43**	**268**	P	**Pn**	**04 50 52.0**	**+1.1**
ADK	**Adak**	**4.43**	**268**		**Pn**	**04 50 52.0**	**+1.1**
FALS	**False Pass**	**4.47**	**52**	P	**Pn**	**04 50 52.0**	**+0.5**
	baz=238,SNR=55						
FALS	**False Pass**	**4.47**	**52**	Pn	**Pn**	**04 50 52.2**	**+0.7**
KIWB	**Kanaga Island**	**4.72**	**268**	Pn	**Pn**	**04 50 55.5**	**+0.5**
KIKV	**Kanaga Island**	**4.73**	**268**		**Pn**	**04 50 56.4**	**+1.3**
KICM	**Kanaga Island**	**4.74**	**269**		**Pn**	**04 50 56.7**	**+1.5**
KIMD	**Kanaga Island**	**4.78**	**267**		**Pn**	**04 50 56.9**	**+1.1**
SPIA	**Saint Paul Isl**	**4.93**	**355**	P	**Pn**	**04 51 00.7**	**+2.9**
	baz=174,SNR=307						
SPIA	**Saint Paul Isl**	**4.93**	**355**		**Pn**	**04 50 58.7**	**+0.9**
TAFP	**Tanaga Falls P**	**5.22**	**269**		**Pn**	**04 51 03.1**	**+1.2**
TASE	**Tanaga Southea**	**5.26**	**269**		**Pn**	**04 51 04.1**	**+1.6**
HAG	**Hague Volcano**	**5.45**	**53**	P	**Pn**	**04 51 08.2**	**+3.2**
HAG	**Hague Volcano**	**5.45**	**53**		**Pn**	**04 51 08.2**	**+3.2**
GAEA	**Gareloi East**	**5.71**	**269**		**Pn**	**04 51 10.7**	**+2.1**
GALAA	**Gareloi Lava P**	**5.73**	**268**		**Pn**	**04 51 10.8**	**+2.0**
SDPT	**Sand Point**	**6.18**	**57**	P	**Pn**	**04 51 14.5**	**-0.5**
	baz=244,SNR=47						
SDPT	**Sand Point**	**6.18**	**57**	Pn	**Pn**	**04 51 14.7**	**-0.3**
CNBA	**Chernabura Isl**	**6.45**	**63**		**Pn**	**04 51 18.0**	**-0.7**
CHNA	**Chernabura Isl**	**6.46**	**63**	P	**Pn**	**04 51 17.8**	**-0.9**
	baz=251,SNR=98						
CERAA	**Semis' Rag'd T**	**6.66**	**271**		**Pn**	**04 51 23.1**	**+1.6**
CEAP	**Semis' Anvil P**	**6.71**	**272**		**Pn**	**04 51 24.8**	**+2.5**
CESW	**Semis' Southwe**	**6.73**	**271**		**Pn**	**04 51 23.6**	**+1.0**
AMKA	**Amchitka**	**6.98**	**267**	Pn	**Pn**	**04 51 27.3**	**+1.4**
VNFG	**Fog Glacier, M**	**7.09**	**52**		**Pn**	**04 51 30.6**	**+3.0**
VNSG	**Veniaminof 6**	**7.24**	**54**		**Pn**	**04 51 30.8**	**+1.2**
VNHG	**Veniaminof 1**	**7.25**	**53**		**Pn**	**04 51 31.2**	**+1.5**
LSPA	**Little Sitkin**	**7.33**	**272**		**Pn**	**04 51 32.9**	**+2.1**
LSNW	**Little Sitkin**	**7.37**	**272**		**Pn**	**04 51 33.9**	**+2.7**
LSSA	**Little Sitkin**	**7.37**	**272**		**Pn**	**04 51 34.0**	**+2.6**
CHIR	**Chirikof Islan**	**8.92**	**61**	P	**Pn**	**04 51 51.6**	**-0.9**
	baz=253,SNR=24						
CHIR	**Chirikof Islan**	**8.92**	**61**	Pn	**Pn**	**04 51 52.4**	**-0.1**
PLK1	**Peulik 1**	**9.25**	**48**		**Pn**	**04 51 59.8**	**+2.8**
PLK3	**Peulik 3**	**9.35**	**49**		**Pn**	**04 51 59.3**	**+0.8**
SII	**Sitkinak Islan**	**9.92**	**58**	P	**Pn**	**04 52 04.3**	**-1.9**
	baz=251,SNR=51						
SII	**Sitkinak Islan**	**9.92**	**58**	Pn	**Pn**	**04 52 06.0**	**-0.2**
ANCK	**Angle Creek**	**9.96**	**48**		**Pn**	**04 52 07.5**	**+0.6**
SMY	**Shemya**	**9.99**	**279**	P	**Pn**	**04 52 07.5**	**+0.3**
SMY	**Shemya**	**9.99**	**279**	Pn	**Pn**	**04 52 07.5**	**+0.3**
OHAK	**Old Harbor**	**10.61**	**56**	P	**Pn**	**04 52 13.5**	**-2.1**
	baz=249,SNR=34						
OHAK	**Old Harbor**	**10.61**	**56**	Pn	**Pn**	**04 52 14.4**	**-1.2**
O18K	**Koktuh Hills**	**11.02**	**41**	P	**Pn**	**04 52 22.4**	**+1.2**
	baz=233						
KDAK	**Kodiak Island**	**11.17**	**54**	Pn	**Pn**	**04 52 22.1**	**-1.2**
	12nm,0.3s,baz=201,slow=4.1,SNR=101						
KDAK				Sn	**Sn**	**04 54 27.4**	**+0.4**
	12nm,0.3s,baz=299,slow=19,SNR=2.7						
KDAK	**Kodiak Island**	**11.17**	**54**	eP	**Pn**	**04 52 24.1**	**+0.8**
KDAK	**Kodiak Island**	**11.17**	**54**	P	**Pn**	**04 52 21.2**	**-2.1**
	baz=248						
KDAK	**Kodiak Island**	**11.17**	**54**	Pn	**Pn**	**04 52 21.2**	**-2.1**
N18K	**Kilae Creek**	**11.28**	**36**	P	**Pn**	**04 52 25.9**	**+1.0**
	baz=228,SNR=72						
GAMB	**Gambell**	**11.59**	**355**	P	**Pn**	**04 52 32.4**	**+3.4**
	baz=173						
GAMB	**Gambell**	**11.59**	**355**		**Pn**	**04 52 31.6**	**+2.6**
SVW2	**Sparrevohn**	**11.68**	**35**		**Pn**	**04 52 31.3**	**+1.0**
P19K	**Oil Pt**	**11.72**	**45**	P	**Pn**	**04 52 30.3**	**-0.6**
	baz=238,SNR=49						
N19K	**Bonanza Creek**	**11.89**	**38**	P	**Pn**	**04 52 34.4**	**+1.1**
	baz=231,SNR=241						
O20K	**Slope Mountain**	**12.21**	**44**	P	**Pn**	**04 52 36.8**	**-0.9**
	baz=238,SNR=40						
HOM	**Homer**	**12.42**	**46**	P	**Pn**	**04 52 37.7**	**-2.7**
	baz=241,SNR=22						
HOM	**Homer**	**12.42**	**46**	Pn	**Pn**	**04 52 39.1**	**-1.4**
ANM	**Nome**	**12.51**	**8**	P	**Pn**	**04 52 44.9**	**+3.3**
	baz=192,SNR=48						
CNPM	**China Poot**	**12.54**	**47**	Pn	**Pn**	**04 52 40.4**	**-1.7**
L19K	**White Mountain**	**12.68**	**33**	P	**Pn**	**04 52 45.3**	**+1.3**
	baz=225,SNR=824						
BRLK	**Bradley Lake**	**12.81**	**47**	Pn	**Pn**	**04 52 45.7**	**-0.1**
BRSE	**Bradley Lake S**	**12.87**	**47**	P	**Pn**	**04 52 43.4**	**-3.1**
	baz=243,SNR=57						
TTA	**Tatalina**	**12.87**	**29**	P	**Pn**	**04 52 49.7**	**+3.1**
TTA	**Tatalina**	**12.87**	**29**	P	**Pn**	**04 52 44.6**	**-2.0**
	baz=220,SNR=11						
TTA	**Tatalina**	**12.87**	**29**	Pn	**Pn**	**04 52 49.7**	**+3.1**
SPCR	**Spurr Chakacha**	**13.01**	**40**	P	**Pn**	**04 52 48.5**	**0.0**
	baz=234,SNR=38						
M20K	**Styx River**	**13.08**	**36**	P	**Pn**	**04 52 50.1**	**+0.6**
	baz=230						
CAPN	**Captain Cook N**	**13.20**	**43**	P	**Pn**	**04 52 50.7**	**-0.3**
	baz=238						
CAPN	**Captain Cook N**	**13.20**	**43**	Pn	**Pn**	**04 52 53.5**	**+2.6**
TNA	**Tin City**	**13.35**	**3**	P	**Pn**	**04 52 55.5**	**+2.5**
	baz=184,SNR=139						
TNA	**Tin City**	**13.35**	**3**	Pn	**Pn**	**04 52 55.5**	**+2.5**
SEW	**Seward**	**13.61**	**47**	P	**Pn**	**04 52 53.8**	**-2.8**
	baz=244,SNR=124						
SEW	**Seward**	**13.61**	**47**	Pn	**Pn**	**04 52 55.1**	**-1.5**
O22K	**Cooper Landing**	**13.66**	**45**	P	**Pn**	**04 52 55.0**	**-2.3**
	baz=242,SNR=219						
SKT	**Skwentna**	**13.73**	**38**	P	**Pn**	**04 52 58.8**	**+0.5**
	baz=233,SNR=107						
SUA	**Susitna One**	**13.74**	**41**	P	**Pn**	**04 52 57.1**	**-1.4**
	baz=236,SNR=94						
K20K	**Telida**	**13.78**	**30**	P	**Pn**	**04 52 59.9**	**+1.0**
	baz=223,SNR=52						
FIS	**Fire Island**	**13.78**	**42**		**Pn**	**04 53 01.8**	**+2.9**
RC01	**Rabbit Creek A**	**13.96**	**43**	P	**Pn**	**04 52 58.8**	**-2.6**
	baz=240,SNR=44						
RC01	**Rabbit Creek A**	**13.96**	**43**		**Pn**	**04 53 01.3**	**0.0**
PPLA	**Purkeypile**	**14.08**	**34**	P	**Pn**	**04 53 04.5**	**+1.4**
	baz=229						
PPLA	**Purkeypile**	**14.08**	**34**		**Pn**	**04 53 04.7**	**+1.6**
J20K	**Nowinta River**	**14.37**	**28**	P	**Pn**	**04 53 08.0**	**+1.1**
	baz=221,SNR=96						
CUT	**Chulitna**	**14.46**	**38**	P	**Pn**	**04 53 05.9**	**-2.3**
	baz=234,SNR=22						
PMR	**Palmer**	**14.46**	**42**	P	**Pn**	**04 53 04.7**	**-3.5**
	baz=239,SNR=14						
KNK	**Knik Glacier**	**14.65**	**43**	P	**Pn**	**04 53 07.6**	**-3.3**
	baz=241,SNR=51						
CHUM	**Lake Minchumin**	**14.71**	**31**	P	**Pn**	**04 53 12.7**	**+1.2**
	baz=226,SNR=98						
Q23K	**Middleton Isla**	**14.80**	**52**	P	**Pn**	**04 53 10.6**	**-2.2**
	baz=251,SNR=13						
SML	**Sawmill**	**14.90**	**42**	P	**Pn**	**04 53 09.6**	**-4.6**
	baz=240,SNR=30						
SML	**Sawmill**	**14.90**	**42**	Pn	**Pn**	**04 53 13.1**	**-1.2**
GLI	**Glacier Island**	**15.00**	**46**	P	**Pn**	**04 53 11.3**	**-4.2**
	baz=245,SNR=9.6						
GLI	**Glacier Island**	**15.00**	**46**	Pn	**Pn**	**04 53 12.6**	**-2.9**
HIN	**Hinchinbrook I**	**15.07**	**48**	Pn	**Pn**	**04 53 14.6**	**-1.8**
TRF	**Thorofare Moun**	**15.09**	**35**	P	**Pn**	**04 53 16.5**	**-0.4**
	baz=231,SNR=163						
TRF	**Thorofare Moun**	**15.09**	**35**		**Pn**	**04 53 17.5**	**+0.6**
FID	**Port Fidalgo**	**15.22**	**47**	Pn	**Pn**	**04 53 15.3**	**-3.1**
BPAW	**Bear Paw Mtn.**	**15.28**	**32**	P	**Pn**	**04 53 19.4**	**+0.2**
	baz=228,SNR=791						
BPAW	**Bear Paw Mtn.**	**15.28**	**32**		**Pn**	**04 53 19.2**	**0.0**
BPAW				IAmb	IAmb	04 53 31.8	
	comp=Z,1μm,0.7s						
SCM	**Sheep Creek Mo**	**15.33**	**43**	IAmb	IAmb	04 53 40.6	
	comp=Z,2μm,1.0s						
WAT1	**Susitna Watana**	**15.36**	**38**	P	**Pn**	**04 53 16.7**	**-3.6**
	baz=236						
EYAK	**Cordova Ski Ar**	**15.47**	**48**	P	**Pn**	**04 53 16.4**	**-5.3**
	baz=248,SNR=60						
WAT6	**Susitna Watana**	**15.54**	**40**	P	**Pn**	**04 53 17.7**	**-5.0**
	baz=238,SNR=105						
I21K	**Tanana**	**15.74**	**28**	P	**Pn**	**04 53 25.8**	**+0.7

H24K	**Noodor Dome**	**17.43**	**30**	P	**Pn**	**04 53 45.4**	**-1.1**
	baz=229,SNR=702						
DOT	**Dot Lake**	**17.52**	**40**	P	**Pn**	**04 53 46.3**	**-1.4**
L26K	**Log Cabin Wild**	**17.52**	**42**	P	**Pn**	**04 53 44.7**	**-3.0**
	baz=244,SNR=46						
TABL	**Table Mountain**	**17.61**	**51**	IAmb	IAmb	04 54 04.9	
	comp=Z,2μm,1.0s						
CTG	**Chitna Glacier**	**17.66**	**49**	P	**Pn**	**04 53 47.3**	**-2.2**
	baz=253,SNR=102						
SCRK	**Sand Creek**	**17.71**	**39**	P	**Pn**	**04 53 45.8**	**-4.3**
	baz=241,SNR=80						
LOGN	**Logan Glacier**	**17.77**	**50**	P	**Pn**	**04 53 49.7**	**-1.2**
M27K	**Edge Creek, AK**	**17.88**	**45**	P	**Pn**	**04 53 49.2**	**-2.9**
	baz=248,SNR=158						
PINM	**Pinnacle**	**17.95**	**53**	P	**Pn**	**04 53 51.1**	**-2.0**
	baz=257,SNR=43						
PRP	**Porcupine Dome**	**17.99**	**33**	P	**Pn**	**04 53 49.5**	**-4.0**
	baz=234,SNR=81						
L27K	**Beaver Creek,**	**18.17**	**43**	P	**Pn**	**04 53 53.2**	**-2.4**
	baz=246,SNR=80						
BCAR	**Beaver Creek A**	**18.19**	**43**		**Pn**	**04 53 54.9**	**-1.0**
K27K	**Chicken**	**18.48**	**40**	P	**P**	**04 53 56.2**	**-2.9**
	baz=243						
TOLK	**Toolik Lake Re**	**18.97**	**23**	P	**Pn**	**04 54 05.3**	**0.0**
	baz=220,SNR=211						
EGAK	**Eagle**	**19.18**	**38**	P	**P**	**04 54 04.7**	**-2.1**
	baz=243,SNR=120						
PET	**Petropavlovsk**	**19.24**	**285**	*c iP*	**P**	**04 54 07.5**	**0.0**
PET				*e*S	**Sn**	**04 57 35.4**	**-7.8**
PET				pmax	pmax		
	comp=Z,40μm,15.1s						
PET				pmax	pmax		
	comp=Z,1μm,0.8s						
PET				pmax	pmax		
	comp=Z,85μm,16.3s						
PET				MLR	MLR		
	comp=Z,352μm,20.0s						
PET	**Petropavlovsk**	**19.24**	**285**	P	**P**	**04 54 06.8**	**-0.6**
HYT	**Haines Junctio**	**19.44**	**51**	IAmb	IAmb	04 54 36.7	
	comp=Z,2μm,0.9s						
BMAR	**Burnt Mountain**	**19.46**	**29**	P	**P**	**04 54 09.7**	**-0.2**
BILL	**Bilibino**	**19.64**	**333**	*d iP*	**Pn**	**04 54 12.7**	**-0.5**
BILL				*e*S	**S**	**04 57 51.8**	**+0.3**
BILL				pmax	pmax		
	comp=Z,1μm,1.1s						
BILL				MLR	MLR		
	comp=Z,309μm,13.0s						
BILL	**Bilibino**	**19.64**	**333**		**Pn**	**04 54 13.5**	**+0.2**
BILL				IAmb	IAmb	04 54 44.6	
	comp=Z,3μm,1.4s						
PEA0B	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 54 13.8**	**+0.3**
PEA0B				pmax	pmax		
	comp=Z,3μm,1.3s						
PEA0B	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 54 13.8**	**+0.3**
PEA0B				IAmb	IAmb	04 54 17.9	
	comp=Z,3μm,1.2s						
PETK	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 54 13.4**	**-0.1**
	comp=Z,64nm,0.3s,baz=88,slow=14,SNR=375						
PETK				S	**S**	**04 57 46.0**	**-8.7**
	baz=107,slow=7.7,SNR=0.9						
PETK	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 54 12.9**	**-0.6**
A21K	**Barrow**	**19.97**	**12**	P	**P**	**04 54 14.6**	**-0.7**
	baz=204						
A21K	**Barrow**	**19.97**	**12**	P	**P**	**04 54 15.1**	**-0.3**
A21K				IAmb	IAmb	04 54 33.7	
	comp=Z,5μm,1.9s						
SIT	**Sitka**	**20.21**	**63**	P	Pn	04 54 19.5	-0.6
SIT				pmax	pmax		
	comp=Z,3μm,1.6s						
SIT	**Sitka**	**20.21**	**63**	P	**P**	**04 54 18.5**	**+0.4**
	baz=271,SNR=9.4						
SIT	**Sitka**	**20.21**	**63**		Pn	04 54 19.5	-0.6
SIT				IAmb	IAmb	04 54 55.1	
	comp=Z,3μm,1.6s						
SKAG	**Skagway**	**20.31**	**56**	P	Pn	04 54 20.2	-1.0
	baz=264,SNR=142						
SKAG	**Skagway**	**20.31**	**56**		Pn	04 54 20.6	-0.6
SKAG				IAmb	IAmb	04 54 33.3	
	comp=Z,2μm,0.7s						
BESE	**Bessie Mountai**	**20.49**	**58**	IAmb	IAmb	04 54 55.4	
	comp=Z,3μm,1.3s						
WHY	**Whitehorse**	**20.68**	**52**	P	Pn	04 54 24.6	-1.0
	baz=262,SNR=243						
WHY	**Whitehorse**	**20.68**	**52**	IAmb	IAmb	04 54 34.0	
	comp=Z,1μm,0.8s						
WHY				IAMs_20	IAMs_20	05 03 12.5	
	comp=Z,392μm,20.0s						
JIS	**Juneau Island**	**20.73**	**59**	IAmb	IAmb	04 54 49.8	
	comp=Z,2μm,1.2s						
SKR	**Severo-Kuril's**	**21.34**	**279**	*e*P	**P**	**04 54 29.7**	**-0.5**
SKR				*e*S	Sn	04 58 32.5	-1.2
SKR				pmax	pmax		
	comp=Z,871nm,1.0s						
SKR				pmax	pmax		
	comp=Z,14μm,9.3s						
EPYK	**Eagle Plains**	**21.54**	**37**	P	**P**	**04 54 30.2**	**-2.1**
	baz=245,SNR=614						
EPYK	**Eagle Plains**	**21.54**	**37**	P	**P**	**04 54 30.1**	**-2.2**
EPYK				IAmb	IAmb	04 54 57.1	
	comp=Z,1μm,0.8s						
EPYK				IAMs_20	IAMs_20	05 03 24.1	
	comp=Z,341μm,18.0s						
CRAG	**Craig**	**21.54**	**67**	P	**P**	**04 54 34.0**	**+1.6**
	baz=277,SNR=26						
CRAG	**Craig**	**21.54**	**67**	P	**P**	**04 54 34.0**	**+1.6**
CRAG				IAmb	IAmb	04 54 57.8	
	comp=Z,3μm,1.6s						
WRAK	**Wrangell Islan**	**21.88**	**64**	P	**P**	**04 54 37.0**	**+1.0**
	baz=275,SNR=32						
H02S1	**DAWSON INLET T**	**22.30**	**73**	P	**P**	**04 54 41.4**	**+0.9**
H02S1				T	T	05 17 56.8	
	SNR=2149						
H02S1	**DAWSON INLET T**	**22.30**	**73**	P	**P**	**04 54 41.4**	**+0.9**
MOBC	**Moresby Island**	**22.61**	**73**	IAmb	IAmb	04 55 13.0	
	comp=Z,2μm,1.5s						
DLBC	**Dease Lake**	**23.02**	**59**	P	**P**	**04 54 48.4**	**+0.2**
	comp=Z,143nm,1.0s,baz=271,slow=9.4,SNR=50						
DLBC				S	**S**	**04 59 00.4**	**+3.5**
	comp=Z,73nm,1.2s,baz=347,slow=9.3,SNR=1.5						
DLBC				LR	LR	05 04 03.6	
	comp=Z,213μm,21.2s,baz=290,slow=38						
DLBC	**Dease Lake**	**23.02**	**59**	IAmb	IAmb	04 55 27.7	
	comp=Z,4μm,1.9s						
MA2	**Magadan**	**23.11**	**304**	P	**P**	**04 54 49.1**	**+0.1**
	comp=Z,494nm,1.0s,baz=87,slow=8.8,SNR=59						
MA2				S	**S**	**04 59 05.4**	**+7.2**
	comp=Z,13nm,0.8s,baz=99,slow=21,SNR=0.7						
MA2				LR	LR	05 03 02.6	
	comp=Z,283μm,20.9s,baz=92,slow=35						
MA2	**Magadan**	**23.11**	**304**	P	**P**	**04 54 48.9**	**-0.1**
INK	**Inuvik**	**23.48**	**33**	P	**P**	**04 54 50.1**	**-2.5**
	comp=Z,56nm,0.6s,baz=244,slow=9.8,SNR=62						
INK				S	**S**	**04 58 56.1**	**-8.0**
	comp=Z,38nm,0.7s,baz=151,slow=6.2,SNR=1.7						
INK				LR	LR	05 05 13.4	
	comp=Z,553μm,18.0s,baz=234,slow=40						
INK	**Inuvik**	**23.48**	**33**	P	**P**	**04 54 50.2**	**-2.4**
INK				pmax	pmax		
	comp=Z,913nm,1.3s						
INK				MLR	MLR		
	comp=Z,445μm,19.0s						
INK	**Inuvik**	**23.48**	**33**	P	**P**	**04 54 49.9**	**-2.7**
	baz=245,SNR=187						
INK	**Inuvik**	**23.48**	**33**	P	**P**	**04 54 50.2**	**-2.4**
INK				IAMs_20	IAMs_20	05 04 53.4	
	comp=Z,445μm,19.0s						
MIDW	**Midway**	**24.74**	**197**	P	**P**	**04 55 05.0**	**+0.4**
BBB	**Bella Bella**	**25.13**	**74**	P	**P**	**04 55 09.5**	**+1.6**
	comp=Z,201nm,1.1s,baz=301,slow=12,SNR=17						
BBB				S	**S**	**04 59 30.8**	**0.0**
	comp=Z,12nm,0.8s,baz=95,slow=19,SNR=0.7						
BBB				ScP	**ScP**	**05 02 22.4**	**+4.2**
	comp=Z,65nm,1.3s,baz=231,slow=7.6,SNR=3.0						
BBB	**Bella Bella**	**25.13**	**74**	P	**P**	**04 55 08.1**	**+0.2**
C36M	**Paulatuk**	**27.06**	**34**	P	**P**	**04 55 24.2**	**-1.0**
	baz=254,SNR=67						
C36M	**Paulatuk**	**27.06**	**34**	P	**P**	**04 55 24.4**	**-0.8**
C36M				IAMs_20	IAMs_20	05 07 02.0	
	comp=Z,261μm,18.0s						
KUR	**Kuril'sk**	**28.61**	**273**	*c iP*	**P**	**04 55 38.9**	**-0.4**
KUR				*e*PPP	PPP	04 56 39.5	
KUR				*i* S	**S**	**05 00 26.9**	**+1.0**
KUR				SSS	SSS	05 02 06.8	
KUR				pmax	pmax		
	comp=E,393nm,1.3s						
KUR				pmax	pmax		
	comp=Z,1μm,1.3s						
KUR				pmax	pmax		
	comp=N,222nm,0.9s						
KUR				pmax	pmax		
	comp=Z,20μm,17.8s						
KUR				pmax	pmax		
	comp=E,16μm,18.0s						
KUR				pmax	pmax		
	comp=N,7μm,15.1s						
TYV	**Tymovskoe**	**29.33**	**287**	*e*P	**P**	**04 55 45.6**	**0.0**
TYV				*e*		05 00 40.0	
NLWA	**Neilton Lookou**	**29.47**	**81**	P	**P**	**04 55 48.8**	**+1.8**
A04D	**Lummi Island**	**29.59**	**78**	P	**P**	**04 55 49.3**	**+1.3**
	baz=295,SNR=21						
NKL	**Nikolayevsk**	**29.69**	**292**	*e*P	**P**	**04 55 48.0**	**-0.8**
NKL				*e*S	**S**	**05 00 36.6**	**-6.0**
NKL				pmax	pmax		
	comp=E,69nm,0.7s						
NKL				pmax	pmax		
	comp=N,726nm,1.0s						
NKL				pmax	pmax		
	comp=Z,295nm,1.0s						
NKL				smax	smax		
	comp=E,51nm,2.7s						
NKL				smax	smax		
	comp=N,770nm,2.6s						
NKL				MLR	MLR		
	comp=Z,275μm,19.0s						
A05A	**Maple Falls**	**29.85**	**77**	IAmb	IAmb	04 56 20.6	
	comp=Z,1μm,1.6s						
D03D	**Eldon**	**29.88**	**80**	P	**P**	**04 55 52.0**	**+1.5**
	baz=297,SNR=84						
E03A	**Lebam**	**30.04**	**82**	P	**P**	**04 55 53.9**	**+1.9**
E03A				IAmb	IAmb	04 56 12.1	
	comp=Z,586nm,1.2s						
B05A	**Bryant**	**30.15**	**78**	P	**P**	**04 55 54.2**	**+1.2**
	baz=296,SNR=138						
D04E	**Lakebay**	**30.23**	**81**	P	**P**	**04 55 55.5**	**+1.8**
	baz=298,SNR=25						
YKA	**Yellowknife Ar**	**30.38**	**49**	P	**P**	**04 55 55.0**	**+0.2**
	comp=Z,287nm,1.1s,baz=274,slow=9.7,SNR=124						
YKA				S	**S**	**05 00 46.0**	**-7.3**
	comp=Z,5.3nm,0.8s,baz=285,slow=2.4,SNR=1.3						
YKA				LR	LR	05 09 40.1	
	comp=Z,267μm,18.3s,baz=0.0,slow=40						
YKA				P3KPbc		05 27 44.0	
	comp=Z,0.8nm,0.8s,baz=96,slow=5.7,SNR=2.2						
YKA	**Yellowknife Ar**	**30.38**	**49**	P	**P**	**04 55 55.1**	**+0.2**
UGL	**Uglegorsk**	**30.38**	**284**	*c iP*	**P**	**04 55 55.1**	**+0.1**
UGL				*e*		04 56 59.3	
UGL				*e*S	**S**	**05 00 47.5**	**-6.1**
UGL				*e*SS	**ScP**	**05 02 32.0**	**-2.3**
UGL				pmax	pmax		
	comp=Z,570nm,1.0s						
UGL				pmax	pmax		
	comp=Z,17μm,17.0s						
UGL				pmax	pmax		
	comp=Z,10μm,10.0s						
UGL				smax	smax		
	comp=N,6μm,17.0s						
UGL				smax	smax		
	comp=E,18μm,17.0s						
UGL				MLR	MLR		
	comp=N,62μm,17.0s						
UGL				MLR	MLR		
	comp=E,135μm,18.0s						
UGL				MLR	MLR		
	comp=Z,123μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**30.46**	**272**	*i* P	**P**	**04 55 55.3**	**-0.4**
YUK				*i*		04 56 54.4	
YUK				*i* PPP	PPP	04 57 05.2	
YUK				*e*S	**S**	**05 00 55.2**	**+0.4**
YUK				*i* SS	**ScP**	**05 02 34.6**	**0.0**
YUK				pmax	pmax		
	comp=Z,3μm,1.5s						
YUK				MLR	MLR		
	comp=Z,154μm,22.0s						
YUK				MLR	MLR		
	comp=E,114μm,21.0s						
GRPR	**Tuman**	**30.53**	**272**	*e*P	**P**	**04 55 56.7**	**+0.3**
F04D	**Rainier, OR**	**30.60**	**83**	P	**P**	**04 55 58.6**	**+1.6**
	baz=299						
E04D	**Cinebar**	**30.64**	**82**	P	**P**	**04 55 59.4**	**+2.1**
	baz=298,SNR=94						
D05A	**Enumclaw**	**30.70**	**80**	P	**P**	**04 55 59.9**	**+2.1**
GLVR	**Golovnino**	**30.82**	**272**	*e*P	**P**	**04 55 59.5**	**+0.6**
G03D	**McMinnville, O**	**30.87**	**85**	P	**P**	**04 56 00.6**	**+1.2**
	baz=300						
YSS	**Yuzh-Sakhalins**	**30.91**	**279**	*c iP*	**P**	**04 55 59.8**	**+0.2**
YSS				*e*		04 57 06.6	
YSS				*e*		04 58 56.7	
YSS				*e*S	**S**	**05 01 02.2**	**+0.4**
YSS				*e*SS	SS	05 02 59.0	-15
YSS				pmax	pmax		
	comp=Z,430nm,1.0s						
YSS				pmax	pmax		
	comp=E,5μm,14.0s						
YSS				pmax	pmax		
	comp=Z,12μm,14.0s						
YSS				pmax	pmax		
	comp=N,3μm,12.0s						
YSS				MLR	MLR		
	comp=N,36μm,18.0s						
YSS				MLR	MLR		
	comp=Z,88μm,18.0s						
YSS				MLR	MLR		
	comp=E,71μm,17.0s						
YSS	**Yuzh-Sakhalins**	**30.91**	**279**	P	**P**	**04 55 59.6**	**0.0**
YSS				IAmb	IAmb	04 56 05.7	
	comp=Z,468nm,1.0s						
YSS				IAMs_20	IAMs_20	05 07 03.9	
	comp=Z,226μm,22.0s						
C06D	**Leavenworth**	**31.03**	**78**	P	**P**	**04 56 01.6**	**+0.8**
	baz=297,SNR=12						
I02D	**Swisshome**	**31.08**	**87**	P	**P**	**04 56 03.1**	**+1.9**
	baz=302						
COR	**Corvallis**	**31.17**	**86**	P	**P**	**04 56 04.2**	**+2.2**
COR				pmax	pmax		
	comp=Z,539nm,1.2s						
COR	**Corvallis**	**31.17**	**86**	P	**P**	**04 56 04.2**	**+2.2**
COR				IAmb	IAmb	04 56 52.2	
	comp=Z,539nm,1.1s						
COR	**Corvallis**	**31.17**	**86**	IAMs_20	IAMs_20	05 05 15.5	
	comp=Z,184μm,22.0s						
LTY	**Liberty**	**31.46**	**79**	IAmb	IAmb	04 56 23.9	
	comp=Z,680nm,1.4s						
J01E	**Myrtle Point**	**31.54**	**88**	P	**P**	**04 56 05.8**	**+0.6**
	baz=303						
H04D	**Lebanon**	**31.55**	**85**	P	**P**	**04 56 06.8**	**+1.5**
	baz=301						
BUCK	**Buck Mountain**	**31.56**	**86**	P	**P**	**04 56 07.2**	**+1.7**
BUCK				IAmb	IAmb	04 57 04.9	
	comp=Z,845nm,1.5s						
I03D	**Drain, OR**	**31.61**	**87**	P	**P**	**04 56 07.3**	**+1.5**
	baz=302						
F05D	**White Salmon**	**31.64**	**82**	P	**P**	**04 56 06.9**	**+0.7**
	baz=300,SNR=15						
B08A	**Colville Reser**	**31.77**	**77**	IAmb	IAmb	04 56 30.5	
	comp=Z,1μm,1.4s						
H04A	**Detroit Lake**	**31.80**	**85**	IAmb	IAmb	04 56 31.9	
	comp=Z,563nm,1.1s						
KBO	**Bosley Butte**	**31.88**	**90**	P	**P**	**04 56 11.9**	**+3.5**
KBO				IAmb	IAmb	04 56 40.1	
	comp=Z,972nm,1.6s						
K02D	**Willamette Mer**	**31.95**	**89**	P	**P**	**04 56 09.8**	**+0.8**
	baz=304,SNR=7.6						
G05D	**Wamic, OR**	**32.05**	**83**	P	**P**	**04 56 11.4**	**+1.6**
	baz=301,SNR=30						
KIP	**Kipapa**	**32.06**	**159**	P	**P**	**04 56 10.4**	**+0.4**
KIP				pmax	pmax		
	comp=Z,1μm,1.6s						
KIP	**Kipapa**	**32.06**	**159**	P	**P**	**04 56 10.4**	**+0.4**
KIP				IAmb	IAmb	04 56 32.3	
	comp=Z,1μm,1.6s						
KIP	**Kipapa**	**32.06**	**159**	IAMs_20	IAMs_20	05 06 48.5	
	comp=Z,155μm,20.0s						
I04A	**Tendick Farm,**	**32.13**	**86**	P	**P**	**04 56 11.4**	**+0.9**
	baz=302,SNR=30						
WMR	**Waimanalo Ridg**	**32.24**	**159**	P	**P**	**04 56 12.6**	**+1.1**
E07A	**Sunnyside**	**32.29**	**80**	IAmb	IAmb	04 56 31.4	
	comp=Z,1μm,1.6s						
L02E	**Cave Junction**	**32.29**	**90**	P	**P**	**04 56 13.1**	**+1.2**
	baz=305						
JKA	**Kamikawa-asahi**	**32.41**	**275**	IAmb	IAmb	04 56 18.0	
	comp=Z,397nm,1.0s						
ASAJ	**Asahikawa**	**32.41**	**275**	P	**P**	**04 56 13.1**	**+0.1**
	comp=Z,364nm,1.0s,baz=37,slow=4.2,SNR=51						
ASAJ				S	**S**	**05 01 27.4**	**+2.0**
	comp=Z,4.4nm,0.4s,baz=228,slow=12,SNR=1.1						
ASAJ				LR	LR	05 08 01.7	
	comp=Z,261μm,21.6s,baz=76,slow=34						
HUMO	**Hull Mountain**	**32.44**	**88**	IAMs_20	IAMs_20	05 05 50.3	
	comp=Z,188μm,21.0s						
I05D	**Terrebonne, OR**	**32.50**	**85**	P	**P**	**04 56 15.0**	**+1.2**
	baz=302,SNR=28						
HAWA	**Hanford**	**32.56**	**80**	IAmb	IAmb	04 56 33.6	
	comp=Z,1μm,1.3s						
F07A	**Phinny Hill Vi**	**32.57**	**81**	IAmb	IAmb	04 56 33.9	
	comp=Z,1μm,1.6s						
J04D	**Umpqua Nationa**	**32.61**	**87**	P	**P**	**04 56 15.8**	**+0.9**
	baz=303						
D08A	**Wollman Farm,**	**32.61**	**79**	IAmb	IAmb	04 56 33.6	
	comp=Z,534nm,1.2s						
C09A	**Chrisman Ranch**	**32.66**	**77**	IAmb	IAmb	04 56 38.0	
	comp=Z,731nm,1.2s						
TIXI	**Tiksi**	**32.76**	**329**	P	**P**	**04 56 15.7**	**0.0**
	comp=Z,69nm,0.8s,baz=107,slow=11,SNR=14						
TIXI				PcP	**PcP**	**04 59 00.5**	**+0.3**
	comp=Z,122nm,1.0s,baz=252,slow=2.9,SNR=3.0						
TIXI				S	**S**	**05 01 32.8**	**+2.5**
	comp=Z,4.0nm,0.4s,baz=348,slow=19,SNR=2.0						
TIXI				ScP	**ScP**	**05 02 44.5**	**+2.6**
	comp=Z,50nm,0.9s,baz=249,slow=3.5,SNR=4.2						
TIXI				LR	LR	05 10 41.0	
	comp=Z,162μm,19.9s,baz=96,slow=39						
TIXI	**Tiksi**	**32.76**	**329**	P	**P**	**04 56 14.9**	**-0.8**
TIXI				IAMs_20	IAMs_20	05 09 23.9	
	comp=Z,214μm,22.0s						
E08A	**Dider Farm, El**	**32.80**	**80**	IAmb	IAmb	04 56 35.5	
	comp=Z,1μm,1.4s						
JCC	**Jacoby Creek,**	**32.80**	**92**	P	**P**	**04 56 19.0**	**+2.6**
JCC				IAmb	IAmb	04 56 47.1	
	comp=Z,778nm,1.4s						
KHMM	**Horse Mountain**	**32.95**	**92**	P	**P**	**04 56 19.3**	**+1.5**
KHMM				IAmb	IAmb	04 56 42.8	
	comp=Z,575nm,1.3s						
GRNR	**Gornyy**	**33.01**	**289⇑**	*i P*	**P**	**04 56 17.7**	**-0.4**
GRNR				*e*		04 57 39.5	
GRNR				*e*S	**S**	**05 01 34.5**	**-0.1**
GRNR				pmax	pmax		
	comp=E,70nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,180nm,0.9s						
GRNR				pmax	pmax		
	comp=N,50nm,1.0s						
GRNR				smax	smax		
	comp=N,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=N,67μm,18.0s						
GRNR				MLR	MLR		
	comp=E,105μm,18.0s						
GRNR				MLR	MLR		
	comp=Z,136μm,17.0s						
PINE	**Pine Mountain**	**33.03**	**85**	IAmb	IAmb	04 56 39.2	
	comp=Z,789nm,1.4s						
L04D	**Klamath Falls**	**33.06**	**89**	P	**P**	**04 56 19.8**	**+1.0**
	baz=304,SNR=8.8						
YBH	**Yreka Blue Hor**	**33.08**	**90**	P	**P**	**04 56 21.4**	**+2.5**
	comp=Z,11nm,1.0s,baz=292,slow=5.1,SNR=16						
YBH				S	**S**	**05 01 43.1**	**+7.0**
	comp=Z,4.7nm,1.0s,baz=72,slow=19,SNR=1.5						
YBH				LR	LR	05 06 31.6	
	comp=Z,177μm,21.4s,baz=311,slow=30						
YBH	**Yreka Blue Hor**	**33.08**	**90**	IAMs_20	IAMs_20	05 06 10.5	
	comp=Z,186μm,22.0s						
J05D	**Fort Rock, OR**	**33.12**	**86**	P	**P**	**04 56 21.1**	**+1.7**
	baz=303,SNR=36						
NEW	**Newport**	**33.13**	**76**	P	**P**	**04 56 20.0**	**+0.7**
	comp=Z,122nm,0.9s,baz=292,slow=7.8,SNR=42						
NEW				S	**S**	**05 01 37.9**	**+1.3**
	comp=Z,6.8nm,0.8s,baz=70,slow=18,SNR=1.0						
NEW	**Newport**	**33.13**	**76**	P	**P**	**04 56 19.7**	**+0.5**
	baz=297,SNR=137						
NEW	**Newport**	**33.13**	**76**	IAmb	IAmb	04 56 37.9	
	comp=Z,460nm,1.1s						
YAK	**Yakutsk**	**33.16**	**311**	P	**P**	**04 56 17.3**	**-1.9**
	comp=Z,294nm,1.0s,baz=242,slow=1.0,SNR=24						
YAK				PcP	**PcP**	**04 59 01.4**	**0.0**
	comp=Z,57nm,0.7s,baz=100,slow=2.3,SNR=2.9						
YAK				S	**S**	**05 01 35.9**	**-0.7**
	comp=Z,9.5nm,0.5s,baz=133,slow=19,SNR=1.4						
YAK				LR	LR	05 09 51.2	
	comp=Z,328μm,20.4s,baz=98,slow=37						
YAK	**Yakutsk**	**33.16**	**311**	*e*P	**P**	**04 56 17.5**	**-1.7**
YAK				*e**PP	**pP**	**04 56 27.8**	**+0.7**
YAK				*e*		04 57 24.0	
YAK				*e*PPP	PPP	04 57 40.7	
YAK				*e*		04 59 03.0	
YAK				*e*S	**S**	**05 01 34.1**	**-2.5**
YAK				*e*SS	**SnSn**	**05 03 33.9**	**-2.7**
YAK				*e*SSS	SSS	05 03 59.8	
YAK				*e*		05 06 43.0	
YAK				pmax	pmax		
	comp=Z,626nm,1.1s						
YAK				pmax	pmax		
	comp=N,69nm,1.3s						
YAK				pmax	pmax		
	comp=E,203nm,1.2s						
YAK				pmax	pmax		
	comp=Z,338nm,1.6s						
YAK				pmax	pmax		
	comp=N,94nm,1.5s						
YAK				pmax	pmax		
	comp=E,211nm,1.7s						
YAK				smax	smax		
	comp=N,4μm,8.0s						
YAK				smax	smax		
	comp=E,16μm,8.4s						
YAK	**Yakutsk**	**33.16**	**311**	P	**P**	**04 56 16.9**	**-2.3**
YAK				IAmb	IAmb	04 56 22.7	
	comp=Z,543nm,1.0s						
K04D	**Chiloquin, OR**	**33.17**	**88**	P	**P**	**04 56 20.1**	**+0.4**
	baz=304						
M02C	**Callahan**	**33.19**	**90**	P	**P**	**04 56 20.9**	**+1.1**
	baz=306,SNR=9.7						
ERM	**Erimo**	**33.22**	**271**	P	**P**	**04 56 19.9**	**-0.1**
ERM				pmax	pmax		
	comp=Z,935nm,1.1s						
ERM				MLR	MLR		
	comp=Z,149μm,21.0s						
ERM	**Erimo**	**33.22**	**271**	P	**P**	**04 56 19.9**	**-0.1**
ERM				IAmb	IAmb	04 56 24.3	
	comp=Z,935nm,1.1s						
EDM	**Edmonton**	**33.28**	**66**	IAmb	IAmb	04 56 30.2	
	comp=Z,487nm,0.8s						
E09A	**Wood Farm, Sta**	**33.34**	**79**	IAmb	IAmb	04 56 39.9	
	comp=Z,1μm,1.3s						
G08A	**Pilot Rock**	**33.46**	**81**	IAmb	IAmb	04 56 41.3	
	comp=Z,459nm,1.3s						
N02D	**Trinity Center**	**33.52**	**91**	P	**P**	**04 56 24.0**	**+1.3**
	baz=306						
M04C	**Macdoel**	**33.59**	**89**	P	**P**	**04 56 24.7**	**+1.3**
	baz=305,SNR=22						
K05A	**Summer Lake**	**33.64**	**87**	IAmb	IAmb	04 56 53.8	
	comp=Z,890nm,1.3s						
KCPM	**Cahto Peak**	**33.75**	**93**	IAmb	IAmb	04 56 51.1	
	comp=Z,969nm,1.4s						
I07A	**Izee**	**33.76**	**84**	P	**P**	**04 56 26.1**	**+1.3**
I07A				IAmb	IAmb	04 56 44.6	
	comp=Z,640nm,1.3s						
WDC	**Whiskeytown Da**	**33.86**	**91**	IAmb	IAmb	04 56 50.2	
	comp=Z,846nm,1.9s						
O02D

comp=Z,1μm,1.7s
J08A Circle Bar Ran 34.77 84 IAmb IAmb 04 56 57.6
comp=Z,706nm,1.3s
MCCM Marconi Confer 35.13 95 IAMs_20 IAMs_20 05 06 54.1
comp=Z,188μm,21.0s
WVOR Wild Horse Val 35.19 86 P **P** **04 56 38.5 +1.3**
WVOR pmax pmax
comp=Z,462nm,1.1s
WVOR Wild Horse Val 35.19 86 P **P** **04 56 38.5 +1.3**
WVOR IAmb IAmb 04 57 01.3
comp=Z,462nm,1.1s
WVOR IAMs_20 IAMs_20 05 07 57.5
comp=Z,134μm,20.0s
JTM Tenmabayashi 35.21 271 IAmb IAmb 04 56 40.2
comp=Z,626nm,1.1s
PLID Pearl Lake 35.36 80 P **P** **04 56 39.4 +0.6**
MSO Missoula 35.71 76 P **P** **04 56 41.3 -0.4**
baz=300,SNR=68
MSO Missoula 35.71 76 P **P** **04 56 41.4 -0.2**
AFDM Forest Hills D 35.80 92 P **P** **04 56 43.0 +0.6**
RUBR Rubicon Trail 36.24 91 P **P** **04 56 48.2 +1.8**
RUBR IAmb IAmb 04 57 07.3
comp=Z,495nm,1.4s
PAHR Pah Rah Range 36.32 90 IAmb IAmb 04 57 15.3
comp=Z,517nm,1.2s
KLR Kul'dur 36.39 289 S **S** **05 02 28.8 +2.1**
comp=Z,3.3nm,0.8s,baz=216,slow=17,SNR=1.3
KLR LR LR 05 11 56.8
comp=Z,277μm,20.2s,baz=66,slow=37
VCNR Virginia City 36.40 91 P **P** **04 56 49.8 +2.0**
RES Resolute Bay 36.50 26 P **P** **04 56 46.4 -1.5**
comp=Z,20nm,0.6s,baz=261,slow=6.3,SNR=10.0
RES S **S** **05 02 23.2 -4.5**
comp=Z,7.9nm,0.9s,baz=338,slow=13,SNR=1.2
PNTR Pine Nut 36.56 91 IAmb IAmb 04 57 15.3
comp=Z,428nm,0.9s
CMB Columbia Colle 36.73 93 IAMs_20 IAMs_20 05 07 51.2
comp=Z,169μm,22.0s
YERR Yerington 36.84 91 IAmb IAmb 04 57 17.5
comp=Z,919nm,1.5s
SAO San Andreas Ge 36.89 95 P **P** **04 56 53.8 +2.1**
SAO IAMs_20 IAMs_20 05 07 52.7
comp=Z,167μm,22.0s
ZEA Zeya 36.95 298 *e*P **P** **04 56 51.1 -0.9**
ZEA *e* 04 58 22.1
ZEA *e*S **S** **05 02 29.4 -5.7**
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,140nm,1.0s
ZEA pmax pmax
comp=E,16μm,15.2s
ZEA pmax pmax
comp=N,9μm,17.3s
ZEA pmax pmax
comp=Z,18μm,14.2s
WAKR Walker 37.02 92 P **P** **04 56 54.9 +1.9**
HLID Hailey 37.14 81 P **P** **04 56 54.6 +0.7**
baz=304,SNR=169
HLID Hailey 37.14 81 IAmb IAmb 04 57 13.1
comp=Z,608nm,1.4s
JMM Marumori 37.16 267 P **P** **04 56 53.3 -0.7**
JMM IAmb IAmb 04 57 14.1
comp=Z,488nm,1.1s
DLMT Dillon 37.26 77 P **P** **04 56 55.2 +0.3**
DLMT IAmb IAmb 04 57 29.0
comp=Z,1μm,1.5s
H11N2 WAKE ISLAND Hy 37.32 218 T T 05 36 54.5
baz=24,slow=76,SNR=7311
H11N3 WAKE ISLAND Hy 37.32 218 T T 05 36 52.8
baz=24,slow=76
H11N1 WAKE ISLAND Hy 37.34 218 T T 05 36 52.0
baz=24,slow=76,SNR=9579
RYN Ryan 37.51 91 P **P** **04 56 58.7 +1.6**
EGMT Eagleton 37.59 72 P **P** **04 56 57.4 -0.3**
baz=300,SNR=215
EGMT Eagleton 37.59 72 IAmb IAmb 04 57 15.8
comp=Z,1μm,1.2s
BOZ Bozeman (W) 37.72 76 P **P** **04 56 58.3 -0.5**
baz=302,SNR=256
BOZ Bozeman (W) 37.72 76 IAmb IAmb 04 57 16.5
comp=Z,950nm,1.4s
LHV Little Huntoon 37.75 91 IAmb IAmb 04 57 32.9
comp=Z,1μm,1.7s
NVAR Mina Array Bea 37.76 91 P **P** **04 57 00.8 +1.5**
comp=Z,7.0nm,0.8s,baz=297,slow=7.3,SNR=21
NVAR PcP **PcP** **04 59 20.3 +4.6**
comp=Z,30nm,0.8s,baz=314,slow=2.5,SNR=3.6
NVAR S **S** **05 02 52.5 +4.3**
comp=Z,0.4nm,0.5s,baz=343,slow=23,SNR=1.0
NVAR LR LR 05 09 14.4
comp=Z,98μm,22.0s,baz=298,slow=31
NVAR Mina Array Bea 37.76 91 P **P** **04 57 00.9 +1.5**
MDPB Devils Postpil 37.79 92 P **P** **04 57 01.2 +1.6**
EUNU Eureka 37.84 16 IAMs_20 IAMs_20 05 14 13.5
comp=Z,236μm,20.0s
NV11 Mina Array Sit 37.85 91 P **P** **04 57 00.1 +0.1**
MLAC Mammoth, Mammo 37.94 92 P **P** **04 57 02.8 +1.9**
baz=310
PAGB Antelope Grade 38.30 96 P **P** **04 57 05.1 +1.5**
PAGB IAmb IAmb 04 57 31.6
comp=Z,991nm,1.5s
VOG Valley Oaks Go 38.44 94 P **P** **04 57 04.6 -0.2**
baz=311
H11S1 WAKE ISLAND Hy 38.51 218 P **P** **04 57 05.6 +0.4**
baz=12,slow=3.7,SNR=12
H11S1 T T 05 38 20.0
baz=23,slow=76,SNR=7659
H11S1 WAKE ISLAND Hy 38.51 218 P **P** **04 57 05.6 +0.4**
H11S2 WAKE ISLAND Hy 38.52 218 P **P** **04 57 08.0 +2.6**
baz=12,slow=3.7,SNR=11
H11S2 T T 05 38 21.2
baz=23,slow=76
H11S3 WAKE ISLAND Hy 38.52 218 P **P** **04 57 07.9 +2.5**
baz=12,slow=3.7,SNR=8.8
H11S3 T T 05 38 15.5
baz=23,slow=76
JSD Sado 38.61 270 P **P** **04 57 05.8 -0.3**
JSD IAmb IAmb 04 57 09.6
comp=Z,711nm,1.1s
YMR Madison River 38.61 77 P **P** **04 57 07.0 +0.6**
YMR IAmb IAmb 04 57 25.1
comp=Z,1μm,1.3s
YHH Holmes Hill 38.62 77 P **P** **04 57 06.6 +0.1**
YHH IAmb IAmb 04 57 24.9
comp=Z,602nm,1.1s
TPH Tonopah 38.65 90 IAmb IAmb 04 57 26.2
comp=Z,2μm,1.3s
TIN Tinemaha, Big 38.68 92 P **P** **04 57 07.8 +0.9**
baz=310,SNR=12
SMMC Simmler 38.73 96 P **P** **04 57 07.7 +0.4**
baz=312
YNR Norris Junctio 38.76 77 IAmb IAmb 04 57 26.7
comp=Z,1μm,1.4s
USA0B Ussuriysk Arra 38.81 282 P **P** **04 57 06.1 -1.7**
USA0B pmax pmax
comp=Z,123nm,1.2s
USA0B Ussuriysk Arra 38.81 282 P **P** **04 57 06.0 -1.7**
USRK Ussuriysk Ar. 38.81 282 P **P** **04 57 06.3 -1.4**
comp=Z,51nm,0.9s,baz=60,slow=7.6,SNR=42
USRK PcP **PcP** **04 59 21.1 +2.5**
comp=Z,44nm,0.8s,baz=54,slow=3.3,SNR=5.8
USRK LR LR 05 12 05.0
comp=Z,132μm,21.2s,baz=62,slow=35
USRK Ussuriysk Ar. 38.81 282 P **P** **04 57 06.1 -1.7**
FFC Flin Flon 38.85 59 P **P** **04 57 08.1 0.0**
FFC pmax pmax
comp=Z,205nm,0.9s
FFC MLR MLR
comp=Z,128μm,20.0s
FFC Flin Flon 38.85 59 P **P** **04 57 08.1 0.0**
FFC Flin Flon 38.85 59 IAMs_20 IAMs_20 05 13 29.5
comp=Z,128μm,20.0s
YPP Pitchstone Pla 38.93 78 IAmb IAmb 04 57 32.9
comp=Z,1μm,1.9s
VES Vestal, Richgr 38.94 95 P **P** **04 57 09.0 +0.1**
baz=311,SNR=21
H17A Grant Village 38.99 77 P **P** **04 57 11.1 +1.5**
baz=303,SNR=110
H17A Grant Village 38.99 77 IAmb IAmb 04 57 29.7
comp=Z,1μm,1.4s
YNE Yellowstone No 39.00 76 IAmb IAmb 04 57 28.2
comp=Z,2μm,2.0s
YMP Mirror Lake Pl 39.06 77 IAmb IAmb 04 57 28.4
comp=Z,1μm,1.6s
FLWY Flagg Ranch 39.09 78 IAmb IAmb 04 57 39.9
comp=Z,655nm,1.2s
PKM Mcpherson Peak 39.12 96 P **P** **04 57 11.1 +0.3**
baz=312
CWC Cottonwood Cre 39.16 93 P **P** **04 57 12.0 +1.0**
baz=311
GRAC Grapevine Rang 39.24 92 P **P** **04 57 12.1 +0.6**
baz=310
TPAW Teton Pass 39.27 79 P **P** **04 57 12.7 +0.7**
TPAW IAmb IAmb 04 57 31.3
comp=Z,1μm,1.7s
RLMT Red Lodge 39.38 76 P **P** **04 57 13.3 +0.5**
baz=303,SNR=183
RLMT Red Lodge 39.38 76 IAmb IAmb 04 57 31.0
comp=Z,1μm,1.6s
REDW Red Top Meadow 39.40 79 P **P** **04 57 13.8 +0.7**
REDW IAmb IAmb 04 57 32.4
comp=Z,964nm,1.5s
SNOW Snow King Moun 39.40 79 P **P** **04 57 13.5 +0.4**
LOHW Long Hollow 39.41 78 P **P** **04 57 14.1 +1.0**
ISA Isabella, Lake 39.43 94 P **P** **04 57 14.3 +1.1**
ISA pmax pmax
comp=Z,209nm,1.2s
ISA Isabella, Lake 39.43 94 P **P** **04 57 13.1 0.0**
baz=312,SNR=20
ISA Isabella, Lake 39.43 94 P **P** **04 57 14.3 +1.1**
VLA Vladivostok 39.48 281 *i* P **P** **04 57 12.9 -0.4**
VLA pmax pmax
comp=Z,537nm,1.2s
VLA MLR MLR
comp=Z,228μm,22.0s
R11A Troy Canyon, C 39.48 89 P **P** **04 57 13.3 -0.4**
baz=309,SNR=56
R11A Troy Canyon, C 39.48 89 P **P** **04 57 14.6 +0.8**
SBC Santa Barbara 39.48 97 P **P** **04 57 13.4 -0.1**
baz=313
ARVC Arvin 39.57 95 P **P** **04 57 15.1 +0.9**
baz=312
MAJO Matsushiro 39.59 268 P **P** **04 57 14.7 +0.3**
MAJO pmax pmax
comp=Z,322nm,0.9s
MAJO Matsushiro 39.59 268 P **P** **04 57 14.7 +0.3**
MAJO IAMs_20 IAMs_20 05 11 19.6
comp=Z,145μm,22.0s
MAT Matsushiro 39.59 268 P **P** **04 57 14.2 -0.2**
MAT S **S** **05 03 16.4 +1.0**
MJAR Matsushiro Arr 39.59 268 P **P** **04 57 13.4 -1.1**
comp=Z,119nm,1.1s,baz=52,slow=6.7,SNR=72
MJAR PcP **PcP** **04 59 23.1 +1.9**
comp=Z,85nm,1.0s,baz=78,slow=0.5,SNR=6.3
MJAR LR LR 05 11 40.0
comp=Z,132μm,21.7s,baz=55,slow=33
MJAR Matsushiro Arr 39.59 268 P **P** **04 57 13.7 -0.7**
MJAR pmax pmax
comp=Z,169nm,1.0s
MJAR Matsushiro Arr 39.59 268 P **P** **04 57 13.7 -0.7**
MJB9 Matsu-Tunnel 39.59 268 P **P** **04 57 14.1 -0.3**
SCZ2 Santa Cruz Isl 39.83 97 P **P** **04 57 17.1 +0.7**
baz=313
FURC Furnace Creek, 39.89 92 P **P** **04 57 16.4 -0.5**
baz=311,SNR=29
TPNV Topopah Spring 39.96 91 P **P** **04 57 18.2 +0.6**
baz=310,SNR=74
TPNV Topopah Spring 39.96 91 IAMs_20 IAMs_20 05 10 26.2
comp=Z,113μm,20.0s
OSI Osito Audit: C 39.97 96 P **P** **04 57 17.8 +0.2**
baz=312
MDJ Mudanjiang 40.02 284 P **P** **04 57 16.3 -1.6**
MDJ pP pP 04 57 23.5 -2.0
MDJ S **S** **05 03 22.5 +0.9**
MDJ pmax pmax
comp=Z,45nm,0.9s
MDJ pmax pmax
comp=Z,15μm,8.5s
MDJ LR LR
comp=Z,81μm,19.4s
MDJ LR LR
comp=Z,153μm,19.0s
MDJ Mudanjiang 40.02 284 P **P** **04 57 15.9 -1.9**
MDJ IAMs_20 IAMs_20 05 14 44.7
comp=Z,203μm,20.0s
LRMC Laurel Mtn Rad 40.04 94 P **P** **04 57 18.7 +0.4**
baz=312
DUG Dugway, Tooele 40.05 84 P **P** **04 57 19.2 +0.8**
DUG pmax pmax
comp=Z,674nm,1.3s
DUG Dugway, Tooele 40.05 84 P **P** **04 57 19.1 +0.7**
baz=307,SNR=131
DUG Dugway, Tooele 40.05 84 P **P** **04 57 19.2 +0.8**
DUG IAmb IAmb 04 57 40.0
comp=Z,674nm,1.3s
MSHR Mys Shultsa 40.22 280 *ce*P **P** **04 57 19.3 -0.3**
MSHR pmax pmax
comp=Z,324nm,0.9s
MSHR MLR MLR
comp=Z,138μm,22.0s
EDW2 Edwards Air Fo 40.24 95 P **P** **04 57 19.8 0.0**
baz=312
EDW2 S **S** **05 03 27.7 +2.5**
LAO LASA Array 40.34 72 P **P** **04 57 21.3 +0.7**
baz=302,SNR=13
LAO S **S** **05 03 28.1 +1.6**
baz=302
LAO LASA Array 40.34 72 P **P** **04 57 20.9 +0.3**
PRN Pahroc Range 40.41 89 IAmb IAmb 04 57 40.8
comp=Z,586nm,1.0s
SNCC San Nicolas Is 40.41 98 P **P** **04 57 21.2 0.0**
baz=314
SNCC S **S** **05 03 32.2 +4.5**
baz=314
PSUT Pine Spring 40.43 87 P **P** **04 57 22.4 +0.8**
DECC Green Verdugo 40.45 96 P **P** **04 57 21.9 +0.3**
baz=313
DECC S **S** **05 03 31.8 +3.4**
baz=313
BW06 Boulder Array 40.52 79 P **P** **04 57 22.4 0.0**
baz=305,SNR=311
BW06 S **S** **05 03 28.7 -1.0**
baz=305
BW06 Boulder Array 40.52 79 P **P** **04 57 22.6 +0.2**
PD31 Pinedale Array 40.52 79 P **P** **04 57 22.1 -0.2**
PDAR Pinedale Array 40.52 79 P **P** **04 57 22.1 -0.2**
comp=Z,70nm,0.5s,baz=298,slow=4.3,SNR=363
PDAR LR LR 05 11 47.9
comp=Z,78μm,21.6s,baz=314,slow=33
PDAR Pinedale Array 40.52 79 P **P** **04 57 22.4 0.0**
PASC Pasadena Art C 40.60 96 P **P** **04 57 24.6 +1.8**
SHOC Shoshone, Teco 40.62 92 P **P** **04 57 23.1 +0.1**
baz=311,SNR=19
SHOC S **S** **05 03 32.5 +1.6**
baz=311
JLU Jordanelle 40.64 83 IAmb IAmb 04 57 40.6
comp=Z,878nm,1.6s
NLU North Lily Min 40.65 84 P **P** **04 57 23.6 +0.2**
ALE Alert 40.69 11 IAMs_20 IAMs_20 05 16 24.7
comp=Z,108μm,20.0s
GSC Goldstone, Bar 40.69 93 P **P** **04 57 23.6 0.0**
baz=312,SNR=24
GSC S **S** **05 03 33.8 +1.8**
baz=312
JGF Kuroka 40.73 267 P **P** **04 57 24.1 +0.2**
FMP Fort Macarthur 40.84 96 P **P** **04 57 24.8 +0.1**
baz=313
FMP S **S** **05 03 36.6 +2.5**
baz=313
RRX Edison Barstow 40.86 94 P **P** **04 57 25.2 +0.2**
baz=312
RRX S **S** **05 03 35.9 +1.6**
baz=312
BFSC Mount Baldy Ra 40.88 95 P **P** **04 57 25.5 +0.2**
baz=313,SNR=19
BFSC S **S** **05 03 36.1 +1.2**
baz=313
JHJ2 Mitsune 40.89 262 P **P** **04 57 25.6 +0.4**
CIS Catalina Islan 40.98 97 P **P** **04 57 26.2 +0.2**
baz=314
CIS S **S** **05 03 38.5 +2.2**
baz=314
FCC Fort Churchill 41.08 50 IAmb IAmb 04 57 32.1
comp=Z,1μm,1.1s
FCC IAMs_20 IAMs_20 05 14 31.5
comp=Z,232μm,22.0s
INU Inuyama 41.10 267 P **P** **04 57 27.2 +0.3**
TUQ Turquoise Moun 41.14 92 P **P** **04 57 27.8 +0.4**
baz=312
TUQ S **S** **05 03 42.1 +3.3**
baz=312
SCI2 San Clemente I 41.19 97 P **P** **04 57 28.2 +0.6**
baz=314
SCI2 S **S** **05 03 41.7 +2.5**
baz=314
HEC Hector,Ludlow 41.29 93 P **P** **04 57 28.8 +0.2**
baz=312
HEC S **S** **05 03 42.6 +1.6**
baz=312
BBRC Big Bear Solar 41.31 95 P **P** **04 57 29.5 +0.6**
baz=313
BBRC S **S** **05 03 44.3 +2.7**
baz=313
CCUT Cedar City 41.35 88 P **P** **04 57 29.9 +0.7**
MVU Marysvale 41.46 86 P **P** **04 57 30.8 +0.7**
MVU IAmb IAmb 04 57 51.3
comp=Z,1μm,1.2s
TMUT Trail Mountain 41.58 84 IAmb IAmb 04 57 57.2
comp=Z,678nm,1.2s
MURC Murrieta 41.59 96 P **P** **04 57 30.7 -0.3**
baz=313,SNR=9.0
MURC S **S** **05 03 48.1 +2.8**
baz=313
GMRC Granite Mounta 41.74 93 P **P** **04 57 32.6 +0.3**
baz=312,SNR=24
GMRC S **S** **05 03 50.1 +2.5**
baz=312
P17A Butcher Ranch, 41.76 84 IAmb IAmb 04 57 54.1
comp=Z,847nm,1.4s
RDMU Red Mountain 41.80 82 P **P** **04 57 33.2 +0.3**
RDMU IAmb IAmb 04 57 50.1
comp=Z,1μm,1.4s
BOD Bodaibo 41.97 309 *e*P **P** **04 57 32.2 -1.6**
BOD pmax pmax
comp=Z,828nm,0.9s
PFO Pinyon Flats O 42.03 95 P **P** **04 57 35.8 +1.1**
comp=Z,4.4nm,0.7s,baz=324,slow=9.7,SNR=14
PFO ScP **ScP** **05 03 20.0 +2.5**
comp=Z,19nm,1.1s,baz=323,slow=2.7,SNR=5.5
PFO S **S** **05 03 55.6 +3.6**
comp=Z,14nm,1.0s,baz=319,slow=13,SNR=2.9
PFO LR LR 05 11 14.2
comp=Z,134μm,21.7s,baz=295,slow=31
PFO Pinyon Flats O 42.03 95 P **P** **04 57 34.6 -0.1**
baz=313,SNR=13
PFO S **S** **05 03 54.0 +2.0**
baz=313
PFO Pinyon Flats O 42.03 95 P **P** **04 57 35.7 +0.9**
PFO Pinyon Flats O 42.03 95 IAMs_20 IAMs_20 05 11 01.4
comp=Z,130μm,21.0s
TPFO Pinon Flats 42.04 95 P **P** **04 57 33.3 -1.5**
baz=313,SNR=9.7
TPFO S **S** **05 03 54.1 +2.0**
baz=313
BELC Belle Mtn. Jos 42.05 94 P **P** **04 57 34.2 -0.7**
baz=313,SNR=25
BELC S **S** **05 03 53.4 +1.1**
baz=313
109C Camp Elliot, M 42.13 96 P **P** **04 57 35.6 +0.3**
baz=314
109C S **S** **05 03 54.1 +0.9**
baz=314
TULEG Thule 42.25 20⇑ *i*P **P** **04 57 35.1 -0.6**
TULEG IAMs_20 IAMs_20 05 15 33.4
comp=Z,219μm,23.0s
TULEG Thule 42.25 20 IAMs_20 IAMs_20 05 16 37.2
comp=Z,211μm,22.0s
NEE2 Needles Airpor 42.39 92 P **P** **04 57 37.4 0.0**
baz=312
NEE2 S **S** **05 03 58.5 +1.5**
baz=312
K22A Casper 42.41 77 P **P** **04 57 36.9 -0.9**
baz=306,SNR=94
K22A S **S** **05 03 54.2 -3.3**
baz=306
K22A Casper 42.41 77 P **P** **04 57 37.3 -0.4**
IRM Iron Mountain 42.47 93 P **P** **04 57 38.3 +0.2**
baz=313,SNR=10
IRM S **S** **05 04 00.7 +2.4**
baz=313
MONP2 Monument Peak 42.55 96 P **P** **04 57 39.6 +0.6**
baz=314,SNR=9.7
MONP2 S **S** **05 04 01.3 +1.5**
baz=314
RWWY Rawlins 42.56 79 IAmb IAmb 04 58 02.4
comp=Z,2μm,1.7s
CBX Cerro Bola 42.80 96 P **P** **04 57 42.7 +1.8**
O20A White River Ci 42.88 81 P **P** **04 57 41.3 -0.3**
baz=308,SNR=230
O20A S **S** **05 04 01.8 -2.7**
baz=308
O20A White River Ci 42.88 81 IAmb IAmb 04 58 05.2
comp=Z,618nm,1.0s
SWSC Sam W. Stewart 42.89 95 P **P** **04 57 40.9 -0.6**
baz=314
SWSC S **S** **05 04 04.1 -0.3**
baz=314
IKP In-Ko-Pah, Jac 42.90 96 P **P** **04 57 42.3 +0.5**
baz=314
IKP S **S** **05 04 07.3 +2.5**
baz=314
CN2 Changchun 42.94 286⇓ *i*P **P** **04 57 41.0 -0.8**
CN2 *ep*P pP 04 57 45.5 -4.0
CN2 *e*S **S** **05 04 02.5 -2.4**
CN2 pmax pmax
comp=Z,130nm,0.9s
CN2 LR LR
comp=Z,91μm,16.0s
CN2 LR LR
comp=Z,126μm,16.0s
CN2 LR LR
comp=Z,143μm,16.0s
RMX La Rumorosa 42.95 96 P **P** **04 57 43.9 +1.7**
PDMCI Parker Dam,Lak 42.99 92 P **P** **04 57 41.6 -0.7**
baz=312,SNR=31
PDMCI S **S** **05 04 05.7 -0.1**
baz=312
RSSD Black Hills 43.04 74 P **P** **04 57 42.5 -0.4**
RSSD pmax pmax
comp=Z,1μm,1.7s
RSSD Black Hills 43.04 74 P **P** **04 57 42.5 -0.4**
baz=305
RSSD S **S** **05 04 03.2 -3.6**
baz=305
RSSD Black Hills 43.04 74 P **P** **04 57 42.5 -0.4**
RSSD IAmb IAmb 04 58 00.8
comp=Z,1μm,1.7s
HIA Hailar 43.20 295 *c i*P **P** **04 57 42.9 -1.0**
HIA pmax pmax
comp=Z,299nm,0.9s
GLA Glamis 43.41 94 P **P** **04 57 45.7 -0.1**
baz=313,SNR=16
GLA S **S** **05 04 09.9 -2.3**
baz=313
PV10 Paradox Valley 43.48 84 P **P** **04 57 47.1 +0.6**
PV10 IAmb IAmb 04 58 12.0
comp=Z,501nm,1.0s
PV14 Lion Creek, Pa 43.49 84 IAmb IAmb 04 58 11.7
comp=Z,1μm,1.6s
MDND Maddock 43.52 67 P **P** **04 57 46.6 +0.1**
baz=303,SNR=66
MDND S **S** **05 04 11.8 -1.5**
baz=303
PV04 Paradox Valley 43.55 84 IAmb IAmb 04 58 11.4
comp=Z,857nm,1.4s
CPBX Cerro Prieto 43.55 95 P **P** **04 57 48.2 +1.3**
PV17 East Wray Mesa 43.59 84 IAmb IAmb 04 58 03.4
comp=Z,422nm,0.8s
PV16 Nyswonger Mesa 43.59 84 IAmb IAmb 04 58 12.6
comp=Z,1μm,1.7s
PV11 David Mesa, Pa 43.63 84 IAmb IAmb 04 58 04.4
comp=Z,520nm,0.9s
PV05 Paradox Valley 43.63 84 IAmb IAmb 04 58 07.9
comp=Z,948nm,1.5s
PV12 Saucer Basin, 43.66 84 IAmb IAmb 04 58 13.2
comp=Z,454nm,1.0s
PV07 Paradox Valley 43.68 83 IAmb IAmb 04 58 09.6
comp=Z,1μm,1.8s
PV13 Radium Mtn., P 43.75 84 IAmb IAmb 04 58 05.4
comp=Z,666nm,1.0s
PV02 Paradox Valley 43.77 84 IAmb IAmb 04 58 11.3
comp=Z,524nm,0.9s
JCJ Chichijima 43.78 254 P **P** **04 57 48.5 -0.3**
comp=Z,712nm,0.9s,baz=22,slow=4.7,SNR=20
JCJ Chichijima 43.78 254 P **P** **04 57 48.4 -0.4**
JCJ IAmb IAmb 04 57 52.6
comp=Z,1μm,1.0s

N23A Red Feather La 43.80 79 P **P 04 57 49.0 -0.2**
baz=308,SNR=110
N23A S **S 05 04 19.3 +1.1**
baz=308
WUAZ Wupatki 43.88 89 P **P 04 57 50.1 +0.3**
baz=311,SNR=55
WUAZ S **S 05 04 22.9 +3.7**
baz=311
WUAZ Wupatki 43.88 89 P **P 04 57 50.0 +0.3**
WUAZ IAmb IAmb 04 58 09.0
comp=Z,709nm,1.2s
WUAZ IAMs_20 IAMs_20 05 13 00.9
comp=Z,151μm,21.0s
PV01 Paradox Valley 43.92 84 IAmb IAmb 04 58 12.3
comp=Z,381nm,0.8s
ULM Lac du Bonnet 44.28 62 P **P 04 57 52.1 -0.4**
comp=Z,218nm,1.1s,baz=301,slow=8.6,SNR=29
ULM ScP **ScP 05 03 29.6 +3.5**
comp=Z,36nm,1.1s,baz=327,slow=5.8,SNR=4.1
ULM S **S 05 04 24.0 -0.4**
comp=Z,19nm,0.8s,baz=49,slow=19,SNR=2.0
MVCO Mesa Verde 44.55 85 P **P 04 57 54.8 -0.4**
baz=310,SNR=46
MVCO S **S 05 04 28.3 -0.7**
baz=310
MVCO Mesa Verde 44.55 85 P **P 04 57 54.6 -0.5**
ISCO Idaho Springs 44.67 80 P **P 04 57 56.3 +0.1**
baz=308,SNR=80
ISCO S **S 05 04 30.1 -0.8**
baz=308
ISCO Idaho Springs 44.67 80 IAmb IAmb 04 58 21.9
comp=Z,774nm,2.0s
SFX San Felipe 44.79 96 P **P 04 57 57.8 +1.0**
CIT Chita 45.07 302 *e*P **P 04 57 57.9 -0.9**
CIT *e* 04 59 41.9
CIT pmax pmax
comp=Z,474nm,1.6s
NEEM North Greenlan 45.11 16⇑*i*P **P 04 57 58.8 -0.3**
NEEM IAmb IAmb 04 58 03.9
comp=Z,346nm,0.8s
NEEM IAMs_20 IAMs_20 05 19 28.7
comp=Z,167μm,19.0s
W18A Petrified Fore 45.15 88 P **P 04 58 00.2 +0.3**
baz=312,SNR=26
W18A S **S 05 04 38.5 +0.8**
baz=312
W18A Petrified Fore 45.15 88 IAmb IAmb 04 58 23.7
comp=Z,592nm,1.2s
SNY Shenyang 45.21 284⇑P **P 04 57 59.0 -1.0**
SNY S **S 05 04 36.3 -1.7**
SNY pmax pmax
comp=Z,170nm,1.2s
SNY LR LR
comp=Z,88μm,22.8s
SNY LR LR
comp=Z,119μm,21.8s
SNY LR LR
comp=Z,181μm,24.1s
S22A 4UR Ranch, Cre 45.23 83 P **P 04 58 00.8 +0.2**
baz=310,SNR=131
S22A S **S 05 04 39.9 +0.9**
baz=310
KSRS Korea Array 45.31 277 P **P 04 58 01.4 +0.6**
comp=Z,293nm,1.2s,baz=57,slow=7.4,SNR=296
KSRS LR LR 05 14 49.0
comp=Z,83μm,21.9s,baz=58,slow=33
KSAR Wonju Array Be 45.34 277 P **P 04 58 01.3 +0.2**
KSAR Wonju Array Be 45.34 277 P **P 04 58 01.3 +0.2**
AGMN Agassiz Nation 45.36 64 P **P 04 58 00.7 -0.5**
baz=304,SNR=73
AGMN S **S 05 04 36.5 -3.5**
baz=304
AGMN Agassiz Nation 45.36 64 P **P 04 58 00.0 -1.1**
AGMN IAmb IAmb 04 58 19.4
comp=Z,1μm,1.6s
D32A Dogwood Acres, 45.37 66 IAmb IAmb 04 58 19.4
comp=Z,1μm,1.6s
214A Organ Pipe Nat 45.40 94 P **P 04 58 01.8 +0.1**
baz=314,SNR=28
214A S **S 05 04 36.6 -4.5**
baz=314
X18A Snowflake 45.41 89 IAmb IAmb 04 58 21.4
comp=Z,674nm,1.5s
Q24A Divide 45.48 80 P **P 04 58 02.9 +0.3**
baz=309
Q24A S **S 05 04 45.0 +2.4**
baz=309
NOR Nord 45.57 5⇑*i*P **P 04 58 02.3 -0.1**
NOR IAmb IAmb 04 58 06.8
comp=Z,223nm,1.2s
NOR IAMs_20 IAMs_20 05 18 58.5
comp=Z,284μm,17.3s
NOR Nord 45.57 5⇑*i*P **P 04 58 02.3 -0.1**
NOR pmax pmax
comp=Z,220nm,1.2s
NOR MLR MLR
comp=Z,280μm,17.0s
SUSD Miller 45.82 70 P **P 04 58 04.4 -0.5**
baz=306,SNR=53
SUSD S **S 05 04 45.5 -1.3**
baz=306
SDCO Great Sand Dun 46.04 82 P **P 04 58 07.4 +0.4**
baz=310,SNR=240
SDCO S **S 05 04 52.4 +1.9**
baz=310
SDCO Great Sand Dun 46.04 82 IAmb IAmb 04 58 24.1
comp=Z,857nm,1.8s
INCN Inchon 46.08 278 P **P 04 58 07.4 +0.4**
INCN pmax pmax
comp=Z,412nm,1.0s
INCN MLR MLR
comp=Z,45μm,20.0s
INCN Inchon 46.08 278 P **P 04 58 07.4 +0.4**
INCN IAmb IAmb 04 58 13.0
comp=Z,412nm,1.0s
INCN Inchon 46.08 278 P **P 04 58 07.3 +0.4**
INCN P **P 04 58 07.3 +0.4**
OGNE Ogallala 46.12 76 P **P 04 58 07.4 +0.1**
baz=308,SNR=17
OGNE S **S 05 04 52.4 +1.1**
baz=308
JTU Tsushima 46.33 272 IAmb IAmb 04 58 13.5
comp=Z,424nm,1.1s
TJN Taejon 46.35 276*ce*P **P 04 58 09.1 0.0**
JNU Nakatsue 46.36 270 S **S 05 04 57.0 +2.2**
comp=Z,8.1nm,0.7s,baz=353,slow=19,SNR=0.5
JNU LR LR 05 16 43.3
comp=Z,123μm,21.8s,baz=60,slow=35
JNU Nakatsue 46.36 270 P **P 04 58 08.8 -0.5**
JNU IAmb IAmb 04 58 13.2
comp=Z,754nm,1.1s
TUC Tucson 46.40 92 P **P 04 58 10.2 +0.5**
TUC pmax pmax
comp=Z,353nm,1.2s
TUC Tucson 46.40 92 P **P 04 58 09.8 +0.2**
baz=314
TUC S **S 05 04 58.4 +2.8**
baz=314
TUC Tucson 46.40 92 P **P 04 58 10.2 +0.5**
NRIK Noril'sk 46.46 331 P **P 04 58 09.3 -0.1**
comp=Z,159nm,0.9s,baz=65,slow=7.6,SNR=50
NRIK Noril'sk 46.46 331*ce*P **P 04 58 09.4 -0.1**
NRIK pmax pmax
comp=Z,280nm,1.4s
NRIK MLR MLR
comp=Z,165μm,21.0s
NRIK Noril'sk 46.46 331 IAmb IAmb 04 58 14.2
comp=Z,859nm,1.9s
F33A 5 Mile Ranch, 46.53 67 IAmb IAmb 04 58 28.4
comp=Z,991nm,1.5s
KSCO Kaye Shedlock' 46.97 79 P **P 04 58 14.5 +0.4**
baz=310,SNR=47
KSCO S **S 05 05 02.9 -0.7**
baz=310
KSCO Kaye Shedlock' 46.97 79 IAmb IAmb 04 58 33.0
comp=Z,577nm,1.0s
T25A Trinidad 47.09 82 P **P 04 58 15.7 +0.5**
baz=311,SNR=246
T25A S **S 05 05 07.6 +2.1**
baz=311
T25A Trinidad 47.09 82 IAmb IAmb 04 58 50.5
comp=Z,950nm,1.4s
UPNV Upernavik 47.12 22⇑*i*P **P 04 58 14.4 -0.2**
UPNV IAmb IAmb 04 58 22.8
comp=Z,343nm,1.2s
UPNV IAMs_20 IAMs_20 05 19 08.4
comp=Z,227μm,21.5s

KWAJ Kwajalein Atol 47.19 212 P **P 04 58 17.8 +2.0**
KWAJ pmax pmax
comp=Z,745nm,1.4s
KWAJ Kwajalein Atol 47.19 212 P **P 04 58 17.8 +2.0**
KWAJ IAmb IAmb 04 58 55.9
comp=Z,745nm,1.4s
ANMO Albuquerque 47.28 86 P **P 04 58 16.4 -0.2**
ANMO pmax pmax
comp=Z,181nm,1.2s
ANMO Albuquerque 47.28 86 P **P 04 58 16.7 +0.1**
baz=312
ANMO S **S 05 05 08.3 +0.1**
baz=312
ANMO Albuquerque 47.28 86 P **P 04 58 16.4 -0.2**
ANMO Albuquerque 47.28 86 IAMs_20 IAMs_20 05 15 37.6
comp=Z,84μm,20.0s
Y22D IRIS PASSCAL I 47.58 87 P **P 04 58 19.3 +0.4**
baz=313
Y22D S **S 05 05 15.3 +2.9**
baz=313
Y22D IRIS PASSCAL I 47.58 87 IAMs_20 IAMs_20 05 16 15.6
comp=Z,142μm,20.0s
ECSD EROS Data Cent 47.60 70 P **P 04 58 17.6 -1.1**
baz=308,SNR=294
ECSD S **S 05 05 08.6 -3.6**
baz=308
ECSD EROS Data Cent 47.60 70 IAmb IAmb 04 58 35.7
comp=Z,739nm,1.5s
ECSD EROS Data Cent 47.60 70 IAMs_20 IAMs_20 05 18 20.0
comp=Z,119μm,20.0s
BNM Barren Site 47.71 86 P **P 04 58 20.4 +0.4**
JSU Suzuyama 47.73 269 IAmb IAmb 04 58 30.3
comp=Z,794nm,1.6s
EYMN Ely 47.96 62 P **P 04 58 20.9 -0.6**
baz=306,SNR=349
EYMN S **S 05 05 14.6 -2.6**
baz=306
EYMN Ely 47.96 62 IAMs_20 IAMs_20 05 20 05.1
comp=Z,141μm,20.0s
319A Douglas 47.97 91 P **P 04 58 23.0 +1.1**
F36A Milaca 48.08 66 IAmb IAmb 04 58 40.5
comp=Z,881nm,1.6s
121A Cookes Peak, D 48.09 89 P **P 04 58 23.2 +0.2**
baz=314,SNR=83
121A S **S 05 05 21.6 +1.8**
baz=314
121A Cookes Peak, D 48.09 89 IAmb IAmb 04 58 42.1
comp=Z,476nm,1.1s
BGNE Belgrade 48.13 73 P **P 04 58 22.5 -0.4**
baz=309,SNR=23
BGNE S **S 05 05 17.4 -2.5**
baz=309
BGNE Belgrade 48.13 73 P **P 04 58 22.0 -0.9**
DL2 Dalian 48.20 283 P **P 04 58 23.0 -0.4**
DL2 S **S 05 05 19.3 -1.4**
DL2 pmax pmax
comp=Z,310nm,1.1s
DL2 pmax pmax
comp=Z,9μm,11.8s
DL2 LR LR
comp=Z,69μm,21.6s
DL2 LR LR
comp=Z,66μm,22.7s
DL2 LR LR
comp=Z,106μm,26.0s
NUUG Nuugaatsiaq 48.62 22⇑*i*P **P 04 58 26.2 0.0**
NUUG IAmb IAmb 04 58 31.8
comp=Z,166nm,1.2s
NUUG IAMs_20 IAMs_20 05 17 54.2
comp=Z,116μm,23.4s
E38A The Farm, Brul 48.72 64 IAmb IAmb 04 58 35.7
comp=Z,603nm,1.1s
CBKS Cedar Bluff 48.83 77 P **P 04 58 28.1 -0.2**
baz=310,SNR=48
CBKS S **S 05 05 29.6 -0.2**
baz=310
SPMN Marine on St. 48.86 66 P **P 04 58 28.0 -0.5**
baz=308,SNR=74
SPMN S **S 05 05 26.9 -3.1**
baz=308
SPMN Marine on St. 48.86 66 P **P 04 58 27.9 -0.5**
SPMN IAmb IAmb 04 58 46.0
comp=Z,1μm,1.6s
N33A J Bar K, Exete 48.97 73 IAmb IAmb 04 58 50.1
comp=Z,670nm,1.1s
SRIG Santa Rosalia 49.04 98 IAmb IAmb 04 58 59.5
comp=Z,385nm,1.4s
KBS Kingsbay 49.05 360⇑*i*P **P 04 58 30.3 +0.8**
KBS IAmb IAmb 04 58 37.4
comp=Z,675nm,1.0s
KBS IAMs_20 IAMs_20 05 20 09.4
comp=Z,444μm,18.6s
KBS Kingsbay 49.05 360 P **P 04 58 29.9 +0.4**
KBS pmax pmax
comp=Z,283nm,1.0s
KBS MLR MLR
comp=Z,183μm,19.0s
KBS Kingsbay 49.05 360⇑*i*P **P 04 58 30.4 +0.8**
KBS IVmB_BB 04 58 40.8
comp=Z,5μm,2.3s
KBS *e*S **S 05 05 33.2 +1.3**
KBS IVMs_BB IVMs_BB 05 20 05.3
comp=Z,64μm,18.5s
KBS Kingsbay 49.05 360 P **P 04 58 29.9 +0.4**
KBS IAmb IAmb 04 58 37.7
comp=Z,283nm,1.0s
IRK Irkutsk 49.66 306 *e*P **P 04 58 33.3 -1.2**
IRK *e* 05 00 02.7
IRK *e* 05 08 25.8
IRK pmax pmax
comp=Z,852nm,1.8s
SPA0 Spitsbergen Ar 49.76 358⇑*i*P **P 04 58 34.7 -0.3**
SPA0 *e*S **S 05 05 38.9 -3.0**
SPA0 *e*ScS **ScS 05 08 25.1 +1.5**
SPA0 IVMs_BB IVMs_BB 05 20 20.2
comp=Z,65μm,18.8s
SPITS Spitsbergen Ar 49.76 358 P **P 04 58 34.3 -0.6**
comp=Z,46nm,0.5s,baz=52,slow=5.5,SNR=65
SPITS PcP **PcP 04 59 56.9 +1.5**
comp=Z,56nm,0.8s,baz=64,slow=1.9,SNR=1.7
SPITS ScP **ScP 05 03 51.9 +3.1**
comp=Z,35nm,1.1s,baz=145,slow=2.0,SNR=2.6
DAG Danmarks Havn 49.90 8⇑*i*P **P 04 58 35.2 -0.7**
DAG IAmb IAmb 04 58 39.9
comp=Z,392nm,0.9s
DAG IAMs_20 IAMs_20 05 27 55.4
comp=Z,109μm,18.0s
DAG Danmarks Havn 49.90 8⇑*i*P **P 04 58 35.2 -0.7**
DAG pmax pmax
comp=Z,390nm,0.9s
DAG MLR MLR
comp=Z,110μm,18.0s
N35A Tabor 49.95 72 P **P 04 58 36.2 -0.6**
D41A Chassel 50.08 62 IAmb IAmb 04 58 56.4
comp=Z,790nm,1.4s
MNTX Cornudas Mount 50.14 88 P **P 04 58 38.7 +0.2**
baz=314,SNR=145
MNTX S **S 05 05 51.2 +2.9**
baz=314
MSTX Muleshoe 50.19 84 P **P 04 58 38.6 -0.3**
baz=313,SNR=149
MSTX S **S 05 05 48.4 -0.6**
baz=313
MSTX Muleshoe 50.19 84 IAmb IAmb 04 58 59.7
comp=Z,715nm,1.2s
AMTX Amarillo 50.24 82 P **P 04 58 38.9 -0.3**
baz=312
AMTX S **S 05 05 49.6 -0.1**
baz=312
G40A Rib Lake 50.29 64 IAmb IAmb 04 58 57.5
comp=Z,1μm,1.7s
COWI Conover 50.36 63 P **P 04 58 38.7 -1.2**
COWI IAmb IAmb 04 58 58.0
comp=Z,347nm,1.2s
COWI IAMs_20 IAMs_20 05 21 39.7
comp=Z,138μm,20.0s
KSU1 Kansas State U 50.51 75 P **P 04 58 40.0 -1.1**
baz=311,SNR=16
KSU1 S **S 05 05 50.2 -3.0**
baz=311
SCIA State Center 50.69 70 P **P 04 58 41.6 -0.8**
baz=310,SNR=49
SCIA S **S 05 05 53.1 -2.5**
baz=310
SCIA State Center 50.69 70 IAMs_20 IAMs_20 05 20 15.9
comp=Z,119μm,21.0s
ILULI Ilulissat 50.76 24⇑*i*P **P 04 58 42.2 -0.4**

ILULI IAmb IAmb 04 58 50.5
comp=Z,144nm,1.0s
ILULI IAMs_20 IAMs_20 05 24 38.0
comp=Z,160μm,18.9s
ILULI Ilulissat 50.76 24⇑*i*P **P 04 58 42.1 -0.4**
ILULI pmax pmax
comp=Z,140nm,1.0s
ILULI MLR MLR
comp=Z,160μm,19.0s
KAN12 Harper NE Stat 50.86 77 P **P 04 58 43.2 -0.6**
ULN Ulaanbaatar 50.89 300 P **P 04 58 43.1 -1.0**
ULN pmax pmax
comp=Z,188nm,0.8s
ULN MLR MLR
comp=Z,235μm,20.0s
ULN Ulaanbaatar 50.89 300 P **P 04 58 43.1 -1.0**
ULN Ulaanbaatar 50.89 300 P **P 04 58 43.3 -0.8**
ULN P **P 04 58 43.3 -0.8**
ULN P **P 04 58 43.3 -0.8**
SUMG Summit 50.90 17⇑*i*P **P 04 58 44.5 +0.4**
SUMG IAmb IAmb 04 58 49.4
comp=Z,616nm,1.0s
SUMG IAMs_20 IAMs_20 05 23 28.1
comp=Z,203μm,17.4s
SUMG Summit 50.90 17⇑*i*P **P 04 58 44.4 +0.4**
SUMG pmax pmax
comp=Z,620nm,1.0s
SUMG MLR MLR
comp=Z,200μm,17.0s
SUMG Summit 50.90 17 IAmb IAmb 04 58 49.1
comp=Z,549nm,0.9s
KAN10 Anthony SW Sta 50.92 77 IAmb IAmb 04 59 02.9
comp=Z,989nm,1.9s
KAN08 Anthony NE Sta 50.92 77 P **P 04 58 42.7 -1.5**
KAN08 IAmb IAmb 04 59 02.8
comp=Z,812nm,1.8s
HSPB Hornsund (broa 50.95 359 *e*P **P 04 58 43.7 -0.2**
HSPB *e*PP **PP 05 00 44.5 +4.5**
HSPB *e*S **S 05 05 52.6 -5.7**
HSPB *e*SS SKiKP 05 09 60.0 -13
HSPB *e*L L 05 21 23.4
comp=Z,244μm,18.7s
HSPB Hornsund (broa 50.95 359⇑*i*P **P 04 58 44.0 +0.1**
HSPB IVmB_BB 04 58 54.4
comp=Z,3μm,2.5s
HSPB *e*S **S 05 05 53.2 -5.2**
HSPB IVMs_BB IVMs_BB 05 21 14.6
comp=Z,79μm,18.6s
OK032 Salt Plains WL 51.06 78 IAmb IAmb 04 59 08.0
comp=Z,973nm,1.6s
KAN05 Bluff City Nor 51.06 77 P **P 04 58 44.9 -0.4**
KAN05 IAmb IAmb 04 59 03.7
comp=Z,914nm,1.8s
HOPEN Hopen 51.15 356⇑*i*P **P 04 58 45.7 +0.3**
HOPEN *e*S **S 05 06 01.8 +0.7**
HOPEN IVMs_BB IVMs_BB 05 19 38.4
comp=Z,51μm,20.9s
KAN17 Caldwell West 51.17 77 P **P 04 58 45.4 -0.7**
KAN17 IAmb IAmb 04 59 02.6
comp=Z,695nm,1.4s
KAN09 Caldwell North 51.19 77 IAmb IAmb 04 59 02.8
comp=Z,837nm,1.3s
SONM Songino Array 51.26 301 P **P 04 58 46.4 -0.4**
comp=Z,210nm,1.1s,baz=52,slow=7.1,SNR=233
SONM PcP **PcP 05 00 04.5 +2.9**
comp=Z,70nm,0.6s,baz=62,slow=3.2,SNR=7.2
SONM ScP **ScP 05 03 59.2 +3.4**
comp=Z,9.6nm,0.7s,baz=49,slow=3.7,SNR=5.0
SONM P4KPbc 05 36 17.7
comp=Z,4.6nm,1.0s,baz=20,slow=6.4,SNR=12
SONM Songino Array 51.26 301 P **P 04 58 46.1 -0.7**
SONM pmax pmax
comp=Z,769nm,1.5s
SONM Songino Array 51.26 301 P **P 04 58 46.1 -0.7**
SONM IAmb IAmb 04 58 52.3
comp=Z,769nm,1.5s
ZAK Zakamensk 51.29 305 *e*P **P 04 58 46.8 -0.1**
ZAK *e* 05 00 02.8
ZAK pmax pmax
comp=Z,313nm,1.6s
KAN13 South Haven SW 51.36 77 IAmb IAmb 04 59 04.0
comp=Z,1μm,1.4s
CROK Carrier 51.39 78 P **P 04 58 47.0 -0.8**
N38A Joes South For 51.39 71 IAmb IAmb 04 59 11.9
comp=Z,719nm,1.0s
MOY Mondy 51.62 307 *e*P **P 04 58 49.2 -0.3**
MOY pmax pmax
comp=Z,539nm,1.6s
BLOK Blackwell 51.68 77 IAmb IAmb 04 59 06.6
comp=Z,1μm,1.4s
JFWS Jewell Farm 51.74 67 P **P 04 58 48.9 -1.4**
baz=310,SNR=73
JFWS S **S 05 06 06.4 -3.7**
baz=310
JFWS Jewell Farm 51.74 67 IAmb IAmb 04 59 06.7
comp=Z,1μm,1.8s
P38A Dawn 51.98 72 P **P 04 58 50.8 -1.3**
T35A Sooner Cattle 52.00 77 IAmb IAmb 04 59 08.7
comp=Z,1μm,1.9s
DBG Daneborg 52.02 10⇑*i*P **P 04 58 51.2 -0.7**
DBG IAmb IAmb 04 58 55.6
comp=Z,439nm,0.9s
DBG IAMs_20 IAMs_20 05 22 36.4
comp=Z,208μm,19.8s
WMOK Wichita Mounta 52.10 80 P **P 04 58 52.6 -0.5**
baz=313,SNR=195
WMOK S **S 05 06 14.4 -0.9**
baz=313
WMOK Wichita Mounta 52.10 80 IAMs_20 IAMs_20 05 18 42.7
comp=Z,78μm,22.0s
H43A Windswept, Lux 52.13 64 IAmb IAmb 04 59 01.5
comp=Z,588nm,1.1s
OK029 Liberty Lake 52.18 78 IAmb IAmb 04 59 16.5
comp=Z,397nm,1.0s
BCOK Bluff Creek, N 52.19 79 P **P 04 58 52.8 -0.9**
BCOK IAmb IAmb 04 59 09.9
comp=Z,726nm,1.0s
QUOK Quay 52.38 77 IAmb IAmb 04 59 11.7
comp=Z,561nm,1.3s
JOW Kunigami 52.38 266 IAmb IAmb 04 58 58.8
comp=Z,360nm,1.1s
OK025 Westminster Rd 52.40 78 IAmb IAmb 04 59 12.2
comp=Z,429nm,1.2s
PATS Pohnpei 52.42 222 P **P 04 58 55.8 +0.2**
PATS IAMs_20 IAMs_20 05 16 22.2
comp=Z,87μm,21.0s
OKCSW OKLAHOMA CITY 52.46 79 P **P 04 58 55.2 -0.6**
SFJD Kangerlussuaq 52.50 26⇑*i*P **P 04 58 55.9 +0.3**
SFJD IAmb IAmb 04 58 59.6
comp=Z,132nm,0.9s
SFJD IAMs_20 IAMs_20 05 26 05.2
comp=Z,79μm,18.6s
SFJD Kangerlussuaq 52.50 26⇑*i*P **P 04 58 55.9 +0.3**
SFJD pmax pmax
comp=Z,130nm,0.9s
SFJD MLR MLR
comp=Z,79μm,19.0s
SFJD Kangerlussuaq 52.50 26 P **P 04 58 55.4 -0.2**
SFJD IAmb IAmb 04 59 03.7
comp=Z,401nm,1.1s
SFJD Kangerlussuaq 52.50 26 IAMs_20 IAMs_20 05 23 58.5
comp=Z,117μm,19.0s
L42A Oliver, Polo 52.66 67 IAmb IAmb 04 59 12.7
comp=Z,2μm,2.0s
TIA Tai'an 52.66 283⇑P **P 04 58 57.0 -0.2**
TIA S **S 05 06 22.8 -0.1**
TIA pmax pmax
comp=Z,140nm,1.4s
TIA pmax pmax
comp=Z,16μm,11.1s
TIA LR LR
comp=Z,76μm,18.2s
TIA LR LR
comp=Z,74μm,17.5s
TIA LR LR
comp=Z,123μm,17.7s
X34A Smith Ranch, M 52.76 80 IAmb IAmb 04 59 15.9
comp=Z,478nm,1.2s
E46A Sault Ste Mari 52.80 60 IAmb IAmb 04 59 06.8
comp=Z,492nm,0.8s
TX32 Lajitas Array 52.85 89 IAmb IAmb 04 59 17.6
comp=Z,596nm,1.3s
TXAR Lajitas Array 52.85 89 P **P 04 58 58.7 -0.1**
comp=Z,15nm,0.5s,baz=299,slow=5.5,SNR=183
TXAR S **S 05 06 24.4 -1.4**
comp=Z,3.8nm,0.8s,baz=258,slow=4.5,SNR=0.8

TXAR PKPPKP P'P'df 05 29 13.9 -14
comp=Z,3.9nm,1.1s,baz=123,slow=3.3,SNR=4.8
TXAR Lajitas Array 52.85 89 P **P 04 58 58.4 -0.5**
HHC Hu-ho-hao-te 52.86 291 *e*P **P 04 58 59.3 +0.5**
HHC S **S 05 06 23.0 -2.7**
HHC pmax pmax
comp=Z,290nm,1.2s
HHC pmax pmax
comp=Z,10μm,6.6s
HHC LR LR
comp=Z,105μm,21.2s
HHC LR LR
comp=Z,135μm,20.7s
HHC LR LR
comp=Z,240μm,22.6s
P40A Paris 52.91 71 IAmb IAmb 04 59 06.8
comp=Z,768nm,0.9s
G45A Suttons Bay 52.92 62 P **P 04 58 58.0 -1.0**
G45A IAmb IAmb 04 59 17.2
comp=Z,905nm,1.7s
GUMO Guam 52.97 240 P **P 04 58 57.6 -2.1**
GUMO pmax pmax
comp=Z,838nm,1.1s
GUMO Guam 52.97 240 P **P 04 58 57.0 -2.7**
GUMO IAmb IAmb 04 59 05.9
comp=Z,540nm,0.8s
ABTX Abilene, Hawle 53.02 83 P **P 04 58 59.4 -0.5**
baz=314,SNR=65
ABTX S **S 05 06 25.0 -2.8**
baz=314
ABTX Abilene, Hawle 53.02 83 IAmb IAmb 04 59 20.8
comp=Z,950nm,1.3s
TUL1 Leonard 53.10 77 P **P 04 58 59.4 -1.0**
baz=313,SNR=71
TUL1 S **S 05 06 24.2 -4.7**
baz=313
SLBS Sierra La Lagu 53.11 99 P **P 04 59 01.0 +0.2**
SLBS IAmb IAmb 04 59 18.8
comp=Z,496nm,1.4s
BJO1 Bjornoya 53.38 357⇑ *i*P **P 04 59 01.8 -0.2**
BJO1 IVmB_BB 04 59 12.7
comp=Z,5μm,2.5s
BJO1 *e*S **S 05 06 32.7 +1.1**
BJO1 IVMs_BB IVMs_BB 05 24 06.6
comp=Z,41μm,18.3s
ICESG Greenland Ices 53.49 20⇑ *i*P **P 04 59 02.9 -0.4**
ICESG IAmb IAmb 04 59 07.2
comp=Z,444nm,0.9s
ICESG IAMs_20 IAMs_20 05 26 06.9
comp=Z,189μm,18.3s
L44A Lake County Fo 53.53 66 P **P 04 59 02.4 -1.1**
baz=311,SNR=13
L44A S **S 05 06 29.7 -4.9**
baz=311
LOOK Love County 53.57 80 P **P 04 59 03.4 -0.6**
R40A Maddies Statio 53.60 72 IAmb IAmb 04 59 21.4
comp=Z,1μm,1.9s
GLMI Grayling 53.63 62 P **P 04 59 03.7 -0.6**
baz=311,SNR=36
GLMI S **S 05 06 33.5 -2.3**
baz=311
GLMI Grayling 53.63 62 IAMs_20 IAMs_20 05 23 46.1
comp=Z,143μm,21.0s
SSE Sheshan 53.70 275 P **P 04 59 05.8 +0.9**
SSE S **S 05 06 37.3 +0.2**
SSE pmax pmax
comp=Z,7μm,7.4s
HDIL Hopedale 53.82 68 P **P 04 59 04.3 -1.3**
baz=312,SNR=135
HDIL S **S 05 06 34.1 -4.4**
baz=312
HDIL Hopedale 53.82 68 P **P 04 59 04.2 -1.5**
HDIL IAMs_20 IAMs_20 05 22 22.5
comp=Z,116μm,19.0s
BTO Baotou 53.90 292 *e*P **P 04 59 06.8 +0.4**
BTO pP **pP 04 59 11.3 -2.9**
BTO PP **PP 05 01 09.0 +1.6**
BTO S **S 05 06 37.5 -2.3**
Z35A Perchaven, San 53.98 80 IAmb IAmb 04 59 43.7
comp=Z,543nm,1.1s
MATQ Matagami 54.03 53 P **P 04 59 06.0 -1.0**
baz=311,SNR=196
MATQ S **S 05 06 37.3 -3.8**
baz=311
DY2G Dye2 54.03 24⇑ *i*P **P 04 59 06.6 -0.5**
DY2G IAmb IAmb 04 59 13.6
comp=Z,215nm,0.7s
DY2G IAMs_20 IAMs_20 05 26 54.7
comp=Z,115μm,17.4s
X37A Clayton 54.26 78 IAmb IAmb 04 59 30.5
comp=Z,252nm,0.8s
NUUK Nuuk 54.28 28⇑ *i*P **P 04 59 09.2 +0.5**
NUUK IAmb IAmb 04 59 15.0
comp=Z,135nm,1.0s
NUUK IAMs_20 IAMs_20 05 22 53.5
comp=Z,139μm,21.5s
CCM Cathedral Cave 54.35 72 P **P 04 59 07.7 -1.9**
CCM pmax pmax
comp=Z,1μm,1.9s
CCM Cathedral Cave 54.35 72 P **P 04 59 07.5 -2.1**
baz=312
CCM S **S 05 06 40.3 -5.5**
baz=312
CCM Cathedral Cave 54.35 72 P **P 04 59 07.7 -1.9**
CCM Cathedral Cave 54.35 72 IAMs_20 IAMs_20 05 21 37.0
comp=Z,69μm,20.0s
MGMO Mountain Grove 54.36 74 IAmb IAmb 04 59 17.2
comp=Z,333nm,1.0s
JCT Junction City 54.41 85 P **P 04 59 09.3 -0.9**
baz=315,SNR=106
JCT S **S 05 06 43.8 -3.1**
baz=315
JCT Junction City 54.41 85 IAMs_20 IAMs_20 05 19 48.4
comp=Z,91μm,20.0s
TIY Taiyuan 54.43 287 *e*P **P 04 59 11.5 +1.2**
TIY pP **pwP 04 59 21.0 -0.1**
TIY sP **sP 04 59 24.5 +3.2**
TIY S **S 05 06 47.0 0.0**
TIY sS **sS 05 07 02.0 +2.1**
TIY pmax pmax
comp=Z,74nm,0.8s
TIY LR LR
comp=Z,37μm,15.4s
TIY LR LR
comp=Z,68μm,17.1s
TIY LR LR
comp=Z,115μm,17.7s
NJ2 Nanjing 54.46 278⇑ *i*P **P 04 59 10.0 -0.4**
NJ2 pP **pP 04 59 17.5 -0.8**
NJ2 sP **sP 04 59 24.3 +2.8**
NJ2 PcP **PcP 05 00 11.3 -2.4**
NJ2 PP **PP 05 01 18.8 +6.3**
NJ2 S **S 05 06 46.5 -0.8**
NJ2 pmax pmax
comp=Z,320nm,1.1s
NJ2 pmax pmax
comp=Z,16μm,10.8s
NJ2 LR LR
comp=Z,68μm,24.2s
NJ2 LR LR
comp=Z,71μm,24.6s
NJ2 LR LR
comp=Z,126μm,24.7s
SLM Saint Louis 54.55 71 P **P 04 59 09.4 -1.6**
SLM pmax pmax
comp=Z,1μm,1.5s
SLM Saint Louis 54.55 71 P **P 04 59 09.4 -1.6**
U40A Yellville 54.55 75 P **P 04 59 09.2 -1.9**
baz=313,SNR=184
U40A S **S 05 06 43.3 -5.3**
baz=313
U40A Yellville 54.55 75 IAmb IAmb 04 59 26.7
comp=Z,1μm,1.8s
J47A Sumner 54.55 63 IAmb IAmb 04 59 29.3
comp=Z,1μm,1.8s
O44A Mansfield 54.56 68 IAmb IAmb 04 59 27.1
comp=Z,715nm,1.6s
WHTX Lake Whitney, 54.79 82 P **P 04 59 12.8 0.0**
baz=315,SNR=106
WHTX S **S 05 06 51.9 +0.2**
baz=315
W39A Magazine 54.79 76 P **P 04 59 11.7 -1.1**
baz=313,SNR=126
W39A S **S 05 06 48.8 -2.9**
baz=313
W39A Magazine 54.79 76 IAmb IAmb 04 59 29.5
comp=Z,923nm,1.4s
LSQQ Lebel-sur-Quev 54.81 54 P **P 04 59 11.9 -0.9**
baz=312
LSQQ S **S 05 06 48.4 -3.3**
baz=312
KNTN Kanton 54.88 183 P **P 04 59 13.9 +0.4**
KNTN IAmb IAmb 04 59 31.9
comp=Z,348nm,1.1s
Q44A Meyer Farm, Va 55.08 70 IAmb IAmb 04 59 31.7
comp=Z,1μm,1.6s
I49A Point Hope 55.18 61 **P 04 59 14.9 -0.6**
SFIN Lafayette 55.19 67 P **P 04 59 14.7 -0.9**
baz=312,SNR=36
SFIN S **S 05 06 52.5 -4.3**
baz=312
FCAR Ozark Folk Cen 55.30 75 IAmb IAmb 04 59 31.2
comp=Z,321nm,0.9s
SCO Scoresbysund 55.34 13⇑ *i*P **P 04 59 16.3 +0.1**
SCO IAmb IAmb 04 59 20.7
comp=Z,245nm,1.0s
SCO IAMs_20 IAMs_20 05 28 56.4
comp=Z,197μm,18.8s
SCO Scoresbysund 55.34 13⇑ *i*P **P 04 59 16.3 +0.1**
SCO pmax pmax
comp=Z,250nm,1.0s
SCO MLR MLR
comp=Z,200μm,19.0s
SCO Scoresbysund 55.34 13 IAmb IAmb 04 59 24.2
comp=Z,467nm,1.2s
MIAR Mount Ida 55.36 77 P **P 04 59 16.2 -0.7**
baz=314,SNR=231
MIAR S **S 05 06 56.8 -2.5**
baz=314
MIAR Mount Ida 55.36 77 IAMs_20 IAMs_20 05 26 56.9
comp=Z,62μm,18.0s
CHGQ Chibougamau 55.52 51 P **P 04 59 16.7 -1.1**
baz=312,SNR=192
CHGQ S **S 05 06 57.3 -3.7**
baz=312
435B Jarrell 55.55 83 P **P 04 59 18.1 -0.3**
baz=315,SNR=26
435B S **S 05 07 02.1 0.0**
baz=315
435B Jarrell 55.55 83 IAmb IAmb 04 59 39.2
comp=Z,726nm,1.2s
SCHQ Schefferville 55.57 43 P **P 04 59 18.2 0.0**
comp=Z,364nm,0.9s,baz=319,slow=7.1,SNR=71
SCHQ S **S 05 07 01.3 -0.4**
comp=Z,9.4nm,0.9s,baz=252,slow=20,SNR=0.8
SCHQ Schefferville 55.57 43 P **P 04 59 18.0 -0.2**
SCHQ IAmb IAmb 04 59 26.5
comp=Z,659nm,1.1s
SCHQ IAMs_20 IAMs_20 05 23 14.2
comp=Z,103μm,22.0s
WHAR Wooly Hollow 55.62 75 IAmb IAmb 04 59 40.7
comp=Z,420nm,1.2s
P46A Rosedale 55.64 68 IAmb IAmb 04 59 36.0
comp=Z,962nm,1.6s
PBMO Poplar Bluff 55.70 73 P **P 04 59 17.6 -1.7**
PBMO IAmb IAmb 04 59 34.9
comp=Z,1μm,1.7s
W41B Gary Mavity, V 55.72 75 P **P 04 59 18.0 -1.5**
baz=314,SNR=81
W41B S **S 05 07 00.2 -3.9**
baz=314
LCAR Lake Charles 55.75 74 IAmb IAmb 04 59 36.9
comp=Z,827nm,2.0s
S44A Carbondale 55.76 71 IAmb IAmb 04 59 35.7
comp=Z,925nm,1.7s
237A Washetta, Mont 55.78 81 P **P 04 59 19.3 -0.7**
237A IAmb IAmb 04 59 56.9
comp=Z,404nm,1.1s
AAM Ann Arbor 55.82 63 P **P 04 59 19.3 -0.8**
baz=312,SNR=16
AAM S **S 05 07 01.7 -3.5**
baz=312
AAM Ann Arbor 55.82 63 IAMs_20 IAMs_20 05 24 59.2
comp=Z,105μm,21.0s
X40A Basin Creek Fa 55.84 76 P **P 04 59 19.2 -1.2**
baz=314,SNR=90
X40A S **S 05 07 02.6 -3.2**
baz=314
X40A Basin Creek Fa 55.84 76 IAmb IAmb 04 59 37.0
comp=Z,552nm,1.6s
X40A IAMs_20 IAMs_20 05 27 26.7
comp=Z,77μm,19.0s
K50A Casco 56.07 62 IAmb IAmb 04 59 42.6
comp=Z,322nm,1.0s
833A Chaparral WMA, 56.19 86 P **P 04 59 22.6 -0.4**
baz=316,SNR=84
833A S **S 05 07 09.7 -0.8**
baz=316
JMIC Jan Mayen 56.29 7⇑ *i*P P 04 59 32.9 +10
JMIC IVmB_BB 04 59 33.7
comp=Z,4μm,6.7s
JMIC *e*S **S 05 07 10.6 -0.2**
JMIC IVMs_BB IVMs_BB 05 20 44.9
comp=Z,29μm,25.3s
BLO Bloomington 56.33 68 IAmb IAmb 04 59 40.6
comp=Z,670nm,1.3s
ALGO Algonquin Park 56.35 57 P **P 04 59 23.4 -0.4**
baz=313,SNR=344
ALGO S **S 05 07 08.6 -3.6**
baz=313
PENMO Penman 56.39 72 P **P 04 59 23.4 -0.9**
N49A Columbus Grove 56.46 65 IAmb IAmb 04 59 41.5
comp=Z,915nm,1.6s
PEBM Pemiscott Bayo 56.48 73 P **P 04 59 23.9 -1.0**
USIN University of 56.49 70 IAmb IAmb 04 59 33.0
comp=Z,603nm,0.9s
GNAR Gosnell 56.49 73 IAmb IAmb 04 59 41.9
comp=Z,917nm,1.5s
ISOG Isortoq, Green 56.56 22⇑ *i*P **P 04 59 24.1 -0.9**
ISOG IAmb IAmb 04 59 28.1
comp=Z,189nm,0.8s
ISOG IAMs_20 IAMs_20 05 27 39.5
comp=Z,184μm,18.6s
HICK Hickman 56.56 72 P **P 04 59 24.6 -0.9**
HICK IAmb IAmb 04 59 49.3
comp=Z,657nm,1.1s
T45A Paducah 56.57 71 IAmb IAmb 04 59 33.9
comp=Z,522nm,0.9s
SADO Sadowa 56.58 59 IAmb IAmb 04 59 34.0
comp=Z,308nm,0.9s
SADO IAMs_20 IAMs_20 05 25 32.4
comp=Z,107μm,18.0s
NATX Nacogdoches 56.64 80 P **P 04 59 25.9 -0.2**
baz=315,SNR=17
NATX S **S 05 07 09.9 -6.6**
baz=315
NATX Nacogdoches 56.64 80 IAmb IAmb 04 59 46.7
comp=Z,935nm,1.6s
NATX IAMs_20 IAMs_20 05 23 23.1
comp=Z,82μm,20.0s
GLAT Glass 56.71 72 P **P 04 59 25.6 -0.9**
Z41A Richland Creek 56.72 77 P **P 04 59 26.2 -0.4**
baz=315,SNR=20
Z41A S **S 05 07 15.8 -1.6**
baz=315
735A Kenedy 56.78 85 IAmb IAmb 04 59 53.3
comp=Z,675nm,1.1s
ANGG Ammassalik, Gr 56.81 22⇑ *i*P **P 04 59 25.7 -1.1**
ANGG IAmb IAmb 04 59 33.3
comp=Z,389nm,1.0s
ANGG IAMs_20 IAMs_20 05 29 15.7
comp=Z,126μm,17.0s
ANGG Ammassalik, Gr 56.81 22 IAmb IAmb 04 59 33.5
comp=Z,357nm,1.0s
O49A Covington 56.87 66 IAmb IAmb 04 59 44.3
comp=Z,1μm,1.9s
UTMT University of 56.91 72 P **P 04 59 26.7 -1.2**
HAMF Hammerfest 57.02 355⇑ *i*P **P 04 59 27.5 -0.7**
HAMF *e*S **S 05 07 18.1 -2.3**
HAMF *e*SS **SS 05 11 12.0 +3.9**
HAMF IVMs_BB IVMs_BB 05 25 25.2
comp=Z,42μm,18.6s
WCI Wyandotte Cave 57.10 69 P **P 04 59 28.1 -1.2**
WCI pmax pmax
comp=Z,558nm,1.4s
WCI MLR MLR
comp=Z,115μm,20.0s
WCI Wyandotte Cave 57.10 69 P **P 04 59 28.2 -1.2**
baz=314
WCI S **S 05 07 17.8 -4.6**
baz=314
WCI Wyandotte Cave 57.10 69 P **P 04 59 28.1 -1.2**
WCI IAmb IAmb 04 59 45.4
comp=Z,558nm,1.4s
WCI Wyandotte Cave 57.10 69 IAMs_20 IAMs_20 05 24 25.5
comp=Z,115μm,20.0s
P49A Miami Univ. Ec 57.10 67 P **P 04 59 27.5 -1.8**
baz=313,SNR=78
P49A S **S 05 07 15.5 -6.9**
baz=313
HKT Hockley 57.21 82 P **P 04 59 30.3 +0.2**
HKT pmax pmax
comp=Z,1μm,1.8s
HKT Hockley 57.21 82 P **P 04 59 30.2 +0.2**
HKT IAmb IAmb 04 59 51.4
comp=Z,1μm,1.8s
HKT Hockley 57.21 82 IAMs_20 IAMs_20 05 22 57.0
comp=Z,67μm,21.0s
YOJ Yonaguni jima 57.35 268 IAmb IAmb 04 59 43.4
comp=Z,827nm,1.6s
ZALV Zalesovo Beam 57.42 318 P **P 04 59 31.2 -0.1**
comp=Z,66nm,0.7s,baz=36,slow=7.1,SNR=77
ZALV PcP **PcP 05 00 27.4 +2.6**
comp=Z,44nm,0.7s,baz=50,slow=4.6,SNR=5.9
ZALV Zalesovo Beam 57.42 318 *i* P **P 04 59 31.2 -0.1**
ZALV pmax pmax
comp=Z,67nm,0.6s
ZALV Zalesovo Beam 57.42 318 P **P 04 59 30.1 -1.2**
PLVO Plevna 57.47 57 IAmb IAmb 04 59 40.2
comp=Z,592nm,1.0s
T47A Sharon Grove 57.49 70 IAmb IAmb 04 59 40.3
comp=Z,417nm,0.9s
DELO Deloro Mine 57.55 58 IAmb IAmb 04 59 41.4
comp=Z,548nm,1.0s
ACSO Alum Creek Sta 57.60 65 P **P 04 59 31.5 -1.2**
baz=314,SNR=29
ACSO S **S 05 07 25.9 -2.9**
baz=314
ACSO Alum Creek Sta 57.60 65 IAmb IAmb 04 59 49.8
comp=Z,1μm,1.8s
ACSO IAMs_20 IAMs_20 05 25 36.3
comp=Z,94μm,19.0s
WVT Waverly 57.66 71 P **P 04 59 32.1 -1.2**
WVT pmax pmax
comp=Z,1μm,1.6s
WVT Waverly 57.66 71 S **S 05 07 27.9 -1.9**
baz=314
WVT Waverly 57.66 71 P **P 04 59 32.0 -1.2**
WVT Waverly 57.66 71 IAMs_20 IAMs_20 05 23 39.5
comp=Z,78μm,22.0s
KVTX Kingsville 57.67 86 IAMs_20 IAMs_20 05 22 19.2
comp=Z,77μm,20.0s
KEV Kevo 57.68 353 P **P 04 59 31.8 -1.1**
KEV pmax pmax
comp=Z,249nm,0.8s
KEV MLR MLR
comp=Z,158μm,21.0s
KEV Kevo 57.68 353 P **P 04 59 31.8 -1.1**
KEV IAmb IAmb 04 59 39.9
comp=Z,249nm,0.8s
R49A Shelbyville 57.70 68 IAmb IAmb 04 59 51.7
comp=Z,797nm,1.7s
OXF Oxford 57.86 74 P **P 04 59 33.8 -0.9**
baz=315,SNR=164
OXF S **S 05 07 28.5 -3.9**
baz=315
OXF Oxford 57.86 74 IAMs_20 IAMs_20 05 27 31.9
comp=Z,63μm,19.0s
J54A Appleton 57.87 60 IAmb IAmb 04 59 43.6
comp=Z,350nm,0.8s
TATO Taipei 57.90 270 P **P 04 59 34.0 -1.1**
TATO P **P 04 59 34.0 -1.1**
TATO P **P 04 59 34.0 -1.1**
ERPA Erie 57.94 61 P **P 04 59 34.6 -0.5**
baz=314,SNR=55
ERPA S **S 05 07 32.2 -1.1**
baz=314
ERPA Erie 57.94 61 IAMs_20 IAMs_20 05 25 05.2
comp=Z,81μm,21.0s
ARA0 ARCESS Array S 58.00 354⇑ *i*P **P 04 59 34.8 -0.4**
ARCES ARCESS Array B 58.00 354 P **P 04 59 34.8 -0.5**
comp=Z,52nm,0.6s,baz=13,slow=7.2,SNR=77
ARCES PcP **PcP 05 00 29.4 +2.5**
comp=Z,139nm,0.8s,baz=357,slow=6.1,SNR=9.3
ARCES ARCESS Array B 58.00 354 P **P 04 59 34.7 -0.5**
ARCES pmax pmax
comp=Z,575nm,1.4s
ARCES ARCESS Array B 58.00 354 P **P 04 59 34.7 -0.5**
ARCES IAmb IAmb 05 00 35.2
comp=Z,575nm,1.4s
LATQ La Tuque 58.01 53 P **P 04 59 34.7 -0.9**
baz=314,SNR=153
LATQ S **S 05 07 31.2 -2.8**
baz=314
LATQ La Tuque 58.01 53 IAmb IAmb 04 59 43.8
comp=Z,476nm,1.2s
LATQ IAMs_20 IAMs_20 05 25 43.7
comp=Z,89μm,18.0s
M53A Wl Miller and 58.04 62 P **P 04 59 34.9 -0.9**
baz=314,SNR=116
M53A S **S 05 07 29.0 -5.6**
baz=314
MEDO Medina 58.04 60 IAmb IAmb 04 59 43.9
comp=Z,336nm,0.8s
P51A Williamsport 58.07 66 IAmb IAmb 04 59 53.0
comp=Z,825nm,1.7s
R50A Paris 58.19 67 IAmb IAmb 04 59 53.4
comp=Z,832nm,1.4s
YHNB Yeheng 58.20 270 P **P 04 59 37.3 0.0**
YHNB IAMs_20 IAMs_20 05 22 50.1
comp=Z,136μm,22.0s
441A DeRidder 58.25 80 P **P 04 59 37.7 +0.3**
441A IAmb IAmb 05 00 14.1
comp=Z,1μm,1.7s
TRO Tromso 58.25 357⇑ *i*P **P 04 59 37.0 +0.1**
TRO *e*S **S 05 07 34.1 -2.3**
TRO IVMs_BB IVMs_BB 05 25 56.5
comp=Z,33μm,19.5s
WHN Wuhan 58.25 280 ⇑P **P 04 59 37.5 0.0**
WHN PP **PP 05 01 47.3 +1.0**
WHN S **S 05 07 32.8 -4.8**
WHN pmax pmax
comp=Z,820nm,1.0s
WHN LR LR
comp=Z,98μm,16.2s
WHN LR LR
comp=Z,63μm,16.7s
WHN LR LR
comp=Z,189μm,22.5s
JETT Jettan, Norway 58.26 356⇑ *i*P **P 04 59 38.2 +1.2**
JETT *e*S **S 05 07 37.0 +0.2**
JETT IVMs_BB IVMs_BB 05 27 10.7
comp=Z,22μm,18.4s
PECO Prince Edward 58.28 58 IAmb IAmb 04 59 46.5
comp=Z,554nm,1.1s
PECO IAMs_20 IAMs_20 05 26 41.2
comp=Z,114μm,19.0s
J55A Hilton 58.31 59 IAmb IAmb 04 59 46.6
comp=Z,364nm,0.9s
PLAL Pickwick Lake 58.32 73 IAmb IAmb 04 59 53.3
comp=Z,431nm,1.2s
PLAL IAMs_20 IAMs_20 05 29 00.9
comp=Z,52μm,18.0s
342A Flagon Creek P 58.33 79 IAmb IAmb 05 00 15.1
comp=Z,466nm,1.2s
N53A Lisbon 58.38 63 IAmb IAmb 04 59 54.5
comp=Z,634nm,1.4s
NACB Ninganchiao 58.43 269 P **P 04 59 37.3 -1.4**
NACB IAmb IAmb 04 59 54.9
comp=Z,396nm,1.1s
NACB IAMs_20 IAMs_20 05 23 34.3
comp=Z,123μm,21.0s
NRS Narsarsuaq 58.47 28⇑ *i*P **P 04 59 38.5 0.0**
NRS IAmb IAmb 04 59 46.6
comp=Z,151nm,0.7s
NRS IAMs_20 IAMs_20 05 28 11.8
comp=Z,123μm,17.1s
NRS Narsarsuaq 58.47 28⇑ *i*P **P 04 59 38.5 0.0**
NRS pmax pmax
comp=Z,150nm,0.7s
NRS MLR MLR
comp=Z,120μm,17.0s
NRS Narsarsuaq 58.47 28 IAmb IAmb 04 59 46.9
comp=Z,467nm,1.4s
NRS IAMs_20 IAMs_20 05 28 08.5
comp=Z,117μm,19.0s
P52A Corning 58.48 65 P **P 04 59 37.5 -1.5**
baz=314,SNR=30
P52A S **S 05 07 36.7 -3.7**
baz=314

P52A	**Corning**	**58.48**	**65**	IAmb	IAmb	04 59 56.6	
	comp=Z,592nm,1.4s						
P52A				IAms_20	IAms_20	05 26 11.7	
	comp=Z,100µm,19.0s						
M54A	**Oil Creek Stat**	**58.54**	**62**	P	**P**	**04 59 38.6**	**-0.8**
	baz=314,SNR=56						
M54A				S	**S**	**05 07 37.9**	**-3.2**
	baz=314						
M54A	**Oil Creek Stat**	**58.54**	**62**	IAms_20	IAms_20	05 26 55.0	
	comp=Z,82µm,20.0s						
CLTN	**Cedars of Leba**	**58.56**	**71**	P	**P**	**04 59 38.6**	**-1.0**
CLTN				IAmb	IAmb	04 59 57.1	
	comp=Z,779nm,1.4s						
O53A	**New Philadelph**	**58.56**	**64**	P	**P**	**04 59 38.5**	**-1.1**
	baz=314,SNR=53						
O53A				S	**S**	**05 07 35.8**	**-5.7**
	baz=314						
U49A	**Red Boiling Sp**	**58.58**	**70**	IAmb	IAmb	04 59 56.1	
	comp=Z,570nm,1.5s						
KTK1	**Kautokeino**	**58.66**	**355**	⇑*i*P	**P**	**04 59 39.5**	**-0.3**
KTK1				*e*pP	**pP**	**04 59 46.7**	**-1.3**
KTK1				*e*S	**S**	**05 07 44.1**	**+2.2**
KTK1				*e*SS	SS	05 11 46.0	+12
KTK1				IVMs_BB	IVMs_BB	05 23 45.3	
	comp=Z,33µm,21.3s						
H57A	**Richville**	**58.74**	**57**	P	**P**	**04 59 40.0**	**-0.7**
	baz=314,SNR=326						
H57A				S	**S**	**05 07 40.9**	**-2.7**
	baz=314						
N54A	**Moraine State**	**58.74**	**62**	P	**P**	**04 59 40.0**	**-0.8**
	baz=314,SNR=44						
N54A				S	**S**	**05 07 40.9**	**-2.9**
	baz=314						
LVZ	**Lovozero**	**58.79**	**350**	*ce*P	**P**	**04 59 39.8**	**-0.9**
LVZ				pmax	pmax		
	comp=Z,572nm,0.7s						
LVZ				MLR	MLR		
	comp=Z,155µm,20.0s						
LVZ	**Lovozero**	**58.79**	**350**	P	**P**	**04 59 40.1**	**-0.7**
J56A	**Wolcott**	**58.80**	**59**	IAmb	IAmb	04 59 50.0	
	comp=Z,590nm,1.1s						
VBMS	**Vicksburg**	**58.81**	**77**	P	**P**	**04 59 40.6**	**-0.7**
	baz=315						
VBMS				S	**S**	**05 07 43.6**	**-1.2**
	baz=315						
VBMS	**Vicksburg**	**58.81**	**77**	IAmb	IAmb	04 59 57.9	
	comp=Z,588nm,1.1s						
VBMS				IAms_20	IAms_20	05 29 26.3	
	comp=Z,60µm,18.0s						
Q52A	**Bidwell**	**58.87**	**65**	P	**P**	**04 59 41.1**	**-0.6**
K56A	**Middlesex**	**58.96**	**59**	P	**P**	**04 59 42.3**	**0.0**
	baz=314,SNR=140						
K56A				S	**S**	**05 07 46.3**	**-0.4**
	baz=314						
I57A	**Carthage**	**58.97**	**57**	P	**P**	**04 59 42.1**	**-0.2**
	baz=314,SNR=351						
I57A				S	**S**	**05 07 45.5**	**-1.1**
	baz=314						
XAN	**Xi'an**	**59.03**	**287**	P	**P**	**04 59 42.5**	**-0.4**
XAN				pP	pP	04 59 50.0	-0.8
XAN				sP	pwP	04 59 53.5	-0.2
XAN				PP	**PP**	**05 01 54.8**	**+1.6**
XAN				S	**S**	**05 07 48.3**	**+0.6**
XAN				sS	sS	05 08 02.0	+1.3
XAN				ScS	**ScS**	**05 09 27.0**	**-3.9**
XAN				SS	**SS**	**05 11 43.8**	**+2.5**
XAN				pmax	pmax		
	comp=Z,210nm,1.5s						
XAN				pmax	pmax		
	comp=Z,12µm,12.0s						
XAN				LR	LR		
	comp=Z,84µm,22.2s						
XAN				LR	LR		
	comp=Z,128µm,20.6s						
XAN				LR	LR		
	comp=Z,227µm,22.8s						
LONY	**Lake Ozonia**	**59.04**	**56**	P	**P**	**04 59 42.0**	**-0.8**
	baz=315,SNR=124						
LONY				S	**S**	**05 07 45.3**	**-2.3**
	baz=315						
S51A	**Beattyville**	**59.05**	**67**	IAmb	IAmb	05 00 05.2	
	comp=Z,256nm,1.1s						
LMQ	**La Malbaie**	**59.09**	**51**	P	**P**	**04 59 41.8**	**-1.3**
LMQ				IAmb	IAmb	04 59 55.0	
	comp=Z,321nm,1.0s						
J57A	**Williamstown**	**59.16**	**58**	IAmb	IAmb	04 59 52.6	
	comp=Z,553nm,1.0s						
YULB	**Yu-li**	**59.19**	**269**	IAms_20	IAms_20	05 23 48.4	
	comp=Z,102µm,22.0s						
344A	**Westbrook Farm**	**59.23**	**77**	IAmb	IAmb	04 59 54.2	
	comp=Z,590nm,1.2s						
APA	**Apatity**	**59.24**	**350**	⇑*i*P	P	04 59 34.1	-10
APA				*i*		05 01 56.0	
APA				*i* SSS	SSS	05 14 12.0	
APA				pmax	pmax		
	comp=Z,74nm,0.8s						
APA				MLR	MLR		
	comp=Z,7µm,17.0s						
X48A	**Hartselle**	**59.29**	**72**	IAmb	IAmb	04 59 52.2	
	comp=Z,211nm,0.9s						
DGZ	**Jazzator, Alta**	**59.33**	**313**	*c i*P	**P**	**04 59 44.8**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,239nm,0.8s						
DGZ				MLR	MLR		
	comp=Z,146µm,18.0s						
K57A	**Scipio Center**	**59.36**	**59**	IAmb	IAmb	04 59 53.4	
	comp=Z,382nm,1.0s						
H58A	**Gabriels**	**59.39**	**56**	P	**P**	**04 59 44.5**	**-0.7**
	baz=315,SNR=107						
H58A				S	**S**	**05 07 51.6**	**-0.5**
	baz=315						
FRNY	**Flat Rock**	**59.40**	**55**	IAmb	IAmb	04 59 52.4	
	comp=Z,240nm,1.1s						
D61A	**St Aubert, Com**	**59.40**	**51**	P	**P**	**04 59 44.6**	**-0.6**
	baz=315,SNR=301						
D61A				S	**S**	**05 07 50.9**	**-1.1**
	baz=315						
SWET	**Sewanee**	**59.40**	**71**	IAmb	IAmb	05 00 02.1	
	comp=Z,656nm,1.7s						
H59A	**Cadyville**	**59.48**	**56**	P	**P**	**04 59 45.1**	**-0.7**
	baz=315,SNR=334						
H59A				S	**S**	**05 07 50.6**	**-2.6**
	baz=315						
R53A	**Hurricane**	**59.49**	**66**	P	**P**	**04 59 44.9**	**-1.2**
R53A				IAmb	IAmb	05 00 02.6	
	comp=Z,492nm,1.1s						
I58A	**Old Forge**	**59.49**	**57**	P	**P**	**04 59 45.9**	**-0.1**
	baz=315,SNR=196						
I58A				S	**S**	**05 07 52.3**	**-1.2**
	baz=315						
J58A	**Remsen**	**59.56**	**58**	P	**P**	**04 59 46.5**	**+0.1**
	baz=315,SNR=316						
J58A				S	**S**	**05 07 54.3**	**-0.1**
	baz=315						
J58A	**Remsen**	**59.56**	**58**	IAms_20	IAms_20	05 27 09.2	
	comp=Z,108µm,19.0s						
Z47A	**Carrollton**	**59.57**	**74**	IAmb	IAmb	04 59 54.7	
	comp=Z,410nm,0.9s						
TPUB	**Ta-pu**	**59.66**	**269**	IAmb	IAmb	05 00 01.9	
	comp=Z,573nm,1.4s						
NCB	**Newcomb**	**59.68**	**56**	IAmb	IAmb	05 00 05.9	
	comp=Z,702nm,1.6s						
NCB				IAms_20	IAms_20	05 26 06.1	
	comp=Z,99µm,20.0s						
N2VI	**Vinje**	**59.69**	**358**	⇑*i*P	**P**	**04 59 46.7**	**-0.2**
QZH	**Quanzhou**	**59.71**	**272**	⇑*i*P	**P**	**04 59 48.0**	**+0.4**
QZH				PP	**PP**	**05 02 04.3**	**+5.0**
QZH				S	**S**	**05 07 55.0**	**-1.6**
QZH				pmax	pmax		
	comp=Z,430nm,1.6s						
QZH				LR	LR		
	comp=Z,36µm,22.4s						
QZH				LR	LR		
	comp=Z,20µm,22.1s						
QZH				LR	LR		
	comp=Z,60µm,21.8s						
MCWV	**Mont Chateau**	**59.73**	**63**	P	**P**	**04 59 47.1**	**-0.5**
	baz=315,SNR=64						
MCWV				S	**S**	**05 07 53.9**	**-2.7**
	baz=315						
TWG	**Pinlang**	**59.75**	**269**	P	**P**	**04 59 48.7**	**+0.7**
TWG				IAmb	IAmb	05 00 12.1	
	comp=Z,414nm,1.4s						
W50A	**Signal Mountai**	**59.77**	**71**	IAmb	IAmb	05 00 10.3	
	comp=Z,358nm,1.1s						
TZTN	**Tazewell**	**59.84**	**68**	P	**P**	**04 59 47.6**	**-0.9**
	baz=315,SNR=80						
TZTN				S	**S**	**05 07 56.9**	**-1.2**
	baz=315						
LOF	**Lofoten**	**59.89**	**359**	⇑*i*P	**P**	**04 59 47.8**	**-0.5**
LOF				IVmB_BB		04 59 49.9	
	comp=Z,2µm,2.8s						
LOF				*e*S	**S**	**05 07 58.8**	**+1.0**
LOF				IVMs_BB	IVMs_BB	05 27 36.7	
	comp=Z,28µm,17.9s						
J59A	**Piesco**	**59.90**	**57**	IAmb	IAmb	04 59 59.3	
	comp=Z,269nm,1.0s						
V51A	**Loudon**	**59.90**	**69**	IAmb	IAmb	05 00 05.0	
	comp=Z,680nm,1.8s						
I59A	**Olmsteadville**	**59.98**	**56**	P	**P**	**04 59 48.9**	**-0.4**
	baz=315,SNR=101						
I59A				S	**S**	**05 07 58.7**	**-1.0**
	baz=315						
O56A	**Blue Knob Stat**	**60.00**	**62**	P	**P**	**04 59 48.4**	**-1.1**
	baz=315,SNR=80						
O56A				S	**S**	**05 07 58.0**	**-2.1**
	baz=315						
N2IH	**Innhavet**	**60.01**	**358**	⇑*i*P	**P**	**04 59 48.7**	**-0.3**
BINY	**Binghamton**	**60.02**	**59**	P	**P**	**04 59 49.5**	**-0.1**
	baz=315,SNR=122						
BINY				S	**S**	**05 07 58.9**	**-1.3**
	baz=315						
BINY	**Binghamton**	**60.02**	**59**	IAmb	IAmb	04 59 58.7	
	comp=Z,619nm,1.1s						
BINY				IAms_20	IAms_20	05 26 00.3	
	comp=Z,90µm,21.0s						
M57A	**Sunshine Farm,**	**60.02**	**60**	IAmb	IAmb	05 00 06.4	
	comp=Z,397nm,1.1s						
D62A	**Allapoint, All**	**60.03**	**51**	P	**P**	**04 59 49.4**	**-0.2**
	baz=316,SNR=174						
D62A				S	**S**	**05 07 59.1**	**-1.1**
	baz=316						
D62A	**Allapoint, All**	**60.03**	**51**	IAmb	IAmb	04 59 54.5	
	comp=Z,344nm,1.2s						
346A	**Big Creek Wild**	**60.03**	**77**	IAmb	IAmb	05 00 10.6	
	comp=Z,643nm,1.2s						
H60A	**Morristown**	**60.04**	**55**	P	**P**	**04 59 48.9**	**-0.8**
	baz=315,SNR=82						
H60A				S	**S**	**05 07 58.4**	**-2.1**
	baz=315						
CPCT	**Cooper Cave**	**60.05**	**70**	IAmb	IAmb	05 00 06.8	
	comp=Z,381nm,1.4s						
STEI	**Steigen**	**60.06**	**358**	⇑*i*P	**P**	**04 59 49.1**	**-0.4**
STEI				*e*S	**S**	**05 07 60.0**	**0.0**
STEI				*e*SS	**SS**	**05 11 59.3**	**+3.5**
STEI				IVMs_BB	IVMs_BB	05 26 11.3	
	comp=Z,31µm,19.4s						
FPAL	**Fort Paine**	**60.07**	**71**	P	**P**	**04 59 48.5**	**-1.6**
Y49A	**Blount Mountai**	**60.08**	**72**	IAmb	IAmb	05 00 13.8	
	comp=Z,314nm,1.2s						
SSPA	**Standing Stone**	**60.11**	**61**	P	**P**	**04 59 49.6**	**-0.6**
	baz=315						
SSPA				S	**S**	**05 07 58.8**	**-2.6**
	baz=315						
SSPA	**Standing Stone**	**60.11**	**61**	P	**P**	**04 59 49.6**	**-0.6**
SSPA	**Standing Stone**	**60.11**	**61**	IAms_20	IAms_20	05 26 32.5	
	comp=Z,65µm,20.0s						
G61A	**St-Isidore-de-**	**60.11**	**54**	P	**P**	**04 59 49.5**	**-0.7**
	baz=316,SNR=83						
G61A				S	**S**	**05 07 59.6**	**-1.7**
	baz=316						
E62A	**Clayton Lake**	**60.13**	**52**	P	**P**	**04 59 49.8**	**-0.5**
	baz=316,SNR=79						
E62A				S	**S**	**05 07 58.3**	**-3.3**
	baz=316						
N2SV	**S rvÅgen**	**60.14**	**359**	⇑*i*P	**P**	**04 59 48.9**	**-1.1**
VT1	**Waterbury**	**60.17**	**55**	IAmb	IAmb	05 00 03.6	
	comp=Z,498nm,1.4s						
KNMB	**Chin-men Tao**	**60.18**	**272**	P	**P**	**04 59 50.7**	**-0.2**
KNMB				IAmb	IAmb	04 59 59.1	
	comp=Z,734nm,1.4s						
L58A	**Harry Jones Me**	**60.20**	**59**	P	**P**	**04 59 50.7**	**-0.1**
	baz=315,SNR=155						
L58A				S	**S**	**05 08 02.5**	**-0.1**
	baz=315						
N2NF	**Nordfold**	**60.23**	**358**	⇑*i*P	**P**	**04 59 50.4**	**-0.2**
I60A	**Shoreham**	**60.25**	**56**	P	**P**	**04 59 50.3**	**-0.8**
	baz=315,SNR=39						
I60A				S	**S**	**05 08 02.1**	**-1.0**
	baz=315						
V52A	**Sevierville**	**60.31**	**69**	IAmb	IAmb	05 00 08.2	
	comp=Z,653nm,1.5s						
N2VA	**Vr y**	**60.37**	**359**	⇑*i*P	**P**	**04 59 50.6**	**-0.9**
ACCN	**Adirondack Com**	**60.38**	**57**	IAmb	IAmb	05 00 10.7	
	comp=Z,613nm,1.4s						
N2TV	**TÅrnvik**	**60.43**	**358**	⇑*i*P	**P**	**04 59 51.5**	**-0.4**
GTA	**Gaotai**	**60.43**	**297**	⇑P	**P**	**04 59 52.0**	**-0.6**
GTA				S	**S**	**05 08 01.8**	**-4.0**
GTA				ScS	SKKSac	05 09 40.8	-0.4
GTA				pmax	pmax		
	comp=Z,97nm,1.0s						
GTA				pmax	pmax		
	comp=Z,9µm,10.0s						
GTA				LR	LR		
	comp=Z,106µm,20.7s						
GTA				LR	LR		
	comp=Z,177µm,19.1s						
GTA				LR	LR		
	comp=Z,216µm,20.3s						
F62A	**Pittston Farm,**	**60.44**	**52**	P	**P**	**04 59 51.8**	**-0.6**
	baz=316,SNR=78						
F62A				S	**S**	**05 08 03.4**	**-2.1**
	baz=316						
F62A	**Pittston Farm,**	**60.44**	**52**	P	**P**	**04 59 51.3**	**-1.1**
F62A				IAmb	IAmb	05 00 04.7	
	comp=Z,342nm,1.2s						
H61A	**Lyndonville**	**60.45**	**55**	P	**P**	**04 59 51.9**	**-0.5**
	baz=316,SNR=56						
H61A				S	**S**	**05 08 04.2**	**-1.4**
	baz=316						
X51A	**Calhoun**	**60.49**	**71**	IAmb	IAmb	05 00 09.1	
	comp=Z,766nm,1.5s						
D63A	**Stockholm**	**60.51**	**50**	P	**P**	**04 59 52.4**	**-0.4**
	baz=316,SNR=88						
D63A				S	**S**	**05 08 05.5**	**-0.9**
	baz=316						
N2RO	**R st**	**60.52**	**359**	⇑*i*P	**P**	**04 59 52.1**	**-0.5**
LZH	**Lanzhou**	**60.53**	**292**	⇑*i*P	**P**	**04 59 54.0**	**+0.6**
LZH				pP	pP	05 00 02.0	+0.8
LZH				sP	sP	05 00 06.0	+1.6
LZH				S	**S**	**05 08 04.3**	**-2.9**
LZH				SS	**SS**	**05 12 06.3**	**+1.3**
LZH				pmax	pmax		
	comp=Z,430nm,1.1s						
LZH				pmax	pmax		
	comp=Z,10µm,5.2s						
LZH				LR	LR		
	comp=Z,251µm,14.4s						
LZH				LR	LR		
	comp=Z,181µm,15.7s						
LZH				LR	LR		
	comp=Z,274µm,16.3s						
KSPA	**Keystone Colle**	**60.59**	**59**	IAmb	IAmb	05 00 06.2	
	comp=Z,334nm,1.1s						
N58A	**Sunbury**	**60.59**	**60**	IAmb	IAmb	05 00 10.3	
	comp=Z,560nm,1.2s						
J60A	**Lant Hill Farm**	**60.61**	**57**	P	**P**	**04 59 53.6**	**0.0**
	baz=316,SNR=191						
FAUS	**Fauske**	**60.61**	**358**	⇑*i*P	**P**	**04 59 53.1**	**-0.1**
FAUS				IVmB_BB		05 00 03.5	
	comp=Z,4µm,2.7s						
FAUS				*e*S	**S**	**05 08 05.3**	**-1.7**
FAUS				*e*SS	**SS**	**05 12 10.8**	**+6.4**
FAUS				IVMs_BB	IVMs_BB	05 26 17.0	
	comp=Z,32µm,19.2s						
NBB08	**Skaug oppvekst**	**60.62**	**358**	⇑*i*P	**P**	**04 59 52.9**	**-0.4**
N2ST	**Straumen**	**60.64**	**358**	⇑*i*P	**P**	**04 59 53.0**	**-0.3**
G62A	**West of Eustis**	**60.65**	**53**	P	**P**	**04 59 53.3**	**-0.5**
	baz=316,SNR=82						
G62A				S	**S**	**05 08 03.3**	**-4.9**
	baz=316						
G62A	**West of Eustis**	**60.65**	**53**	P	**P**	**04 59 53.3**	**-0.5**
G62A				IAmb	IAmb	05 00 15.1	
	comp=Z,554nm,1.4s						
G62A				IAms_20	IAms_20	05 26 23.4	
	comp=Z,110µm,20.0s						
W52A	**Murphy**	**60.65**	**70**	IAmb	IAmb	05 00 10.3	
	comp=Z,751nm,1.8s						
LBNH	**Lisbon**	**60.66**	**55**	P	**P**	**04 59 53.5**	**-0.4**
	baz=316,SNR=40						
LBNH				S	**S**	**05 08 04.1**	**-4.2**
	baz=316						
LBNH	**Lisbon**	**60.66**	**55**	IAmb	IAmb	05 00 12.2	
	comp=Z,297nm,1.4s						
BORG	**Borgarnes**	**60.75**	**15**	P	**P**	**04 59 54.2**	**0.0**
BORG				pmax	pmax		
	comp=Z,558nm,1.4s						
BORG				MLR	MLR		
	comp=Z,119µm,18.0s						
BORG	**Borgarnes**	**60.75**	**15**	P	**P**	**04 59 54.2**	**0.0**
BORG				IAmb	IAmb	05 00 04.1	
	comp=Z,558nm,1.4s						
H62A	**Milan**	**60.80**	**54**	P	**P**	**04 59 54.6**	**-0.3**
	baz=316,SNR=91						
H62A				S	**S**	**05 08 08.2**	**-2.0**
	baz=316						
H62A	**Milan**	**60.80**	**54**	IAmb	IAmb	05 00 05.3	
	comp=Z,313nm,1.0s						
H62A				IAms_20	IAms_20	05 26 30.5	
	comp=Z,112µm,21.0s						
E63A	**Oxbow**	**60.80**	**51**	P	**P**	**04 59 53.9**	**-1.0**
	baz=316,SNR=62						
E63A				S	**S**	**05 08 06.7**	**-3.4**
	baz=316						
E63A	**Oxbow**	**60.80**	**51**	IAmb	IAmb	05 00 31.6	
	comp=Z,279nm,1.1s						
PQI	**Presque Isle**	**60.82**	**51**	IAmb	IAmb	05 00 05.1	
	comp=Z,609nm,1.9s						
TRY	**Troy**	**60.85**	**57**	IAmb	IAmb	05 00 03.5	
	comp=Z,223nm,1.1s						
TRY				IAms_20	IAms_20	05 27 35.1	
	comp=Z,95µm,19.0s						
P57A	**Homestead Farm**	**60.85**	**62**	IAmb	IAmb	05 00 12.0	
	comp=Z,546nm,1.2s						
HNH	**Hanover**	**60.86**	**55**	P	**P**	**04 59 54.2**	**-1.0**
HNH				IAmb	IAmb	05 00 12.8	
	comp=Z,547nm,1.7s						
V53A	**Saluda**	**60.88**	**69**	IAmb	IAmb	05 00 12.3	
	comp=Z,660nm,1.4s						
J61A	**Chester**	**60.98**	**56**	P	**P**	**04 59 55.7**	**-0.4**
	baz=316,SNR=61						
J61A				S	**S**	**05 08 10.2**	**-2.3**
	baz=316						
NBB05	**Inndyr**	**60.98**	**358**	⇑*i*P	**P**	**04 59 55.4**	**-0.3**
F63A	**Nahmakanta, Br**	**61.00**	**52**	P	**P**	**04 59 55.5**	**-0.7**
	baz=316,SNR=84						
F63A				S	**S**	**05 08 10.3**	**-2.3**
	baz=316						
F63A	**Nahmakanta, Br**	**61.00**	**52**	IAmb	IAmb	05 00 04.1	
	comp=Z,293nm,1.1s						
N59A	**State Game Lan**	**61.04**	**60**	P	**P**	**04 59 56.4**	**-0.2**
	baz=316,SNR=64						
N59A				S	**S**	**05 08 12.9**	**-0.5**
	baz=316						
N59A	**State Game Lan**	**61.04**	**60**	IAmb	IAmb	05 00 15.4	
	comp=Z,895nm,1.6s						
N59A				IAms_20	IAms_20	05 28 16.1	
	comp=Z,106µm,19.0s						
NBB30	**Finnes**	**61.05**	**359**	⇑*i*P	**P**	**04 59 55.9**	**-0.2**
E64A	**Bridgewater**	**61.09**	**51**	P	**P**	**04 59 55.8**	**-1.0**
	baz=317,SNR=103						
E64A				S	**S**	**05 08 10.2**	**-3.6**
	baz=317						
K61A	**Williamstown**	**61.10**	**57**	P	**P**	**04 59 56.9**	**0.0**
	baz=316,SNR=83						
K61A				S	**S**	**05 08 12.5**	**-1.5**
	baz=316						
BLA	**Blacksburg**	**61.14**	**66**	P	**P**	**04 59 56.9**	**-0.5**
	baz=316,SNR=122						
BLA				S	**S**	**05 08 13.5**	**-1.2**
	baz=316						
BLA	**Blacksburg**	**61.14**	**66**	IAmb	IAmb	05 00 09.0	
	comp=Z,380nm,0.9s						
BLA				IAms_20	IAms_20	05 27 29.1	
	comp=Z,96µm,18.0s						
G63A	**Kingsbury**	**61.17**	**53**	P	**P**	**04 59 56.8**	**-0.6**
	baz=316,SNR=34						
G63A				S	**S**	**05 08 12.3**	**-2.6**
	baz=316						
I62A	**Tamworth**	**61.21**	**55**	P	**P**	**04 59 57.0**	**-0.6**
	baz=316,SNR=12						
I62A				S	**S**	**05 08 14.8**	**-0.6**
	baz=316						
PKME	**Peaks-Kenny Pk**	**61.22**	**52**	P	**P**	**04 59 57.5**	**-0.2**
	baz=316,SNR=55						
PKME				S	**S**	**05 08 14.1**	**-1.3**
	baz=316						
PKME	**Peaks-Kenny Pk**	**61.22**	**52**	P	**P**	**04 59 56.8**	**-0.8**
PKME				IAmb	IAmb	05 00 15.9	
	comp=Z,365nm,1.3s						
F64A	**Sherman**	**61.24**	**51**	P	**P**	**04 59 57.3**	**-0.6**
	baz=317,SNR=98						
F64A				S	**S**	**05 08 13.5**	**-2.2**
	baz=317						
F64A	**Sherman**	**61.24**	**51**	IAmb	IAmb	05 00 08.0	
	comp=Z,232nm,0.9s						
NBB15	**Halsa Church**	**61.28**	**359**	⇑*i*P	**P**	**04 59 58.1**	**+0.4**
H63A	**New Sharon**	**61.29**	**53**	P	**P**	**04 59 57.5**	**-0.7**
	baz=316						
H63A				S	**S**	**05 08 12.3**	**-4.1**
	baz=316						
BG3	**Lake Jocassee**	**61.30**	**69**	IAmb	IAmb	05 00 14.9	
	comp=Z,511nm,1.5s						
FUNA	**Funafuti**	**61.33**	**193**	IAms_20	IAms_20	05 20 38.0	
	comp=Z,63µm,21.0s						
ENH	**Enshi**	**61.37**	**283**	IAmb	IAmb	05 00 02.3	
	comp=Z,561nm,1.1s						
ENH				IAms_20	IAms_20	05 29 06.0	
	comp=Z,77µm,18.0s						
MVL	**Millersville**	**61.38**	**61**	IAmb	IAmb	05 00 14.7	
	comp=Z,619nm,1.6s						
NBB13	**Alf Garage**	**61.40**	**359**	⇑*i*P	**P**	**04 59 58.4**	**-0.1**
J62A	**Henniker**	**61.44**	**56**	P	**P**	**04 59 59.4**	**+0.1**
	baz=316,SNR=49						
J62A				S	**S**	**05 08 17.1**	**-1.2**
	baz=316						
Y52A	**Lilburn**	**61.45**	**71**	IAmb	IAmb	05 00 21.6	
	comp=Z,471nm,1.4s						
MOIG	**Morelia**	**61.46**	**94**	P	**P**	**04 59 59.9**	**0.0**
MOIG				IAmb	IAmb	05 00 32.1	
	comp=Z,429nm,1.0s						
I63A	**Otisfield**	**61.46**	**54**	P	**P**	**04 59 59.1**	**-0.2**
	baz=316,SNR=50						
I63A				S	**S**	**05 08 15.8**	**-2.8**
	baz=316						
I63A	**Otisfield**	**61.46**	**54**	P	**P**	**04 59 58.7**	**-0.6**
I63A				IAmb	IAmb	05 00 04.6	
	comp=Z,342nm,1.2s						
I63A				IAms_20	IAms_20	05 28 57.1	
	comp=Z,110µm,20.0s						
G64A	**Maxfield**	**61.49**	**52**	P	**P**	**04 59 59.2**	**-0.3**
	baz=317,SNR=53						
G64A				S	**S**	**05 08 16.7**	**-2.1**
	baz=317						
NBB40	**Tonnes**	**61.52**	**359**	⇑*i*P	**P**	**04 59 59.3**	**-0.1**
KONS	**Konsvik**	**61.53**	**359**	⇑*i*P	**P**	**04 59 59.0**	**-0.5**
KONS				*e*S	**S**	**05 08 19.7**	**+0.9**
KONS				IVMs_BB	IVMs_BB	05 28 35.6	
	comp=Z,33µm,19.3s						
ODNJ	**Ogdensburg**	**61.54**	**59**	IAmb	IAmb	05 00 18.7	
	comp=Z,600nm,1.4s						
ODNJ				IAms_20	IAms_20	05 28 26.6	
	comp=Z,106µm,19.0s						
SDMD	**Soldier's Deli**	**61.54**	**62**	IAmb	IAmb	05 00 14.7	
	comp=Z,410nm,1.6s						
WVL	**Waterville**	**61.55**	**53**	IAms_20	IAms_20	05 27 01.3	
	comp=Z,98µm,22.0s						
L61B	**Northampton**	**61.56**	**57**	P	**P**	**04 59 59.9**	**-0.1**
	baz=316,SNR=29						
L61B				S	**S**	**05 08 17.9**	**-1.9**
	baz=316						
BRAL	**Brewton**	**61.63**	**75**	P	**P**	**05 00 00.1**	**-0.6**
	baz=316,SNR=37						
BRAL				S	**S**	**05 08 19.1**	**-1.8**
	baz=316						
BRAL	**Brewton**	**61.63**	**75**	IAms_20	IAms_20	05 30 02.7	
	comp=Z,63µm,19.0s						
K62A	**Royalston**	**61.63**	**56**	P	**P**	**05 00 00.4**	**-0.1**
	baz=316,SNR=65						
K62A				S	**S**	**05 08 20.7**	**0.0**
	baz=316						
K62A	**Royalston**	**61.63**	**56**	IAmb	IAmb	05 00 08.9	
	comp=Z,301nm,0.9s						
V55A	**Taylorsville**

STOK	**Stokkvaagen**	**61.70**	**359**	*e*P		**P**	**05 00 01.0**	**+0.4**
STOK				*e*S		**S**	**05 08 20.8**	**-0.2**
H64A	**Troy**	**61.71**	**53**	P		**P**	**05 00 00.4**	**-0.6**
	baz=317,SNR=24							
H64A				S		**S**	**05 08 19.0**	**-2.7**
	baz=317							
J63A	**Strafford**	**61.77**	**55**	P		**P**	**05 00 01.2**	**-0.2**
	baz=317,SNR=14							
J63A				S		**S**	**05 08 22.5**	**0.0**
	baz=317							
U56A	**King**	**61.78**	**66**	IAmb		IAmb	05 00 18.4	
	comp=Z,743nm,1.4s							
MOR8	**Moi Rana**	**61.84**	**358**	⇑*i*P		**P**	**05 00 00.2**	**-1.4**
MOR8				*e*S		**S**	**05 08 21.6**	**-1.2**
MOR8				IVMs_BB		IVMs_BB	05 26 28.3	
	comp=Z,22μm,20.7s							
P60A	**Greenville**	**61.90**	**61**	P		**P**	**05 00 01.9**	**-0.4**
	baz=316,SNR=19							
P60A				S		**S**	**05 08 24.1**	**-0.1**
	baz=316							
P60A	**Greenville**	**61.90**	**61**	IAmb		IAmb	05 00 21.0	
	comp=Z,280nm,1.2s							
152A	**Waverly Hall**	**61.92**	**72**	IAmb		IAmb	05 00 24.1	
	comp=Z,576nm,1.6s							
SEM	**Semipalatinsk**	**61.94**	**317**	*e*P		**P**	**05 00 00.1**	**-2.7**
	baz=317							
SEM				*e*S		**S**	**05 08 21.8**	**-3.1**
	baz=317							
SEM				*e*LR		LR	05 27 54.1	
	comp=Z,61μm,17.3s,baz=317							
SEM	**Semipalatinsk**	**61.94**	**317**	*e*P		**P**	**05 00 00.0**	**-2.7**
SEM				*e*S		**S**	**05 08 21.8**	**-3.1**
SEM				MLR		MLR		
	comp=Z,61μm,17.0s							
PAL	**Palisades**	**61.96**	**59**	P		**P**	**05 00 02.5**	**-0.3**
	baz=316,SNR=45							
PAL				S		**S**	**05 08 26.0**	**+1.1**
	baz=316							
PAL	**Palisades**	**61.96**	**59**	IAmb		IAmb	05 00 11.8	
	comp=Z,446nm,1.1s							
PAL				IAMs_20		IAMs_20	05 27 09.7	
	comp=Z,89μm,20.0s							
K63A	**Dunstable**	**61.97**	**56**	P		**P**	**05 00 02.6**	**-0.2**
	baz=317,SNR=21							
K63A				S		**S**	**05 08 23.8**	**-1.2**
	baz=317							
K63A	**Dunstable**	**61.97**	**56**	P		**P**	**05 00 02.3**	**-0.5**
K63A				IAmb		IAmb	05 00 13.7	
	comp=Z,263nm,1.1s							
I64A	**Boothbay**	**62.03**	**54**	P		**P**	**05 00 02.6**	**-0.6**
	baz=317,SNR=19							
I64A				S		**S**	**05 08 24.2**	**-1.5**
	baz=317							
PAULI	**Pauline**	**62.06**	**69**	IAmb		IAmb	05 00 19.8	
	comp=Z,872nm,1.8s							
CPNY	**Central Park**	**62.09**	**59**	IAmb		IAmb	05 00 22.7	
	comp=Z,641nm,1.4s							
CPNY				IAMs_20		IAMs_20	05 27 13.1	
	comp=Z,90μm,20.0s							
HRV	**Adam Dziewonsk**	**62.09**	**56**	P		**P**	**05 00 02.9**	**-0.7**
HRV				pmax		pmax		
	comp=Z,400nm,1.4s							
HRV				MLR		MLR		
	comp=Z,145μm,18.0s							
HRV	**Adam Dziewonsk**	**62.09**	**56**	P		**P**	**05 00 03.4**	**-0.2**
	baz=317							
HRV				S		**S**	**05 08 25.4**	**-1.2**
	baz=317							
HRV	**Adam Dziewonsk**	**62.09**	**56**	P		**P**	**05 00 02.9**	**-0.7**
HRV				IAmb		IAmb	05 00 17.1	
	comp=Z,400nm,1.4s							
KMSC	**Kings Mountain**	**62.10**	**68**	P		**P**	**05 00 02.9**	**-0.9**
	baz=316,SNR=154							
KMSC				S		**S**	**05 08 23.9**	**-3.0**
	baz=316							
G65A	**Princeton**	**62.10**	**51**	P		**P**	**05 00 03.0**	**-0.7**
	baz=317,SNR=66							
G65A				S		**S**	**05 08 24.0**	**-2.7**
	baz=317							
G65A	**Princeton**	**62.10**	**51**	IAmb		IAmb	05 00 08.6	
	comp=Z,315nm,1.1s							
CBN	**Corbin Frederi**	**62.12**	**63**	P		**P**	**05 00 03.2**	**-0.6**
	baz=316,SNR=14							
CBN				S		**S**	**05 08 26.3**	**-0.7**
	baz=316							
CBN	**Corbin Frederi**	**62.12**	**63**	IAmb		IAmb	05 00 20.7	
	comp=Z,611nm,1.3s							
GOGA	**Godfrey**	**62.12**	**71**	P		**P**	**05 00 01.6**	**-2.3**
GOGA				pmax		pmax		
	comp=Z,965nm,1.8s							
GOGA				MLR		MLR		
	comp=Z,94μm,22.0s							
GOGA	**Godfrey**	**62.12**	**71**	P		**P**	**05 00 02.1**	**-1.9**
	baz=316,SNR=81							
GOGA				S		**S**	**05 08 22.5**	**-4.7**
	baz=316							
GOGA	**Godfrey**	**62.12**	**71**	P		**P**	**05 00 01.6**	**-2.3**
GOGA				IAmb		IAmb	05 00 19.6	
	comp=Z,965nm,1.8s							
GOGA	**Godfrey**	**62.12**	**71**	IAMs_20		IAMs_20	05 26 40.4	
	comp=Z,94μm,22.0s							
ZSN	**Zaisan**	**62.14**	**312**	⇑*i*P		**P**	**05 00 03.4**	**-0.5**
	comp=Z,120nm,0.7s,baz=312							
ZSN				*e*S		**S**	**05 08 25.5**	**-1.6**
	baz=312							
ZSN	**Zaisan**	**62.14**	**312**	*c i*P		**P**	**05 00 03.4**	**-0.5**
ZSN				*e*S		**S**	**05 08 25.5**	**-1.6**
ZSN				pmax		pmax		
	comp=Z,120nm,0.7s							
WSPT	**Westport, CT**	**62.14**	**58**	IAmb		IAmb	05 00 12.2	
	comp=Z,419nm,1.1s							
H65A	**Eastbrook**	**62.14**	**52**	P		**P**	**05 00 03.3**	**-0.6**
	baz=317,SNR=63							
H65A				S		**S**	**05 08 25.0**	**-2.1**
	baz=317							
HODGE	**Hodges**	**62.23**	**69**	IAmb		IAmb	05 00 21.0	
	comp=Z,600nm,1.6s							
YLE	**Yale**	**62.24**	**58**	IAMs_20		IAMs_20	05 30 07.8	
	comp=Z,92μm,20.0s							
N62A	**Caumsett State**	**62.24**	**58**	P		**P**	**05 00 04.5**	**-0.2**
N62A				IAmb		IAmb	05 00 13.0	
	comp=Z,415nm,0.9s							
WES	**Weston**	**62.30**	**56**	IAmb		IAmb	05 00 15.7	
	comp=Z,324nm,1.0s							
BCX	**Boston College**	**62.41**	**56**	IAmb		IAmb	05 00 23.3	
	comp=Z,753nm,1.8s							
P61A	**Hammonton**	**62.45**	**60**	IAmb		IAmb	05 00 22.1	
	comp=Z,638nm,1.3s							
KURBB	**Kurchatov Arra**	**62.48**	**318**	PKPPKP			05 29 06.4	
	comp=Z,4.2nm,1.1s,baz=250,slow=3.6,SNR=5.9							
GGN	**Saint George**	**62.51**	**51**	IAmb		IAmb	05 00 11.2	
	comp=Z,253nm,1.1s							
EMMW	**East Machias**	**62.52**	**52**	IAmb		IAmb	05 00 11.2	
	comp=Z,405nm,1.1s							
BRYW	**Bryant College**	**62.53**	**56**	IAmb		IAmb	05 00 17.2	
	comp=Z,270nm,1.0s							
H66A	**Whiting**	**62.53**	**52**	P		**P**	**05 00 05.7**	**-0.8**
	baz=318,SNR=82							
H66A				S		**S**	**05 08 29.9**	**-2.1**
	baz=318							
L63A	**North Scituate**	**62.53**	**56**	P		**P**	**05 00 05.7**	**-0.9**
	baz=317,SNR=14							
L63A				S		**S**	**05 08 30.6**	**-1.4**
	baz=317							
L63A	**North Scituate**	**62.53**	**56**	IAmb		IAmb	05 00 25.1	
	comp=Z,260nm,1.1s							
M63A	**Gales Ferry**	**62.64**	**57**	P		**P**	**05 00 07.7**	**+0.4**
Q61A	**Milford**	**62.74**	**61**	P		**P**	**05 00 08.0**	**0.0**
	baz=317							
Q61A				S		**S**	**05 08 35.1**	**+0.3**
	baz=317							
JSC	**Jenkinsville**	**62.76**	**69**	IAmb		IAmb	05 00 24.7	
	comp=Z,448nm,1.5s							
W57A	**Gilead**	**62.85**	**67**	IAmb		IAmb	05 00 25.4	
	comp=Z,911nm,1.7s							
L64A	**Middleborough**	**62.87**	**56**	P		**P**	**05 00 08.6**	**-0.2**
	baz=317,SNR=11							
L64A				S		**S**	**05 08 36.0**	**-0.3**
	baz=317							
L64A	**Middleborough**	**62.87**	**56**	IAmb		IAmb	05 00 27.6	
	comp=Z,750nm,1.9s							
BIRD	**Birdtown, Kers**	**62.96**	**68**	P		**P**	**05 00 08.5**	**-1.0**
BIRD				IAmb		IAmb	05 00 26.1	
	comp=Z,687nm,1.5s							
M64A	**Tiverton**	**62.96**	**56**	P		**P**	**05 00 09.2**	**-0.2**
	baz=317,SNR=21							
M64A				S		**S**	**05 08 35.8**	**-1.7**
	baz=317							
M64A	**Tiverton**	**62.96**	**56**	IAmb		IAmb	05 00 17.7	
	comp=Z,344nm,1.1s							
PRGR	**Permogore**	**63.04**	**342**	*e*P		**P**	**05 00 08.0**	**-1.6**
PRGR				*e*			05 00 49.4	
PRGR				pmax		pmax		
	comp=Z,728nm,1.5s							
L65A	**Cape Cod Natio**	**63.20**	**55**	P		**P**	**05 00 10.0**	**-1.0**
	baz=317							
L65A				S		**S**	**05 08 38.2**	**-2.3**
	baz=317							
M65A	**Busby, Falmout**	**63.24**	**56**	P		**P**	**05 00 10.6**	**-0.6**
	baz=317							
M65A				S		**S**	**05 08 37.7**	**-3.3**
	baz=317							
Y57A	**Sumter**	**63.45**	**68**	IAmb		IAmb	05 00 20.7	
	comp=Z,488nm,1.0s							
TIGA	**Tifton**	**63.47**	**72**	P		**P**	**05 00 11.7**	**-1.3**
	baz=317,SNR=16							
TIGA				S		**S**	**05 08 40.0**	**-4.2**
	baz=317							
WMQ	**Urumqi**	**63.51**	**308**	P		**P**	**05 00 13.5**	**+0.4**
WMQ				pP		pP	05 00 20.0	-1.6
WMQ				S		**S**	**05 08 43.8**	**-0.7**
WMQ				SS		**SS**	**05 12 59.0**	**+8.0**
WMQ				pmax		pmax		
	comp=Z,340nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,13μm,11.9s							
WMQ				LR		LR		
	comp=Z,58μm,16.5s							
WMQ				LR		LR		
	comp=Z,64μm,16.5s							
WMQ				LR		LR		
	comp=Z,73μm,17.7s							
NSS	**Namsos**	**63.52**	**359**	⇑*i*P		**P**	**05 00 12.6**	**-0.2**
NSS				IVmB_BB			05 00 17.0	
	comp=Z,3μm,1.4s							
NSS				*e*S		**S**	**05 08 44.0**	**+0.2**
NSS				IVMs_BB		IVMs_BB	05 27 33.1	
	comp=Z,25μm,19.7s							
DRLN	**Deer Lake**	**63.58**	**43**	IAmb		IAmb	05 00 18.6	
	comp=Z,530nm,1.1s							
X58A	**Rowland**	**63.66**	**67**	IAmb		IAmb	05 00 31.1	
	comp=Z,726nm,1.4s							
SVE	**Sverdlovsk**	**63.72**	**332**	*d i*P		**P**	**05 00 14.5**	**+0.3**
SVE				*e*			05 02 41.4	
SVE				*e*PPP		PPP	05 04 04.4	
SVE				*e*S		**S**	**05 08 46.9**	**+0.3**
SVE				*e*SS		**SS**	**05 12 50.5**	**-3.0**
SVE				pmax		pmax		
	comp=Z,449nm,1.4s							
SVE				pmax		pmax		
	comp=Z,16μm,19.3s							
SVE				MLR		MLR		
	comp=N,60μm,19.0s							
SVE				MLR		MLR		
	comp=E,43μm,18.0s							
SVE				MLR		MLR		
	comp=Z,71μm,19.0s							
M66A	**Nantucket**	**63.73**	**56**	P		**P**	**05 00 14.4**	**-0.1**
	baz=318							
M66A				S		**S**	**05 08 47.1**	**0.0**
	baz=318							
BRVK	**Borovoye**	**63.73**	**324**	P		**P**	**05 00 14.1**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,354nm,1.1s							
BRVK				MLR		MLR		
	comp=Z,312μm,18.0s							
BRVK	**Borovoye**	**63.73**	**324**	P		**P**	**05 00 14.1**	**-0.2**
BRVK				IAmb		IAmb	05 00 22.9	
	comp=Z,354nm,1.1s							
BRVK	**Borovoye**	**63.73**	**324**	P		**P**	**05 00 14.2**	**-0.1**
BRVK				P		**P**	**05 00 14.2**	**-0.1**
BRVK				P		**P**	**05 00 14.2**	**-0.1**
MKAR	**Makanchi Array**	**63.80**	**313**	P		**P**	**05 00 13.7**	**-1.2**
	comp=Z,103nm,0.8s,baz=51,slow=6.5,SNR=228							
MKAR				PKPPKP			05 29 07.8	
	comp=Z,1.7nm,1.0s,baz=194,slow=4.3,SNR=1.7							
MKAR	**Makanchi Array**	**63.80**	**313**	*i* P		**P**	**05 00 13.6**	**-1.3**
MKAR				pmax		pmax		
	comp=Z,103nm,0.8s							
MKAR	**Makanchi Array**	**63.80**	**313**	P		**P**	**05 00 13.8**	**-1.2**
MAKZ	**Makanchi**	**63.92**	**314**	P		**P**	**05 00 14.9**	**-0.9**
MAKZ				pmax		pmax		
	comp=Z,167nm,1.0s							
MAKZ				MLR		MLR		
	comp=Z,150μm,20.0s							
MAKZ	**Makanchi**	**63.92**	**314**	P		**P**	**05 00 14.9**	**-0.9**
CNNC	**Cliffs of the**	**63.98**	**66**	P		**P**	**05 00 15.9**	**-0.3**
	baz=317,SNR=14							
CNNC				S		**S**	**05 08 49.5**	**-0.8**
	baz=317							
NHSC	**New Hope**	**64.23**	**69**	P		**P**	**05 00 17.7**	**-0.2**
	baz=317,SNR=98							
NHSC				S		**S**	**05 08 52.7**	**-0.8**
	baz=317							
GZH	**Guangzhou**	**64.30**	**275**	P		**P**	**05 00 15.0**	**-3.5**
GZH				S		**S**	**05 08 50.5**	**-4.0**
GZH				LR		LR		
	comp=Z,35μm,25.3s							
GZH				LR		LR		
	comp=Z,23μm,23.1s							
CD2	**Chengdu**	**64.30**	**288**	⇑P		**P**	**05 00 19.0**	**+0.5**
CD2				PcP		**PcP**	**05 00 54.8**	**+1.8**
CD2				PP		**PP**	**05 02 42.5**	**+2.8**
CD2				S		**S**	**05 08 52.3**	**-2.3**
CD2				pmax		pmax		
	comp=Z,670nm,1.1s							
CD2				pmax		pmax		
	comp=Z,22μm,11.0s							
CD2				LR		LR		
	comp=Z,120μm,20.6s							
CD2				LR		LR		
	comp=Z,115μm,21.5s							
CD2				LR		LR		
	comp=Z,155μm,22.4s							
V61A	**Roper**	**64.30**	**64**	P		**P**	**05 00 18.6**	**+0.3**
Y59A	**Loris**	**64.33**	**67**	IAmb		IAmb	05 00 35.4	
	comp=Z,407nm,1.0s							
HAL	**Halifax**	**64.41**	**50**	IAmb		IAmb	05 00 24.0	
	comp=Z,366nm,1.1s							
ARU	**Arti**	**64.66**	**333**	PKP2bc			05 29 15.4	
	comp=Z,0.5nm,0.3s,baz=19,slow=1.0,SNR=3.6							
ARU	**Arti**	**64.66**	**333**	*c i*P		**P**	**05 00 19.8**	**-0.5**
ARU							05 00 53.4	
ARU				S		**S**	**05 08 59.5**	**+1.4**
ARU				SSS		SSS	05 15 55.1	
ARU				pmax		pmax		
	comp=Z,226nm,0.8s							
ARU				MLR		MLR		
	comp=Z,126μm,21.0s							
ARU	**Arti**	**64.66**	**333**	P		**P**	**05 00 20.3**	**0.0**
ARU				IAmb		IAmb	05 00 28.6	
	comp=Z,361nm,1.0s							
TLIG	**Tlapa**	**64.67**	**94**	IAmb		IAmb	05 00 40.0	
	comp=Z,800nm,1.7s							
Y60A	**Bolivia**	**64.69**	**67**	IAmb		IAmb	05 00 45.4	
	comp=Z,296nm,0.9s							
KLMR	**Klimovskoe**	**64.85**	**345**	*e*P		**P**	**05 00 20.0**	**-1.5**
KLMR				*e*S		**S**	**05 09 01.4**	**+1.1**
KLMR				*e*SS		**SS**	**05 13 14.4**	**+3.6**
KLMR				pmax		pmax		
	comp=Z,481nm,1.4s							
KLMR	**Klimovskoe**	**64.85**	**345**	*e*P		**P**	**05 00 20.1**	**-1.5**
KLMR				AMP			05 00 29.0	
	comp=Z,481nm,1.4s							
KLMR				*e*S		**S**	**05 09 01.4**	**+1.1**
KLMR				*e*S		**S**	**05 09 01.4**	**+1.1**
KLMR				*e*SS		**SS**	**05 13 14.4**	**+3.6**
KLMR				*e*SS		**SS**	**05 13 14.4**	**+3.6**
KLMR				LQ		LQ	05 22 41.2	
KLMR				LQ		LQ	05 22 41.2	
KLMR				LR		LR	05 28 09.2	
KLMR				AMP			05 34 51.4	
	comp=Z,76μm,17.8s							
456A	**Hilliard**	**64.91**	**72**	IAmb		IAmb	05 00 31.4	
	comp=Z,511nm,1.0s							
RABL	**Rabaul**	**64.94**	**223**	IAMs_20		IAMs_20	05 29 41.9	
	comp=Z,53μm,18.0s							
KIRV	**Kirov**	**65.05**	**339**	*c i*P		**P**	**05 00 22.6**	**-0.2**
MOL	**Molde**	**65.47**	**1⇑**	*e*P		**P**	**05 00 25.0**	**-0.5**
MOL	**Molde**	**65.47**	**1⇑**	*i*P		**P**	**05 00 25.8**	**+0.2**
MOL				IVmBBB			05 00 32.0	
	comp=Z,3μm,1.6s							
MOL				IVMs_BB		IVMs_BB	05 29 08.8	
	comp=Z,22μm,20.3s							
GYA	**Guiyang**	**65.85**	**282**	⇑P		**P**	**05 00 28.8**	**+0.1**
GYA				pP		pP	05 00 36.8	+0.1
GYA				PP		**PP**	**05 02 53.3**	**-0.2**
GYA				S		**S**	**05 09 11.3**	**-2.6**
GYA				pmax		pmax		
	comp=Z,59nm,1.5s							
GYA				pmax		pmax		
	comp=Z,1μm,7.3s							
GYA				LR		LR		
	comp=Z,8μm,18.1s							
GYA				LR		LR		
	comp=Z,8μm,17.3s							
GYA				LR		LR		
	comp=Z,13μm,17.7s							
AKN	**Aaknes**	**65.86**	**2⇑**	*i*P		**P**	**05 00 29.4**	**+1.3**
AKN				IVmB_BB			05 00 33.8	
	comp=Z,6μm,0.9s							
AKN				*e*S		**S**	**05 09 14.3**	**+1.6**
AKN				IVMs_BB		IVMs_BB	05 27 13.2	
	comp=Z,27μm,22.2s							
TAOE	**Nuku Hiva Isla**	**65.89**	**148**	*e*S		**S**	**05 09 15.2**	**+0.9**
	comp=Z,39μm,27.4s							
TAOE	**Nuku Hiva Isla**	**65.89**	**148**	*e*LR		LR	05 20 15.7	
	comp=Z,111μm,23.7s							
TAOE	**Nuku Hiva Isla**	**65.89**	**148**	*e*T		T	06 12 17.1	
	comp=Z,339nm,0.2s							
AFI	**Afiamalu**	**65.94**	**182**	P		**P**	**05 00 28.8**	**-0.3**
	comp=Z,212nm,1.1s							
FIA1	**FINESS Array S**	**65.95**	**352**	IAmb		IAmb	05 00 35.5	
	comp=Z,290nm,0.8s							
FINES	**FINESS Array B**	**65.95**	**352**	P		**P**	**05 00 27.9**	**-0.8**
	comp=Z,175nm,0.6s,baz=21,slow=6.9,SNR=127							
FINES				PKP2bc			05 29 09.0	
	comp=Z,8.2nm,1.0s,baz=175,slow=9.6,SNR=4.5							
FINES	**FINESS Array B**	**65.95**	**352**	*i* P		**P**	**05 00 27.8**	**-0.8**
FINES				pmax		pmax		
	comp=Z,225nm,0.7s							
FINES	**FINESS Array B**	**65.95**	**352**	P		**P**	**05 00 27.9**	**-0.8**
DOMB	**Dombas**	**66.02**	**1⇑**	*i*P		**P**	**05 00 28.9**	**-0.2**
DOMB				IVmB_BB			05 00 29.3	
	comp=Z,2μm,0.7s							
DOMB				*e*S		**S**	**05 09 16.0**	**+1.2**
DOMB				*e*SS		**SS**	**05 13 30.7**	**+1.6**
DOMB				IVMs_BB		IVMs_BB	05 29 24.0	
	comp=Z,29μm,19.7s							
FOO	**Floro**	**66.39**	**3⇑**	*i*P		**P**	**05 00 31.2**	**-0.2**
FOO				*e*S		**S**	**05 09 21.5**	**+2.4**
FOO				IVMs_BB		IVMs_BB	05 31 56.7	
	comp=Z,14μm,17.0s							
RAF	**Rauma**	**66.69**	**354**	*e*P		**P**	**05 00 28.7**	**-4.6**
NC303	**NORSAR Array S**	**66.85**	**360**	IAmb		IAmb	05 00 39.5	
	comp=Z,376nm,0.8s							
HYA	**Hoyanger**	**66.86**	**2⇑**	*i*P		**P**	**05 00 34.4**	**0.0**
HYA				IVmB_BB			05 00 41.5	
	comp=Z,4μm,1.3s							
HYA				*e*S		**S**	**05 09 24.6**	**-0.1**
HYA				IVMs_BB		IVMs_BB	05 27 40.3	
	comp=Z,14μm,21.0s							
TDK	**Taldyqorghan**	**66.90**	**314**	*i* P		**P**	**05 00 34.7**	**-0.4**
	comp=Z,279nm,0.8s,baz=314							
TDK				*e*S		**S**	**05 09 24.6**	**-1.4**
	baz=314							
TDK				*e*LR		LR	05 31 58.4	
	comp=Z,86μm,17.5s,baz=314							
TDK	**Taldyqorghan**	**66.90**	**314**	*i* P		**P**	**05 00 34.6**	**-0.4**
TDK				*e*S		**S**	**05 09 24.5**	**-1.4**
TDK				pmax		pmax		
	comp=Z,279nm,0.8s							
TDK				MLR		MLR		
	comp=Z,86μm,18.0s							
SUE	**Sulen**	**66.92**	**3⇑**	*i*P		**P**	**05 00 34.7**	**-0.1**
SUE				*e*S		**S**	**05 09 27.4**	**+1.8**
SUE				IVMs_BB		IVMs_BB	05 32 21.7	
	comp=Z,15μm,16.5s							
NB2	**NORSAR Subarra**	**67.03**	**360**	P		**P**	**05 00 34.8**	**-0.8**
	comp=Z,428nm,1.2s,baz=0.9,slow=6.9							
NB2	**NORSAR Subarra**	**67.03**	**360**	P		**P**	**05 00 34.8**	**-0.8**
	baz=0.9,slow=6.9							
NOA	**NORSAR Array B**	**67.03**	**360**	P		**P**	**05 00 35.0**	**-0.6**
	comp=Z,252nm,1.0s,baz=0.8,slow=6.3,SNR=171							
NOA				PKP2bc			05 29 03.1	
	comp=Z,3.3nm,0.9s,baz=150,slow=3.5,SNR=6.3							
PUL	**Pulkovo**	**67.16**	**349**	*e*P		**P**	**05 00 36.3**	**-0.1**
PUL				pmax		pmax		
	comp=Z,705nm,1.3s							
PUL				MLR		MLR		
	comp=Z,108μm,21.0s							
DWPF	**Disney Wildern**	**67.18**	**73**	P		**P**	**05 00 36.7**	**-0.4**
	baz=318							
DWPF				S		**S**	**05 09 28.8**	**-0.9**
	baz=318							
DWPF	**Disney Wildern**	**67.18**	**73**	P		**P**	**05 00 37.1**	**+0.1**
DWPF	**Disney Wildern**	**67.18**	**73**	IAMs_20		IAMs_20	05 34 11.7	
	comp=Z,67μm,18.0s							
MEF	**Metsahovi**	**67.30**	**353**	*e*P		**P**	**05 00 37.6**	**+0.4**
NC602	**NORSAR Array S**	**67.34**	**359**	⇑*i*P		**P**	**05 00 37.2**	**-0.3**
NC602				IVmB_BB			05 00 38.9	
	comp=Z,2μm,2.4s							
NC602				*e*S		**S**	**05 09 29.4**	**-1.2**
NC602				IVMs_BB		IVMs_BB	05 28 48.2	
	comp=Z,20μm,23.8s							
NC602	**NORSAR Array S**	**67.34**	**359**	IAmb		IAmb	05 00 41.9	
	comp=Z,533nm,1.1s							
SKAR	**Skarslia**	**67.38**	**1⇑**	*i*P		**P**	**05 00 38.0**	**+0.2**
SKAR				*e*S		**S**	**05 09 31.2**	**-0.1**
SKAR				IVMs_BB		IVMs_BB	05 30 17.1	
	comp=Z,25μm,19.7s							
ASK	**Askoy**	**67.51**	**3⇑**	*i*P		**P**	**05 00 38.7**	**+0.1**
ASK				*e*S		**S**	**05 09 32.0**	**-0.6**
ASK				IVMs_BB		IVMs_BB	05 42 12.6	
	comp=Z,29μm,16.6s							
LRW	**Lerwick**	**67.55**	**6⇑**	*e*P		**P**	**05 00 38.3**	**-0.5**
LRW				IAMs_20		IAMs_20	05 32 09.6	
	comp=Z,80μm,18.7s							
BER	**Bergen**	**67.62**	**3⇑**	*i*P		**P**	**05 00 39.4**	**+0.2**
BER				IVmB_BB			05 00 49.5	
	comp=Z,3μm,1.7s							
BER				*e*S		**S**	**05 09 34.9**	**+0.9**
BER				IVMs_BB		IVMs_BB	05 42 14.2	
	comp=Z,14μm,16.8s							
AAL	**Aland**	**67.64**	**355**	*e*P		**P**	**05 00 39.4**	**0.0**
ARXS	**Arharly**	**67.78**	**314**	*e*P		**P**	**05 00 40.3**	**-0.4**
SHLS	**Shalkode**	**67.88**	**312**	⇑*i*P		**P**	**05 00 40.1**	**-1.4**
	comp=Z,335nm,0.9s,baz=312							
SHLS				*e*S		**S**	**05 09 36.4**	**-1.5**
	baz=312							
SHLS	**Shalkode**	**67.88**	**312**	*c i*P		**P**	**05 00 40.0**	**-1.4**
SHLS				*e*S		**S**	**05 09 36.4**	**-1.5**
SHLS				pmax		pmax		
	comp=Z,335nm,0.9s							
KPKS	**Kokpek**	**67.99**	**313**	⇑*i*P		**P**	**05 00 41.8**	**-0.2**
	comp=Z,307nm,1.0s,baz=313							
KPKS				*e*S		**S**	**05 09 39.6**	**+0.4**
	baz=313							
KPKS	**Kokpek**	**67.99**	**313**	*c i*P		**P**	**05 00 41.8**	**-0.2**
KPKS				*e*S		**S**	**05 09 39.5**	**+0.4**
KPKS				pmax

CHKK Chushkaly 68.43 314 *e*P **P 05 00 43.0 -1.8**
baz=314
CHKK Chushkaly 68.43 314 *e*P **P 05 00 42.9 -1.8**
SATY Saty 68.43 313⇑*i*P **P 05 00 44.3 -0.6**
comp=Z,139nm,1.3s,baz=313
SATY *e*S **S 05 09 41.6 -2.9**
comp=Z,430nm,7.3s,baz=313
SATY Saty 68.43 313*c i*P **P 05 00 44.3 -0.6**
SATY *e*S **S 05 09 41.6 -2.9**
SATY pmax pmax
comp=Z,139nm,1.3s
SATY smax smax
comp=N,430nm,7.3s
BLS5 Blasjo 68.61 2⇑*i*P **P 05 00 46.0 +0.4**
BLS5 IVmB_BB 05 00 53.4
comp=Z,3μm,1.4s
BLS5 *e*S **S 05 09 46.5 +0.6**
BLS5 IVMs_BB IVMs_BB 05 31 34.9
comp=Z,18μm,20.2s
060A Indiantown 68.61 73 P **P 05 00 46.6 +0.6**
060A IAmb IAmb 05 00 55.3
comp=Z,327nm,1.0s
KUU Kurty 68.68 315⇑*i*P **P 05 00 44.6 -1.7**
comp=Z,231nm,1.2s,baz=315
KUU *e*S **S 05 09 48.3 +0.9**
comp=Z,402nm,6.1s,baz=315
KUU Kurty 68.68 315*c i*P **P 05 00 44.5 -1.7**
KUU *e*S **S 05 09 48.2 +0.9**
KUU pmax pmax
comp=Z,231nm,1.2s
KUU smax smax
comp=N,402nm,6.1s
BTLS Baital 68.74 317⇑*i*P **P 05 00 46.0 -0.7**
comp=N,179nm,0.9s,baz=317
BTLS *e*S **S 05 09 46.1 -1.8**
comp=N,222nm,7.7s,baz=317
BTLS Baital 68.74 317*c i*P **P 05 00 45.9 -0.7**
BTLS *e*S **S 05 09 46.0 -1.8**
BTLS pmax pmax
comp=Z,179nm,0.9s
BTLS smax smax
comp=N,222nm,7.7s
KMY Karmoy 68.79 3⇑*e*P **P 05 00 46.6 0.0**
KMY *e*S **S 05 09 49.5 +1.5**
VSU Vasula 68.83 351 *e*P **P 05 00 47.0 +0.2**
VSU Vasula 68.83 351*c i*P **P 05 00 46.2 -0.7**
VSU pmax pmax
comp=Z,685nm,1.0s
VSU MLR MLR
comp=Z,310μm,19.0s
MTSE Matsula 68.84 353 *e*P **P 05 00 44.7 -2.2**
MDOK Medeo 68.95 314 *i*P **P 05 00 47.4 -0.8**
baz=314
MDOK *e*S **S 05 09 46.9 -4.0**
baz=314
MDOK *e*LR LR 05 33 16.0
comp=Z,40μm,16.6s,baz=314
MDOK Medeo 68.95 314 *i*P **P 05 00 47.3 -0.8**
MDOK *e*S **S 05 09 46.8 -4.0**
MDOK MLR MLR
comp=Z,40μm,17.0s
BIGH Upper Bighouse 68.97 8⇑*e*P **P 05 00 47.2 -0.6**
BIGH IAMs_20 IAMs_20 05 36 54.9
comp=Z,137μm,18.0s
AAA Alma-Ata 68.98 314⇑*i*P **P 05 00 47.9 -0.4**
comp=Z,610nm,0.9s,baz=314
AAA *e*S **S 05 09 50.8 -0.2**
baz=314
AAA *e*LR LR 05 33 22.8
comp=Z,56μm,16.7s,baz=314
AAA Alma-Ata 68.98 314*c i*P **P 05 00 47.8 -0.4**
AAA *e*S **S 05 09 50.7 -0.2**
AAA pmax pmax
comp=Z,610nm,0.9s
AAA MLR MLR
comp=Z,56μm,17.0s
LEWI Lewis, Hebride 69.03 10⇑*e*P **P 05 00 47.3 -0.9**
LEWI IAMs_20 IAMs_20 05 33 40.0
comp=Z,98μm,19.4s
STRU Stroemstad 69.05 360 *i*P **P 05 00 48.0 -0.2**
061Z Ochoppi 69.17 75 P **P 05 00 51.2 +1.7**
061Z IAmb IAmb 05 00 59.3
comp=Z,671nm,1.1s
KMI Kunming 69.19 284⇑P **P 05 00 50.5 +0.5**
KMI pP pP 05 00 58.5 +0.5
KMI sP sP 05 01 02.5 +1.4
KMI S **S 05 09 53.5 -0.7**
KMI SKS **SKSac 05 10 44.5 -3.7**
KMI SS **SS 05 14 18.3 -2.0**
KMI pmax pmax
comp=Z,710nm,1.1s
KMI LR LR
comp=Z,63μm,16.3s
KMI LR LR
comp=Z,27μm,17.8s
KMI LR LR
comp=Z,58μm,19.7s
LINV Loch Inver, As 69.20 9⇑*e*P **P 05 00 48.3 -0.8**
LINV IAMs_20 IAMs_20 05 29 54.9
comp=Z,75μm,22.5s
MLA1 Latheron 69.20 8⇑*e*P **P 05 00 49.1 -0.1**
QIZ Qiongzhong 69.49 275 P **P 05 00 52.3 +0.7**
QIZ S **S 05 10 02.5 +5.2**
QIZ SS **SS 05 14 25.0 +0.3**
QIZ pmax pmax
comp=Z,50nm,1.2s
QIZ pmax pmax
comp=Z,9μm,11.6s
QIZ LR LR
comp=Z,38μm,21.6s
QIZ LR LR
comp=Z,38μm,22.6s
QIZ LR LR
comp=Z,59μm,23.0s
QIZ Qiongzhong 69.49 275 IAmb IAmb 05 01 01.5
comp=Z,825nm,1.6s
PMOR Pomariorio Ree 69.58 158 *e*T T 06 16 54.4
comp=Z,54nm,0.3s
CCIG Comitan 69.60 90 IAmb IAmb 05 01 15.1
comp=Z,346nm,1.5s
SNART Snartemo 69.71 2⇑*i*P **P 05 00 52.5 +0.2**
SNART IAmb IAmb 05 00 59.7
comp=Z,673nm,1.1s
SNART Snartemo 69.71 2⇑*i*P **P 05 00 52.4 +0.1**
SNART *e*S **S 05 10 01.2 +2.4**
SGDS Sogindy 69.78 316⇑*i*P **P 05 00 53.1 0.0**
comp=Z,109nm,0.9s,baz=316
SGDS *e*S **S 05 09 59.5 -0.9**
baz=316
SGDS Sogindy 69.78 316*c i*P **P 05 00 53.1 0.0**
SGDS *e*S **S 05 09 59.4 -0.9**
SGDS pmax pmax
comp=Z,109nm,0.9s
TKM2 Tokmak 2 69.79 315 P **P 05 00 53.2 -0.2**
SNR=192
HOMB Homborsund 69.80 1 *i*P **P 05 00 52.8 -0.1**
HOMB Homborsund 69.80 1⇑*i*P **P 05 00 53.0 +0.1**
HOMB *e*S **S 05 10 01.6 +1.8**
HOMB *e*SS **SS 05 14 32.1 +4.7**
HOMB IVMs_BB IVMs_BB 05 31 49.9
comp=Z,26μm,19.4s
KAC Achnashellach 69.83 9⇑*e*P **P 05 00 52.9 -0.2**
VAH Vaihoa 69.86 157 *e*P **P 05 00 54.6 +0.9**
comp=Z,384nm,1.2s
MCD Coleburn Disti 69.93 8 *e*P **P 05 00 53.9 +0.1**
KPL Plockton 69.95 9⇑*e*P **P 05 00 53.6 -0.2**
KPL IAMs_20 IAMs_20 05 33 46.7
comp=Z,90μm,20.4s
MDO Dochfour 69.97 8⇑*e*P **P 05 00 54.1 +0.1**
BOOM Boomskoye usch 69.98 314 IAmb IAmb 05 00 58.7
comp=Z,410nm,0.9s
USP Ospenovka 69.98 316 P **P 05 00 54.6 +0.2**
SNR=336
SLIT Slitere, Latvi 70.03 353 *e*P **P 05 00 54.6 +0.3**
MOS Moscow 70.03 344 *e*P **P 05 00 51.2 -3.2**
MOS *e*PPP PPP 05 05 08.0
MOS *e*S **S 05 09 58.5 -4.2**
MOS *e* 05 10 51.0
MOS *e*SS **SS 05 14 32.8 +1.7**
MOS pmax pmax
comp=E,95nm,0.6s
MOS pmax pmax
comp=Z,363nm,0.9s
MOS MLR MLR
comp=Z,131μm,19.0s

MOS MLR MLR
comp=N,140μm,20.0s
ULHL Ulahol 70.04 314 P **P 05 00 55.0 0.0**
SNR=200
CHMS Chumysh 70.09 315 P **P 05 00 55.5 +0.4**
SNR=130
SOR Soroa 70.23 78 IAmb IAmb 05 01 20.8
comp=Z,343nm,1.3s
KBK Karagaybulak 70.28 315 P **P 05 00 56.7 +0.3**
SNR=56
FRU1 Bishkek 70.30 315 P **P 05 00 56.9 +0.6**
FRU1 pmax pmax
comp=Z,724nm,0.9s
FRU1 Bishkek 70.30 315 P **P 05 00 56.9 +0.6**
SANVU Saraoutou 70.40 204 IAMs_20 IAMs_20 05 26 24.8
comp=Z,49μm,20.0s
BORU Boraas 70.43 359 *i*P **P 05 00 56.9 +0.1**
ABKAR Akbulak array 70.46 328 P **P 05 00 56.6 -0.5**
AAK Ala-Archa 70.49 315 P **P 05 00 58.3 +0.6**
SNR=92
AAK Ala-Archa 70.49 315 P **P 05 00 57.7 +0.1**
AAK pmax pmax
comp=Z,682nm,1.1s
AAK MLR MLR
comp=Z,138μm,18.0s
AAK Ala-Archa 70.49 315 P **P 05 00 57.7 +0.1**
PETF Flores 70.51 87 IAmb IAmb 05 01 23.0
comp=Z,723nm,1.9s
MSVF Nonsavu 70.55 193 S **S 05 10 12.4 +2.9**
comp=Z,4.2nm,0.7s,baz=176,slow=16,SNR=1.9
MSVF Nonsavu 70.55 193 P **P 05 00 59.6 +1.6**
MSVF pmax pmax
comp=Z,301nm,1.1s
MSVF Nonsavu 70.55 193 P **P 05 00 59.6 +1.6**
MSVF IAmb IAmb 05 01 17.7
comp=Z,301nm,1.1s
MSVF Nonsavu 70.55 193 IAMs_20 IAMs_20 05 24 24.2
comp=Z,53μm,22.0s
DRUM Mains of Drumt 70.65 7 *e*P **P 05 00 57.0 -1.1**
DRUM IAMs_20 IAMs_20 05 30 20.4
comp=Z,68μm,20.6s
ONAU Onsala 70.68 359⇑*i*P **P 05 00 58.1 -0.1**
EKS2 Erkin-Say 70.78 316 P **P 05 01 00.4 +1.0**
SNR=18
OBN Obninsk 70.81 344*ce*P **P 05 00 58.2 -0.9**
OBN *e* 05 03 35.6
OBN *i*S **S 05 10 07.9 -3.8**
OBN pmax pmax
comp=Z,463nm,1.3s
OBN MLR MLR
comp=Z,114μm,19.0s
OBN Obninsk 70.81 344 P **P 05 00 58.1 -1.0**
OBN IAmb IAmb 05 01 06.5
comp=Z,640nm,1.3s
INVG Invergeldie, C 71.00 8 *e*P **P 05 01 00.1 -0.2**
INVG IAMs_20 IAMs_20 05 29 17.7
comp=Z,72μm,22.1s
LAWE Loch Awe, Argy 71.04 9⇑*e*P **P 05 00 59.8 -0.7**
LAWE IAMs_20 IAMs_20 05 34 28.3
comp=Z,111μm,20.7s
FABU Falkenberg 71.07 359 *i*P **P 05 01 00.4 -0.2**
BELG Belogornoye 71.13 337*c i*P **P 05 01 01.0 -0.1**
BELG pmax pmax
comp=Z,204nm,1.1s
BELG MLR MLR
comp=Z,29μm,20.0s
EBH Black Hill 71.23 8⇑*e*P **P 05 01 01.8 +0.1**
AML Almayashu 71.25 315 P **P 05 01 03.4 +0.8**
SNR=120
AML Almayashu 71.25 315 *i*P **P 05 01 03.2 +0.6**
SNR=125
AML Almayashu 71.25 315 P **P 05 01 03.1 +0.6**
SLVN Son La 71.35 281 IAMs_20 IAMs_20 05 31 35.9
comp=Z,79μm,21.0s
LKP Lekhapani 71.56 291 *e*P **P 05 01 05.0 +0.9**
PGBU Glenifferbraes 71.57 9⇑*e*P **P 05 01 03.7 0.0**
PGBU IAMs_20 IAMs_20 05 34 47.4
comp=Z,70μm,20.1s
EDI Edinburgh 71.58 8⇑*e*P **P 05 01 03.3 -0.4**
EDI IAMs_20 IAMs_20 05 31 01.4
comp=Z,79μm,21.4s
DEL Delary 71.58 358 *i*P **P 05 01 04.1 +0.4**
MUD Monsted U'grnd 71.63 1⇑*i*P **P 05 01 04.6 +0.6**
MUD IAmb IAmb 05 01 09.6
comp=Z,349nm,1.0s
MUD IAMs_20 IAMs_20 05 33 02.4
comp=Z,68μm,20.2s
MUD Monsted U'grnd 71.63 1⇑*i*P **P 05 01 04.6 +0.6**
MUD pmax pmax
comp=Z,350nm,1.0s
MUD MLR MLR
comp=Z,68μm,20.0s
ESY Stoneypath 71.63 8⇑*e*P **P 05 01 03.9 -0.2**
PBUR Paburge 71.65 353 *e*P **P 05 01 04.8 +0.7**
BLEU Blekinge 71.69 357 *i*P **P 05 01 04.0 -0.5**
PPT2 Papeete2 71.71 160 *e*P **P 05 01 05.8 +0.8**
comp=Z,227nm,1.5s
PPT2 *e*S **S 05 10 24.2 +1.2**
comp=Z,66μm,28.8s
PPT2 Papeete2 71.71 160 *e*LR LR 05 22 51.9
comp=Z,214μm,32.2s,baz=348
PPT2 Papeete2 71.71 160 *e*T T 06 19 34.4
comp=Z,15nm,0.3s
TIAR Tiarei 71.72 160 *e*P **P 05 01 06.0 +1.0**
comp=Z,76nm,1.3s
TIAR Tiarei 71.72 160 *e*T T 06 19 35.4
comp=Z,3.9nm,0.3s
EBL Broad Law 71.74 8⇑*e*P **P 05 01 04.8 +0.1**
ISAL Salakas 71.74 351 *e*P **P 05 01 05.5 +0.8**
PMG Port Moresby 71.75 225 S **S 05 10 22.4 -1.1**
comp=Z,15nm,0.2s,baz=235,slow=12,SNR=1.7
PMG Port Moresby 71.75 225 P **P 05 01 06.6 +1.3**
PMG pmax pmax
comp=Z,138nm,1.0s
PMG Port Moresby 71.75 225 P **P 05 01 06.6 +1.3**
PAE Paea 71.78 160 *e*P **P 05 01 05.9 +0.6**
comp=Z,58nm,1.4s
PAE Paea 71.78 160 *e*T T 06 19 39.1
comp=Z,3.2nm,0.3s
KK31 Karatay Array 71.79 318 IAmb IAmb 05 01 08.9
comp=Z,344nm,0.9s
KKAR Karatay Array 71.79 318 P **P 05 01 04.8 -0.5**
KKAR Karatay Array 71.79 318 P **P 05 01 04.8 -0.5**
KKAR Karatay Array 71.79 318 IAmb IAmb 05 01 08.9
comp=Z,344nm,0.9s
IDID Didziasalis 71.93 350 *e*P **P 05 01 06.8 +0.9**
IIGN Ignalina 71.95 351 *e*P **P 05 01 06.9 +0.9**
DIBR DIBRUGARH 71.99 292 *e*P **P 05 01 07.3 +0.6**
BJUU Bjuv 71.99 358 *i*P **P 05 01 06.5 +0.3**
PABE Paberze 72.00 352 *e*P **P 05 01 07.2 +0.9**
CLGH Cloghs, Cushen 72.13 10⇑*e*P **P 05 01 06.9 -0.2**
CLGH IAMs_20 IAMs_20 05 32 57.8
comp=Z,99μm,21.3s
EKA Eskdalemuir Ar 72.16 8 P **P 05 01 07.0 -0.3**
ESK Eskdalemuir 72.18 8 *e*P **P 05 01 07.2 -0.1**
ESK IAMs_20 IAMs_20 05 31 19.6
comp=Z,85μm,21.3s
ESK Eskdalemuir 72.18 8 P **P 05 01 07.3 -0.1**
ESK pmax pmax
comp=Z,551nm,1.2s
ESK Eskdalemuir 72.18 8 P **P 05 01 07.3 -0.1**
ESK IAmb IAmb 05 01 15.7
comp=Z,551nm,1.2s
ESK Eskdalemuir 72.18 8 IAMs_20 IAMs_20 05 31 35.0
comp=Z,76μm,21.0s
NEWG New Galloway 72.28 9 *e*P **P 05 01 07.7 -0.2**
NEWG IAMs_20 IAMs_20 05 35 07.8
comp=Z,78μm,20.0s
KSH Kashi 72.36 312⇑*i*P **P 05 01 12.5 +3.6**
KSH pP sP 05 01 19.3 -0.7
KSH PP **PP 05 03 54.3 +4.9**
KSH S **S 05 10 36.0 +5.5**
KSH sS sS 05 10 50.8 +6.2
KSH pmax pmax
comp=Z,250nm,0.7s
KSH pmax pmax
comp=Z,17μm,11.6s
KSH LR LR
comp=Z,135μm,15.6s
KSH LR LR
comp=Z,115μm,14.7s
KSH LR LR
comp=Z,185μm,12.4s
LSA Lhasa 72.40 296 P **P 05 01 10.8 +1.1**
LSA S **S 05 10 32.5 +0.6**

LSA LR LR
comp=Z,165μm,20.6s
LSA LR LR
comp=Z,167μm,22.8s
LSA LR LR
comp=Z,275μm,27.1s
LSA Lhasa 72.40 296 P **P 05 01 11.1 +1.4**
LSA Lhasa 72.40 296 IAmb IAmb 05 01 16.9
comp=Z,575nm,0.8s
LSA IAMs_20 IAMs_20 05 33 49.2
comp=Z,71μm,22.0s
LUNU Lund 72.43 358 *i*P **P 05 01 09.1 +0.2**
GAL1 Galloway 72.48 9 *e*P **P 05 01 08.9 -0.3**
GAL1 IAMs_20 IAMs_20 05 38 34.3
comp=Z,83μm,17.7s
MNK Minsk 72.61 349 *i*P **P 05 01 10.1 +0.2**
MNK *i* 05 01 28.0
MNK *i* 05 03 50.4
MNK *i*PPP PPP 05 05 34.3
MNK *i*S **S 05 10 32.4 -0.1**
MNK *i* 05 11 15.2
MNK *i*SS **SS 05 15 11.1 +0.6**
MNK pmax pmax
comp=N,481nm,1.2s
MNK pmax pmax
comp=E,21nm,0.9s
MNK pmax pmax
comp=Z,770nm,1.0s
MNK MLR MLR
comp=N,77μm,21.0s
MNK MLR MLR
comp=Z,65μm,23.0s
MNK Minsk 72.61 349 *i*P **P 05 01 10.2 +0.2**
comp=E,21nm,0.9s
MNK *i*P **P 05 01 10.2 +0.2**
comp=N,481nm,1.2s
MNK *i*P **P 05 01 10.2 +0.2**
comp=Z,770nm,1.0s,baz=191
MNK *i*PcP **PcP 05 01 28.1 +0.7**
MNK *i*PP **PP 05 03 50.5 -0.3**
MNK *i*PPP PPP 05 05 34.4
MNK *i*S **S 05 10 32.4 -0.1**
MNK *i*SS **SS 05 15 11.1 +0.6**
MNK *i*SSS SSS 05 18 31.0
MNK *i*LQ LQ 05 27 48.5
MNK *i*LR LR 05 30 03.5
MNK *i*LRM MLR 05 35 25.2
comp=N,77μm,20.6s
MNK *i*LRM MLR 05 35 25.2
comp=Z,65μm,23.2s
MNK *i*LRM MLR 05 35 50.9
comp=E,3μm,20.6s
ESQI Esquipulas 72.64 89 IAmb IAmb 05 01 52.7
comp=Z,335nm,1.2s
MTO3 Montecristo 72.75 89 IAMs_20 IAMs_20 05 28 45.5
comp=Z,51μm,22.0s
LPSR Galich'ya Gora 72.80 342 *e*P **P 05 01 10.5 -0.6**
LPSR *e* 05 03 51.2
LPSR *e*PPP PPP 05 05 43.4
LPSR *e*S **S 05 10 32.7 -2.0**
LPSR pmax pmax
comp=Z,470nm,1.2s
LPSR pmax pmax
comp=Z,590nm,1.2s
LPSR smax smax
comp=E,970nm,8.3s
LPSR MLR MLR
comp=Z,151μm,23.0s
BSD Bornholm Skovb 72.91 357 *e*P **P 05 01 12.1 +0.4**
BSD Bornholm Skovb 72.91 357⇑*i*P **P 05 01 11.6 -0.1**
BSD IAmb IAmb 05 01 16.1
comp=Z,184nm,0.9s
BSD IAMs_20 IAMs_20 05 35 57.5
comp=Z,50μm,20.8s
BSD Bornholm Skovb 72.91 357⇑*i*P **P 05 01 11.6 -0.1**
BSD pmax pmax
comp=Z,180nm,0.9s
BSD MLR MLR
comp=Z,50μm,21.0s
ITAN ITANAGAR 72.92 292 *e*P **P 05 01 12.4 +0.2**
JORH JORHAT 72.92 292 *e*P **P 05 01 12.7 +0.4**
GMM Mts of Mourne 72.97 10⇑*e*P **P 05 01 12.1 0.0**
MOKO MOKOCHONG 73.09 291 *e*P **P 05 01 14.6 +1.1**
KLNR Kaliningrad 73.18 354*c i*P **P 05 01 13.1 -0.2**
KLNR pmax pmax
comp=Z,353nm,1.1s
KLNR MLR MLR
comp=Z,118μm,20.0s
WIM Isle of Man 73.20 9⇑*e*P **P 05 01 13.6 +0.1**
TNTI Ternate 73.23 249 IAmb IAmb 05 01 39.4
comp=Z,728nm,1.9s
BBSR BB Station 73.31 59 P **P 05 01 14.7 +0.3**
BBSR IAmb IAmb 05 01 32.7
comp=Z,969nm,1.6s
BBSR BB Station 73.31 59 IAMs_20 IAMs_20 05 33 46.1
comp=Z,56μm,21.0s
SKMB Sankelmark Bun 73.37 1 *e*P **P 05 01 15.5 +1.1**
comp=Z,726nm,1.1s,baz=0.5,slow=5.7
SKMB *e*pP **pP 05 01 18.4 -4.5**
comp=Z,726nm,1.1s,baz=0.5,slow=5.7
RGN Rugen 73.52 358 IAMs_20 IAMs_20 05 39 18.7
comp=Z,73μm,20.0s
RGN Rugen 73.52 358 *e*P **P 05 01 16.3 +1.0**
comp=Z,927nm,1.0s,baz=0.5,slow=5.7
RGN *e*pP **pP 05 01 19.1 -4.6**
baz=0.5,slow=5.7
FAKI Fak Fak 73.54 242 IAmb IAmb 05 01 36.3
comp=Z,402nm,1.0s
SUW Suwalki 73.55 352 *e*P **P 05 01 14.3 -1.2**
SUW *e*PP **PP 05 04 01.7 +2.8**
SUW *e*S **SKiKP 05 10 39.9 -3.4**
SUW *e*SS SS 05 15 48.3 +23
SUW *e*L L 05 31 12.2
comp=Z,106μm,25.0s
SUW Suwalki 73.55 352 *e*P **P 05 01 15.2 -0.3**
VRH Novokhopyorsk 73.57 340 *e*P **P 05 01 14.9 -0.8**
VRH *e*PPP PPP 05 05 45.3
VRH *e*S **SKiKP 05 10 35.5 -7.8**
VRH *e*SS **SS 05 15 22.8 -2.6**
VRH pmax pmax
comp=Z,410nm,1.3s
VRH pmax pmax
comp=Z,190nm,0.7s
VRH smax smax
comp=N,2μm,7.9s
VRH MLR MLR
comp=Z,154μm,22.0s
TAS Tashkent 73.77 318 IAmb IAmb 05 01 21.0
comp=Z,726nm,1.1s
KOHI KOHIMA 73.79 291 *e*P **P 05 01 17.7 +0.1**
HLG Helgoland 73.89 2 *e*P **P 05 01 18.4 +0.9**
comp=Z,1μm,1.1s,baz=0.5,slow=5.7
HLG *e*pP **pP 05 01 21.2 -4.7**
baz=0.5,slow=5.7
FSCY Frank Sound, G 73.97 79 IAmb IAmb 05 01 36.7
comp=Z,514nm,1.1s
WME Myndd Eilian 73.97 9⇑*e*P **P 05 01 18.1 +0.1**
WLF1 Llynfaes 74.07 9⇑*e*P **P 05 01 18.3 -0.2**
WLF1 IAMs_20 IAMs_20 05 36 39.3
comp=Z,101μm,18.4s
BSEG Bad Segeberg 74.16 0 *e*P **P 05 01 19.8 +0.8**
comp=Z,442nm,1.0s,baz=0.5,slow=5.7
BSEG *e*pP **pP 05 01 22.7 -4.9**
baz=0.5,slow=5.7
BTK Batken 74.19 316 P **P 05 01 19.6 -0.1**
BTK pmax pmax
comp=Z,598nm,1.0s
BTK Batken 74.19 316 P **P 05 01 19.6 -0.1**
BTK IAmb IAmb 05 01 27.6
comp=Z,598nm,0.9s
LBWR Ladybower, Pea 74.20 8 *e*P **P 05 01 19.7 +0.3**
LBWR IAMs_20 IAMs_20 05 35 03.7
comp=Z,58μm,21.1s
YLL Llanberis 74.24 9 *e*P **P 05 01 19.2 -0.4**
DRK Karamyk 74.25 315 IAmb IAmb 05 01 28.6
comp=Z,737nm,1.2s
VORD Divnogorie 74.29 342 *e*P **P 05 01 19.6 -0.3**
VORD *e*PPP PPP 05 05 47.3
VORD *e*S **S 05 10 50.7 -0.9**
VORD pmax pmax
comp=Z,140nm,0.5s
VORD pmax pmax
comp=Z,170nm,0.5s
VORD smax smax
comp=N,4μm,10.0s

VORD MLR MLR
comp=Z,98µm,22.0s
TGUH Tegucigalpa,Un 74.29 87 IAmb IAmb 05 01 53.3
comp=Z,549nm,1.4s
TGUH IAMs_20 IAMs_20 05 30 32.3
comp=Z,65µm,22.0s
TGUH Tegucigalpa,Un 74.29 87 *e*P **P 05 01 22.9 +2.3**
NONG Nongkai 74.31 279 P **P 05 01 20.7 +0.2**
comp=Z,25µmcomp=Z,1µm,1.2s
LCCY Blossom Villag 74.37 78 IAmb IAmb 05 01 43.5
comp=Z,739nm,1.2s
CBCY The Bluff, Cay 74.51 78 IAmb IAmb 05 01 56.1
comp=Z,385nm,1.1s
SBD1 Bryn Du 74.56 9 *e*P P 05 01 33.3 +12
IMP Imphal 74.57 291 *e*P **P 05 01 22.3 +0.2**
LLW Llanuwychllyn 74.58 9 *e*P **P 05 01 21.4 -0.1**
FOEL Foel Wylfa 74.58 9 *e*P **P 05 01 21.8 +0.2**
FOEL IAMs_20 IAMs_20 05 39 48.9
comp=Z,62µm,17.9s
GKP Gorka Klasztor 74.67 356 *e*P **P 05 01 22.0 0.0**
GKP *e*S **S 05 10 54.1 -1.7**
GKP *e*SS SS 05 16 01.0 +19
GKP *e*L L 05 33 46.2
comp=Z,110µm,23.0s
GKP Gorka Klasztor 74.67 356 *e*P **P 05 01 22.5 +0.4**
VAL Valentia 74.70 13 P **P 05 01 26.4 +4.1**
VAL pmax pmax
comp=Z,515nm,1.3s
HLM1 Long Mynd 74.98 8⇑ *e*P **P 05 01 24.1 +0.2**
HLM1 IAMs_20 IAMs_20 05 36 50.3
comp=Z,68µm,20.2s
WACR West Acre 75.05 6 *e*P **P 05 01 24.0 -0.2**
WACR IAMs_20 IAMs_20 05 40 46.7
comp=Z,63µm,20.6s
SHL Shillong 75.18 293 *e*P **P 05 01 25.5 -0.3**
SHL IAmb IAmb 05 01 28.2
comp=Z,200nm,1.1s
SHL Shillong 75.18 293 IAmb IAmb 05 01 30.4
comp=Z,547nm,1.0s
SHL Shillong 75.18 293 P **P 05 01 25.4 -0.3**
SNR=114
SILR SILCHAR 75.26 291 *e*P **P 05 01 26.9 +0.9**
PAYA Payao 75.29 283 P **P 05 01 30.2 +4.0**
comp=Z,21µm,1.1s
RSBS Rosebush, Pemb 75.36 10 *e*P **P 05 01 23.6 -2.5**
RSBS IAMs_20 IAMs_20 05 34 55.9
comp=Z,73µm,20.9s
MCH1 Michaelchurch 75.48 9⇑ *e*P **P 05 01 25.7 -1.0**
MCH1 IAMs_20 IAMs_20 05 37 15.8
comp=Z,66µm,19.5s
LIFNC LIFOU 75.52 202 IAMs_20 IAMs_20 05 27 31.5
comp=Z,49µm,22.0s
RUE Ruedersdorf 75.58 358 *e*P **P 05 01 28.0 +0.7**
comp=Z,566nm,1.0s,baz=0.5,slow=5.7
RUE *e*pP **pP 05 01 30.8 -5.0**
baz=0.5,slow=5.7
NRDL Niedersach Rie 75.60 0 *e*P **P 05 01 28.0 +0.6**
comp=Z,347nm,1.1s,baz=0.5,slow=5.7
NRDL *e*pP **pP 05 01 30.8 -5.0**
baz=0.5,slow=5.7
GTK Tadong 75.65 296 *e*P **P 05 01 28.8 +0.5**
FLTG Flechtingen 75.76 360 *e*P **P 05 01 28.5 +0.1**
comp=Z,214nm,0.9s,baz=0.5,slow=5.7
FLTG *e*pP **pP 05 01 31.3 -5.5**
baz=0.5,slow=5.7
IBBN Ibbenburen 75.77 2 *e*P **P 05 01 29.1 +0.7**
comp=Z,619nm,1.0s,baz=0.5,slow=5.7
IBBN *e*pP **pP 05 01 31.9 -5.0**
baz=0.5,slow=5.7
STRD Stroud 75.78 8⇑ *e*P **P 05 01 28.7 +0.2**
STRD IAMs_20 IAMs_20 05 37 15.7
comp=Z,71µm,19.9s
KHON Khomkaen 75.83 278 P **P 05 01 29.8 +0.5**
comp=Z,15µmcomp=Z,2µm,1.0s
OLDB Oldbury-Upon-S 75.86 8⇑ *e*P **P 05 01 28.9 0.0**
OLDB IAMs_20 IAMs_20 05 37 29.0
comp=Z,67µm,19.2s
BEL Belsk 75.90 353 *e*P **P 05 01 29.4 +0.3**
BEL *e*PP **PP 05 04 19.3 +0.6**
BEL *e*S **S 05 11 07.7 -1.8**
BEL *e*L L 05 37 16.7
comp=Z,94µm,20.7s
ASSE Asse, Remlinge 75.97 360 *e*P **P 05 01 30.1 +0.7**
comp=Z,212nm,1.1s,baz=0.5,slow=5.7
ASSE *e*pP **pP 05 01 33.0 -5.0**
baz=0.5,slow=5.7
LAMP Lampang 76.08 282 P **P 05 01 31.2 +0.5**
comp=Z,6µmcomp=Z,757nm,1.1s
AKASG Malin Array Be 76.18 348 P **P 05 01 29.8 -1.0**
comp=Z,194nm,0.7s,baz=16,slow=5.9,SNR=171
AKASG S **S 05 11 04.4 -8.2**
comp=Z,0.3nm,0.3s,baz=141,slow=50,SNR=1.3
AKASG Malin Array Be 76.18 348 *i* P **P 05 01 29.7 -1.0**
AKASG pmax pmax
comp=Z,202nm,0.8s
AKASG Malin Array Be 76.18 348 P **P 05 01 29.6 -1.1**
AKASG IAmb IAmb 05 01 37.3
comp=Z,282nm,0.9s
AKBB Malin Array Si 76.18 348 *ce*P **P 05 01 29.7 -1.1**
AKBB Malin Array Si 76.18 348 IAmb IAmb 05 01 37.3
comp=Z,365nm,1.0s
CLZ Clausthal 76.26 0 *e*P **P 05 01 32.1 +0.8**
comp=Z,531nm,1.1s,baz=0.5,slow=5.7
CLZ *e*pP **pP 05 01 35.0 -4.8**
baz=0.5,slow=5.7
CMMT Chiang Mai 76.26 283 P **P 05 01 31.8 0.0**
comp=Z,15µmcomp=Z,442nm,1.2s
CHTO Chiang Mai 76.26 283 P **P 05 01 31.9 +0.1**
CHTO pmax pmax
comp=Z,2µm,1.8s
CHTO MLR MLR
comp=Z,59µm,19.0s
CHTO Chiang Mai 76.26 283 P **P 05 01 31.7 -0.1**
comp=Z,90µmcomp=Z,15µmcomp=Z,444nm,1.2s
CHTO Chiang Mai 76.26 283 P **P 05 01 31.9 +0.1**
CHTO Chiang Mai 76.26 283 IAMs_20 IAMs_20 05 38 25.6
comp=Z,59µm,19.0s
CHTO Chiang Mai 76.26 283 P **P 05 01 32.5 +0.7**
CHTO P **P 05 01 32.5 +0.7**
HTL Hartland 76.33 10 *e*P **P 05 01 32.0 +0.4**
HTL IAMs_20 IAMs_20 05 41 09.9
comp=Z,96µm,17.3s
SPMM Sapulut 76.52 260 P **P 05 01 33.0 -0.3**
CM09 Chiang Mai Arr 76.52 283 P **P 05 01 34.0 +0.8**
comp=Z,5µmcomp=Z,439nm,0.8s
CM31 Chiang Mai Arr 76.54 283 P **P 05 01 34.1 +0.7**
SNR=213
CM31 P **P 05 01 34.1 +0.7**
SNR=213
CMAR Chiang Mai Arr 76.54 283 P **P 05 01 34.0 +0.6**
comp=Z,578nm,1.0s,baz=26,slow=6.6,SNR=312
CMAR Chiang Mai Arr 76.54 283 P **P 05 01 33.9 +0.6**
CMAR Chiang Mai Arr 76.54 283 P **P 05 01 33.9 +0.6**
GTTG Gottingen 76.55 0 *e*P **P 05 01 33.8 +0.9**
comp=Z,664nm,1.1s,baz=0.5,slow=5.7
GTTG *e*pP **pP 05 01 36.6 -4.8**
baz=0.5,slow=5.7
CM02 Chiang Mai Arr 76.55 283 P **P 05 01 34.1 +0.7**
comp=Z,6µmcomp=Z,833nm,1.1s
CM01 Chiang Mai Arr 76.56 283 P **P 05 01 34.2 +0.8**
comp=Z,7µmcomp=Z,880nm,1.1s
CM04 Chiang Mai Arr 76.56 283 P **P 05 01 34.3 +0.8**
comp=Z,607nmcomp=Z,6µmcomp=Z,904nm,0.9s
CM05 Chiang Mai Arr 76.58 283 P **P 05 01 34.3 +0.7**
comp=Z,6µmcomp=Z,773nm,1.1s
CM13 Chiang Mai Arr 76.59 283 P **P 05 01 34.3 +0.7**
comp=Z,5µmcomp=Z,706nm,1.1s
BUG Bochum--Univer 76.62 2 *e*P **P 05 01 33.6 +0.3**
comp=Z,356nm,1.3s,baz=0.5,slow=5.7
BUG *e*pP **pP 05 01 36.4 -5.4**
baz=0.5,slow=5.7
PHIT Phitsanulok 76.63 281 P **P 05 01 34.6 +0.8**
comp=Z,20µmcomp=Z,3µm,1.1s
GUN Gumba 76.68 298 *e*P **P 05 01 34.7 +0.3**
CLL Collm 76.77 358⇑ *i*P **P 05 01 34.5 +0.4**
CLL *i* Pmax 05 01 36.8
comp=Z,221nm,1.0s
CLL *e*Pmax 05 01 36.0
CLL *e*Plp 05 01 38.0
comp=N,8µm,22.7s
CLL *e*Plp 05 01 38.0
comp=E,2µm,23.5s
CLL *e*Plp 05 01 38.0
comp=Z,15µm,22.1s
CLL *i* pP **pP 05 01 40.8 -1.8**
comp=Z,342nm,1.2s
CLL *i* PcP **sP 05 01 45.1 0.0**
comp=Z,172nm,1.0s
CLL *e*PP **PP 05 04 30.0 +3.9**
CLL *e*PPP PPP 05 06 16.0
CLL *e* 05 10 52.0
CLL *e*S **S 05 11 21.0 +1.9**
CLL *e*SKSac **SKSac 05 11 40.0 -3.8**
CLL *e*ScS **ScS 05 11 50.0 +1.7**
CLL *e*PS **PnS 05 12 00.0 +1.1**
CLL *e*PPS PPS 05 12 15.0
CLL *e*SS **SS 05 16 22.0 +8.3**
CLL *e* 05 20 18.0
CLL *e*SSSS 05 22 00.0
CLL *e*PKPPKPdf 05 28 50.0
CLL *e* 05 29 14.0
CLL Lm MLR 05 36 00.0
comp=N,54µm,20.4s
CLL Lm MLR 05 36 00.0
comp=E,35µm,20.5s
CLL Lm MLR 05 36 00.0
comp=Z,69µm,20.4s
CLL *e*Lmax 05 36 32.0
CLL Collm 76.77 358⇑ *i*P **P 05 01 34.5 +0.4**
CLL *i* *PP **pP 05 01 40.8 -1.8**
CLL *e*S **S 05 11 21.0 +1.9**
CLL pmax pmax
comp=Z,221nm,1.0s
CLL MLR MLR
comp=Z,69µm,20.4s
CLL Collm 76.77 358 IAMs_20 IAMs_20 05 38 04.6
comp=Z,70µm,20.0s
CLL Collm 76.77 358 *e*P **P 05 01 34.3 +0.2**
comp=Z,220nm,0.9s,baz=0.5,slow=5.7
CLL *e*pP **pP 05 01 37.2 -5.5**
baz=0.5,slow=5.7
PBKT Sadao Pong 76.77 280 P **P 05 01 36.0 +1.4**
comp=Z,232nm,1.0s
TOLI2 Tolitoli 76.79 254 P **P 05 01 32.9 -1.9**
AGT Agartala 76.85 292 *e*P **P 05 01 35.9 +0.9**
KASTN Kahler Asten 76.88 1 *e*P **P 05 01 35.4 +0.6**
comp=Z,171nm,1.1s,baz=0.5,slow=5.7
KASTN *e*pP **pP 05 01 38.2 -5.1**
baz=0.5,slow=5.7
NEUB Neuenburg 76.88 359 *e*P **P 05 01 35.4 +0.7**
comp=Z,530nm,1.0s,baz=0.5,slow=5.7
NEUB *e*pP **pP 05 01 38.2 -5.1**
baz=0.5,slow=5.7
DYA Yadsworthy 76.94 9⇑ *e*P **P 05 01 35.1 0.0**
DYA IAMs_20 IAMs_20 05 41 29.7
comp=Z,93µm,17.4s
DZM Mont Dzumac 76.95 203 S **S 05 11 15.5 -6.1**
comp=Z,2.5nm,1.0s,baz=255,slow=18,SNR=1.4
DZM Mont Dzumac 76.95 203 *e*P **P 05 01 35.5 +0.1**
comp=Z,340nm,1.6s
DZM *e*S **S 05 11 20.4 -1.3**
comp=Z,49µm,30.2s
DZM Mont Dzumac 76.95 203 *e*LQ LQ 05 21 39.7
comp=Z,54µm,30.6s
DZM *e*LR LR 05 25 20.5
comp=Z,117µm,22.2s,baz=30
DZM Mont Dzumac 76.95 203 IAMs_20 IAMs_20 05 28 35.5
comp=Z,68µm,21.0s
MTDJ Mount Denham 77.00 77 IAmb IAmb 05 02 00.9
comp=Z,299nm,1.0s
MTDJ IAMs_20 IAMs_20 05 39 49.2
comp=Z,46µm,20.0s
MTDJ Mount Denham 77.00 77 *e*P **P 05 01 31.9 -4.2**
CCA1 Carnmenellis 77.05 10 *e*P **P 05 01 36.1 +0.4**
CCA1 IAMs_20 IAMs_20 05 40 57.9
comp=Z,94µm,18.1s
KKN Kakani 77.10 299 *e*P **P 05 01 37.0 +0.4**
KKN Kakani 77.10 299 *e*P **P 05 01 36.8 +0.2**
comp=Z,440nm,0.6s
GTBY Guantanamo Bay 77.13 74 IAmb IAmb 05 02 12.9
comp=Z,472nm,1.2s
GTBY IAMs_20 IAMs_20 05 39 41.3
comp=Z,49µm,18.0s
GTBY Guantanamo Bay 77.13 74 *e*P **P 05 01 34.8 -1.9**
KSP Ksiaz 77.14 356 *e*P **P 05 01 36.5 +0.2**
KSP *e*S **S 05 11 21.3 -1.8**
KSP *e*SS **SS 05 16 28.5 +9.1**
FBE Freiberg 77.15 358 *e*P **P 05 01 37.1 +0.9**
comp=Z,432nm,1.2s,baz=0.5,slow=5.7
FBE *e*pP **pP 05 01 40.0 -4.8**
baz=0.5,slow=5.7
UCC Uccle 77.17 4 *b*P **P 05 01 36.6 +0.2**
comp=Z,197nm,1.4s
ONTNC Ouen Toro 77.17 203 IAMs_20 IAMs_20 05 29 13.5
comp=Z,67µm,21.0s
BRG Berggiesshubel 77.18 358⇑ *i*P **P 05 01 36.8 +0.3**
BRG Amp 05 01 41.8
comp=Z,305nm,1.0s
BRG Berggiesshubel 77.18 358 PP PP 05 04 41.0 +11
BRG Berggiesshubel 77.18 358 S **S 05 11 27.0 +3.4**
BRG Berggiesshubel 77.18 358 *e*P **P 05 01 37.0 +0.5**
comp=Z,304nm,1.0s,baz=0.5,slow=5.7
BRG *e*pP **pP 05 01 39.8 -5.2**
baz=0.5,slow=5.7
OUENC Ouen Island, N 77.19 202 IAMs_20 IAMs_20 05 28 32.9
comp=Z,73µm,22.0s
PKI Pulchoki 77.20 298 *e*P **P 05 01 37.5 +0.1**
comp=Z,2µm,1.3s
PKI Pulchoki 77.20 298 *e*P **P 05 01 37.2 -0.2**
comp=Z,2µm,1.3s
BEBN Eben Emael 77.22 3 *b*P **P 05 01 36.7 +0.1**
comp=Z,336nm,1.2s
PINNC Pines Island, 77.24 202 P **P 05 01 38.1 +1.2**
PINNC IAMs_20 IAMs_20 05 28 55.2
comp=Z,52µm,21.0s
GKN Gorkha 77.27 299 *e*P **P 05 01 37.6 0.0**
comp=Z,912nm,0.8s
GKN Gorkha 77.27 299 *e*P **P 05 01 37.6 0.0**
comp=Z,912nm,0.8s
UBBA Unterbreizbach 77.28 0 *e*P **P 05 01 37.6 +0.7**
comp=Z,226nm,1.5s,baz=0.5,slow=5.7
UBBA *e*pP **pP 05 01 40.4 -5.0**
baz=0.5,slow=5.7
TBI Tubuai 77.32 161 *e*P **P 05 01 38.0 +0.6**
comp=Z,362nm,1.5s
TBI *e*S **S 05 11 25.8 +0.4**
comp=Z,37µm,30.5s
TBI Tubuai 77.32 161 *e*LR LR 05 25 35.2
comp=Z,98µm,32.2s,baz=345
TBI Tubuai 77.32 161 *e*T T 06 26 35.0
comp=Z,46nm,0.3s
DMN Daman 77.33 299 *e*P **P 05 01 37.9 -0.1**
MHMT Maesarieng 77.36 283 P **P 05 01 38.5 +0.6**
comp=Z,63µmcomp=Z,24µmcomp=Z,2µm,1.1s
CHVC Chvalec 77.40 356⇑ *i*P **P 05 01 38.7 +1.0**
CHVC AMS AMS 05 37 00.0
comp=Z,71µm,20.2s
MEM Membach 77.42 3 *b*P **P 05 01 38.2 +0.4**
comp=Z,325nm,1.2s
OSTC Ostas 77.43 356⇑ *i*P **P 05 01 38.9 +1.0**
OSTC AMS AMS 05 37 00.0
comp=Z,69µm,20.3s
BSTI Sart Tilman 77.43 3 *b*P **P 05 01 38.5 +0.6**
comp=Z,105nm,1.2s
BTNL Ternell 77.45 3 *b*P **P 05 01 38.4 +0.5**
comp=Z,362nm,1.2s
MOX Moxa 77.45 359 *e*P **P 05 01 38.7 +0.7**
comp=Z,357nm,1.3s,baz=0.5,slow=5.7
MOX *e*pP **pP 05 01 41.5 -5.0**
baz=0.5,slow=5.7
MOX *e*S **S 05 11 27.7 +1.2**
MOX *e*L L 05 39 32.2
comp=Z,53µm,21.8s
SNF Seneffe 77.46 4 *b*P **P 05 01 38.2 +0.3**
comp=Z,223nm,1.3s
DANN Dangsing 77.47 300 *e*P **P 05 01 39.3 +0.5**
comp=Z,2µm,0.8s
DANN Dangsing 77.47 300 *e*P **P 05 01 39.1 +0.3**
comp=Z,2µm,0.8s
UPC Upice 77.48 356⇑ *i*P **P 05 01 39.2 +1.0**
UPC MLR MLR
comp=Z,75µm,20.2s
UPC Upice 77.48 356⇑ *i*P **P 05 01 39.2 +1.0**
UPC AMS AMS 05 37 00.0
comp=Z,75µm,20.2s
PVCC Panska Ves 77.51 357⇑ *i*P **P 05 01 39.2 +0.9**
PVCC *e*S **S 05 11 34.1 +6.9**
PVCC MLR MLR
comp=Z,69µm,20.8s
PVCC Panska Ves 77.51 357⇑ *i*P **P 05 01 39.2 +0.9**
PVCC *e*S **S 05 11 34.1 +6.9**
PVCC AMS AMS 05 36 10.0
comp=Z,69µm,20.8s
AHRW Bad Neuenahr-A 77.52 2 *e*P **P 05 01 39.1 +0.7**
comp=Z,253nm,1.0s,baz=0.5,slow=5.7
AHRW *e*pP **pP 05 01 42.0 -4.9**
baz=0.5,slow=5.7
OJC Ojcow 77.57 354 *e*P **P 05 01 38.8 +0.1**
OJC *e*S **S 05 11 25.3 -2.6**
OJC *e*SS **SS 05 16 35.5 +10**
OJC *e*L L 05 37 20.5
comp=Z,90µm,20.8s
OJC Ojcow 77.57 354 IAmb IAmb 05 01 47.2
comp=Z,723nm,1.5s
BCLA Clavier 77.59 3 *d*P **P 05 01 39.1 +0.4**
comp=Z,288nm,1.3s
PLN Plauen 77.60 359 *e*P **P 05 01 39.4 +0.6**
comp=Z,124nm,1.0s,baz=0.5,slow=5.7
PLN *e*pP **pP 05 01 42.3 -5.1**
baz=0.5,slow=5.7
BGES Gesves 77.61 4 *d*P **P 05 01 39.1 +0.2**
comp=Z,225nm,1.2s
DPC Dobruska-Polom 77.63 356⇑ *i*P **P 05 01 40.3 +1.3**
DPC MLR MLR
comp=Z,60µm,20.3s
DPC Dobruska-Polom 77.63 356⇑ *i*P **P 05 01 40.3 +1.3**
DPC AMS AMS 05 37 20.0
comp=Z,60µm,20.3s
LVV L'vov 77.63 351 *e*P **P 05 01 38.5 -0.5**
LVV *e* 05 04 30.9
LVV *e*S **S 05 11 26.4 -2.1**
LVV *e*PS 05 12 04.4
LVV pmax pmax
comp=Z,500nm,1.2s
LVV MLR MLR
comp=N,93µm,19.0s
LVV MLR MLR
comp=E,52µm,19.0s
LVV MLR MLR
comp=Z,109µm,19.0s
WERD Werda 77.64 359 *e*P **P 05 01 39.8 +0.7**
comp=Z,228nm,1.4s,baz=0.5,slow=5.7
WERD *e*pP **pP 05 01 42.7 -4.9**
baz=0.5,slow=5.7
BHOU Houvegnez 77.68 3 *d*P **P 05 01 39.7 +0.4**
BMRD Maredsous 77.68 4 *b*P **P 05 01 39.8 +0.6**
comp=Z,377nm,1.2s
GUNZ Gunzen 77.72 359 *e*P **P 05 01 40.4 +0.8**
comp=Z,134nm,0.9s,baz=0.5,slow=5.7
GUNZ *e*pP **pP 05 01 43.2 -4.9**
baz=0.5,slow=5.7
WERN Wernitzgruen 77.80 359 *e*P **P 05 01 40.9 +0.9**
comp=Z,294nm,1.0s,baz=0.5,slow=5.7
WERN *e*pP **pP 05 01 43.7 -4.8**
baz=0.5,slow=5.7
RCHB Rochefort 77.85 3 *b*P **P 05 01 40.5 +0.3**
comp=Z,283nm,1.2s
NKC Novy Kostel 77.85 359⇑ *i*P **P 05 01 41.3 +1.0**
NKC *e* 05 04 42.0
NKC MLR MLR
comp=Z,67µm,19.7s
NKC Novy Kostel 77.85 359⇑ *i*P **P 05 01 41.3 +1.0**
NKC *e*PP **PP 05 04 42.0 +6.8**
NKC AMS AMS 05 38 20.0
comp=Z,67µm,19.7s
TNS Taunus Mts 77.86 1 *e*P **P 05 01 41.0 +0.6**
comp=Z,242nm,1.1s,baz=0.5,slow=5.7
TNS *e*pP **pP 05 01 43.8 -5.1**
baz=0.5,slow=5.7
DOU Dourbes 77.88 4 *b*P **P 05 01 40.5 +0.2**
comp=Z,246nm,1.2s
KRLC Kraliky 77.88 356⇑ *i*P **P 05 01 41.4 +0.9**
KRLC MLR MLR
comp=Z,54µm,19.5s
KRLC Kraliky 77.88 356⇑ *i*P **P 05 01 41.4 +0.9**
KRLC AMS AMS 05 37 50.0
comp=Z,54µm,19.5s
KWP Kalwaria Pacla 77.94 352 *e*P **P 05 01 40.8 +0.1**
KWP *e*S **S 05 11 32.0 +0.1**
KWP *e*SS SS 05 16 45.0 +14
KWP *e*L L 05 35 34.3
comp=Z,112µm,23.4s
PRA Prague 77.97 357⇑ *i*P **P 05 01 42.0 +1.1**
PRA *e* 05 04 42.8
PRA MLR MLR
comp=Z,74µm,20.2s
PRA Prague 77.97 357⇑ *i*P **P 05 01 42.0 +1.1**
PRA *e*PP **PP 05 04 42.8 +6.6**
PRA AMS AMS 05 36 20.0
comp=Z,74µm,20.2s
KOLN Koldanda 78.01 300 *e*P **P 05 01 41.9 +0.2**
comp=Z,881nm,1.0s
PRU Pruhonice 78.05 357⇑ *i*P **P 05 01 42.3 +1.0**
PRU *e* 05 04 40.8
PRU *e*S **S 05 11 31.8 -1.3**
PRU MLR MLR
comp=Z,78µm,20.6s
PRU Pruhonice 78.05 357⇑ *i*P **P 05 01 42.3 +1.0**
PRU *e*PP **PP 05 04 40.8 +3.9**
PRU *e*S **S 05 11 31.8 -1.3**
PRU AMS AMS 05 36 30.0
comp=Z,78µm,20.6s
OKC Ostrava-Krasne 78.05 355⇑ *i*P **P 05 01 42.2 +0.9**
OKC MLR MLR
comp=Z,91µm,20.6s
OKC Ostrava-Krasne 78.05 355⇑ *i*P **P 05 01 42.2 +0.9**
OKC AMS AMS 05 37 40.0
comp=Z,91µm,20.6s
PYUN Piuthan 78.07 301 *e*P **P 05 01 42.4 +0.3**
comp=Z,1µm,0.9s
SRAK Srakaew 78.10 277 P **P 05 01 40.8 -1.3**
comp=Z,9µmcomp=Z,90µmcomp=Z,12µm,1.0s
MANZ Manzenberg 78.10 359 *e*P **P 05 01 42.3 +0.6**
comp=Z,179nm,1.2s,baz=0.5,slow=5.7
MANZ *e*pP **pP 05 01 45.2 -5.0**
baz=0.5,slow=5.7
MORC Moravsky Berou 78.15 355 ⇑P **P 05 01 42.5 +0.6**
MORC Moravsky Berou 78.15 355 P **P 05 01 41.8 -0.1**
MORC pmax pmax
comp=Z,275nm,1.0s
MORC Moravsky Berou 78.15 355 P **P 05 01 41.8 -0.1**
MORC IAmb IAmb 05 01 50.0
comp=Z,275nm,1.0s
MORC Moravsky Berou 78.15 355⇑ *i*P **P 05 01 42.1 +0.2**
MORC *e*S **S 05 11 32.3 -1.9**
MORC *e*SS **SS 05 16 39.5 +4.8**
GRTK Grand Turk 78.23 70 IAMs_20 IAMs_20 05 41 26.0
comp=Z,64µm,19.0s
MILB Miltenberg 78.27 1 *e*P **P 05 01 43.2 +0.7**
comp=Z,443nm,1.2s,baz=0.5,slow=5.7
MILB *e*pP **pP 05 01 46.1 -5.0**
baz=0.5,slow=5.7
STHS Stebnicka Huta 78.27 353 *e*P **P 05 01 43.0 +0.4**
STHS Stebnicka Huta 78.27 353 *e*P **P 05 01 43.0 +0.4**
STHS *e* 05 03 15.8
SAUI Saumlaki 78.28 240 P **P 05 01 44.6 +1.6**
ROTZ Rotzenmuhle 78.32 359 *e*P **P 05 01 43.8 +1.0**
comp=Z,282nm,1.3s,baz=0.5,slow=5.7
ROTZ *e*pP **pP 05 01 46.6 -4.8**
baz=0.5,slow=5.7
UMPA Umpang Tak 78.33 281 P **P 05 01 45.3 +1.9**
comp=Z,7µmcomp=Z,673nm,1.1s
JSA Saint Aubin 78.34 8 *e*P **P 05 01 42.8 -0.1**
JSA IAMs_20 IAMs_20 05 39 23.9
comp=Z,68µm,19.1s
PBCC Pribram 78.37 358⇑ *i*P **P 05 01 44.0 +0.9**
WLF Walferdange 78.37 3 *d*P **P 05 01 43.9 +0.8**
comp=Z,215nm,1.5s
WLF Walferdange 78.37 3 IAmb IAmb 05 01 51.5
comp=Z,383nm,1.3s
WLF Walferdange 78.37 3 *e*P **P 05 01 44.1 +1.0**
comp=Z,253nm,1.1s,baz=0.5,slow=5.7
WLF *e*pP **pP 05 01 46.9 -4.7**
baz=0.5,slow=5.7
GRA1 Grafenberg Arr 78.41 359 IAMs_20 IAMs_20 05 37 20.9
comp=Z,44µm,20.0s
GRF Grafenberg Arr 78.41 359 *e*P **P 05 01 44.4 +1.1**
comp=Z,475nm,1.0s,baz=0.5,slow=5.7
GRF *e*pP **pP 05 01 47.3 -4.5**
baz=0.5,slow=5.7
GRF *e*S **S 05 11 39.7 +2.7**
GRF *e*L L 05 37 20.9
comp=Z,45µm,20.9s
GRFO Grafenberg 78.41 359 P **P 05 01 44.0 +0.7**
GRFO pmax pmax
comp=Z,1µm,1.3s
GRFO MLR MLR
comp=Z,46µm,21.0s

GRFO Grafenberg 78.41 359 P **P** **05 01 44.0 +0.7**
GRFO IAMs_20 IAMs_20 05 37 20.9
comp=Z,46μm,21.0s
NIL Nilore 78.42 311 P **P** **05 01 44.0 +0.3**
NIL pmax pmax
comp=Z,873nm,0.9s
NIL MLR MLR
comp=Z,101μm,21.0s
NIL Nilore 78.42 311 P **P** **05 01 44.0 +0.3**
PRVC Isla de Provid 78.44 83 P **P** **05 01 46.2 +2.3**
PRVC Isla de Provid 78.44 83 *e*P **P** **05 01 43.8 -0.1**
DUNO Dulce Nombre, 78.46 88 P **P** **05 01 43.1 -1.0**
SMLA Simla 78.61 307 *e*P **P** **05 01 44.6 -0.1**
SMLA IAmb IAmb 05 01 47.9
comp=Z,605nm,2.1s
JTS Las Juntas de 78.63 88 *i* P **P** **05 01 41.3 -3.8**
JTS pmax pmax
comp=Z,27nm,1.1s
JTS Las Juntas de 78.63 88 *e*P **P** **05 01 40.6 -4.5**
VRAC Vranov 78.66 356 ⇑P **P** **05 01 45.8 +1.1**
VRAC Vranov 78.66 356 ⇑P **P** **05 01 45.8 +1.1**
VRAC Vranov 78.66 356 ⇑*i*P **P** **05 01 45.0 +0.3**
VRAC *e*S **S** **05 11 39.8 +0.2**
VRAC *e*SS **SS** **05 16 45.4 +3.1**
LANS Liptovska Anna 78.66 354 *e*P **P** **05 01 46.4 +1.6**
LANS pmax pmax
comp=Z,302nm,1.0s
LANS Liptovska Anna 78.66 354 *e*P **P** **05 01 46.4 +1.6**
LANS *e* 05 03 19.8
KOLS Kolonicke sedl 78.67 352 *e*P **P** **05 01 45.2 +0.4**
KOLS *e*S **S** **05 11 39.1 -0.6**
KOLS Kolonicke sedl 78.67 352 *e*P **P** **05 01 45.1 +0.3**
KOLS *e*S **S** **05 11 39.1 -0.6**
TREC Trest 78.72 357 ⇑*i*P **P** **05 01 45.8 +0.8**
TREC MLR MLR
comp=Z,81μm,20.5s
TREC Trest 78.72 357 ⇑*i*P **P** **05 01 45.8 +0.8**
TREC AMS AMS 05 37 40.0
comp=Z,81μm,20.5s
CRVS Cervenica-Dubn 78.77 353 *e*P **P** **05 01 45.9 +0.6**
CRVS pmax pmax
comp=Z,443nm,1.1s
CRVS Cervenica-Dubn 78.77 353 *e*P **P** **05 01 45.9 +0.6**
CRVS *e*PP **PP** **05 04 43.5 +0.7**
CRVS *e*S **S** **05 11 38.9 -1.9**
CRVS *e*SS **SS** **05 16 35.4 -8.5**
CRVS *e*L L 05 39 08.2
SORM Soroca 78.81 348 ⇑P **P** **05 01 44.7 -0.8**
SORM Soroca 78.81 348 ⇑P **P** **05 01 44.7 -0.8**
DDI Dehra Dun 78.83 305 *e*P **P** **05 01 45.8 -0.2**
DDI IAmb IAmb 05 01 49.2
comp=Z,638nm,1.6s
KRUC Moravsky 78.91 356 ⇑*i*P **P** **05 01 46.4 +0.3**
KRUC *e*S **S** **05 11 42.7 +0.4**
KRUC *e*SS **SS** **05 16 50.1 +4.0**
KHC Kasperske Hory 78.94 358 ⇑*i*P **P** **05 01 47.7 +1.4**
KHC *e*S **S** **05 11 45.0 +2.4**
KHC MLR MLR
comp=Z,76μm,20.2s
KHC Kasperske Hory 78.94 358 ⇑*i*P **P** **05 01 47.7 +1.4**
KHC *e*PP PP 05 04 34.2 -10
KHC *e*S **S** **05 11 45.0 +2.4**
KHC *e*x x 05 12 15.0
KHC AMS AMS 05 37 50.0
comp=Z,76μm,20.2s
KHC Kasperske Hory 78.94 358 IAmb IAmb 05 01 55.5
comp=Z,658nm,1.3s
WET Wettzell 78.94 358 *e*P **P** **05 01 47.3 +1.0**
comp=Z,240nm,1.2s,baz=0.5,slow=5.7
WET *e*pP **PcP** **05 01 50.1 -4.7**
baz=0.5,slow=5.7
UZH Uzhgorod 78.97 352 ⇓*i*P **P** **05 01 44.4 -2.0**
UZH *i* 05 01 49.9
UZH *i* 05 01 55.4
UZH *i* S **S** **05 11 36.4 -6.4**
UZH *i* 05 12 19.6
UZH *i* 05 12 31.9
UZH MLR MLR
comp=N,22μm,18.0s
UZH MLR MLR
comp=E,17μm,18.0s
UZH MLR MLR
comp=Z,11μm,18.0s
CAO2 Cobano, Puntar 79.00 88 IAmb IAmb 05 02 18.4
comp=Z,717nm,2.0s
JAVC Velka Javorina 79.06 355 ⇑*i*P **P** **05 01 48.3 +1.3**
JAVC *e*S **S** **05 11 46.7 +2.7**
JAVC *e*SS **SS** **05 16 51.2 +2.8**
GOF Gofitskoye 79.07 337 ⇑*i*P **P** **05 01 47.9 +0.9**
GOF *e*S **S** **05 11 47.0 +2.9**
GOF pmax pmax
comp=Z,2μm,0.9s
GOF smax smax
comp=E,581nm,1.6s
ROSF Rostrenen 79.08 9 *e*P **P** **05 01 47.0 0.0**
GEC2 GERESS Array S 79.22 358 *e*P **P** **05 01 48.5 +0.6**
comp=E,239nm,1.1s,baz=0.5,slow=5.7
GEC2 *e*pP **PcP** **05 01 51.4 -4.7**
baz=0.5,slow=5.7
GERES GERESS Array B 79.22 358 P **P** **05 01 48.4 +0.5**
comp=E,71nm,0.8s,baz=20,slow=4.4,SNR=191
GERES PKPPKP 05 28 47.1
comp=E,0.3nm,0.2s,baz=192,slow=2.5,SNR=4.0
GERES GERESS Array B 79.22 358 P **P** **05 01 48.1 +0.2**
CKRC Cesky Krumlov 79.23 357 ⇑*i*P **P** **05 01 48.7 +0.8**
CKRC AMS AMS 05 43 10.0
comp=E,70μm,18.7s
KECS Kecovo 79.25 353 *e*P **P** **05 01 49.0 +1.0**
KECS pmax pmax
comp=Z,163nm,1.0s
KECS Kecovo 79.25 353 *e*P **P** **05 01 49.0 +1.0**
KECS *e* 05 03 21.6
STU Stuttgart 79.32 1 IAmb IAmb 05 01 53.7
comp=Z,274nm,1.0s
STU IAMs_20 IAMs_20 05 37 58.1
comp=Z,60μm,21.0s
STU Stuttgart 79.32 1 *e*P **P** **05 01 49.0 +0.6**
comp=Z,300nm,1.0s,baz=0.5,slow=5.7
STU *e*pP **PcP** **05 01 51.8 -4.7**
baz=0.5,slow=5.7
VYHS Vyhne 79.35 354 *e*P **P** **05 01 49.4 +0.9**
VYHS *e*S **S** **05 11 47.9 +0.8**
VYHS pmax pmax
comp=Z,552nm,1.2s
VYHS MLR MLR
comp=Z,96μm,20.8s
VYHS Vyhne 79.35 354 *e*P **P** **05 01 49.4 +0.9**
VYHS *e* 05 03 22.1
VYHS *e*PP PP 05 04 33.2 -15
VYHS *e*S **S** **05 11 47.9 +0.8**
VYHS *e*L L 05 39 33.5
SMOL Smolenice 79.41 355 *e*P **P** **05 01 50.3 +1.4**
SMOL pmax pmax
comp=Z,367nm,1.3s
SMOL Smolenice 79.41 355 *e*P **P** **05 01 50.2 +1.4**
SMOL *e* 05 03 23.0
TRPA Tarpa 79.44 352 ⇑P **P** **05 01 49.7 +0.8**
TRPA Tarpa 79.44 352 *e*P **P** **05 01 49.8 +0.8**
MODS Modra-Piesok 79.56 355 *e*P **P** **05 01 52.0 +2.3**
MODS *e*S **S** **05 11 49.8 +0.5**
MODS *e*SS **SS** **05 17 02.2 +6.3**
MODS pmax pmax
comp=Z,781nm,1.2s
MODS MLR MLR
comp=Z,123μm,20.3s
MODS Modra-Piesok 79.56 355 *e*P **P** **05 01 52.0 +2.3**
MODS *e* 05 03 26.4
MODS *e*PP PP 05 04 37.9 -12
MODS *e*S **S** **05 11 49.8 +0.5**
MODS *e*SS **SS** **05 17 02.2 +6.3**
MODS *e*L L 05 38 56.8
KBL Kabul 79.58 314 P **P** **05 01 49.3 -1.0**
KBL pmax pmax
comp=Z,506nm,0.9s
KBL Kabul 79.58 314 P **P** **05 01 49.3 -1.0**
KBL IAmb IAmb 05 01 53.2
comp=Z,506nm,0.9s
KBL Kabul 79.58 314 P **P** **05 01 49.6 -0.7**
SNR=256
KBL P **P** **05 01 49.6 -0.7**
SNR=256
KHLT Khaolaem Dam 79.58 281 P **P** **05 01 51.9 +1.7**
comp=Z,3μcomp=Z,237nm,1.4s
PATY Pattaya 79.66 278 P **P** **05 01 52.1 +1.5**
comp=Z,6μcomp=Z,709nm,1.0s
BURAR Bucovina Array 79.69 350 ⇑P **P** **05 01 50.5 0.0**
BURAR Bucovina Array 79.69 350 ⇑P **P** **05 01 50.5 0.0**
BURAR Bucovina Array 79.69 350 P **P** **05 01 50.3 -0.2**
LGNH Logne 79.71 73 IAmb IAmb 05 02 08.1
comp=Z,545nm,1.4s
ZST Bratislava 79.75 355 *e*P **P** **05 01 52.3 +1.7**
ZST *e*S **S** **05 11 51.0 -0.1**
ZST Bratislava 79.75 355 *e*P **P** **05 01 52.3 +1.7**
ZST *e* 05 03 26.6
ZST *e*S **S** **05 11 51.0 -0.1**
BFO Black Forest 79.75 1 P **P** **05 01 51.0 +0.2**
BFO pmax pmax
comp=Z,507nm,1.4s
BFO MLR MLR
comp=Z,57μm,20.0s
BFO Black Forest 79.75 1 P **P** **05 01 51.0 +0.2**
BFO IAmb IAmb 05 01 59.5
comp=Z,507nm,1.4s
BFO IAMs_20 IAMs_20 05 37 33.5
comp=Z,57μm,20.0s
BFO Black Forest 79.75 1 *e*P **P** **05 01 51.4 +0.7**
comp=Z,333nm,1.2s,baz=0.5,slow=5.7
BFO *e*pP **PcP** **05 01 54.3 -4.1**
baz=0.5,slow=5.7
BMR Baia Mare 79.81 351 ⇑P **P** **05 01 51.4 +0.4**
BMR Baia Mare 79.81 351 ⇑P **P** **05 01 51.4 +0.4**
CLF Chambon-Foret 79.83 6 IAMs_20 IAMs_20 05 43 00.5
comp=Z,62μm,19.0s
IAS Iasi 79.83 348 ⇑P **P** **05 01 51.5 +0.4**
IAS Iasi 79.83 348 ⇑P **P** **05 01 51.5 +0.4**
ECH Echery 79.85 2 IAmb IAmb 05 01 56.5
comp=Z,418nm,1.1s
ECH IAMs_20 IAMs_20 05 41 38.9
comp=Z,46μm,19.0s
PSZ Piszkesteto 79.86 354 ⇑P **P** **05 01 52.5 +1.2**
PSZ Piszkesteto 79.86 354 *e*P **P** **05 01 52.1 +0.8**
PSZ Piszkesteto 79.86 354 ⇑P **P** **05 01 52.5 +1.2**
PSZ Piszkesteto 79.86 354 IAmb IAmb 05 02 00.5
comp=Z,682nm,1.3s
KIS Kishinev 79.86 347 ⇑*i*P **P** **05 01 49.7 -1.6**
comp=Z,7μm,18.4s
KIS Kishinev 79.86 347 *e*PP PP 05 04 48.0 -4.0
comp=Z,4μm,18.6s
KIS Kishinev 79.86 347 ⇑P **P** **05 01 50.9 -0.3**
KIS Kishinev 79.86 347 *c*i*P **P** **05 01 49.7 -1.6**
KIS *e* 05 04 48.0
KIS *e*PPP PPP 05 06 46.0
KIS *e*S **S** **05 11 45.0 -7.4**
KIS *e* 05 11 59.0
KIS *i* 05 12 07.0
KIS *e*PS 05 12 43.0
KIS *e*SS **SS** **05 16 58.0 -2.4**
KIS pmax pmax
comp=N,3μm,17.0s
MAK Makhachkala 79.88 333 *d*i*P **P** **05 01 52.3 +0.9**
MAK *e* 05 04 49.6
MAK *e*PPP PPP 05 06 39.6
MAK *e*S **S** **05 11 53.4 +0.7**
MAK *e*SS **SS** **05 17 05.5 +4.6**
MAK pmax pmax
comp=Z,1μm,1.0s
MAK pmax pmax
comp=Z,9μm,5.6s
MAK smax smax
comp=N,8μm,7.7s
MAK smax smax
comp=E,6μm,9.6s
MAK MLR MLR
comp=N,212μm,21.0s
FUR Furstenfeldbru 79.93 359 *e*P **P** **05 01 52.7 +1.0**
comp=N,487nm,1.2s,baz=0.5,slow=5.7
FUR *e*pP **PcP** **05 01 55.5 -3.7**
baz=0.5,slow=5.7
PYA1 Pyatigorsk 80.00 337 *i* P **P** **05 01 52.5 +0.4**
PYA1 pmax pmax
comp=Z,25nm,0.8s
CONA Conrad Observa 80.07 356 *i* P **P** **05 01 53.5 +1.0**
comp=Z,214nm,1.1s,SNR=209
CONA *e*S **SKSac** **05 12 02.4 -5.4**
comp=Z,9.7nm,1.7s
SRO2 Moca 80.11 355 *e*P **P** **05 01 55.4 +2.8**
SRO2 pmax pmax
comp=Z,318nm,0.9s
SRO2 Moca 80.11 355 *e*P **P** **05 01 55.4 +2.8**
SDDR Presa de Saban 80.11 72 IAMs_20 IAMs_20 05 42 40.1
comp=Z,55μm,18.0s
SDDR Presa de Saban 80.11 72 *e*P **P** **05 01 50.7 -2.5**
GROC Groznyy 80.12 335 *e*P **P** **05 01 52.2 -0.5**
GROC *e* 05 04 52.5
GROC *e*S **S** **05 11 55.5 +0.3**
GROC pmax pmax
comp=Z,351nm,0.9s
KIV Kislovodsk 80.19 337 ⇑P **P** **05 01 54.1 +0.8**
KIV Kislovodsk 80.19 337 *i* P **P** **05 01 53.9 +0.7**
SNR=138
KIV Kislovodsk 80.19 337 *e*P **P** **05 01 53.6 +0.3**
KIV *e* 05 04 54.1
KIV *e*PPP PPP 05 06 45.7
KIV *e*S **S** **05 11 58.1 +1.9**
KIV *e*SS **SS** **05 17 11.8 +6.0**
KIV pmax pmax
comp=Z,763nm,3.3s
KIV pmax pmax
comp=Z,618nm,1.1s
KIV Kislovodsk 80.19 337 P **P** **05 01 53.9 +0.7**
KIV IAmb IAmb 05 01 57.6
comp=Z,469nm,0.9s
KIV Kislovodsk 80.19 337 IAMs_20 IAMs_20 05 43 12.8
comp=Z,66μm,19.0s
KIV Kislovodsk 80.19 337 P **P** **05 01 54.0 +0.8**
KIV P **P** **05 01 54.0 +0.8**
MOA Molln 80.20 357 *i* P **P** **05 01 53.9 +0.8**
comp=Z,214nm,1.6s,SNR=54
LTVH Ltavrtes, Hu 80.24 352 ⇑P **P** **05 01 54.4 +1.2**
ARCR ARCALIA 80.30 350 ⇑P **P** **05 01 54.6 +0.9**
KBZ Khabaz 80.36 337 P **P** **05 01 54.8 +0.8**
comp=Z,282nm,0.9s,baz=81,slow=1.1,SNR=226
KBZ S **S** **05 11 58.0 +0.3**
comp=Z,3.3nm,0.9s,baz=255,slow=18,SNR=1.7
KBZ Khabaz 80.36 337 *c*e*P **P** **05 01 54.7 +0.7**
KBZ pmax pmax
comp=Z,324nm,0.9s
MESR Meseseni 80.38 351 ⇑P **P** **05 01 54.7 +0.7**
NCK Nalchik 80.41 336 *c*i*P **P** **05 01 55.2 +0.9**
NCK pmax pmax
comp=Z,745nm,0.9s
SHA1 Shidzhatmaz 80.41 337 *c*i*P **P** **05 01 54.8 +0.2**
PHET Kaeng Krachan 80.42 279 P **P** **05 01 55.8 +1.0**
comp=Z,5μcomp=Z,680nm,1.0s
UBR Ueberruh 80.42 0 *e*P **P** **05 01 55.4 +1.0**
comp=Z,443nm,1.3s,baz=0.5,slow=5.7
UBR *e*pP **PcP** **05 01 58.2 -3.2**
baz=0.5,slow=5.7
BSZH Besenyszg 80.45 353 ⇑P **P** **05 01 55.9 +1.4**
BTLR Botlikh 80.50 334 *c*i*P **P** **05 01 54.4 -0.5**
ANN Anapa 80.55 341 *c*i*P **P** **05 01 54.5 -0.5**
ANN *e* 05 04 56.3
ANN *e*S **S** **05 11 59.2 -0.5**
ANN *e*SS **SS** **05 17 10.3 -0.4**
ANN pmax pmax
comp=Z,385nm,0.8s
ANN pmax pmax
comp=E,96nm,0.8s
ANN pmax pmax
comp=N,72nm,0.6s
ANN pmax pmax
comp=Z,9μm,6.7s
ANN pmax pmax
comp=E,286nm,0.9s
ANN pmax pmax
comp=N,471nm,1.1s
ANN smax smax
comp=E,14μm,16.1s
ANN MLR MLR
comp=E,53μm,21.0s
ANN MLR MLR
comp=Z,98μm,23.0s
RETA Reutte 80.61 360 *i* P **P** **05 01 56.3 +0.9**
comp=Z,240nm,1.2s,SNR=66
RETA *e*S **SKSac** **05 12 09.4 -2.1**
comp=Z,13nm,1.2s
TESR Tescani 80.62 349 ⇑P **P** **05 01 55.1 -0.2**
CJR Cluj-Napoca 80.75 351 ⇑P **P** **05 01 56.4 +0.3**
CJR Cluj-Napoca 80.75 351 ⇑P **P** **05 01 56.4 +0.3**
DRGR 80.75 352 ⇑P **P** **05 01 56.1 -0.1**
DRGR 80.75 352 ⇑P **P** **05 01 56.1 -0.1**
MOTA Moosalm 80.76 360 *i* P **P** **05 01 57.1 +0.8**
comp=Z,529nm,1.2s,SNR=122
MOTA *e*S **SKSac** **05 12 13.6 +0.9**
comp=Z,12nm,1.7s
ARSA Arzberg 80.76 357 *i* P **P** **05 01 57.4 +1.2**
comp=Z,361nm,1.4s,SNR=124
ARSA *e*S **SKSac** **05 12 11.7 -0.7**
comp=Z,6.9nm,1.1s
WATA Walderalm 80.76 359 *i* P **P** **05 01 57.3 +0.9**
comp=Z,501nm,1.2s,SNR=108
WATA *e*S **SKSac** **05 12 15.4 +2.7**
comp=Z,12nm,1.1s
DAVA Damuels 80.81 0 *i* P **P** **05 01 57.3 +0.7**
comp=Z,420nm,1.6s,SNR=50
DAVA *e*S **SKSac** **05 12 13.3 +0.2**
comp=Z,14nm,1.3s
WTTA Wattenberg 80.83 359 *i* P **P** **05 01 57.9 +1.1**
comp=Z,398nm,1.1s,SNR=118
WTTA *e*S **SKSac** **05 12 13.2 -0.1**
comp=Z,12nm,1.9s
NEY Neytrino 80.85 337 *c*i*P **P** **05 01 57.7 +0.8**
SBUM Sibu 80.88 262 P **P** **05 01 57.0 -0.2**
SQTA Sankt Quirin 80.88 359 *i* P **P** **05 01 58.0 +1.1**
comp=Z,528nm,1.0s,SNR=105
GHRR 80.97 348 ⇑P **P** **05 01 58.0 +0.8**
KBA Koelnbreinsper 80.99 358 *i* P **P** **05 01 58.9 +1.3**
comp=Z,660nm,0.8s,SNR=252
KBA *e*S **SKSac** **05 12 12.5 -1.9**
comp=Z,20nm,1.6s
ZEI Tsey 80.99 336 *e*P **P** **05 01 55.0 -2.7**
ZEI pmax pmax
comp=Z,190nm,0.7s
BKB Balikpapan 81.00 256 IAmb IAmb 05 02 09.9
comp=Z,346nm,0.9s
SIM Simferopol' 81.03 343 *c*i*P **P** **05 01 57.3 -0.3**
SIM *e*S **S** **05 12 04.0 -0.8**
SIM pmax pmax
comp=Z,470nm,1.1s
GEYT Alibeck 81.05 324 P **P** **05 01 58.3 +0.4**
comp=Z,166nm,0.7s,baz=318,slow=4.0,SNR=99
GEYT S **S** **05 12 03.5 -1.7**
comp=Z,1.3nm,0.4s,baz=5.6,slow=35,SNR=1.6
GEYT Alibeck 81.05 324 P **P** **05 01 55.1 -2.8**
GYA0B ALIBECK ARRAY 81.05 324 IAmb IAmb 05 02 06.1
comp=Z,319nm,0.9s
VARL Varlezi 81.07 348 ⇑P **P** **05 02 00.9 +3.1**
FETA Feichten 81.08 360 *i* P **P** **05 01 59.2 +1.1**
comp=Z,398nm,1.1s,SNR=178
MFF Saint Martin d 81.08 7 *e*P **P** **05 01 57.7 -0.1**
MFF pmax pmax
comp=Z,1μm,1.3s
VLDR Vladesti 81.09 348 ⇑P **P** **05 01 58.5 +0.6**
BANI BANI 81.12 72 P **P** **05 02 01.4 +2.7**
OZUR 81.13 349 ⇑P **P** **05 01 58.9 +0.7**
GUDG Gudauri 81.15 335 P **P** **05 02 00.2 +1.6**
AKT Akhty 81.19 333 ⇑*i*P **P** **05 01 59.0 +0.3**
AKT *e*PCP **PcP** **05 02 03.7 -1.2**
AKT *e*S **S** **05 12 08.5 +1.7**
AKT pmax pmax
comp=Z,742nm,0.8s
SOC Sochi 81.23 339 *i* P **P** **05 01 59.0 +0.3**
SOC *e* 05 04 59.9
SOC *e*PPP PPP 05 06 51.4
SOC *i* S **S** **05 12 06.2 -0.7**
SOC *e*SS **SS** **05 17 23.0 +2.0**
SOC pmax pmax
comp=Z,376nm,1.1s
SOC pmax pmax
comp=Z,2μm,3.0s
SOC MLR MLR
comp=Z,152μm,19.0s
VRI Vrincioaia 81.24 349 ⇑P **P** **05 01 59.1 +0.4**
VRI Vrincioaia 81.24 349 ⇑P **P** **05 01 59.1 +0.4**
CDITO Canoas 81.24 87 IAmb IAmb 05 02 19.1
comp=Z,827nm,1.6s
PLOR Plostina 81.27 349 ⇑P **P** **05 01 59.2 +0.4**
PLOR Plostina 81.27 349 ⇑P **P** **05 01 59.3 +0.4**
LGD Lagodekhi 81.27 334 P **P** **05 01 59.0 0.0**
DOPR Dopca 81.30 350 ⇑P **P** **05 01 60.0 +0.9**
ODBI Odobesti 81.30 348 ⇑P **P** **05 02 01.0 +1.9**
PETR Petresti 81.32 348 ⇑P **P** **05 02 00.0 +0.9**
ABTA Abfaltersbach 81.34 359 *i* P **P** **05 01 59.9 +0.6**
comp=Z,556nm,1.2s,SNR=232
SOKA Soboth 81.35 357 *i* P **P** **05 02 00.1 +0.8**
comp=Z,693nm,1.1s,SNR=342
ZKTA Zakatala 81.35 333 P **P** **05 01 59.9 +0.5**
AMBH Ambrzfalva 81.36 353 ⇓P **P** **05 02 00.2 +0.9**
SIRR Siria 81.37 352 ⇑P **P** **05 01 59.8 +0.4**
SLCR Slobozia Conac 81.38 348 ⇑P **P** **05 01 59.9 +0.4**
PERS Pernice 81.39 357 *e*P **P** **05 02 00.1 +0.6**
TUDR 81.39 348 ⇑P **P** **05 02 00.4 +0.9**
IZVR Izvoarele 81.43 348 ⇑P **P** **05 02 00.0 +0.4**
MYKA Terra Mystica 81.44 358 *i* P **P** **05 02 00.2 +0.4**
comp=Z,277nm,1.6s,SNR=80
SCHL Schela 81.46 348 ⇑P **P** **05 02 01.4 +1.5**
CHVG Ch'k'valeri 81.51 337 ⇑P **P** **05 02 01.0 +0.8**
CHVG Ch'k'valeri 81.51 337 ⇑P **P** **05 02 01.0 +0.8**
ZOU Zoufplan 81.52 358 IAmb IAmb 05 02 06.4
comp=Z,355nm,1.2s
OBKA Obir 81.53 357 *i* P **P** **05 02 00.7 +0.3**
comp=Z,265nm,0.9s,SNR=62
H07N1 FLORES T-PHASE 81.53 31 *e*P **P** **05 02 01.2 +0.8**
SEKA Sheki 81.59 333 P **P** **05 02 00.5 -0.2**
DEV Deva 81.64 351 ⇑P **P** **05 02 00.9 +0.1**
DEV Deva 81.64 351 ⇑P **P** **05 02 00.9 +0.1**
MORH Mrgy, Hungar 81.64 354 ⇑P **P** **05 02 00.8 0.0**
MORH Mrgy, Hungar 81.64 354 ⇑*i*P **P** **05 02 00.6 -0.2**
CTA Charters Tower 81.69 221 S **S** **05 12 08.4 -3.5**
comp=Z,0.9nm,0.3s,baz=330,slow=14,SNR=1.4
CTAO Charters Tower 81.69 221 P **P** **05 02 00.4 -0.9**
CTAO pmax pmax
comp=Z,142nm,1.0s
CTAO Charters Tower 81.69 221 P **P** **05 02 00.4 -0.9**
SENIN Lac Senin/Sane 81.70 2 IAMs_20 IAMs_20 05 44 04.0
comp=Z,53μm,20.0s
MLR Muntele Rosu 81.70 349 ⇑P **P** **05 02 01.2 -0.2**
MLR Muntele Rosu 81.70 349 ⇑P **P** **05 02 01.2 -0.2**
NEHR Nehoiu 81.73 349 ⇑P **P** **05 02 02.5 +1.2**
CFR Carcaliu 81.74 347 ⇑P **P** **05 02 01.4 +0.1**
CFR Carcaliu 81.74 347 ⇑P **P** **05 02 01.4 +0.1**
H07S1 FLORES T-PHASE 81.79 31 *e*P **P** **05 02 02.7 +0.9**
H07S1 FLORES T-PHASE 81.79 31 *e*S **S** **05 12 16.1 +3.2**
STAL STALIGIAL 81.82 358 IAmb IAmb 05 02 09.9
comp=Z,349nm,1.2s
VOIR 81.86 350 ⇑P **P** **05 02 02.4 +0.3**
VOIR 81.86 350 ⇑P **P** **05 02 02.4 +0.3**
LOT Lotru 81.98 351 ⇑P **P** **05 02 02.1 -0.7**
LJU Ljubljana 82.00 357 ⇑*i*P **P** **05 02 02.7 0.0**
LJU Ljubljana 82.00 357 ⇑*e*P **P** **05 02 02.8 0.0**
LJU *e* 05 02 18.9
LJU *e* 05 05 22.9
LJU *e*S **S** **05 12 13.7 -1.1**
LJU *e* 05 23 57.8
ISR Istrita 82.00 349 ⇑P **P** **05 02 02.7 -0.1**
ISR Istrita 82.00 349 ⇑P **P** **05 02 02.7 -0.1**
BZS Buzias 82.02 352 ⇑P **P** **05 02 02.8 0.0**
BZS Buzias 82.02 352 ⇑P **P** **05 02 02.8 0.0**
TPGR Topolog 82.02 347 ⇑P **P** **05 02 03.2 +0.4**
MNGR Mingechevir, A 82.03 333 P **P** **05 02 03.9 +1.0**
CTI Castel Tesino 82.05 359 IAmb IAmb 05 02 08.1
comp=Z,321nm,1.1s
MTUR Matau 82.07 350 ⇑P **P** **05 02 04.2 +1.0**
MTUR Matau 82.07 350 ⇑P **P** **05 02 04.2 +1.0**
GZR Gura Zlata 82.13 351 ⇑P **P** **05 02 03.7 +0.2**
GZR Gura Zlata 82.13 351 ⇑P **P** **05 02 03.7 +0.2**
PCDR Punta Cana, DR 82.17 70 IAmb IAmb 05 02 24.3
comp=Z,954nm,1.4s
KZRT Kazreti 82.18 335 P **P** **05 02 04.5 +0.7**
CRES Cresnjev 82.18 356 ⇑*i*P **P** **05 02 03.9 +0.2**
VISS Visnje 82.23 357 *e*P **P** **05 02 03.8 -0.1**
VISS *e* 05 02 20.2
VISS *e* 05 05 24.6
VISS *e*S **S** **05 12 16.4 -0.8**
VISS *e* 05 24 03.9
HARR Harsova 82.25 348 ⇑P **P** **05 02 03.9 -0.1**
HARR Harsova 82.25 348 ⇑P **P** **05 02 03.9 -0.1**
BANR Banloc 82.29 352 ⇑P **P** **05 02 04.9 +0.7**
CEY Cerknica 82.31 357 ⇑*i*P **P** **05 02 04.3 -0.1**
KAPI Kappang 82.32 252 S **S** **05 12 11.9 -6.9**
comp=Z,1.6nm,0.3s,baz=106,slow=18,SNR=0.9
KAPI Kappang 82.32 252 P **P** **05 02 04.7 0.0**

KAPI pmax pmax
comp=Z,375nm,1.4s
KAPI Kappang 82.32 252 P **P 05 02 04.7 0.0**
KAPI IAmb IAmb 05 02 22.8
comp=Z,375nm,1.4s
GANJ Ganja 82.36 333 P **P 05 02 05.0 +0.3**
AKH Akhalkalaki 82.39 336 ⇑P **P 05 02 06.2 +1.1**
AKH Akhalkalaki 82.39 336 P **P 05 02 05.9 +0.8**
TIRR Tirgusor 82.41 347 ⇑P **P 05 02 05.3 +0.4**
TIRR Tirgusor 82.41 347 ⇑P **P 05 02 05.3 +0.4**
STFAR Stefanesti-Arg 82.44 350 ⇑P **P 05 02 06.0 +0.9**
MTN Manton Dam 82.45 238 IAmb IAmb 05 02 29.9
comp=Z,300nm,1.1s
MTN IAMs_20 IAMs_20 05 36 46.8
comp=Z,34µm,20.0s
SULR 82.47 349 ⇑P **P 05 02 04.9 -0.2**
SALO Salr 82.48 360 IAmb IAmb 05 02 13.7
comp=Z,615nm,1.0s
SKDS Skadanscina 82.51 357⇑*i*P **P 05 02 05.3 -0.1**
BOJS Bojanci 82.51 357⇑*i*P **P 05 02 05.7 +0.3**
BOJS Bojanci 82.51 357⇑*e*P **P 05 02 05.7 +0.3**
BOJS *e*S **S 05 12 20.4 +0.4**
LPL La Plagne 82.53 3 *e*P **P 05 02 07.6 +1.8**
LPL pmax pmax
comp=Z,171nm,1.0s
HRA Herat 82.58 319 IAmb IAmb 05 02 14.0
comp=Z,343nm,1.1s
LEHL Lehliu 82.60 348 ⇑P **P 05 02 06.2 +0.4**
FRGS Fruska Gora 82.61 353 ⇑P **P 05 02 06.1 +0.1**
FRGS Fruska Gora 82.61 353⇑*i*P **P 05 02 06.0 +0.1**
BCIP Isla Barro Col 82.64 85 *e*P **P 05 02 02.9 -3.7**
BATM Batumi 82.65 337 ⇑P **P 05 02 02.3 -3.9**
BATM Batumi 82.65 337 ⇑P **P 05 02 02.3 -3.9**
HERR Herculane 82.67 351 ⇑P **P 05 02 06.1 -0.2**
MFTR Murfatlar 82.68 347 ⇑P **P 05 02 06.5 +0.2**
SSB Saint Sauveur 82.69 4 IAmb IAmb 05 02 15.5
comp=Z,513nm,1.2s
HUMR Humele 82.77 350 ⇑P **P 05 02 06.1 -0.7**
KSM Kuching 82.81 263 P **P 05 02 08.0 +0.6**
SRE Strehaia 82.82 351 ⇑P **P 05 02 07.4 +0.4**
SRE Strehaia 82.82 351 ⇑P **P 05 02 07.4 +0.4**
BCA Borcka 82.82 337 ⇑P **P 05 02 07.1 0.0**
BCA Borcka 82.82 337 *e*P **P 05 02 07.1 0.0**
MDVR Moldovita 82.84 352 ⇑P **P 05 02 07.1 -0.1**
PNME Penonome 82.87 85 *e*P **P 05 02 05.7 -2.0**
GMAL Guarumal, Vera 82.88 87 *e*P **P 05 02 07.2 -0.6**
CAF Calviac 82.91 6 *e*P **P 05 02 07.5 0.0**
CAF pmax pmax
comp=Z,524nm,1.2s
MRAK Mrakovica 82.93 355⇑*i*P **P 05 02 07.8 +0.1**
SGRR Singureni 82.95 349 ⇑P **P 05 02 07.2 -0.5**
UPA Univ. de Panam 82.97 84 *e*P **P 05 02 06.6 -1.6**
BNI Bardonecchia 83.00 3 P **P 05 02 10.2 +2.1**
BNI pmax pmax
comp=Z,516nm,1.0s
BNI MLR MLR
comp=Z,58µm,22.0s
BNI Bardonecchia 83.00 3 P **P 05 02 10.2 +2.1**
BNI IAmb IAmb 05 02 18.3
comp=Z,516nm,1.0s
BNI IAMs_20 IAMs_20 05 40 54.3
comp=Z,58µm,22.0s
MANR Mangalia 83.01 347 ⇑P **P 05 02 08.4 +0.4**
SRBC Serra Branca 83.08 29 *e*P **P 05 02 09.2 +0.7**
comp=Z,3µm,1.5s
PGRA Graciosa 83.11 29 *e*P **P 05 02 09.5 +0.9**
comp=Z,2µm,1.7s
PGRA Graciosa 83.11 29 *e*S **S 05 12 29.7 +3.4**
MPR Mayaguez 83.12 69 IAmb IAmb 05 02 30.6
comp=Z,394nm,1.5s
COPA Copaceanca 83.13 349 ⇓P **P 05 02 08.2 -0.4**
BLY Banja Luka 83.18 355⇑*i*P **P 05 02 08.9 0.0**
PUNG Punghina 83.22 351 ⇑P **P 05 02 09.0 -0.1**
KARS Kars 83.23 336 *e*P **P 05 02 10.9 +1.5**
TEKS Tekeris 83.24 353⇑*i*P **P 05 02 08.7 -0.5**
AOPR Arecibo Observ 83.24 69 *e*P **P 05 02 09.0 -0.6**
AOPR Arecibo Observ 83.24 69 IAmb IAmb 05 02 26.1
comp=Z,295nm,1.1s
GNI Garni 83.25 334 P **P 05 02 11.0 +1.4**
GNI Garni 83.25 334*c i*P **P 05 02 10.6 +1.1**
GNI pmax pmax
comp=Z,198nm,1.1s
GNI Garni 83.25 334 P **P 05 02 10.7 +1.1**
GNI IAmb IAmb 05 02 43.2
comp=Z,349nm,0.9s
GNI Garni 83.25 334 P **P 05 02 10.8 +1.3**
GNI P **P 05 02 10.8 +1.3**
PCED Cedros 83.26 30 *e*P **P 05 02 10.5 +1.1**
comp=Z,735nm,1.5s
EMPR Esperanza - Ma 83.26 69 IAmb IAmb 05 02 26.7
comp=Z,578nm,1.1s
CALA Caldeira 83.30 30 *e*P **P 05 02 10.5 +0.8**
comp=Z,1µm,1.4s
CALA Caldeira 83.30 30 *e*S **S 05 12 31.5 +3.1**
ROSA Rosais 83.31 30 *e*P **P 05 02 10.6 +0.9**
comp=Z,642nm,1.4s
ROSA Rosais 83.31 30 *e*S **S 05 12 31.6 +3.2**
ROSA Rosais 83.31 30 IAmb IAmb 05 02 19.1
comp=Z,773nm,1.5s
ROSA IAMs_20 IAMs_20 05 38 17.8
comp=Z,47µm,19.0s
CHOM Cayeli-Rize 83.36 337 *e*P **P 05 02 10.2 +0.3**
HOR Horta 83.37 30 *e*P **P 05 02 10.8 +0.8**
comp=Z,782nm,1.5s
CACAO El Cacao, Vera 83.44 87 *e*P P 05 02 04.8 -5.8
PMAN Manadas 83.44 29 *e*P **P 05 02 11.2 +0.9**
comp=Z,1µm,1.4s
LKRN Lenkeran, Azer 83.44 331 P **P 05 02 11.0 +0.7**
AZU Azuero 83.45 86 *e*P **P 05 02 06.0 -4.7**
PICO Pico 83.46 30 *e*P **P 05 02 11.6 +1.1**
comp=Z,1µm,1.5s
PICO Pico 83.46 30 *e*S **S 05 12 31.9 +1.9**
PCAN Candelaria 83.48 30 *e*P **P 05 02 11.6 +1.1**
comp=Z,695nm,1.4s
SENK Senkaya-Erzuru 83.48 336 *e*P **P 05 02 12.2 +1.4**
MGRS Mrkonjic Grad 83.52 355⇑*i*P **P 05 02 11.3 +0.6**
RAZG Razgrad 83.53 348 ⇑P **P 05 02 10.5 -0.2**
PPNO Prainha do Nor 83.54 30 *e*P **P 05 02 11.7 +0.8**
comp=Z,1µm,1.3s
TASB TASBURUN-IGDIR 83.54 335 *e*P **P 05 02 12.2 +1.3**
OBIP Obispado Ponce 83.56 69 IAmb IAmb 05 02 19.9
comp=Z,297nm,1.0s
ZIMR 83.58 349 ⇑P **P 05 02 11.6 +0.7**
ZIMR 83.58 349 ⇑P **P 05 02 11.6 +0.7**
PAGU Agualva, Azore 83.59 29 *e*P **P 05 02 11.9 +0.8**
comp=Z,422nm,1.6s
PAGU Agualva, Azore 83.59 29 *e*S **S 05 12 31.9 +0.8**
SOEI Soe 83.59 245 P **P 05 02 10.9 -0.6**
SOEI IAmb IAmb 05 02 51.6
comp=Z,384nm,1.0s
PID Ribeirinha 83.61 30 *e*P **P 05 02 12.1 +0.9**
comp=Z,1µm,1.4s
GCPR Guaynabo City 83.65 68 IAmb IAmb 05 02 20.6
comp=Z,330nm,0.9s
DIVS Divibare 83.65 353⇑*i*P **P 05 02 11.3 -0.1**
DIVS Divibare 83.65 353 IAmb IAmb 05 02 19.4
comp=Z,261nm,1.1s
SNOP Sinop 83.66 342 *e*P **P 05 02 12.1 +0.7**
SNOP Sinop 83.66 342 IAmb IAmb 05 02 19.8
comp=Z,511nm,1.2s
PSCM Serra do Cume 83.67 29 *e*P **P 05 02 12.4 +0.9**
comp=Z,425nm,1.4s
ADH Angra Heroismo 83.68 29 *e*P **P 05 02 12.3 +0.8**
comp=Z,1µm,1.6s
KTUT Trabzon 83.69 338 ⇑P **P 05 02 12.4 +0.8**
KTUT Trabzon 83.69 338 *e*P **P 05 02 12.3 +0.8**
SJG San Juan 83.77 69 P **P 05 02 12.4 +0.1**
SJG San Juan 83.77 69 P **P 05 02 12.4 +0.1**
SJG IAmb IAmb 05 02 32.0
comp=Z,536nm,1.6s
SJG San Juan 83.77 69 IAMs_20 IAMs_20 05 41 28.8
comp=Z,56µm,21.0s
SJG San Juan 83.77 69 *e*P **P 05 02 09.7 -2.5**
MSSA Maissana 83.78 1 IAmb IAmb 05 02 17.1
comp=Z,252nm,1.0s
MMRI Maumere 83.82 247 IAmb IAmb 05 02 37.0
comp=Z,905nm,1.9s
HUMP Col San Antoni 83.92 68 IAmb IAmb 05 02 32.0
comp=Z,656nm,1.6s
PDPR Patillas Dam, 83.92 69 IAmb IAmb 05 02 31.8
comp=Z,477nm,1.6s
BBLS Lazići 83.93 354⇑*i*P **P 05 02 13.4 +0.6**
BZK Bozkurt 83.95 343 ⇑P **P 05 02 13.9 +1.0**
BZK Bozkurt 83.95 343 *e*P **P 05 02 13.8 +1.0**

PAYG Puerto Ayora 83.95 99 IAMs_20 IAMs_20 05 30 12.2
comp=Z,40µm,22.0s
NAX Nakhchivan 83.96 333 P **P 05 02 13.9 +0.8**
BOVS Bovan 83.97 352 ⇑P **P 05 02 12.5 -0.5**
ESPY Espiye-Giresun 83.99 339 *e*P **P 05 02 13.2 0.0**
SURT Suratani 84.01 277 P **P 05 02 15.9 +2.3**
DIKM Dikmen 84.01 342 ⇑P **P 05 02 15.1 +1.9**
DIKM Dikmen 84.01 342 *e*P **P 05 02 15.1 +1.9**
MTP Monte Pirata 84.12 68 P **P 05 02 14.5 +0.4**
MTP IAmb IAmb 05 02 35.9
comp=Z,682nm,1.4s
KOPR Koprukoy-ERZUR 84.14 336 *e*P **P 05 02 15.4 +1.3**
BAYT Aydintepe-Bayb 84.17 338 *e*P **P 05 02 15.7 +1.4**
RUDO Rudo 84.17 354⇑*i*P **P 05 02 13.7 -0.3**
UPD2 Meteti 84.24 84 *e*P **P 05 02 13.0 -1.7**
AGRB Hanur-Agry 84.25 335 *e*P **P 05 02 15.9 +1.2**
DGPR DIGLIPUR 84.25 284 *e*P **P 05 02 14.8 +0.1**
DGPR IAmb IAmb 05 02 18.1
comp=Z,484nm,1.1s
KURC Kurucasile-Bar 84.29 343 *e*P **P 05 02 13.9 -0.7**
SKLT Songkhla 84.29 274 P **P 05 02 16.0 +1.0**
comp=Z,15µmcomp=Z,326nm,0.9s
KVT Kavak 84.40 341 *e*P **P 05 02 17.1 +1.8**
CLDR Caldiran 84.41 334 *e*P **P 05 02 16.8 +1.2**
KOPT Kop Dagi 84.44 337 IAmb IAmb 05 02 21.1
comp=Z,353nm,0.9s
PLE Pljevlja 84.46 353 *e*P **P 05 02 16.1 +0.5**
SMRC Santa Marta, M 84.49 79 *e*P **P 05 02 14.2 -1.8**
UPM Unac-Piva 84.62 354 *e*P **P 05 02 15.7 -0.8**
UPM Unac-Piva 84.62 354 *e*P **P 05 02 15.6 -0.9**
EIDS Eidsvold 84.64 215 IAMs_20 IAMs_20 05 33 27.5
comp=Z,52µm,22.0s
PGAV Gavieira, Arco 84.74 14 *e*P **P 05 02 17.6 +0.6**
comp=Z,724nm,1.5s
PGAV *i* LQ LQ 05 02 34.0
PGAV Gavieira, Arco 84.74 14 *e*PP PP 05 05 33.3 +1.0
PGAV *e*S **S 05 12 45.5 +2.7**
PGAV *e*SS SS 05 18 26.6 +13
PGAV *e*LQ LQ 05 25 02.9
PGAV *e*LR LR 05 33 21.3
comp=Z,78µm,18.0s
MLAZ Malazgirt-MUS 84.77 335 *e*P **P 05 02 18.8 +1.5**
RSDY Resadiye-TOKAT 84.80 340 *e*P **P 05 02 18.8 +1.6**
VTS Vitosha 84.84 351 ⇑P **P 05 02 17.6 0.0**
VTS Vitosha 84.84 351 ⇑P **P 05 02 17.6 0.0**
CDVI St. Croix 84.85 68 IAmb IAmb 05 02 26.3
comp=Z,225nm,0.8s
IVA Berane 84.88 353 *e*P **P 05 02 17.7 0.0**
PSET Sete Cidades 84.89 28 *e*P **P 05 02 18.6 +0.8**
comp=Z,1µm,1.4s
PSET Sete Cidades 84.89 28 *e*S **S 05 12 46.0 +1.7**
SJCC San Jacinto, C 84.91 81 IAmb IAmb 05 02 31.2
comp=Z,454nm,1.7s
SJCC San Jacinto, C 84.91 81 *e*P **P 05 02 15.9 -2.3**
KOME Kolasin 84.93 353 *e*P **P 05 02 17.7 -0.2**
BHPL Bhopal 84.93 302 *e*P **P 05 02 17.6 -0.6**
BHPL IAmb IAmb 05 02 25.0
comp=Z,619nm,3.2s
BRY Bratogost 84.94 354⇑*i*P **P 05 02 17.6 -0.5**
BRY Bratogost 84.94 354 *e*P **P 05 02 17.7 -0.4**
PDA Ponta Delgada 84.98 28 *e*P **P 05 02 19.1 +1.0**
comp=Z,1µm,1.4s
PCALD Caldeiras da R 84.98 28 *e*P **P 05 02 19.1 +0.9**
comp=Z,695nm,1.7s
YEDI Yedisu-Bingol 84.98 337 *e*P **P 05 02 19.5 +1.1**
CMLA Cha da Macela 85.00 28 *e*P **P 05 02 19.1 +0.8**
comp=Z,922nm,1.6s
CMLA Cha da Macela 85.00 28 *e*S **S 05 12 48.6 +3.3**
CMLA Cha da Macela 85.00 28 P **P 05 02 19.7 +1.4**
CMLA pmax pmax
comp=Z,849nm,1.5s
CMLA MLR MLR
comp=Z,59µm,19.0s
CMLA Cha da Macela 85.00 28 P **P 05 02 19.7 +1.4**
CMLA Cha da Macela 85.00 28 IAMs_20 IAMs_20 05 40 07.3
comp=Z,59µm,19.0s
NKY Niksic 85.00 354 *e*P **P 05 02 18.1 -0.2**
STON Ston 85.02 355⇑*i*P **P 05 02 17.6 -0.7**
VRTB Varto-Mus 85.03 336 *e*P **P 05 02 21.0 +2.4**
PCAB Cabril 85.03 14 *e*P **P 05 02 18.4 0.0**
comp=Z,680nm,1.4s
PCAB *i* LQ LQ 05 02 35.5
TOKT Tokat 85.03 340 *e*P **P 05 02 19.9 +1.4**
ERZN Erzincan 85.04 338 *e*P **P 05 02 20.1 +1.5**
NKME Niksic 85.05 354 *e*P **P 05 02 18.1 -0.4**
VANB Van 85.07 335 *e*P **P 05 02 20.1 +1.3**
BART Pico Bartolome 85.09 28 *e*P **P 05 02 19.6 +0.8**
comp=Z,1µm,1.2s
BART Pico Bartolome 85.09 28 *e*S **S 05 12 48.3 +1.9**
PBRG Braganca 85.12 13 *e*P **P 05 02 19.0 +0.1**
comp=Z,717nm,1.4s
PBRG *i* LQ LQ 05 02 35.5
PKDT Phuket 85.12 277 P **P 05 02 20.6 +1.4**
comp=Z,55µmcomp=Z,13µmcomp=Z,239nm,1.1s
TREB Trebinje 85.14 354 *e*P **P 05 02 18.1 -0.8**
PVY Plav 85.15 353 *e*P **P 05 02 18.8 -0.3**
EDRB Edirne 85.20 348 *e*P **P 05 02 18.8 -0.4**
EDRB Edirne 85.20 348 *e*P **P 05 02 19.6 +0.4**
CEME Cevo 85.27 354 *e*P **P 05 02 19.2 -0.4**
PHSR Pinarhisar 85.31 347 *e*P **P 05 02 20.5 +0.8**
SVSK Karacayir 85.33 340 *e*P **P 05 02 21.5 +1.7**
CANT Cankiri 85.33 343 *e*P **P 05 02 21.7 +1.7**
CTYL Yalikoy Yolu 85.35 347 *e*P **P 05 02 20.6 +0.7**
PDG Podgorica 85.36 353 ⇑P **P 05 02 19.8 -0.1**
PDG Podgorica 85.36 353⇑*i*P **P 05 02 19.4 -0.6**
TTG Podgorica 85.36 353 *e*P **P 05 02 19.9 -0.1**
BNGB Bingl 85.38 337 *e*P **P 05 02 21.4 +1.1**
POLO Lamas de Olo 85.39 14 *e*P **P 05 02 20.6 +0.3**
comp=Z,318nm,1.4s
POLO *i* LQ LQ 05 02 37.1
HCY Herceg Novi 85.40 354 *e*P **P 05 02 19.6 -0.6**
HCY Herceg Novi 85.40 354 *e*P **P 05 02 19.5 -0.6**
URIC Uribia, Colomb 85.41 77 P **P 05 02 21.7 +1.1**
URIC Uribia, Colomb 85.41 77 *e*P **P 05 02 19.2 -1.4**
AKDM Akdamar-Van 85.42 335 *e*P **P 05 02 21.5 +0.9**
ILIC ilic-Erzincan 85.43 339 *e*P **P 05 02 21.8 +1.2**
GURO Guroymak-BITLI 85.46 336 *e*P **P 05 02 21.9 +1.2**
PTAC Punta Ardita, 85.46 84 *e*P **P 05 02 17.5 -3.3**
KLYT Kilyos 85.46 346 *e*P **P 05 02 21.2 +0.7**
SILT Sile 85.47 346 *e*P **P 05 02 21.2 +0.7**
MOTC Monteria, Cord 85.49 82 *e*P **P 05 02 19.2 -1.8**
PVRL Vila Real 85.50 14 *e*P **P 05 02 21.1 +0.3**
comp=Z,794nm,1.4s
PVRL *i* LQ LQ 05 02 38.1
ARGC Ariguani, Magd 85.50 80 *e*P **P 05 02 18.4 -2.7**
BUM Brajici-Budva 85.52 354 *e*P **P 05 02 20.4 -0.5**
CORM Corum 85.55 342 *e*P **P 05 02 22.4 +1.2**
PBA Port Blair 85.56 283 P P 05 02 20.9 -0.4
CTKS Kestanelik-??a 85.56 346 *e*P **P 05 02 21.4 +0.4**
SMRT St. Maarten 85.56 66 *e*P **P 05 02 20.7 -0.7**
SMRT St. Maarten 85.56 66 P **P 05 02 21.6 +0.2**
SMRT IAmb IAmb 05 02 41.0
comp=Z,693nm,1.7s
SMRT IAMs_20 IAMs_20 05 41 40.0
comp=Z,54µm,21.0s
MAPC Malpelo 85.59 89 *e*P P 05 02 27.4 +5.9
SLVT Silivri 85.61 347 *e*P **P 05 02 22.4 +1.2**
DRME Dracevica, Mon 85.61 354⇑*i*P **P 05 02 21.2 -0.1**
DRME Dracevica, Mon 85.61 354 *e*P **P 05 02 21.4 +0.1**
ISK Istanbul-Kandi 85.64 346 P **P 05 02 21.3 -0.1**
ISK Istanbul-Kandi 85.64 346 *e*P **P 05 02 21.7 +0.3**
KAVV Kandilli-Istan 85.64 346 *e*P **P 05 02 23.7 +2.3**
SKO Skopje 85.65 352 *i*P **P 05 02 22.2 +0.7**
MVO Moncorvo 85.70 13 *e*P **P 05 02 21.9 +0.1**
comp=Z,658nm,1.3s
MVO *i* LQ LQ 05 02 38.7
MVO Moncorvo 85.70 13 *e*PP PP 05 05 44.9 +4.8
MVO *e*S **S 05 12 55.5 +3.2**
MVO *e*SS SS 05 18 38.9 +12
MVO *e*LQ LQ 05 25 21.4
MVO *e*LR LR 05 32 54.0
comp=Z,76µm,20.0s
AQU L'Aquila 85.71 358⇑*i*P **P 05 02 22.6 +0.8**
JRMM Jerantut 85.72 271 P **P 05 02 23.0 +0.8**
KULM Kulim 85.74 273 P **P 05 02 23.0 +0.7**
SAUV Serdivan-Sakar 85.77 345 *e*P **P 05 02 22.6 +0.6**
CRLT Corlu 85.77 347 *e*P **P 05 02 23.2 +1.1**
PTK Pertek 85.78 338 *e*P P 05 02 34.9 +13
HRT Hereke 85.79 346 *e*P **P 05 02 23.2 +1.0**
SABA Saba 85.81 67 *e*P **P 05 02 22.3 -0.3**
PSMA Santa Maria 85.83 28 *e*P **P 05 02 22.8 +0.4**
comp=Z,832nm,1.4s

ULC Ulcinj 85.83 353 *e*P **P 05 02 22.1 -0.3**
PSMN Pico do Norte, 85.84 28 *e*P **P 05 02 22.9 +0.4**
comp=Z,805nm,1.6s
PSMN Pico do Norte, 85.84 28 *e*S **S 05 12 56.7 +3.1**
STIP Stip 85.86 351 *i*P **P 05 02 21.9 -0.5**
MDUB Mudurnu 85.89 344 *e*P **P 05 02 23.8 +1.0**
YOZ Yozgat 85.94 341 *e*P **P 05 02 23.9 +0.8**
PHP Peshkopia 86.02 353 P **P 05 02 22.8 -0.5**
PHP Peshkopia 86.02 353 P **P 05 02 23.7 +0.3**
baz=34
PVIS Viseu 86.02 14 *e*P **P 05 02 23.4 0.0**
comp=Z,543nm,1.3s
PVIS *i* LQ LQ 05 02 40.5
GULT Gulveren 86.04 345 *e*P **P 05 02 24.6 +1.1**
RDO Rodhopi 86.04 349 P **P 05 02 23.8 +0.4**
SVAN Silvan-Diyarba 86.05 336 *e*P **P 05 02 24.8 +1.3**
KNRA Kununurra 86.06 238 IAMs_20 IAMs_20 05 38 50.5
comp=Z,37µm,20.0s
SEUS St. Eustatius 86.06 66 *e*P **P 05 02 23.1 -0.8**
YLV Yalova 86.08 346 *e*P **P 05 02 24.4 +0.7**
IPM Ipoh 86.15 272 P **P 05 02 25.0 +0.7**
ADVT Abdulvahap 86.16 345 *e*P **P 05 02 24.7 +0.7**
ARMT Armutlu 86.16 346 *e*P **P 05 02 24.5 +0.5**
LL1C La Loma 1 Cana 86.17 79 *e*P **P 05 02 23.1 -1.3**
BR131 Keskin Array S 86.18 342*c i*P **P 05 02 24.6 +0.3**
BRTR Keskin Array B 86.18 342 P **P 05 02 24.9 +0.6**
comp=Z,34nm,0.8s,baz=40,slow=2.0,SNR=75
BRTR PKKPbc **PKKPbc 05 20 24.2 +3.7**
comp=Z,2.8nm,0.9s,baz=185,slow=5.6,SNR=5.6
BRTR PKPPKP 05 28 27.9
comp=Z,1.3nm,0.8s,baz=193,slow=5.1,SNR=4.5
BRTR Keskin Array B 86.18 342 P **P 05 02 24.8 +0.5**
BRTR Keskin Array B 86.18 342 P **P 05 02 24.8 +0.5**
LOD Lodumlu 86.18 343 *e*P **P 05 02 25.4 +1.2**
VAY Valandovo 86.19 351 *i*P **P 05 02 24.7 +0.6**
ANTO Ankara 86.20 343 P **P 05 02 24.6 +0.3**
ANTO pmax pmax
comp=Z,595nm,1.1s
ANTO Ankara 86.20 343 P **P 05 02 24.6 +0.3**
ALN Alexandroupoli 86.22 348 P **P 05 02 24.4 +0.1**
BR231 Keskin MP Arra 86.23 343 P **P 05 02 25.3 +0.8**
LL2C La Loma 2 Cana 86.23 79 *e*P **P 05 02 24.1 -0.6**
GEMT Gemlik 86.24 346 *e*P **P 05 02 24.7 +0.3**
RKY Sarkoy-Tekirda 86.28 347 *e*P **P 05 02 25.5 +0.8**
SVRC Sivrice-ELAZID 86.28 338 *e*P **P 05 02 25.9 +1.0**
SRS Serrai 86.29 350 P **P 05 02 24.6 0.0**
KAVA Kavala 86.31 349 P **P 05 02 24.6 -0.1**
MRMT Marmara Adasi 86.31 347 *e*P **P 05 02 25.1 +0.3**
KNT Kendrikon 86.31 351 P **P 05 02 25.1 +0.3**
SKI Saint Kitts 86.33 66 *e*P **P 05 02 24.2 -1.0**
SIRT Sirnak 86.34 335 *e*P P 05 02 17.0 -8.1
MDNY Mudanya-Bursa 86.35 346 *e*P **P 05 02 25.9 +1.0**
ENEZ Enez 86.37 348 P **P 05 02 25.1 +0.1**
ENEZ Enez 86.37 348 *e*P **P 05 02 25.4 +0.4**
CAVI Cavuskoy 86.37 345 *e*P **P 05 02 27.0 +1.9**
UREC San Jos de Ur 86.38 82 *e*P **P 05 02 23.3 -2.1**
MTE Manteigas 86.38 14 *e*P **P 05 02 25.1 -0.1**
comp=Z,310nm,1.5s
MTE *i* LQ LQ 05 02 41.8
MTE Manteigas 86.38 14 *e*PP PP 05 05 47.3 +1.7
MTE *e*S **S 05 13 01.0 +2.1**
MTE *e*SS **SS 05 18 37.4 +0.2**
MTE *e*LQ LQ 05 25 35.3
MTE *e*LR LR 05 33 08.5
comp=Z,61µm,18.0s
MTE Manteigas 86.38 14 IAmb IAmb 05 02 33.0
comp=Z,153nm,0.9s
ERIK Erikli-Kesan 86.39 348 *e*P **P 05 02 25.5 +0.4**
TIR Tirane 86.40 353 ⇑P **P 05 02 25.4 +0.3**
TIR Tirane 86.40 353 P **P 05 02 25.1 0.0**
TIR Tirane 86.40 353 ⇑P **P 05 02 25.4 +0.3**
TIR Tirane 86.40 353 IAmb IAmb 05 02 33.5
comp=Z,481nm,1.1s
SRCK Saricakaya, Es 86.40 345 *e*P **P 05 02 25.9 +0.7**
SOLC Bahia Solano 86.43 85 *e*P **P 05 02 24.1 -1.5**
SMLC San Martn de 86.44 80 *e*P P 05 02 20.8 -4.9
COI Coimbra 86.44 14 *e*P **P 05 02 25.5 +0.1**
comp=Z,534nm,1.3s
COI *i* LQ LQ 05 02 41.8
COI Coimbra 86.44 14 IAmb IAmb 05 02 30.4
comp=Z,281nm,0.9s
DARE Darende-Malaty 86.51 339 *e*P **P 05 02 27.5 +1.6**
MYKOM Kota Tinggi 86.52 268 P **P 05 02 30.0 +3.9**
EDC Edincik 86.52 347 *e*P **P 05 02 26.0 +0.2**
KCTX Karacabey (Bur 86.53 346 *e*P **P 05 02 26.5 +0.6**
DBBC Dabeiba 86.54 83 *e*P **P 05 02 24.1 -2.2**
MALT Malatya 86.55 338 *e*P **P 05 02 27.6 +1.5**
OHR Ohrid 86.56 352 *i*P **P 05 02 26.0 0.0**
GRG Griva 86.57 351 P **P 05 02 26.2 +0.2**
PCAS Casmilo, Conde 86.58 14 *e*P **P 05 02 26.3 +0.2**
comp=Z,410nm,1.5s
PCAS *i* LQ LQ 05 02 42.6
BNN Bunyan 86.59 340 *e*P **P 05 02 27.3 +1.0**
BNN Bunyan 86.59 340 P **P 05 02 26.8 +0.5**
ANWB Willy Bob 86.59 65 *e*P **P 05 02 26.1 -0.3**
ANWB Willy Bob 86.59 65 IAMs_20 IAMs_20 05 43 33.3
comp=Z,35µm,20.0s
SOH Sokhos 86.61 350 P **P 05 02 25.9 -0.3**
GELI Tayfur-Gelibol 86.66 348 *e*P **P 05 02 26.9 +0.5**
THAS Thassos island 86.67 349 P **P 05 02 26.4 -0.1**
WB0 Warramunga Arr 86.69 232 IAMs_20 IAMs_20 05 39 39.7
comp=Z,31µm,20.0s
SMTH Samothraki Isl 86.70 349 P **P 05 02 26.3 -0.4**
WB9 Warramunga Arr 86.72 232 IAMs_20 IAMs_20 05 39 40.4
comp=Z,32µm,20.0s
WB8 Warramunga Arr 86.74 231 IAMs_20 IAMs_20 05 39 51.9
comp=Z,33µm,20.0s
WB6 Warramunga Arr 86.78 231 IAMs_20 IAMs_20 05 39 53.0
comp=Z,31µm,20.0s
WB4 Warramunga Arr 86.82 231 IAMs_20 IAMs_20 05 39 43.2
comp=Z,30µm,20.0s
SVRH Sivrihisar-ESK 86.83 344 *e*P **P 05 02 27.8 +0.4**
FNA Florina 86.83 352 P **P 05 02 26.9 -0.5**
FNA Florina 86.83 352 IAmb IAmb 05 02 35.2
comp=Z,482nm,1.3s
FNA Florina 86.83 352 P P 05 02 17.8 -10
baz=106
THE Thessaloniki 86.83 351 P **P 05 02 26.7 -0.6**
DABV Dabajuro 86.84 76 *e*P **P 05 02 23.9 -3.8**
WC2 Warramunga Arr 86.84 231 IAMs_20 IAMs_20 05 39 53.7
comp=Z,30µm,20.0s
HATO Hato, Curacao 86.84 74 IAMs_20 IAMs_20 05 41 04.6
comp=Z,53µm,21.0s
WB3 Warramunga Arr 86.84 231 IAMs_20 IAMs_20 05 39 54.7
comp=Z,30µm,20.0s
WC1 Warramunga Arr 86.85 231 IAMs_20 IAMs_20 05 39 45.0
comp=Z,30µm,20.0s
HORT Hortiatis 86.85 350 P **P 05 02 26.9 -0.6**
WRAB Tennant Creek 86.85 231 P **P 05 02 27.1 -0.4**
WRAB pmax pmax
comp=Z,99nm,1.0s
WRAB Tennant Creek 86.85 231 P **P 05 02 27.1 -0.4**
WB2 Warramunga Arr 86.86 231 IAMs_20 IAMs_20 05 39 44.2
comp=Z,30µm,20.0s
WC3 Warramunga Arr 86.86 231 IAMs_20 IAMs_20 05 39 44.3
comp=Z,29µm,20.0s
WRA Warramunga Arr 86.87 231 P **P 05 02 26.2 -1.3**
comp=Z,33nm,0.9s,baz=38,slow=5.2,SNR=39
WRA S S 05 12 54.5 -9.2
comp=Z,4.4nm,1.2s,baz=331,slow=6.7,SNR=4.7
WRA Warramunga Arr 86.87 231 *i*P **P 05 02 26.2 -1.3**
WRA pmax pmax
comp=Z,36nm,0.9s
WRA Warramunga Arr 86.87 231 P **P 05 02 25.2 -2.4**
WB1 Warramunga Ar. 86.88 231 IAMs_20 IAMs_20 05 39 55.7
comp=Z,30µm,20.0s
WC4 Warramunga Arr 86.88 231 IAMs_20 IAMs_20 05 39 54.8
comp=Z,34µm,21.0s
MAZI Mazidag 86.89 337 *e*P **P 05 02 28.4 +0.6**
SARI SarD1z-Kayseri 86.90 340 *e*P **P 05 02 29.0 +1.1**
YAYX Yaylak 86.91 342 *e*P **P 05 02 28.7 +0.8**
GADA Gvkgeada 86.94 348 P **P 05 02 27.6 -0.2**
GADA Gvkgeada 86.94 348 *e*P **P 05 02 28.0 +0.2**
PCBR Castelo Branco 86.94 14 *e*P **P 05 02 27.4 -0.4**
comp=Z,269nm,1.4s
PCBR *i* LQ LQ 05 02 43.6
KULU Kulu 86.96 343 *e*P **P 05 02 29.0 +0.9**
ZARC Zaragoza, Cauc 86.99 82 *e*P **P 05 02 24.1 -4.3**
CIFT Cifteler, Eski 86.99 344 *e*P **P 05 02 28.7 +0.5**
PAOL Paolisi 87.00 357 IAmb IAmb 05 02 35.5
comp=Z,379nm,1.2s
OUR Ouranopolis 87.02 350 P **P 05 02 27.8 -0.4**
UCM Universidad Co 87.03 10⇑*i*P **P 05 02 28.0 -0.3**

UCM *i* S **S** **05 13 04.1 -1.0**
PLG Polygyros 87.04 350 P **P** **05 02 28.0 -0.4**
KBN Korca 87.04 352 P **P** **05 02 28.2 -0.2**
KBN Korca 87.04 352 IAmb IAmb 05 02 48.4
comp=Z,188nm,0.9s
KBN Korca 87.04 352 P **P** **05 02 29.2 +0.8**
baz=126
BPA Boggy Peak 87.06 66 *e*P **P** **05 02 27.9 -0.8**
PSBE So Bento 87.06 15 *e*P **P** **05 02 28.3 -0.2**
comp=Z,714nm,1.3s
PSBE *i* LQ LQ 05 02 44.9
ANBD Bethesda, Anti 87.11 66 *e*P P 05 02 23.8 -5.1
TVSB Tavsanli 87.16 345 *e*P **P** **05 02 29.7 +0.6**
BALB Balikesir 87.21 347 *e*P **P** **05 02 29.2 +0.1**
BALB Balikesir 87.21 347 P **P** **05 02 29.2 +0.1**
NEST Nestorio 87.23 352 P **P** **05 02 29.2 -0.2**
EZN Ezine 87.24 348 P **P** **05 02 29.4 +0.1**
EZN Ezine 87.24 348 *e*P **P** **05 02 29.4 +0.1**
BOZC Bozcaada 87.26 348 *e*P **P** **05 02 29.4 0.0**
KZN Kozani 87.27 351 P **P** **05 02 28.9 -0.6**
MATE Matera 87.29 355 ⇑P **P** **05 02 29.7 +0.2**
URFA Urfa 87.29 338 *e*P **P** **05 02 31.1 +1.4**
VLO Vlora 87.30 353 P **P** **05 02 30.4 +0.9**
LIA Limnos Island 87.31 349 P **P** **05 02 29.6 0.0**
KIZT Kizilcal 87.32 343 *e*P **P** **05 02 30.4 +0.5**
OCAC Ocana 87.34 80 *e*P **P** **05 02 26.6 -3.7**
PMRV Marv??o 87.36 14 *e*P **P** **05 02 29.7 -0.2**
comp=Z,374nm,1.4s
PMRV *i* LQ LQ 05 02 46.0
PMRV Marv??o 87.36 14 *e*PP PP 05 05 56.6 +3.2
PMRV *e*S **S** **05 13 08.9 +0.6**
PMRV *e*SS **SS** **05 18 54.1 +2.7**
PMRV *e*LQ LQ 05 25 26.7
PMRV *e*LR LR 05 33 12.3
comp=Z,53µm,18.0s
LIT Litokhoron 87.41 351 P **P** **05 02 29.7 -0.4**
CHBY Cihanbeyli 87.43 343 *e*P **P** **05 02 30.8 +0.4**
PENT Pentalofos 87.44 352 P **P** **05 02 29.2 -1.2**
PIZC Pizarro, Choco 87.44 85 *e*P **P** **05 02 29.9 -0.7**
PAIG Paliouri 87.45 350 P **P** **05 02 29.8 -0.5**
PMAFR Mafra 87.53 15 *e*P **P** **05 02 30.5 -0.2**
comp=Z,1µm,1.2s
PMAFR *i* LQ LQ 05 02 47.2
LSK Leskovik 87.53 352 P **P** **05 02 30.9 +0.1**
LSK Leskovik 87.53 352 P P 05 02 17.8 -13
baz=151
ES18 SONSECA Array 87.53 11 IAms_20 IAms_20 05 40 39.2
comp=Z,64µm,22.0s
ES17 SONSECA Array 87.54 11 IAms_20 IAms_20 05 40 39.4
comp=Z,66µm,22.0s
ES19 SONSECA Array 87.55 11 IAms_20 IAms_20 05 40 54.6
comp=Z,68µm,22.0s
ES16 SONSECA Array 87.55 11 IAms_20 IAms_20 05 49 02.7
comp=Z,56µm,19.0s
ES07 SONSECA Array 87.56 11 IAms_20 IAms_20 05 40 40.8
comp=Z,62µm,22.0s
CBOC Ciudad Bolivar 87.56 84 *e*P **P** **05 02 29.1 -2.4**
ESBB Sonseca Array 87.57 11 IAmb IAmb 05 02 38.6
comp=Z,292nm,1.1s
ESBB IAms_20 IAms_20 05 40 54.1
comp=Z,62µm,22.0s
ES02 SONSECA Array 87.57 11 IAms_20 IAms_20 05 40 55.1
comp=Z,64µm,22.0s
ES06 SONSECA Array 87.57 11 IAms_20 IAms_20 05 40 55.1
comp=Z,67µm,22.0s
ESDC Sonseca Array 87.57 11 P **P** **05 02 30.9 -0.1**
comp=Z,207nm,1.0s,baz=348,slow=4.7,SNR=118
ESDC S S 05 12 56.4 -14
comp=Z,0.5nm,0.8s,baz=319,slow=5.1,SNR=1.0
ESDC PKKP **PKKPdf** **05 20 09.9 +0.6**
comp=Z,0.5nm,0.6s,baz=190,slow=4.7,SNR=2.3
ESDC PKPPKP 05 28 31.2
comp=Z,1.2nm,0.9s,baz=266,slow=1.0,SNR=5.1
ESDC Sonseca Array 87.57 11 P **P** **05 02 30.8 -0.1**
ESDC IAmb IAmb 05 02 39.3
comp=Z,490nm,1.3s
ES15 SONSECA Array 87.57 11 IAms_20 IAms_20 05 49 03.2
comp=Z,56µm,19.0s
ES01 SONSECA Array 87.57 11 IAms_20 IAms_20 05 40 40.2
comp=Z,63µm,22.0s
ES03 SONSECA Array 87.58 11 IAms_20 IAms_20 05 40 54.4
comp=Z,66µm,22.0s
PMTG Montargil 87.58 14 *e*P **P** **05 02 30.3 -0.6**
comp=Z,292nm,1.4s
PMTG *i* LQ LQ 05 02 46.8
ES14 SONSECA Array 87.59 11 IAms_20 IAms_20 05 40 41.6
comp=Z,58µm,22.0s
ES04 SONSECA Array 87.59 11 IAms_20 IAms_20 05 40 54.6
comp=Z,65µm,22.0s
ES13 SONSECA Array 87.59 11 IAms_20 IAms_20 05 40 41.7
comp=Z,62µm,22.0s
ES11 SONSECA Array 87.60 11 IAms_20 IAms_20 05 40 55.9
comp=Z,64µm,22.0s
HELC Santa Helena 87.60 83 *e*P **P** **05 02 29.9 -1.9**
ES12 SONSECA Array 87.61 11 IAms_20 IAms_20 05 40 56.1
comp=Z,56µm,22.0s
PAB San Pablo 87.65 11 P **P** **05 02 31.0 -0.4**
PAB pmax pmax
comp=Z,144nm,1.0s
PAB MLR MLR
comp=Z,67µm,22.0s
PAB San Pablo 87.65 11 P **P** **05 02 31.0 -0.4**
PAB IAmb IAmb 05 02 36.2
comp=Z,144nm,0.9s
PAB San Pablo 87.65 11 IAms_20 IAms_20 05 41 17.3
comp=Z,67µm,22.0s
KPRO Kipourio 87.66 352 P **P** **05 02 31.1 -0.3**
KMRS Kahramanmaras 87.66 339 *e*P **P** **05 02 32.3 +0.9**
SULT Sultanhani-AKS 87.68 342 *e*P **P** **05 02 32.3 +0.7**
ABD La Joyeuse, An 87.72 66 *e*P **P** **05 02 30.8 -1.2**
PMST Lisbon--Monsan 87.76 15 *e*P **P** **05 02 31.9 +0.1**
comp=Z,769nm,1.2s
LIS Lisbon 87.78 15 *e*P **P** **05 02 31.6 -0.3**
LIS *e*PP **PP** **05 05 57.2 +0.4**
LIS *e*SKSac **SKSac** **05 12 57.4 -0.6**
LIS *e*SS **SS** **05 18 59.8 +2.2**
LIS IAms_20 IAms_20 05 49 40.6
comp=Z,41µm,18.3s
LIS Lisbon 87.78 15 *e*P **P** **05 02 31.6 -0.3**
LIS *e* 05 05 57.2
LIS *e* 05 12 57.4
LIS *e*SS SS 05 18 59.7 +2.1
PRK Paraskevi 87.82 348 P **P** **05 02 32.5 +0.4**
SRN Sarande 87.84 353 P **P** **05 02 31.5 -0.7**
SRN Sarande 87.84 353 P **P** **05 02 32.6 +0.4**
baz=177
SHUT Suhut-Afyon 87.87 344 *e*P **P** **05 02 33.2 +0.7**
PESTR Estremoz 87.88 14 *e*P **P** **05 02 32.3 -0.1**
comp=Z,511nm,1.4s
PESTR *i* LQ LQ 05 02 48.3
PESTR Estremoz 87.88 14 IAmb IAmb 05 02 40.1
comp=Z,186nm,1.1s
LADK Ladik-KONYA 87.89 343 *e*P **P** **05 02 32.8 +0.2**
SIGR SIGRI 87.91 348 P **P** **05 02 32.1 -0.4**
DKL Dikili 87.91 347 *e*P **P** **05 02 32.5 0.0**
GAZ Gaziantep 87.91 339 *e*P **P** **05 02 33.4 +0.7**
KOZT Kozan 87.92 340 *e*P **P** **05 02 33.4 +0.8**
THL Klokotos Trika 87.98 351 P **P** **05 02 32.1 -0.7**
JAN Janina 88.00 352 P **P** **05 02 33.1 +0.1**
KEK Kerkira 88.03 353 P **P** **05 02 32.5 -0.6**
MAHO Mahon 88.05 5⇑*i*P **P** **05 02 32.9 -0.2**
MAHO *i* S **S** **05 13 10.2 -4.5**
LHMI Lhok Sumawe 88.06 276 IAms_20 IAms_20 05 40 00.9
comp=Z,54µm,22.0s
XOR Xorichti 88.06 350 P **P** **05 02 32.1 -1.2**
NEO Neokhori 88.12 350 P **P** **05 02 32.5 -1.0**
EVO Evora 88.14 14⇑*i*P **P** **05 02 31.7 -1.9**
EVO *i* S **S** **05 13 16.0 +0.2**
EVO Evora 88.14 14 *e*P **P** **05 02 33.5 -0.1**
comp=Z,402nm,1.3s
EVO *i* LQ LQ 05 02 49.9
KONT Konya--Tatoy 88.14 343 *e*P **P** **05 02 34.2 +0.5**
PLMC San Jos del P 88.15 84 *e*P **P** **05 02 32.4 -1.7**
IGT Igoumenitsa 88.16 352 P **P** **05 02 32.9 -0.8**
KULA Kula-Manisa 88.20 346 P **P** **05 02 33.8 -0.2**
KULA Kula-Manisa 88.20 346 *e*P **P** **05 02 34.3 +0.3**
OUZ Omahuta 88.37 194 IAms_20 IAms_20 05 34 30.4
comp=Z,32µm,22.0s
CEYT Ceyhan 88.39 340 *e*P **P** **05 02 35.8 +1.0**
SKY Skiros Island 88.39 349 P **P** **05 02 34.5 -0.3**
PAMC Pamplona, Colo 88.42 80 *e*P **P** **05 02 34.0 -1.9**
SDV Santo Domingo 88.44 78 P **P** **05 02 35.5 -0.2**
SDV IAmb IAmb 05 03 00.4
comp=Z,149nm,1.0s

SDV Santo Domingo 88.44 78 IAms_20 IAms_20 05 44 51.5
comp=Z,39µm,21.0s
SDV Santo Domingo 88.44 78 *e*P **P** **05 02 33.0 -2.7**
SDV Santo Domingo 88.44 78 *e*P **P** **05 02 36.2 +0.5**
GUY2C Guyana, Caldas 88.46 84 *e*P **P** **05 02 32.4 -3.7**
PNCL Nicolau / Gran 88.47 15 *e*P **P** **05 02 35.2 0.0**
comp=Z,669nm,1.4s
PNCL *i* LQ LQ 05 02 51.4
AGG Agios Georgios 88.49 351 P **P** **05 02 34.1 -1.2**
AGG Agios Georgios 88.49 351 P **P** **05 02 34.3 -1.0**
AGG pmax pmax
comp=Z,418nm,1.2s
AGG Agios Georgios 88.49 351 P **P** **05 02 34.3 -1.0**
AGG IAmb IAmb 05 02 42.5
comp=Z,418nm,1.2s
NORC Norcasia 88.50 83 *e*P **P** **05 02 32.4 -3.3**
MAKR Makrakomi, Fth 88.52 351 P **P** **05 02 35.1 -0.3**
ISP Isparta 88.58 344 IAmb IAmb 05 02 44.0
comp=Z,313nm,1.1s
ISP Isparta 88.58 344 IAms_20 IAms_20 05 46 53.4
comp=Z,53µm,22.0s
VSL Villasalto 88.60 1 IAms_20 IAms_20 05 48 34.6
comp=Z,46µm,21.0s
PBAR Barrancos 88.64 14 *e*P **P** **05 02 35.9 -0.1**
comp=Z,763nm,1.3s
PBAR *i* LQ LQ 05 02 52.2
EVR Evrytania 88.64 351 P **P** **05 02 36.0 -0.1**
URLA Izmir 88.65 347 *e*P **P** **05 02 36.0 -0.1**
PBEJ Beja 88.66 14 *e*P **P** **05 02 35.5 -0.6**
comp=Z,396nm,1.3s
PBEJ *i* LQ LQ 05 02 53.0
KYMI Kymi, Euboea I 88.69 349 P **P** **05 02 35.5 -0.7**
CHOS Chios island 88.69 348 P **P** **05 02 35.8 -0.5**
BARC Barichara 88.71 81 *e*P **P** **05 02 35.6 -1.3**
PSI Prapat 88.75 273 P **P** **05 02 36.5 -0.5**
PSI pmax pmax
comp=Z,615nm,0.9s
PSI MLR MLR
comp=Z,24µm,21.0s
TIP Timpagrande 88.75 355⇑P **P** **05 02 36.6 0.0**
TIP Timpagrande 88.75 355 IAmb IAmb 05 02 45.0
comp=Z,329nm,1.3s
MERS Mersin 88.78 341 *e*P **P** **05 02 36.3 -0.4**
SOCV Socops 88.79 78 *e*P **P** **05 02 34.1 -2.9**
MESJ Messejana 88.79 15 *e*P **P** **05 02 36.3 -0.4**
MESJ *e*PP **PP** **05 06 05.4 +0.5**
MESJ *e*SKSac **SKSac** **05 13 03.5 -0.5**
MESJ *e*SS **SS** **05 19 14.6 +2.4**
MESJ IAms_20 IAms_20 05 43 35.7
comp=Z,82µm,23.6s
MESJ Messejana 88.79 15 *e*P **P** **05 02 36.2 -0.4**
MESJ *e* 05 06 05.3
MESJ *e* 05 13 03.5
MESJ *e*SS SS 05 19 14.6 +2.4
MESJ Messejana 88.79 15 *e*P **P** **05 02 36.5 -0.2**
comp=Z,232nm,1.3s
MESJ *i* LQ LQ 05 02 53.2
LKR Lokris 88.79 350 P **P** **05 02 35.3 -1.4**
RPSI Rantau Prapat 88.83 273 P **P** **05 02 36.5 -0.7**
YOTC Yotoco, Valle 88.83 85 *e*P **P** **05 02 34.8 -2.6**
BHUJ Bhuj 88.84 308 *e*P **P** **05 02 37.5 +0.3**
TSLK Tsoukalades, L 88.84 352 P **P** **05 02 36.8 -0.1**
AYDB Zeytinkoy-Aydi 88.87 346 *e*P **P** **05 02 37.3 0.0**
LKD2 Lefkada island 88.88 352 P **P** **05 02 36.3 -0.8**
EREA Eretria 88.92 349 P **P** **05 02 36.3 -1.0**
BCK Bucak 88.92 344 *e*P **P** **05 02 37.1 -0.3**
NYDR Nydri-Lefkada 88.95 352 P **P** **05 02 36.8 -0.6**
ANX Ano Chora 88.95 351 P **P** **05 02 36.9 -0.7**
PVO Paravola 88.97 351 P **P** **05 02 37.3 -0.2**
TOLC Tolima 88.99 84 *e*P **P** **05 02 39.0 +0.7**
PTEO Sao Teotonio 89.00 15 *e*P **P** **05 02 37.5 -0.2**
comp=Z,755nm,1.4s
ANIL Santa Ana 89.01 84 *e*P **P** **05 02 36.5 -2.0**
PCVE Castro Verde 89.02 15 *e*P **P** **05 02 37.8 0.0**
comp=Z,475nm,1.3s
PCVE *i* LQ LQ 05 02 53.2
EVGI Lefkada island 89.04 352 P **P** **05 02 37.5 -0.4**
TUMC Tumaco 89.07 88 *e*P P 05 02 52.9 +15
ARMA Armidale 89.08 213 IAmb IAmb 05 03 04.8
comp=Z,322nm,1.7s
ARMA IAms_20 IAms_20 05 36 04.4
comp=Z,48µm,20.0s
HYB Hyderabad 89.09 298 *i* P **P** **05 02 37.0 -1.5**
comp=Z,420nm,1.0s
HYB *e*PcP **PcP** **05 02 40.5 +0.6**
HYB *e*sP **sP** **05 02 51.0 +1.2**
HYB *e*PP **PP** **05 06 14.0 +5.8**
HYB *e*PPP PPP 05 08 20.0
HYB *e*SKS **SKSac** **05 13 08.0 +1.5**
HYB Hyderabad 89.09 298 *e*P **P** **05 02 37.9 -0.6**
HYB IAmb IAmb 05 02 41.4
comp=Z,346nm,1.1s
SERG Sergoula 89.12 351 P **P** **05 02 37.4 -0.9**
EFP Efpalio 89.12 351 P **P** **05 02 38.1 -0.1**
TRIZ Trizonia 89.17 351 P **P** **05 02 37.3 -1.1**
GCAM G?zelcaml? 89.21 347 *e*P **P** **05 02 38.3 -0.3**
FSK Fiskardo 89.21 352 P **P** **05 02 37.8 -0.8**
SVN Savane Anatole 89.22 67 IAms_20 IAms_20 05 45 10.0
comp=Z,36µm,20.0s
KIZK Mersin 89.22 341 *e*P **P** **05 02 38.4 -0.4**
VILL Villia 89.24 350 P **P** **05 02 37.6 -1.3**
YAYL Yayladag 89.25 339 *e*P **P** **05 02 39.7 +0.7**
DION Dionisos Attik 89.25 349 P **P** **05 02 37.5 -1.4**
SMG Samos 89.26 347 P **P** **05 02 37.6 -1.3**
PVAQ Vaqueiros 89.29 14 *e*P **P** **05 02 39.0 -0.1**
comp=Z,63nm,1.4s
PVAQ *i* LQ LQ 05 02 55.3
PVAQ Vaqueiros 89.29 14 *e*PP PP 05 06 09.9 +1.0
PVAQ *e*S **S** **05 13 29.0 +2.3**
PVAQ *e*SS SS 05 19 35.7 +16
PVAQ *e*LQ LQ 05 28 43.1
PVAQ *e*LR LR 05 35 13.9
comp=Z,6µm,20.0s
LAKA Lakka 89.30 351 P **P** **05 02 38.7 -0.4**
FDF Fort de France 89.32 67 IAms_20 IAms_20 05 45 11.6
comp=Z,36µm,20.0s
RUSC La Rusia 89.33 81 *e*P **P** **05 02 38.1 -2.0**
KEBE Keben-Mersin 89.34 341 *e*P **P** **05 02 38.9 -0.5**
SILI Silifke-Mersin 89.38 341 *e*P **P** **05 02 39.1 -0.4**
ATHU Athens Univers 89.38 350 P **P** **05 02 38.4 -1.1**
PFVI Vila Bisbo 89.38 15 *e*P **P** **05 02 38.7 -0.8**
comp=Z,922nm,1.4s
PFVI *i* LQ LQ 05 02 55.8
ATH Athens Observa 89.38 350 P **P** **05 02 38.6 -0.9**
BKNI Bangkinang 89.39 270 P **P** **05 02 40.0 +0.2**
KEF5 Kardakata, Kep 89.40 352 P **P** **05 02 38.9 -0.7**
ROSC El Rosal 89.40 83 P **P** **05 02 41.5 +1.2**
comp=Z,30nm,1.0s,baz=6.8,slow=3.9,SNR=17
ROSC S **SKSac** **05 13 04.3 -4.7**
comp=Z,2.0nm,0.3s,baz=350,slow=19,SNR=1.1
ROSC El Rosal 89.40 83 IAmb IAmb 05 03 01.5
comp=Z,286nm,1.5s
ROSC El Rosal 89.40 83 *e*P **P** **05 02 38.8 -1.6**
TEVE Tevekalti-Mers 89.41 342 *e*P **P** **05 02 39.6 -0.1**
KORT Korkueli 89.41 344 *e*P **P** **05 02 39.7 -0.1**
LTK Loutraki 89.42 350 P **P** **05 02 38.2 -1.5**
PBDV Barranco-do-Ve 89.42 15 *e*P **P** **05 02 39.9 +0.2**
comp=Z,583nm,1.4s
PBDV *i* LQ LQ 05 02 56.1
THAL Thalero 89.43 350 P **P** **05 02 38.6 -1.1**
DMLN Damoulianata-K 89.44 352 P **P** **05 02 39.2 -0.6**
LOUT Loutraki 89.45 350 P **P** **05 02 38.1 -1.7**
ANTB Antalya 89.46 344 *e*P **P** **05 02 39.1 -0.7**
KLV Kalavryta, Ach 89.48 351 P **P** **05 02 39.2 -0.8**
KEF3 Kipouria, Keph 89.48 352 P **P** **05 02 39.0 -0.9**
VLS Valsamata 89.49 352 P **P** **05 02 39.5 -0.5**
VLY Voula,Athens 89.49 349 P **P** **05 02 38.8 -1.2**
MLSB Milas 89.53 346 *e*P **P** **05 02 40.3 +0.1**
RLS Riolos of Patr 89.53 351 P **P** **05 02 39.9 -0.2**
BERE Bereket-Mersin 89.53 342 *e*P **P** **05 02 40.0 -0.4**
BIM Bigot 89.54 67 *e*P **P** **05 02 37.6 -2.9**
IKL Isikli 89.55 341 *e*P **P** **05 02 39.7 -0.6**
PSDA Pessada-Kefalo 89.55 352 P **P** **05 02 39.5 -0.7**
ORTC Ortega, Tolima 89.56 84 *e*P P 05 02 34.8 -5.9
YER Yerkesik 89.61 346 P **P** **05 02 40.6 0.0**
YER Yerkesik 89.61 346 *e*P **P** **05 02 41.1 +0.5**
AKKU Akkuyu-Mersin 89.65 341 *e*P **P** **05 02 40.2 -0.6**
MPOM Morne Pois Mar 89.72 67 *e*P **P** **05 02 38.1 -3.2**
MPOM Morne Pois Mar 89.72 67 P **P** **05 02 42.6 +1.3**
ELL Elmali 89.73 344 *e*P **P** **05 02 41.5 +0.2**
TEKE Tekeli-Mersin 89.75 342 *e*P **P** **05 02 40.6 -0.6**
POPC Popayan, Colom 89.76 86 *e*P P 05 02 29.9 -12

VLMS Volimes, Zakyn 89.78 352 P **P** **05 02 40.3 -1.1**
GAZI Gazipasa 89.81 342 *e*P **P** **05 02 40.4 -1.2**
BBAC Balboa, Cauca 89.82 87 *e*P **P** **05 02 39.8 -2.4**
BODT Bodrum 89.83 347 P **P** **05 02 40.6 -1.0**
BODT Bodrum 89.83 347 *e*P **P** **05 02 40.9 -0.7**
DALY Dalyan (Mula) 89.87 345 *e*P **P** **05 02 41.9 +0.2**
CHIC Chingaza 89.92 83 *e*P **P** **05 02 38.9 -3.9**
CART Cartagena 89.95 9⇑*i*P **P** **05 02 40.6 -1.5**
CART *i* S **S** **05 13 30.1 -2.6**
CART Cartagena 89.95 9 IAmb IAmb 05 02 49.8
comp=Z,374nm,1.3s
CART IAms_20 IAms_20 05 50 06.3
comp=Z,48µm,19.0s
MARP Paez Belalcaza 89.97 85 *e*P **P** **05 02 41.0 -1.9**
TURN Turunc 89.97 346 *e*P **P** **05 02 42.1 -0.1**
FETY Fethiye 89.98 345 P **P** **05 02 42.1 -0.2**
FETY Fethiye 89.98 345 *e*P **P** **05 02 41.9 -0.4**
AMT Artemida-Makis 90.03 351 P **P** **05 02 42.1 -0.4**
KRND KRANIDI 90.03 350 P **P** **05 02 40.7 -1.8**
APE Apeiranthos 90.06 348⇑P **P** **05 02 41.9 -0.8**
APE Apeiranthos 90.06 348 P **P** **05 02 41.2 -1.5**
APE Apeiranthos 90.06 348⇑P **P** **05 02 41.9 -0.8**
MXZ Matakaoa Point 90.09 190 IAms_20 IAms_20 05 35 13.7
comp=Z,37µm,22.0s
PCON Cinco Dias 90.10 86 *e*P **P** **05 02 41.6 -2.2**
DAT Datca 90.11 346 P **P** **05 02 41.4 -1.7**
DAT Datca 90.11 346 *e*P **P** **05 02 41.9 -1.2**
VLX Vlachokerasia 90.12 351 P **P** **05 02 42.4 -0.7**
SOTA Rioblanco 90.12 86 *e*P **P** **05 02 42.8 -1.1**
EREN Erenkoy 90.14 341 *e*P **P** **05 02 42.9 -0.1**
PAC1 Pacto, Paraso 90.25 89 *e*P P 05 02 39.0 -5.0
AS31 Alice Springs 90.25 230 P **P** **05 02 42.4 -1.2**
ASAR Alice Springs 90.26 230 P **P** **05 02 43.1 -0.4**
comp=Z,64nm,0.8s,baz=29,slow=3.9,SNR=93
ASAR PKPPKP **P'P'df** **05 28 12.4 -6.4**
comp=Z,1.4nm,1.0s,baz=197,slow=1.9,SNR=3.1
ASAR Alice Springs 90.26 230 P **P** **05 02 43.2 -0.4**
AKAS Kas 90.29 345 *e*P **P** **05 02 43.8 -0.1**
AKAS Kas 90.29 345 IAmb IAmb 05 02 51.8
comp=Z,242nm,1.2s
NISR Nisiros 90.29 347 P **P** **05 02 42.3 -1.4**
NIS1 Nisyros Isl. 90.30 347 P **P** **05 02 42.5 -1.3**
VILC Villavicencio, 90.35 83 *e*P **P** **05 02 43.0 -1.5**
ITM Ithomi 90.36 351 IAmb IAmb 05 03 01.8
comp=Z,287nm,1.0s
KSL Kastellorizon 90.37 345 P **P** **05 02 43.5 -0.6**
EMAL Malaga-Limoner 90.38 12⇑*i*P **P** **05 02 43.2 -1.0**
EMAL *i* S **S** **05 13 36.0 -0.8**
GCUF Volcan Galeras 90.38 88 *e*P **P** **05 02 43.8 -1.3**
BETC Betania 90.41 85 *e*P **P** **05 02 43.0 -1.6**
SFS San Fernando 90.44 13⇑*i*P **P** **05 02 43.9 -0.5**
SFS *i* S **S** **05 13 43.4 +6.1**
CUSE Cuicocha Este 90.46 89 *e*P **P** **05 02 44.5 -0.9**
OTAV Otavalo 90.48 89 P **P** **05 02 46.1 +0.6**
OTAV pmax pmax
comp=Z,412nm,1.9s
OTAV MLR MLR
comp=Z,14µm,21.0s
OTAV Otavalo 90.48 89 P **P** **05 02 46.1 +0.6**
OTAV IAmb IAmb 05 03 12.0
comp=Z,412nm,1.9s
OTAV Otavalo 90.48 89 *e*P **P** **05 02 45.7 +0.2**
CLTB Caltabellotta 90.49 358 IAms_20 IAms_20 05 49 57.6
comp=Z,55µm,20.0s
LFK Lefkose 90.51 341 *e*P **P** **05 02 44.4 -0.5**
TULM Tulcn-Chalpat 90.51 88 *e*P **P** **05 02 49.0 +3.4**
ARG Arkhangelos 90.54 346 P **P** **05 02 44.2 -0.7**
ELOV Elorza 90.63 78 *e*P **P** **05 02 41.7 -3.9**
POO Poona 90.69 302⇑*i*P P 05 02 41.0 -4.9
comp=Z,800nm,1.0s
VLI Veliai 90.71 350 P **P** **05 02 43.4 -2.3**
GSI Gunungsitoli 90.75 273 IAms_20 IAms_20 05 44 24.5
comp=Z,39µm,22.0s
SANT Santorini 90.76 348⇑P **P** **05 02 44.5 -1.4**
SANT Santorini 90.76 348 P **P** **05 02 43.5 -2.5**
SANT Santorini 90.76 348 IAmb IAmb 05 02 50.3
comp=Z,451nm,1.4s
SANT IAms_20 IAms_20 05 48 09.2
comp=Z,57µm,20.0s
GARC Garzon, Huila 90.77 85 *e*P **P** **05 02 44.7 -1.9**
LEF Lefka 90.79 342⇑P **P** **05 02 46.0 -0.1**
LEF Lefka 90.79 342 *e*P **P** **05 02 45.5 -0.6**
CSS Mathiatis 90.86 341 IAms_20 IAms_20 05 46 21.3
comp=Z,60µm,22.0s
URZ Urewera 90.91 190 IAms_20 IAms_20 05 37 01.3
comp=Z,39µm,20.0s
HWQ Hawqa 90.97 339 *e*P **P** **05 02 46.4 -0.7**
CEU Ceuta 91.11 13⇑*i*P **P** **05 02 44.6 -2.9**
CEU *i* S **S** **05 13 45.6 +2.2**
GRGR Grenville 91.13 69 IAms_20 IAms_20 05 43 02.8
comp=Z,45µm,22.0s
KTHA Kythira Island 91.15 350 P **P** **05 02 46.1 -1.7**
PTGC Puerto Gaitan, 91.23 82 *e*P **P** **05 02 45.5 -2.9**
KARP Karpathos 91.33 346 P **P** **05 02 47.0 -1.7**
KARP Karpathos 91.33 346 P **P** **05 02 46.8 -1.9**
KARP IAms_20 IAms_20 05 48 08.6
comp=Z,57µm,20.0s
BHL Bhannes 91.40 339 *e*P **P** **05 02 49.4 +0.4**
CMAH Djebel Manchou 91.43 2 P **P** **05 02 48.7 -0.4**
HIZ Hauiti 91.43 192 IAms_20 IAms_20 05 39 00.2
comp=Z,36µm,20.0s
EBNR Beni Rached 91.46 7 P **P** **05 02 50.3 +1.1**
DFRA Djebel Bou Aff 91.46 4 P **P** **05 02 49.7 +0.4**
BBGH Gun Hill 91.50 66 *e*P **P** **05 02 52.4 +2.7**
ANKY Antikythira Is 91.51 350 P **P** **05 02 48.6 -0.8**
ECHA Ech Chlef 91.58 7 P **P** **05 02 54.0 +4.3**
CKFL Kef-Lekhel 91.63 3 P **P** **05 02 50.3 +0.2**
MDRS Chennai 91.70 294 *e*P **P** **05 02 49.4 -1.1**
MDRS IAmb IAmb 05 02 54.4
comp=Z,80nm,1.6s
RCY Rachaya 91.75 339 *e*P **P** **05 02 51.1 +0.4**
EANR 'Ain N'Sour 91.76 8 P **P** **05 02 51.1 +0.4**
CASM Ain Smara 91.77 3 P **P** **05 02 51.1 +0.4**
MACC Macarena, Meta 91.81 84 *e*P **P** **05 02 48.0 -3.1**
STIA Sitia Lasithi 91.82 347 P **P** **05 02 49.9 -1.0**
NPS Neapolis 91.83 348 P **P** **05 02 49.0 -1.9**
PMPST Porto Santo, M 91.83 22 *e*P **P** **05 02 51.1 +0.2**
comp=Z,931nm,1.3s
PMPST *i* LQ LQ 05 03 08.0
IMMV Iera Moni Meta 91.83 349 P **P** **05 02 49.5 -1.4**
PMPS Porto Santo 91.85 22 *e*P **P** **05 02 51.8 +0.8**
comp=Z,950nm,1.7s
PMPS *i* LQ LQ 05 03 08.4
VAM Vamos 91.86 349 P **P** **05 02 50.1 -1.0**
PMOZ Porto Moniz, M 91.87 23 *e*P **P** **05 02 51.6 +0.3**
comp=Z,881nm,1.3s
PMOZ *i* LQ LQ 05 03 08.7
PMOZ Porto Moniz, M 91.87 23 *e*PP PP 05 06 31.2 +1.7
PMOZ *e*SKS **SKSac** **05 13 28.0 +5.7**
PMOZ Porto Moniz, M 91.87 23 *e*LQ LQ 05 26 48.1
PMOZ *e*LR LR 05 33 52.0
comp=Z,80µm,20.0s
BKZ Black Stump Fm 91.88 191 IAms_20 IAms_20 05 35 59.9
comp=Z,50µm,22.0s
ZKR Zakros 91.89 347 P **P** **05 02 50.4 -0.8**
IDI Anoyia 91.89 348⇑P **P** **05 02 49.7 -1.6**
IDI Anoyia 91.89 348 P **P** **05 02 49.0 -2.3**
IDI Anoyia 91.89 348 P **P** **05 02 49.4 -1.9**
IDI IAmb IAmb 05 02 59.3
comp=Z,148nm,1.0s
IDI IAms_20 IAms_20 05 48 33.3
comp=Z,51µm,20.0s
LAST Lasithi 91.94 348 P **P** **05 02 50.6 -1.0**
CTEI Djebel Teioual 91.96 3 P **P** **05 02 52.2 +0.5**
PVLZ Peæn de 91.97 12⇑*i*P **P** **05 02 47.5 -4.0**
PVLZ *i* S **S** **05 13 52.5 +1.3**
MELI Melilla 92.01 11⇑*i*P **P** **05 02 49.3 -2.5**
MELI *i* S **S** **05 13 44.2 -7.4**
PMAR Madeira 92.03 23 *e*P **P** **05 02 53.2 +1.1**
comp=Z,2µm,1.4s
PMAR *i* LQ LQ 05 03 09.5
FRMA Ierapetra Chan 92.06 348 P **P** **05 02 51.6 -0.3**
KNDR Palaiochora Ch 92.09 349 P **P** **05 02 51.5 -0.6**
FUL Funchal 92.11 23 *e*P **P** **05 02 52.9 +0.7**
comp=Z,1µm,1.4s
FUL *i* LQ LQ 05 03 10.3
SIVA Sivas 92.17 348 P **P** **05 02 52.2 -0.3**
GUVC San Jose del G 92.24 83 *e*P **P** **05 02 52.1 -1.0**
ETRT Tiaret 92.33 7 P **P** **05 02 56.5 +3.1**
KEST Kesra 92.36 1 P **P** **05 02 53.8 +0.4**
comp=Z,132nm,1.1s,baz=193,slow=1.7,SNR=21
KEST Kesra 92.36 1 IAmb IAmb 05 02 58.8
comp=Z,209nm,1.2s

SHME Shamm 92.38 320 *i* P **P** 05 02 52.6 -1.0
SNR=29
SHME Shamm 92.38 320 P **P** 05 02 52.7 -1.0
SNR=14
SHME P **P** 05 02 52.7 -1.0
SNR=14
GVDS Gavdos 92.43 349 P **P** 05 02 52.6 -1.1
BANOM Banah 92.43 320 *i* P **P** 05 02 53.1 -0.8
SNR=21
BANOM Banah 92.43 320 P **P** 05 02 53.2 -0.7
SNR=19
BANOM P **P** 05 02 53.2 -0.7
SNR=19
GVD Gavdhos 92.44 349 P **P** 05 02 53.0 -0.7
PTLC Puerto Leguiza 92.78 86 *e*P **P** 05 02 56.2 +0.7
MASF Masafi 92.98 320 P **P** 05 02 55.6 -0.8
SNR=18
MASF P **P** 05 02 55.6 -0.8
SNR=18
MDH Madha 92.99 319 *i* P **P** 05 02 54.7 -1.8
SNR=22
MDH Madha 92.99 319 P **P** 05 02 54.8 -1.6
SNR=20
MDH P **P** 05 02 54.8 -1.6
SNR=20
MSFE Esma-Masafi 92.99 320 *i* P **P** 05 02 55.5 -1.0
SNR=34
GOA Goa 93.22 300 *e*P **P** 05 02 56.8 -0.8
GOA IAmb IAmb 05 03 00.8
comp=Z,122nm,1.6s
UOSS Minazif 93.35 319 *i* P **P** 05 02 56.6 -1.5
SNR=35
UOSS Minazif 93.35 319 P **P** 05 02 56.1 -2.0
UOSS IAmb IAmb 05 03 04.1
comp=Z,258nm,1.1s
UOSS Minazif 93.35 319 IAMs_20 IAMs_20 05 50 02.2
comp=Z,52µm,20.0s
UOSS Minazif 93.35 319 P **P** 05 02 56.6 -1.5
UOSS P **P** 05 02 56.6 -1.5
AVE Averroes 93.36 15⇑ *i* P **P** 05 02 56.6 -1.4
AVE *i* S **S** 05 14 02.6 -1.1
BFZ Birch Farm 93.40 191 IAMs_20 IAMs_20 05 39 14.2
comp=Z,44µm,20.0s
HATD Hatta, Dubai 93.48 319 *i* P **P** 05 02 57.7 -1.0
SNR=42
HATD Hatta, Dubai 93.48 319 P **P** 05 02 57.9 -0.8
SNR=35
HATD P **P** 05 02 57.9 -0.8
SNR=35
IFR Ifrane 93.49 13⇑ *i* P **P** 05 02 57.5 -1.3
IFR *i* S S 05 14 16.1 +11
NAZ Nazwa, Dubai 93.52 320 *i* P **P** 05 02 57.7 -1.1
SNR=41
NAZ Nazwa, Dubai 93.52 320 P **P** 05 02 57.8 -1.1
SNR=47
NAZ P **P** 05 02 57.8 -1.1
SNR=47
ASHO Ashiyiah 93.64 319 *i* P **P** 05 02 58.5 -1.0
SNR=65
ASHO Ashiyiah 93.64 319 P **P** 05 02 58.3 -1.2
SNR=42
ASHO P **P** 05 02 58.3 -1.2
SNR=42
FAQ Al Faqa, Dubai 93.77 320 *i* P **P** 05 02 58.6 -1.4
SNR=40
FAQ Al Faqa, Dubai 93.77 320 P **P** 05 02 58.7 -1.3
SNR=19
FAQ P **P** 05 02 58.7 -1.3
SNR=19
BIDO Bidbid 93.83 317 P **P** 05 03 00.1 -0.2
SNR=27
BIDO P **P** 05 03 00.1 -0.2
SNR=27
WSAR Wadi Sarin 93.87 317 P **P** 05 03 00.4 -0.1
SNR=50
SOHO SOHO 93.94 319 *i* P **P** 05 02 59.2 -1.5
SNR=61
SOHO SOHO 93.94 319 P **P** 05 02 59.4 -1.4
SOHO P **P** 05 02 59.4 -1.4
ASUD Al Ashush, Dub 93.98 320 *i* P **P** 05 03 00.3 -0.7
SNR=86
ASUD Al Ashush, Dub 93.98 320 P **P** 05 03 00.4 -0.6
SNR=43
ASUD P **P** 05 03 00.4 -0.6
SNR=43
STKA Stephens Creek 94.06 220 P **P** 05 03 02.4 +1.5
comp=Z,20nm,0.9s,baz=0.1,slow=5.6,SNR=17
HOQ Hoqain 94.11 318 P **P** 05 03 00.3 -1.3
SNR=29
HOQ P **P** 05 03 00.3 -1.3
SNR=29
AJN Ajban 94.17 320 *i* P **P** 05 03 00.5 -1.3
SNR=21
AJN Ajban 94.17 320 P **P** 05 03 01.1 -0.8
SNR=28
AJN P **P** 05 03 01.1 -0.8
SNR=28
SNZO South Karori 94.21 192 IAMs_20 IAMs_20 05 38 17.6
comp=Z,40µm,21.0s
SMDO Samad 94.27 317 P **P** 05 03 02.3 -0.2
SNR=33
SMDO P **P** 05 03 02.3 -0.2
SNR=33
WBK Wadi Bani Khal 94.28 316 P **P** 05 03 02.9 +0.4
SNR=27
WBK P **P** 05 03 02.9 +0.4
SNR=27
NNZ Nelson 94.29 193 IAMs_20 IAMs_20 05 39 54.8
comp=Z,53µm,20.0s
ALNE Al Ain 94.32 319 *i* P **P** 05 03 01.6 -1.0
SNR=23
ALNE Al Ain 94.32 319 P **P** 05 03 01.8 -0.8
SNR=59
ALNE P **P** 05 03 01.8 -0.8
SNR=59
JLN Jalan Bani Buh 94.49 315 P **P** 05 03 03.5 +0.1
SNR=26
JLN P **P** 05 03 03.5 +0.1
SNR=26
SHMA Al-Shehemyia 94.52 324 P **P** 05 03 02.6 -0.8
SAKB Bahrain 94.56 324 P **P** 05 03 02.5 -1.1
ARQ Araqi 94.65 318 P **P** 05 03 03.7 -0.5
SNR=81
ARQ P **P** 05 03 03.7 -0.5
SNR=81
JMDO Jabal Madar 94.86 317 P **P** 05 03 04.8 -0.2
SNR=20
JMDO P **P** 05 03 04.8 -0.2
SNR=20
THZ Tophouse 94.89 193 IAMs_20 IAMs_20 05 40 11.7
comp=Z,40µm,20.0s
BSY Bisya 94.90 318 P **P** 05 03 05.0 -0.3
SNR=35
BSY P **P** 05 03 05.0 -0.3
SNR=35
KHZ Kahutara 95.45 193 IAMs_20 IAMs_20 05 40 52.4
comp=Z,50µm,20.0s
TRNA Turayna 95.45 323 P **P** 05 03 06.6 -1.1
PSA00 Pilbara Seismi 95.66 242 P **P** 05 03 08.6 +0.1
UMZA Um Al Zommool 95.76 319 P **P** 05 03 08.2 -0.9
UMZA P **P** 05 03 08.2 -0.9
PALK Pallekele 96.14 290 P **P** 05 03 10.5 -0.5
PALK pmax pmax
comp=Z,402nm,1.5s
PALK MLR MLR
comp=Z,44µm,22.0s
PALK Pallekele 96.14 290 P **P** 05 03 10.5 -0.5
PALK IAMs_20 IAMs_20 05 49 21.4
comp=Z,44µm,22.0s
MHTO MHTO 96.14 316 P **P** 05 03 10.4 -0.5
SNR=33
MHTO P **P** 05 03 10.4 -0.5
SNR=33
MQZ McQueen's Vall 96.83 193 IAMs_20 IAMs_20 05 41 44.1
comp=Z,28µm,20.0s
RPZ Rata Peaks 97.07 194 IAMs_20 IAMs_20 05 39 08.7
comp=Z,40µm,22.0s
FOZ Fox Glacier 97.08 195 IAMs_20 IAMs_20 05 40 17.0
comp=Z,32µm,21.0s
BBOO Buckleboo 97.14 224 IAMs_20 IAMs_20 05 41 25.1
comp=Z,32µm,22.0s
TRD Trivandrum 97.26 294 *e*P **P** 05 03 15.6 -0.4
TRD IAmb IAmb 05 03 23.1
comp=Z,42nm,0.0s
TOO Toolangi 97.68 215 IAMs_20 IAMs_20 05 41 44.0
comp=Z,48µm,21.0s
LBZ Lake Benmore 97.86 195 IAMs_20 IAMs_20 05 40 12.6
comp=Z,43µm,21.0s
ODZ Otahua Downs 98.43 194 IAMs_20 IAMs_20 05 40 11.8
comp=Z,33µm,22.0s
WKZ Wanaka 98.47 195 IAMs_20 IAMs_20 05 44 17.8
comp=Z,32µm,20.0s
FORT Forrest 99.02 231 IAMs_20 IAMs_20 05 43 02.4
comp=Z,44µm,22.0s
MLZ Mavora Lakes 99.15 196 IAMs_20 IAMs_20 05 39 43.6
comp=Z,32µm,22.0s
TBTG Tabatinga, AM 99.19 85 *e*P **Pdif** 05 03 22.2 -2.4
BOAV Boa Vista 99.63 73 *e*P **Pdif** 05 03 25.9 -0.8
WHZ Wether Hill Ro 99.69 196 IAMs_20 IAMs_20 05 40 11.9
comp=Z,28µm,21.0s
PYZ Puysegur Point 100.17 197 IAMs_20 IAMs_20 05 42 21.6
comp=Z,32µm,21.0s
NNA Nana 101.02 95 IAMs_20 IAMs_20 05 39 13.2
comp=Z,26µm,22.0s
COCO West Island 101.75 265 *i* P **Pdif** 05 03 35.4 -0.5
MORW Morawa 103.70 240 IAMs_20 IAMs_20 05 50 52.7
comp=Z,22µm,20.0s
ETMB Extrema 105.85 86 *e*P **Pdif** 05 03 54.2 -0.1
MALB Monte Alegre 106.71 71 *e*P **Pdif** 05 03 59.2 +1.1
MCPB Macapa, AP 106.76 68 *e*P **Pdif** 05 03 58.6 +0.2
SACV Santiago Islan 106.82 34 IAMs_20 IAMs_20 05 50 54.8
comp=Z,41µm,20.0s
SAML Samuel 107.03 83 IAMs_20 IAMs_20 06 01 34.4
comp=Z,25µm,20.0s
MBO M'Bour 109.49 28 IAMs_20 IAMs_20 05 55 12.9
comp=Z,39µm,19.0s
MCQ Macquarie Isla 109.59 199 IAMs_20 IAMs_20 05 45 27.7
comp=Z,25µm,22.0s
LPAZ La Paz 109.67 91 Pdiff **Pdif** 05 04 16.2 +4.3
comp=Z,1.4nm,1.0s,baz=23,slow=7.7,SNR=3.0
LPAZ PKKPbc **PKKPab** 05 19 22.8 -6.4
comp=Z,3.1nm,0.9s,baz=108,slow=4.2,SNR=5.3
DGAR Diego Garcia 112.79 288 IAMs_20 IAMs_20 05 57 23.0
comp=Z,26µm,22.0s
PB04 IPOC Station P 113.01 97 IAMs_20 IAMs_20 05 44 14.1
comp=Z,23µm,22.0s
PB06 IPOC Station P 113.64 97 IAMs_20 IAMs_20 05 44 32.8
comp=Z,21µm,22.0s
PB10 IPOC Station P 113.64 98 IAMs_20 IAMs_20 05 44 18.0
comp=Z,24µm,22.0s
SIV San Ignacio 113.78 85 PKKPbc PKKPbc 05 19 06.8 +4.7
comp=Z,1.7nm,0.8s,baz=135,slow=4.3,SNR=3.1
LVC Limon Verde 113.97 96 PKKPbc PKKPbc 05 19 03.1 +1.2
comp=Z,4.5nm,0.9s,baz=203,slow=7.7,SNR=3.0
PB15 IPOC Station P 114.08 97 IAMs_20 IAMs_20 05 44 45.4
comp=Z,23µm,22.0s
H03N2 Juan Fernandez 115.98 112 T T 07 15 16.3
baz=323,slow=78,SNR=734
H03N1 Juan Fernandez 116.00 112 T T 07 15 16.8
baz=323,slow=78,SNR=947
H03N3 Juan Fernandez 116.00 112 T T 07 15 08.0
baz=323,slow=78,SNR=848
MSEY Mahe Island 119.79 306 IAMs_20 IAMs_20 06 01 31.5
comp=Z,33µm,20.0s
TIC Toumodi 119.83 18 *e*PKP1 **PKiKP** 05 08 33.9 +0.4
DBIC Dimbokro 119.84 18 PKIKP **PKPdf** 05 08 32.0 -1.5
DBIC Dimbokro 119.84 18 PKPdf **PKPdf** 05 08 31.9 -1.5
KIC Kosan Boka 120.17 18 *e*PKP1 **PKiKP** 05 08 34.5 +0.3
comp=Z,49nm,0.7s
LIC Lamto 120.24 18 *e*PKP1 **PKPdf** 05 08 33.7 -0.5
comp=Z,115nm,0.6s
AQDB Aquidauana 120.47 84 *e*P **PKiKP** 05 08 35.9 +1.4
LODK Lodwar 120.64 331 PKPdf **PKPdf** 05 08 34.6 -0.4
LODK IAMs_20 IAMs_20 06 08 02.1
comp=Z,36µm,20.0s
SDBA SAO DESIDERIO 120.64 69 *e*P **PKiKP** 05 08 36.6 +1.6
NBPV Pedro Velho 120.91 56 *e*P **PKiKP** 05 08 36.2 +0.6
BDFB Brasilia 121.39 74 PKP **PKiKP** 05 08 38.2 +1.7
comp=Z,18nm,1.1s,baz=314,slow=2.9,SNR=13
BDFB Brasilia 121.39 74 PKIKP **PKiKP** 05 08 37.2 +0.7
BDFB Brasilia 121.39 74 PKPdf **PKiKP** 05 08 37.2 +0.7
NBPN Ponto Novo - B 122.01 64 *e*P **PKPdf** 05 08 37.5 0.0
NBRF Rio Formoso - 122.91 57 *e*P **PKiKP** 05 08 40.5 +1.0
JANB Januaria 123.10 70 *e*P **PKiKP** 05 08 40.6 +0.8
IPMB Ipameri, GO 123.10 76 *e*P **PKiKP** 05 08 41.2 +1.5
NBAN Anadia - AL 123.15 59 *e*P **PKPdf** 05 08 39.8 0.0
CPUP Villa Florida 123.81 90 PKP **PKiKP** 05 08 42.5 +1.6
comp=Z,16nm,0.8s,baz=343,slow=1.9,SNR=17
CPUP Villa Florida 123.81 90 *e*P **PKPdf** 05 08 40.5 -0.1
PCMB Pacaembu 124.03 81 *e*P **PKPdf** 05 08 41.2 0.0
TRCB Terra Rica 124.09 84 *e*P **PKiKP** 05 08 41.8 +0.3
KMBO Kilima Mbogo 124.32 327 PKP **PKiKP** 05 08 43.3 +0.6
comp=Z,80nm,1.1s,baz=360,slow=3.9,SNR=33
MC01 Montes Claros 124.62 71 *e*P **PKiKP** 05 08 43.6 +0.8
GDU01 Guandu, BA 124.71 65 *e*P **PKiKP** 05 08 43.2 +0.2
KIBK Kibwezi 125.18 326 PKPdf **PKPdf** 05 08 43.7 -0.1
KIBK IAMs_20 IAMs_20 06 11 11.6
comp=Z,33µm,20.0s
BB19B Bebedouro 125.28 79 *e*P **PKiKP** 05 08 45.1 +1.1
NBIT Itapeh - BA 125.77 66 *e*P **PKiKP** 05 08 45.3 +0.2
PLCA Paso Flores 125.86 112 PKP **PKiKP** 05 08 46.0 +1.4
comp=Z,32nm,0.8s,baz=291,slow=2.1,SNR=22
PLCA Paso Flores 125.86 112 *e*P **PKiKP** 05 08 45.6 +1.0
DIAM Diamantina, MG 126.03 72 *e*P **PKiKP** 05 08 46.5 +0.8
CMC01 Camacan, BA 126.07 66 *e*P **PKiKP** 05 08 45.6 -0.1
FRTB Fartura 126.37 81 *e*P **PKiKP** 05 08 47.4 +1.3
ITQB Itaqui 126.64 93 *e*P **PKiKP** 05 08 47.0 +0.7
GUA01 Guaratinga, BA 126.90 67 *e*P **PKiKP** 05 08 47.6 +0.4
RCLB Rio Claro- Sao 126.91 79 *e*P **PKiKP** 05 08 47.6 +0.4
BSCB Bom Sucesso 127.47 75 *e*P **PKPdf** 05 08 47.5 -0.4
VAO Valinhos 127.69 79 *e*P **PKiKP** 05 08 49.3 +0.5
NAN01 Guarapari, ES 127.72 68 *e*P **PKiKP** 05 08 49.3 +0.4
SJMB Sao Joao De Ma 127.79 70 *e*P **PKiKP** 05 08 50.2 +1.2
SPB Sao Paulo 127.85 80 PKPdf **PKiKP** 05 08 49.5 +0.6
SPB Sao Paulo 127.85 80 *e*P **PKiKP** 05 08 51.1 +2.1
BSFB Barra de Sao F 128.09 70 *e*P **PKiKP** 05 08 49.6 0.0
COYC Coyhaique 128.14 118 IAMs_20 IAMs_20 05 57 42.9
comp=Z,22µm,18.0s
TIJ01 Guaruva-PR 128.18 83 *e*P **PKiKP** 05 08 50.8 +1.0
PET01 Itanhaem-SP 128.46 80 *e*P **PKiKP** 05 08 51.4 +1.2
SINGT Singida 128.60 328 *i* P PKPdf 05 08 38.0 -12
SINGT *i* S **PKiKP** 05 08 52.1 +1.1
RIB01 Linhares ES 128.73 70 *e*P **PKiKP** 05 08 51.4 +0.5
PARB Paraibuna 128.75 78 *e*P **PKiKP** 05 08 52.9 +2.0
TRQA Tornquist 129.10 104 PKIKP **PKiKP** 05 08 50.7 -0.4
TRQA Tornquist 129.10 104 PKPdf **PKiKP** 05 08 50.7 -0.4
TRQA Tornquist 129.10 104 IAMs_20 IAMs_20 05 53 02.1
comp=Z,18µm,22.0s
TRQA Tornquist 129.10 104 *e*P **PKiKP** 05 08 52.6 +1.5
CPSB Cacapava Do Su 129.11 91 *e*P **PKiKP** 05 08 51.4 0.0
ESAR Angra dos Reis 129.22 77 *e*P **PKPdf** 05 08 50.2 -0.8
LPA La Plata 129.45 98 *de*PDIFF **Pdif** 05 05 41.3 +2.7
LPA PKIKP PKPpre 05 08 45.3
ALF01 Guarapari-ES 129.56 71 *e*P **PKiKP** 05 08 52.9 +0.4
DUB01 Friburgo-RJ 129.73 74 *e*P **PKPdf** 05 08 52.0 -0.1
CAM01 Campos-RJ 129.95 73 *e*P **PKiKP** 05 08 53.5 +0.2
PLTB Pedras Altas 129.95 92 *e*P **PKiKP** 05 08 54.3 +1.3
TER01 Tubaro-SC 130.43 86 *e*P **PKiKP** 05 08 55.5 +1.5
SBA Scott Base 130.69 186 PKIKP **PKiKP** 05 08 53.8 +0.7
SBA Scott Base 130.69 186 PKPdf **PKiKP** 05 08 53.8 +0.7
SBA Scott Base 130.69 186 IAMs_20 IAMs_20 06 01 50.9
comp=Z,21µm,19.0s
VNDA Vanda 130.75 188 PKP **PKiKP** 05 08 54.4 +1.2
comp=Z,2.5nm,0.9s,baz=25,slow=3.1,SNR=3.2
VNDA SKPab **SKPab** 05 12 14.7 +0.5
comp=Z,7.0nm,1.0s,baz=346,slow=7.0,SNR=3.1
ASCN Ascension 131.34 34 IAMs_20 IAMs_20 06 03 03.6
comp=Z,25µm,20.0s
CASY Casey 132.69 213 IAMs_20 IAMs_20 06 00 15.1
comp=Z,26µm,20.0s
OPO Ambohidratompo 135.80 306 PKP **PKiKP** 05 09 05.7 +0.3
comp=Z,58nm,1.1s,baz=24,slow=2.0,SNR=4.8
OPO Ambohidratompo 135.80 306 **PKiKP** 05 09 05.7 +0.3
ABPO Ambohimpanom 136.16 305 IAMs_20 IAMs_20 06 09 17.4
comp=Z,28µm,21.0s
VOI Vohitsoka 138.79 303 PKPdf **PKPdf** 05 09 08.1 -1.1
VOI IAMs_20 IAMs_20 06 22 12.2
comp=Z,24µm,21.0s
EFI East Falkland 139.24 117 PKIKP **PKiKP** 05 09 10.1 -1.0
EFI East Falkland 139.24 117 PKPdf **PKiKP** 05 09 10.1 -1.0
SHEL Horse Pasture 141.55 26 IAMs_20 IAMs_20 06 22 19.2
comp=Z,16µm,19.0s
QSPA South Pole Qui 142.04 180 PKhKP PKPpre 05 09 06.5
comp=Z,2.4nm,0.6s,baz=150,slow=0.3,SNR=18
QSPA PKP **PKiKP** 05 09 15.1 -1.4
comp=Z,35nm,0.7s,baz=67,slow=0.2,SNR=33
QSPA South Pole Qui 142.04 180 PKPpre 05 09 07.3
QSPA PKPdf **PKPdf** 05 09 14.7 +1.2
QSPA South Pole Qui 142.04 180 IAMs_20 IAMs_20 06 03 54.7
comp=Z,20µm,20.0s
PAF Port-aux-Franc 143.06 250 IAMs_20 IAMs_20 06 25 29.5
comp=Z,13µm,19.0s
MATP Matopo 145.25 329 PKPbc **PKPab** 05 09 20.6 0.0
comp=Z,215nm,1.0s,baz=8.3,slow=2.8,SNR=105
TSUM Tsumeb 146.53 348 PKPbc **PKPbc** 05 09 24.5 +0.1
comp=Z,203nm,1.1s,baz=358,slow=5.1,SNR=53
TSUM Tsumeb 146.53 348 PKPdf **PKPdf** 05 09 23.4 +0.5
LBTB Lobatse 150.45 331 PKP **PKPdf** 05 09 29.9 +0.7
comp=Z,60nm,1.1s,baz=14,slow=1.5,SNR=33
LBTB PKPbc **PKiKP** 05 09 35.3 +0.1
comp=Z,898nm,1.1s,baz=26,slow=2.2,SNR=51
MAW Mawson 150.74 218 PKP **PKPdf** 05 09 28.6 +0.5
comp=Z,10nm,0.8s,baz=115,slow=1.2,SNR=4.4
MAW Mawson 150.74 218 PKIKP **PKPdf** 05 09 28.5 +0.5
MAW 05 09 33.7
MAW Mawson 150.74 218 PKPdf **PKPdf** 05 09 28.5 +0.4
MAW PKPbc **PKPbc** 05 09 33.7 +0.1
HOPE Hope Point 152.25 113 PKIKP **PKPbc** 05 09 35.8 -1.7
HOPE Hope Point 152.25 113 **PKPbc** 05 09 35.8 -1.7
HOPE Hope Point 152.25 113 IAMs_20 IAMs_20 06 10 49.7
comp=Z,22µm,20.0s
CRZF Crozet Islands 152.70 266 IAMs_20 IAMs_20 06 19 38.6
comp=Z,16µm,20.0s
BOSA Boshof 153.92 329 PKP **PKPdf** 05 09 34.2 0.0
comp=Z,64nm,1.1s,baz=60,slow=1.6,SNR=21
SYO Syowa Base 158.34 208⇑ *i*X **PKPdf** 05 09 36.0 -2.5
SYO Syowa Base 158.34 208⇓ *i*X **PKPdf** 05 09 44.8 +6.3
SYO Syowa Base 158.34 208⇑ *i*X **PKPab** 05 10 10.0 -3.2
SUR Sutherland 158.74 335 PKP **PKPdf** 05 09 40.9 +0.4
comp=Z,27nm,1.1s,baz=111,slow=1.4,SNR=7.0
SUR PKPab **PKPab** 05 10 16.3 +0.2
comp=Z,117nm,1.1s,baz=308,slow=4.4,SNR=6.4
SUR Sutherland 158.74 335 **PKPab** 05 10 18.5 +2.4
VNA3 Neumayer Olymp 159.93 162 PKPdf **PKPdf** 05 09 40.5 +1.2
VNA2 Neumayer--Watz 159.62 163 PKPdf **PKPdf** 05 09 41.8 +1.8
SNAA Sanae 159.66 168 PKPdf **PKPdf** 05 09 41.8 +1.6
SNAA Sanae 159.66 168 PKP **PKPdf** 05 09 40.3 +0.1
comp=Z,7.5nm,0.9s,baz=202,slow=1.5,SNR=9.7
SNAA Sanae 159.66 168 PKIKP **PKPdf** 05 09 38.8 -1.4
SNAA Sanae 159.66 168 PKPdf **PKPdf** 05 09 38.8 -1.4
VNA1 Neumayer--Stat 159.69 162 PKPdf **PKPdf** 05 09 41.7 +1.6

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*IDC **27** 04:51:15.7±1.3,52°.55N×169°.38W,h0km,mb5.6/17, mb1 5.7/18,mb1mx5.4/43,mbtmp5.6/18,ML5.3/1,MS6.9/3, Ms1 6.9/3,ms1mx5.7/24 Error ellipse: s-maj=38.0km s-min=17.3km az=168.0*
*NEIC **27** 04:51:22.5±1.2,52°.8N±0°.2×169°.6W±0°.1,h32km±7km, mb5.9/46,Error ellipse: s-maj=26.0km s-min=11.5km az=170.0*

ISC 27 04:51:22.6±0.8,52°.7N±0°.2×169°.52W±0°.07,h40km,n91, σ0:94/90,mb5.8/39,1C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.51**	**52**		**Pn**	**04 51 33.0**	**-0.4**
CNBA	**Chernabura Isl**	**6.27**	**66**	Pn	**Pn**	**04 52 52.5**	**0.0**
KDAK	**Kodiak Island**	**10.93**	**55**	LR	LR	04 58 01.4	
	comp=Z,1283µm,21.4s,baz=260,slow=37						
ILAR	**Eielson Array**	**16.76**	**35**	Pn	**Pn**	**04 55 12.7**	**-1.4**
BCPM	**Bancas Point**	**17.99**	**54**		**P**	**04 55 29.9**	**+0.4**
PET	**Petropavlovsk**	**19.15**	**284**		**P**	**04 55 42.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**04 55 47.4**	**-0.9**
PEA0B				IAmb	IAmb	04 55 55.3	
	comp=Z,2µm,1.6s						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**04 55 46.7**	**-1.6**
	comp=Z,42nm,0.3s,baz=86,slow=13,SNR=7.1						
PETK	**Petropavlovsk-**	**19.70**	**284**	P	**P**	**04 55 47.8**	**-0.5**
MA2	**Magadan**	**22.90**	**303**	P	**P**	**04 56 24.1**	**+1.5**
	comp=Z,192nm,0.9s,baz=80,slow=14,SNR=3.7						
ERM	**Erimo**	**33.22**	**271**	P	**P**	**04 57 55.9**	**+0.4**
ERM				IAmb	IAmb	04 57 56.8	
	comp=Z,116nm,0.7s						
JTM	**Tenmabayashi**	**35.22**	**270**	P	**P**	**04 58 15.4**	**+2.6**
JTM				IAmb	IAmb	04 58 27.5	
	comp=Z,268nm,1.2s						
KLR	**Kul'dur**	**36.28**	**289**	P	**P**	**04 58 20.0**	**-1.8**
	comp=Z,42nm,0.5s,baz=62,slow=5.2,SNR=5.2						
YERR	**Yerington**	**36.84**	**91**	P	**P**	**04 58 27.4**	**+0.4**
YERR				IAmb	IAmb	04 58 39.6	
	comp=Z,456nm,1.7s						
MCMT	**McKenzie Canyo**	**37.31**	**79**	P	**P**	**04 58 31.2**	**+0.3**
MJAR	**Matsushiro Arr**	**39.62**	**267**	P	**P**	**04 58 50.9**	**+0.8**
	comp=Z,30nm,0.8s,baz=36,slow=6.7,SNR=3.3						
PD31	**Pinedale Array**	**40.44**	**79**	P	**P**	**04 58 56.0**	**-1.1**
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**04 58 54.5**	**-2.6**
	comp=Z,16nm,0.5s,baz=309,slow=4.5,SNR=2.4						
HIA	**Hailar**	**43.04**	**295**	P	**P**	**04 59 16.8**	**-1.3**
PV01	**Paradox Valley**	**43.87**	**84**	P	**P**	**04 59 24.4**	**-0.7**
KSRS	**Korea Array**	**45.28**	**276**	P	**P**	**04 59 35.4**	**-0.7**
	comp=Z,71nm,0.8s,baz=53,slow=7.5,SNR=5.5						
KS19	**Wonju Array Si**	**45.28**	**276**	P	**P**	**04 59 36.8**	**+0.7**
KS19				IAmb	IAmb	04 59 38.9	
	comp=Z,90nm,0.8s						
KSAR	**Wonju Array Be**	**45.31**	**276**	P	**P**	**04 59 35.5**	**-0.8**
INCN	**Inchon**	**46.04**	**277**	P	**P**	**04 59 43.3**	**+1.2**
INCN				IAmb	IAmb	04 59 44.6	
	comp=Z,150nm,0.8s						
NRIK	**Noril'sk**	**46.12**	**331**	P	**P**	**04 59 41.8**	**-0.6**
	comp=Z,28nm,0.4s,baz=78,slow=11,SNR=5.9						
NRIK	**Noril'sk**	**46.12**	**331**	P	**P**	**04 59 42.3**	**0.0**
JNU	**Nakatsue**	**46.38**	**270**	P	**P**	**04 59 44.5**	**-0.3**
JNU				IAmb	IAmb	04 59 57.4	
	comp=Z,149nm,0.8s						
ANMO	**Albuquerque**	**47.24**	**86**	P	**P**	**04 59 52.4**	**+0.7**
ANMO				IAmb	IAmb	04 59 53.0	
	comp=Z,181nm,1.1s						
BNM	**Barren Site**	**47.67**	**87**	P	**P**	**04 59 54.6**	**-0.5**
SPITS	**Spitsbergen Ar**	**49.37**	**358**	P	**P**	**05 00 07.2**	**-0.3**
	comp=Z,28nm,0.4s,baz=34,slow=6.1,SNR=6.3						
SCO	**Scoresbysund**	**54.96**	**13**	P	**P**	**05 00 49.3**	**+0.5**
SCO				IAmb	IAmb	05 00 52.9	
	comp=Z,373nm,1.8s						
SCHQ	**Schefferville**	**55.28**	**43**	P	**P**	**05 00 51.6**	**+0.1**
	comp=Z,153nm,0.9s,baz=311,slow=12,SNR=3.7						
SCHQ	**Schefferville**	**55.28**	**43**	P	**P**	**05 00 52.5**	**+1.0**
SCHQ				IAmb	IAmb	05 00 53.6	
	comp=Z,147nm,0.9s						
ZALV	**Zalesovo Beam**	**57.15**	**317**	PcP	**PcP**	**05 01 58.4**	**-0.6**
	comp=Z,23nm,0.7s,baz=41,slow=4.7,SNR=2.7						
LVZ	**Lovozero**	**58.41**	**350**	P	**P**	**05 01 13.7**	**+0.1**
BINY	**Binghamton**	**59.81**	**59**	P	**P**	**05 01 24.9**	**+1.3**
BINY				IAmb	IAmb	05 01 26.1	
	comp=Z,79nm,0.8s						
BORG	**Borgarnes**	**60.37**	**15**	P	**P**	**05 01 28.0**	**+1.1**
ENH	**Enshi**	**61.30**	**283**	P	**P**	**05 01 33.2**	**-0.7**
BRVK	**Borovoye**	**63.42**	**324**	P	**P**	**05 01 48.9**	**+1.2**
BRVK				IAmb	IAmb	05 01 50.0	
	comp=Z,52nm,0.7s						
MKAR	**Makanchi Array**	**63.54**	**313**	P	**P**	**05 01 48.4**	**-0.2**
	comp=Z,36nm,0.8s,baz=57,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**63.54**	**313**	P	**P**	**05 01 48.7**	**+0.1**
MAKZ	**Makanchi**	**63.67**	**313**	P	**P**	**05 01 50.6**	**+1.2**
MAKZ				IAmb	IAmb	05 01 59.1	
	comp=Z,89nm,1.4s						
FIA1	**FINESS Array S**	**65.56**	**352**	P	**P**	**05 02 01.4**	**-0.1**
FIA1				IAmb	IAmb	05 02 03.6	
	comp=Z,96nm,0.8s						
FINES	**FINESS Array B**	**65.56**	**352**	P	**P**	**05 02 01.4**	**-0.1**
	comp=Z,105nm,0.9s,baz=22,slow=7.8,SNR=3.4						
NC204	**NORSAR Array S**	**66.41**	**360**	P	**P**	**05 02 07.0**	**-0.1**
NB2	**NORSAR Subarra**	**66.64**	**360**	P	**P**	**05 02 07.5**	**-1.0**
	comp=Z,24nm,0.6s,baz=360,slow=6.5						
NB2	**NORSAR Subarra**	**66.64**	**360**	P	**P**	**05 02 07.5**	**-1.0**
	baz=360,slow=6.5						
NOA	**NORSAR Array B**	**66.64**	**360**	P	**P**	**05 02 08.6**	**0.0**
	comp=Z,58nm,0.8s,baz=360,slow=6.3,SNR=5.3						
BOOM	**Boomskoye usch**	**69.72**	**314**	P	**P**	**05 02 28.5**	**+0.3**
BOOM				IAmb	IAmb	05 02 31.8	
	comp=Z,201nm,1.3s						
ABKAR	**Akbulak array**	**70.14**	**328**	P	**P**	**05 02 32.0**	**+1.5**
SLVN	**Son La**	**71.29**	**281**	P	**P**	**05 02 38.6**	**+0.6**
SLVN				IAmb	IAmb	05 02 41.3	
	comp=Z,137nm,1.3s						
KKAR	**Karatay Array**	**71.51**	**318**	P	**P**	**05 02 39.5**	**+0.6**
PABE	**Paberze**	**71.62**	**352**	P	**P**	**05 02 39.4**	**0.0**
LSA	**Lhasa**	**72.24**	**296**	P	**P**	**05 02 44.6**	**+0.5**
SUW	**Suwalki**	**73.17**	**352**	P	**P**	**05 02 47.8**	**-0.8**
GAR	**Garm**	**75.01**	**316**	P	**P**	**05 02 59.8**	**0.0**
CHGR	**Chuyangaron**	**75.79**	**316**	P	**P**	**05 03 04.1**	**-0.2**
AKASG	**Malin Array Be**	**75.80**	**348**	P	**P**	**05 03 03.0**	**-0.9**
	comp=Z,103nm,0.7s,baz=16,slow=6.0,SNR

AKBB IAmb IAmb 05 03 05.7
comp=Z,140nm,0.9s
CLL Collm 76.38 358 *i* P **P 05 03 09.0 +1.8**
comp=Z,94nm,1.0s
CMAR Chiang Mai Arr 76.47 283 P **P 05 03 07.5 -0.7**
comp=Z,110nm,0.9s,baz=28,slow=5.6,SNR=3.0
CMAR Chiang Mai Arr 76.47 283 P **P 05 03 07.7 -0.5**
BRG Berggiesshubel 76.80 358 *e*P **P 05 03 10.0 +0.4**
BRG Amp 05 03 12.3
comp=Z,45nm,0.8s
PVCC Panska Ves 77.13 357 *e*P **P 05 03 13.3 +1.8**
DPC Dobruska-Polom 77.24 356 *e*P **P 05 03 12.9 +0.7**
NKC Novy Kostel 77.47 359 *e*P **P 05 03 14.9 +1.5**
KRLC Kraliky 77.50 356 *e*P **P 05 03 13.5 -0.1**
PRU Pruhonice 77.67 357 *e*P **P 05 03 15.3 +0.8**
MORC Moravsky Berou 77.76 355 P **P 05 03 16.3 +1.2**
MORC IAmb IAmb 05 03 18.3
comp=Z,93nm,1.1s
PBCC Pribram 77.98 358 *e*P **P 05 03 16.5 +0.2**
KHC Kasperske Hory 78.55 358 *e*P **P 05 03 20.4 +0.9**
GEC2 GERESS Array S 78.83 358 P **P 05 03 21.7 +0.6**
GERES GERESS Array B 78.83 358 P **P 05 03 21.5 +0.4**
comp=Z,32nm,0.8s,baz=19,slow=4.5,SNR=3.8
GERES LR LR 05 39 04.6
comp=Z,57µm,19.9s,baz=14,slow=36
GERES GERESS Array B 78.83 358 P **P 05 03 22.3 +1.2**
BUR08 Bucovina Ar. S 79.28 350 P **P 05 03 24.6 +0.9**
BURAR Bucovina Array 79.31 350 P **P 05 03 23.8 +0.1**
CLF Chambon-Foret 79.44 6 P **P 05 03 24.9 +0.6**
CLF IAmb IAmb 05 03 28.8
comp=Z,134nm,0.9s
CTI Castel Tesino 81.66 359 P **P 05 03 37.8 +1.4**
CTI IAmb IAmb 05 03 39.1
comp=Z,95nm,1.1s
TIRR Tirgusor 82.03 347 P **P 05 03 38.2 0.0**
SSB Saint Sauveur 82.30 4 P **P 05 03 40.7 +1.0**
BNI Bardonecchia 82.61 3 P **P 05 03 43.0 +1.5**
BNI IAmb IAmb 05 03 47.0
comp=Z,132nm,1.0s
MSSA Maissana 83.40 1 P **P 05 03 46.2 +0.8**
MSSA IAmb IAmb 05 03 49.0
comp=Z,100nm,1.0s
MTP Monte Pirata 83.97 68 P **P 05 03 49.2 +0.6**
OSSC Osservatorio P 84.19 359 P **P 05 03 49.7 +0.3**
PDG Podgorica 84.98 353 P **P 05 03 54.1 +0.7**
PDG IAmb IAmb 05 03 55.8
comp=Z,79nm,0.9s
BRTR Keskin Array B 85.82 342 P **P 05 03 56.4 -1.4**
comp=Z,13nm,0.7s,baz=52,slow=3.4,SNR=2.1
ESDC Sonseca Array 87.19 11 P **P 05 04 03.9 -0.5**
comp=Z,47nm,0.9s,baz=346,slow=4.6,SNR=4.2
KEST Kesra 91.97 1 P **P 05 04 27.3 +0.4**
KEST comp=Z,22nm,0.9s,baz=287,slow=4.1,SNR=2.7 LR LR 05 46 20.5
comp=Z,35µm,21.8s,baz=304,slow=36
MATP Matopo 144.93 330 PKPbc **PKPdf 05 10 55.1 -0.3**
comp=Z,90nm,0.7s,baz=317,slow=2.2,SNR=3.2
SYO Syowa Base 158.68 209 ⇑*i*X **PKPdf 05 11 13.0 -1.2**

NEIC ***27*** *04:53:32.1±1.2,52.°09N±0.°05×169.°24W±0.°05, h14km±4km, mb5.2/11, ML4.3(AEIC), Error ellipse: s-maj=7.5km s-min=2.2km az=152.0*
AEIC ***27*** *04:53:33±1.4,52.°14N±0.°09×169.°30W±0.°07, h19km±5km, Error ellipse: s-maj=12.7km s-min=5.8km az=165.0*
ISC 27 04:53:33.4±0.8,52.°1N±0.°2×169.°28W±0.°07,h30km,n28,
σ1§13/28,mb5.2/6,1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.92**	**16**		**Pn**	**04 53 49.9**	**-0.4**
OKSP	**Okmok Steeple**	**1.31**	**27**		**Pn**	**04 53 55.5**	**-0.3**
OKFG	**Magazine Ridge**	**1.56**	**32**		**Pn**	**04 53 58.6**	**-0.5**
MAPS	**Pakushin South**	**2.23**	**39**		**Pn**	**04 54 08.6**	**+0.4**
MSW	**Makushin Switc**	**2.37**	**39**		**Pn**	**04 54 11.1**	**+0.8**
MNAT	**Makushin Natee**	**2.38**	**40**		**Pn**	**04 54 11.2**	**+0.7**
UNV	**Unalaska Valle**	**2.43**	**43**		**Pn**	**04 54 12.6**	**+1.5**
AKUT	**Akutan**	**2.94**	**45**	Pn	**Pn**	**04 54 17.9**	**-0.2**
ATKA	**Atka Island**	**3.03**	**274**		**Pn**	**04 54 19.7**	**+0.4**
GSTR	**Great Sitkin T**	**4.18**	**273**	Pn	**Pn**	**04 54 38.2**	**+3.1**
KIWB	**Kanaga Island**	**4.87**	**270**	Pn	**Pn**	**04 54 46.0**	**+1.4**
SDPT	**Sand Point**	**6.16**	**55**	Pn	**Pn**	**04 55 03.9**	**+1.6**
CNBA	**Chernabura Isl**	**6.40**	**61**	Pn	**Pn**	**04 55 05.8**	**+0.2**
AMKA	**Amchitka**	**7.13**	**269**	Pn	**Pn**	**04 55 16.0**	**+0.5**
HYT	**Haines Junctio**	**19.43**	**51**	P	**P**	**04 57 55.2**	**-2.0**
PET	**Petropavlovsk**	**19.44**	**285**	P	**Pn**	**04 57 58.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**19.99**	**286**	P	**P**	**04 58 03.6**	**+0.4**
PEA0B				IAmb	IAmb	04 58 14.3	
PETK	**Petropavlovsk-**	**19.99**	**286**	P	**P**	**04 58 03.5**	**+0.3**
MA2	**Magadan**	**23.34**	**304**	P	**P**	**04 58 39.8**	**+1.0**
MA2				IAmb	IAmb	04 58 50.2	
GCMT	**Greycliff**	**38.68**	**75**	P	**P**	**05 00 54.6**	**+0.3**
H17A	**Grant Village**	**38.88**	**77**	P	**P**	**05 00 57.0**	**+0.8**
H17A				IAmb	IAmb	05 00 57.0	
GSC	**Goldstone, Bar**	**40.52**	**93**	P	**P**	**05 01 09.3**	**-0.4**
INU	**Inuyama**	**41.25**	**268**	P	**P**	**05 01 13.4**	**-2.2**
INU				IAmb	IAmb	05 01 14.2	
N38A	**Joes South For**	**51.31**	**71**	P	**P**	**05 02 35.5**	**+0.9**
N38A				IAmb	IAmb	05 02 35.6	
NC303	**NORSAR Array S**	**67.03**	**360**	P	**P**	**05 04 23.4**	**+0.4**
NC303				IAmb	IAmb	05 04 36.8	
ABKAR	**Akbulak array**	**70.70**	**328**	P	**P**	**05 04 46.6**	**+0.6**
ABKAR				IAmb	IAmb	05 04 48.1	
TNTI	**Ternate**	**73.31**	**249**	P	**P**	**05 05 02.6**	**+0.5**
SYO	**Syowa Base**	**158.25**	**208**	⇓*i*X	**PKPdf**	**05 13 25.0**	**-0.9**

IDC ***27*** *04:55:42.3±0.4,52.°26N×169.°48W, h0km, mb5.2/37, mb1 5.3/39, mb1mx5.2/53, mbtmp5.2/39, ML4.6/2, Error ellipse: s-maj=14.8km s-min=9.5km az=168.0*
BJI ***27*** *04:55:42.0±0.0,52.°20N×169.°40W, h15km, mB5.9/8, mb5.5/63*
MOS ***27*** *04:55:45.5±1.1,52.°28N×169.°53W, h31km, mb5.8/73, Error ellipse: s-maj=7.2km s-min=4.3km az=94.3*
NEIC ***27*** *04:55:46.4±2.1,52.°21N±0.°06×169.°42W±0.°07, h28km±4km, mb5.7/263, ML5.2/36(AEIC), Error ellipse: s-maj=8.2km s-min=5.7km az=169.0*
AEIC ***27*** *04:55:47±2.1,52.°29N±0.°06×169.°38W±0.°07, h37km±4km, Error ellipse: s-maj=8.1km s-min=6.3km az=177.0*
BGR ***27*** *04:55:54.0±0.0,53.°44N×169.°27W, h33km, mb5.6*
ISC 27 04:55:44.4±0.7,52.°21N±0.°05×169.°37W±0.°04,h16km±3km,
n778,σ1§31/779,mb5.6/281,MS6.6/4,71C-17D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.83**	**22**	Pn	**Pn**	**04 56 01.8**	**+0.4**
NIKH				Sn	**Sn**	**04 56 14.3**	**+1.0**
OKSO	**Okmok South**	**1.37**	**32**		**Pg**	**04 56 10.2**	**-0.5**
OKCE	**Okmok Cone E**	**1.42**	**30**		**Pg**	**04 56 11.5**	**-0.3**
OKNC	**Okmok New Cone**	**1.46**	**31**		**Pb**	**04 56 11.6**	**+0.3**
OKNC					**Sn**	**04 56 29.3**	**+0.3**
MAPS	**Pakushin South**	**2.17**	**42**		**Pb**	**04 56 21.8**	**-1.5**
MAPS					**Sb**	**04 56 49.2**	**-0.9**
MGOD	**Makushin Gods**	**2.19**	**43**		**Pb**	**04 56 22.3**	**-1.3**
MSW	**Makushin Switc**	**2.32**	**41**		**Pb**	**04 56 24.1**	**-1.6**
MNAT	**Makushin Natee**	**2.33**	**43**		**Pn**	**04 56 24.1**	**+2.0**
MNAT					**Sn**	**04 56 52.3**	**+1.8**
UNV	**Unalaska Valle**	**2.38**	**45**		**Pn**	**04 56 24.4**	**+1.6**
UNV					**Sn**	**04 56 53.0**	**+1.4**
AKMO	**Akutan Morgan**	**2.77**	**46**		**Pn**	**04 56 30.3**	**+2.3**
AKGG	**Akutan Green G**	**2.85**	**44**		**Pb**	**04 56 32.2**	**-2.6**
KOSE	**Korovin Southe**	**2.88**	**275**		**Pn**	**04 56 32.2**	**+2.6**
AKUT	**Akutan**	**2.90**	**47**	Pn	**Pn**	**04 56 32.5**	**+2.6**
ATKA	**Atka Island**	**2.97**	**272**		**Sn**	**04 57 07.5**	**+1.5**
ATKA	**Atka Island**	**2.97**	**272**	Pn	**Pn**	**04 56 30.4**	**-0.4**
KOKL	**Mount Kliuchef**	**2.97**	**274**		**Pn**	**04 56 33.5**	**+2.6**
GSIG	**Igitkin Island**	**4.05**	**269**		**Pn**	**04 56 47.4**	**+1.7**
SSBA	**Shishaldin**	**4.05**	**49**		**Pn**	**04 56 48.9**	**+3.1**
GSTR	**Great Sitkin T**	**4.12**	**271**	Pn	**Pn**	**04 56 46.5**	**-0.2**
GSTD	**Great Sitkin T**	**4.18**	**271**		**Pn**	**04 56 49.1**	**+1.6**
FALS	**False Pass**	**4.43**	**51**	Pn	**Pn**	**04 56 52.3**	**+1.4**
ADK	**Adak**	**4.53**	**269**	P	**Pn**	**04 56 52.6**	**+0.4**
ADK	**Adak**	**4.53**	**269**	Pn	**Pn**	**04 56 52.6**	**+0.4**
KIWB	**Kanaga Island**	**4.82**	**269**	Pn	**Pn**	**04 56 57.0**	**+0.8**
KIMD	**Kanaga Island**	**4.88**	**268**		**Pn**	**04 56 58.6**	**+1.5**
SPIA	**Saint Paul Isl**	**5.01**	**355**	Pn	**Pn**	**04 57 01.0**	**+2.2**
TAPA	**Tanaga Point A**	**5.23**	**269**		**Pn**	**04 57 03.6**	**+1.6**
SDPT	**Sand Point**	**6.14**	**56**	Pn	**Pn**	**04 57 18.0**	**+3.7**
CNBA	**Chernabura Isl**	**6.39**	**62**	Pn	**Pn**	**04 57 20.1**	**+2.3**
CESW	**Semis' Southwe**	**6.83**	**272**		**Pn**	**04 57 26.5**	**+2.6**
AMKA	**Amchitka**	**7.08**	**268**	Pn	**Pn**	**04 57 29.3**	**+2.1**
LSPA	**Little Sitkin**	**7.44**	**273**		**Pn**	**04 57 35.4**	**+3.2**
CHIR	**Chirikof Islan**	**8.87**	**60**	Pn	**Pn**	**04 57 53.6**	**+1.9**
SII	**Sitkinak Islan**	**9.87**	**58**	Pn	**Pn**	**04 58 07.9**	**+2.5**
SMY	**Shemya**	**10.10**	**279**	P	**Pn**	**04 58 09.8**	**+1.1**
SMY	**Shemya**	**10.10**	**279**	Pn	**Pn**	**04 58 09.8**	**+1.1**
OHAK	**Old Harbor**	**10.56**	**55**	Pn	**Pn**	**04 58 14.9**	**0.0**
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**04 58 23.6**	**+1.0**
KDAK	16nm,0.3s,baz=304,slow=3.0,SNR=5.5			Sn	**Sn**	**05 00 19.8**	**-6.8**
	baz=180,slow=20,SNR=1.9						
KDAK	**Kodiak Island**	**11.13**	**53**	⇑*i*P	**Pn**	**04 58 23.2**	**+0.5**
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**04 58 22.8**	**+0.1**
GAMB	**Gambell**	**11.67**	**355**	Pn	**Pn**	**04 58 33.3**	**+3.4**
RSO	**Redoubt South**	**12.35**	**41**	Pn	**Pn**	**04 58 41.9**	**+2.3**
HOM	**Homer**	**12.40**	**46**	Pn	**Pn**	**04 58 41.9**	**+1.9**
CNPM	**China Poot**	**12.52**	**47**	Pn	**Pn**	**04 58 41.8**	**+0.1**
ANM	**Nome**	**12.57**	**8**	P	**Pn**	**04 58 45.3**	**+3.0**
ANM	**Nome**	**12.57**	**8**	Pn	**Pn**	**04 58 45.3**	**+3.0**
BRLK	**Bradley Lake**	**12.79**	**46**	Pn	**Pn**	**04 58 45.4**	**0.0**
SPU	**Mount Spurr**	**13.05**	**40**	Pn	**Pn**	**04 58 53.6**	**+4.6**
CAPN	**Captain Cook N**	**13.18**	**42**	Pn	**Pn**	**04 58 54.6**	**+4.0**
TNA	**Tin City**	**13.41**	**3**	Pn	**Pn**	**04 58 58.0**	**+4.2**
SEW	**Seward**	**13.58**	**47**	Pn	**Pn**	**04 58 56.8**	**+0.7**
O22K	**Cooper Landing**	**13.64**	**45**	Pn	**Pn**	**04 58 56.4**	**-0.5**
SUA	**Susitna One**	**13.73**	**40**	Pn	**Pn**	**04 59 00.2**	**+1.9**
FIS	**Fire Island**	**13.77**	**42**	Pn	**Pn**	**04 59 00.5**	**+1.9**
RC01	**Rabbit Creek A**	**13.94**	**43**	Pn	**Pn**	**04 59 01.9**	**+0.9**
PPLA	**Purkeypile**	**14.08**	**34**		**P**	**04 59 08.8**	**-1.9**
PWL	**Port Wells**	**14.42**	**45**	Pn	**Pn**	**04 59 07.3**	**-0.3**
PMR	**Palmer**	**14.45**	**42**	P	**Pn**	**04 59 10.4**	**+2.4**
PMR	**Palmer**	**14.45**	**42**	Pn	**Pn**	**04 59 10.3**	**+2.4**
CUT	**Chulitna**	**14.46**	**38**	Pn	**P**	**04 59 11.8**	**-3.0**
KNK	**Knik Glacier**	**14.63**	**43**	Pn	**Pn**	**04 59 10.7**	**+0.1**
Q23K	**Middleton Isla**	**14.77**	**52**	Pn	**Pn**	**04 59 11.9**	**-0.4**
MID	**Middleton Isla**	**14.77**	**52**	P	**Pn**	**04 59 12.1**	**-0.3**
MID	**Middleton Isla**	**14.77**	**52**	Pn	**Pn**	**04 59 12.1**	**-0.3**
SML	**Sawmill**	**14.89**	**42**	Pn	**Pn**	**04 59 13.8**	**-0.2**
KTH	**Kantishna Hill**	**14.94**	**33**	Pn	**Pn**	**04 59 16.9**	**+2.1**
GLI	**Glacier Island**	**14.97**	**46**	Pn	**Pn**	**04 59 14.4**	**-0.8**
HIN	**Hinchinbrook I**	**15.04**	**48**	Pn	**Pn**	**04 59 15.1**	**-1.0**
HIN				IAmb	IAmb	04 59 17.6	
	comp=Z,339nm,1.0s						
TRF	**Thorofare Moun**	**15.09**	**34**		**P**	**04 59 21.7**	**-0.4**
FID	**Port Fidalgo**	**15.19**	**47**	Pn	**Pn**	**04 59 16.3**	**-1.7**
FID				IAmb	IAmb	04 59 18.9	
	comp=Z,564nm,1.4s						
BPAW	**Bear Paw Mtn.**	**15.29**	**32**		**P**	**04 59 23.7**	**-0.4**
SCM	**Sheep Creek Mo**	**15.31**	**42**	P	**Pn**	**04 59 19.1**	**-0.6**
SCM				pmax	pmax		
	comp=Z,1µm,1.5s						
SCM	**Sheep Creek Mo**	**15.31**	**42**	Pn	**Pn**	**04 59 19.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**15.45**	**48**	Pn	**Pn**	**04 59 20.4**	**-1.0**
EYAK				IAmb	IAmb	05 00 01.8	
	comp=Z,631nm,1.7s						
RND	**Reindeer**	**15.57**	**36**	P	**P**	**04 59 26.8**	**-0.5**
RND				pmax	pmax		
	comp=Z,2µm,1.9s						
RND	**Reindeer**	**15.57**	**36**		**P**	**04 59 26.8**	**-0.5**
MCK	**McKinley**	**15.74**	**35**	P	**P**	**04 59 28.5**	**-0.7**
MCK				pmax	pmax		
	comp=Z,2µm,1.8s						
MCK	**McKinley**	**15.74**	**35**		**P**	**04 59 28.4**	**-0.7**
KLU	**Klutina**	**15.75**	**45**	Pn	**Pn**	**04 59 24.4**	**-1.0**
KLU				IAmb	IAmb	04 59 35.0	
	comp=Z,1µm,1.9s						
KAIM	**Kayak Island**	**15.85**	**51**	Pn	**Pn**	**04 59 27.5**	**+0.8**
KAIM				IAmb	IAmb	05 00 10.9	
	comp=Z,793nm,1.6s						
RAGM	**Ragged Mountai**	**15.88**	**49**	Pn	**Pn**	**04 59 27.0**	**-0.1**
RAGM				IAmb	IAmb	04 59 51.2	
	comp=Z,1µm,1.9s						
M24K	**Tolsona, Glenn**	**15.92**	**42**	Pn	**Pn**	**04 59 27.9**	**+0.3**
MLY	**Manley**	**16.01**	**29**		**P**	**04 59 32.6**	**+0.5**
MLY				IAmb	IAmb	04 59 48.0	
	comp=Z,1µm,1.9s						
HMT	**Hamilton**	**16.06**	**50**	Pn	**Pn**	**04 59 29.2**	**-0.1**
BMRM	**Bremner River**	**16.12**	**47**	Pn	**Pn**	**04 59 29.3**	**-0.8**
SUCK	**Suckling Hills**	**16.20**	**51**		**P**	**04 59 33.6**	**-0.6**
SUCK				IAmb	IAmb	05 00 19.2	
	comp=Z,613nm,1.4s						
NEA2	**Nenana**	**16.24**	**32**		**P**	**04 59 33.6**	**-1.1**
NEA2				IAmb	IAmb	04 59 47.8	
	comp=Z,822nm,1.7s						
BERG	**Berg Lake**	**16.34**	**50**	Pn	**Pn**	**04 59 33.4**	**+0.5**
N25K	**Chitina, Valde**	**16.38**	**45**	Pn	**Pn**	**04 59 32.9**	**-0.5**
WRH	**Wood River Hil**	**16.49**	**34**	Pn	**Pn**	**04 59 35.7**	**+1.0**
WRH				IAmb	IAmb	05 00 13.7	
	comp=Z,1µm,1.7s						
I23K	**Minto, Yukon-K**	**16.51**	**31**		**P**	**04 59 36.7**	**-0.9**
PAX	**Paxson**	**16.62**	**40**	P	**Pn**	**04 59 36.9**	**+0.3**
PAX				pmax	pmax		
	comp=Z,832nm,1.9s						
PAX	**Paxson**	**16.62**	**40**	Pn	**Pn**	**04 59 36.9**	**+0.3**
PAX				IAmb	IAmb	05 00 23.4	
	comp=Z,832nm,1.9s						
GLB	**Gilahina Butte**	**16.66**	**46**	Pn	**Pn**	**04 59 36.9**	**-0.1**
CCB	**Clear Creek Bu**	**16.70**	**33**	Pn	**Pn**	**04 59 37.0**	**-0.3**
CCB				IAmb	IAmb	04 59 40.5	
	comp=Z,1µm,1.7s						
CRQM	**Cirque**	**16.72**	**49**	Pn	**Pn**	**04 59 38.5**	**+0.5**
VRDI	**Verde Repeater**	**16.74**	**47**	Pn	**Pn**	**04 59 37.8**	**-0.3**
MDM	**Murphy Dome**	**16.75**	**32**	Pn	**Pn**	**04 59 38.9**	**+0.7**
WAX	**Waxell Ridge**	**16.76**	**50**	Pn	**Pn**	**04 59 38.2**	**-0.1**
COLA	**College**	**16.82**	**33**	*i* P	**Pn**	**04 59 39.7**	**+0.8**
HDA	**Harding Lake**	**16.85**	**35**	Pn	**Pn**	**04 59 40.0**	**+0.7**
HDA				IAmb	IAmb	04 59 45.4	
	comp=Z,808nm,1.7s						
TGL	**Tana Glacier**	**16.86**	**49**	Pn	**Pn**	**04 59 40.5**	**+0.8**
MCARA	**McCarthy VSAT**	**16.99**	**47**	Pn	**Pn**	**04 59 41.7**	**+0.6**
ISLE	**Juniper Island**	**17.05**	**50**	Pn	**Pn**	**04 59 42.8**	**+0.8**
ISLE				IAmb	IAmb	04 59 52.1	
	comp=Z,2µm,2.0s						
ILAR	**Eielson Array**	**17.09**	**34**	P	**Pn**	**04 59 42.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=233,slow=10,SNR=2.7						
MESA	**MESA**	**17.11**	**51**	P	**P**	**04 59 45.0**	**+0.5**
MESA				IAmb	IAmb	05 00 04.9	
	comp=Z,781nm,1.4s						
POKR	**Poker Plat Res**	**17.11**	**32**		**P**	**04 59 45.0**	**+0.7**
POKR				IAmb	IAmb	05 00 23.6	
	comp=Z,1µm,1.8s						
RIDG	**Independent Ri**	**17.25**	**38**		**P**	**04 59 45.9**	**0.0**
YAH	**Yahtse**	**17.26**	**51**		**P**	**04 59 46.2**	**0.0**
MENT	**Mentasta**	**17.32**	**42**	P	**P**	**04 59 47.4**	**+0.8**
MENT				IAmb	IAmb	05 00 16.3	
	comp=Z,1µm,1.8s						
BARN	**Barnard Glacie**	**17.50**	**49**		**Pn**	**04 59 48.2**	**+0.5**
DOT	**Dot Lake**	**17.51**	**39**		**P**	**04 59 49.2**	**+0.5**
DOT				IAmb	IAmb	05 00 26.3	
	comp=Z,923nm,1.7s						
TABL	**Table Mountain**	**17.57**	**51**	P	**P**	**04 59 50.7**	**+1.2**
CTGM	**Chitina Glacie**	**17.63**	**49**		**P**	**04 59 49.9**	**-0.2**
SCRK	**Sand Creek**	**17.70**	**38**	P	**P**	**04 59 51.6**	**+0.7**
SCRK				IAmb	IAmb	05 00 22.6	
	comp=Z,888nm,1.8s						
LOGN	**Logan Glacier**	**17.74**	**50**	P	**P**	**04 59 53.4**	**+2.0**
PCA	**Pinnacle**	**17.91**	**52**	P	**P**	**04 59 54.2**	**+1.1**
BCPM	**Bancas Point**	**18.18**	**53**	P	**P**	**04 59 56.8**	**+0.7**
FYU	**Fort Yukon**	**18.73**	**31**	P	**P**	**05 00 01.7**	**-0.3**
EGAK	**Eagle**	**19.17**	**38**	P	**Pn**	**05 00 08.2**	**+0.4**
EGAK				IAmb	IAmb	05 00 42.8	
	comp=Z,1µm,1.8s						
PET	**Petropavlovsk**	**19.35**	**285**	*e*P	**Pn**	**05 00 09.6**	**-0.5**
PET				pmax	pmax		
	comp=Z,169nm,1.2s						
PET	**Petropavlovsk**	**19.35**	**285**	P	**P**	**05 00 09.4**	**+0.4**
HYT	**Haines Junctio**	**19.40**	**51**	P	**Pn**	**05 00 13.1**	**+2.3**
HYT				IAmb	IAmb	05 00 15.2	
	comp=Z,442nm,1.1s						
BMAR	**Burnt Mountain**	**19.47**	**29**	P	**Pn**	**05 00 11.4**	**-0.1**
BILL	**Bilibino**	**19.74**	**333**	*e*P	**P**	**05 00 13.4**	**+0.3**
BILL				pmax	pmax		
	comp=Z,192nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**05 00 15.2**	**+0.2**
PEA0B				pmax	pmax		
	comp=Z,456nm,1.3s						
PEA0B	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**05 00 15.2**	**+0.2**
PEA0B				IAmb	IAmb	05 00 16.9	
	comp=Z,456nm,1.2s						
PETK	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**05 00 14.8**	**-0.2**
	comp=Z,19nm,0.3s,baz=94,slow=14,SNR=45						
PETK	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**05 00 15.0**	**0.0**
PETK	**Petropavlovsk-**	**19.90**	**286**	P	**P**	**05 00 15.0**	**0.0**
SKAG	**Skagway**	**20.26**	**56**	P	Pn	05 00 22.7	+1.9
SKAG				IAmb	IAmb	05 00 33.0	
	comp=Z,240nm,0.8s						
WHY	**Whitehorse**	**20.64**	**52**	P	Pn	05 00 25.3	-0.1
WHY				IAmb	IAmb	05 00 30.2	
	comp=Z,286nm,0.9s						
SKR	**Severo-Kuril's**	**21.45**	**280**	⇓*i*P	**P**	**05 00 30.8**	**-0.9**
EPYK	**Eagle Plains**	**21.53**	**36**	P	**P**	**05 00 31.5**	**-1.0**
EPYK				IAmb	IAmb	05 00 42.6	
	comp=Z,224nm,0.8s						
MOBC	**Moresby Island**	**22.53**	**73**	P	**P**	**05 00 44.2**	**+0.9**
MOBC				IAmb	IAmb	05 01 27.8	
	comp=Z,347nm,1.7s						
DLBC	**Dease Lake**	**22.97**	**59**	P	**P**	**05 00 49.4**	**+1.4**
	comp=Z,43nm,0.9s,baz=293,slow=7.7,SNR=2.8						
MA2	**Magadan**	**23.23**	**304**	P	**P**	**05 00 51.1**	**+0.6**
	comp=Z,66nm,0.8s,baz=99,slow=9.3,SNR=7.7						
MA2	**Magadan**	**23.23**	**304**	⇑*i*P	**P**	**05 00 50.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,133nm,1.1s						
MA2	**Magadan**	**23.23**	**304**	P	**P**	**05 00 52.0**	**+1.5**
INK	**Inuvik**	**23.48**	**33**	P	**P**	**05 00 51.8**	**-1.1**
	comp=Z,67nm,0.8s,baz=190,slow=13,SNR=10						
INK				PcP	**PcP**	**05 04 39.4**	**+1.3**
	comp=Z,26nm,0.9s,baz=287,slow=0.9,SNR=3.2						
INK	**Inuvik**	**23.48**	**33**	P	**P**	**05 00 52.3**	**-0.6**
INK				pmax	pmax		
	comp=Z,73nm,0.8s						
INK	**Inuvik**	**23.48**	**33**	P	**P**	**05 00 52.3**	**-0.6**
C36M	**Paulatuk**	**27.06**	**34**	P	**P**	**05 01 25.4**	**-0.3**
C36M				IAmb	IAmb	05 01 36.0	
	comp=Z,271nm,1.6s						
KUR	**Kuril'sk**	**28.72**	**273**	*i* P	**P**	**05 01 40.5**	**-0.1**
YKA	**Yellowknife Ar**	**30.35**	**49**	P	**P**	**05 01 55.0**	**+0.1**
	comp=Z,54nm,1.0s,baz=274,slow=9.8,SNR=12						
YKA	**Yellowknife Ar**	**30.35**	**49**	P	**P**	**05 01 56.1**	**+1.2**
YKA	**Yellowknife Ar**	**30.35**	**49**	P	**P**	**05 01 56.1**	**+1.2**
UGL	**Uglegorsk**	**30.50**	**284**	*e*P	**P**	**05 01 56.9**	**+0.5**
UGL				pmax	pmax		
	comp=Z,90nm,1.1s						
YSS	**Yuzh-Sakhalins**	**31.02**	**280**	*e*P	**P**	**05 02 01.1**	**+0.1**
YSS				pmax	pmax		
	comp=Z,42nm,1.0s						
B08A	**Colville Reser**	**31.69**	**77**	P	**P**	**05 02 09.8**	**+2.8**
B08A				IAmb	IAmb	05 02 47.9	
	comp=Z,248nm,1.6s						
HAWA	**Hanford**	**32.48**	**80**	P	**P**	**05 02 16.9**	**+3.1**
HAWA				IAmb	IAmb	05 02 50.8	
	comp=Z,129nm,1.5s						
ASAJ	**Asahikawa**	**32.52**	**275**	P	**P**	**05 02 15.3**	**+1.1**
	comp=Z,89nm,1.0s,baz=20,slow=5.2,SNR=7.4						
TIXI	**Tiksi**	**32.87**	**329**	*e*P	**P**	**05 02 16.3**	**-0.7**
YBH	**Yreka Blue Hor**	**32.98**	**90**	P	**P**	**05 02 19.9**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=101,slow=10,SNR=1.7						
NEW	**Newport**	**33.05**	**76**	P	**P**	**05 02 20.9**	**+2.0**
	comp=Z,28nm,0.8s,baz=309,slow=9.3,SNR=5.6						
NEW	**Newport**	**33.05**	**76**	P	**P**	**05 02 20.7**	**+1.8**
NEW				pmax	pmax		
	comp=Z,123nm,1.3s						
NEW	**Newport**	**33.05**	**76**	P	**P**	**05 02 20.6**	**+1.8**
NEW				IAmb	IAmb	05 02 51.8	
	comp=Z,123nm,1.3s						
GRNR	**Gornyy**	**33.13**	**290**	⇑*i*P	**P**	**05 02 17.7**	**-1.8**
GRNR				pmax	pmax		
	comp=Z,60nm,1.1s						
GRNR				MLR	MLR		
	comp=N,19µm,15.0s						
GRNR				MLR	MLR		
	comp=E,21µm,15.0s						
GRNR				MLR	MLR		
	comp=Z,33µm,15.0s						
EDM	**Edmonton**	**33.22**	**66**	P	**P**	**05 02 21.9**	**+1.6**
EDM				pmax	pmax		
	comp=Z,440nm,1.7s						
EDM	**Edmonton**	**33.22**	**66**	P	**P**	**05 02 21.

MAT	Matsushiro	39.69	268	P	P	05 03 14.7	-1.0	
MDJ	Mudanjiang	40.13	284	P	P	05 03 18.0	-1.2	
MDJ				pmax	pmax			
comp=Z,34nm,1.2s								
MSHR	Mys Shultsa	40.34	281	eP	P	05 03 19.8	-1.1	
PD31	Pinedale Array	40.44	79	P	P	05 03 23.2	+1.1	
PDAR	Pinedale Array	40.44	79	P	P	05 03 23.4	+1.4	
comp=Z,27nm,0.8s,baz=307,slow=2.7,SNR=16								
PDAR	Pinedale Array	40.44	79	P	P	05 03 23.1	+1.0	
JGF	Kuroka	40.82	268	P	P	05 03 24.3	-0.8	
FCC	Fort Churchill	41.04	50	P	P	05 03 27.6	+1.0	
FCC				pmax	pmax			
comp=Z,153nm,1.0s								
FCC	Fort Churchill	41.04	50	P	P	05 03 27.6	+1.0	
FCC				IAmb	IAmb	05 03 28.9		
comp=Z,153nm,0.9s								
BOD	Bodaibo	42.09	309	eP	P	05 03 19.0	-16	
BOD				pmax	pmax			
comp=Z,410nm,1.6s								
JWT	Wachi	42.24	269	P	P	05 03 36.9	+0.3	
CN2	Changchun	43.05	286	eP	P	05 03 42.3	-0.9	
CN2				pmax	pmax			
comp=Z,40nm,1.0s								
HIA	Hailar	43.32	296	P	P	05 03 44.3	-1.0	
HIA				pmax	pmax			
comp=Z,212nm,1.7s								
HIA	Hailar	43.32	296	P	P	05 03 44.3	-1.0	
HIA				IAmb	IAmb	05 03 46.1		
comp=Z,212nm,1.7s								
PV22	Blue Mesa, Par	43.44	83	P	P	05 03 49.8	+3.1	
PV13	Radium Mtn., P	43.66	84	P	P	05 03 49.3	+0.9	
PV13				IAmb	IAmb	05 04 03.2		
comp=Z,93nm,0.9s								
ULM	Lac du Bonnet	44.23	62	P	P	05 03 52.6	+0.1	
comp=Z,32nm,0.9s,baz=307,slow=8.4,SNR=3.3								
KSRS	Korea Array	45.42	277	P	P	05 04 02.8	+0.6	
comp=Z,46nm,1.0s,baz=58,slow=7.6,SNR=16								
KS19	Wonju Array Si	45.43	277	P	P	05 04 02.3	+0.1	
KSAR	Wonju Array Be	45.45	277	P	P	05 04 03.4	+1.0	
KSAR	Wonju Array Be	45.45	277	P	P	05 04 03.4	+1.0	
INCN	Inchon	46.19	278	P	P	05 04 08.0	-0.3	
INCN				pmax	pmax			
comp=Z,133nm,1.2s								
INCN	Inchon	46.19	278	P	P	05 04 08.0	-0.3	
INCN				IAmb	IAmb	05 04 09.8		
comp=Z,133nm,1.1s								
TJN	Taejon	46.46	276	iP	P	05 04 10.7	+0.3	
JNU	Nakatsue	46.46	270	P	P	05 04 11.1	+0.6	
comp=Z,36nm,0.9s,baz=202,slow=1.0,SNR=6.7								
JNU	Nakatsue	46.46	270	IAmb	IAmb	05 04 23.1		
comp=Z,70nm,1.0s								
NRIK	Noril'sk	46.57	332	P	P	05 04 10.3	-0.5	
comp=Z,22nm,0.6s,baz=80,slow=6.0,SNR=7.8								
DL2	Dalian	48.31	283	P	P	05 04 22.5	-2.2	
DL2				S	S	05 11 24.3	+0.4	
DL2				pmax	pmax			
comp=Z,61nm,1.1s								
N33A	J Bar K, Exete	48.89	73	P	P	05 04 29.8	+0.6	
N33A				IAmb	IAmb	05 04 33.3		
comp=Z,91nm,1.0s								
KBS	Kingsbay	49.12	360	P	P	05 04 31.8	+1.3	
KBS				pmax	pmax			
comp=Z,69nm,1.1s								
KBS	Kingsbay	49.12	360	eP	P	05 04 31.8	+1.3	
KBS	Kingsbay	49.12	360	P	P	05 04 31.8	+1.3	
KBS				IAmb	IAmb	05 04 33.0		
comp=Z,69nm,1.1s								
I37A	Lemond, Waseca	49.20	68	P	P	05 04 31.5	0.0	
SPA0	Spitsbergen Ar	49.83	358	eP	P	05 04 35.5	-0.4	
SPITS	Spitsbergen Ar	49.83	358	P	P	05 04 35.7	-0.2	
comp=Z,7.9nm,0.3s,baz=38,slow=5.8,SNR=18								
SPITS	Spitsbergen Ar	49.83	358	P	P	05 04 35.6	-0.4	
SPITS				pmax	pmax			
comp=Z,96nm,1.1s								
N35A	Tabor	49.87	72	P	P	05 04 36.9	+0.2	
N35A				IAmb	IAmb	05 04 46.9		
comp=Z,98nm,0.8s								
DAG	Danmarks Havn	49.95	8	iP	P	05 04 36.0	-0.8	
DAG				IAmb	IAmb	05 04 38.2		
comp=Z,78nm,0.9s								
DAG	Danmarks Havn	49.95	8	iP	P	05 04 36.0	-0.8	
DAG				pmax	pmax			
comp=Z,78nm,0.9s								
D41A	Chassel	50.02	62	P	P	05 04 37.5	-0.2	
G40A	Rib Lake	50.23	64	P	P	05 04 39.2	-0.1	
G40A				IAmb	IAmb	05 06 26.1		
comp=Z,136nm,1.6s								
COWI	Conover	50.30	63	P	P	05 04 39.3	-0.6	
COWI				IAmb	IAmb	05 06 27.8		
comp=Z,152nm,1.4s								
BJT	Baijiatuau	50.84	287	P	P	05 04 44.7	+0.7	
BJT				pmax	pmax			
comp=Z,23nm,0.9s								
BJT	Baijiatuau	50.84	287	P	P	05 04 44.7	+0.7	
SUMG	Summit	50.94	17⇑	iP	P	05 04 45.3	+0.5	
SUMG				IAmb	IAmb	05 04 47.2		
comp=Z,154nm,1.0s								
SUMG	Summit	50.94	17⇑	iP	P	05 04 45.3	+0.5	
SUMG				pmax	pmax			
comp=Z,150nm,1.0s								
SUMG	Summit	50.94	17	P	P	05 04 45.4	+0.5	
ULN	Ulaanbaatar	51.02	301	P	P	05 04 45.2	-0.3	
ULN				pmax	pmax			
comp=Z,55nm,1.0s								
ULN	Ulaanbaatar	51.02	301	P	P	05 04 45.2	-0.3	
HSPB	Hornsund (broa	51.02	359	eP	P	05 04 45.3	+0.4	
F42A	Maple Grove Fa	51.06	63	IAmb	IAmb	05 04 58.5		
comp=Z,55nm,0.8s								
HOPEN	Hopen	51.23	356	eP	P	05 04 46.9	+0.5	
N38A	Joes South For	51.32	71	P	P	05 04 46.7	-0.9	
N38A				IAmb	IAmb	05 04 48.8		
comp=Z,90nm,0.9s								
SONM	Songino Array	51.38	301	P	P	05 04 48.4	+0.2	
comp=Z,45nm,1.0s,baz=44,slow=7.1,SNR=10								
SONM				ScP	ScP	05 10 01.1	+2.7	
comp=Z,2.0nm,0.8s,baz=11,slow=2.9,SNR=2.8								
SONM	Songino Array	51.38	301	P	P	05 04 48.8	+0.6	
SONM				pmax	pmax			
comp=Z,77nm,1.1s								
SONM	Songino Array	51.38	301	P	P	05 04 48.8	+0.6	
SONM				IAmb	IAmb	05 04 50.0		
comp=Z,76nm,1.1s								
ZAK	Zakamensk	51.41	305	eP	P	05 04 42.9	-5.4	
ZAK				e		05 06 03.1		
ZAK				pmax	pmax			
comp=Z,48nm,1.3s								
DBG	Daneborg	52.07	10	iP	P	05 04 52.3	-0.4	
DBG				IAmb	IAmb	05 04 53.4		
comp=Z,104nm,1.0s								
H43A	Windswept, Lux	52.07	64	P	P	05 04 52.9	-0.3	
H43A				IAmb	IAmb	05 04 54.9		
comp=Z,69nm,0.8s								
JOW	Kunigami	52.48	266	P	P	05 04 55.5	-0.9	
comp=Z,56nm,1.1s,baz=359,slow=9.4,SNR=4.9								
FNO	Franklin	52.49	79	P	P	05 04 57.3	+0.9	
SFJD	Kangerlussuaq	52.52	26	iP	P	05 04 56.8	+0.6	
SFJD				IAmb	IAmb	05 04 57.4		
comp=Z,43nm,1.1s								
SFJD	Kangerlussuaq	52.52	26	iP	P	05 04 56.7	+0.6	
SFJD				pmax	pmax			
comp=Z,43nm,1.1s								
TX31	Lajitas Ar. Si	52.75	89	P	P	05 04 60.0	+1.4	
TX31				IAmb	IAmb	05 05 27.0		
comp=Z,134nm,1.1s								
TX32	Lajitas Array	52.75	89	P	P	05 04 59.9	+1.3	
TXAR	Lajitas Array	52.75	89	P	P	05 04 59.5	+1.0	
comp=Z,16nm,0.7s,baz=302,slow=5.2,SNR=12								
TXAR	Lajitas Array	52.75	89	P	P	05 04 60.0	+1.4	
TIA	Tai'an	52.78	283	⇑P	P	05 04 58.3	-0.2	
TIA				pmax	pmax			
comp=Z,65nm,1.0s								
P40A	Paris	52.83	71	P	P	05 04 57.4	-1.5	
P40A				IAmb	IAmb	05 04 59.8		
comp=Z,110nm,0.9s								
HHC	Hu-ho-hao-te	52.98	291	eP	P	05 05 00.3	+0.2	
HHC				pmax	pmax			
comp=Z,39nm,0.9s								
SLBS	Sierra La Lagu	53.00	99	P	P	05 05 01.5	+1.1	
GUMO	Guam	53.02	241	P	P	05 04 58.9	-1.6	
comp=Z,43nm,0.4s,baz=176,slow=3.2,SNR=6.8								
GUMO	Guam	53.02	241	P	P	05 04 57.6	-2.9	
GUMO				pmax	pmax			
comp=Z,183nm,1.1s								
GUMO	Guam	53.02	241	P	P	05 04 57.6	-2.9	
BJO1	Bjornoya	53.45	357	eP	P	05 05 03.2	+0.3	
L44A	Lake County Fo	53.47	66	IAmb	IAmb	05 05 04.5		
comp=Z,107nm,0.9s								
ICESG	Greenland Ices	53.52	20	iP	P	05 05 03.9	-0.1	
ICESG				IAmb	IAmb	05 05 05.9		
comp=Z,78nm,0.9s								
HDIL	Hopedale	53.75	69	P	P	05 05 05.5	-0.1	
HDIL				IAmb	IAmb	05 05 06.7		
comp=Z,102nm,0.9s								
SSE	Sheshan	53.81	276	P	P	05 05 04.5	-1.7	
SSE				S	S	05 12 36.5	-3.7	
SSE				pmax	pmax			
comp=Z,9.0nm,0.6s								
BTO	Baotou	54.02	292	eP	P	05 05 07.5	-0.3	
BTO				S	S	05 12 38.5	-4.6	
L46A	Eue Claire	54.49	65	P	P	05 05 10.5	-0.5	
L46A				IAmb	IAmb	05 05 12.0		
comp=Z,76nm,0.9s								
NJ2	Nanjing	54.57	278	⇑P	P	05 05 11.5	-0.2	
NJ2				sP	pwP	05 05 21.3	+1.7	
NJ2				pmax	pmax			
comp=Z,79nm,1.0s								
WHTX	Lake Whitney,	54.70	82	P	P	05 05 12.2	-0.4	
WHTX				IAmb	IAmb	05 05 31.0		
comp=Z,84nm,1.1s								
FCAR	Ozark Folk Cen	55.23	75	P	P	05 05 15.5	-0.9	
SCO	Scoresbysund	55.38	13	iP	P	05 05 17.1	+0.1	
SCO				IAmb	IAmb	05 05 18.0		
comp=Z,52nm,0.9s								
SCO	Scoresbysund	55.38	13	iP	P	05 05 17.1	+0.1	
SCO				pmax	pmax			
comp=Z,52nm,0.9s								
SCO	Scoresbysund	55.38	13	P	P	05 05 16.7	-0.3	
SCO				IAmb	IAmb	05 05 18.2		
comp=Z,53nm,0.9s								
SCHQ	Schefferville	55.55	43	P	P	05 05 17.6	-0.9	
comp=Z,103nm,0.9s,baz=320,slow=8.5,SNR=11								
SCHQ	Schefferville	55.55	43	P	P	05 05 18.4	-0.1	
SCHQ				IAmb	IAmb	05 05 20.3		
comp=Z,108nm,0.9s								
OLIL	Olney	55.65	69	P	P	05 05 18.9	-0.5	
PARMO	Parma	56.10	72	P	P	05 05 21.1	-1.5	
BLO	Bloomington	56.26	68	P	P	05 05 23.6	-0.2	
BLO				pmax	pmax			
comp=Z,50nm,1.0s								
BLO	Bloomington	56.26	68	P	P	05 05 23.6	-0.2	
USIN	University of	56.42	70	P	P	05 05 23.9	-1.1	
USIN				IAmb	IAmb	05 05 37.4		
comp=Z,101nm,0.9s								
NATX	Nacogdoches	56.56	80	IAmb	IAmb	05 05 29.3		
comp=Z,61nm,1.1s								
ISOG	Isortoq, Green	56.58	22	iP	P	05 05 24.3	-1.4	
ISOG				IAmb	IAmb	05 05 25.9		
comp=Z,58nm,1.0s								
CCAR	Cane Creek	56.79	76	P	P	05 05 28.4	+0.8	
CCAR				IAmb	IAmb	05 05 46.3		
comp=Z,138nm,1.2s								
ANGG	Ammassalik, Gr	56.84	22	iP	P	05 05 26.8	-0.7	
ANGG				IAmb	IAmb	05 05 27.9		
comp=Z,50nm,0.9s								
ANGG	Ammassalik, Gr	56.84	22	P	P	05 05 26.3	-1.1	
ANGG				IAmb	IAmb	05 05 28.1		
comp=Z,51nm,0.9s								
HAMF	Hammerfest	57.10	355	eP	P	05 05 29.4	+0.2	
T47A	Sharon Grove	57.42	70	P	P	05 05 30.8	-1.3	
T47A				IAmb	IAmb	05 05 35.0		
comp=Z,54nm,0.9s								
ZALV	Zalesovo Beam	57.54	318	P	P	05 05 32.5	-0.2	
comp=Z,8.3nm,0.6s,baz=70,slow=3.1,SNR=6.2								
ZALV				PcP	PcP	05 06 27.3	+1.3	
comp=Z,10nm,0.8s,baz=70,slow=4.7,SNR=3.5								
M53A	WI Miller and	57.98	62	P	P	05 05 35.5	-0.5	
M53A				IAmb	IAmb	05 05 48.5		
comp=Z,94nm,1.1s								
ARA0	ARCESS Array S	58.08	354	eP	P	05 05 34.8	-1.4	
ARCES	ARCESS Array B	58.08	354	P	P	05 05 35.6	-0.6	
comp=Z,13nm,0.6s,baz=9.9,slow=7.1,SNR=14								
ARCES	ARCESS Array B	58.08	354	P	P	05 05 35.8	-0.5	
ARCES				pmax	pmax			
comp=Z,56nm,1.2s								
ARCES	ARCESS Array B	58.08	354	P	P	05 05 35.8	-0.5	
PLAL	Pickwick Lake	58.24	73	P	P	05 05 37.6	-0.2	
PLAL				IAmb	IAmb	05 05 52.8		
comp=Z,46nm,0.9s								
TRO	Tromso	58.32	357	eP	P	05 05 37.9	+0.1	
N53A	Lisbon	58.33	63	P	P	05 05 38.3	-0.1	
N53A				IAmb	IAmb	05 05 39.5		
comp=Z,59nm,0.9s								
JETT	Jettan, Norway	58.34	356	eP	P	05 05 39.1	+1.0	
WHN	Wuhan	58.37	280	⇑P	P	05 05 38.8	+0.1	
WHN				pmax	pmax			
comp=Z,310nm,1.0s								
V48A	Smith Brothers	58.45	71	P	P	05 05 39.3	0.0	
M54A	Oil Creek Stat	58.48	62	P	P	05 05 38.5	-0.9	
M54A				IAmb	IAmb	05 05 39.8		
comp=Z,83nm,1.2s								
CLTN	Cedars of Leba	58.49	71	P	P	05 05 40.4	+0.9	
CLTN				IAmb	IAmb	05 05 52.5		
comp=Z,58nm,1.2s								
O53A	New Philadelph	58.50	64	P	P	05 05 39.7	0.0	
O53A				IAmb	IAmb	05 06 01.9		
comp=Z,60nm,1.1s								
U49A	Red Boiling Sp	58.51	70	P	P	05 05 39.6	-0.1	
N54A	Moraine State	58.68	62	P	P	05 05 40.6	-0.3	
N54A				IAmb	IAmb	05 05 53.2		
comp=Z,110nm,1.4s								
T50A	Nancy	58.70	69	P	P	05 05 41.1	0.0	
T50A				IAmb	IAmb	05 06 02.6		
comp=Z,56nm,1.2s								
KTK1	Kautokeino	58.74	355	eP	P	05 05 41.5	+0.6	
LVZ	Lovozero	58.88	350	P	P	05 05 40.7	-1.1	
LVZ				pmax	pmax			
comp=Z,96nm,0.8s								
LVZ	Lovozero	58.88	350	P	P	05 05 40.7	-1.1	
P53A	Whipple	58.94	65	P	P	05 05 41.7	-0.9	
P53A				IAmb	IAmb	05 05 44.1		
comp=Z,45nm,0.8s								
S51A	Beattyville	58.98	67	P	P	05 05 42.7	-0.3	
S51A				IAmb	IAmb	05 05 43.9		
comp=Z,51nm,0.9s								
M55A	Ridgway	58.99	61	P	P	05 05 42.8	-0.2	
M55A				IAmb	IAmb	05 05 44.8		
comp=Z,84nm,0.9s								
LONY	Lake Ozonia	59.00	56	P	P	05 05 43.2	+0.2	
XAN	Xi'an	59.14	287	P	P	05 05 44.5	+0.3	
XAN				pP	pwP	05 05 50.5	-1.6	
XAN				S	S	05 13 53.3	+2.4	
XAN				pmax	pmax			
comp=Z,87nm,1.4s								
L56A	Greenwood	59.18	60	P	P	05 05 44.2	-0.1	
L56A				IAmb	IAmb	05 05 49.4		
comp=Z,81nm,0.9s								
SSLB	Suanglung	59.21	270	P	P	05 05 43.5	-1.2	
SSLB				IAmb	IAmb	05 05 56.5		
comp=Z,76nm,0.8s								
X48A	Hartselle	59.22	72	P	P	05 05 43.9	-0.7	
X48A				IAmb	IAmb	05 06 10.0		
comp=Z,89nm,1.6s								
146A	Union	59.31	75	P	P	05 05 45.8	+0.5	
APA	Apatity	59.33	350	⇑iP	P	05 05 36.8	-8.1	
APA				pmax	pmax			
comp=Z,16nm,0.9s								
APA				MLR	MLR			
comp=Z,62μm,17.0s								
FRNY	Flat Rock	59.35	55	P	P	05 05 45.7	+0.2	
R53A	Hurricane	59.43	66	P	P	05 05 46.0	-0.1	
R53A				IAmb	IAmb	05 05 47.4		
comp=Z,39nm,0.8s								
Z47A	Carrollton	59.49	74	P	P	05 05 46.4	-0.2	
Z47A				IAmb	IAmb	05 05 47.0		
comp=Z,57nm,1.1s								
J58A	Remsen	59.52	58	P	P	05 05 46.7	+0.1	
J58A				IAmb	IAmb	05 05 59.7		
comp=Z,113nm,1.2s								
QZH	Quanzhou	59.81	272	eP	P	05 05 49.3	+0.5	
LOF	Lofoten	59.96	359	eP	P	05 05 48.3	-0.9	
STEI	Steigen	60.13	358	eP	P	05 05 50.4	0.0	
GTA	Gaotai	60.55	297	⇑P	P	05 05 53.0	-0.9	
GTA				pP	pP	05 05 57.8	-0.2	
GTA				sP	pwP	05 06 00.3	-1.6	
GTA				pmax	pmax			
comp=Z,33nm,1.2s								
LZH	Lanzhou	60.65	292	eP	P	05 05 55.0	+0.3	
LZH				pP	pwP	05 06 01.5	-1.1	
LZH				sP	sP	05 06 05.3	+5.0	
LZH				pmax	pmax			
comp=Z,59nm,1.3s								
FAUS	Fauske	60.68	358	eP	P	05 05 54.2	0.0	
BLA	Blacksburg	61.08	66	P	P	05 05 57.9	+0.5	
BLA				pmax	pmax			
comp=Z,97nm,0.9s								
BLA	Blacksburg	61.08	66	P	P	05 05 57.9	+0.5	
ENH	Enshi	61.49	283	P	P	05 05 59.5	-0.8	
V55A	Taylorsville	61.59	67	P	P	05 06 01.0	+0.1	
KONS	Konsvik	61.61	359	eP	P	05 06 00.6	+0.2	
U56A	King	61.71	66	P	P	05 06 01.6	-0.1	
U56A				IAmb	IAmb	05 06 14.6		
comp=Z,71nm,1.2s								
MOR8	Moi Rana	61.91	358	eP	P	05 06 01.2	-1.4	
SEM	Semipalatinsk	62.05	317	eP	P	05 06 01.7	-2.3	
baz=317								
SEM	Semipalatinsk	62.05	317	eP	P	05 06 01.7	-2.3	
WSPT	Westport, CT	62.09	58	P	P	05 06 04.3	+0.2	
JSRW	J. Sargeant Re	62.15	64	P	P	05 06 04.3	-0.2	
HODGE	Hodges	62.16	69	P	P	05 06 04.3	-0.3	
WES	Weston	62.25	56	P	P	05 06 05.5	+0.3	
WES				pmax	pmax			
comp=Z,34nm,0.9s								
WES	Weston	62.25	56	P	P	05 06 05.5	+0.3	
ZSN	Zaisan	62.26	312	eP	P	05 06 03.9	-1.4	
baz=312								
ZSN	Zaisan	62.26	312	eP	P	05 06 03.8	-1.4	
BRYW	Bryant College	62.48	56	P	P	05 06 06.7	0.0	
EMMW	East Machias	62.48	52	P	P	05 06 07.2	+0.6	
M63A	Gales Ferry	62.59	57	P	P	05 06 07.2	-0.3	
M63A				IAmb	IAmb	05 06 20.3		
comp=Z,116nm,1.2s								
JSC	Jenkinsville	62.69	69	P	P	05 06 07.5	-0.7	
JSC				pmax	pmax			
comp=Z,24nm,1.1s								
JSC	Jenkinsville	62.69	69	P	P	05 06 07.5	-0.7	
V58A	Windy Hill, Pi	62.82	66	IAmb	IAmb	05 06 10.8		
comp=Z,50nm,0.9s								
154A	Montrose	62.83	71	IAmb	IAmb	05 06 12.1		
comp=Z,88nm,1.0s								
T59A	Double "B" Far	62.84	64	P	P	05 06 09.2	0.0	
T59A				IAmb	IAmb	05 06 11.2		
comp=Z,57nm,0.8s								
BIRD	Birdtown, Kers	62.89	68	P	P	05 06 08.7	-0.9	
LMN	Caledonia Moun	62.90	49	P	P	05 06 09.8	+0.3	
PRGR	Permogore	63.14	342	eP	P	05 06 09.3	-1.5	
PRGR				pmax	pmax			
comp=Z,220nm,1.4s								
T60A	Surry	63.17	63	P	P	05 06 10.4	-1.0	
Y57A	Sumter	63.38	68	IAmb	IAmb	05 06 14.2		
comp=Z,62nm,0.9s								
DRLN	Deer Lake	63.56	43	IAmb	IAmb	05 06 16.6		
comp=Z,60nm,0.9s								
NSS	Namsos	63.59	359	eP	P	05 06 13.9	+0.2	
WMQ	Urumqi	63.63	308	eP	P	05 06 14.8	+0.4	
WMQ				sP	pwP	05 06 28.0	+5.6	
WMQ				PcP	PcP	05 06 51.8	+1.1	
WMQ				pmax	pmax			
comp=Z,71nm,1.1s								
SVE	Sverdlovsk	63.83	332	eP	P	05 06 16.1	+0.6	
SVE				pmax	pmax			
comp=Z,79nm,1.2s								
BRVK	Borovoye	63.84	325	P	P	05 06 15.5	-0.1	
BRVK				pmax	pmax			
comp=Z,78nm,1.2s								
BRVK	Borovoye	63.84	325	P	P	05 06 15.5	-0.1	
BRVK				IAmb	IAmb	05 06 17.4		
comp=Z,78nm,1.2s								
Y58A	Scranton	63.88	68		P	05 06 16.3	+0.2	
MKAR	Makanchi Array	63.92	313	P	P	05 06 15.6	-0.7	
comp=Z,19nm,0.7s,baz=47,slow=6.4,SNR=18								
MKAR	Makanchi Array	63.92	313	iP	P	05 06 15.3	-0.9	
MKAR				pmax	pmax			
comp=Z,17nm,0.8s								
MKAR	Makanchi Array	63.92	313	P	P	05 06 16.0	-0.2	
MAKZ	Makanchi	64.05	314	P	P	05 06 16.1	-1.0	
MAKZ				pmax	pmax			
comp=Z,28nm,1.0s								
MAKZ	Makanchi	64.05	314	P	P	05 06 16.1	-1.0	
JOF	Joensuu	64.07	350	P	P	05 06 17.0	+0.1	
JOF				pmax	pmax			
comp=Z,60nm,0.7s								
NHSC	New Hope	64.17	69	P	P	05 06 18.1	+0.1	
Y59A	Loris	64.27	67	P	P	05 06 18.6	-0.1	
Y59A				IAmb	IAmb	05 06 21.5		
comp=Z,61nm,0.7s								
HAL	Halifax	64.38	50	P	P	05 06 19.4	+0.2	
HAL				pmax	pmax			
comp=Z,54nm,0.9s								
HAL	Halifax	64.38	50	P	P	05 06 19.4	+0.2	
HAL				IAmb	IAmb	05 06 31.9		
comp=Z,54nm,0.9s								
CD2	Chengdu	64.42	288	⇑P	P	05 06 20.3	+0.5	
CD2				pmax	pmax			
comp=Z,180nm,1.0s								
TLIG	Tlapa	64.57	94	P	P	05 06 20.1	-0.9	
Y60A	Bolivia	64.63	67	P	P	05 06 21.1	+0.1	
Y60A				IAmb	IAmb	05 06 22.4		
comp=Z,70nm,0.8s								
GBN	Guysborough	64.75	48	IAmb	IAmb	05 06 23.6		
comp=Z,115nm,1.2s								
ARU	Arti	64.76	333c	iP	P	05 06 21.5	-0.1	
ARU				S	S	05 15 04.4	+3.3	
ARU				SS	SS	05 19 12.0	+0.8	
ARU				pmax	pmax			
comp=Z,74nm,1.2s								
ARU	Arti	64.76	333	P	P	05 06 22.1	+0.6	
ARU				IAmb	IAmb	05 06 23.0		
comp=Z,74nm,1.2s								
456A	Hilliard	64.83	72	P	P	05 06 22.0	-0.4	
KLMR	Klimovskoe	64.94	345	eP	P	05 06 19.4	-3.2	
KLMR				pmax	pmax			
comp=Z,65nm,1.3s								
KLMR	Klimovskoe	64.94	345	eP	P	05 06 19.4	-3.2	
KLMR				AMP		05 06 23.5		
comp=Z,65nm,1.3s								
MOL	Molde	65.54	2	eP	P	05 06 26.7	+0.2	
AKN	Aaknes	65.92	2	eP	P	05 06 29.9	+0.9	
GYA	Guiyang	65.97	283	⇑P	P	05 06 30.0	0.0	
GYA				pP	pwP	05 06 40.8	+2.9	
GYA				pmax	pmax			
comp=Z,25nm,1.1s								
FIA1	FINESS Array S	66.03	352	P	P	05 06 29.2	-0.4	
FIA1				IAmb	IAmb	05 06 30.8		
comp=

KONO pmax pmax
comp=Z,97nm,1.0s
KONO Kongsberg 68.50 1 *eP* **P 05 06 45.7 +0.4**
KONO Kongsberg 68.50 1 P **P 05 06 45.3 0.0**
CHKK Chushkaly 68.55 315 *eP* **P 05 06 43.8 -2.3**
baz=314
CHKK Chushkaly 68.55 315 *eP* **P 05 06 43.7 -2.3**
SATY Saty 68.55 313 *eP* **P 05 06 45.2 -1.0**
baz=313
SATY Saty 68.55 313 *eP* **P 05 06 45.2 -1.0**
BLS5 Blasjo 68.67 2 *eP* **P 05 06 46.3 -0.2**
KUU Kurty 68.80 315 *eP* **P 05 06 44.8 -2.8**
baz=315
KUU Kurty 68.80 315 *eP* **P 05 06 44.8 -2.8**
KMY Karmoy 68.85 3 *eP* **P 05 06 47.8 +0.3**
BTLS Baital 68.86 317 *eP* **P 05 06 45.5 -2.4**
baz=317
BTLS Baital 68.86 317 *eP* **P 05 06 45.4 -2.4**
VSU Vasula 68.91 351 *eP* **P 05 06 48.4 +0.4**
MTSE Matsula 68.92 353 *eP* **P 05 06 46.3 -1.6**
MDOK Medeo 69.08 314 *eP* **P 05 06 47.9 -1.5**
baz=314
MDOK Medeo 69.08 314 *eP* **P 05 06 47.9 -1.5**
AAA Alma-Ata 69.10 314 *eP* **P 05 06 48.2 -1.3**
baz=314
AAA Alma-Ata 69.10 314 *eP* **P 05 06 48.1 -1.3**
KMI Kunming 69.31 284 ⇑P **P 05 06 51.5 +0.3**
KMI sP pwP 05 07 05.5 +6.3
KMI pmax pmax
comp=Z,100nm,1.3s
KMI pmax pmax
comp=Z,600nm,5.3s
SNART Snartemo 69.78 2 *i* P **P 05 06 53.0 -0.3**
SNART Snartemo 69.78 2 *eP* **P 05 06 53.9 +0.6**
TARG Taragay, Kyrgy 69.88 313 IAmb IAmb 05 07 00.5
comp=Z,31nm,0.6s
SGDS Sogindy 69.90 316 *eP* **P 05 06 52.0 -2.5**
baz=316
SGDS Sogindy 69.90 316 *eP* **P 05 06 51.9 -2.5**
TKM2 Tokmak 2 69.91 315 P **P 05 06 55.2 +0.6**
SNR=12
BOOM Boomskoye usch 70.10 314 P **P 05 06 56.3 +0.5**
BOOM pmax pmax
comp=Z,96nm,1.1s
BOOM Boomskoye usch 70.10 314 P **P 05 06 56.3 +0.5**
BOOM IAmb IAmb 05 06 57.8
comp=Z,96nm,1.1s
USP Ospenovka 70.10 316 P **P 05 06 56.4 +0.7**
SNR=24
SLIT Slitere, Latvi 70.11 353 *eP* **P 05 06 55.2 -0.1**
MOS Moscow 70.13 344 *eP* **P 05 06 53.9 -1.6**
MOS pmax pmax
comp=Z,86nm,1.1s
ULHL Ulahol 70.17 314 P **P 05 06 56.9 +0.6**
SNR=10
CHMS Chumysh 70.21 315 P **P 05 06 56.9 +0.7**
SNR=10
KBK Karagaybulak 70.40 315 P **P 05 06 58.4 +0.8**
SNR=13
FRU1 Bishkek 70.42 315 P **P 05 06 57.4 -0.2**
FRU1 pmax pmax
comp=Z,185nm,1.0s
FRU1 Bishkek 70.42 315 P **P 05 06 57.4 -0.2**
ABKAR Akbulak array 70.57 328 P **P 05 06 57.9 -0.4**
ABKAR IAmb IAmb 05 06 59.4
comp=Z,60nm,0.9s
AAK Ala-Archa 70.61 315 P **P 05 06 59.7 +0.8**
SNR=12
AAK Ala-Archa 70.61 315 P **P 05 06 58.6 -0.3**
AAK pmax pmax
comp=Z,99nm,1.0s
AAK Ala-Archa 70.61 315 P **P 05 06 58.6 -0.3**
OBN Obninsk 70.90 345*c i*P **P 05 06 59.3 -0.9**
OBN pmax pmax
comp=Z,63nm,0.9s
EKS2 Erkin-Say 70.90 316 P **P 05 07 01.4 +0.8**
SNR=8.7
AML Almayashu 71.37 316 P **P 05 07 04.9 +1.1**
SNR=8.5
SLVN Son La 71.47 281 P **P 05 07 04.7 +0.5**
SLVN IAmb IAmb 05 07 06.3
comp=Z,80nm,1.2s
MUD Monsted U'grnd 71.69 1 *i* P **P 05 07 05.0 0.0**
MUD IAmb IAmb 05 07 05.9
comp=Z,50nm,1.0s
MUD Monsted U'grnd 71.69 1 *i* P **P 05 07 05.0 0.0**
MUD pmax pmax
comp=Z,50nm,1.0s
PBUR Paburge 71.73 353 *eP* **P 05 07 05.0 -0.2**
ISAL Salakas 71.82 351 *eP* **P 05 07 06.9 +1.1**
KK31 Karatay Array 71.91 318 P **P 05 07 06.3 -0.3**
KK31 pmax pmax
comp=Z,84nm,1.0s
KK31 Karatay Array 71.91 318 P **P 05 07 06.3 -0.3**
KK31 IAmb IAmb 05 07 08.0
comp=Z,84nm,1.0s
IDID Didziasalis 72.02 350 *eP* **P 05 07 06.9 0.0**
IGN Ignalina 72.03 351 *eP* **P 05 07 08.1 +1.1**
PABE Paberze 72.09 352 *eP* **P 05 07 07.3 -0.1**
PABE Paberze 72.09 352 P **P 05 07 07.1 -0.2**
EKA Eskdalemuir Ar 72.22 8 P **P 05 07 08.0 -0.1**
ESK Eskdalemuir 72.23 8 P **P 05 07 08.3 +0.1**
ESK pmax pmax
comp=Z,46nm,1.0s
ESK Eskdalemuir 72.23 8 P **P 05 07 08.3 +0.1**
KSH Kashi 72.48 313 P **P 05 07 13.8 +3.6**
KSH pP pwP 05 07 18.0 -0.2
KSH S **S 05 16 35.8 +2.1**
KSH sS SKiKP 05 16 51.3 +7.1
KSH pmax pmax
comp=Z,100nm,1.1s
LSA Lhasa 72.52 296 IAmb IAmb 05 07 13.9
comp=Z,113nm,1.0s
MNK Minsk 72.69 350 *i* P **P 05 07 09.3 -1.7**
MNK *i* 05 07 27.2
MNK *i* 05 09 49.6
MNK *i* PPP PPP 05 11 33.6
MNK *i* S **S 05 16 31.6 -3.6**
MNK *i* 05 17 14.4
MNK *i* SS **SS 05 21 14.8 +1.4**
MNK *i* SSS SSS 05 24 30.2
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,209nm,1.0s
MNK pmax pmax
comp=N,112nm,1.1s
MNK MLR MLR
comp=N,25μm,19.0s
MNK MLR MLR
comp=Z,32μm,17.0s
MNK MLR MLR
comp=E,1μm,16.0s
MNK Minsk 72.69 350 *i* P **P 05 07 09.4 -1.6**
comp=E,5.0nm,0.8s
MNK *i* P **P 05 07 09.4 -1.6**
comp=N,112nm,1.1s
MNK *i* P **P 05 07 09.4 -1.6**
comp=Z,209nm,1.1s,baz=192
MNK *i* PcP **PcP 05 07 27.3 -1.1**
MNK *i* PP **PP 05 09 49.7 -2.2**
MNK *i* PPP PPP 05 11 33.6
MNK *i* S **S 05 16 31.7 -3.6**
MNK *i* SS **SS 05 21 14.8 +1.5**
MNK *i* SSS SSS 05 24 30.3
MNK *i* LQ LQ 05 33 36.5
MNK *i* LR LR 05 37 45.1
MNK *i* LRM MLR 05 41 32.5
comp=N,25μm,19.2s
MNK *i* LRM MLR 05 41 45.9
comp=Z,32μm,17.2s
MNK *i* LRM MLR 05 41 48.5
comp=E,1μm,16.0s
BSD Bornholm Skovb 72.99 357 *eP* **P 05 07 13.1 +0.4**
BSD Bornholm Skovb 72.99 357 *i* P **P 05 07 12.8 +0.1**
BSD IAmb IAmb 05 07 14.4
comp=Z,45nm,1.0s
BSD Bornholm Skovb 72.99 357 *i* P **P 05 07 12.8 +0.1**
BSD pmax pmax
comp=Z,45nm,1.0s
SUW Suwalki 73.63 352 *eP* **P 05 07 16.4 -0.1**
BSEG Bad Segeberg 74.23 0 *eP* **P 05 07 21.1 +1.1**
comp=Z,80nm,1.0s,baz=0.4,slow=5.7
BTK Batken 74.31 316 P **P 05 07 21.3 +0.4**
BTK pmax pmax
comp=Z,126nm,1.0s
BTK Batken 74.31 316 P **P 05 07 21.3 +0.4**
LNIZ Loecknitz 74.63 358 *eP* **P 05 07 23.3 +1.0**
comp=Z,104nm,1.2s,baz=0.4,slow=5.7
GKP Gorka Klasztor 74.75 356 *eP* **P 05 07 24.0 +1.0**
SHL Shillong 75.30 293 P **P 05 07 25.7 -1.2**
SHL pmax pmax
comp=Z,218nm,1.6s
SHL Shillong 75.30 293 P **P 05 07 25.7 -1.2**
RUE Ruedersdorf 75.65 358 *eP* **P 05 07 29.2 +1.0**
comp=Z,112nm,1.1s,baz=0.4,slow=5.7
NRDL Niedersach Rie 75.67 0 *eP* **P 05 07 29.3 +1.0**
comp=Z,50nm,1.0s,baz=0.4,slow=5.7
IBBN Ibbenburen 75.83 2 *eP* **P 05 07 30.4 +1.1**
comp=Z,124nm,1.1s,baz=0.4,slow=5.7
FLTG Flechtingen 75.83 360 *eP* **P 05 07 29.7 +0.4**
comp=Z,47nm,1.0s,baz=0.4,slow=5.7
AKASG Malin Array Be 76.27 348 P **P 05 07 31.1 -0.7**
comp=Z,36nm,0.7s,baz=16,slow=5.7,SNR=15
AKASG Malin Array Be 76.27 348 P **P 05 07 30.6 -1.2**
AKASG pmax pmax
comp=Z,53nm,1.0s
AKASG Malin Array Be 76.27 348 P **P 05 07 30.6 -1.2**
AKASG IAmb IAmb 05 07 32.0
comp=Z,53nm,0.9s
CLZ Clausthal 76.33 0 *eP* **P 05 07 33.5 +1.3**
comp=Z,96nm,1.1s,baz=0.4,slow=5.7
GTTG Gottingen 76.62 0 *eP* **P 05 07 35.0 +1.2**
comp=Z,100nm,1.1s,baz=0.4,slow=5.7
CM09 Chiang Mai Arr 76.63 283 P **P 05 07 36.9 +2.5**
comp=Z,652nmcomp=Z,70nm,0.9s
CMAR Chiang Mai Arr 76.65 283 P **P 05 07 35.5 +1.0**
comp=Z,69nm,0.9s,baz=26,slow=6.4,SNR=19
CMAR Chiang Mai Arr 76.65 283 P **P 05 07 34.6 +0.1**
CMAR Chiang Mai Arr 76.65 283 P **P 05 07 34.6 +0.1**
CM02 Chiang Mai Arr 76.67 283 P **P 05 07 36.5 +1.9**
comp=Z,671nmcomp=Z,100nm,0.9s
CM15 Chiang Mai Arr 76.67 283 P **P 05 07 36.4 +1.8**
comp=Z,71nm,1.0s
CM01 Chiang Mai Arr 76.67 283 P **P 05 07 36.6 +2.0**
comp=Z,720nmcomp=Z,100nm,1.0s
CM04 Chiang Mai Arr 76.68 283 P **P 05 07 36.6 +1.9**
comp=Z,755nmcomp=Z,103nm,0.9s
BUG Bochum--Univer 76.69 2 *eP* **P 05 07 34.8 +0.7**
comp=Z,60nm,1.2s,baz=0.4,slow=5.7
CM05 Chiang Mai Arr 76.69 283 P **P 05 07 36.7 +1.9**
comp=Z,574nmcomp=Z,84nm,1.0s
CM13 Chiang Mai Arr 76.70 283 P **P 05 07 36.7 +1.9**
comp=Z,625nmcomp=Z,88nm,1.0s
GUN Gumba 76.80 298 *eP* **P 05 07 35.7 0.0**
comp=Z,142nm,0.6s
ODAN Odare 76.80 297 *eP* **P 05 07 35.7 +0.1**
comp=Z,103nm,0.9s
JIRN Jiri 76.83 298 *eP* **P 05 07 35.6 -0.3**
comp=Z,76nm,0.3s
CLL Collm 76.84 358 *eP* **P 05 07 34.0 -1.1**
comp=Z,42nm,1.0s
CLL *i* 05 07 38.5
CLL *eP*P **pwP 05 07 42.0 -1.2**
comp=Z,32nm,1.0s
CLL Collm 76.84 358 *eP* **P 05 07 34.0 -1.1**
CLL pmax pmax
comp=Z,42nm,1.0s
CLL Collm 76.84 358 *eP* **P 05 07 35.6 +0.6**
comp=Z,42nm,1.0s,baz=0.4,slow=5.7
DZM Mont Dzumac 76.92 203 P **P 05 07 36.2 +0.4**
comp=Z,6.7nm,0.9s,baz=48,slow=8.0
KASTN Kahler Asten 76.95 1 *eP* **P 05 07 36.6 +0.9**
comp=Z,43nm,1.1s,baz=0.4,slow=5.7
NEUB Neuenburg 76.95 359 *eP* **P 05 07 36.7 +1.0**
comp=Z,118nm,1.0s,baz=0.4,slow=5.7
RAMN Ramite 77.16 297 *eP* **P 05 07 37.9 +0.3**
comp=Z,70nm,0.4s
KKN Kakani 77.22 299 *eP* **P 05 07 37.9 0.0**
comp=Z,70nm,0.7s
FBE Freiberg 77.22 358 *eP* **P 05 07 38.4 +1.2**
comp=Z,84nm,1.0s,baz=0.4,slow=5.7
BRG Berggiesshubel 77.26 358 *i* P **P 05 07 37.7 +0.3**
BRG Amp 05 07 39.1
comp=Z,46nm,1.0s
BRG Berggiesshubel 77.26 358 P **P 05 07 41.2 +3.7**
BRG Amp 05 07 42.4
comp=Z,15nm,0.7s
BRG Berggiesshubel 77.26 358 *eP* **P 05 07 38.2 +0.8**
comp=Z,46nm,1.0s,baz=0.4,slow=5.7
BEBN Eben Emael 77.29 3 *dP* **P 05 07 37.9 +0.4**
PKI Pulchoki 77.32 299 *eP* **P 05 07 38.3 -0.3**
comp=Z,169nm,1.1s
GKN Gorkha 77.39 299 *eP* **P 05 07 38.7 -0.1**
comp=Z,310nm,1.1s
CHVC Chvalec 77.48 356 *eP* **P 05 07 39.5 +0.8**
MEM Membach 77.48 3 *dP* **P 05 07 39.0 +0.3**
comp=Z,55nm,1.1s
OSTC Ostas 77.50 356 *eP* **P 05 07 40.0 +1.2**
BTNL Ternell 77.51 3 *kP* **P 05 07 39.6 +0.7**
comp=Z,54nm,1.2s
SNF Seneffe 77.52 4 *dP* **P 05 07 39.3 +0.4**
comp=Z,32nm,1.1s
MOX Moxa 77.52 359 P **P 05 07 39.5 +0.6**
MOX pmax pmax
comp=Z,59nm,1.1s
MOX Moxa 77.52 359 *eP* **P 05 07 39.9 +1.0**
comp=Z,65nm,1.1s,baz=0.4,slow=5.7
UPC Upice 77.56 356 *eP* **P 05 07 39.9 +0.8**
UPC Upice 77.56 356 *eP* **P 05 07 39.9 +0.8**
AHRW Bad Neuenahr-A 77.58 2 *eP* **P 05 07 40.4 +1.1**
comp=Z,51nm,1.1s,baz=0.4,slow=5.7
PVCC Panska Ves 77.59 357 *eP* **P 05 07 40.1 +0.8**
PVCC Panska Ves 77.59 357 *eP* **P 05 07 40.1 +0.8**
DANN Dangsing 77.59 300 *eP* **P 05 07 40.5 +0.5**
comp=Z,368nm,0.8s
BCLA Clavier 77.65 3 *dP* **P 05 07 39.7 +0.1**
comp=Z,40nm,1.2s
PLN Plauen 77.67 359 *eP* **P 05 07 40.7 +0.9**
comp=Z,25nm,1.1s,baz=0.4,slow=5.7
BGES Gesves 77.68 4 *dP* **P 05 07 40.2 +0.4**
comp=Z,32nm,1.2s
DPC Dobruska-Polom 77.70 356 *eP* **P 05 07 40.9 +0.9**
DPC Dobruska-Polom 77.70 356 *eP* **P 05 07 40.9 +0.9**
WERD Werda 77.71 359 *eP* **P 05 07 41.0 +1.0**
comp=Z,29nm,1.2s,baz=0.4,slow=5.7
LVV L'vov 77.72 351 *eP* **P 05 07 39.7 -0.3**
BHOU Houvegnez 77.74 3 *dP* **P 05 07 40.5 +0.3**
comp=Z,29nm,1.0s
BMRD Maredsous 77.75 4 *dP* **P 05 07 40.5 +0.3**
comp=Z,61nm,1.1s
GUNZ Gunzen 77.80 359 *eP* **P 05 07 41.6 +1.1**
comp=Z,42nm,1.1s,baz=0.4,slow=5.7
WERN Wernitzgruen 77.87 359 *eP* **P 05 07 42.1 +1.2**
comp=Z,49nm,1.1s,baz=0.4,slow=5.7
RCHB Rochefort 77.91 4 *dP* **P 05 07 41.3 +0.2**
comp=Z,53nm,1.2s
NKC Novy Kostel 77.92 359 *eP* **P 05 07 42.1 +0.9**
NKC Novy Kostel 77.92 359 *eP* **P 05 07 42.1 +0.9**
TNS Taunus Mts 77.93 1 *eP* **P 05 07 42.2 +0.9**
comp=Z,35nm,1.0s,baz=0.4,slow=5.7
DOU Dourbes 77.94 4 *dP* **P 05 07 41.6 +0.4**
comp=Z,42nm,1.2s
KRLC Kraliky 77.96 356 *eP* **P 05 07 42.0 +0.6**
KRLC Kraliky 77.96 356 *eP* **P 05 07 42.0 +0.6**
KWP Kalwaria Pacla 78.02 352 P **P 05 07 41.8 +0.1**
KWP Kalwaria Pacla 78.02 352 P **P 05 07 41.8 +0.1**
PRU Pruhonice 78.13 357 *eP* **P 05 07 42.9 +0.6**
PRU Pruhonice 78.13 357 *eP* **P 05 07 42.9 +0.6**
OKC Ostrava-Krasne 78.13 355 *eP* **P 05 07 42.9 +0.6**
OKC Ostrava-Krasne 78.13 355 *eP* **P 05 07 42.9 +0.6**
KOLN Koldanda 78.13 300 *eP* **P 05 07 42.6 -0.4**
comp=Z,221nm,1.1s
MANZ Manzenberg 78.17 359 *eP* **P 05 07 43.5 +0.9**
comp=Z,23nm,1.0s,baz=0.4,slow=5.7
PYUN Piuthan 78.19 301 *eP* **P 05 07 43.3 0.0**
comp=Z,318nm,1.0s
SRAK Srakaew 78.21 278 P **P 05 07 43.3 +0.1**
MORC Moravsky Berou 78.22 355 ⇑P **P 05 07 43.7 +0.8**
MORC Moravsky Berou 78.22 355 ⇑P **P 05 07 43.7 +0.8**
MORC Moravsky Berou 78.22 355 *eP* **P 05 07 43.2 +0.3**
MILB Miltenberg 78.33 1 *eP* **P 05 07 44.5 +1.1**
comp=Z,62nm,0.9s,baz=0.4,slow=5.7
STHS Stebnicka Huta 78.35 353 *eP* **P 05 07 44.3 +0.7**
STHS Stebnicka Huta 78.35 353 *eP* **P 05 07 44.3 +0.7**
ROTZ Rotzenmuhle 78.39 359 *eP* **P 05 07 45.0 +1.2**
comp=Z,38nm,1.2s,baz=0.4,slow=5.7
WLF Walferdange 78.43 3 *dP* **P 05 07 44.9 +0.9**
PBCC Pribram 78.44 358 *eP* **P 05 07 44.6 +0.5**
GRA1 Grafenberg Arr 78.48 360 IAmb IAmb 05 07 46.6
comp=Z,80nm,1.1s
GRF Grafenberg Arr 78.48 360 *eP* **P 05 07 45.7 +1.5**
comp=Z,78nm,1.1s,baz=0.4,slow=5.7
GRFO Grafenberg 78.48 360 P **P 05 07 45.1 +0.9**
GRFO pmax pmax
comp=Z,79nm,1.1s
GRFO Grafenberg 78.48 360 P **P 05 07 45.1 +0.9**
GRFO IAmb IAmb 05 07 46.5
comp=Z,79nm,1.1s
NIL Nilore 78.54 311 P **P 05 07 45.2 +0.3**
NIL pmax pmax
comp=Z,216nm,1.0s
NIL Nilore 78.54 311 P **P 05 07 45.2 +0.3**
VRAC Vranov 78.73 356 ⇑P **P 05 07 46.7 +1.0**
VRAC Vranov 78.73 356 ⇑P **P 05 07 46.7 +1.0**
VRAC Vranov 78.73 356 *eP* **P 05 07 46.5 +0.8**
LANS Liptovska Anna 78.74 354 *eP* **P 05 07 47.0 +1.2**
LANS pmax pmax
comp=Z,59nm,1.1s
LANS Liptovska Anna 78.74 354 *eP* **P 05 07 47.0 +1.2**
KOLS Kolonicke sedl 78.75 352 *eP* **P 05 07 46.7 +0.9**
KOLS Kolonicke sedl 78.75 352 *eP* **P 05 07 46.7 +0.9**
SORM Soroca 78.90 348 ⇑P **P 05 07 45.9 -0.6**
SORM Soroca 78.90 348 ⇑P **P 05 07 45.9 -0.6**
KRUC Moravsky 78.99 356 *eP* **P 05 07 47.5 +0.4**
KHC Kasperske Hory 79.01 358 *eP* **P 05 07 48.2 +1.0**
KHC Kasperske Hory 79.01 358 *eP* **P 05 07 48.2 +1.0**
KHC *eS* SKiKP 05 17 19.1 +25
WET Wettzell 79.01 358 *eP* **P 05 07 48.6 +1.4**
comp=Z,45nm,1.3s,baz=0.4,slow=5.7
UZH Uzhgorod 79.05 352 *eP* **P 05 07 46.2 -1.2**
JAVC Velka Javorina 79.13 355 *eP* **P 05 07 49.6 +1.7**
GOF Gofitskoye 79.17 337⇑*eP* **P 05 07 49.1 +1.0**
GOF pmax pmax
comp=Z,569nm,1.0s
GEC2 GERESS Array S 79.29 358 P **P 05 07 49.0 +0.2**
GEC2 GERESS Array S 79.29 358 *eP* **P 05 07 49.8 +1.0**
comp=Z,46nm,1.1s,baz=0.4,slow=5.7
GERES GERESS Array B 79.29 358 P **P 05 07 49.7 +0.8**
comp=Z,14nm,0.7s,baz=8.9,slow=4.3,SNR=14
GERES GERESS Array B 79.29 358 P **P 05 07 49.3 +0.4**
GERES GERESS Array B 79.29 358 P **P 05 07 49.3 +0.4**
CKRC Cesky Krumlov 79.30 358 *eP* **P 05 07 49.2 +0.4**
CKRC *eS* S 05 17 27.0 -21
KECS Kecovo 79.33 353 *eP* **P 05 07 49.8 +0.8**
KECS pmax pmax
comp=Z,31nm,1.0s
KECS Kecovo 79.33 353 *eP* **P 05 07 49.8 +0.8**
STU Stuttgart 79.39 1 *eP* **P 05 07 50.3 +1.0**
comp=Z,78nm,1.2s,baz=0.4,slow=5.7
VYHS Vyhne 79.43 354 *eP* **P 05 07 50.1 +0.6**
VYHS pmax pmax
comp=Z,75nm,1.1s
VYHS Vyhne 79.43 354 *eP* **P 05 07 50.1 +0.6**
SMOL Smolenice 79.49 355 *eP* **P 05 07 51.1 +1.3**
SMOL pmax pmax
comp=Z,49nm,1.1s
SMOL Smolenice 79.49 355 *eP* **P 05 07 51.1 +1.3**
MODS Modra-Piesok 79.64 356 *eP* **P 05 07 52.8 +2.2**
MODS pmax pmax
comp=Z,119nm,1.1s
MODS Modra-Piesok 79.64 356 *eP* **P 05 07 52.8 +2.2**
KBL Kabul 79.70 314 P **P 05 07 50.5 -1.0**
KBL pmax pmax
comp=Z,134nm,1.1s
KBL Kabul 79.70 314 P **P 05 07 50.5 -1.0**
BURAR Bucovina Array 79.78 350 ⇑P **P 05 07 52.1 +0.6**
BURAR Bucovina Array 79.78 350 ⇑P **P 05 07 52.1 +0.6**
BFO Black Forest 79.82 2 P **P 05 07 51.9 +0.2**
BFO pmax pmax
comp=Z,45nm,1.1s
BFO Black Forest 79.82 2 P **P 05 07 51.9 +0.2**
BFO Black Forest 79.82 2 *eP* **P 05 07 52.7 +1.0**
comp=Z,50nm,1.1s,baz=0.4,slow=5.7
ZST Bratislava 79.82 356 *eP* **P 05 07 53.1 +1.5**
ZST pmax pmax
comp=Z,245nm,1.1s
ZST Bratislava 79.82 356 *eP* **P 05 07 53.1 +1.5**
ECH Echery 79.91 2 IAmb IAmb 05 07 54.4
comp=Z,58nm,1.0s
PSZ Piszkesteto 79.94 354 ⇑P **P 05 07 52.3 0.0**
PSZ Piszkesteto 79.94 354 *eP* **P 05 07 54.5 +2.2**
PSZ Piszkesteto 79.94 354 ⇑P **P 05 07 52.3 0.0**
FUR Furstenfeldbru 80.00 360 *eP* **P 05 07 53.9 +1.2**
comp=Z,84nm,1.1s,baz=0.4,slow=5.7
CONA Conrad Observa 80.14 356 *i* P **P 05 07 54.7 +1.2**
comp=Z,98nm,1.1s,SNR=13
GROC Groznyy 80.22 335 *eP* **P 05 07 50.2 -3.7**
GROC *e* 05 10 51.7
GROC pmax pmax
comp=Z,66nm,0.9s
MOA Molln 80.27 358 *eP* **P 05 07 54.9 +0.8**
comp=Z,34nm,1.2s
KIV Kislovodsk 80.30 337 ⇑P **P 05 07 55.9 +1.5**
KIV Kislovodsk 80.30 337 *eP* **P 05 07 55.2 +0.8**
KIV pmax pmax
comp=Z,140nm,1.1s
KIV Kislovodsk 80.30 337 P **P 05 07 54.3 -0.1**
KIV IAmb IAmb 05 07 58.1
comp=Z,109nm,0.9s
ARCR ARCALIA 80.39 351 ⇑P **P 05 07 55.3 +0.6**
KBZ Khabaz 80.46 337 P **P 05 07 55.8 +0.7**
comp=Z,69nm,0.9s,baz=53,slow=0.9,SNR=13
UBR Ueberruh 80.49 0 *eP* **P 05 07 56.4 +1.1**
comp=Z,51nm,1.1s,baz=0.4,slow=5.7
ANN Anapa 80.65 341 *eP* **P 05 07 55.9 -0.2**
ANN pmax pmax
comp=Z,127nm,1.0s
RETA Reutte 80.68 360 *i* P **P 05 07 57.1 +0.8**
comp=Z,48nm,1.2s,SNR=5.6
MPLH Magyarpolny 80.82 355 *eP* **P 05 07 59.2 +2.2**
MOTA Moosalm 80.83 360 *i* P **P 05 07 58.1 +0.9**
comp=Z,91nm,1.2s,SNR=9.0
ARSA Arzberg 80.83 357 *i* P **P 05 07 58.3 +1.2**
comp=Z,69nm,1.1s,SNR=10
WATA Walderalm 80.83 359 *i* P **P 05 07 58.3 +1.0**
comp=Z,88nm,1.2s,SNR=7.8
DRGR 80.84 352 ⇑P **P 05 07 58.0 +0.8**
DRGR 80.84 352 ⇑P **P 05 07 58.0 +0.8**
DAVA Damuels 80.88 1 *eP* **P 05 07 58.6 +1.1**
comp=Z,26nm,1.0s
WTTA Wattenberg 80.90 359 *i* P **P 05 07 59.0 +1.3**
comp=Z,71nm,1.1s,SNR=7.6
SQTA Sankt Quirin 80.95 360 *i* P **P 05 07 59.0 +1.2**
comp=Z,80nm,1.1s,SNR=9.7
KBA Koelnbreinsper 81.07 358 *i* P **P 05 08 00.1 +1.5**
comp=Z,180nm,1.0s,SNR=15
TIH Tihany 81.08 355 *eP* **P 05 08 00.9 +2.5**
ZEI Tsey 81.10 336 *eP* **P 05 07 57.7 -1.1**
ZEI pmax pmax
comp=Z,30nm,0.7s
SIM Simferopol' 81.13 343*d i*P **P 05 07 58.8 +0.1**
SIM pmax pmax
comp=Z,99nm,1.1s
FETA Feichten 81.15 360 *i* P **P 05 08 00.4 +1.4**
comp=Z,102nm,1.0s,SNR=15
GEYT Alibeck 81.16 324 P **P 05 07 59.7 +0.7**
comp=Z,200nm,0.9s,baz=308,slow=3.6,SNR=12
GYA0B ALIBECK ARRAY 81.16 324 IAmb IAmb 05 08 00.6
comp=Z,92nm,1.1s
OZUR 81.21 349 ⇑P **P 05 07 59.7 +0.6**
AKT Akhty 81.30 333⇑*i*P **P 05 08 00.2 +0.4**
AKT *e*PCP **pwP 05 08 07.0 -0.9**
AKT *e*PP **PP 05 11 04.9 +0.3**
AKT pmax pmax
comp=Z,227nm,0.9s
SOC Sochi 81.33 339 *eP* **P 05 07 59.5 -0.3**
SOC *e* 05 11 04.0
SOC *e*PPP PPP 05 12 52.4
SOC *e*S **S 05 18 13.8 +4.1**
SOC *e*SS **SS 05 23 30.3 +6.3**
SOC pmax pmax
comp=Z,51nm,0.8s
PLOR Plostina 81.35 349 ⇑P **P 05 08 00.7 +0.8**
PLOR Plostina 81.35 349 ⇑P **P 05 08 00.7 +0.8**
LGD Lagodekhi 81.38 334 P **P 05 08 01.0 +0.9**
DOPR Dopca 81.39 350 ⇑P **P 05 08 00.7 +0.6**
ABTA Abfaltersbach 81.41 359 *i* P **P 05 08 01.2 +1.0**
comp=Z,77nm,1.1s,SNR=9.1
SOKA Soboth 81.42 357 *i* P **P 05 08 01.4 +1.1**
comp=Z,129nm,1.1s,SNR=13
SIRR Siria 81.45 352 ⇑P **P 05 08 01.5 +1.1**
PERS Pernice 81.46 357 *i* P **P 05 08 01.4 +0.8**
SLCR Slobozia Conac 81.47 348 ⇑P **P 05 08 01.6 +1.1**
MYKA Terra Mystica 81.51 358 *i* P **P 05 08 01.3 +0.5**

comp=Z,43nm,1.2s,SNR=5.7
OBKA Obir 81.61 357 *i* P **P 05 08 02.2 +0.8**
comp=Z,61nm,1.0s,SNR=10
CHVG Ch'k'valeri 81.61 337 ⇓P **P 05 08 02.5 +1.2**
CHVG Ch'k'valeri 81.61 337 ⇓P **P 05 08 02.5 +1.2**
BISRR Bisoca 81.64 349 ⇑P **P 05 08 03.4 +1.9**
TUE Stuetta 81.69 1 P **P 05 08 03.1 +1.2**
TUE IAmb IAmb 05 08 04.5
comp=Z,91nm,1.1s
TLCR 81.73 347 ⇑P **P 05 08 02.4 +0.6**
TLCR 81.73 347 ⇑P **P 05 08 02.4 +0.6**
MLR Muntele Rosu 81.79 349 ⇑P **P 05 08 04.1 +1.7**
MLR Muntele Rosu 81.79 349 ⇑P **P 05 08 04.1 +1.7**
SEAG Tbilisi Sea 81.83 335 P **P 05 08 05.6 +3.1**
CFR Carcaliu 81.83 348 ⇑P **P 05 08 02.5 +0.1**
VOIR 81.95 350 ⇑P **P 05 08 05.1 +2.0**
VOIR 81.95 350 ⇑P **P 05 08 05.1 +2.0**
LJU Ljubljana 82.07 357 *e*S S 05 18 07.3 -10
BZS Buzias 82.10 352 ⇑P **P 05 08 04.5 +0.7**
TPGR Topolog 82.11 347 ⇑P **P 05 08 04.5 +0.6**
GZR Gura Zlata 82.22 351 ⇑P **P 05 08 04.6 +0.1**
GZR Gura Zlata 82.22 351 ⇑P **P 05 08 04.6 +0.1**
KZRT Kazreti 82.29 335 P **P 05 08 08.7 +3.8**
VISS Visnje 82.30 357 *e*S **S 05 18 11.2 -8.5**
HARR Harsova 82.33 348 ⇑P **P 05 08 05.8 +0.8**
HARR Harsova 82.33 348 ⇑P **P 05 08 05.8 +0.8**
AKH Akhalkalaki 82.50 336 ⇑P **P 05 08 07.3 +1.1**
AKH Akhalkalaki 82.50 336 P **P 05 08 10.0 +3.8**
TIRR Tirgusor 82.50 347 ⇑P **P 05 08 06.2 +0.3**
TIRR Tirgusor 82.50 347 P **P 05 08 05.5 -0.4**
TIRR pmax pmax
comp=Z,166nm,1.1s
TIRR Tirgusor 82.50 347 P **P 05 08 05.5 -0.4**
BOJS Bojanci 82.59 357 *i* P **P 05 08 06.8 +0.5**
FRGS Fruska Gora 82.69 353 ⇑P **P 05 08 08.0 +1.0**
SSB Saint Sauveur 82.75 4 IAmb IAmb 05 08 09.5
comp=Z,59nm,1.0s
BATM Batumi 82.76 337 ⇑P **P 05 08 04.4 -2.9**
BATM Batumi 82.76 337 ⇑P **P 05 08 04.4 -2.9**
HERR Herculane 82.76 352 ⇑P **P 05 08 06.9 -0.4**
TEOL Teolo 82.81 359 P **P 05 08 08.1 +0.6**
MDVR Moldovita 82.92 352 ⇑P **P 05 08 08.7 +0.5**
BNI Bardonecchia 83.06 3 P **P 05 08 11.7 +2.7**
BNI Bardonecchia 83.06 3 IAmb IAmb 05 08 12.4
comp=Z,86nm,1.0s
PUNG Punghina 83.31 351 ⇑P **P 05 08 09.9 -0.2**
GCPR Guaynabo City 83.58 68 P **P 05 08 12.4 +0.5**
GCPR IAmb IAmb 05 08 26.5
comp=Z,38nm,0.9s
ZIMR 83.67 349 ⇑P **P 05 08 12.3 +0.4**
ZIMR 83.67 349 ⇑P **P 05 08 12.3 +0.4**
SNOP Sinop 83.76 342 P **P 05 08 12.5 +0.1**
SNOP IAmb IAmb 05 08 14.3
comp=Z,48nm,1.0s
KTUT Trabzon 83.79 338 ⇑P **P 05 08 13.4 +0.8**
VLC Villacollemand 84.01 0 IAmb IAmb 05 08 16.1
comp=Z,99nm,1.3s
BOVS Bovan 84.06 352 ⇑P **P 05 08 13.1 -0.9**
DIKM Dikmen 84.11 342 ⇑P **P 05 08 15.9 +1.6**
KOPT Kop Dagi 84.55 337 P **P 05 08 18.3 +1.4**
VTS Vitosha 84.92 351 ⇑P **P 05 08 19.0 +0.4**
VTS Vitosha 84.92 351 ⇑P **P 05 08 19.0 +0.4**
NRCA Norcia 85.31 358 P **P 05 08 21.4 +1.0**
CASP Castiglione de 85.38 360 IAmb IAmb 05 08 23.4
comp=Z,74nm,1.1s
PDG Podgorica 85.44 354 ⇑P **P 05 08 20.9 0.0**
RDO Rodhopi 86.13 349 P **P 05 08 25.0 +0.6**
BR131 Keskin Array S 86.28 342 P **P 05 08 25.9 +0.5**
BR131 pmax pmax
comp=Z,179nm,2.0s
BR131 Keskin Array S 86.28 342 P **P 05 08 25.9 +0.5**
BRTR Keskin Array B 86.28 342 P **P 05 08 25.4 +0.1**
comp=Z,6.2nm,0.7s,baz=27,slow=1.4,SNR=3.8
ALN Alexandroupoli 86.31 348 P **P 05 08 25.2 -0.1**
SGRT San Giovanni R 86.31 356 IAmb IAmb 05 08 26.5
comp=Z,71nm,1.1s
KNT Kendrikon 86.40 351 P **P 05 08 26.5 +0.7**
TIR Tirane 86.48 353 ⇑P **P 05 08 26.5 +0.4**
TIR Tirane 86.48 353 ⇑P **P 05 08 26.5 +0.4**
TIR Tirane 86.48 353 IAmb IAmb 05 08 30.9
comp=Z,53nm,0.8s
GRG Griva 86.65 351 P **P 05 08 27.3 +0.3**
MALT Malatya 86.65 338 P **P 05 08 30.3 +3.1**
THAS Thassos island 86.75 349 P **P 05 08 27.4 -0.1**
WRA Warramunga Arr 86.90 232 P **P 05 08 27.1 -1.2**
comp=Z,8.0nm,0.9s,baz=35,slow=5.5,SNR=5.0
WRA Warramunga Arr 86.90 232 *i* P **P 05 08 27.7 -0.6**
WRA pmax pmax
comp=Z,8.0nm,0.9s
FNA Florina 86.92 352 IAmb IAmb 05 08 29.2
comp=Z,45nm,0.9s
OUR Ourranopolis 87.11 350 P **P 05 08 29.1 -0.1**
PLG Polygyros 87.12 350 P **P 05 08 28.8 -0.5**
MATE Matera 87.37 355 ⇑P **P 05 08 30.4 0.0**
LIA Limnos Island 87.40 349 P **P 05 08 30.9 +0.3**
ESBB Sonseca Array 87.61 11 P **P 05 08 31.7 -0.1**
ESBB IAmb IAmb 05 08 34.0
comp=Z,29nm,0.9s
ESDC Sonseca Array 87.62 11 P **P 05 08 32.0 +0.3**
comp=Z,28nm,0.9s,baz=349,slow=4.7,SNR=20
XOR Xorichti 88.15 350 P **P 05 08 33.7 -0.6**
AGG Agios Georgios 88.58 351 P **P 05 08 36.8 +0.5**
AGG Agios Georgios 88.58 351 IAmb IAmb 05 08 36.4
comp=Z,44nm,1.0s
MAKR Makrakomi, Fth 88.60 351 P **P 05 08 36.0 -0.4**
EVR Evrytania 88.73 351 P **P 05 08 37.2 +0.1**
PSI Prapat 88.86 273 P **P 05 08 38.3 +0.3**
PSI pmax pmax
comp=Z,83nm,1.0s
RPSI Rantau Prapat 88.94 273 P **P 05 08 38.3 0.0**
EFP Efpalio 89.20 351 P **P 05 08 39.6 +0.4**
KLV Kalavryta, Ach 89.56 351 P **P 05 08 40.6 -0.4**
ASAR Alice Springs 90.29 230 P **P 05 08 44.3 0.0**
comp=Z,16nm,1.0s,baz=36,slow=4.6,SNR=6.4
ASAR Alice Springs 90.29 230 P **P 05 08 44.7 +0.4**
ITM Ithomi 90.44 351 IAmb IAmb 05 08 45.7
comp=Z,81nm,1.2s
LEF Lefka 90.89 342 ⇑P **P 05 08 46.8 -0.3**
LAST Lasithi 92.03 348 P **P 05 08 51.3 -1.2**
KEST Kesra 92.42 1 P **P 05 08 53.4 -1.0**
comp=Z,16nm,1.1s,baz=283,slow=7.0,SNR=3.4
STKA Stephens Creek 94.07 220 P **P 05 09 02.2 +0.6**
comp=Z,8.8nm,1.0s,baz=26,slow=5.4,SNR=3.1
DBIC Dimbokro 119.88 18 PKIKP **PKPdf 05 14 33.8 -0.3**
DBIC Dimbokro 119.88 18 PKPdf **PKPdf 05 14 33.8 -0.3**
KMBO Kilima Mbogo 124.43 327 PKP **PKiKP 05 14 44.8 +1.3**
comp=Z,14nm,0.9s,baz=16,slow=3.5,SNR=12
PLCA Paso Flores 125.74 112 PKP **PKPdf 05 14 44.9 +0.3**
comp=Z,4.2nm,0.9s,baz=42,slow=12,SNR=2.3
PMSA Palmer Station 141.43 138 PKP **PKiKP 05 15 14.6 -1.2**
comp=Z,4.2nm,0.9s,baz=222,slow=3.8,SNR=2.1
QSPA South Pole Qui 141.97 180 PKhKP PKPpre 05 15 08.9
comp=Z,10nm,0.9s,baz=37,slow=1.5,SNR=3.3
QSPA PKP **PKPdf 05 15 14.1 0.0**
comp=Z,9.7nm,0.7s,baz=194,slow=2.7,SNR=6.2
MATP Matopo 145.36 330 PKPbc **PKPdf 05 15 21.8 +0.2**
comp=Z,44nm,0.7s,baz=345,slow=1.9,SNR=10
TSUM Tsumeb 146.61 348 PKPbc **PKPab 05 15 26.1 -0.2**
comp=Z,24nm,0.9s,baz=357,slow=6.5,SNR=4.5
TSUM Tsumeb 146.61 348 PKPbc **PKPab 05 15 26.2 -0.1**
LBTB Lobatse 150.56 332 PKPbc **PKiKP 05 15 36.1 0.0**
comp=Z,121nm,0.9s,baz=21,slow=1.7,SNR=20
MAW Mawson 150.75 218 PKPbc **PKPbc 05 15 33.9 -0.3**
comp=Z,9.0nm,0.9s,baz=135,slow=4.5,SNR=4.9
MAW Mawson 150.75 218 PKPbc **PKPbc 05 15 34.6 +0.3**
BOSA Boshof 154.03 330 PKPbc **PKiKP 05 15 43.9 +0.7**
comp=Z,18nm,1.0s,baz=30,slow=3.3,SNR=5.6

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*NEIC **27** 05:00:53.7±3.1, 52°.16N±0°.04×169°.37W±0°.08, h27km±8km, Error ellipse: s-maj=7.8km s-min=4.7km az=128.0*
*AEIC **27** 05:00:53±2.7, 52°.11N±0°.04×169°.36W±0°.08, h34km±6km, ML3.6, mb4.3/6(NEIC), Error ellipse: s-maj=7.3km s-min=5.9km az=109.0*
ISC 27 05:00:54.0±3.1, 52°.1N±0°.1×169°.33W±0°.08, h30km±22km, n40, σ1§40/46, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.88**	**19**		**Pn**	**05 01 08.4**	**-1.9**
NIKH	**Nikolski High**	**0.88**	**19**		**Sb**	**05 01 23.2**	**+1.1**
OKCE	**Okmok Cone E**	**1.47**	**28**		**Pn**	**05 01 18.7**	**+0.2**
OKCE					**Sb**	**05 01 39.3**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.47**	**32**		**Pn**	**05 01 18.6**	**+0.1**
OKNC	**Okmok New Cone**	**1.51**	**29**		**Pn**	**05 01 19.4**	**+0.4**
OKNC					**Sb**	**05 01 40.1**	**+0.1**
MAPS	**Pakushin South**	**2.21**	**40**		**Pn**	**05 01 28.7**	**+0.1**
MAPS					**Sn**	**05 01 56.0**	**+1.2**
MGOD	**Makushin Gods**	**2.22**	**41**		**Pn**	**05 01 29.3**	**+0.5**
MGOD					**Sn**	**05 01 56.8**	**+1.4**
MSW	**Makushin Switc**	**2.35**	**40**		**Pn**	**05 01 31.1**	**+0.6**
MNAT	**Makushin Natee**	**2.37**	**42**		**Pn**	**05 01 31.4**	**+0.6**
MNAT					**Sn**	**05 01 59.1**	**+0.3**
UNV	**Unalaska Valle**	**2.41**	**44**		**Pn**	**05 01 32.0**	**+0.6**
UNV					**Sn**	**05 02 00.1**	**+0.2**
AKUT	**Akutan**	**2.93**	**46**	Pn	**Pn**	**05 01 39.2**	**+0.8**
ATKA	**Atka Island**	**2.99**	**273**		**Pn**	**05 01 38.9**	**-0.4**
ADK	**Adak**	**4.55**	**270**	Pn	**Pn**	**05 01 59.2**	**-1.5**
SPIA	**Saint Paul Isl**	**5.07**	**354**	Pn	**Pn**	**05 02 09.6**	**+1.7**
SDPT	**Sand Point**	**6.16**	**55**	Pn	**Pn**	**05 02 21.4**	**-1.3**
CNBA	**Chernabura Isl**	**6.40**	**61**	Pn	**Pn**	**05 02 24.4**	**-1.7**
AMKA	**Amchitka**	**7.10**	**268**	Pn	**Pn**	**05 02 37.3**	**+1.6**
CHIR	**Chirikof Islan**	**8.88**	**60**	Pn	**Pn**	**05 02 58.7**	**-1.4**
SII	**Sitkinak Islan**	**9.88**	**57**	Pn	**Pn**	**05 03 11.4**	**-2.4**
SMY	**Shemya**	**10.14**	**280**	Pn	**Pn**	**05 03 17.7**	**+0.4**
OHAK	**Old Harbor**	**10.58**	**55**	Pn	**Pn**	**05 03 22.0**	**-1.3**
KDAK	**Kodiak Island**	**11.15**	**53**	Pn	**Pn**	**05 03 31.3**	**+0.2**
CNPM	**China Poot**	**12.54**	**47**	Pn	**Pn**	**05 03 52.1**	**+1.9**
SEW	**Seward**	**13.61**	**46**	Pn	**Pn**	**05 04 03.9**	**-0.8**
RC01	**Rabbit Creek A**	**13.97**	**42**	Pn	**Pn**	**05 04 08.2**	**-1.4**
PWL	**Port Wells**	**14.45**	**45**	Pn	**Pn**	**05 04 14.4**	**-1.8**
HIN	**Hinchinbrook I**	**15.07**	**48**	Pn	**Pn**	**05 04 22.8**	**-1.7**
TRF	**Thorofare Moun**	**15.13**	**34**	Pn	**Pn**	**05 04 24.6**	**-0.9**
TRF				IAmb	IAmb	05 04 42.7	
comp=Z,21nm,1.2s
FID Port Fidalgo 15.22 47 Pn **Pn 05 04 23.3 -3.2**
FID IAmb IAmb 05 04 32.6
comp=Z,12nm,0.8s
BPAW Bear Paw Mtn. 15.33 32 Pn **Pn 05 04 26.1 -1.9**
BPAW IAmb IAmb 05 04 37.5
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 15.34 42 Pn **Pn 05 04 25.8 -2.4**
EYAK Cordova Ski Ar 15.47 48 Pn **Pn 05 04 27.8 -2.0**
KLU Klutina 15.78 45 Pn **Pn 05 04 32.0 -1.9**
M24K Tolsona, Glenn 15.95 42 Pn **Pn 05 04 34.5 -1.6**
HYT Haines Junctio 19.43 51 P **P 05 05 17.3 -0.4**
HYT IAmb IAmb 05 05 24.7
comp=Z,17nm,1.1s
PEA0B Petropavlovsk- 19.94 286 P **P 05 05 21.6 -1.6**
MCMT McKenzie Canyo 37.30 78 P **P 05 08 05.1 +1.7**
TX31 Lajitas Ar. Si 52.73 89 P **P 05 10 06.8 +0.8**
TXAR Lajitas Array 52.73 89 P **P 05 10 06.2 +0.2**
TXAR Lajitas Array 52.73 89 ScP **P 05 10 06.5 +0.5**
comp=Z,0.9nm,0.8s,baz=291,slow=5.4,SNR=4.8

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*IDC **27** 05:02:23.4±0.8, 52°.39N×169°.50W, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.3/63, mbtmp4.4/26, ML4.1/2, Error ellipse: s-maj=22.6km s-min=12.5km az=170.0*
*AEIC **27** 05:02:24±2.9, 52°.10N±0°.05×169°.25W±0°.08, h6km±4km, ML4.1, mb4.7/74(NEIC), Error ellipse: s-maj=8.2km s-min=6.9km az=148.0*
*NEIC **27** 05:02:28.6±1.9, 52°.39N±0°.09×169°.42W±0°.09, h34km±6km, Error ellipse: s-maj=13.7km s-min=6.7km az=158.0*
ISC 27 05:02:28.9±0.6, 52°.36N±0°.10×169°.34W±0°.05, h40km, n182, σ1§08/180, mb4.6/49, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.68**	**25**		**Pn**	**05 02 41.9**	**-0.2**
OKSP	**Okmok Steeple**	**1.10**	**35**		**Pn**	**05 02 47.5**	**-0.4**
OKSO	**Okmok South**	**1.23**	**35**		**Pn**	**05 02 49.7**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.29**	**37**		**Pn**	**05 02 50.7**	**+0.2**
OKNC	**Okmok New Cone**	**1.32**	**33**		**Pn**	**05 02 52.0**	**+1.1**
MAPS	**Pakushin South**	**2.05**	**44**		**Pn**	**05 03 01.4**	**+0.6**
MGOD	**Makushin Gods**	**2.07**	**45**		**Pn**	**05 03 01.6**	**+0.5**
MSW	**Makushin Switc**	**2.19**	**44**		**Pn**	**05 03 03.9**	**+1.1**
MNAT	**Makushin Natee**	**2.21**	**45**		**Pn**	**05 03 03.6**	**+0.6**
UNV	**Unalaska Valle**	**2.27**	**48**		**Pn**	**05 03 04.1**	**+0.3**
MTBL	**Makushin Table**	**2.27**	**44**		**Pn**	**05 03 05.1**	**+1.2**
AKMO	**Akutan Morgan**	**2.65**	**48**		**Pn**	**05 03 10.7**	**+1.7**
AKBBA	**Akutan Broad B**	**2.69**	**48**		**Pn**	**05 03 11.5**	**+1.9**
AKGG	**Akutan Green G**	**2.73**	**46**		**Pn**	**05 03 12.3**	**+2.2**
AKUT	**Akutan**	**2.78**	**49**	Pn	**Pn**	**05 03 12.3**	**+1.4**
KOSE	**Korovin Southe**	**2.89**	**272**		**Pn**	**05 03 12.4**	**0.0**
KOFP	**Korovin Flat P**	**2.92**	**270**		**Pn**	**05 03 12.5**	**-0.4**
KOKL	**Mount Kliuchef**	**2.98**	**271**		**Pn**	**05 03 14.1**	**+0.4**
ATKA	**Atka Island**	**2.99**	**269**		**Pn**	**05 03 12.8**	**-1.0**
GSTR	**Great Sitkin T**	**4.14**	**269**		**Pn**	**05 03 29.4**	**-0.2**
GSMY	**Great Sitkin M**	**4.15**	**268**		**Pn**	**05 03 29.1**	**-0.5**
GSTD	**Great Sitkin T**	**4.20**	**269**		**Pn**	**05 03 29.6**	**-0.8**
FALS	**False Pass**	**4.32**	**52**	Pn	**Pn**	**05 03 33.8**	**+1.8**
ADK	**Adak**	**4.55**	**267**		**Pn**	**05 03 34.5**	**-0.6**
KIWB	**Kanaga Island**	**4.84**	**267**	Pn	**Pn**	**05 03 38.9**	**-0.3**
SPIA	**Saint Paul Isl**	**4.86**	**354**		**Pn**	**05 03 42.0**	**+2.7**
TASE	**Tanaga Southea**	**5.39**	**268**		**Pn**	**05 03 47.1**	**+0.3**
SDPT	**Sand Point**	**6.04**	**57**	Pn	**Pn**	**05 03 57.9**	**+2.3**
CNBA	**Chernabura Isl**	**6.31**	**63**	Pn	**Pn**	**05 04 00.2**	**+0.9**
AMKA	**Amchitka**	**7.11**	**267**		**Pn**	**05 04 09.8**	**-0.4**
CHIR	**Chirikof Islan**	**8.77**	**61**	Pn	**Pn**	**05 04 34.0**	**+1.0**
SII	**Sitkinak Islan**	**9.77**	**59**	Pn	**Pn**	**05 04 48.2**	**+1.5**
SMY	**Shemya**	**10.10**	**279**	Pn	**Pn**	**05 04 52.6**	**+1.4**
OHAK	**Old Harbor**	**10.46**	**56**	Pn	**Pn**	**05 04 54.7**	**-1.4**
KDAK	**Kodiak Island**	**11.02**	**54**	Pn	**Pn**	**05 05 02.1**	**-1.6**
2.6nm,0.3s,baz=264,slow=7.3,SNR=8.2
KDAK Sn **Sn 05 07 00.2 -5.3**
0.3nm,0.3s,baz=102,slow=9.3,SNR=4.7
KDAK Kodiak Island 11.02 54 Pn **Pn 05 05 02.3 -1.5**
GAMB Gambell 11.52 355 Pn **Pn 05 05 11.7 +1.2**
RSO Redoubt South 12.22 42 Pn **Pn 05 05 22.5 +2.1**
CNPM China Poot 12.40 48 Pn **Pn 05 05 22.7 +0.1**
BRLK Bradley Lake 12.67 47 **Pn 05 05 26.7 +0.4**
TNA Tin City 13.26 3 Pn **Pn 05 05 36.1 +1.8**
SEW Seward 13.46 47 Pn **Pn 05 05 36.6 -0.5**
Q22K Cooper Landing 13.52 45 **Pn 05 05 37.4 -0.4**
SKT Skwentna 13.59 38 Pn **Pn 05 05 39.3 +0.4**
SUA Susitna One 13.60 41 **Pn 05 05 39.7 +0.6**
RC01 Rabbit Creek A 13.81 43 Pn **Pn 05 05 41.1 -0.7**
PPLA Purkeypile 13.94 34 Pn **Pn 05 05 42.0 -1.7**
PWL Port Wells 14.30 45 Pn **Pn 05 05 47.0 -1.5**
PMR Palmer 14.32 42 Pn **Pn 05 05 47.4 -1.4**
Q23K Middleton Isla 14.65 52 Pn **Pn 05 05 51.6 -1.6**
MID Middleton Isla 14.66 52 Pn **Pn 05 05 51.7 -1.6**
KTH Kantishna Hill 14.80 34 Pn **Pn 05 05 55.1 -0.2**
GLI Glacier Island 14.85 46 Pn **Pn 05 05 54.1 -1.8**
HIN Hinchinbrook I 14.93 48 Pn **Pn 05 05 54.6 -2.3**
HIN IAmb IAmb 05 05 58.1
comp=Z,30nm,0.7s
FID Port Fidalgo 15.07 47 Pn **Pn 05 05 55.3 -3.5**
FID IAmb IAmb 05 05 57.9
comp=Z,59nm,1.3s
BPAW Bear Paw Mtn. 15.15 32 Pn **Pn 05 06 00.4 +0.7**
BPAW IAmb IAmb 05 06 20.9
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 15.19 43 Pn **Pn 05 05 58.6 -1.7**
EYAK Cordova Ski Ar 15.33 48 Pn **Pn 05 06 00.4 -1.7**
KLU Klutina 15.63 45 **Pn 05 06 04.9 -1.2**
KLU IAmb IAmb 05 06 33.1
comp=Z,60nm,1.4s
M24K Tolsona, Glenn 15.80 43 Pn **Pn 05 06 07.5 -0.7**
HMT Hamilton 15.95 50 Pn **Pn 05 06 09.6 -0.5**
HMT IAmb IAmb 05 06 27.7
comp=Z,38nm,0.8s
NEA2 Nenana 16.10 33 Pn **P 05 06 13.7 -1.2**
N25K Chitina, Valde 16.25 46 Pn **Pn 05 06 12.3 -1.8**
N25K IAmb IAmb 05 06 17.5
comp=Z,82nm,1.5s
WRH Wood River Hil 16.35 34 Pn **Pn 05 06 15.1 -0.1**
I23K Minto, Yukon-K 16.37 31 P **P 05 06 17.8 -0.1**
GLB Gilahina Butte 16.54 47 Pn **Pn 05 06 16.9 -0.7**
CRQM Cirque 16.61 49 Pn **Pn 05 06 17.9 -0.7**
CRQM IAmb IAmb 05 06 37.0
comp=Z,44nm,1.2s
VRDI Verde Repeater 16.62 48 Pn **Pn 05 06 17.4 -1.4**
WAX Waxell Ridge 16.65 51 Pn **Pn 05 06 19.5 +0.5**
WAX IAmb IAmb 05 06 45.0
comp=Z,84nm,1.3s
MCARA McCarthy VSAT 16.87 47 Pn **Pn 05 06 21.7 0.0**
MCARA IAmb IAmb 05 06 44.3
comp=Z,90nm,1.2s
IL31 16.95 34 Pn **Pn 05 06 22.3 -0.3**
ILAR Eielson Array 16.95 34 Pn **Pn 05 06 21.6 -1.1**
comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=6.3
ILAR Eielson Array 16.95 34 **Pn 05 06 23.4 +0.7**
RIDG Independent Ri 17.12 39 Pn **Pn 05 06 24.2 -0.7**
BARN Barnard Glacie 17.39 49 **P 05 06 29.2 -0.1**
CTGM Chitina Glacie 17.51 50 Pn **Pn 05 06 29.2 -0.7**
CTGM IAmb IAmb 05 06 43.7
comp=Z,68nm,1.3s
SCRK Sand Creek 17.57 39 Pn **Pn 05 06 30.3 -0.3**
SCRK IAmb IAmb 05 06 34.6
comp=Z,52nm,1.3s
LOGN Logan Glacier 17.63 50 **Pn 05 06 31.6 +0.4**
LOGN IAmb IAmb 05 06 38.8
comp=Z,45nm,1.4s
PRP Porcupine Dome 17.86 33 Pn **Pn 05 06 33.8 -0.2**
L27K Beaver Creek, 18.02 43 P **Pn 05 06 35.8 -0.3**
BCPM Bancas Point 18.08 53 **P 05 06 37.5 +0.7**
BCPM IAmb IAmb 05 06 40.8
comp=Z,117nm,1.4s
FYU Fort Yukon 18.59 31 P **P 05 06 41.9 -0.4**
FYU IAmb IAmb 05 06 51.0
comp=Z,85nm,1.4s
EGAK Eagle 19.04 38 P **P 05 06 47.7 +0.5**
HYT Haines Junctio 19.29 51 P **P 05 06 51.1 +0.9**
HYT IAmb IAmb 05 07 04.5
comp=Z,24nm,0.6s
PET Petropavlovsk 19.33 285 P **P 05 06 49.8 -0.7**
PET IAmb IAmb 05 06 50.3
comp=Z,28nm,0.8s
DAWY Dawson 19.43 41 P **P 05 06 51.0 -0.5**
PEA0B Petropavlovsk- 19.88 285 P **P 05 06 56.3 -0.2**
PETK Petropavlovsk- 19.88 285 P **P 05 06 55.7 -0.9**
comp=Z,6.9nm,0.3s,baz=89,slow=13,SNR=40
PETK Petropavlovsk- 19.88 285 P **P 05 06 55.3 -1.2**
SKAG Skagway 20.16 56 Pn Pn 05 07 01.6 0.0
SKAG IAmb IAmb 05 07 14.4
comp=Z,29nm,0.9s
BESE Bessie Mountai 20.34 59 Pn Pn 05 07 03.5 -0.3
BESE IAmb IAmb 05 07 32.5
comp=Z,45nm,1.4s
WHY Whitehorse 20.53 53 P **P 05 07 04.2 +0.5**
EPYK Eagle Plains 21.40 37 P **P 05 07 11.6 -1.2**
EPYK IAmb IAmb 05 07 15.5
comp=Z,39nm,1.2s
MOBC Moresby Island 22.47 73 P **P 05 07 24.1 -0.4**
MOBC IAmb IAmb 05 07 33.8
comp=Z,39nm,1.4s
DLBC Dease Lake 22.87 59 P **P 05 07 29.5 +0.9**
MA2 Magadan 23.16 304 P **P 05 07 29.5 -2.0**
comp=Z,13nm,0.8s,baz=62,slow=15,SNR=4.0
MA2 Magadan 23.16 304 P **P 05 07 30.9 -0.6**
MA2 IAmb IAmb 05 07 34.7
comp=Z,14nm,0.9s
INK Inuvik 23.34 33 P **P 05 07 32.0 -1.2**
comp=Z,6.2nm,0.5s,baz=242,slow=7.7,SNR=8.0
INK Inuvik 23.34 33 P **P 05 07 32.7 -0.4**
C36M Paulatuk 26.92 34 P **P 05 08 06.0 +0.2**
C36M IAmb IAmb 05 08 25.8
comp=Z,18nm,1.1s
YKA Yellowknife Ar 30.23 49 P **P 05 08 36.2 +0.9**
comp=Z,1.2nm,0.4s,baz=287,slow=11,SNR=7.4
JKA Kamikawa-asahi 32.53 275 P **P 05 08 55.3 -0.4**
JKA Kamikawa-asahi 32.53 275 IAmb IAmb 05 08 58.7
comp=Z,10nm,0.8s
ASAJ Asahikawa 32.53 275 P **P 05 08 55.3 -0.4**
comp=Z,11nm,0.9s,baz=209,slow=4.9,SNR=4.1
NEW Newport 32.99 76 P **P 05 09 01.7 +1.9**
comp=Z,1.9nm,0.8s,baz=98,slow=7.1,SNR=1.7
NEW Newport 32.99 76 IAmb IAmb 05 09 09.8
comp=Z,16nm,1.4s
EDM Edmonton 33.13 66 P **P 05 08 59.6 -1.4**
EDM IAmb IAmb 05 09 10.4
comp=Z,12nm,0.9s
ERM Erimo 33.34 271 P **P 05 09 02.8 0.0**
KLR Kul'dur 36.48 289 P **P 05 09 27.9 -1.9**
comp=Z,3.5nm,0.4s,baz=74,slow=7.2,SNR=16
MCMT McKenzie Canyo 37.26 79 P **P 05 09 37.3 +0.5**
YHH Holmes Hill 38.48 77 P **P 05 09 47.9 +0.8**
YHH IAmb IAmb 05 10 02.0
comp=Z,19nm,1.5s
MJAR Matsushiro Arr 39.72 268 P **P 05 09 56.5 -0.7**
comp=Z,1.3nm,0.5s,baz=29,slow=6.2,SNR=1.7
BW06 Boulder Array 40.38 79 P **P 05 10 03.5 +0.5**
PD31 Pinedale Array 40.38 79 P **P 05 10 03.6 +0.6**
PDAR Pinedale Array 40.38 79 P **P 05 10 03.5 +0.6**
comp=Z,2.1nm,0.7s,baz=321,slow=2.9,SNR=6.3
O20A White River Ci 42.74 81 P **P 05 10 23.0 +0.7**
O20A IAmb IAmb 05 10 38.2
comp=Z,10nm,1.1s
PV01 Paradox Valley 43.79 84 P **P 05 10 31.7 +0.9**
PV01 IAmb IAmb 05 10 50.6
comp=Z,6.7nm,0.9s
KSRS Korea Array 45.42 277 P **P 05 10 43.6 +0.1**
comp=Z,5.7nm,0.8s,baz=56,slow=7.5,SNR=16
B35A Bob, Littlefor 46.35 63 P **P 05 10 50.5 -0.2**
NRIK Noril'sk 46.44 332 P **P 05 10 51.0 -0.1**
comp=Z,2.8nm,0.4s,baz=60,slow=12,SNR=5.0
NRIK Noril'sk 46.44 332 P **P 05 10 51.2 0.0**
JNU Nakatsue 46.48 270 P **P 05 10 52.0 0.0**
ECSD EROS Data Cent 47.46 70 P **P 05 10 58.5 -0.9**
KBS Kingsbay 48.97 360 P **P 05 11 11.4 +0.8**
KBS IAmb IAmb 05 11 24.0
comp=Z,15nm,1.4s
SPITS Spitsbergen Ar 49.68 358 P **P 05 11 16.1 0.0**
comp=Z,1.2nm,0.3s,baz=30,slow=5.2,SNR=15
MNTX Cornudas Mount 50.02 88 P **P 05 11 20.3 +1.1**
COWI Conover 50.21 63 P **P 05 11 19.9 -0.6**
COWI IAmb IAmb 05 11 22.0
comp=Z,12nm,1.2s
SUMG Summit 50.78 17 P **P 05 11 26.2 +1.3**
SUMG IAmb IAmb 05 11 26.4
comp=Z,6.2nm,0.8s
E43A Lone Tree Farm 51.21 62 P **P 05 11 27.8 -0.1**
E43A IAmb IAmb 05 11 28.2
comp=Z,12nm,1.1s
SONM Songino Array 51.32 301 P **P 05 11 29.2 +0.2**
comp=Z,2.0nm,0.5s,baz=43,slow=6.4,SNR=6.7
SONM PcP **PcP 05 12 43.5 +0.2**
comp=Z,2.2nm,0.9s,baz=50,slow=2.3,SNR=2.3
SONM Songino Array 51.32 301 P **P 05 11 28.9 -0.1**
SONM IAmb IAmb 05 11 30.1
comp=Z,10nm,1.2s
E46A Sault Ste Mari 52.65 60 P **P 05 11 38.3 -0.4**
TX31 Lajitas Ar. Si 52.73 89 P **P 05 11 40.1 +0.5**
TX32 Lajitas Array 52.73 89 P **P 05 11 39.8 +0.2**
TX32 IAmb IAmb 05 11 48.2
comp=Z,15nm,1.4s
TXAR Lajitas Array 52.73 89 P **P 05 11 39.6 0.0**
comp=Z,1.2nm,0.7s,baz=304,slow=5.9,SNR=10
TXAR Lajitas Array 52.73 89 P **P 05 11 39.4 -0.2**
P40A Paris 52.76 71 P **P 05 11 38.5 -1.1**
P40A IAmb IAmb 05 11 53.0
comp=Z,15nm,0.9s
HDIL Hopedale 53.67 69 P **P 05 11 45.6 -0.7**
SCO Scoresbysund 55.23 13 P **P 05 11 57.7 +0.6**
ARCES ARCESS Array B 57.93 354 P **P 05 12 16.1 -0.3**
comp=Z,1.8nm,0.4s,baz=21,slow=8.0,SNR=13
ARCES ARCESS Array B 57.93 354 P **P 05 12 16.1 -0.3**
ARCES IAmb IAmb 05 12 30.3
comp=Z,18nm,1.5s
LVZ Lovozero 58.73 350 P **P 05 12 22.0 0.0**
SSPA Standing Stone 59.96 62 P **P 05 12 31.0 +0.1**
BORG Borgarnes 60.63 15 P **P 05 12 36.7 +1.6**
BRVK Borovoye 63.73 325 P **P 05 12 56.2 +0.2**
BRVK IAmb IAmb 05 12 56.4
comp=Z,4.9nm,0.6s
**

OSTC **Ostas** 77.35 356 *eP* P 05 14 20.8 +1.7
DPC **Dobruska-Polom** 77.55 356 *eP* P 05 14 21.2 +1.0
KRLC **Kraliky** 77.81 356 *eP* P 05 14 22.4 +0.7
KHC **Kasperske Hory** 78.86 358 *eP* P 05 14 28.5 +1.1
GERES **GERESS Array B** 79.14 358 P P 05 14 29.4 +0.3
comp=Z,1.2nm,0.7s,baz=22,slow=7.6,SNR=4.5
CONA **Conrad Observa** 79.99 356 *eP* P 05 14 34.9 +1.2
comp=Z,7.4nm,0.9s
KBZ **Khabaz** 80.33 337 P P 05 14 37.0 +1.5
comp=Z,6.9nm,0.9s,baz=46,slow=3.5,SNR=5.7
MOTA **Moosalm** 80.67 360 *eP* P 05 14 38.2 +0.7
comp=Z,5.1nm,0.9s
ARSA **Arzberg** 80.68 357 *eP* P 05 14 38.2 +0.9
comp=Z,11nm,1.2s
WTTA **Wattenberg** 80.75 359 *eP* P 05 14 38.8 +0.9
comp=Z,3.3nm,0.5s
KBA **Koelnbreinsper** 80.92 358 *eP* P 05 14 39.9 +1.2
comp=Z,12nm,0.7s
FETA **Feichten** 81.00 360 *eP* P 05 14 39.2 0.0
comp=Z,6.7nm,0.9s
GEYT **Alibeck** 81.05 324 P P 05 14 39.8 +0.3
comp=Z,5.1nm,0.8s,baz=12,slow=7.6,SNR=4.0
SOKA **Soboth** 81.27 357 *eP* P 05 14 41.3 +0.7
comp=Z,8.8nm,1.1s
OBKA **Obir** 81.45 357 *eP* P 05 14 41.7 +0.1
comp=Z,8.5nm,1.0s
BRTR **Keskin Array B** 86.14 342 P P 05 15 06.6 +1.0
comp=Z,0.7nm,0.6s,baz=28,slow=3.4,SNR=1.8
ESDC **Sonseca Array** 87.46 11 P P 05 15 12.3 +0.3
comp=Z,1.4nm,0.8s,baz=342,slow=6.1,SNR=4.4
ASAR **Alice Springs** 90.40 230 P P 05 15 24.4 -1.4
comp=Z,3.7nm,1.2s,baz=7.6,slow=2.8,SNR=2.0
RCBR **Riachuelo** 119.94 56 PKP PKiKP 05 21 16.3 +1.1
comp=Z,12nm,1.0s,baz=76,slow=4.2,SNR=2.4
CPUP **Villa Florida** 123.69 90 PKP PKiKP 05 21 24.2 +2.1
comp=Z,3.1nm,0.8s,baz=35,slow=5.1,SNR=3.3
MATP **Matopo** 145.24 330 PKPbc PKPab 05 22 02.0 -0.1
comp=Z,3.5nm,0.6s,baz=3.5,slow=6.7,SNR=6.5
LBTB **Lobatse** 150.43 332 PKPbc PKiKP 05 22 16.5 -0.2
comp=Z,11nm,0.8s,baz=259,slow=1.3,SNR=11
BOSA **Boshof** 153.91 330 PKPbc PKPbc 05 22 23.6 -0.1
comp=Z,1.1nm,0.4s,baz=16,slow=2.3,SNR=5.1

*IDC **27** 05:07:50.4±1.4, 52°.47N×169°.47W, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.1/70, mbtmp4.1/20, ML3.7/2, Error ellipse: s-maj=37.6km s-min=14.5km az=165.0*
*NEIC **27** 05:07:52.8±2.2, 52°.22N±0°.05×169°.15W±0°.08, h16km±3km, Error ellipse: s-maj=7.0km s-min=6.7km az=139.0*
*AEIC **27** 05:07:53±2.5, 52°.25N±0°.06×169°.23W±0°.08, h19km±5km, ML4.0/39, mb4.2/41(NEIC), Error ellipse: s-maj=9.6km s-min=7.0km az=158.0*
ISC 27 05:07:54.0±1.9, 52°.3N±0°.1×169°.22W±0°.06, h27km±12km, n113, σ1§31/116, mb4.2/27, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
NIKH	**Nikolski High**	**0.71**	**18**		**Pn**	**05 08 07.8**		**-0.3**
OKSP	**Okmok Steeple**	**1.11**	**30**		**Pn**	**05 08 13.5**		**-0.2**
OKSO	**Okmok South**	**1.24**	**31**		**Pn**	**05 08 15.7**		**+0.2**
OKSO					**Sb**	**05 08 32.9**		**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.30**	**33**		**Pn**	**05 08 16.8**		**+0.4**
OKNC	**Okmok New Cone**	**1.33**	**30**		**Pb**	**05 08 17.5**		**-0.8**
OKNC					**Sb**	**05 08 36.6**		**+1.6**
MAPS	**Pakushin South**	**2.04**	**42**		**Pn**	**05 08 27.3**		**+0.8**
MAPS					**Sn**	**05 08 52.1**		**+1.0**
MGOD	**Makushin Gods**	**2.06**	**43**		**Pn**	**05 08 27.7**		**+0.9**
MGOD					**Sn**	**05 08 53.8**		**+2.2**
MSW	**Makushin Switc**	**2.18**	**41**		**Pn**	**05 08 29.5**		**+1.0**
MNAT	**Makushin Natee**	**2.20**	**43**		**Pn**	**05 08 29.8**		**+1.0**
MNAT					**Sn**	**05 08 57.1**		**+2.1**
UNV	**Unalaska Valle**	**2.25**	**46**		**Pn**	**05 08 30.3**		**+0.9**
UNV					**Sn**	**05 08 57.5**		**+1.3**
MTBL	**Makushin Table**	**2.27**	**42**		**Pn**	**05 08 31.0**		**+1.3**
AKMO	**Akutan Morgan**	**2.63**	**46**		**Pn**	**05 08 37.1**		**+2.5**
AKRB	**Akutan Reef Bi**	**2.63**	**45**		**Pn**	**05 08 37.1**		**+2.4**
AKBBA	**Akutan Broad B**	**2.67**	**46**		**Pn**	**05 08 37.7**		**+2.5**
AKGG	**Akutan Green G**	**2.71**	**44**		**Pn**	**05 08 38.2**		**+2.4**
AKGG					**Sb**	**05 09 12.2**		**-2.4**
AKUT	**Akutan**	**2.77**	**47**		**Pn**	**05 08 36.5**		**+0.1**
KOFP	**Korovin Flat P**	**2.99**	**271**		**Pn**	**05 08 40.9**		**+1.3**
ATKA	**Atka Island**	**3.06**	**270**		**Pn**	**05 08 39.7**		**-0.7**
ISLZ	**Isanotski Laza**	**4.09**	**51**		**Pn**	**05 08 58.5**		**+3.9**
GSTR	**Great Sitkin T**	**4.21**	**270**	Pn	**Pn**	**05 08 56.5**		**+0.1**
GSTD	**Great Sitkin T**	**4.27**	**269**		**Pn**	**05 08 58.2**		**+1.0**
FALS	**False Pass**	**4.30**	**51**	Pn	**Pn**	**05 08 56.6**		**-0.9**
ADK	**Adak**	**4.62**	**268**		**Pn**	**05 09 01.1**		**-0.9**
KIWB	**Kanaga Island**	**4.91**	**268**	Pn	**Pn**	**05 09 06.2**		**+0.2**
SPIA	**Saint Paul Isl**	**4.92**	**353**		**Pn**	**05 09 09.1**		**+3.0**
TASE	**Tanaga Southea**	**5.46**	**269**		**Pn**	**05 09 16.2**		**+2.7**
SDPT	**Sand Point**	**6.01**	**56**		**Pn**	**05 09 19.4**		**-1.6**
CNBA	**Chernabura Isl**	**6.27**	**62**	Pn	**Pn**	**05 09 23.4**		**-1.1**
CESW	**Semis' Southwe**	**6.92**	**271**		**Pn**	**05 09 35.2**		**+1.7**
AMKA	**Amchitka**	**7.17**	**267**		**Pn**	**05 09 37.9**		**+0.9**
LSPA	**Little Sitkin**	**7.52**	**272**		**Pn**	**05 09 44.6**		**+2.8**
LSSA	**Little Sitkin**	**7.56**	**272**		**Pn**	**05 09 44.9**		**+2.6**
KDAK	**Kodiak Island**	**11.00**	**54**	Pn	**Pn**	**05 10 28.9**		**-0.4**
0.4nm,0.3s,baz=294,slow=12,SNR=5.9
KDAK | | | | Sn | **Sn** | **05 12 26.5** | | **-4.8**
0.1nm,0.3s,baz=143,slow=16,SNR=1.9
SEW **Seward** 13.45 47 Pn **Pn** 05 11 02.9 +0.2
O22K **Cooper Landing** 13.51 45 **Pn** 05 11 03.6 0.0
SUA **Susitna One** 13.60 40 Pn **Pn** 05 11 06.6 +1.8
RC01 **Rabbit Creek A** 13.80 43 **Pn** 05 11 07.4 -0.3
PWL **Port Wells** 14.29 45 Pn **Pn** 05 11 13.4 -0.8
HIN **Hinchinbrook I** 14.91 48 Pn **Pn** 05 11 22.3 -0.3
FID **Port Fidalgo** 15.06 47 Pn **Pn** 05 11 23.1 -1.6
FID IAmb IAmb 05 11 35.0
comp=Z,42nm,1.4s
SCM **Sheep Creek Mo** 15.18 43 **Pn** 05 11 25.7 -0.6
KLU **Klutina** 15.62 45 **Pn** 05 11 31.3 -0.8
KLU IAmb IAmb 05 11 31.8
comp=Z,12nm,0.5s
M24K **Tolsona, Glenn** 15.79 43 Pn **Pn** 05 11 34.3 +0.1
M24K IAmb IAmb 05 11 56.7
comp=Z,34nm,1.5s
BMRM **Bremner River** 15.99 48 Pn **Pn** 05 11 36.3 -0.5
BMRM IAmb IAmb 05 11 51.0
comp=Z,13nm,0.9s
NEA2 **Nenana** 16.11 32 Pn **Pn** 05 11 38.3 +0.1
N25K **Chitina, Valde** 16.24 45 Pn **Pn** 05 11 39.9 -0.2
N25K IAmb IAmb 05 12 07.1
comp=Z,6.8nm,0.9s
WRH **Wood River Hil** 16.36 34 Pn **Pn** 05 11 41.9 +0.5
GLB **Gilahina Butte** 16.53 46 Pn **Pn** 05 11 43.0 -0.6
CCB **Clear Creek Bu** 16.57 33 Pn **Pn** 05 11 43.8 -0.2
VRDI **Verde Repeater** 16.61 47 Pn **Pn** 05 11 44.3 -0.5
VRDI IAmb IAmb 05 11 57.5
comp=Z,9.9nm,1.1s
MDM **Murphy Dome** 16.62 32 Pn **Pn** 05 11 43.1 -1.7
MDM IAmb IAmb 05 11 52.7
comp=Z,17nm,1.4s
IL31 16.96 34 Pn **Pn** 05 11 49.0 +0.1
IL31 IAmb IAmb 05 11 54.8
comp=Z,14nm,1.5s
ILAR **Eielson Array** 16.96 34 Pn **Pn** 05 11 47.8 -1.1
comp=Z,0.1nm,0.3s,baz=225,slow=8.6,SNR=8.0
RIDG **Independent Ri** 17.12 39 **P** 05 11 52.3 -0.3
BARN **Barnard Glacie** 17.37 49 **Pn** 05 11 55.0 +0.6
BARN IAmb IAmb 05 11 58.7
comp=Z,5.7nm,0.6s
DOT **Dot Lake** 17.38 39 **Pn** 05 11 54.6 +0.3
CTGM **Chitina Glacie** 17.50 49 P **P** 05 11 57.7 +0.9
CTGM IAmb IAmb 05 12 03.9
comp=Z,9.5nm,1.2s
SCRK **Sand Creek** 17.57 39 **Pn** 05 11 57.0 +0.3
PRP **Porcupine Dome** 17.86 33 **P** 05 12 00.9 0.0
L27K **Beaver Creek,** 18.02 43 **Pn** 05 12 01.8 -0.4
BCAR **Beaver Creek A** 18.04 43 **P** 05 12 03.1 +0.4
EGAK **Eagle** 19.04 38 P **Pn** 05 12 15.9 +1.4
HYT **Haines Junctio** 19.27 51 P **Pn** 05 12 20.0 +2.6
HYT IAmb IAmb 05 12 20.5
comp=Z,11nm,0.5s
PEA0B **Petropavlovsk-** 19.96 285 P **P** 05 12 23.8 0.0
PEA0B IAmb IAmb 05 12 24.3
comp=Z,15nm,0.6s
PETK **Petropavlovsk-** 19.96 285 P **P** 05 12 23.2 -0.6
comp=Z,2.6nm,0.3s,baz=90,slow=13,SNR=32
BESE **Bessie Mountai** 20.31 58 P **P** 05 12 28.1 +0.6
WHY **Whitehorse** 20.51 52 P Pn 05 12 32.1 +0.1
WHY IAmb IAmb 05 12 39.7
comp=Z,10nm,0.9s
EPYK **Eagle Plains** 21.40 36 P **P** 05 12 39.4 +0.2
EPYK IAmb IAmb 05 12 46.2
comp=Z,12nm,0.9s
INK **Inuvik** 23.35 33 P **P** 05 12 59.2 -0.5
comp=Z,3.1nm,0.6s,baz=242,slow=10,SNR=6.7
YKA **Yellowknife Ar** 30.22 49 P **P** 05 14 02.8 +1.0
comp=Z,1.3nm,0.5s,baz=271,slow=7.7,SNR=10
ASAJ **Asahikawa** 32.60 275 P **P** 05 14 22.6 -0.4
comp=Z,3.9nm,0.4s,baz=75,slow=20,SNR=1.4
ERM **Erimo** 33.41 271 P **P** 05 14 30.3 +0.3
KLR **Kul'dur** 36.56 289 P **P** 05 14 55.2 -1.9
comp=Z,2.2nm,0.5s,baz=88,slow=7.2,SNR=8.7
H11S1 **WAKE ISLAND Hy** 38.65 218 T T 05 56 26.6
baz=25,slow=74,SNR=5.6
H11S2 **WAKE ISLAND Hy** 38.66 218 T T 05 56 28.0
baz=25
H11S3 **WAKE ISLAND Hy** 38.66 218 T T 05 56 25.8
baz=25,slow=74,SNR=4.2
BW06 **Boulder Array** 40.33 79 P **P** 05 15 30.3 +1.2
BW06 IAmb IAmb 05 15 46.6
comp=Z,6.9nm,1.5s
PD31 **Pinedale Array** 40.33 79 P **P** 05 15 30.9 +1.8
PDAR **Pinedale Array** 40.33 79 P **P** 05 15 29.9 +0.8
comp=Z,0.7nm,0.5s,baz=280,slow=3.4,SNR=12
PDAR **Pinedale Array** 40.33 79 P **P** 05 15 30.0 +0.9
FCC **Fort Churchill** 40.91 50 P **P** 05 15 35.4 +2.0
PV17 **East Wray Mesa** 43.40 84 P **P** 05 15 54.5 +0.3
PV17 IAmb IAmb 05 16 13.1
comp=Z,2.5nm,0.8s
KSRS **Korea Array** 45.50 277 P **P** 05 16 10.8 +0.1
comp=Z,1.1nm,0.6s,baz=52,slow=7.1,SNR=5.4
B35A **Bob, Littlefor** 46.32 63 P **P** 05 16 17.6 +0.5
B35A IAmb IAmb 05 16 24.6
comp=Z,1.4nm,0.7s
ECSD **EROS Data Cent** 47.41 70 P **P** 05 16 26.0 +0.3
ECSD IAmb IAmb 05 16 41.3
comp=Z,3.7nm,0.8s
BNM **Barren Site** 47.51 87 P **P** 05 16 26.8 0.0
SPITS **Spitsbergen Ar** 49.74 358 P **P** 05 16 42.0 -1.2
comp=Z,0.7nm,0.4s,baz=46,slow=4.8,SNR=7.7
COWI **Conover** 50.18 63 P **P** 05 16 47.0 +0.1
COWI IAmb IAmb 05 17 02.5
comp=Z,5.3nm,1.4s
E43A **Lone Tree Farm** 51.17 62 P **P** 05 16 54.1 -0.3
E43A IAmb IAmb 05 17 05.5
comp=Z,3.2nm,0.9s
SONM **Songino Array** 51.41 301 P **P** 05 16 55.2 -1.1
comp=Z,0.8nm,0.5s,baz=64,slow=6.1,SNR=5.1
TXAR **Lajitas Array** 52.66 89 P P 05 17 12.2 +6.4
comp=Z,0.7nm,0.5s,baz=277,slow=5.8,SNR=4.6
P40A **Paris** 52.72 71 P **P** 05 17 06.0 +0.1
X37A **Clayton** 54.06 78 P **P** 05 17 17.0 +1.1
SCHQ **Schefferville** 55.42 43 P **P** 05 17 25.5 0.0
comp=Z,3.3nm,0.8s,baz=308,slow=12,SNR=2.9
ARCES **ARCESS Array B** 58.00 354 P **P** 05 17 42.7 -0.8
comp=Z,1.9nm,0.7s,baz=31,slow=7.2,SNR=9.5
SSPA **Standing Stone** 59.92 62 P **P** 05 17 58.0 +0.7
KURBB **Kurchatov Arra** 62.59 318 P **P** 05 18 14.4 -0.8
comp=Z,1.1nm,0.5s,baz=44,slow=7.7,SNR=8.4
MKAR **Makanchi Array** 63.91 313 P **P** 05 18 22.2 -1.9
comp=Z,1.1nm,0.7s,baz=39,slow=5.8,SNR=6.2
MKAR **Makanchi Array** 63.91 313 P **P** 05 18 22.4 -1.7
FIA1 **FINESS Array S** 65.95 352 P **P** 05 18 36.2 -0.8
FINES **FINESS Array B** 65.95 352 P **P** 05 18 36.0 -0.9
comp=Z,2.2nm,0.5s,baz=21,slow=8.1,SNR=18
FINES **FINESS Array B** 65.95 352 P **P** 05 18 36.5 -0.5
NC303 **NORSAR Array S** 66.82 360 P **P** 05 18 42.5 -0.1
NB2 **NORSAR Subarra** 67.01 360 P **P** 05 18 43.4 -0.5
comp=Z,0.6nm,0.6s,baz=2.1,slow=6.5
NOA **NORSAR Array B** 67.01 360 P **P** 05 18 43.4 -0.5
comp=Z,0.8nm,0.6s,baz=1.2,slow=6.2,SNR=4.9
TARG **Taragay, Kyrgy** 69.88 313 P **P** 05 19 03.4 +0.8
TARG IAmb IAmb 05 19 07.4
comp=Z,2.7nm,0.7s
ABKAR **Akbulak array** 70.54 328 P **P** 05 19 05.6 -0.4
KKAR **Karatay Array** 71.90 318 P **P** 05 19 14.0 -0.3
AKASG **Malin Array Be** 76.19 348 P **P** 05 19 37.9 -1.3
comp=Z,1.2nm,0.4s,baz=16,slow=5.9,SNR=5.9
CMAR **Chiang Mai Arr** 76.72 283 P **P** 05 19 43.0 +0.3
comp=Z,2.1nm,0.6s,baz=34,slow=6.8,SNR=5.4
GERES **GERESS Array B** 79.20 358 P **P** 05 19 57.0 +0.8
comp=Z,0.8nm,0.6s,baz=28,slow=6.0,SNR=5.5
ESDC **Sonseca Array** 87.50 11 P **P** 05 20 39.3 +0.3
comp=Z,1.4nm,0.7s,baz=351,slow=2.1,SNR=7.3
MATP **Matopo** 145.33 330 PKPbc **PKPbc** 05 27 29.0 -0.1
comp=Z,2.3nm,0.5s,baz=2.8,slow=2.8,SNR=10

*BJI **27** 05:12:11.1±0.0, 52°.49N×169°.81W, h5km, mb4.9/26*
*IDC **27** 05:12:11.5±0.7, 52°.40N×169°.41W, h0km, mb4.5/32, mb1 4.6/34, mb1mx4.4/81, mbtmp4.5/34, ML4.0/2, Error ellipse: s-maj=19.4km s-min=11.1km az=165.0*
*MOS **27** 05:12:13.6±1.1, 52°.40N×169°.40W, h25km, mb4.9/35, Error ellipse: s-maj=9.6km s-min=6.2km az=93.6*
*AEIC **27** 05:12:15±2.9, 52°.30N±0°.06×169°.26W±0°.07, h24km±5km, Error ellipse: s-maj=8.4km s-min=6.4km az=173.0*
*ANF **27** 05:12:16.4±2.3, 52°.21N×168°.97W, h28km±15km, ML4.8/4, Error ellipse: s-maj=16.4km s-min=12.7km az=35.0*
*NEIC **27** 05:12:18.4±2.2, 52°.48N±0°.07×169°.34W±0°.07, h46km±5km, mb4.6/159, ML4.3/47(AEIC), Error ellipse: s-maj=10.1km s-min=5.8km az=172.0*
ISC 27 05:12:17.9±0.9, 52°.41N±0°.06×169°.27W±0°.04, h47km±7km, n446, σ1§22/430, mb4.7/156, 14C-1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
NIKH	**Nikolski High**	**0.62**	**24**	P	**Pn**	**05 12 29.2**		**-1.1**
baz=200,SNR=19
NIKH | | | | S | **Sn** | **05 12 38.0** | | **-1.4**
baz=200
NIKH **Nikolski High** 0.62 24 **Pn** 05 12 29.0 -1.3
OKSP **Okmok Steeple** 1.03 35 **Pn** 05 12 34.8 -1.2
OKSO **Okmok South** 1.16 35 **Pn** 05 12 36.7 -1.0
OKSO **Sn** 05 12 54.4 +1.9
OKCE **Okmok Cone E** 1.22 33 **Pn** 05 12 38.4 -0.1
OKTU **Okmok Mt. Tuli** 1.23 37 **Pn** 05 12 38.1 -0.5
OKNC **Okmok New Cone** 1.26 33 **Pn** 05 12 38.8 -0.2
MAPS **Pakushin South** 1.98 44 **Pn** 05 12 48.5 -0.4
MAPS **Sn** 05 13 15.2 +2.7
MGOD **Makushin Gods** 2.00 45 **Pn** 05 12 49.0 -0.2
MGOD **Sn** 05 13 14.1 +1.0
MSW **Makushin Switc** 2.12 44 **Pn** 05 12 50.9 +0.1
MNAT **Makushin Natee** 2.15 46 **Pn** 05 12 50.9 -0.3
MNAT **Sn** 05 13 17.9 +1.4
UNV **Unalaska Valle** 2.20 48 P **Pn** 05 12 51.2 -0.6
baz=228,SNR=15
UNV | | | | S | **Sn** | **05 13 18.3** | | **+0.4**
baz=228
UNV **Unalaska Valle** 2.20 48 **Pn** 05 12 51.2 -0.6
UNV **Sn** 05 13 18.5 +0.7
MTBL **Makushin Table** 2.21 44 **Pn** 05 12 52.5 +0.5
AKRB **Akutan Reef Bi** 2.58 47 **Pn** 05 12 58.2 +1.1
AKMO **Akutan Morgan** 2.58 48 **Pn** 05 12 57.6 +0.5
AKBBA **Akutan Broad B** 2.62 49 **Pn** 05 12 59.2 +1.6
AKLV **Akutan Long Va** 2.65 47 **Pn** 05 12 59.6 +1.5
AKGG **Akutan Green G** 2.66 46 **Pn** 05 12 59.4 +1.2
AKUT **Akutan** 2.72 49 **Pn** 05 13 00.2 +1.2
KOKL **Mount Kliuchef** 3.02 270 **Pn** 05 13 03.1 -0.2
ATKA **Atka Island** 3.03 268 **Pn** 05 13 01.7 -1.5
GSTR **Great Sitkin T** 4.18 268 **Pn** 05 13 18.9 -0.3
GSTD **Great Sitkin T** 4.24 268 **Pn** 05 13 19.4 -0.6
FALS **False Pass** 4.26 53 P **Pn** 05 13 21.5 +1.5
baz=236
FALS **False Pass** 4.26 53 **Pn** 05 13 21.6 +1.5
ADK **Adak** 4.60 266 P **Pn** 05 13 24.3 -0.4
ADK **Adak** 4.60 266 **Pn** 05 13 24.3 -0.4
SPIA **Saint Paul Isl** 4.81 354 P **Pn** 05 13 29.7 +2.0
baz=173,SNR=9.4
SPIA | | | | S | **Sn** | **05 14 26.6** | | **+4.7**
baz=173
SPIA **Saint Paul Isl** 4.81 354 **Pn** 05 13 29.6 +2.0
KIWB **Kanaga Island** 4.89 267 Pn **Pn** 05 13 28.6 -0.2
KIKV **Kanaga Island** 4.90 267 **Pn** 05 13 29.2 +0.3
KIMD **Kanaga Island** 4.96 266 **Pn** 05 13 29.5 -0.2
TASE **Tanaga Southea** 5.43 267 **Pn** 05 13 37.3 +1.0
GAEA **Gareloi East** 5.88 268 **Pn** 05 13 43.5 +1.2
SDPT **Sand Point** 5.97 57 P **Pn** 05 13 44.5 +0.8
baz=243
SDPT **Sand Point** 5.97 57 **Pn** 05 13 45.2 +1.6
CNBA **Chernabura Isl** 6.25 63 **Pn** 05 13 47.5 +0.1
CEAP **Semis' Anvil P** 6.87 271 **Pn** 05 13 57.1 +1.2
CESW **Semis' Southwe** 6.89 270 **Pn** 05 13 56.8 +0.5
AMKA **Amchitka** 7.15 266 **Pn** 05 13 59.0 -0.7
LSPA **Little Sitkin** 7.49 271 **Pn** 05 14 05.7 +1.3
LSNW **Little Sitkin** 7.52 271 **Pn** 05 14 06.0 +1.1
LSSA **Little Sitkin** 7.53 271 **Pn** 05 14 06.3 +1.3
CHIR **Chirikof Islan** 8.71 62 Pn **Pn** 05 14 23.2 +2.1
SII **Sitkinak Islan** 9.71 59 P **Pn** 05 14 31.9 -2.9
baz=250
OHAK **Old Harbor** 10.40 56 P **Pn** 05 14 42.2 -1.9
baz=249
OHAK **Old Harbor** 10.40 56 Pn **Pn** 05 14 43.7 -0.4
O18K **Koktuh Hills** 10.81 41 P **Pn** 05 14 51.1 +1.4
baz=232
KDAK **Kodiak Island** 10.96 54 Pn **Pn** 05 14 49.9 -1.8
2.2nm,0.3s,baz=238,slow=9.1,SNR=20
KDAK | | | | Sn | **Sn** | **05 16 48.2** | | **-4.6**
0.2nm,0.3s,baz=62,slow=15,SNR=3.3
KDAK **Kodiak Island** 10.96 54 *i* P **Pn** 05 14 52.4 +0.6
KDAK **Kodiak Island** 10.96 54 P **Pn** 05 14 50.1 -1.7
baz=247
KDAK **Kodiak Island** 10.96 54 **Pn** 05 14 51.2 -0.6
N18K **Kilae Creek** 11.08 36 P **Pn** 05 14 54.8 +1.3
baz=227
GAMB **Gambell** 11.47 355 P **Pn** 05 15 00.9 +2.2
baz=172
GAMB **Gambell** 11.47 355 Pn **Pn** 05 14 59.4 +0.7
SVW2 **Sparrevohn** 11.47 35 **Pn** 05 15 00.8 +2.0
N19K **Bonanza Creek** 11.69 38 P **Pn** 05 15 04.1 +2.2
baz=230
O20K **Slope Mountain** 12.00 44 P **Pn** 05 15 06.0 -0.2
baz=237
RSO **Redoubt South** 12.16 42 **Pn** 05 15 09.7 +1.3
CNPM **China Poot** 12.33 48 Pn **Pn** 05 15 10.3 -0.3
L19K **White Mountain** 12.48 33 P **Pn** 05 15 15.0 +2.4
baz=224,SNR=9.4
BRLK **Bradley Lake** 12.60 47 Pn **Pn** 05 15 15.4 +1.1
BRSE **Bradley Lake S** 12.65 47 P **Pn** 05 15 14.5 -0.5
baz=242
M20K **Styx River** 12.87 36 P **Pn** 05 15 19.4 +1.4
baz=230
TNA **Tin City** 13.21 2 P **Pn** 05 15 24.6 +2.1
baz=184
SEW **Seward** 13.40 47 P **Pn** 05 15 24.0 -1.1
baz=243
SEW **Seward** 13.40 47 **Pn** 05 15 24.3 -0.8
O22K **Cooper Landing** 13.45 45 P **Pn** 05 15 25.4 -0.4
baz=241
O22K **Cooper Landing** 13.45 45 **Pn** 05 15 26.0 +0.2
SKT **Skwentna** 13.53 38 P **Pn** 05 15 27.6 +0.8
baz=233
SKT **Skwentna** 13.53 38 Pn **Pn** 05 15 30.0 +3.1
SUA **Susitna One** 13.53 41 P **Pn** 05 15 27.2 +0.1
baz=236
SUA **Susitna One** 13.53 41 **Pn** 05 15 28.1 +1.1
K20K **Telida** 13.58 30 P **Pn** 05 15 29.3 +1.7
baz=223
RC01 **Rabbit Creek A** 13.74 43 P **Pn** 05 15 29.2 -0.6
baz=239
RC01 **Rabbit Creek A** 13.74 43 Pn **Pn** 05 15 28.5 -1.4
PPLA **Purkeypile** 13.87 34 Pn **Pn** 05 15 30.6 -1.1
J20K **Nowinta River** 14.17 28 P **Pn** 05 15 37.0 +1.5
baz=220,SNR=14
PWL **Port Wells** 14.23 45 Pn **Pn** 05 15 34.1 -2.4
PMR **Palmer** 14.25 42 P **Pn** 05 15 33.6 -3.1
PMR **Palmer** 14.25 42 Pn **Pn** 05 15 33.6 -3.1
KNK **Knik Glacier** 14.44 43 P **Pn** 05 15 38.8 -0.4
baz=240
CHUM **Lake Minchumin** 14.51 31 P **Pn** 05 15 41.0 +1.0
baz=225
SML **Sawmill** 14.69 42 Pn **Pn** 05 15 40.8 -1.7
KTH **Kantishna Hill** 14.74 34 Pn **Pn** 05 15 43.8 +0.7
GLI **Glacier Island** 14.79 46 Pn **Pn** 05 15 40.8 -3.0
HIN **Hinchinbrook I** 14.86 49 Pn **Pn** 05 15 41.9 -2.9
TRF **Thorofare Moun** 14.89 35 Pn **Pn** 05 15 42.8 -2.4
FID **Port Fidalgo** 15.01 47 Pn **Pn** 05 15 43.0 -3.7
BPAW **Bear Paw Mtn.** 15.08 32 P **Pn** 05 15 47.7 +0.1
baz=227,SNR=15
BPAW **Bear Paw Mtn.** 15.08 32 Pn **Pn** 05 15 49.0 +1.4
BPAW **P** 05 15 49.6 -2.5
BPAW IAmb IAmb 05 15 57.6
comp=Z,24nm,0.8s
SCM **Sheep Creek Mo** 15.12 43 P **Pn** 05 15 46.9 -1.3
SCM pmax pmax
comp=Z,22nm,0.8s
SCM **Sheep Creek Mo** 15.12 43 **Pn** 05 15 46.9 -1.3
SCM IAmb IAmb 05 15 55.8
comp=Z,22nm,0.8s
WAT1 **Susitna Watana** 15.15 38 P **Pn** 05 15 47.6 -1.0
baz=236
EYAK **Cordova Ski Ar** 15.26 49 P **Pn** 05 15 49.3 -0.7
baz=248
EYAK **Cordova Ski Ar** 15.26 49 Pn **Pn** 05 15 48.3 -1.6
WAT6 **Susitna Watana** 15.33 40 P **Pn** 05 15 50.9 -0.1
baz=238
RND **Reindeer** 15.37 36 P **Pn** 05 15 51.9 +0.4
RND pmax pmax
comp=Z,19nm,1.2s
RND **Reindeer** 15.37 36 **Pn** 05 15 51.9 +0.4
I21K **Tanana** 15.54 28 P **Pn** 05 15 54.3 +0.7
baz=222,SNR=12
KLU **Klutina** 15.56 45 P **Pn** 05 15 51.8 -2.1
baz=244,SNR=12
KLU **Klutina** 15.56 45 **Pn** 05 15 51.4 -2.5
KLU IAmb IAmb 05 15 53.6
comp=Z,21nm,0.6s
BWN **Browne** 15.63 33 Pn **Pn** 05 15 55.5 +0.8
BWN IAmb IAmb 05 16 19.1
comp=Z,36nm,1.0s
KAIM **Kayak Island** 15.68 52 Pn **Pn** 05 15 54.5 -0.9
KAIM IAmb IAmb 05 16 08.2
comp=Z,85nm,1.3s
IMAR **Indian Mountai** 15.69 24 Pn **Pn** 05 15 54.2 -1.1
M24K **Tolsona, Glenn** 15.73 43 P **Pn** 05 15 55.3 -0.8
baz=242
M24K **Tolsona, Glenn** 15.73 43 **Pn** 05 15 55.4 -0.6
M24K IAmb IAmb 05 16 02.0
comp=Z,28nm,0.8s
MLY **Manley** 15.80 30 P **Pn** 05 15 56.8 -0.1
baz=225,SNR=24
MLY **Manley** 15.80 30 **P** 05 15 59.7 -0.4
MLY IAmb IAmb 05 16 06.2
comp=Z,30nm,0.9s
HMT **Hamilton** 15.88 50 Pn **Pn** 05 15 56.8 -1.2
HMT IAmb IAmb 05 16 24.3
comp=Z,41nm,1.0s
BMRM **Bremner River** 15.94 48 P **Pn** 05 15 57.7 -1.0
baz=248
BMRM **Bremner River** 15.94 48 Pn **Pn** 05 15 57.5 -1.2
NEA2 **Nenana** 16.03 33 P **Pn** 05 16 00.0 +0.2
baz=230
NEA2 **Nenana** 16.03 33 **Pn** 05 16 00.1 +0.3
N25K **Chitina, Valde** 16.19 46 P **Pn** 05 15 59.6 -2.3
baz=246
N25K **Chitina, Valde** 16.19 46 Pn **Pn** 05 16 00.7 -1.2
HARP **HAARP** 16.29 43 P **Pn** 05 16 01.0 -2.1
baz=243
WRH **Wood River Hil** 16.29 34 **Pn** 05 16 03.1 +0.1
I23K **Minto, Yukon-K** 16.31 31 P **Pn** 05 16 03.6 +0.3
baz=228,SNR=14
I23K **Minto, Yukon-K** 16.31 31 **P** 05 16 05.2 -0.4
GLB **Gilahina Butte** 16.47 47 Pn **Pn** 05 16 04.5 -1.0
CCB **Clear Creek Bu** 16.49 34 **Pn** 05 16 04.7 -0.9
MDM **Murphy Dome** 16.55 32 **Pn** 05 16 06.4 0.0
WAX **Waxell Ridge** 16.58 51 IAmb IAmb 05 16 17.1
comp=Z,56nm,0.8s
TCOL **CIGO, UAF Yank** 16.61 33 P **Pn** 05 16 06.3 -0.8
baz=231
COLA **College** 16.62 33 P **Pn** 05 16 06.5 -0.7
COLA pmax pmax
comp=Z,20nm,1.2s
COLA **College** 16.62 33 **Pn** 05 16 06.5 -0.7
HDA **Harding Lake** 16.65 35 P **Pn** 05 16 06.6 -0.9
baz=234
H23K **Yukon River** 16.71 29 P **P** 05 16 09.9 -0.2
baz=226,SNR=5.2
MCARA **McCarthy VSAT** 16.80 47 P **Pn** 05 16 07.7 -1.9
baz=249
MCARA **McCarthy VSAT** 16.80 47 Pn **Pn** 05 16 07.8 -1.7
MCARA IAmb IAmb 05 16 26.7
comp=Z,29nm,0.8s
IL31 16.88 34 **Pn

baz=239
M26K Nabesna, AK 17.20 44 P **Pn 05 16 14.4 -0.1**
baz=246,SNR=5.5
H24K Noodor Dome 17.23 30 P **Pn 05 16 14.9 0.0**
baz=229
TABL Table Mountain 17.39 51 IAmb IAmb 05 16 27.6
comp=Z,37nm,0.9s
CTG Chitna Glacier 17.44 50 P **Pn 05 16 17.3 -0.3**
baz=253
CTGM Chitina Glacie 17.45 50 IAmb IAmb 05 16 38.3
comp=Z,47nm,1.4s
SCRK Sand Creek 17.50 39 P **Pn 05 16 17.9 -0.5**
baz=240
M27K Edge Creek, AK 17.66 45 P **Pn 05 16 19.9 -0.4**
baz=248
PCA Pinnacle 17.74 53 IAmb IAmb 05 16 48.7
comp=Z,59nm,1.2s
PINM Pinnacle 17.74 53 P **Pn 05 16 19.8 -1.4**
baz=257
PRP Porcupine Dome 17.79 33 P **Pn 05 16 21.3 -0.5**
baz=234
PRP Porcupine Dome 17.79 33 P **Pn 05 16 20.2 -1.6**
L27K Beaver Creek, 17.96 43 P **P 05 16 24.3 +0.4**
baz=246
BCAR Beaver Creek A 17.98 43 P **Pn 05 16 23.8 -0.3**
K27K Chicken 18.27 40 P **P 05 16 25.9 -1.5**
baz=243
FYU Fort Yukon 18.52 31 P **P 05 16 28.6 -1.4**
TOLK Toolik Lake Re 18.78 23 P **P 05 16 33.1 +0.2**
baz=220
EGAK Eagle 18.97 38 P **P 05 16 34.5 -0.5**
baz=242
EGAK Eagle 18.97 38 P **P 05 16 34.8 -0.2**
HYT Haines Junctio 19.23 52 IAmb IAmb 05 16 59.3
comp=Z,36nm,0.9s
BMAR Burnt Mountain 19.26 29 P **Pn 05 16 39.1 -0.4**
DAWY Dawson 19.36 41 P **P 05 16 39.0 -0.2**
PET Petropavlovsk 19.36 285 *i* P **P 05 16 37.9 -1.4**
BILL Bilibino 19.59 332 *eP* **Pn 05 16 43.3 -0.1**
BILL pmax pmax
comp=Z,20nm,1.1s
BILL MLR MLR
comp=Z,14µm,14.0s
PEA0B Petropavlovsk- 19.91 285 P **P 05 16 44.5 -0.8**
PEA0B pmax pmax
comp=Z,79nm,1.4s
PEA0B Petropavlovsk- 19.91 285 P **P 05 16 44.5 -0.8**
PEA0B IAmb IAmb 05 16 46.2
comp=Z,79nm,1.4s
PETK Petropavlovsk- 19.91 285 P **P 05 16 44.3 -1.0**
comp=Z,3.8nm,0.3s,baz=87,slow=13,SNR=20
PETK Petropavlovsk- 19.91 285 P **P 05 16 44.6 -0.7**
PETK Petropavlovsk- 19.91 285 P **P 05 16 44.6 -0.7**
SKAG Skagway 20.10 56 P **P 05 16 47.1 -0.1**
baz=264
SKAG Skagway 20.10 56 P Pn 05 16 49.1 -0.2
SKAG IAmb IAmb 05 16 50.3
comp=Z,38nm,0.8s
WHY Whitehorse 20.47 53 P Pn 05 16 53.1 -0.8
baz=261,SNR=15
WHY Whitehorse 20.47 53 P Pn 05 16 53.4 -0.5
WHY IAmb IAmb 05 16 57.0
comp=Z,29nm,0.8s
JIS Juneau Island 20.52 60 P **P 05 16 52.2 +0.4**
JIS IAmb IAmb 05 17 08.7
comp=Z,18nm,0.9s
EPYK Eagle Plains 21.33 37 P **P 05 16 59.3 -1.2**
baz=245,SNR=16
EPYK Eagle Plains 21.33 37 P **P 05 16 59.4 -1.2**
EPYK IAmb IAmb 05 17 05.4
comp=Z,44nm,1.0s
DLBC Dease Lake 22.81 59 P **P 05 17 17.8 +1.3**
comp=Z,7.1nm,0.9s,baz=272,slow=7.9,SNR=7.5
DLBC Dease Lake 22.81 59 P **P 05 17 19.7 +3.3**
DLBC IAmb IAmb 05 17 38.5
comp=Z,38nm,1.4s
MA2 Magadan 23.17 304 P **P 05 17 19.8 -0.2**
comp=Z,15nm,0.8s,baz=95,slow=7.6,SNR=5.5
MA2 Magadan 23.17 304 *i* P **P 05 17 18.9 -1.1**
MA2 pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 23.28 33 P **P 05 17 19.1 -1.9**
comp=Z,7.3nm,0.6s,baz=224,slow=9.2,SNR=10
INK Inuvik 23.28 33 P **P 05 17 20.2 -0.7**
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 23.28 33 P **P 05 17 19.5 -1.5**
baz=245,SNR=5.9
INK Inuvik 23.28 33 P **P 05 17 20.2 -0.7**
C36M Paulatuk 26.86 34 P **P 05 17 53.7 +0.1**
C36M IAmb IAmb 05 18 00.8
comp=Z,21nm,1.3s
D03D Eldon 29.69 81 P **P 05 18 20.2 +1.1**
baz=297
B05A Bryant 29.97 79 P **P 05 18 23.4 +1.9**
baz=296
YKA Yellowknife Ar 30.17 49 P **P 05 18 24.1 +1.0**
comp=Z,2.5nm,0.6s,baz=271,slow=7.4,SNR=19
E04D Cinebar 30.46 82 P **P 05 18 28.4 +2.5**
baz=298
YSS Yuzh-Sakhalins 31.05 279 *i* P **P 05 18 30.0 -1.0**
YSS pmax pmax
comp=Z,11nm,1.2s
B08A Colville Reser 31.58 77 P **P 05 18 37.2 +1.4**
B08A IAmb IAmb 05 18 50.7
comp=Z,10nm,1.1s
HAWA Hanford 32.38 80 P **P 05 18 44.5 +1.7**
HAWA IAmb IAmb 05 18 57.7
comp=Z,13nm,1.1s
C09A Chrisman Ranch 32.47 77 P **P 05 18 44.9 +1.4**
C09A IAmb IAmb 05 18 45.4
comp=Z,15nm,1.4s
E08A Dider Farm, El 32.62 80 P **P 05 18 46.4 +1.6**
E08A IAmb IAmb 05 18 47.5
comp=Z,11nm,1.2s
NEW Newport 32.94 76 IAmb IAmb 05 19 04.6
comp=Z,5.9nm,0.8s
EDM Edmonton 33.07 66 IAmb IAmb 05 18 50.9
comp=Z,11nm,0.9s
E09A Wood Farm, Sta 33.16 79 P **P 05 18 51.1 +1.5**
E09A IAmb IAmb 05 19 03.6
comp=Z,19nm,1.4s
YAK Yakutsk 33.19 311 *ceP* **P 05 18 48.7 -0.9**
YAK pmax pmax
comp=Z,13nm,0.6s
G08A Pilot Rock 33.28 82 P **P 05 18 51.8 +1.0**
G08A IAmb IAmb 05 19 13.4
comp=Z,8.0nm,1.4s
J08A Circle Bar Ran 34.60 84 P **P 05 19 04.8 +2.5**
J08A IAmb IAmb 05 19 25.1
comp=Z,12nm,1.3s
MSO Missoula 35.52 76 P **P 05 19 10.9 +0.7**
MSO IAmb IAmb 05 19 22.5
comp=Z,15nm,1.5s
PAHR Pah Rah Range 36.15 90 P **P 05 19 16.7 +1.0**
PAHR IAmb IAmb 05 19 43.3
comp=Z,18nm,1.5s
MFID Camas Ranch 36.18 83 P **P 05 19 16.6 +0.7**
PNTR Pine Nut 36.40 91 P **P 05 19 19.9 +2.0**
PNTR IAmb IAmb 05 19 43.2
comp=Z,10nm,1.0s
KLR Kul'dur 36.50 289 P **P 05 19 16.1 -2.2**
comp=Z,3.2nm,0.4s,baz=75,slow=7.0,SNR=16
KLR Kul'dur 36.50 289 *ceP* **P 05 19 15.7 -2.6**
KLR pmax pmax
comp=Z,4.0nm,1.0s
HLID Hailey 36.95 81 P **P 05 19 23.7 +1.2**
HLID IAmb IAmb 05 19 24.5
comp=Z,10nm,1.4s
ZEA Zeya 37.03 298 *eP* **P 05 19 21.4 -1.4**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.5s
BCYI Bear Canyon 37.15 80 P **P 05 19 24.7 +0.4**
EGMT Eagleton 37.40 72 IAmb IAmb 05 19 48.4
comp=Z,11nm,0.8s
H11N2 WAKE ISLAND Hy 37.52 219 T T 05 59 51.0
baz=24
H11N3 WAKE ISLAND Hy 37.53 219 T T 05 59 53.3
baz=24,slow=74,SNR=6.3
H11N1 WAKE ISLAND Hy 37.54 219 T T 05 59 55.7
baz=24,slow=74,SNR=4.8
ELK Elko 38.07 86 P **P 05 19 32.6 +0.6**
ELK pmax pmax
comp=Z,1.0nm,0.7s
ELK Elko 38.07 86 P **P 05 19 32.6 +0.6**
YMR Madison River 38.42 78 P **P 05 19 35.8 +0.9**
YMR IAmb IAmb 05 19 57.5
comp=Z,9.1nm,0.9s
YHH Holmes Hill 38.43 77 P **P 05 19 35.5 +0.5**
YHH IAmb IAmb 05 19 58.5
comp=Z,16nm,1.1s
YNR Norris Junctio 38.57 77 P **P 05 19 36.2 0.0**
GCMT Greycliff 38.59 75 P **P 05 19 37.5 +1.2**
FFC Flin Flon 38.65 59 P **P 05 19 35.4 -1.0**
FFC pmax pmax
comp=Z,4.0nm,1.0s
FFC Flin Flon 38.65 59 P **P 05 19 35.4 -1.0**
H11S1 WAKE ISLAND Hy 38.71 218 T T 06 01 17.5
baz=23,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 38.73 218 T T 06 01 18.2
baz=23,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 38.73 218 T T 06 01 24.5
baz=23,slow=76,SNR=16
JSD Sado 38.77 270 P **P 05 19 36.8 -0.8**
H17A Grant Village 38.81 78 P **P 05 19 38.6 +0.4**
H17A IAmb IAmb 05 20 02.8
comp=Z,9.9nm,1.1s
IMW Indian Meadow 38.86 79 P **P 05 19 39.0 +0.2**
IMW IAmb IAmb 05 20 03.6
comp=Z,8.7nm,1.1s
RLMT Red Lodge 39.19 76 P **P 05 19 41.6 +0.3**
REDW Red Top Meadow 39.22 79 P **P 05 19 42.9 +1.3**
REDW IAmb IAmb 05 20 04.5
comp=Z,17nm,1.4s
MAJO Matsushiro 39.76 268 P **P 05 19 45.2 -0.7**
MAJO pmax pmax
comp=Z,14nm,1.0s
MAJO Matsushiro 39.76 268 P **P 05 19 45.2 -0.7**
MAJO IAmb IAmb 05 19 47.0
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 39.76 268 P **P 05 19 45.1 -0.8**
comp=Z,2.2nm,0.7s,baz=47,slow=7.6,SNR=8.9
MJAR Matsushiro Arr 39.76 268 P **P 05 19 45.3 -0.6**
MJAR pmax pmax
comp=Z,5.0nm,1.2s
MJAR Matsushiro Arr 39.76 268 P **P 05 19 45.3 -0.6**
DUG Dugway, Tooele 39.88 85 IAmb IAmb 05 20 09.4
comp=Z,10nm,1.1s
PRN Pahroc Range 40.24 90 P **P 05 19 52.2 +2.2**
BW06 Boulder Array 40.34 79 P **P 05 19 51.0 +0.1**
baz=305,SNR=8.0
PD31 Pinedale Array 40.34 79 P **P 05 19 51.6 +0.7**
PD31 IAmb IAmb 05 20 13.2
comp=Z,9.2nm,1.1s
PDAR Pinedale Array 40.34 79 P **P 05 19 51.9 +1.0**
comp=Z,4.4nm,0.8s,baz=304,slow=3.6,SNR=26
MSHR Mys Shultsa 40.36 280 *ceP* **P 05 19 51.2 +0.4**
MSHR pmax pmax
comp=Z,8.0nm,1.3s
NLU North Lily Min 40.47 84 P **P 05 19 52.9 +0.9**
FCC Fort Churchill 40.87 50 P **P 05 19 55.4 +0.7**
FCC pmax pmax
comp=Z,34nm,1.0s
FCC Fort Churchill 40.87 50 P **P 05 19 55.4 +0.7**
TMUT Trail Mountain 41.41 85 P **P 05 20 00.9 +1.0**
P17A Butcher Ranch, 41.58 84 P **P 05 20 02.3 +1.2**
LCMT Little Creek M 41.60 89 P **P 05 20 03.0 +1.8**
RDMU Red Mountain 41.62 82 P **P 05 20 02.4 +0.8**
RDMU IAmb IAmb 05 20 15.7
comp=Z,14nm,1.0s
PFO Pinyon Flats O 41.88 95 *i* P **P 05 20 07.5 +3.9**
SRU San Rafael Swe 41.94 84 IAmb IAmb 05 20 18.6
comp=Z,11nm,1.1s
BOD Bodaibo 42.01 309 *eP* **P 05 20 03.0 -1.2**
BOD pmax pmax
comp=Z,14nm,0.9s
O20A White River Ci 42.70 82 P **P 05 20 10.1 -0.1**
baz=308,SNR=6.4
O20A White River Ci 42.70 82 P **P 05 20 11.0 +0.8**
O20A IAmb IAmb 05 20 23.0
comp=Z,23nm,1.1s
CN2 Changchun 43.06 286 *eP* **P 05 20 11.5 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PV22 Blue Mesa, Par 43.36 84 P **P 05 20 17.0 +1.4**
PV22 IAmb IAmb 05 20 39.0
comp=Z,11nm,0.9s
PV04 Paradox Valley 43.37 84 P **P 05 20 16.3 +0.6**
PV04 IAmb IAmb 05 20 32.3
comp=Z,7.0nm,0.8s
PV17 East Wray Mesa 43.41 84 IAmb IAmb 05 20 37.5
comp=Z,14nm,1.1s
PV16 Nyswonger Mesa 43.42 84 IAmb IAmb 05 20 39.0
comp=Z,9.7nm,1.0s
PV11 David Mesa, Pa 43.45 84 IAmb IAmb 05 20 40.1
comp=Z,28nm,1.3s
PV05 Paradox Valley 43.45 84 IAmb IAmb 05 20 33.9
comp=Z,18nm,1.2s
PV18 Skein Mesa, Pa 43.46 84 IAmb IAmb 05 20 38.6
comp=Z,12nm,1.2s
PV12 Saucer Basin, 43.48 84 IAmb IAmb 05 20 33.2
comp=Z,11nm,1.0s
PV03 Paradox Valley 43.50 84 IAmb IAmb 05 20 31.2
comp=Z,9.2nm,1.0s
PV13 Radium Mtn., P 43.57 84 IAmb IAmb 05 20 38.4
comp=Z,20nm,1.0s
KSRS Korea Array 45.46 277 P **P 05 20 32.4 +0.3**
comp=Z,2.9nm,0.7s,baz=55,slow=8.0,SNR=16
KSAR Wonju Array Be 45.49 277 P **P 05 20 31.4 -0.9**
KSAR Wonju Array Be 45.49 277 P **P 05 20 31.4 -0.9**
SDCO Great Sand Dun 45.86 82 P **P 05 20 36.6 +1.0**
SDCO IAmb IAmb 05 20 50.5
comp=Z,12nm,1.4s
B35A Bob, Littlefor 46.29 63 IAmb IAmb 05 20 59.3
comp=Z,11nm,1.2s
NRIK Noril'sk 46.42 332 P **P 05 20 38.5 -0.8**
comp=Z,2.9nm,0.5s,baz=100,slow=8.3,SNR=4.1
NRIK Noril'sk 46.42 332 *ceP* **P 05 20 38.3 -0.9**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
TJN Taejon 46.50 276 *ceP* **P 05 20 40.4 +0.1**
JNU Nakatsue 46.52 270 P **P 05 20 41.7 +1.1**
comp=Z,17nm,1.1s,baz=355,slow=9.3,SNR=5.1
T25A Trinidad 46.91 82 P **P 05 20 45.0 +1.2**
ANMO Albuquerque 47.11 86 PcP **PcP 05 22 16.1 -0.5**
comp=Z,1.2nm,0.8s,baz=243,slow=3.2,SNR=4.3
ANMO Albuquerque 47.11 86 P **P 05 20 46.1 +0.8**
ANMO pmax pmax
comp=Z,6.0nm,1.5s
ANMO Albuquerque 47.11 86 P **P 05 20 46.1 +0.8**
ECSD EROS Data Cent 47.40 70 P **P 05 20 47.2 -0.1**
ECSD IAmb IAmb 05 20 47.5
comp=Z,4.7nm,0.9s
L34A Svendsen Farm, 48.63 72 P **P 05 20 56.6 -0.2**
SPITS Spitsbergen Ar 49.63 358 P **P 05 21 03.7 -0.3**
comp=Z,1.5nm,0.4s,baz=27,slow=5.6,SNR=8.1
DAG Danmarks Havn 49.74 9 *i* P **P 05 21 04.0 -0.8**
DAG IAmb IAmb 05 21 05.7
comp=Z,5.1nm,1.0s
DAG Danmarks Havn 49.74 9 P **P 05 21 04.6 -0.2**
MNTX Cornudas Mount 49.98 88 P **P 05 21 08.6 +1.5**
MNTX IAmb IAmb 05 21 24.6
comp=Z,7.0nm,1.2s
MSTX Muleshoe 50.01 84 P **P 05 21 07.6 +0.1**
AMTX Amarillo 50.06 82 P **P 05 21 08.4 +0.5**
AMTX IAmb IAmb 05 21 21.7
comp=Z,10nm,1.0s
G40A Rib Lake 50.08 65 P **P 05 21 07.2 -0.6**
G40A IAmb IAmb 05 21 28.1
comp=Z,9.4nm,1.2s
SUMG Summit 50.72 17 *i* P **P 05 21 12.9 +0.1**
SUMG IAmb IAmb 05 21 14.7
comp=Z,7.6nm,1.0s
SUMG Summit 50.72 17 *i* P **P 05 21 12.8 +0.1**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 50.97 301 *ceP* **P 05 21 13.9 -0.7**
ULN pmax pmax
comp=Z,8.0nm,1.0s
E43A Lone Tree Farm 51.14 62 IAmb IAmb 05 21 19.5
comp=Z,6.5nm,0.8s
SONM Songino Array 51.33 301 P **P 05 21 17.7 +0.4**
comp=Z,1.5nm,0.3s,baz=58,slow=6.3,SNR=14
SONM PcP **PcP 05 22 32.2 +0.6**
comp=Z,2.3nm,0.8s,baz=75,slow=3.0,SNR=4.5
ZAK Zakamensk 51.34 305 *eP* **P 05 21 14.9 -2.5**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
DBG Daneborg 51.86 10 *i* P **P 05 21 18.6 -2.1**
DBG IAmb IAmb 05 21 21.0
comp=Z,7.3nm,0.9s
WMOK Wichita Mounta 51.91 80 IAmb IAmb 05 21 35.2
comp=Z,12nm,1.1s
OK031 S. Brethren Rd 52.26 78 P **P 05 21 24.6 +0.4**
TX31 Lajitas Ar. Si 52.68 89 P **P 05 21 27.9 +0.3**
TX32 Lajitas Array 52.69 89 P **P 05 21 28.2 +0.6**
TX32 IAmb IAmb 05 21 45.4
comp=Z,5.7nm,1.1s
TXAR Lajitas Array 52.69 89 P **P 05 21 28.3 +0.7**
comp=Z,2.4nm,0.8s,baz=300,slow=6.1,SNR=16
P40A Paris 52.71 71 P **P 05 21 26.8 -0.8**
ICESG Greenland Ices 53.31 20 *i* P **P 05 21 31.4 -0.6**
ICESG IAmb IAmb 05 21 32.5
comp=Z,5.3nm,0.8s
R40A Maddies Statio 53.40 73 P **P 05 21 31.5 -1.2**
R40A IAmb IAmb 05 21 52.4
comp=Z,3.7nm,0.8s
HDIL Hopedale 53.62 69 P **P 05 21 33.4 -0.8**
P43A Skaggs, Pawnee 54.09 70 P **P 05 21 37.6 -0.1**
P43A IAmb IAmb 05 21 52.0
comp=Z,8.9nm,0.7s
MGMO Mountain Grove 54.17 74 IAmb IAmb 05 21 56.8
comp=Z,7.5nm,0.9s
WHTX Lake Whitney, 54.61 82 P **P 05 21 40.6 -0.9**
FCAR Ozark Folk Cen 55.11 75 P **P 05 21 43.9 -1.2**
FCAR IAmb IAmb 05 21 44.5
comp=Z,8.2nm,0.9s
MIAR Mount Ida 55.17 77 P **P 05 21 46.0 +0.4**
MIAR pmax pmax
comp=Z,12nm,1.1s
MIAR Mount Ida 55.17 77 P **P 05 21 44.8 -0.7**
baz=314,SNR=5.2
MIAR Mount Ida 55.17 77 P **P 05 21 46.0 +0.4**
MIAR IAmb IAmb 05 21 46.3
comp=Z,12nm,1.1s
SCHQ Schefferville 55.36 43 P **P 05 21 47.0 +0.4**
comp=Z,17nm,0.9s,baz=314,slow=8.3,SNR=13
OLIL Olney 55.52 70 P **P 05 21 47.8 -0.3**
PARMO Parma 55.98 73 P **P 05 21 51.0 -0.2**
WLAR White Oak Lake 56.04 77 P **P 05 21 51.9 +0.2**
USIN University of 56.29 70 P **P 05 21 53.0 -0.5**
CCAR Cane Creek 56.68 76 P **P 05 21 56.8 +0.4**
UTMT University of 56.72 72 P **P 05 21 56.1 -0.4**
PLVO Plevna 57.26 57 P **P 05 22 01.2 +0.9**
T47A Sharon Grove 57.29 71 P **P 05 22 00.5 -0.1**
T47A IAmb IAmb 05 22 01.5
comp=Z,10nm,0.9s
DELO Deloro Mine 57.34 58 P **P 05 22 02.2 +1.4**
ZALV Zalesovo Beam 57.43 318 P **P 05 22 01.2 -0.2**
comp=Z,1.2nm,0.5s,baz=50,slow=5.4,SNR=5.0
ZALV Zalesovo Beam 57.43 318 *i* P **P 05 22 01.6 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 57.89 354 P **P 05 22 03.8 -0.6**
comp=Z,1.7nm,0.5s,baz=21,slow=7.0,SNR=14
PECO Prince Edward 58.07 58 IAmb IAmb 05 22 08.5
comp=Z,9.6nm,1.0s
PLAL Pickwick Lake 58.12 73 IAmb IAmb 05 22 07.5
comp=Z,6.4nm,0.9s
J56A Wolcott 58.59 59 IAmb IAmb 05 22 20.0
comp=Z,4.1nm,0.9s
I57A Carthage 58.76 57 P **P 05 22 10.2 -0.6**
baz=314,SNR=6.8
LONY Lake Ozonia 58.83 56 IAmb IAmb 05 22 12.1
comp=Z,9.5nm,0.9s
J58A Remsen 59.35 58 P **P 05 22 15.0 +0.1**
baz=315,SNR=6.2
J58A Remsen 59.35 58 P **P 05 22 15.2 +0.2**
MOQ Mont Orford 59.52 54 P **P 05 22 16.1 0.0**
FPAL Fort Paine 59.87 72 P **P 05 22 17.6 -1.1**
S54A Dingess, Beckl 60.02 66 P **P 05 22 20.2 +0.6**
S54A IAmb IAmb 05 22 20.4
comp=Z,7.6nm,0.8s
GTA Gaotai 60.51 297 ⇓P **P 05 22 22.5 -0.6**
GTA pP pP 05 22 28.0 -8.0
GTA sP sP 05 22 30.8 -10
GTA pmax pmax
comp=Z,7.0nm,0.9s
BLA Blacksburg 60.94 66 P **P 05 22 26.3 +0.4**
BLA pmax pmax
comp=Z,18nm,1.0s
BLA Blacksburg 60.94 66 P **P 05 22 26.3 +0.4**
KURK Kurchatov 62.38 318 P **P 05 22 35.9 +0.6**
KURBB Kurchatov Arra 62.49 318 P **P 05 22 35.9 -0.1**
comp=Z,5.1nm,0.8s,baz=45,slow=7.2,SNR=31
WMQ Urumqi 63.55 308 *eP* **P 05 22 46.3 +2.9**
BVAR Borovoye Array 63.70 324 P **P 05 22 43.5 -0.6**
comp=Z,4.8nm,0.5s,baz=204,slow=3.3,SNR=18
BRVK Borovoye 63.72 325 *ceP* **P 05 22 44.6 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
Y58A Scranton 63.74 68 P **P 05 22 45.4 +0.8**
MK31 Makanchi Array 63.82 313 P **P 05 22 44.5 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 63.82 313 P **P 05 22 44.5 -0.5**
MKAR Makanchi Array 63.82 313 P **P 05 22 44.2 -0.8**
comp=Z,2.7nm,0.7s,baz=51,slow=6.3,SNR=17
CD2 Chengdu 64.42 288 P **P 05 22 49.0 -0.2**
ARU Arti 64.61 333 P **P 05 22 49.9 0.0**
comp=Z,1.8nm,0.3s,baz=53,slow=3.4,SNR=5.4
ARU Arti 64.61 333 *c i* P **P 05 22 49.6 -0.4**
ARU S **S 05 31 29.5 +3.7**
ARU SS **SS 05 35 36.5 +0.5**
ARU pmax pmax
comp=Z,12nm,1.4s
FINES FINESS Array B 65.84 352 P **P 05 22 57.3 -0.5**
comp=Z,5.4nm,0.6s,baz=21,slow=7.8,SNR=29
GYA Guiyang 65.98 283 P **P 05 22 59.5 0.0**
GYA pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra 66.90 360 P **P 05 23 05.0 +0.3**
comp=Z,3.3nm,0.7s,baz=1.5,slow=6.9
NOA NORSAR Array B 66.90 360 P **P 05 23 05.2 +0.5**
comp=Z,4.2nm,0.9s,baz=0.3,slow=6.3,SNR=10
KMI Kunming 69.32 284 ⇑P **P 05 23 20.3 -0.3**
KMI pmax pmax
comp=Z,16nm,1.3s
AKTO Aktyubinsk 70.00 330 P **P 05 23 24.2 0.0**
comp=Z,5.0nm,0.5s,baz=56,slow=6.0,SNR=14
ABKAR Akbulak array 70.43 328 P **P 05 23 26.7 -0.1**
ABKAR IAmb IAmb 05 23 28.3
comp=Z,12nm,1.2s
OBN Obninsk 70.72 345 *eP* **P 05 23 26.7 -1.7**
OBN pmax pmax
comp=Z,6.0nm,1.5s
SLVN Son La 71.49 281 P **P 05 23 33.9 +0.2**
KK31 Karatay Array 71.80 318 P **P 05 23 35.0 -0.3**
KK31 pmax pmax
comp=Z,14nm,0.4s
KK31 Karatay Array 71.80 318 P **P 05 23 35.0 -0.3**
KKAR Karatay Array 71.80 318 P **P 05 23 34.9 -0.3**
KKAR pmax pmax
comp=Z,14nm,0.4s
KKAR Karatay Array 71.80 318 P **P 05 23 34.9 -0.3**
PABE Paberze 71.89 352 P **P 05 23 35.8 +0.3**
MNK Minsk 72.50 350 *i* P **P 05 23 38.0 -1.2**
MNK *i* 05 23 56.3
MNK *i* 05 26 17.6
MNK *i* PPP PPP 05 28 01.3
MNK *i* S **S 05 32 58.9 -0.6**
MNK *i* 05 33 42.5
MNK *i* SS **SS 05 37 36.6 -0.9**
MNK *i* SSS SSS 05 40 56.2
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=Z,3µm,15.0s
MNK MLR MLR
comp=E,557nm,21.0s
MNK MLR MLR
comp=N,4µm,19.0s
MNK Minsk 72.50 350 *i* P **P 05 23 38.0 -1.2**
comp=E,1.0nm,0.7s
MNK *i* P **P 05 23 38.0 -1.2**
comp=N,10.0nm,0.7s
MNK *i* P **P 05 23 38.0 -1.2**
comp=Z,15nm,0.9s,baz=191
MNK *i* PcP **PcP 05 23 56.4 -0.3**
MNK *i* PP **PP 05 26 17.7 -2.4**

MNK *i* PPP PPP 05 28 01.4
MNK *i* S **S** **05 32 58.9 -0.6**
MNK *i* SS **SS** **05 37 36.6 -0.9**
MNK *i* SSS SSS 05 40 56.3
MNK *i* LQ LQ 05 50 47.9
MNK *i* LR LR 05 55 50.7
MNK *i* LRM MLR 05 57 42.2
comp=Z,3μm,15.2s
MNK *i* LRM MLR 05 57 47.2
comp=E,557nm,21.0s
MNK *i* LRM MLR 05 57 55.9
comp=N,4μm,18.8s
NONG Nongkai 74.44 279 P **P** **05 23 51.7 +0.5**
comp=N,25nm,1.1s
SHL Shillong 75.28 293 P **P** **05 23 55.5 -0.6**
SHL pmax pmax
comp=Z,13nm,1.2s
SHL Shillong 75.28 293 IAmb IAmb 05 23 56.0
comp=Z,11nm,0.8s
AKASG Malin Array Be 76.08 348 P **P** **05 23 59.5 -0.5**
comp=Z,3.4nm,0.5s,baz=16,slow=6.0,SNR=13
AKBB Malin Array Si 76.08 348 *ce*P **P** **05 23 59.7 -0.3**
AKBB Malin Array Si 76.08 348 IAmb IAmb 05 23 60.0
comp=Z,9.6nm,1.0s
CMMT Chiang Mai 76.39 283 P **P** **05 24 03.8 +1.4**
comp=Z,11nm,1.4s
CHTO Chiang Mai 76.39 283 P **P** **05 24 02.7 +0.3**
CHTO pmax pmax
comp=Z,7.0nm,1.4s
CHTO Chiang Mai 76.39 283 P **P** **05 24 03.8 +1.4**
comp=Z,11nm,1.4s
CLL Collm 76.64 359 *i* P **P** **05 24 03.4 +0.2**
comp=Z,13nm,1.3s
CLL Collm 76.64 359 *i* SKKPdf **P** **05 24 03.4 +0.2**
comp=Z,13nm,1.3s
CM09 Chiang Mai Arr 76.65 283 P **P** **05 24 05.3 +1.5**
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 76.67 283 P **P** **05 24 04.6 +0.7**
comp=Z,8.0nm,0.7s,baz=28,slow=6.2,SNR=28
CMAR Chiang Mai Arr 76.67 283 P **P** **05 24 04.0 +0.1**
CM02 Chiang Mai Arr 76.68 283 P **P** **05 24 05.0 +1.0**
comp=Z,154nmcomp=Z,18nm,1.1s
CM15 Chiang Mai Arr 76.68 283 P **P** **05 24 04.9 +0.9**
CM01 Chiang Mai Arr 76.69 283 P **P** **05 24 05.0 +1.0**
comp=Z,165nmcomp=Z,19nm,1.1s
CM04 Chiang Mai Arr 76.69 283 P **P** **05 24 05.1 +1.1**
comp=Z,190nmcomp=Z,22nm,1.0s
CM05 Chiang Mai Arr 76.71 283 P **P** **05 24 05.1 +0.9**
comp=Z,138nmcomp=Z,15nm,1.0s
CM13 Chiang Mai Arr 76.72 283 P **P** **05 24 05.2 +1.0**
comp=Z,126nmcomp=Z,14nm,1.0s
PHIT Phitsanulok 76.77 281 P **P** **05 24 06.0 +1.6**
comp=Z,46nm,1.1s
BRG Berggiesshubel 77.05 358 *i* P **P** **05 24 06.3 +0.7**
BRG Amp 05 24 08.3
comp=Z,9.2nm,1.1s
CHVC Chvalec 77.28 357 *e*P **P** **05 24 07.9 +1.0**
MHMT Maesarieng 77.49 283 P **P** **05 24 10.6 +2.1**
comp=Z,30nm,1.1s
DPC Dobruska-Polom 77.50 356 *e*P **P** **05 24 09.2 +1.0**
DPC Dobruska-Polom 77.50 356 *e*P **P** **05 24 09.2 +1.0**
KRLC Kraliky 77.76 356 *e*P **P** **05 24 10.0 +0.4**
KRLC Kraliky 77.76 356 *e*P **P** **05 24 10.0 +0.4**
MORC Moravsky Berou 78.02 355 P **P** **05 24 12.1 +1.0**
MORC pmax pmax
comp=Z,10.0nm,2.0s
MORC Moravsky Berou 78.02 355 *e*P **P** **05 24 11.6 +0.5**
STHS Stebnicka Huta 78.16 353 *e*P **P** **05 24 13.3 +1.5**
STHS Stebnicka Huta 78.16 353 *e*P **P** **05 24 13.3 +1.5**
VRAC Vranov 78.53 356 *e*P **P** **05 24 14.5 +0.6**
LANS Liptovska Anna 78.54 354 *e*P **P** **05 24 15.9 +1.9**
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 78.54 354 *e*P **P** **05 24 15.9 +1.9**
KOLS Kolonicke sedl 78.56 352 *e*P **P** **05 24 14.1 +0.1**
KOLS Kolonicke sedl 78.56 352 *e*P **P** **05 24 14.1 +0.1**
KRUC Moravsky 78.79 356 *e*P **P** **05 24 15.6 +0.3**
KHC Kasperske Hory 78.81 358 *e*P **P** **05 24 16.0 +0.6**
KHC Kasperske Hory 78.81 358 *e*P **P** **05 24 16.0 +0.6**
JAVC Velka Javorina 78.93 355 *e*P **P** **05 24 17.3 +1.2**
GOF Gofitskoye 79.01 337⇑ *e*P **P** **05 24 17.7 +1.2**
GERES GERESS Array B 79.09 358 P **P** **05 24 18.1 +1.1**
comp=Z,2.2nm,0.6s,baz=28,slow=6.0,SNR=14
GERES GERESS Array B 79.09 358 P **P** **05 24 17.8 +0.7**
VYHS Vyhne 79.23 355 *e*P **P** **05 24 18.3 +0.6**
VYHS pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 79.23 355 *e*P **P** **05 24 18.3 +0.6**
SMOL Smolenice 79.29 355 *e*P **P** **05 24 19.2 +1.2**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL Smolenice 79.29 355 *e*P **P** **05 24 19.2 +1.2**
MODS Modra-Piesok 79.44 356 *e*P **P** **05 24 21.2 +2.4**
MODS pmax pmax
comp=Z,17nm,1.1s
MODS Modra-Piesok 79.44 356 *e*P **P** **05 24 21.2 +2.4**
BURAR Bucovina Array 79.58 350 P **P** **05 24 20.2 +0.4**
ZST Bratislava 79.62 356 *e*P **P** **05 24 21.5 +1.7**
ZST pmax pmax
comp=Z,37nm,0.9s
ZST Bratislava 79.62 356 *e*P **P** **05 24 21.5 +1.7**
CONA Conrad Observa 79.94 356 *e*P **P** **05 24 22.2 +0.5**
comp=Z,7.3nm,0.7s
MOA Molln 80.07 358 *e*P **P** **05 24 23.2 +1.0**
comp=Z,6.2nm,1.2s
KIV Kislovodsk 80.13 337 *e*P **P** **05 24 24.1 +1.3**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 80.30 337 P **P** **05 24 24.8 +1.3**
comp=Z,5.1nm,0.8s,baz=12,slow=3.2,SNR=12
KBZ Khabaz 80.30 337 *ce*P **P** **05 24 24.9 +1.4**
RETA Reutte 80.48 360 *e*P **P** **05 24 25.6 +1.0**
comp=Z,7.4nm,0.8s
MOTA Moosalm 80.62 360 *e*P **P** **05 24 26.2 +0.8**
comp=Z,15nm,1.3s
WATA Walderalm 80.63 359 *e*P **P** **05 24 26.1 +0.6**
comp=Z,12nm,1.1s
ARSA Arzberg 80.63 357 *e*P **P** **05 24 25.9 +0.6**
comp=Z,6.7nm,0.8s
DAVA Damuels 80.68 1 *e*P **P** **05 24 25.7 0.0**
comp=Z,6.6nm,0.9s
WTTA Wattenberg 80.70 359 *e*P **P** **05 24 27.1 +1.2**
comp=Z,7.8nm,0.7s
SQTA Sankt Quirin 80.75 360 *e*P **P** **05 24 27.5 +1.4**
comp=Z,4.7nm,0.4s
KBA Koelnbreinsper 80.86 358 *e*P **P** **05 24 27.7 +0.9**
comp=Z,15nm,0.6s
MFF Saint Martin d 80.92 8 *e*P **P** **05 24 27.6 +0.8**
MFF pmax pmax
comp=Z,20nm,1.1s
FETA Feichten 80.95 0 *e*P **P** **05 24 28.3 +1.2**
comp=Z,15nm,1.0s
GEYT Alibeck 81.03 324 P **P** **05 24 28.4 +0.8**
comp=Z,8.2nm,1.0s,baz=236,slow=10.0,SNR=6.5
DAVOX Davos/Dischmat 81.18 1 P **P** **05 24 29.6 +1.1**
comp=Z,4.1nm,0.6s,baz=358,slow=4.6,SNR=8.7
ABTA Abfaltersbach 81.21 359 *e*P **P** **05 24 28.9 +0.5**
comp=Z,7.1nm,0.8s
SOKA Soboth 81.22 357 *e*P **P** **05 24 29.1 +0.6**
comp=Z,18nm,1.3s
MYKA Terra Mystica 81.31 358 *e*P **P** **05 24 29.5 +0.5**
comp=Z,4.1nm,0.8s
OBKA Obir 81.40 357 *e*P **P** **05 24 30.7 +1.1**
comp=Z,5.5nm,0.6s
TUE Stuetta 81.49 1 P **P** **05 24 30.8 +0.7**
TUE IAmb IAmb 05 24 32.4
comp=Z,13nm,1.0s
LFF La Frestale 82.65 7 *e*P **P** **05 24 36.8 +0.9**
LFF pmax pmax
comp=Z,70nm,1.6s
GNI Garni 83.20 334 *ce*P **P** **05 24 41.6 +2.5**
GNI pmax pmax
comp=Z,15nm,2.5s
BRTR Keskin Array B 86.10 342 P **P** **05 24 54.7 +1.0**
comp=Z,1.2nm,0.7s,baz=32,slow=5.8,SNR=5.1
BRTR Keskin Array B 86.10 342 P **P** **05 24 54.5 +0.8**
ALN Alexandroupoli 86.12 348 P **P** **05 24 53.4 -0.2**
ALN pmax pmax
comp=Z,12nm,1.1s
ALN Alexandroupoli 86.12 348 P **P** **05 24 53.4 -0.2**
WRAB Tennant Creek 87.06 232 *ce*P **P** **05 24 57.7 -0.6**
WRAB pmax pmax
comp=Z,25nm,2.5s
WRA Warramunga Arr 87.08 232 P **P** **05 24 56.9 -1.5**
comp=Z,1.0nm,0.7s,baz=35,slow=6.1,SNR=3.9

ESDC Sonseca Array 87.40 11 P **P** **05 25 00.3 +0.3**
comp=Z,5.0nm,0.9s,baz=347,slow=4.7,SNR=20
ASAR Alice Springs 90.47 230 P **P** **05 25 14.1 -0.3**
comp=Z,1.3nm,0.7s,baz=28,slow=4.4,SNR=9.3
MAW Mawson 150.94 219 PKPbc **PKPbc** **05 32 02.9 -0.9**
comp=Z,3.4nm,1.0s,baz=58,slow=4.1,SNR=4.6
BOSA Boshof 153.89 330 PKPbc **PKPbc** **05 32 11.7 -0.1**
comp=Z,1.5nm,0.8s,baz=0.0,slow=1.0,SNR=1.5

*IDC **27** 05:15:49.9±1.7, 52°.46N×169°.44W, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.6/83, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=44.6km s-min=18.2km az=177.0*
*NEIC **27** 05:15:54.0±1.9, 52°.26N±0°.09×169°.43W±0°.07, h28km±7km, Error ellipse: s-maj=12.8km s-min=6.6km az=173.0*
*AEIC **27** 05:15:53±2.0, 52°.20N±0°.08×169°.42W±0°.07, h35km±5km, ML3.8, mb4.3/10(NEIC), Error ellipse: s-maj=12.0km s-min=6.3km az=180.0*
ISC 27 05:15:54.8±0.8,**52°.3N**±0°.1×**169°.37W**±0°.06,**h40**km,**n52,** σ1**27**/52,**mb3.9**/11,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.77**	**24**		**Pn**	**05 16 09.5**	**+0.3**
OKSP	**Okmok Steeple**	**1.19**	**33**		**Pn**	**05 16 14.3**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**1.38**	**35**		**Pn**	**05 16 17.3**	**-0.2**
OKNC	**Okmok New Cone**	**1.41**	**32**		**Pn**	**05 16 18.6**	**+0.6**
OKFG	**Magazine Ridge**	**1.45**	**37**		**Pn**	**05 16 18.7**	**+0.3**
MAPS	**Pakushin South**	**2.13**	**43**		**Pn**	**05 16 28.4**	**+0.6**
MSW	**Makushin Switc**	**2.27**	**42**		**Pn**	**05 16 30.6**	**+0.9**
MNAT	**Makushin Natee**	**2.29**	**44**		**Pn**	**05 16 30.8**	**+0.8**
UNV	**Unalaska Valle**	**2.34**	**46**		**Pn**	**05 16 31.6**	**+0.9**
AKUT	**Akutan**	**2.86**	**48**	Pn	**Pn**	**05 16 37.3**	**-0.5**
KOFP	**Korovin Flat P**	**2.90**	**272**		**Pn**	**05 16 37.6**	**-0.8**
ATKA	**Atka Island**	**2.97**	**271**		**Pn**	**05 16 37.1**	**-2.2**
GSTR	**Great Sitkin T**	**4.12**	**270**		**Pn**	**05 16 54.4**	**-0.7**
GSMY	**Great Sitkin M**	**4.12**	**270**		**Pn**	**05 16 55.1**	**-0.1**
GSTD	**Great Sitkin T**	**4.18**	**270**		**Pn**	**05 16 55.8**	**-0.2**
ADK	**Adak**	**4.53**	**268**		**Pn**	**05 17 00.6**	**-0.1**
KIWB	**Kanaga Island**	**4.82**	**268**	Pn	**Pn**	**05 17 04.9**	**+0.2**
KIMD	**Kanaga Island**	**4.88**	**267**		**Pn**	**05 17 05.5**	**-0.1**
SPIA	**Saint Paul Isl**	**4.95**	**354**	Pn	**Pn**	**05 17 09.2**	**+2.8**
TAFP	**Tanaga Falls P**	**5.32**	**269**		**Pn**	**05 17 12.2**	**+0.6**
TASE	**Tanaga Southea**	**5.37**	**269**		**Pn**	**05 17 12.7**	**+0.5**
SDPT	**Sand Point**	**6.11**	**56**	Pn	**Pn**	**05 17 22.8**	**+0.4**
CNBA	**Chernabura Isl**	**6.37**	**62**	Pn	**Pn**	**05 17 26.1**	**+0.2**
AMKA	**Amchitka**	**7.08**	**267**		**Pn**	**05 17 35.9**	**+0.2**
CHIR	**Chirikof Islan**	**8.84**	**61**	Pn	**Pn**	**05 17 58.0**	**-1.8**
OHAK	**Old Harbor**	**10.53**	**56**	Pn	**Pn**	**05 18 22.2**	**-0.7**
KDAK	**Kodiak Island**	**11.09**	**54**	Pn	**Pn**	**05 18 30.2**	**-0.4**
0.3nm,0.3s,baz=136,slow=18,SNR=5.2							
KDAK	**Kodiak Island**	**11.09**	**54**		**Pn**	**05 18 30.0**	**-0.6**
SEW	**Seward**	**13.54**	**47**	Pn	**Pn**	**05 19 03.8**	**-0.3**
KLU	**Klutina**	**15.71**	**45**	Pn	**Pn**	**05 19 32.1**	**-0.9**
KLU				IAmb	IAmb	05 19 41.4	
comp=Z,26nm,1.5s							
ILAR	**Eielson Array**	**17.04**	**34**	Pn	**Pn**	**05 19 44.9**	**-4.8**
comp=Z,0.1nm,0.3s,baz=232,slow=16,SNR=3.6							
ILAR	**Eielson Array**	**17.04**	**34**	P	**Pn**	**05 19 46.5**	**-3.2**
HYT	**Haines Junctio**	**19.37**	**51**	Pn	**Pn**	**05 20 20.6**	**+2.5**
HYT				IAmb	IAmb	05 20 31.4	
comp=Z,28nm,1.5s							
BMAR	**Burnt Mountain**	**19.42**	**29**	Pn	**P**	**05 20 19.3**	**+2.0**
PEA0B	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**05 20 22.8**	**+0.4**
PEA0B				IAmb	IAmb	05 20 45.3	
comp=Z,20nm,1.2s							
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**05 20 22.0**	**-0.5**
comp=Z,1.1nm,0.3s,baz=88,slow=13,SNR=12							
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**05 20 21.7**	**-0.8**
EPYK	**Eagle Plains**	**21.48**	**36**	P	**P**	**05 20 39.3**	**-0.3**
EPYK				IAmb	IAmb	05 20 50.3	
comp=Z,15nm,1.4s							
PGC	**Sidney**	**29.08**	**79**	P	**P**	**05 21 49.3**	**-1.7**
PGC				IAmb	IAmb	05 22 12.0	
comp=Z,14nm,1.1s							
YKA	**Yellowknife Ar**	**30.31**	**49**	P	**P**	**05 22 03.3**	**+1.4**
comp=Z,0.3nm,0.4s,baz=271,slow=7.6,SNR=2.0							
KLR	**Kul'dur**	**36.49**	**289**	P	**P**	**05 22 54.2**	**-1.6**
comp=Z,0.7nm,0.5s,baz=50,slow=7.9,SNR=2.4							
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**05 23 30.5**	**+1.3**
comp=Z,0.3nm,0.5s,baz=317,slow=2.8,SNR=4.0							
PDAR	**Pinedale Array**	**40.42**	**79**	P	**P**	**05 23 30.4**	**+1.2**
ECSD	**EROS Data Cent**	**47.51**	**70**	P	**P**	**05 24 25.9**	**+0.2**
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**05 25 06.1**	**+0.5**
comp=Z,0.2nm,0.5s,baz=298,slow=6.1,SNR=2.0							
TXAR	**Lajitas Array**	**52.75**	**89**	P	**P**	**05 25 05.3**	**-0.4**
P40A	**Paris**	**52.81**	**71**	P	**P**	**05 25 05.9**	**0.0**
P40A				IAmb	IAmb	05 25 29.3	
comp=Z,3.0nm,1.2s							
ARCES	**ARCESS Array B**	**58.02**	**354**	P	**P**	**05 25 42.7**	**-0.2**
comp=Z,1.8nm,0.9s,baz=7.4,slow=7.7,SNR=4.3							
KURBB	**Kurchatov Arra**	**62.56**	**318**	P	**P**	**05 26 14.5**	**+0.4**
comp=Z,0.4nm,0.4s,baz=44,slow=8.0,SNR=4.3							
MKAR	**Makanchi Array**	**63.88**	**313**	P	**P**	**05 26 22.5**	**-0.4**
comp=Z,0.3nm,0.4s,baz=67,slow=6.1,SNR=2.4							
FINES	**FINESS Array B**	**65.97**	**352**	P	**P**	**05 26 36.3**	**+0.1**
comp=Z,2.8nm,0.9s,baz=357,slow=8.4,SNR=3.5							
ABKAR	**Akbulak array**	**70.52**	**328**	P	**P**	**05 27 05.7**	**+0.8**

*IDC **27** 05:17:10.0±0.6, 52°.48N×169°.49W, h0km, mb4.4/39, mb1 4.6/41, mb1mx4.4/78, mbtmp4.4/41, ML3.8/2, Error ellipse: s-maj=17.5km s-min=9.4km az=178.0*
*MOS **27** 05:17:11.1±1.0, 52°.40N×169°.33W, h20km, mb5.0/45, Error ellipse: s-maj=8.5km s-min=5.8km az=84.9*
*AEIC **27** 05:17:13±2.5, 52°.26N±0°.04×169°.21W±0°.07, h14km±4km, Error ellipse: s-maj=5.9km s-min=5.2km az=78.0*
*NEIC **27** 05:17:15.1±2.0, 52°.36N±0°.05×169°.30W±0°.06, h36km±6km, mb4.7/259, ML4.6/42(AEIC), Error ellipse: s-maj=7.9km s-min=4.9km az=175.0*
ISC 27 05:17:12.3±1.2,**52°.33N**±0°.06×**169°.24W**±0°.04,**h18**km±7km,
n700, σ1**17**/685,**mb4.8**/211,**9C-7D,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.68**	**20**	P	**Pn**	**05 17 27.3**	**+0.3**
baz=197,SNR=50							
NIKH	**Nikolski High**	**0.68**	**20**		**Pn**	**05 17 27.6**	**+0.6**
OKSP	**Okmok Steeple**	**1.08**	**32**		**Pg**	**05 17 33.1**	**-0.2**
OKSO	**Okmok South**	**1.22**	**32**		**Pb**	**05 17 35.2**	**+0.5**
OKSO					**Sg**	**05 17 53.5**	**+1.8**
OKCE	**Okmok Cone E**	**1.27**	**30**		**Pg**	**05 17 36.5**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.28**	**34**		**Pg**	**05 17 36.5**	**-0.4**
OKNC	**Okmok New Cone**	**1.31**	**30**		**Pg**	**05 17 37.3**	**-0.3**
MAPS	**Pakushin South**	**2.02**	**42**		**Pn**	**05 17 47.1**	**+1.6**
MAPS					**Sb**	**05 18 12.5**	**-0.9**
MGOD	**Makushin Gods**	**2.04**	**43**		**Pn**	**05 17 47.4**	**+1.6**
MGOD					**Sb**	**05 18 13.3**	**-0.6**
MSW	**Makushin Switc**	**2.17**	**42**		**Pb**	**05 17 49.3**	**-1.6**
MNAT	**Makushin Natee**	**2.19**	**44**		**Pb**	**05 17 50.0**	**-1.3**
MNAT					**Sb**	**05 18 16.7**	**-1.3**
UNV	**Unalaska Valle**	**2.24**	**46**	P	**Pn**	**05 17 50.0**	**+1.6**
baz=227,SNR=45							
UNV	**Unalaska Valle**	**2.24**	**46**		**Pn**	**05 17 50.0**	**+1.6**
UNV					**Sn**	**05 18 17.5**	**+2.0**
MTBL	**Makushin Table**	**2.25**	**42**		**Pb**	**05 17 51.0**	**-1.3**
AKMO	**Akutan Morgan**	**2.62**	**46**		**Pn**	**05 17 56.1**	**+2.5**
AKRB	**Akutan Reef Bi**	**2.62**	**45**		**Pb**	**05 17 56.9**	**-1.8**
AKBBA	**Akutan Broad B**	**2.66**	**47**		**Pb**	**05 17 57.3**	**-2.0**
AKLV	**Akutan Long Va**	**2.69**	**46**		**Pb**	**05 17 57.9**	**-2.0**
AKGG	**Akutan Green G**	**2.70**	**45**		**Pb**	**05 17 57.8**	**-2.2**
AKUT	**Akutan**	**2.75**	**48**	Pn	**Pn**	**05 17 57.3**	**+1.9**
AKUT				Sn	**Sn**	**05 18 28.3**	**+0.1**
AKSA	**Akutan Strait**	**2.79**	**48**		**Pn**	**05 17 58.3**	**+2.3**
KOKL	**Mount Kliuchef**	**3.05**	**272**		**Pn**	**05 18 01.6**	**+2.0**
ATKA	**Atka Island**	**3.05**	**269**		**Pn**	**05 18 01.1**	**+1.5**
WEBT	**Westdahl Beart**	**3.51**	**48**		**Pn**	**05 18 09.5**	**+3.7**
GSTR	**Great Sitkin T**	**4.20**	**269**		**Pn**	**05 18 15.8**	**+0.3**
GSTD	**Great Sitkin T**	**4.26**	**269**		**Pn**	**05 18 17.8**	**+1.5**
FALS	**False Pass**	**4.29**	**52**	P	**Pn**	**05 18 17.9**	**+1.4**
baz=235,SNR=7.1							
FALS	**False Pass**	**4.29**	**52**	Pn	**Pn**	**05 18 17.6**	**+1.1**
ADK	**Adak**	**4.61**	**267**	P	**Pn**	**05 18 22.5**	**+1.5**
ADK				SN	**Sn**	**05 19 13.7**	**-0.4**
ADK	**Adak**	**4.61**	**267**		**Pn**	**05 18 22.5**	**+1.5**
ADK				Sn	**Sn**	**05 19 13.7**	**-0.4**
SPIA	**Saint Paul Isl**	**4.89**	**354**	P	**Pn**	**05 18 26.6**	**+1.8**
baz=173,SNR=12							
SPIA	**Saint Paul Isl**	**4.89**	**354**		**Pn**	**05 18 27.6**	**+2.8**
KIWB	**Kanaga Island**	**4.91**	**267**	Pn	**Pn**	**05 18 26.0**	**+0.9**
TAFP	**Tanaga Falls P**	**5.41**	**269**		**Pn**	**05 18 34.4**	**+2.4**
TASE	**Tanaga Southea**	**5.45**	**268**		**Pn**	**05 18 35.2**	**+2.6**
SDPT	**Sand Point**	**6.00**	**56**	P	**Pn**	**05 18 42.5**	**+2.5**
baz=243							
SDPT	**Sand Point**	**6.00**	**56**	Pn	**Pn**	**05 18 43.5**	**+3.5**
SDPT				Sn	**Sn**	**05 19 48.0**	**-0.2**
CNBA	**Chernabura Isl**	**6.26**	**63**		**Pn**	**05 18 44.7**	**+1.1**
CNBA				Sn	**Sn**	**05 19 52.9**	**-1.7**
CHNA	**Chernabura Isl**	**6.26**	**63**	P	**Pn**	**05 18 45.6**	**+1.9**
baz=250							
AMKA	**Amchitka**	**7.17**	**267**	Pn	**Pn**	**05 18 57.2**	**+1.1**
LSNW	**Little Sitkin**	**7.55**	**272**		**Pn**	**05 19 03.7**	**+2.4**
CHIR	**Chirikof Islan**	**8.73**	**61**	P	**Pn**	**05 19 19.4**	**+1.9**
baz=252							
CHIR	**Chirikof Islan**	**8.73**	**61**	Pn	**Pn**	**05 19 19.7**	**+2.2**
SII	**Sitkinak Islan**	**9.73**	**58**	P	**Pn**	**05 19 33.5**	**+2.3**
baz=250							
SII	**Sitkinak Islan**	**9.73**	**58**		**Pn**	**05 19 33.1**	**+1.9**
OHAK	**Old Harbor**	**10.42**	**56**	P	**Pn**	**05 19 41.1**	**+0.5**
baz=248							
OHAK	**Old Harbor**	**10.42**	**56**		**Pn**	**05 19 40.8**	**+0.1**
O18K	**Koktuh Hills**	**10.85**	**41**	P	**Pn**	**05 19 48.6**	**+2.0**
baz=232,SNR=14							
KDAK	**Kodiak Island**	**10.98**	**54**	Pn	**Pn**	**05 19 48.1**	**-0.2**
2.2nm,0.3s,baz=196,slow=6.6,SNR=15							
KDAK				Sn	**Sn**	**05 21 45.3**	**-5.3**
0.6nm,0.3s,baz=358,slow=18,SNR=2.9							
KDAK	**Kodiak Island**	**10.98**	**54**	*i* P	**Pn**	**05 19 47.8**	**-0.5**
KDAK	**Kodiak Island**	**10.98**	**54**	P	**Pn**	**05 19 49.1**	**+0.8**
baz=247							
KDAK	**Kodiak Island**	**10.98**	**54**	Pn	**Pn**	**05 19 48.9**	**+0.6**
N18K	**Kilae Creek**	**11.13**	**36**	P	**Pn**	**05 19 54.6**	**+4.2**
baz=227							
SVW2	**Sparrevohn**	**11.53**	**35**	Pn	**Pn**	**05 19 59.2**	**+3.5**
GAMB	**Gambell**	**11.55**	**355**	P	**Pn**	**05 19 59.2**	**+3.2**
baz=172							
GAMB	**Gambell**	**11.55**	**355**	Pn	**Pn**	**05 19 56.0**	**0.0**
N19K	**Bonanza Creek**	**11.73**	**38**	P	**Pn**	**05 20 00.8**	**+2.1**
baz=230							
O20K	**Slope Mountain**	**12.04**	**43**	P	**Pn**	**05 20 06.0**	**+3.2**
baz=237							
RSO	**Redoubt South**	**12.20**	**42**		**Pn**	**05 20 06.5**	**+1.3**
CNPM	**China Poot**	**12.37**	**47**	Pn	**Pn**	**05 20 08.2**	**+0.9**
L19K	**White Mountain**	**12.54**	**32**	P	**Pn**	**05 20 13.1**	**+3.5**
baz=224							
BRLK	**Bradley Lake**	**12.64**	**47**		**Pn**	**05 20 12.9**	**+1.9**
BRSE	**Bradley Lake S**	**12.69**	**47**	P	**Pn**	**05 20 14.1**	**+2.4**
baz=242							
SPU	**Mount Spurr**	**12.90**	**40**	Pn	**Pn**	**05 20 15.3**	**+0.8**
M20K	**Styx River**	**12.93**	**36**	P	**Pn**	**05 20 18.6**	**+3.7**
baz=229							
TNA	**Tin City**	**13.29**	**2**	P	**Pn**	**05 20 22.9**	**+3.2**
baz=183							
TNA	**Tin City**	**13.29**	**2**	Pn	**Pn**	**05 20 22.5**	**+2.8**
SEW	**Seward**	**13.44**	**47**	P	**Pn**	**05 20 22.0**	**+0.2**
baz=243,SNR=7.1							
SEW	**Seward**	**13.44**	**47**	Pn	**Pn**	**05 20 22.3**	**+0.5**
O22K	**Cooper Landing**	**13.49**	**45**	P	**Pn**	**05 20 23.1**	**+0.5**
baz=241							
O22K	**Cooper Landing**	**13.49**	**45**		**Pn**	**05 20 22.2**	**-0.3**
SKT	**Skwentna**	**13.58**	**38**	P	**Pn**	**05 20 26.0**	**+2.3**
baz=232							
SKT	**Skwentna**	**13.58**	**38**		**Pn**	**05 20 25.7**	**+2.0**
SUA	**Susitna One**	**13.58**	**40**	P	**Pn**	**05 20 25.9**	**+2.0**
baz=236							
SUA	**Susitna One**	**13.58**	**40**		**Pn**	**05 20 26.3**	**+2.4**
K20K	**Telida**	**13.64**	**30**	P	**P**	**05 20 29.3**	**-4.0**
baz=223							
RC01	**Rabbit Creek A**	**13.79**	**43**	P	**Pn**	**05 20 25.8**	**-0.8**
baz=239							
RC01	**Rabbit Creek A**	**13.79**	**43**		**Pn**	**05 20 27.1**	**+0.5**
PPLA	**Purkeypile**	**13.93**	**34**	P	**P**	**05 20 34.6**	**-2.0**
baz=228							
PPLA	**Purkeypile**	**13.93**	**34**	Pn	**Pn**	**05 20 29.1**	**+0.5**
J20K	**Nowinta River**	**14.23**	**28**	P	**P**	**05 20 37.0**	**-2.9**
baz=220,SNR=16							
PWL	**Port Wells**	**14.27**	**45**		**Pn**	**05 20 32.1**	**-1.2**
PMR	**Palmer**	**14.30**	**42**	P	**Pn**	**05 20 34.4**	**+0.9**
PMR	**Palmer**	**14.30**	**42**	P	**Pn**	**05 20 35.0**	**+1.5**
baz=238							
PMR	**Palmer**	**14.30**	**42**	Pn	**Pn**	**05 20 34.4**	**+0.9**
GHO	**Glory Hole Cre**	**14.48**	**41**		**Pn**	**05 20 36.3**	**+0.2**
KNK	**Knik Glacier**	**14.48**	**43**	P	**Pn**	**05 20 35.7**	**-0.4**
baz=240							
KNK	**Knik Glacier**	**14.48**	**43**	Pn	**Pn**	**05 20 35.7**	**-0.4**
CHUM	**Lake Minchumin**	**14.56**	**31**	P	**Pn**	**05 20 37.9**	**+0.8**
baz=225							
SML	**Sawmill**	**14.74**	**42**	P	**Pn**	**05 20 38.9**	**-0.7**
baz=239							
SML	**Sawmill**	**14.74**	**42**		**Pn**	**05 20 40.3**	**+0.7**
KTH	**Kantishna Hill**	**14.79**	**33**		**Pn**	**05 20 41.6**	**+1.2**
GLI	**Glacier Island**	**14.82**	**46**	Pn	**Pn**	**05 20 41.4**	**+0.6**
HIN	**Hinchinbrook I**	**14.90**	**48**	Pn	**Pn**	**05 20 40.7**	**-1.0**
TRF	**Thorofare Moun**	**14.94**	**34**	P	**Pn**	**05 20 43.1**	**+0.6**
baz=230							
TRF	**Thorofare Moun**	**14.94**	**34**		**Pn**	**05 20 42.1**	**-0.4**
FID	**Port Fidalgo**	**15.05**	**47**	Pn	**Pn**	**05 20 42.3**	**-1.5**
BPAW	**Bear Paw Mtn.**	**15.13**	**32**	P	**Pn**	**05 20 47.5**	**+2.6**
baz=227,SNR=17							
BPAW	**Bear Paw Mtn.**	**15.13**	**32**	Pn	**Pn**	**05 20 46.5**	**+1.6**
BPAW				IAmb	IAmb	05 20 55.6	
comp=Z,34nm,0.6s							
SCM

PAX Paxson 16.47 40 P Pn 05 21 02.8 +0.5
PAX pmax pmax
comp=Z,11nm,0.7s
PAX Paxson 16.47 40 Pn Pn 05 21 02.8 +0.5
GLB Gilahina Butte 16.51 47 Pn 05 21 02.1 -0.6
CCB Clear Creek Bu 16.55 34 Pn 05 21 02.9 -0.1
CRQM Cirque 16.58 49 Pn 05 21 03.6 -0.1
CRQM IAmb IAmb 05 21 32.4
comp=Z,33nm,0.7s
VRDI Verde Repeater 16.59 47 Pn 05 21 03.6 -0.3
CRQE Cirque 16.60 49 P Pn 05 21 03.2 -0.7
baz=251
MDM Murphy Dome 16.60 32 Pn Pn 05 21 04.4 +0.6
WAX Waxell Ridge 16.61 50 Pn Pn 05 21 03.8 -0.2
WAX IAmb IAmb 05 21 15.4
comp=Z,83nm,0.8s
TCOL CIGO, UAF Yank 16.67 33 P Pn 05 21 04.9 +0.3
baz=231
TCOL CIGO, UAF Yank 16.67 33 Pn 05 21 04.7 +0.1
COLA College 16.67 33 eP Pn 05 21 04.9 +0.3
COLA College 16.67 33 P Pn 05 21 05.3 +0.7
baz=231
COLA College 16.67 33 Pn 05 21 04.2 -0.5
HDA Harding Lake 16.70 35 P Pn 05 21 05.3 +0.2
baz=234
HDA Harding Lake 16.70 35 Pn 05 21 05.5 +0.5
TGL Tana Glacier 16.72 49 Pn 05 21 05.8 +0.4
TGL IAmb IAmb 05 21 32.1
comp=Z,36nm,0.8s
H23K Yukon River 16.77 29 P P 05 21 08.2 +0.1
baz=226
MCARA McCarthy VSAT 16.84 47 P Pn 05 21 06.3 -0.6
baz=249
MCARA McCarthy VSAT 16.84 47 Pn 05 21 04.0 -2.8
MCARA IAmb IAmb 05 21 22.0
comp=Z,26nm,0.7s
IL31 16.93 34 Pn 05 21 05.9 -2.0
ILAR Eielson Array 16.93 34 Pn Pn 05 21 07.1 -0.9
comp=Z,0.3nm,0.3s,baz=225,slow=9.4,SNR=13
POKR Poker Plat Res 16.96 33 P P 05 21 10.4 +0.2
baz=231
MESA MESA 16.97 52 P P 05 21 10.3 -0.2
baz=254
MESA MESA 16.97 52 P P 05 21 10.0 -0.4
MESA IAmb IAmb 05 21 19.8
comp=Z,75nm,0.8s
RIDG Independent Ri 17.10 39 P P 05 21 11.2 -0.7
baz=239
RIDG Independent Ri 17.10 39 P P 05 21 11.4 -0.4
YAH Yahtse 17.12 51 P Pn 05 21 11.3 +0.8
YAH IAmb IAmb 05 21 32.6
comp=Z,55nm,0.8s
MENT Mentasta 17.17 42 Pn Pn 05 21 10.8 -0.1
M26K Nabesna, AK 17.24 44 P Pn 05 21 11.5 -0.4
baz=246,SNR=7.9
H24K Noodor Dome 17.29 30 P Pn 05 21 13.2 +0.8
baz=229
L26K Log Cabin Wild 17.36 42 P Pn 05 21 13.9 +0.6
baz=244
BARN Barnard Glacie 17.36 49 Pn 05 21 12.6 -0.9
DOT Dot Lake 17.36 40 P Pn 05 21 12.9 -0.5
TABL Table Mountain 17.43 51 Pn 05 21 13.9 -0.5
TABL IAmb IAmb 05 21 19.0
comp=Z,57nm,1.0s
CTG Chitna Glacier 17.48 49 P Pn 05 21 15.0 +0.1
baz=253
CTGM Chitina Glacie 17.48 49 Pn 05 21 13.9 -1.1
SCRK Sand Creek 17.55 39 P Pn 05 21 15.6 -0.2
baz=240,SNR=9.5
SCRK Sand Creek 17.55 39 P P 05 21 17.1 +0.2
LOGN Logan Glacier 17.60 50 Pn P 05 21 20.8 +3.4
LOGN IAmb IAmb 05 21 37.5
comp=Z,39nm,1.0s
M27K Edge Creek, AK 17.70 45 P Pn 05 21 17.7 0.0
baz=248,SNR=6.5
PCA Pinnacle 17.77 53 P 05 21 20.0 +0.8
PCA IAmb IAmb 05 21 34.5
comp=Z,43nm,0.8s
PINM Pinnacle 17.77 53 P P 05 21 20.5 +1.3
baz=257
PRP Porcupine Dome 17.84 33 P Pn 05 21 19.4 0.0
L27K Beaver Creek, 18.00 43 P P 05 21 22.2 +0.5
baz=246,SNR=5.6
L27K Beaver Creek, 18.00 43 P P 05 21 21.9 +0.2
BCAR Beaver Creek A 18.02 43 Pn Pn 05 21 20.9 -0.7
K27K Chicken 18.32 40 P P 05 21 26.3 +1.1
baz=243
K27K Chicken 18.32 40 P P 05 21 28.2 +3.1
FYU Fort Yukon 18.58 31 P P 05 21 27.9 -0.1
TOLK Toolik Lake Re 18.85 22 P Pn 05 21 32.2 +0.7
baz=220
TOLK Toolik Lake Re 18.85 22 Pn 05 21 31.6 +0.1
EGAK Eagle 19.02 38 P P 05 21 32.7 -0.1
baz=242
EGAK Eagle 19.02 38 P P 05 21 33.1 +0.3
HYT Haines Junctio 19.26 51 P Pn 05 21 37.3 +0.7
HYT IAmb IAmb 05 21 41.7
comp=Z,48nm,0.9s
BMAR Burnt Mountain 19.32 29 P P 05 21 36.1 0.0
DAWY Dawson 19.40 41 P P 05 21 37.4 +0.3
BILL Bilibino 19.67 332 eP Pn 05 21 41.7 +0.3
BILL pmax pmax
comp=Z,30nm,1.3s
PEA0B Petropavlovsk- 19.95 285 P P 05 21 43.2 +0.1
PEA0B pmax pmax
comp=Z,87nm,1.4s
PEA0B Petropavlovsk- 19.95 285 P P 05 21 43.2 +0.1
PEA0B IAmb IAmb 05 21 45.0
comp=Z,87nm,1.4s
PETK Petropavlovsk- 19.95 285 P P 05 21 42.3 -0.8
comp=Z,1.4nm,0.3s,baz=92,slow=13,SNR=23
PETK Petropavlovsk- 19.95 285 P 05 21 42.1 -1.0
SKAG Skagway 20.12 56 P Pn 05 21 46.0 -0.8
baz=264,SNR=9.9
SKAG Skagway 20.12 56 P P 05 21 45.2 +0.4
WHY Whitehorse 20.50 53 P Pn 05 21 50.9 -0.4
baz=261,SNR=7.0
WHY Whitehorse 20.50 53 P Pn 05 21 51.6 +0.3
WHY IAmb IAmb 05 21 55.4
comp=Z,50nm,0.8s
JIS Juneau Island 20.54 59 P Pn 05 21 52.3 +0.7
JIS IAmb IAmb 05 21 57.4
comp=Z,19nm,0.8s
EPYK Eagle Plains 21.38 36 P P 05 21 57.8 -0.7
baz=245,SNR=21
EPYK Eagle Plains 21.38 36 P P 05 21 57.8 -0.7
EPYK IAmb IAmb 05 22 17.9
comp=Z,34nm,0.8s
DLBC Dease Lake 22.83 59 P P 05 22 17.1 +2.9
comp=Z,7.1nm,0.9s,baz=274,slow=11,SNR=8.8
DLBC Dease Lake 22.83 59 P P 05 22 14.3 +0.2
DLBC IAmb IAmb 05 22 23.9
comp=Z,27nm,1.1s
MA2 Magadan 23.23 304 P P 05 22 17.2 -0.8
comp=Z,12nm,0.7s,baz=92,slow=11,SNR=5.2
MA2 Magadan 23.23 304 ceP P 05 22 18.7 +0.6
MA2 pmax pmax
comp=Z,12nm,0.9s
INK Inuvik 23.33 33 P P 05 22 18.1 -1.0
comp=Z,13nm,0.7s,baz=225,slow=8.9,SNR=14
INK Inuvik 23.33 33 P P 05 22 18.0 -1.0
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 23.33 33 P P 05 22 17.9 -1.1
baz=245,SNR=8.8
INK Inuvik 23.33 33 P P 05 22 18.0 -1.0
C36M Paulatuk 26.91 34 P P 05 22 51.2 -0.6
baz=254
D03D Eldon 29.68 81 P P 05 23 19.1 +2.3
baz=297
B05A Bryant 29.96 79 P P 05 23 19.8 +0.6
baz=296,SNR=5.8
YKA Yellowknife Ar 30.20 49 P P 05 23 22.4 +1.3
comp=Z,4.4nm,0.8s,baz=269,slow=7.5,SNR=24
YKA Yellowknife Ar 30.20 49 P P 05 23 21.2 0.0
E04D Cinebar 30.45 82 P P 05 23 26.3 +2.7
baz=298
B08A Colville Reser 31.58 77 P P 05 23 34.8 +1.2
G05D Wamic, OR 31.86 83 P P 05 23 38.6 +2.6
baz=300
I04A Tendick Farm, 31.94 87 P P 05 23 40.4 +3.6
baz=302
HAWA Hanford 32.37 80 P P 05 23 42.4 +1.9
HAWA IAmb IAmb 05 23 57.6
comp=Z,19nm,1.1s

D08A Wollman Farm, 32.42 79 P P 05 23 41.6 +0.7
D08A IAmb IAmb 05 23 43.9
comp=Z,8.0nm,1.0s
C09A Chrisman Ranch 32.46 77 P P 05 23 40.8 -0.5
C09A IAmb IAmb 05 23 44.3
comp=Z,13nm,1.2s
YBH Yreka Blue Hor 32.90 90 P P 05 23 48.7 +3.5
comp=Z,1.2nm,0.8s,baz=225,slow=7.1,SNR=2.4
YBH Yreka Blue Hor 32.90 90 P P 05 23 46.9 +1.7
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 32.90 90 P P 05 23 46.9 +1.7
J05D Fort Rock, OR 32.94 86 P P 05 23 47.5 +1.8
baz=303
NEW Newport 32.94 76 P P 05 23 47.4 +1.9
comp=Z,4.4nm,0.8s,baz=308,slow=6.3,SNR=8.1
NEW Newport 32.94 76 P P 05 23 46.8 +1.3
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 32.94 76 P P 05 23 46.5 +1.0
baz=297,SNR=6.3
NEW Newport 32.94 76 P P 05 23 46.8 +1.3
NEW IAmb IAmb 05 24 08.9
comp=Z,11nm,0.9s
EDM Edmonton 33.09 66 P P 05 23 48.1 +1.4
EDM pmax pmax
comp=Z,15nm,0.9s
EDM Edmonton 33.09 66 P P 05 23 48.1 +1.4
EDM IAmb IAmb 05 23 49.3
comp=Z,15nm,0.9s
E09A Wood Farm, Sta 33.15 79 P P 05 23 48.2 +1.0
E09A IAmb IAmb 05 23 50.2
comp=Z,14nm,1.2s
YAK Yakutsk 33.26 311 ceP P 05 23 47.9 -0.1
YAK pmax pmax
comp=Z,18nm,0.6s
I07A Izee 33.57 84 P P 05 23 51.7 +0.6
F10A Beach Ranch, E 33.97 80 P P 05 23 56.2 +1.6
F10A IAmb IAmb 05 24 21.3
comp=Z,16nm,1.5s
J08A Circle Bar Ran 34.59 84 P P 05 24 00.1 +0.2
J08A IAmb IAmb 05 24 23.5
comp=Z,12nm,1.2s
MSO Missoula 35.52 76 P P 05 24 09.0 +1.0
baz=300
MSO Missoula 35.52 76 P P 05 24 08.5 +0.5
MSO IAmb IAmb 05 24 24.4
comp=Z,21nm,1.5s
MFID Camas Ranch 36.17 82 P P 05 24 14.2 +0.6
KLR Kul'dur 36.55 289 P P 05 24 14.5 -2.0
comp=Z,3.7nm,0.6s,baz=61,slow=7.3,SNR=13
HRY Holter Researc 36.83 75 P P 05 24 19.6 +0.4
HLID Hailey 36.95 81 P P 05 24 20.7 +0.4
baz=303,SNR=5.8
HLID Hailey 36.95 81 P P 05 24 22.1 +1.9
BCYI Bear Canyon 37.15 80 P P 05 24 22.6 +0.6
MCMT McKenzie Canyo 37.20 79 P P 05 24 21.8 -0.7
RYN Ryan 37.32 91 P P 05 24 22.3 -1.1
EGMT Eagleton 37.40 72 P P 05 24 24.8 +0.9
baz=299,SNR=9.8
EGMT Eagleton 37.40 72 P P 05 24 24.5 +0.6
EGMT IAmb IAmb 05 24 46.8
comp=Z,14nm,0.9s
H11N2 WAKE ISLAND Hy 37.48 219 T T 06 03 36.1
baz=18,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 37.48 219 T T 06 03 40.0
baz=18,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 37.49 219 T T 06 03 33.3
baz=18,slow=76,SNR=34
BOZ Bozeman (W) 37.53 77 P P 05 24 25.8 +0.6
baz=302,SNR=5.2
BOZ Bozeman (W) 37.53 77 IAmb IAmb 05 24 40.7
comp=Z,11nm,1.3s
NVAR Mina Array Bea 37.58 91 P P 05 24 26.8 +1.1
comp=Z,0.3nm,0.4s,baz=307,slow=6.7,SNR=2.8
ELK Elko 38.05 86 P P 05 24 32.4 +2.6
comp=Z,1.0nm,0.7s,baz=306,slow=12,SNR=3.6
ELK Elko 38.05 86 P P 05 24 30.8 +1.1
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 38.05 86 P P 05 24 30.8 +1.1
ELK IAmb IAmb 05 24 53.0
comp=Z,10.0nm,1.2s
YMR Madison River 38.42 78 IAmb IAmb 05 25 00.8
comp=Z,8.6nm,0.9s
YHH Holmes Hill 38.42 77 P P 05 24 32.4 -0.4
YHH IAmb IAmb 05 24 49.1
comp=Z,22nm,1.3s
YNR Norris Junctio 38.57 77 P P 05 24 35.9 +1.9
YNR IAmb IAmb 05 24 51.4
comp=Z,15nm,1.2s
H11S1 WAKE ISLAND Hy 38.66 218 T T 06 05 08.0
baz=23,slow=74,SNR=13
FFC Flin Flon 38.67 59 P P 05 24 35.0 +0.6
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 38.67 59 P P 05 24 35.0 +0.6
H11S2 WAKE ISLAND Hy 38.68 218 T T 06 05 12.5
baz=23,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 38.68 218 T T 06 05 11.1
baz=23
VES Vestal, Richgr 38.76 95 P P 05 24 37.4 +2.0
baz=311
JSD Sado 38.79 270 P P 05 24 34.9 -0.8
JSD IAmb IAmb 05 24 36.1
comp=Z,17nm,0.9s
H17A Grant Village 38.80 78 P P 05 24 38.6 +2.6
baz=303
H17A Grant Village 38.80 78 IAmb IAmb 05 24 53.4
comp=Z,11nm,1.1s
YNE Yellowstone No 38.81 77 P P 05 24 37.1 +1.0
IMW Indian Meadow 38.86 79 P P 05 24 37.9 +1.4
FLWY Flagg Ranch 38.90 78 P P 05 24 38.1 +1.3
TPAW Teton Pass 39.08 79 P P 05 24 39.8 +1.4
RLMT Red Lodge 39.19 76 P P 05 24 40.1 +1.0
baz=303,SNR=8.4
RLMT Red Lodge 39.19 76 P P 05 24 40.8 +1.6
RLMT IAmb IAmb 05 25 00.8
comp=Z,10.0nm,0.9s
REDW Red Top Meadow 39.21 79 P P 05 24 41.8 +2.4
REDW IAmb IAmb 05 24 55.7
comp=Z,10nm,1.1s
ISA Isabella, Lake 39.25 95 P P 05 24 39.1 -0.6
baz=311
BGU Big Grassy Mou 39.30 84 P P 05 24 41.0 +1.0
MAT Matsushiro 39.78 268 P P 05 24 43.4 -0.5
MJAR Matsushiro Arr 39.78 268 P P 05 24 43.0 -0.9
comp=Z,2.9nm,0.7s,baz=57,slow=6.8,SNR=6.3
MJAR Matsushiro Arr 39.78 268 P P 05 24 44.0 +0.1
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR Matsushiro Arr 39.78 268 P P 05 24 44.0 +0.1
DUG Dugway, Tooele 39.87 85 P P 05 24 45.2 +0.4
baz=307
DUG Dugway, Tooele 39.87 85 IAmb IAmb 05 25 07.9
comp=Z,13nm,1.1s
PRN Pahroc Range 40.22 90 P P 05 24 49.4 +1.6
PRN IAmb IAmb 05 25 09.4
comp=Z,9.7nm,1.0s
BW06 Boulder Array 40.33 79 P P 05 24 49.4 +0.7
baz=305,SNR=11
BW06 Boulder Array 40.33 79 P P 05 24 49.7 +1.0
BW06 IAmb IAmb 05 25 03.0
comp=Z,11nm,1.1s
PDAR Pinedale Array 40.33 79 P P 05 24 50.0 +1.3
comp=Z,5.1nm,0.7s,baz=305,slow=3.6,SNR=37
PDAR Pinedale Array 40.33 79 P P 05 24 50.0 +1.3
MSHR Mys Shultsa 40.40 281 ⇑iP P 05 24 47.9 -1.0
MSHR pmax pmax
comp=Z,14nm,1.2s
NLU North Lily Min 40.46 84 P P 05 24 50.4 +0.6
GSC Goldstone, Bar 40.51 94 P P 05 24 51.3 +1.2
baz=312
FCC Fort Churchill 40.90 50 P P 05 24 54.1 +1.2
FCC pmax pmax
comp=Z,40nm,0.9s
FCC Fort Churchill 40.90 50 P P 05 24 54.1 +1.2
TCRU Three Creeks R 41.06 86 P P 05 24 54.8 0.0
TCRU IAmb IAmb 05 25 00.7
comp=Z,6.6nm,0.4s
INU Inuyama 41.29 268 P P 05 24 57.3 +0.9
INU IAmb IAmb 05 25 11.6
comp=Z,9.6nm,0.9s
TMUT Trail Mountain 41.39 85 P P 05 24 58.9 +1.3
TMUT IAmb IAmb 05 25 20.9
comp=Z,14nm,1.0s

P17A Butcher Ranch, 41.57 84 P P 05 25 00.8 +1.9
LCMT Little Creek M 41.58 89 P P 05 24 59.9 +0.9
RDMU Red Mountain 41.62 82 P P 05 25 01.1 +1.8
RDMU IAmb IAmb 05 25 15.0
comp=Z,23nm,1.2s
PFO Pinyon Flats O 41.85 95 P P 05 25 02.4 +1.2
baz=313
SRU San Rafael Swe 41.92 84 P P 05 25 03.8 +2.0
SRU pmax pmax
comp=Z,15nm,1.1s
SRU San Rafael Swe 41.92 84 P P 05 25 03.8 +2.0
SRU IAmb IAmb 05 25 25.0
comp=Z,15nm,1.1s
BOD Bodaibo 42.08 309 eP P 05 25 00.9 -1.7
BOD pmax pmax
comp=Z,18nm,0.9s
K22A Casper 42.22 77 P P 05 25 03.1 -1.0
baz=306
K22A Casper 42.22 77 P P 05 25 04.0 -0.1
K22A IAmb IAmb 05 25 24.7
comp=Z,13nm,1.3s
U15A North Rim 42.54 89 P P 05 25 09.0 +2.0
O20A White River Ci 42.69 81 P P 05 25 08.8 +0.8
baz=308,SNR=13
O20A White River Ci 42.69 81 P P 05 25 09.2 +1.2
O20A IAmb IAmb 05 25 10.1
comp=Z,17nm,0.8s
RSSD Black Hills 42.85 74 P P 05 25 09.6 +0.3
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 42.85 74 P P 05 25 09.4 +0.1
baz=305
RSSD Black Hills 42.85 74 P P 05 25 09.6 +0.3
CN2 Changchun 43.10 286 eP P 05 25 08.8 -2.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
PV14 Lion Creek, Pa 43.30 84 P P 05 25 14.3 +1.2
MDND Maddock 43.33 67 P P 05 25 13.1 +0.2
baz=303
MDND Maddock 43.33 67 P P 05 25 13.8 +1.0
PV22 Blue Mesa, Par 43.34 84 P P 05 25 14.7 +1.3
PV22 IAmb IAmb 05 25 37.6
comp=Z,16nm,1.1s
PV20 West Nyswonger 43.36 84 P P 05 25 13.0 -0.5
PV20 IAmb IAmb 05 25 34.6
comp=Z,9.1nm,0.8s
PV04 Paradox Valley 43.36 84 IAmb IAmb 05 25 34.3
comp=Z,10nm,0.8s
PV19 Morning Glory 43.37 84 IAmb IAmb 05 25 35.8
comp=Z,13nm,1.1s
PV17 East Wray Mesa 43.40 84 IAmb IAmb 05 25 35.5
comp=Z,19nm,1.1s
PV16 Nyswonger Mesa 43.41 84 IAmb IAmb 05 25 35.0
comp=Z,10nm,0.9s
PV11 David Mesa, Pa 43.44 84 IAmb IAmb 05 25 36.0
comp=Z,20nm,0.9s
PV05 Paradox Valley 43.44 84 IAmb IAmb 05 25 36.3
comp=Z,12nm,0.9s
PV18 Skein Mesa, Pa 43.45 84 IAmb IAmb 05 25 36.0
comp=Z,15nm,0.8s
PV12 Saucer Basin, 43.47 84 IAmb IAmb 05 25 38.0
comp=Z,14nm,1.0s
PV03 Paradox Valley 43.48 84 IAmb IAmb 05 25 35.7
comp=Z,10.0nm,0.8s
PV07 Paradox Valley 43.49 84 IAmb IAmb 05 25 37.5
comp=Z,10nm,0.9s
PV02 Paradox Valley 43.58 84 IAmb IAmb 05 25 37.2
comp=Z,18nm,1.0s
N23A Red Feather La 43.61 79 P P 05 25 16.7 +1.1
baz=307
PV15 Paradox Valley 43.65 84 IAmb IAmb 05 25 37.5
comp=Z,10nm,0.9s
WUAZ Wupatki 43.70 89 P P 05 25 16.8 +0.6
PV01 Paradox Valley 43.73 84 P P 05 25 17.8 +1.2
PV01 IAmb IAmb 05 25 37.7
comp=Z,12nm,0.9s
ULM Lac du Bonnet 44.09 62 P P 05 25 19.2 +0.2
comp=Z,4.7nm,0.9s,baz=290,slow=9.8,SNR=4.6
ULM Lac du Bonnet 44.09 62 P P 05 25 19.5 +0.5
ULM pmax pmax
comp=Z,7.0nm,1.0s
ULM Lac du Bonnet 44.09 62 P P 05 25 19.5 +0.5
MVCO Mesa Verde 44.36 85 P P 05 25 21.4 -0.2
baz=310
X16A Lo Mia Camp, P 44.39 90 P P 05 25 21.5 -0.3
ISCO Idaho Springs 44.48 80 P P 05 25 23.5 +0.9
baz=308
S22A 4UR Ranch, Cre 45.04 83 P P 05 25 29.0 +2.0
baz=310
AGMN Agassiz Nation 45.17 64 P P 05 25 27.8 +0.2
baz=304
AGMN Agassiz Nation 45.17 64 P P 05 25 28.3 +0.7
AGMN IAmb IAmb 05 25 49.4
comp=Z,13nm,1.1s
KSRS Korea Array 45.49 277 P P 05 25 29.9 -0.3
comp=Z,3.2nm,0.8s,baz=56,slow=7.2,SNR=16
KSAR Wonju Array Be 45.52 277 P P 05 25 29.8 -0.7
KSAR Wonju Array Be 45.52 277 P P 05 25 29.8 -0.7
SUSD Miller 45.63 71 P P 05 25 31.8 +0.5
baz=306
SUSD Miller 45.63 71 P P 05 25 32.5 +1.2
SDCO Great Sand Dun 45.85 82 P P 05 25 32.4 -1.1
baz=310,SNR=6.9
SDCO Great Sand Dun 45.85 82 P P 05 25 35.0 +1.5
SDCO IAmb IAmb 05 25 54.7
comp=Z,6.7nm,1.0s
B35A Bob, Littlefor 46.31 63 P P 05 25 36.8 +0.1
B35A IAmb IAmb 05 25 37.2
comp=Z,7.6nm,0.6s
NRIK Noril'sk 46.49 332 P P 05 25 36.1 -1.6
comp=Z,17nm,1.2s,baz=37,slow=5.1,SNR=2.0
NRIK Noril'sk 46.49 332 ⇓iP P 05 25 37.5 -0.3
NRIK pmax pmax
comp=Z,12nm,1.3s
TJN Taejon 46.53 276 ⇑iP P 05 25 38.2 -0.2
JNU Nakatsue 46.55 270 P P 05 25 38.4 -0.3
comp=Z,13nm,0.9s,baz=236,slow=3.6,SNR=4.8
KSCO Kaye Shedlock' 46.78 79 P P 05 25 41.2 +0.6
baz=309
T25A Trinidad 46.90 82 P P 05 25 42.1 +0.5
baz=310,SNR=10
T25A Trinidad 46.90 82 P P 05 25 42.8 +1.1
ANMO Albuquerque 47.09 86 P P 05 25 44.0 +0.9
comp=Z,1.0nm,0.8s,baz=311,slow=17,SNR=2.7
ANMO PcP **PcP 05 27 15.2 +0.4**
comp=Z,1.7nm,0.9s,baz=290,slow=5.9,SNR=4.8
ANMO Albuquerque 47.09 86 P P 05 25 43.8 +0.7
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 47.09 86 P P 05 25 43.8 +0.7
baz=312
ANMO Albuquerque 47.09 86 P P 05 25 43.8 +0.7
ECSD EROS Data Cent 47.41 70 P P 05 25 44.6 -0.7
baz=307,SNR=5.6
ECSD EROS Data Cent 47.41 70 P P 05 25 45.1 -0.1
ECSD IAmb IAmb 05 25 57.6
comp=Z,6.1nm,1.0s
EYMN Ely 47.77 63 P P 05 25 47.6 -0.5
baz=306,SNR=5.5
EYMN Ely 47.77 63 P P 05 25 48.2 +0.1
EYMN IAmb IAmb 05 25 49.3
comp=Z,8.7nm,1.1s
F36A Milaca 47.88 66 IAmb IAmb 05 26 08.5
comp=Z,9.9nm,1.3s
121A Cookes Peak, D 47.91 89 P P 05 25 49.7 +0.2
baz=313
E38A The Farm, Brul 48.53 64 IAmb IAmb 05 25 59.7
comp=Z,8.6nm,0.8s
L34A Svendsen Farm, 48.63 72 P P 05 25 54.8 +0.1
CBKS Cedar Bluff 48.64 77 P P 05 25 55.2 +0.3
baz=310
SPMN Marine on St. 48.67 66 P P 05 25 54.0 -1.0
baz=307
SPMN Marine on St. 48.67 66 IAmb IAmb 05 26 15.4
comp=Z,6.5nm,0.9s
R32A Long Quarter, 49.51 77 P P 05 26 01.8 +0.3
SPITS Spitsbergen Ar 49.71 358 P P 05 26 01.9 -0.6
comp=Z,5.7nm,0.8s,baz=50,slow=5.5,SNR=7.9
SPITS Spitsbergen Ar 49.71 358 P P 05 26 02.9 +0.4
SPITS pmax pmax
comp=Z,18nm,1.2s
N35A Tabor 49.76 72 P P 05 26 03.7 +0.3
DAG Danmarks Havn 49.81 9 iP P 05 26 03.1 -0.3
DAG IAmb IAmb 05 26 04.1
comp=Z,7.4nm,0.9s
DAG Danmarks Havn 49.81 9 iP P 05 26 03.0 -0.3

DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 49.81 9 *i* P **P 05 26 02.0 -1.3**
MNTX Cornudas Mount 49.96 88 P **P 05 26 05.7 +0.6**
baz=314,SNR=8.6
MNTX Cornudas Mount 49.96 88 P **P 05 26 05.6 +0.6**
MNTX IAmb IAmb 05 26 25.6
comp=Z,5.4nm,0.8s
MSTX Muleshoe 50.00 84 P **P 05 26 06.0 +0.6**
baz=313
AMTX Amarillo 50.05 82 P **P 05 26 06.7 +1.0**
baz=312
G40A Rib Lake 50.10 65 P **P 05 26 05.8 -0.1**
G40A IAmb IAmb 05 26 07.8
comp=Z,5.4nm,0.9s
COWI Conover 50.17 63 P **P 05 26 06.2 -0.3**
COWI IAmb IAmb 05 26 07.4
comp=Z,13nm,1.4s
K38A Parkersburg 50.29 69 P **P 05 26 07.5 +0.1**
K38A IAmb IAmb 05 26 25.4
comp=Z,12nm,0.9s
KSU1 Kansas State U 50.32 75 P **P 05 26 07.0 -0.6**
KSU1 IAmb IAmb 05 26 08.7
comp=Z,9.9nm,0.8s
SCIA State Center 50.50 70 P **P 05 26 09.2 +0.2**
baz=310
SCIA State Center 50.50 70 P **P 05 26 08.7 -0.3**
SCIA IAmb IAmb 05 26 10.1
comp=Z,9.9nm,0.7s
SUMG Summit 50.79 17 *i* P **P 05 26 11.8 +0.5**
SUMG IAmb IAmb 05 26 12.5
comp=Z,9.6nm,0.9s
SUMG Summit 50.79 17 P **P 05 26 11.7 +0.5**
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 50.79 17 P **P 05 26 11.7 +0.5**
BJT Baijiatuau 50.88 287 P **P 05 26 11.3 -0.6**
BJT pmax pmax
comp=Z,5.0nm,0.7s
BJT Baijiatuau 50.88 287 P **P 05 26 11.3 -0.6**
BJT IAmb IAmb 05 26 12.1
comp=Z,4.9nm,0.7s
ULN Ulaanbaatar 51.02 301⇑ *i* P **P 05 26 12.3 -0.7**
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN Ulaanbaatar 51.02 301 P **P 05 26 12.7 -0.3**
E43A Lone Tree Farm 51.16 62 P **P 05 26 14.1 +0.2**
E43A IAmb IAmb 05 26 14.7
comp=Z,5.8nm,0.7s
N38A Joes South For 51.20 71 P **P 05 26 14.1 -0.2**
SONM Songino Array 51.39 301 P **P 05 26 15.2 -0.6**
comp=Z,8.8nm,1.1s,baz=59,slow=6.3,SNR=19
SONM PcP **PcP 05 27 30.9 +0.7**
comp=Z,2.2nm,0.8s,baz=55,slow=1.2,SNR=4.3
SONM Songino Array 51.39 301 P **P 05 26 15.7 -0.1**
SONM pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 51.39 301 P **P 05 26 15.7 -0.1**
ZAK Zakamensk 51.41 305 *e*P **P 05 26 14.3 -1.5**
ZAK *e* 05 29 07.6
ZAK pmax pmax
comp=Z,9.0nm,1.5s
L40A Anamosa 51.54 68 P **P 05 26 16.6 -0.2**
L40A IAmb IAmb 05 26 34.5
comp=Z,16nm,1.1s
JFWS Jewell Farm 51.55 67 P **P 05 26 16.4 -0.5**
JFWS pmax pmax
comp=Z,13nm,1.2s
JFWS Jewell Farm 51.55 67 P **P 05 26 15.8 -1.1**
baz=310
JFWS Jewell Farm 51.55 67 P **P 05 26 16.4 -0.5**
JFWS IAmb IAmb 05 26 29.5
comp=Z,13nm,1.1s
I42A Draeger Farm, 51.68 65 P **P 05 26 17.8 0.0**
I42A IAmb IAmb 05 26 18.1
comp=Z,6.0nm,0.7s
T35A Sooner Cattle 51.81 77 IAmb IAmb 05 26 31.5
comp=Z,11nm,1.1s
WMOK Wichita Mounta 51.91 80 P **P 05 26 19.4 -0.2**
baz=313,SNR=9.4
WMOK Wichita Mounta 51.91 80 P **P 05 26 20.0 +0.4**
WMOK IAmb IAmb 05 26 21.2
comp=Z,6.7nm,0.8s
DBG Daneborg 51.93 10 *i* P **P 05 26 18.6 -0.6**
DBG IAmb IAmb 05 26 19.3
comp=Z,8.0nm,0.9s
H43A Windswept, Lux 51.94 64 P **P 05 26 19.2 -0.5**
H43A IAmb IAmb 05 26 20.5
comp=Z,8.4nm,0.8s
OK031 S. Brethren Rd 52.26 78 P **P 05 26 22.6 +0.4**
FNO Franklin 52.39 79 P **P 05 26 23.9 +0.7**
TX31 Lajitas Ar. Si 52.66 89 P **P 05 26 26.3 +0.9**
TX32 Lajitas Array 52.66 89 P **P 05 26 26.3 +0.9**
TX32 IAmb IAmb 05 26 50.6
comp=Z,7.5nm,1.1s
TXAR Lajitas Array 52.67 89 P **P 05 26 26.6 +1.1**
comp=Z,2.6nm,0.8s,baz=298,slow=5.2,SNR=23
TXAR Lajitas Array 52.67 89 P **P 05 26 26.3 +0.9**
TUL1 Leonard 52.91 77 P **P 05 26 27.0 -0.1**
baz=312
HHC Hu-ho-hao-te 53.01 291 *e*P **P 05 26 28.3 +0.4**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,7μm,5.7s
ICESG Greenland Ices 53.38 20 *i* P **P 05 26 30.1 -0.3**
ICESG IAmb IAmb 05 26 30.9
comp=Z,7.6nm,0.8s
R40A Maddies Statio 53.41 73 P **P 05 26 29.6 -1.1**
R40A IAmb IAmb 05 26 30.1
comp=Z,7.3nm,0.8s
GLMI Grayling 53.44 62 P **P 05 26 31.1 +0.3**
baz=310
HDIL Hopedale 53.63 69 P **P 05 26 31.2 -1.1**
baz=311,SNR=6.9
HDIL Hopedale 53.63 69 P **P 05 26 31.8 -0.5**
HHAR Hobbs 53.77 76 P **P 05 26 32.9 -0.4**
MATQ Matagami 53.85 53 P **P 05 26 33.2 -0.5**
baz=311,SNR=6.9
X37A Clayton 54.06 78 IAmb IAmb 05 26 36.6
comp=Z,9.2nm,0.8s
P43A Skaggs, Pawnee 54.10 70 P **P 05 26 35.7 -0.1**
CCM Cathedral Cave 54.16 72 P **P 05 26 35.2 -1.0**
baz=312
MGMO Mountain Grove 54.17 74 IAmb IAmb 05 26 35.8
comp=Z,10nm,0.9s
JCT Junction City 54.22 85 P **P 05 26 37.3 +0.5**
JCT pmax pmax
comp=Z,9.0nm,1.1s
JCT Junction City 54.22 85 P **P 05 26 36.9 +0.1**
baz=315
JCT Junction City 54.22 85 P **P 05 26 37.3 +0.5**
JCT IAmb IAmb 05 26 51.4
comp=Z,8.8nm,1.1s
U40A Yellville 54.36 75 P **P 05 26 36.3 -1.4**
baz=313,SNR=5.3
U40A Yellville 54.36 75 P **P 05 26 36.6 -1.1**
U40A IAmb IAmb 05 26 37.6
comp=Z,9.9nm,1.0s
WHTX Lake Whitney, 54.60 82 P **P 05 26 40.5 +1.1**
baz=314
WHTX Lake Whitney, 54.60 82 P **P 05 26 40.2 +0.8**
W39A Magazine 54.60 77 P **P 05 26 39.2 -0.3**
baz=313
LSQQ Lebel-sur-Quev 54.63 54 P **P 05 26 39.2 -0.2**
baz=311
NJ2 Nanjing 54.63 278 *e*P **P 05 26 39.8 +0.1**
NJ2 pmax pmax
comp=Z,14nm,0.5s
SFIN Lafayette 54.99 67 P **P 05 26 42.0 -0.2**
baz=312
SFIN Lafayette 54.99 67 P **P 05 26 41.8 -0.4**
SFIN IAmb IAmb 05 26 43.1
comp=Z,9.3nm,0.8s
FCAR Ozark Folk Cen 55.11 75 P **P 05 26 42.0 -1.1**
FCAR IAmb IAmb 05 26 42.9
comp=Z,12nm,0.9s
MIAR Mount Ida 55.17 77 P **P 05 26 43.0 -0.5**
MIAR pmax pmax
comp=Z,21nm,1.3s
MIAR Mount Ida 55.17 77 P **P 05 26 43.4 -0.1**
baz=314,SNR=5.6
MIAR Mount Ida 55.17 77 P **P 05 26 43.0 -0.5**
CHGQ Chibougamau 55.34 52 P **P 05 26 43.1 -1.5**
baz=312,SNR=5.4
435B Jarrell 55.36 83 P **P 05 26 44.1 -0.9**
baz=315
SCHQ Schefferville 55.41 43 P **P 05 26 45.0 0.0**
comp=Z,17nm,0.9s,baz=320,slow=7.5,SNR=15
SCHQ Schefferville 55.41 43 P **P 05 26 44.8 -0.2**
N47A Urbana 55.45 66 P **P 05 26 45.0 -0.4**
N47A IAmb IAmb 05 26 57.4
comp=Z,12nm,0.9s
W41B Gary Mavity, V 55.53 76 P **P 05 26 45.2 -0.9**
baz=314
OLIL Olney 55.53 70 P **P 05 26 45.3 -0.7**
X40A Basin Creek Fa 55.65 77 P **P 05 26 46.2 -0.9**
baz=314
833A Chaparral WMA, 56.01 87 P **P 05 26 49.6 0.0**
baz=316
ALGO Algonquin Park 56.16 57 P **P 05 26 50.3 -0.2**
baz=312,SNR=8.4
USIN University of 56.30 70 P **P 05 26 51.6 0.0**
NATX Nacogdoches 56.45 80 P **P 05 26 53.0 +0.2**
baz=315
Z41A Richland Creek 56.52 78 P **P 05 26 54.1 +0.8**
baz=314
P48A Milroy 56.56 67 IAmb IAmb 05 26 53.4
comp=Z,8.1nm,0.8s
CCAR Cane Creek 56.68 76 P **P 05 26 54.6 +0.3**
WCI Wyandotte Cave 56.91 69 P **P 05 26 55.5 -0.4**
baz=313
P49A Miami Univ. Ec 56.91 67 P **P 05 26 54.7 -1.3**
baz=313
P49A Miami Univ. Ec 56.91 67 P **P 05 26 55.3 -0.7**
P49A IAmb IAmb 05 26 55.9
comp=Z,11nm,0.8s
HKT Hockley 57.02 83 P **P 05 26 58.1 +1.4**
T47A Sharon Grove 57.30 70 P **P 05 26 58.9 +0.2**
DELO Deloro Mine 57.36 58 IAmb IAmb 05 27 01.4
comp=Z,13nm,1.1s
ACSO Alum Creek Sta 57.41 65 P **P 05 26 58.8 -0.7**
baz=313
WVT Waverly 57.47 72 P **P 05 26 59.4 -0.5**
baz=314
ZALV Zalesovo Beam 57.51 318 P **P 05 26 59.5 -0.4**
comp=Z,1.5nm,0.6s,baz=38,slow=7.5,SNR=4.7
ZALV PcP **PcP 05 27 53.1 -0.2**
comp=Z,1.0nm,0.5s,baz=48,slow=2.1,SNR=3.7
ZALV Zalesovo Beam 57.51 318 P **P 05 26 59.9 -0.1**
OXF Oxford 57.67 74 P **P 05 27 00.9 -0.5**
baz=314
ERPA Erie 57.75 62 P **P 05 27 01.3 -0.5**
baz=314
LATQ La Tuque 57.83 53 P **P 05 27 02.1 -0.3**
baz=314
LATQ La Tuque 57.83 53 P **P 05 27 02.0 -0.3**
M53A WI Miller and 57.85 63 P **P 05 27 02.8 +0.3**
baz=314
ARCES ARCESS Array B 57.97 354 P **P 05 27 02.2 -0.7**
comp=Z,2.7nm,0.7s,baz=19,slow=7.9,SNR=9.4
ARCES PcP **PcP 05 27 53.5 -1.4**
comp=Z,6.4nm,0.8s,baz=352,slow=5.9,SNR=5.7
R50A Paris 57.99 68 P **P 05 27 03.4 -0.2**
R50A IAmb IAmb 05 27 04.5
comp=Z,11nm,0.9s
Q51A Peebles 58.03 66 P **P 05 27 03.9 0.0**
Q51A IAmb IAmb 05 27 31.5
comp=Z,11nm,0.9s
J55A Hilton 58.12 59 IAmb IAmb 05 27 09.8
comp=Z,8.2nm,0.9s
O52A Adamsville 58.12 64 P **P 05 27 04.0 -0.5**
O52A IAmb IAmb 05 27 18.2
comp=Z,12nm,1.1s
PLAL Pickwick Lake 58.12 73 P **P 05 27 03.2 -1.4**
PLAL IAmb IAmb 05 27 05.0
comp=Z,11nm,0.9s
M54A Oil Creek Stat 58.35 62 P **P 05 27 05.9 -0.2**
baz=314
CLTN Cedars of Leba 58.37 71 IAmb IAmb 05 27 07.2
comp=Z,7.6nm,1.0s
O53A New Philadelph 58.37 64 P **P 05 27 05.5 -0.7**
baz=314
U49A Red Boiling Sp 58.39 70 P **P 05 27 06.2 -0.2**
U49A IAmb IAmb 05 27 18.3
comp=Z,15nm,1.4s
N54A Moraine State 58.55 63 P **P 05 27 06.1 -1.4**
baz=314
H57A Richville 58.55 57 P **P 05 27 06.8 -0.6**
baz=314,SNR=6.4
J56A Wolcott 58.62 59 P **P 05 27 07.9 0.0**
J56A IAmb IAmb 05 27 10.3
comp=Z,8.1nm,1.0s
LVZ Lovozero 58.77 350⇓ *i* P **P 05 27 08.0 -0.6**
LVZ pmax pmax
comp=Z,30nm,0.8s
K56A Middlesex 58.77 59 P **P 05 27 09.2 +0.2**
baz=314
I57A Carthage 58.78 57 P **P 05 27 09.0 0.0**
baz=314,SNR=9.6
LONY Lake Ozonia 58.86 56 P **P 05 27 09.4 -0.2**
baz=314,SNR=5.6
LONY Lake Ozonia 58.86 56 P **P 05 27 09.2 -0.4**
LONY IAmb IAmb 05 27 11.9
comp=Z,7.3nm,0.8s
LMQ La Malbaie 58.91 51 P **P 05 27 09.5 -0.3**
LMQ IAmb IAmb 05 27 10.3
comp=Z,6.8nm,0.8s
J57A Williamstown 58.97 58 P **P 05 27 10.6 +0.3**
146A Union 59.19 75 P **P 05 27 12.3 +0.2**
H58A Gabriels 59.20 56 P **P 05 27 10.3 -1.7**
baz=315
FRNY Flat Rock 59.21 56 P **P 05 27 11.5 -0.4**
FRNY IAmb IAmb 05 27 12.2
comp=Z,5.3nm,0.8s
D61A St Aubert, Com 59.22 52 P **P 05 27 11.3 -0.6**
baz=315,SNR=6.4
H59A Cadyville 59.29 56 P **P 05 27 11.8 -0.7**
baz=315,SNR=7.2
I58A Old Forge 59.31 57 P **P 05 27 12.3 -0.4**
baz=315,SNR=5.9
J58A Remsen 59.38 58 P **P 05 27 12.9 -0.3**
baz=315,SNR=9.6
J58A Remsen 59.38 58 P **P 05 27 13.7 +0.5**
J58A IAmb IAmb 05 27 19.6
comp=Z,11nm,1.1s
Z47A Carrollton 59.38 74 P **P 05 27 13.3 0.0**
DGZ Jazzator, Alta 59.43 313⇓ *i* P **P 05 27 13.2 -0.4**
DGZ pmax pmax
comp=Z,7.0nm,0.7s
NCB Newcomb 59.50 57 P **P 05 27 14.2 +0.2**
NCB IAmb IAmb 05 27 16.7
comp=Z,7.3nm,0.9s
MCWV Mont Chateau 59.54 64 P **P 05 27 13.2 -1.1**
baz=315
MCWV Mont Chateau 59.54 64 P **P 05 27 14.4 +0.1**
MOQ Mont Orford 59.55 54 P **P 05 27 14.5 +0.1**
TZTN Tazewell 59.65 69 P **P 05 27 14.1 -1.0**
baz=315
I59A Olmsteadville 59.80 57 P **P 05 27 14.8 -1.2**
baz=315
O56A Blue Knob Stat 59.81 62 P **P 05 27 15.5 -0.8**
baz=315
BINY Binghamton 59.83 59 P **P 05 27 14.7 -1.6**
baz=315
BINY Binghamton 59.83 59 P **P 05 27 17.1 +0.8**
BINY IAmb IAmb 05 27 23.1
comp=Z,6.7nm,0.8s
D62A Allapoint, All 59.85 51 P **P 05 27 15.9 -0.5**
baz=316
H60A Morristown 59.85 55 P **P 05 27 14.2 -2.3**
baz=315
SSPA Standing Stone 59.92 62 P **P 05 27 15.6 -1.4**
baz=315
SSPA Standing Stone 59.92 62 P **P 05 27 17.3 +0.4**
SSPA IAmb IAmb 05 27 23.2
comp=Z,9.9nm,1.0s
G61A St-Isidore-de- 59.93 54 P **P 05 27 16.1 -0.9**
baz=315
E62A Clayton Lake 59.95 52 P **P 05 27 15.8 -1.3**
baz=316
L58A Harry Jones Me 60.01 59 P **P 05 27 17.4 -0.2**
baz=315
V52A Sevierville 60.12 69 IAmb IAmb 05 27 18.4
comp=Z,6.3nm,0.8s
F62A Pittston Farm, 60.26 53 P **P 05 27 17.9 -1.3**
baz=316
D63A Stockholm 60.33 51 P **P 05 27 18.1 -1.5**
baz=316
J60A Lant Hill Farm 60.42 57 P **P 05 27 20.3 0.0**
baz=315,SNR=5.4
G62A West of Eustis 60.47 53 P **P 05 27 20.1 -0.5**
baz=316
G62A West of Eustis 60.47 53 P **P 05 27 20.5 -0.1**
LBNH Lisbon 60.47 55 P **P 05 27 21.1 +0.4**
baz=316
GTA Gaotai 60.57 297 *e*P **P 05 27 20.5 -1.1**
GTA pP pP 05 27 25.0 -1.6
GTA sP sP 05 27 27.8 -0.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
H62A Milan 60.62 54 P **P 05 27 21.0 -0.7**
baz=316
E63A Oxbow 60.62 51 P **P 05 27 20.6 -1.1**
baz=316
LZH Lanzhou 60.68 292 *e*P **P 05 27 22.5 +0.1**
LZH pP pwP 05 27 30.5 +0.1
LZH sP sP 05 27 33.8 +4.7
LZH pmax pmax
comp=Z,15nm,1.1s
J61A Chester 60.79 56 P **P 05 27 23.1 +0.2**
baz=316
F63A Nahmakanta, Br 60.81 52 P **P 05 27 22.9 -0.1**
baz=316
N59A State Game Lan 60.85 60 P **P 05 27 23.6 +0.2**
baz=316
E64A Bridgewater 60.91 51 P **P 05 27 23.1 -0.5**
baz=316
K61A Williamstown 60.91 57 P **P 05 27 24.1 +0.4**
baz=316
BLA Blacksburg 60.95 66 P **P 05 27 24.6 +0.5**
BLA pmax pmax
comp=Z,18nm,0.8s
BLA Blacksburg 60.95 66 P **P 05 27 23.7 -0.4**
baz=316,SNR=7.1
BLA Blacksburg 60.95 66 P **P 05 27 24.6 +0.5**
G63A Kingsbury 60.99 53 P **P 05 27 23.7 -0.5**
baz=316
F64A Sherman 61.06 52 P **P 05 27 24.2 -0.5**
baz=316
J62A Henniker 61.26 56 P **P 05 27 25.8 -0.2**
baz=316
250A Grady 61.31 74 P **P 05 27 25.8 -0.7**
K62A Royalston 61.45 56 P **P 05 27 26.7 -0.6**
baz=316
T57A Hurt 61.75 65 P **P 05 27 30.2 +0.7**
GOGA Godfrey 61.92 71 P **P 05 27 30.1 -0.5**
GOGA pmax pmax
comp=Z,18nm,1.8s
GOGA Godfrey 61.92 71 P **P 05 27 30.1 -0.5**
baz=316
GOGA Godfrey 61.92 71 P **P 05 27 30.8 +0.2**
GOGA IAmb IAmb 05 27 48.4
comp=Z,4.6nm,0.9s
HODGE Hodges 62.03 70 P **P 05 27 31.1 -0.2**
HODGE IAmb IAmb 05 27 31.9
comp=Z,6.4nm,0.9s
EMMW East Machias 62.34 52 P **P 05 27 33.8 +0.6**
EMMW IAmb IAmb 05 27 48.5
comp=Z,9.2nm,1.0s
KURK Kurchatov 62.45 318 P **P 05 27 34.2 +0.3**
352A Blakely 62.46 73 P **P 05 27 34.4 +0.1**
KURBB Kurchatov Arra 62.56 318 P **P 05 27 34.2 -0.5**
comp=Z,5.9nm,0.8s,baz=46,slow=7.1,SNR=33
JSC Jenkinsville 62.57 69 P **P 05 27 35.2 +0.3**
JSC pmax pmax
comp=Z,13nm,1.0s
JSC Jenkinsville 62.57 69 P **P 05 27 35.2 +0.3**
L64A Middleborough 62.69 56 P **P 05 27 36.1 +0.5**
baz=317
V58A Windy Hill, Pi 62.70 66 IAmb IAmb 05 27 36.9
comp=Z,11nm,1.0s
LMN Caledonia Moun 62.75 50 P **P 05 27 36.7 +0.6**
M64A Tiverton 62.78 57 P **P 05 27 36.3 +0.1**
baz=317
WMQ Urumqi 63.62 308 *e*P **P 05 27 44.5 +2.6**
BVAR Borovoye Array 63.78 324 P **P 05 27 41.5 -1.2**
comp=Z,4.2nm,0.6s,baz=224,slow=4.1,SNR=17
BRVK Borovoye 63.79 325⇓ *i* P **P 05 27 41.8 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 63.79 325 P **P 05 27 42.8 +0.1**
BRVK IAmb IAmb 05 27 44.0
comp=Z,6.7nm,1.1s
MK31 Makanchi Array 63.89 313 P **P 05 27 42.8 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 63.89 313 P **P 05 27 42.8 -0.8**
MKAR Makanchi Array 63.89 313 P **P 05 27 42.1 -1.4**
comp=Z,3.0nm,0.7s,baz=51,slow=6.1,SNR=17
MKAR Makanchi Array 63.89 313 P **P 05 27 42.5 -1.1**
MKAR Makanchi Array 63.89 313 P **P 05 27 42.5 -1.1**
NHSC New Hope 64.04 69 P **P 05 27 45.2 +0.5**
baz=317
CD2 Chengdu 64.46 288 P **P 05 27 47.0 -0.6**
CD2 pmax pmax
comp=Z,30nm,1.0s
GBN Guysborough 64.61 48 P **P 05 27 49.2 +1.0**
ARU Arti 64.69 333 P **P 05 27 47.6 -1.0**
comp=Z,1.1nm,0.4s,baz=36,slow=4.4,SNR=5.6
ARU Arti 64.69 333 *c i* P **P 05 27 47.8 -0.8**
ARU 05 30 10.2
ARU S **S 05 36 28.2 +0.7**
ARU SS **SS 05 40 39.8 +2.4**
ARU pmax pmax
comp=Z,11nm,1.1s
ARU Arti 64.69 333 P **P 05 27 48.1 -0.5**
ARU IAmb IAmb 05 27 49.7
comp=Z,9.7nm,1.1s
KLMR Klimovskoe 64.84 345 *e*P **P 05 27 46.3 -3.2**
KLMR pmax pmax
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 64.84 345 AMP 05 27 52.3
comp=Z,9.0nm,1.0s
KLMR Klimovskoe 64.84 345 *e*P **P 05 27 46.4 -3.1**
FIA1 FINESS Array S 65.92 352 P **P 05 27 55.8 -0.7**
FINES FINESS Array B 65.92 352 P **P 05 27 55.7 -0.7**
comp=Z,6.5nm,0.6s,baz=21,slow=8.3,SNR=18
GYA Guiyang 66.02 283 P **P 05 27 58.0 +0.2**
GYA pP pwP 05 28 16.3 +10
GYA pmax pmax
comp=Z,4.0nm,1.0s
NC204 NORSAR Array S 66.74 0 P **P 05 28 01.9 0.0**
NC405 NORSAR Array S 66.90 359 P **P 05 28 01.8 -1.0**
NB2 NORSAR Subarra 66.98 360 P **P 05 28 03.0 -0.3**
comp=Z,2.4nm,0.7s,baz=359,slow=6.2
NOA NORSAR Array B 66.98 360 P **P 05 28 03.0 -0.3**
comp=Z,4.2nm,0.8s,baz=0.3,slow=6.3,SNR=12
NOA NORSAR Array B 66.98 360 P **P 05 28 03.0 -0.3**
KMI Kunming 69.36 285⇑ P **P 05 28 19.3 +0.3**
KMI pP pwP 05 28 29.5 +2.5
KMI sP PcP 05 28 34.5 -8.0
KMI pmax pmax
comp=Z,21nm,1.1s
BOOM Boomskoye usch 70.07 314 P **P 05 28 23.3 +0.1**
BOOM pmax pmax
comp=Z,9.0nm,0.8s
BOOM Boomskoye usch 70.07 314 P **P 05 28 23.3 +0.1**
BOOM IAmb IAmb 05 28 24.0
comp=Z,9.3nm,0.8s
AKTO Aktyubinsk 70.08 330 P **P 05 28 22.1 -0.8**
comp=Z,5.5nm,0.7s,baz=28,slow=6.6,SNR=10.0
ABKAR Akbulak array 70.51 328 P **P 05 28 25.2 -0.2**
ABKAR IAmb IAmb 05 28 26.6
comp=Z,12nm,1.2s
AAK Ala-Archa 70.58 315 P **P 05 28 26.9 +0.7**
comp=Z,3.2nm,0.4s,baz=75,slow=5.3,SNR=5.7
AAK Ala-Archa 70.58 315 IAmb IAmb 05 28 27.0
comp=Z,8.9nm,0.8s
KK31 Karatay Array 71.87 318 P **P 05 28 33.0 -0.9**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 71.87 318 P **P 05 28 33.0 -0.9**
KK31 IAmb IAmb 05 28 34.1
comp=Z,7.6nm,1.0s
KKAR Karatay Array 71.87 318 P **P 05 28 33.0 -0.9**
KKAR Karatay Array 71.87 318 P **P 05 28 32.9 -0.9**
KKAR Karatay Array 71.87 318 P **P 05 28 33.0 -0.9**
KKAR IAmb IAmb 05 28 34.1
comp=Z,7.6nm,1.0s
PABE Paberze 71.97 352 P **P 05 28 33.9 -0.2**
LSA Lhasa 72.54 296 P **P 05 28 39.2 +0.6**
LSA pmax pmax
comp=Z,19nm,1.0s
LSA Lhasa 72.54 296 P **P 05 28 39.2 +0.6**
MNK Minsk 72.58 350 *i* P **P 05 28 38.1 +0.3**
MNK *i* 05 28 55.4
MNK *i* 05 31 19.3

MNK *i* PPP PPP 05 33 03.5
MNK *i* S **S** **05 38 00.2 -1.0**
MNK *i* 05 38 43.9
MNK *i* SS **SS** **05 42 42.4 +3.4**
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,17nm,1.0s
MNK MLR MLR
comp=Z,7μm,20.0s
MNK MLR MLR
comp=E,263nm,14.0s
MNK MLR MLR
comp=N,9μm,21.0s
MNK Minsk 72.58 350 *i* P **P** **05 28 38.1 +0.3**
comp=E,3.0nm,0.8s
MNK *i* P **P** **05 28 38.1 +0.3**
comp=N,17nm,1.0s
MNK *i* P **P** **05 28 38.1 +0.3**
comp=Z,24nm,0.8s,baz=191
MNK *i* PcP **PcP** **05 28 55.4 0.0**
MNK *i* PP **PP** **05 31 19.4 +0.8**
MNK *i* PPP PPP 05 33 03.5
MNK *i* S **S** **05 38 00.3 -1.0**
MNK *i* SS **SS** **05 42 42.5 +3.5**
MNK *i* SSS SSS 05 46 02.7
MNK *i* LQ LQ 05 55 12.8
MNK *i* LR LR 06 01 09.4
MNK *i* LRM MLR 06 02 44.8
comp=E,263nm,13.6s
MNK *i* LRM MLR 06 02 44.8
comp=Z,7μm,20.4s
MNK *i* LRM MLR 06 03 01.8
comp=N,9μm,21.2s
BTK Batken 74.27 316 P **P** **05 28 48.1 -0.1**
BTK pmax pmax
comp=Z,14nm,1.0s
BTK Batken 74.27 316 P **P** **05 28 48.1 -0.1**
BTK IAmb IAmb 05 28 48.9
comp=Z,14nm,1.0s
SHL Shillong 75.33 293 P **P** **05 28 53.5 -1.1**
SHL pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 75.33 293 P **P** **05 28 53.5 -1.1**
GAR Garm 75.37 316 P **P** **05 28 54.7 +0.1**
AKASG Malin Array Be 76.16 348 P **P** **05 28 57.5 -1.2**
comp=Z,7.6nm,0.8s,baz=16,slow=5.8,SNR=13
CMMT Chiang Mai 76.43 283 P **P** **05 29 00.9 +0.1**
comp=Z,17nm,1.5s
CMMT Chiang Mai 76.43 283 P **P** **05 29 00.9 +0.1**
comp=Z,17nm,1.5s
CHTO Chiang Mai 76.43 283 P **P** **05 29 00.5 -0.3**
CHTO pmax pmax
comp=Z,38nm,1.5s
CHTO Chiang Mai 76.43 283 P **P** **05 29 00.9 +0.1**
comp=Z,17nm,1.5s
CHTO Chiang Mai 76.43 283 P **P** **05 29 00.5 -0.3**
CM09 Chiang Mai Arr 76.69 283 P **P** **05 29 04.4 +2.2**
comp=Z,16nm,1.1s
CM09 Chiang Mai Arr 76.69 283 P **P** **05 29 04.4 +2.2**
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 76.70 283 P **P** **05 29 02.5 +0.2**
comp=Z,9.9nm,0.8s,baz=25,slow=5.7,SNR=30
CMAR Chiang Mai Arr 76.70 283 P **P** **05 29 02.1 -0.3**
CLL Collm 76.72 359 *i* P **P** **05 29 00.9 -1.0**
comp=Z,9.0nm,1.1s
CLL Collm 76.72 359 *i* P **P** **05 29 00.9 -1.0**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CM15 Chiang Mai Arr 76.72 283 P **P** **05 29 03.1 +0.7**
comp=Z,11nm,0.8s
CM15 Chiang Mai Arr 76.72 283 P **P** **05 29 03.1 +0.7**
comp=Z,11nm,0.8s
CM02 Chiang Mai Arr 76.72 283 P **P** **05 29 02.9 +0.5**
comp=Z,197nmcomp=Z,23nm,1.3s
CM02 Chiang Mai Arr 76.72 283 P **P** **05 29 02.9 +0.5**
comp=Z,197nmcomp=Z,23nm,1.3s
CM01 Chiang Mai Arr 76.72 283 P **P** **05 29 03.0 +0.6**
comp=Z,22nm,1.0s
CM04 Chiang Mai Arr 76.73 283 P **P** **05 29 03.0 +0.5**
comp=Z,190nmcomp=Z,22nm,1.0s
CM04 Chiang Mai Arr 76.73 283 P **P** **05 29 03.0 +0.5**
comp=Z,190nmcomp=Z,22nm,1.0s
CM05 Chiang Mai Arr 76.75 283 P **P** **05 29 03.1 +0.5**
comp=Z,178nmcomp=Z,22nm,1.1s
CM05 Chiang Mai Arr 76.75 283 P **P** **05 29 03.1 +0.5**
comp=Z,178nmcomp=Z,22nm,1.1s
CM13 Chiang Mai Arr 76.75 283 P **P** **05 29 03.1 +0.5**
comp=Z,150nmcomp=Z,21nm,1.1s
CM13 Chiang Mai Arr 76.75 283 P **P** **05 29 03.1 +0.5**
comp=Z,150nmcomp=Z,21nm,1.1s
PHIT Phitsanulok 76.80 281 P **P** **05 29 04.3 +1.5**
comp=Z,54nm,1.2s
BRG Berggiesshubel 77.13 358 *eP* **P** **05 29 03.3 -1.0**
BRG Amp 05 29 04.9
comp=Z,8.5nm,0.9s
BRG Amp 05 37 33.0
comp=N,55nm,21.5s
BRG Amp 05 37 34.0
comp=Z,80nm,21.0s
BRG Amp 05 37 37.0
comp=E,20nm,18.9s
MEM Membach 77.35 3 *dP* **P** **05 29 06.3 +0.8**
MOX Moxa 77.39 359 P **P** **05 29 03.3 -2.4**
MOX pmax pmax
comp=Z,16nm,1.3s
BCLA Clavier 77.52 4 *dP* **P** **05 29 07.1 +0.7**
MHMT Maesarieng 77.53 283 P **P** **05 29 09.1 +2.2**
comp=Z,34nm,0.8s
DPC Dobruska-Polom 77.58 356 *eP* **P** **05 29 07.6 +0.8**
DPC Dobruska-Polom 77.58 356 *eP* **P** **05 29 07.6 +0.8**
BMRD Maredsous 77.61 4 *dP* **P** **05 29 07.0 +0.1**
NKC Novy Kostel 77.80 359 *eP* **P** **05 29 08.4 +0.4**
NKC Novy Kostel 77.80 359 *eP* **P** **05 29 08.4 +0.4**
KRLC Kraliky 77.84 356 *eP* **P** **05 29 08.7 +0.4**
KRLC Kraliky 77.84 356 *eP* **P** **05 29 08.7 +0.4**
MORC Moravsky Berou 78.10 356 *eP* **P** **05 29 09.8 +0.1**
SRAK Srakaew 78.27 278 P **P** **05 29 10.0 -1.1**
comp=Z,3μmcomp=Z,374nm,1.2s
NIL Nilore 78.52 311 P **P** **05 29 11.9 -0.4**
NIL pmax pmax
comp=Z,26nm,0.9s
NIL Nilore 78.52 311 P **P** **05 29 11.9 -0.4**
VRAC Vranov 78.61 356 *eP* **P** **05 29 12.6 +0.1**
LANS Liptovska Anna 78.62 354 *eP* **P** **05 29 13.6 +1.0**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 78.62 354 *eP* **P** **05 29 13.6 +1.0**
KRUC Moravsky 78.87 356 *eP* **P** **05 29 13.6 -0.3**
KHC Kasperske Hory 78.88 358 *eP* **P** **05 29 14.8 +0.7**
KHC Kasperske Hory 78.88 358 *eP* **P** **05 29 14.8 +0.7**
JAVC Velka Javorina 79.01 355 *eP* **P** **05 29 15.8 +1.0**
GOF Gofitskoye 79.09 337‖ *eP* **P** **05 29 15.9 +0.7**
GERES GERESS Array B 79.17 358 P **P** **05 29 16.4 +0.7**
comp=Z,3.0nm,0.7s,baz=19,slow=4.8,SNR=11
CKRC Cesky Krumlov 79.18 358 *eP* **P** **05 29 16.2 +0.5**
KECS Kecovo 79.22 353 *eP* **P** **05 29 16.3 +0.5**
KECS Kecovo 79.22 353 *eP* **P** **05 29 16.3 +0.5**
SMOL Smolenice 79.37 355 *eP* **P** **05 29 17.5 +0.8**
SMOL pmax pmax
comp=Z,10.0nm,1.3s
SMOL Smolenice 79.37 355 *eP* **P** **05 29 17.5 +0.8**
MODS Modra-Piesok 79.52 356 *eP* **P** **05 29 19.5 +2.0**
MODS pmax pmax
comp=Z,32nm,1.5s
MODS Modra-Piesok 79.52 356 *eP* **P** **05 29 19.5 +2.0**
BUR08 Bucovina Ar. S 79.64 350 P **P** **05 29 18.1 -0.2**
BUR08 IAmb IAmb 05 29 18.4
comp=Z,18nm,1.5s
ZST Bratislava 79.70 356 *eP* **P** **05 29 19.7 +1.2**
ZST pmax pmax
comp=Z,65nm,1.2s
ZST Bratislava 79.70 356 *eP* **P** **05 29 19.7 +1.2**
CONA Conrad Observa 80.02 357 *eP* **P** **05 29 21.1 +0.8**
comp=Z,12nm,0.8s
KIV Kislovodsk 80.21 337 *eP* **P** **05 29 21.4 0.0**
KIV pmax pmax
comp=Z,14nm,1.0s
KBZ Khabaz 80.38 337 P **P** **05 29 22.6 +0.4**
comp=Z,6.7nm,0.9s,baz=18,slow=1.6,SNR=9.5
KBZ Khabaz 80.38 337‖ *iP* **P** **05 29 22.5 +0.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
MOTA Moosalm 80.70 360 *eP* **P** **05 29 24.7 +0.6**
comp=Z,20nm,1.3s
WATA Walderalm 80.71 359 *eP* **P** **05 29 24.4 +0.3**
comp=Z,17nm,1.2s
ARSA Arzberg 80.71 357 *eP* **P** **05 29 22.1 -1.9**
comp=Z,13nm,1.1s
DAVA Damuels 80.75 1 *eP* **P** **05 29 24.3 -0.1**
comp=Z,28nm,2.3s
WTTA Wattenberg 80.78 359 *eP* **P** **05 29 23.8 -0.7**
comp=Z,8.8nm,0.7s
SQTA Sankt Quirin 80.82 360 *eP* **P** **05 29 25.3 +0.6**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 80.94 358 *eP* **P** **05 29 26.3 +0.9**
comp=Z,25nm,0.8s
FETA Feichten 81.02 0 *eP* **P** **05 29 23.7 -2.1**
comp=Z,9.8nm,0.9s
GEYT Alibeck 81.11 324 P **P** **05 29 26.0 -0.3**
comp=Z,4.7nm,0.7s,baz=276,slow=5.4,SNR=5.8
AKT Akhty 81.22 333 *eP* **P** **05 29 27.0 +0.1**
AKT *e* 05 29 33.3
AKT pmax pmax
comp=Z,34nm,0.9s
ABTA Abfaltersbach 81.29 359 *eP* **P** **05 29 26.6 -0.6**
comp=Z,11nm,1.1s
SOKA Soboth 81.30 357 *eP* **P** **05 29 26.9 -0.3**
comp=Z,9.8nm,0.8s
MYKA Terra Mystica 81.38 358 *eP* **P** **05 29 26.3 -1.3**
comp=Z,2.2nm,0.5s
OBKA Obir 81.48 357 *eP* **P** **05 29 29.0 +0.8**
comp=Z,9.7nm,0.8s
LPL La Plagne 82.47 3 *eP* **P** **05 29 35.6 +2.1**
LPL pmax pmax
comp=Z,39nm,1.6s
NRCA Norcia 85.19 358 P **P** **05 29 47.9 +0.6**
BRTR Keskin Array B 86.18 343 P **P** **05 29 52.4 0.0**
comp=Z,2.0nm,0.8s,baz=28,slow=6.5,SNR=2.8
WRA Warramunga Arr 87.05 232 P **P** **05 29 57.9 +1.4**
comp=Z,1.0nm,0.9s,baz=40,slow=5.9,SNR=3.1
WRA Warramunga Arr 87.05 232 P **P** **05 29 57.6 +1.1**
ESDC Sonseca Array 87.47 11 P **P** **05 29 58.6 0.0**
comp=Z,6.2nm,0.8s,baz=346,slow=4.5,SNR=22
PSI Prapat 88.93 273 P **P** **05 30 05.8 -0.1**
PSI pmax pmax
comp=Z,17nm,0.9s
RPSI Rantau Prapat 89.02 273 P **P** **05 30 05.8 -0.3**
RUSC La Rusia 89.13 82 P **P** **05 30 07.5 +0.2**
ASAR Alice Springs 90.44 230 P **P** **05 30 12.2 -0.2**
comp=Z,1.5nm,0.7s,baz=28,slow=4.4,SNR=9.2
MMAI Mount Meron Ar 92.32 339 P **P** **05 30 20.5 -0.9**
comp=Z,1.4nm,0.4s,baz=291,slow=6.9,SNR=3.7
MAW Mawson 150.90 218 PKPbc **PKPbc** **05 37 02.3 +0.2**
comp=Z,2.7nm,1.0s,baz=344,slow=4.6,SNR=4.5
BOSA Boshof 153.97 330 PKPbc **PKPbc** **05 37 09.9 -0.6**
comp=Z,4.6nm,1.0s,baz=122,slow=4.9,SNR=3.5

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*IDC **27** 05:20:14.5±0.8,51°.78N×176°.99W,h0km,mb4.1/10, mb1 4.5/11,mb1mx4.0/74,mbtmp4.2/11,ML5.1/1,Error ellipse: s-maj=39.0km s-min=15.3km az=156.0*
*AEIC **27** 05:20:23±2.0,51°.7N±0°.1×176°.76W±0°.09,h72km±5km, ML4.0,mb4.5/133(NEIC),Error ellipse: s-maj=21.2km s-min=7.2km az=170.0*
*NEIC **27** 05:20:24.5±2.0,51°.7N±0°.1×176°.77W±0°.08,h74km±6km, Error ellipse: s-maj=19.3km s-min=6.4km az=167.0*
ISC 27 05:20:24.3±1.0,51°.8N±0°.1×176°.82W±0°.05,h77km±8km, n187,σ1§02/184,mb4.5/51,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.13**	**40**		**Pn**	**05 20 34.6**	**-0.8**
KIWB	**Kanaga Island**	**0.22**	**288**		**Pn**	**05 20 35.5**	**-0.3**
KIKV	**Kanaga Island**	**0.24**	**293**		**Pn**	**05 20 35.6**	**-0.3**
KIMD	**Kanaga Island**	**0.26**	**265**		**Pn**	**05 20 35.6**	**-0.4**
KICM	**Kanaga Island**	**0.27**	**300**		**Pn**	**05 20 36.0**	**0.0**
GSCK	**Great Sitkin C**	**0.46**	**61**		**Pn**	**05 20 37.3**	**-0.1**
GSSP	**Great Sitkin S**	**0.50**	**52**		**Pn**	**05 20 37.5**	**-0.2**
GSMY	**Great Sitkin M**	**0.54**	**61**		**Pn**	**05 20 37.8**	**-0.2**
TAPA	**Tanaga Point A**	**0.62**	**273**		**Pn**	**05 20 38.8**	**-0.1**
TASE	**Tanaga Southea**	**0.76**	**274**		**Pn**	**05 20 40.4**	**0.0**
GAEA	**Gareloi East**	**1.20**	**271**		**Pn**	**05 20 45.8**	**+0.3**
GALAA	**Gareloi Lava P**	**1.21**	**270**		**Pn**	**05 20 46.0**	**+0.2**
ATKA	**Atka Island**	**1.67**	**75**		**Pn**	**05 20 51.5**	**-0.2**
KOKL	**Mount Kliuchef**	**1.70**	**71**		**Pn**	**05 20 52.0**	**-0.2**
KOFP	**Korovin Flat P**	**1.75**	**73**		**Pn**	**05 20 53.0**	**+0.2**
CERAA	**Semis' Rag'd T**	**2.17**	**275**		**Pn**	**05 20 58.5**	**+0.1**
CEAP	**Semis' Anvil P**	**2.24**	**277**		**Pn**	**05 20 59.7**	**+0.4**
CESW	**Semis' Southwe**	**2.25**	**274**		**Pn**	**05 20 59.4**	**+0.1**
AMKA	**Amchitka**	**2.46**	**262**		**Pn**	**05 21 02.6**	**+0.4**
LSPA	**Little Sitkin**	**2.86**	**275**		**Pn**	**05 21 08.4**	**+0.8**
LSNW	**Little Sitkin**	**2.90**	**275**		**Pn**	**05 21 08.7**	**+0.6**
LSSA	**Little Sitkin**	**2.90**	**275**		**Pn**	**05 21 08.6**	**+0.5**
SMY	**Shemya**	**5.66**	**283**	Pn	**Pn**	**05 21 45.7**	**+0.1**
AKUT	**Akutan**	**7.08**	**66**	Pn	**Pn**	**05 22 06.2**	**+1.2**
FALS	**False Pass**	**8.59**	**64**	Pn	**Pn**	**05 22 28.5**	**+2.9**
SDPT	**Sand Point**	**10.35**	**63**	Pn	**Pn**	**05 22 49.8**	**+0.2**
CNBA	**Chernabura Isl**	**10.75**	**67**	Pn	**Pn**	**05 22 54.4**	**-0.6**
GAMB	**Gambell**	**12.32**	**11**	Pn	**Pn**	**05 23 18.4**	**+2.1**
CHIR	**Chirikof Islan**	**13.14**	**64**	Pn	**Pn**	**05 23 25.8**	**-1.7**
SII	**Sitkinak Islan**	**14.06**	**61**	Pn	**Pn**	**05 23 37.5**	**-2.1**
SVW2	**Sparrevohn**	**14.92**	**43**	Pn	**Pn**	**05 23 50.9**	**+0.2**
KDAK	**Kodiak Island**	**15.16**	**57**	Pn	**Pn**	**05 23 51.0**	**-2.7**
KDAK	8.4nm,0.3s,baz=273,slow=3.8,SNR=32			Sn	**Sn**	**05 26 38.1**	**-2.5**
KDAK	**Kodiak Island**	**15.16**	**57**		**Pn**	**05 23 54.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**15.57**	**285**	Pn	**Pn**	**05 23 59.2**	**+0.2**
PETK	**Petropavlovsk-**	**15.57**	**285**	Pn	**Pn**	**05 23 58.6**	**-0.4**
	0.7nm,0.3s,baz=88,slow=13,SNR=4.1						
PETK	**Petropavlovsk-**	**15.57**	**285**		**Pn**	**05 23 58.5**	**-0.6**
RSO	**Redoubt South**	**15.90**	**48**		**Pn**	**05 24 03.5**	**+0.3**
HOM	**Homer**	**16.14**	**51**		**P**	**05 24 07.0**	**-1.0**
CNPM	**China Poot**	**16.30**	**52**		**P**	**05 24 08.8**	**-1.0**
BRLK	**Bradley Lake**	**16.54**	**51**		**Pn**	**05 24 10.9**	**-0.2**
SKT	**Skwentna**	**17.05**	**43**	P	**P**	**05 24 19.7**	**+1.6**
SKT				IAmb	IAmb	05 24 24.2	
	comp=Z,33nm,1.0s						
PPLA	**Purkeypile**	**17.20**	**40**	P	**P**	**05 24 23.1**	**+3.3**
PPLA				IAmb	IAmb	05 24 30.9	
	comp=Z,25nm,0.7s						
O22K	**Cooper Landing**	**17.31**	**49**		**P**	**05 24 21.1**	**+0.2**
SEW	**Seward**	**17.33**	**51**		**Pn**	**05 24 19.6**	**-1.2**
RC01	**Rabbit Creek A**	**17.50**	**47**		**P**	**05 24 23.6**	**+0.6**
CUT	**Chulitna**	**17.77**	**43**	Pn	**P**	**05 24 27.6**	**+1.7**
PMR	**Palmer**	**17.95**	**46**	P	**Pn**	**05 24 29.9**	**+1.6**
KTH	**Kantishna Hill**	**18.02**	**39**	P	**Pn**	**05 24 29.9**	**+0.7**
KTH				IAmb	IAmb	05 24 57.6	
	comp=Z,25nm,1.1s						
PWL	**Port Wells**	**18.08**	**49**	P	**P**	**05 24 28.8**	**-0.6**
PWL				IAmb	IAmb	05 24 35.1	
	comp=Z,19nm,0.4s						
GHO	**Glory Hole Cre**	**18.11**	**46**	P	**Pn**	**05 24 31.3**	**+0.9**
KNK	**Knik Glacier**	**18.20**	**47**	P	**Pn**	**05 24 30.8**	**-0.5**
TRF	**Thorofare Moun**	**18.22**	**40**	P	**Pn**	**05 24 32.0**	**+0.2**
TRF				IAmb	IAmb	05 24 35.0	
	comp=Z,18nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.27**	**38**		**Pn**	**05 24 32.0**	**-0.1**
SML	**Sawmill**	**18.39**	**46**	P	**Pn**	**05 24 34.0**	**+0.3**
IMAR	**Indian Mountai**	**18.39**	**31**	P	**Pn**	**05 24 33.0**	**-0.6**
GLI	**Glacier Island**	**18.67**	**49**	P	**P**	**05 24 35.2**	**-0.6**
GLI				IAmb	IAmb	05 24 55.9	
	comp=Z,44nm,0.9s						
Q23K	**Middleton Isla**	**18.70**	**54**	P	**Pn**	**05 24 38.0**	**+0.8**
MID	**Middleton Isla**	**18.70**	**54**	P	**Pn**	**05 24 37.9**	**+0.6**
RND	**Reindeer**	**18.78**	**41**	P	**Pn**	**05 24 37.9**	**-0.5**
RND				IAmb	IAmb	05 24 40.2	
	comp=Z,20nm,0.4s						
HIN	**Hinchinbrook I**	**18.83**	**51**	P	**P**	**05 24 37.6**	**+0.1**
MLY	**Manley**	**18.84**	**35**	P	**Pn**	**05 24 38.9**	**-0.2**
SCM	**Sheep Creek Mo**	**18.84**	**46**	P	**Pn**	**05 24 39.0**	**-0.2**
SCM				IAmb	IAmb	05 24 43.4	
	comp=Z,15nm,0.6s						
BWN	**Browne**	**18.88**	**38**	P	**Pn**	**05 24 39.3**	**-0.3**
BWN				IAmb	IAmb	05 24 45.1	
	comp=Z,38nm,1.2s						
MCK	**McKinley**	**18.89**	**40**	P	**Pn**	**05 24 39.7**	**+0.1**
MCK				IAmb	IAmb	05 24 42.5	
	comp=Z,16nm,0.9s						
FID	**Port Fidalgo**	**18.92**	**50**	P	**P**	**05 24 38.6**	**0.0**
FID				IAmb	IAmb	05 24 41.1	
	comp=Z,20nm,0.6s						
EYAK	**Cordova Ski Ar**	**19.22**	**51**	P	**Pn**	**05 24 44.2**	**+0.7**
NEA2	**Nenana**	**19.24**	**38**	P	**P**	**05 24 42.2**	**+0.2**
KLU	**Klutina**	**19.38**	**48**	P	**Pn**	**05 24 44.9**	**-0.6**
KLU				IAmb	IAmb	05 24 47.5	
	comp=Z,18nm,1.1s						
I23K	**Minto, Yukon-K**	**19.40**	**36**	P	**Pn**	**05 24 45.5**	**-0.1**
I23K				IAmb	IAmb	05 24 48.8	
	comp=Z,30nm,1.4s						
M24K	**Tolsona, Glenn**	**19.45**	**46**	P	**Pn**	**05 24 47.3**	**+1.0**
M24K				IAmb	IAmb	05 25 09.1	
	comp=Z,22nm,0.7s						
WRH	**Wood River Hil**	**19.55**	**38**	P	**P**	**05 24 45.2**	**-0.2**
MDM	**Murphy Dome**	**19.73**	**37**	P	**Pn**	**05 24 49.2**	**-0.3**
MDM				IAmb	IAmb	05 24 52.7	
	comp=Z,15nm,0.9s						
CCB	**Clear Creek Bu**	**19.74**	**38**	P	**P**	**05 24 47.4**	**0.0**
TCOL	**CIGO, UAF Yank**	**19.83**	**38**	P	**Pn**	**05 24 50.1**	**-0.5**
COLA	**College**	**19.83**	**38**	P	**Pn**	**05 24 50.6**	**0.0**
BMRM	**Bremner River**	**19.87**	**50**	P	**Pn**	**05 24 50.5**	**-0.7**
BMRM				IAmb	IAmb	05 24 55.5	
	comp=Z,16nm,1.0s						
HDA	**Harding Lake**	**19.97**	**39**	P	**Pn**	**05 24 51.5**	**-0.8**
HDA				IAmb	IAmb	05 24 54.3	
	comp=Z,11nm,0.5s						
N25K	**Chitina, Valde**	**20.02**	**48**	P	**P**	**05 24 51.1**	**+0.5**
N25K				IAmb	IAmb	05 25 00.2	
	comp=Z,12nm,0.8s						
POKR	**Poker Plat Res**	**20.10**	**37**	P	Pn	05 24 52.7	-1.1
POKR				IAmb	IAmb	05 25 01.6	
	comp=Z,8.8nm,0.7s						
IL31		**20.15**	**38**	P	**P**	**05 24 51.3**	**-0.5**
ILAR	**Eielson Array**	**20.15**	**38**	P	**P**	**05 24 50.5**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=240,slow=10,SNR=4.7						
GLB	**Gilahina Butte**	**20.35**	**49**	P	**P**	**05 24 53.0**	**-1.2**
GLB				IAmb	IAmb	05 24 59.1	
	comp=Z,11nm,0.8s						
VRDI	**Verde Repeater**	**20.47**	**50**	P	Pn	05 24 57.4	-1.0
CRQM	**Cirque**	**20.52**	**51**	P	**P**	**05 24 56.1**	**-0.1**
CRQM				IAmb	IAmb	05 25 18.0	
	comp=Z,19nm,0.9s						
RIDG	**Independent Ri**	**20.56**	**42**	P	**P**	**05 24 55.4**	**-1.1**
RIDG				IAmb	IAmb	05 25 04.2	
	comp=Z,21nm,1.3s						
WAX	**Waxell Ridge**	**20.61**	**52**	P	**P**	**05 24 54.5**	**-2.5**
WAX				IAmb	IAmb	05 25 03.6	
	comp=Z,28nm,1.1s						
DOT	**Dot Lake**	**20.86**	**43**	P	**P**	**05 24 59.9**	**+0.3**
DOT				IAmb	IAmb	05 25 02.8	
	comp=Z,12nm,0.5s						
PRP	**Porcupine Dome**	**21.00**	**37**	P	Pn	05 25 02.9	-1.6
SCRK	**Sand Creek**	**21.00**	**42**	P	**P**	**05 25 00.1**	**-1.1**
BARN	**Barnard Glacie**	**21.29**	**50**	P	**P**	**05 25 05.9**	**+1.5**
TOLK	**Toolik Lake Re**	**21.33**	**27**	P	**P**	**05 25 05.2**	**+0.7**
FYU	**Fort Yukon**	**21.58**	**35**	P	**P**	**05 25 07.1**	**0.0**
FYU				IAmb	IAmb	05 25 35.6	
	comp=Z,20nm,1.4s						
L27K	**Beaver Creek,**	**21.65**	**45**	P	**P**	**05 25 07.5**	**-0.5**
BCAR	**Beaver Creek A**	**21.67**	**45**	P	**P**	**05 25 09.2**	**+1.0**
K27K	**Chicken**	**21.82**	**42**	P	**P**	**05 25 10.9**	**+1.1**
BMAR	**Burnt Mountain**	**22.22**	**33**	P	**P**	**05 25 14.4**	**+0.3**
EGAK	**Eagle**	**22.43**	**41**	P	**P**	**05 25 14.4**	**-1.9**
DAWY	**Dawson**	**22.96**	**43**	P	**P**	**05 25 21.5**	**-0.4**
DAWY				IAmb	IAmb	05 25 26.7	
	comp=Z,14nm,1.4s						
BESE	**Bessie Mountai**	**24.56**	**57**	P	**P**	**05 25 38.7**	**+2.1**
BESE				IAmb	IAmb	05 25 47.7	
	comp=Z,17nm,1.0s						
CRAG	**Craig**	**25.85**	**64**	P	**P**	**05 25 51.5**	**+3.3**
INK	**Inuvik**	**26.41**	**35**	P	**P**	**05 25 52.2**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=231,slow=8.5,SNR=7.0						
INK	**Inuvik**	**26.41**	**35**	IAmb	IAmb	05 25 56.3	
	comp=Z,8.1nm,1.3s						
DIB	**Dawson Inlet,**	**26.71**	**69**	P	**P**	**05 25 54.5**	**-1.5**
LON	**Longmire**	**35.52**	**76**	P	**P**	**05 27 15.0**	**+1.5**
LON				IAmb	IAmb	05 27 23.7	
	comp=Z,4.3nm,1.2s						
LTY	**Liberty**	**35.96**	**74**	P	**P**	**05 27 18.3**	**+1.0**
LTY				IAmb	IAmb	05 27 18.8	
	comp=Z,3.8nm,0.5s						
B08A	**Colville Reser**	**36.23**	**72**	P	**P**	**05 27 20.4**	**+0.8**
B08A				IAmb	IAmb	05 27 20.9	
	comp=Z,7.0nm,0.7s						
H04A	**Detroit Lake**	**36.32**	**79**	P	**P**	**05 27 22.0**	**+1.6**
HAWA	**Hanford**	**37.06**	**75**	P	**P**	**05 27 27.7**	**+1.2**
D08A	**Wollman Farm,**	**37.10**	**74**	P	**P**	**05 27 27.0**	**+0.2**
D08A				IAmb	IAmb	05 27 54.6	
	comp=Z,7.1nm,1.0s						
C09A	**Chrisman Ranch**	**37.12**	**72**	P	**P**	**05 27 27.8**	**+0.7**
C09A				IAmb	IAmb	05 27 50.6	
	comp=Z,4.6nm,0.7s						
EDM	**Edmonton**	**37.53**	**62**	P	**P**	**05 27 29.5**	**-0.9**
EDM				IAmb	IAmb	05 27 37.5	
	comp=Z,9.1nm,1.1s						
PINE	**Pine Mountain**	**37.55**	**80**	P	**P**	**05 27 29.6**	**-1.4**
NEW	**Newport**	**37.58**	**71**	P	**P**	**05 27 31.4**	**+0.5**
	comp=Z,7.6nm,0.6s,baz=298,slow=8.4,SNR=23						
YBH	**Yreka Blue Hor**	**37.60**	**84**	P	**P**	**05 27 32.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=337,slow=7.7,SNR=3.7						
G08A	**Pilot Rock**	**37.97**	**76**	P	**P**	**05 27 35.4**	**+1.1**
K05A	**Summer Lake**	**38.16**	**81**	P	**P**	**05 27 38.5**	**+2.3**
I07A	**Izee**	**38.27**	**78**	P	**P**	**05 27 38.6**	**+1.6**
I07A				IAmb	IAmb	05 27 39.0	
	comp=Z,5.9nm,0.6s						
WDC	**Whiskeytown Da**	**38.37**	**85**	P	**P**	**05 27 35.4**	**-2.2**
WDC				IAmb	IAmb	05 27 44.3	
	comp=Z,8.5nm,1.4s						
F10A	**Beach Ranch, E**	**38.65**	**74**	P	**P**	**05 27 38.4**	**-1.7**
F10A				IAmb	IAmb	05 27 57.9	
	comp=Z,3.5nm,0.7s						
MSO	**Missoula**	**40.16**	**71**	P	**P**	**05 27 52.7**	**0.0**
MSO				IAmb	IAmb	05 27 53.2	
	comp=Z,11nm,1.3s						
KSRS	**Korea Array**	**40.87**	**272**	P	**P**	**05 27 59.0**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=58,slow=7.9,SNR=4.1						
PNTR	**Pine Nut**	**41.07**	**85**	P	**P**	**05 28 02.4**	**+2.0**
HRY	**Holter Researc**	**41.46**	**70**	P	**P**	**05 28 02.3**	**-1.0**
HLID	**Hailey**	**41.64**	**76**	P	**P**	**05 28 05.8**	**+0.9**
HLID				IAmb	IAmb	05 28 06.6	
	comp=Z,5.3nm,1.1s						
BCYI	**Bear Canyon**	**41.83**	**74**	P	**P**	**05 28 07.0**	**+0.5**
MCMT	**McKenzie Canyo**	**41.88**	**73**	P	**P**	**05 28 07.1**	**+0.2**
BOZ	**Bozeman (W)**	**42.18**	**72**	P	**P**	**05 28 09.2**	**0.0**
BOZ				IAmb	IAmb	05 28 09.5	
	comp=Z,4.3nm,0.6s						
NVAR	**Mina Array Bea**	**42.28**	**85**	P	**P**	**05 28 11.3**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=298,slow=6.3,SNR=4.2						
QLMT	**Earthquake Lak**	**42.72**	**72**	P	**P**	**05 28 14.2**	**+0.5**
ELK	**Elko**	**42.76**	**80**	P	**P**	**05 28 15.0**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=300,slow=8.2,SNR=7.2						
ELK	**Elko**	**42.76**	**80**	P	**P**	**05 28 14.7**	**+0.6**
YHH	**Holmes Hill**	**43.08**	**72**	P	**P**	**05 28 16.7**	**0.0**
YHH				IAmb	IAmb	05 28 17.5	
	comp=Z,5.2nm,0.6s						
YNE	**Yellowstone No**	**43.46**	**71**	P	**P**	**05 28 19.2**	**-0.5**
H17A	**

MPU IAmb IAmb 05 28 53.4
comp=Z,7.5nm,1.5s
TCRU Three Creeks R 45.77 80 P **P 05 28 39.4 +1.2**
TCRU IAmb IAmb 05 28 58.4
comp=Z,5.9nm,0.6s
CCUT Cedar City 45.87 82 P **P 05 28 40.1 +1.1**
SZCU Shurtz Canyon 46.02 82 P **P 05 28 39.7 -0.4**
TMUT Trail Mountain 46.10 79 P **P 05 28 41.9 +1.1**
TMUT IAmb IAmb 05 28 44.8
comp=Z,4.5nm,0.8s
P17A Butcher Ranch, 46.28 78 P **P 05 28 42.1 0.0**
P17A IAmb IAmb 05 28 43.5
comp=Z,2.5nm,0.5s
MTPU Mount Pierson 46.29 81 P **P 05 28 43.8 +1.4**
RDMU Red Mountain 46.31 76 P **P 05 28 42.6 +0.3**
RDMU IAmb IAmb 05 28 44.5
comp=Z,11nm,1.1s
SRU San Rafael Swe 46.63 78 P **P 05 28 45.4 +0.5**
SRU IAmb IAmb 05 29 06.1
comp=Z,6.0nm,1.1s
U15A North Rim 47.25 83 P **P 05 28 51.0 +1.2**
O20A White River Ci 47.38 76 P **P 05 28 50.7 0.0**
PV04 Paradox Valley 48.07 78 P **P 05 28 56.4 +0.4**
PV04 IAmb IAmb 05 29 25.2
comp=Z,9.4nm,1.2s
WUAZ Wupatki 48.41 83 P **P 05 28 59.5 +0.9**
WUAZ IAmb IAmb 05 29 00.1
comp=Z,5.1nm,0.7s
PV01 Paradox Valley 48.44 78 P **P 05 28 59.6 +0.8**
PV01 IAmb IAmb 05 29 25.7
comp=Z,5.9nm,1.0s
X16A Lo Mia Camp, P 49.09 84 P **P 05 29 01.3 -2.6**
X16A IAmb IAmb 05 29 27.4
comp=Z,4.0nm,1.2s
W18A Petrified Fore 49.68 82 P **P 05 29 08.9 +0.6**
W18A IAmb IAmb 05 29 28.5
comp=Z,8.2nm,1.2s
BNM Barren Site 52.23 81 P **P 05 29 29.0 +1.5**
MNTX Cornudas Mount 54.66 82 P **P 05 29 46.0 +0.8**
MNTX IAmb IAmb 05 30 13.7
comp=Z,6.9nm,1.3s
WMOK Wichita Mounta 56.59 75 P **P 05 29 59.2 +0.2**
P40A Paris 57.27 66 P **P 05 30 02.1 -1.5**
TX31 Lajitas Ar. Si 57.37 83 P **P 05 30 05.1 +0.6**
TX32 Lajitas Array 57.37 83 P **P 05 30 04.0 -0.5**
TXAR Lajitas Array 57.37 83 P **P 05 30 04.5 0.0**
comp=Z,2.2nm,1.0s,baz=307,slow=5.9,SNR=10.0
TXAR Lajitas Array 57.37 83 P **P 05 30 04.9 +0.3**
U40A Yellville 58.98 70 P **P 05 30 14.4 -1.2**
MIAR Mount Ida 59.82 71 P **P 05 30 20.9 -0.5**
SADO Sadowa 60.60 54 P **P 05 30 26.0 -0.5**
WLAR White Oak Lake 60.70 72 P **P 05 30 27.3 -0.1**
P48A Milroy 61.03 62 P **P 05 30 28.2 -1.3**
P48A IAmb IAmb 05 30 41.8
comp=Z,7.6nm,1.3s
M53A WI Miller and 62.18 58 P **P 05 30 38.1 +0.9**
OXF Oxford 62.28 69 P **P 05 30 37.0 -1.0**
250A Grady 65.92 69 P **P 05 31 01.6 -0.3**
250A IAmb IAmb 05 31 10.7
comp=Z,8.1nm,0.9s
HODGE Hodges 66.55 64 P **P 05 31 05.7 -0.2**
HODGE IAmb IAmb 05 31 21.9
comp=Z,7.0nm,1.2s
LMN Caledonia Moun 66.56 45 P **P 05 31 06.4 +0.6**
DRLN Deer Lake 66.87 38 P **P 05 31 07.4 -0.3**
JSC Jenkinsville 67.07 63 P **P 05 31 09.3 +0.1**
JSC IAmb IAmb 05 31 15.9
comp=Z,14nm,1.5s
SOR Soroa 74.71 73 P **P 05 31 56.1 +0.5**
SOR IAmb IAmb 05 32 09.6
comp=Z,14nm,1.3s
WRA Warramunga Arr 83.17 226 P **P 05 32 41.6 -0.2**
comp=Z,0.7nm,0.6s,baz=33,slow=6.0,SNR=4.9
ASAR Alice Springs 86.63 224 P **P 05 32 59.1 +0.1**
comp=Z,8.3nm,0.3s,baz=26,slow=4.6,SNR=4.4
MAW Mawson 147.56 218 PKPbc **PKPbc 05 39 58.0 0.0**
comp=Z,0.6nm,0.4s,baz=25,slow=3.1,SNR=1.3
BOSA Boshof 151.58 316 PKPbc **PKPbc 05 40 08.3 -1.1**
comp=Z,2.0nm,0.8s,baz=76,slow=4.2,SNR=1.5

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*BJI **27** 05:21:18.5±0.0, 37°.58N×74°.90E, h81km, mb4.1/3*
*NNC **27** 05:21:25.4±13.0, 38°.27N×74°.81E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=108.5km s-min=87.9km az=137.0
ISC 27 05:21:22.7±2.4, 38°.4N±0°.1×75°.3E±0°.1, h26km, n6, σ3§45/8, 3C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.22**	**25**	P	**Pb**	**05 21 48.0**	**+2.8**
KSH				S	Sb	05 22 07.3	+6.7
KSH				smax	smax		
comp=N,670nm,0.2s							
KSH				smax	smax		
comp=E,540nm,0.2s							
AAK	**Ala-Archa**	**4.27**	**352**	⇓Pn	**Pb**	**05 22 33.1**	**-4.0**
3.8nm,0.5s							
AAK				⇑Sn	**Sb**	**05 23 27.7**	**-0.6**
16nm,0.8s							
TKM2	**Tokmak 2**	**4.51**	**3**	⇓Pn	**Pb**	**05 22 37.9**	**-3.4**
5.4nm,0.3s							
TKM2				⇑Sn	**Sb**	**05 23 34.7**	**-0.6**
30nm,0.7s							
KK31	**Karatay Array**	**5.94**	**324**	⇓Pn	**Pn**	**05 22 51.3**	**+2.4**
1.0nm,0.5s,baz=134,slow=12,SNR=40							
KK31				⇑Sn	**Sn**	**05 23 59.5**	**+3.5**
5.8nm,0.4s,baz=132,slow=21,SNR=9.2							
WMQ	**Urumqi**	**10.79**	**56**	*e*P	Pn	05 24 04.0	+8.5
GTA	**Gaotai**	**19.09**	**79**	⇓P	**P**	**05 25 41.0**	**-2.4**
GTA				pmax	pmax		
comp=Z,5.0nm,0.7s							

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*IDC **27** 05:21:32.7±6.9, 5°.61N×124°.49E, h40km±71km, mb3.6/3,*
mb1 3.8/3, mb1mx3.3/59, mbtmp3.9/3, Error ellipse:
s-maj=51.1km s-min=17.9km az=79.0
*NEIC **27** 05:21:39.7±2.7, 5°.96N±0°.07×125°.75E±0°.07, h121km±9km,*
mb4.3/13, Error ellipse: s-maj=10.9km s-min=9.6km
az=134.0
*MAN **27** 05:21:46.0, 6°.73N×125°.93E, h11km, mb4.2, ML3.1, MS2.8*
ISC 27 05:21:38.1±0.7, 5°.88N±0°.07×125°.9E±0°.2, h100km, n29,
σ2§32/30, mb4.1/13, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.23**	**343**	P	**Pn**	**05 22 02.6**	**+1.4**
650nm,0.3s,baz=90,slow=0.6,SNR=26							
DAV				S	**Sn**	**05 22 23.3**	**+4.7**
128nm,0.3s,baz=248,slow=23,SNR=12							
KCP	**Kidapawan**	**1.40**	**323**	⇓*i*P	**Pn**	**05 22 06.5**	**+3.3**
BIPH	**Bislig**	**2.32**	**10**	⇑*i*P	Pn	05 22 21.5	+6.6
BIPH				*i* S	Sn	05 22 28.6	-14
CGP	**Cagayan de Oro**	**2.84**	**334**	⇓*e*P	**Pn**	**05 22 21.2**	**-0.5**
CGP				*e*S	**Sn**	**05 22 54.9**	**-0.4**
TNTI	**Ternate**	**5.27**	**164**	Pn	**Pn**	**05 22 55.0**	**+0.5**
LUWI	**Luwuk**	**7.57**	**205**	Pn	**Pn**	**05 23 26.0**	**+0.2**
FAKI	**Fak Fak**	**10.78**	**144**	Pn	**Pn**	**05 24 11.5**	**+2.0**
KNRA	**Kununurra**	**21.60**	**173**	P	**P**	**05 26 20.5**	**+0.4**
KNRA				IAmb	IAmb	05 26 24.3	
comp=Z,7.6nm,0.7s							
WB0	**Warramunga Arr**	**26.81**	**162**	P	**P**	**05 27 09.4**	**+0.3**
WB0				IAmb	IAmb	05 27 21.7	
comp=Z,5.7nm,1.2s							
WRA	**Warramunga Arr**	**26.96**	**162**	P	**P**	**05 27 13.9**	**+3.4**
comp=Z,0.5nm,0.6s,baz=336,slow=11,SNR=6.4							
WRA	**Warramunga Arr**	**26.96**	**162**	P	**P**	**05 27 11.1**	**+0.7**
WB2	**Warramunga Arr**	**26.96**	**162**	P	**P**	**05 27 10.5**	**0.0**
WB2				IAmb	IAmb	05 27 30.0	
comp=Z,5.2nm,1.1s							
WR0	**Warramunga Arr**	**27.04**	**162**	P	**P**	**05 27 12.2**	**+1.1**
WR0				IAmb	IAmb	05 27 26.3	
comp=Z,7.2nm,1.3s							
ASAR	**Alice Springs**	**30.38**	**165**	P	**P**	**05 27 40.7**	**-0.1**
comp=Z,12nm,0.3s,baz=340,slow=7.0,SNR=6.9							
ASAR	**Alice Springs**	**30.38**	**165**	P	**P**	**05 27 42.6**	**+1.7**
MAJO	**Matsushiro**	**32.52**	**19**	P	**P**	**05 27 57.0**	**-2.5**
MAJO				IAmb	IAmb	05 28 10.8	
comp=Z,7.0nm,1.1s							
CTAO	**Charters Tower**	**32.64**	**143**	P	**P**	**05 28 01.7**	**+1.0**
CTAO				IAmb	IAmb	05 28 26.2	
comp=Z,7.7nm,0.8s							
FORT	**Forrest**	**36.51**	**177**	P	**P**	**05 28 35.8**	**+1.9**
JEW	**Eniwo**	**39.28**	**18**	P	**P**	**05 28 56.5**	**-0.5**
BBOO	**Buckleboo**	**39.66**	**167**	P	**P**	**05 29 01.0**	**+0.7**
BBOO				IAmb	IAmb	05 29 29.1	
comp=Z,24nm,1.3s							
MK31	**Makanchi Array**	**55.35**	**325**	⇑Pn	**P**	**05 31 04.8**	**+3.1**
comp=Z,0.2nm,0.3s,baz=174,slow=16,SNR=18							
MK31				⇑Lg	Lg	05 31 38.2	
comp=Z,1.0nm,0.5s,baz=182,slow=23,SNR=14							
MK31	**Makanchi Array**	**55.35**	**325**	P	**P**	**05 30 58.8**	**-2.9**
MKAR	**Makanchi Array**	**55.35**	**325**	P	**P**	**05 30 58.9**	**-2.8**
comp=Z,0.9nm,0.5s,baz=117,slow=7.0,SNR=8.0							
MKAR	**Makanchi Array**	**55.35**	**325**	P	**P**	**05 30 58.5**	**-3.2**
MAKZ	**Makanchi**	**55.54**	**325**	⇓Pn	**P**	**05 31 04.8**	**+1.8**
comp=Z,1.9nm,0.7s							
MAKZ				⇑Lg	Lg	05 31 40.0	
comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**59.51**	**327**	P	**P**	**05 31 27.3**	**-3.5**
comp=Z,1.2nm,0.6s,baz=134,slow=5.3,SNR=8.3							
KURK	**Kurchatov**	**59.52**	**327**	P	**P**	**05 31 27.3**	**-3.5**
ABKAR	**Akbulak array**	**70.00**	**320**	P	**P**	**05 32 36.5**	**-2.4**
FALS	**False Pass**	**74.11**	**35**	P	**P**	**05 33 00.8**	**-2.5**

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*NEIC **27** 05:23:56.5±1.4, 52°.18N±0°.07×169°.46W±0°.04,*
h38km±31km, Error ellipse: s-maj=10.9km s-min=3.3km
az=175.0
AEIC 27 05:23:58.3±2.8, 52°.33N±0°.07×169°.40W±0°.08, h25km±8km,
ML3.5/10, Error ellipse: s-maj=9.7km s-min=7.4km
az=179.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.72**	**27**		Pb	05 24 12.2	-0.1
OKTU	**Okmok Mt. Tuli**	**1.34**	**37**		Pn	05 24 21.3	-0.2
OKFG	**Magazine Ridge**	**1.41**	**39**		Pn	05 24 21.7	-0.7
MSW	**Makushin Switc**	**2.24**	**44**		Pn	05 24 34.6	+0.8
UNV	**Unalaska Valle**	**2.31**	**48**		Pn	05 24 35.6	+0.9
AKUT	**Akutan**	**2.83**	**49**	Pn	Pn	05 24 41.5	-0.4
GSTR	**Great Sitkin T**	**4.11**	**269**	Pn	Pn	05 24 56.8	-2.7
FALS	**False Pass**	**4.37**	**52**	Pn	Pn	05 25 00.2	-2.8
SPIA	**Saint Paul Isl**	**4.88**	**355**	Pn	Pn	05 25 10.5	+0.4
CHIR	**Chirikof Islan**	**8.82**	**61**	Pn	Pn	05 26 01.7	-2.4
SII	**Sitkinak Islan**	**9.82**	**58**	Pn	Pn	05 26 15.9	-1.9
RIDG	**Independent Ri**	**17.17**	**39**	Pn	Pn	05 27 55.5	-0.8
DOT	**Dot Lake**	**17.43**	**40**	Pn	Pn	05 27 58.4	-1.0

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*IDC **27** 05:24:05.5±1.3, 52°.32N×169°.37W, h0km, mb4.0/17,*
mb1 4.1/19, mb1mx3.9/69, mbtmp4.0/19, ML3.5/2, Error
ellipse: s-maj=34.1km s-min=15.8km az=170.0
*NEIC **27** 05:24:06.4±2.1, 52°.2N±0°.1×169°.2W±0°.1, h9km±7km, Error*
ellipse: s-maj=19.8km s-min=8.7km az=164.0
*AEIC **27** 05:24:08±2.2, 52°.17N±0°.09×169°.2W±0°.1, h17km±5km,*
ML3.7, mb4.0/37(NEIC), Error ellipse: s-maj=14.6km
s-min=8.4km az=154.0
ISC 27 05:24:10.4±0.7, 52°.3N±0°.1×169°.24W±0°.06, h35km, n96,
σ1§07/94, mb4.0/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.74**	**18**	Pg	**Pn**	**05 24 22.5**	**-1.9**
AKUT	**Akutan**	**2.80**	**47**	Pn	**Pn**	**05 24 52.6**	**-0.1**
ATKA	**Atka Island**	**3.05**	**271**	Pn	**Pn**	**05 24 55.8**	**-0.2**
ATKA					**Sn**	**05 25 32.7**	**+1.5**
GSTR	**Great Sitkin T**	**4.20**	**270**	Pn	**Pn**	**05 25 09.9**	**-2.1**
FALS	**False Pass**	**4.33**	**51**	Pn	**Pn**	**05 25 11.4**	**-2.3**
ADK	**Adak**	**4.61**	**268**	Pn	**Pn**	**05 25 16.5**	**-1.0**
KIWB	**Kanaga Island**	**4.90**	**268**	Pn	**Pn**	**05 25 22.1**	**+0.6**
SPIA	**Saint Paul Isl**	**4.95**	**354**	Pn	**Pn**	**05 25 23.2**	**+1.0**
SDPT	**Sand Point**	**6.04**	**56**	Pn	**Pn**	**05 25 38.5**	**+1.4**
CNBA	**Chernabura Isl**	**6.29**	**62**	Pn	**Pn**	**05 25 41.2**	**+0.5**
AMKA	**Amchitka**	**7.16**	**267**	Pn	**Pn**	**05 25 51.5**	**-1.0**
CHIR	**Chirikof Islan**	**8.77**	**61**	Pn	**Pn**	**05 26 12.7**	**-1.9**
SII	**Sitkinak Islan**	**9.77**	**58**	Pn	**Pn**	**05 26 28.1**	**-0.1**
OHAK	**Old Harbor**	**10.46**	**55**	Pn	**Pn**	**05 26 37.7**	**0.0**
KDAK	**Kodiak Island**	**11.03**	**53**	Pn	**Pn**	**05 26 44.1**	**-1.3**
GAMB	**Gambell**	**11.61**	**355**	Pn	**Pn**	**05 26 55.9**	**+2.5**
RSO	**Redoubt South**	**12.25**	**42**	Pn	**Pn**	**05 27 00.5**	**-1.9**
HOM	**Homer**	**12.30**	**46**	Pn	**Pn**	**05 27 02.6**	**-0.2**
CNPM	**China Poot**	**12.42**	**47**	Pn	**Pn**	**05 27 03.3**	**-1.2**
TTA	**Tatalina**	**12.79**	**28**	Pn	**Pn**	**05 27 09.6**	**0.0**
SEW	**Seward**	**13.48**	**47**	Pn	**Pn**	**05 27 19.0**	**+0.1**
O22K	**Cooper Landing**	**13.54**	**45**	Pn	**Pn**	**05 27 18.4**	**-1.3**
SUA	**Susitna One**	**13.63**	**40**	Pn	**Pn**	**05 27 21.3**	**+0.2**
RC01	**Rabbit Creek A**	**13.84**	**43**	Pn	**Pn**	**05 27 22.5**	**-1.4**
PWL	**Port Wells**	**14.32**	**45**	Pn	**Pn**	**05 27 28.9**	**-1.5**
GLI	**Glacier Island**	**14.87**	**46**	Pn	**Pn**	**05 27 37.4**	**-0.5**
HIN	**Hinchinbrook I**	**14.94**	**48**	Pn	**Pn**	**05 27 38.0**	**-0.8**
FID	**Port Fidalgo**	**15.09**	**47**	Pn	**Pn**	**05 27 39.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**15.19**	**32**	Pn	**Pn**	**05 27 40.7**	**-1.4**
BPAW				IAmb	IAmb	05 28 07.6	
comp=Z,6.2nm,0.9s							
SCM	**Sheep Creek Mo**	**15.21**	**42**	Pn	**Pn**	**05 27 41.1**	**-1.3**
SCM				IAmb	IAmb	05 27 43.4	
comp=Z,8.3nm,0.5s							
EYAK	**Cordova Ski Ar**	**15.34**	**48**	Pn	**Pn**	**05 27 43.6**	**-0.5**
EYAK				IAmb	IAmb	05 27 45.0	
comp=Z,15nm,1.2s							
MCK	**McKinley**	**15.65**	**35**	Pn	**Pn**	**05 27 47.9**	**-0.1**
KLU	**Klutina**	**15.65**	**45**		**Pn**	**05 27 47.1**	**-1.0**
KLU				IAmb	IAmb	05 27 51.1	
comp=Z,6.1nm,0.7s							
RAGM	**Ragged Mountai**	**15.78**	**49**		**P**	**05 27 51.9**	**-1.4**
M24K	**Tolsona, Glenn**	**15.82**	**43**	Pn	**Pn**	**05 27 49.7**	**-0.6**
M24K				IAmb	IAmb	05 28 08.0	
comp=Z,25nm,1.2s							
MLY	**Manley**	**15.91**	**29**	Pn	**Pn**	**05 27 48.9**	**-2.6**
HMT	**Hamilton**	**15.96**	**50**	Pn	**Pn**	**05 27 50.9**	**-1.1**
BMRM	**Bremner River**	**16.02**	**47**	Pn	**Pn**	**05 27 52.4**	**-0.5**
BMRM				IAmb	IAmb	05 28 02.1	
comp=Z,18nm,1.3s							
N25K	**Chitina, Valde**	**16.27**	**45**	Pn	**Pn**	**05 27 55.2**	**-0.9**
N25K				IAmb	IAmb	05 28 11.9	
comp=Z,15nm,1.5s							
WRH	**Wood River Hil**	**16.39**	**34**	Pn	**Pn**	**05 27 58.0**	**+0.5**
WRH				IAmb	IAmb	05 27 58.4	
comp=Z,6.9nm,1.3s							
I23K	**Minto, Yukon-K**	**16.42**	**31**		**P**	**05 27 59.6**	**-0.6**
I23K				IAmb	IAmb	05 28 16.7	
comp=Z,11nm,1.4s							
GLB	**Gilahina Butte**	**16.56**	**46**	Pn	**Pn**	**05 27 58.1**	**-1.6**
GLB				IAmb	IAmb	05 28 23.4	
comp=Z,6.4nm,1.0s							
CCB	**Clear Creek Bu**	**16.60**	**33**	Pn	**Pn**	**05 28 00.2**	**+0.1**
CRQM	**Cirque**	**16.62**	**49**		**P**	**05 28 01.7**	**-1.1**
CRQM				IAmb	IAmb	05 28 08.2	
comp=Z,8.6nm,0.7s							
VRDI	**Verde Repeater**	**16.64**	**47**	Pn	**Pn**	**05 28 00.4**	**-0.5**
VRDI				IAmb	IAmb	05 28 13.1	
comp=Z,14nm,1.3s							
MDM	**Murphy Dome**	**16.66**	**32**	Pn	**Pn**	**05 28 01.2**	**+0.3**
WAX	**Waxell Ridge**	**16.66**	**50**	Pn	**Pn**	**05 28 00.3**	**-0.7**
ISLE	**Juniper Island**	**16.95**	**50**	Pn	**Pn**	**05 28 03.0**	**-1.7**
IL31		**16.99**	**34**	Pn	**Pn**	**05 28 05.0**	**0.0**
ILAR	**Eielson Array**	**16.99**	**34**	Pn	**Pn**	**05 28 03.4**	**-1.6**
comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=1.6							
ILAR	**Eielson Array**	**16.99**	**34**	Pn	**Pn**	**05 28 03.0**	**-2.0**
ILAR					sP	05 28 32.2	+13
RIDG	**Independent Ri**	**17.16**	**39**	Pn	**Pn**	**05 28 06.1**	**-1.1**
YAH	**Yahtse**	**17.16**	**51**	Pn	**Pn**	**05 28 06.5**	**-0.9**
YAH				IAmb	IAmb	05 28 34.5	
comp=Z,46nm,1.2s							
SCRK	**Sand Creek**	**17.61**	**38**	Pn	**Pn**	**05 28 11.6**	**-1.2**
PRP	**Porcupine Dome**	**17.90**	**33**	Pn	**Pn**	**05 28 15.4**	**-1.0**
L27K	**Beaver Creek,**	**18.05**	**43**		**Pn**	**05 28 17.3**	**-0.8**
BCAR	**Beaver Creek A**	**18.07**	**43**		**P**	**05 28 19.0**	**+0.4**
K27K	**Chicken**	**18.37**	**40**	P	**Pn**	**05 28 23.3**	**+1.3**
EGAK	**Eagle**	**19.07**	**38**	P	**Pn**	**05 28 31.4**	**+1.0**
EGAK				IAmb	IAmb	05 28 47.5	
comp=Z,6.7nm,1.2s							
BMAR	**Burnt Mountain**	**19.38**	**29**	P	**Pn**	**05 28 33.6**	**-0.6**
DAWY	**Dawson**	**19.45**	**41**	P	**Pn**	**05 28 34.9**	**-0.2**
DAWY				IAmb	IAmb	05 28 42.4	
comp=Z,9.8nm,1.3s							
PEA0B	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**05 28 39.7**	**+0.3**
PETK	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**05 28 39.5**	**+0.2**
comp=Z,1.6nm,0.3s,baz=91,slow=13,SNR=21							
PETK	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**05 28 38.4**	**-1.0**
EPYK	**Eagle Plains**	**21.43**	**36**	P	**P**	**05 28 54.6**	**-0.5**
EPYK				IAmb	IAmb	05 29 10.0	
comp=Z,11nm,0.9s							
INK	**Inuvik**	**23.39**	**33**	P	**P**	**05 29 15.1**	**-0.4**
comp=Z,4.3nm,1.0s,baz=232,slow=6.9,SNR=4.8							
YKA	**Yellowknife Ar**	**30.25**	**49**	P	**P**	**05 30 18.0**	**+0.5**
comp=Z,0.3nm,0.3s,baz=273,slow=8.2,SNR=2.6							
HUMO	**Hull Mountain**	**32.26**	**89**	P	**P**	**05 30 36.5**	**+1.0**
KLR	**Kul'dur**	**36.56**	**289**	P	**P**	**05 31 11.0**	**-1.6**
comp=Z,1.6nm,0.5s,baz=44,slow=4.8,SNR=6.0							
PDAR	**Pinedale Array**	**40.34**	**79**	P	**P**	**05 31 45.5**	**+0.9**
comp=Z,0.7nm,0.5s,baz=302,slow=3.8,SNR=5.8							
KSRS	**Korea Array**	**45.49**	**277**	P	**P**	**05 32 26.9**	**+0.9**
comp=Z,2.4nm,0.9s,baz=55,slow=7.8,SNR=8.2							
SPITS	**Spitsbergen Ar**	**49.77**	**358**	P	**P**	**05 32 58.5**	**-0.3**
comp=Z,0.8nm,0.3s,baz=23,slow=4.5,SNR=12							
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**05 33 09.9**	**-1.9**
comp=Z,0.6nm,0.5s,baz=64,slow=6.6,SNR=2.7							
TXAR	**Lajitas Array**	**52.67**	**89**	P	**P**	**05 33 21.9**	**+0.6**
comp=Z,0.5nm,0.6s,baz=304,slow=5.2,SNR=3.2							
ARCES	**ARCESS Array B**	**58.03**	**354**	P	**P**	**05 33 58.9**	**-0.3**
comp=Z,4.4nm,1.0s,baz=17,slow=8.9,SNR=6.6							
KURBB	**Kurchatov Arra**	**62.61**	**318**	P	**P**	**05 34 31.0**	**+0.4**
BVAR	**Borovoye Array**	**63.83**	**324**	P	**P**	**05 34 39.2**	**+0.5**
comp=Z,0.8nm,0.4s,baz=128,slow=2.4,SNR=4.4							
MK31	**Makanchi Array**	**63.93**	**313**	P	**P**	**05 34 41.1**	**+1.6**
MK31				IAmb	IAmb	05 35 02.9	
comp=Z,1.2nm,1.5s							
MKAR	**Makanchi Array**	**63.93**	**313**	P	**P**	**05 34 39.1**	**-0.5**
comp=Z,0.6nm,0.6s,baz=51,slow=6.4,SNR=5.2							
MKAR	**Makanchi Array**	**63.93**	**313**	P	**P**	**05 34 39.5**	**0.0**
FINES	**FINESS Array B**	**65.98**	**352**	P	**P**	**05 34 52.5**	**0.0**
comp=Z,2.1nm,0.5s,baz=26,slow=8.9,SNR=11							
FINES	**FINESS Array B**	**65.98**	**352**	P	**P**	**05 34 52.6**	**0.0**
NC204	**NORSAR Array S**	**66.80**	**360**	P	**P**	**05 34 58.0**	**0.0**
NC405	**NORSAR Array S**	**66.96**	**359**	P	**P**	**05 34 58.4**	**-0.5**
NB2	**NORSAR Subarra**	**67.04**	**360**	P	**P**	**05 34 59.6**	**+0.2**
comp=Z,0.6nm,0.5s,baz=1.2,slow=6.5							
NOA	**NORSAR Array B**	**67.04**	**360**	P	**P**	**05 34 58.7**	**-0.7**
comp=Z,0.9nm,0.6s,baz=0.3,slow=6.2,SNR=4.8							
BOOM	**Boomskoye usch**	**70.11**	**314**	P	**P**	**05 35 20.4**	**+1.3**
BOOM				IAmb	IAmb	05 35 25.9	
comp=Z,0.5nm,0.4s							
AKTO	**Aktyubinsk**	**70.14**	**330**	P	**P**	**05 35 19.0**	**+0.2**
comp=Z,2.0nm,0.6s,baz=46,slow=6.6,SNR=4.7							
ABKAR	**Akbulak array**	**70.56**	**328**	P	**P**	**05 35 21.8**	**+0.4**
ABKAR				IAmb	IAmb	05 35 30.0	
comp=Z,1.2nm,0.9s							
KKAR	**Karatay Array**	**71.91**	**318**	P	**P**	**05 35 30.2**	**+0.4**
AKASG	**Malin Array Be**	**76.22**	**348**	P	**P**	**05 35 54.5**	**-0.2**
comp=Z,1.6nm,0.4s,baz=17,slow=6.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**76.72**	**283**	P	**P**	**05 35 57.3**	**-0.8**
comp=Z,1.1nm,0.4s,baz=30,slow=7.1,SNR=5.4							
GERES	**GERESS Array B**	**79.23**	**358**	P	**P**	**05 36 12.4**	**+0.7**
comp=Z,0.3nm,0.3s,baz=15,slow=8.1,SNR=2.1							
H03N2	**Juan Fernandez**	**115.82**	**112**	T	T	07 50 28.4	
baz=317,slow=77,SNR=18							
H03N1	**Juan Fernandez**	**115.83**	**112**	T	T	07 50 31.3	
baz=317,slow=77,SNR=16							
H03N3	**Juan Fernandez**	**115.83**	**112**	T	T	07 50 29.0	
baz=317,slow=77,SNR=20							

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*NEIC **27** 05:26:56.6±2.1, 52°.10N±0°.04×169°.31W±0°.09, h14km±5km,*
Error ellipse: s-maj=7.9km s-min=6.3km az=81.0
*IDC **27** 05:26:56.0±1.9, 52°.66N×169°.46W, h0km, mb3.8/7,*
mb1 3.9/9, mb1mx3.6/63, mbtmp3.8/9, ML3.5/2, Error
ellipse: s-maj=52.1km s-min=21.0km az=6.0
*AEIC **27** 05:26:58±2.4, 52°.16N±0°.05×169°.37W±0°.09, h18km±1km,*
ML3.8/20, mb4.1/28(NEIC), Error ellipse: s-maj=7.6km
s-min=6.7km az=73.0
ISC 27 05:26:56.3±2.5, 52°.19N±0°.10×169°.40W±0°.06,
h11km±15km, n73, σ1§13/78, mb3.9/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**23**		**Pn**	**05 27 14.2**	**-0.1**
NIKH	**Nikolski High**	**0.85**	**23**		**Sn**	**05 27 28.5**	**+1.7**
OKSO	**Okmok South**	**1.39**	**32**		**Pb**	**05 27 22.6**	**+0.2**
OKSO					**Sg**	**05 27 42.3**	**+1.2**
OKFG	**Magazine Ridge**	**1.52**	**36**		**Pn**	**05 27 23.8**	**+0.3**
OKFG					**Sb**	**05 27 44.0**	**+0.1**
MAPS	**Pakushin South**	**2.20**	**41**		**Pn**	**05 27 33.6**	**+0.8**
MAPS					**Sn**	**05 28 01.6**	**+1.5**
MNAT	**Makushin Natee**	**2.36**	**43**		**Pn**	**05 27 36.2**	**+1.2**
MNAT					**Sn**	**05 28 05.4**	**+1.4**
UNV	**Unalaska Valle**	**2.41**	**45**		**Pn**	**05 27 37.0**	**+1.3**
UNV					**Sn**	**05 28 06.4**	**+1.2**
AKRB	**Akutan Reef Bi**	**2.79**	**45**		**Pn**	**05 27 43.5**	**+2.6**
AKGG	**Akutan Green G**	**2.88**	**44**		**Pb**	**05 27 45.0**	**-2.5**
KOFP	**Korovin Flat P**	**2.89**	**274**		**Pn**	**05 27 44.3**	**

WVOR	Wild Horse Val	35.11	86	P	P	05 33 50.6	+1.0
PDAR	Pinedale Array	40.46	79	P	P	05 34 36.0	+1.1
	comp=Z,0.5nm,0.8s,baz=316,slow=3.8,SNR=3.6						
PDAR	Pinedale Array	40.46	79	P	P	05 34 35.8	+0.9
SPITS	Spitsbergen Ar	49.85	358	P	P	05 35 46.3	-2.5
	comp=Z,0.3nm,0.3s,baz=340,slow=9.7,SNR=4.7						
TXAR	Lajitas Array	52.77	89	P	P	05 36 13.0	+1.6
	comp=Z,0.3nm,0.7s,baz=304,slow=4.9,SNR=2.0						
ZALV	Zalesovo Beam	57.55	318	P	P	05 36 44.5	-0.8
	comp=Z,1.5nm,0.7s,baz=58,slow=3.7,SNR=5.3						
ARCES	ARCESS Array B	58.10	354	P	P	05 36 48.2	-0.9
	comp=Z,3.9nm,0.8s,baz=356,slow=7.3,SNR=3.7						
ARCES	ARCESS Array B	58.10	354	P	P	05 36 49.0	-0.1
MKAR	Makanchi Array	63.92	313	P	P	05 37 27.1	-1.8
	comp=Z,0.2nm,0.3s,baz=53,slow=6.7,SNR=5.0						
MKAR	Makanchi Array	63.92	313	P	P	05 37 28.1	-0.8
FINES	FINESS Array B	66.05	352	P	P	05 37 41.1	-1.4
	comp=Z,1.5nm,0.8s,baz=339,slow=11,SNR=1.2						
ABKAR	Akbulak array	70.58	328	P	P	05 38 11.0	-0.1
KKAR	Karatay Array	71.91	318	P	P	05 38 19.8	+0.5

*IDC **27** 05:27:30.9±2.4, 52°.14N×169°.54W, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.6/57, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=54.7km s-min=31.3km az=1.0*
*NEIC **27** 05:27:38.8±1.9, 52°.3N±0°.1×168°.8W±0°.1, h34km±9km, mb3.5/11, Error ellipse: s-maj=16.9km s-min=9.9km az=153.0*
ISC 27 05:27:37.5±1.2, 52°.3N±0°.2×168°.92W±0°.09, h35km, n41, σ1§45/41, mb4.0/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.71	3		Pn	05 27 52.6	+1.5
AKUT	Akutan	2.67	44	Pn	Pn	05 28 16.3	-1.6
ATKA	Atka Island	3.24	271	Pn	Pn	05 28 25.9	0.0
FALS	False Pass	4.18	49	Pn	Pn	05 28 38.1	-0.7
GSTR	Great Sitkin T	4.40	271	Pn	Pn	05 28 44.1	+2.4
ADK	Adak	4.80	269	Pn	Pn	05 28 51.2	+3.9
SPIA	Saint Paul Isl	4.98	352	Pn	Pn	05 28 51.1	+1.4
KIWB	Kanaga Island	5.09	269	Pn	Pn	05 28 53.7	+2.4
CNBA	Chernabura Isl	6.12	62	Pn	Pn	05 29 05.4	0.0
CHIR	Chirikof Islan	8.60	60	Pn	Pn	05 29 40.3	+1.0
OHAK	Old Harbor	10.30	55	Pn	Pn	05 30 03.0	+0.4
SMY	Shemya	10.37	279	Pn	Pn	05 30 03.4	-0.2
KDAK	Kodiak Island	10.87	53	Pn	Pn	05 30 10.5	+0.1
GAMB	Gambell	11.64	354	Pn	Pn	05 30 22.5	+1.7
SEW	Seward	13.35	46	Pn	Pn	05 30 45.0	+0.9
RC01	Rabbit Creek A	13.71	42	Pn	Pn	05 30 50.5	+1.3
PWL	Port Wells	14.19	45	Pn	Pn	05 30 56.2	+0.5
HIN	Hinchinbrook I	14.80	48	Pn	Pn	05 31 04.8	+0.8
FID	Port Fidalgo	14.96	47	Pn	Pn	05 31 05.6	-0.5
SCM	Sheep Creek Mo	15.09	42	Pn	Pn	05 31 06.7	-1.1
RND	Reindeer	15.37	36	Pn	Pn	05 31 11.5	0.0
RAGM	Ragged Mountai	15.64	49	Pn	Pn	05 31 15.5	+0.5
M24K	Tolsona, Glenn	15.70	42	Pn	Pn	05 31 15.4	-0.4
M24K				IAmb	IAmb	05 31 16.6	
	comp=Z,3.4nm,0.8s						
MLY	Manley	15.83	29	Pn	Pn	05 31 19.3	+1.9
MLY				IAmb	IAmb	05 31 22.9	
	comp=Z,5.7nm,1.3s						
BMRM	Bremner River	15.88	47	Pn	Pn	05 31 18.8	+0.7
BMRM				IAmb	IAmb	05 31 27.2	
	comp=Z,15nm,1.3s						
NEA2	Nenana	16.05	32	Pn	Pn	05 31 20.0	-0.2
I23K	Minto, Yukon-K	16.33	30		Pn	05 31 25.3	+1.6
I23K				IAmb	IAmb	05 31 28.4	
	comp=Z,0.4nm,0.2s						
GLB	Gilahina Butte	16.42	46	Pn	Pn	05 31 25.1	+0.1
GLB				IAmb	IAmb	05 31 34.0	
	comp=Z,2.1nm,0.7s						
CCB	Clear Creek Bu	16.50	33	Pn	Pn	05 31 24.9	-1.0
VRDI	Verde Repeater	16.50	47	Pn	Pn	05 31 26.9	+0.7
VRDI				IAmb	IAmb	05 31 28.4	
	comp=Z,3.7nm,1.4s						
MDM	Murphy Dome	16.56	32	Pn	Pn	05 31 27.7	+1.0
IL31		16.89	34	Pn	Pn	05 31 30.9	+0.1
ILAR	Eielson Array	16.89	34	Pn	P	05 31 32.5	-0.1
	comp=Z,0.1nm,0.3s,baz=216,slow=9.0,SNR=1.7						
ILAR	Eielson Array	16.89	34	P	Pn	05 31 32.0	+1.2
BMAR	Burnt Mountain	19.29	29	P	P	05 31 59.3	+0.3
PETK	Petropavlovsk-	20.15	286	P	P	05 32 04.8	-3.7
	comp=Z,1.1nm,0.3s,baz=93,slow=13,SNR=12						
EPYK	Eagle Plains	21.32	36	P	P	05 32 20.0	-1.1
EPYK				IAmb	IAmb	05 32 27.6	
	comp=Z,4.5nm,0.9s						
INK	Inuvik	23.28	33	P	P	05 32 40.9	-0.8
TXAR	Lajitas Array	52.47	89	P	P	05 36 48.6	+1.8
	comp=Z,0.3nm,0.7s,baz=309,slow=5.7,SNR=2.0						
ARCES	ARCESS Array B	58.06	354	P	P	05 37 25.2	-1.2
	comp=Z,3.4nm,1.1s,baz=9.4,slow=8.3,SNR=3.7						
FINES	FINESS Array B	66.01	352	P	P	05 38 17.4	-2.5
	comp=Z,0.8nm,0.5s,baz=4.0,slow=6.0,SNR=3.9						

*IDC **27** 05:27:55.3±0.7, 52°.28N×169°.43W, h0km, mb4.5/29, mb1 4.7/31, mb1mx4.5/51, mbtmp4.5/31, ML4.1/2, Error ellipse: s-maj=19.8km s-min=10.9km az=163.0*
*MOS **27** 05:27:57.7±1.0, 52°.29N×169°.41W, h27km, mb5.0/42, Error ellipse: s-maj=8.5km s-min=6.0km az=90.7*
*AEIC **27** 05:27:59±2.3, 52°.19N±0°.06×169°.32W±0°.06, h30km±4km, ML4.3, mb4.7/155(NEIC), Error ellipse: s-maj=8.4km s-min=5.7km az=177.0*
*NEIC **27** 05:28:00.8±1.8, 52°.30N±0°.05×169°.30W±0°.06, h35km±1km, Error ellipse: s-maj=7.9km s-min=6.2km az=188.0*
ISC 27 05:27:58.8±1.3, 52°.27N±0°.06×169°.32W±0°.04, h23km±8km, n427, σ1§12/435, mb4.8/154, 18C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.76	22		Pb	05 28 13.8	+0.5
NIKH	Nikolski High	0.76	22		Sn	05 28 28.1	+3.3
OKSO	Okmok South	1.30	32		Pn	05 28 22.4	+0.9
OKSO					Sn	05 28 39.0	+0.9
OKNC	Okmok New Cone	1.39	31		Pn	05 28 23.1	+0.3
MAPS	Pakushin South	2.11	42		Pn	05 28 33.8	+1.1
MAPS					Sb	05 29 01.0	-1.0
MSW	Makushin Switc	2.25	42		Pn	05 28 35.2	+0.6
MNAT	Makushin Natee	2.27	43		Pn	05 28 36.4	+1.5
UNV	Unalaska Valle	2.32	46		Pn	05 28 37.5	+2.0
UNV					Sn	05 29 05.5	+2.2
MTBL	Makushin Table	2.33	42		Pn	05 28 38.4	+2.6
AKRB	Akutan Reef Bi	2.70	45		Pb	05 28 44.2	-2.2
AKBBA	Akutan Broad B	2.74	47		Pn	05 28 44.5	+3.2
AKUT	Akutan	2.84	47	Pn	Pn	05 28 43.7	+1.2
KOSE	Korovin Southe	2.91	273		Pn	05 28 45.2	+1.6
KOFP	Korovin Flat P	2.94	272		Pn	05 28 46.0	+1.9
ATKA	Atka Island	3.00	271	Pn	Pn	05 28 45.8	+1.0
GSTR	Great Sitkin T	4.15	270	Pn	Pn	05 29 02.3	+1.6
GSMY	Great Sitkin M	4.16	270		Pn	05 29 01.1	+0.3
GSTD	Great Sitkin T	4.21	270		Pn	05 29 02.4	+0.8
FALS	False Pass	4.37	51	Pn	Pn	05 29 03.5	-0.2
ADK	Adak	4.56	268	P	Pn	05 29 07.0	+0.7
ADK	Adak	4.56	268		Pn	05 29 07.0	+0.7
KIWB	Kanaga Island	4.85	268	Pn	Pn	05 29 10.9	+0.6
KIKV	Kanaga Island	4.86	268		Pn	05 29 11.9	+1.5
KIMD	Kanaga Island	4.92	267		Pn	05 29 12.1	+0.9
SPIA	Saint Paul Isl	4.95	354		Pn	05 29 12.2	+0.6
TASE	Tanaga Southea	5.40	269		Pn	05 29 20.0	+2.2
GAEA	Gareloi East	5.84	269		Pn	05 29 26.9	+3.0
SDPT	Sand Point	6.08	56	Pn	Pn	05 29 27.3	+0.2
CNBA	Chernabura Isl	6.34	62	Pn	Pn	05 29 32.1	+1.4
CERAA	Semis' Rag'd T	6.79	271		Pn	05 29 38.5	+1.7
CESW	Semis' Southwe	6.86	271		Pn	05 29 39.9	+2.0
AMKA	Amchitka	7.11	267		Pn	05 29 42.5	+1.2
LSPA	Little Sitkin	7.46	272		Pn	05 29 48.8	+2.6
LSNW	Little Sitkin	7.50	273		Pn	05 29 49.4	+2.8
CHIR	Chirikof Islan	8.81	61	Pn	Pn	05 30 07.5	+3.0
SII	Sitkinak Islan	9.81	58	Pn	Pn	05 30 20.4	+2.1
SMY	Shemya	10.13	279	P	Pn	05 30 23.7	+1.1
SMY	Shemya	10.13	279	Pn	Pn	05 30 23.7	+1.1
OHAK	Old Harbor	10.50	56	Pn	Pn	05 30 27.6	-0.1
KDAK	Kodiak Island	11.06	53	Pn	Pn	05 30 36.1	+0.7
	0.8nm,0.3s,baz=279,slow=13,SNR=3.6						
KDAK				Sn	Sn	05 32 33.2	-5.1
	0.2nm,0.3s,baz=336,slow=20,SNR=2.9						
SVW2	Sparrevohn	11.61	35	Pn	Pn	05 30 45.7	+2.8
GAMB	Gambell	11.61	355	Pn	Pn	05 30 44.9	+2.1
CNPM	China Poot	12.45	47	Pn	Pn	05 30 54.7	+0.3
BRLK	Bradley Lake	12.72	47	Pn	Pn	05 30 57.7	-0.3
SEW	Seward	13.52	47		Pn	05 31 08.9	0.0
SKT	Skwentna	13.66	38	Pn	Pn	05 31 11.8	+0.9
SUA	Susitna One	13.66	40	Pn	Pn	05 31 13.2	+2.2
RC01	Rabbit Creek A	13.87	43	Pn	Pn	05 31 14.3	+0.6
PPLA	Purkeypile	14.01	34	Pn	Pn	05 31 15.3	-0.4
PWL	Port Wells	14.36	45	Pn	Pn	05 31 19.4	-0.9
PMR	Palmer	14.38	42	P	Pn	05 31 22.3	+1.7
PMR	Palmer	14.38	42	Pn	Pn	05 31 22.3	+1.7
GHO	Glory Hole Cre	14.56	41	Pn	Pn	05 31 24.0	+0.8
KNK	Knik Glacier	14.57	43	Pn	Pn	05 31 22.2	-1.0
SML	Sawmill	14.82	42	Pn	Pn	05 31 26.7	+0.1
KTH	Kantishna Hill	14.87	33	Pn	Pn	05 31 27.0	-0.4
GLI	Glacier Island	14.91	46	Pn	Pn	05 31 26.1	-1.7
HIN	Hinchinbrook I	14.98	48	Pn	Pn	05 31 27.5	-1.3
HIN				IAmb	IAmb	05 31 48.5	
	comp=Z,36nm,0.9s						
TRF	Thorofare Moun	15.02	34	Pn	Pn	05 31 26.9	-2.7
FID	Port Fidalgo	15.13	47	Pn	Pn	05 31 30.4	-0.4
FID				IAmb	IAmb	05 31 51.9	
	comp=Z,21nm,0.8s						
BPAW	Bear Paw Mtn.	15.22	32		P	05 31 35.1	-1.7
BPAW				IAmb	IAmb	05 31 37.9	
	comp=Z,26nm,0.8s						
SCM	Sheep Creek Mo	15.24	43	P	Pn	05 31 31.9	-0.5
SCM				pmax	pmax		
	comp=Z,23nm,0.6s						
SCM	Sheep Creek Mo	15.24	43		Pn	05 31 31.9	-0.5
SCM				IAmb	IAmb	05 31 46.0	
	comp=Z,23nm,0.6s						
EYAK	Cordova Ski Ar	15.38	48	Pn	Pn	05 31 33.1	-1.0
RND	Reindeer	15.51	36	P	Pn	05 31 37.5	+1.7
RND				pmax	pmax		
	comp=Z,17nm,1.3s						
RND	Reindeer	15.51	36	Pn	Pn	05 31 37.5	+1.7
KLU	Klutina	15.69	45	Pn	Pn	05 31 37.7	-0.4
KLU				IAmb	IAmb	05 31 37.9	
	comp=Z,21nm,0.6s						
BWN	Browne	15.77	33	Pn	Pn	05 31 38.9	-0.2
KAIM	Kayak Island	15.79	51	Pn	Pn	05 31 40.3	+0.9
KAIM				IAmb	IAmb	05 31 48.1	
	comp=Z,125nm,1.2s						
RAGM	Ragged Mountai	15.82	49	Pn	Pn	05 31 39.7	-0.1
IMAR	Indian Mountai	15.83	24	Pn	Pn	05 31 39.4	-0.5
M24K	Tolsona, Glenn	15.86	43		Pn	05 31 39.9	-0.4
M24K				IAmb	IAmb	05 32 04.7	
	comp=Z,34nm,0.9s						
MLY	Manley	15.94	30	Pn	Pn	05 31 42.2	+0.9
HMT	Hamilton	15.99	50	Pn	Pn	05 31 42.0	-0.1
HMT				IAmb	IAmb	05 31 48.0	
	comp=Z,64nm,1.2s						
BMRM	Bremner River	16.06	47		Pn	05 31 41.1	-1.8
BMRM				IAmb	IAmb	05 31 53.8	
	comp=Z,38nm,1.2s						
NEA2	Nenana	16.17	32		Pn	05 31 43.9	-0.3
N25K	Chitina, Valde	16.31	45	Pn	Pn	05 31 44.9	-1.2
WRH	Wood River Hil	16.42	34		Pn	05 31 48.1	+0.6
I23K	Minto, Yukon-K	16.45	31	Pn	Pn	05 31 47.9	+0.2
GLB	Gilahina Butte	16.59	46	Pn	Pn	05 31 49.6	-0.1
CCB	Clear Creek Bu	16.63	33		Pn	05 31 48.9	-1.1
CRQM	Cirque	16.66	49	Pn	Pn	05 31 49.9	-0.7
CRQM				IAmb	IAmb	05 32 05.7	
	comp=Z,56nm,1.4s						
VRDI	Verde Repeater	16.68	47		Pn	05 31 50.0	-0.9
MDM	Murphy Dome	16.68	32	P	Pn	05 31 51.9	+1.1
COLA	College	16.75	33	⇑iP	Pn	05 31 51.1	-0.5
HDA	Harding Lake	16.78	35		Pn	05 31 51.3	-0.7
IL31		17.02	34		Pn	05 31 54.5	-0.4
ILAR	Eielson Array	17.02	34	Pn	Pn	05 31 54.1	-0.8
	comp=Z,0.2nm,0.3s,baz=230,slow=9.3,SNR=8.6						
ILAR	Eielson Array	17.02	34		Pn	05 31 53.5	-1.5
POKR	Poker Plat Res	17.05	33	Pn	Pn	05 31 55.1	-0.2
BARN	Barnard Glacie	17.44	49		Pn	05 32 00.5	+0.1
SCRK	Sand Creek	17.64	39		Pn	05 32 02.8	+0.1
PCA	Pinnacle	17.85	53		P	05 32 06.4	+0.5
PCA				IAmb	IAmb	05 32 10.0	
	comp=Z,36nm,0.8s						
BCAR	Beaver Creek A	18.10	43	P	Pn	05 32 08.5	0.0
BCPM	Bancas Point	18.12	53	P	P	05 32 09.2	+0.3
BCPM				IAmb	IAmb	05 32 31.1	
	comp=Z,101nm,1.4s						
TOLK	Toolik Lake Re	18.93	22	P	P	05 32 15.5	-2.2
EGAK	Eagle	19.10	38		Pn	05 32 20.4	-0.1
DAWY	Dawson	19.49	41	P	P	05 32 23.3	-0.6
BILL	Bilibino	19.70	333	eP	Pn	05 32 28.3	+0.6
BILL				pmax	pmax		
	comp=Z,19nm,1.1s						
BILL				MLR	MLR		
	comp=Z,6μm,14.0s						
PEA0B	Petropavlovsk-	19.92	286	P	P	05 32 28.9	+0.3
PEA0B				pmax	pmax		
	comp=Z,48nm,0.6s						
PEA0B	Petropavlovsk-	19.92	286	P	P	05 32 28.9	+0.3
PETK	Petropavlovsk-	19.92	286	P	P	05 32 28.1	-0.5
	comp=Z,8.7nm,0.3s,baz=90,slow=13,SNR=48						
PETK	Petropavlovsk-	19.92	286	P	P	05 32 28.4	-0.2
PETK	Petropavlovsk-	19.92	286	P	P	05 32 28.4	-0.2
WHY	Whitehorse	20.58	52		P	05 32 36.2	+0.4
WHY				IAmb	IAmb	05 32 41.6	
	comp=Z,30nm,0.8s						
EPYK	Eagle Plains	21.46	36	P	P	05 32 44.0	-1.3
EPYK				IAmb	IAmb	05 32 55.1	
	comp=Z,23nm,0.7s						
DLBC	Dease Lake	22.91	59	P	P	05 33 01.6	+0.8
	comp=Z,3.7nm,1.0s,baz=253,slow=11,SNR=5.4						
DLBC	Dease Lake	22.91	59	P	P	05 33 01.3	+0.5
MA2	Magadan	23.22	304	P	P	05 33 04.0	+0.1
	comp=Z,23nm,0.8s,baz=111,slow=7.7,SNR=7.8						
MA2	Magadan	23.22	304	⇑iP	P	05 33 04.7	+0.8
MA2				pmax	pmax		
	comp=Z,21nm,0.8s						
MA2	Magadan	23.22	304	P	P	05 33 04.0	+0.1
MA2				IAmb	IAmb	05 33 06.2	
	comp=Z,21nm,0.8s						
INK	Inuvik	23.41	33	P	P	05 33 04.5	-1.2
	comp=Z,7.8nm,0.6s,baz=243,slow=7.3,SNR=14						
INK	Inuvik	23.41	33	P	P	05 33 05.0	-0.6
INK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
INK	Inuvik	23.41	33	P	P	05 33 05.0	-0.6
C36M	Paulatuk	26.99	34	P	P	05 33 38.4	+0.1
YKA	Yellowknife Ar	30.28	49	P	P	05 34 08.5	+0.8
	comp=Z,3.8nm,0.8s,baz=274,slow=10.0,SNR=15						
YKA	Yellowknife Ar	30.28	49	P	P	05 34 09.3	+1.6
YKA	Yellowknife Ar	30.28	49	P	P	05 34 09.2	+1.6
B08A	Colville Reser	31.64	77	P	P	05 34 21.3	+1.4
B08A				IAmb	IAmb	05 34 36.2	
	comp=Z,6.6nm,1.0s						
JKA	Kamikawa-asahi	32.55	275	P	P	05 34 27.6	-0.2
ASAJ	Asahikawa	32.55	275	P	P	05 34 28.4	+0.6
	comp=Z,14nm,0.8s,baz=74,slow=4.1,SNR=5.7						
ASAJ	Asahikawa	32.55	275	P	P	05 34 27.6	-0.2
ASAJ				pmax	pmax		
	comp=Z,20nm,1.0s						
NEW	Newport	33.00	76	P	P	05 34 35.3	+3.4
	comp=Z,4.7nm,0.9s,baz=300,slow=8.1,SNR=2.5						
NEW	Newport	33.00	76	P	P	05 34 33.7	+1.8
NEW				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NEW	Newport	33.00	76	P	P	05 34 33.7	+1.8
NEW				IAmb	IAmb	05 34 47.2	
	comp=Z,7.9nm,1.1s						
EDM	Edmonton	33.16	66	P	P	05 34 32.7	-0.4
EDM				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EDM	Edmonton	33.16	66	P	P	05 34 32.7	-0.4
EDM				IAmb	IAmb	05 34 52.1	
	comp=Z,8.4nm,0.7s						
E09A	Wood Farm, Sta	33.21	79	P	P	05 34 34.3	+0.7
E09A				IAmb	IAmb	05 34 49.6	
	comp=Z,17nm,1.2s						
ERM	Erimo	33.35	271	⇓eP	P	05 34 34.9	0.0
ERM				pmax	pmax		
	comp=Z,23nm,0.8s						
BMO	Blue Mountains	34.56	81	P	P	05 34 46.9	+1.4
BMO				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BMO	Blue Mountains	34.56	81	P	P	05 34 46.9	+1.4
BMO				IAmb	IAmb	05 35 01.6	
	comp=Z,9.2nm,1.4s						
MSO	Missoula	35.58	76	P	P	05 34 54.8	+0.5
MSO				IAmb	IAmb	05 35 10.6	
	comp=Z,12nm,1.2s						
MSO					PcP	05 37 22.8	+0.1
PAHR	Pah Rah Range	36.18	90	P	P	05 35 01.2	+1.6
KLR	Kul'dur	36.52	289	P	P	05 35 00.6	-1.6
	comp=Z,8.5nm,0.6s,baz=70,slow=7.2,SNR=31						
KLR	Kul'dur	36.52	289	⇑iP	P	05 35 00.5	-1.6
KLR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HLID	Hailey	37.01	81	P	P	05 35 08.1	+1.6
HLID				IAmb	IAmb	05 35 22.0	
	comp=Z,9.9nm,1.3s						
ZEA	Zeya	37.07	298	eP	P	05 35 04.5	-2.3
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BCYI	Bear Canyon	37.21	79	P	P	05 35 09.3	+0.9
MCMT	McKenzie Canyo	37.27	78	P	P	05 35 09.7	+0.9
KVN	Kaiserville	37.37	90	P	P	05 35 10.2	+0.5
KVN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KVN	Kaiserville	37.37	90	P	P	05 35 10.2	+0.5
KVN				IAmb	IAmb	05 35 10.8	
	comp=Z,5.7nm,0.7s						
H11N2	WAKE ISLAND Hy	37.39	219	T	T	06 15 02.2	
	baz=24,slow=76,SNR=4.4						
H11N3	WAKE ISLAND Hy	37.40	219	T	T	06 15 06.0	
	baz=24,slow=76,SNR=4.2						
H11N1	WAKE ISLAND Hy	37.41	219	T	T	06 15 03.3	
	baz=24,slow=76,SNR=5.2						
EGMT	Egleton	37.47	72	P	P	05 35 11.6	+1.2
EGMT				IAmb	IAmb	05 35 29.1	
	comp=Z,14nm,0.9s						
BOZ	Bozeman (W)	37.59	77	P	P	05 35 11.8	+0.3
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOZ	Bozeman (W)	37.59	77	P	P	05 35 11.8	+0.3
NVAR	Mina Array Bea	37.63	91	P	P	05 35 18.2	+6.3
	comp=Z,1.5nm,0.8s,baz=305,slow=10,SNR=6.7						
NVAR	Mina Array Bea	37.63	91	P	P	05 35 13.8	+1.8
YHH	Holmes Hill	38.49	77	P	P	05 35 19.7	+0.5
YHH				IAmb	IAmb	05 35 35.2	
	comp=Z,16nm,1.4s						
H11S1	WAKE ISLAND Hy	38.58	218	T	T	06 16 34.1	
	baz=23,slow=76,SNR=15						
H11S2	WAKE ISLAND Hy	38.60	218	T	T	06 16 31.2	
	baz=23,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	38.60	218	T	T	06 16 35.6	
	baz=23,slow=76,SNR=18						
JSD	Sado	38.74	270	P	P	05 35 19.8	-1.2
JSD				IAmb	IAmb	05 35 21.6	
	comp=Z,10nm,0.7s						
FFC	Flin Flon	38.74	59	P	P	05 35 21.1	+0.2
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	Flin Flon	38.74	59	P	P	05 35 21.1	+0.2
USRK	Ussuriysk Ar.	38.94	282	P	P	05 35 20.4	-2.3
	comp=Z,2.5nm,0.8s,baz=68,slow=11,SNR=6.1						
USRK				PcP	PcP	05 37 33.7	+0.9
	comp=Z,0.9nm,0.6s,baz=82,slow=6.0,SNR=4.2						
USRK	Ussuriysk Ar.	38.94	282	P	P	05 35 21.2	-1.5
RLMT	Red Lodge	39.25	76	P	P	05 35 26.1	+0.6
RLMT				IAmb	IAmb	05 35 41.6	
	comp=Z,18nm,1.4s						
MAT	Matsushiro	39.72	268	P	P	05 35 28.9	-0.4
MJAR	Matsushiro Arr	39.72	268	P	P	05 35 28.9	-0.3
	comp=Z,1.0nm,0.4s,baz=40,slow=6.6,SNR=5.2						
MJAR	Matsushiro Arr	39.72	268	P	P	05 35 29.0	-0.3
BW06	Boulder Array	40.39	79	P	P	05 35 35.9	+0.9
PD31	Pinedale Array	40.39	79	P	P	05 35 34.8	-0.2
PDAR	Pinedale Array	40.39	79	P	P	05 35 36.0	+1.0
	comp=Z,3.1nm,0.8s,baz=311,slow=1.7,SNR=15						
PDAR	Pinedale Array	40.39	79	P	P	05 35 35.6	+0.6
JLU	Jordanelle	40.51	83	P	P	05 35 36.0	0.0
JLU				IAmb	IAmb	05 35 51.2	
	comp=Z,12nm,1.3s						
JGF	Kuroka	40.86	268	P	P	05 35 38.6	-0.1
JGF				IAmb	IAmb	05 35 46.5	
	comp=Z,7.6nm,0.9s						
FCC	Fort Churchill	40.98	50	P	P	05 35 40.5	+1.2
FCC				pmax	pmax		
	comp=Z,21nm,1.0s						
FCC	Fort Churchill	40.98	50	P	P	05 35 40.5	+1.2
FCC				IAmb	IAmb	05 35 41.4	
	comp=Z,21nm,0.9s						
MSU	Marysvale	41.34	86	P	P	05 35 44.6	+1.7
MSU	Marysvale	41.34	86	P	P	05 35 44.5	+1.7
TMUT	Trail Mountain	41.45	84	P	P	05 35 44.6	+0.7
P17A	Butcher Ranch,	41.63	84	P	P	05 35 45.8	+0.6
MTPU	Mount Pierson	41.63	87	P	P	05 35 46.5	+1.1
RDMU	Red Mountain	41.67	82	P	P	05 35 45.7	+0.1
RDMU				IAmb	IAmb	05 36

comp=Z,21nm,1.3s
N35A Tabor 49.82 72 P **P 05 36 49.9 +0.2**
DAG Danmarks Havn 49.89 8 *i* P **P 05 36 49.4 -0.3**
DAG IAmb IAmb 05 36 50.0
comp=Z,8.5nm,0.8s
DAG Danmarks Havn 49.89 8 *i* P **P 05 36 49.3 -0.3**
DAG pmax pmax
comp=Z,9.0nm,0.8s
MNTX Cornudas Mount 50.01 88 P **P 05 36 51.5 +0.3**
MNTX IAmb IAmb 05 37 06.1
comp=Z,3.1nm,0.8s
G40A Rib Lake 50.17 65 P **P 05 36 52.0 -0.2**
G40A IAmb IAmb 05 36 52.7
comp=Z,5.2nm,1.0s
COWI Conover 50.24 63 P **P 05 36 52.1 -0.7**
COWI IAmb IAmb 05 37 09.6
comp=Z,5.9nm,1.2s
SUMG Summit 50.87 17 *i* P **P 05 36 57.9 +0.3**
SUMG IAmb IAmb 05 36 59.0
comp=Z,9.5nm,0.8s
SUMG Summit 50.87 17 P **P 05 36 58.2 +0.6**
SUMG pmax pmax
comp=Z,12nm,0.8s
SUMG Summit 50.87 17 P **P 05 36 58.2 +0.6**
SUMG IAmb IAmb 05 36 58.9
comp=Z,12nm,0.8s
ULN Ulaanbaatar 51.01 301 ⇓ *i* P **P 05 36 58.7 0.0**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 51.01 301 P **P 05 36 58.4 -0.3**
ULN IAmb IAmb 05 36 59.6
comp=Z,8.8nm,0.8s
E43A Lone Tree Farm 51.24 62 P **P 05 37 00.4 +0.1**
E43A IAmb IAmb 05 37 10.4
comp=Z,18nm,1.5s
N38A Joes South For 51.27 71 P **P 05 37 00.6 0.0**
N38A IAmb IAmb 05 37 03.8
comp=Z,15nm,1.0s
SONM Songino Array 51.38 301 P **P 05 37 01.8 +0.3**
comp=Z,3.5nm,0.6s,baz=45,slow=6.3,SNR=9.1
SONM PcP **PcP 05 38 16.1 +0.3**
comp=Z,1.0nm,0.6s,baz=28,slow=4.2,SNR=2.3
ZAK Zakamensk 51.40 305 *eP* **P 05 36 59.4 -2.2**
ZAK *e* 05 38 15.8
ZAK pmax pmax
comp=Z,7.0nm,1.4s
L40A Anamosa 51.62 68 P **P 05 37 01.8 -1.3**
L40A IAmb IAmb 05 37 23.1
comp=Z,5.0nm,0.8s
I42A Draeger Farm, 51.75 65 P **P 05 37 03.1 -1.0**
I42A IAmb IAmb 05 37 04.6
comp=Z,6.2nm,0.8s
WMOK Wichita Mounta 51.97 80 P **P 05 37 06.3 +0.4**
WMOK pmax pmax
comp=Z,10.0nm,1.2s
WMOK Wichita Mounta 51.97 80 P **P 05 37 06.3 +0.4**
WMOK IAmb IAmb 05 37 20.1
comp=Z,9.6nm,1.1s
DBG Daneborg 52.01 10 *i* P **P 05 37 05.1 -0.5**
DBG IAmb IAmb 05 37 05.7
comp=Z,11nm,0.7s
DBG AMP 05 37 05.7
comp=Z,11nm,0.7s
H43A Windswept, Lux 52.02 64 P **P 05 37 05.7 -0.4**
H43A IAmb IAmb 05 37 06.8
comp=Z,8.2nm,0.8s
OK031 S. Brethren Rd 52.32 78 P **P 05 37 07.6 -0.8**
TX31 Lajitas Ar. Si 52.72 89 P **P 05 37 12.1 +0.4**
TX31 IAmb IAmb 05 37 31.1
comp=Z,19nm,1.1s
TX32 Lajitas Array 52.72 89 P **P 05 37 12.1 +0.5**
TX32 IAmb IAmb 05 37 31.1
comp=Z,6.7nm,1.1s
TXAR Lajitas Array 52.72 89 P **P 05 37 12.0 +0.4**
comp=Z,1.5nm,0.6s,baz=304,slow=5.7,SNR=9.5
TXAR Lajitas Array 52.72 89 P **P 05 37 11.6 0.0**
P40A Paris 52.78 71 P **P 05 37 10.8 -1.0**
HHC Hu-ho-hao-te 52.99 291 *eP* **P 05 37 14.3 +0.8**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,20μm,6.6s
ICESG Greenland Ices 53.45 20 *i* P **P 05 37 16.4 -0.4**
ICESG IAmb IAmb 05 37 17.2
comp=Z,8.0nm,0.8s
GLMI Grayling 53.51 62 P **P 05 37 16.7 -0.5**
GLMI IAmb IAmb 05 37 21.6
comp=Z,15nm,1.1s
HDIL Hopedale 53.70 69 P **P 05 37 18.0 -0.6**
X37A Clayton 54.13 78 P **P 05 37 22.3 +0.5**
X37A IAmb IAmb 05 37 42.9
comp=Z,8.8nm,0.9s
P43A Skaggs, Pawnee 54.17 70 P **P 05 37 21.5 -0.5**
P43A IAmb IAmb 05 37 22.1
comp=Z,9.1nm,1.0s
WHTX Lake Whitney, 54.66 82 P **P 05 37 24.7 -1.0**
SCHQ Schefferville 55.49 43 P **P 05 37 31.9 +0.5**
comp=Z,11nm,0.9s,baz=296,slow=8.2,SNR=10
SCHQ Schefferville 55.49 43 P **P 05 37 31.3 0.0**
PARMO Parma 56.05 72 P **P 05 37 34.9 -0.7**
WLAR White Oak Lake 56.10 77 P **P 05 37 36.0 -0.1**
P48A Milroy 56.63 67 P **P 05 37 38.6 -1.1**
P48A IAmb IAmb 05 37 39.6
comp=Z,16nm,1.3s
PLVO Plevna 57.36 57 P **P 05 37 44.8 0.0**
T47A Sharon Grove 57.37 70 P **P 05 37 44.6 -0.3**
T47A IAmb IAmb 05 38 03.4
comp=Z,7.2nm,0.9s
ZAA0 Zalesovo Array 57.52 318 P **P 05 37 46.0 +0.2**
ZAA0 IAmb IAmb 05 37 46.8
comp=Z,4.5nm,1.1s
ZALV Zalesovo Beam 57.52 318 P **P 05 37 45.4 -0.4**
comp=Z,2.4nm,0.6s,baz=48,slow=7.8,SNR=6.1
ZALV PcP **PcP 05 38 39.6 +0.6**
comp=Z,2.0nm,0.6s,baz=45,slow=3.9,SNR=4.4
ARCES ARCESS Array B 58.02 354 P **P 05 37 48.6 -0.5**
comp=Z,3.9nm,0.7s,baz=22,slow=6.8,SNR=14
WHN Wuhan 58.39 280 ⇑ P **P 05 37 52.0 -0.2**
WHN pmax pmax
comp=Z,72nm,0.9s
LVZ Lovozero 58.82 350 ⇑ *i* P **P 05 37 54.0 -0.7**
LVZ pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 59.16 287 P **P 05 37 57.5 -0.1**
XAN Xi'an 59.16 287 P **P 05 37 57.5 -0.1**
X48A Hartselle 59.17 72 P **P 05 37 56.2 -1.4**
X48A IAmb IAmb 05 37 59.1
comp=Z,5.2nm,1.1s
R53A Hurricane 59.37 66 P **P 05 37 58.7 -0.3**
R53A IAmb IAmb 05 37 59.4
comp=Z,6.5nm,0.8s
DGZ Jazzator, Alta 59.44 313 ⇑ *i* P **P 05 37 59.0 -0.4**
DGZ pmax pmax
comp=Z,11nm,0.7s
FPAL Fort Paine 59.94 71 P **P 05 38 02.0 -0.9**
FPAL IAmb IAmb 05 38 02.8
comp=Z,8.8nm,0.9s
SSPA Standing Stone 59.99 61 P **P 05 38 03.0 -0.2**
SSPA IAmb IAmb 05 38 03.8
comp=Z,6.4nm,0.7s
L59A Walton 60.41 58 P **P 05 38 06.6 +0.5**
R55A Marlinton 60.43 65 P **P 05 38 06.9 +0.6**
R55A IAmb IAmb 05 38 20.5
comp=Z,10nm,1.1s
GTA Gaotai 60.55 297 *eP* **P 05 38 06.8 -0.4**
GTA pP pP 05 38 15.5 +1.8
GTA sP pwP 05 38 20.0 +3.2
GTA pmax pmax
comp=Z,7.0nm,0.7s
LZH Lanzhou 60.65 292 *eP* **P 05 38 08.8 +0.8**
LZH pP pP 05 38 16.8 +2.3
LZH sP pwP 05 38 20.0 +2.5
LZH pmax pmax
comp=Z,19nm,1.1s
BORG Borgarnes 60.72 15 P **P 05 38 09.1 +1.4**
BORG pmax pmax
comp=Z,27nm,1.3s
BORG Borgarnes 60.72 15 P **P 05 38 09.1 +1.4**
F63A Nahmakanta, Br 60.90 52 P **P 05 38 11.2 +1.9**
F63A IAmb IAmb 05 38 32.4
comp=Z,11nm,1.1s
BLA Blacksburg 61.02 66 P **P 05 38 10.3 0.0**
BLA pmax pmax
comp=Z,11nm,0.9s
BLA Blacksburg 61.02 66 P **P 05 38 10.3 0.0**

T57A Hurt 61.83 65 P **P 05 38 16.3 +0.6**
T57A IAmb IAmb 05 38 29.3
comp=Z,7.3nm,1.0s
LMN Caledonia Moun 62.83 50 P **P 05 38 23.0 +0.7**
PRGR Permogore 63.09 342 *eP* **P 05 38 19.2 -4.5**
PRGR pmax pmax
comp=Z,27nm,1.5s
DRLN Deer Lake 63.49 43 P **P 05 38 27.2 +0.6**
BRVK Borovoye 63.81 325 *eP* **P 05 38 28.6 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 63.81 325 P **P 05 38 28.8 +0.1**
BRVK IAmb IAmb 05 38 28.9
comp=Z,4.6nm,0.7s
MK31 Makanchi Array 63.90 313 P **P 05 38 28.8 -0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 63.90 313 P **P 05 38 28.8 -0.6**
MK31 IAmb IAmb 05 38 29.3
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 63.90 313 P **P 05 38 27.9 -1.4**
comp=Z,4.8nm,0.8s,baz=52,slow=6.3,SNR=23
MKAR Makanchi Array 63.90 313 P **P 05 38 28.7 -0.7**
MKAR Makanchi Array 63.90 313 P **P 05 38 28.7 -0.7**
CD2 Chengdu 64.43 288 P **P 05 38 33.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
ARU Arti 64.72 333 *c i* P **P 05 38 34.2 -0.4**
ARU 05 40 53.2
ARU S **S 05 47 15.0 +1.8**
ARU SS **SS 05 51 20.4 -2.9**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 64.72 333 P **P 05 38 34.6 0.0**
ARU IAmb IAmb 05 38 35.8
comp=Z,10nm,1.1s
KLMR Klimovskoe 64.89 345 *eP* P 05 38 26.3 -9.3
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR Klimovskoe 64.89 345 *eP* P 05 38 26.4 -9.2
KLMR AMP 05 38 37.9
comp=Z,12nm,1.5s
FIA1 FINESS Array S 65.97 352 P **P 05 38 42.4 -0.2**
FINES FINESS Array B 65.97 352 P **P 05 38 42.1 -0.4**
comp=Z,8.3nm,0.7s,baz=16,slow=7.9,SNR=15
FINES FINESS Array B 65.97 352 P **P 05 38 42.4 -0.2**
FINES FINESS Array B 65.97 352 P **P 05 38 42.4 -0.2**
NC204 NORSAR Array S 66.80 360 P **P 05 38 48.1 +0.1**
NC204 IAmb IAmb 05 39 03.6
comp=Z,5.4nm,0.9s
NB201 NORSAR Array S 67.03 360 P **P 05 38 49.9 +0.5**
NB2 NORSAR Subarra 67.04 360 P **P 05 38 49.2 -0.3**
comp=Z,3.1nm,0.6s,baz=360,slow=6.5
NOA NORSAR Array B 67.04 360 P **P 05 38 48.8 -0.7**
comp=Z,7.2nm,0.9s,baz=0.4,slow=6.3,SNR=20
UPP Uppsala 68.09 356 *eP* **P 05 38 55.1 -0.9**
VSU Vasula 68.86 351 *eP* **P 05 39 01.1 +0.3**
KMI Kunming 69.32 284 ⇑ P **P 05 39 05.0 +0.4**
KMI pP pP 05 39 10.3 -1.0
KMI sP sP 05 39 12.8 -0.8
KMI pmax pmax
comp=Z,19nm,0.8s
TARG Taragay, Kyrgy 69.86 313 P **P 05 39 07.6 -0.3**
TARG IAmb IAmb 05 39 10.8
comp=Z,7.2nm,0.8s
TKM2 Tokmak 2 69.89 315 P **P 05 39 08.2 +0.4**
SNR=5.0
USP Ospenovka 70.08 316 P **P 05 39 08.8 0.0**
SNR=14
BOOM Boomskoye usch 70.08 314 P **P 05 39 09.5 +0.5**
BOOM pmax pmax
comp=Z,15nm,0.7s
BOOM Boomskoye usch 70.08 314 P **P 05 39 09.5 +0.5**
ULHL Ulahol 70.14 314 P **P 05 39 09.7 +0.3**
SNR=5.9
ABKAR Akbulak array 70.54 328 P **P 05 39 11.1 -0.3**
ABKAR IAmb IAmb 05 39 12.1
comp=Z,7.5nm,0.8s
AAK Ala-Archa 70.59 315 P **P 05 39 11.4 -0.7**
AAK pmax pmax
comp=Z,14nm,0.8s
AAK Ala-Archa 70.59 315 P **P 05 39 11.3 -0.7**
OBN Obninsk 70.85 345 ⇑ *i* P **P 05 39 12.4 -0.7**
OBN pmax pmax
comp=Z,8.0nm,0.7s
EKS2 Erkin-Say 70.88 316 P **P 05 39 14.0 +0.3**
SNR=12
BELG Belogornoye 71.19 337 ⇑ *i* P **P 05 39 15.1 -0.1**
BELG pmax pmax
comp=Z,5.0nm,0.9s
AML Almayashu 71.35 316 P **P 05 39 17.9 +0.9**
SNR=6.0
ISAL Salakas 71.77 351 *eP* **P 05 39 18.2 -0.5**
KK31 Karatay Array 71.89 318 P **P 05 39 19.8 +0.1**
KK31 pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 71.89 318 P **P 05 39 19.8 +0.1**
KK31 IAmb IAmb 05 39 20.1
comp=Z,11nm,0.9s
KKAR Karatay Array 71.89 318 P **P 05 39 19.6 -0.1**
KKAR Karatay Array 71.89 318 P **P 05 39 19.6 -0.1**
IDID Didziasalis 71.96 350 *eP* **P 05 39 19.7 -0.2**
IIGN Ignalina 71.98 351 *eP* **P 05 39 19.9 -0.1**
PABE Paberze 72.03 352 *eP* **P 05 39 20.7 +0.4**
LSA Lhasa 72.52 296 P **P 05 39 25.4 +1.2**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 72.52 296 P **P 05 39 25.4 +1.2**
MNK Minsk 72.64 350 *i* P **P 05 39 22.6 -1.3**
MNK *i* 05 39 39.6
MNK *i* 05 42 04.2
MNK *i* PPP PPP 05 43 48.5
MNK *i* S **S 05 48 45.3 -1.8**
MNK *i* 05 49 28.7
MNK *i* SS **SS 05 53 28.2 +3.0**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,32nm,0.9s
MNK MLR MLR
comp=Z,4μm,19.0s
MNK MLR MLR
comp=N,3μm,21.0s
MNK MLR MLR
comp=E,257nm,23.0s
MNK Minsk 72.64 350 *i* P **P 05 39 22.6 -1.3**
comp=E,2.0nm,0.7s
MNK *i* P **P 05 39 22.6 -1.3**
comp=N,14nm,0.9s
MNK *i* P **P 05 39 22.6 -1.3**
comp=Z,32nm,0.9s,baz=191
MNK *i* PcP **PcP 05 39 39.7 -1.7**
MNK *i* PP **PP 05 42 04.2 -0.6**
MNK *i* PPP PPP 05 43 48.5
MNK *i* S **S 05 48 45.4 -1.7**
MNK *i* SS **SS 05 53 28.3 +3.1**
MNK *i* SSS SSS 05 56 48.6
MNK *i* LQ LQ 06 06 42.2
MNK *i* LR LR 06 11 58.2
MNK *i* LR LR 06 11 58.2
MNK *i* LRM MLR 06 13 54.7
comp=Z,4μm,18.6s
MNK *i* LRM MLR 06 13 58.1
comp=N,3μm,21.2s
MNK *i* LRM MLR 06 14 01.5
comp=E,257nm,22.9s
SUW Suwalki 73.58 352 *eP* **P 05 39 29.1 -0.3**
SUW Suwalki 73.58 352 P **P 05 39 28.3 -1.2**
SUW pmax pmax
comp=Z,34nm,0.8s
SUW Suwalki 73.58 352 P **P 05 39 28.3 -1.2**
BTK Batken 74.29 316 P **P 05 39 34.4 +0.4**
BTK pmax pmax
comp=Z,19nm,0.9s
BTK Batken 74.29 316 P **P 05 39 34.4 +0.4**
NONG Nongkai 74.44 279 P **P 05 39 35.0 -0.1**
comp=Z,0.6nmcomp=Z,29nm,1.1s
SHL Shillong 75.30 293 P **P 05 39 39.5 -0.7**
SHL pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 75.30 293 P **P 05 39 39.5 -0.7**
GAR Garm 75.38 316 P **P 05 39 40.5 0.0**

KHON Khomkaen 75.96 279 P P 05 39 58.0 +14
LOEI Loei 76.00 280 P P 05 39 50.0 +5.9
CHGR Chuyangaron 76.16 317 P **P 05 39 44.7 -0.1**
AKASG Malin Array Be 76.21 348 P **P 05 39 43.7 -1.0**
comp=Z,7.1nm,0.6s,baz=17,slow=5.9,SNR=17
AKASG Malin Array Be 76.21 348 P **P 05 39 43.8 -1.0**
AKASG Malin Array Be 76.21 348 P **P 05 39 43.8 -1.0**
AKBB Malin Array Si 76.21 348 *ceP* **P 05 39 44.0 -0.8**
AKBB pmax pmax
comp=Z,9.0nm,0.6s
CM34 Chiang Mai Arr 76.24 283 P **P 05 39 45.0 -0.5**
CM35 Chiang Mai Arr 76.37 283 P **P 05 39 46.0 -0.2**
CM33 Chiang Mai Arr 76.39 283 P **P 05 39 46.0 -0.3**
CM36 Chiang Mai Arr 76.53 283 P **P 05 39 47.0 -0.1**
CM09 Chiang Mai Arr 76.65 283 P **P 05 39 48.7 +1.0**
comp=Z,20nm,0.8s
CM09 Chiang Mai Arr 76.65 283 P **P 05 39 48.8 +1.0**
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 76.67 283 P **P 05 39 48.9 +1.0**
comp=Z,621nm,0.8s
CMAR Chiang Mai Arr 76.67 283 P **P 05 39 48.4 +0.5**
comp=Z,11nm,0.8s,baz=25,slow=6.6,SNR=26
CMAR Chiang Mai Arr 76.67 283 P **P 05 39 48.0 +0.1**
CM15 Chiang Mai Arr 76.69 283 P **P 05 39 49.3 +1.4**
comp=Z,12nm,0.8s
CM15 Chiang Mai Arr 76.69 283 P **P 05 39 49.4 +1.4**
comp=Z,12nm,0.8s
CM02 Chiang Mai Arr 76.69 283 P **P 05 39 48.9 +1.0**
comp=Z,22nm,1.0s
CM02 Chiang Mai Arr 76.69 283 P **P 05 39 49.0 +1.0**
comp=Z,22nm,1.0s
CM01 Chiang Mai Arr 76.69 283 P **P 05 39 49.0 +1.0**
comp=Z,19nm,0.9s
CM01 Chiang Mai Arr 76.69 283 P **P 05 39 49.0 +1.0**
comp=Z,19nm,0.9s
CM04 Chiang Mai Arr 76.69 283 P **P 05 39 48.7 +0.7**
comp=Z,19nm,0.9s
CM04 Chiang Mai Arr 76.69 283 P **P 05 39 48.0 0.0**
comp=Z,19nm,0.9s
CM05 Chiang Mai Arr 76.71 283 P **P 05 39 48.9 +0.8**
comp=Z,17nm,0.9s
CM05 Chiang Mai Arr 76.71 283 P **P 05 39 48.0 -0.1**
comp=Z,17nm,0.9s
CM13 Chiang Mai Arr 76.72 283 P **P 05 39 49.0 +0.9**
comp=Z,20nm,0.8s
CM13 Chiang Mai Arr 76.72 283 P **P 05 39 49.0 +0.9**
comp=Z,20nm,0.8s
PHIT Phitsanulok 76.76 281 P **P 05 39 49.0 +0.6**
comp=Z,0.0nmcomp=Z,13nm,1.0s
CLL Collm 76.78 359 *eP* **P 05 39 45.0 -3.0**
CLL *e* 05 39 48.0
CLL Collm 76.78 359 *eP* **P 05 39 45.0 -3.0**
BRG Berggiesshubel 77.20 358 *i* P **P 05 39 50.9 +0.6**
BRG Amp 05 39 53.2
comp=Z,6.6nm,0.8s
MOX Moxa 77.46 359 P **P 05 39 49.6 -2.2**
MHMT Maesarieng 77.49 283 P **P 05 39 56.7 +4.2**
DPC Dobruska-Polom 77.64 356 *eP* **P 05 39 53.8 +0.9**
DPC Dobruska-Polom 77.64 356 *eP* **P 05 39 53.8 +0.9**
NKC Novy Kostel 77.86 359 *eP* **P 05 39 54.8 +0.7**
NKC Novy Kostel 77.86 359 *eP* **P 05 39 54.8 +0.7**
KRLC Kraliky 77.90 356 *eP* **P 05 39 54.9 +0.5**
KRLC Kraliky 77.90 356 *eP* **P 05 39 54.9 +0.5**
PRU Pruhonice 78.07 357 *eP* **P 05 39 55.9 +0.7**
PRU Pruhonice 78.07 357 *eP* **P 05 39 55.9 +0.7**
MORC Moravsky Berou 78.16 355 P **P 05 39 55.9 +0.1**
MORC Moravsky Berou 78.16 355 P **P 05 39 55.9 +0.1**
MORC IAmb IAmb 05 39 56.8
comp=Z,5.1nm,0.8s
MORC Moravsky Berou 78.16 355 *eP* **P 05 39 56.2 +0.4**
VRAC Vranov 78.67 356 *eP* **P 05 39 59.2 +0.6**
KRUC Moravsky 78.93 356 *eP* **P 05 40 00.3 +0.3**
KHC Kasperske Hory 78.95 358 *eP* **P 05 40 01.1 +0.9**
KHC Kasperske Hory 78.95 358 *eP* **P 05 40 01.1 +0.9**
JAVC Velka Javorina 79.07 355 *eP* **P 05 40 02.2 +1.3**
GOF Gofitskoye 79.13 337 ⇑ *eP* **P 05 40 02.3 +1.1**
GERES GERESS Array B 79.23 358 P **P 05 40 01.9 +0.2**
comp=Z,2.6nm,0.7s,baz=6.7,slow=4.6,SNR=16
GERES GERESS Array B 79.23 358 P **P 05 40 02.0 +0.2**
KBL Kabul 79.68 314 P **P 05 40 04.0 -0.6**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 79.68 314 P **P 05 40 04.0 -0.6**
BUR08 Bucovina Ar. S 79.69 350 P **P 05 40 04.2 -0.1**
CONA Conrad Observa 80.08 356 *eP* **P 05 40 07.0 +0.6**
comp=Z,3.1nm,0.5s
KIV Kislovodsk 80.25 337 *eP* **P 05 40 07.7 +0.3**
KIV pmax pmax
comp=Z,18nm,1.0s
KBZ Khabaz 80.42 337 P **P 05 40 09.3 +1.2**
comp=Z,12nm,0.8s,baz=35,slow=2.0,SNR=24
KBZ Khabaz 80.42 337 *ceP* **P 05 40 08.7 +0.6**
KBZ pmax pmax
comp=Z,13nm,0.9s
SHA1 Shidzhatmaz 80.47 337 *c i* P **P 05 40 09.2 +0.5**
RETA Reutte 80.62 360 *eP* **P 05 40 09.6 +0.3**
comp=Z,5.8nm,1.1s
MOTA Moosalm 80.76 360 *eP* **P 05 40 11.0 +0.8**
comp=Z,12nm,1.0s
WATA Walderalm 80.77 359 *eP* **P 05 40 10.8 +0.6**
comp=Z,3.0nm,0.5s
ARSA Arzberg 80.77 357 *eP* **P 05 40 10.7 +0.7**
comp=Z,8.1nm,0.9s
DAVA Damuels 80.82 1 *eP* **P 05 40 10.6 +0.1**
comp=Z,7.0nm,1.0s
WTTA Wattenberg 80.84 359 *eP* **P 05 40 11.5 +0.9**
comp=Z,5.9nm,0.7s
SQTA Sankt Quirin 80.89 360 *eP* **P 05 40 11.6 +0.8**
comp=Z,3.4nm,0.3s
KBA Koelnbreinsper 81.00 358 *eP* **P 05 40 12.5 +1.0**
comp=Z,22nm,1.0s
ZEI Tsey 81.06 336 *eP* **P 05 40 11.0 -0.9**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
FETA Feichten 81.09 360 *eP* **P 05 40 12.5 +0.5**
comp=Z,7.8nm,0.8s
GEYT Alibeck 81.13 324 P **P 05 40 12.9 +0.7**
comp=Z,11nm,0.8s,baz=20,slow=10,SNR=3.6
AKT Akhty 81.26 333 *eP* **P 05 40 13.1 +0.3**
AKT *e* 05 40 19.7
AKT pmax pmax
comp=Z,42nm,0.8s
ABTA Abfaltersbach 81.35 359 *eP* **P 05 40 13.7 +0.4**
comp=Z,9.9nm,1.1s
SOKA Soboth 81.36 357 *eP* **P 05 40 13.6 +0.3**
comp=Z,16nm,1.1s
LFF La Frestale 82.79 7 *eP* **P 05 40 20.5 -0.2**
LFF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 82.90 6 *eP* **P 05 40 22.0 +0.7**
NRCA Norcia 85.25 358 P **P 05 40 33.7 +0.3**
BRTR Keskin Array B 86.23 342 P **P 05 40 38.9 +0.5**
comp=Z,1.8nm,0.8s,baz=54,slow=2.1,SNR=6.8
BRTR Keskin Array B 86.23 342 *ceP* **P 05 40 40.0 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 86.23 342 P **P 05 40 38.1 -0.2**
ALN Alexandroupoli 86.25 348 P **P 05 40 38.0 -0.3**
ALN pmax pmax
comp=Z,12nm,1.0s
ALN Alexandroupoli 86.25 348 P **P 05 40 38.0 -0.3**
FNA Florina 86.86 352 P **P 05 40 41.2 -0.1**
FNA pmax pmax
comp=Z,7.0nm,0.7s
FNA Florina 86.86 352 P **P 05 40 41.2 -0.1**
WRA Warramunga Arr 86.97 232 P **P 05 40 40.2 -1.6**
comp=Z,1.7nm,0.9s,baz=39,slow=5.0,SNR=7.3
WRA Warramunga Arr 86.97 232 *ceP* **P 05 40 40.4 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 87.55 11 P **P 05 40 45.0 +0.4**
comp=Z,3.3nm,0.8s,baz=346,slow=4.6,SNR=15
PSI Prapat 88.89 273 P **P 05 40 51.3 -0.1**
PSI pmax pmax
comp=Z,17nm,0.8s
RPSI Rantau Prapat 88.97 273 P **P 05 40 51.3 -0.4**
ASAR Alice Springs 90.35 230 P **P 05 40 57.3 -0.5**
comp=Z,2.0nm,0.8s,baz=30,slow=4.9,SNR=12
MAW Mawson 150.81 218 PKPbc **PKPbc 05 47 47.1 -0.5**
comp=Z,2.2nm,0.7s,baz=110,slow=4.5,SNR=4.7
BOSA Boshof 154.00 330 PKPbc **PKPbc 05 47 56.2 -0.1**
comp=Z,3.0nm,0.8s,baz=71,slow=5.5,SNR=5.1
BOSA Boshof 154.00 330 **PKiKP 05 47 56.5 +0.2**

IDC 27 05:31:43.6±1.3,52°.35N×169°.36W,h0km,mb4.0/11, mb1 4.1/13,mb1mx3.8/50,mbtmp3.9/13,ML3.6/2,Error ellipse: s-maj=34.4km s-min=18.7km az=171.0
AEIC 27 05:31:48±2.3,52°.30N±0°.04×169°.30W±0°.07,h36km±6km, ML4.1,mb4.2/53(NEIC),Error ellipse: s-maj=6.7km s-min=5.3km az=111.0
NEIC 27 05:31:50.1±2.0,52°.38N±0°.06×169°.32W±0°.05,h44km±7km, Error ellipse: s-maj=8.9km s-min=4.7km az=191.0
ISC 27 05:31:49.4±0.6,52°.30N±0°.09×169°.30W±0°.06,h40km, n118,σ1$04/119,mb4.0/19,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.72**	**22**		**Pn**	**05 32 02.4**	**-0.7**
NIKH	**Nikolski High**	**0.72**	**22**		**Sn**	**05 32 14.3**	**+1.3**
OKSP	**Okmok Steeple**	**1.13**	**32**		**Pn**	**05 32 08.9**	**+0.2**
OKCE	**Okmok Cone E**	**1.32**	**31**		**Pn**	**05 32 11.8**	**+0.5**
OKTU	**Okmok Mt. Tuli**	**1.32**	**35**		**Pn**	**05 32 11.3**	**-0.1**
OKER	**Okmok East Rim**	**1.38**	**33**		**Pn**	**05 32 12.7**	**+0.5**
OKFG	**Magazine Ridge**	**1.39**	**37**		**Pn**	**05 32 12.5**	**+0.2**
OKFG					**Sn**	**05 32 31.5**	**+2.0**
MAPS	**Pakushin South**	**2.07**	**42**		**Pn**	**05 32 21.6**	**0.0**
MSW	**Makushin Switc**	**2.21**	**42**		**Pn**	**05 32 23.7**	**+0.1**
MNAT	**Makushin Natee**	**2.23**	**44**		**Pn**	**05 32 24.3**	**+0.5**
UNV	**Unalaska Valle**	**2.29**	**46**		**Pn**	**05 32 25.2**	**+0.6**
MTBL	**Makushin Table**	**2.30**	**42**		**Pn**	**05 32 25.9**	**+1.1**
AKMO	**Akutan Morgan**	**2.67**	**47**		**Pn**	**05 32 30.7**	**+0.9**
AKGG	**Akutan Green G**	**2.75**	**45**		**Pn**	**05 32 32.4**	**+1.5**
AKUT	**Akutan**	**2.80**	**48**	Pn	**Pn**	**05 32 30.3**	**-1.4**
KOFP	**Korovin Flat P**	**2.95**	**271**		**Pn**	**05 32 34.4**	**+0.7**
KOKL	**Mount Kliuchef**	**3.01**	**272**		**Pn**	**05 32 35.0**	**+0.4**
ATKA	**Atka Island**	**3.01**	**270**		**Pn**	**05 32 33.7**	**-0.8**
GSTR	**Great Sitkin T**	**4.17**	**270**		**Pn**	**05 32 49.9**	**-0.5**
GSMY	**Great Sitkin M**	**4.17**	**269**		**Pn**	**05 32 50.2**	**-0.3**
GSTD	**Great Sitkin T**	**4.22**	**269**		**Pn**	**05 32 50.8**	**-0.4**
FALS	**False Pass**	**4.34**	**52**	Pn	**Pn**	**05 32 53.1**	**+0.4**
ADK	**Adak**	**4.57**	**268**		**Pn**	**05 32 55.5**	**-0.4**
KIWB	**Kanaga Island**	**4.87**	**268**	Pn	**Pn**	**05 32 59.9**	**-0.1**
KIMD	**Kanaga Island**	**4.93**	**267**		**Pn**	**05 33 00.5**	**-0.4**
TAFP	**Tanaga Falls P**	**5.37**	**269**		**Pn**	**05 33 07.0**	**+0.1**
TASE	**Tanaga Southea**	**5.41**	**268**		**Pn**	**05 33 07.6**	**+0.1**
GAEA	**Gareloi East**	**5.86**	**269**		**Pn**	**05 33 14.5**	**+0.9**
SDPT	**Sand Point**	**6.05**	**56**		**Pn**	**05 33 17.5**	**+1.3**
CNBA	**Chernabura Isl**	**6.31**	**63**	Pn	**Pn**	**05 33 18.6**	**-1.2**
AMKA	**Amchitka**	**7.12**	**267**		**Pn**	**05 33 31.0**	**0.0**
LSPA	**Little Sitkin**	**7.47**	**272**		**Pn**	**05 33 37.3**	**+1.5**
CHIR	**Chirikof Islan**	**8.78**	**61**	Pn	**Pn**	**05 33 53.8**	**+0.2**
SII	**Sitkinak Islan**	**9.78**	**58**	Pn	**Pn**	**05 34 08.3**	**+1.0**
OHAK	**Old Harbor**	**10.47**	**56**	Pn	**Pn**	**05 34 15.9**	**-0.8**
KDAK	**Kodiak Island**	**11.03**	**54**	Pn	**Pn**	**05 34 22.4**	**-2.0**
	0.5nm,0.3s,baz=171,slow=19,SNR=11						
KDAK	**Kodiak Island**	**11.03**	**54**		**Pn**	**05 34 23.9**	**-0.5**
GAMB	**Gambell**	**11.57**	**355**	Pn	**Pn**	**05 34 31.2**	**-0.6**
HOM	**Homer**	**12.30**	**46**	Pn	**Pn**	**05 34 41.0**	**-0.7**
CNPM	**China Poot**	**12.42**	**47**	Pn	**Pn**	**05 34 42.6**	**-0.8**
SEW	**Seward**	**13.48**	**47**	Pn	**Pn**	**05 34 56.8**	**-1.0**
O22K	**Cooper Landing**	**13.54**	**45**	Pn	**Pn**	**05 34 56.1**	**-2.5**
SUA	**Susitna One**	**13.62**	**40**	Pn	**Pn**	**05 35 00.6**	**+0.7**
RC01	**Rabbit Creek A**	**13.84**	**43**	Pn	**Pn**	**05 35 02.6**	**-0.1**
PWL	**Port Wells**	**14.32**	**45**	Pn	**Pn**	**05 35 08.0**	**-1.3**
CUT	**Chulitna**	**14.35**	**38**	Pn	**Pn**	**05 35 10.0**	**+0.4**
GHO	**Glory Hole Cre**	**14.53**	**41**		**Pn**	**05 35 14.2**	**+2.1**
SML	**Sawmill**	**14.78**	**42**	Pn	**Pn**	**05 35 16.5**	**+1.0**
FID	**Port Fidalgo**	**15.10**	**47**	Pn	**Pn**	**05 35 20.0**	**+0.5**
FID				IAmb	IAmb	05 35 28.3	
	comp=Z,21nm,1.0s						
BPAW	**Bear Paw Mtn.**	**15.18**	**32**		**P**	**05 35 24.8**	**-0.4**
BPAW				IAmb	IAmb	05 35 53.5	
	comp=Z,5.2nm,0.8s						
SCM	**Sheep Creek Mo**	**15.21**	**43**	Pn	**Pn**	**05 35 20.1**	**-1.0**
KLU	**Klutina**	**15.65**	**45**	Pn	**Pn**	**05 35 25.3**	**-1.6**
KLU				IAmb	IAmb	05 35 54.3	
	comp=Z,12nm,0.4s						
IMAR	**Indian Mountai**	**15.79**	**24**		**P**	**05 35 30.3**	**-1.6**
M24K	**Tolsona, Glenn**	**15.82**	**43**	Pn	**Pn**	**05 35 28.0**	**-1.0**
M24K				IAmb	IAmb	05 35 31.9	
	comp=Z,17nm,0.9s						
MLY	**Manley**	**15.90**	**30**	P	**P**	**05 35 33.9**	**+0.7**
BMRM	**Bremner River**	**16.02**	**48**	Pn	**Pn**	**05 35 29.8**	**-1.9**
BMRM				IAmb	IAmb	05 35 32.4	
	comp=Z,17nm,1.2s						
NEA2	**Nenana**	**16.14**	**32**		**Pn**	**05 35 34.0**	**+1.0**
N25K	**Chitina, Valde**	**16.28**	**45**	Pn	**Pn**	**05 35 34.0**	**-0.9**
WRH	**Wood River Hil**	**16.39**	**34**		**Pn**	**05 35 36.3**	**+0.2**
I23K	**Minto, Yukon-K**	**16.41**	**31**		**Pn**	**05 35 37.3**	**+0.9**
GLB	**Gilahina Butte**	**16.56**	**47**	Pn	**Pn**	**05 35 37.2**	**-1.2**
GLB				IAmb	IAmb	05 35 40.1	
	comp=Z,15nm,1.4s						
CCB	**Clear Creek Bu**	**16.59**	**34**	Pn	**Pn**	**05 35 37.6**	**-1.1**
CRQM	**Cirque**	**16.62**	**49**	Pn	**Pn**	**05 35 37.6**	**-1.7**
CRQM				IAmb	IAmb	05 35 38.9	
	comp=Z,41nm,1.5s						
VRDI	**Verde Repeater**	**16.64**	**47**	Pn	**Pn**	**05 35 38.5**	**-1.1**
VRDI				IAmb	IAmb	05 35 48.0	
	comp=Z,8.8nm,1.1s						
MDM	**Murphy Dome**	**16.65**	**32**		**Pn**	**05 35 39.6**	**+0.1**
WAX	**Waxell Ridge**	**16.66**	**50**	Pn	**Pn**	**05 35 38.6**	**-1.1**
WAX				IAmb	IAmb	05 35 39.0	
	comp=Z,54nm,1.5s						
MCARA	**McCarthy VSAT**	**16.89**	**47**	Pn	**Pn**	**05 35 41.5**	**-1.0**
MCARA				IAmb	IAmb	05 35 42.3	
	comp=Z,11nm,1.0s						
IL31		**16.98**	**34**	Pn	**Pn**	**05 35 42.2**	**-1.4**
ILAR	**Eielson Array**	**16.98**	**34**	Pn	**Pn**	**05 35 42.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=225,slow=9.7,SNR=2.7						
MENT	**Mentasta**	**17.21**	**42**		**Pn**	**05 35 46.2**	**-0.4**
MENT				IAmb	IAmb	05 36 10.6	
	comp=Z,11nm,1.0s						
SCRK	**Sand Creek**	**17.60**	**39**	Pn	**Pn**	**05 35 47.9**	**-3.5**
PRP	**Porcupine Dome**	**17.89**	**33**		**Pn**	**05 35 54.4**	**-0.6**
L27K	**Beaver Creek,**	**18.05**	**43**		**Pn**	**05 35 54.5**	**-2.4**
BCAR	**Beaver Creek A**	**18.07**	**43**		**Pn**	**05 35 54.0**	**-3.1**
K27K	**Chicken**	**18.37**	**40**	P	**P**	**05 36 00.1**	**-0.2**
EGAK	**Eagle**	**19.06**	**38**	P	**Pn**	**05 36 09.5**	**+0.5**
HYT	**Haines Junctio**	**19.31**	**51**	P	**Pn**	**05 36 13.2**	**+1.1**
HYT				IAmb	IAmb	05 36 41.2	
	comp=Z,12nm,0.7s						
BMAR	**Burnt Mountain**	**19.37**	**29**	P	**P**	**05 36 10.4**	**-1.0**
DAWY	**Dawson**	**19.45**	**41**	P	**P**	**05 36 11.3**	**-1.0**
DAWY				IAmb	IAmb	05 36 21.5	
	comp=Z,9.6nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 17.5**	**+0.1**
PETK	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 16.6**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=90,slow=13,SNR=19						
PETK	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 17.2**	**-0.3**
EPYK	**Eagle Plains**	**21.43**	**36**	P	**P**	**05 36 32.7**	**-0.9**
DLBC	**Dease Lake**	**22.88**	**59**	P	**P**	**05 36 49.8**	**+0.6**
DLBC				IAmb	IAmb	05 36 51.2	
	comp=Z,6.9nm,1.4s						
INK	**Inuvik**	**23.38**	**33**	P	**P**	**05 36 52.0**	**-2.0**
	comp=Z,3.4nm,0.7s,baz=254,slow=2.4,SNR=4.9						
INK	**Inuvik**	**23.38**	**33**	P	**P**	**05 36 52.3**	**-1.7**
INK				IAmb	IAmb	05 36 52.6	
	comp=Z,4.2nm,0.9s						
C36M	**Paulatuk**	**26.95**	**34**	P	**P**	**05 37 26.2**	**-0.4**
C36M				IAmb	IAmb	05 37 52.2	
	comp=Z,4.2nm,0.9s						
BW06	**Boulder Array**	**40.37**	**79**	P	**P**	**05 39 24.0**	**+0.6**
BW06				IAmb	IAmb	05 39 53.4	
	comp=Z,2.1nm,0.7s						
PD31	**Pinedale Array**	**40.37**	**79**	P	**P**	**05 39 24.1**	**+0.7**
PD31				IAmb	IAmb	05 39 53.4	
	comp=Z,1.8nm,0.7s						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**05 39 23.8**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=324,slow=1.8,SNR=4.6						
KSRS	**Korea Array**	**45.45**	**277**	P	**P**	**05 40 04.9**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=51,slow=7.5,SNR=7.1						
B35A	**Bob, Littlefor**	**46.36**	**63**	P	**P**	**05 40 11.3**	**+0.1**
B35A				IAmb	IAmb	05 40 38.6	
	comp=Z,1.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**49.73**	**358**	P	**P**	**05 40 36.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=35,slow=7.5,SNR=7.6						
D41A	**Chassel**	**49.94**	**62**	P	**P**	**05 40 39.3**	**+0.4**
D41A				IAmb	IAmb	05 40 51.3	
	comp=Z,6.1nm,1.1s						
E43A	**Lone Tree Farm**	**51.21**	**62**	P	**P**	**05 40 50.2**	**+1.7**
H43A	**Windswept, Lux**	**51.99**	**64**	P	**P**	**05 40 54.1**	**-0.2**
H43A				IAmb	IAmb	05 41 15.1	
	comp=Z,3.5nm,0.8s						
E46A	**Sault Ste Mari**	**52.66**	**60**	P	**P**	**05 40 59.5**	**+0.2**
TX31	**Lajitas Ar. Si**	**52.70**	**89**	P	**P**	**05 40 59.1**	**-0.8**
TX32	**Lajitas Array**	**52.70**	**89**	P	**P**	**05 40 59.3**	**-0.7**
TX32				IAmb	IAmb	05 41 21.5	
	comp=Z,2.9nm,1.1s						
TXAR	**Lajitas Array**	**52.70**	**89**	P	**P**	**05 40 59.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=304,slow=5.9,SNR=5.7						
P40A	**Paris**	**52.76**	**71**	P	**P**	**05 40 59.2**	**-0.9**
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**05 41 36.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=26,slow=5.9,SNR=4.5						
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**05 41 36.9**	**-0.4**
PLAL	**Pickwick Lake**	**58.17**	**73**	P	**P**	**05 41 39.1**	**0.0**
PLAL				IAmb	IAmb	05 42 07.2	
	comp=Z,2.3nm,0.7s						
LVZ	**Lovozero**	**58.79**	**350**	P	**P**	**05 41 42.1**	**-0.8**
L59A	**Walton**	**60.38**	**58**	P	**P**	**05 41 54.9**	**+0.7**
MKAR	**Makanchi Array**	**63.88**	**313**	P	**P**	**05 42 16.6**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=46,slow=6.9,SNR=3.6						
MAKZ	**Makanchi**	**64.01**	**314**	P	**P**	**05 42 18.9**	**+0.4**
FINES	**FINESS Array B**	**65.94**	**352**	P	**P**	**05 42 30.7**	**0.0**
	comp=Z,3.3nm,0.9s,baz=28,slow=8.6,SNR=4.3						
FINES	**FINESS Array B**	**65.94**	**352**	P	**P**	**05 42 31.0**	**+0.3**
NC303	**NORSAR Array S**	**66.82**	**360**	P	**P**	**05 42 36.2**	**-0.2**
NC405	**NORSAR Array S**	**66.93**	**359**	P	**P**	**05 42 36.3**	**-0.8**
NB2	**NORSAR Subarra**	**67.00**	**360**	P	**P**	**05 42 37.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=360,slow=6.5						
NOA	**NORSAR Array B**	**67.00**	**360**	P	**P**	**05 42 36.8**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=360,slow=6.1,SNR=4.1						
SANVU	**Saraoutou**	**70.48**	**204**	P	**P**	**05 43 00.9**	**+1.3**
ABKAR	**Akbulak array**	**70.51**	**328**	P	**P**	**05 42 59.9**	**+0.3**
AKASG	**Malin Array Be**	**76.18**	**348**	P	**P**	**05 43 32.6**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=16,slow=5.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**76.67**	**283**	P	**P**	**05 43 35.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=26,slow=7.2,SNR=5.2						

IDC 27 05:32:12.1±0.8,52°.54N×169°.57W,h0km,mb4.1/22, mb1 4.3/24,mb1mx4.1/49,mbtmp4.1/24,ML3.7/2,Error ellipse: s-maj=23.1km s-min=12.8km az=175.0
AEIC 27 05:32:15±2.8,52°.32N±0°.05×169°.25W±0°.07,h37km±5km, ML4.2,mb4.4/126(NEIC),Error ellipse: s-maj=7.8km s-min=5.8km az=193.0
NEIC 27 05:32:16.3±2.4,52°.31N±0°.06×169°.28W±0°.06,h36km±7km, Error ellipse: s-maj=8.9km s-min=5.0km az=187.0
ISC 27 05:32:14.5±1.1,52°.34N±0°.09×169°.29W±0°.05,h22km±7km, n229,σ1$44/229,mb4.4/74,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.69**	**22**		**Pn**	**05 32 28.9**	**0.0**
OKCE	**Okmok Cone E**	**1.29**	**32**		**Pn**	**05 32 37.5**	**+0.3**
OKCE					**Sb**	**05 32 55.8**	**+1.7**
OKFG	**Magazine Ridge**	**1.36**	**37**		**Pb**	**05 32 39.1**	**-0.2**
OKFG					**Sb**	**05 32 56.7**	**+0.4**
MAPS	**Pakushin South**	**2.05**	**43**		**Pn**	**05 32 48.2**	**+0.6**
MAPS					**Sb**	**05 33 14.3**	**-1.6**
MGOD	**Makushin Gods**	**2.06**	**44**		**Pn**	**05 32 48.4**	**+0.6**
MGOD					**Sb**	**05 33 14.7**	**-1.8**
MSW	**Makushin Switc**	**2.19**	**43**		**Pn**	**05 32 51.0**	**+1.5**
MNAT	**Makushin Natee**	**2.21**	**44**		**Pn**	**05 32 51.2**	**+1.4**
MNAT					**Sb**	**05 33 18.5**	**-2.1**
UNV	**Unalaska Valle**	**2.26**	**47**		**Pn**	**05 32 51.9**	**+1.5**
UNV					**Sn**	**05 33 19.3**	**+1.7**
AKRB	**Akutan Reef Bi**	**2.64**	**46**		**Pn**	**05 32 57.6**	**+1.8**
AKGG	**Akutan Green G**	**2.72**	**45**		**Pn**	**05 32 59.1**	**+2.3**
AKUT	**Akutan**	**2.78**	**48**	Pn	**Pn**	**05 32 55.8**	**-1.8**
ATKA	**Atka Island**	**3.02**	**269**		**Pn**	**05 32 59.6**	**-1.3**
GSTR	**Great Sitkin T**	**4.17**	**269**	Pn	**Pn**	**05 33 15.2**	**-1.6**
FALS	**False Pass**	**4.31**	**52**	Pn	**Pn**	**05 33 15.7**	**-3.0**
ADK	**Adak**	**4.58**	**267**	Pn	**Pn**	**05 33 21.6**	**-0.7**
KIWB	**Kanaga Island**	**4.87**	**267**	Pn	**Pn**	**05 33 28.3**	**+2.0**
SPIA	**Saint Paul Isl**	**4.88**	**354**		**Pn**	**05 33 29.2**	**+2.8**
SDPT	**Sand Point**	**6.03**	**56**	Pn	**Pn**	**05 33 40.2**	**-1.9**
CNBA	**Chernabura Isl**	**6.29**	**63**	Pn	**Pn**	**05 33 45.4**	**-0.4**
AMKA	**Amchitka**	**7.13**	**267**	Pn	**Pn**	**05 33 57.2**	**-0.1**
CHIR	**Chirikof Islan**	**8.76**	**61**	Pn	**Pn**	**05 34 16.7**	**-2.9**
SII	**Sitkinak Islan**	**9.76**	**58**	Pn	**Pn**	**05 34 31.6**	**-1.7**
SMY	**Shemya**	**10.13**	**279**	Pn	**Pn**	**05 34 34.8**	**-3.6**
OHAK	**Old Harbor**	**10.45**	**56**	Pn	**Pn**	**05 34 42.5**	**-0.3**
KDAK	**Kodiak Island**	**11.01**	**54**	Pn	**Pn**	**05 34 50.7**	**+0.2**
	1.3nm,0.3s,baz=245,slow=5.3,SNR=6.9						
KDAK					**Sn**	**05 36 45.8**	**-7.0**
	0.2nm,0.3s,baz=195,slow=20,SNR=2.4						
KDAK	**Kodiak Island**	**11.01**	**54**		**Pn**	**05 34 48.4**	**-2.0**
GAMB	**Gambell**	**11.54**	**355**	Pn	**Pn**	**05 35 01.7**	**+4.0**
SVW2	**Sparrevohn**	**11.54**	**35**	Pn	**Pn**	**05 34 54.1**	**-3.6**
CNPM	**China Poot**	**12.39**	**47**	Pn	**Pn**	**05 35 10.9**	**+1.6**
BRLK	**Bradley Lake**	**12.66**	**47**	Pn	**Pn**	**05 35 13.7**	**+0.7**
SEW	**Seward**	**13.46**	**47**	Pn	**Pn**	**05 35 24.8**	**+1.0**
O22K	**Cooper Landing**	**13.51**	**45**	Pn	**Pn**	**05 35 25.7**	**+1.1**
SKT	**Skwentna**	**13.60**	**38**	Pn	**Pn**	**05 35 26.6**	**+0.9**
SUA	**Susitna One**	**13.60**	**41**	Pn	**Pn**	**05 35 27.6**	**+1.7**
FIS	**Fire Island**	**13.64**	**42**	Pn	**Pn**	**05 35 22.1**	**-4.1**
RC01	**Rabbit Creek A**	**13.81**	**43**	Pn	**Pn**	**05 35 28.3**	**-0.4**
PPLA	**Purkeypile**	**13.94**	**34**	Pn	**Pn**	**05 35 30.2**	**-0.3**
PWL	**Port Wells**	**14.30**	**45**	Pn	**Pn**	**05 35 34.4**	**-0.9**
PMR	**Palmer**	**14.32**	**42**	Pn	**Pn**	**05 35 35.3**	**-0.3**
GHO	**Glory Hole Cre**	**14.50**	**41**	Pn	**Pn**	**05 35 39.3**	**+1.2**
KNK	**Knik Glacier**	**14.51**	**43**	Pn	**Pn**	**05 35 39.4**	**+1.2**
Q23K	**Middleton Isla**	**14.65**	**52**	Pn	**Pn**	**05 35 40.6**	**+0.5**
SML	**Sawmill**	**14.76**	**42**	Pn	**Pn**	**05 35 42.8**	**+1.2**
KTH	**Kantishna Hill**	**14.81**	**34**	Pn	**Pn**	**05 35 41.1**	**-1.2**
HIN	**Hinchinbrook I**	**14.92**	**48**	Pn	**Pn**	**05 35 44.0**	**+0.2**
BPAW	**Bear Paw Mtn.**	**15.15**	**32**	Pn	**Pn**	**05 35 47.2**	**+0.3**
BPAW				IAmb	IAmb	05 36 09.4	
	comp=Z,11nm,0.8s						
SCM	**Sheep Creek Mo**	**15.18**	**43**	Pn	**Pn**	**05 35 47.5**	**+0.2**
SCM				IAmb	IAmb	05 35 59.5	
	comp=Z,12nm,0.6s						
EYAK	**Cordova Ski Ar**	**15.32**	**48**	Pn	**Pn**	**05 35 48.5**	**-0.6**
EYAK				IAmb	IAmb	05 35 51.0	
	comp=Z,26nm,1.4s						
RND	**Reindeer**	**15.44**	**36**	Pn	**Pn**	**05 35 51.2**	**+0.5**
MCK	**McKinley**	**15.61**	**35**	Pn	**Pn**	**05 35 52.5**	**-0.3**
KLU	**Klutina**	**15.62**	**45**	Pn	**Pn**	**05 35 52.7**	**-0.4**
KLU				IAmb	IAmb	05 36 04.4	
	comp=Z,14nm,0.9s						
IMAR	**Indian Mountai**	**15.76**	**24**	Pn	**Pn**	**05 35 54.0**	**-0.7**
RAGM	**Ragged Mountai**	**15.76**	**50**	Pn	**Pn**	**05 35 55.2**	**+0.4**
RAGM				IAmb	IAmb	05 36 04.5	
	comp=Z,26nm,1.0s						
M24K	**Tolsona, Glenn**	**15.79**	**43**		**Pn**	**05 35 55.9**	**+0.6**
M24K				IAmb	IAmb	05 36 10.7	
	comp=Z,61nm,1.4s						
MLY	**Manley**	**15.87**	**30**		**Pn**	**05 35 57.3**	**+1.0**
HMT	**Hamilton**	**15.94**	**50**		**Pn**	**05 35 57.4**	**+0.3**
HMT				IAmb	IAmb	05 36 18.8	
	comp=Z,40nm,1.0s						
BMRM	**Bremner River**	**16.00**	**48**	Pn	**Pn**	**05 35 57.7**	**-0.2**
BMRM				IAmb	IAmb	05 36 20.3	
	comp=Z,16nm,1.1s						
RDOG	**Red Dog Mine**	**16.07**	**9**	Pn	**Pn**	**05 35 59.1**	**+0.4**
NEA2	**Nenana**	**16.11**	**33**		**Pn**	**05 35 59.9**	**+0.8**
N25K	**Chitina, Valde**	**16.25**	**46**		**Pn**	**05 36 02.1**	**+0.9**
WRH	**Wood River Hil**	**16.36**	**34**		**P**	**05 36 04.2**	**-0.9**
I23K	**Minto, Yukon-K**	**16.38**	**31**		**P**	**05 36 04.0**	**-1.3**
GLB	**Gilahina Butte**	**16.53**	**47**	Pn	**Pn**	**05 36 04.0**	**-0.7**
CCB	**Clear Creek Bu**	**16.56**	**34**	Pn	**Pn**	**05 36 04.5**	**-0.5**
CRQM	**Cirque**	**16.60**	**49**		**Pn**	**05 36 06.0**	**+0.3**
CRQM				IAmb	IAmb	05 36 24.6	
	comp=Z,47nm,1.5s						
MDM	**Murphy Dome**	**16.62**	**32**		**Pn**	**05 36 06.4**	**+0.7**
VRDI	**Verde Repeater**	**16.62**	**48**	Pn	**Pn**	**05 36 05.4**	**-0.5**
WAX	**Waxell Ridge**	**16.64**	**50**		**Pn**	**05 36 06.7**	**+0.6**
WAX				IAmb	IAmb	05 36 21.9	
	comp=Z,39nm,1.0s						
TCOL	**CIGO, UAF Yank**	**16.68**	**33**		**Pn**	**05 36 07.1**	**+0.6**
TCOL				IAmb	IAmb	05 36 35.3	
	comp=Z,15nm,0.3s						
COLA	**College**	**16.69**	**33**		**P**	**05 36 07.9**	**-0.8**
COLA				IAmb	IAmb	05 36 35.2	
	comp=Z,14nm,0.3s						
MCARA	**McCarthy VSAT**	**16.86**	**47**		**Pn**	**05 36 09.3**	**+0.5**
MCARA				IAmb	IAmb	05 36 23.2	
	comp=Z,20nm,1.0s						
IL31		**16.95**	**34**		**P**	**05 36 10.8**	**-0.9**
ILAR	**Eielson Array**	**16.95**	**34**	Pn	**Pn**	**05 36 08.8**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=2.3						
ILAR	**Eielson Array**	**16.95**	**34**	Pn	**Pn**	**05 36 06.9**	**-3.0**
CTGM	**Chitina Glacie**	**17.51**	**49**		**Pn**	**05 36 16.7**	**-0.3**
SCRK	**Sand Creek**	**17.57**	**39**		**P**	**05 36 18.5**	**-0.2**
PRP	**Porcupine Dome**	**17.86**	**33**		**P**	**05 36 21.9**	**0.0**
L27K	**Beaver Creek,**	**18.02**	**43**		**Pn**	**05 36 23.2**	**-0.1**
BCAR	**Beaver Creek A**	**18.04**	**43**	Pn	**P**	**05 36 24.5**	**+0.7**
BCPM	**Bancas Point**	**18.07**	**53**		**Pn**	**05 36 21.0**	**-2.8**
BCPM				IAmb	IAmb	05 36 29.8	
	comp=Z,45nm,1.4s						
K27K	**Chicken**	**18.34**	**40**	P	**P**	**05 36 23.9**	**-3.2**
EGAK	**Eagle**	**19.04**	**38**	P	**P**	**05 36 34.2**	**-0.4**
BMAR	**Burnt Mountain**	**19.34**	**29**	P	**P**	**05 36 36.0**	**-2.0**
DAWY	**Dawson**	**19.42**	**41**	P	**P**	**05 36 37.8**	**-1.2**
PEA0B	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 45.0**	**+0.7**
PEA0B				IAmb	IAmb	05 36 45.4	
	comp=Z,12nm,0.7s						
PETK	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 44.5**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=85,slow=14,SNR=10.0						
PETK	**Petropavlovsk-**	**19.92**	**285**	P	**P**	**05 36 44.2**	**-0.1**
SKAG	**Skagway**	**20.15**	**56**	P	**P**	**05 36 47.4**	**+0.5**
SKAG				IAmb	IAmb	05 36 50.3	
	comp=Z,16nm,0.6s						
BESE	**Bessie Mountai**	**20.33**	**59**	P	**P**	**05 36 47.7**	**-1.2**
BESE				IAmb	IAmb	05 37 08.2	
	comp=Z,41nm,1.3s						
WHY	**Whitehorse**	**20.52**	**53**	P	Pn	05 36 52.3	-1.0
WHY				IAmb	IAmb	05 36 57.3	
	comp=Z,11nm,0.8s						
JIS	**Juneau Island**	**20.57**	**59**	P	**P**	**05 36 51.1**	**-0.2**
JIS				IAmb	IAmb	05 36 57.4	
	comp=Z,21nm,1.2s						
EPYK	**Eagle Plains**	**21.40**	**36**	P	**P**	**05 37 00.0**	**-0.3**
EPYK				IAmb	IAmb	05 37 05.2	
	comp=Z,14nm,0.8s						
DLBC	**Dease Lake**	**22.86**	**59**	P	**P**	**05 37 18.7**	**+2.6**
	comp=Z,2.0nm,0.6s,baz=288,slow=13,SNR=3.4						
DLBC	**Dease Lake**	**22.86**	**59**	P	**P**	**05 37 14.4**	**-1.6**
MA2	**Magadan**	**23.20**	**304**	P	**P**	**05 37 15.4**	**-4.0**
MA2				IAmb	IAmb	05 37 19.5	
	comp=Z,10nm,0.9s						
INK	**Inuvik**	**23.35**	**33**	P	**P**	**05 37 19.4**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=233,slow=11,SNR=4.5						
INK	**Inuvik**	**23.35**	**33**	P	**P**	**05 37 18.5**	**-2.2**
MIDW	**Midway**	**24.84**	**197**	P	**P**	**05 37 33.5**	**-1.6**
C36M	**Paulatuk**	**26.93**	**34**	P	**P**

R40A Maddies Statio 53.44 73 P P 05 41 31.4 -1.1
R40A IAmb IAmb 05 41 44.4
comp=Z,2.6nm,0.8s
HDIL Hopedale 53.66 69 P P 05 41 33.5 -0.5
HHAR Hobbs 53.80 76 P P 05 41 35.1 -0.1
HHAR IAmb IAmb 05 41 36.2
comp=Z,3.2nm,1.1s
P43A Skaggs, Pawnee 54.13 70 P P 05 41 37.0 -0.5
MGMO Mountain Grove 54.20 74 P P 05 41 38.1 0.0
MGMO IAmb IAmb 05 41 38.8
comp=Z,3.5nm,0.9s
U40A Yellville 54.39 75 P P 05 41 38.7 -0.8
U40A IAmb IAmb 05 41 40.2
comp=Z,3.0nm,0.8s
I49A Point Hope 55.02 62 P P 05 41 41.9 -2.1
SFIN Lafayette 55.02 67 P P 05 41 43.8 -0.3
FCAR Ozark Folk Cen 55.14 75 P P 05 41 44.4 -0.5
FCAR IAmb IAmb 05 41 46.0
comp=Z,5.7nm,1.1s
SCHQ Schefferville 55.43 43 P P 05 41 47.2 +0.5
comp=Z,4.4nm,0.8s,baz=293,slow=9.2,SNR=5.1
SCHQ Schefferville 55.43 43 P P 05 41 47.0 +0.2
WLAR White Oak Lake 56.07 77 P P 05 41 52.6 +1.0
735A Kenedy 56.63 85 P P 05 41 55.0 -0.6
N51A Ashland 57.30 64 P P 05 41 59.5 -0.7
PLVO Plevna 57.31 57 P P 05 42 00.5 +0.2
PLVO IAmb IAmb 05 42 01.7
comp=Z,6.1nm,1.0s
T47A Sharon Grove 57.33 70 P P 05 42 01.0 +0.5
LCCO2 Lakeland CC 2, 57.37 63 P P 05 42 01.3 +0.6
DELO Deloro Mine 57.39 58 P P 05 42 01.2 +0.4
DELO IAmb IAmb 05 42 02.8
comp=Z,5.5nm,1.0s
ZALV Zalesovo Beam 57.48 318 P P 05 42 00.5 -0.8
comp=Z,0.6nm,0.3s,baz=58,slow=8.7,SNR=2.1
M53A WI Miller and 57.88 63 P P 05 42 04.9 +0.6
ARCES ARCESS Array B 57.96 354 P P 05 42 04.9 +0.4
comp=Z,1.1nm,0.6s,baz=15,slow=7.5,SNR=6.8
ARCES ARCESS Array B 57.96 354 P P 05 42 04.0 -0.5
ARCES IAmb IAmb 05 42 16.2
comp=Z,6.3nm,1.1s
Q51A Peebles 58.06 66 P P 05 42 06.4 +0.7
PECO Prince Edward 58.12 58 P P 05 42 06.4 +0.5
PECO IAmb IAmb 05 42 08.9
comp=Z,4.8nm,0.9s
U49A Red Boiling Sp 58.42 70 P P 05 42 08.4 +0.2
U49A IAmb IAmb 05 42 11.7
comp=Z,6.5nm,1.4s
LVZ Lovozero 58.76 350 P P 05 42 09.2 -0.9
J57A Williamstown 59.00 58 P P 05 42 12.6 +0.5
FPAL Fort Paine 59.91 71 P P 05 42 19.1 +0.6
SSPA Standing Stone 59.95 62 P P 05 42 19.3 +0.6
SSPA IAmb IAmb 05 42 40.4
comp=Z,4.9nm,1.1s
L59A Walton 60.36 59 P P 05 42 22.6 +1.0
F64A Sherman 61.09 52 P P 05 42 26.4 0.0
F64A IAmb IAmb 05 42 36.5
comp=Z,5.3nm,1.1s
LMN Caledonia Moun 62.78 50 P P 05 42 38.1 +0.3
MK31 Makanchi Array 63.86 313 P P 05 42 44.3 -0.7
MK31 IAmb IAmb 05 42 45.2
comp=Z,1.3nm,0.8s
MKAR Makanchi Array 63.86 313 P P 05 42 43.4 -1.6
comp=Z,1.4nm,0.6s,baz=48,slow=6.2,SNR=8.6
MKAR Makanchi Array 63.86 313 P P 05 42 43.9 -1.1
GBN Guysborough 64.63 48 P P 05 42 50.5 +0.6
FIA1 FINESS Array S 65.91 352 P P 05 42 57.9 0.0
FINES FINESS Array B 65.91 352 P P 05 42 57.2 -0.7
comp=Z,3.0nm,0.5s,baz=22,slow=7.9,SNR=12
FINES FINESS Array B 65.91 352 P P 05 42 57.5 -0.4
NC204 NORSAR Array S 66.74 360 P P 05 43 03.6 +0.3
NC303 NORSAR Array S 66.79 360 P P 05 43 03.6 0.0
NOA NORSAR Array B 66.97 360 P P 05 43 04.2 -0.7
comp=Z,1.0nm,0.7s,baz=359,slow=6.3,SNR=4.0
TARG Taragay, Kyrgy 69.83 313 P P 05 43 24.3 +0.8
TARG IAmb IAmb 05 43 41.8
comp=Z,2.6nm,0.7s
BOOM Boomskoye usch 70.05 314 P P 05 43 25.1 +0.6
BOOM IAmb IAmb 05 43 25.5
comp=Z,3.5nm,0.6s
ABKAR Akbulak array 70.49 328 P P 05 43 26.9 0.0
ABKAR IAmb IAmb 05 43 27.1
comp=Z,1.8nm,0.5s
KK31 Karatay Array 71.84 318 P P 05 43 34.8 -0.5
KK31 IAmb IAmb 05 43 48.2
comp=Z,4.6nm,1.5s
KKAR Karatay Array 71.84 318 P P 05 43 35.0 -0.2
AKASG Malin Array Be 76.15 348 P P 05 43 59.0 -1.3
comp=Z,2.2nm,0.4s,baz=16,slow=6.0,SNR=9.6
AKASG Malin Array Be 76.15 348 P P 05 43 58.7 -1.5
CMAR Chiang Mai Arr 76.67 283 P P 05 44 04.5 +0.8
comp=Z,4.8nm,0.8s,baz=24,slow=6.7,SNR=12
CMAR Chiang Mai Arr 76.67 283 P P 05 44 03.7 0.0
GERES GERESS Array B 79.16 358 P P 05 44 17.4 +0.2
comp=Z,1.4nm,0.7s,baz=5.4,slow=5.6,SNR=7.9
CONA Conrad Observa 80.02 356 *eP* **P 05 44 22.3 +0.4**
comp=Z,5.2nm,1.0s
MOA Molin 80.15 358 *eP* **P 05 44 24.1 +1.6**
comp=Z,6.1nm,1.7s
KBZ Khabaz 80.36 337 P **P 05 44 24.4 +0.8**
comp=Z,2.0nm,0.8s,baz=34,slow=8.2,SNR=4.0
MOTA Moosalm 80.70 360 *eP* **P 05 44 26.9 +1.3**
comp=Z,2.4nm,0.5s
ARSA Arzberg 80.71 357 *eP* **P 05 44 23.3 -2.2**
comp=Z,5.7nm,1.2s
KBA Koelnbreinsper 80.94 358 *eP* **P 05 44 28.1 +1.1**
comp=Z,5.9nm,0.6s
FETA Feichten 81.02 360 *eP* **P 05 44 25.8 -1.6**
comp=Z,5.0nm,0.8s
ABTA Abfaltersbach 81.28 359 *eP* **P 05 44 29.8 +1.2**
comp=Z,4.8nm,0.9s
SOKA Soboth 81.29 357 *eP* **P 05 44 29.5 +0.8**
comp=Z,7.2nm,1.2s
MYKA Terra Mystica 81.38 358 *eP* **P 05 44 26.3 -2.8**
comp=Z,2.5nm,0.8s
OBKA Obir 81.48 357 *eP* **P 05 44 29.2 -0.5**
comp=Z,8.6nm,1.1s
ESDC Sonseca Array 87.48 11 P **P 05 45 00.5 +0.3**
comp=Z,2.2nm,0.7s,baz=348,slow=4.3,SNR=11
ASAR Alice Springs 90.41 230 P **P 05 45 14.2 +0.3**
comp=Z,0.7nm,0.6s,baz=29,slow=4.5,SNR=5.4
ASAR Alice Springs 90.41 230 P **P 05 45 14.4 +0.5**
MAW Mawson 150.88 218 PKPbc **PKPbc 05 52 03.8 +0.2**
comp=Z,1.8nm,0.9s,baz=158,slow=5.4,SNR=2.7
BOSA Boshof 153.95 330 PKPbc **PKiKP 05 52 12.2 +0.1**
comp=Z,1.5nm,0.7s,baz=349,slow=5.2,SNR=1.3

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*NNC **27** 05:36:45.0±0.9, 44°.86N×79°.90E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=10.7km s-min=5.3km az=91.0*
*SOME **27** 05:36:46.0, 44°.85N×79°.67E, h0km*
ISC 27 05:36:45.1±1.1, 44°.89N±0°.03×79°.87E±0°.05, h11km±14km, n14, σ1§16/23, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.54**	**318**	*eP*	**Pg**	**05 36 56.1**	**+0.5**
KAPS	0.4nm,0.1s			*eS*	**Sg**	**05 37 03.5**	**+0.6**
KAPS	**Kapalarasan**	**0.54**	**318**	P	**Pg**	**05 36 56.0**	**+0.3**
KAPS	0.4nm,0.1s			S	**Sg**	**05 37 03.4**	**+0.6**
DJR	**Jarkent**	**0.56**	**186**	*eP*	**Pg**	**05 36 55.8**	**-0.3**
DJR	0.5nm,0.1s			*eS*	**Sg**	**05 37 03.0**	**-0.4**
DJR	**Jarkent**	**0.56**	**186**	P	**Pg**	**05 36 55.7**	**-0.3**
DJR	0.5nm,0.1s			S	**Sg**	**05 37 03.3**	**-0.1**
PDGK	**Podgornoye**	**1.58**	**190**	P	**Pb**	**05 37 14.0**	**-0.5**
PDGK	1.2nm,0.3s			S	**Sb**	**05 37 34.1**	**-0.4**
KPKS	**Kokpek**	**1.66**	**211**	*eP*	**Pb**	**05 37 15.6**	**-0.2**
KPKS	5.4nm,0.2s			*eS*	**Sb**	**05 37 36.8**	**+0.2**
UZB	**Uzynbulak**	**1.84**	**200**	*eP*	**Pb**	**05 37 19.0**	**+0.1**
UZB	0.5nm,0.2s			*eS*	**Sg**	**05 37 42.6**	**-1.8**
UZB	**Uzynbulak**	**1.84**	**200**	P	**Pb**	**05 37 18.6**	**-0.4**
UZB	1.2nm,0.2s			S	**Sb**	**05 37 42.2**	**+0.2**
SATY	**Saty**	**2.11**	**211**	*eP*	**Pb**	**05 37 23.7**	**+0.2**
SATY	2.7nm,0.1s			*eS*	**Sb**	**05 37 50.8**	**+1.0**
SATY	**Saty**	**2.11**	**211**	Pg	**Pb**	**05 37 23.7**	**+0.2**
SATY	16nm,0.1s 5.9nm,0.2s			Lg	Lg	05 37 50.8	
MAKZ	**Makanchi**	**2.42**	**37**	⇑Pn	**Pb**	**05 37 27.1**	**-1.6**
MAKZ	1.9nm,0.9s 0.6nm,0.4s			⇑Lg	Lg	05 37 59.3	
MK31	**Makanchi Array**	**2.55**	**41**	⇑Pn	**Pb**	**05 37 29.2**	**-1.7**
MK31	0.4nm,0.6s,baz=212,slow=15,SNR=4.3 0.4nm,0.3s,baz=218,slow=29,SNR=11			⇓Lg	Lg	05 38 01.1	
MK31	**Makanchi Array**	**2.55**	**41**	P	**Pb**	**05 37 29.1**	**-1.8**
WMQ	**Urumqi**	**5.71**	**98**	*eP*	**Pb**	**05 38 28.0**	**+3.2**
WMQ	comp=Z,9.0nm,0.7s			pmax	pmax		
WMQ	comp=Z,18μm,8.5s			pmax	pmax		

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*NEIC **27** 05:47:49.4±1.8, 52°.10N±0°.09×169°.40W±0°.08, h20km±10km, Error ellipse: s-maj=13.7km s-min=5.3km az=154.0*
AEIC 27 05:47:48±2.6, 52°.10N±0°.04×169°.39W±0°.07, h5km±6km, ML2.9/18, mb4.0/6(NEIC), Error ellipse: s-maj=6.5km s-min=5.8km az=110.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.93**	**20**		Sb	05 48 20.1	+0.8
NIKH	**Nikolski High**	**0.93**	**20**		Pg	05 48 05.9	+0.1
OKCE	**Okmok Cone E**	**1.52**	**29**		Pn	05 48 15.5	-0.4
OKCE					Sg	05 48 37.1	+0.2
OKWE	**Okmok W'ng Wal**	**1.54**	**26**		Pn	05 48 15.0	-1.1
OKFG	**Magazine Ridge**	**1.59**	**34**		Pn	05 48 15.8	-1.0
MAPS	**Pakushin South**	**2.26**	**40**		Pn	05 48 25.9	-0.2
MAPS					Sn	05 48 52.8	-1.5
MSW	**Makushin Switc**	**2.41**	**40**		Pn	05 48 28.0	0.0
MNAT	**Makushin Natee**	**2.42**	**41**		Pn	05 48 28.4	+0.1
MNAT					Sn	05 48 57.5	-0.7
UNV	**Unalaska Valle**	**2.47**	**44**		Pn	05 48 28.7	-0.2
KOFP	**Korovin Flat P**	**2.90**	**275**		Pn	05 48 36.2	+1.4
ATKA	**Atka Island**	**2.96**	**274**		Pn	05 48 34.6	-1.0
AKUT	**Akutan**	**2.98**	**45**	Pn	Pn	05 48 37.0	+1.1
GSTR	**Great Sitkin T**	**4.11**	**273**	Pn	Pn	05 48 52.2	+0.7
ADK	**Adak**	**4.51**	**270**	Pn	Pn	05 48 55.0	-1.9
KIWB	**Kanaga Island**	**4.80**	**270**	Pn	Pn	05 48 59.8	-1.2
SPIA	**Saint Paul Isl**	**5.11**	**355**	Pn	Pn	05 49 05.6	+0.5
SDPT	**Sand Point**	**6.21**	**55**	Pn	Pn	05 49 18.0	-2.2
O22K	**Cooper Landing**	**13.72**	**45**	Pn	Pn	05 51 00.6	-2.4
SCM	**Sheep Creek Mo**	**15.40**	**42**	Pn	Pn	05 51 24.9	-0.9
SCM				IAmb	IAmb	05 51 53.2	
	comp=Z,12nm,1.2s						
HDA	**Harding Lake**	**16.94**	**35**	Pn	Pn	05 51 43.9	-1.6
MCARA	**McCarthy VSAT**	**17.07**	**47**	Pn	Pn	05 51 44.8	-2.4
MCARA				IAmb	IAmb	05 52 11.4	
	comp=Z,8.7nm,1.0s						
HYT	**Haines Junctio**	**19.48**	**51**	P	P	05 52 15.5	-0.1
HYT				IAmb	IAmb	05 52 26.8	
	comp=Z,10nm,1.4s						
BMAR	**Burnt Mountain**	**19.57**	**29**	P	P	05 52 16.1	-0.3
PEA0B	**Petropavlovsk-**	**19.92**	**286**	P	P	05 52 19.2	-1.1
PEA0B				IAmb	IAmb	05 52 34.7	
	comp=Z,14nm,1.3s						
WRAK	**Wrangell Islan**	**21.88**	**64**	P	P	05 52 40.3	-1.1

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*IDC **27** 05:50:31.8±1.8, 52°.47N×169°.38W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/58, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=49.3km s-min=20.9km az=3.0*
*AEIC **27** 05:50:35±2.2, 52°.16N±0°.04×169°.38W±0°.07, h34km±5km, ML3.2/25, mb3.8/16(NEIC), Error ellipse: s-maj=7.2km s-min=4.5km az=128.0*
*NEIC **27** 05:50:36.5±2.0, 52°.18N±0°.06×169°.42W±0°.05, h40km±9km, Error ellipse: s-maj=9.1km s-min=1.8km az=154.0*
ISC 27 05:50:35.2±0.8, 52°.1N±0°.1×169°.36W±0°.07, h30km, n57, σ1§18/60, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.89**	**20**		**Pn**	**05 50 50.7**	**-0.9**
OKCE	**Okmok Cone E**	**1.48**	**29**		**Pn**	**05 51 00.1**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.48**	**32**		**Pn**	**05 51 00.0**	**+0.2**
OKNC	**Okmok New Cone**	**1.52**	**29**		**Pn**	**05 51 01.0**	**+0.7**
OKNC					**Sb**	**05 51 22.1**	**+0.5**
MAPS	**Pakushin South**	**2.22**	**40**		**Pn**	**05 51 10.2**	**+0.3**
MAPS					**Sn**	**05 51 37.1**	**+0.7**
MSW	**Makushin Switc**	**2.36**	**40**		**Pn**	**05 51 12.9**	**+1.0**
MNAT	**Makushin Natee**	**2.38**	**42**		**Pn**	**05 51 13.2**	**+1.0**
MNAT					**Sn**	**05 51 41.0**	**+0.7**
UNV	**Unalaska Valle**	**2.43**	**44**		**Pn**	**05 51 13.2**	**+0.4**
UNV					**Sn**	**05 51 42.7**	**+1.2**
MTBL	**Makushin Table**	**2.44**	**40**		**Pn**	**05 51 14.3**	**+1.2**
AKMO	**Akutan Morgan**	**2.81**	**45**		**Pn**	**05 51 19.9**	**+1.9**
AKGG	**Akutan Green G**	**2.89**	**43**		**Pn**	**05 51 21.4**	**+2.2**
KOFP	**Korovin Flat P**	**2.92**	**275**		**Pn**	**05 51 20.2**	**+0.6**
AKUT	**Akutan**	**2.94**	**46**	Pn	**Pn**	**05 51 21.4**	**+1.5**
ATKA	**Atka Island**	**2.98**	**273**		**Pn**	**05 51 20.9**	**+0.5**
GSTR	**Great Sitkin T**	**4.13**	**272**	Pn	**Pn**	**05 51 37.7**	**+1.5**
GSTD	**Great Sitkin T**	**4.19**	**272**		**Pn**	**05 51 37.6**	**+0.6**
FALS	**False Pass**	**4.47**	**50**	Pn	**Pn**	**05 51 42.7**	**+1.9**
ADK	**Adak**	**4.53**	**270**	Pn	**Pn**	**05 51 42.8**	**+1.1**
KIWB	**Kanaga Island**	**4.82**	**270**		**Pn**	**05 51 47.1**	**+1.4**
KIMD	**Kanaga Island**	**4.89**	**269**		**Pn**	**05 51 47.5**	**+1.0**
SPIA	**Saint Paul Isl**	**5.08**	**355**	Pn	**Pn**	**05 51 51.3**	**+2.2**
AMKA	**Amchitka**	**7.08**	**268**		**Pn**	**05 52 14.5**	**-2.1**
OHAK	**Old Harbor**	**10.60**	**55**	Pn	**Pn**	**05 53 03.1**	**-1.7**
KDAK	**Kodiak Island**	**11.16**	**53**	Pn	**Pn**	**05 53 11.9**	**-0.6**
	0.1nm,0.3s,baz=176,slow=4.0,SNR=6.7						
KDAK	**Kodiak Island**	**11.16**	**53**		**Pn**	**05 53 12.4**	**-0.2**
SEW	**Seward**	**13.63**	**46**	Pn	**Pn**	**05 53 45.0**	**-1.2**
PWL	**Port Wells**	**14.47**	**45**	Pn	**Pn**	**05 53 56.0**	**-1.7**
PMR	**Palmer**	**14.49**	**41**	Pn	**Pn**	**05 53 56.9**	**-1.1**
HIN	**Hinchinbrook I**	**15.08**	**48**	Pn	**Pn**	**05 54 05.5**	**-0.4**
SCM	**Sheep Creek Mo**	**15.36**	**42**	Pn	**Pn**	**05 54 06.5**	**-3.1**
SCM				IAmb	IAmb	05 54 25.5	
	comp=Z,24nm,1.4s						
KLU	**Klutina**	**15.79**	**45**	Pn	**Pn**	**05 54 14.3**	**-1.0**
KLU				IAmb	IAmb	05 54 34.9	
	comp=Z,14nm,1.4s						
M24K	**Tolsona, Glenn**	**15.97**	**42**	Pn	**Pn**	**05 54 17.2**	**-0.2**
N25K	**Chitina, Valde**	**16.42**	**45**	Pn	**Pn**	**05 54 22.7**	**-0.5**
N25K				IAmb	IAmb	05 54 23.0	
	comp=Z,9.1nm,1.3s						
I23K	**Minto, Yukon-K**	**16.57**	**30**	Pn	**Pn**	**05 54 23.3**	**-1.6**
I23K				IAmb	IAmb	05 54 36.2	
	comp=Z,6.6nm,1.4s						
PAX	**Paxson**	**16.67**	**40**		**Pn**	**05 54 26.2**	**-0.2**
CCB	**Clear Creek Bu**	**16.75**	**33**		**Pn**	**05 54 27.4**	**+0.1**
DOT	**Dot Lake**	**17.56**	**39**		**Pn**	**05 54 37.0**	**-0.5**
SCRK	**Sand Creek**	**17.75**	**38**	Pn	**Pn**	**05 54 36.8**	**-3.0**
BCAR	**Beaver Creek A**	**18.22**	**42**	P	**Pn**	**05 54 44.2**	**-1.3**
EGAK	**Eagle**	**19.22**	**38**	P	**P**	**05 54 56.9**	**+0.5**
BMAR	**Burnt Mountain**	**19.53**	**29**	P	**P**	**05 54 59.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**19.93**	**286**	P	**P**	**05 55 04.5**	**+0.2**
PETK	**Petropavlovsk-**	**19.93**	**286**	P	**P**	**05 55 04.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=89,slow=13,SNR=12						
INK	**Inuvik**	**23.54**	**33**	P	**P**	**05 55 42.1**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=212,slow=3.8,SNR=5.0						
INK	**Inuvik**	**23.54**	**33**	IAmb	IAmb	05 55 43.6	
	comp=Z,2.7nm,1.1s						
BW06	**Boulder Array**	**40.44**	**79**	P	**P**	**05 58 11.3**	**+0.4**
BW06				IAmb	IAmb	05 58 37.7	
	comp=Z,0.8nm,0.5s						
PD31	**Pinedale Array**	**40.44**	**79**	P	**P**	**05 58 11.5**	**+0.6**
PD31				IAmb	IAmb	05 58 39.3	
	comp=Z,2.3nm,1.4s						
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**05 58 11.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=292,slow=3.4,SNR=5.2						
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**05 58 09.8**	**-1.1**
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**05 59 48.6**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=286,slow=4.9,SNR=4.1						
TXAR	**Lajitas Array**	**52.74**	**89**	P	**P**	**05 59 48.0**	**+0.7**
ARCES	**ARCESS Array B**	**58.15**	**354**	P	**P**	**06 00 24.5**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=14,slow=4.8,SNR=4.4						
BVAR	**Borovoye Array**	**63.90**	**324**	P	**P**	**06 01 03.8**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=29,slow=3.4,SNR=5.2						
MK31	**Makanchi Array**	**63.97**	**313**	P	**P**	**06 01 05.0**	**-0.3**
MK31				IAmb	IAmb	06 01 11.1	
	comp=Z,0.7nm,1.1s						
MKAR	**Makanchi Array**	**63.97**	**313**	P	**P**	**06 01 04.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=56,slow=6.8,SNR=2.2						
ABKAR	**Akbulak array**	**70.63**	**328**	P	**P**	**06 01 47.5**	**+0.1**
KKAR	**Karatay Array**	**71.97**	**318**	P	**P**	**06 01 55.6**	**0.0**

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*JMA **27** 06:00:20.7±0.4, 33°.56N×137°.22E, h378km±4km, M2.7*
*IDC **27** 06:00:23.7±0.8, 33°.69N×137°.15E, h369km±10km, mb3.1/6, mb1 3.2/12, mb1mx3.0/60, mbtmp3.9/12, Error ellipse: s-maj=24.7km s-min=17.3km az=48.0*
*NEIC **27** 06:00:23.2±1.8, 33°.75N±0°.09×137°.21E±0°.07, h364km±8km, mb4.2/8, Error ellipse: s-maj=13.9km s-min=6.4km az=157.0*
ISC 27 06:00:22.6±0.6, 33°.75N±0°.07×137°.12E±0°.06, h350km, n59, σ1§74/61, mb3.8/10, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.72**	**332**	P	**Pn**	**06 01 09.6**	**+2.3**
JKN2	**Miekihoku**	**0.85**	**305**	P	**Pn**	**06 01 09.9**	**+2.2**
HMMJ	**Hamamatsu 2**	**1.21**	**24**	P	**Pn**	**06 01 11.4**	**+2.2**
JTNC	**Tanabenakahech**	**1.25**	**273**	P	**Pn**	**06 01 11.7**	**+2.2**
JWY	**Kouya**	**1.35**	**291**	P	**Pn**	**06 01 11.9**	**+1.9**
INU	**Inuyama**	**1.59**	**357**	Pn	**Pn**	**06 01 11.0**	**-0.1**
JNY	**Yasuok**	**1.71**	**21**	P	**Pn**	**06 01 14.3**	**+2.3**
JGF	**Kuroka**	**1.85**	**6**	Pn	**Pn**	**06 01 11.8**	**-1.1**
JWT	**Wachi**	**2.08**	**318**	P	**Pn**	**06 01 16.7**	**+2.3**
JWT	**Wachi**	**2.08**	**318**	Pn	**Pn**	**06 01 16.9**	**+2.5**
JOD2	**Odawara 2**	**2.22**	**47**	P	**Pn**	**06 01 17.5**	**+2.1**
JAI	**Aioi**	**2.22**	**272**	P	**Pn**	**06 01 17.0**	**+1.5**
JHJ	**Hachijo jima 2**	**2.32**	**105**	P	**Pn**	**06 01 17.9**	**+1.6**
	10nm,0.3s,baz=89,slow=22,SNR=6.5						
JHJ				S	**S**	**06 02 04.6**	**+5.2**
	19nm,0.3s,baz=110,slow=23,SNR=2.0						
JHJ2	**Mitsune**	**2.35**	**105**	Pn	**Pn**	**06 01 18.5**	**+2.1**
JRY	**Ryogami san**	**2.69**	**33**	P	**Pn**	**06 01 21.7**	**+2.5**
JMN	**Monobe**	**2.70**	**270**	Pn	**Pn**	**06 01 21.2**	**+1.9**
JHU	**Hanno**	**2.75**	**40**	P	**Pn**	**06 01 21.2**	**+1.5**
MAJO	**Matsushiro**	**2.92**	**18**	Pn	**Pn**	**06 01 23.6**	**+2.4**
MAT	**Matsushiro**	**2.92**	**18**	P	**Pn**	**06 01 23.1**	**+1.9**
MAT				S	**S**	**06 02 09.8**	**+1.4**
MJAR	**Matsushiro Arr**	**2.92**	**18**	P	**Pn**	**06 01 23.2**	**+2.0**
	0.5nm,0.3s,baz=183,slow=9.4,SNR=20						
MJAR	**Matsushiro Arr**	**2.92**	**18**		**Pn**	**06 01 23.4**	**+2.2**
MJB9	**Matsu-Tunnel**	**2.92**	**17**	Pn	**Pn**	**06 01 21.9**	**+0.7**
BSO4	**Boso 4**	**2.94**	**64**	P	**Pn**	**06 01 22.0**	**+0.8**
BSO3	**Boso 3**	**3.00**	**69**	P	**Pn**	**06 01 21.6**	**0.0**
JAG	**Ashikaga**	**3.28**	**35**	P	**Pn**	**06 01 25.2**	**+0.7**
BSO1	**Boso 1**	**3.33**	**73**	P	**Pn**	**06 01 23.7**	**-0.6**
JHS	**Saijyo**	**3.53**	**292**	P	**Pn**	**06 01 28.8**	**+1.9**
JHS	**Saijyo**	**3.53**	**292**		**Pn**	**06 01 28.9**	**+1.9**
JYT	**Yasato**	**3.53**	**45**	Pn	**Pn**	**06 01 27.4**	**+0.6**
JTO	**Tosashimizu**	**3.72**	**257**	P	**Pn**	**06 01 29.8**	**+1.0**
JNA	**Nagahama**	**3.87**	**268**	P	**Pn**	**06 01 31.8**	**+1.5**
JHO	**Hitachi**	**4.01**	**44**	P	**Pn**	**06 01 31.9**	**+0.2**
JSD	**Sado**	**4.37**	**12**	Pn	**Pn**	**06 01 37.6**	**+2.3**
JFK	**Kawauchi**	**4.73**	**39**	P	**Pn**	**06 01 39.3**	**+0.1**
JNU	**Nakatsue**	**5.25**	**265**	P	**Pn**	**06 01 46.9**	**+1.9**
	2.9nm,0.3s,baz=105,slow=3.5,SNR=19						
JNU	**Nakatsue**	**5.25**	**265**		**Pn**	**06 01 46.5**	**+1.4**
JSU	**Suzuyama**	**6.05**	**250**	Pn	**Pn**	**06 01 55.4**	**+1.3**
JTU	**Tsushima**	**6.44**	**279**	Pn	**Pn**	**06 02 00.2**	**+1.7**
KSRS	**Korea Array**	**8.35**	**299**	P	**Pn**	**06 02 23.1**	**+2.4**
	0.5nm,0.3s,baz=125,slow=10,SNR=11						
KSAR	**Wonju Array Be**	**8.37**	**299**	Pn	**Pn**	**06 02 20.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**11.16**	**341**		**P**	**06 02 55.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**11.16**	**341**	P	**P**	**06 02 55.7**	**+1.0**
	baz=147,slow=10,SNR=34						
KLR	**Kul'dur**	**15.97**	**347**	P	**P**	**06 03 47.3**	**-0.2**
	0.3nm,0.3s,baz=173,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**26.97**	**311**	P	**P**	**06 05 34.9**	**+1.6**
	1.3nm,0.6s,baz=127,slow=9.6,SNR=5.0						
MKAR	**Makanchi Array**	**42.98**	**305**	P	**P**	**06 07 48.3**	**-0.1**
	0.3nm,0.4s,baz=83,slow=9.3,SNR=5.5						
KURK	**Kurchatov**	**45.28**	**310**	P	**P**	**06 08 06.5**	**+0.2**
KURBB	**Kurchatov Arra**	**45.34**	**310**	P	**P**	**06 08 06.5**	**-0.3**
	0.8nm,0.3s,baz=91,slow=6.7,SNR=9.2						
CUT	**Chulitna**	**52.75**	**34**	P	**P**	**06 08 59.0**	**-3.2**
WRA	**Warramunga Arr**	**53.46**	**183**	P	**P**	**06 09 06.4**	**-1.6**
	0.2nm,0.4s,baz=358,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**53.46**	**183**	P	**P**	**06 09 05.8**	**-2.1**
WR0	**Warramunga Arr**	**53.47**	**183**	P	**P**	**06 09 06.5**	**-1.5**
WR0				IAmb	IAmb	06 09 08.3	
	comp=Z,5.7nm,1.2s						
ABKAR	**Akbulak array**	**57.38**	**311**	P	**P**	**06 09 35.1**	**-0.2**
PSA00	**Pilbara Seismi**	**57.43**	**199**	P	**P**	**06 09 36.2**	**+0.3**
PSA00				IAmb	IAmb	06 09 43.3	
	comp=Z,4.7nm,1.1s						
ARCES	**ARCESS Array B**	**65.81**	**339**	P	**P**	**06 10 30.8**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=61,slow=7.5,SNR=1.8						
FIA1	**FINESS Array S**	**70.04**	**332**	P	**P**	**06 10 56.8**	**-0.2**
FIA1				IAmb	IAmb	06 11 02.0	
	comp=Z,19nm,1.3s						
FINES	**FINESS Array B**	**70.04**	**332**	P	**P**	**06 10 56.5**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=48,slow=6.8,SNR=14						
FINES	**FINESS Array B**	**70.04**	**332**	P	**P**	**06 10 56.8**	**-0.2**
PGC	**Sidney**	**71.13**	**44**	P	**P**	**06 11 02.2**	**-1.5**
PGC				IAmb	IAmb	06 11 11.4	
	comp=Z,13nm,1.2s						
TOO	**Toolangi**	**71.39

RSO	Redoubt South	12.16	42	Pn	Pn	06 06 34.3	+2.7
CNPM	China Poot	12.34	48	Pn	Pn	06 06 35.0	+1.2
TNA	Tin City	13.21	2	Pn	Pn	06 06 45.7	+0.1
SEW	Seward	13.40	47	Pn	Pn	06 06 48.4	+0.1
O22K	Cooper Landing	13.46	45	Pn	Pn	06 06 49.2	+0.2
PPLA	Purkeypile	13.88	34	Pn	Pn	06 06 54.5	-0.4
HIN	Hinchinbrook I	14.87	49	Pn	Pn	06 07 07.3	-0.8
FID	Port Fidalgo	15.02	47	Pn	Pn	06 07 08.9	-1.1
FID				IAmb	IAmb	06 07 15.8	
	comp=Z,24nm,1.0s						
BPAW	Bear Paw Mtn.	15.09	32	Pn	Pn	06 07 12.3	+1.4
BPAW				IAmb	IAmb	06 07 37.0	
	comp=Z,14nm,1.3s						
SCM	Sheep Creek Mo	15.13	43	Pn	Pn	06 07 11.9	+0.4
SCM				IAmb	IAmb	06 07 32.6	
	comp=Z,14nm,0.8s						
KLU	Klutina	15.57	45	Pn	Pn	06 07 16.4	-0.9
KLU				IAmb	IAmb	06 07 32.6	
	comp=Z,14nm,1.0s						
KAIM	Kayak Island	15.68	52	Pn	Pn	06 07 16.5	-2.2
M24K	Tolsona, Glenn	15.74	43	Pn	Pn	06 07 18.6	-0.8
M24K				IAmb	IAmb	06 07 28.2	
	comp=Z,32nm,1.2s						
MLY	Manley	15.81	30		P	06 07 22.9	-0.8
MLY				IAmb	IAmb	06 07 46.2	
	comp=Z,10nm,1.0s						
BMRM	Bremner River	15.95	48	P	Pn	06 07 22.8	+0.6
BMRM				IAmb	IAmb	06 07 38.8	
	comp=Z,24nm,1.4s						
N25K	Chitina, Valde	16.19	46	Pn	Pn	06 07 24.7	-0.6
WRH	Wood River Hil	16.29	34	Pn	Pn	06 07 25.9	-0.6
I23K	Minto, Yukon-K	16.31	31	Pn	P	06 07 28.1	-1.0
GLB	Gilahina Butte	16.48	47	Pn	Pn	06 07 28.9	0.0
CCB	Clear Creek Bu	16.50	34	Pn	Pn	06 07 28.7	-0.3
CRQM	Cirque	16.55	49	Pn	Pn	06 07 29.3	-0.6
CRQM				IAmb	IAmb	06 07 47.1	
	comp=Z,14nm,1.0s						
MDM	Murphy Dome	16.55	32	Pn	Pn	06 07 29.5	-0.3
VRDI	Verde Repeater	16.56	48	Pn	Pn	06 07 29.8	-0.3
WAX	Waxell Ridge	16.59	51	Pn	Pn	06 07 30.4	+0.1
MCARA	McCarthy VSAT	16.81	47	P	Pn	06 07 31.8	-1.2
MCARA				IAmb	IAmb	06 07 50.0	
	comp=Z,17nm,1.0s						
ILAR	Eielson Array	16.89	34	Pn	Pn	06 07 33.4	-0.6
	comp=Z,0.1nm,0.3s,baz=234,slow=12,SNR=5.4						
LOGN	Logan Glacier	17.57	50	Pn	Pn	06 07 42.0	-0.6
LOGN				IAmb	IAmb	06 08 03.6	
	comp=Z,23nm,1.2s						
PRP	Porcupine Dome	17.80	33	Pn	Pn	06 07 44.5	-0.9
BCAR	Beaver Creek A	17.98	43		Pn	06 07 47.5	0.0
K27K	Chicken	18.28	40	P	Pn	06 07 54.2	+3.1
FYU	Fort Yukon	18.53	31	P	Pn	06 07 55.0	+0.9
FYU				IAmb	IAmb	06 08 12.7	
	comp=Z,16nm,1.4s						
TOLK	Toolik Lake Re	18.79	23	P	Pn	06 07 58.9	+1.6
EGAK	Eagle	18.98	38		Pn	06 08 00.1	+0.7
HYT	Haines Junctio	19.23	52	P	Pn	06 08 02.9	+0.1
HYT				IAmb	IAmb	06 08 16.5	
	comp=Z,14nm,0.7s						
BMAR	Burnt Mountain	19.27	29	P	Pn	06 08 04.0	+1.0
DAWY	Dawson	19.36	41	P	P	06 08 03.3	+0.5
PEA0B	Petropavlovsk-	19.90	285	P	P	06 08 09.0	+0.2
PETK	Petropavlovsk-	19.90	285	P	P	06 08 07.6	-1.2
	comp=Z,2.0nm,0.3s,baz=84,slow=14,SNR=18						
PETK	Petropavlovsk-	19.90	285	P	P	06 08 08.6	-0.1
WHY	Whitehorse	20.47	53	P	P	06 08 16.1	+1.1
WHY				IAmb	IAmb	06 08 37.4	
	comp=Z,11nm,0.8s						
EPYK	Eagle Plains	21.34	37	P	P	06 08 23.9	-0.3
EPYK				IAmb	IAmb	06 08 42.6	
	comp=Z,12nm,0.7s						
INK	Inuvik	23.28	33	P	P	06 08 45.5	+0.9
	comp=Z,1.0nm,0.5s,baz=215,slow=11,SNR=4.3						
INK	Inuvik	23.28	33	P	P	06 08 44.3	-0.3
INK				IAmb	IAmb	06 09 12.7	
	comp=Z,6.6nm,1.2s						
YKA	Yellowknife Ar	30.18	49	P	P	06 09 47.5	+0.7
	comp=Z,0.5nm,0.6s,baz=72,slow=11,SNR=5.0						
YKA	Yellowknife Ar	30.18	49	P	P	06 09 47.4	+0.5
NEW	Newport	32.95	76	P	P	06 10 11.3	-0.1
NEW				IAmb	IAmb	06 10 24.5	
	comp=Z,3.1nm,0.9s						
KLR	Kul'dur	36.50	289	P	P	06 10 40.5	-1.4
	comp=Z,1.2nm,0.4s,baz=80,slow=7.2,SNR=7.8						
HLID	Hailey	36.96	81	P	P	06 10 45.4	-0.8
MCMT	McKenzie Canyo	37.22	79	P	P	06 10 49.5	+1.1
KVN	Kaiserville	37.35	90	P	P	06 10 50.5	+1.0
PMPB	Monarch Peak	37.50	96	P	P	06 10 51.9	+1.2
NVAR	Mina Array Bea	37.61	91	P	P	06 10 53.5	+1.7
	comp=Z,0.2nm,0.3s,baz=83,slow=14,SNR=2.1						
YHH	Holmes Hill	38.44	77	P	P	06 10 58.8	+0.1
YHH				IAmb	IAmb	06 11 18.9	
	comp=Z,6.2nm,1.1s						
RLMT	Red Lodge	39.20	76	P	P	06 11 04.8	-0.2
RLMT				IAmb	IAmb	06 11 25.7	
	comp=Z,6.0nm,1.1s						
TPNV	Topopah Spring	39.81	91	P	P	06 11 08.4	-1.7
TPNV				IAmb	IAmb	06 11 10.0	
	comp=Z,3.3nm,0.9s						
PRN	Pahroc Range	40.25	90	P	P	06 11 14.6	+0.8
PRN				IAmb	IAmb	06 11 35.2	
	comp=Z,5.0nm,1.1s						
BW06	Boulder Array	40.34	79	P	P	06 11 15.0	+0.4
BW06				IAmb	IAmb	06 11 35.2	
	comp=Z,4.7nm,1.1s						
PD31	Pinedale Array	40.34	79	P	P	06 11 14.4	-0.2
PD31				IAmb	IAmb	06 11 34.7	
	comp=Z,3.2nm,1.0s						
PDAR	Pinedale Array	40.34	79	P	P	06 11 15.1	+0.5
	comp=Z,1.6nm,0.8s,baz=308,slow=4.4,SNR=13						
PDAR	Pinedale Array	40.34	79	P	P	06 11 14.8	+0.2
RDMU	Red Mountain	41.63	82	P	P	06 11 25.8	+0.6
RDMU				IAmb	IAmb	06 11 46.2	
	comp=Z,6.0nm,1.1s						
O20A	White River Ci	42.70	82	P	P	06 11 34.8	+0.9
O20A				IAmb	IAmb	06 11 53.9	
	comp=Z,7.6nm,1.0s						
PV13	Radium Mtn., P	43.58	84	P	P	06 11 40.3	-0.8
PV13				IAmb	IAmb	06 12 02.4	
	comp=Z,6.4nm,0.9s						
PV01	Paradox Valley	43.75	84	P	P	06 11 41.8	-0.7
PV01				IAmb	IAmb	06 12 03.7	
	comp=Z,3.4nm,0.8s						
KSRS	Korea Array	45.45	277	P	P	06 11 56.2	+0.5
	comp=Z,3.4nm,0.9s,baz=59,slow=6.7,SNR=14						
KSAR	Wonju Array Be	45.48	277	P	P	06 11 55.4	-0.6
N38A	Joes South For	51.20	71	P	P	06 12 39.1	-0.9
SONM	Songino Array	51.33	301	P	P	06 12 41.4	+0.4
	comp=Z,0.9nm,0.4s,baz=51,slow=6.8,SNR=7.5						
SONM	Songino Array	51.33	301	P	P	06 12 40.7	-0.3
SONM				IAmb	IAmb	06 12 42.6	
	comp=Z,3.8nm,1.2s						
TX31	Lajitas Ar. Si	52.69	89	P	P	06 12 51.1	-0.3
TX32	Lajitas Array	52.69	89	P	P	06 12 51.3	0.0
TX32				IAmb	IAmb	06 13 09.0	
	comp=Z,2.4nm,0.8s						
TXAR	Lajitas Array	52.69	89	P	P	06 12 51.2	-0.1
	comp=Z,0.9nm,0.9s,baz=303,slow=5.8,SNR=9.3						
TXAR	Lajitas Array	52.69	89	P	P	06 12 51.4	+0.1
P40A	Paris	52.72	71	P	P	06 12 50.0	-1.3
SCHQ	Schefferville	55.37	43	P	P	06 13 10.6	+0.2
	comp=Z,2.9nm,0.8s,baz=286,slow=7.6,SNR=3.6						
ARCES	ARCESS Array B	57.89	354	P	P	06 13 27.8	-0.3
	comp=Z,2.4nm,0.8s,baz=17,slow=9.4,SNR=5.4						
KURBB	Kurchatov Arra	62.49	318	P	P	06 13 59.8	0.0
	comp=Z,1.0nm,0.4s,baz=46,slow=7.0,SNR=10						
MKAR	Makanchi Array	63.82	313	P	P	06 14 08.2	-0.6
	comp=Z,0.6nm,0.4s,baz=56,slow=5.3,SNR=11						
FIA1	FINESS Array S	65.84	352	P	P	06 14 22.2	+0.7
FINES	FINESS Array B	65.84	352	P	P	06 14 21.1	-0.5
	comp=Z,1.6nm,0.7s,baz=42,slow=8.8,SNR=7.0						
NC303	NORSAR Array S	66.71	360	P	P	06 14 27.9	+0.7
NB2	NORSAR Subarra	66.90	360	P	P	06 14 28.5	+0.1
	comp=Z,1.7nm,1.0s,baz=358,slow=5.9						
NOA	NORSAR Array B	66.90	360	P	P	06 14 28.6	+0.1
	comp=Z,1.9nm,0.8s,baz=0.4,slow=6.1,SNR=4.8						
ABKAR	Akbulak array	70.43	328	P	P	06 14 50.7	+0.1
ABKAR				IAmb	IAmb	06 14 52.1	
	comp=Z,3.4nm,0.9s						
KKAR	Karatay Array	71.80	318	P	P	06 14 58.8	-0.2
GAR	Garm	75.30	316	P	P	06 15 20.2	+0.5
AKASG	Malin Array Be	76.08	348	P	P	06 15 23.2	-0.6
	comp=Z,1.9nm,0.6s,baz=16,slow=5.7,SNR=6.2						
AKASG	Malin Array Be	76.08	348	P	P	06 15 23.8	0.0
CLL	Collm	76.64	359	eP	P	06 15 27.0	0.0
CMAR	Chiang Mai Arr	76.66	283	P	P	06 15 28.0	+0.4
	comp=Z,2.7nm,0.8s,baz=23,slow=6.3,SNR=15						
CMAR	Chiang Mai Arr	76.66	283	P	P	06 15 28.1	+0.5
GERES	GERESS Array B	79.09	358	P	P	06 15 41.7	+0.9
	comp=Z,0.4nm,0.5s,baz=28,slow=6.0,SNR=5.7						
CONA	Conrad Observa	79.94	356	eP	P	06 15 46.3	+0.9
	comp=Z,1.3nm,0.6s						
KBZ	Khabaz	80.30	337	P	P	06 15 48.4	+1.1
	comp=Z,3.8nm,1.0s,baz=31,slow=2.4,SNR=7.5						
MOTA	Moosalm	80.62	360	eP	P	06 15 49.3	+0.1
	comp=Z,4.4nm,1.1s						
KBA	Koelnbreinsper	80.87	358	eP	P	06 15 51.2	+0.7
	comp=Z,12nm,1.1s						
FETA	Feichten	80.95	360	eP	P	06 15 51.6	+0.6
	comp=Z,5.9nm,1.1s						
ABTA	Abfaltersbach	81.21	359	eP	P	06 15 52.9	+0.6
	comp=Z,2.1nm,0.6s						
SOKA	Soboth	81.22	357	eP	P	06 15 53.2	+0.9
	comp=Z,7.1nm,0.9s						
ESDC	Sonseca Array	87.41	11	P	P	06 16 24.2	+0.4
	comp=Z,2.1nm,0.9s,baz=340,slow=5.2,SNR=6.6						
ESDC	Sonseca Array	87.41	11	P	P	06 16 24.5	+0.8
ESDC				IAmb	IAmb	06 16 26.9	
	comp=Z,3.7nm,1.4s						
ASAR	Alice Springs	90.46	230	P	P	06 16 36.7	-1.4
	comp=Z,14nm,0.4s,baz=24,slow=4.5,SNR=5.0						
VNDA	Vanda	130.90	188	PKP	PKiKP	06 22 47.8	+0.8
	comp=Z,0.4nm,0.3s,baz=115,slow=9.6,SNR=2.5						
BOSA	Boshof	153.89	330	PKPbc	PKPbc	06 23 35.4	-0.2
	comp=Z,5.9nm,1.1s,baz=173,slow=9.8,SNR=3.8						

*BJI **27** 06:05:29.0±0.0, 52°.30N×169°.40W, h20km, mB5.9/8, mb5.4/72, Ms5.8/18, Ms7 5.6/17*
*IDC **27** 06:05:29.2±0.4, 52°.26N×169°.51W, h0km, mb5.2/43, mb1 5.2/45, mb1mx5.2/49, mbtmp5.1/45, ML4.5/2, MS5.5/5, Ms1 5.5/5, ms1mx4.8/48, Error ellipse: s-maj=13.3km s-min=8.8km az=165.0*
*AEIC **27** 06:05:31±2.7, 52°.11N±0°.03×169°.31W±0°.07, h12km±2km, Error ellipse: s-maj=6.2km s-min=4.9km az=77.0*
*NEIC **27** 06:05:32.5±1.9, 52°.23N±0°.05×169°.42W±0°.07, h22km±3km, mb5.4/617, ML5.1/56(AEIC), Error ellipse: s-maj=7.2km s-min=6.2km az=161.0*
*MOS **27** 06:05:32.0±1.1, 52°.21N×169°.46W, h33km, mb5.6/121, MS5.2/8, Error ellipse: s-maj=6.0km s-min=3.9km az=94.6*
*BGR **27** 06:05:37.6±0.0, 53°.68N×169°.44W, h8km, mb5.5*
ISC 27 06:05:31.7±0.4, **52°.29N**±0°.05×**169°.38W**±0°.03, **h16**km±2km, **h17**km:**pP-P, n1528,** σ**1923**/1426, **mb5.4**/501, **MS5.3**/17, **84C-29D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.76	25	P	Pn	06 05 48.2	+0.5
	baz=198,SNR=149						
NIKH	Nikolski High	0.76	25		Pn	06 05 48.0	+0.3
NIKH	Nikolski High	0.76	25		Sn	06 06 01.7	+2.9
OKSP	Okmok Steeple	1.17	34		Pg	06 05 53.9	-0.4
OKCE	Okmok Cone E	1.36	32		Pg	06 05 57.7	-0.2
OKTU	Okmok Mt. Tuli	1.37	36		Pg	06 05 57.4	-0.7
OKNC	Okmok New Cone	1.40	32		Pg	06 05 58.3	-0.3
MAPS	Pakushin South	2.12	43		Pn	06 06 07.7	+1.3
MAPS					Sb	06 06 35.8	+0.1
MGOD	Makushin Gods	2.14	44		Pn	06 06 07.9	+1.2
MGOD					Sb	06 06 35.6	-0.7
MSW	Makushin Switc	2.26	43		Pb	06 06 10.2	-1.9
MNAT	Makushin Natee	2.28	44		Pn	06 06 10.3	+1.6
UNV	Unalaska Valle	2.33	47	P	Pn	06 06 11.0	+1.7
	baz=225,SNR=38						
UNV	Unalaska Valle	2.33	47		Pn	06 06 11.1	+1.8
UNV					Sb	06 06 40.0	-1.8
MTBL	Makushin Table	2.34	43		Pn	06 06 11.3	+1.7
AKRB	Akutan Reef Bi	2.71	46		Pb	06 06 17.4	-2.4
AKMO	Akutan Morgan	2.72	47		Pn	06 06 17.0	+2.5
AKBBA	Akutan Broad B	2.76	47		Pn	06 06 17.7	+2.5
AKLV	Akutan Long Va	2.79	46		Pn	06 06 18.2	+2.6
AKGG	Akutan Green G	2.79	45		Pn	06 06 18.2	+2.5
AKUT	Akutan	2.85	48	Pn	Pn	06 06 18.9	+2.5
AKSA	Akutan Strait	2.89	49		Pn	06 06 18.9	+1.9
KOFP	Korovin Flat P	2.90	272		Pn	06 06 18.5	+1.3
KOKL	Mount Kliuchef	2.96	273		Pn	06 06 19.9	+1.9
ATKA	Atka Island	2.96	270	Pn	Pn	06 06 18.3	+0.3
WESP	Westdahl Peak	3.56	50		Pn	06 06 28.3	+2.1
WEBT	Westdahl Beart	3.60	48		Pn	06 06 29.5	+2.7
GSTR	Great Sitkin T	4.12	270	Pn	Pn	06 06 34.1	+0.2
GSMY	Great Sitkin M	4.12	269		Pn	06 06 34.9	+1.0
GSTD	Great Sitkin T	4.17	270		Pn	06 06 35.4	+0.8
FALS	False Pass	4.39	52	P	Pn	06 06 40.4	+2.9
	baz=234						
FALS	False Pass	4.39	52	Pn	Pn	06 06 40.4	+2.9
ADK	Adak	4.52	268	P	Pn	06 06 40.5	+1.1
ADK	Adak	4.52	268	Pn	Pn	06 06 40.5	+1.1
KIWB	Kanaga Island	4.81	268	Pn	Pn	06 06 44.6	+1.1
KIKV	Kanaga Island	4.82	268		Pn	06 06 45.1	+1.5
KICM	Kanaga Island	4.83	269		Pn	06 06 45.2	+1.5
KIMD	Kanaga Island	4.88	267		Pn	06 06 45.3	+1.0
SPIA	Saint Paul Isl	4.93	354	P	Pn	06 06 48.8	+3.8
	baz=174,SNR=38						
SPIA	Saint Paul Isl	4.93	354		Pn	06 06 49.3	+4.3
TAFP	Tanaga Falls P	5.32	269		Pn	06 06 51.2	+0.9
TASE	Tanaga Southea	5.36	269		Pn	06 06 52.4	+1.4
GAEA	Gareloi East	5.81	269		Pn	06 06 59.2	+2.2
GALAA	Gareloi Lava P	5.82	269		Pn	06 06 59.3	+2.0
SDPT	Sand Point	6.10	56	P	Pn	06 07 03.8	+2.8
	baz=242						
SDPT	Sand Point	6.10	56	Pn	Pn	06 07 03.6	+2.6
CNBA	Chernabura Isl	6.36	63		Pn	06 07 05.8	+1.2
CHNA	Chernabura Isl	6.37	63	P	Pn	06 07 06.3	+1.6
	baz=249						
CERAA	Semis' Rag'd T	6.75	271		Pn	06 07 12.1	+2.1
CEAP	Semis' Anvil P	6.80	272		Pn	06 07 13.3	+2.6
CESW	Semis' Southwe	6.83	271		Pn	06 07 12.7	+1.7
AMKA	Amchitka	7.08	267		Pn	06 07 15.0	+0.6
LSPA	Little Sitkin	7.43	272		Pn	06 07 22.1	+2.9
LSNW	Little Sitkin	7.46	272		Pn	06 07 21.9	+2.2
LSSA	Little Sitkin	7.46	272		Pn	06 07 22.4	+2.6
CHIR	Chirikof Islan	8.83	61	P	Pn	06 07 40.1	+1.6
	baz=251						
CHIR	Chirikof Islan	8.83	61		Pn	06 07 41.1	+2.6
SII	Sitkinak Islan	9.83	58	P	Pn	06 07 53.6	+1.4
	baz=250						
SII	Sitkinak Islan	9.83	58		Pn	06 07 54.7	+2.5
ANCK	Angle Creek	9.89	48		Pn	06 07 55.2	+2.2
SMY	Shemya	10.09	279	P	Pn	06 07 56.9	+1.2
SMY	Shemya	10.09	279		Pn	06 07 56.9	+1.2
OHAK	Old Harbor	10.52	56	P	Pn	06 08 01.1	-0.5
	baz=248						
OHAK	Old Harbor	10.52	56		Pn	06 08 00.8	-0.8
O18K	Koktuh Hills	10.94	41	P	Pn	06 08 10.0	+2.6
	baz=232						
KDAK	Kodiak Island	11.08	54	Pn	Pn	06 08 07.9	-1.4
	7.5nm,0.3s,baz=277,slow=7.0,SNR=29						
KDAK				Sn	Sn	06 10 07.1	-5.7
	0.7nm,0.3s,baz=231,slow=20,SNR=1.7						
KDAK	Kodiak Island	11.08	54	P	Pn	06 08 09.7	+0.4
KDAK	Kodiak Island	11.08	54	P	Pn	06 08 09.3	0.0
	baz=246						
KDAK	Kodiak Island	11.08	54		Pn	06 08 09.8	+0.4
N18K	Kilae Creek	11.22	36	P	Pn	06 08 15.0	+3.8
	baz=227						
GAMB	Gambell	11.59	355	P	Pn	06 08 19.7	+3.5
	baz=173						
GAMB	Gambell	11.59	355		Pn	06 08 17.6	+1.5
SVW2	Sparrevohn	11.61	35		Pn	06 08 19.3	+2.7
P19K	Oil Pt	11.65	44	P	Pn	06 08 18.1	+1.1
	baz=237						
N19K	Bonanza Creek	11.83	38	P	Pn	06 08 20.8	+1.2
	baz=230,SNR=21						
O20K	Slope Mountain	12.14	43	P	Pn	06 08 25.9	+2.1
	baz=237						
RSO	Redoubt South	12.30	42		Pn	06 08 29.1	+3.0
HOM	Homer	12.35	46	P	Pn	06 08 28.9	+2.4
	baz=240						
HOM	Homer	12.35	46	Pn	Pn	06 08 28.6	+2.0
CNPM	China Poot	12.47	47		Pn	06 08 29.8	+1.6
ANM	Nome	12.49	8	P	Pn	06 08 31.6	+3.1
	baz=191						
L19K	White Mountain	12.62	33	P	Pn	06 08 30.3	0.0
	baz=224,SNR=24						
BRLK	Bradley Lake	12.73	47		Pn	06 08 33.0	+1.1
BRSE	Bradley Lake S	12.79	47	P	Pn	06 08 34.3	+1.7
	baz=242,SNR=7.4						
TTA	Tatalina	12.82	28	P	Pn	06 08 34.2	+1.2
	baz=219						
SPCR	Spurr Chakacha	12.94	40	P	Pn	06 08 35.7	+1.0
	baz=233						
SPU	Mount Spurr	12.99	40		Pn	06 08 37.2	+1.8
M20K	Styx River	13.02	36	P	Pn	06 08 37.8	+2.1
	baz=229						
CAPN	Captain Cook N	13.12	43	Pn	Pn	06 08 38.6	+1.5
TNA	Tin City	13.34	3	P	Pn	06 08 43.9	+3.9
	baz=184						
TNA	Tin City	13.34	3		Pn	06 08 41.0	+1.0
SEW	Seward	13.53	47	P	Pn	06 08 42.9	+0.3
	baz=243,SNR=27						
SEW	Seward	13.53	47		Pn	06 08 43.0	+0.3
O22K	Cooper Landing	13.59	45	P	Pn	06 08 44.1	+0.7
	baz=241,SNR=30						
O22K	Cooper Landing	13.59	45	Pn	Pn	06 08 43.7	+0.2
SKT	Skwentna	13.67	38	P	Pn	06 08 44.9	+0.3
	baz=232						
SKT	Skwentna	13.67	38		Pn	06 08 46.0	+1.4
SUA	Susitna One	13.67	40	P	Pn	06 08 46.2	+1.5
	baz=236						
SUA	Susitna One	13.67	40		Pn	06 08 46.6	+1.9
FIS	Fire Island	13.71	42	Pn	Pn	06 08 46.7	+1.5
K20K	Telida	13.72	30	P	Pn	06 08 47.0	+1.7
	baz=223,SNR=7.5						
RC01	Rabbit Creek A	13.88	43	P	Pn	06 08 48.0	+0.5
	baz=239,SNR=11						
RC01	Rabbit Creek A	13.88	43		Pn	06 08 47.6	+0.1
PPLA	Purkeypile	14.01	34	P	Pn	06 08 50.7	+1.3
	baz=225						
PPLA	Purkeypile	14.01	34		P	06 08 55.5	-1.8
J20K	Nowinta River	14.31	28	P	Pn	06 08 54.1	+0.7
	baz=220,SNR=23						
PWL	Port Wells	14.37	45		Pn	06 08 53.6	-0.6
PMR	Palmer	14.39	42	P	Pn	06 08 55.4	+0.9
PMR	Palmer	14.39	42	P	Pn	06 08 55.3	+0.9
	baz=238						
PMR	Palmer	14.39	42		Pn	06 08 55.4	+0.9
CUT	Chulitna	14.40	38	P	Pn	06 08 55.2	+0.7
	baz=233						
GHO	Glory Hole Cre	14.57	41		Pn	06 08 58.1	+1.1
KNK	Knik Glacier	14.58	43	P	Pn	06 08 57.3	+0.2
	baz=240						
KNK	Knik Glacier	14.58	43	Pn	Pn	06 08 57.1	0.0
CHUM	Lake Minchumin	14.65	31	P	Pn	06 08 58.2	+0.2
	baz=225,SNR=18						
Q23K	Middleton Isla	14.72	52	Pn	Pn	06 09 01.3	+2.4
MID	Middleton Isla	14.72	52	P	Pn	06 09 01.4	+2.4
MID	Middleton Isla	14.72	52	Pn	Pn	06 09 01.4	+2.4
SML	Sawmill	14.83	42	P	Pn	06 09 01.4	+0.9
	baz=239,SNR=6.5						
SML	Sawmill	14.83	42	Pn	Pn	06 09 01.1	+0.6
KTH	Kantishna Hill	14.88	34		Pn	06 09 02.0	+0.9
GLI	Glacier Island	14.92	46	P	Pn	06 09 01.9	+0.2
	baz=244						
GLI	Glacier Island	14.92	46		Pn	06 09 01.1	-0.6
HIN	Hinchinbrook I	14.99	48	Pn	Pn	06 09 02.1	-0.6
HIN				IAmb	IAmb	06 09 12.5	
	comp=Z,284nm,1.3s						
TRF	Thorofare Moun	15.03	35	P	Pn	06 09 02.3	-1.0
	baz=230,SNR=7.3						
TRF	Thorofare Moun	15.03	35	Pn	Pn	06 09 04.7	+1.4
FID	Port Fidalgo	15.14	47	Pn	Pn	06 09 02.4	-2.2
FID				IAmb	IAmb	06 09 27.5	
	comp=Z,78nm,0.6s						
BPAW	Bear Paw Mtn.	15.22	32	P	Pn	06 09 06.8	+1.1
	baz=227,SNR=76						
BPAW	Bear Paw Mtn.	15.22	32		Pn	06 09 07.5	+1.8
BPAW				IAmb	IAmb	06 09 14.1	
	comp=Z,128nm,0.9s						
SCM	Sheep Creek Mo	15.26	43	P	Pn	06 09 05.0	-1.2
SCM				pmax	pmax		
	comp=Z,162nm,0.6s						
SCM	Sheep Creek Mo	15.26	43	Pn	Pn	06 09 05.0	-1.2
SCM				IAmb	IAmb	06 09 21.7	
	comp=Z,162nm,0.6s						
WAT1	Susitna Watana	15.29	38	P	Pn	06 09 07.5	+0.8
	baz=235						
EYAK	Cordova Ski Ar	15.39	48	P	Pn	06 09 06.8	-1.1
	baz=247,SNR=8.5						
EYAK	Cordova Ski Ar	15.39	48	Pn	Pn	06 09 06.8	-1.1
WAT6	Susitna Watana	15.47	40	P	Pn	06 09 09.0	-0.1
	baz=238,SNR=18						
RND	Reindeer	15.51	36	P	P	06 09 12.9	-1.0
RND				pmax	pmax		
	comp=Z,66nm,1.0s						
RND	Reindeer	15.51	36		P	06 09 12

HDA	Harding Lake	16.79	35	P		Pn	06 09 25.8 0.0
	baz=234,SNR=10						
H23K	Yukon River	16.86	29	P		Pn	06 09 27.4 +0.7
	baz=226,SNR=32						
MCARA	McCarthy VSAT	16.94	47	P		Pn	06 09 27.1 -0.6
	baz=249,SNR=15						
MCARA	McCarthy VSAT	16.94	47			Pn	06 09 27.2 -0.5
MCARA				IAmb		IAmb	06 09 43.4
	comp=Z,134nm,0.7s						
ISLE	Juniper Island	17.00	50			Pn	06 09 29.2 +0.6
ISLE				IAmb		IAmb	06 09 48.2
	comp=Z,189nm,1.0s						
IL31		17.02	34			Pn	06 09 29.3 +0.6
ILAR	Eielson Array	17.02	34	P		Pn	06 09 27.9 -0.9
	comp=Z,0.8nm,0.3s,baz=226,slow=11,SNR=10						
POKR	Poker Plat Res	17.05	33	P		Pn	06 09 28.9 -0.2
	baz=231						
POKR	Poker Plat Res	17.05	33	P		P	06 09 31.0 +0.2
MESA	MESA	17.07	52	P		P	06 09 31.3 0.0
	baz=254,SNR=17						
MESA	MESA	17.07	52	P		P	06 09 31.5 +0.3
MESA				IAmb		IAmb	06 09 38.5
	comp=Z,473nm,1.2s						
RIDG	Independent Ri	17.20	39	P		P	06 09 32.1 -0.4
	baz=239,SNR=11						
RIDG	Independent Ri	17.20	39	P		P	06 09 32.5 0.0
YAH	Yahtse	17.21	51	P		P	06 09 33.2 +0.4
YAH				IAmb		IAmb	06 09 55.2
	comp=Z,214nm,0.9s						
M26K	Nabesna, AK	17.34	44	P		Pn	06 09 32.6 -0.1
	baz=246,SNR=31						
H24K	Noodor Dome	17.37	30	P		P	06 09 33.8 -0.6
	baz=228,SNR=46						
L26K	Log Cabin Wild	17.45	42	P		P	06 09 34.7 -0.6
	baz=244						
DOT	Dot Lake	17.45	40			Pn	06 09 34.3 +0.1
BARN	Barnard Glacie	17.45	49	P		P	06 09 35.2 -0.3
TABL	Table Mountain	17.52	51	P		P	06 09 36.8 +0.5
CTG	Chitna Glacier	17.58	49	P		Pn	06 09 35.4 -0.4
	baz=252,SNR=11						
CTGM	Chitina Glacie	17.58	49	P		P	06 09 37.4 +0.6
SCRK	Sand Creek	17.64	39	P		Pn	06 09 36.6 0.0
	baz=240,SNR=26						
SCRK	Sand Creek	17.64	39	P		P	06 09 37.0 -0.5
LOGN	Logan Glacier	17.69	50	P		P	06 09 38.6 +0.5
M27K	Edge Creek, AK	17.80	45	P		Pn	06 09 38.6 +0.1
	baz=248,SNR=28						
PCA	Pinnacle	17.87	53	P		P	06 09 41.1 +1.2
PCA				IAmb		IAmb	06 09 57.5
	comp=Z,269nm,1.0s						
PINM	Pinnacle	17.87	53	P		P	06 09 40.2 +0.2
	baz=256,SNR=13						
PRP	Porcupine Dome	17.93	33	P		Pn	06 09 40.0 -0.1
	baz=233,SNR=21						
PRP	Porcupine Dome	17.93	33			Pn	06 09 39.5 -0.6
L27K	Beaver Creek,	18.09	43	P		Pn	06 09 42.0 0.0
	baz=246,SNR=15						
L27K	Beaver Creek,	18.09	43	P		P	06 09 42.3 -0.1
BCAR	Beaver Creek A	18.11	43	P		Pn	06 09 42.3 0.0
BCPM	Bancas Point	18.14	53	P		P	06 09 43.3 +0.5
K27K	Chicken	18.41	40	P		P	06 09 45.7 -0.1
	baz=243						
K27K	Chicken	18.41	40	P		P	06 09 45.6 -0.2
FYU	Fort Yukon	18.66	31	P		Pn	06 09 49.5 +0.6
TOLK	Toolik Lake Re	18.92	23	P		Pn	06 09 51.9 -0.2
	baz=220,SNR=28						
TOLK	Toolik Lake Re	18.92	23	P		Pn	06 09 53.1 +1.0
EGAK	Eagle	19.11	38	P		Pn	06 09 54.2 -0.1
	baz=242,SNR=25						
EGAK	Eagle	19.11	38			Pn	06 09 54.0 -0.3
PET	Petropavlovsk	19.33	285	*e*P		P	06 09 56.4 +0.5
PET				pmax		pmax	
	comp=Z,181nm,0.7s						
PET	Petropavlovsk	19.33	285	P		P	06 09 54.6 -1.3
HYT	Haines Junctio	19.36	51	P		Pn	06 09 58.5 +1.1
HYT				IAmb		IAmb	06 10 25.5
	comp=Z,208nm,0.7s						
BMAR	Burnt Mountain	19.41	29	P		P	06 09 56.2 -0.6
DAWY	Dawson	19.50	41	P		P	06 09 57.4 -0.4
BILL	Bilibino	19.67	333⇓	*e*P		Pn	06 10 03.5 +2.5
BILL				*e*S		Sn	06 13 43.5 +2.2
BILL				pmax		pmax	
	comp=Z,137nm,1.0s						
BILL				MLR		MLR	
	comp=Z,7μm,21.0s						
BILL	Bilibino	19.67	333	P		P	06 09 59.0 -0.6
BILL				IAmb		IAmb	06 10 09.2
	comp=Z,132nm,1.0s						
PEA0B	Petropavlovsk-	19.88	285	P		P	06 10 01.3 -0.6
PEA0B				pmax		pmax	
	comp=Z,415nm,1.3s						
PEA0B	Petropavlovsk-	19.88	285	P		P	06 10 01.3 -0.6
PETK	Petropavlovsk-	19.88	285	P		P	06 10 01.2 -0.8
	comp=Z,17nm,0.3s,baz=97,slow=12,SNR=116						
PETK	Petropavlovsk-	19.88	285	P		P	06 10 00.4 -1.6
PETK	Petropavlovsk-	19.88	285	P		P	06 10 00.4 -1.6
SIT	Sitka	20.12	63	P		P	06 10 05.0 +0.5
SIT				pmax		pmax	
	comp=Z,120nm,1.2s						
SIT	Sitka	20.12	63	P		Pn	06 10 06.0 -0.4
	baz=270						
SIT	Sitka	20.12	63	P		P	06 10 05.0 +0.5
SKAG	Skagway	20.22	56	P		Pn	06 10 07.0 -0.5
	baz=264,SNR=24						
SKAG	Skagway	20.22	56	P		Pn	06 10 07.1 -0.4
BESE	Bessie Mountai	20.40	58	P		P	06 10 08.1 +0.4
BESE				IAmb		IAmb	06 10 43.0
	comp=Z,161nm,1.0s						
WHY	Whitehorse	20.60	52	P		Pn	06 10 11.2 -0.9
	baz=261,SNR=51						
WHY	Whitehorse	20.60	52	P		Pn	06 10 11.6 -0.5
WHY				IAmb		IAmb	06 10 36.0
	comp=Z,152nm,1.0s						
JIS	Juneau Island	20.64	59	P		Pn	06 10 15.0 +2.6
SKR	Severo-Kuril's	21.43	279	*e*P		P	06 10 18.9 +0.2
SKR				*e*S		S	06 14 12.0 -3.7
SKR				pmax		pmax	
	comp=Z,4μm,12.8s						
SKR				pmax		pmax	
	comp=Z,125nm,0.9s						
SKR				MLR		MLR	
	comp=Z,4μm,15.0s						
SKR				MLR		MLR	
	comp=Z,4μm,14.0s						
SKR				MLR		MLR	
	comp=N,2μm,12.0s						
SKR				MLR		MLR	
	comp=E,4μm,13.0s						
CRAG	Craig	21.45	67	P		P	06 10 20.8 +1.9
	baz=276						
CRAG	Craig	21.45	67	P		P	06 10 20.8 +1.9
CRAG				IAmb		IAmb	06 10 45.0
	comp=Z,222nm,1.5s						
EPYK	Eagle Plains	21.47	36	P		P	06 10 18.6 -0.6
	baz=244,SNR=50						
EPYK	Eagle Plains	21.47	36	P		P	06 10 17.2 -1.9
EPYK				IAmb		IAmb	06 10 28.3
	comp=Z,171nm,0.9s						
WRAK	Wrangell Islan	21.79	64	P		P	06 10 21.5 -1.1
	baz=274						
WRAK	Wrangell Islan	21.79	64	P		P	06 10 22.2 -0.4
DIB	Dawson Inlet,	22.20	73	P		P	06 10 29.0 +2.1
DLBC	Dease Lake	22.93	59	P		P	06 10 37.2 +2.4
	comp=Z,35nm,1.1s,baz=248,slow=6.3,SNR=15						
DLBC				LR		LR	06 17 54.8
	comp=Z,9μm,20.6s,baz=338,slow=32						
DLBC	Dease Lake	22.93	59	P		P	06 10 36.2 +1.4
DLBC				IAmb		IAmb	06 11 02.0
	comp=Z,89nm,1.1s						
MA2	Magadan	23.18	304	P		P	06 10 38.0 +0.7
	comp=Z,99nm,0.9s,baz=95,slow=7.4,SNR=20						
MA2	Magadan	23.18	304	*ce*P		P	06 10 38.1 +0.8
MA2				pmax		pmax	
	comp=Z,85nm,0.9s						
MA2	Magadan	23.18	304	P		P	06 10 36.8 -0.5
MA2				IAmb		IAmb	06 10 41.8
	comp=Z,80nm,0.8s						
INK	Inuvik	23.42	33	P		P	06 10 38.7 -0.8
	comp=Z,42nm,0.5s,baz=243,slow=8.8,SNR=58						
INK				PcP		PcP	06 14 25.9 +0.8
	comp=Z,10nm,0.8s,baz=194,slow=5.1,SNR=5.8						
INK	Inuvik	23.42	33	P		P	06 10 38.9 -0.6
	baz=244,SNR=60						
INK	Inuvik	23.42	33	P		P	06 10 39.0 -0.6
INK				IAmb		IAmb	06 10 43.7
	comp=Z,95nm,1.2s						
BBB	Bella Bella	25.03	74	P		P	06 10 58.1 +3.5
	comp=Z,22nm,1.0s,baz=310,slow=9.7,SNR=8.2						
BBB	Bella Bella	25.03	74	P		P	06 10 56.3 +1.7
C36M	Paulatuk	27.00	34	P		P	06 11 11.8 -0.5
	baz=254,SNR=18						
C36M	Paulatuk	27.00	34	P		P	06 11 12.0 -0.2
C36M				IAmb		IAmb	06 11 15.0
	comp=Z,75nm,1.4s						
LLLB	Lillooet	29.24	74	P		P	06 11 33.6 +1.1
NLWA	Neilton Lookou	29.37	81	P		P	06 11 34.6 +0.9
TYV	Tymovskoe	29.42	287	*e*P		P	06 11 34.1 +0.1
TYV				pmax		pmax	
	comp=Z,11nm,0.4s						
A05A	Maple Falls	29.75	77	P		P	06 11 41.0 +4.0
D03D	Eldon	29.78	80	P		P	06 11 36.2 -1.1
	baz=296,SNR=9.6						
B05A	Bryant	30.06	79	P		P	06 11 39.9 +0.1
	baz=295,SNR=12						
YKA	Yellowknife Ar	30.30	49	P		P	06 11 42.4 +0.7
	comp=Z,36nm,0.9s,baz=285,slow=10,SNR=74						
YKA				PcP		PcP	06 14 42.6 +1.1
	comp=Z,4.4nm,0.9s,baz=278,slow=2.3,SNR=4.1						
YKA				ScP		ScP	06 18 24.4 +1.5
	comp=Z,1.8nm,0.9s,baz=277,slow=2.6,SNR=5.6						
YKA	Yellowknife Ar	30.30	49	P		P	06 11 41.8 +0.1
YKA						PcP	06 14 40.8 -0.7
UGL	Uglegorsk	30.47	284	*e*P		P	06 11 44.8 +1.4
UGL				*e*S		S	06 16 42.3 -1.3
UGL				pmax		pmax	
	comp=Z,110nm,1.1s						
UGL				smax		smax	
	comp=E,10μm,13.0s						
UGL				MLR		MLR	
	comp=Z,7μm,18.0s						
E04D	Cinebar	30.55	82	P		P	06 11 44.3 +0.2
	baz=298,SNR=5.7						
YUK	Yuzh-Kuril'sk	30.55	272⇑	*i*P		P	06 11 44.7 +0.6
D05A	Enumclaw	30.60	80	P		P	06 11 45.5 +0.9
LON	Longmire	30.91	81	P		P	06 11 48.2 +0.8
LON				pmax		pmax	
	comp=Z,16nm,0.8s						
LON	Longmire	30.91	81	P		P	06 11 48.2 +0.8
YSS	Yuzh-Sakhalins	31.00	279	*e*P		P	06 11 47.6 -0.5
YSS				pmax		pmax	
	comp=Z,67nm,1.4s						
YSS	Yuzh-Sakhalins	31.00	279	P		P	06 11 46.9 -1.2
YSS				IAmb		IAmb	06 11 53.1
	comp=Z,149nm,1.7s						
COR	Corvallis	31.07	86	P		P	06 11 49.0 +0.3
COR				pmax		pmax	
	comp=Z,70nm,1.2s						
COR	Corvallis	31.07	86	P		P	06 11 49.0 +0.3
COR				IAmb		IAmb	06 12 35.3
	comp=Z,70nm,1.1s						
LTY	Liberty	31.37	79	IAmb		IAmb	06 12 07.2
	comp=Z,64nm,1.7s						
B08A	Colville Reser	31.67	77	IAmb		IAmb	06 12 10.6
	comp=Z,63nm,1.2s						
H04A	Detroit Lake	31.70	85	P		P	06 11 55.4 +1.0
H04A				IAmb		IAmb	06 12 14.4
	comp=Z,67nm,1.3s						
G05D	Wamic, OR	31.95	83	P		P	06 11 57.0 +0.5
	baz=300						
I04A	Tendick Farm,	32.03	86	P		P	06 11 56.7 -0.6
	baz=302						
L02E	Cave Junction	32.20	90	P		P	06 11 57.8 -0.9
	baz=304						
I05D	Terrebonne, OR	32.40	85	P		P	06 11 58.2 -2.3
	baz=301						
HAWA	Hanford	32.47	80	IAmb		IAmb	06 12 17.5
	comp=Z,44nm,0.9s						
F07A	Phinny Hill Vi	32.47	81	IAmb		IAmb	06 12 17.8
	comp=Z,48nm,1.0s						
ASAJ	Asahikawa	32.51	275	P		P	06 12 01.0 -0.4
	comp=Z,97nm,1.0s,baz=49,slow=3.2,SNR=25						
ASAJ	Asahikawa	32.51	275	P		P	06 12 01.0 -0.4
J04D	Umpqua Nationa	32.52	87	P		P	06 12 00.5 -1.2
	baz=303						
D08A	Wollman Farm,	32.52	79	IAmb		IAmb	06 12 17.0
	comp=Z,81nm,1.5s						
C09A	Chrisman Ranch	32.56	77	P		P	06 12 02.2 +0.4
C09A				IAmb		IAmb	06 12 18.1
	comp=Z,50nm,1.2s						
E08A	Dider Farm, El	32.70	80	P		P	06 12 04.0 +0.9
E08A				IAmb		IAmb	06 12 18.8
	comp=Z,59nm,1.3s						
TIXI	Tiksi	32.80	329	P		P	06 12 04.6 +1.0
	comp=Z,14nm,0.5s,baz=109,slow=13,SNR=6.3						
TIXI				PcP		PcP	06 14 49.0 +0.9
	comp=Z,21nm,0.9s,baz=337,slow=6.2,SNR=5.3						
TIXI	Tiksi	32.80	329	P		P	06 12 03.3 -0.3
TIXI				IAmb		IAmb	06 12 07.0
	comp=Z,30nm,1.0s						
PINE	Pine Mountain	32.93	85	P		P	06 12 06.0 +0.7
PINE				IAmb		IAmb	06 12 39.5
	comp=Z,106nm,1.7s						
L04D	Klamath Falls	32.96	89	P		P	06 12 04.7 -0.8
	baz=304						
J05D	Fort Rock, OR	33.03	86	P		P	06 12 06.5 +0.4
	baz=303						
NEW	Newport	33.03	76	P		P	06 12 06.4 +0.4
NEW				pmax		pmax	
	comp=Z,35nm,0.9s						
NEW	Newport	33.03	76	P		P	06 12 06.3 +0.3
	baz=297,SNR=28						
NEW	Newport	33.03	76	P		P	06 12 06.4 +0.4
NEW				IAmb		IAmb	06 12 25.1
	comp=Z,35nm,0.9s						
M02C	Callahan	33.09	90	P		P	06 12 05.7 -0.9
	baz=305						
GRNR	Gornyy	33.10	289⇓	*i*P		P	06 12 05.6 -0.9
GRNR				*e*S		S	06 17 24.0 -0.6
GRNR				pmax		pmax	
	comp=Z,50nm,1.0s						
GRNR				smax		smax	
	comp=N,6.0nm,0.9s						
GRNR				MLR		MLR	
	comp=N,3μm,17.0s						
GRNR				MLR		MLR	
	comp=Z,4μm,17.0s						
EDM	Edmonton	33.19	66	P		P	06 12 07.8 +0.5
EDM				pmax		pmax	
	comp=Z,94nm,1.2s						
EDM	Edmonton	33.19	66	P		P	06 12 07.8 +0.5
YAK	Yakutsk	33.22	311	*e*P		P	06 12 05.7 -1.7
YAK				pmax		pmax	
	comp=Z,68nm,1.0s						
YAK				pmax		pmax	
	comp=N,13nm,1.1s						
YAK				pmax		pmax	
	comp=E,28nm,1.3s						
YAK	Yakutsk	33.22	311	P		P	06 12 06.8 -0.5
E09A	Wood Farm, Sta	33.25	79	P		P	06 12 08.3 +0.5
E09A				IAmb		IAmb	06 12 23.9
	comp=Z,49nm,1.0s						
ERM	Erimo	33.31	271	*c i*P		P	06 12 08.0 -0.4
ERM				pmax		pmax	
	comp=Z,88nm,0.9s						
ERM	Erimo	33.31	271	P		P	06 12 08.2 -0.2
N02D	Trinity Center	33.43	91	P		P	06 12 08.9 -0.7
	baz=306						
M04C	Macdoel	33.49	89	P		P	06 12 10.8 +0.6
	baz=305						
K05A	Summer Lake	33.54	87	IAmb		IAmb	06 12 45.0
	comp=Z,54nm,1.0s						
I07A	Izee	33.66	84	P		P	06 12 13.0 +1.5
I07A				IAmb		IAmb	06 12 33.2
	comp=Z,48nm,1.2s						
WDC	Whiskeytown Da	33.76	91	P		P	06 12 13.6 +1.3
WDC				pmax		pmax	
	comp=Z,17nm,1.1s						
WDC	Whiskeytown Da	33.76	91	P		P	06 12 13.6 +1.3
O02D	Mt. Diablo Mer	33.85	92	P		P	06 12 13.3 +0.1
	baz=307						
F10A	Beach Ranch, E	34.07	79	P		P	06 12 14.6 -0.4
MOD	Modoc Plateau	34.37	88	P		P	06 12 19.4 +1.6
O03E	Paynes Creek	34.38	91	P		P	06 12 17.2 -0.6
	baz=306						
BMO	Blue Mountains	34.59	81	P		P	06 12 20.2 +0.6
BMO				pmax		pmax	
	comp=Z,28nm,1.2s						
BMO	Blue Mountains	34.59	81	P		P	06 12 20.2 +0.6
J08A	Circle Bar Ran	34.68	84	P		P	06 12 21.7 +1.3
J08A				IAmb		IAmb	06 12 38.0
	comp=Z,39nm,1.1s						
JTMT	Jette	34.97	75	P		P	06 12 23.3 +0.4
JTMT				IAmb		IAmb	06 12 38.1
	comp=Z,70nm,1.4s						
ORV	Oroville	35.01	92	P		P	06 12 23.7 +0.5
ORV				pmax		pmax	
	comp=Z,7.0nm,1.0s						
ORV	Oroville	35.01	92	P		P	06 12 23.7 +0.5
JTM	Tenmabayashi	35.31	271	P		P	06 12 26.3 +0.6
JTM				IAmb		IAmb	06 12 39.4
	comp=Z,60nm,0.9s						
MSO	Missoula	35.61	76	P		P	06 12 28.7 +0.3
	baz=300,SNR=15						
MSO	Missoula	35.61	76	P		P	06 12 28.6 +0.2
MSO				IAmb		IAmb	06 12 47.9
	comp=Z,30nm,1.0s						
PAHR	Pah Rah Range	36.22	90	P		P	06 12 34.9 +1.1
MFID	Camas Ranch	36.26	82	P		P	06 12 35.1 +1.1
VCNR	Virginia City	36.31	91	P		P	06 12 36.4 +1.9
RES	Resolute Bay	36.45	26	P		P	06 12 35.5 +0.4
	comp=Z,4.2nm,0.5s,baz=324,slow=7.8,SNR=1.9						
PNTR	Pine Nut	36.46	91	P		P	06 12 36.0 +0.1
PNTR				IAmb		IAmb	06 13 14.6
	comp=Z,30nm,0.7s						
KLR	Kul'dur	36.48	289	P		P	06 12 33.6 -2.0
	comp=Z,24nm,0.5s,baz=62,slow=5.8,SNR=48						
KLR	Kul'dur	36.48	289	*c i*P		P	06 12 33.6 -2.0
KLR				pmax		pmax	
	comp=Z,58nm,1.3s						
HRY	Holter Researc	36.93	75	P		P	06 12 39.6 -0.1
LRM	Limekiln Ridge	37.02	77	P		P	06 12 39.6 -1.0
ZEA	Zeya	37.03	298	*e*P		P	06 12 38.9 -1.4
ZEA				*e*			06 12 43.9
ZEA				pmax		pmax	
	comp=N,10.0nm,0.4s						
ZEA				pmax		pmax	
	comp=Z,30nm,0.9s						
ZEA				MLR		MLR	
	comp=N,3μm,17.0s						
ZEA				MLR		MLR	
	comp=Z,3μm,17.0s						
HLID	Hailey	37.04	81	P		P	06 12 39.8 -0.9
	baz=303,SNR=31						
HLID	Hailey	37.04	81	P		P	06 12 40.9 +0.2
DLMT	Dillon	37.17	77	P		P	06 12 41.8 0.0
BCYI	Bear Canyon	37.24	79	P		P	06 12 43.2 +0.8
JMM	Marumori	37.26	267	P		P	06 12 41.2 -1.1
JMM				IAmb		IAmb	06 13 05.2
	comp=Z,58nm,1.1s						
MCMT	McKenzie Canyo	37.30	78	P		P	06 12 43.7 +0.7
H11N2	WAKE ISLAND Hy	37.38	219	T		T	06 52 57.4
	baz=24,slow=76,SNR=93						
H11N3	WAKE ISLAND Hy	37.39	219	T		T	06 52 50.7
	baz=24,slow=76,SNR=100						
H11N1	WAKE ISLAND Hy	37.40	219	T		T	06 52 49.2
	baz=24,slow=76,SNR=88						
RYN	Ryan	37.41	91	P		P	06 12 44.0 +0.2
EGMT	Eagleton	37.50	72	P		P	06 12 44.6 +0.2
	baz=299,SNR=19						
EGMT	Eagleton	37.50	72	P		P	06 12 45.0 +0.6
EGMT				IAmb		IAmb	06 13 06.6
	comp=Z,65nm,0.8s						
BOZ	Bozeman (W)	37.62	77	P		P	06 12 45.4 -0.2
BOZ				pmax		pmax	
	comp=Z,32nm,1.1s						
BOZ	Bozeman (W)	37.62	77	P		P	06 12 45.8 +0.1
	baz=302,SNR=41						
BOZ	Bozeman (W)	37.62	77	P		P	06 12 45.4 -0.2
NVAR	Mina Array Bea	37.67	91	P		P	06 12 48.2 +2.0
	comp=Z,3.0nm,0.7s,baz=287,slow=6.2,SNR=16						
NVAR	Mina Array Bea	37.67	91	P		P	06 12 46.4 +0.2
NV11	Mina Array Sit	37.76	91	P		P	06 12 48.4 +1.5
ELK	Elko	38.14	86	P		P	06 12 49.9 -0.2
ELK				pmax		pmax	
	comp=Z,12nm,0.9s						
ELK	Elko	38.14	86	P		P	06 12 49.9 -0.2
QLMT	Earthquake Lak	38.15	78	P		P	06 12 50.7 +0.5
YMR	Madison River	38.52	77	P		P	06 12 52.9 -0.3
YMR				IAmb		IAmb	06 13 09.0
	comp=Z,46nm,1.1s						
YHH	Holmes Hill	38.52	77	P		P	06 12 53.7 +0.3
H11S1	WAKE ISLAND Hy	38.57	218	T		T	06 54 11.0
	baz=23,slow=76,SNR=359						
H11S2	WAKE ISLAND Hy	38.59	218	T		T	06 54 12.1
	baz=23,slow=76,SNR=185						
H11S3	WAKE ISLAND Hy	38.59	218	T		T	06 54 10.9
	baz=23,slow=76,SNR=97						
YNR	Norris Junctio	38.66	77	P		P	06 12 55.3 +0.8
YNR				IAmb		IAmb	06 13 14.4
	comp=Z,44nm,1.0s						
JYT	Yasato	38.67	266	P		P	06 12 54.2 -0.1
JYT				IAmb		IAmb	06 13 14.5
	comp=Z,74nm,0.9s						
GCMT	Greycliff	38.69	75	P		P	06 12 55.2 +0.7
JSD	Sado	38.70	270	P		P	06 12 53.9 -0.7
JSD				IAmb		IAmb	06 13 07.7
	comp=Z,68nm,0.9s						
FFC	Flin Flon	38.77	59	P		P	06 12 56.4 +1.5
FFC				pmax		pmax	
	comp=Z,24nm,1.0s						
FFC	Flin Flon	38.77	59	P		P	06 12 56.4 +1.5
VES	Vestal, Richgr	38.84	95	P		P	06 12 54.0 -1.8
	baz=311						
H17A	Grant Village	38.90	78	P		P	06 12 57.1 +0.6
	baz=303,SNR=14						
H17A	Grant Village	38.90	78	P		P	06 12 57.9 +1.4
USRK	Ussuriysk Ar.	38.91	282	P		P	06 12 55.3 -0.9
	comp=Z,8.6nm,0.8s,baz=59,slow=8.9,SNR=14						
USRK				PcP		PcP	06 15 07.8 +1.2
	comp=Z,3.9nm,0.7s,baz=41,slow=3.5,SNR=5.2						
YNE	Yellowstone No	38.91	76	P		P	06 12 56.5 0.0
IMW	Indian Meadow	38.95	78	P		P	06 12 56.9 -0.1
YMP	Mirror Lake Pl	38.96	77	IAmb		IAmb	06 13 33.6
	comp=Z,107nm,1.8s						
CWC	Cottonwood Cre	39.07	93	P		P	06 12 53.8 -4.1
	baz=310						
RLMT	Red Lodge	39.28	76	P		P	06 12 59.6 0.0
	baz=303,SNR=22						
REDW	Red Top Meadow	39.30	79	P		P	06 13 00.9 +1.0
ISA	Isabella, Lake	39.34	94	P		P	06 12 59.1 -0.9
	baz=311						
R11A	Troy Canyon, C	39.39	89	P		P	06 13 00.4 -0.1
	baz=308,SNR=7.4						
R11A	Troy Canyon, C	39.39	89	P		P	06 13 00.8 +0.3
BGU	Big Grassy Mou	39.39	84	P		P	06 13 00.4 -0.1
VLA	Vladivostok	39.57	281⇓	*i*P		P	06 13 01.5 -0.2
VLA				pmax		pmax	
	comp=Z,53nm,1.2s						
MJAR	Matsushiro Arr	39.69	268	P		P	06 13 02.4 -0.4
	comp=Z,5.7nm,0.7s,baz=54,slow=6.8,SNR=13						
MJAR				PcP		PcP	06 15 09.8 +0.5
	comp=Z,6.1nm,0.9s,baz=29,slow=1.3,SNR=3.4						
MJAR				LR		LR	06 29 08.0
	comp=Z,5μm,20.5s,baz=0.0,slow=36						
MJAR	Matsushiro Arr	39.69	268	P		P	06 13 02.5 -0.4
MJAR				pmax		pmax	
	comp=Z,22nm,1.2s						
MJAR	Matsushiro Arr	39.69	268	P		P	06 13 02.5 -0.4
MAJO	Matsushiro	39.69	268	⇑*i*P		P	06 13 02.2 -0.7
MAJO				pmax		pmax	
	comp=Z,49nm,1.6s						
MAJO	Matsushiro	39.69

MSHR pmax pmax
comp=Z,29nm,1.1s
BW06 Boulder Array 40.42 79 P P 06 13 09.6 +0.4
baz=305,SNR=41
BW06 Boulder Array 40.42 79 IAmb IAmb 06 13 24.2
comp=Z,90nm,1.4s
PD31 Pinedale Array 40.42 79 P P 06 13 09.9 +0.7
PD31 IAmb IAmb 06 13 24.2
comp=Z,81nm,1.4s
PDAR Pinedale Array 40.42 79 P P 06 13 09.8 +0.6
comp=Z,18nm,0.7s,baz=294,slow=3.9,SNR=37
PDAR Pinedale Array 40.42 79 P P 06 13 09.2 0.0
NLU North Lily Min 40.55 84 P P 06 13 11.2 +0.9
GSC Goldstone, Bar 40.59 93 P P 06 13 11.2 +0.7
GSC pmax pmax
comp=Z,25nm,1.0s
GSC Goldstone, Bar 40.59 93 P P 06 13 11.6 +1.1
baz=311
GSC Goldstone, Bar 40.59 93 P P 06 13 11.2 +0.7
BFSC Mount Baldy Ra 40.78 95 P P 06 13 11.9 -0.2
baz=312
MPU Maple Canyon 40.79 84 P P 06 13 12.7 +0.5
SHPR Sheep Range 40.82 91 P P 06 13 12.0 -0.4
JGF Kuroka 40.82 267 IAmb IAmb 06 13 36.0
comp=Z,45nm,0.9s
FCC Fort Churchill 41.00 50 P P 06 13 13.3 -0.1
FCC pmax pmax
comp=Z,194nm,1.3s
FCC Fort Churchill 41.00 50 P P 06 13 13.3 -0.1
HEC Hector,Ludlow 41.20 94 P P 06 13 14.8 -0.7
baz=312
INU Inuyama 41.20 267 P P 06 13 19.1 +3.7
CCUT Cedar City 41.25 88 P P 06 13 16.5 +0.4
MVU Marysvale 41.36 86 IAmb IAmb 06 13 49.6
comp=Z,75nm,1.1s
MSU Marysvale 41.38 86 P P 06 13 18.6 +1.5
MSU Marysvale 41.38 86 P P 06 13 18.6 +1.5
TMUT Trail Mountain 41.48 84 IAmb IAmb 06 13 35.3
comp=Z,76nm,1.2s
MURC Murrieta 41.50 96 P P 06 13 16.5 -1.4
baz=313
GMRC Granite Mounta 41.64 93 P P 06 13 20.5 +1.3
baz=312
P17A Butcher Ranch, 41.66 84 IAmb IAmb 06 13 37.5
comp=Z,93nm,1.7s
LCMT Little Creek M 41.67 89 P P 06 13 19.7 +0.4
RDMU Red Mountain 41.71 82 P P 06 13 20.7 +1.0
RDMU IAmb IAmb 06 13 36.7
comp=Z,73nm,1.0s
PFO Pinyon Flats O 41.94 95 P P 06 13 20.9 -0.7
comp=Z,1.3nm,0.5s,baz=360,slow=11,SNR=2.3
PFO Pinyon Flats O 41.94 95 P P 06 13 19.8 -1.7
baz=313
TPFO Pinon Flats 41.95 95 P P 06 13 19.4 -2.3
baz=313
BELC Belle Mtn. Jos 41.96 94 P P 06 13 20.5 -1.3
baz=312
SRU San Rafael Swe 42.02 84 P P 06 13 22.9 +0.7
SRU pmax pmax
comp=Z,57nm,1.0s
SRU San Rafael Swe 42.02 84 P P 06 13 22.9 +0.7
SRU IAmb IAmb 06 13 39.5
comp=Z,57nm,1.0s
109C Camp Elliot, M 42.04 96 P P 06 13 19.9 -2.3
baz=313
BOD Bodaibo 42.04 309 *e*P **P 06 13 20.6 -1.4**
BOD pmax pmax
comp=Z,91nm,1.0s
JWT Wachi 42.23 269 IAmb IAmb 06 13 38.0
comp=Z,47nm,0.9s
K22A Casper 42.31 77 P P 06 13 24.1 -0.5
baz=306,SNR=8.2
IRM Iron Mountain 42.38 93 P P 06 13 25.2 +0.2
baz=312
MONP2 Monument Peak 42.45 96 P P 06 13 27.1 +1.3
baz=313
RWWY Rawlins 42.47 79 P P 06 13 26.4 +0.4
RWWY IAmb IAmb 06 13 44.0
comp=Z,39nm,0.8s
U15A North Rim 42.63 89 IAmb IAmb 06 14 00.1
comp=Z,67nm,1.3s
O20A White River Ci 42.78 81 P P 06 13 28.3 -0.2
baz=308,SNR=43
O20A White River Ci 42.78 81 P P 06 13 28.6 +0.2
O20A IAmb IAmb 06 13 43.8
comp=Z,73nm,0.8s
SWSC Sam W. Stewart 42.80 95 P P 06 13 28.4 0.0
baz=313
PDMCI Parker Dam,Lak 42.89 92 P P 06 13 29.4 +0.2
baz=312
RSSD Black Hills 42.95 74 P P 06 13 28.7 -1.1
RSSD pmax pmax
comp=Z,28nm,1.0s
RSSD Black Hills 42.95 74 P P 06 13 30.3 +0.5
baz=305
RSSD Black Hills 42.95 74 P P 06 13 28.7 -1.1
CN2 Changchun 43.03 286 *e*P **P 06 13 28.5 -1.7**
CN2 pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 43.28 295⇑ *i*P **P 06 13 30.9 -1.3**
HIA pmax pmax
comp=Z,65nm,1.4s
HIA Hailar 43.28 295 IAmb IAmb 06 13 35.4
comp=Z,47nm,0.9s
GLA Glamis 43.32 94 P P 06 13 33.9 +1.2
baz=313
MDND Maddock 43.42 67 P P 06 13 33.9 +0.5
baz=303,SNR=9.7
PV22 Blue Mesa, Par 43.44 84 IAmb IAmb 06 13 51.1
comp=Z,64nm,1.1s
PV04 Paradox Valley 43.45 84 IAmb IAmb 06 13 49.7
comp=Z,41nm,0.8s
PV17 East Wray Mesa 43.49 84 IAmb IAmb 06 13 50.1
comp=Z,61nm,0.9s
PV16 Nyswonger Mesa 43.50 84 IAmb IAmb 06 14 08.2
comp=Z,39nm,0.9s
E28A Huff 43.51 69 P P 06 13 35.7 +1.7
PV05 Paradox Valley 43.53 84 IAmb IAmb 06 13 51.4
comp=Z,63nm,1.3s
PV11 David Mesa, Pa 43.53 84 IAmb IAmb 06 13 51.0
comp=Z,75nm,1.0s
PV18 Skein Mesa, Pa 43.54 84 P P 06 13 34.8 +0.1
PV18 IAmb IAmb 06 13 50.4
comp=Z,55nm,0.9s
PV12 Saucer Basin, 43.56 84 IAmb IAmb 06 13 52.9
comp=Z,52nm,0.9s
PV03 Paradox Valley 43.58 84 IAmb IAmb 06 13 50.7
comp=Z,44nm,0.9s
PV07 Paradox Valley 43.58 84 IAmb IAmb 06 13 52.0
comp=Z,40nm,1.0s
PV02 Paradox Valley 43.67 84 IAmb IAmb 06 13 51.7
comp=Z,72nm,0.9s
N23A Red Feather La 43.71 79 P P 06 13 36.1 +0.1
baz=307,SNR=9.7
PV15 Paradox Valley 43.74 84 IAmb IAmb 06 13 52.0
comp=Z,53nm,1.1s
PHWY Pilot Hill 43.76 78 P P 06 13 36.5 +0.1
WUAZ Wupatki 43.79 89 P P 06 13 37.1 +0.5
baz=311
WUAZ Wupatki 43.79 89 P P 06 13 37.2 +0.6
WUAZ IAmb IAmb 06 14 02.0
comp=Z,35nm,0.9s
PV01 Paradox Valley 43.82 84 IAmb IAmb 06 13 52.7
comp=Z,49nm,0.9s
JHS Saijyo 43.82 270 IAmb IAmb 06 14 00.5
comp=Z,97nm,1.5s
Y14A Wickenburg 43.84 92 P P 06 13 37.8 +0.9
JCJ Chichijima 43.88 254 P P 06 13 37.1 -0.1
comp=Z,117nm,0.7s,baz=281,slow=22,SNR=2.7
113A Mohawk Valley, 44.16 94 P P 06 13 40.0 +0.6
ULM Lac du Bonnet 44.19 62 P P 06 13 39.9 +0.4
comp=Z,8.6nm,0.5s,baz=298,slow=8.5,SNR=10
MVCO Mesa Verde 44.45 85 P P 06 13 42.1 +0.1
baz=310
MVCO Mesa Verde 44.45 85 P P 06 13 43.4 +1.4
ISCO Idaho Springs 44.58 80 P P 06 13 43.8 +0.8
ISCO pmax pmax
comp=Z,18nm,1.3s
ISCO Idaho Springs 44.58 80 P P 06 13 43.1 0.0
baz=308,SNR=7.2
ISCO Idaho Springs 44.58 80 P P 06 13 43.8 +0.8
W18A Petrified Fore 45.06 88 P P 06 13 46.2 -0.6
baz=311
NEEM North Greenlan 45.07 16 *i*P **P 06 13 46.9 +0.4**
S22A 4UR Ranch, Cre 45.13 83 P P 06 13 47.2 -0.3
baz=310,SNR=15

AGMN Agassiz Nation 45.27 64 P P 06 13 48.0 -0.1
baz=304,SNR=24
AGMN Agassiz Nation 45.27 64 P P 06 13 47.5 -0.6
AGMN IAmb IAmb 06 14 02.7
comp=Z,48nm,1.1s
D32A Dogwood Acres, 45.28 66 P P 06 13 47.8 -0.3
D32A IAmb IAmb 06 14 01.9
comp=Z,36nm,1.0s
214A Organ Pipe Nat 45.31 94 P P 06 13 48.6 0.0
baz=314,SNR=6.9
Q24A Divide 45.38 81 P P 06 13 48.1 -1.4
baz=309
KSRS Korea Array 45.41 277 P P 06 13 49.2 -0.1
comp=Z,35nm,0.9s,baz=56,slow=7.4,SNR=56
KSRS LR LR 06 31 05.2
comp=Z,2μm,22.0s,baz=180,slow=34
KS19 Wonju Array Si 45.41 277 P P 06 13 49.2 -0.2
KS19 IAmb IAmb 06 13 52.0
comp=Z,45nm,0.9s
KSAR Wonju Array Be 45.44 277 P P 06 13 48.7 -0.8
KSAR Wonju Array Be 45.44 277 P P 06 13 48.7 -0.8
NOR Nord 45.55 5 *i*P **P 06 13 50.1 +0.2**
NOR IAmb IAmb 06 13 52.8
comp=Z,39nm,1.1s
NOR Nord 45.55 5 *i*P **P 06 13 50.1 +0.2**
NOR pmax pmax
comp=Z,39nm,1.1s
YNCB YEONCHEON 45.64 278 P P 06 13 52.0 +0.9
SNR=5.6
SUSD Miller 45.73 70 P P 06 13 51.7 -0.1
baz=306,SNR=8.2
KSCHJ Chungju 45.75 276 P P 06 13 52.1 +0.1
SNR=18
KSCHJ Chungju 45.75 276 P P 06 13 52.1 +0.1
SNR=16
KSICN Icheon 45.82 277 P P 06 13 53.4 +0.8
SNR=10
KSMUS Musan 45.84 278 P P 06 13 54.7 +2.0
SNR=10
SDCO Great Sand Dun 45.94 82 P P 06 13 51.7 -2.1
baz=310,SNR=24
SDCO Great Sand Dun 45.94 82 P P 06 13 54.3 +0.4
KSSEO Seoul 46.00 278 P P 06 13 55.4 +1.5
SNR=9.3
KSSEO Seoul 46.00 278 P P 06 13 56.0 +2.1
SNR=6.9
OGNE Ogallala 46.02 76 P P 06 13 53.1 -1.1
baz=308
KSBON Boeun 46.10 276 P P 06 13 55.4 +0.6
SNR=6.8
KSSWO Suwon 46.11 277 P P 06 13 57.3 +2.4
SNR=10
INCN Inchon 46.18 278 P P 06 13 54.0 -1.4
INCN pmax pmax
comp=Z,194nm,1.3s
INCN Inchon 46.18 278 P P 06 13 54.0 -1.4
KSCPR CHUPUNGNYEONG 46.18 275 P P 06 13 55.4 0.0
SNR=18
OKCB Cheongsan-myeo 46.20 276 P P 06 13 56.0 +0.4
SNR=23
SHHB Siheung-si 46.22 278 P P 06 13 58.0 +2.3
SNR=5.7
KSCEA Cheonan 46.22 277 P P 06 13 57.5 +1.8
SNR=6.0
TUC Tucson 46.31 92 P P 06 13 56.3 -0.2
TUC pmax pmax
comp=Z,36nm,1.2s
TUC Tucson 46.31 92 P P 06 13 57.1 +0.6
baz=313
TUC Tucson 46.31 92 P P 06 13 56.3 -0.2
TUC IAmb IAmb 06 14 19.9
comp=Z,36nm,1.1s
HAWB Hwaseong-si 46.35 277 P P 06 13 59.0 +2.3
SNR=6.7
B35A Bob, Littlefor 46.41 63 P P 06 13 56.9 -0.2
B35A IAmb IAmb 06 14 13.5
comp=Z,40nm,0.7s
F33A 5 Mile Ranch, 46.44 67 P P 06 13 56.8 -0.5
F33A IAmb IAmb 06 14 10.9
comp=Z,45nm,1.2s
TJN Taejon 46.45 276 *ce*P **P 06 13 57.3 -0.2**
JNU Nakatsue 46.46 270 P P 06 13 58.6 +0.9
comp=Z,22nm,0.8s,baz=55,slow=8.8,SNR=7.4
JNU Nakatsue 46.46 270 P P 06 13 56.4 -1.3
NRIK Noril'sk 46.49 332 P P 06 13 57.7 +0.3
comp=Z,15nm,0.4s,baz=70,slow=9.4,SNR=28
NRIK Noril'sk 46.49 332⇑ *i*P **P 06 13 56.9 -0.5**
NRIK pmax pmax
comp=Z,40nm,0.9s
NRIK Noril'sk 46.49 332 P P 06 13 57.3 -0.1
NRIK IAmb IAmb 06 13 60.0
comp=Z,36nm,0.9s
KOJ2 Gongju-si 46.52 276 P P 06 13 60.0 +1.9
SNR=11
EURB Uiryeong-eup 46.57 274 P P 06 14 00.1 +1.6
SNR=9.5
KSKCH Geochang 46.61 275 P P 06 14 01.5 +2.7
SNR=7.3
KSCO Kaye Shedlock' 46.87 79 P P 06 14 01.6 +0.6
baz=305
T25A Trinidad 46.99 82 P P 06 14 00.6 -1.5
baz=310,SNR=25
T25A Trinidad 46.99 82 P P 06 14 02.4 +0.4
UPNV Upernavik 47.07 22 *i*P **P 06 14 02.3 +0.4**
UPNV IAmb IAmb 06 14 05.3
comp=Z,48nm,1.1s
ANMO Albuquerque 47.18 86 P P 06 14 04.1 +0.6
ANMO pmax pmax
comp=Z,26nm,1.2s
ANMO Albuquerque 47.18 86 P P 06 14 03.1 -0.4
baz=312
ANMO Albuquerque 47.18 86 P P 06 14 04.1 +0.6
ECSD EROS Data Cent 47.51 70 P P 06 14 04.8 -0.9
baz=307,SNR=29
ECSD EROS Data Cent 47.51 70 P P 06 14 05.2 -0.5
ECSD IAmb IAmb 06 14 11.4
comp=Z,47nm,1.2s
BNM Barren Site 47.61 87 P P 06 14 07.2 +0.2
EYMN Ely 47.87 62 P P 06 14 08.3 -0.2
baz=306,SNR=34
EYMN Ely 47.87 62 IAmb IAmb 06 14 23.5
comp=Z,45nm,1.1s
F36A Milaca 47.98 66 IAmb IAmb 06 14 23.2
comp=Z,78nm,1.6s
121A Cookes Peak, D 48.00 89 P P 06 14 09.4 -0.4
baz=313,SNR=12
121A Cookes Peak, D 48.00 89 IAmb IAmb 06 14 43.2
comp=Z,20nm,0.8s
BGNE Belgrade 48.04 73 P P 06 14 07.0 -2.9
baz=308
DL2 Dalian 48.29 283 P P 06 14 13.0 +1.2
DL2 pmax pmax
comp=Z,60nm,1.0s
E38A The Farm, Brul 48.63 64 P P 06 14 13.2 -1.1
E38A IAmb IAmb 06 14 23.1
comp=Z,47nm,0.9s
L34A Svendsen Farm, 48.73 72 P P 06 14 14.7 -0.5
CBKS Cedar Bluff 48.73 77 P P 06 14 14.1 -1.2
CBKS pmax pmax
comp=Z,57nm,0.9s
CBKS Cedar Bluff 48.73 77 P P 06 14 14.2 -1.1
baz=310
CBKS Cedar Bluff 48.73 77 P P 06 14 14.1 -1.2
SPMN Marine on St. 48.77 66 P P 06 14 15.3 -0.2
baz=307,SNR=22
SPMN Marine on St. 48.77 66 P P 06 14 15.2 -0.2
SPMN IAmb IAmb 06 14 27.1
comp=Z,37nm,1.1s
N33A J Bar K, Exete 48.87 74 P P 06 14 16.3 0.0
KBS Kingsbay 49.05 360 *i*P **P 06 14 17.7 +0.6**
KBS IAmb IAmb 06 14 20.9
comp=Z,124nm,0.9s
KBS Kingsbay 49.05 360 P P 06 14 17.1 0.0
KBS pmax pmax
comp=Z,54nm,1.0s
KBS Kingsbay 49.05 360 *e*P **P 06 14 18.1 +1.0**
KBS Kingsbay 49.05 360 P P 06 14 17.1 0.0
KBS IAmb IAmb 06 14 21.2
comp=Z,54nm,0.9s
R32A Long Quarter, 49.60 77 P P 06 14 22.1 +0.1
R32A IAmb IAmb 06 14 38.3
comp=Z,42nm,0.9s
IRK Irkutsk 49.73 306 *e*P **P 06 14 21.8 -0.9**
IRK pmax pmax
comp=Z,118nm,1.8s
SPA0 Spitsbergen Ar 49.75 358 *e*P **P 06 14 23.1 +0.5**

SPITS Spitsbergen Ar 49.75 358 P P 06 14 22.6 0.0
comp=Z,12nm,0.4s,baz=39,slow=5.4,SNR=48
DAG Danmarks Havn 49.87 8 *i*P **P 06 14 22.8 -0.6**
DAG IAmb IAmb 06 14 25.9
comp=Z,114nm,1.1s
DAG Danmarks Havn 49.87 8 *i*P **P 06 14 22.8 -0.6**
DAG pmax pmax
comp=Z,110nm,1.1s
D41A Chassel 49.99 62 P P 06 14 24.4 -0.3
MNTX Cornudas Mount 50.05 88 P P 06 14 25.4 0.0
baz=314,SNR=28
MNTX Cornudas Mount 50.05 88 P P 06 14 26.8 +1.5
MSTX Muleshoe 50.09 84 P P 06 14 25.2 -0.6
baz=313
MSTX Muleshoe 50.09 84 P P 06 14 26.0 +0.2
MSTX IAmb IAmb 06 14 42.2
comp=Z,75nm,1.2s
AMTX Amarillo 50.14 82 P P 06 14 26.1 -0.1
baz=312
AMTX Amarillo 50.14 82 P P 06 14 26.5 +0.4
AMTX IAmb IAmb 06 14 42.4
comp=Z,28nm,0.9s
G40A Rib Lake 50.20 65 P P 06 14 25.9 -0.4
G40A IAmb IAmb 06 14 29.2
comp=Z,24nm,0.9s
COWI Conover 50.27 63 IAmb IAmb 06 14 29.1
comp=Z,18nm,0.7s
K38A Parkersburg 50.38 69 IAmb IAmb 06 14 52.7
comp=Z,88nm,1.4s
KSU1 Kansas State U 50.41 75 P P 06 14 27.0 -1.1
baz=310
KSU1 Kansas State U 50.41 75 IAmb IAmb 06 14 43.1
comp=Z,33nm,0.8s
SCIA State Center 50.60 70 P P 06 14 27.8 -1.6
baz=309
SCIA State Center 50.60 70 IAmb IAmb 06 14 35.7
comp=Z,50nm,1.1s
BJI Beijing 50.80 287 P P 06 14 32.0 +1.1
BJI pP **pP 06 14 35.8 +0.5**
BJI S **S 06 21 42.0 -3.8**
BJI pmax pmax
comp=Z,17nm,0.7s
BJI LR LR
comp=Z,2μm,17.2s
BJI LR LR
comp=Z,3μm,16.3s
BJT Baijiatuau 50.81 287 P P 06 14 31.1 +0.1
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 50.81 287 P P 06 14 31.1 +0.1
I40A Norwalk 50.82 66 IAmb IAmb 06 14 50.1
comp=Z,31nm,0.8s
SUMG Summit 50.86 17 *i*P **P 06 14 31.5 +0.1**
SUMG IAmb IAmb 06 14 35.8
comp=Z,109nm,0.9s
SUMG Summit 50.86 17 *i*P **P 06 14 31.5 +0.1**
SUMG pmax pmax
comp=Z,110nm,0.9s
HSPB Hornsund (broa 50.95 359 *e*P **P 06 14 30.2 -1.3**
HSPB *e*S S 06 22 15.1 +28
HSPB Hornsund (broa 50.95 359 *e*P **P 06 14 33.0 +1.5**
ULN Ulaanbaatar 50.97 301 *ce*P **P 06 14 31.6 -0.7**
ULN pmax pmax
comp=Z,62nm,1.0s
ULN Ulaanbaatar 50.97 301 P P 06 14 31.9 -0.5
F42A Maple Grove Fa 51.03 63 P P 06 14 32.7 +0.1
F42A IAmb IAmb 06 14 39.5
comp=Z,36nm,0.8s
KAN09 Caldwell North 51.10 77 P P 06 14 34.2 +1.0
KAN09 IAmb IAmb 06 14 47.5
comp=Z,44nm,1.0s
HOPEN Hopen 51.15 356 *e*P **P 06 14 34.2 +1.2**
E43A Lone Tree Farm 51.26 62 IAmb IAmb 06 14 56.0
comp=Z,43nm,0.6s
KAN13 South Haven SW 51.26 77 IAmb IAmb 06 14 50.3
comp=Z,46nm,0.9s
N38A Joes South For 51.30 71 IAmb IAmb 06 14 41.0
comp=Z,56nm,0.8s
SONM Songino Array 51.34 301 P P 06 14 34.9 -0.1
comp=Z,53nm,1.1s,baz=54,slow=5.3,SNR=40
SONM PcP **PcP 06 15 50.4 +0.8**
comp=Z,9.3nm,0.6s,baz=52,slow=1.5,SNR=5.5
SONM ScP **ScP 06 19 50.6 +5.4**
comp=Z,1.4nm,0.5s,baz=55,slow=4.7,SNR=4.2
SONM Songino Array 51.34 301 P P 06 14 34.0 -1.1
SONM pmax pmax
comp=Z,54nm,1.1s
SONM Songino Array 51.34 301 P P 06 14 34.0 -1.1
SONM IAmb IAmb 06 14 38.0
comp=Z,54nm,1.1s
ZAK Zakamensk 51.36 305 *e*P **P 06 14 34.0 -1.2**
ZAK *e* 06 15 50.1
ZAK pmax pmax
comp=Z,40nm,1.3s
BLOK Blackwell 51.59 77 P P 06 14 36.5 -0.4
BLOK IAmb IAmb 06 14 52.3
comp=Z,33nm,1.1s
L40A Anamosa 51.64 68 P P 06 14 36.0 -1.3
L40A IAmb IAmb 06 14 57.6
comp=Z,52nm,1.1s
JFWS Jewell Farm 51.65 67 P P 06 14 36.2 -1.1
baz=310,SNR=15
JFWS Jewell Farm 51.65 67 IAmb IAmb 06 14 44.1
comp=Z,28nm,0.7s
MOY Mondy 51.70 307 *e*P **P 06 14 37.6 -0.1**
MOY pmax pmax
comp=Z,49nm,1.2s
I42A Draeger Farm, 51.78 65 P P 06 14 37.0 -1.2
I42A IAmb IAmb 06 14 44.5
comp=Z,28nm,0.7s
P38A Dawn 51.88 72 IAmb IAmb 06 15 03.6
comp=Z,40nm,0.7s
T35A Sooner Cattle 51.91 77 P P 06 14 39.5 +0.2
DBG Daneborg 51.99 10 *i*P **P 06 14 38.7 -0.7**
DBG IAmb IAmb 06 14 42.6
comp=Z,74nm,0.8s
WMOK Wichita Mounta 52.00 80 P P 06 14 39.2 -0.8
baz=313,SNR=22
WMOK Wichita Mounta 52.00 80 IAmb IAmb 06 14 55.0
comp=Z,28nm,0.8s
H43A Windswept, Lux 52.04 64 P P 06 14 39.5 -0.7
H43A IAmb IAmb 06 14 43.0
comp=Z,46nm,0.8s
OK029 Liberty Lake 52.09 78 IAmb IAmb 06 15 00.5
comp=Z,32nm,0.9s
BCOK Bluff Creek, N 52.09 79 P P 06 14 40.8 +0.1
QUOK Quay 52.28 78 P P 06 14 42.8 +0.7
OK025 Westminster Rd 52.30 79 P P 06 14 42.5 +0.2
OK031 S. Brethren Rd 52.35 78 P P 06 14 42.5 -0.1
OK031 IAmb IAmb 06 14 57.0
comp=Z,45nm,0.9s
SFJD Kangerlussuaq 52.45 26 *i*P **P 06 14 45.1 +2.2**
SFJD IAmb IAmb 06 14 46.0
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 52.45 26 P P 06 14 43.8 +0.9
SFJD pmax pmax
comp=Z,40nm,1.0s
SFJD Kangerlussuaq 52.45 26 P P 06 14 43.8 +0.9
SFJD IAmb IAmb 06 14 46.3
comp=Z,40nm,1.0s
FNO Franklin 52.48 79 P P 06 14 44.8 +1.2
L42A Oliver, Polo 52.56 67 IAmb IAmb 06 14 51.5
comp=Z,24nm,0.8s
X34A Smith Ranch, M 52.67 80 P P 06 14 44.5 -0.5
X34A IAmb IAmb 06 15 05.3
comp=Z,32nm,1.0s
E46A Sault Ste Mari 52.71 60 P P 06 14 45.0 -0.1
E46A IAmb IAmb 06 14 59.7
comp=Z,47nm,0.9s
N41A Harden Midland 52.73 69 P P 06 14 44.2 -1.1
N41A IAmb IAmb 06 14 56.5
comp=Z,41nm,0.8s
TIA Tai'an 52.75 283⇑ P **P 06 14 44.5 -1.1**
TIA pmax pmax
comp=Z,24nm,1.3s
TX31 Lajitas Ar. Si 52.75 89 P P 06 14 45.2 -0.6
TX32 Lajitas Array 52.75 89 P P 06 14 44.9 -0.9
TX32 IAmb IAmb 06 15 09.2
comp=Z,85nm,1.4s
TXAR Lajitas Array 52.75 89 P P 06 14 45.5 -0.3
comp=Z,8.7nm,0.6s,baz=302,slow=5.6,SNR=28
TXAR Lajitas Array 52.75 89 P P 06 14 45.7 -0.1
TXAR Lajitas Array 52.75 89 P P 06 14 45.6 -0.1
P40A Paris 52.81 71 P P 06 14 44.3 -1.7
G45A Suttons Bay 52.84 62 P P 06 14 45.8 -0.2

G45A				IAmb	IAmb	06 15 33.6		
	comp=Z,25nm,0.7s							
K43A	**Burlington**	**52.87**	**66**	P	**P**	**06 14 46.4**	**+0.1**	
K43A				IAmb	IAmb	06 14 52.2		
	comp=Z,43nm,0.8s							
ABTX	**Abilene, Hawle**	**52.92**	**83**	P	**P**	**06 14 45.1**	**-1.8**	
	baz=314							
ABTX	**Abilene, Hawle**	**52.92**	**83**	P	**P**	**06 14 47.3**	**+0.4**	
ABTX				IAmb	IAmb	06 15 03.2		
	comp=Z,62nm,1.3s							
HHC	**Hu-ho-hao-te**	**52.95**	**291**	*e*P	**P**	**06 14 49.0**	**+1.9**	
HHC				pmax	pmax			
	comp=Z,41nm,0.8s							
TUL1	**Leonard**	**53.01**	**77**	P	**P**	**06 14 46.9**	**-0.5**	
	baz=312							
GUMO	**Guam**	**53.06**	**241**	P	**P**	**06 14 45.6**	**-2.4**	
	comp=Z,55nm,0.5s,baz=208,slow=10,SNR=7.5							
GUMO	**Guam**	**53.06**	**241**	P	**P**	**06 14 45.5**	**-2.4**	
I45A	**Fountain**	**53.17**	**63**	IAmb	IAmb	06 15 09.8		
	comp=Z,33nm,0.8s							
BJO1	**Bjornoya**	**53.37**	**357**	*e*P	**P**	**06 14 50.0**	**+0.4**	
L44A	**Lake County Fo**	**53.44**	**66**	P	**P**	**06 14 47.9**	**-2.7**	
	baz=311							
ICESG	**Greenland Ices**	**53.45**	**20**	*i* P	**P**	**06 14 50.6**	**0.0**	
ICESG				IAmb	IAmb	06 14 53.7		
	comp=Z,70nm,1.0s							
LOOK	**Love County**	**53.48**	**80**	IAmb	IAmb	06 15 24.3		
	comp=Z,53nm,0.9s							
R40A	**Maddies Statio**	**53.50**	**73**	IAmb	IAmb	06 15 12.8		
	comp=Z,20nm,0.7s							
GLMI	**Grayling**	**53.54**	**62**	P	**P**	**06 14 50.4**	**-0.9**	
	baz=310,SNR=7.2							
HDIL	**Hopedale**	**53.73**	**69**	P	**P**	**06 14 51.9**	**-0.7**	
	baz=311,SNR=23							
HDIL	**Hopedale**	**53.73**	**69**	P	**P**	**06 14 51.6**	**-1.0**	
HHAR	**Hobbs**	**53.86**	**76**	P	**P**	**06 14 53.0**	**-0.8**	
Z35A	**Perchaven, San**	**53.88**	**81**	P	**P**	**06 14 53.7**	**-0.2**	
Z35A				IAmb	IAmb	06 15 08.2		
	comp=Z,24nm,0.9s							
M44A	**Midewin, Midew**	**53.89**	**67**	IAmb	IAmb	06 14 56.4		
	comp=Z,47nm,1.0s							
MATQ	**Matagami**	**53.95**	**53**	P	**P**	**06 14 53.3**	**-0.8**	
	baz=310,SNR=15							
DY2G	**Dye2**	**53.98**	**25**	*i* P	**P**	**06 14 55.5**	**+1.0**	
DY2G				IAmb	IAmb	06 14 58.7		
	comp=Z,30nm,0.7s							
BTO	**Baotou**	**53.99**	**292**	*e*P	**P**	**06 14 54.8**	**+0.1**	
BTO				S	**S**	**06 22 28.0**	**-1.7**	
X37A	**Clayton**	**54.16**	**78**	P	**P**	**06 14 56.7**	**+0.8**	
X37A				IAmb	IAmb	06 15 25.6		
	comp=Z,25nm,0.8s							
P43A	**Skaggs, Pawnee**	**54.20**	**70**	IAmb	IAmb	06 15 17.9		
	comp=Z,37nm,0.8s							
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**06 14 56.1**	**-0.5**	
CCM				pmax	pmax			
	comp=Z,20nm,0.9s							
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**06 14 54.5**	**-2.1**	
	baz=312							
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**06 14 56.1**	**-0.5**	
CCM				IAmb	IAmb	06 15 10.7		
	comp=Z,20nm,0.9s							
MGMO	**Mountain Grove**	**54.27**	**74**	P	**P**	**06 14 55.2**	**-1.5**	
MGMO				IAmb	IAmb	06 15 10.5		
	comp=Z,24nm,0.9s							
JCT	**Junction City**	**54.32**	**85**	P	**P**	**06 14 56.6**	**-0.5**	
JCT				pmax	pmax			
	comp=Z,26nm,0.9s							
JCT	**Junction City**	**54.32**	**85**	P	**P**	**06 14 56.1**	**-1.1**	
	baz=315,SNR=11							
JCT	**Junction City**	**54.32**	**85**	P	**P**	**06 14 56.6**	**-0.5**	
JCT				IAmb	IAmb	06 15 12.8		
	comp=Z,26nm,0.8s							
L46A	**Eue Claire**	**54.46**	**65**	IAmb	IAmb	06 15 22.7		
	comp=Z,43nm,0.9s							
U40A	**Yellville**	**54.46**	**75**	P	**P**	**06 14 56.6**	**-1.5**	
	baz=313,SNR=12							
U40A	**Yellville**	**54.46**	**75**	IAmb	IAmb	06 15 12.8		
	comp=Z,24nm,0.8s							
J47A	**Sunmer**	**54.47**	**63**	IAmb	IAmb	06 15 11.7		
	comp=Z,22nm,0.8s							
O44A	**Mansfield**	**54.47**	**68**	IAmb	IAmb	06 15 04.1		
	comp=Z,23nm,0.6s							
TIY	**Taiyuan**	**54.52**	**288**	*e*P	**P**	**06 15 00.3**	**+1.7**	
TIY				pmax	pmax			
	comp=Z,38nm,1.1s							
TIY				LR	LR			
	comp=Z,1μm,13.8s							
TIY				LR	LR			
	comp=Z,3μm,19.6s							
TIY				LR	LR			
	comp=Z,4μm,19.2s							
NJ2	**Nanjing**	**54.55**	**278**	*e*P	**P**	**06 14 57.3**	**-1.5**	
NJ2				pP	**pP**	**06 15 03.0**	**-0.3**	
NJ2				sP	**pwP**	**06 15 10.5**	**+4.2**	
NJ2				pmax	pmax			
	comp=Z,64nm,0.9s							
WHTX	**Lake Whitney,**	**54.69**	**82**	P	**P**	**06 14 59.9**	**+0.1**	
	baz=314,SNR=14							
WHTX	**Lake Whitney,**	**54.69**	**82**	P	**P**	**06 15 00.2**	**+0.4**	
W39A	**Magazine**	**54.70**	**76**	P	**P**	**06 14 58.4**	**-1.4**	
	baz=313,SNR=8.6							
W39A	**Magazine**	**54.70**	**76**	P	**P**	**06 14 58.2**	**-1.6**	
W39A				IAmb	IAmb	06 15 17.3		
	comp=Z,62nm,1.6s							
LSQQ	**Lebel-sur-Quev**	**54.73**	**54**	P	**P**	**06 14 58.6**	**-1.3**	
	baz=311							
T42A	**Van Buren**	**55.04**	**73**	P	**P**	**06 15 00.4**	**-1.8**	
I49A	**Point Hope**	**55.09**	**62**	P	**P**	**06 15 02.7**	**+0.2**	
I49A				IAmb	IAmb	06 15 24.6		
	comp=Z,30nm,0.9s							
SFIN	**Lafayette**	**55.09**	**67**	P	**P**	**06 15 02.4**	**-0.2**	
FCAR	**Ozark Folk Cen**	**55.21**	**75**	P	**P**	**06 15 01.7**	**-1.8**	
FCAR				IAmb	IAmb	06 15 18.1		
	comp=Z,44nm,1.0s							
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**06 15 03.2**	**-0.7**	
MIAR				pmax	pmax			
	comp=Z,37nm,1.0s							
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**06 15 03.2**	**-0.7**	
	baz=314,SNR=18							
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**06 15 03.2**	**-0.7**	
MIAR				IAmb	IAmb	06 15 19.6		
	comp=Z,37nm,1.0s							
SCO	**Scoresbysund**	**55.30**	**13**	*i* P	**P**	**06 15 05.6**	**+1.9**	
SCO				IAmb	IAmb	06 15 07.7		
	comp=Z,34nm,0.7s							
SCO	**Scoresbysund**	**55.30**	**13**	P	**P**	**06 15 04.1**	**+0.4**	
SCO				pmax	pmax			
	comp=Z,102nm,1.3s							
SCO	**Scoresbysund**	**55.30**	**13**	P	**P**	**06 15 04.1**	**+0.4**	
Z38A	**Mt. Pleasant**	**55.30**	**79**	P	**P**	**06 15 03.9**	**-0.3**	
Z38A				IAmb	IAmb	06 15 36.4		
	comp=Z,30nm,1.0s							
CHGQ	**Chibougamau**	**55.43**	**51**	P	**P**	**06 15 03.5**	**-1.4**	
	baz=312,SNR=14							
435B	**Jarrell**	**55.46**	**83**	P	**P**	**06 15 04.2**	**-1.2**	
	baz=315							
435B	**Jarrell**	**55.46**	**83**	IAmb	IAmb	06 15 27.9		
	comp=Z,28nm,0.8s							
SCHQ	**Schefferville**	**55.50**	**43**	P	**P**	**06 15 06.0**	**+0.7**	
	comp=Z,62nm,1.0s,baz=323,slow=7.5,SNR=25							
SCHQ	**Schefferville**	**55.50**	**43**	P	**P**	**06 15 05.3**	**0.0**	
WHAR	**Wooly Hollow**	**55.52**	**75**	P	**P**	**06 15 06.5**	**+0.7**	
L48A	**N Adams**	**55.54**	**64**	IAmb	IAmb	06 15 19.3		
	comp=Z,88nm,1.6s							
P46A	**Rosedale**	**55.54**	**68**	P	**P**	**06 15 06.5**	**+0.6**	
P46A				IAmb	IAmb	06 15 14.0		
	comp=Z,46nm,1.1s							
W41B	**Gary Mavity, V**	**55.62**	**75**	P	**P**	**06 15 04.7**	**-1.8**	
	baz=313							
OLIL	**Olney**	**55.63**	**69**	IAmb	IAmb	06 15 17.8		
	comp=Z,49nm,0.9s							
LCAR	**Lake Charles**	**55.66**	**74**	P	**P**	**06 15 05.0**	**-1.7**	
S44A	**Carbondale**	**55.66**	**71**	P	**P**	**06 15 06.8**	**+0.1**	
SIUC	**Southern Illin**	**55.67**	**71**	IAmb	IAmb	06 15 28.6		
	comp=Z,24nm,0.7s							
AAM	**Ann Arbor**	**55.73**	**64**	P	**P**	**06 15 04.9**	**-2.2**	
	baz=312							
X40A	**Basin Creek Fa**	**55.75**	**76**	P	**P**	**06 15 05.9**	**-1.5**	
	baz=314,SNR=7.1							
PARMO	**Parma**	**56.08**	**72**	P	**P**	**06 15 08.9**	**-0.8**	
833A	**Chaparral WMA,**	**56.10**	**86**	P	**P**	**06 15 09.5**	**-0.4**	
	baz=316,SNR=6.4							
WLAR	**White Oak Lake**	**56.13**	**77**	P	**P**	**06 15 09.5**	**-0.7**	
BLO	**Bloomington**	**56.23**	**68**	IAmb	IAmb	06 15 18.7		
	comp=Z,38nm,0.9s							
ALGO	**Algonquin Park**	**56.26**	**57**	P	**P**	**06 15 09.4**	**-1.5**	
	baz=312,SNR=15							
N49A	**Columbus Grove**	**56.37**	**65**	IAmb	IAmb	06 15 17.2		
	comp=Z,32nm,1.1s							
SADO	**Sadowa**	**56.49**	**59**	IAmb	IAmb	06 15 31.2		
	comp=Z,26nm,0.9s							
ISOG	**Isortoq, Green**	**56.51**	**22**	*i* P	**P**	**06 15 11.7**	**-0.7**	
ISOG				IAmb	IAmb	06 15 14.6		
	comp=Z,56nm,1.0s							
NATX	**Nacogdoches**	**56.55**	**80**	P	**P**	**06 15 10.1**	**-3.1**	
	baz=315							
NATX	**Nacogdoches**	**56.55**	**80**	P	**P**	**06 15 13.7**	**+0.6**	
NATX				IAmb	IAmb	06 15 29.4		
	comp=Z,22nm,0.9s							
Z41A	**Richland Creek**	**56.62**	**77**	P	**P**	**06 15 13.9**	**+0.3**	
	baz=314							
P48A	**Milroy**	**56.66**	**67**	P	**P**	**06 15 12.3**	**-1.5**	
P48A				IAmb	IAmb	06 15 18.9		
	comp=Z,40nm,0.9s							
M50A	**Fremont**	**56.67**	**64**	P	**P**	**06 15 13.5**	**-0.4**	
ANGG	**Ammassalik, Gr**	**56.77**	**22**	*i* P	**P**	**06 15 14.1**	**0.0**	
ANGG				IAmb	IAmb	06 15 16.6		
	comp=Z,51nm,1.0s							
ANGG	**Ammassalik, Gr**	**56.77**	**22**	P	**P**	**06 15 14.0**	**-0.2**	
ANGG				IAmb	IAmb	06 15 16.8		
	comp=Z,54nm,1.0s							
CCAR	**Cane Creek**	**56.78**	**76**	P	**P**	**06 15 14.6**	**-0.1**	
O49A	**Covington**	**56.78**	**66**	P	**P**	**06 15 14.0**	**-0.7**	
O49A				IAmb	IAmb	06 15 34.9		
	comp=Z,31nm,1.1s							
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**06 15 15.5**	**-0.8**	
WCI				pmax	pmax			
	comp=Z,22nm,0.8s							
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**06 15 13.4**	**-3.0**	
	baz=313							
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**06 15 15.5**	**-0.8**	
WCI				IAmb	IAmb	06 15 37.4		
	comp=Z,22nm,0.8s							
P49A	**Miami Univ. Ec**	**57.01**	**67**	P	**P**	**06 15 14.7**	**-1.7**	
	baz=313,SNR=16							
P49A	**Miami Univ. Ec**	**57.01**	**67**	P	**P**	**06 15 15.0**	**-1.3**	
P49A				IAmb	IAmb	06 15 21.2		
	comp=Z,42nm,1.1s							
HAMF	**Hammerfest**	**57.02**	**355**	*e*P	**P**	**06 15 16.0**	**+0.1**	
HKT	**Hockley**	**57.11**	**82**	P	**P**	**06 15 16.9**	**-0.2**	
HKT				pmax	pmax			
	comp=Z,29nm,1.3s							
HKT	**Hockley**	**57.11**	**82**	P	**P**	**06 15 16.9**	**-0.2**	
N51A	**Ashland**	**57.37**	**64**	IAmb	IAmb	06 15 20.9		
	comp=Z,29nm,0.7s							
T47A	**Sharon Grove**	**57.39**	**70**	IAmb	IAmb	06 15 37.1		
	comp=Z,28nm,0.8s							
DELO	**Deloro Mine**	**57.46**	**58**	IAmb	IAmb	06 15 34.4		
	comp=Z,38nm,0.9s							
ZAA0	**Zalesovo Array**	**57.48**	**318**	P	**P**	**06 15 18.8**	**-0.6**	
ZAA0				IAmb	IAmb	06 16 27.7		
	comp=Z,20nm,0.8s							
ZALV	**Zalesovo Beam**	**57.48**	**318**	P	**P**	**06 15 19.2**	**-0.2**	
	comp=Z,11nm,0.6s,baz=40,slow=5.7,SNR=25							
ZALV				PcP	**PcP**	**06 16 13.0**	**+0.1**	
	comp=Z,11nm,0.7s,baz=4.3,slow=5.8,SNR=5.0							
ZALV	**Zalesovo Beam**	**57.48**	**318**	P	**P**	**06 15 18.3**	**-1.1**	
ACSO	**Alum Creek Sta**	**57.51**	**65**	P	**P**	**06 15 17.9**	**-2.0**	
	baz=313							
ACSO	**Alum Creek Sta**	**57.51**	**65**	IAmb	IAmb	06 15 34.5		
	comp=Z,18nm,0.8s							
M52A	**Chesterland**	**57.51**	**63**	P	**P**	**06 15 19.1**	**-0.7**	
M52A				IAmb	IAmb	06 15 25.6		
	comp=Z,42nm,1.2s							
WVT	**Waverly**	**57.57**	**72**	P	**P**	**06 15 19.5**	**-0.8**	
WVT				pmax	pmax			
	comp=Z,25nm,1.1s							
WVT	**Waverly**	**57.57**	**72**	P	**P**	**06 15 19.2**	**-1.1**	
	baz=314							
WVT	**Waverly**	**57.57**	**72**	P	**P**	**06 15 19.4**	**-0.8**	
WVT				IAmb	IAmb	06 15 26.2		
	comp=Z,24nm,1.1s							
R49A	**Shelbyville**	**57.61**	**68**	IAmb	IAmb	06 15 30.9		
	comp=Z,33nm,1.4s							
KEV	**Kevo**	**57.68**	**353**	P	**P**	**06 15 20.5**	**-0.1**	
KEV				pmax	pmax			
	comp=Z,44nm,1.0s							
KEV	**Kevo**	**57.68**	**353**	P	**P**	**06 15 20.4**	**-0.1**	
KEV				IAmb	IAmb	06 15 23.3		
	comp=Z,44nm,1.0s							
OXF	**Oxford**	**57.77**	**74**	P	**P**	**06 15 20.3**	**-1.4**	
	baz=314,SNR=9.1							
J54A	**Appleton**	**57.78**	**60**	IAmb	IAmb	06 15 36.6		
	comp=Z,35nm,0.7s							
143A	**Socs Landing,**	**57.84**	**77**	IAmb	IAmb	06 15 38.7		
	comp=Z,35nm,1.0s							
ERPA	**Erie**	**57.85**	**61**	P	**P**	**06 15 21.5**	**-0.8**	
	baz=313,SNR=8.3							
ERPA	**Erie**	**57.85**	**61**	IAmb	IAmb	06 15 28.5		
	comp=Z,42nm,1.0s							
LATQ	**La Tuque**	**57.93**	**53**	P	**P**	**06 15 21.4**	**-1.3**	
	baz=314,SNR=5.4							
LATQ	**La Tuque**	**57.93**	**53**	IAmb	IAmb	06 15 37.3		
	comp=Z,41nm,1.1s							
M53A	**Wl Miller and**	**57.95**	**62**	P	**P**	**06 15 21.8**	**-1.1**	
	baz=314,SNR=12							
M53A	**Wl Miller and**	**57.95**	**62**	P	**P**	**06 15 22.4**	**-0.5**	
M53A				IAmb	IAmb	06 15 36.7		
	comp=Z,43nm,1.1s							
MEDO	**Medina**	**57.95**	**60**	P	**P**	**06 15 22.6**	**-0.3**	
MEDO				IAmb	IAmb	06 15 36.1		
	comp=Z,27nm,0.8s							
P51A	**Williamsport**	**57.98**	**66**	IAmb	IAmb	06 15 50.8		
	comp=Z,38nm,1.2s							
ARA0	**ARCESS Array S**	**58.00**	**354**	*e*P	**P**	**06 15 23.2**	**+0.3**	
ARCES	**ARCESS Array B**	**58.00**	**354**	P	**P**	**06 15 22.8**	**-0.1**	
	comp=Z,20nm,0.7s,baz=15,slow=9.0,SNR=27							
ARCES	**ARCESS Array B**	**58.00**	**354**	P	**P**	**06 15 22.3**	**-0.6**	
ARCES				pmax	pmax			
	comp=Z,51nm,1.1s							
ARCES	**ARCESS Array B**	**58.00**	**354**	P	**P**	**06 15 22.3**	**-0.6**	
ARCES				IAmb	IAmb	06 15 25.5		
	comp=Z,51nm,1.1s							
R50A	**Paris**	**58.09**	**67**	IAmb	IAmb	06 15 31.6		
	comp=Z,30nm,1.0s							
Q51A	**Peebles**	**58.13**	**66**	IAmb	IAmb	06 15 43.9		
	comp=Z,42nm,0.9s							
Y45A	**Yeager Farm, C**	**58.14**	**75**	IAmb	IAmb	06 15 40.4		
	comp=Z,36nm,1.1s							
PECO	**Prince Edward**	**58.19**	**58**	P	**P**	**06 15 24.7**	**+0.1**	
J55A	**Hilton**	**58.22**	**59**	P	**P**	**06 15 24.7**	**0.0**	
J55A				IAmb	IAmb	06 15 46.9		
	comp=Z,24nm,0.8s							
O52A	**Adamsville**	**58.22**	**64**	P	**P**	**06 15 23.6**	**-1.3**	
O52A				IAmb	IAmb	06 15 39.6		
	comp=Z,34nm,0.8s							
PLAL	**Pickwick Lake**	**58.22**	**73**	P	**P**	**06 15 23.8**	**-1.2**	
PLAL				IAmb	IAmb	06 15 39.8		
	comp=Z,28nm,0.8s							
TRO	**Tromso**	**58.24**	**357**	*e*P	**P**	**06 15 25.3**	**+0.8**	
JETT	**Jettan, Norway**	**58.26**	**356**	*e*P	**P**	**06 15 26.4**	**+1.6**	
N53A	**Lisbon**	**58.29**	**63**	IAmb	IAmb	06 15 41.2		
	comp=Z,33nm,1.0s							
WHN	**Wuhan**	**58.35**	**280**	⇑P	**P**	**06 15 25.0**	**-0.8**	
WHN				pmax	pmax			
	comp=Z,340nm,1.2s							
P52A	**Corning**	**58.39**	**65**	P	**P**	**06 15 24.8**	**-1.2**	
	baz=314							
P52A	**Corning**	**58.39**	**65**	P	**P**	**06 15 25.3**	**-0.7**	
NRS	**Narsarsuaq**	**58.42**	**28**	*i* P	**P**	**06 15 25.7**	**-0.1**	
NRS				IAmb	IAmb	06 15 29.2		
	comp=Z,36nm,0.9s							
NRS	**Narsarsuaq**	**58.42**	**28**	*i* P	**P**	**06 15 25.7**	**-0.1**	
NRS				pmax	pmax			
	comp=Z,36nm,0.9s							
NRS	**Narsarsuaq**	**58.42**	**28**	IAmb	IAmb	06 15 28.6		
	comp=Z,66nm,1.3s							
M54A	**Oil Creek Stat**	**58.45**	**62**	P	**P**	**06 15 25.5**	**-0.9**	
	baz=314,SNR=12							
M54A	**Oil Creek Stat**	**58.45**	**62**	IAmb	IAmb	06 15 51.4		
	comp=Z,22nm,0.8s							
CLTN	**Cedars of Leba**	**58.47**	**71**	IAmb	IAmb	06 15 36.4		
	comp=Z,20nm,0.9s							
O53A	**New Philadelph**	**58.47**	**64**	P	**P**	**06 15 25.3**	**-1.3**	
	baz=314,SNR=8.4							
O53A	**New Philadelph**	**58.47**	**64**	IAmb	IAmb	06 15 28.7		
	comp=Z,20nm,0.8s							
MMNY	**Mt. Morris Dam**	**58.54**	**60**	P	**P**	**06 15 27.6**	**+0.6**	
N54A	**Moraine State**	**58.65**	**62**	P	**P**	**06 15 27.1**	**-0.8**	
	baz=314,SNR=7.6							
N54A	**Moraine State**	**58.65**	**62**	IAmb	IAmb	06 15 29.6		
	comp=Z,56nm,1.4s							
H57A	**Richville**	**58.65**	**57**	P	**P**	**06 15 26.6**	**-1.1**	
	baz=314,SNR=16							
KTK1	**Kautokeino**	**58.66**	**355**	*e*P	**P**	**06 15 28.4**	**+0.9**	
T50A	**Nancy**	**58.68**	**69**	IAmb	IAmb	06 15 39.5		
	comp=Z,31nm,0.9s							
VBMS	**Vicksburg**	**58.72**	**77**	P	**P**	**06 15 26.9**	**-1.5**	
	baz=315							
J56A	**Wolcott**	**58.72**	**59**	P	**P**	**06 15 28.4**	**+0.1**	
J56A				IAmb	IAmb	06 15 47.7		
	comp=Z,40nm,1.0s							
Q52A	**Bidwell**	**58.78**	**66**	IAmb	IAmb	06 15 43.3		
	comp=Z,16nm,0.7s							
LVZ	**Lovozero**	**58.80**	**350**	⇑*i*P	**P**	**06 15 27.7**	**-0.8**	
LVZ				pmax	pmax			
	comp=Z,112nm,0.9s							
LVZ	**Lovozero**	**58.80**	**350**	P	**P**	**06 15 27.8**	**-0.8**	
K56A	**Middlesex**	**58.87**	**59**	P	**P**	**06 15 28.8**	**-0.6**	
	baz=314,SNR=16							
I57A	**Carthage**	**58.88**	**57**	P	**P**	**06 15 28.7**	**-0.7**	
	baz=314,SNR=23							
P53A	**Whipple**	**58.91**	**65**	IAmb	IAmb	06 15 48.2		
	comp=Z,56nm,1.4s							
S51A	**Beattyville**	**58.96**	**68**	IAmb	IAmb	06 15 38.0		
	comp=Z,26nm,1.0s							
LONY	**Lake Ozonia**	**58.96**	**56**	P	**P**	**06 15 26.5**	**-3.4**	
	baz=314							
LONY	**Lake Ozonia**	**58.96**	**56**	IAmb	IAmb	06 15 44.0		
	comp=Z,25nm,0.8s							
LMQ	**La Malbaie**	**59.01**	**51**	IAmb	IAmb	06 15 44.3		
	comp=Z,51nm,1.1s							
J57A	**Williamstown**	**59.07**	**58**	P	**P**	**06 15 30.4**	**-0.3**	
XAN	**Xi'an**	**59.12**	**287**	P	**P**	**06 15 30.3**	**-0.9**	
XAN				pP	pP	06 15 36.3	+0.5	
XAN				sP	pwP	06 15 39.0	+0.1	
XAN				S	**S**	**06 23 38.0**	**+0.3**	
XAN				sS	sS	06 23 47.8	+2.6	
XAN				pmax	pmax			
	comp=Z,91nm,1.3s							
XAN				LR	LR			
	comp=Z,5μm,18.7s							
XAN				LR	LR			
	comp=Z,4μm,18.4s							
XAN				LR	LR			
	comp=Z,8μm,22.2s							
X48A	**Hartselle**	**59.20**	**72**	IAmb	IAmb	06 15 51.1		
	comp=Z,15nm,0.8s							
H58A	**Gabriels**	**59.30**	**56**	P	**P**	**06 15 29.5**	**-2.9**	
	baz=315							
FRNY	**Flat Rock**	**59.31**	**55**	P	**P**	**06 15 31.6**	**-0.7**	
FRNY				IAmb	IAmb	06 15 46.0		
	comp=Z,17nm,0.8s							
D61A	**St Aubert, Com**	**59.32**	**52**	P	**P**	**06 15 31.4**	**-1.0**	
	baz=315,SNR=19							
H59A	**Cadyville**	**59.39**	**56**	P	**P**	**06 15 31.4**	**-1.6**	
	baz=315							
DGZ	**Jazzator, Alta**	**59.40**	**313**	*i* P	**P**	**06 15 32.5**	**-0.6**	
R53A	**Hurricane**	**59.40**	**66**	P	**P**	**06 15 32.7**	**-0.4**	
I58A	**Old Forge**	**59.41**	**57**	P	**P**	**06 15 32.2**	**-0.9**	
	baz=315,SNR=8.6							
J58A	**Remsen**	**59.48**	**58**	P	**P**	**06 15 33.0**	**-0.6**	
	baz=315,SNR=19							
Q54A	**Coxs Mills**	**59.56**	**65**	P	**P**	**06 15 33.1**	**-1.1**	
Q54A				IAmb	IAmb	06 15 51.9		
	comp=Z,24nm,0.7s							
NCB	**Newcomb**	**59.60**	**56**	IAmb	IAmb	06 15 49.8		
	comp=Z,20nm,0.8s							
MCWV	**Mont Chateau**	**59.64**	**63**	P	**P**	**06 15 33.4**	**-1.3**	
	baz=314,SNR=16							
MCWV	**Mont Chateau**	**59.64**	**63**	IAmb	IAmb	06 15 37.8		
	comp=Z,39nm,1.0s							
N2VI	**Vinje**	**59.68**	**358**	*e*P	**P**	**06 15 35.7**	**+1.2**	
TZTN	**Tazewell**	**59.75**	**68**	P	**P**	**06 15 33.8**	**-1.7**	
	baz=315							
TZTN	**Tazewell**	**59.75**	**68**	IAmb	IAmb	06 15 47.0		
	comp=Z,70nm,1.6s							
J59A	**Piesco**	**59.81**	**57**	P	**P**	**06 15 35.6**	**-0.2**	
J59A				IAmb	IAmb	06 15 50.4		
	comp=Z,26nm,0.8s							
LOF	**Lofoten**	**59.88**	**359**	*e*P	**P**	**06 15 37.1**	**+1.2**	
I59A	**Olmsteadville**	**59.90**	**56**	P	**P**	**06 15 34.6**	**-1.8**	
	baz=315							
O56A	**Blue Knob Stat**	**59.91**	**62**	P	**P**	**06 15 35.3**	**-1.3**	
	baz=315,SNR=12							
O56A	**Blue Knob Stat**	**59.91**	**62**	IAmb	IAmb	06 15 50.2		
	comp=Z,37nm,1.2s							
BINY	**Binghamton**	**59.93**	**59**	P	**P**	**06 15 36.0**	**-0.7**	
	baz=315,SNR=14							
BINY	**Binghamton**	**59.93**	**59**	IAmb	IAmb	06 15 55.9		
	comp=Z,46nm,1.1s							
M57A	**Sunshine Farm,**	**59.93**	**60**	P	**P**	**06 15 36.3**	**-0.4**	
M57A				IAmb	IAmb	06 15 54.4		
	comp=Z,55nm,1.3s							
D62A	**Allapoint, All**	**59.95**	**51**	P	**P**	**06 15 34.3**	**-2.4**	
	baz=316							
D62A	**Allapoint, All**	**59.95**	**51**	IAmb	IAmb	06 15 51.3		
	comp=Z,33nm,1.1s							
H60A	**Morristown**	**59.95**	**55**	P	**P**	**06 15 35.0**	**-1.8**	
	baz=315							
CPCT	**Cooper Cave**	**59.96**	**70**	IAmb	IAmb	06 15 47.9		
	comp=Z,22nm,

LZH pmax pmax
comp=Z,63nm,1.3s
N2ST Straumen 60.63 358 *eP* **P 06 15 42.1 +1.1**
BORG Borgarnes 60.71 15 P **P 06 15 44.3 +2.7**
BORG pmax pmax
comp=Z,30nm,0.9s
BORG Borgarnes 60.71 15 P **P 06 15 44.3 +2.7**
BORG IAmb IAmb 06 15 45.5
comp=Z,30nm,0.9s
H62A Milan 60.72 54 P **P 06 15 40.2 -1.8**
baz=316
H62A Milan 60.72 54 P **P 06 15 42.2 +0.2**
H62A IAmb IAmb 06 15 56.4
comp=Z,30nm,0.8s
E63A Oxbow 60.72 51 P **P 06 15 41.5 -0.5**
baz=316
E63A Oxbow 60.72 51 IAmb IAmb 06 15 55.9
comp=Z,36nm,1.2s
U54A Nelsons Funny 60.75 67 IAmb IAmb 06 16 01.7
comp=Z,32nm,0.8s
TRY Troy 60.76 57 IAmb IAmb 06 15 57.2
comp=Z,20nm,0.7s
P57A Homestead Farm 60.76 62 IAmb IAmb 06 15 53.1
comp=Z,40nm,1.2s
V53A Saluda 60.79 69 IAmb IAmb 06 16 03.5
comp=Z,38nm,1.2s
J61A Chester 60.89 56 P **P 06 15 40.4 -2.8**
baz=316
F63A Nahmakanta, Br 60.91 52 P **P 06 15 41.2 -2.1**
baz=316
F63A Nahmakanta, Br 60.91 52 P **P 06 15 43.0 -0.4**
F63A IAmb IAmb 06 16 06.2
comp=Z,26nm,1.0s
N59A State Game Lan 60.95 60 P **P 06 15 42.8 -0.9**
baz=315,SNR=12
N59A State Game Lan 60.95 60 IAmb IAmb 06 15 58.7
comp=Z,29nm,1.1s
NBB05 Inndyr 60.97 358 *eP* **P 06 15 44.4 +1.1**
E64A Bridgewater 61.01 51 P **P 06 15 41.8 -2.1**
baz=316
K61A Williamstown 61.01 57 P **P 06 15 44.3 +0.3**
baz=316
NBB30 Finnes 61.04 359 *eP* **P 06 15 44.8 +1.0**
BLA Blacksburg 61.05 66 P **P 06 15 44.3 -0.1**
BLA pmax pmax
comp=Z,50nm,0.8s
BLA Blacksburg 61.05 66 P **P 06 15 43.3 -1.1**
baz=315,SNR=21
BLA Blacksburg 61.05 66 P **P 06 15 44.2 -0.1**
G63A Kingsbury 61.09 53 P **P 06 15 44.2 -0.3**
baz=316
Z51A Franklin 61.10 72 IAmb IAmb 06 16 02.6
comp=Z,15nm,0.8s
PKME Peaks-Kenny Pk 61.14 53 IAmb IAmb 06 16 43.6
comp=Z,25nm,1.1s
H63A New Sharon 61.21 53 P **P 06 15 45.3 0.0**
baz=316
NBB15 Halsa Church 61.28 359 *eP* **P 06 15 46.5 +1.1**
MVL Millersville 61.30 61 IAmb IAmb 06 15 52.1
comp=Z,28nm,1.1s
Y52A Lilburn 61.35 71 IAmb IAmb 06 16 09.3
comp=Z,18nm,0.8s
J62A Henniker 61.35 56 P **P 06 15 45.6 -0.8**
baz=316
I63A Otisfield 61.38 54 P **P 06 15 45.5 -1.0**
baz=316
LUPA Lehigh Univers 61.39 60 P **P 06 15 46.5 -0.1**
LUPA IAmb IAmb 06 16 09.0
comp=Z,36nm,1.0s
NBB13 Alf Garage 61.40 359 *eP* **P 06 15 47.1 +0.9**
G64A Maxfield 61.41 52 P **P 06 15 46.7 0.0**
baz=316
SDMD Soldier's Deli 61.45 62 P **P 06 15 46.6 -0.5**
L61B Northampton 61.47 57 P **P 06 15 46.4 -0.8**
baz=316
NBB40 Tonnes 61.51 359 *eP* **P 06 15 47.6 +0.6**
KONS Konsvik 61.53 359 *eP* **P 06 15 48.4 +1.3**
BRAL Brewton 61.53 75 P **P 06 15 46.4 -1.3**
baz=316
K62A Royalston 61.54 56 P **P 06 15 46.1 -1.5**
baz=316
K62A Royalston 61.54 56 IAmb IAmb 06 16 02.5
comp=Z,29nm,0.8s
V55A Taylorsville 61.57 67 IAmb IAmb 06 15 56.4
comp=Z,22nm,0.9s
KSCT Kent School, K 61.58 58 P **P 06 15 48.0 +0.1**
KSCT IAmb IAmb 06 16 02.9
comp=Z,25nm,0.8s
U56A King 61.68 66 P **P 06 15 49.0 +0.3**
P60A Greenville 61.81 61 IAmb IAmb 06 16 03.5
comp=Z,41nm,1.4s
MOR8 Moi Rana 61.84 358 *eP* **P 06 15 48.8 -0.4**
T57A Hurt 61.85 65 P **P 06 15 50.0 +0.2**
T57A IAmb IAmb 06 16 08.1
comp=Z,26nm,0.7s
PAL Palisades 61.87 59 P **P 06 15 47.6 -2.3**
baz=316
PAL Palisades 61.87 59 IAmb IAmb 06 16 08.4
comp=Z,26nm,0.8s
PAULI Pauline 61.96 69 IAmb IAmb 06 16 01.8
comp=Z,18nm,0.9s
SEM Semipalatinsk 61.99 317 *eP* **P 06 15 47.8 -3.1**
baz=317
SEM Semipalatinsk 61.99 317 *eP* **P 06 15 47.7 -3.1**
KMSC Kings Mountain 62.01 68 P **P 06 15 49.9 -1.0**
baz=316,SNR=7.6
KMSC Kings Mountain 62.01 68 P **P 06 15 50.2 -0.6**
KMSC IAmb IAmb 06 15 56.7
comp=Z,39nm,1.1s
G65A Princeton 62.02 52 P **P 06 15 49.8 -1.0**
baz=317
G65A Princeton 62.02 52 IAmb IAmb 06 16 04.7
comp=Z,30nm,1.1s
GOGA Godfrey 62.02 71 P **P 06 15 50.4 -0.6**
GOGA pmax pmax
comp=Z,18nm,1.1s
GOGA Godfrey 62.02 71 P **P 06 15 48.6 -2.4**
baz=316
GOGA Godfrey 62.02 71 P **P 06 15 50.4 -0.6**
CBN Corbin Frederi 62.03 63 IAmb IAmb 06 16 01.9
comp=Z,30nm,0.8s
WSPT Westport, CT 62.06 58 IAmb IAmb 06 16 06.4
comp=Z,37nm,1.1s
ZSN Zaisan 62.20 312 *eP* **P 06 15 50.5 -1.6**
comp=Z,31nm,1.1s,baz=312
ZSN Zaisan 62.20 312 *eP* **P 06 15 50.4 -1.6**
ZSN pmax pmax
comp=Z,31nm,1.1s
GGN Saint George 62.43 51 P **P 06 15 55.0 +1.4**
GGN IAmb IAmb 06 16 07.3
comp=Z,48nm,1.4s
KURK Kurchatov 62.43 318 P **P 06 15 54.1 +0.7**
KURK Kurchatov 62.43 318 P **P 06 15 54.1 +0.7**
EMMW East Machias 62.44 52 P **P 06 15 53.4 -0.2**
EMMW IAmb IAmb 06 16 09.1
comp=Z,28nm,0.8s
H66A Whiting 62.45 52 P **P 06 15 51.6 -2.1**
baz=317
KURBB Kurchatov Arra 62.54 318 P **P 06 15 54.1 0.0**
comp=Z,51nm,0.9s,baz=45,slow=7.0,SNR=65
JSC Jenkinsville 62.67 69 P **P 06 15 55.4 +0.1**
JSC pmax pmax
comp=Z,14nm,0.9s
JSC Jenkinsville 62.67 69 P **P 06 15 55.4 +0.1**
W57A Gilead 62.76 67 P **P 06 15 54.8 -1.1**
W57A IAmb IAmb 06 16 15.5
comp=Z,22nm,0.8s
V58A Windy Hill, Pi 62.80 66 P **P 06 15 55.9 -0.3**
T59A Double "B" Far 62.81 64 IAmb IAmb 06 16 11.5
comp=Z,34nm,0.8s
LMN Caledonia Moun 62.85 49 P **P 06 15 56.5 +0.2**
BIRD Birdtown, Kers 62.86 68 IAmb IAmb 06 16 17.4
comp=Z,60nm,1.4s
PRGR Permogore 63.06 342 *eP* **P 06 15 56.0 -1.5**
PRGR *e* 06 16 30.3
PRGR pmax pmax
comp=Z,41nm,0.9s
U59A Littleton 63.13 65 IAmb IAmb 06 16 04.9
comp=Z,18nm,0.9s
DRLN Deer Lake 63.50 43 P **P 06 16 01.0 +0.4**
NSS Namsos 63.52 359 *eP* **P 06 16 00.3 -0.2**
WMQ Urumqi 63.58 308 *eP* **P 06 16 02.8 +1.5**
WMQ sP pwP 06 16 11.5 +2.4
WMQ pmax pmax
comp=Z,74nm,1.3s
WMQ LR LR
comp=Z,4μm,14.1s
WMQ LR LR
comp=Z,3μm,12.3s
WMQ LR LR
comp=Z,2μm,11.3s
SVE Sverdlovsk 63.76 332⇑ *eP* **P 06 16 02.6 +0.4**
SVE pmax pmax
comp=Z,69nm,1.3s
BRVK Borovoye 63.78 325 *c iP* **P 06 16 02.1 -0.3**
BRVK pmax pmax
comp=Z,53nm,1.0s
BRVK Borovoye 63.78 325 P **P 06 16 02.0 -0.4**
MK31 Makanchi Array 63.86 313 P **P 06 16 01.4 -1.7**
MK31 pmax pmax
comp=Z,27nm,1.2s
MK31 Makanchi Array 63.86 313 P **P 06 16 01.4 -1.7**
MK31 IAmb IAmb 06 16 05.0
comp=Z,27nm,1.1s
MKAR Makanchi Array 63.86 313 P **P 06 16 02.3 -0.8**
comp=Z,8.0nm,0.5s,baz=50,slow=5.1,SNR=71
MKAR Makanchi Array 63.86 313 P **P 06 16 01.3 -1.7**
CNNC Cliffs of the 63.88 66 P **P 06 16 01.7 -1.6**
baz=317
CNNC Cliffs of the 63.88 66 P **P 06 16 03.1 -0.2**
CNNC IAmb IAmb 06 16 09.8
comp=Z,23nm,0.9s
MAKZ Makanchi 63.99 314 P **P 06 16 03.0 -0.9**
MAKZ pmax pmax
comp=Z,42nm,1.3s
MAKZ Makanchi 63.99 314 P **P 06 16 03.0 -0.9**
MAKZ IAmb IAmb 06 16 05.3
comp=Z,42nm,1.2s
NHSC New Hope 64.14 69 P **P 06 16 04.5 -0.5**
baz=317
HAL Halifax 64.33 50 IAmb IAmb 06 16 21.3
comp=Z,36nm,0.9s
CD2 Chengdu 64.39 288 ⇑P **P 06 16 06.5 -0.3**
CD2 pmax pmax
comp=Z,180nm,1.0s
TLIG Tlapa 64.58 94 IAmb IAmb 06 16 39.6
comp=Z,19nm,1.0s
ARU Arti 64.69 333 *d iP* **P 06 16 08.3 0.0**
ARU 06 16 41.5
ARU PPP PPP 06 20 03.8
ARU S **S 06 24 49.2 +1.8**
ARU pmax pmax
comp=Z,83nm,1.0s
ARU Arti 64.69 333 P **P 06 16 07.8 -0.5**
GBN Guysborough 64.70 48 P **P 06 16 09.2 +0.7**
KLMR Klimovskoe 64.86 345 *eP* **P 06 16 07.4 -1.9**
KLMR pmax pmax
comp=Z,55nm,1.1s
KLMR Klimovskoe 64.86 345 *eP* **P 06 16 07.4 -1.9**
KLMR AMP 06 16 11.6
comp=Z,55nm,1.1s
KIRV Kirov 65.08 339 *c iP* **P 06 16 10.1 -0.6**
MOL Molde 65.46 2 *eP* **P 06 16 14.6 +1.4**
AKN Aaknes 65.84 2 *eP* **P 06 16 16.9 +1.2**
GYA Guiyang 65.94 283 ⇑P **P 06 16 16.5 -0.5**
GYA pP pP 06 16 21.8 +0.2
FIA1 FINESS Array S 65.95 352 P **P 06 16 16.6 +0.3**
FINES FINESS Array B 65.95 352 P **P 06 16 16.4 +0.1**
comp=Z,61nm,0.8s,baz=23,slow=7.5,SNR=94
FINES FINESS Array B 65.95 352 P **P 06 16 16.3 0.0**
DOMB Dombas 66.01 1 *eP* **P 06 16 17.0 +0.2**
FOO Floro 66.38 3 *eP* **P 06 16 19.6 +0.6**
RAF Rauma 66.69 354 *eP* P 06 16 16.0 -5.0
NC204 NORSAR Array S 66.79 360 P **P 06 16 21.7 -0.1**
HYA Hoyanger 66.84 2 *eP* **P 06 16 23.3 +1.3**
SUE Sulen 66.91 3 *eP* **P 06 16 23.4 +1.0**
TDK Taldyqorghan 66.96 314 *eP* **P 06 16 22.2 -1.0**
baz=314
TDK Taldyqorghan 66.96 314 *eP* **P 06 16 22.1 -1.0**
NB2 NORSAR Subarra 67.02 360 P **P 06 16 22.7 -0.6**
comp=Z,46nm,0.8s,baz=0.5,slow=6.5
NB2 NORSAR Subarra 67.02 360 P **P 06 16 22.7 -0.6**
baz=0.5,slow=6.5
NOA NORSAR Array B 67.02 360 P **P 06 16 23.4 +0.1**
comp=Z,36nm,0.8s,baz=0.9,slow=6.3,SNR=66
NBO00 NORSAR Array S 67.03 360 P **P 06 16 23.5 +0.2**
NBO00 IAmb IAmb 06 16 37.1
comp=Z,49nm,1.1s
PUL Pulkovo 67.17 349⇑ *i iP* **P 06 16 26.0 +1.9**
PUL pmax pmax
comp=Z,191nm,1.0s
MEF Metsahovi 67.30 353 *eP* **P 06 16 25.7 +0.7**
NC602 NORSAR Array S 67.33 360 *eP* **P 06 16 25.9 +0.7**
SKAR Skarslia 67.37 1 *eP* **P 06 16 26.7 +1.1**
ASK Askoy 67.50 3 *eP* **P 06 16 27.6 +1.4**
BER Bergen 67.60 3 *eP* **P 06 16 28.1 +1.3**
ARXS Arharly 67.84 314 *eP* **P 06 16 27.9 -0.9**
SHLS Shalkode 67.94 313⇑ *iP* **P 06 16 27.5 -2.1**
comp=Z,66nm,1.0s,baz=312
SHLS Shalkode 67.94 313 *c iP* **P 06 16 27.4 -2.1**
SHLS pmax pmax
comp=Z,66nm,1.0s
KPKS Kokpek 68.05 313⇑ *iP* **P 06 16 29.2 -1.0**
comp=Z,54nm,1.2s,baz=313
KPKS Kokpek 68.05 313 *c iP* **P 06 16 29.1 -1.0**
KPKS pmax pmax
comp=Z,54nm,1.2s
UPP Uppsala 68.07 356 *eP* **P 06 16 31.5 +1.7**
ODD1 Odda 68.11 2 *eP* **P 06 16 31.1 +0.9**
OSL Oslo 68.13 360 *eP* **P 06 16 31.3 +1.1**
UZB Uzynbulak 68.15 313⇑ *eP* **P 06 16 29.9 -1.0**
comp=Z,16nm,1.0s,baz=313
UZB Uzynbulak 68.15 313 *ceP* **P 06 16 29.8 -1.0**
UZB pmax pmax
comp=Z,16nm,1.0s
KONO Kongsberg 68.42 1 P **P 06 16 32.0 0.0**
KONO pmax pmax
comp=Z,81nm,0.9s
KONO Kongsberg 68.42 1 *eP* **P 06 16 33.1 +1.1**
KONO Kongsberg 68.42 1 P **P 06 16 32.0 0.0**
CHKK Chushkaly 68.49 315 *eP* **P 06 16 30.9 -1.9**
baz=314
CHKK Chushkaly 68.49 315 *eP* **P 06 16 30.9 -1.9**
SATY Saty 68.50 313⇑ *eP* **P 06 16 32.2 -0.9**
comp=Z,51nm,2.1s,baz=313
SATY Saty 68.50 313 *ceP* **P 06 16 32.1 -0.9**
SATY pmax pmax
comp=Z,51nm,2.1s
BLS5 Blasjo 68.59 2 *eP* **P 06 16 34.0 +0.8**
KMY Karmoy 68.77 3 *eP* **P 06 16 34.7 +0.5**
BTLS Baital 68.80 317⇑ *iP* **P 06 16 33.7 -1.0**
comp=Z,35nm,0.9s,baz=317
BTLS Baital 68.80 317 *c iP* **P 06 16 33.6 -1.0**
BTLS pmax pmax
comp=Z,35nm,0.9s
VSU Vasula 68.83 351 *eP* **P 06 16 35.6 +1.0**
MTSE Matsula 68.84 353 *eP* **P 06 16 33.1 -1.5**
PRZ Przheval'sk 68.95 313 P **P 06 16 36.1 +0.2**
PRZ Przheval'sk 68.95 313 P **P 06 16 36.1 +0.2**
MDOK Medeo 69.02 314 *eP* **P 06 16 34.1 -2.2**
baz=314
MDOK Medeo 69.02 314 *eP* **P 06 16 34.0 -2.2**
STRU Stroemstad 69.03 360 *i P* **P 06 16 37.2 +1.3**
AAA Alma-Ata 69.04 314 *eP* **P 06 16 34.7 -1.6**
baz=314
AAA Alma-Ata 69.04 314 *eP* **P 06 16 33.4 -2.9**
KMI Kunming 69.28 284 ⇑P **P 06 16 38.0 -0.3**
KMI pP sP 06 16 44.8 +0.2
KMI sP pwP 06 16 47.3 +1.4
KMI PP **PP 06 19 09.5 -1.6**
KMI pmax pmax
comp=Z,57nm,1.3s
KMI pmax pmax
comp=Z,890nm,5.2s
SNART Snartemo 69.70 2 *i P* **P 06 16 41.7 +1.7**
SNART IAmb IAmb 06 16 43.1
comp=Z,71nm,0.9s
SNART Snartemo 69.70 2 *eP* **P 06 16 41.2 +1.2**
HOMB Homborsund 69.79 1 *i P* **P 06 16 42.3 +1.8**
TARG Taragay, Kyrgy 69.82 313 IAmb IAmb 06 16 45.8
comp=Z,26nm,0.8s
SGDS Sogindy 69.84 316⇑ *iP* **P 06 16 40.7 -0.6**
comp=Z,22nm,1.2s,baz=316
SGDS Sogindy 69.84 316 *c iP* **P 06 16 40.6 -0.6**
SGDS pmax pmax
comp=Z,22nm,1.2s
TKM2 Tokmak 2 69.85 315 P **P 06 16 41.2 -0.3**
SNR=51
SLIT Slitere, Latvi 70.03 353 *eP* **P 06 16 43.0 +0.9**
TJOU Tjoern 70.04 359 *i P* **P 06 16 43.6 +1.5**
USP Ospenovka 70.04 316 P **P 06 16 42.3 -0.2**
SNR=83
BOOM Boomskoye usch 70.04 314 P **P 06 16 42.1 -0.5**
BOOM Boomskoye usch 70.04 314 P **P 06 16 42.1 -0.5**
MOS Moscow 70.05 344 *eP* **P 06 16 40.0 -2.2**
MOS *e* 06 17 00.6
MOS pmax pmax
comp=Z,40nm,0.6s
ULHL Ulahol 70.11 314 P **P 06 16 42.9 -0.2**
SNR=33
CHMS Chumysh 70.15 315 P **P 06 16 43.0 -0.1**
SNR=33
KBK Karagaybulak 70.34 315 P **P 06 16 44.6 +0.1**
SNR=25
FRU1 Bishkek 70.36 315 P **P 06 16 44.9 +0.5**
FRU1 pmax pmax
comp=Z,185nm,1.0s
FRU1 Bishkek 70.36 315 P **P 06 16 44.9 +0.5**
BORU Boraas 70.43 359 *i P* **P 06 16 44.7 +0.2**
ABKAR Akbulak array 70.50 328 P **P 06 16 44.0 -1.1**
AAK Ala-Archa 70.55 315 P **P 06 16 46.1 +0.4**
SNR=25
AAK Ala-Archa 70.55 315 P **P 06 16 45.1 -0.6**
AAK pmax pmax
comp=Z,82nm,0.8s
AAK Ala-Archa 70.55 315 P **P 06 16 45.1 -0.6**
ONAU Onsala 70.67 359 *i P* **P 06 16 47.4 +1.4**
OBN Obninsk 70.82 345⇓ *iP* **P 06 16 46.6 -0.3**
OBN *e* 06 17 08.4
OBN *e* 06 19 25.5
OBN pmax pmax
comp=Z,108nm,1.3s
OBN MLR MLR
comp=Z,3μm,18.0s
OBN Obninsk 70.82 345 P **P 06 16 45.9 -1.0**
EKS2 Erkin-Say 70.84 316 P **P 06 16 47.4 0.0**
SNR=65
FABU Falkenberg 71.06 359 *i P* **P 06 16 48.8 +0.4**
BELG Belogornoye 71.16 337 *c iP* **P 06 16 48.6 -0.4**
BELG pmax pmax
comp=Z,43nm,0.9s
AML Almayashu 71.31 316 P **P 06 16 50.9 +0.3**
SNR=33
SLVN Son La 71.45 281 P **P 06 16 51.5 +0.2**
SLVN IAmb IAmb 06 17 06.3
comp=Z,52nm,1.1s
DEL Delary 71.58 358 *i P* **P 06 16 52.5 +1.0**
MUD Monsted U'grnd 71.62 1 *i P* **P 06 16 52.3 +0.6**
MUD IAmb IAmb 06 16 55.3
comp=Z,30nm,0.9s
MUD Monsted U'grnd 71.62 1 *i P* **P 06 16 52.2 +0.6**
MUD pmax pmax
comp=Z,30nm,0.9s
PBUR Paburge 71.65 353 *eP* **P 06 16 54.0 +2.1**
BLEU Blekinge 71.69 357 *i P* **P 06 16 52.2 +0.1**
ISAL Salakas 71.75 351 *eP* **P 06 16 53.5 +1.1**
KK31 Karatay Array 71.85 318 P **P 06 16 52.8 -0.6**
KK31 pmax pmax
comp=Z,93nm,1.0s
KK31 Karatay Array 71.85 318 P **P 06 16 52.8 -0.6**
KKAR Karatay Array 71.85 318 P **P 06 16 52.3 -1.1**
KKAR Karatay Array 71.85 318 P **P 06 16 52.3 -1.1**
IDID Didziasalis 71.94 350 *eP* **P 06 16 54.4 +0.8**
IIGN Ignalina 71.95 351 *eP* **P 06 16 54.9 +1.1**
BJUU Bjuv 71.99 359 *i P* **P 06 16 55.1 +1.2**
PABE Paberze 72.01 352 *eP* **P 06 16 54.2 +0.2**
PABE Paberze 72.01 352 P **P 06 16 53.8 -0.3**
ESK Eskdalemuir 72.15 8 P **P 06 16 55.8 +0.8**
ESK pmax pmax
comp=Z,49nm,1.0s
ESK Eskdalemuir 72.15 8 P **P 06 16 55.8 +0.8**
ESK IAmb IAmb 06 17 09.6
comp=Z,49nm,1.0s
LUNU Lund 72.42 358 *i P* **P 06 16 58.0 +1.5**
SIJI Sorong 72.47 244 P **P 06 16 56.8 -0.7**
comp=Z,32nm,0.9s,baz=19,slow=6.0,SNR=14
LSA Lhasa 72.48 296 P **P 06 16 57.4 -0.5**
LSA pmax pmax
comp=Z,77nm,0.7s
LSA Lhasa 72.48 296 P **P 06 16 57.4 -0.5**
MNK Minsk 72.61 350 *i P* **P 06 16 57.6 -0.1**
MNK *i* 06 17 15.3
MNK *i* 06 19 38.0
MNK *i* PPP PPP 06 21 22.0
MNK *i* S **S 06 26 20.2 -1.2**
MNK *i* 06 27 02.8
MNK *i* SS **SS 06 30 59.1 -0.2**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,76nm,0.9s
MNK pmax pmax
comp=Z,184nm,0.9s
MNK MLR MLR
comp=N,2μm,19.0s
MNK MLR MLR
comp=Z,880nm,12.0s
MNK MLR MLR
comp=E,109nm,24.0s
MNK Minsk 72.61 350 *i P* **P 06 16 57.6 -0.1**
comp=E,4.0nm,0.8s
MNK *i P* **P 06 16 57.6 -0.1**
comp=N,76nm,0.9s
MNK *i P* **P 06 16 57.6 -0.1**
comp=Z,184nm,0.9s,baz=190
MNK *i* PcP **PcP 06 17 15.4 +0.2**
MNK *i* PP **PP 06 19 38.1 -0.4**
MNK *i* PPP PPP 06 21 22.1
MNK *i* S **S 06 26 20.2 -1.2**
MNK *i* SS **SS 06 30 59.2 -0.1**
MNK *i* LQ LQ 06 44 11.7
MNK *i* LR LR 06 49 20.0
MNK *i* LRM MLR 06 50 58.7
comp=N,2μm,19.1s
MNK *i* LRM MLR 06 51 14.3
comp=Z,880nm,12.1s
MNK *i* LRM MLR 06 51 45.8
comp=E,109nm,24.1s
LPSR Galich'ya Gora 72.82 342 *eP* **P 06 16 59.0 +0.1**
LPSR pmax pmax
comp=Z,50nm,0.9s
BSD Bornholm Skovb 72.91 357 *eP* **P 06 17 01.2 +1.8**
BSD Bornholm Skovb 72.91 357 *i P* **P 06 17 01.3 +1.8**
BSD IAmb IAmb 06 17 03.0
comp=Z,37nm,1.0s
BSD Bornholm Skovb 72.91 357 *i P* **P 06 17 01.2 +1.8**
BSD pmax pmax
comp=Z,37nm,1.0s
SUW Suwalki 73.55 352 *eP* **P 06 17 02.7 -0.6**
SUW Suwalki 73.55 352 *eP* **P 06 17 02.6 -0.6**
SUW Suwalki 73.55 352 P **P 06 17 03.0 -0.3**
SUW pmax pmax
comp=Z,229nm,0.9s
SUW Suwalki 73.55 352 P **P 06 17 03.0 -0.3**
VRH Novokhopyorsk 73.59 340 *eP* **P 06 17 03.5 -0.1**
VRH pmax pmax
comp=Z,70nm,0.9s
FAKI Fak Fak 73.63 242 P **P 06 17 04.1 -0.2**
FAKI IAmb IAmb 06 17 20.4
comp=Z,34nm,0.8s
BSEG Bad Segeberg 74.15 0 *eP* **P 06 17 07.5 +0.8**
comp=Z,77nm,1.1s,baz=0.5,slow=5.7
BSEG *ep*P **pP 06 17 09.8 -1.4**
baz=0.8,slow=5.7
BTK Batken 74.25 316 P **P 06 17 07.5 -0.2**
BTK pmax pmax
comp=Z,113nm,1.0s
BTK Batken 74.25 316 P **P 06 17 07.5 -0.2**
DRK Karamyk 74.31 315 P **P 06 17 08.3 -0.1**
VORD Divnogorie 74.31 342 *eP* **P 06 17 08.1 +0.4**
VORD pmax pmax
comp=Z,40nm,0.6s
NONG Nongkai 74.40 279 P **P 06 17 09.4 +0.6**
comp=Z,4μmcomp=Z,135nm,1.1s
LNIZ Loecknitz 74.55 358 *eP* **P 06 17 09.8 +0.8**
comp=Z,124nm,1.3s,baz=0.5,slow=5.7
LNIZ *ep*P **pP 06 17 11.9 -1.6**
baz=0.8,slow=5.7
GKP Gorka Klasztor 74.67 356 *eP* **P 06 17 11.5 +1.7**
SHL Shillong 75.26 293 P **P 06 17 12.6 -1.3**
SHL pmax pmax
comp=Z,119nm,1.3s
SHL Shillong 75.26 293 P **P 06 17 12.6 -1.3**
GAR Garm 75.34 316 P **P 06 17 13.9 -0.3**

RUE Ruedersdorf 75.57 358 *e*P P 06 17 17.9 -1.6
baz=0.8,slow=5.7
NRDL Niedersach Rie 75.59 0 *e*P **P** **06 17 15.5 +0.5**
comp=Z,51nm,1.1s,baz=0.5,slow=5.7
NRDL *e*P **pP** **06 17 17.9 -1.6**
baz=0.8,slow=5.7
IBBN Ibbenburen 75.75 2 *e*P **P** **06 17 16.8 +0.8**
comp=Z,95nm,1.0s,baz=0.5,slow=5.7
IBBN *e*P **pP** **06 17 19.1 -1.4**
baz=0.8,slow=5.7
FLTG Flechtingen 75.75 360 *e*P **P** **06 17 16.3 +0.3**
comp=Z,47nm,1.2s,baz=0.5,slow=5.7
FLTG *e*P **pP** **06 17 18.6 -2.0**
baz=0.8,slow=5.7
BEL Belsk 75.90 354 *e*P **P** **06 17 17.5 +0.6**
KHON Khomkaen 75.92 278 P **P** **06 17 19.9 +2.3**
comp=Z,272nm,1.0s
ASSE Asse, Remlinge 75.96 360 *e*P **P** **06 17 18.0 +0.9**
comp=Z,33nm,1.1s,baz=0.5,slow=5.7
ASSE *e*P **pP** **06 17 20.2 -1.5**
baz=0.8,slow=5.7
CHGR Chuyangaron 76.12 317 P **P** **06 17 18.1 -0.5**
LAMP Lampang 76.17 282 P **P** **06 17 21.1 +2.1**
comp=Z,855nmcomp=Z,84nm,0.8s
AKASG Malin Array Be 76.19 348 P **P** **06 17 17.2 -1.3**
comp=Z,39nm,0.7s,baz=16,slow=6.0,SNR=48
AKASG Malin Array Be 76.19 348 P **P** **06 17 16.4 -2.2**
AKASG pmax pmax
comp=Z,50nm,1.0s
AKASG Malin Array Be 76.19 348 P **P** **06 17 16.4 -2.2**
AKASG IAmb IAmb 06 17 20.6
comp=Z,50nm,0.9s
AKBB Malin Array Si 76.19 348*c i*P **P** **06 17 17.2 -1.4**
AKBB pmax pmax
comp=Z,62nm,0.9s
CLZ Clausthal 76.25 0 *e*P **P** **06 17 19.9 +1.0**
comp=Z,68nm,1.0s,baz=0.5,slow=5.7
CLZ *e*P **pP** **06 17 22.2 -1.3**
baz=0.8,slow=5.7
CMMT Chiang Mai 76.35 283 P **P** **06 17 20.3 +0.3**
comp=Z,42nm,1.3s
CHTO Chiang Mai 76.36 283 P **P** **06 17 19.7 -0.4**
CHTO pmax pmax
comp=Z,39nm,1.1s
CHTO Chiang Mai 76.36 283 P **P** **06 17 20.3 +0.3**
comp=Z,43nm,1.3s
CHTO Chiang Mai 76.36 283 P **P** **06 17 19.7 -0.4**
CHTO IAmb IAmb 06 17 34.4
comp=Z,39nm,1.1s
GTTG Gottingen 76.54 0 *e*P **P** **06 17 21.5 +1.0**
comp=Z,82nm,1.0s,baz=0.5,slow=5.7
GTTG *e*P **pP** **06 17 23.8 -1.3**
baz=0.8,slow=5.7
BUG Bochum--Univer 76.61 2 *e*P **P** **06 17 21.4 +0.5**
comp=Z,35nm,1.1s,baz=0.5,slow=5.7
BUG *e*P **pP** **06 17 23.6 -1.9**
baz=0.8,slow=5.7
SPMM Sapulut 76.62 260 P **P** **06 17 22.0 +0.4**
CMAR Chiang Mai Arr 76.63 283 P **P** **06 17 21.4 -0.2**
comp=Z,47nm,1.0s,baz=26,slow=6.1,SNR=44
CMAR Chiang Mai Arr 76.63 283 P **P** **06 17 21.1 -0.5**
CMAR Chiang Mai Arr 76.63 283 P **P** **06 17 21.1 -0.5**
CM31 Chiang Mai Arr 76.63 283 P **P** **06 17 21.0 -0.6**
PHIT Phitsanulok 76.72 281 P **P** **06 17 23.3 +1.2**
comp=Z,3µcomp=Z,391nm,1.0s
GUN Gumba 76.76 298 *e*P **P** **06 17 22.2 -0.4**
comp=Z,146nm,0.6s
CLL Collm 76.76 358 *e*P **P** **06 17 22.0 +0.2**
comp=Z,52nm,1.2s
CLL *e*pP **sP** **06 17 28.0 0.0**
CLL *e*PcP **PcP** **06 17 35.0 +1.9**
CLL Collm 76.76 358 *e*P **P** **06 17 22.0 +0.2**
CLL *e**SP **sP** **06 17 28.0 0.0**
CLL pmax pmax
comp=Z,52nm,1.2s
CLL Collm 76.76 358 IAmb IAmb 06 17 24.5
comp=Z,55nm,1.2s
CLL Collm 76.76 358 *e*P **P** **06 17 22.0 +0.2**
comp=Z,52nm,1.2s,baz=0.5,slow=5.7
CLL *e*pP **pP** **06 17 24.2 -2.2**
baz=0.8,slow=5.7
PBKT Sadao Pong 76.87 280 P P 06 17 38.9 +16
KASTN Kahler Asten 76.87 1 *e*P **P** **06 17 23.1 +0.6**
comp=Z,48nm,1.3s,baz=0.5,slow=5.7
KASTN *e*pP **pP** **06 17 25.2 -1.8**
baz=0.8,slow=5.7
NEUB Neuenburg 76.88 359 *e*P **P** **06 17 23.3 +0.8**
comp=Z,70nm,1.0s,baz=0.5,slow=5.7
NEUB *e*pP **pP** **06 17 25.5 -1.5**
baz=0.8,slow=5.7
DZM Mont Dzumac 77.00 203 P **P** **06 17 23.8 +0.4**
comp=Z,5.9nm,0.9s,baz=84,slow=11,SNR=4.8
DZM Mont Dzumac 77.00 203 IAmb IAmb 06 17 42.1
comp=Z,30nm,1.1s
KSP Ksiaz 77.13 356 *e*P **P** **06 17 23.9 0.0**
FBE Freiberg 77.14 358 *e*P **P** **06 17 24.8 +0.9**
comp=Z,68nm,1.3s,baz=0.5,slow=5.7
FBE *e*pP **pP** **06 17 27.0 -1.4**
baz=0.8,slow=5.7
KKN Kakani 77.17 299 *e*P **P** **06 17 24.3 -0.5**
comp=Z,45nm,0.5s
BRG Berggiesshubel 77.18 358 *e*P **P** **06 17 24.2 0.0**
BRG Amp 06 17 27.8
comp=Z,46nm,1.1s
BRG Berggiesshubel 77.18 358 P P 06 17 38.5 +14
BRG Amp 06 17 39.4
comp=Z,24nm,1.0s
BRG Berggiesshubel 77.18 358 *e*P **P** **06 17 24.7 +0.5**
comp=Z,46nm,1.1s,baz=0.5,slow=5.7
BRG *e*pP **pP** **06 17 26.9 -1.8**
baz=0.8,slow=5.7
BEBN Eben Emael 77.21 3 *d*P **P** **06 17 26.6 +2.3**
PKI Pulchoki 77.28 299 *e*P **P** **06 17 24.6 -1.0**
comp=Z,197nm,1.1s
GKN Gorkha 77.35 299 *e*P **P** **06 17 25.3 -0.4**
comp=Z,163nm,0.7s
CHVC Chvalec 77.40 356 *e*P **P** **06 17 25.8 +0.3**
MEM Membach 77.41 3 *d*P **P** **06 17 24.4 -1.1**
BSTI Sart Tilman 77.42 3 *d*P **P** **06 17 28.1 +2.5**
OSTC Ostas 77.42 356 *e*P **P** **06 17 26.6 +1.0**
BTNL Ternell 77.43 3 *d*P **P** **06 17 26.8 +1.2**
comp=Z,52nm,1.3s
SNF Seneffe 77.44 4 *d*P **P** **06 17 26.0 +0.4**
MOX Moxa 77.44 359 *e*P **P** **06 17 26.4 +0.7**
comp=Z,58nm,1.2s,baz=0.5,slow=5.7
MOX *e*pP **pP** **06 17 28.6 -1.6**
baz=0.8,slow=5.7
MHMT Maesarieng 77.45 283 P **P** **06 17 26.8 +0.6**
comp=Z,165nm,1.2s
AHRW Bad Neuenahr-A 77.50 2 *e*pP pP 06 17 29.2 -1.4
baz=0.8,slow=5.7
PVCC Panska Ves 77.51 357 *e*P **P** **06 17 27.8 +1.8**
PVCC Panska Ves 77.51 357 *e*P **P** **06 17 27.8 +1.8**
DANN Dangsing 77.54 300 *e*P **P** **06 17 26.5 -0.5**
comp=Z,323nm,0.8s
BCLA Clavier 77.57 3 *d*P **P** **06 17 27.8 +1.4**
comp=Z,30nm,1.1s
OJC Ojcow 77.57 354 *e*P **P** **06 17 26.5 +0.1**
OJC Ojcow 77.57 354 P **P** **06 17 26.4 0.0**
OJC pmax pmax
comp=Z,60nm,1.2s
OJC Ojcow 77.57 354 P **P** **06 17 26.4 0.0**
OJC IAmb IAmb 06 17 29.4
comp=Z,60nm,1.2s
PLN Plauen 77.60 359 *e*P **P** **06 17 27.3 +0.7**
comp=Z,26nm,1.2s,baz=0.5,slow=5.7
PLN *e*pP **pP** **06 17 29.3 -1.8**
baz=0.8,slow=5.7
BGES Gesves 77.60 4 *d*P **P** **06 17 28.1 +1.6**
comp=Z,38nm,1.1s
DPC Dobruska-Polom 77.62 356 *e*P **P** **06 17 27.4 +0.6**
DPC Dobruska-Polom 77.62 356 *e*P **P** **06 17 27.4 +0.6**
WERD Werda 77.63 359 *e*P **P** **06 17 27.7 +0.9**
comp=Z,38nm,1.5s,baz=0.5,slow=5.7
WERD *e*pP **pP** **06 17 29.8 -1.5**
baz=0.8,slow=5.7
LVV L'vov 77.64 351 *e*P **P** **06 17 26.3 -0.5**
BMRD Maredsous 77.67 4 *d*P **P** **06 17 26.9 0.0**
comp=Z,52nm,1.3s
GUNZ Gunzen 77.72 359 *e*P **P** **06 17 28.1 +0.8**
comp=Z,37nm,1.2s,baz=0.5,slow=5.7
GUNZ *e*pP **pP** **06 17 30.3 -1.5**
baz=0.8,slow=5.7
WERN Wernitzgruen 77.79 359 *e*P **P** **06 17 28.6 +0.9**
comp=Z,55nm,1.2s,baz=0.5,slow=5.7
WERN *e*pP **pP** **06 17 30.8 -1.4**
baz=0.8,slow=5.7

NKC Novy Kostel 77.84 359 *e*P **P** **06 17 28.9 +0.9**
NKC Novy Kostel 77.84 359 *e*P **P** **06 17 28.9 +0.9**
TNS Taunus Mts 77.85 1 *e*P **P** **06 17 28.7 +0.7**
comp=Z,42nm,1.2s,baz=0.5,slow=5.7
TNS *e*pP **pP** **06 17 30.8 -1.7**
baz=0.8,slow=5.7
DOU Dourbes 77.87 4 *d*P **P** **06 17 30.0 +2.0**
comp=Z,41nm,1.3s
KRLC Kraliky 77.88 356 *e*P **P** **06 17 28.5 +0.3**
KRLC Kraliky 77.88 356 *e*P **P** **06 17 28.5 +0.3**
KWP Kalwaria Pacla 77.94 352 *e*P **P** **06 17 29.0 +0.6**
PRU Pruhonice 78.05 357 *e*P **P** **06 17 29.5 +0.5**
PRU Pruhonice 78.05 357 *e*P **P** **06 17 29.5 +0.5**
OKC Ostrava-Krasne 78.05 355 *e*P **P** **06 17 29.9 +0.8**
OKC Ostrava-Krasne 78.05 355 *e*P **P** **06 17 29.9 +0.8**
MANZ Manzenberg 78.10 359 *e*P **P** **06 17 30.1 +0.7**
comp=Z,28nm,1.2s,baz=0.5,slow=5.7
MANZ *e*pP **pP** **06 17 32.2 -1.7**
baz=0.8,slow=5.7
MORC Moravsky Berou 78.14 355 ⇑P **P** **06 17 31.1 +1.4**
MORC Moravsky Berou 78.14 355 ⇑P **P** **06 17 31.1 +1.4**
MORC Moravsky Berou 78.14 355 IAmb IAmb 06 17 32.8
comp=Z,48nm,1.1s
MORC Moravsky Berou 78.14 355 *e*P **P** **06 17 29.7 0.0**
SRAK Srakaew 78.19 278 P **P** **06 17 29.2 -1.1**
comp=Z,11µcomp=Z,2µm,1.1s
MILB Miltenberg 78.25 1 *e*P **P** **06 17 30.9 +0.7**
comp=Z,49nm,0.9s,baz=0.5,slow=5.7
MILB *e*pP **pP** **06 17 33.1 -1.6**
baz=0.8,slow=5.7
STHS Stebnicka Huta 78.27 353 *e*P **P** **06 17 32.0 +1.7**
STHS Stebnicka Huta 78.27 353 *e*P **P** **06 17 32.0 +1.7**
ROTZ Rotzenmuhle 78.31 359 *e*P **P** **06 17 31.6 +1.0**
comp=Z,41nm,1.3s,baz=0.5,slow=5.7
ROTZ *e*pP **pP** **06 17 33.8 -1.2**
baz=0.8,slow=5.7
WLF Walferdange 78.36 3 *d*P **P** **06 17 31.3 +0.6**
WLF Walferdange 78.36 3 IAmb IAmb 06 17 34.8
comp=Z,31nm,1.0s
WLF Walferdange 78.36 3 *e*P **P** **06 17 31.9 +1.2**
comp=Z,259nm,2.6s,baz=0.5,slow=5.7
WLF *e*pP **pP** **06 17 34.2 -1.1**
baz=0.8,slow=5.7
PBCC Pribram 78.36 358 *e*P **P** **06 17 32.5 +1.7**
GRA1 Grafenberg Arr 78.40 360 P **P** **06 17 30.9 -0.1**
GRF Grafenberg Arr 78.40 360 P **P** **06 17 30.9 -0.1**
GRF pmax pmax
comp=Z,85nm,1.1s
GRF Grafenberg Arr 78.40 360 *e*P **P** **06 17 32.2 +1.2**
comp=Z,121nm,1.2s,baz=0.5,slow=5.7
GRF *e*pP **pP** **06 17 34.3 -1.3**
baz=0.8,slow=5.7
GRFO Grafenberg 78.40 360 P **P** **06 17 31.2 +0.2**
GRFO pmax pmax
comp=Z,92nm,1.2s
GRFO Grafenberg 78.40 360 P **P** **06 17 31.2 +0.2**
UMPA Umpang Tak 78.42 281 P P 06 17 36.7 +5.1
comp=Z,5µmcomp=Z,96nm,1.2s
NIL Nilore 78.48 311 P **P** **06 17 31.9 +0.1**
NIL pmax pmax
comp=Z,198nm,0.9s
NIL Nilore 78.48 311 P **P** **06 17 31.9 +0.1**
VRAC Vranov 78.66 356 ⇑P **P** **06 17 33.9 +1.4**
VRAC Vranov 78.66 356 ⇑P **P** **06 17 33.9 +1.4**
VRAC Vranov 78.66 356 *e*P **P** **06 17 32.6 +0.2**
LANS Liptovska Anna 78.66 354 *e*P **P** **06 17 34.3 +1.7**
LANS pmax pmax
comp=Z,48nm,1.0s
LANS Liptovska Anna 78.66 354 *e*P **P** **06 17 34.2 +1.7**
KOLS Kolonicke sedl 78.67 352 *e*P **P** **06 17 33.5 +1.0**
KOLS Kolonicke sedl 78.67 352 *e*P **P** **06 17 33.5 +1.0**
CRVS Cervenica-Dubn 78.77 353 *e*P **P** **06 17 33.4 +0.3**
CRVS pmax pmax
comp=Z,53nm,1.2s
CRVS Cervenica-Dubn 78.77 353 *e*P **P** **06 17 33.4 +0.3**
SORM Soroca 78.82 348 ⇑P **P** **06 17 34.1 +0.8**
SORM Soroca 78.82 348 ⇑P **P** **06 17 34.1 +0.8**
KRUC Moravsky 78.91 356 *e*P **P** **06 17 33.7 -0.1**
KHC Kasperske Hory 78.93 358 *e*P **P** **06 17 34.8 +0.8**
KHC Kasperske Hory 78.93 358 *e*P **P** **06 17 34.8 +0.8**
KHC Kasperske Hory 78.93 358 IAmb IAmb 06 17 37.6
comp=Z,55nm,1.1s
WET Wettzell 78.93 358 *e*P **P** **06 17 35.0 +1.0**
comp=Z,32nm,1.2s,baz=0.5,slow=5.7
WET *e*pP **pP** **06 17 37.2 -1.3**
baz=0.8,slow=5.7
UZH Uzhgorod 78.97 352 *e*P **P** **06 17 32.8 -1.3**
UZH *i* 06 17 39.1
JAVC Velka Javorina 79.05 355 *e*P **P** **06 17 35.8 +1.1**
GOF Gofitskoye 79.10 337⇑*e*P **P** **06 17 35.3 +0.4**
GEC2 GERESS Array S 79.21 358 IAmb IAmb 06 17 38.7
comp=Z,41nm,1.1s
GEC2 GERESS Array S 79.21 358 *e*P **P** **06 17 36.3 +0.7**
comp=Z,47nm,1.2s,baz=0.5,slow=5.7
GEC2 *e*pP **pP** **06 17 38.5 -1.6**
baz=0.8,slow=5.7
GERES GERESS Array B 79.21 358 P **P** **06 17 35.6 0.0**
comp=Z,16nm,0.9s,baz=29,slow=3.0,SNR=38
CKRC Cesky Krumlov 79.22 358 *e*P **P** **06 17 36.1 +0.5**
KECS Kecovo 79.26 353 *e*P **P** **06 17 37.4 +1.7**
KECS pmax pmax
comp=Z,26nm,0.9s
KECS Kecovo 79.26 353 *e*P **P** **06 17 37.4 +1.7**
VYHS Vyhne 79.35 354 *e*P **P** **06 17 37.6 +1.3**
VYHS pmax pmax
comp=Z,55nm,1.0s
VYHS Vyhne 79.35 354 *e*P **P** **06 17 37.6 +1.3**
SMOL Smolenice 79.41 355 *e*P **P** **06 17 37.7 +1.1**
SMOL pmax pmax
comp=Z,33nm,1.0s
SMOL Smolenice 79.41 355 *e*P **P** **06 17 37.7 +1.1**
TRPA Tarpa 79.44 352 *e*P **P** **06 17 36.4 -0.3**
MODS Modra-Piesok 79.56 355 *e*P **P** **06 17 39.3 +1.9**
MODS pmax pmax
comp=Z,91nm,1.0s
MODS Modra-Piesok 79.56 355 *e*P **P** **06 17 39.3 +1.9**
KBL Kabul 79.64 314 P **P** **06 17 37.2 -1.1**
KBL Kabul 79.64 314 P **P** **06 17 37.2 -1.1**
BUR08 Bucovina Ar. S 79.67 350 P **P** **06 17 37.6 -0.5**
KHLT Khaolaem Dam 79.68 281 P P 06 17 49.5 +11
BURAR Bucovina Array 79.70 350 ⇑P **P** **06 17 38.9 +0.6**
BURAR Bucovina Array 79.70 350 ⇑P **P** **06 17 38.9 +0.6**
BURAR Bucovina Array 79.70 350 P **P** **06 17 36.8 -1.5**
BURAR IAmb IAmb 06 17 41.6
comp=Z,27nm,0.8s
BFO Black Forest 79.74 2 P **P** **06 17 39.0 +0.6**
BFO pmax pmax
comp=Z,40nm,1.1s
BFO Black Forest 79.74 2 P **P** **06 17 39.0 +0.6**
BFO IAmb IAmb 06 17 41.6
comp=Z,40nm,1.1s
BFO Black Forest 79.74 2 *e*P **P** **06 17 39.1 +0.6**
comp=Z,47nm,1.2s,baz=0.5,slow=5.7
BFO *e*pP **pP** **06 17 41.3 -1.7**
baz=0.8,slow=5.7
ZST Bratislava 79.74 356 *e*P **P** **06 17 39.8 +1.4**
ZST pmax pmax
comp=Z,211nm,1.1s
ZST Bratislava 79.74 356 *e*P **P** **06 17 39.8 +1.4**
PATY Pattaya 79.75 278 P P 06 17 48.9 +10
PSZ Piszkesteto 79.86 354 ⇑P **P** **06 17 40.8 +1.7**
PSZ Piszkesteto 79.86 354 *e*P **P** **06 17 39.6 +0.5**
PSZ Piszkesteto 79.86 354 *e*P **P** **06 17 40.5 +1.4**
PSZ Piszkesteto 79.86 354 ⇑P **P** **06 17 40.8 +1.7**
PSZ Piszkesteto 79.86 354 IAmb IAmb 06 17 43.2
comp=Z,55nm,1.1s
FUR Furstenfeldbru 79.92 360 *e*P **P** **06 17 40.1 +0.7**
comp=Z,120nm,1.4s,baz=0.5,slow=5.7
FUR *e*pP **pP** **06 17 42.6 -1.4**
baz=0.8,slow=5.7
CONA Conrad Observa 80.06 356 *i* P **P** **06 17 40.8 +0.6**
comp=Z,75nm,1.0s,SNR=36
GROC Groznyy 80.15 335 *e*P **P** **06 17 37.5 -3.2**
GROC pmax pmax
comp=Z,53nm,0.7s
MOA Molln 80.19 358 *e*P **P** **06 17 41.5 +0.6**
comp=Z,23nm,1.4s
KIV Kislovodsk 80.22 337 ⇓P **P** **06 17 43.2 +2.0**
KIV Kislovodsk 80.22 337 *e*P **P** **06 17 41.6 +0.4**
KIV pmax pmax
comp=Z,122nm,1.0s
KIV Kislovodsk 80.22 337 P **P** **06 17 41.2 0.0**
LTVH Ltavrtes, Hu 80.24 352 *e*P **P** **06 17 42.2 +1.2**
SOP Sopron 80.28 356 *e*P **P** **06 17 42.2 +0.9**

SOP Sopron 80.28 356 *e*P **P** **06 17 43.3 +2.1**
ARCR ARCALIA 80.31 351 ⇑P **P** **06 17 42.9 +1.4**
KBZ Khabaz 80.39 337 P **P** **06 17 42.4 +0.4**
comp=Z,58nm,0.8s,baz=318,slow=1.2,SNR=37
KBZ Khabaz 80.39 337*c i*P **P** **06 17 42.3 +0.4**
KBZ pmax pmax
comp=Z,50nm,0.8s
UBR Ueberruh 80.41 0 *e*P **P** **06 17 43.1 +1.0**
baz=0.5,slow=5.7
EGYH Egyhazaskeszo 80.51 355 *e*P **P** **06 17 40.9 -1.6**
EGYH Egyhazaskeszo 80.51 355 *e*P **P** **06 17 42.0 -0.5**
CSKK Cskako 80.51 355 *e*P **P** **06 17 43.9 +1.3**
PHET Kaeng Krachan 80.51 279 P **P** **06 17 45.7 +2.7**
comp=Z,631nmcomp=Z,78nm,1.0s
ANN Anapa 80.57 341 *e*P **P** **06 17 42.4 -0.5**
ANN pmax pmax
comp=Z,66nm,0.9s
RETA Reutte 80.61 360 *i* P **P** **06 17 44.2 +1.1**
comp=Z,47nm,1.2s,SNR=12
TESR Tescani 80.62 349 ⇑P **P** **06 17 44.8 +1.6**
MPLH Magyarpolny 80.75 355 *e*P **P** **06 17 44.0 +0.2**
MPLH Magyarpolny 80.75 355 *e*P **P** **06 17 45.2 +1.4**
MOTA Moosalm 80.75 360 *i* P **P** **06 17 45.0 +1.0**
comp=Z,91nm,1.2s,SNR=24
ARSA Arzberg 80.75 357 *i* P **P** **06 17 44.8 +0.9**
comp=Z,46nm,1.0s,SNR=16
WATA Walderalm 80.75 359 *i* P **P** **06 17 45.2 +1.1**
comp=Z,38nm,0.8s,SNR=16
DRGR 80.76 352 ⇑P **P** **06 17 44.6 +0.7**
DRGR 80.76 352 ⇓P **P** **06 17 43.8 -0.2**
WTTA Wattenberg 80.83 359 *i* P **P** **06 17 45.7 +1.2**
comp=Z,64nm,1.0s,SNR=18
SQTA Sankt Quirin 80.87 360 *i* P **P** **06 17 45.9 +1.2**
comp=Z,90nm,1.2s,SNR=13
SBUM Sibu 80.97 262 P **P** **06 17 47.0 +1.5**
KBA Koelnbreinsper 80.99 358 *i* P **P** **06 17 46.3 +0.9**
comp=Z,182nm,1.0s,SNR=62
TIH Tihany 81.00 355 *e*P **P** **06 17 45.2 0.0**
TIH Tihany 81.00 355 *e*P **P** **06 17 48.5 +3.4**
ZEI Tsey 81.02 336 *e*P **P** **06 17 44.2 -1.4**
ZEI pmax pmax
comp=Z,30nm,0.7s
SIM Simferopol' 81.05 343*c i*P **P** **06 17 45.9 +0.4**
SIM *e* 06 18 00.0
SIM pmax pmax
comp=Z,68nm,0.9s
MFF Saint Martin d 81.06 7 *e*P **P** **06 17 46.1 +0.6**
MFF pmax pmax
comp=Z,93nm,1.1s
FETA Feichten 81.07 360 *i* P **P** **06 17 47.0 +1.3**
comp=Z,94nm,1.0s,SNR=40
GEYT Alibeck 81.09 324 P **P** **06 17 45.9 0.0**
comp=Z,62nm,1.0s,baz=254,slow=4.3,SNR=29
GYA0B ALIBECK ARRAY 81.09 324 P **P** **06 17 45.6 -0.2**
OZUR 81.14 349 ⇓P **P** **06 17 47.4 +1.4**
GUDG Gudauri 81.18 335 P **P** **06 17 49.3 +2.8**
AKT Akhty 81.22 333 *e*P **P** **06 17 46.3 -0.3**
AKT *e*PCP **sP** **06 17 52.5 -0.3**
AKT pmax pmax
comp=Z,95nm,0.0s
VRI Vrincioaia 81.25 349 ⇓P **P** **06 17 47.2 +0.7**
VRI Vrincioaia 81.25 349 ⇓P **P** **06 17 47.2 +0.7**
SOC Sochi 81.26 339 *e*P **P** **06 17 46.6 0.0**
SOC pmax pmax
comp=Z,65nm,0.9s
SOC MLR MLR
comp=Z,3µm,21.0s
PLOR Plostina 81.28 349 ⇑P **P** **06 17 48.8 +2.1**
PLOR Plostina 81.28 349 ⇑P **P** **06 17 48.8 +2.1**
DOPR Dopca 81.31 350 ⇑P **P** **06 17 48.3 +1.5**
ONI Oni 81.32 336 P **P** **06 17 46.7 -0.4**
ONI pmax pmax
comp=Z,15nm,0.8s
ONI Oni 81.32 336 P **P** **06 17 46.7 -0.4**
ABTA Abfaltersbach 81.33 359 *i* P **P** **06 17 47.9 +0.9**
comp=Z,72nm,1.2s,SNR=20
SOKA Soboth 81.34 357 *i* P **P** **06 17 47.3 +0.2**
comp=Z,106nm,1.1s,SNR=53
SIRR Siria 81.37 352 ⇓P **P** **06 17 48.0 +0.9**
PERS Pernice 81.38 357 *i* P **P** **06 17 47.7 +0.4**
MYKA Terra Mystica 81.43 358 *i* P **P** **06 17 48.3 +0.8**
comp=Z,38nm,1.7s,SNR=10
OBKA Obir 81.53 357 *i* P **P** **06 17 47.8 -0.3**
comp=Z,43nm,1.1s,SNR=13
CHVG Ch'k'valeri 81.53 337 ⇑P **P** **06 17 49.6 +1.5**
CHVG Ch'k'valeri 81.53 337 ⇑P **P** **06 17 49.6 +1.5**
GROS Grobnik 81.54 357 *e*P **P** **06 17 48.3 +0.1**
BISRR Bisoca 81.57 349 ⇑P **P** **06 17 49.8 +1.5**
MORH Mrgy, Hungar 81.64 354 ⇑P **P** **06 17 49.1 +0.6**
MORH Mrgy, Hungar 81.64 354 *e*P **P** **06 17 47.9 -0.6**
MORH Mrgy, Hungar 81.64 354 *e*P **P** **06 17 49.5 +1.0**
TLCR 81.65 347 ⇑P **P** **06 17 50.0 +1.4**
TLCR 81.65 347 ⇑P **P** **06 17 50.0 +1.4**
SENIN Lac Senin/Sane 81.69 2 P **P** **06 17 50.6 +1.5**
MLR Muntele Rosu 81.71 349 ⇑P **P** **06 17 50.6 +1.5**
MLR Muntele Rosu 81.71 349 P **P** **06 17 49.1 -0.1**
MLR pmax pmax
comp=Z,22nm,1.0s
MLR Muntele Rosu 81.71 349 P **P** **06 17 49.1 -0.1**
NEHR Nehoiu 81.73 349 ⇑P **P** **06 17 50.1 +0.9**
CFR Carcaliu 81.75 348 ⇑P **P** **06 17 49.9 +0.8**
CFR Carcaliu 81.75 348 ⇑P **P** **06 17 49.9 +0.8**
CTAO Charters Tower 81.76 222 P **P** **06 17 48.3 -1.1**
CTAO pmax pmax
comp=Z,39nm,1.2s
CTAO Charters Tower 81.76 222 P **P** **06 17 48.3 -1.1**
CTAO IAmb IAmb 06 18 05.4
comp=Z,39nm,1.2s
KOVH Kovagotottos 81.79 355 *e*P **P** **06 17 49.8 +0.4**
KOVH Kovagotottos 81.79 355 *e*P **P** **06 17 50.0 +0.7**
STAL STALIGIAL 81.82 359 P **P** **06 17 49.4 -0.2**
STAL IAmb IAmb 06 18 05.1
comp=Z,26nm,1.1s
VOIR 81.87 350 ⇓P **P** **06 17 51.3 +1.4**
VOIR 81.87 350 ⇓P **P** **06 17 52.2 +2.3**
LOT Lotru 81.99 351 ⇑P **P** **06 17 50.6 0.0**
ISR Istrita 82.01 349 ⇑P **P** **06 17 51.8 +1.2**
ISR Istrita 82.01 349 ⇑P **P** **06 17 53.5 +2.9**
BZS Buzias 82.02 352 ⇑P **P** **06 17 51.5 +0.9**
BZS Buzias 82.02 352 ⇑P **P** **06 17 51.5 +0.9**
TPGR Topolog 82.03 347 ⇑P **P** **06 17 51.5 +0.8**
CTI Castel Tesino 82.04 359 IAmb IAmb 06 17 53.5
comp=Z,49nm,1.2s
GZR Gura Zlata 82.14 351 ⇑P **P** **06 17 51.7 +0.4**
GZR Gura Zlata 82.14 351 ⇑P **P** **06 17 51.7 +0.4**
KZRT Kazreti 82.21 335 P **P** **06 17 55.0 +3.2**
KAPI Kappang 82.41 252 P **P** **06 17 53.2 +0.2**
comp=Z,10.0nm,0.9s,baz=248,slow=15,SNR=1.6
KAPI Kappang 82.41 252 P **P** **06 17 52.7 -0.3**
KAPI pmax pmax
comp=Z,131nm,1.9s
KAPI Kappang 82.41 252 P **P** **06 17 52.7 -0.3**
TIRR Tirgusor 82.42 347 ⇓P **P** **06 17 53.1 +0.4**
TIRR Tirgusor 82.42 347 P **P** **06 17 53.6 +0.9**
TIRR pmax pmax
comp=Z,113nm,1.0s
TIRR Tirgusor 82.42 347 P **P** **06 17 53.6 +0.9**
AKH Akhalkalaki 82.42 336 ⇓P **P** **06 17 54.6 +1.6**
AKH Akhalkalaki 82.42 336 P **P** **06 17 54.3 +1.3**
SALO Salr 82.47 0 P **P** **06 17 52.9 -0.1**
BOJS Bojanci 82.51 357 *e*P **P** **06 17 53.1 -0.1**
LPL La Plagne 82.52 3 *e*P **P** **06 17 56.0 +2.5**
LPL pmax pmax
comp=Z,30nm,1.0s
MTN Manton Dam 82.54 238 P **P** **06 17 52.4 -1.2**
MTN IAmb IAmb 06 18 11.3
comp=Z,35nm,1.0s
HRA Herat 82.63 319 IAmb IAmb 06 17 56.7
comp=Z,46nm,1.1s
SSB Saint Sauveur 82.67 4 IAmb IAmb 06 17 58.1
comp=Z,44nm,1.0s
HERR Herculane 82.68 352 ⇑P **P** **06 17 54.3 +0.2**
MFTR Murfatlar 82.69 347 ⇓P **P** **06 17 55.1 +1.0**
ICOR Ion Corvin 82.84 348 ⇑P **P** **06 17 56.0 +1.1**
MDVR Moldovita 82.84 352 ⇑P **P** **06 17 55.3 +0.4**
BCA Borcka 82.85 337 ⇓P **P** **06 17 56.2 +1.1**
CAF Calviac 82.89 6 *e*P **P** **06 17 52.0 -3.2**
CAF pmax pmax
comp=Z,48nm,1.0s
KSM Kuching 82.91 263 P **P** **06 17 57.0 +1.4**
RAZG Razgrad 83.54 348 ⇓P **P** **06 17 59.5 +1.0**
DIVS Divibare 83.65 353 P **P** **06 17 58.7 -0.5**
DIVS IAmb IAmb 06 18 02.3

comp=Z,26nm,1.0s
SNOP Sinop 83.69 342 IAmb IAmb 06 18 02.4
comp=Z,42nm,1.1s
KTUT Trabzon 83.72 338 ⇑P **P** **06 18 00.9 +1.4**
BZK Bozkurt 83.97 343 ⇑P **P** **06 18 01.5 +0.8**
BZK Bozkurt 83.97 343 P **P** **06 18 01.6 +0.8**
BOVS Bovan 83.98 352 ⇑P **P** **06 18 00.5 -0.3**
DIKM Dikmen 84.03 342 ⇓P **P** **06 18 02.7 +1.7**
SURT Suratani 84.11 277 P P 06 18 11.9 +10
SKLT Songkhla 84.39 274 P **P** **06 18 06.2 +3.0**
comp=Z,42nm,1.2s
KOPT Kop Dagi 84.47 337 P **P** **06 18 04.9 +1.2**
PGAV Gavieira, Arco 84.71 14 *i* LQ LQ 06 18 12.6
VTS Vitosha 84.84 351 ⇑P **P** **06 18 05.5 +0.1**
VTS Vitosha 84.84 351 ⇑P **P** **06 18 05.5 +0.1**
VTS Vitosha 84.84 351 IAmb IAmb 06 18 09.3
comp=Z,14nm,0.8s
PCAB Cabril 84.99 14 *e*P **P** **06 18 06.9 +0.9**
comp=Z,37nm,1.2s
PBRG Braganca 85.08 13 *e*P **P** **06 18 06.9 +0.4**
comp=Z,46nm,1.5s
PBRG *i* LQ LQ 06 18 20.8
NRCA Norcia 85.23 358 P **P** **06 18 07.7 +0.5**
POLO Lamas de Olo 85.36 14 *e*P **P** **06 18 08.6 +0.7**
comp=Z,29nm,1.4s
PDG Podgorica 85.37 354 ⇑P **P** **06 18 08.2 +0.4**
GEVA Gevas 85.45 335 P **P** **06 18 09.0 +0.4**
PVRL Vila Real 85.47 14 *e*P **P** **06 18 10.7 +2.3**
comp=Z,54nm,1.6s
GURO Guroymak-BITLI 85.49 336 IAmb IAmb 06 18 12.3
comp=Z,38nm,1.3s
SKO Skopje 85.65 352 *i* P **P** **06 18 09.6 +0.3**
MVO Moncorvo 85.67 13 *e*P **P** **06 18 10.1 +0.7**
comp=Z,46nm,1.3s
AQU L'Aquila 85.71 358 P **P** **06 18 10.1 +0.5**
AQU pmax pmax
comp=Z,82nm,0.9s
AQU L'Aquila 85.71 358 P **P** **06 18 10.1 +0.5**
JRMM Jerantut 85.82 271 P **P** **06 18 12.0 +1.6**
KULM Kulim 85.84 273 P **P** **06 18 12.0 +1.5**
STIP Stip 85.86 351 *i* P **P** **06 18 09.8 -0.5**
PVIS Viseu 85.99 14 *e*P **P** **06 18 12.4 +1.4**
comp=Z,34nm,1.2s
PVIS *e*pP **pwP** **06 18 18.0 -1.1**
RDO Rodhopi 86.05 349 P **P** **06 18 11.5 +0.3**
KNRA Kununurra 86.15 238 P **P** **06 18 11.5 -0.3**
KNRA IAmb IAmb 06 18 29.2
comp=Z,27nm,1.0s
VAY Valandovo 86.19 351 *i* P **P** **06 18 12.4 +0.5**
BR131 Keskin Array S 86.20 342 P **P** **06 18 12.1 -0.1**
BR131 pmax pmax
comp=Z,23nm,1.0s
BR131 Keskin Array S 86.20 342 P **P** **06 18 12.1 -0.1**
BR131 IAmb IAmb 06 18 16.3
comp=Z,23nm,0.9s
BRTR Keskin Array B 86.20 342 P **P** **06 18 12.8 +0.6**
comp=Z,7.2nm,0.8s,baz=35,slow=5.3,SNR=22
BRTR Keskin Array B 86.20 342 P **P** **06 18 11.4 -0.8**
BRTR Keskin Array B 86.20 342 P **P** **06 18 11.4 -0.8**
ANTO Ankara 86.22 343 P **P** **06 18 13.2 +1.1**
ANTO pmax pmax
comp=Z,54nm,1.1s
ANTO Ankara 86.22 343 P **P** **06 18 13.2 +1.1**
ALN Alexandroupoli 86.23 348 P **P** **06 18 11.8 -0.3**
IPM Ipoh 86.24 272 P **P** **06 18 14.0 +1.5**
SRS Serrai 86.29 350 P **P** **06 18 12.1 -0.3**
KAVA Kavala 86.31 350 P **P** **06 18 12.4 -0.1**
KNT Kendrikon 86.32 351 P **P** **06 18 12.7 +0.1**
MTE Manteigas 86.35 14 *e*P **P** **06 18 15.1 +2.3**
comp=Z,33nm,1.1s
PCAS Casmilo, Conde 86.55 15 *e*P **P** **06 18 14.5 +0.8**
comp=Z,44nm,1.6s
PCAS Casmilo, Conde 86.55 15 *e*PcP **PcP** **06 18 16.4 +0.3**
PCAS *e*pP **pwP** **06 18 20.8 -1.0**
PCAS *i* LQ LQ 06 18 27.7
OHR Ohrid 86.56 352 *i* P **P** **06 18 13.6 -0.2**
GRG Griva 86.57 351 P **P** **06 18 13.9 +0.1**
THAS Thassos island 86.68 349 P **P** **06 18 14.0 -0.3**
SMTH Samothraki Isl 86.71 349 P **P** **06 18 13.8 -0.7**
WB0 Warramunga Arr 86.77 232 P **P** **06 18 13.1 -1.8**
WB0 IAmb IAmb 06 18 29.7
comp=Z,15nm,0.8s
FNA Florina 86.84 352 P **P** **06 18 14.9 -0.3**
FNA pmax pmax
comp=Z,28nm,0.8s
FNA Florina 86.84 352 P **P** **06 18 14.9 -0.3**
FNA IAmb IAmb 06 18 17.8
comp=Z,28nm,0.8s
WR0 Warramunga Arr 86.87 231 P **P** **06 18 13.9 -1.4**
WR0 IAmb IAmb 06 18 30.2
comp=Z,14nm,0.8s
PCBR Castelo Branco 86.91 14 *e*P **P** **06 18 16.9 +1.5**
comp=Z,27nm,1.2s
PCBR Castelo Branco 86.91 14 *e*PcP **PcP** **06 18 17.8 +0.1**
PCBR *e*pP **pwP** **06 18 22.4 -1.1**
WB2 Warramunga Arr 86.94 232 P **P** **06 18 14.6 -1.1**
WB2 IAmb IAmb 06 18 31.3
comp=Z,23nm,1.1s
WRA Warramunga Arr 86.95 232 P **P** **06 18 14.1 -1.6**
comp=Z,6.9nm,0.8s,baz=38,slow=5.7,SNR=24
PSBE So Bento 87.03 15 *e*P **P** **06 18 18.9 +2.8**
comp=Z,68nm,1.3s
PSBE *e*pP **pwP** **06 18 23.1 -1.1**
PSBE *i* LQ LQ 06 18 29.3
OUR Ouranopolis 87.03 350 P **P** **06 18 15.3 -0.7**
PLG Polygyros 87.05 350 P **P** **06 18 17.2 +1.0**
KBN Korca 87.05 352 IAmb IAmb 06 18 34.3
comp=Z,29nm,1.0s
OCAC Ocana 87.24 80 *e*P P 06 18 22.9 +5.3
LIA Limnos Island 87.32 349 P **P** **06 18 16.9 -0.5**
PMRV Marv??o 87.32 14 *e*P **P** **06 18 19.4 +1.9**
comp=Z,24nm,1.5s
PMRV *e*pP **pwP** **06 18 24.7 -0.9**
LIT Litokhoron 87.41 351 P **P** **06 18 17.1 -0.8**
LIT Litokhoron 87.41 351 P **P** **06 18 17.6 -0.3**
LIT Litokhoron 87.41 351 P **P** **06 18 17.6 -0.3**
PAIG Paliouri 87.46 350 P **P** **06 18 19.1 +1.0**
PMAFR Mafra 87.49 15 *e*P **P** **06 18 19.5 +1.2**
comp=Z,105nm,1.3s
PMAFR *e*pP **sP** **06 18 24.6 0.0**
PMAFR *i* LQ LQ 06 18 32.4
ESDC Sonseca Array 87.54 11 P **P** **06 18 18.8 +0.2**
comp=Z,18nm,0.9s,baz=345,slow=4.2,SNR=33
ESDC Sonseca Array 87.54 11 IAmb IAmb 06 18 33.2
comp=Z,30nm,0.9s
PAB San Pablo 87.62 12 P **P** **06 18 19.1 +0.1**
PAB pmax pmax
comp=Z,21nm,1.0s
PAB San Pablo 87.62 12 P **P** **06 18 19.1 +0.1**
PAB IAmb IAmb 06 18 33.4
comp=Z,21nm,0.9s
PESTR Estremoz 87.84 14 *e*P **P** **06 18 20.8 +0.8**
comp=Z,39nm,1.1s
PESTR *e*pP **sP** **06 18 26.8 +0.5**
PESTR *i* LQ LQ 06 18 32.6
PESTR Estremoz 87.84 14 IAmb IAmb 06 18 34.6
comp=Z,17nm,1.0s
SIGR SIGRI 87.92 348 P **P** **06 18 19.8 -0.5**
PLMC San Jos del P 88.05 85 *e*P **P** **06 18 21.9 +0.5**
XOR Xorichti 88.07 350 P **P** **06 18 19.9 -1.2**
EVO Evora 88.11 15 *e*P **P** **06 18 23.3 +2.1**
comp=Z,26nm,1.1s
EVO *i* LQ LQ 06 18 33.9
IGT Igoumenitsa 88.17 353 P **P** **06 18 20.9 -0.6**
MANT Manisa 88.25 346 P **P** **06 18 22.2 -0.1**
GUY2C Guyana, Caldas 88.36 84 *e*P **P** **06 18 20.9 -2.4**
NORC Norcasia 88.40 83 *e*P **P** **06 18 19.9 -3.1**
PNCL Nicolau / Gran 88.44 15 *e*P **P** **06 18 25.1 +2.3**
comp=Z,38nm,1.2s
PNCL *e*pP **pwP** **06 18 30.4 -0.5**
PNCL *i* LQ LQ 06 18 36.4
AGG Agios Georgios 88.50 351 P **P** **06 18 21.6 -1.6**
AGG Agios Georgios 88.50 351 P **P** **06 18 21.5 -1.6**
AGG pmax pmax
comp=Z,29nm,1.0s
AGG Agios Georgios 88.50 351 P **P** **06 18 21.5 -1.6**
MAKR Makrakomi, Fth 88.52 351 P **P** **06 18 22.4 -0.8**
PBAR Barrancos 88.61 14 *e*P **P** **06 18 23.3 -0.3**
comp=Z,50nm,1.1s
BARC Barichara 88.62 81 *e*P **P** **06 18 23.9 -0.4**
PBEJ Beja 88.63 15 *i* LQ LQ 06 18 37.9
EVR Evrytania 88.65 351 P **P** **06 18 23.5 -0.4**
KYMI Kymi, Euboea I 88.70 349 P **P** **06 18 22.9 -1.1**
CHOS Chios island 88.70 348 P **P** **06 18 23.6 -0.6**

YOTC Yotoco, Valle 88.74 85 *e*P **P** **06 18 21.9 -2.8**
PSI Prapat 88.85 273 P **P** **06 18 24.0 -1.2**
PSI pmax pmax
comp=Z,95nm,1.0s
TOLC Tolima 88.89 84 *e*P **P** **06 18 25.8 +0.1**
RPSI Rantau Prapat 88.93 273 P **P** **06 18 24.0 -1.5**
ANX Ano Chora 88.96 351 P **P** **06 18 24.6 -0.8**
PTEO Sao Teotonio 88.96 15 *e*pP **pP** **06 18 32.1 +2.2**
PTEO *i* LQ LQ 06 18 39.1
PTEO A A 06 18 39.9
comp=Z,78nm,1.2s
PCVE Castro Verde 88.98 15 *e*pP **pP** **06 18 31.7 +1.7**
PCVE *i* LQ LQ 06 18 39.5
EFP Efpalio 89.13 351 P **P** **06 18 25.7 -0.3**
SERG Sergoula 89.13 351 P **P** **06 18 24.9 -1.2**
ARMA Armidale 89.15 213 IAmb IAmb 06 18 58.7
comp=Z,37nm,1.3s
HYB Hyderabad 89.17 298 *i* P **P** **06 18 25.0 -1.6**
RUSC La Rusia 89.23 81 P **P** **06 18 26.3 -1.1**
RUSC La Rusia 89.23 81 *e*P **P** **06 18 25.8 -1.6**
PVAQ Vaqueiros 89.26 15 *i* LQ LQ 06 18 38.3
ROSC El Rosal 89.30 83 P **P** **06 18 28.6 +0.9**
comp=Z,1.6nm,0.3s,baz=198,slow=20,SNR=1.8
ROSC El Rosal 89.30 83 P **P** **06 18 27.9 +0.2**
ROSC pmax pmax
comp=Z,20nm,1.3s
ROSC El Rosal 89.30 83 P **P** **06 18 27.9 +0.2**
ROSC IAmb IAmb 06 18 35.8
comp=Z,20nm,1.2s
LAKA Lakka 89.31 351 P **P** **06 18 26.4 -0.5**
PFVI Vila Bisbo 89.35 15 *i* LQ LQ 06 18 41.0
LTK Loutraki 89.42 350 P **P** **06 18 26.4 -1.1**
ORTC Ortega, Tolima 89.47 84 *e*P **P** **06 18 25.8 -2.2**
KLV Kalavryta, Ach 89.48 351 P **P** **06 18 27.1 -0.7**
YER Yerkesik 89.62 346 P **P** **06 18 28.2 -0.3**
POPC Popayan, Colom 89.67 86 *e*P P 06 18 17.0 -12
BBAC Balboa, Cauca 89.72 87 *e*P P 06 18 23.9 -5.6
ELL Elmali 89.75 345 P **P** **06 18 29.7 +0.5**
ELL pmax pmax
comp=Z,37nm,0.7s
ELL Elmali 89.75 345 P **P** **06 18 29.7 +0.5**
CHIC Chingaza 89.83 83 *e*P **P** **06 18 26.8 -3.4**
AS31 Alice Springs 90.33 230 P **P** **06 18 31.1 -0.6**
ASAR Alice Springs 90.34 230 P **P** **06 18 30.8 -0.9**
comp=Z,10nm,0.3s,baz=35,slow=4.2,SNR=39
ITM Ithomi 90.36 351 P **P** **06 18 31.7 -0.1**
OTAV Otavalo 90.38 89 P **P** **06 18 33.1 +0.3**
OTAV pmax pmax
comp=Z,7.0nm,0.9s
OTAV Otavalo 90.38 89 P **P** **06 18 33.1 +0.3**
OTAV Otavalo 90.38 89 *e*P P 06 18 37.7 +4.9
CLTB Caltabellotta 90.48 358 P **P** **06 18 32.0 -0.5**
VLI Velial 90.72 350 P **P** **06 18 32.0 -1.5**
LEF Lefka 90.81 342 ⇑P **P** **06 18 34.1 +0.2**
CSS Mathiatis 90.88 342 P **P** **06 18 32.9 -1.4**
IMMV Iera Moni Meta 91.84 349 P **P** **06 18 38.2 -0.5**
IDI Anoyia 91.91 348 ⇑P **P** **06 18 39.8 +0.7**
LAST Lasithi 91.95 348 P **P** **06 18 38.3 -1.1**
KEST Kesra 92.34 1 P **P** **06 18 41.6 +0.5**
comp=Z,9.7nm,1.1s,baz=50,slow=7.7,SNR=5.2
KEST Kesra 92.34 1 P **P** **06 18 41.5 +0.3**
KEST IAmb IAmb 06 18 56.1
comp=Z,20nm,1.1s
WSAR Wadi Sarin 93.92 317 LR LR 07 06 18.3
comp=Z,5μm,19.9s,baz=214,slow=39
STKA Stephens Creek 94.13 220 P **P** **06 18 48.6 -0.5**
comp=Z,2.1nm,0.7s,baz=0.1,slow=8.7,SNR=3.5
EIL Elat 95.66 339 LR LR 07 07 48.4
comp=Z,4μm,20.6s,baz=206,slow=39
TIC Toumodi 119.80 18 *e*PKP1 **PKiKP** **06 24 21.7 +0.4**
KIC Kosan Boka 120.13 18 *e*PKP1 **PKiKP** **06 24 22.8 +0.9**
comp=Z,29nm,1.1s
LIC Lamto 120.20 18 *e*PKP1 **PKPdf** **06 24 21.8 -0.2**
comp=Z,20nm,0.8s
NBPV Pedro Velho 120.82 56 *e*P **PKiKP** **06 24 25.2 +2.0**
NBPN Ponto Novo - B 121.92 64 *e*P **PKiKP** **06 24 30.0 +4.6**
NBRF Rio Formoso - 122.83 57 *e*P **PKiKP** **06 24 28.8 +1.7**
JANB Januaria 123.00 71 *e*P **PKiKP** **06 24 31.4 +4.0**
IPMB Ipameri, GO 123.00 76 *e*P **PKiKP** **06 24 28.8 +1.4**
NBAN Ânadia - AL 123.06 59 *e*P **PKiKP** **06 24 30.8 +3.2**
KMBO Kilima Mbogo 124.36 327 PKP **PKiKP** **06 24 30.7 +0.2**
comp=Z,8.9nm,0.9s,baz=34,slow=2.1,SNR=14
PLCA Paso Flores 125.77 112 PKP **PKiKP** **06 24 34.3 +2.1**
comp=Z,1.8nm,0.7s,baz=353,slow=1.2,SNR=5.2
PLCA Paso Flores 125.77 112 PKIKP **PKiKP** **06 24 33.0 +0.7**
PLCA Paso Flores 125.77 112 **PKiKP** **06 24 33.0 +0.7**
SPB Sao Paulo 127.75 80 *e*P **PKiKP** **06 24 40.6 +4.0**
TUJ01 Guaruva-PR 128.08 83 *e*P **PKiKP** **06 24 38.7 +1.3**
PMSA Palmer Station 141.49 138 *e*P **PKiKP** **06 25 04.7 +1.5**
TSUM Tsumeb 146.54 348 **PKPab** **06 25 13.4 +0.2**
LBTB Lobatse 150.49 332 PKIKP **PKPbc** **06 25 22.7 +0.3**
LBTB Lobatse 150.49 332 **PKPbc** **06 25 22.7 +0.3**
MAW Mawson 150.81 218 PKPbc **PKPbc** **06 25 21.2 -0.4**
comp=Z,4.7nm,0.7s,baz=31,slow=1.2,SNR=10
MAW Mawson 150.81 218 **PKPbc** **06 25 21.4 -0.2**
MAW PKPab **PKPab** **06 25 29.9 +0.9**
BOSA Boshof 153.96 330 PKPbc **PKiKP** **06 25 31.1 +0.9**
comp=Z,9.9nm,0.7s,baz=16,slow=2.3,SNR=22
BOSA Boshof 153.96 330 PKIKP **PKiKP** **06 25 30.9 +0.7**
BOSA 06 25 42.6
BOSA Boshof 153.96 330 **PKiKP** **06 25 30.7 +0.7**
BOSA PKPab **PKPab** **06 25 42.5 -0.9**
VNA3 Neumayer Olymp 158.91 162 PKPdf **PKPdf** **06 25 27.5 +0.4**
VNA2 Neumayer--Watz 159.60 163 PKPdf **PKPdf** **06 25 27.3 -0.6**
SNAA Sanae 159.65 168 PKPdf **PKPdf** **06 25 29.8 +1.8**
VNA1 Neumayer--Stat 159.67 162 PKPdf **PKPdf** **06 25 28.8 +0.9**

IDC ***27*** *06:13:28.7±0.5, 52°.28N×169°.40W, h0km, mb4.8/28, mb1 5.0/30, mb1mx4.9/34, mbtmp4.8/30, ML4.5/2, Error ellipse: s-maj=17.7km s-min=10.5km az=170.0*
MOS ***27*** *06:13:30.5±1.1, 52°.28N×169°.34W, h25km, mb5.3/90, MS5.2/4, Error ellipse: s-maj=7.2km s-min=4.8km az=92.1*
BJI ***27*** *06:13:33.7±0.0, 52°.53N×169°.95W, h34km, mB5.6/8, mb5.1/65, Ms5.8/9, Ms7 5.6/9*
NEIC ***27*** *06:13:33.8±2.2, 52°.30N±0°.04×169°.33W±0°.06, h33km±3km, mb5.1/459, ML4.6/60(AEIC), Error ellipse: s-maj=6.3km s-min=4.0km az=133.0*
AEIC ***27*** *06:13:33.4±2.2, 52°.26N±0°.05×169°.31W±0°.06, h37km±4km, Error ellipse: s-maj=7.4km s-min=5.6km az=170.0*
BGR ***27*** *06:13:40.3±0.0, 53°.44N×169°.91W, h33km, mb5.2*
ISC 27 06:13:33.4±0.8, 52°.28N±0°.05×169°.28W±0°.03, h32km±5km, n1075, σ1920/977, mb5.2/362, MS5.4/7, 24C-11D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High** baz=201,SNR=253	**0.74**	**20**	P	**Pn**	**06 13 47.6**	**0.0**
NIKH	**Nikolski High**	**0.74**	**20**		**Pn**	**06 13 47.5**	**-0.1**
OKSP	**Okmok Steeple**	**1.14**	**31**		**Pn**	**06 13 53.0**	**-0.2**
OKSO	**Okmok South**	**1.27**	**32**		**Pn**	**06 13 55.2**	**+0.2**
OKSO					**Sb**	**06 14 14.6**	**+1.8**
OKCE	**Okmok Cone E**	**1.33**	**30**		**Pn**	**06 13 56.6**	**+0.8**
OKCE					**Sb**	**06 14 16.5**	**+2.1**
OKTU	**Okmok Mt. Tuli**	**1.33**	**34**		**Pn**	**06 13 56.2**	**+0.4**
OKNC	**Okmok New Cone**	**1.37**	**30**		**Pb**	**06 13 57.6**	**-0.8**
MAPS	**Pakushin South**	**2.08**	**42**		**Pn**	**06 14 06.4**	**+0.4**
MAPS					**Sb**	**06 14 33.8**	**-2.1**
MGOD	**Makushin Gods**	**2.10**	**43**		**Pn**	**06 14 07.0**	**+0.6**
MGOD					**Sb**	**06 14 34.5**	**-2.0**
MSW	**Makushin Switc**	**2.22**	**42**		**Pn**	**06 14 09.0**	**+1.0**
MNAT	**Makushin Natee**	**2.24**	**43**		**Pn**	**06 14 09.1**	**+0.8**
MNAT					**Sn**	**06 14 37.2**	**+2.4**
UNV	**Unalaska Valle** baz=228,SNR=119	**2.29**	**46**	P	**Pn**	**06 14 09.4**	**+0.5**
UNV	**Unalaska Valle**	**2.29**	**46**		**Pn**	**06 14 09.4**	**+0.5**
UNV					**Sn**	**06 14 39.1**	**+3.1**
MTBL	**Makushin Table**	**2.30**	**42**		**Pn**	**06 14 10.4**	**+1.2**
AKMO	**Akutan Morgan**	**2.67**	**46**		**Pn**	**06 14 16.1**	**+1.9**
AKMO					**Sn**	**06 14 49.2**	**+3.7**
AKRB	**Akutan Reef Bi**	**2.67**	**45**		**Pn**	**06 14 16.2**	**+2.0**
AKBBA	**Akutan Broad B**	**2.71**	**47**		**Pn**	**06 14 16.7**	**+1.9**
AKLV	**Akutan Long Va**	**2.74**	**45**		**Pn**	**06 14 17.3**	**+2.1**
AKGG	**Akutan Green G**	**2.75**	**45**		**Pn**	**06 14 17.6**	**+2.3**
AKUT	**Akutan**	**2.81**	**47**	Pn	**Pn**	**06 14 18.0**	**+2.0**
AKSA	**Akutan Strait**	**2.84**	**48**		**Pn**	**06 14 17.5**	**+0.9**
KOFP	**Korovin Flat P**	**2.96**	**272**		**Pn**	**06 14 18.9**	**+0.7**
KOKL	**Mount Kliuchef**	**3.02**	**273**		**Pn**	**06 14 19.9**	**+0.8**
ATKA	**Atka Island**	**3.02**	**270**	Pn	**Pn**	**06 14 18.9**	**-0.1**
ATKA	**Atka Island**	**3.02**	**270**		**Sn**	**06 14 55.9**	**+1.8**

WEBT Westdahl Beart 3.56 48 **Pn** **06 14 28.7 +2.3**
GSTR Great Sitkin T 4.18 270 Pn **Pn** **06 14 35.5 +0.6**
GSMY Great Sitkin M 4.18 269 **Pn** **06 14 35.4 +0.5**
GSTD Great Sitkin T 4.23 270 **Pn** **06 14 35.9 +0.2**
FALS False Pass 4.34 51 P **Pn** **06 14 37.0 0.0**
baz=236
FALS False Pass 4.34 51 Pn **Pn** **06 14 39.7 +2.6**
ADK Adak 4.58 268 P **Pn** **06 14 40.5 0.0**
ADK Adak 4.58 268 **Pn** **06 14 40.5 0.0**
KIWB Kanaga Island 4.88 268 Pn **Pn** **06 14 44.9 +0.4**
KIKV Kanaga Island 4.88 268 **Pn** **06 14 45.3 +0.7**
KICM Kanaga Island 4.89 269 **Pn** **06 14 45.5 +0.7**
SPIA Saint Paul Isl 4.94 354 P **Pn** **06 14 48.2 +2.9**
baz=173,SNR=28
SPIA Saint Paul Isl 4.94 354 **Pn** **06 14 48.2 +2.9**
KIMD Kanaga Island 4.94 267 **Pn** **06 14 45.3 0.0**
TAFP Tanaga Falls P 5.38 269 **Pn** **06 14 52.2 +0.8**
TASE Tanaga Southea 5.42 269 **Pn** **06 14 52.6 +0.6**
GAEA Gareloi East 5.87 269 **Pn** **06 14 59.5 +1.4**
SDPT Sand Point 6.05 56 P **Pn** **06 15 02.1 +1.6**
baz=243
SDPT Sand Point 6.05 56 Pn **Pn** **06 15 02.5 +2.0**
CNBA Chernabura Isl 6.31 62 **Pn** **06 15 04.5 +0.4**
CHNA Chernabura Isl 6.31 62 P **Pn** **06 15 04.6 +0.5**
baz=250
CERAA Semis' Rag'd T 6.81 271 **Pn** **06 15 11.7 +0.7**
CEAP Semis' Anvil P 6.87 272 **Pn** **06 15 13.6 +1.8**
CESW Semis' Southwe 6.89 271 **Pn** **06 15 12.9 +0.9**
VNHG Veniaminof 1 7.12 52 **Pn** **06 15 17.8 +2.5**
AMKA Amchitka 7.14 267 Pn **Pn** **06 15 15.7 +0.2**
LSPA Little Sitkin 7.49 272 **Pn** **06 15 21.9 +1.6**
LSNW Little Sitkin 7.52 272 **Pn** **06 15 22.3 +1.6**
LSSA Little Sitkin 7.53 272 **Pn** **06 15 22.3 +1.4**
CHIR Chirikof Islan 8.78 61 P **Pn** **06 15 39.2 +1.2**
baz=252
CHIR Chirikof Islan 8.78 61 Pn **Pn** **06 15 38.7 +0.7**
SII Sitkinak Islan 9.78 58 P **Pn** **06 15 53.3 +1.6**
baz=250
SII Sitkinak Islan 9.78 58 **Pn** **06 15 51.4 -0.3**
KVTA Katmai Vly 10 10.03 47 **Pn** **06 15 56.5 +1.5**
OHAK Old Harbor 10.47 56 P **Pn** **06 15 59.9 -1.2**
baz=248
OHAK Old Harbor 10.47 56 Pn **Pn** **06 16 00.3 -0.8**
O18K Koktuh Hills 10.91 40 P **Pn** **06 16 08.7 +1.6**
baz=232
KDAK Kodiak Island 11.04 54 Pn **Pn** **06 16 07.6 -1.2**
3.2nm,0.3s,baz=262,slow=7.8,SNR=38
KDAK Sn **Sn** **06 18 07.0 -4.0**
0.7nm,0.3s,baz=153,slow=16,SNR=1.3
KDAK Kodiak Island 11.04 54 ⇑*i*P **Pn** **06 16 08.7 -0.1**
KDAK Kodiak Island 11.04 54 P **Pn** **06 16 08.2 -0.7**
baz=247
KDAK Kodiak Island 11.04 54 Pn **Pn** **06 16 07.8 -1.0**
N18K Kilae Creek 11.18 36 P **Pn** **06 16 14.1 +3.2**
baz=227
SVW2 Sparrevohn 11.58 35 **Pn** **06 16 20.6 +4.3**
GAMB Gambell 11.60 355 P **Pn** **06 16 19.5 +3.0**
baz=173
GAMB Gambell 11.60 355 Pn **Pn** **06 16 18.6 +2.2**
P19K Oil Pt 11.61 44 P **Pn** **06 16 19.2 +2.5**
baz=238
N19K Bonanza Creek 11.79 38 P **Pn** **06 16 21.0 +1.8**
baz=230,SNR=11
O20K Slope Mountain 12.10 43 P **Pn** **06 16 24.9 +1.4**
baz=237
RSO Redoubt South 12.26 42 **Pn** **06 16 28.0 +2.3**
HOM Homer 12.30 46 P **Pn** **06 16 26.9 +0.8**
baz=241
CNPM China Poot 12.42 47 Pn **Pn** **06 16 28.2 +0.4**
ANM Nome 12.48 8 P **Pn** **06 16 30.6 +2.1**
baz=191
L19K White Mountain 12.59 32 P **Pn** **06 16 31.7 +1.6**
baz=225,SNR=12
BRLK Bradley Lake 12.69 47 **Pn** **06 16 32.3 +0.8**
BRSE Bradley Lake S 12.75 47 P **Pn** **06 16 31.5 -0.7**
baz=242,SNR=6.9
SPCR Spurr Chakacha 12.90 40 P **Pn** **06 16 35.3 +0.9**
baz=234
SPU Mount Spurr 12.95 40 **Pn** **06 16 36.8 +1.7**
M20K Styx River 12.98 36 P **Pn** **06 16 35.2 -0.3**
baz=230
TNA Tin City 13.34 2 P **Pn** **06 16 41.0 +0.8**
baz=184
SEW Seward 13.49 47 P **Pn** **06 16 41.6 -0.7**
baz=243,SNR=13
SEW Seward 13.49 47 Pn **Pn** **06 16 41.4 -0.9**
O22K Cooper Landing 13.54 45 P **Pn** **06 16 42.9 -0.1**
baz=241
O22K Cooper Landing 13.54 45 **Pn** **06 16 41.9 -1.1**
SKT Skwentna 13.63 38 P **Pn** **06 16 45.8 +1.5**
baz=233
SKT Skwentna 13.63 38 **Pn** **06 16 46.7 +2.4**
SUA Susitna One 13.63 40 P **Pn** **06 16 44.8 +0.4**
baz=236
SUA Susitna One 13.63 40 **Pn** **06 16 43.4 -1.0**
K20K Telida 13.69 30 P **Pn** **06 16 47.3 +2.2**
baz=223
RC01 Rabbit Creek A 13.84 43 P **Pn** **06 16 46.3 -0.9**
baz=239,SNR=9.3
RC01 Rabbit Creek A 13.84 43 **Pn** **06 16 46.8 -0.4**
PPLA Purkeypile 13.98 34 P **Pn** **06 16 52.3 +3.1**
baz=228
PPLA Purkeypile 13.98 34 **Pn** **06 16 51.0 +1.8**
J20K Nowinta River 14.29 28 P **Pn** **06 16 54.5 +1.3**
baz=220,SNR=15
PWL Port Wells 14.33 45 **Pn** **06 16 50.6 -3.2**
PMR Palmer 14.35 42 P **Pn** **06 16 51.9 -2.2**
PMR Palmer 14.35 42 P **Pn** **06 16 55.0 +1.0**
baz=239
PMR Palmer 14.35 42 Pn **Pn** **06 16 51.9 -2.2**
CUT Chulitna 14.36 38 P **Pn** **06 16 55.5 +1.3**
baz=234
CUT Chulitna 14.36 38 Pn **Pn** **06 16 55.8 +1.6**
GHO Glory Hole Cre 14.53 41 **Pn** **06 16 56.9 +0.3**
KNK Knik Glacier 14.54 43 P **Pn** **06 16 55.9 -0.8**
baz=240
KNK Knik Glacier 14.54 43 **Pn** **06 16 55.1 -1.6**
CHUM Lake Minchumin 14.62 31 P **Pn** **06 16 59.1 +1.4**
baz=225
Q23K Middleton Isla 14.67 52 P **Pn** **06 16 59.7 +1.3**
baz=251
SML Sawmill 14.79 42 P **Pn** **06 16 59.6 -0.5**
baz=239
SML Sawmill 14.79 42 Pn **Pn** **06 16 58.9 -1.2**
KTH Kantishna Hill 14.85 33 Pn **Pn** **06 17 02.0 +1.1**
GLI Glacier Island 14.88 46 P **Pn** **06 17 00.3 -0.9**
baz=244
GLI Glacier Island 14.88 46 **Pn** **06 16 59.1 -2.1**
HIN Hinchinbrook I 14.95 48 Pn **Pn** **06 17 00.3 -1.9**
TRF Thorofare Moun 15.00 34 P **Pn** **06 17 02.9 -0.1**
baz=231
TRF Thorofare Moun 15.00 34 **Pn** **06 17 03.5 +0.5**
FID Port Fidalgo 15.10 47 **Pn** **06 17 01.7 -2.4**
BPAW Bear Paw Mtn. 15.19 32 P **Pn** **06 17 06.0 +0.6**
baz=227,SNR=32
BPAW Bear Paw Mtn. 15.19 32 Pn **Pn** **06 17 05.9 +0.6**
BPAW IAmb IAmb 06 17 11.8
comp=Z,139nm,1.3s
SCM Sheep Creek Mo 15.22 43 P **Pn** **06 17 04.4 -1.4**
SCM pmax pmax
comp=Z,103nm,0.5s
SCM Sheep Creek Mo 15.22 43 **Pn** **06 17 04.4 -1.4**
SCM IAmb IAmb 06 17 18.2
comp=Z,103nm,0.5s
WAT1 Susitna Watana 15.26 38 P **Pn** **06 17 05.1 -1.1**
baz=236
EYAK Cordova Ski Ar 15.35 48 P **Pn** **06 17 05.6 -1.9**
baz=248,SNR=6.5
EYAK Cordova Ski Ar 15.35 48 Pn **Pn** **06 17 05.3 -2.1**
WAT6 Susitna Watana 15.43 40 P **Pn** **06 17 07.7 -0.9**
baz=238,SNR=8.0
RND Reindeer 15.48 36 P **Pn** **06 17 09.3 +0.1**
RND pmax pmax
comp=Z,42nm,1.2s
RND Reindeer 15.48 36 Pn **Pn** **06 17 09.2 +0.1**
MCK McKinley 15.65 35 P **Pn** **06 17 10.8 -0.5**
baz=232
I21K Tanana 15.66 28 P **Pn** **06 17 12.7 +1.3**
baz=223,SNR=8.6
KLU Klutina 15.66 45 P **Pn** **06 17 09.2 -2.3**
baz=244,SNR=38
KLU Klutina 15.66 45 Pn **Pn** **06 17 09.2 -2.3**
KLU IAmb IAmb 06 17 22.2
comp=Z,84nm,0.8s
BWN Browne 15.74 33 **Pn** **06 17 12.5 +0.1**

KAIM Kayak Island 15.76 51 P **Pn 06 17 12.4 -0.3**
baz=252
KAIM Kayak Island 15.76 51 Pn **Pn 06 17 11.8 -0.9**
RAGM Ragged Mountai 15.79 49 Pn 06 17 11.1 -2.1
IMAR Indian Mountai 15.80 24 Pn **Pn 06 17 14.2 +0.9**
M24K Tolsona, Glenn 15.83 43 P **Pn 06 17 12.1 -1.5**
baz=242,SNR=12
M24K Tolsona, Glenn 15.83 43 Pn 06 17 12.4 -1.3
MLY Manley 15.91 29 P **Pn 06 17 15.1 +0.3**
baz=225,SNR=38
BMRM Bremner River 16.03 48 P **Pn 06 17 14.1 -2.2**
baz=248,SNR=10
BMRM Bremner River 16.03 48 Pn 06 17 14.4 -1.9
BMRM IAmb IAmb 06 17 25.3
comp=Z,97nm,0.9s
NEA2 Nenana 16.14 32 P **Pn 06 17 17.0 -0.7**
baz=230,SNR=8.9
NEA2 Nenana 16.14 32 Pn 06 17 17.9 +0.3
BERG Berg Lake 16.25 50 Pn **Pn 06 17 18.2 -0.8**
N25K Chitina, Valde 16.28 45 P **Pn 06 17 17.4 -2.1**
baz=246,SNR=16
N25K Chitina, Valde 16.28 45 Pn **Pn 06 17 17.4 -2.1**
HARP HAARP 16.39 42 P **Pn 06 17 18.1 -2.6**
baz=243,SNR=9.5
WRH Wood River Hil 16.40 34 Pn 06 17 20.3 -0.5
I23K Minto, Yukon-K 16.42 31 P **Pn 06 17 19.2 -1.9**
baz=228,SNR=15
I23K Minto, Yukon-K 16.42 31 Pn 06 17 22.1 +1.0
GLB Gilahina Butte 16.56 46 Pn 06 17 21.2 -1.9
CCB Clear Creek Bu 16.60 33 Pn 06 17 22.6 -0.8
CRQM Cirque 16.63 49 Pn 06 17 23.0 -1.0
VRDI Verde Repeater 16.65 47 Pn 06 17 23.5 -0.7
CRQE Cirque 16.65 49 P **Pn 06 17 22.7 -1.5**
baz=251,SNR=8.0
MDM Murphy Dome 16.66 32 Pn 06 17 23.8 -0.3
WAX Waxell Ridge 16.67 50 IAmb IAmb 06 17 42.5
comp=Z,162nm,0.8s
TCOL CIGO, UAF Yank 16.72 33 Pn 06 17 24.6 -0.4
COLA College 16.73 33 P **Pn 06 17 24.4 -0.6**
COLA pmax pmax
comp=Z,53nm,1.2s
COLA College 16.73 33 P **Pn 06 17 23.8 -1.2**
baz=231
COLA College 16.73 33 Pn 06 17 24.4 -0.6
HDA Harding Lake 16.75 35 P **Pn 06 17 23.9 -1.5**
baz=234
HDA Harding Lake 16.75 35 Pn 06 17 24.0 -1.4
H23K Yukon River 16.83 29 P **Pn 06 17 26.5 +0.2**
baz=226,SNR=9.7
MCARA McCarthy VSAT 16.89 47 P **Pn 06 17 25.6 -1.5**
baz=249,SNR=7.3
MCARA McCarthy VSAT 16.89 47 IAmb IAmb 06 17 40.0
comp=Z,77nm,0.7s
ISLE Juniper Island 16.95 50 Pn 06 17 27.2 -0.8
ISLE IAmb IAmb 06 17 40.9
comp=Z,98nm,0.6s
IL31 16.99 34 Pn 06 17 26.8 -1.5
ILAR Eielson Array 16.99 34 Pn **Pn 06 17 26.8 -1.6**
comp=Z,0.9nm,0.3s,baz=235,slow=11,SNR=22
ILAR PcP **PcP 06 22 12.7 0.0**
comp=Z,0.2nm,0.3s,baz=267,slow=3.0,SNR=4.3
ILAR Eielson Array 16.99 34 Pn **Pn 06 17 27.0 -1.3**
MESA MESA 17.02 52 P **Pn 06 17 28.7 -0.2**
baz=254,SNR=6.9
MESA MESA 17.02 52 P **Pn 06 17 29.6 +0.7**
MESA IAmb IAmb 06 17 53.0
comp=Z,122nm,0.9s
POKR Poker Plat Res 17.02 33 P **Pn 06 17 27.4 -1.3**
baz=231
YAH Yahtse 17.17 51 Pn 06 17 30.5 -0.3
YAH IAmb IAmb 06 17 48.7
comp=Z,129nm,0.8s
MENT Mentasta 17.22 42 Pn 06 17 30.3 -1.0
M26K Nabesna, AK 17.30 44 P **Pn 06 17 31.2 -1.0**
baz=246,SNR=19
H24K Noodor Dome 17.34 30 P **Pn 06 17 32.2 -0.5**
baz=229,SNR=16
BARN Barnard Glacie 17.41 49 P **Pn 06 17 33.9 +0.1**
L26K Log Cabin Wild 17.41 42 P **Pn 06 17 33.1 -0.5**
baz=244,SNR=8.3
DOT Dot Lake 17.42 39 Pn 06 17 32.4 -1.3
TABL Table Mountain 17.48 51 P **Pn 06 17 34.6 0.0**
TABL IAmb IAmb 06 17 56.6
comp=Z,96nm,0.8s
CTG Chitna Glacier 17.53 49 P **Pn 06 17 33.9 -1.4**
baz=253,SNR=12
CTGM Chitina Glacie 17.53 49 Pn 06 17 34.4 -0.8
SCRK Sand Creek 17.61 39 P **Pn 06 17 35.1 -1.0**
baz=240,SNR=9.0
SCRK Sand Creek 17.61 39 Pn **Pn 06 17 35.5 -0.6**
LOGN Logan Glacier 17.65 50 P **Pn 06 17 37.1 +0.4**
M27K Edge Creek, AK 17.76 45 P **Pn 06 17 36.8 -1.2**
baz=248,SNR=30
PCA Pinnacle 17.82 53 P **P 06 17 39.6 +0.3**
PCA IAmb IAmb 06 17 43.8
comp=Z,91nm,0.9s
PINM Pinnacle 17.82 53 P **Pn 06 17 37.9 -0.9**
baz=257,SNR=7.5
PRP Porcupine Dome 17.90 33 P **Pn 06 17 38.0 -1.7**
baz=234,SNR=8.0
PRP Porcupine Dome 17.90 33 Pn 06 17 37.2 -2.6
L27K Beaver Creek, 18.05 43 P **Pn 06 17 40.4 -1.2**
baz=246
BCAR Beaver Creek A 18.07 43 Pn **Pn 06 17 40.2 -1.6**
BCPM Bancas Point 18.09 53 Pn 06 17 40.5 -1.5
K27K Chicken 18.37 40 P **P 06 17 43.6 -1.6**
baz=243
K27K Chicken 18.37 40 P **P 06 17 44.5 -0.7**
FYU Fort Yukon 18.64 31 P **Pn 06 17 49.2 +0.7**
TOLK Toolik Lake Re 18.90 22 P **P 06 17 49.6 -1.4**
baz=220,SNR=10
TOLK Toolik Lake Re 18.90 22 Pn 06 17 51.8 0.0
EGAK Eagle 19.07 38 P **P 06 17 51.7 -1.1**
baz=242,SNR=9.6
EGAK Eagle 19.07 38 P **P 06 17 52.2 -0.6**
HYT Haines Junctio 19.31 51 P **Pn 06 17 56.9 0.0**
HYT IAmb IAmb 06 18 01.2
comp=Z,75nm,0.7s
BMAR Burnt Mountain 19.38 29 P **P 06 17 56.9 +0.7**
PET Petropavlovsk 19.39 285⇑ *iP* **P 06 17 55.5 -0.9**
PET pmax pmax
comp=Z,30nm,0.7s
DAWY Dawson 19.46 41 P **P 06 17 57.7 +0.6**
BILL Bilibino 19.70 332⇑ *eP* **Pn 06 18 00.6 -0.7**
BILL *eS* **S 06 21 39.9 +0.1**
BILL pmax pmax
comp=Z,20nm,1.3s
BILL Bilibino 19.70 332 P **P 06 17 56.3 -3.4**
PEA0B Petropavlovsk- 19.94 286 P **P 06 18 02.2 -0.2**
PEA0B pmax pmax
comp=Z,148nm,1.2s
PEA0B Petropavlovsk- 19.94 286 P **P 06 18 02.2 -0.2**
PEA0B IAmb IAmb 06 18 04.2
comp=Z,148nm,1.2s
PETK Petropavlovsk- 19.94 286 P **P 06 18 01.5 -0.9**
comp=Z,12nm,0.3s,baz=90,slow=12,SNR=133
SKAG Skagway 20.17 56 P **P 06 18 04.6 -0.3**
baz=264,SNR=12
SKAG Skagway 20.17 56 IAmb IAmb 06 18 38.3
comp=Z,75nm,0.9s
WHY Whitehorse 20.55 52 P **P 06 18 09.9 +0.8**
baz=261,SNR=42
WHY Whitehorse 20.55 52 IAmb IAmb 06 18 15.0
comp=Z,95nm,0.8s
JIS Juneau Island 20.59 59 IAmb IAmb 06 18 15.7
comp=Z,59nm,1.0s
EPYK Eagle Plains 21.44 36 P **P 06 18 17.0 -1.5**
baz=245,SNR=15
EPYK Eagle Plains 21.44 36 P **P 06 18 16.8 -1.7**
EPYK IAmb IAmb 06 18 25.3
comp=Z,60nm,0.8s
WRAK Wrangell Islan 21.74 64 P **P 06 18 22.1 +0.4**
baz=275
DLBC Dease Lake 22.88 59 P **P 06 18 34.5 +0.5**
comp=Z,23nm,1.1s,baz=271,slow=10,SNR=12
DLBC Dease Lake 22.88 59 IAmb IAmb 06 18 59.9
comp=Z,103nm,1.6s
MA2 Magadan 23.23 304 P **P 06 18 37.4 -0.2**
comp=Z,32nm,0.8s,baz=97,slow=8.6,SNR=10.0
MA2 Magadan 23.23 304 *iP* **P 06 18 36.4 -1.1**
MA2 pmax pmax
comp=Z,44nm,1.1s
MA2 Magadan 23.23 304 P **P 06 18 37.4 -0.2**
MA2 IAmb IAmb 06 18 39.9
comp=Z,54nm,1.1s

INK Inuvik 23.39 33 P **P 06 18 37.5 -1.3**
comp=Z,17nm,0.6s,baz=218,slow=8.7,SNR=16
INK PcP **PcP 06 22 25.1 +0.8**
comp=Z,7.9nm,0.8s,baz=162,slow=3.0,SNR=3.7
INK Inuvik 23.39 33 P **P 06 18 38.0 -0.9**
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 23.39 33 P **P 06 18 38.0 -0.9**
baz=245
INK Inuvik 23.39 33 P **P 06 18 38.0 -0.9**
C36M Paulatuk 26.96 34 P **P 06 19 10.6 -0.9**
baz=254
C36M Paulatuk 26.96 34 P **P 06 19 10.5 -1.1**
A05A Maple Falls 29.69 77 P **P 06 19 38.5 +2.4**
A05A IAmb IAmb 06 19 51.5
comp=Z,49nm,1.5s
D03D Eldon 29.72 81 P **P 06 19 37.9 +1.6**
baz=297,SNR=5.2
B05A Bryant 30.00 79 P **P 06 19 40.5 +1.7**
baz=296,SNR=15
YKA Yellowknife Ar 30.26 49 P **P 06 19 41.7 +0.8**
comp=Z,14nm,0.9s,baz=275,slow=8.4,SNR=59
YKA PcP **PcP 06 22 41.2 +0.5**
comp=Z,3.7nm,1.0s,baz=259,slow=1.6,SNR=3.7
E04D Cinebar 30.49 82 P **P 06 19 44.2 +1.1**
baz=298
UGL Uglegorsk 30.53 284 *eP* **P 06 19 43.4 -0.1**
UGL pmax pmax
comp=Z,80nm,1.1s
D05A Enumclaw 30.54 80 P **P 06 19 46.3 +2.7**
LON Longmire 30.86 81 P **P 06 19 48.5 +2.0**
LON pmax pmax
comp=Z,16nm,1.1s
LON Longmire 30.86 81 P **P 06 19 48.5 +2.0**
H04D Lebanon 31.39 85 P **P 06 19 53.8 +2.7**
baz=301
I03D Drain, OR 31.45 87 P **P 06 19 52.5 +0.8**
baz=302
B08A Colville Reser 31.61 77 P **P 06 19 54.3 +1.2**
B08A IAmb IAmb 06 20 08.5
comp=Z,46nm,1.4s
I04A Tendick Farm, 31.97 86 P **P 06 19 59.3 +2.9**
baz=302
L02E Cave Junction 32.14 90 P **P 06 20 00.1 +2.4**
baz=304
I05D Terrebonne, OR 32.34 85 P **P 06 20 02.5 +2.9**
baz=302
HAWA Hanford 32.41 80 P **P 06 20 01.3 +1.2**
D08A Wollman Farm, 32.46 79 P **P 06 20 01.3 +0.8**
D08A IAmb IAmb 06 20 15.6
comp=Z,36nm,1.3s
C09A Chrisman Ranch 32.50 77 P **P 06 20 01.7 +0.8**
C09A IAmb IAmb 06 20 15.9
comp=Z,50nm,1.3s
JKA Kamikawa-asahi 32.57 275 P **P 06 19 59.9 -1.6**
JKA IAmb IAmb 06 20 02.9
comp=Z,46nm,1.2s
ASAJ Asahikawa 32.57 275 P **P 06 19 59.9 -1.6**
ASAJ pmax pmax
comp=Z,46nm,1.2s
E08A Dider Farm, El 32.65 80 P **P 06 20 02.1 0.0**
E08A IAmb IAmb 06 20 17.5
comp=Z,56nm,1.5s
J05D Fort Rock, OR 32.97 86 P **P 06 20 05.4 +0.2**
baz=303
NEW Newport 32.98 76 P **P 06 20 05.0 -0.1**
NEW pmax pmax
comp=Z,56nm,1.4s
NEW Newport 32.98 76 P **P 06 20 05.8 +0.8**
baz=297,SNR=12
NEW Newport 32.98 76 P **P 06 20 05.0 -0.1**
NEW IAmb IAmb 06 20 20.0
comp=Z,56nm,1.4s
EDM Edmonton 33.13 66 P **P 06 20 07.7 +1.3**
EDM pmax pmax
comp=Z,34nm,1.0s
EDM Edmonton 33.13 66 P **P 06 20 07.7 +1.3**
EDM IAmb IAmb 06 20 21.8
comp=Z,34nm,1.0s
GRNR Gornyy 33.16 289⇑ *iP* **P 06 20 05.5 -1.1**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=Z,2μm,15.0s
GRNR MLR MLR
comp=N,2μm,16.0s
E09A Wood Farm, Sta 33.19 79 P **P 06 20 07.5 +0.7**
E09A IAmb IAmb 06 20 21.2
comp=Z,40nm,1.2s
YAK Yakutsk 33.27 311 *eP* **P 06 20 06.2 -1.2**
YAK pmax pmax
comp=Z,23nm,0.6s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,16nm,1.4s
G08A Pilot Rock 33.30 82 P **P 06 20 07.8 -0.2**
ERM Erimo 33.38 271 P **P 06 20 08.4 -0.2**
ERM pmax pmax
comp=Z,84nm,1.3s
ERM Erimo 33.38 271 P **P 06 20 08.4 -0.2**
M04C Macdoel 33.43 89 P **P 06 20 12.0 +2.8**
baz=305
K05A Summer Lake 33.48 87 P **P 06 20 13.0 +3.3**
K05A IAmb IAmb 06 20 31.7
comp=Z,25nm,1.0s
O02D Mt. Diablo Mer 33.79 92 P **P 06 20 11.4 -0.9**
baz=307
MOD Modoc Plateau 34.31 88 IAmb IAmb 06 20 38.4
comp=Z,38nm,1.4s
J08A Circle Bar Ran 34.62 84 P **P 06 20 21.1 +1.6**
J08A IAmb IAmb 06 20 34.8
comp=Z,26nm,1.3s
JTMT Jette 34.91 75 P **P 06 20 22.7 +0.8**
JTMT IAmb IAmb 06 20 36.9
comp=Z,22nm,0.9s
MSO Missoula 35.55 76 P **P 06 20 28.0 +0.5**
baz=300,SNR=12
MSO Missoula 35.55 76 IAmb IAmb 06 20 42.1
comp=Z,47nm,1.2s
MFID Camas Ranch 36.20 82 P **P 06 20 34.2 +1.1**
MFID IAmb IAmb 06 20 47.9
comp=Z,28nm,1.4s
PNTR Pine Nut 36.40 91 P **P 06 20 36.9 +1.9**
PNTR IAmb IAmb 06 20 56.2
comp=Z,24nm,1.0s
KLR Kul'dur 36.54 289 *c iP* **P 06 20 34.0 -1.7**
KLR pmax pmax
comp=Z,23nm,1.2s
LRM Limekiln Ridge 36.96 77 P **P 06 20 40.1 +0.5**
HLID Hailey 36.98 81 P **P 06 20 40.7 +0.9**
baz=303,SNR=7.4
HLID Hailey 36.98 81 P **P 06 20 40.9 +1.1**
HLID IAmb IAmb 06 20 54.2
comp=Z,34nm,1.5s
ZEA Zeya 37.09 298 *eP* **P 06 20 39.3 -1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
DLMT Dillon 37.11 78 P **P 06 20 40.9 +0.1**
H11N2 WAKE ISLAND Hy 37.42 219 T T 07 01 06.9
baz=23
H11N3 WAKE ISLAND Hy 37.43 219 T T 07 01 16.6
baz=23
EGMT Eagleton 37.44 72 P **P 06 20 44.4 +0.9**
baz=300,SNR=12
EGMT Eagleton 37.44 72 P **P 06 20 44.1 +0.6**
EGMT IAmb IAmb 06 20 57.9
comp=Z,57nm,1.2s
H11N1 WAKE ISLAND Hy 37.44 219 T T 07 01 28.7
baz=23
BOZ Bozeman (W) 37.56 77 P **P 06 20 44.5 -0.2**
BOZ pmax pmax
comp=Z,27nm,1.1s
BOZ Bozeman (W) 37.56 77 P **P 06 20 45.2 +0.5**
baz=302,SNR=11
BOZ Bozeman (W) 37.56 77 P **P 06 20 44.5 -0.2**
BOZ IAmb IAmb 06 20 59.3
comp=Z,27nm,1.1s
NVAR Mina Array Bea 37.61 91 P **P 06 20 47.4 +2.2**
comp=Z,1.0nm,0.7s,baz=299,slow=8.8,SNR=4.7
NVAR PcP **PcP 06 23 03.2 +0.9**
comp=Z,1.0nm,0.7s,baz=291,slow=2.4,SNR=2.4
NVAR Mina Array Bea 37.61 91 P **P 06 20 46.2 +1.0**
NVAR **PcP 06 23 03.0 +0.6**

ELK Elko 38.08 86 P **P 06 20 50.3 +1.1**
ELK pmax pmax
comp=Z,31nm,1.7s
ELK Elko 38.08 86 P **P 06 20 50.3 +1.1**
YMR Madison River 38.46 77 IAmb IAmb 06 21 06.5
comp=Z,33nm,1.1s
YHH Holmes Hill 38.46 77 IAmb IAmb 06 21 07.0
comp=Z,52nm,1.2s
YNR Norris Junctio 38.60 77 IAmb IAmb 06 21 08.8
comp=Z,54nm,1.2s
H11S1 WAKE ISLAND Hy 38.61 218 T T 07 02 29.2
baz=23,slow=76,SNR=34
H11S2 WAKE ISLAND Hy 38.62 218 T T 07 02 37.0
baz=23,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 38.63 218 T T 07 02 38.0
baz=23,slow=76,SNR=26
GCMT Greycliff 38.63 75 P **P 06 20 55.1 +1.4**
FFC Flin Flon 38.72 59 P **P 06 20 54.4 +0.3**
FFC pmax pmax
comp=Z,35nm,1.7s
FFC Flin Flon 38.72 59 P **P 06 20 54.4 +0.3**
JSD Sado 38.77 270 P **P 06 20 53.0 -1.6**
JSD IAmb IAmb 06 20 55.3
comp=Z,25nm,1.1s
VES Vestal, Richgr 38.78 95 P **P 06 20 55.9 +1.1**
baz=311
H17A Grant Village 38.84 78 P **P 06 20 57.2 +1.6**
baz=303,SNR=7.3
H17A Grant Village 38.84 78 IAmb IAmb 06 21 11.7
comp=Z,33nm,1.1s
YNE Yellowstone No 38.85 76 P **P 06 20 56.1 +0.5**
IMW Indian Meadow 38.90 79 P **P 06 20 56.6 +0.6**
YMP Mirror Lake Pl 38.90 77 P **P 06 20 56.6 +0.4**
YMP IAmb IAmb 06 21 10.5
comp=Z,30nm,1.2s
FLWY Flagg Ranch 38.94 78 P **P 06 20 56.6 +0.2**
USRK Ussuriysk Ar. 38.97 282 P **P 06 20 55.5 -0.8**
comp=Z,5.0nm,0.9s,baz=54,slow=8.4,SNR=6.5
USRK PcP **PcP 06 23 05.4 -0.8**
comp=Z,2.3nm,0.7s,baz=66,slow=4.1,SNR=4.5
USRK Ussuriysk Ar. 38.97 282 P **P 06 20 54.5 -1.8**
USRK **PcP 06 23 05.2 -1.0**
PKM Mcpherson Peak 38.97 97 P **P 06 20 55.6 -1.0**
baz=312
CWC Cottonwood Cre 39.01 93 P **P 06 20 54.6 -2.4**
baz=311
TPAW Teton Pass 39.12 79 P **P 06 20 58.6 +0.7**
RLMT Red Lodge 39.23 76 P **P 06 20 59.8 +1.0**
baz=303,SNR=13
RLMT Red Lodge 39.23 76 IAmb IAmb 06 21 13.1
comp=Z,30nm,1.0s
REDW Red Top Meadow 39.25 79 IAmb IAmb 06 21 14.3
comp=Z,42nm,1.4s
LOHW Long Hollow 39.26 79 P **P 06 20 58.2 -0.8**
ISA Isabella, Lake 39.27 94 P **P 06 20 58.7 -0.3**
baz=311
FURC Furnace Creek, 39.74 92 P **P 06 21 02.5 -0.2**
baz=310
MJAR Matsushiro Arr 39.75 268 P **P 06 21 02.4 -0.5**
comp=Z,3.4nm,0.6s,baz=54,slow=6.9,SNR=10
MJAR PcP **PcP 06 23 08.6 -0.3**
comp=Z,3.3nm,0.9s,baz=43,slow=2.4,SNR=5.6
MJAR Matsushiro Arr 39.75 268 P **P 06 21 01.5 -1.4**
MJAR pmax pmax
comp=Z,28nm,2.0s
MJAR Matsushiro Arr 39.75 268 P **P 06 21 01.5 -1.4**
MAJO Matsushiro 39.75 268⇑ *iP* **P 06 21 02.1 -0.8**
MAJO pmax pmax
comp=Z,21nm,1.3s
MAJO Matsushiro 39.75 268 P **P 06 21 02.5 -0.5**
MAT Matsushiro 39.75 268 P **P 06 21 01.8 -1.1**
TPNV Topopah Spring 39.80 91 P **P 06 21 03.1 -0.5**
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 39.80 91 P **P 06 21 05.0 +1.4**
baz=310
TPNV Topopah Spring 39.80 91 P **P 06 21 03.1 -0.5**
HWUT Hardware Ranch 39.82 82 P **P 06 21 04.2 +0.5**
DUG Dugway, Tooele 39.90 85 P **P 06 21 06.1 +1.8**
DUG pmax pmax
comp=Z,31nm,1.2s
DUG Dugway, Tooele 39.90 85 P **P 06 21 05.8 +1.5**
baz=307,SNR=8.0
DUG Dugway, Tooele 39.90 85 P **P 06 21 06.1 +1.8**
DUG IAmb IAmb 06 21 19.9
comp=Z,31nm,1.2s
MDJ Mudanjiang 40.17 284 P **P 06 21 05.0 -1.3**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
LAO LASA Array 40.19 72 P **P 06 21 07.1 +0.6**
baz=302
LAO LASA Array 40.19 72 P **P 06 21 07.5 +1.0**
LAO IAmb IAmb 06 21 20.7
comp=Z,95nm,1.7s
PRN Pahroc Range 40.25 90 P **P 06 21 06.6 -0.6**
PSUT Pine Spring 40.27 87 P **P 06 21 06.6 -0.9**
PSUT **S 06 27 08.1 -4.7**
BW06 Boulder Array 40.36 79 P **P 06 21 08.2 -0.1**
baz=305,SNR=7.6
BW06 Boulder Array 40.36 79 IAmb IAmb 06 21 22.1
comp=Z,28nm,1.1s
PD31 Pinedale Array 40.37 79 P **P 06 21 08.0 -0.2**
PDAR Pinedale Array 40.37 79 P **P 06 21 08.9 +0.7**
comp=Z,8.0nm,0.7s,baz=303,slow=4.1,SNR=39
PDAR Pinedale Array 40.37 79 P **P 06 21 08.7 +0.5**
SHOC Shoshone, Teco 40.47 92 P **P 06 21 08.0 -0.9**
baz=311
NLU North Lily Min 40.49 84 P **P 06 21 09.9 +0.6**
GSC Goldstone, Bar 40.53 94 P **P 06 21 09.8 +0.3**
baz=312
BFSC Mount Baldy Ra 40.72 95 P **P 06 21 08.9 -2.3**
baz=312
FCC Fort Churchill 40.95 50 P **P 06 21 12.7 +0.1**
FCC pmax pmax
comp=Z,69nm,1.0s
FCC Fort Churchill 40.95 50 P **P 06 21 12.7 +0.1**
HEC Hector,Ludlow 41.14 94 P **P 06 21 15.1 +0.6**
baz=312
CCUT Cedar City 41.19 88 P **P 06 21 14.7 -0.4**
GMRC Granite Mounta 41.58 93 P **P 06 21 18.7 +0.5**
baz=312
RDMU Red Mountain 41.65 82 IAmb IAmb 06 21 33.5
comp=Z,78nm,1.3s
PFO Pinyon Flats O 41.88 95 P **P 06 21 20.6 -0.1**
baz=313
BOD Bodaibo 42.09 309 *eP* **P 06 21 20.0 -1.9**
BOD pmax pmax
comp=Z,37nm,1.0s
K22A Casper 42.26 77 P **P 06 21 23.2 -0.5**
baz=306
K22A Casper 42.26 77 P **P 06 21 23.6 -0.1**
IRM Iron Mountain 42.31 93 P **P 06 21 24.7 +0.7**
baz=312
O20A White River Ci 42.72 81 P **P 06 21 27.6 +0.1**
baz=308,SNR=22
PDMCI Parker Dam,Lak 42.83 92 P **P 06 21 28.9 +0.7**
baz=312
RSSD Black Hills 42.89 74 P **P 06 21 29.3 +0.5**
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 42.89 74 P **P 06 21 27.6 -1.2**
baz=305
RSSD Black Hills 42.89 74 P **P 06 21 29.3 +0.5**
CN2 Changchun 43.09 286 *eP* **P 06 21 29.3 -0.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
PV10 Paradox Valley 43.32 84 IAmb IAmb 06 21 47.6
comp=Z,26nm,0.9s
PV14 Lion Creek, Pa 43.33 84 IAmb IAmb 06 21 46.6
comp=Z,35nm,1.3s
HIA Hailar 43.34 296 *c iP* **P 06 21 31.2 -1.0**
HIA pmax pmax
comp=Z,31nm,1.2s
MDND Maddock 43.37 67 P **P 06 21 32.0 -0.4**
baz=303
MDND Maddock 43.37 67 P **P 06 21 33.4 +0.9**
PV22 Blue Mesa, Par 43.38 84 P **P 06 21 34.1 +1.3**
PV19 Morning Glory 43.40 84 IAmb IAmb 06 21 47.2
comp=Z,42nm,1.5s
PV17 East Wray Mesa 43.43 84 IAmb IAmb 06 21 47.5
comp=Z,47nm,1.3s
PV16 Nyswonger Mesa 43.44 84 IAmb IAmb 06 21 47.6
comp=Z,52nm,1.6s
E28A Huff 43.45 69 P **P 06 21 32.5 -0.6**
E28A IAmb IAmb 06 21 47.7
comp=Z,67nm,1.1s

PV11	David Mesa, Pa	43.47	84	IAmb	IAmb	06 21 48.4	
	comp=Z,25nm,0.7s						
PV05	Paradox Valley	43.47	84	IAmb	IAmb	06 21 48.1	
	comp=Z,38nm,1.2s						
PV18	Skein Mesa, Pa	43.48	84	P	P	06 21 34.3	+0.6
PV18				IAmb	IAmb	06 21 47.9	
	comp=Z,52nm,1.4s						
PV12	Saucer Basin,	43.50	84	IAmb	IAmb	06 21 48.8	
	comp=Z,24nm,1.0s						
PV03	Paradox Valley	43.52	84	IAmb	IAmb	06 21 48.7	
	comp=Z,20nm,0.8s						
PV13	Radium Mtn., P	43.59	84	IAmb	IAmb	06 21 49.5	
	comp=Z,47nm,1.0s						
PV02	Paradox Valley	43.61	84	IAmb	IAmb	06 21 49.6	
	comp=Z,32nm,1.0s						
N23A	Red Feather La	43.65	79	P	P	06 21 35.0	-0.1
	baz=307,SNR=6.0						
PV15	Paradox Valley	43.68	84	IAmb	IAmb	06 21 50.0	
	comp=Z,27nm,1.1s						
PHWY	Pilot Hill	43.70	78	P	P	06 21 34.5	-1.0
WUAZ	Wupatki	43.73	89	P	P	06 21 36.4	+0.7
	baz=311,SNR=5.3						
WUAZ	Wupatki	43.73	89	P	P	06 21 36.7	+1.0
ULM	Lac du Bonnet	44.14	62	P	P	06 21 38.6	0.0
	comp=Z,4.3nm,0.5s,baz=291,slow=9.5,SNR=4.3						
MVCO	Mesa Verde	44.39	85	P	P	06 21 41.0	-0.1
	baz=310						
X16A	Lo Mia Camp, P	44.41	90	P	P	06 21 41.1	-0.1
ISCO	Idaho Springs	44.52	80	P	P	06 21 41.9	-0.2
ISCO				pmax	pmax		
	comp=Z,18nm,1.5s						
ISCO	Idaho Springs	44.52	80	P	P	06 21 42.5	+0.3
	baz=308						
ISCO	Idaho Springs	44.52	80	P	P	06 21 41.9	-0.2
W18A	Petrified Fore	45.00	88	P	P	06 21 46.5	+0.7
	baz=312						
NEEM	North Greenlan	45.06	16	*i* P	P	06 21 46.2	+0.3
S22A	4UR Ranch, Cre	45.07	83	P	P	06 21 47.2	+0.7
	baz=310,SNR=6.6						
AGMN	Agassiz Nation	45.22	64	P	P	06 21 46.8	-0.4
	baz=304,SNR=11						
AGMN	Agassiz Nation	45.22	64	P	P	06 21 47.4	+0.2
AGMN				IAmb	IAmb	06 22 01.4	
	comp=Z,26nm,1.1s						
D32A	Dogwood Acres,	45.23	66	P	P	06 21 47.0	-0.3
D32A				IAmb	IAmb	06 22 02.1	
	comp=Z,12nm,0.6s						
214A	Organ Pipe Nat	45.24	94	P	P	06 21 47.7	0.0
	baz=314						
KSRS	Korea Array	45.47	277	P	P	06 21 49.6	+0.3
	comp=Z,21nm,1.0s,baz=58,slow=7.5,SNR=62						
KS19	Wonju Array Si	45.47	277	P	P	06 21 49.1	-0.3
KS19				IAmb	IAmb	06 21 50.7	
	comp=Z,35nm,1.1s						
KSAR	Wonju Array Be	45.50	277	P	P	06 21 49.1	-0.5
KSAR	Wonju Array Be	45.50	277	P	P	06 21 49.0	-0.5
NOR	Nord	45.55	5	*i* P	P	06 21 49.3	-0.2
NOR				IAmb	IAmb	06 21 50.8	
	comp=Z,15nm,1.0s						
NOR	Nord	45.55	5	*i* P	P	06 21 49.2	-0.2
NOR				pmax	pmax		
	comp=Z,15nm,1.0s						
SUSD	Miller	45.67	71	P	P	06 21 50.7	-0.1
	baz=306,SNR=6.1						
SDCO	Great Sand Dun	45.88	82	P	P	06 21 53.0	+0.1
	baz=310,SNR=10						
SDCO	Great Sand Dun	45.88	82	P	P	06 21 53.8	+0.9
SDCO				IAmb	IAmb	06 22 07.6	
	comp=Z,32nm,1.4s						
INCN	Inchon	46.24	278	P	P	06 21 55.8	+0.4
INCN				pmax	pmax		
	comp=Z,66nm,1.2s						
INCN	Inchon	46.24	278	P	P	06 21 55.8	+0.4
TUC	Tucson	46.24	92	P	P	06 21 55.9	+0.3
TUC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TUC	Tucson	46.24	92	P	P	06 21 55.9	+0.3
	baz=314						
TUC	Tucson	46.24	92	P	P	06 21 55.9	+0.3
B35A	Bob, Littlefor	46.36	63	IAmb	IAmb	06 22 00.4	
	comp=Z,13nm,0.7s						
TJN	Taejon	46.51	276*c*	*i* P	P	06 21 57.4	-0.1
JNU	Nakatsue	46.52	270	P	P	06 21 57.8	+0.1
NRIK	Noril'sk	46.52	332	P	P	06 21 57.0	-0.3
	comp=Z,5.9nm,0.4s,baz=72,slow=9.8,SNR=8.4						
NRIK	Noril'sk	46.52	332*c*	*i* P	P	06 21 57.4	+0.2
NRIK				pmax	pmax		
	comp=Z,17nm,1.3s						
NRIK	Noril'sk	46.52	332	IAmb	IAmb	06 21 58.1	
	comp=Z,14nm,1.1s						
KSCO	Kaye Shedlock'	46.81	79	P	P	06 22 00.9	+0.8
	baz=309						
T25A	Trinidad	46.93	82	P	P	06 22 01.2	+0.1
	baz=310,SNR=15						
T25A	Trinidad	46.93	82	P	P	06 22 02.4	+1.3
ANMO	Albuquerque	47.12	86	P	P	06 22 02.2	-0.4
ANMO				pmax	pmax		
	comp=Z,15nm,1.2s						
ANMO	Albuquerque	47.12	86	P	P	06 22 02.2	-0.4
	baz=312						
ANMO	Albuquerque	47.12	86	P	P	06 22 02.2	-0.4
LENM	Lemitar	47.33	87	P	P	06 22 04.7	+0.6
ECSD	EROS Data Cent	47.45	70	P	P	06 22 04.0	-0.8
	baz=307,SNR=7.7						
ECSD	EROS Data Cent	47.45	70	IAmb	IAmb	06 22 06.1	
	comp=Z,21nm,1.1s						
BNM	Barren Site	47.55	87	P	P	06 22 06.6	+0.6
EYMN	Ely	47.82	62	P	P	06 22 07.1	-0.5
	baz=306,SNR=12						
EYMN	Ely	47.82	62	P	P	06 22 07.3	-0.3
EYMN				IAmb	IAmb	06 22 28.0	
	comp=Z,25nm,1.0s						
F36A	Milaca	47.93	66	P	P	06 22 08.3	-0.2
121A	Cookes Peak, D	47.94	89	P	P	06 22 08.5	-0.4
	baz=313,SNR=5.9						
BGNE	Belgrade	47.98	73	P	P	06 22 08.2	-0.7
	baz=309						
E38A	The Farm, Brul	48.58	64	IAmb	IAmb	06 22 14.9	
	comp=Z,23nm,0.9s						
CBKS	Cedar Bluff	48.68	77	P	P	06 22 14.4	0.0
CBKS				pmax	pmax		
	comp=Z,32nm,0.9s						
CBKS	Cedar Bluff	48.68	77	P	P	06 22 14.3	0.0
	baz=310						
CBKS	Cedar Bluff	48.68	77	P	P	06 22 14.4	0.0
CBKS				IAmb	IAmb	06 22 28.0	
	comp=Z,32nm,0.9s						
SPMN	Marine on St.	48.72	66	P	P	06 22 13.8	-0.8
	baz=307,SNR=6.2						
SPMN	Marine on St.	48.72	66	P	P	06 22 14.2	-0.3
SPMN				IAmb	IAmb	06 22 28.2	
	comp=Z,27nm,1.4s						
N33A	J Bar K, Exete	48.81	74	P	P	06 22 14.8	-0.5
KBS	Kingsbay	49.05	360	*i* P	P	06 22 17.7	+1.1
KBS	Kingsbay	49.05	360*c*	*i* P	P	06 22 17.5	+0.9
KBS				pmax	pmax		
	comp=Z,29nm,1.1s						
KBS	Kingsbay	49.05	360	*e*P	P	06 22 17.8	+1.1
KBS	Kingsbay	49.05	360	P	P	06 22 17.0	+0.4
KBS				IAmb	IAmb	06 22 18.6	
	comp=Z,26nm,1.1s						
R32A	Long Quarter,	49.54	77	IAmb	IAmb	06 22 34.1	
	comp=Z,37nm,1.1s						
SPA0	Spitsbergen Ar	49.76	358	*e*P	P	06 22 21.6	-0.5
SPITS	Spitsbergen Ar	49.76	358	P	P	06 22 21.8	-0.3
SPITS				pmax	pmax		
	comp=Z,54nm,1.3s						
DAG	Danmarks Havn	49.87	8	*i* P	P	06 22 22.5	-0.4
DAG				IAmb	IAmb	06 22 23.3	
	comp=Z,39nm,1.0s						
DAG	Danmarks Havn	49.87	8	*i* P	P	06 22 22.5	-0.4
DAG				pmax	pmax		
	comp=Z,39nm,1.0s						
D41A	Chassel	49.94	62	P	P	06 22 24.1	+0.3
D41A				IAmb	IAmb	06 22 44.7	
	comp=Z,25nm,0.9s						
MNTX	Cornudas Mount	49.98	88	P	P	06 22 24.5	+0.1
	baz=314,SNR=9.4						
MNTX	Cornudas Mount	49.98	88	P	P	06 22 25.5	+1.1
MSTX	Muleshoe	50.03	84	P	P	06 22 23.9	-0.9
	baz=313						
MSTX	Muleshoe	50.03	84	P	P	06 22 25.1	+0.2
AMTX	Amarillo	50.08	82	P	P	06 22 23.9	-1.3
	baz=312						
AMTX	Amarillo	50.08	82	IAmb	IAmb	06 22 39.4	
	comp=Z,42nm,1.4s						
G40A	Rib Lake	50.14	65	P	P	06 22 25.1	-0.3
G40A				IAmb	IAmb	06 22 27.5	
	comp=Z,14nm,0.9s						
COWI	Conover	50.22	63	IAmb	IAmb	06 22 27.4	
	comp=Z,12nm,0.8s						
K38A	Parkersburg	50.33	69	IAmb	IAmb	06 22 39.5	
	comp=Z,50nm,1.5s						
KSU1	Kansas State U	50.35	75	P	P	06 22 25.8	-1.3
	baz=310						
SCIA	State Center	50.54	70	P	P	06 22 27.1	-1.4
	baz=310						
SCIA	State Center	50.54	70	IAmb	IAmb	06 22 42.1	
	comp=Z,36nm,1.2s						
I40A	Norwalk	50.77	66	IAmb	IAmb	06 22 43.6	
	comp=Z,24nm,1.1s						
SUMG	Summit	50.85	17	*i* P	P	06 22 31.2	+0.3
SUMG				IAmb	IAmb	06 22 32.2	
	comp=Z,49nm,1.0s						
SUMG	Summit	50.85	17	*i* P	P	06 22 31.1	+0.3
SUMG				pmax	pmax		
	comp=Z,49nm,1.0s						
SUMG	Summit	50.85	17	P	P	06 22 30.8	-0.1
BJI	Beijing	50.85	287	P	P	06 22 31.0	+0.2
BJI				pmax	pmax		
	comp=Z,14nm,0.5s						
HSPB	Hornsund (broa	50.95	359	*e*P	P	06 22 31.9	+0.8
F42A	Maple Grove Fa	50.98	63	IAmb	IAmb	06 22 33.7	
	comp=Z,35nm,1.1s						
ULN	Ulaanbaatar	51.02	301	*i* P	P	06 22 31.6	-0.6
ULN				pmax	pmax		
	comp=Z,24nm,1.0s						
ULN	Ulaanbaatar	51.02	301	P	P	06 22 31.9	-0.4
ULN				IAmb	IAmb	06 22 33.3	
	comp=Z,19nm,0.9s						
HOPEN	Hopen	51.15	356	*e*P	P	06 22 33.3	+0.7
KAN13	South Haven SW	51.20	77	IAmb	IAmb	06 22 46.1	
	comp=Z,29nm,0.8s						
E43A	Lone Tree Farm	51.21	62	IAmb	IAmb	06 22 37.7	
	comp=Z,17nm,0.6s						
SONM	Songino Array	51.39	301	P	P	06 22 35.1	+0.1
	comp=Z,16nm,1.0s,baz=52,slow=7.2,SNR=37						
SONM				PcP	PcP	06 23 49.7	+0.5
	comp=Z,5.2nm,0.9s,baz=70,slow=1.8,SNR=5.4						
SONM	Songino Array	51.39	301	P	P	06 22 35.0	+0.1
SONM				pmax	pmax		
	comp=Z,25nm,1.2s						
SONM	Songino Array	51.39	301	P	P	06 22 35.0	+0.1
SONM				IAmb	IAmb	06 22 36.5	
	comp=Z,25nm,1.2s						
ZAK	Zakamensk	51.41	305	*e*P	P	06 22 34.6	-0.4
ZAK				*e*		06 23 49.6	
ZAK				pmax	pmax		
	comp=Z,19nm,1.3s						
BLOK	Blackwell	51.53	77	IAmb	IAmb	06 22 48.7	
	comp=Z,44nm,1.3s						
L40A	Anamosa	51.59	68	IAmb	IAmb	06 22 36.4	
	comp=Z,21nm,1.1s						
JFWS	Jewell Farm	51.59	67	P	P	06 22 35.1	-1.3
JFWS				pmax	pmax		
	comp=Z,18nm,0.9s						
JFWS	Jewell Farm	51.59	67	P	P	06 22 35.2	-1.3
	baz=310,SNR=7.4						
JFWS	Jewell Farm	51.59	67	P	P	06 22 35.1	-1.3
JFWS				IAmb	IAmb	06 22 37.2	
	comp=Z,18nm,0.8s						
I42A	Draeger Farm,	51.72	65	IAmb	IAmb	06 22 37.8	
	comp=Z,21nm,0.9s						
MOY	Mondy	51.74	308	*e*P	P	06 22 38.0	+0.5
MOY				pmax	pmax		
	comp=Z,30nm,1.6s						
WMOK	Wichita Mounta	51.94	80	P	P	06 22 38.6	-0.5
	baz=313,SNR=13						
WMOK	Wichita Mounta	51.94	80	IAmb	IAmb	06 22 52.4	
	comp=Z,15nm,0.9s						
DBG	Daneborg	51.98	10	*i* P	P	06 22 38.2	-0.6
DBG				IAmb	IAmb	06 22 39.5	
	comp=Z,34nm,0.9s						
H43A	Windswept, Lux	51.99	64	IAmb	IAmb	06 22 41.2	
	comp=Z,26nm,0.8s						
BCOK	Bluff Creek, N	52.03	79	IAmb	IAmb	06 22 52.6	
	comp=Z,34nm,0.8s						
OK031	S. Brethren Rd	52.29	78	P	P	06 22 41.2	-0.4
L42A	Oliver, Polo	52.51	68	IAmb	IAmb	06 22 43.4	
	comp=Z,23nm,1.1s						
E46A	Sault Ste Mari	52.66	60	IAmb	IAmb	06 22 57.9	
	comp=Z,30nm,1.2s						
N41A	Harden Midland	52.67	69	P	P	06 22 43.9	-0.5
TX31	Lajitas Ar. Si	52.69	89	P	P	06 22 45.2	+0.4
TX32	Lajitas Array	52.69	89	P	P	06 22 45.2	+0.4
TX32				IAmb	IAmb	06 22 59.8	
	comp=Z,31nm,1.1s						
TXAR	Lajitas Array	52.69	89	P	P	06 22 44.9	0.0
	comp=Z,2.7nm,0.5s,baz=302,slow=5.4,SNR=52						
TXAR	Lajitas Array	52.69	89	P	P	06 22 45.1	+0.3
TXAR	Lajitas Array	52.69	89	P	P	06 22 45.1	+0.3
K43A	Burlington	52.81	66	P	P	06 22 44.6	-0.8
K43A				IAmb	IAmb	06 22 46.5	
	comp=Z,32nm,1.0s						
TIA	Tai'an	52.81	283	⇓P	P	06 22 45.5	0.0
TIA				pmax	pmax		
	comp=Z,31nm,0.9s						
ABTX	Abilene, Hawle	52.86	83	P	P	06 22 46.1	+0.1
	baz=314						
ABTX	Abilene, Hawle	52.86	83	P	P	06 22 46.5	+0.6
ABTX				IAmb	IAmb	06 22 60.0	
	comp=Z,25nm,1.1s						
TUL1	Leonard	52.95	77	P	P	06 22 44.6	-1.9
	baz=312						
HHC	Hu-ho-hao-te	53.00	291	*e*P	P	06 22 47.8	+0.8
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,1μm,6.6s						
GUMO	Guam	53.11	241	P	P	06 22 47.6	-0.3
GUMO	Guam	53.11	241	P	P	06 22 47.6	-0.3
BJO1	Bjornoya	53.38	357	*e*P	P	06 22 49.9	+0.8
L44A	Lake County Fo	53.39	66	P	P	06 22 46.9	-2.7
	baz=311						
LOOK	Love County	53.42	80	IAmb	IAmb	06 23 03.6	
	comp=Z,34nm,1.0s						
ICESG	Greenland Ices	53.43	20	*i* P	P	06 22 50.0	-0.1
ICESG				IAmb	IAmb	06 22 50.5	
	comp=Z,38nm,1.0s						
GLMI	Grayling	53.48	62	P	P	06 22 47.2	-3.1
	baz=310						
HDIL	Hopedale	53.67	69	P	P	06 22 50.6	-1.2
	baz=311,SNR=9.1						
HDIL	Hopedale	53.67	69	P	P	06 22 50.7	-1.0
HHAR	Hobbs	53.81	76	P	P	06 22 51.8	-1.0
HHAR				IAmb	IAmb	06 23 06.1	
	comp=Z,18nm,1.2s						
M44A	Midewin, Midew	53.83	67	P	P	06 22 52.4	-0.5
MATQ	Matagami	53.90	53	P	P	06 22 52.4	-0.9
	baz=311,SNR=7.2						
DY2G	Dye2	53.96	25	*i* P	P	06 22 53.2	-0.6
DY2G				IAmb	IAmb	06 22 54.2	
	comp=Z,8.7nm,0.7s						
BTO	Baotou	54.05	292	*e*P	P	06 22 55.3	+0.7
BTO				S	S	06 30 31.8	+3.2
X37A	Clayton	54.10	78	IAmb	IAmb	06 23 08.2	
	comp=Z,27nm,1.1s						
P43A	Skaggs, Pawnee	54.15	70	IAmb	IAmb	06 22 55.4	
	comp=Z,23nm,0.9s						
CCM	Cathedral Cave	54.20	72	P	P	06 22 54.3	-1.4
CCM				pmax	pmax		
	comp=Z,14nm,1.0s						
CCM	Cathedral Cave	54.20	72	P	P	06 22 54.0	-1.7
	baz=312						
CCM	Cathedral Cave	54.20	72	P	P	06 22 54.3	-1.4
CCM				IAmb	IAmb	06 23 10.8	
	comp=Z,14nm,0.9s						
MGMO	Mountain Grove	54.21	74	IAmb	IAmb	06 22 55.7	
	comp=Z,15nm,1.0s						
JCT	Junction City	54.26	85	P	P	06 22 55.4	-0.8
	baz=315						
JCT	Junction City	54.26	85	IAmb	IAmb	06 23 10.2	
	comp=Z,37nm,1.2s						
U40A	Yellville	54.40	75	P	P	06 22 55.4	-1.8
	baz=313,SNR=7.8						
U40A	Yellville	54.40	75	IAmb	IAmb	06 23 09.5	
	comp=Z,60nm,1.8s						
J47A	Sunmer	54.41	63	IAmb	IAmb	06 23 01.9	
	comp=Z,13nm,0.8s						
NJ2	Nanjing	54.62	278	⇓P	P	06 22 58.5	-0.2
NJ2				pmax	pmax		
	comp=Z,33nm,0.9s						
WHTX	Lake Whitney,	54.63	82	P	P	06 22 58.7	-0.2
	baz=314,SNR=6.1						
WHTX	Lake Whitney,	54.63	82	P	P	06 22 59.0	+0.2
W39A	Magazine	54.64	76	P	P	06 22 58.2	-0.7
	baz=313,SNR=5.0						
W39A	Magazine	54.64	76	P	P	06 22 58.5	-0.3
W39A				IAmb	IAmb	06 23 13.0	
	comp=Z,30nm,1.2s						
LSQQ	Lebel-sur-Quev	54.68	54	P	P	06 22 56.4	-2.6
	baz=311						
Q44A	Meyer Farm, Va	54.93	70	P	P	06 23 00.5	-0.4
T42A	Van Buren	54.98	73	P	P	06 22 59.4	-2.0
I49A	Point Hope	55.03	62	IAmb	IAmb	06 23 02.9	
	comp=Z,20nm,1.1s						
SFIN	Lafayette	55.04	67	P	P	06 23 00.9	-0.8
	baz=312						
SFIN	Lafayette	55.04	67	IAmb	IAmb	06 23 02.7	
	comp=Z,28nm,1.1s						
FCAR	Ozark Folk Cen	55.15	75	P	P	06 23 01.3	-1.3
FCAR				IAmb	IAmb	06 23 14.1	
	comp=Z,19nm,1.0s						
MIAR	Mount Ida	55.20	77	P	P	06 23 03.0	0.0
MIAR				pmax	pmax		
	comp=Z,34nm,1.3s						
MIAR	Mount Ida	55.20	77	P	P	06 23 02.8	-0.2
	baz=314,SNR=8.6						
MIAR	Mount Ida	55.20	77	P	P	06 23 03.0	0.0
MIAR				IAmb	IAmb	06 23 16.0	
	comp=Z,34nm,1.2s						
SCO	Scoresbysund	55.29	13	*i* P	P	06 23 03.1	-0.1
SCO				IAmb	IAmb	06 23 04.1	
	comp=Z,28nm,1.0s						
SCO	Scoresbysund	55.29	13	*i* P	P	06 23 03.0	-0.1
SCO				pmax	pmax		
	comp=Z,29nm,1.0s						
SCO	Scoresbysund	55.29	13	P	P	06 23 03.0	-0.1
SCO				IAmb	IAmb	06 23 04.2	
	comp=Z,28nm,1.0s						
CHGQ	Chibougamau	55.39	52	P	P	06 23 03.0	-1.1
	baz=312,SNR=8.3						
SCHQ	Schefferville	55.46	43	P	P	06 23 05.0	+0.4
	comp=Z,42nm,1.0s,baz=324,slow=7.7,SNR=26						
L48A	N Adams	55.48	64	IAmb	IAmb	06 23 22.0	
	comp=Z,22nm,1.2s						
PBMO	Poplar Bluff	55.54	73	P	P	06 23 04.8	-0.6
PBMO				IAmb	IAmb	06 23 17.7	
	comp=Z,15nm,1.1s						
W41B	Gary Mavity, V	55.57	75	P	P	06 23 04.3	-1.2
	baz=314						
OLIL	Olney	55.57	70	P	P	06 23 05.0	-0.6
OLIL				IAmb	IAmb	06 23 18.0	
	comp=Z,31nm,0.9s						
X40A	Basin Creek Fa	55.69	76	P	P	06 23 04.9	-1.6
	baz=314						
833A	Chaparral WMA,	56.03	86	P	P	06 23 08.7	-0.3
	baz=316						
WLAR	White Oak Lake	56.08	77	P	P	06 23 09.1	-0.2
BLO	Bloomington	56.18	68	P	P	06 23 08.7	-1.2
BLO				pmax	pmax		
	comp=Z,25nm,1.1s						
BLO	Bloomington	56.18	68	P	P	06 23 08.7	-1.2
BLO				IAmb	IAmb	06 23 10.6	
	comp=Z,25nm,1.1s						
ALGO	Algonquin Park	56.21	57	P	P	06 23 09.0	-1.0
	baz=312,SNR=7.1						
T45A	Paducah	56.42	71	IAmb	IAmb	06 23 37.8	
	comp=Z,27nm,0.8s						
NATX	Nacogdoches	56.49	80	P	P	06 23 11.1	-1.1
	baz=315						
ISOG	Isortoq, Green	56.49	22	*i* P	P	06 23 11.2	-0.5
ISOG				IAmb	IAmb	06 23 11.8	
	comp=Z,27nm,1.0s						
P48A	Milroy	56.60	67	IAmb	IAmb	06 23 13.6	
	comp=Z,25nm,0.9s						
CCAR	Cane Creek	56.72	76	P	P	06 23 13.6	-0.2
O49A	Covington	56.73	66	P	P	06 23 12.9	-0.9
O49A				IAmb	IAmb	06 23 14.1	
	comp=Z,14nm,0.9s						
ANGG	Ammassalik, Gr	56.74	22	*i* P	P	06 23 12.8	-0.7
ANGG				IAmb	IAmb	06 23 14.4	
	comp=Z,23nm,1.0s						
ANGG	Ammassalik, Gr	56.74	22	P	P	06 23 12.8	-0.7
ANGG				IAmb	IAmb	06 23 14.2	
	comp=Z,25nm,1.0s						
WCI	Wyandotte Cave	56.95	69	P	P	06 23 14.8	-0.6
WCI				pmax	pmax		
	comp=Z,23nm,1.2s						
WCI	Wyandotte Cave	56.95	69	P	P	06 23 13.1	-2.4
	baz=313						
WCI	Wyandotte Cave	56.95	69	P	P	06 23 14.8	-0.6
WCI				IAmb	IAmb	06 23 16.0	
	comp=Z,23nm,1.1s						
P49A	Miami Univ. Ec	56.96	67	P	P	06 23 13.7	-1.8
	baz=313,SNR=10						
P49A	Miami Univ. Ec	56.96	67	IAmb	IAmb	06 23 15.4	
	comp=Z,40nm,1.3s						
HAMF	Hammerfest	57.02	355	*e*P	P	06 23 16.1	+0.6
HKT	Hockley	57.05	82	P	P	06 23 16.6	+0.4
HKT				pmax	pmax		
	comp=Z,18nm,1.3s						
HKT	Hockley	57.05	82	P	P	06 23 16.6	+0.4
HKT				IAmb	IAmb	06 23 31.4	
	comp=Z,18nm,1.2s						
T47A	Sharon Grove	57.34	70	IAmb	IAmb	06 23 31.4	
	comp=Z,35nm,1.2s						
WVT	Waverly	57.51	72	P	P	06 23 19.1	-0.3
WVT				pmax	pmax		
	comp=Z,37nm,1.4s						
WVT	Waverly	57.51	72	P	P	06 23 18.7	-0.7
	baz=314						
WVT	Waverly	57.51	72	P	P	06 23 19.1	-0.3
WVT				IAmb	IAmb	06 23 32.9	
	comp=Z,37nm,1.4s						
ZAA0	Zalesovo Array	57.52	318	P	P	06 23 19.5	+0.3
ZALV	Zalesovo Beam	57.52	318	P	P	06 23 18.8	-0.4
	comp=Z,1.9nm,0.4s,baz=38,slow=5.7,SNR=9.4						
ZALV				PcP	PcP	06 24 12.8	+0.4
	comp=Z,3.5nm,0.6s,baz=36,slow=5.6,SNR=4.3						
OXF	Oxford	57.71	74	P	P	06 23 19.9	-0.9
	baz=314,SNR=7.0						
J54A	Appleton	57.73	60	IAmb	IAmb	06 23 21.9	
	comp=Z,14nm,0.8s						
ERPA	Erie	57.80	62	P	P	06 23 18.9	-2.5
	baz=314						
ERPA	Erie	57.80	62	P	P	06 23 20.7	-0.6
LATQ	La Tuque	57.88	53	P	P	06 23 20.6	-1.3
	baz=314,SNR=6.2						
LATQ	La Tuque	57.88	53	P	P	06 23 21.0	-0.9
LATQ				IAmb	IAmb	06 23 35.5	
	comp=Z,42nm,1.6s						
M53A	WI Miller and	57.89	63	P	P	06 23 21.3	-0.7
	baz=314,SNR=8.8						
M53A	WI Miller and	57.89	63	IAmb	IAmb	06 23 23.1	
	comp=Z,28nm,1.1s						
MEDO	Medina	57.90	60	P	P	06 23 21.7	-0.4
MEDO				IAmb	IAmb	06 23 36.2	
	comp=Z,19nm,0.9s						
ARA0	ARCESS Array S	58.01	354	*e*P	P	06 23 21.4	-1.1
ARCES	ARCESS Array B	58.01	354	P	P	06 23 22

M54A	Oil Creek Stat	58.40	62	P	P	06 23 25.0	-0.5
	baz=314,SNR=7.8						
M54A	Oil Creek Stat	58.40	62	IAmb	IAmb	06 23 26.6	
	comp=Z,22nm,1.1s						
WHN	Wuhan	58.41	280	⇑P	P	06 23 25.5	-0.2
WHN				pmax	pmax		
	comp=Z,190nm,1.2s						
CLTN	Cedars of Leba	58.41	71	IAmb	IAmb	06 23 38.5	
	comp=Z,41nm,1.6s						
O53A	New Philadelph	58.42	64	P	P	06 23 25.5	-0.2
	baz=314						
O53A	New Philadelph	58.42	64	IAmb	IAmb	06 23 38.8	
	comp=Z,25nm,1.2s						
U49A	Red Boiling Sp	58.43	70	P	P	06 23 25.4	-0.5
U49A				IAmb	IAmb	06 23 38.3	
	comp=Z,22nm,1.4s						
MMNY	Mt. Morris Dam	58.49	60	IAmb	IAmb	06 23 29.4	
	comp=Z,28nm,1.3s						
N54A	Moraine State	58.60	63	P	P	06 23 25.4	-1.5
	baz=314						
N54A	Moraine State	58.60	63	P	P	06 23 26.6	-0.4
H57A	Richville	58.60	57	P	P	06 23 26.4	-0.5
	baz=314,SNR=6.2						
T50A	Nancy	58.62	69	IAmb	IAmb	06 23 40.4	
	comp=Z,16nm,1.0s						
VBMS	Vicksburg	58.66	77	P	P	06 23 26.6	-0.9
	baz=315						
J56A	Wolcott	58.66	59	IAmb	IAmb	06 23 31.2	
	comp=Z,19nm,1.1s						
KTK1	Kautokeino	58.67	355	eP	P	06 23 27.5	+0.5
Q52A	Bidwell	58.73	66	IAmb	IAmb	06 23 27.8	
	comp=Z,12nm,0.9s						
LVZ	Lovozero	58.81	350c	iP	P	06 23 27.3	-0.8
LVZ				pmax	pmax		
	comp=Z,35nm,0.7s						
LVZ	Lovozero	58.81	350	P	P	06 23 27.6	-0.4
K56A	Middlesex	58.82	59	P	P	06 23 28.0	-0.6
	baz=314,SNR=7.4						
I57A	Carthage	58.83	57	P	P	06 23 28.1	-0.4
	baz=314,SNR=10						
P53A	Whipple	58.85	65	IAmb	IAmb	06 23 29.0	
	comp=Z,14nm,1.0s						
S51A	Beattyville	58.90	68	IAmb	IAmb	06 23 41.5	
	comp=Z,37nm,1.6s						
LONY	Lake Ozonia	58.91	56	P	P	06 23 28.1	-1.0
	baz=314						
O54A	Avella	58.93	63	P	P	06 23 28.3	-1.0
LMQ	La Malbaie	58.96	51	P	P	06 23 29.3	-0.1
LMQ				IAmb	IAmb	06 23 42.7	
	comp=Z,42nm,1.6s						
L56A	Greenwood	59.09	60	IAmb	IAmb	06 23 32.5	
	comp=Z,22nm,0.8s						
X48A	Hartselle	59.14	73	IAmb	IAmb	06 23 43.3	
	comp=Z,22nm,1.3s						
XAN	Xi'an	59.18	287	P	P	06 23 30.5	-0.6
XAN				pP	pwP	06 23 42.0	-1.4
XAN				sP	sP	06 23 45.8	+2.3
XAN				S	S	06 31 36.3	-0.2
XAN				pmax	pmax		
	comp=Z,35nm,1.3s						
XAN				LR	LR		
	comp=Z,2μm,16.3s						
XAN				LR	LR		
	comp=Z,2μm,17.4s						
XAN				LR	LR		
	comp=Z,3μm,16.5s						
SWET	Sewanee	59.25	71	IAmb	IAmb	06 23 43.6	
	comp=Z,25nm,1.6s						
H58A	Gabriels	59.25	56	P	P	06 23 31.4	0.0
	baz=315						
FRNY	Flat Rock	59.26	55	P	P	06 23 30.3	-1.2
D61A	St Aubert, Com	59.27	52	P	P	06 23 30.8	-0.7
	baz=315,SNR=13						
H59A	Cadyville	59.34	56	P	P	06 23 31.4	-0.7
	baz=315,SNR=7.1						
R53A	Hurricane	59.34	66	P	P	06 23 31.6	-0.6
R53A				IAmb	IAmb	06 23 33.8	
	comp=Z,28nm,1.1s						
I58A	Old Forge	59.36	57	P	P	06 23 31.2	-1.0
	baz=315,SNR=6.4						
Z47A	Carrollton	59.42	74	P	P	06 23 32.0	-0.7
J58A	Remsen	59.43	58	P	P	06 23 31.9	-0.8
	baz=315,SNR=9.6						
DGZ	Jazzator, Alta	59.44	313c	iP	P	06 23 32.8	-0.1
DGZ				pmax	pmax		
	comp=Z,26nm,1.3s						
Q54A	Coxs Mills	59.51	65	IAmb	IAmb	06 23 34.9	
	comp=Z,21nm,1.0s						
NCB	Newcomb	59.55	57	IAmb	IAmb	06 23 47.3	
	comp=Z,17nm,1.2s						
MCWV	Mont Chateau	59.58	64	P	P	06 23 32.9	-0.9
	baz=315,SNR=8.4						
MCWV	Mont Chateau	59.58	64	P	P	06 23 33.5	-0.3
MCWV				IAmb	IAmb	06 23 35.5	
	comp=Z,29nm,1.0s						
MOQ	Mont Orford	59.59	54	P	P	06 23 33.4	-0.5
W50A	Signal Mountai	59.62	71	P	P	06 23 32.7	-1.5
W50A				IAmb	IAmb	06 23 47.7	
	comp=Z,18nm,1.1s						
TZTN	Tazewell	59.69	68	P	P	06 23 33.8	-0.8
	baz=315						
I59A	Olmsteadville	59.85	56	P	P	06 23 34.9	-0.6
	baz=315						
O56A	Blue Knob Stat	59.85	62	P	P	06 23 34.7	-1.0
	baz=315,SNR=7.8						
O56A	Blue Knob Stat	59.85	62	IAmb	IAmb	06 23 36.1	
	comp=Z,16nm,0.9s						
BINY	Binghamton	59.88	59	P	P	06 23 35.8	0.0
	baz=315,SNR=8.1						
BINY	Binghamton	59.88	59	P	P	06 23 36.1	+0.3
M57A	Sunshine Farm,	59.88	60	IAmb	IAmb	06 23 40.1	
	comp=Z,14nm,0.8s						
D62A	Allapoint, All	59.90	51	P	P	06 23 35.0	-0.8
	baz=316,SNR=6.8						
D62A	Allapoint, All	59.90	51	P	P	06 23 35.9	+0.1
D62A				IAmb	IAmb	06 23 37.4	
	comp=Z,11nm,0.9s						
H60A	Morristown	59.91	55	P	P	06 23 33.7	-2.3
	baz=315						
FPAL	Fort Paine	59.91	71	IAmb	IAmb	06 23 37.0	
	comp=Z,20nm,0.9s						
Y49A	Blount Mountai	59.93	73	IAmb	IAmb	06 23 48.1	
	comp=Z,24nm,1.4s						
SSPA	Standing Stone	59.96	61	P	P	06 23 35.5	-0.9
	baz=315						
SSPA	Standing Stone	59.96	61	P	P	06 23 36.6	+0.2
SSPA				IAmb	IAmb	06 23 37.1	
	comp=Z,19nm,0.9s						
G61A	St-Isidore-de-	59.98	54	P	P	06 23 36.4	0.0
	baz=315						
E62A	Clayton Lake	60.01	52	P	P	06 23 35.6	-1.0
	baz=316						
L58A	Harry Jones Me	60.06	59	P	P	06 23 36.7	-0.3
	baz=315,SNR=12						
STEI	Steigen	60.06	358	eP	P	06 23 36.3	-0.3
S54A	Dingess, Beckl	60.08	66	IAmb	IAmb	06 23 37.8	
	comp=Z,18nm,0.8s						
V52A	Sevierville	60.16	69	IAmb	IAmb	06 23 51.8	
	comp=Z,20nm,1.2s						
F62A	Pittston Farm,	60.31	52	P	P	06 23 38.1	-0.6
	baz=316,SNR=5.0						
F62A	Pittston Farm,	60.31	52	P	P	06 23 38.6	0.0
F62A				IAmb	IAmb	06 23 40.0	
	comp=Z,10.0nm,0.9s						
H61A	Lyndonville	60.31	55	P	P	06 23 38.1	-0.7
	baz=316						
L59A	Walton	60.38	58	P	P	06 23 39.6	+0.4
L59A				IAmb	IAmb	06 23 43.4	
	comp=Z,23nm,0.8s						
Q56A	Snyder Ridge,	60.38	64	IAmb	IAmb	06 23 40.9	
	comp=Z,10nm,0.9s						
D63A	Stockholm	60.38	51	P	P	06 23 38.5	-0.7
	baz=316						
KSPA	Keystone Colle	60.45	59	IAmb	IAmb	06 23 54.3	
	comp=Z,32nm,1.4s						
N58A	Sunbury	60.45	61	IAmb	IAmb	06 23 54.2	
	comp=Z,23nm,1.2s						
J60A	Lant Hill Farm	60.47	57	P	P	06 23 39.4	-0.4
	baz=316,SNR=5.6						
G62A	West of Eustis	60.52	53	P	P	06 23 39.1	-1.0
	baz=316						
GTA	Gaotai	60.57	297	⇑P	P	06 23 39.8	-0.9
GTA				pP	pP	06 23 47.0	-3.1
GTA				sP	pwP	06 23 50.5	+0.4
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
FAUS	Fauske	60.61	358	eP	P	06 23 39.4	-0.9
H62A	Milan	60.67	54	P	P	06 23 40.2	-1.0
	baz=316						
LZH	Lanzhou	60.67	292	eP	P	06 23 42.0	+0.5
LZH				pP	pP	06 23 52.0	+1.6
LZH				sP	sP	06 23 56.5	+2.6
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
E63A	Oxbow	60.68	51	P	P	06 23 40.2	-1.0
	baz=316						
E63A	Oxbow	60.68	51	P	P	06 23 40.5	-0.7
U54A	Nelsons Funny	60.69	67	IAmb	IAmb	06 23 54.5	
	comp=Z,30nm,1.2s						
P57A	Homestead Farm	60.71	63	IAmb	IAmb	06 23 54.4	
	comp=Z,32nm,1.4s						
V53A	Saluda	60.73	69	IAmb	IAmb	06 23 55.2	
	comp=Z,25nm,1.4s						
J61A	Chester	60.84	56	P	P	06 23 40.8	-1.6
	baz=316						
F63A	Nahmakanta, Br	60.87	52	P	P	06 23 40.5	-2.0
	baz=316						
F63A	Nahmakanta, Br	60.87	52	IAmb	IAmb	06 23 43.8	
	comp=Z,14nm,1.1s						
N59A	State Game Lan	60.90	60	P	P	06 23 42.2	-0.6
	baz=316,SNR=6.2						
K61A	Williamstown	60.96	57	P	P	06 23 41.0	-2.2
	baz=316						
E64A	Bridgewater	60.96	51	P	P	06 23 42.4	-0.7
	baz=317,SNR=6.3						
BLA	Blacksburg	60.99	66	P	P	06 23 43.3	-0.2
	baz=316,SNR=15						
Z51A	Franklin	61.04	72	IAmb	IAmb	06 23 57.0	
	comp=Z,18nm,1.2s						
G63A	Kingsbury	61.04	53	P	P	06 23 42.0	-1.6
	baz=316						
PKME	Peaks-Kenny Pk	61.09	53	P	P	06 23 42.7	-1.3
	baz=316						
F64A	Sherman	61.12	52	P	P	06 23 42.2	-1.9
	baz=316						
BG3	Lake Jocassee	61.14	69	P	P	06 23 44.0	-0.5
BG3				IAmb	IAmb	06 23 45.9	
	comp=Z,14nm,1.1s						
MVL	Millersville	61.24	61	P	P	06 23 44.7	-0.4
Y52A	Lilburn	61.30	71	IAmb	IAmb	06 23 58.4	
	comp=Z,37nm,1.6s						
LUPA	Lehigh Univers	61.34	60	IAmb	IAmb	06 24 01.6	
	comp=Z,16nm,0.7s						
ODNJ	Ogdensburg	61.40	59	IAmb	IAmb	06 24 00.0	
	comp=Z,36nm,1.5s						
SDMD	Soldier's Deli	61.40	62	P	P	06 23 44.2	-1.9
S57A	Dark Hollow, R	61.42	64	IAmb	IAmb	06 24 00.3	
	comp=Z,19nm,1.1s						
K62A	Royalston	61.49	56	P	P	06 23 42.6	-4.1
	baz=316						
V55A	Taylorsville	61.51	67	IAmb	IAmb	06 23 48.2	
	comp=Z,22nm,1.1s						
ENH	Enshi	61.53	283	P	P	06 23 46.2	-1.0
KONS	Konsvik	61.53	359	eP	P	06 23 46.2	-0.4
U56A	King	61.63	67	IAmb	IAmb	06 23 49.6	
	comp=Z,16nm,0.9s						
P60A	Greenville	61.76	61	P	P	06 23 47.1	-1.5
	baz=316						
152A	Waverly Hall	61.77	72	IAmb	IAmb	06 24 00.2	
	comp=Z,42nm,1.6s						
T57A	Hurt	61.80	65	IAmb	IAmb	06 23 49.5	
	comp=Z,15nm,0.9s						
PAL	Palisades	61.82	59	P	P	06 23 49.7	+0.7
	baz=316						
MOR8	Moi Rana	61.84	358	eP	P	06 23 47.1	-1.6
R58B	Mineral	61.87	64	IAmb	IAmb	06 24 02.6	
	comp=Z,33nm,1.4s						
PAULI	Pauline	61.91	69	IAmb	IAmb	06 23 49.8	
	comp=Z,12nm,1.0s						
KMSC	Kings Mountain	61.95	68	P	P	06 23 49.2	-0.8
	baz=316,SNR=7.9						
KMSC	Kings Mountain	61.95	68	P	P	06 23 49.4	-0.5
GOGA	Godfrey	61.97	71	P	P	06 23 48.8	-1.3
GOGA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GOGA	Godfrey	61.97	71	P	P	06 23 48.7	-1.3
	baz=316,SNR=5.2						
GOGA	Godfrey	61.97	71	P	P	06 23 48.8	-1.3
GOGA				IAmb	IAmb	06 23 49.6	
	comp=Z,8.9nm,0.8s						
CBN	Corbin Frederi	61.97	63	P	P	06 23 48.6	-1.4
	baz=316						
CBN	Corbin Frederi	61.97	63	P	P	06 23 50.1	+0.1
CBN				IAmb	IAmb	06 23 51.5	
	comp=Z,17nm,0.9s						
G65A	Princeton	61.98	52	P	P	06 23 49.9	0.0
	baz=317						
H65A	Eastbrook	62.01	52	P	P	06 23 48.9	-1.3
	baz=317						
HODGE	Hodges	62.08	69	IAmb	IAmb	06 24 03.0	
	comp=Z,31nm,1.6s						
H66A	Whiting	62.40	52	P	P	06 23 50.2	-2.6
	baz=317						
JSC	Jenkinsville	62.61	69	IAmb	IAmb	06 24 07.0	
	comp=Z,30nm,1.3s						
154A	Montrose	62.75	71	P	P	06 23 54.1	-1.3
T59A	Double "B" Far	62.76	64	P	P	06 23 55.7	+0.4
LMN	Caledonia Moun	62.80	50	P	P	06 23 56.0	+0.5
BIRD	Birdtown, Kers	62.81	68	P	P	06 23 55.5	-0.2
BIRD				IAmb	IAmb	06 23 57.2	
	comp=Z,22nm,1.1s						
PRGR	Permogore	63.08	342	eP	P	06 23 56.3	-0.8
PRGR				pmax	pmax		
	comp=Z,126nm,1.4s						
DRLN	Deer Lake	63.46	43	P	P	06 24 00.1	+0.3
X58A	Rowland	63.51	67	IAmb	IAmb	06 24 12.8	
	comp=Z,23nm,1.1s						
NSS	Namsos	63.52	359	eP	P	06 23 59.8	-0.1
WMQ	Urumqi	63.63	308	eP	P	06 24 01.8	+0.7
WMQ				sP	sP	06 24 18.0	+4.6
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
SVE	Sverdlovsk	63.79	332⇑	eP	P	06 24 02.5	+0.7
SVE				pmax	pmax		
	comp=Z,30nm,1.2s						
Y58A	Scranton	63.80	68	P	P	06 24 02.3	+0.1
BRVK	Borovoye	63.81	325	P	P	06 24 01.9	-0.2
BRVK				pmax	pmax		
	comp=Z,49nm,1.6s						
BRVK	Borovoye	63.81	325	P	P	06 24 01.9	-0.2
MK31	Makanchi Array	63.90	313	P	P	06 24 01.7	-1.1
MK31				pmax	pmax		
	comp=Z,11nm,1.1s						
MK31	Makanchi Array	63.90	313	P	P	06 24 01.7	-1.1
MKAR	Makanchi Array	63.90	313	P	P	06 24 01.9	-0.9
	comp=Z,8.4nm,0.9s,baz=53,slow=6.2,SNR=29						
MKAR	Makanchi Array	63.90	313	P	P	06 24 01.3	-1.5
MKAR	Makanchi Array	63.90	313	P	P	06 24 01.3	-1.5
MAKZ	Makanchi	64.03	314	P	P	06 24 03.0	-0.7
MAKZ				pmax	pmax		
	comp=Z,18nm,1.2s						
MAKZ	Makanchi	64.03	314	P	P	06 24 03.0	-0.7
MAKZ				IAmb	IAmb	06 24 03.7	
	comp=Z,18nm,1.1s						
NHSC	New Hope	64.08	69	P	P	06 24 03.7	-0.5
	baz=317,SNR=6.5						
NHSC	New Hope	64.08	69	P	P	06 24 04.3	+0.2
HAL	Halifax	64.28	50	P	P	06 24 05.6	+0.3
HAL				pmax	pmax		
	comp=Z,54nm,1.6s						
HAL	Halifax	64.28	50	P	P	06 24 05.6	+0.3
CD2	Chengdu	64.45	288	P	P	06 24 07.3	+0.7
CD2				pmax	pmax		
	comp=Z,80nm,1.1s						
GBN	Guysborough	64.66	48	P	P	06 24 08.5	+0.8
ARU	Arti	64.72	333c	iP	P	06 24 08.1	+0.1
ARU						06 24 40.6	
ARU				S	S	06 32 48.9	+3.2
ARU				SS	SS	06 36 53.4	-2.5
ARU				pmax	pmax		
	comp=Z,37nm,1.2s						
ARU	Arti	64.72	333	P	P	06 24 08.0	+0.1
ARU				IAmb	IAmb	06 24 09.4	
	comp=Z,32nm,1.1s						
KLMR	Klimovskoe	64.88	345	eP	P	06 24 06.8	-2.1
KLMR				pmax	pmax		
	comp=Z,36nm,1.3s						
KLMR	Klimovskoe	64.88	345	eP	P	06 24 06.9	-2.0
KLMR				AMP		06 24 09.8	
	comp=Z,36nm,1.3s						
KIRV	Kirov	65.10	339⇑	iP	P	06 24 09.2	-1.1
MOL	Molde	65.46	2	eP	P	06 24 12.7	0.0
AKN	Aaknes	65.84	2	eP	P	06 24 15.8	+0.7
FIA1	FINESS Array S	65.96	352	P	P	06 24 15.2	-0.7
FINES	FINESS Array B	65.96	352	P	P	06 24 15.5	-0.4
	comp=Z,26nm,0.9s,baz=25,slow=7.7,SNR=31						
GYA	Guiyang	66.00	283	⇓P	P	06 24 17.0	+0.1
GYA				pP	pwP	06 24 28.5	-0.6
GYA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DOMB	Dombas	66.01	1	eP	P	06 24 15.3	-1.0
FOO	Floro	66.38	3	eP	P	06 24 18.7	+0.2
RAF	Rauma	66.70	354	eP	P	06 24 15.5	-5.1
NC204	NORSAR Array S	66.79	360	P	P	06 24 21.6	+0.3
NC303	NORSAR Array S	66.84	360	P	P	06 24 21.6	+0.1
HYA	Hoyanger	66.84	2	eP	P	06 24 21.9	+0.4
SUE	Sulen	66.91	3	eP	P	06 24 22.1	+0.2
NC405	NORSAR Array S	66.95	359	P	P	06 24 21.5	-0.7
NB201	NORSAR Array S	67.02	360	P	P	06 24 22.5	-0.2
NB2	NORSAR Subarra	67.03	360	P	P	06 24 22.9	+0.1
	comp=Z,7.4nm,0.8s,baz=359,slow=6.2						
NB2	NORSAR Subarra	67.03	360	P	P	06 24 22.9	+0.1
	baz=359,slow=6.2						
NOA	NORSAR Array B	67.03	360	P	P	06 24 22.1	-0.7
	comp=Z,16nm,0.9s,baz=0.6,slow=6.3,SNR=39						
NBO00	NORSAR Array S	67.03	360	P	P	06 24 22.2	-0.6
MEF	Metsahovi	67.31	353	eP	P	06 24 24.7	+0.2
NC602	NORSAR Array S	67.33	360	eP	P	06 24 24.6	-0.1
NC602	NORSAR Array S	67.33	360	P	P	06 24 23.9	-0.7
SKAR	Skarslia	67.37	1	eP	P	06 24 25.2	+0.2
ASK	Askoy	67.50	3	eP	P	06 24 25.7	+0.1
BER	Bergen	67.60	3	eP	P	06 24 26.5	+0.2
SHLS	Shalkode	67.99	313	eP	P	06 24 26.5	-2.8
UPP	Uppsala	68.07	356	eP	P	06 24 29.6	+0.3
ODD1	Odda	68.11	2	eP	P	06 24 30.1	+0.4
OSL	Oslo	68.13	360	eP	P	06 24 30.4	+0.7
UZB	Uzynbulak	68.19	313	eP	P	06 24 29.7	-0.9
KONO	Kongsberg	68.42	1	P	P	06 24 31.6	+0.2
KONO				pmax	pmax		
	comp=Z,40nm,1.0s						
KONO	Kongsberg	68.42	1	eP	P	06 24 32.0	+0.5
KONO	Kongsberg	68.42	1	P	P	06 24 31.6	+0.2
BLS5	Blasjo	68.59	2	eP	P	06 24 32.1	-0.6
KMY	Karmoy	68.77	3	eP	P	06 24 34.3	+0.6
VSU	Vasula	68.84	351	eP	P	06 24 34.4	+0.3
MTSE	Matsula	68.85	353	eP	P	06 24 32.3	-1.9
STRU	Stroemstad	69.04	360	eP	P	06 24 34.7	-0.6
AAA	Alma-Ata	69.08	314	eP	P	06 24 28.9	-7.1
KMI	Kunming	69.34	284	⇑P	P	06 24 38.8	+0.7
KMI				pP	pwP	06 24 50.5	+0.1
KMI				pmax	pmax		
	comp=Z,41nm,1.3s						
SNART	Snartemo	69.70	2	iP	P	06 24 39.9	+0.4
SNART				IAmb	IAmb	06 24 41.0	
	comp=Z,109nm,1.3s						
SNART	Snartemo	69.70	2	eP	P	06 24 40.2	+0.8
TARG	Taragay, Kyrgy	69.87	313	P	P	06 24 42.0	+0.7
SGDS	Sogindy	69.88	316	eP	P	06 24 39.6	-1.3
TKM2	Tokmak 2	69.89	315	P	P	06 24 41.4	+0.2
	SNR=21						
SLIT	Slitere, Latvi	70.04	353	eP	P	06 24 42.5	+1.0
TJOU	Tjoern	70.04	359	iP	P	06 24 40.7	-0.8
MOS	Moscow	70.07	344	eP	P	06 24 40.2	-1.5
MOS				pmax	pmax		
	comp=Z,32nm,0.8s						
USP	Ospenovka	70.08	316	P	P	06 24 42.5	+0.4
	SNR=24						
ULHL	Ulahol	70.15	314	P	P	06 24 43.4	+0.6
	SNR=12						
CHMS	Chumysh	70.19	315	P	P	06 24 43.5	+0.7
	SNR=8.4						
KBK	Karagaybulak	70.39	315	P	P	06 24 44.9	+0.7
	SNR=7.1						
BORU	Boraas	70.43	359	iP	P	06 24 43.3	-0.6
ABKAR	Akbulak array	70.54	328	P	P	06 24 44.5	-0.2
ABKAR				IAmb	IAmb	06 24 45.7	
	comp=Z,23nm,0.9s						
AAK	Ala-Archa	70.60	315	P	P	06 24 45.9	+0.4
	SNR=8.5						
AAK	Ala-Archa	70.60	315	P	P	06 24 45.9	+0.4
AAK				pmax	pmax		
	comp=Z,29nm,0.9s						
AAK	Ala-Archa	70.60	315	P	P	06 24 45.9	+0.4
AAK				IAmb	IAmb	06 24 46.7	
	comp=Z,29nm,0.9s						
OBN	Obninsk	70.84	345c	iP	P	06 24 45.4	-1.0
OBN				pmax	pmax		
	comp=Z,23nm,0.9s						
EKS2	Erkin-Say	70.89	316	P	P	06 24 47.7	+0.6
	SNR=20						
FABU	Falkenberg	71.06	359	iP	P	06 24 47.5	-0.2
BELG	Belogornoye	71.19	337c	iP	P	06 24 48.6	0.0
BELG				pmax	pmax		
	comp=Z,20nm,1.1s						
AML	Almayashu	71.35	316	P	P	06 24 51.4	+1.1
	SNR=8.8						
SLVN	Son La	71.51	281	IAmb	IAmb	06 24 52.9	
	comp=Z,33nm,1.3s						
DEL	Delary	71.58	358	iP	P	06 24 50.0	-0.9
DEL				iP	pP	06 24 51.2	-9.0
PBUR	Paburge	71.66	353	eP	P	06 24 52.0	+0.6
BLEU	Blekinge	71.69	357	iP	P	06 24 51.4	-0.2
ISAL	Salakas	71.76	351	eP	P	06 24 52.4	+0.4
KK31	Karatay Array	71.89	318	IAmb	IAmb	06 24 53.9	
	comp=Z,26nm,1.0s						
KKAR	Karatay Array	71.89	318	P	P	06 24 52.8	-0.3
KKAR				pmax	pmax		
	comp=Z,27nm,1.0s						
KKAR	Karatay Array	71.89	318	P	P	06 24 52.8	-0.3
KKAR				IAmb	IAmb	06 24 53.9	
	comp=Z,26nm,1.0s						
IDID	Didziasalis	71.95	350	eP	P	06 24 53.9	+0.7
IIGN	Ignalina	71.97	351	eP	P	06 24 53.9	+0.6
BJUU	Bjuv	71.99	359	iP	P	06 24 53.5	+0.1
PABE	Paberze	72.02	352	eP	P	06 24 54.1	+0.6
PABE	Paberze	72.02	352	P	P	06 24 53.6	+0.1
EKA	Eskdalemuir Ar	72.13	8	P	P	06 24 54.3	0.0
LUNU	Lund	72.43	358	iP	P	06 24 55.6	-0.4
KSH	Kashi	72.47	313	P	P	06 25 00.3	+3.5
KSH				S	SKiKP	06 34 26.8	-2.1
KSH				sS	sS	06 34 35.8	+1.6
KSH				pmax	pmax		
	comp=Z,32nm,1.1s						
KSH				LR	LR		
	comp=Z,2μm,11.8s						
KSH				LR	LR		
	comp=Z,3μm,13.5s						
KSH				LR	LR		
	comp=Z,3μm,10.2s						
LSA	Lhasa	72.54	296	P	P	06 24 58.0	+0.3
LSA				pmax	pmax		
	comp=Z,47nm,1.0s						
LSA	Lhasa	72.54	296	P	P	06 24 58.0	+0.3
MNK	Minsk	72.63	350	iP	P	06 24 55.5	-1.7
MNK				i		06 25 13.1	
MNK				i		06 27 36.2	
MNK				i PPP	PPP	06 29 20.2	
MNK				i S	S	06 34 18.6	-0.9
MNK				i		06 35 00.9	
MNK				i SS	SS	06 38 57.9	+0.2
MNK				pmax	pmax		
	comp=E,2.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,40nm,1.2s						
MNK				pmax	pmax		
	comp=Z,86nm,1.0s						
MNK				MLR	MLR		
	comp=E,94nm

comp=E,94nm,18.9s
MNK *i* LRM MLR 06 59 24.2
comp=N,1μm,17.2s
MNK *i* LRM MLR 06 59 48.3
comp=Z,816nm,15.5s
LPSR Galich'ya Gora 72.84 342 *eP* **P 06 24 57.9 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
BSD Bornholm Skovb 72.91 357 *i* P **P 06 24 58.0 -0.9**
BSD IAmb IAmb 06 25 00.2
comp=Z,21nm,1.1s
BSD Bornholm Skovb 72.91 357 *i* P **P 06 24 58.0 -0.9**
BSD pmax pmax
comp=Z,21nm,1.1s
SUW Suwalki 73.56 352 *eP* **P 06 25 02.7 0.0**
VRH Novokhopyorsk 73.62 340 *eP* **P 06 25 01.5 -1.6**
VRH pmax pmax
comp=Z,60nm,1.0s
BSEG Bad Segeberg 74.15 0 *eP* **P 06 25 07.2 +1.0**
comp=Z,31nm,0.9s,baz=0.6,slow=5.7
BTK Batken 74.29 316 IAmb IAmb 06 25 08.6
comp=Z,36nm,0.9s
VORD Divnogorie 74.33 342 *eP* **P 06 25 07.0 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.5s
DRK Karamyk 74.35 315 IAmb IAmb 06 25 10.0
comp=Z,36nm,1.1s
NONG Nongkai 74.46 279 P **P 06 25 09.1 +0.6**
GKP Gorka Klasztor 74.68 356 *eP* **P 06 25 09.8 +0.6**
GAR Garm 75.39 316 P **P 06 25 13.7 -0.1**
RUE Ruedersdorf 75.58 358 *eP* **P 06 25 15.5 +1.1**
comp=Z,44nm,1.0s,baz=0.6,slow=5.7
NRDL Niedersach Rie 75.59 0 *eP* **P 06 25 15.6 +1.1**
comp=Z,19nm,1.1s,baz=0.6,slow=5.7
IBBN Ibbenburen 75.75 2 *eP* **P 06 25 16.7 +1.2**
comp=Z,62nm,1.4s,baz=0.6,slow=5.7
FLTG Flechtingen 75.76 360 *eP* **P 06 25 16.0 +0.5**
comp=Z,15nm,0.8s,baz=0.6,slow=5.7
BEL Belsk 75.91 354 *eP* **P 06 25 17.2 +0.9**
ASSE Asse, Remlinge 75.96 0 *eP* **P 06 25 17.7 +1.2**
comp=Z,22nm,1.3s,baz=0.6,slow=5.7
KHON Khomkaen 75.98 279 P **P 06 25 18.6 +1.3**
CHGR Chuyangaron 76.17 317 P **P 06 25 17.9 -0.3**
AKASG Malin Array Be 76.20 348 P **P 06 25 17.2 -0.9**
comp=Z,7.7nm,0.5s,baz=16,slow=5.9,SNR=49
AKASG Malin Array Be 76.20 348 P **P 06 25 16.9 -1.1**
AKASG pmax pmax
comp=Z,7.0nm,1.3s
AKASG Malin Array Be 76.20 348 P **P 06 25 16.9 -1.1**
AKBB Malin Array Si 76.20 348 ‖ *iP* **P 06 25 17.0 -1.1**
AKBB pmax pmax
comp=Z,31nm,1.0s
AKBB Malin Array Si 76.20 348 P **P 06 25 17.4 -0.6**
AKBB IAmb IAmb 06 25 18.2
comp=Z,26nm,0.9s
CLZ Clausthal 76.25 0 *eP* **P 06 25 19.7 +1.3**
comp=Z,36nm,1.1s,baz=0.6,slow=5.7
CMMT Chiang Mai 76.41 283 P **P 06 25 20.0 +0.2**
CHTO Chiang Mai 76.42 283 P **P 06 25 19.4 -0.4**
CHTO pmax pmax
comp=Z,26nm,1.3s
CHTO Chiang Mai 76.42 283 P **P 06 25 20.0 +0.2**
comp=Z,15nm,1.2s
CHTO Chiang Mai 76.42 283 P **P 06 25 19.4 -0.4**
CHTO IAmb IAmb 06 25 20.9
comp=Z,26nm,1.3s
GTTG Gottingen 76.54 0 *eP* **P 06 25 21.2 +1.2**
comp=Z,42nm,1.2s,baz=0.6,slow=5.7
CM09 Chiang Mai Arr 76.67 283 P **P 06 25 22.3 +1.1**
comp=Z,363nmcomp=Z,20nm,1.0s
CM31 Chiang Mai Arr 76.69 283 P **P 06 25 22.3 +0.9**
CMAR Chiang Mai Arr 76.69 283 P **P 06 25 21.7 +0.4**
comp=Z,20nm,1.0s,baz=26,slow=6.4,SNR=56
CMAR Chiang Mai Arr 76.69 283 P **P 06 25 21.2 -0.2**
CMAR Chiang Mai Arr 76.69 283 P **P 06 25 21.2 -0.2**
CM15 Chiang Mai Arr 76.70 283 P **P 06 25 22.4 +1.0**
comp=Z,652nmcomp=Z,23nm,1.0s
CM02 Chiang Mai Arr 76.71 283 P **P 06 25 22.3 +0.9**
comp=Z,223nmcomp=Z,30nm,1.0s
CM01 Chiang Mai Arr 76.71 283 P **P 06 25 22.5 +1.1**
comp=Z,228nmcomp=Z,30nm,1.0s
CM04 Chiang Mai Arr 76.71 283 P **P 06 25 22.2 +0.7**
comp=Z,253nmcomp=Z,36nm,1.1s
CM05 Chiang Mai Arr 76.73 283 P **P 06 25 22.5 +0.9**
comp=Z,192nmcomp=Z,29nm,1.1s
CM13 Chiang Mai Arr 76.74 283 P **P 06 25 22.3 +0.7**
comp=Z,194nmcomp=Z,27nm,1.1s
CLL Collm 76.76 359 *i* P **P 06 25 21.5 +0.3**
comp=Z,14nm,1.1s
CLL *e* 06 25 28.0
CLL *epP* **pP 06 25 31.0 +0.4**
CLL Collm 76.76 359 *i* P **P 06 25 21.5 +0.3**
CLL *e* 06 25 26.0
CLL *e* 06 25 28.0
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 76.76 359 *eP* **P 06 25 21.8 +0.5**
comp=Z,14nm,1.1s,baz=0.6,slow=5.7
PHIT Phitsanulok 76.78 281 P **P 06 25 22.8 +1.0**
NEUB Neuenburg 76.88 359 *eP* **P 06 25 22.9 +1.1**
comp=Z,41nm,1.1s,baz=0.6,slow=5.7
KSP Ksiaz 77.14 356 *eP* **P 06 25 23.8 +0.4**
FBE Freiberg 77.14 358 *eP* **P 06 25 24.7 +1.3**
comp=Z,30nm,1.1s,baz=0.6,slow=5.7
BRG Berggiesshubel 77.18 358 *i* P **P 06 25 24.1 +0.5**
BRG Amp 06 25 25.8
comp=Z,20nm,1.1s
BRG Berggiesshubel 77.18 358 *eP* **P 06 25 24.5 +0.9**
comp=Z,20nm,1.1s,baz=0.6,slow=5.7
CHVC Chvalec 77.40 357 *eP* **P 06 25 25.7 +0.8**
MEM Membach 77.40 3 *dP* **P 06 25 24.4 -0.5**
comp=Z,25nm,1.4s
BSTI Sart Tilman 77.42 3 *dP* **P 06 25 25.4 +0.5**
OSTC Ostas 77.43 356 *eP* **P 06 25 26.1 +1.1**
BTNL Ternell 77.43 3 *dP* **P 06 25 24.5 -0.6**
comp=Z,20nm,1.3s
SNF Seneffe 77.44 4 *dP* **P 06 25 25.5 +0.5**
MOX Moxa 77.44 359 *eP* **P 06 25 26.2 +1.1**
comp=Z,23nm,1.0s,baz=0.6,slow=5.7
UPC Upice 77.49 357 *eP* **P 06 25 26.5 +1.2**
UPC Upice 77.49 357 *eP* **P 06 25 26.5 +1.2**
AHRW Bad Neuenahr-A 77.50 2 *eP* **P 06 25 26.6 +1.2**
comp=Z,49nm,1.8s,baz=0.6,slow=5.7
PVCC Panska Ves 77.51 357 *eP* **P 06 25 26.4 +0.9**
PVCC Panska Ves 77.51 357 *eP* **P 06 25 26.4 +0.9**
MHMT Maesarieng 77.51 283 P **P 06 25 27.2 +1.3**
BCLA Clavier 77.57 4 *dP* **P 06 25 24.8 -0.9**
OJC Ojcow 77.58 354 *eP* **P 06 25 26.3 +0.5**
OJC Ojcow 77.58 354 P **P 06 25 26.2 +0.3**
OJC pmax pmax
comp=Z,21nm,1.0s
OJC Ojcow 77.58 354 P **P 06 25 26.2 +0.3**
OJC IAmb IAmb 06 25 27.5
comp=Z,21nm,1.0s
BGES Gesves 77.59 4 *dP* **P 06 25 26.4 +0.5**
PLN Plauen 77.60 359 *eP* **P 06 25 26.9 +0.9**
comp=Z,11nm,0.9s,baz=0.6,slow=5.7
DPC Dobruska-Polom 77.63 356 *eP* **P 06 25 27.1 +0.9**
DPC Dobruska-Polom 77.63 356 *eP* **P 06 25 27.1 +0.9**
LVI L'vov 77.65 351 *eP* **P 06 25 26.2 0.0**
BMRD Maredsous 77.66 4 *dP* **P 06 25 26.2 -0.1**
comp=Z,26nm,1.5s
GUNZ Gunzen 77.72 359 *eP* **P 06 25 27.7 +1.0**
comp=Z,9.8nm,1.1s,baz=0.6,slow=5.7
WERN Wernitzgruen 77.79 359 *eP* **P 06 25 28.3 +1.2**
comp=Z,15nm,0.9s,baz=0.6,slow=5.7
NKC Novy Kostel 77.85 359 *eP* **P 06 25 28.2 +0.8**
NKC Novy Kostel 77.85 359 *eP* **P 06 25 28.2 +0.8**
TNS Taunus Mts 77.85 1 *eP* **P 06 25 28.4 +1.0**
comp=Z,19nm,1.0s,baz=0.6,slow=5.7
DOU Dourbes 77.86 4 *dP* **P 06 25 28.0 +0.6**
KRLC Kraliky 77.89 356 *eP* **P 06 25 28.3 +0.7**
KRLC Kraliky 77.89 356 *eP* **P 06 25 28.3 +0.7**
KWP Kalwaria Pacla 77.95 352 *eP* **P 06 25 28.4 +0.5**
PRU Pruhonice 78.05 357 *eP* **P 06 25 29.5 +1.0**
PRU Pruhonice 78.05 357 *eP* **P 06 25 29.5 +1.0**
MANZ Manzenberg 78.10 359 *eP* **P 06 25 29.7 +0.9**
comp=Z,13nm,1.1s,baz=0.6,slow=5.7
MORC Moravsky Berou 78.15 355 IAmb IAmb 06 25 30.8
comp=Z,20nm,1.1s
MORC Moravsky Berou 78.15 355 *eP* **P 06 25 29.6 +0.5**
SRAK Srakaew 78.25 278 P **P 06 25 29.0 -1.1**
comp=Z,3μmcomp=Z,335nm,0.9s
MILB Miltenberg 78.26 1 *eP* **P 06 25 30.8 +1.2**
comp=Z,24nm,1.0s,baz=0.6,slow=5.7
STHS Stebnicka Huta 78.28 353 *eP* **P 06 25 29.5 -0.3**
STHS Stebnicka Huta 78.28 353 *eP* **P 06 25 29.5 -0.3**
ROTZ Rotzenmuhle 78.32 359 *eP* **P 06 25 31.2 +1.2**
comp=Z,24nm,1.4s,baz=0.6,slow=5.7
GRF Grafenberg Arr 78.40 360 *eP* **P 06 25 31.9 +1.5**
comp=Z,42nm,1.1s,baz=0.6,slow=5.7
NIL Nilore 78.53 311 P **P 06 25 32.3 +0.9**
NIL pmax pmax
comp=Z,81nm,1.1s
NIL Nilore 78.53 311 P **P 06 25 32.3 +0.9**
VRAC Vranov 78.66 356 *eP* **P 06 25 32.7 +0.8**
LANS Liptovska Anna 78.67 354 *eP* **P 06 25 33.7 +1.7**
LANS pmax pmax
comp=Z,25nm,1.2s
LANS Liptovska Anna 78.67 354 *eP* **P 06 25 33.7 +1.7**
KOLS Kolonicke sedl 78.68 352 *eP* **P 06 25 32.8 +0.8**
KOLS Kolonicke sedl 78.68 352 *eP* **P 06 25 32.8 +0.8**
CRVS Cervenica-Dubn 78.78 353 *eP* **P 06 25 33.1 +0.6**
CRVS pmax pmax
comp=Z,20nm,1.0s
CRVS Cervenica-Dubn 78.78 353 *eP* **P 06 25 33.1 +0.6**
KRUC Moravsky 78.92 356 *eP* **P 06 25 33.7 +0.4**
WET Wettzell 78.93 359 *eP* **P 06 25 34.6 +1.2**
comp=Z,16nm,1.2s,baz=0.6,slow=5.7
KHC Kasperske Hory 78.93 358 *eP* **P 06 25 34.7 +1.3**
KHC Kasperske Hory 78.93 358 *eP* **P 06 25 34.7 +1.3**
KHC Kasperske Hory 78.93 358 IAmb IAmb 06 25 35.7
comp=Z,26nm,1.1s
UZH Uzhgorod 78.98 352 *eP* **P 06 25 32.3 -1.3**
UZH *i* 06 25 37.3
JAVC Velka Javorina 79.06 355 *eP* **P 06 25 35.3 +1.2**
GOF Gofitskoye 79.12 337 ‖ *eP* **P 06 25 35.0 +0.5**
GOF pmax pmax
comp=Z,184nm,1.0s
GEC2 GERESS Array S 79.22 358 IAmb IAmb 06 25 36.8
comp=Z,17nm,1.1s
GEC2 GERESS Array S 79.22 358 *eP* **P 06 25 36.1 +1.0**
comp=Z,19nm,1.1s,baz=0.6,slow=5.7
GERES GERESS Array B 79.22 358 P **P 06 25 36.0 +0.9**
comp=Z,7.1nm,0.9s,baz=20,slow=4.3,SNR=33
GERES GERESS Array B 79.22 358 P **P 06 25 36.0 +0.9**
CKRC Cesky Krumlov 79.23 358 *eP* **P 06 25 35.8 +0.8**
KECS Kecovo 79.27 353 *eP* **P 06 25 36.1 +0.9**
KECS pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 79.27 353 *eP* **P 06 25 36.1 +0.9**
VYHS Vyhne 79.36 355 *eP* **P 06 25 36.6 +0.9**
VYHS pmax pmax
comp=Z,28nm,1.1s
VYHS Vyhne 79.36 355 *eP* **P 06 25 36.6 +0.9**
SMOL Smolenice 79.42 355 *eP* **P 06 25 37.5 +1.4**
SMOL pmax pmax
comp=Z,16nm,1.0s
SMOL Smolenice 79.42 355 *eP* **P 06 25 37.4 +1.4**
MODS Modra-Piesok 79.56 356 *eP* **P 06 25 39.2 +2.4**
MODS pmax pmax
comp=Z,54nm,1.1s
MODS Modra-Piesok 79.56 356 *eP* **P 06 25 39.2 +2.4**
KBL Kabul 79.69 314 P **P 06 25 37.5 -0.5**
KBL pmax pmax
comp=Z,40nm,1.1s
KBL Kabul 79.69 314 P **P 06 25 37.5 -0.5**
KBL IAmb IAmb 06 25 38.7
comp=Z,40nm,1.1s
BFO Black Forest 79.74 2 P **P 06 25 38.5 +0.7**
BFO pmax pmax
comp=Z,24nm,1.2s
BFO Black Forest 79.74 2 P **P 06 25 38.5 +0.7**
BFO IAmb IAmb 06 25 39.6
comp=Z,24nm,1.2s
BFO Black Forest 79.74 2 *eP* **P 06 25 38.9 +1.1**
comp=Z,33nm,1.4s,baz=0.6,slow=5.7
ZST Bratislava 79.75 356 *eP* **P 06 25 39.4 +1.6**
ZST pmax pmax
comp=Z,95nm,1.0s
ZST Bratislava 79.75 356 *eP* **P 06 25 39.4 +1.6**
ECH Echery 79.83 2 IAmb IAmb 06 25 40.6
comp=Z,32nm,1.1s
PSZ Piszkesteto 79.87 354 IAmb IAmb 06 25 40.8
comp=Z,32nm,1.2s
CONA Conrad Observa 80.07 356 *i* P **P 06 25 40.8 +1.1**
comp=Z,38nm,1.1s,SNR=17
MOA Molln 80.20 358 *eP* **P 06 25 41.3 +1.0**
comp=Z,13nm,1.2s
KIV Kislovodsk 80.25 337 *eP* **P 06 25 41.4 +0.7**
KIV pmax pmax
comp=Z,37nm,1.0s
KBZ Khabaz 80.41 337 P **P 06 25 42.5 +1.1**
comp=Z,19nm,0.9s,baz=45,slow=1.5,SNR=35
KBZ Khabaz 80.41 337 *c iP* **P 06 25 42.3 +0.9**
KBZ pmax pmax
comp=Z,24nm,0.9s
UBR Ueberruh 80.41 0 *eP* **P 06 25 42.6 +1.1**
comp=Z,49nm,1.5s,baz=0.6,slow=5.7
ANN Anapa 80.59 341 *eP* **P 06 25 40.4 -2.0**
ANN pmax pmax
comp=Z,78nm,1.4s
ANN MLR MLR
comp=Z,3μm,18.0s
RETA Reutte 80.61 360 *i* P **P 06 25 43.8 +1.3**
comp=Z,23nm,1.2s,SNR=6.3
MOTA Moosalm 80.75 360 *i* P **P 06 25 44.5 +1.1**
comp=Z,41nm,1.2s,SNR=12
WATA Walderalm 80.76 359 *i* P **P 06 25 44.6 +1.1**
comp=Z,44nm,1.3s,SNR=8.5
ARSA Arzberg 80.76 357 *i* P **P 06 25 44.4 +1.1**
comp=Z,22nm,1.0s,SNR=9.4
WTTA Wattenberg 80.83 359 *i* P **P 06 25 45.1 +1.3**
comp=Z,38nm,1.3s,SNR=9.9
SQTA Sankt Quirin 80.87 360 *i* P **P 06 25 45.6 +1.6**
comp=Z,39nm,1.0s,SNR=5.8
KBA Koelnbreinsper 80.99 358 *i* P **P 06 25 46.4 +1.6**
comp=Z,92nm,1.4s,SNR=33
ZEI Tsey 81.05 336 *eP* **P 06 25 44.6 -0.6**
ZEI pmax pmax
comp=Z,35nm,1.5s
MFF Saint Martin d 81.05 8 *eP* **P 06 25 45.5 +0.7**
MFF pmax pmax
comp=Z,57nm,1.1s
FETA Feichten 81.07 360 *i* P **P 06 25 46.4 +1.2**
comp=Z,39nm,1.0s,SNR=12
GEYT Alibeck 81.13 324 P **P 06 25 46.2 +0.8**
comp=Z,12nm,0.6s,baz=291,slow=4.1,SNR=18
GYA0B ALIBECK ARRAY 81.13 324 P **P 06 25 46.1 +0.6**
GYA0B IAmb IAmb 06 25 47.5
comp=Z,34nm,1.1s
AKT Akhty 81.25 333 *eP* **P 06 25 46.4 +0.2**
AKT *e*PCP **PcP 06 25 52.3 0.0**
AKT pmax pmax
comp=Z,94nm,1.0s
SOC Sochi 81.28 339 *eP* **P 06 25 45.4 -0.7**
SOC *e*S **S 06 35 57.6 +3.5**
SOC *e*SS **SS 06 41 08.6 +0.1**
SOC *e*SSS SSS 06 44 34.1
SOC MLR MLR
comp=Z,1μm,17.0s
ABTA Abfaltersbach 81.33 359 *i* P **P 06 25 47.6 +1.2**
comp=Z,36nm,1.2s,SNR=11
SOKA Soboth 81.35 357 *i* P **P 06 25 47.5 +0.9**
comp=Z,51nm,1.1s,SNR=26
ONI Oni 81.35 336 P **P 06 25 47.8 +1.2**
ONI pmax pmax
comp=Z,22nm,1.5s
ONI Oni 81.35 336 P **P 06 25 47.8 +1.2**
ONI IAmb IAmb 06 25 52.7
comp=Z,22nm,1.5s
PERS Pernice 81.39 357 *i* P **P 06 25 47.6 +0.9**
MYKA Terra Mystica 81.43 358 *i* P **P 06 25 48.3 +1.4**
comp=Z,17nm,1.2s,SNR=6.9
OBKA Obir 81.53 357 *i* P **P 06 25 48.8 +1.3**
comp=Z,20nm,0.9s,SNR=5.6
GROS Grobnik 81.55 357 *i* P **P 06 25 48.2 +0.6**
TUE Stuetta 81.61 1 P **P 06 25 49.1 +1.0**
MLR Muntele Rosu 81.73 349 P **P 06 25 50.0 +1.4**
MLR pmax pmax
comp=Z,10.0nm,1.0s
MLR Muntele Rosu 81.73 349 P **P 06 25 50.0 +1.4**
CTAO Charters Tower 81.80 222 P **P 06 25 48.0 -1.0**
CTAO pmax pmax
comp=Z,20nm,1.2s
CTAO Charters Tower 81.80 222 P **P 06 25 48.0 -1.0**
CTAO IAmb IAmb 06 25 49.0
comp=Z,20nm,1.2s
CTI Castel Tesino 82.04 359 IAmb IAmb 06 25 51.6
comp=Z,14nm,0.8s
BOJS Bojanci 82.51 357 *eP* **P 06 25 53.0 +0.5**
LPL La Plagne 82.52 3 *eP* **P 06 25 55.4 +2.5**
LPL pmax pmax
comp=Z,13nm,0.9s
SSB Saint Sauveur 82.67 4 IAmb IAmb 06 25 55.6
comp=Z,20nm,1.0s
HRA Herat 82.67 319 IAmb IAmb 06 25 55.0
comp=Z,17nm,1.1s
CAF Calviac 82.88 6 *eP* **P 06 25 55.2 +0.7**
CAF pmax pmax
comp=Z,29nm,1.1s
GNI Garni 83.31 334 *c iP* **P 06 25 58.4 +1.4**
GNI pmax pmax
comp=Z,22nm,1.1s
DIVS Divibare 83.66 353 P **P 06 25 59.1 +0.4**
DIVS IAmb IAmb 06 26 02.9
comp=Z,12nm,1.0s
SNOP Sinop 83.71 342 IAmb IAmb 06 26 00.6
comp=Z,29nm,1.2s
ZCCA Zocca 83.74 360 P **P 06 26 00.3 +1.3**
OSSC Osservatorio P 84.57 360 P **P 06 26 03.5 +0.4**
MURB Monte Urbino 84.82 359 P **P 06 26 05.0 +0.5**
VTS Vitosha 84.86 351 IAmb IAmb 06 26 05.7
comp=Z,9.5nm,1.0s
ILGA Ilgaz 84.92 343 P **P 06 26 06.9 +1.6**
GURO Guroymak-BITLI 85.52 336 IAmb IAmb 06 26 11.3
comp=Z,32nm,1.5s
AQU L'Aquila 85.71 358 P **P 06 26 09.9 +0.9**
AQU pmax pmax
comp=Z,51nm,1.0s
AQU L'Aquila 85.71 358 P **P 06 26 09.9 +0.9**
RDO Rodhopi 86.06 349 P **P 06 26 11.5 +0.9**
BRTR Keskin Array B 86.22 342 P **P 06 26 12.2 +0.6**
comp=Z,5.7nm,1.1s,baz=49,slow=2.3,SNR=13
BRTR Keskin Array B 86.22 342 P **P 06 26 11.1 -0.5**
BRTR Keskin Array B 86.22 342 P **P 06 26 11.1 -0.5**
ALN Alexandroupoli 86.25 348 P **P 06 26 11.5 0.0**
ALN Alexandroupoli 86.25 348 P **P 06 26 11.6 0.0**
ALN pmax pmax
comp=Z,32nm,1.0s
ALN Alexandroupoli 86.25 348 P **P 06 26 11.6 0.0**
SRS Serrai 86.31 350 P **P 06 26 12.2 +0.3**
KNT Kendrikon 86.33 351 P **P 06 26 12.7 +0.7**
SMTH Samothraki Isl 86.73 349 P **P 06 26 13.9 -0.1**
FNA Florina 86.85 352 IAmb IAmb 06 26 15.3
comp=Z,15nm,0.8s
WRA Warramunga Arr 87.00 232 P **P 06 26 13.7 -1.7**
comp=Z,4.0nm,0.9s,baz=38,slow=6.1,SNR=12
OUR Ouranopolis 87.04 350 P **P 06 26 15.4 0.0**
LIA Limnos Island 87.33 349 P **P 06 26 17.0 +0.1**
ESBB Sonseca Array 87.53 11 P **P 06 26 18.5 +0.6**
ESBB IAmb IAmb 06 26 19.2
comp=Z,15nm,1.1s
ESDC Sonseca Array 87.53 11 P **P 06 26 18.6 +0.6**
comp=Z,8.7nm,0.9s,baz=349,slow=4.4,SNR=30
ESDC Sonseca Array 87.53 11 P **P 06 26 18.0 +0.1**
ESDC IAmb IAmb 06 26 19.2
comp=Z,13nm,1.1s
PAB San Pablo 87.61 12 P **P 06 26 18.3 0.0**
PAB pmax pmax
comp=Z,8.0nm,1.0s
PAB San Pablo 87.61 12 P **P 06 26 18.3 0.0**
PAB IAmb IAmb 06 26 19.4
comp=Z,7.9nm,1.0s
XOR Xorichti 88.08 350 P **P 06 26 19.6 -0.9**
AGG Agios Georgios 88.51 351 IAmb IAmb 06 26 22.7
comp=Z,16nm,0.9s
MAKR Makrakomi, Fth 88.53 351 P **P 06 26 22.8 +0.1**
EVR Evrytania 88.66 351 P **P 06 26 23.3 -0.1**
PSI Prapat 88.91 273 P **P 06 26 24.7 -0.2**
PSI pmax pmax
comp=Z,24nm,0.9s
ANX Ano Chora 88.97 351 P **P 06 26 24.9 +0.1**
RPSI Rantau Prapat 88.99 273 P **P 06 26 24.7 -0.4**
EFP Efpalio 89.14 351 P **P 06 26 26.1 +0.7**
RUSC La Rusia 89.17 82 P **P 06 26 26.7 +0.2**
HYB Hyderabad 89.23 298 *i* P P 06 26 21.0 -5.2
KLV Kalavryta, Ach 89.49 351 P **P 06 26 26.6 -0.6**
YER Yerkesik 89.64 346 P **P 06 26 28.4 +0.5**
AS31 Alice Springs 90.38 230 P **P 06 26 30.6 -0.7**
ASAR Alice Springs 90.38 230 P **P 06 26 30.6 -0.7**
comp=Z,9.9nm,1.1s,baz=41,slow=4.3,SNR=20
KEST Kesra 92.34 1 P **P 06 26 41.7 +1.1**
comp=Z,3.4nm,0.7s,baz=190,slow=6.1,SNR=3.9
KEST Kesra 92.34 1 P **P 06 26 41.1 +0.6**
KEST IAmb IAmb 06 26 42.8
comp=Z,9.2nm,1.1s
H03N2 Juan Fernandez 115.84 112 T T 08 38 57.1
baz=323,slow=78,SNR=2.9
H03N1 Juan Fernandez 115.86 112 T T 08 39 08.6
baz=323,slow=78,SNR=4.1
H03N3 Juan Fernandez 115.86 112 T T 08 38 55.9
baz=323,slow=78,SNR=3.9
SDBA SAO DESIDERIO 120.49 69 *eP* **PKiKP 06 32 26.2 +4.4**
CPUP Villa Florida 123.65 90 *eP* **PKiKP 06 32 31.9 +4.2**
KMBO Kilima Mbogo 124.40 327 PKP **PKiKP 06 32 30.5 +0.6**
comp=Z,6.0nm,0.9s,baz=351,slow=3.4,SNR=8.7
PLCA Paso Flores 125.71 112 *eP* **PKiKP 06 32 37.9 +6.5**
TRQA Tornquist 128.95 104 *eP* **PKiKP 06 32 44.5 +6.6**
MAW Mawson 150.84 218 PKPbc **PKPbc 06 33 20.6 -0.3**
comp=Z,3.7nm,0.9s,baz=20,slow=2.0,SNR=6.8
MAW Mawson 150.84 218 **PKPbc 06 33 21.0 0.0**
MAW PKPab **pPKPbc 06 33 30.8 +0.2**
BOSA Boshof 154.00 330 PKPbc **PKiKP 06 33 29.7 +0.2**
comp=Z,12nm,1.1s,baz=54,slow=2.5,SNR=8.0
BOSA Boshof 154.00 330 PKIKP **PKPdf 06 33 17.3 -4.2**
BOSA PKP **PKiKP 06 33 29.8 +0.2**
BOSA Boshof 154.00 330 PKPdf **PKPdf 06 33 17.3 -4.2**
BOSA **PKiKP 06 33 29.8 +0.2**
BOSA PKPab **PKPab 06 33 43.6 +0.7**

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*NEIC **27** 06:14:57.6±1.1, 52°.3N±0°.1×169°.34W±0°.07, h28km±20km, Error ellipse: s-maj=17.4km s-min=6.5km az=183.0*

AEIC 27 06:14:58±2.3, **52°.33N**±0°.07×**169°.26W**±0°.06, **h35**km±10km, **ML3.7**/17, **Error ellipse: s-maj=10.7km s-min=5.5km az=177.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.69**	**21**		Pn	06 15 10.7	-0.5
OKSP	**Okmok Steeple**	**1.09**	**32**		Pn	06 15 16.8	-0.1
OKCE	**Okmok Cone E**	**1.28**	**31**		Pn	06 15 21.5	+2.0
OKWE	**Okmok W'ng Wal**	**1.30**	**28**		Pn	06 15 20.6	+0.9
MAPS	**Pakushin South**	**2.04**	**42**		Pn	06 15 30.8	+1.0
MAPS					Sn	06 15 56.7	+2.7
MSW	**Makushin Switc**	**2.18**	**42**		Pn	06 15 32.4	+0.6
MSW					Sn	06 16 00.4	+3.0
MNAT	**Makushin Natee**	**2.20**	**44**		Pn	06 15 33.4	+1.4
MNAT					Sn	06 16 00.5	+2.5
UNV	**Unalaska Valle**	**2.25**	**47**		Pn	06 15 34.4	+1.7
UNV					Sn	06 16 01.5	+2.3
AMKA	**Amchitka**	**7.15**	**267**	Pn	Pn	06 16 39.3	-0.7
SII	**Sitkinak Islan**	**9.74**	**58**	Pn	Pn	06 17 16.6	+1.1
GAMB	**Gambell**	**11.55**	**355**	Pn	Pn	06 17 38.0	-2.1

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*NEIC **27** 06:19:12.6±2.2, 52°.28N±0°.08×169°.30W±0°.04, h42km±10km, Error ellipse: s-maj=11.0km s-min=3.8km az=182.0*

AEIC 27 06:19:10.9±2.1, **52°.20N**±0°.04×**169°.20W**±0°.04, **h30**km±5km, **ML3.8**/18, **mb3.8**/6(NEIC), **Error ellipse: s-maj=6.2km s-min=1.4km az=149.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.80**	**15**		Pn	06 19 25.2	-1.0
NIKH	**Nikolski High**	**0.80**	**15**		Sn	06 19 39.3	+2.3
OKSP	**Okmok Steeple**	**1.19**	**27**		Pn	06 19 31.1	-0.4
OKSP					Sb	06 19 48.4	+0.4
OKTU	**Okmok Mt. Tuli**	**1.38**	**30**		Pn	06 19 34.4	+0.3
OKCE	**Okmok Cone E**	**1.38**	**27**		Pn	06 19 34.7	+0.6
OKNC	**Okmok New Cone**	**1.42**	**27**		Pn	06 19 35.1	+0.5
MAPS	**Pakushin South**	**2.11**	**39**		Pn	06 19 43.9	-0.2
MSW	**Makushin Switc**	**2.25**	**39**		Pn	06 19 46.8	+0.7
UNV	**Unalaska Valle**	**2.32**	**44**		Pn	06 19 47.7	+0.8
MTBL	**Makushin Table**	**2.34**	**40**		Pn	06 19 48.7	+1.4
AKRB	**Akutan Reef Bi**	**2.70**	**43**		Pn	06 19 54.9	+2.7
AKUT	**Akutan**	**2.83**	**45**	Pn	Pn	06 19 54.5	+0.5
KOFP	**Korovin Flat P**	**3.01**	**273**		Pn	06 19 57.6	+1.0
ATKA	**Atka Island**	**3.07**	**272**		Pn	06 19 57.9	+0.5
GSTR	**Great Sitkin T**	**4.23**	**271**	Pn	Pn	06 20 14.1	+0.9
ADK	**Adak**	**4.63**	**269**	Pn	Pn	06 20 19.6	+0.9

KIWB	Kanaga Island	4.92	269	Pn	Pn	06 20 23.7	+0.9
SPIA	Saint Paul Isl	5.02	353	Pn	Pn	06 20 26.4	+2.3
CNBA	Chernabura Isl	6.31	62	Pn	Pn	06 20 42.9	+1.2
AMKA	Amchitka	7.18	268	Pn	Pn	06 20 54.6	+0.9
OHAK	Old Harbor	10.48	55	Pn	Pn	06 21 38.6	-0.3
KDAK	Kodiak Island	11.05	53	Pn	Pn	06 21 46.2	-0.4
HIN	Hinchinbrook I	14.97	48	Pn	Pn	06 22 39.6	-0.5
EYAK	Cordova Ski Ar	15.37	48	Pn	Pn	06 22 45.5	+0.2
EYAK				IAmb	IAmb	06 22 47.0	
	comp=Z,6.6nm,1.0s						
EGAK	Eagle	19.11	38	P	P	06 23 29.6	-1.4
PEA0B	Petropavlovsk-	20.01	286	P	P	06 23 40.7	-0.2
PEA0B				IAmb	IAmb	06 23 42.5	
	comp=Z,5.2nm,0.9s						
PLID	Pearl Lake	35.17	80	P	P	06 26 00.5	-1.6
PLID				IAmb	IAmb	06 26 02.2	
	comp=Z,2.5nm,0.8s						
TX31	Lajitas Ar. Si	52.65	89	P	P	06 28 24.1	+1.8
TX32	Lajitas Array	52.65	89	P	P	06 28 24.0	+1.8
TX32				IAmb	IAmb	06 28 33.5	
	comp=Z,0.7nm,1.1s						
TXAR	Lajitas Array	52.65	89	P	P	06 28 23.6	+1.4
ABKAR	Abkulak array	70.63	328	P	P	06 30 20.8	-2.2

*IDC **27** 06:19:28.5±0.6, 52°.28N×169°.44W, h0km, mb4.6/27, mb1 4.8/29, mb1mx4.8/36, mbtmp4.7/29, ML4.2/2, Error ellipse: s-maj=18.5km s-min=11.1km az=172.0*
*MOS **27** 06:19:30.4±1.1, 52°.23N×169°.33W, h27km, mb5.3/74, Error ellipse: s-maj=7.3km s-min=4.8km az=83.7*
*BJI **27** 06:19:31.3±0.0, 52°.45N×169°.91W, h19km, mB5.4/9, mb5.1/58, Ms5.6/6, Ms7 5.4/6*
*NEIC **27** 06:19:32.2±2.1, 52°.26N±0°.04×169°.28W±0°.05, h24km±4km, mb5.0/323, ML4.5/48(AEIC), Error ellipse: s-maj=6.9km s-min=3.5km az=154.0*
*AEIC **27** 06:19:33±2.1, 52°.25N±0°.06×169°.35W±0°.07, h38km±5km, Error ellipse: s-maj=8.1km s-min=6.1km az=184.0*
ISC 27 06:19:31.3±0.5, 52°.20N±0°.07×169°.25W±0°.04, h21km±3km, n848, σ1§14/797, mb5.0/264, 12C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.81	17	P	Pn	06 19 47.7	+0.3
	baz=203						
NIKH	Nikolski High	0.81	17	Pn	Pn	06 19 47.3	-0.1
OKSO	Okmok South	1.33	29		Pb	06 19 56.0	+0.5
OKSO					Sb	06 20 14.8	+2.7
OKCE	Okmok Cone E	1.39	28		Pb	06 19 57.0	+0.5
OKNC	Okmok New Cone	1.43	28		Pb	06 19 57.9	+0.7
MAPS	Pakushin South	2.13	40		Pn	06 20 06.8	+1.3
MAPS					Sb	06 20 35.1	0.0
MGOD	Makushin Gods	2.15	41		Pn	06 20 07.3	+1.5
MNAT	Makushin Natee	2.29	42		Pn	06 20 09.7	+2.0
UNV	Unalaska Valle	2.34	44	P	Pn	06 20 09.9	+1.5
	baz=228,SNR=29						
UNV	Unalaska Valle	2.34	44		Pn	06 20 10.1	+1.7
UNV					Sn	06 20 38.4	+2.0
MTBL	Makushin Table	2.35	40		Pn	06 20 10.5	+1.8
AKMO	Akutan Morgan	2.72	45		Pn	06 20 15.9	+2.3
AKRB	Akutan Reef Bi	2.72	43		Pn	06 20 16.3	+2.7
AKBBA	Akutan Broad B	2.76	45		Pb	06 20 17.2	-2.5
AKLV	Akutan Long Va	2.79	44		Pb	06 20 17.9	-2.4
AKGG	Akutan Green G	2.80	43		Pn	06 20 17.5	+2.7
AKGG					Sb	06 20 52.5	-1.8
AKUT	Akutan	2.85	46	Pn	Pn	06 20 17.4	+2.0
AKSA	Akutan Strait	2.88	46		Pn	06 20 17.8	+1.8
KOFP	Korovin Flat P	2.98	273		Pn	06 20 18.7	+1.4
ATKA	Atka Island	3.05	272	Pn	Pn	06 20 18.2	+0.1
KOKL	Mount Kliuchef	3.05	274		Pn	06 20 19.8	+1.6
SSLS	Shishaldin Sou	4.02	49		Pn	06 20 34.3	+2.7
GSTR	Great Sitkin T	4.20	271	Pn	Pn	06 20 34.7	+0.7
GSMY	Great Sitkin M	4.20	271		Pn	06 20 34.9	+0.8
GSTD	Great Sitkin T	4.25	271		Pn	06 20 35.5	+0.7
FALS	False Pass	4.38	50	P	Pn	06 20 37.7	+1.3
	baz=236						
FALS	False Pass	4.38	50	Pn	Pn	06 20 39.1	+2.8
ADK	Adak	4.60	269	P	Pn	06 20 39.6	+0.1
ADK	Adak	4.60	269		Pn	06 20 39.6	+0.1
KIWB	Kanaga Island	4.89	269	Pn	Pn	06 20 44.1	+0.5
KIKV	Kanaga Island	4.90	269		Pn	06 20 44.8	+1.2
KIMD	Kanaga Island	4.96	268		Pn	06 20 45.1	+0.7
SPIA	Saint Paul Isl	5.02	354	P	Pn	06 20 47.3	+2.1
	baz=174,SNR=11						
SPIA	Saint Paul Isl	5.02	354		Pn	06 20 48.4	+3.1
TAFP	Tanaga Falls P	5.40	270		Pn	06 20 51.7	+1.2
TASE	Tanaga Southea	5.44	270		Pn	06 20 52.3	+1.2
SDPT	Sand Point	6.08	55	P	Pn	06 21 01.2	+1.4
	baz=243						
SDPT	Sand Point	6.08	55	Pn	Pn	06 21 00.4	+0.7
CNBA	Chernabura Isl	6.33	62		Pn	06 21 04.2	+1.0
CHNA	Chernabura Isl	6.33	62	P	Pn	06 21 04.5	+1.3
	baz=250						
CERAA	Semis' Rag'd T	6.84	272		Pn	06 21 10.5	+0.4
CEAP	Semis' Anvil P	6.89	273		Pn	06 21 12.6	+1.7
CESW	Semis' Southwe	6.91	272		Pn	06 21 12.8	+1.6
AMKA	Amchitka	7.15	268	Pn	Pn	06 21 15.0	+0.4
LSPA	Little Sitkin	7.51	273		Pn	06 21 21.5	+2.0
LSNW	Little Sitkin	7.55	273		Pn	06 21 22.2	+2.3
LSSA	Little Sitkin	7.55	273		Pn	06 21 22.6	+2.5
CHIR	Chirikof Islan	8.80	60	P	Pn	06 21 38.7	+1.6
	baz=252						
CHIR	Chirikof Islan	8.80	60		Pn	06 21 38.3	+1.2
SII	Sitkinak Islan	9.81	58	P	Pn	06 21 52.0	+1.2
	baz=250						
SII	Sitkinak Islan	9.81	58		Pn	06 21 52.1	+1.2
SMY	Shemya	10.18	280	P	Pn	06 21 55.5	-0.5
SMY	Shemya	10.18	280	Pn	Pn	06 21 55.5	-0.5
OHAK	Old Harbor	10.50	55	P	Pn	06 22 00.3	0.0
	baz=248						
OHAK	Old Harbor	10.50	55	Pn	Pn	06 21 59.5	-0.8
O18K	Koktuh Hills	10.96	40	P	Pn	06 22 07.1	+0.5
	baz=232						
KDAK	Kodiak Island	11.07	53	Pn	Pn	06 22 07.5	-0.6
	2.2nm,0.3s,baz=218,slow=4.6,SNR=17						
KDAK				Sn	Sn	06 24 05.4	-5.7
	0.4nm,0.3s,baz=288,slow=9.5,SNR=1.1						
KDAK	Kodiak Island	11.07	53	eP	Pn	06 22 07.7	-0.4
KDAK	Kodiak Island	11.07	53	P	Pn	06 22 08.0	-0.1
	baz=247						
N18K	Kilae Creek	11.24	36	P	Pn	06 22 09.9	-0.5
	baz=227						
P19K	Oil Pt	11.65	44	P	Pn	06 22 17.5	+1.4
	baz=238						
GAMB	Gambell	11.68	355	P	Pn	06 22 17.7	+1.3
	baz=173						
GAMB	Gambell	11.68	355		Pn	06 22 19.4	+2.9
N19K	Bonanza Creek	11.85	37	P	Pn	06 22 20.5	+1.7
	baz=230						
O20K	Slope Mountain	12.15	43	P	Pn	06 22 24.3	+1.4
	baz=237						
RSO	Redoubt South	12.31	41		Pn	06 22 28.1	+2.9
HOM	Homer	12.35	46	Pn	Pn	06 22 27.4	+1.8
CNPM	China Poot	12.46	47	Pn	Pn	06 22 28.5	+1.3
ANM	Nome	12.56	8	P	Pn	06 22 31.3	+2.8
ANM	Nome	12.56	8	Pn	Pn	06 22 31.3	+2.8
L19K	White Mountain	12.65	32	P	Pn	06 22 33.2	+3.4
	baz=225						
BRLK	Bradley Lake	12.73	46		Pn	06 22 31.8	+0.8
BRSE	Bradley Lake S	12.79	47	P	Pn	06 22 33.3	+1.7
	baz=242						
TTA	Tatalina	12.85	28	P	Pn	06 22 34.1	+1.5
TTA	Tatalina	12.85	28	Pn	Pn	06 22 34.1	+1.5
SPCR	Spurr Chakacha	12.96	39	P	Pn	06 22 34.6	+0.6
	baz=234						
SPU	Mount Spurr	13.01	40		Pn	06 22 36.9	+2.3
M20K	Styx River	13.04	36	P	Pn	06 22 37.3	+2.3
	baz=230						
TNA	Tin City	13.42	2	P	Pn	06 22 40.0	-0.1
	baz=184						
TNA	Tin City	13.42	2	Pn	Pn	06 22 43.9	+3.8
SEW	Seward	13.53	46	P	Pn	06 22 41.6	-0.1
	baz=243,SNR=8.7						
SEW	Seward	13.53	46	Pn	Pn	06 22 41.7	-0.1
O22K	Cooper Landing	13.59	45	P	Pn	06 22 42.4	-0.1
	baz=241,SNR=12						
SUA	Susitna One	13.68	40	P	Pn	06 22 45.5	+1.6
	baz=236						
SUA	Susitna One	13.68	40		Pn	06 22 45.6	+1.6
SKT	Skwentna	13.69	37	P	Pn	06 22 44.5	+0.6
	baz=233						
SKT	Skwentna	13.69	37	Pn	Pn	06 22 45.5	+1.7
FIS	Fire Island	13.72	42	Pn	Pn	06 22 44.1	-0.1
K20K	Telida	13.76	30	P	Pn	06 22 47.0	+2.2
	baz=223						
RC01	Rabbit Creek A	13.89	43	P	Pn	06 22 47.9	+1.3
	baz=239						
RC01	Rabbit Creek A	13.89	43		Pn	06 22 46.7	+0.1
PPLA	Purkeypile	14.04	34	P	Pn	06 22 52.2	+3.4
	baz=228						
PPLA	Purkeypile	14.04	34		Pn	06 22 50.0	+1.3
J20K	Nowinta River	14.35	27	P	Pn	06 22 54.7	+1.8
	baz=221						
PWL	Port Wells	14.37	45		Pn	06 22 51.5	-1.7
PMR	Palmer	14.40	41	P	Pn	06 22 54.5	+0.9
PMR	Palmer	14.40	41	P	Pn	06 22 55.0	+1.4
	baz=239						
PMR	Palmer	14.40	41	Pn	Pn	06 22 54.5	+0.9
CUT	Chulitna	14.41	37	P	Pn	06 22 55.0	+1.2
	baz=234						
GHO	Glory Hole Cre	14.58	41		Pn	06 22 57.2	+1.1
KNK	Knik Glacier	14.59	43	P	Pn	06 22 56.3	+0.2
	baz=240						
KNK	Knik Glacier	14.59	43	Pn	Pn	06 22 56.0	-0.2
CHUM	Lake Minchumin	14.68	31	P	Pn	06 22 59.1	+1.8
	baz=225						
Q23K	Middleton Isla	14.71	52	Pn	Pn	06 22 57.5	-0.2
MID	Middleton Isla	14.71	52	P	Pn	06 22 58.0	+0.2
MID	Middleton Isla	14.71	52	Pn	Pn	06 22 58.0	+0.2
SML	Sawmill	14.84	41	P	Pn	06 22 59.2	-0.5
	baz=239						
SML	Sawmill	14.84	41		Pn	06 22 59.3	-0.3
KTH	Kantishna Hill	14.91	33		Pn	06 23 00.3	-0.2
GLI	Glacier Island	14.92	46	P	Pn	06 22 59.6	-1.1
	baz=245						
GLI	Glacier Island	14.92	46	Pn	Pn	06 22 58.7	-2.0
HIN	Hinchinbrook I	14.99	48		Pn	06 23 00.3	-1.3
TRF	Thorofare Moun	15.05	34	P	Pn	06 23 03.4	+0.8
	baz=231						
TRF	Thorofare Moun	15.05	34	Pn	Pn	06 23 03.1	+0.5
FID	Port Fidalgo	15.14	47		Pn	06 23 02.7	-1.0
BPAW	Bear Paw Mtn.	15.25	32	P	Pn	06 23 06.3	+1.2
	baz=227,SNR=28						
BPAW	Bear Paw Mtn.	15.25	32		Pn	06 23 06.5	+1.4
BPAW				IAmb	IAmb	06 23 11.9	
	comp=Z,50nm,0.8s						
SCM	Sheep Creek Mo	15.27	42	P	Pn	06 23 03.7	-1.6
SCM				pmax	pmax		
	comp=Z,69nm,0.6s						
SCM	Sheep Creek Mo	15.27	42		Pn	06 23 03.7	-1.6
SCM				IAmb	IAmb	06 23 17.9	
	comp=Z,69nm,0.6s						
WAT1	Susitna Watana	15.31	38	P	Pn	06 23 04.8	-1.0
	baz=236						
EYAK	Cordova Ski Ar	15.39	48	P	Pn	06 23 05.9	-1.0
	baz=248						
EYAK	Cordova Ski Ar	15.39	48		Pn	06 23 05.8	-1.0
WAT6	Susitna Watana	15.48	39	P	Pn	06 23 06.7	-1.5
	baz=238						
RND	Reindeer	15.54	36	P	Pn	06 23 09.4	+0.6
RND				pmax	pmax		
	comp=Z,22nm,1.1s						
RND	Reindeer	15.54	36	Pn	Pn	06 23 09.4	+0.6
KLU	Klutina	15.70	45	P	Pn	06 23 09.3	-1.7
	baz=244,SNR=35						
KLU	Klutina	15.70	45		Pn	06 23 09.6	-1.4
KLU				IAmb	IAmb	06 23 11.2	
	comp=Z,73nm,0.5s						
MCK	McKinley	15.71	35	P	Pn	06 23 10.6	-0.4
MCK				pmax	pmax		
	comp=Z,22nm,1.1s						
MCK	McKinley	15.71	35	P	Pn	06 23 11.8	+0.8
	baz=232						
MCK	McKinley	15.71	35	Pn	Pn	06 23 10.6	-0.4
I21K	Tanana	15.72	28	P	Pn	06 23 11.9	+0.8
	baz=223,SNR=6.4						
KAIM	Kayak Island	15.80	51	Pn	Pn	06 23 12.4	+0.3
BWN	Browne	15.80	33	Pn	Pn	06 23 13.5	+1.4
RAGM	Ragged Mountai	15.83	49		Pn	06 23 11.9	-0.6
IMAR	Indian Mountai	15.87	24	Pn	Pn	06 23 12.8	-0.3
M24K	Tolsona, Glenn	15.88	42	P	Pn	06 23 12.5	-0.7
	baz=242,SNR=11						
M24K	Tolsona, Glenn	15.88	42		Pn	06 23 12.2	-1.0
M24K				IAmb	IAmb	06 23 25.2	
	comp=Z,74nm,0.5s						
MLY	Manley	15.98	29	P	Pn	06 23 14.8	+0.4
	baz=226,SNR=20						
MLY	Manley	15.98	29	Pn	Pn	06 23 14.5	0.0
MLY				IAmb	IAmb	06 23 20.4	
	comp=Z,179nm,1.7s						
HMT	Hamilton	16.00	50	Pn	Pn	06 23 13.6	-1.2
HMT				IAmb	IAmb	06 23 59.3	
	comp=Z,437nm,2.0s						
BMRM	Bremner River	16.07	47	P	Pn	06 23 14.4	-1.3
	baz=248,SNR=9.3						
BMRM	Bremner River	16.07	47		Pn	06 23 14.6	-1.1
NEA2	Nenana	16.20	32	P	Pn	06 23 16.9	-0.5
	baz=230,SNR=6.3						
NEA2	Nenana	16.20	32		Pn	06 23 17.7	+0.4
N25K	Chitina, Valde	16.32	45	P	Pn	06 23 17.7	-1.3
	baz=246,SNR=14						
N25K	Chitina, Valde	16.32	45	Pn	Pn	06 23 17.9	-1.1
HARP	HAARP	16.43	42	P	Pn	06 23 20.2	-0.1
	baz=243						
WRH	Wood River Hil	16.45	34		Pn	06 23 21.0	+0.4
I23K	Minto, Yukon-K	16.48	30	P	Pn	06 23 20.5	-0.4
	baz=228,SNR=9.4						
I23K	Minto, Yukon-K	16.48	30	P	P	06 23 22.2	-1.1
PAX	Paxson	16.58	40	P	Pn	06 23 21.7	-0.5
PAX				pmax	pmax		
	comp=Z,16nm,0.9s						
PAX	Paxson	16.58	40	P	Pn	06 23 21.3	-1.0
	baz=241						
PAX	Paxson	16.58	40		Pn	06 23 21.7	-0.5
GLB	Gilahina Butte	16.61	46		Pn	06 23 21.6	-0.9
CCB	Clear Creek Bu	16.66	33		Pn	06 23 22.4	-0.7
CRQM	Cirque	16.67	49		Pn	06 23 23.4	-0.1
CRQE	Cirque	16.69	49	P	Pn	06 23 23.2	-0.4
	baz=251,SNR=8.4						
VRDI	Verde Repeater	16.69	47		Pn	06 23 22.9	-0.8
WAX	Waxell Ridge	16.70	50	Pn	Pn	06 23 24.1	+0.3
WAX				IAmb	IAmb	06 23 54.4	
	comp=Z,108nm,0.8s						
MDM	Murphy Dome	16.72	32		Pn	06 23 22.2	-1.7
TCOL	CIGO, UAF Yank	16.78	33	P	Pn	06 23 24.8	+0.2
	baz=231						
TCOL	CIGO, UAF Yank	16.78	33	Pn	Pn	06 23 24.6	-0.1
COLA	College	16.79	33	P	Pn	06 23 24.5	-0.2
COLA				pmax	pmax		
	comp=Z,22nm,0.9s						
COLA	College	16.79	33	P	Pn	06 23 25.6	+0.9
	baz=231						
COLA	College	16.79	33		Pn	06 23 24.5	-0.2
HDA	Harding Lake	16.81	35	P	Pn	06 23 24.8	-0.2
	baz=234						
HDA	Harding Lake	16.81	35		Pn	06 23 24.4	-0.7
TGL	Tana Glacier	16.81	49	Pn	Pn	06 23 25.7	+0.5
TGL				IAmb	IAmb	06 23 54.0	
	comp=Z,113nm,1.2s						
H23K	Yukon River	16.89	29	P	P	06 23 27.1	-0.9
	baz=226,SNR=5.8						
MCARA	McCarthy VSAT	16.94	47	P	Pn	06 23 26.8	+0.1
	baz=249						
MCARA	McCarthy VSAT	16.94	47		Pn	06 23 26.8	+0.1
ISLE	Juniper Island	16.99	50	Pn	Pn	06 23 27.1	-0.4
ISLE				IAmb	IAmb	06 23 41.4	
	comp=Z,130nm,1.3s						
IL31		17.05	34	Pn	Pn	06 23 26.4	-1.5
ILAR	Eielson Array	17.05	34	P	Pn	06 23 26.4	-1.6
	comp=Z,0.5nm,0.3s,baz=221,slow=10,SNR=13						
ILAR				PcP	PcP	06 28 12.8	+0.5
	comp=Z,0.1nm,0.3s,baz=268,slow=3.0,SNR=4.7						
MESA	MESA	17.05	51	P	Pn	06 23 28.7	+0.4
	baz=254						
MESA	MESA	17.05	51	P	P	06 23 30.2	+0.2
MESA				IAmb	IAmb	06 23 45.3	
	comp=Z,144nm,1.0s						
POKR	Poker Plat Res	17.08	32	P	Pn	06 23 27.8	-0.7
	baz=231						
POKR	Poker Plat Res	17.08	32	Pn	Pn	06 23 26.6	-1.8
YAH	Yahtse	17.20	51	P	P	06 23 32.4	+0.7
YAH				IAmb	IAmb	06 23 46.8	
	comp=Z,88nm,0.7s						
RIDG	Independent Ri	17.21	38	P	Pn	06 23 30.6	+0.5
	baz=240						
RIDG	Independent Ri	17.21	38	P	Pn	06 23 30.8	+0.6
MENT	Mentasta	17.27	42		Pn	06 23 30.5	-0.3
M26K	Nabesna, AK	17.34	44	P	Pn	06 23 31.4	-0.4
	baz=246,SNR=10						
H24K	Noodor Dome	17.40	30	P	Pn	06 23 32.9	+0.4
	baz=229,SNR=7.0						
BARN	Barnard Glacie	17.45	49	P	Pn	06 23 33.6	+0.3
L26K	Log Cabin Wild	17.46	42	P	Pn	06 23 33.2	0.0
	baz=244,SNR=6.6						
DOT	Dot Lake	17.47	39	P	Pn	06 23 33.4	+0.1
TABL	Table Mountain	17.51	51	P	P	06 23 35.6	+0.5
TABL				IAmb	IAmb	06 24 04.6	
	comp=Z,82nm,0.9s						
CTG	Chitna Glacier	17.57	49	P	Pn	06 23 34.3	-0.4
	baz=253,SNR=10						
CTGM	Chitina Glacie	17.57	49	P	P	06 23 35.2	-0.5
SCRK	Sand Creek	17.66	38	P	Pn	06 23 34.6	-1.1
	baz=240,SNR=7.9						
SCRK	Sand Creek	17.66	38	P	Pn	06 23 34.5	-1.2
LOGN	Logan Glacier	17.69	50	P	P	06 23 38.0	+1.1
M27K	Edge Creek, AK	17.80	45	P	Pn	06 23 36.4	-1.2
	baz=248,SNR=19						
PCA	Pinnacle	17.86	52	P	P	06 23 40.5	+1.8
PCA				IAmb	IAmb	06 23 54.5	
	comp=Z,74nm,0.8s						
PINM	Pinnacle	17.86	52	P	Pn	06 23 38.1	-0.1
	baz=257,SNR=7.4						
PRP	Porcupine Dome	17.96	33	P	Pn	06 23 38.7	-0.7
	baz=234,SNR=6.6						
PRP	Porcupine Dome	17.96	33	P	Pn	06 23 38.2	-1.2
L27K	Beaver Creek,	18.10	42	P	Pn	06 23 39.9	-1.2
	baz=246						
L27K	Beaver Creek,	18.10	42	P	Pn	06 23 41.0	-0.1
BCAR	Beaver Creek A	18.12	42	P	Pn	06 23 40.4	-1.0
BCPM	Bancas Point	18.13	53	P	P	06 23 42.1	+0.5
K27K	Chicken	18.43	40	P	P	06 23 42.9	-1.9
	baz=243						
K27K	Chicken	18.43	40	P	P	06 23 44.6	-0.2
FYU	Fort Yukon	18.70	31	P	P	06 23 47.5	-0.3
TOLK	Toolik Lake Re	18.97	22	P	P	06 23 50.6	-0.3
	baz=220,SNR=11						
TOLK	Toolik Lake Re	18.97	22	P	Pn	06 23 52.6	+1.0
EGAK	Eagle	19.13	38	P	P	06 23 52.4	-0.2
	baz=242,SNR=10						
EGAK	Eagle	19.13	38	P	P	06 23 52.4	-0.2
HYT	Haines Junctio	19.35	51	P	Pn	06 23 57.6	+1.3
HYT				IAmb	IAmb	06 24 01.8	
	comp=Z,77nm,0.6s						
PET	Petropavlovsk	19.43	285	eP	P	06 23 55.7	-0.2
PET				pmax	pmax		
	comp=Z,66nm,0.6s						
BMAR	Burnt Mountain	19.44	29		Pn	06 23 56.8	-0.5
DAWY	Dawson	19.51	41	P	P	06 23 56.9	+0.1
BILL	Bilibino	19.79	333	eP	Pn	06 24 01.7	+0.4
BILL				pmax	pmax		
	comp=Z,52nm,1.5s						
BILL				MLR	MLR		
	comp=Z,5μm,17.0s						
PEA0B	Petropavlovsk-	19.98	286	P	P	06 24 01.8	-0.2
PEA0B				pmax	pmax		
	comp=Z,71nm,1.1s						
PEA0B	Petropavlovsk-	19.98	286	P	P	06 24 01.8	-0.2
PEA0B				IAmb	IAmb	06 24 04.3	
	comp=Z,71nm,1.1s						
PETK	Petropavlovsk-	19.98	286	P	P	06 24 01.1	-0.9
	comp=Z,6.7nm,0.3s,baz=91,slow=13,SNR=59						
PETK	Petropavlovsk-	19.98	286	P	P	06 24 01.0	-1.0
A21K	Barrow	20.01	12	P	Pn	06 24 03.0	-0.9
	baz=203						
SIT	Sitka	20.09	63	P	Pn	06 24 04.4	-0.6
	baz=271						
SKAG	Skagway	20.20	56	P	P	06 24 05.2	+0.9
	baz=264,SNR=5.8						
WHY	Whitehorse	20.58	52	P	P	06 24 08.7	+0.1
	baz=261,SNR=25						
WHY	Whitehorse	20.58	52	IAmb	IAmb	06 24 27.0	
	comp=Z,53nm,0.8s						
CRAG	Craig	21.41	67	P	P	06 24 19.6	+2.3
	baz=276						
EPYK	Eagle Plains	21.49	36	P	P	06 24 17.3	-0.9
	baz=245,SNR=20						
EPYK	Eagle Plains	21.49	36	P	P	06 24 17.5	-0.8
EPYK				IAmb	IAmb	06 24 36.9	
	comp=Z,55nm,0.8s						
WRAK	Wrangell Islan	21.75	64	P	P	06 24 21.2	+0.1
	baz=275						
DLBC	Dease Lake	22.91	59	P	P	06 24 35.7	+2.3
	comp=Z,17nm,1.1s,baz=274,slow=8.4,SNR=9.8						
DLBC	Dease Lake	22.91	59	P	P	06 24 36.1	+2.6
MA2	Magadan	23.30	304	P	P	06 24 38.1	+0.8
	comp=Z,33nm,0.8s,baz=93,slow=10.0,SNR=13						
MA2	Magadan	23.30	304	||iP	P	06 24 35.0	-2.3
MA2				pmax	pmax		
	comp=Z,31nm,0.8s						
INK	Inuvik	23.45	33	P	P	06 24 37.2	-1.4
	comp=Z,16nm,0.6s,baz=240,slow=7.8,SNR=27						
INK				PcP	PcP	06 28 24.9	+0.9
	comp=Z,5.5nm,0.8s,baz=12,slow=0.6,SNR=5.1						
INK	Inuvik	23.45	33	P	P	06 24 37.3	-1.4
INK				pmax	pmax		
	comp=Z,15nm,0.7s						
INK	Inuvik	23.45	33	P	P	06 24 36.8	-1.8
	baz=245,SNR=15						
INK	Inuvik	23.45	33	P	P	06 24 37.3	-1.4
C36M	Paulatuk	27.02	34	P	P	06 25 10.7	-0.7
	baz=254						
C36M	Paulatuk	27.02	34	P	P	06 25 10.9	-0.4
A05A	Maple Falls	29.69	77	P	P	06 25 34.9	-0.4
A05A				IAmb	IAmb	06 25 51.5	
	comp=Z,70nm,1.7s						
D03D	Eldon	29.71	80	P	P	06 25 36.7	+1.2
	baz=297						
B05A	Bryant	29.99	78	P	P	06 25 39.0	+1.0

E09A IAmb IAmb 06 26 21.9
comp=Z,45nm,1.3s
G08A Pilot Rock 33.29 82 P **P 06 26 09.4 +2.2**
G08A IAmb IAmb 06 26 23.2
comp=Z,22nm,1.5s
ERM Erimo 33.40 271 P **P 06 26 07.2 -0.8**
ERM pmax pmax
comp=Z,28nm,0.9s
ERM Erimo 33.40 271 P **P 06 26 07.2 -0.8**
ERM IAmb IAmb 06 26 09.5
comp=Z,28nm,0.8s
I07A Izee 33.59 84 P **P 06 26 12.1 +2.3**
I07A IAmb IAmb 06 26 25.6
comp=Z,21nm,1.4s
F10A Beach Ranch, E 34.00 79 P **P 06 26 14.5 +1.2**
F10A IAmb IAmb 06 26 47.7
comp=Z,24nm,1.5s
J08A Circle Bar Ran 34.60 84 P **P 06 26 19.8 +1.1**
JTMT Jette 34.91 75 P **P 06 26 22.1 +0.9**
MSO Missoula 35.55 76 P **P 06 26 27.7 +0.9**
baz=300
MSO Missoula 35.55 76 P **P 06 26 28.2 +1.4**
MFID Camas Ranch 36.19 82 P **P 06 26 32.8 +0.5**
MFID IAmb IAmb 06 26 47.9
comp=Z,24nm,1.4s
KLR Kul'dur 36.59 289⇑ *i* P **P 06 26 33.6 -1.8**
KLR pmax pmax
comp=Z,10.0nm,0.7s
HRY Holter Researc 36.87 75 P **P 06 26 37.2 -0.8**
LRM Limekiln Ridge 36.95 77 P **P 06 26 39.7 +0.8**
HLID Hailey 36.97 81 P **P 06 26 39.1 +0.1**
baz=303
HLID Hailey 36.97 81 P **P 06 26 40.3 +1.3**
HLID IAmb IAmb 06 26 55.0
comp=Z,27nm,1.5s
ZEA Zeya 37.14 298 *e*P **P 06 26 38.5 -1.6**
ZEA *e* 06 26 43.0
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
H11N2 WAKE ISLAND Hy 37.37 219 T T 07 07 20.5
baz=24,slow=76,SNR=20
H11N3 WAKE ISLAND Hy 37.38 219 T T 07 07 24.4
baz=24,slow=76,SNR=21
H11N1 WAKE ISLAND Hy 37.39 219 T T 07 07 23.5
baz=24,slow=76,SNR=20
EGMT Eagleton 37.45 72 P **P 06 26 43.2 +0.4**
baz=300
EGMT Eagleton 37.45 72 P **P 06 26 44.0 +1.1**
EGMT IAmb IAmb 06 26 58.0
comp=Z,33nm,0.9s
BOZ Bozeman (W) 37.56 77 P **P 06 26 44.9 +1.0**
BOZ pmax pmax
comp=Z,38nm,1.4s
BOZ Bozeman (W) 37.56 77 P **P 06 26 44.0 +0.1**
baz=302,SNR=8.3
BOZ Bozeman (W) 37.56 77 P **P 06 26 44.9 +1.0**
BOZ IAmb IAmb 06 26 59.2
comp=Z,38nm,1.4s
NVAR Mina Array Bea 37.58 91 P **P 06 26 47.3 +3.0**
comp=Z,0.9nm,0.8s,baz=286,slow=7.9,SNR=5.8
NVAR Mina Array Bea 37.58 91 P **P 06 26 45.1 +0.8**
ELK Elko 38.07 86 P **P 06 26 49.4 +1.0**
ELK pmax pmax
comp=Z,5.0nm,0.9s
ELK Elko 38.07 86 P **P 06 26 49.4 +1.0**
YHH Holmes Hill 38.46 77 IAmb IAmb 06 27 07.0
comp=Z,39nm,1.2s
TPH Tonopah 38.47 90 P **P 06 26 54.0 +2.2**
TPH pmax pmax
comp=Z,53nm,1.4s
TPH Tonopah 38.47 90 P **P 06 26 54.0 +2.2**
TPH IAmb IAmb 06 27 07.7
comp=Z,53nm,1.4s
H11S1 WAKE ISLAND Hy 38.56 218 T T 07 08 51.8
SNR=24
H11S2 WAKE ISLAND Hy 38.57 218 T T 07 08 04.1
baz=185,slow=74,SNR=45
H11S3 WAKE ISLAND Hy 38.57 218 T T 07 08 04.3
baz=23,slow=74,SNR=33
YNR Norris Junctio 38.60 77 P **P 06 26 53.6 +0.8**
YNR IAmb IAmb 06 27 08.8
comp=Z,36nm,1.2s
VES Vestal, Richgr 38.76 95 P **P 06 26 54.4 +0.5**
baz=311
JSD Sado 38.78 270 P **P 06 26 53.2 -0.9**
H17A Grant Village 38.84 78 P **P 06 26 55.2 +0.4**
baz=303
H17A Grant Village 38.84 78 IAmb IAmb 06 27 11.8
comp=Z,40nm,1.4s
YNE Yellowstone No 38.85 76 IAmb IAmb 06 27 10.3
comp=Z,39nm,1.7s
IMW Indian Meadow 38.89 78 P **P 06 26 55.8 +0.5**
FLWY Flagg Ranch 38.93 78 P **P 06 26 56.9 +1.3**
USRK Ussuriysk Ar. 39.00 282 P **P 06 26 54.4 -1.4**
comp=Z,2.5nm,0.7s,baz=79,slow=9.0,SNR=6.7
USRK PcP **PcP 06 29 06.5 +0.7**
comp=Z,2.7nm,0.7s,baz=94,slow=2.0,SNR=5.7
USRK Ussuriysk Ar. 39.00 282 P **P 06 26 53.1 -2.8**
USRK 06 29 06.0
USRK Ussuriysk Ar. 39.00 282 P **P 06 26 53.1 -2.8**
USRK PcP **PcP 06 29 06.0 +0.2**
TPAW Teton Pass 39.11 79 IAmb IAmb 06 27 14.1
comp=Z,34nm,1.4s
RLMT Red Lodge 39.23 76 P **P 06 26 57.5 -0.5**
baz=303,SNR=7.4
RLMT Red Lodge 39.23 76 IAmb IAmb 06 27 13.8
comp=Z,33nm,1.2s
R11A Troy Canyon, C 39.31 89 P **P 06 26 59.1 +0.4**
baz=309
MJAR Matsushiro Arr 39.77 268 P **P 06 27 02.0 -0.3**
comp=Z,3.3nm,0.6s,baz=41,slow=6.4,SNR=7.9
MAJO Matsushiro 39.77 268⇓ *i* P **P 06 27 03.0 +0.6**
MAJO pmax pmax
comp=Z,25nm,1.9s
MAT Matsushiro 39.77 268 P **P 06 27 01.4 -1.0**
TPNV Topopah Spring 39.78 91 P **P 06 27 03.6 +1.0**
baz=310
DUG Dugway, Tooele 39.88 84 P **P 06 27 04.9 +1.4**
baz=307
PRN Pahroc Range 40.23 90 P **P 06 27 07.2 +0.9**
BW06 Boulder Array 40.36 79 P **P 06 27 06.8 -0.7**
baz=305
BW06 Boulder Array 40.36 79 P **P 06 27 05.8 -1.7**
BW06 IAmb IAmb 06 27 22.7
comp=Z,42nm,1.4s
PD31 Pinedale Array 40.36 79 IAmb IAmb 06 27 22.7
comp=Z,37nm,1.4s
PDAR Pinedale Array 40.36 79 P **P 06 27 08.8 +1.3**
comp=Z,2.7nm,0.5s,baz=298,slow=3.9,SNR=30
PDAR Pinedale Array 40.36 79 P **P 06 27 06.6 -0.9**
MSHR Mys Shultsa 40.41 281 *e*P **P 06 27 07.7 +0.1**
MSHR pmax pmax
comp=Z,7.0nm,0.8s
JLU Jordanelle 40.47 83 P **P 06 27 07.9 -0.6**
GSC Goldstone, Bar 40.51 93 P **P 06 27 10.5 +1.9**
baz=312
FCC Fort Churchill 40.99 50 P **P 06 27 12.5 +0.4**
FCC pmax pmax
comp=Z,36nm,1.0s
FCC Fort Churchill 40.99 50 P **P 06 27 12.5 +0.4**
FCC IAmb IAmb 06 27 15.4
comp=Z,36nm,0.9s
CCUT Cedar City 41.17 88 P **P 06 27 16.4 +2.2**
P17A Butcher Ranch, 41.59 84 IAmb IAmb 06 27 33.5
comp=Z,36nm,1.6s
RDMU Red Mountain 41.64 82 IAmb IAmb 06 27 34.3
comp=Z,60nm,1.4s
KNB Kanab 41.85 88 P **P 06 27 23.9 +4.2**
KNB pmax pmax
comp=Z,12nm,1.3s
KNB Kanab 41.85 88 P **P 06 27 23.9 +4.2**
SRU San Rafael Swe 41.95 84 P **P 06 27 22.6 +2.1**
SRU pmax pmax
comp=Z,33nm,1.3s
SRU San Rafael Swe 41.95 84 P **P 06 27 22.6 +2.1**
SRU IAmb IAmb 06 27 36.4
comp=Z,33nm,1.3s
K22A Casper 42.25 77 P **P 06 27 22.6 -0.3**
baz=306
K22A Casper 42.25 77 IAmb IAmb 06 27 37.7
comp=Z,44nm,1.6s
IRM Iron Mountain 42.29 93 P **P 06 27 23.4 +0.2**
baz=312
MONP2 Monument Peak 42.36 96 P **P 06 27 24.4 +0.4**
baz=314
O20A White River Ci 42.71 81 P **P 06 27 26.6 -0.1**
baz=308,SNR=12
O20A White River Ci 42.71 81 IAmb IAmb 06 27 41.9
comp=Z,36nm,1.0s
PDMCI Parker Dam,Lak 42.81 92 P **P 06 27 27.0 -0.3**
baz=312
RSSD Black Hills 42.89 74 P **P 06 27 27.2 -1.0**
RSSD pmax pmax
comp=Z,39nm,1.6s
RSSD Black Hills 42.89 74 P **P 06 27 27.1 -1.0**
baz=305
RSSD Black Hills 42.89 74 P **P 06 27 27.2 -1.0**
RSSD IAmb IAmb 06 27 42.8
comp=Z,39nm,1.6s
CN2 Changchun 43.13 286 *e*P **P 06 27 29.0 -0.8**
CN2 pmax pmax
comp=Z,20nm,0.8s
PV04 Paradox Valley 43.38 84 IAmb IAmb 06 27 48.0
comp=Z,37nm,1.5s
HIA Hailar 43.39 296⇑ *i* P **P 06 27 30.6 -1.3**
HIA pmax pmax
comp=Z,27nm,1.1s
PV17 East Wray Mesa 43.42 84 IAmb IAmb 06 27 48.2
comp=Z,50nm,1.4s
PV16 Nyswonger Mesa 43.43 84 P **P 06 27 32.9 +0.4**
PV16 IAmb IAmb 06 27 47.6
comp=Z,28nm,1.4s
E28A Huff 43.46 69 P **P 06 27 33.4 +0.8**
PV11 David Mesa, Pa 43.46 84 P **P 06 27 31.3 -1.5**
PV11 IAmb IAmb 06 27 48.6
comp=Z,20nm,0.9s
PV05 Paradox Valley 43.46 84 IAmb IAmb 06 27 49.6
comp=Z,44nm,1.5s
PV12 Saucer Basin, 43.49 84 IAmb IAmb 06 27 49.0
comp=Z,25nm,1.1s
PV13 Radium Mtn., P 43.58 84 IAmb IAmb 06 27 50.1
comp=Z,55nm,1.2s
PV02 Paradox Valley 43.60 84 IAmb IAmb 06 27 50.3
comp=Z,27nm,1.1s
N23A Red Feather La 43.64 79 P **P 06 27 35.4 +1.1**
baz=307
WUAZ Wupatki 43.71 89 P **P 06 27 34.7 -0.1**
baz=311
PV01 Paradox Valley 43.75 84 IAmb IAmb 06 27 50.9
comp=Z,31nm,1.4s
ULM Lac du Bonnet 44.16 62 P **P 06 27 38.3 +0.3**
comp=Z,2.2nm,0.5s,baz=303,slow=9.6,SNR=2.6
ULM Lac du Bonnet 44.16 62 P **P 06 27 37.3 -0.8**
ULM pmax pmax
comp=Z,12nm,1.3s
ULM Lac du Bonnet 44.16 62 P **P 06 27 37.2 -0.8**
MVCO Mesa Verde 44.38 85 P **P 06 27 41.5 +1.2**
baz=310
X16A Lo Mia Camp, P 44.39 90 P **P 06 27 39.1 -1.2**
ISCO Idaho Springs 44.51 80 P **P 06 27 40.7 -0.7**
ISCO pmax pmax
comp=Z,10.0nm,1.3s
ISCO Idaho Springs 44.51 80 P **P 06 27 40.9 -0.5**
baz=308,SNR=5.3
ISCO Idaho Springs 44.51 80 P **P 06 27 40.7 -0.7**
S22A 4UR Ranch, Cre 45.06 83 P **P 06 27 45.7 0.0**
baz=310
NEEM North Greenlan 45.13 16 *i* P **P 06 27 46.0 +0.1**
214A Organ Pipe Nat 45.22 94 P **P 06 27 47.7 +0.9**
baz=314
AGMN Agassiz Nation 45.23 64 P **P 06 27 45.6 -1.0**
baz=304
AGMN Agassiz Nation 45.23 64 IAmb IAmb 06 28 01.4
comp=Z,18nm,1.1s
Q24A Divide 45.31 81 P **P 06 27 47.7 -0.1**
baz=309
KSRS Korea Array 45.50 277 P **P 06 27 49.0 +0.2**
comp=Z,14nm,0.8s,baz=56,slow=7.4,SNR=46
KS19 Wonju Array Si 45.50 277 P **P 06 27 48.5 -0.4**
KS19 IAmb IAmb 06 27 50.8
comp=Z,21nm,0.9s
KSAR Wonju Array Be 45.53 277 P **P 06 27 47.8 -1.3**
KSAR Wonju Array Be 45.53 277 P **P 06 27 47.8 -1.3**
NOR Nord 45.63 5 *i* P **P 06 27 49.7 +0.3**
NOR IAmb IAmb 06 27 51.4
comp=Z,12nm,1.1s
NOR Nord 45.63 5 *i* P **P 06 27 49.7 +0.3**
NOR pmax pmax
comp=Z,12nm,1.1s
SDCO Great Sand Dun 45.87 82 P **P 06 27 52.3 +0.1**
baz=310
SDCO Great Sand Dun 45.87 82 P **P 06 27 52.6 +0.5**
SDCO IAmb IAmb 06 28 08.3
comp=Z,16nm,1.2s
TUC Tucson 46.22 92 P **P 06 27 55.1 +0.4**
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC Tucson 46.22 92 P **P 06 27 54.4 -0.3**
baz=314
TUC Tucson 46.22 92 P **P 06 27 55.1 +0.4**
B35A Bob, Littlefor 46.38 63 P **P 06 27 55.7 +0.1**
B35A IAmb IAmb 06 27 56.9
comp=Z,9.9nm,0.6s
TJN Taejon 46.54 276⇓ *i* P **P 06 27 57.2 +0.2**
NRIK Noril'sk 46.61 332 P **P 06 27 56.7 -0.5**
comp=Z,4.1nm,0.4s,baz=79,slow=6.4,SNR=6.1
NRIK Noril'sk 46.61 332 P **P 06 27 56.7 -0.5**
NRIK pmax pmax
comp=Z,31nm,1.8s
NRIK Noril'sk 46.61 332 P **P 06 27 56.7 -0.5**
NRIK IAmb IAmb 06 27 58.2
comp=Z,31nm,1.8s
T25A Trinidad 46.92 82 P **P 06 28 00.6 +0.2**
baz=310,SNR=8.6
T25A Trinidad 46.92 82 P **P 06 28 01.3 +0.9**
ANMO Albuquerque 47.11 86 *e*P **P 06 28 03.7 +1.9**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 47.11 86 P **P 06 28 01.0 -0.8**
baz=312
ECSD EROS Data Cent 47.46 70 P **P 06 28 03.6 -0.6**
baz=307,SNR=6.1
ECSD EROS Data Cent 47.46 70 P **P 06 28 03.5 -0.7**
ECSD IAmb IAmb 06 28 17.8
comp=Z,18nm,1.2s
BNM Barren Site 47.53 87 P **P 06 28 05.8 +0.7**
EYMN Ely 47.84 62 P **P 06 28 06.4 -0.6**
baz=306,SNR=5.7
EYMN Ely 47.84 62 P **P 06 28 06.8 -0.2**
EYMN IAmb IAmb 06 28 27.7
comp=Z,12nm,0.9s
JSU Suzuyama 47.91 269 P **P 06 28 08.8 +1.0**
121A Cookes Peak, D 47.91 89 P **P 06 28 08.7 +0.6**
baz=313
121A Cookes Peak, D 47.91 89 P **P 06 28 09.0 +0.9**
F36A Milaca 47.94 66 P **P 06 28 07.4 -0.5**
BGNE Belgrade 47.98 73 P **P 06 28 08.2 -0.1**
baz=309
BGNE Belgrade 47.98 73 P **P 06 28 08.4 +0.1**
E38A The Farm, Brul 48.60 64 IAmb IAmb 06 28 25.8
comp=Z,28nm,1.4s
SPMN Marine on St. 48.73 66 P **P 06 28 14.5 +0.5**
baz=307
SPMN Marine on St. 48.73 66 IAmb IAmb 06 28 28.1
comp=Z,24nm,1.4s
R32A Long Quarter, 49.54 77 P **P 06 28 20.9 +0.6**
N35A Tabor 49.80 72 P **P 06 28 22.1 -0.1**
SPITS Spitsbergen Ar 49.84 358 P **P 06 28 21.8 -0.2**
SPITS pmax pmax
comp=Z,23nm,1.2s
DAG Danmarks Havn 49.95 8 *i* P **P 06 28 22.6 -0.3**
DAG IAmb IAmb 06 28 23.9
comp=Z,18nm,0.8s
DAG Danmarks Havn 49.95 8 *i* P **P 06 28 22.5 -0.3**
DAG pmax pmax
comp=Z,18nm,0.8s
D41A Chassel 49.96 62 P **P 06 28 23.9 +0.6**
D41A IAmb IAmb 06 28 44.9
comp=Z,9.7nm,0.7s
MNTX Cornudas Mount 49.97 88 P **P 06 28 24.8 +1.2**
baz=314
MNTX Cornudas Mount 49.97 88 P **P 06 28 23.9 +0.3**
MSTX Muleshoe 50.02 84 P **P 06 28 24.5 +0.4**
baz=313
MSTX Muleshoe 50.02 84 P **P 06 28 24.2 +0.1**
AMTX Amarillo 50.07 82 P **P 06 28 24.1 -0.4**
baz=312
AMTX Amarillo 50.07 82 P **P 06 28 23.9 -0.5**
AMTX IAmb IAmb 06 28 40.0
comp=Z,14nm,1.1s
G40A Rib Lake 50.16 65 P **P 06 28 24.4 -0.5**
G40A IAmb IAmb 06 28 39.5
comp=Z,24nm,1.6s
COWI Conover 50.23 63 P **P 06 28 25.2 -0.3**
COWI IAmb IAmb 06 28 39.2
comp=Z,48nm,2.0s
K38A Parkersburg 50.34 69 IAmb IAmb 06 28 40.2
comp=Z,18nm,1.0s
BJI Beijing 50.90 288 P **P 06 28 31.0 +0.5**
BJI pP **sP 06 28 38.8 -0.2**
BJI PcP **PcP 06 29 46.3 -0.4**
BJI pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 50.92 17 *i* P **P 06 28 31.3 +0.6**
SUMG IAmb IAmb 06 28 33.1
comp=Z,18nm,0.8s
SUMG Summit 50.92 17 *i* P **P 06 28 31.3 +0.6**
SUMG pmax pmax
comp=Z,18nm,0.8s
SUMG Summit 50.92 17 P **P 06 28 31.3 +0.6**
E43A Lone Tree Farm 51.23 62 IAmb IAmb 06 28 37.3
comp=Z,13nm,0.6s
N38A Joes South For 51.25 71 IAmb IAmb 06 28 46.9
comp=Z,31nm,0.9s
ZAK Zakamensk 51.48 305 *e*P **P 06 28 34.5 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,0.3s
L40A Anamosa 51.60 68 IAmb IAmb 06 28 49.2
comp=Z,46nm,1.5s
JFWS Jewell Farm 51.61 67 P **P 06 28 34.8 -1.0**
baz=310
JFWS Jewell Farm 51.61 67 IAmb IAmb 06 28 51.0
comp=Z,51nm,1.9s
I42A Draeger Farm, 51.74 65 IAmb IAmb 06 28 50.5
comp=Z,26nm,1.4s
MOY Mondy 51.81 308 *e*P **P 06 28 37.5 +0.1**
MOY pmax pmax
comp=Z,16nm,1.2s
WMOK Wichita Mounta 51.93 80 P **P 06 28 39.5 +1.1**
WMOK pmax pmax
comp=Z,15nm,1.1s
WMOK Wichita Mounta 51.93 80 P **P 06 28 38.6 +0.2**
baz=313
WMOK Wichita Mounta 51.93 80 P **P 06 28 39.5 +1.1**
WMOK IAmb IAmb 06 28 53.1
comp=Z,15nm,1.1s
H43A Windswept, Lux 52.01 64 P **P 06 28 38.8 0.0**
H43A IAmb IAmb 06 28 39.9
comp=Z,12nm,0.7s
DBG Daneborg 52.06 10 *i* P **P 06 28 37.8 -1.0**
DBG IAmb IAmb 06 28 39.2
comp=Z,22nm,0.7s
OK031 S. Brethren Rd 52.29 78 P **P 06 28 41.7 +0.7**
FNO Franklin 52.42 79 P **P 06 28 42.3 +0.3**
TX31 Lajitas Ar. Si 52.67 89 P **P 06 28 44.7 +0.7**
TX32 Lajitas Array 52.67 89 P **P 06 28 44.7 +0.7**
TX32 IAmb IAmb 06 28 59.8
comp=Z,24nm,1.4s
TXAR Lajitas Array 52.67 89 P **P 06 28 44.5 +0.5**
comp=Z,2.5nm,0.5s,baz=305,slow=5.9,SNR=28
TXAR Lajitas Array 52.67 89 P **P 06 28 43.9 -0.1**
TXAR Lajitas Array 52.67 89 P **P 06 28 43.9 -0.1**
E46A Sault Ste Mari 52.68 60 P **P 06 28 43.8 0.0**
E46A IAmb IAmb 06 28 57.9
comp=Z,30nm,1.4s
TIA Tai'an 52.85 283⇓ *i* P **P 06 28 45.0 -0.1**
TIA pmax pmax
comp=Z,24nm,0.9s
TUL1 Leonard 52.95 77 P **P 06 28 45.8 0.0**
baz=312
HHC Hu-ho-hao-te 53.05 291 *e*P **P 06 28 47.3 +0.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,320nm,6.6s
I45A Fountain 53.13 63 IAmb IAmb 06 28 52.1
comp=Z,15nm,0.7s
U38A Gravette 53.44 76 IAmb IAmb 06 29 09.8
comp=Z,12nm,1.0s
BJO1 Bjornoya 53.46 357 *e*P **P 06 28 48.8 -0.2**
ICESG Greenland Ices 53.50 20 *i* P **P 06 28 49.6 -0.3**
ICESG IAmb IAmb 06 28 50.6
comp=Z,18nm,0.8s
GLMI Grayling 53.51 62 P **P 06 28 48.5 -1.4**
baz=310
HDIL Hopedale 53.68 69 P **P 06 28 49.6 -1.5**
baz=311,SNR=5.5
HDIL Hopedale 53.68 69 P **P 06 28 50.4 -0.8**
MATQ Matagami 53.93 53 P **P 06 28 52.9 0.0**
baz=311
DY2G Dye2 54.03 25 *i* P **P 06 28 53.5 -0.1**
DY2G IAmb IAmb 06 28 55.2
comp=Z,14nm,0.6s
BTO Baotou 54.10 292 *e*P **P 06 28 54.5 +0.2**
BTO S **S 06 36 29.5 -0.1**
X37A Clayton 54.10 78 P **P 06 28 54.2 -0.1**
X37A IAmb IAmb 06 29 08.9
comp=Z,37nm,1.4s
P43A Skaggs, Pawnee 54.16 70 P **P 06 28 53.8 -0.8**
P43A IAmb IAmb 06 29 08.2
comp=Z,18nm,1.1s
CCM Cathedral Cave 54.21 72 P **P 06 28 54.7 -0.3**
CCM pmax pmax
comp=Z,43nm,1.8s
CCM Cathedral Cave 54.21 72 P **P 06 28 55.1 0.0**
baz=312
CCM Cathedral Cave 54.21 72 P **P 06 28 54.7 -0.3**
CCM IAmb IAmb 06 29 07.9
comp=Z,43nm,1.8s
MGMO Mountain Grove 54.21 74 P **P 06 28 53.7 -1.4**
MGMO IAmb IAmb 06 29 07.6
comp=Z,13nm,1.1s
JCT Junction City 54.24 85 P **P 06 28 56.4 +0.9**
JCT pmax pmax
comp=Z,58nm,1.6s
JCT Junction City 54.24 85 P **P 06 28 55.6 +0.1**
baz=315
JCT Junction City 54.24 85 P **P 06 28 56.4 +0.9**
U40A Yellville 54.40 75 P **P 06 28 55.2 -1.3**
baz=313
U40A Yellville 54.40 75 P **P 06 28 55.9 -0.6**
U40A IAmb IAmb 06 29 08.9
comp=Z,12nm,0.9s
WHTX Lake Whitney, 54.62 82 P **P 06 28 58.2 +0.1**
baz=314
WHTX Lake Whitney, 54.62 82 P **P 06 28 58.7 +0.5**
W39A Magazine 54.63 76 P **P 06 28 57.6 -0.6**
baz=313
NJ2 Nanjing 54.65 278 *e*P **P 06 28 57.5 -0.8**
NJ2 pmax pmax
comp=Z,25nm,0.6s
LSQQ Lebel-sur-Quev 54.72 54 P **P 06 28 58.4 -0.2**
baz=311
T42A Van Buren 54.99 73 P **P 06 28 58.9 -1.8**
SFIN Lafayette 55.05 67 P **P 06 28 59.3 -1.8**
baz=312
SFIN Lafayette 55.05 67 IAmb IAmb 06 29 15.0
comp=Z,24nm,1.1s
FCAR Ozark Folk Cen 55.15 75 P **P 06 29 00.7 -1.2**
FCAR IAmb IAmb 06 29 17.9
comp=Z,12nm,0.9s
MIAR Mount Ida 55.20 77 P **P 06 29 02.0 -0.3**
MIAR pmax pmax
comp=Z,36nm,1.4s
MIAR Mount Ida 55.20 77 P **P 06 29 01.5 -0.8**
baz=314
MIAR Mount Ida 55.20 77 P **P 06 29 02.0 -0.3**
MIAR IAmb IAmb 06 29 16.7
comp=Z,36nm,1.4s
SCO Scoresbysund 55.37 13 *i* P **P 06 29 03.1 +0.1**
SCO IAmb IAmb 06 29 04.2
comp=Z,8.6nm,0.6s
SCO Scoresbysund 55.37 13 *i* P **P 06 29 03.1 +0.1**
SCO pmax pmax
comp=Z,9.0nm,0.6s
CHGQ Chibougamau 55.42 51 P **P 06 29 01.9 -1.8**
baz=312
L48A N Adams 55.50 64 IAmb IAmb 06 29 19.6
comp=Z,28nm,1.4s
SCHQ Schefferville 55.51 43 P **P 06 29 05.0 +0.8**
comp=Z,18nm,0.8s,baz=322,slow=8.5,SNR=15
SCHQ Schefferville 55.51 43 IAmb IAmb 06 29 06.8
comp=Z,24nm,0.9s
N47A Urbana 55.51 66 IAmb IAmb 06 29 17.4

comp=Z,28nm,1.1s
W41B Gary Mavity, V 55.57 75 P **P** 06 29 04.5 -0.4
baz=314
OLIL Olney 55.58 70 P **P** 06 29 04.3 -0.6
AAM Ann Arbor 55.69 64 P **P** 06 29 05.7 0.0
baz=312
833A Chaparral WMA, 56.02 86 P **P** 06 29 09.0 +0.8
baz=316
WLAR White Oak Lake 56.07 77 P **P** 06 29 08.1 -0.5
BLO Bloomington 56.19 68 P **P** 06 29 09.4 +0.1
BLO pmax pmax
comp=Z,23nm,1.2s
BLO Bloomington 56.19 68 P **P** 06 29 09.4 +0.1
BLO IAmb IAmb 06 29 22.9
comp=Z,23nm,1.2s
ALGO Algonquin Park 56.24 57 P **P** 06 29 09.3 -0.3
baz=312
ISOG Isortoq, Green 56.56 22 *i* P **P** 06 29 11.3 -0.2
ISOG IAmb IAmb 06 29 12.4
comp=Z,12nm,0.8s
P48A Milroy 56.62 67 IAmb IAmb 06 29 25.4
comp=Z,21nm,1.1s
CCAR Cane Creek 56.72 76 P **P** 06 29 14.6 +1.5
ANGG Ammassalik, Gr 56.81 22 *i* P **P** 06 29 12.5 -0.8
ANGG IAmb IAmb 06 29 14.5
comp=Z,13nm,0.8s
WCI Wyandotte Cave 56.96 69 P **P** 06 29 14.5 -0.3
WCI pmax pmax
comp=Z,13nm,1.1s
WCI Wyandotte Cave 56.96 69 P **P** 06 29 14.2 -0.6
baz=313
WCI Wyandotte Cave 56.96 69 P **P** 06 29 14.5 -0.3
WCI IAmb IAmb 06 29 28.4
comp=Z,13nm,1.1s
P49A Miami Univ. Ec 56.97 67 P **P** 06 29 13.4 -1.5
baz=313,SNR=5.4
P49A Miami Univ. Ec 56.97 67 P **P** 06 29 13.9 -1.0
P49A IAmb IAmb 06 29 27.7
comp=Z,14nm,1.1s
HKT Hockley 57.04 82 P **P** 06 29 16.1 +0.7
HKT pmax pmax
comp=Z,15nm,1.3s
HKT Hockley 57.04 82 P **P** 06 29 16.1 +0.7
HKT IAmb IAmb 06 29 31.5
comp=Z,15nm,1.3s
T47A Sharon Grove 57.35 70 IAmb IAmb 06 29 31.4
comp=Z,30nm,1.2s
PLVO Plevna 57.36 57 IAmb IAmb 06 29 32.6
comp=Z,36nm,1.5s
DELO Deloro Mine 57.44 58 IAmb IAmb 06 29 22.1
comp=Z,23nm,1.4s
ACSO Alum Creek Sta 57.47 65 P **P** 06 29 17.3 -1.1
baz=313
WVT Waverly 57.52 72 P **P** 06 29 19.1 +0.3
WVT pmax pmax
comp=Z,44nm,1.6s
WVT Waverly 57.52 72 P **P** 06 29 18.4 -0.4
baz=314
WVT Waverly 57.52 72 P **P** 06 29 19.1 +0.3
WVT IAmb IAmb 06 29 32.9
comp=Z,44nm,1.6s
ZALV Zalesovo Beam 57.60 318 P **P** 06 29 18.8 -0.3
comp=Z,1.7nm,0.3s,baz=32,slow=6.7,SNR=5.3
ZALV PcP **PcP** 06 30 12.8 +0.7
comp=Z,1.9nm,0.4s,baz=35,slow=5.7,SNR=4.2
ZALV Zalesovo Beam 57.60 318 *i* P **P** 06 29 19.1 0.0
ZALV pmax pmax
comp=Z,2.0nm,0.3s
OXF Oxford 57.71 74 P **P** 06 29 20.6 +0.5
OXF pmax pmax
comp=Z,51nm,1.1s
OXF Oxford 57.71 74 P **P** 06 29 20.0 -0.1
baz=314
OXF Oxford 57.71 74 P **P** 06 29 20.6 +0.5
M53A WI Miller and 57.91 63 P **P** 06 29 20.9 -0.6
baz=314
M53A WI Miller and 57.91 63 IAmb IAmb 06 29 35.4
comp=Z,35nm,1.4s
LATQ La Tuque 57.92 53 P **P** 06 29 20.6 -0.8
baz=314
LATQ La Tuque 57.92 53 IAmb IAmb 06 29 35.0
comp=Z,17nm,1.3s
R50A Paris 58.05 67 P **P** 06 29 21.9 -0.6
R50A IAmb IAmb 06 29 36.3
comp=Z,15nm,1.0s
Q51A Peebles 58.09 66 P **P** 06 29 22.9 +0.1
Q51A IAmb IAmb 06 29 36.8
comp=Z,22nm,0.9s
ARA0 ARCESS Array S 58.10 354 *e*P **P** 06 29 22.8 +0.4
ARCES ARCESS Array B 58.10 354 P **P** 06 29 21.8 -0.6
comp=Z,4.1nm,0.6s,baz=20,slow=6.0,SNR=13
ARCES PcP **PcP** 06 30 14.1 +0.2
comp=Z,3.4nm,0.7s,baz=17,slow=4.7,SNR=2.2
ARCES ARCESS Array B 58.10 354 P **P** 06 29 21.5 -0.9
ARCES pmax pmax
comp=Z,52nm,1.8s
ARCES ARCESS Array B 58.10 354 P **P** 06 29 21.5 -0.9
PECO Prince Edward 58.16 58 IAmb IAmb 06 29 37.6
comp=Z,15nm,1.1s
PLAL Pickwick Lake 58.17 73 P **P** 06 29 22.9 -0.4
PLAL IAmb IAmb 06 29 36.3
comp=Z,14nm,1.1s
Q52A Adamsville 58.19 64 P **P** 06 29 22.8 -0.6
J55A Hilton 58.19 59 P **P** 06 29 23.7 +0.3
J55A IAmb IAmb 06 29 40.4
comp=Z,8.5nm,0.8s
N53A Lisbon 58.26 63 P **P** 06 29 24.2 +0.2
N53A IAmb IAmb 06 29 37.6
comp=Z,27nm,1.4s
TRO Tromso 58.33 357 *e*P **P** 06 29 22.6 -1.4
JETT Jettan, Norway 58.35 356 *e*P **P** 06 29 25.2 +1.0
CLTN Cedars of Leba 58.42 71 IAmb IAmb 06 29 39.2
comp=Z,22nm,1.3s
M54A Oil Creek Stat 58.42 62 P **P** 06 29 23.6 -1.4
baz=314
M54A Oil Creek Stat 58.42 62 IAmb IAmb 06 29 39.0
comp=Z,41nm,1.7s
O53A New Philadelph 58.44 64 P **P** 06 29 23.5 -1.7
baz=314
O53A New Philadelph 58.44 64 IAmb IAmb 06 29 39.5
comp=Z,37nm,1.6s
U49A Red Boiling Sp 58.44 70 IAmb IAmb 06 29 38.5
comp=Z,18nm,1.4s
WHN Wuhan 58.44 280 ⇑P **P** 06 29 25.0 -0.3
N54A Moraine State 58.62 63 P **P** 06 29 24.9 -1.6
baz=314
H57A Richville 58.63 57 P **P** 06 29 22.9 -3.5
baz=314
T50A Nancy 58.63 69 IAmb IAmb 06 29 40.4
comp=Z,25nm,1.4s
J56A Wolcott 58.69 59 IAmb IAmb 06 29 31.9
comp=Z,20nm,1.3s
KTK1 Kautokeino 58.75 355 *e*P **P** 06 29 26.9 -0.1
K56A Middlesex 58.85 59 P **P** 06 29 27.2 -0.8
baz=314,SNR=9.0
I57A Carthage 58.86 57 P **P** 06 29 27.6 -0.5
baz=314,SNR=7.3
LVZ Lovozero 58.90 350*d* *i*P **P** 06 29 27.5 -0.5
LVZ pmax pmax
comp=Z,26nm,0.7s
LVZ Lovozero 58.90 350 P **P** 06 29 27.2 -0.8
S51A Beattyville 58.91 68 P **P** 06 29 28.6 0.0
S51A IAmb IAmb 06 29 42.8
comp=Z,8.3nm,0.9s
LONY Lake Ozonia 58.94 56 P **P** 06 29 27.9 -0.8
baz=314
O54A Avella 58.95 63 IAmb IAmb 06 29 42.5
comp=Z,20nm,1.0s
J57A Williamstown 59.05 58 IAmb IAmb 06 29 44.5
comp=Z,31nm,1.4s
L56A Greenwood 59.11 60 P **P** 06 29 29.7 -0.2
X48A Hartselle 59.15 72 IAmb IAmb 06 29 43.3
comp=Z,11nm,1.1s
XAN Xi'an 59.22 287 P **P** 06 29 30.3 -0.5
XAN pP pwP 06 29 41.0 +0.6
XAN sP sP 06 29 44.5 +5.8
XAN pmax pmax
comp=Z,22nm,1.0s
H58A Gabriels 59.28 56 P **P** 06 29 29.9 -1.2
baz=315
SSLB Suanglung 59.28 270 P **P** 06 29 30.2 -1.1
D61A St Aubert, Com 59.31 52 P **P** 06 29 30.5 -0.5
baz=315,SNR=5.4
H59A Cadyville 59.37 56 P **P** 06 29 30.7 -0.9
baz=315
I58A Old Forge 59.39 57 P **P** 06 29 31.2 -0.6
baz=315
Z47A Carrollton 59.42 74 IAmb IAmb 06 29 52.7
comp=Z,20nm,1.0s
J58A Remsen 59.45 58 P **P** 06 29 31.3 -0.9
baz=315,SNR=8.1
DGZ Jazzator, Alta 59.52 313⇑ *i*P **P** 06 29 32.7 0.0
DGZ pmax pmax
comp=Z,12nm,0.6s
NCB Newcomb 59.58 57 P **P** 06 29 33.1 0.0
MCWV Mont Chateau 59.60 64 P **P** 06 29 32.3 -1.0
baz=315
MCWV Mont Chateau 59.60 64 P **P** 06 29 33.5 +0.2
MCWV IAmb IAmb 06 29 47.3
comp=Z,20nm,1.1s
TZTN Tazewell 59.70 68 P **P** 06 29 33.7 -0.3
baz=315
TZTN Tazewell 59.70 68 IAmb IAmb 06 29 48.0
comp=Z,22nm,1.4s
J59A Piesco 59.79 57 IAmb IAmb 06 29 49.4
comp=Z,16nm,1.3s
O56A Blue Knob Stat 59.88 62 P **P** 06 29 34.2 -1.1
baz=315
I59A Olmsteadville 59.88 56 P **P** 06 29 33.8 -1.3
baz=315
M57A Sunshine Farm, 59.90 60 IAmb IAmb 06 29 40.2
comp=Z,8.4nm,0.7s
BINY Binghamton 59.90 59 P **P** 06 29 34.4 -0.9
baz=315
BINY Binghamton 59.90 59 P **P** 06 29 35.7 +0.4
FPAL Fort Paine 59.92 71 P **P** 06 29 34.6 -1.0
FPAL IAmb IAmb 06 29 52.0
comp=Z,13nm,1.0s
Y49A Blount Mountai 59.94 73 P **P** 06 29 34.8 -0.8
Y49A IAmb IAmb 06 29 57.2
comp=Z,9.1nm,0.9s
D62A Allapoint, All 59.94 51 P **P** 06 29 34.4 -1.0
baz=316
LOF Lofoten 59.97 359 *e*P **P** 06 29 35.0 -0.3
SSPA Standing Stone 59.99 61 P **P** 06 29 34.9 -1.0
baz=315
SSPA Standing Stone 59.99 61 P **P** 06 29 36.2 +0.3
E62A Clayton Lake 60.04 52 P **P** 06 29 35.7 -0.5
baz=316
L58A Harry Jones Me 60.08 59 P **P** 06 29 35.5 -1.1
baz=315
S54A Dingess, Beckl 60.09 66 P **P** 06 29 36.3 -0.4
S54A IAmb IAmb 06 29 38.0
comp=Z,12nm,0.7s
STEI Steigen 60.14 358 *e*P **P** 06 29 36.0 -0.5
F62A Pittston Farm, 60.34 52 P **P** 06 29 38.2 -0.1
baz=316
H61A Lyndonville 60.34 55 P **P** 06 29 37.7 -0.6
baz=316
L59A Walton 60.41 58 IAmb IAmb 06 29 44.1
comp=Z,21nm,1.0s
J60A Lant Hill Farm 60.50 57 P **P** 06 29 37.9 -1.5
baz=316
G62A West of Eustis 60.55 53 P **P** 06 29 38.1 -1.6
baz=316
LBNH Lisbon 60.55 55 P **P** 06 29 39.0 -0.8
baz=316
GTA Gaotai 60.62 297 ⇓P **P** 06 29 39.8 -0.6
GTA pP pP 06 29 46.8 +0.6
GTA sP pwP 06 29 50.5 +0.3
GTA pmax pmax
comp=Z,15nm,0.9s
FAUS Fauske 60.69 358 *e*P **P** 06 29 39.5 -0.8
H62A Milan 60.70 54 P **P** 06 29 39.4 -1.4
baz=316
U54A Nelsons Funny 60.71 67 IAmb IAmb 06 29 55.2
comp=Z,26nm,1.2s
LZH Lanzhou 60.72 292 *e*P **P** 06 29 41.5 +0.3
LZH pP pwP 06 29 54.0 +3.1
LZH pmax pmax
comp=Z,27nm,1.3s
F63A Nahmakanta, Br 60.90 52 P **P** 06 29 41.2 -0.8
baz=316
N59A State Game Lan 60.92 60 P **P** 06 29 40.7 -1.6
baz=316
N59A State Game Lan 60.92 60 IAmb IAmb 06 29 57.4
comp=Z,19nm,1.4s
K61A Williamstown 60.99 57 P **P** 06 29 42.0 -0.7
baz=316
E64A Bridgewater 61.00 51 P **P** 06 29 41.9 -0.8
baz=317
BLA Blacksburg 61.01 66 P **P** 06 29 43.1 +0.1
BLA pmax pmax
comp=Z,21nm,1.0s
BLA Blacksburg 61.01 66 P **P** 06 29 42.6 -0.4
baz=316
BLA Blacksburg 61.01 66 P **P** 06 29 43.1 +0.1
BLA IAmb IAmb 06 29 57.2
comp=Z,21nm,1.0s
F64A Sherman 61.15 52 P **P** 06 29 42.7 -1.0
baz=317
BG3 Lake Jocassee 61.16 69 P **P** 06 29 43.5 -0.4
BG3 IAmb IAmb 06 29 57.2
comp=Z,15nm,1.2s
LUPA Lehigh Univers 61.36 60 P **P** 06 29 45.5 +0.2
G64A Maxfield 61.40 52 P **P** 06 29 44.2 -1.2
baz=317
S57A Dark Hollow, R 61.44 64 P **P** 06 29 45.5 -0.4
K62A Royalston 61.52 56 P **P** 06 29 45.8 -0.5
baz=316
K62A Royalston 61.52 56 P **P** 06 29 47.0 +0.6
K62A IAmb IAmb 06 29 48.0
comp=Z,8.9nm,0.7s
ENH Enshi 61.56 283 P **P** 06 29 45.8 -1.0
KONS Konsvik 61.62 359 *e*P **P** 06 29 46.3 -0.2
WUPA West Chester U 61.71 61 P **P** 06 29 49.1 +1.5
STOK Stokkvaagen 61.78 359 *e*P **P** 06 29 48.5 +0.8
PAULI Pauline 61.92 69 IAmb IAmb 06 30 02.7
comp=Z,9.9nm,1.0s
MOR8 Moi Rana 61.92 358 *e*P **P** 06 29 47.2 -1.5
KMSC Kings Mountain 61.97 68 P **P** 06 29 48.2 -1.2
baz=316
GOGA Godfrey 61.98 71 P **P** 06 29 47.4 -2.1
baz=316
H66A Whiting 62.44 52 P **P** 06 29 50.1 -2.3
baz=317
V58A Windy Hill, Pi 62.76 66 IAmb IAmb 06 30 08.9
comp=Z,23nm,1.1s
T59A Double "B" Far 62.78 64 IAmb IAmb 06 30 08.8
comp=Z,20nm,1.1s
PRGR Permogore 63.17 342 *e*P **P** 06 29 56.3 -0.7
PRGR pmax pmax
comp=Z,56nm,1.1s
DRLN Deer Lake 63.51 43 P **P** 06 30 00.1 +0.6
X58A Rowland 63.52 67 P **P** 06 29 59.9 +0.2
X58A IAmb IAmb 06 30 13.5
comp=Z,16nm,1.0s
NSS Namsos 63.60 359 *e*P **P** 06 29 59.0 -0.8
WMQ Urumqi 63.70 308 *e*P **P** 06 30 02.3 +1.4
WMQ sP pwP 06 30 16.3 +5.6
WMQ pmax pmax
comp=Z,24nm,1.3s
Y58A Scranton 63.81 68 P **P** 06 30 01.3 -0.4
SVE Sverdlovsk 63.87 332 *e*P **P** 06 30 03.4 +1.7
BRVK Borovoye 63.90 325⇑ *i*P **P** 06 30 01.4 -0.6
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 63.90 325 P **P** 06 30 01.6 -0.3
BRVK IAmb IAmb 06 30 03.8
comp=Z,30nm,1.6s
MK31 Makanchi Array 63.98 314 P **P** 06 30 01.0 -1.7
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 63.98 314 P **P** 06 30 00.9 -1.7
MKAR Makanchi Array 63.98 314 P **P** 06 30 01.7 -0.9
comp=Z,6.0nm,0.7s,baz=50,slow=6.3,SNR=40
MKAR Makanchi Array 63.98 314 P **P** 06 30 01.0 -1.6
NHSC New Hope 64.09 69 P **P** 06 30 03.4 -0.2
baz=317
MAKZ Makanchi 64.11 314 P **P** 06 30 02.3 -1.2
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 64.11 314 P **P** 06 30 02.3 -1.2
MAKZ IAmb IAmb 06 30 04.4
comp=Z,8.4nm,0.9s
Y59A Loris 64.20 67 P **P** 06 30 04.2 0.0
CD2 Chengdu 64.50 288 P **P** 06 30 06.8 +0.5
CD2 pmax pmax
comp=Z,80nm,1.1s
GBN Guysborough 64.70 48 P **P** 06 30 09.4 +2.1
ARU Arti 64.81 333*c* *i*P **P** 06 30 07.1 -0.7
ARU 06 30 38.8
ARU S **S** 06 38 47.1 0.0
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 64.81 333 P **P** 06 30 08.1 +0.3
KLMR Klimovskoe 64.97 345 *e*P **P** 06 30 05.7 -3.1
KLMR pmax pmax
comp=Z,21nm,1.4s
KLMR Klimovskoe 64.97 345 *e*P **P** 06 30 05.7 -3.1
KLMR AMP 06 30 10.6
comp=Z,21nm,1.4s
KIRV Kirov 65.19 339⇑ *i*P **P** 06 30 10.8 +0.6
MOL Molde 65.55 2 *e*P **P** 06 30 12.3 -0.2
GYA Guiyang 66.04 283 P **P** 06 30 16.5 0.0
GYA pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 66.05 352 P **P** 06 30 15.3 -0.5
comp=Z,15nm,0.7s,baz=28,slow=8.6,SNR=24
FINES FINESS Array B 66.05 352 P **P** 06 30 15.1 -0.6
NC204 NORSAR Array S 66.87 360 P **P** 06 30 20.8 -0.4
NC303 NORSAR Array S 66.92 360 P **P** 06 30 21.4 0.0
DWPF Disney Wildern 67.03 73 P **P** 06 30 23.7 +1.1
baz=318
NB201 NORSAR Array S 67.10 360 P **P** 06 30 22.8 +0.2
NB2 NORSAR Subarra 67.11 360 P **P** 06 30 22.6 -0.1
comp=Z,10nm,0.7s,baz=1.4,slow=6.9
NB2 NORSAR Subarra 67.11 360 P **P** 06 30 22.6 -0.1
baz=1.4,slow=6.9
NOA NORSAR Array B 67.11 360 P **P** 06 30 22.5 -0.1
comp=Z,9.2nm,0.7s,baz=0.2,slow=6.3,SNR=40
KONO Kongsberg 68.50 1 P **P** 06 30 31.3 0.0
KONO pmax pmax
comp=Z,53nm,1.4s
KONO Kongsberg 68.50 1 P **P** 06 30 31.3 0.0
VSU Vasula 68.93 351 *e*P **P** 06 30 34.8 +0.8
KMI Kunming 69.38 285 ⇑P **P** 06 30 37.5 -0.2
KMI pP pwP 06 30 49.0 +1.6
KMI sP sP 06 30 52.8 +7.1
KMI PcP **PcP** 06 31 03.0 +1.9
KMI pmax pmax
comp=Z,30nm,0.9s
TARG Taragay, Kyrgy 69.94 313 IAmb IAmb 06 30 43.0
comp=Z,9.2nm,0.8s
TKM2 Tokmak 2 69.97 315 P **P** 06 30 40.9 -0.1
SNR=12
MOS Moscow 70.15 344 *e*P **P** 06 30 40.1 -1.5
USP Ospenovka 70.16 316 P **P** 06 30 42.4 +0.4
SNR=18
ULHL Ulahol 70.22 314 P **P** 06 30 42.9 +0.3
SNR=8.8
CHMS Chumysh 70.27 316 P **P** 06 30 43.1 +0.4
SNR=7.0
KBK Karagaybulak 70.46 315 P **P** 06 30 44.2 +0.2
SNR=5.7
ABKAR Akbulak array 70.62 328 P **P** 06 30 44.1 -0.5
ABKAR IAmb IAmb 06 30 45.9
comp=Z,15nm,0.9s
AAK Ala-Archa 70.67 315 P **P** 06 30 44.9 -0.3
SNR=6.1
AAK Ala-Archa 70.67 315 P **P** 06 30 45.0 -0.3
AAK pmax pmax
comp=Z,22nm,0.8s
AAK Ala-Archa 70.67 315 P **P** 06 30 45.0 -0.3
OBN Obninsk 70.93 345 *e*P **P** 06 30 45.4 -0.9
OBN pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 70.96 316 P **P** 06 30 47.4 +0.4
SNR=17
BELG Belogornoye 71.27 337*c* *i*P **P** 06 30 48.1 -0.4
BELG pmax pmax
comp=Z,11nm,1.0s
SLVN Son La 71.54 281 P **P** 06 30 51.0 +0.3
SLVN IAmb IAmb 06 30 54.9
comp=Z,34nm,1.6s
DEL Delary 71.66 358 *i* P **P** 06 30 50.0 -0.8
MUD Monsted U'grnd 71.70 1 *i* P **P** 06 30 51.3 +0.2
MUD IAmb IAmb 06 30 53.1
comp=Z,18nm,0.9s
MUD Monsted U'grnd 71.70 1 *i* P **P** 06 30 51.2 +0.2
MUD pmax pmax
comp=Z,18nm,0.9s
KK31 Karatay Array 71.97 318 IAmb IAmb 06 30 54.0
comp=Z,14nm,0.8s
KKAR Karatay Array 71.97 318 P **P** 06 30 52.1 -0.8
KKAR Karatay Array 71.97 318 P **P** 06 30 52.1 -0.8
PABE Paberze 72.10 352 *e*P **P** 06 30 53.5 0.0
PABE Paberze 72.10 352 P **P** 06 30 53.6 +0.2
EKA Eskdalemuir Ar 72.21 8 P **P** 06 30 53.8 -0.3
KSH Kashi 72.55 313 P **P** 06 30 59.8 +3.2
KSH S **S** 06 40 20.8 +1.0
KSH pmax pmax
comp=Z,26nm,1.0s
KSH pmax pmax
comp=Z,4μm,13.7s
KSH LR LR
comp=Z,2μm,11.4s
KSH LR LR
comp=Z,1μm,8.2s
LSA Lhasa 72.59 296 P **P** 06 30 58.5 +1.1
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 72.59 296 P **P** 06 30 58.5 +1.1
MNK Minsk 72.71 350 *i* P **P** 06 30 57.3 +0.2
MNK *i* 06 31 15.2
MNK *i* 06 33 37.6
MNK *i* PPP PPP 06 35 21.5
MNK *i* S **S** 06 40 19.6 -1.3
MNK *i* 06 41 02.4
MNK *i* SS **SS** 06 44 58.3 -0.9
MNK *i* SSS SSS 06 48 18.2
MNK pmax pmax
comp=Z,33nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=N,29nm,0.9s
MNK MLR MLR
comp=Z,1μm,21.0s
MNK MLR MLR
comp=E,78nm,23.0s
MNK MLR MLR
comp=N,774nm,22.0s
MNK Minsk 72.71 350 *i* P **P** 06 30 57.3 +0.2
comp=E,4.0nm,0.9s
MNK *i* P **P** 06 30 57.3 +0.2
comp=N,29nm,0.9s
MNK *i* P **P** 06 30 57.3 +0.2
comp=Z,33nm,0.8s,baz=191
MNK *i* PcP **PcP** 06 31 15.2 +0.8
MNK *i* PP **PP** 06 33 37.7 -0.5
MNK *i* PPP PPP 06 35 21.6
MNK *i* S **S** 06 40 19.7 -1.2
MNK *i* SS **SS** 06 44 58.4 -0.8
MNK *i* SSS SSS 06 48 18.2
MNK *i* LQ LQ 06 56 27.9
MNK *i* LRM MLR 07 04 39.8
comp=Z,1μm,21.2s
MNK *i* LRM MLR 07 04 54.2
comp=E,78nm,22.9s
MNK *i* LRM MLR 07 05 00.1
comp=N,774nm,22.1s
BSD Bornholm Skovb 73.00 358 *i* P **P** 06 30 58.7 -0.1
BSD IAmb IAmb 06 31 01.2
comp=Z,25nm,1.1s
BSD Bornholm Skovb 73.00 358 *i* P **P** 06 30 58.7 -0.1
BSD pmax pmax
comp=Z,25nm,1.1s
SUW Suwalki 73.65 352 *e*P **P** 06 31 02.4 -0.3
BTK Batken 74.37 316 P **P** 06 31 07.2 0.0
BTK pmax pmax
comp=Z,25nm,0.9s
BTK Batken 74.37 316 P **P** 06 31 07.2 0.0
DRK Karamyk 74.42 315 IAmb IAmb 06 31 09.7
comp=Z,23nm,0.9s
NONG Nongkai 74.50 279 P **P** 06 31 10.2 +2.1
SHL Shillong 75.37 293 P **P** 06 31 12.6 -0.8
SHL pmax pmax
comp=Z,19nm,0.8s
SHL Shillong 75.37 293 P **P** 06 31 12.6 -0.8
SHL IAmb IAmb 06 31 16.0
comp=Z,18nm,0.8s
GAR Garm 75.46 316 P **P** 06 31 13.4 -0.3
KHON Khomkaen 76.02 279 P P 06 31 31.6 +15
comp=Z,0.1nmcomp=Z,1μmcomp=Z,11nm,0.8s
AKASG Malin Array Be 76.29 348 P **P** 06 31 17.1 -0.8
comp=Z,16nm,0.7s,baz=15,slow=5.8,SNR=41

AKASG Malin Array Be 76.29 348 P **P 06 31 16.6 -1.3**
AKBB Malin Array Si 76.29 348 *c*eP **P 06 31 16.7 -1.2**
AKBB pmax pmax
comp=Z,17nm,0.7s
CM34 Chiang Mai Arr 76.30 283 P **P 06 31 19.0 +0.5**
CM35 Chiang Mai Arr 76.43 283 P **P 06 31 19.0 -0.3**
CMMT Chiang Mai 76.45 283 P **P 06 31 21.2 +1.8**
comp=Z,0.1nmcomp=Z,11nm,1.2s
CHTO Chiang Mai 76.45 283 P **P 06 31 21.1 +1.7**
comp=Z,12nm,1.3s
CM36 Chiang Mai Arr 76.59 283 P **P 06 31 20.0 -0.2**
CM32 Chiang Mai Arr 76.64 283 P **P 06 31 22.0 +1.6**
CM09 Chiang Mai Arr 76.71 283 P **P 06 31 22.1 +1.2**
comp=Z,344nmcomp=Z,14nm,0.9s
CM31 Chiang Mai Arr 76.73 283 P **P 06 31 21.8 +0.8**
CM31 IAmb IAmb 06 31 23.6
comp=Z,34nm,1.2s
CMAR Chiang Mai Arr 76.73 283 P **P 06 31 21.3 +0.3**
comp=Z,12nm,0.8s,baz=26,slow=6.5,SNR=36
CMAR Chiang Mai Arr 76.73 283 P **P 06 31 20.8 -0.2**
CM15 Chiang Mai Arr 76.74 283 P **P 06 31 22.1 +1.1**
comp=Z,17nm,1.0s
CM02 Chiang Mai Arr 76.75 283 P **P 06 31 22.1 +1.1**
comp=Z,162nmcomp=Z,23nm,0.9s
CM01 Chiang Mai Arr 76.75 283 P **P 06 31 22.3 +1.2**
comp=Z,170nmcomp=Z,22nm,0.8s
CM04 Chiang Mai Arr 76.75 283 P **P 06 31 22.3 +1.2**
comp=Z,187nmcomp=Z,27nm,1.0s
CM05 Chiang Mai Arr 76.77 283 P **P 06 31 22.1 +0.9**
comp=Z,156nmcomp=Z,22nm,1.0s
CM05 Chiang Mai Arr 76.77 283 P **P 06 31 22.0 +0.9**
comp=Z,0.1nmcomp=Z,156nmcomp=Z,22nm,1.0s
CM13 Chiang Mai Arr 76.78 283 P **P 06 31 22.3 +1.1**
comp=Z,159nmcomp=Z,20nm,0.9s
PHIT Phitsanulok 76.82 281 P **P 06 31 23.9 +2.5**
comp=Z,0.1nmcomp=Z,384nmcomp=Z,15nm,1.0s
CLL Collm 76.85 359 *e*P **P 06 31 21.0 -0.1**
CLL comp=Z,15nm,1.2s
CLL *e*pP **pP 06 31 28.0 +0.9**
CLL Collm 76.85 359 *e*P **P 06 31 21.0 -0.1**
CLL *e*PP **pP 06 31 25.0 -2.1**
CLL pmax pmax
comp=Z,15nm,1.2s
CLL Collm 76.85 359 P **P 06 31 21.2 +0.1**
GUN Gumba 76.87 299 *e*P **P 06 31 22.3 +0.2**
comp=Z,64nm,0.7s
BRG Berggiesshubel 77.27 358 *e*P **P 06 31 23.8 +0.3**
BRG Amp 06 31 25.4
comp=Z,11nm,0.9s
KKN Kakani 77.29 299 *e*P **P 06 31 24.4 +0.1**
PKI Pulchoki 77.39 299 *e*P **P 06 31 24.4 -0.6**
comp=Z,50nm,1.1s
GKN Gorkha 77.47 300 *e*P **P 06 31 24.7 -0.5**
comp=Z,70nm,0.8s
CHVC Chvalec 77.49 357 *e*P **P 06 31 25.6 +0.8**
MHMT Maesarieng 77.55 283 P **P 06 31 28.0 +2.4**
comp=Z,0.2nmcomp=Z,42nm,0.7s
DANN Dangsing 77.66 300 *e*P **P 06 31 26.2 -0.2**
comp=Z,119nm,0.8s
DPC Dobruska-Polom 77.72 356 *e*P **P 06 31 27.0 +0.9**
DPC Dobruska-Polom 77.72 356 *e*P **P 06 31 27.0 +0.9**
BMRD Maredsous 77.75 4 *d*P **P 06 31 26.1 0.0**
KRLC Kraliky 77.97 356 *e*P **P 06 31 28.2 +0.7**
KRLC Kraliky 77.97 356 *e*P **P 06 31 28.2 +0.7**
PRU Pruhonice 78.14 358 *e*P **P 06 31 29.3 +1.0**
PRU Pruhonice 78.14 358 *e*P **P 06 31 29.3 +1.0**
MORC Moravsky Berou 78.24 356 P **P 06 31 29.7 +0.7**
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 78.24 356 P **P 06 31 29.7 +0.7**
MORC IAmb IAmb 06 31 30.9
comp=Z,11nm,0.9s
MORC Moravsky Berou 78.24 356 *e*P **P 06 31 29.6 +0.6**
SRAK Srakaew 78.28 278 P **P 06 31 28.7 -0.9**
comp=Z,4μmcomp=Z,179nm,0.7s
NIL Nilore 78.60 311 P **P 06 31 31.7 +0.5**
NIL pmax pmax
comp=Z,40nm,0.9s
NIL Nilore 78.60 311 P **P 06 31 31.7 +0.5**
UTHA Uthaitani 78.67 281 P P 06 31 46.0 +14
VRAC Vranov 78.75 356 *e*P **P 06 31 32.6 +0.8**
LANS Liptovska Anna 78.75 354 *e*P **P 06 31 33.2 +1.4**
LANS pmax pmax
comp=Z,16nm,1.3s
LANS Liptovska Anna 78.75 354 *e*P **P 06 31 33.2 +1.4**
KOLS Kolonicke sedl 78.77 352 *e*P **P 06 31 33.2 +1.3**
KOLS Kolonicke sedl 78.77 352 *e*P **P 06 31 33.2 +1.3**
CRVS Cervenica-Dubn 78.86 353 *e*P **P 06 31 33.3 +0.9**
CRVS Cervenica-Dubn 78.86 353 *e*P **P 06 31 33.3 +0.9**
KRUC Moravsky 79.00 356 *e*P **P 06 31 33.8 +0.7**
KHC Kasperske Hory 79.02 358 *e*P **P 06 31 34.1 +0.8**
KHC Kasperske Hory 79.02 358 *e*P **P 06 31 34.1 +0.8**
UZH Uzhgorod 79.06 352 *e*P **P 06 31 33.3 -0.2**
UZH *e* 06 31 48.8
JAVC Velka Javorina 79.15 355 *e*P **P 06 31 35.7 +1.7**
GOF Gofitskoye 79.21 337⇑ *e*P **P 06 31 35.8 +1.5**
GOF pmax pmax
comp=Z,110nm,1.2s
GEC2 GERESS Array S 79.30 358 P **P 06 31 35.5 +0.6**
GERES GERESS Array B 79.30 358 P **P 06 31 35.5 +0.6**
comp=Z,4.0nm,0.7s,baz=18,slow=4.6,SNR=23
GERES GERESS Array B 79.30 358 P **P 06 31 34.5 -0.4**
GERES GERESS Array B 79.30 358 P **P 06 31 34.5 -0.4**
KECS Kecovo 79.35 353 *e*P **P 06 31 36.4 +1.3**
KECS Kecovo 79.35 353 *e*P **P 06 31 36.4 +1.3**
VYHS Vyhne 79.45 355 *e*P **P 06 31 36.0 +0.4**
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 79.45 355 *e*P **P 06 31 36.0 +0.4**
SMOL Smolenice 79.50 355 *e*P **P 06 31 37.5 +1.6**
SMOL Smolenice 79.50 355 *e*P **P 06 31 37.5 +1.6**
MODS Modra-Piesok 79.65 356 *e*P **P 06 31 39.2 +2.5**
MODS pmax pmax
comp=Z,30nm,1.2s
MODS Modra-Piesok 79.65 356 *e*P **P 06 31 39.2 +2.5**
KBL Kabul 79.76 314 P **P 06 31 37.1 -0.7**
KBL pmax pmax
comp=Z,64nm,1.6s
KBL Kabul 79.76 314 P **P 06 31 37.1 -0.7**
BUR08 Bucovina Ar. S 79.77 350 P **P 06 31 37.3 -0.2**
BURAR Bucovina Array 79.80 350 P **P 06 31 37.2 -0.4**
ZST Bratislava 79.83 356 *e*P **P 06 31 39.2 +1.5**
ZST Bratislava 79.83 356 *e*P **P 06 31 39.2 +1.5**
CONA Conrad Observa 80.15 357 *i*P **P 06 31 40.8 +1.2**
comp=Z,20nm,1.2s,SNR=8.0
KIV Kislovodsk 80.33 337 *e*P **P 06 31 40.9 +0.4**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 80.33 337 P **P 06 31 41.0 +0.4**
KIV IAmb IAmb 06 31 42.7
comp=Z,22nm,0.9s
KBZ Khabaz 80.50 337 P **P 06 31 42.1 +0.8**
comp=Z,14nm,0.8s,baz=17,slow=1.5,SNR=28
KBZ Khabaz 80.50 337⇑ *i*P **P 06 31 41.7 +0.4**
KBZ pmax pmax
comp=Z,18nm,0.9s
RETA Reutte 80.69 360 *e*P **P 06 31 43.8 +1.4**
comp=Z,4.0nm,0.7s
MOTA Moosalm 80.83 360 *i*P **P 06 31 45.3 +2.0**
comp=Z,28nm,1.3s,SNR=6.5
WATA Walderalm 80.84 359 *e*P **P 06 31 45.5 +2.2**
comp=Z,28nm,1.4s
ARSA Arzberg 80.84 357 *e*P **P 06 31 44.6 +1.5**
comp=Z,14nm,1.1s
DAVA Damuels 80.89 1 *e*P **P 06 31 45.3 +1.7**
comp=Z,5.6nm,0.7s
WTTA Wattenberg 80.91 359 *i*P **P 06 31 45.1 +1.3**
comp=Z,35nm,1.4s,SNR=7.1
SQTA Sankt Quirin 80.96 360 *e*P **P 06 31 45.1 +1.2**
comp=Z,30nm,1.2s
KBA Koelnbreinsper 81.08 358 *i*P **P 06 31 45.8 +1.2**
comp=Z,72nm,1.6s,SNR=16
MFF Saint Martin d 81.13 8 *e*P **P 06 31 45.1 +0.4**
MFF pmax pmax
comp=Z,87nm,1.6s
ZEI Tsey 81.14 336 *e*P **P 06 31 44.5 -0.5**
ZEI pmax pmax
comp=Z,13nm,0.6s
FETA Feichten 81.16 0 *i*P **P 06 31 45.7 +0.7**
comp=Z,23nm,1.1s,SNR=5.8
GEYT Alibeck 81.21 324 P **P 06 31 45.8 +0.5**
comp=Z,12nm,0.9s,baz=267,slow=5.8,SNR=11
GYA0B ALIBECK ARRAY 81.21 324 P **P 06 31 45.5 +0.2**
GYA0B IAmb IAmb 06 31 47.6
comp=Z,16nm,0.9s

AKT Akhty 81.34 333 *e*P **P 06 31 46.2 +0.2**
AKT *e*PCP **PcP 06 31 52.9 +0.8**
AKT pmax pmax
comp=Z,60nm,0.8s
ABTA Abfaltersbach 81.42 359 *i*P **P 06 31 48.3 +2.0**
comp=Z,23nm,1.3s,SNR=8.2
SOKA Soboth 81.43 357 *i*P **P 06 31 47.3 +0.9**
comp=Z,38nm,1.5s,SNR=14
ONI Oni 81.43 336 P **P 06 31 47.0 +0.6**
ONI pmax pmax
comp=Z,6.0nm,0.8s
ONI Oni 81.43 336 P **P 06 31 47.0 +0.6**
MYKA Terra Mystica 81.52 358 *e*P **P 06 31 48.6 +1.8**
comp=Z,20nm,1.5s
ZOU Zoufplan 81.60 358 IAmb IAmb 06 31 50.0
comp=Z,11nm,1.0s
OBKA Obir 81.61 357 *e*P **P 06 31 48.5 +1.1**
comp=Z,15nm,0.9s
CTI Castel Tesino 82.13 359 IAmb IAmb 06 31 52.3
comp=Z,33nm,1.5s
LPL La Plagne 82.60 3 *e*P **P 06 31 55.1 +2.4**
LPL pmax pmax
comp=Z,7.0nm,0.8s
SSB Saint Sauveur 82.75 4 IAmb IAmb 06 31 55.7
comp=Z,10.0nm,0.8s
TEOL Teolo 82.82 359 P **P 06 31 54.3 +0.7**
CAF Calviac 82.96 6 *e*P **P 06 31 54.9 +0.5**
BNI Bardonecchia 83.06 3 P **P 06 31 56.8 +1.8**
BNI pmax pmax
comp=Z,41nm,1.3s
BNI Bardonecchia 83.06 3 P **P 06 31 56.8 +1.8**
VTS Vitosha 84.94 351 IAmb IAmb 06 32 06.4
comp=Z,5.8nm,0.8s
INTR Introdacqua 86.13 358 P **P 06 32 11.2 +0.8**
RDO Rodhopi 86.15 349 P **P 06 32 10.8 +0.3**
BRTR Keskin Array B 86.31 343 P **P 06 32 12.1 +0.6**
comp=Z,2.3nm,0.7s,baz=46,slow=3.5,SNR=10
BRTR Keskin Array B 86.31 343 P **P 06 32 11.2 -0.3**
ALN Alexandroupoli 86.33 348 P **P 06 32 12.2 +0.8**
FNA Florina 86.93 352 P **P 06 32 13.7 -0.7**
FNA pmax pmax
comp=Z,12nm,0.7s
FNA Florina 86.93 352 P **P 06 32 13.7 -0.7**
FNA IAmb IAmb 06 32 15.4
comp=Z,12nm,0.7s
WRA Warramunga Arr 86.96 232 P **P 06 32 13.3 -1.3**
comp=Z,2.7nm,0.8s,baz=37,slow=5.6,SNR=9.5
WRA Warramunga Arr 86.96 232 *i*P **P 06 32 13.8 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 86.96 232 P **P 06 32 12.8 -1.8**
ESDC Sonseca Array 87.61 11 P **P 06 32 17.9 +0.2**
comp=Z,4.9nm,0.8s,baz=345,slow=4.5,SNR=21
XOR Xorichti 88.17 350 P **P 06 32 19.7 -0.6**
AGG Agios Georgios 88.59 351 P **P 06 32 21.6 -0.8**
AGG pmax pmax
comp=Z,9.0nm,0.8s
AGG Agios Georgios 88.59 351 P **P 06 32 21.6 -0.8**
AGG IAmb IAmb 06 32 22.8
comp=Z,9.0nm,0.8s
PSI Prapat 88.93 273 P **P 06 32 23.6 -0.8**
PSI pmax pmax
comp=Z,18nm,0.8s
RPSI Rantau Prapat 89.02 273 P **P 06 32 23.6 -1.0**
HYB Hyderabad 89.29 298 *i*P **P 06 32 25.0 -0.9**
KLV Kalavryta, Ach 89.58 351 P **P 06 32 26.6 -0.5**
ASAR Alice Springs 90.34 230 P **P 06 32 30.1 -0.5**
comp=Z,4.1nm,1.0s,baz=36,slow=4.3,SNR=14
ASAR Alice Springs 90.34 230 P **P 06 32 29.6 -0.9**
ASAR Alice Springs 90.34 230 P **P 06 32 29.6 -0.9**
H03N2 Juan Fernandez 115.79 112 T T 08 44 57.2
baz=323,slow=78,SNR=4.1
H03N1 Juan Fernandez 115.80 112 T T 08 45 06.7
baz=323,slow=78,SNR=6.1
H03N3 Juan Fernandez 115.81 112 T T 08 44 59.4
baz=323,slow=78,SNR=3.5
KMBO Kilima Mbogo 124.48 327 PKP **PKiKP 06 38 30.4 +0.9**
comp=Z,2.3nm,0.7s,baz=324,slow=3.9,SNR=5.5
PLCA Paso Flores 125.66 112 PKP **PKiKP 06 38 32.7 +1.9**
comp=Z,3.2nm,1.1s,baz=186,slow=11,SNR=2.3
MAW Mawson 150.79 218 PKPbc **PKPbc 06 39 20.3 0.0**
comp=Z,3.4nm,0.9s,baz=61,slow=5.9,SNR=4.9
MAW Mawson 150.79 218 PKIKP **PKPbc 06 39 20.3 0.0**
MAW 06 39 28.6
MAW Mawson 150.79 218 PKPab **PKPab 06 39 28.6 +1.0**
BOSA Boshof 154.08 330 PKPbc **PKiKP 06 39 29.3 +0.1**
comp=Z,2.9nm,0.6s,baz=16,slow=5.1,SNR=8.6

*NEIC **27** 06:23:04.2±2.3, 52°.13N±0°.07×169°.40W±0°.06, h38km±10km, Error ellipse: s-maj=9.9km s-min=5.6km az=185.0*
AEIC 27 06:23:03±2.4, **52°.14N**±0°.07×**169°.38W**±0°.07, **h24**km±6km, **ML3.2**/16, **mb4.2**/6(NEIC), **Error ellipse: s-maj=10.4km s-min=6.2km az=171.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.89**	**21**		Pn	06 23 20.3	+0.2
OKSP	**Okmok Steeple**	**1.30**	**30**		Pn	06 23 25.4	-0.2
OKCE	**Okmok Cone E**	**1.49**	**29**		Pn	06 23 29.0	+0.8
OKTU	**Okmok Mt. Tuli**	**1.49**	**33**		Pn	06 23 28.2	0.0
OKER	**Okmok East Rim**	**1.54**	**31**		Pn	06 23 29.1	0.0
MAPS	**Pakushin South**	**2.23**	**40**		Pn	06 23 38.3	-0.1
MAPS					Sn	06 24 06.7	+1.5
MSW	**Makushin Switc**	**2.37**	**40**		Pn	06 23 41.4	+1.0
UNV	**Unalaska Valle**	**2.44**	**44**		Pn	06 23 42.7	+1.5
UNV					Sn	06 24 12.1	+1.8
KOFP	**Korovin Flat P**	**2.91**	**275**		Pn	06 23 48.5	+0.7
ATKA	**Atka Island**	**2.97**	**273**		Pn	06 23 47.6	-0.9
GSTR	**Great Sitkin T**	**4.12**	**272**	Pn	Pn	06 24 03.1	-1.3
ADK	**Adak**	**4.52**	**270**	Pn	Pn	06 24 11.1	+1.2
KIWB	**Kanaga Island**	**4.81**	**270**	Pn	Pn	06 24 12.5	-1.4
SPIA	**Saint Paul Isl**	**5.08**	**355**	Pn	Pn	06 24 16.2	-1.3
AMKA	**Amchitka**	**7.07**	**268**	Pn	Pn	06 24 46.4	+1.5
SMY	**Shemya**	**10.11**	**280**	Pn	Pn	06 25 27.1	+0.6
HYT	**Haines Junctio**	**19.45**	**51**	P	P	06 27 27.8	+0.1
HYT				IAmb	IAmb	06 27 51.4	
comp=Z,22nm,1.4s							
BMAR	**Burnt Mountain**	**19.54**	**29**	P	P	06 27 25.0	-3.5
PEA0B	**Petropavlovsk-**	**19.92**	**286**	P	P	06 27 32.8	+0.1
PEA0B				IAmb	IAmb	06 27 32.9	
comp=Z,16nm,1.2s							
PETK	**Petropavlovsk-**	**19.92**	**286**	P	P	06 27 32.0	-0.7
KS19	**Wonju Array Si**	**45.43**	**277**	P	P	06 31 17.0	-2.7
KS19				IAmb	IAmb	06 31 27.8	
comp=Z,7.5nm,1.2s							
KSAR	**Wonju Array Be**	**45.46**	**277**	P	P	06 31 18.5	-1.4
MNTX	**Cornudas Mount**	**50.05**	**88**	P	P	06 31 55.4	-0.2
ABKAR	**Akbulak array**	**70.63**	**328**	P	P	06 34 14.8	-1.3
ABKAR				IAmb	IAmb	06 34 15.6	
comp=Z,1.2nm,0.9s							

*IDC **27** 06:25:35.5±1.2, 52°.31N×169°.15W, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.8/46, mbtmp3.9/13, Error ellipse: s-maj=37.3km s-min=17.7km az=7.0*
*NEIC **27** 06:25:39.0±1.7, 52°.09N±0°.04×169°.22W±0°.10, h33km±5km, Error ellipse: s-maj=9.3km s-min=5.1km az=115.0*
*AEIC **27** 06:25:38±1.8, 52°.11N±0°.08×169°.22W±0°.05, h22km±5km, ML3.7/17, mb4.2/36(NEIC), Error ellipse: s-maj=11.9km s-min=1.6km az=158.0*
ISC 27 06:25:38.6±0.6, **52°.06N**±0°.08×**169°.21W**±0°.06, **h29**km, **n87**, σ1§**04**/89, **mb4.1**/20, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.94**	**13**		**Sb**	**06 26 08.6**	**+0.4**
NIKH	**Nikolski High**	**0.94**	**13**		**Pn**	**06 25 54.8**	**-1.0**
OKSP	**Okmok Steeple**	**1.31**	**25**		**Pn**	**06 26 00.4**	**-0.7**
OKSP					**Sn**	**06 26 16.1**	**-1.6**
OKCE	**Okmok Cone E**	**1.50**	**25**		**Pn**	**06 26 03.9**	**+0.2**
OKNC	**Okmok New Cone**	**1.54**	**25**		**Pn**	**06 26 04.3**	**+0.2**
OKNC					**Sb**	**06 26 25.3**	**-0.4**
MAPS	**Pakushin South**	**2.22**	**37**		**Pn**	**06 26 13.7**	**+0.2**
MSW	**Makushin Switc**	**2.36**	**37**		**Pn**	**06 26 16.1**	**+0.6**
UNV	**Unalaska Valle**	**2.42**	**41**		**Pn**	**06 26 16.7**	**+0.5**
AKRB	**Akutan Reef Bi**	**2.81**	**41**		**Pn**	**06 26 22.8**	**+1.4**
AKUT	**Akutan**	**2.93**	**44**	Pn	**Pn**	**06 26 21.7**	**-1.5**
ATKA	**Atka Island**	**3.08**	**275**	Pn	**Pn**	**06 26 24.0**	**-1.1**
GSTR	**Great Sitkin T**	**4.23**	**273**	Pn	**Pn**	**06 26 39.3**	**-1.7**
FALS	**False Pass**	**4.45**	**49**	Pn	**Pn**	**06 26 41.8**	**-2.2**
ADK	**Adak**	**4.62**	**271**	Pn	**Pn**	**06 26 44.9**	**-1.5**
KIWB	**Kanaga Island**	**4.92**	**271**	Pn	**Pn**	**06 26 51.0**	**+0.6**
SPIA	**Saint Paul Isl**	**5.16**	**354**	Pn	**Pn**	**06 26 55.5**	**+1.8**
SDPT	**Sand Point**	**6.14**	**54**	Pn	**Pn**	**06 27 05.7**	**-1.5**
CNBA	**Chernabura Isl**	**6.38**	**61**	Pn	**Pn**	**06 27 10.8**	**+0.4**
AMKA	**Amchitka**	**7.17**	**269**	Pn	**Pn**	**06 27 19.2**	**-2.2**
OHAK	**Old Harbor**	**10.56**	**54**	Pn	**Pn**	**06 28 07.8**	**0.0**
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**06 28 14.7**	**-1.0**
0.4nm,0.3s,baz=342,slow=23,SNR=2.3							
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**06 28 15.6**	**-0.1**
CNPM	**China Poot**	**12.54**	**46**	Pn	**Pn**	**06 28 35.5**	**+0.6**
SEW	**Seward**	**13.61**	**46**	Pn	**Pn**	**06 28 49.2**	**-0.2**
O22K	**Cooper Landing**	**13.67**	**44**	Pn	**Pn**	**06 28 50.4**	**+0.2**
SKT	**Skwentna**	**13.78**	**37**	Pn	**Pn**	**06 28 51.3**	**-0.5**
RC01	**Rabbit Creek A**	**13.98**	**42**	Pn	**Pn**	**06 28 54.7**	**+0.3**
PPLA	**Purkeypile**	**14.14**	**33**	Pn	**Pn**	**06 28 56.3**	**-0.5**
HIN	**Hinchinbrook I**	**15.06**	**48**	Pn	**Pn**	**06 29 08.5**	**-0.7**
FID	**Port Fidalgo**	**15.22**	**46**	Pn	**Pn**	**06 29 10.4**	**-0.8**
FID				IAmb	IAmb	06 29 33.6	
comp=Z,42nm,1.3s							
SCM	**Sheep Creek Mo**	**15.35**	**42**	Pn	**Pn**	**06 29 11.9**	**-1.1**
SCM				IAmb	IAmb	06 29 41.5	
comp=Z,11nm,0.5s							
BPAW	**Bear Paw Mtn.**	**15.36**	**31**	Pn	**Pn**	**06 29 14.2**	**+1.2**
RND	**Reindeer**	**15.63**	**36**	Pn	**Pn**	**06 29 15.9**	**-0.8**
KLU	**Klutina**	**15.78**	**44**	Pn	**Pn**	**06 29 17.3**	**-1.3**
M24K	**Tolsona, Glenn**	**15.96**	**42**	Pn	**Pn**	**06 29 20.9**	**+0.1**
M24K				IAmb	IAmb	06 29 30.1	
comp=Z,11nm,0.8s							
N25K	**Chitina, Valde**	**16.41**	**45**	Pn	**Pn**	**06 29 26.0**	**-0.5**
N25K				IAmb	IAmb	06 29 51.2	
comp=Z,14nm,1.4s							
GLB	**Gilahina Butte**	**16.69**	**46**	Pn	**Pn**	**06 29 29.7**	**-0.4**
CRQM	**Cirque**	**16.74**	**49**	Pn	**Pn**	**06 29 30.4**	**-0.5**
CRQM				IAmb	IAmb	06 29 43.6	
comp=Z,17nm,1.4s							
CCB	**Clear Creek Bu**	**16.76**	**33**	Pn	**Pn**	**06 29 28.8**	**-2.2**
VRDI	**Verde Repeater**	**16.77**	**47**	Pn	**Pn**	**06 29 30.9**	**-0.3**
WAX	**Waxell Ridge**	**16.77**	**50**		**Pn**	**06 29 31.6**	**+0.3**
WAX				IAmb	IAmb	06 29 59.1	
comp=Z,28nm,1.3s							
MDM	**Murphy Dome**	**16.82**	**32**		**Pn**	**06 29 32.5**	**+0.8**
HDA	**Harding Lake**	**16.91**	**34**	Pn	**Pn**	**06 29 32.0**	**-0.9**
IL31		**17.15**	**34**	Pn	**Pn**	**06 29 35.6**	**-0.2**
ILAR	**Eielson Array**	**17.15**	**34**	Pn	**Pn**	**06 29 34.3**	**-1.5**
POKR	**Poker Plat Res**	**17.18**	**32**	Pn	**Pn**	**06 29 34.0**	**-2.2**
BCPM	**Bancas Point**	**18.19**	**53**		**Pn**	**06 29 47.7**	**-1.0**
BCPM				IAmb	IAmb	06 29 59.9	
comp=Z,49nm,1.4s							
EGAK	**Eagle**	**19.22**	**38**	P	**P**	**06 30 00.1**	**+0.2**
BMAR	**Burnt Mountain**	**19.55**	**29**	P	**Pn**	**06 30 04.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**20.04**	**286**	P	**P**	**06 30 09.3**	**+0.3**
PETK	**Petropavlovsk-**	**20.04**	**286**	P	**P**	**06 30 09.4**	**+0.4**
comp=Z,2.7nm,0.5s,baz=88,slow=13,SNR=10							
PETK	**Petropavlovsk-**	**20.04**	**286**	P	**P**	**06 30 08.7**	**-0.3**
EPYK	**Eagle Plains**	**21.59**	**36**	P	**P**	**06 30 24.8**	**-0.9**
EPYK				IAmb	IAmb	06 30 54.0	
comp=Z,5.1nm,0.8s							
DLBC	**Dease Lake**	**22.96**	**58**	P	**P**	**06 30 39.7**	**-0.7**
DLBC				IAmb	IAmb	06 30 48.9	
comp=Z,6.7nm,1.3s							
INK	**Inuvik**	**23.55**	**33**	P	**P**	**06 30 45.7**	**-0.3**
INK				IAmb	IAmb	06 31 14.5	
comp=Z,3.3nm,0.5s							
C36M	**Paulatuk**	**27.12**	**33**	P	**P**	**06 31 18.4**	**-0.2**
C36M				IAmb	IAmb	06 31 28.4	
comp=Z,5.9nm,1.1s							
YKA	**Yellowknife Ar**	**30.37**	**48**	P	**P**	**06 31 48.2**	**+0.7**
comp=Z,0.2nm,0.4s,baz=273,slow=7.5,SNR=1.8							
YKA	**Yellowknife Ar**	**30.37**	**48**	P	**P**	**06 31 45.9**	**-1.6**
BUCK	**Buck Mountain**	**31.38**	**86**	P	**P**	**06 31 54.0**	**-2.7**
NVAR	**Mina Array Bea**	**37.56**	**91**	P	**P**	**06 32 49.2**	**-1.2**
comp=Z,0.6nm,0.7s,baz=310,slow=5.6,SNR=4.1							
NVAR	**Mina Array Bea**	**37.56**	**91**	P	**P**	**06 32 48.8**	**-1.5**
YMR	**Madison River**	**38.46**	**77**	P	**P**	**06 32 59.3**	**+1.4**
YMR				IAmb	IAmb	06 32 59.6	
comp=Z,2.3nm,0.9s							
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**06 33 15.0**	**+1.2**
comp=Z,0.5nm,0.5s,baz=308,slow=2.2,SNR=5.8							
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**06 33 14.1**	**+0.3**
FCC	**Fort Churchill**	**41.06**	**50**	P	**P**	**06 33 19.5**	**+0.5**
FCC				IAmb	IAmb	06 33 37.8	
comp=Z,6.7nm,0.8s							
KSRS	**Korea Array**	**45.54**	**277**	P	**P**	**06 33 57.3**	**+1.9**
comp=Z,0.7nm,0.4s,baz=60,slow=8.0,SNR=6.0							
SPITS	**Spitsbergen Ar**	**49.98**	**358**	P	**P**	**06 34 28.6**	**-0.8**
comp=Z,6.3nm,1.0s,baz=46,slow=4.2,SNR=8.3							
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**06 34 51.6**	**+1.5**
comp=Z,0.6nm,0.8s,baz=302,slow=5.3,SNR=5.7							
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**06 34 50.5**	**+0.4**
P40A	**Paris**	**52.78**	**71**	P	**P**	**06 34 50.7**	**-0.2**
P40A				IAmb	IAmb	06 35 01.7	
comp=Z,7.4nm,1.2s							
ARCES	**ARCESS Array B**	**58.23**	**354**	P	**P**	**06 35 29.0**	**-0.6**
comp=Z,3.2nm,0.9s,baz=12,slow=9.2,SNR=1.6							
ARCES	**ARCESS Array B**	**58.23**	**354**	P	**P**	**06 35 27.4**	**-2.2**
MKAR	**Makanchi Array**	**64.09**	**314**	P	**P**	**06 36 09.7**	**+0.1**
comp=Z,0.2nm,0.4s,baz=54,slow=4.9,SNR=3.6							
FIA1	**FINESS Array S**	**66.18**	**352**	P	**P**	**06 36 23.1**	**+0.2**
FINES	**FINESS Array B**	**66.19**	**352**	P	**P**	**06 36 22.5**	**-0.4**
comp=Z,0.8nm,0.5s,baz=45,slow=8.5,SNR=7.5							
FINES	**FINESS Array B**	**66.19**	**352**	P	**P**	**06 36 22.5**	**-0.4**
NC303	**NORSAR Array S**	**67.06**	**360**	P	**P**	**06 36 28.9**	**+0.4**
NC405	**NORSAR Array S**	**67.17**	**360**	P	**P**	**06 36 28.8**	**-0.4**
NB201	**NORSAR Array S**	**67.23**	**360**	P	**P**	**06 36 29.7**	**0.0**
NOA	**NORSAR Array B**	**67.25**	**360**	P	**P**	**06 36 29.6**	**-0.1**
comp=Z,0.9nm,0.8s,baz=360,slow=2.8,SNR=2.9							
NOA	**NORSAR Array B**	**67.25**	**360**	P	**P**	**06 36 29.6**	**-0.1**
ABKAR	**Akbulak array**	**70.75**	**328**	P	**P**	**06 36 51.8**	**+0.2**
ABKAR				IAmb	IAmb	06 37 20.7	
comp=Z,3.5nm,0.9s							
AKASG	**Malin Array Be**	**76.43**	**348**	P	**P**	**06 37 24.8**	**-0.1**
comp=Z,1.1nm,0.5s,baz=16,slow=6.2,SNR=2.9							
AKASG	**Malin Array Be**	**76.43**	**348**	P	**P**	**06 37 24.0**	**-0.9**
AKASG				IAmb	IAmb	06 37 53.3	
comp=Z,0.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**06 37 29.1**	**+1.6**
comp=Z,1.1nm,0.3s,baz=43,slow=6.8,SNR=2.1							
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**06 37 27.0**	**-0.5**
CLL	**Collm**	**76.99**	**359**	*e*P	**P**	**06 37 30.0**	**+1.9**

*IDC **27** 06:26:03.4±0.9, 52°.29N×169°.36W, h0km, mb4.2/23, mb1 4.4/25, mb1mx4.2/48, mbtmp4.2/25, ML3.9/2, Error ellipse: s-maj=24.3km s-min=12.8km az=174.0*
*NEIC **27** 06:26:09.2±2.2, 52°.30N±0°.04×

AMKA	Amchitka	7.14	268	Pn		Pn	06 27 50.8	+0.7
LSPA	Little Sitkin	7.50	273			Pn	06 27 57.1	+2.1
CHIR	Chirikof Islan	8.79	61	Pn		Pn	06 28 14.9	+2.2
SII	Sitkinak Islan	9.79	58	Pn		Pn	06 28 27.4	+1.0
SMY	Shemya	10.16	279	Pn		Pn	06 28 31.9	+0.4
OHAK	Old Harbor	10.49	55	Pn		Pn	06 28 36.2	+0.3
KDAK	Kodiak Island	11.05	53	Pn		Pn	06 28 42.8	-0.9
	2.0nm,0.3s,baz=267,slow=8.6,SNR=8.8							
KDAK				Sn		Sn	06 30 41.3	-4.6
	0.5nm,0.3s,baz=117,slow=22,SNR=1.1							
KDAK	Kodiak Island	11.05	53	Pn		Pn	06 28 42.7	-0.9
SVW2	Sparrevohn	11.61	35	Pn		Pn	06 28 51.5	+0.2
GAMB	Gambell	11.64	355	Pn		Pn	06 28 50.8	-0.8
RSO	Redoubt South	12.28	41	Pn		Pn	06 29 02.6	+2.0
CNPM	China Poot	12.44	47	Pn		Pn	06 29 03.7	+1.0
BRLK	Bradley Lake	12.71	46	Pn		Pn	06 29 05.9	-0.5
SEW	Seward	13.51	47	Pn		Pn	06 29 16.6	-0.6
O22K	Cooper Landing	13.57	45	Pn		Pn	06 29 18.7	+0.7
SUA	Susitna One	13.66	40	Pn		Pn	06 29 20.5	+1.1
RC01	Rabbit Creek A	13.87	43	Pn		Pn	06 29 22.5	+0.5
PPLA	Purkeypile	14.01	34	Pn		Pn	06 29 23.5	-0.7
PWL	Port Wells	14.35	45	Pn		Pn	06 29 28.2	-0.5
GHO	Glory Hole Cre	14.56	41	Pn		Pn	06 29 31.4	-0.1
SML	Sawmill	14.82	42	Pn		Pn	06 29 34.6	-0.4
GLI	Glacier Island	14.90	46	Pn		Pn	06 29 34.8	-1.3
HIN	Hinchinbrook I	14.97	48	Pn		Pn	06 29 35.9	-1.1
FID	Port Fidalgo	15.12	47	Pn		Pn	06 29 37.2	-1.9
FID				IAmb		IAmb	06 29 41.0	
	comp=Z,47nm,1.5s							
BPAW	Bear Paw Mtn.	15.22	32	Pn		Pn	06 29 39.9	-0.5
SCM	Sheep Creek Mo	15.24	42			Pn	06 29 39.7	-1.0
SCM				IAmb		IAmb	06 29 54.2	
	comp=Z,22nm,0.5s							
KLU	Klutina	15.68	45			Pn	06 29 44.9	-1.5
KLU				IAmb		IAmb	06 29 47.4	
	comp=Z,22nm,0.4s							
M24K	Tolsona, Glenn	15.85	42			Pn	06 29 47.7	-0.8
M24K				IAmb		IAmb	06 29 54.9	
	comp=Z,19nm,0.5s							
BMRM	Bremner River	16.05	47	Pn		Pn	06 29 49.7	-1.4
BMRM				IAmb		IAmb	06 30 02.4	
	comp=Z,38nm,1.5s							
NEA2	Nenana	16.18	32	Pn		Pn	06 29 52.1	-0.4
N25K	Chitina, Valde	16.30	45	Pn		Pn	06 29 53.5	-0.8
WRH	Wood River Hil	16.43	34	Pn		Pn	06 29 54.9	-0.8
GLB	Gilahina Butte	16.59	46			Pn	06 29 56.3	-1.6
GLB				IAmb		IAmb	06 30 08.2	
	comp=Z,19nm,1.2s							
CCB	Clear Creek Bu	16.63	33	Pn		Pn	06 29 57.0	-1.3
CRQM	Cirque	16.65	49	Pn		Pn	06 29 58.1	-0.7
CRQM				IAmb		IAmb	06 30 19.1	
	comp=Z,14nm,0.8s							
VRDI	Verde Repeater	16.67	47	Pn		Pn	06 29 57.7	-1.3
VRDI				IAmb		IAmb	06 30 24.5	
	comp=Z,30nm,1.4s							
ISLE	Juniper Island	16.98	50	Pn		Pn	06 30 01.8	-1.0
ISLE				IAmb		IAmb	06 30 06.0	
	comp=Z,24nm,0.7s							
IL31		17.02	34	Pn		Pn	06 30 02.2	-1.0
ILAR	Eielson Array	17.02	34	Pn		Pn	06 30 01.4	-1.8
	comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=4.3							
ILAR	Eielson Array	17.02	34			Pn	06 30 01.6	-1.6
MENT	Mentasta	17.25	42	P		P	06 30 07.0	-0.3
BARN	Barnard Glacie	17.43	49	P		Pn	06 30 08.4	-0.2
BARN				IAmb		IAmb	06 30 29.8	
	comp=Z,19nm,1.3s							
DOT	Dot Lake	17.44	39	P		Pn	06 30 06.6	-2.0
SCRK	Sand Creek	17.64	38	P		Pn	06 30 10.4	-0.5
PRP	Porcupine Dome	17.93	33			Pn	06 30 13.7	-1.0
L27K	Beaver Creek,	18.08	43	P		P	06 30 16.0	-0.5
EGAK	Eagle	19.10	38	P		P	06 30 26.5	-1.2
PEA0B	Petropavlovsk-	19.96	286	P		P	06 30 36.5	-0.6
PEA0B				IAmb		IAmb	06 30 38.2	
	comp=Z,18nm,0.5s							
PETK	Petropavlovsk-	19.96	286	P		P	06 30 36.7	-0.4
	comp=Z,4.8nm,0.3s,baz=89,slow=13,SNR=37							
PETK	Petropavlovsk-	19.96	286	P		P	06 30 36.7	-0.4
WHY	Whitehorse	20.57	52	P		P	06 30 43.4	-0.4
WHY				IAmb		IAmb	06 31 01.1	
	comp=Z,10nm,0.7s							
EPYK	Eagle Plains	21.46	36	P		P	06 30 52.6	-0.7
EPYK				IAmb		IAmb	06 31 01.5	
	comp=Z,9.2nm,0.7s							
MA2	Magadan	23.27	304	P		P	06 31 12.7	+0.3
	comp=Z,6.1nm,0.6s,baz=14,slow=22,SNR=2.3							
INK	Inuvik	23.42	33	P		P	06 31 13.0	-0.6
	comp=Z,2.9nm,0.4s,baz=239,slow=8.6,SNR=13							
INK	Inuvik	23.42	33	P		P	06 31 13.1	-0.6
YKA	Yellowknife Ar	30.28	49	P		P	06 32 16.7	+1.2
	comp=Z,0.7nm,0.4s,baz=276,slow=8.1,SNR=15							
YKA	Yellowknife Ar	30.28	49	P		P	06 32 14.4	-1.1
NEW	Newport	32.98	76	P		P	06 32 41.2	+1.6
	comp=Z,1.7nm,0.5s,baz=298,slow=6.0,SNR=5.0							
NEW	Newport	32.98	76	P		P	06 32 38.7	-0.8
NEW				IAmb		IAmb	06 32 45.5	
	comp=Z,5.6nm,1.1s							
KLR	Kul'dur	36.56	289	P		P	06 33 09.2	-1.2
	comp=Z,3.1nm,0.5s,baz=72,slow=8.6,SNR=18							
KLR	Kul'dur	36.56	289	P		P	06 33 09.2	-1.2
H11N2	WAKE ISLAND Hy	37.40	219	T		T	07 14 08.4	
	baz=24							
H11N3	WAKE ISLAND Hy	37.40	219	T		T	07 14 15.4	
	baz=24							
H11N1	WAKE ISLAND Hy	37.41	219	T		T	07 14 04.7	
	baz=24							
H11S1	WAKE ISLAND Hy	38.58	218	T		T	07 15 25.1	
	baz=21,slow=76							
H11S2	WAKE ISLAND Hy	38.60	218	T		T	07 15 02.0	
	baz=21,slow=76							
H11S3	WAKE ISLAND Hy	38.60	218	T		T	07 15 14.6	
	baz=21,slow=76							
PDAR	Pinedale Array	40.36	79	P		P	06 33 43.5	+0.8
	comp=Z,1.8nm,0.7s,baz=294,slow=4.4,SNR=10							
PDAR	Pinedale Array	40.36	79	P		P	06 33 44.3	+1.6
FCC	Fort Churchill	40.97	50	P		P	06 33 47.1	-0.1
FCC				IAmb		IAmb	06 34 04.4	
	comp=Z,9.9nm,1.1s							
O20A	White River Ci	42.72	81	P		P	06 34 01.2	-0.8
O20A				IAmb		IAmb	06 34 09.2	
	comp=Z,11nm,1.4s							
KSRS	Korea Array	45.48	277	P		P	06 34 24.3	+0.5
	comp=Z,2.3nm,0.6s,baz=60,slow=7.2,SNR=10							
KSAR	Wonju Array Be	45.52	277	P		P	06 34 24.2	+0.1
B35A	Bob, Littlefor	46.37	63	P		P	06 34 31.3	+0.6
B35A				IAmb		IAmb	06 34 36.0	
	comp=Z,3.6nm,0.9s							
NRIK	Noril'sk	46.57	332	P		P	06 34 31.6	-0.4
	comp=Z,2.4nm,0.4s,baz=68,slow=11,SNR=4.1							
NRIK	Noril'sk	46.57	332	P		P	06 34 31.6	-0.4
NRIK	Noril'sk	46.57	332	IAmb		IAmb	06 34 38.5	
	comp=Z,3.8nm,1.1s							
SPITS	Spitsbergen Ar	49.80	358	P		P	06 34 56.9	0.0
	comp=Z,2.9nm,0.3s,baz=39,slow=5.4,SNR=35							
SPITS	Spitsbergen Ar	49.80	358	P		P	06 34 56.9	0.0
MNTX	Cornudas Mount	49.98	88	P		P	06 34 59.7	+0.9
MNTX				IAmb		IAmb	06 35 04.6	
	comp=Z,1.4nm,0.8s							
GDL2	Guadalupe Moun	50.26	87	P		P	06 35 03.3	+2.3
ILUL1	Ilulissat	50.72	24	P		P	06 35 09.0	+5.1
SUMG	Summit	50.88	17	P		P	06 35 06.0	+0.4
SUMG				IAmb		IAmb	06 35 08.8	
	comp=Z,5.6nm,0.9s							
HSPB	Hornsund (broa	50.99	359	eP		P	06 35 07.3	+1.5
HOPEN	Hopen	51.20	356	eP		P	06 35 08.1	+0.7
E43A	Lone Tree Farm	51.22	62	P		P	06 35 07.3	-0.7
E43A				IAmb		IAmb	06 35 14.2	
	comp=Z,3.6nm,0.7s							
CROK	Carrier	51.24	78	P		P	06 35 07.1	-1.1
SONM	Songino Array	51.42	301	P		P	06 35 10.0	+0.4
	comp=Z,1.5nm,0.4s,baz=56,slow=7.2,SNR=6.9							
SONM	Songino Array	51.42	301	P		P	06 35 10.0	+0.4
SONM	Songino Array	51.42	301	IAmb		IAmb	06 35 12.1	
	comp=Z,2.6nm,0.9s							
TX31	Lajitas Ar. Si	52.68	89	P		P	06 35 19.8	+0.6
TX32	Lajitas Array	52.68	89	P		P	06 35 18.7	-0.5
TX32				IAmb		IAmb	06 35 34.8	
	comp=Z,7.9nm,1.5s							
TXAR	Lajitas Array	52.69	89	P		P	06 35 19.6	+0.4
	comp=Z,1.6nm,0.8s,baz=302,slow=4.9,SNR=12							
TXAR	Lajitas Array	52.69	89	P		P	06 35 18.5	-0.7
P40A	Paris	52.76	71	P		P	06 35 18.9	-0.6
HPIG		53.17	93	P		P	06 35 21.5	-1.5
BJO1	Bjornoya	53.42	357	eP		P	06 35 24.7	+0.9
SCHQ	Schefferville	55.48	43	P		P	06 35 38.7	-0.4
	comp=Z,2.1nm,0.8s,baz=207,slow=12,SNR=2.0							
HAMF	Hammerfest	57.07	355	eP		P	06 35 50.1	-0.1
WVT	Waverly	57.51	72	P		P	06 35 52.3	-1.5
WVT				IAmb		IAmb	06 36 14.8	
	comp=Z,5.8nm,1.4s							
ZAA0	Zalesovo Array	57.56	318	P		P	06 35 51.9	-2.0
ZAA0				IAmb		IAmb	06 35 59.3	
	comp=Z,1.6nm,0.5s							
ZALV	Zalesovo Beam	57.56	318	P		P	06 35 53.6	-0.3
	comp=Z,1.3nm,0.4s,baz=53,slow=3.1,SNR=6.6							
ZALV				PcP		PcP	06 36 47.9	+1.0
	comp=Z,1.0nm,0.4s,baz=44,slow=5.8,SNR=3.2							
ZALV	Zalesovo Beam	57.56	318	P		P	06 35 53.1	-0.7
ARA0	ARCESS Array S	58.05	354	eP		P	06 35 57.2	+0.1
ARCES	ARCESS Array B	58.05	354	P		P	06 35 56.9	-0.2
	comp=Z,1.9nm,0.4s,baz=19,slow=9.4,SNR=22							
ARCES				PcP		PcP	06 36 49.2	+0.5
	comp=Z,3.2nm,0.8s,baz=16,slow=6.8,SNR=4.2							
ARCES	ARCESS Array B	58.05	354	P		P	06 35 56.9	-0.2
TRO	Tromso	58.29	357	eP		P	06 35 58.9	+0.2
JETT	Jettan, Norway	58.31	356	eP		P	06 35 59.4	+0.5
NRS	Narsarsuaq	58.42	28	P		P	06 36 01.1	+1.3
KTK1	Kautokeino	58.71	355	eP		P	06 36 02.3	+0.6
SSPA	Standing Stone	59.98	61	P		P	06 36 10.4	-0.5
SSPA				IAmb		IAmb	06 36 30.4	
	comp=Z,10nm,1.2s							
N2IH	Innhavet	60.05	358	eP		P	06 36 10.9	-0.1
STEI	Steigen	60.10	358	eP		P	06 36 11.5	+0.2
N2NF	Nordfold	60.27	358	eP		P	06 36 12.6	+0.2
FAUS	Fauske	60.65	358	eP		P	06 36 15.7	+0.7
NBB30	Finnes	61.09	359	eP		P	06 36 18.2	+0.2
NBB15	Halsa Church	61.32	359	eP		P	06 36 21.0	+1.4
KONS	Konsvik	61.57	359	eP		P	06 36 21.6	+0.2
MOR8	Moi Rana	61.88	358	eP		P	06 36 22.5	-0.9
LMN	Caledonia Moun	62.82	50	P		P	06 36 30.8	+0.7
NSS	Namsos	63.56	359	eP		P	06 36 34.6	0.0
MK31	Makanchi Array	63.94	313	P		P	06 36 36.8	-0.6
MKAR	Makanchi Array	63.94	313	P		P	06 36 37.1	-0.4
	comp=Z,0.6nm,0.4s,baz=61,slow=6.1,SNR=12							
MKAR	Makanchi Array	63.94	313	P		P	06 36 37.1	-0.4
MAKZ	Makanchi	64.07	314	P		P	06 36 36.6	-1.7
MAKZ				IAmb		IAmb	06 36 52.5	
	comp=Z,2.6nm,0.5s							
ARU	Arti	64.76	333	P		P	06 36 42.3	-0.3
ARU				IAmb		IAmb	06 36 44.5	
	comp=Z,9.0nm,1.2s							
MOL	Molde	65.50	2	eP		P	06 36 47.7	+0.4
AKN	Aaknes	65.89	2	eP		P	06 36 51.2	+1.4
FIA1	FINESS Array S	66.00	352	P		P	06 36 50.9	+0.4
FINES	FINESS Array B	66.00	352	P		P	06 36 50.5	0.0
	comp=Z,4.5nm,0.5s,baz=20,slow=6.6,SNR=38							
FINES	FINESS Array B	66.00	352	P		P	06 36 49.5	-1.0
DOMB	Dombas	66.05	1	eP		P	06 36 50.8	-0.1
NC204	NORSAR Array S	66.83	360	P		P	06 36 56.4	+0.4
NC303	NORSAR Array S	66.88	360	P		P	06 36 56.3	+0.1
HYA	Hoyanger	66.88	2	eP		P	06 36 56.9	+0.7
NC405	NORSAR Array S	66.99	359	P		P	06 36 56.0	-0.9
NB2	NORSAR Subarra	67.07	360	P		P	06 36 57.0	-0.4
	comp=Z,1.5nm,0.5s,baz=1.7,slow=6.5							
NB2	NORSAR Subarra	67.07	360	P		P	06 36 57.0	-0.4
	baz=1.7,slow=6.5							
NOA	NORSAR Array B	67.07	360	P		P	06 36 57.1	-0.4
	comp=Z,1.3nm,0.4s,baz=0.1,slow=3.0,SNR=11							
NC602	NORSAR Array S	67.37	360	eP		P	06 37 00.0	+0.7
SKAR	Skarslia	67.41	1	eP		P	06 37 00.3	+0.7
ODD1	Odda	68.15	2	eP		P	06 37 05.3	+1.1
KONO	Kongsberg	68.46	1	eP		P	06 37 06.8	+0.7
BLS5	Blasjo	68.64	2	eP		P	06 37 07.5	+0.2
KMY	Karmoy	68.81	3	eP		P	06 37 09.6	+1.2
ABKAR	Akbulak array	70.58	328	P		P	06 37 19.0	-0.4
KK31	Karatay Array	71.93	318	P		P	06 37 27.7	0.0
KK31				IAmb		IAmb	06 37 28.8	
	comp=Z,2.6nm,0.7s							
KKAR	Karatay Array	71.93	318	P		P	06 37 27.7	0.0
KKAR				IAmb		IAmb	06 37 28.8	
	comp=Z,2.6nm,0.7s							
PABE	Paberze	72.06	352	P		P	06 37 28.1	-0.1
GAR	Garm	75.42	316	P		P	06 37 47.3	-1.1
AKASG	Malin Array Be	76.24	348	P		P	06 37 52.3	-0.4
	comp=Z,3.7nm,0.4s,baz=16,slow=6.0,SNR=14							
AKASG	Malin Array Be	76.24	348	P		P	06 37 51.4	-1.3
CMAR	Chiang Mai Arr	76.71	283	P		P	06 37 56.6	+0.7
	comp=Z,1.3nm,0.4s,baz=26,slow=6.6,SNR=5.2							
CLL	Collm	76.81	359	eP		P	06 37 54.0	-1.9
	comp=Z,5.0nm,0.6s							
GERES	GERESS Array B	79.26	358	P		P	06 38 10.0	+0.3
	comp=Z,0.5nm,0.4s,baz=31,slow=5.9,SNR=4.0							
BUR08	Bucovina Ar. S	79.72	350	P		P	06 38 11.2	-1.1
BUR08				IAmb		IAmb	06 38 20.1	
	comp=Z,3.3nm,1.2s							
CONA	Conrad Observa	80.11	357	eP		P	06 38 14.2	-0.1
	comp=Z,5.6nm,1.3s							
KBZ	Khabaz	80.45	337	P		P	06 38 17.4	+1.3
	comp=Z,1.8nm,0.8s,baz=52,slow=3.2,SNR=4.0							
MOTA	Moosalm	80.79	360	eP		P	06 38 13.4	-4.7
	comp=Z,6.6nm,1.0s							
KBA	Koelnbreinsper	81.03	358	eP		P	06 38 20.9	+1.5
	comp=Z,3.5nm,0.5s							
FETA	Feichten	81.11	0	eP		P	06 38 22.6	+2.7
	comp=Z,7.8nm,1.4s							
ABTA	Abfaltersbach	81.38	359	eP		P	06 38 21.1	0.0
	comp=Z,2.7nm,0.6s							
SOKA	Soboth	81.39	357	eP		P	06 38 22.6	+1.4
	comp=Z,8.7nm,1.2s							
MYKA	Terra Mystica	81.47	358	eP		P	06 38 23.5	+1.9
	comp=Z,0.1nm,0.2s							
ESDC	Sonseca Array	87.57	11	P		P	06 38 52.9	+0.4
	comp=Z,0.7nm,0.5s,baz=347,slow=5.4,SNR=7.1							
ASAR	Alice Springs	90.36	230	P		P	06 39 05.5	-0.1
	comp=Z,0.5nm,0.6s,baz=24,slow=4.9,SNR=6.1							
BOSA	Boshof	154.04	330	PKPbc		PKPbc	06 46 03.1	-0.9
	comp=Z,0.8nm,0.5s,baz=19,slow=5.6,SNR=4.0							

NEIC ***27*** *06:31:35.5±1.4, 52°.2N±0°.1×169°.5W±0°.1, h55km±19km, Error ellipse: s-maj=17.1km s-min=9.3km az=149.0*

AEIC 27 06:31:34±2.5,**52°.06N**±0°.07×**169°.35W**±0°.09,**h37**km±9km, **ML2.5**/19,**mb3.7**/9(NEIC),**Error ellipse: s-maj=10.5km s-min=7.4km az=167.0,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.96	18		Pn	06 31 51.1	+0.2
OKTU	Okmok Mt. Tuli	1.54	31		Pn	06 32 00.2	+1.2
OKNC	Okmok New Cone	1.58	28		Pn	06 32 00.7	+1.2
OKNC					Sn	06 32 23.1	+4.4
OKFG	Magazine Ridge	1.61	32		Pn	06 32 00.8	+1.0
OKFG					Sn	06 32 21.2	+1.9
MAPS	Pakushin South	2.28	39		Pn	06 32 10.3	+1.3
MAPS					Sn	06 32 37.5	+1.7
MSW	Makushin Switc	2.42	39		Pn	06 32 12.6	+1.6
MSW					Sn	06 32 41.7	+2.4
MNAT	Makushin Natee	2.44	40		Pn	06 32 12.6	+1.4
MNAT					Sn	06 32 41.8	+2.1
UNV	Unalaska Valle	2.48	43		Pn	06 32 13.4	+1.6
UNV					Sn	06 32 42.1	+1.4
ATKA	Atka Island	2.99	275	Pn	Pn	06 32 19.6	+0.9
AKUT	Akutan	3.00	45	Pn	Pn	06 32 20.7	+1.8
CNPM	China Poot	12.61	47	Pn	Pn	06 34 29.6	-1.0
BRLK	Bradley Lake	12.88	46	Pn	Pn	06 34 33.6	-0.6
SEW	Seward	13.68	46	Pn	Pn	06 34 45.7	+0.6
SCM	Sheep Creek Mo	15.41	42	Pn	Pn	06 35 08.4	-0.1
SCM				IAmb	IAmb	06 35 36.3	
	comp=Z,14nm,1.2s						
EYAK	Cordova Ski Ar	15.53	48	Pn	Pn	06 35 08.9	-1.0
RND	Reindeer	15.69	36	Pn	Pn	06 35 10.2	-1.8
RND				IAmb	IAmb	06 35 12.3	
	comp=Z,6.4nm,1.4s						
KLU	Klutina	15.85	44	Pn	Pn	06 35 13.5	-0.6
KLU				IAmb	IAmb	06 35 29.9	
	comp=Z,7.2nm,1.2s						
IMAR	Indian Mountai	16.03	24	Pn	Pn	06 35 16.2	-0.1
N25K	Chitina, Valde	16.47	45	Pn	Pn	06 35 22.6	+0.6
N25K				IAmb	IAmb	06 35 31.4	
	comp=Z,7.0nm,1.2s						
GLB	Gilahina Butte	16.75	46	Pn	Pn	06 35 25.4	-0.1
IL31		17.20	34	Pn	Pn	06 35 29.1	-1.9
BARN	Barnard Glacie	17.59	48	Pn	Pn	06 35 34.8	-1.4
BARN				IAmb	IAmb	06 35 48.5	
	comp=Z,7.7nm,1.1s						
LOGN	Logan Glacier	17.83	49		Pn	06 35 38.6	-0.4

IDC ***27*** *06:33:51.6±1.8, 52°.51N×169°.09W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/60, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=54.6km s-min=21.0km az=168.0*

AEIC ***27*** *06:33:56±2.1, 52°.20N±0°.05×169°.36W±0°.09, h38km±7km, ML3.0/20, mb4.0/8(NEIC), Error ellipse: s-maj=8.0km s-min=7.3km az=140.0*

NEIC ***27*** *06:33:57.7±1.3, 52°.26N±0°.07×169°.36W±0°.09, h38km±5km, Error ellipse: s-maj=10.0km s-min=7.4km az=157.0*

ISC 27 06:33:55.9±0.9,**52°.1N**±0°.1×**169°.20W**±0°.07,**h35**km,**n34,** σ1§**44**/39,**mb4.0/5,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.94	13		Pn	06 34 11.9	-0.7
OKWE	Okmok W'ng Wal	1.53	22		Pn	06 34 20.7	0.0
MAPS	Pakushin South	2.22	37		Pn	06 34 30.6	+0.4
MAPS					Sn	06 34 58.1	+1.7
MSW	Makushin Switc	2.37	37		Pn	06 34 32.7	+0.5
MSW					Sn	06 35 02.3	+2.3
MNAT	Makushin Natee	2.38	39		Pn	06 34 33.2	+0.9
MNAT					Sn	06 35 01.8	+1.5
UNV	Unalaska Valle	2.42	41		Pn	06 34 33.8	+0.9
UNV					Sn	06 35 02.4	+1.1
AKUT	Akutan	2.93	43	Pn	Pn	06 34 40.2	+0.3
KOFP	Korovin Flat P	3.02	276		Pn	06 34 41.8	+0.5
ATKA	Atka Island	3.08	275		Pn	06 34 42.2	+0.2
ATKA	Atka Island	3.08	275		Sn	06 35 17.8	+0.3
GSTR	Great Sitkin T	4.23	273	Pn	Pn	06 34 58.2	+0.4
GSMY	Great Sitkin M	4.23	273		Pn	06 34 57.9	+0.1
FALS	False Pass	4.45	49	Pn	Pn	06 35 00.7	0.0
ADK	Adak	4.63	271		Pn	06 35 03.2	-0.1
KIWB	Kanaga Island	4.92	271		Pn	06 35 07.6	+0.4
KIMD	Kanaga Island	4.99	270		Pn	06 35 08.6	+0.4
SPIA	Saint Paul Isl	5.17	354		Pn	06 35 12.2	+1.6
AMKA	Amchitka	7.18	269	Pn	Pn	06 35 39.3	+1.1
KDAK	Kodiak Island	11.13	52	Pn	Pn	06 36 30.3	-2.0
	0.2nm,0.3s,baz=102,slow=12,SNR=1.6						
KDAK				Sn	Sn	06 38 29.5	-5.9
	0.1nm,0.3s,baz=160,slow=18,SNR=1.5						
KDAK	Kodiak Island	11.13	52		Pn	06 36 32.5	+0.2
SEW	Seward	13.61	46	Pn	Pn	06 37 06.1	0.0
FID	Port Fidalgo	15.22	46	Pn	Pn	06 37 25.9	-2.0
SCM	Sheep Creek Mo	15.35	42	Pn	Pn	06 37 28.8	-0.9
SCM				IAmb	IAmb	06 37 56.8	
	comp=Z,18nm,1.4s						
KLU	Klutina	15.79	44	Pn	Pn	06 37 34.3	-1.0
KLU				IAmb	IAmb	06 37 43.6	
	comp=Z,13nm,1.4s						
N25K	Chitina, Valde	16.41	45	Pn	Pn	06 37 42.9	-0.3
GLB	Gilahina Butte	16.69	46	Pn	Pn	06 37 46.5	-0.3
PETK	Petropavlovsk-	20.05	286	P	P	06 38 25.4	-0.3
	comp=Z,0.7nm,0.3s,baz=91,slow=12,SNR=7.3						
KSRS	Korea Array	45.55	277	P	P	06 42 12.3	+0.4
	comp=Z,0.3nm,0.3s,baz=46,slow=8.7,SNR=4.6						
TXAR	Lajitas Array	52.65	89	P	P	06 43 07.3	+0.8
	comp=Z,0.1nm,0.5s,baz=302,slow=5.2,SNR=3.9						
TXAR	Lajitas Array	52.65	89	P	P	06 43 08.6	+2.1
P40A	Paris	52.78	71	P	P	06 43 07.9	+0.7
P40A				IAmb	IAmb	06 43 08.2	
	comp=Z,2.5nm,0.9s						
JCT	Junction City	54.23	85	P	P	06 43 19.8	+1.7
ARCES	ARCESS Array B	58.24	354	P	P	06 43 44.9	-1.2
	comp=Z,2.7nm,0.8s,baz=24,slow=9.2,SNR=2.2						
ABKAR	Akbulak array	70.76	328	P	P	06 45 07.5	-0.6
ABKAR				IAmb	IAmb	06 45 31.5	
	comp=Z,1.8nm,1.1s						

DDA ***27*** *06:39:41.9, 41°.42N×42°.59E, h13km±1km, ML2.7*

TIF ***27*** *06:39:41.7, 41°.39N×42°.61E, h9km±1km*

ISK ***27*** *06:39:41.4, 41°.47

JJT3 eS Sn 06 44 30.1 +0.9
JOW Kunigami 1.12 98 P Pn 06 44 12.4 +0.3
baz=269,slow=8.1
JOW S Sn 06 44 28.9 -0.8
2μm,0.3s,baz=103,slow=26,SNR=19
JOW Kunigami 1.12 98 P Pn 06 44 12.3 +0.2
JOW S Sn 06 44 29.0 -0.8
JOW Kunigami 1.12 98 Pn Pn 06 44 12.3 +0.2
JYRO Yoronjima 1.27 89 P Pn 06 44 13.8 +0.2
JYRO eS Sn 06 44 30.9 -1.5
JOKE Okinoerabujima 1.42 75 P Pn 06 44 15.3 0.0
JOKE S Sn 06 44 34.6 -0.9
JTK Tokunoshima 1.88 65 P Pn 06 44 20.6 -0.1
JTK S Sn 06 44 44.3 -0.8
JAMN Amaminishikomi 2.27 57 P Pn 06 44 25.2 -0.4
JAMN eS Sn 06 44 52.1 -1.7
JIKM Ikemajima 2.62 218 P Pn 06 44 29.8 -0.3
JIKM eS Sn 06 45 00.6 -1.3
JOGS Gusukube 2.67 214 P Pn 06 44 31.7 +0.9
JOGS eS Sn 06 45 04.0 +0.9
JAM Amami Oshima 2.68 58 P Pn 06 44 30.5 -0.3
JAM S Sn 06 45 01.8 -1.5
JMZ Minamidaito 2 3.94 107 Pn 06 44 46.1 -1.4
YOJ Yonaguni jima 4.42 236 Pn 06 44 53.1 -0.8
JSU Suzuyama 5.39 33 Pn Pn 06 45 07.2 +0.2
YHNB Yeheng 5.60 247 Pn 06 45 10.7 +0.8
NACB Ninganchiao 5.66 241 Pn Pn 06 45 08.8 -1.8
YULB Yu-li 6.32 237 Pn 06 45 15.8 -3.7
SSLB Suanglung 6.36 241 Pn 06 45 17.9 -2.2
TWG Pinlang 6.83 234 Pn Pn 06 45 21.8 -4.6
TPUB Ta-pu 6.87 239 Pn Pn 06 45 26.1 -1.0
JNU Nakatsue 6.95 28 P Pn 06 45 30.3 +2.3
8.7nm,0.3s,baz=292,slow=3.2,SNR=43
JNU Nakatsue 6.95 28 Pn 06 45 29.5 +1.5
NJ2 Nanjing 8.72 307 eP Pn 06 45 51.8 -0.1
NJ2 pmax pmax
comp=Z,32nm,0.5s
JMN Monobe 8.94 40 Pn Pn 06 45 51.9 -3.0
KSAR Wonju Array Be 10.43 4 Pn Pn 06 46 15.4 +0.4
KSRS Korea Array 10.45 4 P Pn 06 46 17.0 +1.9
0.4nm,0.3s,baz=183,slow=14,SNR=29
KSRS LR LR 06 50 18.8
comp=Z,803nm,20.2s,baz=215,slow=38
KS19 Wonju Array Si 10.49 4 Pn 06 46 14.8 -1.0
INU Inuyama 11.92 43 Pn Pn 06 46 36.4 +1.5
MJAR Matsushiro Arr 13.44 42 P Pn 06 46 52.0 -2.6
0.1nm,0.3s,baz=236,slow=11,SNR=1.7
MJAR Matsushiro Arr 13.44 42 Pn 06 46 54.2 -0.4
JSD Sado 14.50 38 Pn Pn 06 47 07.7 -0.5
ENH Enshi 15.74 286 P P 06 47 26.8 +1.5
BJT Baijiatuau 15.81 328 P P 06 47 26.3 +0.4
BJI Beijing 15.82 328 P P 06 47 27.3 +1.3
BJI pmax pmax
comp=Z,25nm,0.9s
JMM Marumori 15.86 44 P P 06 47 26.1 -0.4
CN2 Changchun 16.81 356 eP P 06 47 39.3 +2.4
CN2 pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 17.09 299 P Pn 06 47 40.5 +0.1
XAN sP sP 06 48 17.0 -0.1
XAN pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an 17.09 299 P Pn 06 47 41.0 +0.7
USRK Ussuriysk Ar. 17.62 12 P P 06 47 44.9 -0.9
HHC Hu-ho-hao-te 18.81 321 eP Pn 06 48 01.5 +0.6
HHC pmax pmax
comp=Z,23nm,0.9s
BTO Baotou 19.54 318 eP Pn 06 48 13.0 +3.5
BTO S Sn 06 51 49.8 +0.2
CD2 Chengdu 20.72 286 P P 06 48 19.0 -0.7
CD2 pmax pmax
comp=Z,60nm,0.9s
GUMO Guam 21.36 125 P P 06 48 26.8 +0.2
16nm,0.7s,baz=126,slow=4.9,SNR=4.5
GUMO Guam 21.36 125 IAmb IAmb 06 48 30.9
comp=Z,80nm,1.3s
LZH Lanzhou 21.70 300 eP P 06 48 30.0 -0.2
LZH pP pP 06 48 54.5 +1.9
LZH sP sP 06 49 12.0 +4.3
LZH pmax pmax
comp=Z,15nm,1.3s
KLR Kul'dur 22.49 8 P P 06 48 36.5 -1.6
comp=Z,0.9nm,0.4s,baz=189,slow=7.3,SNR=5.2
GTA Gaotai 25.81 306 ⇑P P 06 49 07.8 -1.0
GTA pP pP 06 49 30.8 -3.7
GTA sP sP 06 49 45.5 -3.0
GTA pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 26.04 328 P P 06 49 10.6 -0.2
ULN IAmb IAmb 06 49 13.9
comp=Z,26nm,1.2s
SONM Songino Array 26.32 328 P P 06 49 12.6 -0.8
comp=Z,15nm,0.5s,baz=139,slow=9.8,SNR=47
SONM Songino Array 26.32 328 P P 06 49 13.3 0.0
SONM IAmb IAmb 06 49 16.6
comp=Z,18nm,0.7s
FAKI Fak Fak 30.17 170 P P 06 49 48.6 +1.0
FAKI IAmb IAmb 06 50 16.7
comp=Z,19nm,1.1s
WMQ Urumqi 35.80 308 eP P 06 50 38.5 +2.1
MTN Manton Dam 39.81 174 P P 06 51 10.1 -0.1
MTN IAmb IAmb 06 51 10.8
comp=Z,18nm,0.9s
MK31 Makanchi Array 40.22 311 P P 06 51 12.3 -1.2
MK31 PcP 06 53 15.7 +0.6
MKAR Makanchi Array 40.22 311 P P 06 51 12.6 -0.8
comp=Z,5.7nm,0.5s,baz=98,slow=11,SNR=62
MKAR pP pP 06 51 41.0 +0.8
comp=Z,0.7nm,0.6s,baz=90,slow=11,SNR=2.5
MKAR PcP PcP 06 53 15.5 +0.4
comp=Z,2.1nm,0.7s,baz=83,slow=3.6,SNR=9.6
MAKZ Makanchi 40.43 311 P P 06 51 14.9 -0.3
ZAA0 Zalesovo Array 40.98 323 P P 06 51 18.7 -0.8
ZAA0 IAmb IAmb 06 51 19.7
comp=Z,7.0nm,0.7s
ZALV Zalesovo Beam 40.98 323 P P 06 51 18.6 -1.0
comp=Z,7.1nm,0.6s,baz=109,slow=8.0,SNR=32
ZALV pP pP 06 51 45.6 -0.7
comp=Z,5.0nm,0.8s,baz=112,slow=8.6,SNR=5.3
ZALV Zalesovo Beam 40.98 323 P P 06 51 18.3 -1.2
PMG Port Moresby 41.13 149 P P 06 51 20.7 -0.4
PMG IAmb IAmb 06 51 42.1
comp=Z,18nm,0.8s
KNRA Kununurra 42.46 178 P P 06 51 32.1 +0.3
KNRA IAmb IAmb 06 51 33.4
comp=Z,15nm,1.0s
TARG Taragay, Kyrgy 42.64 303 P P 06 51 34.0 +0.2
XMIS Christmas Isla 42.65 212 P P 06 51 31.3 -2.2
KURK Kurchatov 43.52 316 P P 06 51 39.7 -0.5
KURBB Kurchatov Arra 43.55 316 P P 06 51 39.7 -0.7
comp=Z,3.4nm,0.5s,baz=104,slow=8.8,SNR=22
KURBB pP pP 06 52 07.9 +0.4
comp=Z,0.9nm,0.6s,baz=106,slow=8.2,SNR=3.5
KURBB PcP PcP 06 53 25.7 -0.3
comp=Z,1.1nm,0.6s,baz=117,slow=2.9,SNR=6.9
WB0 Warramunga Arr 47.04 171 P P 06 52 08.2 0.0
WB0 IAmb IAmb 06 52 09.1
comp=Z,7.7nm,0.7s
WRAB Tennant Creek 47.20 171 P P 06 52 09.9 +0.5
WRAB IAmb IAmb 06 52 10.9
comp=Z,11nm,0.8s
WRA Warramunga Arr 47.20 171 P P 06 52 10.1 +0.6
comp=Z,7.8nm,0.7s,baz=352,slow=8.4,SNR=47
WRA pP pP 06 52 37.1 -0.3
comp=Z,0.9nm,0.6s,baz=351,slow=6.3,SNR=2.3
WRA Warramunga Arr 47.20 171 P P 06 52 10.5 +1.0
WB2 Warramunga Arr 47.20 171 P P 06 52 10.1 +0.6
WB2 IAmb IAmb 06 52 10.9
comp=Z,13nm,0.8s
WR0 Warramunga Arr 47.25 170 P P 06 52 10.4 +0.6
WR0 IAmb IAmb 06 52 10.9
comp=Z,5.2nm,0.7s
KK31 Karatay Array 48.09 305 P P 06 52 16.4 +0.2
KK31 PcP 06 53 42.5 +0.5
KKAR Karatay Array 48.09 305 P P 06 52 16.7 +0.5
KKAR PcP 06 53 42.4 +0.4
GAR Garm 48.35 299 P P 06 52 17.7 -0.7
GAR IAmb IAmb 06 52 44.4
comp=Z,6.6nm,0.9s
BVAR Borovoye Array 48.98 318 P P 06 52 22.5 -0.4
comp=Z,1.0nm,0.4s,baz=174,slow=20,SNR=6.2
BVAR pP pP 06 52 51.3 +0.8
comp=Z,1.8nm,0.7s,baz=206,slow=9.5,SNR=4.4
BVAR PcP PcP 06 53 44.3 -0.8
comp=Z,1.6nm,0.5s,baz=218,slow=9.4,SNR=5.7
BRVK Borovoye 49.05 318 P P 06 52 23.1 -0.3
CHGR Chuyangaron 49.27 299 P P 06 52 25.1 -0.3
CHGR IAmb IAmb 06 52 30.5
comp=Z,6.1nm,0.7s
CHGR PcP PcP 06 53 46.6 +0.1
ATKA Atka Island 50.16 43 P P 06 52 31.9 +0.2
ASAR Alice Springs 50.81 172 P P 06 52 38.0 +1.1
comp=Z,3.5nm,0.5s,baz=358,slow=14,SNR=48
ASAR PcP PcP 06 53 52.8 +0.7
comp=Z,1.3nm,0.7s,baz=353,slow=3.8,SNR=5.8
ASAR Alice Springs 50.81 172 P P 06 52 37.7 +0.8
ABKAR Abkulak array 55.33 313 P P 06 53 09.3 -0.5
AKTO Aktyubinsk 56.53 314 P P 06 53 18.4 0.0
comp=Z,0.9nm,0.5s,baz=104,slow=9.6,SNR=2.7
SANVU Saraoutou 57.46 132 P P 06 53 25.5 +0.2
STKA Stephens Creek 60.18 166 P P 06 53 44.7 +0.9
comp=Z,5.0nm,0.5s,baz=339,slow=6.5,SNR=16
STKA Stephens Creek 60.18 166 P P 06 53 44.8 +0.9
KDAK Kodiak Island 62.54 37 P P 06 53 59.8 +0.4
comp=Z,6.7nm,0.5s,baz=296,slow=5.1,SNR=9.6
KDAK Kodiak Island 62.54 37 IAmb IAmb 06 54 04.3
comp=Z,21nm,1.4s
RND Reindeer 63.61 30 P P 06 54 06.9 +0.4
MDM Murphy Dome 63.67 28 P P 06 54 07.9 +1.0
WRH Wood River Hil 63.80 29 P P 06 54 09.6 +1.9
WRH IAmb IAmb 06 54 15.9
comp=Z,8.0nm,1.1s
TCOL CIGO, UAF Yank 63.84 28 P P 06 54 08.8 +0.9
CCB Clear Creek Bu 63.90 29 P P 06 54 08.3 0.0
CCB IAmb IAmb 06 54 09.4
comp=Z,3.7nm,0.5s
POKR Poker Plat Res 63.98 28 P P 06 54 09.2 +0.3
ILAR Eielson Array 64.27 28 P P 06 54 10.4 -0.4
comp=Z,1.6nm,0.7s,baz=290,slow=9.8,SNR=14
ILAR Eielson Array 64.27 28 P P 06 54 10.1 -0.7
HDA Harding Lake 64.30 29 P P 06 54 10.8 -0.1
HDA IAmb IAmb 06 54 11.7
comp=Z,11nm,0.8s
FYU Fort Yukon 64.66 26 P P 06 54 14.8 +1.6
FYU IAmb IAmb 06 54 31.2
comp=Z,17nm,1.5s
PRP Porcupine Dome 64.72 27 P P 06 54 13.9 +0.1
PRP IAmb IAmb 06 54 15.8
comp=Z,5.1nm,0.8s
BMAR Burnt Mountain 64.77 25 P P 06 54 15.2 +1.2
RIDG Independent Ri 65.32 29 P P 06 54 17.6 -0.1
RIDG IAmb IAmb 06 54 19.3
comp=Z,7.6nm,1.0s
SCRK Sand Creek 65.65 29 P P 06 54 20.1 +0.2
SCRK IAmb IAmb 06 54 20.8
comp=Z,5.9nm,0.8s
DOT Dot Lake 65.68 29 P P 06 54 19.9 -0.1
DOT IAmb IAmb 06 54 20.8
comp=Z,7.4nm,0.7s
BMRM Bremner River 66.00 32 P P 06 54 22.5 +0.4
BMRM IAmb IAmb 06 54 40.0
comp=Z,20nm,1.4s
K27K Chicken 66.46 29 P P 06 54 26.3 +1.4
K27K IAmb IAmb 06 54 26.7
comp=Z,4.5nm,0.8s
VRDI Verde Repeater 66.49 32 P P 06 54 26.2 +0.8
EGAK Eagle 66.67 28 P P 06 54 26.8 +0.6
CRQM Cirque 66.75 32 P P 06 54 26.9 -0.2
CRQM IAmb IAmb 06 54 40.3
comp=Z,21nm,1.3s
L27K Beaver Creek, 66.80 30 P 06 54 28.6 +1.5
BCAR Beaver Creek A 66.82 30 P P 06 54 28.5 +1.3
KBZ Khabaz 67.84 309 P P 06 54 34.0 +0.1
comp=Z,5.0nm,0.9s,baz=128,slow=3.4,SNR=11
KBZ pP pP 06 55 03.6 +0.5
comp=Z,7.0nm,1.0s,baz=94,slow=4.2,SNR=5.4
EPYK Eagle Plains 68.03 26 P P 06 54 36.0 +1.2
INK Inuvik 68.60 23 P P 06 54 38.5 +0.3
comp=Z,7.2nm,0.7s,baz=219,slow=5.5,SNR=6.1
INK Inuvik 68.60 23 P P 06 54 39.0 +0.7
INK IAmb IAmb 06 54 40.0
comp=Z,8.7nm,0.9s
ARCES ARCESS Array B 68.89 338 P P 06 54 39.1 -1.0
comp=Z,3.3nm,0.9s,baz=70,slow=5.8,SNR=1.7
ARCES ARCESS Array B 68.89 338 P P 06 54 41.0 +0.9
GEVA Gevas 69.36 303 P P 06 54 44.1 +0.4
HYT Haines Junctio 69.39 31 P P 06 54 43.9 +0.5
HYT IAmb IAmb 06 54 45.1
comp=Z,9.9nm,1.2s
C36M Paulatuk 71.35 21 P P 06 54 55.6 +0.6
C36M IAmb IAmb 06 54 55.9
comp=Z,8.3nm,0.6s
FINES FINESS Array B 71.66 330 P P 06 54 56.5 -0.6
comp=Z,1.7nm,0.5s,baz=49,slow=5.4,SNR=18
FINES FINESS Array B 71.66 330 P P 06 54 56.7 -0.3
AKASG Malin Array Be 74.25 319 P P 06 55 12.5 +0.1
comp=Z,0.9nm,0.4s,baz=60,slow=6.0,SNR=2.6
RES Resolute Bay 74.99 11 P P 06 55 16.8 +0.5
comp=Z,8.6nm,0.7s,baz=323,slow=4.7,SNR=2.7
BRTR Keskin Array B 75.71 307 P P 06 55 21.2 -0.1
comp=Z,4.0nm,0.7s,baz=105,slow=4.3,SNR=16
BRTR Keskin Array B 75.71 307 P P 06 55 21.7 +0.4
NB2 NORSAR Subarra 78.14 333 P P 06 55 33.7 -0.7
comp=Z,0.8nm,0.5s,baz=53,slow=5.6
NOA NORSAR Array B 78.14 333 P P 06 55 33.8 -0.6
comp=Z,1.2nm,0.6s,baz=53,slow=5.8,SNR=4.8
YKA Yellowknife Ar 78.28 25 P P 06 55 35.5 +0.5
comp=Z,0.5nm,0.3s,baz=297,slow=5.2,SNR=13
ELL Elmali 79.62 306 P P 06 55 42.9 -0.1
GERES GERESS Array B 83.94 322 P P 06 56 05.3 0.0
comp=Z,1.1nm,0.6s,baz=58,slow=5.0,SNR=9.2
ITM Ithomi 85.06 309 P P 06 56 10.2 -1.0

*IDC **27** 06:45:12.5±0.6, 52°.20N×169°.38W, h0km, mb4.7/46, mb1 4.8/48, mb1mx4.7/63, mbtmp4.7/48, ML4.3/2, Error ellipse: s-maj=16.9km s-min=9.5km az=173.0*
*BJI **27** 06:45:13.4±0.0, 52°.47N×169°.76W, h10km, mB5.6/6, mb5.1/59, Ms5.5/6, Ms7 5.3/6*
*NEIC **27** 06:45:14.8±2.1, 52°.12N±0°.04×169°.26W±0°.06, h14km±3km, mb4.9/362, ML4.5/52(AEIC), Error ellipse: s-maj=6.0km s-min=5.5km az=47.0*
*MOS **27** 06:45:15.6±1.1, 52°.25N×169°.31W, h31km, mb5.2/72, Error ellipse: s-maj=7.2km s-min=4.5km az=87.0*
*AEIC **27** 06:45:16±2.0, 52°.14N±0°.05×169°.28W±0°.07, h19km±3km, Error ellipse: s-maj=7.2km s-min=5.3km az=144.0*
ISC 27 06:45:15.6±0.6, 52°.17N±0°.07×169°.26W±0°.04, h20km±4km, n909, σ1§02/862, mb5.0/285, 24C-8D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High** baz=197,SNR=206	0.84	17	P	Pn	06 45 32.0	-0.2
NIKH	**Nikolski High**	0.84	17		Pn	06 45 31.9	-0.2
NIKH	**Nikolski High**	0.84	17		Sn	06 45 46.4	+2.5
OKSP	**Okmok Steeple**	1.23	28		Pb	06 45 38.0	-0.1
OKSO	**Okmok South**	1.36	29		Pb	06 45 40.2	-0.2
OKSO					Sb	06 45 59.0	+1.7
OKTU	**Okmok Mt. Tuli**	1.42	31		Pb	06 45 41.0	-0.4
OKCE	**Okmok Cone E**	1.42	27		Pb	06 45 41.6	+0.2
OKNC	**Okmok New Cone**	1.46	28		Pb	06 45 42.3	+0.3
MGOD	**Makushin Gods**	2.17	41		Pn	06 45 51.4	+0.8
MGOD					Sn	06 46 18.0	+1.1
MSW	**Makushin Switc**	2.30	40		Pn	06 45 53.8	+1.5
MNAT	**Makushin Natee**	2.31	41		Pn	06 45 53.7	+1.3
MNAT					Sb	06 46 22.9	-1.9
UNV	**Unalaska Valle** baz=226,SNR=48	2.36	44	P	Pn	06 45 54.1	+1.0
UNV	**Unalaska Valle**	2.36	44		Pn	06 45 54.5	+1.4
UNV					Sn	06 46 23.1	+1.7
MTBL	**Makushin Table**	2.38	40		Pn	06 45 55.1	+1.7
AKMO	**Akutan Morgan**	2.74	44		Pn	06 46 00.4	+2.0
AKRB	**Akutan Reef Bi**	2.75	43		Pn	06 46 00.8	+2.4
AKBBA	**Akutan Broad B**	2.78	45		Pn	06 46 01.2	+2.3
AKLV	**Akutan Long Va**	2.82	44		Pn	06 46 01.6	+2.3
AKGG	**Akutan Green G**	2.83	43		Pn	06 46 01.9	+2.5
AKUT	**Akutan**	2.88	45	Pn	Pn	06 46 02.5	+2.3
AKSA	**Akutan Strait**	2.91	46		Pn	06 46 02.2	+1.5
KOFP	**Korovin Flat P**	2.98	274		Pn	06 46 02.9	+1.3
ATKA	**Atka Island**	3.04	273	Pn	Pn	06 46 03.1	+0.7
KOKL	**Mount Kliuchef**	3.04	275		Pn	06 46 04.2	+1.7
WESP	**Westdahl Peak**	3.58	48		Pn	06 46 12.3	+2.4
ISLZ	**Isanotski Laza**	4.19	50		Pn	06 46 20.2	+2.0
GSTR	**Great Sitkin T**	4.19	272	Pn	Pn	06 46 19.7	+1.4
GSMY	**Great Sitkin M**	4.19	271		Pn	06 46 19.6	+1.3
GSTD	**Great Sitkin T**	4.25	271		Pn	06 46 20.0	+0.9
FALS	**False Pass** baz=234	4.40	50	P	Pn	06 46 22.6	+1.5
FALS	**False Pass**	4.40	50	Pn	Pn	06 46 21.9	+0.8
ADK	**Adak**	4.60	269	P	Pn	06 46 24.7	+0.9
ADK	**Adak**	4.60	269		Pn	06 46 24.7	+0.9
KIWB	**Kanaga Island**	4.89	269	Pn	Pn	06 46 29.0	+1.2
KIKV	**Kanaga Island**	4.90	270		Pn	06 46 29.0	+1.1
KICM	**Kanaga Island**	4.91	270		Pn	06 46 29.1	+1.1
KIMD	**Kanaga Island**	4.95	268		Pn	06 46 29.7	+1.0
SPIA	**Saint Paul Isl** baz=173,SNR=14	5.05	354	P	Pn	06 46 31.3	+1.3
SPIA	**Saint Paul Isl**	5.05	354		Pn	06 46 32.9	+2.9
TAFP	**Tanaga Falls P**	5.39	271		Pn	06 46 35.9	+1.1
TASE	**Tanaga Southea**	5.43	270		Pn	06 46 36.7	+1.3
GAEA	**Gareloi East**	5.88	270		Pn	06 46 43.4	+2.0
SDPT	**Sand Point** baz=242	6.10	55	P	Pn	06 46 45.5	+1.0
SDPT	**Sand Point**	6.10	55	Pn	Pn	06 46 46.3	+1.9
CNBA	**Chernabura Isl**	6.35	61		Pn	06 46 48.6	+0.7
CHNA	**Chernabura Isl** baz=249	6.35	61	P	Pn	06 46 48.7	+0.9
CERAA	**Semis' Rag'd T**	6.83	272		Pn	06 46 55.2	+0.7
CESW	**Semis' Southwe**	6.90	272		Pn	06 46 57.0	+1.6
AMKA	**Amchitka**	7.14	268	Pn	Pn	06 47 00.1	+1.4
LSPA	**Little Sitkin**	7.51	273		Pn	06 47 06.2	+2.5
LSNW	**Little Sitkin**	7.54	273		Pn	06 47 06.7	+2.5
LSSA	**Little Sitkin**	7.54	273		Pn	06 47 06.7	+2.5
CHIR	**Chirikof Islan** baz=251	8.82	60	P	Pn	06 47 22.7	+0.9
CHIR	**Chirikof Islan**	8.82	60	Pn	Pn	06 47 22.9	+1.1
SII	**Sitkinak Islan** baz=250	9.83	58	P	Pn	06 47 36.7	+0.7
SII	**Sitkinak Islan**	9.83	58		Pn	06 47 36.7	+1.2
SMY	**Shemya**	10.18	280	P	Pn	06 47 40.1	-0.2
SMY	**Shemya**	10.18	280	Pn	Pn	06 47 40.1	-0.2
OHAK	**Old Harbor** baz=248	10.53	55	P	Pn	06 47 44.7	-0.3
OHAK	**Old Harbor**	10.53	55	Pn	Pn	06 47 44.5	-0.5
O18K	**Koktuh Hills** baz=232	10.98	40	P	Pn	06 47 52.1	+0.7
KDAK	**Kodiak Island** 3.6nm,0.3s,baz=259,slow=7.0,SNR=58	11.09	53	Pn	Pn	06 47 51.7	-1.1
KDAK	baz=146,slow=22,SNR=1.2			Sn	Sn	06 49 51.4	-4.7
KDAK	**Kodiak Island**	11.09	53	P	Pn	06 47 52.5	-0.3
KDAK	**Kodiak Island** baz=247	11.09	53	P	Pn	06 47 52.7	-0.1
KDAK	**Kodiak Island**	11.09	53	Pn	Pn	06 47 52.5	-0.3
N18K	**Kilae Creek** baz=227	11.27	36	P	Pn	06 47 55.4	+0.2
O19K	**Port Alsworth** baz=232	11.55	40	P	Pn	06 47 59.4	+0.4
SVW2	**Sparrevohn**	11.67	35		Pn	06 47 59.1	-1.6
GAMB	**Gambell** baz=173	11.71	355	P	Pn	06 48 02.2	+1.1
GAMB	**Gambell**	11.71	355	Pn	Pn	06 48 00.6	-0.6
N19K	**Bonanza Creek** baz=230,SNR=6.4	11.87	37	P	Pn	06 48 05.3	+1.7
O20K	**Slope Mountain** baz=237	12.17	43	P	Pn	06 48 10.3	+2.7
RSO	**Redoubt South**	12.33	41		Pn	06 48 10.0	0.0
CNPM	**China Poot**	12.49	47		Pn	06 48 12.4	+0.5
ANM	**Nome**	12.59	8	P	Pn	06 48 12.8	-0.4
ANM	**Nome**	12.59	8		Pn	06 48 12.8	-0.4
L19K	**White Mountain** baz=224,SNR=16	12.68	32	P	Pn	06 48 15.2	+0.7
BRLK	**Bradley Lake**	12.76	46		Pn	06 48 13.8	-1.8
BRSE	**Bradley Lake S** baz=242	12.81	46	P	Pn	06 48 17.0	+0.6
TTA	**Tatalina**	12.88	28	P	Pn	06 48 17.7	+0.4
TTA	**Tatalina**	12.88	28	Pn	Pn	06 48 17.7	+0.4
SPU	**Mount Spurr**	13.03	39		Pn	06 48 19.9	+0.5
M20K	**Styx River** baz=229	13.06	36	P	Pn	06 48 22.7	+2.8
TNA	**Tin City** baz=184	13.45	2	P	Pn	06 48 26.4	+1.5
TNA	**Tin City**	13.45	2	Pn	Pn	06 48 23.9	-1.0
SEW	**Seward** baz=243,SNR=8.0	13.56	46	P	Pn	06 48 25.9	-0.5
SEW	**Seward**	13.56	46	Pn	Pn	06 48 25.5	-0.9
O22K	**Cooper Landing** baz=241,SNR=14	13.62	45	P	Pn	06 48 26.7	-0.5
O22K	**Cooper Landing**	13.62	45		Pn	06 48 26.3	-0.9
SUA	**Susitna One** baz=236,SNR=9.2	13.71	40	P	Pn	06 48 28.9	+0.2
SUA	**Susitna One**	13.71	40		Pn	06 48 29.8	+1.2
SKT	**Skwentna** baz=232,SNR=7.0	13.71	37	P	Pn	06 48 29.4	+0.8
SKT	**Skwentna**	13.71	37		Pn	06 48 31.0	+2.4
K20K	**Telida** baz=223	13.79	30	P	Pn	06 48 31.0	+1.4
RC01	**Rabbit Creek A** baz=239,SNR=9.2	13.92	42	P	Pn	06 48 30.5	-0.9
RC01	**Rabbit Creek A**	13.92	42		Pn	06 48 31.1	-0.2
PPLA	**Purkeypile** baz=228	14.07	34	P	Pn	06 48 35.8	+2.2
PPLA	**Purkeypile**	14.07	34	Pn	Pn	06 48 36.8	+3.2
J20K	**Nowinta River** baz=220,SNR=9.2	14.38	27	P	Pn	06 48 39.2	+1.6
PWL	**Port Wells**	14.40	45		Pn	06 48 37.2	-0.8
PMR	**Palmer**	14.43	41	P	Pn	06 48 37.9	-0.4
PMR	**Palmer** baz=238	14.43	41	P	Pn	06 48 37.4	-0.9
PMR	**Palmer**	14.43	41		Pn	06 48 37.9	-0.4
GHO	**Glory Hole Cre**	14.61	41		Pn	06 48 41.2	+0.4
KNK	**Knik Glacier** baz=240	14.61	43	P	Pn	06 48 39.7	-1.2
KNK	**Knik Glacier**	14.61	43		Pn	06 48 40.7	-0.2
CHUM	**Lake Minchumin** baz=225	14.71	31	P	Pn	06 48 42.8	+0.7
SML	**Sawmill** baz=239	14.87	41	P	Pn	06 48 43.8	-0.5
KTH	**Kantishna Hill**	14.94	33	Pn	Pn	06 48 46.6	+1.4
TRF	**Thorofare Moun**	15.08	34		Pn	06 48 48.0	+0.7
FID	**Port Fidalgo**	15.17	47		Pn	06 48 48.2	-0.1
FID				IAmb	IAmb	06 48 55.0	
BPAW	**Bear Paw Mtn.** baz=227,SNR=56	15.28	31	P	Pn	06 48 50.4	+0.6
BPAW	**Bear Paw Mtn.**	15.28	31		Pn	06 48 49.7	-0.1
BPAW				IAmb	IAmb	06 48 55.7	
SCM	**Sheep Creek Mo**	15.29	42	P	Pn	06 48 48.8	-1.2
SCM				pmax	pmax		
SCM	**Sheep Creek Mo**	15.29	42	Pn	Pn	06 48 48.8	-1.2
SCM				IAmb	IAmb	06 48 55.9	
WAT1	**Susitna Watana** baz=235	15.34	38	P	Pn	06 48 49.8	-0.8
EYAK	**Cordova Ski Ar** baz=247	15.42	48	P	Pn	06 48 50.2	-1.4
EYAK	**Cordova Ski Ar**	15.42	48		Pn	06 48 50.3	-1.3
WAT6	**Susitna Watana** baz=238,SNR=8.7	15.51	39	P	Pn	06 48 52.5	-0.4
RND	**Reindeer**	15.56	36	P	Pn	06 48 53.5	-0.1
RND				pmax	pmax		
RND	**Reindeer**	15.56	36		Pn	06 48 53.5	-0.1
KLU	**Klutina** baz=244,SNR=29	15.73	45	P	Pn	06 48 53.5	-2.2
KLU	**Klutina**	15.73	45	Pn	Pn	06 48 53.1	-2.6
KLU				IAmb	IAmb	06 49 05.3	
MCK	**McKinley** baz=232	15.73	35	P	Pn	06 48 56.4	+0.7
MCK				pmax	pmax		
MCK	**McKinley**	15.73	35	P	Pn	06 48 56.3	+0.6
MCK	**McKinley**	15.73	35		Pn	06 48 56.4	+0.7
I21K	**Tanana** baz=222,SNR=17	15.75	28	P	Pn	06 48 56.7	+0.8
BWN	**Browne**	15.83	33		Pn	06 48 58.1	+1.2
M24K	**Tolsona, Glenn** baz=242,SNR=12	15.90	42	P	Pn	06 48 57.0	-0.9
M24K	**Tolsona, Glenn**	15.90	42		Pn	06 48 57.1	-0.9
M24K				IAmb	IAmb	06 49 04.0	
IMAR	**Indian Mountai**	15.90	24	P	P	06 48 59.7	-1.7
MLY	**Manley** baz=225,SNR=65	16.01	29	P	Pn	06 49 00.2	+1.0
MLY	**Manley**	16.01	29		P	06 49 01.2	-1.4
MLY				IAmb	IAmb	06 49 05.4	
HMT	**Hamilton**	16.03	50	Pn	Pn	06 48 59.0	-0.5

HMT IAmb IAmb 06 49 08.2
comp=Z,173nm,1.4s
BMRM Bremner River 16.10 47 P **Pn 06 48 59.0 -1.4**
baz=248,SNR=5.8
BMRM Bremner River 16.10 47 Pn 06 48 59.6 -0.8
BMRM IAmb IAmb 06 49 11.1
comp=Z,80nm,1.2s
NEA2 Nenana 16.23 32 P **Pn 06 49 01.4 -0.6**
baz=229,SNR=8.7
NEA2 Nenana 16.23 32 Pn 06 49 01.8 -0.3
N25K Chitina, Valde 16.35 45 P **Pn 06 49 02.1 -1.6**
baz=246,SNR=10
N25K Chitina, Valde 16.35 45 Pn 06 49 02.9 -0.8
HARP HAARP 16.46 42 P **Pn 06 49 04.4 -0.5**
baz=242
WRH Wood River Hil 16.48 33 Pn 06 49 04.6 -0.6
I23K Minto, Yukon-K 16.51 30 P **Pn 06 49 05.7 +0.1**
baz=228,SNR=25
I23K Minto, Yukon-K 16.51 30 P 06 49 06.9 -1.2
PAX Paxson 16.61 40 P **Pn 06 49 07.1 +0.2**
PAX pmax pmax
comp=Z,21nm,1.3s
PAX Paxson 16.61 40 Pn **Pn 06 49 07.1 +0.2**
GLB Gilahina Butte 16.63 46 Pn 06 49 05.4 -1.8
CCB Clear Creek Bu 16.69 33 Pn 06 49 07.2 -0.6
CRQM Cirque 16.69 49 Pn 06 49 07.4 -0.7
CRQE Cirque 16.71 49 P **Pn 06 49 08.4 +0.1**
baz=251
VRDI Verde Repeater 16.71 47 Pn 06 49 06.7 -1.6
WAX Waxell Ridge 16.73 50 P **P 06 49 09.7 -1.0**
WAX IAmb IAmb 06 49 38.5
comp=Z,83nm,0.8s
MDM Murphy Dome 16.75 32 Pn 06 49 08.3 -0.3
TCOL CIGO, UAF Yank 16.81 33 P **Pn 06 49 09.0 -0.3**
baz=231
TCOL CIGO, UAF Yank 16.81 33 Pn 06 49 09.0 -0.3
COLA College 16.82 33 P **Pn 06 49 09.2 -0.2**
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 16.82 33 P **Pn 06 49 08.8 -0.6**
baz=231
COLA College 16.82 33 Pn 06 49 09.2 -0.2
TGL Tana Glacier 16.84 49 Pn **Pn 06 49 09.3 -0.5**
HDA Harding Lake 16.84 35 P **Pn 06 49 08.8 -0.9**
baz=234,SNR=7.5
HDA Harding Lake 16.84 35 Pn 06 49 08.7 -1.0
H23K Yukon River 16.92 29 P **Pn 06 49 11.5 +0.6**
baz=226,SNR=32
MCARA McCarthy VSAT 16.96 47 P **Pn 06 49 10.6 -0.8**
baz=249
MCARA McCarthy VSAT 16.96 47 Pn 06 49 10.6 -0.8
ISLE Juniper Island 17.02 50 Pn **Pn 06 49 11.8 -0.4**
ISLE IAmb IAmb 06 49 19.8
comp=Z,64nm,1.0s
IL31 17.08 34 Pn 06 49 11.5 -1.2
ILAR Eielson Array 17.08 34 P **Pn 06 49 10.7 -2.1**
comp=Z,0.6nm,0.3s,baz=235,slow=11,SNR=25
ILAR Eielson Array 17.08 34 P **Pn 06 49 11.5 -1.3**
MESA MESA 17.08 51 P **Pn 06 49 12.8 -0.2**
baz=254
MESA MESA 17.08 51 P **Pn 06 49 12.2 -0.8**
MESA IAmb IAmb 06 49 22.2
comp=Z,96nm,1.1s
POKR Poker Flat Res 17.11 32 P **Pn 06 49 13.4 +0.3**
baz=231
YAH Yahtse 17.23 51 P **P 06 49 15.7 -0.6**
YAH IAmb IAmb 06 49 19.9
comp=Z,73nm,1.0s
RIDG Independent Ri 17.24 38 P **Pn 06 49 13.6 -1.3**
baz=239,SNR=6.1
RIDG Independent Ri 17.24 38 P **Pn 06 49 13.7 -1.1**
MENT Mentasta 17.30 42 Pn 06 49 15.3 -0.2
M26K Nabesna, AK 17.37 44 P **Pn 06 49 15.4 -1.1**
baz=246,SNR=7.9
H24K Noodor Dome 17.43 30 P **Pn 06 49 16.8 -0.4**
baz=229,SNR=29
BARN Barnard Glacie 17.48 49 P **P 06 49 18.6 -0.4**
BARN IAmb IAmb 06 49 32.0
comp=Z,69nm,1.4s
L26K Log Cabin Wild 17.49 42 P **Pn 06 49 17.0 -0.9**
baz=244
TABL Table Mountain 17.54 51 IAmb IAmb 06 49 31.9
comp=Z,160nm,1.4s
CTG Chitna Glacier 17.59 49 P **Pn 06 49 18.2 -1.2**
baz=252
CTGM Chitina Glacie 17.60 49 P **Pn 06 49 19.5 +0.1**
SCRK Sand Creek 17.69 38 P **Pn 06 49 19.4 -1.1**
baz=240,SNR=14
SCRK Sand Creek 17.69 38 Pn **Pn 06 49 20.1 -0.4**
LOGN Logan Glacier 17.71 50 P **P 06 49 22.4 +0.8**
M27K Edge Creek, AK 17.83 44 P **Pn 06 49 21.2 -1.1**
baz=248,SNR=14
PCA Pinnacle 17.88 52 P **P 06 49 23.6 +0.3**
PCA IAmb IAmb 06 49 28.2
comp=Z,97nm,1.0s
PINM Pinnacle 17.88 52 P **Pn 06 49 23.1 +0.3**
baz=256,SNR=7.2
PRP Porcupine Dome 17.99 33 P **Pn 06 49 22.5 -1.7**
baz=233,SNR=7.8
PRP Porcupine Dome 17.99 33 Pn 06 49 23.1 -1.0
L27K Beaver Creek, 18.13 42 P **Pn 06 49 25.2 -0.7**
baz=246
L27K Beaver Creek, 18.13 42 P **Pn 06 49 25.4 -0.4**
BCAR Beaver Creek A 18.15 42 P **Pn 06 49 26.1 0.0**
K27K Chicken 18.45 39 P **P 06 49 28.9 -0.6**
baz=243
K27K Chicken 18.45 39 P **P 06 49 27.9 -1.6**
FYU Fort Yukon 18.73 30 P **P 06 49 32.7 +0.2**
TOLK Toolik Lake Re 19.00 22 P **P 06 49 35.4 -0.2**
baz=220,SNR=19
TOLK Toolik Lake Re 19.00 22 P **P 06 49 35.6 +0.1**
EGAK Eagle 19.15 38 P **P 06 49 36.3 -0.9**
baz=242,SNR=9.0
EGAK Eagle 19.15 38 P **P 06 49 36.6 -0.6**
HYT Haines Junctio 19.37 51 P **Pn 06 49 41.2 +0.3**
HYT IAmb IAmb 06 49 45.6
comp=Z,62nm,0.6s
PET Petropavlovsk 19.43 285*c iP* **P 06 49 39.5 -0.8**
PET pmax pmax
comp=Z,27nm,0.7s
BMAR Burnt Mountain 19.47 29 P **P 06 49 40.9 +0.1**
DAWY Dawson 19.54 41 P **P 06 49 40.5 -1.0**
BILL Bilibino 19.81 333 *eP* **P 06 49 44.4 +0.1**
BILL pmax pmax
comp=Z,4.0nm,0.5s
PEA0B Petropavlovsk- 19.98 286 P **P 06 49 45.7 -0.7**
PEA0B pmax pmax
comp=Z,208nm,1.5s
PEA0B Petropavlovsk- 19.98 286 P **P 06 49 45.6 -0.7**
PETK Petropavlovsk- 19.98 286 P **P 06 49 45.7 -0.6**
comp=Z,7.1nm,0.3s,baz=83,slow=14,SNR=89
SKAG Skagway 20.23 56 P Pn 06 49 50.8 -0.1
baz=264,SNR=12
SKAG Skagway 20.23 56 P Pn 06 49 50.4 -0.6
SKAG IAmb IAmb 06 50 05.6
comp=Z,56nm,0.8s
BESE Bessie Mountai 20.40 58 P **P 06 49 51.4 +0.5**
BESE IAmb IAmb 06 50 13.7
comp=Z,60nm,1.2s
WHY Whitehorse 20.61 52 P Pn 06 49 55.1 -0.5
baz=261,SNR=28
WHY Whitehorse 20.61 52 P **P 06 49 53.4 +0.2**
WHY IAmb IAmb 06 49 59.4
comp=Z,49nm,0.8s
JIS Juneau Island 20.63 59 P **P 06 49 54.3 +1.0**
JIS IAmb IAmb 06 50 12.5
comp=Z,32nm,1.0s
EPYK Eagle Plains 21.52 36 P **P 06 50 01.6 -1.3**
baz=244,SNR=37
EPYK Eagle Plains 21.52 36 P **P 06 50 01.6 -1.3**
EPYK IAmb IAmb 06 50 17.5
comp=Z,72nm,1.2s
WRAK Wrangell Islan 21.77 64 P **P 06 50 04.2 -1.5**
baz=274
DLBC Dease Lake 22.93 59 P **P 06 50 19.8 +1.8**
comp=Z,23nm,1.2s,baz=270,slow=7.4,SNR=12
DLBC Dease Lake 22.93 59 P **P 06 50 17.3 -0.7**
DLBC IAmb IAmb 06 50 24.8
comp=Z,49nm,1.3s
MA2 Magadan 23.31 304 P **P 06 50 21.4 -0.4**
comp=Z,28nm,0.8s,baz=83,slow=8.6,SNR=12
MA2 Magadan 23.31 304*ceP* **P 06 50 22.4 +0.6**
MA2 pmax pmax
comp=Z,39nm,0.9s
MA2 Magadan 23.31 304 IAmb IAmb 06 50 23.6
comp=Z,34nm,0.8s
INK Inuvik 23.47 33 P **P 06 50 21.9 -1.4**
comp=Z,12nm,0.6s,baz=236,slow=9.7,SNR=23
INK PcP **PcP 06 54 09.5 +1.1**
comp=Z,7.3nm,1.0s,baz=318,slow=0.9,SNR=4.1
INK Inuvik 23.47 33 P **P 06 50 22.1 -1.2**
INK pmax pmax
comp=Z,19nm,1.0s
INK Inuvik 23.47 33 P **P 06 50 22.1 -1.2**
baz=244,SNR=19
INK Inuvik 23.47 33 P **P 06 50 22.1 -1.2**
INK IAmb IAmb 06 50 24.5
comp=Z,19nm,0.9s
C36M Paulatuk 27.05 34 P **P 06 50 54.5 -1.5**
baz=254
C36M Paulatuk 27.05 34 P **P 06 50 55.6 -0.4**
C36M IAmb IAmb 06 51 10.9
comp=Z,22nm,1.4s
D03D Eldon 29.73 80 P **P 06 51 20.0 -0.1**
baz=296
B05A Bryant 30.01 78 P **P 06 51 23.2 +0.6**
baz=296,SNR=8.5
YKA Yellowknife Ar 30.32 49 P **P 06 51 26.1 +1.0**
comp=Z,6.5nm,0.8s,baz=275,slow=8.5,SNR=54
YKA Yellowknife Ar 30.32 49 P **P 06 51 25.3 +0.2**
YKA Yellowknife Ar 30.32 49 P **P 06 51 25.3 +0.2**
E04D Cinebar 30.49 82 P **P 06 51 28.4 +1.6**
baz=298
YSS Yuzh-Sakhalins 31.09 280⇑ *eP* **P 06 51 32.7 +0.6**
YSS pmax pmax
comp=Z,35nm,1.2s
LTY Liberty 31.32 79 P **P 06 51 34.2 0.0**
LTY IAmb IAmb 06 51 52.6
comp=Z,16nm,1.4s
B08A Colville Reser 31.63 77 P **P 06 51 38.3 +1.4**
B08A IAmb IAmb 06 51 55.4
comp=Z,13nm,0.9s
I04A Tendick Farm, 31.96 86 P **P 06 51 39.8 -0.1**
baz=302
I05D Terrebonne, OR 32.34 85 P **P 06 51 45.4 +2.2**
baz=301
HAWA Hanford 32.41 80 P **P 06 51 44.0 +0.2**
HAWA IAmb IAmb 06 52 03.1
comp=Z,9.2nm,0.9s
D08A Wollman Farm, 32.47 79 P **P 06 51 44.3 +0.1**
D08A IAmb IAmb 06 52 02.5
comp=Z,12nm,1.2s
C09A Chrisman Ranch 32.51 77 P **P 06 51 45.1 +0.5**
C09A IAmb IAmb 06 52 03.4
comp=Z,15nm,1.1s
JKA Kamikawa-asahi 32.59 275 P **P 06 51 44.5 -0.9**
ASAJ Asahikawa 32.59 275 P **P 06 51 45.3 0.0**
comp=Z,31nm,1.0s,baz=33,slow=3.1,SNR=12
ASAJ Asahikawa 32.59 275 P **P 06 51 44.5 -0.8**
ASAJ pmax pmax
comp=Z,31nm,1.0s
J05D Fort Rock, OR 32.96 86 P **P 06 51 48.9 +0.2**
baz=303
NEW Newport 32.99 76 P **P 06 51 50.4 +1.6**
NEW pmax pmax
comp=Z,17nm,1.0s
NEW Newport 32.99 76 P **P 06 51 50.0 +1.1**
baz=297,SNR=12
NEW Newport 32.99 76 P **P 06 51 50.4 +1.6**
NEW IAmb IAmb 06 52 07.4
comp=Z,17nm,0.9s
EDM Edmonton 33.17 66 P **P 06 51 50.8 +0.5**
EDM pmax pmax
comp=Z,25nm,1.2s
EDM Edmonton 33.17 66 P **P 06 51 50.8 +0.5**
EDM IAmb IAmb 06 51 53.6
comp=Z,25nm,1.2s
E09A Wood Farm, Sta 33.20 79 P **P 06 51 51.4 +0.8**
E09A IAmb IAmb 06 52 08.7
comp=Z,18nm,1.2s
G08A Pilot Rock 33.31 82 P **P 06 51 53.4 +1.6**
YAK Yakutsk 33.35 311*c iP* **P 06 51 51.3 -0.5**
YAK pmax pmax
comp=Z,22nm,0.7s
F10A Beach Ranch, E 34.02 79 P **P 06 51 57.8 0.0**
BMO Blue Mountains 34.54 81 P **P 06 52 03.6 +1.2**
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 34.54 81 P **P 06 52 03.6 +1.2**
JTMT Jette 34.92 75 P **P 06 52 05.7 0.0**
JTMT IAmb IAmb 06 52 30.8
comp=Z,25nm,1.4s
MSO Missoula 35.57 76 P **P 06 52 12.0 +0.8**
baz=300,SNR=9.1
MSO Missoula 35.57 76 P **P 06 52 11.4 +0.1**
MSO IAmb IAmb 06 52 29.6
comp=Z,21nm,1.3s
PNTR Pine Nut 36.39 91 P **P 06 52 22.6 +4.1**
PNTR IAmb IAmb 06 52 45.4
comp=Z,18nm,1.0s
KLR Kul'dur 36.59 290 P **P 06 52 18.4 -1.4**
comp=Z,7.1nm,0.5s,baz=70,slow=6.9,SNR=29
KLR Kul'dur 36.59 290*c iP* **P 06 52 18.2 -1.6**
KLR pmax pmax
comp=Z,14nm,0.9s
YERR Yerington 36.67 91 P **P 06 52 23.0 +2.1**
HRY Holter Researc 36.89 75 P **P 06 52 23.2 +0.6**
LRM Limekiln Ridge 36.97 77 P **P 06 52 24.6 +1.2**
HLID Hailey 36.98 81 P **P 06 52 24.3 +0.8**
baz=3,SNR=6.4
HLID Hailey 36.98 81 P **P 06 52 25.5 +2.0**
DLMT Dillon 37.12 77 P **P 06 52 26.6 +2.0**
ZEA Zeya 37.15 298 *eP* **P 06 52 23.5 -1.0**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=N,600nm,17.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
BCYI Bear Canyon 37.19 79 P **P 06 52 26.2 +0.9**
MCMT McKenzie Canyo 37.25 78 P **P 06 52 27.5 +1.7**
H11N2 WAKE ISLAND Hy 37.34 219 T T 07 33 23.8
baz=24,slow=76,SNR=41
H11N3 WAKE ISLAND Hy 37.35 219 T T 07 33 12.1
baz=24,slow=76,SNR=47
H11N1 WAKE ISLAND Hy 37.36 219 T T 07 33 18.9
baz=24,slow=76,SNR=34
EGMT Eagleton 37.46 72 P **P 06 52 28.5 +1.1**
baz=299,SNR=14
EGMT Eagleton 37.46 72 P **P 06 52 29.4 +2.0**
EGMT IAmb IAmb 06 52 49.7
comp=Z,20nm,0.8s
BOZ Bozeman (W) 37.58 76 P **P 06 52 29.6 +1.1**
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 37.58 76 P **P 06 52 29.1 +0.7**
baz=302,SNR=12
BOZ Bozeman (W) 37.58 76 P **P 06 52 29.6 +1.1**
NVAR Mina Array Bea 37.59 91 P **P 06 52 30.7 +2.0**
comp=Z,0.9nm,0.9s,baz=297,slow=10.0,SNR=5.2
NVAR ScP **ScP 06 58 32.8 +0.8**
comp=Z,0.7nm,0.7s,baz=316,slow=5.0,SNR=4.8
NVAR Mina Array Bea 37.59 91 P **P 06 52 29.7 +0.9**
YMR Madison River 38.47 77 P **P 06 52 36.1 0.0**
YHH Holmes Hill 38.47 77 P **P 06 52 36.9 +0.7**
H11S1 WAKE ISLAND Hy 38.53 218 T T 07 34 04.8
baz=23,slow=76,SNR=73
H11S2 WAKE ISLAND Hy 38.54 218 T T 07 34 04.7
baz=23,slow=76,SNR=57
H11S3 WAKE ISLAND Hy 38.55 218 T T 07 34 03.8
baz=23,slow=76,SNR=73
YNR Norris Junctio 38.62 77 P **P 06 52 36.9 -0.5**
GCMT Greycliff 38.65 75 P **P 06 52 38.7 +1.2**
FFC Flin Flon 38.76 59 P **P 06 52 37.4 -0.7**
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC Flin Flon 38.76 59 P **P 06 52 37.4 -0.7**
JSD Sado 38.78 270 P **P 06 52 38.2 -0.2**
JSD IAmb IAmb 06 52 51.4
comp=Z,20nm,0.9s
H17A Grant Village 38.85 77 P **P 06 52 41.4 +2.1**
baz=303
H17A Grant Village 38.85 77 P **P 06 52 40.9 +1.6**
YNE Yellowstone No 38.86 76 P **P 06 52 40.2 +0.8**
LKWY Lake 38.86 77 P **P 06 52 39.9 +0.5**
LKWY pmax pmax
comp=Z,9.0nm,0.8s
LKWY Lake 38.86 77 P **P 06 52 39.9 +0.5**
IMW Indian Meadow 38.91 78 P **P 06 52 40.9 +1.1**
YMP Mirror Lake Pl 38.92 77 P **P 06 52 40.6 +0.7**
FLWY Flagg Ranch 38.95 78 P **P 06 52 40.6 +0.5**
USRK Ussuriysk Ar. 39.00 282 P **P 06 52 39.4 -0.8**
comp=Z,2.3nm,0.7s,baz=49,slow=8.3,SNR=4.4
TPAW Teton Pass 39.12 79 P **P 06 52 42.5 +0.9**
RLMT Red Lodge 39.24 76 P **P 06 52 43.3 +0.8**
baz=303,SNR=13
RLMT Red Lodge 39.24 76 IAmb IAmb 06 53 01.2
comp=Z,13nm,0.9s
REDW Red Top Meadow 39.26 79 P **P 06 52 44.0 +1.3**
LOHW Long Hollow 39.27 79 P **P 06 52 43.3 +0.5**
BGU Big Grassy Mou 39.33 84 P **P 06 52 45.6 +2.3**
MJAR Matsushiro Arr 39.76 268 P **P 06 52 46.3 -0.4**
comp=Z,2.5nm,0.7s,baz=40,slow=8.0,SNR=5.0
MJAR PcP **PcP 06 54 53.2 +0.5**
comp=Z,1.9nm,0.6s,baz=96,slow=1.5,SNR=4.7
MAJO Matsushiro 39.76 268*c iP* **P 06 52 46.4 -0.3**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 39.76 268 P **P 06 52 47.0 +0.4**
MAJO IAmb IAmb 06 52 58.9
comp=Z,9.7nm,0.7s
MAT Matsushiro 39.76 268 P **P 06 52 45.1 -1.6**
TPNV Topopah Spring 39.79 91 P **P 06 52 47.9 +0.8**
baz=310
DUG Dugway, Tooele 39.89 84 P **P 06 52 49.3 +1.4**
baz=307
LAO LASA Array 40.21 72 P **P 06 52 51.4 +1.0**
baz=302
BW06 Boulder Array 40.37 79 P **P 06 52 52.7 +0.7**
baz=305,SNR=9.5
PD31 Pinedale Array 40.37 79 P **P 06 52 53.2 +1.2**
PDAR Pinedale Array 40.37 79 P **P 06 52 53.2 +1.2**
comp=Z,4.3nm,0.7s,baz=308,slow=5.5,SNR=30
PDAR Pinedale Array 40.37 79 P **P 06 52 52.8 +0.8**
MSHR Mys Shultsa 40.41 281 *eP* **P 06 52 51.8 -0.2**
MSHR pmax pmax
comp=Z,8.0nm,0.9s
NLU North Lily Min 40.49 84 P **P 06 52 52.6 -0.4**
MPU Maple Canyon 40.73 84 P **P 06 52 58.3 +3.5**
FCC Fort Churchill 41.01 50 P **P 06 52 58.2 +1.5**
FCC pmax pmax
comp=Z,41nm,1.1s
FCC Fort Churchill 41.01 50 P **P 06 52 58.2 +1.5**
FCC IAmb IAmb 06 52 59.8
comp=Z,41nm,1.1s
CCUT Cedar City 41.18 88 P **P 06 53 00.2 +1.5**
MSU Marysvale 41.31 86 P **P 06 52 59.5 -0.3**
MSU Marysvale 41.31 86 P **P 06 52 59.5 -0.3**
P17A Butcher Ranch, 41.60 84 P **P 06 53 02.6 +0.5**
RDMU Red Mountain 41.65 82 P **P 06 53 02.6 +0.1**
K22A Casper 42.27 77 P **P 06 53 08.2 +0.7**
baz=306
K22A Casper 42.27 77 P **P 06 53 07.5 0.0**
IRM Iron Mountain 42.30 93 P **P 06 53 07.9 +0.3**
baz=312
O20A White River Ci 42.72 81 P **P 06 53 12.1 +0.9**
baz=308,SNR=15
O20A White River Ci 42.72 81 IAmb IAmb 06 53 31.8
comp=Z,18nm,0.8s
PDMCI Parker Dam,Lak 42.81 92 P **P 06 53 12.3 +0.6**
baz=312
RSSD Black Hills 42.91 74 P **P 06 53 12.8 +0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 42.91 74 P **P 06 53 13.2 +0.6**
baz=305
RSSD Black Hills 42.91 74 P **P 06 53 12.8 +0.1**
CN2 Changchun 43.13 286 *eP* **P 06 53 13.3 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PV14 Lion Creek, Pa 43.33 84 P **P 06 53 16.4 +0.1**
PV04 Paradox Valley 43.39 84 P **P 06 53 16.9 +0.2**
PV04 IAmb IAmb 06 53 32.2
comp=Z,13nm,1.1s
HIA Hailar 43.40 296*c iP* **P 06 53 15.4 -0.9**
HIA pmax pmax
comp=Z,39nm,1.4s
HIA Hailar 43.40 296 IAmb IAmb 06 53 17.5
comp=Z,49nm,1.4s
MDND Maddock 43.40 67 P **P 06 53 17.3 +1.0**
baz=303
MDND Maddock 43.40 67 P **P 06 53 17.4 +1.0**
PV17 East Wray Mesa 43.43 84 IAmb IAmb 06 53 32.4
comp=Z,17nm,1.0s
PV05 Paradox Valley 43.47 84 IAmb IAmb 06 53 33.8
comp=Z,22nm,1.5s
PV11 David Mesa, Pa 43.47 84 P **P 06 53 18.6 +1.3**
PV11 IAmb IAmb 06 53 46.9
comp=Z,13nm,0.6s
PV18 Skein Mesa, Pa 43.48 84 IAmb IAmb 06 53 32.8
comp=Z,8.5nm,0.7s
PV12 Saucer Basin, 43.50 84 IAmb IAmb 06 53 33.1
comp=Z,13nm,1.0s
PV13 Radium Mtn., P 43.59 84 IAmb IAmb 06 53 38.3
comp=Z,19nm,1.0s
PV02 Paradox Valley 43.61 84 IAmb IAmb 06 53 38.5
comp=Z,15nm,0.9s
N23A Red Feather La 43.66 79 P **P 06 53 19.7 +0.8**
baz=307
PHWY Pilot Hill 43.71 78 P **P 06 53 19.6 +0.3**
WUAZ Wupatki 43.72 89 P **P 06 53 20.0 +0.7**
baz=311
WUAZ Wupatki 43.72 89 P **P 06 53 19.3 0.0**
Y14A Wickenburg 43.76 92 P **P 06 53 19.9 +0.4**
ULM Lac du Bonnet 44.18 62 P **P 06 53 22.2 -0.4**
comp=Z,2.1nm,0.5s,baz=305,slow=7.3,SNR=4.3
ULM Lac du Bonnet 44.18 62 P **P 06 53 22.2 -0.4**
ULM IAmb IAmb 06 53 38.9
comp=Z,17nm,1.3s
MVCO Mesa Verde 44.39 85 P **P 06 53 23.6 -1.1**
baz=310
ISCO Idaho Springs 44.52 80 P **P 06 53 26.2 +0.3**
baz=308
W18A Petrified Fore 44.99 88 P **P 06 53 30.1 +0.7**
baz=311
S22A 4UR Ranch, Cre 45.07 83 P **P 06 53 32.5 +2.3**
baz=310
NEEM North Greenlan 45.16 16 *i* P **P 06 53 30.4 0.0**
214A Organ Pipe Nat 45.23 94 P **P 06 53 32.9 +1.7**
baz=314
AGMN Agassiz Nation 45.25 64 P **P 06 53 31.0 -0.1**
baz=304,SNR=8.7
AGMN Agassiz Nation 45.25 64 P **P 06 53 31.4 +0.3**
AGMN IAmb IAmb 06 53 32.3
comp=Z,12nm,0.9s
Q24A Divide 45.33 80 P **P 06 53 33.5 +1.3**
baz=309
KSRS Korea Array 45.50 277 P **P 06 53 33.8 +0.6**
comp=Z,14nm,0.9s,baz=57,slow=7.6,SNR=58
KS19 Wonju Array Si 45.50 277 P **P 06 53 32.9 -0.3**
KS19 IAmb IAmb 06 53 34.8
comp=Z,15nm,0.9s
KSAR Wonju Array Be 45.53 277 P **P 06 53 33.1 -0.3**
KSAR Wonju Array Be 45.53 277 P **P 06 53 33.1 -0.3**
NOR Nord 45.66 5 *i* P **P 06 53 33.8 -0.2**
NOR IAmb IAmb 06 53 36.1
comp=Z,6.5nm,1.1s
NOR Nord 45.66 5 *i* P **P 06 53 33.8 -0.2**
NOR pmax pmax
comp=Z,7.0nm,1.1s
SUSD Miller 45.70 70 P **P 06 53 35.2 +0.5**
baz=306
SDCO Great Sand Dun 45.88 82 P **P 06 53 36.7 +0.1**
baz=310,SNR=7.5
SDCO Great Sand Dun 45.88 82 P **P 06 53 36.7 +0.1**
OGNE Ogallala 45.98 76 P **P 06 53 37.1 0.0**
baz=308
OGNE Ogallala 45.98 76 P **P 06 53 38.2 +1.1**
OGNE IAmb IAmb 06 53 40.8
comp=Z,12nm,1.0s
TUC Tucson 46.23 92 P **P 06 53 40.1 +0.9**
TUC pmax pmax
comp=Z,10.0nm,1.2s
TUC Tucson 46.23 92 P **P 06 53 40.1 +0.9**
baz=314
TUC Tucson 46.23 92 P **P 06 53 40.1 +0.9**
TUC IAmb IAmb 06 54 04.6
comp=Z,10nm,1.2s
INCN Inchon 46.27 278 P **P 06 53 39.7 +0.4**
INCN pmax pmax
comp=Z,31nm,0.8s
INCN Inchon 46.27 278 P **P 06 53 39.7 +0.4**
B35A Bob, Littlefor 46.40 63 P **P 06 53 39.4 -0.8**

B35A IAmb IAmb 06 53 41.1
comp=Z,9.0nm,0.8s
F33A 5 Mile Ranch, 46.41 67 P P 06 53 40.3 0.0
F33A IAmb IAmb 06 53 41.1
comp=Z,8.2nm,1.1s
TJN Taejon 46.53 276c *i*P **P 06 53 41.6 +0.2**
NRIK Noril'sk 46.63 332 P **P 06 53 41.4 -0.3**
comp=Z,7.1nm,0.5s,baz=73,slow=8.9,SNR=12
NRIK Noril'sk 46.63 332 P **P 06 53 41.5 -0.3**
NRIK pmax pmax
comp=Z,11nm,0.7s
NRIK Noril'sk 46.63 332 P **P 06 53 41.5 -0.2**
NRIK IAmb IAmb 06 53 43.1
comp=Z,11nm,0.7s
KSCO Kaye Shedlock' 46.82 79 P **P 06 53 42.4 -1.4**
baz=309
T25A Trinidad 46.94 82 P **P 06 53 45.9 +1.1**
baz=310,SNR=12
T25A Trinidad 46.94 82 P **P 06 53 46.5 +1.7**
T25A IAmb IAmb 06 54 05.4
comp=Z,16nm,1.1s
ANMO Albuquerque 47.12 86 P **P 06 53 47.8 +1.5**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
ANMO Albuquerque 47.12 86 P **P 06 53 47.1 +0.8**
baz=312
ANMO Albuquerque 47.12 86 P **P 06 53 47.8 +1.5**
ECSD EROS Data Cent 47.48 70 P **P 06 53 48.1 -0.6**
baz=307,SNR=10.0
ECSD EROS Data Cent 47.48 70 P **P 06 53 48.5 -0.2**
ECSD IAmb IAmb 06 54 08.7
comp=Z,7.5nm,0.8s
BNM Barren Site 47.54 87 P **P 06 53 49.3 -0.3**
EYMN Ely 47.86 62 P **P 06 53 51.2 -0.4**
baz=306,SNR=12
EYMN Ely 47.86 62 P **P 06 53 51.7 +0.1**
EYMN IAmb IAmb 06 54 07.7
comp=Z,19nm,1.3s
121A Cookes Peak, D 47.92 89 P **P 06 53 50.8 -1.6**
baz=313
121A Cookes Peak, D 47.92 89 P **P 06 53 50.9 -1.6**
121A IAmb IAmb 06 54 11.5
comp=Z,6.7nm,0.8s
F36A Milaca 47.96 66 P **P 06 53 51.9 -0.6**
F36A IAmb IAmb 06 53 53.2
comp=Z,6.0nm,0.9s
E38A The Farm, Brul 48.62 64 IAmb IAmb 06 53 58.2
comp=Z,18nm,1.1s
CBKS Cedar Bluff 48.69 77 P **P 06 53 58.3 +0.1**
baz=310
SPMN Marine on St. 48.75 66 P **P 06 53 59.6 +1.1**
baz=307
SPMN Marine on St. 48.75 66 IAmb IAmb 06 54 14.9
comp=Z,14nm,1.2s
FRB Frobisher Bay 49.10 35 P **P 06 54 01.3 +0.4**
comp=Z,3.5nm,0.4s,baz=319,slow=8.2,SNR=3.9
KBS Kingsbay 49.16 360c *i*P **P 06 54 01.8 +0.5**
KBS pmax pmax
comp=Z,32nm,1.2s
KBS Kingsbay 49.16 360 *e*P **P 06 54 01.7 +0.5**
KBS Kingsbay 49.16 360 P **P 06 54 01.7 +0.5**
N35A Tabor 49.82 72 P **P 06 54 06.9 +0.1**
SPA0 Spitsbergen Ar 49.87 358 *e*P **P 06 54 06.5 -0.1**
MNTX Cornudas Mount 49.98 88 P **P 06 54 09.2 +1.2**
baz=314,SNR=5.9
MNTX Cornudas Mount 49.98 88 P **P 06 54 08.8 +0.7**
MNTX IAmb IAmb 06 54 26.9
comp=Z,5.9nm,0.8s
DAG Danmarks Havn 49.98 8 *i*P **P 06 54 06.6 -0.9**
DAG IAmb IAmb 06 54 09.0
comp=Z,21nm,0.9s
DAG Danmarks Havn 49.98 8 *i*P **P 06 54 06.5 -0.9**
DAG pmax pmax
comp=Z,21nm,0.9s
D41A Chassel 49.98 62 P **P 06 54 08.5 +0.7**
D41A IAmb IAmb 06 54 23.8
comp=Z,16nm,0.9s
MSTX Muleshoe 50.03 84 P **P 06 54 09.7 +1.1**
baz=313
MSTX Muleshoe 50.03 84 P **P 06 54 08.4 -0.1**
MSTX IAmb IAmb 06 54 12.5
comp=Z,19nm,1.3s
AMTX Amarillo 50.08 82 P **P 06 54 09.6 +0.6**
baz=312
G40A Rib Lake 50.18 65 IAmb IAmb 06 54 26.3
comp=Z,18nm,1.4s
COWI Conover 50.26 63 P **P 06 54 09.7 -0.3**
COWI IAmb IAmb 06 54 25.9
comp=Z,8.9nm,1.1s
K38A Parkersburg 50.36 69 IAmb IAmb 06 54 11.6
comp=Z,21nm,1.2s
SCIA State Center 50.57 70 P **P 06 54 12.7 +0.3**
SCIA IAmb IAmb 06 54 13.6
comp=Z,14nm,1.0s
U32A Winter Ranch, 50.72 79 P **P 06 54 14.2 +0.6**
U32A IAmb IAmb 06 54 15.5
comp=Z,15nm,1.2s
I40A Norwalk 50.80 66 P **P 06 54 14.0 -0.2**
I40A IAmb IAmb 06 54 30.3
comp=Z,22nm,1.4s
BJI Beijing 50.90 288 P **P 06 54 15.5 +0.6**
BJI pmax pmax
comp=Z,11nm,0.6s
SUMG Summit 50.95 17 *i*P **P 06 54 16.0 +0.6**
SUMG IAmb IAmb 06 54 16.5
comp=Z,22nm,0.9s
SUMG Summit 50.95 17 *i*P **P 06 54 15.9 +0.6**
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 50.95 17 P **P 06 54 15.2 -0.1**
SUMG IAmb IAmb 06 54 16.8
comp=Z,24nm,0.9s
F42A Maple Grove Fa 51.02 63 P **P 06 54 16.1 +0.4**
F42A IAmb IAmb 06 54 17.0
comp=Z,30nm,1.1s
ULN Ulaanbaatar 51.09 301d *i*P **P 06 54 16.4 -0.1**
ULN pmax pmax
comp=Z,18nm,1.0s
ULN Ulaanbaatar 51.09 301 P **P 06 54 16.3 -0.1**
ULN IAmb IAmb 06 54 17.0
comp=Z,15nm,0.9s
E43A Lone Tree Farm 51.25 62 IAmb IAmb 06 54 32.9
comp=Z,11nm,0.8s
N38A Joes South For 51.27 71 P **P 06 54 17.6 -0.1**
N38A IAmb IAmb 06 54 18.9
comp=Z,30nm,1.1s
SONM Songino Array 51.46 301 P **P 06 54 19.3 +0.1**
comp=Z,14nm,1.0s,baz=54,slow=6.2,SNR=40
SONM PcP **PcP 06 55 33.9 +0.6**
comp=Z,4.6nm,1.0s,baz=138,slow=1.3,SNR=4.7
SONM Songino Array 51.46 301 P **P 06 54 18.4 -0.8**
SONM pmax pmax
comp=Z,21nm,1.1s
SONM Songino Array 51.46 301 P **P 06 54 18.4 -0.8**
SONM IAmb IAmb 06 54 21.2
comp=Z,21nm,1.1s
ZAK Zakamensk 51.49 305 *e*P **P 06 54 18.9 -0.4**
ZAK *e* 06 55 33.8
ZAK pmax pmax
comp=Z,15nm,1.3s
L40A Anamosa 51.62 68 P **P 06 54 20.1 -0.2**
L40A IAmb IAmb 06 54 21.3
comp=Z,18nm,1.2s
JFWS Jewell Farm 51.63 67 P **P 06 54 19.5 -0.8**
baz=310
JFWS Jewell Farm 51.63 67 IAmb IAmb 06 54 20.4
comp=Z,11nm,0.9s
I42A Draeger Farm, 51.76 65 IAmb IAmb 06 54 22.1
comp=Z,14nm,1.0s
MOY Mondy 51.83 308 *e*P **P 06 54 22.0 +0.2**
MOY pmax pmax
comp=Z,22nm,1.6s
P38A Dawn 51.85 72 P **P 06 54 21.8 -0.2**
P38A IAmb IAmb 06 54 38.8
comp=Z,12nm,0.8s
T35A Sooner Cattle 51.86 77 P **P 06 54 21.6 -0.6**
T35A IAmb IAmb 06 54 45.6
comp=Z,9.5nm,1.1s
WMOK Wichita Mounta 51.95 80 P **P 06 54 23.3 +0.4**
baz=313,SNR=6.8
WMOK Wichita Mounta 51.95 80 IAmb IAmb 06 54 46.5
comp=Z,8.2nm,0.9s
H43A Windswept, Lux 52.03 64 P **P 06 54 23.3 0.0**
H43A IAmb IAmb 06 54 24.0
comp=Z,18nm,0.9s
OK029 Liberty Lake 52.04 78 P **P 06 54 23.4 -0.1**
OK029 IAmb IAmb 06 54 39.2
comp=Z,8.3nm,0.6s
DBG Daneborg 52.09 10 *i*P **P 06 54 22.5 -0.9**
DBG IAmb IAmb 06 54 23.4
comp=Z,20nm,0.8s
OK031 S. Brethren Rd 52.30 78 P **P 06 54 25.9 +0.5**
OK031 IAmb IAmb 06 54 33.4
comp=Z,9.5nm,0.7s
FNO Franklin 52.43 79 P **P 06 54 26.2 -0.2**
SFJD Kangerlussuaq 52.52 26 P **P 06 54 26.7 +0.1**
comp=Z,12nm,0.7s,baz=326,slow=7.7,SNR=4.1
SFJD Kangerlussuaq 52.52 26 *i*P **P 06 54 25.6 -1.0**
SFJD IAmb IAmb 06 54 31.4
comp=Z,6.7nm,0.8s
SFJD Kangerlussuaq 52.52 26 *i*P **P 06 54 25.6 -1.0**
SFJD pmax pmax
comp=Z,7.0nm,0.8s
SFJD Kangerlussuaq 52.52 26 IAmb IAmb 06 54 31.4
comp=Z,11nm,0.8s
TX31 Lajitas Ar. Si 52.68 89 P **P 06 54 28.6 +0.1**
TX31 IAmb IAmb 06 54 55.8
comp=Z,20nm,0.9s
TX32 Lajitas Array 52.68 89 P **P 06 54 28.8 +0.4**
TXAR Lajitas Array 52.68 89 P **P 06 54 29.2 +0.8**
comp=Z,3.5nm,0.8s,baz=304,slow=6.0,SNR=27
TXAR Lajitas Array 52.68 89 P **P 06 54 29.0 +0.5**
E46A Sault Ste Mari 52.70 60 P **P 06 54 28.3 0.0**
E46A IAmb IAmb 06 54 45.4
comp=Z,19nm,0.9s
P40A Paris 52.78 71 P **P 06 54 28.4 -0.5**
TIA Tai'an 52.85 283 ⇓P **P 06 54 29.8 +0.3**
TIA pmax pmax
comp=Z,26nm,1.0s
ABTX Abilene, Hawle 52.86 83 P **P 06 54 29.9 +0.3**
baz=314
ABTX Abilene, Hawle 52.86 83 P **P 06 54 29.2 -0.5**
ABTX IAmb IAmb 06 54 51.3
comp=Z,14nm,1.1s
TUL1 Leonard 52.96 77 P **P 06 54 29.8 -0.6**
baz=312
HHC Hu-ho-hao-te 53.06 291 *e*P **P 06 54 31.5 +0.4**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,410nm,6.6s
HPIG 53.16 93 P **P 06 54 31.8 -0.4**
U38A Gravette 53.45 76 P **P 06 54 33.6 -0.4**
U38A IAmb IAmb 06 54 34.2
comp=Z,9.2nm,1.1s
R40A Maddies Statio 53.47 73 IAmb IAmb 06 54 52.7
comp=Z,5.6nm,0.7s
BJO1 Bjornoya 53.49 357 *e*P **P 06 54 31.6 -2.1**
GLMI Grayling 53.53 62 P **P 06 54 34.4 0.0**
baz=310
ICESG Greenland Ices 53.53 20 *i*P **P 06 54 33.9 -0.6**
ICESG IAmb IAmb 06 54 34.9
comp=Z,21nm,1.0s
HDIL Hopedale 53.70 69 P **P 06 54 35.2 -0.5**
baz=311,SNR=7.7
HDIL Hopedale 53.70 69 P **P 06 54 35.6 -0.1**
HHAR Hobbs 53.82 76 P **P 06 54 36.1 -0.6**
HHAR IAmb IAmb 06 55 02.1
comp=Z,9.3nm,1.4s
MATQ Matagami 53.96 53 P **P 06 54 36.7 -0.7**
baz=310,SNR=6.3
DY2G Dye2 54.06 25 *i*P **P 06 54 38.3 0.0**
BTO Baotou 54.10 292 *e*P **P 06 54 38.8 0.0**
BTO S **S 07 02 11.3 -2.8**
P43A Skaggs, Pawnee 54.17 70 IAmb IAmb 06 54 57.2
comp=Z,10.0nm,0.7s
CCM Cathedral Cave 54.23 72 P **P 06 54 38.3 -1.2**
CCM pmax pmax
comp=Z,5.0nm,0.8s
CCM Cathedral Cave 54.23 72 P **P 06 54 38.9 -0.7**
baz=312
CCM Cathedral Cave 54.23 72 P **P 06 54 38.3 -1.2**
CCM IAmb IAmb 06 54 55.3
comp=Z,5.1nm,0.8s
MGMO Mountain Grove 54.23 74 IAmb IAmb 06 54 53.6
comp=Z,5.8nm,0.8s
JCT Junction City 54.25 85 P **P 06 54 39.5 -0.4**
baz=315
JCT Junction City 54.25 85 IAmb IAmb 06 54 56.0
comp=Z,12nm,1.2s
U40A Yellville 54.42 75 P **P 06 54 39.8 -1.3**
baz=313,SNR=5.3
U40A Yellville 54.42 75 IAmb IAmb 06 54 54.9
comp=Z,4.8nm,0.6s
WHTX Lake Whitney, 54.63 82 P **P 06 54 43.9 +1.3**
baz=314
WHTX Lake Whitney, 54.63 82 P **P 06 54 43.2 +0.6**
WHTX IAmb IAmb 06 55 01.9
comp=Z,19nm,0.9s
NJ2 Nanjing 54.64 278 *e*P **P 06 54 43.0 +0.3**
NJ2 pmax pmax
comp=Z,25nm,0.7s
W39A Magazine 54.65 76 P **P 06 54 42.1 -0.6**
baz=313
W39A Magazine 54.65 76 IAmb IAmb 06 55 06.3
comp=Z,18nm,1.4s
LSQQ Lebel-sur-Quev 54.74 54 P **P 06 54 42.6 -0.6**
baz=311
T42A Van Buren 55.00 73 P **P 06 54 43.3 -1.9**
SFIN Lafayette 55.07 67 P **P 06 54 45.2 -0.5**
baz=312,SNR=6.3
SFIN Lafayette 55.07 67 P **P 06 54 45.6 -0.1**
SFIN IAmb IAmb 06 54 46.4
comp=Z,21nm,1.1s
FCAR Ozark Folk Cen 55.17 75 P **P 06 54 44.7 -1.7**
FCAR IAmb IAmb 06 55 00.8
comp=Z,6.6nm,0.9s
MIAR Mount Ida 55.22 77 P **P 06 54 46.9 +0.1**
MIAR pmax pmax
comp=Z,11nm,1.2s
MIAR Mount Ida 55.22 77 P **P 06 54 46.5 -0.4**
baz=314,SNR=6.5
MIAR Mount Ida 55.22 77 P **P 06 54 46.9 +0.1**
MIAR IAmb IAmb 06 55 14.8
comp=Z,11nm,1.1s
SCO Scoresbysund 55.40 13 *i*P **P 06 54 47.5 -0.1**
SCO IAmb IAmb 06 54 48.4
comp=Z,18nm,0.8s
SCO Scoresbysund 55.40 13 *i*P **P 06 54 47.5 -0.1**
SCO pmax pmax
comp=Z,18nm,0.8s
CHGQ Chibougamau 55.45 51 P **P 06 54 47.7 -0.5**
baz=312,SNR=6.3
L48A N Adams 55.52 64 IAmb IAmb 06 55 06.2
comp=Z,29nm,1.4s
SCHQ Schefferville 55.53 43 P **P 06 54 49.4 +0.6**
comp=Z,19nm,0.9s,baz=315,slow=8.4,SNR=15
PBMO Poplar Bluff 55.56 73 IAmb IAmb 06 55 15.3
comp=Z,8.8nm,1.1s
W41B Gary Mavity, V 55.58 75 P **P 06 54 46.9 -2.5**
baz=313
OLIL Olney 55.60 69 P **P 06 54 49.2 -0.2**
OLIL IAmb IAmb 06 54 50.1
comp=Z,17nm,0.9s
S44A Carbondale 55.63 71 P **P 06 54 49.1 -0.6**
S44A IAmb IAmb 06 55 05.7
comp=Z,6.4nm,0.8s
X40A Basin Creek Fa 55.70 76 P **P 06 54 46.6 -3.7**
baz=314
833A Chaparral WMA, 56.03 86 P **P 06 54 51.2 -1.5**
baz=316
WLAR White Oak Lake 56.09 77 P **P 06 54 52.8 -0.3**
BLO Bloomington 56.21 68 P **P 06 54 53.2 -0.7**
BLO pmax pmax
comp=Z,8.0nm,0.7s
BLO Bloomington 56.21 68 P **P 06 54 53.2 -0.7**
BLO IAmb IAmb 06 54 59.9
comp=Z,8.1nm,0.7s
ALGO Algonquin Park 56.26 57 P **P 06 54 54.0 -0.1**
baz=312,SNR=6.9
SADO Sadowa 56.49 59 P **P 06 54 55.9 +0.1**
comp=Z,4.5nm,0.7s,baz=302,slow=9.5,SNR=6.0
SADO Sadowa 56.49 59 IAmb IAmb 06 55 03.9
comp=Z,6.2nm,0.8s
P48A Milroy 56.64 67 IAmb IAmb 06 54 56.9
comp=Z,15nm,1.0s
CCAR Cane Creek 56.73 76 P **P 06 54 58.5 +0.9**
CCAR IAmb IAmb 06 55 11.1
comp=Z,16nm,0.8s
O49A Covington 56.76 66 IAmb IAmb 06 54 57.9
comp=Z,16nm,1.2s
ANGG Ammassalik, Gr 56.84 22 P **P 06 54 57.3 -0.6**
ANGG IAmb IAmb 06 54 58.0
comp=Z,25nm,1.3s
WCI Wyandotte Cave 56.98 69 P **P 06 54 59.1 -0.2**
WCI pmax pmax
comp=Z,10.0nm,1.0s
WCI Wyandotte Cave 56.98 69 P **P 06 54 58.6 -0.7**
baz=313
WCI Wyandotte Cave 56.98 69 P **P 06 54 59.1 -0.2**
WCI IAmb IAmb 06 54 59.8
comp=Z,10nm,0.9s
P49A Miami Univ. Ec 56.99 67 P **P 06 54 58.6 -0.8**
baz=313
P49A Miami Univ. Ec 56.99 67 P **P 06 54 58.2 -1.2**
P49A IAmb IAmb 06 54 59.2
comp=Z,9.5nm,0.8s
HAMF Hammerfest 57.14 355 *e*P **P 06 54 59.5 -0.5**
N51A Ashland 57.36 64 P **P 06 55 01.2 -0.8**
N51A IAmb IAmb 06 55 18.4
comp=Z,19nm,1.1s
T47A Sharon Grove 57.36 70 IAmb IAmb 06 55 17.3
comp=Z,11nm,0.8s
PLVO Plevna 57.39 57 IAmb IAmb 06 55 16.8
comp=Z,14nm,1.0s
DELO Deloro Mine 57.46 58 IAmb IAmb 06 55 07.0
comp=Z,27nm,1.4s
ACSO Alum Creek Sta 57.49 65 P **P 06 55 02.1 -0.8**
baz=313
WVT Waverly 57.53 72 P **P 06 55 03.1 -0.2**
WVT pmax pmax
comp=Z,15nm,1.4s
WVT Waverly 57.53 72 P **P 06 55 02.9 -0.4**
baz=314
WVT Waverly 57.53 72 P **P 06 55 03.1 -0.2**
WVT IAmb IAmb 06 55 04.8
comp=Z,15nm,1.4s
ZAA0 Zalesovo Array 57.62 318 P **P 06 55 02.9 -0.7**
ZAA0 IAmb IAmb 06 55 05.1
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 57.62 318 P **P 06 55 03.3 -0.3**
comp=Z,3.1nm,0.5s,baz=35,slow=6.4,SNR=12
ZALV PcP **PcP 06 55 57.1 +0.5**
comp=Z,2.4nm,0.5s,baz=22,slow=5.7,SNR=4.7
ZALV Zalesovo Beam 57.62 318 P **P 06 55 02.9 -0.7**
OXF Oxford 57.73 74 P **P 06 55 04.2 -0.4**
OXF pmax pmax
comp=Z,30nm,1.1s
OXF Oxford 57.73 74 P **P 06 55 04.5 -0.1**
baz=314
OXF Oxford 57.73 74 P **P 06 55 04.2 -0.4**
ERPA Erie 57.84 61 P **P 06 55 05.4 +0.1**
baz=313
ERPA Erie 57.84 61 P **P 06 55 05.1 -0.3**
M53A WI Miller and 57.93 62 P **P 06 55 05.6 -0.4**
baz=314
M53A WI Miller and 57.93 62 IAmb IAmb 06 55 06.9
comp=Z,18nm,1.1s
LATQ La Tuque 57.94 53 P **P 06 55 05.7 -0.3**
baz=314
LATQ La Tuque 57.94 53 IAmb IAmb 06 55 07.3
comp=Z,22nm,1.2s
R50A Paris 58.07 67 P **P 06 55 06.4 -0.7**
R50A IAmb IAmb 06 55 07.7
comp=Z,11nm,1.0s
Q51A Peebles 58.11 66 P **P 06 55 07.5 +0.2**
ARA0 ARCESS Array S 58.13 354 *e*P **P 06 55 06.3 -0.7**
ARCES ARCESS Array B 58.13 354 P **P 06 55 06.4 -0.6**
comp=Z,4.7nm,0.6s,baz=18,slow=8.1,SNR=16
ARCES ARCESS Array B 58.13 354 P **P 06 55 06.1 -0.9**
ARCES pmax pmax
comp=Z,39nm,1.4s
ARCES ARCESS Array B 58.13 354 P **P 06 55 06.1 -0.9**
PLAL Pickwick Lake 58.19 73 P **P 06 55 07.6 -0.2**
PLAL IAmb IAmb 06 55 08.3
comp=Z,10nm,1.1s
PECO Prince Edward 58.19 58 IAmb IAmb 06 55 12.8
comp=Z,30nm,1.5s
J55A Hilton 58.22 59 IAmb IAmb 06 55 12.3
comp=Z,11nm,0.9s
N53A Lisbon 58.28 63 IAmb IAmb 06 55 09.7
comp=Z,25nm,1.4s
TRO Tromso 58.36 357 *e*P **P 06 55 08.7 +0.2**
P52A Corning 58.37 65 P **P 06 55 08.5 -0.6**
baz=314
JETT Jettan, Norway 58.38 356 *e*P **P 06 55 09.2 +0.5**
V48A Smith Brothers 58.39 71 P **P 06 55 09.1 -0.3**
V48A IAmb IAmb 06 55 09.7
comp=Z,6.4nm,1.1s
CLTN Cedars of Leba 58.43 71 IAmb IAmb 06 55 10.5
comp=Z,17nm,1.2s
M54A Oil Creek Stat 58.44 62 P **P 06 55 09.3 -0.3**
baz=314,SNR=5.3
M54A Oil Creek Stat 58.44 62 P **P 06 55 09.8 +0.2**
M54A IAmb IAmb 06 55 15.6
comp=Z,9.6nm,0.8s
WHN Wuhan 58.44 280 ⇑P **P 06 55 09.5 -0.2**
WHN pmax pmax
comp=Z,82nm,0.8s
O53A New Philadelph 58.46 64 P **P 06 55 08.6 -1.1**
baz=314
U49A Red Boiling Sp 58.46 70 IAmb IAmb 06 55 12.6
comp=Z,13nm,1.4s
N54A Moraine State 58.64 62 P **P 06 55 09.1 -1.8**
baz=314
N54A Moraine State 58.64 62 IAmb IAmb 06 55 11.7
comp=Z,18nm,1.2s
T50A Nancy 58.65 69 IAmb IAmb 06 55 11.7
comp=Z,7.5nm,0.9s
H57A Richville 58.65 57 P **P 06 55 10.6 -0.4**
baz=314,SNR=5.4
J56A Wolcott 58.71 59 IAmb IAmb 06 55 29.2
comp=Z,20nm,1.3s
KTK1 Kautokeino 58.78 355 *e*P **P 06 55 11.7 +0.1**
K56A Middlesex 58.87 59 P **P 06 55 12.2 -0.4**
baz=314,SNR=7.6
I57A Carthage 58.88 57 P **P 06 55 12.4 -0.2**
baz=314,SNR=6.6
LVZ Lovozero 58.92 350c *i*P **P 06 55 11.7 -0.9**
LVZ pmax pmax
comp=Z,59nm,1.3s
LVZ Lovozero 58.92 350 P **P 06 55 12.1 -0.5**
S51A Beattyville 58.93 68 IAmb IAmb 06 55 14.2
comp=Z,14nm,1.1s
M55A Ridgway 58.95 61 P **P 06 55 13.4 +0.2**
LONY Lake Ozonia 58.96 56 P **P 06 55 12.6 -0.5**
baz=314
LONY Lake Ozonia 58.96 56 P **P 06 55 12.8 -0.3**
LONY IAmb IAmb 06 55 28.1
comp=Z,7.6nm,0.8s
LMQ La Malbaie 59.02 51 P **P 06 55 13.3 -0.2**
LMQ IAmb IAmb 06 55 14.9
comp=Z,11nm,1.1s
J57A Williamstown 59.07 58 IAmb IAmb 06 55 28.6
comp=Z,15nm,1.0s
L56A Greenwood 59.13 60 P **P 06 55 14.9 +0.5**
XAN Xi'an 59.22 287 P **P 06 55 14.5 -0.7**
XAN pP sP 06 55 22.5 -0.4
XAN sP pwP 06 55 25.5 +0.9
XAN S **S 07 03 21.8 0.0**
XAN pmax pmax
comp=Z,27nm,1.1s
XAN LR LR
comp=Z,680nm,20.1s
XAN LR LR
comp=Z,990nm,17.4s
XAN LR LR
comp=Z,2μm,19.5s
SSLB Suanglung 59.28 270 P **P 06 55 15.4 -0.3**
H58A Gabriels 59.31 56 P **P 06 55 14.1 -1.5**
baz=315
D61A St Aubert, Com 59.33 52 P **P 06 55 15.5 -0.1**
baz=315,SNR=6.2
R53A Hurricane 59.38 66 P **P 06 55 16.2 +0.1**
R53A IAmb IAmb 06 55 20.7
comp=Z,8.9nm,0.8s
H59A Cadyville 59.40 56 P **P 06 55 14.0 -2.2**
baz=315
I58A Old Forge 59.41 57 P **P 06 55 15.5 -0.8**
baz=315
J58A Remsen 59.48 58 P **P 06 55 16.9 +0.1**
baz=315,SNR=6.8
J58A Remsen 59.48 58 P **P 06 55 17.0 +0.3**
DGZ Jazzator, Alta 59.53 313c *i*P **P 06 55 17.0 -0.2**
DGZ pmax pmax
comp=Z,15nm,0.7s
Q54A Coxs Mills 59.55 65 P **P 06 55 16.9 -0.4**
Q54A IAmb IAmb 06 55 18.1

comp=Z,13nm,1.0s
NCB Newcomb 59.60 57 P P 06 55 18.1 +0.5
NCB IAmb IAmb 06 55 41.1
comp=Z,18nm,1.4s
MCWV Mont Chateau 59.62 63 P P 06 55 17.2 -0.7
baz=314,SNR=5.6
MOQ Mont Orford 59.65 54 P P 06 55 17.7 -0.3
TZTN Tazewell 59.72 68 P P 06 55 17.1 -1.5
baz=315
O56A Blue Knob Stat 59.90 62 P P 06 55 19.0 -0.7
baz=315
O56A Blue Knob Stat 59.90 62 IAmb IAmb 06 55 20.8
comp=Z,19nm,1.3s
I59A Olmsteadville 59.90 56 P P 06 55 17.9 -1.7
baz=315
BINY Binghamton 59.92 59 P P 06 55 17.5 -2.4
baz=315
BINY Binghamton 59.92 59 IAmb IAmb 06 55 38.6
comp=Z,12nm,1.0s
H60A Morristown 59.96 55 P P 06 55 19.3 -0.8
baz=315
D62A Allapoint, All 59.96 51 P P 06 55 18.7 -1.3
baz=316
LOF Lofoten 60.00 359 *e*P **P 06 55 20.2 +0.3**
SSPA Standing Stone 60.01 61 P P 06 55 20.3 -0.2
baz=315
SSPA Standing Stone 60.01 61 P P 06 55 20.5 +0.1
SSPA IAmb IAmb 06 55 21.4
comp=Z,16nm,1.0s
G61A St-Isidore-de- 60.03 54 P P 06 55 19.3 -1.3
baz=315
E62A Clayton Lake 60.06 52 P P 06 55 18.0 -2.7
baz=316
L58A Harry Jones Me 60.10 59 P P 06 55 19.4 -1.7
baz=315
S54A Dingess, Beckl 60.11 66 IAmb IAmb 06 55 22.1
comp=Z,13nm,0.9s
STEI Steigen 60.17 358 *e*P **P 06 55 20.6 -0.5**
V52A Sevierville 60.19 69 IAmb IAmb 06 55 28.9
comp=Z,10nm,1.0s
TKL Tuckaleechee C 60.22 69 P P 06 55 22.8 +0.9
comp=Z,2.3nm,0.9s,baz=243,slow=5.4,SNR=2.9
TKL Tuckaleechee C 60.22 69 P P 06 55 22.1 +0.1
TKL pmax pmax
comp=Z,6.0nm,0.9s
TKL Tuckaleechee C 60.22 69 P P 06 55 22.1 +0.1
TKL IAmb IAmb 06 55 41.8
comp=Z,5.9nm,0.9s
D63A Stockholm 60.44 50 P P 06 55 23.4 +0.1
baz=316
J60A Lant Hill Farm 60.52 57 P P 06 55 23.4 -0.5
baz=315
G62A West of Eustis 60.57 53 P P 06 55 23.7 -0.6
baz=316
LBNH Lisbon 60.58 55 P P 06 55 23.5 -0.8
baz=316
GTA Gaotai 60.63 297 *e*P **P 06 55 24.0 -0.9**
GTA pP sP 06 55 31.5 -1.1
GTA sP pwP 06 55 35.3 +1.0
GTA pmax pmax
comp=Z,12nm,0.9s
FAUS Fauske 60.72 358 *e*P **P 06 55 24.6 -0.2**
H62A Milan 60.72 54 P P 06 55 24.0 -1.3
baz=316
LZH Lanzhou 60.73 292 *e*P **P 06 55 26.0 +0.4**
LZH pP sP 06 55 33.0 -0.4
LZH sP pwP 06 55 37.5 +2.5
LZH pmax pmax
comp=Z,32nm,1.3s
E63A Oxbow 60.74 51 P P 06 55 23.5 -1.8
baz=316
P57A Homestead Farm 60.75 62 IAmb IAmb 06 55 42.6
comp=Z,21nm,1.3s
V53A Saluda 60.76 69 IAmb IAmb 06 55 26.6
comp=Z,13nm,1.2s
BORG Borgarnes 60.80 15 P P 06 55 26.0 +0.5
comp=Z,11nm,1.0s,baz=357,slow=4.3,SNR=5.7
BORG Borgarnes 60.80 15 P P 06 55 26.0 +0.5
J61A Chester 60.90 56 P P 06 55 25.9 -0.5
baz=316
F63A Nahmakanta, Br 60.93 52 P P 06 55 26.3 -0.4
baz=316
N59A State Game Lan 60.95 60 P P 06 55 25.9 -0.9
baz=315
E64A Bridgewater 61.02 51 P P 06 55 26.9 -0.3
baz=316
BLA Blacksburg 61.03 66 P P 06 55 27.9 +0.4
BLA pmax pmax
comp=Z,23nm,0.9s
BLA Blacksburg 61.03 66 P P 06 55 27.2 -0.3
baz=315,SNR=6.9
BLA Blacksburg 61.03 66 P P 06 55 27.9 +0.4
G63A Kingsbury 61.10 53 P P 06 55 28.4 +0.6
baz=316
F64A Sherman 61.17 52 P P 06 55 27.7 -0.6
baz=316
S57A Dark Hollow, R 61.46 64 P P 06 55 30.8 +0.4
S57A IAmb IAmb 06 55 31.7
comp=Z,16nm,1.1s
V55A Taylorsville 61.54 67 P P 06 55 31.1 +0.1
V55A IAmb IAmb 06 55 32.4
comp=Z,12nm,1.1s
KONS Konsvik 61.64 359 *e*P **P 06 55 31.1 0.0**
T57A Hurt 61.83 65 IAmb IAmb 06 55 34.2
comp=Z,10nm,0.9s
K63A Dunstable 61.89 56 P P 06 55 33.2 0.0
baz=316
MOR8 Moi Rana 61.95 358 *e*P **P 06 55 31.6 -1.6**
KMSC Kings Mountain 61.98 68 P P 06 55 33.5 -0.4
baz=316,SNR=6.2
GOGA Godfrey 61.99 71 P P 06 55 33.3 -0.7
GOGA pmax pmax
comp=Z,6.0nm,0.9s
GOGA Godfrey 61.99 71 P P 06 55 32.9 -1.1
baz=316
GOGA Godfrey 61.99 71 P P 06 55 33.3 -0.7
GOGA IAmb IAmb 06 55 48.8
comp=Z,5.7nm,0.8s
CBN Corbin Frederi 62.01 63 P P 06 55 34.4 +0.3
CBN IAmb IAmb 06 55 36.5
comp=Z,11nm,0.9s
H65A Eastbrook 62.07 52 P P 06 55 31.7 -2.7
baz=317
JSRW J. Sargeant Re 62.10 64 P P 06 55 34.8 +0.2
H66A Whiting 62.46 52 P P 06 55 37.4 +0.4
baz=317
W57A Gilead 62.74 67 IAmb IAmb 06 55 39.6
comp=Z,16nm,1.1s
V58A Windy Hill, Pi 62.77 66 P P 06 55 39.1 -0.1
T59A Double "B" Far 62.80 64 P P 06 55 39.8 +0.5
LMN Caledonia Moun 62.87 50 P P 06 55 40.3 +0.6
PRGR Permogore 63.20 342 *e*P **P 06 55 39.2 -2.4**
PRGR pmax pmax
comp=Z,51nm,1.0s
NSS Namsos 63.63 359 *e*P **P 06 55 43.9 -0.5**
WMQ Urumqi 63.71 308 *e*P **P 06 55 46.0 +0.6**
WMQ pP pwP 06 55 54.5 -0.4
WMQ pmax pmax
comp=Z,11nm,1.1s
SVE Sverdlovsk 63.90 332 *e*P **P 06 55 46.3 0.0**
SVE pmax pmax
comp=Z,30nm,1.3s
BVAR Borovoye Array 63.90 325 P P 06 55 45.3 -1.1
comp=Z,4.1nm,0.4s,baz=298,slow=7.6,SNR=28
BRVK Borovoye 63.91 325 P P 06 55 46.5 0.0
BRVK pmax pmax
comp=Z,26nm,1.4s
BRVK Borovoye 63.91 325 P P 06 55 46.5 0.0
MK31 Makanchi Array 63.99 314 P P 06 55 46.2 -1.0
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 63.99 314 P P 06 55 46.2 -1.0
MK31 IAmb IAmb 06 55 47.1
comp=Z,6.2nm,0.9s
MKAR Makanchi Array 63.99 314 P P 06 55 45.7 -1.4
comp=Z,4.5nm,0.7s,baz=52,slow=6.6,SNR=34
MKAR Makanchi Array 63.99 314 *c*e**P P 06 55 46.2 -0.9**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 63.99 314 P P 06 55 46.0 -1.2
NHSC New Hope 64.11 69 P P 06 55 48.4 +0.3
baz=317
MAKZ Makanchi 64.12 314 P P 06 55 47.0 -1.0
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 64.12 314 P P 06 55 47.0 -1.0
MAKZ IAmb IAmb 06 55 47.9
comp=Z,11nm,1.1s
CD2 Chengdu 64.50 288 P P 06 55 51.0 +0.3
CD2 pmax pmax
comp=Z,30nm,0.9s
GBN Guysborough 64.73 48 P P 06 55 53.0 +1.1
ARU Arti 64.83 333 P P 06 55 52.1 -0.3
comp=Z,1.9nm,0.4s,baz=16,slow=8.1,SNR=20
ARU Arti 64.83 333 *c i*P **P 06 55 52.0 -0.4**
ARU 06 56 23.9
ARU S **S 07 04 31.8 0.0**
ARU SS **SS 07 08 46.4 +4.2**
ARU pmax pmax
comp=Z,31nm,1.2s
ARU Arti 64.83 333 P P 06 55 52.3 -0.1
KLMR Klimovskoe 64.99 345 *e*P **P 06 55 51.8 -1.6**
KLMR pmax pmax
comp=Z,27nm,1.3s
KLMR Klimovskoe 64.99 345 *e*P **P 06 55 51.8 -1.6**
KLMR AMP 06 55 54.2
comp=Z,27nm,1.3s
KIRV Kirov 65.21 339 P P 06 55 54.8 0.0
comp=Z,9.7nm,0.4s,baz=7.1,slow=5.1,SNR=7.6
KIRV Kirov 65.21 339 ‖ *i*P **P 06 55 54.7 -0.1**
MOL Molde 65.58 2 *e*P **P 06 55 57.2 +0.1**
GYA Guiyang 66.04 283 ⇑P **P 06 56 01.0 +0.1**
GYA pP pwP 06 56 16.5 +6.2
GYA pmax pmax
comp=Z,7.0nm,1.1s
FIA1 FINESS Array S 66.07 352 P P 06 56 00.4 +0.1
FINES FINESS Array B 66.08 352 P P 06 56 00.0 -0.4
comp=Z,14nm,0.7s,baz=15,slow=7.9,SNR=17
DOMB Dombas 66.12 1 *e*P **P 06 56 00.6 -0.1**
NC204 NORSAR Array S 66.90 360 P P 06 56 05.9 +0.2
NB201 NORSAR Array S 67.13 360 P P 06 56 07.2 0.0
NB2 NORSAR Subarra 67.14 360 P P 06 56 06.7 -0.5
comp=Z,8.4nm,0.7s,baz=1.1,slow=6.9
NB2 NORSAR Subarra 67.14 360 P P 06 56 06.7 -0.5
baz=1.1,slow=6.9
NOA NORSAR Array B 67.14 360 P P 06 56 07.3 +0.1
comp=Z,7.6nm,0.8s,baz=0.5,slow=6.3,SNR=26
NC602 NORSAR Array S 67.44 360 *e*P **P 06 56 08.9 -0.2**
NC602 NORSAR Array S 67.44 360 P P 06 56 09.3 +0.2
SKAR Skarslia 67.48 1 *e*P **P 06 56 09.7 +0.2**
UPP Uppsala 68.19 356 *e*P **P 06 56 13.6 -0.2**
OSL Oslo 68.25 0 *e*P **P 06 56 14.1 0.0**
KONO Kongsberg 68.53 1 P P 06 56 16.1 +0.2
KONO pmax pmax
comp=Z,23nm,0.9s
KONO Kongsberg 68.53 1 *e*P **P 06 56 16.2 +0.3**
KONO Kongsberg 68.53 1 P P 06 56 16.1 +0.2
VSU Vasula 68.96 351 *e*P **P 06 56 19.1 +0.5**
KMI Kunming 69.38 285 ⇑P **P 06 56 22.5 +0.4**
KMI pP sP 06 56 29.8 -0.1
KMI pmax pmax
comp=Z,26nm,1.1s
TARG Taragay, Kyrgy 69.95 313 IAmb IAmb 06 56 29.5
comp=Z,10nm,1.0s
TKM2 Tokmak 2 69.98 315 P P 06 56 25.7 +0.2
SNR=20
USP Ospenovka 70.18 316 P P 06 56 26.9 +0.4
SNR=27
BOOM Boomskoye usch 70.18 314 P P 06 56 27.0 +0.3
BOOM pmax pmax
comp=Z,21nm,0.8s
BOOM Boomskoye usch 70.18 314 P P 06 56 26.9 +0.3
MOS Moscow 70.18 344 *e*P **P 06 56 24.6 -1.6**
MOS pmax pmax
comp=Z,38nm,0.7s
AKTO Aktyubinsk 70.22 330 P P 06 56 26.4 -0.2
comp=Z,12nm,0.8s,baz=42,slow=6.1,SNR=26
ULHL Ulahol 70.24 314 P P 06 56 27.6 +0.5
SNR=6.9
CHMS Chumysh 70.28 316 P P 06 56 27.4 +0.3
SNR=9.9
KBK Karagaybulak 70.48 315 P P 06 56 29.1 +0.6
SNR=7.7
ABKAR Akbulak array 70.64 328 P P 06 56 28.5 -0.6
AAK Ala-Archa 70.69 315 P P 06 56 30.1 +0.3
comp=Z,16nm,0.8s,baz=95,slow=2.4,SNR=18
AAK Ala-Archa 70.69 315 P P 06 56 30.0 +0.3
SNR=6.5
AAK Ala-Archa 70.69 315 P P 06 56 30.1 +0.3
OBN Obninsk 70.95 345 *c i*P **P 06 56 30.3 -0.6**
OBN pmax pmax
comp=Z,24nm,1.1s
EKS2 Erkin-Say 70.98 316 P P 06 56 32.2 +0.7
SNR=15
BELG Belogornoye 71.30 337 P P 06 56 33.5 +0.4
comp=Z,42nm,0.8s,baz=145,slow=1.9,SNR=18
BELG Belogornoye 71.30 337 *c i*P **P 06 56 33.0 0.0**
BELG pmax pmax
comp=Z,15nm,1.3s
AML Almayashu 71.44 316 P P 06 56 35.4 +0.7
SNR=15
SLVN Son La 71.54 281 P P 06 56 35.5 +0.4
ISAL Salakas 71.87 351 *e*P **P 06 56 37.3 +0.9**
KK31 Karatay Array 71.98 318 P P 06 56 37.2 -0.2
KK31 pmax pmax
comp=Z,17nm,1.0s
KK31 Karatay Array 71.98 318 P P 06 56 37.2 -0.2
KK31 IAmb IAmb 06 56 38.1
comp=Z,17nm,0.9s
KKAR Karatay Array 71.98 318 P P 06 56 36.8 -0.6
KKAR Karatay Array 71.98 318 P P 06 56 36.8 -0.6
IIGN Ignalina 72.08 351 *e*P **P 06 56 38.0 +0.3**
PABE Paberze 72.13 352 *e*P **P 06 56 38.3 +0.3**
PABE Paberze 72.13 352 P P 06 56 37.9 -0.1
EKA Eskdalemuir Ar 72.24 8 P P 06 56 39.2 +0.5
comp=Z,9.1nm,0.9s,baz=181,slow=32,SNR=3.9
KSH Kashi 72.56 313 P P 06 56 44.3 +3.2
KSH pP sP 06 56 48.5 -0.7
KSH pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 72.60 296 P P 06 56 42.9 +1.1
LSA pmax pmax
comp=Z,30nm,0.9s
LSA Lhasa 72.60 296 P P 06 56 42.9 +1.1
MNK Minsk 72.74 350 *i*P **P 06 56 42.3 +0.6**
MNK *i* 06 57 00.2
MNK *i* 06 59 22.7
MNK *i* PPP PPP 07 01 06.6
MNK *i* S **S 07 06 04.7 -1.0**
MNK *i* 07 06 47.4
MNK *i* SS **SS 07 10 43.5 -0.6**
MNK pmax pmax
comp=Z,41nm,1.0s
MNK pmax pmax
comp=N,39nm,1.0s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=Z,1μm,20.0s
MNK MLR MLR
comp=N,1μm,20.0s
MNK MLR MLR
comp=E,86nm,20.0s
MNK Minsk 72.74 350 *i*P **P 06 56 42.3 +0.7**
comp=E,5.0nm,0.8s
MNK *i*P **P 06 56 42.3 +0.7**
comp=N,39nm,1.0s
MNK *i*P **P 06 56 42.3 +0.7**
comp=Z,41nm,1.0s,baz=191
MNK *i* PcP **PcP 06 57 00.2 +1.3**
MNK *i* PP **PP 06 59 22.7 -0.1**
MNK *i* PPP PPP 07 01 06.7
MNK *i* S **S 07 06 04.8 -0.9**
MNK *i* SS **SS 07 10 43.5 -0.5**
MNK *i* SSS SSS 07 14 03.5
MNK *i* LQ LQ 07 22 03.1
MNK *i* LR LR 07 29 03.5
MNK *i* LRM MLR 07 30 58.1
comp=E,86nm,20.3s
MNK *i* LRM MLR 07 30 58.1
comp=N,1μm,19.5s
MNK *i* LRM MLR 07 30 58.1
comp=Z,1μm,20.4s
SUW Suwalki 73.68 352 *e*P **P 06 56 47.0 -0.2**
SUW Suwalki 73.68 352 P P 06 56 47.2 0.0
SUW pmax pmax
comp=Z,62nm,1.0s
SUW Suwalki 73.68 352 P P 06 56 47.1 0.0
NONG Nongkai 74.49 279 P P 06 56 54.2 +1.7
GAR Garm 75.48 316 P P 06 56 58.2 0.0
KHON Khomkaen 76.01 279 P P 06 57 15.0 +14
CHGR Chuyangaron 76.26 317 P P 06 57 02.7 +0.1
AKASG Malin Array Be 76.31 348 P P 06 57 01.9 -0.6
comp=Z,6.2nm,0.5s,baz=15,slow=5.9,SNR=26
AKASG Malin Array Be 76.31 348 P P 06 57 01.3 -1.2
AKASG pmax pmax
comp=Z,4.0nm,1.1s
AKASG Malin Array Be 76.31 348 P P 06 57 01.3 -1.2
AKBB Malin Array Si 76.31 348 *c i*P **P 06 57 01.2 -1.3**
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 76.31 348 P P 06 57 02.0 -0.5
AKBB IAmb IAmb 06 57 02.5
comp=Z,13nm,0.8s
CMMT Chiang Mai 76.45 283 P P 06 57 04.7 +0.9
CHTO Chiang Mai 76.45 283 P P 06 57 04.0 +0.2
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 76.45 283 P P 06 57 04.7 +0.9
comp=Z,13nm,1.3s
CHTO Chiang Mai 76.45 283 P P 06 57 04.0 +0.2
CHTO IAmb IAmb 06 57 17.0
comp=Z,13nm,1.1s
CM09 Chiang Mai Arr 76.71 283 P P 06 57 07.4 +2.2
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 76.73 283 P P 06 57 06.2 +0.9
comp=Z,12nm,0.9s,baz=27,slow=6.2,SNR=37
CMAR Chiang Mai Arr 76.73 283 *c*e**P P 06 57 06.1 +0.8**
CMAR pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 76.73 283 P P 06 57 05.7 +0.4
CM15 Chiang Mai Arr 76.74 283 P P 06 57 06.7 +1.3
comp=Z,17nm,1.1s
CM02 Chiang Mai Arr 76.74 283 P P 06 57 06.5 +1.1
comp=Z,150nmcomp=Z,21nm,1.0s
CM01 Chiang Mai Arr 76.75 283 P P 06 57 06.7 +1.2
comp=Z,192nmcomp=Z,20nm,1.2s
CM04 Chiang Mai Arr 76.75 283 P P 06 57 06.6 +1.1
comp=Z,26nm,1.0s
CM05 Chiang Mai Arr 76.77 283 P P 06 57 06.8 +1.2
comp=Z,144nmcomp=Z,18nm,1.0s
CM13 Chiang Mai Arr 76.78 283 P P 06 57 06.7 +1.1
comp=Z,153nmcomp=Z,18nm,1.1s
PHIT Phitsanulok 76.82 281 P P 06 57 07.4 +1.6
CLL Collm 76.88 359 *i*P **P 06 57 05.9 +0.3**
comp=Z,32nm,1.6s
CLL Collm 76.88 359 *e*P **P 06 57 06.0 +0.3**
KSP Ksiaz 77.25 356 *e*P **P 06 57 08.6 +0.8**
BRG Berggiesshubel 77.30 358 *e*P **P 06 57 08.4 +0.3**
BRG Amp 06 57 11.0
comp=Z,24nm,1.5s
BRG Berggiesshubel 77.30 358 P P 06 57 20.3 +12
BRG Amp 06 57 21.9
comp=Z,7.0nm,1.0s
BRG Amp 07 30 32.0
comp=E,1.6nm,19.1s
BRG Amp 07 30 34.0
comp=Z,2.3nm,20.1s
BRG Amp 07 30 38.0
comp=N,2.8nm,19.0s
CHVC Chvalec 77.52 357 *e*P **P 06 57 10.0 +0.7**
MEM Membach 77.52 3 *d*P **P 06 57 07.7 -1.6**
OSTC Ostas 77.54 356 *e*P **P 06 57 10.5 +1.0**
BTNL Ternell 77.54 3 *d*P **P 06 57 10.1 +0.6**
comp=Z,18nm,1.3s
MHMT Maesarieng 77.55 283 P P 06 57 12.2 +2.2
BCLA Clavier 77.68 4 *d*P **P 06 57 11.2 +1.0**
OJC Ojcow 77.70 354 *e*P **P 06 57 11.1 +0.8**
OJC Ojcow 77.70 354 P P 06 57 10.7 +0.4
OJC pmax pmax
comp=Z,35nm,1.5s
OJC Ojcow 77.70 354 P P 06 57 10.7 +0.4
BGES Gesves 77.71 4 *d*P **P 06 57 10.8 +0.4**
DPC Dobruska-Polom 77.75 356 *e*P **P 06 57 11.5 +0.9**
DPC Dobruska-Polom 77.75 356 *e*P **P 06 57 11.5 +0.9**
LVV L'vov 77.76 351 *e*P **P 06 57 10.8 +0.1**
BMRD Maredsous 77.78 4 *d*P **P 06 57 09.7 -1.0**
NKC Novy Kostel 77.96 359 *e*P **P 06 57 12.8 +1.0**
NKC Novy Kostel 77.96 359 *e*P **P 06 57 12.8 +1.0**
KRLC Kraliky 78.00 356 *e*P **P 06 57 12.9 +0.8**
KRLC Kraliky 78.00 356 *e*P **P 06 57 12.9 +0.8**
KWP Kalwaria Pacla 78.06 352 *e*P **P 06 57 13.2 +0.9**
PRU Pruhonice 78.17 357 *e*P **P 06 57 13.7 +0.8**
PRU Pruhonice 78.17 357 *e*P **P 06 57 13.7 +0.8**
MORC Moravsky Berou 78.26 356 *e*P **P 06 57 13.9 +0.4**
SRAK Srakaew 78.28 278 P P 06 57 13.2 -0.8
comp=Z,2μmcomp=Z,300nm,1.0s
NIL Nilore 78.62 311 P P 06 57 15.8 +0.1
NIL pmax pmax
comp=Z,47nm,1.0s
NIL Nilore 78.62 311 P P 06 57 15.8 +0.1
VRAC Vranov 78.78 356 *e*P **P 06 57 17.1 +0.8**
LANS Liptovska Anna 78.78 354 *e*P **P 06 57 18.3 +1.9**
LANS pmax pmax
comp=Z,14nm,1.0s
LANS Liptovska Anna 78.78 354 *e*P **P 06 57 18.2 +1.9**
KOLS Kolonicke sedl 78.80 352 *e*P **P 06 57 17.5 +1.1**
KOLS Kolonicke sedl 78.80 352 *e*P **P 06 57 17.5 +1.1**
CRVS Cervenica-Dubn 78.89 353 *e*P **P 06 57 17.5 +0.6**
CRVS Cervenica-Dubn 78.89 353 *e*P **P 06 57 17.5 +0.6**
KRUC Moravsky 79.03 356 *e*P **P 06 57 18.2 +0.5**
KHC Kasperske Hory 79.05 358 *e*P **P 06 57 18.7 +0.9**
KHC Kasperske Hory 79.05 358 *e*P **P 06 57 18.7 +0.9**
KHC Kasperske Hory 79.05 358 IAmb IAmb 06 57 20.7
comp=Z,27nm,1.3s
UZH Uzhgorod 79.09 352 ⇑ *i*P **P 06 57 18.3 +0.3**
UZH *e* 06 57 30.2
JAVC Velka Javorina 79.17 355 *e*P **P 06 57 20.3 +1.7**
GOF Gofitskoye 79.23 337 ⇑ *e*P **P 06 57 19.7 +0.8**
GOF pmax pmax
comp=Z,153nm,1.1s
GEC2 GERESS Array S 79.33 358 P P 06 57 19.8 +0.4
GEC2 IAmb IAmb 06 57 22.4
comp=Z,16nm,1.2s
GERES GERESS Array B 79.33 358 P P 06 57 20.2 +0.7
comp=Z,3.7nm,0.8s,baz=1.9,slow=4.0,SNR=18
GERES GERESS Array B 79.33 358 P P 06 57 19.8 +0.4
CKRC Cesky Krumlov 79.34 358 *e*P **P 06 57 20.1 +0.7**
KECS Kecovo 79.38 353 *e*P **P 06 57 20.4 +0.8**
KECS Kecovo 79.38 353 *e*P **P 06 57 20.4 +0.8**
VYHS Vyhne 79.47 355 *e*P **P 06 57 20.9 +0.8**
VYHS pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 79.47 355 *e*P **P 06 57 20.9 +0.8**
SMOL Smolenice 79.53 355 *e*P **P 06 57 21.7 +1.3**
SMOL pmax pmax
comp=Z,14nm,1.3s
SMOL Smolenice 79.53 355 *e*P **P 06 57 21.6 +1.2**
MODS Modra-Piesok 79.68 356 *e*P **P 06 57 23.7 +2.4**
MODS pmax pmax
comp=Z,47nm,1.3s
MODS Modra-Piesok 79.68 356 *e*P **P 06 57 23.7 +2.4**
KBL Kabul 79.78 314 P P 06 57 21.5 -0.8
KBL pmax pmax
comp=Z,28nm,0.9s
KBL Kabul 79.78 314 P P 06 57 21.5 -0.8
BUR08 Bucovina Ar. S 79.80 350 P P 06 57 22.1 +0.1
BUR08 IAmb IAmb 06 57 23.8
comp=Z,7.5nm,1.0s
BURAR Bucovina Array 79.82 350 P P 06 57 21.7 -0.5
BURAR IAmb IAmb 06 57 24.2
comp=Z,7.2nm,1.0s
BFO Black Forest 79.86 2 P P 06 57 22.4 +0.2
BFO pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 79.86 2 P P 06 57 22.4 +0.2
BFO IAmb IAmb 06 57 25.4
comp=Z,12nm,1.1s
ZST Bratislava 79.86 356 *e*P **P 06 57 23.6 +1.4**
ZST pmax pmax
comp=Z,65nm,1.1s
ZST Bratislava 79.86 356 *e*P **P 06 57 23.6 +1.4**
ECH Echery 79.94 2 P P 06 57 23.6 +0.9
ECH pmax pmax
comp=Z,30nm,1.3s
ECH Echery 79.94 2 P P 06 57 23.6 +0.9
ECH IAmb IAmb 06 57 25.6
comp=Z,30nm,1.3s
PSZ Piszkesteto 79.98 354 *e*P **P 06 57 24.9 +1.9**
PSZ Piszkesteto 79.98 354 IAmb IAmb 06 57 25.2
comp=Z,22nm,1.2s
CONA Conrad Observa 80.18 357 *i*P **P 06 57 25.4 +1.3**
comp=Z,27nm,1.2s,SNR=13
MOA Molln 80.31 358 *e*P **P 06 57 25.5 +0.8**

comp=Z,11nm,1.3s
KIV **Kislovodsk** 80.36 337 *e*P P 06 57 25.9 +0.8
KIV pmax pmax
comp=Z,27nm,1.1s
SOP **Sopron** 80.40 356 *e*P P 06 57 27.1 +2.0
KBZ **Khabaz** 80.52 337 P P 06 57 26.8 +1.0
comp=Z,9.5nm,0.8s,baz=55,slow=1.9,SNR=18
KBZ **Khabaz** 80.52 337*c* *i*P P 06 57 26.6 +0.8
KBZ pmax pmax
comp=Z,15nm,0.9s
RETA **Reutte** 80.72 360 *e*P P 06 57 28.7 +1.7
comp=Z,17nm,1.2s
MOTA **Moosalm** 80.86 360 *i*P P 06 57 29.1 +1.2
comp=Z,31nm,1.2s,SNR=9.5
MPLH **Magyarpolny** 80.87 355 *e*P P 06 57 28.6 +0.9
WATA **Walderalm** 80.87 359 *i*P P 06 57 29.1 +1.3
comp=Z,31nm,1.2s,SNR=6.3
ARSA **Arzberg** 80.87 357 *i*P P 06 57 28.7 +1.0
comp=Z,9.8nm,0.9s,SNR=7.0
DAVA **Damuels** 80.92 1 *e*P P 06 57 30.0 +1.9
comp=Z,8.9nm,0.9s
WTTA **Wattenberg** 80.94 359 *i*P P 06 57 29.8 +1.5
comp=Z,33nm,1.6s,SNR=7.5
SQTA **Sankt Quirin** 80.99 360 *e*P P 06 57 29.9 +1.5
comp=Z,31nm,1.0s
KBA **Koelnbreinsper** 81.10 358 *i*P P 06 57 30.7 +1.5
comp=Z,58nm,1.4s,SNR=31
ZEI **Tsey** 81.16 336 *e*P P 06 57 28.4 -1.2
ZEI pmax pmax
comp=Z,10.0nm,0.7s
MFF **Saint Martin d** 81.16 8 *e*P P 06 57 31.2 +2.0
MFF pmax pmax
comp=Z,60nm,1.3s
FETA **Feichten** 81.19 0 *i*P P 06 57 30.8 +1.2
comp=Z,16nm,1.0s,SNR=8.8
GEYT **Alibeck** 81.23 324 P P 06 57 30.5 +0.7
comp=Z,16nm,1.1s,baz=290,slow=4.4,SNR=13
GEYT **Alibeck** 81.23 324 P P 06 57 30.3 +0.5
GYA0B **ALIBECK ARRAY** 81.23 324 P P 06 57 30.6 +0.8
AKT **Akhty** 81.36 333 *e*P P 06 57 31.1 +0.6
AKT *e*PCP sP 06 57 37.5 -1.3
AKT pmax pmax
comp=Z,51nm,0.8s
DAVOX **Davos/Dischmat** 81.42 1 P P 06 57 31.8 +0.9
comp=Z,6.0nm,0.7s,baz=350,slow=2.4,SNR=8.8
ABTA **Abfaltersbach** 81.45 359 *i*P P 06 57 31.5 +0.7
comp=Z,27nm,1.2s,SNR=10
SOKA **Soboth** 81.46 357 *i*P P 06 57 31.9 +0.9
comp=Z,40nm,1.3s,SNR=20
PERS **Pernice** 81.50 357 *i*P P 06 57 31.8 +0.7
MYKA **Terra Mystica** 81.55 358 *e*P P 06 57 32.7 +1.3
comp=Z,8.8nm,1.0s
OBKA **Obir** 81.64 357 *e*P P 06 57 33.0 +1.1
comp=Z,11nm,1.1s
TUE **Stuetta** 81.73 1 P P 06 57 33.8 +1.3
MORH **Mrgy, Hungar** 81.76 354 *e*P P 06 57 32.8 +0.5
MLR **Muntele Rosu** 81.84 349 P P 06 57 32.5 -0.5
comp=Z,2.3nm,0.4s,baz=294,slow=1.4,SNR=4.1
MLR **Muntele Rosu** 81.84 349 P P 06 57 31.6 -1.4
MLR pmax pmax
comp=Z,17nm,1.5s
MLR **Muntele Rosu** 81.84 349 P P 06 57 31.6 -1.4
MLR IAmb IAmb 06 57 35.9
comp=Z,18nm,1.5s
KOVH **Kovagotottos** 81.92 355 *e*P P 06 57 33.7 +0.4
STAL **STALIGIAL** 81.93 359 IAmb IAmb 06 57 35.1
comp=Z,18nm,1.3s
CTI **Castel Tesino** 82.16 359 P P 06 57 35.2 +0.6
CTI pmax pmax
comp=Z,14nm,0.9s
CTI **Castel Tesino** 82.16 359 P P 06 57 35.2 +0.6
CTI IAmb IAmb 06 57 37.2
comp=Z,14nm,0.9s
SALO **Salr** 82.59 0 P P 06 57 36.4 -0.4
BOJS **Bojanci** 82.63 357 *e*P P 06 57 37.4 +0.4
LPG **La Plagne** 82.65 3 *e*P P 06 57 38.9 +1.4
LPG pmax pmax
comp=Z,18nm,1.3s
SSB **Saint Sauveur** 82.78 4 P P 06 57 38.5 +0.7
SSB pmax pmax
comp=Z,16nm,1.0s
SSB **Saint Sauveur** 82.78 4 P P 06 57 38.5 +0.7
TEOL **Teolo** 82.84 359 P P 06 57 39.1 +1.0
CAF **Calviac** 82.99 6 *e*P P 06 57 39.3 +0.4
CAF pmax pmax
comp=Z,37nm,1.4s
GNI **Garni** 83.42 334 P P 06 57 41.9 +0.5
comp=Z,4.7nm,0.5s,baz=125,slow=2.7,SNR=5.2
GNI **Garni** 83.42 334*c* *i*P P 06 57 42.4 +1.0
GNI pmax pmax
comp=Z,25nm,1.8s
DIVS **Divibare** 83.78 353 P P 06 57 43.4 +0.3
DIVS IAmb IAmb 06 57 47.8
comp=Z,10nm,1.1s
SURT **Suratani** 84.19 277 P P 06 58 02.1 +17
KOPT **Kop Dagi** 84.61 337 P P 06 57 48.9 +1.3
OSSC **Osservatorio P** 84.68 360 P P 06 57 48.2 +0.6
MURB **Monte Urbino** 84.93 359 P P 06 57 49.6 +0.7
ILGA **Ilgaz** 85.03 343 P P 06 57 49.1 -0.5
PDG **Podgorica** 85.49 354 P P 06 57 51.1 -0.4
GEVA **Gevas** 85.59 335 P P 06 57 51.9 -0.5
BRTR **Keskin Array B** 86.33 343 P P 06 57 56.8 +0.8
comp=Z,1.8nm,0.7s,baz=292,slow=3.3,SNR=9.3
WRA **Warramunga Arr** 86.94 232 P P 06 57 57.8 -1.0
comp=Z,2.3nm,0.9s,baz=34,slow=5.6,SNR=10
FNA **Florina** 86.96 352 P P 06 57 58.7 -0.3
FNA pmax pmax
comp=Z,11nm,0.8s
FNA **Florina** 86.96 352 P P 06 57 58.7 -0.3
MARD **Mardin** 87.11 336 P P 06 58 01.0 +1.2
ESBB **Sonseca Array** 87.64 11 P P 06 58 02.5 +0.2
ESBB IAmb IAmb 06 58 03.5
comp=Z,9.0nm,1.1s
ESDC **Sonseca Array** 87.64 11 P P 06 58 02.5 +0.2
comp=Z,4.1nm,0.8s,baz=348,slow=4.3,SNR=18
ESDC **Sonseca Array** 87.64 11 P P 06 58 02.5 +0.2
ESDC IAmb IAmb 06 58 03.5
comp=Z,5.5nm,1.0s
PSI **Prapat** 88.93 273 P P 06 58 08.9 +0.1
PSI pmax pmax
comp=Z,15nm,0.9s
RPSI **Rantau Prapat** 89.01 273 P P 06 58 08.9 0.0
RUSC **La Rusia** 89.17 82 P P 06 58 10.7 +0.3
HYB **Hyderabad** 89.29 298 *i*P P 06 58 10.0 -0.4
ASAR **Alice Springs** 90.32 230 P P 06 58 14.8 -0.1
comp=Z,4.2nm,0.9s,baz=43,slow=4.3,SNR=20
ASAR **Alice Springs** 90.32 230 P P 06 58 14.5 -0.3
ASAR **Alice Springs** 90.32 230 P P 06 58 14.5 -0.3
MMAI **Mount Meron Ar** 92.47 339 P P 06 58 25.2 +0.3
comp=Z,2.7nm,0.6s,baz=38,slow=2.6,SNR=4.9
MDT **Midelt** 94.31 13 P P 06 58 32.8 -0.7
comp=Z,1.7nm,0.8s,baz=14,slow=4.5,SNR=4.4
KMBO **Kilima Mbogo** 124.50 327 PKP PKPdf 07 04 12.7 -1.0
comp=Z,2.4nm,0.6s,baz=31,slow=7.2,SNR=5.1
MAW **Mawson** 150.76 218 PKPbc PKPbc 07 05 02.5 -2.1
comp=Z,2.1nm,0.7s,baz=148,slow=4.6,SNR=5.2
MAW **Mawson** 150.76 218 PKPbc 07 05 04.6 -0.1
BOSA **Boshof** 154.10 330 PKPbc PKiKP 07 05 13.8 +0.1
comp=Z,3.3nm,0.8s,baz=13,slow=1.7,SNR=6.5

IDC 27 06:46:07.8±2.8, 54°.27N×86°.37E, h0km, mb1 3.1/2, mb1mx3.0/55, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=23.9km s-min=15.3km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**251**	*i*		06 52 20.0	
	baz=70,slow=302,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.97**	**251**	Pg	Pg	06 46 24.6	-1.6
	3.3nm,0.3s,baz=74,slow=17,SNR=36						
ZALV				Lg	Lg	06 46 40.3	
	6.6nm,0.3s,baz=79,slow=30,SNR=37						
KURBB	**Kurchatov Arra**	**6.02**	**236**	Pn	Pn	06 47 39.1	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=8.0						
MKAR	**Makanchi Array**	**7.92**	**201**	Pn	Pn	06 48 05.1	+1.0
	0.2nm,0.3s,baz=22,slow=13,SNR=9.1						

IDC 27 06:52:30.0±2.0, 52°.64N×169°.48W, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.4/69, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=80.2km s-min=28.2km az=178.0
AEIC 27 06:52:33±1.9, 52°.32N±0°.06×169°.48W±0°.05, h28km±5km, ML3.2/21, mb3.5/2(NEIC), Error ellipse: s-maj=8.5km s-min=3.2km az=161.0
NEIC 27 06:52:35.3±1.4, 52°.39N±0°.02×169°.54W±0°.08, h42km±10km, Error ellipse: s-maj=7.4km s-min=2.0km az=108.0
ISC 27 06:52:35.1±1.1, 52°.4N±0°.2×169°.57W±0°.08, h40km, n27, σ1§20/29, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.70**	**38**		**Pn**	**06 52 47.9**	**-0.7**
NIKH	**Nikolski High**	**0.70**	**38**		**Sn**	**06 52 58.5**	**+0.3**
OKSP	**Okmok Steeple**	**1.14**	**43**		**Pn**	**06 52 54.1**	**-0.5**
OKSP					**Sn**	**06 53 09.9**	**+0.9**
OKCE	**Okmok Cone E**	**1.32**	**40**		**Pn**	**06 52 57.4**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.33**	**43**		**Pn**	**06 52 57.4**	**+0.1**
OKFG	**Magazine Ridge**	**1.41**	**45**		**Pn**	**06 52 58.3**	**0.0**
MSW	**Makushin Switc**	**2.25**	**47**		**Pn**	**06 53 10.8**	**+1.0**
MNAT	**Makushin Natee**	**2.27**	**49**		**Pn**	**06 53 10.7**	**+0.6**
MNAT					**Sn**	**06 53 39.9**	**+3.1**
MTBL	**Makushin Table**	**2.33**	**47**		**Pn**	**06 53 11.6**	**+0.7**
UNV	**Unalaska Valle**	**2.33**	**51**		**Pn**	**06 53 10.9**	**0.0**
AKRB	**Akutan Reef Bi**	**2.71**	**50**		**Pn**	**06 53 18.3**	**+2.2**
KOFP	**Korovin Flat P**	**2.78**	**269**		**Pn**	**06 53 17.2**	**+0.1**
ATKA	**Atka Island**	**2.85**	**267**		**Pn**	**06 53 17.1**	**-0.9**
ATKA	**Atka Island**	**2.85**	**267**		**Sn**	**06 53 51.9**	**+1.0**
AKUT	**Akutan**	**2.85**	**52**	Pn	**Pn**	**06 53 20.1**	**+2.1**
GSTR	**Great Sitkin T**	**4.00**	**268**	Pn	**Pn**	**06 53 33.8**	**-0.1**
ADK	**Adak**	**4.41**	**266**		**Pn**	**06 53 40.0**	**+0.6**
KIWB	**Kanaga Island**	**4.70**	**266**	Pn	**Pn**	**06 53 45.4**	**+2.0**
AMKA	**Amchitka**	**6.97**	**266**		**Pn**	**06 54 15.2**	**+0.7**
KDAK	**Kodiak Island**	**11.10**	**54**	Pn	**Pn**	**06 55 10.5**	**-0.6**
	0.2nm,0.3s,baz=243,slow=6.8,SNR=1.7						
CCB	**Clear Creek Bu**	**16.58**	**34**	Pn	**P**	**06 56 23.6**	**-2.8**
CCB				IAmb	IAmb	06 56 36.5	
	comp=Z,1.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**06 57 01.1**	**+0.1**
PEA0B				IAmb	IAmb	06 57 15.1	
	comp=Z,8.4nm,1.1s						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**06 57 00.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=93,slow=12,SNR=8.6						
PETK	**Petropavlovsk-**	**19.73**	**285**	P	**P**	**06 57 00.4**	**-0.6**
PDAR	**Pinedale Array**	**40.51**	**79**	P	**P**	**07 00 10.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=299,slow=4.0,SNR=7.1						
PDAR	**Pinedale Array**	**40.51**	**79**	P	**P**	**07 00 10.2**	**0.0**
TXAR	**Lajitas Array**	**52.87**	**89**	P	**P**	**07 01 46.6**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=305,slow=5.3,SNR=6.5						

IDC 27 06:53:53.0±1.6, 52°.72N×169°.18W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/72, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=47.3km s-min=19.6km az=173.0
AEIC 27 06:53:55±2.3, 52°.22N±0°.05×169°.16W±0°.05, h16km±4km, ML3.2/16, mb4.1/14(NEIC), Error ellipse: s-maj=7.2km s-min=4.5km az=193.0
NEIC 27 06:53:57.5±2.6, 52°.31N±0°.07×169°.31W±0°.05, h41km±8km, Error ellipse: s-maj=9.9km s-min=4.8km az=181.0
ISC 27 06:53:56.4±0.8, 52°.29N±0°.10×169°.17W±0°.07, h33km, n39, σ1§27/42, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.71**	**16**	Pg	**Pn**	**06 54 10.0**	**-0.1**
OKSP	**Okmok Steeple**	**1.11**	**29**		**Pb**	**06 54 16.3**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.30**	**32**		**Pb**	**06 54 19.6**	**-0.6**
OKTU					**Sb**	**06 54 38.9**	**+2.4**
OKNC	**Okmok New Cone**	**1.33**	**28**		**Pb**	**06 54 20.6**	**-0.3**
MSW	**Makushin Switc**	**2.18**	**40**		**Pn**	**06 54 32.0**	**+1.7**
MNAT	**Makushin Natee**	**2.20**	**42**		**Pn**	**06 54 32.4**	**+1.9**
MNAT					**Sb**	**06 55 00.1**	**-2.1**
UNV	**Unalaska Valle**	**2.24**	**45**		**Pn**	**06 54 32.7**	**+1.6**
UNV					**Sb**	**06 55 01.4**	**-2.1**
AKUT	**Akutan**	**2.76**	**46**	Pn	**Pn**	**06 54 39.1**	**+0.9**
KOFP	**Korovin Flat P**	**3.02**	**272**		**Pn**	**06 54 42.7**	**+0.8**
ATKA	**Atka Island**	**3.09**	**270**		**Pn**	**06 54 41.3**	**-1.4**
ADK	**Adak**	**4.65**	**268**	Pn	**Pn**	**06 55 02.2**	**-2.0**
SPIA	**Saint Paul Isl**	**4.94**	**353**	Pn	**Pn**	**06 55 08.3**	**+0.1**
AMKA	**Amchitka**	**7.20**	**267**		**Pn**	**06 55 39.5**	**+0.3**
KDAK	**Kodiak Island**	**10.98**	**53**	Pn	**Pn**	**06 56 29.9**	**-1.1**
	0.2nm,0.3s,baz=256,slow=7.2,SNR=1.2						
KDAK				Sn	**Sn**	**06 58 28.9**	**-3.6**
	0.0nm,0.3s,baz=66,slow=16,SNR=1.4						
KDAK	**Kodiak Island**	**10.98**	**53**		**Pn**	**06 56 29.2**	**-1.8**
SEW	**Seward**	**13.44**	**47**	Pn	**Pn**	**06 57 05.0**	**+0.5**
RC01	**Rabbit Creek A**	**13.80**	**43**	Pn	**Pn**	**06 57 10.4**	**+1.0**
FID	**Port Fidalgo**	**15.05**	**47**	Pn	**Pn**	**06 57 24.9**	**-1.4**
BPAW	**Bear Paw Mtn.**	**15.16**	**32**		**Pn**	**06 57 29.2**	**+1.5**
BPAW				IAmb	IAmb	06 57 53.3	
	comp=Z,3.6nm,1.0s						
KLU	**Klutina**	**15.61**	**45**	Pn	**Pn**	**06 57 33.1**	**-0.6**
KLU				IAmb	IAmb	06 57 44.9	
	comp=Z,10nm,1.4s						
IMAR	**Indian Mountai**	**15.78**	**24**	Pn	**Pn**	**06 57 36.0**	**+0.2**
M24K	**Tolsona, Glenn**	**15.78**	**42**	Pn	**Pn**	**06 57 35.7**	**-0.2**
M24K				IAmb	IAmb	06 57 40.7	
	comp=Z,24nm,1.3s						
GLB	**Gilahina Butte**	**16.52**	**46**	Pn	**Pn**	**06 57 45.6**	**+0.3**
CCB	**Clear Creek Bu**	**16.57**	**33**	Pn	**Pn**	**06 57 46.0**	**+0.2**
ISLE	**Juniper Island**	**16.91**	**50**	Pn	**Pn**	**06 57 49.9**	**-0.3**
ISLE				IAmb	IAmb	06 57 51.2	
	comp=Z,26nm,0.6s						
EGAK	**Eagle**	**19.03**	**38**	P	**Pn**	**06 58 16.8**	**+0.6**
BMAR	**Burnt Mountain**	**19.35**	**29**	P	**Pn**	**06 58 20.1**	**+0.2**
A21K	**Barrow**	**19.92**	**12**	P	**Pn**	**06 58 26.0**	**-0.6**
PEA0B	**Petropavlovsk-**	**20.00**	**286**	P	**P**	**06 58 25.9**	**0.0**
PEA0B				IAmb	IAmb	06 58 53.3	
	comp=Z,11nm,1.1s						
PETK	**Petropavlovsk-**	**20.00**	**286**	P	**P**	**06 58 25.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=86,slow=13,SNR=7.2						
PETK	**Petropavlovsk-**	**20.00**	**286**	P	**P**	**06 58 26.1**	**+0.2**
EPYK	**Eagle Plains**	**21.40**	**36**	P	**P**	**06 58 41.7**	**+0.8**
EPYK				IAmb	IAmb	06 59 02.6	
	comp=Z,3.1nm,0.8s						
PAGB	**Antelope Grade**	**38.08**	**96**	P	**P**	**07 01 11.7**	**0.0**
PAGB				IAmb	IAmb	07 01 38.4	
	comp=Z,6.6nm,0.9s						
PDAR	**Pinedale Array**	**40.30**	**79**	P	**P**	**07 01 32.3**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=289,slow=2.8,SNR=2.6						
KSRS	**Korea Array**	**45.53**	**277**	P	**P**	**07 02 13.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=52,slow=8.9,SNR=4.6						
TXAR	**Lajitas Array**	**52.63**	**89**	P	**P**	**07 03 08.1**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=314,slow=5.3,SNR=3.7						
HFS	**Hagfors**	**67.91**	**358**	P	**P**	**07 04 50.9**	**-0.2**
	comp=Z,2.5nm,0.6s,baz=15,slow=6.0,SNR=7.6						
AKASG	**Malin Array Be**	**76.21**	**348**	P	**P**	**07 05 40.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=16,slow=5.8,SNR=5.7						
AKASG	**Malin Array Be**	**76.21**	**348**	IAmb	IAmb	07 06 01.0	
	comp=Z,2.0nm,1.5s						

IDC 27 06:57:45.4±1.1, 52°.29N×169°.43W, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.8/68, mbtmp3.9/17, ML3.3/2, MS4.6/1, Ms1 4.7/1, ms1mx3.8/54, Error ellipse: s-maj=31.2km s-min=16.9km az=172.0
AEIC 27 06:57:49±2.3, 52°.18N±0°.06×169°.33W±0°.06, h32km±6km, ML3.5/33, mb3.9/14(NEIC), Error ellipse: s-maj=9.5km s-min=4.4km az=161.0
NEIC 27 06:57:51.4±2.0, 52°.32N±0°.05×169°.42W±0°.08, h39km±4km, Error ellipse: s-maj=7.8km s-min=6.4km az=135.0
ISC 27 06:57:51.2±0.8, 52°.3N±0°.1×169°.41W±0°.06, h40km, n76, σ1§33/79, mb4.0/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.72**	**28**		**Pn**	**06 58 04.0**	**-0.9**
OKSP	**Okmok Steeple**	**1.14**	**36**		**Pn**	**06 58 10.8**	**0.0**
OKCE	**Okmok Cone E**	**1.33**	**34**		**Pn**	**06 58 14.2**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.34**	**38**		**Pn**	**06 58 13.2**	**-0.2**
OKNC	**Okmok New Cone**	**1.37**	**34**		**Pn**	**06 58 14.5**	**+0.7**
OKFG	**Magazine Ridge**	**1.41**	**40**		**Pn**	**06 58 14.0**	**-0.3**
MAPS	**Pakushin South**	**2.10**	**44**		**Pn**	**06 58 23.6**	**-0.2**
MSW	**Makushin Switc**	**2.24**	**44**		**Pn**	**06 58 25.9**	**+0.2**
MNAT	**Makushin Natee**	**2.26**	**46**		**Pn**	**06 58 26.6**	**+0.6**
MNAT					**Sn**	**06 58 55.0**	**+2.4**
UNV	**Unalaska Valle**	**2.31**	**48**		**Pn**	**06 58 26.8**	**0.0**
UNV					**Sn**	**06 58 56.7**	**+2.8**
MTBL	**Makushin Table**	**2.32**	**44**		**Pn**	**06 58 27.9**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.69**	**47**		**Pn**	**06 58 34.2**	**+2.3**
AKGG	**Akutan Green G**	**2.77**	**46**		**Pn**	**06 58 35.0**	**+2.0**
AKUT	**Akutan**	**2.83**	**49**	Pn	**Pn**	**06 58 33.0**	**-0.8**
KOSE	**Korovin Southe**	**2.85**	**272**		**Pn**	**06 58 34.8**	**+0.6**
KOFP	**Korovin Flat P**	**2.88**	**271**		**Pn**	**06 58 35.0**	**+0.5**
ATKA	**Atka Island**	**2.94**	**269**		**Pn**	**06 58 35.0**	**-0.4**
ATKA	**Atka Island**	**2.94**	**269**		**Sn**	**06 59 10.8**	**+1.4**
GSTR	**Great Sitkin T**	**4.10**	**269**		**Pn**	**06 58 51.1**	**-0.1**
GSMY	**Great Sitkin M**	**4.10**	**269**		**Pn**	**06 58 51.6**	**+0.3**
GSTD	**Great Sitkin T**	**4.16**	**269**		**Pn**	**06 58 52.1**	**0.0**
ADK	**Adak**	**4.51**	**267**		**Pn**	**06 58 57.0**	**+0.2**
ADK					**Sn**	**06 59 48.7**	**+0.7**
KIWB	**Kanaga Island**	**4.80**	**267**		**Pn**	**06 59 01.5**	**+0.6**
KIMD	**Kanaga Island**	**4.87**	**266**		**Pn**	**06 59 01.9**	**+0.2**
SPIA	**Saint Paul Isl**	**4.88**	**355**		**Pn**	**06 59 04.9**	**+3.0**
TAFP	**Tanaga Falls P**	**5.30**	**269**		**Pn**	**06 59 08.5**	**+0.7**
TASE	**Tanaga Southea**	**5.34**	**268**		**Pn**	**06 59 08.8**	**+0.4**
CNBA	**Chernabura Isl**	**6.36**	**63**	Pn	**Pn**	**06 59 23.1**	**+0.9**
AMKA	**Amchitka**	**7.06**	**267**		**Pn**	**06 59 32.5**	**+0.6**
OHAK	**Old Harbor**	**10.51**	**56**	Pn	**Pn**	**07 00 17.6**	**-1.4**
KDAK	**Kodiak Island**	**11.07**	**54**	Pn	**Pn**	**07 00 23.8**	**-2.9**
	0.2nm,0.3s,baz=351,slow=21,SNR=1.7						
KDAK	**Kodiak Island**	**11.07**	**54**	Pn	**Pn**	**07 00 26.4**	**-0.4**
GAMB	**Gambell**	**11.54**	**355**	Pn	**Pn**	**07 00 32.5**	**-0.6**
CNPM	**China Poot**	**12.45**	**48**	Pn	**Pn**	**07 00 45.4**	**-0.1**
SEW	**Seward**	**13.51**	**47**	Pn	**Pn**	**07 00 59.5**	**-0.5**
SUA	**Susitna One**	**13.64**	**41**	Pn	**Pn**	**07 01 01.2**	**-0.8**
RC01	**Rabbit Creek A**	**13.86**	**43**	Pn	**Pn**	**07 01 04.1**	**-0.7**
PWL	**Port Wells**	**14.35**	**45**	Pn	**Pn**	**07 01 10.2**	**-1.2**
FID	**Port Fidalgo**	**15.12**	**47**	Pn	**Pn**	**07 01 19.6**	**-2.2**
SCM	**Sheep Creek Mo**	**15.23**	**43**	Pn	**Pn**	**07 01 21.8**	**-1.4**
SCM				IAmb	IAmb	07 01 36.2	
	comp=Z,6.4nm,0.8s						
KLU	**Klutina**	**15.68**	**45**	Pn	**Pn**	**07 01 27.7**	**-1.3**
KLU				IAmb	IAmb	07 01 31.4	
	comp=Z,16nm,1.5s						
IMAR	**Indian Mountai**	**15.79**	**24**	Pn	**P**	**07 01 30.4**	**-3.3**
M24K	**Tolsona, Glenn**	**15.84**	**43**	Pn	**P**	**07 01 30.8**	**-3.6**
HMT	**Hamilton**	**15.99**	**50**	Pn	**Pn**	**07 01 32.1**	**-0.9**
N25K	**Chitina, Valde**	**16.30**	**46**	Pn	**Pn**	**07 01 35.7**	**-1.3**
N25K				IAmb	IAmb	07 01 57.4	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**16.59**	**47**	Pn	**Pn**	**07 01 37.4**	**-3.2**
GLB				IAmb	IAmb	07 01 56.5	
	comp=Z,12nm,1.3s						
CRQM	**Cirque**	**16.66**	**49**	Pn	**Pn**	**07 01 39.4**	**-2.1**
CRQM				IAmb	IAmb	07 01 44.6	
	comp=Z,22nm,1.4s						
MDM	**Murphy Dome**	**16.66**	**32**		**P**	**07 01 41.5**	**-1.8**
ILAR	**Eielson Array**	**16.99**	**34**	P	**P**	**07 01 44.8**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=238,slow=10,SNR=1.9						
ILAR				LR	LR	07 08 29.7	
	comp=Z,2μm,18.8s,baz=28,slow=38						
SCRK	**Sand Creek**	**17.62**	**39**		**P**	**07 01 53.1**	**-1.0**
L27K	**Beaver Creek,**	**18.07**	**43**		**P**	**07 01 59.5**	**+0.5**
BCAR	**Beaver Creek A**	**18.09**	**43**	P	**P**	**07 02 00.7**	**+1.5**
PETK	**Petropavlovsk-**	**19.85**	**285**	P	**Pn**	**07 02 18.1**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=90,slow=13,SNR=17						
PETK	**Petropavlovsk-**	**19.85**	**285**	P	**P**	**07 02 18.4**	**-1.8**
INK	**Inuvik**	**23.39**	**33**	P	**P**	**07 02 55.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=175,slow=9.3,SNR=3.1						
INK	**Inuvik**	**23.39**	**33**	P	**P**	**07 02 56.5**	**+0.7**
INK				IAmb	IAmb	07 02 58.1	
	comp=Z,1.9nm,0.9s						
YKA	**Yellowknife Ar**	**30.28**	**49**	P	**P**	**07 03 58.8**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=282,slow=14,SNR=4.7						
KLR	**Kul'dur**	**36.45**	**289**	P	**P**	**07 04 50.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=53,slow=8.6,SNR=5.2						
PDAR	**Pinedale Array**	**40.43**	**79**	P	**P**	**07 05 26.1**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=265,slow=5.4,SNR=4.2						
KSRS	**Korea Array**	**45.38**	**277**	P	**P**	**07 06 06.2**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=62,slow=8.4,SNR=4.5						
TX32	**Lajitas Array**	**52.77**	**89**	P	**P**	**07 07 03.2**	**+1.0**
TX32				IAmb	IAmb	07 07 25.1	
	comp=Z,1.5nm,1.1s						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**07 07 02.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=306,slow=5.6,SNR=6.6						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**07 07 02.3**	**+0.1**
ARCES	**ARCESS Array B**	**57.95**	**354**	P	**P**	**07 07 39.1**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=15,slow=7.5,SNR=2.4						
KURBB	**Kurchatov Arra**	**62.49**	**318**	P	**P**	**07 08 10.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=48,slow=6.9,SNR=5.3						
BVAR	**Borovoye Array**	**63.72**	**324**	P	**P**	**07 08 19.0**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=315,slow=57,SNR=2.2						
MK31	**Makanchi Array**	**63.81**	**313**	P	**P**	**07 08 20.3**	**+1.3**
MK31				IAmb	IAmb	07 08 26.0	
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**63.81**	**313**	P	**P**	**07 08 19.0**	**0.0**
FINES	**FINESS Array B**	**65.90**	**352**	P	**P**	**07 08 33.3**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=23,slow=7.5,SNR=3.8						
NOA	**NORSAR Array B**	**66.97**	**360**	P	**P**	**07 08 39.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=360,slow=6.3,SNR=2.2						
HFS	**Hagfors**	**67.86**	**358**	P	**P**	**07 08 45.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=36,slow=2.8,SNR=7.1						
ABKAR	**Akbulak array**	**70.45**	**328**	P	**P**	**07 09 01.1**	**+0.1**
KKAR	**Karatay Array**	**71.80**	**318**	P	**P**	**07 09 09.0**	**-0.3**
AKASG	**Malin Array Be**	**76.14**	**348**	P	**P**	**07 09 33.6**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=17,slow=6.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**76.60**	**283**	P

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LL1C                                   i                          06 59 22.5
     comp=Z,541nm,0.3s
GUY2C Guyana, Caldas      2.77 235 eP          Pn                 06 58 39.3 +1.0
GUY2C                                  eS          Sn            06 59 13.6 +0.3
GUY2C                                  i                          06 59 22.5
     comp=Z,168nm,0.3s
PTGC Puerto Gaitan,       2.79 160 eP          Pn                 06 58 37.8 -0.3
PTGC                                   eS          Sn            06 59 11.2 -1.9
PTGC                                   i                          06 59 13.7
     comp=Z,116nm,0.6s
CBOC Ciudad Bolivar       3.06 252 eP          Pn                 06 58 42.4 +0.8
CBOC                                   eS          Sn            06 59 19.4 +0.2
CBOC                                   i                          06 59 30.6
     comp=Z,47nm,0.6s
DBBC Dabeiba              3.10 274 eP          Pn                 06 58 42.1  0.0
DBBC                                   eS          Sn            06 59 19.3 -0.7
DBBC                                   i                          06 59 22.2
     comp=Z,258nm,0.5s
TOLC Tolima               3.15 225 eP          Pn                 06 58 44.5 +1.6
TOLC                                   eS          Sn            06 59 21.0 -0.5
TOLC                                   i                          06 59 29.6
     comp=Z,139nm,0.7s
SDV  Santo Domingo        3.18  50 eP          Pn                 06 58 43.7 +0.6
SDV                                    eS          Sn            06 59 21.5 -0.4
SDV                                    i                          06 59 23.6
     comp=Z,72nm,0.3s
MOTC Monteria, Cord       3.20 307 eP          Pn                 06 58 41.7 -1.5
MOTC                                   eS          Sn            06 59 20.3 -1.8
MOTC                                   i                          06 59 33.9
     comp=Z,82nm,0.6s
ARGC Ariguani, Magd       3.21 339 eP          Pn                 06 58 44.6 +1.2
ARGC                                   eS          Sn            06 59 23.3 +0.7
ARGC                                   i                          06 59 30.3
     comp=Z,113nm,0.4s
ANIL Santa Ana            3.27 225 eP          Pn                 06 58 46.1 +1.6
ANIL                                   eS          Sn            06 59 24.1 -0.2
ANIL                                   i                          06 59 38.1
     comp=Z,270nm,0.3s
ELOV Elorza               3.59  87 eP          Pn                 06 58 48.7 +0.5
ELOV                                   eS          Sn            06 59 30.2 -0.8
ORTC Ortega, Tolima       3.61 216 eP          Pn                 06 58 49.1 +0.6
ORTC                                   eS          Sn            06 59 31.5 -0.2
ORTC                                   i                          06 59 36.6
     comp=Z,88nm,0.4s
SJCC San Jacinto, C       3.67 326 eP          Pn                 06 58 48.3 -1.1
SJCC                                   eS          Sn            06 59 29.8 -3.4
SJCC                                   i                          06 59 34.0
     comp=Z,103nm,0.5s
PLMC San Jos del P        3.71 239 eP          Pn                 06 58 50.4 +0.5
PLMC                                   eS          Sn            06 59 34.4 +0.5
PLMC                                   i                          06 59 39.0
     comp=Z,61nm,0.5s
GUVC San Jose del G       4.29 174 eP          Pn                 06 58 57.7 +0.3
GUVC                                   eS          Sn            06 59 45.9 -1.5
GUVC                                   i                          06 59 52.4
     comp=Z,60nm,0.3s
YOTC Yotoco, Valle        4.30 229 eP          Pn                 06 58 57.5 -0.2
YOTC                                   eS          Sn            06 59 48.4 +0.5
YOTC                                   i                          06 59 57.9
     comp=Z,10nm,0.6s
SMRC Santa Marta, M       4.44 346 eP          Pn                 06 58 58.9 -0.4
SMRC                                   eS          Sn            06 59 47.7 -3.3
SMRC                                   i                          06 59 52.0
     comp=Z,32nm,0.3s
MACC Macarena, Meta       4.72 189 eP          Pn                 06 59 01.9 -1.1
MACC                                   eS          Sn            06 59 52.9 -4.7
MACC                                   i                          07 00 04.1
     comp=Z,23nm,0.3s
MARP Paez Belalcaza       4.89 216 eP          Pn                 06 59 06.0 +0.6
MARP                                   eS          Sn            07 00 01.6 -0.3
MARP                                   i                          07 00 06.9
     comp=Z,6.7nm,0.6s
GARC Garzon, Huila        5.20 207 eP          Pn                 06 59 08.9 -0.7
GARC                                   eS          Sn            07 00 07.5 -1.8
GARC                                   i                          07 00 11.2
     comp=Z,33nm,0.3s
POPC Popayan, Colom       5.56 220 eP          Pn                 06 59 04.5  -10
POPC                                   eS          Sn            07 00 06.9  -11
POPC                                   i                          07 00 13.9
     comp=Z,4.3nm,0.4s
TXAR Lajitas Array       36.47 312 P           P                  07 04 44.8 +1.5
     comp=Z,0.1nm,0.5s,baz=120,slow=11,SNR=3.9
WRA  Warramunga Arr     150.37 241 PKPbc       PKiKP              07 17 26.8 -0.7
     comp=Z,0.2nm,0.7s,baz=104,slow=2.7,SNR=1.3
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*IDC **27** 06:58:19.5±0.7, 41°.56N×45°.54E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/54, mbtmp4.0/11, ML3.2/2, Error ellipse: s-maj=12.2km s-min=8.4km az=100.0*
*NSSP **27** 06:58:22.0, 41°.50N×45°.55E, h8km, Ms4.0*
*DDA **27** 06:58:21.4, 41°.38N×45°.65E, h4km±4km, ML3.4*
*NORS **27** 06:58:21.8±0.0, 41°.35N×45°.73E, h9km, MPVA4.9*
*AZER **27** 06:58:21.9±0.2, 41°.39N×45°.81E, h6km±1km, ml3.9/32, Error ellipse: s-maj=1.6km s-min=0.8km az=315.0*
*ISK **27** 06:58:23.2, 41°.49N×45°.60E, h10km, ML3.7/7*
*MOS **27** 06:58:23.0±0.9, 41°.41N×45°.67E, h14km, mb4.2/2, Error ellipse: s-maj=5.1km s-min=3.8km az=108.1*
*DRS **27** 06:58:27.0±0.0, 41°.58N×45°.84E, h16km, ML3.7/6*
*TIF **27** 06:58:34.2, 41°.47N×45°.67E, h31km±1km*
ISC 27 06:58:21.9±0.9, 41°.47N±0°.01×45°.67E±0°.01, h12km±7km, n165, σ1.973/284, mb4.0/9, 8C-8D, Eastern Caucasus

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Code Station Name        Δ°   AZ°   Phase ID          Time      Res
                                    Op   ISC          h m  s    ISC
QZX  Qazax, Azerbai      0.47 208   P    Pb           06 58 33.2 +1.2
     SNR=340
QZX                                 S    Sb           06 58 40.4 +1.5
LGD  Lagodekhi           0.56  50   P    Pb           06 58 34.2 +0.5
LGD                                 S    Sb           06 58 42.9 +1.1
LGD  Lagodekhi           0.56  50   PG   Pb           06 58 34.2 +0.5
LGD                                 S    Sb           06 58 42.9 +1.1
BTNK Botanikuri          0.69 288   P    Pb           06 58 36.1 +0.3
BTNK                                S    Sb           06 58 46.1 +0.9
BTNK Botanikuri          0.69 288   iP   Pb           06 58 36.2 +0.4
BTNK                                iS   Sb           06 58 46.1 +0.9
BTNK Botanikuri          0.69 288   PG   Pb           06 58 36.1 +0.3
BTNK                                S    Sb           06 58 46.1 +0.9
SEAG Tbilisi Sea         0.71 295   P    Pb           06 58 36.9 +0.7
SEAG                                S    Sb           06 58 47.7 +1.7
SEAG Tbilisi Sea         0.71 295   PG   Pb           06 58 36.9 +0.7
SEAG                                S    Sb           06 58 47.7 +1.7
ZKTA Zakatala            0.74  76   PG   Pb           06 58 37.0 +0.3
ZKTA Zakatala            0.74  76   P    Pb           06 58 37.0 +0.3
     SNR=87
ZKTA                                S    Sb           06 58 47.9 +1.2
GDB  GEDABAY             0.75 175   P    Pb           06 58 37.1 +0.1
     SNR=515
GDB                                 S    Sb           06 58 47.8 +0.6
KZRT Kazreti             0.96 265   P    Pg           06 58 39.5 -0.9
KZRT                                S    Sg           06 58 53.0 +0.1
KZRT Kazreti             0.96 265   iP   Pg           06 58 40.0 -0.4
KZRT                                iS   Sg           06 58 52.8 -0.1
KZRT Kazreti             0.96 265   PG   Pg           06 58 39.5 -0.9
KZRT                                S    Sg           06 58 53.0 +0.1
GANJ Ganja               0.96 149   PG   Pg           06 58 40.2 -0.2
GANJ Ganja               0.96 149   P    Pg           06 58 40.2 -0.2
     SNR=182
GANJ                                S    Sb           06 58 53.8 +0.7
STEZ Stepenevan          1.06 244⇑  iP   Pg           06 58 40.5 -2.0
STEZ                                ⇓iS  Sg           06 58 53.4 -2.9
STE  Stepanavan          1.08 245⇓  iP   Pg           06 58 42.6 -0.2
STE                                 ⇓S   Sg           06 58 56.8 -0.1
DMNI Dmanisi             1.12 263   P    Sg           06 58 42.5 -1.0
DMNI                                S    Sg           06 58 57.7 -0.4
DMNI Dmanisi             1.12 263   PG   Pg           06 58 42.5 -1.0
DMNI                                S    Sg           06 58 57.7 -0.4
TRLG Trialeti            1.18 274   P    Pb           06 58 43.6 -0.7
TRLG                                S    Sg           06 58 59.3 -0.6
TRLG Trialeti            1.18 274   PG   Pb           06 58 43.6 -0.7
TRLG                                S    Sg           06 58 59.3 -0.6
SEKA Sheki               1.18 102   PG   Pb           06 58 44.3  0.0
SEKA Sheki               1.18 102   P    Pb           06 58 44.3  0.0
     SNR=112
SEKA                                S    Sn           06 59 02.1 +1.7
SPIZ Spitak              1.23 239⇓  iP   Pn           06 58 41.9 -3.2
SPIZ                                ⇓iS  Sb           06 58 56.7 -4.5
KMKR Kumukh              1.26  58   ePG  Pb           06 58 46.0 +0.3
KMKR                                eS   Sn           06 59 05.7 +3.3
KMKR                                pmax pmax
     comp=Z,7μm,0.2s
BTLR Botlikh             1.26  19   ePG  Pg           06 58 46.3 +0.1
BTLR                                eS   Sn           06 59 03.2 +0.8
BTLR Botlikh             1.26  19   ePg  Pg           06 58 46.5 +0.3
     comp=Z,541nm,0.3s
BTLR                                eSg  Sn           06 59 03.2 +0.8
     comp=Z,3μm,0.8s
MNGR Mingechevir, A      1.28 123   PG   Pg           06 58 46.8 +0.4
MNGR Mingechevir, A      1.28 123   P    Pg           06 58 46.8 +0.4
     SNR=33
MNGR                                S    Sn           06 59 04.8 +2.2
GUDG Gudauri             1.33 319   P    Pg           06 58 48.0 +0.5
GUDG                                S    Sn           06 59 06.9 +2.6
GUDG Gudauri             1.33 319   PG   Pg           06 58 48.0 +0.5
GUDG                                S    Sn           06 59 06.9 +2.6
GNBR Gunib               1.33  46   ePg  Pg           06 58 47.9 +0.3
     comp=Z,490nm,0.5s
GNBR                                iSg  Sg           06 59 05.8 +0.9
     comp=Z,3μm,0.3s
KAPZ Kaputan             1.36 213   iP   Pb           06 58 47.8 +0.3
KAPZ                                iS   Sg           06 59 06.0 +0.2
KAPZ Kaputan             1.36 213   iPG  Pb           06 58 47.7 +0.3
BRNG Burnasheti          1.39 277   P    Pn           06 58 47.9 +0.7
BRNG                                S    Sg           06 59 06.8 +0.1
PNSH Pansheti            1.40 326   P    Pb           06 58 48.4 +0.3
PNSH                                S    Sg           06 59 07.3 +0.2
PNSH Pansheti            1.40 326   PG   Pb           06 58 48.4 +0.3
PNSH                                S    Sg           06 59 07.3 +0.2
MTEO Meteo               1.48 325   P    Pb           06 58 49.6 +0.1
MTEO                                S    Sn           06 59 08.4 +0.3
GNI  Garni               1.49 208   Pg   Pg           06 58 50.4  -0.2
     comp=Z,504nm,0.3s,baz=334,slow=2.8,SNR=382
GNI                                 Lg   Lg           06 59 09.5
     comp=Z,392nm,0.3s,baz=254,slow=21,SNR=14
GNI  Garni               1.49 208   PN   Pg           06 58 50.5  -0.1
GNI                                 SN   Sg           06 59 10.5 +0.5
ARKR Arakani             1.50  41   ePG  Pb           06 58 50.3 +0.6
ARKR                                eS   Sg           06 59 10.8 +0.5
ARKR                                pmax pmax
     comp=Z,430nm,0.4s
ARKR Arakani             1.50  41   ePg  Pb           06 58 50.3 +0.6
     comp=Z,430nm,0.4s
ARKR                                iSg  Sg           06 59 10.8 +0.5
     comp=Z,1μm,0.6s
GMRZ Gyumri              1.54 245   eP   Pg           06 58 55.0 +3.6
GMRZ                                eS   Sg           06 59 16.0 +4.7
AKT  Akhty               1.55  89   ePG  Pb           06 58 50.6  0.0
AKT                                 eS   Sg           06 59 11.4 -0.4
AKT                                 pmax pmax
     comp=Z,261nm,0.2s
AKT  Akhty               1.55  89   ePg  Pb           06 58 50.6  0.0
     comp=Z,261nm,0.2s
AKT                                 iSg  Sg           06 59 11.5 -0.4
     comp=Z,1μm,0.7s
BGD  Bogdanovka          1.57 263   P    Pn           06 58 50.6 +0.8
BGD                                 S    Sb           06 59 11.5 +0.6
BGD  Bogdanovka          1.57 263   PG   Pn           06 58 50.6 +0.8
BGD                                 S    Sb           06 59 11.5 +0.6
URKR Urkarakh            1.63  64   ePN  Pb           06 58 52.5 +0.6
URKR                                eS   Sb           06 59 13.5 +1.1
URKR                                pmax pmax
     comp=Z,279nm,0.6s
URKR Urkarakh            1.63  64   ePg  Pb           06 58 52.5 +0.6
     comp=Z,279nm,0.6s
URKR                                iSg  Sb           06 59 13.5 +1.1
     comp=Z,689nm,0.7s
BKRG Bakuriani           1.63 281   P    Pb           06 58 51.9 -0.2
BKRG                                S    Sg           06 59 14.4 -0.1
BKRG Bakuriani           1.63 281   PN   Pb           06 58 51.9 -0.2
BKRG                                S    Sg           06 59 14.4 -0.1
AKH  Akhalkalaki         1.64 269   P    Pn           06 58 51.6 +1.0
AKH                                 S    Sn           06 59 12.7 +1.0
AKH  Akhalkalaki         1.64 269   PN   Pn           06 58 51.6 +1.0
AKH  Akhalkalaki         1.64 269   PN   Pb           06 58 51.9 -0.2
AKH                                 SN   Sb           06 59 12.9 +0.2
KRNR Karanay             1.64  34   ePN  Pb           06 58 52.8 +0.7
KRNR                                eS   Sg           06 59 14.5 -0.2
KRNR                                pmax pmax
     comp=Z,208nm,0.3s
KRNR Karanay             1.64  34   ePg  Pb           06 58 52.8 +0.7
     comp=Z,208nm,0.3s
KRNR                                iSg  Sg           06 59 14.6 -0.2
     comp=Z,291nm,0.5s
NRKZ NAREK               1.66 208   iP   Pg           06 58 54.4 +0.7
NRKZ                                iS   Sg           06 59 17.6 +2.4
BRDA Brd                 1.66 136   P    Pb           06 58 52.8 +0.4
     SNR=12
BRDA                                S    Sg           06 59 17.0 +1.6
ARUZ Aruch               1.68 226   iP   Pb           06 58 53.4 +0.5
ARUZ                                iS   Sg           06 59 15.8 -0.3
KMGR Komgaron            1.69 340   ePN  Pg           06 58 53.9 -0.5
KMGR                                eS   Sg           06 59 18.4 +2.0
LACR Lac                 1.70 324   ePN  Pb           06 58 53.3 +0.2
LACR                                eS   Sg           06 59 16.6 +0.1
QBL  Gabala              1.72 107   P    Pb           06 58 53.1 -0.3
     SNR=21
QBL                                 S    Sg           06 59 16.9 -0.3
BUJR Buynaksk            1.73  38   ePN  Pb           06 58 54.4 +0.9
BUJR                                eS   Sg           06 59 18.2 +0.8
BUJR                                pmax pmax
     comp=Z,430nm,0.5s
BUJR Buynaksk            1.73  38   ePg  Pb           06 58 54.5 +0.9
     comp=Z,430nm,0.5s
BUJR                                eSg  Sg           06 59 18.3 +0.8
     comp=Z,2μm,0.5s
GROC Groznyy             1.73   3   ePN  Pg           06 58 54.9 -0.3
GROC                                eS   Sg           06 59 20.3 +2.6
VLKR Vladikavkaz         1.74 335   ePN  Pg           06 58 55.2 -0.1
VLKR                                eS   Sg           06 59 20.3 +2.5
AGDM Agdam               1.75 141   P    Pn           06 58 53.3 +1.3
     SNR=47
AGDM                                S    Sg           06 59 18.0  0.0
DLMR Dylym               1.75  24   ePN  Pg           06 58 55.9 +0.4
DLMR                                eS   Sg           06 59 19.8 +1.5
DLMR Dylym               1.75  24   ePg  Pg           06 58 55.9 +0.4
DLMR                                eSg  Sg           06 59 19.8 +1.5
     comp=Z,4μm,0.5s
DBC  Dubki               1.77  29   ePN  Pb           06 58 54.8 +0.4
DBC                                 eS   Sg           06 59 19.6 +0.6
DBC  Dubki               1.77  29   ePg  Pb           06 58 54.8 +0.4
     comp=Z,174nm,0.3s
DBC                                 iSg  Sg           06 59 19.4 +0.5
     comp=Z,940nm,0.6s
SGKR Sergokala           1.79  56   ePN  Pb           06 58 54.6 +0.1
SGKR                                eS   Sg           06 59 19.2  -0.1
SGKR                                pmax pmax
     comp=Z,3.0nm,0.3s
SGKR Sergokala           1.79  56   ePg  Pb           06 58 54.6 +0.1
     comp=Z,3.0nm,0.3s
SGKR                                eSg  Sg           06 59 19.2  -0.1
     comp=Z,1μm,0.7s
TASB TASBURUN-IGDIR      1.84 217   PN   Pb           06 58 55.5  0.0
TASB                                SN   Sb           06 59 19.1 +0.7
KSMR Kasumkent           1.85  85   iPN  Pb           06 58 56.2 +0.5
KSMR                                eS   Sg           06 59 22.5 +1.1
KSMR                                pmax pmax
     comp=Z,246nm,0.3s
KSMR Kasumkent           1.85  85   iPg  Pb           06 58 56.3 +0.5
     comp=Z,246nm,0.3s
KSMR                                eSg  Sg           06 59 22.6 +1.1
HYR  Heyderabad          1.85 200   P    Pb           06 58 56.6 +0.9
     SNR=93
HYR                                 S    Sg           06 59 24.6 +3.0
ZEI  Tsey                1.86 316   ePN  Pb           06 58 56.5 +0.6
XNQ  Khinaliq            1.89  98   P    Pn           06 58 55.6 +1.5
     SNR=51
XNQ                                 S    Sg           06 59 21.9  -0.7
ZRD  Zardab              1.94 127   P    Pb           06 58 56.5  -0.6
     SNR=41
ZRD                                 S    Sg           06 59 23.9  -0.3
QSAR Qusar               1.95  88   P    Pb           06 58 57.4  0.0
     SNR=25
QSAR                                S    Sg           06 59 24.3  -0.3
VNNZ Vanand              1.96 226   iP   Pn           06 58 54.8  -0.1
VNNZ                                iS   Sn           06 59 18.2  -1.2
ARNR Ardon               1.99 330   ePN  Pb           06 58 59.2 +1.1
ARNR                                eS   Sg           06 59 27.5 +1.5
ONI  Oni                 1.99 305   P    Pn           06 58 56.8 +1.3
ONI                                 S    Sb           06 59 23.9 +1.0
ONI  Oni                 1.99 305⇓  iPN  Pb           06 58 58.4 +0.3
IGDI IGDIR               2.00 218   iP   Pb           06 58 57.6  -0.7
IGDI                                iS   Sb           06 59 24.9 +1.7
IGDI                                IAML              06 59 26.0
     comp=N,299nm,0.2s
KORR Kora                2.00 324   ePN  Pb           06 58 59.2 +0.9
IML  Ismayilli           2.02 109   P    Pn           06 58 57.3 +1.6
     SNR=11
IML                                 S    Sb           06 59 24.4 +0.8
MAK  Makhachkala         2.02  42   ePN  Pn           06 58 57.3 +1.6
MAK                                 pmax pmax
     comp=Z,189nm,0.3s
MAK                                 MLR  MLR
     comp=Z,675nm,2.0s
DIGO Kars                2.03 240   iP   Pb           06 58 59.1 +0.3
DIGO                                iS   Sb           06 59 25.8 +1.6
DIGO                                IAML              06 59 27.0
     comp=N,508nm,0.4s
SBZ  Shahbuz             2.07 182   P    Pb           06 58 60.0 +0.5
     SNR=185
SBZ                                 S    Sg           06 59 27.5  -1.0
BTKR Batakoyurt          2.08 337   ePN  Pg           06 59 01.0  -0.7
BTKR                                eS   Sg           06 59 30.6 +2.0
DIGR Digorskoe uzhe      2.11 313   ePN  Pb           06 59 00.1  -0.1
DIGR                                eS   Sg           06 59 28.4  -1.3
QUBA Quba, Azerbaij      2.13  92   P    Pb           06 58 60.0  -0.4
     SNR=9.5
QUBA                                S    Sb           06 59 27.8 +1.0
KARS Kars                2.13 248   PN   Pb           06 58 59.8  -0.7
ABS  Abastumani          2.16 279   P    Pn           06 58 59.6 +1.8
ABS                                 S    Sg           06 59 30.0  -1.3
ABS  Abastumani          2.16 279   PN   Pn           06 58 59.6 +1.8
ABS                                 S    Sg           06 59 30.0  -1.3
KANR Karaman             2.19  37   ePN  Pg           06 59 03.0  -0.9
KANR                                S    Sg           06 59 30.9  -1.4
KDMR Kurdemir            2.20 119   P    Pb           06 59 01.0  -0.6
     SNR=4.7
KDMR                                S    Sb           06 59 29.3 +0.6
STDR Stavd-Durt          2.24 329   ePN  Pb           06 59 03.5 +1.2
STDR                                eS   Sg           06 59 35.3 +1.4
BLQ  Beylaqan            2.26 140   P    Pb           06 59 02.0  -0.7
     SNR=6.4
BLQ                                 S    Sb           06 59 32.0 +1.3
LSNR Lesken              2.26 324   ePN  Pb           06 59 03.2 +0.5
LSNR                                eS   Sg           06 59 33.8  -0.9
NAX  Nakhchivan          2.30 183   PN   Pb           06 59 03.9 +0.6
NAX  Nakhchivan          2.30 183   P    Pb           06 59 03.9 +0.6
     SNR=34
NAX                                 S    Sg           06 59 35.0  -0.7
PQL  Pirkuli             2.31 106   P    Pb           06 59 02.7  -0.9
     SNR=8.8
PQL                                 S    Sb           06 59 33.9 +1.7
QRD  Qoradiz             2.37 147   P    Pb           06 59 03.8  -0.6
     SNR=8.3
QRD                                 S    Sb           06 59 35.5 +1.8
SIZA Siyzn               2.47  98   P    Pb           06 59 05.0  -1.2
     SNR=13
SIZA                                S    Sb           06 59 38.5 +1.9
NCK  Nalchik             2.54 324   ePN  Pb           06 59 06.6  -0.8
ATGJ Altiaghaj           2.54 103   P    Pb           06 59 06.0  -1.5
     SNR=14
ATGJ                                S    Sb           06 59 39.8 +1.0
ORD  Ordubad             2.55 174   P    Pb           06 59 07.2  -0.5
     SNR=47
ORD                                 S    Sb           06 59 41.4 +2.4
SAAT Saatly              2.64 127   S    Sb           06 59 40.1  -1.4
SENK Senkaya-Erzuru      2.67 251   PN   Pn           06 59 07.0 +2.1
CLDR Caldiran            2.68 210   PN   Pn           06 59 07.5 +2.4
AGRB Hanur-Agry          2.78 228   PN   Pn           06 59 08.8 +2.4
NEY  Neytrino            2.81 310d  iPN  Pb           06 59 13.4 +1.2
NEY                                 eS   Sb           06 59 49.1 +2.4
NEY                                 pmax pmax
     comp=Z,75nm,0.6s
DAGI Agillar             2.85 263   iP   Pb           06 59 13.2 +0.4
DAGI                                iS   Sb           06 59 50.8 +3.0
DAGI                                IAML              06 59 57.0
     comp=E,81nm,0.6s
CHVG Ch'k'valeri         2.94 296   P    Pb           06 59 12.8  -1.5
CHVG                                S    Sb           06 59 52.3 +2.1
CHVG Ch'k'valeri         2.94 296   PN   Pb           06 59 12.8  -1.5
CHVG                                S    Sb           06 59 52.3 +2.1
ALIB &Auml;li-Bayra      2.95 120   P    Pb           06 59 12.1  -2.3
     SNR=3.2
BATM Batumi              2.98 274   P    Pn           06 59 11.3 +2.3
BATM                                S    Sb           06 59 49.9  -1.5
BATM Batumi              2.98 274   iP   Pn           06 59 10.9 +1.9
BATM                                iS   Sb           06 59 49.9  -1.5
BATM Batumi              2.98 274   PN   Pn           06 59 11.3 +2.3
BATM                                S    Sb           06 59 49.9  -1.5
DBAD Bademkaya           3.03 263   iP   Pb           06 59 16.5 +0.8
DBAD                                iS   Sb           06 59 53.7 +1.0
DBAD                                IAML              06 59 56.0
     comp=E,129nm,0.6s
KBZ  Khabaz              3.05 319   Pg   Pb           06 59 14.4  -1.6
     comp=E,5.3nm,0.3s,baz=236,slow=7.7,SNR=36
KBZ                                 Lg   Lg           06 59 55.4
     comp=E,22nm,0.3s,baz=67,slow=12,SNR=9.3
KBZ  Khabaz              3.05 319   ePN  Pn           06 59 12.6 +2.8
GLBA Clilabad            3.05 136   P    Pn           06 59 11.8 +1.9
     SNR=3.4
GLBA                                S    Sb           06 59 51.1  -2.1
SHA1 Shidzhatmaz         3.17 317   ePN  Pn           06 59 13.1 +1.3
PYA1 Pyatigorsk          3.21 325   iPN  Pn           06 59 12.7 +0.6
YRD  Yardimli            3.22 141   P    Pn           06 59 14.1 +1.7
     SNR=7.8
YRD                                 S    Sn           06 59 54.1 +3.3
KOPR Koprukoy-ERZUR      3.25 244   PN   Pn           06 59 15.5 +2.7
KVAR Kislovodsk Arr      3.31 320   Pg   Pb           06 59 19.9  -0.7
     baz=284,slow=22,SNR=1.6
KVAR                                Lg   Lg           07 00 04.1
     baz=248,slow=19,SNR=4.1
VANB Van                 3.36 212   PN   Pn           06 59 18.2 +3.9
NDR  Nardaran            3.39 104   S    Sn           06 59 57.3 +2.7
LRK  Lerik               3.49 143   P    Pn           06 59 17.9 +1.8
     SNR=6.9
LRK                                 S    Sn           07 00 01.3 +3.9
LKRN Lenkeran, Azer      3.65 138   PN   Pn           06 59 20.7 +2.6
LKRN Lenkeran, Azer      3.65 138   P    Pn           06 59 20.7 +2.6
     SNR=3.0
LKRN                                S    Sb           07 00 06.4  -4.0
AKDM Akdamar-Van         3.76 214   PN   Pn           06 59 22.8 +3.0
ASTR Astara              3.77 139   P    Pn           06 59 21.9 +2.1
     SNR=4.3
ASTR                                S    Sn           07 00 09.2 +5.2
GOF  Gofitskoye          4.07 333⇑  ePN  Pb           06 59 29.4  -4.0
GOF                                 eS   Sb           07 00 20.9  -1.6
GOF                                 pmax pmax
     comp=Z,27nm,0.4s
GEYT Alibeck            10.22 106   Pn   Pn           07 00 45.1  -3.4
     comp=Z,1.1nm,0.3s,baz=117,slow=44,SNR=3.0
AKTO Aktyubinsk         12.40  40   Pn   Pn           07 01 15.8  -2.4
     comp=Z,1.1nm,0.3s,baz=210,slow=9.3,SNR=16
AKTO Aktyubinsk         12.40  40   ⇓Pn  Pn           07 01 14.5  -3.6
     comp=Z,2.6nm,0.6s
AKTO                                ⇑Sn  Sn           07 03 26.6  -10
     comp=Z,3.2nm,0.7s
AKTO Aktyubinsk         12.40  40   P    Pn           07 01 14.5  -3.6
AB31 Akbulak array      12.69  47   ⇑Pn  Pn           07 01 18.7  -3.4
     comp=Z,1.3nm,0.5s,baz=228,slow=12,SNR=47
AB31                                ⇑Sn  Sn           07 03 35.1  -8.1
     comp=Z,3.7nm,0.8s,baz=236,slow=22,SNR=9.6
AB31 Akbulak array      12.69  47   P    Pn           07 01 18.7  -3.4
ARU  Arti               17.15  25   P    Pn           07 02 18.9  -2.3
     comp=Z,0.0nm,0.3s,baz=16,SNR=4.6
ARU  Arti               17.15  25c  iP   Pn           07 02 21.6 +0.4
ARU                                 S    Sn           07 05 33.8 +2.1
ARU                                 pmax pmax
     comp=Z,3.0nm,0.6s
MNK  Minsk              17.59 324   iP   P            07 02 31.1 +3.5
MNK                                 iS   S            07 05 48.4  -1.5
MNK                                 pmax pmax
     comp=Z,5.0nm,0.7s
MNK                                 pmax pmax
     comp=E,4.0nm,0.9s
MNK                                 pmax pmax
     comp=N,26nm,0.9s
MNK                                 MLR  MLR
     comp=E,30nm,21.0s
MNK                                 MLR  MLR
     comp=N,952nm,19.0s
MNK                                 MLR  MLR
     comp=Z,772nm,20.0s
MNK  Minsk              17.59 324   iP   P            07 02 31.2 +3.6
     comp=E,4.0nm,0.9s
MNK                                 iP   P            07 02 31.2 +3.6
     comp=N,26nm,0.8s
MNK                                 iP   P            07 02 31.2 +3.6
     comp=Z,5.0nm,0.7s,baz=128
MNK                                 iPP  PnPn         07 02 41.5 +4.6
MNK                                 iPPP PPP          07 02 49.2
```

MNK				*i* S		**S**	**07 05 48.5**	**-1.4**
MNK				*i* SS		**SnSn**	**07 06 03.4**	**+7.8**
MNK				*i* SSS		SSS	07 06 16.1	
MNK				*i* LQ		LQ	07 07 44.2	
MNK				*i* LR		LR	07 09 04.6	
MNK				*i* LRM		MLR	07 10 37.7	
	comp=E,30nm,21.2s							
MNK				*i* LRM		MLR	07 10 46.1	
	comp=N,952nm,18.6s							
MNK				*i* LRM		MLR	07 10 55.5	
	comp=Z,772nm,20.4s							
SVE	**Sverdlovsk**	**18.16**	**27**	*e*P		**Pn**	**07 02 30.2**	**-3.4**
SVE				pmax		pmax		
	comp=Z,11nm,0.7s							
KLMR	**Klimovskoe**	**19.77**	**351**	*e*P		**P**	**07 02 49.5**	**-2.0**
KLMR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KLMR	**Klimovskoe**	**19.77**	**351**	*e*P		**P**	**07 02 49.6**	**-2.0**
KLMR				AMP			07 02 55.1	
	comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**20.22**	**47**	*c i*P		**P**	**07 02 55.9**	**-0.6**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
BVAR	**Borovoye Array**	**20.26**	**47**	P		**P**	**07 02 55.8**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=248,slow=20,SNR=8.9							
FINES	**FINESS Array B**	**23.25**	**336**	P		**P**	**07 03 27.6**	**-1.2**
	comp=Z,4.7nm,0.9s,baz=147,slow=11,SNR=9.0							
GERES	**GERESS Array B**	**23.59**	**299**	P		**P**	**07 03 32.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=104,slow=10,SNR=13							
KURBB	**Kurchatov Arra**	**24.41**	**57**	P		**P**	**07 03 39.7**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=268,slow=9.4,SNR=24							
KURK	**Kurchatov**	**24.48**	**57**	P		**P**	**07 03 39.7**	**-0.9**
MKAR	**Makanchi Array**	**26.65**	**66**	P		**P**	**07 03 58.7**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=282,slow=6.1,SNR=8.9							
HFS	**Hagfors**	**27.10**	**324**	P		**P**	**07 04 03.1**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=126,slow=11,SNR=5.0							
NOA	**NORSAR Array B**	**28.61**	**325**	P		**P**	**07 04 15.2**	**-2.6**
	comp=Z,0.7nm,0.8s,baz=123,slow=9.0,SNR=3.3							
ARCES	**ARCESS Array B**	**30.04**	**346**	P		**P**	**07 04 29.1**	**-1.2**
	comp=Z,3.6nm,0.9s,baz=150,slow=9.3,SNR=4.9							
SPITS	**Spitsbergen Ar**	**38.68**	**351**	P		**P**	**07 05 44.7**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=135,slow=9.5,SNR=14							
ULN	**Ulaanbaatar**	**43.11**	**60**	*e*P		**P**	**07 06 22.3**	**+0.4**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.9s							

*IDC **27** 06:59:12.9±1.4, 52°.54N×169°.37W, h0km, mb3.9/14, mb1 4.0/16, mb1mx3.8/67, mbtmp3.8/16, ML3.3/2, Error ellipse: s-maj=36.8km s-min=18.0km az=171.0*
*AEIC **27** 06:59:16±2.4, 52°.29N±0°.07×169°.19W±0°.06, h28km±5km, ML3.8/21, mb3.9/28(NEIC), Error ellipse: s-maj=9.9km s-min=5.7km az=178.0*
*NEIC **27** 06:59:17.9±1.9, 52°.33N±0°.07×169°.19W±0°.07, h43km±6km, Error ellipse: s-maj=10.2km s-min=6.1km az=175.0*
ISC 27 06:59:16.9±0.7, 52°.31N±0°.09×169°.11W±0°.06, h33km, n86, σ1§11/82, mb4.0/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.68**	**13**		**Pn**	**06 59 29.7**	**-0.5**
OKSP	**Okmok Steeple**	**1.07**	**28**		**Pn**	**06 59 35.4**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.25**	**31**		**Pn**	**06 59 38.6**	**+0.5**
OKCE	**Okmok Cone E**	**1.26**	**27**		**Pb**	**06 59 39.1**	**-1.0**
OKCE					**Sb**	**06 59 56.7**	**+0.8**
OKFG	**Magazine Ridge**	**1.32**	**33**		**Pn**	**06 59 39.5**	**+0.6**
MAPS	**Pakushin South**	**1.99**	**40**		**Pn**	**06 59 48.9**	**+0.7**
MAPS					**Sn**	**07 00 14.0**	**+2.0**
MSW	**Makushin Switc**	**2.13**	**40**		**Pn**	**06 59 51.5**	**+1.3**
MNAT	**Makushin Natee**	**2.15**	**42**		**Pn**	**06 59 51.9**	**+1.5**
MNAT					**Sb**	**07 00 18.9**	**-2.4**
UNV	**Unalaska Valle**	**2.20**	**45**		**Pn**	**06 59 51.9**	**+0.9**
UNV					**Sn**	**07 00 19.2**	**+2.2**
KOFP	**Korovin Flat P**	**3.06**	**271**		**Pn**	**07 00 03.7**	**+0.7**
ATKA	**Atka Island**	**3.13**	**270**		**Pn**	**07 00 04.2**	**+0.4**
GSTR	**Great Sitkin T**	**4.28**	**270**	Pn	**Pn**	**07 00 20.6**	**+0.9**
ADK	**Adak**	**4.69**	**268**	Pn	**Pn**	**07 00 24.8**	**-0.5**
SPIA	**Saint Paul Isl**	**4.92**	**353**		**Pn**	**07 00 30.5**	**+2.1**
KIWB	**Kanaga Island**	**4.98**	**268**	Pn	**Pn**	**07 00 31.1**	**+1.8**
CNBA	**Chernabura Isl**	**6.20**	**62**	Pn	**Pn**	**07 00 48.9**	**+2.8**
AMKA	**Amchitka**	**7.24**	**267**		**Pn**	**07 01 01.0**	**+0.7**
OHAK	**Old Harbor**	**10.37**	**55**	Pn	**Pn**	**07 01 43.6**	**+0.5**
KDAK	**Kodiak Island**	**10.94**	**53**	Pn	**Pn**	**07 01 50.3**	**-0.5**
	0.3nm,0.3s,baz=14,slow=21,SNR=1.1						
KDAK	**Kodiak Island**	**10.94**	**53**	Pn	**Pn**	**07 01 51.9**	**+1.0**
SVW2	**Sparrevohn**	**11.50**	**35**	Pn	**Pn**	**07 02 01.8**	**+3.3**
GAMB	**Gambell**	**11.58**	**354**	Pn	**Pn**	**07 02 02.0**	**+2.4**
CNPM	**China Poot**	**12.33**	**47**	Pn	**Pn**	**07 02 11.6**	**+1.7**
SEW	**Seward**	**13.40**	**47**	Pn	**Pn**	**07 02 25.1**	**+0.7**
RC01	**Rabbit Creek A**	**13.75**	**43**	Pn	**Pn**	**07 02 30.1**	**+0.8**
PWL	**Port Wells**	**14.23**	**45**	Pn	**Pn**	**07 02 35.2**	**-0.7**
GHO	**Glory Hole Cre**	**14.44**	**41**	Pn	**Pn**	**07 02 40.6**	**+1.8**
HIN	**Hinchinbrook I**	**14.85**	**48**	Pn	**Pn**	**07 02 44.0**	**-0.3**
FID	**Port Fidalgo**	**15.01**	**47**	Pn	**Pn**	**07 02 45.5**	**-0.8**
BPAW	**Bear Paw Mtn.**	**15.11**	**32**	Pn	**Pn**	**07 02 48.7**	**+1.0**
BPAW				IAmb	IAmb	07 03 07.3	
	comp=Z,5.7nm,0.8s						
SCM	**Sheep Creek Mo**	**15.13**	**42**	Pn	**Pn**	**07 02 48.0**	**0.0**
KLU	**Klutina**	**15.56**	**45**	Pn	**Pn**	**07 02 53.3**	**-0.4**
KLU				IAmb	IAmb	07 03 15.3	
	comp=Z,16nm,1.4s						
M24K	**Tolsona, Glenn**	**15.74**	**43**	Pn	**Pn**	**07 02 56.6**	**+0.7**
M24K				IAmb	IAmb	07 03 03.8	
	comp=Z,18nm,1.3s						
IMAR	**Indian Mountai**	**15.74**	**24**	Pn	**Pn**	**07 02 56.3**	**+0.5**
MLY	**Manley**	**15.84**	**29**	P	**P**	**07 02 59.0**	**-1.7**
MLY				IAmb	IAmb	07 03 06.6	
	comp=Z,4.4nm,0.8s						
N25K	**Chitina, Valde**	**16.19**	**45**	Pn	**Pn**	**07 03 01.1**	**-0.6**
N25K				IAmb	IAmb	07 03 03.6	
	comp=Z,11nm,1.4s						
I23K	**Minto, Yukon-K**	**16.34**	**30**	Pn	**Pn**	**07 03 03.8**	**+0.3**
GLB	**Gilahina Butte**	**16.47**	**46**	Pn	**Pn**	**07 03 04.8**	**-0.4**
GLB				IAmb	IAmb	07 03 22.0	
	comp=Z,14nm,1.5s						
CCB	**Clear Creek Bu**	**16.52**	**33**	Pn	**Pn**	**07 03 05.8**	**0.0**
VRDI	**Verde Repeater**	**16.55**	**47**	Pn	**Pn**	**07 03 06.5**	**+0.2**
VRDI				IAmb	IAmb	07 03 29.8	
	comp=Z,18nm,1.4s						
MDM	**Murphy Dome**	**16.58**	**32**	Pn	**Pn**	**07 03 06.1**	**-0.4**
ILAR	**Eielson Array**	**16.91**	**34**	Pn	**Pn**	**07 03 09.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=2.4						
SCRK	**Sand Creek**	**17.52**	**38**	P	**P**	**07 03 20.0**	**+0.7**
PRP	**Porcupine Dome**	**17.82**	**33**	P	**P**	**07 03 22.2**	**-0.4**
L27K	**Beaver Creek,**	**17.97**	**43**	P	**P**	**07 03 24.0**	**-0.1**
BCAR	**Beaver Creek A**	**17.98**	**43**	P	**P**	**07 03 24.0**	**-0.3**
EGAK	**Eagle**	**18.99**	**38**	P	**Pn**	**07 03 36.7**	**+0.5**
HYT	**Haines Junctio**	**19.21**	**51**	P	**Pn**	**07 03 39.9**	**+0.8**
HYT				IAmb	IAmb	07 03 44.1	
	comp=Z,13nm,1.4s						
BMAR	**Burnt Mountain**	**19.30**	**29**	P	**Pn**	**07 03 40.5**	**+0.6**
PEA0B	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**07 03 46.1**	**-0.7**
PETK	**Petropavlovsk-**	**20.03**	**286**	P	**P**	**07 03 45.4**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=87,slow=13,SNR=7.3						
BESE	**Bessie Mountai**	**20.25**	**58**	P	Pn	07 03 51.6	+0.4
EPYK	**Eagle Plains**	**21.35**	**36**	P	**P**	**07 04 00.7**	**-0.3**
EPYK				IAmb	IAmb	07 04 07.4	
	comp=Z,6.9nm,0.9s						
INK	**Inuvik**	**23.31**	**33**	P	**P**	**07 04 21.0**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=226,slow=7.4,SNR=3.6						
INK	**Inuvik**	**23.31**	**33**	P	**P**	**07 04 21.4**	**-0.1**
INK				IAmb	IAmb	07 04 43.4	
	comp=Z,1.8nm,0.7s						
YKA	**Yellowknife Ar**	**30.16**	**49**	P	**P**	**07 05 24.5**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=270,slow=7.4,SNR=4.8						
YKA	**Yellowknife Ar**	**30.16**	**49**	P	**P**	**07 05 23.7**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**37.51**	**219**	T	T	07 46 56.2	
	baz=24,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**37.51**	**219**	T	T	07 47 05.0	
	baz=24,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**37.53**	**219**	T	T	07 46 55.8	
	baz=24,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**38.69**	**218**	T	T	07 47 55.2	
	baz=23,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**38.71**	**218**	T	T	07 47 57.1	
	baz=23,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**38.71**	**218**	T	T	07 48 00.9	
	baz=23,slow=76						
PDAR	**Pinedale Array**	**40.26**	**79**	P	**P**	**07 06 52.2**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=2.8						
SZCU	**Shurtz Canyon**	**41.23**	**88**	P	**P**	**07 06 57.6**	**-1.1**
KSRS	**Korea Array**	**45.57**	**277**	P	**P**	**07 07 34.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=47,slow=11,SNR=4.7						
TX31	**Lajitas Ar. Si**	**52.59**	**89**	P	**P**	**07 08 26.5**	**-0.9**
TX32	**Lajitas Array**	**52.59**	**89**	P	**P**	**07 08 26.7**	**-0.7**
TX32				IAmb	IAmb	07 08 36.8	
	comp=Z,1.2nm,1.0s						
TXAR	**Lajitas Array**	**52.59**	**89**	P	**P**	**07 08 29.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=302,slow=5.1,SNR=3.6						
TXAR	**Lajitas Array**	**52.59**	**89**	P	**P**	**07 08 27.1**	**-0.2**
ARCES	**ARCESS Array B**	**58.00**	**354**	P	**P**	**07 09 04.7**	**-0.9**
	comp=Z,4.1nm,1.1s,baz=27,slow=8.3,SNR=1.3						
KURK	**Kurchatov**	**62.52**	**318**	P	**P**	**07 09 36.5**	**-0.3**
KURBB	**Kurchatov Arra**	**62.63**	**318**	P	**P**	**07 09 36.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=45,slow=7.5,SNR=6.2						
BVAR	**Borovoye Array**	**63.84**	**325**	P	**P**	**07 09 44.5**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=182,slow=13,SNR=5.5						
BRVK	**Borovoye**	**63.85**	**325**	P	**P**	**07 09 46.0**	**+0.3**
BRVK				IAmb	IAmb	07 09 51.0	
	comp=Z,1.6nm,0.8s						
FIA1	**FINESS Array S**	**65.95**	**352**	P	**P**	**07 09 58.7**	**-0.4**
FINES	**FINESS Array B**	**65.95**	**352**	P	**P**	**07 09 58.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=27,slow=9.0,SNR=5.5						
FINES	**FINESS Array B**	**65.95**	**352**	P	**P**	**07 09 58.5**	**-0.6**
NOA	**NORSAR Array B**	**67.00**	**360**	P	**P**	**07 10 05.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=346,slow=8.2,SNR=2.1						
HFS	**Hagfors**	**67.89**	**358**	P	**P**	**07 10 10.4**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=83,slow=4.5,SNR=1.4						
ABKAR	**Akbulak array**	**70.57**	**328**	P	**P**	**07 10 27.8**	**-0.4**
ABKAR				IAmb	IAmb	07 10 30.1	
	comp=Z,1.4nm,0.8s						
AKASG	**Malin Array Be**	**76.20**	**348**	P	**P**	**07 11 00.1**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=16,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**76.20**	**348**	IAmb	IAmb	07 11 18.7	
	comp=Z,1.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**07 11 05.5**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=36,slow=6.9,SNR=5.6						
GERES	**GERESS Array B**	**79.19**	**358**	P	**P**	**07 11 18.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=18,slow=3.4,SNR=3.6						
GERES	**GERESS Array B**	**79.19**	**358**	P	**P**	**07 11 17.4**	**-0.8**

*NEIC **27** 07:00:30.2±2.8, 41°.91N±0°.03×119°.56W±0°.03, h5km±2km, Error ellipse: s-maj=5.4km s-min=4.1km az=171.0*
*REN **27** 07:00:30.1±2.1, 41°.88N±0°.04×119°.62W±0°.01, h8km±6km, ML3.6/5, Md3.5/14(SEA), ML3.0/66(NEIC), Error ellipse: s-maj=5.0km s-min=1.4km az=174.0*
*SEA **27** 07:00:31.0±4.4, 41°.81N±0°.04×119°.62W±0°.06, h0km±1km, Error ellipse: s-maj=6.3km s-min=5.2km az=57.0*
*ANF **27** 07:00:30.0±1.0, 41°.87N×119°.61W, h9km±9km, ML3.5/18, Error ellipse: s-maj=3.9km s-min=2.6km az=99.0*
ISC 27 07:00:30.1±1.3, 41°.91N±0°.02×119°.61W±0°.03, h4km±12km, n89, σ1§50/104, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.52**	**269**	Pg	**Pg**	**07 00 40.3**	**+0.2**
MOD				Sg	**Sg**	**07 00 47.8**	**+0.9**
MOD				IAML		07 00 49.4	
	comp=N,2μm,0.8s						
LKVW	**Lakeview**	**0.64**	**300**		**Pg**	**07 00 42.7**	**+0.2**
LKVW					**Sg**	**07 00 52.0**	**+1.1**
WVOR	**Wild Horse Val**	**0.89**	**54**		**Pb**	**07 00 47.7**	**-0.6**
WVOR	**Wild Horse Val**	**0.89**	**54**		**Sb**	**07 01 00.6**	**0.0**
K05A	**Summer Lake**	**1.25**	**311**	Pn	**Pg**	**07 00 54.2**	**0.0**
K05A					**Sg**	**07 01 11.3**	**+0.8**
LASM	**Arnica Sink**	**1.51**	**259**		**Pn**	**07 00 57.2**	**-0.9**
HOG	**Hogback Mounta**	**1.60**	**283**		**Pn**	**07 00 58.8**	**-0.5**
J08A	**Circle Bar Ran**	**1.67**	**30**	Pn	**Pn**	**07 01 00.0**	**-0.3**
M04C	**Macdoel**	**1.67**	**266**	P	**Pn**	**07 00 59.4**	**-0.9**
	baz=86,SNR=127						
M04C				Sb	**Sb**	**07 01 23.7**	**+0.7**
	baz=86						
M04C	**Macdoel**	**1.67**	**266**		**Pn**	**07 00 59.4**	**-0.9**
K04D	**Chiloquin, OR**	**1.75**	**295**	P	**Pn**	**07 01 00.6**	**-0.7**
	baz=114,SNR=94						
K04D				Sb	**Sb**	**07 01 26.2**	**+1.1**
	baz=114						
J05D	**Fort Rock, OR**	**1.83**	**319**	Pb	**Pb**	**07 01 04.0**	**-0.1**
	baz=139,SNR=279						
J05D				Sb	**Sg**	**07 01 29.0**	**+0.2**
	baz=139						
J05D	**Fort Rock, OR**	**1.83**	**319**		**Pb**	**07 01 04.0**	**-0.1**
J05D					**Sg**	**07 01 30.0**	**+1.2**
BMRR	**Black Mountain**	**1.87**	**196**		**Pb**	**07 01 04.5**	**-0.5**
WVA	**Winnemucca Val**	**1.97**	**185**		**Pb**	**07 01 06.5**	**-0.2**
L04D	**Klamath Falls**	**2.03**	**280**	P	**Pn**	**07 01 04.1**	**-1.1**
	baz=99,SNR=76						
L04D				Sb	**Sb**	**07 01 34.4**	**+1.0**
	baz=99						
TMBU	**Tom Butte, New**	**2.04**	**327**		**Pb**	**07 01 07.2**	**-0.6**
PINE	**Pine Mountain**	**2.12**	**333**	Pn	**Pb**	**07 01 08.4**	**-0.8**
I07A	**Izee**	**2.17**	**2**	Pn	**Pb**	**07 01 10.3**	**+0.2**
I07A				IAML		07 01 40.7	
	comp=N,137nm,0.5s						
I07A				IAML		07 01 54.9	
	comp=E,105nm,0.7s						
J04D	**Umpqua Nationa**	**2.28**	**307**	P	**Pn**	**07 01 08.2**	**-0.5**
	baz=126,SNR=47						
J04D				Sb	**Sb**	**07 01 42.3**	**+1.8**
	baz=126						
J04D	**Umpqua Nationa**	**2.28**	**307**		**Pb**	**07 01 12.4**	**+0.5**
LOY	**Loyalton**	**2.30**	**192**		**Pb**	**07 01 12.6**	**+0.3**
O03E	**Paynes Creek**	**2.31**	**227**	P	**Pn**	**07 01 08.3**	**-0.8**
	baz=45,SNR=29						
O03E				Sb	**Sb**	**07 01 42.5**	**+1.1**
	baz=45						
PEAR	**Peavine Mounta**	**2.32**	**187**		**Pb**	**07 01 12.9**	**+0.3**
YBH	**Yreka Blue Hor**	**2.33**	**267**		**Pn**	**07 01 08.0**	**-1.3**
YBH				IAML		07 01 53.1	
	comp=N,54nm,1.4s						
KBF	**Kyburz Flat**	**2.44**	**191**		**Pb**	**07 01 15.0**	**+0.3**
M02C	**Callahan**	**2.49**	**259**	P	**Pn**	**07 01 10.3**	**-1.2**
	baz=78,SNR=11						
M02C				Sb	**Sb**	**07 01 47.5**	**+1.1**
	baz=78						
N02D	**Trinity Center**	**2.51**	**249**	Pb	**Pn**	**07 01 14.1**	**+2.3**
	baz=68,SNR=26						
N02D				Sb	**Sb**	**07 01 48.3**	**+1.3**
	baz=68						
IND	**Independence**	**2.53**	**192**		**Pb**	**07 01 16.8**	**+0.6**
WDC	**Whiskeytown Da**	**2.58**	**240**	Pn	**Pn**	**07 01 14.4**	**+1.8**
WDC				IAML		07 01 54.4	
	comp=E,47nm,0.9s						
HUMO	**Hull Mountain**	**2.58**	**287**	Pn	**Pn**	**07 01 12.0**	**-0.7**
HUMO				IAML		07 01 57.8	
	comp=E,92nm,1.1s						
HUMO				IAML		07 01 59.8	
	comp=N,113nm,1.5s						
VCNR	**Virginia City**	**2.61**	**181**	Pn	**Pb**	**07 01 18.1**	**+0.5**
VCNR				IAML		07 01 59.4	
	comp=N,92nm,0.9s						
VCNR				IAML		07 02 04.8	
	comp=E,99nm,0.9s						
MPK	**Martis Peak**	**2.63**	**187**		**Pb**	**07 01 18.8**	**+0.8**
I05D	**Terrebonne, OR**	**2.74**	**333**	Pb	**Pb**	**07 01 20.4**	**+0.7**
	baz=152,SNR=37						
I05D				Sb	**Sg**	**07 01 56.8**	**-1.3**
	baz=152						
ORV	**Oroville**	**2.76**	**212**	Pn	**Pn**	**07 01 12.4**	**-2.7**
I04A	**Tendick Farm,**	**2.79**	**313**	Sb	**Sb**	**07 01 58.0**	**+2.9**
	baz=132						
RUBR	**Rubicon Trail**	**2.88**	**189**	Pn	**Pn**	**07 01 14.5**	**-2.5**
RUBR				IAML		07 02 17.8	
	comp=E,38nm,1.9s						
RUBR				IAML		07 02 31.1	
	comp=N,44nm,1.4s						
YERR	**Yerington**	**2.94**	**174**	Pn	**Pn**	**07 01 17.4**	**-0.3**
YERR				IAML		07 02 12.7	
	comp=N,71nm,0.9s						
YERR				IAML		07 02 23.7	
	comp=E,52nm,1.5s						
O02D	**Mt. Diablo Mer**	**2.96**	**235**	Pb	**Pb**	**07 01 22.8**	**-0.8**
	baz=54,SNR=11						
O02D				Sb	**Sb**	**07 02 01.5**	**+1.4**
	baz=54						
L02E	**Cave Junction**	**2.99**	**276**	P	**Pn**	**07 01 17.5**	**-0.8**
	baz=94,SNR=20						
L02E				Sb	**Sb**	**07 02 01.8**	**+1.1**
	baz=94						
KVN	**Kaiserville**	**3.08**	**158**	Pn	**Pn**	**07 01 19.1**	**-0.6**
K02D	**Willamette Mer**	**3.11**	**286**	P	**Pn**	**07 01 19.9**	**-0.1**
	baz=104,SNR=61						
K02D				S	**Sn**	**07 01 56.7**	**-1.0**
	baz=104						
AFDM	**Forest Hills D**	**3.14**	**200**	Pn	**Pn**	**07 01 20.5**	**+0.1**
MFID	**Camas Ranch**	**3.17**	**60**	Pn	**Pn**	**07 01 21.1**	**+0.2**
KRMB	**Red Mountain**	**3.24**	**265**	Pn	**Pn**	**07 01 22.2**	**+0.3**
KRMB				IAML		07 02 19.5	
	comp=N,51nm,1.7s						
KRMB				IAML		07 02 43.2	
	comp=E,37nm,2.2s						
I03D	**Drain, OR**	**3.28**	**304**	Sb	**Sb**	**07 02 12.5**	**+3.3**
	baz=122						
H04A	**Detroit Lake**	**3.35**	**327**	Pn	**Pn**	**07 01 23.9**	**+0.6**
H04A				IAML		07 02 24.6	
	comp=E,26nm,1.7s						
H04A				IAML		07 02 27.6	
	comp=N,28nm,0.8s						
BUCK	**Buck Mountain**	**3.37**	**314**	Pn	**Pn**	**07 01 23.4**	**-0.2**
BUCK				IAML		07 02 32.2	
	comp=N,60nm,1.3s						
BUCK				IAML		07 02 38.6	
	comp=E,40nm,2.0s						
RYN	**Ryan**	**3.38**	**165**	Pn	**Pn**	**07 01 22.0**	**-1.8**
RYN				IAML		07 02 21.2	
	comp=N,30nm,1.0s						
RYN				IAML		07 02 26.7	
	comp=E,29nm,1.3s						
BMO	**Blue Mountains**	**3.39**	**29**	Pn	**Pn**	**07 01 23.1**	**-0.8**
BMO				IAML		07 02 20.2	
	comp=E,38nm,0.3s						
BMO				IAML		07 02 25.1	
	comp=E,42nm,0.5s						
G08A	**Pilot Rock**	**3.41**	**8**	Pn	**Pn**	**07 01 24.1**	**-0.1**
H04D	**Lebanon**	**3.47**	**320**	Sb	**Sb**	**07 02 18.1**	**+3.4**
	baz=138						
ELK	**Elko**	**3.49**	**108**	Pn	**Pn**	**07 01 24.3**	**-1.1**
ELK				IAML		07 02 23.2	
	comp=E,19nm,0.5s						
KMRM	**Mail Ridge**	**3.53**	**243**	Pn	**Pn**	**07 01 25.2**	**-0.6**
G05D	**Wamic, OR**	**3.56**	**340**	Sb	**Sg**	**07 02 21.3**	**-3.0**
	baz=159						
NVAR	**Mina Array Bea**	**3.62**	**164**	Pn	**Pn**	**07 01 27.5**	**+0.4**
NV11	**Mina Array Sit**	**3.65**	**162**	Pn	**Pn**	**07 01 26.7**	**-0.8**
CMB	**Columbia Colle**	**3.92**	**189**	Pn	**Pn**	**07 01 33.1**	**+2.1**
HLID	**Hailey**	**4.17**	**65**	Sb	**Sb**	**07 02 38.1**	**+3.3**
	baz=248						
HLID	**Hailey**	**4.17**	**65**	Pn	**Pn**	**07 01 35.2**	**+0.5**
HLID				IAML		07 02 54.6	
	comp=E,23nm,1.1s						
F05D	**White Salmon**	**4.19**	**342**	Sb	**Sg**	**07 02 40.4**	**-4.4**
	baz=161						
TPH	**Tonopah**	**4.25**	**154**	Pn	**Pn**	**07 01 34.7**	**-1.0**
TPH	**Tonopah**	**4.25**	**154**	IAML		07 02 48.0	
	comp=E,21nm,0.9s						
TPH				IAML		07 02 48.2	
	comp=N,22nm,0.8s						
F10A	**Beach Ranch, E**	**4.41**	**22**	Pn	**Pn**	**07 01 37.1**	**-0.8**
F10A				IAML		07 03 13.2	
	comp=E,18nm,1.3s						
F10A				IAML		07 03 15.8	
	comp=N,18nm,1.7s						
HAWA	**Hanford**	**4.48**	**1**	Pn	**Pn**	**07 01 38.7**	**-0.1**
HAWA				IAML		07 03 07.5	
	comp=N,11nm,0.7s						
R11A	**Troy Canyon, C**	**4.71**	**138**	Pn	**Pn**	**07 01 40.6**	**-1.5**
R11A				IAML		07 03 01.2	
	comp=N,14nm,0.7s						
R11A				IAML		07 03 01.6	
	comp=E,15nm,1.7s						
BGU	**Big Grassy Mou**	**5.04**	**99**	Pn	**Pn**	**07 01 46.6**	**-0.1**
LON	**Longmire**	**5.09**	**343**	Pn	**Pn**	**07 01 44.7**	**-2.5**
LON				IAML		07 02 35.3	
	comp=N,5.8nm,4.7s						
LON				IAML		07 03 22.4	
	comp=E,8.6nm,4.9s						
BCYI	**Bear Canyon**	**5.13**	**60**	Pn	**Pn**	**07 01 46.7**	**-1.2**
SPUT	**South Promonto**	**5.40**	**94**	Pn	**Pn**	**07 01 48.8**	**-2.8**
DUG	**Dugway, Tooele**	**5.41**	**106**	Pn	**Pn**	**07 01 53.3**	**+1.5**
PSUT	**Pine Spring**	**5.54**	**126**	Pn	**Pn**	**07 01 56.3**	**+2.7**
TPNV	**Topopah Spring**	**5.59**	**151**	Pn	**Pn**	**07 01 53.2**	**-1.1**
PRN	**Pahroc Range**	**5.71**	**140**	Pn	**Pn**	**07 01 56.0**	**+0.2**
MCMT	**McKenzie Canyo**	**5.72**	**57**	Pn	**Pn**	**07 01 56.9**	**+0.8**
HWUT	**Hardware Ranch**	**6.02**	**90**	Pn	**Pn**	**07 02 03.2**	**+3.1**
**

N25K IAmb IAmb 07 05 20.4
comp=Z,4.4nm,0.9s
WRH Wood River Hil 16.53 33 Pn **Pn 07 05 06.0 -0.9**
WRH IAmb IAmb 07 05 32.4
comp=Z,8.0nm,1.4s
GLB Gilahina Butte 16.68 46 Pn **Pn 07 05 08.4 -0.5**
CCB Clear Creek Bu 16.74 33 Pn Pn 07 05 09.7 +0.2
CRQM Cirque 16.74 49 Pn **Pn 07 05 08.4 -1.3**
CRQM IAmb IAmb 07 05 15.1
comp=Z,7.4nm,0.8s
VRDI Verde Repeater 16.76 47 Pn **Pn 07 05 09.3 -0.7**
VRDI IAmb IAmb 07 05 09.3
comp=Z,14nm,1.4s
MDM Murphy Dome 16.79 32 Pn 07 05 10.2 0.0
MDM IAmb IAmb 07 05 16.4
comp=Z,7.3nm,1.5s
MESA MESA 17.12 51 Pn **Pn 07 05 12.8 -1.7**
IL31 17.12 34 Pn 07 05 14.1 -0.2
ILAR Eielson Array 17.12 34 P **Pn 07 05 13.8 -0.6**
comp=Z,0.1nm,0.3s,baz=225,slow=12,SNR=2.4
ILAR Eielson Array 17.12 34 Pn 07 05 14.2 -0.2
RIDG Independent Ri 17.29 38 Pn 07 05 16.5 +0.1
BARN Barnard Glacie 17.52 49 P **Pn 07 05 20.2 +0.8**
BARN IAmb IAmb 07 05 29.9
comp=Z,16nm,1.4s
DOT Dot Lake 17.54 39 Pn 07 05 19.2 -0.4
SCRK Sand Creek 17.73 38 Pn 07 05 21.6 -0.5
PRP Porcupine Dome 18.03 33 Pn 07 05 25.5 -0.3
BCAR Beaver Creek A 18.19 42 P **P 07 05 27.8 +0.1**
EGAK Eagle 19.20 38 P **P 07 05 38.9 +0.3**
BMAR Burnt Mountain 19.52 29 P **P 07 05 42.5 +0.3**
DAWY Dawson 19.58 41 P **P 07 05 41.4 -1.4**
DAWY IAmb IAmb 07 06 00.8
comp=Z,5.8nm,1.5s
PEA0B Petropavlovsk- 19.97 286 P **P 07 05 46.4 -0.8**
PETK Petropavlovsk- 19.97 286 P **P 07 05 45.8 -1.3**
comp=Z,1.4nm,0.3s,baz=86,slow=14,SNR=16
PETK Petropavlovsk- 19.97 286 P **P 07 05 47.2 +0.1**
EPYK Eagle Plains 21.57 36 P **P 07 06 04.4 +0.1**
EPYK IAmb IAmb 07 06 13.0
comp=Z,7.6nm,1.2s
C36M Paulatuk 27.10 34 P **P 07 06 57.6 +0.4**
C36M IAmb IAmb 07 06 58.8
comp=Z,8.9nm,1.3s
YKA Yellowknife Ar 30.36 49 P **P 07 07 27.9 +1.6**
comp=Z,0.2nm,0.3s,baz=275,slow=7.9,SNR=4.5
KLR Kul'dur 36.59 290 P **P 07 08 20.0 -0.5**
comp=Z,0.9nm,0.4s,baz=60,slow=7.3,SNR=5.2
H11N2 WAKE ISLAND Hy 37.30 219 T T 07 48 22.5
H11N3 WAKE ISLAND Hy 37.30 219 T T 07 48 29.1
baz=25
H11N1 WAKE ISLAND Hy 37.31 219 T T 07 48 33.7
baz=128
H11S1 WAKE ISLAND Hy 38.48 218 T T 07 49 51.8
baz=24
H11S2 WAKE ISLAND Hy 38.50 218 T T 07 49 53.7
baz=24
H11S3 WAKE ISLAND Hy 38.50 218 T T 07 49 53.4
baz=24
PDAR Pinedale Array 40.40 79 P **P 07 08 53.7 +0.7**
comp=Z,0.3nm,0.4s,baz=211,slow=8.4,SNR=2.7
KSRS Korea Array 45.48 277 P **P 07 09 34.4 +0.5**
comp=Z,0.9nm,0.4s,baz=56,slow=8.3,SNR=5.1
X34A Smith Ranch, M 52.64 80 P **P 07 10 27.4 -1.3**
X34A IAmb IAmb 07 10 28.5
comp=Z,3.2nm,0.8s
TX31 Lajitas Ar. Si 52.70 89 P **P 07 10 28.4 -1.0**
TX32 Lajitas Array 52.70 89 P **P 07 10 28.5 -0.8**
TX32 IAmb IAmb 07 10 44.1
comp=Z,3.4nm,1.4s
TXAR Lajitas Array 52.70 89 P **P 07 10 31.1 +1.7**
comp=Z,0.2nm,0.6s,baz=318,slow=8.0,SNR=3.8
TXAR Lajitas Array 52.70 89 P **P 07 10 28.6 -0.8**
G45A Suttons Bay 52.86 62 P **P 07 10 28.4 -1.8**
ABTX Abilene, Hawle 52.89 83 P **P 07 10 28.8 -1.8**
ABTX IAmb IAmb 07 10 35.8
comp=Z,2.8nm,0.7s
ZAA0 Zalesovo Array 57.63 318 P **P 07 11 04.7 +0.3**
ZAA0 IAmb IAmb 07 11 13.8
comp=Z,2.2nm,1.0s
ARCES ARCESS Array B 58.17 354 P **P 07 11 07.9 -0.1**
comp=Z,2.8nm,0.8s,baz=355,slow=7.2,SNR=4.1
ARCES ARCESS Array B 58.17 354 P **P 07 11 08.9 +1.0**
KURBB Kurchatov Arra 62.69 318 P **P 07 11 39.1 0.0**
comp=Z,0.4nm,0.6s,baz=47,slow=7.3,SNR=5.0
BVAR Borovoye Array 63.93 325 P **P 07 11 45.5 -1.7**
comp=Z,0.7nm,0.4s,baz=60,slow=7.2,SNR=2.7
BRVK Borovoye 63.94 325 P **P 07 11 47.4 0.0**
MK31 Makanchi Array 64.01 314 P **P 07 11 45.4 -2.5**
MK31 IAmb IAmb 07 11 47.9
comp=Z,2.0nm,1.4s
MKAR Makanchi Array 64.01 314 P **P 07 11 48.2 +0.2**
comp=Z,0.3nm,0.4s,baz=62,slow=5.8,SNR=3.7
MKAR Makanchi Array 64.01 314 P **P 07 11 45.8 -2.1**
FINES FINESS Array B 66.11 352 P **P 07 12 02.0 +0.7**
comp=Z,2.0nm,1.0s,baz=7.7,slow=16,SNR=4.3
FINES FINESS Array B 66.11 352 P **P 07 11 59.3 -2.0**
NB2 NORSAR Subarra 67.18 360 P **P 07 12 09.4 +1.2**
comp=Z,0.5nm,0.6s,baz=2.9,slow=6.5
NOA NORSAR Array B 67.18 360 P **P 07 12 08.2 +0.1**
comp=Z,0.5nm,0.6s,baz=360,slow=6.4,SNR=3.7
HFS Hagfors 68.06 358 P **P 07 12 13.9 +0.2**
comp=Z,2.1nm,0.5s,baz=25,slow=4.9,SNR=8.9
ABKAR Akbulak array 70.67 328 P **P 07 12 31.1 +1.1**
ABKAR IAmb IAmb 07 12 32.9
comp=Z,1.1nm,0.8s
AKASG Malin Array Be 76.35 348 P **P 07 13 04.0 +0.6**
comp=Z,1.0nm,0.5s,baz=16,slow=5.6,SNR=3.3
CMAR Chiang Mai Arr 76.72 283 P **P 07 13 08.2 +2.3**
comp=Z,1.2nm,0.3s,baz=29,slow=6.2,SNR=1.4
ASAR Alice Springs 90.28 230 P **P 07 14 15.6 +0.4**
comp=Z,0.2nm,0.7s,baz=37,slow=6.4,SNR=2.2

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*SOME **27** 07:05:24.0, 40.22N×77.35E, h5km*
*KRNET **27** 07:05:25.7±0.1, 40.23N×77.64E, mb3.3*
*NNC **27** 07:05:27.4±1.6, 40.33N×77.51E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=11.0km s-min=8.6km az=167.0*
ISC 27 07:05:19.9±2.4, 40.06N±0.09×77.40E±0.04, h5km±16km, n54, σ1§28/85, 29C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.69**	**10**	⇑*iP*		**Pg**	**07 05 54.0 +1.6**
	baz=5.0						
TARG				⇑*iS*		**Sg**	**07 06 14.6 +0.2**
	baz=5.0						
KDJ	**Kajisay**	**2.07**	**356**	⇑*eP*		**Pg**	**07 06 01.4 +1.8**
	baz=50						
KDJ				⇑*iS*		**Sg**	**07 06 27.5 +1.0**
	baz=50						
ULHL	**Ulahol**	**2.35**	**339**	⇑*eP*		**Pg**	**07 06 06.5 +1.6**
	baz=33						
ULHL				⇑*iS*		**Sg**	**07 06 36.3 +0.9**
	baz=33						
PRZ	**Przheval'sk**	**2.53**	**17**	⇑*iP*		**Pb**	**07 06 07.5 +1.5**
	baz=14						
PRZ				⇑*eS*		**Sb**	**07 06 37.6 0.0**
	baz=14						
BOOM	**Boomskoye usch**	**2.66**	**336**	⇑*eP*		**Pg**	**07 06 11.2 +0.3**
	baz=31						
BOOM				⇑*iS*		**Sg**	**07 06 44.1 -1.3**
	baz=31						
ANVS	**Anan'yevo**	**2.73**	**4**	⇑*iP*		**Pb**	**07 06 10.7 +1.4**
	baz=0.0						
ANVS				⇑*iS*		**Sb**	**07 06 43.3 +0.2**
	baz=0.0						
ARLS	**Aral**	**2.94**	**309**	⇑*iP*		**Pg**	**07 06 16.3 0.0**
	baz=4.0						
ARLS				⇑*iS*		**Sg**	**07 06 53.5 -0.9**
	baz=4.0						
IZV	**Izvestkoviy**	**3.03**	**349**	*eP*		**Pg**	**07 06 18.1 +0.1**
	28nm,0.5s						
IZV				*eS*		**Sg**	**07 06 57.6 +0.4**
	75nm,0.6s						
IZV	**Izvestkoviy**	**3.03**	**349**	Pg		**Pg**	**07 06 18.5 +0.5**
	28nm,0.5s						
IZV				Lg		Lg	07 06 58.0
	69nm,0.5s						
SATY	**Saty**	**3.09**	**14**	*eP*		**Pg**	**07 06 19.4 +0.3**
	19nm,1.1s						
SATY				*eS*		**Sg**	**07 06 59.5 +0.4**
	49nm,0.5s						
SATY	**Saty**	**3.09**	**14**	Pg		**Pb**	**07 06 16.2 +0.7**
	19nm,1.1s						
SATY				Lg		Lg	07 06 54.8
	49nm,0.5s						
MDOK	**Medeo**	**3.11**	**355**	*eP*		**Pg**	**07 06 19.5 0.0**
	33nm,0.4s						
MDOK				*eS*		**Sg**	**07 06 59.8 0.0**
	65nm,0.6s						
MDOK	**Medeo**	**3.11**	**355**	Pn		**Pb**	**07 06 16.1 +0.3**
	22nm,0.5s						
MDOK				Lg		Lg	07 06 59.2
	86nm,0.7s						
MDOK	**Medeo**	**3.11**	**355**	Pg		**Pg**	**07 06 19.5 0.0**
	33nm,0.4s						
MDOK				Lg		Lg	07 06 59.8
	65nm,0.6s						
TKM2	**Tokmak 2**	**3.16**	**335**	⇑*iP*		**Pb**	**07 06 17.8 +1.1**
	baz=31						
TKM2				⇑*iS*		**Sb**	**07 06 56.0 +0.4**
	baz=31						
TKM2	**Tokmak 2**	**3.16**	**335**	⇓Pn		**Pb**	**07 06 18.3 +1.6**
	10nm,0.6s						
TKM2				⇓Lg		Lg	07 07 01.4
	43nm,0.8s						
KST	**Kastek**	**3.17**	**341**	*eP*		**Pg**	**07 06 20.9 +0.3**
	17nm,0.5s						
KST				*eS*		**Sg**	**07 07 02.1 +0.5**
	80nm,0.6s						
KST	**Kastek**	**3.17**	**341**	Pg		**Pg**	**07 06 20.5 -0.1**
	17nm,0.5s						
KST				Lg		Lg	07 07 02.1
	80nm,0.6s						
KNDC	**Almaty**	**3.17**	**354**	⇓Pg		**Pg**	**07 06 20.6 0.0**
	60nm,0.5s						
KNDC				⇓Lg		Lg	07 07 01.9
	228nm,0.5s						
KBK	**Karagaybulak**	**3.18**	**325**	⇑*iP*		**Pb**	**07 06 19.0 +2.0**
	baz=21						
KBK				⇑*iS*		**Sb**	**07 06 57.8 +1.6**
	baz=21						
UZB	**Uzynbulak**	**3.31**	**21**	*eP*		**Pg**	**07 06 22.5 -0.9**
	12nm,0.6s						
UZB				*eS*		**Sg**	**07 07 05.3 -1.1**
	17nm,0.6s						
UZB	**Uzynbulak**	**3.31**	**21**	Pg		**Pb**	**07 06 19.1 -0.3**
	12nm,0.6s						
UZB				Lg		Lg	07 06 59.9
	17nm,0.6s						
AAK	**Ala-Archa**	**3.38**	**321**	⇑*eP*		**Pb**	**07 06 21.9 +1.5**
	baz=16						
AAK				⇑*iS*		**Sb**	**07 07 02.7 +0.9**
	baz=16						
AAK	**Ala-Archa**	**3.38**	**321**	⇑Pg		**Pg**	**07 06 24.8 +0.2**
	8.2nm,0.5s						
AAK				⇑Lg		Lg	07 07 09.7
	31nm,0.6s						
DGS	**Degeres**	**3.40**	**340**	*eP*		**Pg**	**07 06 24.9 -0.2**
	16nm,0.6s						
DGS				*eS*		**Sg**	**07 07 09.2 0.0**
	58nm,0.6s						
DGS	**Degeres**	**3.40**	**340**	Pg		**Pg**	**07 06 24.9 -0.2**
	16nm,0.6s						
DGS				Lg		Lg	07 07 09.2
	58nm,0.6s						
SHLS	**Shalkode**	**3.46**	**26**	*eP*		**Pg**	**07 06 27.6 +1.4**
	13nm,0.7s						
SHLS				*eS*		**Sg**	**07 07 14.1 +3.1**
	44nm,0.5s						
SHLS	**Shalkode**	**3.46**	**26**	Pg		**Pb**	**07 06 23.1 +1.3**
	9.9nm,0.5s						
SHLS				Lg		Lg	07 07 06.4
	44nm,0.5s						
AML	**Almayashu**	**3.48**	**308**	⇑*eP*		**Pb**	**07 06 23.9 +1.7**
	baz=4.0						
AML				⇑*iS*		**Sb**	**07 07 06.7 +1.7**
	baz=4.0						
KPKS	**Kokpek**	**3.54**	**15**	*eP*		**Pg**	**07 06 26.4 -1.2**
	25nm,0.5s						
KPKS				*eS*		**Sg**	**07 07 11.6 -1.9**
	54nm,0.5s						
CHMS	**Chumysh**	**3.54**	**327**	⇑*iP*		**Pb**	**07 06 23.7 +0.6**
	baz=23						
CHMS				⇑*iS*		**Sb**	**07 07 06.0 -0.5**
	baz=23						
PDGK	**Podgornoye**	**3.62**	**25**	Pg		**Pb**	**07 06 26.6 +2.1**
	5.7nm,0.5s						
PDGK				Lg		Lg	07 07 12.6
	18nm,0.8s						
PDGK	**Podgornoye**	**3.62**	**25**	⇑Pn		**Pb**	**07 06 23.0 -1.5**
	18nm,1.1s						
PDGK				⇓Lg		Lg	07 07 13.3
	69nm,1.0s						
KTBS	**Karatobe**	**3.69**	**352**	*eP*		**Pg**	**07 06 29.6 -0.9**
	9.9nm,0.6s						
KTBS				*eS*		**Sg**	**07 07 17.2 -1.0**
	35nm,0.8s						
KTBS	**Karatobe**	**3.69**	**352**	Pg		**Pg**	**07 06 29.6 -0.9**
	9.9nm,0.6s						
KTBS				Lg		Lg	07 07 17.2
	35nm,0.8s						
EKS2	**Erkin-Say**	**3.76**	**315**	⇓*eP*		**Pb**	**07 06 27.6 +0.7**
	baz=11						
EKS2				⇓*iS*		**Sb**	**07 07 12.6 -0.3**
	baz=11						
CHKK	**Chushkaly**	**3.80**	**356**	*eP*		**Pg**	**07 06 31.7 -1.1**
	13nm,0.5s						
CHKK				*eS*		**Sg**	**07 07 20.5 -1.5**
	34nm,0.4s						
CHKK	**Chushkaly**	**3.80**	**356**	Pg		**Pg**	**07 06 31.7 -1.1**
	13nm,0.5s						
CHKK				Lg		Lg	07 07 20.5
	34nm,0.4s						
KRBS	**Karabastau**	**3.85**	**341**	*eP*		**Pg**	**07 06 32.7 -1.0**
	14nm,0.6s						
KRBS				*eS*		**Sg**	**07 07 22.2 -1.4**
	13nm,0.4s						
KRBS	**Karabastau**	**3.85**	**341**	Pg		**Pg**	**07 06 32.7 -1.0**
	14nm,0.6s						
KRBS				Lg		Lg	07 07 22.2
	13nm,0.4s						
USP	**Ospenovka**	**3.87**	**327**	⇑*eP*		**Pb**	**07 06 28.1 -0.6**
	baz=23						
USP				⇑*iS*		**Sb**	**07 07 13.9 -1.9**
	baz=23						
SGDS	**Sogindy**	**3.97**	**329**	Pg		**Pg**	**07 06 34.9 -1.0**
	8.0nm,0.6s						
SGDS				Lg		Lg	07 07 27.7
	24nm,0.7s						
MRKS	**Merke**	**4.12**	**312**	*eP*		**Pg**	**07 06 39.2 +0.2**
	6.1nm,0.4s						
MRKS				*eS*		**Sg**	**07 07 33.7 +1.3**
	17nm,0.5s						
MRKS	**Merke**	**4.12**	**312**	Pg		**Pg**	**07 06 39.2 +0.2**
	6.1nm,0.4s						
MRKS				Lg		Lg	07 07 33.7
	17nm,0.5s						
ARXS	**Arharly**	**4.16**	**4**	*eP*		**Pg**	**07 06 38.4 -1.3**
	14nm,0.5s						
ARXS				*eS*		**Sg**	**07 07 32.0 -1.5**
	32nm,0.7s						
ARXS	**Arharly**	**4.16**	**4**	Pg		**Pg**	**07 06 38.4 -1.3**
ARXS				Lg		Lg	07 07 32.0
MNAS	**Manas**	**4.41**	**305**	⇓*iP*		**Pb**	**07 06 36.8 -1.2**
	baz=2.0						
MNAS				⇓*iS*		**Sb**	**07 07 29.8 -1.8**
	baz=2.0						
DJR	**Jarkent**	**4.62**	**22**	*eP*		**Pg**	**07 06 45.9 -2.6**
	0.5nm,0.6s						
DJR				*eS*		**Sg**	**07 07 45.1 -3.3**
	2.1nm,0.6s						
DJR	**Jarkent**	**4.62**	**22**	Pg		**Pg**	**07 06 45.9 -2.6**
	0.5nm,0.6s						
DJR				Lg		Lg	07 07 45.1
	2.1nm,0.6s						
KAPS	**Kapalarasan**	**5.42**	**15**	*eP*		**Pg**	**07 07 03.5 -0.1**
	0.5nm,0.7s						
KAPS				*eS*		**Sg**	**07 08 15.6 +1.8**
	0.8nm,0.5s						
KAPS	**Kapalarasan**	**5.42**	**15**	Pg		**Pg**	**07 07 03.5 -0.1**
	0.5nm,0.7s						
KAPS				Lg		Lg	07 08 15.6
	0.8nm,0.5s						
BTLS	**Baital**	**5.56**	**335**	*eP*		**Pg**	**07 07 04.5 -1.8**
	7.4nm,0.7s						
BTLS				*eS*		**Sg**	**07 08 17.2 -1.0**
	4.4nm,0.6s						
BTLS	**Baital**	**5.56**	**335**	Pg		**Pg**	**07 07 03.9 -2.4**
	7.4nm,0.7s						
BTLS				Lg		Lg	07 08 15.7
	4.4nm,0.6s						
KK31	**Karatay Array**	**5.99**	**303**	⇓Pg		**Pg**	**07 07 13.6 -1.1**
	0.8nm,0.5s,baz=121,slow=15,SNR=4.7						
KK31				⇓Lg		Lg	07 08 31.9
	7.2nm,0.9s,baz=116,slow=30,SNR=5.2						

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*IDC **27** 07:11:01.1±1.9, 52.27N×169.41W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/35, mbtmp3.6/10, ML3.1/2, Error ellipse: s-maj=48.7km s-min=22.0km az=6.0*
*NEIC **27** 07:11:06.8±1.8, 52.27N±0.05×169.37W±0.06, h38km±10km, Error ellipse: s-maj=8.6km s-min=3.9km az=213.0*
*AEIC **27** 07:11:06±2.0, 52.26N±0.06×169.33W±0.08, h37km±7km, ML3.0/25, mb3.6/14(NEIC), Error ellipse: s-maj=8.9km s-min=6.7km az=184.0*
ISC 27 07:11:06.0±0.9, 52.2N±0.1×169.28W±0.07, h35km, n62, σ1§39/60, mb3.7/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.81**	**18**		**Pn**	**07 11 20.3 -0.7**
OKSP	**Okmok Steeple**	**1.21**	**29**		**Pn**	**07 11 26.4 -0.1**
OKCE	**Okmok Cone E**	**1.40**	**28**		**Pn**	**07 11 29.7 +0.6**
OKTU	**Okmok Mt. Tuli**	**1.40**	**32**		**Pn**	**07 11 29.4 +0.3**
OKNC	**Okmok New Cone**	**1.44**	**29**		**Pn**	**07 11 30.6 +1.0**
MAPS	**Pakushin South**	**2.14**	**40**		**Pn**	**07 11 39.5 +0.3**
MAPS					**Sn**	**07 12 07.2 +2.6**
MSW	**Makushin Switc**	**2.28**	**40**		**Pn**	**07 11 42.3 +1.1**
MNAT	**Makushin Natee**	**2.30**	**42**		**Pn**	**07 11 42.0 +0.6**
MNAT					**Sn**	**07 12 10.5 +2.0**
UNV	**Unalaska Valle**	**2.35**	**44**		**Pn**	**07 11 42.8 +0.8**
UNV					**Sn**	**07 12 11.4 +1.8**
MTBL	**Makushin Table**	**2.37**	**40**		**Pn**	**07 11 43.6 +1.2**
AKRB	**Akutan Reef Bi**	**2.73**	**44**		**Pn**	**07 11 49.2 +1.9**
AKUT	**Akutan**	**2.86**	**46**		**Pn**	**07 11 49.9 +0.8**
KOFP	**Korovin Flat P**	**2.97**	**273**		**Pn**	**07 11 50.1 -0.5**
ATKA	**Atka Island**	**3.03**	**272**		**Pn**	**07 11 50.5 -0.8**
GSTR	**Great Sitkin T**	**4.18**	**271**	Pn	**Pn**	**07 12 07.5 +0.2**
GSTD	**Great Sitkin T**	**4.24**	**271**		**Pn**	**07 12 07.9 -0.2**
ADK	**Adak**	**4.58**	**269**		**Pn**	**07 12 12.9 +0.2**
KIWB	**Kanaga Island**	**4.88**	**269**	Pn	**Pn**	**07 12 17.0 +0.2**
SPIA	**Saint Paul Isl**	**5.02**	**354**		**Pn**	**07 12 21.2 +2.5**
TASE	**Tanaga Southea**	**5.42**	**270**		**Pn**	**07 12 26.6 +2.2**
AMKA	**Amchitka**	**7.13**	**268**	Pn	**Pn**	**07 12 48.5 +0.8**
KDAK	**Kodiak Island**	**11.09**	**53**	Pn	**Pn**	**07 13 41.8 0.0**
	0.3nm,0.3s,baz=230,slow=17,SNR=1.1						
KDAK				Sn	**Sn**	**07 15 37.7 -6.6**
	0.1nm,0.3s,baz=350,slow=6.3,SNR=1.6						
KDAK	**Kodiak Island**	**11.09**	**53**		**Pn**	**07 13 41.9 +0.1**
SVW2	**Sparrevohn**	**11.65**	**35**	Pn	**Pn**	**07 13 49.4 -0.2**
SEW	**Seward**	**13.55**	**46**	Pn	**Pn**	**07 14 15.1 -0.2**
O22K	**Cooper Landing**	**13.60**	**45**	Pn	**Pn**	**07 14 15.8 -0.3**
PWL	**Port Wells**	**14.39**	**45**	Pn	**Pn**	**07 14 25.3 -1.5**
HIN	**Hinchinbrook I**	**15.00**	**48**	Pn	**Pn**	**07 14 34.2 -1.0**
FID	**Port Fidalgo**	**15.16**	**47**	Pn	**Pn**	**07 14 34.7 -2.5**
M24K	**Tolsona, Glenn**	**15.89**	**42**	Pn	**Pn**	**07 14 45.6 -1.1**
BMRM	**Bremner River**	**16.09**	**47**	Pn	**Pn**	**07 14 48.3 -1.0**
BMRM				IAmb	IAmb	07 15 13.8
	comp=Z,15nm,1.3s						
I23K	**Minto, Yukon-K**	**16.49**	**30**	Pn	**Pn**	**07 14 51.8 -2.5**
GLB	**Gilahina Butte**	**16.62**	**46**	Pn	**Pn**	**07 14 55.2 -0.8**
GLB				IAmb	IAmb	07 14 56.3
	comp=Z,5.1nm,1.1s						
CCB	**Clear Creek Bu**	**16.67**	**33**	Pn	**Pn**	**07 14 55.2 -1.4**
IL31		**17.06**	**34**	Pn	**Pn**	**07 15 00.6 -0.8**
IL31				IAmb	IAmb	07 15 19.6
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**17.06**	**34**	P	**Pn**	**07 15 00.6 -0.9**
	comp=Z,0.0nm,0.3s,baz=234,slow=12,SNR=1.7						
ILAR	**Eielson Array**	**17.06**	**34**		**Pn**	**07 15 00.7 -0.8**
RIDG	**Independent Ri**	**17.22**	**38**		**Pn**	**07 15 03.4 -0.2**
RIDG				IAmb	IAmb	07 15 21.4
	comp=Z,3.3nm,1.2s						
SCRK	**Sand Creek**	**17.67**	**38**		**Pn**	**07 15 08.2 -1.0**
BCAR	**Beaver Creek A**	**18.14**	**42**		**Pn**	**07 15 14.3 -0.5**
K27K	**Chicken**	**18.44**	**40**	P	**Pn**	**07 15 18.9 +0.5**
K27K				IAmb	IAmb	07 15 24.4
	comp=Z,7.6nm,1.5s						
EGAK	**Eagle**	**19.14**	**38**	P	**P**	**07 15 26.7 +0.9**
EGAK				IAmb	IAmb	07 15 53.7
	comp=Z,4.3nm,1.4s						
BMAR	**Burnt Mountain**	**19.45**	**29**	P	**P**	**07 15 29.2 0.0**
PEA0B	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**07 15 34.9 +0.1**
PETK	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**07 15 34.8 -0.1**
	comp=Z,0.6nm,0.3s,baz=91,slow=12,SNR=5.8						
INK	**Inuvik**	**23.46**	**33**	P	**P**	**07 16 11.3 -0.4**
	comp=Z,1.9nm,0.6s,baz=238,slow=4.4,SNR=5.3						
INK	**Inuvik**	**23.46**	**33**	P	**P**	**07 16 11.7 -0.1**
INK				IAmb	IAmb	07 16 38.8
	comp=Z,2.5nm,1.1s						
YKA	**Yellowknife Ar**	**30.31**	**49**	P	**P**	**07 17 14.7 +1.1**
	comp=Z,0.2nm,0.3s,baz=339,slow=6.8,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**37.36**	**219**	T	T	07 58 14.1
	baz=25,slow=75						
H11N3	**WAKE ISLAND Hy**	**37.36**	**219**	T	T	07 58 08.0
	baz=25,slow=75						
H11N1	**WAKE ISLAND Hy**	**37.38**	**219**	T	T	07 58 10.4
	baz=25,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	07 59 39.1
	baz=23,slow=76,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**38.56**	**218**	T	T	07 59 40.1
	baz=23,slow=76,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**38.56**	**218**	T	T	07 59 36.3
	baz=23,slow=76,SNR=6.1						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**07 18 41.0 +0.5**
	comp=Z,0.2nm,0.4s,baz=311,slow=4.2,SNR=4.1						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**07 20 17.8 +0.8**
	comp=Z,0.1nm,0.4s,baz=298,slow=5.7,SNR=4.3						
ZALV	**Zalesovo Beam**	**57.59**	**318**	P	**P**	**07 20 50.5 -1.3**
	comp=Z,0.4nm,0.4s,baz=116,slow=9.8,SNR=1.8						
ARCES	**ARCESS Array B**	**58.10**	**354**	P	**P**	**07 20 55.2 0.0**
	comp=Z,1.0nm,0.7s,baz=32,slow=5.3,SNR=2.3						
MKAR	**Makanchi Array**	**63.96**	**313**	P	**P**	**07 21 34.7 -0.6**
	comp=Z,0.1nm,0.4s,baz=34,slow=4.5,SNR=1.8						
FINES	**FINESS Array B**	**66.05**	**352**	P	**P**	**07 21 48.5 0.0**
	comp=Z,3.2nm,1.1s,baz=335,slow=9.6,SNR=1.4						
ABKAR	**Akbulak array**	**70.61**	**328**	P	**P**	**07 22 17.5 +0.2**
ABKAR				IAmb	IAmb	07 22 43.5
	comp=Z,1.2nm,1.1s						
KKAR	**Karatay Array**	**71.95**	**318**	P	**P**	**07 22 25.5 -0.1**

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*IDC **27** 07:21:26.3±0.6, 52.35N×169.41W, h0km, mb4.5/39, mb1 4.6/41, mb1mx4.5/63, mbtmp4.5/41, ML3.8/2, Error ellipse: s-maj=16.5km s-min=9.7km az=171.0*
*AEIC **27** 07:21:30±2.3, 52.25N±0.05×169.25W±0.06, h23km±4km, Error ellipse: s-maj=7.4km s-min=5.4km az=173.0*
*MOS **27** 07:21:30.1±1.1, 52.39N×169.38W, h33km, mb5.0/60, Error ellipse: s-maj=7.7km s-min=5.3km az=92.2*
*NEIC **27** 07:21:32.0±2.0, 52.33N±0.05×169.25W±0.06, h35km±1km, mb4.7/242, ML4.5/50(AEIC), Error ellipse: s-maj=8.5km s-min=6.3km az=173.0*
*ANF **27** 07:21:36.4±1.5, 52.57N×169.03W, h62km±8km, ML4.9/4, Error ellipse: s-maj=15.1km s-min=8.8km az=50.0*
ISC 27 07:21:30.3±1.0, 52.41N±0.07×169.22W±0.04, h26km±6km, n675, σ1§38/672, mb4.7/193, 7C-7D, Fox Islands

| Code | Station Name | Δ

MTBL	Makushin Table	2.19	43		Pb	07 22 07.6	-1.6
AKRB	Akutan Reef Bi	2.56	46		Pb	07 22 13.7	-1.8
AKMO	Akutan Morgan	2.56	48		Pn	07 22 12.7	+2.6
AKBBA	Akutan Broad B	2.60	48		Pb	07 22 15.2	-1.1
AKLV	Akutan Long Va	2.63	47		Pb	07 22 14.8	-2.0
AKGG	Akutan Green G	2.64	46		Pb	07 22 15.3	-1.6
AKUT	Akutan	2.70	49		Pb	07 22 15.5	-2.3
AKSA	Akutan Strait	2.73	49		Pb	07 22 16.2	-2.2
KOFP	Korovin Flat P	2.99	269		Pn	07 22 16.8	+0.7
KOKL	Mount Kliuchef	3.05	270		Pn	07 22 17.9	+0.9
ATKA	Atka Island	3.06	268	Pn	Pn	07 22 16.5	-0.5
ATKA	Atka Island	3.06	268		Sn	07 22 54.0	+1.2
GSTR	Great Sitkin T	4.21	268	Pn	Pn	07 22 32.1	-0.8
GSMY	Great Sitkin M	4.22	268		Pn	07 22 33.7	+0.7
FALS	False Pass	4.23	52	P	Pn	07 22 37.0	+4.0
baz=235							
FALS	False Pass	4.23	52		Pn	07 22 34.6	+1.5
GSTD	Great Sitkin T	4.27	268		Pn	07 22 34.9	+1.2
ADK	Adak	4.63	266	P	Pn	07 22 39.2	+0.7
ADK	Adak	4.63	266		Pn	07 22 39.2	+0.7
SPIA	Saint Paul Isl	4.81	353	P	Pn	07 22 44.2	+3.2
baz=173,SNR=11							
SPIA	Saint Paul Isl	4.81	353	Pn	Pn	07 22 42.5	+1.5
KIWB	Kanaga Island	4.92	267	Pn	Pn	07 22 43.6	+1.1
KIKV	Kanaga Island	4.93	267		Pn	07 22 44.3	+1.6
KIMD	Kanaga Island	4.99	266		Pn	07 22 44.5	+1.0
TAFP	Tanaga Falls P	5.42	268		Pn	07 22 51.1	+1.6
TASE	Tanaga Southea	5.46	267		Pn	07 22 51.8	+1.8
GAEA	Gareloi East	5.91	268		Pn	07 22 58.5	+2.4
GALAA	Gareloi Lava P	5.92	267		Pn	07 22 59.0	+2.7
SDPT	Sand Point	5.95	57	P	Pn	07 22 59.2	+2.5
baz=243							
SDPT				S	Sn	07 24 05.2	+1.4
baz=243							
SDPT	Sand Point	5.95	57	Pn	Pn	07 22 59.3	+2.7
CNBA	Chernabura Isl	6.22	63	Pn	Pn	07 23 02.7	+2.3
CHNA	Chernabura Isl	6.22	63	P	Pn	07 23 01.2	+0.8
baz=250							
CERAA	Semis' Rag'd T	6.85	270		Pn	07 23 11.0	+2.0
CESW	Semis' Southwe	6.92	270		Pn	07 23 11.8	+1.8
AMKA	Amchitka	7.18	266	Pn	Pn	07 23 14.4	+0.9
LSPA	Little Sitkin	7.52	271		Pn	07 23 20.9	+2.7
LSNW	Little Sitkin	7.55	271		Pn	07 23 21.3	+2.6
LSSA	Little Sitkin	7.56	271		Pn	07 23 21.6	+2.8
CHIR	Chirikof Islan	8.69	61	Pn	Pn	07 23 36.7	+2.5
SII	Sitkinak Islan	9.68	59	P	Pn	07 23 51.9	+4.1
baz=250							
SII	Sitkinak Islan	9.68	59	Pn	Pn	07 23 49.2	+1.4
SMY	Shemya	10.16	278	P	Pn	07 23 56.7	+2.3
SMY	Shemya	10.16	278	Pn	Pn	07 23 56.7	+2.3
OHAK	Old Harbor	10.37	56	P	Pn	07 23 58.1	+0.8
baz=248							
OHAK				S	Sn	07 25 50.4	-2.1
baz=248							
OHAK	Old Harbor	10.37	56	Pn	Pn	07 23 58.5	+1.3
O18K	Koktuh Hills	10.79	41	P	Pn	07 24 06.2	+3.3
baz=232,SNR=7.2							
KDAK	Kodiak Island	10.93	54	Pn	Pn	07 24 05.2	+0.3
1.0nm,0.3s,baz=244,slow=7.6,SNR=19							
KDAK				Sn	Sn	07 26 01.3	-4.9
0.1nm,0.3s,baz=188,slow=19,SNR=1.6							
KDAK	Kodiak Island	10.93	54	P	Pn	07 24 06.9	+2.0
KDAK	Kodiak Island	10.93	54	P	Pn	07 24 06.4	+1.5
baz=247							
KDAK				S	Sn	07 26 03.7	-2.5
baz=247							
KDAK	Kodiak Island	10.93	54		Pn	07 24 06.9	+2.0
N18K	Kilae Creek	11.06	36	P	Pn	07 24 08.2	+1.5
baz=227							
O19K	Port Alsworth	11.35	41	P	Pn	07 24 14.3	+3.7
baz=233							
SVW2	Sparrevohn	11.46	35	Pn	Pn	07 24 15.3	+3.2
GAMB	Gambell	11.47	354	P	Pn	07 24 16.2	+4.0
baz=172							
GAMB	Gambell	11.47	354	Pn	Pn	07 24 17.4	+5.2
N19K	Bonanza Creek	11.67	38	P	Pn	07 24 19.7	+4.6
baz=230							
O20K	Slope Mountain	11.98	44	P	Pn	07 24 21.5	+2.2
baz=237							
RSO	Redoubt South	12.14	42	Pn	Pn	07 24 24.0	+2.5
CNPM	China Poot	12.31	48	Pn	Pn	07 24 25.0	+1.3
ANM	Nome	12.35	8	P	Pn	07 24 27.3	+3.1
ANM	Nome	12.35	8	P	Pn	07 24 25.9	+1.7
baz=191							
ANM	Nome	12.35	8		Pn	07 24 27.3	+3.1
M19K	Big River Lodg	12.43	34	P	Pn	07 24 29.4	+4.1
baz=226,SNR=7.3							
L19K	White Mountain	12.46	33	P	Pn	07 24 29.8	+3.9
baz=224,SNR=19							
BRLK	Bradley Lake	12.58	47	Pn	Pn	07 24 31.4	+3.9
BRSE	Bradley Lake S	12.63	47	P	Pn	07 24 30.8	+2.6
baz=242							
M20K	Styx River	12.86	36	P	Pn	07 24 35.8	+4.5
baz=229							
TNA	Tin City	13.21	2	P	Pn	07 24 37.5	+1.6
baz=184							
SEW	Seward	13.38	47	P	Pn	07 24 40.5	+2.3
baz=243							
SEW	Seward	13.38	47		Pn	07 24 40.1	+1.8
O22K	Cooper Landing	13.43	45	P	Pn	07 24 40.8	+1.8
baz=241,SNR=7.2							
O22K	Cooper Landing	13.43	45	Pn	Pn	07 24 41.5	+2.5
SKT	Skwentna	13.51	38	P	Pn	07 24 39.7	-0.4
baz=232							
SKT	Skwentna	13.51	38	Pn	P	07 24 44.9	-4.2
SUA	Susitna One	13.51	41	P	Pn	07 24 41.9	+1.7
baz=236							
SUA	Susitna One	13.51	41	Pn	Pn	07 24 41.6	+1.4
K20K	Telida	13.56	30	P	Pn	07 24 44.8	+4.0
baz=223,SNR=7.8							
RC01	Rabbit Creek A	13.72	43	P	Pn	07 24 43.1	0.0
baz=239							
RC01	Rabbit Creek A	13.72	43	Pn	Pn	07 24 45.4	+2.4
PPLA	Purkeypile	13.85	34	P	Pn	07 24 46.8	+1.9
baz=228							
J20K	Nowinta River	14.15	28	P	Pn	07 24 50.3	+1.5
baz=220,SNR=17							
PWL	Port Wells	14.21	45	Pn	Pn	07 24 49.6	-0.1
PMR	Palmer	14.23	42	P	Pn	07 24 52.8	+2.9
PMR	Palmer	14.23	42	Pn	Pn	07 24 52.8	+2.9
GHO	Glory Hole Cre	14.41	42		Pn	07 24 53.9	+1.4
KNK	Knik Glacier	14.42	43	P	Pn	07 24 52.9	+0.3
baz=240							
CHUM	Lake Minchumin	14.49	31	P	Pn	07 24 55.0	+1.6
baz=225							
Q23K	Middleton Isla	14.57	52	Pn	P	07 24 58.4	-2.3
SML	Sawmill	14.67	42	P	Pn	07 24 57.2	+1.3
baz=239							
SML	Sawmill	14.67	42	Pn	Pn	07 24 58.9	+2.9
KTH	Kantishna Hill	14.72	34	Pn	Pn	07 24 59.0	+2.4
GLI	Glacier Island	14.77	46	Pn	Pn	07 24 58.1	+0.9
TRF	Thorofare Moun	14.87	35	P	Pn	07 25 01.5	+2.7
baz=230							
TRF	Thorofare Moun	14.87	35	Pn	P	07 25 01.9	-2.5
BPAW	Bear Paw Mtn.	15.06	32	P	Pn	07 25 03.2	+2.0
baz=227,SNR=27							
BPAW	Bear Paw Mtn.	15.06	32	Pn	Pn	07 25 03.6	+2.4
BPAW				IAmb	IAmb	07 25 09.1	
comp=Z,24nm,0.9s							
SCM	Sheep Creek Mo	15.10	43	P	Pn	07 25 01.5	-0.2
SCM				pmax	pmax		
comp=Z,94nm,1.4s							
SCM	Sheep Creek Mo	15.10	43	Pn	Pn	07 25 01.5	-0.2
SCM				IAmb	IAmb	07 25 23.1	
comp=Z,94nm,1.4s							
WAT1	Susitna Watana	15.13	38	P	Pn	07 25 02.8	+0.7
baz=236							
EYAK	Cordova Ski Ar	15.24	48	P	Pn	07 25 02.6	-0.9
baz=248							
EYAK	Cordova Ski Ar	15.24	48	Pn	Pn	07 25 03.5	0.0
WAT6	Susitna Watana	15.31	40	P	Pn	07 25 05.5	+0.9
baz=238							
RND	Reindeer	15.36	36	P	Pn	07 25 06.5	+1.4
RND				pmax	pmax		
comp=Z,14nm,1.0s							
RND	Reindeer	15.36	36		Pn	07 25 06.5	+1.4
MCK	McKinley	15.52	35	P	P	07 25 10.1	-1.2
MCK				pmax	pmax		
comp=Z,12nm,1.0s							
MCK	McKinley	15.52	35		P	07 25 10.1	-1.2
I21K	Tanana	15.53	28	P	Pn	07 25 08.5	+1.3
baz=222,SNR=18							
KLU	Klutina	15.54	45	P	Pn	07 25 07.1	-0.4
baz=244,SNR=14							
KLU	Klutina	15.54	45		Pn	07 25 07.0	-0.6
KLU				IAmb	IAmb	07 25 10.3	
comp=Z,24nm,0.6s							
BWN	Browne	15.62	33		P	07 25 11.1	-1.2
BWN				IAmb	IAmb	07 25 39.6	
comp=Z,45nm,1.1s							
IMAR	Indian Mountai	15.67	24	Pn	Pn	07 25 10.8	+1.7
M24K	Tolsona, Glenn	15.71	43	P	Pn	07 25 09.3	-0.4
baz=242							
M24K	Tolsona, Glenn	15.71	43		Pn	07 25 10.6	+0.9
M24K				IAmb	IAmb	07 25 27.9	
comp=Z,42nm,0.9s							
MLY	Manley	15.79	30	P	Pn	07 25 10.8	+0.2
baz=225,SNR=36							
MLY	Manley	15.79	30	P	P	07 25 14.0	-0.3
BMRM	Bremner River	15.92	48	P	Pn	07 25 13.1	+0.7
baz=248							
BMRM	Bremner River	15.92	48		Pn	07 25 14.2	+1.8
BMRM				IAmb	IAmb	07 25 22.3	
comp=Z,75nm,1.4s							
RDOG	Red Dog Mine	15.99	9	P	Pn	07 25 13.7	+0.5
baz=194							
RDOG	Red Dog Mine	15.99	9	Pn	Pn	07 25 13.4	+0.3
NEA2	Nenana	16.02	33	P	Pn	07 25 14.1	+0.5
baz=230							
NEA2	Nenana	16.02	33		Pn	07 25 14.4	+0.8
N25K	Chitina, Valde	16.17	46	P	Pn	07 25 15.5	-0.1
baz=246							
N25K	Chitina, Valde	16.17	46	Pn	Pn	07 25 16.5	+0.9
HARP	HAARP	16.27	43	P	Pn	07 25 18.1	+1.4
baz=243							
WRH	Wood River Hil	16.27	34		Pn	07 25 18.0	+1.2
I23K	Minto, Yukon-K	16.29	31	P	Pn	07 25 18.0	+1.0
baz=228,SNR=26							
I23K	Minto, Yukon-K	16.29	31		P	07 25 19.6	-0.2
GLB	Gilahina Butte	16.45	47		Pn	07 25 19.9	+0.7
CCB	Clear Creek Bu	16.48	34		Pn	07 25 19.6	+0.2
CRQM	Cirque	16.52	49		Pn	07 25 20.9	+0.7
CRQE	Cirque	16.54	49	P	Pn	07 25 20.2	-0.1
baz=251							
WAX	Waxell Ridge	16.56	51	IAmb	IAmb	07 25 32.4	
comp=Z,53nm,0.9s							
TCOL	CIGO, UAF Yank	16.60	33	P	P	07 25 22.5	-0.7
baz=231							
TCOL	CIGO, UAF Yank	16.60	33		Pn	07 25 22.1	+1.2
COLA	College	16.60	33	P	Pn	07 25 21.7	+0.7
COLA				pmax	pmax		
comp=Z,24nm,1.1s							
COLA	College	16.60	33	P	P	07 25 23.2	0.0
baz=231							
COLA	College	16.60	33		Pn	07 25 21.6	+0.7
HDA	Harding Lake	16.63	35	P	Pn	07 25 22.2	+0.9
baz=234							
HDA	Harding Lake	16.63	35		Pn	07 25 22.6	+1.2
TGL	Tana Glacier	16.66	50		Pn	07 25 22.1	+0.2
H23K	Yukon River	16.70	29	P	P	07 25 23.7	-0.7
baz=226							
MCARA	McCarthy VSAT	16.78	47	P	Pn	07 25 24.3	+1.0
baz=249							
MCARA	McCarthy VSAT	16.78	47		Pn	07 25 23.0	-0.3
MCARA				IAmb	IAmb	07 25 36.8	
comp=Z,39nm,0.9s							
ISLE	Juniper Island	16.84	50	Pn	Pn	07 25 23.5	-0.8
ISLE				IAmb	IAmb	07 25 37.7	
comp=Z,61nm,1.2s							
IL31		16.86	34		Pn	07 25 24.1	-0.2
ILAR	Eielson Array	16.86	34	Pn	Pn	07 25 24.2	-0.1
comp=Z,0.2nm,0.3s,baz=223,slow=12,SNR=18							
ILAR	Eielson Array	16.86	34	P	P	07 25 26.0	-0.2
ILAR	Eielson Array	16.86	34	Pn	P	07 25 26.0	-0.2
POKR	Poker Plat Res	16.89	33	P	P	07 25 25.8	-0.7
baz=231							
POKR	Poker Plat Res	16.89	33	Pn	P	07 25 25.9	-0.7
MESA	MESA	16.91	52	P	Pn	07 25 24.6	-0.6
baz=254							
MESA	MESA	16.91	52	P	P	07 25 26.6	-0.4
MESA				IAmb	IAmb	07 25 43.2	
comp=Z,81nm,1.0s							
RIDG	Independent Ri	17.04	39	P	Pn	07 25 26.6	+0.1
baz=239							
RIDG	Independent Ri	17.04	39	P	P	07 25 29.4	+1.2
YAH	Yahtse	17.06	51		P	07 25 28.4	-0.2
YAH				IAmb	IAmb	07 25 51.6	
comp=Z,68nm,1.1s							
MENT	Mentasta	17.10	42		P	07 25 28.6	-0.3
M26K	Nabesna, AK	17.18	44	P	P	07 25 29.6	-0.2
baz=246,SNR=8.9							
H24K	Noodor Dome	17.21	30	P	Pn	07 25 28.8	+0.1
baz=229,SNR=16							
L26K	Log Cabin Wild	17.29	42	P	P	07 25 31.6	+0.7
baz=244							
DOT	Dot Lake	17.30	40	P	P	07 25 31.5	+0.5
TABL	Table Mountain	17.37	51	IAmb	IAmb	07 26 04.7	
comp=Z,33nm,0.8s							
CTG	Chitna Glacier	17.42	50	P	P	07 25 32.6	+0.1
baz=253							
CTGM	Chitina Glacie	17.42	50	P	P	07 25 33.2	+0.7
SCRK	Sand Creek	17.48	39	P	Pn	07 25 29.5	-2.7
baz=240,SNR=10							
M27K	Edge Creek, AK	17.64	45	P	P	07 25 34.7	-0.2
baz=248,SNR=14							
PCA	Pinnacle	17.71	53	IAmb	IAmb	07 25 53.4	
comp=Z,36nm,0.8s							
PINM	Pinnacle	17.72	53	P	P	07 25 35.9	+0.2
baz=257							
PRP	Porcupine Dome	17.77	33	P	Pn	07 25 34.9	-0.8
baz=234							
PRP	Porcupine Dome	17.77	33		Pn	07 25 35.6	-0.1
L27K	Beaver Creek,	17.94	43	P	Pn	07 25 37.1	-0.6
baz=246							
L27K	Beaver Creek,	17.94	43	P	P	07 25 38.6	+0.6
BCAR	Beaver Creek A	17.96	43		P	07 25 38.9	+0.6
K27K	Chicken	18.25	40	P	P	07 25 40.7	-0.8
baz=243							
K27K	Chicken	18.25	40	P	Pn	07 25 41.8	+0.4
FYU	Fort Yukon	18.51	31	P	Pn	07 25 45.4	+0.9
TOLK	Toolik Lake Re	18.77	23	P	Pn	07 25 48.5	+0.8
baz=220,SNR=16							
TOLK	Toolik Lake Re	18.77	23		Pn	07 25 48.3	+0.5
EGAK	Eagle	18.95	38	P	P	07 25 47.6	-1.6
baz=242							
EGAK	Eagle	18.95	38	P	Pn	07 25 50.9	+1.0
HYT	Haines Junctio	19.20	52	IAmb	IAmb	07 26 12.3	
comp=Z,30nm,0.8s							
BMAR	Burnt Mountain	19.25	29		Pn	07 25 53.7	+0.1
DAWY	Dawson	19.34	41	P	Pn	07 25 54.7	+0.1
PET	Petropavlovsk	19.39	285	*e*P	P	07 25 53.6	-0.4
PET				pmax	pmax		
comp=Z,63nm,1.2s							
BILL	Bilibino	19.61	332	*e*P	P	07 25 51.9	-4.4
BILL				pmax	pmax		
comp=Z,5.0nm,1.0s							
PEA0B	Petropavlovsk-	19.94	285	P	P	07 25 59.9	-0.1
PEA0B				pmax	pmax		
comp=Z,81nm,1.3s							
PEA0B	Petropavlovsk-	19.94	285	P	P	07 25 59.9	-0.1
PEA0B				IAmb	IAmb	07 26 04.7	
comp=Z,81nm,1.2s							
PETK	Petropavlovsk-	19.94	285	P	P	07 25 59.0	-1.1
comp=Z,1.7nm,0.3s,baz=88,slow=13,SNR=31							
PETK	Petropavlovsk-	19.94	285	P	P	07 25 59.2	-0.8
PETK	Petropavlovsk-	19.94	285	P	P	07 25 59.2	-0.8
SKAG	Skagway	20.07	56	P	P	07 25 59.0	-2.4
baz=264							
SKAG	Skagway	20.07	56	IAmb	IAmb	07 26 14.0	
comp=Z,35nm,0.8s							
BESE	Bessie Mountai	20.25	59	P	Pn	07 26 05.5	-0.1
BESE				IAmb	IAmb	07 26 19.8	
comp=Z,21nm,0.9s							
WHY	Whitehorse	20.44	53	P	P	07 26 06.5	+0.9
baz=261,SNR=7.0							
WHY	Whitehorse	20.44	53	P	P	07 26 06.6	+1.1
WHY				IAmb	IAmb	07 26 24.1	
comp=Z,25nm,0.8s							
EPYK	Eagle Plains	21.31	37	P	P	07 26 14.5	-0.4
baz=245,SNR=28							
EPYK	Eagle Plains	21.31	37	P	P	07 26 14.6	-0.2
EPYK				IAmb	IAmb	07 26 22.8	
comp=Z,37nm,0.8s							
DLBC	Dease Lake	22.79	59	P	P	07 26 31.5	+0.8
comp=Z,4.8nm,0.9s,baz=264,slow=11,SNR=6.3							
DLBC	Dease Lake	22.79	59	P	P	07 26 31.6	+0.9
DLBC				IAmb	IAmb	07 26 42.3	
comp=Z,21nm,1.1s							
MA2	Magadan	23.19	304	P	P	07 26 33.9	-0.8
comp=Z,20nm,0.9s,baz=93,slow=8.2,SNR=6.5							
MA2	Magadan	23.19	304	*ce*P	P	07 26 34.8	0.0
MA2				pmax	pmax		
comp=Z,28nm,1.0s							
MA2	Magadan	23.19	304	P	P	07 26 35.1	+0.3
MA2				IAmb	IAmb	07 26 37.2	
comp=Z,26nm,1.0s							
INK	Inuvik	23.26	33	P	P	07 26 34.9	-0.5
comp=Z,6.0nm,0.7s,baz=248,slow=7.2,SNR=15							
INK	Inuvik	23.26	33	P	P	07 26 34.7	-0.6
INK				pmax	pmax		
comp=Z,8.0nm,0.8s							
INK	Inuvik	23.26	33	P	P	07 26 34.4	-0.9
baz=245,SNR=13							
INK	Inuvik	23.26	33	P	P	07 26 34.7	-0.6
C36M	Paulatuk	26.84	34	P	P	07 27 07.6	-0.6
baz=254							
D03D	Eldon	29.66	81	P	P	07 27 35.5	+2.0
baz=297							
B05A	Bryant	29.94	79	P	P	07 27 38.3	+2.3
baz=296							
YKA	Yellowknife Ar	30.14	49	P	P	07 27 39.2	+1.6
comp=Z,2.8nm,0.7s,baz=273,slow=9.4,SNR=23							
YKA	Yellowknife Ar	30.14	49	P	P	07 27 37.4	-0.2
D05A	Enumclaw	30.49	81	P	P	07 27 42.7	+1.9
B08A	Colville Reser	31.55	77	P	P	07 27 53.1	+2.8
B08A				IAmb	IAmb	07 28 04.7	
comp=Z,11nm,1.2s							
HAWA	Hanford	32.35	81	P	P	07 27 57.5	+0.2
HAWA				IAmb	IAmb	07 28 12.5	
comp=Z,8.2nm,0.9s							
C09A	Chrisman Ranch	32.44	77	P	P	07 27 58.2	+0.2
C09A				IAmb	IAmb	07 28 12.8	
comp=Z,5.7nm,0.8s							
JKA	Kamikawa-asahi	32.59	275	P	P	07 27 59.7	+0.3
JKA				IAmb	IAmb	07 28 14.1	
comp=Z,11nm,1.0s							
ASAJ	Asahikawa	32.59	275	P	P	07 27 59.7	+0.3
ASAJ				pmax	pmax		
comp=Z,11nm,1.0s							
NEW	Newport	32.91	76	P	P	07 28 02.4	+0.2
comp=Z,3.1nm,0.9s,baz=287,slow=7.5,SNR=4.6							
NEW	Newport	32.91	76	P	P	07 28 04.6	+2.4
NEW				pmax	pmax		
comp=Z,7.0nm,1.0s							
NEW	Newport	32.91	76	P	P	07 28 03.5	+1.3
baz=297							
NEW	Newport	32.91	76	P	P	07 28 04.6	+2.4
NEW				IAmb	IAmb	07 28 20.5	
comp=Z,6.8nm,0.9s							
EDM	Edmonton	33.05	66	P	P	07 28 05.7	+2.3
EDM				pmax	pmax		
comp=Z,10.0nm,0.9s							
EDM	Edmonton	33.05	66	P	P	07 28 05.7	+2.3
EDM				IAmb	IAmb	07 28 16.1	
comp=Z,10nm,0.9s							
E09A	Wood Farm, Sta	33.13	79	P	P	07 28 06.6	+2.6
E09A				IAmb	IAmb	07 28 17.2	
comp=Z,13nm,1.2s							
YAK	Yakutsk	33.21	311	*d i*P	P	07 28 03.7	-0.9
YAK				pmax	pmax		
comp=Z,15nm,0.6s							
G08A	Pilot Rock	33.25	82	P	P	07 28 05.1	-0.2
F10A	Beach Ranch, E	33.95	80	P	P	07 28 12.2	+0.9
F10A				IAmb	IAmb	07 28 28.0	
comp=Z,9.1nm,1.4s							
J08A	Circle Bar Ran	34.57	85	P	P	07 28 17.2	+0.4
J08A				IAmb	IAmb	07 28 42.7	
comp=Z,6.2nm,0.9s							
WVOR	Wild Horse Val	34.98	86	P	P	07 28 21.4	+1.0
WVOR				pmax	pmax		
comp=Z,11nm,1.1s							
WVOR	Wild Horse Val	34.98	86	P	P	07 28 21.4	+1.0
WVOR				IAmb	IAmb	07 28 44.0	
comp=Z,11nm,1.1s							
PLID	Pearl Lake	35.14	80	P	P	07 28 20.5	-1.4
KLR	Kul'dur	36.53	289	P	P	07 28 31.8	-1.6
comp=Z,5.8nm,0.9s,baz=65,slow=7.4,SNR=16							
HLID	Hailey	36.92	81	P	P	07 28 38.1	+1.1
baz=303							
HLID	Hailey	36.92	81	P	P	07 28 37.6	+0.6
ZEA	Zeya	37.06	298	*e*P	P	07 28 36.8	-1.0
ZEA				pmax	pmax		
comp=Z,10.0nm,1.5s							
BCYI	Bear Canyon	37.12	80	P	P	07 28 39.4	+0.6
EGMT	Eagleton	37.37	72	P	P	07 28 41.6	+0.9
baz=299,SNR=5.9							
EGMT	Eagleton	37.37	72	P	P	07 28 40.6	0.0
EGMT				IAmb	IAmb	07 29 00.9	
comp=Z,9.8nm,0.9s							
BOZ	Bozeman (W)	37.50	77	P	P	07 28 43.6	+1.7
BOZ				pmax	pmax		
comp=Z,12nm,1.4s							
BOZ	Bozeman (W)	37.50	77	P	P	07 28 42.9	+1.0
baz=302							
BOZ	Bozeman (W)	37.50	77	P	P	07 28 43.6	+1.7
BOZ				IAmb	IAmb	07 29 06.9	
comp=Z,12nm,1.4s							
H11N2	WAKE ISLAND Hy	37.54	219	T	T	08 08 37.3	
baz=24,slow=76,SNR=32							
H11N3	WAKE ISLAND Hy	37.55	219	T	T	08 08 37.3	
baz=24,slow=76,SNR=48							
H11N1	WAKE ISLAND Hy	37.56	219	T	T	08 08 37.3	
baz=24,slow=76,SNR=50							
NVAR	Mina Array Bea	37.57	91	P	P	07 28 44.0	+1.4
comp=Z,0.8nm,0.8s,baz=287,slow=9.5,SNR=4.6							
NVAR				ScP	ScP	07 34 45.9	+0.5
comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=6.6							
NVAR	Mina Array Bea	37.57	91	P	P	07 28 43.4	+0.7
YHB	Horse Butte	38.21	78	P	P	07 28 47.6	-0.4
YMR	Madison River	38.40	78	P	P	07 28 51.0	+1.5
YMR				IAmb	IAmb	07 29 15.4	
comp=Z,14nm,1.1s							
YHH	Holmes Hill	38.40	77	P	P	07 28 51.5	+1.9
YHH				IAmb	IAmb	07 29 15.3	
comp=Z,12nm,0.9s							
TPH	Tonopah	38.46	91	P	P	07 28 49.2	-0.9
TPH				pmax	pmax		
comp=Z,41nm,1.4s							
TPH	Tonopah	38.46	91	P	P	07 28 49.2	-

MJAR pmax pmax
comp=Z,12nm,1.4s
MJAR Matsushiro Arr 39.79 268 P **P 07 29 00.8 -0.2**
MJAR IAmb IAmb 07 29 02.0
comp=Z,12nm,1.4s
DUG Dugway, Tooele 39.85 85 P **P 07 29 03.8 +2.2**
DUG pmax pmax
comp=Z,10.0nm,1.4s
DUG Dugway, Tooele 39.85 85 P **P 07 29 03.8 +2.2**
DUG IAmb IAmb 07 29 17.3
comp=Z,10nm,1.4s
MDJ Mudanjiang 40.17 284 P **P 07 29 02.0 -2.1**
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,1μm,11.1s
PRN Pahroc Range 40.21 90 P **P 07 29 07.9 +3.3**
PRN IAmb IAmb 07 29 27.1
comp=Z,12nm,1.2s
PSUT Pine Spring 40.23 88 P **P 07 29 04.0 -0.9**
BW06 Boulder Array 40.30 79 P **P 07 29 04.7 -0.8**
baz=305,SNR=6.8
BW06 Boulder Array 40.30 79 P **P 07 29 07.0 +1.5**
BW06 IAmb IAmb 07 29 31.2
comp=Z,8.1nm,0.9s
PD31 Pinedale Array 40.31 79 P **P 07 29 06.4 +0.9**
PD31 IAmb IAmb 07 29 31.2
comp=Z,7.9nm,1.0s
PDAR Pinedale Array 40.31 79 P **P 07 29 06.8 +1.3**
comp=Z,2.9nm,0.5s,baz=306,slow=3.1,SNR=34
PDAR PcP **PcP 07 31 07.7 -0.9**
comp=Z,1.0nm,1.1s,baz=298,slow=1.9,SNR=1.5
FCC Fort Churchill 40.84 50 P **P 07 29 09.5 +0.1**
FCC pmax pmax
comp=Z,48nm,1.2s
FCC Fort Churchill 40.84 50 P **P 07 29 09.4 +0.1**
CCUT Cedar City 41.15 88 P **P 07 29 13.0 +0.4**
MSU Marysvale 41.27 86 P **P 07 29 13.8 +0.3**
MSU Marysvale 41.27 86 P **P 07 29 13.8 +0.3**
TMUT Trail Mountain 41.38 85 P **P 07 29 15.5 +1.1**
P17A Butcher Ranch, 41.55 84 P **P 07 29 17.2 +1.5**
RDMU Red Mountain 41.59 82 P **P 07 29 16.1 -0.1**
RDMU IAmb IAmb 07 29 28.9
comp=Z,16nm,1.3s
BELC Belle Mtn. Jos 41.87 94 P **P 07 29 16.8 -1.5**
baz=313
SRU San Rafael Swe 41.91 84 P **P 07 29 18.9 +0.2**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 41.91 84 P **P 07 29 18.9 +0.2**
BOD Bodaibo 42.04 309 *e*P **P 07 29 17.8 -1.4**
BOD pmax pmax
comp=Z,18nm,0.7s
IRM Iron Mountain 42.29 94 P **P 07 29 22.0 +0.4**
baz=312
RWWY Rawlins 42.35 79 P **P 07 29 21.9 -0.4**
RWWY IAmb IAmb 07 29 47.6
comp=Z,16nm,1.3s
U15A North Rim 42.53 89 P **P 07 29 24.5 +0.6**
O20A White River Ci 42.66 82 P **P 07 29 25.2 +0.4**
baz=308,SNR=8.1
O20A White River Ci 42.66 82 P **P 07 29 25.3 +0.5**
O20A IAmb IAmb 07 29 50.5
comp=Z,12nm,0.9s
CN2 Changchun 43.09 286 *e*P **P 07 29 26.8 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
PV14 Lion Creek, Pa 43.28 84 P **P 07 29 31.6 +1.6**
MDND Maddock 43.29 67 P **P 07 29 30.4 +0.8**
baz=303
MDND Maddock 43.29 67 P **P 07 29 30.2 +0.7**
MDND IAmb IAmb 07 29 51.8
comp=Z,31nm,1.1s
HIA Hailar 43.31 295 *i*P **P 07 29 28.0 -1.7**
HIA pmax pmax
comp=Z,21nm,1.4s
HIA Hailar 43.31 295 P **P 07 29 30.5 +0.7**
HIA IAmb IAmb 07 29 32.0
comp=Z,9.1nm,0.8s
PV22 Blue Mesa, Par 43.33 84 P **P 07 29 30.1 0.0**
PV22 IAmb IAmb 07 29 55.7
comp=Z,9.9nm,1.1s
PV17 East Wray Mesa 43.38 84 IAmb IAmb 07 29 50.5
comp=Z,12nm,0.8s
PV11 David Mesa, Pa 43.42 84 IAmb IAmb 07 29 55.0
comp=Z,11nm,0.8s
PV12 Saucer Basin, 43.45 84 IAmb IAmb 07 29 50.1
comp=Z,7.1nm,0.8s
PV03 Paradox Valley 43.47 84 P **P 07 29 32.3 +1.0**
PV03 IAmb IAmb 07 29 53.9
comp=Z,6.2nm,0.8s
PV07 Paradox Valley 43.47 84 IAmb IAmb 07 29 55.5
comp=Z,8.0nm,1.0s
PV13 Radium Mtn., P 43.54 84 IAmb IAmb 07 29 48.5
comp=Z,16nm,0.9s
PV02 Paradox Valley 43.56 84 IAmb IAmb 07 29 48.6
comp=Z,12nm,0.8s
N23A Red Feather La 43.59 79 P **P 07 29 31.3 -1.0**
baz=307
WUAZ Wupatki 43.69 89 P **P 07 29 33.2 +0.1**
baz=311
WUAZ Wupatki 43.69 89 P **P 07 29 32.5 -0.6**
PV01 Paradox Valley 43.71 84 P **P 07 29 34.9 +1.5**
PV01 IAmb IAmb 07 29 50.0
comp=Z,7.3nm,0.8s
ULM Lac du Bonnet 44.05 62 P **P 07 29 36.3 +0.7**
comp=Z,1.5nm,0.4s,baz=320,slow=7.0,SNR=3.3
ULM Lac du Bonnet 44.05 62 IAmb IAmb 07 29 37.5
comp=Z,11nm,1.4s
X16A Lo Mia Camp, P 44.38 90 P **P 07 29 39.8 +1.1**
ISCO Idaho Springs 44.46 80 P **P 07 29 39.1 -0.3**
baz=308
S22A 4UR Ranch, Cre 45.02 83 P **P 07 29 42.9 -1.0**
baz=310
AGMN Agassiz Nation 45.13 65 P **P 07 29 43.6 -0.7**
baz=304
AGMN Agassiz Nation 45.13 65 P **P 07 29 44.8 +0.6**
AGMN IAmb IAmb 07 30 05.7
comp=Z,8.3nm,0.9s
214A Organ Pipe Nat 45.22 94 P **P 07 29 46.2 +1.1**
baz=314
KSRS Korea Array 45.49 277 P **P 07 29 47.6 +0.5**
comp=Z,6.1nm,0.9s,baz=58,slow=7.6,SNR=30
KS19 Wonju Array Si 45.49 277 P **P 07 29 48.0 +0.7**
KS19 IAmb IAmb 07 29 48.1
comp=Z,12nm,1.2s
KSAR Wonju Array Be 45.52 277 P **P 07 29 47.2 -0.3**
KSAR Wonju Array Be 45.52 277 P **P 07 29 47.2 -0.3**
SUSD Miller 45.59 71 P **P 07 29 47.1 -0.9**
baz=306
SUSD Miller 45.59 71 P **P 07 29 48.7 +0.7**
SDCO Great Sand Dun 45.83 82 P **P 07 29 51.0 +0.8**
baz=310
SDCO Great Sand Dun 45.83 82 P **P 07 29 51.1 +0.8**
TUC Tucson 46.21 92 P **P 07 29 54.4 +1.3**
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 46.21 92 P **P 07 29 53.3 +0.2**
baz=314
TUC Tucson 46.21 92 P **P 07 29 54.4 +1.3**
B35A Bob, Littlefor 46.27 63 P **P 07 29 53.8 +0.6**
B35A IAmb IAmb 07 30 02.0
comp=Z,5.3nm,0.7s
NRIK Noril'sk 46.43 332 P **P 07 29 52.9 -1.3**
comp=Z,3.2nm,0.8s,baz=101,slow=7.0,SNR=4.8
NRIK Noril'sk 46.43 332 *ce*P **P 07 29 53.7 -0.5**
NRIK pmax pmax
comp=Z,11nm,1.4s
NRIK Noril'sk 46.43 332 P **P 07 29 54.4 +0.2**
NRIK IAmb IAmb 07 29 56.1
comp=Z,7.6nm,1.1s
TJN Taejon 46.53 276 *e*P **P 07 29 55.6 +0.2**
JNU Nakatsue 46.55 270 P **P 07 29 55.1 -0.6**
comp=Z,18nm,1.1s,baz=9.6,slow=6.4,SNR=4.8
JNU Nakatsue 46.55 270 P **P 07 29 55.7 0.0**
KSCO Kaye Shedlock' 46.76 79 P **P 07 29 58.8 +1.5**
KSCO IAmb IAmb 07 30 06.9
comp=Z,8.4nm,0.8s
T25A Trinidad 46.88 82 P **P 07 29 58.9 +0.5**
baz=310
T25A Trinidad 46.88 82 P **P 07 30 00.4 +1.9**
T25A IAmb IAmb 07 30 15.0
comp=Z,9.3nm,0.9s
ANMO Albuquerque 47.08 86 *e*P **P 07 30 02.6 +2.6**
ANMO pmax pmax
comp=Z,5.0nm,2.5s

ANMO Albuquerque 47.08 86 P **P 07 30 00.6 +0.6**
baz=312
ANMO Albuquerque 47.08 86 P **P 07 30 00.7 +0.6**
ECSD EROS Data Cent 47.37 70 P **P 07 30 01.5 -0.4**
baz=307,SNR=6.7
ECSD EROS Data Cent 47.37 70 P **P 07 30 02.2 +0.3**
ECSD IAmb IAmb 07 30 21.5
comp=Z,6.1nm,1.1s
BNM Barren Site 47.51 87 P **P 07 30 04.7 +1.3**
EYMN Ely 47.73 63 P **P 07 30 04.9 +0.3**
baz=306
EYMN Ely 47.73 63 P **P 07 30 05.0 +0.3**
EYMN IAmb IAmb 07 30 25.6
comp=Z,6.9nm,0.9s
121A Cookes Peak, D 47.90 89 P **P 07 30 05.3 -1.0**
baz=313
121A Cookes Peak, D 47.90 89 P **P 07 30 07.7 +1.3**
121A IAmb IAmb 07 30 28.4
comp=Z,4.3nm,0.8s
BGNE Belgrade 47.91 74 P **P 07 30 07.8 +1.7**
E38A The Farm, Brul 48.49 64 P **P 07 30 10.8 +0.3**
E38A IAmb IAmb 07 30 31.1
comp=Z,16nm,1.2s
L34A Svendsen Farm, 48.60 72 P **P 07 30 11.6 +0.2**
SPMN Marine on St. 48.63 66 P **P 07 30 11.3 -0.3**
baz=307
KBS Kingsbay 48.92 360 P **P 07 30 14.0 +0.6**
KBS pmax pmax
comp=Z,16nm,1.2s
KBS Kingsbay 48.92 360 P **P 07 30 14.0 +0.6**
KBS IAmb IAmb 07 30 16.5
comp=Z,16nm,1.2s
I37A Lemond, Waseca 49.04 68 P **P 07 30 15.4 +0.6**
I37A IAmb IAmb 07 30 41.7
comp=Z,9.8nm,0.9s
SPITS Spitsbergen Ar 49.63 358 P **P 07 30 19.6 +0.8**
comp=Z,2.2nm,0.6s,baz=23,slow=4.5,SNR=6.7
N35A Tabor 49.72 72 P **P 07 30 19.7 -0.4**
DAG Danmarks Havn 49.73 9 *i*P **P 07 30 19.7 +0.1**
DAG IAmb IAmb 07 30 20.6
comp=Z,12nm,1.0s
DAG Danmarks Havn 49.73 9 *i*P **P 07 30 19.7 +0.1**
DAG pmax pmax
comp=Z,12nm,1.0s
MNTX Cornudas Mount 49.95 88 P **P 07 30 23.1 +1.3**
baz=314
MNTX Cornudas Mount 49.95 88 P **P 07 30 23.2 +1.3**
MNTX IAmb IAmb 07 30 38.8
comp=Z,3.9nm,0.8s
MSTX Muleshoe 49.98 84 P **P 07 30 23.0 +0.7**
MSTX IAmb IAmb 07 30 34.5
comp=Z,10nm,1.1s
G40A Rib Lake 50.05 65 P **P 07 30 22.8 +0.2**
G40A IAmb IAmb 07 30 43.2
comp=Z,9.5nm,1.3s
COWI Conover 50.13 63 P **P 07 30 22.5 -0.6**
COWI IAmb IAmb 07 30 38.3
comp=Z,6.6nm,1.1s
SUMG Summit 50.71 17 *i*P **P 07 30 28.8 +1.2**
SUMG IAmb IAmb 07 30 30.0
comp=Z,24nm,1.2s
SUMG Summit 50.71 17 *i*P **P 07 30 28.8 +1.2**
SUMG pmax pmax
comp=Z,24nm,1.2s
SUMG Summit 50.71 17 P **P 07 30 28.4 +0.8**
ULN Ulaanbaatar 50.99 301 *ce*P **P 07 30 29.6 -0.1**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 50.99 301 P **P 07 30 29.8 0.0**
ULN IAmb IAmb 07 30 31.1
comp=Z,7.0nm,0.8s
E43A Lone Tree Farm 51.12 62 P **P 07 30 30.5 0.0**
E43A IAmb IAmb 07 30 43.2
comp=Z,5.4nm,0.7s
N38A Joes South For 51.17 71 P **P 07 30 31.1 +0.2**
N38A IAmb IAmb 07 30 33.1
comp=Z,13nm,0.8s
SONM Songino Array 51.36 301 P **P 07 30 31.9 -0.6**
comp=Z,3.4nm,0.6s,baz=59,slow=5.4,SNR=22
SONM PcP **PcP 07 31 47.3 +0.4**
comp=Z,2.6nm,0.8s,baz=118,slow=1.3,SNR=5.5
SONM Songino Array 51.36 301 P **P 07 30 32.7 +0.2**
SONM pmax pmax
comp=Z,13nm,1.2s
SONM Songino Array 51.36 301 P **P 07 30 32.6 +0.2**
SONM IAmb IAmb 07 30 34.2
comp=Z,13nm,1.2s
ZAK Zakamensk 51.37 305 *e*P **P 07 30 32.2 -0.3**
ZAK *e* 07 31 47.0
ZAK pmax pmax
comp=Z,9.0nm,1.4s
L40A Anamosa 51.51 69 P **P 07 30 33.4 -0.1**
L40A IAmb IAmb 07 30 53.5
comp=Z,12nm,1.2s
JFWS Jewell Farm 51.51 67 P **P 07 30 29.3 -4.3**
baz=310
MOY Mondy 51.70 307 *e*P **P 07 30 35.3 +0.4**
MOY pmax pmax
comp=Z,14nm,1.2s
P38A Dawn 51.75 72 P **P 07 30 35.5 +0.1**
P38A IAmb IAmb 07 30 37.1
comp=Z,8.9nm,0.8s
DBG Daneborg 51.85 10 *i*P **P 07 30 35.9 +0.3**
DBG IAmb IAmb 07 30 36.7
comp=Z,19nm,1.1s
H43A Windswept, Lux 51.90 64 P **P 07 30 36.6 +0.2**
H43A IAmb IAmb 07 30 56.9
comp=Z,14nm,1.1s
OK031 S. Brethren Rd 52.23 78 P **P 07 30 39.5 +0.5**
E46A Sault Ste Mari 52.56 60 P **P 07 30 41.6 +0.3**
E46A IAmb IAmb 07 30 55.6
comp=Z,6.3nm,0.9s
N41A Harden Midland 52.59 70 P **P 07 30 42.3 +0.7**
TX31 Lajitas Ar. Si 52.66 89 P **P 07 30 43.0 +0.7**
TX32 Lajitas Array 52.66 89 P **P 07 30 43.2 +0.9**
TX32 IAmb IAmb 07 30 57.6
comp=Z,8.3nm,1.1s
TXAR Lajitas Array 52.66 89 P **P 07 30 43.4 +1.1**
comp=Z,1.6nm,0.6s,baz=298,slow=5.4,SNR=32
TXAR Lajitas Array 52.66 89 P **P 07 30 43.0 +0.7**
P40A Paris 52.68 71 P **P 07 30 42.1 -0.1**
HHC Hu-ho-hao-te 52.99 291 *e*P **P 07 30 46.0 +1.3**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,920nm,6.6s
ICESG Greenland Ices 53.30 20 *i*P **P 07 30 47.4 +0.6**
ICESG IAmb IAmb 07 30 48.2
comp=Z,11nm,0.9s
L44A Lake County Fo 53.30 66 P **P 07 30 46.1 -0.7**
baz=311
R40A Maddies Statio 53.37 73 P **P 07 30 46.6 -0.8**
R40A IAmb IAmb 07 31 14.7
comp=Z,4.0nm,0.5s
HDIL Hopedale 53.59 69 P **P 07 30 48.3 -0.7**
baz=311
HDIL Hopedale 53.59 69 P **P 07 30 48.5 -0.4**
HDIL IAmb IAmb 07 30 50.8
comp=Z,9.7nm,0.8s
MATQ Matagami 53.79 53 P **P 07 30 49.5 -0.8**
baz=311,SNR=6.0
BTO Baotou 54.03 292 *e*P **P 07 30 53.0 +0.7**
BTO S **S 07 38 23.8 -2.9**
BTO LR LR
comp=N,4μm,22.0s
BTO LR LR
comp=E,2μm,19.0s
CCM Cathedral Cave 54.13 72 P **P 07 30 51.6 -1.3**
baz=312
MGMO Mountain Grove 54.14 74 P **P 07 30 52.3 -0.8**
JCT Junction City 54.21 85 P **P 07 30 53.8 +0.1**
JCT pmax pmax
comp=Z,7.0nm,1.0s
JCT Junction City 54.21 85 P **P 07 30 53.7 +0.1**
baz=315
JCT Junction City 54.21 85 P **P 07 30 53.8 +0.1**
JCT IAmb IAmb 07 31 09.3
comp=Z,6.9nm,0.9s
WHTX Lake Whitney, 54.58 82 P **P 07 30 56.3 0.0**
baz=314
NJ2 Nanjing 54.63 278 *e*P **P 07 30 56.3 -0.3**
NJ2 pmax pmax
comp=Z,24nm,0.6s
SFIN Lafayette 54.96 68 P **P 07 30 57.5 -1.4**
baz=312

FCAR Ozark Folk Cen 55.08 75 P **P 07 30 58.5 -1.3**
FCAR IAmb IAmb 07 31 11.7
comp=Z,7.0nm,0.8s
MIAR Mount Ida 55.14 77 P **P 07 31 01.3 +1.0**
MIAR pmax pmax
comp=Z,10.0nm,1.1s
MIAR Mount Ida 55.14 77 P **P 07 31 01.3 +1.0**
MIAR IAmb IAmb 07 31 13.7
comp=Z,9.7nm,1.1s
CHGQ Chibougamau 55.28 52 P **P 07 31 00.6 -0.4**
baz=312,SNR=5.6
SCHQ Schefferville 55.34 43 P **P 07 31 02.5 +1.0**
comp=Z,16nm,0.9s,baz=322,slow=7.9,SNR=13
SCHQ Schefferville 55.34 43 P **P 07 31 02.9 +1.4**
435B Jarrell 55.35 83 P **P 07 31 01.5 -0.3**
baz=315
435B Jarrell 55.35 83 P **P 07 31 03.3 +1.5**
435B IAmb IAmb 07 31 17.7
comp=Z,6.4nm,0.7s
WHAR Wooly Hollow 55.40 76 P **P 07 31 02.2 +0.1**
WHAR IAmb IAmb 07 31 05.2
comp=Z,4.9nm,0.5s
N47A Urbana 55.41 66 P **P 07 31 01.6 -0.5**
W41B Gary Mavity, V 55.50 76 P **P 07 31 00.9 -1.9**
baz=314
X40A Basin Creek Fa 55.62 77 P **P 07 30 59.4 -4.4**
baz=314
833A Chaparral WMA, 55.99 87 P **P 07 31 07.4 +0.9**
baz=316
ALGO Algonquin Park 56.11 57 P **P 07 31 07.3 +0.3**
baz=312,SNR=7.7
USIN University of 56.27 70 P **P 07 31 07.6 -0.7**
CCAR Cane Creek 56.65 76 P **P 07 31 11.4 +0.3**
P49A Miami Univ. Ec 56.87 67 P **P 07 31 12.9 +0.3**
baz=313
WCI Wyandotte Cave 56.87 69 P **P 07 31 12.7 0.0**
baz=313
N51A Ashland 57.23 64 P **P 07 31 14.0 -1.1**
N51A IAmb IAmb 07 31 28.8
comp=Z,16nm,1.2s
PLVO Plevna 57.24 57 P **P 07 31 15.3 +0.2**
PLVO IAmb IAmb 07 31 17.7
comp=Z,11nm,1.0s
T47A Sharon Grove 57.26 71 P **P 07 31 15.1 -0.3**
T47A IAmb IAmb 07 31 17.5
comp=Z,8.1nm,0.9s
DELO Deloro Mine 57.31 58 P **P 07 31 17.1 +1.4**
DELO IAmb IAmb 07 31 18.8
comp=Z,7.0nm,0.9s
WVT Waverly 57.44 72 P **P 07 31 16.7 +0.1**
baz=314
ZALV Zalesovo Beam 57.45 318 P **P 07 31 16.7 +0.2**
comp=Z,0.9nm,0.4s,baz=36,slow=5.8,SNR=4.7
ZALV PcP **PcP 07 32 10.6 +0.7**
comp=Z,1.0nm,0.6s,baz=46,slow=4.2,SNR=2.1
ZALV Zalesovo Beam 57.45 318 P **P 07 31 17.2 +0.8**
OXF Oxford 57.64 74 P **P 07 31 18.2 +0.2**
baz=314
ERPA Erie 57.71 62 P **P 07 31 19.7 +1.3**
baz=314
LATQ La Tuque 57.78 53 P **P 07 31 18.9 0.0**
baz=314
LATQ La Tuque 57.78 53 P **P 07 31 18.6 -0.3**
LATQ IAmb IAmb 07 31 31.6
comp=Z,10nm,1.2s
M53A WI Miller and 57.80 63 P **P 07 31 20.1 +0.9**
baz=314
ARCES ARCESS Array B 57.89 354 P **P 07 31 19.5 +0.2**
comp=Z,6.5nm,0.9s,baz=12,slow=6.7,SNR=8.0
ARCES PcP **PcP 07 32 12.2 +0.7**
comp=Z,7.3nm,1.0s,baz=2.9,slow=3.6,SNR=3.8
ARCES ARCESS Array B 57.89 354 IAmb IAmb 07 31 20.3
comp=Z,22nm,1.3s
Q51A Peebles 57.99 66 P **P 07 31 20.2 -0.3**
Q51A IAmb IAmb 07 31 22.8
comp=Z,6.6nm,0.8s
PECO Prince Edward 58.04 58 P **P 07 31 21.2 +0.5**
PECO IAmb IAmb 07 31 24.5
comp=Z,10.0nm,1.0s
O52A Adamsville 58.08 64 P **P 07 31 21.5 +0.4**
PLAL Pickwick Lake 58.09 73 P **P 07 31 20.8 -0.5**
PLAL IAmb IAmb 07 31 22.6
comp=Z,8.9nm,1.1s
TATO Taipei 58.10 270 P **P 07 31 21.5 +0.1**
M54A Oil Creek Stat 58.30 62 P **P 07 31 21.8 -0.9**
baz=314
O53A New Philadelph 58.33 64 P **P 07 31 22.4 -0.5**
baz=314
WHN Wuhan 58.42 280 ⇓P **P 07 31 23.8 +0.2**
H57A Richville 58.50 57 P **P 07 31 24.1 +0.1**
baz=314,SNR=7.7
J56A Wolcott 58.57 59 P **P 07 31 25.6 +1.1**
J56A IAmb IAmb 07 31 40.5
comp=Z,8.4nm,0.9s
LVZ Lovozero 58.69 350 P **P 07 31 24.7 -0.3**
LVZ pmax pmax
comp=Z,21nm,0.7s
LVZ Lovozero 58.69 350 P **P 07 31 24.7 -0.3**
K56A Middlesex 58.73 60 P **P 07 31 24.7 -1.0**
baz=314
I57A Carthage 58.73 58 P **P 07 31 24.5 -1.1**
baz=314,SNR=7.2
LONY Lake Ozonia 58.81 56 P **P 07 31 24.1 -2.1**
baz=314
LONY Lake Ozonia 58.81 56 P **P 07 31 26.5 +0.3**
LONY IAmb IAmb 07 31 41.8
comp=Z,4.0nm,0.8s
M55A Ridgway 58.81 61 P **P 07 31 26.7 +0.5**
J57A Williamstown 58.92 58 P **P 07 31 27.3 +0.4**
L56A Greenwood 58.99 60 P **P 07 31 28.6 +1.1**
H58A Gabriels 59.15 56 P **P 07 31 26.5 -2.1**
baz=315
D61A St Aubert, Com 59.16 52 P **P 07 31 28.1 -0.4**
baz=315,SNR=7.0
XAN Xi'an 59.17 287 P **P 07 31 28.3 -0.6**
XAN pP sP 07 31 40.5 +1.0
XAN sP pwP 07 31 45.8 +9.3
XAN pmax pmax
comp=Z,14nm,1.0s
H59A Cadyville 59.24 56 P **P 07 31 27.0 -2.1**
baz=315,SNR=5.4
I58A Old Forge 59.26 57 P **P 07 31 30.1 +0.8**
baz=315
SSLB Suanglung 59.30 270 P **P 07 31 29.6 -0.2**
J58A Remsen 59.33 58 P **P 07 31 28.0 -1.8**
baz=315,SNR=5.8
J58A Remsen 59.33 58 P **P 07 31 31.0 +1.2**
DGZ Jazzator, Alta 59.38 313 *e*P **P 07 31 30.0 -0.2**
DGZ pmax pmax
comp=Z,7.0nm,1.0s
MOQ Mont Orford 59.49 54 P **P 07 31 31.3 +0.4**
MCWV Mont Chateau 59.49 64 P **P 07 31 30.8 -0.1**
baz=315
TZTN Tazewell 59.61 69 P **P 07 31 30.4 -1.4**
baz=315
I59A Olmsteadville 59.75 57 P **P 07 31 31.7 -1.0**
baz=315
O56A Blue Knob Stat 59.76 62 P **P 07 31 33.0 +0.2**
baz=315
BINY Binghamton 59.78 59 P **P 07 31 33.0 +0.1**
baz=315
BINY Binghamton 59.78 59 P **P 07 31 34.0 +1.1**
BINY IAmb IAmb 07 31 54.5
comp=Z,11nm,1.1s
D62A Allapoint, All 59.79 51 P **P 07 31 30.4 -2.5**
baz=316
H60A Morristown 59.80 55 P **P 07 31 32.3 -0.7**
baz=315
FPAL Fort Paine 59.84 72 P **P 07 31 33.1 -0.3**
FPAL IAmb IAmb 07 31 35.0
comp=Z,7.8nm,0.9s
SSPA Standing Stone 59.87 62 P **P 07 31 32.7 -0.9**
baz=315
G61A St-Isidore-de- 59.87 54 P **P 07 31 33.9 +0.4**
baz=315
E62A Clayton Lake 59.90 52 P **P 07 31 33.2 -0.4**
baz=316
L58A Harry Jones Me 59.96 59 P **P 07 31 33.9 -0.2**
baz=315
L59A Walton 60.28 59 P **P 07 31 37.7 +1.3**
J60A Lant Hill Farm 60.37 57 P **P 07 31 36.3 -0.6**
baz=315
G62A West of Eustis 60.41 53 P **P 07 31 37.2 0.0**
baz=316
LBNH Lisbon 60.42 55 P **P 07 31 36.9 -0.3**
baz=316

GTA	**Gaotai**	**60.54**	**297**	⇓P	**P**	**07 31 38.0**	**-0.3**
GTA				pP	sP	07 31 50.0	+1.3
GTA				sP	pP	07 31 55.3	+9.3
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
H62A	**Milan**	**60.56**	**54**	P	**P**	**07 31 38.3**	**0.0**
	baz=316						
E63A	**Oxbow**	**60.57**	**51**	P	**P**	**07 31 37.1**	**-1.1**
	baz=316						
LZH	**Lanzhou**	**60.66**	**292**	*e*P	**P**	**07 31 39.5**	**+0.3**
LZH				pP	pP	07 31 48.0	+1.1
LZH				sP	sP	07 31 51.5	+1.6
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
F63A	**Nahmakanta, Br**	**60.76**	**52**	P	**P**	**07 31 36.3**	**-3.2**
	baz=316						
N59A	**State Game Lan**	**60.80**	**60**	P	**P**	**07 31 38.3**	**-1.6**
	baz=316						
E64A	**Bridgewater**	**60.85**	**51**	P	**P**	**07 31 39.4**	**-0.7**
	baz=316						
K61A	**Williamstown**	**60.86**	**57**	P	**P**	**07 31 41.4**	**+1.1**
	baz=316						
BLA	**Blacksburg**	**60.91**	**66**	P	**P**	**07 31 41.8**	**+1.1**
BLA				pmax	pmax		
	comp=Z,12nm,0.9s						
BLA	**Blacksburg**	**60.91**	**66**	P	**P**	**07 31 39.9**	**-0.8**
	baz=316						
BLA	**Blacksburg**	**60.91**	**66**	P	**P**	**07 31 41.8**	**+1.1**
G63A	**Kingsbury**	**60.93**	**53**	P	**P**	**07 31 40.4**	**-0.4**
	baz=316						
F64A	**Sherman**	**61.01**	**52**	P	**P**	**07 31 40.5**	**-0.7**
	baz=316						
KURK	**Kurchatov**	**62.40**	**318**	P	**P**	**07 31 50.6**	**+0.1**
KURK	**Kurchatov**	**62.40**	**318**	P	**P**	**07 31 50.6**	**+0.1**
KURBB	**Kurchatov Arra**	**62.51**	**318**	P	**P**	**07 31 50.6**	**-0.6**
	comp=Z,5.7nm,0.8s,baz=44,slow=7.2,SNR=38						
V58A	**Windy Hill, Pi**	**62.66**	**66**	P	**P**	**07 31 53.0**	**+0.6**
LMN	**Caledonia Moun**	**62.69**	**50**	P	**P**	**07 31 52.8**	**+0.3**
PRGR	**Permogore**	**62.97**	**342**	*e*P	**P**	**07 31 52.4**	**-1.7**
PRGR				pmax	pmax		
	comp=Z,14nm,0.9s						
WMQ	**Urumqi**	**63.58**	**308**	*e*P	**P**	**07 32 03.0**	**+4.5**
WMQ				pP	pP	07 32 05.8	-0.2
WMQ				PcP	**PcP**	**07 32 33.8**	**-1.0**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,880nm,11.8s						
BVAR	**Borovoye Array**	**63.72**	**324**	P	**P**	**07 31 58.5**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=224,slow=4.1,SNR=25						
BRVK	**Borovoye**	**63.73**	**325***c*	*i*P	**P**	**07 31 59.5**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BRVK	**Borovoye**	**63.73**	**325**	P	**P**	**07 31 58.9**	**-0.4**
BRVK				IAmb	IAmb	07 32 01.4	
	comp=Z,14nm,1.4s						
MK31	**Makanchi Array**	**63.84**	**313**	P	**P**	**07 31 59.4**	**-0.8**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**63.84**	**313**	P	**P**	**07 31 59.4**	**-0.8**
MK31				IAmb	IAmb	07 32 00.4	
	comp=Z,3.5nm,0.8s						
MKAR	**Makanchi Array**	**63.84**	**313**	P	**P**	**07 31 59.2**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=52,slow=7.9,SNR=26						
MKAR	**Makanchi Array**	**63.84**	**313**	P	**P**	**07 31 59.4**	**-0.8**
MAKZ	**Makanchi**	**63.97**	**314**	P	**P**	**07 32 00.6**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAKZ	**Makanchi**	**63.97**	**314**	P	**P**	**07 32 00.6**	**-0.4**
MAKZ				IAmb	IAmb	07 32 01.3	
	comp=Z,6.1nm,1.0s						
CD2	**Chengdu**	**64.44**	**288**	P	**P**	**07 32 04.8**	**+0.4**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
ARU	**Arti**	**64.62**	**333**	P	**P**	**07 32 05.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=28,slow=11,SNR=8.8						
ARU	**Arti**	**64.62**	**333***c*	*i*P	**P**	**07 32 05.1**	**0.0**
ARU						07 32 38.1	
ARU						07 34 24.8	
ARU				S	**S**	**07 40 44.8**	**+2.0**
ARU				SS	**SS**	**07 44 48.2**	**-4.4**
ARU				pmax	pmax		
	comp=Z,13nm,1.3s						
ARU	**Arti**	**64.62**	**333**	P	**P**	**07 32 04.8**	**-0.3**
ARU				IAmb	IAmb	07 32 07.6	
	comp=Z,12nm,1.2s						
KLMR	**Klimovskoe**	**64.77**	**345**	*e*P	**P**	**07 32 04.6**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	**Klimovskoe**	**64.77**	**345**	*e*P	**P**	**07 32 04.6**	**-1.3**
KLMR				AMP		07 32 09.3	
	comp=Z,14nm,1.3s						
FINES	**FINESS Array B**	**65.84**	**352**	P	**P**	**07 32 13.0**	**+0.1**
	comp=Z,7.7nm,0.9s,baz=19,slow=9.4,SNR=16						
GYA	**Guiyang**	**66.01**	**283**	⇓P	**P**	**07 32 15.0**	**+0.3**
GYA				pP	sP	07 32 27.3	+2.1
GYA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NC303	**NORSAR Array S**	**66.71**	**360**	P	**P**	**07 32 18.9**	**+0.4**
NC405	**NORSAR Array S**	**66.82**	**360**	P	**P**	**07 32 18.7**	**-0.5**
NB201	**NORSAR Array S**	**66.89**	**360**	P	**P**	**07 32 20.4**	**+0.8**
NB2	**NORSAR Subarra**	**66.90**	**360**	P	**P**	**07 32 19.7**	**0.0**
	comp=Z,11nm,1.0s,baz=0.5,slow=6.5						
NOA	**NORSAR Array B**	**66.90**	**360**	P	**P**	**07 32 20.3**	**+0.6**
	comp=Z,5.5nm,0.9s,baz=0.2,slow=6.3,SNR=13						
KMI	**Kunming**	**69.34**	**284**	⇓P	**P**	**07 32 36.8**	**+0.9**
KMI				pP	sP	07 32 47.0	+0.6
KMI				sP	pwP	07 32 52.0	+8.3
KMI				pmax	pmax		
	comp=Z,25nm,1.2s						
TARG	**Taragay, Kyrgy**	**69.81**	**313**	P	**P**	**07 32 40.0**	**+1.3**
TARG				IAmb	IAmb	07 32 40.8	
	comp=Z,3.9nm,0.7s						
AKTO	**Aktyubinsk**	**70.02**	**330**	P	**P**	**07 32 39.5**	**+0.1**
	comp=Z,7.1nm,0.8s,baz=52,slow=6.2,SNR=13						
BOOM	**Boomskoye usch**	**70.02**	**314**	P	**P**	**07 32 39.8**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,12nm,0.8s						
BOOM	**Boomskoye usch**	**70.02**	**314**	P	**P**	**07 32 39.8**	**+0.1**
ABKAR	**Akbulak array**	**70.45**	**328**	P	**P**	**07 32 42.0**	**0.0**
AAK	**Ala-Archa**	**70.53**	**315**	P	**P**	**07 32 43.3**	**+0.5**
	comp=Z,11nm,0.9s,baz=89,slow=3.2,SNR=9.8						
AAK	**Ala-Archa**	**70.53**	**315**	P	**P**	**07 32 43.2**	**+0.4**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s						
AAK	**Ala-Archa**	**70.53**	**315**	P	**P**	**07 32 43.2**	**+0.4**
AAK				IAmb	IAmb	07 32 44.3	
	comp=Z,14nm,1.1s						
BELG	**Belogornoye**	**71.08**	**337**	P	**P**	**07 32 45.7**	**0.0**
	comp=Z,22nm,1.0s,baz=320,slow=13,SNR=7.1						
BELG	**Belogornoye**	**71.08**	**337**	*i* P	**P**	**07 32 45.1**	**-0.6**
BELG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SLVN	**Son La**	**71.52**	**281**	P	**P**	**07 32 49.8**	**+0.8**
KK31	**Karatay Array**	**71.82**	**318**	P	**P**	**07 32 50.4**	**0.0**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KK31	**Karatay Array**	**71.82**	**318**	P	**P**	**07 32 50.4**	**0.0**
KK31				IAmb	IAmb	07 32 51.4	
	comp=Z,9.3nm,1.1s						
KKAR	**Karatay Array**	**71.82**	**318**	P	**P**	**07 32 50.5**	**0.0**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KKAR	**Karatay Array**	**71.82**	**318**	P	**P**	**07 32 50.5**	**0.0**
KKAR				IAmb	IAmb	07 32 51.4	
	comp=Z,9.3nm,1.1s						
KKAR	**Karatay Array**	**71.82**	**318**	P	**P**	**07 32 49.9**	**-0.5**
PABE	**Paberze**	**71.89**	**352**	P	**P**	**07 32 50.8**	**+0.2**
SIJI	**Sorong**	**72.61**	**245**	P	**P**	**07 32 53.9**	**-1.6**
	comp=Z,4.1nm,0.4s,baz=4.0,slow=4.4,SNR=5.8						
BTK	**Batken**	**74.22**	**316**	P	**P**	**07 33 05.1**	**+0.3**
BTK				pmax	pmax		
	comp=Z,15nm,1.0s						
BTK	**Batken**	**74.22**	**316**	P	**P**	**07 33 05.1**	**+0.3**
BTK				IAmb	IAmb	07 33 06.2	
	comp=Z,15nm,1.0s						
DRK	**Karamyk**	**74.28**	**315**	P	**P**	**07 33 06.5**	**+1.1**
GAR	**Garm**	**75.32**	**316**	P	**P**	**07 33 11.6**	**+0.3**
AKASG	**Malin Array Be**	**76.08**	**348**	P	**P**	**07 33 14.2**	**-1.0**
	comp=Z,8.2nm,0.8s,baz=12,slow=5.8,SNR=25						
AKASG	**Malin Array Be**	**76.08**	**348**	*i* P	**P**	**07 33 14.6**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKASG	**Malin Array Be**	**76.08**	**348**	IAmb	IAmb	07 33 16.5	
	comp=Z,3.5nm,1.4s						
AKBB	**Malin Array Si**	**76.08**	**348**	P	**P**	**07 33 14.4**	**-0.8**
AKBB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKBB	**Malin Array Si**	**76.08**	**348**	P	**P**	**07 33 14.4**	**-0.8**
AKBB				IAmb	IAmb	07 33 15.6	
	comp=Z,9.4nm,0.9s						
CHGR	**Chuyangaron**	**76.10**	**317**	P	**P**	**07 33 16.0**	**+0.4**
CHTO	**Chiang Mai**	**76.42**	**283**	P	**P**	**07 33 17.2**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,21nm,1.4s						
CHTO	**Chiang Mai**	**76.42**	**283**	P	**P**	**07 33 17.1**	**-0.4**
CLL	**Collm**	**76.64**	**359**	⇑*i*P	**P**	**07 33 18.9**	**+0.6**
	comp=Z,10.0nm,1.2s						
CLL				*e*		07 33 24.0	
CLL				*e*		07 33 25.0	
CLL				*e*pP	**PcP**	**07 33 30.0**	**+0.3**
CLL				Lm	MLR	08 11 00.0	
	comp=N,1μm,21.2s						
CLL				Lm	MLR	08 11 00.0	
	comp=E,500nm,20.6s						
CLL	**Collm**	**76.64**	**359**	*e*P	**P**	**07 33 19.0**	**+0.6**
CLL				*e**SP	**pP**	**07 33 24.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**76.70**	**283**	P	**P**	**07 33 19.8**	**+0.6**
	comp=E,14nm,1.0s,baz=28,slow=6.1,SNR=40						
CMAR	**Chiang Mai Arr**	**76.70**	**283**	P	**P**	**07 33 19.0**	**-0.2**
BRG	**Berggiesshubel**	**77.06**	**358**	*e*P	**P**	**07 33 21.5**	**+0.8**
BRG				Amp		07 33 22.6	
	comp=Z,6.8nm,0.9s						
CHVC	**Chvalec**	**77.28**	**357**	*e*P	**P**	**07 33 22.9**	**+0.9**
MOX	**Moxa**	**77.32**	**359**	P	**P**	**07 33 23.7**	**+1.5**
MOX				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DPC	**Dobruska-Polom**	**77.50**	**356**	*e*P	**P**	**07 33 24.8**	**+1.5**
DPC	**Dobruska-Polom**	**77.50**	**356**	*e*P	**P**	**07 33 24.8**	**+1.5**
MHMT	**Maesarieng**	**77.52**	**283**	P	**P**	**07 33 25.9**	**+2.1**
KRLC	**Kraliky**	**77.76**	**356**	*e*P	**P**	**07 33 25.8**	**+1.1**
KRLC	**Kraliky**	**77.76**	**356**	*e*P	**P**	**07 33 25.8**	**+1.1**
KWP	**Kalwaria Pacla**	**77.83**	**352**	P	**P**	**07 33 25.7**	**+0.7**
KWP	**Kalwaria Pacla**	**77.83**	**352**	P	**P**	**07 33 25.7**	**+0.7**
MORC	**Moravsky Berou**	**78.03**	**356**	P	**P**	**07 33 27.3**	**+1.1**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MORC	**Moravsky Berou**	**78.03**	**356**	P	**P**	**07 33 27.3**	**+1.1**
MORC				IAmb	IAmb	07 33 28.2	
	comp=Z,6.4nm,0.9s						
MORC	**Moravsky Berou**	**78.03**	**356**	*e*P	**P**	**07 33 27.0**	**+0.8**
NIL	**Nilore**	**78.47**	**311**	P	**P**	**07 33 29.4**	**+0.4**
NIL				pmax	pmax		
	comp=Z,30nm,0.9s						
NIL	**Nilore**	**78.47**	**311**	P	**P**	**07 33 29.4**	**+0.4**
VRAC	**Vranov**	**78.54**	**356**	*e*P	**P**	**07 33 30.2**	**+1.2**
LANS	**Liptovska Anna**	**78.54**	**354**	*e*P	**P**	**07 33 31.3**	**+2.2**
LANS				pmax	pmax		
	comp=Z,12nm,1.2s						
LANS	**Liptovska Anna**	**78.54**	**354**	*e*P	**P**	**07 33 31.3**	**+2.2**
KOLS	**Kolonicke sedl**	**78.56**	**352**	*e*P	**P**	**07 33 29.9**	**+0.8**
KOLS	**Kolonicke sedl**	**78.56**	**352**	*e*P	**P**	**07 33 29.9**	**+0.8**
KRUC	**Moravsky**	**78.79**	**356**	*e*P	**P**	**07 33 31.2**	**+0.8**
KHC	**Kasperske Hory**	**78.81**	**358**	P	**P**	**07 33 31.4**	**+0.9**
KHC				pmax	pmax		
	comp=Z,13nm,1.2s						
KHC	**Kasperske Hory**	**78.81**	**358**	*e*P	**P**	**07 33 31.9**	**+1.4**
KHC	**Kasperske Hory**	**78.81**	**358**	P	**P**	**07 33 31.4**	**+0.9**
KHC				IAmb	IAmb	07 33 33.0	
	comp=Z,12nm,1.2s						
JAVC	**Velka Javorina**	**78.94**	**355**	*e*P	**P**	**07 33 33.4**	**+2.2**
GOF	**Gofitskoye**	**79.02**	**337**⇑	*e*P	**P**	**07 33 33.1**	**+1.4**
GERES	**GERESS Array B**	**79.09**	**358**	P	**P**	**07 33 32.5**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=7.1,slow=4.3,SNR=20						
CKRC	**Cesky Krumlov**	**79.10**	**358**	*e*P	**P**	**07 33 33.2**	**+1.1**
KECS	**Kecovo**	**79.14**	**353**	*e*P	**P**	**07 33 33.5**	**+1.2**
KECS	**Kecovo**	**79.14**	**353**	*e*P	**P**	**07 33 33.5**	**+1.2**
VYHS	**Vyhne**	**79.24**	**355**	*e*P	**P**	**07 33 33.7**	**+0.9**
VYHS				pmax	pmax		
	comp=Z,15nm,1.1s						
VYHS	**Vyhne**	**79.24**	**355**	*e*P	**P**	**07 33 33.7**	**+0.9**
SMOL	**Smolenice**	**79.29**	**356**	*e*P	**P**	**07 33 34.9**	**+1.8**
SMOL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SMOL	**Smolenice**	**79.29**	**356**	*e*P	**P**	**07 33 34.9**	**+1.8**
MODS	**Modra-Piesok**	**79.44**	**356**	*e*P	**P**	**07 33 36.6**	**+2.6**
MODS				pmax	pmax		
	comp=Z,21nm,1.1s						
MODS	**Modra-Piesok**	**79.44**	**356**	*e*P	**P**	**07 33 36.5**	**+2.6**
BUR08	**Bucovina Ar. S**	**79.56**	**350**	P	**P**	**07 33 35.1**	**+0.4**
BURAR	**Bucovina Array**	**79.59**	**350**	P	**P**	**07 33 35.5**	**+0.6**
BURAR				IAmb	IAmb	07 33 36.0	
	comp=Z,3.7nm,0.8s						
KBL	**Kabul**	**79.62**	**314**	P	**P**	**07 33 35.0**	**-0.4**
KBL				pmax	pmax		
	comp=Z,14nm,0.9s						
KBL	**Kabul**	**79.62**	**314**	P	**P**	**07 33 35.0**	**-0.4**
KBL				IAmb	IAmb	07 33 35.7	
	comp=Z,14nm,0.9s						
ZST	**Bratislava**	**79.62**	**356**	*e*P	**P**	**07 33 37.0**	**+2.1**
ZST				pmax	pmax		
	comp=Z,60nm,1.3s						
ZST	**Bratislava**	**79.62**	**356**	*e*P	**P**	**07 33 37.0**	**+2.1**
CONA	**Conrad Observa**	**79.94**	**357**	*i* P	**P**	**07 33 38.1**	**+1.4**
	comp=Z,12nm,0.9s,SNR=5.9						
KIV	**Kislovodsk**	**80.14**	**337**	*e*P	**P**	**07 33 39.4**	**+1.4**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s						
KIV	**Kislovodsk**	**80.14**	**337**	P	**P**	**07 33 39.9**	**+1.9**
KBZ	**Khabaz**	**80.31**	**337**	P	**P**	**07 33 40.0**	**+1.3**
	comp=Z,7.9nm,0.8s,baz=13,slow=1.2,SNR=18						
KBZ	**Khabaz**	**80.31**	**337**⇓	*e*P	**P**	**07 33 40.3**	**+1.6**
KBZ				pmax	pmax		
	comp=Z,11nm,0.9s						
RETA	**Reutte**	**80.48**	**0**	*e*P	**P**	**07 33 41.2**	**+1.6**
	comp=Z,4.4nm,0.8s						
MOTA	**Moosalm**	**80.62**	**360**	*e*P	**P**	**07 33 41.6**	**+1.0**
	comp=Z,13nm,0.9s						
WATA	**Walderalm**	**80.63**	**359**	*e*P	**P**	**07 33 42.1**	**+1.6**
	comp=Z,13nm,1.1s						
ARSA	**Arzberg**	**80.63**	**357**	*e*P	**P**	**07 33 41.5**	**+1.1**
	comp=Z,7.5nm,0.8s						
WTTA	**Wattenberg**	**80.70**	**359**	*e*P	**P**	**07 33 42.6**	**+1.6**
	comp=Z,25nm,1.5s						
SQTA	**Sankt Quirin**	**80.75**	**360**	*e*P	**P**	**07 33 43.0**	**+1.9**
	comp=Z,11nm,0.7s						
KBA	**Koelnbreinsper**	**80.86**	**358**	*e*P	**P**	**07 33 43.8**	**+1.9**
	comp=Z,36nm,1.2s						
MFF	**Saint Martin d**	**80.92**	**8**	*e*P	**P**	**07 33 44.5**	**+2.6**
MFF				pmax	pmax		
	comp=Z,65nm,1.6s						
FETA	**Feichten**	**80.94**	**0**	*i* P	**P**	**07 33 43.3**	**+1.0**
	comp=Z,17nm,1.1s,SNR=7.9						
GEYT	**Alibeck**	**81.05**	**324**	P	**P**	**07 33 43.5**	**+0.6**
	comp=Z,8.5nm,1.0s,baz=15,slow=12,SNR=9.7						
GEYT	**Alibeck**	**81.05**	**324**	P	**P**	**07 33 43.0**	**+0.2**
AKT	**Akhty**	**81.16**	**333**	*e*P	**P**	**07 33 43.9**	**+0.5**
AKT				*e*		07 33 50.9	
AKT				pmax	pmax		
	comp=Z,30nm,0.9s						
ABTA	**Abfaltersbach**	**81.21**	**359**	*e*P	**P**	**07 33 45.0**	**+1.4**
	comp=Z,8.6nm,1.0s						
SOKA	**Soboth**	**81.22**	**357**	*e*P	**P**	**07 33 44.8**	**+1.1**
	comp=Z,22nm,1.2s						
MYKA	**Terra Mystica**	**81.31**	**358**	*e*P	**P**	**07 33 45.8**	**+1.7**
	comp=Z,6.9nm,1.0s						
OBKA	**Obir**	**81.40**	**357**	*i* P	**P**	**07 33 45.7**	**+1.1**
	comp=Z,11nm,0.9s,SNR=4.6						
TUE	**Stuetta**	**81.49**	**1**	P	**P**	**07 33 46.3**	**+1.1**
TEOL	**Teolo**	**82.60**	**359**	P	**P**	**07 33 51.8**	**+0.9**
LFF	**La Frestale**	**82.64**	**7**	*e*P	**P**	**07 33 52.1**	**+1.1**
LFF				pmax	pmax		
	comp=Z,30nm,1.2s						
BNI	**Bardonecchia**	**82.85**	**3**	P	**P**	**07 33 54.1**	**+1.8**
BNI				pmax	pmax		
	comp=Z,21nm,1.1s						
BNI	**Bardonecchia**	**82.85**	**3**	P	**P**	**07 33 54.1**	**+1.8**
GNI	**Garni**	**83.21**	**334**	P	**P**	**07 33 55.4**	**+1.1**
	comp=Z,5.4nm,0.5s,baz=46,slow=18,SNR=4.7						
GNI	**Garni**	**83.21**	**334***d*	*i*P	**P**	**07 33 55.3**	**+1.0**
GNI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GNI	**Garni**	**83.21**	**334**	P	**P**	**07 33 54.5**	**+0.2**
GNI				IAmb	IAmb	07 33 57.0	
	comp=Z,8.7nm,0.8s						
DIVS	**Divibare**	**83.54**	**353**	P	**P**	**07 33 55.4**	**-0.4**
DIVS				IAmb	IAmb	07 33 57.2	
	comp=Z,8.2nm,1.2s						
OSSC	**Osservatorio P**	**84.44**	**360**	P	**P**	**07 34 00.9**	**+0.6**
MURB	**Monte Urbino**	**84.69**	**359**	P	**P**	**07 34 03.2**	**+1.6**
ILGA	**Ilgaz**	**84.81**	**343**	P	**P**	**07 34 02.8**	**+0.3**
GEVA	**Gevas**	**85.38**	**335**	P	**P**	**07 34 06.2**	**+0.8**
BRTR	**Keskin Array B**	**86.11**	**343**	P	**P**	**07 34 10.0**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=58,slow=3.1,SNR=8.9						
BRTR	**Keskin Array B**	**86.11**	**343**	P	**P**	**07 34 08.7**	**-0.2**
BRTR	**Keskin Array B**	**86.11**	**343**	P	**P**	**07 34 08.7**	**-0.2**
ALN	**Alexandroupoli**	**86.13**	**348**	P	**P**	**07 34 09.3**	**+0.6**
ALN				pmax	pmax		
	comp=Z,19nm,1.2s						
ALN	**Alexandroupoli**	**86.13**	**348**	P	**P**	**07 34 09.3**	**+0.6**
FNA	**Florina**	**86.72**	**352**	P	**P**	**07 34 11.5**	**-0.3**
FNA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FNA	**Florina**	**86.72**	**352**	P	**P**	**07 34 11.5**	**-0.3**
FNA				IAmb	IAmb	07 34 12.8	
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**87.10**	**232**	P	**P**	**07 34 12.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=80,slow=6.4,SNR=4.1						
ESBB	**Sonseca Array**	**87.39**	**11**	P	**P**	**07 34 15.8**	**+0.8**
ESBB				IAmb	IAmb	07 34 16.7	
	comp=Z,7.1nm,0.9s						
ESDC	**Sonseca Array**	**87.40**	**11**	P	**P**	**07 34 15.7**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=344,slow=4.7,SNR=20						
PSI	**Prapat**	**88.94**	**273**	P	**P**	**07 34 22.9**	**+0.1**
PSI				pmax	pmax		
	comp=Z,19nm,1.0s						
RPSI	**Rantau Prapat**	**89.02**	**273**	P	**P**	**07 34 22.9**	**-0.1**
ASAR	**Alice Springs**	**90.49**	**230**	P	**P**	**07 34 29.1**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=33,slow=5.1,SNR=12						
H03N2	**Juan Fernandez**	**115.86**	**112**	T	T	09 46 52.6	
	baz=314						
H03N1	**Juan Fernandez**	**115.87**	**112**	T	T	09 46 53.4	
	baz=314						
H03N3	**Juan Fernandez**	**115.87**	**112**	T	T	09 46 49.7	
	baz=314						
MAW	**Mawson**	**150.96**	**219**	PKPbc	**PKPbc**	**07 41 19.0**	**-0.2**
	comp=Z,2.9nm,1.0s,baz=46,slow=5.6,SNR=4.3						

IDC 27 07:27:09.3±25.0, 29°.23N×71°.75E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/60, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=806.6km s-min=42.8km az=88.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.37**	**22**	P	P	07 31 36.6	0.0
	0.1nm,0.3s,baz=215,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**77.66**	**121**	P	P	07 39 08.4	+0.4
	0.4nm,0.8s,baz=322,slow=5.3,SNR=1.8						
ASAR	**Alice Springs**	**79.61**	**124**	P	P	07 39 18.4	-0.3
	0.3nm,0.7s,baz=309,slow=5.7,SNR=4.9						

IDC 27 07:29:04.9±3.6, 53°.37N×87°.61E, h0km, mb1 2.5/2, mb1mx2.5/59, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=35.5km s-min=17.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**290**	*i*		07 39 37.3	
	baz=107,slow=309,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.76**	**290**	Pg	Pn	07 29 36.5	0.0
	0.5nm,0.3s,baz=106,slow=15,SNR=5.4						
ZALV				Lg	Lg	07 30 00.1	
	0.5nm,0.3s,baz=112,slow=23,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.25**	**247**	Pn	Pn	07 30 39.6	+1.4
	0.1nm,0.3s,baz=64,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**7.42**	**210**	Pn	Pn	07 30 55.0	+0.7
	0.1nm,0.3s,baz=28,slow=14,SNR=4.1						

*NEIC **27** 07:31:05.8±2.2, 52°.10N±0°.05×169°.33W±0°.06, h18km±3km, Error ellipse: s-maj=7.9km s-min=4.9km az=155.0*

AEIC 27 07:31:06±2.0, 52°.14N±0°.03×169°.34W±0°.05, h22km±6km, ML2.8/19, mb4.0/6(NEIC), Error ellipse: s-maj=4.6km s-min=4.2km az=119.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.89**	**19**		Pb	07 31 22.1	-0.7
NIKH	**Nikolski High**	**0.89**	**19**		Sn	07 31 36.0	+0.7
OKSP	**Okmok Steeple**	**1.29**	**29**		Pn	07 31 28.1	-0.5
OKTU	**Okmok Mt. Tuli**	**1.48**	**32**		Pn	07 31 31.1	-0.2
OKNC	**Okmok New Cone**	**1.52**	**29**		Pn	07 31 32.3	+0.5
OKNC					Sb	07 31 52.8	+0.6
MSW	**Makushin Switc**	**2.36**	**40**		Pn	07 31 44.0	+0.6
MSW					Sn	07 32 13.1	+1.5
MNAT	**Makushin Natee**	**2.37**	**41**		Pn	07 31 44.1	+0.5
MNAT					Sn	07 32 12.6	+0.6
UNV	**Unalaska Valle**	**2.42**	**44**		Pn	07 31 44.4	+0.2
UNV					Sn	07 32 13.6	+0.5
MTBL	**Makushin Table**	**2.44**	**40**		Pn	07 31 45.6	+1.0
AKUT	**Akutan**	**2.94**	**46**

MOKO eS Sn 07 35 02.9 -1.4
MOKO IAML 07 35 29.1
comp=N,493nm,0.3s
MOKO IAML 07 35 29.1
comp=E,693nm,0.4s
IMP Imphal 3.49 135 eP Pb 07 34 37.9 -3.7
IMP eS Sb 07 35 20.3 -3.3
IMP IAML 07 35 22.2
comp=N,174nm,0.5s
CM31 Chiang Mai Arr 11.34 140 Pn Pn 07 36 22.3 +1.5
CMAR Chiang Mai Arr 11.34 140 Pn Pn 07 36 22.0 +1.1
comp=N,0.6nm,0.3s,baz=313,slow=13,SNR=2.0
CMAR Chiang Mai Arr 11.34 140 Pn 07 36 21.6 +0.7
SLVN Son La 13.00 115 Pn Pn 07 36 43.1 -0.6
BHPL Bhopal 13.14 255 ex x 07 36 41.9
BHPL eS Sn 07 38 58.9 -12
ENH Enshi 16.27 75 P 07 37 29.8 -0.3
ENH IAmb IAmb 07 37 32.8
comp=Z,22nm,1.0s
BOOM Boomskoye usch 19.59 324 P Pn 07 38 08.3 +0.1
BOOM IAmb IAmb 07 38 09.7
comp=Z,7.4nm,0.8s
DRK Karamyk 20.19 312 P P 07 38 13.5 0.0
DRK IAmb IAmb 07 38 22.0
comp=Z,13nm,0.5s
KBL Kabul 20.32 296 P P 07 38 15.6 +0.8
KBL IAmb IAmb 07 38 31.5
comp=Z,6.2nm,0.7s
AAK Ala-Archa 20.46 323 P P 07 38 15.6 -0.6
AAK IAmb IAmb 07 38 29.1
comp=Z,4.8nm,0.5s
MK31 Makanchi Array 20.66 342 P P 07 38 18.1 -0.1
MKAR Makanchi Array 20.66 342 P P 07 38 18.0 -0.3
comp=Z,4.0nm,0.6s,baz=174,slow=8.3,SNR=39
MKAR PcP PcP 07 42 28.4 +0.6
comp=Z,0.2nm,0.6s,baz=158,slow=1.6,SNR=1.8
MKAR Makanchi Array 20.66 342 P P 07 38 17.9 -0.4
MAKZ Makanchi 20.76 342 P P 07 38 19.2 -0.1
GAR Garm 20.96 309 P P 07 38 22.8 +1.1
GAR IAmb IAmb 07 38 25.6
comp=Z,12nm,1.0s
BTK Batken 21.14 312 P P 07 38 24.5 +1.0
CHGR Chuyangaron 21.63 307 P P 07 38 28.4 -0.4
CHGR IAmb IAmb 07 38 37.7
comp=Z,8.7nm,0.6s
KK31 Karatay Array 23.01 318 P P 07 38 43.7 +0.3
KKAR Karatay Array 23.01 318 P P 07 38 43.3 -0.1
SONM Songino Array 23.64 26 P P 07 38 50.1 +0.3
comp=Z,2.5nm,0.8s,baz=209,slow=11,SNR=6.6
SONM Songino Array 23.64 26 P P 07 38 50.5 +0.7
ULN Ulaanbaatar 23.93 27 P P 07 38 52.8 +0.3
KURBB Kurchatov Arra 25.19 341 P P 07 39 03.6 -0.1
comp=Z,5.0nm,0.9s,baz=156,slow=9.4,SNR=22
HRA Herat 25.80 293 P P 07 39 09.0 -0.7
HRA IAmb IAmb 07 39 23.6
comp=Z,4.2nm,0.6s
ZAA0 Zalesovo Array 27.00 352 P P 07 39 19.8 -0.3
ZALV Zalesovo Beam 27.00 352 P P 07 39 20.3 +0.2
comp=Z,1.7nm,0.4s,baz=174,slow=7.4,SNR=11
ZALV Zalesovo Beam 27.00 352 P P 07 39 19.1 -1.0
BVAR Borovoye Array 29.98 335 P P 07 39 47.3 +0.7
comp=Z,0.9nm,0.6s,baz=164,slow=16,SNR=5.1
BRVK Borovoye 30.04 334 P P 07 39 46.4 -0.8
UOSS Minazif 31.48 274 P P 07 39 59.6 -0.6
ABKAR Akbulak array 32.52 321 P P 07 40 06.8 -2.3
ABKAR IAmb IAmb 07 40 10.2
comp=Z,3.2nm,0.7s
JTU Tsushima 33.37 68 P P 07 40 16.5 -0.1
AKTO Aktyubinsk 34.20 321 P P 07 40 23.8 +0.1
comp=Z,1.5nm,0.6s,baz=96,slow=6.2,SNR=6.3
JSU Suzuyama 34.29 73 P P 07 40 25.9 +1.2
ARU Arti 37.26 330 P P 07 40 49.6 -0.3
comp=Z,1.0nm,0.4s,baz=140,slow=2.5,SNR=6.1
ARU Arti 37.26 330 IAmb IAmb 07 40 50.9
comp=Z,4.4nm,0.7s
MJAR Matsushiro Arr 40.57 65 P P 07 41 18.3 +0.4
comp=Z,2.2nm,0.8s,baz=274,slow=7.5,SNR=4.2
MJAR Matsushiro Arr 40.57 65 P P 07 41 18.1 +0.2
NRIK Noril'sk 42.09 358 P P 07 41 30.2 +0.3
comp=Z,4.7nm,0.6s,baz=162,slow=5.2,SNR=10
NRIK Noril'sk 42.09 358 P P 07 41 30.2 +0.3
NRIK IAmb IAmb 07 41 30.9
comp=Z,6.5nm,0.8s
ILGA Ilgaz 48.69 302 P P 07 42 22.1 -0.7
ILGA IAmb IAmb 07 42 24.9
comp=Z,6.2nm,1.0s
BRTR Keskin Array B 48.82 300 P P 07 42 24.4 +0.6
comp=Z,0.6nm,0.7s,baz=65,slow=14,SNR=2.5
BRTR Keskin Array B 48.82 300 P P 07 42 24.0 +0.2
AKASG Malin Array Be 51.83 314 P P 07 42 45.4 -0.8
comp=Z,0.4nm,0.3s,baz=80,slow=6.6,SNR=5.1
AKASG Malin Array Be 51.83 314 P P 07 42 46.2 0.0
FIA1 FINESS Array S 54.53 328 P P 07 43 04.6 -1.3
FINES FINESS Array B 54.53 328 P P 07 43 05.9 0.0
comp=Z,2.8nm,0.6s,baz=100,slow=8.7,SNR=15
ARCES ARCESS Array B 56.20 337 P P 07 43 18.0 +0.1
comp=Z,2.9nm,0.8s,baz=98,slow=7.5,SNR=6.3
ARCES ARCESS Array B 56.20 337 IAmb IAmb 07 43 37.8
comp=Z,11nm,1.2s
NC405 NORSAR Array S 61.45 327 P P 07 43 53.7 -0.7
NC602 NORSAR Array S 61.57 327 P P 07 43 54.8 -0.5
NC303 NORSAR Array S 61.60 327 P P 07 43 55.5 0.0
NB2 NORSAR Subarra 61.70 327 P P 07 43 55.6 -0.6
comp=Z,2.0nm,0.6s,baz=84,slow=6.5
NOA NORSAR Array B 61.70 327 P P 07 43 55.6 -0.6
comp=Z,2.7nm,0.6s,baz=85,slow=6.7,SNR=13
NC204 NORSAR Array S 61.89 327 P P 07 43 57.4 -0.1
GEC2 GERESS Array S 61.98 313 P P 07 43 57.6 -0.7
GEC2 IAmb IAmb 07 43 58.9
comp=Z,7.4nm,1.4s
GERES GERESS Array B 61.98 313 P P 07 43 57.5 -0.8
comp=Z,1.3nm,0.8s,baz=79,slow=6.9,SNR=7.2
GERES GERESS Array B 61.98 313 P P 07 43 57.8 -0.6
WB0 Warramunga Arr 62.77 134 P P 07 44 05.1 +1.3
WB0 IAmb IAmb 07 44 05.6
comp=Z,6.4nm,1.1s
WRA Warramunga Arr 62.87 134 P P 07 44 04.6 +0.2
comp=Z,0.8nm,0.6s,baz=322,slow=6.9,SNR=6.2
WB2 Warramunga Arr 62.87 134 P P 07 44 05.5 +1.0
WB2 IAmb IAmb 07 44 14.5
comp=Z,5.1nm,1.1s
WR0 Warramunga Arr 63.01 134 P P 07 44 06.6 +1.2
WR0 IAmb IAmb 07 44 27.6
comp=Z,5.1nm,1.2s
ASAR Alice Springs 65.33 137 P P 07 44 21.4 +0.7
comp=Z,1.5nm,0.8s,baz=318,slow=6.3,SNR=12
EUNU Eureka 72.82 360 P P 07 45 07.5 +1.1
EUNU IAmb IAmb 07 45 08.2
comp=Z,6.6nm,0.8s
SUMG Summit 74.66 346 P P 07 45 17.2 -0.5
SUMG IAmb IAmb 07 45 39.7
comp=Z,4.1nm,1.0s
ESDC Sonseca Array 76.80 308 P P 07 45 30.4 +0.3
comp=Z,0.8nm,0.8s,baz=66,slow=7.2,SNR=3.0
ESDC Sonseca Array 76.80 308 IAmb IAmb 07 45 36.1
comp=Z,1.2nm,1.2s
YKA Yellowknife Ar 88.12 12 P P 07 46 29.0 +0.4
comp=Z,0.5nm,0.5s,baz=22,slow=4.9,SNR=4.0
ROSC El Rosal 145.09 334 PKPbc PKPdf 07 53 17.4 +0.4
comp=Z,22nm,0.7s,baz=35,slow=2.5,SNR=17
ROSC El Rosal 145.09 334 P PKPdf 07 53 17.4 +0.4
ROSC El Rosal 145.09 334 PKPdf 07 53 17.2 +0.2
ROSC El Rosal 145.09 334 eP PKPbc 07 53 16.1 -0.2
CPUP Villa Florida 151.96 265 PKPbc PKPbc 07 53 31.3 -2.4
comp=Z,1.8nm,0.8s,baz=36,slow=4.0,SNR=4.1

*NORS **27** 07:37:08.7±0.0, 43.°07N×44.°23E, h3km, MPVA3.8*
*TIF **27** 07:37:09.9, 43.°09N×44.°24E, h4km±2km*
*MOS **27** 07:37:09.0±0.0, 43.°09N×44.°21E, h11km, MPVA3.7*
*DRS **27** 07:37:16.7±0.0, 43.°06N×44.°27E, h23km*
ISC 27 07:37:10.3±0.8, **43.°09N**±0.°01×**44.°24E**±0.°01, **h12**km±5km, **n89**, σ1°**28**/169, **3C-1D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.10**	**21**	‖ *i*PG	**Pg**	**07 37 13.1**	**0.0**
ARNR	**Ardon**	**0.10**	**21**	*e*Pg	**Pg**	**07 37 12.9**	**-0.2**
ARNR				*e*Sg	**Sg**	**07 37 15.6**	**+0.4**
KORR	**Kora**	**0.12**	**268**	*e*PG	**Pg**	**07 37 13.6**	**+0.1**
KORR	**Kora**	**0.12**	**268**	*e*Pg	**Pg**	**07 37 13.6**	**+0.1**
KORR				*e*Sg	**Sg**	**07 37 15.9**	**+0.2**
LACR	**Lac**	**0.27**	**170**	*e*PG	**Pb**	**07 37 16.5**	**-0.7**
LACR				*e*S	**Sb**	**07 37 21.9**	**+0.2**
LACR	**Lac**	**0.27**	**170**	*e*Pg	**Pb**	**07 37 16.4**	**-0.7**
LACR				*e*Sg	**Sb**	**07 37 21.4**	**-0.4**
STDR	**Stavd-Durt**	**0.31**	**336**	*e*PG	**Pb**	**07 37 17.3**	**-0.5**
STDR				*e*S	**Sb**	**07 37 23.3**	**+0.5**
STDR	**Stavd-Durt**	**0.31**	**336**	*e*Pg	**Pb**	**07 37 17.1**	**-0.6**
STDR				*e*Sg	**Sb**	**07 37 23.3**	**+0.5**
VLKR	**Vladikavkaz**	**0.33**	**98**	*e*PG	**Pb**	**07 37 17.6**	**-0.6**
VLKR				*e*S	**Sb**	**07 37 24.0**	**+0.6**
VLKR	**Vladikavkaz**	**0.33**	**98**	*e*Pg	**Pb**	**07 37 17.6**	**-0.6**
VLKR				*e*Sg	**Sb**	**07 37 24.0**	**+0.6**
LSNR	**Lesken**	**0.35**	**302**	*e*PG	**Pb**	**07 37 18.2**	**-0.4**
LSNR				*e*S	**Sb**	**07 37 25.4**	**+1.2**
LSNR	**Lesken**	**0.35**	**302**	*e*Pg	**Pb**	**07 37 18.1**	**-0.4**
LSNR				*e*Sg	**Sb**	**07 37 26.2**	**+2.0**
BTKR	**Batakoyurt**	**0.36**	**38**	*e*PG	**Pb**	**07 37 18.4**	**-0.3**
BTKR				*e*S	**Sb**	**07 37 24.4**	**0.0**
BTKR	**Batakoyurt**	**0.36**	**38**	*i*Pg	**Pb**	**07 37 18.4**	**-0.3**
BTKR				*e*Sg	**Sb**	**07 37 24.1**	**-0.3**
ZEI	**Tsey**	**0.39**	**219**	*e*PG	**Pb**	**07 37 18.4**	**-0.9**
ZEI				*e*S	**Sb**	**07 37 24.9**	**-0.5**
ZEI	**Tsey**	**0.39**	**219**	*e*Pg	**Pg**	**07 37 18.2**	**+0.1**
ZEI				*e*Sg	**Sg**	**07 37 23.1**	**-0.2**
KMGR	**Komgaron**	**0.46**	**94**	*e*PG	**Pb**	**07 37 20.0**	**-0.5**
KMGR				*e*S	**Sb**	**07 37 28.6**	**+1.3**
KMGR	**Komgaron**	**0.46**	**94**	*e*Pg	**Pb**	**07 37 20.0**	**-0.5**
KMGR				*e*Sg	**Sb**	**07 37 28.6**	**+1.3**
MTEO	**Meteo**	**0.47**	**152**	P	**Pb**	**07 37 20.1**	**-0.7**
MTEO				S	**Sb**	**07 37 27.2**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.52**	**249**	*e*PG	**Pg**	**07 37 20.4**	**-0.1**
DIGR				*e*S	**Sb**	**07 37 28.4**	**-0.6**
DIGR	**Digorskoe uzhe**	**0.52**	**249**	*i*Pg	**Pg**	**07 37 20.4**	**-0.1**
DIGR				*e*Sg	**Sg**	**07 37 27.3**	**-0.1**
PNSH	**Pansheti**	**0.53**	**148**	P	**Pb**	**07 37 21.0**	**-0.8**
PNSH				S	**Sb**	**07 37 29.0**	**-0.5**
PNSH	**Pansheti**	**0.53**	**148**	PG	**Pb**	**07 37 21.0**	**-0.8**
PNSH				S	**Sb**	**07 37 29.0**	**-0.5**
NCK	**Nalchik**	**0.62**	**311**	*e*PG	**Pb**	**07 37 23.7**	**+0.6**
NCK				*e*S	**Sn**	**07 37 34.5**	**-0.4**
NCK	**Nalchik**	**0.62**	**311**	*e*Pg	**Pb**	**07 37 23.4**	**+0.3**
NCK				*e*Sg	**Sb**	**07 37 33.0**	**+1.2**
PRTR	**Priterechnaya**	**0.66**	**3**	*e*PG	**Pb**	**07 37 24.0**	**+0.2**
PRTR				*e*S	**Sn**	**07 37 34.3**	**-1.6**
PRTR	**Priterechnaya**	**0.66**	**3**	*e*Pg	**Pb**	**07 37 24.0**	**+0.2**
PRTR				*e*Sg	**Sn**	**07 37 34.3**	**-1.6**
TRKR	**Terskaya**	**0.73**	**30**	*e*PG	**Pn**	**07 37 27.4**	**+0.9**
TRKR				*e*S	**Sn**	**07 37 39.2**	**+1.6**
ONI	**Oni**	**0.76**	**229**	P	**Pb**	**07 37 25.4**	**-0.2**
ONI				S	**Sb**	**07 37 36.9**	**+0.9**
ONI	**Oni**	**0.76**	**229**	PG	**Pb**	**07 37 25.4**	**-0.2**
ONI				S	**Sb**	**07 37 36.9**	**+0.9**
ONI	**Oni**	**0.76**	**229**	*e*Pg	**Pb**	**07 37 25.4**	**-0.2**
ONI				*e*Sg	**Sb**	**07 37 36.7**	**+0.7**
NEY	**Neytrino**	**1.12**	**279**	*e*PG	**Pb**	**07 37 31.4**	**-0.3**
NEY				*e*S	**Sb**	**07 37 46.2**	**-0.1**
NEY	**Neytrino**	**1.12**	**279**	*e*Pg	**Pb**	**07 37 31.4**	**-0.3**
NEY				*e*Sg	**Sb**	**07 37 46.2**	**-0.1**
GROC	**Groznyy**	**1.15**	**84**	*e*PG	**Pn**	**07 37 31.9**	**-0.3**
GROC				*e*		07 37 49.3	
GROC				pmax	pmax		
	comp=Z,109nm,0.5s						
GROC				smax	smax		
	comp=N,1μm,0.5s						
GROC				smax	smax		
	comp=N,1μm,0.4s						
GROC				smax	smax		
	comp=E,636nm,0.4s						
GROC	**Groznyy**	**1.15**	**84**	*e*Pg	**Pg**	**07 37 33.8**	**+1.4**
GROC				*e*Sg	**Sn**	**07 37 51.4**	**+3.5**
KBZ	**Khabaz**	**1.17**	**304**	*e*PG	**Pb**	**07 37 31.9**	**-0.5**
KBZ				*e*S	**Sn**	**07 37 49.8**	**+1.5**
KBZ	**Khabaz**	**1.17**	**304**	*e*Pg	**Pb**	**07 37 31.9**	**-0.5**
KBZ				*e*Sg	**Sn**	**07 37 49.8**	**+1.5**
PYA1	**Pyatigorsk**	**1.28**	**320**	*c i*PG	**Pb**	**07 37 34.2**	**-0.2**
PYA1				*i*S	**Sg**	**07 37 51.5**	**0.0**
PYA1	**Pyatigorsk**	**1.28**	**320**	*e*Pg	**Pg**	**07 37 34.4**	**-0.5**
PYA1				*e*Sg	**Sg**	**07 37 52.3**	**+0.8**
SHA1	**Shidzhatmaz**	**1.32**	**300**	‖ *i*PG	**Pg**	**07 37 35.4**	**-0.3**
SHA1				*e*S	**Sg**	**07 37 54.3**	**+1.4**
SHA1	**Shidzhatmaz**	**1.32**	**300**	*i*Pg	**Pg**	**07 37 35.4**	**-0.3**
SHA1				*e*Sg	**Sg**	**07 37 53.8**	**+0.9**
BEYR	**Belyy Ugol+**	**1.38**	**312**	*e*PG	**Pg**	**07 37 36.2**	**-0.7**
BEYR				*e*S	**Sg**	**07 37 55.2**	**+0.3**
BEYR	**Belyy Ugol+**	**1.38**	**312**	*e*Pg	**Pg**	**07 37 36.2**	**-0.7**
BEYR				*e*Sg	**Sg**	**07 37 55.2**	**+0.3**
KIV0	**Kislovodsk Arr**	**1.42**	**308**	*i*Pg	**Pb**	**07 37 36.7**	**0.0**
KIV0				*e*Sg	**Sg**	**07 37 56.3**	**+0.4**
KIV	**Kislovodsk**	**1.42**	**308**	*i*PG	**Pb**	**07 37 36.7**	**-0.2**
KIV				*e*S	**Sg**	**07 37 56.3**	**+0.2**
KIV	**Kislovodsk**	**1.42**	**308**	*e*Pg	**Pb**	**07 37 36.6**	**-0.2**
KIV				*e*Sg	**Sg**	**07 37 56.3**	**+0.2**
BKRG	**Bakuriani**	**1.43**	**202**	P	**Pg**	**07 37 37.9**	**+0.1**
BKRG	**Bakuriani**	**1.43**	**202**	PG	**Pg**	**07 37 37.9**	**+0.1**
BTNK	**Botanikuri**	**1.47**	**163**	P	**Pg**	**07 37 38.9**	**+0.4**
BTNK				S	**Sg**	**07 38 00.5**	**+3.0**
BTNK	**Botanikuri**	**1.47**	**163**	PG	**Pg**	**07 37 38.9**	**+0.4**
BTNK				S	**Sg**	**07 38 00.5**	**+3.0**
BTLR	**Botlikh**	**1.52**	**106**	*e*PG	**Pg**	**07 37 38.9**	**-0.6**
BTLR				*e*S	**Sg**	**07 38 00.5**	**+1.3**
BTLR	**Botlikh**	**1.52**	**106**	*e*Pg	**Pg**	**07 37 38.9**	**-0.6**
BTLR				*e*Sg	**Sg**	**07 37 59.6**	**+0.4**
TRLG	**Trialeti**	**1.55**	**184**	P	**Pg**	**07 37 40.3**	**+0.2**
TRLG				S	**Sg**	**07 38 02.9**	**+2.6**
TRLG	**Trialeti**	**1.55**	**184**	PG	**Pg**	**07 37 40.3**	**+0.2**
TRLG				S	**Sg**	**07 38 02.9**	**+2.6**
CHVG	**Ch'k'valeri**	**1.62**	**257**	P	**Pg**	**07 37 42.4**	**+0.9**
CHVG				S	**Sg**	**07 38 05.5**	**+3.0**
CHVG	**Ch'k'valeri**	**1.62**	**257**	PN	**Pg**	**07 37 42.4**	**+0.9**
CHVG				S	**Sg**	**07 38 05.6**	**+3.0**
ABS	**Abastumani**	**1.70**	**219**	P	**Pg**	**07 37 42.3**	**-0.6**
ABS	**Abastumani**	**1.70**	**219**	PN	**Pg**	**07 37 42.3**	**-0.6**
KZRT	**Kazreti**	**1.71**	**176**	P	**Pg**	**07 37 42.2**	**-0.9**
KZRT				S	**Sg**	**07 38 05.8**	**+0.6**
KZRT	**Kazreti**	**1.71**	**176**	PN	**Pg**	**07 37 42.2**	**-0.9**
KZRT				S	**Sg**	**07 38 05.8**	**+0.6**
DLMR	**Dylym**	**1.75**	**90**	*e*PN	**Pb**	**07 37 41.5**	**-1.0**
DLMR				*e*S	**Sg**	**07 38 05.9**	**-0.8**
DLMR	**Dylym**	**1.75**	**90**	*e*Pg	**Pb**	**07 37 41.5**	**-1.0**
DLMR				*e*Sg	**Sg**	**07 38 05.9**	**-0.8**
DMNI	**Dmanisi**	**1.76**	**181**	P	**Pg**	**07 37 43.0**	**-1.1**
DMNI				S	**Sg**	**07 38 07.7**	**+0.8**
DMNI	**Dmanisi**	**1.76**	**181**	PN	**Pg**	**07 37 43.0**	**-1.1**
DMNI				S	**Sg**	**07 38 07.7**	**+0.8**
BGD	**Bogdanovka**	**1.89**	**195**	P	**Pg**	**07 37 46.1**	**-0.4**
BGD				S	**Sg**	**07 38 13.0**	**+2.1**
BGD	**Bogdanovka**	**1.89**	**195**	PN	**Pg**	**07 37 46.1**	**-0.4**
BGD				S	**Sg**	**07 38 13.0**	**+2.1**
DBC	**Dubki**	**1.90**	**91**	*e*PN	**Pb**	**07 37 44.8**	**-0.2**
DBC				*e*S	**Sg**	**07 38 10.2**	**-1.3**
DBC				pmax	pmax		
	comp=Z,24nm,0.5s						
DBC	**Dubki**	**1.90**	**91**	*e*Pg	**Pn**	**07 37 43.1**	**+0.4**
DBC				*e*Sg	**Sg**	**07 38 10.4**	**-1.1**
DOMR	**Dombai**	**1.92**	**277**	*e*PN	**Pb**	**07 37 44.0**	**-1.4**
DOMR	**Dombai**	**1.92**	**277**	*e*Pg	**Pb**	**07 37 44.0**	**-1.4**
DOMR				*e*Sg	**Sb**	**07 38 08.1**	**-1.3**
ALER	**Alexandrovskoy**	**1.93**	**331**	*e*PN	**Pn**	**07 37 43.6**	**+0.6**
ALER	**Alexandrovskoy**	**1.93**	**331**	*e*Pg	**Pn**	**07 37 43.6**	**+0.6**
ALER				*e*Sg	**Sb**	**07 38 08.7**	**-0.7**
LGD	**Lagodekhi**	**1.94**	**130**	P	**Pg**	**07 37 46.5**	**-1.1**
LGD				S	**Sg**	**07 38 13.4**	**+0.6**
LGD	**Lagodekhi**	**1.94**	**130**	PN	**Pg**	**07 37 46.5**	**-1.1**
LGD				S	**Sg**	**07 38 13.4**	**+0.6**
KRNR	**Karanay**	**1.98**	**97**	*e*PN	**Pb**	**07 37 45.9**	**-0.4**
KRNR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KRNR	**Karanay**	**1.98**	**97**	*e*Pg	**Pb**	**07 37 45.1**	**-1.3**
KRNR				*e*Sg	**Sn**	**07 38 09.4**	**+0.8**
ARKR	**Arakani**	**2.09**	**103**	*e*PN	**Pb**	**07 37 47.8**	**-0.3**
ARKR				*e*S	**Sg**	**07 38 16.5**	**-0.9**
ARKR				*e*S	**Sb**	**07 38 17.9**	**+3.8**
ARKR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARKR	**Arakani**	**2.09**	**103**	*e*Pg	**Pb**	**07 37 48.1**	**0.0**
ARKR				*e*Sg	**Sb**	**07 38 13.5**	**-0.5**
GNBR	**Gunib**	**2.13**	**108**	*e*PN	**Pb**	**07 37 49.1**	**+0.2**
GNBR				*e*S	**Sb**	**07 38 15.5**	**+0.2**
GNBR	**Gunib**	**2.13**	**108**	*e*Pg	**Pb**	**07 37 49.1**	**+0.2**
GNBR				*e*Sg	**Sb**	**07 38 15.5**	**+0.2**
GOF	**Gofitskoye**	**2.15**	**337**	‖ *e*PN	**Pb**	**07 37 49.6**	**+0.5**
GOF				*e*S	**Sb**	**07 38 17.1**	**+1.4**
GOF				pmax	pmax		
	comp=Z,23nm,0.4s						
GOF				smax	smax		
	comp=E,45nm,0.5s						
GNI	**Garni**	**2.96**	**172**	*e*PN	**Pb**	**07 38 00.0**	**-3.2**
GNI				*i*S	**Sb**	**07 38 37.0**	**-2.4**
GNI				pmax	pmax		
	comp=Z,15nm,1.6s						
GNI				smax	smax		
	comp=Z,38nm,0.7s						
AKT	**Akhty**	**3.05**	**121**	*e*PN	**Pn**	**07 37 59.1**	**+0.6**
AKT				*e*S	**Sn**	**07 38 37.3**	**+2.3**
BELG	**Belogornoye**	**9.58**	**13**	*e*P	**Pn**	**07 39 28.9**	**+0.9**
MNK	**Minsk**	**15.65**	**323**	*i*P	**Pn**	**07 40 46.5**	**-4.1**
MNK				*i*S	**Sn**	**07 43 41.5**	**-2.3**
MNK				pmax	pmax		
	comp=E,3.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,26nm,0.9s						
MNK				MLR	MLR		
	comp=Z,580nm,21.0s						
MNK				MLR	MLR		
	comp=N,473nm,16.0s						
MNK				MLR	MLR		
	comp=E,19nm,18.0s						
MNK	**Minsk**	**15.65**	**323**	*i*P	**Pn**	**07 40 46.5**	**-4.1**
	comp=E,3.0nm,1.1s						
MNK				*i*P	**Pn**	**07 40 46.5**	**-4.1**
	comp=N,26nm,0.9s						
MNK				*i*P	**Pn**	**07 40 46.5**	**-4.1**
	comp=Z,6.0nm,0.5s,baz=129						
MNK				*i*PP	**P**	**07 40 54.9**	**+0.2**
MNK				*i*PPP	PPP	07 41 02.5	
MNK				*i*S	**Sn**	**07 43 41.5**	**-2.3**
MNK				*i*SS	**SnSn**	**07 43 55.6**	**-0.9**
MNK				*i*SSS	SSS	07 44 08.3	
MNK				*i*LQ	LQ	07 45 19.1	
MNK				*i*LR	LR	07 46 47.2	
MNK				*i*LRM	MLR	07 47 34.9	
	comp=E,19nm,17.8s						
MNK				*i*LRM	MLR	07 47 34.9	
	comp=N,473nm,16.1s						
MNK				*i*LRM	MLR	07 47 34.9	
	comp=Z,580nm,21.2s						
BRVK	**Borovoye**	**19.95**	**51**	*i*P	**Pn**	**07 41 44.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DGZ	**Jazzator, Alta**	**30.18**	**62**	*e*P	**P**	**07 43 21.2**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NRIK	**Noril'sk**	**34.36**	**26**	*e*P	**P**	**07 43 58.9**	**+2.3**
NRIK				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*INET **27** 07:38:22.6, 11.°69N×87.°91W, h23km, MW3.8*
SNET 27 07:38:29.9±1.4, **11.°95N×87.°83W, h15**km±22km, **ML3.1, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.31**	**360**	*e*P	Pn	07 38 53.5	-0.3
LCND	**La Caada**	**1.35**	**357**	*e*P	Pn	07 38 53.9	-0.3
LCND				IAML		07 39 04.9	
	comp=Z,656nm,0.5s						
JUCU	**Jucuarjn**	**1.36**	**342**	*e*P	Pn	07 38 53.1	-1.3
ALJI	**Alcalda de J**	**1.55**	**332**	*e*P	Pn	07 38 56.7	-0.2
ALJI				*e*S	Sb	07 39 18.2	+0.6
CNRM	**Centro Naciona**	**1.55**	**348**	*e*P	Pg	07 39 00.3	+0.6
COEB	**Comit de Eme**	**1.68**	**336**	*e*P	Pn	07 38 58.6	-0.3
COEB				*e*S	Sn	07 39 20.6	+0.3
COEB				IAML		07 39 31.9	
	comp=Z,352nm,0.8s						
PQSS	**Presa 15 de Se**	**1.81**	**337**	*e*P	Pn	07 39 00.7	+0.1
PQSS				*e*S	Sn	07 39 23.7	+0.5
PQSS				IAML		07 39 32.1	
	comp=Z,46nm,0.1s						
COEG	**Centro de Oper**	**1.95**	**328**	*e*P	Pn	07 39 02.3	-0.3

*IDC **27** 07:40:25.9±0.4, 52.°30N×169.°44W, h0km, mb5.0/42, mb1 5.1/44, mb1mx5.1/48, mbtmp5.0/44, ML4.4/2, Error ellipse: s-maj=14.0km s-min=8.5km az=176.0*
*AEIC **27** 07:40:28±2.5, 52.°10N±0.°03×169.°20W±0.°07, h12km±3km, Error ellipse: s-maj=5.9km s-min=4.7km az=95.0*
*BJI **27** 07:40:29.6±0.0, 52.°60N×169.°89W, h17km, mB5.7/36, mb5.4/78, Ms5.7/47, Ms7 5.6/48*
*MOS **27** 07:40:29.2±1.1, 52.°29N×169.°36W, h32km, mb5.6/127, MS5.3/16, Error ellipse: s-maj=5.8km s-min=3.9km az=92.5*
*NEIC **27** 07:40:31.1±1.8, 52.°26N±0.°04×169.°35W±0.°03, h35km±1km, mb5.3/692, ML5.2/55(AEIC), Mwc5.9(GCMT), Error ellipse: s-maj=7.3km s-min=3.6km az=182.0*
*BGR **27** 07:40:40.2±0.0, 53.°46N×169.°26W, h40km, mb5.6, Ms5.4*
*GCMT **27** 07:40:46.6±0.3, 52.°10N±0.°02×169.°19W±0.°04, h31km, MW5.9/115, Moment Tensor Solution. s40,c47; s115,c199; Duration: 2s1 Moment tensor: Scale 1018 Nm; Mrr0.81±.04; Mθθ-0.55±.02; Mφφ-0.25±.02; Mrθ0.23±.03; Mθφ-0.20±.01; Mφr0.08±.03; Best double couple: M0:0.76700×1018 NP1:φs242.00000°, δ36.00000°, λ87.00000°. NP2:φs65.00000°, δ54.00000°, λ92.00000°. Principal axes: T 0.8470, Plg81.0000°, Azm343.0000°; N -0.1600, Plg1.0000°, Azm244.0000°; P -0.6870, Plg9.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 07:40:47, 52.°06N×169.°32W, h32km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr8.65; Mθθ-5.84; Mφφ-2.81; Mrθ2.11; Mθφ-1.86; Mφr0.35; Fault plane solution: M0:8.15000×1017 NP1:φs242.00000°, δ38.00000°, λ85.00000°. NP2:φs68.00000°, δ53.00000°, λ94.00000°. Principal axes: T 8.9516, Plg82.0000°, Azm357.0000°; N -1.9563, Plg3.0000°, Azm246.0000°; P -6.9953, Plg8.0000°, Azm155.0000°;*
ISC 27 07:40:31.8±0.2, **52.°25N**±0.°04×**169.°35W**±0.°03, **h39**km±2km, **h40**km:**pP-P, n1691**, σ1°**43**/1649, **mb5.3**/550

FALS	False Pass	4.40	51	Pn		Pn	07 41 36.4	+0.5
ADK	Adak	4.54	268	P		Pn	07 41 37.1	-0.7
ADK	Adak	4.54	268			Pn	07 41 37.0	-0.7
KIWB	Kanaga Island	4.83	268	Pn		Pn	07 41 41.9	0.0
KIKV	Kanaga Island	4.84	269			Pn	07 41 42.1	+0.2
KIMD	Kanaga Island	4.89	267			Pn	07 41 42.4	-0.3
SPIA	Saint Paul Isl	4.97	354	P		Pn	07 41 43.8	+0.1
	baz=173,SNR=33							
SPIA	Saint Paul Isl	4.97	354			Pn	07 41 45.6	+2.0
DT1	Dutton Round H	5.09	53			Pn	07 41 45.6	+0.2
TAFP	Tanaga Falls P	5.33	270			Pn	07 41 49.3	+0.5
TASE	Tanaga Southea	5.38	269			Pn	07 41 49.6	+0.2
GAEA	Gareloi East	5.82	269			Pn	07 41 56.8	+1.4
GALA	Gareloi Lava P	5.84	269			Pn	07 41 56.9	+1.3
SDPT	Sand Point	6.11	56	P		Pn	07 41 59.6	+0.3
	baz=241							
SDPT	Sand Point	6.11	56	Pn		Pn	07 42 00.8	+1.4
CNBA	Chernabura Isl	6.37	62			Pn	07 42 01.5	-1.4
CHNA	Chernabura Isl	6.37	62	P		Pn	07 42 01.8	-1.1
	baz=248,SNR=11							
CERAA	Semis' Rag'd T	6.77	271			Pn	07 42 09.9	+1.5
CESW	Semis' Southwe	6.84	271			Pn	07 42 10.8	+1.4
AMKA	Amchitka	7.09	267			Pn	07 42 12.8	0.0
LSPA	Little Sitkin	7.44	273			Pn	07 42 19.2	+1.5
LSNW	Little Sitkin	7.48	273			Pn	07 42 19.7	+1.6
LSSA	Little Sitkin	7.48	273			Pn	07 42 19.8	+1.6
CHIR	Chirikof Islan	8.84	61	P		Pn	07 42 36.4	-0.3
	baz=251							
CHIR	Chirikof Islan	8.84	61			Pn	07 42 34.8	-1.9
SII	Sitkinak Islan	9.84	58	P		Pn	07 42 49.7	-0.8
	baz=249							
SII	Sitkinak Islan	9.84	58	Pn		Pn	07 42 48.3	-2.2
KVTA	Katmai Vly 10	10.09	47			Pn	07 42 55.0	+1.1
SMY	Shemya	10.11	279	P		Pn	07 42 52.5	-1.6
SMY	Shemya	10.11	279	Pn		Pn	07 42 52.5	-1.6
OHAK	Old Harbor	10.53	55	P		Pn	07 42 58.2	-1.8
	baz=248							
OHAK	Old Harbor	10.53	55	Pn		Pn	07 42 57.4	-2.5
O18K	Koktuh Hills	10.96	40	P		Pn	07 43 04.6	-1.3
	baz=231,SNR=44							
KDAK	Kodiak Island	11.10	53	Pn		Pn	07 43 04.7	-2.9
	5.1nm,0.3s,baz=264,slow=6.8,SNR=44							
KDAK	Kodiak Island	11.10	53	*e*P		Pn	07 43 05.1	-2.5
KDAK	Kodiak Island	11.10	53	P		Pn	07 43 05.7	-2.0
	baz=246							
KDAK	Kodiak Island	11.10	53	Pn		Pn	07 43 05.2	-2.4
N18K	Kilae Creek	11.24	36	P		Pn	07 43 08.7	-0.9
	baz=226							
GAMB	Gambell	11.63	355	P		Pn	07 43 17.0	+2.1
	baz=172							
GAMB	Gambell	11.63	355	Pn		Pn	07 43 14.9	+0.1
SVW2	Sparrevohn	11.64	35			Pn	07 43 14.7	-0.4
P19K	Oil Pt	11.67	44	P		Pn	07 43 14.7	-0.8
	baz=237							
N19K	Bonanza Creek	11.85	38	P		Pn	07 43 16.6	-1.4
	baz=229,SNR=28							
O20K	Slope Mountain	12.16	43	P		Pn	07 43 20.2	-2.0
	baz=236							
RSO	Redoubt South	12.31	42			Pn	07 43 23.1	-1.4
HOM	Homer	12.36	46	Pn		Pn	07 43 24.2	-0.7
CNPM	China Poot	12.48	47	Pn		Pn	07 43 25.8	-0.8
ANM	Nome	12.52	8	P		Pn	07 43 28.5	+1.4
ANM	Nome	12.52	8	P		Pn	07 43 26.8	-0.3
	baz=191,SNR=6.4							
ANM	Nome	12.52	8	Pn		Pn	07 43 28.5	+1.4
M19K	Big River Lodg	12.61	34	P		Pn	07 43 25.8	-2.5
	baz=226,SNR=16							
L19K	White Mountain	12.65	32	P		Pn	07 43 26.9	-1.9
	baz=224,SNR=34							
BRLK	Bradley Lake	12.75	47	Pn		Pn	07 43 28.6	-1.7
TTA	Tatalina	12.84	28	P		Pn	07 43 29.4	-2.2
TTA	Tatalina	12.84	28	P		Pn	07 43 31.7	+0.2
	baz=219							
TTA	Tatalina	12.84	28	Pn		Pn	07 43 29.4	-2.2
SPCR	Spurr Chakacha	12.96	40	P		Pn	07 43 32.3	-0.9
	baz=233							
SPU	Mount Spurr	13.01	40			Pn	07 43 33.7	-0.1
M20K	Styx River	13.04	36	P		Pn	07 43 35.5	+1.2
	baz=229							
CAPN	Captain Cook N	13.14	42	Pn		Pn	07 43 35.4	-0.1
TNA	Tin City	13.37	3	P		Pn	07 43 37.9	-0.7
	baz=183,SNR=8.0							
TNA	Tin City	13.37	3	Pn		Pn	07 43 37.9	-0.7
SEW	Seward	13.55	47	P		Pn	07 43 39.3	-1.7
	baz=242,SNR=15							
SEW	Seward	13.55	47	Pn		Pn	07 43 38.8	-2.2
O22K	Cooper Landing	13.60	45	P		Pn	07 43 40.2	-1.6
	baz=241,SNR=29							
O22K	Cooper Landing	13.60	45			Pn	07 43 39.5	-2.4
SKT	Skwentna	13.69	38	P		Pn	07 43 42.1	-0.9
	baz=232,SNR=18							
SKT	Skwentna	13.69	38			Pn	07 43 42.4	-0.7
SUA	Susitna One	13.69	40	P		Pn	07 43 42.3	-0.9
	baz=235,SNR=20							
SUA	Susitna One	13.69	40	Pn		Pn	07 43 41.9	-1.2
FIS	Fire Island	13.73	42	Pn		Pn	07 43 43.1	-0.4
K20K	Telida	13.75	30	P		Pn	07 43 43.8	0.0
	baz=222,SNR=22							
RC01	Rabbit Creek A	13.90	43	P		Pn	07 43 43.5	-2.4
	baz=238,SNR=20							
RC01	Rabbit Creek A	13.90	43			Pn	07 43 44.1	-1.8
PPLA	Purkeypile	14.04	34	P		Pn	07 43 46.9	-1.0
	baz=228							
PPLA	Purkeypile	14.04	34			Pn	07 43 46.0	-1.9
J20K	Nowinta River	14.34	28	P		Pn	07 43 50.4	-1.4
	baz=220,SNR=32							
PWL	Port Wells	14.39	45			Pn	07 43 49.2	-3.3
PMR	Palmer	14.41	42	P		Pn	07 43 49.8	-3.0
PMR	Palmer	14.41	42	P		Pn	07 43 50.9	-1.9
	baz=238							
PMR	Palmer	14.41	42			Pn	07 43 49.8	-3.0
CUT	Chulitna	14.42	38	P		Pn	07 43 53.4	+0.5
	baz=233							
CUT	Chulitna	14.42	38	Pn		Pn	07 43 50.8	-2.1
KNK	Knik Glacier	14.60	43	P		Pn	07 43 53.5	-1.9
	baz=240,SNR=12							
KNK	Knik Glacier	14.60	43			Pn	07 43 53.2	-2.1
CHUM	Lake Minchumin	14.67	31	P		Pn	07 43 55.5	-0.8
	baz=225,SNR=38							
Q23K	Middleton Isla	14.73	52	P		Pn	07 43 56.5	-0.6
	baz=250							
Q23K	Middleton Isla	14.73	52			Pn	07 43 56.2	-0.9
MID	Middleton Isla	14.74	52	P		Pn	07 43 55.0	-2.2
MID	Middleton Isla	14.74	52	Pn		Pn	07 43 55.0	-2.2
SML	Sawmill	14.85	42	P		Pn	07 43 57.0	-1.8
	baz=239,SNR=5.8							
SML	Sawmill	14.85	42			Pn	07 43 56.5	-2.3
KTH	Kantishna Hill	14.90	33	Pn		Pn	07 43 59.2	-0.3
GLI	Glacier Island	14.94	46	P		Pn	07 43 58.0	-1.9
	baz=244							
GLI	Glacier Island	14.94	46			Pn	07 43 58.0	-1.9
HIN	Hinchinbrook I	15.01	48	Pn		Pn	07 43 58.6	-2.3
TRF	Thorofare Moun	15.05	34			Pn	07 44 00.0	-1.5
FID	Port Fidalgo	15.16	47			Pn	07 43 59.3	-3.5
FID				IAmb		IAmb	07 44 10.0	
	comp=Z,280nm,1.6s							
BPAW	Bear Paw Mtn.	15.25	32	P		Pn	07 44 02.6	-1.4
	baz=227,SNR=114							
BPAW	Bear Paw Mtn.	15.25	32	Pn		Pn	07 44 04.0	0.0
BPAW				IAmb		IAmb	07 44 16.6	
	comp=Z,126nm,0.7s							
SCM	Sheep Creek Mo	15.28	42	P		Pn	07 44 01.4	-3.0
SCM				pmax		pmax		
	comp=Z,136nm,0.6s							
SCM	Sheep Creek Mo	15.28	42			Pn	07 44 01.4	-3.0
SCM				IAmb		IAmb	07 44 15.9	
	comp=Z,136nm,0.6s							
WAT1	Susitna Watana	15.31	38	P		Pn	07 44 03.5	-1.3
	baz=235							
EYAK	Cordova Ski Ar	15.41	48	P		Pn	07 44 03.7	-2.3
	baz=247,SNR=5.8							
EYAK	Cordova Ski Ar	15.41	48	Pn		Pn	07 44 02.9	-3.1
WAT6	Susitna Watana	15.49	40	P		Pn	07 44 04.9	-2.3
	baz=237,SNR=26							
RND	Reindeer	15.54	36	P		Pn	07 44 06.1	-1.6
RND				pmax		pmax		
	comp=Z,39nm,0.9s							
RND	Reindeer	15.54	36			Pn	07 44 06.1	-1.6
MCK	McKinley	15.70	35	P		Pn	07 44 09.0	-0.9
MCK				pmax		pmax		
	comp=Z,43nm,1.2s							
MCK	McKinley	15.70	35	P		Pn	07 44 08.9	-0.9
	baz=232							
MCK	McKinley	15.70	35	Pn		Pn	07 44 09.0	-0.9

I21K	Tanana	15.71	28	P		Pn	07 44 09.3	-0.6
	baz=222,SNR=74							
KLU	Klutina	15.72	45	P		Pn	07 44 06.9	-3.2
	baz=244,SNR=63							
KLU	Klutina	15.72	45	Pn		Pn	07 44 07.0	-3.1
KLU				IAmb		IAmb	07 44 09.5	
	comp=Z,115nm,0.6s							
BWN	Browne	15.80	33			Pn	07 44 10.6	-0.5
BWN				IAmb		IAmb	07 44 23.4	
	comp=Z,164nm,1.1s							
KAIM	Kayak Island	15.82	51	P		Pn	07 44 11.5	+0.2
	baz=251							
KAIM	Kayak Island	15.82	51	Pn		Pn	07 44 11.0	-0.4
KAIM				IAmb		IAmb	07 44 23.1	
	comp=Z,136nm,0.9s							
RAGM	Ragged Mountai	15.85	49			Pn	07 44 09.0	-2.8
RAGM				IAmb		IAmb	07 44 19.8	
	comp=Z,92nm,0.6s							
IMAR	Indian Mountai	15.86	24			Pn	07 44 10.5	-1.3
M24K	Tolsona, Glenn	15.88	43	P		Pn	07 44 09.7	-2.6
	baz=242,SNR=30							
M24K	Tolsona, Glenn	15.88	43			Pn	07 44 09.6	-2.6
M24K				IAmb		IAmb	07 44 16.1	
	comp=Z,142nm,0.9s							
MLY	Manley	15.97	30	P		Pn	07 44 12.0	-1.3
	baz=225,SNR=187							
MLY	Manley	15.97	30			Pn	07 44 14.0	+0.7
MLY				IAmb		IAmb	07 44 25.7	
	comp=Z,121nm,0.8s							
HMT	Hamilton	16.03	50			Pn	07 44 12.2	-1.8
HMT				IAmb		IAmb	07 44 25.0	
	comp=Z,120nm,0.8s							
BMRM	Bremner River	16.09	47	P		Pn	07 44 12.6	-2.3
	baz=248,SNR=19							
BMRM	Bremner River	16.09	47			Pn	07 44 11.2	-3.6
BMRM				IAmb		IAmb	07 44 22.9	
	comp=Z,165nm,0.9s							
RDOG	Red Dog Mine	16.16	9	P		Pn	07 44 12.6	-3.0
	baz=194,SNR=9.0							
RDOG	Red Dog Mine	16.16	9			Pn	07 44 16.6	+0.9
SUCK	Suckling Hills	16.17	51	Pn		Pn	07 44 15.2	-0.7
SUCK				IAmb		IAmb	07 44 21.7	
	comp=Z,739nm,2.0s							
NEA2	Nenana	16.20	32	P		Pn	07 44 15.0	-1.2
	baz=229,SNR=22							
NEA2	Nenana	16.20	32			Pn	07 44 15.6	-0.6
BERG	Berg Lake	16.31	50	Pn		Pn	07 44 14.8	-2.8
N25K	Chitina, Valde	16.34	45	P		Pn	07 44 15.6	-2.4
	baz=246,SNR=21							
N25K	Chitina, Valde	16.34	45	Pn		Pn	07 44 14.3	-3.7
HARP	HAARP	16.44	42	P		Pn	07 44 17.2	-2.0
	baz=242,SNR=26							
WRH	Wood River Hil	16.45	34			Pn	07 44 16.5	-2.9
I23K	Minto, Yukon-K	16.47	31	P		Pn	07 44 19.1	-0.5
	baz=227							
I23K	Minto, Yukon-K	16.47	31			Pn	07 44 18.9	-0.7
PAX	Paxson	16.59	40	P		Pn	07 44 20.6	-0.6
PAX				pmax		pmax		
	comp=Z,25nm,0.6s							
PAX	Paxson	16.59	40	P		Pn	07 44 19.5	-1.7
	baz=240							
PAX	Paxson	16.59	40			Pn	07 44 20.6	-0.6
GLB	Gilahina Butte	16.62	46			Pn	07 44 18.3	-3.3
CCB	Clear Creek Bu	16.66	33			Pn	07 44 19.3	-2.6
CRQM	Cirque	16.69	49			Pn	07 44 20.7	-1.8
VRDI	Verde Repeater	16.70	47			Pn	07 44 20.9	-1.9
CRQE	Cirque	16.71	49	P		Pn	07 44 20.8	-2.0
	baz=250,SNR=13							
MDM	Murphy Dome	16.71	32			Pn	07 44 21.0	-1.7
WAX	Waxell Ridge	16.73	50			Pn	07 44 21.7	-1.2
WAX				IAmb		IAmb	07 44 36.2	
	comp=Z,244nm,0.8s							
TCOL	CIGO, UAF Yank	16.78	33	P		Pn	07 44 20.7	-2.7
	baz=231,SNR=9.5							
TCOL	CIGO, UAF Yank	16.78	33			Pn	07 44 21.5	-1.9
COLA	College	16.78	33	P		Pn	07 44 20.9	-2.6
COLA				pmax		pmax		
	comp=Z,60nm,0.9s							
COLA	College	16.78	33	P		Pn	07 44 21.2	-2.3
	baz=231							
COLA	College	16.78	33			Pn	07 44 20.9	-2.6
HDA	Harding Lake	16.81	35	P		Pn	07 44 20.9	-3.0
	baz=234,SNR=16							
HDA	Harding Lake	16.81	35			Pn	07 44 22.6	-1.3
TGL	Tana Glacier	16.83	49			Pn	07 44 21.8	-2.5
H23K	Yukon River	16.88	29	P		Pn	07 44 22.9	-1.9
	baz=225,SNR=73							
MCARA	McCarthy VSAT	16.95	47	P		Pn	07 44 23.8	-1.9
	baz=249,SNR=14							
MCARA	McCarthy VSAT	16.95	47			Pn	07 44 23.6	-2.1
MCARA				IAmb		IAmb	07 44 33.3	
	comp=Z,138nm,0.8s							
ISLE	Juniper Island	17.01	50			Pn	07 44 23.8	-2.8
ISLE				IAmb		IAmb	07 44 37.5	
	comp=Z,724nm,1.8s							
IL31		17.05	34			Pn	07 44 23.9	-2.9
ILAR	Eielson Array	17.05	34	P		Pn	07 44 24.1	-2.8
	comp=Z,0.6nm,0.3s,baz=235,slow=9.6,SNR=45							
ILAR	Eielson Array	17.05	34	P		Pn	07 44 23.8	-3.0
ILAR	Eielson Array	17.05	34	Pn		Pn	07 44 23.8	-3.0
POKR	Poker Plat Res	17.07	33	P		Pn	07 44 25.8	-1.4
	baz=231							
POKR	Poker Plat Res	17.07	33			Pn	07 44 25.6	-1.6
MESA	MESA	17.08	52	P		Pn	07 44 26.0	-1.5
	baz=254,SNR=12							
MESA	MESA	17.08	52	Pn		Pn	07 44 26.1	-1.3
MESA				IAmb		IAmb	07 44 32.5	
	comp=Z,254nm,1.0s							
RIDG	Independent Ri	17.22	39	P		Pn	07 44 27.2	-1.8
	baz=239,SNR=14							
RIDG	Independent Ri	17.22	39			Pn	07 44 26.8	-2.2
YAH	Yahtse	17.23	51			Pn	07 44 28.3	-1.0
YAH				IAmb		IAmb	07 44 34.1	
	comp=Z,332nm,1.1s							
MENT	Mentasta	17.28	42			Pn	07 44 27.8	-2.0
M26K	Nabesna, AK	17.35	44	P		Pn	07 44 29.4	-1.3
	baz=246,SNR=36							
H24K	Noodor Dome	17.40	30	P		Pn	07 44 29.9	-1.3
	baz=228,SNR=36							
BARN	Barnard Glacie	17.47	49	P		Pn	07 44 31.6	-0.6
L26K	Log Cabin Wild	17.47	42	P		Pn	07 44 30.7	-1.4
	baz=243,SNR=25							
DOT	Dot Lake	17.47	39			Pn	07 44 30.5	-1.7
TABL	Table Mountain	17.54	51	P		Pn	07 44 32.2	-0.9
TABL				IAmb		IAmb	07 44 41.3	
	comp=Z,218nm,1.1s							
CTG	Chitna Glacier	17.59	49	P		Pn	07 44 32.0	-1.7
	baz=252,SNR=13							
CTGM	Chitina Glacie	17.59	49	P		Pn	07 44 33.3	-0.5
SCRK	Sand Creek	17.66	39	P		Pn	07 44 32.4	-2.1
	baz=240,SNR=26							
SCRK	Sand Creek	17.66	39	Pn		Pn	07 44 32.5	-2.1
LOGN	Logan Glacier	17.71	50	P		Pn	07 44 34.2	-1.0
LOGN				IAmb		IAmb	07 44 44.8	
	comp=Z,134nm,1.0s							
M27K	Edge Creek, AK	17.82	45	P		Pn	07 44 33.9	-2.6
	baz=247,SNR=58							
PCA	Pinnacle	17.88	53	P		P	07 44 37.6	0.0
PCA				IAmb		IAmb	07 44 47.2	
	comp=Z,151nm,0.8s							
PINM	Pinnacle	17.88	53	P		Pn	07 44 35.0	-2.2
	baz=256,SNR=16							
PRP	Porcupine Dome	17.96	33	P		Pn	07 44 35.3	-2.9
	baz=233,SNR=24							
PRP	Porcupine Dome	17.96	33			Pn	07 44 35.6	-2.6
L27K	Beaver Creek,	18.11	43	P		Pn	07 44 37.5	-2.6
	baz=246,SNR=22							
L27K	Beaver Creek,	18.11	43			Pn	07 44 37.8	-2.3
BCAR	Beaver Creek A	18.13	43			Pn	07 44 37.4	-2.9
BCPM	Bancas Point	18.15	53			P	07 44 40.2	-0.2
K27K	Chicken	18.43	40	P		P	07 44 42.5	-0.9
	baz=242							
K27K	Chicken	18.43	40	P		P	07 44 42.5	-0.9
FYU	Fort Yukon	18.69	31	P		P	07 44 45.0	-1.2
TOLK	Toolik Lake Re	18.95	22	P		P	07 44 47.4	-1.8
	baz=219,SNR=49							
TOLK	Toolik Lake Re	18.95	22			P	07 44 49.5	+0.3
EGAK	Eagle	19.13	38	P		P	07 44 49.0	-2.1
	baz=242,SNR=44							
EGAK	Eagle	19.13	38	P		P	07 44 50.0	-1.1
PET	Petropavlovsk	19.35	285	*e*P		P	07 44 52.4	-1.2
PET				*e*S		S	07 48 20.9	-9.4
PET				pmax		pmax		
	comp=Z,2μm,12.7s							
PET				pmax		pmax		

	comp=Z,4μm,16.7s							
PET				pmax		pmax		
	comp=Z,264nm,0.8s							
PET				MLR		MLR		
	comp=Z,11μm,18.0s							
PET				MLR		MLR		
	comp=Z,10μm,17.0s							
PET	Petropavlovsk	19.35	285	P		P	07 44 53.6	0.0
PET				IAmb		IAmb	07 45 07.6	
	comp=Z,422nm,1.9s							
HYT	Haines Junctio	19.37	51	P		P	07 44 54.5	+0.6
HYT				IAmb		IAmb	07 45 03.3	
	comp=Z,184nm,0.8s							
BMAR	Burnt Mountain	19.43	29	P		P	07 44 53.7	-0.8
DAWY	Dawson	19.52	41	P		P	07 44 54.0	-1.4
BILL	Bilibino	19.71	333	*d* P		Pn	07 44 58.6	-0.5
BILL				pmax		pmax		
	comp=Z,43nm,1.3s							
BILL				MLR		MLR		
	comp=Z,8μm,18.0s							
BILL	Bilibino	19.71	333	P		P	07 44 55.8	-1.7
BILL				IAmb		IAmb	07 45 06.4	
	comp=Z,109nm,0.9s							
PEA0B	Petropavlovsk-	19.90	286	P		P	07 44 59.6	-0.1
PEA0B				pmax		pmax		
	comp=Z,218nm,1.0s							
PEA0B	Petropavlovsk-	19.90	286	P		P	07 44 59.6	-0.1
PEA0B				IAmb		IAmb	07 45 02.5	
	comp=Z,218nm,1.0s							
PETK	Petropavlovsk-	19.90	286	P		P	07 44 58.6	-1.0
	comp=Z,9.3nm,0.3s,baz=88,slow=13,SNR=115							
PETK	Petropavlovsk-	19.90	286	P		P	07 44 58.9	-0.7
PETK	Petropavlovsk-	19.90	286	P		P	07 44 58.9	-0.7
A21K	Barrow	19.98	12	P		P	07 45 00.7	+0.4
	baz=203							
A21K	Barrow	19.98	12	P		P	07 44 60.0	-0.3
A21K				IAmb		IAmb	07 45 11.7	
	comp=Z,287nm,1.6s							
SIT	Sitka	20.13	63	P		Pn	07 45 03.9	-0.2
SIT				pmax		pmax		
	comp=Z,142nm,1.2s							
SIT	Sitka	20.13	63	P		Pn	07 45 03.7	-0.4
	baz=270							
SIT	Sitka	20.13	63	P		Pn	07 45 03.9	-0.2
SIT				IAmb		IAmb	07 45 11.2	
	comp=Z,142nm,1.2s							
SKAG	Skagway	20.23	56	P		P	07 45 00.7	-2.4
	baz=264,SNR=17							
SKAG	Skagway	20.23	56	P		P	07 45 04.2	+1.0
SKAG				IAmb		IAmb	07 45 17.1	
	comp=Z,202nm,0.8s							
BESE	Bessie Mountai	20.41	58	P		P	07 45 05.5	+0.3
BESE				IAmb		IAmb	07 45 11.0	
	comp=Z,156nm,1.2s							
WHY	Whitehorse	20.61	52	P		P	07 45 05.5	-1.9
	baz=261,SNR=102							
WHY	Whitehorse	20.61	52	P		P	07 45 07.8	+0.5
WHY				IAmb		IAmb	07 45 15.8	
	comp=Z,149nm,0.8s							
JIS	Juneau Island	20.64	59	P		P	07 45 08.5	+0.9
JIS				IAmb		IAmb	07 45 20.7	
	comp=Z,102nm,1.0s							
SKR	Severo-Kuril's	21.45	280	*e*P		P	07 45 18.3	+1.9
SKR				*e*S		S	07 49 14.2	+2.2
SKR				pmax		pmax		
	comp=Z,108nm,0.9s							
SKR				pmax		pmax		
	comp=Z,1μm,12.1s							
SKR				MLR		MLR		
	comp=Z,7μm,20.0s							
CRAG	Craig	21.45	67	P		P	07 45 15.3	-1.0
	baz=276							
EPYK	Eagle Plains	21.49	36	P		P	07 45 14.2	-2.6
	baz=244,SNR=52							
EPYK	Eagle Plains	21.49	36	P		P	07 45 14.1	-2.6
EPYK				IAmb		IAmb	07 45 25.8	
	comp=Z,167nm,0.8s							
WRAK	Wrangell Islan	21.80	64	P		P	07 45 19.5	-0.5
	baz=274							
WRAK	Wrangell Islan	21.80	64	P		P	07 45 20.6	+0.6
DIB	Dawson Inlet,	22.20	73	P		P	07 45 24.7	+0.3
H02S1	DAWSON INLET T	22.20	73	T		T	08 08 58.0	
	SNR=18							
MOBC	Moresby Island	22.51	73	P		P	07 45 27.2	-0.6
MOBC				IAmb		IAmb	07 45 41.2	
	comp=Z,86nm,1.3s							
DLBC	Dease Lake	22.94	59	P		P	07 45 31.7	-0.5
	comp=Z,34nm,1.0s,baz=272,slow=7.7,SNR=27							
DLBC	Dease Lake	22.94	59	P		P	07 45 31.8	-0.5
DLBC				IAmb		IAmb	07 45 45.9	
	comp=Z,275nm,1.8s							
MA2	Magadan	23.22	304	P		P	07 45 35.3	+0.3
	comp=Z,67nm,1.0s,baz=89,slow=9.6,SNR=25							
MA2	Magadan	23.22	304	*i* P		P	07 45 35.2	+0.3
MA2				pmax		pmax		
	comp=Z,84nm,0.9s							
MA2	Magadan	23.22	304	P		P	07 45 34.5	-0.5
MA2				IAmb		IAmb	07 45 38.2	
	comp=Z,88nm,0.9s							
INK	Inuvik	23.44	33	P		P	07 45 34.9	-2.1
	comp=Z,19nm,0.6s,baz=238,slow=16,SNR=32							
INK	Inuvik	23.44	33	P		P	07 45 35.1	-1.9
INK				pmax		pmax		
	comp=Z,42nm,1.0s							
INK	Inuvik	23.44	33	P		P	07 45 35.0	-2.1
	baz=244,SNR=34							
INK	Inuvik	23.44	33	P		P	07 45 35.1	-1.9
BBB	Bella

comp=Z,101nm,1.5s
COR Corvallis 31.06 86 P P 07 46 44.6 -1.1
COR pmax pmax
comp=Z,36nm,1.3s
COR Corvallis 31.06 86 P P 07 46 44.6 -1.1
KEBM Edson Butte 31.34 89 P P 07 46 47.7 -0.6
KEBM IAmb IAmb 07 46 52.0
comp=Z,40nm,1.2s
LTY Liberty 31.36 79 P P 07 46 47.9 -0.6
J01E Myrtle Point 31.43 88 P P 07 46 48.0 -1.0
baz=303
H04D Lebanon 31.44 85 P P 07 46 49.6 +0.5
baz=301
BUCK Buck Mountain 31.45 86 P P 07 46 49.3 0.0
BUCK IAmb IAmb 07 46 56.1
comp=Z,44nm,1.6s
I03D Drain, OR 31.50 87 P P 07 46 48.5 -1.1
baz=302
F05D White Salmon 31.54 82 P P 07 46 49.9 -0.1
baz=299
B08A Colville Reser 31.67 77 P P 07 46 49.2 -1.9
B08A IAmb IAmb 07 46 57.5
comp=Z,24nm,0.9s
H04A Detroit Lake 31.69 85 P P 07 46 48.9 -2.5
KBO Bosley Butte 31.77 90 P P 07 46 50.2 -2.0
KBO IAmb IAmb 07 47 00.1
comp=Z,45nm,1.2s
K02D Willamette Mer 31.84 89 P P 07 46 52.5 -0.2
baz=303
G05D Wamic, OR 31.94 83 P P 07 46 52.0 -1.6
baz=300
KIP Kipapa 32.00 160 P P 07 46 53.1 -1.0
KIP pmax pmax
comp=Z,102nm,1.3s
KIP Kipapa 32.00 160 P P 07 46 53.1 -1.0
I04A Tendick Farm, 32.02 86 P P 07 46 53.1 -1.2
baz=302
WMR Waimanalo Ridg 32.17 159 P P 07 46 55.3 -0.4
L02E Cave Junction 32.18 90 P P 07 46 56.4 +0.7
baz=304
E07A Sunnyside 32.18 80 P P 07 46 54.7 -1.0
HUMO Hull Mountain 32.33 89 P P 07 46 56.2 -0.8
I05D Terrebonne, OR 32.39 85 P P 07 46 58.7 +1.1
baz=301
HAWA Hanford 32.46 80 P P 07 46 58.5 +0.4
HAWA IAmb IAmb 07 47 03.6
comp=Z,33nm,0.9s
F07A Phinny Hill Vi 32.46 81 P P 07 46 57.5 -0.5
F07A IAmb IAmb 07 47 03.9
comp=Z,30nm,1.1s
J04D Umpqua Nationa 32.50 87 P P 07 46 58.6 -0.1
baz=303
D08A Wollman Farm, 32.51 79 P P 07 46 58.3 -0.2
JKA Kamikawa-asahi 32.53 275 P P 07 46 58.9 +0.2
ASAJ Asahikawa 32.53 275 P P 07 46 58.9 +0.2
ASAJ pmax pmax
comp=Z,124nm,1.1s
C09A Chrisman Ranch 32.55 77 P P 07 46 58.8 -0.1
C09A IAmb IAmb 07 47 04.5
comp=Z,25nm,0.9s
JCC Jacoby Creek, 32.69 92 P P 07 46 59.5 -0.6
JCC IAmb IAmb 07 47 08.7
comp=Z,48nm,1.1s
E08A Dider Farm, El 32.70 80 P P 07 47 00.0 -0.1
E08A IAmb IAmb 07 47 05.5
comp=Z,30nm,1.1s
KHMM Horse Mountain 32.84 92 P P 07 46 59.8 -1.8
KHMM IAmb IAmb 07 47 13.1
comp=Z,22nm,0.9s
TIXI Tiksi 32.84 329 P P 07 46 59.5 -1.6
comp=Z,10.0nm,0.6s,baz=107,slow=8.5,SNR=4.5
TIXI Tiksi 32.84 329⇑ iP P 07 47 00.0 -1.1
TIXI Tiksi 32.84 329 IAmb IAmb 07 47 08.1
comp=Z,25nm,1.0s
PINE Pine Mountain 32.92 85 P P 07 47 02.2 -0.1
L04D Klamath Falls 32.95 89 P P 07 47 00.7 -1.8
baz=304
YBH Yreka Blue Hor 32.97 90 P P 07 47 03.8 +1.0
comp=Z,4.8nm,1.0s,baz=306,slow=9.3,SNR=7.8
YBH Yreka Blue Hor 32.97 90 P P 07 47 03.7 +1.0
YBH pmax pmax
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 32.97 90 P P 07 47 03.7 +1.0
J05D Fort Rock, OR 33.02 86 P P 07 47 03.6 +0.5
baz=303
NEW Newport 33.03 76 P P 07 47 03.3 +0.3
comp=Z,24nm,0.9s,baz=302,slow=7.3,SNR=17
NEW Newport 33.03 76 P P 07 47 02.7 -0.4
NEW pmax pmax
comp=Z,29nm,1.0s
NEW Newport 33.03 76 P P 07 47 01.9 -1.2
baz=297,SNR=31
NEW Newport 33.03 76 P P 07 47 02.7 -0.4
NEW IAmb IAmb 07 47 09.1
comp=Z,29nm,0.9s
HLK Haleakala 33.04 157 P P 07 47 03.0 -0.6
M02C Callahan 33.08 90 P P 07 47 03.7 +0.1
baz=305
GRNR Gornyy 33.12 289⇓ iP P 07 47 03.6 -0.2
GRNR eS S 07 52 21.2 +1.0
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=E,4.0nm,0.8s
GRNR MLR MLR
comp=N,2µm,18.0s
GRNR MLR MLR
comp=E,5µm,18.0s
GRNR MLR MLR
comp=Z,7µm,18.0s
EDM Edmonton 33.19 66 P P 07 47 04.3 -0.1
EDM pmax pmax
comp=Z,112nm,1.0s
EDM Edmonton 33.19 66 P P 07 47 04.2 -0.1
E09A Wood Farm, Sta 33.24 79 P P 07 47 04.8 -0.1
E09A IAmb IAmb 07 47 09.9
comp=Z,33nm,1.1s
YAK Yakutsk 33.26 311 P P 07 47 04.9 +0.1
comp=Z,20nm,0.5s,baz=266,slow=3.2,SNR=6.0
YAK Yakutsk 33.26 311 eP **P 07 47 04.7 -0.1**
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,20nm,1.0s
YAK Yakutsk 33.26 311 P P 07 47 04.4 -0.4
JEM Erimo 33.33 271 P P 07 46 59.0 -6.6
ERM Erimo 33.33 271 P P 07 47 06.3 +0.6
ERM pmax pmax
comp=Z,138nm,1.3s
ERM Erimo 33.33 271 P P 07 47 06.3 +0.6
G08A Pilot Rock 33.35 82 P P 07 47 05.3 -0.7
N02D Trinity Center 33.41 91 P P 07 47 07.0 +0.5
baz=306
M04C Macdoel 33.48 89 P P 07 47 07.0 -0.2
baz=305
K05A Summer Lake 33.53 87 P P 07 47 10.9 +3.3
K05A IAmb IAmb 07 47 23.4
comp=Z,80nm,1.6s
KCPM Cahto Peak 33.64 93 P P 07 47 09.0 +0.4
KCPM IAmb IAmb 07 47 16.9
comp=Z,21nm,0.9s
I07A Izee 33.65 84 P P 07 47 09.7 +1.1
WDC Whiskeytown Da 33.74 91 P P 07 47 11.4 +2.1
WDC pmax pmax
comp=Z,18nm,1.3s
WDC Whiskeytown Da 33.74 91 P P 07 47 11.4 +2.1
O02D Mt. Diablo Mer 33.83 92 P P 07 47 10.3 +0.1
baz=306
HPAH Hawaii Prepara 33.87 157 P P 07 47 12.5 +1.8
JEW Eniwo 33.92 274 P P 07 47 09.7 -1.1
F10A Beach Ranch, E 34.06 79 P P 07 47 12.3 +0.2
POHA Pohakuloa 34.18 156 P P 07 47 14.7 +1.3
POHA IAmb IAmb 07 47 29.1
comp=Z,63nm,0.9s
HMH Humu'ula Sheep 34.34 156 P P 07 47 16.5 +1.6
MOD Modoc Plateau 34.35 88 P P 07 47 15.5 +0.7
MOD IAmb IAmb 07 47 25.2
comp=Z,79nm,2.0s
O03E Paynes Creek 34.37 91 P P 07 47 13.5 -1.4
baz=306
MLH Mauna Loa 34.47 156 P P 07 47 16.6 +0.6
BMO Blue Mountains 34.58 81 P P 07 47 16.4 -0.2
BMO pmax pmax
comp=Z,29nm,1.6s
BMO Blue Mountains 34.58 81 P P 07 47 16.4 -0.2
SDHHI Sand Hill 34.59 156 P P 07 47 16.5 -0.4
PUH Pauahi 34.62 156 P P 07 47 15.3 -1.9
J08A Circle Bar Ran 34.67 84 P P 07 47 19.3 +1.9
JTMT Jette 34.96 75 P P 07 47 18.9 -1.0
ORV Oroville 35.00 92 P P 07 47 20.5 +0.3
ORV pmax pmax
comp=Z,10.0nm,1.2s
ORV Oroville 35.00 92 P P 07 47 20.5 +0.3
MCCM Marconi Confer 35.02 95 P P 07 47 20.2 -0.2
WVOR Wild Horse Val 35.08 86 P P 07 47 22.6 +1.6
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 35.08 86 P P 07 47 22.6 +1.6
PLID Pearl Lake 35.25 80 P P 07 47 24.0 +1.4
JTM Tenmabayashi 35.32 271 P P 07 47 23.8 +0.9
JTM IAmb IAmb 07 47 24.7
comp=Z,66nm,1.1s
MSO Missoula 35.61 76 P P 07 47 25.1 -0.4
baz=299,SNR=19
MSO Missoula 35.61 76 P P 07 47 25.0 -0.4
MSO IAmb IAmb 07 47 35.5
comp=Z,50nm,1.4s
AFDM Forest Hills D 35.69 92 P P 07 47 26.0 -0.2
RUBR Rubicon Trail 36.13 92 P P 07 47 28.8 -1.4
PAHR Pah Rah Range 36.21 90 P P 07 47 30.1 -0.7
PAHR IAmb IAmb 07 47 40.8
comp=Z,33nm,1.4s
MFID Camas Ranch 36.25 82 P P 07 47 29.7 -1.4
VCNR Virginia City 36.29 91 P P 07 47 32.2 +0.6
PNTR Pine Nut 36.45 91 P P 07 47 33.4 +0.5
PNTR IAmb IAmb 07 47 47.1
comp=Z,119nm,1.8s
RES Resolute Bay 36.48 26 P P 07 47 32.4 0.0
comp=Z,10nm,0.8s,baz=276,slow=10,SNR=2.5
RES Resolute Bay 36.48 26 P P 07 47 32.4 0.0
RES pmax pmax
comp=Z,18nm,0.9s
RES Resolute Bay 36.48 26 IAmb IAmb 07 47 42.0
comp=Z,18nm,0.9s
KLR Kul'dur 36.51 289 c iP **P 07 47 31.3 -1.7**
comp=Z,18nm,0.6s,baz=41,slow=9.3,SNR=46
KLR Kul'dur 36.51 289 c iP **P 07 47 31.1 -1.9**
KLR pmax pmax
comp=Z,44nm,1.1s
CMB Columbia Colle 36.62 93 P P 07 47 35.1 +1.0
CMB pmax pmax
comp=Z,16nm,1.4s
CMB Columbia Colle 36.62 93 P P 07 47 35.1 +1.0
YERR Yerington 36.73 91 P P 07 47 35.4 +0.1
WAKR Walker 36.91 92 P P 07 47 37.6 +0.8
HRY Holter Researc 36.92 75 P P 07 47 37.1 +0.4
LRM Limekiln Ridge 37.01 77 P P 07 47 37.5 -0.1
HLID Hailey 37.03 81 P P 07 47 36.4 -1.4
baz=303,SNR=20
HLID Hailey 37.03 81 P P 07 47 37.4 -0.3
ZEA Zeya 37.06 298 eP **P 07 47 36.0 -1.7**
ZEA e 07 49 28.3
ZEA eS **S 07 53 15.4 -5.2**
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA smax smax
comp=N,700nm,14.3s
ZEA smax smax
comp=E,1µm,14.9s
ZEA MLR MLR
comp=N,4µm,18.0s
ZEA MLR MLR
comp=E,3µm,18.0s
ZEA MLR MLR
comp=Z,5µm,18.0s
DLMT Dillon 37.16 77 P P 07 47 38.5 -0.2
BCYI Bear Canyon 37.23 79 P P 07 47 39.6 0.0
JMM Marumori 37.27 267 P P 07 47 38.5 -1.0
JMM IAmb IAmb 07 47 43.5
comp=Z,49nm,1.2s
MCMT McKenzie Canyo 37.29 78 P P 07 47 39.7 -0.4
H11N2 WAKE ISLAND Hy 37.36 219 T T 08 28 34.0
baz=24,slow=76,SNR=185
H11N3 WAKE ISLAND Hy 37.37 219 T T 08 28 44.8
baz=24,slow=76,SNR=624
H11N1 WAKE ISLAND Hy 37.38 219 T T 08 28 39.7
baz=24,slow=76,SNR=170
KVN Kaiserville 37.39 90 P P 07 47 41.3 +0.4
KVN pmax pmax
comp=Z,37nm,1.9s
KVN Kaiserville 37.39 90 P P 07 47 41.3 +0.4
RYN Ryan 37.39 91 IAmb IAmb 07 47 54.7
comp=Z,48nm,1.9s
EGMT Eagleton 37.49 72 P P 07 47 39.8 -1.7
baz=299,SNR=26
EGMT Eagleton 37.49 72 P P 07 47 41.7 +0.2
EGMT IAmb IAmb 07 47 49.1
comp=Z,30nm,0.8s
BOZ Bozeman (W) 37.62 77 P P 07 47 42.4 -0.3
BOZ pmax pmax
comp=Z,16nm,1.0s
BOZ Bozeman (W) 37.62 77 P P 07 47 41.7 -1.0
baz=301,SNR=38
BOZ Bozeman (W) 37.62 77 P P 07 47 42.4 -0.3
LHV Little Huntoon 37.64 91 IAmb IAmb 07 47 57.2
comp=Z,57nm,1.7s
NVAR Mina Array Bea 37.65 91 P P 07 47 44.0 +0.9
comp=Z,7.1nm,0.9s,baz=292,slow=8.7,SNR=20
NVAR Mina Array Bea 37.65 91 P P 07 47 43.1 0.0
NV11 Mina Array Sit 37.74 91 P P 07 47 44.6 +0.8
EUNU Eureka 37.83 16 P P 07 47 43.9 -0.1
ELK Elko 38.13 85 P P 07 47 47.4 +0.2
ELK pmax pmax
comp=Z,38nm,1.8s
ELK Elko 38.13 85 P P 07 47 47.4 +0.2
QLMT Earthquake Lak 38.14 77 P P 07 47 46.9 -0.3
YMR Madison River 38.51 77 P P 07 47 50.5 +0.2
YMR IAmb IAmb 07 47 55.6
comp=Z,24nm,0.9s
YHH Holmes Hill 38.52 77 P P 07 47 50.2 -0.1
YHH IAmb IAmb 07 47 55.5
comp=Z,31nm,0.9s
TPH Tonopah 38.54 90 P P 07 47 52.3 +1.8
TPH pmax pmax
comp=Z,116nm,1.6s
TPH Tonopah 38.54 90 P P 07 47 52.3 +1.8
TPH IAmb IAmb 07 48 00.5
comp=Z,116nm,1.6s
H11S1 WAKE ISLAND Hy 38.55 218 T T 08 29 47.8
baz=23,slow=76,SNR=749
H11S2 WAKE ISLAND Hy 38.57 218 T T 08 29 24.0
baz=23,slow=76,SNR=605
H11S3 WAKE ISLAND Hy 38.57 218 T T 08 29 24.3
baz=23,slow=76,SNR=930
YNR Norris Junctio 38.66 77 P P 07 47 51.9 +0.3
YNR IAmb IAmb 07 47 57.4
comp=Z,28nm,0.9s
GCMT Greycliff 38.69 75 P P 07 47 51.7 +0.1
JYT Yasato 38.69 266 P P 07 47 52.4 +0.9
JYT IAmb IAmb 07 47 55.8
comp=Z,44nm,1.0s
JSD Sado 38.72 270 P P 07 47 52.0 +0.2
JSD IAmb IAmb 07 48 04.3
comp=Z,66nm,1.0s
FFC Flin Flon 38.77 59 P P 07 47 52.5 +0.4
FFC pmax pmax
comp=Z,37nm,1.3s
FFC Flin Flon 38.77 59 P P 07 47 52.5 +0.4
FFC IAmb IAmb 07 48 05.1
comp=Z,37nm,1.2s
YPP Pitchstone Pla 38.82 78 P P 07 47 53.8 +0.8
VES Vestal, Richgr 38.83 95 P P 07 47 51.7 -1.0
baz=311
H17A Grant Village 38.89 78 P P 07 47 55.1 +1.5
YNE Yellowstone No 38.90 76 P P 07 47 53.5 -0.1
USA0B Ussuriysk Arra 38.93 282 P P 07 47 51.7 -1.8
USA0B pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 38.93 282 P P 07 47 51.7 -1.8
USRK Ussuriysk Ar. 38.93 282 P P 07 47 51.9 -1.6
comp=Z,5.5nm,0.8s,baz=55,slow=6.4,SNR=13
USRK PcP **PcP 07 50 05.1 +1.7**
comp=Z,7.4nm,0.9s,baz=34,slow=5.4,SNR=3.2
USRK Ussuriysk Ar. 38.93 282 P P 07 47 53.2 -0.3
USRK Ussuriysk Ar. 38.93 282 P P 07 47 53.2 -0.3
USRK **PcP 07 50 04.6 +1.2**
IMW Indian Meadow 38.95 78 P P 07 47 54.4 +0.4
YMP Mirror Lake Pl 38.96 77 P P 07 47 54.1 0.0
FLWY Flagg Ranch 38.99 78 P P 07 47 54.1 -0.2
CWC Cottonwood Cre 39.05 93 P P 07 47 55.6 +0.7
baz=310
RLMT Red Lodge 39.28 76 P P 07 47 55.7 -1.0
baz=302,SNR=28
RLMT Red Lodge 39.28 76 P P 07 47 56.4 -0.3
RLMT IAmb IAmb 07 48 08.2
comp=Z,59nm,1.4s
LOHW Long Hollow 39.31 79 P P 07 47 57.4 +0.5
ISA Isabella, Lake 39.32 94 P P 07 47 55.8 -1.1
baz=311
R11A Troy Canyon, C 39.37 89 P P 07 47 58.1 +0.6
baz=308
R11A Troy Canyon, C 39.37 89 P P 07 47 57.1 -0.4
BGU Big Grassy Mou 39.38 84 P P 07 47 56.7 -0.8
VLA Vladivostok 39.59 281 c iP **P 07 47 59.1 +0.1**
VLA pmax pmax
comp=Z,34nm,0.7s
MAJO Matsushiro 39.70 268 P P 07 48 00.6 +0.5
MAJO pmax pmax
comp=Z,118nm,1.6s
MAJO Matsushiro 39.70 268 P P 07 48 00.6 +0.5
MAJO IAmb IAmb 07 48 13.6
comp=Z,118nm,1.6s
MAT Matsushiro 39.70 268 P P 07 48 00.4 +0.4
MJAR Matsushiro Arr 39.70 268 P P 07 47 59.8 -0.3
comp=Z,5.3nm,0.8s,baz=57,slow=7.5,SNR=16
MJAR Matsushiro Arr 39.70 268 P P 07 47 59.5 -0.5
MJAR pmax pmax
comp=Z,55nm,1.8s
MJAR Matsushiro Arr 39.70 268 P P 07 47 59.5 -0.5
SPR3 Spring Creek 3 39.74 87 P P 07 48 00.9 +0.1
FURC Furnace Creek, 39.78 92 P P 07 48 03.1 +2.4
baz=310
TPNV Topopah Spring 39.85 91 P P 07 48 02.2 +0.7
TPNV Topopah Spring 39.85 91 P P 07 48 01.4 -0.1
baz=310
TPNV Topopah Spring 39.85 91 P P 07 48 02.2 +0.7
TPNV IAmb IAmb 07 48 15.0
comp=Z,89nm,2.0s
HWUT Hardware Ranch 39.87 82 P P 07 48 00.2 -1.4
DUG Dugway, Tooele 39.95 84 P P 07 48 02.9 +0.7
DUG pmax pmax
comp=Z,42nm,1.6s
DUG Dugway, Tooele 39.95 84 P P 07 48 01.4 -0.8
baz=307,SNR=7.1
DUG Dugway, Tooele 39.95 84 P P 07 48 02.9 +0.7
MDJ Mudanjiang 40.13 284 P P 07 48 03.0 -0.5
MDJ S **S 07 54 07.8 +0.7**
MDJ pmax pmax
comp=Z,17nm,1.0s
MDJ pmax pmax
comp=Z,900nm,8.1s
MDJ LR LR
comp=Z,5µm,17.5s
MDJ LR LR
comp=Z,7µm,17.2s
MDJ LR LR
comp=Z,12µm,19.8s
MDJ Mudanjiang 40.13 284 P P 07 48 03.3 -0.2
LAO LASA Array 40.24 72 P P 07 48 01.7 -2.7
baz=302
LAO LASA Array 40.24 72 P P 07 48 04.4 -0.1
LAO IAmb IAmb 07 48 16.4
comp=Z,129nm,2.0s
PRN Pahroc Range 40.30 90 P P 07 48 04.2 -0.9
CTU Camp Tracy 40.30 83 P P 07 48 05.4 +0.2
MSHR Mys Shultsa 40.34 281 c iP **P 07 48 04.9 -0.3**
MSHR pmax pmax
comp=Z,37nm,1.0s
BW06 Boulder Array 40.42 79 P P 07 48 05.0 -1.2
baz=305,SNR=34
PD31 Pinedale Array 40.42 79 P P 07 48 05.0 -1.2
PDAR Pinedale Array 40.42 79 P P 07 48 05.9 -0.3
comp=Z,20nm,0.7s,baz=307,slow=5.0,SNR=35
PDAR Pinedale Array 40.42 79 P P 07 48 05.2 -1.0
SHOC Shoshone, Teco 40.51 92 P P 07 48 06.2 -0.6
baz=311
JLU Jordanelle 40.53 83 P P 07 48 07.9 +0.7
NLU North Lily Min 40.54 84 P P 07 48 08.3 +1.1
GSC Goldstone, Bar 40.58 93 P P 07 48 08.6 +1.2
GSC pmax pmax
comp=Z,17nm,1.1s
GSC Goldstone, Bar 40.58 93 P P 07 48 08.8 +1.4
baz=311
GSC Goldstone, Bar 40.58 93 P P 07 48 08.6 +1.2
BFSC Mount Baldy Ra 40.76 95 P P 07 48 09.1 +0.1
baz=312
MPU Maple Canyon 40.78 84 P P 07 48 08.2 -0.9
SHPR Sheep Range 40.80 91 P P 07 48 08.5 -0.9
JGF Kuroka 40.84 268 P P 07 48 09.7 +0.2
JGF IAmb IAmb 07 48 23.2
comp=Z,118nm,1.8s
FCC Fort Churchill 41.01 50 P P 07 48 10.5 -0.1
FCC pmax pmax
comp=Z,166nm,1.2s
FCC Fort Churchill 41.01 50 P P 07 48 10.5 -0.1
TCRU Three Creeks R 41.14 86 P P 07 48 12.0 -0.2
HEC Hector,Ludlow 41.18 94 P P 07 48 12.1 -0.2
baz=312
INU Inuyama 41.21 268 P P 07 48 12.9 +0.4
CCUT Cedar City 41.24 88 P P 07 48 12.0 -1.0
MVU Marysvale 41.35 86 P P 07 48 14.0 +0.1
MVU IAmb IAmb 07 48 24.2
comp=Z,121nm,1.8s
MURC Murrieta 41.48 96 P P 07 48 13.9 -0.9
baz=313
GMRC Granite Mounta 41.62 93 P P 07 48 15.4 -0.7
baz=312
P17A Butcher Ranch, 41.65 84 P P 07 48 17.2 +0.9
LCMT Little Creek M 41.66 89 P P 07 48 16.3 -0.1
RDMU Red Mountain 41.70 82 P P 07 48 16.6 -0.1
KNB Kanab 41.91 88 P P 07 48 21.0 +2.5
KNB pmax pmax
comp=Z,26nm,1.4s
KNB Kanab 41.91 88 P P 07 48 21.0 +2.5
PFO Pinyon Flats O 41.92 95 P P 07 48 19.4 +0.9
comp=Z,5.6nm,1.0s,baz=304,slow=7.3,SNR=5.7
PFO Pinyon Flats O 41.92 95 P P 07 48 18.2 -0.3
PFO pmax pmax
comp=Z,33nm,1.7s
PFO Pinyon Flats O 41.92 95 P P 07 48 19.2 +0.7
baz=313
PFO Pinyon Flats O 41.92 95 P P 07 48 18.2 -0.3
TPFO Pinon Flats 41.93 95 P P 07 48 19.2 +0.7
baz=313
BELC Belle Mtn. Jos 41.94 94 P P 07 48 16.9 -1.8
baz=312
PKCU Pink Cliffs 41.95 87 P P 07 48 18.9 -0.1
SRU San Rafael Swe 42.01 84 P P 07 48 19.2 -0.1
SRU pmax pmax
comp=Z,69nm,1.9s
SRU San Rafael Swe 42.01 84 P P 07 48 19.1 -0.1
SRU IAmb IAmb 07 48 26.1
comp=Z,69nm,1.9s
109C Camp Elliot, M 42.02 96 P P 07 48 18.7 -0.4
baz=313
BOD Bodaibo 42.08 309⇑ iP P 07 48 17.9 -1.4
BOD pmax pmax
comp=Z,91nm,0.9s
TULEG Thule 42.23 20 P P 07 48 21.9 +1.5
JWT Wachi 42.25 269 P P 07 48 20.3 -0.7
K22A Casper 42.31 77 P P 07 48 20.0 -1.6
baz=306,SNR=12
K22A Casper 42.31 77 P P 07 48 20.6 -1.1
IRM Iron Mountain 42.36 93 P P 07 48 21.8 -0.2
baz=312
BAR Barrett 42.43 96 P P 07 48 22.7 +0.2
MONP2 Monument Peak 42.43 96 P P 07 48 22.6 -0.1
baz=313
RWWY Rawlins 42.46 79 P P 07 48 22.9 -0.1
U15A North Rim 42.62 89 P P 07 48 24.4 0.0
CBX Cerro Bola 42.68 97 P P 07 48 24.9 +0.2
O20A White River Ci 42.77 81 P P 07 48 24.9 -0.6
baz=307,SNR=43
O20A White River Ci 42.77 81 P P 07 48 25.2 -0.3
O20A IAmb IAmb 07 48 30.3
comp=Z,40nm,0.9s
IKP In-Ko-Pah, Jac 42.79 96 P P 07 48 24.3 -1.3
baz=313
PDMCI Parker Dam,Lak 42.88 92 P P 07 48 24.7 -1.4
baz=312
RSSD Black Hills 42.94 74 P P 07 48 26.5 -0.3
RSSD pmax pmax
comp=Z,23nm,1.3s

RSSD	Black Hills	42.94	74	P	P	07 48 26.1	-0.7
	baz=305						
RSSD	Black Hills	42.94	74	P	P	07 48 26.5	-0.3
CN2	Changchun	43.05	286	eP	P	07 48 27.3	-0.1
CN2				pP	pP	07 48 38.5	+0.7
CN2				pmax	pmax		
	comp=Z,40nm,0.9s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
CN2				LR	LR		
	comp=Z,6μm,17.0s						
CN2				LR	LR		
	comp=Z,9μm,17.0s						
HIA	Hailar	43.31	296	P	P	07 48 29.7	+0.2
HIA				pmax	pmax		
	comp=Z,102nm,1.4s						
HIA	Hailar	43.31	296	P	P	07 48 29.7	+0.2
HIA				IAmb	IAmb	07 48 31.0	
	comp=Z,102nm,1.4s						
PV10	Paradox Valley	43.37	84	P	P	07 48 31.1	+0.7
PV10				IAmb	IAmb	07 48 45.3	
	comp=Z,38nm,0.9s						
PV14	Lion Creek, Pa	43.38	84	P	P	07 48 29.8	-0.7
PV22	Blue Mesa, Par	43.43	84	P	P	07 48 32.3	+1.6
MDND	Maddock	43.43	67	P	P	07 48 29.9	-0.5
	baz=303,SNR=16						
PV04	Paradox Valley	43.44	84	P	P	07 48 31.1	+0.2
PV17	East Wray Mesa	43.48	84	IAmb	IAmb	07 48 47.0	
	comp=Z,35nm,0.9s						
PV16	Nyswonger Mesa	43.49	84	P	P	07 48 31.9	+0.6
PV05	Paradox Valley	43.52	84	IAmb	IAmb	07 48 47.1	
	comp=Z,34nm,1.0s						
PV18	Skein Mesa, Pa	43.53	84	IAmb	IAmb	07 48 46.1	
	comp=Z,33nm,0.8s						
PV03	Paradox Valley	43.56	84	IAmb	IAmb	07 48 47.2	
	comp=Z,174nm,1.9s						
PV13	Radium Mtn., P	43.64	84	IAmb	IAmb	07 48 47.1	
	comp=Z,47nm,0.8s						
PV02	Paradox Valley	43.66	84	IAmb	IAmb	07 48 47.2	
	comp=Z,38nm,0.8s						
N23A	Red Feather La	43.70	79	P	P	07 48 32.9	-0.1
	baz=307,SNR=16						
PV15	Paradox Valley	43.73	84	P	P	07 48 32.9	-0.4
WUAZ	Wupatki	43.77	89	P	P	07 48 33.8	+0.3
	baz=311,SNR=8.4						
PV01	Paradox Valley	43.81	84	P	P	07 48 33.5	-0.4
PV01				IAmb	IAmb	07 48 47.9	
	comp=Z,135nm,2.0s						
JHS	Saijyo	43.84	270	P	P	07 48 33.2	-0.7
JHS				IAmb	IAmb	07 48 45.0	
	comp=Z,48nm,1.3s						
113A	Mohawk Valley,	44.15	94	P	P	07 48 34.9	-1.4
ULM	Lac du Bonnet	44.20	62	P	P	07 48 35.7	-0.9
	comp=Z,15nm,0.9s,baz=310,slow=8.6,SNR=11						
ULM	Lac du Bonnet	44.20	62	P	P	07 48 35.4	-1.2
ULM				pmax	pmax		
	comp=Z,42nm,1.1s						
ULM	Lac du Bonnet	44.20	62	P	P	07 48 35.4	-1.2
ULM				IAmb	IAmb	07 48 49.9	
	comp=Z,42nm,1.1s						
MVCO	Mesa Verde	44.44	85	P	P	07 48 39.5	+0.5
	baz=310,SNR=5.5						
MVCO	Mesa Verde	44.44	85	P	P	07 48 39.1	+0.1
X16A	Lo Mia Camp, P	44.46	90	P	P	07 48 39.0	-0.1
ISCO	Idaho Springs	44.57	80	P	P	07 48 39.3	-0.7
ISCO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ISCO	Idaho Springs	44.57	80	P	P	07 48 39.3	-0.7
	baz=308,SNR=8.5						
ISCO	Idaho Springs	44.57	80	P	P	07 48 39.3	-0.7
W18A	Petrified Fore	45.04	88	P	P	07 48 43.2	-0.5
	baz=311						
W18A	Petrified Fore	45.04	88	IAmb	IAmb	07 48 58.2	
	comp=Z,36nm,1.4s						
NEEM	North Greenlan	45.10	16	i P	P	07 48 43.6	-0.2
NEEM				IAmb	IAmb	07 48 44.9	
	comp=Z,61nm,1.1s						
S22A	4UR Ranch, Cre	45.12	83	P	P	07 48 43.2	-1.2
	baz=310,SNR=20						
AGMN	Agassiz Nation	45.27	64	P	P	07 48 44.3	-0.8
	baz=304,SNR=29						
AGMN	Agassiz Nation	45.27	64	P	P	07 48 44.2	-1.0
AGMN				IAmb	IAmb	07 48 58.3	
	comp=Z,44nm,0.9s						
D32A	Dogwood Acres,	45.28	66	P	P	07 48 43.5	-1.7
214A	Organ Pipe Nat	45.29	94	P	P	07 48 45.4	-0.1
	baz=314,SNR=6.3						
214A	Organ Pipe Nat	45.29	94	P	P	07 48 44.5	-1.1
SNY	Shenyang	45.33	285	⇓P	P	07 48 45.3	-0.3
SNY				S	S	07 55 19.3	-4.1
SNY				pmax	pmax		
	comp=Z,55nm,2.2s						
SNY				LR	LR		
	comp=Z,4μm,18.4s						
SNY				LR	LR		
	comp=Z,6μm,16.9s						
SNY				LR	LR		
	comp=Z,9μm,17.1s						
Q24A	Divide	45.37	80	P	P	07 48 44.3	-2.2
	baz=309						
KSRS	Korea Array	45.43	277	P	P	07 48 46.5	0.0
	comp=Z,42nm,0.9s,baz=55,slow=7.2,SNR=141						
KS19	Wonju Array Si	45.43	277	P	P	07 48 45.8	-0.7
KS19				IAmb	IAmb	07 48 48.9	
	comp=Z,78nm,1.1s						
KSAR	Wonju Array Be	45.46	277	P	P	07 48 46.3	-0.4
KSAR	Wonju Array Be	45.46	277	P	P	07 48 46.3	-0.4
NOR	Nord	45.59	5	i P	P	07 48 47.2	0.0
NOR				IAmb	IAmb	07 48 49.0	
	comp=Z,59nm,1.4s						
NOR	Nord	45.59	5	i P	P	07 48 47.2	0.0
NOR				pmax	pmax		
	comp=Z,59nm,1.4s						
SUSD	Miller	45.73	70	P	P	07 48 48.1	-0.7
	baz=306,SNR=6.8						
SDCO	Great Sand Dun	45.93	82	P	P	07 48 50.0	-0.8
	baz=310,SNR=21						
SDCO	Great Sand Dun	45.93	82	P	P	07 48 50.4	-0.4
OGNE	Ogallala	46.02	76	IAmb	IAmb	07 49 06.9	
	comp=Z,39nm,0.9s						
INCN	Inchon	46.20	278	P	P	07 48 52.5	-0.1
INCN				pmax	pmax		
	comp=Z,162nm,1.2s						
INCN	Inchon	46.20	278	P	P	07 48 52.5	-0.1
TUC	Tucson	46.29	92	P	P	07 48 53.2	-0.3
TUC				pmax	pmax		
	comp=Z,32nm,1.6s						
TUC	Tucson	46.29	92	P	P	07 48 52.6	-0.8
	baz=313						
TUC	Tucson	46.29	92	P	P	07 48 53.2	-0.3
B35A	Bob, Littlefor	46.41	63	P	P	07 48 53.1	-1.0
B35A				IAmb	IAmb	07 49 07.1	
	comp=Z,30nm,0.8s						
F33A	5 Mile Ranch,	46.44	67	P	P	07 48 52.4	-1.9
TJN	Taejon	46.47	276	⇑i P	P	07 48 54.5	-0.1
JNU	Nakatsue	46.47	270	P	P	07 48 54.9	+0.1
	comp=Z,17nm,0.8s,baz=26,slow=9.8,SNR=8.5						
JNU	Nakatsue	46.47	270	P	P	07 48 53.7	-1.1
JNU				IAmb	IAmb	07 49 08.2	
	comp=Z,60nm,1.0s						
NRIK	Noril'sk	46.54	332	P	P	07 48 53.6	-1.2
	comp=Z,14nm,0.7s,baz=65,slow=5.7,SNR=25						
NRIK	Noril'sk	46.54	332	c i P	P	07 48 54.7	-0.1
NRIK				pmax	pmax		
	comp=Z,40nm,1.3s						
NRIK	Noril'sk	46.54	332	P	P	07 48 53.6	-1.2
NRIK				IAmb	IAmb	07 48 56.4	
	comp=Z,24nm,0.9s						
KSCO	Kaye Shedlock'	46.87	79	P	P	07 48 57.6	-0.3
	baz=309						
KSCO	Kaye Shedlock'	46.87	79	P	P	07 48 58.0	+0.1
KSCO				IAmb	IAmb	07 49 02.9	
	comp=Z,22nm,0.8s						
K31A	O'Neill	46.93	72	P	P	07 48 58.2	-0.2
K31A				IAmb	IAmb	07 49 02.4	
	comp=Z,42nm,0.9s						
T25A	Trinidad	46.98	82	P	P	07 48 59.0	0.0
	baz=310,SNR=37						
T25A	Trinidad	46.98	82	P	P	07 48 58.5	-0.5
T25A				IAmb	IAmb	07 49 04.5	
	comp=Z,39nm,1.1s						
ANMO	Albuquerque	47.17	86	P	P	07 49 00.8	+0.4
	comp=Z,6.6nm,1.1s,baz=307,slow=8.2,SNR=14						
ANMO	Albuquerque	47.17	86	⇑i P	P	07 49 01.6	+1.1
ANMO				pmax	pmax		
	comp=Z,12nm,1.3s						
ANMO	Albuquerque	47.17	86	P	P	07 49 00.2	-0.2
	baz=312						
ANMO	Albuquerque	47.17	86	P	P	07 49 00.4	-0.1
Y22D	IRIS PASSCAL I	47.47	87	P	P	07 49 00.4	-2.3
	baz=312						
ECSD	EROS Data Cent	47.51	70	P	P	07 49 00.8	-1.9
	baz=307,SNR=23						
ECSD	EROS Data Cent	47.51	70	P	P	07 49 01.4	-1.3
ECSD				IAmb	IAmb	07 49 07.6	
	comp=Z,25nm,1.1s						
BNM	Barren Site	47.60	87	P	P	07 49 03.4	-0.4
319A	Douglas	47.86	91	P	P	07 49 05.8	+0.1
319A				IAmb	IAmb	07 49 15.3	
	comp=Z,75nm,2.0s						
EYMN	Ely	47.87	62	P	P	07 49 04.2	-1.3
	baz=306,SNR=26						
EYMN	Ely	47.87	62	P	P	07 49 04.3	-1.3
EYMN				IAmb	IAmb	07 49 18.6	
	comp=Z,57nm,1.1s						
121A	Cookes Peak, D	47.98	89	P	P	07 49 05.8	-1.0
	baz=313,SNR=7.1						
121A	Cookes Peak, D	47.98	89	IAmb	IAmb	07 49 23.6	
	comp=Z,18nm,0.8s						
F36A	Milaca	47.98	66	P	P	07 49 05.6	-0.8
F36A				IAmb	IAmb	07 49 18.5	
	comp=Z,77nm,1.9s						
BGNE	Belgrade	48.03	73	P	P	07 49 05.3	-1.6
	baz=308						
BGNE	Belgrade	48.03	73	P	P	07 49 06.3	-0.6
DL2	Dalian	48.31	283	P	P	07 49 10.3	+1.3
DL2				pmax	pmax		
	comp=Z,75nm,1.0s						
HSIG		48.49	95	IAmb	IAmb	07 49 19.7	
	comp=Z,41nm,1.8s						
E38A	The Farm, Brul	48.64	64	P	P	07 49 10.1	-1.3
E38A				IAmb	IAmb	07 49 24.2	
	comp=Z,45nm,0.9s						
L34A	Svendsen Farm,	48.73	72	P	P	07 49 10.8	-1.3
CBKS	Cedar Bluff	48.73	77	P	P	07 49 11.1	-1.2
	baz=310						
SPMN	Marine on St.	48.77	66	P	P	07 49 11.3	-1.2
	baz=307,SNR=8.2						
SPMN	Marine on St.	48.77	66	P	P	07 49 11.2	-1.2
SPMN				IAmb	IAmb	07 49 24.8	
	comp=Z,24nm,1.1s						
N33A	J Bar K, Exete	48.87	74	P	P	07 49 12.4	-0.8
N33A				IAmb	IAmb	07 49 17.8	
	comp=Z,43nm,1.1s						
KBS	Kingsbay	49.08	360	i P	P	07 49 14.7	+0.3
KBS				IAmb	IAmb	07 49 18.3	
	comp=Z,115nm,0.9s						
KBS	Kingsbay	49.08	360	⇑i P	P	07 49 15.1	+0.6
KBS				pmax	pmax		
	comp=Z,105nm,1.5s						
KBS	Kingsbay	49.08	360	eP	P	07 49 15.0	+0.6
KBS	Kingsbay	49.08	360	P	P	07 49 14.8	+0.4
I37A	Lemond, Waseca	49.17	68	P	P	07 49 14.7	-0.9
R32A	Long Quarter,	49.60	77	P	P	07 49 18.1	-0.8
R32A				IAmb	IAmb	07 49 22.9	
	comp=Z,35nm,1.1s						
IRK	Irkutsk	49.77	307	eP	P	07 49 20.4	+0.4
IRK				pmax	pmax		
	comp=Z,120nm,1.2s						
SPA0	Spitsbergen Ar	49.79	358	eP	P	07 49 18.8	-1.0
SPITS	Spitsbergen Ar	49.79	358	P	P	07 49 18.5	-1.4
	comp=Z,10nm,0.5s,baz=32,slow=4.9,SNR=51						
SPITS	Spitsbergen Ar	49.79	358	P	P	07 49 18.8	-1.0
SPITS				pmax	pmax		
	comp=Z,109nm,1.2s						
N35A	Tabor	49.85	72	P	P	07 49 20.0	-0.8
DAG	Danmarks Havn	49.91	8	⇑i P	P	07 49 20.1	-0.6
DAG				IAmb	IAmb	07 49 21.9	
	comp=Z,57nm,0.9s						
DAG	Danmarks Havn	49.91	8	⇑i P	P	07 49 20.1	-0.6
DAG				pmax	pmax		
	comp=Z,57nm,0.9s						
D41A	Chassel	50.00	62	P	P	07 49 21.4	-0.4
D41A				IAmb	IAmb	07 49 35.2	
	comp=Z,62nm,1.2s						
MNTX	Cornudas Mount	50.03	88	P	P	07 49 22.0	-0.2
	baz=314,SNR=28						
MNTX	Cornudas Mount	50.03	88	P	P	07 49 22.4	+0.1
MNTX				IAmb	IAmb	07 49 27.7	
	comp=Z,14nm,0.8s						
MSTX	Muleshoe	50.08	84	P	P	07 49 21.5	-1.2
	baz=313,SNR=15						
MSTX	Muleshoe	50.08	84	P	P	07 49 21.9	-0.8
MSTX				IAmb	IAmb	07 49 27.4	
	comp=Z,28nm,1.0s						
AMTX	Amarillo	50.13	82	P	P	07 49 22.4	-0.7
	baz=312						
AMTX	Amarillo	50.13	82	P	P	07 49 22.3	-0.7
G40A	Rib Lake	50.20	65	P	P	07 49 22.1	-1.2
G40A				IAmb	IAmb	07 49 28.7	
	comp=Z,20nm,0.9s						
COWI	Conover	50.27	63	P	P	07 49 22.4	-1.5
COWI				IAmb	IAmb	07 49 36.0	
	comp=Z,60nm,1.6s						
K38A	Parkersburg	50.39	69	IAmb	IAmb	07 49 28.3	
	comp=Z,46nm,1.4s						
KSU1	Kansas State U	50.41	75	P	P	07 49 23.5	-1.5
	baz=310						
KSU1	Kansas State U	50.41	75	P	P	07 49 23.6	-1.4
KSU1				IAmb	IAmb	07 49 28.4	
	comp=Z,18nm,0.8s						
SCIA	State Center	50.60	70	P	P	07 49 25.1	-1.3
	baz=309						
SCIA	State Center	50.60	70	IAmb	IAmb	07 49 29.4	
	comp=Z,52nm,1.4s						
ILULI	Ilulissat	50.74	24	P	P	07 49 27.2	+0.2
ILULI				pmax	pmax		
	comp=Z,22nm,0.9s						
ILULI	Ilulissat	50.74	24	P	P	07 49 27.2	+0.2
ILULI				IAmb	IAmb	07 49 28.2	
	comp=Z,22nm,0.9s						
U32A	Winter Ranch,	50.76	79	IAmb	IAmb	07 49 44.9	
	comp=Z,22nm,0.8s						
BJI	Beijing	50.82	287	P	P	07 49 27.8	-0.3
BJI				S	S	07 56 41.0	-0.1
BJI				pmax	pmax		
	comp=Z,17nm,0.8s						
BJI				pmax	pmax		
	comp=Z,460nm,3.9s						
BJI				LR	LR		
	comp=Z,3μm,19.8s						
BJI				LR	LR		
	comp=Z,2μm,20.4s						
I40A	Norwalk	50.83	66	P	P	07 49 26.4	-1.7
I40A				IAmb	IAmb	07 49 29.2	
	comp=Z,93nm,1.8s						
BJT	Baijiatuau	50.84	287	P	P	07 49 27.6	-0.6
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	Baijiatuau	50.84	287	P	P	07 49 27.6	-0.6
BJT				IAmb	IAmb	07 49 39.0	
	comp=Z,15nm,0.8s						
SUMG	Summit	50.90	17	i P	P	07 49 28.6	-0.1
SUMG				IAmb	IAmb	07 49 32.0	
	comp=Z,81nm,1.0s						
SUMG	Summit	50.90	17	i P	P	07 49 28.6	-0.1
SUMG				pmax	pmax		
	comp=Z,81nm,1.0s						
SUMG	Summit	50.90	17	P	P	07 49 28.5	-0.2
OK032	Salt Plains WL	50.96	78	P	P	07 49 28.9	-0.3
HSPB	Hornsund (broa	50.98	359	eP	P	07 49 29.7	+0.9
HSPB	Hornsund (broa	50.98	359	eP	P	07 49 29.4	+0.6
ULN	Ulaanbaatar	51.00	301	d i P	P	07 49 29.2	-0.4
ULN				pmax	pmax		
	comp=Z,57nm,1.0s						
ULN	Ulaanbaatar	51.00	301	P	P	07 49 28.6	-1.0
ULN				IAmb	IAmb	07 49 31.6	
	comp=Z,48nm,0.9s						
F42A	Maple Grove Fa	51.03	63	P	P	07 49 28.7	-0.9
KAN17	Caldwell West	51.06	77	P	P	07 49 28.9	-1.1
KS20	Mayfield South	51.07	77	P	P	07 49 29.0	-1.0
KS20				IAmb	IAmb	07 49 33.5	
	comp=Z,27nm,1.0s						
KAN09	Caldwell North	51.09	77	P	P	07 49 29.6	-0.6
KAN09				IAmb	IAmb	07 49 44.4	
	comp=Z,42nm,1.1s						
HOPEN	Hopen	51.19	356	eP	P	07 49 30.1	-0.2
KAN13	South Haven SW	51.26	77	IAmb	IAmb	07 49 45.6	
	comp=Z,52nm,1.0s						
E43A	Lone Tree Farm	51.27	62	P	P	07 49 30.6	-0.8
E43A				IAmb	IAmb	07 49 44.5	
	comp=Z,41nm,0.8s						
N38A	Joes South For	51.30	71	IAmb	IAmb	07 49 40.1	
	comp=Z,37nm,0.8s						
SONM	Songino Array	51.37	301	P	P	07 49 31.9	-0.4
	comp=Z,41nm,1.1s,baz=57,slow=6.4,SNR=86						
SONM				PcP	PcP	07 50 47.0	+0.5
	comp=Z,17nm,1.0s,baz=48,slow=2.1,SNR=3.6						
SONM	Songino Array	51.37	301	P	P	07 49 31.5	-0.8
SONM				pmax	pmax		
	comp=Z,75nm,1.2s						
SONM	Songino Array	51.37	301	P	P	07 49 31.5	-0.8
SONM				IAmb	IAmb	07 49 34.8	
	comp=Z,75nm,1.2s						
ZAK	Zakamensk	51.40	305	eP	P	07 49 32.0	-0.4
ZAK				pmax	pmax		
	comp=Z,47nm,1.3s						
BLOK	Blackwell	51.58	77	IAmb	IAmb	07 49 48.1	
	comp=Z,31nm,1.1s						
L40A	Anamosa	51.64	68	IAmb	IAmb	07 49 37.4	
	comp=Z,27nm,1.0s						
JFWS	Jewell Farm	51.65	67	P	P	07 49 32.4	-1.9
JFWS				pmax	pmax		
	comp=Z,17nm,0.7s						
JFWS	Jewell Farm	51.65	67	P	P	07 49 33.4	-0.9
	baz=310,SNR=9.2						
JFWS	Jewell Farm	51.65	67	P	P	07 49 32.4	-1.9
JFWS				IAmb	IAmb	07 49 45.7	
	comp=Z,17nm,0.7s						
MOY	Mondy	51.73	308	eP	P	07 49 36.3	+1.4
MOY				pmax	pmax		
	comp=Z,60nm,1.4s						
I42A	Draeger Farm,	51.78	65	P	P	07 49 33.9	-1.4
I42A				IAmb	IAmb	07 49 35.7	
	comp=Z,28nm,1.1s						
P38A	Dawn	51.88	72	P	P	07 49 34.3	-1.7
P38A				IAmb	IAmb	07 49 48.3	
	comp=Z,29nm,0.7s						
T35A	Sooner Cattle	51.90	77	P	P	07 49 35.6	-0.6
WMOK	Wichita Mounta	51.99	80	P	P	07 49 36.2	-0.7
	baz=312,SNR=27						
DBG	Daneborg	52.03	10	i P	P	07 49 35.6	-1.0
DBG				IAmb	IAmb	07 49 37.7	
	comp=Z,60nm,0.8s						
H43A	Windswept, Lux	52.05	64	P	P	07 49 36.0	-1.3
H43A				IAmb	IAmb	07 49 41.8	
	comp=Z,40nm,0.8s						
OK029	Liberty Lake	52.08	78	IAmb	IAmb	07 49 52.1	
	comp=Z,42nm,0.9s						
BCOK	Bluff Creek, N	52.08	79	P	P	07 49 36.7	-0.9
QUOK	Quay	52.28	78	IAmb	IAmb	07 49 53.2	
	comp=Z,23nm,0.9s						
OK025	Westminster Rd	52.30	79	P	P	07 49 38.9	-0.3
OK025				IAmb	IAmb	07 49 53.2	
	comp=Z,31nm,1.2s						
OK031	S. Brethren Rd	52.35	78	P	P	07 49 38.4	-1.1
OK031				IAmb	IAmb	07 49 43.2	
	comp=Z,36nm,0.9s						
FNO	Franklin	52.48	79	P	P	07 49 40.6	+0.1
SFJD	Kangerlussuaq	52.48	26	P	P	07 49 40.2	+0.1
SFJD				pmax	pmax		
	comp=Z,42nm,1.0s						
SFJD	Kangerlussuaq	52.48	26	P	P	07 49 40.2	+0.1
SFJD				IAmb	IAmb	07 49 41.7	
	comp=Z,42nm,0.9s						
JOW	Kunigami	52.49	266	P	P	07 49 40.2	-0.5
	comp=Z,14nm,0.8s,baz=62,slow=4.2,SNR=3.0						
JOW	Kunigami	52.49	266	P	P	07 49 40.8	+0.1
JOW				IAmb	IAmb	07 49 50.3	
	comp=Z,41nm,1.0s						
L42A	Oliver, Polo	52.57	67	P	P	07 49 39.8	-1.3
L42A				IAmb	IAmb	07 49 41.4	
	comp=Z,30nm,1.1s						
X34A	Smith Ranch, M	52.66	80	P	P	07 49 41.0	-0.9
X34A				IAmb	IAmb	07 49 45.9	
	comp=Z,27nm,1.2s						
E46A	Sault Ste Mari	52.72	60	P	P	07 49 39.8	-2.4
E46A				IAmb	IAmb	07 49 46.3	
	comp=Z,54nm,1.0s						
TX31	Lajitas Ar. Si	52.74	89	P	P	07 49 42.1	-0.6
TX32	Lajitas Array	52.74	89	P	P	07 49 41.8	-0.8
TX32				IAmb	IAmb	07 49 51.9	
	comp=Z,56nm,1.5s						
TXAR	Lajitas Array	52.74	89	P	P	07 49 41.1	-1.5
	comp=Z,6.7nm,0.7s,baz=301,slow=5.6,SNR=47						
TXAR				PKP2ab		08 20 50.7	
	comp=Z,0.9nm,1.0s,baz=157,slow=3.5,SNR=3.7						
TXAR	Lajitas Array	52.74	89	P	P	07 49 41.8	-0.9
TXAR	Lajitas Array	52.74	89	P	P	07 49 41.8	-0.9
TIA	Tai'an	52.78	283	⇑P	P	07 49 41.8	-0.9
TIA				pmax	pmax		
	comp=Z,94nm,1.0s						
TIA				pmax	pmax		
	comp=Z,700nm,10.6s						
TIA				LR	LR		
	comp=Z,4μm,17.3s						
TIA				LR	LR		
	comp=Z,4μm,18.0s						
TIA				LR	LR		
	comp=Z,6μm,17.3s						
G45A	Suttons Bay	52.84	62	P	P	07 49 42.4	-0.7
G45A				IAmb	IAmb	07 49 55.1	
	comp=Z,104nm,1.9s						
K43A	Burlington	52.87	66	P	P	07 49 42.6	-0.7
K43A				IAmb	IAmb	07 49 44.0	
	comp=Z,43nm,1.1s						
ABTX	Abilene, Hawle	52.91	83	P	P	07 49 44.0	+0.2
	baz=314						
ABTX	Abilene, Hawle	52.91	83	P	P	07 49 43.1	-0.7
ABTX				IAmb	IAmb	07 49 47.9	
	comp=Z,21nm,1.1s						
HHC	Hu-ho-hao-te	52.97	291	eP	P	07 49 45.8	+1.5
HHC				S	S	07 57 08.8	-2.1
HHC				pmax	pmax		
	comp=Z,39nm,0.8s						
HHC				pmax	pmax		
	comp=Z,350nm,6.6s						
HHC				LR	LR		
	comp=Z,4μm,17.5s						
HHC				LR	LR		
	comp=Z,8μm,17.9s						
SLBS	Sierra La Lagu	53.00	99	P	P	07 49 44.8	+0.2
SLBS				IAmb	IAmb	07 49 54.4	
	comp=Z,63nm,1.6s						
TUL1	Leonard	53.00	77	P	P	07 49 44.1	-0.3
	baz=312,SNR=6.4						
GUMO	Guam	53.05	241	P	P	07 49 42.1	-2.8
	comp=Z,40nm,0.5s,baz=30,slow=8.1,SNR=5.4						
GUMO	Guam	53.05	241	P	P	07 49 42.1	-2.8
GUMO				pmax	pmax		
	comp=Z,49nm,0.8s						
I45A	Fountain	53.17	63	P	P	07 49 45.1	-0.4
BJO1	Bjornoya	53.41	357	eP	P	07 49 48.4	+1.5
L44A	Lake County Fo	53.45	66	P	P	07 49 45.7	-1.8
	baz=311						
L44A	Lake County Fo	53.45	66	P	P	07 49 47.1	-0.4
L44A				IAmb	IAmb	07 49 54.1	
	comp=Z,59nm,1.1s						
ICESG	Greenland Ices	53.48	20	i P	P	07 49 47.2	-0.7
ICESG				IAmb	IAmb	07 49 48.8	
	comp=Z,59nm,0.9s						
R40A	Maddies Statio	53.50	73	IAmb	IAmb	07 49 59.6	
	comp=Z,17nm,0.7s						
GLMI	Grayling	53.54	62	P	P	07 49 47.6	-0.7
	baz=310						
GLMI	Grayling	53.54	62	P	P	07 49 47.0	-1.2
HDIL	Hopedale	53.73	69	P	P	07 49 48.2	-1.4
	baz=311,SNR=12						
HDIL	Hopedale	53.73	69	P	P	07 49 48.0	-1.7
SSE	Sheshan	53.82	276	P	P	07 49 49.5	-0.9
SSE				S	S	07 57 22.8	+0.5
SSE				pmax	pmax		

DY2G	**Dye2**	**54.01**	**25**	*i* P	**P**	**07 49 51.3**	**-0.4**
DY2G				IAmb	IAmb	07 49 53.6	
	comp=Z,19nm,0.7s						
BTO	**Baotou**	**54.02**	**292**	*e*P	**P**	**07 49 52.8**	**+0.9**
BTO				S	**S**	**07 57 27.5**	**+2.5**
X37A	**Clayton**	**54.15**	**78**	IAmb	IAmb	07 49 57.0	
	comp=Z,18nm,0.9s						
P43A	**Skaggs, Pawnee**	**54.20**	**70**	IAmb	IAmb	07 50 01.4	
	comp=Z,29nm,0.8s						
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**07 49 51.8**	**-1.7**
CCM				pmax	pmax		
	comp=Z,64nm,1.9s						
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**07 49 51.7**	**-1.9**
	baz=312						
CCM	**Cathedral Cave**	**54.26**	**72**	P	**P**	**07 49 51.8**	**-1.7**
CCM				IAmb	IAmb	07 49 55.3	
	comp=Z,64nm,1.9s						
JCT	**Junction City**	**54.30**	**85**	P	**P**	**07 49 53.6**	**-0.5**
JCT				pmax	pmax		
	comp=Z,36nm,1.1s						
JCT	**Junction City**	**54.30**	**85**	P	**P**	**07 49 54.5**	**+0.4**
	baz=315,SNR=7.9						
JCT	**Junction City**	**54.30**	**85**	P	**P**	**07 49 53.6**	**-0.5**
JCT				IAmb	IAmb	07 50 07.8	
	comp=Z,36nm,1.1s						
U40A	**Yellville**	**54.45**	**75**	P	**P**	**07 49 53.6**	**-1.4**
	baz=313,SNR=14						
U40A	**Yellville**	**54.45**	**75**	P	**P**	**07 49 52.7**	**-2.3**
U40A				IAmb	IAmb	07 50 07.0	
	comp=Z,12nm,0.6s						
SLM	**Saint Louis**	**54.46**	**71**	P	**P**	**07 49 54.0**	**-1.0**
SLM				pmax	pmax		
	comp=Z,94nm,1.7s						
SLM	**Saint Louis**	**54.46**	**71**	P	**P**	**07 49 54.0**	**-1.0**
L46A	**Eue Claire**	**54.46**	**65**	P	**P**	**07 49 54.0**	**-1.0**
L46A				IAmb	IAmb	07 50 08.4	
	comp=Z,31nm,0.9s						
O44A	**Mansfield**	**54.47**	**68**	IAmb	IAmb	07 49 56.6	
	comp=Z,13nm,0.6s						
J47A	**Sunmer**	**54.47**	**63**	P	**P**	**07 49 54.1**	**-0.9**
TIY	**Taiyuan**	**54.55**	**288**	*e*P	**P**	**07 49 58.0**	**+2.2**
TIY				pmax	pmax		
	comp=Z,52nm,1.0s						
TIY				LR	LR		
	comp=Z,720nm,15.1s						
TIY				LR	LR		
	comp=Z,2μm,18.7s						
TIY				LR	LR		
	comp=Z,1μm,26.3s						
NJ2	**Nanjing**	**54.57**	**278**	⇓*i* P	**P**	**07 49 56.8**	**+0.9**
NJ2				pP	**pP**	**07 50 02.5**	**-4.2**
NJ2				S	**S**	**07 57 37.8**	**+5.3**
NJ2				pmax	pmax		
	comp=Z,79nm,0.9s						
NJ2				LR	LR		
	comp=Z,2μm,21.2s						
NJ2				LR	LR		
	comp=Z,2μm,20.6s						
NJ2				LR	LR		
	comp=Z,4μm,21.2s						
WHTX	**Lake Whitney,**	**54.68**	**82**	P	**P**	**07 49 57.0**	**+0.3**
	baz=314,SNR=17						
WHTX	**Lake Whitney,**	**54.68**	**82**	P	**P**	**07 49 56.4**	**-0.3**
WHTX				IAmb	IAmb	07 50 01.4	
	comp=Z,44nm,1.0s						
W39A	**Magazine**	**54.69**	**76**	P	**P**	**07 49 55.5**	**-1.2**
	baz=313,SNR=12						
W39A	**Magazine**	**54.69**	**76**	P	**P**	**07 49 56.2**	**-0.6**
W39A				IAmb	IAmb	07 50 02.8	
	comp=Z,54nm,1.6s						
LSQQ	**Lebel-sur-Quev**	**54.74**	**54**	P	**P**	**07 49 55.4**	**-1.5**
	baz=311						
KNTN	**Kanton**	**54.85**	**183**	P	**P**	**07 49 58.4**	**+0.4**
Q44A	**Meyer Farm, Va**	**54.98**	**70**	P	**P**	**07 49 58.1**	**-0.7**
Q44A				IAmb	IAmb	07 49 59.5	
	comp=Z,36nm,1.3s						
T42A	**Van Buren**	**55.04**	**73**	P	**P**	**07 49 57.3**	**-1.9**
I49A	**Point Hope**	**55.09**	**62**	P	**P**	**07 49 58.9**	**-0.6**
I49A				IAmb	IAmb	07 50 14.0	
	comp=Z,26nm,0.8s						
SFIN	**Lafayette**	**55.09**	**67**	P	**P**	**07 49 57.9**	**-1.7**
	baz=312,SNR=12						
SFIN	**Lafayette**	**55.09**	**67**	P	**P**	**07 49 58.2**	**-1.4**
SFIN				IAmb	IAmb	07 50 00.7	
	comp=Z,52nm,1.2s						
FCAR	**Ozark Folk Cen**	**55.20**	**75**	P	**P**	**07 49 58.4**	**-2.0**
FCAR				IAmb	IAmb	07 50 02.8	
	comp=Z,19nm,0.9s						
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**07 49 59.7**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,39nm,1.4s						
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**07 49 60.0**	**-0.9**
	baz=313,SNR=14						
MIAR	**Mount Ida**	**55.26**	**77**	P	**P**	**07 49 59.7**	**-1.1**
MIAR				IAmb	IAmb	07 50 04.1	
	comp=Z,39nm,1.4s						
SCO	**Scoresbysund**	**55.34**	**13**	*i* P	**P**	**07 50 00.7**	**-0.2**
SCO				IAmb	IAmb	07 50 02.4	
	comp=Z,33nm,0.8s						
SCO	**Scoresbysund**	**55.34**	**13**	*i* P	**P**	**07 50 00.7**	**-0.2**
SCO				pmax	pmax		
	comp=Z,33nm,0.8s						
SCO	**Scoresbysund**	**55.34**	**13**	P	**P**	**07 50 00.6**	**-0.3**
435B	**Jarrell**	**55.45**	**83**	P	**P**	**07 50 00.3**	**-1.9**
	baz=315						
CHGQ	**Chibougamau**	**55.45**	**51**	P	**P**	**07 50 00.6**	**-1.4**
	baz=312,SNR=16						
WHAR	**Wooly Hollow**	**55.52**	**75**	P	**P**	**07 50 02.3**	**-0.4**
SCHQ	**Schefferville**	**55.52**	**43**	P	**P**	**07 50 02.1**	**-0.3**
	comp=Z,44nm,1.0s,baz=322,slow=7.9,SNR=30						
L48A	**N Adams**	**55.54**	**64**	IAmb	IAmb	07 50 15.6	
	comp=Z,20nm,0.8s						
P46A	**Rosedale**	**55.54**	**68**	P	**P**	**07 50 02.2**	**-0.7**
P46A				IAmb	IAmb	07 50 03.1	
	comp=Z,18nm,1.0s						
N47A	**Urbana**	**55.55**	**66**	IAmb	IAmb	07 50 03.2	
	comp=Z,56nm,1.1s						
PBMO	**Poplar Bluff**	**55.60**	**73**	P	**P**	**07 50 02.2**	**-1.1**
PBMO				IAmb	IAmb	07 50 05.1	
	comp=Z,28nm,1.2s						
W41B	**Gary Mavity, V**	**55.62**	**75**	P	**P**	**07 50 02.4**	**-1.0**
	baz=313						
OLIL	**Olney**	**55.63**	**69**	P	**P**	**07 50 01.7**	**-1.7**
OLIL				IAmb	IAmb	07 50 04.3	
	comp=Z,67nm,1.3s						
LCAR	**Lake Charles**	**55.66**	**74**	P	**P**	**07 50 02.5**	**-1.1**
S44A	**Carbondale**	**55.66**	**71**	P	**P**	**07 50 02.5**	**-1.2**
SIUC	**Southern Illin**	**55.67**	**71**	P	**P**	**07 50 02.7**	**-1.1**
SIUC				IAmb	IAmb	07 50 06.5	
	comp=Z,14nm,0.8s						
237A	**Washetta, Mont**	**55.67**	**81**	P	**P**	**07 50 03.2**	**-0.6**
237A				IAmb	IAmb	07 50 08.0	
	comp=Z,26nm,1.1s						
X40A	**Basin Creek Fa**	**55.74**	**76**	P	**P**	**07 50 03.0**	**-1.3**
	baz=314,SNR=8.5						
K50A	**Casco**	**55.98**	**62**	P	**P**	**07 50 05.4**	**-0.5**
K50A				IAmb	IAmb	07 50 10.4	
	comp=Z,18nm,0.8s						
833A	**Chaparral WMA,**	**56.08**	**86**	P	**P**	**07 50 05.6**	**-1.2**
	baz=316						
WLAR	**White Oak Lake**	**56.13**	**77**	P	**P**	**07 50 06.4**	**-0.7**
BLO	**Bloomington**	**56.23**	**68**	P	**P**	**07 50 06.5**	**-1.3**
BLO				pmax	pmax		
	comp=Z,36nm,1.3s						
BLO	**Bloomington**	**56.23**	**68**	P	**P**	**07 50 06.5**	**-1.3**
BLO				IAmb	IAmb	07 50 08.6	
	comp=Z,36nm,1.2s						
ALGO	**Algonquin Park**	**56.27**	**57**	P	**P**	**07 50 06.8**	**-1.2**
	baz=312,SNR=22						
JMIC	**Jan Mayen**	**56.31**	**7**	*e*P	**P**	**07 50 08.3**	**+0.5**
N49A	**Columbus Grove**	**56.37**	**65**	P	**P**	**07 50 06.7**	**-2.1**
N49A				IAmb	IAmb	07 50 13.0	
	comp=Z,44nm,1.4s						
USIN	**University of**	**56.40**	**70**	P	**P**	**07 50 07.9**	**-1.0**
T45A	**Paducah**	**56.48**	**71**	P	**P**	**07 50 08.9**	**-0.6**
T45A				IAmb	IAmb	07 50 22.2	
	comp=Z,26nm,0.6s						
LPAR	**Lepanto**	**56.48**	**74**	P	**P**	**07 50 08.0**	**-1.6**
LPAR				IAmb	IAmb	07 50 12.7	
	comp=Z,57nm,1.3s						
SADO	**Sadowa**	**56.50**	**59**	P	**P**	**07 50 08.7**	**-0.9**
SADO				IAmb	IAmb	07 50 22.8	
	comp=Z,28nm,0.9s						
NATX	**Nacogdoches**	**56.54**	**80**	P	**P**	**07 50 10.6**	**+0.6**
	baz=315						
NATX	**Nacogdoches**	**56.54**	**80**	P	**P**	**07 50 08.9**	**-1.2**
NATX				IAmb	IAmb	07 50 13.7	
	comp=Z,40nm,1.3s						
Z41A	**Richland Creek**	**56.61**	**77**	P	**P**	**07 50 10.7**	**+0.1**
	baz=314						
P48A	**Milroy**	**56.66**	**67**	P	**P**	**07 50 09.4**	**-1.5**
P48A				IAmb	IAmb	07 50 11.1	
	comp=Z,54nm,1.2s						
M50A	**Fremont**	**56.68**	**64**	P	**P**	**07 50 10.2**	**-0.7**
M50A				IAmb	IAmb	07 50 22.7	
	comp=Z,18nm,0.8s						
CCAR	**Cane Creek**	**56.77**	**76**	P	**P**	**07 50 11.7**	**0.0**
O49A	**Covington**	**56.78**	**66**	P	**P**	**07 50 10.7**	**-1.0**
O49A				IAmb	IAmb	07 50 12.1	
	comp=Z,21nm,1.1s						
ANGG	**Ammassalik, Gr**	**56.80**	**22**	*i* P	**P**	**07 50 11.1**	**-0.2**
ANGG				IAmb	IAmb	07 50 12.1	
	comp=Z,53nm,1.1s						
UTMT	**University of**	**56.81**	**72**	P	**P**	**07 50 11.4**	**-0.5**
UTMT				IAmb	IAmb	07 50 15.7	
	comp=Z,43nm,0.8s						
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**07 50 11.7**	**-1.6**
WCI				pmax	pmax		
	comp=Z,19nm,0.8s						
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**07 50 11.6**	**-1.7**
	baz=313						
WCI	**Wyandotte Cave**	**57.01**	**69**	P	**P**	**07 50 11.7**	**-1.6**
WCI				IAmb	IAmb	07 50 17.0	
	comp=Z,19nm,0.8s						
P49A	**Miami Univ. Ec**	**57.01**	**67**	P	**P**	**07 50 11.2**	**-2.1**
	baz=313,SNR=6.9						
P49A	**Miami Univ. Ec**	**57.01**	**67**	P	**P**	**07 50 11.5**	**-1.8**
P49A				IAmb	IAmb	07 50 19.2	
	comp=Z,38nm,1.2s						
MET	**Memphis--Engin**	**57.03**	**74**	P	**P**	**07 50 12.7**	**-0.8**
HAMF	**Hammerfest**	**57.06**	**355**	*e*P	**P**	**07 50 13.1**	**0.0**
HKT	**Hockley**	**57.10**	**82**	⇑*i* P	**P**	**07 50 15.0**	**+1.0**
HKT				pmax	pmax		
	comp=Z,26nm,1.7s						
HKT	**Hockley**	**57.10**	**82**	P	**P**	**07 50 12.3**	**-1.7**
HKT				IAmb	IAmb	07 50 17.2	
	comp=Z,47nm,1.8s						
N51A	**Ashland**	**57.38**	**64**	P	**P**	**07 50 14.6**	**-1.2**
N51A				IAmb	IAmb	07 50 20.8	
	comp=Z,31nm,0.8s						
T47A	**Sharon Grove**	**57.39**	**70**	IAmb	IAmb	07 50 24.6	
	comp=Z,30nm,1.0s						
W45A	**Hickory Valley**	**57.45**	**73**	P	**P**	**07 50 14.7**	**-1.8**
W45A				IAmb	IAmb	07 50 25.0	
	comp=Z,31nm,0.7s						
YOJ	**Yonaguni jima**	**57.46**	**269**	P	**P**	**07 50 13.8**	**-2.8**
DELO	**Deloro Mine**	**57.47**	**58**	P	**P**	**07 50 16.4**	**0.0**
ACSO	**Alum Creek Sta**	**57.51**	**65**	P	**P**	**07 50 15.3**	**-1.5**
	baz=313						
ACSO	**Alum Creek Sta**	**57.51**	**65**	P	**P**	**07 50 16.1**	**-0.7**
ACSO				IAmb	IAmb	07 50 21.9	
	comp=Z,21nm,1.1s						
M52A	**Chesterland**	**57.51**	**63**	P	**P**	**07 50 15.4**	**-1.4**
M52A				IAmb	IAmb	07 50 21.3	
	comp=Z,26nm,0.8s						
ZAA0	**Zalesovo Array**	**57.52**	**318**	P	**P**	**07 50 15.6**	**-1.1**
ZAA0				IAmb	IAmb	07 50 29.2	
	comp=Z,20nm,1.1s						
ZALV	**Zalesovo Beam**	**57.52**	**318**	P	**P**	**07 50 15.3**	**-1.3**
	comp=Z,6.4nm,0.5s,baz=40,slow=7.7,SNR=20						
ZALV	**Zalesovo Beam**	**57.52**	**318**	P	**P**	**07 50 15.7**	**-0.9**
ZALV	**Zalesovo Beam**	**57.52**	**318**	P	**P**	**07 50 15.7**	**-0.9**
WVT	**Waverly**	**57.57**	**72**	P	**P**	**07 50 16.5**	**-0.7**
WVT				pmax	pmax		
	comp=Z,55nm,1.6s						
WVT	**Waverly**	**57.57**	**72**	P	**P**	**07 50 16.5**	**-0.7**
	baz=314						
WVT	**Waverly**	**57.57**	**72**	P	**P**	**07 50 16.5**	**-0.7**
WVT				IAmb	IAmb	07 50 18.5	
	comp=Z,56nm,1.6s						
R49A	**Shelbyville**	**57.61**	**68**	P	**P**	**07 50 16.2**	**-1.3**
KEV	**Kevo**	**57.72**	**353**	P	**P**	**07 50 17.3**	**-0.6**
KEV				pmax	pmax		
	comp=Z,43nm,0.9s						
KEV	**Kevo**	**57.72**	**353**	P	**P**	**07 50 17.3**	**-0.6**
KEV				IAmb	IAmb	07 50 19.0	
	comp=Z,43nm,0.9s						
OXF	**Oxford**	**57.76**	**74**	P	**P**	**07 50 17.8**	**-0.8**
OXF				pmax	pmax		
	comp=Z,85nm,1.2s						
OXF	**Oxford**	**57.76**	**74**	P	**P**	**07 50 17.9**	**-0.8**
	baz=314,SNR=12						
OXF	**Oxford**	**57.76**	**74**	P	**P**	**07 50 17.8**	**-0.8**
J54A	**Appleton**	**57.79**	**60**	P	**P**	**07 50 18.1**	**-0.6**
J54A				IAmb	IAmb	07 50 23.6	
	comp=Z,32nm,0.8s						
143A	**Socs Landing,**	**57.84**	**77**	P	**P**	**07 50 18.6**	**-0.5**
143A				IAmb	IAmb	07 50 30.1	
	comp=Z,39nm,1.2s						
ERPA	**Erie**	**57.86**	**61**	P	**P**	**07 50 17.4**	**-1.8**
	baz=313,SNR=6.8						
ERPA	**Erie**	**57.86**	**61**	IAmb	IAmb	07 50 32.6	
	comp=Z,36nm,1.1s						
LATQ	**La Tuque**	**57.94**	**53**	P	**P**	**07 50 18.4**	**-1.3**
	baz=314,SNR=8.4						
M53A	**WI Miller and**	**57.95**	**62**	P	**P**	**07 50 19.0**	**-0.9**
	baz=313,SNR=17						
M53A	**WI Miller and**	**57.95**	**62**	P	**P**	**07 50 18.9**	**-1.0**
M53A				IAmb	IAmb	07 50 24.7	
	comp=Z,34nm,0.8s						
MEDO	**Medina**	**57.96**	**60**	IAmb	IAmb	07 50 23.9	
	comp=Z,35nm,0.8s						
P51A	**Williamsport**	**57.98**	**66**	P	**P**	**07 50 18.3**	**-1.8**
P51A				IAmb	IAmb	07 50 31.8	
	comp=Z,90nm,1.9s						
ARA0	**ARCESS Array S**	**58.04**	**354**	*e*P	**P**	**07 50 20.7**	**+0.6**
ARCES	**ARCESS Array B**	**58.04**	**354**	P	**P**	**07 50 18.9**	**-1.3**
	comp=Z,21nm,0.8s,baz=23,slow=5.1,SNR=25						
ARCES	**ARCESS Array B**	**58.04**	**354**	P	**P**	**07 50 18.8**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
R50A	**Paris**	**58.09**	**67**	P	**P**	**07 50 19.8**	**-1.2**
R50A				IAmb	IAmb	07 50 21.4	
	comp=Z,26nm,1.1s						
Y45A	**Yeager Farm, C**	**58.13**	**75**	P	**P**	**07 50 20.2**	**-1.1**
Q51A	**Peebles**	**58.13**	**66**	P	**P**	**07 50 19.7**	**-1.6**
Q51A				IAmb	IAmb	07 50 22.5	
	comp=Z,56nm,1.2s						
PECO	**Prince Edward**	**58.20**	**58**	P	**P**	**07 50 21.8**	**+0.2**
PLAL	**Pickwick Lake**	**58.22**	**73**	P	**P**	**07 50 20.7**	**-1.1**
PLAL				IAmb	IAmb	07 50 30.0	
	comp=Z,12nm,0.7s						
O52A	**Adamsville**	**58.23**	**64**	P	**P**	**07 50 21.1**	**-0.7**
O52A				IAmb	IAmb	07 50 26.9	
	comp=Z,35nm,0.9s						
J55A	**Hilton**	**58.23**	**59**	P	**P**	**07 50 21.7**	**-0.1**
J55A				IAmb	IAmb	07 50 26.6	
	comp=Z,32nm,0.8s						
TRO	**Tromso**	**58.28**	**357**	*e*P	**P**	**07 50 22.6**	**+0.9**
N53A	**Lisbon**	**58.30**	**63**	P	**P**	**07 50 21.9**	**-0.4**
N53A				IAmb	IAmb	07 50 27.4	
	comp=Z,29nm,1.0s						
JETT	**Jettan, Norway**	**58.30**	**356**	*e*P	**P**	**07 50 22.6**	**+0.6**
WHN	**Wuhan**	**58.37**	**280**	⇓P	**P**	**07 50 23.5**	**+0.6**
WHN				S	**S**	**07 58 18.3**	**-4.5**
WHN				LR	LR		
	comp=Z,5μm,16.8s						
WHN				LR	LR		
	comp=Z,3μm,18.0s						
WHN				LR	LR		
	comp=Z,7μm,18.1s						
P52A	**Corning**	**58.39**	**65**	P	**P**	**07 50 22.1**	**-0.9**
	baz=314						
P52A	**Corning**	**58.39**	**65**	P	**P**	**07 50 22.0**	**-0.9**
P52A				IAmb	IAmb	07 50 28.6	
	comp=Z,21nm,1.2s						
V48A	**Smith Brothers**	**58.42**	**71**	P	**P**	**07 50 21.9**	**-1.3**
V48A				IAmb	IAmb	07 50 26.3	
	comp=Z,19nm,1.1s						
NRS	**Narsarsuaq**	**58.44**	**28**	*i* P	**P**	**07 50 19.0**	**-4.0**
NRS				IAmb	IAmb	07 50 20.5	
	comp=Z,24nm,0.8s						
NRS	**Narsarsuaq**	**58.44**	**28**	*i* P	**P**	**07 50 19.0**	**-4.0**
NRS				pmax	pmax		
	comp=Z,24nm,0.8s						
M54A	**Oil Creek Stat**	**58.45**	**62**	P	**P**	**07 50 22.6**	**-0.7**
	baz=314,SNR=12						
M54A	**Oil Creek Stat**	**58.45**	**62**	P	**P**	**07 50 22.7**	**-0.7**
M54A				IAmb	IAmb	07 50 30.0	
	comp=Z,24nm,0.8s						
CLTN	**Cedars of Leba**	**58.46**	**71**	IAmb	IAmb	07 50 32.3	
	comp=Z,34nm,1.3s						
O53A	**New Philadelph**	**58.48**	**64**	P	**P**	**07 50 22.6**	**-1.0**
	baz=314,SNR=9.4						
O53A	**New Philadelph**	**58.48**	**64**	IAmb	IAmb	07 50 36.3	
	comp=Z,17nm,0.8s						
U49A	**Red Boiling Sp**	**58.49**	**70**	P	**P**	**07 50 22.4**	**-1.3**
U49A				IAmb	IAmb	07 50 32.1	
	comp=Z,34nm,1.4s						
NACB	**Ninganchiao**	**58.54**	**270**	P	**P**	**07 50 23.9**	**-0.3**
NACB				IAmb	IAmb	07 50 37.5	
	comp=Z,27nm,0.8s						
N54A	**Moraine State**	**58.66**	**62**	P	**P**	**07 50 23.8**	**-1.1**
	baz=314,SNR=10.0						
N54A	**Moraine State**	**58.66**	**62**	IAmb	IAmb	07 50 25.3	
	comp=Z,55nm,1.4s						
H57A	**Richville**	**58.66**	**57**	P	**P**	**07 50 24.1**	**-0.7**
	baz=314,SNR=12						
T50A	**Nancy**	**58.68**	**69**	IAmb	IAmb	07 50 28.4	
	comp=Z,41nm,1.3s						
KTK1	**Kautokeino**	**58.70**	**355**	*e*P	**P**	**07 50 24.2**	**-0.5**
VBMS	**Vicksburg**	**58.71**	**77**	P	**P**	**07 50 24.5**	**-0.7**
	baz=315						
VBMS	**Vicksburg**	**58.71**	**77**	IAmb	IAmb	07 50 40.1	
	comp=Z,34nm,0.9s						
J56A	**Wolcott**	**58.72**	**59**	P	**P**	**07 50 23.8**	**-1.4**
J56A				IAmb	IAmb	07 50 30.0	
	comp=Z,38nm,1.1s						
Q52A	**Bidwell**	**58.78**	**66**	P	**P**	**07 50 25.7**	**0.0**
Q52A				IAmb	IAmb	07 50 28.9	
	comp=Z,13nm,0.8s						
LVZ	**Lovozero**	**58.84**	**350**	*c i* P	**P**	**07 50 24.8**	**-0.9**
LVZ				pmax	pmax		
	comp=Z,93nm,0.8s						
LVZ	**Lovozero**	**58.84**	**350**	P	**P**	**07 50 24.9**	**-0.8**
K56A	**Middlesex**	**58.88**	**59**	P	**P**	**07 50 25.1**	**-1.3**
	baz=314,SNR=20						
I57A	**Carthage**	**58.89**	**57**	P	**P**	**07 50 25.7**	**-0.7**
	baz=314,SNR=23						
P53A	**Whipple**	**58.91**	**65**	IAmb	IAmb	07 50 38.6	
	comp=Z,24nm,0.9s						
S51A	**Beattyville**	**58.96**	**68**	IAmb	IAmb	07 50 28.4	
	comp=Z,68nm,1.8s						
LONY	**Lake Ozonia**	**58.97**	**56**	P	**P**	**07 50 25.5**	**-1.5**
	baz=314,SNR=14						
LONY	**Lake Ozonia**	**58.97**	**56**	P	**P**	**07 50 26.1**	**-0.9**
LONY				IAmb	IAmb	07 50 39.8	
	comp=Z,23nm,0.9s						
M55A	**Ridgway**	**58.97**	**61**	P	**P**	**07 50 25.8**	**-1.2**
O54A	**Avella**	**58.98**	**63**	IAmb	IAmb	07 50 31.8	
	comp=Z,41nm,1.1s						
LMQ	**La Malbaie**	**59.02**	**51**	P	**P**	**07 50 27.0**	**-0.3**
J57A	**Williamstown**	**59.08**	**58**	P	**P**	**07 50 27.0**	**-0.7**
XAN	**Xi'an**	**59.14**	**287**	P	**P**	**07 50 27.5**	**-0.8**
XAN				pP	pP	07 50 39.3	+0.1
XAN				sP	sP	07 50 43.0	-1.0
XAN				PP	**PP**	**07 52 41.3**	**+2.4**
XAN				S	**S**	**07 58 33.0**	**+0.1**
XAN				ScS	**ScS**	**08 00 11.0**	**-4.1**
XAN				pmax	pmax		
	comp=Z,97nm,1.1s						
XAN				pmax	pmax		
	comp=Z,610nm,4.6s						
XAN				LR	LR		
	comp=Z,3μm,21.1s						
XAN				LR	LR		
	comp=Z,4μm,20.6s						
XAN				LR	LR		
	comp=Z,5μm,22.0s						
L56A	**Greenwood**	**59.15**	**60**	P	**P**	**07 50 27.8**	**-0.5**
X48A	**Hartselle**	**59.20**	**72**	IAmb	IAmb	07 50 30.6	
	comp=Z,26nm,1.4s						
SSLB	**Suanglung**	**59.22**	**270**	P	**P**	**07 50 28.3**	**-0.6**
K57A	**Scipio Center**	**59.28**	**59**	IAmb	IAmb	07 50 42.7	
	comp=Z,32nm,0.9s						
146A	**Union**	**59.29**	**75**	P	**P**	**07 50 28.5**	**-0.8**
146A				IAmb	IAmb	07 50 33.1	
	comp=Z,30nm,0.9s						
APA	**Apatity**	**59.29**	**350**	⇑*i* P	**P**	**07 50 24.8**	**-4.0**
APA				*i* S	S	07 58 24.0	-10
APA				*i* SS	**SS**	**08 02 37.0**	**+9.3**
SWET	**Sewanee**	**59.31**	**71**	P	**P**	**07 50 28.4**	**-1.1**
SWET				IAmb	IAmb	07 50 30.0	
	comp=Z,37nm,1.5s						
H58A	**Gabriels**	**59.31**	**56**	P	**P**	**07 50 27.9**	**-1.5**
	baz=314						
FRNY	**Flat Rock**	**59.32**	**55**	P	**P**	**07 50 28.6**	**-0.7**
FRNY				IAmb	IAmb	07 50 41.8	
	comp=Z,17nm,0.9s						
D61A	**St Aubert, Com**	**59.33**	**52**	P	**P**	**07 50 27.9**	**-1.5**
	baz=315,SNR=9.9						
H59A	**Cadyville**	**59.40**	**56**	P	**P**	**07 50 28.9**	**-1.0**
	baz=315,SNR=13						
R53A	**Hurricane**	**59.40**	**66**	P	**P**	**07 50 29.6**	**-0.5**
R53A				IAmb	IAmb	07 50 37.0	
	comp=Z,41nm,1.1s						
I58A	**Old Forge**	**59.42**	**57**	P	**P**	**07 50 29.1**	**-1.0**
	baz=314,SNR=12						
DGZ	**Jazzator, Alta**	**59.43**	**313**	*c i* P	**P**	**07 50 30.1**	**-0.2**
DGZ				pmax	pmax		
	comp=Z,41nm,1.2s						
Z47A	**Carrollton**	**59.48**	**74**	IAmb	IAmb	07 50 44.4	
	comp=Z,25nm,0.8s						
J58A	**Remsen**	**59.49**	**58**	P	**P**	**07 50 29.7**	**-0.8**
	baz=314,SNR=20						
J58A	**Remsen**	**59.49**	**58**	P	**P**	**07 50 30.1**	**-0.5**
J58A				IAmb	IAmb	07 50 34.2	
	comp=Z,46nm,1.1s						
Q54A	**Coxs Mills**	**59.57**	**65**	IAmb	IAmb	07 50 36.5	
	comp=Z,20nm,0.8s						
NCB	**Newcomb**	**59.60**	**56**	P	**P**	**07 50 30.6**	**-0.8**
NCB				IAmb	IAmb	07 50 44.0	
	comp=Z,53nm,1.4s						
MCWV	**Mont Chateau**	**59.64**	**63**	IAmb	IAmb	07 50 36.6	
	comp=Z,38nm,0.9s						
W50A	**Signal Mountai**	**59.68**	**71**	P	**P**	**07 50 31.2**	**-0.8**
W50A				IAmb	IAmb	07 50 32.8	
	comp=Z,44nm,1.4s						
N2VI	**Vinje**	**59.72**	**358**	*e*P	**P**	**07 50 30.8**	**-0.9**
TZTN	**Tazewell**	**59.75**	**68**	P	**P**	**07 50 31.7**	**-0.8**
	baz=315,SNR=11						
TZTN	**Tazewell**	**59.75**	**68**	IAmb	IAmb	07

VT1	Waterbury	60.10	55	IAmb	IAmb	07 50 48.0	
	comp=Z,37nm,1.3s						
L58A	Harry Jones Me	60.12	59	P	P	07 50 34.2	-0.7
	baz=315,SNR=20						
S54A	Dingess, Beckl	60.13	66	P	P	07 50 33.4	-1.7
S54A				IAmb	IAmb	07 50 35.7	
	comp=Z,25nm,0.9s						
I60A	Shoreham	60.17	56	P	P	07 50 34.7	-0.5
	baz=315						
V52A	Sevierville	60.22	69	P	P	07 50 34.9	-0.8
V52A				IAmb	IAmb	07 50 43.2	
	comp=Z,71nm,1.8s						
TKL	Tuckaleechee C	60.24	69	IAmb	IAmb	07 50 49.5	
	comp=Z,12nm,0.8s						
N2NF	Nordfold	60.26	358	eP	P	07 50 34.6	-0.8
KNMB	Chin-men Tao	60.30	272	P	P	07 50 35.1	-1.2
KNMB				IAmb	IAmb	07 50 49.3	
	comp=Z,34nm,0.9s						
ACCN	Adirondack Com	60.30	57	IAmb	IAmb	07 50 49.0	
	comp=Z,53nm,1.2s						
F62A	Pittston Farm,	60.37	52	P	P	07 50 35.0	-1.5
	baz=316,SNR=6.9						
F62A	Pittston Farm,	60.37	52	P	P	07 50 36.1	-0.4
F62A				IAmb	IAmb	07 50 48.8	
	comp=Z,29nm,1.2s						
H61A	Lyndonville	60.37	55	P	P	07 50 35.0	-1.6
	baz=315						
X51A	Calhoun	60.39	71	IAmb	IAmb	07 50 39.3	
	comp=Z,50nm,1.6s						
N2VA	Vr,y	60.40	359	eP	P	07 50 36.1	-0.3
Q56A	Snyder Ridge,	60.44	64	P	P	07 50 36.2	-1.0
Q56A				IAmb	IAmb	07 50 42.7	
	comp=Z,19nm,1.1s						
D63A	Stockholm	60.44	50	P	P	07 50 36.8	-0.2
	baz=316,SNR=5.4						
R55A	Marlinton	60.46	65	P	P	07 50 37.4	0.0
R55A				IAmb	IAmb	07 50 50.9	
	comp=Z,21nm,0.8s						
N2TV	TVrnvik	60.46	358	eP	P	07 50 35.4	-1.4
KSPA	Keystone Colle	60.51	59	P	P	07 50 37.7	+0.2
KSPA				IAmb	IAmb	07 50 50.7	
	comp=Z,19nm,0.9s						
N58A	Sunbury	60.51	61	P	P	07 50 36.9	-0.6
N58A				IAmb	IAmb	07 50 41.9	
	comp=Z,29nm,1.2s						
J60A	Lant Hill Farm	60.53	57	P	P	07 50 37.6	-0.1
	baz=315,SNR=9.9						
GTA	Gaotai	60.54	297	⇑P	P	07 50 37.5	-0.5
GTA				pP	pP	07 50 46.5	-2.2
GTA				sP	pwP	07 50 51.0	-0.9
GTA				pmax	pmax		
	comp=Z,34nm,1.0s						
GTA				pmax	pmax		
	comp=Z,690nm,9.6s						
GTA				LR	LR		
	comp=Z,5μm,16.3s						
N2RO	R st	60.55	359	eP	P	07 50 37.4	0.0
W52A	Murphy	60.56	70	P	P	07 50 37.1	-0.9
G62A	West of Eustis	60.58	53	P	P	07 50 36.1	-1.8
	baz=316						
G62A	West of Eustis	60.58	53	P	P	07 50 37.4	-0.6
G62A				IAmb	IAmb	07 50 51.3	
	comp=Z,28nm,1.1s						
LBNH	Lisbon	60.58	55	P	P	07 50 37.7	-0.3
LBNH				pmax	pmax		
	comp=Z,18nm,1.1s						
LBNH	Lisbon	60.58	55	P	P	07 50 36.4	-1.6
	baz=316						
LBNH	Lisbon	60.58	55	P	P	07 50 37.7	-0.3
LBNH				IAmb	IAmb	07 50 38.9	
	comp=Z,18nm,1.1s						
LZH	Lanzhou	60.64	292	eP	P	07 50 40.5	+1.7
LZH				pP	pwP	07 50 51.5	-0.9
LZH				pmax	pmax		
	comp=Z,74nm,1.1s						
FAUS	Fauske	60.64	358	eP	P	07 50 37.5	-0.6
N2ST	Straumen	60.67	358	eP	P	07 50 37.8	-0.4
H62A	Milan	60.73	54	P	P	07 50 38.3	-0.7
	baz=316,SNR=7.0						
H62A	Milan	60.73	54	P	P	07 50 38.2	-0.8
H62A				IAmb	IAmb	07 50 52.3	
	comp=Z,23nm,0.9s						
E63A	Oxbow	60.73	51	P	P	07 50 36.1	-2.9
	baz=316						
E63A	Oxbow	60.73	51	IAmb	IAmb	07 50 51.0	
	comp=Z,42nm,1.2s						
PQI	Presque Isle	60.75	51	IAmb	IAmb	07 50 51.1	
	comp=Z,35nm,1.3s						
U54A	Nelsons Funny	60.75	67	IAmb	IAmb	07 50 40.9	
	comp=Z,36nm,1.2s						
P57A	Homestead Farm	60.77	62	P	P	07 50 38.6	-0.8
P57A				IAmb	IAmb	07 50 40.3	
	comp=Z,36nm,1.2s						
TRY	Troy	60.77	57	IAmb	IAmb	07 50 40.5	
	comp=Z,19nm,0.9s						
V53A	Saluda	60.79	69	IAmb	IAmb	07 50 42.5	
	comp=Z,50nm,1.6s						
J61A	Chester	60.90	56	P	P	07 50 39.2	-1.0
	baz=316						
F63A	Nahmakanta, Br	60.93	52	P	P	07 50 37.6	-2.7
	baz=316						
F63A	Nahmakanta, Br	60.93	52	P	P	07 50 40.1	-0.3
F63A				IAmb	IAmb	07 50 52.7	
	comp=Z,34nm,1.1s						
N59A	State Game Lan	60.96	60	P	P	07 50 40.3	-0.4
	baz=315,SNR=7.7						
N59A	State Game Lan	60.96	60	IAmb	IAmb	07 50 41.8	
	comp=Z,34nm,1.2s						
K61A	Williamstown	61.02	57	P	P	07 50 39.5	-1.6
	baz=316						
E64A	Bridgewater	61.02	51	P	P	07 50 40.1	-0.9
	baz=316,SNR=6.8						
BLA	Blacksburg	61.05	66	P	P	07 50 40.4	-1.0
	baz=315,SNR=16						
NBB30	Finnes	61.08	359	eP	P	07 50 40.3	-0.7
Z51A	Franklin	61.09	72	IAmb	IAmb	07 50 52.4	
	comp=Z,20nm,1.1s						
G63A	Kingsbury	61.10	53	P	P	07 50 39.3	-2.2
	baz=316						
PKME	Peaks-Kenny Pk	61.15	53	P	P	07 50 41.1	-0.7
	baz=316						
PKME	Peaks-Kenny Pk	61.15	53	P	P	07 50 40.8	-1.0
PKME				IAmb	IAmb	07 50 55.2	
	comp=Z,28nm,1.1s						
F64A	Sherman	61.17	52	P	P	07 50 41.4	-0.6
	baz=316,SNR=9.1						
BG3	Lake Jocassee	61.20	69	P	P	07 50 41.6	-0.8
BG3				IAmb	IAmb	07 50 50.8	
	comp=Z,32nm,1.4s						
MVL	Millersville	61.30	61	P	P	07 50 41.6	-1.3
MVL				IAmb	IAmb	07 50 49.5	
	comp=Z,15nm,0.9s						
NBB15	Halsa Church	61.31	359	eP	P	07 50 42.7	+0.1
Y52A	Lilburn	61.35	71	P	P	07 50 42.6	-0.8
Y52A				IAmb	IAmb	07 50 45.0	
	comp=Z,24nm,1.2s						
J62A	Henniker	61.37	56	P	P	07 50 42.5	-0.8
	baz=316						
I63A	Otisfield	61.39	54	P	P	07 50 42.3	-1.2
	baz=316						
I63A	Otisfield	61.39	54	IAmb	IAmb	07 50 56.4	
	comp=Z,56nm,1.3s						
LUPA	Lehigh Univers	61.40	60	P	P	07 50 43.0	-0.6
250A	Grady	61.41	74	P	P	07 50 42.5	-1.3
250A				IAmb	IAmb	07 50 46.9	
	comp=Z,32nm,1.0s						
G64A	Maxfield	61.42	52	P	P	07 50 43.3	-0.3
	baz=316						
ODNJ	Ogdensburg	61.46	59	IAmb	IAmb	07 50 48.3	
	comp=Z,22nm,1.1s						
SDMD	Soldier's Deli	61.46	62	P	P	07 50 42.1	-1.9
SDMD				IAmb	IAmb	07 50 43.0	
	comp=Z,14nm,1.0s						
S57A	Dark Hollow, R	61.48	64	IAmb	IAmb	07 50 46.0	
	comp=Z,44nm,1.3s						
L61B	Northampton	61.48	57	P	P	07 50 42.9	-1.2
	baz=316						
ENH	Enshi	61.49	283	P	P	07 50 43.6	-0.8
BRAL	Brewton	61.53	75	P	P	07 50 44.0	-0.6
	baz=316						
K62A	Royalston	61.55	56	P	P	07 50 43.2	-1.4
	baz=316						
K62A	Royalston	61.55	56	P	P	07 50 44.5	-0.2
K62A				IAmb	IAmb	07 50 57.6	
	comp=Z,40nm,1.1s						
NBB40	Tonnes	61.55	359	eP	P	07 50 44.0	-0.2
KONS	Konsvik	61.57	359	eP	P	07 50 43.4	-0.9
V55A	Taylorsville	61.57	67	P	P	07 50 44.6	-0.2
V55A				IAmb	IAmb	07 50 46.1	
	comp=Z,31nm,1.2s						
KSCT	Kent School, K	61.58	58	P	P	07 50 44.9	+0.1
TRNY	Table Rock, Ra	61.61	59	IAmb	IAmb	07 50 58.8	
	comp=Z,16nm,0.8s						
U56A	King	61.69	66	P	P	07 50 45.1	-0.5
U56A				IAmb	IAmb	07 50 50.7	
	comp=Z,34nm,1.1s						
STOK	Stokkvaagen	61.73	359	eP	P	07 50 46.1	+0.7
WUPA	West Chester U	61.75	61	P	P	07 50 45.8	-0.2
P60A	Greenville	61.82	61	P	P	07 50 45.1	-1.3
P60A				IAmb	IAmb	07 50 59.0	
	comp=Z,75nm,1.9s						
152A	Waverly Hall	61.83	72	P	P	07 50 45.3	-1.3
T57A	Hurt	61.85	65	P	P	07 50 46.4	-0.3
T57A				IAmb	IAmb	07 50 53.7	
	comp=Z,22nm,0.9s						
MOR8	Moi Rana	61.88	358	eP	P	07 50 44.7	-1.8
PAL	Palisades	61.88	59	P	P	07 50 46.0	-0.8
PAL				pmax	pmax		
	comp=Z,36nm,1.0s						
PAL	Palisades	61.88	59	P	P	07 50 46.2	-0.6
	baz=316						
PAL	Palisades	61.88	59	P	P	07 50 46.0	-0.8
PAL				IAmb	IAmb	07 50 51.8	
	comp=Z,36nm,1.0s						
K63A	Dunstable	61.90	56	P	P	07 50 45.9	-1.0
	baz=316						
K63A	Dunstable	61.90	56	IAmb	IAmb	07 50 59.9	
	comp=Z,57nm,1.4s						
R58B	Mineral	61.93	64	P	P	07 50 46.2	-0.9
R58B				IAmb	IAmb	07 50 48.5	
	comp=Z,24nm,1.1s						
PAULI	Pauline	61.97	69	IAmb	IAmb	07 50 50.8	
	comp=Z,16nm,0.9s						
CPNY	Central Park	62.01	59	IAmb	IAmb	07 51 01.6	
	comp=Z,40nm,1.0s						
KMSC	Kings Mountain	62.01	68	P	P	07 50 46.8	-1.0
	baz=316,SNR=9.9						
KMSC	Kings Mountain	62.01	68	P	P	07 50 47.1	-0.7
KMSC				IAmb	IAmb	07 50 48.9	
	comp=Z,48nm,1.3s						
GOGA	Godfrey	62.02	71	P	P	07 50 47.2	-0.7
	baz=316						
GOGA	Godfrey	62.02	71	IAmb	IAmb	07 50 50.5	
	comp=Z,19nm,1.1s						
CBN	Corbin Frederi	62.03	63	P	P	07 50 47.0	-0.8
	baz=316						
CBN	Corbin Frederi	62.03	63	P	P	07 50 47.9	0.0
CBN				IAmb	IAmb	07 50 49.5	
	comp=Z,30nm,1.1s						
SEM	Semipalatinsk	62.03	317	eP	P	07 50 45.9	-2.2
	baz=317						
SEM	Semipalatinsk	62.03	317	eP	P	07 50 45.8	-2.2
G65A	Princeton	62.04	52	P	P	07 50 47.5	-0.3
	baz=317						
JSRW	J. Sargeant Re	62.12	64	P	P	07 50 47.3	-1.2
HODGE	Hodges	62.13	69	IAmb	IAmb	07 50 56.8	
	comp=Z,11nm,0.7s						
WES	Weston	62.22	56	IAmb	IAmb	07 51 01.9	
	comp=Z,50nm,1.2s						
ZSN	Zaisan	62.24	312	eP	P	07 50 49.4	+0.1
	comp=Z,38nm,1.2s,baz=312						
ZSN	Zaisan	62.24	312	eP	P	07 50 49.3	+0.1
ZSN				pmax	pmax		
	comp=Z,38nm,1.2s						
GGN	Saint George	62.44	51	IAmb	IAmb	07 51 03.9	
	comp=Z,46nm,1.4s						
L63A	North Scituate	62.45	57	P	P	07 50 48.8	-1.9
	baz=316						
H66A	Whiting	62.46	52	P	P	07 50 48.5	-2.1
	baz=317						
352A	Blakely	62.56	73	P	P	07 50 50.3	-1.2
M63A	Gales Ferry	62.56	57	P	P	07 50 50.4	-1.0
JSC	Jenkinsville	62.67	69	IAmb	IAmb	07 50 53.3	
	comp=Z,28nm,1.2s						
W57A	Gilead	62.76	67	IAmb	IAmb	07 50 53.3	
	comp=Z,28nm,1.3s						
V58A	Windy Hill, Pi	62.80	66	P	P	07 50 52.1	-1.0
V58A				IAmb	IAmb	07 50 54.6	
	comp=Z,46nm,1.1s						
154A	Montrose	62.81	71	IAmb	IAmb	07 51 07.2	
	comp=Z,30nm,0.8s						
T59A	Double "B" Far	62.82	64	P	P	07 50 52.4	-0.8
LMN	Caledonia Moun	62.86	49	P	P	07 50 53.1	-0.2
BIRD	Birdtown, Kers	62.86	68	P	P	07 50 53.0	-0.5
BIRD				IAmb	IAmb	07 50 54.7	
	comp=Z,27nm,1.2s						
PRGR	Permogore	63.10	342	eP	P	07 50 55.1	+0.5
PRGR				e		07 51 28.8	
PRGR				pmax	pmax		
	comp=Z,142nm,1.0s						
U59A	Littleton	63.13	65	IAmb	IAmb	07 50 56.4	
	comp=Z,28nm,1.2s						
T60A	Surry	63.15	63	P	P	07 50 55.5	+0.2
Y57A	Sumter	63.36	68	IAmb	IAmb	07 51 00.9	
	comp=Z,35nm,1.0s						
DRLN	Deer Lake	63.52	43	P	P	07 50 57.2	-0.4
NSS	Namsos	63.55	359	eP	P	07 50 58.2	+0.6
X58A	Rowland	63.57	67	P	P	07 50 57.2	-1.0
X58A				IAmb	IAmb	07 50 59.8	
	comp=Z,44nm,1.4s						
WMQ	Urumqi	63.61	308	eP	P	07 50 59.5	+1.1
WMQ				pmax	pmax		
	comp=Z,44nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,1μm,11.7s						
WMQ				LR	LR		
	comp=Z,5μm,20.7s						
WMQ				LR	LR		
	comp=Z,5μm,22.5s						
SVE	Sverdlovsk	63.80	332	c iP	P	07 51 00.8	+1.4
SVE				pmax	pmax		
	comp=Z,82nm,1.3s						
BRVK	Borovoye	63.82	325	⇑iP	P	07 50 59.0	-0.5
BRVK				pmax	pmax		
	comp=Z,69nm,1.4s						
BRVK	Borovoye	63.82	325	P	P	07 50 58.8	-0.8
Y58A	Scranton	63.85	68	P	P	07 50 59.0	-1.0
MK31	Makanchi Array	63.90	313	P	P	07 50 58.7	-1.5
MK31				pmax	pmax		
	comp=Z,21nm,1.0s						
MK31	Makanchi Array	63.90	313	P	P	07 50 58.7	-1.5
MK31				IAmb	IAmb	07 51 01.7	
	comp=Z,21nm,1.0s						
MKAR	Makanchi Array	63.90	313	P	P	07 50 58.5	-1.7
	comp=Z,18nm,0.9s,baz=53,slow=7.1,SNR=75						
MAKZ	Makanchi	64.02	314	P	P	07 50 59.2	-1.9
MAKZ				pmax	pmax		
	comp=Z,27nm,1.0s						
MAKZ	Makanchi	64.02	314	P	P	07 50 59.2	-1.9
MAKZ				IAmb	IAmb	07 51 02.6	
	comp=Z,26nm,1.0s						
NHSC	New Hope	64.14	69	P	P	07 51 01.2	-0.7
	baz=317,SNR=6.9						
V61A	Roper	64.22	64	P	P	07 51 02.0	-0.4
HAL	Halifax	64.34	50	P	P	07 51 03.2	+0.1
HAL				pmax	pmax		
	comp=Z,91nm,1.4s						
HAL	Halifax	64.34	50	P	P	07 51 03.1	+0.1
CD2	Chengdu	64.42	288	P	P	07 51 05.5	+1.6
CD2				PcP	PcP	07 51 39.3	+1.3
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
TLIG	Tlapa	64.56	94	P	P	07 51 07.4	+2.3
GBN	Guysborough	64.72	48	P	P	07 51 06.0	+0.5
ARU	Arti	64.73	333	c iP	P	07 51 04.8	-0.7
ARU						07 51 35.4	
ARU						07 53 25.7	
ARU				S	S	07 59 44.8	+2.1
ARU						08 00 56.2	
ARU				SS	SS	08 03 58.6	+5.5
ARU				pmax	pmax		
	comp=Z,105nm,1.3s						
ARU	Arti	64.73	333	P	P	07 51 05.1	-0.3
KLMR	Klimovskoe	64.90	345	eP	P	07 51 03.9	-2.6
KLMR				pmax	pmax		
	comp=Z,70nm,1.3s						
KLMR	Klimovskoe	64.90	345	eP	P	07 51 03.9	-2.6
KLMR				AMP		07 51 08.1	
	comp=Z,70nm,1.3s						
KIRV	Kirov	65.12	339	eP	P	07 51 08.0	+0.1
MOL	Molde	65.50	2	eP	P	07 51 09.6	-0.7
TAOE	Nuku Hiva Isla	65.81	148	eLR	LR	08 11 04.3	
	comp=Z,6μm,22.3s						
TAOE	Nuku Hiva Isla	65.81	148	eT	T	09 02 58.0	
	comp=Z,49nm,0.3s						
AKN	Aaknes	65.88	2	eP	P	07 51 13.3	+0.5
GYA	Guiyang	65.97	283	⇓P	P	07 51 14.8	+0.7
GYA				pP	pP	07 51 22.8	-2.3
GYA				pmax	pmax		
	comp=Z,18nm,1.2s						
FIA1	FINESS Array S	65.99	352	P	P	07 51 13.1	-0.4
FINES	FINESS Array B	65.99	352	P	P	07 51 12.2	-1.3
	comp=Z,53nm,0.7s,baz=20,slow=5.6,SNR=61						
DOMB	Dombas	66.05	1	eP	P	07 51 13.3	-0.7
FOO	Floro	66.41	3	eP	P	07 51 16.9	+0.7
RAF	Rauma	66.73	354	eP	P	07 51 12.4	-5.8
NC204	NORSAR Array S	66.83	360	P	P	07 51 18.4	-0.5
NC303	NORSAR Array S	66.88	360	P	P	07 51 18.6	-0.6
HYA	Hoyanger	66.88	2	eP	P	07 51 20.0	+0.9
SUE	Sulen	66.95	3	eP	P	07 51 19.4	-0.2
TDK	Taldyqorghan	67.00	314	eP	P	07 51 20.1	-0.2
	baz=314						
TDK	Taldyqorghan	67.00	314	eP	P	07 51 20.0	-0.2
NB2	NORSAR Subarra	67.06	360	P	P	07 51 19.7	-0.7
	comp=Z,79nm,1.0s,baz=0.5,slow=6.5						
NB2	NORSAR Subarra	67.06	360	P	P	07 51 19.7	-0.7
	baz=0.5,slow=6.5						
NOA	NORSAR Array B	67.06	360	P	P	07 51 19.2	-1.3
	comp=Z,22nm,0.7s,baz=0.2,slow=6.3,SNR=74						
NBO00	NORSAR Array S	67.07	360	P	P	07 51 20.5	+0.1
MEF	Metsahovi	67.34	353	eP	P	07 51 22.6	+0.5
NC602	NORSAR Array S	67.37	360	eP	P	07 51 21.9	-0.4
SKAR	Skarslia	67.41	1	eP	P	07 51 22.2	-0.4
ASK	Askoy	67.54	3	eP	P	07 51 23.4	+0.1
BER	Bergen	67.64	3	eP	P	07 51 24.9	+0.9
AAL	Aland	67.67	355	eP	P	07 51 25.0	+0.8
ARXS	Arharly	67.88	314	eP	P	07 51 25.0	-0.9
SHLS	Shalkode	67.98	313	eP	P	07 51 25.1	-1.6
	comp=Z,80nm,1.2s,baz=312						
SHLS	Shalkode	67.98	313	eP	P	07 51 25.0	-1.6
SHLS				pmax	pmax		
	comp=Z,80nm,1.2s						
KPKS	Kokpek	68.09	313	eP	P	07 51 26.5	-0.8
	comp=Z,44nm,1.0s,baz=313						
KPKS	Kokpek	68.09	313	eP	P	07 51 26.5	-0.8
KPKS				pmax	pmax		
	comp=Z,44nm,1.0s						
UPP	Uppsala	68.11	356	eP	P	07 51 27.2	+0.2
ODD1	Odda	68.15	2	eP	P	07 51 28.1	+0.9
OSL	Oslo	68.17	360	eP	P	07 51 28.1	+0.7
UZB	Uzynbulak	68.19	313	eP	P	07 51 26.9	-1.0
	comp=Z,22nm,1.2s,baz=313						
UZB	Uzynbulak	68.19	313	eP	P	07 51 26.9	-1.0
UZB				pmax	pmax		
	comp=Z,22nm,1.2s						
KONO	Kongsberg	68.45	1	⇑iP	P	07 51 28.6	-0.5
KONO				pmax	pmax		
	comp=Z,122nm,1.3s						
KONO	Kongsberg	68.45	1	eP	P	07 51 29.1	0.0
KONO	Kongsberg	68.45	1	P	P	07 51 28.9	-0.3
CHKK	Chushkaly	68.53	315	eP	P	07 51 28.7	-1.3
	baz=315						
CHKK	Chushkaly	68.53	315	eP	P	07 51 28.6	-1.3
SATY	Saty	68.53	313	eP	P	07 51 29.2	-0.9
	comp=Z,32nm,1.1s,baz=313						
SATY	Saty	68.53	313	eP	P	07 51 29.2	-0.9
SATY				pmax	pmax		
	comp=Z,32nm,1.1s						
BLS5	Blasjo	68.63	2	eP	P	07 51 29.6	-0.7
KMY	Karmoy	68.81	3	eP	P	07 51 32.1	+0.8
BTLS	Baital	68.84	317	eP	P	07 51 30.5	-1.3
	comp=Z,24nm,0.9s,baz=317						
BTLS	Baital	68.84	317	eP	P	07 51 30.5	-1.3
BTLS				pmax	pmax		
	comp=Z,24nm,0.9s						
VSU	Vasula	68.87	351	eP	P	07 51 32.3	+0.5
VSU	Vasula	68.87	351	i P	P	07 51 31.5	-0.2
MTSE	Matsula	68.88	353	eP	P	07 51 29.0	-2.7
MDOK	Medeo	69.05	314	eP	P	07 51 32.4	-1.0
	baz=314						
MDOK	Medeo	69.05	314	eP	P	07 51 32.3	-1.0
STRU	Stroemstad	69.07	360	i P	P	07 51 33.8	+0.9
AAA	Alma-Ata	69.08	314	eP	P	07 51 32.5	-1.0
	baz=314						
AAA	Alma-Ata	69.08	314	eP	P	07 51 32.4	-1.0
KMI	Kunming	69.31	284	⇑P	P	07 51 35.3	0.0
KMI				pP	pP	07 51 46.8	+0.5
KMI				sP	sP	07 51 51.3	+0.9
KMI				PcP	PcP	07 52 00.0	+1.3
KMI				S	S	08 00 38.8	-0.4
KMI				pmax	pmax		
	comp=Z,77nm,1.4s						
KMI				LR	LR		
	comp=Z,870nm,18.2s						
KMI				LR	LR		
	comp=Z,940nm,20.7s						
KMI				LR	LR		
	comp=Z,1μm,21.2s						
PMOR	Pomariorio Ree	69.51	158	eT	T	09 07 34.9	
	comp=Z,5.6nm,0.3s						
QIZ	Qiongzhong	69.60	275	P	P	07 51 36.8	-0.1
QIZ				S	S	08 00 43.3	+1.0
QIZ				LR	LR		
	comp=Z,1μm,22.1s						
QIZ				LR	LR		
	comp=Z,2μm,19.1s						
QIZ				LR	LR		
	comp=Z,1μm,19.8s						
SNART	Snartemo	69.74	2	i P	P	07 51 36.0	-1.1
SNART				i P	pP	07 51 37.0	-11
SNART	Snartemo	69.74	2	eP	P	07 51 37.9	+0.8
HOMB	Homborsund	69.83	1	i P	P	07 51 37.9	+0.3
TARG	Taragay, Kyrgy	69.86	313	P	P	07 51 39.3	+0.6
TARG				IAmb	IAmb	07 51 51.7	
	comp=Z,25nm,1.0s						
SGDS	Sogindy	69.87	316	eP	P	07 51 37.5	-0.8
	comp=Z,34nm,1.5s,baz=316						
SGDS	Sogindy	69.87	316	eP	P	07 51 37.5	-0.8
SGDS				pmax	pmax		
	comp=Z,34nm,1.5s						
TKM2	Tokmak 2	69.88	315	P	P	07 51 38.8	+0.2
	SNR=62						
SLIT	Slitere, Latvi	70.07	353	eP	P	07 51 39.6	+0.5
TJOU	Tjoern	70.08	359	i P	P	07 51 38.9	-0.3
USP	Ospenovka	70.08	316	P	P	07 51 39.8	+0.2
	SNR=61						
BOOM	Boomskoye usch	70.08	314	P	P	07 51 40.0	+0.3
BOOM				pmax	pmax		
	comp=Z,48nm,0.9s						
BOOM	Boomskoye usch	70.08	314	P	P	07 51 40.0	+0.3
MOS	Moscow	70.09	344	eP	P	07 51 37.8	-1.5
MOS				pmax	pmax		
	comp=Z,66nm,0.8s						
ULHL	Ulahol	70.14	314	P	P	07 51 41.9	+1.7
	SNR=11						
CHMS	Chumysh	70.19	315	P	P	07 51 40.5	+0.2
	SNR=22						
KBK	Karagaybulak	70.38	315	P	P	07 51 43.4	+1.8
	SNR=13						
FRU1	Bishkek	70.39	315	P	P	07 51 41.9	+0.4
FRU1				pmax	pmax		
	comp=Z,117nm,1.0s						
FRU1	Bishkek	70.39	315	P	P	07 51 41.9	+0.4
PETF	Flores	70.40	88	P	P	07 51 40.8	-1.0
BORU	Boraas	70.47	359	i P	P	07 51 41.4	-0.1
ABKAR	Akbulak array	70.54	328	P	P	07 51 41.8	-0.5
AAK	Ala-Archa	70.59	315	P	P	07 51 43.1	+0.3
	SNR=16						
AAK	Ala-Archa	70.59	315	P	P	07 51 42.5	-0.3
AAK				p

comp=Z,41nm,1.1s
AML Almayashu 71.35 316 P P 07 51 48.1 +0.4
SNR=22
SLVN Son La 71.47 281 P P 07 51 48.7 +0.3
DEL Delary 71.61 358 *i* P **P 07 51 47.0 -1.5**
DEL *i* P **P 07 51 48.1 -0.4**
PPT2 Papeete2 71.64 160 *e*S **S 08 01 10.7 +4.9**
comp=Z,3μm,25.2s
PPT2 Papeete2 71.64 160 *e*LR LR 08 13 40.6
comp=Z,3μm,23.0s
MUD Monsted U'grnd 71.66 1 *i* P **P 07 51 48.0 -0.8**
MUD *i* P **P 07 51 49.2 +0.4**
MUD Monsted U'grnd 71.66 1 *i* P **P 07 51 49.2 +0.4**
LKP Lekhapani 71.67 291 *ex* **P 07 51 45.8 -3.6**
BLEU Blekinge 71.73 357 *i* P **P 07 51 48.7 -0.6**
ISAL Salakas 71.78 351 *e*P **P 07 51 50.4 +0.8**
KK31 Karatay Array 71.89 318 P **P 07 51 50.0 -0.5**
KK31 pmax pmax
comp=Z,58nm,1.1s
KK31 Karatay Array 71.89 318 P **P 07 51 50.0 -0.5**
KK31 IAmb IAmb 07 51 52.6
comp=Z,58nm,1.1s
KKAR Karatay Array 71.89 318 P **P 07 51 49.4 -1.1**
KKAR Karatay Array 71.89 318 P **P 07 51 49.4 -1.1**
KKAR Karatay Array 71.89 318 IAmb IAmb 07 51 52.6
comp=Z,58nm,1.1s
IDID Didziasalis 71.98 350 *e*P **P 07 51 51.5 +0.7**
IIGN Ignalina 71.99 351 *e*P **P 07 51 51.3 +0.5**
BJUU Bjuv 72.03 359 *i* P **P 07 51 51.1 +0.1**
PABE Paberze 72.05 352 *e*P **P 07 51 51.8 +0.7**
PABE Paberze 72.05 352 P **P 07 51 51.0 -0.2**
EKA Eskdalemuir Ar 72.18 8 P **P 07 51 51.5 -0.5**
ESK Eskdalemuir 72.19 8 P **P 07 51 52.3 +0.3**
ESK pmax pmax
comp=Z,59nm,1.1s
ESK Eskdalemuir 72.19 8 P **P 07 51 52.3 +0.3**
ESK IAmb IAmb 07 51 54.1
comp=Z,59nm,1.1s
LUNU Lund 72.46 358 *i* P **P 07 51 53.5 -0.1**
KSH Kashi 72.46 313 P **P 07 51 56.5 +2.4**
KSH PcP **PcP 07 52 15.5 +3.7**
KSH pmax pmax
comp=Z,74nm,1.7s
KSH pmax pmax
comp=Z,320nm,3.4s
LSA Lhasa 72.51 296 P **P 07 51 56.0 +1.0**
MTO3 Montecristo 72.64 89 P **P 07 51 55.5 0.0**
MNK Minsk 72.66 350 *i* P **P 07 51 54.9 +0.1**
MNK *i* PPP PPP 07 56 19.2
MNK *i* S **S 08 01 17.2 +0.6**
MNK *i* 08 02 00.0
MNK *i* SS **SS 08 05 55.9 +0.9**
MNK pmax pmax
comp=Z,114nm,0.9s
MNK pmax pmax
comp=N,80nm,1.1s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK MLR MLR
comp=E,41nm,21.0s
MNK MLR MLR
comp=Z,1μm,20.0s
MNK MLR MLR
comp=N,2μm,19.0s
MNK Minsk 72.66 350 *i* P **P 07 51 55.0 +0.1**
comp=E,3.0nm,1.0s
MNK *i* P **P 07 51 55.0 +0.1**
comp=N,80nm,1.1s
MNK *i* P **P 07 51 55.0 +0.1**
comp=Z,114nm,0.8s,baz=192
MNK *i* PcP **PcP 07 52 12.8 +0.7**
MNK *i* PP **PP 07 54 35.3 -0.6**
MNK *i* PPP PPP 07 56 19.2
MNK *i* S **S 08 01 17.3 +0.6**
MNK *i* SS **SS 08 05 56.0 +0.9**
MNK *i* SSS SSS 08 09 15.9
MNK *i* LQ LQ 08 17 54.0
MNK *i* LR LR 08 22 53.3
MNK *i* LRM MLR 08 26 07.5
comp=E,41nm,21.2s
MNK *i* LRM MLR 08 26 10.3
comp=Z,1μm,19.5s
MNK *i* LRM MLR 08 26 16.9
comp=N,2μm,18.7s
LPSR Galich'ya Gora 72.86 342 *e*P **P 07 51 55.7 -0.3**
LPSR pmax pmax
comp=Z,40nm,0.9s
BSD Bornholm Skovb 72.95 357 *e*P **P 07 51 56.8 +0.2**
BSD Bornholm Skovb 72.95 357 *i* P **P 07 51 56.7 +0.2**
BSD IAmb IAmb 07 51 57.9
comp=Z,19nm,0.8s
BSD Bornholm Skovb 72.95 357 *i* P **P 07 51 56.7 +0.2**
BSD pmax pmax
comp=Z,19nm,0.8s
ITAN ITANAGAR 73.03 292 *e*P **P 07 52 00.1 +2.6**
MOKO MOKOCHONG 73.21 291 *e*P **P 07 52 00.7 +1.9**
MOKO IAmb IAmb 07 52 01.9
comp=Z,159nm,0.9s
SUW Suwalki 73.59 352 *e*P **P 07 52 01.0 +0.6**
SUW Suwalki 73.59 352 *e*P **P 07 52 00.3 0.0**
SUW Suwalki 73.59 352 P **P 07 51 59.8 -0.6**
SUW pmax pmax
comp=Z,165nm,0.9s
SUW Suwalki 73.59 352 P **P 07 51 59.8 -0.6**
FAKI Fak Fak 73.63 242 P **P 07 52 00.4 -0.7**
FAKI IAmb IAmb 07 52 02.1
comp=Z,48nm,1.1s
VRH Novokhopyorsk 73.64 340 *e*P **P 07 52 01.0 +0.4**
VRH pmax pmax
comp=Z,20nm,0.6s
KOHI KOHIMA 73.90 291 *e*P **P 07 52 04.1 +1.3**
BSEG Bad Segeberg 74.19 0 *e*P **P 07 52 05.5 +1.7**
comp=Z,72nm,1.1s,baz=0.5,slow=5.7
BTK Batken 74.28 316 P **P 07 52 04.4 -0.4**
BTK pmax pmax
comp=Z,70nm,0.9s
BTK Batken 74.28 316 P **P 07 52 04.4 -0.4**
DRK Karamyk 74.34 315 P **P 07 52 05.3 -0.2**
VORD Divnogorie 74.35 342 *e*P **P 07 52 04.2 -0.6**
VORD pmax pmax
comp=Z,40nm,0.7s
NONG Nongkai 74.42 279 P **P 07 52 07.0 +1.3**
comp=Z,91nm,0.9s
LNIZ Loecknitz 74.59 358 *e*P **P 07 52 07.7 +1.6**
comp=Z,83nm,1.0s,baz=0.5,slow=5.7
IMP Imphal 74.68 291 *e*P **P 07 52 08.1 +0.8**
IMP IAmb IAmb 07 52 09.4
comp=Z,39nm,1.3s
GKP Gorka Klasztor 74.71 356 *e*P **P 07 52 07.3 +0.5**
SHL Shillong 75.29 293 P **P 07 52 10.3 -0.6**
SHL pmax pmax
comp=Z,111nm,1.2s
SHL Shillong 75.29 293 *e*P **P 07 52 11.1 +0.1**
SHL IAmb IAmb 07 52 12.6
comp=Z,35nm,0.7s
SHL Shillong 75.29 293 P **P 07 52 10.3 -0.6**
SILR SILCHAR 75.38 291 *e*P **P 07 52 13.8 +2.6**
GAR Garm 75.38 316 P **P 07 52 10.6 -0.6**
RUE Ruedersdorf 75.61 358 *e*P **P 07 52 13.7 +1.6**
comp=Z,125nm,1.4s,baz=0.5,slow=5.7
NRDL Niedersach Rie 75.63 0 *e*P **P 07 52 13.7 +1.6**
comp=Z,54nm,1.3s,baz=0.5,slow=5.7
GTK Tadong 75.77 296 *e*P **P 07 52 15.6 +2.0**
IBBN Ibbenburen 75.79 2 *e*P **P 07 52 14.7 +1.6**
comp=Z,95nm,1.2s,baz=0.5,slow=5.7
IBBN *e*pP **pwP 07 52 26.1 -0.4**
baz=360,slow=5.7
FLTG Flechtingen 75.79 360 *e*P **P 07 52 14.2 +1.1**
comp=Z,49nm,1.2s,baz=0.5,slow=5.7
FLTG *e*pP **PcP 07 52 25.7 +0.1**
baz=360,slow=5.7
BEL Belsk 75.94 354 *e*P **P 07 52 15.8 +1.8**
ASSE Asse, Remlinge 76.00 360 *e*P **P 07 52 15.8 +1.6**
comp=Z,61nm,1.4s,baz=0.5,slow=5.7
ASSE *e*pP **pwP 07 52 27.2 -0.4**
baz=360,slow=5.7
CHGR Chuyangaron 76.16 317 P **P 07 52 14.9 -0.7**
AKASG Malin Array Be 76.23 348 P **P 07 52 14.3 -1.3**
comp=Z,37nm,0.7s,baz=16,slow=5.9,SNR=88
AKASG Malin Array Be 76.23 348 P **P 07 52 14.2 -1.4**
AKASG pmax pmax
comp=Z,41nm,0.9s
AKASG Malin Array Be 76.23 348 P **P 07 52 14.2 -1.4**
AKASG IAmb IAmb 07 52 16.4
comp=Z,41nm,0.9s
AKBB Malin Array Si 76.23 348 *c i*P **P 07 52 14.0 -1.6**
AKBB pmax pmax
comp=Z,51nm,0.9s
AKBB Malin Array Si 76.23 348 IAmb IAmb 07 52 16.5
comp=Z,44nm,0.8s
UTTA Uttaradit 76.23 281 P **P 07 52 17.7 +1.6**
comp=Z,956nmcomp=Z,116nm,0.8s
UTTA Uttaradit 76.23 281 P **P 07 52 17.0 +0.9**
CLZ Clausthal 76.28 0 *e*P **P 07 52 17.9 +1.9**
comp=Z,77nm,1.1s,baz=0.5,slow=5.7
CMMT Chiang Mai 76.38 283 P **P 07 52 18.2 +1.2**
comp=Z,2μmcomp=Z,37nm,1.4s
CMMT Chiang Mai 76.38 283 P **P 07 52 18.2 +1.2**
CHTO Chiang Mai 76.38 283 P **P 07 52 16.9 -0.1**
CHTO pmax pmax
comp=Z,150nm,1.8s
CHTO Chiang Mai 76.38 283 P **P 07 52 18.2 +1.2**
comp=Z,1μmcomp=Z,38nm,1.4s
CHTO Chiang Mai 76.38 283 P **P 07 52 16.9 -0.1**
GTTG Gottingen 76.58 0 *e*P **P 07 52 19.4 +1.8**
comp=Z,82nm,1.2s,baz=0.5,slow=5.7
GTTG *e*pP **pwP 07 52 30.7 -0.3**
baz=360,slow=5.7
SPMM Sapulut 76.62 260 P **P 07 52 19.0 +0.6**
BUG Bochum--Univer 76.65 2 *e*P **P 07 52 19.2 +1.3**
comp=Z,59nm,1.2s,baz=0.5,slow=5.7
BUG *e*pP **pwP 07 52 30.7 -0.7**
baz=360,slow=5.7
CMAR Chiang Mai Arr 76.65 283 P **P 07 52 18.4 -0.2**
comp=Z,35nm,1.0s,baz=28,slow=5.9,SNR=83
CMAR Chiang Mai Arr 76.65 283 P **P 07 52 18.0 -0.6**
CMAR Chiang Mai Arr 76.65 283 P **P 07 52 17.9 -0.6**
PHIT Phitsanulok 76.74 281 P **P 07 52 20.9 +1.9**
comp=Z,2μmcomp=Z,206nm,1.0s
PHIT Phitsanulok 76.74 281 P **P 07 52 21.0 +1.9**
CHAI Chaiyaphum 76.79 279 P **P 07 52 21.0 +1.7**
comp=Z,631nmcomp=Z,63nm,1.0s
CLL Collm 76.80 358 *i*,*i*P **P 07 52 20.0 +1.2**
comp=Z,49nm,1.2s
CLL *i* pP **pP 07 52 30.8 +0.6**
CLL Collm 76.80 358 P **P 07 52 18.2 -0.6**
CLL pmax pmax
comp=Z,42nm,1.1s
CLL Collm 76.80 358 P **P 07 52 18.2 -0.6**
CLL IAmb IAmb 07 52 20.8
comp=Z,42nm,1.1s
CLL Collm 76.80 358 *e*P **P 07 52 20.0 +1.2**
comp=Z,49nm,1.2s,baz=0.5,slow=5.7
CLL Collm 76.80 358 *i* P 07 52 24.2 +5.3
KASTN Kahler Asten 76.91 1 *e*P **P 07 52 21.0 +1.5**
comp=Z,43nm,1.3s,baz=0.5,slow=5.7
NEUB Neuenburg 76.91 359 *e*P **P 07 52 21.1 +1.6**
comp=Z,77nm,1.1s,baz=0.5,slow=5.7
NEUB *e*pP **pwP 07 52 32.4 -0.5**
baz=360,slow=5.7
AGT Agartala 76.96 292 *e*P **P 07 52 22.7 +2.5**
AGT IAmb IAmb 07 52 24.3
comp=Z,132nm,0.7s
DZM Mont Dzumac 76.97 203 *e*P **P 07 52 22.4 +2.3**
comp=Z,118nm,1.6s
DZM Mont Dzumac 76.97 203 *e*LR LR 08 16 12.2
comp=Z,4μm,23.3s
DZM Mont Dzumac 76.97 203 P **P 07 52 20.4 +0.3**
DZM IAmb IAmb 07 52 32.2
comp=Z,37nm,1.3s
KSP Ksiaz 77.17 356 *e*P **P 07 52 21.4 +0.4**
FBE Freiberg 77.18 358 *e*P **P 07 52 22.9 +1.9**
comp=Z,69nm,1.1s,baz=0.5,slow=5.7
FBE *e*pP **pwP 07 52 34.2 -0.3**
baz=360,slow=5.7
UCC Uccle 77.19 4 *d*P **P 07 52 20.5 -0.5**
BRG Berggiesshubel 77.22 358 *i* P **P 07 52 21.4 +0.2**
BRG Amp 07 52 24.8
comp=Z,53nm,1.2s
BRG Berggiesshubel 77.22 358 *e*P **P 07 52 22.6 +1.4**
comp=Z,53nm,1.2s,baz=0.5,slow=5.7
BRG *e*pP **pwP 07 52 34.0 -0.6**
baz=360,slow=5.7
BRG Berggiesshubel 77.22 358 P P 07 52 33.6 +12
BEBN Eben Emael 77.25 3 *d*P **P 07 52 22.8 +1.5**
TBI Tubuai 77.26 161 *e*LR LR 08 16 22.5
comp=Z,2μm,25.5s
TBI Tubuai 77.26 161 *e*T T 09 17 16.4
comp=Z,5.1nm,0.3s
UBBA Unterbreizbach 77.31 0 *e*P **P 07 52 23.3 +1.7**
comp=Z,53nm,1.5s,baz=0.5,slow=5.7
MEM Membach 77.44 3 *d*P **P 07 52 23.3 +0.8**
comp=Z,43nm,1.3s
MEM *d*sP **pwP 07 52 35.3 -0.5**
BSTI Sart Tilman 77.45 3 *d*P **P 07 52 24.2 +1.6**
BSTI *d*sP **pwP 07 52 35.3 -0.6**
OSTC Ostas 77.46 356 *e*P **P 07 52 23.2 +0.6**
OSTC AMS AMS 08 35 30.0
comp=Z,2μm,18.1s
BTNL Ternell 77.47 3 *d*P **P 07 52 24.1 +1.4**
BTNL *d*sP **pwP 07 52 35.3 -0.8**
MHMT Maesarieng 77.48 283 P **P 07 52 24.8 +1.7**
comp=Z,3μmcomp=Z,199nm,0.9s
MHMT Maesarieng 77.48 283 P **P 07 52 24.9 +1.7**
SNF Seneffe 77.48 4 *d*P **P 07 52 23.9 +1.3**
SNF *d*sP **pwP 07 52 35.9 -0.1**
MOX Moxa 77.48 359 *e*P **P 07 52 24.4 +1.6**
comp=Z,58nm,1.1s,baz=0.5,slow=5.7
MOX *e*pP **pwP 07 52 35.9 -0.3**
baz=360,slow=5.7
MOX *e*L L 08 31 53.2
comp=Z,2μm,20.9s
UPC Upice 77.52 356 *e*P **P 07 52 24.5 +1.6**
UPC MLR MLR
comp=Z,3μm,20.5s
UPC Upice 77.52 356 *e*P **P 07 52 24.5 +1.6**
UPC AMS AMS 08 36 00.0
comp=Z,3μm,20.5s
AHRW Bad Neuenahr-A 77.54 2 *e*P **P 07 52 24.8 +1.8**
comp=Z,75nm,1.2s,baz=0.5,slow=5.7
PVCC Panska Ves 77.55 357 AMS AMS 08 36 20.0
comp=Z,2μm,17.4s
BCLA Clavier 77.61 3 *d*P **P 07 52 23.9 +0.5**
comp=Z,45nm,1.5s
BCLA *d*sP **pP 07 52 35.8 +1.0**
OJC Ojcow 77.61 354 *e*P **P 07 52 24.6 +1.1**
OJC Ojcow 77.61 354 P **P 07 52 22.6 -0.8**
OJC pmax pmax
comp=Z,79nm,1.3s
OJC Ojcow 77.61 354 P **P 07 52 22.6 -0.8**
BGES Gesves 77.64 4 *d*P **P 07 52 24.9 +1.3**
PLN Plauen 77.64 359 *e*P **P 07 52 25.2 +1.6**
comp=Z,28nm,1.1s,baz=0.5,slow=5.7
PLN *e*pP **pwP 07 52 36.4 -0.6**
baz=360,slow=5.7
DPC Dobruska-Polom 77.67 356 *e*P **P 07 52 24.4 +0.6**
DPC MLR MLR
comp=Z,2μm,19.7s
DPC Dobruska-Polom 77.67 356 *e*P **P 07 52 24.4 +0.6**
DPC AMS AMS 08 35 50.0
comp=Z,2μm,19.7s
WERD Wurzen 77.67 359 *e*P **P 07 52 25.5 +1.7**
comp=Z,79nm,1.7s,baz=0.5,slow=5.7
LVV L'vov 77.68 351 *e*P **P 07 52 24.4 +0.6**
LVV *e* 07 55 21.5
LVV *e*PPP PPP 07 57 11.2
LVV *e*S **S 08 02 06.6 -6.0**
LVV *e*PS **PnS 08 02 53.5 -2.2**
LVV *e*SSS SSS 08 10 27.7
LVV pmax pmax
comp=Z,200nm,1.3s
BHOU Houvegnez 77.70 3 *d*P **P 07 52 28.1 +4.1**
BMRD Maredsous 77.70 4 *d*P **P 07 52 25.3 +1.3**
comp=Z,45nm,1.1s
GUNZ Gunzen 77.75 359 *e*P **P 07 52 26.0 +1.7**
comp=Z,74nm,1.6s,baz=0.5,slow=5.7
GUNZ *e*pP **pwP 07 52 37.4 -0.3**
baz=360,slow=5.7
WERN Wernitzgruen 77.83 359 *e*P **P 07 52 26.6 +1.9**
comp=Z,59nm,1.2s,baz=0.5,slow=5.7
WERN *e*pP **pwP 07 52 37.8 -0.3**
baz=360,slow=5.7
RCHB Rochefort 77.87 4 *d*P **P 07 52 25.3 +0.4**
NKC Novy Kostel 77.88 359 *e*P **P 07 52 25.5 +0.5**
NKC *e* 07 52 37.7
NKC MLR MLR
comp=Z,2μm,17.7s
NKC Novy Kostel 77.88 359 *e*P **P 07 52 25.5 +0.5**
NKC *e*pP **pwP 07 52 37.7 -0.7**
NKC AMS AMS 08 35 30.0
comp=Z,2μm,17.7s
TNS Taunus Mts 77.89 1 *e*P **P 07 52 26.6 +1.6**
comp=Z,52nm,1.2s,baz=0.5,slow=5.7
TNS *e*pP **pwP 07 52 38.0 -0.5**
baz=360,slow=5.7
DOU Dourbes 77.90 4 *d*P **P 07 52 26.5 +1.4**
comp=Z,36nm,1.3s
KRLC Kraliky 77.92 356 *e*P **P 07 52 25.9 +0.7**
KRLC MLR MLR
comp=Z,2μm,19.1s
KRLC Kraliky 77.92 356 *e*P **P 07 52 25.9 +0.7**
KRLC AMS AMS 08 36 20.0
comp=Z,2μm,19.1s
KWP Kalwaria Pacla 77.98 352 *e*P **P 07 52 27.2 +1.6**
KWP Kalwaria Pacla 77.98 352 P **P 07 52 24.4 -1.1**
KWP Kalwaria Pacla 77.98 352 P **P 07 52 24.4 -1.1**
PRA Prague 78.01 358 AMS AMS 08 36 20.0
comp=Z,2μm,18.6s
PRU Pruhonice 78.09 357 *e*P **P 07 52 26.3 +0.2**
PRU MLR MLR
comp=Z,3μm,16.9s
PRU Pruhonice 78.09 357 *e*P **P 07 52 26.3 +0.2**
PRU AMS AMS 08 42 00.0
comp=Z,3μm,16.9s
OKC Ostrava-Krasne 78.09 355 AMS AMS 08 36 00.0
comp=Z,2μm,16.9s
MANZ Manzenberg 78.14 359 *e*P **P 07 52 28.0 +1.6**
comp=Z,44nm,1.4s,baz=0.5,slow=5.7
MORC Moravsky Berou 78.18 355 ⇑P **P 07 52 27.4 +0.7**
MORC Moravsky Berou 78.18 355 P **P 07 52 27.4 +0.7**
MORC Moravsky Berou 78.18 355 IAmb IAmb 07 52 29.0
comp=Z,45nm,1.1s
MORC Moravsky Berou 78.18 355 *e*P **P 07 52 26.6 -0.1**
SRAK Srakaew 78.21 278 P **P 07 52 26.7 -0.6**
comp=Z,11μmcomp=Z,1μm,0.9s
MILB Miltenberg 78.29 1 *e*P **P 07 52 28.9 +1.7**
comp=Z,56nm,1.1s,baz=0.5,slow=5.7
STHS Stebnicka Huta 78.31 353 *e*P **P 07 52 28.7 +1.3**
STHS Stebnicka Huta 78.31 353 *e*P **P 07 52 28.7 +1.3**
ROTZ Rotzenmuhle 78.35 359 *e*P **P 07 52 29.5 +1.9**
comp=Z,71nm,1.5s,baz=0.5,slow=5.7
ROTZ *e*pP **pwP 07 52 40.9 -0.1**
baz=360,slow=5.7
WLF Walferdange 78.39 3 *d*P **P 07 52 28.4 +0.7**
WLF Walferdange 78.39 3 P **P 07 52 27.8 0.0**
WLF pmax pmax
comp=Z,26nm,0.9s
WLF Walferdange 78.39 3 P **P 07 52 27.8 0.0**
WLF Walferdange 78.39 3 *e*P **P 07 52 29.8 +2.0**
comp=Z,52nm,1.2s,baz=0.5,slow=5.7
GRA1 Grafenberg Arr 78.44 360 P **P 07 52 28.8 +0.8**
GRF Grafenberg Arr 78.44 360 P **P 07 52 28.8 +0.8**
GRF pmax pmax
comp=Z,115nm,1.3s
GRF Grafenberg Arr 78.44 360 *e*P **P 07 52 30.1 +2.1**
comp=Z,158nm,1.4s,baz=0.5,slow=5.7
GRF *e*pP **pwP 07 52 41.4 0.0**
baz=360,slow=5.7
GRF *e*L L 08 35 34.3
comp=Z,2μm,19.0s
GRFO Grafenberg 78.44 360 P **P 07 52 30.7 +2.7**
GRFO pmax pmax
comp=Z,119nm,1.3s
GRFO Grafenberg 78.44 360 P **P 07 52 30.7 +2.7**
UMPA Umpang Tak 78.44 281 P **P 07 52 32.5 +3.9**
comp=Z,68nm,1.1s
NIL Nilore 78.52 311 P **P 07 52 29.3 +0.5**
NIL pmax pmax
comp=Z,168nm,1.1s
NIL Nilore 78.52 311 P **P 07 52 29.3 +0.5**
UTHA Uthaitani 78.59 281 P **P 07 52 31.5 +2.2**
VRAC Vranov 78.69 356 ⇑P **P 07 52 30.5 +1.0**
VRAC Vranov 78.69 356 *e*P **P 07 52 30.0 +0.5**
LANS Liptovska Anna 78.70 354 *e*P **P 07 52 31.0 +1.4**
LANS pmax pmax
comp=Z,66nm,1.3s
LANS Liptovska Anna 78.70 354 *e*P **P 07 52 31.0 +1.4**
KOLS Kolonicke sedl 78.71 352 *e*P **P 07 52 31.5 +1.9**
KOLS Kolonicke sedl 78.71 352 *e*P **P 07 52 31.5 +1.9**
SMLA Simla 78.72 307 *e*P **P 07 52 30.1 +0.2**
SMLA IAmb IAmb 07 52 32.1
comp=Z,130nm,0.6s
CRVS Cervenica-Dubn 78.81 353 *e*P **P 07 52 31.3 +1.2**
CRVS Cervenica-Dubn 78.81 353 *e*P **P 07 52 31.3 +1.2**
DDI Dehra Dun 78.93 306 *e*P **P 07 52 32.4 +1.2**
KRUC Moravsky 78.95 356 *e*P **P 07 52 31.2 +0.3**
KHC Kasperske Hory 78.97 358 *e*P **P 07 52 31.9 +0.9**
KHC *e* 07 52 42.5
KHC MLR MLR
comp=Z,3μm,20.5s
KHC Kasperske Hory 78.97 358 *e*P **P 07 52 31.9 +0.9**
KHC *e*pP **pP 07 52 42.5 +0.1**
KHC AMS AMS 08 34 40.0
comp=Z,3μm,20.5s
WET Wettzell 78.97 359 *e*P **P 07 52 33.0 +2.0**
comp=Z,54nm,1.4s,baz=0.5,slow=5.7
UZH Uzhgorod 79.01 352 *i*,*i*P **P 07 52 31.5 +0.3**
UZH *i* 07 52 36.4
UZH *e* 07 52 47.5
UZH *e*S **S 08 02 23.8 -3.0**
UZH MLR MLR
comp=Z,200nm,18.0s
JAVC Velka Javorina 79.09 355 *e*P **P 07 52 32.6 +0.9**
GOF Gofitskoye 79.14 337 ⇑*e*P **P 07 52 34.1 +2.1**
GOF *e*S **S 08 02 33.5 +5.1**
GOF pmax pmax
comp=Z,442nm,1.2s
GEC2 GERESS Array S 79.25 358 P **P 07 52 32.9 +0.2**
GEC2 IAmb IAmb 07 52 35.0
comp=Z,46nm,1.2s
GEC2 GERESS Array S 79.25 358 *e*P **P 07 52 34.2 +1.6**
comp=Z,60nm,1.3s,baz=0.5,slow=5.7
GEC2 *e*pP **pwP 07 52 45.8 -0.3**
baz=360,slow=5.7
GERES GERESS Array B 79.25 358 P **P 07 52 32.9 +0.2**
comp=Z,21nm,1.1s,baz=20,slow=4.3,SNR=51
GERES GERESS Array B 79.25 358 P **P 07 52 31.9 -0.7**
GERES GERESS Array B 79.25 358 P **P 07 52 31.9 -0.7**
CKRC Cesky Krumlov 79.26 358 AMS AMS 08 37 20.0
comp=Z,3μm,18.5s
KECS Kecovo 79.30 353 *e*P **P 07 52 34.5 +1.7**
KECS pmax pmax
comp=Z,24nm,1.0s
KECS Kecovo 79.30 353 *e*P **P 07 52 34.5 +1.7**
STU Stuttgart 79.35 1 *e*P **P 07 52 34.7 +1.7**
comp=Z,80nm,1.3s,baz=0.5,slow=5.7
VYHS Vyhne 79.39 354 *e*P **P 07 52 34.8 +1.5**
VYHS pmax pmax
comp=Z,71nm,1.2s
VYHS Vyhne 79.39 354 *e*P **P 07 52 34.8 +1.5**
SMOL Smolenice 79.45 355 *e*P **P 07 52 35.6 +2.0**
SMOL pmax pmax
comp=Z,465nm,1.3s
SMOL Smolenice 79.45 355 *e*P **P 07 52 35.6 +2.0**
TRPA Tarpa 79.48 352 *e*P **P 07 52 36.2 +2.4**
MODS Modra-Piesok 79.60 356 *e*P **P 07 52 37.4 +3.0**
MODS pmax pmax
comp=Z,131nm,1.3s
MODS Modra-Piesok 79.60 356 *e*P **P 07 52 37.4 +3.0**
KBL Kabul 79.68 314 P **P 07 52 33.6 -1.8**
KBL pmax pmax
comp=Z,123nm,1.3s
KBL Kabul 79.68 314 P **P 07 52 33.6 -1.8**
KHLT Khaolaem Dam 79.70 281 P P 07 52 50.2 +15
BUR08 Bucovina Ar. S 79.71 350 P **P 07 52 34.3 -0.9**
BUR08 IAmb IAmb 07 52 37.6
comp=Z,29nm,1.2s
BURAR Bucovina Array 79.74 350 ⇑P **P 07 52 35.5 +0.1**
BURAR Bucovina Array 79.74 350 P **P 07 52 34.3 -1.0**
BURAR IAmb IAmb 07 52 38.6
comp=Z,22nm,0.9s
BFO Black Forest 79.78 2 P **P 07 52 36.0 +0.6**
BFO pmax pmax
comp=Z,82nm,1.4s
BFO Black Forest 79.78 2 P **P 07 52 36.0 +0.6**
BFO IAmb IAmb 07 52 38.5
comp=Z,82nm,1.4s
BFO Black Forest 79.78 2 *e*P **P 07 52 37.1 +1.6**
comp=Z,73nm,1.3s,baz=0.5,slow=5.7
BFO *e*pP **pwP 07 52 48.4 -0.4**
baz=360,slow=5.7
ZST Bratislava 79.78 356 *e*P **P 07 52 37.6 +2.2**
ZST pmax pmax
comp=Z,282nm,1.3s
ZST Bratislava 79.78 356 *e*P **P 07 52 37.6 +2.2**
BMR Baia Mare 79.85 351 ⇓P **P 07 52 37.4 +1.6**

ECH	Echery	79.87	2	P	P	07 52 36.2	+0.3
ECH				pmax	pmax		
comp=Z,81nm,1.2s							
ECH	Echery	79.87	2	P	P	07 52 36.2	+0.3
PSZ	Piszkesteto	79.90	354	⇓P	P	07 52 37.6	+1.4
PSZ	Piszkesteto	79.90	354	eP	P	07 52 38.2	+2.1
KIS	Kishinev	79.91	347	eP	P	07 52 35.0	-1.1
KIS	Kishinev	79.91	347	ePP	PP	07 55 37.0	-0.1
KIS				eS	S	08 02 28.0	-8.5
KIS				eLR	LR	08 31 04.0	
comp=Z,500nm,17.0s							
KIS	Kishinev	79.91	347	eP	P	07 52 35.0	-1.1
KIS				e		07 55 37.0	
KIS				eS	S	08 02 28.0	-8.5
MAK	Makhachkala	79.95	333	eP	P	07 52 32.4	-4.0
MAK				eS	S	08 02 32.4	-4.6
MAK				pmax	pmax		
comp=Z,186nm,1.1s							
FUR	Furstenfeldbru	79.96	360	eP	P	07 52 38.4	+1.9
comp=Z,117nm,1.2s,baz=0.5,slow=5.7							
CONA	Conrad Observa	80.10	356	i P	P	07 52 39.6	+2.3
comp=Z,100nm,1.3s,SNR=40							
GROC	Groznyy	80.19	335	eP	P	07 52 38.2	+0.5
GROC				e		07 52 45.5	
GROC				e		07 55 37.4	
GROC				pmax	pmax		
comp=Z,32nm,0.5s							
MOA	Molln	80.23	358	i P	P	07 52 39.9	+2.0
comp=Z,32nm,1.3s,SNR=5.2							
KIV	Kislovodsk	80.26	337	⇑P	P	07 52 39.9	+1.7
KIV	Kislovodsk	80.26	337	eP	P	07 52 38.2	0.0
KIV				pmax	pmax		
comp=Z,69nm,1.0s							
KIV	Kislovodsk	80.26	337	P	P	07 52 38.1	0.0
ARCR	ARCALIA	80.35	351	⇓P	P	07 52 39.7	+1.1
KBZ	Khabaz	80.43	337	P	P	07 52 39.5	+0.5
comp=Z,36nm,0.9s,baz=36,slow=2.6,SNR=64							
KBZ	Khabaz	80.43	337	c i P	P	07 52 39.1	+0.2
KBZ				pmax	pmax		
comp=Z,52nm,0.9s							
UBR	Ueberruh	80.45	0	eP	P	07 52 41.0	+1.9
comp=Z,86nm,1.3s,baz=0.5,slow=5.7							
SHA1	Shidzhatmaz	80.48	337	ceP	P	07 52 40.5	+1.0
PHET	Kaeng Krachan	80.53	279	P	P	07 52 43.0	+3.1
comp=Z,69nm,1.0s							
EGYH	Egyhazaskeszo	80.55	355	eP	P	07 52 38.8	-0.7
ANN	Anapa	80.61	341	eP	P	07 52 36.2	-3.7
ANN				e		08 02 54.9	
ANN				pmax	pmax		
comp=Z,81nm,1.0s							
RETA	Reutte	80.64	360	i P	P	07 52 42.1	+2.0
comp=Z,34nm,1.2s,SNR=11							
TESR	Tescani	80.67	349	⇓P	P	07 52 41.7	+1.5
MOTA	Moosalm	80.78	360	i P	P	07 52 43.0	+2.0
comp=Z,113nm,1.3s,SNR=28							
MPLH	Magyarpolny	80.78	355	eP	P	07 52 43.0	+2.2
ARSA	Arzberg	80.79	357	i P	P	07 52 43.3	+2.4
comp=Z,57nm,1.1s,SNR=24							
TTSI	Tana Toraja	80.79	253	P	P	07 52 42.3	+1.0
comp=Z,40nm,0.8s							
WATA	Walderalm	80.79	359	i P	P	07 52 43.0	+2.0
comp=Z,94nm,1.2s,SNR=23							
CJR	Cluj-Napoca	80.79	351	⇑P	P	07 52 41.6	+0.7
DRGR		80.80	352	⇑P	P	07 52 42.6	+1.6
DAVA	Damuels	80.84	1	i P	P	07 52 43.2	+1.9
comp=Z,33nm,1.1s,SNR=7.3							
WTTA	Wattenberg	80.86	359	i P	P	07 52 43.6	+2.1
comp=Z,95nm,1.4s,SNR=26							
SQTA	Sankt Quirin	80.91	360	i P	P	07 52 43.9	+2.2
comp=Z,135nm,1.4s,SNR=16							
SBUM	Sibu	80.98	262	P	P	07 52 43.0	+0.7
KBA	Koelnbreinsper	81.03	358	i P	P	07 52 43.1	+0.8
comp=Z,224nm,1.5s,SNR=52							
TIH	Tihany	81.04	355	eP	P	07 52 45.4	+3.3
ZEI	Tsey	81.06	336	eP	P	07 52 41.5	-1.2
ZEI				pmax	pmax		
comp=Z,52nm,1.3s							
MFF	Saint Martin d	81.09	8	eP	P	07 52 43.2	+0.7
MFF				pmax	pmax		
comp=Z,166nm,1.3s							
FETA	Feichten	81.11	360	i P	P	07 52 45.3	+2.5
comp=Z,94nm,1.1s,SNR=28							
GEYT	Alibeck	81.13	324	P	P	07 52 43.2	+0.3
comp=Z,42nm,1.0s,baz=12,slow=7.4,SNR=44							
GEYT	Alibeck	81.13	324	P	P	07 52 43.2	+0.3
GYA0B	ALIBECK ARRAY	81.13	324	P	P	07 52 42.7	-0.2
VLDR	Vladesti	81.14	348	⇑P	P	07 52 44.4	+1.7
OZUR		81.17	349	⇑P	P	07 52 45.1	+2.1
AKT	Akhty	81.27	333	eP	P	07 52 43.9	+0.3
VRI	Vrincioaia	81.29	349	⇑P	P	07 52 45.2	+1.6
SOC	Sochi	81.30	339	eP	P	07 52 44.4	+0.8
SOC				e		07 55 45.8	
SOC				ePPP	PPP	07 57 35.2	
SOC				eS	S	08 02 56.2	+5.1
SOC				eSS	SS	08 08 13.2	+7.5
SOC				eSSS	SSS	08 11 33.4	
SOC				pmax	pmax		
comp=Z,55nm,1.1s							
PLOR	Plostina	81.32	349	⇑P	P	07 52 45.6	+1.9
DOPR	Dopca	81.35	350	⇑P	P	07 52 44.8	+0.9
LGD	Lagodekhi	81.35	334	P	P	07 52 44.2	+0.3
ONI	Oni	81.36	336	P	P	07 52 43.8	-0.3
ONI				pmax	pmax		
comp=Z,16nm,0.9s							
ONI	Oni	81.36	336	P	P	07 52 43.8	-0.3
ABTA	Abfaltersbach	81.37	359	i P	P	07 52 46.1	+2.0
comp=Z,92nm,1.3s,SNR=24							
SOKA	Soboth	81.38	357	i P	P	07 52 46.3	+2.1
comp=Z,146nm,1.3s,SNR=66							
SIRR	Siria	81.41	352	⇑P	P	07 52 45.9	+1.7
PERS	Pernice	81.42	357	eP	P	07 52 44.4	+0.1
SLCR	Slobozia Conac	81.43	348	⇑P	P	07 52 45.7	+1.4
MYKA	Terra Mystica	81.47	358	i P	P	07 52 46.1	+1.5
comp=Z,65nm,1.5s,SNR=14							
IZVR	Izvoarele	81.48	348	⇑P	P	07 52 45.9	+1.4
ZOU	Zoufplan	81.55	358	IAmb	IAmb	07 52 48.1	
comp=Z,48nm,1.2s							
OBKA	Obir	81.56	357	i P	P	07 52 47.1	+2.0
comp=Z,51nm,0.9s,SNR=21							
CHVG	Ch'k'valeri	81.58	337	⇑P	P	07 52 47.4	+2.2
BISRR	Bisoca	81.61	349	⇑P	P	07 52 47.1	+1.8
MORH	Mrgy, Hungar	81.68	354	⇑P	P	07 52 46.6	+1.0
MORH	Mrgy, Hungar	81.68	354	eP	P	07 52 47.0	+1.5
TLCR		81.69	347	⇑P	P	07 52 47.1	+1.5
SENIN	Lac Senin/Sane	81.73	2	IAmb	IAmb	07 52 51.5	
comp=Z,55nm,1.8s							
CTA	Charters Tower	81.74	222	P	P	07 52 45.7	-0.4
comp=Z,15nm,0.9s,baz=42,slow=6.9,SNR=14							
CTAO	Charters Tower	81.74	222	P	P	07 52 45.4	-0.7
CTAO				pmax	pmax		
comp=Z,25nm,1.0s							
CTAO	Charters Tower	81.74	222	P	P	07 52 45.4	-0.7
CTAO				IAmb	IAmb	07 52 47.0	
comp=Z,25nm,1.0s							
MLR	Muntele Rosu	81.75	349	⇑P	P	07 52 48.5	+2.3
MLR	Muntele Rosu	81.75	349	P	P	07 52 46.3	+0.1
MLR				pmax	pmax		
comp=Z,28nm,1.1s							
MLR	Muntele Rosu	81.75	349	P	P	07 52 46.3	+0.1
MLR				IAmb	IAmb	07 52 49.7	
comp=Z,28nm,1.1s							
CFR	Carcaliu	81.79	348	⇑P	P	07 52 47.8	+1.6
SEAG	Tbilisi Sea	81.79	335	P	P	07 52 50.8	+4.5
KOVH	Kovagotottos	81.83	355	eP	P	07 52 47.8	+1.4
STAL	STALIGIAL	81.86	359	P	P	07 52 46.6	0.0
STAL				IAmb	IAmb	07 52 49.0	
comp=Z,36nm,1.2s							
VOIR		81.91	350	⇑P	P	07 52 48.1	+1.2
LOT	Lotru	82.03	351	⇓P	P	07 52 49.1	+1.5
LJU	Ljubljana	82.03	357	eP	P	07 52 48.0	+0.5
BZS	Buzias	82.06	352	⇑P	P	07 52 49.2	+1.7
TPGR	Topolog	82.07	347	⇓P	P	07 52 48.5	+0.8
CTI	Castel Tesino	82.08	359	P	P	07 52 47.9	+0.1
CTI				pmax	pmax		
comp=Z,76nm,1.3s							
CTI	Castel Tesino	82.08	359	P	P	07 52 47.9	+0.1
JURR	Jurilovca	82.09	347	⇑P	P	07 52 47.9	+0.1
GZR	Gura Zlata	82.18	351	⇑P	P	07 52 49.2	+0.9
KZRT	Kazreti	82.25	335	P	P	07 52 51.0	+2.2
VISS	Visnje	82.26	357	i P	P	07 52 49.3	+0.6
HARR	Harsova	82.30	348	⇑P	P	07 52 50.5	+1.7
BKSI	Bulukumba	82.45	251	P	P	07 52 50.4	+0.4
comp=Z,938nmcomp=Z,31nm,0.9s							
TIRR	Tirgusor	82.46	347	⇑P	P	07 52 50.1	+0.4
TIRR	Tirgusor	82.46	347	P	P	07 52 51.5	+1.8
AKH	Akhalkalaki	82.46	336	⇑P	P	07 52 51.1	+1.0
AKH	Akhalkalaki	82.46	336	P	P	07 52 52.1	+2.1
SULR		82.52	349	⇑P	P	07 52 51.1	+1.1
MTN	Manton Dam	82.53	238	P	P	07 52 49.6	-0.7
MTN				IAmb	IAmb	07 52 51.1	
comp=Z,26nm,1.1s							
BOJS	Bojanci	82.55	357	eP	P	07 52 49.9	-0.3
LPL	La Plagne	82.56	3	eP	P	07 52 53.1	+2.6
LPL				pmax	pmax		
comp=Z,33nm,1.2s							
FRGS	Fruska Gora	82.65	353	⇑P	P	07 52 51.9	+1.1
HRA	Herat	82.67	319	IAmb	IAmb	07 52 53.2	
comp=Z,39nm,1.1s							
SSB	Saint Sauveur	82.71	4	IAmb	IAmb	07 52 53.8	
comp=Z,47nm,1.1s							
HERR	Herculane	82.72	352	⇓P	P	07 52 52.1	+1.1
TEOL	Teolo	82.77	359	P	P	07 52 51.9	+0.6
LFF	La Frestale	82.82	7	eP	P	07 52 52.3	+0.8
LFF				pmax	pmax		
comp=Z,132nm,1.4s							
MDVR	Moldovita	82.88	352	⇑P	P	07 52 53.5	+1.5
BCA	Borcka	82.89	337	⇑P	P	07 52 53.4	+1.3
KSM	Kuching	82.92	263	P	P	07 52 54.0	+1.5
GNI	Garni	83.32	334	i P	P	07 52 55.9	+1.4
GNI				pmax	pmax		
comp=Z,56nm,1.2s							
GCPR	Guaynabo City	83.56	69	P	P	07 52 55.7	0.0
ZIMR		83.63	349	⇑P	P	07 52 57.1	+1.3
DIVS	Divibare	83.69	353	P	P	07 52 56.0	-0.2
DIVS				IAmb	IAmb	07 52 58.0	
comp=Z,27nm,1.1s							
KTUT	Trabzon	83.76	338	⇓P	P	07 52 57.0	+0.5
ZCCA	Zocca	83.78	360	P	P	07 52 57.5	+0.9
BZK	Bozkurt	84.01	343	P	P	07 52 56.7	-1.0
DIKM	Dikmen	84.07	342	⇓P	P	07 53 00.2	+2.1
SKLT	Songkhla	84.40	274	P	P	07 53 02.4	+2.3
comp=Z,48nm,1.0s							
OSSC	Osservatorio P	84.61	360	P	P	07 53 00.9	+0.1
EIDS	Eidsvold	84.68	215	IAmb	IAmb	07 53 02.3	
comp=Z,18nm,1.2s							
MURB	Monte Urbino	84.85	359	P	P	07 53 02.5	+0.5
VTS	Vitosha	84.89	351	P	P	07 53 01.5	-0.9
VTS				pmax	pmax		
comp=Z,16nm,0.9s							
VTS	Vitosha	84.89	351	P	P	07 53 01.5	-0.9
VTS				IAmb	IAmb	07 53 04.0	
comp=Z,16nm,0.9s							
PCAB	Cabril	85.03	14	eP	P	07 53 05.4	+2.4
comp=Z,41nm,1.5s							
PCAB				i LQ	LQ	07 53 16.1	
BHPL	Bhopal	85.04	302	eP	P	07 53 03.5	+0.1
PBRG	Braganca	85.12	13	eP	P	07 53 04.8	+1.4
comp=Z,39nm,1.7s							
PBRG				i LQ	LQ	07 53 15.8	
CASP	Castiglione de	85.34	360	P	P	07 53 04.6	+0.1
POLO	Lamas de Olo	85.39	14	eP	P	07 53 05.9	+1.0
comp=Z,22nm,1.6s							
PVRL	Vila Real	85.50	14	eP	P	07 53 08.3	+3.0
comp=Z,80nm,2.0s							
SKO	Skopje	85.69	352	i P	P	07 53 07.9	+1.7
MVO	Moncorvo	85.71	13	eP	P	07 53 04.8	-1.6
comp=Z,53nm,1.3s							
MVO				i LQ	LQ	07 53 19.4	
PUK	Puka	85.75	353	IAmb	IAmb	07 53 15.7	
comp=Z,17nm,0.9s							
JRMM	Jerantut	85.83	271	P	P	07 53 09.0	+1.7
KULM	Kulim	85.86	273	P	P	07 53 09.0	+1.6
STIP	Stip	85.90	351	i P	P	07 53 07.8	+0.6
PVIS	Viseu	86.02	14	eP	P	07 53 09.7	+1.8
comp=Z,55nm,1.6s							
PVIS				i LQ	LQ	07 53 20.6	
INTR	Introdacqua	86.08	358	P	P	07 53 07.5	-0.7
RDO	Rodhopi	86.09	349	P	P	07 53 08.9	+0.7
KNRA	Kununurra	86.14	238	P	P	07 53 07.8	-0.8
KNRA				IAmb	IAmb	07 53 09.3	
comp=Z,17nm,1.0s							
VAY	Valandovo	86.23	351	i P	P	07 53 10.5	+1.6
BR131	Keskin Array S	86.24	342	IAmb	IAmb	07 53 12.6	
comp=Z,42nm,1.2s							
BRTR	Keskin Array B	86.24	342	P	P	07 53 09.5	+0.3
comp=Z,9.8nm,1.1s,baz=47,slow=2.0,SNR=29							
BRTR	Keskin Array B	86.24	342	P	P	07 53 09.0	-0.2
BRTR	Keskin Array B	86.24	342	P	P	07 53 09.0	-0.2
ANTO	Ankara	86.26	343	P	P	07 53 11.4	+2.3
ANTO				pmax	pmax		
comp=Z,122nm,1.2s							
IPM	Ipoh	86.26	272	P	P	07 53 11.0	+1.6
SGRT	San Giovanni R	86.27	356	P	P	07 53 09.3	+0.1
ALN	Alexandroupoli	86.27	348	P	P	07 53 09.3	+0.2
ALN	Alexandroupoli	86.27	348	P	P	07 53 08.5	-0.5
ALN				pmax	pmax		
comp=Z,161nm,1.5s							
ALN	Alexandroupoli	86.27	348	P	P	07 53 08.5	-0.5
SRS	Serrai	86.33	350	P	P	07 53 10.2	+0.8
KAVA	Kavala	86.35	350	P	P	07 53 09.9	+0.4
KNT	Kendrikon	86.36	351	P	P	07 53 10.7	+1.2
MTE	Manteigas	86.38	14	eP	P	07 53 10.4	+0.7
comp=Z,38nm,2.0s							
MTE				i LQ	LQ	07 53 22.3	
MTE	Manteigas	86.38	14	P	P	07 53 09.7	0.0
MTE				IAmb	IAmb	07 53 23.0	
comp=Z,21nm,0.9s							
DBBC	Dabeiba	86.43	83	eP	P	07 53 11.0	+0.7
TIR	Tirane	86.44	353	⇑P	P	07 53 11.0	+1.1
PCAS	Casmilo, Conde	86.58	15	eP	P	07 53 12.0	+1.4
comp=Z,22nm,1.3s							
PCAS				i LQ	LQ	07 53 23.8	
OHR	Ohrid	86.60	352	i P	P	07 53 11.8	+1.1
GRG	Griva	86.61	351	P	P	07 53 12.0	+1.2
MALT	Malatya	86.62	338	P	P	07 53 13.6	+2.6
MYKOM	Kota Tinggi	86.63	269	P	P	07 53 13.0	+1.8
BNN	Bunyan	86.66	341	P	P	07 53 10.7	-0.5
THAS	Thassos island	86.72	349	P	P	07 53 12.2	+1.0
SMTH	Samothraki Isl	86.75	349	P	P	07 53 10.5	-1.0
WB0	Warramunga Arr	86.76	232	P	P	07 53 10.9	-0.7
WB0				IAmb	IAmb	07 53 11.9	
comp=Z,25nm,1.3s							
WR0	Warramunga Arr	86.85	231	P	P	07 53 10.7	-1.3
WR0				IAmb	IAmb	07 53 12.3	
comp=Z,17nm,1.1s							
FNA	Florina	86.88	352	P	P	07 53 11.7	-0.4
FNA	Florina	86.88	352	P	P	07 53 11.0	-1.2
FNA				pmax	pmax		
comp=Z,112nm,1.6s							
FNA	Florina	86.88	352	P	P	07 53 10.9	-1.2
WRAB	Tennant Creek	86.92	232	d i P	P	07 53 12.1	-0.3
WRAB				pmax	pmax		
comp=Z,19nm,1.1s							
WB2	Warramunga Arr	86.93	232	P	P	07 53 12.1	-0.3
WB2				IAmb	IAmb	07 53 12.8	
comp=Z,20nm,1.1s							
WRA	Warramunga Arr	86.94	232	P	P	07 53 10.5	-1.9
comp=Z,7.0nm,0.9s,baz=38,slow=5.7,SNR=28							
WRA	Warramunga Arr	86.94	232	P	P	07 53 11.8	-0.7
WRA	Warramunga Arr	86.94	232	P	P	07 53 11.8	-0.7
PCBR	Castelo Branco	86.94	14	eP	P	07 53 12.6	+0.2
comp=Z,26nm,1.3s							
PAOL	Paolisi	87.04	357	P	P	07 53 13.6	+0.7
PSBE	So Bento	87.06	15	eP	P	07 53 13.7	+0.7
comp=Z,75nm,1.8s							
PSBE				i LQ	LQ	07 53 26.3	
OUR	Ouranopolis	87.07	350	P	P	07 53 13.8	+0.8
OCAC	Ocana	87.23	80	eP	P	07 53 13.5	-0.8
BALB	Balikesir	87.27	347	P	P	07 53 13.5	-0.4
MATE	Matera	87.33	355	⇑P	P	07 53 15.9	+1.7
PMRV	Marv??o	87.36	14	eP	P	07 53 15.9	+1.5
comp=Z,28nm,1.4s							
PMRV				i LQ	LQ	07 53 27.3	
LIA	Limnos Island	87.36	349	P	P	07 53 14.6	+0.2
LIT	Litokhoron	87.45	351	P	P	07 53 14.7	-0.2
LIT				pmax	pmax		
comp=Z,35nm,0.9s							
LIT	Litokhoron	87.45	351	P	P	07 53 14.7	-0.2
CBOC	Ciudad Bolivar	87.46	84	eP	P	07 53 14.3	-1.1
HELC	Santa Helena	87.50	83	eP	P	07 53 11.8	-4.0
PAIG	Paliouri	87.50	350	P	P	07 53 15.2	+0.1
ESBB	Sonseca Array	87.57	11	P	P	07 53 15.1	-0.4
ESDC	Sonseca Array	87.57	11	P	P	07 53 15.0	-0.6
comp=Z,13nm,0.9s,baz=347,slow=4.6,SNR=40							
ESDC	Sonseca Array	87.57	11	IAmb	IAmb	07 53 29.2	
comp=Z,21nm,0.8s							
PMTG	Montargil	87.58	15	i LQ	LQ	07 53 27.6	
PAB	San Pablo	87.65	12	P	P	07 53 15.3	-0.6
PAB				pmax	pmax		
comp=Z,17nm,0.9s							
PAB	San Pablo	87.65	12	P	P	07 53 15.3	-0.6
PAB				IAmb	IAmb	07 53 29.0	
comp=Z,17nm,0.8s							
LIS	Lisbon	87.78	15	eP	P	07 53 16.4	0.0
LIS				IAmb	IAmb	07 53 20.5	
comp=Z,36nm,0.7s							
LIS	Lisbon	87.78	15	eP	P	07 53 16.4	0.0
LIS				pmax	pmax		
comp=Z,36nm,0.7s							
SCTE	Santa Cesarea	87.80	354	P	P	07 53 16.9	+0.4
PESTR	Estremoz	87.88	14	eP	P	07 53 18.0	+1.1
comp=Z,41nm,2.0s							
PESTR				i LQ	LQ	07 53 29.4	
PESTR	Estremoz	87.88	14	P	P	07 53 16.5	-0.4
PESTR				IAmb	IAmb	07 53 30.1	
comp=Z,17nm,0.8s							
XOR	Xorichti	88.11	350	P	P	07 53 17.4	-0.6
EVO	Evora	88.14	15	eP	P	07 53 18.2	0.0
comp=Z,35nm,1.5s							
NEO	Neokhori	88.17	350	P	P	07 53 17.5	-0.8
SDV	Santo Domingo	88.34	78	eP	P	07 53 22.4	+2.7
GUY2C	Guyana, Caldas	88.35	84	eP	P	07 53 16.0	-4.1
PNCL	Nicolau / Gran	88.47	15	eP	P	07 53 21.1	+1.4
comp=Z,48nm,1.5s							
PNCL				i LQ	LQ	07 53 32.6	
JAGI	Jajag, Banyuwa	88.47	254	P	P	07 53 18.8	-1.2
AGG	Agios Georgios	88.54	351	P	P	07 53 19.3	-0.8
MAKR	Makrakomi, Fth	88.56	351	P	P	07 53 21.0	+0.8
PBAR	Barrancos	88.64	14	eP	P	07 53 21.3	+0.8
comp=Z,61nm,1.8s							
PBAR				i LQ	LQ	07 53 33.2	
PBEJ	Beja	88.66	15	i LQ	LQ	07 53 33.4	
EVR	Evrytania	88.69	351	P	P	07 53 21.0	+0.1
YOTC	Yotoco, Valle	88.73	85	eP	P	07 53 16.8	-4.6
KYMI	Kymi, Euboea I	88.74	349	P	P	07 53 20.5	-0.5
MESJ	Messejana	88.79	15	eP	P	07 53 21.2	0.0
MESJ				IAmb	IAmb	07 53 34.5	
comp=Z,12nm,1.2s							
MESJ	Messejana	88.79	15	eP	P	07 53 21.2	0.0
MESJ				pmax	pmax		
comp=Z,12nm,1.2s							
MESJ	Messejana	88.79	15	i LQ	LQ	07 53 37.5	
TIP	Timpagrande	88.79	355	P	P	07 53 21.0	-0.3
LKR	Lokris	88.84	350	P	P	07 53 20.9	-0.5
PSI	Prapat	88.86	273	P	P	07 53 22.2	+0.2
PSI				pmax	pmax		
comp=Z,87nm,0.9s							
TOLC	Tolima	88.88	84	eP	P	07 53 20.7	-1.7
RPSI	Rantau Prapat	88.95	273	P	P	07 53 22.2	-0.1
PTEO	Sao Teotonio	88.99	15	eP	P	07 53 21.4	-0.8
comp=Z,57nm,1.5s							
PTEO				i LQ	LQ	07 53 34.8	
ANX	Ano Chora	89.00	351	P	P	07 53 22.3	-0.1
PCVE	Castro Verde	89.02	15	eP	P	07 53 23.3	+1.0
comp=Z,45nm,1.7s							
PCVE				i LQ	LQ	07 53 34.3	
SERG	Sergoula	89.17	351	P	P	07 53 23.4	+0.4
EFP	Efpalio	89.17	351	P	P	07 53 23.8	+0.8
HYB	Hyderabad	89.21	298	i P	P	07 53 23.0	-0.5
HYB	Hyderabad	89.21	298	eP	P	07 53 23.7	+0.2
TRIZ	Trizonia	89.21	351	P	P	07 53 23.9	+0.7
RUSC	La Rusia	89.22	81	P	P	07 53 24.8	+0.6
RUSC	La Rusia	89.22	81	eP	P	07 53 25.8	+1.7
PVAQ	Vaqueiros	89.29	15	eP	P	07 53 24.2	+0.6
comp=Z,5.4nm,1.9s							
PVAQ				i LQ	LQ	07 53 36.2	
LAKA	Lakka	89.34	351	P	P	07 53 24.0	+0.1
PFVI	Vila Bisbo	89.38	15	eP	P	07 53 25.6	+1.6
comp=Z,98nm,1.7s							
PFVI				i LQ	LQ	07 53 36.2	
ORTC	Ortega, Tolima	89.46	84	eP	P	07 53 25.0	+0.3
LTK	Loutraki	89.46	350	P	P	07 53 24.1	-0.3
KLV	Kalavryta, Ach	89.52	351	P	P	07 53 25.1	+0.3
POPC	Popayan, Colom	89.66	86	eP	P	07 53 14.3	-12
BBAC	Balboa, Cauca	89.71	87	eP	P	07 53 23.7	-2.5
ELL	Elmali	89.79	345	P	P	07 53 26.0	-0.1
ELL				pmax	pmax		
comp=Z,38nm,0.9s							
ELL	Elmali	89.79	345	P	P	07 53 26.0	-0.1
CHIC	Chingaza	89.82	83	eP	P	07 53 14.3	-13
AMT	Artemida-Makis	90.07	351	P	P	07 53 28.0	+0.7
VLX	Vlachokerasia	90.17	351	P	P	07 53 28.3	+0.5
CORL	Corleone	90.20	358	P	P	07 53 27.4	-0.6
ASAR	Alice Springs	90.32	230	P	P	07 53 27.1	-1.3
comp=Z,8.1nm,0.8s,baz=38,slow=4.4,SNR=42							
ASAR	Alice Springs	90.32	230	P	P	07 53 28.0	-0.5
ASAR	Alice Springs	90.32	230	P	P	07 53 27.9	-0.5
AKAS	Kas	90.34	345	P	P	07 53 28.3	-0.4
AKAS				IAmb	IAmb	07 53 30.8	
comp=Z,31nm,1.2s							
OTAV	Otavalo	90.37	89	eP	P	07 53 32.9	+3.4
ITM	Ithomi	90.40	351	P	P	07 53 29.2	+0.4
ITM	Ithomi	90.40	351	P	P	07 53 29.0	+0.2
TULM	Tulcn-Chalpat	90.40	88	eP	P	07 53 32.4	+2.7
CLTB	Caltabellotta	90.52	358	P	P	07 53 30.1	+0.6
GARC	Garzon, Huila	90.66	86	eP	P	07 53 28.3	-2.3
VLI	Veliai	90.76	350	P	P	07 53 29.8	-0.7
KARP	Karpathos	91.39	347	P	P	07 53 32.6	-0.8
LAST	Lasithi	92.00	348	P	P	07 53 35.9

mb1 5.4/29,mb1mx5.2/49,mbtmp5.4/29,ML5.0/1,Error ellipse: s-maj=19.7km s-min=12.0km az=163.0
NEIC ***27*** *07:40:50.6±2.0,52°.36N±0°.07×169°.08W±0°.09,h35km±1km, mb5.5/329,Error ellipse: s-maj=13.2km s-min=8.4km az=156.0*
BGR ***27*** *07:40:57.1±0.0,53°.43N×169°.15W,h33km,mb5.6*
ISC 27 07:40:49.7±0.3,52°.29N±0°.07×169°.11W±0°.05,h33km, n501,σ1§22/492,mb5.5/203,11D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.70	13		Pn	07 41 00.2	-3.1
AKUT	Akutan	2.73	46	Pn	Pn	07 41 28.0	-3.1
ATKA	Atka Island	3.13	270	Pn	Pn	07 41 36.0	-0.6
FALS	False Pass	4.26	51	Pn	Pn	07 41 49.4	-2.7
GSTR	Great Sitkin T	4.28	270	Pn	Pn	07 41 51.9	-0.6
ADK	Adak	4.69	268	Pn	Pn	07 41 57.6	-0.4
SPIA	Saint Paul Isl	4.94	353	Pn	Pn	07 42 01.3	-0.2
KIWB	Kanaga Island	4.98	268	Pn	Pn	07 42 02.1	0.0
SDPT	Sand Point	5.96	56	Pn	Pn	07 42 15.2	-0.3
CNBA	Chernabura Isl	6.21	62	Pn	Pn	07 42 17.5	-1.4
AMKA	Amchitka	7.24	267	Pn	Pn	07 42 31.9	-1.1
SII	Sitkinak Islan	9.69	58	Pn	Pn	07 43 03.9	-2.7
SMY	Shemya	10.25	279	Pn	Pn	07 43 13.2	-1.1
OHAK	Old Harbor	10.39	55	Pn	Pn	07 43 15.1	-1.0
KDAK	Kodiak Island	10.95	53	Pn	Pn	07 43 22.7	-1.1
GAMB	Gambell	11.60	354	Pn	Pn	07 43 30.7	-2.0
HOM	Homer	12.23	46	Pn	Pn	07 43 39.4	-1.8
SPU	Mount Spurr	12.88	40	Pn	Pn	07 43 49.2	-1.1
TNA	Tin City	13.33	2	Pn	Pn	07 43 53.6	-2.6
PPLA	Purkeypile	13.92	34	Pn	Pn	07 44 03.7	-0.8
PWL	Port Wells	14.25	45	Pn	Pn	07 44 08.8	-0.1
Q23K	Middleton Isla	14.59	52	Pn	Pn	07 44 12.0	-1.4
MID	Middleton Isla	14.59	52	Pn	Pn	07 44 11.6	-1.9
SML	Sawmill	14.72	42	Pn	Pn	07 44 11.8	-3.5
HIN	Hinchinbrook I	14.87	48	Pn	Pn	07 44 16.9	-0.4
FID	Port Fidalgo	15.02	47	Pn	Pn	07 44 16.5	-2.8
SCM	Sheep Creek Mo	15.14	42	Pn	Pn	07 44 21.0	0.0
SCM	comp=Z,205nm,0.6s			IAmb	IAmb	07 44 26.8	
EYAK	Cordova Ski Ar	15.27	48	Pn	Pn	07 44 20.1	-2.5
RND	Reindeer	15.42	36	Pn	Pn	07 44 24.0	-0.5
KLU	Klutina	15.58	45	Pn	Pn	07 44 24.7	-2.0
KLU	comp=Z,215nm,0.7s			IAmb	IAmb	07 44 29.8	
MCK	McKinley	15.59	35	Pn	Pn	07 44 26.4	-0.2
RAGM	Ragged Mountai	15.71	49	Pn	Pn	07 44 26.1	-2.1
M24K	Tolsona, Glenn	15.75	42	Pn	Pn	07 44 27.1	-1.8
M24K	comp=Z,205nm,0.7s			IAmb	IAmb	07 44 33.8	
MLY	Manley	15.86	29	Pn	Pn	07 44 28.9	-1.3
MLY	comp=Z,362nm,1.5s			IAmb	IAmb	07 44 37.5	
HMT	Hamilton	15.88	50	Pn	Pn	07 44 28.3	-2.2
BMRM	Bremner River	15.95	47	Pn	Pn	07 44 30.9	-0.5
NEA2	Nenana	16.09	32	Pn	Pn	07 44 32.5	-0.5
BERG	Berg Lake	16.17	50	Pn	Pn	07 44 33.4	-0.7
N25K	Chitina, Valde	16.20	45	Pn	Pn	07 44 33.8	-0.8
WRH	Wood River Hil	16.34	34	Pn	Pn	07 44 33.6	-2.6
I23K	Minto, Yukon-K	16.36	30	Pn	Pn	07 44 35.0	-1.5
PAX	Paxson	16.46	40	Pn	Pn	07 44 35.6	-2.3
GLB	Gilahina Butte	16.49	46	Pn	Pn	07 44 36.4	-1.8
CCB	Clear Creek Bu	16.54	33	Pn	Pn	07 44 37.7	-1.1
CRQM	Cirque	16.55	49	Pn	Pn	07 44 37.2	-1.9
VRDI	Verde Repeater	16.57	47	Pn	Pn	07 44 38.5	-0.8
WAX	Waxell Ridge	16.59	50	Pn	Pn	07 44 37.5	-2.0
WAX				IAmb	IAmb	07 44 46.6	
ISLE	Juniper Island	16.87	50	Pn	Pn	07 44 41.1	-2.0
ISLE	comp=Z,187nm,0.7s			IAmb	IAmb	07 44 50.5	
IL31		16.93	34	Pn	Pn	07 44 41.9	-1.8
ILAR	Eielson Array	16.93	34	Pn	Pn	07 44 42.0	-1.7
MESA	MESA	16.94	52	Pn	Pn	07 44 42.2	-1.8
MESA	comp=Z,343nm,0.8s			IAmb	IAmb	07 44 51.0	
POKR	Poker Plat Res	16.96	32	Pn	Pn	07 44 43.0	-1.1
YAH	Yahtse	17.09	51	Pn	Pn	07 44 45.9	0.0
YAH	comp=Z,332nm,0.9s			IAmb	IAmb	07 44 52.6	
RIDG	Independent Ri	17.09	38	Pn	Pn	07 44 43.6	-2.2
TABL	Table Mountain	17.39	51	Pn	Pn	07 44 48.0	-1.8
SCRK	Sand Creek	17.54	38	Pn	Pn	07 44 50.5	-0.9
LOGN	Logan Glacier	17.57	50	Pn	Pn	07 44 50.2	-1.6
PCA	Pinnacle	17.74	53	Pn	Pn	07 44 52.8	-1.0
PCA				IAmb	IAmb	07 45 00.8	
PRP	comp=Z,334nm,0.8s Porcupine Dome	17.84	33		Pn	07 44 54.0	-1.1
YKU2	Yakutat	17.90	55	Pn	Pn	07 44 53.0	-2.7
L27K	Beaver Creek,	17.98	43	Pn	Pn	07 44 55.1	-1.7
BCAR	Beaver Creek A	18.00	43	Pn	Pn	07 44 55.0	-2.0
HYT	Haines Junctio	19.23	51	P	P	07 45 10.1	-0.7
DAWY	Dawson	19.39	41	P	P	07 45 09.8	-2.6
PET	Petropavlovsk	19.49	285	P	P	07 45 12.9	-0.7
SIT	Sitka	19.98	63	P	P	07 45 18.0	-0.9
PEA0B	Petropavlovsk-	20.04	286	P	P	07 45 19.7	+0.1
PEA0B				IAmb	IAmb	07 45 20.4	
PETK	comp=Z,160nm,0.8s Petropavlovsk-	20.04	286	P	P	07 45 19.6	0.0
	comp=Z,21nm,0.3s,baz=82,slow=14,SNR=11						
BESE	Bessie Mountai	20.26	58	P	P	07 45 22.5	+0.5
BESE	comp=Z,272nm,1.2s			IAmb	IAmb	07 45 29.5	
MA2	Magadan	23.32	304	P	P	07 45 55.1	+0.7
	comp=Z,127nm,0.8s,baz=83,slow=9.7,SNR=18						
MA2	Magadan	23.32	304	IAmb	IAmb	07 45 57.5	
	comp=Z,150nm,0.9s						
INK	Inuvik	23.33	33	P	P	07 45 54.6	+0.2
	comp=Z,80nm,0.7s,baz=217,slow=12,SNR=17						
INK	Inuvik	23.33	33	IAmb	IAmb	07 45 57.1	
	comp=Z,88nm,0.8s						
BBB	Bella Bella	24.87	74	P	P	07 46 07.5	-1.4
PGC	Sidney	28.91	79	P	P	07 46 44.4	-0.8
LLLB	Lillooet	29.08	74	P	P	07 46 45.9	-1.0
B06A	Marblemount	30.15	78	P	P	07 46 58.7	+2.4
YKA	Yellowknife Ar	30.18	49	P	P	07 46 59.1	+2.8
	comp=Z,21nm,0.7s,baz=311,slow=4.9,SNR=10						
YKA	Yellowknife Ar	30.18	49	P	P	07 46 58.4	+2.0
LON	Longmire	30.75	81	P	P	07 47 01.0	-0.7
COR	Corvallis	30.91	86	P	P	07 47 02.4	-0.6
COR				IAmb	IAmb	07 47 07.2	
	comp=Z,93nm,1.2s						
YSS	Yuzh-Sakhalins	31.16	280	P	P	07 47 04.5	-0.7
YSS	Yuzh-Sakhalins	31.16	280	*e*	P	07 47 04.2	-1.0
KEBM	Edson Butte	31.19	89	P	P	07 47 05.3	-0.3
KEBM				IAmb	IAmb	07 47 09.1	
	comp=Z,173nm,1.6s						
LTY	Liberty	31.21	80	P	P	07 47 06.1	+0.4
BUCK	Buck Mountain	31.30	86	P	P	07 47 06.7	+0.1
BUCK				IAmb	IAmb	07 47 12.6	
	comp=Z,95nm,1.4s						
H04A	Detroit Lake	31.54	85	P	P	07 47 08.2	-0.4
E07A	Sunnyside	32.03	80	P	P	07 47 12.1	-0.8
E07A				IAmb	IAmb	07 47 18.3	
	comp=Z,56nm,1.2s						
HAWA	Hanford	32.30	80	P	P	07 47 13.9	-1.3
HAWA				IAmb	IAmb	07 47 15.1	
	comp=Z,45nm,0.9s						
D08A	Wollman Farm,	32.36	79	P	P	07 47 13.7	-2.0
D08A				IAmb	IAmb	07 47 20.5	
	comp=Z,150nm,1.8s						
C09A	Chrisman Ranch	32.40	77	P	P	07 47 14.8	-1.3
C09A				IAmb	IAmb	07 47 23.7	
	comp=Z,50nm,0.9s						
JKA	Kamikawa-asahi	32.67	275	P	P	07 47 17.6	-0.9
JKA				IAmb	IAmb	07 47 20.5	
	comp=Z,68nm,0.7s						
NEW	Newport	32.88	76	P	P	07 47 20.8	+0.5
NEW				IAmb	IAmb	07 47 27.8	
	comp=Z,68nm,1.0s						
TIXI	Tiksi	32.89	329	P	P	07 47 20.6	+0.6
	comp=Z,32nm,0.8s,baz=102,slow=6.6,SNR=7.5						
TIXI	Tiksi	32.89	329	P	P	07 47 20.1	+0.1
E09A	Wood Farm, Sta	33.08	79	P	P	07 47 19.8	-2.3
E09A				IAmb	IAmb	07 47 21.4	
	comp=Z,54nm,1.0s						
YAK	Yakutsk	33.34	311	P	P	07 47 22.4	-1.7
	comp=Z,16nm,0.5s,baz=153,slow=0.7,SNR=5.2						
YAK	Yakutsk	33.34	311	P	P	07 47 22.5	-1.7
YAK				IAmb	IAmb	07 47 26.9	
	comp=Z,81nm,1.0s						
YAK	Yakutsk	33.34	311	*e*	P	07 47 22.5	-1.7
ERM	Erimo	33.48	271	P	P	07 47 26.2	+0.6
KCPM	Cahto Peak	33.49	94	P	P	07 47 26.2	+0.4
KCPM				IAmb	IAmb	07 47 28.1	
	comp=Z,52nm,1.0s						
HPAH	Hawaii Prepara	33.85	157	P	P	07 47 29.3	+0.3
HPAH				IAmb	IAmb	07 47 33.3	
	comp=Z,94nm,1.1s						
JEW	Eniwo	34.06	274		P	07 47 29.4	-1.3
MOD	Modoc Plateau	34.20	88	P	P	07 47 34.0	+1.9
MOD				IAmb	IAmb	07 47 36.5	
	comp=Z,188nm,1.7s						
HOPS	Hopland Field	34.23	94	P	P	07 47 32.9	+0.8
HOPS				IAmb	IAmb	07 47 34.2	
	comp=Z,140nm,1.6s						
MLH	Mauna Loa	34.44	157	P	P	07 47 35.0	+0.7
MSO	Missoula	35.45	76	P	P	07 47 42.1	-0.6
MSO				IAmb	IAmb	07 47 43.1	
	comp=Z,105nm,1.5s						
RUBR	Rubicon Trail	35.98	92	P	P	07 47 47.5	0.0
RUBR				IAmb	IAmb	07 47 50.7	
	comp=Z,87nm,1.7s						
PAHR	Pah Rah Range	36.06	90	P	P	07 47 49.5	+1.5
PAHR				IAmb	IAmb	07 47 52.1	
	comp=Z,168nm,1.8s						
RES	Resolute Bay	36.38	26	P	P	07 47 50.7	+0.6
	comp=Z,19nm,0.8s,baz=225,slow=10,SNR=5.3						
RES	Resolute Bay	36.38	26	IAmb	IAmb	07 47 56.1	
	comp=Z,19nm,0.8s						
YERR	Yerington	36.58	91	P	P	07 47 54.1	+1.5
YERR				IAmb	IAmb	07 47 56.8	
	comp=Z,77nm,1.4s						
SAO	San Andreas Ge	36.63	96		P	07 47 53.0	+0.2
KLR	Kul'dur	36.63	289	P	P	07 47 50.6	-2.1
	comp=Z,50nm,0.8s,baz=54,slow=7.4,SNR=9.3						
WAKR	Walker	36.76	92	P	P	07 47 54.9	+0.8
DLMT	Dillon	37.01	78	P	P	07 47 56.5	+0.4
KVN	Kaiserville	37.24	90	P	P	07 47 58.6	+0.4
KVN				IAmb	IAmb	07 48 02.2	
	comp=Z,73nm,1.5s						
RYN	Ryan	37.24	91	P	P	07 47 59.5	+1.3
RYN				IAmb	IAmb	07 48 02.2	
	comp=Z,50nm,1.3s						
PMPB	Monarch Peak	37.38	96	P	P	07 47 59.4	+0.2
JMM	Marumori	37.42	268	P	P	07 47 58.6	-0.8
JMM				IAmb	IAmb	07 47 60.0	
	comp=Z,59nm,1.2s						
NVAR	Mina Array Bea	37.50	91	P	P	07 48 00.9	+0.5
NV11	Mina Array Sit	37.59	91	P	P	07 48 02.7	+1.6
ELK	Elko	37.98	86	P	P	07 48 03.5	-1.0
PAGB	Antelope Grade	38.04	96	P	P	07 48 05.1	+0.4
PAGB				IAmb	IAmb	07 48 06.8	
	comp=Z,82nm,1.4s						
YMR	Madison River	38.35	78	P	P	07 48 05.5	-2.1
YHH	Holmes Hill	38.36	77	P	P	07 48 05.5	-2.2
YHH				IAmb	IAmb	07 48 06.6	
	comp=Z,55nm,0.9s						
TPH	Tonopah	38.39	91	P	P	07 48 08.6	+0.7
YNR	Norris Junctio	38.50	77	P	P	07 48 07.4	-1.4
YNR				IAmb	IAmb	07 48 16.7	
	comp=Z,75nm,1.0s						
H17A	Grant Village	38.74	78	P	P	07 48 09.6	-1.2
H17A				IAmb	IAmb	07 48 16.8	
	comp=Z,127nm,1.6s						
YNE	Yellowstone No	38.74	77	P	P	07 48 07.9	-2.9
LKWY	Lake	38.75	77	P	P	07 48 09.5	-1.4
LKWY				IAmb	IAmb	07 48 18.7	
	comp=Z,150nm,1.6s						
YMP	Mirror Lake Pl	38.80	77	P	P	07 48 09.2	-2.2
JYT	Yasato	38.84	266	P	P	07 48 11.1	-0.3
JYT				IAmb	IAmb	07 48 14.7	
	comp=Z,49nm,0.8s						
JSD	Sado	38.87	270	P	P	07 48 12.3	+0.7
JSD				IAmb	IAmb	07 48 18.3	
	comp=Z,64nm,0.9s						
TPAW	Teton Pass	39.01	79	P	P	07 48 12.9	-0.2
TPAW				IAmb	IAmb	07 48 18.3	
	comp=Z,58nm,1.3s						
USA0B	Ussuriysk Arra	39.06	282	P	P	07 48 12.2	-1.0
USRK	Ussuriysk Ar.	39.06	282	P	P	07 48 12.1	-1.1
	comp=Z,14nm,0.8s,baz=52,slow=8.0,SNR=12						
RLMT	Red Lodge	39.13	76	P	P	07 48 13.0	-1.0
ISA	Isabella, Lake	39.17	95	P	P	07 48 14.2	-0.1
ISA				IAmb	IAmb	07 48 15.6	
	comp=Z,28nm,1.1s						
R11A	Troy Canyon, C	39.22	89	P	P	07 48 15.3	+0.4
OSI	Osito Audit: C	39.72	96	P	P	07 48 19.3	+0.5
PRN	Pahroc Range	40.14	90	P	P	07 48 22.9	+0.5
PRN				IAmb	IAmb	07 48 26.4	
	comp=Z,197nm,1.8s						
PDAR	Pinedale Array	40.26	79	P	P	07 48 25.6	+2.1
	comp=Z,27nm,0.8s,baz=301,slow=3.7,SNR=11						
PASC	Pasadena Art C	40.34	96	P	P	07 48 23.8	-0.2
MWC	Mount Wilson	40.38	96	P	P	07 48 25.0	+0.4
GSC	Goldstone, Bar	40.43	94	P	P	07 48 24.2	-0.5
MPU	Maple Canyon	40.62	84	P	P	07 48 25.0	-1.5
MVU	Marysvale	41.20	86	P	P	07 48 29.9	-1.4
MSU	Marysvale	41.21	86	P	P	07 48 29.8	-1.5
SZCU	Shurtz Canyon	41.23	88	P	P	07 48 30.0	-1.5
INU	Inuyama	41.36	268	P	P	07 48 31.2	-1.2
MTPU	Mount Pierson	41.50	87	P	P	07 48 33.2	-0.7
MTPU				IAmb	IAmb	07 48 40.1	
	comp=Z,25nm,1.1s						
RDMU	Red Mountain	41.55	82	P	P	07 48 34.6	+0.5
RDMU				IAmb	IAmb	07 48 43.0	
	comp=Z,97nm,1.1s						
SRU	San Rafael Swe	41.85	84	P	P	07 48 34.4	-2.2
109C	Camp Elliot, M	41.87	97		P	07 48 37.2	+0.7
RMX	La Rumorosa	42.70	96	P	P	07 48 43.4	-0.1
PV11	David Mesa, Pa	43.37	84	P	P	07 48 47.7	-1.2
PV11				IAmb	IAmb	07 48 54.2	
	comp=Z,79nm,0.7s						
PV07	Paradox Valley	43.42	84	P	P	07 48 46.4	-2.9
PV07				IAmb	IAmb	07 48 53.1	
	comp=Z,32nm,0.9s						
HIA	Hailar	43.43	296	P	P	07 48 47.9	-1.1
HIA				IAmb	IAmb	07 48 51.8	
	comp=Z,50nm,0.7s						
GUVIX	Guadalupe Vict	43.52	95	P	P	07 48 49.8	-0.1
GUVIX				IAmb	IAmb	07 48 53.6	
	comp=Z,206nm,1.6s						
PHWY	Pilot Hill	43.59	78	P	P	07 48 50.1	-0.7
JHS	Saijyo	43.99	270	P	P	07 48 53.0	-0.7
JHS				IAmb	IAmb	07 48 57.2	
	comp=Z,94nm,1.3s						
ULM	Lac du Bonnet	44.05	62	P	P	07 48 55.8	+1.9
	comp=Z,14nm,0.6s,baz=302,slow=8.7,SNR=6.6						
ULM	Lac du Bonnet	44.05	62	IAmb	IAmb	07 49 00.8	
	comp=Z,36nm,1.0s						
JMN	Monobe	44.37	268	P	P	07 48 57.8	+1.0
JMN				IAmb	IAmb	07 48 58.5	
	comp=Z,58nm,1.0s						
ISCO	Idaho Springs	44.42	80	P	P	07 48 55.0	-2.4
SFX	San Felipe	44.53	97	P	P	07 48 58.0	0.0
NEEM	North Greenlan	45.02	16	*i*	P	07 49 02.4	+0.7
KSRS	Korea Array	45.57	277	P	P	07 49 07.0	+0.9
	comp=Z,50nm,0.8s,baz=54,slow=7.5,SNR=11						
KS19	Wonju Array Si	45.58	277	P	P	07 49 06.7	+0.4
KS19				IAmb	IAmb	07 49 08.3	
	comp=Z,104nm,1.0s						
KSAR	Wonju Array Be	45.60	277	P	P	07 49 06.6	+0.2
F33A	5 Mile Ranch,	46.28	68	P	P	07 49 12.7	+1.0
F33A				IAmb	IAmb	07 49 20.0	
	comp=Z,64nm,1.3s						
INCN	Inchon	46.34	278	P	P	07 49 12.1	-0.2
NRIK	Noril'sk	46.57	332	P	P	07 49 12.9	-0.7
	comp=Z,41nm,0.8s,baz=65,slow=11,SNR=15						
NRIK	Noril'sk	46.57	332	P	P	07 49 13.6	-0.1
NRIK				IAmb	IAmb	07 49 16.8	
	comp=Z,36nm,0.8s						
F36A	Milaca	47.83	66	P	P	07 49 24.4	+0.5
F36A				IAmb	IAmb	07 49 33.8	
	comp=Z,36nm,1.0s						
I37A	Lemond, Waseca	49.02	68	P	P	07 49 34.4	+1.4
KBS	Kingsbay	49.04	360	*i*	P	07 49 34.4	+1.6
SPITS	Spitsbergen Ar	49.76	359	P	P	07 49 38.8	+0.6
	comp=Z,25nm,0.6s,baz=46,slow=4.8,SNR=11						
DAG	Danmarks Havn	49.85	9	*i*	P	07 49 39.0	+0.2
IRK	Irkutsk	49.87	307	*e*	P	07 49 38.4	-0.9
G40A	Rib Lake	50.05	65	P	P	07 49 41.4	+0.5
G40A				IAmb	IAmb	07 49 42.9	
	comp=Z,29nm,0.8s						
SCIA	State Center	50.44	70	P	P	07 49 45.1	+1.2
KAN12	Harper NE Stat	50.60	78	P	P	07 49 44.3	-0.8
KAN12				IAmb	IAmb	07 49 48.2	
	comp=Z,97nm,1.6s						
I40A	Norwalk	50.67	66	P	P	07 49 46.1	+0.5
I40A				IAmb	IAmb	07 49 47.6	
	comp=Z,94nm,1.4s						
OK032	Salt Plains WL	50.80	78	P	P	07 49 45.4	-1.2
OK032				IAmb	IAmb	07 49 48.8	
	comp=Z,150nm,1.9s						
KAN05	Bluff City Nor	50.80	78	P	P	07 49 46.5	-0.1
KAN05				IAmb	IAmb	07 49 49.7	
	comp=Z,64nm,1.5s						
SUMG	Summit	50.81	17	P	P	07 49 47.1	+0.4
SUMG	Summit	50.81	17	*i*	P	07 49 47.8	+1.1
KAN13	South Haven SW	51.10	77	P	P	07 49 48.9	0.0
KAN13				IAmb	IAmb	07 49 56.3	
	comp=Z,52nm,0.8s						
ULN	Ulaanbaatar	51.11	301	P	P	07 49 49.2	+0.2
ULN				IAmb	IAmb	07 49 51.5	
	comp=Z,69nm,0.8s						
E43A	Lone Tree Farm	51.12	62	P	P	07 49 50.5	+1.7
E43A				IAmb	IAmb	07 49 54.7	
	comp=Z,50nm,0.7s						
SONM	Songino Array	51.48	301	P	P	07 49 51.9	+0.2
	comp=Z,36nm,1.0s,baz=50,slow=8.1,SNR=12						
SONM	Songino Array	51.48	301	IAmb	IAmb	07 49 52.9	
	comp=Z,56nm,1.1s						
JFWS	Jewell Farm	51.50	67	P	P	07 49 51.6	-0.1
JFWS				IAmb	IAmb	07 49 53.1	
	comp=Z,166nm,1.6s						
I42A	Draeger Farm,	51.63	65	P	P	07 49 53.4	+0.7
I42A				IAmb	IAmb	07 49 54.7	
	comp=Z,51nm,0.8s						
H43A	Windswept, Lux	51.89	64	P	P	07 49 55.7	+1.0
H43A				IAmb	IAmb	07 49 56.7	
	comp=Z,70nm,0.8s						
DBG	Daneborg	51.96	10	*i*	P	07 49 55.3	+0.5
SFJD	Kangerlussuaq	52.38	26	*i*	P	07 49 59.5	+1.6
SFJD	Kangerlussuaq	52.38	26	P	P	07 49 58.9	+1.0
SFJD				IAmb	IAmb	07 50 01.2	
	comp=Z,46nm,0.8s						
L42A	Oliver, Polo	52.41	68	P	P	07 49 59.3	+0.7
L42A				IAmb	IAmb	07 49 59.9	
	comp=Z,47nm,0.9s						
JOW	Kunigami	52.65	266	P	P	07 49 59.8	-0.7
	comp=Z,32nm,0.9s,baz=245,slow=7.8,SNR=5.0						
JOW	Kunigami	52.65	266	P	P	07 50 00.2	-0.2
JOW				IAmb	IAmb	07 50 01.1	
	comp=Z,37nm,0.9s						
K43A	Burlington	52.71	66	P	P	07 50 01.1	+0.3
K43A				IAmb	IAmb	07 50 02.3	
	comp=Z,74nm,0.9s						
GUMO	Guam	53.20	241	P	P	07 50 01.9	-2.7
	comp=Z,72nm,0.6s,baz=172,slow=13,SNR=5.3						
L44A	Lake County Fo	53.29	66	P	P	07 50 04.9	-0.1
L44A				IAmb	IAmb	07 50 06.7	
	comp=Z,63nm,0.8s						
ICESG	Greenland Ices	53.39	20	*i*	P	07 50 06.3	+0.5
HDIL	Hopedale	53.57	69	P	P	07 50 07.3	+0.2
HDIL				IAmb	IAmb	07 50 08.9	
	comp=Z,74nm,0.8s						
HHAR	Hobbs	53.70	76	P	P	07 50 08.3	+0.1
HHAR				IAmb	IAmb	07 50 16.5	
	comp=Z,107nm,1.8s						
M44A	Midewin, Midew	53.73	67	P	P	07 50 08.3	0.0
P43A	Skaggs, Pawnee	54.05	70	P	P	07 50 11.0	+0.4
P43A				IAmb	IAmb	07 50 11.8	
	comp=Z,60nm,0.7s						
CCM	Cathedral Cave	54.10	72	P	P	07 50 11.5	+0.4
U40A	Yellville	54.30	75	P	P	07 50 12.5	0.0
U40A				IAmb	IAmb	07 50 13.6	
	comp=Z,111nm,1.6s						
SLM	Saint Louis	54.30	71	P	P	07 50 12.5	0.0
L46A	Eue Claire	54.31	66	P	P	07 50 13.3	+0.9
L46A				IAmb	IAmb	07 50 22.2	
	comp=Z,67nm,0.8s						
O44A	Mansfield	54.31	69	P	P	07 50 12.8	+0.3
O44A				IAmb	IAmb	07 50 13.6	
	comp=Z,36nm,0.7s						
J47A	Sunmer	54.32	64	P	P	07 50 13.1	+0.6
J47A				IAmb	IAmb	07 50 14.5	
	comp=Z,38nm,0.7s						
T42A	Van Buren	54.88	73	P	P	07 50 16.5	-0.2
SFIN	Lafayette	54.94	68	P	P	07 50 18.1	+1.0
SFIN				IAmb	IAmb	07 50 19.1	
	comp=Z,68nm,1.0s						
SCO	Scoresbysund	55.27	13	P	P	07 50 19.7	+0.7
SCO				IAmb	IAmb	07 50 21.3	
	comp=Z,64nm,0.9s						
SCO	Scoresbysund	55.27	13	*i*	P	07 50 20.3	+1.3
SCHQ	Schefferville	55.38	43	P	P	07 50 20.2	+0.1
	comp=Z,51nm,0.8s,baz=321,slow=8.0,SNR=14						
SCHQ	Schefferville	55.38	43	P	P	07 50 20.0	-0.1
SCHQ				IAmb	IAmb	07 50 23.1	
	comp=Z,68nm,0.9s						
P46A	Rosedale	55.39	68	P	P	07 50 21.2	+0.8
P46A				IAmb	IAmb	07 50 27.1	
	comp=Z,37nm,0.8s						
L48A	N Adams	55.39	64	P	P	07 50 20.9	+0.6
L48A				IAmb	IAmb	07 50 22.2	
	comp=Z,293nm,1.9s						
N47A	Urbana	55.40	66	P	P	07 50 20.7	+0.3
PBMO	Poplar Bluff	55.44	73	P	P	07 50 21.6	+0.8
PBMO				IAmb	IAmb	07 50 22.8	
	comp=Z,100nm,1.7s						
LCAR	Lake Charles	55.50	74	P	P	07 50 21.2	0.0
AAM	Ann Arbor	55.58

R50A IAmb IAmb 07 50 40.4
comp=Z,120nm,1.5s
Y45A Yeager Farm, C 57.98 75 P P 07 50 39.9 +1.1
Y45A IAmb IAmb 07 50 46.4
comp=Z,100nm,1.3s
Q51A Peebles 57.98 66 P **P 07 50 39.7 +1.0**
ARCES ARCESS Array B 58.02 354 P **P 07 50 39.2 +0.6**
comp=Z,29nm,0.8s,baz=8.6,slow=9.0,SNR=7.8
ARCES ARCESS Array B 58.02 354 P **P 07 50 39.0 +0.5**
ARCES IAmb IAmb 07 50 40.1
comp=Z,41nm,0.9s
O52A Adamsville 58.07 64 P **P 07 50 40.1 +0.7**
O52A IAmb IAmb 07 50 41.1
comp=Z,72nm,0.9s
N53A Lisbon 58.15 63 P **P 07 50 40.7 +0.8**
N53A IAmb IAmb 07 50 46.6
comp=Z,37nm,0.9s
V48A Smith Brothers 58.27 71 P **P 07 50 41.0 +0.1**
O53A New Philadelph 58.33 64 P **P 07 50 41.6 +0.4**
O53A IAmb IAmb 07 50 42.9
comp=Z,173nm,1.7s
U49A Red Boiling Sp 58.34 70 P **P 07 50 42.2 +1.0**
NRS Narsarsuaq 58.34 28 P **P 07 50 42.0 +1.1**
NRS IAmb IAmb 07 50 44.5
comp=Z,42nm,0.8s
NRS Narsarsuaq 58.34 28 *i* **P 07 50 41.8 +0.9**
MMNY Mt. Morris Dam 58.40 60 P **P 07 50 42.8 +1.1**
MMNY IAmb IAmb 07 50 48.2
comp=Z,40nm,0.8s
N54A Moraine State 58.50 63 P **P 07 50 43.1 +0.7**
T50A Nancy 58.52 69 P **P 07 50 43.0 +0.4**
Q52A Bidwell 58.63 66 P **P 07 50 42.0 -1.3**
Q52A IAmb IAmb 07 50 45.7
comp=Z,22nm,0.7s
P53A Whipple 58.76 65 P **P 07 50 44.4 +0.2**
P53A IAmb IAmb 07 50 46.0
comp=Z,248nm,1.9s
S51A Beattyville 58.80 68 P **P 07 50 45.0 +0.5**
S51A IAmb IAmb 07 50 46.3
comp=Z,68nm,1.3s
M55A Ridgway 58.82 61 P **P 07 50 45.5 +0.9**
O54A Avella 58.83 64 P **P 07 50 45.1 +0.4**
L56A Greenwood 59.00 60 P **P 07 50 46.1 +0.3**
X48A Hartselle 59.04 73 P **P 07 50 46.6 +0.5**
X48A IAmb IAmb 07 50 47.4
comp=Z,42nm,1.3s
K57A Scipio Center 59.13 59 P **P 07 50 47.7 +1.0**
K57A IAmb IAmb 07 50 53.4
comp=Z,45nm,0.9s
SWET Sewanee 59.15 71 P **P 07 50 47.0 0.0**
SWET IAmb IAmb 07 50 55.4
comp=Z,41nm,1.4s
FRNY Flat Rock 59.17 56 P **P 07 50 47.0 +0.1**
FRNY IAmb IAmb 07 50 52.8
comp=Z,26nm,0.9s
R53A Hurricane 59.25 66 P **P 07 50 47.3 -0.3**
Z47A Carrollton 59.32 74 P **P 07 50 47.1 -1.0**
Z47A IAmb IAmb 07 50 55.2
comp=Z,50nm,1.1s
SSLB Suanglung 59.37 270 P **P 07 50 46.9 -1.8**
YULB Yu-li 59.45 269 P **P 07 50 48.5 -0.6**
YULB IAmb IAmb 07 50 50.7
comp=Z,56nm,1.1s
MCWV Mont Chateau 59.49 64 P **P 07 50 49.9 +0.7**
MCWV IAmb IAmb 07 50 51.4
comp=Z,57nm,0.9s
TZTN Tazewell 59.59 69 P **P 07 50 48.2 -1.9**
TZTN IAmb IAmb 07 50 53.6
comp=Z,57nm,1.1s
V51A Loudon 59.66 70 P **P 07 50 50.4 -0.1**
V51A IAmb IAmb 07 50 52.1
comp=Z,58nm,1.6s
J59A Piesco 59.67 57 P **P 07 50 49.9 -0.6**
J59A IAmb IAmb 07 50 52.6
comp=Z,28nm,0.7s
O56A Blue Knob Stat 59.76 62 P **P 07 50 51.1 -0.1**
O56A IAmb IAmb 07 50 54.7
comp=Z,68nm,1.1s
BINY Binghamton 59.79 59 P **P 07 50 51.5 +0.3**
M57A Sunshine Farm, 59.79 61 P **P 07 50 51.3 0.0**
M57A IAmb IAmb 07 50 57.3
comp=Z,190nm,1.8s
CPCT Cooper Cave 59.81 70 P **P 07 50 50.9 -0.6**
CPCT IAmb IAmb 07 51 00.0
comp=Z,46nm,1.4s
Y49A Blount Mountai 59.83 73 P **P 07 50 51.6 -0.1**
SSPA Standing Stone 59.87 62 P **P 07 50 52.1 +0.3**
E62A Clayton Lake 59.92 52 P **P 07 50 52.5 +0.3**
E62A IAmb IAmb 07 50 55.8
comp=Z,16nm,0.9s
TPUB Ta-pu 59.93 270 P **P 07 50 51.9 -0.5**
TPUB IAmb IAmb 07 50 52.8
comp=Z,35nm,0.9s
S54A Dingess, Beckl 59.98 66 P **P 07 50 53.4 +0.7**
V52A Sevierville 60.06 69 P **P 07 50 53.7 +0.5**
TKL Tuckaleechee C 60.09 69 P **P 07 50 53.6 +0.2**
TKL IAmb IAmb 07 51 02.2
comp=Z,25nm,0.9s
ACCN Adirondack Com 60.16 57 P **P 07 50 53.8 0.0**
ACCN IAmb IAmb 07 50 56.8
comp=Z,24nm,0.8s
R55A Marlinton 60.31 65 P **P 07 50 55.4 +0.4**
KSPA Keystone Colle 60.36 60 P **P 07 50 56.4 +1.2**
KSPA IAmb IAmb 07 50 57.6
comp=Z,24nm,0.7s
W52A Murphy 60.40 70 P **P 07 50 55.1 -0.5**
E63A Oxbow 60.59 51 P **P 07 50 57.3 +0.6**
E63A IAmb IAmb 07 51 05.9
comp=Z,21nm,0.8s
PQI Presque Isle 60.61 51 P **P 07 50 56.1 -0.6**
PQI IAmb IAmb 07 51 02.3
comp=Z,115nm,2.0s
P57A Homestead Farm 60.62 63 P **P 07 50 57.6 +0.7**
N59A State Game Lan 60.81 60 P **P 07 50 58.8 +0.5**
BLA Blacksburg 60.90 66 P **P 07 50 59.7 +0.7**
PKME Peaks-Kenny Pk 61.01 53 P **P 07 50 59.0 -0.4**
PKME IAmb IAmb 07 51 06.1
comp=Z,27nm,1.1s
BG3 Lake Jocassee 61.05 69 P **P 07 51 00.0 +0.1**
MVL Millersville 61.15 61 P **P 07 51 01.4 +0.8**
MVL IAmb IAmb 07 51 06.3
comp=Z,23nm,0.8s
I63A Otisfield 61.25 54 P **P 07 51 02.3 +1.2**
I63A IAmb IAmb 07 51 04.2
comp=Z,19nm,0.8s
LUPA Lehigh Univers 61.25 60 P **P 07 51 01.6 +0.4**
SDMD Soldier's Deli 61.31 62 P **P 07 51 01.2 -0.4**
S57A Dark Hollow, R 61.32 65 P **P 07 51 02.4 +0.7**
V55A Taylorsville 61.41 68 P **P 07 51 03.2 +0.8**
V55A IAmb IAmb 07 51 10.1
comp=Z,38nm,0.9s
KSCT Kent School, K 61.44 58 P **P 07 51 03.5 +1.0**
KSCT IAmb IAmb 07 51 04.6
comp=Z,26nm,0.8s
TRNY Table Rock, Ra 61.46 59 P **P 07 51 03.2 +0.6**
TRNY IAmb IAmb 07 51 04.7
comp=Z,27nm,0.8s
U56A King 61.53 67 P **P 07 51 03.3 +0.1**
WUPA West Chester U 61.60 61 P **P 07 51 04.2 +0.6**
WUPA IAmb IAmb 07 51 10.3
comp=Z,70nm,1.8s
ENH Enshi 61.62 284 P **P 07 51 03.9 -0.1**
152A Waverly Hall 61.67 72 P **P 07 51 04.5 +0.3**
152A IAmb IAmb 07 51 06.2
comp=Z,92nm,1.7s
P60A Greenville 61.67 61 **P 07 51 04.8 +0.7**
P60A IAmb IAmb 07 51 05.7
comp=Z,36nm,1.3s
T57A Hurt 61.70 65 P **P 07 51 05.3 +0.9**
T57A IAmb IAmb 07 51 06.5
comp=Z,39nm,0.8s
R58B Mineral 61.77 64 P **P 07 51 05.2 +0.4**
CPNY Central Park 61.86 59 P **P 07 51 05.8 +0.5**
CPNY IAmb IAmb 07 51 12.2
comp=Z,31nm,0.8s
GOGA Godfrey 61.87 71 P **P 07 51 06.0 +0.5**
GOGA IAmb IAmb 07 51 14.5
comp=Z,24nm,0.9s
CBN Corbin Frederi 61.88 63 P **P 07 51 06.2 +0.7**
CBN IAmb IAmb 07 51 07.4
comp=Z,45nm,0.8s
WSPT Westport, CT 61.91 58 P **P 07 51 07.4 +1.7**
WSPT IAmb IAmb 07 51 14.5
comp=Z,42nm,1.1s

HODGE Hodges 61.98 70 P **P 07 51 05.9 -0.3**
HODGE IAmb IAmb 07 51 07.8
comp=Z,85nm,1.6s
N62A Caumsett State 62.02 59 P **P 07 51 08.2 +1.8**
L63A North Scituate 62.31 57 P **P 07 51 08.4 +0.1**
L63A IAmb IAmb 07 51 11.1
comp=Z,116nm,1.9s
W57A Gilead 62.61 67 P **P 07 51 11.1 +0.7**
V58A Windy Hill, Pi 62.64 66 P **P 07 51 12.0 +1.3**
T59A Double "B" Far 62.66 64 P **P 07 51 12.0 +1.2**
BIRD Birdtown, Kers 62.71 68 P **P 07 51 12.2 +1.0**
BIRD IAmb IAmb 07 51 13.1
comp=Z,63nm,1.4s
LMN Caledonia Moun 62.72 50 P **P 07 51 12.9 +1.9**
U59A Littleton 62.98 65 P **P 07 51 14.4 +1.5**
T60A Surry 63.00 64 P **P 07 51 14.5 +1.5**
TIGA Tifton 63.22 73 P **P 07 51 15.0 +0.5**
TIGA IAmb IAmb 07 51 16.0
comp=Z,73nm,1.5s
X58A Rowland 63.41 67 P **P 07 51 17.4 +1.6**
Y58A Scranton 63.70 68 P **P 07 51 18.0 +0.4**
CNNC Cliffs of the 63.73 66 P **P 07 51 18.8 +0.9**
CNNC IAmb IAmb 07 51 26.6
comp=Z,50nm,0.9s
BRVK Borovoye 63.87 325 P **P 07 51 19.0 +0.5**
BRVK IAmb IAmb 07 51 19.6
comp=Z,33nm,0.9s
MK31 Makanchi Array 63.98 314 P **P 07 51 19.3 -0.1**
MK31 IAmb IAmb 07 51 21.5
comp=Z,27nm,0.9s
MKAR Makanchi Array 63.98 314 P **P 07 51 17.3 -2.0**
comp=Z,29nm,0.8s,baz=48,slow=4.1,SNR=17
MKAR Makanchi Array 63.98 314 P **P 07 51 19.4 0.0**
V61A Roper 64.06 65 **P 07 51 21.3 +1.2**
Y59A Loris 64.09 67 P **P 07 51 21.4 +1.2**
MAKZ Makanchi 64.10 314 P **P 07 51 20.0 -0.2**
MAKZ IAmb IAmb 07 51 21.9
comp=Z,34nm,0.8s
Y60A Bolivia 64.45 67 P **P 07 51 23.4 +0.8**
ARU Arti 64.77 333 P **P 07 51 24.7 +0.4**
ARU IAmb IAmb 07 51 25.9
comp=Z,54nm,1.0s
FIA1 FINESS Array S 65.97 352 P **P 07 51 32.7 +0.7**
FINES FINESS Array B 65.97 352 P **P 07 51 32.6 +0.6**
comp=Z,73nm,0.7s,baz=36,slow=7.5,SNR=14
NC204 NORSAR Array S 66.78 0 P **P 07 51 37.8 +0.4**
NC303 NORSAR Array S 66.83 360 P **P 07 51 37.8 +0.2**
NB201 NORSAR Array S 67.01 360 P **P 07 51 39.5 +0.7**
NOA NORSAR Array B 67.02 360 P **P 07 51 39.3 +0.5**
comp=Z,43nm,0.7s,baz=13,slow=6.7,SNR=15
NBO00 NORSAR Array S 67.03 0 P **P 07 51 39.0 +0.2**
NBO00 IAmb IAmb 07 51 39.3
comp=Z,48nm,1.1s
NAO01 NORSAR Array S 67.22 0 P **P 07 51 40.8 +0.8**
NAO01 IAmb IAmb 07 51 43.5
comp=Z,49nm,1.1s
NC602 NORSAR Array S 67.33 360 P **P 07 51 41.2 +0.5**
KONO Kongsberg 68.41 1 P **P 07 51 48.6 +1.1**
STRU Stroemstad 69.03 360 *i* **P 07 51 52.0 +0.6**
PRZ Przheval'sk 69.07 313 P **P 07 51 53.0 +0.8**
SNART Snartemo 69.69 2 *i* **P 07 51 56.6 +1.2**
HOMB Hombersund 69.78 1 *i* **P 07 51 57.9 +1.9**
TJOU Tjoern 70.04 360 *i* **P 07 51 58.1 +0.5**
MOS Moscow 70.09 344 *e* **P 07 51 57.7 -0.3**
BOOM Boomskoye usch 70.16 315 P **P 07 51 57.6 -1.3**
BOOM IAmb IAmb 07 52 00.6
comp=Z,67nm,0.8s
PETF Flores 70.25 88 P **P 07 51 57.1 -2.3**
BORU Boraas 70.43 359 *i* **P 07 52 00.4 +0.4**
FRU1 Bishkek 70.47 316 P **P 07 52 01.8 +1.1**
ABKAR Akbulak array 70.59 328 P **P 07 52 01.1 -0.1**
AAK Ala-Archa 70.67 316 P **P 07 52 01.7 -0.3**
ONAU Onsala 70.67 359 *i* **P 07 52 02.2 +0.7**
OBN Obninsk 70.86 345 **P 07 52 02.4 -0.3**
FABU Falkenberg 71.06 359 *i* **P 07 52 04.2 +0.4**
DEL Delary 71.58 358 *i* **P 07 52 08.1 +1.2**
MUD Monsted U'grnd 71.61 1 *i* **P 07 52 08.7 +1.5**
MUD Monsted U'grnd 71.61 1 *i* **P 07 52 08.7 +1.5**
BLEU Blekinge 71.70 357 *i* **P 07 52 08.7 +1.0**
KK31 Karatay Array 71.95 318 P **P 07 52 09.6 +0.1**
KK31 IAmb IAmb 07 52 10.8
comp=Z,64nm,0.9s
KKAR Karatay Array 71.95 318 P **P 07 52 09.2 -0.3**
BJUU Bjuv 71.99 359 *i* **P 07 52 10.6 +1.1**
PABE Paberze 72.03 352 P **P 07 52 10.5 +0.8**
ESK Eskdalemuir 72.13 8 P **P 07 52 10.7 +0.3**
ESK IAmb IAmb 07 52 12.8
comp=Z,58nm,0.8s
LSA Lhasa 72.63 296 **P 07 52 15.4 +1.1**
MNK Minsk 72.64 350 *i* **P 07 52 12.8 -0.6**
MNK Minsk 72.64 350 *i* 07 54 35.2
LPSR Galich'ya Gora 72.86 343 *e* **P 07 52 13.7 -1.0**
BBSR BB Station 73.08 59 P **P 07 52 16.8 +0.4**
ITAN ITANAGAR 73.15 293 *i* x **P 07 52 18.2 +1.3**
ITAN ITANAGAR 73.15 293 *i* x **P 07 52 18.2 +1.3**
MOKO MOKOCHONG 73.33 291 *i* x **P 07 52 19.8 +1.6**
TNTI Ternate 73.48 249 P **P 07 52 19.0 +0.1**
TNTI IAmb IAmb 07 52 21.2
comp=Z,35nm,0.9s
RGN Rugen 73.51 359 P **P 07 52 19.6 +1.1**
SUW Suwalki 73.57 352 P **P 07 52 19.7 +0.8**
VRH Novokhopyorsk 73.65 340 *e* **P 07 52 19.8 +0.4**
TAS Tashkent 73.94 318 P **P 07 52 22.1 +0.8**
BSEG Bad Segeberg 74.14 0 *eP* **P 07 52 24.2 +2.0**
comp=Z,60nm,1.1s,baz=0.3,slow=5.7
VORD Divnogorie 74.36 342 *e* **P 07 52 23.0 -0.5**
BTK Batken 74.36 316 P **P 07 52 24.1 +0.2**
DRK Karamyk 74.42 315 P **P 07 52 23.2 -1.3**
DRK IAmb IAmb 07 52 28.7
comp=Z,66nm,0.8s
LNIZ Loecknitz 74.55 358 *eP* **P 07 52 26.5 +1.9**
comp=Z,64nm,0.8s,baz=0.3,slow=5.7
RUE Ruedersdorf 75.58 358 *eP* **P 07 52 32.4 +1.8**
comp=Z,95nm,1.0s,baz=0.3,slow=5.7
NRDL Niedersach Rie 75.59 0 *eP* **P 07 52 32.3 +1.8**
comp=Z,52nm,1.1s,baz=0.3,slow=5.7
IBBN Ibbenburen 75.74 2 *eP* **P 07 52 33.4 +1.9**
comp=Z,83nm,1.0s,baz=0.3,slow=5.7
FLTG Flechtingen 75.75 360 *eP* **P 07 52 32.9 +1.3**
comp=Z,53nm,1.0s,baz=0.3,slow=5.7
GTK Tadong 75.88 296 *i* x **P 07 52 34.3 +1.3**
ASSE Asse, Remlinge 75.95 0 *eP* **P 07 52 34.6 +1.9**
comp=Z,37nm,1.3s,baz=0.3,slow=5.7
AKASG Malin Array Be 76.22 348 P **P 07 52 33.9 -0.3**
comp=Z,57nm,0.7s,baz=16,slow=5.8,SNR=15
CLZ Clausthal 76.24 0 *eP* **P 07 52 36.6 +2.1**
comp=Z,72nm,1.0s,baz=0.3,slow=5.7
GTTG Gottingen 76.54 1 *eP* **P 07 52 38.1 +2.1**
comp=Z,64nm,0.9s,baz=0.3,slow=5.7
BUG Bochum--Univer 76.60 2 *eP* **P 07 52 37.9 +1.5**
comp=Z,77nm,1.0s,baz=0.3,slow=5.7
CLL Collm 76.76 359 *i* P **P 07 52 38.6 +1.3**
comp=Z,45nm,0.9s
CLL Lm MLR 08 28 00.0
comp=Z,2μm,19.9s
CLL Collm 76.76 359 *eP* **P 07 52 38.8 +1.4**
comp=Z,45nm,0.9s,baz=0.3,slow=5.7
CM31 Chiang Mai Arr 76.79 283 P **P 07 52 37.3 -0.7**
CM31 IAmb IAmb 07 52 43.4
comp=Z,75nm,1.0s
CMAR Chiang Mai Arr 76.79 283 P **P 07 52 38.3 +0.3**
comp=Z,63nm,0.9s,baz=25,slow=6.5,SNR=7.6
KASTN Kahler Asten 76.86 2 *eP* **P 07 52 39.7 +1.8**
comp=Z,34nm,1.1s,baz=0.3,slow=5.7
NEUB Neuenburg 76.88 359 *eP* **P 07 52 39.8 +1.8**
comp=Z,100nm,1.0s,baz=0.3,slow=5.7
AGT Agartala 77.08 292 *i* x **P 07 52 41.0 +1.4**
AGT Agartala 77.08 292 *i* x **P 07 52 41.0 +1.4**
UCC Uccle 77.14 4 *dx* **P 07 52 41.1 +1.7**
FBE Freiberg 77.14 358 *eP* **P 07 52 41.5 +2.0**
comp=Z,95nm,1.5s,baz=0.3,slow=5.7
BRG Berggiesshubel 77.18 358 Amp 07 52 35.8
comp=Z,24nm,1.0s
BRG Berggiesshubel 77.18 358 P **P 07 52 41.4 +1.7**
BRG Amp 07 52 42.3
comp=Z,41nm,1.3s
BRG Berggiesshubel 77.18 358 *eP* **P 07 52 41.4 +1.7**
comp=Z,41nm,1.0s,baz=0.3,slow=5.7
UBBA Unterbreizbach 77.27 1 *eP* **P 07 52 41.9 +1.9**
comp=Z,60nm,1.6s,baz=0.3,slow=5.7
OUENC Ouen Island, N 77.30 203 P **P 07 52 40.7 +0.2**
OUENC IAmb IAmb 07 52 43.3
comp=Z,126nm,1.8s
MEM Membach 77.39 3 *dx* **P 07 52 41.4 +0.5**

BSTI Sart Tilman 77.41 3 *dx* **P 07 52 42.5 +1.5**
BTNL Ternell 77.42 3 *dx* **P 07 52 42.7 +1.6**
SNF Seneffe 77.43 4 *dx* **P 07 52 42.8 +1.8**
OSTC Ostas 77.43 357 *ex* **P 07 52 42.2 +1.1**
MOX Moxa 77.44 360 *eP* **P 07 52 43.1 +1.9**
comp=Z,64nm,1.1s,baz=0.3,slow=5.7
UPC Upice 77.49 357 *ex* **P 07 52 43.0 +1.6**
UPC Upice 77.49 357 *e* **P 07 52 43.0 +1.6**
AHRW Bad Neuenahr-A 77.50 2 *eP* **P 07 52 43.5 +2.1**
comp=Z,52nm,1.0s,baz=0.3,slow=5.7
BCLA Clavier 77.56 4 *dx* **P 07 52 42.7 +0.9**
BGES Gesves 77.58 4 *dx* **P 07 52 42.9 +1.0**
OJC Ojcow 77.59 354 **P 07 52 43.0 +1.0**
OJC IAmb IAmb 07 52 46.3
comp=Z,41nm,0.9s
PLN Plauen 77.60 359 *eP* **P 07 52 43.9 +1.9**
comp=Z,29nm,1.0s,baz=0.3,slow=5.7
WERD Werda 77.63 359 *eP* **P 07 52 44.2 +1.9**
comp=Z,33nm,1.1s,baz=0.3,slow=5.7
BMRD Maredsous 77.65 4 *dx* **P 07 52 43.7 +1.3**
GUNZ Gunzen 77.72 359 *eP* **P 07 52 44.8 +2.1**
comp=Z,30nm,1.1s,baz=0.3,slow=5.7
WERN Wernitzgruen 77.79 359 *eP* **P 07 52 45.3 +2.1**
comp=Z,44nm,1.0s,baz=0.3,slow=5.7
RCHB Rochefort 77.82 4 *dx* **P 07 52 44.4 +1.1**
TNS Taunus Mts 77.84 2 *eP* **P 07 52 45.3 +1.8**
comp=Z,37nm,1.0s,baz=0.3,slow=5.7
DOU Dourbes 77.85 4 *dx* **P 07 52 44.8 +1.3**
KRLC Kraliky 77.89 356 *ex* **P 07 52 45.3 +1.6**
PRU Pruhonice 78.05 358 *ex* **P 07 52 46.0 +1.4**
MANZ Manzenberg 78.10 359 *eP* **P 07 52 46.7 +1.8**
comp=Z,43nm,1.4s,baz=0.3,slow=5.7
MILB Miltenberg 78.25 1 *eP* **P 07 52 47.6 +1.9**
comp=Z,65nm,1.1s,baz=0.3,slow=5.7
ROTZ Rotzenmuhle 78.31 359 *eP* **P 07 52 48.2 +2.1**
comp=Z,33nm,1.1s,baz=0.3,slow=5.7
WLF Walferdange 78.34 3 *eP* **P 07 52 48.4 +2.2**
comp=Z,50nm,1.1s,baz=0.3,slow=5.7
WLF Walferdange 78.34 3 *dx* **P 07 52 48.5 +2.3**
GRF Grafenberg Arr 78.40 360 *eP* **P 07 52 48.8 +2.3**
comp=Z,93nm,1.0s,baz=0.3,slow=5.7
SMLA Simla 78.81 307 *i* x **P 07 52 49.8 +0.8**
WET Wettzell 78.93 359 *eP* **P 07 52 51.6 +2.1**
comp=Z,65nm,1.4s,baz=0.3,slow=5.7
KHC Kasperske Hory 78.93 358 *ex* **P 07 52 51.0 +1.5**
DDI Dehra Dun 79.03 306 *i* x **P 07 52 50.9 +0.6**
DDI Dehra Dun 79.03 306 *i* x **P 07 52 50.9 +0.6**
GEC2 GERESS Array S 79.22 358 *eP* **P 07 52 52.9 +1.8**
comp=Z,37nm,1.1s,baz=0.3,slow=5.7
GERES GERESS Array B 79.22 358 P **P 07 52 52.8 +1.7**
comp=Z,14nm,0.8s,baz=19,slow=4.5,SNR=15
STU Stuttgart 79.31 1 *eP* **P 07 52 53.3 +1.8**
comp=Z,40nm,0.8s,baz=0.3,slow=5.7
BFO Black Forest 79.74 2 *eP* **P 07 52 55.7 +1.8**
comp=Z,50nm,1.2s,baz=0.3,slow=5.7
PATY Pattaya 79.92 278 P **P 07 52 59.9 +4.6**
FUR Furstenfeldbru 79.92 360 *eP* **P 07 52 57.0 +2.1**
comp=Z,51nm,1.0s,baz=0.3,slow=5.7
UBR Ueberruh 80.41 1 *eP* **P 07 52 59.6 +2.0**
comp=Z,83nm,1.4s,baz=0.3,slow=5.7
KBZ Khabaz 80.45 337 P **P 07 52 57.7 0.0**
comp=Z,92nm,0.9s,baz=92,slow=2.1,SNR=6.7
GEYT Alibeck 81.19 324 P **P 07 53 01.6 -0.3**
comp=Z,42nm,0.8s,baz=21,slow=12,SNR=12
CTA Charters Tower 81.87 222 P **P 07 53 05.5 0.0**
comp=Z,22nm,0.8s,baz=26,slow=8.0,SNR=10
LJU Ljubljana 82.00 357 *e* **P 07 53 07.0 +1.0**
VISS Visnje 82.23 357 *e* **P 07 53 07.8 +0.7**
TRI Trieste 82.35 358 P **P 07 53 08.0 +0.3**
TRI IAmb IAmb 07 53 09.1
comp=Z,38nm,1.0s
BOJS Bojanci 82.52 357 *e* **P 07 53 10.4 +1.8**
GCPR Guaynabo City 83.41 69 P **P 07 53 13.0 -0.7**
GCPR IAmb IAmb 07 53 21.5
comp=Z,56nm,1.0s
SOEI Soe 83.83 246 **P 07 53 16.7 +0.8**
SOEI IAmb IAmb 07 53 22.2
comp=Z,44nm,0.8s
MOTC Monteria, Cord 85.23 82 *eP* P 07 53 17.6 -5.3
SGRT San Giovanni R 86.24 356 P **P 07 53 28.5 +0.8**
SGRT IAmb IAmb 07 53 29.2
comp=Z,50nm,1.0s
TIR Tirane 86.42 353 P **P 07 53 28.0 -0.5**
LIT Litokhoron 87.44 351 P **P 07 53 33.8 +0.3**
GAZ Gaziantep 88.00 339 **P 07 53 37.4 +1.1**
GAZ IAmb IAmb 07 53 39.9
comp=Z,31nm,0.9s
NORC Norcasia 88.24 83 *eP* P 07 53 29.1 -8.6
ISP Isparta 88.64 345 **P 07 53 38.7 -0.6**
ISP IAmb IAmb 07 53 42.4
comp=Z,40nm,0.9s
ARMA Armidale 89.24 213 **P 07 53 41.8 -0.1**
ARMA IAmb IAmb 07 53 43.2
comp=Z,22nm,1.0s
ITM Ithomi 90.38 351 **P 07 53 47.1 -0.3**
TIC Toumodi 119.74 18 *eP* **PKiKP 07 59 38.4 +1.8**
KIC Kosan Boka 120.07 18 *eP* **PKiKP 07 59 39.0 +1.8**
comp=Z,14nm,0.7s
LIC Lamto 120.15 18 *eP* **PKiKP 07 59 37.3 0.0**
comp=Z,36nm,0.8s
LODK Lodwar 120.75 331 **PKPdf 07 59 37.8 -0.7**
KMBO Kilima Mbogo 124.45 327 PKP **PKPdf 07 59 44.8 -1.0**
comp=Z,12nm,0.9s,baz=345,slow=2.2,SNR=11
PLCA Paso Flores 125.62 112 PKP **PKPdf 07 59 45.4 -1.5**
comp=Z,4.9nm,0.9s,baz=218,slow=6.4,SNR=6.0
MATP Matopo 145.38 330 PKPbc **PKPab 08 00 24.3 +0.1**
comp=Z,58nm,0.9s,baz=28,slow=3.7,SNR=11
TSUM Tsumeb 146.57 348 PKPbc **PKPab 08 00 29.0 +0.3**
comp=Z,18nm,0.6s,baz=321,slow=7.8,SNR=8.6
LBTB Lobatse 150.56 332 PKPbc **PKPbc 08 00 38.0 0.0**
comp=Z,117nm,0.8s,baz=25,slow=1.6,SNR=17
LBTB Lobatse 150.56 332 PKPdf **PKPdf 08 00 32.5 -0.1**
BOSA Boshof 154.04 330 PKPbc **PKiKP 08 00 47.0 +1.2**
comp=Z,18nm,0.8s,baz=316,slow=1.3,SNR=9.3
BOSA Boshof 154.04 330 PKPdf **PKPdf 08 00 36.5 -1.1**
BOSA Boshof 154.04 330 PKPab **PKPab 08 00 59.5 +0.3**

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*IDC **27** 07:41:00.5±0.9, 52°.38N×169°.29W, h0km, mb5.1/12, mb1 5.3/13, mb1mx4.9/49, mbtmp5.1/13, ML5.0/1, MS5.5/4, Ms1 5.5/4, ms1mx4.6/31, Error ellipse: s-maj=31.0km s-min=15.5km az=4.0*

*NEIC **27** 07:41:04.9±2.6, 52°.50N±0°.09×169°.75W±0°.09, h35km±1km, mb5.6/82, Error ellipse: s-maj=15.3km s-min=8.4km az=159.0*

ISC 27 07:41:05.3±0.5, 52°.44N±0°.09×169°.66W±0°.05, h40km, n127, σ1§44/122, mb5.5/47, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.72**	**42**		**Pn**	**07 41 19.0**	**-0.1**
ATKA	**Atka Island**	**2.79**	**267**	Pn	**Pn**	**07 41 46.0**	**-1.5**
AKUT	**Akutan**	**2.89**	**52**	Pn	**Pn**	**07 41 48.5**	**-0.2**
GSTR	**Great Sitkin T**	**3.95**	**268**	Pn	**Pn**	**07 42 00.6**	**-2.7**
FALS	**False Pass**	**4.43**	**54**	Pn	**Pn**	**07 42 10.7**	**+0.7**
SPIA	**Saint Paul Isl**	**4.76**	**356**	Pn	**Pn**	**07 42 11.8**	**-2.6**
SDPT	**Sand Point**	**6.16**	**58**	Pn	**Pn**	**07 42 34.2**	**+0.6**
CNBA	**Chernabura Isl**	**6.45**	**64**	Pn	**Pn**	**07 42 35.8**	**-1.8**
CHIR	**Chirikof Islan**	**8.91**	**62**	Pn	**Pn**	**07 43 11.2**	**-0.1**
SMY	**Shemya**	**9.89**	**278**	Pn	**Pn**	**07 43 22.6**	**-2.3**
SII	**Sitkinak Islan**	**9.90**	**59**	Pn	**Pn**	**07 43 24.2**	**-0.6**
OHAK	**Old Harbor**	**10.58**	**57**	Pn	**Pn**	**07 43 33.6**	**-0.6**
KDAK	**Kodiak Island**	**11.13**	**55**	Pn	**Pn**	**07 43 40.3**	**-1.4**
GAMB	**Gambell**	**11.42**	**355**	Pn	**Pn**	**07 43 43.3**	**-2.3**
SVW2	**Sparrevohn**	**11.59**	**36**	Pn	**Pn**	**07 43 45.2**	**-2.8**
HOM	**Homer**	**12.37**	**47**	Pn	**Pn**	**07 43 54.6**	**-3.9**
BRLK	**Bradley Lake**	**12.76**	**48**	Pn	**Pn**	**07 44 02.8**	**-1.1**
SUA	**Susitna One**	**13.67**	**41**	Pn	**Pn**	**07 44 12.7**	**-3.7**
RC01	**Rabbit Creek A**	**13.89**	**44**	Pn	**Pn**	**07 44 16.8**	**-2.5**
MID	**Middleton Isla**	**14.77**	**53**	Pn	**Pn**	**07 44 29.4**	**-1.7**
SML	**Sawmill**	**14.83**	**42**	Pn	**Pn**	**07 44 31.5**	**-0.6**
TRF	**Thorofare Moun**	**15.00**	**35**	Pn	**Pn**	**07 44 34.2**	**-0.2**
MCK	**McKinley**	**15.65**	**36**	Pn	**Pn**	**07 44 40.9**	**-1.8**
KAIM	**Kayak Island**	**15.85**	**52**	Pn	**Pn**	**07 44 44.1**	**-1.1**
KAIM				IAmb	IAmb	07 44 52.1	
	comp=Z,390nm,1.2s						
M24K	**Tolsona, Glenn**	**15.87**	**43**	Pn	**Pn**	**07 44 45.9**	**+0.3**
M24K				IAmb	IAmb	07 44 46.4	
	comp=Z,258nm,0.8s						
PAX	**Paxson**	**16.56**	**41**		**Pn**	**07 44 55.0**	**+0.6**
MENT	**Mentasta**	**17.26**	**42**	Pn	**Pn**	**07 45 01.4**	**-1.6**
BARN	**Barnard Glacie**	**17.48**	**49**		**Pn**	**07 45 05.8**	**-0.2**
TABL	**Table Mountain**	**17.56**	**52**	P	**P**	**07 45 09.4**	**+1.7**

TABL IAmb IAmb 07 45 11.2
comp=Z,441nm,1.0s
SCRK Sand Creek 17.63 39 P 07 45 08.7 +0.4
LOGN Logan Glacier 17.73 51 Pn 07 45 08.2 -0.8
LOGN IAmb IAmb 07 45 09.6
comp=Z,751nm,1.6s
PETK Petropavlovsk- 19.67 285 P **Pn 07 45 34.8 +2.5**
comp=Z,23nm,0.3s,baz=82,slow=14,SNR=3.6
PETK Petropavlovsk- 19.67 285 P P 07 45 28.1 -2.6
BESE Bessie Mountai 20.47 59 P P 07 45 40.1 +0.7
BESE IAmb IAmb 07 45 43.6
comp=Z,320nm,1.2s
EPYK Eagle Plains 21.45 37 P P 07 45 49.4 -0.4
EPYK IAmb IAmb 07 45 49.9
comp=Z,209nm,0.8s
CRAG Craig 21.55 67 P P 07 45 49.2 -1.7
CRAG IAmb IAmb 07 45 50.7
comp=Z,250nm,1.1s
DIB Dawson Inlet, 22.32 73 P P 07 45 59.1 -0.1
MOBC Moresby Island 22.64 73 P P 07 46 00.4 -2.2
MOBC IAmb IAmb 07 46 03.0
comp=Z,193nm,1.2s
INK Inuvik 23.38 34 P P 07 46 09.0 -0.9
MIDW Midway 24.87 196 P P 07 46 24.3 +0.2
E03A Lebam 30.10 83 P P 07 47 11.8 +1.1
YKA Yellowknife Ar 30.33 49 P P 07 47 13.7 +1.1
comp=Z,22nm,0.9s,baz=287,slow=10,SNR=4.5
KEBM Edson Butte 31.52 89 P P 07 47 25.1 +1.7
KEBM IAmb IAmb 07 47 36.7
comp=Z,120nm,1.2s
H04A Detroit Lake 31.86 85 P P 07 47 24.1 -2.2
JKA Kamikawa-asahi 32.32 274 P P 07 47 28.7 -1.6
JKA IAmb IAmb 07 47 36.8
comp=Z,128nm,1.2s
E07A Sunnyside 32.33 80 P P 07 47 32.2 +1.8
JCC Jacoby Creek, 32.88 92 P P 07 47 36.0 +0.8
JCC IAmb IAmb 07 47 39.5
comp=Z,99nm,1.2s
JEM Erimo 33.14 271 P P 07 47 30.0 -7.5
JEM IAmb IAmb 07 47 32.3
comp=Z,101nm,1.0s
YBH Yreka Blue Hor 33.16 90 P P 07 47 39.5 +1.7
YBH IAmb IAmb 07 47 42.5
comp=Z,133nm,1.6s
EDM Edmonton 33.28 66 P P 07 47 37.3 -1.4
EDM IAmb IAmb 07 47 40.9
comp=Z,71nm,0.8s
G08A Pilot Rock 33.51 82 P P 07 47 41.8 +0.9
K05A Summer Lake 33.71 87 P P 07 47 42.0 -0.7
I07A Izee 33.81 84 P P 07 47 45.3 +1.8
I07A IAmb IAmb 07 47 49.2
comp=Z,93nm,1.4s
KCPM Cahto Peak 33.84 93 P P 07 47 44.9 +1.1
KCPM IAmb IAmb 07 47 55.5
comp=Z,96nm,1.0s
J08A Circle Bar Ran 34.83 84 P P 07 47 52.8 +0.5
J08A IAmb IAmb 07 48 01.9
comp=Z,60nm,1.1s
JTMT Jette 35.09 75 P P 07 47 53.8 -0.8
KLR Kul'dur 36.27 289 LR LR 08 03 48.1
comp=Z,9μm,18.0s,baz=62,slow=38
CMB Columbia Colle 36.82 93 P P 07 48 11.0 +1.7
NVAR Mina Array Bea 37.84 91 P P 07 48 18.0 -0.2
USRK Ussuriysk Ar. 38.70 282 P P 07 48 27.9 +2.8
comp=Z,3.5nm,0.4s,baz=61,slow=5.2,SNR=5.0
GCMT Greycliff 38.82 75 P P 07 48 24.8 -1.4
MAJO Matsushiro 39.52 267 P P 07 48 32.3 +0.3
MAJO IAmb IAmb 07 48 32.8
comp=Z,92nm,0.9s
LAO LASA Array 40.36 72 P P 07 48 38.9 0.0
PDAR Pinedale Array 40.56 79 P P 07 48 39.0 -1.9
comp=Z,27nm,0.7s,baz=294,slow=4.5,SNR=4.8
SHPR Sheep Range 40.99 91 P P 07 48 45.4 +1.0
INU Inuyama 41.03 267 P P 07 48 42.3 -2.2
PFO Pinyon Flats O 42.12 95 P P 07 48 53.1 -0.5
comp=Z,14nm,0.9s,baz=264,slow=4.1,SNR=6.2
WUAZ Wupatki 43.96 89 P P 07 49 09.8 +1.3
KSRS Korea Array 45.22 276 P P 07 49 22.1 +3.9
comp=Z,23nm,0.9s,baz=53,slow=7.5,SNR=7.1
NRIK Noril'sk 46.28 331 LR LR 08 12 07.4
comp=Z,6μm,18.3s,baz=82,slow=40
ECSD EROS Data Cent 47.61 70 P P 07 49 37.0 0.0
ECSD IAmb IAmb 07 49 38.5
comp=Z,55nm,1.1s
L34A Svendsen Farm, 48.84 72 P P 07 49 46.5 0.0
N33A J Bar K, Exete 48.99 73 P P 07 49 48.5 +0.8
N33A IAmb IAmb 07 49 53.6
comp=Z,60nm,0.9s
I37A Lemond, Waseca 49.27 68 P P 07 49 49.6 -0.2
SPITS Spitsbergen Ar 49.59 358 P P 07 49 53.3 +1.5
comp=Z,10nm,0.4s,baz=11,slow=6.0,SNR=10
SUMG Summit 50.77 17 P P 07 50 02.1 +1.0
SUMG IAmb IAmb 07 50 04.3
comp=Z,98nm,1.2s
SONM Songino Array 51.11 301 P P 07 50 05.7 +1.9
comp=Z,65nm,1.2s,baz=60,slow=6.9,SNR=7.5
SONM Songino Array 51.11 301 P P 07 50 05.0 +1.2
N38A Joes South For 51.41 71 P P 07 50 06.0 0.0
P38A Dawn 52.00 72 P P 07 50 10.8 +0.4
P38A IAmb IAmb 07 50 11.2
comp=Z,64nm,0.9s
OK029 Liberty Lake 52.23 78 P P 07 50 14.9 +2.8
OK029 IAmb IAmb 07 50 21.5
comp=Z,67nm,0.9s
OK025 Westminster Rd 52.44 78 P P 07 50 14.4 +0.7
OK025 IAmb IAmb 07 50 23.1
comp=Z,73nm,1.2s
TX31 Lajitas Ar. Si 52.92 89 P P 07 50 17.6 +0.1
TX32 Lajitas Array 52.92 89 P P 07 50 17.9 +0.4
TX32 IAmb IAmb 07 50 20.9
comp=Z,62nm,1.0s
TXAR Lajitas Array 52.92 89 P P 07 50 16.6 -0.8
comp=Z,30nm,0.8s,baz=299,slow=4.4,SNR=7.9
TXAR Lajitas Array 52.92 89 P P 07 50 17.5 0.0
Z35A Perchaven, San 54.03 80 P P 07 50 24.3 -1.1
KNTN Kanton 55.04 183 P P 07 50 32.5 -0.3
SCHQ Schefferville 55.51 43 P P 07 50 35.0 -0.8
comp=Z,50nm,1.0s,baz=303,slow=10.0,SNR=5.1
USIN University of 56.51 70 P P 07 50 43.2 0.0
LPAR Lepanto 56.60 74 P P 07 50 44.1 +0.2
O49A Covington 56.87 66 P P 07 50 44.5 -1.3
HALT Halls 56.95 73 P P 07 50 47.0 +0.6
KVTX Kingsville 57.73 86 P P 07 50 51.7 -0.3
KVTX IAmb IAmb 07 50 58.1
comp=Z,86nm,1.1s
ARCES ARCESS Array B 57.83 354 P P 07 50 54.1 +2.0
comp=Z,7.4nm,0.4s,baz=20,slow=8.3,SNR=7.8
OXF Oxford 57.89 74 P P 07 50 54.8 +1.8
G62A West of Eustis 60.61 53 P P 07 51 10.1 -1.5
G62A IAmb IAmb 07 51 13.4
comp=Z,36nm,0.9s
BLA Blacksburg 61.14 66 P P 07 51 15.7 +0.3
I62A Tamworth 61.18 55 P P 07 51 13.2 -2.3
I62A IAmb IAmb 07 51 13.8
comp=Z,83nm,1.6s
PKME Peaks-Kenny Pk 61.18 52 P P 07 51 13.5 -2.0
PKME IAmb IAmb 07 51 13.8
comp=Z,41nm,1.1s
F64A Sherman 61.20 51 P P 07 51 13.9 -1.8
F64A IAmb IAmb 07 51 13.9
comp=Z,54nm,1.1s
MOIG Morelia 61.55 94 P P 07 51 17.2 -1.4
KSCT Kent School, K 61.64 58 P P 07 51 17.8 -0.8
KSCT IAmb IAmb 07 51 18.2
comp=Z,53nm,1.1s
PAULI Pauline 62.07 69 P P 07 51 21.7 0.0
PAULI IAmb IAmb 07 51 22.9
comp=Z,33nm,0.9s
CBN Corbin Frederi 62.11 63 P P 07 51 22.4 +0.5
CBN IAmb IAmb 07 51 23.6
comp=Z,64nm,1.0s
KMSC Kings Mountain 62.11 68 P P 07 51 22.8 +0.8
JSRW J. Sargeant Re 62.20 64 P P 07 51 22.6 +0.1
N62A Caumsett State 62.22 58 P P 07 51 21.7 -0.8
HODGE Hodges 62.24 69 P P 07 51 23.1 +0.3
DRLN Deer Lake 63.51 43 P P 07 51 30.4 -0.6
MKAR Makanchi Array 63.63 313 P P 07 51 32.8 +0.9
comp=Z,20nm,0.8s,baz=51,slow=9.6,SNR=7.2
Y58A Scranton 63.95 68 P P 07 51 35.1 +1.0
HAL Halifax 64.36 50 P P 07 51 35.0 -1.7
HAL IAmb IAmb 07 51 38.2
comp=Z,45nm,1.0s
ARU Arti 64.48 333 P P 07 51 37.9 +0.7
ARU IAmb IAmb 07 51 41.4
comp=Z,87nm,1.2s
GBN Guysborough 64.73 48 P P 07 51 38.9 -0.1
NOA NORSAR Array B 66.87 360 P P 07 51 54.5 +1.9
comp=Z,14nm,0.7s,baz=360,slow=6.2,SNR=5.1
NBO00 NORSAR Array S 66.88 360 P P 07 51 52.5 -0.2
NBO00 IAmb IAmb 07 51 52.8
comp=Z,57nm,1.0s
ABKAR Akbulak array 70.28 328 P P 07 52 14.6 +0.5
ABKAR IAmb IAmb 07 52 18.3
comp=Z,48nm,0.9s
MSVF Nonsavu 70.69 192 LR LR 08 18 52.9
comp=Z,2μm,19.6s,baz=15,slow=32
PMG Port Moresby 71.82 225 P P 07 52 24.1 +0.4
PMG IAmb IAmb 07 52 25.1
comp=Z,54nm,1.0s
PABE Paberze 71.83 352 P P 07 52 24.0 +0.7
PPT Papeete 71.86 160 LR LR 08 23 35.1
comp=Z,2μm,18.0s,baz=318,slow=36
ESK Eskdalemuir 72.03 8 P P 07 52 26.6 +2.1
ESK IAmb IAmb 07 52 32.2
comp=Z,47nm,0.9s
CLL Collm 76.60 358 *e*(P) **P 07 52 51.0 -0.2**
IDI Anoyia 91.72 348 P P 07 54 08.8 +0.3
IDI IAmb IAmb 07 54 09.9
comp=Z,24nm,0.9s
LBTB Lobatse 150.27 331 PKPbc **PKiKP 08 00 52.7 -0.1**
comp=Z,147nm,1.0s,baz=73,slow=1.5,SNR=5.9
MAW Mawson 150.82 219 PKPbc **PKiKP 08 00 53.1 +0.7**
comp=Z,40nm,1.2s,baz=315,slow=3.1,SNR=5.2

IDC ***27*** *07:43:25.2±0.4, 52°.24N×169°.39W, h0km, mb5.3/40, mb1 5.3/42, mb1mx5.3/46, mbtmp5.2/42, ML4.7/2, MS5.5/4, Ms1 5.5/4, ms1mx4.5/47, Error ellipse: s-maj=14.6km s-min=8.9km az=175.0*
MOS ***27*** *07:43:28.1±1.0, 52°.22N×169°.42W, h31km, mb5.9/134, MS5.4/10, Error ellipse: s-maj=6.3km s-min=4.1km az=94.1*
BJI ***27*** *07:43:29.9±0.0, 52°.46N×170°.01W, h31km, mB5.6/34, mb5.6/72, Ms6.0/44, Ms7 5.8/42*
AEIC ***27*** *07:43:29.7±1.6, 52°.18N±0°.04×169°.29W±0°.06, h26km±3km, Error ellipse: s-maj=6.5km s-min=5.1km az=173.0*
NEIC ***27*** *07:43:31.1±1.6, 52°.26N±0°.05×169°.35W±0°.06, h40km±4km, mb5.7/483, ML5.0/32(AEIC), Error ellipse: s-maj=7.3km s-min=5.5km az=179.0*
BGR ***27*** *07:43:38.8±0.0, 53°.52N×169°.12W, h41km, mb5.8*
ISC 27 07:43:29.7±0.4,**52°.23N**±0°.05×**169°.34W**±0°.03,**h31**km±2km,
h31km:**pP-P, n1455,** σ1**9**09/1536, **mb5.7**/453, **MS5.6**/24,
91C-51D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.80**	**22**	P	**Pb**	**07 43 45.3**	**+0.2**
baz=198							
NIKH	**Nikolski High**	**0.80**	**22**	Pn	**Pb**	**07 43 45.6**	**+0.4**
NIKH	**Nikolski High**	**0.80**	**22**		**Sn**	**07 43 56.6**	**+0.9**
OKSP	**Okmok Steeple**	**1.21**	**32**		**Pn**	**07 43 51.0**	**+0.5**
OKCE	**Okmok Cone E**	**1.40**	**30**		**Pn**	**07 43 53.6**	**+0.6**
OKNC	**Okmok New Cone**	**1.43**	**31**		**Pn**	**07 43 54.7**	**+1.1**
OKFG	**Magazine Ridge**	**1.47**	**36**		**Pn**	**07 43 54.1**	**+0.1**
MAPS	**Pakushin South**	**2.15**	**42**		**Pn**	**07 44 03.5**	**+0.2**
MAPS					**Sb**	**07 44 31.6**	**-2.5**
MSW	**Makushin Switc**	**2.29**	**41**		**Pn**	**07 44 05.7**	**+0.4**
MSW					**Sb**	**07 44 36.7**	**-1.5**
MNAT	**Makushin Natee**	**2.31**	**43**		**Pn**	**07 44 06.2**	**+0.6**
MNAT					**Sn**	**07 44 35.0**	**+2.1**
UNV	**Unalaska Valle**	**2.36**	**46**	P	**Pn**	**07 44 07.1**	**+0.9**
baz=226							
UNV	**Unalaska Valle**	**2.36**	**46**		**Pn**	**07 44 06.4**	**+0.2**
AKRB	**Akutan Reef Bi**	**2.74**	**45**		**Pn**	**07 44 13.5**	**+2.0**
AKBBA	**Akutan Broad B**	**2.78**	**46**		**Pn**	**07 44 13.5**	**+1.4**
AKGG	**Akutan Green G**	**2.82**	**44**		**Pn**	**07 44 14.8**	**+2.2**
AKUT	**Akutan**	**2.87**	**47**	Pn	**Pn**	**07 44 14.8**	**+1.4**
KOSE	**Korovin Southe**	**2.89**	**274**		**Pn**	**07 44 15.1**	**+1.4**
KOFP	**Korovin Flat P**	**2.92**	**273**		**Pn**	**07 44 15.6**	**+1.6**
ATKA	**Atka Island**	**2.98**	**271**	Pn	**Pn**	**07 44 14.4**	**-0.4**
GSTR	**Great Sitkin T**	**4.14**	**271**	Pn	**Pn**	**07 44 30.0**	**-0.7**
GSMY	**Great Sitkin M**	**4.14**	**270**		**Pn**	**07 44 31.6**	**+0.8**
ISLZ	**Isanotski Laza**	**4.19**	**51**		**Pn**	**07 44 34.2**	**+2.8**
GSTD	**Great Sitkin T**	**4.19**	**270**		**Pn**	**07 44 32.1**	**+0.5**
FALS	**False Pass**	**4.41**	**51**	P	**Pn**	**07 44 36.7**	**+2.4**
baz=235							
FALS	**False Pass**	**4.41**	**51**	Pn	**Pn**	**07 44 35.0**	**+0.7**
ADK	**Adak**	**4.54**	**269**	P	**Pn**	**07 44 36.9**	**+0.7**
ADK	**Adak**	**4.54**	**269**	Pn	**Pn**	**07 44 36.9**	**+0.7**
KIWB	**Kanaga Island**	**4.83**	**269**	Pn	**Pn**	**07 44 40.4**	**+0.1**
KICM	**Kanaga Island**	**4.85**	**269**		**Pn**	**07 44 41.9**	**+1.4**
SPIA	**Saint Paul Isl**	**4.99**	**354**	P	**Pn**	**07 44 42.4**	**+0.1**
baz=173,SNR=10							
SPIA	**Saint Paul Isl**	**4.99**	**354**	Pn	**Pn**	**07 44 44.1**	**+1.8**
TAFP	**Tanaga Falls P**	**5.34**	**270**		**Pn**	**07 44 48.2**	**+1.0**
GAEA	**Gareloi East**	**5.83**	**269**		**Pn**	**07 44 56.5**	**+2.6**
CNBA	**Chernabura Isl**	**6.37**	**62**	Pn	**Pn**	**07 45 05.5**	**+4.2**
CHNA	**Chernabura Isl**	**6.37**	**62**	P	**Pn**	**07 45 03.4**	**+2.1**
baz=249							
AMKA	**Amchitka**	**7.09**	**268**	Pn	**Pn**	**07 45 11.2**	**-0.1**
CHIR	**Chirikof Islan**	**8.84**	**61**	P	**Pn**	**07 45 37.6**	**+2.5**
baz=251							
CHIR	**Chirikof Islan**	**8.84**	**61**	Pn	**Pn**	**07 45 37.1**	**+1.9**
SII	**Sitkinak Islan**	**9.84**	**58**	P	**Pn**	**07 45 50.8**	**+1.9**
baz=250							
SMY	**Shemya**	**10.12**	**279**	P	**Pn**	**07 45 53.1**	**+0.5**
SMY	**Shemya**	**10.12**	**279**		**Pn**	**07 45 53.1**	**+0.5**
OHAK	**Old Harbor**	**10.54**	**55**	P	**Pn**	**07 46 00.8**	**+2.3**
baz=248							
OHAK	**Old Harbor**	**10.54**	**55**	Pn	**Pn**	**07 46 00.7**	**+2.3**
O18K	**Koktuh Hills**	**10.97**	**40**	P	**Pn**	**07 46 06.3**	**+1.9**
baz=232							
KDAK	**Kodiak Island**	**11.10**	**53**	Pn	**Pn**	**07 46 04.0**	**-2.1**
5.5nm,0.3s,baz=259,slow=10,SNR=2.3							
KDAK					**Sn**	**07 48 01.4**	**-7.6**
baz=270,slow=15,SNR=0.8							
KDAK	**Kodiak Island**	**11.10**	**53**	P	**Pn**	**07 46 07.1**	**+1.0**
KDAK	**Kodiak Island**	**11.10**	**53**	P	**Pn**	**07 46 07.9**	**+1.8**
baz=247							
KDAK	**Kodiak Island**	**11.10**	**53**	Pn	**Pn**	**07 46 07.1**	**+1.0**
GAMB	**Gambell**	**11.64**	**355**	P	**Pn**	**07 46 14.7**	**+1.3**
baz=173							
GAMB	**Gambell**	**11.64**	**355**	Pn	**Pn**	**07 46 16.4**	**+3.0**
SVW2	**Sparrevohn**	**11.65**	**35**	Pn	**Pn**	**07 46 12.8**	**-0.8**
N19K	**Bonanza Creek**	**11.86**	**38**	P	**Pn**	**07 46 17.7**	**+1.2**
baz=230							
HOM	**Homer**	**12.37**	**46**	P	**Pn**	**07 46 24.6**	**+1.2**
baz=240							
CNPM	**China Poot**	**12.49**	**47**	Pn	**Pn**	**07 46 25.3**	**+0.2**
ANM	**Nome**	**12.54**	**8**	P	**Pn**	**07 46 29.9**	**+4.1**
ANM	**Nome**	**12.54**	**8**	P	**Pn**	**07 46 25.5**	**-0.3**
baz=191,SNR=6.0							
ANM	**Nome**	**12.54**	**8**	Pn	**Pn**	**07 46 29.9**	**+4.1**
M19K	**Big River Lodg**	**12.62**	**34**	P	**Pn**	**07 46 27.7**	**+0.8**
baz=226							
L19K	**White Mountain**	**12.66**	**32**	P	**Pn**	**07 46 28.2**	**+0.8**
baz=224							
BRLK	**Bradley Lake**	**12.76**	**47**	Pn	**Pn**	**07 46 30.8**	**+2.1**
BRSE	**Bradley Lake S**	**12.81**	**47**	P	**Pn**	**07 46 31.7**	**+2.2**
baz=242							
SPCR	**Spurr Chakacha**	**12.97**	**39**	P	**Pn**	**07 46 33.1**	**+1.4**
baz=234							
M20K	**Styx River**	**13.05**	**36**	P	**Pn**	**07 46 34.1**	**+1.3**
baz=229							
CAPN	**Captain Cook N**	**13.15**	**42**	P	**Pn**	**07 46 36.2**	**+2.1**
baz=237							
TNA	**Tin City**	**13.39**	**3**	P	**Pn**	**07 46 37.5**	**+0.2**
baz=184							
TNA	**Tin City**	**13.39**	**3**	Pn	**Pn**	**07 46 40.0**	**+2.7**
SEW	**Seward**	**13.55**	**47**	P	**Pn**	**07 46 39.3**	**-0.3**
baz=243							
SEW	**Seward**	**13.55**	**47**	Pn	**Pn**	**07 46 38.9**	**-0.6**
O22K	**Cooper Landing**	**13.61**	**45**	P	**Pn**	**07 46 40.7**	**+0.3**
baz=241							
SKT	**Skwentna**	**13.70**	**38**	P	**Pn**	**07 46 42.3**	**+0.7**
baz=232							
SUA	**Susitna One**	**13.70**	**40**	P	**Pn**	**07 46 42.8**	**+1.1**
baz=236							
SUA	**Susitna One**	**13.70**	**40**	Pn	**Pn**	**07 46 42.3**	**+0.6**
FIS	**Fire Island**	**13.74**	**42**	Pn	**Pn**	**07 46 41.9**	**-0.2**
K20K	**Telida**	**13.76**	**30**	P	**Pn**	**07 46 42.5**	**+0.1**
baz=223							
RC01	**Rabbit Creek A**	**13.91**	**43**	P	**Pn**	**07 46 45.3**	**+0.9**
baz=239							
RC01	**Rabbit Creek A**	**13.91**	**43**	Pn	**Pn**	**07 46 45.1**	**+0.7**
PPLA	**Purkeypile**	**14.05**	**34**	P	**Pn**	**07 46 47.3**	**+0.9**
baz=228							
J20K	**Nowinta River**	**14.35**	**28**	P	**Pn**	**07 46 52.0**	**+1.6**
baz=220							
PMR	**Palmer**	**14.42**	**42**	P	**Pn**	**07 46 53.3**	**+2.0**
baz=238							
KNK	**Knik Glacier**	**14.61**	**43**	Pn	**Pn**	**07 46 52.8**	**-1.2**
CHUM	**Lake Minchumin**	**14.68**	**31**	P	**Pn**	**07 46 55.6**	**+0.6**
baz=225							
Q23K	**Middleton Isla**	**14.74**	**52**	P	**Pn**	**07 46 55.8**	**+0.1**
baz=250							
Q23K	**Middleton Isla**	**14.74**	**52**	Pn	**Pn**	**07 46 55.8**	**+0.1**
MID	**Middleton Isla**	**14.74**	**52**	P	**Pn**	**07 46 55.9**	**+0.2**
MID	**Middleton Isla**	**14.74**	**52**	Pn	**Pn**	**07 46 55.9**	**+0.2**
SML	**Sawmill**	**14.86**	**42**	P	**Pn**	**07 46 58.1**	**+0.8**
baz=239							
SML	**Sawmill**	**14.86**	**42**	Pn	**Pn**	**07 46 57.4**	**+0.1**
KTH	**Kantishna Hill**	**14.91**	**33**	Pn	**Pn**	**07 46 57.9**	**-0.2**
GLI	**Glacier Island**	**14.95**	**46**	P	**Pn**	**07 46 57.9**	**-0.5**
baz=244							
GLI	**Glacier Island**	**14.95**	**46**	Pn	**Pn**	**07 46 56.1**	**-2.3**
HIN	**Hinchinbrook I**	**15.01**	**48**	Pn	**Pn**	**07 46 57.9**	**-1.5**
TRF	**Thorofare Moun**	**15.06**	**34**	P	**Pn**	**07 46 59.5**	**-0.8**
baz=230							
FID	**Port Fidalgo**	**15.17**	**47**	Pn	**Pn**	**07 46 57.6**	**-3.8**
BPAW	**Bear Paw Mtn.**	**15.26**	**32**	P	**Pn**	**07 47 02.1**	**-0.6**
baz=227							
BPAW	**Bear Paw Mtn.**	**15.26**	**32**	Pn	**Pn**	**07 47 02.3**	**-0.3**
BPAW				IAmb	IAmb	07 47 08.3	
comp=Z,1μm,1.9s							
SCM	**Sheep Creek Mo**	**15.28**	**42**	P	**Pn**	**07 47 01.8**	**-1.3**
SCM				pmax	pmax		
comp=Z,675nm,1.4s							
SCM	**Sheep Creek Mo**	**15.28**	**42**	Pn	**Pn**	**07 47 01.8**	**-1.3**
SCM				IAmb	IAmb	07 47 06.8	
comp=Z,675nm,1.4s							
WAT1	**Susitna Watana**	**15.32**	**38**	P	**Pn**	**07 47 03.9**	**+0.4**
baz=235							
EYAK	**Cordova Ski Ar**	**15.42**	**48**	P	**Pn**	**07 47 03.4**	**-1.2**
baz=248							
EYAK	**Cordova Ski Ar**	**15.42**	**48**	Pn	**Pn**	**07 47 02.4**	**-2.3**
WAT6	**Susitna Watana**	**15.50**	**40**	P	**Pn**	**07 47 04.9**	**-1.0**
baz=238							
RND	**Reindeer**	**15.55**	**36**	P	**Pn**	**07 47 07.2**	**+0.7**
RND				pmax	pmax		
comp=Z,118nm,1.2s							
RND	**Reindeer**	**15.55**	**36**	Pn	**Pn**	**07 47 07.2**	**+0.7**
MCK	**McKinley**	**15.71**	**35**	P	**Pn**	**07 47 08.5**	**-0.1**
MCK				pmax	pmax		
comp=Z,196nm,1.2s							
MCK	**McKinley**	**15.71**	**35**	P	**Pn**	**07 47 09.9**	**+1.3**
baz=232							
MCK	**McKinley**	**15.71**	**35**	Pn	**Pn**	**07 47 08.5**	**-0.1**
I21K	**Tanana**	**15.72**	**28**	P	**Pn**	**07 47 09.2**	**+0.6**
baz=222							
KLU	**Klutina**	**15.72**	**45**	P	**Pn**	**07 47 06.8**	**-1.9**
baz=244							
KLU	**Klutina**	**15.72**	**45**	Pn	**Pn**	**07 47 06.4**	**-2.3**
BWN	**Browne**	**15.81**	**33**	Pn	**Pn**	**07 47 09.6**	**-0.1**
KAIM	**Kayak Island**	**15.82**	**51**	P	**Pn**	**07 47 11.4**	**+1.4**
baz=252							
RAGM	**Ragged Mountai**	**15.86**	**49**	Pn	**Pn**	**07 47 09.3**	**-1.1**
RAGM				IAmb	IAmb	07 47 17.9	
comp=Z,1μm,1.8s							
IMAR	**Indian Mountai**	**15.87**	**24**	Pn	**Pn**	**07 47 09.9**	**-0.6**
M24K	**Tolsona, Glenn**	**15.89**	**43**	P	**Pn**	**07 47 10.4**	**-0.5**
baz=242							
M24K	**Tolsona, Glenn**	**15.89**	**43**	Pn	**Pn**	**07 47 09.2**	**-1.7**
MLY	**Manley**	**15.98**	**29**	P	**Pn**	**07 47 13.5**	**+1.5**
baz=225							
HMT	**Hamilton**	**16.03**	**50**		**Pn**	**07 47 11.5**	**-1.1**
BMRM	**Bremner River**	**16.09**	**47**	P	**Pn**	**07 47 10.6**	**-2.9**
baz=248,SNR=7.6							
BMRM	**Bremner River**	**16.09**	**47**	Pn	**Pn**	**07 47 12.6**	**-0.9**
SUCK	**Suckling Hills**	**16.18**	**51**	Pn	**Pn**	**07 47 15.8**	**+1.3**
RDOG	**Red Dog Mine**	**16.18**	**9**	P	**Pn**	**07 47 14.6**	**+0.1**
baz=194							
NEA2	**Nenana**	**16.21**	**32**	P	**Pn**	**07 47 14.1**	**-0.8**
baz=230							
NEA2	**Nenana**	**16.21**	**32**	Pn	**Pn**	**07 47 14.8**	**-0.1**
BERG	**Berg Lake**	**16.31**	**50**	Pn	**Pn**	**07 47 15.2**	**-1.0**
N25K	**Chitina, Valde**	**16.35**	**45**	P	**Pn**	**07 47 15.1**	**-1.6**
baz=246,SNR=8.6							
N25K	**Chitina, Valde**	**16.35**	**45**	Pn	**Pn**	**07 47 15.4**	**-1.3**
HARP	**HAARP**	**16.45**	**42**	P	**Pn**	**07 47 16.2**	**-1.8**
baz=243							
WRH	**Wood River Hil**	**16.46**	**34**	Pn	**Pn**	**07 47 17.0**	**-1.0**
I23K	**Minto, Yukon-K**	**16.49**	**31**	P	**Pn**	**07 47 17.2**	**-1.2**
baz=228							
PAX	**Paxson**	**16.60**	**40**	P	**Pn**	**07 47 19.3**	**-0.6**
PAX				pmax	pmax		
comp=Z,82nm,1.0s							
PAX	**Paxson**	**16.60**	**40**	P	**Pn**	**07 47 19.7**	**-0.2**
baz=240							
PAX	**Paxson**	**16.60**	**40**	Pn	**Pn**	**07 47 19.3**	**-0.6**
GLB	**Gilahina Butte**	**16.63**	**46**	Pn	**Pn**	**07 47 19.5**	**-0.8**
CCB	**Clear Creek Bu**	**16.67**	**33**	Pn	**Pn**	**07 47 19.7**	**-0.9**
VRDI	**Verde Repeater**	**16.71**	**47**	Pn	**Pn**	**07 47 20.5**	**-0.9**
CRQE	**Cirque**	**16.71**	**49**	P	**Pn**	**07 47 20.5**	**-0.9**
baz=251							
WAX	**Waxell Ridge**	**16.73**	**50**	Pn	**Pn**	**07 47 21.5**	**-0.1**
WAX				IAmb	IAmb	07 47 27.0	
comp=Z,443nm,0.8s							
TCOL	**CIGO, UAF Yank**	**16.79**	**33**	P	**Pn**	**07 47 20.1**	**-2.1**
baz=231							
TCOL	**CIGO, UAF Yank**	**16.79**	**33**	Pn	**Pn**	**07 47 21.2**	**-1.0**
COLA	**College**	**16.80**	**33**	P	**Pn**	**07 47 21.1**	**-1.1**
COLA				pmax	pmax		
comp=Z,170nm,1.2s							
COLA	**College**	**16.80**	**33**	P	**Pn**	**07 47 20.5**	**-1.8**
baz=231							
COLA	**College**	**16.80**	**33**	Pn	**Pn**	**07 47 21.1**	**-1.1**
HDA	**Harding Lake**	**16.82**	**35**	P	**Pn**	**07 47 21.1**	**-1.5**
baz=234							
H23K	**Yukon River**	**16.90**	**29**	P	**Pn**	**07 47 22.0**	**-1.5**
baz=226							
MCARA	**McCarthy VSAT**	**16.96**	**47**	P	**Pn**	**07 47 22.4**	**-1.9**
baz=249,SNR=6.5							
MCARA	**McCarthy VSAT**	**16.96**	**47**	Pn	**Pn**	**07 47 23.4**	**-1.0**
ISLE	**Juniper Island**	**17.02**	**50**		**Pn**	**07 47 24.8**	**-0.5**
IL31		**17.06**	**34**	Pn	**Pn**	**07 47 25.3**	**-0.2**
ILAR	**Eielson Array**	**17.06**	**34**	P	**Pn**	**07 47 23.4**	**-2.1**
comp=Z,0.9nm,0.3s,baz=227,slow=8.8,SNR=4.2							
ILAR				PcP	**PcP**	**07 52 09.2**	**0.0**
comp=Z,0.1nm,0.3s,baz=289,slow=2.8,SNR=4.1							
ILAR				ScP	**ScP**	**07 55 41.5**	**0.0**
baz=251,slow=1.5,SNR=4.6							
ILAR				P3KPbc		08 22 27.9	
comp=Z,0.0nm,0.3s,baz=32,slow=3.5,SNR=5.6							
ILAR	**Eielson Array**	**17.06**	**34**	P	**Pn**	**07 47 25.1**	**-0.4**
ILAR	**Eielson Array**	**17.06**	**

PRP	Porcupine Dome	17.97	33		Pn	07 47 36.5	-0.4
L27K	Beaver Creek,	18.12	43	P	Pn	07 47 38.5	-0.2
	baz=246						
BCAR	Beaver Creek A	18.14	43	P	Pn	07 47 37.9	-1.1
BCPM	Bancas Point	18.16	53	P	P	07 47 39.4	+0.2
K27K	Chicken	18.44	40	P	Pn	07 47 42.9	+0.3
	baz=243						
FYU	Fort Yukon	18.70	31	P	Pn	07 47 45.8	+0.1
TOLK	Toolik Lake Re	18.97	22	P	P	07 47 47.4	-0.8
	baz=220						
EGAK	Eagle	19.14	38	P	P	07 47 49.5	-0.5
	baz=242						
EGAK	Eagle	19.14	38	P	P	07 47 50.1	+0.2
PET	Petropavlovsk	19.36	285	*e*P	P	07 47 52.6	+0.1
PET				pmax	pmax		
	comp=Z,269nm,0.7s						
PET	Petropavlovsk	19.36	285	P	P	07 47 52.3	-0.2
HYT	Haines Junctio	19.38	51	P	Pn	07 47 53.5	-0.5
HYT				IAmb	IAmb	07 47 58.2	
	comp=Z,416nm,0.9s						
BMAR	Burnt Mountain	19.45	29	P	P	07 47 53.6	+0.3
DAWY	Dawson	19.52	41	P	P	07 47 54.5	+0.3
BILL	Bilibino	19.73	333	*e*P	Pn	07 47 57.6	-0.4
BILL				pmax	pmax		
	comp=Z,108nm,1.2s						
BILL				MLR	MLR		
	comp=Z,12μm,16.0s						
PEA0B	Petropavlovsk-	19.91	286	P	P	07 47 57.6	-0.9
PEA0B				pmax	pmax		
	comp=Z,257nm,0.6s						
PEA0B	Petropavlovsk-	19.91	286	P	P	07 47 57.6	-0.9
PEA0B				IAmb	IAmb	07 47 59.8	
	comp=Z,257nm,0.6s						
PETK	Petropavlovsk-	19.91	286	P	P	07 47 57.7	-0.8
	comp=Z,33nm,0.3s,baz=88,slow=13,SNR=34						
PETK				PcP	PcP	07 52 15.2	+0.9
	comp=Z,0.1nm,0.3s,baz=74,slow=3.3,SNR=5.0						
PETK				ScP	ScP	07 55 49.2	+1.3
	comp=Z,0.2nm,0.3s,baz=103,slow=4.6,SNR=6.0						
SIT	Sitka	20.13	63	P	Pn	07 48 02.5	-0.3
SIT				pmax	pmax		
	comp=Z,165nm,1.0s						
SIT	Sitka	20.13	63	P	P	07 48 00.4	-0.4
	baz=270						
SIT	Sitka	20.13	63	P	Pn	07 48 02.5	-0.3
SKAG	Skagway	20.24	56	P	P	07 48 01.1	-0.9
	baz=264,SNR=9.3						
SKAG	Skagway	20.24	56	P	Pn	07 48 03.9	-0.2
SKAG				IAmb	IAmb	07 48 17.4	
	comp=Z,304nm,0.9s						
BESE	Bessie Mountai	20.41	58	P	P	07 48 04.4	+0.4
BESE				IAmb	IAmb	07 48 21.6	
	comp=Z,688nm,1.6s						
WHY	Whitehorse	20.61	52	P	P	07 48 05.5	-0.7
	baz=261						
WHY	Whitehorse	20.61	52	P	P	07 48 06.0	-0.2
JIS	Juneau Island	20.65	59	P	P	07 48 07.2	+0.8
CRAG	Craig	21.45	67	P	P	07 48 14.0	-1.1
	baz=276						
CRAG	Craig	21.45	67	P	P	07 48 16.6	+1.5
CRAG				IAmb	IAmb	07 48 39.5	
	comp=Z,533nm,1.6s						
SKR	Severo-Kuril's	21.46	280	*e*P	P	07 48 14.3	-0.9
SKR				*e*S	S	07 52 15.0	+3.6
SKR				pmax	pmax		
	comp=Z,158nm,0.8s						
SKR				pmax	pmax		
	comp=Z,800nm,12.1s						
SKR				MLR	MLR		
	comp=Z,5μm,17.0s						
SKR				MLR	MLR		
	comp=Z,5μm,18.0s						
EPYK	Eagle Plains	21.50	36	P	P	07 48 14.1	-1.5
	baz=245						
EPYK	Eagle Plains	21.50	36	P	P	07 48 14.7	-1.0
EPYK				IAmb	IAmb	07 48 24.1	
	comp=Z,326nm,1.1s						
WRAK	Wrangell Islan	21.80	64	P	P	07 48 17.6	-1.2
	baz=274						
DLBC	Dease Lake	22.94	59	P	P	07 48 31.8	+0.7
	comp=Z,52nm,0.9s,baz=290,slow=9.8,SNR=4.9						
DLBC	Dease Lake	22.94	59	P	P	07 48 31.5	+0.4
DLBC				IAmb	IAmb	07 48 35.9	
	comp=Z,416nm,1.7s						
MA2	Magadan	23.23	304	P	P	07 48 34.1	+0.2
	comp=Z,79nm,0.6s,baz=83,slow=12,SNR=23						
MA2	Magadan	23.23	304	*ce*P	P	07 48 35.5	+1.6
MA2				pmax	pmax		
	comp=Z,118nm,0.8s						
MA2	Magadan	23.23	304	P	P	07 48 34.4	+0.5
INK	Inuvik	23.45	33	P	P	07 48 35.0	-0.9
	comp=Z,70nm,0.7s,baz=244,slow=11,SNR=9.0						
INK				PcP	PcP	07 52 22.0	+1.1
	comp=Z,20nm,0.8s,baz=265,slow=0.3,SNR=3.3						
INK	Inuvik	23.45	33	P	P	07 48 34.6	-1.4
INK				pmax	pmax		
	comp=Z,82nm,0.8s						
INK	Inuvik	23.45	33	P	P	07 48 33.8	-2.2
	baz=245,SNR=11						
INK	Inuvik	23.45	33	P	P	07 48 34.6	-1.4
BBB	Bella Bella	25.03	74	P	P	07 48 51.6	+1.0
	comp=Z,16nm,0.9s,baz=269,slow=6.0,SNR=3.5						
BBB				PcP	PcP	07 52 25.7	+1.1
	comp=Z,8.7nm,1.0s,baz=248,slow=5.4,SNR=2.6						
C36M	Paulatuk	27.03	34	P	P	07 49 06.5	-2.1
	baz=254,SNR=7.7						
C36M	Paulatuk	27.03	34	P	P	07 49 07.3	-1.2
KUR	Kuril'sk	28.73	273	⇓*i*P	P	07 49 24.1	+0.1
KUR				pmax	pmax		
	comp=Z,149nm,0.9s						
LLLB	Lillooet	29.23	74	P	P	07 49 29.0	+0.5
A04D	Lummi Island	29.49	78	P	P	07 49 29.6	-1.1
	baz=295						
A05A	Maple Falls	29.74	77	P	P	07 49 33.7	+0.7
D03D	Eldon	29.77	80	P	P	07 49 32.6	-0.6
	baz=296						
E03A	Lebam	29.93	82	P	P	07 49 35.4	+0.8
B05A	Bryant	30.05	78	P	P	07 49 34.9	-0.8
	baz=296,SNR=20						
D04E	Lakebay	30.12	81	P	P	07 49 37.1	+0.8
	baz=297						
B06A	Marblemount	30.31	78	P	P	07 49 38.4	+0.5
YKA	Yellowknife Ar	30.32	49	P	P	07 49 38.4	+0.5
	comp=Z,37nm,0.9s,baz=270,slow=7.6,SNR=16						
YKA				PcP	PcP	07 52 38.1	+0.8
	comp=Z,3.5nm,0.9s,baz=274,slow=2.1,SNR=5.5						
YKA				ScP	ScP	07 56 19.2	+2.1
	comp=Z,2.9nm,0.8s,baz=288,slow=2.7,SNR=5.3						
UGL	Uglegorsk	30.51	284	*e*P	P	07 49 39.7	0.0
UGL				*e*S	S	07 54 40.6	+1.7
UGL				pmax	pmax		
	comp=Z,110nm,1.0s						
UGL				MLR	MLR		
	comp=N,5μm,16.0s						
UGL				MLR	MLR		
	comp=E,11μm,16.0s						
UGL				MLR	MLR		
	comp=Z,10μm,17.0s						
E04D	Cinebar	30.53	82	P	P	07 49 39.5	-0.4
	baz=298						
YUK	Yuzh-Kuril'sk	30.57	273	⇓*i*P	P	07 49 40.1	-0.2
D05A	Enumclaw	30.59	80	P	P	07 49 42.2	+1.7
D05A				IAmb	IAmb	07 50 01.4	
	comp=Z,194nm,1.2s						
YSS	Yuzh-Sakhalins	31.03	280	*e*P	P	07 49 44.2	-0.1
YSS				*e*		07 49 56.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS	Yuzh-Sakhalins	31.03	280	P	P	07 49 44.7	+0.3
YSS				IAmb	IAmb	07 49 47.5	
	comp=Z,139nm,1.5s						
J01E	Myrtle Point	31.42	88	P	P	07 49 47.4	-0.4
	baz=303						
I03D	Drain, OR	31.49	87	P	P	07 49 49.1	+0.7
	baz=302						
F05D	White Salmon	31.53	82	P	P	07 49 49.1	+0.3
	baz=299						
B08A	Colville Reser	31.67	77	P	P	07 49 51.5	+1.5
H04A	Detroit Lake	31.69	85	P	P	07 49 51.4	+1.2
K02D	Willamette Mer	31.84	89	P	P	07 49 51.6	0.0
	baz=304						
G05D	Wamic, OR	31.94	83	P	P	07 49 53.1	+0.7
	baz=300						
I04A	Tendick Farm,	32.01	86	P	P	07 49 53.1	0.0
	baz=302						
L02E	Cave Junction	32.17	90	P	P	07 49 54.0	-0.5
	baz=304						
I05D	Terrebonne, OR	32.38	85	P	P	07 49 56.3	-0.1
	baz=301						
HAWA	Hanford	32.45	80	P	P	07 49 57.5	+0.6
HAWA				IAmb	IAmb	07 50 12.1	
	comp=Z,76nm,1.0s						
F07A	Phinny Hill Vi	32.46	81	P	P	07 49 58.4	+1.5
F07A				IAmb	IAmb	07 50 17.1	
	comp=Z,85nm,1.1s						
J04D	Umpqua Nationa	32.50	87	P	P	07 49 57.1	-0.4
	baz=303						
JKA	Kamikawa-asahi	32.53	275	P	P	07 49 57.1	-0.4
JKA				IAmb	IAmb	07 49 59.6	
	comp=Z,125nm,0.9s						
ASAJ	Asahikawa	32.54	275	P	P	07 49 57.2	-0.4
ASAJ				pmax	pmax		
	comp=Z,125nm,0.9s						
C09A	Chrisman Ranch	32.55	77	P	P	07 49 58.7	+0.9
C09A				IAmb	IAmb	07 50 03.7	
	comp=Z,80nm,1.1s						
E08A	Dider Farm, El	32.69	80	P	P	07 49 59.4	+0.4
E08A				IAmb	IAmb	07 50 21.5	
	comp=Z,183nm,1.8s						
TIXI	Tiksi	32.86	329	P	P	07 50 00.8	+0.6
	comp=Z,50nm,1.0s,baz=118,slow=11,SNR=3.1						
TIXI				PcP	PcP	07 52 44.4	+0.4
	comp=Z,30nm,0.8s,baz=34,slow=2.7,SNR=6.1						
J05D	Fort Rock, OR	33.01	86	P	P	07 50 01.6	-0.4
	baz=303						
NEW	Newport	33.03	76	P	P	07 50 02.9	+1.0
	comp=Z,43nm,1.0s,baz=290,slow=7.8,SNR=5.9						
NEW	Newport	33.03	76	P	P	07 50 02.3	+0.4
NEW				pmax	pmax		
	comp=Z,86nm,1.2s						
NEW	Newport	33.03	76	P	P	07 50 00.3	-1.6
	baz=297,SNR=9.2						
NEW	Newport	33.03	76	P	P	07 50 02.3	+0.4
NEW				IAmb	IAmb	07 50 20.3	
	comp=Z,86nm,1.1s						
M02C	Callahan	33.07	90	P	P	07 50 00.9	-1.6
	baz=305						
GRNR	Gornyy	33.13	290	⇓*i*P	P	07 50 02.8	0.0
GRNR				*e*S	S	07 55 17.7	-2.2
GRNR				pmax	pmax		
	comp=Z,60nm,1.1s						
GRNR				smax	smax		
	comp=N,7.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,2μm,17.0s						
GRNR				MLR	MLR		
	comp=E,4μm,17.0s						
GRNR				MLR	MLR		
	comp=Z,5μm,17.0s						
EDM	Edmonton	33.19	66	P	P	07 50 04.3	+1.0
EDM				pmax	pmax		
	comp=Z,158nm,0.9s						
EDM	Edmonton	33.19	66	P	P	07 50 04.3	+1.0
EDM				IAmb	IAmb	07 50 18.5	
	comp=Z,158nm,0.9s						
E09A	Wood Farm, Sta	33.23	79	P	P	07 50 05.2	+1.5
E09A				IAmb	IAmb	07 50 18.4	
	comp=Z,99nm,1.3s						
YAK	Yakutsk	33.27	311	P	P	07 50 03.5	-0.4
	comp=Z,21nm,0.4s,baz=80,slow=1.2,SNR=5.8						
YAK				PcP	PcP	07 52 45.6	+0.3
	comp=Z,14nm,0.4s,baz=65,slow=1.1,SNR=5.1						
YAK				LR	LR	08 04 30.1	
	comp=Z,12μm,18.8s,baz=103,slow=38						
YAK	Yakutsk	33.27	311	*d*iP	P	07 50 03.3	-0.5
YAK				pmax	pmax		
	comp=Z,76nm,0.7s						
YAK	Yakutsk	33.27	311	P	P	07 50 03.3	-0.5
YAK				IAmb	IAmb	07 50 04.6	
	comp=Z,80nm,0.7s						
ERM	Erimo	33.34	271	*d*iP	P	07 50 05.3	+0.7
ERM				pmax	pmax		
	comp=Z,106nm,0.8s						
ERM	Erimo	33.34	271	P	P	07 50 04.4	-0.2
ERM				IAmb	IAmb	07 50 06.0	
	comp=Z,90nm,0.8s						
N02D	Trinity Center	33.41	91	P	P	07 50 06.6	+1.2
	baz=306						
M04C	Macdoel	33.47	89	P	P	07 50 05.7	-0.3
	baz=305						
K05A	Summer Lake	33.52	87	P	P	07 50 08.2	+1.7
WDC	Whiskeytown Da	33.74	91	P	P	07 50 11.0	+2.9
WDC				pmax	pmax		
	comp=Z,40nm,1.1s						
WDC	Whiskeytown Da	33.74	91	P	P	07 50 11.0	+2.9
O02D	Mt. Diablo Mer	33.82	92	P	P	07 50 09.0	0.0
	baz=307						
JEW	Eniwo	33.93	274	P	P	07 50 09.0	-0.7
O03E	Paynes Creek	34.36	91	P	P	07 50 13.4	-0.2
	baz=306,SNR=5.4						
J08A	Circle Bar Ran	34.66	84	P	P	07 50 17.9	+1.7
J08A				IAmb	IAmb	07 50 37.0	
	comp=Z,79nm,1.2s						
JTMT	Jette	34.96	75	P	P	07 50 19.9	+1.1
JTMT				IAmb	IAmb	07 50 33.5	
	comp=Z,121nm,1.5s						
JTM	Tenmabayashi	35.33	271	P	P	07 50 22.0	+0.2
JTM				IAmb	IAmb	07 50 42.7	
	comp=Z,80nm,1.0s						
MSO	Missoula	35.61	76	P	P	07 50 23.2	-1.2
	baz=300						
MSO	Missoula	35.61	76	P	P	07 50 24.9	+0.6
MSO				IAmb	IAmb	07 50 41.1	
	comp=Z,145nm,1.4s						
PNTR	Pine Nut	36.44	91	P	P	07 50 31.6	-0.1
PNTR				IAmb	IAmb	07 51 06.0	
	comp=Z,289nm,1.9s						
KLR	Kul'dur	36.52	289	P	P	07 50 31.0	-1.0
	comp=Z,33nm,0.6s,baz=67,slow=7.4,SNR=21						
KLR	Kul'dur	36.52	289	*c*iP	P	07 50 30.8	-1.2
KLR				pmax	pmax		
	comp=Z,109nm,1.4s						
HLID	Hailey	37.03	81	P	P	07 50 34.2	-2.4
	baz=303						
ZEA	Zeya	37.08	298	*e*P	P	07 50 35.7	-1.0
ZEA				pmax	pmax		
	comp=E,20nm,1.0s						
ZEA				pmax	pmax		
	comp=N,10.0nm,0.5s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.3s						
BCYI	Bear Canyon	37.23	79	P	P	07 50 39.6	+1.2
JMM	Marumori	37.27	268	P	P	07 50 38.1	-0.4
MCMT	McKenzie Canyo	37.29	78	P	P	07 50 39.7	+0.8
H11N2	WAKE ISLAND Hy	37.35	219	T	T	08 31 02.4	
	baz=25						
H11N3	WAKE ISLAND Hy	37.36	219	T	T	08 31 00.7	
	baz=25						
H11N1	WAKE ISLAND Hy	37.37	219	T	T	08 31 02.4	
	baz=25						
EGMT	Eagleton	37.49	72	P	P	07 50 39.6	-0.8
	baz=299						
EGMT	Eagleton	37.49	72	P	P	07 50 41.6	+1.2
EGMT				IAmb	IAmb	07 51 06.0	
	comp=Z,75nm,0.9s						
BOZ	Bozeman (W)	37.62	77	P	P	07 50 41.9	+0.4
BOZ				pmax	pmax		
	comp=Z,156nm,1.7s						
BOZ	Bozeman (W)	37.62	77	P	P	07 50 40.2	-1.3
	baz=302						
BOZ	Bozeman (W)	37.62	77	P	P	07 50 41.9	+0.4
BOZ				IAmb	IAmb	07 50 55.8	
	comp=Z,156nm,1.7s						
NVAR	Mina Array Bea	37.65	91	P	P	07 50 43.8	+1.9
	comp=Z,9.7nm,1.0s,baz=316,slow=2.9,SNR=2.5						
NVAR				PcP	PcP	07 52 59.6	+0.7
	comp=Z,9.9nm,1.1s,baz=276,slow=2.9,SNR=3.1						
NVAR				ScP	ScP	07 56 44.7	+1.0
	comp=Z,1.6nm,1.0s,baz=284,slow=3.6,SNR=3.0						
MDPB	Devils Postpil	37.67	92	P	P	07 50 43.8	+1.6
YHH	Holmes Hill	38.51	77	P	P	07 50 49.7	+0.4
YHH				IAmb	IAmb	07 51 03.5	
	comp=Z,88nm,1.1s						
H11S1	WAKE ISLAND Hy	38.54	218	T	T	08 32 04.6	
	baz=25						
H11S2	WAKE ISLAND Hy	38.56	218	T	T	08 32 02.0	
	baz=25						
H11S3	WAKE ISLAND Hy	38.56	218	T	T	08 31 59.6	
	baz=25						
YNR	Norris Junctio	38.65	77	P	P	07 50 51.9	+1.4
YNR				IAmb	IAmb	07 51 05.4	
	comp=Z,89nm,1.1s						
JYT	Yasato	38.69	266	P	P	07 50 50.3	-0.2
JYT				IAmb	IAmb	07 50 56.5	
	comp=Z,103nm,1.1s						
JSD	Sado	38.73	270	P	P	07 50 50.1	-0.6
JSD				IAmb	IAmb	07 51 05.7	
	comp=Z,80nm,0.9s						
LKWY	Lake	38.90	77	P	P	07 50 54.6	+2.1
LKWY				pmax	pmax		
	comp=Z,52nm,1.0s						
LKWY	Lake	38.90	77	P	P	07 50 54.6	+2.1
USRK	Ussuriysk Ar.	38.94	282	P	P	07 50 52.0	-0.5
	comp=Z,7.5nm,0.5s,baz=58,slow=8.5,SNR=9.1						
USRK				PcP	PcP	07 53 03.0	+0.4
	comp=Z,8.2nm,0.8s,baz=63,slow=1.4,SNR=5.2						
USRK	Ussuriysk Ar.	38.94	282	P	P	07 50 52.0	-0.5
USRK						07 53 03.0	
PKM	Mcpherson Peak	39.00	96	P	P	07 50 53.2	-0.1
	baz=312						
CWC	Cottonwood Cre	39.04	93	P	P	07 50 53.3	-0.4
	baz=310						
RLMT	Red Lodge	39.28	76	P	P	07 50 55.9	+0.3
	baz=303						
RLMT	Red Lodge	39.28	76	P	P	07 50 57.2	+1.6
RLMT				IAmb	IAmb	07 51 10.3	
	comp=Z,421nm,2.3s						
ISA	Isabella, Lake	39.31	94	P	P	07 50 56.5	+0.8
	baz=311						
R11A	Troy Canyon, C	39.37	89	P	P	07 50 55.6	-0.8
	baz=309						
AHID	Auburn Hatcher	39.48	80	P	P	07 50 58.5	+1.2
VLA	Vladivostok	39.60	281	*c*iP	P	07 50 57.8	-0.2
VLA				pmax	pmax		
	comp=Z,80nm,1.3s						
MAJO	Matsushiro	39.71	268	*e*P	P	07 50 59.4	+0.4
MAJO				pmax	pmax		
	comp=Z,30nm,1.1s						
MAJO	Matsushiro	39.71	268	P	P	07 50 59.5	+0.4
MAT	Matsushiro	39.71	268	P	P	07 50 58.2	-0.8
MJAR	Matsushiro Arr	39.71	268	P	P	07 50 58.5	-0.4
	comp=Z,8.0nm,0.6s,baz=42,slow=7.2,SNR=12						
MJAR				PcP	PcP	07 53 05.3	+0.2
	comp=Z,8.2nm,1.1s,baz=68,slow=3.1,SNR=4.0						
MJAR	Matsushiro Arr	39.71	268		PcP	07 53 05.5	+0.4
MJB9	Matsu-Tunnel	39.71	268	P	P	07 50 58.8	-0.2
FURC	Furnace Creek,	39.77	92	P	P	07 50 59.3	-0.2
	baz=310						
TPNV	Topopah Spring	39.84	91	P	P	07 50 59.6	-0.7
	baz=310						
OSI	Osito Audit: C	39.85	96	P	P	07 50 59.1	-1.2
	baz=312						
MDJ	Mudanjiang	40.14	284	P	P	07 51 01.0	-1.5
MDJ				pmax	pmax		
	comp=Z,16nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,1μm,11.4s						
LAO	LASA Array	40.24	72	P	P	07 51 02.1	-1.2
	baz=302						
MSHR	Mys Shultsa	40.35	281	*c*iP	P	07 51 03.8	-0.4
MSHR				pmax	pmax		
	comp=Z,111nm,1.6s						
BW06	Boulder Array	40.41	79	P	P	07 51 04.5	-0.6
	baz=305,SNR=7.9						
BW06	Boulder Array	40.41	79	P	P	07 51 05.3	+0.2
PD31	Pinedale Array	40.41	79	P	P	07 51 04.7	-0.3
PDAR	Pinedale Array	40.41	79	P	P	07 51 05.1	0.0
	comp=Z,20nm,0.8s,baz=302,slow=4.1,SNR=8.5						
PDAR	Pinedale Array	40.41	79	P	P	07 51 04.5	-0.6
GSC	Goldstone, Bar	40.57	93	P	P	07 51 07.7	+1.5
GSC				pmax	pmax		
	comp=Z,65nm,1.3s						
GSC	Goldstone, Bar	40.57	93	P	P	07 51 07.4	+1.1
	baz=311						
GSC	Goldstone, Bar	40.57	93	P	P	07 51 07.7	+1.5
BFSC	Mount Baldy Ra	40.76	95	P	P	07 51 08.1	+0.3
	baz=312						
JGF	Kuroka	40.84	268	P	P	07 51 08.4	0.0
JGF				IAmb	IAmb	07 51 15.8	
	comp=Z,184nm,1.9s						
FCC	Fort Churchill	41.02	50	P	P	07 51 09.7	+0.2
FCC				pmax	pmax		
	comp=Z,143nm,0.8s						
FCC	Fort Churchill	41.02	50	P	P	07 51 09.7	+0.2
FCC				IAmb	IAmb	07 51 12.3	
	comp=Z,143nm,0.8s						
TUQ	Turquoise Moun	41.02	93	P	P	07 51 10.8	+0.8
	baz=311						
BBRC	Big Bear Solar	41.19	95	P	P	07 51 11.5	0.0
	baz=312						
MURC	Murrieta	41.47	96	P	P	07 51 13.4	-0.2
	baz=313						
GMRC	Granite Mounta	41.62	93	P	P	07 51 15.1	+0.2
	baz=312						
RDMU	Red Mountain	41.70	82	P	P	07 51 16.6	+1.0
RDMU				IAmb	IAmb	07 51 32.2	
	comp=Z,174nm,1.2s						
PFO	Pinyon Flats O	41.91	95	P	P	07 51 18.3	+1.0
	comp=Z,12nm,1.1s,baz=316,slow=6.8,SNR=3.1						
PFO	Pinyon Flats O	41.91	95	P	P	07 51 17.4	+0.1
	baz=313						
TPFO	Pinon Flats	41.92	95	P	P	07 51 17.0	-0.4
	baz=313						
BELC	Belle Mtn. Jos	41.93	94	P	P	07 51 18.3	+0.8
	baz=312						
109C	Camp Elliot, M	42.01	96	P	P	07 51 18.1	+0.1
	baz=314						
BOD	Bodaibo	42.09	309	*e*P	P	07 51 17.0	-1.4
BOD				pmax	pmax		
	comp=Z,139nm,0.6s						
JWT	Wachi	42.25	269	P	P	07 51 20.0	+0.1
NEE2	Needles Airpor	42.27	92	P	P	07 51 21.2	+1.1
	baz=312						
K22A	Casper	42.31	77	P	P	07 51 19.7	-0.8
	baz=306						
IRM	Iron Mountain	42.35	93	P	P	07 51 20.9	+0.1
	baz=312						
BAR	Barrett	42.42	96	P	P	07 51 22.1	+0.7
MONP2	Monument Peak	42.42	96	P	P	07 51 21.6	0.0
	baz=313						
RWWY	Rawlins	42.46	79	P	P	07 51 21.9	0.0
RWWY				IAmb	IAmb	07 51 35.4	
	comp=Z,242nm,1.9s						
O20A	White River Ci	42.77	81	P	P	07 51 23.8	-0.5
	baz=308						
SWSC	Sam W. Stewart	42.77	95	P	P	07 51 24.8	+0.6
	baz=313						
IKP	In-Ko-Pah, Jac	42.78	96	P	P	07 51 25.1	+0.7
	baz=314						
PDMCI	Parker Dam,Lak	42.87	92	P	P	07 51 26.1	+1.2
	baz=312						
RSSD	Black Hills	42.94	74	P	P	07 51 24.9	-0.8
	baz=305						
CN2	Changchun	43.06	286	*e*P	P	07 51 25.8	-0.6
CN2				pmax	pmax		
	comp=Z,50nm,0.9s						
HIA	Hailar	43.32	296	*c*iP	P	07 51 27.4	-1.1
HIA				pmax	pmax		
	comp=Z,140nm,1.5s						
HIA	Hailar	43.32	296	P	P	07 51 27.2	-1.3
PV22	Blue Mesa, Par	43.42	84	P	P	07 51 30.8	+1.2
MDND	Maddock	43.43	67	P	P	07 51 28.7	-0.6
	baz=303,SNR=7.5						
MDND	Maddock	43.43	67	P	P	07 51 30.3	+0.9
E28A	Huff	43.51	69	P	P	07 51 31.2	+1.2
PV03	Paradox Valley	43.56	84	P	P	07 51 31.0	+0.2
N23A	Red Feather La	43.70	79	P	P	07 51 32.2	+0.3
	baz=307						
PHWY	Pilot Hill	43.74	78	P	P	07 51 32.3	0.0
WUAZ	Wupatki	43.77	89	P	P	07 51 32.2	-0.2
	baz=311						
JCJ	Chichijima	43.88	254	P	P	07 51 33.2	0.0
	comp=Z,67nm,0.5s,baz=34,slow=15,SNR=4.5						
ULM	Lac du Bonnet	44.20	62	P	P	07 51 34.4	-1.

NEEM IAmb IAmb 07 51 44.2
comp=Z,83nm,0.9s
AGMN Agassiz Nation 45.27 64 P P 07 51 39.0 -5.1
baz=304,SNR=9.5
AGMN Agassiz Nation 45.27 64 P **P 07 51 44.0 -0.1**
AGMN IAmb IAmb 07 51 58.3
comp=Z,142nm,1.2s
214A Organ Pipe Nat 45.28 94 P **P 07 51 45.5 +1.1**
baz=314
214A Organ Pipe Nat 45.28 94 P **P 07 51 43.9 -0.4**
D32A Dogwood Acres, 45.28 66 P **P 07 51 43.5 -0.6**
Q24A Divide 45.37 80 P **P 07 51 47.1 +1.8**
baz=309
KSRS Korea Array 45.44 277 P **P 07 51 46.1 +0.7**
comp=Z,41nm,0.7s,baz=56,slow=7.5,SNR=26
KSRS PcP **PcP 07 53 25.6 +1.5**
comp=Z,2.4nm,0.8s,baz=49,slow=5.1,SNR=1.6
KS19 Wonju Array Si 45.44 277 P **P 07 51 45.3 -0.2**
KS19 IAmb IAmb 07 51 47.4
comp=Z,111nm,1.1s
KSAR Wonju Array Be 45.47 277 P **P 07 51 45.7 0.0**
KSAR Wonju Array Be 45.47 277 P **P 07 51 45.7 0.0**
NOR Nord 45.61 5 *i* P **P 07 51 46.0 -0.4**
NOR IAmb IAmb 07 51 47.3
comp=Z,55nm,1.1s
NOR Nord 45.61 5 *i* P **P 07 51 45.9 -0.4**
NOR pmax pmax
comp=Z,55nm,1.1s
SUSD Miller 45.73 70 P **P 07 51 45.9 -1.9**
baz=306,SNR=11
SUSD Miller 45.73 70 P **P 07 51 47.7 0.0**
SUSD IAmb IAmb 07 51 48.8
comp=Z,155nm,1.0s
SDCO Great Sand Dun 45.93 82 P **P 07 51 45.9 -3.9**
baz=310
OGNE Ogallala 46.02 76 P **P 07 51 49.5 -0.6**
baz=308
OGNE Ogallala 46.02 76 P **P 07 51 51.0 +0.9**
OGNE IAmb IAmb 07 52 07.1
comp=Z,94nm,1.1s
INCN Inchon 46.20 278 P **P 07 51 52.0 +0.4**
INCN pmax pmax
comp=Z,169nm,1.0s
INCN Inchon 46.20 278 P **P 07 51 52.0 +0.4**
TUC Tucson 46.28 92 P **P 07 51 53.1 +0.8**
TUC pmax pmax
comp=Z,49nm,1.3s
TUC Tucson 46.28 92 P **P 07 51 53.3 +1.0**
baz=314
TUC Tucson 46.28 92 P **P 07 51 53.1 +0.8**
B35A Bob, Littlefor 46.42 63 P **P 07 51 52.6 -0.5**
B35A IAmb IAmb 07 51 53.5
comp=Z,50nm,0.8s
F33A 5 Mile Ranch, 46.44 67 P **P 07 51 52.9 -0.4**
F33A IAmb IAmb 07 52 06.3
comp=Z,119nm,1.4s
TJN Taejon 46.47 276 *c i* P **P 07 51 53.6 0.0**
JNU Nakatsue 46.48 270 P **P 07 51 54.8 +1.0**
comp=Z,23nm,0.6s,baz=51,slow=9.3,SNR=9.2
JNU Nakatsue 46.48 270 P **P 07 51 54.3 +0.5**
JNU IAmb IAmb 07 52 07.5
comp=Z,80nm,1.1s
NRIK Noril'sk 46.55 332 P **P 07 51 53.8 0.0**
comp=Z,28nm,0.6s,baz=73,slow=8.9,SNR=14
NRIK PcP **PcP 07 53 28.1 +0.6**
comp=Z,5.9nm,0.6s,baz=51,slow=6.5,SNR=1.7
NRIK Noril'sk 46.55 332 *c i* P **P 07 51 53.6 -0.3**
NRIK pmax pmax
comp=Z,100nm,1.5s
NRIK Noril'sk 46.55 332 P **P 07 51 53.4 -0.5**
NRIK IAmb IAmb 07 51 55.1
comp=Z,188nm,1.6s
KSCO Kaye Shedlock' 46.86 79 P **P 07 51 54.1 -2.8**
baz=309
KSCO Kaye Shedlock' 46.86 79 P **P 07 51 58.3 +1.4**
T25A Trinidad 46.98 82 P **P 07 51 58.8 +0.9**
baz=310
T25A Trinidad 46.98 82 P **P 07 51 59.3 +1.4**
UPNV Upernavik 47.12 22 *i* P **P 07 51 58.2 +0.1**
UPNV IAmb IAmb 07 51 59.2
comp=Z,58nm,0.9s
ANMO Albuquerque 47.16 86 P **P 07 52 00.8 +1.4**
comp=Z,16nm,1.2s,baz=307,slow=14,SNR=2.4
ANMO PcP **PcP 07 53 31.0 +0.5**
comp=Z,13nm,1.0s,baz=267,slow=3.5,SNR=3.6
ANMO Albuquerque 47.16 86⇑ *i* P **P 07 52 01.0 +1.6**
ANMO pmax pmax
comp=Z,27nm,1.4s
ANMO Albuquerque 47.16 86 P **P 07 52 00.9 +1.6**
baz=312
LENM Lemitar 47.37 87 P **P 07 52 02.3 +1.4**
Y22D IRIS PASSCAL I 47.46 87 P **P 07 52 03.8 +2.2**
baz=312
Y22D IRIS PASSCAL I 47.46 87 P **P 07 52 02.7 +1.1**
Y22D IAmb IAmb 07 52 18.6
comp=Z,98nm,1.0s
ECSD EROS Data Cent 47.50 70 P **P 07 51 59.3 -2.4**
baz=307,SNR=7.9
ECSD EROS Data Cent 47.50 70 P **P 07 52 01.0 -0.7**
BNM Barren Site 47.59 87 P **P 07 52 03.4 +0.7**
EYMN Ely 47.88 62 P **P 07 52 03.4 -1.0**
baz=306,SNR=7.2
EYMN Ely 47.88 62 P **P 07 52 04.2 -0.3**
121A Cookes Peak, D 47.98 89 P **P 07 52 02.2 -3.5**
baz=313
121A Cookes Peak, D 47.98 89 P **P 07 52 06.8 +1.1**
F36A Milaca 47.99 66 P **P 07 52 04.5 -0.8**
F36A IAmb IAmb 07 52 18.5
comp=Z,196nm,1.9s
BGNE Belgrade 48.03 73 P **P 07 52 06.6 +0.8**
baz=308
BGNE Belgrade 48.03 73 P **P 07 52 06.3 +0.5**
DL2 Dalian 48.32 283 P **P 07 52 08.0 0.0**
DL2 pmax pmax
comp=Z,93nm,1.0s
HSIG 48.48 95 P **P 07 52 09.3 0.0**
NUUG Nuugaatsiaq 48.62 22 *i* P **P 07 52 10.0 +0.2**
NUUG IAmb IAmb 07 52 12.6
comp=Z,45nm,1.0s
E38A The Farm, Brul 48.64 64 P **P 07 52 09.8 -0.5**
L34A Svendsen Farm, 48.73 72 P **P 07 52 10.8 -0.3**
CBKS Cedar Bluff 48.73 77 P **P 07 52 11.8 +0.6**
CBKS pmax pmax
comp=Z,117nm,1.1s
CBKS Cedar Bluff 48.73 77 P **P 07 52 07.4 -3.8**
baz=310
CBKS Cedar Bluff 48.73 77 P **P 07 52 11.8 +0.6**
CBKS IAmb IAmb 07 52 25.2
comp=Z,117nm,1.1s
SPMN Marine on St. 48.77 66 P P 07 52 05.3 -6.1
baz=307
SPMN Marine on St. 48.77 66 P **P 07 52 11.1 -0.3**
SPMN IAmb IAmb 07 52 24.9
comp=Z,156nm,1.6s
N33A J Bar K, Exete 48.87 74 P **P 07 52 12.0 -0.2**
N33A IAmb IAmb 07 52 16.4
comp=Z,68nm,1.0s
KBS Kingsbay 49.10 360 *i* P **P 07 52 14.0 +0.5**
KBS IAmb IAmb 07 52 15.3
comp=Z,237nm,1.0s
KBS Kingsbay 49.10 360 *c i* P **P 07 52 14.0 +0.5**
KBS pmax pmax
comp=Z,126nm,1.1s
KBS Kingsbay 49.10 360 *e* P **P 07 52 14.4 +0.9**
KBS Kingsbay 49.10 360 P **P 07 52 14.2 +0.7**
KBS IAmb IAmb 07 52 15.6
comp=Z,91nm,0.9s
I37A Lemond, Waseca 49.17 68 P **P 07 52 14.2 -0.3**
I37A IAmb IAmb 07 52 15.2
comp=Z,105nm,0.9s
R32A Long Quarter, 49.59 77 P **P 07 52 18.0 +0.2**
IRK Irkutsk 49.78 307 *e* P **P 07 52 18.7 -0.4**
IRK *e* 07 53 38.3
IRK pmax pmax
comp=Z,201nm,0.7s
SPA0 Spitsbergen Ar 49.81 358 *e* P **P 07 52 19.0 +0.1**
SPITS Spitsbergen Ar 49.81 358 P **P 07 52 17.5 -1.4**
comp=Z,83nm,1.0s,baz=26,slow=6.0,SNR=13
SPITS PcP **PcP 07 53 40.8 +1.7**
comp=Z,4.2nm,0.5s,baz=40,slow=2.5,SNR=1.5
SPITS Spitsbergen Ar 49.81 358 P **P 07 52 18.7 -0.2**
SPITS pmax pmax
comp=Z,204nm,1.3s
N35A Tabor 49.85 72 P **P 07 52 19.5 -0.2**
N35A IAmb IAmb 07 52 38.3
comp=Z,75nm,0.7s
DAG Danmarks Havn 49.93 8 *i* P **P 07 52 19.1 -0.7**
DAG IAmb IAmb 07 52 20.3
comp=Z,116nm,0.8s
DAG Danmarks Havn 49.93 8 *i* P **P 07 52 19.0 -0.7**
DAG pmax pmax
comp=Z,120nm,0.8s
D41A Chassel 50.00 62 P **P 07 52 21.0 +0.3**
MNTX Cornudas Mount 50.03 88 P **P 07 52 16.8 -4.3**
baz=314
MSTX Muleshoe 50.08 84 P **P 07 52 17.0 -4.6**
baz=313,SNR=7.0
MSTX Muleshoe 50.08 84 P **P 07 52 21.7 +0.1**
AMTX Amarillo 50.13 82 P **P 07 52 18.3 -3.6**
baz=312
AMTX Amarillo 50.13 82 P **P 07 52 21.8 -0.1**
AMTX IAmb IAmb 07 52 36.0
comp=Z,125nm,1.5s
G40A Rib Lake 50.20 65 P **P 07 52 22.0 -0.3**
G40A IAmb IAmb 07 52 37.0
comp=Z,72nm,1.2s
COWI Conover 50.27 63 P **P 07 52 22.6 -0.3**
KSU1 Kansas State U 50.41 75 P **P 07 52 22.1 -1.8**
baz=310
KSU1 Kansas State U 50.41 75 P **P 07 52 23.4 -0.6**
SCIA State Center 50.60 70 P **P 07 52 21.3 -4.0**
baz=309
SCIA State Center 50.60 70 P **P 07 52 25.3 -0.1**
SCIA IAmb IAmb 07 52 25.9
comp=Z,54nm,0.9s
ILULI Ilulissat 50.76 24 P **P 07 52 25.7 -0.4**
ILULI pmax pmax
comp=Z,28nm,0.6s
ILULI Ilulissat 50.76 24 P **P 07 52 25.7 -0.4**
U32A Winter Ranch, 50.76 79 P **P 07 52 27.2 +0.6**
I40A Norwalk 50.83 66 P **P 07 52 26.7 -0.4**
I40A IAmb IAmb 07 52 40.3
comp=Z,110nm,1.3s
BJI Beijing 50.83 287 P **P 07 52 28.0 +0.9**
BJI S **S 07 59 39.8 -1.1**
BJI pmax pmax
comp=Z,27nm,0.8s
BJI pmax pmax
comp=Z,1.0nm,2.7s
BJI LR LR
comp=Z,8μm,17.1s
BJI LR LR
comp=Z,5μm,17.5s
BJT Baijiatuau 50.85 287 P **P 07 52 27.9 +0.6**
BJT pmax pmax
comp=Z,26nm,0.9s
BJT Baijiatuau 50.85 287 P **P 07 52 27.9 +0.6**
SUMG Summit 50.91 17 *i* P **P 07 52 28.5 +0.8**
SUMG IAmb IAmb 07 52 29.3
comp=Z,118nm,0.8s
SUMG Summit 50.91 17 P **P 07 52 28.3 +0.6**
SUMG pmax pmax
comp=Z,129nm,0.9s
SUMG Summit 50.91 17 P **P 07 52 28.3 +0.6**
OK032 Salt Plains WL 50.95 78 P **P 07 52 29.4 +1.3**
OK032 IAmb IAmb 07 52 41.4
comp=Z,157nm,1.5s
HSPB Hornsund (broa 51.00 359 *e* P **P 07 52 28.1 +0.3**
ULN Ulaanbaatar 51.02 301 *c i* P **P 07 52 28.3 -0.3**
ULN pmax pmax
comp=Z,81nm,1.0s
ULN Ulaanbaatar 51.02 301 P **P 07 52 28.9 +0.3**
ULN IAmb IAmb 07 52 30.2
comp=Z,82nm,1.1s
F42A Maple Grove Fa 51.04 63 P **P 07 52 28.6 0.0**
KS20 Mayfield South 51.06 77 P **P 07 52 28.5 -0.5**
KS20 IAmb IAmb 07 52 42.7
comp=Z,170nm,1.3s
KAN09 Caldwell North 51.09 77 P **P 07 52 29.2 +0.1**
KAN09 IAmb IAmb 07 52 43.6
comp=Z,167nm,1.4s
HOPEN Hopen 51.20 356 *e* P **P 07 52 29.4 0.0**
KAN13 South Haven SW 51.25 77 P **P 07 52 30.3 0.0**
E43A Lone Tree Farm 51.27 62 P **P 07 52 29.9 -0.4**
E43A IAmb IAmb 07 52 34.7
comp=Z,57nm,0.7s
N38A Joes South For 51.30 71 P **P 07 52 29.6 -1.0**
N38A IAmb IAmb 07 52 34.7
comp=Z,87nm,1.0s
SONM Songino Array 51.38 301 P **P 07 52 31.7 +0.3**
comp=Z,43nm,1.0s,baz=56,slow=7.1,SNR=11
SONM PcP **PcP 07 53 46.1 +0.5**
comp=Z,8.7nm,0.6s,baz=53,slow=2.8,SNR=4.5
SONM ScP **ScP 07 57 42.8 +3.2**
comp=Z,0.5nm,0.4s,baz=35,slow=5.3,SNR=1.7
SONM P4KPbc 08 30 01.8
comp=Z,1.4nm,1.0s,baz=60,slow=3.6,SNR=5.3
SONM Songino Array 51.38 301 IAmb IAmb 07 52 33.4
comp=Z,122nm,1.3s
ZAK Zakamensk 51.41 305 *e* P **P 07 52 31.0 -0.5**
ZAK *e* 07 53 46.2
ZAK pmax pmax
comp=Z,67nm,1.5s
BLOK Blackwell 51.58 77 P **P 07 52 31.8 -1.0**
BLOK IAmb IAmb 07 52 47.3
comp=Z,157nm,1.4s
L40A Anamosa 51.64 68 P **P 07 52 32.2 -1.0**
L40A IAmb IAmb 07 52 36.4
comp=Z,49nm,0.8s
JFWS Jewell Farm 51.65 67 P **P 07 52 32.3 -0.9**
JFWS pmax pmax
comp=Z,38nm,0.8s
JFWS Jewell Farm 51.65 67 P **P 07 52 31.1 -2.2**
baz=310,SNR=5.3
JFWS Jewell Farm 51.65 67 P **P 07 52 32.3 -0.9**
MOY Mondy 51.75 308 *e* P **P 07 52 34.1 +0.1**
MOY pmax pmax
comp=Z,106nm,1.7s
I42A Draeger Farm, 51.78 65 P **P 07 52 33.5 -0.7**
I42A IAmb IAmb 07 52 34.4
comp=Z,54nm,0.8s
P38A Dawn 51.88 72 P **P 07 52 33.5 -1.5**
WMOK Wichita Mounta 51.99 80 P **P 07 52 36.1 +0.2**
WMOK pmax pmax
comp=Z,56nm,1.0s
WMOK Wichita Mounta 51.99 80 P **P 07 52 32.2 -3.6**
baz=313
WMOK Wichita Mounta 51.99 80 P **P 07 52 36.1 +0.2**
WMOK IAmb IAmb 07 52 54.0
comp=Z,56nm,1.0s
DBG Daneborg 52.05 10 *i* P **P 07 52 34.8 -0.9**
DBG IAmb IAmb 07 52 36.1
comp=Z,136nm,0.8s
H43A Windswept, Lux 52.05 64 P **P 07 52 35.6 -0.6**
H43A IAmb IAmb 07 52 36.5
comp=Z,70nm,0.8s
BCOK Bluff Creek, N 52.08 79 P **P 07 52 35.6 -0.9**
OK029 Liberty Lake 52.08 78 P **P 07 52 36.5 -0.1**
OK029 IAmb IAmb 07 52 50.5
comp=Z,143nm,1.5s
QUOK Quay 52.28 78 P **P 07 52 39.0 +1.0**
QUOK IAmb IAmb 07 52 51.1
comp=Z,79nm,1.2s
OK031 S. Brethren Rd 52.34 78 P **P 07 52 38.3 -0.2**
FNO Franklin 52.47 79 P **P 07 52 39.6 +0.2**
SFJD Kangerlussuaq 52.49 26 *i* P **P 07 52 39.2 +0.1**
SFJD IAmb IAmb 07 52 40.4
comp=Z,46nm,0.8s
SFJD Kangerlussuaq 52.49 26 *i* P **P 07 52 39.2 +0.1**
SFJD pmax pmax
comp=Z,47nm,0.8s
SFJD Kangerlussuaq 52.49 26 P **P 07 52 39.5 +0.4**
SFJD IAmb IAmb 07 52 40.6
comp=Z,76nm,0.8s
JOW Kunigami 52.50 266 P **P 07 52 39.1 -0.6**
comp=Z,24nm,0.9s,baz=350,slow=6.1,SNR=3.8
JOW Kunigami 52.50 266 P **P 07 52 39.9 +0.1**
JOW IAmb IAmb 07 52 58.5
comp=Z,198nm,1.8s
L42A Oliver, Polo 52.57 67 P **P 07 52 38.9 -1.1**
X34A Smith Ranch, M 52.66 80 P **P 07 52 41.3 +0.5**
X34A IAmb IAmb 07 52 55.9
comp=Z,92nm,1.3s
E46A Sault Ste Mari 52.72 60 P **P 07 52 41.4 +0.2**
E46A IAmb IAmb 07 52 55.5
comp=Z,95nm,1.1s
TX31 Lajitas Ar. Si 52.73 89 P **P 07 52 41.6 +0.1**
TX32 Lajitas Array 52.73 89 P **P 07 52 41.6 +0.1**
TXAR Lajitas Array 52.73 89 P **P 07 52 40.8 -0.8**
comp=Z,10nm,0.7s,baz=304,slow=7.1,SNR=6.3
TXAR Lajitas Array 52.73 89 P **P 07 52 41.2 -0.3**
TIA Tai'an 52.79 283 ⇑P **P 07 52 41.5 -0.3**
TIA pmax pmax
comp=Z,130nm,0.9s
P40A Paris 52.81 71 P **P 07 52 40.8 -1.0**
P40A IAmb IAmb 07 52 41.7
comp=Z,92nm,0.8s
ABTX Abilene, Hawle 52.91 83 P **P 07 52 42.8 +0.1**
baz=314
ABTX Abilene, Hawle 52.91 83 P **P 07 52 42.9 +0.1**
ABTX IAmb IAmb 07 52 56.6
comp=Z,104nm,1.1s
HHC Hu-ho-hao-te 52.98 291 *e* P **P 07 52 43.8 +0.5**
HHC pmax pmax
comp=Z,55nm,1.5s
HHC pmax pmax
comp=Z,750nm,5.7s
HHC LR LR
comp=Z,4μm,17.2s
HHC LR LR
comp=Z,7μm,17.4s
HHC LR LR
comp=Z,8μm,17.7s
SLBS Sierra La Lagu 52.99 99 P **P 07 52 44.6 +1.2**
TUL1 Leonard 53.00 77 P **P 07 52 40.6 -2.8**
baz=312
GUMO Guam 53.05 241 P **P 07 52 41.6 -2.3**
GUMO pmax pmax
comp=Z,177nm,1.1s
GUMO Guam 53.05 241 P **P 07 52 41.6 -2.3**
BJO1 Bjornoya 53.43 357 *e* P **P 07 52 47.0 +1.1**
L44A Lake County Fo 53.45 66 P **P 07 52 46.1 -0.5**
baz=311
L44A Lake County Fo 53.45 66 P **P 07 52 45.8 -0.7**
L44A IAmb IAmb 07 52 46.4
comp=Z,87nm,1.0s
LOOK Love County 53.46 80 P **P 07 52 47.6 +0.9**
ICESG Greenland Ices 53.49 20 *i* P **P 07 52 46.5 -0.4**
ICESG IAmb IAmb 07 52 47.6
comp=Z,103nm,0.8s
GLMI Grayling 53.55 62 P **P 07 52 43.9 -3.3**
baz=310
GLMI Grayling 53.55 62 P **P 07 52 46.9 -0.3**
HDIL Hopedale 53.73 69 P **P 07 52 46.5 -2.1**
baz=311,SNR=6.9
HDIL Hopedale 53.73 69 P **P 07 52 47.9 -0.7**
HDIL IAmb IAmb 07 52 48.5
comp=Z,93nm,1.0s
SSE Sheshan 53.83 276 P **P 07 52 49.0 -0.4**
SSE S **S 08 00 18.8 -3.2**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,580nm,4.2s
HHAR Hobbs 53.86 76 P **P 07 52 48.3 -1.3**
M44A Midewin, Midew 53.89 67 P **P 07 52 49.5 -0.3**
M44A IAmb IAmb 07 52 49.7
comp=Z,63nm,0.9s
MATQ Matagami 53.96 53 P **P 07 52 49.8 -0.4**
baz=310
DY2G Dye2 54.03 25⇑ *i* P **P 07 52 50.4 -0.3**
DY2G IAmb IAmb 07 52 51.8
comp=Z,53nm,0.6s
BTO Baotou 54.03 292 *e* P **P 07 52 51.0 +0.1**
BTO S **S 08 00 20.8 -4.0**
P43A Skaggs, Pawnee 54.20 70 P **P 07 52 51.4 -0.7**
P43A IAmb IAmb 07 52 52.0
comp=Z,53nm,0.8s
CCM Cathedral Cave 54.26 72 P **P 07 52 50.7 -1.8**
baz=312
NUUK Nuuk 54.27 29 *i* P **P 07 52 53.2 +1.1**
NUUK IAmb IAmb 07 52 54.0
comp=Z,40nm,0.8s
JCT Junction City 54.30 85 P **P 07 52 53.7 +0.7**
baz=315
U40A Yellville 54.45 75 P **P 07 52 52.3 -1.7**
baz=313
L46A Eue Claire 54.46 65 P **P 07 52 53.4 -0.6**
L46A IAmb IAmb 07 52 54.0
comp=Z,63nm,0.8s
J47A Sunmer 54.47 63 P **P 07 52 53.5 -0.5**
J47A IAmb IAmb 07 53 08.1
comp=Z,182nm,1.8s
TIY Taiyuan 54.56 288 *e* P **P 07 52 55.8 +1.0**
TIY pmax pmax
comp=Z,46nm,0.8s
TIY pmax pmax
comp=Z,530nm,4.8s
TIY LR LR
comp=Z,3μm,17.6s
TIY LR LR
comp=Z,3μm,15.8s
TIY LR LR
comp=Z,5μm,17.3s
NJ2 Nanjing 54.58 278⇓ *i* P **P 07 52 55.0 +0.1**
NJ2 pP **pP 07 53 02.5 -0.9**
NJ2 pmax pmax
comp=Z,62nm,0.8s
NJ2 LR LR
comp=Z,2μm,18.6s
NJ2 LR LR
comp=Z,3μm,16.5s
NJ2 LR LR
comp=Z,4μm,21.2s
WHTX Lake Whitney, 54.68 82 P **P 07 52 54.8 -0.8**
baz=314,SNR=11
WHTX Lake Whitney, 54.68 82 P **P 07 52 55.8 +0.2**
W39A Magazine 54.69 76 P **P 07 52 56.1 +0.4**
baz=313
LSQQ Lebel-sur-Quev 54.75 54 P **P 07 52 52.3 -3.6**
baz=311
I49A Point Hope 55.10 62 P **P 07 52 58.2 -0.3**
I49A IAmb IAmb 07 53 12.1
comp=Z,60nm,1.0s
SFIN Lafayette 55.10 67 P **P 07 52 56.1 -2.4**
baz=312,SNR=7.6
SFIN Lafayette 55.10 67 P **P 07 52 57.9 -0.6**
SFIN IAmb IAmb 07 53 14.0
comp=Z,139nm,1.4s
FCAR Ozark Folk Cen 55.20 75 P **P 07 52 57.9 -1.4**
FCAR IAmb IAmb 07 53 11.4
comp=Z,97nm,1.4s
MIAR Mount Ida 55.26 77 P **P 07 52 59.0 -0.8**
MIAR pmax pmax
comp=Z,182nm,1.5s
MIAR Mount Ida 55.26 77 P **P 07 52 59.2 -0.6**
baz=314
MIAR Mount Ida 55.26 77 P **P 07 52 59.0 -0.8**
SCO Scoresbysund 55.35 13 *i* P **P 07 53 00.3 +0.4**
SCO IAmb IAmb 07 53 01.1
comp=Z,76nm,0.8s
SCO Scoresbysund 55.35 13 *i* P **P 07 53 00.3 +0.4**
SCO pmax pmax
comp=Z,76nm,0.8s
SCO Scoresbysund 55.35 13 P **P 07 52 59.5 -0.5**
SCO IAmb IAmb 07 53 01.3
comp=Z,76nm,0.8s
435B Jarrell 55.44 83 P **P 07 53 01.8 +0.7**
baz=315
435B Jarrell 55.44 83 P **P 07 53 02.2 +1.0**
435B IAmb IAmb 07 53 16.8
comp=Z,50nm,0.8s
CHGQ Chibougamau 55.45 51 P **P 07 52 58.5 -2.5**
baz=312,SNR=5.4
WHAR Wooly Hollow 55.51 75 P **P 07 53 01.0 -0.6**
WHAR IAmb IAmb 07 53 23.6
comp=Z,172nm,1.9s
SCHQ Schefferville 55.53 43 P **P 07 53 02.2 +0.8**
comp=Z,54nm,0.9s,baz=334,slow=7.5,SNR=10.0
SCHQ Schefferville 55.53 43 IAmb IAmb 07 53 03.0
comp=Z,102nm,1.0s
L48A N Adams 55.54 64 P **P 07 53 01.0 -0.8**
P46A Rosedale 55.54 68 P **P 07 53 01.0 -0.7**
N47A Urbana 55.55 66 P **P 07 53 00.2 -1.6**
N47A IAmb IAmb 07 53 01.3
comp=Z,69nm,0.8s
PBMO Poplar Bluff 55.60 73 P **P 07 53 00.6 -1.6**
PBMO IAmb IAmb 07 53 14.3
comp=Z,77nm,1.4s
W41B Gary Mavity, V 55.62 75 P **P 07 53 01.7 -0.6**
baz=314
OLIL Olney 55.63 69 P **P 07 53 01.6 -0.7**
S44A Carbondale 55.66 71 P **P 07 53 01.4 -1.3**
SIUC Southern Illin 55.67 71 P **P 07 53 01.6 -1.1**
237A Washetta, Mont 55.67 81 P **P 07 53 02.7 -0.1**
237A IAmb IAmb 07 53 16.7

comp=Z,162nm,1.4s
X40A Basin Creek Fa 55.74 76 P P 07 53 03.7 +0.4
baz=314
K50A Casco 55.98 62 P P 07 53 04.7 -0.2
K50A IAmb IAmb 07 53 18.8
comp=Z,225nm,1.9s
833A Chaparral WMA, 56.08 86 P P 07 53 06.1 +0.3
baz=316
WLAR White Oak Lake 56.13 77 P P 07 53 06.1 +0.1
BLO Bloomington 56.23 68 P P 07 53 05.7 -1.0
BLO pmax pmax
comp=Z,50nm,1.0s
BLO Bloomington 56.23 68 P P 07 53 05.7 -1.0
BLO IAmb IAmb 07 53 06.6
comp=Z,50nm,1.0s
ALGO Algonquin Park 56.27 57 P P 07 53 05.3 -1.6
baz=312,SNR=9.6
HBAR Harrisburg 56.30 74 P P 07 53 06.2 -1.0
HBAR IAmb IAmb 07 53 21.2
comp=Z,151nm,1.3s
JMIC Jan Mayen 56.32 7 eP P 07 53 05.9 -0.9
USIN University of 56.40 70 P P 07 53 06.9 -1.0
USIN IAmb IAmb 07 53 30.0
comp=Z,96nm,0.9s
T45A Paducah 56.48 71 P P 07 53 07.7 -0.7
T45A IAmb IAmb 07 53 12.3
comp=Z,79nm,1.1s
SADO Sadowa 56.51 59 P P 07 53 08.1 -0.5
SADO IAmb IAmb 07 53 22.8
comp=Z,45nm,0.8s
NATX Nacogdoches 56.54 80 P P 07 53 10.0 +1.1
baz=315
NATX Nacogdoches 56.54 80 P P 07 53 08.9 -0.1
Z41A Richland Creek 56.61 77 P P 07 53 12.0 +2.5
baz=314
P48A Milroy 56.66 67 P P 07 53 09.0 -0.8
P48A IAmb IAmb 07 53 09.2
comp=Z,87nm,1.2s
M50A Fremont 56.68 64 P P 07 53 09.4 -0.5
CCAR Cane Creek 56.77 76 P P 07 53 11.2 +0.6
O49A Covington 56.78 66 P P 07 53 09.6 -1.0
ANGG Ammassalik, Gr 56.81 22⇑ iP P 07 53 09.6 -0.8
ANGG IAmb IAmb 07 53 10.4
comp=Z,95nm,1.0s
ANGG Ammassalik, Gr 56.81 22 P P 07 53 09.8 -0.6
ANGG IAmb IAmb 07 53 10.6
comp=Z,88nm,1.0s
WCI Wyandotte Cave 57.01 69 P P 07 53 11.6 -0.6
WCI pmax pmax
comp=Z,44nm,0.9s
WCI Wyandotte Cave 57.01 69 P P 07 53 12.4 +0.1
baz=313
WCI Wyandotte Cave 57.01 69 P P 07 53 11.6 -0.6
P49A Miami Univ. Ec 57.01 67 P P 07 53 10.1 -2.2
baz=313,SNR=6.7
P49A Miami Univ. Ec 57.01 67 P P 07 53 10.7 -1.6
HAMF Hammerfest 57.08 355 eP P 07 53 11.8 -0.5
HKT Hockley 57.10 82⇑ eP P 07 53 12.8 -0.1
HKT pmax pmax
comp=Z,35nm,1.3s
N51A Ashland 57.38 64 P P 07 53 14.2 -0.7
PLVO Plevna 57.40 57 P P 07 53 15.5 +0.6
W45A Hickory Valley 57.44 73 P P 07 53 14.7 -0.6
YOJ Yonaguni jima 57.46 269 P P 07 53 13.8 -1.8
YOJ pmax pmax
comp=Z,40nm,1.0s
YOJ Yonaguni jima 57.46 269 P P 07 53 13.8 -1.8
ACSO Alum Creek Sta 57.51 65 P P 07 53 13.5 -2.2
baz=313
ACSO Alum Creek Sta 57.51 65 P P 07 53 15.2 -0.6
ACSO IAmb IAmb 07 53 29.4
comp=Z,117nm,1.6s
M52A Chesterland 57.51 63 P P 07 53 14.4 -1.3
M52A IAmb IAmb 07 53 16.0
comp=Z,47nm,0.8s
ZAA0 Zalesovo Array 57.54 318 P P 07 53 15.3 -0.4
ZALV Zalesovo Beam 57.54 318 P P 07 53 15.8 0.0
comp=Z,6.4nm,0.5s,baz=44,slow=6.5,SNR=12
ZALV PcP **PcP 07 54 09.8 +1.0**
comp=Z,7.4nm,0.5s,baz=57,slow=4.0,SNR=4.1
ZALV Zalesovo Beam 57.54 318 P P 07 53 15.0 -0.7
WVT Waverly 57.56 72 P P 07 53 15.9 -0.3
baz=314
KEV Kevo 57.74 353 P P 07 53 16.9 0.0
KEV pmax pmax
comp=Z,88nm,1.0s
KEV Kevo 57.74 353 P P 07 53 16.9 0.0
KEV IAmb IAmb 07 53 17.8
comp=Z,88nm,1.0s
OXF Oxford 57.76 74 P P 07 53 18.9 +1.3
baz=314
J54A Appleton 57.79 60 P P 07 53 17.3 -0.3
J54A IAmb IAmb 07 53 22.5
comp=Z,46nm,0.6s
143A Socs Landing, 57.84 77 P P 07 53 17.8 -0.4
ERPA Erie 57.86 61 P P 07 53 16.9 -1.3
baz=313,SNR=6.6
ERPA Erie 57.86 61 P P 07 53 17.9 -0.2
LATQ La Tuque 57.95 53 P P 07 53 18.3 -0.4
baz=314
LATQ La Tuque 57.95 53 P P 07 53 18.5 -0.2
LATQ IAmb IAmb 07 53 31.5
comp=Z,146nm,1.4s
M53A WI Miller and 57.95 62 P P 07 53 17.1 -1.8
baz=314,SNR=7.0
MEDO Medina 57.96 60 P P 07 53 17.8 -1.0
MEDO IAmb IAmb 07 53 32.6
comp=Z,55nm,0.9s
ARA0 ARCESS Array S 58.06 354 eP P 07 53 19.3 +0.1
ARCES ARCESS Array B 58.06 354 P P 07 53 18.7 -0.5
comp=Z,49nm,0.9s,baz=10,slow=7.4,SNR=11
ARCES PcP **PcP 07 54 11.6 +0.9**
comp=Z,9.2nm,0.6s,baz=15,slow=5.0,SNR=2.3
ARCES ARCESS Array B 58.06 354 P P 07 53 18.7 -0.5
ARCES IAmb IAmb 07 53 20.0
comp=Z,74nm,1.1s
R50A Paris 58.09 67 P P 07 53 19.1 -0.8
R50A IAmb IAmb 07 53 20.0
comp=Z,45nm,0.9s
Y45A Yeager Farm, C 58.13 75 P P 07 53 20.2 0.0
Q51A Peebles 58.14 66 P P 07 53 19.6 -0.5
PECO Prince Edward 58.20 58 P P 07 53 21.0 +0.5
PECO IAmb IAmb 07 53 35.9
comp=Z,84nm,1.0s
O52A Adamsville 58.23 64 P P 07 53 20.4 -0.4
J55A Hilton 58.23 59 P P 07 53 20.8 +0.1
J55A IAmb IAmb 07 53 21.6
comp=Z,34nm,0.8s
TRO Tromso 58.30 357 eP P 07 53 21.0 +0.2
N53A Lisbon 58.30 63 P P 07 53 20.6 -0.7
N53A IAmb IAmb 07 53 21.4
comp=Z,41nm,0.8s
JETT Jettan, Norway 58.32 356 eP P 07 53 22.3 +1.3
WHN Wuhan 58.38 280 ⇑P P 07 53 21.8 -0.1
WHN pmax pmax
comp=Z,370nm,1.0s
P52A Corning 58.40 65 P P 07 53 20.9 -1.0
baz=314
M54A Oil Creek Stat 58.45 62 P P 07 53 20.9 -1.5
baz=314,SNR=6.5
M54A Oil Creek Stat 58.45 62 P P 07 53 21.6 -0.8
NRS Narsarsuaq 58.45 28 P P 07 53 22.4 +0.4
NRS pmax pmax
comp=Z,53nm,0.8s
NRS Narsarsuaq 58.45 28 P P 07 53 22.4 +0.4
NRS IAmb IAmb 07 53 25.6
comp=Z,53nm,0.8s
O53A New Philadelph 58.48 64 P P 07 53 22.0 -0.6
baz=314
U49A Red Boiling Sp 58.49 70 P P 07 53 22.0 -0.7
NACB Ninganchiao 58.55 270 P P 07 53 20.7 -2.5
MMNY Mt. Morris Dam 58.55 60 P P 07 53 22.9 -0.1
MMNY IAmb IAmb 07 53 37.5
comp=Z,66nm,1.2s
N54A Moraine State 58.66 62 P P 07 53 22.2 -1.6
baz=314,SNR=5.6
N54A Moraine State 58.66 62 P P 07 53 23.5 -0.3
H57A Richville 58.66 57 P P 07 53 22.6 -1.2
baz=314,SNR=7.5
T50A Nancy 58.68 69 P P 07 53 23.2 -0.8
VBMS Vicksburg 58.71 77 P P 07 53 25.2 +1.0
baz=315
KTK1 Kautokeino 58.72 355 eP P 07 53 23.7 -0.1
J56A Wolcott 58.73 59 P P 07 53 24.7 +0.5
J56A IAmb IAmb 07 53 39.9
comp=Z,38nm,0.8s
LVZ Lovozero 58.86 350c iP P 07 53 24.1 -0.7
LVZ pmax pmax
comp=Z,192nm,1.0s
LVZ Lovozero 58.86 350 P P 07 53 23.9 -0.9
K56A Middlesex 58.88 59 P P 07 53 25.1 -0.2
baz=314,SNR=8.4
I57A Carthage 58.89 57 P P 07 53 24.8 -0.6
baz=314,SNR=13
P53A Whipple 58.91 65 P P 07 53 25.1 -0.5
P53A IAmb IAmb 07 53 25.7
comp=Z,46nm,0.9s
M55A Ridgway 58.97 61 P P 07 53 25.9 0.0
M55A IAmb IAmb 07 53 26.8
comp=Z,82nm,0.8s
LONY Lake Ozonia 58.97 56 P P 07 53 24.9 -1.0
baz=314,SNR=5.8
O54A Avella 58.98 63 P P 07 53 25.7 -0.4
O54A IAmb IAmb 07 53 26.4
comp=Z,80nm,1.0s
344A Westbrook Farm 59.12 77 P P 07 53 27.5 +0.4
L56A Greenwood 59.15 60 P P 07 53 27.6 +0.4
L56A IAmb IAmb 07 53 28.2
comp=Z,71nm,0.8s
XAN Xi'an 59.15 287 P P 07 53 26.5 -0.9
XAN pP sP 07 53 39.5 -0.2
XAN sP pwP 07 53 44.5 +6.0
XAN PP **PP 07 55 40.0 +2.1**
XAN S **S 08 01 31.3 -1.4**
XAN ScS **ScS 08 03 09.3 -5.7**
XAN pmax pmax
comp=Z,170nm,1.3s
XAN pmax pmax
comp=Z,740nm,3.8s
XAN LR LR
comp=Z,4μm,17.6s
XAN LR LR
comp=Z,7μm,17.6s
XAN LR LR
comp=Z,9μm,17.3s
SSLB Suanglung 59.22 270 P P 07 53 27.8 -0.2
SSLB IAmb IAmb 07 53 53.5
comp=Z,101nm,1.1s
K57A Scipio Center 59.29 59 P P 07 53 28.3 +0.2
K57A IAmb IAmb 07 53 41.8
comp=Z,56nm,1.1s
YULB Yu-li 59.30 269 P P 07 53 29.1 +0.6
YULB IAmb IAmb 07 53 44.9
comp=Z,61nm,1.2s
APA Apatity 59.31 350⇑ iP P 07 53 23.4 -4.5
APA pmax pmax
comp=Z,22nm,1.0s
APA MLR MLR
comp=Z,6μm,16.0s
H58A Gabriels 59.32 56 P P 07 53 27.5 -0.9
baz=315
FRNY Flat Rock 59.33 55 P P 07 53 27.4 -0.9
FRNY IAmb IAmb 07 53 40.1
comp=Z,60nm,1.2s
D61A St Aubert, Com 59.34 52 P P 07 53 27.0 -1.3
baz=315,SNR=6.5
R53A Hurricane 59.40 66 P P 07 53 28.8 -0.2
H59A Cadyville 59.41 56 P P 07 53 27.9 -1.0
baz=315,SNR=6.6
I58A Old Forge 59.42 57 P P 07 53 28.2 -0.9
baz=315,SNR=9.0
DGZ Jazzator, Alta 59.45 313c iP P 07 53 29.5 +0.2
DGZ pmax pmax
comp=Z,45nm,0.9s
J58A Remsen 59.49 58 P P 07 53 28.8 -0.7
baz=315,SNR=11
J58A Remsen 59.49 58 P P 07 53 30.1 +0.5
Q54A Coxs Mills 59.57 65 P P 07 53 29.9 -0.3
Q54A IAmb IAmb 07 53 30.5
comp=Z,52nm,0.9s
NCB Newcomb 59.61 56 P P 07 53 30.6 +0.2
MCWV Mont Chateau 59.64 63 P P 07 53 29.0 -1.6
baz=315,SNR=7.6
MCWV Mont Chateau 59.64 63 P P 07 53 30.2 -0.4
MCWV IAmb IAmb 07 53 31.1
comp=Z,58nm,0.9s
MOQ Mont Orford 59.66 54 P P 07 53 30.3 -0.5
N2VI Vinje 59.74 358 eP P 07 53 30.5 -0.3
TZTN Tazewell 59.75 68 P P 07 53 31.5 +0.1
baz=315
J59A Piesco 59.82 57 P P 07 53 31.1 -0.7
J59A IAmb IAmb 07 53 46.2
comp=Z,51nm,1.0s
QZH Quanzhou 59.83 272 eP P 07 53 32.5 +0.5
I59A Olmsteadville 59.91 56 P P 07 53 32.1 -0.3
baz=315
O56A Blue Knob Stat 59.92 62 P P 07 53 30.8 -1.8
baz=315,SNR=7.7
O56A Blue Knob Stat 59.92 62 P P 07 53 32.2 -0.3
BINY Binghamton 59.94 59 P P 07 53 32.1 -0.6
baz=315,SNR=7.2
BINY Binghamton 59.94 59 P P 07 53 32.9 +0.2
LOF Lofoten 59.94 359 eP P 07 53 32.0 -0.1
M57A Sunshine Farm, 59.94 60 P P 07 53 32.5 -0.1
D62A Allapoint, All 59.97 51 P P 07 53 32.7 0.0
baz=316
D62A Allapoint, All 59.97 51 P P 07 53 33.0 +0.2
D62A IAmb IAmb 07 53 45.4
comp=Z,77nm,1.2s
H60A Morristown 59.97 55 P P 07 53 32.4 -0.4
baz=315
FPAL Fort Paine 59.97 71 P P 07 53 31.8 -1.1
FPAL IAmb IAmb 07 53 45.5
comp=Z,65nm,1.1s
Y49A Blount Mountai 59.98 73 P P 07 53 34.1 +1.1
Y49A IAmb IAmb 07 53 45.3
comp=Z,84nm,1.5s
SSPA Standing Stone 60.02 61 P P 07 53 33.1 -0.1
baz=315
SSPA Standing Stone 60.02 61 P P 07 53 32.8 -0.4
SSPA IAmb IAmb 07 53 33.8
comp=Z,57nm,0.8s
G61A St-Isidore-de- 60.04 54 P P 07 53 33.4 +0.1
baz=315
N2IH Innhavet 60.06 358 eP P 07 53 33.3 +0.3
E62A Clayton Lake 60.07 52 P P 07 53 34.0 +0.5
baz=316
VT1 Waterbury 60.10 55 P P 07 53 33.4 -0.4
VT1 IAmb IAmb 07 53 47.0
comp=Z,153nm,1.6s
STEI Steigen 60.11 358 eP P 07 53 33.0 -0.3
L58A Harry Jones Me 60.12 59 P P 07 53 33.0 -0.9
baz=315,SNR=9.8
S54A Dingess, Beckl 60.13 66 P P 07 53 33.5 -0.6
S54A IAmb IAmb 07 53 34.5
comp=Z,53nm,0.8s
I60A Shoreham 60.17 56 P P 07 53 33.4 -0.8
baz=315
N2NF Nordfold 60.28 358 eP P 07 53 34.5 -0.1
ACCN Adirondack Com 60.31 57 P P 07 53 35.1 0.0
F62A Pittston Farm, 60.37 52 P P 07 53 35.6 +0.1
baz=316
F62A Pittston Farm, 60.37 52 P P 07 53 35.3 -0.3
F62A IAmb IAmb 07 53 48.0
comp=Z,50nm,1.1s
H61A Lyndonville 60.38 55 P P 07 53 35.2 -0.4
baz=316
X51A Calhoun 60.39 71 P P 07 53 34.4 -1.4
X51A IAmb IAmb 07 53 50.0
comp=Z,70nm,1.2s
N2VA Vr.y 60.42 359 eP P 07 53 34.4 -1.1
L59A Walton 60.44 58 P P 07 53 36.2 +0.1
L59A IAmb IAmb 07 53 51.6
comp=Z,67nm,0.8s
D63A Stockholm 60.45 50 P P 07 53 35.0 -1.0
baz=316
N2TV Tvrnvik 60.48 358 eP P 07 53 36.1 +0.3
KSPA Keystone Colle 60.51 59 P P 07 53 36.7 +0.1
N58A Sunbury 60.51 61 P P 07 53 36.8 +0.3
N58A IAmb IAmb 07 53 50.3
comp=Z,93nm,1.4s
J60A Lant Hill Farm 60.53 57 P P 07 53 36.1 -0.6
baz=315,SNR=6.3
GTA Gaotai 60.56 297 ⇑P P 07 53 37.0 -0.1
GTA pP pwP 07 53 48.3 -0.1
GTA sP sP 07 53 54.0 +4.7
GTA pmax pmax
comp=Z,53nm,0.9s
GTA pmax pmax
comp=Z,410nm,10.0s
GTA LR LR
comp=Z,5μm,17.5s
GTA LR LR
comp=Z,8μm,17.9s
GTA LR LR
comp=Z,10μm,17.9s
N2RO R,st 60.57 359 eP P 07 53 36.7 +0.2
G62A West of Eustis 60.58 53 P P 07 53 36.5 -0.4
baz=316
G62A West of Eustis 60.58 53 P P 07 53 37.1 +0.1
G62A IAmb IAmb 07 53 49.6
comp=Z,64nm,1.1s
LBNH Lisbon 60.59 55 P P 07 53 36.5 -0.5
LBNH pmax pmax
comp=Z,42nm,1.2s
LBNH Lisbon 60.59 55 P P 07 53 35.1 -1.9
baz=316
LBNH Lisbon 60.59 55 P P 07 53 36.5 -0.5
LZH Lanzhou 60.65 292 eP P 07 53 39.0 +1.2
LZH pP sP 07 53 50.3 +0.2
LZH sP pwP 07 53 55.0 +5.9
LZH pmax pmax
comp=Z,120nm,1.1s
LZH LR LR
comp=Z,11μm,15.4s
LZH LR LR
comp=Z,7μm,15.4s
LZH LR LR
comp=Z,10μm,16.3s
FAUS Fauske 60.66 358 eP P 07 53 36.9 -0.2
N2ST Straumen 60.69 358 eP P 07 53 37.4 +0.1
H62A Milan 60.73 54 P P 07 53 37.0 -1.1
baz=316,SNR=6.7
H62A Milan 60.73 54 P P 07 53 38.1 +0.1
H62A IAmb IAmb 07 53 50.6
comp=Z,50nm,0.9s
E63A Oxbow 60.74 51 P P 07 53 37.5 -0.5
baz=316
U54A Nelsons Funny 60.75 67 P P 07 53 38.6 +0.3
U54A IAmb IAmb 07 54 00.4
comp=Z,83nm,1.2s
P57A Homestead Farm 60.77 62 P P 07 53 38.3 0.0
P57A IAmb IAmb 07 53 52.0
comp=Z,157nm,1.6s
TRY Troy 60.77 57 P P 07 53 38.3 0.0
TRY IAmb IAmb 07 53 53.4
comp=Z,54nm,1.0s
J61A Chester 60.91 56 P P 07 53 38.2 -1.0
baz=316,SNR=5.4
F63A Nahmakanta, Br 60.93 52 P P 07 53 38.2 -1.1
baz=316,SNR=5.5
F63A Nahmakanta, Br 60.93 52 P P 07 53 39.2 -0.1
F63A IAmb IAmb 07 53 51.7
comp=Z,59nm,1.0s
N59A State Game Lan 60.96 60 P P 07 53 38.8 -0.9
baz=315,SNR=6.9
N59A State Game Lan 60.96 60 P P 07 53 39.9 +0.3
N59A IAmb IAmb 07 53 40.6
comp=Z,56nm,1.1s
K61A Williamstown 61.02 57 P P 07 53 36.5 -3.5
baz=316
E64A Bridgewater 61.03 51 P P 07 53 39.5 -0.5
baz=316
NBB05 Inndyr 61.03 358 eP P 07 53 39.7 +0.1
BLA Blacksburg 61.05 66 P P 07 53 40.1 -0.2
BLA pmax pmax
comp=Z,89nm,0.9s
BLA Blacksburg 61.05 66 P P 07 53 35.1 -5.2
baz=315,SNR=9.8
BLA Blacksburg 61.05 66 P P 07 53 40.1 -0.2
BLA IAmb IAmb 07 53 41.5
comp=Z,89nm,0.9s
Z51A Franklin 61.09 72 P P 07 53 39.2 -1.4
Z51A IAmb IAmb 07 54 01.4
comp=Z,148nm,1.8s
NBB30 Finnes 61.10 359 eP P 07 53 40.1 0.0
G63A Kingsbury 61.10 53 P P 07 53 40.6 +0.1
baz=316
I62A Tamworth 61.14 55 P P 07 53 35.3 -5.5
baz=316
PKME Peaks-Kenny Pk 61.16 53 P P 07 53 41.4 +0.6
baz=316
F64A Sherman 61.18 52 P P 07 53 40.0 -1.0
baz=316
F64A Sherman 61.18 52 P P 07 53 41.2 +0.2
BG3 Lake Jocassee 61.20 69 P P 07 53 41.0 -0.3
MVL Millersville 61.30 61 P P 07 53 42.0 0.0
MVL IAmb IAmb 07 53 54.7
comp=Z,187nm,1.9s
NBB15 Halsa Church 61.33 359 eP P 07 53 42.2 +0.6
J62A Henniker 61.37 56 P P 07 53 41.0 -1.4
baz=316
I63A Otisfield 61.40 54 P P 07 53 41.6 -0.9
baz=316
LUPA Lehigh Univers 61.40 60 P P 07 53 42.4 -0.1
LUPA IAmb IAmb 07 53 43.5
comp=Z,56nm,0.9s
250A Grady 61.41 74 P P 07 53 42.2 -0.5
G64A Maxfield 61.42 52 P P 07 53 42.2 -0.4
baz=316
S57A Dark Hollow, R 61.48 64 P P 07 53 43.5 +0.3
S57A IAmb IAmb 07 53 58.6
comp=Z,77nm,1.1s
L61B Northampton 61.48 57 P P 07 53 43.8 +0.7
baz=316
ENH Enshi 61.50 283 P P 07 53 43.2 -0.3
BRAL Brewton 61.52 75 P P 07 53 43.9 +0.4
baz=316
K62A Royalston 61.56 56 P P 07 53 42.4 -1.2
baz=316,SNR=6.6
K62A Royalston 61.56 56 P P 07 53 44.0 +0.4
K62A IAmb IAmb 07 53 58.3
comp=Z,53nm,0.9s
V55A Taylorsville 61.57 67 P P 07 53 43.6 -0.2
V55A IAmb IAmb 07 53 44.3
comp=Z,46nm,1.1s
NBB40 Tonnes 61.57 359 eP P 07 53 43.2 -0.1
KONS Konsvik 61.58 359 eP P 07 53 43.5 +0.1
KSCT Kent School, K 61.59 58 P P 07 53 44.1 +0.3
KSCT IAmb IAmb 07 53 58.7
comp=Z,47nm,0.9s
H64A Troy 61.64 53 P P 07 53 43.7 -0.4
baz=317
U56A King 61.69 66 P P 07 53 44.3 -0.3
U56A IAmb IAmb 07 53 45.2
comp=Z,58nm,1.1s
J63A Strafford 61.70 55 P P 07 53 44.2 -0.3
baz=316
STOK Stokkvaagen 61.75 359 eP P 07 53 45.2 +0.7
WUPA West Chester U 61.75 61 P P 07 53 45.2 +0.3
BRNJ Basking Ridge 61.77 59 P P 07 53 46.5 +1.5
BRNJ IAmb IAmb 07 54 21.1
comp=Z,38nm,0.9s
P60A Greenville 61.82 61 P P 07 53 45.3 -0.1
baz=316
P60A Greenville 61.82 61 P P 07 53 45.3 -0.1
P60A IAmb IAmb 07 53 59.1
comp=Z,97nm,1.7s
T57A Hurt 61.85 65 P P 07 53 45.3 -0.4
T57A IAmb IAmb 07 53 46.1
comp=Z,43nm,0.8s
PAL Palisades 61.88 59 P P 07 53 46.0 +0.2
PAL pmax pmax
comp=Z,67nm,1.2s
PAL Palisades 61.88 59 P P 07 53 44.6 -1.2
baz=316
PAL Palisades 61.88 59 P P 07 53 46.0 +0.2
PAL IAmb IAmb 07 53 59.7
comp=Z,66nm,1.1s
MOR8 Moi Rana 61.89 358 eP P 07 53 44.2 -1.3
K63A Dunstable 61.90 56 P P 07 53 44.6 -1.3
baz=316
R58B Mineral 61.93 64 P P 07 53 46.0 -0.2
I64A Boothbay 61.96 54 P P 07 53 45.4 -0.9
baz=317
PAULI Pauline 61.97 69 P P 07 53 45.6 -0.8
KMSC Kings Mountain 62.01 68 P P 07 53 45.7 -1.1
baz=316,SNR=13
KMSC Kings Mountain 62.01 68 P P 07 53 46.2 -0.6
KMSC IAmb IAmb 07 53 50.9
comp=Z,85nm,1.2s
HRV Adam Dziewonsk 62.02 56 P P 07 53 46.4 -0.3
baz=316
GOGA Godfrey 62.02 71 P P 07 53 45.6 -1.3
baz=316
CBN Corbin Frederi 62.03 63 P P 07 53 46.3 -0.6

baz=316
CBN Corbin Frederi 62.03 63 P **P 07 53 47.0 +0.1**
G65A Princeton 62.04 52 P **P 07 53 45.4 -1.4**
baz=317
G65A Princeton 62.04 52 P **P 07 53 46.8 0.0**
G65A IAmb IAmb 07 53 59.4
comp=Z,61nm,1.2s
SEM Semipalatinsk 62.05 317 *e*P **P 07 53 44.5 -2.6**
baz=317
SEM Semipalatinsk 62.05 317 *e*P **P 07 53 44.5 -2.6**
WSPT Westport, CT 62.07 58 IAmb IAmb 07 54 01.6
comp=Z,60nm,1.0s
H65A Eastbrook 62.08 52 P **P 07 53 46.6 -0.4**
baz=317
JSRW J. Sargeant Re 62.12 64 P **P 07 53 47.5 0.0**
HODGE Hodges 62.13 69 P **P 07 53 46.9 -0.7**
WES Weston 62.23 56 P **P 07 53 48.2 +0.1**
WES pmax pmax
comp=Z,460nm,2.2s
WES Weston 62.23 56 P **P 07 53 48.2 +0.1**
ZSN Zaisan 62.26 312 *e*P **P 07 53 47.2 -1.2**
comp=Z,61nm,1.2s,baz=312
ZSN Zaisan 62.26 312 *e*P **P 07 53 47.1 -1.2**
ZSN pmax pmax
comp=Z,61nm,1.2s
GGN Saint George 62.45 51 P **P 07 53 49.4 -0.1**
GGN IAmb IAmb 07 54 02.0
comp=Z,81nm,1.2s
EMMW East Machias 62.45 52 P **P 07 53 49.7 +0.2**
EMMW IAmb IAmb 07 54 02.0
comp=Z,53nm,1.0s
L63A North Scituate 62.46 57 P **P 07 53 49.4 -0.3**
baz=317
H66A Whiting 62.47 52 P **P 07 53 49.2 -0.4**
baz=317
352A Blakely 62.56 73 P **P 07 53 49.8 -0.7**
352A IAmb IAmb 07 54 03.0
comp=Z,128nm,1.4s
M63A Gales Ferry 62.56 57 P **P 07 53 50.5 +0.2**
M63A IAmb IAmb 07 54 05.4
comp=Z,85nm,1.0s
JSC Jenkinsville 62.67 69 P **P 07 53 50.5 -0.7**
JSC pmax pmax
comp=Z,50nm,1.1s
JSC Jenkinsville 62.67 69 P **P 07 53 50.5 -0.7**
JSC IAmb IAmb 07 53 55.4
comp=Z,50nm,1.1s
W57A Gilead 62.76 67 P **P 07 53 51.0 -0.8**
V58A Windy Hill, Pi 62.80 66 P **P 07 53 52.0 0.0**
V58A IAmb IAmb 07 53 52.7
comp=Z,63nm,1.0s
L64A Middleborough 62.80 56 P **P 07 53 52.6 +0.7**
baz=317
154A Montrose 62.81 71 P **P 07 53 51.2 -0.9**
T59A Double "B" Far 62.82 64 P **P 07 53 51.7 -0.4**
T59A IAmb IAmb 07 53 53.2
comp=Z,77nm,0.8s
BIRD Birdtown, Kers 62.86 68 P **P 07 53 52.5 0.0**
BIRD IAmb IAmb 07 53 52.7
comp=Z,40nm,1.0s
LMN Caledonia Moun 62.87 49 P **P 07 53 51.9 -0.4**
M64A Tiverton 62.89 57 P **P 07 53 52.8 +0.2**
baz=317
PRGR Permogore 63.12 342 *e*P **P 07 53 53.3 -0.4**
PRGR pmax pmax
comp=Z,385nm,1.4s
U59A Littleton 63.13 65 P **P 07 53 53.9 -0.3**
U59A IAmb IAmb 07 54 09.7
comp=Z,69nm,1.1s
Y57A Sumter 63.36 68 P **P 07 53 55.2 -0.6**
Y57A IAmb IAmb 07 53 56.1
comp=Z,54nm,0.8s
DRLN Deer Lake 63.53 43 P **P 07 53 57.5 +0.8**
X58A Rowland 63.57 67 P **P 07 53 57.2 +0.1**
X58A IAmb IAmb 07 54 01.2
comp=Z,54nm,1.1s
NSS Namsos 63.57 359 *e*P **P 07 53 56.6 -0.1**
WMQ Urumqi 63.63 308 *e*P **P 07 53 57.5 0.0**
WMQ pmax pmax
comp=Z,98nm,1.1s
WMQ pmax pmax
comp=Z,310nm,4.7s
WMQ LR LR
comp=Z,8μm,18.7s
WMQ LR LR
comp=Z,5μm,18.7s
WMQ LR LR
comp=Z,5μm,20.1s
SVE Sverdlovsk 63.82 332 *de*P **P 07 53 59.1 +0.7**
SVE pmax pmax
comp=Z,102nm,1.3s
BRVK Borovoye 63.84 325 *c i*P **P 07 53 58.4 -0.2**
BRVK pmax pmax
comp=Z,112nm,1.3s
BRVK Borovoye 63.84 325 P **P 07 53 58.2 -0.4**
BRVK IAmb IAmb 07 54 00.1
comp=Z,105nm,1.2s
Y58A Scranton 63.85 68 P **P 07 53 58.6 -0.4**
CNNC Cliffs of the 63.89 66 P **P 07 53 58.8 -0.4**
MK31 Makanchi Array 63.91 313 P **P 07 53 59.0 -0.3**
MK31 pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 63.91 313 P **P 07 53 59.0 -0.3**
MKAR Makanchi Array 63.91 313 P **P 07 53 58.8 -0.5**
comp=Z,20nm,0.8s,baz=55,slow=6.4,SNR=10
MKAR PKPPKP **P'P'df 08 22 53.4 -4.0**
comp=Z,0.1nm,0.3s,baz=245,slow=3.0,SNR=3.8
MKAR PKP2ab 08 23 08.8
comp=Z,1.1nm,0.9s,baz=251,slow=3.7,SNR=4.4
MKAR Makanchi Array 63.91 313 P **P 07 53 59.0 -0.3**
MAKZ Makanchi 64.04 314 P **P 07 53 59.1 -1.0**
MAKZ pmax pmax
comp=Z,51nm,1.1s
MAKZ Makanchi 64.04 314 P **P 07 53 59.1 -1.0**
MAKZ IAmb IAmb 07 54 00.6
comp=Z,51nm,1.1s
NHSC New Hope 64.14 69 P **P 07 54 00.1 -0.8**
baz=317,SNR=10
NHSC New Hope 64.14 69 P **P 07 54 01.0 +0.1**
SZP Santa 64.21 266 P **P 07 54 00.4 -1.1**
V61A Roper 64.22 64 P **P 07 54 02.2 +0.8**
Y59A Loris 64.24 67 P **P 07 54 01.5 0.0**
Y59A IAmb IAmb 07 54 14.2
comp=Z,74nm,0.8s
CSU Charleston Sou 64.29 69 P **P 07 54 02.4 +0.5**
HAL Halifax 64.35 50 P **P 07 54 02.1 0.0**
HAL pmax pmax
comp=Z,135nm,1.3s
HAL Halifax 64.35 50 P **P 07 54 02.1 0.0**
HAL IAmb IAmb 07 54 14.8
comp=Z,135nm,1.3s
CD2 Chengdu 64.43 288 P **P 07 54 04.0 +1.1**
CD2 pmax pmax
comp=Z,250nm,1.0s
CD2 LR LR
comp=Z,6μm,18.0s
CD2 LR LR
comp=Z,5μm,17.1s
CD2 LR LR
comp=Z,6μm,16.9s
TLIG Tlapa 64.55 94 P **P 07 54 04.1 +0.1**
TLIG IAmb IAmb 07 54 22.7
comp=Z,75nm,1.3s
GBN Guysborough 64.72 48 P **P 07 54 05.8 +1.2**
ARU Arti 64.75 333 *c i*P **P 07 54 04.0 -0.6**
ARU 07 54 38.0
ARU 07 56 23.1
ARU S **S 08 02 42.6 0.0**
ARU SS **SS 08 06 53.2 +0.3**
ARU pmax pmax
comp=Z,130nm,1.1s
ARU Arti 64.75 333 P **P 07 54 05.0 +0.5**
ARU IAmb IAmb 07 54 06.4
comp=Z,125nm,1.1s
KLMR Klimovskoe 64.92 345 *e*P **P 07 54 01.9 -3.6**
KLMR pmax pmax
comp=Z,134nm,1.4s
KLMR Klimovskoe 64.92 345 *e*P **P 07 54 02.0 -3.6**
KLMR AMP 07 54 06.8
comp=Z,134nm,1.4s
KIRV Kirov 65.14 339 *c i*P **P 07 54 06.3 -0.7**
MOL Molde 65.52 2 *e*P **P 07 54 10.0 +0.6**
AKN Aaknes 65.90 2 *e*P **P 07 54 13.2 +1.2**
GYA Guiyang 65.98 283 ⇓P **P 07 54 13.5 +0.4**
GYA pP sP 07 54 25.3 +0.3
GYA pmax pmax
comp=Z,27nm,1.6s
FIA1 FINESS Array S 66.01 352 P **P 07 54 12.3 -0.3**
FINES FINESS Array B 66.01 352 P **P 07 54 12.2 -0.4**
comp=Z,87nm,0.8s,baz=28,slow=8.6,SNR=21
DOMB Dombas 66.07 1 *e*P **P 07 54 12.6 -0.4**
FOO Floro 66.43 3 *e*P **P 07 54 14.6 -0.7**
NC204 NORSAR Array S 66.84 360 P **P 07 54 17.9 -0.1**
NC303 NORSAR Array S 66.89 360 P **P 07 54 18.2 0.0**
HYA Hoyanger 66.90 2 *e*P **P 07 54 18.5 +0.2**
SUE Sulen 66.96 3 *e*P **P 07 54 19.0 +0.4**
NC405 NORSAR Array S 67.00 359 P **P 07 54 18.0 -1.0**
TDK Taldyqorghan 67.02 315 *e*P **P 07 54 17.8 -1.6**
baz=314
TDK Taldyqorghan 67.02 315 *e*P **P 07 54 17.8 -1.6**
NB2 NORSAR Subarra 67.08 360 P **P 07 54 19.4 -0.1**
comp=Z,70nm,0.8s,baz=359,slow=6.5
NB2 NORSAR Subarra 67.08 360 P **P 07 54 19.4 -0.1**
baz=359,slow=6.5
NOA NORSAR Array B 67.08 360 P **P 07 54 19.1 -0.4**
comp=Z,44nm,0.8s,baz=0.1,slow=6.3,SNR=29
DWPF Disney Wildern 67.08 73 P **P 07 54 20.4 +0.4**
baz=318
NBO00 NORSAR Array S 67.09 360 P **P 07 54 19.4 -0.2**
NBO00 IAmb IAmb 07 54 19.8
comp=Z,94nm,1.1s
PUL Pulkovo 67.23 349 ⇑ *i*P **P 07 54 21.2 +0.8**
PUL pmax pmax
comp=Z,134nm,0.9s
NC602 NORSAR Array S 67.38 360 *e*P **P 07 54 21.2 -0.1**
NC602 NORSAR Array S 67.38 360 IAmb IAmb 07 54 22.4
comp=Z,92nm,0.9s
SKAR Skarsila 67.42 1 *e*P **P 07 54 22.1 +0.4**
ASK Askoy 67.55 3 *e*P **P 07 54 23.0 +0.6**
BER Bergen 67.66 3 *e*P **P 07 54 23.9 +0.8**
SHLS Shalkode 68.00 313 *e*P **P 07 54 24.1 -1.6**
comp=Z,100nm,1.0s,baz=312
SHLS Shalkode 68.00 313 *e*P **P 07 54 24.1 -1.6**
SHLS pmax pmax
comp=Z,100nm,1.0s
KPKS Kokpek 68.10 313 ⇑ *i*P **P 07 54 25.3 -1.1**
comp=Z,81nm,1.0s,baz=313
KPKS Kokpek 68.10 313 *c i*P **P 07 54 25.2 -1.1**
KPKS pmax pmax
comp=Z,81nm,1.0s
ODD1 Odda 68.16 2 *e*P **P 07 54 26.8 +0.4**
OSL Oslo 68.19 360 *e*P **P 07 54 27.1 +0.7**
UZB Uzynbulak 68.20 313 ⇑ *i*P **P 07 54 25.7 -1.4**
comp=Z,41nm,1.2s,baz=313
UZB Uzynbulak 68.20 313 *c i*P **P 07 54 25.6 -1.4**
UZB pmax pmax
comp=Z,41nm,1.2s
KONO Kongsberg 68.47 1 P **P 07 54 28.3 +0.1**
KONO pmax pmax
comp=Z,99nm,0.9s
KONO Kongsberg 68.47 1 *e*P **P 07 54 28.9 +0.7**
KONO Kongsberg 68.47 1 P **P 07 54 28.3 +0.1**
KONO IAmb IAmb 07 54 29.8
comp=Z,99nm,0.8s
CHKK Chushkaly 68.55 315 *e*P **P 07 54 27.5 -1.5**
baz=315
CHKK Chushkaly 68.55 315 *e*P **P 07 54 27.5 -1.5**
SATY Saty 68.55 313 ⇑ *i*P **P 07 54 28.4 -0.9**
comp=Z,40nm,1.1s,baz=313
SATY Saty 68.55 313 *c i*P **P 07 54 28.3 -0.9**
SATY pmax pmax
comp=Z,40nm,1.1s
BLS5 Blasjo 68.65 2 *e*P **P 07 54 29.8 +0.4**
KMY Karmoy 68.83 3 *e*P **P 07 54 30.5 +0.1**
BTLS Baital 68.85 317 ⇑ *i*P **P 07 54 30.1 -0.8**
comp=Z,42nm,0.9s,baz=317
BTLS Baital 68.85 317 *c i*P **P 07 54 30.1 -0.8**
BTLS pmax pmax
comp=Z,42nm,0.9s
VSU Vasula 68.89 351 *i*P **P 07 54 30.4 -0.4**
MDOK Medeo 69.07 314 *e*P **P 07 54 31.8 -0.7**
baz=314
MDOK Medeo 69.07 314 *e*P **P 07 54 31.8 -0.7**
STRU Stroemstad 69.09 360 *i*P **P 07 54 32.1 0.0**
AAA Alma-Ata 69.09 314 *e*P **P 07 54 31.5 -1.1**
baz=314
AAA Alma-Ata 69.09 314 *e*P **P 07 54 31.4 -1.1**
KMI Kunming 69.32 284 ⇑P **P 07 54 34.5 +0.2**
KMI pP sP 07 54 48.8 +2.0
KMI S **S 08 03 37.8 -1.2**
KMI sS sS 08 03 57.5 +3.5
KMI pmax pmax
comp=Z,100nm,1.5s
KMI pmax pmax
comp=Z,850nm,4.6s
KMI LR LR
comp=Z,3μm,15.3s
KMI LR LR
comp=Z,2μm,16.2s
KMI LR LR
comp=Z,4μm,16.5s
CCIG Comitan 69.48 90 P **P 07 54 36.2 +0.8**
SNART Snartemo 69.75 2 *i*P **P 07 54 36.8 +0.6**
SNART Snartemo 69.75 2 *e*P **P 07 54 36.9 +0.7**
HOMB Homborsund 69.84 1 *i*P **P 07 54 37.3 +0.6**
TARG Taragay, Kyrgy 69.88 313 P **P 07 54 37.5 -0.3**
TARG IAmb IAmb 07 54 40.1
comp=Z,33nm,0.6s
SGDS Sogindy 69.89 316 ⇑ *i*P **P 07 54 36.6 -0.9**
comp=Z,39nm,0.9s,baz=316
SGDS Sogindy 69.89 316 *c i*P **P 07 54 36.5 -0.9**
SGDS pmax pmax
comp=Z,39nm,0.9s
TKM2 Tokmak 2 69.90 315 P **P 07 54 38.7 +1.0**
SNR=13
TJOU Tjoern 70.09 359 *i*P **P 07 54 38.6 +0.3**
USP Ospenovka 70.10 316 P **P 07 54 38.6 0.0**
SNR=23
BOOM Boomskoye usch 70.10 314 P **P 07 54 38.6 -0.3**
BOOM pmax pmax
comp=Z,101nm,0.8s
BOOM Boomskoye usch 70.10 314 P **P 07 54 38.5 -0.3**
BOOM IAmb IAmb 07 54 40.6
comp=Z,101nm,0.8s
MOS Moscow 70.11 344 *e*P **P 07 54 37.3 -1.1**
MOS *e* 07 54 47.5
MOS *e* 07 54 57.3
MOS pmax pmax
comp=Z,132nm,0.7s
ULHL Ulahol 70.16 314 P **P 07 54 40.4 +1.1**
SNR=11
CHMS Chumysh 70.20 315 P **P 07 54 40.0 +0.7**
SNR=16
KBK Karagaybulak 70.40 315 P **P 07 54 41.9 +1.2**
SNR=14
FRU1 Bishkek 70.41 315 P **P 07 54 40.7 +0.1**
FRU1 pmax pmax
comp=Z,201nm,1.0s
FRU1 Bishkek 70.41 315 P **P 07 54 40.7 +0.1**
BORU Boraas 70.48 359 *i*P **P 07 54 40.8 +0.1**
ABKAR Akbulak array 70.56 328 P **P 07 54 40.8 -0.5**
ABKAR IAmb IAmb 07 54 42.7
comp=Z,88nm,1.0s
AAK Ala-Archa 70.61 315 P **P 07 54 42.0 +0.1**
SNR=18
AAK Ala-Archa 70.61 315 P **P 07 54 41.7 -0.2**
AAK pmax pmax
comp=Z,101nm,0.9s
AAK Ala-Archa 70.61 315 P **P 07 54 41.7 -0.2**
AAK IAmb IAmb 07 54 43.7
comp=Z,101nm,0.8s
ONAU Onsala 70.73 359 *i*P **P 07 54 41.9 -0.2**
OBN Obninsk 70.88 345 ⇑P **P 07 54 43.1 -0.1**
OBN Obninsk 70.88 345 *ce*P **P 07 54 42.5 -0.6**
OBN *e* 07 54 54.9
OBN *i* 07 55 03.6
OBN pmax pmax
comp=Z,121nm,0.8s
OBN MLR MLR
comp=Z,3μm,20.0s
OBN Obninsk 70.88 345 P **P 07 54 42.9 -0.2**
EKS2 Erkin-Say 70.90 316 P **P 07 54 44.8 +1.1**
SNR=16
FABU Falkenberg 71.12 359 *i*P **P 07 54 44.6 +0.1**
BELG Belogornoye 71.22 337 *c i*P **P 07 54 45.8 +0.6**
BELG pmax pmax
comp=Z,75nm,1.2s
AML Almayashu 71.36 316 P **P 07 54 47.8 +0.9**
SNR=13
SLVN Son La 71.48 281 P **P 07 54 48.0 +0.6**
SLVN IAmb IAmb 07 55 00.9
comp=Z,121nm,1.3s
DEL Delary 71.63 358 *i*P **P 07 54 47.8 +0.1**
MUD Monsted U'grnd 71.67 1 *i*P **P 07 54 48.9 +1.0**
MUD Monsted U'grnd 71.67 1 *i*P **P 07 54 48.9 +1.0**
LKP Lekhapani 71.69 291 *e*P **P 07 54 49.8 +1.4**
BLEU Blekinge 71.75 357 *i*P **P 07 54 48.3 -0.1**
PMG Port Moresby 71.81 226 ⇑ *i*P **P 07 54 48.4 -0.8**
PMG pmax pmax
comp=Z,44nm,1.1s
PMG Port Moresby 71.81 226 P **P 07 54 48.9 -0.2**
KK31 Karatay Array 71.90 318 P **P 07 54 49.4 -0.2**
KK31 pmax pmax
comp=Z,87nm,1.0s
KK31 Karatay Array 71.90 318 P **P 07 54 49.4 -0.2**
KK31 IAmb IAmb 07 54 50.8
comp=Z,87nm,0.9s
KKAR Karatay Array 71.90 318 P **P 07 54 49.4 -0.2**
KKAR pmax pmax
comp=Z,87nm,1.0s
KKAR Karatay Array 71.90 318 P **P 07 54 49.4 -0.2**
KKAR IAmb IAmb 07 54 50.8
comp=Z,87nm,0.9s
BJUU Bjuv 72.04 359 *i*P **P 07 54 50.6 +0.5**
PABE Paberze 72.07 352 P **P 07 54 50.5 +0.2**
ESK Eskdalemuir 72.20 8 P **P 07 54 51.1 0.0**
ESK pmax pmax
comp=Z,90nm,1.1s
ESK Eskdalemuir 72.20 8 P **P 07 54 51.1 0.0**
ESK IAmb IAmb 07 54 52.8
comp=Z,90nm,1.1s
LUNU Lund 72.48 358 *i*P **P 07 54 53.3 +0.5**
KSH Kashi 72.48 313 P **P 07 54 56.3 +3.1**
KSH pmax pmax
comp=Z,100nm,0.5s
KSH pmax pmax
comp=Z,250nm,3.2s
LSA Lhasa 72.53 296 P **P 07 54 54.8 +0.8**
LSA pmax pmax
comp=Z,610nm,1.0s
LSA Lhasa 72.53 296 P **P 07 54 54.4 +0.3**
LSA pmax pmax
comp=Z,110nm,0.7s
LSA Lhasa 72.53 296 P **P 07 54 54.4 +0.3**
MTO3 Montecristo 72.63 89 P **P 07 54 53.8 -0.8**
MNK Minsk 72.67 350 *i*P **P 07 54 54.1 +0.2**
MNK *i* 07 55 11.7
MNK *i* 07 57 35.0
MNK *i* PPP PPP 07 59 19.4
MNK *i* S **S 08 04 16.0 -0.5**
MNK *i* 08 04 58.0
MNK *i* SS **SS 08 08 55.6 +0.7**
MNK pmax pmax
comp=E,7.0nm,1.2s
MNK pmax pmax
comp=Z,231nm,1.0s
MNK pmax pmax
comp=N,144nm,1.1s
MNK MLR MLR
comp=Z,2μm,23.0s
MNK MLR MLR
comp=N,2μm,21.0s
MNK Minsk 72.67 350 *i*P **P 07 54 54.2 +0.3**
comp=E,7.0nm,1.2s
MNK *i*P **P 07 54 54.2 +0.3**
comp=N,144nm,1.1s
MNK *i*P **P 07 54 54.2 +0.3**
comp=Z,231nm,1.0s,baz=191
MNK *i*PcP **PcP 07 55 11.7 +0.5**
MNK *i*PP **PP 07 57 35.1 +0.1**
MNK *i*PPP PPP 07 59 19.5
MNK *i*S **S 08 04 16.1 -0.5**
MNK *i*SS **SS 08 08 55.7 +0.8**
MNK *i*SSS SSS 08 12 30.1
MNK *i*LQ LQ 08 21 51.2
MNK *i*LR LR 08 25 47.6
MNK *i*LRM MLR 08 29 21.4
comp=E,46nm,19.5s
MNK *i*LRM MLR 08 29 24.8
comp=Z,2μm,22.9s
MNK *i*LRM MLR 08 29 29.0
comp=N,2μm,21.2s
LPSR Galich'ya Gora 72.88 342 *e*P **P 07 54 54.6 -0.5**
LPSR pmax pmax
comp=Z,80nm,1.0s
BSD Bornholm Skovb 72.97 357 *i*P **P 07 54 55.7 0.0**
BSD Bornholm Skovb 72.97 357 *i*P **P 07 54 55.6 0.0**
ITAN ITANAGAR 73.04 292 *e*P **P 07 54 57.1 +0.6**
MOKO MOKOCHONG 73.22 291 *e*P **P 07 54 58.7 +0.9**
MOKO IAmb IAmb 07 55 02.8
comp=Z,252nm,0.2s
BBSR BB Station 73.23 59 P **P 07 54 57.7 +0.1**
SUW Suwalki 73.61 352 P **P 07 54 59.4 0.0**
SUW pmax pmax
comp=Z,290nm,1.0s
SUW Suwalki 73.61 352 P **P 07 54 59.4 0.0**
FAKI Fak Fak 73.63 242 P **P 07 54 59.6 -0.4**
FAKI IAmb IAmb 07 55 00.6
comp=Z,72nm,1.0s
VRH Novokhopyorsk 73.65 340 *e*P **P 07 54 59.0 -0.7**
VRH pmax pmax
comp=Z,60nm,0.7s
TAS Tashkent 73.88 318 P **P 07 55 02.0 +0.7**
TAS pmax pmax
comp=Z,139nm,0.9s
TAS Tashkent 73.88 318 P **P 07 55 02.0 +0.7**
KOHI KOHIMA 73.92 291 *e*P **P 07 55 01.7 -0.2**
TGUH Tegucigalpa,Un 74.18 87 P **P 07 55 04.1 +0.6**
BSEG Bad Segeberg 74.20 0 *e*P **P 07 55 04.1 +1.2**
comp=Z,122nm,1.1s,baz=0.3,slow=5.7
BSEG *e*pP **pwP 07 55 15.9 +0.6**
baz=360,slow=5.7
BTK Batken 74.30 316 P **P 07 55 04.0 +0.1**
BTK Batken 74.30 316 P **P 07 55 04.0 +0.1**
DRK Karamyk 74.36 315 P **P 07 55 05.3 +0.8**
DRK IAmb IAmb 07 55 06.5
comp=Z,97nm,0.8s
VORD Divnogorie 74.37 342 *e*P **P 07 55 03.3 -0.6**
VORD pmax pmax
comp=Z,60nm,0.6s
LNIZ Loecknitz 74.61 358 *e*P **P 07 55 06.3 +1.1**
comp=Z,211nm,1.4s,baz=0.3,slow=5.7
IMP Imphal 74.69 291 *e*P **P 07 55 06.2 -0.1**
SHL Shillong 75.30 293 P **P 07 55 09.9 -0.1**
SHL pmax pmax
comp=Z,211nm,1.3s
SHL Shillong 75.30 293 *e*P **P 07 55 09.5 -0.5**
SHL IAmb IAmb 07 55 12.1
comp=Z,140nm,1.5s
SHL Shillong 75.30 293 P **P 07 55 09.8 -0.1**
SILR SILCHAR 75.39 291 *e*P **P 07 55 12.1 +1.9**
GAR Garm 75.40 316 P **P 07 55 10.3 0.0**
RUE Ruedersdorf 75.63 358 *e*P **P 07 55 12.3 +1.1**
comp=Z,255nm,1.5s,baz=0.3,slow=5.7
NRDL Niedersach Rie 75.65 0 *e*P **P 07 55 12.2 +1.0**
comp=Z,81nm,1.2s,baz=0.3,slow=5.7
NRDL *e*pP **PcP 07 55 23.9 0.0**
baz=360,slow=5.7
GTK Tadong 75.78 296 *e*P **P 07 55 13.0 +0.3**
GTK IAmb IAmb 07 55 15.4
comp=Z,95nm,0.2s
IBBN Ibbenburen 75.81 2 *e*P **P 07 55 13.3 +1.1**
comp=Z,186nm,1.3s,baz=0.3,slow=5.7
IBBN *e*pP **PcP 07 55 25.1 +0.4**
baz=360,slow=5.7
FLTG Flechtingen 75.81 360 *e*P **P 07 55 12.8 +0.6**
comp=Z,66nm,1.1s,baz=0.3,slow=5.7
ASSE Asse, Remlinge 76.01 360 *e*P **P 07 55 14.4 +1.1**
comp=Z,67nm,1.2s,baz=0.3,slow=5.7
DHUB DHUBRI 76.02 294 *e*P **P 07 55 11.8 -2.0**
DHUB IAmb IAmb 07 55 16.0
comp=Z,84nm,0.2s
CHGR Chuyangaron 76.18 317 P **P 07 55 14.9 +0.2**
UTTA Uttaradit 76.24 281 P **P 07 55 17.3 +2.1**
AKASG Malin Array Be 76.25 348 P **P 07 55 13.9 -0.8**
comp=Z,48nm,0.7s,baz=15,slow=5.8,SNR=18
AKASG Malin Array Be 76.25 348 *ce*P **P 07 55 13.8 -0.9**
AKASG pmax pmax
comp=Z,49nm,0.7s
AKASG Malin Array Be 76.25 348 IAmb IAmb 07 55 15.2
comp=Z,64nm,0.8s
AKBB Malin Array Si 76.25 348 *ce*P **P 07 55 13.6 -1.1**
AKBB pmax pmax
comp=Z,84nm,0.8s
CLZ Clausthal 76.30 0 *e*P **P 07 55 16.4 +1.3**

comp=Z,136nm,1.2s,baz=0.3,slow=5.7
CLZ *e*pP **pwP** **07 55 28.3 +0.7**
baz=360,slow=5.7
CHTO Chiang Mai 76.39 283 P **P** **07 55 16.0 -0.1**
CHTO pmax pmax
comp=Z,98nm,1.5s
CHTO Chiang Mai 76.39 283 P **P** **07 55 16.0 -0.1**
CHTO IAmb IAmb 07 55 28.9
comp=Z,98nm,1.4s
GTTG Gottingen 76.60 0 *e*P **P** **07 55 18.0 +1.3**
comp=Z,142nm,1.2s,baz=0.3,slow=5.7
GTTG *e*pP **pwP** **07 55 29.7 +0.5**
baz=360,slow=5.7
BUG Bochum--Univer 76.66 2 *e*P **P** **07 55 17.8 +0.8**
comp=Z,165nm,1.5s,baz=0.3,slow=5.7
BUG *e*pP **pwP** **07 55 29.6 +0.1**
baz=360,slow=5.7
CM31 Chiang Mai Arr 76.66 283 P **P** **07 55 18.5 +0.9**
CM31 IAmb IAmb 07 55 31.7
comp=Z,113nm,1.1s
CMAR Chiang Mai Arr 76.66 283 P **P** **07 55 18.6 +1.0**
comp=Z,37nm,0.9s,baz=26,slow=6.6,SNR=14
CMAR Chiang Mai Arr 76.66 283 P **P** **07 55 17.8 +0.2**
CMAR Chiang Mai Arr 76.66 283 P **P** **07 55 17.8 +0.2**
CLL Collm 76.82 358 *i* P **P** **07 55 18.5 +0.5**
comp=Z,57nm,1.0s
CLL *e* 07 55 24.0
CLL *e*pP **sP** **07 55 30.0 -0.2**
CLL *e*SS SS 08 10 18.0 +20
CLL LmV 08 40 00.0
comp=Z,2μm,19.1s
CLL LmH 08 42 00.0
comp=N,2μm,19.4s
CLL LmH 08 42 00.0
comp=E,700nm,20.9s
CLL LmH 08 42 00.0
comp=Z,2μm,19.6s
CLL Collm 76.82 358 *i* P **P** **07 55 18.5 +0.5**
CLL *e* 07 55 24.0
CLL *e**SP **sP** **07 55 30.0 -0.2**
CLL pmax pmax
comp=Z,57nm,1.0s
CLL MLR MLR
comp=Z,2μm,19.6s
CLL Collm 76.82 358 P **P** **07 55 18.6 +0.7**
CLL Collm 76.82 358 *e*P **P** **07 55 18.6 +0.7**
comp=Z,57nm,1.0s,baz=0.3,slow=5.7
KASTN Kahler Asten 76.92 1 *e*P **P** **07 55 19.6 +1.0**
comp=Z,66nm,1.3s,baz=0.3,slow=5.7
KASTN *e*pP **pwP** **07 55 31.4 +0.3**
baz=360,slow=5.7
NEUB Neuenburg 76.93 359 *e*P **P** **07 55 19.6 +1.0**
comp=Z,155nm,1.2s,baz=0.3,slow=5.7
NEUB *e*pP **pwP** **07 55 31.3 +0.3**
baz=360,slow=5.7
DZM Mont Dzumac 76.95 203 P **P** **07 55 19.3 +0.3**
AGT Agartala 76.97 292 *e*P **P** **07 55 20.7 +1.4**
AGT IAmb IAmb 07 55 24.5
comp=Z,284nm,0.6s
ONTNC Ouen Toro 77.18 203 P **P** **07 55 19.5 -0.7**
ONTNC IAmb IAmb 07 55 37.0
comp=Z,139nm,1.5s
OUENC Ouen Island, N 77.19 203 P **P** **07 55 18.9 -1.4**
FBE Freiberg 77.20 358 *e*P **P** **07 55 21.4 +1.3**
comp=Z,121nm,1.1s,baz=0.3,slow=5.7
FBE *e*pP **pwP** **07 55 33.2 +0.7**
baz=360,slow=5.7
BRG Berggiesshubel 77.23 358 *i* P **P** **07 55 20.4 +0.1**
BRG Amp 07 55 22.3
comp=Z,97nm,1.3s
BRG Berggiesshubel 77.23 358 P P 07 55 32.8 +13
BRG Amp 07 55 35.6
comp=Z,55nm,1.3s
BRG Berggiesshubel 77.23 358 *e*P **P** **07 55 21.3 +1.0**
comp=Z,97nm,1.3s,baz=0.3,slow=5.7
BRG *e*pP **pwP** **07 55 32.9 +0.2**
baz=360,slow=5.7
BEBN Eben Emael 77.26 3 *d*P **P** **07 55 21.4 +1.0**
BEBN *d*pP **pwP** **07 55 32.8 0.0**
UBBA Unterbreizbach 77.32 0 *e*P **P** **07 55 21.8 +1.1**
comp=Z,86nm,1.5s,baz=0.3,slow=5.7
ESPN Las Esperanzas 77.44 86 P **P** **07 55 21.9 -0.1**
CHVC Chvalec 77.45 356 *e*P **P** **07 55 22.7 +1.1**
MEM Membach 77.46 3 *d*P **P** **07 55 22.1 +0.5**
comp=Z,58nm,1.4s
MEM *d*pP **sP** **07 55 33.0 -0.8**
BSTI Sart Tilman 77.47 3 *d*P **P** **07 55 22.6 +1.0**
BSTI *d*pP **pwP** **07 55 34.0 0.0**
OSTC Ostas 77.48 356 *e*P **P** **07 55 22.9 +1.2**
BTNL Ternell 77.49 3 *d*P **P** **07 55 23.0 +1.2**
comp=Z,65nm,1.3s
BTNL *d*pP **sP** **07 55 33.7 -0.4**
BTNL *d*x x 07 56 11.4
SNF Seneffe 77.49 4 *d*P **P** **07 55 22.7 +0.9**
SNF *d*pP **sP** **07 55 33.9 -0.1**
MOX Moxa 77.50 359 *e*P **P** **07 55 22.9 +1.1**
comp=Z,92nm,1.1s,baz=0.3,slow=5.7
MOX *e*pP **pwP** **07 55 34.7 +0.4**
baz=360,slow=5.7
UPC Upice 77.54 357 *e*P **P** **07 55 22.5 +0.5**
UPC *e* 07 55 34.1
UPC Upice 77.54 357 *e*P **P** **07 55 22.5 +0.5**
UPC *e*pP **sP** **07 55 34.1 -0.2**
AHRW Bad Neuenahr-A 77.56 2 *e*P **P** **07 55 23.4 +1.2**
comp=Z,116nm,1.4s,baz=0.3,slow=5.7
AHRW *e*pP **pwP** **07 55 35.0 +0.5**
baz=360,slow=5.7
BCLA Clavier 77.62 4 *d*P **P** **07 55 22.8 +0.3**
comp=Z,56nm,1.4s
BCLA *d*pP **sP** **07 55 34.5 -0.3**
BCLA *d*x x 07 56 14.9
OJC Ojcow 77.63 354 P **P** **07 55 23.1 +0.5**
OJC pmax pmax
comp=Z,101nm,1.2s
OJC Ojcow 77.63 354 P **P** **07 55 23.1 +0.5**
OJC IAmb IAmb 07 55 24.5
comp=Z,101nm,1.2s
BGES Gesves 77.65 4 *d*P **P** **07 55 23.4 +0.8**
comp=Z,48nm,1.3s
BGES *d*pP **pwP** **07 55 35.2 +0.2**
BGES *d*x x 07 56 29.2
PLN Plauen 77.65 359 *e*P **P** **07 55 23.8 +1.1**
comp=Z,40nm,1.1s,baz=0.3,slow=5.7
DPC Dobruska-Polom 77.68 356 *e*P **P** **07 55 23.8 +0.9**
DPC Dobruska-Polom 77.68 356 *e*P **P** **07 55 23.8 +0.9**
WERD Werda 77.69 359 *e*P **P** **07 55 24.1 +1.2**
comp=Z,91nm,1.6s,baz=0.3,slow=5.7
LVV L'vov 77.69 351 *e*P **P** **07 55 23.4 +0.5**
LVV *e*PPP PPP 08 00 05.4
LVV *e*S **S** **08 05 16.4 +3.9**
LVV *e*PS **PnS** **08 05 52.5 -2.0**
LVV *e*SSS SSS 08 13 25.3
LVV pmax pmax
comp=Z,200nm,1.3s
BHOU Houvegnez 77.72 3 *d*P **P** **07 55 23.5 +0.5**
BHOU *d*x x 07 56 18.1
BMRD Maredsous 77.72 4 *d*P **P** **07 55 24.0 +0.9**
BMRD *d*pP **sP** **07 55 35.3 0.0**
GUNZ Gunzen 77.77 359 *e*P **P** **07 55 24.7 +1.3**
comp=Z,157nm,1.8s,baz=0.3,slow=5.7
WERN Wernitzgruen 77.85 359 *e*P **P** **07 55 25.2 +1.4**
comp=Z,84nm,1.2s,baz=0.3,slow=5.7
WERN *e*pP **pwP** **07 55 36.8 +0.6**
baz=360,slow=5.7
RCHB Rochefort 77.89 4 *d*P **P** **07 55 24.7 +0.8**
comp=Z,75nm,1.6s
RCHB *d*x x 07 56 01.0
NKC Novy Kostel 77.90 359 *e*P **P** **07 55 24.9 +0.8**
NKC Novy Kostel 77.90 359 *e*P **P** **07 55 24.9 +0.8**
TNS Taunus Mts 77.91 1 *e*P **P** **07 55 25.2 +1.1**
comp=Z,98nm,1.3s,baz=0.3,slow=5.7
DOU Dourbes 77.92 4 *d*P **P** **07 55 25.0 +0.8**
comp=Z,68nm,1.5s
DOU *d*pP **sP** **07 55 36.0 -0.4**
DOU *d*x x 07 56 14.4
KRLC Kraliky 77.94 356 *e*P **P** **07 55 25.0 +0.7**
KRLC Kraliky 77.94 356 *e*P **P** **07 55 25.0 +0.7**
KWP Kalwaria Pacla 78.00 352 P **P** **07 55 25.7 +1.1**
KWP Kalwaria Pacla 78.00 352 P **P** **07 55 25.7 +1.1**
PRU Pruhonice 78.10 357 *e*P **P** **07 55 26.0 +0.8**
PRU Pruhonice 78.10 357 *e*P **P** **07 55 26.0 +0.8**
MANZ Manzenberg 78.15 359 *e*P **P** **07 55 26.6 +1.1**
comp=Z,80nm,1.5s,baz=0.3,slow=5.7
MORC Moravsky Berou 78.20 355 ⇑P **P** **07 55 26.9 +1.1**
MORC Moravsky Berou 78.20 355 P **P** **07 55 26.2 +0.4**
MORC pmax pmax
comp=Z,96nm,1.2s
MORC Moravsky Berou 78.20 355 P **P** **07 55 26.2 +0.4**
MORC IAmb IAmb 07 55 27.8
comp=Z,96nm,1.2s
MORC Moravsky Berou 78.20 355 *e*P **P** **07 55 26.0 +0.2**
MILB Miltenberg 78.31 1 *e*P **P** **07 55 27.5 +1.1**
comp=Z,105nm,1.1s,baz=0.3,slow=5.7
STHS Stebnicka Huta 78.33 353 *e*P **P** **07 55 27.0 +0.5**
STHS Stebnicka Huta 78.33 353 *e*P **P** **07 55 27.0 +0.5**
ROTZ Rotzenmuhle 78.37 359 *e*P **P** **07 55 28.1 +1.4**
comp=Z,99nm,1.5s,baz=0.3,slow=5.7
ROTZ *e*pP **pwP** **07 55 39.7 +0.6**
baz=360,slow=5.7
WLF Walferdange 78.41 3 *d*P **P** **07 55 28.2 +1.4**
comp=Z,58nm,1.7s
WLF *d*pP **pwP** **07 55 39.8 +0.5**
WLF *d*x x 07 56 05.5
WLF Walferdange 78.41 3 P **P** **07 55 27.5 +0.6**
WLF pmax pmax
comp=Z,78nm,1.2s
WLF Walferdange 78.41 3 P **P** **07 55 27.5 +0.6**
WLF IAmb IAmb 07 55 29.2
comp=Z,78nm,1.2s
WLF Walferdange 78.41 3 *e*P **P** **07 55 28.3 +1.4**
comp=Z,123nm,1.4s,baz=0.3,slow=5.7
PBCC Pribram 78.42 358 *e*P **P** **07 55 27.7 +0.7**
GRA1 Grafenberg Arr 78.45 360 P **P** **07 55 28.0 +0.9**
GRF Grafenberg Arr 78.45 360 P **P** **07 55 28.0 +0.9**
GRF pmax pmax
comp=Z,178nm,1.3s
GRF Grafenberg Arr 78.45 360 *e*P **P** **07 55 28.8 +1.6**
comp=Z,242nm,1.5s,baz=0.3,slow=5.7
GRFO Grafenberg 78.45 360 P **P** **07 55 28.4 +1.3**
GRFO pmax pmax
comp=Z,178nm,1.3s
GRFO Grafenberg 78.45 360 P **P** **07 55 28.4 +1.3**
NIL Nilore 78.54 311 P **P** **07 55 28.7 +0.8**
NIL pmax pmax
comp=Z,198nm,0.9s
NIL Nilore 78.54 311 P **P** **07 55 28.7 +0.8**
VRAC Vranov 78.71 356 ⇓P **P** **07 55 29.3 +0.7**
VRAC Vranov 78.71 356 *e*P **P** **07 55 29.2 +0.6**
LANS Liptovska Anna 78.72 354 *e*P **P** **07 55 30.5 +1.8**
LANS pmax pmax
comp=Z,69nm,1.1s
LANS Liptovska Anna 78.72 354 *e*P **P** **07 55 30.5 +1.8**
KOLS Kolonicke sedl 78.73 352 *e*P **P** **07 55 29.9 +1.2**
KOLS Kolonicke sedl 78.73 352 *e*P **P** **07 55 29.9 +1.2**
SMLA Simla 78.73 307 *e*P **P** **07 55 29.6 +0.6**
SMLA IAmb IAmb 07 55 31.6
comp=Z,354nm,0.2s
CRVS Cervenica-Dubn 78.83 353 *e*P **P** **07 55 30.0 +0.8**
CRVS pmax pmax
comp=Z,95nm,1.3s
CRVS Cervenica-Dubn 78.83 353 *e*P **P** **07 55 30.0 +0.8**
SORM Soroca 78.88 348 ⇑P **P** **07 55 29.2 -0.3**
DDI Dehra Dun 78.95 306 *e*P **P** **07 55 30.1 -0.2**
DDI IAmb IAmb 07 55 32.1
comp=Z,173nm,0.6s
KRUC Moravsky 78.97 356 *e*P **P** **07 55 30.6 +0.6**
KHC Kasperske Hory 78.98 358 *e*P **P** **07 55 31.6 +1.5**
KHC *e* 07 55 42.3
KHC Kasperske Hory 78.98 358 *e*P **P** **07 55 31.6 +1.5**
KHC *e*pP **sP** **07 55 42.3 -0.1**
KHC Kasperske Hory 78.98 358 IAmb IAmb 07 55 32.7
comp=Z,141nm,1.3s
WET Wettzell 78.98 359 *e*P **P** **07 55 31.6 +1.5**
comp=Z,80nm,1.3s,baz=0.3,slow=5.7
UZH Uzhgorod 79.03 352 ⇓*i*P **P** **07 55 30.0 -0.3**
UZH *e* 07 55 37.8
UZH *i* 07 55 45.2
JAVC Velka Javorina 79.11 355 *e*P **P** **07 55 32.3 +1.5**
GEC2 GERESS Array S 79.27 358 IAmb IAmb 07 55 33.8
comp=Z,71nm,1.2s
GEC2 GERESS Array S 79.27 358 *e*P **P** **07 55 32.8 +1.1**
comp=Z,96nm,1.3s,baz=0.3,slow=5.7
GERES GERESS Array B 79.27 358 P **P** **07 55 31.9 +0.2**
comp=Z,16nm,0.8s,baz=20,slow=4.3,SNR=16
GERES LR LR 08 33 32.9
comp=Z,2μm,19.2s,baz=12,slow=38
GERES GERESS Array B 79.27 358 P **P** **07 55 32.0 +0.2**
CKRC Cesky Krumlov 79.28 358 *e*P **P** **07 55 32.7 +1.0**
CKRC *e*x x 07 55 43.7
KECS Kecovo 79.31 353 *e*P **P** **07 55 33.1 +1.2**
KECS pmax pmax
comp=Z,37nm,1.0s
KECS Kecovo 79.31 353 *e*P **P** **07 55 33.1 +1.2**
STU Stuttgart 79.37 1 IAmb IAmb 07 55 34.2
comp=Z,118nm,1.3s
STU Stuttgart 79.37 1 *e*P **P** **07 55 33.2 +1.1**
comp=Z,153nm,1.4s,baz=0.3,slow=5.7
STU *e*pP **pwP** **07 55 45.1 +0.5**
baz=360,slow=5.7
VYHS Vyhne 79.41 354 *e*P **P** **07 55 33.5 +1.1**
VYHS pmax pmax
comp=Z,119nm,1.2s
VYHS Vyhne 79.41 354 *e*P **P** **07 55 33.5 +1.1**
SMOL Smolenice 79.47 355 *e*P **P** **07 55 34.3 +1.6**
SMOL pmax pmax
comp=Z,64nm,1.1s
SMOL Smolenice 79.47 355 *e*P **P** **07 55 34.3 +1.6**
MODS Modra-Piesok 79.61 356 *e*P **P** **07 55 36.2 +2.7**
MODS pmax pmax
comp=Z,199nm,1.2s
MODS Modra-Piesok 79.61 356 *e*P **P** **07 55 36.2 +2.7**
KBL Kabul 79.69 314 P **P** **07 55 33.7 -0.8**
KBL pmax pmax
comp=Z,94nm,0.9s
KBL Kabul 79.69 314 P **P** **07 55 33.6 -0.8**
KBL IAmb IAmb 07 55 35.1
comp=Z,94nm,0.9s
BUR08 Bucovina Ar. S 79.73 350 P **P** **07 55 34.1 -0.2**
BURAR Bucovina Array 79.76 350 ⇑P **P** **07 55 34.8 +0.4**
BURAR Bucovina Array 79.76 350 P **P** **07 55 34.5 +0.1**
BFO Black Forest 79.80 2 P **P** **07 55 35.1 +0.6**
BFO pmax pmax
comp=Z,79nm,1.2s
BFO Black Forest 79.80 2 P **P** **07 55 35.1 +0.6**
BFO IAmb IAmb 07 55 36.6
comp=Z,79nm,1.2s
BFO Black Forest 79.80 2 *e*P **P** **07 55 35.6 +1.1**
comp=Z,107nm,1.3s,baz=0.3,slow=5.7
BFO *e*pP **pwP** **07 55 47.3 +0.4**
baz=360,slow=5.7
ZST Bratislava 79.80 356 *e*P **P** **07 55 36.5 +2.0**
ZST pmax pmax
comp=Z,372nm,1.2s
ZST Bratislava 79.80 356 *e*P **P** **07 55 36.5 +2.0**
BMR Baia Mare 79.87 351 ⇑P **P** **07 55 36.5 +1.6**
ECH Echery 79.89 2 IAmb IAmb 07 55 37.6
comp=Z,99nm,1.1s
PSZ Piszkesteto 79.92 354 ⇓P **P** **07 55 36.6 +1.3**
PSZ Piszkesteto 79.92 354 *e*P **P** **07 55 36.4 +1.1**
PSZ Piszkesteto 79.92 354 IAmb IAmb 07 55 37.8
comp=Z,132nm,1.3s
KIS Kishinev 79.93 347 ⇑*i*P **P** **07 55 35.0 -0.2**
comp=Z,80nm,1.5s
KIS *e*LR LR 08 35 26.0
comp=Z,2μm,17.0s
KIS Kishinev 79.93 347*c i*P **P** **07 55 35.0 -0.2**
KIS pmax pmax
comp=Z,80nm,1.5s
MAK Makhachkala 79.97 333 *e*P **P** **07 55 35.0 -0.5**
MAK *e* 07 58 39.9
MAK *e*PPP PPP 08 00 24.1
MAK *e*S **S** **08 05 36.4 -0.6**
MAK pmax pmax
comp=Z,207nm,1.0s
FUR Furstenfeldbru 79.98 360 *e*P **P** **07 55 36.9 +1.3**
comp=Z,210nm,1.4s,baz=0.3,slow=5.7
CONA Conrad Observa 80.12 356 *i* P **P** **07 55 37.8 +1.5**
comp=Z,133nm,1.1s,SNR=23
GROC Groznyy 80.21 335 *e*P **P** **07 55 36.1 -0.7**
GROC *e* 07 55 43.3
GROC pmax pmax
comp=Z,25nm,0.4s
MOA Molln 80.25 358 *i* P **P** **07 55 38.4 +1.4**
comp=Z,41nm,1.1s,SNR=7.3
KIV Kislovodsk 80.28 337 ⇑P **P** **07 55 37.7 +0.4**
KIV Kislovodsk 80.28 337 *e*P **P** **07 55 38.3 +1.0**
KIV *e*S **S** **08 05 43.5 +3.1**
KIV pmax pmax
comp=Z,105nm,1.0s
KIV pmax pmax
comp=Z,109nm,3.7s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV Kislovodsk 80.28 337 P **P** **07 55 37.3 0.0**
KIV IAmb IAmb 07 55 40.0
comp=Z,80nm,0.8s
ARCR ARCALIA 80.37 351 ⇑P **P** **07 55 38.8 +1.2**
KBZ Khabaz 80.44 337 P **P** **07 55 39.1 +1.1**
comp=Z,46nm,0.9s,baz=36,slow=3.5,SNR=8.9
KBZ Khabaz 80.44 337*c i*P **P** **07 55 38.9 +0.9**
KBZ pmax pmax
comp=Z,74nm,0.9s
UBR Ueberruh 80.47 0 *e*P **P** **07 55 39.5 +1.3**
comp=Z,138nm,1.4s,baz=0.3,slow=5.7
UBR *e*pP **pwP** **07 55 51.4 +0.8**
baz=360,slow=5.7
SHA1 Shidzhatmaz 80.49 337*c i*P **P** **07 55 39.2 +0.6**
NCK Nalchik 80.50 336*c e*P **P** **07 55 39.6 +1.2**
NCK pmax pmax
comp=Z,165nm,0.9s
EGYH Egyhazaskeszo 80.57 355 *e*P **P** **07 55 37.5 -1.2**
ANN Anapa 80.63 341*c i*P **P** **07 55 38.1 -0.9**
ANN *e* 08 05 54.7
ANN pmax pmax
comp=Z,164nm,1.1s
RETA Reutte 80.66 360 *i* P **P** **07 55 40.8 +1.6**
comp=Z,70nm,1.4s,SNR=9.5
TESR Tescani 80.68 349 ⇑P **P** **07 55 39.4 +0.1**
MOTA Moosalm 80.80 360 *i* P **P** **07 55 41.6 +1.5**
comp=Z,127nm,1.2s,SNR=22
MPLH Magyarpolny 80.80 355 *e*P **P** **07 55 42.4 +2.5**
WATA Walderalm 80.81 359 *i* P **P** **07 55 41.7 +1.5**
comp=Z,131nm,1.3s,SNR=18
ARSA Arzberg 80.81 357 *i* P **P** **07 55 41.4 +1.4**
comp=Z,88nm,1.1s,SNR=17
CJR Cluj-Napoca 80.81 351 ⇑P **P** **07 55 41.7 +1.6**
DRGR 80.82 352 ⇑P **P** **07 55 41.3 +1.2**
DRGR 80.82 352 P **P** **07 55 41.3 +1.2**
DAVA Damuels 80.86 1 *i* P **P** **07 55 41.8 +1.4**
comp=Z,59nm,1.2s,SNR=6.7
WTTA Wattenberg 80.88 359 *i* P **P** **07 55 42.3 +1.8**
comp=Z,126nm,1.2s,SNR=17
SQTA Sankt Quirin 80.93 360 *i* P **P** **07 55 42.5 +1.8**
comp=Z,137nm,1.1s,SNR=18
KBA Koelnbreinsper 81.04 358 *i* P **P** **07 55 43.0 +1.6**
comp=Z,329nm,1.6s,SNR=32
TIH Tihany 81.05 355 *e*P **P** **07 55 43.7 +2.4**
ZEI Tsey 81.08 336 *e*P **P** **07 55 41.9 +0.1**
ZEI pmax pmax
comp=Z,92nm,1.3s
MFF Saint Martin d 81.11 8 *e*P **P** **07 55 42.1 +0.5**
MFF pmax pmax
comp=Z,162nm,1.1s
SIM Simferopol' 81.11 343 *e*P **P** **07 55 42.2 +0.6**
SIM pmax pmax
comp=Z,114nm,1.1s
FETA Feichten 81.13 360 *i* P **P** **07 55 43.2 +1.3**
comp=Z,129nm,1.1s,SNR=21
GEYT Alibeck 81.15 324 P **P** **07 55 43.0 +1.0**
comp=Z,50nm,0.9s,baz=340,slow=8.1,SNR=16
GEYT Alibeck 81.15 324 P **P** **07 55 42.6 +0.6**
GYA0B ALIBECK ARRAY 81.15 324 P **P** **07 55 42.3 +0.3**
GYA0B IAmb IAmb 07 55 43.9
comp=Z,88nm,1.1s
VLDR Vladesti 81.16 348 ⇑P **P** **07 55 42.7 +0.9**
OZUR 81.19 349 ⇑P **P** **07 55 43.1 +1.0**
AKT Akhty 81.28 333 *e*P **P** **07 55 42.9 +0.2**
AKT *e*PCP **PcP** **07 55 49.3 +0.4**
AKT pmax pmax
comp=Z,255nm,0.8s
VRI Vrincioaia 81.31 349 ⇓P **P** **07 55 43.0 +0.3**
VRI Vrincioaia 81.31 349 ⇓P **P** **07 55 44.0 +1.3**
SOC Sochi 81.32 339 *e*P **P** **07 55 42.5 -0.2**
SOC *e*S S **08 05 51.9 +0.9**
SOC *e*SSS SSS 08 14 38.8
SOC pmax pmax
comp=Z,77nm,1.0s
SOC MLR MLR
comp=Z,3μm,18.0s
PLOR Plostina 81.33 349 ⇑P **P** **07 55 44.4 +1.5**
DOPR Dopca 81.36 350 ⇑P **P** **07 55 43.6 +0.6**
ABTA Abfaltersbach 81.39 359 *i* P **P** **07 55 44.6 +1.4**
comp=Z,112nm,1.2s,SNR=20
SOKA Soboth 81.40 357 *i* P **P** **07 55 44.8 +1.6**
comp=Z,179nm,1.2s,SNR=40
SIRR Siria 81.43 352 ⇓P **P** **07 55 43.8 +0.5**
SLCR Slobozia Conac 81.45 348 ⇑P **P** **07 55 43.0 -0.4**
MYKA Terra Mystica 81.48 358 *i* P **P** **07 55 44.8 +1.1**
comp=Z,108nm,1.6s,SNR=14
IZVR Izvoarele 81.50 348 ⇑P **P** **07 55 43.5 -0.1**
ZOU Zoufplan 81.57 358 P **P** **07 55 44.7 +0.4**
ZOU IAmb IAmb 07 55 46.9
comp=Z,91nm,1.2s
OBKA Obir 81.58 357 *i* P **P** **07 55 45.8 +1.6**
comp=Z,73nm,0.9s,SNR=15
CHVG Ch'k'valeri 81.59 337 ⇓P **P** **07 55 45.1 +0.9**
BISRR Bisoca 81.63 349 ⇓P **P** **07 55 45.6 +1.1**
TUE Stuetta 81.67 1 P **P** **07 55 45.8 +1.0**
MORH Mrgy, Hungar 81.69 354 ⇑P **P** **07 55 44.6 -0.1**
MORH Mrgy, Hungar 81.69 354 *e*P **P** **07 55 45.9 +1.2**
TLCR 81.71 347 ⇑P **P** **07 55 45.4 +0.6**
CTAO Charters Tower 81.73 222 P **P** **07 55 44.8 -0.3**
CTAO pmax pmax
comp=Z,47nm,1.1s
CTAO Charters Tower 81.73 222 P **P** **07 55 44.8 -0.3**
MLR Muntele Rosu 81.77 349 ⇓P **P** **07 55 46.4 +1.2**
MLR Muntele Rosu 81.77 349 P **P** **07 55 46.8 +1.5**
MLR Muntele Rosu 81.77 349 P **P** **07 55 46.8 +1.5**
CFR Carcaliu 81.81 348 ⇑P **P** **07 55 46.2 +0.9**
KOVH Kovagotottos 81.85 355 *e*P **P** **07 55 46.7 +1.2**
VOIR 81.93 350 ⇑P **P** **07 55 46.7 +0.7**
BZS Buzias 82.08 352 ⇑P **P** **07 55 47.2 +0.5**
TPGR Topolog 82.09 347 ⇑P **P** **07 55 47.0 +0.2**
CTI Castel Tesino 82.10 359 P **P** **07 55 47.4 +0.4**
CTI pmax pmax
comp=Z,72nm,1.1s
CTI Castel Tesino 82.10 359 P **P** **07 55 47.4 +0.4**
CTI IAmb IAmb 07 55 48.5
comp=Z,72nm,1.1s
JURR Jurilovca 82.11 347 ⇑P **P** **07 55 47.2 +0.4**
GZR Gura Zlata 82.20 351 ⇑P **P** **07 55 47.8 +0.4**
KZRT Kazreti 82.27 335 P **P** **07 55 49.7 +1.8**
HARR Harsova 82.32 348 ⇑P **P** **07 55 49.1 +1.1**
TIRR Tirgusor 82.48 347 ⇓P **P** **07 55 48.9 +0.1**
TIRR Tirgusor 82.48 347 P **P** **07 55 48.7 -0.1**
TIRR pmax pmax
comp=Z,131nm,0.9s
TIRR Tirgusor 82.48 347 P **P** **07 55 48.7 -0.1**
AKH Akhalkalaki 82.48 336 ⇑P **P** **07 55 50.9 +1.7**
AKH Akhalkalaki 82.48 336 P **P** **07 55 51.6 +2.5**
MTN Manton Dam 82.53 238 P **P** **07 55 48.9 -0.5**
SALO Salr 82.53 0 P **P** **07 55 49.8 +0.6**
LPL La Plagne 82.57 3 *e*P **P** **07 55 52.0 +2.4**
LPL pmax pmax
comp=Z,36nm,1.0s
FRGS Fruska Gora 82.67 353 ⇑P **P** **07 55 51.2 +1.4**
HRA Herat 82.69 319 P **P** **07 55 50.8 +0.4**
HRA IAmb IAmb 07 55 51.9
comp=Z,92nm,1.3s
SSB Saint Sauveur 82.73 4 IAmb IAmb 07 55 52.6
comp=Z,69nm,1.0s
HERR Herculane 82.74 352 ⇑P **P** **07 55 51.0 +0.8**
TEOL Teolo 82.78 359 P **P** **07 55 50.7 +0.2**
ICOR Ion Corvin 82.90 348 ⇑P **P** **07 55 51.6 +0.6**
MDVR Moldovita 82.90 352 ⇑P **P** **07 55 50.7 -0.3**
BCA Borcka 82.91 337 ⇑P **P** **07 55 51.4 +0.2**
CAF Calviac 82.94 6 *e*P **P** **07 55 51.9 +0.6**
CAF pmax pmax
comp=Z,115nm,1.2s
SGRR Singureni 83.02 349 ⇑P **P** **07 55 52.1 +0.5**
BNI Bardonecchia 83.04 3 IAmb IAmb 07 55 55.5
comp=Z,93nm,0.9s
AOPR Arecibo Observ 83.14 69 P **P** **07 55 52.7 0.0**
AOPR IAmb IAmb 07 56 09.7
comp=Z,44nm,0.8s
GNI Garni 83.34 334*c e*P **P** **07 55 54.8 +1.2**
GNI pmax pmax
comp=Z,74nm,1.2s
GNI Garni 83.34 334 P **P** **07 55 54.0 +0.4**
GNI IAmb IAmb 07 56 36.3
comp=Z,65nm,0.9s
OBIP Obispado Ponce 83.47 69 P **P** **07 55 55.0 +0.7**
OBIP IAmb IAmb 07 56 09.8

comp=Z,132nm,1.4s
GCPR Guaynabo City 83.56 69 P **P 07 55 55.3 +0.5**
GCPR IAmb IAmb 07 56 08.4
comp=Z,72nm,1.0s
ZIMR 83.65 349 ⇑P **P 07 55 55.6 +0.8**
DIVS Divibare 83.71 353 P **P 07 55 55.7 +0.4**
SNOP Sinop 83.75 342 P **P 07 55 56.6 +1.2**
SNOP IAmb IAmb 07 55 57.6
comp=Z,107nm,1.3s
KTUT Trabzon 83.78 338 ⇑P **P 07 55 56.9 +1.3**
ZCCA Zocca 83.80 360 P **P 07 55 57.4 +1.7**
BZK Bozkurt 84.03 343 ⇑P **P 07 55 58.2 +1.4**
BZK Bozkurt 84.03 343 P **P 07 55 58.2 +1.4**
MTP Monte Pirata 84.03 68 P **P 07 55 57.4 +0.2**
MTP IAmb IAmb 07 56 11.1
comp=Z,74nm,1.1s
BOVS Bovan 84.04 352 ⇑P **P 07 55 56.7 -0.1**
DIKM Dikmen 84.09 342 ⇑P **P 07 55 58.5 +1.3**
KOPT Kop Dagi 84.53 337 P **P 07 56 00.2 +0.4**
OSSC Osservatorio P 84.62 360 P **P 07 56 00.4 +0.5**
EIDS Eidsvold 84.67 215 P **P 07 55 59.6 -0.5**
EIDS IAmb IAmb 07 56 15.2
comp=Z,95nm,1.8s
PGAV Gavieira, Arco 84.76 14 *e*P **P 07 56 01.3 +0.6**
comp=Z,145nm,1.8s
PGAV *e*pP **pwP 07 56 14.6 +1.3**
MURB Monte Urbino 84.87 359 P **P 07 56 02.5 +1.3**
VTS Vitosha 84.90 351 ⇑P **P 07 56 01.9 +0.4**
VTS Vitosha 84.90 351 P **P 07 56 01.8 +0.4**
VTS pmax pmax
comp=Z,29nm,1.0s
VTS Vitosha 84.90 351 P **P 07 56 01.8 +0.3**
PCAB Cabril 85.04 14 *e*P **P 07 56 03.3 +1.3**
comp=Z,58nm,1.5s
PCAB *e*pP **pwP 07 56 14.9 +0.3**
BHPL Bhopal 85.05 302 *e*P **P 07 56 02.0 -0.4**
PBRG Braganca 85.13 13 *e*P **P 07 56 03.5 +1.0**
comp=Z,94nm,1.8s
PBRG *e*pP **pwP 07 56 15.2 +0.1**
EDRB Edirne 85.27 348 P **P 07 56 03.3 +0.2**
CASP Castiglione de 85.36 360 P **P 07 56 03.6 0.0**
POLO Lamas de Olo 85.41 14 *e*P **P 07 56 03.9 0.0**
comp=Z,42nm,1.8s
POLO *e*pP **pwP 07 56 16.6 +0.1**
PDG Podgorica 85.42 354 ⇓P **P 07 56 03.9 +0.1**
PDG Podgorica 85.42 354 P **P 07 56 03.9 +0.1**
GEVA Gevas 85.51 335 P **P 07 56 05.5 +0.9**
PVRL Vila Real 85.51 14 *e*P **P 07 56 06.9 +2.5**
comp=Z,70nm,1.9s
PVRL *e*pP **pwP 07 56 17.0 0.0**
GURO Guroymak-BITLI 85.55 336 IAmb IAmb 07 56 08.2
comp=Z,89nm,1.4s
SKO Skopje 85.71 352 *i* P **P 07 56 06.7 +1.3**
MVO Moncorvo 85.72 13 *e*P **P 07 56 06.3 +0.8**
comp=Z,62nm,1.6s
MVO *e*pP **pwP 07 56 18.2 +0.1**
AQU L'Aquila 85.76 358 P **P 07 56 06.3 +0.7**
AQU pmax pmax
comp=Z,99nm,0.9s
AQU L'Aquila 85.76 358 P **P 07 56 06.3 +0.7**
PUK Puka 85.76 353 IAmb IAmb 07 56 08.4
comp=Z,49nm,1.3s
STIP Stip 85.92 351 *i* P **P 07 56 06.0 -0.3**
PVIS Viseu 86.04 14 *e*P **P 07 56 07.1 +0.1**
comp=Z,84nm,1.7s
PVIS *e*pP **pwP 07 56 19.6 0.0**
PHP Peshkopia 86.08 353 P **P 07 56 07.1 -0.1**
INTR Introdacqua 86.09 358 P **P 07 56 08.0 +0.6**
RDO Rodhopi 86.11 349 P **P 07 56 07.8 +0.5**
KNRA Kununurra 86.14 238 P **P 07 56 06.5 -1.1**
KNRA IAmb IAmb 07 56 19.4
comp=Z,34nm,1.1s
VAY Valandovo 86.25 351 *i* P **P 07 56 09.3 +1.4**
BR131 Keskin Array S 86.26 342 P **P 07 56 08.7 +0.5**
BR131 pmax pmax
comp=Z,57nm,1.1s
BR131 Keskin Array S 86.26 342 P **P 07 56 08.7 +0.5**
BR131 IAmb IAmb 07 56 11.4
comp=Z,57nm,1.1s
BRTR Keskin Array B 86.26 342 P **P 07 56 08.8 +0.5**
comp=Z,15nm,0.9s,baz=33,slow=2.1,SNR=14
BRTR Keskin Array B 86.26 342 *c e*P **P 07 56 09.3 +1.0**
BRTR pmax pmax
comp=Z,15nm,0.9s
BRTR Keskin Array B 86.26 342 P **P 07 56 08.6 +0.3**
ANTO Ankara 86.28 343 P **P 07 56 09.1 +0.8**
ANTO pmax pmax
comp=Z,122nm,1.2s
ANTO Ankara 86.28 343 P **P 07 56 09.1 +0.8**
SGRT San Giovanni R 86.29 356 P **P 07 56 09.0 +0.7**
SGRT IAmb IAmb 07 56 09.6
comp=Z,61nm,0.9s
ALN Alexandroupoli 86.29 348 P **P 07 56 08.1 -0.1**
ALN Alexandroupoli 86.29 348 P **P 07 56 08.3 +0.1**
ALN pmax pmax
comp=Z,98nm,1.0s
ALN Alexandroupoli 86.29 348 P **P 07 56 08.3 +0.1**
SRS Serrai 86.35 350 P **P 07 56 08.6 +0.1**
KAVA Kavala 86.37 350 P **P 07 56 09.3 +0.7**
KNT Kendrikon 86.38 351 P **P 07 56 09.2 +0.5**
MTE Manteigas 86.40 14 *e*P **P 07 56 09.8 +1.0**
comp=Z,51nm,1.4s
MTE *e*pP **pwP 07 56 21.5 +0.1**
ENEZ Enez 86.44 348 P **P 07 56 09.9 +1.0**
COI Coimbra 86.45 15 P **P 07 56 09.3 +0.3**
COI pmax pmax
comp=Z,62nm,1.0s
COI Coimbra 86.45 15 *e*P **P 07 56 10.3 +1.3**
comp=Z,93nm,1.1s
COI *e*pP **pwP 07 56 22.6 +1.0**
COI Coimbra 86.45 15 P **P 07 56 09.3 +0.3**
COI IAmb IAmb 07 56 22.6
comp=Z,62nm,1.0s
TIR Tirane 86.46 353 ⇑P **P 07 56 10.4 +1.4**
PCAS Casmilo, Conde 86.59 15 *e*P **P 07 56 10.5 +0.8**
comp=Z,61nm,1.4s
PCAS *e*pP **pwP 07 56 22.4 +0.1**
OHR Ohrid 86.62 352 *i* P **P 07 56 10.6 +0.7**
GRG Griva 86.63 351 P **P 07 56 10.3 +0.4**
MALT Malatya 86.64 338 P **P 07 56 12.8 +2.7**
SOH Sokhos 86.67 350 P **P 07 56 10.6 +0.5**
BNN Bunyan 86.67 341 P **P 07 56 10.4 +0.1**
THAS Thassos island 86.73 349 P **P 07 56 10.1 -0.3**
WB0 Warramunga Arr 86.75 232 P **P 07 56 09.6 -1.0**
SMTH Samothraki Isl 86.77 349 P **P 07 56 10.7 +0.1**
WR0 Warramunga Arr 86.85 231 P **P 07 56 10.0 -1.0**
FNA Florina 86.89 352 P **P 07 56 11.3 +0.1**
FNA Florina 86.89 352 P **P 07 56 11.3 +0.1**
FNA pmax pmax
comp=Z,47nm,0.7s
FNA Florina 86.89 352 P **P 07 56 11.3 +0.1**
FNA IAmb IAmb 07 56 12.3
comp=Z,47nm,0.7s
WRAB Tennant Creek 86.92 232 *c i*P **P 07 56 09.9 -1.5**
WRAB pmax pmax
comp=Z,36nm,1.1s
WRAB Tennant Creek 86.92 232 P **P 07 56 10.6 -0.8**
WRAB IAmb IAmb 07 56 11.2
comp=Z,41nm,1.2s
WB2 Warramunga Arr 86.92 232 P **P 07 56 10.5 -0.9**
WB2 IAmb IAmb 07 56 11.3
comp=Z,39nm,1.1s
WRA Warramunga Arr 86.93 232 P **P 07 56 10.2 -1.2**
comp=Z,13nm,0.9s,baz=39,slow=5.5,SNR=12
WRA Warramunga Arr 86.93 232 P **P 07 56 10.1 -1.4**
WRA Warramunga Arr 86.93 232 P **P 07 56 10.1 -1.4**
PCBR Castelo Branco 86.96 14 *e*P **P 07 56 12.1 +0.6**
comp=Z,33nm,1.9s
PCBR *e*pP **sP 07 56 23.3 -0.4**
GADA Gvkgeada 87.00 348 P **P 07 56 11.5 -0.2**
MARD Mardin 87.03 336 P **P 07 56 12.5 +0.4**
PAOL Paolisi 87.05 357 P **P 07 56 12.4 +0.4**
PAOL IAmb IAmb 07 56 13.3
comp=Z,58nm,1.2s
PSBE So Bento 87.07 15 *e*P **P 07 56 12.4 +0.3**
comp=Z,101nm,1.7s
PSBE *e*pP **sP 07 56 24.3 -0.1**
OUR Ouranopolis 87.09 350 P **P 07 56 12.5 +0.4**
PLG Polygyros 87.10 350 P **P 07 56 12.2 0.0**
KTI Kastanea 87.22 351 P **P 07 56 13.6 +0.7**
BALB Balikesir 87.28 347 P **P 07 56 12.9 -0.1**
EZN Ezine 87.31 348 P **P 07 56 13.5 +0.3**
KZN Kozani 87.33 352 P **P 07 56 13.5 +0.1**

MATE Matera 87.35 355 ⇑P **P 07 56 13.0 -0.3**
PMRV Marv??o 87.37 14 *e*P **P 07 56 14.9 +1.4**
comp=Z,56nm,1.9s
PMRV *e*pP **pwP 07 56 26.4 +0.3**
LIA Limnos Island 87.38 349 P **P 07 56 14.4 +0.9**
LIT Litokhoron 87.47 351 P **P 07 56 13.6 -0.4**
LIT Litokhoron 87.47 351 P **P 07 56 14.0 0.0**
LIT Litokhoron 87.47 351 P **P 07 56 14.0 0.0**
PAIG Paliouri 87.52 350 P **P 07 56 13.4 -0.8**
PMAFR Mafra 87.54 15 *e*P **P 07 56 15.1 +0.8**
comp=Z,198nm,2.3s
PMAFR *e*pP **sP 07 56 26.6 0.0**
ESBB Sonseca Array 87.59 11 P **P 07 56 15.4 +0.8**
ESBB IAmb IAmb 07 56 27.6
comp=Z,46nm,0.9s
ESDC Sonseca Array 87.59 11 P **P 07 56 14.7 0.0**
comp=Z,20nm,0.8s,baz=347,slow=4.8,SNR=34
ESDC LR LR 08 38 08.9
comp=Z,2μm,18.0s,baz=345,slow=38
ESDC Sonseca Array 87.59 11 P **P 07 56 14.5 -0.1**
ESDC IAmb IAmb 07 56 27.6
comp=Z,44nm,1.1s
PMTG Montargil 87.60 15 *e*P **P 07 56 14.6 0.0**
comp=Z,43nm,1.4s
PMTG *e*pP **sP 07 56 26.4 -0.5**
PAB San Pablo 87.67 12 P **P 07 56 15.9 +0.8**
PAB pmax pmax
comp=Z,28nm,1.0s
PAB San Pablo 87.67 12 P **P 07 56 15.9 +0.8**
SCTE Santa Cesarea 87.82 354 P **P 07 56 16.6 +0.9**
PRK Paraskevi 87.89 348 P **P 07 56 16.8 +0.8**
PESTR Estremoz 87.89 14 *e*P **P 07 56 16.2 +0.2**
comp=Z,72nm,1.4s
PESTR *e*pP **sP 07 56 28.1 -0.2**
PESTR Estremoz 87.89 14 P **P 07 56 15.7 -0.3**
SIGR SIGRI 87.97 348 P **P 07 56 16.0 -0.4**
GAZ Gaziantep 88.00 339 P **P 07 56 16.9 +0.2**
GAZ IAmb IAmb 07 56 19.9
comp=Z,58nm,1.1s
THL Klokotos Trika 88.05 351 P **P 07 56 15.6 -1.1**
XOR Xorichti 88.13 350 P **P 07 56 16.9 -0.3**
EVO Evora 88.16 15 *e*P **P 07 56 16.9 -0.4**
comp=Z,51nm,2.1s
EVO *e*pP **sP 07 56 29.4 -0.2**
NEO Neokhori 88.18 350 P **P 07 56 17.2 -0.2**
IGT Igoumenitsa 88.22 353 P **P 07 56 17.1 -0.5**
KULA Kula-Manisa 88.28 346 P **P 07 56 18.0 +0.1**
MANT Manisa 88.31 346 P **P 07 56 18.9 +0.6**
SDV Santo Domingo 88.34 78 *e*P **P 07 56 18.9 +0.2**
PNCL Nicolau / Gran 88.49 15 *e*P **P 07 56 19.5 +0.7**
comp=Z,106nm,1.4s
PNCL *e*pP **pwP 07 56 31.6 +0.2**
AGG Agios Georgios 88.55 351 P **P 07 56 17.6 -1.6**
AGG Agios Georgios 88.55 351 P **P 07 56 18.7 -0.5**
AGG pmax pmax
comp=Z,41nm,0.9s
AGG Agios Georgios 88.55 351 P **P 07 56 18.7 -0.5**
AGG IAmb IAmb 07 56 19.6
comp=Z,41nm,0.9s
MAKR Makrakomi, Fth 88.58 351 P **P 07 56 19.0 -0.3**
PBAR Barrancos 88.65 14 *e*P **P 07 56 18.8 -0.8**
comp=Z,111nm,1.2s
PBAR *e*pP **sP 07 56 31.8 -0.1**
PBEJ Beja 88.67 15 *e*P **P 07 56 17.9 -1.8**
comp=Z,39nm,1.2s
PBEJ *e*pP **pwP 07 56 32.4 +0.1**
EVR Evrytania 88.71 351 P **P 07 56 20.4 +0.4**
KYMI Kymi, Euboea I 88.75 350 P **P 07 56 19.2 -0.9**
CHOS Chios island 88.76 348 P **P 07 56 19.4 -0.8**
MESJ Messejana 88.80 15 *e*P **P 07 56 20.9 +0.6**
comp=Z,31nm,1.6s
TIP Timpagrande 88.81 355 ⇑P **P 07 56 20.5 +0.1**
TIP Timpagrande 88.81 355 P **P 07 56 20.5 +0.1**
PSI Prapat 88.87 273 P **P 07 56 20.6 -0.5**
PSI pmax pmax
comp=Z,79nm,0.8s
LKD2 Lefkada island 88.94 352 P **P 07 56 20.4 -0.6**
RPSI Rantau Prapat 88.95 273 P **P 07 56 20.6 -0.7**
PTEO Sao Teotonio 89.01 15 *e*P **P 07 56 21.8 +0.5**
comp=Z,104nm,1.3s
PTEO *e*pP **sP 07 56 33.7 +0.1**
ANX Ano Chora 89.02 351 P **P 07 56 21.6 +0.1**
PCVE Castro Verde 89.03 15 *e*P **P 07 56 21.8 +0.4**
comp=Z,52nm,1.7s
PCVE *e*pP **sP 07 56 33.8 +0.1**
SERG Sergoula 89.18 351 P **P 07 56 21.7 -0.4**
EFP Efpalio 89.19 351 P **P 07 56 22.2 +0.1**
HYB Hyderabad 89.22 298 *i* P **P 07 56 22.0 -0.6**
HYB *e*pP **pP 07 56 33.0 +1.1**
HYB Hyderabad 89.22 298 *e*P **P 07 56 22.6 -0.1**
TRIZ Trizonia 89.23 351 P **P 07 56 22.3 0.0**
FSK Fiskardo 89.27 352 P **P 07 56 21.8 -0.7**
PVAQ Vaqueiros 89.31 15 *e*P **P 07 56 23.5 +0.8**
comp=Z,10nm,1.6s
PVAQ *e*pP **pwP 07 56 35.3 0.0**
DION Dionisos Attik 89.32 350 P **P 07 56 21.6 -1.2**
PTL Penteli 89.36 350 P **P 07 56 22.4 -0.6**
PFVI Vila Bisbo 89.40 15 *e*P **P 07 56 23.7 +0.6**
comp=Z,171nm,2.0s
PFVI *e*pP **sP 07 56 34.0 -1.4**
PFVI Vila Bisbo 89.40 15 P **P 07 56 23.8 +0.6**
PBDV Barranco-do-Ve 89.43 15 *e*P **P 07 56 23.0 -0.3**
comp=Z,80nm,2.1s
PBDV *e*pP **pwP 07 56 35.9 0.0**
LTK Loutraki 89.48 350 P **P 07 56 22.1 -1.4**
THAL Thalero 89.50 351 P **P 07 56 23.4 -0.2**
KLV Kalavryta, Ach 89.54 351 P **P 07 56 23.3 -0.6**
VLY Voula,Athens 89.56 350 P **P 07 56 22.8 -1.1**
RLS Riolos of Patr 89.59 351 P **P 07 56 24.1 +0.1**
YER Yerkesik 89.68 346 P **P 07 56 24.8 +0.2**
BODT Bodrum 89.90 347 P **P 07 56 24.5 -1.0**
AMT Artemida-Makis 90.09 351 P **P 07 56 26.8 +0.4**
DAT Datca 90.19 346 P **P 07 56 25.0 -2.0**
ASAR Alice Springs 90.32 230 P **P 07 56 27.1 -0.3**
comp=Z,30nm,1.0s,baz=37,slow=4.3,SNR=10
ASAR Alice Springs 90.32 230 P **P 07 56 26.2 -1.2**
ASAR Alice Springs 90.32 230 P **P 07 56 26.2 -1.2**
AKAS Kas 90.36 345 P **P 07 56 27.7 -0.1**
OTAV Otavalo 90.36 89 P **P 07 56 28.8 +0.3**
OTAV pmax pmax
comp=Z,18nm,1.1s
OTAV Otavalo 90.36 89 P **P 07 56 28.8 +0.3**
OTAV Otavalo 90.36 89 *e*P **P 07 56 28.6 +0.1**
ITM Ithomi 90.42 351 P **P 07 56 28.1 +0.2**
ITM IAmb IAmb 07 56 29.4
comp=Z,45nm,1.0s
CLTB Caltabellotta 90.54 358 P **P 07 56 28.7 +0.1**
CLTB IAmb IAmb 07 56 29.5
comp=Z,41nm,0.9s
VLI Veliai 90.77 350 P **P 07 56 27.7 -1.9**
LEF Lefka 90.87 342 ⇑P **P 07 56 31.0 +1.0**
KARP Karpathos 91.41 347 P **P 07 56 31.9 -0.6**
ANKY Antikythira Is 91.58 350 P **P 07 56 33.0 -0.3**
PMOZ Porto Moniz, M 91.86 23 *e*P **P 07 56 36.2 +1.4**
comp=Z,161nm,1.7s
PMOZ *e*pP **pwP 07 56 47.8 +0.4**
IMMV Iera Moni Meta 91.90 349 P **P 07 56 35.0 +0.2**
VAM Vamos 91.93 349 P **P 07 56 35.0 +0.1**
ZKR Zakros 91.96 347 P **P 07 56 34.0 -1.1**
LAST Lasithi 92.01 348 P **P 07 56 34.2 -1.2**
PMAR Madeira 92.03 23 *e*P **P 07 56 37.2 +1.5**
comp=Z,252nm,1.8s
PMAR *e*pP **pwP 07 56 48.8 +0.6**
KEST Kesra 92.40 1 P **P 07 56 37.6 +0.4**
comp=Z,12nm,1.1s,baz=273,slow=1.0,SNR=4.3
KEST LR LR 08 43 11.4
comp=Z,1μm,18.4s,baz=306,slow=39
KEST Kesra 92.40 1 IAmb IAmb 07 56 50.4
comp=Z,54nm,1.3s
STKA Stephens Creek 94.10 220 P **P 07 56 44.2 -0.5**
comp=Z,5.6nm,0.9s,baz=35,slow=6.3,SNR=4.8
H03N2 Juan Fernandez 115.86 112 T T 10 08 56.2
baz=320
H03N1 Juan Fernandez 115.87 112 T T 10 08 58.4
baz=320
H03N3 Juan Fernandez 115.88 112 T T 10 09 00.3
baz=320
TIC Toumodi 119.84 18 *e*PKP1 **PKiKP 08 02 17.5 +0.4**
KIC Kosan Boka 120.17 18 *e*PKP1 **PKiKP 08 02 18.2 +0.5**
comp=Z,36nm,1.0s
LIC Lamto 120.25 18 *e*PKP1 **PKPdf 08 02 17.3 -0.5**
comp=Z,48nm,0.9s
CPUP Villa Florida 123.69 90 PKP **PKPdf 08 02 22.3 -1.6**
comp=Z,0.9nm,0.8s,baz=259,slow=4.8,SNR=3.0
CPUP Villa Florida 123.69 90 PKiKP **PKPdf 08 02 21.7 -2.2**
CPUP Villa Florida 123.69 90 **PKPdf 08 02 21.7 -2.2**
KMBO Kilima Mbogo 124.42 327 PKP **PKiKP 08 02 27.6 +1.2**
comp=Z,14nm,0.9s,baz=15,slow=3.5,SNR=13
KMBO Kilima Mbogo 124.42 327 *c i* PKiKP **PKiKP 08 02 26.9 +0.5**
KMBO pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 125.73 112 PKP **PKPdf 08 02 26.8 -0.7**
comp=Z,4.8nm,1.0s,baz=341,slow=5.0,SNR=3.7
MBAR Mbarara 125.86 335 *d i* PKiKP **PKiKP 08 02 29.7 +0.5**
VNDA Vanda 130.72 188 PKP **PKPdf 08 02 34.2 -1.6**
comp=Z,2.3nm,1.1s,baz=12,slow=7.0,SNR=2.6
OPO Ambohidratompo 135.92 306 PKP **PKPdf 08 02 45.7 -1.9**
comp=Z,5.2nm,1.0s,baz=300,slow=9.6,SNR=2.4
PMSA Palmer Station 141.44 138 **PKiKP 08 02 57.7 -1.1**
PMSA Palmer Station 141.44 138 *e*P **PKPdf 08 02 57.1 +1.2**
MATP Matopo 145.35 330 PKPbc **PKPbc 08 03 04.2 -0.2**
comp=Z,67nm,1.0s,baz=24,slow=4.2,SNR=11
TSUM Tsumeb 146.59 348 PKPbc **PKPdf 08 03 07.3 +0.7**
comp=Z,24nm,0.7s,baz=352,slow=7.0,SNR=11
TSUM Tsumeb 146.59 348 **PKPab 08 03 08.8 -0.4**
LBTB Lobatse 150.54 332 PKPbc **PKiKP 08 03 19.1 +0.2**
comp=Z,140nm,0.8s,baz=350,slow=1.3,SNR=21
LBTB Lobatse 150.54 332 **PKiKP 08 03 19.3 +0.3**
MAW Mawson 150.78 218 PKPbc **PKPbc 08 03 17.1 -0.2**
comp=Z,11nm,0.9s,baz=34,slow=0.9,SNR=4.7
MAW Mawson 150.78 218 PKiKP **PKPbc 08 03 16.9 -0.4**
MAW Mawson 150.78 218 **PKPbc 08 03 16.9 -0.4**
BOSA Boshof 154.02 330 PKP **PKPdf 08 03 18.8 +0.8**
comp=Z,11nm,1.1s,baz=313,slow=7.3,SNR=2.4
BOSA PKPbc **PKiKP 08 03 26.5 +0.4**
comp=Z,19nm,0.9s,baz=70,slow=3.4,SNR=5.8
SYO Syowa Base 158.35 208 ‖ *e*X **PKPab 08 04 03.4 +6.6**
SYO Syowa Base 158.35 208 ‖ *e*X PKPab 08 04 08.0 +11
SUR Sutherland 158.83 336 PKP **PKPdf 08 03 25.0 +0.8**
comp=Z,7.5nm,0.9s,baz=318,slow=5.5,SNR=2.5
VNA2 Neumayer--Watz 159.54 163 PKPdf **PKPdf 08 03 23.2 -0.3**
baz=226,slow=1.0

NEIC ***27*** *07:59:06.0±2.5, 52°.13N±0°.06×169°.37W±0°.05, h46km±12km, Error ellipse: s-maj=10.1km s-min=1.4km az=157.0*

AEIC 27 07:59:05±2.5, 52°.11N±0°.06×169°.31W±0°.07, h38km±8km, ML2.7/18, mb3.7/8(NEIC), Error ellipse: s-maj=9.1km s-min=6.4km az=165.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.91**	**18**		Pn	07 59 21.5	+0.3
NIKH	**Nikolski High**	**0.91**	**18**		Sn	07 59 35.6	+2.5
OKCE	**Okmok Cone E**	**1.49**	**27**		Pn	07 59 30.5	+1.2
OKWE	**Okmok W'ng Wal**	**1.51**	**25**		Pn	07 59 30.3	+0.7
OKNC	**Okmok New Cone**	**1.53**	**28**		Pn	07 59 31.0	+1.2
MAPS	**Pakushin South**	**2.23**	**39**		Pn	07 59 40.1	+0.8
MAPS					Sn	08 00 08.3	+2.7
MSW	**Makushin Switc**	**2.37**	**39**		Pn	07 59 42.4	+1.2
MSW					Sn	08 00 11.4	+2.4
UNV	**Unalaska Valle**	**2.43**	**43**		Pn	07 59 43.3	+1.2
UNV					Sn	08 00 12.2	+1.7
AKUT	**Akutan**	**2.95**	**45**	Pn	Pn	07 59 49.1	-0.1
KOFP	**Korovin Flat P**	**2.95**	**275**		Pn	07 59 50.9	+1.6
ATKA	**Atka Island**	**3.01**	**274**		Pn	07 59 50.5	+0.5
GSTR	**Great Sitkin T**	**4.16**	**272**	Pn	Pn	08 00 03.1	-2.7
ADK	**Adak**	**4.56**	**270**	Pn	Pn	08 00 11.9	+0.6
KIWB	**Kanaga Island**	**4.85**	**270**	Pn	Pn	08 00 14.9	-0.4
SPIA	**Saint Paul Isl**	**5.11**	**354**	Pn	Pn	08 00 22.6	+3.8
AMKA	**Amchitka**	**7.11**	**269**	Pn	Pn	08 00 48.8	+2.5
KTH	**Kantishna Hill**	**15.01**	**33**	Pn	Pn	08 02 34.0	-0.1
KTH				IAmb	IAmb	08 02 38.7	
comp=Z,8.7nm,1.4s							
KLU	**Klutina**	**15.80**	**44**	Pn	Pn	08 02 43.0	-1.5
KLU				IAmb	IAmb	08 02 59.4	
comp=Z,7.1nm,1.4s							
M24K	**Tolsona, Glenn**	**15.97**	**42**	Pn	Pn	08 02 47.6	+1.0
GLB	**Gilahina Butte**	**16.70**	**46**	Pn	Pn	08 02 55.4	-0.4
L27K	**Beaver Creek,**	**18.20**	**42**	P	P	08 03 14.2	-0.1
K27K	**Chicken**	**18.52**	**39**	P	P	08 03 17.3	-0.5
K27K				IAmb	IAmb	08 03 40.5	
comp=Z,6.7nm,1.5s							
EGAK	**Eagle**	**19.22**	**38**	P	P	08 03 24.9	-0.6
EGAK				IAmb	IAmb	08 03 38.6	
comp=Z,8.9nm,1.5s							
BMAR	**Burnt Mountain**	**19.54**	**29**	P	Pn	08 03 31.2	+0.7
MK31	**Makanchi Array**	**64.01**	**314**	P	P	08 09 35.2	+0.9
MKAR	**Makanchi Array**	**64.01**	**314**	P	P	08 09 32.8	-1.5

IDC 27 08:01:49.6±2.6, 54°.31N×86°.09E, h0km, mb1 3.2/2, mb1mx3.1/48, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=20.5km s-min=13.0km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**245**	*i*		08 07 30.0	
baz=65,slow=318,SNR=1.0							
ZALV	**Zalesovo Beam**	**0.83**	**245**	Pg	Pg	08 02 04.0	-1.5
2.1nm,0.3s,baz=61,slow=16,SNR=8.9							
ZALV				Lg	Lg	08 02 17.9	
3.4nm,0.3s,baz=65,slow=27,SNR=4.8							
KURBB	**Kurchatov Arra**	**5.91**	**234**	Pn	Pn	08 03 19.4	+1.1
0.4nm,0.3s,baz=50,slow=14,SNR=9.8							
KURBB				Lg	Lg	08 04 56.0	
0.0nm,0.3s,baz=75,slow=35,SNR=1.3							
MKAR	**Makanchi Array**	**7.90**	**199**	Pn	Pn	08 03 46.6	+0.9
0.4nm,0.3s,baz=23,slow=13,SNR=6.4							

IDC ***27*** *08:02:34.3±1.0, 52°.46N×169°.51W, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.7/54, mbtmp3.7/16, ML3.3/2, Error ellipse: s-maj=29.2km s-min=17.2km az=167.0*

AEIC ***27*** *08:02:37±2.5, 52°.16N±0°.04×169°.35W±0°.07, h32km±5km, ML3.3/30, mb4.0/25(NEIC), Error ellipse: s-maj=7.4km s-min=4.4km az=133.0*

NEIC ***27*** *08:02:39.0±1.9, 52°.22N±0°.06×169°.36W±0°.08, h50km±8km, Error ellipse: s-maj=9.1km s-min=7.1km az=177.0*

ISC 27 08:02:38.7±1.4, 52°.15N±0°.10×169°.23W±0°.06, h44km±12km, n85, σ1°.45/88, mb3.8/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.86**	**15**		**Pn**	**08 02 53.1**	**-1.2**
OKSP	**Okmok Steeple**	**1.25**	**27**		**Pn**	**08 02 59.4**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**1.43**	**30**		**Pn**	**08 03 02.2**	**0.0**
OKTU					**Sn**	**08 03 23.4**	**+3.5**
OKCE	**Okmok Cone E**	**1.44**	**26**		**Pn**	**08 03 02.7**	**+0.4**
OKNC	**Okmok New Cone**	**1.47**	**27**		**Pn**	**08 03 03.3**	**+0.5**
OKFG	**Magazine Ridge**	**1.50**	**32**		**Pn**	**08 03 03.0**	**0.0**
OKFG					**Sn**	**08 03 23.2**	**+1.8**
MAPS	**Pakushin South**	**2.16**	**39**		**Pn**	**08 03 12.5**	**+0.3**
MAPS					**Sn**	**08 03 40.2**	**+2.4**
MSW	**Makushin Switc**	**2.31**	**39**		**Pn**	**08 03 14.9**	**+0.8**
MSW					**Sn**	**08 03 44.1**	**+2.8**
MNAT	**Makushin Natee**	**2.32**	**40**		**Pn**	**08 03 15.4**	**+1.1**
UNV	**Unalaska Valle**	**2.37**	**43**		**Pn**	**08 03 15.7**	**+0.8**
UNV					**Sn**	**08 03 45.0**	**+2.2**
MTBL	**Makushin Table**	**2.39**	**39**		**Pn**	**08 03 16.4**	**+1.0**
AKMO	**Akutan Morgan**	**2.75**	**44**		**Pn**	**08 03 21.8**	**+1.5**
AKUT	**Akutan**	**2.88**	**45**		**Pn**	**08 03 22.1**	**0.0**
KOFP	**Korovin Flat P**	**3.00**	**274**		**Pn**	**08 03 23.6**	**-0.1**
ATKA	**Atka Island**	**3.06**	**273**		**Pn**	**08 03 23.4**	**-1.1**
GSTR	**Great Sitkin T**	**4.21**	**272**		**Pn**	**08 03 39.3**	**-1.0**
GSMY	**Great Sitkin M**	**4.21**	**271**		**Pn**	**08 03 40.0**	**-0.4**
GSTD	**Great Sitkin T**	**4.27**	**272**		**Pn**	**08 03 40.3**	**-0.9**
ADK	**Adak**	**4.62**	**270**		**Pn**	**08 03 45.6**	**-0.2**
KIWB	**Kanaga Island**	**4.91**	**270**		**Pn**	**08 03 48.6**	**-1.3**
SPIA	**Saint Paul Isl**	**5.08**	**354**		**Pn**	**08 03 53.2**	**+1.0**
TAFP	**Tanaga Falls P**	**5.41**	**271**		**Pn**	**08 03 57.3**	**+0.5**
SDPT	**Sand Point**	**6.10**	**55**	Pn	**Pn**	**08 04 07.9**	**+1.7**
CNBA	**Chernabura Isl**	**6.34**	**61**	Pn	**Pn**	**08 04 10.6**	**+1.1**
AMKA	**Amchitka**	**7.16**	**268**		**Pn**	**08 04 20.7**	**-0.1**
OHAK	**Old Harbor**	**10.53**	**55**	Pn	**Pn**	**08 05 06.3**	**-0.4**
KDAK	**Kodiak Island**	**11.09**	**53**	Pn	**Pn**	**08 05 13.9**	**-0.6**
0.3nm,0.3s,baz=127,slow=9.3,SNR=1.3							
KDAK					**Sn**	**08 07 11.5**	**-5.5**
0.0nm,0.3s,baz=345,slow=9.6,SNR=1.6							
KDAK	**Kodiak Island**	**11.09**	**53**	Pn	**Pn**	**08 05 15.1**	**+0.6**
SVW2	**Sparrevohn**	**11.68**	**34**	Pn	**Pn**	**08 05 24.8**	**+2.3**
RSO	**Redoubt South**	**12.34**	**41**	Pn	**Pn**	**08 05 31.8**	**+0.1**
SEW	**Seward**	**13.56**	**46**	Pn	**Pn**	**08 05 48.5**	**+0.3**

O22K	Cooper Landing	13.62	45	Pn	Pn	08 05 48.8	-0.2
RC01	Rabbit Creek A	13.92	42	Pn	Pn	08 05 52.7	-0.4
PWL	Port Wells	14.40	45	Pn	Pn	08 05 59.1	-0.5
HIN	Hinchinbrook I	15.02	48	Pn	Pn	08 06 06.5	-1.2
FID	Port Fidalgo	15.17	47	Pn	Pn	08 06 07.6	-2.1
FID				IAmb	IAmb	08 06 12.8	
	comp=Z,39nm,1.4s						
SCM	Sheep Creek Mo	15.30	42	Pn	Pn	08 06 11.3	-0.1
SCM				IAmb	IAmb	08 06 24.1	
	comp=Z,6.4nm,0.7s						
KLU	Klutina	15.73	44	Pn	Pn	08 06 16.4	-0.7
KLU				IAmb	IAmb	08 06 20.9	
	comp=Z,7.6nm,1.2s						
M24K	Tolsona, Glenn	15.91	42	Pn	Pn	08 06 19.0	-0.3
M24K				IAmb	IAmb	08 06 32.6	
	comp=Z,13nm,0.9s						
N25K	Chitina, Valde	16.36	45	Pn	Pn	08 06 24.0	-1.0
N25K				IAmb	IAmb	08 06 28.6	
	comp=Z,13nm,1.4s						
GLB	Gilahina Butte	16.64	46	Pn	Pn	08 06 27.9	-0.5
GLB				IAmb	IAmb	08 06 46.0	
	comp=Z,7.8nm,1.4s						
CCB	Clear Creek Bu	16.70	33	Pn	Pn	08 06 28.6	-0.6
MDM	Murphy Dome	16.76	32	Pn	Pn	08 06 28.6	-1.4
ILAR	Eielson Array	17.09	34	Pn	Pn	08 06 31.2	-2.8
	comp=Z,0.0nm,0.3s,baz=240,slow=9.0,SNR=1.4						
RIDG	Independent Ri	17.25	38	P	P	08 06 36.6	-0.5
RIDG				IAmb	IAmb	08 06 54.1	
	comp=Z,16nm,1.5s						
MENT	Mentasta	17.30	41	P	Pn	08 06 36.7	-0.1
TABL	Table Mountain	17.54	51	P	Pn	08 06 38.1	-1.7
TABL				IAmb	IAmb	08 06 56.3	
	comp=Z,39nm,1.4s						
SCRK	Sand Creek	17.70	38	P	Pn	08 06 41.7	0.0
PRP	Porcupine Dome	18.00	33	P	Pn	08 06 44.4	-1.0
L27K	Beaver Creek,	18.14	42	P	P	08 06 44.6	-2.3
BCAR	Beaver Creek A	18.16	42	P	Pn	08 06 47.3	+0.1
TOLK	Toolik Lake Re	19.02	22	P	P	08 06 56.5	0.0
TOLK				IAmb	IAmb	08 07 13.2	
	comp=Z,5.0nm,1.4s						
EGAK	Eagle	19.16	38	P	Pn	08 07 00.2	+0.9
BMAR	Burnt Mountain	19.48	29	P	Pn	08 07 03.6	+0.4
PEA0B	Petropavlovsk-	20.01	286	P	P	08 07 07.0	-0.4
PEA0B				IAmb	IAmb	08 07 09.1	
	comp=Z,27nm,1.5s						
PETK	Petropavlovsk-	20.01	286	P	P	08 07 06.5	-0.9
	comp=Z,1.0nm,0.3s,baz=88,slow=13,SNR=14						
PETK	Petropavlovsk-	20.01	286	P	P	08 07 05.8	-1.6
EPYK	Eagle Plains	21.53	36	P	P	08 07 23.7	0.0
EPYK				IAmb	IAmb	08 07 34.0	
	comp=Z,4.6nm,0.8s						
INK	Inuvik	23.48	33	P	P	08 07 43.8	-0.2
	comp=Z,1.1nm,0.4s,baz=232,slow=7.9,SNR=5.2						
E03A	Lebam	29.87	82	P	P	08 08 40.5	-1.2
YKA	Yellowknife Ar	30.32	49	P	P	08 08 47.2	+1.6
	comp=Z,0.3nm,0.4s,baz=280,slow=17,SNR=5.0						
PAGB	Antelope Grade	38.09	96	P	P	08 09 50.7	-2.4
PAGB				IAmb	IAmb	08 10 07.1	
	comp=Z,9.9nm,1.1s						
H11S1	WAKE ISLAND Hy	38.52	218	T	T	08 51 15.9	
	baz=23,slow=76,SNR=5.7						
H11S2	WAKE ISLAND Hy	38.53	218	T	T	08 51 14.8	
	baz=23,slow=76,SNR=5.6						
H11S3	WAKE ISLAND Hy	38.54	218	T	T	08 51 15.3	
	baz=23,slow=76,SNR=5.5						
PDAR	Pinedale Array	40.36	79	P	P	08 10 14.7	+2.5
	comp=Z,0.3nm,0.5s,baz=308,slow=7.4,SNR=3.8						
KSRS	Korea Array	45.52	277	P	P	08 10 54.8	+1.1
	comp=Z,0.6nm,0.4s,baz=58,slow=7.5,SNR=4.0						
KBS	Kingsbay	49.19	360	P	P	08 11 19.3	-2.3
SONM	Songino Array	51.49	301	P	P	08 11 39.8	+0.1
	comp=Z,0.4nm,0.5s,baz=49,slow=6.5,SNR=2.6						
TX31	Lajitas Ar. Si	52.66	89	P	P	08 11 48.5	0.0
TX32	Lajitas Array	52.66	89	P	P	08 11 48.9	+0.3
TX32				IAmb	IAmb	08 11 55.6	
	comp=Z,3.7nm,1.4s						
TXAR	Lajitas Array	52.66	89	P	P	08 11 50.9	+2.3
	comp=Z,0.2nm,0.6s,baz=301,slow=7.0,SNR=2.9						
TXAR	Lajitas Array	52.66	89	P	P	08 11 48.3	-0.3
KURBB	Kurchatov Arra	62.71	318	P	P	08 12 58.6	0.0
	comp=Z,0.4nm,0.3s,baz=45,slow=6.9,SNR=4.3						
BVAR	Borovoye Array	63.94	325	P	P	08 13 05.5	-1.3
	comp=Z,0.7nm,0.4s,baz=243,slow=4.8,SNR=4.5						
MKAR	Makanchi Array	64.02	314	P	P	08 13 05.8	-1.7
	comp=Z,0.2nm,0.3s,baz=60,slow=7.0,SNR=4.5						
MKAR	Makanchi Array	64.02	314	P	P	08 13 06.4	-1.1
FINES	FINESS Array B	66.10	352	P	P	08 13 20.7	0.0
	comp=Z,1.3nm,0.7s,baz=347,slow=7.8,SNR=5.3						
NOA	NORSAR Array B	67.17	360	P	P	08 13 25.9	-1.6
	comp=Z,0.6nm,0.7s,baz=359,slow=6.2,SNR=2.3						
ABKAR	Akbulak array	70.67	328	P	P	08 13 50.1	+0.7
KKAR	Karatay Array	72.02	318	P	P	08 13 58.0	+0.3
AKASG	Malin Array Be	76.34	348	P	P	08 14 22.5	-0.2
	comp=Z,0.6nm,0.4s,baz=14,slow=6.0,SNR=2.5						
CLL	Collm	76.91	359	eP	P	08 14 27.0	+1.1
WRA	Warramunga Arr	86.93	232	P	P	08 15 22.5	+3.7
	comp=Z,0.5nm,0.8s,baz=47,slow=6.8,SNR=1.7						
ASAR	Alice Springs	90.32	230	P	P	08 15 36.1	+1.3
	comp=Z,0.4nm,0.8s,baz=33,slow=5.5,SNR=2.9						

IDC 27 08:05:13.9±3.0, 54°28N×87°34E, h0km, mb1 3.1/2, mb1mx3.0/51, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=23.8km s-min=17.4km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	258	i		08 13 50.0	
	baz=77,slow=301,SNR=4.9						
ZALV	Zalesovo Beam	1.52	258	Pn	Pn	08 05 41.3	-1.0
	1.5nm,0.3s,baz=74,slow=13,SNR=8.5						
ZALV				Lg	Lg	08 06 04.0	
	2.1nm,0.3s,baz=74,slow=29,SNR=4.4						
KURBB	Kurchatov Arra	6.51	239	Pn	Pn	08 06 51.0	+0.1
	0.1nm,0.3s,baz=56,slow=14,SNR=4.6						
KURBB				Sn	Sn	08 08 04.6	-1.2
	0.1nm,0.3s,baz=54,slow=26,SNR=1.7						
KURBB				Lg	Lg	08 08 38.6	
	0.1nm,0.3s,baz=52,slow=32,SNR=5.0						
MKAR	Makanchi Array	8.16	205	Pn	Pn	08 07 15.4	+1.9
	0.2nm,0.3s,baz=27,slow=14,SNR=5.7						
MKAR				Sn	Sn	08 08 45.7	-0.6
	0.2nm,0.3s,baz=23,slow=27,SNR=3.8						
MKAR				Lg	Lg	08 09 30.9	
	baz=26,slow=28,SNR=2.6						

IDC 27 08:12:23.2±1.8, 52°.31N×169°.62W, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/55, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=43.7km s-min=22.8km az=3.0
AEIC 27 08:12:26.3±1.8, 52°.15N±0°.02×169°.40W±0°.08, h26km±5km, ML3.2/22, mb3.9/11(NEIC), Error ellipse: s-maj=7.2km s-min=1.8km az=71.0
NEIC 27 08:12:29.1±1.6, 52°.33N±0°.06×169°.49W±0°.07, h47km±7km, Error ellipse: s-maj=9.1km s-min=6.5km az=172.0
ISC 27 08:12:28.6±0.8, 52°.3N±0°.1×169°.44W±0°.06, h40km, n51, σ1§23/49, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.77	28		Pn	08 12 42.0	-0.9
NIKH	Nikolski High	0.77	28		Sn	08 12 56.3	+3.0
OKSP	Okmok Steeple	1.19	36		Pn	08 12 48.1	-0.7
OKCE	Okmok Cone E	1.38	34		Pn	08 12 51.5	+0.2
OKTU	Okmok Mt. Tuli	1.39	37		Pn	08 12 51.4	0.0
OKNC	Okmok New Cone	1.41	34		Pn	08 12 52.3	+0.5
OKFG	Magazine Ridge	1.46	39		Pn	08 12 52.1	-0.2
OKFG					Sn	08 13 11.2	+1.0
MAPS	Pakushin South	2.14	44		Pn	08 13 01.8	0.0
MAPS					Sn	08 13 29.3	+2.2
MSW	Makushin Switc	2.28	45		Pn	08 13 03.7	0.0
MNAT	Makushin Natee	2.30	45		Pn	08 13 04.4	+0.4
UNV	Unalaska Valle	2.36	48		Pn	08 13 05.2	+0.5
UNV					Sn	08 13 34.1	+1.8
MTBL	Makushin Table	2.37	44		Pn	08 13 05.5	+0.6
KOFP	Korovin Flat P	2.86	271		Pn	08 13 12.9	+1.2
AKUT	Akutan	2.88	49	Pn	Pn	08 13 12.7	+0.9
ATKA	Atka Island	2.92	270		Pn	08 13 11.9	-0.6
ADK	Adak	4.49	268	Pn	Pn	08 13 34.1	+0.2
KIWB	Kanaga Island	4.78	268	Pn	Pn	08 13 36.7	-1.2
SPIA	Saint Paul Isl	4.92	355		Pn	08 13 39.8	0.0
KDAK	Kodiak Island	11.11	54	Pn	Pn	08 15 02.0	-2.7
	0.2nm,0.3s,baz=86,slow=14,SNR=2.2						
KDAK				Sn	Sn	08 17 03.5	-3.9
	0.0nm,0.3s,baz=128,slow=23,SNR=1.4						
KDAK	Kodiak Island	11.11	54		Pn	08 15 04.4	-0.2
SEW	Seward	13.56	47	Pn	Pn	08 15 37.8	-0.2
SCM	Sheep Creek Mo	15.28	43	Pn	Pn	08 16 00.8	-0.4
SCM				IAmb	IAmb	08 16 08.2	
	comp=Z,17nm,1.4s						
KLU	Klutina	15.72	45	Pn	Pn	08 16 05.4	-1.6
KLU				IAmb	IAmb	08 16 08.9	
	comp=Z,12nm,1.4s						
M24K	Tolsona, Glenn	15.89	43	Pn	Pn	08 16 08.7	-0.3
M24K				IAmb	IAmb	08 16 19.5	
	comp=Z,26nm,1.4s						
CCB	Clear Creek Bu	16.65	34	Pn	Pn	08 16 18.4	-0.2
MDM	Murphy Dome	16.70	32	Pn	Pn	08 16 19.1	-0.2
ISLE	Juniper Island	17.03	50	Pn	Pn	08 16 22.3	-1.2
IL31		17.04	34	Pn	Pn	08 16 20.9	-2.5
IL31				IAmb	IAmb	08 16 45.4	
	comp=Z,5.0nm,1.4s						
ILAR	Eielson Array	17.04	34	Pn	Pn	08 16 22.6	-0.9
	comp=Z,0.1nm,0.3s,baz=237,slow=11,SNR=5.5						
ILAR	Eielson Array	17.04	34		Pn	08 16 22.8	-0.7
PETK	Petropavlovsk-	19.84	285	P	P	08 16 55.8	+0.1
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=6.9						
INK	Inuvik	23.43	33	P	P	08 17 32.4	-1.3
	comp=Z,0.6nm,0.4s,baz=203,slow=1.9,SNR=1.7						
YKA	Yellowknife Ar	30.33	49	P	P	08 18 37.0	+1.2
	comp=Z,0.4nm,0.5s,baz=271,slow=7.6,SNR=4.4						
YKA	Yellowknife Ar	30.33	49	P	P	08 18 35.7	-0.1
MCMT	McKenzie Canyo	37.34	78	P	P	08 19 38.7	+1.6
H11N2	WAKE ISLAND Hy	37.37	219	T	T	08 59 26.7	
	baz=24,slow=76,SNR=4.8						
H11N3	WAKE ISLAND Hy	37.37	219	T	T	08 59 28.3	
	baz=24,slow=76,SNR=6.1						
H11N1	WAKE ISLAND Hy	37.38	219	T	T	08 59 28.3	
	baz=24,slow=76,SNR=4.7						
BOZ	Bozeman (W)	37.66	77	P	P	08 19 41.1	+1.4
BOZ				IAmb	IAmb	08 19 41.5	
	comp=Z,3.1nm,1.5s						
H11S1	WAKE ISLAND Hy	38.55	218	T	T	09 00 55.5	
	baz=23,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	38.57	218	T	T	09 01 00.3	
	baz=23,slow=76,SNR=15						
H11S3	WAKE ISLAND Hy	38.57	218	T	T	09 00 57.3	
	baz=23,slow=76,SNR=13						
PSUT	Pine Spring	40.37	87	P	P	08 20 02.3	-0.3
PSUT				IAmb	IAmb	08 20 03.1	
	comp=Z,2.1nm,0.7s						
PD31	Pinedale Array	40.46	79	P	P	08 20 03.3	0.0
PD31				IAmb	IAmb	08 20 05.1	
	comp=Z,2.6nm,1.3s						
PDAR	Pinedale Array	40.46	79	P	P	08 20 04.5	+1.2
	comp=Z,0.7nm,0.5s,baz=310,slow=3.3,SNR=9.2						
PDAR	Pinedale Array	40.46	79	P	P	08 20 04.1	+0.8
TXAR	Lajitas Array	52.79	89	P	P	08 21 40.6	+0.8
	comp=Z,0.2nm,0.5s,baz=308,slow=6.3,SNR=5.4						
MKAR	Makanchi Array	63.83	313	P	P	08 22 55.8	-0.6
	comp=Z,0.6nm,0.9s,baz=46,slow=7.3,SNR=3.5						
MKAR	Makanchi Array	63.83	313	P	P	08 22 56.4	-0.1
FINES	FINESS Array B	65.94	352	P	P	08 23 09.4	-0.5
	comp=Z,3.6nm,1.0s,baz=46,slow=8.2,SNR=3.5						
ABKAR	Akbulak array	70.48	328	P	P	08 23 38.7	+0.2

IDC 27 08:23:15.5±4.2, 31°.34S×138°.92E, h0km, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=68.1km s-min=18.1km az=32.0
NOU 27 08:23:15.0, 31°.66S×138°.76E, h0km, ML4.0/10, South Australia
AUST 27 08:23:16.1±0.7, 31°.64S×138°.78E, h10km, Error ellipse: s-maj=8.4km s-min=6.8km az=103.0
ISC 27 08:23:14.5±0.7, 31°.67S±0°.03×138°.68E±0°.05, h14km, n14, σ2§04/24, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	Leigh Creek	1.28	342	P	Pg	08 23 40.1	+1.0
	baz=1.3,SNR=201						
LCRK				S	Sg	08 23 58.6	+2.9
	baz=1.3,SNR=5.6						
AUJCS	Jamestown Cent	1.53	182	P	Pg	08 23 45.1	+1.2
	baz=1.6						
AUJCS				S	Sg	08 24 04.5	+0.7
	baz=1.6						
STKA	Stephens Creek	2.49	96	Pn	Pn	08 23 55.2	+0.5
	3.0nm,0.3s,baz=285,slow=15,SNR=18						
STKA				Lg	Lg	08 24 29.9	
	19nm,0.3s,baz=329,slow=18,SNR=8.5						
STKA	Stephens Creek	2.49	96	P	Pn	08 23 56.4	+1.7
	baz=2.4,SNR=24						
STKA				S	Sn	08 24 25.4	+0.6
	baz=2.4,SNR=7.8						
BBOO	Buckleboo	2.50	242	P	Pb	08 23 58.0	-1.1
	baz=2.6,SNR=42						
BBOO				S	Sb	08 24 28.8	-0.9
	baz=2.6						
MULG	Mulgathing	4.20	288	P	Pn	08 24 21.0	+2.9
	baz=4.3,SNR=6.5						
MULG				S	Sn	08 25 09.0	+2.0
	baz=4.3						
INKA	Innaminka	4.31	25	P	Pn	08 24 21.4	+1.8
	baz=4.3						
INKA				S	Sn	08 25 10.3	+0.7
	baz=4.3						
ARPS	Mount Arapiles	5.72	154	P	Pn	08 24 40.9	+1.9
	baz=5.7,SNR=11						
ARPS				S	Sn	08 25 44.0	-0.6
	baz=5.7						
CMSA	Cobar Meteorol	5.99	91	P	Pn	08 24 43.2	+0.5
	baz=5.9						
CMSA				S	Sn	08 25 48.3	-2.7
	baz=5.9						
TOO	Toolangi	8.13	138	P	Pn	08 25 13.3	+1.1
	baz=8.1,SNR=8.4						
ASAR	Alice Springs	9.02	331	Pn	Pn	08 25 24.1	-0.3
	0.2nm,0.3s,baz=149,slow=12,SNR=12						
ASAR				Sn	Sn	08 27 01.2	-4.7
	0.7nm,0.3s,baz=152,slow=22,SNR=9.1						
FORT	Forrest	9.14	273	P	Pn	08 25 27.6	+1.6
	baz=9.2						
FORT				S	Sn	08 27 04.6	-4.0
	baz=9.2						
WRA	Warramunga Arr	12.31	340	Pn	Pn	08 26 08.7	-0.8
	0.4nm,0.3s,baz=156,slow=13,SNR=21						
WRA				Sn	Sn	08 28 16.9	-10
	0.2nm,0.3s,baz=162,slow=24,SNR=3.2						
CTA	Charters Tower	13.39	32	Pn	Pn	08 26 23.5	-0.7
	0.2nm,0.3s,baz=212,slow=15,SNR=1.6						

KMA 27 08:25:49.2±0.3, 37°.14N×127°.91E, h3km±21km, Error ellipse: s-maj=2.8km s-min=1.4km az=133.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJEC	Jecheon	0.22	86	P	Pg	08 25 53.7	+0.1
KSJEC				S	Sg	08 25 56.8	+0.3
KSCHJ	Chungju	0.27	169	P	Pg	08 25 54.5	+0.1
	SNR=11						
KSCHJ	Chungju	0.27	169	P	Pg	08 25 54.5	+0.1
	SNR=8.9					

baz=238
PMR Palmer 14.41 42 Pn **Pn 08 31 13.0 +0.3**
GHO Glory Hole Cre 14.59 41 Pn 08 31 15.4 +0.2
KNK Knik Glacier 14.60 43 P **Pn 08 31 14.5 -0.8**
baz=240
KNK Knik Glacier 14.60 43 Pn 08 31 16.6 +1.3
CHUM Lake Minchumin 14.66 31 P **Pn 08 31 18.3 +2.2**
baz=225,SNR=22
SML Sawmill 14.85 42 P **Pn 08 31 18.6 0.0**
baz=239
SML Sawmill 14.85 42 Pn 08 31 20.2 +1.6
KTH Kantishna Hill 14.89 34 Pn **Pn 08 31 20.7 +1.4**
GLI Glacier Island 14.94 46 P **Pn 08 31 19.8 0.0**
baz=244
TRF Thorofare Moun 15.04 35 P **Pn 08 31 22.1 +0.7**
baz=230,SNR=5.6
TRF Thorofare Moun 15.04 35 P 08 31 24.4 -2.1
TRF IAmb IAmb 08 32 02.2
comp=Z,164nm,2.0s
FID Port Fidalgo 15.16 47 Pn 08 31 23.0 +0.2
FID IAmb IAmb 08 31 29.3
comp=Z,70nm,1.2s
BPAW Bear Paw Mtn. 15.24 32 P **Pn 08 31 24.8 +1.0**
baz=227,SNR=46
BPAW Bear Paw Mtn. 15.24 32 Pn **Pn 08 31 25.3 +1.5**
BPAW IAmb IAmb 08 31 29.9
comp=Z,87nm,1.2s
SCM Sheep Creek Mo 15.27 43 P **Pn 08 31 23.4 -1.0**
SCM pmax pmax
comp=Z,99nm,1.2s
SCM Sheep Creek Mo 15.27 43 Pn 08 31 23.4 -1.0
SCM IAmb IAmb 08 31 29.4
comp=Z,99nm,1.2s
WAT1 Susitna Watana 15.31 38 P **Pn 08 31 24.2 -0.5**
baz=236
EYAK Cordova Ski Ar 15.41 48 P **Pn 08 31 24.4 -1.6**
baz=248
EYAK Cordova Ski Ar 15.41 48 Pn **Pn 08 31 25.5 -0.6**
WAT6 Susitna Watana 15.48 40 P **Pn 08 31 27.2 0.0**
baz=238,SNR=9.1
RND Reindeer 15.53 36 P **P 08 31 30.3 -1.4**
RND pmax pmax
comp=Z,23nm,0.8s
RND Reindeer 15.53 36 P **P 08 31 30.3 -1.4**
MCK McKinley 15.70 35 P **Pn 08 31 31.5 +1.7**
MCK pmax pmax
comp=Z,34nm,1.2s
MCK McKinley 15.70 35 P **Pn 08 31 30.3 +0.5**
baz=232,SNR=6.7
MCK McKinley 15.70 35 Pn **Pn 08 31 31.5 +1.7**
I21K Tanana 15.70 28 P **Pn 08 31 29.7 0.0**
baz=222,SNR=25
KLU Klutina 15.71 45 P **Pn 08 31 28.3 -1.8**
baz=244,SNR=28
BWN Browne 15.79 33 P 08 31 33.4 -1.1
BWN IAmb IAmb 08 32 03.2
comp=Z,209nm,1.5s
RAGM Ragged Mountai 15.85 50 Pn **Pn 08 31 29.7 -2.1**
RAGM IAmb IAmb 08 31 41.4
comp=Z,130nm,1.0s
M24K Tolsona, Glenn 15.88 43 P **Pn 08 31 31.3 -1.0**
baz=242,SNR=17
M24K Tolsona, Glenn 15.88 43 Pn 08 31 31.9 -0.4
M24K IAmb IAmb 08 31 36.9
comp=Z,221nm,1.4s
MLY Manley 15.96 30 P **Pn 08 31 32.8 -0.3**
baz=225,SNR=70
MLY Manley 15.96 30 Pn **P 08 31 34.9 -1.5**
HMT Hamilton 16.03 50 Pn **Pn 08 31 34.1 0.0**
HMT IAmb IAmb 08 31 51.8
comp=Z,46nm,0.6s
BMRM Bremner River 16.09 48 P **Pn 08 31 34.0 -0.9**
baz=248,SNR=8.7
BMRM Bremner River 16.09 48 Pn 08 31 34.2 -0.7
BMRM IAmb IAmb 08 31 44.3
comp=Z,68nm,0.9s
RDOG Red Dog Mine 16.14 9 P **Pn 08 31 35.9 +0.5**
baz=194
NEA2 Nenana 16.19 33 P **Pn 08 31 36.9 +0.8**
baz=230,SNR=14
NEA2 Nenana 16.19 33 Pn 08 31 36.9 +0.8
N25K Chitina, Valde 16.34 45 P **Pn 08 31 37.2 -0.9**
baz=246,SNR=8.9
N25K Chitina, Valde 16.34 45 Pn **Pn 08 31 37.0 -1.1**
HARP HAARP 16.44 43 P **Pn 08 31 38.8 -0.5**
baz=243,SNR=7.1
WRH Wood River Hil 16.44 34 Pn 08 31 39.1 -0.2
I23K Minto, Yukon-K 16.46 31 P **Pn 08 31 39.8 +0.3**
baz=228,SNR=35
I23K Minto, Yukon-K 16.46 31 P 08 31 40.8 -1.1
PAX Paxson 16.58 40 P **Pn 08 31 40.9 -0.3**
PAX pmax pmax
comp=Z,14nm,0.9s
PAX Paxson 16.58 40 P **Pn 08 31 40.5 -0.7**
baz=240
PAX Paxson 16.58 40 Pn 08 31 40.9 -0.3
GLB Gilahina Butte 16.62 47 Pn 08 31 39.9 -1.7
CRQM Cirque 16.69 49 Pn **Pn 08 31 42.4 -0.3**
MDM Murphy Dome 16.70 32 Pn 08 31 42.1 -0.5
VRDI Verde Repeater 16.70 47 Pn 08 31 42.3 -0.6
CRQE Cirque 16.71 49 P **Pn 08 31 42.7 -0.1**
baz=251
WAX Waxell Ridge 16.73 50 Pn 08 31 43.2 +0.2
TCOL CIGO, UAF Yank 16.77 33 P **Pn 08 31 43.4 0.0**
baz=231
TCOL CIGO, UAF Yank 16.77 33 Pn 08 31 43.9 +0.5
COLA College 16.77 33⇑ *i*P **Pn 08 31 43.1 -0.3**
COLA College 16.77 33 P **Pn 08 31 43.6 +0.2**
baz=231
COLA College 16.77 33 Pn 08 31 42.7 -0.7
HDA Harding Lake 16.80 35 P **Pn 08 31 43.4 -0.4**
baz=234,SNR=7.5
HDA Harding Lake 16.80 35 Pn 08 31 43.7 -0.1
TGL Tana Glacier 16.83 49 Pn 08 31 43.2 -1.1
H23K Yukon River 16.87 29 P **P 08 31 46.6 +0.1**
baz=226,SNR=30
MCARA McCarthy VSAT 16.95 47 P **Pn 08 31 45.2 -0.6**
baz=249
MCARA McCarthy VSAT 16.95 47 Pn 08 31 45.0 -0.8
ISLE Juniper Island 17.02 50 Pn 08 31 45.1 -1.6
ISLE IAmb IAmb 08 31 52.2
comp=Z,108nm,1.2s
IL31 17.04 34 Pn 08 31 46.3 -0.4
ILAR Eielson Array 17.04 34 Pn **Pn 08 31 45.6 -1.1**
comp=Z,0.4nm,0.3s,baz=238,slow=11,SNR=22
ILAR PcP **PcP 08 36 28.6 -2.0**
comp=Z,0.1nm,0.3s,baz=281,slow=2.7,SNR=4.3
ILAR LR LR 08 37 48.7
comp=Z,316nm,20.3s,baz=237,slow=35
ILAR Eielson Array 17.04 34 P **Pn 08 31 45.9 -0.9**
ILAR Eielson Array 17.04 34 Pn **Pn 08 31 45.9 -0.9**
ILAR **PcP 08 36 29.1 -1.6**
POKR Poker Plat Res 17.06 33 P **Pn 08 31 47.1 0.0**
baz=231
POKR Poker Plat Res 17.06 33 Pn **Pn 08 31 47.1 0.0**
MESA MESA 17.08 52 P **Pn 08 31 47.5 0.0**
baz=254
MESA MESA 17.08 52 Pn 08 31 47.3 -0.3
RIDG Independent Ri 17.21 39 P **Pn 08 31 49.5 +0.5**
baz=239,SNR=6.7
RIDG Independent Ri 17.21 39 P 08 31 50.9 +0.5
YAH Yahtse 17.23 51 P **P 08 31 50.5 -0.2**
YAH IAmb IAmb 08 32 02.0
comp=Z,87nm,1.0s
MENT Mentasta 17.27 42 P **P 08 31 50.7 -0.3**
M26K Nabesna, AK 17.35 44 P **Pn 08 31 50.6 -0.2**
baz=246,SNR=14
H24K Noodor Dome 17.38 30 P **Pn 08 31 51.2 +0.1**
baz=229,SNR=36
L26K Log Cabin Wild 17.47 42 P **Pn 08 31 52.6 +0.4**
baz=244,SNR=16
DOT Dot Lake 17.47 40 P **P 08 31 53.0 -0.2**
BARN Barnard Glacie 17.47 49 P **P 08 31 53.8 +0.4**
TABL Table Mountain 17.54 51 P **P 08 31 53.9 -0.2**
TABL IAmb IAmb 08 32 16.2
comp=Z,84nm,1.0s
CTG Chitna Glacier 17.59 49 P **Pn 08 31 54.0 +0.2**
baz=253
CTGM Chitina Glacie 17.59 49 P **Pn 08 31 54.2 +0.3**
SCRK Sand Creek 17.66 39 P **Pn 08 31 54.1 -0.5**
baz=240,SNR=14
SCRK Sand Creek 17.66 39 Pn **Pn 08 31 54.0 -0.6**
LOGN Logan Glacier 17.71 50 P **Pn 08 31 55.3 0.0**
M27K Edge Creek, AK 17.81 45 P **Pn 08 31 56.3 -0.3**
baz=248,SNR=31

PCA Pinnacle 17.88 53 P **P 08 31 57.8 0.0**
PINM Pinnacle 17.89 53 P **P 08 31 58.0 +0.2**
baz=257
PRP Porcupine Dome 17.95 33 P **Pn 08 31 57.3 -0.9**
baz=234,SNR=8.7
L27K Beaver Creek, 18.11 43 P **Pn 08 31 59.6 -0.5**
baz=246
BCAR Beaver Creek A 18.13 43 Pn 08 31 59.5 -0.8
K27K Chicken 18.43 40 P **P 08 32 03.3 -0.3**
baz=243
K27K Chicken 18.43 40 P P 08 32 03.4 -0.3
FYU Fort Yukon 18.68 31 P Pn 08 32 06.7 -0.2
TOLK Toolik Lake Re 18.94 23 P **Pn 08 32 10.1 0.0**
baz=220,SNR=16
TOLK Toolik Lake Re 18.94 23 Pn 08 32 10.6 +0.5
EGAK Eagle 19.12 38 P **P 08 32 10.9 -0.4**
baz=242,SNR=21
EGAK Eagle 19.12 38 P P 08 32 11.1 -0.2
PET Petropavlovsk 19.32 285 *e*P **P 08 32 13.7 +0.2**
PET pmax pmax
comp=Z,65nm,0.7s
PET Petropavlovsk 19.32 285 P P 08 32 13.0 -0.4
PET IAmb IAmb 08 32 21.4
comp=Z,96nm,1.4s
HYT Haines Junctio 19.37 51 P **Pn 08 32 15.5 +0.1**
HYT IAmb IAmb 08 32 19.5
comp=Z,54nm,0.7s
BMAR Burnt Mountain 19.42 29 P P 08 32 13.8 -0.7
DAWY Dawson 19.51 41 P **P 08 32 15.7 +0.1**
BILL Bilibino 19.67 333 *e*P **Pn 08 32 19.4 +0.6**
BILL pmax pmax
comp=Z,15nm,1.2s
PEA0B Petropavlovsk- 19.87 285 P **P 08 32 18.6 -0.9**
PEA0B pmax pmax
comp=Z,51nm,0.8s
PEA0B Petropavlovsk- 19.87 285 P **P 08 32 18.6 -0.9**
PEA0B IAmb IAmb 08 32 37.3
comp=Z,51nm,0.8s
PETK Petropavlovsk- 19.87 285 P **P 08 32 18.8 -0.7**
comp=Z,6.6nm,0.3s,baz=83,slow=17,SNR=66
PETK ScP **ScP 08 40 10.5 +1.2**
comp=Z,0.2nm,0.3s,baz=151,slow=9.5,SNR=5.0
PETK Petropavlovsk- 19.87 285 P **P 08 32 18.0 -1.5**
PETK Petropavlovsk- 19.87 285 P **P 08 32 18.0 -1.5**
SKAG Skagway 20.24 56 P Pn 08 32 24.9 -0.7
baz=264,SNR=10
SKAG Skagway 20.24 56 Pn 08 32 25.1 -0.4
SKAG IAmb IAmb 08 32 41.3
comp=Z,94nm,1.0s
BESE Bessie Mountai 20.42 58 Pn 08 32 27.3 -0.4
BESE IAmb IAmb 08 32 46.6
comp=Z,83nm,1.2s
WHY Whitehorse 20.61 52 P Pn 08 32 29.0 -1.0
baz=261,SNR=22
WHY Whitehorse 20.61 52 P 08 32 28.1 +0.5
WHY IAmb IAmb 08 32 34.2
comp=Z,38nm,0.8s
JIS Juneau Island 20.65 59 P Pn 08 32 30.0 -0.4
JIS IAmb IAmb 08 32 44.1
comp=Z,45nm,1.1s
EPYK Eagle Plains 21.48 36 P **P 08 32 36.1 -0.8**
baz=245,SNR=38
EPYK Eagle Plains 21.48 36 P **P 08 32 35.2 -1.7**
EPYK IAmb IAmb 08 32 42.6
comp=Z,60nm,0.8s
H02S1 DAWSON INLET T 22.22 73 T T 08 55 54.4
SNR=8.2
DLBC Dease Lake 22.95 59 P **P 08 32 55.8 +3.2**
comp=Z,20nm,1.0s,baz=270,slow=11,SNR=20
DLBC Dease Lake 22.95 59 P **P 08 32 55.1 +2.5**
DLBC IAmb IAmb 08 33 05.2
comp=Z,44nm,1.1s
MA2 Magadan 23.18 304 P **P 08 32 55.7 +0.9**
comp=Z,19nm,0.7s,baz=87,slow=7.5,SNR=9.8
MA2 Magadan 23.18 304 *c i*P **P 08 32 55.6 +0.8**
MA2 pmax pmax
comp=Z,29nm,0.9s
MA2 Magadan 23.18 304 P **P 08 32 54.2 -0.6**
MA2 IAmb IAmb 08 32 56.8
comp=Z,30nm,0.9s
INK Inuvik 23.43 33 P **P 08 32 56.1 -1.2**
comp=Z,9.2nm,0.5s,baz=227,slow=7.6,SNR=28
INK PcP **PcP 08 36 41.2 -1.1**
comp=Z,5.2nm,0.7s,baz=213,slow=1.7,SNR=5.3
INK Inuvik 23.43 33 P **P 08 32 56.0 -1.2**
INK pmax pmax
comp=Z,16nm,0.7s
INK Inuvik 23.43 33 P **P 08 32 55.8 -1.4**
baz=245,SNR=18
INK Inuvik 23.43 33 P **P 08 32 56.0 -1.2**
BBB Bella Bella 25.05 74 P **P 08 33 12.8 +0.5**
comp=Z,7.7nm,1.0s,baz=266,slow=19,SNR=2.6
BBB Bella Bella 25.05 74 P **P 08 33 12.1 -0.2**
BBB IAmb IAmb 08 34 04.5
comp=Z,52nm,1.6s
C36M Paulatuk 27.01 34 P **P 08 33 30.0 +0.2**
baz=254
C36M Paulatuk 27.01 34 P **P 08 33 30.2 +0.3**
A05A Maple Falls 29.77 77 P **P 08 33 55.2 +0.5**
A05A IAmb IAmb 08 34 09.2
comp=Z,26nm,1.3s
D03D Eldon 29.79 80 P **P 08 33 57.7 +2.8**
baz=296,SNR=5.5
B05A Bryant 30.07 79 P **P 08 33 59.0 +1.6**
baz=296,SNR=11
YKA Yellowknife Ar 30.32 49 P **P 08 34 00.6 +1.3**
comp=Z,11nm,0.9s,baz=273,slow=9.7,SNR=37
YKA PcP **PcP 08 36 58.7 0.0**
comp=Z,2.0nm,0.9s,baz=274,slow=2.2,SNR=4.4
YKA ScP **ScP 08 40 39.3 +0.7**
comp=Z,0.2nm,0.3s,baz=298,slow=3.0,SNR=4.2
YKA LR LR 08 47 12.1
comp=Z,516nm,19.1s,baz=0.0,slow=38
E04D Cinebar 30.56 82 P **P 08 34 03.7 +2.0**
baz=298
D05A Enumclaw 30.62 80 IAmb IAmb 08 34 06.8
comp=Z,48nm,1.2s
G03D McMinnville, O 30.79 85 P **P 08 34 06.1 +2.4**
baz=300
B08A Colville Reser 31.69 77 P **P 08 34 12.7 +1.1**
B08A IAmb IAmb 08 34 26.2
comp=Z,20nm,1.1s
H04A Detroit Lake 31.72 85 P **P 08 34 12.9 +1.0**
H04A IAmb IAmb 08 34 43.3
comp=Z,14nm,1.0s
G05D Wamic, OR 31.96 83 P **P 08 34 16.0 +1.9**
baz=300
I04A Tendick Farm, 32.05 86 P **P 08 34 16.7 +1.9**
baz=302
I05D Terrebonne, OR 32.41 85 P **P 08 34 16.6 -1.5**
baz=301
HAWA Hanford 32.48 80 P **P 08 34 19.9 +1.4**
HAWA IAmb IAmb 08 34 33.2
comp=Z,21nm,1.1s
F07A Phinny Hill Vi 32.48 81 P **P 08 34 19.3 +0.7**
F07A IAmb IAmb 08 34 42.9
comp=Z,16nm,1.1s
J04D Umpqua Nationa 32.53 87 P **P 08 34 21.0 +1.7**
baz=303
D08A Wollman Farm, 32.53 79 P **P 08 34 19.5 +0.5**
D08A IAmb IAmb 08 34 21.6
comp=Z,14nm,1.1s
C09A Chrisman Ranch 32.57 77 P **P 08 34 19.1 -0.3**
C09A IAmb IAmb 08 34 33.7
comp=Z,24nm,1.2s
TIXI Tiksi 32.80 329 P **P 08 34 22.8 +1.7**
comp=Z,6.2nm,0.5s,baz=144,slow=20,SNR=1.4
PINE Pine Mountain 32.95 85 P **P 08 34 24.3 +1.3**
PINE IAmb IAmb 08 34 40.0
comp=Z,53nm,2.0s
J05D Fort Rock, OR 33.04 86 P **P 08 34 25.4 +1.7**
baz=303
NEW Newport 33.05 76 P **P 08 34 24.8 +1.2**
NEW pmax pmax
comp=Z,25nm,1.1s
NEW Newport 33.05 76 P **P 08 34 24.6 +1.0**
baz=297,SNR=14
NEW Newport 33.05 76 P **P 08 34 24.8 +1.2**
NEW IAmb IAmb 08 34 37.7
comp=Z,25nm,1.1s
M02C Callahan 33.11 90 P **P 08 34 25.9 +1.6**
baz=305
EDM Edmonton 33.20 66 P **P 08 34 25.8 +0.9**
EDM pmax pmax
comp=Z,62nm,1.4s
EDM Edmonton 33.20 66 P **P 08 34 25.8 +0.9**

E09A Wood Farm, Sta 33.26 79 P **P 08 34 26.6 +1.2**
E09A IAmb IAmb 08 34 39.6
comp=Z,21nm,1.2s
G08A Pilot Rock 33.38 82 P **P 08 34 27.5 +0.9**
M04C Macdoel 33.51 89 P **P 08 34 29.7 +1.9**
baz=305
F10A Beach Ranch, E 34.08 79 P **P 08 34 34.1 +1.4**
MOD Modoc Plateau 34.38 88 P **P 08 34 36.7 +1.3**
BMO Blue Mountains 34.61 81 P **P 08 34 38.5 +1.3**
BMO pmax pmax
comp=Z,31nm,2.0s
BMO Blue Mountains 34.61 81 P **P 08 34 38.5 +1.3**
BMO IAmb IAmb 08 34 52.7
comp=Z,31nm,1.9s
J08A Circle Bar Ran 34.69 84 P **P 08 34 39.6 +1.6**
J08A IAmb IAmb 08 34 57.2
comp=Z,22nm,1.6s
JTMT Jette 34.98 75 IAmb IAmb 08 34 54.5
comp=Z,26nm,1.4s
MSO Missoula 35.63 76 P **P 08 34 46.8 +0.8**
baz=300,SNR=8.2
MSO Missoula 35.63 76 IAmb IAmb 08 34 59.8
comp=Z,27nm,1.4s
VCNR Virginia City 36.32 91 IAmb IAmb 08 35 13.3
comp=Z,22nm,1.6s
KLR Kul'dur 36.47 289 *ce*P **P 08 34 51.4 -1.7**
KLR pmax pmax
comp=Z,19nm,1.5s
PNTR Pine Nut 36.48 91 P **P 08 34 53.8 +0.3**
PNTR IAmb IAmb 08 35 19.4
comp=Z,12nm,0.8s
ZEA Zeya 37.02 298 *e*P **P 08 34 56.6 -1.1**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HLID Hailey 37.05 81 P **P 08 34 59.0 +0.7**
baz=303,SNR=10.0
HLID Hailey 37.05 81 IAmb IAmb 08 35 12.5
comp=Z,32nm,1.9s
DLMT Dillon 37.18 77 P **P 08 34 58.4 -0.9**
BCYI Bear Canyon 37.26 79 P **P 08 35 01.2 +1.1**
MCMT McKenzie Canyo 37.31 78 P **P 08 35 01.4 +0.9**
H11N2 WAKE ISLAND Hy 37.37 219 T T 09 14 49.8
baz=24,slow=74,SNR=76
H11N3 WAKE ISLAND Hy 37.38 219 T T 09 14 45.6
baz=24,slow=74,SNR=84
H11N1 WAKE ISLAND Hy 37.39 219 T T 09 14 49.8
baz=24,SNR=50
KVN Kaiserville 37.42 90 P **P 08 35 03.0 +1.5**
KVN pmax pmax
comp=Z,7.0nm,1.1s
KVN Kaiserville 37.42 90 P **P 08 35 03.0 +1.5**
EGMT Eagleton 37.51 72 P **P 08 35 03.0 +0.9**
baz=299,SNR=26
BOZ Bozeman (W) 37.64 77 P **P 08 35 03.6 +0.4**
BOZ pmax pmax
comp=Z,15nm,1.1s
BOZ Bozeman (W) 37.64 77 P **P 08 35 03.7 +0.6**
baz=302,SNR=22
BOZ Bozeman (W) 37.64 77 P **P 08 35 03.6 +0.4**
BOZ IAmb IAmb 08 35 16.9
comp=Z,15nm,1.1s
NVAR Mina Array Bea 37.68 91 P **P 08 35 03.0 -0.7**
comp=Z,1.5nm,0.7s,baz=296,slow=7.6,SNR=10.0
NVAR PcP **PcP 08 37 20.6 +0.1**
comp=Z,0.5nm,0.7s,baz=289,slow=2.8,SNR=1.8
NVAR Mina Array Bea 37.68 91 PcP 08 37 20.6 +0.1
NVAR Mina Array Bea 37.68 91 P **P 08 35 03.9 +0.2**
YMR Madison River 38.53 77 P **P 08 35 11.8 +1.0**
YMR IAmb IAmb 08 35 26.6
comp=Z,13nm,0.9s
YHH Holmes Hill 38.53 77 P **P 08 35 11.9 +1.0**
YHH IAmb IAmb 08 35 13.0
comp=Z,14nm,0.6s
H11S1 WAKE ISLAND Hy 38.56 218 T T 09 16 16.1
baz=23,slow=76,SNR=243
H11S2 WAKE ISLAND Hy 38.57 218 T T 09 16 17.5
baz=23,slow=76,SNR=233
H11S3 WAKE ISLAND Hy 38.58 218 T T 09 16 17.4
baz=23,slow=76,SNR=297
YNR Norris Junctio 38.68 77 P **P 08 35 11.2 -0.9**
YNR IAmb IAmb 08 35 26.6
comp=Z,30nm,1.2s
GCMT Greycliff 38.70 75 P **P 08 35 12.3 +0.1**
FFC Flin Flon 38.78 59 P **P 08 35 12.9 +0.3**
FFC pmax pmax
comp=Z,8.0nm,1.0s
FFC Flin Flon 38.78 59 P **P 08 35 12.8 +0.3**
VES Vestal, Richgr 38.86 95 P **P 08 35 14.2 +0.9**
baz=311
USRK Ussuriysk Ar. 38.89 282 P **P 08 35 12.6 -0.9**
comp=Z,2.5nm,0.7s,baz=61,slow=6.8,SNR=4.8
H17A Grant Village 38.91 78 P **P 08 35 14.4 +0.3**
baz=303
H17A Grant Village 38.91 78 IAmb IAmb 08 35 29.4
comp=Z,19nm,1.1s
LKWY Lake 38.93 77 P **P 08 35 16.8 +2.6**
LKWY pmax pmax
comp=Z,17nm,0.9s
LKWY Lake 38.93 77 P **P 08 35 16.8 +2.6**
LKWY IAmb IAmb 08 35 30.7
comp=Z,16nm,0.8s
IMW Indian Meadow 38.97 78 P **P 08 35 16.3 +1.8**
YMP Mirror Lake Pl 38.98 77 P **P 08 35 15.6 +1.0**
YMP IAmb IAmb 08 35 28.7
comp=Z,19nm,1.2s
FLWY Flagg Ranch 39.01 78 P **P 08 35 16.4 +1.6**
FLWY IAmb IAmb 08 35 28.5
comp=Z,23nm,1.4s
CWC Cottonwood Cre 39.08 93 P **P 08 35 16.7 +1.2**
baz=310
GRAC Grapevine Rang 39.16 92 P **P 08 35 17.1 +1.2**
baz=310
RLMT Red Lodge 39.30 76 P **P 08 35 18.2 +1.0**
baz=303,SNR=17
RLMT Red Lodge 39.30 76 IAmb IAmb 08 35 31.4
comp=Z,27nm,1.1s
REDW Red Top Meadow 39.32 79 IAmb IAmb 08 35 29.9
comp=Z,20nm,1.3s
LOHW Long Hollow 39.33 79 P **P 08 35 18.9 +1.4**
ISA Isabella, Lake 39.35 94 P **P 08 35 19.5 +2.0**
baz=311
R11A Troy Canyon, C 39.40 89 P **P 08 35 18.7 +0.6**
baz=309
R11A Troy Canyon, C 39.40 89 P **P 08 35 19.2 +1.1**
AHID Auburn Hatcher 39.51 80 P **P 08 35 19.4 +0.5**
AHID IAmb IAmb 08 35 33.1
comp=Z,19nm,1.1s
MJAR Matsushiro Arr 39.67 268 P **P 08 35 19.6 -0.6**
comp=Z,2.1nm,0.6s,baz=41,slow=5.9,SNR=8.6
MJAR Matsushiro Arr 39.67 268 P **P 08 35 20.4 +0.2**
MJAR pmax pmax
comp=Z,9.0nm,1.4s
MJAR Matsushiro Arr 39.67 268 P **P 08 35 20.4 +0.2**
MAT Matsushiro 39.67 268 P **P 08 35 19.6 -0.6**
FURC Furnace Creek, 39.81 92 P **P 08 35 22.5 +1.3**
baz=310
TPNV Topopah Spring 39.88 91 P **P 08 35 22.9 +0.8**
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV Topopah Spring 39.88 91 P **P 08 35 23.7 +1.6**
baz=310
TPNV Topopah Spring 39.88 91 P **P 08 35 22.9 +0.8**
DUG Dugway, Tooele 39.97 84 P **P 08 35 24.1 +1.3**
DUG pmax pmax
comp=Z,15nm,1.1s
DUG Dugway, Tooele 39.97 84 P **P 08 35 24.3 +1.5**
baz=307
DUG Dugway, Tooele 39.97 84 P **P 08 35 24.1 +1.3**
LAO LASA Array 40.26 72 P **P 08 35 25.8 +0.8**
baz=302,SNR=8.0
LAO LASA Array 40.26 72 P **P 08 35 26.1 +1.1**
LAO IAmb IAmb 08 35 39.0
comp=Z,35nm,1.4s
MSHR Mys Shultsa 40.31 281⇑ *e*P **P 08 35 24.8 -0.5**
MSHR pmax pmax
comp=Z,18nm,1.3s
PRN Pahroc Range 40.32 90 P **P 08 35 25.8 +0.1**
BW06 Boulder Array 40.44 79 P **P 08 35 27.4 +0.6**
baz=305,SNR=23
BW06 Boulder Array 40.44 79 IAmb IAmb 08 35 28.6
comp=Z,13nm,0.7s
PD31 Pinedale Array 40.44 79 IAmb IAmb 08 35 28.7
comp=Z,12nm,0.7s
PDAR Pinedale Array 40.44 79 P **P 08 35 28.1 +1.3**
comp=Z,11nm,0.6s,baz=300,slow=3.9,SNR=125
NLU North Lily Min 40.57 84 P **P 08 35 27.8 0.0**

GSC	Goldstone, Bar	40.61	93	P	P	08 35 29.6	+1.5	
	baz=311							
BFSC	Mount Baldy Ra	40.79	95	P	P	08 35 30.9	+1.3	
	baz=312							
MVU	Marysvale	41.37	86	IAmb	IAmb	08 35 58.7		
	comp=Z,26nm,1.0s							
MURC	Murrieta	41.51	96	P	P	08 35 36.0	+0.6	
	baz=313							
GMRC	Granite Mounta	41.65	93	P	P	08 35 37.7	+1.1	
	baz=312							
LCMT	Little Creek M	41.68	89	P	P	08 35 38.4	+1.4	
RDMU	Red Mountain	41.72	82	P	P	08 35 37.4	+0.1	
RDMU				IAmb	IAmb	08 35 44.6		
	comp=Z,23nm,1.0s							
BOD	Bodaibo	42.04	309	eP	P	08 35 38.0	-1.4	
BOD				pmax	pmax			
	comp=Z,27nm,0.8s							
K22A	Casper	42.33	77	P	P	08 35 42.2	0.0	
	baz=306,SNR=6.7							
IRM	Iron Mountain	42.39	93	P	P	08 35 42.2	-0.4	
	baz=312							
MONP2	Monument Peak	42.46	96	P	P	08 35 43.8	+0.4	
	baz=313							
U15A	North Rim	42.64	89	P	P	08 35 46.5	+1.5	
O20A	White River Ci	42.79	81	P	P	08 35 45.7	-0.4	
	baz=308,SNR=26							
O20A	White River Ci	42.79	81	P	P	08 35 46.6	+0.6	
O20A				IAmb	IAmb	08 35 47.8		
	comp=Z,24nm,0.8s							
PDMCI	Parker Dam,Lak	42.91	92	P	P	08 35 47.5	+0.8	
	baz=312							
RSSD	Black Hills	42.96	74	P	P	08 35 47.8	+0.4	
RSSD				pmax	pmax			
	comp=Z,24nm,1.2s							
RSSD	Black Hills	42.96	74	P	P	08 35 47.4	+0.1	
	baz=305							
RSSD	Black Hills	42.96	74	P	P	08 35 47.8	+0.4	
RSSD				IAmb	IAmb	08 36 00.4		
	comp=Z,24nm,1.2s							
CN2	Changchun	43.02	286	eP	P	08 35 46.0	-1.5	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
HIA	Hailar	43.27	295	c iP	P	08 35 48.6	-0.9	
HIA				pmax	pmax			
	comp=Z,16nm,0.8s							
HIA	Hailar	43.27	295	P	P	08 35 48.3	-1.3	
PV14	Lion Creek, Pa	43.41	84	P	P	08 35 50.6	-0.5	
MDND	Maddock	43.44	67	P	P	08 35 51.6	+0.6	
	baz=303							
PV17	East Wray Mesa	43.51	84	IAmb	IAmb	08 36 15.4		
	comp=Z,16nm,0.9s							
PV11	David Mesa, Pa	43.55	84	IAmb	IAmb	08 36 12.3		
	comp=Z,18nm,0.7s							
PV18	Skein Mesa, Pa	43.56	84	IAmb	IAmb	08 36 11.1		
	comp=Z,15nm,0.8s							
PV12	Saucer Basin,	43.58	84	IAmb	IAmb	08 36 13.4		
	comp=Z,20nm,0.8s							
PV13	Radium Mtn., P	43.67	84	IAmb	IAmb	08 36 12.5		
	comp=Z,24nm,0.8s							
PV02	Paradox Valley	43.69	84	IAmb	IAmb	08 36 12.3		
	comp=Z,18nm,0.9s							
N23A	Red Feather La	43.72	79	P	P	08 35 53.3	-0.3	
	baz=307,SNR=7.5							
PV15	Paradox Valley	43.76	84	IAmb	IAmb	08 36 12.6		
	comp=Z,21nm,1.3s							
WUAZ	Wupatki	43.80	89	P	P	08 35 53.9	-0.2	
	baz=311							
WUAZ	Wupatki	43.80	89	P	P	08 35 55.4	+1.2	
PV01	Paradox Valley	43.84	84	P	P	08 35 55.0	+0.5	
PV01				IAmb	IAmb	08 36 13.3		
	comp=Z,14nm,0.8s							
ULM	Lac du Bonnet	44.21	62	P	P	08 35 57.5	+0.5	
	comp=Z,2.9nm,0.5s,baz=276,slow=8.9,SNR=6.0							
MVCO	Mesa Verde	44.47	85	P	P	08 35 59.3	-0.2	
	baz=310							
ISCO	Idaho Springs	44.59	80	P	P	08 36 01.1	+0.5	
ISCO				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ISCO	Idaho Springs	44.59	80	P	P	08 36 01.0	+0.5	
	baz=308							
ISCO	Idaho Springs	44.59	80	P	P	08 36 01.1	+0.5	
NEEM	North Greenlan	45.08	16	i P	P	08 36 04.5	+0.5	
NEEM				IAmb	IAmb	08 36 05.8		
	comp=Z,12nm,0.6s							
S22A	4UR Ranch, Cre	45.14	83	P	P	08 36 05.7	+0.7	
	baz=310,SNR=11							
AGMN	Agassiz Nation	45.28	64	P	P	08 36 05.3	-0.3	
	baz=304,SNR=13							
AGMN	Agassiz Nation	45.28	64	P	P	08 36 05.8	+0.2	
AGMN				IAmb	IAmb	08 36 06.8		
	comp=Z,16nm,0.8s							
214A	Organ Pipe Nat	45.32	94	P	P	08 36 05.5	-0.6	
	baz=314							
X18A	Snowflake	45.33	89	P	P	08 36 06.8	+0.4	
KSRS	Korea Array	45.40	277	P	P	08 36 06.5	-0.2	
	comp=Z,6.9nm,0.8s,baz=56,slow=7.5,SNR=37							
KSRS	Korea Array	45.40	277	P	P	08 36 06.5	-0.2	
KS19	Wonju Array Si	45.40	277	P	P	08 36 06.1	-0.6	
KSAR	Wonju Array Be	45.43	277	P	P	08 36 05.5	-1.4	
KSAR	Wonju Array Be	45.43	277	P	P	08 36 05.5	-1.4	
NOR	Nord	45.56	5	i P	P	08 36 07.8	+0.3	
NOR				IAmb	IAmb	08 36 09.7		
	comp=Z,9.8nm,1.2s							
NOR	Nord	45.56	5	i P	P	08 36 07.7	+0.3	
NOR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SUSD	Miller	45.74	70	P	P	08 36 09.5	+0.2	
	baz=306,SNR=12							
SDCO	Great Sand Dun	45.95	82	P	P	08 36 11.7	+0.3	
	baz=310,SNR=15							
SDCO	Great Sand Dun	45.95	82	P	P	08 36 11.7	+0.3	
TUC	Tucson	46.32	92	P	P	08 36 14.2	+0.1	
TUC				pmax	pmax			
	comp=Z,9.0nm,1.2s							
TUC	Tucson	46.32	92	P	P	08 36 14.4	+0.3	
	baz=314							
TUC	Tucson	46.32	92	P	P	08 36 14.2	+0.1	
B35A	Bob, Littlefor	46.43	63	IAmb	IAmb	08 36 15.5		
	comp=Z,14nm,0.7s							
TJN	Taejon	46.43	276	c iP	P	08 36 14.7	-0.1	
F33A	5 Mile Ranch,	46.45	67	IAmb	IAmb	08 36 15.5		
	comp=Z,13nm,1.1s							
NRIK	Noril'sk	46.49	332	P	P	08 36 14.8	0.0	
	comp=Z,4.8nm,0.4s,baz=74,slow=9.1,SNR=12							
NRIK	Noril'sk	46.49	332	c iP	P	08 36 14.7	-0.2	
NRIK				pmax	pmax			
	comp=Z,15nm,1.3s							
KSCO	Kaye Shedlock'	46.89	79	P	P	08 36 18.7	+0.2	
	baz=309							
KSCO	Kaye Shedlock'	46.89	79	IAmb	IAmb	08 36 20.6		
	comp=Z,31nm,1.2s							
T25A	Trinidad	47.01	82	P	P	08 36 19.3	-0.2	
	baz=310							
T25A	Trinidad	47.01	82	P	P	08 36 19.9	+0.3	
T25A				IAmb	IAmb	08 36 26.4		
	comp=Z,30nm,1.2s							
ANMO	Albuquerque	47.20	86	eP	P	08 36 20.7	-0.4	
ANMO				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ANMO	Albuquerque	47.20	86	P	P	08 36 20.9	-0.2	
	baz=312							
ANMO	Albuquerque	47.20	86	P	P	08 36 20.6	-0.5	
Y22D	IRIS PASSCAL I	47.49	87	P	P	08 36 24.2	+0.9	
	baz=312							
ECSD	EROS Data Cent	47.52	70	P	P	08 36 22.8	-0.4	
	baz=307,SNR=23							
ECSD	EROS Data Cent	47.52	70	IAmb	IAmb	08 36 23.7		
	comp=Z,24nm,1.2s							
EYMN	Ely	47.88	62	P	P	08 36 25.7	-0.3	
	baz=306,SNR=13							
EYMN	Ely	47.88	62	IAmb	IAmb	08 36 27.1		
	comp=Z,15nm,1.0s							
F36A	Milaca	48.00	66	IAmb	IAmb	08 36 27.7		
	comp=Z,10nm,0.8s							
121A	Cookes Peak, D	48.01	89	P	P	08 36 27.9	+0.5	
	baz=313							
BGNE	Belgrade	48.05	73	P	P	08 36 27.7	+0.2	
	baz=308							
E38A	The Farm, Brul	48.65	64	IAmb	IAmb	08 36 32.6		
	comp=Z,17nm,0.8s							
SPMN	Marine on St.	48.79	66	P	P	08 36 32.3	-0.7	
	baz=307,SNR=6.6							
SPMN	Marine on St.	48.79	66	P	P	08 36 32.5	-0.5	
SPMN				IAmb	IAmb	08 36 33.9		
	comp=Z,18nm,1.1s							
N33A	J Bar K, Exete	48.88	74	P	P	08 36 33.5	-0.3	
KBS	Kingsbay	49.05	360	i P	P	08 36 34.7	+0.1	
KBS				IAmb	IAmb	08 36 36.6		
	comp=Z,12nm,0.8s							
KBS	Kingsbay	49.05	360	P	P	08 36 35.5	+0.9	
KBS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KBS	Kingsbay	49.05	360	P	P	08 36 35.5	+0.9	
KBS				IAmb	IAmb	08 36 36.6		
	comp=Z,9.7nm,0.9s							
I37A	Lemond, Waseca	49.19	68	P	P	08 36 35.9	-0.2	
R32A	Long Quarter,	49.62	77	P	P	08 36 40.0	+0.6	
N35A	Tabor	49.87	72	P	P	08 36 41.5	+0.1	
DAG	Danmarks Havn	49.88	8⇑	i P	P	08 36 40.4	-0.5	
DAG				IAmb	IAmb	08 36 41.5		
	comp=Z,21nm,0.9s							
DAG	Danmarks Havn	49.88	8⇑	i P	P	08 36 40.4	-0.5	
DAG				pmax	pmax			
	comp=Z,21nm,0.9s							
D41A	Chassel	50.01	62	IAmb	IAmb	08 37 04.8		
	comp=Z,13nm,0.9s							
MNTX	Cornudas Mount	50.06	88	P	P	08 36 43.2	+0.3	
	baz=314,SNR=8.5							
MNTX	Cornudas Mount	50.06	88	P	P	08 36 43.9	+1.0	
MSTX	Muleshoe	50.10	84	P	P	08 36 43.7	+0.3	
	baz=313,SNR=5.4							
MSTX	Muleshoe	50.10	84	P	P	08 36 43.8	+0.5	
MSTX				IAmb	IAmb	08 36 45.4		
	comp=Z,18nm,1.1s							
AMTX	Amarillo	50.16	82	P	P	08 36 44.4	+0.7	
	baz=312							
G40A	Rib Lake	50.21	65	IAmb	IAmb	08 36 44.7		
	comp=Z,11nm,0.9s							
COWI	Conover	50.28	63	P	P	08 36 44.1	-0.3	
COWI				IAmb	IAmb	08 36 45.0		
	comp=Z,16nm,1.2s							
KSU1	Kansas State U	50.43	75	P	P	08 36 44.9	-0.7	
	baz=310							
SCIA	State Center	50.61	70	P	P	08 36 47.3	+0.4	
	baz=309							
SCIA	State Center	50.61	70	P	P	08 36 47.0	+0.1	
SCIA				IAmb	IAmb	08 36 48.0		
	comp=Z,16nm,0.8s							
KAN12	Harper NE Stat	50.78	77	P	P	08 36 48.5	+0.3	
KAN12				IAmb	IAmb	08 37 03.7		
	comp=Z,14nm,1.1s							
BJI	Beijing	50.79	287	P	P	08 36 48.3	+0.1	
BJI				PcP	PcP	08 38 05.0	+0.2	
BJI				pmax	pmax			
	comp=Z,13nm,0.7s							
I40A	Norwalk	50.84	66	P	P	08 36 48.2	-0.4	
I40A				IAmb	IAmb	08 37 00.8		
	comp=Z,35nm,1.4s							
SUMG	Summit	50.87	17	i P	P	08 36 49.3	+0.4	
SUMG				IAmb	IAmb	08 36 50.5		
	comp=Z,29nm,0.9s							
SUMG	Summit	50.87	17	i P	P	08 36 49.3	+0.4	
SUMG				pmax	pmax			
	comp=Z,29nm,0.9s							
SUMG	Summit	50.87	17	P	P	08 36 49.5	+0.6	
HSPB	Hornsund (broa	50.95	359	eP	P	08 36 49.1	+0.1	
ULN	Ulaanbaatar	50.96	301	P	P	08 36 49.2	-0.5	
ULN				pmax	pmax			
	comp=Z,11nm,1.1s							
ULN	Ulaanbaatar	50.96	301	P	P	08 36 49.2	-0.5	
ULN				IAmb	IAmb	08 36 50.8		
	comp=Z,11nm,1.1s							
F42A	Maple Grove Fa	51.05	63	P	P	08 36 50.7	+0.6	
KS20	Mayfield South	51.09	77	IAmb	IAmb	08 37 03.1		
	comp=Z,20nm,1.0s							
KAN09	Caldwell North	51.11	77	IAmb	IAmb	08 37 03.2		
	comp=Z,23nm,1.1s							
E43A	Lone Tree Farm	51.28	62	P	P	08 36 51.5	-0.3	
E43A				IAmb	IAmb	08 36 52.9		
	comp=Z,15nm,0.7s							
KAN13	South Haven SW	51.28	77	P	P	08 36 51.6	-0.4	
KAN13				IAmb	IAmb	08 37 04.4		
	comp=Z,19nm,0.9s							
SONM	Songino Array	51.33	301	P	P	08 36 52.6	+0.2	
	comp=Z,4.6nm,0.7s,baz=54,slow=7.1,SNR=30							
SONM				PcP	PcP	08 38 07.1	+0.2	
	comp=Z,1.9nm,0.6s,baz=53,slow=3.1,SNR=3.8							
SONM				ScP	ScP	08 42 04.6	+3.8	
	comp=Z,1.7nm,0.8s,baz=45,slow=3.5,SNR=4.4							
SONM	Songino Array	51.33	301	P	P	08 36 52.4	0.0	
SONM				pmax	pmax			
	comp=Z,19nm,1.4s							
SONM	Songino Array	51.33	301	P	P	08 36 52.4	0.0	
SONM				IAmb	IAmb	08 36 54.0		
	comp=Z,19nm,1.4s							
ZAK	Zakamensk	51.35	305	eP	P	08 36 51.8	-0.7	
ZAK				e		08 38 02.6		
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.4s							
BLOK	Blackwell	51.60	77	IAmb	IAmb	08 37 07.0		
	comp=Z,23nm,1.1s							
L40A	Anamosa	51.66	68	IAmb	IAmb	08 36 55.1		
	comp=Z,15nm,0.9s							
JFWS	Jewell Farm	51.67	67	P	P	08 36 54.0	-0.8	
JFWS				pmax	pmax			
	comp=Z,14nm,0.7s							
JFWS	Jewell Farm	51.67	67	P	P	08 36 53.6	-1.2	
	baz=310,SNR=7.6							
JFWS	Jewell Farm	51.67	67	P	P	08 36 54.0	-0.8	
JFWS				IAmb	IAmb	08 36 54.9		
	comp=Z,14nm,0.7s							
I42A	Draeger Farm,	51.79	65	IAmb	IAmb	08 36 56.5		
	comp=Z,16nm,0.7s							
T35A	Sooner Cattle	51.92	77	IAmb	IAmb	08 37 09.2		
	comp=Z,13nm,1.1s							
DBG	Daneborg	52.00	10	i P	P	08 36 56.4	-0.5	
DBG				IAmb	IAmb	08 36 57.2		
	comp=Z,24nm,0.8s							
WMOK	Wichita Mounta	52.01	80	P	P	08 36 57.9	+0.4	
WMOK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WMOK	Wichita Mounta	52.01	80	P	P	08 36 57.6	0.0	
	baz=313,SNR=9.4							
WMOK	Wichita Mounta	52.01	80	P	P	08 36 57.9	+0.4	
WMOK				IAmb	IAmb	08 36 58.9		
	comp=Z,8.9nm,0.8s							
H43A	Windswept, Lux	52.06	64	P	P	08 36 57.5	-0.2	
H43A				IAmb	IAmb	08 36 58.5		
	comp=Z,22nm,0.8s							
OK029	Liberty Lake	52.10	78	IAmb	IAmb	08 37 10.9		
	comp=Z,15nm,0.9s							
OK031	S. Brethren Rd	52.37	78	IAmb	IAmb	08 37 12.8		
	comp=Z,20nm,0.9s							
SFJD	Kangerlussuaq	52.46	26	i P	P	08 37 00.7	+0.3	
SFJD				IAmb	IAmb	08 37 01.1		
	comp=Z,14nm,1.1s							
SFJD	Kangerlussuaq	52.46	26	i P	P	08 37 00.7	+0.3	
SFJD				pmax	pmax			
	comp=Z,14nm,1.1s							
SFJD	Kangerlussuaq	52.46	26	P	P	08 37 00.4	0.0	
SFJD				IAmb	IAmb	08 37 01.9		
	comp=Z,19nm,1.1s							
L42A	Oliver, Polo	52.58	67	P	P	08 37 00.9	-0.7	
L42A				IAmb	IAmb	08 37 01.6		
	comp=Z,27nm,1.1s							
E46A	Sault Ste Mari	52.73	60	IAmb	IAmb	08 37 20.3		
	comp=Z,14nm,0.9s							
TIA	Tai'an	52.74	283	⇓P	P	08 37 03.0	+0.1	
TIA				pmax	pmax			
	comp=Z,14nm,1.1s							
TX31	Lajitas Ar. Si	52.77	89	P	P	08 37 03.6	+0.4	
TX32	Lajitas Array	52.77	89	P	P	08 37 03.8	+0.5	
TX32				IAmb	IAmb	08 37 16.7		
	comp=Z,9.5nm,0.9s							
TXAR	Lajitas Array	52.77	89	P	P	08 37 04.1	+0.8	
	comp=Z,5.3nm,0.7s,baz=301,slow=5.4,SNR=76							
TXAR				PcP	PcP	08 38 12.2	-0.3	
	comp=Z,1.8nm,0.7s,baz=317,slow=3.8,SNR=1.2							
TXAR	Lajitas Array	52.77	89	P	P	08 37 03.5	+0.2	
TXAR	Lajitas Array	52.77	89	P	P	08 37 03.5	+0.2	
P40A	Paris	52.83	71	P	P	08 37 02.9	-0.6	
K43A	Burlington	52.88	66	IAmb	IAmb	08 37 04.1		
	comp=Z,21nm,0.9s							
ABTX	Abilene, Hawle	52.93	83	P	P	08 37 04.0	-0.4	
	baz=314							
ABTX	Abilene, Hawle	52.93	83	P	P	08 37 05.0	+0.7	
ABTX				IAmb	IAmb	08 37 23.2		
	comp=Z,18nm,1.2s							
HHC	Hu-ho-hao-te	52.94	291	eP	P	08 37 06.3	+1.9	
HHC				pmax	pmax			
	comp=Z,11nm,0.6s							
HHC				pmax	pmax			
	comp=Z,360nm,5.7s							
L44A	Lake County Fo	53.46	66	P	P	08 37 06.7	-1.4	
	baz=311							
ICESG	Greenland Ices	53.46	20	i P	P	08 37 08.1	0.0	
ICESG				IAmb	IAmb	08 37 08.9		
	comp=Z,19nm,0.8s							
U38A	Gravette	53.51	76	IAmb	IAmb	08 37 20.4		
	comp=Z,13nm,0.8s							
R40A	Maddies Statio	53.52	73	IAmb	IAmb	08 37 19.5		
	comp=Z,12nm,0.8s							
HDIL	Hopedale	53.74	69	P	P	08 37 09.2	-0.9	
	baz=311,SNR=14							
HDIL	Hopedale	53.74	69	P	P	08 37 09.5	-0.7	
HHAR	Hobbs	53.88	76	P	P	08 37 10.9	-0.4	
HHAR				IAmb	IAmb	08 37 22.9		
	comp=Z,11nm,1.0s							
MATQ	Matagami	53.96	53	P	P	08 37 11.4	-0.3	
	baz=310,SNR=8.1							
BTO	Baotou	53.98	292	eP	P	08 37 12.5	+0.5	
BTO				S	S	08 44 41.3	-4.3	
DY2G	Dye2	54.00	25	i P	P	08 37 12.4	+0.5	
DY2G				IAmb	IAmb	08 37 14.8		
	comp=Z,6.7nm,0.6s							
X37A	Clayton	54.17	78	P	P	08 37 13.6	+0.2	
X37A				IAmb	IAmb	08 37 26.5		
	comp=Z,14nm,0.9s							
P43A	Skaggs, Pawnee	54.22	70	P	P	08 37 13.3	-0.3	
CCM	Cathedral Cave	54.27	72	P	P	08 37 13.0	-1.1	
CCM				pmax	pmax			
	comp=Z,13nm,1.0s							
CCM	Cathedral Cave	54.27	72	P	P	08 37 13.0	-1.1	
	baz=312							
CCM	Cathedral Cave	54.27	72	P	P	08 37 13.0	-1.1	
CCM				IAmb	IAmb	08 37 25.4		
	comp=Z,13nm,1.0s							
MGMO	Mountain Grove	54.28	74	P	P	08 37 12.9	-1.3	
MGMO				IAmb	IAmb	08 37 25.6		
	comp=Z,19nm,1.0s							
JCT	Junction City	54.33	85	P	P	08 37 14.3	-0.4	
JCT				pmax	pmax			
	comp=Z,16nm,0.9s							
JCT	Junction City	54.33	85	P	P	08 37 14.2	-0.4	
	baz=315,SNR=5.9							
JCT	Junction City	54.33	85	P	P	08 37 14.3	-0.4	
JCT				IAmb	IAmb	08 37 28.4		
	comp=Z,16nm,0.8s							
U40A	Yellville	54.47	75	P	P	08 37 14.3	-1.3	
	baz=313,SNR=10							
U40A	Yellville	54.47	75	IAmb	IAmb	08 37 27.0		
	comp=Z,15nm,0.9s							
O44A	Mansfield	54.48	68	IAmb	IAmb	08 37 15.8		
	comp=Z,11nm,0.7s							
NJ2	Nanjing	54.54	278	eP	P	08 37 16.3	+0.2	
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
WHTX	Lake Whitney,	54.70	82	P	P	08 37 17.4	+0.1	
	baz=314,SNR=6.1							
WHTX	Lake Whitney,	54.70	82	P	P	08 37 18.3	+1.0	
WHTX				IAmb	IAmb	08 37 30.7		
	comp=Z,26nm,1.1s							
W39A	Magazine	54.71	76	P	P	08 37 16.1	-1.2	
	baz=313,SNR=6.2							
W39A	Magazine	54.71	76	P	P	08 37 17.2	0.0	
W39A				IAmb	IAmb	08 37 29.7		
	comp=Z,16nm,1.1s							
LSQQ	Lebel-sur-Quev	54.75	54	P	P	08 37 16.6	-0.8	
	baz=311							
Q44A	Meyer Farm, Va	55.00	70	P	P	08 37 18.6	-0.8	
Q44A				IAmb	IAmb	08 37 31.2		
	comp=Z,25nm,1.1s							
I49A	Point Hope	55.10	62	IAmb	IAmb	08 37 21.2		
	comp=Z,12nm,0.8s							
SFIN	Lafayette	55.11	67	P	P	08 37 19.5	-0.6	
	baz=312,SNR=8.7							
SFIN	Lafayette	55.11	67	IAmb	IAmb	08 37 32.4		
	comp=Z,22nm,0.9s							
FCAR	Ozark Folk Cen	55.22	75	IAmb	IAmb	08 37 32.3		
	comp=Z,17nm,0.8s							
MIAR	Mount Ida	55.28	77	P	P	08 37 21.2	-0.2	
	baz=314,SNR=14							
MIAR	Mount Ida	55.28	77	IAmb	IAmb	08 37 34.2		
	comp=Z,25nm,1.1s							
CHGQ	Chibougamau	55.45	51	P	P	08 37 21.6	-0.8	
	baz=312,SNR=7.6							
435B	Jarrell	55.47	83	P	P	08 37 22.9	+0.1	
	baz=315							
SCHQ	Schefferville	55.51	43	P	P	08 37 23.5	+0.6	
	comp=Z,25nm,1.0s,baz=331,slow=8.8,SNR=19							
PBMO	Poplar Bluff	55.62	73	P	P	08 37 22.7	-1.1	
PBMO				IAmb	IAmb	08 37 35.2		
	comp=Z,22nm,1.4s							
W41B	Gary Mavity, V	55.64	75	P	P	08 37 23.1	-0.8	
	baz=314							
S44A	Carbondale	55.68	71	IAmb	IAmb	08 37 36.0		
	comp=Z,12nm,0.8s							
SIUC	Southern Illin	55.69	71	P	P	08 37 23.7	-0.6	
SIUC				IAmb	IAmb	08 37 35.9		
	comp=Z,16nm,0.9s							
AAM	Ann Arbor	55.74	64	P	P	08 37 24.6	-0.1	
	baz=312							
X40A	Basin Creek Fa	55.76	76	P	P	08 37 24.1	-0.8	
	baz=314,SNR=5.7							
833A	Chaparral WMA,	56.11	86	P	P	08 37 27.6	+0.2	
	baz=316							
WLAR	White Oak Lake	56.15	77	P	P	08 37 28.2	+0.6	
BLO	Bloomington	56.25	68	P	P	08 37 28.1	-0.2	
BLO				pmax	pmax			
	comp=Z,15nm,0.8s							
BLO	Bloomington	56.25	68	P	P	08 37 28.1	-0.2	
BLO				IAmb	IAmb	08 37 28.7		
	comp=Z,15nm,0.8s							
ALGO	Algonquin Park	56.28	57	P	P	08 37 28.0	-0.4	
	baz=312,SNR=10							
HBAR	Harrisburg	56.32	74	P	P	08 37 28.9	+0.1	
SADO	Sadowa	56.51	59	IAmb	IAmb	08 37 43.2		
	comp=Z,11nm,0.9s							
ISOG	Isortoq, Green	56.52	22	eP	P	08 37 27.7	-2.2	
NATX	Nacogdoches	56.56	80	P	P	08 37 30.6	0.0	
	baz=315							
P48A	Milroy	56.68	67	IAmb	IAmb	08 37 31.2		
	comp=Z,26nm,1.1s							
ANGG	Ammassalik, Gr	56.78	22	P	P	08 37 31.1	-0.5	
ANGG				IAmb	IAmb	08 37 32.5		
	comp=Z,20nm,1.2s							
CCAR	Cane Creek	56.79	76	P	P	08 37 33.0	+0.8	
O49A	Covington	56.80	66	P	P	08 37 31.6	-0.5	
O49A				IAmb	IAmb	08 37 43.9		
	comp=Z,18nm,1.2s							
WCI	Wyandotte Cave	57.02	69	P	P	08 37 33.5	-0.3	
WCI				pmax	pmax			
	comp=Z,21nm,1.1s				

WVT pmax pmax
comp=Z,20nm,1.1s
WVT Waverly 57.58 72 P P 08 37 37.3 -0.5
baz=314
WVT Waverly 57.58 72 P P 08 37 37.6 -0.2
WVT IAmb IAmb 08 37 50.2
comp=Z,20nm,1.1s
OXF Oxford 57.78 74 P P 08 37 38.3 -0.9
baz=314,SNR=6.3
ERPA Erie 57.87 61 P P 08 37 38.6 -1.1
baz=314
LATQ La Tuque 57.95 53 P P 08 37 39.4 -0.8
baz=314
LATQ La Tuque 57.95 53 IAmb IAmb 08 37 53.3
comp=Z,13nm,1.0s
M53A Wl Miller and 57.96 62 P P 08 37 39.5 -0.9
baz=314
M53A Wl Miller and 57.96 62 IAmb IAmb 08 37 41.3
comp=Z,18nm,1.1s
ARCES ARCESS Array B 58.01 354 P P 08 37 40.0 -0.4
comp=Z,5.2nm,0.6s,baz=15,slow=8.2,SNR=20
ARCES PcP **PcP 08 38 32.0 0.0**
comp=Z,3.7nm,0.8s,baz=39,slow=5.8,SNR=1.6
ARCES ARCESS Array B 58.01 354 P P 08 37 39.8 -0.5
ARCES pmax pmax
comp=Z,49nm,1.6s
ARCES ARCESS Array B 58.01 354 P P 08 37 39.8 -0.5
R50A Paris 58.11 67 P P 08 37 41.1 -0.3
R50A IAmb IAmb 08 37 53.7
comp=Z,22nm,1.1s
Q51A Peebles 58.15 66 P P 08 37 41.7 -0.1
J55A Hilton 58.23 59 IAmb IAmb 08 37 55.6
comp=Z,17nm,0.9s
PLAL Pickwick Lake 58.24 73 IAmb IAmb 08 37 54.4
comp=Z,14nm,0.8s
N53A Lisbon 58.31 63 IAmb IAmb 08 37 43.4
comp=Z,12nm,0.9s
WHN Wuhan 58.34 280 ⇑P **P 08 37 43.0 -0.1**
WHN pmax pmax
comp=Z,62nm,0.9s
P52A Corning 58.41 65 P P 08 37 42.9 -0.6
baz=314
M54A Oil Creek Stat 58.46 62 P P 08 37 43.3 -0.6
baz=314,SNR=6.5
M54A Oil Creek Stat 58.46 62 P P 08 37 43.6 -0.3
M54A IAmb IAmb 08 37 44.8
comp=Z,16nm,1.0s
CLTN Cedars of Leba 58.48 71 IAmb IAmb 08 37 56.6
comp=Z,17nm,1.1s
O53A New Philadelph 58.49 64 P P 08 37 43.6 -0.5
baz=314
U49A Red Boiling Sp 58.51 70 IAmb IAmb 08 37 56.4
comp=Z,11nm,0.9s
MMNY Mt. Morris Dam 58.56 60 P P 08 37 45.1 +0.6
MMNY IAmb IAmb 08 37 57.8
comp=Z,19nm,1.1s
N54A Moraine State 58.66 62 P P 08 37 44.3 -1.0
baz=314,SNR=6.3
N54A Moraine State 58.66 62 IAmb IAmb 08 37 46.0
comp=Z,25nm,1.3s
H57A Richville 58.67 57 P P 08 37 44.8 -0.5
baz=314,SNR=7.7
T50A Nancy 58.69 69 IAmb IAmb 08 37 57.8
comp=Z,16nm,0.9s
VBMS Vicksburg 58.73 77 P P 08 37 46.2 +0.4
baz=315
J56A Wolcott 58.73 59 IAmb IAmb 08 38 03.6
comp=Z,22nm,1.1s
LVZ Lovozero 58.80 350*c i*P **P 08 37 45.5 -0.4**
LVZ pmax pmax
comp=Z,26nm,0.7s
LVZ Lovozero 58.80 350 P P 08 37 45.6 -0.3
K56A Middlesex 58.89 59 P P 08 37 47.1 +0.2
baz=314
I57A Carthage 58.90 57 P P 08 37 46.8 -0.1
baz=314,SNR=7.7
P53A Whipple 58.92 65 IAmb IAmb 08 37 47.6
comp=Z,9.4nm,0.8s
S51A Beattyville 58.97 68 P P 08 37 46.7 -0.8
S51A IAmb IAmb 08 37 48.0
comp=Z,13nm,0.9s
LONY Lake Ozonia 58.97 56 P P 08 37 46.6 -0.8
baz=314
LONY Lake Ozonia 58.97 56 IAmb IAmb 08 37 60.0
comp=Z,11nm,0.8s
O54A Avella 58.99 63 P P 08 37 47.5 -0.2
LMQ La Malbaie 59.02 51 P P 08 37 48.0 +0.3
LMQ IAmb IAmb 08 38 00.2
comp=Z,15nm,1.0s
J57A Williamstown 59.09 58 P P 08 37 48.6 +0.4
XAN Xi'an 59.11 287 P P 08 37 48.0 -0.5
XAN pP pwP 08 37 59.3 -1.1
XAN sP sP 08 38 03.8 +3.1
XAN pmax pmax
comp=Z,18nm,1.2s
XAN pmax pmax
comp=Z,380nm,6.5s
L56A Greenwood 59.16 60 P P 08 37 49.4 +0.6
SSLB Suanglung 59.19 270 P P 08 37 48.2 -1.0
X48A Hartselle 59.21 72 IAmb IAmb 08 38 00.7
comp=Z,13nm,0.9s
146A Union 59.31 75 P P 08 37 50.0 +0.2
H58A Gabriels 59.32 56 P P 08 37 49.4 -0.4
baz=315
FRNY Flat Rock 59.33 55 IAmb IAmb 08 38 06.5
comp=Z,11nm,1.1s
D61A St Aubert, Com 59.33 51 P P 08 37 49.4 -0.4
baz=315,SNR=6.9
DGZ Jazzator, Alta 59.39 313⇑*i*P **P 08 37 50.3 -0.1**
DGZ pmax pmax
comp=Z,14nm,0.6s
H59A Cadyville 59.41 56 P P 08 37 49.9 -0.5
baz=315,SNR=7.2
I58A Old Forge 59.42 57 P P 08 37 50.5 -0.1
baz=315,SNR=6.5
J58A Remsen 59.49 58 P P 08 37 50.8 -0.2
baz=315,SNR=5.1
NCB Newcomb 59.61 56 IAmb IAmb 08 38 04.5
comp=Z,7.5nm,0.8s
MCWV Mont Chateau 59.65 63 P P 08 37 51.9 -0.3
baz=315,SNR=6.9
MCWV Mont Chateau 59.65 63 P P 08 37 51.9 -0.3
MCWV IAmb IAmb 08 37 53.6
comp=Z,18nm,0.9s
MOQ Mont Orford 59.66 54 P P 08 37 52.4 +0.2
W50A Signal Mountai 59.70 71 P P 08 37 52.6 0.0
W50A IAmb IAmb 08 38 04.5
comp=Z,18nm,1.0s
TZTN Tazewell 59.76 68 P P 08 37 52.2 -0.8
baz=315
TZTN Tazewell 59.76 68 IAmb IAmb 08 38 05.3
comp=Z,17nm,1.1s
I59A Olmsteadville 59.91 56 P P 08 37 52.9 -1.0
baz=315
O56A Blue Knob Stat 59.92 62 P P 08 37 53.7 -0.3
baz=315
O56A Blue Knob Stat 59.92 62 IAmb IAmb 08 37 54.7
comp=Z,10nm,0.8s
BINY Binghamton 59.94 59 P P 08 37 54.6 +0.4
baz=315
M57A Sunshine Farm, 59.95 60 IAmb IAmb 08 38 07.6
comp=Z,16nm,1.1s
D62A Allapoint, All 59.96 51 P P 08 37 53.7 -0.4
baz=316
H60A Morristown 59.97 55 P P 08 37 53.7 -0.6
baz=315
Y49A Blount Mountai 60.00 72 P P 08 37 53.1 -1.5
Y49A IAmb IAmb 08 38 06.2
comp=Z,14nm,0.9s
SSPA Standing Stone 60.03 61 P P 08 37 54.5 -0.3
baz=315
SSPA Standing Stone 60.03 61 P P 08 37 54.6 -0.1
G61A St-Isidore-de- 60.04 54 P P 08 37 53.4 -1.4
baz=315
L58A Harry Jones Me 60.12 59 P P 08 37 55.8 +0.4
baz=315
S54A Dingess, Beckl 60.15 66 P P 08 37 55.9 +0.2
I60A Shoreham 60.18 56 P P 08 37 55.3 -0.3
baz=315
V52A Sevierville 60.23 69 P P 08 37 56.0 -0.2
V52A IAmb IAmb 08 38 08.4
comp=Z,12nm,1.0s
F62A Pittston Farm, 60.37 52 P P 08 37 57.4 +0.4
baz=316
H61A Lyndonville 60.38 55 P P 08 37 56.7 -0.4
baz=316
D63A Stockholm 60.44 50 P P 08 37 56.8 -0.6
baz=316
GTA Gaotai 60.50 297 ⇑P **P 08 37 57.0 -1.2**
GTA pP pP 08 38 01.5 -5.4
GTA sP sP 08 38 05.0 -5.3
GTA pmax pmax
comp=Z,10.0nm,0.9s
J60A Lant Hill Farm 60.54 57 P P 08 37 59.2 +1.0
baz=315
G62A West of Eustis 60.58 53 P P 08 37 58.2 -0.2
baz=316
LZH Lanzhou 60.60 292 *e*P **P 08 37 59.3 +0.4**
LZH pP sP 08 38 12.3 +1.2
LZH sP pwP 08 38 19.0 +8.1
LZH pmax pmax
comp=Z,15nm,1.3s
H62A Milan 60.73 54 P P 08 37 59.1 -0.4
baz=316
E63A Oxbow 60.74 51 P P 08 37 59.6 +0.2
baz=316
P57A Homestead Farm 60.78 62 IAmb IAmb 08 38 12.6
comp=Z,24nm,1.3s
V53A Saluda 60.80 69 P P 08 38 00.3 +0.1
V53A IAmb IAmb 08 38 12.6
comp=Z,16nm,1.0s
J61A Chester 60.91 56 P P 08 37 59.5 -1.1
baz=316
F63A Nahmakanta, Br 60.93 52 P P 08 37 60.0 -0.8
baz=316
N59A State Game Lan 60.97 60 P P 08 38 00.6 -0.5
baz=315
N59A State Game Lan 60.97 60 P P 08 38 01.4 +0.3
N59A IAmb IAmb 08 38 14.7
comp=Z,8.4nm,0.9s
E64A Bridgewater 61.02 51 P P 08 38 01.4 0.0
baz=316
K61A Williamstown 61.03 57 P P 08 38 01.3 -0.2
baz=316
BLA Blacksburg 61.06 66 P P 08 38 02.1 +0.2
BLA pmax pmax
comp=Z,31nm,0.9s
BLA Blacksburg 61.06 66 P P 08 38 01.6 -0.3
baz=315,SNR=11
BLA Blacksburg 61.06 66 P P 08 38 02.1 +0.2
G63A Kingsbury 61.10 53 P P 08 38 00.2 -1.8
baz=316
Z51A Franklin 61.11 72 P P 08 38 01.1 -1.2
Z51A IAmb IAmb 08 38 13.6
comp=Z,18nm,0.9s
F64A Sherman 61.18 52 P P 08 38 02.0 -0.4
baz=316
MVL Millersville 61.31 61 IAmb IAmb 08 38 04.4
comp=Z,8.2nm,0.7s
J62A Henniker 61.37 56 P P 08 38 03.8 0.0
baz=316
I63A Otisfield 61.40 54 P P 08 38 03.4 -0.6
baz=316
G64A Maxfield 61.42 52 P P 08 38 03.9 -0.2
baz=316
L61B Northampton 61.49 57 P P 08 38 03.7 -0.9
baz=316
K62A Royalston 61.56 56 P P 08 38 02.2 -2.9
baz=316
V55A Taylorsville 61.58 67 IAmb IAmb 08 38 17.9
comp=Z,17nm,1.1s
H64A Troy 61.64 53 P P 08 38 06.4 +0.8
baz=317
T57A Hurt 61.87 65 P P 08 38 07.3 0.0
T57A IAmb IAmb 08 38 08.6
comp=Z,12nm,0.8s
K63A Dunstable 61.90 56 P P 08 38 07.1 -0.3
baz=316
R58B Mineral 61.94 64 P P 08 38 08.1 +0.4
R58B IAmb IAmb 08 38 20.8
comp=Z,22nm,1.4s
PAULI Pauline 61.98 69 P P 08 38 07.8 -0.3
PAULI IAmb IAmb 08 38 20.1
comp=Z,22nm,1.1s
KMSC Kings Mountain 62.02 68 P P 08 38 07.8 -0.6
baz=316,SNR=9.6
G65A Princeton 62.04 52 P P 08 38 08.5 +0.2
baz=317
GOGA Godfrey 62.04 71 P P 08 38 07.8 -0.7
baz=316
H65A Eastbrook 62.08 52 P P 08 38 08.1 -0.4
baz=317
HODGE Hodges 62.15 69 IAmb IAmb 08 38 21.2
comp=Z,9.8nm,0.8s
H66A Whiting 62.46 52 P P 08 38 10.3 -0.8
baz=317
JSC Jenkinsville 62.68 69 IAmb IAmb 08 38 25.1
comp=Z,16nm,1.0s
LMN Caledonia Moun 62.86 49 P P 08 38 13.8 0.0
BIRD Birdtown, Kers 62.88 68 P P 08 38 14.0 -0.1
BIRD IAmb IAmb 08 38 26.4
comp=Z,20nm,1.0s
M64A Tiverton 62.89 57 P P 08 38 15.3 +1.3
baz=317
PRGR Permogore 63.07 342 *e*P **P 08 38 12.1 -2.7**
PRGR *e**PP **pP 08 38 24.3 +0.4**
PRGR pmax pmax
comp=Z,30nm,0.9s
U59A Littleton 63.15 65 P P 08 38 15.7 -0.1
U59A IAmb IAmb 08 38 16.7
comp=Z,12nm,1.1s
Y57A Sumter 63.37 68 P P 08 38 17.3 0.0
WMQ Urumqi 63.57 308 *e*P **P 08 38 18.0 -0.6**
WMQ pP sP 08 38 33.5 +1.9
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,1μm,11.8s
BRVK Borovoye 63.78 324 P P 08 38 19.8 +0.1
BRVK pmax pmax
comp=Z,26nm,1.3s
BRVK Borovoye 63.78 324 P P 08 38 19.8 +0.1
BRVK IAmb IAmb 08 38 21.5
comp=Z,26nm,1.2s
MK31 Makanchi Array 63.85 313 P P 08 38 19.2 -1.2
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 63.85 313 P P 08 38 19.2 -1.2
MKAR Makanchi Array 63.85 313 P P 08 38 19.4 -1.0
comp=Z,3.4nm,0.6s,baz=50,slow=6.8,SNR=38
MKAR Makanchi Array 63.85 313 P P 08 38 19.4 -1.0
NHSC New Hope 64.16 69 P P 08 38 22.8 +0.3
baz=317,SNR=5.7
NHSC New Hope 64.16 69 P P 08 38 23.2 +0.7
CD2 Chengdu 64.38 288 P P 08 38 24.8 +0.7
CD2 pmax pmax
comp=Z,40nm,1.0s
ARU Arti 64.69 333*c i*P **P 08 38 25.4 -0.2**
ARU 08 38 58.9
ARU 08 40 44.2
ARU S **S 08 47 04.7 +1.4**
ARU SS **SS 08 51 09.4 -4.0**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 64.69 333 P P 08 38 25.6 -0.1
ARU IAmb IAmb 08 38 27.3
comp=Z,22nm,1.1s
GBN Guysborough 64.72 48 P P 08 38 26.3 +0.4
KLMR Klimovskoe 64.87 345 *e*P **P 08 38 24.1 -2.6**
KLMR pmax pmax
comp=Z,12nm,1.0s
KLMR Klimovskoe 64.87 345 *e*P **P 08 38 24.2 -2.5**
KLMR AMP 08 38 27.3
comp=Z,12nm,1.0s
KIRV Kirov 65.08 339*c i*P **P 08 38 27.9 -0.2**
FIA1 FINESS Array S 65.96 352 P P 08 38 33.4 -0.4
FIA1 IAmb IAmb 08 38 34.4
comp=Z,22nm,0.9s
FINES FINESS Array B 65.96 352 P P 08 38 33.4 -0.3
comp=Z,15nm,0.8s,baz=8.4,slow=8.1,SNR=24
FINES FINESS Array B 65.96 352 P P 08 38 33.8 +0.1
FINES FINESS Array B 65.96 352 P P 08 38 33.8 +0.1
NC204 NORSAR Array S 66.80 360 P P 08 38 39.5 +0.2
NC303 NORSAR Array S 66.84 360 P P 08 38 39.5 0.0
NB2 NORSAR Subarra 67.03 360 P P 08 38 40.7 0.0
comp=Z,4.8nm,0.7s,baz=360,slow=6.2
NOA NORSAR Array B 67.03 360 P P 08 38 40.7 0.0
comp=Z,9.1nm,0.8s,baz=0.1,slow=6.3,SNR=24
NOA NORSAR Array B 67.03 360 P P 08 38 40.7 0.0
KONO Kongsberg 68.42 1*c i*P **P 08 38 49.5 +0.1**
KONO pmax pmax
comp=Z,37nm,1.0s
KONO Kongsberg 68.42 1 P P 08 38 49.3 -0.1
VSU Vasula 68.84 351 *e*P **P 08 38 52.1 +0.1**
KMI Kunming 69.27 284 ⇑P **P 08 38 56.0 +0.5**
KMI pP sP 08 39 07.5 -0.4
KMI sP pwP 08 39 12.5 +5.1
KMI pmax pmax
comp=Z,21nm,0.8s
TARG Taragay, Kyrgy 69.82 313 IAmb IAmb 08 39 05.9
comp=Z,7.0nm,0.7s
TKM2 Tokmak 2 69.84 315 P P 08 38 59.4 +0.6
SNR=15
USP Ospenovka 70.04 316 P P 08 39 00.1 +0.4
SNR=21
BOOM Boomskoye usch 70.04 314 P P 08 39 00.5 +0.6
BOOM pmax pmax
comp=Z,23nm,0.9s
BOOM Boomskoye usch 70.04 314 P P 08 39 00.5 +0.6
BOOM IAmb IAmb 08 39 01.3
comp=Z,22nm,0.8s
CHMS Chumysh 70.15 315 P P 08 39 01.2 +0.8
SNR=6.6
ABKAR Akbulak array 70.50 328 P P 08 39 02.4 0.0
ABKAR IAmb IAmb 08 39 03.5
comp=Z,21nm,1.1s
AAK Ala-Archa 70.55 315 P P 08 39 03.8 +0.8
SNR=5.9
AAK Ala-Archa 70.55 315 P P 08 39 03.9 +0.8
AAK pmax pmax
comp=Z,22nm,0.8s
AAK Ala-Archa 70.55 315 P P 08 39 03.9 +0.8
OBN Obninsk 70.83 345⇓*e*P **P 08 39 04.1 -0.1**
OBN *e* 08 39 17.1
OBN pmax pmax
comp=Z,47nm,1.3s
EKS2 Erkin-Say 70.84 316 P P 08 39 05.2 +0.4
SNR=18
BELG Belogornoye 71.16 337*c i*P **P 08 39 06.6 +0.3**
BELG pmax pmax
comp=Z,14nm,1.1s
AML Almayashu 71.31 316 P P 08 39 09.1 +1.2
SNR=6.6
SLVN Son La 71.44 281 P P 08 39 08.6 0.0
SLVN IAmb IAmb 08 39 09.8
comp=Z,13nm,1.1s
ISAL Salakas 71.75 351 *e*P **P 08 39 10.6 +0.8**
KK31 Karatay Array 71.84 318 P P 08 39 10.1 -0.6
KK31 pmax pmax
comp=Z,19nm,0.9s
KK31 Karatay Array 71.84 318 P P 08 39 10.1 -0.6
KK31 IAmb IAmb 08 39 11.5
comp=Z,19nm,0.9s
KKAR Karatay Array 71.84 318 P P 08 39 09.9 -0.8
KKAR Karatay Array 71.84 318 P P 08 39 09.9 -0.8
IDID Didziasalis 71.94 350 *e*P **P 08 39 11.4 +0.4**
IIGN Ignalina 71.96 351 *e*P **P 08 39 11.2 +0.1**
PABE Paberze 72.01 352 *e*P **P 08 39 12.0 +0.5**
PABE Paberze 72.01 352 P P 08 39 11.9 +0.5
KSH Kashi 72.42 312 P P 08 39 17.8 +3.4
KSH pmax pmax
comp=Z,21nm,0.6s
KSH pmax pmax
comp=Z,1μm,10.2s
LSA Lhasa 72.47 296 P P 08 39 15.8 +0.6
LSA pmax pmax
comp=Z,25nm,0.7s
LSA Lhasa 72.47 296 P P 08 39 15.8 +0.6
MNK Minsk 72.62 350 *i* P **P 08 39 16.0 +0.9**
MNK *i* 08 39 33.8
MNK *i* 08 41 56.5
MNK *i* PPP PPP 08 43 40.8
MNK *i* S **S 08 48 37.0 -0.4**
MNK *i* 08 49 19.6
MNK *i* SS **SS 08 53 16.0 +0.5**
MNK *i* SSS SSS 08 56 36.5
MNK pmax pmax
comp=Z,55nm,1.0s
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=N,47nm,0.8s
MNK MLR MLR
comp=E,11nm,15.0s
MNK MLR MLR
comp=N,240nm,20.0s
MNK MLR MLR
comp=Z,189nm,27.0s
MNK Minsk 72.62 350 *i* P **P 08 39 16.0 +0.9**
comp=E,11nm,0.9s
MNK *i* P **P 08 39 16.0 +0.9**
comp=N,47nm,0.8s
MNK *i* P **P 08 39 16.0 +0.9**
comp=Z,55nm,1.0s,baz=190
MNK *i* PcP **PcP 08 39 33.8 +1.3**
MNK *i* PP **PP 08 41 56.5 +0.5**
MNK *i* PPP PPP 08 43 40.8
MNK *i* S **S 08 48 37.1 -0.3**
MNK *i* ScS **ScS 08 49 19.6 +0.1**
MNK *i* SS **SS 08 53 16.1 +0.6**
MNK *i* SSS SSS 08 56 36.5
MNK *i* LQ LQ 09 06 09.2
MNK *i* LR LR 09 09 23.3
MNK *i* LRM MLR 09 13 15.7
comp=E,11nm,15.3s
MNK *i* LRM MLR 09 13 28.4
comp=N,240nm,20.4s
MNK *i* LRM MLR 09 13 33.5
comp=Z,189nm,27.1s
SUW Suwalki 73.56 352 *e*P **P 08 39 20.7 0.0**
NONG Nongkai 74.39 279 P P 08 39 27.0 +1.0
comp=Z,22nm,1.1s
SHL Shillong 75.25 293 IAmb IAmb 08 39 33.1
comp=Z,16nm,0.6s
GAR Garm 75.34 316 P P 08 39 31.6 +0.1
CHGR Chuyangaron 76.12 317 P P 08 39 35.9 0.0
AKASG Malin Array Be 76.19 348 P P 08 39 35.5 -0.4
comp=Z,10nm,0.6s,baz=16,slow=5.9,SNR=40
AKASG Malin Array Be 76.19 348 P P 08 39 35.4 -0.5
AKBB Malin Array Si 76.19 348 P P 08 39 35.3 -0.6
AKBB pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 76.19 348 P P 08 39 35.3 -0.6
AKBB IAmb IAmb 08 39 36.1
comp=Z,16nm,0.8s
CMMT Chiang Mai 76.34 283 P P 08 39 51.9 +15
CHTO Chiang Mai 76.34 283 P P 08 39 37.0 -0.3
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 76.34 283 P P 08 39 37.0 -0.3
CMAR Chiang Mai Arr 76.62 283 P **P 08 39 38.8 0.0**
comp=Z,12nm,0.8s,baz=27,slow=6.6,SNR=38
CMAR Chiang Mai Arr 76.62 283*ce*P **P 08 39 39.4 +0.6**
CMAR pmax pmax
comp=Z,12nm,0.8s
PHIT Phitsanulok 76.71 281 P P 08 39 40.8 +1.5
comp=Z,70nm,1.0s
CLL Collm 76.77 358 *i* P **P 08 39 39.3 +0.1**
comp=Z,14nm,1.1s
CLL *e*pP **PcP 08 39 50.0 -0.4**
CLL Collm 76.77 358 *i* P **P 08 39 39.3 +0.1**
CLL *e* 08 39 50.0
CLL pmax pmax
comp=Z,14nm,1.1s
KSP Ksiaz 77.14 356 *e*P **P 08 39 42.2 +0.9**
BRG Berggiesshubel 77.19 358 *e*P **P 08 39 40.7 -0.8**
BRG Amp 08 39 44.0
comp=Z,12nm,0.9s
MEM Membach 77.41 3 *d*P **P 08 39 43.7 +0.9**
OSTC Ostas 77.43 356 *e*P **P 08 39 43.9 +1.0**
BTNL Ternell 77.44 3 *d*P **P 08 39 44.2 +1.2**
PVCC Panska Ves 77.51 357 *e*P **P 08 39 44.6 +1.2**
PVCC Panska Ves 77.51 357 *e*P **P 08 39 44.6 +1.2**
BCLA Clavier 77.58 3 *d*P **P 08 39 44.4 +0.7**
OJC Ojcow 77.58 354 *e*P **P 08 39 44.3 +0.6**
OJC Ojcow 77.58 354 IAmb IAmb 08 39 45.4
comp=Z,23nm,1.3s
DPC Dobruska-Polom 77.63 356 *e*P **P 08 39 45.4 +1.3**
DPC Dobruska-Polom 77.63 356 *e*P **P 08 39 45.4 +1.3**
LVV L'vov 77.64 351 *e*P **P 08 39 43.9 -0.2**
BMRD Maredsous 77.67 4 *d*P **P 08 39 44.8 +0.5**
NKC Novy Kostel 77.85 359 *e*P **P 08 39 46.3 +1.0**
NKC Novy Kostel 77.85 359 *e*P **P 08 39 46.3 +1.0**
DOU Dourbes 77.87 4 *d*P **P 08 39 45.3 -0.1**
KRLC Kraliky 77.89 356 *e*P **P 08 39 46.4 +0.9**
KRLC Kraliky 77.89 356 *e*P **P 08 39 46.4 +0.9**
PRU Pruhonice 78.06 357 *e*P **P 08 39 47.4 +1.0**

PRU	Pruhonice	78.06 357	eP	P	08 39 47.4	+1.0
MORC	Moravsky Berou	78.15 355	IAmb	IAmb	08 39 48.8	
	comp=Z,28nm,1.5s					
MORC	Moravsky Berou	78.15 355	eP	P	08 39 47.5	+0.5
SRAK	Srakaew	78.18 278	P	P	08 39 46.8	-0.8
WLF	Walferdange	78.36 3	dP	P	08 39 48.7	+0.6
PBCC	Pribram	78.37 358	eP	P	08 39 48.9	+0.7
NIL	Nilore	78.48 311	P	P	08 39 49.8	+0.7
NIL			pmax	pmax		
	comp=Z,45nm,0.9s					
NIL	Nilore	78.48 311	P	P	08 39 49.8	+0.7
VRAC	Vranov	78.66 356	eP	P	08 39 50.4	+0.6
LANS	Liptovska Anna	78.67 354	eP	P	08 39 51.4	+1.6
LANS			pmax	pmax		
	comp=Z,12nm,0.9s					
LANS	Liptovska Anna	78.67 354	eP	P	08 39 51.4	+1.6
KOLS	Kolonicke sedl	78.68 352	eP	P	08 39 50.4	+0.5
KOLS	Kolonicke sedl	78.68 352	eP	P	08 39 50.4	+0.5
CRVS	Cervenica-Dubn	78.77 353	eP	P	08 39 51.6	+1.2
CRVS	Cervenica-Dubn	78.77 353	eP	P	08 39 51.6	+1.2
KRUC	Moravsky	78.92 356	eP	P	08 39 51.9	+0.7
KHC	Kasperske Hory	78.94 358	eP	P	08 39 52.2	+0.9
KHC	Kasperske Hory	78.94 358	eP	P	08 39 52.2	+0.9
JAVC	Velka Javorina	79.06 355	eP	P	08 39 53.9	+1.9
GOF	Gofitskoye	79.10 337⇑	eP	P	08 39 53.1	+0.9
GOF			pmax	pmax		
	comp=Z,110nm,0.9s					
GEC2	GERESS Array S	79.22 358	IAmb	IAmb	08 39 54.2	
	comp=Z,11nm,1.0s					
GERES	GERESS Array B	79.22 358	P	P	08 39 53.0	0.0
	comp=Z,4.4nm,0.8s,baz=20,slow=4.3,SNR=24					
KECS	Kecovo	79.26 353	eP	P	08 39 54.1	+1.0
KECS			pmax	pmax		
	comp=Z,8.0nm,0.9s					
KECS	Kecovo	79.26 353	eP	P	08 39 54.1	+1.0
VYHS	Vyhne	79.36 354	eP	P	08 39 54.7	+1.1
VYHS			pmax	pmax		
	comp=Z,22nm,1.2s					
VYHS	Vyhne	79.36 354	eP	P	08 39 54.7	+1.1
SMOL	Smolenice	79.42 355	eP	P	08 39 55.1	+1.2
SMOL	Smolenice	79.42 355	eP	P	08 39 55.1	+1.2
MODS	Modra-Piesok	79.56 355	eP	P	08 39 57.2	+2.5
MODS			pmax	pmax		
	comp=Z,34nm,1.2s					
MODS	Modra-Piesok	79.56 355	eP	P	08 39 57.2	+2.5
KBL	Kabul	79.64 314	P	P	08 39 55.2	-0.4
KBL			pmax	pmax		
	comp=Z,25nm,0.9s					
KBL	Kabul	79.64 314	P	P	08 39 55.2	-0.4
KBL			IAmb	IAmb	08 39 55.8	
	comp=Z,25nm,0.9s					
BUR08	Bucovina Ar. S	79.68 350	IAmb	IAmb	08 39 57.3	
	comp=Z,27nm,1.6s					
ZST	Bratislava	79.75 356	eP	P	08 39 56.7	+1.0
ZST			pmax	pmax		
	comp=Z,80nm,1.2s					
ZST	Bratislava	79.75 356	eP	P	08 39 56.7	+1.0
CONA	Conrad Observa	80.07 356	iP	P	08 39 58.9	+1.3
	comp=Z,14nm,0.8s,SNR=11					
MOA	Molln	80.20 357	eP	P	08 40 00.6	+2.4
	comp=Z,9.7nm,1.2s					
KIV	Kislovodsk	80.22 337	eP	P	08 39 59.2	+0.7
KIV			pmax	pmax		
	comp=Z,28nm,1.0s					
KIV	Kislovodsk	80.22 337	P	P	08 39 59.3	+0.7
KIV			IAmb	IAmb	08 40 00.3	
	comp=Z,19nm,0.7s					
KBZ	Khabaz	80.39 337	P	P	08 40 00.5	+1.3
	comp=Z,13nm,0.8s,baz=64,slow=1.6,SNR=33					
KBZ	Khabaz	80.39 337⇑	iP	P	08 40 00.2	+1.0
KBZ			pmax	pmax		
	comp=Z,17nm,0.9s					
RETA	Reutte	80.61 360	eP	P	08 40 01.7	+1.2
	comp=Z,13nm,1.4s					
MOTA	Moosalm	80.75 360	iP	P	08 40 02.2	+0.9
	comp=Z,18nm,1.1s,SNR=7.4					
ARSA	Arzberg	80.76 357	iP	P	08 40 02.4	+1.2
	comp=Z,21nm,1.2s,SNR=6.8					
WATA	Walderalm	80.76 359	iP	P	08 40 02.5	+1.1
	comp=Z,27nm,1.2s,SNR=6.3					
DAVA	Damuels	80.81 0	eP	P	08 40 03.7	+2.1
	comp=Z,10nm,1.1s					
WTTA	Wattenberg	80.83 359	eP	P	08 40 03.1	+1.3
	comp=Z,13nm,0.9s					
SQTA	Sankt Quirin	80.88 360	eP	P	08 40 03.4	+1.4
	comp=Z,32nm,1.3s					
KBA	Koelnbreinsper	80.99 358	iP	P	08 40 04.4	+1.7
	comp=Z,25nm,0.7s,SNR=13					
ZEI	Tsey	81.03 336	eP	P	08 40 02.8	-0.1
ZEI			pmax	pmax		
	comp=Z,12nm,0.6s					
FETA	Feichten	81.08 360	iP	P	08 40 04.5	+1.4
	comp=Z,18nm,1.0s,SNR=6.6					
GEYT	Alibeck	81.09 324	P	P	08 40 04.0	+0.8
	comp=Z,12nm,0.9s,baz=298,slow=3.2,SNR=14					
GYA0B	ALIBECK ARRAY	81.09 324	IAmb	IAmb	08 40 08.4	
	comp=Z,19nm,1.0s					
AKT	Akhty	81.22 333	eP	P	08 40 04.5	+0.6
AKT			e		08 40 10.2	
AKT			pmax	pmax		
	comp=Z,54nm,0.7s					
SOC	Sochi	81.26 339	eP	P	08 40 03.0	-0.9
SOC			e		08 43 06.1	
SOC			ePPP	PPP	08 45 04.2	
SOC			eS	S	08 50 12.5	+0.6
SOC			eSS	SS	08 55 29.5	+3.3
SOC			eSSS	SSS	08 58 59.1	
SOC			pmax	pmax		
	comp=Z,15nm,0.9s					
SOC			MLR	MLR		
	comp=Z,284nm,17.0s					
ONI	Oni	81.32 336	IAmb	IAmb	08 40 16.9	
	comp=Z,30nm,1.9s					
ABTA	Abfaltersbach	81.34 359	iP	P	08 40 05.4	+1.0
	comp=Z,27nm,1.3s,SNR=8.4					
SOKA	Soboth	81.35 357	iP	P	08 40 05.6	+1.2
	comp=Z,35nm,1.1s,SNR=18					
MYKA	Terra Mystica	81.44 358	eP	P	08 40 06.0	+1.1
	comp=Z,7.4nm,0.9s					
ZOU	Zoufplan	81.52 358	IAmb	IAmb	08 40 11.9	
	comp=Z,17nm,1.3s					
OBKA	Obir	81.53 357	eP	P	08 40 06.1	+0.7
	comp=Z,14nm,0.9s					
TUE	Stuetta	81.62 1	P	P	08 40 07.2	+1.1
TUE			IAmb	IAmb	08 40 10.0	
	comp=Z,24nm,1.0s					
CTI	Castel Tesino	82.05 359	P	P	08 40 08.9	+0.7
CTI			pmax	pmax		
	comp=Z,32nm,1.5s					
CTI	Castel Tesino	82.05 359	P	P	08 40 08.9	+0.7
CTI			IAmb	IAmb	08 40 10.4	
	comp=Z,32nm,1.5s					
TIRR	Tirgusor	82.42 347	P	P	08 40 10.0	0.0
TIRR			pmax	pmax		
	comp=Z,55nm,1.1s					
TIRR	Tirgusor	82.42 347	P	P	08 40 10.0	0.0
HRA	Herat	82.63 319	P	P	08 40 11.6	+0.1
HRA			IAmb	IAmb	08 40 12.7	
	comp=Z,26nm,1.5s					
TEOL	Teolo	82.74 359	P	P	08 40 12.4	+0.8
GNI	Garni	83.28 334	eP	P	08 40 15.9	+1.1
GNI			pmax	pmax		
	comp=Z,14nm,1.1s					
DIVS	Divibare	83.66 353	IAmb	IAmb	08 40 17.8	
	comp=Z,9.4nm,1.1s					
MURB	Monte Urbino	84.82 359	P	P	08 40 24.0	+1.6
ILGA	Ilgaz	84.90 343	P	P	08 40 23.4	+0.4
PDG	Podgorica	85.37 354	P	P	08 40 24.3	-0.8
INTR	Introdacqua	86.04 358	P	P	08 40 28.9	+0.4
BRTR	Keskin Array B	86.20 342	P	P	08 40 30.1	+0.6
	comp=Z,2.1nm,0.8s,baz=9.0,slow=0.4,SNR=8.7					
MALT	Malatya	86.58 338	P	P	08 40 33.7	+2.4
WRA	Warramunga Arr	86.93 232	P	P	08 40 31.3	-1.6
	comp=Z,1.8nm,0.8s,baz=36,slow=5.7,SNR=9.3					
WRA	Warramunga Arr	86.93 232	eP	P	08 40 31.2	-1.7
WRA			pmax	pmax		
	comp=Z,2.0nm,0.8s					
ESBB	Sonseca Array	87.55 11	P	P	08 40 36.2	+0.3
ESBB			IAmb	IAmb	08 40 37.3	
	comp=Z,10.0nm,1.0s					
ESDC	Sonseca Array	87.55 11	P	P	08 40 36.3	+0.4
	comp=Z,6.7nm,1.0s,baz=350,slow=5.0,SNR=21					
ESDC	Sonseca Array	87.55 11	P	P	08 40 36.2	+0.3
ESDC			IAmb	IAmb	08 40 37.3	
	comp=Z,8.1nm,1.1s					
AGG	Agios Georgios	88.50 351	P	P	08 40 39.9	-0.5
AGG			pmax	pmax		
	comp=Z,10.0nm,0.9s					
AGG	Agios Georgios	88.50 351	P	P	08 40 39.9	-0.5
AGG			IAmb	IAmb	08 40 40.6	
	comp=Z,10nm,0.9s					
HYB	Hyderabad	89.17 298	iP	P	08 40 43.0	-0.9
RUSC	La Rusia	89.24 81	P	P	08 40 43.7	-1.0
AS31	Alice Springs	90.32 230	P	P	08 40 48.3	-0.6
ASAR	Alice Springs	90.32 230	P	P	08 40 48.3	-0.6
	comp=Z,4.3nm,0.9s,baz=37,slow=4.2,SNR=25					
ASAR	Alice Springs	90.32 230	P	P	08 40 47.8	-1.1
ASAR	Alice Springs	90.32 230	P	P	08 40 47.8	-1.1
KEST	Kesra	92.35 1	P	P	08 40 58.2	-0.2
	comp=Z,1.6nm,0.5s,baz=338,slow=19,SNR=2.0					
KEST	Kesra	92.35 1	P	P	08 40 58.2	-0.2
STKA	Stephens Creek	94.11 220	P	P	08 41 05.5	-0.7
	comp=Z,1.2nm,0.7s,baz=73,slow=11,SNR=1.8					
H03N2	Juan Fernandez	115.91 112	T	T	10 53 22.9	
	baz=323,slow=78,SNR=9.2					
H03N1	Juan Fernandez	115.92 112	T	T	10 53 23.9	
	baz=323,slow=78,SNR=13					
H03N3	Juan Fernandez	115.92 112	T	T	10 53 20.4	
	baz=323,slow=78,SNR=9.3					
KMBO	Kilima Mbogo	124.36 327	PKP	PKiKP	08 46 48.0	+0.3
	comp=Z,1.4nm,0.3s,baz=3.3,slow=4.0,SNR=5.0					
KMBO	Kilima Mbogo	124.36 327	iPKIKP	PKiKP	08 46 48.6	+0.8
KMBO			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KMBO	Kilima Mbogo	124.36 327		PKiKP	08 46 48.0	+0.3
MAW	Mawson	150.79 218	PKPbc	PKPbc	08 47 37.2	-1.6
	comp=Z,2.5nm,0.9s,baz=321,slow=1.7,SNR=4.7					
MAW	Mawson	150.79 218	PKIKP	PKiKP	08 47 40.3	+0.9
MAW	Mawson	150.79 218		PKiKP	08 47 40.3	+0.9
BOSA	Boshof	153.96 330	PKPbc	PKPbc	08 47 45.8	-1.6
	comp=Z,3.5nm,0.6s,baz=358,slow=5.3,SNR=8.0					
SYO	Syowa Base	158.38 208⇓	eX	PKPdf	08 47 48.1	+4.5

*IDC **27** 08:41:05.8±21.0, 52.°25N×169.°48W, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/54, mbtmp3.1/4, ML2.7/1, MS4.0/1, Ms1 4.0/1, ms1mx3.6/15 Error ellipse: s-maj=401.9km s-min=68.4km az=83.0*

*AEIC **27** 08:41:11±2.2, 52.°24N±0.°04×169.°35W±0.°06, h34km±6km, ML3.2/23, mb3.7/7(NEIC), Error ellipse: s-maj=6.4km s-min=5.3km az=157.0*

*NEIC **27** 08:41:12.0±1.9, 52.°21N±0.°03×169.°39W±0.°06, h35km±12km, Error ellipse: s-maj=6.5km s-min=1.8km az=50.0*

ISC 27 08:41:09.7±2.6, 52.°1N±0.°2×169.°35W±0.°09, h25km±17km, n44, σ1°37/42, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.90	19		Pb	08 41 26.3	-0.4
NIKH	Nikolski High	0.90	19		Sb	08 41 40.2	+1.9
OKSP	Okmok Steeple	1.30	29		Pn	08 41 32.2	-0.2
OKSP					Sb	08 41 48.2	-1.6
OKCE	Okmok Cone E	1.49	28		Pn	08 41 35.2	+0.3
OKCE					Sb	08 41 55.5	+0.3
OKTU	Okmok Mt. Tuli	1.50	32		Pn	08 41 35.5	+0.5
OKNC	Okmok New Cone	1.53	29		Pn	08 41 36.0	+0.5
MAPS	Pakushin South	2.23	40		Pn	08 41 45.7	+0.6
MAPS					Sn	08 42 12.3	+0.5
MSW	Makushin Switc	2.37	40		Pn	08 41 48.0	+1.0
MNAT	Makushin Natee	2.39	41		Pn	08 41 48.2	+1.0
MNAT					Sn	08 42 16.9	+1.2
UNV	Unalaska Valle	2.44	44		Pn	08 41 48.6	+0.7
UNV					Sn	08 42 17.2	+0.3
AKRB	Akutan Reef Bi	2.82	43		Pn	08 41 55.1	+2.0
AKGG	Akutan Green G	2.90	43		Pn	08 41 56.9	+2.6
AKUT	Akutan	2.95	46	Pn	Pn	08 41 55.6	+0.6
ATKA	Atka Island	2.98	273		Pn	08 41 57.2	+1.9
AKSA	Akutan Strait	2.99	46		Pn	08 41 57.4	+2.0
GSTR	Great Sitkin T	4.13	272	Pn	Pn	08 42 09.7	-1.5
ADK	Adak	4.54	270	Pn	Pn	08 42 17.6	+0.9
KIWB	Kanaga Island	4.83	270	Pn	Pn	08 42 19.6	-1.1
AMKA	Amchitka	7.08	268	Pn	Pn	08 42 54.2	+2.5
OHAK	Old Harbor	10.60	55	Pn	Pn	08 43 39.5	-0.3
KDAK	Kodiak Island	11.17	53	Pn	Pn	08 43 49.4	+1.8
SEW	Seward	13.63	46	Pn	Pn	08 44 21.7	+0.5
O22K	Cooper Landing	13.69	45	Pn	Pn	08 44 22.1	+0.1
PWL	Port Wells	14.47	45	Pn	Pn	08 44 31.1	-1.7
KLU	Klutina	15.80	44	Pn	Pn	08 44 49.0	-1.4
KLU				IAmb	IAmb	08 44 59.2	
	comp=Z,10nm,1.4s						
N25K	Chitina, Valde	16.43	45	Pn	Pn	08 44 58.4	+0.1
N25K				IAmb	IAmb	08 45 21.3	
	comp=Z,3.4nm,0.8s						
I23K	Minto, Yukon-K	16.58	30		P	08 45 01.4	-1.1
I23K				IAmb	IAmb	08 45 21.9	
	comp=Z,2.7nm,1.2s						
GLB	Gilahina Butte	16.71	46		P	08 45 02.5	-1.5
GLB				IAmb	IAmb	08 45 11.3	
	comp=Z,13nm,1.4s						
CCB	Clear Creek Bu	16.76	33		P	08 45 03.0	-1.5
ILAR	Eielson Array	17.15	34	P	Pn	08 45 04.2	-3.1
	comp=Z,0.0nm,0.3s,baz=234,slow=8.8,SNR=1.9						
BCAR	Beaver Creek A	18.23	42	P	Pn	08 45 18.6	-2.0
BMAR	Burnt Mountain	19.54	29	P	P	08 45 34.4	-0.7
YKA	Yellowknife Ar	30.40	49	P	P	08 47 20.4	+1.0
	comp=Z,0.4nm,0.6s,baz=281,slow=13,SNR=1.8						
H11N2	WAKE ISLAND Hy	37.27 219		T	T	09 28 51.7	
	baz=25						
H11N3	WAKE ISLAND Hy	37.27 219		T	T	09 28 43.2	
	baz=25						
H11N1	WAKE ISLAND Hy	37.28 219		T	T	09 28 48.8	
	baz=25						
H11S1	WAKE ISLAND Hy	38.45 218		T	T	09 30 14.5	
	baz=23,slow=76,SNR=18						
H11S2	WAKE ISLAND Hy	38.47 218		T	T	09 30 12.2	
	baz=23,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	38.47 218		T	T	09 30 13.9	
	baz=23,slow=76,SNR=12						
PDAR	Pinedale Array	40.44 79	P	P	P	08 48 45.6	-0.5
	comp=Z,0.1nm,0.4s,baz=311,slow=7.3,SNR=2.2						
KSRS	Korea Array	45.44 277	LR	LR		09 07 27.6	
	comp=Z,200nm,20.9s,baz=350,slow=35						
TXAR	Lajitas Array	52.74 89	P	P	P	08 50 22.8	+0.3
	comp=Z,0.1nm,0.6s,baz=294,slow=4.5,SNR=1.9						
SCHQ	Schefferville	55.61 43	P	P	P	08 50 42.9	+0.1
ABKAR	Akbulak array	70.65 328	P	P	P	08 52 23.3	+0.6
ABKAR				IAmb	IAmb	08 52 27.6	
	comp=Z,1.6nm,0.9s						

ISK 27 08:46:11.8, 37.°19N×27.°86E, h0km, ML1.9/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.12	326	PG	Pg	08 46 14.9	+0.7
YER	Yerkesik	0.34	100	PG	Pg	08 46 18.9	+0.6
BODT	Bodrum	0.46	254	PG	Pg	08 46 20.8	+0.2
BODT				SG	Sb	08 46 28.7	-1.5
TURN	Turunc	0.52	144	PG	Pg	08 46 22.5	+0.8
TURN				SG	Sb	08 46 30.6	-1.1
DAT	Datca	0.52	206	PG	Pg	08 46 22.5	+0.8
GCAM	G?zelcaml?	0.71	315	PG	Pb	08 46 26.4	-0.7
AYDB	Zeytinkoy-Aydi	0.75	2	PG	Pb	08 46 27.2	-0.7

BUC 27 08:47:57.1±0.8, 45.°21N×28.°31E, h18km±3km, ml0.8/2, 6C-3D, Error ellipse: s-maj=8.5km s-min=2.5km az=46.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	Carcaliu	0.13	257	⇑P	Pg	08 48 00.9	-0.1
CFR				⇑S	Sg	08 48 04.0	+0.3
CFR	Carcaliu	0.13	257	⇑P	Pg	08 48 00.9	-0.1
CFR				⇑S	Sg	08 48 04.0	+0.3
TPGR	Topolog	0.36	168	⇓P	Pb	08 48 04.8	-0.1
TPGR				⇓S	Sb	08 48 10.1	-0.2
TPGR	Topolog	0.36	168	⇓P	Pb	08 48 04.8	-0.1
HARR	Harsova	0.58	208	⇑P	Pg	08 48 08.6	0.0
HARR	Harsova	0.58	208	⇑P	Pg	08 48 08.6	0.0

*NEIC **27** 08:52:19.8±1.9, 0.°93S±0.°05×126.°91E±0.°06, h10km±1km, mb4.9/72, Error ellipse: s-maj=9.8km s-min=9.2km az=122.0*

*KLM **27** 08:52:21, 0.°95S×127.°10E, h25km, mb5.0*

*DJA **27** 08:52:21.7±0.2, 1.°S±2.°×12.°7E±.°, h10km, M5.0/19, mb5.3/19, mB5.4/13, MLv5.0/18, Mw(mB)4.8/13*

*IDC **27** 08:52:23.1±1.6, 0.°95S×126.°93E, h32km±11km, mb4.5/26, mb1 4.6/28, mb1mx4.5/40, mbtmp4.7/28, ML4.9/2, MS4.2/5, Ms1 4.2/5, ms1mx3.5/44, Error ellipse: s-maj=16.1km s-min=10.0km az=66.0*

ISC 27 08:52:22.9±0.3, 0.°96S±0.°04×126.°89E±0.°04, h34km, n200, σ1°31/217, mb4.9/64, MS4.3/7, 1C-2D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.41	220	P	Pn	08 52 45.1	-1.0
TNTI	Ternate	1.79	15	Pn	Pn	08 52 50.0	-1.4
TNTI	Ternate	1.79	15	P	Pn	08 52 52.3	+1.0
NLAI	Namlea	2.27	175	P	Pn	08 52 58.4	+0.4
MSAI	Masohi	3.12	139	P	Pn	08 53 12.9	+3.2
KMSI	Cibinong	3.29	298	P	Pn	08 53 12.6	+0.6
LUWI	Luwuk	4.12	269		Pn	08 53 22.8	-0.6
LUWI	Luwuk	4.12	269	P	Pn	08 53 23.1	-0.3
GTOI	Gorontalo	4.19	292	P	Pn	08 53 28.2	+3.8
SWI	Sorong	4.37	89	P	Pn	08 53 29.6	+2.7
SIJI	Sorong	4.38	89	Pn	Pn	08 53 28.4	+1.4
	49nm,0.3s,baz=272,slow=10,SNR=49						
SIJI				Sn	Sn	08 54 18.4	+1.5
	baz=222,slow=23,SNR=1.2						
SIJI				LR	LR	08 55 19.4	
	comp=Z,1μm,19.1s,baz=0.0,slow=41						
BNDI	Bandanaira	4.64	140	P	Pn	08 53 31.6	+1.0
SGSI	Sangihe	4.81	344	P	Pn	08 53 34.1	+1.1
MRSI	Marisa	5.15	286	P	Pn	08 53 36.2	-1.5
	1.8nm6μm443nm,0.5s						
APSI	Ampana	5.24	271	P	Pn	08 53 39.3	+0.4
FAKI	Fak Fak	5.70	110	Pn	Pn	08 53 45.9	+0.8
FAKI	Fak Fak	5.70	110	P	Pn	08 53 45.9	+0.8
	1.0nm3μm193nm,0.7s						
TOLI2	Tolitoli	6.45	289	Pn	Pn	08 53 56.2	+0.8
MPSI	Mapaga	7.11	280	P	Pn	08 54 05.1	+0.5
	0.4nm2μm65nm,0.6s						
KMPI	Kaimana, Papua	7.32	112	P	Pn	08 54 09.0	+1.6
	2.4nm4μm279nm,0.6s						
TTSI	Tana Toraja	7.36	254	P	Pn	08 54 08.5	+0.5
	1.5nm5μm347nm,0.5s						
BNSI	Bone	7.59	243	P	Pn	08 54 12.0	+0.9
	0.5nm986nm96nm,0.7s						
BKSI	Bulukumba	8.03	237	P	Pn	08 54 19.5	+2.4
	3μm287nm,0.5s						
KAPI	Kappang	8.19	240	Pn	Pn	08 54 21.5	+2.2
	22nm,0.3s,baz=96,slow=4.2,SNR=92						
KAPI				Sn	Sn	08 55 48.1	-2.6
	9.8nm,0.3s,baz=100,slow=20,SNR=6.8						
BSSI	Bau Bau, Buton	8.20	231	P	Pn	08 54 21.3	+1.7
	1μm114nm,0.5s						
SAUI	Saumlaki	8.24	148	P	Pn	08 54 23.8	+3.7
	381nm,1.1s						
MMRI	Maumere	8.92	211	Pn	Pn	08 54 29.4	0.0
SOEI	Soe	9.12	197	Pn	Pn	08 54 29.5	-2.8
EDFI	Ende, Flores	9.31	214	P	Pn	08 54 38.0	+3.1
	640nm34nm,0.6s						
BKB	Balikpapan	10.00	268		Pn	08 54 45.3	+1.1
BKB	Balikpapan	10.00	268	P	Pn	08 54 45.6	+1.4
	150nm,0.5s						
KBKI	Kotabaru	10.96	258	P	Pn	08 54 57.8	+0.3
	72nm,1.1s						
SPMM	Sapulut	11.84	298	P	Pn	08 55 11.0	+1.5
PLAI	Plampang	11.97	229	P	Pn	08 55 14.3	+3.0
	43nm,1.2s						
MTN	Manton Dam	12.53	161	P	Pn	08 55 18.0	-0.8
	baz=12,SNR=26						
MTN	Manton Dam	12.53	161	Pn	Pn	08 55 18.8	0.0
KDU	Kakadu	12.89	155	P	Pn	08 55 22.0	-1.9
	baz=13,SNR=28						
KNRA	Kununurra	14.74	173	P	Pn	08 55 48.0	-0.9
	baz=15,SNR=34						
KNRA	Kununurra	14.74	173	Pn	Pn	08 55 48.3	-0.7
SBUM	Sibu	15.05	283	P	Pn	08 55 55.0	+1.8
STKI	Sintang	15.45	274	P	Pn	08 55 58.5	+0.1
	30nm,0.7s						
PWJI	Pagerwojo	16.59	245	P	P	08 56 15.2	0.0
	38nm,0.7s						
KSM	Kuching	16.76	278	P	Pn	08 56 16.0	+0.8
KPJI	Karang Pucung	18.99	250	P	Pn	08 56 43.6	+1.0
	96nm,1.2s						
WB0	Warramunga Arr	20.08	159	P	P	08 56 52.6	-1.0
WB0				IAmb	IAmb	08 56 53.4	
	comp=Z,67nm,1.1s						
LEM	Lembang	20.09	253	P	P	08 56 54.6	+0.7
	comp=Z,22nm,0.5s,baz=106,slow=16,SNR=3.9						
WRAB	Tennant Creek	20.22	159	P	P	08 56 54.1	-1.0
WRAB				IAmb	IAmb	08 56 54.8	
	comp=Z,51nm,0.8s						
WRA	Warramunga Arr	20.22	159	P	P	08 56 54.0	-1.2
	comp=Z,47nm,0.6s,baz=340,slow=11,SNR=342						
WRA				ScP	ScP	09 04 43.0	+0.2
	comp=Z,0.8nm,0.7s,baz=328,slow=2.5,SNR=3.6						
WRA	Warramunga Arr	20.22	159	P	P	08 56 52.8	-2.4
WB2	Warramunga Arr	20.23	159	P	P	08 56 54.2	-1.0
WB2				IAmb	IAmb	08 56 54.9	
	comp=Z,60nm,0.8s						
WR0	Warramunga Arr	20.31	159	P	P	08 56 55.1	-1.0
WR0				IAmb	IAmb	08 56 55.7	
	comp=Z,78nm,1.2s						
CBJI	Citeko	20.71	254	P	Pn	08 57 02.1	-0.9
PSA00	Pilbara Seismi	21.61	198	P	P	08 57 10.1	+0.1
PSA00				IAmb	IAmb	08 57 15.1	
	comp=Z,37nm,0.8s						
PSA00	Pilbara Seismi	21.61	198	P	P	08 57 09.7	-0.3
PSA00				IAmb	IAmb	08 57 10.6	
	comp=Z,38nm,1.4s						
PMG	Port Moresby	21.84	113	P	P	08 57 13.5	+0.8
	comp=Z,34nm,0.8s,baz=309,slow=4.9,SNR=6.3						
PMG				LR	LR	09 07 02.4	
	comp=Z,516nm,19.3s,baz=345,slow=40						
PMG	Port Moresby	21.84	113	P	P	08 57 09.2	-3.5
PMG				IAmb	IAmb	08 57 16.6	
	comp=Z,46nm,0.9s						
QIS	Mount Isa	23.10	148	P	P	08 57 25.4	-0.6
	baz=23,SNR=136						
MYKOM	Kota Tinggi	23.20	277	P	P	08 57 27.0	0.0
AS31	Alice Springs	23.57	164	P	P	08 57 29.2	-1.4
ASAR	Alice Springs	23.57	164	P	P	08

CHAI Chaiyaphum 29.77 305 P **P 08 58 27.4 +0.9**
comp=Z,18nm,0.6s
MORW Morawa 29.80 199 P **P 08 58 26.2 -0.6**
baz=30,SNR=9.9
MORW Morawa 29.80 199 P **P 08 58 26.9 +0.1**
MORW IAmb IAmb 08 58 29.4
comp=Z,39nm,1.4s
BLDU Ballidu 31.03 197 P **P 08 58 36.8 -0.8**
baz=31,SNR=5.6
KLBR Kellerberrin 31.67 195 P **P 08 58 42.9 -0.2**
baz=32,SNR=9.0
MUN Mundaring 32.46 197 P **P 08 58 50.1 0.0**
baz=32,SNR=3.7
BBOO Buckleboo 32.83 166 P **P 08 58 53.5 +0.1**
baz=33,SNR=42
BBOO Buckleboo 32.83 166 P **P 08 58 53.1 -0.3**
BBOO IAmb IAmb 08 58 55.2
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 33.07 195 P **P 08 58 55.2 -0.2**
baz=33,SNR=7.3
NWAO Narrogin (SRO) 33.07 195 P **P 08 58 55.3 -0.2**
CMAR Chiang Mai Arr 33.58 306 P **P 08 58 60.0 -0.1**
comp=Z,1.9nm,0.5s,baz=127,slow=7.2,SNR=7.5
CMAR PcP **PcP 09 01 40.9 +0.6**
comp=Z,1.1nm,0.4s,baz=151,slow=2.1,SNR=2.0
CMAR ScP **ScP 09 05 24.2 +1.7**
comp=Z,1.9nm,0.7s,baz=154,slow=3.1,SNR=7.8
CMAR Chiang Mai Arr 33.58 306 P **P 08 58 59.7 -0.4**
NJ2 Nanjing 33.71 348 *e*P **P 08 59 02.5 +1.5**
NJ2 pmax pmax
comp=Z,31nm,0.7s
STKA Stephens Creek 33.74 157 P **P 08 59 02.0 +0.7**
comp=Z,59nm,0.8s,baz=330,slow=8.9,SNR=133
STKA Stephens Creek 33.74 157 P **P 08 59 02.0 +0.7**
baz=34,SNR=94
STKA Stephens Creek 33.74 157 P **P 08 59 01.5 +0.2**
STKA IAmb IAmb 08 59 02.9
comp=Z,13nm,0.8s
CMMT Chiang Mai 33.77 307 P **P 08 59 02.4 +0.7**
comp=Z,9.9nm,0.7s
CHTO Chiang Mai 33.77 307 P **P 08 59 02.4 +0.7**
comp=Z,9.9nm,0.7s
CHTO Chiang Mai 33.77 307 P **P 08 59 00.6 -1.1**
CHTO IAmb IAmb 08 59 02.0
comp=Z,6.5nm,0.6s
JNU Nakatsue 34.11 6 P **P 08 59 05.0 +0.5**
JNU IAmb IAmb 08 59 29.1
comp=Z,26nm,1.2s
JMN Monobe 35.13 10 P **P 08 59 13.5 +0.1**
JMN IAmb IAmb 08 59 29.5
comp=Z,20nm,1.0s
ENH Enshi 35.21 333 P **P 08 59 13.3 -0.8**
ENH IAmb IAmb 08 59 15.3
comp=Z,16nm,0.8s
CMSA Cobar Meteorol 35.23 152 P **P 08 59 15.6 +1.4**
baz=35,SNR=7.0
JWT Wachi 36.92 12 P **P 08 59 28.2 -0.4**
INU Inuyama 37.34 14 P **P 08 59 31.6 -0.5**
ARMA Armidale 37.55 144 P **P 08 59 35.6 +1.5**
baz=38,SNR=5.6
ARMA Armidale 37.55 144 P **P 08 59 34.7 +0.5**
JGF Kuroka 37.66 14 P **P 08 59 35.5 +0.6**
ARPS Mount Arapiles 38.22 160 P **P 08 59 41.0 +1.5**
baz=38,SNR=14
KSAR Wonju Array Be 38.22 1 P **P 08 59 38.7 -0.9**
KSRS Korea Array 38.24 1 P **P 08 59 40.0 +0.4**
comp=Z,10nm,0.9s,baz=179,slow=10,SNR=44
KSRS ScP **ScP 09 05 39.9 +0.8**
comp=Z,1.1nm,0.5s,baz=180,slow=3.4,SNR=8.6
KS19 Wonju Array Si 38.28 1 P **P 08 59 40.0 -0.1**
CD2 Chengdu 38.58 327 P **P 08 59 43.8 +1.0**
CD2 pmax pmax
comp=Z,40nm,1.0s
XAN Xi'an 38.70 336 P **P 08 59 43.8 +0.1**
XAN pP pP 08 59 47.0 -5.6
XAN S **S 09 05 43.0 +4.5**
XAN sS sS 09 05 53.0 -0.5
XAN pmax pmax
comp=Z,38nm,0.7s
XAN pmax pmax
comp=Z,79nm,5.1s
XAN LR LR
comp=N,370nm,17.9s
XAN LR LR
comp=E,260nm,15.2s
XAN LR LR
comp=Z,410nm,17.1s
XAN Xi'an 38.70 336 P **P 08 59 44.0 +0.3**
MAJO Matsushiro 38.77 15 P **P 08 59 42.6 -1.7**
MAT Matsushiro 38.77 15 P **P 08 59 42.2 -2.0**
MAT *e*S **S 09 05 40.6 +1.1**
MJAR Matsushiro Arr 38.77 15 P **P 08 59 42.6 -1.7**
comp=Z,3.5nm,0.6s,baz=186,slow=9.7,SNR=9.8
MJAR ScP **ScP 09 05 41.3 +0.1**
comp=Z,2.9nm,1.0s,baz=198,slow=4.3,SNR=7.3
MJAR LR LR 09 13 43.3
comp=Z,211nm,21.1s,baz=175,slow=33
MJAR Matsushiro Arr 38.77 15 IAmb IAmb 08 59 44.4
comp=Z,3.0nm,1.2s
CAN Canberra 39.90 151 P **P 08 59 54.6 +0.9**
JSD Sado 40.20 14 P **P 08 59 55.1 -1.0**
TOO Toolangi 40.26 157 P **P 08 59 59.0 +2.3**
baz=40,SNR=5.0
JMM Marumori 40.72 17 P **P 09 00 00.1 -0.2**
JMM IAmb IAmb 09 00 04.5
comp=Z,14nm,0.6s
BJT Baijiatuan 41.95 348 P **P 09 00 10.4 -0.1**
BJT IAmb IAmb 09 00 13.4
comp=Z,21nm,0.9s
BJI Beijing 41.97 348 P **P 09 00 10.5 -0.1**
BJI S **S 09 06 29.0 +2.0**
BJI pmax pmax
comp=Z,32nm,0.9s
BJI LR LR
comp=N,290nm,13.7s
BJI LR LR
comp=E,300nm,20.8s
SANVU Saraoutou 42.30 112 P **P 09 00 11.3 -2.3**
LZH Lanzhou 42.65 332 *e*P **P 09 00 18.0 +1.5**
LZH pP pP 09 00 21.5 -3.7
LZH sP sP 09 00 24.5 -4.2
LZH pmax pmax
comp=Z,33nm,1.1s
JTM Tenmabayashi 43.51 16 P **P 09 00 22.4 -0.7**
JTM IAmb IAmb 09 00 25.3
comp=Z,21nm,1.0s
DZM Mont Dzumac 43.83 121 P **P 09 00 26.2 0.0**
DZM IAmb IAmb 09 00 28.6
comp=Z,21nm,1.2s
HHC Hu-ho-hao-te 43.89 343 *e*P **P 09 00 27.5 +1.1**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,350nm,7.6s
BTO Baotou 44.14 342 *e*P **P 09 00 29.0 +0.7**
CN2 Changchun 44.58 359 *e*P **P 09 00 30.5 -1.2**
PINNC Pines Island, 44.90 122 P **P 09 00 32.4 -2.1**
USA0B Ussuriysk Arra 45.19 5 P **P 09 00 36.2 -0.3**
USA0B IAmb IAmb 09 00 38.5
comp=Z,10nm,0.8s
USRK Ussuriysk Ar. 45.19 5 P **P 09 00 36.7 +0.2**
comp=Z,8.3nm,0.7s,baz=200,slow=8.3,SNR=16
ERM Erimo 45.24 17 P **P 09 00 34.1 -2.8**
ERM IAmb IAmb 09 00 59.9
comp=Z,28nm,1.1s
MDJ Mudanjiang 45.44 3 P **P 09 00 38.0 -0.5**
MDJ pP pP 09 00 41.0 -6.3
MDJ sP sP 09 00 42.8 -8.3
MDJ PcP PcP 09 02 08.8 -8.4
MDJ pmax pmax
comp=Z,16nm,0.9s
MDJ pmax pmax
comp=Z,510nm,11.1s
MDJ Mudanjiang 45.44 3 P **P 09 00 37.1 -1.4**
MDJ IAmb IAmb 09 00 42.0
comp=Z,14nm,0.8s
TARA Tarawa 46.09 87 P **P 09 00 44.3 +0.2**
PALK Pallekele 46.80 281 P **P 09 00 51.5 +1.8**
comp=Z,4.7nm,0.5s,baz=193,slow=11,SNR=4.9
JKA Kamikawa-asahi 47.02 15 P **P 09 00 49.9 -1.0**
JKA IAmb IAmb 09 00 53.8
comp=Z,13nm,1.0s
GTA Gaotai 47.22 331 ||P **P 09 00 53.5 +0.7**
GTA pP pP 09 00 57.8 -3.7
GTA sP sP 09 01 01.0 -4.1
GTA pmax pmax
comp=Z,11nm,1.0s
HYB Hyderabad 50.98 293 *i* P **P 09 01 21.0 -0.8**
ULN Ulaanbaatar 51.61 343 P **P 09 01 26.9 +0.7**
ULN IAmb IAmb 09 01 31.5
comp=Z,21nm,1.1s
SONM Songino Array 51.78 343 P **P 09 01 27.5 +0.1**
comp=Z,15nm,1.0s,baz=154,slow=9.3,SNR=18
SONM ScP **ScP 09 06 34.8 +0.1**
comp=Z,1.3nm,0.8s,baz=173,slow=6.0,SNR=4.8
SONM Songino Array 51.78 343 P **P 09 01 28.1 +0.8**
SONM IAmb IAmb 09 01 32.1
comp=Z,13nm,1.0s
WMQ Urumqi 56.68 327 *e*P **P 09 02 03.8 +0.7**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,290nm,11.9s
PETK Petropavlovsk- 59.71 21 P **P 09 02 24.2 +0.2**
comp=Z,3.6nm,0.6s,baz=228,slow=1.7,SNR=3.8
PETK Petropavlovsk- 59.71 21 P **P 09 02 23.3 -0.7**
NIL Nilore 60.97 310 P **P 09 02 32.2 -0.8**
TARG Taragay, Kyrgy 61.38 320 P **P 09 02 36.2 +0.1**
TARG IAmb IAmb 09 02 49.5
comp=Z,18nm,1.2s
KSH Kashi 61.51 317 P **P 09 02 38.0 +1.3**
KSH pP pP 09 02 42.5 -3.3
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH pmax pmax
comp=Z,180nm,7.3s
MK31 Makanchi Array 61.51 327 P **P 09 02 36.3 -0.2**
MK31 IAmb IAmb 09 02 39.2
comp=Z,8.3nm,0.6s
MKAR Makanchi Array 61.51 327 P **P 09 02 36.8 +0.3**
comp=Z,10.0nm,0.5s,baz=122,slow=8.3,SNR=76
MKAR ScP **ScP 09 07 17.2 -0.3**
comp=Z,1.4nm,0.6s,baz=118,slow=4.1,SNR=6.2
MKAR Makanchi Array 61.51 327 P **P 09 02 36.4 -0.1**
MAKZ Makanchi 61.69 327 P **P 09 02 38.0 +0.4**
AAK Ala-Archa 63.96 319 P **P 09 02 54.7 +1.7**
comp=Z,3.6nm,0.3s,baz=197,slow=4.5,SNR=6.6
KBL Kabul 64.54 309 P **P 09 02 56.9 -0.2**
ZALV Zalesovo Beam 64.83 334 P **P 09 02 59.6 +1.4**
comp=Z,2.3nm,0.4s,baz=139,slow=6.5,SNR=6.6
ZALV PcP **PcP 09 03 33.4 +2.0**
comp=Z,1.0nm,0.3s,baz=151,slow=3.3,SNR=2.2
ZALV Zalesovo Beam 64.83 334 P **P 09 02 57.9 -0.3**
GAR Garm 65.25 314 P **P 09 03 00.4 -1.1**
BTK Batken 65.32 316 P **P 09 03 00.3 -1.6**
KURBB Kurchatov Arra 65.78 329 P **P 09 03 06.3 +1.8**
comp=Z,6.6nm,0.6s,baz=122,slow=6.6,SNR=19
KURBB PcP **PcP 09 03 37.9 +2.5**
comp=Z,3.6nm,0.7s,baz=126,slow=5.5,SNR=4.4
KURK Kurchatov 65.78 329 P **P 09 03 06.3 +1.8**
CHGR Chuyangaron 65.95 314 P **P 09 03 04.7 -1.3**
CASY Casey 66.21 187 P **P 09 03 07.0 0.0**
CASY IAmb IAmb 09 03 08.4
comp=Z,18nm,1.4s
KK31 Karatay Array 66.79 318 P **P 09 03 11.3 +0.2**
KK31 IAmb IAmb 09 03 25.4
comp=Z,7.4nm,1.1s
KKAR Karatay Array 66.79 318 P **P 09 03 11.6 +0.4**
KKAR IAmb IAmb 09 03 25.3
comp=Z,7.4nm,1.1s
KKAR Karatay Array 66.79 318 P **P 09 03 11.3 +0.1**
HRA Herat 69.84 307 P **P 09 03 30.0 -0.7**
BVAR Borovoye Array 71.34 328 P **P 09 03 40.2 +1.0**
comp=Z,1.9nm,0.5s,baz=131,slow=18,SNR=6.3
BRVK Borovoye 71.41 328 P **P 09 03 39.1 -0.5**
TIXI Tiksi 72.50 1 P **P 09 03 45.4 -0.3**
NRIK Noril'sk 75.00 347 P **P 09 04 00.1 -0.3**
comp=Z,2.2nm,0.4s,baz=129,slow=4.7,SNR=5.9
NRIK Noril'sk 75.00 347 P **P 09 04 00.1 -0.3**
ABKAR Akbulak array 75.88 322 P **P 09 04 05.6 -0.4**
VNDA Vanda 78.78 173 P **P 09 04 21.8 +0.1**
comp=Z,1.4nm,0.8s,baz=315,slow=9.5,SNR=5.1
ARU Arti 78.97 328 P **P 09 04 23.1 0.0**
comp=Z,0.9nm,0.3s,baz=144,slow=20,SNR=4.2
ARU Arti 78.97 328 IAmb IAmb 09 04 33.5
comp=Z,4.7nm,0.5s
MAW Mawson 79.44 201 P **P 09 04 25.3 -0.1**
comp=Z,1.9nm,0.8s,baz=75,slow=0.7,SNR=4.9
MAW Mawson 79.44 201 IAmb IAmb 09 04 28.4
comp=Z,1.5nm,1.4s
KBZ Khabaz 86.31 314 P **P 09 05 00.7 -0.8**
comp=Z,1.9nm,1.0s,baz=333,slow=1.7,SNR=2.2
SYO Syowa Base 88.14 201 ||*e*P **P 09 05 09.2 -0.6**
SYO Syowa Base 88.14 201 ||*e*PcP **PcP 09 05 12.0 +0.5**
QSPA South Pole Qui 88.97 180 P **P 09 05 14.3 +0.3**
QSPA IAmb IAmb 09 05 17.9
comp=Z,8.5nm,1.1s
ILAR Eielson Array 89.25 25 P **P 09 05 12.8 -2.3**
comp=Z,0.2nm,0.5s,baz=259,slow=4.5,SNR=5.5
ILAR Eielson Array 89.25 25 P **P 09 05 13.7 -1.4**
KMBO Kilima Mbogo 89.62 269 LR LR 09 45 58.7
comp=Z,807nm,19.0s,baz=137,slow=36
ARCES ARCESS Array B 94.88 340 P **P 09 05 39.6 -1.6**
comp=Z,1.1nm,0.6s,baz=84,slow=5.0,SNR=5.5
ARCES ARCESS Array B 94.88 340 P **P 09 05 39.3 -1.9**
FINES FINESS Array B 96.02 332 P **P 09 05 44.9 -1.5**
comp=Z,1.4nm,0.8s,baz=81,slow=17,SNR=1.4
MNK Minsk 96.02 325 *i* P **P 09 05 46.4 -0.3**
comp=E,1.0nm,0.7s
MNK *i* P **P 09 05 46.4 -0.3**
comp=N,19nm,0.8s
MNK *i* P **P 09 05 46.4 -0.3**
comp=Z,6.0nm,0.7s,baz=85
MNK *i* PP **PP 09 09 38.6 -0.7**
MNK *i* S **SKSac 09 16 22.6 +2.1**
MNK *i* PS **PS 09 18 25.8 -0.4**
MNK *i* SS **SS 09 23 37.2 +3.2**
MNK *i* SSS SSS 09 27 21.0
MNK *i* LQ LQ 09 43 08.9
MNK *i* LR LR 09 47 28.3
MNK *i* LRM MLR 09 49 54.6
comp=Z,99nm,19.2s
MNK *i* LRM MLR 09 50 18.9
comp=E,11nm,21.7s
MNK *i* LRM MLR 09 50 24.0
comp=N,139nm,21.1s
BBB Bella Bella 99.93 37 LR LR 09 46 10.1
comp=N,83nm,18.9s,baz=4.0,slow=32
SCHQ Schefferville 125.14 10 PKP **PKPdf 09 11 19.0 -0.8**
comp=N,2.1nm,0.8s,baz=331,slow=3.3,SNR=3.5
CPUP Villa Florida 152.56 172 PKP **PKPdf 09 12 09.8 +0.2**
comp=N,1.2nm,0.9s,baz=37,slow=15,SNR=2.9
CPUP PKPbc **PKPbc 09 12 15.6 -1.0**
comp=N,2.8nm,0.7s,baz=154,slow=3.5,SNR=4.4
CPUP Villa Florida 152.56 172 **PKPdf 09 12 09.3 -0.4**
LPAZ La Paz 157.33 140 PKPab **PKPab 09 12 49.4 +1.1**
comp=N,0.5nm,0.5s,baz=140,slow=1.9,SNR=7.5
LPAZ La Paz 157.33 140 PKPdf **PKPdf 09 12 13.4 -3.8**
LPAZ PKPab **PKPab 09 12 50.3 +2.0**

*IDC **27** 09:02:35.5±1.4, 0.46S×98.14E, h0km, mb4.2/10, mb1 4.3/11, mb1mx3.9/49, mbtmp4.2/11, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/44, Error ellipse: s-maj=51.0km s-min=16.0km az=62.0*
*DJA **27** 09:02:35.9±1.3, 1.5S±5.5×9.8E±., h20km±9km, M4.8/12, mB5.8/4, mb4.9/6, MLv4.5/12, Mw(mB)5.4/4*
*NEIC **27** 09:02:39.3±1.5, 0.5S±0.1×98.0E±0.1, h25km±3km, mb4.3/10, Error ellipse: s-maj=21.1km s-min=10.2km az=224.0*
ISC 27 09:02:39.2±0.7, 0.47S±0.06×98.08E±0.09, h27km, n51, σ1912/44, mb4.3/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.46**	**26**	P	**Pn**	**09 02 49.4**	**-0.6**
PBSI				S	**Sn**	**09 02 58.1**	**+0.9**
SISI	**Saibi**	**1.32**	**130**	P	**Pb**	**09 03 01.8**	**-1.6**
SISI				S	**Sb**	**09 03 20.2**	**+0.3**
GSI	**Gunungsitoli**	**1.83**	**344**		**Pn**	**09 03 08.3**	**-0.6**
GSI	**Gunungsitoli**	**1.83**	**344**	P	**Pn**	**09 03 05.9**	**-3.0**
MNSI	**Mandailing Nat**	**1.96**	**50**	P	**Pn**	**09 03 11.6**	**+1.0**
PDSI	**Padang**	**2.42**	**101**	P	**Pn**	**09 03 16.4**	**-0.7**
BKNI	**Bangkinang**	**3.06**	**75**	Pn	**Pb**	**09 03 30.3**	**-2.8**
RPSI	**Rantau Prapat**	**3.25**	**15**		**Pn**	**09 03 28.7**	**+0.3**
KRJI	**Kerinci**	**3.75**	**116**	P	**Pn**	**09 03 34.2**	**-1.2**
TPTI		**3.81**	**346**	P	**Pn**	**09 03 33.6**	**-2.5**
MASI	**Maura Aman, Be**	**4.94**	**123**	P	**Pn**	**09 03 51.3**	**-0.3**
	1.2nm6μm310nm,0.4s						
MLSI	**Meulaboh, Aceh**	**4.99**	**340**	P	**Pn**	**09 03 49.5**	**-2.9**
	0.5nm46nm,0.7s						
KSI	**Kapahiang**	**5.51**	**125**	P	**Pn**	**09 03 59.9**	**+0.3**
	212nm,0.9s						
LHSI	**Lahat**	**6.38**	**122**	P	**Pn**	**09 04 11.8**	**+0.3**
	0.3nm70nm,1.0s						
MDSI	**Maura Dua**	**7.29**	**123**	P	**Pn**	**09 04 23.8**	**-0.1**
	0.1nm1μm22nm,0.6s						
PPBI	**Pangkal Pinang**	**8.23**	**102**	P	**Pn**	**09 04 38.2**	**+1.3**
LEM	**Lembang**	**11.42**	**124**	LR	LR	09 10 08.2	
	comp=Z,298nm,18.8s,baz=19,slow=40						
CMAR	**Chiang Mai Arr**	**18.82**	**3**	P	**Pn**	**09 06 56.9**	**-0.8**
	0.4nm,0.3s,baz=197,slow=10,SNR=7.1						
H08S2	**Diego Garcia H**	**26.48**	**254**	T	T	09 35 49.7	
	baz=75,slow=75,SNR=1102						
H08S3	**Diego Garcia H**	**26.49**	**254**	T	T	09 35 50.1	
	baz=75,slow=75,SNR=1807						
H08S1	**Diego Garcia H**	**26.50**	**254**	T	T	09 35 46.2	
	baz=75,slow=75,SNR=1256						
XAN	**Xi'an**	**35.80**	**15**	P	**P**	**09 09 38.4**	**+2.0**
H01W3	**Cape Leeuwin H**	**37.38**	**158**	T	T	09 49 26.5	
	baz=333,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**37.39**	**158**	T	T	09 49 27.4	
	baz=333,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**37.40**	**158**	T	T	09 49 26.4	
	baz=333,slow=75,SNR=11						
WRA	**Warramunga Arr**	**40.42**	**121**	P	**P**	**09 10 14.5**	**-1.0**
	1.0nm,0.5s,baz=304,slow=8.8,SNR=17						
WRA				PcP	**PcP**	**09 12 19.3**	**+1.0**
	1.2nm,1.2s,baz=304,slow=2.9,SNR=1.9						
WRA	**Warramunga Arr**	**40.42**	**121**	IAmb	IAmb	09 10 22.2	
	comp=Z,0.3nm,1.3s						
WB2	**Warramunga Arr**	**40.43**	**121**	P	**P**	**09 10 15.1**	**-0.5**
WB2				IAmb	IAmb	09 10 27.4	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**40.60**	**121**	P	**P**	**09 10 16.1**	**-0.9**
WR0				IAmb	IAmb	09 10 17.4	
	comp=Z,3.4nm,0.8s						
AS31	**Alice Springs**	**41.70**	**126**	P	**P**	**09 10 26.1**	**0.0**
ASAR	**Alice Springs**	**41.70**	**126**	P	**P**	**09 10 25.9**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=296,slow=7.8,SNR=55						
KSRS	**Korea Array**	**46.74**	**33**	P	**P**	**09 11 05.8**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=226,slow=9.3,SNR=10						
SONM	**Songino Array**	**48.65**	**7**	P	**P**	**09 11 21.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=195,slow=8.8,SNR=6.3						
SONM	**Songino Array**	**48.65**	**7**	IAmb	IAmb	09 11 28.0	
	comp=Z,4.0nm,0.9s						
MK31	**Makanchi Array**	**49.06**	**346**	P	**P**	**09 11 24.5**	**+0.5**
MK31				IAmb	IAmb	09 11 33.9	
	comp=Z,3.9nm,0.8s						
MKAR	**Makanchi Array**	**49.06**	**346**	P	**P**	**09 11 24.4**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=155,slow=8.5,SNR=30						
MKAR	**Makanchi Array**	**49.06**	**346**	P	**P**	**09 11 24.1**	**+0.1**
STKA	**Stephens Creek**	**51.60**	**132**	P	**P**	**09 11 44.4**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=317,slow=4.7,SNR=9.3						
STKA	**Stephens Creek**	**51.60**	**132**	IAmb	IAmb	09 11 45.1	
	comp=Z,2.8nm,1.3s						
KURBB	**Kurchatov Arra**	**53.56**	**345**	P	**P**	**09 11 57.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=162,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	**53.62**	**345**	P	**P**	**09 11 57.7**	**-0.3**
USRK	**Ussuriysk Ar.**	**53.75**	**30**	P	**P**	**09 11 59.5**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=219,slow=4.5,SNR=12						
USRK	**Ussuriysk Ar.**	**53.75**	**30**	P	**P**	**09 11 59.7**	**+0.6**
ZAA0	**Zalesovo Array**	**55.33**	**351**	P	**P**	**09 12 10.9**	**+0.5**
ZALV	**Zalesovo Beam**	**55.33**	**351**	P	**P**	**09 12 10.8**	**+0.3**
	comp=Z,2.8nm,0.4s,baz=176,slow=5.9,SNR=11						
ZALV	**Zalesovo Beam**	**55.33**	**351**	P	**P**	**09 12 10.3**	**-0.1**
EIDS	**Eidsvold**	**56.78**	**120**	P	**P**	**09 12 21.4**	**0.0**
EIDS				IAmb	IAmb	09 12 43.1	
	comp=Z,5.4nm,1.1s						
ABKAR	**Akbulak array**	**59.39**	**332**	P	**P**	**09 12 39.2**	**+0.1**
ABKAR	**Akbulak array**	**59.39**	**332**	P	**P**	**09 12 38.5**	**-0.6**
ARCES	**ARCESS Array B**	**84.39**	**340**	P	**P**	**09 15 09.4**	**+0.6**
	comp=Z,3.6nm,1.0s,baz=93,slow=6.6,SNR=3.6						
TXAR	**Lajitas Array**	**144.58**	**34**	PKP	**PKPdf**	**09 22 13.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=165,slow=0.4,SNR=20						

DDA 27 09:04:26.2, 39.46N×28.16E, h7km±5km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.28**	**59**	*i* P	Pg	09 04 31.5	-0.3
DURS				IAML		09 04 36.0	
	comp=E,59nm,0.5s						
DURS				IAML		09 04 37.0	
	comp=N,42nm,0.4s						
DURS				*i* S	Sb	09 04 37.2	-1.5
STEP	**BALIKESIR_Sava**	**0.35**	**257**	*i* P	Pg	09 04 32.7	-0.3
STEP				*i* S	Sb	09 04 39.8	-0.8
STEP				IAML		09 04 42.0	
	comp=E,62nm,0.3s						
STEP				IAML		09 04 43.0	
	comp=N,79nm,0.5s						

ISK 27 09:05:11.5, 39.58N×29.31E, h5km, ML1.9/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.17**	**137**	PG	Pg	09 05 15.6	+0.7
TVSB				SG	Sg	09 05 18.5	+1.3
YLV	**Yalova**	**0.99**	**3**	PG	Pb	09 05 30.9	-0.3
KCTX	**Karacabey (Bur**	**1.01**	**313**	PG	Pb	09 05 31.3	-0.2
KCTX				SG	Sn	09 05 46.1	-0.8
GULT	**Gulveren**	**1.26**	**47**	PN	Pn	09 05 36.1	+0.3
SHUT	**Suhut-Afyon**	**1.40**	**136**	PN	Pg	09 05 38.4	0.0

*REN **27** 09:15:40.7±2.6, 41.90N±0.03×119.63W±0.01, h9km±6km, ML3.0/5, ML3.0/25(SEA), ML2.8/50(NEIC), Error ellipse: s-maj=4.4km s-min=1.3km az=173.0*
*ANF **27** 09:15:40.4±1.0, 41.90N×119.64W, h7km±8km, ML3.0/12, Error ellipse: s-maj=5.2km s-min=3.7km az=82.0*
*SEA **27** 09:15:41.4±2.9, 41.86N±0.03×119.64W±0.03, h0km±7km, Error ellipse: s-maj=4.6km s-min=3.1km az=201.0*
NEIC 27 09:15:42.0±3.5, 41.96N±0.03×119.64W±0.02, h8km±6km, Error ellipse: s-maj=4.8km s-min=2.6km az=174.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.50**	**264**		Pg	09 15 50.8	-0.9
MOD					Sg	09 15 58.2	-0.1
MOD	**Modoc Plateau**	**0.50**	**264**	IAML		09 15 58.4	
	comp=N,2μm,0.5s						
MOD				IAML		09 15 58.7	
	comp=E,3μm,0.5s						
LKVW	**Lakeview**	**0.60**	**296**		Pg	09 15 52.9	-0.7
LKVW					Sg	09 16 02.1	+0.7
WVOR	**Wild Horse Val**	**0.88**	**57**		Pg	09 15 57.9	-1.1
WVOR				IAML		09 16 14.0	
	comp=E,371nm,0.7s						
WVOR				IAML		09 16 14.2	
	comp=E,321nm,0.5s						
WVOR	**Wild Horse Val**	**0.88**	**57**		Sg	09 16 10.8	+0.3
K05A	**Summer Lake**	**1.21**	**310**		Pg	09 16 04.3	-0.9
K05A					Sn	09 16 21.9	-0.1
K05A	**Summer Lake**	**1.21**	**310**	IAML		09 16 24.8	
	comp=E,246nm,0.7s						
LASM	**Arnica Sink**	**1.49**	**257**		Pn	09 16 07.8	-1.6
HOG	**Hogback Mounta**	**1.56**	**281**		Pn	09 16 09.2	-1.1
LTIM	**Timbered Crate**	**1.59**	**241**		Pn	09 16 09.1	-1.6
J08A	**Circle Bar Ran**	**1.64**	**31**		Pb	09 16 12.2	-0.4
J08A	**Circle Bar Ran**	**1.64**	**31**	IAML		09 16 36.8	
	comp=E,178nm,0.5s						
M04C	**Macdoel**	**1.65**	**265**	P	Pn	09 16 09.9	-1.6
	baz=85,SNR=130						
M04C				Sb	Sn	09 16 33.3	+0.3
	baz=85						
M04C	**Macdoel**	**1.65**	**265**		Pn	09 16 09.9	-1.6
K04D	**Chiloquin, OR**	**1.70**	**294**	Pb	Pn	09 16 12.5	+0.3
	baz=114,SNR=31						
K04D				Sb	Sb	09 16 36.0	+0.7
	baz=114						
K04D	**Chiloquin, OR**	**1.70**	**294**		Pn	09 16 12.6	+0.4
K04D					Sg	09 16 37.1	+0.3
LBCM	**Butte Creek Ri**	**1.71**	**230**		Pn	09 16 10.4	-1.8
J05D	**Fort Rock, OR**	**1.77**	**319**	Pb	Pb	09 16 14.1	-0.8
	baz=139,SNR=191						
J05D				Sg	Sg	09 16 40.6	+1.5
	baz=139						
J05D	**Fort Rock, OR**	**1.77**	**319**		Pb	09 16 14.1	-0.8
L04D	**Klamath Falls**	**2.00**	**278**	P	Pn	09 16 14.6	-1.6
	baz=98,SNR=56						

L04D			Sb	Sb	09 16 44.3	+0.4
	baz=98					
WVA	**Winnemucca Val**	**2.02 184**		Pn	09 16 16.6	0.0
PINE	**Pine Mountain**	**2.07 333**	Pn	Pb	09 16 18.6	-1.3
PINE			IAML		09 16 52.8	
	comp=E,75nm,0.6s					
PINE			IAML		09 17 07.0	
	comp=N,44nm,1.0s					
I07A	**Izee**	**2.12 3**	Pn	Pb	09 16 20.2	-0.6
I07A			IAML		09 16 51.0	
	comp=N,41nm,0.5s					
I07A			IAML		09 16 59.1	
	comp=E,38nm,0.8s					
J04D	**Umpqua Nationa**	**2.23 306**	Pb	Pb	09 16 21.7	-1.0
	baz=125,SNR=44					
PAHR	**Pah Rah Range**	**2.26 175**	Pn	Pn	09 16 19.3	-0.6
PAHR			IAML		09 16 51.6	
	comp=E,53nm,0.6s					
PAHR			IAML		09 16 51.7	
	comp=N,38nm,0.5s					
YBH	**Yreka Blue Hor**	**2.31 265**		Pn	09 16 18.6	-1.8
YBH			IAML		09 16 54.0	
	comp=N,30nm,0.8s					
O03E	**Paynes Creek**	**2.33 225**	P	Pn	09 16 18.9	-1.9
	baz=45,SNR=169					
O03E			Sb	Sb	09 16 52.8	-0.6
	baz=45					
LOY	**Loyalton**	**2.34 191**		Pn	09 16 22.7	+1.7
PEAR	**Peavine Mounta**	**2.36 186**		Pn	09 16 23.0	+1.7
M02C	**Callahan**	**2.48 258**	P	Pn	09 16 20.4	-2.3
	baz=77,SNR=14					
KBF	**Kyburz Flat**	**2.49 190**		Pn	09 16 23.2	+0.2
N02D	**Trinity Center**	**2.51 248**	P	Pn	09 16 20.7	-2.4
	baz=67,SNR=36					
HUMO	**Hull Mountain**	**2.55 286**		Pn	09 16 22.0	-1.7
HUMO			IAML		09 17 01.6	
	comp=N,53nm,1.3s					
HUMO			IAML		09 17 02.4	
	comp=E,40nm,0.7s					
IND	**Independence**	**2.57 191**		Pb	09 16 26.9	-1.7
WDC	**Whiskeytown Da**	**2.59 239**		Pn	09 16 22.1	-2.1
WDC			IAML		09 17 00.6	
	comp=N,48nm,0.5s					
MPK	**Martis Peak**	**2.68 187**		Pb	09 16 29.2	-1.2
I04A	**Tendick Farm,**	**2.74 313**	Pb	Pb	09 16 30.5	-0.9
	baz=132,SNR=9.1					
ORV	**Oroville**	**2.79 211**	Pn	Pn	09 16 25.2	-1.8
L02E	**Cave Junction**	**2.96 275**	P	Pn	09 16 27.8	-1.6
	baz=94,SNR=13					
O02D	**Mt. Diablo Mer**	**2.97 234**	P	Pn	09 16 27.5	-2.1
	baz=53,SNR=5.5					
YERR	**Yerington**	**2.99 174**		Pb	09 16 33.9	-1.7
K02D	**Willamette Mer**	**3.08 285**	P	Pn	09 16 29.9	-1.1
	baz=104,SNR=26					
KVN	**Kaiserville**	**3.13 158**	Pn	Pn	09 16 31.8	-0.1
KVN			IAML		09 17 22.7	
	comp=N,18nm,0.6s					
KVN			IAML		09 17 22.7	
	comp=E,23nm,0.7s					
MFID	**Camas Ranch**	**3.16 61**		Pn	09 16 31.0	-1.3
AFDM	**Forest Hills D**	**3.18 199**	Pn	Pn	09 16 32.4	+0.1
I03D	**Drain, OR**	**3.23 304**	Pb	Pb	09 16 38.9	-0.8
	baz=122					
H04A	**Detroit Lake**	**3.30 327**	Pn	Pn	09 16 36.8	+2.8
H04A			IAML		09 18 06.0	
	comp=E,12nm,4.2s					
G08A	**Pilot Rock**	**3.37 8**	Pn	Pn	09 16 38.1	+3.1
KBO	**Bosley Butte**	**3.42 276**	Pn	Pn	09 16 31.5	-4.3
JCC	**Jacoby Creek,**	**3.50 252**	Pn	Pn	09 16 35.7	-1.0
JCC			IAML		09 17 45.2	
	comp=N,29nm,1.8s					
JCC			IAML		09 18 09.9	
	comp=E,30nm,1.5s					
ELK	**Elko**	**3.53 109**	Pn	Pn	09 16 37.5	+0.1
ELK			IAML		09 17 35.2	
	comp=E,15nm,0.4s					
KEBM	**Edson Butte**	**3.59 286**	Pn	Pn	09 16 37.9	-0.2
PLID	**Pearl Lake**	**4.09 39**	Pn	Pn	09 16 46.1	+1.0
HLID	**Hailey**	**4.17 66**	Pn	Pn	09 16 46.0	-0.1
HLID			IAML		09 17 53.2	
	comp=E,13nm,0.8s					
HLID			IAML		09 17 60.0	
	comp=E,16nm,0.9s					
R11A	**Troy Canyon, C**	**4.76 138**		Pn	09 16 55.4	+1.2
R11A			IAML		09 18 13.8	
	comp=N,5.7nm,0.6s					
R11A			IAML		09 18 16.2	
	comp=E,4.3nm,0.6s					
SPR3	**Spring Creek 3**	**5.01 124**	Pn	Pn	09 17 00.2	+2.4
SPR3			IAML		09 18 23.0	
	comp=E,9.7nm,0.8s					
SPR3			IAML		09 18 23.1	
	comp=N,8.4nm,0.8s					
BCYI	**Bear Canyon**	**5.13 61**	Pn	Pn	09 17 01.0	+1.6
DUG	**Dugway, Tooele**	**5.45 107**	Pn	Pn	09 17 03.6	-0.1

*TUL **27** 09:25:04.8±1.1,36°.84N±0°.03×97°.81W±0°.03,h5^{km}±7^{km}, ML3.2,mb_Lg3.0/95(NEIC),Error ellipse: s-maj=5.6km s-min=2.2km az=217.0*

NEIC 27 09:25:05.2±1.1,36°.81N±0°.03×97°.79W±0°.03,h4^{km}±7^{km}, Error ellipse: s-maj=5.7km s-min=2.1km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**307**	Pg	Pg	09 25 06.3	-0.3
KAN17	**Caldwell West**	**0.23**	**6**	Pg	Pg	09 25 09.7	0.0
KAN05	**Bluff City Nor**	**0.30**	**348**	Pg	Pg	09 25 10.9	-0.2
KAN13	**South Haven SW**	**0.32**	**52**	Pg	Pg	09 25 11.6	+0.2
OK032	**Salt Plains WL**	**0.33**	**269**	Pg	Pg	09 25 11.4	-0.2
CROK	**Carrier**	**0.34**	**206**	Pg	Pg	09 25 12.2	+0.4
KAN10	**Anthony SW Sta**	**0.39**	**322**	Pg	Pg	09 25 12.6	-0.2
KAN08	**Anthony NE Sta**	**0.44**	**341**	Pg	Pg	09 25 13.4	-0.2
KS20	**Mayfield South**	**0.46**	**25**	Pg	Pg	09 25 13.8	-0.2
BLOK	**Blackwell**	**0.47**	**96**	Pg	Pg	09 25 14.4	+0.3
KAN12	**Harper NE Stat**	**0.51**	**341**	Pg	Pg	09 25 14.7	-0.3
T35A	**Sooner Cattle**	**1.03**	**84**	Pg	Pg	09 25 24.6	-0.4
OK029	**Liberty Lake**	**1.05**	**165**	Pg	Pg	09 25 25.0	-0.2
U32A	**Winter Ranch,**	**1.06**	**246**	Pg	Pg	09 25 25.0	-0.6
QUOK	**Quay**	**1.08**	**126**	Pg	Pg	09 25 25.4	-0.6
OK031	**S. Brethren Rd**	**1.15**	**138**	Pg	Pg	09 25 27.0	-0.2
BCOK	**Bluff Creek, N**	**1.16**	**173**	Pn	Pg	09 25 26.9	-0.5
OK025	**Westminster Rd**	**1.28**	**163**	Pn	Pg	09 25 29.4	-0.4
OKCSW	**OKLAHOMA CITY**	**1.43**	**168**	Pn	Pn	09 25 32.1	+0.1
FNO	**Franklin**	**1.58**	**168**	Pn	Pn	09 25 34.4	+0.4
R32A	**Long Quarter,**	**1.77**	**336**	Pn	Pn	09 25 36.8	+0.2
X34A	**Smith Ranch, M**	**2.21**	**181**		Pn	09 25 43.8	+1.2
X34A				IAmb	Lg	09 26 21.7	
	comp=Z,70nm,0.9s						
WMOK	**Wichita Mounta**	**2.22**	**201**	Pn	Pn	09 25 43.8	+0.9
KSU1	**Kansas State U**	**2.47**	**22**	Pn	Pn	09 25 46.3	+0.1
CBKS	**Cedar Bluff**	**2.52**	**323**	Pn	Pn	09 25 46.7	-0.3
U38A	**Gravette**	**2.77**	**97**	Pn	Pn	09 25 51.2	+0.9
LOOK	**Love County**	**2.86**	**170**	Pn	Pn	09 25 52.2	+0.7
X37A	**Clayton**	**2.97**	**138**	Pn	Pn	09 25 53.9	+0.8
X37A				IAmb	Lg	09 26 46.3	
	comp=Z,61nm,0.8s						
HHAR	**Hobbs**	**3.15**	**99**	Pn	Pn	09 25 56.2	+0.6
HHAR				IAmb	Lg	09 26 50.0	
	comp=Z,55nm,0.7s						
Z35A	**Perchaven, San**	**3.50**	**173**	Pn	Pn	09 26 01.3	+0.9
AMTX	**Amarillo**	**3.70**	**240**	Pn	Pn	09 26 03.5	+0.3
N33A	**J Bar K, Exete**	**3.93**	**4**	Pn	Pn	09 26 05.3	-1.0
MIAR	**Mount Ida**	**4.11**	**122**	Pn	Pn	09 26 10.8	+2.0
MIAR				IAmb	Lg	09 27 23.8	
	comp=Z,28nm,0.8s						
Z38A	**Mt. Pleasant**	**4.23**	**146**	Pn	Pn	09 26 10.6	+0.3
Z38A				IAmb	Lg	09 27 29.6	
	comp=Z,31nm,0.7s						
N35A	**Tabor**	**4.38**	**22**	Pn	Pn	09 26 12.6	+0.1
KSCO	**Kaye Shedlock'**	**4.41**	**301**	Pn	Pn	09 26 12.8	-0.2
ABTX	**Abilene, Hawle**	**4.45**	**201**	IAmb	Lg	09 27 28.5	
	comp=Z,23nm,0.9s						
BGNE	**Belgrade**	**4.60**	**357**	Pn	Pn	09 26 14.4	-1.1
R40A	**Maddies Statio**	**4.63**	**70**	Pn	Pn	09 26 16.2	+0.2
X40A	**Basin Creek Fa**	**4.66**	**118**	Pn	Pn	09 26 16.8	+0.5
X40A				IAmb	Lg	09 27 44.9	
	comp=Z,27nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.67**	**100**	Pn	Pn	09 26 17.0	+0.5
FCAR				IAmb	Lg	09 27 31.4	
	comp=Z,31nm,0.7s						
WHAR	**Wooly Hollow**	**4.71**	**107**	IAmb	Lg	09 27 38.1	
	comp=Z,33nm,0.7s						
WLAR	**White Oak Lake**	**4.94**	**128**	IAmb	Lg	09 27 47.8	
	comp=Z,27nm,0.7s						
MSTX	**Muleshoe**	**4.96**	**237**	Pn	Pn	09 26 19.4	-1.1
P40A	**Paris**	**5.28**	**57**	Pn	Pn	09 26 24.3	-0.5
P40A				IAmb	Lg	09 27 58.4	
	comp=Z,21nm,0.8s						
OGNE	**Ogallala**	**5.29**	**323**	IAmb	Lg	09 28 01.1	
	comp=Z,26nm,0.8s						
T25A	**Trinidad**	**5.31**	**276**	IAmb	Lg	09 27 55.7	
	comp=Z,23nm,0.9s						
N38A	**Joes South For**	**5.34**	**40**	Pn	Pn	09 26 25.1	-0.5
N38A				IAmb	Lg	09 27 59.1	
	comp=Z,31nm,0.7s						
CCM	**Cathedral Cave**	**5.36**	**75**	Pn	Pn	09 26 26.4	+0.5
CCM				IAmb	Lg	09 28 03.2	
	comp=Z,19nm,0.7s						
T42A	**Van Buren**	**5.37**	**86**	Pn	Pn	09 26 26.0	-0.1
CCAR	**Cane Creek**	**5.71**	**119**	IAmb	Lg	09 28 22.8	
	comp=Z,30nm,0.8s						
K31A	**O'Neill**	**5.85**	**353**	IAmb	Lg	09 28 24.3	
	comp=Z,30nm,0.7s						
435B	**Jarrell**	**6.02**	**178**	IAmb	Lg	09 28 19.7	
	comp=Z,16nm,0.7s						
SLM	**Saint Louis**	**6.26**	**71**	IAmb	Lg	09 28 21.3	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**6.53**	**195**	IAmb	Lg	09 28 39.7	
	comp=Z,20nm,0.8s						
143A	**Socs Landing,**	**6.67**	**126**	IAmb	Lg	09 28 39.4	
	comp=Z,20nm,0.9s						
N41A	**Harden Midland**	**6.67**	**52**	IAmb	Lg	09 28 38.7	
	comp=Z,20nm,0.8s						
OXF	**Oxford**	**7.20**	**106**	IAmb	Lg	09 28 54.6	
	comp=Z,19nm,0.9s						
L40A	**Anamosa**	**7.30**	**42**	IAmb	Lg	09 28 55.4	
	comp=Z,19nm,0.8s						
T45A	**Paducah**	**7.33**	**86**	IAmb	Lg	09 28 53.6	
	comp=Z,20nm,0.7s						
Y45A	**Yeager Farm, C**	**7.36**	**111**	IAmb	Lg	09 29 11.3	
	comp=Z,21nm,0.8s						
HDIL	**Hopedale**	**7.63**	**58**	IAmb	Lg	09 29 12.5	
	comp=Z,18nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.93**	**253**	IAmb	Lg	09 29 22.5	
	comp=Z,14nm,0.8s						
735A	**Kenedy**	**7.93**	**180**	IAmb	Lg	09 29 27.4	
	comp=Z,14nm,0.8s						
I37A	**Lemond, Waseca**	**7.94**	**24**	IAmb	Lg	09 29 35.7	
	comp=Z,15nm,0.8s						
O44A	**Mansfield**	**8.04**	**63**	IAmb	Lg	09 29 29.1	
	comp=Z,12nm,0.7s						
PLAL	**Pickwick Lake**	**8.10**	**100**	IAmb	Lg	09 29 22.3	
	comp=Z,10nm,0.9s						
146A	**Union**	**8.31**	**118**	IAmb	Lg	09 29 26.2	
	comp=Z,13nm,0.9s						
T47A	**Sharon Grove**	**8.56**	**86**	IAmb	Lg	09 29 43.2	
	comp=Z,15nm,0.8s						
RWWY	**Rawlins**	**8.78**	**307**	IAmb	Lg	09 29 55.0	
	comp=Z,12nm,1.2s						
P46A	**Rosedale**	**8.79**	**68**	IAmb	Lg	09 29 53.8	
	comp=Z,15nm,0.8s						
K22A	**Casper**	**8.90**	**314**	IAmb	Lg	09 30 07.7	
	comp=Z,14nm,1.1s						
X48A	**Hartselle**	**9.06**	**102**	IAmb	Lg	09 29 51.9	
	comp=Z,14nm,1.0s						
F33A	**5 Mile Ranch,**	**9.09**	**7**	IAmb	Lg	09 29 49.9	
	comp=Z,9.7nm,1.2s						
SFIN	**Lafayette**	**9.10**	**64**	IAmb	Lg	09 30 02.5	
	comp=Z,9.5nm,0.9s						
BLO	**Bloomington**	**9.21**	**72**	IAmb	Lg	09 29 56.3	
	comp=Z,14nm,0.7s						
CLTN	**Cedars of Leba**	**9.26**	**91**	IAmb	Lg	09 30 03.9	
	comp=Z,11nm,0.9s						
I42A	**Draeger Farm,**	**9.79**	**41**	IAmb	Lg	09 30 40.4	
	comp=Z,7.5nm,0.9s						

*IDC **27** 09:35:52.2±0.7,52°.34N×169°.42W,h0^{km},mb4.1/23, mb1 4.3/25,mb1mx4.1/50,mbtmp4.1/25,ML3.9/2,MS3.9/2, Ms1 3.9/2,ms1mx3.1/64,Error ellipse: s-maj=21.0km s-min=12.2km az=172.0*

*AEIC **27** 09:35:56±3.0,52°.21N±0°.07×169°.34W±0°.06,h26^{km}±7^{km}, ML3.9/47,mb3.8/28(NEIC),Error ellipse: s-maj=10.7km s-min=4.7km az=162.0*

*NEIC **27** 09:35:57.2±2.7,52°.27N±0°.09×169°.39W±0°.08, h28^{km}±11^{km},Error ellipse: s-maj=13.1km s-min=6.5km az=168.0*

ISC 27 09:35:56.1±1.9,52°.19N±0°.09×169°.30W±0°.06, h29^{km}±13^{km},n119,σ1^{s}26/118,mb4.2/25,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.83**	**19**		**Pb**	**09 36 11.3**	**-0.7**
NIKH	**Nikolski High**	**0.83**	**19**		**Sn**	**09 36 24.7**	**+1.6**
OKSP	**Okmok Steeple**	**1.23**	**30**		**Pn**	**09 36 17.2**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.42**	**32**		**Pn**	**09 36 20.2**	**+0.2**
OKFG	**Magazine Ridge**	**1.49**	**34**		**Pn**	**09 36 21.0**	**+0.1**
OKFG					**Sn**	**09 36 40.6**	**+1.3**
MAPS	**Pakushin South**	**2.16**	**40**		**Pn**	**09 36 30.6**	**+0.4**
MAPS					**Sn**	**09 36 57.9**	**+2.0**
MGOD	**Makushin Gods**	**2.18**	**41**		**Pn**	**09 36 31.2**	**+0.7**
MGOD					**Sn**	**09 36 58.0**	**+1.6**
MSW	**Makushin Switc**	**2.30**	**40**		**Pn**	**09 36 32.8**	**+0.7**
MSW					**Sn**	**09 37 01.8**	**+2.3**
MNAT	**Makushin Natee**	**2.32**	**42**		**Pn**	**09 36 33.4**	**+1.1**
MNAT					**Sn**	**09 37 01.7**	**+1.8**
UNV	**Unalaska Valle**	**2.37**	**44**		**Pn**	**09 36 34.3**	**+1.3**
UNV					**Sn**	**09 37 02.0**	**+1.0**
MTBL	**Makushin Table**	**2.38**	**41**		**Pn**	**09 36 34.5**	**+1.2**
AKMO	**Akutan Morgan**	**2.75**	**45**		**Pn**	**09 36 40.0**	**+1.7**
AKMO					**Sn**	**09 37 13.6**	**+3.1**
AKRB	**Akutan Reef Bi**	**2.75**	**44**		**Pn**	**09 36 40.4**	**+2.1**
AKBBA	**Akutan Broad B**	**2.79**	**45**		**Pn**	**09 36 40.8**	**+2.0**
AKLV	**Akutan Long Va**	**2.82**	**44**		**Pn**	**09 36 40.9**	**+1.7**
AKGG	**Akutan Green G**	**2.83**	**43**		**Pn**	**09 36 41.5**	**+2.1**
AKUT	**Akutan**	**2.88**	**46**		**Pn**	**09 36 41.7**	**+1.6**
AKSA	**Akutan Strait**	**2.92**	**47**		**Pn**	**09 36 41.9**	**+1.4**
KOFP	**Korovin Flat P**	**2.95**	**274**		**Pn**	**09 36 41.9**	**+0.9**
ATKA	**Atka Island**	**3.01**	**272**		**Pn**	**09 36 41.8**	**-0.1**
KOKL	**Mount Kliuchef**	**3.02**	**275**		**Pn**	**09 36 43.5**	**+1.5**
GSTR	**Great Sitkin T**	**4.17**	**271**		**Pn**	**09 36 58.9**	**+1.2**
GSMY	**Great Sitkin M**	**4.17**	**271**		**Pn**	**09 36 58.4**	**+0.7**
GSTD	**Great Sitkin T**	**4.22**	**271**		**Pn**	**09 36 59.2**	**+0.7**
FALS	**False Pass**	**4.41**	**50**	Pn	**Pn**	**09 37 02.7**	**+1.7**
ADK	**Adak**	**4.57**	**269**		**Pn**	**09 37 03.7**	**+0.5**
KIWB	**Kanaga Island**	**4.86**	**269**	Pn	**Pn**	**09 37 07.8**	**+0.6**
KIKV	**Kanaga Island**	**4.87**	**269**		**Pn**	**09 37 08.4**	**+1.0**
KIMD	**Kanaga Island**	**4.92**	**268**		**Pn**	**09 37 08.8**	**+0.7**
SPIA	**Saint Paul Isl**	**5.03**	**354**		**Pn**	**09 37 11.7**	**+2.2**
TAFP	**Tanaga Falls P**	**5.37**	**270**		**Pn**	**09 37 15.0**	**+0.8**
TASE	**Tanaga Southea**	**5.41**	**270**		**Pn**	**09 37 16.1**	**+1.2**
GAEA	**Gareloi East**	**5.85**	**270**		**Pn**	**09 37 22.4**	**+1.5**
SDPT	**Sand Point**	**6.11**	**55**		**Pn**	**09 37 26.7**	**+2.3**
CNBA	**Chernabura Isl**	**6.37**	**62**	Pn	**Pn**	**09 37 29.4**	**+1.6**
CESW	**Semis' Southwe**	**6.88**	**272**		**Pn**	**09 37 36.4**	**+1.5**
AMKA	**Amchitka**	**7.12**	**268**		**Pn**	**09 37 39.2**	**+1.0**
OHAK	**Old Harbor**	**10.54**	**55**	Pn	**Pn**	**09 38 24.2**	**-0.8**
O18K	**Koktuh Hills**	**10.99**	**40**		**Pn**	**09 38 34.8**	**+3.5**
KDAK	**Kodiak Island**	**11.10**	**53**	Pn	**Pn**	**09 38 31.3**	**-1.4**
	0.8nm,0.3s,baz=246,slow=6.2,SNR=21						
KDAK				Sn	Sn	09 40 27.3	-8.4
	0.1nm,0.3s,baz=324,slow=22,SNR=1.4						
KDAK	**Kodiak Island**	**11.10**	**53**	Pn	**Pn**	**09 38 32.5**	**-0.3**
RSO	**Redoubt South**	**12.34**	**41**		**Pn**	**09 38 50.1**	**+0.3**
CNPM	**China Poot**	**12.50**	**47**	Pn	**Pn**	**09 38 51.7**	**-0.1**
SEW	**Seward**	**13.56**	**46**	Pn	**Pn**	**09 39 06.4**	**+0.1**
O22K	**Cooper Landing**	**13.62**	**45**		**Pn**	**09 39 07.3**	**+0.2**
SUA	**Susitna One**	**13.71**	**40**	Pn	**Pn**	**09 39 09.5**	**+1.0**
RC01	**Rabbit Creek A**	**13.92**	**43**	Pn	**Pn**	**09 39 11.0**	**-0.3**
PWL	**Port Wells**	**14.40**	**45**	Pn	**Pn**	**09 39 16.3**	**-1.6**
KTH	**Kantishna Hill**	**14.94**	**33**	Pn	**Pn**	**09 39 25.5**	**+0.4**
GLI	**Glacier Island**	**14.96**	**46**	Pn	**Pn**	**09 39 24.4**	**-0.8**
FID	**Port Fidalgo**	**15.18**	**47**	Pn	**Pn**	**09 39 26.2**	**-2.0**
BPAW	**Bear Paw Mtn.**	**15.28**	**32**		**Pn**	**09 39 32.0**	**+2.5**
BPAW				IAmb	IAmb	09 39 46.6	
	comp=Z,8.2nm,0.7s						
SCM	**Sheep Creek Mo**	**15.30**	**42**	Pn	**Pn**	**09 39 27.7**	**-2.2**
KLU	**Klutina**	**15.73**	**45**		**Pn**	**09 39 34.1**	**-1.4**
M24K	**Tolsona, Glenn**	**15.91**	**42**		**Pn**	**09 39 37.0**	**-0.7**
MLY	**Manley**	**16.00**	**29**	P	**P**	**09 39 42.6**	**+0.5**
MLY				IAmb	IAmb	09 39 54.6	
	comp=Z,6.5nm,0.8s						
BMRM	**Bremner River**	**16.10**	**47**	Pn	**Pn**	**09 39 39.3**	**-1.0**
BMRM				IAmb	IAmb	09 40 00.4	
	comp=Z,14nm,1.0s						
NEA2	**Nenana**	**16.23**	**32**		**Pn**	**09 39 42.7**	**+0.9**
NEA2				IAmb	IAmb	09 39 49.0	
	comp=Z,3.0nm,0.6s						
N25K	**Chitina, Valde**	**16.36**	**45**	Pn	**Pn**	**09 39 42.5**	**-1.0**
N25K				IAmb	IAmb	09 40 08.3	
	comp=Z,7.2nm,0.8s						
I23K	**Minto, Yukon-K**	**16.51**	**30**	P	**Pn**	**09 39 46.1**	**+0.8**
I23K				IAmb	IAmb	09 39 57.4	
	comp=Z,6.2nm,0.9s						
GLB	**Gilahina Butte**	**16.64**	**46**		**Pn**	**09 39 46.2**	**-0.8**
GLB				IAmb	IAmb	09 39 53.0	
	comp=Z,6.6nm,0.8s						
CCB	**Clear Creek Bu**	**16.69**	**33**		**Pn**	**09 39 47.0**	**-0.6**
VRDI	**Verde Repeater**	**16.72**	**47**	Pn	**Pn**	**09 39 47.8**	**-0.4**
VRDI				IAmb	IAmb	09 39 56.8	
	comp=Z,13nm,1.1s						
MDM	**Murphy Dome**	**16.75**	**32**	Pn	**Pn**	**09 39 47.5**	**-0.8**
IL31		**17.08**	**34**	Pn	**Pn**	**09 39 50.9**	**-1.5**
ILAR	**Eielson Array**	**17.08**	**34**	Pn	**Pn**	**09 39 50.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=234,slow=11,SNR=11						
RIDG	**Independent Ri**	**17.24**	**38**	Pn	**Pn**	**09 39 54.4**	**-0.2**
RIDG				IAmb	IAmb	09 40 18.5	
	comp=Z,3.4nm,0.6s						
BARN	**Barnard Glacie**	**17.48**	**49**		**Pn**	**09 39 57.8**	**+0.1**
BARN				IAmb	IAmb	09 40 09.8	
	comp=Z,8.6nm,0.8s						
DOT	**Dot Lake**	**17.50**	**39**	P	**Pn**	**09 39 57.5**	**-0.3**
SCRK	**Sand Creek**	**17.69**	**38**	P	**Pn**	**09 39 59.3**	**-0.9**
PRP	**Porcupine Dome**	**17.99**	**33**	P	**Pn**	**09 40 01.9**	**-1.9**
L27K	**Beaver Creek,**	**18.14**	**42**	P	**Pn**	**09 40 04.0**	**-1.5**
BCAR	**Beaver Creek A**	**18.15**	**42**		**Pn**	**09 40 05.4**	**-0.4**
TOLK	**Toolik Lake Re**	**19.00**	**22**	P	**P**	**09 40 15.7**	**+0.6**
TOLK				IAmb	IAmb	09 40 38.4	
	comp=Z,3.8nm,0.8s						
EGAK	**Eagle**	**19.16**	**38**		**P**	**09 40 17.3**	**+0.5**
EGAK				IAmb	IAmb	09 40 26.6	
	comp=Z,4.7nm,0.6s						
HYT	**Haines Junctio**	**19.38**	**51**	Pn	**Pn**	**09 40 22.6**	**+1.9**
BMAR	**Burnt Mountain**	**19.47**	**29**		**P**	**09 40 20.7**	**+0.4**
DAWY	**Dawson**	**19.54**	**41**	P	**P**	**09 40 20.4**	**-0.7**
DAWY				IAmb	IAmb	09 40 41.4	
	comp=Z,5.1nm,1.1s						
PEA0B	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**09 40 25.5**	**-0.1**
PETK	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**09 40 24.8**	**-0.8**
	comp=Z,3.8nm,0.3s,baz=90,slow=13,SNR=74						
DLBC	**Dease Lake**	**22.94**	**59**	P	**P**	**09 40 57.3**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=250,slow=20,SNR=2.1						
MA2	**Magadan**	**23.28**	**304**	P	**P**	**09 41 00.6**	**-0.4**
	comp=Z,12nm,0.9s,baz=16,slow=5.3,SNR=4.3						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**09 41 02.1**	**-0.7**
	comp=Z,3.2nm,0.5s,baz=238,slow=7.4,SNR=15						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**09 41 02.2**	**-0.6**
INK				IAmb	IAmb	09 41 04.5	
	comp=Z,4.5nm,0.8s						
C36M	**Paulatuk**	**27.05**	**34**	P	**P**	**09 41 35.4**	**-0.1**
YKA	**Yellowknife Ar**	**30.33**	**49**	P	**P**	**09 42 05.7**	**+1.0**
	comp=Z,0.7nm,0.4s,baz=282,slow=14,SNR=9.5						
YBH	**Yreka Blue Hor**	**32.94**	**90**	P	**P**	**09 42 26.9**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=330,slow=18,SNR=1.8						
KLR	**Kul'dur**	**36.56**	**289**	P	**P**	**09 42 57.4**	**-1.6**
	comp=Z,2.3nm,0.5s,baz=77,slow=6.7,SNR=13						
H11N2	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	10 23 21.0	
	baz=24,slow=76,SNR=49						
H11N3	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	10 23 24.6	
	baz=24,slow=76,SNR=70						
H11N1	**WAKE ISLAND Hy**	**37.36**	**219**	T	T	10 23 21.9	
	baz=24,slow=76,SNR=50						
H11S1	**WAKE ISLAND Hy**	**38.53**	**218**	T	T	10 24 41.7	
	baz=23,slow=76,SNR=338						
H11S2	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	10 24 33.9	
	baz=23,slow=76,SNR=147						
H11S3	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	10 24 41.8	
	baz=23,slow=76,SNR=181						
PDAR	**Pinedale Array**	**40.40**	**79**	P	**P**	**09 43 32.9**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=308,slow=2.1,SNR=13						
TULEG	**Thule**	**42.28**	**20**	*e*	P	09 43 41.7	-4.6

comp=Z,26nm,0.8s
U38A Gravette 3.12 96 Pn 09 37 54.0 -0.1
X37A Clayton 3.22 133 Pn 09 37 55.7 +0.3
X37A IAmb_Lg 09 38 53.5
comp=Z,16nm,0.7s
AMTX Amarillo 3.40 237 IAmb_Lg 09 38 58.3
comp=Z,21nm,0.7s
HHAR Hobbs 3.50 97 Pn Pn 09 37 60.0 +0.6
HHAR IAmb_Lg 09 39 03.2
comp=Z,13nm,0.7s
Z35A Perchaven, San 3.56 167 Pn Pn 09 38 02.0 +1.7
W39A Magazine 3.95 113 Pn Pn 09 38 06.5 +1.0
N33A J Bar K, Exete 3.97 9 Pn Pn 09 38 05.6 -0.2
N33A IAmb_Lg 09 39 12.7
comp=Z,14nm,0.8s
KSCO Kaye Shedlock' 4.11 304 IAmb_Lg 09 39 17.6
comp=Z,13nm,0.7s
U40A Yellville 4.36 94 IAmb_Lg 09 39 27.2
comp=Z,12nm,0.8s
Z38A Mt. Pleasant 4.43 142 IAmb_Lg 09 39 28.4
comp=Z,15nm,0.8s
P38A Dawn 4.65 51 IAmb_Lg 09 39 41.3
comp=Z,14nm,0.9s
MSTX Muleshoe 4.67 234 IAmb_Lg 09 39 39.1
comp=Z,11nm,1.0s
MGMO Mountain Grove 4.79 84 Pn Pn 09 38 17.5 +0.4
WHTX Lake Whitney, 4.85 172 Pn Pn 09 38 17.9 -0.1
T25A Trinidad 4.95 276 IAmb_Lg 09 39 42.0
comp=Z,15nm,0.9s
R40A Maddies Statio 4.97 71 Pn Pn 09 38 19.6 +0.1
R40A IAmb_Lg 09 39 42.6
comp=Z,9.3nm,1.0s
X40A Basin Creek Fa 4.97 116 Pn Pn 09 38 20.3 +0.7
FCAR Ozark Folk Cen 5.02 99 Pn Pn 09 38 20.8 +0.6
WHAR Wooly Hollow 5.05 106 IAmb_Lg 09 39 55.2
comp=Z,8.5nm,0.9s
WLAR White Oak Lake 5.22 125 IAmb_Lg 09 40 03.9
comp=Z,9.5nm,0.8s
L34A Svendsen Farm, 5.35 15 IAmb_Lg 09 39 51.5
comp=Z,12nm,1.0s
P40A Paris 5.58 59 IAmb_Lg 09 40 10.9
comp=Z,7.3nm,0.8s
CCM Cathedral Cave 5.70 75 IAmb_Lg 09 40 07.0
comp=Z,7.4nm,0.7s
435B Jarrell 6.04 175 IAmb_Lg 09 40 22.5
comp=Z,11nm,0.9s
PBMO Poplar Bluff 6.26 88 IAmb_Lg 09 40 28.8
comp=Z,7.9nm,0.8s
SCIA State Center 6.41 36 IAmb_Lg 09 40 41.4
comp=Z,11nm,0.8s
JCT Junction City 6.45 192 IAmb_Lg 09 40 46.9
comp=Z,9.2nm,0.7s
ECSD EROS Data Cent 7.03 10 IAmb_Lg 09 41 01.4
comp=Z,5.1nm,1.1s
PHWY Pilot Hill 7.19 311 IAmb_Lg 09 40 57.2
comp=Z,5.6nm,1.1s
K38A Parkersburg 7.19 34 IAmb_Lg 09 40 53.9
comp=Z,9.3nm,0.9s
S44A Carbondale 7.22 80 IAmb_Lg 09 40 57.8
comp=Z,8.5nm,0.9s
MNTX Cornudas Mount 7.81 231 IAmb_Lg 09 41 15.2
comp=Z,4.2nm,0.8s
JFWS Jewell Farm 8.65 43 IAmb_Lg 09 41 38.2
comp=Z,6.9nm,0.8s
I40A Norwalk 9.15 37 IAmb_Lg 09 41 55.4
comp=Z,3.9nm,0.8s
SFIN Lafayette 9.42 64 IAmb_Lg 09 42 07.4
comp=Z,6.4nm,0.7s

*SJA **27** 09:47:10.3±0.7, 31°.91S×67°.34W, h123km±3km, ML4.3, MW4.1*
*IDC **27** 09:47:10.5±0.6, 31°.87S×67°.26W, h124km±5km, mb3.5/6, mb1 3.7/11, mb1mx3.6/33, mbtmp4.0/11, Error ellipse: s-maj=23.5km s-min=14.2km az=96.0*
*NEIC **27** 09:47:10.0±2.3, 31°.96S±0°.07×67°.21W±0°.02, h118km±12km, Error ellipse: s-maj=10.2km s-min=3.1km az=178.0*
*VAO **27** 09:47:19.0±0.3, 31°.96S×66°.56W, h175km, mb4.3*
ISC 27 09:47:10.3±0.5,**31°.93S**±0°.04×**67°.29W**±0°.04,**h123**km±5km, **n124**,σ1§**27**/136,**mb3.9**/6,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**1.06**	**273**	*eP*	**Pn**	**09 47 33.9**	**+0.7**
RTCV				*eS*	**Sn**	**09 47 50.4**	**-0.1**
RTLL	**Cerro Villicun**	**1.17**	**300**	*eP*	**Pn**	**09 47 34.9**	**+0.6**
RTLL				*eS*	**Sn**	**09 47 52.7**	**+0.2**
RTLL				IAML		09 47 55.5	
comp=Z,4μm,0.3s							
MRA	**San Martin**	**1.42**	**111**	*eP*	**Pn**	**09 47 39.0**	**+1.8**
MRA				*eS*	**Sn**	**09 47 59.2**	**+1.7**
MRA				IAML		09 47 59.8	
comp=Z,1μm,0.3s							
ARCO	**CERRO ARCO**	**1.66**	**236**	*eS*	**Sn**	**09 48 03.1**	**+0.6**
ARCO				IAML		09 48 04.2	
comp=Z,3μm,0.4s							
APLL	**PUNTA DE LOS L**	**1.66**	**23**	*eP*	**Pn**	**09 47 41.2**	**+1.3**
AAGR	**Agrelo**	**1.74**	**228**	*eP*	**Pn**	**09 47 41.9**	**+1.1**
AAGR				*eS*	**Sn**	**09 48 06.0**	**+2.0**
AUSP	**Uspallata**	**1.80**	**260**	*eP*	**Pn**	**09 47 42.6**	**+0.9**
AUSP				*eS*	**Sn**	**09 48 06.5**	**+0.8**
AVIZ	**Vizcacheras**	**1.85**	**213**	*eP*	**Pn**	**09 47 43.5**	**+1.3**
AVIZ				*eS*	**Sn**	**09 48 07.1**	**+0.6**
ACCO	**Cerro Coronel**	**2.02**	**311**	*eP*	**Pn**	**09 47 45.5**	**+1.0**
ACCO				*eS*	**Sn**	**09 48 13.0**	**+2.5**
ACCO				IAML		09 48 18.9	
comp=Z,743nm,1.3s							
ACDV	**Cuesta del Vie**	**2.35**	**318**	*eP*	**Pn**	**09 47 49.1**	**+0.7**
ACDV				*eS*	**Sn**	**09 48 18.0**	**+0.4**
ACDV				IAML		09 48 21.6	
comp=Z,546nm,0.4s							
ACLC	**CERRO LA CRUZ**	**2.51**	**7**	*eP*	**Pn**	**09 47 51.3**	**+0.8**
ACLC				*eS*	**Sn**	**09 48 21.7**	**+0.3**
ACLC				IAML		09 48 22.4	
comp=Z,1μm,0.7s							
AROD	**Rodeo**	**2.56**	**313**	*eP*	**Pn**	**09 47 52.1**	**+0.8**
AROD				*eS*	**Sn**	**09 48 22.7**	**-0.1**
AGUA	**GUANDACOL**	**2.64**	**337**	*eP*	**Pn**	**09 47 53.2**	**+1.1**
AGUA				*eS*	**Sn**	**09 48 24.5**	**+0.2**
AGUA				IAML		09 48 25.9	
comp=Z,2μm,0.3s							
VA03	**San Esteban**	**2.88**	**252**		**Pn**	**09 47 56.5**	**+1.2**
VA03	**San Esteban**	**2.88**	**252**	*eP*	**Pn**	**09 47 56.4**	**+1.2**
VA03				IAML		09 48 33.6	
comp=Z,1μm,0.7s							
PIL	**Pilar**	**2.92**	**86**	*eP*	Pn	09 48 03.1	+7.5
PIL				*eS*	**Sn**	**09 48 31.8**	**+1.4**
PIL				IAML		09 48 34.0	
comp=Z,2μm,0.8s							
RFA	**San Rafael**	**3.00**	**199**	*eP*	**Pn**	**09 47 57.2**	**+0.5**
RFA				IAML		09 48 34.9	
comp=Z,448nm,0.3s							
CO03	**El Pedregal**	**3.10**	**290**		**Pn**	**09 47 59.2**	**+1.1**
MT03	**Universidad Ad**	**3.13**	**239**		**Pn**	**09 47 59.4**	**+0.9**
MT03	**Universidad Ad**	**3.13**	**239**	*eP*	**Pn**	**09 47 59.2**	**+0.8**
MT03				IAML		09 48 40.4	
comp=Z,628nm,0.2s							
CO02	**Combarbal**	**3.25**	**282**		**Pn**	**09 48 00.6**	**+0.6**
MT05	**Renca**	**3.25**	**242**	Pn	**Pn**	**09 48 00.6**	**+0.6**
VCA	**Vinchina**	**3.28**	**346**	*eP*	**Pn**	**09 48 01.6**	**+1.2**
VCA				IAML		09 48 43.2	
comp=Z,666nm,0.8s							
LAMA	**Las Malvinas**	**3.40**	**208**	*eP*	**Pn**	**09 48 02.8**	**+0.9**
LAMA				*eS*	Sn	09 48 34.2	-7.7
GO04	**Tololo Observa**	**3.48**	**299**	Pn	**Pn**	**09 48 03.6**	**+0.4**
GO04	**Tololo Observa**	**3.48**	**299**	*eP*	**Pn**	**09 48 03.7**	**+0.4**
MT09	**Talagante**	**3.62**	**238**		**Pn**	**09 48 05.1**	**+0.2**
CYA	**Choya**	**3.71**	**21**	*eP*	**Pn**	**09 48 06.5**	**+0.5**
CYA				IAML		09 49 20.2	
comp=Z,212nm,0.5s							
VA01	**Torpederas**	**3.84**	**252**	Pn	**Pn**	**09 48 08.2**	**+0.5**
PUMA	**Malargue**	**3.99**	**206**	*eS*	Sn	09 48 48.0	-7.8
BO01	**Tunca**	**4.02**	**231**		**Pn**	**09 48 09.7**	**-0.4**
VA05	**Santo Domingo**	**4.03**	**243**		**Pn**	**09 48 08.9**	**-1.2**
BO02	**Sierra Bellavi**	**4.08**	**225**		**Pn**	**09 48 12.1**	**+1.1**
BO02	**Sierra Bellavi**	**4.08**	**225**	*eP*	**Pn**	**09 48 12.2**	**+1.1**
BO02				IAML		09 49 10.3	
comp=Z,164nm,0.2s							
LCO	**Las Campanas**	**4.13**	**314**		**Pn**	**09 48 12.4**	**+0.4**
GO05	**Huala**	**4.95**	**230**	Pn	**Pn**	**09 48 20.2**	**-2.3**
AC04	**Llanos de Chal**	**4.95**	**318**	Pn	**Pn**	**09 48 22.2**	**-0.4**
GO03	**Copiap**	**5.02**	**329**	Pn	**Pn**	**09 48 23.7**	**+0.1**
GO03	**Copiap**	**5.02**	**329**	*eP*	**Pn**	**09 48 24.0**	**+0.4**
ML02	**Panimavida**	**5.14**	**221**		**Pn**	**09 48 24.4**	**-0.7**
AC02	**Maricunga**	**5.32**	**342**	Pn	**Pn**	**09 48 29.2**	**+1.1**
BI02	**San Fabín de**	**5.76**	**214**	Pn	**Pn**	**09 48 33.3**	**-0.2**
FSA	**Cafayete**	**5.91**	**12**	*eP*	**Pn**	**09 48 35.8**	**+0.1**
GO02	**Mina Guanaco**	**7.04**	**343**		**Pn**	**09 48 50.8**	**-0.3**
TRQA	**Tornquist**	**7.51**	**146**		**Pn**	**09 48 56.2**	**-0.9**
PB14	**IPOC Station P**	**7.77**	**339**	Pn	**Pn**	**09 49 00.5**	**-0.5**
LC01	**Cunco**	**7.90**	**207**		**Pn**	**09 48 59.9**	**-2.4**
PB15	**IPOC Station P**	**8.90**	**347**		**Pn**	**09 49 14.7**	**-1.4**
PLCA	**Paso Flores**	**9.17**	**196**	P	**Pn**	**09 49 19.2**	**-0.4**
comp=Z,0.6nm,0.3s,baz=19,slow=17,SNR=6.2							
PLCA	**Paso Flores**	**9.17**	**196**	*eP*	Pn	09 49 28.6	+9.0
PLCA	**Paso Flores**	**9.17**	**196**	*eP*	**Pn**	**09 49 19.5**	**-0.1**
PLCA				IAML		09 51 26.1	
comp=Z,13nm,3.9s							
LVC	**Limon Verde**	**9.39**	**351**	P	**Pn**	**09 49 21.2**	**-1.7**
comp=Z,1.6nm,0.3s,baz=163,slow=11,SNR=11							
LVC	**Limon Verde**	**9.39**	**351**		**Pn**	**09 49 21.8**	**-1.1**
LVC	**Limon Verde**	**9.39**	**351**	*eP*	**Pn**	**09 49 22.3**	**-0.6**
LVC				IAML		09 51 56.4	
comp=Z,17nm,0.1s							
PB05	**IPOC Station P**	**9.40**	**343**	*eP*	**Pn**	**09 49 20.6**	**-2.2**
PB05				IAML		09 51 46.4	
comp=Z,17nm,1.6s							
PB06	**IPOC Station P**	**9.40**	**347**		**Pn**	**09 49 20.8**	**-2.1**
ITQB	**Itaqui**	**9.45**	**79**	Pn	**Pn**	**09 49 22.8**	**-0.5**
ITQB	**Itaqui**	**9.45**	**79**	*eP*	**Pn**	**09 49 22.3**	**-1.0**
CPUP	**Villa Florida**	**10.34**	**60**	P	**Pn**	**09 49 33.0**	**-2.4**
comp=Z,1.0nm,0.3s,baz=242,slow=11,SNR=14							
CPUP	**Villa Florida**	**10.34**	**60**	Pn	**Pn**	**09 49 31.8**	**-3.5**
PB07	**IPOC Station P**	**10.42**	**347**		**Pn**	**09 49 33.2**	**-3.4**
PB01	**IPOC Station P**	**11.02**	**349**		**Pn**	**09 49 42.1**	**-2.4**
PLTB	**Pedras Altas**	**11.64**	**93**	Pn	**Pn**	**09 49 51.0**	**-1.7**
PLTB	**Pedras Altas**	**11.64**	**93**	*eP*	**Pn**	**09 49 50.5**	**-2.3**
CPSB	**Cacapava Do Su**	**11.96**	**86**	*eP*	**Pn**	**09 49 54.6**	**-2.3**
AQDB	**Aquidauana**	**15.42**	**45**		**P**	**09 50 43.0**	**-0.1**
AQDB				IAmb	IAmb	09 50 51.5	
comp=Z,7.3nm,0.9s							
AQDB	**Aquidauana**	**15.42**	**45**	*eP*	**P**	**09 50 43.2**	**0.0**
LPAZ	**La Paz**	**15.59**	**357**	P	**Pn**	**09 50 42.8**	**-1.2**
comp=Z,0.1nm,0.3s,baz=177,slow=4.5,SNR=2.9							
LPAZ	**La Paz**	**15.59**	**357**		**P**	**09 50 48.0**	**+2.4**
LPAZ				IAmb	IAmb	09 51 11.6	
comp=Z,6.0nm,0.7s							
LPAZ	**La Paz**	**15.59**	**357**	*eP*	**P**	**09 50 49.3**	**+3.7**
TRCB	**Terra Rica**	**15.87**	**59**	*eP*	**Pn**	**09 50 45.8**	**-1.1**
TER01	**Tubaro-SC**	**16.06**	**83**	*eP*	**Pn**	**09 50 46.3**	**-2.9**
SIV	**San Ignacio**	**16.84**	**21**	P	**Pn**	**09 50 58.5**	**-0.4**
comp=Z,0.8nm,0.3s,baz=217,slow=13,SNR=64							
PCMB	**Pacaembu**	**17.60**	**58**	*eP*	**P**	**09 51 06.4**	**-0.8**
FRTB	**Fartura**	**17.87**	**66**	*eP*	**Pn**	**09 51 10.0**	**-1.2**
PTLB	**Pontes e Lacer**	**18.01**	**26**	*eP*	**Pn**	**09 51 13.6**	**+0.8**
PP1B	**Ponte de Pedra**	**18.16**	**41**	*eP*	**Pn**	**09 51 13.9**	**-0.8**
ITRB	**Iturama**	**19.48**	**55**	*eP*	**P**	**09 51 27.4**	**-0.3**
RCLB	**Rio Claro- Sao**	**19.94**	**67**	*eP*	**P**	**09 51 32.8**	**0.0**
BB19B	**Bebedouro**	**19.95**	**62**	*eP*	**P**	**09 51 32.1**	**-0.7**
VILB	**Vilhena**	**19.98**	**21**	*eP*	**Pn**	**09 51 36.7**	**+0.7**
VAO	**Valinhos**	**20.08**	**69**	*eP*	**P**	**09 51 34.8**	**+0.5**
PARB	**Paraibuna**	**20.99**	**71**	*eP*	**P**	**09 51 42.9**	**-1.1**
ARAG	**Araguaiana, MT**	**21.43**	**45**	*eP*	**P**	**09 51 48.0**	**-0.7**
ETMB	**Extrema**	**22.02**	**3**	*eP*	**P**	**09 51 59.9**	**+4.9**
ESAR	**Angra dos Reis**	**22.10**	**72**	*eP*	**P**	**09 51 55.0**	**-0.7**
IPMB	**Ipameri, GO**	**22.13**	**56**	*eP*	**P**	**09 51 55.2**	**-1.0**
BSCB	**Bom Sucesso**	**22.86**	**67**	*eP*	**P**	**09 52 03.2**	**-0.2**
VAS01	**Vassouras-RJ**	**23.26**	**72**	*eP*	**P**	**09 52 06.7**	**-0.3**
BDFB	**Brasilia**	**23.89**	**52**	P	**P**	**09 52 12.4**	**-0.5**
comp=Z,15nm,0.7s,baz=227,slow=7.4,SNR=17							
BDFB	**Brasilia**	**23.89**	**52**	P	**P**	**09 52 10.8**	**-2.1**
DIAM	**Diamantina, MG**	**25.26**	**63**	*eP*	**P**	**09 52 25.5**	**+0.2**
MC01	**Montes Claros**	**26.04**	**60**	*eP*	**P**	**09 52 30.6**	**-1.7**
ALF01	**Guarapari-ES**	**26.28**	**71**	*eP*	**P**	**09 52 34.4**	**+0.1**
PEXB	**Peixe**	**26.36**	**46**	*eP*	**P**	**09 52 34.4**	**-0.7**
JANB	**Januaria**	**26.86**	**57**	*eP*	**P**	**09 52 39.0**	**-0.6**
BSFB	**Barra de Sao F**	**27.14**	**68**	*eP*	**P**	**09 52 41.6**	**-0.4**
NPGB	**Novo Progresso**	**27.14**	**27**	*eP*	**P**	**09 52 43.7**	**+1.5**
RIB01	**Linhares ES**	**27.23**	**69**	*eP*	**P**	**09 52 42.9**	**0.0**
NAN01	**Guarapari, ES**	**28.26**	**67**	*eP*	**P**	**09 52 51.5**	**-0.5**
SDBA	**SAO DESIDERIO**	**28.30**	**52**	*eP*	**P**	**09 52 52.1**	**-0.5**
GUA01	**Guaratinga, BA**	**29.24**	**65**	*eP*	**P**	**09 53 00.3**	**-0.4**
SMTB	**Santa Maria do**	**29.35**	**43**	*eP*	**P**	**09 53 01.0**	**-0.7**
CMC01	**Camacan, BA**	**30.19**	**63**	*eP*	**P**	**09 53 08.4**	**-0.7**
NBIT	**Itapeh - BA**	**30.52**	**63**	*eP*	**P**	**09 53 11.7**	**-0.4**
GDU01	**Guandu, BA**	**31.18**	**61**	*eP*	**P**	**09 53 15.8**	**-2.1**
NBPN	**Ponto Novo - B**	**32.64**	**56**	*eP*	**P**	**09 53 30.0**	**-0.7**
PMSA	**Palmer Station**	**32.93**	**177**	P	**P**	**09 53 33.5**	**+0.9**
comp=Z,1.0nm,0.6s,baz=321,slow=7.9,SNR=5.9							
PMSA	**Palmer Station**	**32.93**	**177**	IAmb	IAmb	09 53 34.0	
comp=Z,1.0nm,0.7s							
MCPB	**Macapa, AP**	**34.54**	**28**	*eP*	**P**	**09 53 47.3**	**+0.1**
NBAN	**Anadia - AL**	**36.26**	**59**	*eP*	**P**	**09 54 01.0**	**-0.9**
NBRF	**Rio Formoso -**	**37.76**	**59**	*eP*	**P**	**09 54 14.5**	**-0.1**
NBPA	**Parau_RN**	**38.39**	**54**	*eP*	**P**	**09 54 20.3**	**+0.5**
SNAA	**Sanae**	**52.03**	**159**	P	**P**	**09 56 07.1**	**+0.3**
comp=Z,0.4nm,0.5s,baz=290,slow=7.8,SNR=10							
SNAA	**Sanae**	**52.03**	**159**	IAmb	IAmb	09 56 20.0	
comp=Z,6.5nm,1.5s							
VNDA	**Vanda**	**66.88**	**190**	P	**P**	**09 57 50.1**	**+1.6**
comp=Z,0.9nm,0.8s,baz=128,slow=7.9,SNR=3.8							
VNDA	**Vanda**	**66.88**	**190**	P	**P**	**09 57 49.4**	**+0.8**
VNDA				IAmb	IAmb	09 57 51.8	
comp=Z,3.1nm,1.3s							
TXAR	**Lajitas Array**	**70.04**	**327**	P	**P**	**09 58 09.1**	**+0.1**
comp=Z,0.3nm,0.7s,baz=143,slow=7.0,SNR=5.0							
TXAR				pP	**pP**	**09 58 38.7**	**-0.8**
comp=Z,0.4nm,0.7s,baz=143,slow=8.3,SNR=4.1							
BOSA	**Boshof**	**77.44**	**116**	P	**P**	**09 58 51.7**	**-0.8**
comp=Z,1.2nm,0.7s,baz=225,slow=2.9,SNR=1.3							
BOSA				pP	**pP**	**09 59 23.9**	**+0.5**
comp=Z,4.0nm,0.9s,baz=202,slow=4.4,SNR=3.9							
ASAR	**Alice Springs**	**121.12**	**203**	PKP	**PKPdf**	**10 05 48.1**	**-1.0**
comp=Z,0.3nm,0.5s,baz=135,slow=1.6,SNR=6.3							
ASAR				pPKP	**pPKPdf**	**10 06 21.6**	**-0.7**
comp=Z,0.2nm,0.7s,baz=128,slow=1.1,SNR=1.5							
WRA	**Warramunga Arr**	**124.41**	**205**	PKP	**PKPdf**	**10 05 54.7**	**-0.8**
comp=Z,0.9nm,0.4s,baz=158,slow=1.9,SNR=32							
WRA				pPKP	**pPKPdf**	**10 06 28.4**	**-0.3**
comp=Z,0.3nm,0.3s,baz=162,slow=1.7,SNR=1.6							
KURBB	**Kurchatov Arra**	**148.63**	**43**	PKPbc	**PKPbc**	**10 06 43.0**	**+0.5**
comp=Z,0.7nm,0.8s,baz=294,slow=2.8,SNR=6.7							
KURBB				pPKPbc	**pPKPbc**	**10 07 16.1**	**+0.6**
comp=Z,2.4nm,0.8s,baz=297,slow=3.6,SNR=9.7							
ZALV	**Zalesovo Beam**	**150.31**	**34**	pPKPbc	pPKPbc	10 07 21.7	+2.1
comp=Z,1.5nm,0.5s,baz=298,slow=3.2,SNR=3.6							
MKAR	**Makanchi Array**	**152.40**	**49**	PKPbc	**PKiKP**	**10 06 52.7**	**+0.8**
comp=Z,0.3nm,0.7s,baz=304,slow=3.3,SNR=2.3							
MKAR				pPKPbc	**pPKPbc**	**10 07 24.6**	**-0.1**
comp=Z,1.3nm,0.6s,baz=300,slow=1.8,SNR=10.0							

*IDC **27** 09:55:06.5±1.2, 36°.31N×31°.16E, h0km, mb3.8/6, mb1 3.9/13, mb1mx3.6/57, mbtmp3.8/13, ML4.0/6, Error ellipse: s-maj=20.5km s-min=18.5km az=46.0*
*DDA **27** 09:55:09.9, 36°.15N×31°.18E, h30km±1km, MW4.0*
*ISK **27** 09:55:09.3, 36°.10N×31°.15E, h11km, ML4.1/48*
*HLW **27** 09:55:10.1, 36°.16N×31°.05E, h7km±17km, Md4.3, Ml4.5*
*NIC **27** 09:55:10.9±0.0, 35°.89N×31°.15E, h22km±1km, Ml4.3/4*
*THE **27** 09:55:12.9, 36°.09N×31°.14E, h22km±31km, ML3.7/3, Error ellipse: s-maj=37.2km s-min=2.3km az=106.0*
*NEIC **27** 09:55:12.2±2.3, 36°.13N±0°.04×31°.16E±0°.06, h55km±11km, Error ellipse: s-maj=7.4km s-min=4.2km az=53.0*
ISC 27 09:55:11.0±0.9,**36°.06N**±0°.03×**31°.15E**±0°.02,**h47**km±12km, **n183**,σ1§**78**/241,**mb3.7**/6,**4C-2D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.70**	**292**	*i P*	**Pn**	**09 55 25.4**	**+0.8**
AKUM				*i S*	**Sn**	**09 55 38.3**	**+3.9**
KEMT	**Kemer-ANTALYA**	**0.72**	**319**	PG	**Pn**	**09 55 23.4**	**-1.5**
KEMT	**Kemer-ANTALYA**	**0.72**	**319**	Pg	**Pn**	**09 55 23.4**	**-1.5**
KEPZ	**Antalya-Kepez**	**0.92**	**24**	*i P*	**Pn**	**09 55 27.1**	**-0.6**
KEPZ				*i S*	**Sn**	**09 55 38.3**	**-1.5**
ANTB	**Antalya**	**0.93**	**335**	PG	**Pn**	**09 55 27.2**	**-0.5**
ANTB	**Antalya**	**0.93**	**335**	Pg	**Pn**	**09 55 27.2**	**-0.5**
GAZI	**Gazipasa**	**0.96**	**79**	*i P*	**Pn**	**09 55 28.0**	**-0.2**
GAZI				*i S*	**Sn**	**09 55 40.0**	**-0.8**
GAZI	**Gazipasa**	**0.96**	**79**	PG	**Pn**	**09 55 27.8**	**-0.4**
DEMR	**Demre-Antalya**	**1.02**	**280**	PG	**Pn**	**09 55 30.1**	**+1.2**
DEMR	**Demre-Antalya**	**1.02**	**280**	Pg	**Pn**	**09 55 30.1**	**+1.2**
KORT	**Korkueli**	**1.14**	**326**	*i P*	**Pn**	**09 55 30.2**	**-0.4**
KORT				*i S*	**Sn**	**09 55 49.9**	**+4.7**
KORT	**Korkueli**	**1.14**	**326**	PN	**Pn**	**09 55 30.4**	**-0.3**
ELL	**Elmali**	**1.21**	**305**	PN	**Pn**	**09 55 32.9**	**+1.2**
ELL	**Elmali**	**1.21**	**305**	Pn	**Pn**	**09 55 32.9**	**+1.2**
ELL	**Elmali**	**1.21**	**305**	P	**Pn**	**09 55 33.6**	**+1.9**
ELL				S	**Sn**	**09 55 51.8**	**+4.8**
AKAS	**Kas**	**1.26**	**278**	*i P*	**Pn**	**09 55 33.4**	**+1.1**
AKAS				*i S*	**Sn**	**09 55 50.1**	**+2.0**
AKAS	**Kas**	**1.26**	**278**	PN	**Pn**	**09 55 33.4**	**+1.1**
AKAS	**Kas**	**1.26**	**278**		**Pn**	**09 55 33.3**	**+1.1**
KSL	**Kastellorizon**	**1.27**	**275**	P	**Pn**	**09 55 33.5**	**+1.3**
KSL				S	**Sn**	**09 55 50.4**	**+2.2**
2μm,0.4s							
KSL	**Kastellorizon**	**1.27**	**275**		**Pn**	**09 55 33.6**	**+1.3**
KSL					**Sn**	**09 55 50.8**	**+2.7**
KSL	**Kastellorizon**	**1.27**	**275**	⇑P	**Pn**	**09 55 33.6**	**+1.3**
KSL				S	**Sn**	**09 55 50.8**	**+2.7**
BUCA	**Burdur, Bucak-**	**1.35**	**340**	*i P*	**Pn**	**09 55 32.7**	**-0.8**
BUCA				*i S*	**Sn**	**09 55 49.5**	**-0.9**
AKMS	**Akamas**	**1.42**	**137**		**Pn**	**09 55 35.0**	**+0.6**
AKMS	**Akamas**	**1.42**	**137**	P	**Pn**	**09 55 35.0**	**+0.6**
AKMS				AML	AML	09 55 59.3	
17nm,0.4s							
AKMS				AML	AML	09 56 00.7	
12nm,0.3s							
SEYD	**Seydisehir-KON**	**1.46**	**22**	PN	**Pn**	**09 55 35.7**	**+0.7**
SEYD	**Seydisehir-KON**	**1.46**	**22**	Pn	**Pn**	**09 55 35.7**	**+0.7**
BCK	**Bucak**	**1.47**	**342**	PN	**Pn**	**09 55 35.4**	**+0.2**
SEDI	**Konya, Seydise**	**1.48**	**19**	*i P*	**Pn**	**09 55 35.6**	**+0.3**
SEDI				*i S*	**Sn**	**09 55 53.5**	**+0.1**
BOZY	**Bozyazi-Mersin**	**1.48**	**88**	PN	**Pn**	**09 55 35.5**	**+0.3**
ALFC	**Alefka**	**1.49**	**127**	⇓P	**Pn**	**09 55 35.6**	**+0.3**
ALFC				S	**Sn**	**09 55 53.7**	**+0.1**
ALFC				AML	AML	09 55 55.7	
10nm,0.3s							
ALFC				AML	AML	09 55 55.7	
10nm,0.3s							
ALFC				AML	AML	09 55 59.9	
18nm,0.3s							
ALFC				AML	AML	09 55 59.9	
18nm,0.3s							
TEKE	**Tekeli-Mersin**	**1.60**	**86**	PN	**Pn**	**09 55 37.7**	**+0.9**
AKDN	**Akdeniz- Kıbrı**	**1.67**	**117**	PN	**Pn**	**09 55 39.1**	**+1.4**
LEF	**Lefka**	**1.70**	**123**	PN	**Pn**	**09 55 39.4**	**+1.2**
BERE	**Bereket-Mersin**	**1.71**	**80**	PN	**Pn**	**09 55 39.9**	**+1.5**
CAME	**Cameli-Denizli**	**1.73**	**301**	PN	**Pn**	**09 55 40.4**	**+1.7**
GOLH	**Golhisar**	**1.73**	**313**	*i P*	**Pn**	**09 55 40.9**	**+2.1**
GOLH				*i S*	**Sn**	**09 56 03.8**	**+4.0**
FETY	**Fethiye**	**1.76**	**290**	P	**Pn**	**09 55 40.9**	**+1.8**
FETY				S	**Sn**	**09 56 02.1**	**+1.8**
FETY	**Fethiye**	**1.76**	**290**	PN	**Pn**	**09 55 40.8**	**+1.7**
CAEL	**Denizli, Camel**	**1.81**	**306**	*i P*	**Pn**	**09 55 42.6**	**+2.7**
CAEL				*i S*	Sn	09 56 12.9	+11
ISP	**Isparta**	**1.83**	**344**	PN	**Pn**	**09 55 41.3**	**+1.2**
ISP	**Isparta**	**1.83**	**344**	Pn	**Pn**	**09 55 40.7**	**+0.6**
YORU	**Yoruktepe-Mers**	**1.83**	**86**	PN	**Pn**	**09 55 41.6**	**+1.5**
BRDR	**BURDUR-Merkez**	**1.85**	**332**	*i P*	**Pn**	**09 55 42.3**	**+1.9**
BRDR				*i S*	**Sn**	**09 56 05.9**	**+3.3**
KKBE	**Karaman, Kazim**	**1.85**	**51**	*i P*	**Pn**	**09 55 42.2**	**+1.8**
KKBE				*i S*	**Sn**	**09 56 04.9**	**+2.2**
OREN	**Orenkoy-Mersin**	**1.88**	**85**	PN	**Pn**	**09 55 42.3**	**+1.7**
TEVE	**Tevekalti-Mers**	**1.90**	**78**	PN	**Pn**	**09 55 42.5**	**+1.5**
AKK1	**Akkuyu-Mersin**	**1.94**	**87**	PN	**Pn**	**09 55 43.3**	**+1.8**
GULN	**MERSIN_Gulnar**	**1.95**	**86**	*i P*	**Pn**	**09 55 43.0**	**+1.4**
GULN				*i S*	**Sn**	**09

MANT *i* S **Sn** **09 56 36.6 +0.9**
MANT Manisa 3.19 320 **Pn** **09 55 58.7 -0.2**
BODT Bodrum 3.25 289 P **Pn** **09 56 00.7 +1.3**
BODT S **Sn** **09 56 36.6 -0.2**
KARP Karpathos 3.28 262 P **Pn** **09 56 01.3 +1.4**
KARP Karpathos 3.28 262 Pn **Pn** **09 56 01.6 +1.7**
KARP Karpathos 3.28 262 ⇑P **Pn** **09 56 01.4 +1.4**
CIFT Cifteler, Eski 3.30 359 PN **Pn** **09 56 01.0 +0.8**
GDZ Gediz 3.30 337 *i* P **Pn** **09 56 01.2 +0.9**
KULU Kulu 3.33 26 PN **Pn** **09 56 01.5 +0.9**
GULA Gulagac 3.36 46 PN **Pn** **09 56 03.1 +2.0**
KKUL Konya-Kulu 3.41 24 *i* P **Pn** **09 56 02.8 +1.0**
KKUL *i* S **Sn** **09 56 41.8 +0.8**
DDIM Aydin, Didim 3.43 295 *i* P **Pn** **09 56 02.5 +0.6**
DDIM *i* S **Sn** **09 56 39.6 -1.8**
KRTS Karatas 3.46 80 PN **Pn** **09 56 04.8 +2.5**
ESKT Eskisehir 3.46 356 PN **Pn** **09 56 04.0 +1.5**
SERE Sereflikochisa 3.47 33 PN **Pn** **09 56 03.9 +1.3**
CMRD Camardi-Nigde 3.48 61 PN **Pn** **09 56 05.0 +2.3**
NIDE Nigde/Merkez-G 3.49 55 *i* P **Pn** **09 56 05.6 +2.6**
NIDE *i* S **Sn** **09 56 43.2 +0.1**
DEMI Demirci 3.55 328 *i* P **Pn** **09 56 04.9 +1.2**
DEMI *i* S **Sn** **09 56 44.1 -0.3**
YAYX Yaylak 3.57 36 PN **Pn** **09 56 05.4 +1.4**
SMG Samos 3.83 297 P **Pn** **09 56 08.0 +0.6**
AUBOZ BOZOYUK 3.95 347 *i* P **Pn** **09 56 08.9 -0.2**
KOZT Kozan 4.02 68 PN **Pn** **09 56 12.3 +2.3**
YAYL Yayladag 4.02 89 PN **Pn** **09 56 12.6 +2.4**
ANTO Ankara 4.02 18 Pn **Pn** **09 56 10.4 +0.3**
TAHT Tahtakopru-Hat 4.09 84 PN **Pn** **09 56 13.8 +2.8**
DURS Dursunbey 4.12 330 *i* P **Pn** **09 56 12.7 +1.1**
DURS *i* S **Sn** **09 56 58.4 0.0**
ZKR Zakros 4.12 258 P **Pn** **09 56 13.0 +1.5**
ZKR Zakros 4.12 258 P **Pn** **09 56 12.9 +1.5**
BR131 Keskin Array S 4.16 28 Pn **Pn** **09 56 12.2 +0.1**
BRTR Keskin Array B 4.16 28 Pn **Pn** **09 56 11.7 -0.4**
3.2nm,0.3s,baz=217,slow=14,SNR=74
BRTR Sn **Sn** **09 56 54.4 -5.1**
9.3nm,0.3s,baz=204,slow=17,SNR=12
BRTR Keskin Array B 4.16 28 Pn **Pn** **09 56 12.2 +0.1**
STEP BALIKESIR_Sava 4.29 322 *i* P **Pn** **09 56 14.1 +0.4**
ZEYE Izmir, Urla-Ze 4.30 302 *i* P **Pn** **09 56 13.8 0.0**
HWQ Hawqa 4.32 113 *e*P **Pn** **09 56 17.3 +3.0**
ZEDA zmir-Bergama 4.35 313 *i* P **Pn** **09 56 15.4 +0.9**
ZEDA *i* S **Sn** **09 57 01.5 -2.3**
SAIM ADANA 4.39 63 *i* P **Pn** **09 56 14.3 -0.9**
MDUB Mudurnu 4.41 1 Pn **Pn** **09 56 16.4 +0.9**
BALB Balikesir 4.41 325 Pn **Pn** **09 56 16.3 +0.9**
SANT Santorini 4.61 276 Pn **Pn** **09 56 18.6 +0.4**
SANT **Sn** **09 57 09.8 -0.6**
RCY Rachaya 4.63 122 *e*P **Pn** **09 56 21.5 +2.9**
MMAI Mount Meron Ar 4.64 130 Pn **Pn** **09 56 20.9 +2.2**
18nm,0.3s,baz=316,slow=8.2,SNR=18
MMAI Sn **Sn** **09 57 13.7 +2.3**
51nm,0.3s,baz=306,slow=27,SNR=10.0
BNN Bunyan 4.67 52 Pn **Pn** **09 56 20.2 +1.1**
CHOS Chios island 4.68 301 P **Pn** **09 56 20.0 +0.8**
LAST Lasithi 4.70 261 P **Pn** **09 56 20.9 +1.4**
GAZ Gaziantep 5.00 75 Pn **Pn** **09 56 24.8 +1.1**
IDI Anoyia 5.15 263 Pn **Pn** **09 56 26.1 +0.5**
5.9nm,0.3s,baz=85,slow=14,SNR=25
IDI Sn **Sn** **09 57 20.9 -2.9**
14nm,0.3s,baz=62,slow=2.1,SNR=9.9
IDI Anoyia 5.15 263 P **Pn** **09 56 26.0 +0.4**
IDI S **Sn** **09 57 20.8 -2.9**
IDI Anoyia 5.15 263 Pn **Pn** **09 56 25.8 +0.1**
IMMV Iera Moni Meta 5.86 266 P **Pn** **09 56 37.0 +1.8**
HHAG Hagoal 6.14 172 P **Pn** **09 56 40.9 +1.7**
baz=171
HHAG AMP 09 57 00.0
baz=171
HHAG S **Sn** **09 57 47.5 -0.6**
baz=171
KOT Kottamia 6.14 174 P **Pn** **09 56 40.8 +1.6**
baz=173
KOT S **Sn** **09 57 47.3 -0.9**
baz=173
HMYD Mayadein 6.25 183 P **Pn** **09 56 42.0 +1.3**
baz=182
ALN Alexandroupoli 6.27 322 Pn **Pn** **09 56 43.4 +2.5**
SUZ Suez 6.36 167 P **Pn** **09 56 44.1 +1.9**
baz=166
ANKY Antikythira Is 6.36 271 P **Pn** **09 56 43.0 +0.8**
HNAT Natroun 6.42 184 P **Pn** **09 56 45.5 +2.5**
baz=184
HSAF As Saff 6.43 177 P **Pn** **09 56 44.6 +1.5**
baz=176
GLL Jalalah 6.48 176 P **Pn** **09 56 45.5 +1.6**
baz=174
RYAN Fayoum 6.99 186 P **Pn** **09 56 52.8 +1.9**
baz=186
RYAN AMP 09 58 00.0
baz=186
RYAN S **Sn** **09 58 07.1 -2.0**
baz=186
EIL Elat 7.13 152 Pn Pn 09 56 56.7 +4.0
4.2nm,0.3s,baz=340,slow=2.1,SNR=22
EIL Sn **Sn** **09 58 13.3 +0.9**
3.2nm,0.3s,baz=74,slow=16,SNR=2.8
NBNS Bani Suef 7.41 179 P **Pn** **09 56 58.4 +1.7**
baz=178
ITM Ithomi 7.50 281 Pn **Pn** **09 57 00.1 +2.4**
SWA2 8.31 217 P **Pn** **09 57 10.3 +1.3**
baz=216
MLR Muntele Rosu 10.21 339 Pn **Pn** **09 57 34.5 -0.5**
0.2nm,0.3s,baz=238,slow=7.3,SNR=4.9
AKASG Malin Array Be 14.70 355 Pn **Pn** **09 58 33.4 -2.5**
0.7nm,0.3s,baz=176,slow=9.1,SNR=1.8
AKBB Malin Array Si 14.70 355 P **P** **09 58 39.2 -1.9**
GERES GERESS Array B 18.08 320 Pn **P** **09 59 19.0 +0.4**
baz=127,slow=7.9,SNR=1.5
MUD Monsted U'grnd 25.23 331 *i* **P** **10 00 36.8 +4.5**
FINES FINESS Array B 25.61 354 P **P** **10 00 33.4 -2.3**
1.6nm,0.7s,baz=187,slow=9.4,SNR=6.3
HFS Hagfors 26.59 340 P **P** **10 00 43.2 -1.3**
1.7nm,0.8s,baz=152,slow=13,SNR=1.2
ESDC Sonseca Array 27.84 288 P **P** **10 00 56.3 +0.2**
0.5nm,0.5s,baz=73,slow=9.5,SNR=2.2
ARCES ARCESS Array B 33.68 356 P **P** **10 01 46.9 -0.2**
2.1nm,0.8s,baz=165,slow=10.0,SNR=3.8
KURBB Kurchatov Arra 36.76 52 P **P** **10 02 13.3 -0.5**
0.5nm,0.5s,baz=270,slow=8.7,SNR=5.8
MKAR Makanchi Array 39.19 58 P **P** **10 02 34.2 -0.2**
0.4nm,0.7s,baz=272,slow=7.9,SNR=4.5

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*JMA **27** 10:00:14.7±0.3, 34°.24N×140°.68E, h48km±5km, M3.1*
*IDC **27** 10:00:20.0±2.7, 34°.09N×139°.90E, h89km±11km, mb3.0/2, mb1 3.3/3, mb1mx2.9/56, mbtmp3.3/3, Error ellipse: s-maj=90.5km s-min=9.1km az=74.0*
ISC 27 10:00:15.0±1.3, 34°.23N±0°.04×140°.70E±0°.08, h58km, n18, σ0 56/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.48**	**28**	P	**Pn**	**10 00 25.4**	**-0.6**
BSO3	**Boso 3**	**0.59**	**345**	P	**Pn**	**10 00 27.2**	**-0.4**
BSO4	**Boso 4**	**0.82**	**339**	P	**Pn**	**10 00 30.4**	**-0.1**
JMKN	**Mikurajimanish**	**0.98**	**250**	P	**Pn**	**10 00 32.3**	**-0.4**
JMKN				*e*S	**Sn**	**10 00 45.2**	**-0.5**
JKUC	**kamogawauchiur**	**1.02**	**336**	P	**Pn**	**10 00 32.7**	**-0.5**
JIM2	**Oshima 3**	**1.16**	**295**	*e*S	**Sn**	**10 00 49.0**	**-1.0**
JTHY	**Toshimahigashi**	**1.20**	**285**	P	**Pn**	**10 00 35.5**	**-0.1**
JKO	**Kozu shima**	**1.30**	**269**	P	**Pn**	**10 00 36.7**	**-0.2**
JHJ2	**Mitsune**	**1.33**	**214**	P	**Pn**	**10 00 37.3**	**-0.1**
JHJ2				*e*S	**Sn**	**10 00 54.1**	**0.0**
JHJ	**Hachijo jima 2**	**1.34**	**215**	P	**Pn**	**10 00 37.5**	**0.0**
	24nm,0.3s,baz=110,slow=22,SNR=14						
JHJ				S	**Sn**	**10 00 54.4**	**0.0**
	96nm,0.3s,baz=23,slow=23,SNR=25						
KTJ3	**Kamata3**	**1.52**	**298**	P	**Pn**	**10 00 39.0**	**-0.8**
MJAR	**Matsushiro Arr**	**3.08**	**319**	P	**Pn**	**10 01 01.4**	**+0.3**
	0.6nm,0.3s,baz=165,slow=15,SNR=22						
MJAR				S	**Sn**	**10 01 36.6**	**-0.2**
	0.4nm,0.3s,baz=131,slow=9.9,SNR=3.2						
MAT	**Matsushiro**	**3.08**	**319**	P	**Pn**	**10 01 02.4**	**+1.2**
MAT				S	**Sn**	**10 01 37.5**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**27.35**	**115**	T	T	10 35 24.7	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**27.35**	**115**	T	T	10 35 21.6	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**27.36**	**115**	T	T	10 35 40.0	
	baz=308						
WRA	**Warramunga Arr**	**54.21**	**187**	P	**P**	**10 09 34.8**	**0.0**
	0.4nm,0.6s,baz=7.0,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**57.94**	**187**	P	**P**	**10 10 01.9**	**+0.6**
	0.2nm,0.5s,baz=7.8,slow=12,SNR=4.8						

IDC 27 10:00:59.5±2.7, 53°.74N×86°.94E, h0km, mb1 2.8/2, mb1mx2.8/61, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=15.2km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**280**	*i*		10 09 00.0	
	baz=99,slow=310,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.27**	**280**	Pg	Pg	10 01 22.5	-1.3
	1.1nm,0.3s,baz=98,slow=18,SNR=7.7						
ZALV				Lg	Lg	10 01 40.9	
	1.6nm,0.3s,baz=99,slow=27,SNR=8.4						
ZALV				Rg	Rg	10 01 49.9	
	2.1nm,0.3s,baz=111,slow=24,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.04**	**242**	Pn	Pn	10 02 31.1	+1.1
	0.1nm,0.3s,baz=57,slow=14,SNR=5.4						
KURBB				Lg	Lg	10 04 09.5	
	0.0nm,0.3s,baz=65,slow=36,SNR=5.7						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	10 02 52.1	+1.2
	0.1nm,0.3s,baz=27,slow=13,SNR=4.7						
MKAR				Lg	Lg	10 04 58.2	
	0.1nm,0.3s,baz=24,slow=31,SNR=5.1						

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*IDC **27** 10:19:15.3±5.2, 5°.85S×153°.89E, h53km±46km, mb3.5/6, mb1 3.7/7, mb1mx3.5/35, mbtmp3.8/7, ML2.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/25, Error ellipse: s-maj=32.2km s-min=30.2km az=77.0*
ISC 27 10:19:14.5±1.0, 5°.8S±0°.2×154°.1E±0°.1, h48km, n11, σ1 9 13/10, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.71**	**242**	P	**Pn**	**10 21 03.3**	**-0.9**
	2.3nm,0.3s,baz=23,slow=8.4,SNR=3.6						
PMG				S	**Sn**	**10 22 32.3**	**+2.1**
	1.2nm,0.3s,baz=107,slow=22,SNR=2.2						
DZM	**Mont Dzumac**	**20.12**	**145**	P	**P**	**10 23 45.3**	**+0.7**
	3.5nm,0.6s,baz=305,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**23.76**	**232**	P	**P**	**10 24 21.7**	**-1.0**
	3.3nm,0.8s,baz=53,slow=9.6,SNR=21						
WRA				PcP	**PcP**	**10 28 05.2**	**-0.4**
	0.8nm,1.1s,baz=59,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**26.29**	**225**	P	**P**	**10 24 44.8**	**-1.0**
	1.6nm,0.9s,baz=59,slow=8.8,SNR=16						
ASAR				PcP	**PcP**	**10 28 10.7**	**-0.6**
	0.6nm,0.6s,baz=47,slow=2.5,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**27.18**	**27**	T	T	10 52 48.2	
	baz=207,slow=73,SNR=15						
H11S2	**WAKE ISLAND Hy**	**27.18**	**27**	T	T	10 52 48.7	
	baz=207,slow=73,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.19**	**27**	T	T	10 52 49.3	
	baz=207,slow=73,SNR=16						
URZ	**Urewera**	**38.49**	**150**	LR	LR	10 40 30.8	
	comp=Z,177nm,19.0s,baz=185,slow=33						
SONM	**Songino Array**	**67.84**	**327**	P	**P**	**10 30 07.7**	**-0.1**
	0.8nm,0.7s,baz=106,slow=3.1,SNR=2.3						
MKAR	**Makanchi Array**	**81.90**	**319**	P	**P**	**10 31 29.0**	**0.0**
	0.2nm,0.6s,baz=116,slow=3.4,SNR=2.1						
ILAR	**Eielson Array**	**82.62**	**22**	P	**P**	**10 31 33.3**	**+1.0**
	0.2nm,0.6s,baz=251,slow=5.4,SNR=2.1						

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*IDC **27** 10:30:28.9±0.8, 25°.56N×124°.83E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/43, mbtmp3.8/11, ML3.2/3, Error ellipse: s-maj=26.2km s-min=16.3km az=75.0*
*JMA **27** 10:30:30.3±0.3, 25°.57N×124°.81E, h14km±4km, M3.7*
*NIED **27** 10:30:30.4, 25°.57N×124°.82E, h14km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; M_{rr}=1.48; $M_{\theta\theta}$=0.99; $M_{\phi\phi}$=0.48; $M_{r\theta}$=-0.27; $M_{\theta\phi}$=0.62; $M_{r\phi}$=-0.05; Fault plane solution: M_0=1.47000×10^15 NP1:ϕ_s=60.00000°, δ=50.00000°, λ=-85.00000°. NP2:ϕ_s=232.00000°, δ=40.00000°, λ=-96.00000°.*
ISC 27 10:30:30.2±1.6, 25°.56N±0°.05×124°.84E±0°.04, h11km±11km, n24, σ0 8 8/34, mb3.8/8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.73**	**149**	P	**Pb**	**10 30 44.8**	**-0.2**
JIKM				S	**Sb**	**10 30 55.0**	**0.0**
JIRB	**Irabujima**	**0.79**	**157**	P	**Pg**	**10 30 45.4**	**0.0**
JIRB				S	**Sg**	**10 30 55.9**	**+0.2**
JTJ	**Tarama**	**0.92**	**188**	P	**Pg**	**10 30 47.8**	**-0.2**
JTJ				S	**Sb**	**10 31 00.9**	**+0.5**
JMJ2	**Miyako jima3**	**0.93**	**151**	P	**Pg**	**10 30 48.0**	**-0.1**
JMJ2				S	**Sb**	**10 31 01.0**	**+0.4**
JOGS	**Gusukube**	**0.94**	**147**	P	**Pg**	**10 30 48.4**	**-0.1**
JOGS				S	**Sb**	**10 31 01.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.08**	**206**	P	**Pb**	**10 30 50.5**	**-0.4**
JISG				*e*S	**Sb**	**10 31 04.5**	**-0.4**
JIJ	**Ishigaki jima**	**1.34**	**208**	P	**Pn**	**10 30 54.3**	**-0.7**
JIJ				*e*S	**Sb**	**10 31 11.9**	**-0.8**
JKRS	**Kuro-shima**	**1.51**	**210**	P	**Pn**	**10 30 57.6**	**+0.3**
IRIF	**Iriomote-Funau**	**1.58**	**220**	P	**Pn**	**10 30 57.9**	**-0.3**
HATJ	**Hateruma jima**	**1.76**	**212**	P	**Pb**	**10 31 01.7**	**-0.9**
JKE	**Kume jima 2**	**1.92**	**66**	P	**Pn**	**10 31 01.0**	**-1.8**
YOJ	**Yonaguni jima**	**1.98**	**237**	P	**Pb**	**10 31 05.8**	**-0.6**
JYNG	**Yonagunijimaku**	**2.04**	**238**	P	**Pb**	**10 31 06.1**	**-1.2**
JOW	**Kunigami**	**3.34**	**67**	Pn	**Pn**	**10 31 22.9**	**+0.5**
	7.9nm,0.3s,baz=241,slow=12,SNR=24						
JOW				Sn	**Sn**	**10 31 59.9**	**-2.2**
	12nm,0.3s,baz=24,slow=29,SNR=3.8						
KSRS	**Korea Array**	**12.15**	**12**	Pn	**Pn**	**10 33 24.9**	**+1.6**
	0.2nm,0.3s,baz=194,slow=15,SNR=2.5						
USRK	**Ussurisyk Ar.**	**19.49**	**16**	P	**Pn**	**10 34 58.6**	**+0.2**
	baz=201,slow=8.4,SNR=5.7						
KLR	**Kul'dur**	**24.24**	**11**	P	**P**	**10 35 49.1**	**+2.0**
	0.4nm,0.3s,baz=247,slow=6.1,SNR=3.6						
SONM	**Songino Array**	**26.57**	**332**	P	**P**	**10 36 09.0**	**+0.6**
	0.7nm,0.5s,baz=154,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**39.74**	**313**	P	**P**	**10 38 03.3**	**+0.4**
	1.8nm,0.6s,baz=100,slow=10,SNR=17						
MKAR				PcP	**PcP**	**10 40 09.2**	**-0.1**
	0.7nm,0.7s,baz=73,slow=4.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**40.98**	**325**	P	**P**	**10 38 12.7**	**-0.3**
	1.7nm,0.4s,baz=101,slow=6.2,SNR=7.5						
KURBB	**Kurchatov Arra**	**43.26**	**318**	P	**P**	**10 38 31.7**	**0.0**
	0.9nm,0.8s,baz=109,slow=8.1,SNR=5.9						
WRA	**Warramunga Arr**	**46.16**	**168**	P	**P**	**10 38 55.2**	**+0.1**
	0.7nm,0.7s,baz=349,slow=8.4,SNR=9.0						
ASAR	**Alice Springs**	**49.71**	**169**	P	**P**	**10 39 23.5**	**+0.9**
	0.9nm,0.6s,baz=354,slow=8.8,SNR=24						
ASAR				PcP	**PcP**	**10 40 44.1**	**+0.4**
	0.9nm,0.8s,baz=353,slow=3.2,SNR=5.5						
ILAR	**Eielson Array**	**66.47**	**28**	P	**P**	**10 41 18.1**	**-1.4**
	0.5nm,0.8s,baz=263,slow=6.7,SNR=8.4						

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*IDC **27** 10:33:30.3±0.7, 5°.61S×77°.35W, h0km, mb4.2/10, mb1 4.3/14, mb1mx4.1/36, mbtmp4.2/14, ML4.1/4, MS3.6/6, Ms1 3.6/6, ms1mx3.2/38, Error ellipse: s-maj=18.9km s-min=15.3km az=85.0*
*NEIC **27** 10:33:36.0±2.5, 5°.76S±0°.03×77°.29W±0°.07, h41km±9km, mb4.4/38, Error ellipse: s-maj=10.9km s-min=4.7km az=80.0*
*VAO **27** 10:34:12.7±0.4, 6°.03S×74°.26W, h147km, mb4.3*
ISC 27 10:33:34.3±0.5, 5°.66S±0°.05×77°.17W±0°.06, h26km, n105, σ1 9 67/96, mb4.4/25, MS3.4/3, 1C, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.91**	**220**	Pn	**Pn**	**10 34 04.2**	**-1.3**
	138nm,0.3s,baz=29,slow=11,SNR=491						
ATAH				Sn	**Sn**	**10 34 27.4**	**-1.6**
	180nm,0.3s,baz=66,slow=15,SNR=12						
OTAV	**Otavalo**	**6.00**	**348**		**Pn**	**10 35 04.2**	**+2.4**
PAC1	**Pacto, Paraso**	**6.11**	**345**	*e*P	**Pn**	**10 35 05.4**	**+2.3**
PAC1				*e*S	**Sn**	**10 36 16.0**	**+3.8**
PTLC	**Puerto Leguiza**	**6.26**	**22**	*e*P	**Pn**	**10 35 01.1**	**-3.9**
PTLC				*e*S	Sn	10 36 04.5	-11
NNA	**Nana**	**6.29**	**177**	Pn	**Pn**	**10 35 06.4**	**+0.9**
	10.0nm,0.3s,baz=347,slow=11,SNR=16						
NNA				Sn	**Sn**	**10 36 16.3**	**-0.4**
	31nm,0.3s,baz=124,slow=19,SNR=11						
NNA				LR	LR	10 37 41.3	
	comp=Z,504nm,20.5s,baz=335,slow=40						
NNA	**Nana**	**6.29**	**177**	Pn	**Pn**	**10 35 05.7**	**+0.2**
TBTG	**Tabatinga, AM**	**7.38**	**79**	*e*P	**Pn**	**10 35 21.7**	**+1.3**
BBAC	**Balboa, Cauca**	**7.63**	**359**	*e*P	**Pn**	**10 35 25.6**	**+1.5**
SOTA	**Rioblanco**	**7.76**	**4**	*e*P	**Pn**	**10 35 23.7**	**-2.5**
GARC	**Garzon, Huila**	**7.97**	**12**	*e*P	**Pn**	**10 35 26.5**	**-2.4**
PCON	**Cinco Dias**	**7.97**	**6**	*e*P	**Pn**	**10 35 29.3**	**+0.2**
POPC	**Popayan, Colom**	**8.16**	**3**	*e*P	Pn	10 35 22.3	-9.1
MACC	**Macarena, Meta**	**8.43**	**23**	*e*P	**Pn**	**10 35 33.5**	**-1.4**
BETC	**Betania**	**8.46**	**12**	*e*P	**Pn**	**10 35 35.8**	**+0.4**
MARP	**Paez Belalcaza**	**8.53**	**8**	*e*P	**Pn**	**10 35 36.9**	**+0.3**
YOTC	**Yotoco, Valle**	**9.62**	**5**	*e*P	**Pn**	**10 35 50.4**	**-0.8**
ORTC	**Ortega, Tolima**	**9.70**	**11**	*e*P	Pn	10 35 43.3	-9.0
ORTC				*e*S	Sn	10 38 28.1	+48
ORTC				*i*		10 39 08.2	
	comp=Z,37nm,0.6s						
ANIL	**Santa Ana**	**10.24**	**10**	*e*P	**Pn**	**10 36 03.2**	**+3.3**
ANIL				*e*S	Sn	10 38 39.4	+45
ANIL				*i*		10 39 31.5	
	comp=Z,38nm,0.5s						
TOLC	**Tolima**	**10.34**	**10**	*e*P	**Pn**	**10 36 03.5**	**+2.1**
PLMC	**San Jos del P**	**10.53**	**5**	*e*P	**Pn**	**10 36 04.4**	**+0.6**
PLMC				*e*S		10 39 06.8	
CHIC	**Chingaza**	**10.78**	**19**	*e*P	**Pn**	**10 36 10.2**	**+2.7**
ROSC	**El Rosal**	**10.81**	**15**	Pn	**Pn**	**10 36 10.1**	**+2.2**
	comp=Z,2.8nm,0.3s,baz=2.4,slow=19,SNR=2.2						
ROSC				Lg	Lg	10 39 15.8	
	comp=Z,2.5nm,0.3s,baz=118,slow=22,SNR=1.9						
ROSC				LR	LR	10 41 15.4	
	comp=Z,368nm,20.4s,baz=230,slow=43						
GUY2C	**Guyana, Caldas**	**10.96**	**9**	⇑*e*P	**Pn**	**10 36 13.5**	**+3.5**
GUY2C				*i*		10 39 56.5	
	comp=Z,5.6nm,0.7s						
NORC	**Norcasia**	**11.38**	**12**	*e*P	**Pn**	**10 36 13.0**	**-2.4**
ETMB	**Extrema**	**11.61**	**112**	*e*P	**Pn**	**10 36 17.1**	**-1.4**
RUSC	**La Rusia**	**12.18**	**20**	Pn	**Pn**	**10 36 27.5**	**+0.8**
RUSC	**La Rusia**	**12.18**	**20**	*e*P	**Pn**	**10 36 26.9**	**+0.2**
BARC	**Barichara**	**12.80**	**18**	*e*P	**Pn**	**10 36 35.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**13.27**	**10**	*e*P	**Pn**	**10 36 37.7**	**-3.4**
ZARC				*i*		10 36 38.6	
LPAZ	**La Paz**	**13.78**	**141**	Pn	**Pn**	**10 36 48.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=324,slow=10,SNR=6.1						
LPAZ	**La Paz**	**13.78**	**141**	Pn	**Pn**	**10 36 48.2**	**-0.5**
MNMC	**Minye Minye**	**15.29**	**152**	P	**Pn**	**10 37 10.5**	**+1.8**
MACA	**Manacapuru-AM**	**16.62**	**82**	*e*P	**Pn**	**10 37 23.9**	**-1.8**
PB01	**IPOC Station P**	**17.01**	**155**	P	**P**	**10 37 32.3**	**0.0**
PB07	**IPOC Station P**	**17.46**	**157**	P	**P**	**10 37 38.3**	**+0.9**
PTGA	**Pitinga**	**17.85**	**75**	P	**Pn**	**10 37 41.1**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=312,slow=22,SNR=15						
PTGA				S	**Sn**	**10 40 55.1**	**-4.4**
	comp=Z,1.0nm,0.3s,baz=148,slow=23,SNR=5.2						
PTGA				Lg		10 42 55.6	
	comp=Z,0.6nm,0.3s,baz=312,slow=22,SNR=2.2						
PTGA				LR	LR	10 45 26.2	
	comp=Z,250nm,19.4s,baz=248,slow=40						
BOAV	**Boa Vista**	**18.45**	**65**	*e*P	**Pn**	**10 37 49.9**	**+1.5**
SIV	**San Ignacio**	**18.83**	**124**	P	**P**	**10 37 52.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=318,slow=11,SNR=16						
PCRV	**Puerto La Cruz**	**20.08**	**38**	P	Pn	10 38 08.0	0.0
	comp=Z,13nm,0.8s,baz=347,slow=16,SNR=4.5						
PLCV	**Puerto La Cruz**	**20.10**	**39**	P	Pn	10 38 08.0	-0.2
PTLB	**Pontes e Lacer**	**20.20**	**120**	*e*P	**P**	**10 38 08.0**	**+0.7**
ITTB	**Itaituba**	**21.39**	**88**	*e*P	**P**	**10 38 19.2**	**-1.0**
NPGB	**Novo Progresso**	**21.72**	**95**	*e*P	**P**	**10 38 22.0**	**-1.8**
CLDB	**Colider**	**21.77**	**105**	*e*P	**P**	**10 38 22.2**	**-2.0**
AC02	**Maricunga**	**22.41**	**161**	P	**P**	**10 38 33.8**	**+2.2**
SALV	**Santo Antonio**	**23.39**	**117**	*e*P	**P**	**10 38 42.2**	**+0.8**
PP1B	**Ponte de Pedra**	**24.81**	**120**	*e*P	**P**	**10 38 55.7**	**+1.2**
MCPB	**Macapa, AP**	**25.61**	**79**	*e*P	**P**	**10 39 02.7**	**+0.8**
PDPR	**Patillas Dam,**	**25.97**	**25**	P	**P**	**10 39 04.1**	**-0.9**
PDPR				IAmb	IAmb	10 39 06.0	
	comp=Z,14nm,0.7s						
SJG	**San Juan**	**26.00**	**24**	P	**P**	**10 39 05.6**	**+0.3**
	comp=Z,26nm,0.8s,baz=193,slow=5.3,SNR=7.5						
SJG				LR	LR	10 51 38.7	
	comp=Z,109nm,18.5s,baz=222,slow=42						
SJG	**San Juan**	**26.00**	**24**	P	**P**	**10 39 06.2**	**+0.9**
CBYP	**Canovanas**	**26.27**	**25**	P	**P**	**10 39 09.6**	**+1.9**
SNDB	**Serra Nova Dou**	**26.31**	**106**	*e*P	**P**	**10 39 08.9**	**+0.7**
MDP	**Montagnes des**	**26.72**	**67**	P	**P**	**10 39 13.5**	**+1.6**
	comp=Z,6.2nm,0.6s,baz=260,slow=12,SNR=9.9						
MDP				LR	LR	10 50 34.0	
	comp=Z,215nm,18.6s,baz=252,slow=38						
STVI	**Saint Thomas**	**26.73**	**27**	P	**P**	**10 39 11.5**	**-0.4**
ARAG	**Araguaiana, MT**	**26.81**	**114**	*e*P	**P**	**10 39 13.3**	**+0.6**
CPUP	**Villa Florida**	**27.95**	**139**	P	**P**	**10 39 25.2**	**+2.4**
	comp=Z,2.4nm,0.6s,baz=323,slow=8.9,SNR=7.5						
CPUP				LR	LR	10 50 54.1	
	comp=Z,66nm,18.7s,baz=46,slow=37						
CPUP	**Villa Florida**	**27.95**	**139**	IAmb	IAmb	10 39 43.1	
	comp=Z,8.6nm,1.4s						
PEXB	**Peixe**	**29.21**	**105**	*e

comp=Z,2.7nm,0.8s
ILAR Eielson Array 86.60 336 P **P 10 46 14.8 -0.4**
comp=Z,1.0nm,0.9s,baz=133,slow=3.1,SNR=3.9
ZALV Zalesovo Beam 129.68 14 PKP **PKPdf 10 52 40.9 -0.2**
comp=Z,0.5nm,0.4s,baz=305,slow=5.2,SNR=3.8
MKAR Makanchi Array 135.35 20 PKP **PKPdf 10 52 51.3 -0.8**
comp=Z,0.3nm,0.6s,baz=136,slow=1.0,SNR=3.6
ASAR Alice Springs 137.94 225 PKP **PKPdf 10 52 56.4 -1.2**
comp=Z,0.3nm,0.8s,baz=127,slow=1.8,SNR=4.4
WRA Warramunga Arr 139.91 230 PKP **PKPdf 10 53 00.3 -1.0**
comp=Z,0.7nm,0.7s,baz=122,slow=2.1,SNR=6.9

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*NOU **27** 10:44:15.9, 41°.22S×172°.21E, h263km, ML3.7/6, South Island, New Zealand*
*WEL **27** 10:44:26.7, 41°.S±11°.×17°.3E±1°.4, h175km±15km, M3.1/28, MLv3.1/28, Error ellipse: s-maj=0.0km s-min=0.0km az=93.5*
ISC 27 10:44:20.5±1.7, 41°.19S±0°.05×172°.59E±0°.06, h215km±10km, n85, σ1.37/97, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.37**	**353**	P	**Pn**	**10 44 50.5**	**+1.5**
QRZ				S	**S**	**10 45 09.8**	**-1.3**
NNZ	**Nelson**	**0.60**	**93**	P	**Pn**	**10 44 50.9**	**+1.3**
NNZ				S	**S**	**10 45 10.7**	**-1.6**
THZ	**Tophouse**	**0.62**	**157**	P	**Pn**	**10 44 51.5**	**+1.7**
THZ				S	**S**	**10 45 11.3**	**-1.5**
DSZ	**Denniston Nort**	**0.81**	**227**	P	**Pn**	**10 44 52.1**	**+1.4**
DSZ				S	**S**	**10 45 12.4**	**-1.8**
TUWZ	**Tuamarina**	**1.05**	**104**	P	**Pn**	**10 44 53.6**	**+1.6**
TUWZ				S	**S**	**10 45 15.3**	**-1.2**
DUWZ	**D'Urville Isla**	**1.08**	**69**	P	**Pn**	**10 44 53.9**	**+1.5**
BSWZ	**Blackbirch Sta**	**1.10**	**119**	P	**Pn**	**10 44 53.8**	**+1.4**
BSWZ				S	**S**	**10 45 16.4**	**-0.8**
TCW	**Tory Channel**	**1.27**	**91**	P	**Pn**	**10 44 55.2**	**+1.5**
TCW				S	**S**	**10 45 18.0**	**-1.3**
KHZ	**Kahutara**	**1.41**	**150**	P	**Pn**	**10 44 56.1**	**+1.4**
KHZ				S	**S**	**10 45 19.9**	**-1.4**
LTZ	**Lake Taylor**	**1.61**	**188**	P	**Pn**	**10 44 57.9**	**+1.5**
LTZ				S	**S**	**10 45 22.6**	**-1.7**
WEL	**Wellington**	**1.65**	**94**	P	**Pn**	**10 44 58.1**	**+1.3**
BHW	**Baring Head**	**1.73**	**98**	P	**Pn**	**10 44 58.7**	**+1.2**
BHW				S	**S**	**10 45 23.9**	**-2.2**
KIW	**Kapiti Island**	**1.79**	**80**	P	**Pn**	**10 44 59.5**	**+1.4**
GVZ	**Greta Valley S**	**1.81**	**170**	P	**Pn**	**10 44 59.6**	**+1.4**
GVZ				S	**S**	**10 45 26.2**	**-1.3**
CAW	**Cannon Point**	**1.87**	**88**	P	**Pn**	**10 45 00.2**	**+1.3**
CAW				S	**S**	**10 45 27.4**	**-1.1**
AMCZ	**Amberley**	**1.98**	**179**	P	**Pn**	**10 45 01.4**	**+1.5**
OGWZ	**Otaki Gorge**	**1.99**	**80**	P	**Pn**	**10 45 01.6**	**+1.6**
MSWZ	**Moikau Station**	**2.02**	**97**	P	**Pn**	**10 45 01.5**	**+1.3**
PLWZ	**Palliser**	**2.04**	**102**	P	**Pn**	**10 45 01.8**	**+1.3**
PAWZ	**Paruwai Farm**	**2.15**	**96**	P	**Pn**	**10 45 02.9**	**+1.3**
OXZ	**Oxford**	**2.17**	**191**	P	**Pn**	**10 45 02.9**	**+1.1**
KHEZ	**Kahui Hut**	**2.19**	**30**	P	**Pn**	**10 45 03.7**	**+1.5**
MTW	**Mount Morrison**	**2.20**	**90**	P	**Pn**	**10 45 03.5**	**+1.4**
LREZ	**Lake Rotokare**	**2.22**	**39**	P	**Pn**	**10 45 04.1**	**+1.8**
HOWZ	**Holdsworth Sta**	**2.23**	**83**	P	**Pn**	**10 45 03.9**	**+1.5**
PKE	**Pukeiti**	**2.27**	**29**	P	**Pn**	**10 45 04.5**	**+1.6**
OHWZ	**Ohakea**	**2.29**	**65**	P	**Pn**	**10 45 04.9**	**+1.8**
WAZ	**Wanganui**	**2.33**	**53**	P	**Pn**	**10 45 05.3**	**+1.8**
MRZ	**Mangatainoka R**	**2.33**	**78**	P	**Pn**	**10 45 04.7**	**+1.3**
WVZ	**Waitaha Valley**	**2.33**	**216**	P	**Pn**	**10 45 04.7**	**+1.3**
TRWZ	**Traveller**	**2.34**	**96**	P	**Pn**	**10 45 05.4**	**+1.7**
MHCZ	**Mount Hutt**	**2.46**	**198**	P	**Pn**	**10 45 06.0**	**+1.2**
MQZ	**McQueen's Vall**	**2.51**	**179**	P	**Pn**	**10 45 06.0**	**+0.6**
TIWZ	**Tintock**	**2.53**	**82**	P	**Pn**	**10 45 07.3**	**+1.6**
POWZ	**Post Office Ro**	**2.54**	**73**	P	**Pn**	**10 45 07.0**	**+1.3**
OKCZ	**Okains Bay**	**2.55**	**172**	P	**Pn**	**10 45 07.0**	**+1.1**
RACZ	**Rakaia**	**2.56**	**187**	P	**Pn**	**10 45 07.0**	**+1.2**
PRWZ	**Pori Road**	**2.64**	**77**	P	**Pn**	**10 45 08.7**	**+1.8**
VRZ	**Vera Road**	**2.65**	**40**	P	**Pn**	**10 45 07.8**	**+0.8**
AKCZ	**Akaroa Harbour**	**2.69**	**175**	P	**Pn**	**10 45 08.3**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**2.71**	**218**	P	**Pn**	**10 45 08.7**	**+1.2**
CPWZ	**Castlepoint**	**2.75**	**85**	P	**Pn**	**10 45 10.2**	**+2.2**
RPZ	**Rata Peaks**	**2.77**	**204**	P	**Pn**	**10 45 09.6**	**+1.4**
WACZ	**Wakanui South**	**2.80**	**191**	P	**Pn**	**10 45 10.2**	**+1.6**
TSZ	**Takapari Road**	**2.81**	**67**	P	**Pn**	**10 45 10.0**	**+1.3**
BFZ	**Birch Farm**	**2.82**	**81**	P	**Pn**	**10 45 10.4**	**+1.6**
MTVZ	**Mangateitei**	**2.85**	**52**	P	**Pn**	**10 45 10.5**	**+1.2**
DVHZ	**Dannevirke**	**2.86**	**73**	P	**Pn**	**10 45 10.5**	**+1.2**
ARCZ	**Arundel**	**2.94**	**200**	P	**Pn**	**10 45 11.4**	**+1.1**
TRVZ	**Turoa**	**2.95**	**51**	P	**Pn**	**10 45 12.1**	**+1.5**
WNVZ	**Wahianoa**	**2.96**	**52**	P	**Pn**	**10 45 11.6**	**+1.0**
FWVZ	**Far West T-bar**	**2.98**	**51**	P	**Pn**	**10 45 12.4**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.98**	**51**	P	**Pn**	**10 45 12.6**	**+1.6**
MOVZ	**Moawhango**	**3.01**	**55**	P	**Pn**	**10 45 11.9**	**+0.9**
PNHZ	**Pukenui**	**3.03**	**66**	P	**Pn**	**10 45 12.5**	**+1.2**
ANWZ	**Angora Road**	**3.04**	**77**	P	**Pn**	**10 45 13.0**	**+1.7**
SNVZ	**South Ngauruho**	**3.08**	**50**	P	**Pn**	**10 45 13.3**	**+1.3**
WTVZ	**West Tongariro**	**3.10**	**49**	P	**Pn**	**10 45 13.0**	**+0.8**
NNVZ	**North Ngauruho**	**3.10**	**49**	P	**Pn**	**10 45 14.1**	**+1.8**
OTVZ	**Oturere**	**3.11**	**50**	P	**Pn**	**10 45 11.9**	**-0.4**
FOZ	**Fox Glacier**	**3.11**	**220**	P	**Pn**	**10 45 12.9**	**+0.8**
KRVZ	**Karewarewa**	**3.14**	**49**	P	**Pn**	**10 45 13.2**	**+0.5**
WPHZ	**Waipukurau**	**3.14**	**70**	P	**Pn**	**10 45 14.0**	**+1.5**
BHHZ	**Black Hill Sta**	**3.15**	**58**	P	**Pn**	**10 45 13.5**	**+0.8**
ETVZ	**East Tongariro**	**3.15**	**50**	P	**Pn**	**10 45 14.2**	**+1.3**
NTVZ	**North Tongarir**	**3.16**	**50**	P	**Pn**	**10 45 14.7**	**+1.8**
TMVZ	**Te Maari**	**3.16**	**50**	P	**Pn**	**10 45 13.7**	**+0.8**
HIZ	**Hauiti**	**3.19**	**34**	P	**Pn**	**10 45 13.9**	**+0.7**
KRHZ	**Kereru**	**3.27**	**63**	P	**Pn**	**10 45 15.2**	**+1.0**
TMZ	**Timaru**	**3.40**	**200**	P	**Pn**	**10 45 16.8**	**+1.3**
KWHZ	**Kaweka Forest**	**3.42**	**60**	P	**Pn**	**10 45 16.9**	**+1.0**
PXZ	**Pawanui**	**3.45**	**72**	P	**Pn**	**10 45 16.1**	**-0.1**
KAHZ	**Kahuranaki**	**3.56**	**68**	P	**Pn**	**10 45 19.2**	**+1.8**
BKZ	**Black Stump Fm**	**3.61**	**57**	P	**Pn**	**10 45 18.7**	**+0.5**
LBZ	**Lake Benmore**	**3.65**	**208**	P	**Pn**	**10 45 19.6**	**+1.1**
MRHZ	**Matea Rd**	**3.77**	**53**	P	**Pn**	**10 45 22.1**	**+2.0**
NMHZ	**Naumai**	**3.85**	**58**	P	**Pn**	**10 45 22.4**	**+1.3**
ARHZ	**Aropaoanui**	**3.88**	**62**	P	**Pn**	**10 45 22.7**	**+1.3**
MTHZ	**Maungataniwha**	**4.01**	**56**	P	**Pn**	**10 45 23.5**	**+0.5**
ODZ	**Otahua Downs**	**4.11**	**200**	P	**Pn**	**10 45 25.4**	**+1.4**
KNZ	**Kokohu**	**4.46**	**63**	P	**Pn**	**10 45 29.0**	**+0.5**
WKZ	**Wanaka**	**4.48**	**215**	P	**Pn**	**10 45 29.4**	**+0.7**
URZ	**Urewera**	**4.55**	**51**	P	**Pn**	**10 45 29.4**	**-0.3**
MWZ	**Matawai**	**4.76**	**55**	P	**Pn**	**10 45 33.3**	**+1.0**
TWGZ	**Tauwhareparae**	**5.13**	**56**	P	**Pn**	**10 45 37.8**	**+0.8**

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*IDC **27** 10:45:05.3±0.6, 52°.26N×169°.46W, h0km, mb4.4/30, mb1 4.6/32, mb1mx4.5/45, mbtmp4.4/32, ML4.1/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/42, Error ellipse: s-maj=19.1km s-min=10.3km az=177.0*
*AEIC **27** 10:45:08±2.3, 52°.15N±0°.06×169°.27W±0°.07, h20km±4km, ML4.3/50, mb4.7/168(NEIC), Error ellipse: s-maj=8.7km s-min=6.2km az=178.0*
*NEIC **27** 10:45:11.1±2.2, 52°.24N±0°.06×169°.33W±0°.07, h42km±5km, Error ellipse: s-maj=8.5km s-min=6.4km az=176.0*
ISC 27 10:45:08.2±0.6, 52°.18N±0°.08×169°.35W±0°.04, h21km±4km, n513, σ1.24/519, mb4.7/134, MS3.7/5, 2C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**21**	P	**Pn**	**10 45 24.6**	**-0.4**
	baz=197,SNR=124						
NIKH	**Nikolski High**	**0.85**	**21**	Pn	**Pn**	**10 45 24.7**	**-0.2**
NIKH	**Nikolski High**	**0.85**	**21**		**Sn**	**10 45 36.6**	**-0.2**
OKSP	**Okmok Steeple**	**1.25**	**31**		**Pn**	**10 45 30.0**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.45**	**33**		**Pn**	**10 45 33.2**	**+0.1**
OKFG	**Magazine Ridge**	**1.51**	**35**		**Pn**	**10 45 34.1**	**+0.1**
OKFG					**Sb**	**10 45 54.1**	**-0.1**
MAPS	**Pakushin South**	**2.19**	**41**		**Pn**	**10 45 43.5**	**+0.2**
MAPS					**Sn**	**10 46 11.3**	**+1.6**
MGOD	**Makushin Gods**	**2.21**	**42**		**Pn**	**10 45 43.9**	**+0.2**
MGOD					**Sb**	**10 46 12.2**	**-2.0**
MNAT	**Makushin Natee**	**2.35**	**42**		**Pn**	**10 45 46.3**	**+0.8**
MNAT					**Sn**	**10 46 15.2**	**+1.5**
UNV	**Unalaska Valle**	**2.40**	**45**	P	**Pn**	**10 45 46.9**	**+0.8**
	baz=226,SNR=78						
UNV	**Unalaska Valle**	**2.40**	**45**		**Pn**	**10 45 46.4**	**+0.3**
UNV					**Sn**	**10 46 15.6**	**+0.8**
MTBL	**Makushin Table**	**2.41**	**41**		**Pn**	**10 45 47.6**	**+1.2**
AKMO	**Akutan Morgan**	**2.78**	**45**		**Pn**	**10 45 53.1**	**+1.7**
AKMO					**Sn**	**10 46 26.6**	**+2.4**
AKRB	**Akutan Reef Bi**	**2.78**	**44**		**Pn**	**10 45 53.6**	**+2.2**
AKBBA	**Akutan Broad B**	**2.82**	**46**		**Pn**	**10 45 53.8**	**+1.8**
AKLV	**Akutan Long Va**	**2.85**	**44**		**Pn**	**10 45 54.3**	**+1.8**
AKGG	**Akutan Green G**	**2.86**	**44**		**Pn**	**10 45 54.8**	**+2.3**
AKUT	**Akutan**	**2.91**	**46**	Pn	**Pn**	**10 45 55.0**	**+1.8**
AKUT	**Akutan**	**2.91**	**46**		**Sn**	**10 46 29.5**	**+2.0**
KOFP	**Korovin Flat P**	**2.92**	**274**		**Pn**	**10 45 55.5**	**+2.0**
ATKA	**Atka Island**	**2.98**	**272**		**Pn**	**10 45 55.2**	**+1.0**
KOKL	**Mount Kliuchef**	**2.98**	**275**		**Pn**	**10 45 56.6**	**+2.2**
WESP	**Westdahl Peak**	**3.62**	**48**		**Pn**	**10 46 05.0**	**+2.0**
GSTR	**Great Sitkin T**	**4.13**	**271**		**Pn**	**10 46 11.8**	**+1.8**
GSMY	**Great Sitkin M**	**4.14**	**271**		**Pn**	**10 46 11.5**	**+1.4**
GSTD	**Great Sitkin T**	**4.19**	**271**		**Pn**	**10 46 12.2**	**+1.3**
FALS	**False Pass**	**4.44**	**51**	P	**Pn**	**10 46 15.7**	**+1.4**
	baz=235						
FALS	**False Pass**	**4.44**	**51**	Pn	**Pn**	**10 46 17.6**	**+3.3**
ADK	**Adak**	**4.54**	**269**		**Pn**	**10 46 16.8**	**+1.2**
KIWB	**Kanaga Island**	**4.83**	**269**	Pn	**Pn**	**10 46 20.8**	**+1.2**
KIKV	**Kanaga Island**	**4.84**	**270**		**Pn**	**10 46 21.4**	**+1.7**
KIMD	**Kanaga Island**	**4.89**	**268**		**Pn**	**10 46 22.0**	**+1.5**
SPIA	**Saint Paul Isl**	**5.04**	**354**	P	**Pn**	**10 46 24.1**	**+1.7**
	baz=173,SNR=16						
SPIA	**Saint Paul Isl**	**5.04**	**354**	Pn	**Pn**	**10 46 25.1**	**+2.7**
TAFP	**Tanaga Falls P**	**5.34**	**270**		**Pn**	**10 46 28.3**	**+1.7**
TASE	**Tanaga Southea**	**5.38**	**270**		**Pn**	**10 46 29.0**	**+1.8**
GAEA	**Gareloi East**	**5.82**	**270**		**Pn**	**10 46 36.1**	**+2.9**
SDPT	**Sand Point**	**6.15**	**55**	P	**Pn**	**10 46 39.4**	**+1.8**
	baz=242						
SDPT	**Sand Point**	**6.15**	**55**	Pn	**Pn**	**10 46 38.7**	**+1.1**
CNBA	**Chernabura Isl**	**6.40**	**62**		**Pn**	**10 46 40.2**	**-0.9**
CHNA	**Chernabura Isl**	**6.40**	**62**	P	**Pn**	**10 46 42.2**	**+1.0**
	baz=249						
CERAA	**Semis' Rag'd T**	**6.77**	**272**		**Pn**	**10 46 49.0**	**+2.7**
CEAP	**Semis' Anvil P**	**6.83**	**273**		**Pn**	**10 46 49.4**	**+2.4**
CESW	**Semis' Southwe**	**6.85**	**272**		**Pn**	**10 46 49.0**	**+1.7**
AMKA	**Amchitka**	**7.09**	**268**	Pn	**Pn**	**10 46 51.9**	**+1.3**
LSPA	**Little Sitkin**	**7.45**	**273**		**Pn**	**10 46 58.4**	**+2.9**
LSNW	**Little Sitkin**	**7.48**	**273**		**Pn**	**10 46 58.6**	**+2.6**
LSSA	**Little Sitkin**	**7.49**	**273**		**Pn**	**10 46 59.0**	**+2.9**
SII	**Sitkinak Islan**	**9.87**	**58**	P	**Pn**	**10 47 28.9**	**+0.1**
	baz=250						
SMY	**Shemya**	**10.12**	**280**		**Pn**	**10 47 31.1**	**-1.1**
OHAK	**Old Harbor**	**10.57**	**55**	P	**Pn**	**10 47 37.5**	**-0.7**
	baz=248						
OHAK	**Old Harbor**	**10.57**	**55**		**Pn**	**10 47 36.9**	**-1.4**
O18K	**Koktuh Hills**	**11.02**	**40**	P	**Pn**	**10 47 45.9**	**+1.5**
	baz=232,SNR=15						
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**10 47 44.4**	**-1.6**
	2.8nm,0.3s,baz=266,slow=8.1,SNR=51						
KDAK	**Kodiak Island**	**11.13**	**53**	P	**Pn**	**10 47 45.0**	**-1.0**
	baz=247						
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**10 47 44.9**	**-1.0**
SVW2	**Sparrevohn**	**11.69**	**35**		**Pn**	**10 47 55.4**	**+1.8**
GAMB	**Gambell**	**11.70**	**355**	P	**Pn**	**10 47 53.4**	**-0.2**
	baz=173						
GAMB	**Gambell**	**11.70**	**355**	Pn	**Pn**	**10 47 54.4**	**+0.8**
P19K	**Oil Pt**	**11.71**	**44**	P	**Pn**	**10 47 54.5**	**+0.5**
	baz=237						
N19K	**Bonanza Creek**	**11.90**	**38**	P	**Pn**	**10 47 55.8**	**-0.8**
	baz=230,SNR=5.3						
O20K	**Slope Mountain**	**12.21**	**43**	P	**Pn**	**10 48 02.4**	**+1.7**
	baz=237						
RSO	**Redoubt South**	**12.37**	**41**		**Pn**	**10 48 04.5**	**+1.5**
HOM	**Homer**	**12.41**	**46**	P	**Pn**	**10 48 02.7**	**-0.7**
	baz=240						
CNPM	**China Poot**	**12.53**	**47**	Pn	**Pn**	**10 48 04.3**	**-0.8**
M19K	**Big River Lodg**	**12.66**	**34**	P	**Pn**	**10 48 08.2**	**+1.4**
	baz=226						
L19K	**White Mountain**	**12.70**	**32**	P	**Pn**	**10 48 07.5**	**0.0**
	baz=224,SNR=7.5						
BRLK	**Bradley Lake**	**12.80**	**46**		**Pn**	**10 48 08.1**	**-0.7**
BRSE	**Bradley Lake S**	**12.85**	**47**	P	**Pn**	**10 48 10.2**	**+0.8**
	baz=242						
M20K	**Styx River**	**13.09**	**36**	P	**Pn**	**10 48 14.7**	**+1.9**
	baz=229						
SEW	**Seward**	**13.59**	**46**	P	**Pn**	**10 48 18.7**	**-0.9**
	baz=243,SNR=6.8						
SEW	**Seward**	**13.59**	**46**	Pn	**Pn**	**10 48 18.4**	**-1.1**
O22K	**Cooper Landing**	**13.65**	**45**	P	**Pn**	**10 48 19.5**	**-0.8**
	baz=241,SNR=18						
O22K	**Cooper Landing**	**13.65**	**45**		**Pn**	**10 48 19.1**	**-1.2**
SUA	**Susitna One**	**13.74**	**40**	P	**Pn**	**10 48 21.3**	**-0.4**
	baz=236,SNR=6.5						
SUA	**Susitna One**	**13.74**	**40**		**Pn**	**10 48 22.6**	**+0.9**
SKT	**Skwentna**	**13.74**	**37**	P	**Pn**	**10 48 22.5**	**+0.9**
	baz=232						
SKT	**Skwentna**	**13.74**	**37**		**Pn**	**10 48 21.8**	**+0.2**
K20K	**Telida**	**13.81**	**30**	P	**Pn**	**10 48 25.4**	**+3.0**
	baz=223						
RC01	**Rabbit Creek A**	**13.95**	**43**	P	**Pn**	**10 48 24.1**	**-0.3**
	baz=239						
RC01	**Rabbit Creek A**	**13.95**	**43**		**Pn**	**10 48 23.8**	**-0.6**
PPLA	**Purkeypile**	**14.09**	**34**	P	**P**	**10 48 30.7**	**-3.3**
	baz=228						
PPLA	**Purkeypile**	**14.09**	**34**	P	**P**	**10 48 32.1**	**-2.0**
J20K	**Nowinta River**	**14.40**	**28**	P	**Pn**	**10 48 31.1**	**+0.6**
	baz=220,SNR=12						
PWL	**Port Wells**	**14.43**	**45**		**Pn**	**10 48 29.2**	**-1.8**
PMR	**Palmer**	**14.46**	**41**	P	**Pn**	**10 48 31.3**	**-0.1**
	baz=238						
PMR	**Palmer**	**14.46**	**41**	Pn	**Pn**	**10 48 32.0**	**+0.7**
GHO	**Glory Hole Cre**	**14.64**	**41**		**Pn**	**10 48 33.5**	**-0.4**
KNK	**Knik Glacier**	**14.65**	**43**	P	**Pn**	**10 48 32.9**	**-1.0**
	baz=240						
KNK	**Knik Glacier**	**14.65**	**43**		**Pn**	**10 48 33.3**	**-0.7**
CHUM	**Lake Minchumin**	**14.73**	**31**	P	**Pn**	**10 48 36.1**	**+1.1**
	baz=225						
SML	**Sawmill**	**14.90**	**41**	P	**Pn**	**10 48 37.0**	**-0.4**
	baz=239						
SML	**Sawmill**	**14.90**	**41**	Pn	**Pn**	**10 48 37.5**	**+0.1**
KTH	**Kantishna Hill**	**14.96**	**33**	Pn	**Pn**	**10 48 38.5**	**+0.3**
HIN	**Hinchinbrook I**	**15.05**	**48**		**Pn**	**10 48 37.3**	**-2.1**
HIN				IAmb	IAmb	10 48 39.2	
	comp=Z,74nm,1.2s						
FID	**Port Fidalgo**	**15.20**	**47**	Pn	**Pn**	**10 48 37.9**	**-3.5**
SCM	**Sheep Creek Mo**	**15.32**	**42**		**Pn**	**10 48 41.1**	**-1.9**
SCM				IAmb	IAmb	10 48 42.7	
	comp=Z,29nm,0.5s						
EYAK	**Cordova Ski Ar**	**15.46**	**48**	P	**Pn**	**10 48 43.0**	**-1.7**
	baz=248						
WAT6	**Susitna Watana**	**15.54**	**40**	P	**Pn**	**10 48 44.5**	**-1.4**
	baz=238						
KLU	**Klutina**	**15.76**	**45**	P	**Pn**	**10 48 46.5**	**-2.2**
	baz=244,SNR=25						
KLU	**Klutina**	**15.76**	**45**		**Pn**	**10 48 46.9**	**-1.9**
KLU				IAmb	IAmb	10 48 47.9	
	comp=Z,41nm,0.5s						
BWN	**Browne**	**15.85**	**33**	P	**Pn**	**10 48 50.5**	**+0.7**
KAIM	**Kayak Island**	**15.86**	**51**	P	**Pn**	**10 48 49.1**	**-0.9**
	baz=252						
IMAR	**Indian Mountai**	**15.92**	**24**	P	**Pn**	**10 48 49.8**	**-0.9**
M24K	**Tolsona, Glenn**	**15.94**	**42**	P	**Pn**	**10 48 49.3**	**-1.7**
	baz=242,SNR=11						
M24K	**Tolsona, Glenn**	**15.94**	**42**		**Pn**	**10 48 49.9**	**-1.1**
M24K				IAmb	IAmb	10 48 53.7	
	comp=Z,27nm,0.6s						
HMT	**Hamilton**	**16.07**	**50**	Pn	**Pn**	**10 48 52.1**	**-0.5**
HMT				IAmb	IAmb	10 49 02.1	
	comp=Z,45nm,0.8s						
BMRM	**Bremner River**	**16.13**	**47**	P	**Pn**	**10 48 51.8**	**-1.7**
	baz=248						
BMRM	**Bremner River**	**16.13**	**47**		**Pn**	**10 48 52.3**	**-1.2**
RDOG	**Red Dog Mine**	**16.23**	**9**	P	**Pn**	**10 48 53.6**	**-1.0**
	baz=194						
N25K	**Chitina, Valde**	**16.39**	**45**	P	**Pn**	**10 48 54.7**	**-2.1**
	baz=246,SNR=8.2						
N25K	**Chitina, Valde**	**16.39**	**45**	Pn	**Pn**	**10 48 55.1**	**-1.7**
HARP	**HAARP**	**16.49**	**42**	P	**Pn**	**10 48 56.9**	**-1.1**
	baz=242						
PAX	**Paxson**	**16.64**	**40**	P	**Pn**	**10 48 58.2**	**-1.7**
	baz=240						
PAX	**Paxson**	**16.64**	**40**		**Pn**	**10 48 59.4**	**-0.5**
GLB	**Gilahina Butte**	**16.67**	**46**		**Pn**	**10 48 59.4**	**-0.9**
CRQM	**Cirque**	**16.73**	**49**		**Pn**	**10 49 00.6**	**-0.6**
CRQM				IAmb	IAmb	10 49 06.6	
	comp=Z,26nm,0.7s						
VRDI	**Verde Repeater**	**16.75**	**47**		**Pn**	**10 48 59.6**	**-1.9**
CRQE	**Cirque**	**16.75**	**49**	P	**Pn**	**10 49 00.3**	**-1.1**
	baz=251						
WAX	**Waxell Ridge**	**16.77**	**50**	Pn	**Pn**	**10 49 01.6**	**0.0**
WAX				IAmb	IAmb	10 49 16.2	
	comp=Z,38nm,0.7s						
H23K	**Yukon River**	**16.94**	**29**	P	**Pn**	**10 49 02.9**	**-0.8**
	baz=226						
MCARA	**McCarthy VSAT**	**17.00**	**47**	P	**Pn**	**10 49 02.7**	**-1.6**
	baz=249						
ISLE	**Juniper Island**	**17.06**	**50**	Pn	**Pn**	**10 49 04.5**	**-0.8**
ILAR	**Eielson Array**	**17.10**	**34**	P	**Pn**	**10 49 03.6**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=221,slow=9.9,SNR=15						
ILAR				PcP	**PcP**	**10 53 49.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=263,slow=3.0,SNR=6.4						
MESA	**MESA**	**17.12**	**51**	P	**Pn**	**10 49 04.6**	**-1.5**
	baz=254						
RIDG	**Independent Ri**	**17.27**	**38**	P	**Pn**	**10 49 06.6**	**-1.2**
	baz=239						
RIDG	**Independent Ri**	**17.27**	**38**	P	**Pn**	**10 49 07.6**	**-0.2**
YAH	**Yahtse**	**17.27**	**51**	P	**Pn**	**10 49 07.7**	**-0.3**
YAH				IAmb	IAmb	10 49 30.3	
	comp=Z,35nm,0.8s						
M26K	**Nabesna, AK**	**17.40**	**44**	P	**Pn**	**10 49 08.2**	**-1.3**
	baz=246,SNR=8.6						
H24K	**Noodor Dome**	**17.45**	**30**	P	**Pn**	**10 49 07.3**	**-2.7**
	baz=228						
BARN	**Barnard Glacie**	**17.51**	**49**	P	**Pn**	**10 49 11.0**	**0.0**
L26K	**Log Cabin Wild**	**17.52**	**42**	P	**Pn**	**10 49 09.0**	**-1.9**
	baz=244,SNR=10						
DOT	**Dot Lake**	**17.53**	**39**	P	**Pn**	**10 49 08.5**	**-2.5**
TABL	**Table Mountain**	**17.58**	**51**	P	**Pn**	**10 49 11.4**	**-0.4**
TABL				IAmb	IAmb	10 49 26.6	
	comp=Z,26nm,0.7s						
CTG	**Chitna Glacier**	**17.63**	**49**	P	**Pn**	**10 49 11.2**	**-1.2**
	baz=252,SNR=5.4						
CTGM	**Chitina Glacie**	**17.64**	**49**	P	**Pn**	**10 49 12.7**	**+0.3**
SCRK	**Sand Creek**	**17.72**	**38**	P	**Pn**	**10 49 12.0**	**-1.4**
	baz=240,SNR=6.3						
SCRK	**Sand Creek**	**17.72**	**38**		**Pn**	**10 49 12.4**	**-1.0**
LOGN	**Logan Glacier**	**17.75**	**50**	P	**P**	**10 49 14.4**	**-0.2**
M27K	**Edge Creek, AK**	**17.86**	**45**	P	**Pn**	**10 49 14.4**	**-0.9**
	baz=248,SNR=5.5						
PCA	**Pinnacle**	**17.92**	**52**	P	**Pn**	**10 49 15.5**	**-0.4**
PCA				IAmb	IAmb	10 49 22.7	
	comp=Z,35nm,0.8s						
PINM	**Pinnacle**	**17.92**	**52**	P	**Pn**	**10 49 15.1**	**-0.8**
	baz=256						
PRP	**Porcupine Dome**	**18.01**	**33**	P	**Pn**	**10 49 15.5**	**-1.5**
L27K	**Beaver Creek,**	**18.16**	**42**	P	**Pn**	**10 49 18.0**	**-0.8**
	baz=246						
L27K	**Beaver Creek,**	**18.16**	**42**	P	**Pn**	**10 49 18.5**	**-0.3**
BCAR	**Beaver Creek A**	**18.18**	**42**	P	**Pn**	**10 49 18.3**	**-0.7**
K27K	**Chicken**	**18.48**	**40**	P	**P**	**10 49 21.8**	**-0.7**
	baz=243						
K27K	**Chicken**	**18.48**	**40**	P	**P**	**10 49 22.1**	**-0.4**
TOLK	**Toolik Lake Re**	**19.02**	**22**	P	**P**	**10 49 28.1**	**-0.3**
	baz=220,SNR=7.8						
TOLK	**Toolik Lake Re**	**19.02**	**22**		**Pn**	**10 49 29.2**	**0.0**
EGAK	**Eagle**	**19.18

YNR	Norris Junctio	38.67	77	P	P	10 52 30.5	+0.1
GCMT	Greycliff	38.70	75	P	P	10 52 31.3	+0.8
JSD	Sado	38.72	270	P	P	10 52 30.1	-0.4
JSD				IAmb	IAmb	10 52 43.4	
	comp=Z,8.5nm,0.9s						
H17A	Grant Village	38.91	77	P	P	10 52 32.6	+0.3
	baz=303						
YNE	Yellowstone No	38.91	76	P	P	10 52 33.1	+0.6
IMW	Indian Meadow	38.96	78	P	P	10 52 32.3	-0.5
TPAW	Teton Pass	39.18	79	P	P	10 52 34.9	+0.2
RLMT	Red Lodge	39.30	76	P	P	10 52 36.2	+0.6
	baz=303,SNR=6.9						
RLMT	Red Lodge	39.30	76	P	P	10 52 36.1	+0.6
R11A	Troy Canyon, C	39.37	89	P	P	10 52 37.7	+1.5
	baz=308						
MJAR	Matsushiro Arr	39.70	268	P	P	10 52 38.8	+0.1
	comp=Z,1.5nm,0.6s,baz=41,slow=7.1,SNR=5.5						
MAT	Matsushiro	39.70	268	P	P	10 52 38.5	-0.3
DECC	Green Verdugo	40.33	96	P	P	10 52 43.0	-1.0
	baz=312						
BW06	Boulder Array	40.43	79	P	P	10 52 44.8	-0.2
	baz=305,SNR=7.5						
PD31	Pinedale Array	40.43	79	P	P	10 52 45.5	+0.5
PDAR	Pinedale Array	40.43	79	P	P	10 52 45.8	+0.8
	comp=Z,4.4nm,0.5s,baz=302,slow=3.6,SNR=60						
PDAR	Pinedale Array	40.43	79	P	P	10 52 45.6	+0.6
SHOC	Shoshone, Teco	40.51	92	P	P	10 52 46.6	+1.1
	baz=311						
GSC	Goldstone, Bar	40.57	93	P	P	10 52 46.9	+0.8
	baz=311						
RDMU	Red Mountain	41.71	82	P	P	10 52 57.0	+1.4
RDMU				IAmb	IAmb	10 53 10.9	
	comp=Z,10.0nm,1.0s						
SRU	San Rafael Swe	42.01	84	P	P	10 53 00.2	+2.2
K22A	Casper	42.32	77	P	P	10 53 00.1	-0.4
	baz=306						
U15A	North Rim	42.62	88	P	P	10 53 05.1	+2.0
O20A	White River Ci	42.78	81	P	P	10 53 03.9	-0.4
	baz=308,SNR=10						
O20A	White River Ci	42.78	81	P	P	10 53 04.8	+0.5
O20A				IAmb	IAmb	10 53 19.2	
	comp=Z,16nm,1.1s						
RSSD	Black Hills	42.96	74	P	P	10 53 05.7	0.0
	baz=305						
CN2	Changchun	43.08	286	eP	P	10 53 05.5	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PV22	Blue Mesa, Par	43.43	83	P	P	10 53 11.6	+2.0
MDND	Maddock	43.45	67	P	P	10 53 10.2	+0.8
	baz=303						
PV17	East Wray Mesa	43.49	84	P	P	10 53 09.9	-0.1
PV17				IAmb	IAmb	10 53 24.9	
	comp=Z,11nm,1.3s						
PV11	David Mesa, Pa	43.53	84	P	P	10 53 11.4	+1.1
PV11				IAmb	IAmb	10 53 25.2	
	comp=Z,8.3nm,0.7s						
PV12	Saucer Basin,	43.56	84	P	P	10 53 12.7	+2.1
PV03	Paradox Valley	43.57	84	P	P	10 53 11.2	+0.5
PV13	Radium Mtn., P	43.65	84	P	P	10 53 12.2	+0.8
PV13				IAmb	IAmb	10 53 26.3	
	comp=Z,11nm,1.0s						
PV02	Paradox Valley	43.67	84	P	P	10 53 12.8	+1.3
PV02				IAmb	IAmb	10 53 29.2	
	comp=Z,7.9nm,1.0s						
N23A	Red Feather La	43.71	79	P	P	10 53 12.6	+0.8
	baz=307						
WUAZ	Wupatki	43.77	89	P	P	10 53 13.6	+1.3
	baz=311						
PV01	Paradox Valley	43.82	84	P	P	10 53 13.0	+0.3
ULM	Lac du Bonnet	44.23	62	P	P	10 53 16.4	+0.8
	comp=Z,1.9nm,0.5s,baz=325,slow=9.9,SNR=3.0						
MVCO	Mesa Verde	44.45	85	P	P	10 53 18.7	+1.0
	baz=310						
ISCO	Idaho Springs	44.58	80	P	P	10 53 19.2	+0.3
	baz=308						
S22A	4UR Ranch, Cre	45.13	83	P	P	10 53 23.4	+0.2
	baz=310						
NEEM	North Greenlan	45.17	16	i P	P	10 53 23.1	0.0
AGMN	Agassiz Nation	45.30	64	P	P	10 53 24.1	0.0
	baz=304						
KSRS	Korea Array	45.44	277	P	P	10 53 26.1	+0.8
	comp=Z,7.0nm,0.8s,baz=56,slow=7.5,SNR=38						
KSAR	Wonju Array Be	45.47	277	P	P	10 53 25.2	-0.4
SDCO	Great Sand Dun	45.94	82	P	P	10 53 29.4	-0.2
	baz=310						
SDCO	Great Sand Dun	45.94	82	P	P	10 53 27.7	-1.9
SDCO				IAmb	IAmb	10 53 45.0	
	comp=Z,8.1nm,1.4s						
TUC	Tucson	46.29	92	P	P	10 53 32.8	+0.6
	baz=314						
B35A	Bob, Littlefor	46.44	63	P	P	10 53 32.9	-0.3
B35A				IAmb	IAmb	10 53 33.6	
	comp=Z,8.4nm,0.6s						
F33A	5 Mile Ranch,	46.46	67	P	P	10 53 33.1	-0.2
F33A				IAmb	IAmb	10 53 33.7	
	comp=Z,6.1nm,1.1s						
T25A	Trinidad	46.99	82	P	P	10 53 38.6	+0.8
	baz=310						
T25A	Trinidad	46.99	82	P	P	10 53 38.7	+0.9
T25A				IAmb	IAmb	10 53 53.3	
	comp=Z,11nm,1.1s						
ANMO	Albuquerque	47.17	86	PcP	PcP	10 55 10.9	+0.3
	comp=Z,1.3nm,0.8s,baz=254,slow=5.0,SNR=4.9						
ANMO	Albuquerque	47.17	86	P	P	10 53 40.2	+0.9
	baz=312						
ECSD	EROS Data Cent	47.53	70	P	P	10 53 40.5	-1.2
	baz=307,SNR=8.3						
ECSD	EROS Data Cent	47.53	70	P	P	10 53 39.5	-2.2
ECSD				IAmb	IAmb	10 53 41.5	
	comp=Z,5.0nm,0.6s						
BNM	Barren Site	47.60	87	P	P	10 53 42.4	-0.3
EYMN	Ely	47.90	62	P	P	10 53 44.0	-0.5
	baz=306,SNR=5.6						
EYMN	Ely	47.90	62	P	P	10 53 44.2	-0.3
EYMN				IAmb	IAmb	10 53 57.2	
	comp=Z,6.5nm,0.9s						
121A	Cookes Peak, D	47.98	89	P	P	10 53 45.6	+0.1
	baz=313						
F36A	Milaca	48.01	66	P	P	10 53 44.3	-1.1
F36A				IAmb	IAmb	10 53 45.8	
	comp=Z,3.8nm,0.7s						
E38A	The Farm, Brul	48.66	64	P	P	10 53 50.0	-0.4
E38A				IAmb	IAmb	10 53 50.7	
	comp=Z,8.2nm,0.7s						
L34A	Svendsen Farm,	48.75	72	P	P	10 53 50.8	-0.4
SPMN	Marine on St.	48.80	66	P	P	10 53 50.1	-1.4
	baz=307						
N35A	Tabor	49.87	72	P	P	10 53 59.3	-0.4
DAG	Danmarks Havn	49.98	8	i P	P	10 53 59.0	-1.0
DAG				IAmb	IAmb	10 54 00.0	
	comp=Z,8.7nm,0.8s						
MNTX	Cornudas Mount	50.03	88	P	P	10 54 01.1	+0.1
	baz=314,SNR=5.4						
MNTX	Cornudas Mount	50.03	88	P	P	10 54 02.3	+1.2
MSTX	Muleshoe	50.09	84	P	P	10 54 01.7	+0.2
	baz=313						
G40A	Rib Lake	50.23	64	P	P	10 54 01.5	-0.8
G40A				IAmb	IAmb	10 54 02.8	
	comp=Z,4.3nm,0.8s						
COWI	Conover	50.30	63	P	P	10 54 02.5	-0.5
COWI				IAmb	IAmb	10 54 02.8	
	comp=Z,3.8nm,0.6s						
SUMG	Summit	50.96	17	i P	P	10 54 08.3	+0.3
SUMG				IAmb	IAmb	10 54 09.0	
	comp=Z,10nm,0.8s						
SUMG	Summit	50.96	17	P	P	10 54 07.9	0.0
SUMG				IAmb	IAmb	10 54 09.1	
	comp=Z,10nm,0.8s						
ULN	Ulaanbaatar	51.04	301	P	P	10 54 08.0	-0.6
ULN				IAmb	IAmb	10 54 09.3	
	comp=Z,7.6nm,0.9s						
E43A	Lone Tree Farm	51.30	62	P	P	10 54 09.9	-0.5
E43A				IAmb	IAmb	10 54 11.0	
	comp=Z,9.0nm,0.6s						
N38A	Joes South For	51.32	71	P	P	10 54 09.7	-0.9
SONM	Songino Array	51.41	301	P	P	10 54 11.8	+0.5
	comp=Z,2.3nm,0.5s,baz=52,slow=7.5,SNR=19						
SONM				PcP	PcP	10 55 26.2	+0.5
	comp=Z,1.2nm,0.5s,baz=75,slow=2.5,SNR=4.4						
SONM	Songino Array	51.41	301	P	P	10 54 11.3	0.0
SONM				IAmb	IAmb	10 54 13.0	
	comp=Z,9.0nm,1.3s						
L40A	Anamosa	51.67	68	P	P	10 54 12.6	-0.6
L40A				IAmb	IAmb	10 54 13.3	
	comp=Z,5.6nm,0.7s						
I42A	Draeger Farm,	51.81	65	P	P	10 54 13.7	-0.6
I42A				IAmb	IAmb	10 54 14.6	
	comp=Z,6.4nm,0.8s						
P38A	Dawn	51.90	72	P	P	10 54 14.2	-0.8
P38A				IAmb	IAmb	10 54 14.9	
	comp=Z,7.8nm,0.7s						
WMOK	Wichita Mounta	52.00	80	P	P	10 54 16.1	+0.2
	baz=313,SNR=5.6						
WMOK	Wichita Mounta	52.00	80	P	P	10 54 16.1	+0.2
WMOK				IAmb	IAmb	10 54 30.4	
	comp=Z,5.2nm,0.8s						
H43A	Windswept, Lux	52.08	64	P	P	10 54 16.0	-0.2
H43A				IAmb	IAmb	10 54 16.6	
	comp=Z,11nm,0.8s						
DBG	Daneborg	52.10	10	i P	P	10 54 14.9	-1.0
DBG				IAmb	IAmb	10 54 15.8	
	comp=Z,10nm,0.7s						
OK031	S. Brethren Rd	52.36	78	P	P	10 54 18.6	+0.2
OK031				IAmb	IAmb	10 54 19.1	
	comp=Z,7.7nm,0.7s						
TX31	Lajitas Ar. Si	52.74	89	P	P	10 54 20.8	-0.7
TX31				IAmb	IAmb	10 54 49.8	
	comp=Z,13nm,0.9s						
TX32	Lajitas Array	52.74	89	P	P	10 54 21.7	+0.2
TXAR	Lajitas Array	52.74	89	P	P	10 54 21.9	+0.5
	comp=Z,2.8nm,0.6s,baz=304,slow=5.6,SNR=52						
TXAR				PcP	PcP	10 55 31.1	+0.1
	comp=Z,1.4nm,0.8s,baz=305,slow=1.0,SNR=3.7						
E46A	Sault Ste Mari	52.75	60	P	P	10 54 21.1	-0.1
E46A				IAmb	IAmb	10 54 21.9	
	comp=Z,6.3nm,0.7s						
P40A	Paris	52.83	71	P	P	10 54 20.4	-1.5
HHC	Hu-ho-hao-te	53.00	291	eP	P	10 54 24.0	+0.7
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,170nm,6.6s						
U38A	Gravette	53.50	76	P	P	10 54 25.6	-1.3
R40A	Maddies Statio	53.52	73	P	P	10 54 25.0	-2.0
R40A				IAmb	IAmb	10 54 39.4	
	comp=Z,5.3nm,0.6s						
ICESG	Greenland Ices	53.55	20	i P	P	10 54 27.0	-0.2
ICESG				IAmb	IAmb	10 54 27.7	
	comp=Z,9.5nm,0.8s						
HDIL	Hopedale	53.75	69	P	P	10 54 27.4	-1.2
	baz=311,SNR=5.4						
HDIL	Hopedale	53.75	69	P	P	10 54 28.0	-0.6
MATQ	Matagami	54.00	53	P	P	10 54 28.1	-2.2
	baz=310						
BTO	Baotou	54.04	292	eP	P	10 54 31.0	+0.1
BTO				S	S	11 01 59.3	-6.5
BTO				LR	LR		
	comp=N,480nm,17.6s						
BTO				LR	LR		
	comp=E,470nm,17.4s						
DY2G	Dye2	54.08	25	i P	P	10 54 30.2	-0.7
DY2G				IAmb	IAmb	10 54 32.3	
	comp=Z,4.5nm,0.7s						
CCM	Cathedral Cave	54.28	72	P	P	10 54 30.2	-2.4
	baz=312						
MGMO	Mountain Grove	54.28	74	P	P	10 54 30.8	-1.8
MGMO				IAmb	IAmb	10 54 49.7	
	comp=Z,5.1nm,0.9s						
JCT	Junction City	54.31	85	P	P	10 54 31.9	-1.0
	baz=315						
U40A	Yellville	54.47	75	P	P	10 54 32.6	-1.4
	baz=313						
U40A	Yellville	54.47	75	P	P	10 54 32.8	-1.2
U40A				IAmb	IAmb	10 54 47.7	
	comp=Z,4.8nm,0.7s						
NJ2	Nanjing	54.59	278	eP	P	10 54 34.3	-0.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
WHTX	Lake Whitney,	54.69	82	P	P	10 54 35.4	-0.2
	baz=314						
WHTX	Lake Whitney,	54.69	82	P	P	10 54 35.1	-0.5
WHTX				IAmb	IAmb	10 54 37.0	
	comp=Z,8.7nm,0.9s						
W39A	Magazine	54.70	76	P	P	10 54 34.2	-1.4
	baz=313						
LSQQ	Lebel-sur-Quev	54.78	54	P	P	10 54 34.0	-2.1
	baz=311						
SFIN	Lafayette	55.12	67	P	P	10 54 37.5	-1.1
	baz=312						
SFIN	Lafayette	55.12	67	P	P	10 54 38.0	-0.6
SFIN				IAmb	IAmb	10 54 38.9	
	comp=Z,12nm,1.1s						
FCAR	Ozark Folk Cen	55.22	75	P	P	10 54 38.0	-1.4
FCAR				IAmb	IAmb	10 54 38.6	
	comp=Z,5.8nm,0.9s						
MIAR	Mount Ida	55.27	77	P	P	10 54 39.3	-0.5
	baz=314						
MIAR	Mount Ida	55.27	77	P	P	10 54 39.1	-0.7
MIAR				IAmb	IAmb	10 54 56.8	
	comp=Z,7.3nm,1.1s						
CHGQ	Chibougamau	55.49	51	P	P	10 54 39.6	-1.6
	baz=312						
SCHQ	Schefferville	55.57	43	P	P	10 54 42.1	+0.4
	comp=Z,7.3nm,0.8s,baz=307,slow=9.9,SNR=7.9						
SCHQ	Schefferville	55.57	43	P	P	10 54 41.6	-0.1
SCHQ				IAmb	IAmb	10 54 43.0	
	comp=Z,8.5nm,0.8s						
OLIL	Olney	55.65	69	P	P	10 54 41.5	-0.9
X40A	Basin Creek Fa	55.76	76	P	P	10 54 42.6	-0.6
	baz=314						
833A	Chaparral WMA,	56.09	86	P	P	10 54 45.9	+0.2
	baz=316						
WLAR	White Oak Lake	56.14	77	P	P	10 54 45.3	-0.7
ALGO	Algonquin Park	56.31	57	P	P	10 54 45.8	-1.2
	baz=312						
SADO	Sadowa	56.54	59	P	P	10 54 48.0	-0.6
	comp=Z,3.3nm,0.6s,baz=313,slow=9.6,SNR=5.0						
WCI	Wyandotte Cave	57.03	69	P	P	10 54 51.3	-1.0
	baz=313						
P49A	Miami Univ. Ec	57.04	67	P	P	10 54 50.5	-1.8
	baz=313						
P49A	Miami Univ. Ec	57.04	67	P	P	10 54 51.2	-1.1
P49A				IAmb	IAmb	10 54 51.6	
	comp=Z,9.0nm,0.8s						
T47A	Sharon Grove	57.41	70	P	P	10 54 54.5	-0.5
T47A				IAmb	IAmb	10 54 55.3	
	comp=Z,10.0nm,0.9s						
PLVO	Plevna	57.43	57	P	P	10 54 55.5	+0.5
PLVO				IAmb	IAmb	10 55 08.0	
	comp=Z,6.0nm,0.9s						
ACSO	Alum Creek Sta	57.54	65	P	P	10 54 54.6	-1.2
	baz=313						
ZALV	Zalesovo Beam	57.57	318	P	P	10 54 55.3	-0.5
	comp=Z,2.0nm,0.5s,baz=45,slow=6.3,SNR=8.3						
ZALV				PcP	PcP	10 55 49.5	+0.5
	comp=Z,1.3nm,0.5s,baz=6.5,slow=5.6,SNR=3.6						
WVT	Waverly	57.59	72	P	P	10 54 54.3	-1.9
	baz=314						
OXF	Oxford	57.78	74	P	P	10 54 55.8	-1.8
	baz=314						
ARCES	ARCESS Array B	58.11	354	P	P	10 54 58.1	-1.3
	comp=Z,1.9nm,0.5s,baz=13,slow=5.9,SNR=17						
ARCES	ARCESS Array B	58.11	354	P	P	10 54 58.6	-0.8
Q51A	Peebles	58.16	66	P	P	10 55 00.2	-0.1
PLAL	Pickwick Lake	58.24	73	P	P	10 55 00.2	-0.6
PLAL				IAmb	IAmb	10 55 00.8	
	comp=Z,4.4nm,0.7s						
WHN	Wuhan	58.38	280	⇑P	P	10 55 02.0	+0.1
WHN				pmax	pmax		
	comp=Z,50nm,0.8s						
M54A	Oil Creek Stat	58.48	62	P	P	10 55 01.6	-0.9
	baz=314						
O53A	New Philadelph	58.51	64	P	P	10 55 02.2	-0.4
	baz=314						
H57A	Richville	58.70	57	P	P	10 55 03.0	-0.8
	baz=314						
T50A	Nancy	58.70	69	P	P	10 55 03.7	-0.4
T50A				IAmb	IAmb	10 55 04.6	
	comp=Z,4.2nm,0.7s						
LVZ	Lovozero	58.91	350	P	P	10 55 04.4	-0.7
K56A	Middlesex	58.91	59	P	P	10 55 04.6	-0.8
	baz=314						
I57A	Carthage	58.92	57	P	P	10 55 05.8	+0.3
	baz=314						
M55A	Ridgway	59.00	61	P	P	10 55 06.0	0.0
LONY	Lake Ozonia	59.00	56	P	P	10 55 04.8	-1.2
	baz=314						
J57A	Williamstown	59.12	58	P	P	10 55 06.8	-0.1
J57A				IAmb	IAmb	10 55 07.7	
	comp=Z,8.2nm,0.8s						
XAN	Xi'an	59.16	287	P	P	10 55 07.3	0.0
XAN				pP	pwP	10 55 18.0	+1.1
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,74nm,4.9s						
L56A	Greenwood	59.18	60	P	P	10 55 07.2	-0.2
L56A				IAmb	IAmb	10 55 26.6	
	comp=Z,10nm,0.9s						
H58A	Gabriels	59.35	56	P	P	10 55 06.9	-1.6
	baz=315						
H59A	Cadyville	59.44	56	P	P	10 55 08.0	-1.0
	baz=315						
I58A	Old Forge	59.45	57	P	P	10 55 08.5	-0.7
	baz=315						
J58A	Remsen	59.52	58	P	P	10 55 08.9	-0.7
	baz=315						
J58A	Remsen	59.52	58	P	P	10 55 10.0	+0.4
J58A				IAmb	IAmb	10 55 22.3	
	comp=Z,8.5nm,1.0s						
TZTN	Tazewell	59.77	68	P	P	10 55 10.6	-0.9
	baz=315						
I59A	Olmsteadville	59.94	56	P	P	10 55 11.7	-0.9
	baz=315						
O56A	Blue Knob Stat	59.94	62	P	P	10 55 11.8	-0.9
	baz=315						
O56A	Blue Knob Stat	59.94	62	P	P	10 55 11.8	-0.9
O56A				IAmb	IAmb	10 55 17.4	
	comp=Z,6.1nm,0.8s						
BINY	Binghamton	59.97	59	P	P	10 55 12.6	-0.1
	baz=315						
H60A	Morristown	60.00	55	P	P	10 55 12.0	-0.9
	baz=315						
D62A	Allapoint, All	60.00	51	P	P	10 55 12.0	-0.8
	baz=316						
SSPA	Standing Stone	60.05	61	P	P	10 55 12.6	-0.7
	baz=315						
SSPA	Standing Stone	60.05	61	P	P	10 55 11.7	-1.6
L58A	Harry Jones Me	60.15	59	P	P	10 55 12.8	-1.2
	baz=315						
S54A	Dingess, Beckl	60.16	66	P	P	10 55 14.2	+0.1
TKL	Tuckaleechee C	60.27	69	P	P	10 55 15.0	+0.1
	comp=Z,2.2nm,0.6s,baz=304,slow=11,SNR=4.2						
F62A	Pittston Farm,	60.41	52	P	P	10 55 14.4	-1.3
	baz=316						
H61A	Lyndonville	60.41	55	P	P	10 55 15.6	-0.1
	baz=315						
L59A	Walton	60.47	58	P	P	10 55 16.8	+0.6
L59A				IAmb	IAmb	10 55 26.1	
	comp=Z,11nm,1.1s						
D63A	Stockholm	60.48	50	P	P	10 55 16.1	-0.1
	baz=316						
J60A	Lant Hill Farm	60.57	57	P	P	10 55 16.4	-0.4
	baz=315						
GTA	Gaotai	60.58	297	eP	P	10 55 16.5	-0.6
GTA				pP	pP	10 55 20.8	-2.1
GTA				sP	sP	10 55 23.8	-1.9
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
G62A	West of Eustis	60.62	53	P	P	10 55 16.3	-0.8
	baz=316						
LZH	Lanzhou	60.67	292	eP	P	10 55 18.5	+0.7
LZH				pP	pwP	10 55 32.3	+4.9
LZH				sP	sP	10 55 38.8	+13
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
H62A	Milan	60.77	54	P	P	10 55 17.1	-1.0
	baz=316						
J61A	Chester	60.94	56	P	P	10 55 18.8	-0.5
	baz=316						
F63A	Nahmakanta, Br	60.97	52	P	P	10 55 19.0	-0.5
	baz=316						
N59A	State Game Lan	60.99	60	P	P	10 55 19.5	-0.2
	baz=315						
E64A	Bridgewater	61.06	51	P	P	10 55 19.2	-0.8
	baz=316						
BLA	Blacksburg	61.08	66	P	P	10 55 20.2	-0.2
	baz=315,SNR=5.0						
BLA	Blacksburg	61.08	66	P	P	10 55 20.7	+0.3
ENH	Enshi	61.51	283	P	P	10 55 21.5	-1.9
J63A	Strafford	61.74	55	P	P	10 55 24.2	-0.5
	baz=316						
T57A	Hurt	61.88	65	P	P	10 55 25.8	0.0
T57A				IAmb	IAmb	10 55 26.3	
	comp=Z,6.5nm,0.8s						
I64A	Boothbay	62.00	54	P	P	10 55 25.1	-1.3
	baz=317						
KMSC	Kings Mountain	62.03	68	P	P	10 55 26.0	-0.8
	baz=316						
GOGA	Godfrey	62.04	71	P	P	10 55 25.6	-1.3
	baz=316						
LMN	Caledonia Moun	62.91	49	P	P	10 55 29.4	-3.1
WMQ	Urumqi	63.66	308	eP	P	10 55 40.8	+3.2
BRVK	Borovoye	63.88	325	P	P	10 55 38.0	-0.8
BRVK				IAmb	IAmb	10 55 39.1	
	comp=Z,4.4nm,0.6s						
MK31	Makanchi Array	63.94	313	P	P	10 55 37.5	-1.9
MKAR	Makanchi Array	63.94	313	P	P	10 55 38.5	-0.9
	comp=Z,2.3nm,0.6s,baz=50,slow=6.5,SNR=22						
MKAR	Makanchi Array	63.94	313	P	P	10 55 38.0	-1.4
MAKZ	Makanchi	64.07	314	P	P	10 55 39.1	-1.2
MAKZ				IAmb	IAmb	10 55 40.1	
	comp=Z,5.4nm,1.1s						
CD2	Chengdu	64.44	288	P	P	10 55 44.0	+1.1
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
ARU	Arti	64.80	333	P	P	10 55 43.6	-1.1
ARU				IAmb	IAmb	10 55 45.4	
	comp=Z,13nm,1.3s						
KLMR	Klimovskoe	64.97	345	eP	P	10 55 42.4	-3.4
KLMR				AMP		10 55 45.8	
	comp=Z,6.0nm,0.7s						
GYA	Guiyang	65.98	283	P	P	10 55 53.8	+0.7
GYA				pP	pwP	10 56 05.5	+2.8
GYA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
FIA1	FINESS Array S	66.06	352	P	P	10 55 52.2	-0.6
FINES	FINESS Array B	66.06	352	P	P	10 55 52.4	-0.4
	comp=Z,9.8nm,0.7s,baz=16,slow=8.1,SNR=22						
FINES	FINESS Array B	66.06	352	P	P	10 55 52.3	-0.6
NC204	NORSAR Array S	66.89	360	P	P	10 55 58.0	-0.2
NC303	NORSAR Array S	66.94	360	P	P	10 55 58.4	-0.1
NC405	NORSAR Array S	67.06	359	P	P	10 55 58.4	-0.9
NB201	NORSAR Array S	67.12	360	P	P	10 55 59.5	-0.1
NB2	NORSAR Subarra	67.13	360	P	P	10 55 58.6	-1.2
	comp=Z,9.9nm,0.6s,baz=360,slow=6.5						
NOA	NORSAR Array B	67.13	360	P	P	10 55 59.7	-0.1
	comp=Z,5.4nm,0.8s,baz=0.6,slow=6.3,SNR=19						
KMI	Kunming	69.33	284	⇑P	P	10 56 15.0	+0.7
KMI				pmax	pmax		
	comp=Z,17nm,0.8s						
BOOM	Boomskoye usch	70.13	314	P	P	10 56 19.6	+0.6
ABKAR	Akbulak array	70.60	328	P	P	10 56 21.3	-0.2
ABKAR				IAmb	IAmb	10 56 22.8	
	comp=Z,5.4nm,0.8s						
ABKAR	Akbulak array	70.60	328	P	P	10 56 21.0	-0.5
AAK	Ala-Archa	70.64	315	P	P	10 56 21.9	-0.2
KK31	Karatay Array	71.94	318	P	P	10 56 28.6	-1.1
KK31				IAmb	IAmb	10 56 30.3	
	comp=Z,7.8nm,0.8s						
KKAR	Karatay Array	71.94	318	P	P	10 56 28.6	-1.1
KKAR				IAmb	IAmb	10 56 30.3	
	comp=Z,7.8nm,0.8

comp=E,9.0nm,20.4s
MNK *i* LRM MLR 11 31 44.2
comp=Z,73nm,20.4s
MNK *i* LRM MLR 11 31 52.7
comp=N,364nm,24.6s
BTK Batken 74.34 316 P **P 10 56 43.9 -0.1**
GAR Garm 75.43 316 P **P 10 56 50.2 -0.2**
CHGR Chuyangaron 76.21 317 P **P 10 56 54.9 +0.1**
CM34 Chiang Mai Arr 76.24 283 P **P 10 56 55.0 -0.2**
UTTA Uttaradit 76.25 281 P **P 10 56 56.2 +1.1**
AKASG Malin Array Be 76.30 348 P **P 10 56 54.2 -0.7**
comp=N,6.9nm,0.5s,baz=16,slow=5.8,SNR=13
AKBB Malin Array Si 76.30 348 P **P 10 56 53.7 -1.3**
CM35 Chiang Mai Arr 76.37 283 P **P 10 56 56.0 +0.1**
CM33 Chiang Mai Arr 76.39 283 P **P 10 56 56.0 0.0**
CM36 Chiang Mai Arr 76.53 283 P **P 10 56 57.0 +0.2**
CM09 Chiang Mai Arr 76.65 283 P **P 10 56 59.3 +1.8**
comp=N,13nm,0.9s
CM09 Chiang Mai Arr 76.65 283 P **P 10 56 59.4 +1.8**
comp=N,13nm,0.9s
CMAR Chiang Mai Arr 76.67 283 P **P 10 56 58.2 +0.6**
comp=N,11nm,0.9s,baz=26,slow=6.7,SNR=32
CMAR Chiang Mai Arr 76.67 283 P **P 10 56 57.8 +0.2**
CM02 Chiang Mai Arr 76.69 283 P **P 10 56 59.0 +1.3**
comp=N,100nmcomp=N,14nm,0.9s
CM02 Chiang Mai Arr 76.69 283 P **P 10 56 59.0 +1.3**
comp=N,100nmcomp=N,14nm,0.9s
CM15 Chiang Mai Arr 76.69 283 P **P 10 56 59.4 +1.7**
comp=N,182nmcomp=N,13nm,0.9s
CM15 Chiang Mai Arr 76.69 283 P **P 10 56 59.5 +1.7**
CM01 Chiang Mai Arr 76.69 283 P **P 10 56 59.0 +1.4**
comp=N,15nm,0.9s
CM01 Chiang Mai Arr 76.69 283 P **P 10 56 59.1 +1.4**
comp=N,15nm,0.9s
CM04 Chiang Mai Arr 76.69 283 P **P 10 56 59.1 +1.3**
comp=N,109nmcomp=N,14nm,0.9s
CM04 Chiang Mai Arr 76.69 283 P **P 10 56 59.0 +1.3**
comp=N,109nmcomp=N,14nm,0.9s
CM05 Chiang Mai Arr 76.71 283 P **P 10 56 58.8 +1.0**
comp=N,119nmcomp=N,14nm,0.9s
CM05 Chiang Mai Arr 76.71 283 P **P 10 56 58.0 +0.2**
comp=N,119nmcomp=N,14nm,0.9s
CM13 Chiang Mai Arr 76.72 283 P **P 10 56 58.7 +0.9**
comp=N,186nmcomp=N,14nm,0.9s
CM13 Chiang Mai Arr 76.72 283 P **P 10 56 58.8 +0.9**
comp=N,186nmcomp=N,14nm,0.9s
GUN Gumba 76.82 298 *eP* **P 10 56 59.0 +0.2**
comp=N,42nm,0.6s
CLL Collm 76.87 358 *eP* **P 10 56 58.0 -0.2**
KKN Kakani 77.24 299 *eP* **P 10 57 01.5 +0.5**
comp=N,16nm,0.5s
PKI Pulchoki 77.34 299 *eP* **P 10 57 01.5 -0.2**
comp=N,11nm,0.6s
PKIN Phulchoki 77.35 299 *eP* **P 10 57 01.4 -0.2**
comp=N,13nm,0.5s
GKN Gorkha 77.42 299 *eP* **P 10 57 01.8 -0.1**
comp=N,31nm,0.7s
OSTC Ostas 77.53 356 *eP* **P 10 57 03.2 +1.2**
DANN Dangsing 77.61 300 *eP* **P 10 57 03.4 +0.3**
comp=N,67nm,0.6s
DPC Dobruska-Polom 77.73 356 *eP* **P 10 57 03.8 +0.7**
KRLC Kraliky 77.99 356 *eP* **P 10 57 05.3 +0.7**
KWP Kalwaria Pacla 78.05 352 P **P 10 57 05.6 +0.7**
MORC Moravsky Berou 78.25 355 *eP* **P 10 57 06.5 +0.5**
NIL Nilore 78.57 311 P **P 10 57 08.1 0.0**
VRAC Vranov 78.76 356 *eP* **P 10 57 09.5 +0.7**
LANS Liptovska Anna 78.77 354 *eP* **P 10 57 10.4 +1.5**
KRUC Moravsky 79.02 356 *eP* **P 10 57 10.7 +0.5**
KHC Kasperske Hory 79.04 358 *eP* **P 10 57 11.2 +0.8**
JAVC Velka Javorina 79.16 355 *eP* **P 10 57 12.6 +1.5**
GEC2 GERESS Array S 79.32 358 P **P 10 57 12.1 +0.1**
GEC2 IAmb IAmb 10 57 13.4
comp=Z,6.2nm,1.1s
GERES GERESS Array B 79.32 358 P **P 10 57 12.7 +0.7**
comp=Z,1.7nm,0.7s,baz=18,slow=4.8,SNR=11
GERES GERESS Array B 79.32 358 P **P 10 57 12.0 0.0**
MODS Modra-Piesok 79.67 356 *eP* **P 10 57 15.6 +1.8**
KBL Kabul 79.73 314 P **P 10 57 13.4 -1.2**
BUR08 Bucovina Ar. S 79.78 350 P **P 10 57 14.8 +0.3**
ZST Bratislava 79.85 356 *eP* **P 10 57 15.9 +1.2**
CONA Conrad Observa 80.17 356 *eP* **P 10 57 15.3 -1.3**
comp=Z,9.4nm,1.2s
KBZ Khabaz 80.49 337 P **P 10 57 19.5 +1.3**
comp=Z,8.4nm,0.8s,baz=84,slow=1.9,SNR=19
RETA Reutte 80.71 360 *eP* **P 10 57 19.2 -0.3**
comp=Z,6.8nm,1.2s
MOTA Moosalm 80.85 360 *eP* **P 10 57 19.6 -0.7**
comp=Z,5.9nm,0.8s
ARSA Arzberg 80.86 357 *eP* **P 10 57 21.3 +1.1**
comp=Z,5.1nm,1.1s
WATA Walderalm 80.86 359 *eP* **P 10 57 20.5 +0.1**
comp=Z,2.7nm,0.4s
DAVA Damuels 80.91 1 *eP* **P 10 57 21.5 +0.8**
comp=Z,2.4nm,0.6s
WTTA Wattenberg 80.93 359 *eP* **P 10 57 21.8 +1.0**
comp=Z,3.8nm,0.7s
SQTA Sankt Quirin 80.98 360 *eP* **P 10 57 22.2 +1.2**
comp=Z,3.7nm,0.4s
KBA Koelnbreinsper 81.09 358 *eP* **P 10 57 22.8 +1.1**
comp=Z,19nm,1.1s
FETA Feichten 81.18 360 *eP* **P 10 57 23.1 +1.0**
comp=Z,7.1nm,0.9s
GEYT Alibeck 81.19 324 P **P 10 57 23.1 +0.9**
comp=Z,7.7nm,0.8s,baz=9.6,slow=9.8,SNR=6.7
ABTA Abfaltersbach 81.44 359 *eP* **P 10 57 24.1 +0.7**
comp=Z,12nm,1.3s
SOKA Soboth 81.45 357 *eP* **P 10 57 24.4 +1.0**
comp=Z,9.5nm,1.0s
MYKA Terra Mystica 81.54 358 *eP* **P 10 57 24.6 +0.7**
comp=Z,1.5nm,0.6s
OBKA Obir 81.63 357 *eP* **P 10 57 25.4 +1.0**
comp=Z,4.9nm,0.7s
TEOL Teolo 82.84 359 P **P 10 57 31.4 +0.7**
BNI Bardonecchia 83.09 3 P **P 10 57 32.5 +0.4**
NRCA Norcia 85.34 358 P **P 10 57 43.7 +0.2**
BRTR Keskin Array B 86.31 342 P **P 10 57 49.2 +0.8**
comp=Z,1.4nm,0.7s,baz=90,slow=1.4,SNR=4.6
BRTR Keskin Array B 86.31 342 P **P 10 57 48.0 -0.5**
ALN Alexandroupoli 86.34 348 P **P 10 57 48.0 -0.4**
ALN IAmb IAmb 10 57 49.7
comp=Z,6.7nm,0.9s
WRA Warramunga Arr 86.89 232 P **P 10 57 49.9 -1.3**
comp=Z,1.6nm,0.9s,baz=40,slow=5.7,SNR=8.4
FNA Florina 86.95 352 P **P 10 57 51.4 -0.1**
FNA IAmb IAmb 10 57 52.0
comp=Z,5.3nm,0.7s
MARD Mardin 87.08 336 P **P 10 57 53.4 +1.2**
ESDC Sonseca Array 87.64 11 P **P 10 57 53.7 -1.1**
comp=Z,3.2nm,0.8s,baz=350,slow=5.0,SNR=12
ESDC Sonseca Array 87.64 11 P **P 10 57 55.2 +0.4**
ESDC IAmb IAmb 10 57 55.9
comp=Z,3.0nm,0.9s
RPSI Rantau Prapat 88.95 273 P **P 10 58 00.9 -0.4**
ASAR Alice Springs 90.28 230 P **P 10 58 07.2 -0.1**
comp=Z,1.7nm,0.6s,baz=28,slow=4.7,SNR=28
H03N2 Juan Fernandez 115.84 112 T T 13 10 34.9
baz=324,slow=78,SNR=4.1
H03N1 Juan Fernandez 115.86 112 T T 13 10 36.1
baz=324,slow=78,SNR=4.3
H03N3 Juan Fernandez 115.86 112 T T 13 10 30.1
baz=324,slow=78,SNR=3.3
MAW Mawson 150.73 218 PKPbc **PKPbc 11 04 56.4 -0.8**
comp=Z,1.1nm,0.7s,baz=344,slow=7.4,SNR=2.3
BOSA Boshof 154.06 330 PKPbc **PKPbc 11 05 06.0 -0.1**
comp=Z,1.7nm,0.5s,baz=18,slow=4.1,SNR=7.0

*AEIC **27** 10:54:26±3.0, 52°.17N±0°.04×169°.16W±0°.08, h12km±3km, ML4.5/56, mb4.6/188(NEIC), Error ellipse: s-maj=6.8km s-min=5.4km az=92.0*
*NEIC **27** 10:54:27.4±2.6, 52°.24N±0°.05×169°.24W±0°.07, h21km±4km, Error ellipse: s-maj=7.7km s-min=6.4km az=165.0*
*IDC **27** 10:54:27.1±2.7, 52°.26N×169°.33W, h22km±16km, mb4.3/34, mb1 4.4/36, mb1mx4.3/55, mbtmp4.4/36, ML4.1/2, MS4.1/23, Ms1 4.1/23, ms1mx4.0/36, Error ellipse: s-maj=18.0km s-min=9.3km az=174.0*
ISC 27 10:54:28.5±0.9, 52°.32N±0°.06×169°.29W±0°.04, h31km±5km, n586, σ1°§16/584, mb4.7/146, MS4.3/34, 2C-3D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.71**	**22**	P	**Pb**	**10 54 41.6**	**-0.8**
	baz=193,SNR=145						
NIKH	**Nikolski High**	**0.71**	**22**	Pg	**Pb**	**10 54 41.9**	**-0.4**
NIKH	**Nikolski High**	**0.71**	**22**		**Sn**	**10 54 53.6**	**+1.5**
OKSP	**Okmok Steeple**	**1.11**	**33**		**Pn**	**10 54 47.6**	**-0.4**
OKSO	**Okmok South**	**1.25**	**33**		**Pn**	**10 54 50.4**	**+0.6**
OKSO					**Sb**	**10 55 08.5**	**+1.4**
OKTU	**Okmok Mt. Tuli**	**1.31**	**35**		**Pn**	**10 54 50.4**	**-0.3**
OKFG	**Magazine Ridge**	**1.38**	**37**		**Pn**	**10 54 51.2**	**-0.3**
OKFG					**Sb**	**10 55 11.1**	**+0.3**
MAPS	**Pakushin South**	**2.06**	**43**		**Pn**	**10 55 00.8**	**-0.2**
MAPS					**Sb**	**10 55 28.3**	**-2.1**
MGOD	**Makushin Gods**	**2.08**	**44**		**Pn**	**10 55 01.6**	**+0.4**
MNAT	**Makushin Natee**	**2.22**	**44**		**Pn**	**10 55 03.5**	**+0.3**
MNAT					**Sn**	**10 55 31.8**	**+2.3**
UNV	**Unalaska Valle**	**2.27**	**47**	P	**Pn**	**10 55 04.1**	**+0.2**
	baz=225,SNR=91						
UNV	**Unalaska Valle**	**2.27**	**47**		**Pn**	**10 55 04.0**	**+0.1**
UNV					**Sn**	**10 55 32.0**	**+1.3**
MTBL	**Makushin Table**	**2.28**	**43**		**Pn**	**10 55 05.2**	**+1.1**
AKMO	**Akutan Morgan**	**2.65**	**47**		**Pn**	**10 55 10.1**	**+1.0**
AKRB	**Akutan Reef Bi**	**2.65**	**46**		**Pn**	**10 55 10.7**	**+1.6**
AKBBA	**Akutan Broad B**	**2.69**	**47**		**Pn**	**10 55 10.8**	**+1.1**
AKLV	**Akutan Long Va**	**2.73**	**46**		**Pn**	**10 55 11.2**	**+1.1**
AKGG	**Akutan Green G**	**2.73**	**45**		**Pn**	**10 55 11.3**	**+1.1**
AKUT	**Akutan**	**2.79**	**48**	Pn	**Pn**	**10 55 12.1**	**+1.1**
AKSA	**Akutan Strait**	**2.82**	**48**		**Pn**	**10 55 12.1**	**+0.6**
KOFP	**Korovin Flat P**	**2.95**	**271**		**Pn**	**10 55 14.3**	**+1.0**
KOKL	**Mount Kliuchef**	**3.01**	**272**		**Pn**	**10 55 15.7**	**+1.6**
ATKA	**Atka Island**	**3.02**	**270**	Pn	**Pn**	**10 55 12.5**	**-1.6**
WESP	**Westdahl Peak**	**3.50**	**50**		**Pn**	**10 55 22.1**	**+1.3**
ISLZ	**Isanotski Laza**	**4.11**	**52**		**Pn**	**10 55 29.3**	**+0.1**
GSTR	**Great Sitkin T**	**4.17**	**270**	Pn	**Pn**	**10 55 29.7**	**-0.3**
GSMY	**Great Sitkin M**	**4.17**	**269**		**Pn**	**10 55 30.3**	**+0.3**
GSTD	**Great Sitkin T**	**4.23**	**269**		**Pn**	**10 55 30.9**	**+0.1**
FALS	**False Pass**	**4.33**	**52**	P	**Pn**	**10 55 32.4**	**+0.4**
	baz=234						
FALS	**False Pass**	**4.33**	**52**		**Pn**	**10 55 33.0**	**+1.0**
ADK	**Adak**	**4.58**	**267**		**Pn**	**10 55 35.6**	**+0.1**
KIKV	**Kanaga Island**	**4.88**	**268**		**Pn**	**10 55 40.3**	**+0.6**
KICM	**Kanaga Island**	**4.89**	**268**		**Pn**	**10 55 40.3**	**+0.5**
SPIA	**Saint Paul Isl**	**4.90**	**354**	P	**Pn**	**10 55 41.2**	**+1.3**
	baz=172,SNR=16						
SPIA	**Saint Paul Isl**	**4.90**	**354**		**Pn**	**10 55 43.3**	**+3.4**
KIMD	**Kanaga Island**	**4.94**	**267**		**Pn**	**10 55 40.5**	**0.0**
TAFP	**Tanaga Falls P**	**5.37**	**269**		**Pn**	**10 55 47.2**	**+0.7**
TASE	**Tanaga Southea**	**5.42**	**268**		**Pn**	**10 55 47.7**	**+0.6**
GAEA	**Gareloi East**	**5.86**	**268**		**Pn**	**10 55 54.6**	**+1.5**
GALAA	**Gareloi Lava P**	**5.88**	**268**		**Pn**	**10 55 54.9**	**+1.5**
SDPT	**Sand Point**	**6.04**	**56**	P	**Pn**	**10 55 55.8**	**+0.3**
	baz=242						
SDPT	**Sand Point**	**6.04**	**56**	Pn	**Pn**	**10 55 56.8**	**+1.2**
CNBA	**Chernabura Isl**	**6.30**	**63**		**Pn**	**10 55 58.7**	**-0.4**
CHNA	**Chernabura Isl**	**6.30**	**63**	P	**Pn**	**10 55 58.7**	**-0.5**
	baz=249,SNR=6.9						
CERAA	**Semis' Rag'd T**	**6.80**	**271**		**Pn**	**10 56 06.3**	**+0.1**
CEAP	**Semis' Anvil P**	**6.86**	**272**		**Pn**	**10 56 07.8**	**+1.0**
CESW	**Semis' Southwe**	**6.88**	**271**		**Pn**	**10 56 07.5**	**+0.3**
AMKA	**Amchitka**	**7.13**	**267**		**Pn**	**10 56 10.9**	**+0.3**
LSPA	**Little Sitkin**	**7.48**	**272**		**Pn**	**10 56 17.2**	**+1.8**
LSNW	**Little Sitkin**	**7.51**	**272**		**Pn**	**10 56 17.7**	**+1.9**
LSSA	**Little Sitkin**	**7.52**	**272**		**Pn**	**10 56 18.2**	**+2.3**
CHIR	**Chirikof Islan**	**8.77**	**61**	P	**Pn**	**10 56 33.5**	**+0.5**
	baz=251						
SII	**Sitkinak Islan**	**9.77**	**58**	P	**Pn**	**10 56 46.6**	**-0.1**
	baz=250						
ANCK	**Angle Creek**	**9.82**	**48**		**Pn**	**10 56 49.9**	**+2.4**
OHAK	**Old Harbor**	**10.46**	**56**	P	**Pn**	**10 56 55.3**	**-0.8**
	baz=248						
OHAK	**Old Harbor**	**10.46**	**56**	Pn	**Pn**	**10 56 54.6**	**-1.5**
O18K	**Koktuh Hills**	**10.88**	**41**	P	**Pn**	**10 57 03.0**	**+1.1**
	baz=231,SNR=14						
KDAK	**Kodiak Island**	**11.02**	**54**	Pn	**Pn**	**10 57 02.0**	**-1.8**
	5.8nm,0.3s,baz=206,slow=3.9,SNR=52						
KDAK	**Kodiak Island**	**11.02**	**54**	P	**Pn**	**10 57 02.8**	**-1.0**
	baz=246						
N18K	**Kilae Creek**	**11.16**	**36**	P	**Pn**	**10 57 06.2**	**+0.4**
	baz=226						
SVW2	**Sparrevohn**	**11.56**	**35**		**Pn**	**10 57 10.5**	**-0.6**
GAMB	**Gambell**	**11.56**	**355**	P	**Pn**	**10 57 12.3**	**+1.2**
	baz=172						
GAMB	**Gambell**	**11.56**	**355**		**Pn**	**10 57 10.4**	**-0.7**
P19K	**Oil Pt**	**11.59**	**44**	P	**Pn**	**10 57 12.7**	**+1.1**
	baz=237						
N19K	**Bonanza Creek**	**11.77**	**38**	P	**Pn**	**10 57 16.6**	**+2.5**
	baz=230						
O20K	**Slope Mountain**	**12.08**	**43**	P	**Pn**	**10 57 19.9**	**+1.6**
	baz=236						
HOM	**Homer**	**12.29**	**46**	P	**Pn**	**10 57 22.7**	**+1.6**
	baz=240						
CNPM	**China Poot**	**12.40**	**47**	Pn	**Pn**	**10 57 22.5**	**-0.2**
M19K	**Big River Lodg**	**12.53**	**34**	P	**Pn**	**10 57 26.1**	**+1.7**
	baz=226						
L19K	**White Mountain**	**12.57**	**33**	P	**Pn**	**10 57 27.1**	**+2.2**
	baz=224,SNR=12						
BRLK	**Bradley Lake**	**12.67**	**47**		**Pn**	**10 57 25.5**	**-0.9**
BRSE	**Bradley Lake S**	**12.73**	**47**	P	**Pn**	**10 57 28.4**	**+1.3**
	baz=242						
SPU	**Mount Spurr**	**12.93**	**40**		**Pn**	**10 57 30.8**	**+0.9**
M20K	**Styx River**	**12.96**	**36**	P	**Pn**	**10 57 33.5**	**+3.1**
	baz=229						
SEW	**Seward**	**13.47**	**47**	P	**Pn**	**10 57 36.4**	**-0.8**
	baz=243,SNR=7.1						
SEW	**Seward**	**13.47**	**47**	Pn	**Pn**	**10 57 35.9**	**-1.3**
O22K	**Cooper Landing**	**13.53**	**45**	P	**Pn**	**10 57 36.8**	**-1.1**
	baz=241,SNR=28						
O22K	**Cooper Landing**	**13.53**	**45**		**Pn**	**10 57 36.9**	**-1.1**
SKT	**Skwentna**	**13.61**	**38**	P	**Pn**	**10 57 41.0**	**+1.8**
	baz=232						
SKT	**Skwentna**	**13.61**	**38**		**Pn**	**10 57 39.6**	**+0.5**
SUA	**Susitna One**	**13.61**	**40**	P	**Pn**	**10 57 39.4**	**+0.1**
	baz=235,SNR=6.1						
SUA	**Susitna One**	**13.61**	**40**		**Pn**	**10 57 39.0**	**-0.3**
K20K	**Telida**	**13.67**	**30**	P	**Pn**	**10 57 43.8**	**+3.9**
	baz=222						
RC01	**Rabbit Creek A**	**13.82**	**43**	P	**Pn**	**10 57 41.6**	**-0.4**
	baz=239,SNR=9.1						
RC01	**Rabbit Creek A**	**13.82**	**43**		**Pn**	**10 57 40.3**	**-1.8**
PPLA	**Purkeypile**	**13.96**	**34**	P	**P**	**10 57 50.8**	**-0.9**
J20K	**Nowinta River**	**14.26**	**28**	P	**Pn**	**10 57 49.4**	**+1.5**
	baz=220,SNR=14						
PWL	**Port Wells**	**14.31**	**45**		**Pn**	**10 57 46.9**	**-1.8**
PMR	**Palmer**	**14.33**	**42**	P	**Pn**	**10 57 48.6**	**-0.3**
	baz=238						
CUT	**Chulitna**	**14.34**	**38**	P	**Pn**	**10 57 48.8**	**-0.2**
	baz=233						
GHO	**Glory Hole Cre**	**14.51**	**41**		**Pn**	**10 57 51.1**	**-0.4**
KNK	**Knik Glacier**	**14.52**	**43**	P	**Pn**	**10 57 51.0**	**-0.6**
	baz=240						
CHUM	**Lake Minchumin**	**14.59**	**31**	P	**Pn**	**10 57 52.6**	**+0.1**
	baz=225						
SML	**Sawmill**	**14.77**	**42**	P	**Pn**	**10 57 54.0**	**-0.9**
	baz=239						
SML	**Sawmill**	**14.77**	**42**		**Pn**	**10 57 55.0**	**0.0**
KTH	**Kantishna Hill**	**14.82**	**33**	Pn	**Pn**	**10 57 56.9**	**+1.2**
HIN	**Hinchinbrook I**	**14.93**	**48**		**Pn**	**10 57 55.9**	**-1.2**
TRF	**Thorofare Moun**	**14.97**	**34**	P	**Pn**	**10 57 58.0**	**+0.2**
	baz=230						
FID	**Port Fidalgo**	**15.08**	**47**		**Pn**	**10 57 56.2**	**-2.9**
FID				IAmb	IAmb	10 58 08.9	
	comp=Z,27nm,0.9s						
BPAW	**Bear Paw Mtn.**	**15.17**	**32**	P	**Pn**	**10 58 01.0**	**+0.8**
	baz=227,SNR=11						
BPAW	**Bear Paw Mtn.**	**15.17**	**32**	Pn	**Pn**	**10 58 01.5**	**+1.3**
BPAW				IAmb	IAmb	10 58 16.5	
	comp=Z,22nm,0.7s						
SCM	**Sheep Creek Mo**	**15.20**	**43**		**Pn**	**10 57 58.7**	**-2.0**
WAT1	**Susitna Watana**	**15.23**	**38**	P	**Pn**	**10 58 01.5**	**+0.4**
	baz=235						
EYAK	**Cordova Ski Ar**	**15.33**	**48**	P	**Pn**	**10 58 00.6**	**-1.7**
	baz=247						
EYAK	**Cordova Ski Ar**	**15.33**	**48**		**Pn**	**10 58 00.5**	**-1.9**
EYAK				IAmb	IAmb	10 58 21.6	
	comp=Z,17nm,0.8s						
WAT6	**Susitna Watana**	**15.41**	**40**	P	**Pn**	**10 58 02.6**	**-0.9**
	baz=237						
RND	**Reindeer**	**15.46**	**36**	Pn	**Pn**	**10 58 03.9**	**-0.2**
I21K	**Tanana**	**15.63**	**28**	P	**Pn**	**10 58 05.0**	**-1.2**
	baz=222,SNR=19						
KLU	**Klutina**	**15.64**	**45**	P	**Pn**	**10 58 04.2**	**-2.2**
	baz=244,SNR=33						
BWN	**Browne**	**15.72**	**33**	P	**P**	**10 58 10.2**	**-0.9**
BWN				IAmb	IAmb	10 58 36.8	
	comp=Z,77nm,1.4s						
IMAR	**Indian Mountai**	**15.78**	**24**	P	**P**	**10 58 11.4**	**-0.3**
M24K	**Tolsona, Glenn**	**15.81**	**43**	P	**Pn**	**10 58 06.9**	**-1.6**
	baz=242,SNR=8.8						
M24K	**Tolsona, Glenn**	**15.81**	**43**		**Pn**	**10 58 06.7**	**-1.9**
M24K				IAmb	IAmb	10 58 18.1	
	comp=Z,45nm,0.7s						
MLY	**Manley**	**15.89**	**30**	P	**Pn**	**10 58 09.6**	**0.0**
	baz=225,SNR=35						
MLY	**Manley**	**15.89**	**30**	P	**P**	**10 58 12.1**	**-0.9**
MLY				IAmb	IAmb	10 58 25.8	
	comp=Z,28nm,0.8s						
BMRM	**Bremner River**	**16.01**	**48**	P	**Pn**	**10 58 09.9**	**-1.3**
	baz=248						
BMRM	**Bremner River**	**16.01**	**48**	Pn	**Pn**	**10 58 10.1**	**-1.2**
BMRM				IAmb	IAmb	10 58 26.6	
	comp=Z,27nm,0.8s						
RDOG	**Red Dog Mine**	**16.09**	**9**	P	**Pn**	**10 58 11.3**	**-0.8**
	baz=194						
NEA2	**Nenana**	**16.12**	**32**	P	**Pn**	**10 58 13.0**	**+0.4**
	baz=229						
NEA2	**Nenana**	**16.12**	**32**	P	**Pn**	**10 58 13.6**	**+1.1**
N25K	**Chitina, Valde**	**16.26**	**45**	P	**Pn**	**10 58 13.0**	**-1.5**
	baz=246,SNR=5.4						
N25K	**Chitina, Valde**	**16.26**	**45**	Pn	**Pn**	**10 58 13.1**	**-1.3**
HARP	**HAARP**	**16.36**	**43**	P	**Pn**	**10 58 14.9**	**-0.8**
	baz=242						
WRH	**Wood River Hil**	**16.37**	**34**		**Pn**	**10 58 16.4**	**+0.7**
I23K	**Minto, Yukon-K**	**16.39**	**31**	P	**Pn**	**10 58 15.6**	**-0.3**
	baz=227,SNR=19						
I23K	**Minto, Yukon-K**	**16.39**	**31**	P	**P**	**10 58 17.6**	**-0.9**
PAX	**Paxson**	**16.51**	**40**	P	**Pn**	**10 58 17.0**	**-0.5**
	baz=240						
PAX	**Paxson**	**16.51**	**40**	Pn	**Pn**	**10 58 16.3**	**-1.3**
GLB	**Gilahina Butte**	**16.55**	**47**		**Pn**	**10 58 17.1**	**-0.9**
CCB	**Clear Creek Bu**	**16.58**	**34**		**Pn**	**10 58 18.8**	**+0.5**
CRQM	**Cirque**	**16.61**	**49**		**Pn**	**10 58 18.2**	**-0.7**
CRQM				IAmb	IAmb	10 58 41.4	
	comp=Z,24nm,0.8s						
VRDI	**Verde Repeater**	**16.63**	**47**		**Pn**	**10 58 17.8**	**-1.4**
MDM	**Murphy Dome**	**16.63**	**32**		**Pn**	**10 58 19.8**	**+0.7**
CRQE	**Cirque**	**16.63**	**49**	P	**Pn**	**10 58 18.1**	**-1.1**
	baz=251						
WAX	**Waxell Ridge**	**16.65**	**50**	P	**P**	**10 58 22.9**	**+1.4**
HDA	**Harding Lake**	**16.73**	**35**	P	**Pn**	**10 58 20.7**	**+0.4**
	baz=234						
HDA	**Harding Lake**	**16.73**	**35**	P	**P**	**10 58 22.7**	**+0.4**
H23K	**Yukon River**	**16.80**	**29**	P	**Pn**	**10 58 21.4**	**+0.2**
	baz=225						
MCARA	**McCarthy VSAT**	**16.88**	**47**	P	**Pn**	**10 58 22.0**	**-0.1**
	baz=249						
MCARA	**McCarthy VSAT**	**16.88**	**47**	P	**Pn**	**10 58 21.4**	**-0.7**
MCARA				IAmb	IAmb	10 58 44.9	
	comp=Z,44nm,0.8s						
ISLE	**Juniper Island**	**16.94**	**50**	P	**Pn**	**10 58 23.8**	**+0.7**
ISLE				IAmb	IAmb	10 58 44.8	
	comp=Z,47nm,0.8s						
IL31		**16.97**	**34**	P	**Pn**	**10 58 23.5**	**+0.4**
ILAR	**Eielson Array**	**16.97**	**34**	P	**Pn**	**10 58 22.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=222,slow=11,SNR=16						
ILAR				ScP	**ScP**	**11 06 40.6**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=283,slow=4.1,SNR=7.5						
ILAR	**Eielson Array**	**16.97**	**34**	P	**P**	**10 58 24.1**	**-0.8**
MESA	**MESA**	**17.00**	**52**	P	**Pn**	**10 58 23.4**	**-0.5**
	baz=254						
RIDG	**Independent Ri**	**17.14**	**39**	P	**Pn**	**10 58 25.6**	**+0.2**
	baz=239						
RIDG	**Independent Ri**	**17.14**	**39**	P	**P**	**10 58 27.4**	**+0.6**
RIDG				IAmb	IAmb	10 58 49.5	
	comp=Z,48nm,1.5s						
YAH	**Yahtse**	**17.15**	**51**	P	**P**	**10 58 28.2**	**+1.0**
YAH				IAmb	IAmb	10 58 40.8	
	comp=Z,62nm,0.7s						
MENT	**Mentasta**	**17.20**	**42**	P	**P**	**10 58 27.9**	**+0.4**
M26K	**Nabesna, AK**	**17.27**	**44**	P	**Pn**	**10 58 27.1**	**0.0**
	baz=246						
H24K	**Noodor Dome**	**17.32**	**30**	P	**Pn**	**10 58 27.5**	**-0.1**
	baz=228						
L26K	**Log Cabin Wild**	**17.39**	**42**	P	**Pn**	**10 58 28.0**	**-0.5**
	baz=243,SNR=11						
BARN	**Barnard Glacie**	**17.39**	**49**	P	**Pn**	**10 58 29.1**	**+0.3**
DOT	**Dot Lake**	**17.39**	**40**		**Pn**	**10 58 28.6**	**0.0**
CTG	**Chitna Glacier**	**17.51**	**49**	P	**Pn**	**10 58 29.9**	**-0.3**
	baz=252						
CTGM	**Chitina Glacie**	**17.52**	**49**	P	**Pn**	**10 58 29.5**	**-0.7**
SCRK	**Sand Creek**	**17.59**	**39**	P	**Pn**	**10 58 30.8**	**-0.2**
	baz=240,SNR=10						
SCRK	**Sand Creek**	**17.59**	**39**		**P**	**10 58 31.8**	**0.0**
LOGN	**Logan Glacier**	**17.63**	**50**		**P**	**10 58 32.5**	**+0.1**
LOGN				IAmb	IAmb	10 58 50.4	
	comp=Z,28nm,0.8s						
M27K	**Edge Creek, AK**	**17.74**	**45**	P	**Pn**	**10 58 33.0**	**+0.1**
	baz=248						
PINM	**Pinnacle**	**17.81**	**53**	P	**P**	**10 58 35.0**	**+0.8**
	baz=256						
PRP	**Porcupine Dome**	**17.88**	**33**	P	**Pn**	**10 58 34.0**	**-0.6**
	baz=233						
PRP	**Porcupine Dome**	**17.88**	**33**	P	**Pn**	**10 58 34.2**	**-0.4**
L27K	**Beaver Creek,**	**18.04**	**43**	P	**Pn**	**10 58 36.1**	**-0.4**
	baz=246						
L27K	**Beaver Creek,**	**18.04**	**43**	P	**Pn**	**10 58 36.1**	**-0.4**
BCAR	**Beaver Creek A**	**18.05**	**43**		**Pn**	**10 58 36.2**	**-0.5**
K27K	**Chicken**	**18.35**	**40**	P	**Pn**	**10 58 42.0**	**+1.7**
	baz=243						
K27K	**Chicken**	**18.35**	**40**	P	**P**	**10 58 40

E04D Cinebar 30.49 82 P **P 11 00 39.4 +1.1**
baz=298
D05A Enumclaw 30.55 81 P **P 11 00 40.3 +1.4**
LTY Liberty 31.31 80 P **P 11 00 47.4 +1.7**
LTY IAmb IAmb 11 00 59.8
comp=Z,7.1nm,1.2s
I03D Drain, OR 31.45 87 P **P 11 00 48.0 +1.1**
baz=302
B08A Colville Reser 31.61 77 P **P 11 00 48.0 -0.3**
B08A IAmb IAmb 11 01 03.5
comp=Z,9.8nm,0.9s
I05D Terrebonne, OR 32.34 85 P **P 11 00 55.6 +0.8**
baz=301
HAWA Hanford 32.41 80 P **P 11 00 55.7 +0.4**
HAWA IAmb IAmb 11 00 57.5
comp=Z,12nm,1.0s
D08A Wollman Farm, 32.46 79 P **P 11 00 56.8 +1.1**
D08A IAmb IAmb 11 01 13.6
comp=Z,8.9nm,1.1s
J04D Umpqua Nationa 32.46 87 P **P 11 00 56.8 +0.8**
baz=303
C09A Chrisman Ranch 32.50 77 P **P 11 00 57.0 +0.9**
C09A IAmb IAmb 11 00 57.9
comp=Z,11nm,1.1s
ASAJ Asahikawa 32.56 275 P **P 11 00 56.2 -0.4**
comp=Z,19nm,1.1s,baz=40,slow=2.4,SNR=9.1
L04D Klamath Falls 32.91 89 P **P 11 01 00.5 +0.7**
baz=304
NEW Newport 32.98 76 P **P 11 01 00.1 -0.1**
comp=Z,6.4nm,0.8s,baz=298,slow=8.7,SNR=10.0
NEW Newport 32.98 76 P **P 11 01 00.2 -0.1**
baz=297,SNR=8.1
NEW Newport 32.98 76 P **P 11 01 01.0 +0.7**
NEW IAmb IAmb 11 01 15.1
comp=Z,9.0nm,0.8s
EDM Edmonton 33.12 66 P **P 11 01 02.3 +0.8**
E09A Wood Farm, Sta 33.19 79 P **P 11 01 03.6 +1.5**
E09A IAmb IAmb 11 01 21.4
comp=Z,17nm,1.2s
G08A Pilot Rock 33.30 82 P **P 11 01 03.4 +0.1**
G08A IAmb IAmb 11 01 17.3
comp=Z,8.5nm,1.3s
I07A Izee 33.60 84 P **P 11 01 08.1 +2.2**
I07A IAmb IAmb 11 01 23.9
comp=Z,6.2nm,1.1s
O02D Mt. Diablo Mer 33.80 92 P **P 11 01 07.9 +0.4**
baz=307
F10A Beach Ranch, E 34.01 80 P **P 11 01 10.3 +0.9**
F10A IAmb IAmb 11 01 25.9
comp=Z,6.6nm,1.0s
BMO Blue Mountains 34.53 81 P **P 11 01 14.0 +0.1**
BMO IAmb IAmb 11 01 28.2
comp=Z,10nm,1.4s
J08A Circle Bar Ran 34.62 84 P **P 11 01 13.6 -1.1**
J08A IAmb IAmb 11 01 32.5
comp=Z,7.9nm,1.1s
WVOR Wild Horse Val 35.03 86 P **P 11 01 19.6 +1.3**
MSO Missoula 35.55 76 P **P 11 01 21.3 -1.4**
baz=300,SNR=6.8
MSO Missoula 35.55 76 P **P 11 01 21.4 -1.3**
MFID Camas Ranch 36.20 82 P **P 11 01 29.2 +0.9**
MFID IAmb IAmb 11 01 42.3
comp=Z,12nm,1.4s
PNTR Pine Nut 36.41 91 P **P 11 01 30.1 -0.2**
PNTR IAmb IAmb 11 01 51.5
comp=Z,9.5nm,0.7s
KLR Kul'dur 36.52 289 P **P 11 01 29.1 -1.7**
comp=Z,4.7nm,0.4s,baz=75,slow=6.7,SNR=22
YERR Yerington 36.70 91 P **P 11 01 30.8 -1.8**
HLID Hailey 36.98 81 P **P 11 01 34.6 -0.4**
baz=303
HLID Hailey 36.98 81 P **P 11 01 34.5 -0.5**
BCYI Bear Canyon 37.18 80 P **P 11 01 37.4 +0.6**
MCMT McKenzie Canyo 37.24 78 P **P 11 01 37.4 +0.1**
EGMT Eagleton 37.44 72 P **P 11 01 37.6 -1.2**
baz=299,SNR=15
EGMT Eagleton 37.44 72 P **P 11 01 37.5 -1.2**
EGMT IAmb IAmb 11 01 40.5
comp=Z,13nm,0.8s
H11N2 WAKE ISLAND Hy 37.44 219 T T 11 42 38.6
baz=24,slow=76,SNR=52
H11N3 WAKE ISLAND Hy 37.45 219 T T 11 42 39.3
baz=24,slow=76,SNR=101
H11N1 WAKE ISLAND Hy 37.46 219 T T 11 42 41.1
baz=24,slow=76,SNR=54
BOZ Bozeman (W) 37.56 77 P **P 11 01 39.6 -0.3**
baz=302,SNR=8.2
BOZ Bozeman (W) 37.56 77 P **P 11 01 39.6 -0.3**
BOZ IAmb IAmb 11 01 58.0
comp=Z,12nm,1.2s
NVAR Mina Array Bea 37.61 91 P **P 11 01 39.6 -0.9**
comp=Z,0.5nm,0.6s,baz=300,slow=8.1,SNR=3.0
NVAR ScP **ScP 11 07 41.6 -0.8**
comp=Z,1.0nm,0.9s,baz=296,slow=2.4,SNR=4.2
NVAR LR LR 11 13 54.7
comp=Z,160nm,19.4s,baz=273,slow=31
ELK Elko 38.09 86 P **P 11 01 45.8 +1.3**
YHH Holmes Hill 38.46 77 P **P 11 01 48.0 +0.3**
YHH IAmb IAmb 11 02 07.1
comp=Z,19nm,1.3s
YNR Norris Junctio 38.60 77 P **P 11 01 50.6 +1.8**
YNR IAmb IAmb 11 02 08.3
comp=Z,16nm,1.1s
GCMT Greycliff 38.63 75 P **P 11 01 49.7 +0.8**
H11S1 WAKE ISLAND Hy 38.63 218 T T 11 42 55.7
baz=23,slow=76,SNR=169
H11S2 WAKE ISLAND Hy 38.65 218 T T 11 43 12.7
baz=23,slow=76,SNR=132
H11S3 WAKE ISLAND Hy 38.65 218 T T 11 43 09.7
baz=23,slow=76,SNR=165
JSD Sado 38.76 270 P **P 11 01 48.4 -1.4**
JSD IAmb IAmb 11 02 01.5
comp=Z,16nm,1.0s
VES Vestal, Richgr 38.79 95 P **P 11 01 50.8 +0.7**
baz=311
H17A Grant Village 38.84 78 P **P 11 01 52.1 +1.3**
baz=303
H17A Grant Village 38.84 78 P **P 11 01 51.8 +1.0**
H17A IAmb IAmb 11 02 11.3
comp=Z,20nm,1.4s
YNE Yellowstone No 38.84 76 P **P 11 01 51.3 +0.5**
IMW Indian Meadow 38.90 79 P **P 11 01 52.4 +1.1**
YMP Mirror Lake Pl 38.90 77 P **P 11 01 51.3 0.0**
FLWY Flagg Ranch 38.94 78 P **P 11 01 52.8 +1.3**
USRK Ussuriysk Ar. 38.95 282 P **P 11 01 50.5 -0.9**
comp=Z,1.7nm,0.6s,baz=58,slow=9.2,SNR=4.2
USRK PcP **PcP 11 04 02.8 +1.5**
comp=Z,1.7nm,0.8s,baz=30,slow=6.7,SNR=3.4
USRK LR LR 11 20 12.2
comp=Z,203nm,18.7s,baz=55,slow=40
GRAC Grapevine Rang 39.10 92 P **P 11 01 54.3 +1.6**
baz=310
TPAW Teton Pass 39.12 79 P **P 11 01 54.3 +1.2**
RLMT Red Lodge 39.23 76 P **P 11 01 54.0 +0.1**
baz=303,SNR=8.9
RLMT Red Lodge 39.23 76 P **P 11 01 54.1 +0.1**
RLMT IAmb IAmb 11 02 11.8
comp=Z,16nm,1.1s
REDW Red Top Meadow 39.25 79 P **P 11 01 54.4 +0.3**
REDW IAmb IAmb 11 02 09.2
comp=Z,18nm,1.4s
LOHW Long Hollow 39.26 79 P **P 11 01 54.8 +0.5**
ISA Isabella, Lake 39.28 95 P **P 11 01 54.7 +0.4**
baz=311
R11A Troy Canyon, C 39.33 89 P **P 11 01 54.9 0.0**
baz=309
R11A Troy Canyon, C 39.33 89 P **P 11 01 55.8 +0.9**
AHID Auburn Hatcher 39.43 80 P **P 11 01 55.6 -0.1**
AHID IAmb IAmb 11 01 56.8
comp=Z,17nm,1.0s
MAT Matsushiro 39.74 268 P **P 11 01 58.6 +0.5**
MJAR Matsushiro Arr 39.74 268 P **P 11 01 57.6 -0.5**
comp=Z,1.7nm,0.6s,baz=40,slow=7.4,SNR=6.2
MJAR LR LR 11 17 55.3
comp=Z,300nm,21.0s,baz=40,slow=36
FURC Furnace Creek, 39.74 92 P **P 11 02 00.2 +2.2**
baz=310
TPNV Topopah Spring 39.81 91 P **P 11 02 00.6 +1.7**
baz=310
TPNV Topopah Spring 39.81 91 P **P 11 02 00.1 +1.2**
OSI Osito Audit: C 39.83 96 P **P 11 02 00.6 +1.8**
baz=312
DUG Dugway, Tooele 39.90 85 P **P 11 02 00.7 +1.2**
baz=307
LAO LASA Array 40.18 72 P **P 11 02 02.8 +1.1**
LAO IAmb IAmb 11 02 16.4
comp=Z,8.3nm,0.9s
PRN Pahroc Range 40.26 90 P **P 11 02 03.9 +1.4**
PRN IAmb IAmb 11 02 22.8
comp=Z,13nm,1.2s
BW06 Boulder Array 40.37 79 P **P 11 02 03.2 -0.2**
baz=305,SNR=12
BW06 Boulder Array 40.37 79 P **P 11 02 03.2 -0.2**
BW06 IAmb IAmb 11 02 04.5
comp=Z,7.6nm,0.7s
PD31 Pinedale Array 40.37 79 P **P 11 02 03.4 -0.2**
PDAR Pinedale Array 40.37 79 P **P 11 02 03.2 -0.2**
comp=Z,4.8nm,0.5s,baz=303,slow=4.2,SNR=48
PDAR LR LR 11 17 35.6
comp=Z,185nm,19.3s,baz=320,slow=34
PDAR Pinedale Array 40.37 79 P **P 11 02 02.6 -0.9**
GSC Goldstone, Bar 40.54 94 P **P 11 02 06.0 +1.2**
baz=311
GSC Goldstone, Bar 40.54 94 P **P 11 02 06.1 +1.3**
FMP Fort Macarthur 40.70 97 P **P 11 02 07.2 +1.2**
baz=313
BFSC Mount Baldy Ra 40.73 95 P **P 11 02 07.9 +1.5**
baz=312
TCRU Three Creeks R 41.09 86 P **P 11 02 09.8 +0.2**
TCRU IAmb IAmb 11 02 16.4
comp=Z,8.6nm,0.4s
TMUT Trail Mountain 41.43 85 P **P 11 02 13.2 +0.9**
TMUT IAmb IAmb 11 02 29.3
comp=Z,8.4nm,0.9s
P17A Butcher Ranch, 41.60 84 P **P 11 02 14.9 +1.3**
LCMT Little Creek M 41.62 89 P **P 11 02 15.1 +1.4**
RDMU Red Mountain 41.65 82 P **P 11 02 14.7 +0.6**
RDMU IAmb IAmb 11 02 15.9
comp=Z,14nm,1.0s
PFO Pinyon Flats O 41.89 95 P **P 11 02 15.5 -0.4**
baz=313
SRU San Rafael Swe 41.96 84 P **P 11 02 17.8 +1.2**
SRU IAmb IAmb 11 02 32.3
comp=Z,7.1nm,0.7s
K22A Casper 42.26 77 P **P 11 02 18.9 0.0**
baz=306
IRM Iron Mountain 42.32 93 P **P 11 02 20.1 +0.8**
baz=312
U15A North Rim 42.58 89 P **P 11 02 22.6 +0.9**
O20A White River Ci 42.72 81 P **P 11 02 22.1 -0.6**
baz=308,SNR=9.9
O20A White River Ci 42.72 81 P **P 11 02 22.4 -0.3**
O20A IAmb IAmb 11 02 23.7
comp=Z,18nm,0.8s
RSSD Black Hills 42.88 74 P **P 11 02 23.1 -0.9**
baz=305
RSSD Black Hills 42.88 74 P **P 11 02 23.6 -0.4**
RSSD IAmb IAmb 11 02 41.6
comp=Z,13nm,1.1s
CN2 Changchun 43.07 286 *e*P **P 11 02 24.5 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
MDND Maddock 43.36 67 P **P 11 02 27.7 0.0**
baz=303
MDND Maddock 43.36 67 P **P 11 02 28.4 +0.8**
PV22 Blue Mesa, Par 43.38 84 P **P 11 02 29.0 +0.9**
PV22 IAmb IAmb 11 02 47.1
comp=Z,9.3nm,0.7s
PV04 Paradox Valley 43.40 84 P **P 11 02 28.4 +0.1**
PV04 IAmb IAmb 11 02 44.8
comp=Z,9.9nm,0.7s
PV17 East Wray Mesa 43.43 84 P **P 11 02 28.3 -0.3**
PV17 IAmb IAmb 11 02 46.0
comp=Z,10.0nm,0.7s
PV16 Nyswonger Mesa 43.44 84 P **P 11 02 28.8 +0.2**
PV16 IAmb IAmb 11 02 42.6
comp=Z,5.4nm,0.7s
E28A Huff 43.44 69 P **P 11 02 29.0 +0.7**
E28A IAmb IAmb 11 02 47.2
comp=Z,17nm,0.8s
PV11 David Mesa, Pa 43.48 84 P **P 11 02 28.2 -0.7**
PV05 Paradox Valley 43.48 84 P **P 11 02 29.9 +1.0**
PV05 IAmb IAmb 11 02 50.1
comp=Z,6.5nm,0.8s
PV18 Skein Mesa, Pa 43.49 84 P **P 11 02 29.5 +0.5**
PV18 IAmb IAmb 11 02 42.9
comp=Z,6.8nm,0.7s
PV12 Saucer Basin, 43.51 84 P **P 11 02 29.3 +0.2**
PV12 IAmb IAmb 11 02 45.3
comp=Z,14nm,0.9s
PV03 Paradox Valley 43.52 84 P **P 11 02 29.2 0.0**
PV03 IAmb IAmb 11 02 43.1
comp=Z,11nm,0.8s
PV07 Paradox Valley 43.53 84 P **P 11 02 29.9 +0.6**
PV07 IAmb IAmb 11 02 44.3
comp=Z,6.7nm,0.9s
PV13 Radium Mtn., P 43.60 84 P **P 11 02 30.0 +0.2**
PV13 IAmb IAmb 11 02 44.3
comp=Z,15nm,0.8s
PV02 Paradox Valley 43.62 84 P **P 11 02 29.2 -0.8**
PV02 IAmb IAmb 11 02 46.7
comp=Z,12nm,0.9s
N23A Red Feather La 43.65 79 P **P 11 02 30.5 +0.2**
baz=307
PV15 Paradox Valley 43.69 84 P **P 11 02 31.1 +0.5**
PV15 IAmb IAmb 11 02 49.2
comp=Z,8.5nm,0.9s
WUAZ Wupatki 43.73 89 P **P 11 02 30.7 -0.2**
baz=311
WUAZ Wupatki 43.73 89 P **P 11 02 31.7 +0.8**
PV01 Paradox Valley 43.76 84 P **P 11 02 31.0 -0.2**
PV01 IAmb IAmb 11 02 45.5
comp=Z,7.6nm,0.7s
Y14A Wickenburg 43.78 92 P **P 11 02 31.9 +0.7**
ULM Lac du Bonnet 44.13 62 P **P 11 02 35.1 +1.4**
comp=Z,2.1nm,0.5s,baz=315,slow=8.6,SNR=2.1
ULM LR LR 11 20 22.3
comp=Z,331nm,20.2s,baz=311,slow=35
MVCO Mesa Verde 44.40 85 P **P 11 02 37.0 +0.7**
baz=310
X16A Lo Mia Camp, P 44.42 90 P **P 11 02 36.5 0.0**
ISCO Idaho Springs 44.52 80 P **P 11 02 36.8 -0.6**
baz=308
ISCO Idaho Springs 44.52 80 P **P 11 02 37.4 0.0**
NEEM North Greenlan 45.02 16 *i* P **P 11 02 41.7 +0.8**
S22A 4UR Ranch, Cre 45.07 83 P **P 11 02 42.0 +0.3**
baz=310
AGMN Agassiz Nation 45.21 64 P **P 11 02 41.2 -1.1**
baz=304
AGMN Agassiz Nation 45.21 64 P **P 11 02 42.2 -0.1**
AGMN IAmb IAmb 11 03 02.3
comp=Z,10nm,1.1s
KSRS Korea Array 45.46 277 P **P 11 02 45.4 +0.9**
comp=Z,9.1nm,0.8s,baz=58,slow=7.3,SNR=50
KSRS LR LR 11 23 02.4
comp=Z,123nm,18.4s,baz=52,slow=38
KSAR Wonju Array Be 45.49 277 P **P 11 02 43.5 -1.2**
NOR Nord 45.52 5 *i* P **P 11 02 45.2 +0.9**
NOR IAmb IAmb 11 02 46.7
comp=Z,3.0nm,1.0s
SUSD Miller 45.67 71 P **P 11 02 45.0 -1.1**
baz=306
SUSD Miller 45.67 71 P **P 11 02 45.7 -0.3**
SDCO Great Sand Dun 45.88 82 P **P 11 02 47.6 -0.5**
baz=310,SNR=7.3
SDCO Great Sand Dun 45.88 82 P **P 11 02 48.7 +0.5**
SDCO IAmb IAmb 11 03 02.6
comp=Z,5.1nm,1.1s
INCN Inchon 46.23 278 P **P 11 02 50.9 +0.4**
TUC Tucson 46.25 92 P **P 11 02 50.1 -0.8**
baz=314
TUC Tucson 46.25 92 P **P 11 02 50.7 -0.2**
B35A Bob, Littlefor 46.35 63 P **P 11 02 50.3 -1.1**
B35A IAmb IAmb 11 03 11.5
comp=Z,6.5nm,0.6s
NRIK Noril'sk 46.49 332 P **P 11 02 51.8 -0.4**
comp=Z,5.0nm,0.5s,baz=67,slow=9.3,SNR=5.3
NRIK LR LR 11 25 37.3
comp=Z,166nm,18.2s,baz=76,slow=40
NRIK Noril'sk 46.49 332 P **P 11 02 52.7 +0.5**
NRIK IAmb IAmb 11 02 54.2
comp=Z,6.7nm,0.7s
JNU Nakatsue 46.51 270 P **P 11 02 52.6 -0.2**
comp=Z,6.2nm,0.8s,baz=318,slow=1.4,SNR=5.6
KSCO Kaye Shedlock' 46.81 79 P **P 11 02 54.5 -0.7**
baz=309
T25A Trinidad 46.94 82 P **P 11 02 55.6 -0.7**
baz=310,SNR=9.3
T25A Trinidad 46.94 82 P **P 11 02 57.2 +0.8**
ANMO Albuquerque 47.13 86 P **P 11 02 57.2 -0.6**
comp=Z,0.8nm,0.6s,baz=321,slow=12,SNR=2.1
ANMO PcP **PcP 11 04 29.3 +0.1**
comp=Z,1.9nm,0.9s,baz=275,slow=3.7,SNR=4.0
ANMO Albuquerque 47.13 86 P **P 11 02 56.8 -1.1**
baz=312
LENM Lemitar 47.33 87 P **P 11 03 01.5 +2.1**
ECSD EROS Data Cent 47.44 70 P **P 11 02 58.7 -1.3**
baz=307,SNR=9.1
BNM Barren Site 47.55 87 P **P 11 03 00.4 -0.9**
EYMN Ely 47.81 62 P **P 11 03 01.6 -1.2**
baz=306
EYMN Ely 47.81 62 P **P 11 03 02.5 -0.3**
EYMN IAmb IAmb 11 03 22.8
comp=Z,8.1nm,1.1s
121A Cookes Peak, D 47.94 89 P **P 11 03 05.1 +0.9**
baz=313
E38A The Farm, Brul 48.57 64 P **P 11 03 07.8 -0.8**
L34A Svendsen Farm, 48.67 72 P **P 11 03 08.7 -0.7**
SPMN Marine on St. 48.71 66 P **P 11 03 09.7 0.0**
baz=307
SPITS Spitsbergen Ar 49.72 358 P **P 11 03 16.8 -0.2**
comp=Z,2.3nm,0.3s,baz=24,slow=6.4,SNR=30
DAG Danmarks Havn 49.83 8 *i* P **P 11 03 17.7 -0.2**
MNTX Cornudas Mount 49.99 88 P **P 11 03 19.4 -0.3**
baz=314,SNR=10
MNTX Cornudas Mount 49.99 88 P **P 11 03 19.0 -0.6**
MNTX IAmb IAmb 11 03 37.0
comp=Z,5.8nm,0.9s
G40A Rib Lake 50.13 65 P **P 11 03 20.1 -0.4**
G40A IAmb IAmb 11 03 33.2
comp=Z,5.0nm,0.6s
COWI Conover 50.21 63 P **P 11 03 20.3 -0.8**
COWI IAmb IAmb 11 03 40.7
comp=Z,4.5nm,0.7s
SUMG Summit 50.81 17 *i* P **P 11 03 26.8 +1.0**
SUMG IAmb IAmb 11 03 28.0
comp=Z,13nm,1.1s
SUMG Summit 50.81 17 P **P 11 03 26.0 +0.2**
SUMG IAmb IAmb 11 03 28.3
comp=Z,18nm,1.2s
ULN Ulaanbaatar 51.00 301 P **P 11 03 25.9 -1.4**
ULN IAmb IAmb 11 03 28.4
comp=Z,15nm,1.2s
E43A Lone Tree Farm 51.20 62 P **P 11 03 28.4 -0.2**
E43A IAmb IAmb 11 03 41.4
comp=Z,7.7nm,0.7s
KAN13 South Haven SW 51.20 77 P **P 11 03 28.2 -0.5**
KAN13 IAmb IAmb 11 03 46.5
comp=Z,11nm,0.9s
N38A Joes South For 51.24 71 P **P 11 03 28.1 -0.9**
SONM Songino Array 51.37 301 P **P 11 03 30.3 +0.3**
comp=Z,5.9nm,0.7s,baz=54,slow=6.4,SNR=37
SONM PcP **PcP 11 04 44.3 0.0**
comp=Z,1.3nm,0.6s,baz=79,slow=3.1,SNR=3.7
SONM LR LR 11 27 10.7
comp=Z,478nm,19.4s,baz=60,slow=38
SONM Songino Array 51.37 301 P **P 11 03 29.5 -0.5**
JFWS Jewell Farm 51.59 67 P **P 11 03 30.4 -1.1**
baz=310
T35A Sooner Cattle 51.84 77 P **P 11 03 32.4 -1.1**
T35A IAmb IAmb 11 03 33.3
comp=Z,5.4nm,0.9s
WMOK Wichita Mounta 51.94 80 P **P 11 03 33.5 -0.9**
baz=313,SNR=10
WMOK Wichita Mounta 51.94 80 P **P 11 03 34.0 -0.3**
WMOK IAmb IAmb 11 03 34.9
comp=Z,6.4nm,0.8s
DBG Daneborg 51.95 10 *i* P **P 11 03 32.9 -0.9**
DBG IAmb IAmb 11 03 34.3
comp=Z,5.7nm,0.6s
H43A Windswept, Lux 51.98 64 P **P 11 03 34.0 -0.4**
H43A IAmb IAmb 11 03 47.5
comp=Z,9.4nm,0.8s
OK031 S. Brethren Rd 52.29 78 P **P 11 03 36.5 -0.4**
E46A Sault Ste Mari 52.65 60 P **P 11 03 39.3 -0.1**
E46A IAmb IAmb 11 03 52.2
comp=Z,7.9nm,0.8s
TX31 Lajitas Ar. Si 52.70 89 P **P 11 03 39.3 -0.8**
TX32 Lajitas Array 52.70 89 P **P 11 03 39.3 -0.8**
TX32 IAmb IAmb 11 03 58.5
comp=Z,5.2nm,0.7s
TXAR Lajitas Array 52.70 89 P **P 11 03 39.2 -0.9**
comp=Z,4.4nm,0.7s,baz=299,slow=5.5,SNR=65
TXAR LR LR 11 23 51.4
comp=Z,241nm,20.4s,baz=0.0,slow=34
TIA Tai'an 52.80 283 P **P 11 03 40.8 +0.2**
TIA pmax pmax
comp=Z,16nm,1.2s
TIA LR LR
comp=N,170nm,17.7s
TIA LR LR
comp=E,190nm,16.1s
TIA LR LR
comp=Z,230nm,16.9s
HHC Hu-ho-hao-te 52.98 291 *e*P **P 11 03 43.5 +1.4**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,110nm,7.6s
BJO1 Bjornoya 53.34 357 *e*P **P 11 03 44.4 +0.3**
U38A Gravette 53.43 76 P **P 11 03 44.1 -1.2**
U38A IAmb IAmb 11 03 44.6
comp=Z,5.3nm,0.8s
HDIL Hopedale 53.66 69 P **P 11 03 45.8 -1.1**
baz=311
MATQ Matagami 53.88 53 P **P 11 03 47.5 -0.9**
baz=310
DY2G Dye2 53.93 25 *i* P **P 11 03 48.5 -0.3**
BTO Baotou 54.03 292 *e*P **P 11 03 50.5 +0.8**
BTO S **S 11 11 21.5 -2.1**
BTO LR LR
comp=N,1μm,21.1s
BTO LR LR
comp=E,1μm,20.3s
X37A Clayton 54.10 78 P **P 11 03 49.8 -0.3**
X37A IAmb IAmb 11 03 50.6
comp=Z,6.9nm,0.7s
CCM Cathedral Cave 54.20 72 P **P 11 03 49.5 -1.4**
baz=312
JCT Junction City 54.26 85 P **P 11 03 50.2 -1.2**
baz=315
JCT Junction City 54.26 85 P **P 11 03 50.6 -0.8**
JCT IAmb IAmb 11 04 07.4
comp=Z,5.9nm,0.8s
U40A Yellville 54.40 75 P **P 11 03 50.3 -2.1**
baz=313,SNR=5.7
NJ2 Nanjing 54.60 278 ‖ *i* P **P 11 03 53.8 -0.1**
NJ2 pmax pmax
comp=Z,19nm,0.8s
WHTX Lake Whitney, 54.63 82 P **P 11 03 53.6 -0.5**
baz=314
WHTX Lake Whitney, 54.63 82 P **P 11 03 54.0 -0.1**
W39A Magazine 54.63 76 P **P 11 03 52.7 -1.3**
baz=313
W39A Magazine 54.63 76 P **P 11 03 53.3 -0.8**
W39A IAmb IAmb 11 04 11.2
comp=Z,11nm,1.2s
LSQQ Lebel-sur-Quev 54.67 54 P **P 11 03 51.7 -2.4**
baz=311
SFIN Lafayette 55.03 67 P **P 11 03 55.8 -1.1**
baz=312
MIAR Mount Ida 55.20 77 P **P 11 03 57.6 -0.6**
baz=314
MIAR Mount Ida 55.20 77 P **P 11 03 57.9 -0.3**
MIAR IAmb IAmb 11 04 16.2
comp=Z,10.0nm,1.1s
CHGQ Chibougamau 55.37 52 P **P 11 03 57.9 -1.3**
baz=312
SCHQ Schefferville 55.44 43 P **P 11 04 01.3 +1.7**
comp=Z,4.4nm,0.9s,baz=326,slow=5.7,SNR=5.2
SCHQ LR LR 11 28 01.3
comp=Z,258nm,21.7s,baz=316,slow=36
833A Chaparral WMA, 56.04 87 P **P 11 04 02.4 -1.8**
baz=316
ALGO Algonquin Park 56.20 57 P **P 11 04 03.2 -2.0**
baz=312
PENMO Penman 56.23 73 **S 11 11 53.1 +0.1**
SADO Sadowa 56.43 59 P **P 11 04 06.6 -0.2**
comp=Z,4.4nm,1.0s,baz=0.2,slow=5.9,SNR=3.3
WCI Wyandotte Cave 56.95 69 P **P 11 04 08.8 -1.8**
baz=313
P49A Miami Univ. Ec 56.95 67 P **P 11 04 07.3 -3.3**

baz=313
HAMF Hammerfest 56.99 355 *e*P **P 11 04 10.8 +0.4**
ACSO Alum Creek Sta 57.44 65 P **P 11 04 12.2 -1.9**
baz=313
ZALV Zalesovo Beam 57.49 318 P **P 11 04 14.1 -0.2**
comp=Z,1.5nm,0.4s,baz=37,slow=6.7,SNR=6.9
ZALV PcP **PcP 11 05 07.8 +0.3**
comp=Z,1.4nm,0.4s,baz=61,slow=4.3,SNR=4.3
ZALV LR LR 11 29 55.9
comp=Z,261nm,20.8s,baz=52,slow=37
ZALV Zalesovo Beam 57.49 318 P **P 11 04 12.6 -1.6**
WVT Waverly 57.51 72 P **P 11 04 12.8 -1.7**
baz=314
WVT Waverly 57.51 72 P **P 11 04 13.3 -1.3**
WVT IAmb IAmb 11 04 34.8
comp=Z,14nm,1.4s
OXF Oxford 57.70 74 P **P 11 04 14.7 -1.3**
baz=314
ARA0 ARCESS Array S 57.98 354 *e*P **P 11 04 17.2 -0.2**
ARCES ARCESS Array B 57.98 354 P **P 11 04 17.3 -0.1**
comp=Z,1.4nm,0.4s,baz=17,slow=9.8,SNR=14
ARCES PcP **PcP 11 05 10.0 +0.8**
comp=Z,1.8nm,0.5s,baz=12,slow=6.2,SNR=4.4
ARCES ARCESS Array B 57.98 354 IAmb IAmb 11 04 36.5
comp=Z,9.4nm,1.1s
TRO Tromso 58.21 357 *e*P **P 11 04 19.0 0.0**
JETT Jettan, Norway 58.23 356 *e*P **P 11 04 20.2 +1.0**
M54A Oil Creek Stat 58.38 62 P **P 11 04 20.6 -0.1**
baz=314
WHN Wuhan 58.39 280 ⇑P **P 11 04 20.8 0.0**
WHN pmax pmax
comp=Z,64nm,0.8s
O53A New Philadelph 58.41 64 P **P 11 04 21.2 +0.4**
baz=314
H57A Richville 58.59 57 P **P 11 04 23.1 +1.0**
baz=314
KTK1 Kautokeino 58.63 355 *e*P **P 11 04 22.2 +0.2**
K56A Middlesex 58.81 59 P **P 11 04 22.4 -1.2**
baz=314
I57A Carthage 58.82 57 P **P 11 04 22.4 -1.2**
baz=314
LONY Lake Ozonia 58.89 56 P **P 11 04 24.1 -0.1**
baz=314
M55A Ridgway 58.90 61 P **P 11 04 23.9 -0.4**
L56A Greenwood 59.08 60 P **P 11 04 25.2 -0.3**
XAN Xi'an 59.16 287 P **P 11 04 26.3 +0.1**
XAN pP pP 11 04 34.0 -1.3
XAN sP sP 11 04 37.3 -1.6
XAN PP **PP 11 06 41.5 +4.7**
XAN S **S 11 12 33.8 +2.3**
XAN sS sS 11 12 47.3 +0.7
XAN pmax pmax
comp=Z,19nm,1.3s
XAN pmax pmax
comp=Z,71nm,4.6s
XAN LR LR
comp=N,310nm,18.7s
XAN LR LR
comp=E,250nm,19.8s
XAN LR LR
comp=Z,480nm,22.0s
H58A Gabriels 59.24 56 P **P 11 04 26.5 -0.1**
baz=314
H59A Cadyville 59.33 56 P **P 11 04 27.1 -0.1**
baz=315
I58A Old Forge 59.34 57 P **P 11 04 28.0 +0.6**
baz=314
J58A Remsen 59.41 58 P **P 11 04 26.2 -1.6**
baz=315
TZTN Tazewell 59.69 68 P **P 11 04 28.7 -1.1**
baz=315
O56A Blue Knob Stat 59.84 62 P **P 11 04 29.3 -1.6**
baz=315
LOF Lofoten 59.85 359 *e*P **P 11 04 31.1 +0.7**
SSPA Standing Stone 59.95 62 P **P 11 04 30.0 -1.5**
baz=315
SSPA Standing Stone 59.95 62 P **P 11 04 31.3 -0.2**
SSPA IAmb IAmb 11 04 44.4
comp=Z,7.7nm,0.9s
STEI Steigen 60.02 358 *e*P **P 11 04 32.4 +0.9**
J60A Lant Hill Farm 60.46 57 P **P 11 04 35.2 +0.3**
baz=315
G62A West of Eustis 60.50 53 P **P 11 04 35.5 +0.2**
baz=316
GTA Gaotai 60.55 297 ⇓P **P 11 04 35.5 -0.3**
GTA pP pP 11 04 39.8 -5.1
GTA sP sP 11 04 43.3 -5.1
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA pmax pmax
comp=Z,73nm,5.6s
GTA LR LR
comp=N,240nm,19.5s
GTA LR LR
comp=E,390nm,19.9s
GTA LR LR
comp=Z,420nm,18.7s
FAUS Fauske 60.57 358 *e*P **P 11 04 34.5 -0.8**
LZH Lanzhou 60.65 292 *e*P **P 11 04 37.5 +0.9**
LZH pP sP 11 04 47.3 -2.0
LZH sP pP 11 04 52.5 +6.8
LZH pmax pmax
comp=Z,27nm,1.1s
LZH LR LR
comp=N,550nm,11.9s
LZH LR LR
comp=E,380nm,12.7s
LZH LR LR
comp=Z,370nm,16.5s
H62A Milan 60.65 54 P **P 11 04 33.9 -2.4**
baz=316
J61A Chester 60.83 56 P **P 11 04 35.5 -2.0**
baz=316
F63A Nahmakanta, Br 60.85 52 P **P 11 04 38.9 +1.3**
baz=316
N59A State Game Lan 60.89 60 P **P 11 04 37.5 -0.5**
baz=315
BLA Blacksburg 60.98 66 P **P 11 04 38.3 -0.4**
baz=315
BLA Blacksburg 60.98 66 P **P 11 04 38.3 -0.4**
ENH Enshi 61.51 283 P **P 11 04 41.6 -0.7**
MOR8 Moi Rana 61.80 358 *e*P **P 11 04 42.3 -1.5**
K63A Dunstable 61.82 56 P **P 11 04 43.4 -0.8**
baz=316
KMSC Kings Mountain 61.95 68 P **P 11 04 43.8 -1.4**
baz=316
GOGA Godfrey 61.96 71 P **P 11 04 43.2 -2.1**
baz=316
T59A Double "B" Far 62.75 64 P **P 11 04 50.7 +0.2**
LMN Caledonia Moun 62.79 50 P **P 11 04 52.5 +1.9**
NSS Namsos 63.48 359 *e*P **P 11 04 55.4 +0.5**
WMQ Urumqi 63.60 308 *e*P **P 11 04 57.0 +0.9**
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,29nm,3.7s
WMQ LR LR
comp=N,330nm,17.7s
WMQ LR LR
comp=E,260nm,19.3s
WMQ LR LR
comp=Z,230nm,22.5s
BRVK Borovoye 63.78 325 P **P 11 04 57.0 0.0**
MK31 Makanchi Array 63.88 313 P **P 11 04 57.8 0.0**
MK31 IAmb IAmb 11 04 58.4
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 63.88 313 P **P 11 04 57.2 -0.6**
comp=Z,1.9nm,0.4s,baz=52,slow=7.9,SNR=18
MKAR LR LR 11 33 29.7
comp=Z,269nm,20.0s,baz=38,slow=37
MKAR Makanchi Array 63.88 313 P **P 11 04 56.1 -1.7**
MAKZ Makanchi 64.00 314 P **P 11 04 58.6 0.0**
MAKZ IAmb IAmb 11 04 59.4
comp=Z,8.3nm,1.1s
CD2 Chengdu 64.43 288 P **P 11 05 02.5 +0.8**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=N,270nm,20.7s
CD2 LR LR
comp=E,310nm,18.9s
CD2 LR LR
comp=Z,300nm,19.1s
ARU Arti 64.69 333 P **P 11 05 02.5 -0.4**
KLMR Klimovskoe 64.84 345 *e*P **P 11 05 02.4 -1.5**
KLMR AMP 11 05 10.9
comp=Z,7.0nm,0.9s
MOL Molde 65.43 2 *e*P **P 11 05 06.5 -1.1**
AKN Aaknes 65.81 2 *e*P **P 11 05 11.1 +1.0**
TAOE Nuku Hiva Isla 65.85 148 *e*T T 12 16 48.0
comp=Z,15nm,0.2s
FINES FINESS Array B 65.93 352 P **P 11 05 10.6 -0.3**
comp=Z,5.0nm,0.5s,baz=11,slow=8.1,SNR=22
FINES LR LR 11 34 01.5
comp=Z,170nm,21.9s,baz=48,slow=36
FINES FINESS Array B 65.93 352 P **P 11 05 10.4 -0.4**
DOMB Dombas 65.98 1 *e*P **P 11 05 10.9 -0.4**
GYA Guiyang 65.99 283 ⇑P **P 11 05 13.0 +1.0**
GYA sP sP 11 05 25.5 +0.7
GYA pmax pmax
comp=Z,5.0nm,1.1s
NC303 NORSAR Array S 66.80 360 P **P 11 05 16.2 -0.3**
HYA Hoyanger 66.81 2 *e*P **P 11 05 17.8 +1.3**
NC405 NORSAR Array S 66.92 359 P **P 11 05 15.5 -1.7**
NB201 NORSAR Array S 66.98 360 P **P 11 05 17.9 +0.2**
NB2 NORSAR Subarra 66.99 360 P **P 11 05 17.3 -0.5**
comp=Z,1.7nm,0.5s,baz=0.1,slow=6.2
NB2 NORSAR Subarra 66.99 360 P **P 11 05 17.3 -0.5**
baz=0.1,slow=6.2
NOA NORSAR Array B 66.99 360 P **P 11 05 17.8 +0.1**
comp=Z,3.7nm,0.7s,baz=0.0,slow=6.2,SNR=14
NC602 NORSAR Array S 67.30 360 *e*P **P 11 05 19.9 +0.2**
SKAR Skarslia 67.33 1 *e*P **P 11 05 19.7 -0.2**
BLS5 Blasjo 68.56 2 *e*P **P 11 05 27.9 +0.3**
KMI Kunming 69.33 284 ⇓P **P 11 05 34.0 +0.8**
KMI pP pP 11 05 39.5 -3.0
KMI pmax pmax
comp=Z,26nm,1.1s
PMOR Pomariorio Ree 69.56 158 *e*T T 12 21 28.7
comp=Z,1.5nm,0.2s
BOOM Bornskoye usch 70.06 314 P **P 11 05 37.8 +0.4**
ABKAR Abkulak array 70.50 328 P **P 11 05 39.1 -0.6**
ABKAR Abkulak array 70.50 328 P **P 11 05 39.4 -0.3**
ABKAR IAmb IAmb 11 05 41.3
comp=Z,13nm,1.1s
PPT Papeete 71.67 160 LR LR 11 28 48.9
comp=Z,154nm,20.8s,baz=326,slow=29
PPT2 Papeete2 71.69 160 *e*LR LR 11 27 29.9
comp=Z,184nm,23.0s
KK31 Karatay Array 71.86 318 P **P 11 05 47.9 -0.2**
KKAR Karatay Array 71.86 318 P **P 11 05 47.1 -1.0**
KKAR Karatay Array 71.86 318 P **P 11 05 47.9 -0.2**
KKAR IAmb IAmb 11 05 48.9
comp=Z,9.5nm,0.9s
PABE Paberze 71.98 352 P **P 11 05 48.4 -0.2**
MNK Minsk 72.59 350 *i* P **P 11 05 47.8 -4.4**
comp=E,3.0nm,1.0s
MNK *i* P **P 11 05 47.8 -4.4**
comp=N,30nm,0.9s
MNK *i* P **P 11 05 47.8 -4.4**
comp=Z,31nm,1.1s,baz=191
MNK *i* PcP **pwP 11 06 05.0 +0.5**
MNK *i* PP **PP 11 08 29.3 -3.8**
MNK *i* PPP PPP 11 10 13.9
MNK *i* S **S 11 15 09.0 -5.4**
MNK *i* ScS **SKSac 11 15 52.2 -2.3**
MNK *i* SS **SS 11 19 51.4 -1.0**
MNK *i* SSS SSS 11 23 32.5
MNK *i* LQ LQ 11 32 50.8
MNK *i* LR LR 11 36 33.6
MNK *i* LRM MLR 11 40 14.5
comp=N,95nm,16.9s
MNK *i* LRM MLR 11 40 18.3
comp=Z,73nm,17.8s
MNK *i* LRM MLR 11 40 26.8
comp=E,10.0nm,22.1s
SUW Suwalki 73.53 352 P **P 11 05 58.0 +0.3**
BTK Batken 74.26 316 P **P 11 06 03.1 +0.7**
NONG Nongkai 74.45 279 P P 11 06 15.0 +11
SHL Shillong 75.30 293 P **P 11 06 08.8 +0.1**
CHGR Chuyangaron 76.14 317 P **P 11 06 13.2 0.0**
AKASG Malin Array Be 76.17 348 P **P 11 06 12.4 -0.6**
comp=E,4.1nm,0.4s,baz=15,slow=5.8,SNR=23
AKASG LR LR 11 44 33.7
comp=E,135nm,19.1s,baz=30,slow=39
AKASG Malin Array Be 76.17 348 P **P 11 06 12.8 -0.2**
AKBB Malin Array Si 76.17 348 P **P 11 06 11.4 -1.7**
CM34 Chiang Mai Arr 76.25 283 P **P 11 06 15.4 +1.4**
UTTA Uttaradit 76.26 281 P **P 11 06 15.3 +1.3**
comp=E,56nmcomp=E,6.6nm,0.8s
CM35 Chiang Mai Arr 76.38 283 P **P 11 06 16.0 +1.2**
CM33 Chiang Mai Arr 76.40 283 P P 11 06 28.0 +13
CM36 Chiang Mai Arr 76.54 283 P P 11 06 29.0 +13
CM32 Chiang Mai Arr 76.58 283 P P 11 06 29.0 +13
CM09 Chiang Mai Arr 76.66 283 P **P 11 06 18.1 +1.7**
comp=E,13nm,1.0s
CM09 Chiang Mai Arr 76.66 283 P **P 11 06 18.0 +1.7**
comp=E,13nm,1.0s
CMAR Chiang Mai Arr 76.68 283 P **P 11 06 17.2 +0.8**
comp=E,7.3nm,0.8s,baz=25,slow=6.6,SNR=28
CMAR LR LR 11 44 23.9
comp=E,136nm,18.2s,baz=102,slow=39
CMAR Chiang Mai Arr 76.68 283 P **P 11 06 16.4 -0.1**
CM02 Chiang Mai Arr 76.69 283 P **P 11 06 18.1 +1.5**
comp=E,126nmcomp=E,16nm,0.8s
CM02 Chiang Mai Arr 76.69 283 P **P 11 06 18.0 +1.5**
comp=E,126nmcomp=E,16nm,0.8s
CM15 Chiang Mai Arr 76.69 283 P **P 11 06 18.1 +1.6**
comp=E,15nm,0.8s
CM15 Chiang Mai Arr 76.69 283 P **P 11 06 18.1 +1.6**
comp=E,15nm,0.8s
CM01 Chiang Mai Arr 76.69 283 P **P 11 06 18.3 +1.7**
comp=E,134nmcomp=E,16nm,0.9s
CM01 Chiang Mai Arr 76.69 283 P **P 11 06 18.0 +1.4**
comp=E,134nmcomp=E,16nm,0.9s
CM04 Chiang Mai Arr 76.70 283 P **P 11 06 18.2 +1.6**
comp=E,159nmcomp=E,18nm,0.9s
CM04 Chiang Mai Arr 76.70 283 P **P 11 06 18.0 +1.4**
comp=E,159nmcomp=E,18nm,0.9s
CM05 Chiang Mai Arr 76.72 283 P **P 11 06 18.2 +1.5**
comp=E,111nmcomp=E,13nm,1.2s
CM05 Chiang Mai Arr 76.72 283 P **P 11 06 18.3 +1.5**
comp=E,111nmcomp=E,13nm,1.2s
CM13 Chiang Mai Arr 76.72 283 P **P 11 06 18.2 +1.5**
comp=E,157nmcomp=E,10nm,0.8s
CM13 Chiang Mai Arr 76.72 283 P **P 11 06 18.2 +1.5**
comp=E,157nmcomp=E,10nm,0.8s
CLL Collm 76.73 359 *e*P **P 11 06 15.0 -1.3**
CLL *es*P **pP 11 06 23.0 -2.2**
PHIT Phitsanulok 76.77 281 P **P 11 06 19.5 +2.5**
comp=E,42nm,1.0s
PHIT Phitsanulok 76.77 281 P **P 11 06 19.6 +2.5**
comp=E,10nm,1.0s
DZM Mont Dzumac 77.05 203 *e*LR LR 11 30 09.8
comp=E,175nm,22.4s
BRG Berggiesshubel 77.15 358 *e*P **P 11 06 19.8 +1.2**
BRG Amp 11 06 20.9
comp=Z,13nm,1.4s
TBI Tubuai 77.31 161 *e*LR LR 11 29 45.5
comp=Z,217nm,35.2s
CHVC Chvalec 77.37 357 *e*P **P 11 06 21.0 +1.1**
DPC Dobruska-Polom 77.60 356 *e*P **P 11 06 22.8 +1.6**
KRLC Kraliky 77.85 356 *e*P **P 11 06 23.7 +1.0**
KWP Kalwaria Pacla 77.92 352 P **P 11 06 23.8 +0.8**
MORC Moravsky Berou 78.11 355 *e*P **P 11 06 24.8 +0.7**
VRAC Vranov 78.63 356 *e*P **P 11 06 28.1 +1.2**
LANS Liptovska Anna 78.63 354 *e*P **P 11 06 29.0 +2.0**
KOLS Kolonicke sedl 78.64 352 *e*P **P 11 06 28.1 +1.1**
KRUC Moravsky 78.88 356 *e*P **P 11 06 29.2 +0.9**
KHC Kasperske Hory 78.90 358 *e*P **P 11 06 30.0 +1.6**
JAVC Velka Javorina 79.03 355 *e*P **P 11 06 31.2 +2.0**
GERES GERESS Array B 79.18 358 P **P 11 06 30.9 +0.9**
comp=Z,1.2nm,0.5s,baz=349,slow=2.9,SNR=10
GERES GERESS Array B 79.18 358 P **P 11 06 30.1 +0.1**
SMOL Smolenice 79.38 355 *e*P **P 11 06 32.3 +1.3**
MODS Modra-Piesok 79.53 356 *e*P **P 11 06 34.8 +2.9**
BUR08 Bucovina Ar. S 79.65 350 P **P 11 06 32.5 -0.1**
BUR08 IAmb IAmb 11 06 34.8
comp=Z,4.2nm,0.8s
KBL Kabul 79.66 314 P **P 11 06 32.7 -0.4**
BURAR Bucovina Array 79.67 350 P **P 11 06 32.8 0.0**
BURAR IAmb IAmb 11 06 35.2
comp=Z,4.5nm,0.9s
ZST Bratislava 79.71 356 *e*P **P 11 06 34.5 +1.7**
CONA Conrad Observa 80.03 356 *i* P **P 11 06 33.6 -1.1**
comp=Z,16nm,1.2s,SNR=7.0
MOA Molln 80.16 358 *e*P **P 11 06 36.2 +0.9**
comp=Z,0.5nm,0.6s
KBZ Khabaz 80.38 337 P **P 11 06 37.5 +1.0**
comp=Z,7.4nm,0.9s,baz=37,slow=2.5,SNR=15
KBZ LR LR 11 48 24.4
comp=Z,118nm,19.0s,baz=7.0,slow=40
RETA Reutte 80.57 360 *e*P **P 11 06 38.2 +0.6**
comp=Z,5.5nm,1.0s
MOTA Moosalm 80.71 360 *i* P **P 11 06 38.6 +0.2**
comp=Z,19nm,1.3s,SNR=5.4
WATA Walderalm 80.72 359 *e*P **P 11 06 39.4 +0.9**
comp=Z,14nm,1.1s
ARSA Arzberg 80.72 357 *e*P **P 11 06 38.7 +0.3**
comp=Z,9.7nm,1.1s
DAVA Damuels 80.77 1 *e*P **P 11 06 37.4 -1.4**
comp=Z,6.8nm,1.0s
WTTA Wattenberg 80.79 359 *e*P **P 11 06 39.3 +0.4**
comp=Z,19nm,1.2s
SQTA Sankt Quirin 80.84 360 *e*P **P 11 06 40.2 +1.1**
comp=Z,11nm,0.7s
KBA Koelnbreinsper 80.95 358 *i* P **P 11 06 40.2 +0.5**
comp=Z,26nm,1.1s,SNR=6.7
FETA Feichten 81.04 360 *e*P **P 11 06 39.9 -0.3**
comp=Z,15nm,1.1s
GEYT Alibeck 81.10 324 P **P 11 06 41.2 +0.7**
comp=Z,11nm,0.9s,baz=267,slow=5.9,SNR=9.6
GEYT LR LR 11 46 36.6
comp=Z,166nm,18.8s,baz=40,slow=39
ABTA Abfaltersbach 81.30 359 *i* P **P 11 06 42.3 +0.8**
comp=Z,20nm,1.2s,SNR=5.4
SOKA Soboth 81.31 357 *i* P **P 11 06 41.7 +0.1**
comp=Z,26nm,1.2s,SNR=9.3
MYKA Terra Mystica 81.40 358 *e*P **P 11 06 41.1 -0.9**
comp=Z,13nm,1.3s
OBKA Obir 81.50 357 *e*P **P 11 06 42.1 -0.4**
comp=Z,22nm,1.6s
BNI Bardonecchia 82.95 3 P **P 11 06 51.1 +0.9**
ILGA Ilgaz 84.89 343 P **P 11 07 03.0 +2.7**
BRTR Keskin Array B 86.19 342 LR LR 11 53 40.7
comp=Z,62nm,18.4s,baz=9.0,slow=41
WRA Warramunga Arr 87.01 232 P **P 11 07 08.5 -2.1**
comp=Z,1.2nm,0.8s,baz=36,slow=6.0,SNR=5.2
WRA Warramunga Arr 87.01 232 IAmb IAmb 11 07 15.4
comp=Z,0.2nm,1.2s
ESDC Sonseca Array 87.50 11 P **P 11 07 13.2 +0.3**
comp=Z,2.2nm,0.7s,baz=348,slow=4.3,SNR=9.6
RPSI Rantau Prapat 88.98 273 P **P 11 07 20.5 +0.2**
ASAR Alice Springs 90.40 230 P **P 11 07 25.3 -1.3**
comp=Z,1.4nm,0.7s,baz=26,slow=4.6,SNR=11
H03N2 Juan Fernandez 115.86 112 T T 13 19 48.3
baz=323,slow=78,SNR=2.8
H03N1 Juan Fernandez 115.87 112 T T 13 19 49.6
baz=323,slow=78,SNR=4.8
H03N3 Juan Fernandez 115.88 112 T T 13 20 01.2
baz=323,slow=78,SNR=7.4
MAW Mawson 150.86 218 PKPbc **PKiKP 11 14 17.8 +0.9**
comp=Z,1.6nm,0.9s,baz=304,slow=3.6,SNR=2.5
BOSA Boshof 153.96 330 PKPbc **PKiKP 11 14 24.8 0.0**
comp=Z,3.2nm,0.7s,baz=337,slow=7.5,SNR=3.8

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*TUL **27** 10:55:34.1±1.0, 35°.99N±0°.01×97°.558W±0°.007, h5km±7km, ML2.5, mb_Lg2.2/14(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=170.0*

NEIC 27 10:55:34.2±0.7, 35°.99N±0°.01×97°.57W±0°.02, h8km±6km, Error ellipse: s-maj=2.3km s-min=1.6km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.21**	**154**		Pg	10 55 38.6	+0.1
OK029				Sg	Sg	10 55 41.5	0.0
BCOK	**Bluff Creek, N**	**0.34**	**185**		Pg	10 55 40.5	-0.2
BCOK				Sg	Sg	10 55 45.6	+0.4
OK025	**Westminster Rd**	**0.45**	**155**		Pg	10 55 42.9	0.0
OK025				Sg	Sg	10 55 48.9	0.0
OK031	**S. Brethren Rd**	**0.59**	**93**		Pg	10 55 45.5	-0.1
OK031				Sg	Sg	10 55 53.3	-0.2
OKCSW	**OKLAHOMA CITY**	**0.59**	**170**	Pg	Pg	10 55 45.3	-0.4
OKCSW				Sg	Sg	10 55 53.9	+0.5
CROK	**Carrier**	**0.61**	**327**		Pg	10 55 46.1	+0.1
CROK				Sg	Sg	10 55 54.6	+0.5
QUOK	**Quay**	**0.72**	**75**		Pg	10 55 47.9	-0.2
QUOK				Sg	Sg	10 55 57.6	+0.1
FNO	**Franklin**	**0.74**	**169**		Pg	10 55 48.5	-0.1
FNO				Sg	Sg	10 55 58.3	+0.1
BLOK	**Blackwell**	**0.82**	**20**	Pg	Pg	10 55 49.8	-0.2
BLOK				Sg	Sg	10 56 01.1	+0.5
GC02	**Grant County #**	**0.89**	**345**		Pg	10 55 50.9	-0.4
OK032	**Salt Plains WL**	**0.96**	**328**		Pg	10 55 52.2	-0.5
KAN13	**South Haven SW**	**1.02**	**4**		Pg	10 55 53.5	-0.3
KAN13				Sg	Sb	10 56 07.5	-0.3
KAN17	**Caldwell West**	**1.06**	**352**		Pg	10 55 53.6	-1.0
KAN09	**Caldwell North**	**1.14**	**358**	Pn	Pg	10 55 55.7	-0.4
U32A	**Winter Ranch,**	**1.22**	**289**	Pn	Pb	10 55 56.3	-1.2
T35A	**Sooner Cattle**	**1.26**	**42**		Pn	10 55 57.6	-0.5
KAN12	**Harper NE Stat**	**1.35**	**345**	Pn	Pn	10 55 59.2	-0.1
X34A	**Smith Ranch, M**	**1.40**	**189**		Pn	10 56 00.2	+0.2
WMOK	**Wichita Mounta**	**1.59**	**219**		Pn	10 56 02.7	+0.1
X37A	**Clayton**	**2.28**	**127**	Pn	Pb	10 56 14.6	-0.9
U38A	**Gravette**	**2.61**	**79**	Pn	Pn	10 56 18.2	+1.5
U38A				IAmb_Lg		10 57 04.3	
W39A	**Magazine**	**3.19**	**103**	IAmb_Lg		10 57 22.4	
U40A	**Yellville**	**3.83**	**83**	IAmb_Lg		10 57 43.5	
X40A	**Basin Creek Fa**	**4.16**	**110**	IAmb_Lg		10 57 48.8	
FCAR	**Ozark Folk Cen**	**4.42**	**90**	IAmb_Lg		10 58 06.4	
N35A	**Tabor**	**5.09**	**17**	IAmb_Lg		10 58 23.6	
CCAR	**Cane Creek**	**5.19**	**112**	IAmb_Lg		10 58 20.6	
PBMO	**Poplar Bluff**	**5.81**	**80**	IAmb_Lg		10 58 42.4	

IDC 27 11:08:33.0±4.4, 21°.79S×175°.97W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/23, mbtmp3.7/2, Error ellipse: s-maj=210.3km s-min=56.3km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.08**	**258**	P	P	11 16 59.7	+0.6
1.0nm,0.5s,baz=91,slow=8.2,SNR=31							
ASAR				PcP	PcP	11 18 34.2	-1.4
0.7nm,1.1s,baz=101,slow=3.9,SNR=3.1							
WRA	**Warramunga Arr**	**46.31**	**263**	P	P	11 17 00.3	-0.6
0.3nm,0.3s,baz=98,slow=7.4,SNR=11							
AKASG	**Malin Array Be**	**145.05**	**332**	PKPbc	PKPbc	11 28 11.2	-0.3
1.1nm,0.4s,baz=45,slow=4.2,SNR=5.7							

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*IDC **27** 11:11:52.4±1.1, 52°.28N×169°.39W, h0km, mb3.9/12, mb1 4.0/14, mb1mx3.8/37, mbtmp3.8/14, ML3.6/2, Error ellipse: s-maj=31.1km s-min=18.2km az=172.0*

*NEIC **27** 11:11:55.9±2.8, 52°.11N±0°.04×169°.29W±0°.08, h24km±10km, mb3.8/30, ML3.6/35(AEIC), Error ellipse: s-maj=8.4km s-min=4.6km az=129.0*

*AEIC **27** 11:11:55±2.8, 52°.04N±0°.03×169°.28W±0°.04, h25km±7km, Error ellipse: s-maj=4.9km s-min=3.5km az=203.0*

ISC 27 11:11:55.7±2.7, 52°.1N±0°.1×169°.19W±0°.06, h27km±17km, n97, σ1§43/96, mb3.9/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.93**	**13**		**Pn**	**11 12 12.6**	**-0.2**
NIKH					**Sb**	**11 12 27.1**	**+2.1**
OKSP	**Okmok Steeple**	**1.30**	**25**		**Pn**	**11 12 18.3**	**+0.2**
OKSO	**Okmok South**	**1.43**	**26**		**Pn**	**11 12 20.4**	**+0.5**
OKSO					**Sb**	**11 12 39.9**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.49**	**28**		**Pn**	**11 12 21.5**	**+0.8**
OKFG	**Magazine Ridge**	**1.55**	**30**		**Pn**	**11 12 22.3**	**+0.8**
OKFG					**Sb**	**11 12 43.1**	**+0.3**
MAPS	**Pakushin South**	**2.21**	**37**		**Pn**	**11 12 31.8**	**+1.3**
MAPS					**Sb**	**11 12 59.1**	**-2.7**
MGOD	**Makushin Gods**	**2.22**	**38**		**Pn**	**11 12 31.6**	**+0.9**
MGOD					**Sb**	**11 12 59.9**	**-2.4**
MSW	**Makushin Switc**	**2.35**	**37**		**Pn**	**11 12 33.9**	**+1.5**
MNAT	**Makushin Natee**	**2.37**	**39**		**Pn**	**11 12 34.2**	**+1.6**
MNAT					**Sn**	**11 13 02.2**	**+1.5**
UNV	**Unalaska Valle**	**2.41**	**41**		**Pn**	**11 12 34.9**	**+1.8**
MTBL	**Makushin Table**	**2.43**	**38**		**Pn**	**11 12 35.5**	**+1.8**
AKMO	**Akutan Morgan**	**2.79**	**42**		**Pn**	**11 12 40.5**	**+2.1**
AKBBA	**Akutan Broad B**	**2.83**	**43**		**Pn**	**11 12 41.2**	**+2.3**
AKUT	**Akutan**	**2.92**	**44**		**Pn**	**11 12 40.8**	**+0.6**
KOFP	**Korovin Flat P**	**3.03**	**276**		**Pn**	**11 12 41.8**	**0.0**

ATKA	Atka Island	3.09	274			Pn	11 12 41.8	-0.7
GSTR	Great Sitkin T	4.24	273			Pn	11 12 58.7	+0.3
GSMY	Great Sitkin M	4.24	272			Pn	11 12 58.5	+0.1
GSTD	Great Sitkin T	4.29	273			Pn	11 12 59.2	0.0
FALS	False Pass	4.44	49	Pn		Pn	11 13 04.5	+3.5
ADK	Adak	4.64	271			Pn	11 13 03.7	-0.1
KIWB	Kanaga Island	4.93	271			Pn	11 13 08.3	+0.5
SPIA	Saint Paul Isl	5.15	354			Pn	11 13 13.8	+2.9
TASE	Tanaga Southea	5.48	271			Pn	11 13 15.9	+0.5
SDPT	Sand Point	6.13	54			Pn	11 13 25.7	+1.5
CNBA	Chernabura Isl	6.36	61	Pn		Pn	11 13 27.9	+0.5
AMKA	Amchitka	7.18	269			Pn	11 13 39.1	+0.3
LSPA	Little Sitkin	7.55	274			Pn	11 13 45.2	+1.3
SII	Sitkinak Islan	9.85	57	Pn		Pn	11 14 19.1	+3.8
SMY	Shemya	10.24	280	Pn		Pn	11 14 17.9	-2.7
OHAK	Old Harbor	10.55	54	Pn		Pn	11 14 24.8	0.0
KDAK	Kodiak Island	11.12	53	Pn		Pn	11 14 32.3	-0.4
	0.7nm,0.3s,baz=262,slow=8.5,SNR=16							
KDAK				Sn		Sn	11 16 30.2	-5.7
	0.1nm,0.3s,baz=154,slow=23,SNR=2.0							
KDAK	Kodiak Island	11.12	53			Pn	11 14 32.4	-0.3
SVW2	Sparrevohn	11.72	34	Pn		Pn	11 14 45.9	+5.0
CNPM	China Poot	12.53	46	Pn		Pn	11 14 53.0	+1.1
SEW	Seward	13.60	46	Pn		Pn	11 15 06.6	+0.2
O22K	Cooper Landing	13.66	44	Pn		Pn	11 15 08.5	+1.2
SUA	Susitna One	13.76	40	Pn		Pn	11 15 09.2	+0.4
SKT	Skwentna	13.77	37	Pn		Pn	11 15 11.4	+2.6
RC01	Rabbit Creek A	13.96	42	Pn		Pn	11 15 11.4	0.0
PWL	Port Wells	14.44	42	Pn		Pn	11 15 17.0	-1.0
GHO	Glory Hole Cre	14.66	41	Pn		Pn	11 15 20.2	-0.8
SML	Sawmill	14.91	41	Pn		Pn	11 15 23.5	-0.9
HIN	Hinchinbrook I	15.05	48	Pn		Pn	11 15 25.7	-0.5
FID	Port Fidalgo	15.21	46	Pn		Pn	11 15 26.8	-1.5
SCM	Sheep Creek Mo	15.34	42	Pn		Pn	11 15 28.4	-1.6
BPAW	Bear Paw Mtn.	15.35	31	Pn		P	11 15 32.7	-1.8
BPAW				IAmb		IAmb	11 15 35.6	
	comp=Z,4.0nm,0.7s							
KLU	Klutina	15.77	44	Pn		Pn	11 15 34.6	-1.1
M24K	Tolsona, Glenn	15.95	42	Pn		Pn	11 15 37.6	-0.3
M24K				IAmb		IAmb	11 15 42.9	
	comp=Z,8.1nm,0.8s							
MLY	Manley	16.07	29	Pn		Pn	11 15 39.8	+0.3
MLY				IAmb		IAmb	11 15 44.1	
	comp=Z,11nm,1.4s							
BMRM	Bremner River	16.13	47	Pn		Pn	11 15 39.5	-0.8
BMRM				IAmb		IAmb	11 16 01.6	
	comp=Z,11nm,1.2s							
N25K	Chitina, Valde	16.39	45	Pn		Pn	11 15 42.5	-1.1
N25K				IAmb		IAmb	11 16 03.5	
	comp=Z,17nm,1.5s							
I23K	Minto, Yukon-K	16.57	30	Pn		Pn	11 15 44.5	-1.2
GLB	Gilahina Butte	16.67	46	Pn		Pn	11 15 45.9	-1.3
GLB				IAmb		IAmb	11 16 00.6	
	comp=Z,9.3nm,1.4s							
CCB	Clear Creek Bu	16.75	33	Pn		Pn	11 15 48.1	+0.1
VRDI	Verde Repeater	16.75	47	Pn		Pn	11 15 48.0	-0.2
VRDI				IAmb		IAmb	11 16 15.2	
	comp=Z,9.3nm,1.1s							
ILAR	Eielson Array	17.14	34	P		Pn	11 15 52.0	-0.9
	comp=Z,0.2nm,0.3s,baz=238,slow=12,SNR=9.8							
ILAR	Eielson Array	17.14	34			Pn	11 15 53.0	+0.1
RIDG	Independent Ri	17.29	38			P	11 15 55.8	-0.3
BARN	Barnard Glacie	17.51	48			P	11 15 58.8	+0.1
BARN				IAmb		IAmb	11 16 01.5	
	comp=Z,18nm,1.4s							
DOT	Dot Lake	17.55	39			Pn	11 15 57.0	-0.9
DOT				IAmb		IAmb	11 16 09.8	
	comp=Z,7.1nm,1.4s							
SCRK	Sand Creek	17.74	38			Pn	11 15 59.4	-1.1
SCRK				IAmb		IAmb	11 16 13.3	
	comp=Z,1.8nm,0.5s							
LOGN	Logan Glacier	17.74	49			P	11 16 02.2	+1.0
LOGN				IAmb		IAmb	11 16 19.4	
	comp=Z,10nm,1.1s							
PRP	Porcupine Dome	18.05	33			Pn	11 16 03.7	-0.6
L27K	Beaver Creek,	18.18	42			Pn	11 16 05.4	-0.3
BCAR	Beaver Creek A	18.20	42			P	11 16 05.8	-0.2
K27K	Chicken	18.50	39	P		Pn	11 16 11.1	+1.5
K27K				IAmb		IAmb	11 16 18.9	
	comp=Z,4.2nm,1.2s							
TOLK	Toolik Lake Re	19.08	22	P		Pn	11 16 17.0	+0.4
EGAK	Eagle	19.21	38	P		Pn	11 16 18.8	+0.7
HYT	Haines Junctio	19.40	51			Pn	11 16 22.8	+2.2
BMAR	Burnt Mountain	19.54	29	P		Pn	11 16 22.4	+0.2
DAWY	Dawson	19.58	41	P		Pn	11 16 21.9	-0.8
DAWY				IAmb		IAmb	11 16 44.0	
	comp=Z,5.0nm,1.3s							
PEA0B	Petropavlovsk-	20.05	286	P		P	11 16 25.6	-0.8
PETK	Petropavlovsk-	20.05	286	P		P	11 16 25.1	-1.2
	comp=Z,1.2nm,0.3s,baz=92,slow=13,SNR=16							
PETK	Petropavlovsk-	20.05	286	P		P	11 16 24.7	-1.6
WHY	Whitehorse	20.64	52			Pn	11 16 35.8	+0.6
WHY				IAmb		IAmb	11 16 43.3	
	comp=Z,4.9nm,0.8s							
EPYK	Eagle Plains	21.58	36	P		P	11 16 42.0	-0.8
EPYK				IAmb		IAmb	11 17 05.1	
	comp=Z,4.5nm,0.8s							
INK	Inuvik	23.54	33	P		P	11 17 02.3	-0.8
	comp=Z,0.9nm,0.3s,baz=222,slow=12,SNR=10							
INK	Inuvik	23.54	33	P		P	11 17 02.4	-0.8
INK				IAmb		IAmb	11 17 18.3	
	comp=Z,3.8nm,1.2s							
C36M	Paulatuk	27.11	33	P		P	11 17 35.5	-0.3
H11N2	WAKE ISLAND Hy	37.29	219	T		T	12 00 00.3	
	baz=24,slow=75,SNR=5.8							
H11N3	WAKE ISLAND Hy	37.30	219	T		T	11 59 45.3	
	baz=24,slow=75,SNR=9.5							
H11N1	WAKE ISLAND Hy	37.31	219	T		T	11 59 49.5	
	baz=24,slow=75,SNR=6.1							
H11S1	WAKE ISLAND Hy	38.48	219	T		T	12 00 28.9	
	baz=23,slow=76,SNR=23							
H11S2	WAKE ISLAND Hy	38.49	219	T		T	12 00 28.1	
	baz=23,slow=76,SNR=7.9							
H11S3	WAKE ISLAND Hy	38.49	219	T		T	12 00 30.3	
	baz=23,slow=76,SNR=5.6							
PDAR	Pinedale Array	40.35	79	P		P	11 19 32.5	+1.5
	comp=Z,0.3nm,0.6s,baz=312,slow=4.7,SNR=4.5							
KSRS	Korea Array	45.55	277	P		P	11 20 13.0	+0.2
	comp=Z,0.8nm,0.6s,baz=56,slow=8.0,SNR=5.1							
SONM	Songino Array	51.55	301	P		P	11 20 59.2	+0.2
	comp=Z,0.5nm,0.4s,baz=69,slow=7.9,SNR=3.2							
TXAR	Lajitas Array	52.64	89	P		P	11 21 09.6	+2.3
	comp=Z,0.3nm,0.5s,baz=301,slow=5.7,SNR=6.8							
ARCES	ARCESS Array B	58.23	354	P		P	11 21 46.1	-0.7
	comp=Z,2.1nm,0.7s,baz=9.8,slow=7.9,SNR=3.9							
MKAR	Makanchi Array	64.09	314	P		P	11 22 24.9	-2.0
	comp=Z,0.3nm,0.4s,baz=54,slow=6.9,SNR=9.0							
FINES	FINESS Array B	66.18	352	P		P	11 22 40.0	-0.2
	comp=Z,1.5nm,0.6s,baz=26,slow=9.3,SNR=7.7							
NOA	NORSAR Array B	67.24	360	P		P	11 22 46.3	-0.6
	comp=Z,0.5nm,0.6s,baz=357,slow=6.3,SNR=2.8							
CMAR	Chiang Mai Arr	76.79	283	P		P	11 23 46.5	+1.7
	comp=Z,1.3nm,0.4s,baz=22,slow=5.5,SNR=4.5							
KBZ	Khabaz	80.63	337	P		P	11 24 06.0	+0.6
	comp=Z,1.6nm,0.8s,baz=57,slow=7.0,SNR=3.9							
ASAR	Alice Springs	90.29	230	P		P	11 24 53.5	-0.3
	comp=Z,0.8nm,0.9s,baz=31,slow=4.7,SNR=5.0							

*TAP **27** 11:13:03.8, 24°.20N×122°.24E, h21km, ML2.8, D*
*JMA **27** 11:13:04.0, 24°.09N×122°.26E, h30km±2km, M2.0*

ISC 27 11:13:04.0±1.0, 24°.19N±0°.02×122°.26E±0°.02, h20km±4km, n100, σ0s.54/184, Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
EHP	Heping Village	0.48	285	eP		Pg	11 13 13.4	-0.5
	baz=283							
EHP				eS		Sb	11 13 21.4	+0.7
	baz=283							
EWUT	Wuta	0.51	301	P		Pg	11 13 14.2	-0.1
	baz=299							
EWUT				S		Sb	11 13 21.2	0.0
	baz=299							
TWC	Suao	0.56	319	i P		Pb	11 13 14.7	-0.5
	baz=319							
TWC				i S		Sb	11 13 21.5	-1.3
	baz=319							
ETL	Fush Village	0.58	268	eP		Pg	11 13 16.2	+0.6
	baz=265							
ETL				eS		Sg	11 13 24.5	+1.0
	baz=265							
NACB	Ninganchiao	0.60	269	P		Pg	11 13 16.2	+0.1
	baz=267							
NACB				S		Sg	11 13 25.4	+1.2
	baz=267							
TWD	Chiawan	0.61	260	i P		Pg	11 13 16.1	-0.1
	baz=258							
TWD				i S		Sg	11 13 25.3	+0.9
	baz=258							
HWA	Hwalien	0.63	251	eP		Pg	11 13 16.5	-0.1
	baz=248							
HWA				eS		Sn	11 13 26.5	-0.8
	baz=248							
NDS	Dongshan	0.66	312	i P		Pb	11 13 17.0	0.0
	baz=311							
NDS				S		Sg	11 13 26.2	+0.1
	baz=311							
TEYL	Yanliau Villag	0.68	242	P		Pg	11 13 17.4	0.0
	baz=243							
TEYL				S		Sg	11 13 26.9	+0.4
	baz=243							
JYNG	Yonagunijimaku	0.68	67	P		Pg	11 13 17.5	-0.1
JYNG				S		Sg	11 13 26.9	+0.2
ETLH	Xiulin Townshi	0.71	272	P		Pg	11 13 17.9	-0.1
	baz=270							
ETLH				S		Sn	11 13 28.5	-0.9
	baz=270							
ETM	Tongmen	0.73	253	P		Pb	11 13 17.6	-0.5
	baz=251							
ETM				eS		Sb	11 13 27.4	-0.2
	baz=251							
YOJ	Yonaguni jima	0.74	68	P		Pg	11 13 18.6	-0.1
YOJ				eS		Sg	11 13 28.9	+0.3
YOJ	Yonaguni jima	0.74	68	P		Pg	11 13 18.6	-0.1
	baz=68							
YOJ				S		Sg	11 13 29.2	+0.6
	baz=68							
TWE	Neicheng	0.76	315	i P		Pb	11 13 18.7	+0.1
	baz=315							
TWE				S		Sg	11 13 29.3	+0.3
	baz=315							
NTC	Toucheng	0.77	330	eP		Pg	11 13 19.3	+0.1
	baz=329							
NTC				eS		Sb	11 13 28.4	-0.4
	baz=329							
ENTT	Nioudou	0.77	306	i P		Pb	11 13 19.0	+0.1
	baz=305							
ENTT				S		Sb	11 13 28.8	-0.2
	baz=305							
NDT	Datong Townshi	0.79	302	i P		Pg	11 13 19.6	0.0
	baz=300							
NDT				i S		Sb	11 13 29.7	+0.2
	baz=300							
TEGC	Jichi Village	0.81	234	P		Pb	11 13 19.3	-0.1
	baz=232							
TEGC				S		Sg	11 13 31.1	+0.5
	baz=232							
NNSB	Datong	0.83	287	P		Pb	11 13 19.9	0.0
	baz=286							
NNSB				S		Sn	11 13 32.7	+0.2
	baz=286							
NNSH	Datong	0.83	287	eP		Pb	11 13 19.8	-0.1
	baz=286							
NNSH				eS		Sg	11 13 31.2	-0.2
	baz=286							
ESL	Shilin	0.84	244	eP		Pb	11 13 19.1	-0.8
	baz=242							
ESL				S		Sn	11 13 32.3	-0.2
	baz=242							
NNS	Nan Shan	0.84	288	i P		Pg	11 13 20.5	-0.1
	baz=286							
NNS				i S		Sg	11 13 32.1	+0.2
	baz=286							
TWB1	Santiao Chiao	0.85	344	i P		Pg	11 13 20.5	-0.3
	baz=344							
TWB1				i S		Sg	11 13 31.7	-0.4
	baz=344							
TIPB	Shuangxi	0.88	334	i P		Pg	11 13 21.0	-0.1
	baz=333							
TIPB				i S		Sb	11 13 31.8	-0.1
	baz=333							
NWLT	Wulai	0.90	311	eP		Pg	11 13 21.4	-0.3
	baz=310							
NWLT				eS		Sb	11 13 33.1	+0.4
	baz=310							
WHF	Hehuan Shan	0.91	268	i P		Pb	11 13 20.9	-0.4
	baz=266							
WHF				S		Sb	11 13 33.2	+0.1
	baz=266							
FUSS	Fushou	0.93	274	eP		Pb	11 13 21.5	-0.1
	baz=272							
FUSS				S		Sg	11 13 34.5	+0.1
	baz=272							
YHNB	Yeheng	0.94	301	P		Pb	11 13 21.8	+0.2
	baz=300							
YHNB				S		Sg	11 13 34.6	-0.1
	baz=300							
NSK	Sanguang	0.95	301	i P		Pn	11 13 22.3	-0.1
	baz=300							
NSK				S		Sg	11 13 34.6	-0.6
	baz=300							
NWF	Wu-fen Shan	0.98	334	i P		Pg	11 13 23.1	-0.1
	baz=334							
NWF				i S		Sg	11 13 35.6	-0.6
	baz=334							
WFSB	Wu-fen Shan	0.98	334	P		Pn	11 13 22.7	0.0
	baz=334							
WFSB				S		Sb	11 13 35.4	+0.4
	baz=334							
CHGB	Renai	0.99	263	eP		Pb	11 13 22.1	-0.7
	baz=261							
CHGB				eS		Sg	11 13 36.4	-0.3
	baz=261							
TWA	Mucha	1.00	322	i P		Pg	11 13 23.5	0.0
	baz=322							
TWA				i S		Sn	11 13 36.3	-0.2
	baz=322							
TDCB	Techi	1.00	274	P		Pb	11 13 22.6	-0.3
	baz=272							
TDCB				eS		Sb	11 13 35.9	+0.2
	baz=272							
OWD	Renai	1.01	257	i P		Pb	11 13 22.2	-0.8
	baz=255							
OWD				i S		Sb	11 13 36.0	0.0
	baz=255							
NHDH	Xindian Distri	1.02	320	eP		Pb	11 13 22.6	-0.5
	baz=319							
NHDH				eS		Sn	11 13 36.7	-0.3
	baz=319							
HGSD	Ruisui	1.03	228	P		Pb	11 13 21.8	-1.3
	baz=226							
HGSD				eS		Sn	11 13 37.1	-0.1
	baz=226							
TATO	Taipei	1.05	319	P		Pg	11 13 24.4	-0.1
	baz=318							
TATO				S		Sn	11 13 37.6	-0.2
	baz=318							
NHY	Taipei	1.05	324	eP		Pb	11 13 23.3	-0.3
	baz=323							
NHY				eS		Sn	11 13 37.9	+0.1
	baz=323							
TNOU	National Taiwa	1.06	336	eP		Pb	11 13 23.3	-0.4
	baz=335							
TNOU				eS		Sb	11 13 37.0	-0.1
	baz=335							
EHY	Hungye	1.09	232	eP		Pb	11 13 22.4	-1.8
	baz=230							
EHY				eS		Sg	11 13 39.9	+0.3
	baz=230							
ECBN	Changbin	1.14	221	eS		Sn	11 13 39.6	-0.2
	baz=219							
YM01	YM01	1.14	327	P		Pn	11 13 25.0	0.0
	baz=326							
YM01				S		Sb	11 13 39.8	+0.2
	baz=326							
YM08	YM08	1.17	329	eP		Pn	11 13 25.4	+0.1
	baz=328							
YULB	Yu-li	1.18	228	P		Pn	11 13 23.8	-1.7
	baz=227							
YULB				eS		Sb	11 13 39.6	-1.0
	baz=227							
TWS1	Kuangyinshan	1.19	320	eP		Pn	11 13 25.5	-0.1
	baz=320							
TWS1				S		Sb	11 13 40.6	-0.3
	baz=320							
EYUL	Yuli	1.20	226	eP		Pn	11 13 24.9	-0.8
	baz=224							
EYUL				eS		Sb	11 13 40.9	-0.2
	baz=224							
WHP	Taichung City	1.20	275	i P		Pn	11 13 25.7	0.0
	baz=273							
WHP				eS		Sb	11 13 41.3	+0.1
	baz=273							
WPL	Puli Township	1.20	262	eP		Pn	11 13 25.2	-0.5
	baz=261							
TWF1	Yuli	1.21	227	eP		Pn	11 13 24.1	-1.7
	baz=225							
TWF1				eS		Sb	11 13 41.5	0.0
	baz=225							
LIOB	Emei	1.22	292	P		Pb	11 13 26.6	+0.1
	baz=291							
LIOB				eS		Sn	11 13 42.6	+0.6
	baz=291							
NTST	Danshui	1.22	323	eS		Sb	11 13 41.0	-0.8
	baz=322							
NSTT	Nanjuang	1.23	291	eP		Pb	11 13 26.6	0.0
	baz=290							
NSTT				eS		Sn	11 13 42.1	0.0
	baz=290							
WCS	Beigang Elemen	1.23	264	eP		Pn	11 13 25.7	-0.4
	baz=263							
WCS				eS		Sn	11 13 42.3	0.0
	baz=263							
NCUH	Zhongli	1.25	309	eP		Pn	11 13 26.1	-0.3
	baz=308							
SSLB	Suanglung	1.25	252	P		Pn	11 13 25.9	-0.6
	baz=250							
SSLB				S		Sb	11 13 42.7	-0.1
	baz=250							
SMLT	Sun Moon Lake	1.27	257	i P		Pn	11 13 26.6	-0.3
	baz=255							
SMLT				i S		Sb	11 13 42.9	-0.5
	baz=255							
SBCB	Hsinchu	1.30	298	eP		Pn	11 13 26.2	-0.9
	baz=297							
TYC	Yuchr	1.31	258	i P		Pn	11 13 26.9	-0.2
	baz=256							
TYC				S		Sn	11 13 43.0	-1.0
	baz=256							
FULB	Fuli	1.32	222	P		Pn	11 13 25.7	-1.6
	baz=221							
FULB				eS		Sb	11 13 44.8	+0.1
	baz=221							
HSN	Hsinchu	1.32	298	eP		Pn	11 13 26.2	-1.2
	baz=299							
CHKT	Chengkung	1.35	217	P		Pn	11 13 27.2	-0.6
	baz=216							
CHKT				eS		Sn	11 13 45.2	0.0
	baz=216							
IRIF	Iriomote-Funau	1.35	83	P		Pn	11 13 27.6	-0.2
IRIF				eS		Sb	11 13 46.1	+0.5
NJN	Zhunan	1.36	292	eP		Pn	11 13 27.8	0.0
	baz=290							
TWQ1	Liyutan	1.36	277	eP		Pn	11 13 27.6	-0.4
	baz=276							
TWQ1				eS		Sn	11 13 45.6	+0.1
	baz=276							
NMLH	Miaoli	1.38	285	eP		Pn	11 13 28.2	0.0
	baz=284							
HATJ	Hateruma jima	1.42	95	S		Sb	11 13 47.6	0.0
WWF	Wufeng	1.43	265	eP		Pn	11 13 29.0	+0.2
	baz=263							
WWF				eS		Sn	11 13 47.1	0.0
	baz=263							
ECS	Chishang	1.44	221	eP		Pn	11 13 29.4	+0.3
	baz=220							
ECS				eS		Sb	11 13 47.8	-0.4
	baz=220							
PCYT	Pengchaiyu	1.45	353	i P		Pn	11 13 28.8	-0.4
	baz=354							
PCYT				S		Sn	11 13 47.6	0.0
	baz=354							
WDJ	Dajia District	1.48	277	eP		Pn	11 13 29.0	-0.6
	baz=275							
ALS	Alishan	1.49	243	P		Pn	11 13 30.0	+0.1
	baz=242							
ALS				eS		Sb	11 13 49.6	-0.1
	baz=242							
EDH	Donghe	1.49	216	eP		Pn	11 13 29.8	+0.1
	baz=215							
EDH				eS		Sb	11 13 49.3	-0.3
	baz=215							
ELDTW	Lidau	1.51	229	i P		Pn	11 13 28.6	-1.4
	baz=227							
ELDTW				S		Sb	11 13 50.2	+0.1
	baz=227							
WYL	Yuanlin Townsh	1.55	262	eP		Pn	11 13 30.9	+0.4
	baz=261							
WYL				eS		Sn	11 13 50.1	+0.1
	baz=261							
WCHH	Zhanghua	1.55	266	eP		Pn	11 13 30.5	-0.1
	baz=265							
CHN5	Tsauling	1.56	248	i P		Pb	11 13 31.6	-0.7
	baz=247							
CHN5				S		Sb	11 13 51.1	-0.5
	baz=247							
JKRS	Kuro-shima	1.60	88	P		Pn	11 13 31.9	+0.7
JKRS				eS		Sb	11 13 52.2	-0.6
WGK	Gukeng	1.63	253	eP		Pn	11 13 31.3	-0.2
	baz=251							
WGK				eS		Sn	11 13 52.2	+0.2
	baz=251							
LDUT	Ludao	1.67	206	eP		Pn	11 13 32.1	-0.1
	baz=205							
LDUT				eS		Sn	11 13 53.8	+0.8
	baz=205							
STYH	Taoyuan	1.69	234	eP		Pn	11 13 32.2	-0.3
	baz=232							
STYH				eS		Sn	11 13 52.9	-0.6
	baz=232							
TPUB	Ta-pu	1.73	240	eP		Pn	11 13 33.5	+0.5
	baz=238							
TPUB				eS		Sn	11 13 55.4	+0.8
	baz=238							
JIJ	Ishigaki jima	1.73	84	P		Pn	11 13 33.1	+0.1
JIJ				eS		Sn	11 13 53.9	-0.7
WTP	Ta-pu	1.77	238	eP		Pn	11 13 34.1	+0.5
	baz=237							
WTP				eS		Sn	11 13 55.5	-0.1
	baz=237							
WTK	Tuku	1.78	254	eP		Pn	11 13 34.3	+0.6
	baz=253							
WTK				eS		Sn	11 13 56.3	+0.7
	baz=253							
TWK	Hsinying	1.86	241	eP		Pn	11 13 35.7	+0.9
	baz=239							
TWK				eS		Sn	11 13 57.1	-0.7
	baz=239							
CHN1	Nanshi	1.87	238	P		Pn	11 13 35.9	+0.9
	baz=237							
CHN1				eS		Sn	11 13 58.8	+0.8
	baz=237							
SNST	Tainan City	1.88	240	eP		Pn	11 13 35.6	+0.6
	baz=238							
SGST	Jiashian	1.89	235	P		Pn	11 13 35.5	+0.3
	baz=233							
SGST				eS		Sn	11 13 58.6	+0.3
	baz=233							
SLGT	Liugui	1.89	232	eP		Pn	11 13 35.7	+0.5
	baz=230							
SLGT				eS		Sn	11 13 59.0	+0.4
	baz=230							
WMLT	Mailiao	1.90	259	eS		Sn	11 13 59.3	+0.6
	baz=257							
JISG	Ishigakijimahi	1.92	78	P		Pn	11 13 35.2	-0.4
JISG				S		Sn	11 13 58.6	-0.5
ECL	Taimali	1.98	217	eP		Pn	11 13 36.8	+0.4
	baz=216							
ECL				eS		Sn	11 14 01.5	+0.7
	baz=216							
ICHU	Yijhu	1.99	246	eP		Pn	11 13 37.1	+0.5
	baz=245							
ICHU				eS		Sn	11 14 01.5	+0.6
	baz=245							
SSD	Sandimen	2.07	226	eP		Pn	11 13 37.8	+0.2
	baz=225							
SSD				eS		Sn	11 14 02.9	+0.1
	baz=225							
SCST	Cishan	2.07	232	eP		Pn	11 13 37.6	-0.1
	baz=230							
TSMG	Majia	2.09	225	eP		Pn	11 13 38.8	+0

*SIGU **27** 11:15:27.2, 48.°02N×23.°67E, h5km*
*KRSZO **27** 11:15:27.1±1.1, 48.°07N×23.°69E, h8km±8km, ML2.8/7, Error ellipse: s-maj=5.5km s-min=3.5km az=24.0*
*BUC **27** 11:15:27.5±0.4, 48.°15N×23.°69E, h12km±3km, ml2.5/8, Error ellipse: s-maj=4.7km s-min=1.8km az=5.0*

ISC 27 11:15:28.0±1.1, 48.°06N±0.°02×23.°67E±0.°02, h3km±10km, n61, σ0.°78/86, 20C-21D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.34**	**95**	‖ *i* Pg	**Pg**	**11 15 34.1**	**-0.4**
RAKU				Pm		11 15 34.5	
RAKU				*i* Sg	**Sg**	**11 15 38.9**	**+0.1**
RAKU				Sm		11 15 39.7	
RAKU				m		11 15 40.5	
KORU	**Korolevo**	**0.37**	**286**	‖ *i* Pg	**Pg**	**11 15 35.3**	**+0.2**
KORU				Pm		11 15 38.9	
KORU				*e*Sg	**Sb**	**11 15 42.0**	**-1.4**
KORU				Sm		11 15 44.4	
KORU				m		11 15 57.7	
BMR	**Baia Mare**	**0.40**	**197**	Pg	**Pg**	**11 15 35.8**	**+0.2**
	comp=Z,1.1nm,SNR=18						
BMR				Lg	Lg	11 15 41.8	
MEZ	**Mezhgor'ye**	**0.47**	**348**	‖ *i* Pg	**Pg**	**11 15 37.0**	**0.0**
TRSU	**Trosnyk**	**0.48**	**275**	*e*Pg	**Pg**	**11 15 37.7**	**+0.6**
TRSU				Pm		11 15 38.9	
TRSU				*e*Sg	**Sb**	**11 15 45.5**	**-0.9**
TRSU				Sm		11 15 46.1	
TRSU				m		11 15 58.1	
BRIU	**Brid**	**0.52**	**303**	*e*Pg	**Pg**	**11 15 38.1**	**+0.3**
BRIU				Pm		11 15 42.8	
BRIU				*i* Sg	**Sb**	**11 15 46.8**	**-0.8**
BRIU				m		11 15 47.5	
BRIU				Sm		11 15 50.7	
NSLU	**Nyzhne Selyshc**	**0.55**	**75**	*e*Pg	Pg	11 15 32.0	-6.5
NSLU				Pm		11 15 33.3	
NSLU				*i* Sg	Sg	11 15 35.4	-10
NSLU				m		11 15 37.0	
NSLU				Sm		11 15 37.9	
BERU	**Beregovo**	**0.70**	**285**	*e*Pg	**Pg**	**11 15 40.8**	**-0.7**
BERU				Pm		11 15 42.7	
BERU				*e*Sg	**Sb**	**11 15 52.1**	**-0.9**
BERU				Sm		11 15 53.9	
BERU				m		11 15 55.8	
TRPA	**Tarpa**	**0.76**	**276**	‖P	**Pg**	**11 15 42.7**	**+0.2**
TRPA				‖S	**Sg**	**11 15 53.0**	**+0.7**
TRPA	**Tarpa**	**0.76**	**276**	‖P	**Pg**	**11 15 42.7**	**+0.2**
TRPA	**Tarpa**	**0.76**	**276**	*e*P	**Pb**	**11 15 43.1**	**-0.7**
TRPA				*e*S	**Sg**	**11 15 53.1**	**+0.7**
TRPA	**Tarpa**	**0.76**	**276**	Pg	**Pb**	**11 15 43.1**	**-0.7**
	comp=Z,0.3nm,SNR=20						
TRPA				Lg	Lg	11 15 53.1	
MUKU	**Mukachevo**	**0.76**	**302**	*e*Pg	**Pg**	**11 15 42.5**	**-0.1**
MUKU				Pm		11 15 43.6	
MUKU				*i* Sg	**Sb**	**11 15 54.4**	**-0.3**
MUKU				m		11 15 56.5	
MUKU				Sm		11 15 58.1	
STNU	**Starunia**	**0.86**	**40**	*e*Pg	**Pn**	**11 15 46.9**	**-0.1**
STNU				*e*Sg	**Sn**	**11 15 59.6**	**-0.5**
KSV	**Kosov**	**0.97**	**74**	*e*Pg	**Pg**	**11 15 46.5**	**-0.1**
KSV				Pm		11 15 51.2	
KSV				*e*Sg	**Sb**	**11 16 02.0**	**+1.2**
KSV				m		11 16 05.6	
KSV				Sm		11 16 06.6	
HOLU	**Holmets**	**0.98**	**299**	‖ *i* Pg	**Pg**	**11 15 46.6**	**-0.1**
HOLU				*i* Sg	**Sb**	**11 16 01.0**	**+0.2**
MESR	**Meseseni**	**1.03**	**208**	‖P	**Pn**	**11 15 48.8**	**-0.5**
MESR	**Meseseni**	**1.03**	**208**	‖P	**Pn**	**11 15 48.8**	**-0.5**
ARCR	**ARCALIA**	**1.08**	**154**	‖P	**Pg**	**11 15 48.7**	**0.0**
ARCR				‖S	**Sn**	**11 16 05.8**	**+0.3**
ARCR	**ARCALIA**	**1.08**	**154**	‖P	**Pg**	**11 15 48.7**	**0.0**
ARCR	**ARCALIA**	**1.08**	**154**	Pg	**Pg**	**11 15 48.6**	**0.0**
	comp=Z,0.5nm,SNR=17						
UZH	**Uzhgorod**	**1.08**	**303**	*e*Sg	**Sb**	**11 16 04.1**	**+0.3**
MORS	**Morshin**	**1.09**	**8**	*e*Pg	**Pn**	**11 15 50.7**	**+0.6**
MORS				*e*Sg	**Sn**	**11 16 07.4**	**+1.7**
BURAR	**Bucovina Array**	**1.14**	**112**	‖P	**Pg**	**11 15 48.7**	**-1.0**
BURAR				‖S	**Sg**	**11 16 05.1**	**+0.7**
BURAR	**Bucovina Array**	**1.14**	**112**	‖P	**Pg**	**11 15 48.7**	**-1.0**
BURAR	**Bucovina Array**	**1.14**	**112**	Pg	**Pg**	**11 15 48.5**	**-1.2**
BURAR				Lg	Lg	11 16 05.1	
SHIU	**Shidnytsya**	**1.18**	**350**	*e*Pg	**Pn**	**11 15 51.6**	**+0.1**
SHIU				Pm		11 15 58.8	
SHIU				*e*Sg	**Sn**	**11 16 09.0**	**+0.8**
SHIU				m		11 16 13.8	
SHIU				Sm		11 16 17.7	
KOLS	**Kolonicke sedl**	**1.27**	**314**	Pn	**Pb**	**11 15 52.6**	**0.0**
	comp=Z,52nm,SNR=45						
KOLS				Sn	**Sb**	**11 16 09.2**	**-0.3**
KOLS	**Kolonicke sedl**	**1.27**	**314**	*e*PG	**Pb**	**11 15 52.7**	**0.0**
KOLS				*e*SG	**Sb**	**11 16 09.2**	**-0.3**
CJR	**Cluj-Napoca**	**1.34**	**182**	‖P	**Pg**	**11 15 54.0**	**+0.3**
CJR				‖S	**Sn**	**11 16 12.6**	**+0.5**
CJR	**Cluj-Napoca**	**1.34**	**182**	‖P	**Pg**	**11 15 54.0**	**+0.3**
CJR	**Cluj-Napoca**	**1.34**	**182**	Pg	**Pb**	**11 15 53.8**	**-0.1**
	comp=Z,0.4nm,SNR=4.5						
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	‖P	**Pn**	**11 15 53.5**	**-0.5**
LTVH				‖S	**Sn**	**11 16 12.7**	**+0.1**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	‖P	**Pn**	**11 15 53.5**	**-0.5**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	*e*S	**Sn**	**11 16 14.1**	**+1.5**
LTVH	**Ltavrtes, Hu**	**1.37**	**241**	Sn	**Sn**	**11 16 14.1**	**+1.5**
DRGR		**1.42**	**207**	‖P	**Pn**	**11 15 54.0**	**-0.8**
DRGR				‖S	**Sg**	**11 16 14.3**	**+0.7**
DRGR		**1.42**	**207**	‖P	**Pn**	**11 15 54.0**	**-0.8**
DRGR		**1.42**	**207**	Pg	**Pg**	**11 15 55.3**	**+0.1**
	comp=Z,0.2nm,SNR=11						
DRGR				Sn	**Sg**	**11 16 14.4**	**+0.8**
CRVS	**Cervenica-Dubn**	**1.69**	**301**	*e*PN	**Pg**	**11 16 01.1**	**+0.7**
KMPD	**K-Podol'skiy**	**1.93**	**74**	*e*Pn	**Pn**	**11 16 00.4**	**-1.3**
KMPD				*e*Sn	**Sb**	**11 16 28.4**	**0.0**
KECS	**Kecovo**	**2.17**	**283**	*e*PN	**Pn**	**11 16 03.7**	**-1.3**
HORU	**Horodok**	**2.17**	**57**	*e*Sn	**Sb**	**11 16 36.3**	**+1.2**
SIRR	**Siria**	**2.25**	**218**	‖P	**Pn**	**11 16 06.0**	**-0.2**
SIRR	**Siria**	**2.25**	**218**	‖P	**Pn**	**11 16 06.0**	**-0.2**
DOPR	**Dopca**	**2.40**	**150**	‖P	**Pn**	**11 16 08.0**	**-0.2**
DOPR	**Dopca**	**2.40**	**150**	‖P	**Pn**	**11 16 08.0**	**-0.2**
PSZ	**Piszkesteto**	**2.54**	**268**	‖P	**Pn**	**11 16 08.7**	**-1.4**
PSZ	**Piszkesteto**	**2.54**	**268**	‖P	**Pn**	**11 16 08.7**	**-1.4**
PSZ	**Piszkesteto**	**2.54**	**268**	*e*P	**Pn**	**11 16 09.7**	**-0.4**
PSZ	**Piszkesteto**	**2.54**	**268**	Pg	**Pn**	**11 16 09.7**	**-0.4**
	comp=Z,0.1nm,SNR=4.5						
GZR	**Gura Zlata**	**2.73**	**193**	‖P	**Pn**	**11 16 12.7**	**-0.1**
GZR				‖S	**Sn**	**11 16 47.6**	**+1.2**
GZR	**Gura Zlata**	**2.73**	**193**	‖P	**Pn**	**11 16 12.7**	**-0.1**
BZS	**Buzias**	**2.82**	**211**	‖P	**Pn**	**11 16 13.6**	**-0.3**
BZS				‖S	**Sn**	**11 16 49.8**	**+1.4**
BZS	**Buzias**	**2.82**	**211**	‖P	**Pn**	**11 16 13.6**	**-0.3**
MLR	**Muntele Rosu**	**3.01**	**148**	‖P	**Pn**	**11 16 16.1**	**-0.6**
MLR	**Muntele Rosu**	**3.01**	**148**	‖P	**Pn**	**11 16 16.1**	**-0.6**
VYHS	**Vyhne**	**3.25**	**280**	Pn	**Pn**	**11 16 18.6**	**-1.4**
VYHS	**Vyhne**	**3.25**	**280**	*e*PN	**Pn**	**11 16 18.0**	**-1.9**
VYHS				*e*SN	**Sn**	**11 16 58.8**	**-0.4**
MDVR	**Moldovita**	**3.54**	**203**	‖P	**Pn**	**11 16 22.7**	**-1.3**
MDVR				‖S	**Sn**	**11 17 07.2**	**+0.8**
MDVR	**Moldovita**	**3.54**	**203**	‖P	**Pn**	**11 16 22.7**	**-1.3**

WEL 27 11:31:06.8±0.9, 31.°S±7.°×17.°9E±1.°8, h273km±21km, M4.7/12, mB5.1/3, ML4.7/10, MLv4.7/12, Mw(mB)4.5/3, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.32**	**50**	S	S	11 32 48.9	-0.8
OUZ	**Omahuta**	**6.00**	**230**	P	Pn	11 32 35.4	+0.1
WMGZ	**Waiomatatini S**	**6.38**	**186**	P	Pn	11 32 42.6	+2.6
WMGZ				S	S	11 33 59.3	+4.3
HAZ	**Te Kaha**	**6.40**	**190**	P	Pn	11 32 42.3	+2.2
WHRZ	**Whale Island**	**6.64**	**195**	P	Pn	11 32 43.0	-0.3
PUZ	**Puketiti**	**6.65**	**186**	P	Pn	11 32 46.0	+2.6
PUZ				S	S	11 33 59.7	-1.3
TWGZ	**Tauwhareparae**	**6.78**	**188**	P	Pn	11 32 48.4	+3.4
TWGZ				S	S	11 34 04.3	+0.3
MWZ	**Matawai**	**7.00**	**191**	P	Pn	11 32 47.4	-0.3
MWZ				S	S	11 34 08.0	-1.0
URZ	**Urewera**	**7.00**	**194**	P	Pn	11 32 47.5	-0.1
URZ				S	S	11 34 10.5	+1.6
MUGZ	**Murupara**	**7.29**	**195**	P	Pn	11 32 50.9	-0.3
MUGZ				S	S	11 34 16.3	+0.9
SNGZ	**Shannon Statio**	**7.47**	**191**	P	Pn	11 32 53.7	+0.2
SNGZ				S	S	11 34 20.7	+1.1
MTHZ	**Maungataniwha**	**7.63**	**194**	P	Pn	11 32 55.2	-0.3
MTHZ				S	S	11 34 22.2	-1.1
KNZ	**Kokohu**	**7.66**	**189**	P	Pn	11 32 54.3	-1.4
KNZ				S	S	11 34 19.7	-4.0
NMHZ	**Naumai**	**7.87**	**194**	P	Pn	11 32 58.4	-0.2
NMHZ				S	S	11 34 30.1	+1.2
BKZ	**Black Stump Fm**	**8.01**	**195**	P	Pn	11 32 59.1	-1.1
BKZ				S	S	11 34 32.4	+0.5
KWHZ	**Kaweka Forest**	**8.27**	**195**	P	Pn	11 33 02.2	-1.3
KWHZ				S	S	11 34 36.3	-1.6
BHHZ	**Black Hill Sta**	**8.41**	**197**	P	Pn	11 33 03.3	-2.0
MRZ	**Mangatainoka R**	**9.64**	**197**	P	Pn	11 33 15.8	-4.8
MRZ				S	S	11 35 01.7	-7.6

*ISK **27** 11:37:50.1, 35.°00N×25.°44E, h7km, ML2.6/4*
*THE **27** 11:37:50.5, 34.°99N×25.°42E, h19km±2km, ML2.4/4, Error ellipse: s-maj=2.8km s-min=0.5km az=353.0*
*ATH **27** 11:37:50.6, 34.°97N×25.°43E, h18km±2km, ML2.3/4, Error ellipse: s-maj=5.2km s-min=1.3km az=4.0*

ISC 27 11:37:51.1±1.0, 35.°03N±0.°05×25.°41E±0.°02, h15km±8km, n21, σ1.°14/36, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.14**	**22**	P	**Pb**	**11 37 55.1**	**-0.5**
LAST				S	**Sg**	**11 37 58.8**	**+1.1**
	750nm,0.3s						
LAST	**Lasithi**	**0.14**	**22**	P	**Pb**	**11 37 55.1**	**-0.5**
LAST				S	**Sg**	**11 37 58.8**	**+1.1**
LAST				AML	AML	11 37 59.0	
	comp=N,3133μm,0.1s						
LAST				AML	AML	11 37 59.1	
	comp=E,1590μm,0.1s						
NPS	**Neapolis**	**0.29**	**35**	P	**Pg**	**11 37 57.3**	**+0.1**
NPS				S	**Sb**	**11 38 02.8**	**+0.2**
	comp=E,1μm,0.3s						
NPS	**Neapolis**	**0.29**	**35**	P	**Pg**	**11 37 57.4**	**+0.1**
NPS				S	**Sg**	**11 38 02.6**	**+1.2**
NPS				AML	AML	11 38 03.1	
	comp=N,1420μm,0.2s						
NPS				AML	AML	11 38 04.8	
	comp=E,1830μm,0.3s						
HRKL	**Herakleio**	**0.38**	**318**	PG	**Pb**	**11 37 59.8**	**+0.2**
KSTL	**Kastelli Herak**	**0.39**	**315**	P	**Pg**	**11 37 56.1**	**-3.0**
KSTL				S	**Sg**	**11 38 00.7**	**-3.8**
SIVA	**Sivas**	**0.49**	**269**	P	**Pg**	**11 38 00.2**	**-0.7**
SIVA				S	**Sb**	**11 38 08.8**	**+0.3**
	comp=E,795nm,0.4s						
SIVA	**Sivas**	**0.49**	**269**	P	**Pg**	**11 38 00.3**	**-0.6**
SIVA				S	**Sb**	**11 38 08.7**	**+0.3**
SIVA				AML	AML	11 38 10.5	
	comp=E,1558μm,0.3s						
SIVA				AML	AML	11 38 11.2	
	comp=N,730μm,0.2s						
IDI	**Anoyia**	**0.50**	**302**	P	**Pg**	**11 38 00.7**	**-0.4**
IDI				S	**Sg**	**11 38 08.7**	**+0.9**
IDI	**Anoyia**	**0.50**	**302**	P	**Pg**	**11 38 00.7**	**-0.4**
IDI				S	**Sb**	**11 38 08.9**	**+0.2**
IDI	**Anoyia**	**0.50**	**302**	PG	**Pg**	**11 38 00.6**	**-0.5**
IDI				SG	**Sb**	**11 38 09.0**	**+0.2**
STIA	**Sitia Lasithi**	**0.58**	**72**	P	**Pb**	**11 38 02.0**	**-1.0**
STIA				S	**Sb**	**11 38 11.2**	**+0.2**
ZKR	**Zakros**	**0.67**	**82**	P	**Pb**	**11 38 02.9**	**-1.5**
ZKR				S	**Sg**	**11 38 13.1**	**+0.1**
	comp=N,278nm,0.3s						
ZKR	**Zakros**	**0.67**	**82**	P	**Pb**	**11 38 02.9**	**-1.5**
ZKR				S	**Sg**	**11 38 13.2**	**+0.3**
ZKR				AML	AML	11 38 15.6	
	comp=E,558μm,0.3s						
ZKR				AML	AML	11 38 15.9	
	comp=N,537μm,0.4s						
ZKR	**Zakros**	**0.67**	**82**	PG	**Pb**	**11 38 03.0**	**-1.5**
ZKR				SG	**Sg**	**11 38 12.7**	**-0.3**
GVDS	**Gavdos**	**1.10**	**261**	PN	**Pg**	**11 38 12.1**	**-0.3**
GVD	**Gavdhos**	**1.10**	**261**	PN	**Pg**	**11 38 12.2**	**-0.2**
GVD				SN	**Sg**	**11 38 27.9**	**+1.0**
IMMV	**Iera Moni Meta**	**1.25**	**291**	PN	**Pg**	**11 38 15.2**	**0.0**
SANT	**Santorini**	**1.34**	**2**	PN	**Pn**	**11 38 15.6**	**+0.3**
KARP	**Karpathos**	**1.52**	**70**	PN	**Pb**	**11 38 18.9**	**-0.1**
KTHA	**Kythira Island**	**2.27**	**303**	PN	**Pn**	**11 38 29.7**	**+1.6**

*IDC **27** 11:39:04.1±2.7, 52.°02N×169.°46W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.5/4, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/39, Error ellipse: s-maj=98.1km s-min=32.0km az=12.0*
*AEIC **27** 11:39:07.1±3.3, 52.°1N±0.°1×169.°26W±0.°07, h32km±9km, Error ellipse: s-maj=16.2km s-min=5.5km az=170.0*
*NEIC **27** 11:39:10.5±1.1, 52.°25N±0.°08×169.°3W±0.°1, h38km±57km, ML3.0(AEIC), Error ellipse: s-maj=12.1km s-min=7.7km az=146.0*

ISC 27 11:39:08.6±1.2, 52.°1N±0.°1×169.°26W±0.°09, h30km, n26, σ0.°77/22, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.91**	**16**		**Pn**	**11 39 24.4**	**-1.0**
OKSP	**Okmok Steeple**	**1.30**	**27**		**Pn**	**11 39 30.6**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.49**	**29**		**Pn**	**11 39 33.5**	**+0.2**
OKWE	**Okmok W'ng Wal**	**1.51**	**24**		**Pn**	**11 39 34.0**	**+0.4**
OKFG	**Magazine Ridge**	**1.55**	**31**		**Pn**	**11 39 34.2**	**0.0**
MAPS	**Pakushin South**	**2.22**	**38**		**Pn**	**11 39 43.8**	**+0.5**
MSW	**Makushin Switc**	**2.36**	**38**		**Pn**	**11 39 45.8**	**+0.6**
UNV	**Unalaska Valle**	**2.42**	**42**		**Pn**	**11 39 46.7**	**+0.7**
AKUT	**Akutan**	**2.93**	**44**	Pn	**Pn**	**11 39 53.0**	**-0.1**
KOFP	**Korovin Flat P**	**2.98**	**275**		**Pn**	**11 39 54.2**	**+0.4**
ATKA	**Atka Island**	**3.04**	**274**		**Pn**	**11 39 54.7**	**+0.1**
GSTR	**Great Sitkin T**	**4.19**	**273**	Pn	**Pn**	**11 40 11.3**	**+0.8**
ADK	**Adak**	**4.59**	**270**	Pn	**Pn**	**11 40 16.2**	**+0.3**
KIWB	**Kanaga Island**	**4.88**	**270**	Pn	**Pn**	**11 40 19.4**	**-0.5**
SPIA	**Saint Paul Isl**	**5.13**	**354**	Pn	**Pn**	**11 40 24.8**	**+1.6**
AMKA	**Amchitka**	**7.14**	**269**	Pn	**Pn**	**11 40 51.3**	**+0.4**
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**11 41 44.5**	**-1.1**
SEW	**Seward**	**13.61**	**46**	Pn	**Pn**	**11 42 18.7**	**-0.6**
PETK	**Petropavlovsk-**	**20.00**	**286**	P	**P**	**11 43 37.3**	**-1.2**
	0.3nm,0.3s,baz=89,slow=13,SNR=12						
H11S1	**WAKE ISLAND Hy**	**38.47**	**218**	T	T	12 27 42.9	
	baz=23,slow=76,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	12 27 39.6	
	baz=23,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	12 27 36.5	
	baz=23,slow=76,SNR=5.7						
SONM	**Songino Array**	**51.50**	**301**	LR	LR	12 11 47.9	
	comp=Z,33nm,18.3s,baz=241,slow=38						
TXAR	**Lajitas Array**	**52.69**	**89**	P	**P**	**11 48 21.1**	**+0.9**
	0.1nm,0.6s,baz=270,slow=4.5,SNR=1.8						
MKAR	**Makanchi Array**	**64.04**	**314**	P	**P**	**11 49 38.5**	**-0.6**
	0.2nm,0.5s,baz=46,slow=4.2,SNR=2.5						
FINES	**FINESS Array B**	**66.15**	**352**	P	**P**	**11 49 53.3**	**+0.8**
	2.7nm,0.9s,baz=22,slow=5.1,SNR=3.4						

*IDC **27** 11:45:15.7±1.1, 52.°26N×169.°38W, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/49, mbtmp3.6/8, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/47, Error ellipse: s-maj=40.2km s-min=19.1km az=176.0*
*AEIC **27** 11:45:19±3.4, 52.°2N±0.°1×169.°3W±0.°1, h20km±8km, Error ellipse: s-maj=17.0km s-min=8.0km az=156.0*
*NEIC **27** 11:45:21.0±2.7, 52.°24N±0.°09×169.°3W±0.°1, h35km±23km, mb3.6/19, ML3.3(AEIC), Error ellipse: s-maj=13.6km s-min=8.0km az=153.0*

ISC 27 11:45:19.6±0.8, 52.°2N±0.°1×169.°20W±0.°07, h29km, n71, σ1.°53/65, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.80**	**15**		**Pn**	**11 45 34.7**	**-0.2**
OKSP	**Okmok Steeple**	**1.19**	**27**		**Pn**	**11 45 40.7**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.38**	**30**		**Pn**	**11 45 43.7**	**+0.8**
OKFG	**Magazine Ridge**	**1.44**	**32**		**Pn**	**11 45 44.5**	**+0.8**
MAPS	**Pakushin South**	**2.11**	**39**		**Pn**	**11 45 54.0**	**+1.0**
MGOD	**Makushin Gods**	**2.13**	**41**		**Pn**	**11 45 54.4**	**+1.2**
MSW	**Makushin Switc**	**2.25**	**39**		**Pn**	**11 45 56.3**	**+1.4**
MNAT	**Makushin Natee**	**2.27**	**41**		**Pn**	**11 45 56.8**	**+1.7**
UNV	**Unalaska Valle**	**2.32**	**44**		**Pn**	**11 45 57.2**	**+1.5**
MTBL	**Makushin Table**	**2.33**	**40**		**Pn**	**11 45 58.0**	**+1.9**
AKMO	**Akutan Morgan**	**2.70**	**44**		**Pn**	**11 46 03.5**	**+2.5**
AKBBA	**Akutan Broad B**	**2.74**	**45**		**Pn**	**11 46 04.1**	**+2.6**
AKUT	**Akutan**	**2.83**	**46**		**Pn**	**11 46 04.8**	**+2.1**
KOFP	**Korovin Flat P**	**3.01**	**273**		**Pn**	**11 46 06.0**	**+0.7**
ATKA	**Atka Island**	**3.07**	**272**		**Pn**	**11 46 05.8**	**-0.3**
GSTR	**Great Sitkin T**	**4.22**	**271**	Pn	**Pn**	**11 46 22.8**	**+0.8**
GSMY	**Great Sitkin M**	**4.23**	**271**		**Pn**	**11 46 22.1**	**+0.2**
GSTD	**Great Sitkin T**	**4.28**	**271**		**Pn**	**11 46 22.7**	**-0.1**
FALS	**False Pass**	**4.36**	**50**		**Pn**	**11 46 25.8**	**+2.1**
ADK	**Adak**	**4.63**	**269**		**Pn**	**11 46 27.4**	**-0.1**
KIWB	**Kanaga Island**	**4.92**	**269**		**Pn**	**11 46 32.1**	**+0.7**
SPIA	**Saint Paul Isl**	**5.02**	**353**		**Pn**	**11 46 35.9**	**+3.1**
TASE	**Tanaga Southea**	**5.47**	**270**		**Pn**	**11 46 40.3**	**+1.2**
SDPT	**Sand Point**	**6.06**	**55**		**Pn**	**11 46 49.2**	**+2.1**
CNBA	**Chernabura Isl**	**6.31**	**62**	Pn	**Pn**	**11 46 52.0**	**+1.5**
AMKA	**Amchitka**	**7.18**	**268**		**Pn**	**11 47 02.9**	**+0.4**
OHAK	**Old Harbor**	**10.48**	**55**	Pn	**Pn**	**11 47 48.1**	**+0.4**
KDAK	**Kodiak Island**	**11.05**	**53**	Pn	**Pn**	**11 47 54.9**	**-0.5**
	0.6nm,0.3s,baz=288,slow=14,SNR=1.6						
KDAK				Sn	**Sn**	**11 49 50.9**	**-7.0**
	0.1nm,0.3s,baz=93,slow=8.2,SNR=1.0						
KDAK	**Kodiak Island**	**11.05**	**53**	Pn	**Pn**	**11 47 56.5**	**+1.1**
SVW2	**Sparrevohn**	**11.62**	**35**	Pn	Pn	11 48 08.1	+4.8
BRLK	**Bradley Lake**	**12.71**	**46**	Pn	**Pn**	**11 48 20.4**	**+2.1**
SEW	**Seward**	**13.51**	**46**	Pn	**Pn**	**11 48 28.5**	**-0.5**
O22K	**Cooper Landing**	**13.57**	**45**	Pn	**Pn**	**11 48 30.1**	**+0.3**
RC01	**Rabbit Creek A**	**13.87**	**42**	Pn	**Pn**	**11 48 33.0**	**-1.0**
PWL	**Port Wells**	**14.35**	**45**	Pn	**Pn**	**11 48 39.5**	**-1.1**
FID	**Port Fidalgo**	**15.12**	**47**	Pn	**Pn**	**11 48 49.3**	**-1.6**
BPAW	**Bear Paw Mtn.**	**15.24**	**31**	Pn	**Pn**	**11 48 54.6**	**+2.2**
BPAW				IAmb	IAmb	11 48 58.3	
	comp=Z,2.7nm,0.7s						
KLU	**Klutina**	**15.68**	**45**	Pn	**Pn**	**11 48 57.3**	**-1.0**
MLY	**Manley**	**15.96**	**29**	P	**P**	**11 49 05.9**	**+0.7**
N25K	**Chitina, Valde**	**16.31**	**45**	P	**Pn**	**11 49 05.5**	**-0.8**
N25K				IAmb	IAmb	11 49 21.3	
	comp=Z,6.5nm,1.2s						
I23K	**Minto, Yukon-K**	**16.47**	**30**		**Pn**	**11 49 09.8**	**+1.6**
GLB	**Gilahina Butte**	**16.59**	**46**		**Pn**	**11 49 08.8**	**-1.0**
GLB				IAmb	IAmb	11 49 14.5	
	comp=Z,2.6nm,0.6s						
ILAR	**Eielson Array**	**17.03**	**34**	P	**Pn**	**11 49 14.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=222,slow=10,SNR=4.3						
RIDG	**Independent Ri**	**17.19**	**38**	P	**Pn**	**11 49 17.6**	**+0.2**
RIDG				IAmb	IAmb	11 49 31.2	
	comp=Z,4.0nm,1.2s						
BARN	**Barnard Glacie**	**17.43**	**49**	P	**Pn**	**11 49 21.1**	**+0.6**
DOT	**Dot Lake**	**17.45**	**39**	P	**Pn**	**11 49 19.8**	**-0.8**
DOT				IAmb	IAmb	11 49 30.7	
	comp=Z,3.6nm,1.2s						
CTGM	**Chitina Glacie**	**17.55**	**49**	P	**Pn**	**11 49 21.6**	**-0.4**
CTGM				IAmb	IAmb	11 49 26.1	
	comp=Z,14nm,1.2s						
SCRK	**Sand Creek**	**17.64**	**38**	P	**Pn**	**11 49 22.2**	**-0.9**
L27K	**Beaver Creek,**	**18.09**	**42**	P	**Pn**	**11 49 28.1**	**-0.3**
BCAR	**Beaver Creek A**	**18.10**	**42**	P	**Pn**	**11 49 27.9**	**-0.7**
TOLK	**Toolik Lake Re**	**18.96**	**22**	P	**Pn**	**11 49 39.4**	**+0.4**
TOLK				IAmb	IAmb	11 49 47.3	
	comp=Z,6.0nm,1.4s						
EGAK	**Eagle**	**19.11**	**38**	P	**P**	**11 49 40.2**	**+0.5**
EGAK				IAmb	IAmb	11 49 53.6	
	comp=Z,5.5nm,1.4s						
HYT	**Haines Junctio**	**19.33**	**51**		**Pn**	**11 49 45.8**	**+2.3**
HYT				IAmb	IAmb	11 49 48.3	
	comp=Z,4.9nm,0.8s						
BMAR	**Burnt Mountain**	**19.43**	**29**	P	**P**	**11 49 43.3**	**0.0**
DAWY	**Dawson**	**19.49**	**41**	P	**P**	**11 49 45.0**	**+1.0**
DAWY				IAmb	IAmb	11 50 00.4	
	comp=Z,5.1nm,1.4s						
PEA0B	**Petropavlov

mb1 4.4/30,mb1mx4.3/53,mbtmp4.2/30,ML3.9/2,MS3.5/5, Ms1 3.5/5,ms1mx3.0/45,Error ellipse: s-maj=20.0km s-min=11.3km az=172.0

*AEIC **27** 12:19:15±4.8,52°.18N±0°.05×169°.37W±0°.07,h22km±5km, Error ellipse: s-maj=8.3km s-min=6.0km az=158.0*

*NEIC **27** 12:19:20.4±2.1,52°.85N±0°.09×169°.77W±0°.08,h64km±6km, mb4.3/81,ML4.1/48(AEIC),Error ellipse: s-maj=13.4km s-min=6.0km az=160.0*

ISC 27 12:19:18.2±0.5,52°.57N±0°.09×169°.63W±0°.04,h40km, n215,σ1°66/213,mb4.3/55,MS3.5/5,1C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.62	49		Pn	12 19 31.2	+0.6
OKSP	Okmok Steeple	1.06	49		Pn	12 19 37.1	+0.4
OKSO	Okmok South	1.19	48		Pn	12 19 39.0	+0.6
OKSO					Sn	12 19 57.1	+3.7
OKTU	Okmok Mt. Tuli	1.26	49		Pn	12 19 40.5	+1.1
OKNC	Okmok New Cone	1.27	45		Pn	12 19 41.4	+1.8
OKFG	Magazine Ridge	1.34	50		Pn	12 19 41.3	+0.9
OKFG					Sn	12 20 01.3	+4.4
MAPS	Pakushin South	2.04	51		Pn	12 19 50.9	+0.9
MAPS					Sn	12 20 19.0	+4.8
MGOD	Makushin Gods	2.06	52		Pn	12 19 51.1	+0.7
MSW	Makushin Switc	2.18	51		Pn	12 19 53.3	+1.4
MNAT	Makushin Natee	2.21	52		Pn	12 19 53.5	+1.2
MTBL	Makushin Table	2.26	50		Pn	12 19 54.7	+1.5
UNV	Unalaska Valle	2.27	54		Pn	12 19 53.8	+0.5
UNV					Sn	12 20 23.3	+3.3
AKRB	Akutan Reef Bi	2.65	52		Pn	12 20 00.7	+2.3
AKMO	Akutan Morgan	2.65	53		Pn	12 20 00.8	+2.4
AKBBA	Akutan Broad B	2.69	54		Pn	12 20 01.6	+2.6
AKLV	Akutan Long Va	2.72	53		Pn	12 20 01.2	+1.8
AKGG	Akutan Green G	2.72	52		Pn	12 20 01.9	+2.5
KOFP	Korovin Flat P	2.75	266		Pn	12 20 01.5	+1.6
AKUT	Akutan	2.79	54	Pn	Pn	12 20 01.2	+0.8
KOKL	Mount Kliuchef	2.81	267		Pn	12 20 02.6	+2.0
ATKA	Atka Island	2.82	264		Pn	12 20 01.2	+0.4
AKSA	Akutan Strait	2.83	55		Pn	12 20 02.9	+2.0
GSTR	Great Sitkin T	3.97	266	Pn	Pn	12 20 17.6	+1.0
GSMY	Great Sitkin M	3.98	265		Pn	12 20 18.2	+1.5
GSTD	Great Sitkin T	4.03	265		Pn	12 20 18.3	+0.9
ISLZ	Isanotski Laza	4.13	56		Pn	12 20 22.3	+3.5
FALS	False Pass	4.34	56	Pn	Pn	12 20 19.6	-2.0
ADK	Adak	4.39	264		Pn	12 20 22.8	+0.5
ADK	Adak	4.39	264		Sn	12 21 13.8	+1.6
SPIA	Saint Paul Isl	4.63	356		Pn	12 20 22.1	-3.5
KIWB	Kanaga Island	4.68	264	Pn	Pn	12 20 27.7	+1.4
KIKV	Kanaga Island	4.69	265		Pn	12 20 27.7	+1.3
KIMD	Kanaga Island	4.75	263		Pn	12 20 28.1	+0.8
TAFP	Tanaga Falls P	5.18	266		Pn	12 20 34.9	+1.8
TASE	Tanaga Southea	5.22	265		Pn	12 20 35.1	+1.3
GAEA	Gareloi East	5.67	266		Pn	12 20 42.2	+2.3
SDPT	Sand Point	6.08	59		Pn	12 20 46.9	+1.5
CNBA	Chernabura Isl	6.38	65	Pn	Pn	12 20 50.0	+0.5
CESW	Semis' Southwe	6.67	269		Pn	12 20 56.1	+2.5
AMKA	Amchitka	6.94	265		Pn	12 20 58.5	+1.2
LSPA	Little Sitkin	7.27	270		Pn	12 21 04.8	+3.0
LSSA	Little Sitkin	7.31	270		Pn	12 21 05.5	+3.1
CHIR	Chirikof Islan	8.83	63	Pn	Pn	12 21 25.3	+2.1
SII	Sitkinak Islan	9.81	60	Pn	Pn	12 21 39.9	+3.3
SMY	Shemya	9.90	277	Pn	Pn	12 21 40.9	+3.2
OHAK	Old Harbor	10.49	57	Pn	Pn	12 21 44.7	-1.2
KDAK	Kodiak Island	11.04	55	Pn	Pn	12 21 51.9	-1.5
	0.4nm,0.3s,baz=178,slow=5.3,SNR=20						
KDAK					Sn	12 23 51.0	-4.4
	0.1nm,0.3s,baz=342,slow=20,SNR=1.8						
KDAK	Kodiak Island	11.04	55		Pn	12 21 52.4	-1.0
RSO	Redoubt South	12.19	43		Pn	12 22 07.8	-1.4
CNPM	China Poot	12.39	49	Pn	Pn	12 22 11.1	-0.8
BRLK	Bradley Lake	12.66	48	Pn	Pn	12 22 16.6	+1.1
SEW	Seward	13.45	48	Pn	Pn	12 22 25.8	-0.5
O22K	Cooper Landing	13.50	46		Pn	12 22 26.6	-0.3
SUA	Susitna One	13.56	42	Pn	Pn	12 22 29.0	+1.1
RC01	Rabbit Creek A	13.78	44	Pn	Pn	12 22 31.3	+0.5
PPLA	Purkeypile	13.87	35		P	12 22 36.2	-3.4
PWL	Port Wells	14.28	46	Pn	Pn	12 22 37.0	-0.6
PMR	Palmer	14.29	43	Pn	Pn	12 22 37.6	0.0
GHO	Glory Hole Cre	14.46	42	Pn	Pn	12 22 40.6	+0.5
SML	Sawmill	14.72	43	Pn	Pn	12 22 42.2	-1.3
KTH	Kantishna Hill	14.73	34		Pn	12 22 42.1	-1.5
GLI	Glacier Island	14.84	47	Pn	Pn	12 22 43.2	-1.9
TRF	Thorofare Moun	14.89	35		Pn	12 22 43.5	-2.3
HIN	Hinchinbrook I	14.92	49	Pn	Pn	12 22 45.3	-0.9
FID	Port Fidalgo	15.06	48	Pn	Pn	12 22 45.7	-2.3
BPAW	Bear Paw Mtn.	15.07	33		Pn	12 22 46.2	-1.8
SCM	Sheep Creek Mo	15.16	44		Pn	12 22 48.6	-0.7
SCM				IAmb	IAmb	12 23 05.7	
	comp=Z,16nm,0.7s						
RND	Reindeer	15.38	37		Pn	12 22 51.0	-1.2
MCK	McKinley	15.54	36	P	Pn	12 22 55.0	+0.8
KLU	Klutina	15.61	46		Pn	12 22 54.2	-1.0
KLU				IAmb	IAmb	12 22 57.2	
	comp=Z,11nm,0.6s						
M24K	Tolsona, Glenn	15.77	44	Pn	Pn	12 22 56.5	-0.6
M24K				IAmb	IAmb	12 23 12.6	
	comp=Z,11nm,0.8s						
RAGM	Ragged Mountai	15.77	50	Pn	Pn	12 22 56.3	-0.9
RAGM				IAmb	IAmb	12 23 10.4	
	comp=Z,49nm,1.4s						
MLY	Manley	15.78	30	Pn	Pn	12 22 55.0	-2.2
MLY				IAmb	IAmb	12 23 11.8	
	comp=Z,11nm,0.8s						
RDOG	Red Dog Mine	15.87	9		Pn	12 22 56.3	-2.1
RDOG				IAmb	IAmb	12 23 00.0	
	comp=Z,14nm,0.7s						
HMT	Hamilton	15.95	51	Pn	Pn	12 22 57.6	-1.8
HMT				IAmb	IAmb	12 23 18.3	
	comp=Z,30nm,1.1s						
BMRM	Bremner River	16.00	48		Pn	12 22 59.8	-0.4
BMRM				IAmb	IAmb	12 23 08.1	
	comp=Z,20nm,1.0s						
N25K	Chitina, Valde	16.24	46	Pn	Pn	12 23 02.1	-1.1
WRH	Wood River Hil	16.28	35		P	12 23 05.1	-1.1
I23K	Minto, Yukon-K	16.29	31		Pn	12 23 01.6	-2.0
I23K				IAmb	IAmb	12 23 16.8	
	comp=Z,20nm,1.5s						
PAX	Paxson	16.45	41		Pn	12 23 06.5	+0.6
CCB	Clear Creek Bu	16.49	34		Pn	12 23 03.1	-3.1
GLB	Gilahina Butte	16.53	47	Pn	Pn	12 23 05.1	-1.7
MDM	Murphy Dome	16.53	33		Pn	12 23 04.7	-2.2
CRQM	Cirque	16.61	50	Pn	Pn	12 23 07.0	-0.9
CRQM				IAmb	IAmb	12 23 07.5	
	comp=Z,22nm,1.2s						
VRDI	Verde Repeater	16.61	48	Pn	Pn	12 23 06.3	-1.7
VRDI				IAmb	IAmb	12 23 17.4	
	comp=Z,21nm,1.4s						
HDA	Harding Lake	16.65	36		Pn	12 23 05.2	-3.0
WAX	Waxell Ridge	16.65	51	Pn	Pn	12 23 08.0	-0.4
WAX				IAmb	IAmb	12 23 31.6	
	comp=Z,27nm,1.0s						
ILAR	Eielson Array	16.88	35	Pn	Pn	12 23 11.2	+0.1
	comp=Z,0.2nm,0.3s,baz=227,slow=11,SNR=7.8						
ILAR				Sn	Sn	12 26 19.0	+1.6
	baz=202,slow=29,SNR=1.6						
ISLE	Juniper Island	16.94	51		P	12 23 12.7	-1.0
ISLE				IAmb	IAmb	12 23 27.9	
	comp=Z,13nm,0.8s						
RIDG	Independent Ri	17.07	39		Pn	12 23 13.0	-0.6
YAH	Yahtse	17.16	52		Pn	12 23 13.7	-1.2
YAH				IAmb	IAmb	12 23 29.3	
	comp=Z,20nm,0.8s						
BARN	Barnard Glacie	17.39	50		Pn	12 23 16.5	-1.2
BARN				IAmb	IAmb	12 23 30.4	
	comp=Z,14nm,1.0s						
CTGM	Chitina Glacie	17.51	50		Pn	12 23 16.8	-2.4
CTGM				IAmb	IAmb	12 23 43.8	
	comp=Z,35nm,1.4s						
SCRK	Sand Creek	17.52	39		Pn	12 23 17.8	-1.5
PRP	Porcupine Dome	17.78	34	P	Pn	12 23 19.9	-2.5
PCA	Pinnacle	17.82	53		Pn	12 23 22.4	-0.5
PCA				IAmb	IAmb	12 23 38.6	
	comp=Z,24nm,0.9s						
L27K	Beaver Creek,	17.99	43	P	Pn	12 23 23.2	-1.8
BCAR	Beaver Creek A	18.01	43	P	Pn	12 23 24.1	-1.2
FYU	Fort Yukon	18.50	31	P	P	12 23 29.0	-1.6
TOLK	Toolik Lake Re	18.72	23	P	P	12 23 30.6	-2.6
EGAK	Eagle	18.98	39	P	P	12 23 33.5	-2.5
PET	Petropavlovsk	19.11	284	P	P	12 23 35.5	-1.9
BMAR	Burnt Mountain	19.24	30		P	12 23 36.3	-2.5
HYT	Haines Junctio	19.30	52	P	P	12 23 37.8	-1.8
DAWY	Dawson	19.39	42	P	P	12 23 39.9	-0.5
PEA0B	Petropavlovsk-	19.66	285	P	P	12 23 41.4	-2.1
PETK	Petropavlovsk-	19.66	285	P	P	12 23 44.4	+1.0
	comp=Z,5.7nm,0.3s,baz=91,slow=12,SNR=103						
PETK	Petropavlovsk-	19.66	285	P	P	12 23 43.3	-0.1
WHY	Whitehorse	20.55	53		P	12 23 51.7	-1.5
WHY				IAmb	IAmb	12 23 59.8	
	comp=Z,18nm,0.8s						
EPYK	Eagle Plains	21.34	37	P	P	12 23 59.1	-2.4
EPYK				IAmb	IAmb	12 24 07.8	
	comp=Z,13nm,0.9s						
MA2	Magadan	22.90	304	P	P	12 24 21.0	+2.9
	comp=Z,8.8nm,0.6s,baz=71,slow=13,SNR=6.9						
MA2	Magadan	22.90	304	P	P	12 24 15.4	-2.8
MA2				IAmb	IAmb	12 24 22.1	
	comp=Z,9.4nm,0.7s						
DLBC	Dease Lake	22.92	59	P	P	12 24 21.0	+2.5
	comp=Z,3.0nm,0.9s,baz=276,slow=11,SNR=4.6						
DLBC	Dease Lake	22.92	59	P	P	12 24 19.5	+1.0
DLBC				IAmb	IAmb	12 24 35.1	
	comp=Z,9.0nm,1.1s						
INK	Inuvik	23.27	34	P	P	12 24 21.7	-0.1
	comp=Z,3.9nm,0.5s,baz=239,slow=6.7,SNR=16						
INK	Inuvik	23.27	34	P	P	12 24 20.1	-1.6
C36M	Paulatuk	26.85	34	P	P	12 24 54.2	-0.2
YKA	Yellowknife Ar	30.23	49	P	P	12 25 25.7	+1.1
	comp=Z,2.9nm,0.9s,baz=287,slow=10,SNR=16						
YKA	Yellowknife Ar	30.23	49	P	P	12 25 22.7	-1.9
NEW	Newport	33.12	76	P	P	12 25 50.4	+0.2
	comp=Z,1.2nm,0.6s,baz=275,slow=14,SNR=2.8						
ERM	Erimo	33.16	271	P	P	12 25 51.0	+0.5
MSO	Missoula	35.70	76	P	P	12 26 12.5	-0.1
MSO				IAmb	IAmb	12 26 26.1	
	comp=Z,3.7nm,1.1s						
KLR	Kul'dur	36.24	289	P	P	12 26 16.9	-0.3
	comp=Z,3.7nm,0.5s,baz=78,slow=7.1,SNR=27						
KLR				LR	LR	12 42 13.5	
	comp=Z,87nm,19.1s,baz=176,slow=38						
RUBR	Rubicon Trail	36.31	92	P	P	12 26 18.7	+0.7
MCMT	McKenzie Canyo	37.39	79	P	P	12 26 26.9	-0.4
H11N2	WAKE ISLAND Hy	37.51	218	T	T	13 06 14.5	
	baz=24,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	37.52	218	T	T	13 06 19.6	
	baz=24,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	37.53	218	T	T	13 06 16.3	
	baz=24,slow=76,SNR=11						
EGMT	Eagleton	37.56	72	P	P	12 26 29.0	+0.6
BOZ	Bozeman (W)	37.71	77	P	P	12 26 29.6	-0.1
BOZ				IAmb	IAmb	12 26 32.7	
	comp=Z,4.2nm,1.4s						
NVAR	Mina Array Bea	37.82	91	P	P	12 26 29.0	-2.0
	comp=Z,0.2nm,0.5s,baz=324,slow=5.9,SNR=1.8						
JSD	Sado	38.55	269	P	P	12 26 37.0	+0.2
YHH	Holmes Hill	38.61	77	P	P	12 26 37.5	0.0
YHH				IAmb	IAmb	12 27 01.3	
	comp=Z,2.5nm,0.7s						
USRK	Ussuriysk Ar.	38.70	282	P	P	12 26 39.4	+1.4
	comp=Z,2.5nm,0.7s,baz=122,slow=5.4,SNR=3.5						
H11S1	WAKE ISLAND Hy	38.70	218	T	T	13 07 45.5	
	baz=23,slow=76,SNR=130						
H11S2	WAKE ISLAND Hy	38.72	218	T	T	13 07 50.6	
	baz=23,slow=76,SNR=144						
H11S3	WAKE ISLAND Hy	38.72	218	T	T	13 07 50.9	
	baz=23,slow=76,SNR=140						
TPAW	Teton Pass	39.27	79	P	P	12 26 41.6	-1.5
TPAW				IAmb	IAmb	12 26 52.7	
	comp=Z,2.5nm,0.9s						
MJAR	Matsushiro Arr	39.55	267	P	P	12 26 45.5	+0.3
	comp=Z,1.2nm,0.6s,baz=44,slow=5.9,SNR=4.1						
MJAR	Matsushiro Arr	39.55	267	P	P	12 26 44.5	-0.6
BW06	Boulder Array	40.52	79	P	P	12 26 52.9	-0.5
BW06				IAmb	IAmb	12 27 04.9	
	comp=Z,4.5nm,1.3s						
PD31	Pinedale Array	40.52	79	P	P	12 26 53.1	-0.3
PDAR	Pinedale Array	40.52	79	P	P	12 26 52.9	-0.5
	comp=Z,1.5nm,0.6s,baz=302,slow=3.9,SNR=18						
PDAR	Pinedale Array	40.52	79	P	P	12 26 52.8	-0.6
FCC	Fort Churchill	40.94	50	P	P	12 26 57.0	+0.7
O20A	White River Ci	42.89	81	P	P	12 27 12.9	+0.1
O20A				IAmb	IAmb	12 27 15.7	
	comp=Z,7.7nm,1.1s						
PV13	Radium Mtn., P	43.77	84	P	P	12 27 20.7	+0.7
PV13				IAmb	IAmb	12 27 33.6	
	comp=Z,4.5nm,0.8s						
KSRS	Korea Array	45.23	276	P	P	12 27 32.5	+1.3
	comp=Z,3.4nm,0.8s,baz=57,slow=7.5,SNR=22						
KSAR	Wonju Array Be	45.26	276	P	P	12 27 31.3	-0.2
AGMN	Agassiz Nation	45.28	64	P	P	12 27 31.4	-0.3
AGMN				IAmb	IAmb	12 27 43.2	
	comp=Z,3.8nm,0.8s						
NRIK	Noril'sk	46.17	331	P	P	12 27 40.0	+1.6
	comp=Z,2.6nm,0.4s,baz=74,slow=7.7,SNR=4.0						
NRIK	Noril'sk	46.17	331	P	P	12 27 38.4	0.0
NRIK				IAmb	IAmb	12 27 40.7	
	comp=Z,3.2nm,0.6s						
B35A	Bob, Littlefor	46.42	63	P	P	12 27 39.6	-1.0
T25A	Trinidad	47.10	82	P	P	12 27 47.2	+0.9
T25A				IAmb	IAmb	12 28 00.1	
	comp=Z,4.1nm,1.0s						
ECSD	EROS Data Cent	47.55	70	P	P	12 27 48.4	-1.1
ECSD				IAmb	IAmb	12 27 48.8	
	comp=Z,2.5nm,0.8s						
EYMN	Ely	47.87	63	P	P	12 27 51.6	-0.3
EYMN				IAmb	IAmb	12 28 03.7	
	comp=Z,4.2nm,1.1s						
E38A	The Farm, Brul	48.65	64	P	P	12 27 57.0	-0.8
SUMG	Summit	50.64	17	P	P	12 28 11.6	-1.5
ULN	Ulaanbaatar	50.70	300	P	P	12 28 12.5	-1.2
ULN				IAmb	IAmb	12 28 16.2	
	comp=Z,3.6nm,0.7s						
SONM	Songino Array	51.06	301	P	P	12 28 18.0	+1.7
	comp=Z,1.2nm,0.6s,baz=56,slow=7.3,SNR=13						
SONM				PcP	PcP	12 29 32.9	+1.2
	comp=Z,0.6nm,0.5s,baz=30,slow=2.9,SNR=2.6						
SONM	Songino Array	51.06	301	P	P	12 28 14.6	-1.8
SONM				IAmb	IAmb	12 28 19.3	
	comp=Z,4.6nm,1.2s						
E43A	Lone Tree Farm	51.26	62	P	P	12 28 17.1	-0.6
HHC	Hu-ho-hao-te	52.70	291	*e*P	P	12 28 29.0	+0.4
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,67nm,7.6s						
TX31	Lajitas Ar. Si	52.90	89	P	P	12 28 28.8	-1.4
TX32	Lajitas Array	52.90	89	P	P	12 28 29.0	-1.2
TX32				IAmb	IAmb	12 28 51.2	
	comp=Z,2.5nm,0.8s						
TXAR	Lajitas Array	52.90	89	P	P	12 28 28.9	-1.3
	comp=Z,0.6nm,0.6s,baz=298,slow=5.1,SNR=12						
TXAR	Lajitas Array	52.90	89	P	P	12 28 29.5	-0.7
R40A	Maddies Statio	53.56	73	P	P	12 28 34.1	-0.8
SCHQ	Schefferville	55.40	43	P	P	12 28 48.3	+0.3
	comp=Z,6.2nm,0.8s,baz=355,slow=10,SNR=5.9						
ZALV	Zalesovo Beam	57.17	317	P	P	12 29 02.0	+1.5
	comp=Z,1.4nm,0.4s,baz=65,slow=5.2,SNR=5.7						
ZALV	Zalesovo Beam	57.17	317	P	P	12 28 59.0	-1.6
ARCES	ARCESS Array B	57.71	354	P	P	12 29 05.5	+1.4
	comp=Z,2.0nm,0.5s,baz=24,slow=9.3,SNR=14						
ARCES	ARCESS Array B	57.71	354	P	P	12 29 01.6	-2.6
LMN	Caledonia Moun	62.78	49	P	P	12 29 38.0	-1.2
WMQ	Urumqi	63.28	308	*e*P	P	12 29 43.5	+0.9
MK31	Makanchi Array	63.55	313	P	P	12 29 44.2	-0.1
MK31				IAmb	IAmb	12 29 45.9	
	comp=Z,1.5nm,0.8s						
MKAR	Makanchi Array	63.55	313	P	P	12 29 44.9	+0.6
	comp=Z,0.8nm,0.4s,baz=48,slow=5.5,SNR=18						
MKAR				LR	LR	13 00 55.3	
	comp=Z,46nm,18.2s,baz=7.5,slow=39						
MKAR	Makanchi Array	63.55	313	P	P	12 29 44.0	-0.3
MAKZ	Makanchi	63.68	313	P	P	12 29 44.8	-0.3
MAKZ				IAmb	IAmb	12 29 46.7	
	comp=Z,4.4nm,1.2s						
FINES	FINESS Array B	65.65	352	P	P	12 29 59.0	+1.3
	comp=Z,5.9nm,0.8s,baz=17,slow=8.2,SNR=9.4						
FINES				LR	LR	13 03 36.8	
	comp=Z,20nm,18.1s,baz=203,slow=40						
FINES	FINESS Array B	65.65	352	P	P	12 29 58.0	+0.3
NC204	NORSAR Array S	66.50	360	P	P	12 30 03.1	-0.1
NB2	NORSAR Subarra	66.74	360	P	P	12 30 06.0	+1.2
	comp=Z,1.5nm,0.6s,baz=0,1,slow=6.5						
NOA	NORSAR Array B	66.74	360	P	P	12 30 06.3	+1.6
	comp=Z,2.7nm,0.7s,baz=0,6,slow=6.3,SNR=9.8						
KMI	Kunming	69.07	284	↑↑P	P	12 30 21.3	+1.2
KMI				pP	pP	12 30 26.3	-5.7
KMI				pmax	pmax		
	comp=Z,11nm,0.9s						
ABKAR	Akbulak array	70.18	328	P	P	12 30 27.0	+0.7
ABKAR				IAmb	IAmb	12 30 28.8	
	comp=Z,5.4nm,1.1s						
KK31	Karatay Array	71.54	318	P	P	12 30 33.7	-1.1
KKAR	Karatay Array	71.54	318	P	P	12 30 35.2	+0.4
AKASG	Malin Array Be	75.88	348	P	P	12 31 00.8	+0.8
	comp=Z,3.8nm,0.5s,baz=16,slow=5.6,SNR=11						
AKASG				LR	LR	13 09 20.5	
	comp=Z,21nm,19.2s,baz=30,slow=40						
CMAR	Chiang Mai Arr	76.42	283	P	P	12 31 04.7	+1.1
	comp=Z,6.0nm,0.9s,baz=25,slow=6.5,SNR=19						
CM15	Chiang Mai Arr	76.44	283	P	P	12 31 06.2	+2.5
	comp=Z,6.1nm,0.6s						
CM02	Chiang Mai Arr	76.44	283	P	P	12 31 05.8	+2.1
	comp=Z,11nm,0.9s						
CM04	Chiang Mai Arr	76.44	282	P	P	12 31 06.0	+2.3
	comp=Z,91nmcomp=Z,9.8nm,0.9s						
CM05	Chiang Mai Arr	76.46	282	P	P	12 31 05.9	+2.1
	comp=Z,7.8nm,1.0s						
CM13	Chiang Mai Arr	76.47	283	P	P	12 31 05.7	+1.8
	comp=Z,8.9nm,0.9s						
CLL	Collm	76.48	358	*e*(P)	P	12 31 05.0	+1.6
LANS	Liptovska Anna	78.36	354	*e*P	P	12 31 16.7	+2.6
KHC	Kasperske Hory	78.64	358	*e*P	P	12 31 17.5	+1.9
GERES	GERESS Array B	78.92	358	P	P	12 31 18.4	+1.1
	comp=Z,1.5nm,0.7s,baz=7.4,slow=4.2,SNR=7.0						
GERES	GERESS Array B	78.92	358	P	P	12 31 14.6	-2.6
BUR08	Bucovina Ar. S	79.37	350	P	P	12 31 18.6	-1.1
BUR08				IAmb	IAmb	12 31 21.9	
	comp=Z,3.5nm,0.8s						
BURAR	Bucovina Array	79.39	350	P	P	12 31 18.7	-1.1
BURAR				IAmb	IAmb	12 31 22.3	
	comp=Z,5.6nm,1.4s						
KBZ	Khabaz	80.07	337	P	P	12 31 25.3	+2.0
	comp=Z,5.4nm,0.8s,baz=280,slow=1.3,SNR=12						
GEYT	Alibeck	80.78	324	P	P	12 31 27.7	+0.3
	comp=Z,5.0nm,0.9s,baz=12,slow=9.5,SNR=5.0						
GEYT				LR	LR	13 12 54.8	
	comp=Z,29nm,18.2s,baz=180,slow=40						
CTAO	Charters Tower	81.87	221	P	P	12 31 31.4	-1.7
BRTR	Keskin Array B	85.89	342	P	P	12 31 55.6	+1.8
	comp=Z,0.8nm,0.6s,baz=327,slow=13,SNR=3.2						
BRTR	Keskin Array B	85.89	342	P	P	12 31 51.0	-2.7
WRA	Warramunga Arr	87.00	231	P	P	12 31 56.6	-2.6
	comp=Z,0.9nm,0.9s,baz=34,slow=5.6,SNR=4.2						
ESDC	Sonseca Array	87.29	11	P	P	12 32 01.6	+1.1
	comp=Z,2.1nm,0.9s,baz=342,slow=4.3,SNR=6.9						
ASAR	Alice Springs	90.40	230	P	P	12 32 13.8	-1.4
	comp=Z,1.1nm,0.9s,baz=32,slow=4.8,SNR=9.1						
H03N2	Juan Fernandez	116.14	111	T	T	14 45 01.0	
	baz=312						
H03N1	Juan Fernandez	116.16	111	T	T	14 44 57.3	
	baz=312						
H03N3	Juan Fernandez	116.16	111	T	T	14 45 08.3	
	baz=312						
MAW	Mawson	150.93	219	PKPbc	PKiKP	12 39 05.5	0.0
	comp=Z,2.3nm,1.2s,baz=45,slow=10.0,SNR=2.2						
BOSA	Boshof	153.64	329	PKPbc	PKiKP	12 39 13.0	+0.4
	comp=Z,3.4nm,0.8s,baz=16,slow=4.8,SNR=4.3						

*TUL **27** 12:26:59.4±1.0,36°.74N±0°.02×98°.35W±0°.02,h8km±6km, ML2.5,mb_Lg2.2/7(NEIC),Error ellipse: s-maj=2.9km s-min=2.2km az=140.0*

NEIC 27 12:26:59.2±0.7,36°.74N±0°.01×98°.37W±0°.02,h11km±6km, Error ellipse: s-maj=2.9km s-min=1.5km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	Salt Plains WL	0.15	62		Pg	12 27 02.5	-0.1
OK032				Sg	Sg	12 27 04.9	0.0
CROK	Carrier	0.39	126		Pg	12 27 06.9	0.0
CROK				Sg	Sg	12 27 12.4	+0.3
GC02	Grant County #	0.43	74		Pg	12 27 07.6	-0.1
GC02				Sg	Sg	12 27 13.5	+0.2
KAN10	Anthony SW Sta	0.45	30		Pg	12 27 08.0	0.0
KAN10				Sg	Sg	12 27 14.2	+0.2
KAN05	Bluff City Nor	0.55	47		Pg	12 27 09.8	-0.1
KAN05				Sg	Sg	12 27 17.1	0.0
KAN08	Anthony NE Sta	0.59	33	Pg	Pg	12 27 09.8	-

KAN05				Sg	Sg	12 32 22.8	0.0
KAN09	**Caldwell North**	**1.13**	**358**	Pg	Pg	12 32 08.0	-0.2
KAN09				Sg	Sg	12 32 23.1	+0.2
KAN10	**Anthony SW Sta**	**1.19**	**339**	Pg	Pg	12 32 09.0	-0.4
KAN10				Sg	Sg	12 32 24.9	0.0
U32A	**Winter Ranch,**	**1.22**	**288**	Pg	Pg	12 32 09.6	-0.3
U32A				Sg	Sg	12 32 25.5	-0.1
KS20	**Mayfield South**	**1.22**	**1**	Pg	Pg	12 32 09.8	-0.2
KS20				Sg	Sg	12 32 25.8	0.0
T35A	**Sooner Cattle**	**1.25**	**43**	Pg	Pg	12 32 10.0	-0.5
T35A				Sg	Sg	12 32 25.9	-0.7
KAN08	**Anthony NE Sta**	**1.26**	**345**	Pn	Pg	12 32 10.3	-0.4
KAN12	**Harper NE Stat**	**1.34**	**345**	Pn	Pn	12 32 11.5	-0.3
X34A	**Smith Ranch, M**	**1.42**	**189**		Pn	12 32 13.0	0.0
WMOK	**Wichita Mounta**	**1.60**	**218**		Pn	12 32 15.6	+0.1
LOOK	**Love County**	**2.03**	**171**		Pn	12 32 21.3	-0.1
X37A	**Clayton**	**2.29**	**127**		Pn	12 32 25.4	+0.5
R32A	**Long Quarter,**	**2.58**	**340**		Pn	12 32 28.2	-0.7
U38A	**Gravette**	**2.61**	**79**		Pn	12 32 29.1	-0.3
HHAR	**Hobbs**	**2.95**	**84**		Pn	12 32 33.6	-0.5
KSU1	**Kansas State U**	**3.18**	**14**	IAmb_Lg		12 33 30.3	
	comp=Z,17nm,0.9s						
W39A	**Magazine**	**3.19**	**104**		Pn	12 32 37.9	+0.6
W39A				IAmb_Lg		12 33 33.0	
	comp=Z,16nm,0.7s						
CBKS	**Cedar Bluff**	**3.29**	**329**		Pn	12 32 39.8	+1.0
CBKS				IAmb_Lg		12 33 35.0	
	comp=Z,12nm,0.7s						
Z38A	**Mt. Pleasant**	**3.47**	**141**	Pn	Pn	12 32 40.4	-0.8
Z38A				IAmb_Lg		12 33 38.2	
	comp=Z,10nm,0.7s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	12 32 41.1	-1.1
AMTX				IAmb_Lg		12 33 42.5	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**3.58**	**113**	Pn	Pn	12 32 42.6	-0.1
MIAR				IAmb_Lg		12 33 49.4	
	comp=Z,12nm,0.7s						
ABTX	**Abilene, Hawle**	**3.78**	**208**		Pn	12 32 45.0	-0.5
ABTX				IAmb_Lg		12 33 44.5	
	comp=Z,13nm,0.9s						
U40A	**Yellville**	**3.83**	**83**		Pn	12 32 46.5	+0.4
WHTX	**Lake Whitney,**	**4.00**	**179**	Pn	Pn	12 32 47.6	-0.9
X40A	**Basin Creek Fa**	**4.16**	**110**	Pn	Pn	12 32 49.5	-1.2
X40A				IAmb_Lg		12 33 58.7	
	comp=Z,21nm,0.8s						
MGMO	**Mountain Grove**	**4.42**	**73**	Pn	Pn	12 32 54.3	0.0
MGMO				IAmb_Lg		12 34 12.1	
	comp=Z,15nm,1.0s						
MSTX	**Muleshoe**	**4.73**	**246**	Pn	Pn	12 32 58.0	-0.6
R40A	**Maddies Statio**	**4.81**	**60**	Pn	Pn	12 32 59.5	-0.1
P38A	**Dawn**	**4.83**	**40**		Pn	12 33 00.7	+0.9
KSCO	**Kaye Shedlock'**	**5.02**	**308**		Pn	12 33 01.9	-0.7
KSCO				IAmb_Lg		12 34 32.1	
	comp=Z,9.3nm,0.9s						
435B	**Jarrell**	**5.21**	**180**	IAmb_Lg		12 34 40.3	
	comp=Z,12nm,0.7s						
T42A	**Van Buren**	**5.32**	**77**		Pn	12 33 04.8	-1.7
T42A				IAmb_Lg		12 34 41.2	
	comp=Z,6.8nm,0.7s						
CCM	**Cathedral Cave**	**5.46**	**66**	Pn	Pn	12 33 08.6	+0.1
P40A	**Paris**	**5.61**	**50**	IAmb_Lg		12 34 46.8	
	comp=Z,9.4nm,0.8s						
T25A	**Trinidad**	**5.62**	**284**	Pn	Pn	12 33 10.4	-0.6
T25A				IAmb_Lg		12 34 48.3	
	comp=Z,9.7nm,0.7s						
PBMO	**Poplar Bluff**	**5.81**	**80**	Pn	Pn	12 33 13.4	+0.1
JCT	**Junction City**	**5.82**	**199**	Pn	Pn	12 33 12.6	-1.0
143A	**Socs Landing,**	**6.07**	**121**	IAmb_Lg		12 34 56.7	
	comp=Z,12nm,0.8s						
SDCO	**Great Sand Dun**	**6.59**	**288**	Pn	Pn	12 33 23.2	-1.1
SDCO				IAmb_Lg		12 35 27.6	
	comp=Z,6.2nm,1.1s						
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		12 35 34.5	
	comp=Z,11nm,0.7s						
S44A	**Carbondale**	**6.88**	**73**	Pn	Pn	12 33 27.1	-0.8
ANMO	**Albuquerque**	**7.33**	**264**	Pn	Pn	12 33 34.0	-0.4
P43A	**Skaggs, Pawnee**	**7.33**	**58**	IAmb_Lg		12 35 44.9	
	comp=Z,7.9nm,0.8s						
ISCO	**Idaho Springs**	**7.40**	**303**	Pn	Pn	12 33 33.9	-1.5
BNM	**Barren Site**	**7.65**	**259**	Pn	Pn	12 33 38.0	-0.9
ECSD	**EROS Data Cent**	**7.75**	**5**	Pn	Pn	12 33 39.9	-0.2
ECSD				IAmb_Lg		12 35 56.1	
	comp=Z,4.9nm,1.0s						
MNTX	**Cornudas Mount**	**7.79**	**239**	Pn	Pn	12 33 40.1	-0.4
L40A	**Anamosa**	**7.81**	**37**	IAmb_Lg		12 36 00.6	
	comp=Z,7.0nm,0.7s						
PLAL	**Pickwick Lake**	**7.81**	**95**	Pn	Pn	12 33 40.0	-0.9
WVT	**Waverly**	**7.89**	**86**	IAmb_Lg		12 36 02.8	
	comp=Z,4.6nm,1.1s						
346A	**Big Creek Wild**	**8.17**	**122**	Pn	Pn	12 33 45.9	+0.1
PV11	**David Mesa, Pa**	**9.31**	**288**	IAmb_Lg		12 36 54.9	
	comp=Z,3.5nm,0.8s						

*TUL **27** 12:37:17.7±0.8, 35°.99N±0°.01×97°.57W±0°.02, h5km±7km, ML2.5, mb_Lg2.3/22(NEIC), Error ellipse: s-maj=1.9km s-min=1.6km az=66.0*

NEIC 27 12:37:17.8±0.8, 36°.00N±0°.01×97°.57W±0°.02, h9km±3km, Error ellipse: s-maj=2.7km s-min=1.6km az=76.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**155**		Pg	12 37 22.3	0.0
OK029				Sg	Sg	12 37 25.6	+0.2
BCOK	**Bluff Creek, N**	**0.34**	**185**		Pg	12 37 24.5	0.0
BCOK				Sg	Sg	12 37 29.3	+0.3
OK025	**Westminster Rd**	**0.46**	**155**		Pg	12 37 26.7	0.0
OK025				Sg	Sg	12 37 31.9	-0.8
OK031	**S. Brethren Rd**	**0.60**	**94**		Pg	12 37 29.4	0.0
OK031				Sg	Sg	12 37 37.6	+0.4
OKCSW	**OKLAHOMA CITY**	**0.60**	**169**	Pg	Pg	12 37 29.2	-0.2
OKCSW				Sg	Sg	12 37 37.6	+0.3
CROK	**Carrier**	**0.61**	**327**		Pg	12 37 29.6	0.0
CROK				Sg	Sg	12 37 37.3	-0.1
QUOK	**Quay**	**0.72**	**76**	Pg	Pg	12 37 31.6	-0.1
QUOK				Sg	Sg	12 37 41.1	0.0
FNO	**Franklin**	**0.75**	**169**		Pg	12 37 31.9	-0.4
FNO				Sg	Sg	12 37 41.5	-0.5
FNO				IAmb_Lg		12 37 42.4	
	comp=Z,58nm,0.8s						
BLOK	**Blackwell**	**0.81**	**21**		Pg	12 37 33.5	0.0
BLOK				Sg	Sg	12 37 43.5	-0.6
GC02	**Grant County #**	**0.88**	**345**		Pg	12 37 34.6	-0.2
GC02				Sg	Sb	12 37 46.9	-0.3
OK032	**Salt Plains WL**	**0.95**	**328**		Pg	12 37 35.9	-0.2
OK032				Sg	Sg	12 37 48.3	-0.3
KAN13	**South Haven SW**	**1.02**	**4**		Pg	12 37 37.3	0.0
KAN13				Sg	Sg	12 37 50.5	0.0
KAN17	**Caldwell West**	**1.06**	**352**		Pg	12 37 37.7	-0.3
KAN17				Sg	Sg	12 37 52.0	+0.1
KAN05	**Bluff City Nor**	**1.14**	**348**		Pb	12 37 39.1	-0.5
KAN05				Sg	Sg	12 37 53.7	-0.7
KAN09	**Caldwell North**	**1.14**	**358**		Pb	12 37 39.3	-0.3
KAN09				Sg	Sg	12 37 53.9	-0.5
KAN10	**Anthony SW Sta**	**1.20**	**340**	Pg	Pb	12 37 40.2	-0.5
KAN10				Sg	Sg	12 37 56.4	0.0
U32A	**Winter Ranch,**	**1.22**	**289**		Pb	12 37 40.5	-0.4
U32A				Sg	Sb	12 37 56.9	+0.1
KS20	**Mayfield South**	**1.23**	**1**		Pn	12 37 41.0	-0.2
KS20				Sg	Sg	12 37 57.4	0.0
T35A	**Sooner Cattle**	**1.25**	**43**		Pn	12 37 41.1	-0.3
T35A				Sg	Sb	12 37 57.4	-0.4
KAN08	**Anthony NE Sta**	**1.27**	**345**		Pn	12 37 41.4	-0.3
KAN12	**Harper NE Stat**	**1.34**	**345**		Pn	12 37 42.9	+0.2
X34A	**Smith Ranch, M**	**1.41**	**189**		Pb	12 37 44.2	0.0
WMOK	**Wichita Mounta**	**1.60**	**219**		Pn	12 37 46.4	+0.2
LOOK	**Love County**	**2.03**	**171**	Pn	Pn	12 37 52.2	+0.2
LOOK				IAmb_Lg		12 38 26.9	
	comp=Z,10nm,0.7s						
X37A	**Clayton**	**2.28**	**127**	Pn	Pn	12 37 55.6	0.0
R32A	**Long Quarter,**	**2.59**	**340**	Pn	Pn	12 38 00.6	+0.8
U38A	**Gravette**	**2.61**	**79**	Pn	Pn	12 38 00.9	+0.7
W39A	**Magazine**	**3.19**	**103**		Pn	12 38 07.6	-0.5
W39A				IAmb_Lg		12 39 04.4	
	comp=Z,8.6nm,0.8s						
CBKS	**Cedar Bluff**	**3.30**	**329**	IAmb_Lg		12 39 11.1	
	comp=Z,13nm,0.9s						
AMTX	**Amarillo**	**3.53**	**253**	Pn	Pn	12 38 13.0	+0.1
AMTX				IAmb_Lg		12 39 15.3	
	comp=Z,6.7nm,0.9s						
MIAR	**Mount Ida**	**3.58**	**113**	Pn	Pn	12 38 14.3	+0.9
MIAR				IAmb_Lg		12 39 14.0	
	comp=Z,8.0nm,0.8s						
ABTX	**Abilene, Hawle**	**3.78**	**208**	Pn	Pn	12 38 16.3	+0.1
ABTX				IAmb_Lg		12 39 15.7	
	comp=Z,5.4nm,0.7s						
X40A	**Basin Creek Fa**	**4.16**	**110**	Pn	Pn	12 38 20.8	-0.6
X40A				IAmb_Lg		12 39 33.6	
	comp=Z,9.9nm,0.8s						
MGMO	**Mountain Grove**	**4.42**	**73**	Pn	Pn	12 38 25.5	+0.4
MGMO				IAmb_Lg		12 39 50.2	
	comp=Z,8.4nm,1.0s						
R40A	**Maddies Statio**	**4.82**	**60**	Pn	Pn	12 38 30.3	-0.1
T42A	**Van Buren**	**5.32**	**77**	Pn	Pn	12 38 37.2	-0.2
T25A	**Trinidad**	**5.62**	**284**	Pn	Pn	12 38 42.0	+0.3
JCT	**Junction City**	**5.81**	**199**	IAmb_Lg		12 40 33.1	
	comp=Z,5.9nm,0.7s						
PLAL	**Pickwick Lake**	**7.81**	**95**	IAmb_Lg		12 41 42.6	
	comp=Z,3.6nm,1.1s						
WVT	**Waverly**	**7.89**	**86**	Pn	Pn	12 39 12.7	+0.1

*IDC **27** 12:38:45.2±0.9, 20°.89N×146°.30E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.6/48, mbtmp3.7/9, Error ellipse: s-maj=30.6km s-min=22.8km az=83.0*

ISC 27 12:38:50.4±0.9, 20°.9N±0°.2×146°.3E±0°.2, h37km, n17, σ0§87/11, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.14**	**337**	P	**P**	**12 42 48.5**	**+0.1**
	0.0nm,0.3s,baz=98,slow=16,SNR=1.4						
H11S3	**WAKE ISLAND Hy**	**19.33**	**93**	T	T	13 03 06.1	
	baz=282						
H11N1	**WAKE ISLAND Hy**	**19.34**	**90**	T	T	13 03 11.8	
	baz=276,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**19.34**	**93**	T	T	13 03 11.9	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**19.34**	**90**	T	T	13 03 14.2	
	baz=276,slow=75,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**19.35**	**94**	T	T	13 03 08.2	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**19.36**	**90**	T	T	13 03 09.7	
	baz=276,slow=75,SNR=4.5						
KSRS	**Korea Array**	**22.97**	**320**	P	**P**	**12 43 52.5**	**+0.8**
	0.6nm,0.5s,baz=144,slow=8.8,SNR=5.8						
WRA	**Warramunga Arr**	**42.22**	**197**	P	**P**	**12 46 40.5**	**+0.5**
	0.6nm,0.8s,baz=6.4,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**45.89**	**196**	P	**P**	**12 47 08.7**	**-0.7**
	0.2nm,0.8s,baz=23,slow=6.3,SNR=1.9						
MKAR	**Makanchi Array**	**57.40**	**313**	P	**P**	**12 48 35.4**	**+0.2**
	0.2nm,0.6s,baz=82,slow=11,SNR=2.3						
KURBB	**Kurchatov Arra**	**60.11**	**317**	P	**P**	**12 48 53.5**	**-0.4**
	0.5nm,0.6s,baz=92,slow=6.9,SNR=4.4						
ILAR	**Eielson Array**	**61.45**	**27**	P	**P**	**12 49 02.2**	**-0.7**
	0.4nm,0.7s,baz=215,slow=6.8,SNR=5.4						
BVAR	**Borovoye Array**	**65.19**	**320**	P	**P**	**12 49 28.9**	**+1.2**
	0.6nm,0.6s,baz=245,slow=3.1,SNR=4.0						
NVAR	**Mina Array Bea**	**81.36**	**52**	P	**P**	**12 51 04.7**	**+1.0**
	1.3nm,0.7s,baz=270,slow=5.9,SNR=9.9						
FINES	**FINESS Array B**	**85.16**	**335**	P	**P**	**12 51 21.3**	**-1.2**
	4.6nm,1.0s,baz=90,slow=12,SNR=1.4						
LPAZ	**La Paz**	**147.08**	**88**	PKPbc	**PKPab**	**12 58 32.7**	**+0.1**
	0.8nm,0.7s,baz=323,slow=5.1,SNR=2.5						

*IDC **27** 12:38:54.6±1.9, 27°.77N×85°.28E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/52, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=54.3km s-min=28.0km az=62.0*

ISC 27 12:38:57.8±1.7, 27°.9N±0°.2×85°.4E±0°.3, h18km, n8, σ0§55/8, mb3.8/6, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**16.63**	**42**	*e*P	**P**	**12 42 52.0**	**-0.4**
GTA				pP	pP	12 42 56.8	-1.3
GTA				sP	sP	12 43 00.0	-0.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,43nm,6.0s						
GTA				LR	LR		
	comp=N,51nm,14.3s						
GTA				LR	LR		
	comp=E,63nm,15.9s						
GTA				LR	LR		
	comp=Z,88nm,16.3s						
MKAR	**Makanchi Array**	**19.06**	**353**	P	**Pn**	**12 43 19.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=171,slow=11,SNR=15						
KURBB	**Kurchatov Arra**	**23.32**	**349**	P	**P**	**12 44 05.1**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=172,slow=10,SNR=10						
SONM	**Songino Array**	**25.80**	**34**	P	**P**	**12 44 28.5**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=221,slow=10.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**26.07**	**359**	P	**P**	**12 44 30.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=185,slow=8.2,SNR=6.8						
FINES	**FINESS Array B**	**51.33**	**328**	P	**P**	**12 48 00.8**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=82,slow=14,SNR=1.4						
ARCES	**ARCESS Array B**	**53.74**	**338**	P	**P**	**12 48 17.9**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=84,slow=5.4,SNR=5.6						
ASAR	**Alice Springs**	**69.39**	**133**	P	**P**	**12 50 04.7**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=306,slow=6.9,SNR=1.9						

*NEIC **27** 12:44:52.7±1.7, 52°.49N±0°.09×169°.25W±0°.10, h37km±8km, ML3.3(AEIC), Error ellipse: s-maj=13.6km s-min=7.7km az=160.0*

AEIC 27 12:44:50±2.1, 52°.33N±0°.09×169°.16W±0°.09, h36km±9km, Error ellipse: s-maj=13.8km s-min=7.5km az=168.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.67**	**16**		Pn	12 45 03.7	+0.6
OKSP	**Okmok Steeple**	**1.07**	**29**		Pn	12 45 09.0	+0.6
OKCE	**Okmok Cone E**	**1.26**	**28**		Pn	12 45 12.1	+1.1
OKTU	**Okmok Mt. Tuli**	**1.26**	**32**		Pn	12 45 12.0	+0.9
OKNC	**Okmok New Cone**	**1.29**	**29**		Pn	12 45 13.2	+1.7
OKFG	**Magazine Ridge**	**1.32**	**34**		Pn	12 45 13.2	+1.3
MAPS	**Pakushin South**	**2.00**	**41**		Pn	12 45 22.7	+1.5
MGOD	**Makushin Gods**	**2.02**	**42**		Pn	12 45 22.9	+1.4
MSW	**Makushin Switc**	**2.14**	**41**		Pn	12 45 25.0	+1.8
MNAT	**Makushin Natee**	**2.16**	**43**		Pn	12 45 24.8	+1.4
UNV	**Unalaska Valle**	**2.21**	**45**		Pn	12 45 25.4	+1.3
AKRB	**Akutan Reef Bi**	**2.59**	**45**		Pn	12 45 32.0	+2.7
AKGG	**Akutan Green G**	**2.67**	**44**		Pn	12 45 33.4	+3.0
AKUT	**Akutan**	**2.72**	**47**	Pn	Pn	12 45 32.9	+1.8
KOKL	**Mount Kliuchef**	**3.10**	**272**		Pn	12 45 39.0	+2.6
ATKA	**Atka Island**	**3.10**	**270**		Pn	12 45 37.5	+1.2
GSTR	**Great Sitkin T**	**4.25**	**270**	Pn	Pn	12 45 51.7	-0.5
FALS	**False Pass**	**4.26**	**51**	Pn	Pn	12 45 55.8	+3.6
GSTD	**Great Sitkin T**	**4.31**	**269**		Pn	12 45 54.8	+1.8
ADK	**Adak**	**4.66**	**268**	Pn	Pn	12 46 01.0	+3.2
SPIA	**Saint Paul Isl**	**4.90**	**353**		Pn	12 46 04.7	+3.7
KIWB	**Kanaga Island**	**4.95**	**268**	Pn	Pn	12 46 05.6	+3.9
CNBA	**Chernabura Isl**	**6.22**	**63**	Pn	Pn	12 46 22.2	+3.1
AMKA	**Amchitka**	**7.21**	**267**		Pn	12 46 35.4	+2.6
OHAK	**Old Harbor**	**10.39**	**56**	Pn	Pn	12 47 16.6	+0.4
KDAK	**Kodiak Island**	**10.95**	**54**	Pn	Pn	12 47 24.9	+1.0
SVW2	**Sparrevohn**	**11.50**	**35**	Pn	Pn	12 47 33.0	+1.6
CNPM	**China Poot**	**12.34**	**47**	Pn	Pn	12 47 44.8	+1.9
BPAW	**Bear Paw Mtn.**	**15.12**	**32**	Pn	Pn	12 48 22.3	+1.7
MLY	**Manley**	**15.84**	**29**	Pn	Pn	12 48 30.8	+0.7
I23K	**Minto, Yukon-K**	**16.34**	**31**	Pn	Pn	12 48 37.0	+0.7
HYT	**Haines Junctio**	**19.23**	**51**		Pn	12 49 14.7	+2.7
BMAR	**Burnt Mountain**	**19.30**	**29**	P	P	12 49 12.0	+0.4
EPYK	**Eagle Plains**	**21.36**	**36**	P	P	12 49 33.9	+0.1

*HEL **27** 12:52:05.6±0.3, 68°.18N×33°.07E, h0km, ML2.0, Explosion*
*KOLA **27** 12:52:06.1, 68°.13N×33°.09E, h0km, ML2.5, Olenegorsk City, Mines*
*UPP **27** 12:52:07.2±3.0, 68°.08N×32°.77E, h1km, ML1.7, Suspected explosion*

ISC 27 12:52:07.4±1.2, 68°.04N±0°.05×32°.53E±0°.06, h0km, n27, σ1§08/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.47**	**157**	P	**Pg**	**12 52 15.6**	**-0.8**
APA0				S	**Sg**	**12 52 22.4**	**+0.1**
VRF	**Varrio**	**1.14**	**257**	PG	**Pn**	**12 52 30.3**	**-0.3**
	baz=66						
VRF				MSG		12 52 47.1	
	comp=Z,21nm,0.2s						
VRF				SG	**Sn**	**12 52 47.8**	**+0.8**
OLKF	**Oulanka, Finla**	**2.11**	**217**	PB	**Pb**	**12 52 46.0**	**-0.5**
KU6	**Riekki**	**2.27**	**208**	PB	**Pb**	**12 52 49.1**	**-0.1**
KU6				MSG		12 53 19.2	
	comp=Z,5.0nm,0.2s						
KU6				SG	**Sg**	**12 53 21.1**	**+0.9**
SGF	**Sodankyl**	**2.36**	**258**	PN	**Pn**	**12 52 48.8**	**+1.4**
SGF				SB	**Sg**	**12 53 22.8**	**-0.4**
MSF	**Maaselka**	**2.54**	**214**	PB	**Pb**	**12 52 52.9**	**-0.8**
	baz=33						
MSF				SB	**Sg**	**12 53 28.6**	**-0.1**
KEV	**Kevo**	**2.64**	**313**	*e*P	**Pn**	**12 52 51.5**	**+0.3**
KEV				*e*S	**Sn**	**12 53 25.4**	**+1.5**
KEV	**Kevo**	**2.64**	**313**	PB	**Pn**	**12 52 51.7**	**+0.5**
KEV				MSG		12 53 25.1	
	comp=Z,6.2nm,0.2s						
KEV				SB	**Sn**	**12 53 25.6**	**+1.8**
RNF	**Rovaniemi**	**2.90**	**243**	PN	**Pn**	**12 52 56.1**	**+1.4**
RNF				SN	**Sb**	**12 53 33.5**	**-2.4**
ARA0	**ARCESS Array S**	**2.96**	**304**	*e*P	**Pn**	**12 52 56.1**	**+0.4**
ARA0				*e*S	**Sn**	**12 53 33.7**	**+1.8**
ARA0				IAML		12 53 48.0	
	comp=Z,4.7nm,0.8s						
HEF	**Hetta**	**3.33**	**281**	*e*P	**Pn**	**12 53 01.3**	**+0.7**
HEF				*e*S	**Sn**	**12 53 42.2**	**+1.4**
HEF	**Hetta**	**3.33**	**281**	PN	**Pn**	**12 53 01.4**	**+0.7**
HEF				SN	**Sn**	**12 53 41.8**	**+1.0**
KLF	**Kolari**	**3.37**	**260**	PN	**Pn**	**12 53 02.3**	**+1.1**
KTK1	**Kautokeino**	**3.55**	**290**	*e*P	**Pn**	**12 53 04.6**	**+0.8**
KTK1				IAML		12 54 08.5	
	comp=Z,43nm,0.6s						
PAJU	**Pajala**	**3.75**	**259**	P	**Pn**	**12 53 07.5**	**+1.0**
PAJU				S	**Sn**	**12 53 52.4**	**+1.0**
PAJU	**Pajala**	**3.75**	**259**	PN	**Pn**	**12 53 07.5**	**+1.0**
PAJU				SN	**Sn**	**12 53 54.0**	**+2.7**
TOF	**Tornio**	**3.76**	**242**	PN	**Pn**	**12 53 07.7**	**+1.1**
TOF				SG	**Sg**	**12 54 09.5**	**+1.3**
LANU	**Lannavaara**	**3.96**	**275**	P	**Pn**	**12 53 08.9**	**-0.4**
LANU	**Lannavaara**	**3.96**	**275**	SG	**Sg**	**12 54 12.8**	**-1.6**
ERTU	**Ertsjaerv**	**4.27**	**254**	P	**Pn**	**12 53 14.2**	**+0.6**
ERTU				S	**Sn**	**12 54 04.7**	**+0.6**
ERTU	**Ertsjaerv**	**4.27**	**254**	PN	**Pn**	**12 53 14.2**	**+0.6**
ERTU				SN	**Sn**	**12 54 05.6**	**+1.5**
KIF	**Kilpisjarvi**	**4.42**	**288**	*e*P	**Pn**	**12 53 15.3**	**-0.3**
KIF				*e*S	**Sn**	**12 54 07.2**	**-0.4**
KIF	**Kilpisjarvi**	**4.42**	**288**	PN	**Pn**	**12 53 16.0**	**+0.4**
KOVU	**Salmi**	**4.63**	**278**	P	**Pn**	**12 53 19.1**	**+0.5**
DUNU	**Dundret**	**4.67**	**264**	P	**Pn**	**12 53 19.8**	**+0.7**
RATU	**Laukkuluspa**	**4.88**	**274**	P	**Pn**	**12 53 22.2**	**+0.2**
HARU	**Harads**	**4.89**	**253**	P	**Pn**	**12 53 21.5**	**-0.6**

ISC 27 13:02:15.9±1.2, 49°.71N±0°.05×17°.76E±0°.06, h8km±11km, n8, σ0§35/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.16**	**294**	*e*PG	**Pg**	**13 02 19.3**	**0.0**
MORC				*e*SG	**Sg**	**13 02 21.6**	**0.0**
JAVC	**Velka Javorina**	**0.86**	**184**	*e*PG	**Pb**	**13 02 33.4**	**+0.3**
VRAC	**Vranov**	**0.86**	**242**	*e*PG	**Pb**	**13 02 33.0**	**-0.1**
KRUC	**Moravsky**	**1.10**	**234**	*e*PG	**Pg**	**13 02 36.8**	**-0.3**
KOLL	**Kolacno**	**1.21**	**159**	*e*PG	**Pn**	**13 02 39.1**	**0.0**
KOLL				*e*SG	**Sn**	**13 02 56.2**	**+0.5**
OJC	**Ojcow**	**1.41**	**68**	*e*Pg	**Pn**	**13 02 41.7**	**-0.2**
OJC				*e*Sg	**Sg**	**13 03 01.3**	**0.0**
VYHS	**Vyhne**	**1.41**	**150**	*e*PG	**Pn**	**13 02 41.6**	**-0.3**
VYHS				*e*SG	**Sn**	**13 03 00.4**	**-0.2**
KSP	**Ksiaz**	**1.47**	**321**	*e*Pg	**Pb**	**13 02 43.4**	**-0.1**
KSP				*e*Sg	**Sg**	**13 03 03.9**	**+0.7**

IDC 27 13:05:08.2±2.6, 5°.89N×127°.14E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, Error ellipse: s-maj=198.8km s-min=26.8km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.63**	**165**	P	P	13 10 48.9	+0.1
	0.2nm,0.5s,baz=345,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**30.11**	**168**	P	P	13 11 19.8	-0.1
	0.2nm,0.5s,baz=345,slow=7.0,SNR=8.0						
MKAR	**Makanchi Array**	**56.04**	**324**	P	P	13 14 48.9	-0.1
	1.1nm,

USRK	Ussuriysk Ar.	74.35	42	P	P	13 31 23.8	-1.1
BFO	Black Forest	74.57	323	P	P	13 31 25.8	-0.3
BFO				IAmb	IAmb	13 31 26.2	
	comp=Z,3.7nm,0.8s						
PDAR	Pinedale Array	142.01	358	PKP	PKPdf	13 39 20.3	+0.3
	comp=Z,0.2nm,0.6s,baz=329,slow=3.4,SNR=1.8						
NVAR	Mina Array Bea	145.71	10	PKPbc	PKPdf	13 39 26.6	+0.1
	comp=Z,1.0nm,0.7s,baz=352,slow=5.6,SNR=6.9						

*IDC **27** 13:25:02.8±1.0, 3°.63S×134°.96E, h0km, mb3.9/7, mb1 4.2/10, mb1mx4.0/31, mbtmp4.1/10, ML4.4/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=44.4km s-min=17.9km az=66.0*
*DJA **27** 13:25:07.3±0.3, 4°.S×4°.×13°.5E±°, h65km±11km, M4.6/11, mB5.0/3, mb4.6/11, MLv4.6/8, Mw(mB)4.3/3*
*NEIC **27** 13:25:08.4±2.5, 3°.77S±0°.09×134°.73E±0°.10, h35km±10km, mb4.2/17, Error ellipse: s-maj=15.8km s-min=10.7km az=52.0*

ISC 27 13:25:06.1±0.5, 3°.78S±0°.06×134°.79E±0°.06, h23km, n49, σ1§88/47, mb4.3/14, MS3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.09	276	P	Pb	13 25 27.5	+1.3
SRPI	Serui, Papua	2.39	37	P	Pn	13 25 42.7	-1.2
SRPI				S	Sn	13 26 10.2	-2.3
FAKI	Fak Fak	2.67	289		Pn	13 25 48.5	+0.7
FAKI	Fak Fak	2.67	289	P	Pn	13 25 48.0	+0.2
SIJI	Sorong	4.55	309	Pn	Pn	13 26 13.0	-0.7
	47nm,0.3s,baz=217,slow=22,SNR=142						
SIJI				Sn	Sn	13 27 02.8	-3.2
	25nm,0.3s,baz=311,slow=22,SNR=9.7						
SIJI				Lg	Lg	13 27 31.6	
	baz=133,slow=23,SNR=0.8						
SIJI				LR	LR	13 27 49.9	
	comp=Z,55nm,20.4s,baz=31,slow=36						
SWI	Sorong	4.56	309	P	Pn	13 26 13.4	-0.4
GENI	Genyem	5.50	78	P	Pn	13 26 27.3	+0.6
	0.4nm2μm78nm,0.7s						
NLAI	Namlea	7.69	274	P	Pn	13 26 56.2	-0.6
	0.1nm2μm15nm,0.5s						
MTN	Manton Dam	9.70	202	Pn	Pn	13 27 24.1	-0.3
SOEI	Soe	12.01	240		Pn	13 27 55.2	-0.9
SOEI	Soe	12.01	240	P	Pn	13 27 57.3	+1.2
	42nm,0.7s						
KNRA	Kununurra	13.22	206	Pn	Pn	13 28 10.8	-1.7
APSI	Ampana	13.43	282	P	Pn	13 28 15.6	+0.2
	18nm,0.5s						
PMG	Port Moresby	13.50	115	Pn	Pn	13 28 17.0	+0.6
KAPI	Kappang	15.04	265	LR	LR	13 35 31.2	
	comp=Z,68nm,19.6s,baz=125,slow=41						
WB0	Warramunga Arr	15.89	181		Pn	13 28 44.3	-4.2
WB2	Warramunga Arr	16.07	181	Pn	Pn	13 28 46.1	-4.6
WB2				IAmb	IAmb	13 29 03.0	
	comp=Z,12nm,0.7s						
WRA	Warramunga Arr	16.07	182	Pn	Pn	13 28 45.4	-5.3
	comp=Z,0.3nm,0.3s,baz=0.5,slow=13,SNR=14						
WRA				Sn	Sn	13 31 35.5	-13
	comp=Z,0.2nm,0.3s,baz=7.4,slow=22,SNR=3.5						
WRA				Lg	Lg	13 33 28.2	
	baz=0.9,slow=30,SNR=1.8						
WRA	Warramunga Arr	16.07	182	Pn	Pn	13 28 46.5	-4.3
WR0	Warramunga Arr	16.08	181	Pn	Pn	13 28 47.7	-3.2
CTA	Charters Tower	19.69	146	P	P	13 29 34.2	+0.3
	comp=Z,0.5nm,0.3s,baz=326,slow=11,SNR=12						
CTA				Lg	Lg	13 35 24.0	
	comp=Z,0.1nm,0.3s,baz=103,slow=22,SNR=1.1						
CTAO	Charters Tower	19.69	146	P	Pn	13 29 34.8	-0.7
CTAO				IAmb	IAmb	13 29 43.2	
	comp=Z,13nm,0.9s						
AS31	Alice Springs	19.79	182		P	13 29 35.4	+0.4
AS31				IAmb	IAmb	13 29 46.7	
	comp=Z,6.4nm,0.7s						
ASAR	Alice Springs	19.79	182	P	Pn	13 29 35.8	-0.8
	comp=Z,0.6nm,0.3s,baz=6.6,slow=11,SNR=88						
STKA	Stephens Creek	28.67	168	P	P	13 31 03.1	+1.8
	comp=Z,1.3nm,0.6s,baz=341,slow=11,SNR=3.0						
STKA				LR	LR	13 43 27.6	
	comp=Z,118nm,19.7s,baz=24,slow=38						
STKA	Stephens Creek	28.67	168	P	P	13 31 03.3	+1.9
BBOO	Buckleboo	28.90	178	P	P	13 31 05.2	+1.8
YULB	Yu-li	30.04	335	P	P	13 31 14.6	+0.9
YULB				IAmb	IAmb	13 31 40.1	
	comp=Z,9.0nm,1.4s						
JNU	Nakatsue	36.89	355	P	P	13 32 12.1	-1.0
JWT	Wachi	38.86	1	P	P	13 32 28.8	-0.9
MJB9	Matsu-Tunnel	40.24	4	P	P	13 32 42.4	+1.2
KSRS	Korea Array	41.52	352	P	P	13 32 51.0	-0.7
	comp=Z,0.2nm,0.4s,baz=176,slow=5.5,SNR=2.2						
CMAR	Chiang Mai Arr	41.65	303	P	P	13 32 54.4	+1.3
	comp=Z,2.2nm,0.8s,baz=122,slow=7.7,SNR=8.7						
CMAR	Chiang Mai Arr	41.65	303	P	P	13 32 53.4	+0.2
CHTO	Chiang Mai	41.82	304	P	P	13 32 55.1	+0.6
CHTO				IAmb	IAmb	13 32 56.0	
	comp=Z,2.8nm,0.7s						
HHC	Hu-ho-hao-te	49.23	337	eP	P	13 33 56.3	+3.3
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,74nm,7.6s						
SONM	Songino Array	57.11	338	P	P	13 34 50.6	-0.3
	comp=Z,1.1nm,0.5s,baz=153,slow=7.8,SNR=4.9						
SONM	Songino Array	57.11	338	IAmb	IAmb	13 34 52.0	
	comp=Z,1.2nm,0.8s						
WMQ	Urumqi	63.48	324	eP	P	13 35 33.5	-1.0
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,87nm,5.7s						
MK31	Makanchi Array	68.30	324	P	P	13 36 05.5	+0.1
MK31				IAmb	IAmb	13 36 10.8	
	comp=Z,1.8nm,0.7s						
MKAR	Makanchi Array	68.30	324	P	P	13 36 06.0	+0.6
	comp=Z,3.1nm,0.6s,baz=107,slow=8.0,SNR=34						
MKAR	Makanchi Array	68.30	324	P	P	13 36 05.8	+0.4
MAKZ	Makanchi	68.49	324	P	P	13 36 07.0	+0.4
MAKZ				IAmb	IAmb	13 36 12.0	
	comp=Z,3.3nm,0.7s						
ZAA0	Zalesovo Array	70.94	331	P	P	13 36 20.5	-1.1
ZAA0				IAmb	IAmb	13 36 30.9	
	comp=Z,1.6nm,0.7s						
ZALV	Zalesovo Beam	70.94	331	P	P	13 36 20.5	-1.0
	comp=Z,0.8nm,0.4s,baz=104,slow=6.1,SNR=1.3						
ZALV	Zalesovo Beam	70.94	331	P	P	13 36 20.7	-0.8
MAW	Mawson	79.68	202	LR	LR	14 10 36.7	
	comp=Z,59nm,18.2s,baz=70,slow=34						
ILAR	Eielson Array	88.43	25	P	P	13 37 55.5	-0.7
	comp=Z,0.2nm,0.7s,baz=243,slow=4.0,SNR=1.9						
KBZ	Khabaz	93.95	313	LR	LR	14 25 12.5	
	comp=Z,23nm,19.7s,baz=146,slow=38						

*IDC **27** 13:29:54.1±1.0, 52°.12N×169°.61W, h0km, mb3.6/10, mb1 3.8/12, mb1mx3.7/44, mbtmp3.6/12, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/42, Error ellipse: s-maj=36.6km s-min=16.9km az=1.0*
*AEIC **27** 13:29:58±2.6, 52°.08N±0°.09×169°.4W±0°.1, h44km±6km, Error ellipse: s-maj=13.5km s-min=8.1km az=157.0*
*NEIC **27** 13:29:59.8±2.5, 52°.2N±0°.1×169°.44W±0°.09, h35km±1km, mb3.8/17, ML3.5(AEIC), Error ellipse: s-maj=18.7km s-min=7.9km az=160.0*

ISC 27 13:29:59.2±0.8, 52°.1N±0°.1×169°.37W±0°.06, h35km, n66, σ1§23/62, mb3.7/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.93	20		Pn	13 30 15.6	-0.1
OKSP	Okmok Steeple	1.33	29		Pn	13 30 21.8	+0.5
OKTU	Okmok Mt. Tuli	1.52	32		Pn	13 30 24.2	+0.3
OKFG	Magazine Ridge	1.58	34		Pn	13 30 25.8	+1.1
MAPS	Pakushin South	2.26	40		Pn	13 30 35.1	+1.1
MSW	Makushin Switc	2.40	40		Pn	13 30 37.5	+1.6
MNAT	Makushin Natee	2.42	41		Pn	13 30 37.8	+1.7
UNV	Unalaska Valle	2.46	44		Pn	13 30 37.8	+1.0
KOFP	Korovin Flat P	2.91	275		Pn	13 30 43.6	+0.6
ATKA	Atka Island	2.97	274		Pn	13 30 43.9	+0.1
AKUT	Akutan	2.98	45	Pn	Pn	13 30 45.3	+1.5
KOKL	Mount Kliuchef	2.98	276		Pn	13 30 44.8	+0.9
GSTR	Great Sitkin T	4.12	273		Pn	13 31 00.4	+0.7
GSMY	Great Sitkin M	4.12	272		Pn	13 30 60.0	+0.3
GSTD	Great Sitkin T	4.18	272		Pn	13 31 00.9	+0.5
ADK	Adak	4.52	270		Pn	13 31 05.4	+0.3
KIWB	Kanaga Island	4.81	270		Pn	13 31 09.8	+0.7
SPIA	Saint Paul Isl	5.11	355		Pn	13 31 16.5	+3.4
TAFP	Tanaga Falls P	5.32	271		Pn	13 31 16.7	+0.6
TASE	Tanaga Southea	5.36	271		Pn	13 31 17.5	+0.8
SDPT	Sand Point	6.20	55	Pn	Pn	13 31 30.9	+2.8
CNBA	Chernabura Isl	6.45	61	Pn	Pn	13 31 31.6	+0.1
CESW	Semis' Southwe	6.83	273		Pn	13 31 38.3	+1.5
AMKA	Amchitka	7.07	269		Pn	13 31 40.6	+0.6
LSSE	Little Sitkin	7.44	273		Pn	13 31 47.0	+1.8
SMY	Shemya	10.12	280	Pn	Pn	13 32 23.1	+1.3
OHAK	Old Harbor	10.62	55	Pn	Pn	13 32 28.4	-0.3
KDAK	Kodiak Island	11.19	53	Pn	Pn	13 32 35.3	-1.1
	0.3nm,0.3s,baz=325,slow=18,SNR=2.1						
KDAK				Sn	Sn	13 34 31.2	-8.9
	0.1nm,0.3s,baz=299,slow=22,SNR=1.4						
KDAK	Kodiak Island	11.19	53	Pn	Pn	13 32 37.3	+0.8
SEW	Seward	13.66	46	Pn	Pn	13 33 10.2	+0.1
RC01	Rabbit Creek A	14.02	42	Pn	Pn	13 33 13.8	-1.2
PWL	Port Wells	14.50	45	Pn	Pn	13 33 20.3	-1.3
FID	Port Fidalgo	15.27	47	Pn	Pn	13 33 29.2	-2.6
BPAW	Bear Paw Mtn.	15.38	31	P	P	13 33 37.7	+0.2
BPAW				IAmb	IAmb	13 33 45.0	
	comp=Z,3.6nm,0.9s						
SCM	Sheep Creek Mo	15.39	42	Pn	Pn	13 33 31.4	-2.1
SCM				IAmb	IAmb	13 33 36.0	
	comp=Z,8.5nm,0.8s						
KLU	Klutina	15.83	44	Pn	Pn	13 33 37.5	-1.6
KLU				IAmb	IAmb	13 33 56.6	
	comp=Z,7.7nm,1.0s						
M24K	Tolsona, Glenn	16.00	42	P	Pn	13 33 42.3	+0.9
M24K				IAmb	IAmb	13 33 55.9	
	comp=Z,20nm,1.4s						
MLY	Manley	16.10	29	P	Pn	13 33 43.6	+1.0
HMT	Hamilton	16.13	49	Pn	Pn	13 33 41.9	-1.1
BMRM	Bremner River	16.20	47	P	Pn	13 33 45.2	+1.3
BMRM				IAmb	IAmb	13 33 56.0	
	comp=Z,10nm,1.0s						
N25K	Chitina, Valde	16.45	45	P	Pn	13 33 47.2	+0.2
N25K				IAmb	IAmb	13 34 04.7	
	comp=Z,5.3nm,1.1s						
WRH	Wood River Hil	16.58	33	Pn	Pn	13 33 47.7	-0.9
I23K	Minto, Yukon-K	16.61	30	Pn	Pn	13 33 47.5	-1.4
I23K				IAmb	IAmb	13 34 08.2	
	comp=Z,5.0nm,1.4s						
CCB	Clear Creek Bu	16.79	33	P	Pn	13 33 51.5	+0.4
VRDI	Verde Repeater	16.81	47	P	Pn	13 33 51.7	-0.1
VRDI				IAmb	IAmb	13 33 55.9	
	comp=Z,6.2nm,1.1s						
ILAR	Eielson Array	17.18	34	P	Pn	13 33 55.6	-0.4
	comp=Z,0.0nm,0.3s,baz=225,slow=11,SNR=2.5						
ILAR	Eielson Array	17.18	34	Pn	Pn	13 33 54.5	-1.5
EGAK	Eagle	19.25	38	P	P	13 34 18.4	-1.9
PEA0B	Petropavlovsk-	19.93	286		P	13 34 28.2	+0.5
PEA0B				IAmb	IAmb	13 34 31.7	
	comp=Z,6.7nm,0.7s						
PETK	Petropavlovsk-	19.93	286	P	P	13 34 27.2	-0.5
	comp=Z,1.0nm,0.3s,baz=87,slow=14,SNR=38						
SKAG	Skagway	20.33	55	P	P	13 34 30.7	-1.2
DIB	Dawson Inlet,	22.26	72	P	P	13 34 51.2	-1.5
YKA	Yellowknife Ar	30.42	49	P	P	13 36 09.3	+1.5
	comp=Z,0.4nm,0.6s,baz=267,slow=10,SNR=1.8						
YAK	Yakutsk	33.35	311	LR	LR	13 50 34.6	
	comp=Z,27nm,18.3s,baz=94,slow=37						
NVAR	Mina Array Bea	37.66	91	P	P	13 37 12.3	+1.3
	comp=Z,0.1nm,0.4s,baz=298,slow=9.9,SNR=2.2						
H11S1	WAKE ISLAND Hy	38.43	218	T	T	14 18 48.8	
	baz=23						
H11S2	WAKE ISLAND Hy	38.44	218	T	T	14 18 45.1	
	baz=23						
H11S3	WAKE ISLAND Hy	38.45	218	T	T	14 18 45.5	
	baz=23						
PDAR	Pinedale Array	40.46	79	P	P	13 37 35.6	+1.2
	comp=Z,0.3nm,0.5s,baz=303,slow=5.3,SNR=2.4						
KSRS	Korea Array	45.43	277	P	P	13 38 13.7	-0.7
	comp=Z,0.6nm,0.6s,baz=67,slow=8.0,SNR=4.6						
SONM	Songino Array	51.43	301	P	P	13 38 58.8	-1.8
	comp=Z,0.3nm,0.3s,baz=54,slow=7.3,SNR=1.8						
TXAR	Lajitas Array	52.76	89	P	P	13 39 11.7	+1.1
	comp=Z,0.5nm,0.5s,baz=299,slow=5.9,SNR=16						
MKAR	Makanchi Array	63.99	313	P	P	13 40 28.4	-0.3
	comp=Z,0.2nm,0.5s,baz=31,slow=5.6,SNR=3.7						
FINES	FINESS Array B	66.13	352	P	P	13 40 42.1	-0.1
	comp=Z,1.0nm,0.5s,baz=45,slow=8.4,SNR=5.7						
FINES				LR	LR	14 12 06.1	
	comp=Z,31nm,18.3s,baz=90,slow=38						
CMAR	Chiang Mai Arr	76.67	283	P	P	13 41 45.8	-0.8
	comp=Z,0.5nm,0.5s,baz=22,slow=6.5,SNR=1.8						
ASAR	Alice Springs	90.22	230	P	P	13 42 55.7	-0.1
	comp=Z,0.3nm,0.6s,baz=26,slow=5.3,SNR=5.3						

*IDC **27** 13:32:41.7±2.2, 52°.25N×169°.57W, h0km, mb3.1/2, mb1 3.5/4, mb1mx3.3/48, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=80.9km s-min=30.8km az=4.0*
*AEIC **27** 13:32:46±2.5, 52°.3N±0°.1×169°.57W±0°.09, h33km±9km, Error ellipse: s-maj=17.9km s-min=6.6km az=166.0*
*NEIC **27** 13:32:48.5±1.5, 52°.43N±0°.02×169°.57W±0°.08, h35km±2km, ML3.3(AEIC), Error ellipse: s-maj=8.8km s-min=3.8km az=259.0*

ISC 27 13:32:45.4±1.0, 52°.2N±0°.1×169°.35W±0°.08, h30km, n33, σ1§71/28, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.83	21		Pb	13 33 01.0	-0.3
OKSP	Okmok Steeple	1.23	31		Pb	13 33 07.3	-0.8
OKTU	Okmok Mt. Tuli	1.43	33		Pb	13 33 10.5	-0.8
OKFG	Magazine Ridge	1.49	35		Pb	13 33 11.5	-0.9
MAPS	Pakushin South	2.17	41		Pn	13 33 21.3	+1.9
MGOD	Makushin Gods	2.19	42		Pb	13 33 22.4	-1.9
MSW	Makushin Switc	2.31	41		Pb	13 33 24.1	-2.3
MNAT	Makushin Natee	2.33	43		Pn	13 33 23.7	+2.1
UNV	Unalaska Valle	2.38	45		Pn	13 33 24.4	+2.1
MTBL	Makushin Table	2.39	41		Pb	13 33 25.5	-2.3
AKUT	Akutan	2.90	47	Pn	Pn	13 33 30.4	+1.0
KOFP	Korovin Flat P	2.92	273		Pn	13 33 29.9	+0.1
ATKA	Atka Island	2.98	272		Pn	13 33 29.6	-0.9
GSTR	Great Sitkin T	4.13	271	Pn	Pn	13 33 47.4	+0.9
GSTD	Great Sitkin T	4.19	271		Pn	13 33 47.2	0.0
ADK	Adak	4.54	269	Pn	Pn	13 33 52.8	+0.8
SPIA	Saint Paul Isl	5.01	354		Pn	13 34 00.7	+2.3
TASE	Tanaga Southea	5.38	270		Pn	13 34 04.9	+1.4
AMKA	Amchitka	7.09	268		Pn	13 34 28.1	+1.2
OHAK	Old Harbor	10.56	55	Pn	Pn	13 35 15.2	+0.8
KDAK	Kodiak Island	11.12	53	Pn	Pn	13 35 21.4	-0.8
	0.1nm,0.3s,baz=156,slow=22,SNR=1.4						
KDAK				Sn	Sn	13 37 20.7	-4.6
	0.1nm,0.3s,baz=307,slow=12,SNR=1.6						
KDAK	Kodiak Island	11.12	53	Pn	Pn	13 35 23.4	+1.3
GHO	Glory Hole Cre	14.62	41	P	P	13 36 15.7	-0.3
ILAR	Eielson Array	17.08	34	P	Pn	13 36 42.2	+0.5
	0.0nm,0.3s,baz=230,slow=9.8,SNR=2.1						
PETK	Petropavlovsk-	19.92	286	P	P	13 37 13.2	-1.2
	0.6nm,0.3s,baz=87,slow=13,SNR=8.7						
H11N2	WAKE ISLAND Hy	37.33	219	T	T	14 20 19.4	
	baz=24,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy	37.34	219	T	T	14 20 19.2	
	baz=24,slow=76,SNR=15						
H11N1	WAKE ISLAND Hy	37.35	219	T	T	14 20 23.1	
	baz=24,slow=76,SNR=15						
H11S1	WAKE ISLAND Hy	38.52	218	T	T	14 21 14.6	
	baz=23,slow=76,SNR=47						
H11S2	WAKE ISLAND Hy	38.53	218	T	T	14 21 15.5	
	baz=23,slow=76,SNR=60						
H11S3	WAKE ISLAND Hy	38.53	218	T	T	14 21 13.3	
	baz=23,slow=76,SNR=49						
PDAR	Pinedale Array	40.42	79	P	P	13 40 23.3	+2.3
	0.2nm,0.5s,baz=322,slow=7.2,SNR=2.5						
TXAR	Lajitas Array	52.74	89	P	P	13 41 58.4	+1.0
	0.1nm,0.5s,baz=316,slow=6.3,SNR=1.5						

*NEIC **27** 13:43:53.4±2.0, 10°.37S±0°.06×161°.4E±0°.1, h80km±8km, mb4.3/14, Error ellipse: s-maj=18.1km s-min=4.0km az=64.0*
*IDC **27** 13:43:55.1±2.4, 10°.45S×161°.29E, h102km±16km, mb3.6/10, mb1 3.7/12, mb1mx3.6/37, mbtmp4.0/12, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=27.6km s-min=16.4km az=87.0*

ISC 27 13:43:50.9±0.7, 10°.46S±0°.07×161°.59E±0°.08, h61km, n46, σ2§77/43, mb4.1/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.91	302	P	Pn	13 44 23.6	+2.4
	473nm,0.3s,baz=156,slow=6.2,SNR=94						
HNR				S	Sn	13 44 45.4	+1.1
	260nm,0.3s,baz=354,slow=23,SNR=11						
HNR				LR	LR	13 44 48.0	
	comp=Z,127nm,21.8s,baz=52,slow=32						
HNR	Honiara	1.91	302	Pn	Pn	13 44 23.9	+2.7
HNR	Honiara	1.91	302	P	Pn	13 44 24.8	+3.6
SANVU	Saraoutou	7.38	133		Pn	13 45 39.4	+3.3
SANVU	Saraoutou	7.38	133	P	Pn	13 45 39.7	+3.7
KOUNC	Koumac, New Ca	10.36	166	P	Pn	13 46 21.5	+4.7
LIFNC	LIFOU	11.61	153	Pn	Pn	13 46 35.2	+1.4
LIFNC	LIFOU	11.61	153	P	Pn	13 46 36.2	+2.4
NOUC	Port Laguerre	12.43	159	P	Pn	13 46 49.7	+4.7
DZM	Mont Dzumac	12.45	159	P	Pn	13 46 49.7	+4.4
	4.3nm,0.3s,baz=24,slow=7.9,SNR=72						
DZM				S	Sn	13 48 57.4	-5.1
	0.8nm,0.3s,baz=282,slow=20,SNR=2.2						
DZM				LR	LR	13 51 16.3	
	comp=Z,78nm,19.8s,baz=221,slow=35						
DZM	Mont Dzumac	12.45	159		Pn	13 46 48.7	+3.3
DZM	Mont Dzumac	12.45	159	P	Pn	13 46 49.8	+4.4
MARNC	Mare, Loyalty	12.58	151	Pn	Pn	13 46 49.8	+2.7
MARNC	Mare, Loyalty	12.58	151	P	Pn	13 46 51.4	+4.3
YATNC	Mamie plateau,	12.60	157	P	Pn	13 46 50.1	+2.7
ONTNC	Ouen Toro	12.67	159		Pn	13 46 52.8	+4.5
ONTNC	Ouen Toro	12.67	159	P	P	13 46 53.4	-4.2
OUENC	Ouen Island, N	12.91	158		Pn	13 46 56.0	+4.4
OUENC	Ouen Island, N	12.91	158	P	P	13 46 56.4	-3.9
PINNC	Pines Island,	13.32	156	Pn	Pn	13 47 01.0	+3.8
PINNC	Pines Island,	13.32	156	P	Pn	13 47 01.4	+4.2
CTA	Charters Tower	17.61	235	P	Pn	13 47 52.0	-0.2
	0.2nm,0.3s,baz=68,slow=14,SNR=3.0						
EIDS	Eidsvold	17.87	213	P	Pn	13 47 56.4	+1.1
EIDS				IAmb	IAmb	13 48 14.3	
	comp=Z,9.5nm,1.1s						
ARMA	Armidale	21.92	204	P	P	13 48 41.4	+2.1
ARMA				IAmb	IAmb	13 48 52.1	
	comp=Z,18nm,1.2s						
CAN	Canberra	27.27	203	P	P	13 49 31.8	+2.1
WR0	Warramunga Arr	27.72	247	P	P	13 49 32.5	-1.2
WR0				IAmb	IAmb	13 49 50.7	
	comp=Z,13nm,1.4s						
WB0	Warramunga Arr	27.80	247	P	P	13 49 33.3	-1.2
WB0				IAmb	IAmb	13 49 58.4	
	comp=Z,7.2nm,0.7s						
WB2	Warramunga Arr	27.89	247	P	P	13 49 33.9	-1.4
WB2				IAmb	IAmb	13 49 41.8	
	comp=Z,8.4nm,1.3s						
WRA	Warramunga Arr	27.90	247	P	P	13 49 33.0	-2.4
	comp=Z,0.8nm,0.7s,baz=76,slow=9.2,SNR=3.9						
STKA	Stephens Creek	28.22	218	P	P	13 49 36.9	-1.2
	comp=Z,1.1nm,0.8s,baz=70,slow=12,SNR=1.5						
STKA	Stephens Creek	28.22	218	IAmb	IAmb	13 49 43.4	
	comp=Z,0.9nm,1.1s						
AS31	Alice Springs	29.47	240	P	P	13 49 47.8	-1.5
ASAR	Alice Springs	29.47	240	P	P	13 49 47.9	-1.5
	comp=Z,0.4nm,0.8s,baz=64,slow=9.9,SNR=4.8						
BKZ	Black Stump Fm	31.53	158	P	P	13 50 09.7	+2.3
NWAO	Narrogin (SRO)	46.44	234	P	P	13 52 11.3	-0.6
MJAR	Matsushiro Arr	51.67	336	P	P	13 52 50.4	-1.4
	comp=Z,0.7nm,0.6s,baz=186,slow=4.9,SNR=2.2						
JSD	Sado	52.95	337	P	P	13 52 59.3	-1.8
JSD				IAmb	IAmb	13 53 17.7	
	comp=Z,9.0nm,1.5s						
KSRS	Korea Array	57.16	328	P	P	13 53 29.6	-1.9
	comp=Z,1.4nm,0.8s,baz=133,slow=6.9,SNR=8.7						
USRK	Ussuriysk Ar.	60.67	336	P	P	13 53 55.4	-0.3
	comp=Z,2.3nm,0.8s,baz=133,slow=7.6,SNR=4.9						
CMAR	Chiang Mai Arr	68.15	295	P	P	13 54 42.3	-2.8
	comp=Z,1.1nm,0.8s,baz=121,slow=4.8,SNR=4.5						
SONM	Songino Array	75.82	325	P	P	13 55 29.7	-0.9
	comp=Z,1.6nm,0.7s,baz=139,slow=6.2,SNR=6.5						
SONM	Songino Array	75.82	325	IAmb	IAmb	13 55 52.6	
	comp=Z,1.9nm,0.8s						
SVW2	Sparrevohn	78.89	20	P	P	13 55 48.9	+1.5
HDA	Harding Lake	84.05	20	P	P	13 56 14.9	+0.4
HDA				IAmb	IAmb	13 56 17.6	
	comp=Z,8.0nm,1.4s						
ILAR	Eielson Array	84.30	20	P	P	13 56 15.7	-0.1
	comp=Z,1.0nm,0.8s,baz=253,slow=4.7,SNR=9.3						
MKAR	Makanchi Array	90.32	318	P	P	13 56 44.0	-1.4
	comp=Z,0.4nm,0.5s,baz=92,slow=6.1,SNR=5.6						

*IDC **27** 13:50:28.4±0.6, 16°.49N×93°.66W, h107km±4km, mb3.8/13, mb1 4.1/15, mb1mx3.8/41, mbtmp4.2/15, MS3.1/2,

SNJE	San Jose	4.93	119	eP	Pn	13 51 40.5	+0.4
PPM	Popocatepetl	5.15	302	eP	Pn	13 51 45.3	+2.1
PPM				eS	Sn	13 52 33.1	-8.7
AMVM	AMECAMECA	5.31	302	eP	Pn	13 51 47.9	+2.7
AMVM				eS	Sn	13 52 34.9	-11
AMVM	AMECAMECA	5.31	302		Pn	13 51 47.9	+2.7
AMVM					Sn	13 52 34.9	-11
SNET	Serv Nac Est T	5.34	119	Pn	Pn	13 51 45.2	-0.2
DAIG	Los Arroyos	5.43	278	eP	Pn	13 51 46.3	-0.4
DAIG				i S	Sn	13 52 28.0	-20
DAIG	Los Arroyos	5.43	278		Pn	13 51 46.3	-0.4
DAIG					sPn	13 52 28.0	+15
LFRS	El Faro	5.51	119	eP	Pn	13 51 47.9	+0.1
LFRS	El Faro	5.51	119	eP	Pn	13 51 47.9	+0.1
SJTE	Alcalda de S	5.56	119	eP	Pn	13 51 49.5	+1.0
SJTE	Alcalda de S	5.56	119	eP	Pn	13 51 49.5	+1.0
PAVA	Las Pavas	5.57	117	eP	Pn	13 51 49.8	+1.1
PAVA	Las Pavas	5.57	117	eP	Pn	13 51 49.8	+1.1
MEIG	Mezcala	5.57	287	eP	Pn	13 51 50.2	+1.6
MEIG				eS	Sn	13 52 32.1	-19
MEIG	Mezcala	5.57	287		Pn	13 51 50.2	+1.6
MEIG					sPn	13 52 32.1	+17
PLIG	Platanillo	5.61	292	eP	Pn	13 51 50.8	+1.6
PLIG				eS	Sn	13 52 29.1	-23
PLIG	Platanillo	5.61	292		Pn	13 51 50.8	+1.6
PLIG					sPn	13 52 29.1	+14
COEG	Centro de Oper	5.67	118	eP	Pn	13 51 51.7	+1.9
COEG	Centro de Oper	5.67	118	eP	Pn	13 51 51.7	+1.9
PTVM	Pico Tres Padr	5.82	304	i P	Pn	13 51 53.8	+1.7
PTVM				i S	Sn	13 53 01.8	+4.2
MAVM	Malinalco, Edo	5.82	297	i P	Pn	13 51 55.0	+2.9
MAVM				i S	Sn	13 52 48.8	-8.9
MAVM	Malinalco, Edo	5.82	297		Pn	13 51 55.0	+2.9
MAVM					Sn	13 52 48.8	-8.9
CAIG	El Cayaco	6.02	277	i P	Pn	13 51 54.3	-0.3
CAIG				eS	Sn	13 52 53.3	-8.9
CAIG	El Cayaco	6.02	277		Pn	13 51 54.3	-0.3
CAIG					Sn	13 52 53.3	-8.9
MYIG	Mrida	6.12	41	eP	Pn	13 51 58.5	+2.6
MYIG				eS	Sn	13 52 58.4	-6.2
MYIG	Mrida	6.12	41		Pn	13 51 58.5	+2.6
MYIG					Sn	13 52 58.4	-6.2
TOVM	TOLUCA	6.12	299	i P	Pn	13 51 59.5	+3.2
TOVM				i S	Sn	13 53 09.3	+4.1
TGUH	Tegucigalpa,Un	6.91	108	Pn	Pn	13 52 06.1	-0.6
MOIG	Morelia	7.58	297		Pn	13 52 17.7	+1.8
CRIN	San Cristobal	7.67	117		Pn	13 52 18.0	+1.0
ACON	Acoyapa	9.63	116	Pn	Pn	13 52 44.0	+0.5
HZTE	Horizontes, Gu	9.93	123		Pn	13 52 48.3	+0.7
ORTG	Ortega, Santa	10.24	124	Pn	Pn	13 52 52.1	+0.1
ESPN	Las Esperanzas	10.29	112		Pn	13 52 52.5	-0.1
JTS	Las Juntas de	10.69	123	P	Pn	13 52 57.2	-0.8
	9.5nm,0.3s,baz=40,slow=9.3,SNR=18						
JTS				S	Sn	13 54 52.6	-3.1
	0.9nm,0.3s,baz=355,slow=21,SNR=1.6						
JTS	Las Juntas de	10.69	123		Pn	13 52 57.1	-0.9
COVE	Coope Vega, Sa	10.90	120	Pn	Pn	13 53 00.2	-0.6
CAO2	Cobano, Puntar	10.92	126		Pn	13 53 01.3	+0.2
CVTR	Volcan Turrial	11.81	121		Pn	13 53 12.7	-0.7
RIMA	Rio Macho	11.87	122		Pn	13 53 13.1	-0.8
SOR	Soroa	12.20	57	Pn	Pn	13 53 14.4	-3.6
PEZE	Perez Zeledon,	12.23	123		Pn	13 53 18.3	-0.4
FSCY	Frank Sound, G	12.58	75		Pn	13 53 22.7	-0.3
SRBA	San Rafael, Bu	12.58	123		Pn	13 53 21.9	-1.3
DRK0	Durika	12.65	123		Pn	13 53 22.8	-1.5
833A	Chaparral WMA,	12.90	338	P	Pn	13 53 28.2	+0.9
	baz=156,SNR=41						
833A				S	Sn	13 55 39.3	-10
	baz=156						
735A	Kenedy	12.92	345	Pn	Pn	13 53 28.3	+0.8
LCCY	Blossom Villag	13.66	74	Pn	Pn	13 53 37.6	+0.3
CBCY	The Bluff, Cay	13.98	74		Pn	13 53 41.3	0.0
441A	DeRidder	14.35	3	Pn	Pn	13 53 46.9	+0.9
435B	Jarrell	14.73	348	P	Pn	13 53 52.1	+1.3
	baz=166,SNR=11						
435B				S	Sn	13 56 21.2	-12
	baz=166						
435B	Jarrell	14.73	348	Pn	P	13 53 52.7	-1.3
JCT	Junction City	15.02	340	P	Pn	13 53 55.6	+1.0
	baz=158,SNR=5.6						
JCT				S	Sn	13 56 29.8	-11
	baz=158						
JCT	Junction City	15.02	340	Pn	P	13 53 56.1	-1.3
JCT				IAmb	IAmb	13 54 09.3	
	comp=Z,31nm,0.6s						
342A	Flagon Creek P	15.03	6	Pn	P	13 53 55.7	-1.7
342A				IAmb	IAmb	13 53 59.4	
	comp=Z,35nm,1.0s						
NATX	Nacogdoches	15.35	358	P	P	13 54 00.5	-0.4
	baz=177						
NATX				S	Sn	13 56 34.7	-14
	baz=177						
NATX	Nacogdoches	15.35	358	P	P	13 54 00.4	-0.5
NATX				IAmb	IAmb	13 54 02.3	
	comp=Z,33nm,0.8s						
061Z	Ochoppi	15.46	50	Pn	Pn	13 54 00.1	+0.1
237A	Washetta, Mont	15.66	354		P	13 54 04.5	+0.1
TX31	Lajitas Ar. Si	15.67	327		P	13 54 04.3	-0.3
TX31				IAmb	IAmb	13 54 05.7	
	comp=Z,41nm,0.8s						
TX32	Lajitas Array	15.67	327		P	13 54 04.4	-0.2
TXAR	Lajitas Array	15.67	327	P	P	13 54 04.9	+0.3
	comp=Z,0.4nm,0.3s,baz=148,slow=14,SNR=113						
TXAR	Lajitas Array	15.67	327	Pn	P	13 54 04.1	-0.5
MTDJ	Mount Denham	15.86	81	P	P	13 54 07.0	+0.2
WHTX	Lake Whitney,	15.88	349	P	P	13 54 06.5	-0.3
	baz=168,SNR=10						
WHTX				S	Sn	13 56 47.3	-14
	baz=168						
WHTX	Lake Whitney,	15.88	349	Pn	P	13 54 06.2	-0.6
VBMS	Vicksburg	16.11	11	S	Sn	13 56 52.7	-14
	baz=192						
553A	Crawfordville	16.34	31		P	13 54 11.3	-0.6
DWPF	Disney Wildern	16.50	43	P	P	13 54 13.8	+0.2
656A	Willston	16.71	37	P	P	13 54 16.5	+0.5
Z38A	Mt. Pleasant	16.86	357		P	13 54 18.8	+1.2
Z38A				IAmb	IAmb	13 54 25.4	
	comp=Z,24nm,0.6s						
Z41A	Richland Creek	16.87	4	P	P	13 54 20.3	+2.6
	baz=184						
Z41A				S	Sn	13 57 07.9	-17
	baz=184						
ABTX	Abilene, Hawle	16.98	344	P	P	13 54 19.9	+0.9
	baz=161,SNR=13						
ABTX	Abilene, Hawle	16.98	344		P	13 54 20.2	+1.2
250A	Grady	17.08	23		P	13 54 20.7	+0.6
250A				IAmb	IAmb	13 54 40.6	
	comp=Z,13nm,0.6s						
Z35A	Perchaven, San	17.15	351		P	13 54 22.8	+1.9
Z35A				IAmb	IAmb	13 54 36.4	
	comp=Z,32nm,0.8s						
352A	Blakely	17.19	27	P	P	13 54 21.5	+0.3
352A				IAmb	IAmb	13 54 22.7	
	comp=Z,39nm,0.8s						
TIGA	Tifton	17.77	30	S	Sn	13 57 33.1	-14
	baz=214						
LOOK	Love County	17.79	351	P	Pn	13 54 30.1	+1.4
Y45A	Yeager Farm, C	17.90	12	P	Pn	13 54 29.4	-0.5
Y45A				IAmb	IAmb	13 54 46.0	
	comp=Z,18nm,0.7s						
X40A	Basin Creek Fa	18.09	3	P	Pn	13 54 35.4	+3.2
	baz=183						
X40A				S	Sn	13 57 37.4	-17
	baz=183						
MIAR	Mount Ida	18.12	1	P	Pn	13 54 32.6	+0.1
	baz=181						
MIAR				S	S	13 57 37.0	-17
	baz=181						
MIAR	Mount Ida	18.12	1		Pn	13 54 31.8	-0.7
X37A	Clayton	18.20	356		Pn	13 54 35.3	+1.8
X37A				IAmb	IAmb	13 54 42.9	
	comp=Z,31nm,0.7s						
GTBY	Guantanamo Bay	18.32	76	P	P	13 54 32.2	-1.6
GTBY				IAmb	IAmb	13 54 47.0	
	comp=Z,37nm,0.7s						
MNTX	Cornudas Mount	18.44	328	P	P	13 54 35.5	+0.5
	baz=143,SNR=13						
MNTX	Cornudas Mount	18.44	328		Pn	13 54 36.3	-0.2
X34A	Smith Ranch, M	18.49	350	P	Pn	13 54 37.2	+0.3
OXF	Oxford	18.55	12	P	Pn	13 54 41.0	+3.4
	baz=194						
OXF				S	S	13 57 48.6	-14
	baz=194						
W39A	Magazine	18.77	1	P	Pn	13 54 41.5	+1.3
	baz=180,SNR=15						
W39A	Magazine	18.77	1	P	Pn	13 54 40.5	+0.3
W39A				IAmb	IAmb	13 54 49.0	
	comp=Z,19nm,0.6s						
WMOK	Wichita Mounta	18.80	348	P	Pn	13 54 40.5	-0.2
	baz=166,SNR=8.2						
WMOK	Wichita Mounta	18.80	348	P	Pn	13 54 40.6	-0.1
WMOK				IAmb	IAmb	13 54 59.1	
	comp=Z,11nm,0.6s						
W41B	Gary Mavity, V	18.81	5	P	Pn	13 54 42.1	+1.4
	baz=185						
W41B				S	S	13 57 53.9	-13
	baz=185						
X48A	Hartselle	19.08	18	P	Pn	13 54 43.1	-0.8
MSTX	Muleshoe	19.23	337	P	P	13 54 44.2	+0.4
	baz=154						
MSTX	Muleshoe	19.23	337		P	13 54 44.1	+0.4
MSTX				IAmb	IAmb	13 55 05.8	
	comp=Z,20nm,0.9s						
SJCC	San Jacinto, C	19.43	107	P	P	13 54 45.1	-0.9
GOGA	Godfrey	19.47	27	P	Pn	13 54 54.1	+5.6
	baz=212						
Y52A	Lilburn	19.61	25	P	Pn	13 54 48.7	-1.4
Y52A				IAmb	IAmb	13 55 01.2	
	comp=Z,17nm,0.7s						
AMTX	Amarillo	19.69	341	P	P	13 54 49.3	+0.6
	baz=158						
AMTX	Amarillo	19.69	341	P	P	13 54 49.1	+0.4
AMTX				IAmb	IAmb	13 55 13.6	
	comp=Z,20nm,0.5s						
X51A	Calhoun	19.91	23		Pn	13 54 52.2	-1.5
X51A				IAmb	IAmb	13 54 56.3	
	comp=Z,21nm,0.7s						
121A	Cookes Peak, D	20.37	325	P	P	13 54 58.1	+1.9
	baz=139						
121A	Cookes Peak, D	20.37	325		Pn	13 54 58.4	-0.8
121A				IAmb	IAmb	13 55 00.9	
	comp=Z,13nm,0.8s						
319A	Douglas	20.41	320	P	P	13 54 58.6	+2.0
319A				IAmb	IAmb	13 55 26.2	
	comp=Z,19nm,1.0s						
WVT	Waverly	20.45	14	P	Pn	13 55 01.9	+2.0
	baz=197						
WVT	Waverly	20.45	14	P	P	13 54 55.6	-1.2
CBOC	Ciudad Bolivar	20.50	119	eP	P	13 54 58.0	+0.3
T35A	Sooner Cattle	20.60	354	P	P	13 54 59.6	+1.2
T35A				IAmb	IAmb	13 55 16.1	
	comp=Z,20nm,0.7s						
GC02	Grant County #	20.70	351	P	P	13 55 00.6	+1.2
CPCT	Cooper Cave	20.82	22	P	P	13 55 01.7	+0.8
BNM	Barren Site	21.03	330		P	13 55 05.6	+2.3
LENM	Lemitar	21.21	329	P	P	13 55 06.5	+1.2
YOTC	Yotoco, Valle	21.28	123	eP	P	13 55 05.9	-0.1
TKL	Tuckaleechee C	21.29	24	P	P	13 55 04.6	-1.2
	comp=Z,1.8nm,0.6s,baz=214,slow=13,SNR=1.5						
TKL				S	S	13 58 55.7	-0.5
	comp=Z,3.2nm,0.4s,baz=121,slow=23,SNR=2.4						
TKL	Tuckaleechee C	21.29	24	P	P	13 55 06.3	+0.4
U49A	Red Boiling Sp	21.37	18	P	P	13 55 08.5	+1.9
ANMO	Albuquerque	21.60	331	P	P	13 55 10.9	+1.5
	comp=Z,3.1nm,0.7s,baz=151,slow=10.0,SNR=8.2						
ANMO	Albuquerque	21.60	331	P	P	13 55 10.7	+1.3
	baz=146						
ANMO	Albuquerque	21.60	331	P	P	13 55 10.1	+0.7
V53A	Saluda	21.68	25	P	P	13 55 10.5	+0.5
V53A				IAmb	IAmb	13 55 17.4	
	comp=Z,14nm,0.8s						
TOLC	Tolima	21.77	120	eP	P	13 55 11.6	+0.2
BBAC	Balboa, Cauca	21.81	129	eP	P	13 55 12.8	+1.0
POPC	Popayan, Colom	21.91	127	eP	P	13 55 04.6	-8.2
R40A	Maddies Statio	21.91	4	P	P	13 55 13.9	+1.6
TUC	Tucson	21.99	319	P	P	13 55 15.2	+1.8
	baz=132						
TUC	Tucson	21.99	319	P	P	13 55 15.4	+2.1
TZTN	Tazewell	22.16	23	P	P	13 55 17.1	+2.1
TZTN				IAmb	IAmb	13 55 33.4	
	comp=Z,12nm,0.6s						
SOTA	Rioblanco	22.22	128	eP	P	13 55 18.2	+1.9
PCON	Cinco Dias	22.25	127	eP	P	13 55 17.1	+0.3
GCUF	Volcan Galeras	22.27	131	eP	P	13 55 18.2	+1.3
MARP	Paez Belalcaza	22.27	125	eP	P	13 55 18.3	+1.5
R32A	Long Quarter,	22.37	350	P	P	13 55 18.4	+1.2
R32A				IAmb	IAmb	13 55 39.7	
	comp=Z,14nm,0.7s						
T25A	Trinidad	22.65	338	P	P	13 55 21.0	+0.7
	baz=153						
T25A	Trinidad	22.65	338	P	P	13 55 21.1	+0.7
X18A	Snowflake	23.06	325	P	P	13 55 26.0	+1.7
X18A					pP	13 55 47.0	+1.3
X18A				IAmb	IAmb	13 55 50.9	
	comp=Z,21nm,0.9s						
214A	Organ Pipe Nat	23.07	316	P	P	13 55 26.6	+2.3
	baz=128						
SDCO	Great Sand Dun	23.59	337	P	P	13 55 30.9	+1.6
	baz=151						
SDCO	Great Sand Dun	23.59	337	P	P	13 55 30.9	+1.6
X16A	Lo Mia Camp, P	23.83	322	P	P	13 55 32.5	+1.2
S22A	4UR Ranch, Cre	24.12	335	P	P	13 55 36.3	+2.3
	baz=149						
MACC	Macrena, Meta	24.37	123	eP	P	13 55 36.7	+0.5
MVCO	Mesa Verde	24.40	331	P	P	13 55 38.9	+2.3
MVCO				IAmb	IAmb	13 56 02.5	
	comp=Z,24nm,1.2s						
WUAZ	Wupatki	24.58	324	P	P	13 55 41.9	+3.8
	baz=136						
GLA	Glamis	25.09	315	P	P	13 55 43.5	+0.8
PV01	Paradox Valley	25.19	332	P	P	13 55 44.6	+0.9
PV01				IAmb	IAmb	13 56 11.6	
	comp=Z,36nm,1.4s						
PV13	Radium Mtn., P	25.32	332	P	P	13 55 45.9	+1.0
PV13				IAmb	IAmb	13 56 13.1	
	comp=Z,16nm,0.8s						
PV05	Paradox Valley	25.39	331	P	P	13 55 45.9	+0.5
PV03	Paradox Valley	25.41	332	P	P	13 55 46.9	+1.2
PV03				IAmb	IAmb	13 56 12.8	
	comp=Z,12nm,0.8s						
PV18	Skein Mesa, Pa	25.44	332	P	P	13 55 47.1	+1.3
PV18				IAmb	IAmb	13 56 14.2	
	comp=Z,12nm,0.8s						
PV12	Saucer Basin,	25.45	332	P	P	13 55 48.0	+2.0
PV12				IAmb	IAmb	13 56 14.6	
	comp=Z,22nm,1.0s						
PV11	David Mesa, Pa	25.46	332	P	P	13 55 48.9	+2.8
PV11				IAmb	IAmb	13 56 13.2	
	comp=Z,16nm,0.6s						
PV17	East Wray Mesa	25.49	332	P	P	13 55 48.3	+2.0
PV17				IAmb	IAmb	13 56 14.2	
	comp=Z,14nm,0.8s						
PV16	Nyswonger Mesa	25.49	332	P	P	13 55 48.1	+1.7
PV16				IAmb	IAmb	13 56 14.3	
	comp=Z,14nm,1.0s						
PV20	West Nyswonger	25.54	332	P	P	13 55 48.8	+2.0
PV20				IAmb	IAmb	13 56 13.8	
	comp=Z,25nm,1.4s						
PV14	Lion Creek, Pa	25.59	332	pP	pP	13 56 11.9	+0.7
PV22	Blue Mesa, Par	25.62	332	P	P	13 55 49.6	+2.1
ECSD	EROS Data Cent	27.38	356	P	P	13 56 02.0	-1.1
ATAH	Atahualpa	28.00	145	P	P	13 56 10.5	+1.2
	comp=Z,5.2nm,0.7s,baz=339,slow=14,SNR=3.8						
PDAR	Pinedale Array	29.49	336	P	P	13 56 23.0	+1.0
	comp=Z,0.3nm,0.7s,baz=150,slow=7.8,SNR=2.3						
PDAR				pP	pP	13 56 45.7	-0.5
	comp=Z,0.3nm,0.5s,baz=134,slow=11,SNR=4.3						
ELK	Elko	30.46	327	P	P	13 56 31.6	+0.9
	comp=Z,0.4nm,0.4s,baz=167,slow=11,SNR=1.3						
ELK				pP	pP	13 56 56.3	+1.4
	comp=Z,3.3nm,0.8s,baz=111,slow=5.5,SNR=6.9						
ELK				sP	sP	13 57 08.5	+0.9
	comp=Z,1.7nm,0.6s,baz=153,slow=4.2,SNR=3.7						
NV11	Mina Array Sit	30.53	321	P	P	13 56 32.6	+1.3
NV11				IAmb	IAmb	13 56 58.5	
	comp=Z,7.7nm,0.9s						
NVAR	Mina Array Bea	30.62	321	P	P	13 56 35.0	+2.9
	comp=Z,2.0nm,0.7s,baz=130,slow=9.2,SNR=9.0						
NVAR				pP	pP	13 56 58.4	+2.2
	comp=Z,8.0nm,0.8s,baz=136,slow=9.4,SNR=19						
NVAR				sP	sP	13 57 11.3	+2.5
	comp=Z,3.5nm,0.8s,baz=126,slow=9.1,SNR=4.8						
NVAR	Mina Array Bea	30.62	321	P	P	13 56 34.0	+1.9
MCMT	McKenzie Canyo	32.52	335	P	P	13 56 49.2	+0.6
LRM	Limekiln Ridge	33.18	336	P	P	13 56 55.6	+1.2
FRNY	Flat Rock	33.20	27	P	P	13 56 55.3	+0.9
HRY	Holter Researc	33.69	338	P	P	13 57 00.4	+1.7
LPAZ	La Paz	41.28	141	P	P	13 58 03.3	-0.3
	comp=Z,4.8nm,0.7s,baz=330,slow=5.4,SNR=18						
LPAZ	La Paz	41.28	141	P	P	13 58 02.4	-1.2
LPAZ				IAmb	IAmb	13 58 04.2	
	comp=Z,5.7nm,0.9s						
MNMC	Minye Minye	42.67	145	P	P	13 58 14.3	-0.1
PSGCX	Pisagua	42.76	146	P	P	13 58 14.9	-0.1
PSGCX				IAmb	IAmb	13 58 15.6	
	comp=Z,7.2nm,0.9s						
PB11	IPOC Station P	43.15	145	P	P	13 58 17.9	-0.2
TA01	Diego Aracena	43.52	147	P	P	13 58 21.4	+0.4
TA01				IAmb	IAmb	13 58 21.9	
	comp=Z,10nm,0.8s						
PB08	IPOC Station P	43.73	145	P	P	13 58 23.0	-0.1
PB08				IAmb	IAmb	13 58 24.3	
	comp=Z,5.6nm,0.8s						
SCHQ	Schefferville	43.75	22	LR	LR	14 17 58.0	
	comp=Z,36nm,19.2s,baz=214,slow=38						
PB07	IPOC Station P	44.63	147	P	P	13 58 30.1	+0.1
PB07				IAmb	IAmb	13 58 30.9	
	comp=Z,7.9nm,0.8s						
PB09	IPOC Station P	45.03	147	P	P	13 58 33.6	+0.4
LVC	Limon Verde	45.87	147	P	P	13 58 40.7	+0.7
LVC				IAmb	IAmb	13 58 41.4	
	comp=Z,7.1nm,1.0s						
PB14	IPOC Station P	46.80	150	P	P	13 58 47.4	+0.2
GO02	Mina Guanaco	47.64	150	P	P	13 58 54.3	+0.5
GO02				IAmb	IAmb	13 58 54.9	
	comp=Z,8.8nm,0.8s						
YKA	Yellowknife Ar	48.31	347	P	P	13 58 57.5	-0.5
	comp=Z,1.8nm,0.6s,baz=150,slow=7.5,SNR=12						
YKA				pP	pP	13 59 22.1	-1.6
	comp=Z,0.9nm,0.6s,baz=152,slow=7.6,SNR=4.8						
YKA				sP	sP	13 59 34.5	-1.6
	comp=Z,2.7nm,0.8s,baz=149,slow=7.7,SNR=5.3						
YKA	Yellowknife Ar	48.31	347	P	P	13 58 57.3	-0.7
AC02	Maricunga	49.27	150	P	P	13 59 07.2	+0.7
AC02				IAmb	IAmb	13 59 08.2	
	comp=Z,6.7nm,0.8s						
LCO	Las Campanas	50.42	153	P	P	13 59 15.7	+0.9
GO04	Tololo Observa	51.39	154	P	P	13 59 22.1	+0.1
VA03	San Esteban	53.76	155	P	P	13 59 40.0	+0.7
MT09	Talagante	54.48	156	P	P	13 59 44.9	+0.4
CPUP	Villa Florida	55.43	139	P	P	13 59 49.7	-1.7
	comp=Z,2.0nm,0.6s,baz=320,slow=9.6,SNR=4.8						
CPUP	Villa Florida	55.43	139	IAmb	IAmb	13 59 50.5	
	comp=Z,4.8nm,1.1s						
BCAR	Beaver Creek A	57.11	336	P	P	14 00 03.8	+0.9
INK	Inuvik	57.64	344	P	P	14 00 06.3	-0.1
INK				IAmb	IAmb	14 00 07.2	
	comp=Z,4.3nm,0.7s						
PAX	Paxson	58.51	335	P	P	14 00 13.8	+1.0
KHLU	Kahalu`u	58.66	283	P	P	14 00 14.2	-0.3
PRP	Porcupine Dome	59.77	338	P	P	14 00 22.6	+1.1
IL31		59.92	337	P	P	14 00 22.8	+0.6
ILAR	Eielson Array	59.92	337	P	P	14 00 22.6	+0.3
	comp=Z,0.3nm,0.5s,baz=144,slow=5.2,SNR=9.1						
ILAR				pP	pP	14 00 48.4	-0.8
	comp=Z,0.5nm,0.6s,baz=157,slow=4.5,SNR=4.0						
ILAR				sP	sP	14 01 01.1	-0.2
	comp=Z,1.1nm,0.6s,baz=125,slow=5.6,SNR=6.6						
BMAR	Burnt Mountain	60.42	340	P	P	14 00 26.4	+0.6
RSO	Redoubt South	60.66	331	P	P	14 00 29.3	+1.6
TRF	Thorofare Moun	60.69	335		pP	14 00 54.7	0.0
PLCA	Paso Flores	60.84	160	P	P	14 00 29.3	+0.4
	comp=Z,6.6nm,0.8s,baz=345,slow=7.7,SNR=12						
PLCA	Paso Flores	60.84	160	P	P	14 00 29.0	+0.1
I23K	Minto, Yukon-K	61.03	337	P	P	14 00 30.2	+0.4
BPAW	Bear Paw Mtn.	61.23	335		pP	14 00 57.7	-0.5
MLY	Manley	61.51	336	P	P	14 00 33.4	+0.3
MLY					pP	14 00 59.9	-0.2
PLTB	Pedras Altas	61.58	141	P	P	14 00 32.7	-1.3
LL01	San Ignacio de	61.74	162	P	P	14 00 36.1	+1.3
TOLK	Toolik Lake Re	62.65	340	P	P	14 00 41.4	+0.7
NOA	NORSAR Array B	83.01	28	LR	LR	14 40 58.7	
	comp=Z,5.7nm,18.1s,baz=190,slow=37						
ARCES	ARCESS Array B	84.52	18	P	P	14 02 47.9	-0.6
	comp=Z,3.3nm,0.5s,baz=297,slow=5.5,SNR=28						
ARCES				pP	pP	14 03 16.4	-0.4
	comp=Z,3.3nm,0.7s,baz=294,slow=6.1,SNR=1.9						
FINES	FINESS Array B	89.19	25	P	P	14 03 10.2	-1.1
	comp=Z,2.7nm,0.9s,baz=316,slow=5.8,SNR=4.4						
WRA	Warramunga Arr	134.02	258	PKP	PKPdf	14 09 33.3	-0.1
	comp=Z,0.6nm,0.6s,baz=85,slow=1.5,SNR=8.3						
WRA				pPKP	pPKPdf	14 10 03.4	+0.4
	comp=Z,0.4nm,0.3s,baz=46,slow=2.4,SNR=3.4						
ASAR	Alice Springs	134.55	253	PKP	PKPdf	14 09 34.9	+0.6
	comp=Z,0.2nm,0.7s,baz=99,slow=2.8,SNR=1.8						
ASAR				pPKP	pPKPdf	14 10 04.6	+0.6
	comp=Z,0.2nm,0.7s,baz=90,slow=2.6,SNR=1.6						

MOS **27** *13:59:36.7±0.0, 43°.35N×44°.62E, h20km, MPVA4.1*
NORS **27** *13:59:36.3±0.0, 43°.36N×44°.69E, h9km, MPVA4.1*
DRS **27** *13:59:38.7±0.0, 43°.10N×44°.33E, h22km*
ISC 27 13:59:37.0±0.7, 43°.38N±0°.02×44°.67E±0°.01, h13km±4km,
n74, σ1.962/141, 2C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	Batakoyurt	0.09	268	i/iPG	Pb	13 59 39.7	-0.3
BTKR	Batakoyurt	0.09	268

BTLR	**Botlikh**	**1.34**	**121**	*e*PG	**Pn**	**14 00 01.9**	**+0.4**
BTLR				*e*S	**Sg**	**14 00 21.8**	**+1.5**
BTLR	**Botlikh**	**1.34**	**121**	*e*Pg	**Pn**	**14 00 01.9**	**+0.4**
BTLR				*e*Sg	**Sg**	**14 00 20.8**	**+0.5**
NEY	**Neytrino**	**1.43**	**266**	*e*PG	**Pn**	**14 00 02.8**	**+0.1**
NEY				*e*S	**Sb**	**14 00 22.5**	**+0.8**
NEY	**Neytrino**	**1.43**	**266**	*e*Pg	**Pn**	**14 00 02.6**	**-0.2**
NEY				*e*Sg	**Sn**	**14 00 21.8**	**+0.3**
DLMR	**Dylym**	**1.47**	**101**	*e*PG	**Pb**	**14 00 05.2**	**+1.1**
DLMR				*e*S	**Sg**	**14 00 26.8**	**+2.6**
DLMR	**Dylym**	**1.47**	**101**	*e*Pg	**Pb**	**14 00 05.0**	**+0.9**
DLMR				*e*Sg	**Sg**	**14 00 26.0**	**+1.8**
SHA1	**Shidzhatmaz**	**1.50**	**285**	*e*PG	**Pn**	**14 00 03.8**	**-0.1**
SHA1				*e*S	**Sb**	**14 00 25.3**	**+1.3**
SHA1	**Shidzhatmaz**	**1.50**	**285**	*e*Pg	**Pn**	**14 00 03.8**	**-0.1**
SHA1				*e*Sg	**Sb**	**14 00 25.1**	**+1.1**
KIV0	**Kislovodsk Arr**	**1.54**	**293**	*e*Pg	**Pn**	**14 00 04.5**	**+0.2**
KIV0				*e*Sg	**Sb**	**14 00 25.9**	**+0.8**
KIV	**Kislovodsk**	**1.55**	**293**	*e*PG	**Pn**	**14 00 04.5**	**+0.1**
KIV				*e*S	**Sb**	**14 00 25.9**	**+0.7**
KIV	**Kislovodsk**	**1.55**	**293**	*e*Pg	**Pn**	**14 00 04.5**	**+0.1**
KIV				*e*Sg	**Sb**	**14 00 25.9**	**+0.7**
DBC	**Dubki**	**1.62**	**102**	*e*PN	**Pb**	**14 00 07.1**	**+0.3**
DBC				*e*S	**Sg**	**14 00 30.5**	**+1.3**
DBC				pmax	pmax		
	comp=Z,46nm,0.3s						
DBC	**Dubki**	**1.62**	**102**	*e*Pg	**Pn**	**14 00 05.5**	**+0.2**
DBC				*e*Sg	**Sg**	**14 00 29.4**	**+0.2**
KRNR	**Karanay**	**1.73**	**108**	*e*PN	**Pb**	**14 00 08.3**	**-0.4**
KRNR				*e*S	**Sg**	**14 00 33.0**	**+0.3**
KRNR				pmax	pmax		
	comp=Z,4.0nm,0.1s						
KRNR	**Karanay**	**1.73**	**108**	*e*Pg	**Pn**	**14 00 07.2**	**+0.3**
KRNR				*e*Sg	**Sb**	**14 00 31.3**	**+1.0**
BUJR	**Buynaksk**	**1.87**	**106**	*e*PN	**Pb**	**14 00 12.2**	**+1.2**
BUJR				*e*S	**Sg**	**14 00 36.5**	**-0.7**
BUJR	**Buynaksk**	**1.87**	**106**	*e*Pg	**Pb**	**14 00 12.2**	**+1.2**
BUJR				*e*Sg	**Sg**	**14 00 36.5**	**-0.7**
ARKR	**Arakani**	**1.87**	**114**	*e*PN	**Pb**	**14 00 10.7**	**-0.4**
ARKR				*e*S	**Sg**	**14 00 36.9**	**-0.4**
ARKR	**Arakani**	**1.87**	**114**	*e*Pg	**Pb**	**14 00 10.7**	**-0.4**
ARKR				*e*Sg	**Sg**	**14 00 36.9**	**-0.4**
ALER	**Alexandrovskoy**	**1.88**	**318**	*e*PN	**Pb**	**14 00 11.0**	**-0.1**
ALER	**Alexandrovskoy**	**1.88**	**318**	*e*Pg	**Pb**	**14 00 11.0**	**-0.1**
ALER				*e*Sg	**Sn**	**14 00 33.4**	**+1.0**
GOF	**Gofitskoye**	**2.05**	**326**	*e*PN	**Pb**	**14 00 15.1**	**+1.1**
GOF	**Gofitskoye**	**2.05**	**326**	*e*Pg	**Pb**	**14 00 15.1**	**+1.1**
GOF				*e*Sg	**Sb**	**14 00 39.8**	**+0.4**
ZKTA	**Zakatala**	**2.26**	**140**	PN	**Pn**	**14 00 14.9**	**+0.8**
URKR	**Urkarakh**	**2.50**	**118**	*e*PN	**Pn**	**14 00 19.8**	**+2.4**
URKR				*e*S	**Sb**	**14 00 50.9**	**-1.5**
URKR	**Urkarakh**	**2.50**	**118**	*e*Pn	**Pn**	**14 00 19.8**	**+2.4**
URKR				*e*Sn	**Sb**	**14 00 50.9**	**-1.5**
SEKA	**Sheki**	**2.87**	**138**	PN	**Pn**	**14 00 23.8**	**+1.4**
AKT	**Akhty**	**2.95**	**129**	*e*PN	**Pn**	**14 00 25.9**	**+2.2**
AKT				*e*S	**Sn**	**14 00 58.5**	**-0.6**
AKT	**Akhty**	**2.95**	**129**	*e*Pn	**Pn**	**14 00 25.9**	**+2.2**
AKT				*e*Sn	**Sn**	**14 00 58.5**	**-0.6**
GANJ	**Ganja**	**2.99**	**155**	PN	**Pn**	**14 00 25.0**	**+0.8**
GNI	**Garni**	**3.22**	**179**	*e*PN	**Pb**	**14 00 33.2**	**-1.0**
GNI				*e*S	**Sn**	**14 01 07.3**	**+1.5**
GNI	**Garni**	**3.22**	**179**	*e*Sn	**Sn**	**14 01 07.3**	**+1.5**
GUZR	**Guzeripl'**	**3.36**	**282**	*e*PN	**Pn**	**14 00 30.3**	**+1.1**
GUZR				*e*S	**Sn**	**14 01 11.3**	**+2.4**
GUZR	**Guzeripl'**	**3.36**	**282**	*e*Pn	**Pn**	**14 00 30.3**	**+1.1**
AKTO	**Aktyubinsk**	**11.53**	**48**	⇓Pn	**Pn**	**14 02 24.9**	**+3.7**
	comp=Z,1.2nm,0.8s						
AKTO				⇑Sn	**Sn**	**14 04 34.4**	**+4.6**
	comp=Z,1.3nm,0.8s						
AKTO	**Aktyubinsk**	**11.53**	**48**	P	**Pn**	**14 02 24.9**	**+3.7**
AKTO				S	**Sn**	**14 04 34.4**	**+4.6**
AB31	**Akbulak array**	**12.08**	**56**	⇓Pn	**Pn**	**14 02 25.1**	**-3.6**
	comp=Z,0.5nm,0.7s,baz=243,slow=11,SNR=11						
AB31				⇓Sn	**Sn**	**14 04 37.5**	**-5.7**
	comp=Z,0.2nm,0.3s,baz=237,slow=25						
AB31	**Akbulak array**	**12.08**	**56**	P	**Pn**	**14 02 25.1**	**-3.6**
MNK	**Minsk**	**15.62**	**321**	*i* P	**Pn**	**14 03 13.0**	**-3.7**
MNK				*i* S	**Sn**	**14 06 05.5**	**-4.0**
MNK				pmax	pmax		
	comp=E,2.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,24nm,0.9s						
MNK				MLR	MLR		
	comp=N,432nm,21.0s						
MNK				MLR	MLR		
	comp=Z,28nm,19.0s						
MNK				MLR	MLR		
	comp=E,14nm,22.0s						
MNK	**Minsk**	**15.62**	**321**	*i* P	**Pn**	**14 03 13.1**	**-3.6**
	comp=E,2.0nm,0.7s						
MNK				*i* P	**Pn**	**14 03 13.1**	**-3.6**
	comp=N,24nm,0.9s						
MNK				*i* P	**Pn**	**14 03 13.1**	**-3.6**
	comp=Z,8.0nm,0.7s,baz=309						
MNK				*i* PP	**P**	**14 03 21.3**	**+0.5**
MNK				*i* PPP	PPP	14 03 29.0	
MNK				*i* S	**Sn**	**14 06 05.6**	**-3.9**
MNK				*i* SS	**SnSn**	**14 06 19.6**	**-2.6**
MNK				*i* SSS	SSS	14 06 32.2	
MNK				*i* LQ	LQ	14 07 45.0	
MNK				*i* LR	LR	14 09 09.3	
MNK				*i* LRM	MLR	14 09 54.2	
	comp=N,432nm,21.2s						
MNK				*i* LRM	MLR	14 10 08.7	
	comp=Z,28nm,18.7s						
MNK				*i* LRM	MLR	14 10 22.2	
	comp=E,14nm,22.5s						
ARU	**Arti**	**15.79**	**29**	*i* P	**Pn**	**14 03 17.5**	**-1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s						
NRIK	**Noril'sk**	**33.96**	**26**	*i* P	**P**	**14 06 19.8**	**+0.1**

*IDC **27** 14:04:48.8±1.1, 35°.75N×141°.00E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/36, mbtmp3.7/8, ML3.5/3, MS3.1/7, Ms1 3.1/7, ms1mx2.8/44, Error ellipse: s-maj=30.1km s-min=18.4km az=90.0*
*JMA **27** 14:04:52.2±0.2, 35°.81N×140°.97E, h31km±1km, M3.5*
JMA Felt I J1.
*NIED **27** 14:04:52.2, 35°.82N×140°.97E, h31km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.97; $M_{\theta\theta}$2.71; $M_{\phi\phi}$1.25; $M_{r\theta}$2.47; $M_{\theta\phi}$-2.91; $M_{\phi r}$0.83; Fault plane solution: $M_0$5.25000×10^{14} NP1: ϕ_s=283.00000°, δ60.00000°, λ-120.00000°. NP2: ϕ_s=152.00000°, δ42.00000°, λ-49.00000°.*

ISC 27 14:04:52.7±1.0, 35°.84N±0°.04×140°.94E±0°.07, h26km±6km, n32, σ0°92/27, mb3.7/5, MS3.7/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.15**	**205**	⇑P	**Pb**	**14 04 57.8**	**-0.1**
CHOJ				S	**Sb**	**14 05 01.5**	**+0.1**
JIHU	**Itakohorinouch**	**0.36**	**291**	⇓P	**Pn**	**14 05 01.5**	**-0.7**
JIHU				S	**Sn**	**14 05 08.2**	**-0.2**
JSMT	**Sammumatsuo**	**0.44**	**244**	⇑P	**Pb**	**14 05 02.2**	**+0.2**
JSMT				S	**Sn**	**14 05 09.5**	**-1.0**
JHYU	**Hitachinakayam**	**0.58**	**331**	⇓P	**Pb**	**14 05 04.4**	**+0.2**
JHYU				S	**Sb**	**14 05 12.9**	**+0.9**
JYT	**Yasato**	**0.72**	**303**	⇓P	**Pn**	**14 05 05.8**	**-1.3**
JYT				S	**Sb**	**14 05 15.4**	**-0.6**
JHO	**Hitachi**	**0.83**	**339**	⇓P	**Pn**	**14 05 07.7**	**-1.0**
JHO				S	**Sn**	**14 05 18.7**	**-1.3**
BSO4	**Boso 4**	**0.98**	**210**	P	**Pb**	**14 05 11.1**	**+0.2**
BSO3	**Boso 3**	**1.09**	**199**	P	**Pn**	**14 05 10.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.31**	**288**	Pn	**Pn**	**14 05 28.6**	**-0.6**
	2.1nm,0.3s,baz=91,slow=8.6,SNR=120						
MJAR				LR	LR	14 06 25.5	
	comp=Z,84nm,19.0s,baz=230,slow=41						
MAT	**Matsushiro**	**2.32**	**288**	P	**Pn**	**14 05 29.5**	**+0.3**
MAT				*e*S	**Sn**	**14 05 55.4**	**-1.4**
JHJ	**Hachijo jima 2**	**2.87**	**200**	Pn	**Pn**	**14 05 36.5**	**-0.3**
	8.0nm,0.3s,baz=32,slow=15,SNR=2.1						
JHJ				Sn	**Sn**	**14 06 10.0**	**-0.5**
	16nm,0.3s,baz=70,slow=20,SNR=1.8						
ASAJ	**Asahikawa**	**8.37**	**8**	Pn	**Pn**	**14 06 51.6**	**-0.6**
	2.1nm,0.3s,baz=224,slow=9.4,SNR=32						
ASAJ				Sn	**Sn**	**14 08 24.9**	**-0.9**
	0.4nm,0.3s,baz=345,slow=19,SNR=2.6						

JCJ	**Chichijima**	**8.78**	**173**	LR	LR	14 10 32.1	
	comp=Z,80nm,21.6s,baz=34,slow=40						
KSRS	**Korea Array**	**10.58**	**283**	Pn	Pn	14 07 27.6	+5.1
	0.1nm,0.3s,baz=99,slow=15,SNR=4.5						
KSRS				LR	LR	14 11 21.4	
	comp=Z,49nm,21.1s,baz=90,slow=37						
KLR	**Kul'dur**	**14.98**	**336**	LR	LR	14 13 43.4	
	comp=Z,52nm,18.2s,baz=172,slow=35						
NJ2	**Nanjing**	**18.70**	**265**	*e*P	**Pn**	**14 09 11.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	14 39 41.1	
	baz=311,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	14 39 43.3	
	baz=311,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy**	**27.91**	**118**	T	T	14 39 42.5	
	baz=311,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	14 40 35.4	
	baz=312,slow=75,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	14 40 30.4	
	baz=312,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	14 40 31.7	
	baz=312,slow=75,SNR=29						
ZALV	**Zalesovo Beam**	**42.44**	**313**	P	**P**	**14 12 46.9**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=92,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**14 13 01.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=92,slow=9.9,SNR=10.0						
KDAK	**Kodiak Island**	**48.25**	**41**	LR	LR	14 34 58.5	
	comp=Z,118nm,18.0s,baz=252,slow=38						
ILAR	**Eielson Array**	**50.71**	**32**	P	**P**	**14 13 50.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=253,slow=6.3,SNR=5.9						
ILAR				LR	LR	14 36 19.7	
	comp=Z,70nm,19.1s,baz=164,slow=37						
WRA	**Warramunga Arr**	**55.83**	**188**	P	**P**	**14 14 27.0**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=2.3,slow=7.7,SNR=4.7						
ASAR	**Alice Springs**	**59.55**	**187**	P	**P**	**14 14 53.3**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=18,slow=9.7,SNR=7.0						
NOA	**NORSAR Array B**	**75.14**	**337**	LR	LR	14 53 03.5	
	comp=Z,8.4nm,18.9s,baz=35,slow=38						
H03N2	**Juan Fernandez**	**147.26**	**98**	T	T	17 09 01.8	
	baz=289,slow=76,SNR=9.7						
H03N3	**Juan Fernandez**	**147.28**	**98**	T	T	17 09 03.2	
	baz=289,slow=76,SNR=9.3						
H03N1	**Juan Fernandez**	**147.28**	**98**	T	T	17 09 10.1	
	baz=289,slow=76,SNR=9.4						

*IDC **27** 14:08:07.0±2.5, 52°.06N×169°.33W, h0km, mb3.0/1, mb1 3.5/3, mb1mx3.2/45, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=80.5km s-min=33.2km az=3.0*
*AEIC **27** 14:08:12±1.6, 52°.21N±0°.10×169°.35W±0°.10, h21km±9km, ML2.9, Error ellipse: s-maj=15.3km s-min=5.7km az=153.0*
*NEIC **27** 14:08:14.5±1.1, 52°.4N±0°.1×169°.4W±0°.1, h39km±39km, Error ellipse: s-maj=21.3km s-min=8.2km az=155.0*

ISC 27 14:08:11.8±1.3, 52°.1N±0°.2×169°.23W±0°.10, h29km, n18, σ0°98/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.90**	**14**		**Pn**	**14 08 27.5**	**-1.0**
OKSP	**Okmok Steeple**	**1.29**	**26**		**Pn**	**14 08 33.3**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.47**	**29**		**Pn**	**14 08 36.4**	**0.0**
OKFG	**Magazine Ridge**	**1.54**	**31**		**Pn**	**14 08 37.3**	**+0.1**
MAPS	**Pakushin South**	**2.20**	**38**		**Pn**	**14 08 47.4**	**+1.1**
MSW	**Makushin Switc**	**2.34**	**38**		**Pn**	**14 08 49.3**	**+1.0**
UNV	**Unalaska Valle**	**2.40**	**42**		**Pn**	**14 08 50.5**	**+1.5**
AKUT	**Akutan**	**2.91**	**44**		**Pn**	**14 08 57.0**	**+0.9**
KIWB	**Kanaga Island**	**4.91**	**270**	Pn	**Pn**	**14 09 23.9**	**+0.4**
SPIA	**Saint Paul Isl**	**5.12**	**354**	Pn	**Pn**	**14 09 28.0**	**+1.6**
AMKA	**Amchitka**	**7.16**	**269**	Pn	**Pn**	**14 09 54.8**	**+0.4**
OHAK	**Old Harbor**	**10.55**	**55**	Pn	**Pn**	**14 10 40.8**	**0.0**
ILAR	**Eielson Array**	**17.13**	**34**	P	**Pn**	**14 12 08.3**	**-0.4**
	0.1nm,0.3s,baz=224,slow=10.0,SNR=2.6						
PETK	**Petropavlovsk-**	**20.02**	**286**	P	**P**	**14 12 40.6**	**-1.4**
	0.4nm,0.3s,baz=85,slow=13,SNR=15						
H11S1	**WAKE ISLAND Hy**	**38.48**	**218**	T	T	14 56 48.2	
	baz=23,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	14 56 45.9	
	baz=23,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	14 56 41.5	
	baz=23,slow=76,SNR=11						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**14 17 23.4**	**+0.1**
	0.1nm,0.6s,baz=311,slow=5.9,SNR=1.9						

*NEIC **27** 14:18:09.9±1.5, 18°.53N±0°.07×69°.00W±0°.06, h154km±6km, Error ellipse: s-maj=10.8km s-min=7.6km az=198.0*
*RSPR **27** 14:18:09.6, 18°.55N×68°.98W, h154km±1km, MD4.0/16*
*IDC **27** 14:18:09.9±1.8, 18°.63N×68°.88W, h153km±27km, mb3.4/7, mb1 3.8/11, mb1mx3.5/43, mbtmp4.1/11, Error ellipse: s-maj=26.3km s-min=17.3km az=93.0*
*OSPL **27** 14:18:10.3±1.3, 18°.33N×69°.04W, h166km±15km, ML4.2*

ISC 27 14:18:09.7±0.6, 18°.56N±0°.06×68°.91W±0°.05, h160km±5km, n183, σ1°44/196, mb4.2/30, 15C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.50**	**297**		**Pn**	**14 18 30.4**	**-1.8**
PCDR	**Punta Cana, DR**	**0.50**	**95**	⇑*e*P	**Pn**	**14 18 32.1**	**0.0**
PCDR	**Punta Cana, DR**	**0.50**	**95**	*e*S	**Sn**	**14 18 48.9**	**-0.3**
PCDR	**Punta Cana, DR**	**0.50**	**95**		**Pn**	**14 18 32.1**	**0.0**
PCDR	**Punta Cana, DR**	**0.50**	**95**	*i* P	**Pn**	**14 18 32.2**	**+0.1**
PCDR				*e*S	**Sn**	**14 18 49.6**	**+0.4**
PCDR				IAML		14 18 54.9	
	comp=Z,5μm,0.5s						
SDD	**Santo Domingo**	**0.96**	**264**	⇑*e*P	**Pn**	**14 18 33.2**	**-1.8**
SDD	**Santo Domingo**	**0.96**	**264**	*e*S	**Sn**	**14 18 50.7**	**-3.7**
SDD	**Santo Domingo**	**0.96**	**264**		**Pn**	**14 18 32.9**	**-2.1**
SDD				IAML		14 18 52.3	
	comp=N,3μm,0.3s						
IDE	**Isla Desecheo**	**1.37**	**97**	⇑*e*P	**Pn**	**14 18 38.8**	**+0.1**
IDE	**Isla Desecheo**	**1.37**	**97**	*e*S	**Sn**	**14 19 01.6**	**+0.6**
IDE	**Isla Desecheo**	**1.37**	**97**		**Pn**	**14 18 38.8**	**+0.1**
IDE					**Sn**	**14 19 01.6**	**+0.6**
BANI	**BANI**	**1.38**	**263**		**Pn**	**14 18 37.2**	**-1.7**
AGPR	**Aguadilla, PR**	**1.71**	**93**	⇓*e*P	**Pn**	**14 18 42.7**	**+0.6**
AGPR	**Aguadilla, PR**	**1.71**	**93**		**Pn**	**14 18 42.7**	**+0.6**
AGPR					**Sn**	**14 19 08.3**	**+1.2**
AGPR	**Aguadilla, PR**	**1.71**	**93**	*i* P	**Pn**	**14 18 42.7**	**+0.6**
AGPR				*e*S	**Sn**	**14 19 08.3**	**+1.2**
AGPR				IAML		14 19 17.9	
	comp=Z,2μm,0.2s						
MPR	**Mayaguez**	**1.72**	**101**	⇓*e*P	**Pn**	**14 18 43.0**	**+0.8**
MPR	**Mayaguez**	**1.72**	**101**		**Pn**	**14 18 42.4**	**+0.2**
MPR	**Mayaguez**	**1.72**	**101**	*i* P	**Pn**	**14 18 43.1**	**+0.8**
LSP	**Las Mesas**	**1.77**	**102**	⇓*e*P	**Pn**	**14 18 43.4**	**+0.5**
LSP	**Las Mesas**	**1.77**	**102**	*e*S	**Sn**	**14 19 08.7**	**+0.3**
LSP	**Las Mesas**	**1.77**	**102**		**Pn**	**14 18 43.4**	**+0.5**
LSP					**Sn**	**14 19 08.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.87**	**108**	⇑*e*P	**Pn**	**14 18 43.7**	**-0.1**
MLPR	**Magueyes Islan**	**1.87**	**108**	*e*S	**Sn**	**14 19 10.8**	**+0.6**
MLPR	**Magueyes Islan**	**1.87**	**108**		**Pn**	**14 18 43.7**	**-0.1**
MLPR					**Sn**	**14 19 10.8**	**+0.6**
GBPR	**Guanica, Bosqu**	**2.02**	**106**	⇑*e*P	**Pn**	**14 18 46.4**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.02**	**106**		**Pn**	**14 18 46.4**	**+0.8**
AOPR	**Arecibo Observ**	**2.06**	**95**	⇑*e*P	**Pn**	**14 18 46.2**	**+0.1**
AOPR	**Arecibo Observ**	**2.06**	**95**	*e*S	**Sn**	**14 19 14.8**	**+0.7**
AOPR	**Arecibo Observ**	**2.06**	**95**		**Pn**	**14 18 45.8**	**-0.3**
AOPR	**Arecibo Observ**	**2.06**	**95**		**Sn**	**14 19 14.8**	**+0.7**
LOBA1	**Barahona**	**2.11**	**258**	*i* P	**Pn**	**14 18 44.8**	**-1.9**
LOBA1				IAML		14 19 11.6	
	comp=Z,1μm,0.8s						
OBIP	**Obispado Ponce**	**2.25**	**103**	⇑*e*P	**Pn**	**14 18 48.9**	**+0.7**
OBIP	**Obispado Ponce**	**2.25**	**103**	*e*S	**Sn**	**14 19 19.1**	**+1.1**
OBIP	**Obispado Ponce**	**2.25**	**103**		**Pn**	**14 18 48.9**	**+0.7**
OBIP					**Sn**	**14 19 19.1**	**+1.1**
EMPR	**Esperanza - Ma**	**2.26**	**92**	⇑*e*P	**Pn**	**14 18 48.7**	**+0.3**
EMPR	**Esperanza - Ma**	**2.26**	**92**	*e*S	**Sn**	**14 19 19.1**	**+0.9**
EMPR	**Esperanza - Ma**	**2.26**	**92**		**Pn**	**14 18 48.7**	**+0.3**
EMPR					**Sn**	**14 19 19.1**	**+0.9**
SDDR	**Presa de Saban**	**2.29**	**281**		**Pn**	**14 18 47.3**	**-1.5**
SDDR				IAML		14 19 21.4	
	comp=Z,1μm,0.5s						
SDDR	**Presa de Saban**	**2.29**	**281**	*e*P	**Pn**	**14 18 47.3**	**-1.5**
SDDR				*e*S	**Sn**	**14 19 14.2**	**-4.8**
SDDR	**Presa de Saban**	**2.29**	**281**	*i* P	**Pn**	**14 18 47.3**	**-1.5**
SDDR				*e*S	**Sn**	**14 19 15.4**	**-3.6**
SDDR				IAML		14 19 20.7	
	comp=Z,873nm,0.3s						
ICMP	**Isla Caja de M**	**2.36**	**106**	⇓*e*P	**Pn**	**14 18 49.7**	**+0.1**
ICMP	**Isla Caja de M**	**2.36**	**106**	*e*S	**Sn**	**14 19 21.6**	**+1.2**
ICMP	**Isla Caja de M**	**2.36**	**106**		**Pn**	**14 18 49.7**	**+0.1**
ICMP					**Sn**	**14 19 21.6**	**+1.2**
SJG	**San Juan**	**2.66**	**99**	P	**Pn**	**14 18 52.9**	**-0.2**
	comp=Z,64nm,0.3s,baz=300,slow=11,SNR=50						
SJG				S	**Sn**	**14 19 26.6**	**-0.3**
	comp=Z,158nm,0.3s,baz=209,slow=21,SNR=10						
SJG	**San Juan**	**2.66**	**99**		**Pn**	**14 18 52.8**	**-0.4**
SJG				IAML		14 19 34.1	
	comp=Z,1μm,0.5s						
SJG				IAML		14 19 35.8	
	comp=Z,923nm,0.6s						
SJG	**San Juan**	**2.66**	**99**	*e*P	**Pn**	**14 18 52.5**	**-0.6**
SJG				*e*S	**Sn**	**14 19 24.2**	**-2.7**
GCPR	**Guaynabo City**	**2.69**	**95**	⇑*e*P	**Pn**	**14 18 53.9**	**+0.2**
GCPR	**Guaynabo City**	**2.69**	**95**		**Pn**	**14 18 53.3**	**-0.4**
IGPR	**InterUniversit**	**2.73**	**102**	⇓*e*P	**Pn**	**14 18 55.0**	**+1.0**
IGPR	**InterUniversit**	**2.73**	**102**	*e*S	**Sn**	**14 19 29.9**	**+1.6**
CBYP	**Canovanas**	**2.91**	**95**	⇑*e*P	**Pn**	**14 18 56.9**	**+0.5**
CBYP	**Canovanas**	**2.91**	**95**		**Pn**	**14 18 56.9**	**+0.5**
HUMP	**Col San Antoni**	**2.94**	**98**	⇑*e*P	**Pn**	**14 18 57.4**	**+0.8**
HUMP	**Col San Antoni**	**2.94**	**98**		**Pn**	**14 18 57.4**	**+0.8**
MTP	**Monte Pirata**	**3.22**	**98**	⇑*e*P	**Pn**	**14 19 01.1**	**+0.9**
MTP	**Monte Pirata**	**3.22**	**98**		**Pn**	**14 18 59.9**	**-0.3**
NQWLB	**Fermate**	**3.23**	**269**	Pn	**Pn**	**14 18 59.3**	**-1.2**
JAKH	**Jacmel**	**3.44**	**265**	Pn	**Pn**	**14 19 01.2**	**-1.8**
JAKH				IAML		14 19 41.6	
	comp=N,737nm,0.3s						
JAKH				IAML		14 19 42.0	
	comp=E,835nm,0.4s						
LGNH	**Logne**	**3.51**	**270**	Pn	**Pn**	**14 19 02.3**	**-1.5**
GRTK	**Grand Turk**	**3.61**	**325**	Pn	**Pn**	**14 19 02.5**	**-2.6**
STVI	**Saint Thomas**	**3.76**	**92**	⇑*e*P	**Pn**	**14 19 08.1**	**+1.0**
STVI	**Saint Thomas**	**3.76**	**92**		**Pn**	**14 19 08.1**	**+1.0**
CDVI	**St. Croix**	**4.02**	**101**	Pn	**Pn**	**14 19 10.4**	**0.0**
TBVI	**Tortola**	**4.08**	**91**	⇑*e*P	**Pn**	**14 19 12.2**	**+1.0**
TBVI	**Tortola**	**4.08**	**91**		**Pn**	**14 19 12.2**	**+1.0**
VGBI	**Virgin Gorda,**	**4.28**	**90**	⇑*e*P	**Pn**	**14 19 14.9**	**+1.1**
VGBI	**Virgin Gorda,**	**4.28**	**90**		**Pn**	**14 19 14.9**	**+1.1**
SABA	**Saba**	**5.47**	**99**	Pn	**Pn**	**14 19 29.7**	**+0.2**
SMRT	**St. Maarten**	**5.57**	**94**	Pn	**Pn**	**14 19 29.5**	**-1.3**
SKI	**Saint Kitts**	**6.00**	**101**	*e*P	**Pn**	**14 19 37.1**	**+0.6**
GTBY	**Guantanamo Bay**	**6.01**	**284**	Pn	**Pn**	**14 19 34.3**	**-2.4**
ANWB	**Willy Bob**	**6.83**	**96**	*e*P	**Pn**	**14 19 46.5**	**-1.0**
ANWB	**Willy Bob**	**6.83**	**96**	*e*S	**Sn**	**14 20 59.9**	**-4.5**
ANWB	**Willy Bob**	**6.83**	**96**	Pn	**Pn**	**14 19 45.0**	**-2.5**
BPA	**Boggy Peak**	**6.88**	**102**	*e*P	**Pn**	**14 19 47.6**	**-0.7**
BPA	**Boggy Peak**	**6.88**	**102**	*e*S	**Sn**	**14 21 01.8**	**-3.9**
ANBD	**Bethesda, Anti**	**6.97**	**101**	*e*P	**Pn**	**14 19 48.8**	**-0.5**
ANBD	**Bethesda, Anti**	**6.97**	**101**	*e*S	**Sn**	**14 21 03.3**	**-4.4**
ABD	**La Joyeuse, An**	**7.38**	**105**	*e*P	**Pn**	**14 19 55.2**	**+0.4**
CBE	**Ff, Capester**	**7.40**	**108**	*e*P	**Pn**	**14 19 55.7**	**+0.5**
CBE	**Ff, Capester**	**7.40**	**108**	*e*S	**

comp=Z,3.2nm,0.7s
PV14 Lion Creek, Pa 40.02 308 P P 14 25 29.1 -0.2
PB07 IPOC Station P 40.05 181 P P 14 25 28.6 -0.9
PB07 IAmb IAmb 14 25 47.0
comp=Z,5.4nm,1.1s
AQDB Aquidauana 40.90 161 P P 14 25 35.8 -0.5
AQDB IAmb IAmb 14 25 36.7
comp=Z,7.1nm,0.8s
PDAR Pinedale Array 41.92 314 P P 14 25 45.4 +0.6
comp=Z,0.2nm,0.6s,baz=102,slow=12,SNR=2.6
KNB Kanab 42.55 305 P P 14 25 49.6 -0.3
RLMT Red Lodge 42.68 317 P P 14 25 50.7 -0.1
RLMT IAmb IAmb 14 25 51.7
comp=Z,3.2nm,0.6s
PSUT Pine Spring 43.71 307 P P 14 25 59.6 +0.4
PSUT IAmb IAmb 14 26 02.4
comp=Z,6.4nm,1.0s
DLMT Dillon 44.93 316 P P 14 26 09.2 +0.4
HRY Holter Researc 44.96 318 P P 14 26 09.1 +0.2
LRM Limekiln Ridge 45.01 317 P P 14 26 09.6 +0.1
NV11 Mina Array Sit 46.98 306 P P 14 26 25.9 +1.0
NV11 IAmb IAmb 14 26 27.2
comp=Z,4.2nm,0.6s
KVN Kaiserville 47.06 306 P P 14 26 26.0 +0.4
NVAR Mina Array Bea 47.10 306 P P 14 26 27.1 +1.1
comp=Z,0.6nm,0.4s,baz=91,slow=7.4,SNR=7.2
NVAR pP **pP 14 27 02.3 +0.7**
comp=Z,0.3nm,0.4s,baz=105,slow=6.8,SNR=3.0
NVAR Mina Array Bea 47.10 306 P P 14 26 25.3 -0.6
LHV Little Huntoon 47.22 305 P P 14 26 27.2 +0.7
RYN Ryan 47.30 306 P P 14 26 28.0 +0.6
I07A Izee 49.21 313 P P 14 26 41.7 -0.2
B08A Colville Reser 50.30 318 P P 14 26 49.6 -0.4
B08A IAmb IAmb 14 26 51.6
comp=Z,5.5nm,1.4s
YKA Yellowknife Ar 54.00 336 pP pP 14 27 52.9 -0.6
comp=Z,1.4nm,0.7s,baz=115,slow=7.5,SNR=5.6
YKA Yellowknife Ar 54.00 336 P P 14 27 16.0 -0.9
DBIC Dimbokro 63.33 92 P P 14 28 22.7 +0.5
CTGM Chitina Glacie 65.42 329 P P 14 28 36.9 +1.6
EGAK Eagle 65.81 333 P P 14 28 38.0 +0.5
BCAR Beaver Creek A 65.87 332 P P 14 28 38.9 +0.9
MENT Mentasta 66.73 331 P P 14 28 44.4 +1.0
MENT IAmb IAmb 14 28 45.0
comp=Z,2.3nm,0.6s
SCRK Sand Creek 66.94 332 P P 14 28 45.5 +0.6
SCRK IAmb IAmb 14 28 46.8
comp=Z,2.2nm,0.7s
BMRM Bremner River 67.02 329 P P 14 28 46.4 +1.1
BMAR Burnt Mountain 67.52 336 P P 14 28 48.5 +0.2
PRP Porcupine Dome 67.72 334 P P 14 28 49.9 +0.1
IL31 68.25 333 P P 14 28 52.9 +0.1
IL31 IAmb IAmb 14 29 10.3
comp=Z,5.9nm,1.5s
ILAR Eielson Array 68.25 333 P P 14 28 52.9 0.0
comp=Z,0.4nm,0.5s,baz=104,slow=4.8,SNR=5.2
BPAW Bear Paw Mtn. 70.03 332 P P 14 29 03.9 +0.1
BPAW IAmb IAmb 14 29 23.3
comp=Z,6.8nm,1.5s
ASAR Alice Springs 158.13 253 PKPab PKPab 14 38 23.8 +0.9
comp=Z,0.4nm,0.8s,baz=112,slow=3.4,SNR=2.5

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*IDC **27** 14:22:49.0±1.0, 52°.16N×169°.48W, h0km, mb3.9/18, mb1 4.1/20, mb1mx3.9/55, mbtmp3.9/20, ML3.3/2, Error ellipse: s-maj=30.7km s-min=15.5km az=172.0*
*AEIC **27** 14:22:53±2.1, 52°.10N±0°.03×169°.36W±0°.07, h33km±4km, Error ellipse: s-maj=7.0km s-min=3.6km az=117.0*
*NEIC **27** 14:22:54.7±1.5, 52°.19N±0°.05×169°.38W±0°.08, h42km±4km, mb4.1/37, ML3.6/28(AEIC), Error ellipse: s-maj=7.8km s-min=6.4km az=148.0*
ISC 27 14:22:53.9±0.6, 52°.08N±0°.08×169°.29W±0°.05, h36km±2km, n106, σ1§40/104, mb4.0/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.93**	**17**	Pn	**Pn**	**14 23 09.3**	**-1.0**
NIKH	**Nikolski High**	**0.93**	**17**		**Sn**	**14 23 24.0**	**+1.6**
OKSP	**Okmok Steeple**	**1.32**	**27**		**Pn**	**14 23 15.3**	**-0.4**
OKSP					**Sn**	**14 23 33.2**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**1.51**	**30**		**Pn**	**14 23 18.6**	**+0.2**
OKNC	**Okmok New Cone**	**1.55**	**27**		**Pn**	**14 23 19.4**	**+0.5**
OKNC					**Sn**	**14 23 40.2**	**+2.5**
MSW	**Makushin Switc**	**2.38**	**39**		**Pn**	**14 23 30.9**	**+0.6**
MSW					**Sn**	**14 23 59.9**	**+1.7**
MNAT	**Makushin Natee**	**2.40**	**40**		**Pn**	**14 23 31.5**	**+1.0**
MNAT					**Sn**	**14 23 59.6**	**+1.1**
UNV	**Unalaska Valle**	**2.44**	**43**		**Pn**	**14 23 31.5**	**+0.4**
UNV					**Sn**	**14 24 00.6**	**+1.0**
AKBBA	**Akutan Broad B**	**2.86**	**44**		**Pn**	**14 23 38.6**	**+1.8**
AKUT	**Akutan**	**2.95**	**45**	Pn	**Pn**	**14 23 39.0**	**+0.9**
KOFP	**Korovin Flat P**	**2.96**	**276**		**Pn**	**14 23 38.8**	**+0.4**
ATKA	**Atka Island**	**3.02**	**274**	Pn	**Pn**	**14 23 38.8**	**-0.3**
GSMY	**Great Sitkin M**	**4.17**	**272**		**Pn**	**14 23 54.8**	**-0.1**
GSTR	**Great Sitkin T**	**4.17**	**273**	Pn	**Pn**	**14 23 55.2**	**+0.2**
GSTD	**Great Sitkin T**	**4.23**	**272**		**Pn**	**14 23 55.2**	**-0.5**
ADAG	**Mount Adagdak**	**4.51**	**272**		**Pn**	**14 23 59.8**	**+0.1**
ADK	**Adak**	**4.57**	**270**		**Pn**	**14 24 00.4**	**0.0**
KIWB	**Kanaga Island**	**4.87**	**270**	Pn	**Pn**	**14 24 04.5**	**+0.1**
SPIA	**Saint Paul Isl**	**5.13**	**354**	Pn	**Pn**	**14 24 10.5**	**+2.4**
TASE	**Tanaga Southea**	**5.41**	**271**		**Pn**	**14 24 12.6**	**+0.6**
SDPT	**Sand Point**	**6.17**	**55**		**Pn**	**14 24 24.5**	**+2.2**
CNBA	**Chernabura Isl**	**6.41**	**61**	Pn	**Pn**	**14 24 25.8**	**+0.2**
AMKA	**Amchitka**	**7.12**	**269**	Pn	**Pn**	**14 24 35.2**	**-0.1**
CHIR	**Chirikof Islan**	**8.88**	**60**	Pn	**Pn**	**14 25 02.5**	**+3.0**
OHAK	**Old Harbor**	**10.59**	**55**	Pn	**Pn**	**14 25 21.7**	**-1.2**
KDAK	**Kodiak Island**	**11.16**	**53**	Pn	**Pn**	**14 25 29.2**	**-1.4**
	0.4nm,0.3s,baz=253,slow=8.2,SNR=15						
KDAK				Sn	**Sn**	**14 27 27.7**	**-6.3**
	baz=131,slow=18,SNR=1.8						
KDAK	**Kodiak Island**	**11.16**	**53**	Pn	**Pn**	**14 25 29.4**	**-1.2**
HOM	**Homer**	**12.45**	**46**	Pn	Pn	14 25 43.7	-4.6
CNPM	**China Poot**	**12.57**	**47**	Pn	**Pn**	**14 25 49.9**	**0.0**
SEW	**Seward**	**13.63**	**46**	Pn	**Pn**	**14 26 03.4**	**-1.0**
O22K	**Cooper Landing**	**13.69**	**44**	Pn	**Pn**	**14 26 05.2**	**0.0**
SUA	**Susitna One**	**13.79**	**40**	Pn	**Pn**	**14 26 05.7**	**-1.0**
RC01	**Rabbit Creek A**	**14.00**	**42**	Pn	**Pn**	**14 26 08.0**	**-1.3**
PWL	**Port Wells**	**14.48**	**44**	Pn	**Pn**	**14 26 13.8**	**-2.0**
FID	**Port Fidalgo**	**15.24**	**46**	Pn	**Pn**	**14 26 22.9**	**-3.2**
FID				IAmb	IAmb	14 26 32.0
	comp=Z,18nm,1.1s						
BPAW	**Bear Paw Mtn.**	**15.37**	**31**	Pn	**Pn**	**14 26 27.0**	**-0.7**
BPAW				IAmb	IAmb	14 26 32.5
	comp=Z,6.3nm,0.8s						
SCM	**Sheep Creek Mo**	**15.37**	**42**	Pn	**Pn**	**14 26 25.8**	**-2.0**
SCM				IAmb	IAmb	14 26 49.0
	comp=Z,6.4nm,0.7s						
KLU	**Klutina**	**15.81**	**44**	Pn	**Pn**	**14 26 31.0**	**-2.5**
KLU				IAmb	IAmb	14 26 45.0
	comp=Z,6.5nm,0.6s						
M24K	**Tolsona, Glenn**	**15.98**	**42**	Pn	**Pn**	**14 26 33.4**	**-2.3**
M24K				IAmb	IAmb	14 26 42.2
	comp=Z,12nm,0.9s						
MLY	**Manley**	**16.09**	**29**		**P**	**14 26 40.0**	**-0.1**
BMRM	**Bremner River**	**16.17**	**47**	Pn	**Pn**	**14 26 36.6**	**-1.5**
BMRM				IAmb	IAmb	14 26 54.8
	comp=Z,24nm,1.5s						
N25K	**Chitina, Valde**	**16.43**	**45**	Pn	**Pn**	**14 26 39.0**	**-2.4**
I23K	**Minto, Yukon-K**	**16.60**	**30**	Pn	**Pn**	**14 26 43.0**	**-0.4**
GLB	**Gilahina Butte**	**16.71**	**46**	Pn	**Pn**	**14 26 43.1**	**-1.8**
CRQM	**Cirque**	**16.77**	**49**	Pn	**Pn**	**14 26 41.6**	**-4.2**
CRQM				IAmb	IAmb	14 26 53.8
	comp=Z,34nm,1.4s						
CCB	**Clear Creek Bu**	**16.77**	**33**	Pn	**Pn**	**14 26 44.4**	**-1.2**
VRDI	**Verde Repeater**	**16.79**	**47**	Pn	**Pn**	**14 26 43.8**	**-2.3**
VRDI				IAmb	IAmb	14 27 10.5
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**17.16**	**34**	P	**Pn**	**14 26 50.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=238,slow=11,SNR=4.6						
BARN	**Barnard Glacie**	**17.55**	**48**	P	**Pn**	**14 26 55.8**	**+0.3**
CTGM	**Chitina Glacie**	**17.67**	**49**	P	**Pn**	**14 26 58.2**	**+0.5**
CTGM				IAmb	IAmb	14 27 23.7
	comp=Z,18nm,1.4s						
SCRK	**Sand Creek**	**17.77**	**38**		**Pn**	**14 26 57.3**	**-0.8**
PRP	**Porcupine Dome**	**18.07**	**33**	Pn	**Pn**	**14 26 59.9**	**-2.0**
EGAK	**Eagle**	**19.23**	**38**	P	**P**	**14 27 14.0**	**-0.6**
HYT	**Haines Junctio**	**19.44**	**51**		**P**	**14 27 17.4**	**+0.4**
HYT				IAmb	IAmb	14 27 32.3
	comp=Z,9.0nm,0.7s						
BMAR	**Burnt Mountain**	**19.56**	**29**	P	**Pn**	**14 27 19.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**19.98**	**286**	P	**P**	**14 27 22.1**	**-0.7**
PETK	**Petropavlovsk-**	**19.98**	**286**	P	**P**	**14 27 21.7**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=89,slow=13,SNR=29						
EPYK	**Eagle Plains**	**21.60**	**36**	P	**P**	**14 27 39.0**	**-1.2**
EPYK				IAmb	IAmb	14 27 47.7
	comp=Z,9.4nm,1.1s						
DLBC	**Dease Lake**	**22.99**	**58**	P	**P**	**14 27 55.7**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=307,slow=20,SNR=4.0						
DLBC	**Dease Lake**	**22.99**	**58**	IAmb	IAmb	14 28 07.7
	comp=Z,17nm,1.4s						
INK	**Inuvik**	**23.56**	**33**	P	**P**	**14 28 00.3**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=229,slow=7.9,SNR=5.6						
INK	**Inuvik**	**23.56**	**33**	P	**P**	**14 27 59.9**	**-0.6**
INK				IAmb	IAmb	14 28 01.8
	comp=Z,4.3nm,1.1s						
C36M	**Paulatuk**	**27.14**	**34**	P	**P**	**14 28 32.4**	**-0.7**
YKA	**Yellowknife Ar**	**30.39**	**48**	P	**P**	**14 29 03.7**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=286,slow=11,SNR=2.7						
KBO	**Bosley Butte**	**31.73**	**90**	P	**P**	**14 29 14.5**	**+0.3**
POHA	**Pohakuloa**	**34.01**	**156**	P	**P**	**14 29 35.0**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**37.26**	**219**	T	T	15 10 57.0
	baz=24,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**37.27**	**219**	T	T	15 10 58.3
	baz=24,slow=76,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**37.28**	**219**	T	T	15 10 57.9
	baz=24,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**38.45**	**218**	T	T	15 11 25.8
	baz=23,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**38.46**	**218**	T	T	15 11 29.8
	baz=23,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**38.46**	**218**	T	T	15 11 34.5
	baz=23,slow=76,SNR=11						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**14 30 29.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=292,slow=4.8,SNR=5.4						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**14 30 29.2**	**+0.6**
KSRS	**Korea Array**	**45.48**	**277**	P	**P**	**14 31 09.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=53,slow=7.9,SNR=7.9						
SUMG	**Summit**	**51.04**	**17**	P	**P**	**14 31 49.5**	**-2.7**
SONM	**Songino Array**	**51.49**	**301**	P	**P**	**14 31 55.4**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=69,slow=8.4,SNR=4.7						
SONM				PcP	**PcP**	**14 33 10.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=28,slow=3.4,SNR=2.0						
SONM	**Songino Array**	**51.49**	**301**	IAmb	IAmb	14 31 56.1
	comp=Z,1.4nm,1.0s						
TXAR	**Lajitas Array**	**52.71**	**89**	P	**P**	**14 32 05.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=299,slow=5.1,SNR=5.9						
HHC	**Hu-ho-hao-te**	**53.07**	**291**	*eP*	**P**	**14 32 08.3**	**+0.9**
HHC				pmax	pmax	
	comp=Z,13nm,0.7s						
HHC				pmax	pmax	
	comp=Z,48nm,5.7s						
KURBB	**Kurchatov Arra**	**62.73**	**318**	P	**P**	**14 33 14.1**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=44,slow=7.1,SNR=5.5						
WMQ	**Urumqi**	**63.74**	**308**	*eP*	**P**	**14 33 23.3**	**+1.6**
BRVK	**Borovoye**	**63.97**	**325**	P	**P**	**14 33 22.9**	**-0.1**
BRVK				IAmb	IAmb	14 33 23.8
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**64.03**	**314**	P	**P**	**14 33 22.5**	**-1.0**
MK31				IAmb	IAmb	14 33 23.3
	comp=Z,1.5nm,1.2s						
MKAR	**Makanchi Array**	**64.03**	**314**	P	**P**	**14 33 22.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=48,slow=6.5,SNR=6.2						
MKAR	**Makanchi Array**	**64.03**	**314**	P	**P**	**14 33 22.6**	**-1.0**
FINES	**FINESS Array B**	**66.16**	**352**	P	**P**	**14 33 36.9**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=25,slow=7.6,SNR=5.9						
NC405	**NORSAR Array S**	**67.15**	**359**	P	**P**	**14 33 42.0**	**-1.4**
NB2	**NORSAR Subarra**	**67.22**	**360**	P	**P**	**14 33 43.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=0.4,slow=6.2						
NOA	**NORSAR Array B**	**67.22**	**360**	P	**P**	**14 33 43.8**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=1.5,slow=6.3,SNR=4.3						
AKTO	**Aktyubinsk**	**70.28**	**330**	P	**P**	**14 34 02.5**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=24,slow=5.9,SNR=7.5						
ABKAR	**Abkulak array**	**70.70**	**328**	P	**P**	**14 34 05.2**	**-0.4**
KK31	**Karatay Array**	**72.03**	**318**	P	**P**	**14 34 13.6**	**-0.2**
KK31				IAmb	IAmb	14 34 14.4
	comp=Z,2.5nm,0.8s						
KKAR	**Karatay Array**	**72.03**	**318**	P	**P**	**14 34 13.1**	**-0.7**
KKAR	**Karatay Array**	**72.03**	**318**	P	**P**	**14 34 13.5**	**-0.3**
KKAR				IAmb	IAmb	14 34 14.4
	comp=Z,2.5nm,0.8s						
GAR	**Garm**	**75.53**	**316**	P	**P**	**14 34 34.2**	**-0.3**
CHGR	**Chuyangaron**	**76.31**	**317**	P	**P**	**14 34 38.5**	**-0.4**
AKASG	**Malin Array Be**	**76.39**	**348**	P	**P**	**14 34 38.4**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=14,slow=5.8,SNR=1.8						
CMAR	**Chiang Mai Arr**	**76.73**	**283**	P	**P**	**14 34 40.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=22,slow=5.8,SNR=5.0						
DZM	**Mont Dzumac**	**76.83**	**203**	P	**P**	**14 34 41.5**	**-0.2**
GERES	**GERESS Array B**	**79.42**	**358**	P	**P**	**14 34 56.5**	**+0.5**
	comp=Z,1.0nm,0.9s,baz=64,slow=2.3,SNR=5.0						
GERES	**GERESS Array B**	**79.42**	**358**	P	**P**	**14 34 56.1**	**+0.1**
BUR08	**Bucovina Ar. S**	**79.88**	**350**	P	**P**	**14 34 58.5**	**0.0**
BUR08				IAmb	IAmb	14 35 10.6
	comp=Z,2.9nm,1.2s						
KBZ	**Khabaz**	**80.59**	**337**	P	**P**	**14 35 03.1**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=352,slow=1.7,SNR=6.3						
ESDC	**Sonseca Array**	**87.73**	**11**	P	**P**	**14 35 40.3**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=2.9,slow=5.1,SNR=2.3						
ASAR	**Alice Springs**	**90.25**	**230**	P	**P**	**14 35 50.4**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=36,slow=4.8,SNR=4.4						

IDC 27 14:24:28.5±1.6, 52°.74N×169°.86W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.3/52, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=70.2km s-min=32.9km az=11.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**19.48**	**284**	P	Pn	14 28 57.5	-0.4
	0.3nm,0.3s,baz=92,slow=13,SNR=4.6						
TXAR	**Lajitas Array**	**53.04**	**89**	P	P	14 33 47.4	+0.1
	0.1nm,0.5s,baz=311,slow=5.5,SNR=1.4						
KURBB	**Kurchatov Arra**	**62.01**	**318**	P	P	14 34 49.7	-0.4
	1.1nm,0.2s,baz=50,slow=7.4,SNR=1.6						
ASAR	**Alice Springs**	**90.40**	**230**	P	P	14 37 31.4	-0.2
	0.3nm,0.9s,baz=32,slow=5.5,SNR=2.1						

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*IDC **27** 14:24:57.2±1.4, 52°.24N×169°.14W, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=43.6km s-min=23.2km az=173.0*
*AEIC **27** 14:25:00±1.8, 52°.0N±0°.1×169°.2W±0°.1, h35km±9km, Error ellipse: s-maj=16.8km s-min=7.6km az=153.0*
*NEIC **27** 14:25:01.5±0.6, 52°.13N±0°.07×169°.37W±0°.08, h20km±3km, ML3.1(AEIC), Error ellipse: s-maj=9.7km s-min=7.2km az=179.0*
ISC 27 14:25:01.7±1.1, 52°.1N±0°.1×169°.33W±0°.09, h30km, n21, σ0§73/21, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.92**	**18**		**Pb**	**14 25 18.5**	**-0.6**
OKSP	**Okmok Steeple**	**1.31**	**28**		**Pn**	**14 25 24.1**	**0.0**
OKER	**Okmok East Rim**	**1.56**	**29**		**Pn**	**14 25 28.2**	**+0.7**
OKFG	**Magazine Ridge**	**1.57**	**33**		**Pn**	**14 25 27.9**	**+0.4**
MAPS	**Pakushin South**	**2.24**	**39**		**Pn**	**14 25 37.1**	**+0.3**
MGOD	**Makushin Gods**	**2.25**	**40**		**Pn**	**14 25 37.6**	**+0.6**
MSW	**Makushin Switc**	**2.38**	**39**		**Pn**	**14 25 39.3**	**+0.6**
UNV	**Unalaska Valle**	**2.44**	**43**		**Pn**	**14 25 39.8**	**+0.3**
AKUT	**Akutan**	**2.96**	**45**	Pn	**Pn**	**14 25 45.2**	**-1.4**
ATKA	**Atka Island**	**3.00**	**274**		**Pn**	**14 25 46.1**	**-1.1**
GSTR	**Great Sitkin T**	**4.15**	**273**		**Pn**	**14 26 04.0**	**+0.9**
ADK	**Adak**	**4.55**	**270**	Pn	**Pn**	**14 26 08.8**	**+0.3**
KIWB	**Kanaga Island**	**4.84**	**270**	Pn	**Pn**	**14 26 12.2**	**-0.3**
KDAK	**Kodiak Island**	**11.17**	**53**	Pn	**Pn**	**14 27 37.6**	**-1.6**
	0.4nm,0.3s,baz=320,slow=18,SNR=1.6						
PETK	**Petropavlovsk-**	**19.96**	**286**	P	**P**	**14 29 31.6**	**+0.4**
	1.1nm,0.4s,baz=86,slow=14,SNR=8.4						
KSRS	**Korea Array**	**45.46**	**277**	P	**P**	**14 33 18.6**	**+0.8**
	0.6nm,0.7s,baz=60,slow=7.2,SNR=4.2						
TXAR	**Lajitas Array**	**52.73**	**89**	P	**P**	**14 34 14.1**	**+0.4**
	0.2nm,0.5s,baz=311,slow=7.1,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.70**	**318**	P	**P**	**14 35 23.7**	**+0.4**
	0.6nm,0.2s,baz=43,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**64.01**	**314**	P	**P**	**14 35 31.7**	**-0.4**
	0.2nm,0.4s,baz=56,slow=6.8,SNR=4.9						
FINES	**FINESS Array B**	**66.14**	**352**	P	**P**	**14 35 45.5**	**-0.1**
	2.0nm,0.8s,baz=15,slow=5.8,SNR=3.7						
ASAR	**Alice Springs**	**90.24**	**230**	P	**P**	**14 37 59.1**	**-0.2**
	0.5nm,0.9s,baz=35,slow=5.0,SNR=2.8						

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*IDC **27** 14:33:39.2±1.4, 52°.40N×169°.35W, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/52, mbtmp3.6/10, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/40, Error ellipse: s-maj=44.5km s-min=19.8km az=176.0*

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*AEIC **27** 14:33:42±2.7, 52°.2N±0°.1×169°.21W±0°.09, h29km±5km, Error ellipse: s-maj=15.1km s-min=6.9km az=162.0*
*NEIC **27** 14:33:44.7±2.0, 52°.37N±0°.09×169°.31W±0°.08, h35km±2km, mb4.3/8, ML3.4(AEIC), Error ellipse: s-maj=16.8km s-min=3.0km az=151.0*
ISC 27 14:33:43.8±0.9, 52°.4N±0°.1×169°.22W±0°.07, h33km, n55, σ1§39/49, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.65**	**20**		**Pn**	**14 33 56.7**	**+0.1**
OKSP	**Okmok Steeple**	**1.05**	**32**		**Pn**	**14 34 02.9**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.25**	**34**		**Pn**	**14 34 05.6**	**+0.7**
OKNC	**Okmok New Cone**	**1.28**	**31**		**Pn**	**14 34 07.0**	**+1.7**
OKFG	**Magazine Ridge**	**1.31**	**37**		**Pn**	**14 34 06.4**	**+0.7**
MGOD	**Makushin Gods**	**2.01**	**44**		**Pn**	**14 34 17.2**	**+1.7**
MSW	**Makushin Switc**	**2.14**	**42**		**Pn**	**14 34 18.4**	**+1.4**
MNAT	**Makushin Natee**	**2.16**	**44**		**Pn**	**14 34 18.6**	**+1.2**
UNV	**Unalaska Valle**	**2.21**	**47**		**Pn**	**14 34 19.4**	**+1.3**
AKRB	**Akutan Reef Bi**	**2.59**	**46**		**Pn**	**14 34 26.1**	**+2.8**
AKUT	**Akutan**	**2.73**	**48**	Pn	**Pn**	**14 34 26.4**	**+1.3**
KOFP	**Korovin Flat P**	**3.00**	**270**		**Pn**	**14 34 28.9**	**0.0**
ATKA	**Atka Island**	**3.06**	**269**		**Pn**	**14 34 28.1**	**-1.7**
GSTR	**Great Sitkin T**	**4.21**	**269**	Pn	**Pn**	**14 34 46.2**	**+0.6**
GSMY	**Great Sitkin M**	**4.22**	**268**		**Pn**	**14 34 46.3**	**+0.6**
GSTD	**Great Sitkin T**	**4.27**	**269**		**Pn**	**14 34 47.0**	**+0.5**
ADK	**Adak**	**4.63**	**267**		**Pn**	**14 34 51.8**	**+0.5**
SPIA	**Saint Paul Isl**	**4.86**	**353**		**Pn**	**14 34 57.7**	**+3.3**
KIWB	**Kanaga Island**	**4.92**	**267**		**Pn**	**14 34 55.8**	**+0.6**
SDPT	**Sand Point**	**5.97**	**57**		**Pn**	**14 35 11.9**	**+2.1**
CNBA	**Chernabura Isl**	**6.24**	**63**	Pn	**Pn**	**14 35 13.3**	**-0.1**
AMKA	**Amchitka**	**7.18**	**267**		**Pn**	**14 35 26.9**	**+0.6**
OHAK	**Old Harbor**	**10.40**	**56**	Pn	**Pn**	**14 36 09.4**	**-1.0**
KDAK	**Kodiak Island**	**10.96**	**54**	Pn	**Pn**	**14 36 17.2**	**-0.8**
	0.3nm,0.3s,baz=201,slow=5.1,SNR=15						
KDAK				Sn	**Sn**	**14 38 14.5**	**-4.7**
	0.1nm,0.3s,baz=165,slow=20,SNR=2.5						
KDAK	**Kodiak Island**	**10.96**	**54**	Pn	**Pn**	**14 36 18.0**	**0.0**
TTA	**Tatalina**	**12.70**	**28**	Pn	**Pn**	**14 36 41.2**	**-0.6**
SEW	**Seward**	**13.41**	**47**	Pn	**Pn**	**14 36 51.7**	**+0.2**
PWL	**Port Wells**	**14.24**	**45**	Pn	**Pn**	**14 37 02.2**	**-0.7**
TRF	**Thorofare Moun**	**14.91**	**35**	P	**P**	**14 37 16.8**	**-0.5**
FID	**Port Fidalgo**	**15.02**	**47**	Pn	**Pn**	**14 37 11.8**	**-1.5**
SCM	**Sheep Creek Mo**	**15.13**	**43**	Pn	**Pn**	**14 37 14.0**	**-0.9**
KLU	**Klutina**	**15.57**	**45**	Pn	**Pn**	**14 37 19.8**	**-0.9**
ILAR	**Eielson Array**	**16.90**	**34**	Pn	**Pn**	**14 37 36.0**	**-1.5**
	0.1nm,0.3s,baz=231,slow=13,SNR=1.9						
HYT	**Haines Junctio**	**19.23**	**51**	Pn	**Pn**	**14 38 08.4**	**+2.3**
HYT				IAmb	IAmb	14 38 48.7
	comp=Z,31nm,1.9s						
BMAR	**Burnt Mountain**	**19.29**	**29**	Pn	**P**	**14 38 07.5**	**+2.0**
PET	**Petropavlovsk**	**19.40**	**285**	P	**P**	**14 38 05.7**	**-1.1**
PET				IAmb	IAmb	14 38 06.8
	comp=Z,32nm,1.5s						
PEA0B	**Petropavlovsk-**	**19.95**	**285**	P	**P**	**14 38 12.4**	**-0.3**
PEA0B				IAmb	IAmb	14 38 19.3
	comp=Z,28nm,1.6s						
PETK	**Petropavlovsk-**	**19.95**	**285**	P	**P**	**14 38 11.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=88,slow=14,SNR=20						
BESE	**Bessie Mountai**	**20.28**	**59**	P	**P**	**14 38 15.9**	**-0.4**
BESE				IAmb	IAmb	14 38 25.9
	comp=Z,17nm,1.0s						
JIS	**Juneau Island**	**20.51**	**59**	P	**P**	**14 38 20.3**	**+1.5**
ASAJ	**Asahikawa**	**32.60**	**275**	LR	LR	14 55 09.6
	comp=Z,22nm,18.6s,baz=0.5,slow=40						
H11N2	**WAKE ISLAND Hy**	**37.51**	**219**	T	T	15 20 38.7
	baz

s-maj=78.4km s-min=36.2km az=22.0

ISC 27 14:47:24.1±1.2,27°2N±0°1×53°65E±0°04,h10km,n21,
σ0991/22,mb3.5/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.47**	**292**	*e*Pg	**Pg**	**14 47 32.5**	**-0.8**
LMD1				*e*Sg	**Sg**	**14 47 39.5**	**0.0**
LMD1				*e*		14 47 41.9	
	comp=Z,22μm,0.6s						
LAR1	**LAR**	**0.82**	**52**	*e*Pg	**Pg**	**14 47 39.2**	**-0.6**
LAR1				*e*		14 48 06.2	
	comp=Z,24μm,0.4s						
JHRM	**Jahrom**	**1.34**	**357**	*e*Pg	**Pn**	**14 47 49.4**	**+0.4**
JHRM				*e*		14 48 14.5	
	comp=Z,11μm,0.4s						
QIR1	**Qir**	**1.42**	**338**	*e*Pg	**Pn**	**14 47 50.5**	**+0.5**
QIR1				*e*		14 48 17.4	
	comp=Z,11μm,0.4s						
BNDS	**Bandar-Abbas**	**2.25**	**83**	*e*Pn	**Pn**	**14 48 02.6**	**+1.0**
BNDS	**Bandar-Abbas**	**2.25**	**83**	*e*Pn	**Pn**	**14 48 02.6**	**+1.0**
GENO	**Geno**	**2.25**	**83**	*e*Pn	**Pn**	**14 48 02.3**	**+0.7**
GENO				*e*		14 48 42.2	
	comp=Z,1μm,0.3s						
AHBU	**AHRAM**	**2.69**	**310**	*e*Pn	**Pn**	**14 48 08.4**	**+1.0**
NGRK	**Negar Kerman**	**3.67**	**47**	*e*Pn	**Pn**	**14 48 21.1**	**-0.1**
NGRK				*e*		14 49 21.5	
	comp=Z,373nm,0.4s						
KRBR	**Kerman**	**3.92**	**43**	*e*Pn	**Pn**	**14 48 25.7**	**+1.1**
KRBR				IAML		14 49 32.9	
	comp=N,30nm,0.3s						
KRBR	**Kerman**	**3.92**	**43**	*e*Pn	**Pn**	**14 48 25.7**	**+1.1**
IMEH	**Mehriz**	**4.30**	**11**	*e*Pn	**Pn**	**14 48 31.2**	**+1.4**
IRAM	**Ramesheh**	**4.76**	**347**	*e*Pn	**Pn**	**14 48 37.8**	**+1.7**
ICHK	**Chekchek**	**5.11**	**7**	*e*Pn	**Pn**	**14 48 42.1**	**+1.2**
YZKH	**Yazd**	**5.27**	**9**	*e*Pn	**Pn**	**14 48 43.8**	**+0.8**
YZKH	**Yazd**	**5.27**	**9**	*e*Pn	**Pn**	**14 48 43.8**	**+0.8**
ANAR	**Anarak**	**6.01**	**1**	*e*Pn	**Pn**	**14 48 53.3**	**+0.1**
BRTR	**Keskin Array B**	**20.82**	**312**	P	**P**	**14 52 06.3**	**+0.4**
	comp=N,0.6nm,0.4s,baz=138,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	**29.86**	**41**	P	**P**	**14 53 31.0**	**-0.7**
	comp=N,0.3nm,0.4s,baz=234,slow=8.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**35.22**	**32**	P	**P**	**14 54 17.9**	**-0.5**
	comp=N,0.5nm,0.4s,baz=233,slow=7.0,SNR=2.3						
CMAR	**Chiang Mai Arr**	**42.45**	**92**	P	**P**	**14 55 19.4**	**0.0**
	comp=N,0.3nm,0.6s,baz=285,slow=10,SNR=2.1						

*IDC **27** 15:00:11.3±0.8,52°30N×169°52W,h0km,mb4.1/24,*
mb1 4.3/26,mb1mx4.2/41,mbtmp4.1/26,ML3.9/2,MS3.2/9,
Ms1 3.2/9,ms1mx2.9/49,Error ellipse: s-maj=23.2km
s-min=12.4km az=175.0
*AEIC **27** 15:00:15±2.1,52°17N±0°06×169°37W±0°07,h22km±4km,*
Error ellipse: s-maj=8.5km s-min=6.3km az=167.0
*NEIC **27** 15:00:16.6±1.8,52°25N±0°04×169°40W±0°07,h35km±1km,*
mb4.4/98,ML4.0/41(AEIC),Error ellipse: s-maj=7.4km
s-min=6.1km az=256.0
*ANF **27** 15:00:18.1±1.6,52°10N×168°98W,h44km±6km,ML4.0/3,*
Error ellipse: s-maj=17.1km s-min=6.5km az=32.0

ISC 27 15:00:15.4±0.5,52°17N±0°07×169°32W±0°05,h30km,
n259,σ1§05/255,mb4.4/63,MS3.1/8,1C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**19**	P	**Pn**	**15 00 31.0**	**-0.3**
	baz=202,SNR=97						
NIKH				S	**Sn**	**15 00 44.3**	**+1.5**
	baz=202						
NIKH	**Nikolski High**	**0.85**	**19**		**Pn**	**15 00 30.5**	**-0.8**
NIKH	**Nikolski High**	**0.85**	**19**		**Sn**	**15 00 43.9**	**+1.1**
OKSP	**Okmok Steeple**	**1.25**	**30**		**Pn**	**15 00 36.6**	**-0.3**
OKCE	**Okmok Cone E**	**1.44**	**29**		**Pn**	**15 00 40.1**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**1.44**	**32**		**Pn**	**15 00 40.0**	**+0.5**
OKNC	**Okmok New Cone**	**1.48**	**29**		**Pn**	**15 00 41.0**	**+1.0**
OKFG	**Magazine Ridge**	**1.51**	**34**		**Pn**	**15 00 40.8**	**+0.4**
OKFG					**Sb**	**15 01 01.0**	**-0.5**
MAPS	**Pakushin South**	**2.18**	**40**		**Pn**	**15 00 50.3**	**+0.7**
MAPS					**Sn**	**15 01 17.5**	**+1.9**
MGOD	**Makushin Gods**	**2.20**	**41**		**Pn**	**15 00 50.9**	**+1.0**
MSW	**Makushin Switc**	**2.32**	**40**		**Pn**	**15 00 52.8**	**+1.2**
MNAT	**Makushin Natee**	**2.34**	**42**		**Pn**	**15 00 52.5**	**+0.7**
UNV	**Unalaska Valle**	**2.39**	**44**	P	**Pn**	**15 00 53.2**	**+0.7**
	baz=227,SNR=30						
UNV				S	**Sn**	**15 01 21.1**	**+0.4**
	baz=227						
UNV	**Unalaska Valle**	**2.39**	**44**		**Pn**	**15 00 53.1**	**+0.7**
MTBL	**Makushin Table**	**2.41**	**40**		**Pn**	**15 00 54.0**	**+1.3**
AKMO	**Akutan Morgan**	**2.77**	**45**		**Pn**	**15 00 59.6**	**+1.9**
AKRB	**Akutan Reef Bi**	**2.77**	**44**		**Pn**	**15 01 00.1**	**+2.4**
AKBBA	**Akutan Broad B**	**2.81**	**45**		**Pn**	**15 01 00.4**	**+2.2**
AKLV	**Akutan Long Va**	**2.84**	**44**		**Pn**	**15 01 01.3**	**+2.6**
AKGG	**Akutan Green G**	**2.85**	**43**		**Pn**	**15 01 01.2**	**+2.3**
AKUT	**Akutan**	**2.91**	**46**		**Pn**	**15 01 01.0**	**+1.5**
AKSA	**Akutan Strait**	**2.94**	**46**		**Pn**	**15 01 02.7**	**+2.7**
KOFP	**Korovin Flat P**	**2.94**	**274**		**Pn**	**15 01 00.7**	**+0.6**
ATKA	**Atka Island**	**3.00**	**273**		**Pn**	**15 01 00.2**	**-0.6**
KOKL	**Mount Kliuchef**	**3.00**	**275**		**Pn**	**15 01 02.1**	**+1.1**
GSTR	**Great Sitkin T**	**4.15**	**272**		**Pn**	**15 01 16.7**	**0.0**
GSMY	**Great Sitkin M**	**4.16**	**271**		**Pn**	**15 01 17.4**	**+0.7**
GSTD	**Great Sitkin T**	**4.21**	**271**		**Pn**	**15 01 17.9**	**+0.4**
ADK	**Adak**	**4.56**	**269**		**Pn**	**15 01 22.3**	**+0.1**
KIWB	**Kanaga Island**	**4.85**	**269**	Pn	**Pn**	**15 01 26.7**	**+0.5**
KIMD	**Kanaga Island**	**4.91**	**268**		**Pn**	**15 01 27.5**	**+0.4**
SPIA	**Saint Paul Isl**	**5.05**	**354**	P	**Pn**	**15 01 31.5**	**+2.6**
	baz=174						
SPIA				S	**Sn**	**15 02 31.3**	**+5.2**
	baz=174						
SPIA	**Saint Paul Isl**	**5.05**	**354**		**Pn**	**15 01 29.7**	**+0.7**
TAFP	**Tanaga Falls P**	**5.36**	**271**		**Pn**	**15 01 33.5**	**+0.3**
TASE	**Tanaga Southea**	**5.40**	**270**		**Pn**	**15 01 34.7**	**+0.9**
SDPT	**Sand Point**	**6.13**	**55**	P	**Pn**	**15 01 44.0**	**+0.2**
	baz=242						
SDPT	**Sand Point**	**6.13**	**55**	Pn	**Pn**	**15 01 45.4**	**+1.6**
CNBA	**Chernabura Isl**	**6.38**	**62**	Pn	**Pn**	**15 01 47.8**	**+0.6**
CHNA	**Chernabura Isl**	**6.39**	**61**	P	**Pn**	**15 01 47.3**	**0.0**
	baz=249						
AMKA	**Amchitka**	**7.11**	**268**	Pn	**Pn**	**15 01 57.3**	**+0.1**
LSPA	**Little Sitkin**	**7.47**	**273**		**Pn**	**15 02 04.1**	**+1.9**
LSNW	**Little Sitkin**	**7.50**	**273**		**Pn**	**15 02 04.6**	**+1.9**
OHAK	**Old Harbor**	**10.56**	**55**	Pn	**Pn**	**15 02 44.0**	**-0.5**
KDAK	**Kodiak Island**	**11.12**	**53**	Pn	**Pn**	**15 02 52.6**	**+0.4**
	0.5nm,0.3s,baz=264,slow=6.0,SNR=16						
KDAK				Sn	**Sn**	**15 04 51.1**	**-4.3**
	baz=358,slow=12,SNR=1.6						
KDAK	**Kodiak Island**	**11.12**	**53**	P	**Pn**	**15 02 52.2**	**0.0**
	baz=247						
KDAK	**Kodiak Island**	**11.12**	**53**	Pn	**Pn**	**15 02 52.2**	**0.0**
N19K	**Bonanza Creek**	**11.90**	**37**	P	**Pn**	**15 03 03.1**	**+0.3**
	baz=230						
O20K	**Slope Mountain**	**12.20**	**43**	P	**Pn**	**15 03 07.7**	**+0.7**
	baz=237						
RSO	**Redoubt South**	**12.36**	**41**		**Pn**	**15 03 10.4**	**+1.2**
HOM	**Homer**	**12.40**	**46**	Pn	**Pn**	**15 03 12.0**	**+2.4**
CNPM	**China Poot**	**12.52**	**47**	Pn	**Pn**	**15 03 11.3**	**0.0**
BRSE	**Bradley Lake S**	**12.84**	**47**	P	**Pn**	**15 03 15.8**	**+0.1**
	baz=242						
TNA	**Tin City**	**13.45**	**2**	Pn	**Pn**	**15 03 22.7**	**-1.2**
SEW	**Seward**	**13.59**	**46**	P	**Pn**	**15 03 25.3**	**-0.5**
	baz=243						
SEW	**Seward**	**13.59**	**46**	Pn	**Pn**	**15 03 25.3**	**-0.5**
O22K	**Cooper Landing**	**13.64**	**45**	P	**Pn**	**15 03 27.2**	**+0.6**
	baz=241						
O22K	**Cooper Landing**	**13.64**	**45**		**Pn**	**15 03 27.1**	**+0.6**
SUA	**Susitna One**	**13.74**	**40**	P	**Pn**	**15 03 28.5**	**+0.5**
	baz=236						
SUA	**Susitna One**	**13.74**	**40**	Pn	**Pn**	**15 03 29.3**	**+1.3**
K20K	**Telida**	**13.80**	**30**	P	**Pn**	**15 03 30.2**	**+1.4**
	baz=223						
RC01	**Rabbit Creek A**	**13.94**	**43**	Pn	**Pn**	**15 03 30.4**	**-0.3**
J20K	**Nowinta River**	**14.40**	**27**	P	**Pn**	**15 03 38.7**	**+1.8**
	baz=220						
PWL	**Port Wells**	**14.43**	**45**	Pn	**Pn**	**15 03 35.6**	**-1.7**
SML	**Sawmill**	**14.89**	**41**	P	**Pn**	**15 03 43.4**	**-0.2**
	baz=239						
KTH	**Kantishna Hill**	**14.96**	**33**	P	**P**	**15 03 49.7**	**0.0**
GLI	**Glacier Island**	**14.98**	**46**	P	**Pn**	**15 03 44.5**	**-0.2**
	baz=244						
TRF	**Thorofare Moun**	**15.11**	**34**	P	**P**	**15 03 51.1**	**-0.4**
TRF				IAmb	IAmb	15 04 18.9	
	comp=Z,17nm,1.4s						
FID	**Port Fidalgo**	**15.20**	**47**	Pn	**Pn**	**15 03 45.3**	**-2.3**
FID				IAmb	IAmb	15 03 48.6	
	comp=Z,40nm,1.4s						
BPAW	**Bear Paw Mtn.**	**15.30**	**32**	P	**Pn**	**15 03 49.0**	**0.0**
	baz=227,SNR=9.9						
BPAW	**Bear Paw Mtn.**	**15.30**	**32**	P	**P**	**15 03 53.9**	**+0.4**
BPAW				IAmb	IAmb	15 03 54.5	
	comp=Z,10nm,0.9s						
SCM	**Sheep Creek Mo**	**15.32**	**42**	Pn	**Pn**	**15 03 47.3**	**-2.0**
SCM				IAmb	IAmb	15 03 53.8	
	comp=Z,13nm,0.6s						
WAT6	**Susitna Watana**	**15.54**	**39**	P	**Pn**	**15 03 52.1**	**-0.1**
	baz=238						
RND	**Reindeer**	**15.59**	**36**	Pn	**Pn**	**15 03 52.9**	**+0.1**
KLU	**Klutina**	**15.76**	**45**	P	**Pn**	**15 03 53.5**	**-1.5**
	baz=244,SNR=9.5						
I21K	**Tanana**	**15.77**	**28**	P	**Pn**	**15 03 55.7**	**+0.7**
	baz=223						
M24K	**Tolsona, Glenn**	**15.93**	**42**	P	**Pn**	**15 03 56.6**	**-0.6**
	baz=242						
M24K	**Tolsona, Glenn**	**15.93**	**42**		**Pn**	**15 03 56.7**	**-0.4**
M24K				IAmb	IAmb	15 04 05.5	
	comp=Z,9.6nm,0.6s						
MLY	**Manley**	**16.03**	**29**	P	**Pn**	**15 03 59.9**	**+1.5**
	baz=225,SNR=15						
MLY	**Manley**	**16.03**	**29**	P	**P**	**15 04 02.0**	**+0.4**
HMT	**Hamilton**	**16.06**	**50**	Pn	**Pn**	**15 03 58.2**	**-0.6**
HMT				IAmb	IAmb	15 04 01.5	
	comp=Z,51nm,1.2s						
BMRM	**Bremner River**	**16.13**	**47**	P	**Pn**	**15 03 58.7**	**-1.0**
	baz=248						
BMRM	**Bremner River**	**16.13**	**47**	Pn	**Pn**	**15 03 58.0**	**-1.6**
BMRM				IAmb	IAmb	15 04 12.5	
	comp=Z,20nm,1.2s						
RDOG	**Red Dog Mine**	**16.24**	**9**	P	**P**	**15 04 02.8**	**-1.0**
	baz=194						
NEA2	**Nenana**	**16.26**	**32**	P	**Pn**	**15 04 01.8**	**+0.6**
	baz=230						
NEA2	**Nenana**	**16.26**	**32**	P	**Pn**	**15 04 01.7**	**+0.5**
N25K	**Chitina, Valde**	**16.38**	**45**	P	**Pn**	**15 04 02.5**	**-0.5**
	baz=246						
N25K	**Chitina, Valde**	**16.38**	**45**	Pn	**Pn**	**15 04 02.0**	**-0.9**
HARP	**HAARP**	**16.49**	**42**	P	**Pn**	**15 04 04.6**	**+0.4**
	baz=243						
WRH	**Wood River Hil**	**16.51**	**34**	Pn	**Pn**	**15 04 02.1**	**-2.3**
I23K	**Minto, Yukon-K**	**16.53**	**30**	P	**P**	**15 04 06.0**	**-1.0**
	baz=228						
I23K	**Minto, Yukon-K**	**16.53**	**30**	P	**P**	**15 04 06.4**	**-0.6**
PAX	**Paxson**	**16.63**	**40**	P	**Pn**	**15 04 06.0**	**-0.1**
	baz=240						
GLB	**Gilahina Butte**	**16.66**	**46**	Pn	**Pn**	**15 04 05.4**	**-1.1**
CCB	**Clear Creek Bu**	**16.71**	**33**		**Pn**	**15 04 05.8**	**-1.2**
CRQM	**Cirque**	**16.72**	**49**	Pn	**Pn**	**15 04 06.9**	**-0.4**
CRQM				IAmb	IAmb	15 04 27.5	
	comp=Z,11nm,0.7s						
CRQE	**Cirque**	**16.74**	**49**	P	**Pn**	**15 04 07.2**	**-0.3**
	baz=251						
VRDI	**Verde Repeater**	**16.74**	**47**	Pn	**Pn**	**15 04 06.0**	**-1.6**
MDM	**Murphy Dome**	**16.77**	**32**	P	**Pn**	**15 04 07.2**	**-0.5**
HDA	**Harding Lake**	**16.86**	**35**	Pn	**Pn**	**15 04 09.1**	**+0.2**
H23K	**Yukon River**	**16.94**	**29**	P	**P**	**15 04 11.0**	**-0.6**
	baz=226						
MCARA	**McCarthy VSAT**	**16.99**	**47**	P	**Pn**	**15 04 10.0**	**-0.5**
	baz=249						
MCARA	**McCarthy VSAT**	**16.99**	**47**	P	**P**	**15 04 13.0**	**+0.8**
MCARA				IAmb	IAmb	15 04 34.4	
	comp=Z,16nm,1.1s						
ISLE	**Juniper Island**	**17.05**	**50**	P	**P**	**15 04 13.3**	**+0.3**
ISLE				IAmb	IAmb	15 04 20.2	
	comp=Z,18nm,0.9s						
IL31		**17.10**	**34**		**Pn**	**15 04 11.1**	**-0.7**
ILAR	**Eielson Array**	**17.10**	**34**	P	**Pn**	**15 04 10.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=11,SNR=16						
ILAR				PcP	**PcP**	**15 08 54.5**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=273,slow=3.3,SNR=4.2						
ILAR	**Eielson Array**	**17.10**	**34**	Pn	**Pn**	**15 04 10.8**	**-1.0**
MESA	**MESA**	**17.11**	**51**	P	**P**	**15 04 13.8**	**+0.1**
MESA				IAmb	IAmb	15 04 21.5	
	comp=Z,75nm,1.4s						
POKR	**Poker Plat Res**	**17.13**	**32**	P	**Pn**	**15 04 11.7**	**-0.5**
	baz=231						
YAH	**Yahtse**	**17.26**	**51**		**P**	**15 04 16.2**	**+0.8**
YAH				IAmb	IAmb	15 04 38.5	
	comp=Z,22nm,0.9s						
RIDG	**Independent Ri**	**17.26**	**38**	P	**Pn**	**15 04 14.6**	**+0.6**
	baz=239						
RIDG	**Independent Ri**	**17.26**	**38**	P	**P**	**15 04 15.0**	**-0.2**
M26K	**Nabesna, AK**	**17.39**	**44**	P	**Pn**	**15 04 15.5**	**-0.1**
	baz=246						
H24K	**Noodor Dome**	**17.45**	**30**	P	**P**	**15 04 17.6**	**+0.3**
	baz=229						
BARN	**Barnard Glacie**	**17.50**	**49**		**Pn**	**15 04 17.2**	**+0.1**
BARN				IAmb	IAmb	15 04 29.8	
	comp=Z,16nm,1.2s						
DOT	**Dot Lake**	**17.52**	**39**	P	**P**	**15 04 18.9**	**+0.8**
CTGM	**Chitina Glacie**	**17.63**	**49**		**Pn**	**15 04 19.2**	**+0.6**
SCRK	**Sand Creek**	**17.71**	**38**	P	**Pn**	**15 04 19.9**	**+0.3**
	baz=240						
SCRK	**Sand Creek**	**17.71**	**38**	P	**Pn**	**15 04 19.7**	**+0.1**
M27K	**Edge Creek, AK**	**17.86**	**44**	P	**Pn**	**15 04 21.5**	**+0.1**
	baz=248						
PINM	**Pinnacle**	**17.91**	**52**	P	**Pn**	**15 04 22.1**	**+0.1**
	baz=257						
PRP	**Porcupine Dome**	**18.01**	**33**	P	**Pn**	**15 04 23.3**	**0.0**
	baz=234						
PRP	**Porcupine Dome**	**18.01**	**33**	P	**Pn**	**15 04 22.6**	**-0.6**
L27K	**Beaver Creek,**	**18.16**	**42**	P	**P**	**15 04 26.0**	**+0.9**
	baz=246						
L27K	**Beaver Creek,**	**18.16**	**42**	P	**Pn**	**15 04 24.5**	**-0.5**
BCAR	**Beaver Creek A**	**18.18**	**42**	P	**Pn**	**15 04 25.0**	**-0.3**
K27K	**Chicken**	**18.48**	**39**	P	**Pn**	**15 04 29.0**	**+0.2**
	baz=243						
K27K	**Chicken**	**18.48**	**39**	P	**P**	**15 04 28.8**	**+0.3**
FYU	**Fort Yukon**	**18.75**	**31**	P	**Pn**	**15 04 32.8**	**+0.8**
TOLK	**Toolik Lake Re**	**19.02**	**22**	P	**Pn**	**15 04 35.5**	**+0.1**
	baz=220						
TOLK	**Toolik Lake Re**	**19.02**	**22**	P	**Pn**	**15 04 35.1**	**-0.3**
EGAK	**Eagle**	**19.18**	**38**	P	**P**	**15 04 36.5**	**+0.3**
	baz=242						
EGAK	**Eagle**	**19.18**	**38**		**P**	**15 04 36.5**	**+0.3**
PET	**Petropavlovsk**	**19.39**	**285**	P	**P**	**15 04 38.2**	**-0.4**
PET				IAmb	IAmb	15 04 43.0	
	comp=Z,9.7nm,0.5s						
HYT	**Haines Junctio**	**19.40**	**51**		**Pn**	**15 04 41.0**	**+0.9**
HYT				IAmb	IAmb	15 04 43.5	
	comp=Z,18nm,0.5s						
BMAR	**Burnt Mountain**	**19.49**	**29**		**P**	**15 04 40.2**	**+0.5**
DAWY	**Dawson**	**19.56**	**41**	P	**P**	**15 04 40.4**	**0.0**
PEA0B	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**15 04 44.3**	**-0.3**
PEA0B				IAmb	IAmb	15 04 45.0	
	comp=Z,21nm,0.6s						
PETK	**Petropavlovsk-**	**19.95**	**286**	P	**P**	**15 04 43.6**	**-1.1**
	comp=Z,3.8nm,0.3s,baz=88,slow=13,SNR=138						
PETK				LR	LR	15 11 40.8	
	comp=Z,51nm,21.1s,baz=103,slow=35						
PETK	**Petropavlovsk-**	**19.95**	**286**		**P**	**15 04 43.7**	**-1.0**
BESE	**Bessie Mountai**	**20.43**	**58**	P	**P**	**15 04 50.9**	**+0.9**
BESE				IAmb	IAmb	15 05 15.1	
	comp=Z,15nm,1.0s						
WHY	**Whitehorse**	**20.64**	**52**	P	**P**	**15 04 52.0**	**-0.3**
	baz=261,SNR=5.6						
WHY	**Whitehorse**	**20.64**	**52**	P	**P**	**15 04 52.9**	**+0.6**
WHY				IAmb	IAmb	15 04 59.3	
	comp=Z,13nm,0.9s						
EPYK	**Eagle Plains**	**21.54**	**36**	P	**P**	**15 05 01.2**	**-0.7**
	baz=245						
EPYK	**Eagle Plains**	**21.54**	**36**	P	**P**	**15 05 00.7**	**-1.2**
EPYK				IAmb	IAmb	15 05 07.4	
	comp=Z,12nm,0.8s						
DLBC	**Dease Lake**	**22.96**	**59**	P	**P**	**15 05 17.5**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=248,slow=16,SNR=3.2						
DLBC	**Dease Lake**	**22.96**	**59**	IAmb	IAmb	15 05 21.7	
	comp=Z,7.2nm,1.2s						
MA2	**Magadan**	**23.28**	**304**	P	**P**	**15 05 17.9**	**-2.3**
	comp=Z,12nm,0.9s,baz=34,slow=10,SNR=3.9						
MA2				LR	LR	15 15 30.5	
	comp=Z,42nm,19.5s,baz=94,slow=40						
MA2	**Magadan**	**23.28**	**304**	P	**P**	**15 05 19.7**	**-0.4**
MA2				IAmb	IAmb	15 05 22.5	
	comp=Z,22nm,1.2s						
INK	**Inuvik**	**23.50**	**33**	P	**P**	**15 05 21.5**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=244,slow=6.0,SNR=12						
INK	**Inuvik**	**23.50**	**33**	P	**P**	**15 05 21.9**	**-0.3**
	baz=245						
INK	**Inuvik**	**23.50**	**33**	P	**P**	**15 05 21.5**	**-0.7**
INK				IAmb	IAmb	15 05 22.9	
	comp=Z,3.8nm,0.5s						
BBB	**Bella Bella**	**25.03**	**73**	LR	LR	15 13 31.7	
	comp=Z,63nm,18.8s,baz=245,slow=32						
YKA	**Yellowknife Ar**	**30.35**	**49**	P	**P**	**15 06 25.2**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=286,slow=11,SNR=14						
ERM	**Erimo**	**33.35**	**271**	P	**P**	**15 06 51.0**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**37.32**	**219**	T	T	15 47 21.1	
	baz=24,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**37.32**	**219**	T	T	15 47 21.6	
	baz=24,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**37.33**	**219**	T	T	15 47 19.7	
	baz=24,slow=75,SNR=22						
EGMT	**Eagleton**	**37.50**	**72**	P	**P**	**15 07 28.0**	**+1.8**
EGMT				IAmb	IAmb	15 07 29.0	
	comp=Z,5.8nm,0.8s						
NVAR	**Mina Array Bea**	**37.63**	**91**	P	**P**	**15 07 30.7**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=292,slow=8.3,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**38.50**	**218**	T	T	15 48 50.2	
	baz=23,slow=76,SNR=193						
YHH	**Holmes Hill**	**38.51**	**77**	P	**P**	**15 07 36.3**	**+1.3**
YHH				IAmb	IAmb	15 07 37.9	
	comp=Z,3.6nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**38.52**	**218**	T	T	15 48 55.7	
	baz=23,slow=76,SNR=176						
H11S3	**WAKE ISLAND Hy**	**38.52**	**218**	T	T	15 48 55.4	
	baz=23,slow=76,SNR=159						
JSD	**Sado**	**38.74**	**270**	P	**P**	**15 07 35.8**	**-0.9**
JSD				IAmb	IAmb	15 07 52.0	
	comp=Z,6.8nm,1.1s						
USA0B	**Ussuriysk Arra**	**38.97**	**282**	P	**P**	**15 07 38.5**	**0.0**
USA0B				IAmb	IAmb	15 07 40.1	
	comp=Z,2.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**38.97**	**282**	LR	LR	15 22 29.5	
	comp=Z,35nm,21.8s,baz=62,slow=34						
MAJO	**Matsushiro**	**39.72**	**268**	P	**P**	**15 07 45.1**	**+0.1**
MAJO				IAmb	IAmb	15 08 00.9	
	comp=Z,4.7nm,1.1s						
MJAR	**Matsushiro Arr**	**39.72**	**268**	P	**P**	**15 07 43.3**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=32,slow=4.9,SNR=4.0						
MJAR				LR	LR	15 23 17.2	
	comp=Z,33nm,20.9s,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**39.72**	**268**	IAmb	IAmb	15 07 46.6	
	comp=Z,1.7nm,1.0s						
MJB9	**Matsu-Tunnel**	**39.72**	**268**	P	**P**	**15 07 45.7**	**+0.8**
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**15 07 52.2**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=308,slow=4.0,SNR=16						
PDAR	**Pinedale Array**	**40.41**	**79**	P	**P**	**15 07 51.7**	**+0.9**
NEEM	**North Greenlan**	**45.17**	**16**	*i* P	**P**	**15 08 29.3**	**+0.2**
NEEM				IAmb	IAmb	15 08 29.9	
	comp=Z,4.5nm,0.5s						
KSRS	**Korea Array**	**45.46**	**277**	P	**P**	**15 08 31.8**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=53,slow=7.4,SNR=21						
KSRS				LR	LR	15 26 05.0	
	comp=Z,21nm,20.5s,baz=46,slow=34						
KSAR	**Wonju Array Be**	**45.49**	**277**	P	**P**	**15 08 31.0**	**-0.7**
NRIK	**Noril'sk**	**46.62**	**332**	P	**P**	**15 08 39.4**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=102,slow=8.9,SNR=3.6						
NRIK	**Noril'sk**	**46.62**	**332**	P	**P**	**15 08 39.3**	**-0.9**
NRIK				IAmb	IAmb	15 08 52.1	
	comp=Z,3.3nm,0.9s						
ECSD	**EROS Data Cent**	**47.51**	**70**	P	**P**	**15 08 47.4**	**-0.1**
ECSD				IAmb	IAmb	15 08 48.7	
	comp=Z,3.5nm,1.1s						
EYMN	**Ely**	**47.89**	**62**	P	**P**	**15 08 51.0**	**+0.6**
EYMN				IAmb	IAmb	15 08 52.5	
	comp=Z,3.7nm,0.9s						
F36A	**Milaca**	**48.00**	**66**	P	**P**	**15 08 51.4**	**+0.2**
F36A				IAmb	IAmb	15 09 03.9	
	comp=Z,2.4nm,0.8s						
E38A	**The Farm, Brul**	**48.65**	**64**		**P**	**15 08 55.4**	**-0.9**
E38A				IAmb	IAmb	15 08 58.0	
	comp=Z,4.6nm,0.9s						
L34A	**Svendsen Farm,**	**48.73**	**72**	P	**P**	**15 08 57.3**	**+0.4**
DAG	**Danmarks Havn**	**49.98**	**8**	*i* P

NB201	NORSAR Array S	67.13 360	P	P	15 11 05.4	-0.2
NB2	NORSAR Subarra	67.14 360	P	P	15 11 05.8	+0.1
	comp=Z,1.0nm,0.5s,baz=0.9,slow=6.5					
NOA	NORSAR Array B	67.14 360	P	P	15 11 05.1	-0.6
	comp=Z,1.8nm,0.7s,baz=0.7,slow=6.3,SNR=7.9					
NOA			LR	LR	15 42 07.9	
	comp=Z,8.0nm,18.1s,baz=160,slow=38					
KMI	Kunming	69.35 285	⇑P	P	15 11 27.5	+7.2
KMI			pmax	pmax		
	comp=Z,8.0nm,1.1s					
ABKAR	Abkulak array	70.62 328	P	P	15 11 27.2	-0.2
KK31	Karatay Array	71.96 318	P	P	15 11 35.2	-0.5
KK31			IAmb	IAmb	15 11 36.2	
	comp=Z,4.9nm,0.8s					
KKAR	Karatay Array	71.96 318	P	P	15 11 34.8	-1.0
KKAR	Karatay Array	71.96 318	P	P	15 11 35.1	-0.6
KKAR			IAmb	IAmb	15 11 36.2	
	comp=Z,4.9nm,0.8s					
PABE	Paberze	72.13 352	P	P	15 11 35.7	-0.8
BTK	Batken	74.36 316	P	P	15 11 49.4	-0.6
BTK			IAmb	IAmb	15 11 51.0	
	comp=Z,7.1nm,0.8s					
GAR	Garm	75.45 316	P	P	15 11 56.3	-0.2
CHGR	Chuyangaron	76.23 317	P	P	15 12 00.5	-0.3
AKASG	Malin Array Be	76.31 348	P	P	15 12 00.3	-0.6
	comp=Z,4.1nm,0.6s,baz=14,slow=5.6,SNR=11					
AKASG			LR	LR	15 50 47.2	
	comp=Z,15nm,19.2s,baz=355,slow=40					
AKBB	Malin Array Si	76.31 348	P	P	15 12 00.2	-0.7
AKBB			IAmb	IAmb	15 12 00.8	
	comp=Z,3.6nm,0.6s					
CM31	Chiang Mai Arr	76.69 283	P	P	15 12 04.1	+0.5
CM31			IAmb	IAmb	15 12 05.0	
	comp=Z,7.0nm,0.8s					
CMAR	Chiang Mai Arr	76.69 283	P	P	15 12 04.0	+0.4
	comp=Z,4.4nm,0.9s,baz=28,slow=6.5,SNR=23					
CMAR	Chiang Mai Arr	76.69 283	P	P	15 12 03.4	-0.2
CM15	Chiang Mai Arr	76.71 283	P	P	15 12 05.6	+1.9
	comp=Z,6.3nm,0.9s					
CM04	Chiang Mai Arr	76.72 283	P	P	15 12 05.7	+2.0
	comp=Z,7.8nm,0.8s					
CM05	Chiang Mai Arr	76.73 283	P	P	15 12 05.9	+2.1
	comp=Z,5.8nm,0.9s					
CM13	Chiang Mai Arr	76.74 283	P	P	15 12 05.9	+2.0
	comp=Z,7.0nm,0.9s					
CLL	Collm	76.88 359	eP	P	15 12 03.0	-1.1
CLL			epP	pwP	15 12 15.0	-1.2
DPC	Dobruska-Polom	77.75 356	eP	P	15 12 09.9	+0.8
KRLC	Kraliky	78.00 356	eP	P	15 12 11.4	+0.9
KHC	Kasperske Hory	79.05 358	eP	P	15 12 17.2	+0.9
GERES	GERESS Array B	79.33 358	P	P	15 12 18.5	+0.6
	comp=Z,0.6nm,0.5s,baz=354,slow=7.9,SNR=2.4					
MODS	Modra-Piesok	79.68 356	eP	P	15 12 21.6	+1.9
KBL	Kabul	79.75 314	P	P	15 12 19.7	-0.9
BURAR	Bucovina Array	79.82 350	P	P	15 12 20.3	-0.3
BURAR			IAmb	IAmb	15 12 21.7	
	comp=Z,1.3nm,0.7s					
KBZ	Khabaz	80.51 337	P	P	15 12 25.2	+1.0
	comp=Z,4.2nm,0.9s,baz=87,slow=0.5,SNR=9.1					
GEYT	Alibeck	81.21 324	P	P	15 12 27.5	-0.6
	comp=Z,1.8nm,0.5s,baz=252,slow=7.5,SNR=4.3					
GEYT	Alibeck	81.21 324	IAmb	IAmb	15 12 34.5	
	comp=Z,108nm,1.1s					
BRTR	Keskin Array B	86.32 342	P	P	15 12 54.4	0.0
	comp=Z,0.4nm,0.4s,baz=320,slow=5.6,SNR=3.0					
ESDC	Sonseca Array	87.65 11	P	P	15 13 01.0	+0.2
	comp=Z,1.3nm,0.8s,baz=348,slow=5.4,SNR=6.5					
ESDC	Sonseca Array	87.65 11	IAmb	IAmb	15 13 21.7	
	comp=Z,2.5nm,1.4s					
ASAR	Alice Springs	90.29 230	P	P	15 13 12.8	-0.3
	comp=Z,1.6nm,1.0s,baz=29,slow=4.6,SNR=12					
BOSA	Boshof	154.08 330	PKPbc	PKPbc	15 20 10.5	-1.5
	comp=Z,1.6nm,0.7s,baz=53,slow=7.7,SNR=3.6					

NEIC ***27*** *15:07:55.8±1.5, 27°.65S±0°.07×177°.6W±0°.3, h75km±10km, mb4.4/13, Error ellipse: s-maj=36.9km s-min=7.9km az=100.0*
IDC ***27*** *15:07:56.8±3.8, 27°.85S×177°.31W, h105km±42km, mb3.7/3, mb1 3.9/3, mb1mx3.4/30, mbtmp4.0/3, Error ellipse: s-maj=72.1km s-min=41.5km az=142.0*
ISC 27 15:07:58.2±1.4, 27°.9S±0°.1×177°.9W±0°.3, h100km, n25, σ1§62/23, mb4.4/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.39	182	P	Pn	15 08 22.4	-0.7
	275nm,0.3s,baz=110,slow=6.5,SNR=24						
RAO				S	Sn	15 08 43.4	+1.4
	553nm,0.3s,baz=107,slow=22,SNR=14						
RAO	Raoul Island	1.39	182	Pn	Pn	15 08 22.3	-0.8
RAO				Sn	Sn	15 08 42.2	+0.2
URZ	Urewera	11.20	201	P	Pn	15 10 26.0	-8.9
	0.2nm,0.3s,baz=162,slow=24,SNR=1.5						
URZ				S	Sn	15 12 24.6	-13
	0.4nm,0.3s,baz=151,slow=16,SNR=1.3						
MSWZ	Moikau Station	14.66	201		Pn	15 11 13.5	-7.0
TUWZ	Tuamarina	15.11	204	P	Pn	15 11 23.4	-2.8
THZ	Tophouse	15.79	206	P	Pn	15 11 32.8	-2.0
THZ				IAmb	IAmb	15 11 36.0	
	comp=Z,98nm,1.5s						
AS31	Alice Springs	43.41	264	P	P	15 15 51.4	+0.1
ASAR	Alice Springs	43.41	264	P	P	15 15 53.0	+1.8
	comp=Z,0.9nm,0.7s,baz=99,slow=6.8,SNR=30						
ASAR				PcP	PcP	15 17 37.6	-0.3
	comp=Z,0.2nm,0.5s,baz=115,slow=4.0,SNR=1.3						
ASAR	Alice Springs	43.41	264	P	P	15 15 51.5	+0.2
WR0	Warramunga Arr	43.99	270	P	P	15 15 56.6	+0.8
WR0				IAmb	IAmb	15 16 04.7	
	comp=Z,9.0nm,1.3s						
WB2	Warramunga Arr	44.16	269	P	P	15 15 58.2	+1.0
WB2				IAmb	IAmb	15 16 06.9	
	comp=Z,6.6nm,1.1s						
WRAB	Tennant Creek	44.16	269	P	P	15 15 58.7	+1.4
WRA	Warramunga Arr	44.17	269	P	P	15 15 58.7	+1.4
	comp=Z,2.4nm,0.4s,baz=109,slow=6.3,SNR=29						
WRA	Warramunga Arr	44.17	269	IAmb	IAmb	15 16 01.8	
	comp=Z,0.2nm,1.2s						
WB0	Warramunga Arr	44.18	270	P	P	15 15 58.2	+0.8
WB0				IAmb	IAmb	15 16 05.1	
	comp=Z,6.3nm,1.2s						
MTN	Manton Dam	49.74	277	P	P	15 16 41.8	+1.1
MTN				IAmb	IAmb	15 16 46.0	
	comp=Z,8.1nm,1.1s						
SBA	Scott Base	50.58	184	P	P	15 16 49.1	+3.1
SBA				IAmb	IAmb	15 16 56.1	
	comp=Z,6.3nm,1.4s						
VNDA	Vanda	50.63	186	P	P	15 16 48.8	+2.3
KNRA	Kununurra	50.67	272	P	P	15 16 49.2	+1.6
CASY	Casey	57.44	207	P	P	15 17 35.5	-0.6
MJAR	Matsushiro Arr	76.22	325	P	P	15 19 35.9	+0.3
	comp=Z,0.6nm,0.4s,baz=148,slow=5.0,SNR=5.5						
MJAR	Matsushiro Arr	76.22	325	IAmb	IAmb	15 19 54.5	
	comp=Z,4.1nm,1.5s						
FINES	FINESS Array B	142.79	341	PKhKP	PKPpre	15 27 14.4	
	comp=Z,0.7nm,0.6s,baz=79,slow=3.0,SNR=0.9						
AKASG	Malin Array Be	149.31	325	PKPbc	PKiKP	15 27 33.0	-3.0
	comp=Z,1.1nm,0.5s,baz=40,slow=3.4,SNR=1.6						
CLL	Collm	155.18	344	ePKPab	PKPab	15 28 04.0	-0.4

IDC ***27*** *15:16:23.9±1.8, 8°.23S×125°.16E, h0km, mb3.6/1, mb1 4.2/3, mb1mx3.6/33, mbtmp4.0/3, ML4.2/2, Error ellipse: s-maj=188.0km s-min=31.1km az=59.0*
NEIC ***27*** *15:16:33.9±2.1, 9°.4S±0°.2×123°.9E±0°.1, h104km±9km, mb4.4/3, Error ellipse: s-maj=25.1km s-min=9.5km az=207.0*
DJA ***27*** *15:16:33.2±0.4, 9°S±6°×12°4E±°, h83km±8km, M4.2/8, mb4.5/4, mB5.2/1, MLv4.1/8, Mw(mB)4.6/1*
ISC 27 15:16:33.2±0.9, 9°.1S±0°.1×124°.03E±0°.07, h100km±10km, n23, σ1§28/28, mb4.5/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.66	159		Pn	15 16 50.7	+0.2
SOEI				Sn	Sn	15 17 02.9	-0.5
SOEI	Soe	0.66	159	P	Pn	15 16 51.0	+0.5
SOEI				S	Sn	15 17 03.7	+0.3
BATI	Baumata	1.13	199	P	Pn	15 16 55.6	+0.5
BATI				S	Sn	15 17 12.4	+0.8
MMRI	Maumere	1.84	285		Pn	15 17 03.7	-0.1
MMRI	Maumere	1.84	285	P	Pn	15 17 04.0	+0.2
MMRI				S	Sn	15 17 26.5	-0.6
EDFI	Ende, Flores	2.34	279	P	Pn	15 17 11.1	+0.7
EDFI				S	Sn	15 17 38.3	-0.6
PLAI	Plampang	6.19	272	P	Pn	15 18 03.2	+1.1
	0.1nm23nm,0.9s						
TWSI	Taliwang, Sumb	7.08	273	P	Pn	15 18 14.6	+0.4
	0.1nm10.0nm,0.9s						
SAUI	Saumlaki	7.28	82	P	Pn	15 18 15.3	-1.7
	2.1nm541nm,0.8s						
MTN	Manton Dam	7.89	119		Pn	15 18 26.0	+0.8
KNRA	Kununurra	7.98	145		Pn	15 18 25.6	-0.9
WB0	Warramunga Arr	14.56	138	Pn	Pn	15 19 52.5	-2.0
WRA	Warramunga Arr	14.65	138	Pn	Pn	15 19 53.7	-2.0
	0.8nm,0.3s,baz=323,slow=13,SNR=15						
WRA				Sn	Sn	15 22 26.1	-11
	0.6nm,0.3s,baz=317,slow=24,SNR=6.1						
WRA	Warramunga Arr	14.65	138	Pn	Pn	15 19 53.4	-2.3
WB2	Warramunga Arr	14.66	138	Pn	Pn	15 19 54.0	-1.7
WR0	Warramunga Arr	14.80	138	Pn	Pn	15 19 55.6	-1.9
AS31	Alice Springs	17.26	148	P	P	15 20 27.6	-0.6
AS31				IAmb	IAmb	15 20 31.1	
	comp=Z,1.9nm,0.6s						
ASAR	Alice Springs	17.26	148	P	Pn	15 20 28.7	+0.5
	comp=Z,1.1nm,0.3s,baz=319,slow=12,SNR=86						
ASAR				S	Sn	15 23 29.1	-11
	baz=321,slow=23,SNR=2.4						
ASAR	Alice Springs	17.26	148		P	15 20 27.9	-0.2
JSD	Sado	48.77	15	P	P	15 25 09.9	+1.9
JSD				IAmb	IAmb	15 25 15.8	
	comp=Z,9.5nm,1.5s						
LSA	Lhasa	49.93	322	P	P	15 25 16.1	-1.5
LSA				IAmb	IAmb	15 25 18.9	
	comp=Z,4.3nm,0.5s						
MKAR	Makanchi Array	66.94	330	P	P	15 27 17.0	+2.0
	comp=Z,0.4nm,0.6s,baz=135,slow=7.5,SNR=6.7						
MKAR	Makanchi Array	66.94	330	P	P	15 27 16.1	+1.0

TUL ***27*** *15:16:37.2±0.8, 36°.60N±0°.01×97°.828W±0°.006, h6km±6km, ML2.7, mb_Lg2.6/45(NEIC), Error ellipse: s-maj=1.5km s-min=0.7km az=184.0*
NEIC 27 15:16:37.1±0.6, 36°.599N±0°.007×97°.83W±0°.01, h10km±4km, Error ellipse: s-maj=1.9km s-min=0.8km az=67.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.16	233	Pg	Pg	15 16 40.7	+0.2
CROK				Sg	Sg	15 16 43.0	+0.1
GC02	Grant County #	0.25	355	Pg	Pg	15 16 42.3	+0.1
OK032	Salt Plains WL	0.37	304	Pg	Pg	15 16 44.4	+0.1
OK032				Sg	Sg	15 16 49.3	+0.1
KAN17	Caldwell West	0.45	7	Pg	Pg	15 16 46.0	+0.2
KAN17				Sg	Sg	15 16 52.0	+0.3
KAN13	South Haven SW	0.50	34	Pg	Pg	15 16 47.0	+0.1
KAN05	Bluff City Nor	0.51	356	Pg	Pg	15 16 47.2	+0.1
KAN05				Sg	Sg	15 16 53.5	-0.3
BLOK	Blackwell	0.52	72	Pg	Pg	15 16 47.2	0.0
BLOK				Sg	Sg	15 16 53.8	-0.2
KAN09	Caldwell North	0.56	17	Pg	Pg	15 16 48.0	0.0
KAN10	Anthony SW Sta	0.56	338	Pg	Pg	15 16 48.0	0.0
KAN10				Sg	Sg	15 16 55.2	-0.3
KAN08	Anthony NE Sta	0.64	350	Pg	Pg	15 16 49.4	0.0
KAN08				Sg	Sg	15 16 57.1	-0.7
KS20	Mayfield South	0.67	19	Pg	Pg	15 16 50.0	0.0
KAN12	Harper NE Stat	0.71	349	Pg	Pg	15 16 50.5	-0.4
OK029	Liberty Lake	0.86	159	Pg	Pg	15 16 53.5	-0.1
BCOK	Bluff Creek, N	0.96	169	Pg	Pg	15 16 54.9	-0.6
BCOK				Sg	Sg	15 17 07.6	-0.4
U32A	Winter Ranch,	0.97	257	Pg	Pg	15 16 55.5	-0.3
QUOK	Quay	1.00	115	Pg	Pg	15 16 55.9	-0.4
OK031	S. Brethren Rd	1.03	129	Pg	Pg	15 16 56.5	-0.3
OK031				Sg	Sg	15 17 09.9	-0.3
OK025	Westminster Rd	1.09	158	Pg	Pb	15 16 58.1	0.0
T35A	Sooner Cattle	1.10	73	Pg	Pg	15 16 57.9	-0.4
OKCSW	OKLAHOMA CITY	1.23	165	Pg	Pn	15 17 00.2	-0.3
FNO	Franklin	1.38	165	Pn	Pn	15 17 02.7	+0.2
R32A	Long Quarter,	1.95	339	Pn	Pn	15 17 10.3	-0.1
WMOK	Wichita Mounta	2.01	203	Pn	Pn	15 17 11.7	+0.5
LOOK	Love County	2.66	168	Pn	Pn	15 17 20.6	+0.6
LOOK				IAmb_Lg		15 18 04.7	
	comp=Z,14nm,0.8s						
CBKS	Cedar Bluff	2.68	326	Pn	Pn	15 17 20.8	+0.4
X37A	Clayton	2.83	134	IAmb_Lg		15 18 14.2	
	comp=Z,20nm,0.8s						
AMTX	Amarillo	3.57	242	IAmb_Lg		15 18 39.4	
	comp=Z,14nm,0.8s						
U40A	Yellville	4.02	92	IAmb_Lg		15 18 47.6	
	comp=Z,29nm,0.8s						
MIAR	Mount Ida	4.03	119	IAmb_Lg		15 18 48.0	
	comp=Z,9.1nm,0.8s						
MGMO	Mountain Grove	4.49	81	IAmb_Lg		15 18 57.6	
	comp=Z,19nm,1.1s						
P38A	Dawn	4.54	47	IAmb_Lg		15 19 08.9	
	comp=Z,10nm,0.9s						
N35A	Tabor	4.59	21	IAmb_Lg		15 19 13.2	
	comp=Z,19nm,0.7s						
X40A	Basin Creek Fa	4.59	116	IAmb_Lg		15 19 11.8	
	comp=Z,9.4nm,1.0s						
WHAR	Wooly Hollow	4.68	105	IAmb_Lg		15 19 08.2	
	comp=Z,12nm,0.9s						
R40A	Maddies Statio	4.74	67	IAmb_Lg		15 19 10.9	
	comp=Z,14nm,0.8s						
T25A	Trinidad	5.30	278	IAmb_Lg		15 19 32.6	
	comp=Z,8.8nm,0.9s						
P40A	Paris	5.42	56	IAmb_Lg		15 19 35.5	
	comp=Z,12nm,0.7s						
T42A	Van Buren	5.42	83	IAmb_Lg		15 19 42.7	
	comp=Z,6.9nm,0.8s						
CCM	Cathedral Cave	5.45	73	IAmb_Lg		15 19 34.9	
	comp=Z,14nm,0.7s						
L34A	Svendsen Farm,	5.48	11	IAmb_Lg		15 19 39.7	
	comp=Z,13nm,0.7s						
N38A	Joes South For	5.52	39	IAmb_Lg		15 19 38.3	
	comp=Z,17nm,0.7s						
PBMO	Poplar Bluff	5.95	86	IAmb_Lg		15 19 51.1	
	comp=Z,8.9nm,0.8s						
K31A	O'Neill	6.06	354	IAmb_Lg		15 20 00.6	
	comp=Z,17nm,0.7s						
K38A	Parkersburg	7.19	31	IAmb_Lg		15 20 43.9	
	comp=Z,9.3nm,0.9s						
PHWY	Pilot Hill	7.57	311	IAmb_Lg		15 20 42.6	
	comp=Z,4.1nm,0.8s						
SUSD	Miller	7.88	354	IAmb_Lg		15 21 09.2	
	comp=Z,4.7nm,0.8s						
SFIN	Lafayette	9.22	63	IAmb_Lg		15 21 37.0	
	comp=Z,8.1nm,0.8s						

VAO ***27*** *15:23:21.5±0.3, 29°.52S×71°.07W, h99km, mb4.3*
GUC ***27*** *15:23:22.9±0.6, 29°.50S×70°.87W, h96km±3km, ML4.7*
SJA ***27*** *15:23:22.7±0.8, 29°.58S×70°.89W, h96km±11km, ML4.3, MW4.3*
NEIC ***27*** *15:23:22.0±3.0, 29°.49S±0°.04×71°.1W±0°.2, h96km±2km, mb4.5/12, ML4.7(GUC), Error ellipse: s-maj=21.5km s-min=6.5km az=90.0*
IDC ***27*** *15:23:23.5±0.6, 29°.39S×70°.56W, h94km±5km, mb4.0/6, mb1 4.0/9, mb1mx3.8/29, mbtmp4.3/9, MS3.1/4, Ms1 3.1/4, ms1mx2.9/22, Error ellipse: s-maj=28.4km s-min=13.5km az=92.0*
ISC 27 15:23:22.3±0.5, 29°.48S±0°.03×70°.89W±0°.04, h94km±4km, n142, σ1§67/148, mb4.4/8, 4C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.49	19	⇑iP	Pn	15 23 37.6	-0.1
LCO				i S	Sn	15 23 49.7	+0.5
LCO	Las Campanas	0.49	19		Pn	15 23 38.4	+0.7
CO05	La Serena	0.54	215	⇓iP	Pn	15 23 38.1	+0.4
CO05				i S	Sn	15 23 49.4	+0.2
CO05				IAML		15 23 50.2	
	comp=N,31μm,0.4s						
GO04	Tololo Observa	0.70	174	⇓iP	Pn	15 23 39.6	+0.1
GO04				i S	Sn	15 23 52.4	+0.2
GO04	Tololo Observa	0.70	174		Pn	15 23 39.6	+0.1
GO04	Tololo Observa	0.70	174	i P	Pn	15 23 39.7	+0.3
AC04	Llanos de Chal	1.28	353	⇑iP	Pn	15 23 46.7	+1.1
AC04				i S	Sn	15 24 04.2	+1.1
AC04				IAML		15 24 05.6	
	comp=E,15μm,0.5s						
AC04	Llanos de Chal	1.28	353	Pn	Pn	15 23 46.6	+1.1
CO06	Fray Jorge	1.36	208	⇓iP	Pn	15 23 46.4	-0.1
CO06				i S	Sn	15 24 05.1	+0.3
CO03	El Pedregal	1.37	173	⇑iP	Pn	15 23 47.0	+0.2
CO03				i S	Sn	15 24 05.1	0.0
CO03				IAML		15 24 06.0	
	comp=E,9μm,0.3s						
CO03	El Pedregal	1.37	173		Pn	15 23 47.0	+0.2
CO03	El Pedregal	1.37	173	eP	Pn	15 23 46.6	-0.1
CO03				eS	Sn	15 24 05.2	0.0
CO03				IAML		15 24 07.7	
	comp=Z,3μm,0.5s						
AROD	Rodeo	1.41	120	eP	Pn	15 23 49.1	+1.7
AROD				eS	Sn	15 24 08.2	+1.8
ACDV	Cuesta del Vie	1.68	115	eP	Pn	15 23 52.4	+1.6
ACDV				IAML		15 24 17.0	
	comp=Z,2μm,0.6s						
ACCO	Cerro Coronel	1.93	126	eP	Pn	15 23 56.1	+2.1
ACCO				eS	Sn	15 24 18.4	+0.2
GO03	Copiap	1.96	17	eP	Pn	15 23 54.9	+0.7
GO03				i S	Sn	15 24 19.6	+1.1
GO03				IAML		15 24 21.2	
	comp=N,12μm,0.5s						
GO03	Copiap	1.96	17		Pn	15 23 55.0	+0.7
VCA	Vinchina	2.46	73	⇓eP	Pn	15 24 03.8	+3.0
VCA				IAML		15 24 36.6	
	comp=Z,2μm,0.6s						
RTLS	Leoncito	2.69	150	eP	Pn	15 24 06.6	+2.5
RTLL	Cerro Villicun	2.78	132	eP	Pn	15 24 06.2	+1.1
RTLL				eS	Sn	15 24 34.6	-3.3
AUSP	Uspallata	3.03	155	i P	Pn	15 24 11.2	+2.7
AUSP				eS	Sn	15 24 46.0	+1.9
AC02	Maricunga	3.05	31	⇓iP	Pn	15 24 10.1	+1.0
AC02	Maricunga	3.05	31	Pn	Pn	15 24 09.9	+0.8
AVFE	Valle Fertil	3.20	112	eP	Pn	15 24 11.7	+1.0
AVFE				eS	Sn	15 24 39.4	-8.6
AVFE				IAML		15 24 49.1	
	comp=Z,1μm,0.8s						
VA03	San Esteban	3.29	175	⇑iP	Pn	15 24 12.4	+0.5
VA03				IAML		15 24 55.8	
	comp=N,2μm,0.5s						
VA03	San Esteban	3.29	175		Pn	15 24 12.2	+0.3
ACLC	CERRO LA CRUZ	3.43	90	eP	Pn	15 24 14.7	+0.8
ACLC				eS	Sn	15 24 54.1	+0.4
ACLC				IAML		15 24 55.1	
	comp=Z,1μm,1.0s						
ROCH	El Roble	3.49	182	eP	Pn	15 24 14.2	-0.5
ROCH				IAML		15 25 03.3	
	comp=N,1μm,0.4s						
VA01	Torpederas	3.59	190	Pn	Pn	15 24 14.3	-1.6
APLL	PUNTA DE LOS L	3.89	105	eP	Pn	15 24 20.5	+0.5
APLL				eS	Sn	15 25 04.9	+0.3
MT05	Renca	3.91	178	Pn	Pn	15 24 19.6	-0.6
AAGR	Agrelo	4.00	154	eP	Pn	15 24 23.8	+2.2
AAGR				eS	Sn	15 25 04.7	-2.8
ACHE	Chepes	4.02	116	eP	Pn	15 24 22.8	+1.1
MT03	Universidad Ad	4.02	176		Pn	15 24 21.9	+0.2
MT03	Universidad Ad	4.02	176	eS	Sn	15 25 08.8	+1.0
VA05	Santo Domingo	4.21	188		Pn	15 24 22.3	-2.0
MT09	Talagante	4.29	181		Pn	15 24 24.4	-1.1
GO02	Mina Guanaco	4.45	15		Pn	15 24 26.3	-1.5
CYA	Choya	4.57	78	eP	Pn	15 24 29.2	0.0
CYA				IAML		15 25 21.3	
	comp=Z,119nm,0.5s						
PB14	IPOC Station P	4.85	5	Pn	Pn	15 24 31.1	-2.2
BO01	Tunca	4.90	182		Pn	15 24 31.9	-1.7
BO02	Sierra Bellavi	5.30	179		Pn	15 24 37.7	-1.4
FSA	Cafayete	5.49	54	eP	Pn	15 24 42.0	+0.2
GO05	Huala	5.59	189	Pn	Pn	15 24 40.5	-2.5
PB10	IPOC Station P	5.95	3	Pn	Pn	15 24 44.6	-3.3
ML02	Panimavida	6.29	184		Pn	15 24 49.9	-2.5
PB15	IPOC Station P	6.37	12	Pn	Pn	15 24 51.8	-2.0
PB06	IPOC Station P	6.84	10	Pn	Pn	15 24 57.0	-3.2
LVC	Limon Verde	7.07	15	P	Pn	15 25 00.7	-2.8
	comp=Z,2.8nm,0.3s,baz=164,slow=9.0,SNR=26						
LVC				S	Sn	15 26 18.1	-4.3
	comp=Z,13nm,0.3s,baz=291,slow=22,SNR=6.6						
LVC				LR	LR	15 28 06.7	
	comp=Z,86nm,19.3s,baz=204,slow=41						
LVC	Limon Verde	7.07	15		Pn	15 25 01.1	-2.4
LVC	Limon Verde	7.07	15	eP	Pn	15 25 02.4	-1.1
PB04	IPOC Station P	7.14	5		Pn	15 25 00.8	-3.6
BI02	San Fabin de	7.17	182	Pn	Pn	15 25 02.8	-1.8
PB07	IPOC Station P	7.77	7		Pn	15 25 08.6	-4.3
PB09	IPOC Station P	7.79	11		Pn	15 25 10.3	-2.8
H03N1	Juan Fernandez	7.91	238	T	T	15 33 16.6	
	baz=63,slow=72,SNR=85						
H03N2	Juan Fernandez	7.93	238	T	T	15 33 17.1	
	baz=63,slow=72,SNR=66						
H03N3	Juan Fernandez	7.93	238	T	T	15 33 15.8	
	baz=63,slow=72,SNR=75						
PB01	IPOC Station P	8.49	9		Pn	15 25 18.4	-4.2
TA01	Diego Aracena	8.89	4	Pn	Pn	15 25 24.0	-4.1
PB08	IPOC Station P	9.43	10	Pn	Pn	15 25 31.3	-4.3
PB11	IPOC Station P	9.74	7	Pn	Pn	15 25 34.1	-5.6
PSGCX	Pisagua	9.86	4		Pn	15 25 36.0	-5.2
MNMC	Minye Minye	10.37	7	Pn	Pn	15 25 44.7	-3.6
PLCA	Paso Flores	11.23	179	P	Pn	15 25 55.5	-4.4
	comp=Z,0.1nm,0.3s,baz=331,slow=15,SNR=1.8						
PLCA	Paso Flores	11.23	179	Pn	Pn	15 25 58.2	-1.6
PLCA	Paso Flores	11.23	179	eP	Pn	15 25 58.9	-0.9
TRQA	Tornquist	11.31	141	eP	Pn	15 26 00.4	-0.5
CPUP	Villa Florida	12.39	79	P	Pn	15 26 09.8	-5.5
	comp=Z,0.2nm,0.3s,baz=252,slow=12,

BELA Belgrano 2 51.16 171 P P 15 32 16.2 +0.9
BELA IAmb IAmb 15 32 17.2
comp=Z,4.9nm,1.0s
VNA3 Neumayer Olymp 53.20 159 P P 15 32 31.1 +0.6
VNA1 Neumayer--Stat 53.47 158 P P 15 32 33.4 +1.0
VNA2 Neumayer--Watz 53.82 159 P P 15 32 35.6 +0.6
baz=286,slow=8.4
SNAA Sanae 55.42 159 P P 15 32 47.1 +0.4
SNAA Sanae 55.42 159 P P 15 32 47.1 +0.4
comp=Z,8.5nm,0.8s,baz=279,slow=7.6,SNR=57
SNAA Sanae 55.42 159 P P 15 32 46.8 +0.1
TXAR Lajitas Array 66.33 329 P P 15 34 03.1 +2.0
comp=Z,0.2nm,0.6s,baz=148,slow=7.4,SNR=4.9
TXAR pP **pP 15 34 26.6 +1.5**
comp=Z,1.4nm,0.8s,baz=150,slow=8.5,SNR=11
TXAR sP **sP 15 34 37.5 +2.0**
comp=Z,0.7nm,0.7s,baz=150,slow=11,SNR=4.2
LCAR Lake Charles 67.93 342 pP 15 34 34.6 -0.4
R40A Maddies Statio 70.32 342 pP pP 15 34 50.1 +0.2
E43A Lone Tree Farm 76.89 349 pP 15 35 28.2 -0.3
MAW Mawson 77.23 164 P P 15 35 06.6 +0.9
comp=Z,2.9nm,0.4s,baz=215,slow=7.9,SNR=17
MAW Mawson 77.23 164 P P 15 35 06.2 +0.5
PDAR Pinedale Array 80.21 332 pP pP 15 35 48.1 +0.8
comp=Z,0.6nm,0.5s,baz=134,slow=7.7,SNR=5.8
BOSA Boshof 81.30 118 P P 15 35 28.8 0.0
comp=Z,3.2nm,0.6s,baz=235,slow=4.6,SNR=10
BOSA Boshof 81.30 118 IAmb IAmb 15 35 29.9
comp=Z,5.7nm,1.0s
SCHQ Schefferville 84.03 2 LR LR 16 15 49.5
comp=Z,42nm,18.4s,baz=274,slow=38
WRA Warramunga Arr 125.18 200 PKP **PKPdf 15 42 12.4 -0.2**
comp=Z,0.2nm,0.5s,baz=146,slow=1.4,SNR=1.9
KURBB Kurchatov Arra 148.82 39 PKPbc **PKiKP 15 42 59.9 -0.1**
comp=Z,1.3nm,0.7s,baz=304,slow=3.3,SNR=11
KURBB pPKPbc **pPKPbc 15 43 24.7 -0.1**
comp=Z,1.3nm,0.7s,baz=299,slow=3.5,SNR=6.2
KURK Kurchatov 148.82 39 PKiKP 15 42 59.9 -0.1
ZALV Zalesovo Beam 149.84 29 PKPbc **PKiKP 15 43 02.2 +0.3**
comp=Z,4.4nm,0.7s,baz=304,slow=3.7,SNR=15
ZALV pPKPbc **pPKPbc 15 43 27.0 -0.4**
comp=Z,2.8nm,0.5s,baz=300,slow=3.3,SNR=6.9
ZALV Zalesovo Beam 149.84 29 PKiKP 15 43 01.7 -0.3
MKAR Makanchi Array 152.92 43 PKPbc **PKPbc 15 43 08.3 -0.1**
comp=Z,0.6nm,0.6s,baz=298,slow=2.6,SNR=7.7
MKAR pPKPbc **pPKPbc 15 43 34.8 +0.1**
comp=Z,0.4nm,0.6s,baz=321,slow=1.6,SNR=3.1

IDC 27 15:23:55.5±48.0, 18°.50S×178°.36W, h517km±54km, mb3.0/3, mb1 3.1/4, mb1mx2.8/34, mbtmp3.9/4, Error ellipse: s-maj=890.6km s-min=127.5km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.50**	**282**	P	P	15 25 11.3	0.0
	3.7nm,0.3s,baz=14,slow=24,SNR=10						
STKA	**Stephens Creek**	**38.39**	**242**	P	P	15 30 32.5	+0.2
	1.9nm,1.0s,baz=99,slow=13,SNR=1.8						
WRA	**Warramunga Arr**	**44.57**	**260**	P	P	15 31 20.9	-0.5
	0.3nm,0.3s,baz=97,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**44.68**	**255**	P	P	15 31 22.2	0.0
	2.6nm,0.7s,baz=92,slow=8.3,SNR=55						

*TUL **27** 15:30:19.9±0.5, 36°.30N±0°.01×97°.16W±0°.01, h4km±7km, ML2.5, mb_Lg2.3/24(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=194.0*
NEIC 27 15:30:19.7±0.5, 36°.29N±0°.01×97°.17W±0°.01, h4km±6km, Error ellipse: s-maj=1.8km s-min=1.4km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.39**	**108**	Pg	Pg	15 30 27.5	+0.3
QUOK				Sg	Sg	15 30 32.5	+0.2
OK031	**S. Brethren Rd**	**0.43**	**142**	Pg	Pg	15 30 28.4	+0.4
BLOK	**Blackwell**	**0.47**	**355**	Pg	Pg	15 30 29.1	+0.4
BLOK				Sg	Sg	15 30 35.4	+0.5
OK029	**Liberty Lake**	**0.55**	**205**	Sg	Sg	15 30 37.4	0.0
CROK	**Carrier**	**0.69**	**288**	Pg	Pg	15 30 33.2	+0.1
CROK				Sg	Sg	15 30 41.7	-0.3
OK025	**Westminster Rd**	**0.72**	**191**	Pg	Pg	15 30 33.9	+0.2
BCOK	**Bluff Creek, N**	**0.73**	**210**	Pg	Pg	15 30 33.7	0.0
BCOK				Sg	Sg	15 30 43.3	+0.1
KAN13	**South Haven SW**	**0.76**	**341**	Pg	Pg	15 30 34.3	0.0
GC02	**Grant County #**	**0.79**	**315**	Pg	Pg	15 30 34.8	-0.1
T35A	**Sooner Cattle**	**0.81**	**40**	Pg	Pg	15 30 35.1	-0.2
KAN17	**Caldwell West**	**0.89**	**327**	Pg	Pg	15 30 36.8	0.0
OKCSW	**OKLAHOMA CITY**	**0.91**	**194**	Pg	Pg	15 30 37.5	+0.2
KAN09	**Caldwell North**	**0.92**	**337**	Pg	Pg	15 30 37.1	-0.2
KAN09				IAmb_Lg		15 30 49.0	
	comp=Z,42nm,0.7s						
OK032	**Salt Plains WL**	**0.98**	**301**	Pg	Pg	15 30 38.6	0.0
KS20	**Mayfield South**	**0.98**	**342**	Pg	Pg	15 30 38.6	-0.1
KAN05	**Bluff City Nor**	**0.99**	**325**	Pg	Pg	15 30 38.8	0.0
FNO	**Franklin**	**1.05**	**191**	Pg	Pg	15 30 39.6	-0.3
KAN10	**Anthony SW Sta**	**1.11**	**318**	Pg	Pg	15 30 41.0	-0.2
KAN08	**Anthony NE Sta**	**1.13**	**325**	Pg	Pg	15 30 41.3	-0.2
KAN12	**Harper NE Stat**	**1.20**	**327**	Pg	Pg	15 30 42.5	-0.3
U32A	**Winter Ranch,**	**1.48**	**274**	Pn	Pn	15 30 47.6	+0.3
X34A	**Smith Ranch, M**	**1.77**	**198**	IAmb_Lg		15 31 19.6	
	comp=Z,28nm,0.9s						
X37A	**Clayton**	**2.24**	**139**	Pn	Pn	15 30 58.0	+0.2
X37A				IAmb_Lg		15 31 36.3	
	comp=Z,12nm,1.0s						
HHAR	**Hobbs**	**2.60**	**89**	Pn	Pn	15 31 02.4	-0.3
W39A	**Magazine**	**2.96**	**111**	IAmb_Lg		15 31 54.3	
	comp=Z,5.3nm,0.8s						
U40A	**Yellville**	**3.48**	**88**	IAmb_Lg		15 32 14.4	
	comp=Z,3.2nm,0.7s						
AMTX	**Amarillo**	**3.94**	**250**	IAmb_Lg		15 32 29.8	
	comp=Z,8.6nm,1.0s						
X40A	**Basin Creek Fa**	**3.97**	**116**	IAmb_Lg		15 32 32.7	
	comp=Z,5.7nm,0.8s						
P38A	**Dawn**	**4.39**	**40**	IAmb_Lg		15 32 43.0	
	comp=Z,4.7nm,0.8s						
N35A	**Tabor**	**4.71**	**14**	IAmb_Lg		15 32 58.7	
	comp=Z,8.9nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.11**	**304**	IAmb_Lg		15 33 16.7	
	comp=Z,6.4nm,0.8s						
P40A	**Paris**	**5.18**	**50**	IAmb_Lg		15 33 03.1	
	comp=Z,8.5nm,0.8s						
N38A	**Joes South For**	**5.45**	**33**	IAmb_Lg		15 33 19.3	
	comp=Z,7.8nm,0.7s						

*NEIC **27** 15:46:24.8±1.4, 7°.31S±0°.07×128°.82E±0°.07, h151km±6km, mb4.7/74, Error ellipse: s-maj=10.1km s-min=9.4km az=115.0*
*IDC **27** 15:46:24.1±1.6, 7°.30S×128°.87E, h145km±14km, mb4.1/26, mb1 4.1/29, mb1mx4.1/34, mbtmp4.6/29, Error ellipse: s-maj=13.1km s-min=8.4km az=89.0*
*DJA **27** 15:46:24.6±0.2, 8°.S±2°.×12°.9E±°, h172km±4km, M4.6/27, mb4.6/27, mB5.0/12, MLv4.9/13, Mw(mB)4.4/12, MwMwp5.9/1, Mwp5.9/1*
ISC 27 15:46:24.2±0.3, 7°.37S±0°.04×128°.85E±0°.05, h150km, n188, σ1°35/195, mb4.6/77, 16C-9D, Fault plane solution: NP1: ϕ_s=76.41274°, δ=29.53004°, λ=82.62141°. **NP2:** ϕ_s=264.87799°, δ=60.73837°, λ=94.16084°. **Principal axes:** T Plg73.9218°, Azm185.5538°; N Plg3.6291°, Azm82.8415°; P Plg15.6416°, Azm351.8239°; **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.50**	**104**	Pn	**Pn**	**15 47 07.2**	**+1.8**
SAUI	**Saumlaki**	**2.50**	**104**	P	**Pn**	**15 47 05.0**	**-0.4**
SAUI				S	**Sn**	**15 47 38.0**	**+0.9**
MSAI	**Masohi**	**4.00**	**1**	P	**Pn**	**15 47 27.8**	**+3.3**
NLAI	**Namlea**	**4.46**	**337**	P	**Pn**	**15 47 34.1**	**+3.5**
SOEI	**Soe**	**5.11**	**242**	Pn	**Pn**	**15 47 39.6**	**+0.4**
SOEI	**Soe**	**5.11**	**242**	P	**Pn**	**15 47 40.1**	**+0.8**
	3.4nm6μm572nm,0.8s						
SOEI				S	**Sn**	**15 48 35.8**	**-2.0**
	3.4nm6μm572nm,0.8s						
FAKI	**Fak Fak**	**5.57**	**38**	Pn	**Pn**	**15 47 44.7**	**-0.6**
FAKI	**Fak Fak**	**5.57**	**38**	P	**Pn**	**15 47 46.4**	**+1.1**
	0.7nm2μm49nm,0.8s						
FAKI				S	**Sn**	**15 48 45.4**	**-3.2**
	0.7nm2μm49nm,0.8s						
BATI	**Baumata**	**5.85**	**241**	P	**Pn**	**15 47 49.5**	**+0.6**
	177nm,0.3s,baz=95,slow=1.7,SNR=196						
BATI				S	**Sn**	**15 48 51.0**	**-4.2**
	94nm,0.3s,baz=236,slow=24,SNR=13						
BATI	**Baumata**	**5.85**	**241**	P	**Pn**	**15 47 49.5**	**+0.6**
	2.4nm8μm539nm,0.5s						
MTN	**Manton Dam**	**5.88**	**158**	Pn	**Pn**	**15 47 49.0**	**-0.4**
SANI	**Sanana**	**6.01**	**332**	P	**Pn**	**15 47 53.5**	**+2.4**
	0.4nm65nm,0.8s						
KMPI	**Kaimana, Papua**	**6.08**	**53**	P	**Pn**	**15 47 52.0**	**0.0**
	3.4nm5μm148nm,0.4s						
MMRI	**Maumere**	**6.67**	**259**	Pn	**Pn**	**15 47 58.8**	**-1.1**
MMRI	**Maumere**	**6.67**	**259**	P	**Pn**	**15 48 00.0**	**+0.1**
	0.6nm5μm104nm,0.6s						
SIJI	**Sorong**	**6.90**	**21**	P	**Pn**	**15 48 02.6**	**-0.3**
	3.4nm,0.3s,baz=41,slow=17,SNR=38						
SIJI				S	**Sn**	**15 49 17.8**	**-2.6**
	8.0nm,0.3s,baz=100,slow=23,SNR=9.3						
SWI	**Sorong**	**6.90**	**21**	P	**Pn**	**15 48 05.1**	**+2.1**
	0.3nm1μm26nm,0.6s						
EDFI	**Ende, Flores**	**7.22**	**259**	P	**Pn**	**15 48 07.6**	**+0.3**
	0.1nm524nm25nm,0.8s						
TNTI	**Ternate**	**8.22**	**350**	Pn	**Pn**	**15 48 20.0**	**-0.7**
KNRA	**Kununurra**	**8.25**	**181**	Pn	**Pn**	**15 48 19.3**	**-1.7**
BASI	**Baing, Sumba**	**8.65**	**250**	P	**Pn**	**15 48 28.2**	**+1.9**
BKSI	**Bulukumba**	**8.91**	**283**	P	**Pn**	**15 48 32.0**	**+2.2**
	507nm47nm,1.1s						
BNSI	**Bone**	**9.18**	**288**	P	**Pn**	**15 48 36.4**	**+3.0**
	46nm,1.0s						
KAPI	**Kappang**	**9.34**	**284**	P	**Pn**	**15 48 35.8**	**+0.3**
	0.4nm,0.3s,baz=179,slow=7.6,SNR=4.4						
WBSI	**Waikabubak, Su**	**9.62**	**256**	P	**Pn**	**15 48 40.0**	**+0.7**
	2μm110nm,0.6s						
APSI	**Ampana**	**9.63**	**311**	P	**Pn**	**15 48 42.1**	**+2.7**
	30nm,1.1s						
GTOI	**Gorontalo**	**9.86**	**324**	P	Pn	15 48 47.7	+5.3
	14nm,1.0s						
TTSI	**Tana Toraja**	**9.96**	**295**	P	**Pn**	**15 48 46.3**	**+2.5**
	23nm,0.7s						
MRSI	**Marisa**	**10.40**	**318**	P	**Pn**	**15 48 52.4**	**+2.7**
	487nm44nm,1.1s						
PLAI	**Plampang**	**11.06**	**262**	P	**Pn**	**15 48 59.3**	**+1.0**
	55nm,0.7s						
SGSI	**Sangihe**	**11.47**	**343**	P	**Pn**	**15 49 06.3**	**+2.6**
	54nm,0.6s						
MMPI	**Merauke**	**11.48**	**96**	P	**Pn**	**15 49 02.9**	**-0.9**
	351nm,1.0s						
TOLI2	**Tolitoli**	**11.65**	**316**		**P**	**15 49 15.8**	**+2.5**
MPSI	**Mapaga**	**11.76**	**310**	P	**P**	**15 49 11.4**	**-3.1**
	13nm,0.5s						
WB0	**Warramunga Arr**	**13.44**	**157**		Pn	15 49 25.4	-3.8
WRAB	**Tennant Creek**	**13.58**	**157**		**Pn**	**15 49 27.7**	**-3.2**
WRA	**Warramunga Arr**	**13.58**	**157**	P	**Pn**	**15 49 27.8**	**-3.2**
	9.7nm,0.3s,baz=338,slow=13,SNR=133						
WRA				S	Sn	15 51 49.2	-12
	14nm,0.3s,baz=332,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**13.58**	**157**	Pn	Pn	15 49 26.2	-4.7
WB2	**Warramunga Arr**	**13.59**	**157**	Pn	Pn	15 49 27.7	-3.3
WR0	**Warramunga Arr**	**13.68**	**157**	Pn	Pn	15 49 28.8	-3.4
BBKI	**Banjar Baru**	**14.47**	**285**	P	**P**	**15 49 43.7**	**-1.0**
	40nm,1.0s						
MTKI	**Muara Teweh, K**	**15.30**	**294**	P	**P**	**15 49 54.2**	**+0.3**
	21nm,0.5s						
PSA00	**Pilbara Seismi**	**16.58**	**211**	P	**P**	**15 50 07.9**	**-0.1**
PSA00	**Pilbara Seismi**	**16.58**	**211**		**P**	**15 50 07.8**	**-0.1**
PSA00				IAmb	IAmb	15 50 24.1	
	comp=Z,3.9nm,0.7s						
AS31	**Alice Springs**	**16.91**	**164**	P	**P**	**15 50 11.1**	**-0.5**
ASAR	**Alice Springs**	**16.91**	**164**	P	**P**	**15 50 09.7**	**-2.0**
	comp=Z,6.4nm,0.3s,baz=336,slow=9.3,SNR=539						
ASAR				S	S	15 53 04.1	-16
	comp=Z,1.0nm,0.3s,baz=331,slow=10.0,SNR=1.9						
ASAR	**Alice Springs**	**16.91**	**164**		**P**	**15 50 11.7**	**0.0**
UGM	**Wanagama**	**18.17**	**267**	P	**P**	**15 50 24.6**	**-1.0**
PMG	**Port Moresby**	**18.23**	**98**	P	**P**	**15 50 25.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=360,slow=16,SNR=1.3						
PMG	**Port Moresby**	**18.23**	**98**	P	**P**	**15 50 26.9**	**+0.8**
PMG				IAmb	IAmb	15 50 34.4	
	comp=Z,47nm,0.8s						
SMRI	**Semarang**	**18.27**	**270**	P	**P**	**15 50 25.8**	**-0.7**
SMRI				IAmb	IAmb	15 50 42.1	
	comp=Z,47nm,0.9s						
STKI	**Sintang**	**18.83**	**292**	P	**P**	**15 50 33.6**	**+0.9**
	comp=Z,22μmcomp=Z,35nm,0.8s						
GIRL	**Giralia**	**20.70**	**221**	P	**P**	**15 50 54.1**	**+1.3**
CISI	**Cisompet, Garu**	**20.86**	**268**	P	**P**	**15 50 54.0**	**-0.6**
LEM	**Lembang**	**21.07**	**270**	P	**P**	**15 50 57.9**	**+0.9**
	comp=Z,16nm,0.7s,baz=141,slow=21,SNR=1.7						
CTA	**Charters Tower**	**21.08**	**129**	P	**P**	**15 50 57.8**	**+0.9**
	comp=Z,8.7nm,0.9s,baz=308,slow=12,SNR=5.9						
CTAO	**Charters Tower**	**21.08**	**129**	P	**P**	**15 50 58.4**	**+1.5**
XMIS	**Christmas Isla**	**23.12**	**261**	P	**P**	**15 51 17.8**	**+0.5**
FORT	**Forrest**	**23.30**	**182**	P	**P**	**15 51 19.5**	**+0.8**
FORT				IAmb	IAmb	15 51 30.8	
	comp=Z,26nm,0.8s						
MORW	**Morawa**	**24.73**	**208**	P	**P**	**15 51 31.7**	**-0.1**
MORW				IAmb	IAmb	15 51 34.4	
	comp=Z,22nm,0.7s						
SZP	**Santa**	**26.12**	**342**	P	**P**	**15 51 44.1**	**-0.2**
SZP				IAmb	IAmb	15 51 48.2	
	comp=Z,32nm,1.1s						
BBOO	**Buckleboo**	**26.18**	**166**	P	**P**	**15 51 45.0**	**+0.2**
STKA	**Stephens Creek**	**27.12**	**156**	P	**P**	**15 51 54.4**	**+1.1**
	comp=Z,4.0nm,0.5s,baz=325,slow=10,SNR=16						
STKA	**Stephens Creek**	**27.12**	**156**	P	**P**	**15 51 53.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**27.62**	**201**	P	**P**	**15 51 58.0**	**+0.3**
	comp=Z,7.3nm,0.5s,baz=38,slow=4.9,SNR=13						
NWAO	**Narrogin (SRO)**	**27.62**	**201**	P	**P**	**15 51 57.8**	**+0.1**
NWAO				IAmb	IAmb	15 52 08.5	
	comp=Z,16nm,1.1s						
TPUB	**Ta-pu**	**31.53**	**345**	P	**P**	**15 52 30.3**	**-2.0**
TPUB				IAmb	IAmb	15 52 45.6	
	comp=Z,26nm,1.2s						
YOJ	**Yonaguni jima**	**32.15**	**350**	P	**P**	**15 52 37.0**	**-0.7**
YHNB	**Yeheng**	**32.67**	**347**	P	**P**	**15 52 41.5**	**-0.9**
JOW	**Kunigami**	**34.01**	**359**	P	**P**	**15 52 54.5**	**+0.7**
	comp=Z,17nm,0.8s,baz=154,slow=11,SNR=4.2						
JOW	**Kunigami**	**34.01**	**359**	P	**P**	**15 52 54.3**	**+0.5**
JOW				IAmb	IAmb	15 52 55.0	
	comp=Z,18nm,0.8s						
CHAI	**Chaiyaphum**	**35.25**	**311**	P	**P**	**15 53 05.5**	**+0.9**
	comp=Z,20nm,0.8s						
JSU	**Suzuyama**	**38.69**	**2**	P	**P**	**15 53 33.1**	**-0.5**
JSU				IAmb	IAmb	15 53 34.2	
	comp=Z,9.3nm,0.7s						
CM31	**Chiang Mai Arr**	**39.11**	**311**	P	**P**	**15 53 36.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.11**	**311**	P	**P**	**15 53 37.6**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=146,slow=6.9,SNR=14						
CMAR				PcP	**PcP**	**15 55 43.7**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=167,slow=3.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**39.11**	**311**	P	**P**	**15 53 36.5**	**-0.7**
CM15	**Chiang Mai Arr**	**39.12**	**311**	P	**P**	**15 53 41.9**	**+4.6**
	comp=Z,6.4nm,0.9s						
CMMT	**Chiang Mai**	**39.32**	**312**	P	**P**	**15 53 40.2**	**+1.2**
	comp=Z,10nm,1.0s						
CHTO	**Chiang Mai**	**39.33**	**312**	P	**P**	**15 53 40.2**	**+1.2**
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**39.33**	**312**	P	**P**	**15 53 39.4**	**+0.3**
GYA	**Guiyang**	**39.93**	**328**	P	**P**	**15 53 44.3**	**+0.2**
GYA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
JNU	**Nakatsue**	**40.32**	**3**	P	**P**	**15 53 45.5**	**-1.6**
	comp=Z,3.4nm,0.7s,baz=175,slow=13,SNR=5.0						
JNU	**Nakatsue**	**40.32**	**3**	P	**P**	**15 53 46.5**	**-0.6**
JNU				IAmb	IAmb	15 54 08.1	
	comp=Z,20nm,1.5s						
NJ2	**Nanjing**	**40.35**	**347**	*e*P	**P**	**15 53 48.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	**Kunming**	**41.10**	**323**	⇑P	**P**	**15 53 55.0**	**+1.2**
KMI				pP	pP	15 54 08.5	-17
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
JMN	**Monobe**	**41.15**	**6**	P	**P**	**15 53 52.1**	**-1.8**
JHJ2	**Mitsune**	**41.59**	**14**	P	**P**	**15 53 55.2**	**-2.1**
ENH	**Enshi**	**41.79**	**335**	P	**P**	**15 53 58.3**	**-0.8**
ENH				IAmb	IAmb	15 53 59.5	
	comp=Z,13nm,0.7s						
JHS	**Saijyo**	**42.34**	**5**	P	**P**	**15 54 04.7**	**+1.3**
JHS				IAmb	IAmb	15 54 11.3	
	comp=Z,18nm,1.3s						
JWT	**Wachi**	**42.87**	**8**	P	**P**	**15 54 07.8**	**0.0**
JWT				IAmb	IAmb	15 54 08.8	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**44.56**	**11**	P	**P**	**15 54 19.7**	**-1.6**
	comp=Z,8.9nm,0.9s,baz=189,slow=9.6,SNR=18						
MJAR	**Matsushiro Arr**	**44.56**	**11**	P	**P**	**15 54 20.9**	**-0.3**
MAJO	**Matsushiro**	**44.56**	**11**	P	**P**	**15 54 20.8**	**-0.4**
MAJO				IAmb	IAmb	15 54 21.3	
	comp=Z,12nm,0.8s						
MAT	**Matsushiro**	**44.56**	**11**	P	**P**	**15 54 20.0**	**-1.2**
KSAR	**Wonju Array Be**	**44.59**	**359**	P	**P**	**15 54 21.4**	**0.0**
KSRS	**Korea Array**	**44.60**	**359**	P	**P**	**15 54 21.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=177,slow=9.6,SNR=20						
KSRS				PcP	**PcP**	**15 56 01.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=177,slow=3.8,SNR=9.4						
KS19	**Wonju Array Si**	**44.65**	**359**	P	**P**	**15 54 21.8**	**-0.1**
KS19					**pP**	**15 54 54.5**	**+0.6**
CD2	**Chengdu**	**45.02**	**329**	P	**P**	**15 54 24.5**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN	**Xi'an**	**45.31**	**337**	P	**P**	**15 54 26.0**	**-1.2**
XAN				S	**S**	**16 00 55.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,26nm,0.8s						
XAN				pmax	pmax		
	comp=Z,66nm,5.7s						
JSD	**Sado**	**46.02**	**10**	P	**P**	**15 54 31.9**	**-0.8**
JMM	**Marumori**	**46.37**	**13**	P	**P**	**15 54 34.4**	**-1.0**
JMM				IAmb	IAmb	15 54 39.7	
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**48.59**	**347**	P	**P**	**15 54 51.6**	**-0.9**
SHL	**Shillong**	**48.62**	**314**	P	**P**	**15 54 52.1**	**-1.2**
LZH	**Lanzhou**	**49.21**	**333**	*e*P	**P**	**15 54 58.3**	**+0.8**
LZH				pP	pwP	15 55 37.0	+1.1
LZH				sP	sP	15 55 56.5	+10
LZH				pmax	pmax		
	comp=Z,41nm,1.1s						
JTM	**Tenmabayashi**	**49.23**	**12**	P	**P**	**15 54 56.4**	**-0.9**
JTM				IAmb	IAmb	15 54 58.4	
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.55**	**343**	*e*P	**P**	**15 55 11.0**	**+3.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,49nm,7.6s						
WHZ	**Wether Hill Ro**	**51.04**	**145**	P	**P**	**15 55 10.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**51.41**	**3**	P	**P**	**15 55 13.6**	**-0.1**
	comp=Z,3.5nm,0.7s,baz=192,slow=7.2,SNR=7.3						
USRK	**Ussuriysk Ar.**	**51.41**	**3**	P	**P**	**15 55 13.7**	**0.0**
RPZ	**Rata Peaks**	**51.65**	**142**	P	**P**	**15 55 16.3**	**+0.7**
RPZ				IAmb	IAmb	15 55 20.1	
	comp=Z,16nm,1.0s						
LSA	**Lhasa**	**51.69**	**317**	P	**P**	**15 55 15.5**	**-1.1**
LSA				IAmb	IAmb	15 55 18.4	
	comp=Z,12nm,0.6s						
MDJ	**Mudanjiang**	**51.75**	**1**	P	**P**	**15 55 16.5**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,79nm,4.9s						
LTZ	**Lake Taylor**	**51.93**	**140**	P	**P**	**15 55 17.6**	**-0.1**
LTZ				IAmb	IAmb	15 55 37.0	
	comp=Z,16nm,1.0s						
TUWZ	**Tuamarina**	**52.37**	**138**	P	**P**	**15 55 20.4**	**-0.5**
ASAJ	**Asahikawa**	**52.74**	**12**	P	**P**	**15 55 23.6**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=237,slow=10,SNR=6.0						
BKZ	**Black Stump Fm**	**53.15**	**134**	P	**P**	**15 55 27.7**	**+0.9**
GTA	**Gaotai**	**53.76**	**332**	⇑P	**P**	**15 55 31.5**	**+0.2**
GTA				pP	pP	15 56 03.5	-0.9
GTA				sP	sP	15 56 19.0	-1.4
GTA				PcS	**PcS**	**16 00 41.8**	**+7.0**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,34nm,8.4s						
GTA				LR	LR		
	comp=N,88nm,14.3s						
GTA				LR	LR		
	comp=E,120nm,15.1s						
GTA				LR	LR		
	comp=Z,94nm,16.7s						
PKI	**Pulchoki**	**54.51**	**311**	*e*P	**P**	**15 55 36.4**	**-0.7**
	comp=Z,8.5nm,0.5s						
PKIN	**Phulchoki**	**54.52**	**311**	*e*P	**P**	**15 55 36.3**	**-0.9**
	comp=Z,8.5nm,0.5s						
KKN	**Kakani**	**54.72**	**312**	*e*P	**P**	**15 55 38.1**	**-0.5**
GKN	**Gorkha**	**55.31**	**311**	*e*P	**P**	**15 55 42.0**	**-0.7**
	comp=Z,24nm,0.6s						
DANN	**Dangsing**	**56.15**	**311**	*e*P	**P**	**15 55 48.3**	**-0.6**
	comp=Z,24nm,0.8s						
KLR	**Kul'dur**	**56.42**	**2**	P	**P**	**15 55 49.9**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=198,slow=5.4,SNR=6.4						
KLR				PcP	**PcP**	**15 56 45.1**	**-0.1**
	comp=Z,0.3nm,0.2s,baz=140,slow=3.0,SNR=3.9						
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**15 56 04.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=158,slow=7.3,SNR=10						
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**15 56 04.7**	**+0.4**
CASY	**Casey**	**60.16**	**188**	P	**P**	**15 56 16.6**	**+0.8**
CASY				IAmb	IAmb	15 56

ABKAR	**Akbulak array**	**82.09**	**322**	P	**P**	**15 58 27.2**	**-0.7**
ARU	**Arti**	**85.42**	**328**	P	**P**	**15 58 44.1**	**-0.5**
ARU				IAmb	IAmb	15 58 45.1	
	comp=Z,111nm,1.3s						
GEVA	**Gevas**	**91.23**	**308**	P	**P**	**15 59 12.2**	**-0.7**
GEVA				IAmb	IAmb	15 59 14.4	
	comp=Z,6.4nm,1.1s						
KMBO	**Kilima Mbogo**	**91.44**	**269**	P	**P**	**15 59 14.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=57,slow=20,SNR=2.0						
KBZ	**Khabaz**	**92.12**	**314**	P	**P**	**15 59 16.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=154,slow=7.7,SNR=1.9						
MLY	**Manley**	**92.60**	**25**	P	**P**	**15 59 17.5**	**-1.0**
RND	**Reindeer**	**93.10**	**27**	P	**P**	**15 59 19.3**	**-1.6**
I23K	**Minto, Yukon-K**	**93.19**	**25**	P	**P**	**15 59 20.7**	**-0.4**
I23K				IAmb	IAmb	15 59 21.9	
	comp=Z,4.2nm,0.8s						
WRH	**Wood River Hil**	**93.61**	**26**	P	**P**	**15 59 21.5**	**-1.6**
WRH				IAmb	IAmb	15 59 22.8	
	comp=Z,4.6nm,0.9s						
CCB	**Clear Creek Bu**	**93.76**	**25**	P	**P**	**15 59 21.8**	**-1.9**
CCB				IAmb	IAmb	15 59 23.3	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	**94.17**	**25**	P	**P**	**15 59 23.8**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=280,slow=4.9,SNR=8.9						
BELA	**Belgrano 2**	**94.38**	**183**	P	**P**	**15 59 26.2**	**-0.3**
BELA				IAmb	IAmb	15 59 27.4	
	comp=Z,4.6nm,0.8s						
SNAA	**Sanae**	**95.03**	**194**	P	**P**	**15 59 30.6**	**+0.9**
K27K	**Chicken**	**96.17**	**26**	P	**P**	**15 59 35.2**	**+0.4**
K27K				IAmb	IAmb	15 59 37.1	
	comp=Z,3.9nm,1.1s						
L27K	**Beaver Creek,**	**96.21**	**27**	P	**P**	**15 59 35.0**	**-0.1**
L27K				IAmb	IAmb	15 59 36.2	
	comp=Z,3.7nm,0.8s						
VNA2	**Neumayer--Watz**	**96.61**	**193**	P	**P**	**15 59 37.7**	**+1.0**
	baz=128,slow=3.9						
VNA3	**Neumayer Olymp**	**96.88**	**192**	P	**P**	**15 59 38.5**	**+0.5**
GERES	**GERESS Array B**	**111.97**	**320**	PKiKP	**PKiKP**	**16 04 41.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=64,slow=3.1,SNR=8.0						
PDAR	**Pinedale Array**	**117.96**	**45**	PKP	**PKPdf**	**16 04 54.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=236,slow=1.0,SNR=3.8						
TXAR	**Lajitas Array**	**126.10**	**59**	PKP	**PKiKP**	**16 05 10.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=354,slow=1.8,SNR=3.5						
TXAR	**Lajitas Array**	**126.10**	**59**		**PKPdf**	**16 05 09.8**	**+0.3**
PLCA	**Paso Flores**	**128.91**	**161**	PKP	**PKPdf**	**16 05 14.8**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=164,slow=5.0,SNR=4.6						
SCHQ	**Schefferville**	**131.03**	**12**	PKP	**PKPdf**	**16 05 18.9**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=10,slow=7.0,SNR=2.7						
CPUP	**Villa Florida**	**145.97**	**170**	PKPbc	**PKPbc**	**16 05 47.8**	**+0.7**
	comp=Z,7.5nm,0.8s,baz=191,slow=2.7,SNR=17						
LPAZ	**La Paz**	**151.10**	**145**	PKPbc	**PKiKP**	**16 06 02.5**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=224,slow=1.5,SNR=16						
LPAZ	**La Paz**	**151.10**	**145**		**PKPbc**	**16 06 01.6**	**+0.2**

IDC 27 15:55:34.3±6.6, 7°.10S×129°.11E, h212km±72km, mb3.2/3, mb1 3.3/5, mb1mx3.0/39, mbtmp3.8/5 Error ellipse: s-maj=81.2km s-min=22.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.74**	**159**	P	Pn	15 58 40.2	-0.5
	0.4nm,0.3s,baz=342,slow=13,SNR=2.0						
WRA				S	S	16 01 03.9	-9.2
	0.5nm,0.3s,baz=330,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**17.11**	**165**	P	P	15 59 19.9	+0.2
	0.2nm,0.3s,baz=339,slow=10,SNR=5.0						
ASAR				S	S	16 02 28.1	+1.0
	0.3nm,0.3s,baz=351,slow=27,SNR=4.6						
KSRS	**Korea Array**	**44.33**	**359**	P	P	16 03 23.5	+0.1
	0.5nm,0.5s,baz=176,slow=8.6,SNR=5.0						
MKAR	**Makanchi Arra**	**67.82**	**327**	P	P	16 06 09.9	+0.4
	0.6nm,0.4s,baz=129,slow=7.6,SNR=16						
KURBB	**Kurchatov Arra**	**72.13**	**329**	P	P	16 06 34.8	-0.8
	0.6nm,0.6s,baz=127,slow=5.3,SNR=6.0						

*IDC **27** 16:21:35.4±0.6, 23°.43N×143°.41E, h0km, mb4.1/18, mb1 4.2/21, mb1mx4.1/38, mbtmp4.1/21, ML3.6/3, MS3.7/13, Ms1 3.8/13, ms1mx3.6/27, Error ellipse: s-maj=20.8km s-min=13.0km az=81.0*

*NEIC **27** 16:21:44.4±1.5, 24°.03N±0°.06×143°.43E±0°.09, h35km±1km, mb4.8/50, Error ellipse: s-maj=16.4km s-min=4.5km az=234.0*

ISC 27 16:21:43.7±0.5, 23°.96N±0°.06×143°.45E±0°.07, h35km, n115, σ1§60/111, mb4.6/48, MS3.8/21, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.32**	**340**	Pn	**Pn**	**16 22 33.6**	**+0.3**
	5.5nm,0.3s,baz=234,slow=16,SNR=2.0						
JCJ				Sn	**Sn**	**16 23 18.3**	**+6.8**
	33nm,0.3s,baz=101,slow=24,SNR=9.1						
JCJ	**Chichijima**	**3.32**	**340**	Pn	**Pn**	**16 22 32.8**	**-0.4**
JHJ2	**Mitsune**	**9.66**	**342**	Pn	**Pn**	**16 24 00.7**	**+0.5**
JHJ	**Hachijo jima 2**	**9.68**	**341**	LR	LR	16 27 51.5	
	comp=Z,83nm,21.0s,baz=88,slow=37						
GUMO	**Guam**	**10.40**	**172**	LR	LR	16 27 20.5	
	comp=Z,428nm,19.6s,baz=16,slow=35						
GUMO	**Guam**	**10.40**	**172**		**Pn**	**16 24 13.3**	**+2.8**
JMZ	**Minamidaito 2**	**11.25**	**282**	Pn	**Pn**	**16 24 24.0**	**+1.9**
MJAR	**Matsushiro Arr**	**13.33**	**341**	Pn	**Pn**	**16 24 50.4**	**0.0**
	0.1nm,0.3s,baz=160,slow=11,SNR=6.9						
MJAR				LR	LR	16 30 16.4	
	comp=Z,336nm,19.0s,baz=200,slow=38						
MJAR	**Matsushiro Arr**	**13.33**	**341**	Pn	**Pn**	**16 24 51.2**	**+0.8**
MAJO	**Matsushiro**	**13.33**	**341**	Pn	**Pn**	**16 24 50.7**	**+0.2**
MAT	**Matsushiro**	**13.33**	**341**	P	**Pn**	**16 24 49.8**	**-0.6**
MAT				*e*S	**Sn**	**16 27 14.5**	**-2.9**
JOW	**Kunigami**	**14.01**	**285**	LR	LR	16 29 54.8	
	comp=Z,557nm,19.2s,baz=115,slow=35						
JOW	**Kunigami**	**14.01**	**285**	P	**P**	**16 25 07.4**	**+0.2**
JMM	**Marumori**	**14.04**	**351**	Pn	**Pn**	**16 25 02.1**	**+1.9**
JHS	**Saijyo**	**14.20**	**323**	P	**P**	**16 25 07.6**	**-1.6**
JSD	**Sado**	**14.71**	**344**		**Pn**	**16 25 07.5**	**-1.8**
JTU	**Tsushima**	**16.14**	**314**	P	**P**	**16 25 32.0**	**+1.1**
JTU				IAmb	IAmb	16 25 47.3	
	comp=Z,81nm,1.4s						
JTM	**Tenmabayashi**	**16.90**	**354**	Pn	**Pn**	**16 25 37.5**	**+0.1**
YOJ	**Yonaguni jima**	**18.65**	**276**	P	**P**	**16 25 59.1**	**+0.5**
YOJ				IAmb	IAmb	16 26 02.3	
	comp=Z,61nm,1.2s						
JEW	**Eniwo**	**18.90**	**355**	P	**P**	**16 26 00.3**	**-0.9**
JEW				IAmb	IAmb	16 26 08.0	
	comp=Z,96nm,1.2s						
KSRS	**Korea Array**	**18.91**	**319**	P	**P**	**16 26 00.2**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=134,slow=11,SNR=14						
KSRS				LR	LR	16 33 19.9	
	comp=Z,310nm,18.5s,baz=119,slow=36						
KSAR	**Wonju Array Be**	**18.93**	**319**		**P**	**16 26 01.6**	**0.0**
ASAJ	**Asahikawa**	**20.12**	**358**	P	Pn	16 26 16.8	+0.3
	comp=Z,2.6nm,0.7s,baz=90,slow=20,SNR=2.3						
ASAJ				LR	LR	16 33 47.1	
	comp=Z,228nm,21.8s,baz=207,slow=35						
YULB	**Yu-li**	**20.29**	**273**	P	Pn	16 26 18.2	-0.6
SSLB	**Suanglung**	**20.57**	**274**	P	**P**	**16 26 21.0**	**+1.4**
SSLB				IAmb	IAmb	16 26 39.3	
	comp=Z,21nm,0.9s						
SSE	**Sheshan**	**20.96**	**295**	P	**P**	**16 26 22.8**	**-1.0**
SSE				S	**S**	**16 30 13.8**	**-1.6**
SSE				pmax	pmax		
	comp=Z,21nm,0.7s						
SSE				pmax	pmax		
	comp=Z,44nm,3.5s						
SSE				LR	LR		
	comp=N,53nm,18.5s						
SSE				LR	LR		
	comp=E,99nm,17.1s						
USRK	**Ussuriysk Ar.**	**22.26**	**338**	P	**P**	**16 26 38.9**	**+1.2**
	comp=E,1.8nm,0.6s,baz=156,slow=9.6,SNR=8.1						
USRK				LR	LR	16 34 59.0	
	comp=E,242nm,19.1s,baz=143,slow=35						
USRK	**Ussuriysk Ar.**	**22.26**	**338**	P	**P**	**16 26 37.4**	**-0.2**
NJ2	**Nanjing**	**23.12**	**296**	*e*P	**P**	**16 26 46.8**	**0.0**
NJ2				pP	**pP**	**16 26 52.0**	**-2.8**
NJ2				S	**S**	**16 30 57.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=N,110nm,17.1s						
NJ2				LR	LR		
	comp=E,320nm,18.0s						
NJ2				LR	LR		
	comp=Z,280nm,16.5s						
MDJ	**Mudanjiang**	**23.50**	**335**	P	**P**	**16 26 50.8**	**+0.4**
MDJ				sP	pwP	16 27 04.5	-1.4
MDJ				S	**S**	**16 31 04.5**	**+2.7**
MDJ				sS	Sn	16 31 22.5	-0.5
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				LR	LR		
	comp=N,270nm,17.1s						
MDJ				LR	LR		
	comp=E,220nm,17.1s						
MDJ				LR	LR		
	comp=Z,380nm,20.2s						
MDJ	**Mudanjiang**	**23.50**	**335**	P	**P**	**16 26 50.3**	**-0.2**
CN2	**Changchun**	**24.70**	**328**	*e*P	**P**	**16 27 03.0**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
TIA	**Tai'an**	**25.75**	**304**	P	**P**	**16 27 11.0**	**-0.2**
TIA				S	S	16 32 10.5	+33
TIA				pmax	pmax		
	comp=Z,11nm,0.9s						
TIA				pmax	pmax		
	comp=Z,68nm,8.8s						
TIA				LR	LR		
	comp=N,140nm,14.2s						
TIA				LR	LR		
	comp=E,120nm,14.2s						
TIA				LR	LR		
	comp=Z,130nm,10.8s						
KLR	**Kul'dur**	**26.85**	**343**	P	**P**	**16 27 22.7**	**+1.9**
	comp=Z,4.2nm,0.7s,baz=142,slow=8.5,SNR=16						
HHC	**Hu-ho-hao-te**	**31.52**	**310**	*e*P	**P**	**16 28 04.0**	**+1.3**
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,98nm,5.7s						
HHC				LR	LR		
	comp=N,140nm,19.0s						
HHC				LR	LR		
	comp=E,150nm,17.6s						
HHC				LR	LR		
	comp=Z,160nm,16.7s						
QIZ	**Qiongzhong**	**31.60**	**268**	P	**P**	**16 28 05.0**	**+1.6**
QIZ				S	**S**	**16 33 12.5**	**+2.3**
QIZ				LR	LR		
	comp=E,140nm,15.2s						
QIZ				LR	LR		
	comp=Z,130nm,18.5s						
XAN	**Xi'an**	**31.69**	**296**	P	**P**	**16 28 03.8**	**-0.4**
XAN				pP	pP	16 28 12.8	+0.2
XAN				S	**S**	**16 33 11.5**	**0.0**
XAN				sS	sS	16 33 26.3	+1.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,75nm,4.3s						
XAN				LR	LR		
	comp=N,120nm,16.5s						
XAN				LR	LR		
	comp=E,120nm,17.9s						
XAN				LR	LR		
	comp=Z,160nm,16.0s						
LZH	**Lanzhou**	**36.12**	**299**	*e*P	**P**	**16 28 47.5**	**+4.8**
LZH				pP	sP	16 28 56.8	+2.0
LZH				sP	pwP	16 29 01.0	+2.5
LZH				S	**S**	**16 34 20.5**	**+0.3**
LZH				sS	sS	16 34 30.8	-3.2
LZH				SS	**SS**	**16 36 52.8**	**-5.6**
LZH				pmax	pmax		
	comp=Z,14nm,1.1s						
LZH				pmax	pmax		
	comp=Z,97nm,4.6s						
LZH				LR	LR		
	comp=N,130nm,13.3s						
LZH				LR	LR		
	comp=E,190nm,13.8s						
LZH				LR	LR		
	comp=Z,130nm,15.2s						
SONM	**Songino Array**	**37.78**	**319**	P	**P**	**16 28 56.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=125,slow=7.4,SNR=6.7						
SONM				LR	LR	16 45 30.3	
	comp=Z,205nm,18.3s,baz=120,slow=38						
SONM	**Songino Array**	**37.78**	**319**	IAmb	IAmb	16 28 57.6	
	comp=Z,1.7nm,1.1s						
NONG	**Nongkai**	**37.98**	**269**	P	**P**	**16 28 59.5**	**+1.0**
	comp=Z,22μmcomp=Z,14nm,1.0s						
GTA	**Gaotai**	**39.80**	**303**	*e*P	P	16 29 25.8	+12
GTA				pP	pwP	16 29 34.5	+5.1
GTA				sP	sP	16 29 39.5	+14
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,37nm,5.6s						
GTA				LR	LR		
	comp=N,89nm,14.3s						
GTA				LR	LR		
	comp=E,120nm,17.1s						
GTA				LR	LR		
	comp=Z,94nm,16.7s						
UTTA	**Uttaradit**	**40.44**	**270**	P	**P**	**16 29 18.9**	**-0.2**
	comp=Z,8.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**41.72**	**271**	P	**P**	**16 29 26.9**	**-2.7**
	comp=Z,1.8nm,0.8s,baz=57,slow=8.1,SNR=8.5						
CMAR				LR	LR	16 45 51.6	
	comp=Z,92nm,20.1s,baz=170,slow=35						
CMAR	**Chiang Mai Arr**	**41.72**	**271**	P	**P**	**16 29 27.8**	**-1.9**
WRA	**Warramunga Arr**	**44.53**	**192**	P	P	16 29 44.3	-7.9
	comp=Z,3.0nm,0.5s,baz=12,slow=8.3,SNR=38						
WRA				PcP	**PcP**	**16 31 30.6**	**-4.4**
	comp=Z,0.7nm,0.6s,baz=6.1,slow=3.5,SNR=5.7						
ASAR	**Alice Springs**	**48.24**	**192**	P	P	16 30 14.1	-7.2
	comp=Z,1.0nm,0.6s,baz=15,slow=11,SNR=26						
WMQ	**Urumqi**	**49.36**	**308**	*e*P	**P**	**16 30 32.5**	**+2.7**
DZM	**Mont Dzumac**	**50.93**	**152**	*e*LR	LR	16 45 17.6	
	comp=Z,233nm,23.8s						
OUENC	**Ouen Island, N**	**51.41**	**152**	P	**P**	**16 30 46.1**	**+0.7**
OUENC				IAmb	IAmb	16 30 59.9	
	comp=Z,6.4nm,0.9s						
SDPT	**Sand Point**	**51.46**	**37**	P	**P**	**16 30 45.4**	**0.0**
ZAA0	**Zalesovo Array**	**52.61**	**321**	P	**P**	**16 30 53.5**	**-0.4**
ZALV	**Zalesovo Beam**	**52.61**	**321**	P	**P**	**16 30 53.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=122,slow=9.2,SNR=4.6						
MK31	**Makanchi Array**	**53.37**	**311**	P	**P**	**16 30 59.0**	**-0.8**
MKAR	**Makanchi Array**	**53.37**	**311**	P	**P**	**16 30 59.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=91,slow=10,SNR=14						
MKAR	**Makanchi Array**	**53.37**	**311**	P	**P**	**16 30 58.8**	**-1.0**
MAKZ	**Makanchi**	**53.58**	**311**	P	**P**	**16 31 00.5**	**-0.9**
STKA	**Stephens Creek**	**55.55**	**182**	P	P	16 31 07.8	-7.8
	comp=Z,1.7nm,0.6s,baz=353,slow=6.4,SNR=7.1						
NRIK	**Noril'sk**	**55.97**	**339**	P	**P**	**16 31 18.6**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=101,slow=9.5,SNR=8.6						
NRIK	**Noril'sk**	**55.97**	**339**	P	**P**	**16 31 18.2**	**0.0**
NRIK				IAmb	IAmb	16 31 20.4	
	comp=Z,6.6nm,0.9s						
PRZ	**Przheval'sk**	**56.13**	**306**	P	**P**	**16 31 20.2**	**+0.1**
PRZ				IAmb	IAmb	16 31 22.8	
	comp=Z,16nm,1.1s						
HUH	**Hualalai**	**56.16**	**82**	P	**P**	**16 31 20.9**	**+0.3**
KDJ	**Kajisay**	**57.06**	**306**	P	**P**	**16 31 27.6**	**+0.9**
KDJ				IAmb	IAmb	16 31 28.8	
	comp=Z,13nm,1.2s						
CNPM	**China Poot**	**57.17**	**33**	P	**P**	**16 31 27.4**	**+0.5**
CNPM				IAmb	IAmb	16 31 42.4	
	comp=Z,21nm,1.5s						
IMAR	**Indian Mountai**	**57.34**	**26**	P	**P**	**16 31 29.6**	**+1.5**
BOOM	**Boomskoye usch**	**57.95**	**306**	P	**P**	**16 31 32.8**	**-0.2**
BOOM				IAmb	IAmb	16 31 34.3	
	comp=Z,7.7nm,0.8s						
BPAW	**Bear Paw Mtn.**	**58.06**	**28**	P	**P**	**16 31 34.6**	**+1.5**
BPAW				IAmb	IAmb	16 31 49.1	
	comp=Z,4.4nm,0.9s						
KSH	**Kashi**	**58.19**	**303**	P	**P**	**16 31 37.8**	**+3.2**
KSH				pP	pP	16 31 43.8	+0.3
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
KSH				pmax	pmax		
	comp=Z,68nm,3.0s						
MLY	**Manley**	**58.35**	**27**	P	**P**	**16 31 36.8**	**+1.6**
I23K	**Minto, Yukon-K**	**58.94**	**27**	P	**P**	**16 31 41.3**	**+2.1**
SCM	**Sheep Creek Mo**	**59.37**	**31**	P	**P**	**16 31 41.4**	**-1.0**
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**16 31 46.2**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=260,slow=5.7,SNR=16						
ILAR				LR	LR	16 56 01.6	
	comp=Z,39nm,20.2s,baz=260,slow=34						
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**16 31 46.1**	**0.0**
KLU	**Klutina**	**60.01**	**32**	P	**P**	**16 31 47.6**	**+0.9**
KLU				IAmb	IAmb	16 31 57.0	
	comp=Z,18nm,1.5s						
BMRM	**Bremner River**	**60.61**	**32**	P	**P**	**16 31 51.2**	**+0.4**
BMRM				IAmb	IAmb	16 32 06.1	
	comp=Z,6.8nm,1.0s						
RIDG	**Independent Ri**	**60.70**	**29**	P	**P**	**16 31 50.7**	**-0.7**
RIDG				IAmb	IAmb	16 32 06.2	
	comp=Z,5.1nm,1.0s						
DOT	**Dot Lake**	**61.04**	**29**	P	**P**	**16 31 54.2**	**+0.6**
SCRK	**Sand Creek**	**61.10**	**29**	P	**P**	**16 31 54.5**	**+0.3**
SCRK				IAmb	IAmb	16 32 09.0	
	comp=Z,8.4nm,1.2s						
BRVK	**Borovoye**	**61.19**	**319**	P	**P**	**16 31 54.5**	**-0.3**
NIL	**Nilore**	**61.23**	**296**	P	**P**	**16 31 54.8**	**-0.7**
KK31	**Karatay Array**	**61.86**	**307**	P	**P**	**16 31 58.9**	**-0.7**
KK31				IAmb	IAmb	16 32 00.5	
	comp=Z,12nm,0.9s						
KKAR	**Karatay Array**	**61.86**	**307**	P	**P**	**16 31 59.0**	**-0.6**
KKAR				IAmb	IAmb	16 32 00.5	
	comp=Z,12nm,0.9s						
BARN	**Barnard Glacie**	**62.04**	**32**	P	**P**	**16 32 00.2**	**-0.5**
BARN				IAmb	IAmb	16 32 20.0	
	comp=Z,8.6nm,1.2s						
BTK	**Batken**	**62.06**	**304**	P	**P**	**16 31 59.8**	**-1.3**
BTK				IAmb	IAmb	16 32 01.6	
	comp=Z,13nm,1.4s						
GAR	**Garm**	**62.61**	**303**	P	**P**	**16 32 04.1**	**-0.7**
CHGR	**Chuyangaron**	**63.56**	**303**	P	**P**	**16 32 10.0**	**-1.1**
KBL	**Kabul**	**64.47**	**298**	P	**P**	**16 32 15.9**	**-1.4**
ARU	**Arti**	**67.60**	**323**	P	**P**	**16 32 35.7**	**-0.9**
ABKAR	**Akbulak array**	**68.11**	**315**	P	**P**	**16 32 38.8**	**-1.2**
ABKAR	**Akbulak array**	**68.11**	**315**	P	**P**	**16 32 38.9**	**-1.2**
ABKAR				IAmb	IAmb	16 32 53.0	
	comp=Z,3.0nm,0.9s						
BFZ	**Birch Farm**	**71.18**	**154**	P	**P**	**16 32 59.3**	**+0.4**
GEYT	**Alibeck**	**72.17**	**304**	P	**P**	**16 33 04.0**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=251,slow=23,SNR=2.1						
GEYT	**Alibeck**	**72.17**	**304**	P	**P**	**16 33 04.0**	**-1.2**
GEYT	**Alibeck**	**72.17**	**304**	IAmb	IAmb	16 33 07.7	
	comp=Z,27nm,0.9s						
YKA	**Yellowknife Ar**	**74.35**	**28**	P	**P**	**16 33 18.0**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=294,slow=4.6,SNR=4.7						
ARCES	**ARCESS Array B**	**76.86**	**341**	P	**P**	**16 33 32.4**	**+0.6**
	comp=Z,7.3nm,0.9s,baz=68,slow=8.0,SNR=11						
ARCES	**ARCESS Array B**	**76.86**	**341**	P	**P**	**16 33 32.2**	**+0.3**
ARCES				IAmb	IAmb	16 33 42.1	
	comp=Z,22nm,1.4s						
PINE	**Pine Mountain**	**77.66**	**48**	P	**P**	**16 33 37.3**	**+0.2**
PINE				IAmb	IAmb	16 33 38.9	
	comp=Z,7.1nm,0.9s						
CMB	**Columbia Colle**	**80.20**	**53**	P	**P**	**16 33 50.7**	**-0.2**
CMB				IAmb	IAmb	16 34 04.4	
	comp=Z,6.5nm,1.0s						
TBI	**Tubuai**	**80.32**	**121**	*e*LR	LR	16 58 42.4	
	comp=Z,72nm,28.8s						
KBZ	**Khabaz**	**80.98**	**314**	P	**P**	**16 33 54.9**	**0.0**
	comp=Z,3.1nm,0.8s,baz=33,slow=5.1,SNR=6.1						
MFID	**Camas Ranch**	**81.23**	**46**	P	**P**	**16 33 56.2**	**-0.2**
MFID				IAmb	IAmb	16 34 10.7	
	comp=Z,7.8nm,1.2s						
FINES	**FINESS Array B**	**81.25**	**334**	P	**P**	**16 33 54.7**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=83,slow=4.6,SNR=6.7						
TAOE	**Nuku Hiva Isla**	**81.33**	**104**	*e*LQ	LQ	16 55 58.8	
	comp=Z,407nm,35.3s						
TAOE				*e*LR	LR	16 59 15.3	
	comp=Z,59nm,27.1s						
KVN	**Kaiserville**	**81.45**	**51**	P	**P**	**16 33 57.3**	**-0.5**
NVAR	**Mina Array Bea**	**81.55**	**52**	P	**P**	**16 33 57.9**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=274,slow=6.3,SNR=6.4						
NVAR				LR	LR	17 04 35.5	
	comp=Z,44nm,19.5s,baz=269,slow=32						
NVAR	**Mina Array Bea**	**81.55**	**52**	P	**P**	**16 33 57.7**	**-0.6**
FFC	**Flin Flon**	**83.79**	**32**	P	**P**	**16 34 09.2**	**-0.1**
FFC				IAmb	IAmb	16 34 14.2	
	comp=Z,9.1nm,1.3s						
PDAR	**Pinedale Array**	**85.62**	**45**	P	**P**	**16 34 17.5**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=242,slow=1.9,SNR=2.5						
PDAR				LR	LR	17 09 17.2	
	comp=Z,47nm,19.2s,baz=326,slow=33						
KNB	**Kanab**	**86.08**	**51**	P	**P**	**16 34 21.3**	**-0.2**
KNB				IAmb	IAmb	16 34 35.8	
	comp=Z,8.2nm,1.1s						
GERES	**GERESS Array B**	**94.77**	**329**	LR	LR	17 19 47.6	
	comp=Z,57nm,20.2s,baz=39,slow=37						
PLCA	**Paso Flores**	**147.02**	**129**	PKPbc	**PKPdf**	**16 41 19.8**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=235,slow=6.7,SNR=3.5						
PTGA	**Pitinga**	**147.62**	**48**	PKPbc	**PKPdf**	**16 41 22.1**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=341,slow=6.8,SNR=6.2						
LPAZ	**La Paz**	**149.44**	**81**	PKPbc	**PKPdf**	**16 41 28.3**	**+2.0**
	comp=Z,1.2nm,0.5s,baz=355,slow=5.8,SNR=6.1						
LPAZ	**La Paz**	**149.44**	**81**		**PKPdf**	**16 41 23.9**	**-2.3**

*IDC **27** 16:25:52.0±2.2, 33°.07N×137°.20E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/43, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=55.4km s-min=25.6km az=3.0*

*JMA **27** 16:25:53.3±0.1, 33°.02N×137°.16E, h39km±1km, M4.0*

ISC 27 16:25:52.9±1.5, 33°.10N±0°.06×137°.08E±0°.03, h15km±9km, n19, σ1§61/31, 11D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.58**	**335**	⇓P	**Pb**	**16 26 06.8**	**+2.1**
TTO1				X		16 26

SBLS	**San Blas**	**0.72**	**76**	⇑*eP*	**Pn**	**16 40 23.0**	**-1.0**
SNJE	**San Jose**	**0.74**	**74**	*e*P	**Pn**	**16 40 23.3**	**-0.9**
SNJE				*e*S	**Sn**	**16 40 35.5**	**-0.1**
PCG	**Pacaya**	**0.77**	**340**	*e*P	**Pn**	**16 40 25.6**	**+1.1**
PCG				*e*S	**Sn**	**16 40 37.4**	**+1.1**
NBG	**Las Nubes**	**0.92**	**360**	*e*P	Pn	16 40 29.3	+2.9
NBG				*e*S	**Sn**	**16 40 38.5**	**-0.9**
FUG	**Fuego 3**	**0.92**	**328**	*e*P	**Pn**	**16 40 26.0**	**-0.3**
FUG				*e*S	**Sn**	**16 40 38.1**	**-1.2**
BOQS	**Boqueron**	**1.03**	**86**	*e*P	**Pn**	**16 40 27.5**	**-0.2**
BOQS				*e*S	**Sn**	**16 40 43.4**	**+1.5**
SNET	**Serv Nac Est T**	**1.08**	**89**	*e*P	**Pn**	**16 40 27.3**	**-0.8**
SNET				IAML		16 40 46.1	
	comp=Z,919nm,0.2s						
LFRS	**El Faro**	**1.24**	**92**	*e*P	**Pn**	**16 40 30.1**	**-0.2**
LFRS				*e*S	**Sn**	**16 40 47.5**	**+1.0**
LBRS	**Las Brisas**	**1.26**	**87**	*e*P	**Pn**	**16 40 30.7**	**+0.1**
SJTE	**Alcalda de S**	**1.30**	**92**	*e*P	**Pn**	**16 40 30.4**	**-0.5**
SJTE				IAML		16 40 50.7	
	comp=Z,218nm,0.3s						

IDC ***27*** *16:50:44.2±2.5, 36.°18N×140.°25E, h55km±24km, mb3.0/3, mb1 3.2/5, mb1mx3.0/40, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=26.0km s-min=18.8km az=43.0*

JMA ***27*** *16:50:44.8±0.1, 36.°15N×140.°08E, h53km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕ±310.00000°, δ3.00000°, λ-81.00000°. NP2:ϕ±121.00000°, δ87.00000°, λ-90.00000°. Principal axes: T Plg42.0000°, Azm211.0000°; N Plg0.0000°, Azm121.0000°; P Plg48.0000°, Azm30.0000°;*

JMA Felt I J1.

ISC 27 16:50:44.4±1.1, 36.°13N±0.°06×140.°13E±0.°07, h55km±8km, n18, σ0°89/20, mb3.3/3, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.11**	**27**	⇑P	**Pn**	**16 50 53.2**	**+0.3**
JYT				S	**Sn**	**16 50 59.1**	**+0.2**
JAG	**Ashikaga**	**0.62**	**299**	⇓P	**Pn**	**16 50 57.2**	**-0.3**
JAG				S	**Sn**	**16 51 05.8**	**-1.1**
JKT	**Katashina**	**0.96**	**312**	P	**Pn**	**16 51 01.7**	**-0.1**
JKT				S	**Sn**	**16 51 14.1**	**-0.5**
JRY	**Ryogami san**	**1.00**	**264**	⇓P	**Pn**	**16 51 02.2**	**-0.1**
JRY				S	**Sn**	**16 51 14.9**	**-0.7**
JOD2	**Odawara 2**	**1.21**	**225**	⇓P	**Pn**	**16 51 05.7**	**+0.6**
JOD2				S	**Sn**	**16 51 20.0**	**-0.5**
MJAR	**Matsushiro Arr**	**1.61**	**286**	P	**Pn**	**16 51 10.1**	**-0.4**
	1.8nm,0.3s,baz=98,slow=16,SNR=33						
MJAR				S	**Sn**	**16 51 31.3**	**+1.2**
	1.4nm,0.3s,baz=222,slow=43,SNR=3.0						
MAT	**Matsushiro**	**1.61**	**286**	P	**Pn**	**16 51 11.0**	**+0.5**
MAT				*e*S	**Sn**	**16 51 30.2**	**0.0**
JHJ	**Hachijo jima 2**	**3.01**	**186**	P	**Pn**	**16 51 31.1**	**+1.5**
	12nm,0.3s,baz=71,slow=19,SNR=13						
JHJ				S	**Sn**	**16 52 02.6**	**-1.9**
	24nm,0.3s,baz=86,slow=22,SNR=6.6						
ASAJ	**Asahikawa**	**8.20**	**13**	P	**Pn**	**16 52 39.5**	**-1.2**
	0.4nm,0.3s,baz=179,slow=13,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.61**	**118**	T	T	17 26 41.8	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.61**	**118**	T	T	17 26 24.6	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.62**	**118**	T	T	17 26 46.0	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**29.27**	**120**	T	T	17 27 32.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**29.27**	**120**	T	T	17 27 35.3	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**29.29**	**120**	T	T	17 27 35.9	
	baz=312						
MKAR	**Makanchi Array**	**43.73**	**303**	P	**P**	**16 58 45.0**	**+0.8**
	0.2nm,0.6s,baz=94,slow=9.7,SNR=2.5						
WRA	**Warramunga Arr**	**56.03**	**187**	P	**P**	**17 00 17.2**	**-0.4**
	0.3nm,0.5s,baz=1.6,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**59.76**	**187**	P	**P**	**17 00 43.9**	**+0.1**
	0.2nm,0.8s,baz=10,slow=8.9,SNR=4.1						

NEIC ***27*** *16:59:43.2±1.8, 8.°03S±0.°09×158.°8E±0.°1, h67km±6km, mb4.5/22, Error ellipse: s-maj=16.2km s-min=10.3km az=52.0*

IDC ***27*** *16:59:43.2±4.2, 8.°06S×158.°76E, h70km±49km, mb3.6/9, mb1 3.7/10, mb1mx3.5/27, mbtmp3.9/10, ML3.3/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/22, Error ellipse: s-maj=38.3km s-min=19.9km az=127.0*

ISC 27 16:59:42.9±0.6, 8.°04S±0.°09×158.°8E±0.°1, h67km, n43, σ0°78/35, mb4.2/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.81**	**140**	P	**Pn**	**17 00 11.8**	**-0.2**
	236nm,0.3s,baz=210,slow=8.7,SNR=54						
HNR				S	**Sn**	**17 00 34.5**	**+0.4**
	642nm,0.3s,baz=82,slow=20,SNR=12						
HNR				LR	LR	17 00 40.5	
	comp=Z,45nm,21.4s,baz=276,slow=32						
HNR	**Honiara**	**1.81**	**140**		**Pn**	**17 00 10.8**	**-1.2**
RABL	**Rabaul**	**7.59**	**300**	Pn	**Pn**	**17 01 32.2**	**+1.3**
DZM	**Mont Dzumac**	**15.79**	**153**	P	**P**	**17 03 23.2**	**-0.8**
	0.1nm,0.3s,baz=109,slow=22,SNR=1.9						
DZM				LR	LR	17 07 51.2	
	comp=Z,44nm,22.0s,baz=292,slow=31						
GUMO	**Guam**	**25.53**	**327**	LR	LR	17 14 39.8	
	comp=Z,21nm,18.1s,baz=153,slow=35						
WR0	**Warramunga Arr**	**26.28**	**241**	P	**P**	**17 05 11.9**	**-0.4**
WR0				IAmb	IAmb	17 05 23.7	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**26.33**	**241**	P	**P**	**17 05 12.5**	**-0.3**
WB0				IAmb	IAmb	17 05 32.9	
	comp=Z,12nm,1.3s						
WB2	**Warramunga Arr**	**26.43**	**241**	P	**P**	**17 05 13.7**	**0.0**
WRA	**Warramunga Arr**	**26.44**	**241**	P	**P**	**17 05 13.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=67,slow=9.4,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**27.50**	**17**	T	T	17 33 55.6	
	baz=197,slow=76,SNR=190						
H11S3	**WAKE ISLAND Hy**	**27.50**	**16**	T	T	17 33 53.6	
	baz=197,slow=76,SNR=188						
H11S1	**WAKE ISLAND Hy**	**27.52**	**16**	T	T	17 34 02.3	
	baz=197,slow=76,SNR=131						
SIJI	**Sorong**	**28.30**	**283**	LR	LR	17 16 10.9	
	comp=Z,20nm,21.0s,baz=284,slow=35						
AS31	**Alice Springs**	**28.44**	**234**	P	**P**	**17 05 31.2**	**-0.4**
ASAR	**Alice Springs**	**28.44**	**234**	P	**P**	**17 05 31.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=59,slow=9.4,SNR=7.8						
STKA	**Stephens Creek**	**28.60**	**212**	P	**P**	**17 05 33.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=51,slow=14,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**28.71**	**16**	T	T	17 35 31.9	
	baz=196,slow=76,SNR=111						
H11N3	**WAKE ISLAND Hy**	**28.72**	**16**	T	T	17 35 32.8	
	baz=196,slow=76,SNR=160						
H11N2	**WAKE ISLAND Hy**	**28.73**	**16**	T	T	17 35 33.5	
	baz=196,slow=76,SNR=135						
KNRA	**Kununurra**	**30.30**	**253**	P	**P**	**17 05 46.8**	**-1.3**
KNRA				IAmb	IAmb	17 05 59.0	
	comp=Z,6.7nm,0.8s						
RAO	**Raoul Island**	**30.43**	**137**	P	**P**	**17 05 49.9**	**+0.7**
BBOO	**Buckleboo**	**32.41**	**217**	P	**P**	**17 06 06.3**	**-0.2**
BBOO				IAmb	IAmb	17 06 13.5	
	comp=Z,18nm,1.4s						
NNZ	**Nelson**	**35.50**	**161**	P	**P**	**17 06 34.7**	**+1.5**
JMN	**Monobe**	**47.78**	**332**	P	**P**	**17 08 14.2**	**+0.6**
JWT	**Wachi**	**48.40**	**334**	P	**P**	**17 08 18.2**	**-0.2**
JWT				IAmb	IAmb	17 08 42.9	
	comp=Z,12nm,1.4s						
TPUB	**Ta-pu**	**48.58**	**311**	P	**P**	**17 08 19.4**	**-0.6**
SSLB	**Suanglung**	**48.62**	**312**	P	**P**	**17 08 20.7**	**+0.4**
SSLB				IAmb	IAmb	17 08 36.8	
	comp=Z,11nm,1.1s						
JSD	**Sado**	**49.67**	**339**	P	**P**	**17 08 26.4**	**-1.6**
JSD				IAmb	IAmb	17 08 33.0	
	comp=Z,7.5nm,1.4s						
JTM	**Tennabayashi**	**51.24**	**343**	P	**P**	**17 08 39.5**	**-0.3**
KSRS	**Korea Array**	**53.66**	**330**	P	**P**	**17 08 57.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=152,slow=9.2,SNR=5.0						
JKA	**Kamikawa-asahi**	**53.93**	**346**	P	**P**	**17 09 00.3**	**+0.7**
JKA	**Kamikawa-asahi**	**53.93**	**346**	IAmb	IAmb	17 09 17.4	
	comp=Z,8.7nm,1.3s						
ASAJ	**Asahikawa**	**53.93**	**346**	P	**P**	**17 09 00.3**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=145,slow=12,SNR=1.9						
USRK	**Ussuriysk Ar.**	**57.35**	**337**	P	**P**	**17 09 25.3**	**+1.2**
PEA0B	**Petropavlovsk-**	**60.91**	**359**	P	**P**	**17 09 48.6**	**0.0**
PEA0B				IAmb	IAmb	17 10 16.0	
	comp=Z,14nm,1.2s						
PETK	**Petropavlovsk-**	**60.91**	**359**	P	**P**	**17 09 48.9**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=162,slow=7.3,SNR=4.0						
PETK				LR	LR	17 32 13.9	
	comp=Z,16nm,21.5s,baz=123,slow=32						
VNDA	**Vanda**	**69.47**	**179**	P	**P**	**17 10 44.1**	**+0.4**
VNDA				IAmb	IAmb	17 11 09.5	
	comp=Z,4.5nm,1.4s						
ULN	**Ulaanbaatar**	**71.91**	**326**	P	**P**	**17 10 58.6**	**-0.6**
ULN				IAmb	IAmb	17 11 01.1	
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**72.25**	**326**	P	**P**	**17 11 02.2**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=135,slow=6.3,SNR=16						
SONM	**Songino Array**	**72.25**	**326**	P	**P**	**17 11 01.9**	**+0.7**
SONM				IAmb	IAmb	17 11 02.9	
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**83.00**	**21**	P	**P**	**17 11 59.5**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=214,slow=3.6,SNR=4.9						
MK31	**Makanchi Array**	**86.66**	**318**	P	**P**	**17 12 18.5**	**-0.9**
MKAR	**Makanchi Array**	**86.66**	**318**	P	**P**	**17 12 19.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=100,slow=6.5,SNR=9.7						

TUL ***27*** *17:06:30.5±1.0, 35.°99N±0.°02×97.°56W±0.°02, h6km±7km, ML3.4, mb_Lg3.0/88(NEIC), Error ellipse: s-maj=2.5km s-min=2.0km az=142.0*

NEIC 27 17:06:30.4±0.6, 36.°01N±0.°02×97.°57W±0.°03, h6km±7km, Error ellipse: s-maj=3.2km s-min=2.5km az=70.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**155**		Pg	17 06 35.0	+0.2
BCOK	**Bluff Creek, N**	**0.35**	**185**	Pg	Pg	17 06 37.2	+0.1
OK025	**Westminster Rd**	**0.46**	**156**	Pg	Pg	17 06 39.4	+0.1
OK005	**Luther M Schoo**	**0.47**	**138**	Pg	Pg	17 06 39.5	+0.1
OK031	**S. Brethren Rd**	**0.60**	**95**		Pg	17 06 42.0	+0.2
CROK	**Carrier**	**0.60**	**326**		Pg	17 06 42.5	+0.6
OKCSW	**OKLAHOMA CITY**	**0.61**	**170**		Pg	17 06 41.9	-0.1
QUOK	**Quay**	**0.72**	**76**		Pg	17 06 44.3	+0.1
QUOK				Sg	Sg	17 06 53.9	+0.3
FNO	**Franklin**	**0.76**	**169**		Pg	17 06 44.7	-0.3
FNO				Sg	Sg	17 06 55.0	+0.2
BLOK	**Blackwell**	**0.81**	**21**		Pg	17 06 46.1	+0.3
GC02	**Grant County #**	**0.88**	**345**		Pg	17 06 47.3	+0.1
OK032	**Salt Plains WL**	**0.95**	**327**		Pg	17 06 48.7	+0.1
KAN13	**South Haven SW**	**1.01**	**4**		Pg	17 06 49.8	0.0
KAN17	**Caldwell West**	**1.05**	**352**		Pg	17 06 50.5	0.0
KAN05	**Bluff City Nor**	**1.13**	**348**		Pg	17 06 51.9	-0.1
KAN09	**Caldwell North**	**1.13**	**358**	Pg	Pg	17 06 51.9	-0.1
KAN10	**Anthony SW Sta**	**1.19**	**339**		Pg	17 06 53.1	-0.2
U32A	**Winter Ranch,**	**1.22**	**288**		Pg	17 06 53.3	-0.4
KS20	**Mayfield South**	**1.22**	**1**	Pg	Pg	17 06 53.6	-0.2
T35A	**Sooner Cattle**	**1.25**	**43**		Pg	17 06 53.9	-0.4
KAN08	**Anthony NE Sta**	**1.26**	**345**		Pg	17 06 54.2	-0.4
KAN12	**Harper NE Stat**	**1.33**	**345**		Pn	17 06 55.5	-0.1
X34A	**Smith Ranch, M**	**1.42**	**189**		Pn	17 06 56.8	+0.1
WMOK	**Wichita Mounta**	**1.60**	**218**		Pn	17 06 59.3	0.0
LOOK	**Love County**	**2.03**	**171**		Pn	17 07 05.8	+0.6
LOOK				IAmb_Lg		17 07 39.7	
	comp=Z,53nm,0.8s						
X37A	**Clayton**	**2.29**	**127**	Pn	Pn	17 07 09.3	+0.6
R32A	**Long Quarter,**	**2.58**	**340**		Pn	17 07 12.5	-0.3
U38A	**Gravette**	**2.61**	**80**		Pn	17 07 12.2	-1.0
Z35A	**Perchaven, San**	**2.68**	**174**	Pn	Pn	17 07 13.9	-0.1
HHAR	**Hobbs**	**2.95**	**84**		Pn	17 07 18.0	+0.1
KSU1	**Kansas State U**	**3.18**	**14**	Pn	Pn	17 07 20.9	-0.1
KSU1				IAmb_Lg		17 08 19.7	
	comp=Z,58nm,0.8s						
W39A	**Magazine**	**3.19**	**104**		Pn	17 07 21.4	+0.4
CBKS	**Cedar Bluff**	**3.29**	**329**	Pn	Pn	17 07 22.4	-0.2
CBKS				IAmb_Lg		17 08 15.5	
	comp=Z,32nm,0.7s						
Z38A	**Mt. Pleasant**	**3.47**	**141**		Pn	17 07 24.6	-0.3
Z38A				IAmb_Lg		17 08 24.6	
	comp=Z,43nm,0.8s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	17 07 26.7	+0.7
AMTX				IAmb_Lg		17 08 26.4	
	comp=Z,27nm,0.7s						
MIAR	**Mount Ida**	**3.58**	**113**	Pn	Pn	17 07 27.1	+0.7
MIAR				IAmb_Lg		17 08 33.3	
	comp=Z,32nm,0.8s						
ABTX	**Abilene, Hawle**	**3.78**	**208**	Pn	Pn	17 07 29.1	-0.2
ABTX				IAmb_Lg		17 08 28.8	
	comp=Z,28nm,0.8s						
U40A	**Yellville**	**3.83**	**83**		Pn	17 07 29.6	-0.3
WHTX	**Lake Whitney,**	**4.00**	**179**		Pn	17 07 31.5	-0.8
X40A	**Basin Creek Fa**	**4.16**	**110**		Pn	17 07 34.6	+0.2
X40A				IAmb_Lg		17 08 42.7	
	comp=Z,54nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**98**		Pn	17 07 36.9	-0.3
WHAR				IAmb_Lg		17 08 47.9	
	comp=Z,42nm,1.0s						
MGMO	**Mountain Grove**	**4.42**	**73**		Pn	17 07 37.4	-0.6
MGMO				IAmb_Lg		17 08 56.0	
	comp=Z,37nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	Pn	17 07 37.7	-0.3
FCAR				IAmb_Lg		17 08 55.7	
	comp=Z,29nm,0.7s						
N33A	**J Bar K, Exete**	**4.73**	**1**	Pn	Pn	17 07 42.1	-0.1
N33A				IAmb_Lg		17 09 08.9	
	comp=Z,31nm,0.8s						
MSTX	**Muleshoe**	**4.73**	**246**		Pn	17 07 40.3	-2.1
R40A	**Maddies Statio**	**4.81**	**60**		Pn	17 07 43.4	0.0
KSCO	**Kaye Shedlock'**	**5.01**	**308**	IAmb_Lg		17 09 14.8	
	comp=Z,21nm,0.7s						
N35A	**Tabor**	**5.08**	**17**	Pn	Pn	17 07 47.1	+0.1
CCAR	**Cane Creek**	**5.20**	**112**	IAmb_Lg		17 09 27.6	
	comp=Z,49nm,0.9s						
LCAR	**Lake Charles**	**5.20**	**87**	IAmb_Lg		17 09 18.1	
	comp=Z,26nm,0.8s						
435B	**Jarrell**	**5.21**	**180**	IAmb_Lg		17 09 20.3	
	comp=Z,35nm,0.9s						
T42A	**Van Buren**	**5.32**	**77**		Pn	17 07 50.3	0.0
T42A				IAmb_Lg		17 09 25.1	
	comp=Z,18nm,0.7s						
BGNE	**Belgrade**	**5.41**	**355**	IAmb_Lg		17 09 27.8	
	comp=Z,41nm,0.8s						
CCM	**Cathedral Cave**	**5.46**	**66**	IAmb_Lg		17 09 38.2	
	comp=Z,18nm,0.8s						
P40A	**Paris**	**5.61**	**50**		Pn	17 07 54.1	-0.3
P40A				IAmb_Lg		17 09 31.2	
	comp=Z,34nm,0.9s						
T25A	**Trinidad**	**5.62**	**284**	IAmb_Lg		17 09 34.4	
	comp=Z,32nm,0.9s						
JCT	**Junction City**	**5.82**	**199**		Pn	17 07 56.3	-1.0
OGNE	**Ogallala**	**6.05**	**326**		Pn	17 08 01.0	+0.5
OGNE				IAmb_Lg		17 09 49.1	
	comp=Z,21nm,0.8s						
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		17 10 17.3	
	comp=Z,29nm,0.7s						
OXF	**Oxford**	**6.84**	**100**	IAmb_Lg		17 10 15.6	
	comp=Z,24nm,0.8s						
S44A	**Carbondale**	**6.88**	**73**	IAmb_Lg		17 10 11.7	
	comp=Z,31nm,0.8s						
Y45A	**Yeager Farm, C**	**6.93**	**106**	IAmb_Lg		17 10 17.0	
	comp=Z,18nm,0.8s						
N41A	**Harden Midland**	**7.06**	**46**	IAmb_Lg		17 10 21.0	
	comp=Z,27nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.33**	**58**	IAmb_Lg		17 10 30.6	
	comp=Z,18nm,0.8s						
K38A	**Parkersburg**	**7.60**	**28**	IAmb_Lg		17 10 38.0	
	comp=Z,29nm,0.8s						
L40A	**Anamosa**	**7.81**	**37**	IAmb_Lg		17 10 43.4	
	comp=Z,18nm,0.7s						
USIN	**University of**	**8.16**	**73**	IAmb_Lg		17 10 54.5	
	comp=Z,24nm,0.9s						
O44A	**Mansfield**	**8.29**	**57**	IAmb_Lg		17 10 53.8	
	comp=Z,14nm,0.8s						
L42A	**Oliver, Polo**	**8.58**	**43**	IAmb_Lg		17 11 02.7	
	comp=Z,12nm,0.7s						
I37A	**Lemond, Waseca**	**8.62**	**21**	IAmb_Lg		17 11 13.6	
	comp=Z,13nm,0.8s						
JFWS	**Jewell Farm**	**8.92**	**37**	IAmb_Lg		17 11 27.7	
	comp=Z,12nm,0.7s						
M44A	**Midewin, Midew**	**9.18**	**51**	IAmb_Lg		17 11 27.1	
	comp=Z,21nm,1.1s						
WCI	**Wyandotte Cave**	**9.28**	**73**	IAmb_Lg		17 11 39.4	
	comp=Z,10nm,0.7s						
SFIN	**Lafayette**	**9.33**	**59**	IAmb_Lg		17 11 38.1	
	comp=Z,14nm,1.0s						
PV04	**Paradox Valley**	**9.35**	**288**	IAmb_Lg		17 11 43.8	
	comp=Z,18nm,1.0s						
RWWY	**Rawlins**	**9.42**	**310**	IAmb_Lg		17 11 39.1	
	comp=Z,16nm,1.2s						
SWET	**Sewanee**	**9.51**	**91**	IAmb_Lg		17 11 38.8	
	comp=Z,9.4nm,0.8s						
K43A	**Burlington**	**9.79**	**44**	IAmb_Lg		17 11 43.7	
	comp=Z,12nm,0.7s						
FPAL	**Fort Paine**	**9.89**	**95**	IAmb_Lg		17 11 47.8	
	comp=Z,7.7nm,0.7s						
SPMN	**Marine on St.**	**9.89**	**20**	IAmb_Lg		17 11 44.6	
	comp=Z,7.6nm,0.8s						

JMA 27 17:37:45.4, 37.°66N×139.°92E, h9km±1km, M2.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.30**	**214**	P	Pg	17 37 51.6	+0.1
JYAR	**Yonezawaarcadi**	**0.31**	**35**	P	Pg	17 37 51.6	0.0
JYAR				S	Sg	17 37 56.1	+0.4
JFT	**Otama**	**0.36**	**113**	P	Pg	17 37 52.6	+0.1
JNS	**Sasagawa**	**0.50**	**288**	P	Pg	17 37 55.3	+0.1
JNS				*e*S	Sg	17 38 02.1	+0.3
JYS	**Shiratake**	**0.57**	**12**	P	Pg	17 37 56.7	+0.2
JYS				S	Sg	17 38 04.6	+0.6
JMM	**Marumori**	**0.72**	**73**	P	Pg	17 37 59.4	+0.1
JFK	**Kawauchi**	**0.81**	**111**	P	Pg	17 38 00.7	-0.4
JOU	**Okura**	**0.92**	**40**	P	Pg	17 38 03.1	0.0
JOU				S	Sg	17 38 14.9	-0.1
JYA	**Atsumi**	**0.95**	**350**	P	Pg	17 38 03.4	-0.2
JYA				S	Sg	17 38 16.0	+0.1
JAW	**Awa shima**	**0.95**	**327**	P	Pg	17 38 03.8	0.0
JAW				S	Sb	17 38 17.0	+0.1
MAT	**Matsushiro**	**1.77**	**231**	P	Pn	17 38 16.6	+0.4
MAT				S	Sb	17 38 40.0	-0.2

IDC 27 17:38:17.3±2.8, 5.°31S×130.°73E, h61km±33km, mb3.1/1, mb1 3.6/5, mb1mx3.3/28, mbtmp3.7/5, ML3.7/4, Error ellipse: s-maj=48.4km s-min=24.1km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.45**	**7**	P	Pn	17 39 22.2	-0.1
	2.2nm,0.3s,baz=44,slow=20,SNR=20						
SIJI				S	Sn	17 40 09.8	-3.1
	7.3nm,0.3s,baz=125,slow=23,SNR=19						
BATI	**Baumata**	**8.52**	**235**	P	Pn	17 40 18.6	+0.5
	2.7nm,0.3s,baz=94,slow=4.8,SNR=6.0						
WRA	**Warramunga Arr**	**14.96**	**167**	P	Pn	17 41 43.8	-1.5
	0.2nm,0.3s,baz=348,slow=14,SNR=7.9						
WRA				S	Sn	17 44 20.5	-9.5
	0.3nm,0.3s,baz=341,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**18.50**	**171**	P	Pn	17 42 29.2	-0.2
	0.2nm,0.3s,baz=346,slow=10.0,SNR=19						
ASAR				S	Sn	17 45 43.1	-13
	0.0nm,0.3s,baz=347,slow=24,SNR=2.6						
MKAR	**Makanchi Array**	**67.23**	**326**	P	P	17 49 05.2	-0.1
	0.2nm,0.5s,baz=118,slow=8.3,SNR=2.7						

IDC ***27*** *17:49:26.4±0.9, 36.°09N×97.°58W, h0km, mb3.6/1, mb1 3.9/8, mb1mx3.6/36, mbtmp3.6/8, ML3.0/5, MS2.9/7, Ms1 2.9/7, ms1mx2.7/42, Error ellipse: s-maj=15.1km s-min=11.5km az=153.0*

TUL ***27*** *17:49:27.9±1.4, 35.°99N±0.°02×97.°56W±0.°06, h4km±6km, ML4.0, mb4.0/1(NEIC), mb_Lg4.0/143(NEIC), Mwr3.8/66(NEIC), Error ellipse: s-maj=6.9km s-min=1.6km az=69.0*

NEIC ***27*** *17:49:27.9, 35.°99N×97.°56W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.17; $M_{\theta\theta}$2.03; $M_{\phi\phi}$-2.20; $M_{r\theta}$-1.81; $M_{\phi\theta}$4.77; $M_{\phi r}$-1.56; Fault plane solution: $M_0$5.74000×10^{14} NP1:ϕ±284.19000°, δ72.04000°, λ13.24000°. NP2:ϕ±190.04000°, δ77.42000°, λ161.59000°. Principal axes: T 6.0886, Plg22.0000°, Azm146.0000°; N -0.7635, Plg68.0000°, Azm337.0000°; P -5.3250, Plg4.0000°, Azm238.0000°;*

NEIC ***27*** *17:49:27.8±1.0, 36.°01N±0.°02×97.°55W±0.°06, h6km±7km Error ellipse: s-maj=7.1km s-min=1.6km az=71.0*

ANF ***27*** *17:49:29.7±0.7, 36.°04N×97.°56W, h25km±7km, ML5.0/17, Error ellipse: s-maj=2.3km s-min=2.2km az=37.0*

ISC 27 17:49:27.2±1.0, 36.°05N±0.°02×97.°56W±0.°02, h6km±8km, n184, σ1°26/174, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.27**	**160**		**Pg**	**17 49 32.5**	**+0.1**
OK029				Sg	**Sg**	**17 49 35.4**	**-0.5**
BCOK	**Bluff Creek, N**	**0.39**	**185**		**Pg**	**17 49 34.8**	**0.0**
BCOK				Sg	**Sg**	**17 49 39.5**	**-0.5**
OK009	**Oakdale Elemen**	**0.48**	**166**		**Pg**	**17 49 36.4**	**-0.1**
OK005	**Luther M Schoo**	**0.50**	**142**		**Pg**	**17 49 36.9**	**+0.2**
OK025	**Westminster Rd**	**0.50**	**158**		**Pg**	**17 49 37.0**	**+0.1**
OK025

Z35A	**Perchaven, San**	**2.72**	**175**	P			17 50 12.3
	baz=355,SNR=26						
Z35A				S			17 50 46.5
	baz=355						
HHAR	**Hobbs**	**2.94**	**84**	Pn	**Pn**		**17 50 15.4**
HHAR				IAmb_Lg			17 51 09.4
	comp=Z,293nm,0.8s						
HHAR	**Hobbs**	**2.94**	**84**	P			17 50 15.6
	baz=266						
KSU1	**Kansas State U**	**3.14**	**14**	P	**Pn**		**17 50 18.4**
	baz=194,SNR=7.2						
KSU1				Sb	**Sg**		**17 51 06.4**
	baz=194						
KSU1	**Kansas State U**	**3.14**	**14**	Pn	**Pn**		**17 50 19.2**
KSU1				IAmb_Lg			17 51 14.0
	comp=Z,577nm,0.8s						
KSU1	**Kansas State U**	**3.14**	**14**	P			17 50 19.4
	baz=194,SNR=19						
W39A	**Magazine**	**3.19**	**104**	P	**Pn**		**17 50 18.7**
	baz=286,SNR=24						
W39A				S	**Sn**		**17 50 57.4**
	baz=286						
W39A	**Magazine**	**3.19**	**104**		**Pn**		**17 50 18.7**
W39A				IAmb_Lg			17 51 11.8
	comp=Z,658nm,1.0s						
W39A	**Magazine**	**3.19**	**104**	P			17 50 19.0
	baz=286,SNR=38						
W39A				S			17 50 57.6
	baz=286						
CBKS	**Cedar Bluff**	**3.26**	**329**	P	**Pn**		**17 50 20.7**
	baz=148,SNR=22						
CBKS				Sb	**Sg**		**17 51 10.2**
	baz=148						
CBKS	**Cedar Bluff**	**3.26**	**329**	Pn	**Pn**		**17 50 20.9**
CBKS				IAmb_Lg			17 51 17.2
	comp=Z,394nm,0.8s						
CBKS	**Cedar Bluff**	**3.26**	**329**	P			17 50 21.1
	baz=148,SNR=13						
Z38A	**Mt. Pleasant**	**3.50**	**142**		**Pn**		**17 50 22.4**
Z38A				IAmb_Lg			17 51 24.4
	comp=Z,408nm,0.8s						
Z38A	**Mt. Pleasant**	**3.50**	**142**	P			17 50 22.6
	baz=323						
AMTX	**Amarillo**	**3.56**	**252**	P	**Pn**		**17 50 24.1**
AMTX				Sb	**Sb**		**17 51 16.4**
	baz=70						
AMTX	**Amarillo**	**3.56**	**252**	Pn	**Pn**		**17 50 24.1**
AMTX				IAmb_Lg			17 51 27.3
	comp=Z,306nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	P			17 50 24.8
	baz=70,SNR=15						
MIAR	**Mount Ida**	**3.59**	**114**	P	**Pn**		**17 50 24.7**
	baz=295,SNR=31						
MIAR				S	**Sn**		**17 51 06.8**
	baz=295						
MIAR	**Mount Ida**	**3.59**	**114**	Pn	**Pn**		**17 50 24.9**
MIAR				IAmb_Lg			17 51 26.9
	comp=Z,312nm,0.7s						
MIAR	**Mount Ida**	**3.59**	**114**	P			17 50 24.9
	baz=295,SNR=42						
MIAR				S			17 51 07.3
	baz=295						
U40A	**Yellville**	**3.82**	**84**	P	**Pn**		**17 50 27.0**
	baz=266,SNR=21						
U40A				Sb	**Sb**		**17 51 25.1**
	baz=266						
U40A	**Yellville**	**3.82**	**84**		**Pn**		**17 50 26.9**
U40A				IAmb_Lg			17 51 32.8
	comp=Z,302nm,0.7s						
U40A	**Yellville**	**3.82**	**84**	P			17 50 27.1
	baz=266,SNR=34						
U40A				P			17 50 27.1
	baz=266,SNR=34						
ABTX	**Abilene, Hawle**	**3.83**	**207**	P	**Pn**		**17 50 26.6**
	baz=26,SNR=85						
ABTX				Sb	**Sb**		**17 51 24.4**
	baz=26						
ABTX	**Abilene, Hawle**	**3.83**	**207**		**Pn**		**17 50 26.9**
ABTX				IAmb_Lg			17 51 26.5
	comp=Z,340nm,0.8s						
ABTX	**Abilene, Hawle**	**3.83**	**207**	P			17 50 27.4
	baz=26						
WHTX	**Lake Whitney,**	**4.05**	**179**	P	**Pn**		**17 50 29.7**
	baz=359,SNR=7.0						
WHTX	**Lake Whitney,**	**4.05**	**179**	Pn	**Pn**		**17 50 29.5**
WHTX	**Lake Whitney,**	**4.05**	**179**	P			17 50 30.0
	baz=359,SNR=20						
X40A	**Basin Creek Fa**	**4.17**	**111**	P	**Pn**		**17 50 32.3**
	baz=293,SNR=7.4						
X40A				S	**Sn**		**17 51 20.4**
	baz=293						
X40A	**Basin Creek Fa**	**4.17**	**111**		**Pn**		**17 50 32.5**
X40A				IAmb_Lg			17 51 42.9
	comp=Z,509nm,0.7s						
237A	**Washetta, Mont**	**4.29**	**160**	Pn	**Pn**		**17 50 32.7**
237A				IAmb_Lg			17 51 52.7
	comp=Z,346nm,1.1s						
237A	**Washetta, Mont**	**4.29**	**160**	P			17 50 32.7
	baz=340,SNR=8.7						
237A				S			17 51 24.1
	baz=340						
WLAR	**White Oak Lake**	**4.35**	**121**	Pn	**Pn**		**17 50 34.1**
WLAR				IAmb_Lg			17 51 49.5
	comp=Z,260nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**98**		**Pn**		**17 50 34.4**
WHAR				IAmb_Lg			17 51 52.6
	comp=Z,391nm,1.0s						
MGMO	**Mountain Grove**	**4.40**	**74**		**Pn**		**17 50 35.4**
MGMO				IAmb_Lg			17 51 46.1
	comp=Z,256nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	**Pn**		**17 50 34.8**
FCAR				IAmb_Lg			17 51 54.4
	comp=Z,375nm,1.0s						
W41B	**Gary Mavity, V**	**4.42**	**100**	P	**Pn**		**17 50 35.2**
	baz=282,SNR=12						
W41B				S	**Sn**		**17 51 26.3**
	baz=282						
W41B	**Gary Mavity, V**	**4.42**	**100**	P			17 50 35.3
	baz=282,SNR=36						
W41B				S			17 51 26.4
	baz=282						
N33B	**J Bar K, Exete**	**4.68**	**1**	P			17 50 39.9
	baz=181,SNR=6.2						
N33A	**J Bar K, Exete**	**4.68**	**1**	Pn	**Pn**		**17 50 39.5**
N33A				IAmb_Lg			17 52 08.2
	comp=Z,296nm,0.8s						
MSTX	**Muleshoe**	**4.75**	**246**	P	**Pn**		**17 50 40.0**
	baz=63,SNR=11						
MSTX				Sb	**Sb**		**17 51 53.3**
	baz=63						
MSTX	**Muleshoe**	**4.75**	**246**	Pn	**Pn**		**17 50 40.2**
R40A	**Maddies Statio**	**4.79**	**61**		**Pn**		**17 50 40.8**
R40A				IAmb_Lg			17 52 11.2
	comp=Z,164nm,0.8s						
R40A	**Maddies Statio**	**4.79**	**61**	P			17 50 41.0
	baz=243,SNR=38						
P38A	**Dawn**	**4.79**	**41**	Pn	**Pn**		**17 50 41.1**
P38A				IAmb_Lg			17 52 10.8
	comp=Z,176nm,0.8s						
Z41A	**Richland Creek**	**4.81**	**124**	S	**Sn**		**17 51 35.6**
	baz=306						
NATX	**Nacogdoches**	**4.91**	**150**	S	**Sn**		**17 51 37.3**
	baz=331						
NATX	**Nacogdoches**	**4.91**	**150**	Pn	**Pn**		**17 50 41.5**
KSCO	**Kaye Shedlock'**	**4.99**	**308**	Pn	**Pn**		**17 50 44.2**
KSCO				IAmb_Lg			17 52 09.0
	comp=Z,201nm,0.8s						
N35A	**Tabor**	**5.04**	**17**		**Pn**		**17 50 44.7**
N35A	**Tabor**	**5.04**	**17**	P			17 50 45.1
	baz=198,SNR=15						
LCAR	**Lake Charles**	**5.19**	**88**	Pn	**Pn**		**17 50 45.9**
LCAR				IAmb_Lg			17 52 16.3
	comp=Z,257nm,0.9s						
CCAR	**Cane Creek**	**5.21**	**112**	Pn	**Pn**		**17 50 45.2**
435B	**Jarrell**	**5.25**	**180**	Sb	**Sb**		**17 52 08.3**
	baz=0.2						
435B	**Jarrell**	**5.25**	**180**	Pn	**Pn**		**17 50 45.9**
435B				IAmb_Lg			17 52 14.5
	comp=Z,382nm,0.8s						
T42A	**Van Buren**	**5.30**	**77**	Pn	**Pn**		**17 50 47.1**
T42A				IAmb_Lg			17 52 22.1
	comp=Z,157nm,0.8s						
BGNE	**Belgrade**	**5.37**	**355**	P	**Pn**		**17 50 48.4**
	baz=175						
BGNE				S	**Sn**		**17 51 49.9**
	baz=175						
BGNE	**Belgrade**	**5.37**	**355**	Pn	**Pn**		**17 50 49.5**
CCM	**Cathedral Cave**	**5.44**	**67**	P	**Pn**		**17 50 49.3**
	baz=250						
CCM				S	**Sn**		**17 51 52.1**
	baz=250						
CCM	**Cathedral Cave**	**5.44**	**67**	Pn	**Pn**		**17 50 49.2**
CCM				IAmb_Lg			17 52 28.1
	comp=Z,198nm,0.7s						
CCM	**Cathedral Cave**	**5.44**	**67**	P			17 50 49.6
	baz=250,SNR=9.9						
P40A	**Paris**	**5.58**	**50**		**Pn**		**17 50 52.2**
P40A				IAmb_Lg			17 52 29.6
	comp=Z,328nm,0.8s						
T25A	**Trinidad**	**5.62**	**283**	P	**Pn**		**17 50 52.0**
	baz=100						
T25A	**Trinidad**	**5.62**	**283**		**Pn**		**17 50 52.2**
T25A				IAmb_Lg			17 52 29.9
	comp=Z,325nm,0.8s						
PBMO	**Poplar Bluff**	**5.80**	**81**	Pn	**Pn**		**17 50 53.9**
N38A	**Joes South For**	**5.83**	**34**		**Pn**		**17 50 54.8**
JCT	**Junction City**	**5.86**	**199**	P	**Pn**		**17 50 54.0**
	baz=18						
JCT	**Junction City**	**5.86**	**199**	Pn	**Pn**		**17 50 53.9**
LPAR	**Lepanto**	**5.92**	**92**		Lg		17 52 33.5
L34A	**Svendsen Farm,**	**5.98**	**9**	Pn	**Pn**		**17 50 57.3**
OGNE	**Ogallala**	**6.01**	**326**	P	**Pn**		**17 50 58.6**
	baz=143,SNR=31						
OGNE				S	**Sn**		**17 52 05.8**
	baz=143						
OGNE	**Ogallala**	**6.01**	**326**	Pn	**Pn**		**17 50 58.3**
OGNE				IAmb_Lg			17 52 49.1
	comp=Z,222nm,0.8s						
OGNE	**Ogallala**	**6.01**	**326**	P			17 50 59.1
	baz=143,SNR=21						
143A	**Socs Landing,**	**6.09**	**121**	Pn	**Pn**		**17 50 57.5**
143A				IAmb_Lg			17 52 56.1
	comp=Z,177nm,0.8s						
SLM	**Saint Louis**	**6.38**	**64**	IAmb_Lg			17 52 51.7
	comp=Z,153nm,0.8s						
SDCO	**Great Sand Dun**	**6.58**	**287**	P	**Pn**		**17 51 05.6**
	baz=103,SNR=19						
SDCO	**Great Sand Dun**	**6.58**	**287**	Pn	**Pn**		**17 51 06.7**
SDCO				IAmb_Lg			17 53 05.8
	comp=Z,134nm,0.8s						
K31A	**O'Neill**	**6.63**	**352**	Pn	**Pn**		**17 51 07.0**
SCIA	**State Center**	**6.76**	**29**	Pn	**Pn**		**17 51 07.7**
OXF	**Oxford**	**6.84**	**101**	P	**Pn**		**17 51 07.6**
	baz=285						
OXF	**Oxford**	**6.84**	**101**	IAmb_Lg			17 53 07.1
	comp=Z,249nm,0.9s						
W45A	**Hickory Valley**	**6.88**	**95**	IAmb_Lg			17 53 08.1
	comp=Z,202nm,0.7s						
Y45A	**Yeager Farm, C**	**6.94**	**106**	IAmb_Lg			17 53 14.2
	comp=Z,162nm,0.8s						
VBMS	**Vicksburg**	**6.98**	**121**	IAmb_Lg			17 53 21.8
	comp=Z,173nm,1.3s						
N41A	**Harden Midland**	**7.03**	**47**	P			17 51 11.3
	baz=230,SNR=7.6						
735A	**Kenedy**	**7.18**	**182**	IAmb_Lg			17 53 28.6
	comp=Z,124nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.30**	**58**		**Pn**		**17 51 15.0**
P43A				IAmb_Lg			17 53 24.3
	comp=Z,188nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.30**	**58**	P			17 51 15.1
	baz=243,SNR=13						
ANMO	**Albuquerque**	**7.34**	**264**	Pn	**Pn**		**17 51 16.4**
	comp=Z,0.1nm,0.3s,baz=83,slow=16,SNR=3.8						
ANMO				Pg	Pb		17 51 41.1
	comp=Z,1.6nm,0.3s,baz=78,slow=16,SNR=12						
ANMO				Lg	Lg		17 53 12.5
	comp=Z,2.2nm,0.3s,baz=21,slow=18,SNR=2.0						
ANMO				LR	LR		17 54 13.4
	comp=Z,58nm,18.8s,baz=130,slow=39						
ANMO	**Albuquerque**	**7.34**	**264**		**Pn**		**17 51 16.0**
Q44A	**Meyer Farm, Va**	**7.37**	**65**	Pn	**Pn**		**17 51 16.4**
Q44A				IAmb_Lg			17 53 34.6
	comp=Z,255nm,1.1s						
ISCO	**Idaho Springs**	**7.38**	**303**	P	**Pn**		**17 51 15.9**
	baz=118,SNR=12						
ISCO	**Idaho Springs**	**7.38**	**303**	Pn	**Pn**		**17 51 16.6**
K38A	**Parkersburg**	**7.56**	**28**		**Pn**		**17 51 18.7**
BNM	**Barren Site**	**7.67**	**258**	Pn	**Pn**		**17 51 19.6**
ECSD	**EROS Data Cent**	**7.71**	**5**	P	**Pn**		**17 51 20.5**
	baz=186,SNR=21						
ECSD	**EROS Data Cent**	**7.71**	**5**	Pn	**Pn**		**17 51 21.1**
ECSD				IAmb_Lg			17 53 33.0
	comp=Z,116nm,0.8s						
ECSD	**EROS Data Cent**	**7.71**	**5**	P			17 51 20.6
	baz=186,SNR=16						
L40A	**Anamosa**	**7.77**	**37**		**Pn**		**17 51 20.8**
L40A				IAmb_Lg			17 53 41.4
	comp=Z,231nm,0.8s						
PLAL	**Pickwick Lake**	**7.81**	**95**	Pn	**Pn**		**17 51 20.9**
PLAL				IAmb_Lg			17 53 42.3
	comp=Z,125nm,1.0s						
MNTX	**Cornudas Mount**	**7.81**	**239**	P	**Pn**		**17 51 21.5**
	baz=54,SNR=21						
MNTX	**Cornudas Mount**	**7.81**	**239**	Pn	**Pn**		**17 51 21.7**
MNTX	**Cornudas Mount**	**7.81**	**239**	P			17 51 22.3
	baz=54,SNR=14						
146A	**Union**	**7.81**	**113**	IAmb_Lg			17 53 51.8
	comp=Z,128nm,0.9s						
833A	**Chaparral WMA,**	**7.86**	**192**	P	**Pn**		**17 51 22.4**
	baz=11						
WVT	**Waverly**	**7.88**	**87**	P	**Pn**		**17 51 22.8**
	baz=272						
WVT	**Waverly**	**7.88**	**87**	Pn	**Pn**		**17 51 22.0**
HDIL	**Hopedale**	**7.91**	**53**	P	**Pn**		**17 51 22.5**
	baz=238,SNR=13						
HDIL	**Hopedale**	**7.91**	**53**	Pn	**Pn**		**17 51 22.7**
HDIL	**Hopedale**	**7.91**	**53**	P			17 51 22.9
	baz=238,SNR=10						
Y22D	**IRIS PASSCAL I**	**7.92**	**258**	IAmb_Lg			17 54 01.1
	comp=Z,184nm,0.8s						
PHWY	**Pilot Hill**	**8.10**	**313**		**Pn**		**17 51 26.2**
USIN	**University of**	**8.15**	**73**	IAmb_Lg			17 54 00.0
	comp=Z,184nm,0.9s						
N23A	**Red Feather La**	**8.16**	**309**	P	**Pn**		**17 51 27.3**
	baz=124						
O44A	**Mansfield**	**8.26**	**58**	IAmb_Lg			17 53 55.7
	comp=Z,150nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.44**	**219**		**Pn**		**17 51 30.4**
TX31	**Lajitas Ar. Si**	**8.44**	**219**	P			17 51 30.5
	baz=36,SNR=8.1						
TXAR	**Lajitas Array**	**8.44**	**219**	Pn	**Pn**		**17 51 29.0**
	comp=Z,0.9nm,0.3s,baz=42,slow=10,SNR=22						
TXAR				Pg	Pb		17 52 01.6
	comp=Z,6.1nm,0.3s,baz=39,slow=16,SNR=14						
TXAR				Lg	Lg		17 53 41.8
	comp=Z,3.4nm,0.3s,baz=40,slow=28,SNR=4.1						
TXAR				LR	LR		17 55 18.9
	comp=Z,36nm,18.2s,baz=0.0,slow=42						
TXAR	**Lajitas Array**	**8.44**	**219**	Pn	**Pn**		**17 51 30.0**
TX32	**Lajitas Array**	**8.44**	**219**		**Pn**		**17 51 30.4**
L42A	**Oliver, Polo**	**8.55**	**44**	Pn	**Pn**		**17 51 32.1**
L42A				IAmb_Lg			17 54 14.5
	comp=Z,140nm,0.7s						
I37A	**Lemond, Waseca**	**8.57**	**21**	Pn	**Pn**		**17 51 30.9**
V48A	**Smith Brothers**	**8.72**	**89**	IAmb_Lg			17 54 06.2
	comp=Z,108nm,1.0s						
X48A	**Hartselle**	**8.75**	**97**	Pn	**Pn**		**17 51 33.8**
X48A				IAmb_Lg			17 54 11.5
	comp=Z,78nm,0.9s						
JFWS	**Jewell Farm**	**8.88**	**37**	P	**Pn**		**17 51 35.8**
	baz=222,SNR=9.1						
JFWS	**Jewell Farm**	**8.88**	**37**		**Pn**		**17 51 36.1**
JFWS				IAmb_Lg			17 54 15.7
	comp=Z,134nm,0.8s						
JFWS	**Jewell Farm**	**8.88**	**37**	P			17 51 36.8
	baz=222,SNR=7.7						
P46A	**Rosedale**	**8.94**	**63**	IAmb_Lg			17 54 19.0
	comp=Z,189nm,0.8s						
CLTN	**Cedars of Leba**	**9.10**	**86**	Pn	**Pn**		**17 51 37.1**
CLTN				IAmb_Lg			17 54 14.5
	comp=Z,90nm,1.0s						
121A	**Cookes Peak, D**	**9.15**	**250**	P	**Pn**		**17 51 39.9**
	baz=65						
121A	**Cookes Peak, D**	**9.15**	**250**	Pn	**Pn**		**17 51 38.4**
PV02	**Paradox Valley**	**9.18**	**287**	IAmb_Lg			17 54 34.1
	comp=Z,80nm,1.1s						
PV12	**Saucer Basin,**	**9.25**	**288**	IAmb_Lg			17 54 38.0
	comp=Z,92nm,1.3s						
WCI	**Wyandotte Cave**	**9.26**	**73**	IAmb_Lg			17 54 24.3
	comp=Z,126nm,0.8s						
BLO	**Bloomington**	**9.30**	**67**		**Pn**		**17 51 42.6**
BLO				IAmb_Lg			17 54 29.2
	comp=Z,162nm,0.8s						
SFIN	**Lafayette**	**9.30**	**59**	P	**Pn**		**17 51 41.9**
	baz=245,SNR=7.0						
SFIN	**Lafayette**	**9.30**	**59**		**Pn**		**17 51 42.3**
SFIN				IAmb_Lg			17 54 36.8
	comp=Z,110nm,0.8s						
PV16	**Nyswonger Mesa**	**9.34**	**287**	IAmb_Lg			17 54 34.3
	comp=Z,68nm,1.2s						
O20A	**White River Ci**	**9.35**	**299**	IAmb_Lg			17 54 40.1
	comp=Z,66nm,1.2s						
PV19	**Morning Glory**	**9.39**	**287**	IAmb_Lg			17 54 48.4
	comp=Z,68nm,1.2s						
Y49A	**Blount Mountai**	**9.41**	**100**	IAmb_Lg			17 54 29.1
	comp=Z,76nm,0.8s						
RSSD	**Black Hills**	**9.46**	**330**	P	**Pn**		**17 51 45.7**
	baz=146						
RSSD	**Black Hills**	**9.46**	**330**	IAmb_Lg			17 54 33.9
	comp=Z,84nm,1.1s						
SWET	**Sewanee**	**9.51**	**92**	IAmb_Lg			17 54 33.2
	comp=Z,75nm,0.7s						
U49A	**Red Boiling Sp**	**9.53**	**84**	IAmb_Lg			17 54 29.0
	comp=Z,74nm,0.9s						
K22A	**Casper**	**9.57**	**316**	IAmb_Lg			17 54 48.6
	comp=Z,70nm,0.8s						
L44A	**Lake County Fo**	**9.68**	**48**	IAmb_Lg			17 54 38.8
	comp=Z,180nm,1.1s						
F33A	**5 Mile Ranch,**	**9.83**	**5**	Pn	**Pn**		**17 51 48.8**
F33A				IAmb_Lg			17 54 39.9
	comp=Z,109nm,1.0s						
SPMN	**Marine on St.**	**9.85**	**20**	Pn	**Pn**		**17 51 48.8**
SPMN				IAmb_Lg			17 54 57.4
	comp=Z,87nm,0.8s						
FPAL	**Fort Paine**	**9.89**	**95**	IAmb_Lg			17 54 45.8
	comp=Z,82nm,0.8s						
I42A	**Draeger Farm,**	**10.26**	**38**	Pn	**Pn**		**17 51 55.1**
F36A	**Milaca**	**10.27**	**16**	Pn	**Pn**		**17 51 53.5**
RDMU	**Red Mountain**	**10.46**	**299**	Pn	**Pn**		**17 51 55.1**
N47A	**Urbana**	**10.48**	**59**	Pn	**Pn**		**17 51 56.9**
L46A	**Eue Claire**	**10.59**	**52**	Pn	**Pn**		**17 51 59.2**
TKL	**Tuckaleechee C**	**11.20**	**88**	Pn	**Pn**		**17 52 07.5**
	comp=Z,0.3nm,0.3s,baz=251,slow=23,SNR=2.2						
TKL				Lg	Lg		17 55 10.3
	comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=4.3						
H43A	**Windswept, Lux**	**11.25**	**39**	Pn	**Pn**		**17 52 07.5**
S51A	**Beattyville**	**11.31**	**78**	Pn	**Pn**		**17 52 09.4**
PD31	**Pinedale Array**	**11.44**	**310**	Pn	**Pn**		**17 52 09.4**
PDAR	**Pinedale Array**	**11.44**	**310**	Pn	**Pn**		**17 52 10.7**
	comp=Z,0.6nm,0.3s,baz=125,slow=14,SNR=13						
PDAR				Pg			17 52 58.6
	comp=Z,0.8nm,0.3s,baz=108,slow=14,SNR=4.4						
PDAR				Lg	Lg		17 55 25.9
	comp=Z,0.8nm,0.3s,baz=94,slow=20,SNR=2.9						
PDAR				LR	LR		17 56 51.7
	comp=Z,66nm,18.6s,baz=96,slow=39						
E38A	**The Farm, Brul**	**11.47**	**21**	Pn	**Pn**		**17 52 09.2**
L48A	**N Adams**	**11.79**	**56**	Pn	**Pn**		**17 52 14.9**
F42A	**Maple Grove Fa**	**12.03**	**33**		**Pn**		**17 52 17.3**
J47A	**Sunmer**	**12.16**	**50**		**Pn**		**17 52 19.2**
EYMN	**Ely**	**12.71**	**19**	P	**Pn**		**17 52 26.1**
	baz=203,SNR=9.0						
ULM	**Lac du Bonnet**	**14.25**	**4**	Pn	**Pn**		17 52 44.8
	comp=Z,0.5nm,0.3s,baz=187,slow=10,SNR=4.4						
ULM				Lg	Lg		17 56 46.5
	comp=Z,0.4nm,0.3s,baz=262,slow=16,SNR=1.6						
PFO	**Pinyon Flats O**	**15.71**	**267**	LR	LR		18 00 01.8
	comp=Z,52nm,20.3s,baz=294,slow=40						
SADO	**Sadowa**	**16.49**	**52**	Pn	**Pn**		**17 53 13.5**
	comp=Z,0.4nm,0.3s,baz=247,slow=13,SNR=1.7						
SADO				Lg	Lg		17 57 56.6
	comp=Z,0.7nm,0.3s,baz=6.3,slow=22,SNR=2.0						
SADO				LR	LR		17 59 51.8
	comp=Z,49nm,21.8s,baz=264,slow=38						
SADO	**Sadowa**	**16.49**	**52**		**Pn**		**17 53 17.5**
SADO				IAmb	IAmb		17 53 36.5
	comp=Z,9.0nm,0.8s						
NVAR	**Mina Array Bea**	**16.68**	**284**	Pn	**Pn**		**17 53 20.4**
	comp=Z,0.1nm,0.3s,baz=104,slow=13,SNR=1.7						
YBH	**Yreka Blue Hor**	**20.34**	**294**	LR	LR		18 02 29.9
	comp=Z,33nm,19.7s,baz=262,slow=39						
YKA	**Yellowknife Ar**	**28.52**	**343**	LR	LR		18 07 10.2
	comp=Z,30nm,19.7s,baz=0.0,slow=37						
ILAR	**Eielson Array**	**40.91**	**330**	P	**P**		**17 57 11.5**
	comp=Z,0.6nm,0.6s,baz=110,slow=7.2,SNR=5.5						
HHC	**Hu-ho-hao-te**	**98.93**	**338**	*e*P	**P**		**18 03 07.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,60nm,6.6s						

IDC ***27*** *18:12:13.8±0.6, 35°.99N×97°.42W, h0km, mb4.2/14, mb1 4.4/22, mb1mx4.2/51, mbtmp4.2/22, ML3.9/8, MS4.0/39, Ms1 4.0/39, ms1mx4.0/46, Error ellipse: s-maj=12.0km s-min=9.7km az=149.0*

ANF ***27*** *18:12:14.7±1.2, 36°.10N×97°.53W, h8km±9km, ML5.9/19, Error ellipse: s-maj=3.5km s-min=2.4km az=175.0*

TUL ***27*** *18:12:15.4±1.8, 35°.99N±0°.01×97°.57W±0°.03, h5km±4km, mb4.6/29(NEIC), mb_Lg5.0/133(NEIC), Mwr4.5/69(NEIC), Error ellipse: s-maj=3.1km s-min=2.0km az=88.0*

NEIC ***27*** *18:12:15.1±1.5, 36°.001N±0°.008×97°.58W±0°.02, h8km±4km, Error ellipse: s-maj=3.0km s-min=0.6km az=68.0*

NEIC ***27*** *18:12:15.3, 36°.01N×97°.58W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.33; $M_{\theta\theta}$4.09; $M_{\phi\phi}$-2.76; $M_{r\theta}$-1.52; $M_{\theta\phi}$7.04; $M_{\phi r}$1.19; Fault plane solution: $M_0$8.15000×10^{15} NP1:ϕ_s193.95000°, δ75.92000°, λ-171.30000°. NP2:ϕ_s101.81000°, δ81.56000°, λ-14.24000°. Principal axes: T 8.5444, Plg4.0000°, Azm148.0000°; N -0.8542, Plg73.0000°, Azm252.0000°; P -7.6902, Plg16.0000°, Azm57.0000°;*

GCMT ***27*** *18:12:16.4±0.4, 36°.14N±0°.02×97°.52W±0°.02, h28km±1km, MW4.8/84, Moment Tensor Solution. s14,c14; s84,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.31±.12; $M_{\theta\theta}$0.99±.11; $M_{\phi\phi}$-0.67±.09; $M_{r\theta}$-0.06±.16; $M_{\theta\phi}$2.00±.09; $M_{\phi r}$-0.00±.13; Best double couple: $M_0$2.16700×10^{16} NP1:ϕ_s191.00000°, δ89.00000°, λ180.00000°. NP2: ϕ_s281.00000°, δ90.00000°, λ1.00000°. Principal axes: T 2.3220, Plg1.0000°, Azm146.0000°; N -0.3110, Plg89.0000°, Azm285.0000°; P -2.0110, Plg1.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

**ISC 27 18:12:14.7±1.0, 36°.02N±0°.02×97°.54W±0°.03, h10km±6km, n440, σ1$34/425, mb4.5/27, MS4.0/30, 62C-59D, Fault plane solution: NP1:ϕ_s120.83434°, δ87.25855°, $\l

T35B	**Sooner Cattle**	**1.22 42**	P			18 12 38.8
	baz=224,SNR=1000					
T35B			S			18 12 56.0
	baz=224					
U32A	**Winter Ranch,**	**1.24 287**	Pg	**Pn**		**18 12 38.0 -0.2**
U32A	**Winter Ranch,**	**1.24 287**	P			18 12 38.0
	baz=108,SNR=881					
U32A			S			18 12 55.0
	baz=108					
KAN08	**Anthony NE Sta**	**1.26 344**		**Pn**		**18 12 39.0 +0.6**
KS21	**Milan North St**	**1.27 356**		**Pn**		**18 12 39.5 +0.8**
KAN12	**Harper NE Stat**	**1.33 344**		**Pn**		**18 12 40.4 +0.9**
TUL1	**Leonard**	**1.42 94**	P	**Pn**		**18 12 41.5 +0.8**
	baz=274,SNR=666					
TUL1			S	**Sg**		**18 13 01.2 +0.8**
	baz=274					
TUL1	**Leonard**	**1.42 94**	P			18 12 41.5
	baz=274,SNR=611					
TUL1			S			18 13 01.2
	baz=274					
X34A	**Smith Ranch, M**	**1.43 190**	Pn	**Pb**		**18 12 41.7 +0.1**
WMOK	**Wichita Mounta**	**1.63 219**	P	**Pn**		**18 12 44.1 +0.6**
	baz=37,SNR=1000					
WMOK			S	**Sb**		**18 13 05.8 +0.3**
	baz=37					
WMOK	**Wichita Mounta**	**1.63 219**		**Pn**		**18 12 44.0 +0.5**
WMOK			IAmb_Lg			18 13 06.1
	comp=Z,4μm,0.8s					
WMOK	**Wichita Mounta**	**1.63 219**	P			18 12 44.1
	baz=37,SNR=1000					
WMOK			S			18 13 05.4
	baz=37					
LOOK	**Love County**	**2.04 172**		**Pn**		**18 12 50.7 +1.5**
LOOK			IAmb_Lg			18 13 22.3
	comp=Z,4μm,0.8s					
X37A	**Clayton**	**2.27 128**		**Pn**		**18 12 54.1 +1.7**
X37A			IAmb_Lg			18 13 33.9
	comp=Z,6μm,0.7s					
X37A	**Clayton**	**2.27 128**	P			18 12 54.1
	baz=309,SNR=471					
X37A			S			18 13 24.1
	baz=309					
R32A	**Long Quarter,**	**2.58 339**	P			18 12 58.5
	baz=159,SNR=466					
R32A			S			18 13 30.4
	baz=159					
U38A	**Gravette**	**2.58 80**		**Pn**		**18 12 58.4 +1.7**
U38A			IAmb_Lg			18 13 37.8
	comp=Z,3μm,0.8s					
U38A	**Gravette**	**2.58 80**	P			18 12 58.6
	baz=261,SNR=687					
Z35A	**Perchaven, San**	**2.69 175**		**Pn**		**18 12 59.5 +1.4**
Z35A			IAmb_Lg			18 13 45.1
	comp=Z,4μm,1.1s					
Z35A	**Perchaven, San**	**2.69 175**	P			18 12 59.7
	baz=354,SNR=270					
Z35A			S			18 13 33.7
	baz=354					
HHAR	**Hobbs**	**2.92 84**	Pn	**Pn**		**18 13 02.9 +1.5**
HHAR	**Hobbs**	**2.92 84**	P			18 13 03.0
	baz=266					
KSU1	**Kansas State U**	**3.17 13**	P	**Pn**		**18 13 06.4 +1.7**
	baz=194,SNR=30					
KSU1	**Kansas State U**	**3.17 13**	Pn	**Pn**		**18 13 06.4 +1.7**
KSU1			IAmb_Lg			18 14 03.4
	comp=Z,4μm,0.8s					
KSU1	**Kansas State U**	**3.17 13**	P			18 13 06.7
	baz=194,SNR=48					
W39A	**Magazine**	**3.17 104**	P	**Pn**		**18 13 06.5 +1.8**
	baz=286,SNR=167					
W39A	**Magazine**	**3.17 104**		**Pn**		**18 13 06.5 +1.8**
W39A			IAmb_Lg			18 14 00.2
	comp=Z,8μm,0.8s					
W39A	**Magazine**	**3.17 104**	P			18 13 06.4
	baz=286,SNR=372					
W39A			S			18 13 45.1
	baz=286					
CBKS	**Cedar Bluff**	**3.29 329**	P	**Pn**		**18 13 07.9 +1.3**
	baz=148,SNR=120					
CBKS	**Cedar Bluff**	**3.29 329**	Pn	**Pn**		**18 13 07.8 +1.3**
CBKS			IAmb_Lg			18 14 03.4
	comp=Z,3μm,0.9s					
CBKS	**Cedar Bluff**	**3.29 329**	P			18 13 08.1
	baz=148,SNR=130					
Z38A	**Mt. Pleasant**	**3.46 142**	Pn	**Pn**		**18 13 09.9 +1.2**
Z38A			IAmb_Lg			18 14 11.7
	comp=Z,5μm,0.7s					
Z38A	**Mt. Pleasant**	**3.46 142**	P			18 13 09.9
	baz=323,SNR=47					
MIAR	**Mount Ida**	**3.56 113**	P	**Pn**		**18 13 11.9 +1.8**
	baz=295,SNR=248					
MIAR			S	**Sn**		**18 13 54.8 +2.6**
	baz=295					
MIAR	**Mount Ida**	**3.56 113**	Pn	**Pn**		**18 13 11.8 +1.8**
MIAR			IAmb_Lg			18 14 11.8
	comp=Z,4μm,0.9s					
MIAR	**Mount Ida**	**3.56 113**	P			18 13 12.0
	baz=295,SNR=256					
MIAR			S			18 13 54.5
	baz=295					
AMTX	**Amarillo**	**3.56 253**	P	**Pn**		**18 13 11.6 +1.3**
	baz=70					
AMTX	**Amarillo**	**3.56 253**	Pn	**Pn**		**18 13 11.6 +1.3**
AMTX			IAmb_Lg			18 14 13.0
	comp=Z,2μm,0.8s					
AMTX	**Amarillo**	**3.56 253**	P			18 13 12.1
	baz=70,SNR=14					
U40A	**Yellville**	**3.81 84**	P	**Pn**		**18 13 14.5 +1.0**
	baz=266,SNR=274					
U40A	**Yellville**	**3.81 84**		**Pn**		**18 13 14.4 +1.0**
U40A			IAmb_Lg			18 14 24.2
	comp=Z,4μm,0.8s					
U40A	**Yellville**	**3.81 84**	P			18 13 14.6
	baz=266,SNR=299					
U40A			P			18 13 14.6
	baz=266,SNR=299					
ABTX	**Abilene, Hawle**	**3.81 208**	P	**Pn**		**18 13 14.1 +0.6**
	baz=26,SNR=39					
ABTX	**Abilene, Hawle**	**3.81 208**	Pn	**Pn**		**18 13 14.5 +1.0**
ABTX			IAmb_Lg			18 14 15.5
	comp=Z,3μm,0.9s					
ABTX	**Abilene, Hawle**	**3.81 208**	P			18 13 14.3
	baz=26,SNR=52					
WHTX	**Lake Whitney,**	**4.02 179**	P	**Pn**		**18 13 17.3 +1.0**
	baz=359,SNR=15					
WHTX	**Lake Whitney,**	**4.02 179**	Pn	**Pn**		**18 13 17.2 +1.0**
WHTX			IAmb_Lg			18 14 20.5
	comp=Z,2μm,0.9s					
WHTX	**Lake Whitney,**	**4.02 179**	P			18 13 17.5
	baz=359,SNR=62					
X40A	**Basin Creek Fa**	**4.14 110**	P	**Pn**		**18 13 19.4 +1.4**
	baz=293,SNR=63					
X40A	**Basin Creek Fa**	**4.14 110**		**Pn**		**18 13 19.4 +1.4**
X40A	**Basin Creek Fa**	**4.14 110**	P			18 13 19.7
	baz=293,SNR=82					
X40A			P			18 13 19.7
	baz=293,SNR=82					
X40A			S			18 14 09.9
	baz=293					
X40A			S			18 14 09.9
	baz=293					
237A	**Washetta, Mont**	**4.25 160**	Pn	**Pn**		**18 13 20.3 +0.7**
237A			IAmb_Lg			18 14 41.8
	comp=Z,3μm,0.9s					
237A	**Washetta, Mont**	**4.25 160**	P			18 13 20.2
	baz=340,SNR=47					
WLAR	**White Oak Lake**	**4.32 121**	Pn	**Pn**		**18 13 22.0 +1.5**
WHAR	**Wooly Hollow**	**4.34 98**		**Pn**		**18 13 22.3 +1.5**
MGMO	**Mountain Grove**	**4.39 73**		**Pn**		**18 13 22.9 +1.4**
MGMO			IAmb_Lg			18 14 33.7
	comp=Z,3μm,0.8s					
W41B	**Gary Mavity, V**	**4.39 99**	P	**Pn**		**18 13 22.8 +1.3**
	baz=282,SNR=40					
W41B			S	**Sn**		**18 14 14.2 +1.4**
	baz=282					
W41B	**Gary Mavity, V**	**4.39 99**	P			18 13 23.0
	baz=282,SNR=122					
W41B			S			18 14 13.6
	baz=282					
FCAR	**Ozark Folk Cen**	**4.39 90**	Pn	**Pn**		**18 13 22.1 +0.6**
N33B	**J Bar K, Exete**	**4.71 1**	P			18 13 27.3
	baz=181					
N33A	**J Bar K, Exete**	**4.71 1**		**Pn**		**18 13 26.6 +0.6**
N33A			IAmb_Lg			18 14 55.6
	comp=Z,3μm,1.1s					
MSTX	**Muleshoe**	**4.76 246**	P	**Pn**		**18 13 27.3 +0.6**
	baz=63,SNR=74					
MSTX	**Muleshoe**	**4.76 246**	Pn	**Pn**		**18 13 27.2 +0.6**
MSTX			IAmb_Lg			18 14 46.6
	comp=Z,1μm,1.0s					
MSTX	**Muleshoe**	**4.76 246**	P			18 13 27.4
	baz=63,SNR=27					
Z41A	**Richland Creek**	**4.78 124**	P	**Pn**		**18 13 27.5 +0.7**
	baz=306,SNR=9.5					
Z41A	**Richland Creek**	**4.78 124**	P			18 13 28.2
	baz=306					
Z41A			P			18 13 28.2
	baz=306					
R40A	**Maddies Statio**	**4.78 60**		**Pn**		**18 13 28.5 +1.6**
R40A			IAmb_Lg			18 14 48.7
	comp=Z,2μm,0.9s					
R40A	**Maddies Statio**	**4.78 60**	P			18 13 28.5
	baz=243,SNR=247					
P38A	**Dawn**	**4.80 40**	Pn	**Pn**		**18 13 28.2 +1.1**
P38A			IAmb_Lg			18 14 53.7
	comp=Z,1μm,0.8s					
NATX	**Nacogdoches**	**4.87 150**	P	**Pn**		**18 13 28.2 +0.1**
	baz=331					
NATX	**Nacogdoches**	**4.87 150**		**Pn**		**18 13 28.5 +0.3**
KSCO	**Kaye Shedlock'**	**5.03 308**	P	**Pn**		**18 13 30.4 0.0**
	baz=125,SNR=44					
KSCO	**Kaye Shedlock'**	**5.03 308**	Pn	**Pn**		**18 13 30.9 +0.5**
KSCO			IAmb_Lg			18 15 06.6
	comp=Z,1μm,0.7s					
KSCO	**Kaye Shedlock'**	**5.03 308**	P			18 13 31.8
	baz=125,SNR=17					
N35A	**Tabor**	**5.06 17**		**Pn**		**18 13 31.9 +1.2**
N35A	**Tabor**	**5.06 17**	P			18 13 32.1
	baz=198,SNR=73					
LCAR	**Lake Charles**	**5.17 88**	Pn	**Pn**		**18 13 32.8 +0.6**
LCAR	**Lake Charles**	**5.17 88**	P			18 13 33.1
	baz=271,SNR=43					
CCAR	**Cane Creek**	**5.18 112**		**Pn**		**18 13 33.7 +1.4**
CCAR	**Cane Creek**	**5.18 112**	P			18 13 33.9
	baz=295,SNR=30					
435B	**Jarrell**	**5.22 180**	P	**Pn**		**18 13 33.3 +0.4**
	baz=0.1,SNR=23					
435B	**Jarrell**	**5.22 180**		**Pn**		**18 13 33.4 +0.5**
435B			IAmb_Lg			18 15 06.2
	comp=Z,4μm,1.1s					
435B	**Jarrell**	**5.22 180**	P			18 13 33.6
	baz=0.1,SNR=27					
T42A	**Van Buren**	**5.29 77**		**Pn**		**18 13 34.5 +0.7**
T42A			IAmb_Lg			18 15 04.3
	comp=Z,3μm,1.1s					
BGNE	**Belgrade**	**5.41 355**	P	**Pn**		**18 13 36.2 +0.8**
	baz=175,SNR=36					
BGNE			S	**Sn**		**18 14 37.5 -0.3**
	baz=175					
BGNE	**Belgrade**	**5.41 355**		**Pn**		**18 13 36.1 +0.7**
BGNE			IAmb_Lg			18 15 22.8
	comp=Z,3μm,0.9s					
BGNE	**Belgrade**	**5.41 355**	P			18 13 36.0
	baz=175,SNR=81					
CCM	**Cathedral Cave**	**5.43 66**	P	**Pn**		**18 13 36.4 +0.7**
	baz=250					
CCM	**Cathedral Cave**	**5.43 66**	Pn	**Pn**		**18 13 36.8 +1.0**
CCM			IAmb_Lg			18 15 10.1
	comp=Z,2μm,1.1s					
CCM	**Cathedral Cave**	**5.43 66**	P			18 13 36.7
	baz=250,SNR=85					
P40A	**Paris**	**5.59 49**		**Pn**		**18 13 38.7 +0.8**
P40A			IAmb_Lg			18 15 17.3
	comp=Z,3μm,0.8s					
P40A	**Paris**	**5.59 49**	P			18 13 39.2
	baz=233,SNR=72					
HBAR	**Harrisburg**	**5.61 93**	Pn	**Pn**		**18 13 39.3 +1.0**
T25A	**Trinidad**	**5.64 283**	P	**Pn**		**18 13 39.4 +0.5**
	baz=100,SNR=26					
T25A	**Trinidad**	**5.64 283**		**Pn**		**18 13 39.6 +0.7**
T25A			IAmb_Lg			18 15 19.2
	comp=Z,2μm,0.7s					
PBMO	**Poplar Bluff**	**5.79 80**		**Pn**		**18 13 42.0 +1.3**
JCT	**Junction City**	**5.84 200**	P	**Pn**		**18 13 41.5 +0.1**
	baz=18,SNR=20					
JCT	**Junction City**	**5.84 200**	Pn	**Pn**		**18 13 41.6 +0.1**
JCT	**Junction City**	**5.84 200**	P			18 13 41.5
	baz=18,SNR=57					
N38A	**Joes South For**	**5.84 34**		**Pn**		**18 13 42.0 +0.6**
LPAR	**Lepanto**	**5.90 92**	Pn	**Pn**		**18 13 43.0 +0.8**
L34A	**Svendsen Farm,**	**6.01 8**	Pn	**Pn**		**18 13 44.0 +0.3**
L34A	**Svendsen Farm,**	**6.01 8**	P			18 13 43.9
	baz=189,SNR=16					
OGNE	**Ogallala**	**6.05 326**	P	**Pn**		**18 13 46.2 +1.7**
	baz=143,SNR=116					
OGNE	**Ogallala**	**6.05 326**	Pn	**Pn**		**18 13 46.1 +1.7**
OGNE			IAmb_Lg			18 15 41.6
	comp=Z,1μm,0.8s					
OGNE	**Ogallala**	**6.05 326**	P			18 13 46.5
	baz=143,SNR=106					
143A	**Socs Landing,**	**6.05 121**		**Pn**		**18 13 45.4 +1.1**
143A			IAmb_Lg			18 15 44.2
	comp=Z,3μm,0.8s					
143A	**Socs Landing,**	**6.05 121**	P			18 13 45.4
	baz=305,SNR=9.5					
GNAR	**Gosnell**	**6.10 88**	Pn	**Pn**		**18 13 45.6 +0.7**
PEBM	**Pemiscott Bayo**	**6.22 87**	Pn	**Pn**		**18 13 47.1 +0.5**
PARMO	**Parma**	**6.32 82**	Pn	**Pn**		**18 13 49.1 +1.2**
342A	**Flagon Creek P**	**6.35 135**	Pn	**Pn**		**18 13 49.2 +0.9**
SLM	**Saint Louis**	**6.38 64**		**Pn**		**18 13 50.0 +1.2**
SLM			IAmb_Lg			18 15 36.8
	comp=Z,4μm,1.2s					
441A	**DeRidder**	**6.39 144**	Pn	**Pn**		**18 13 49.9 +0.9**
PENMO	**Penman**	**6.41 84**	Pn	**Pn**		**18 13 50.2 +1.0**
LNXT	**Lenox**	**6.52 87**	Pn	**Pn**		**18 13 51.0 +0.2**
SDCO	**Great Sand Dun**	**6.61 287**	P	**Pn**		**18 13 53.4 +1.2**
	baz=103,SNR=93					
SDCO	**Great Sand Dun**	**6.61 287**	Pn	**Pn**		**18 13 53.5 +1.2**
SDCO	**Great Sand Dun**	**6.61 287**	P			18 13 54.2
	baz=103,SNR=32					
K31A	**O'Neill**	**6.66 352**	Pn	**Pn**		**18 13 53.8 +1.1**
K31A	**O'Neill**	**6.66 352**	P			18 13 54.6
	baz=172,SNR=11					
GLAT	**Glass**	**6.68 85**	Pn	**Pn**		**18 13 53.6 +0.6**
Q24A	**Divide**	**6.73 298**	P	**Pn**		**18 13 53.8 -0.1**
	baz=114					
HICK	**Hickman**	**6.73 83**		**Pn**		**18 13 54.5 +0.9**
SCIA	**State Center**	**6.78 28**	P	**Pn**		**18 13 54.9 +0.6**
	baz=211,SNR=5.5					
SCIA	**State Center**	**6.78 28**		**Pn**		**18 13 55.5 +1.2**
SCIA	**State Center**	**6.78 28**	P			18 13 55.8
	baz=211,SNR=8.6					
OXF	**Oxford**	**6.82 100**	P	**Pn**		**18 13 55.0 +0.1**
	baz=285,SNR=31					
OXF	**Oxford**	**6.82 100**	Pn	**Pn**		**18 13 55.3 +0.4**
OXF			IAmb_Lg			18 16 00.9
	comp=Z,3μm,0.9s					
OXF	**Oxford**	**6.82 100**	P			18 13 54.9
	baz=285,SNR=28					
S44A	**Carbondale**	**6.85 73**		**Pn**		**18 13 55.7 +0.4**
S44A	**Carbondale**	**6.85 73**	P			18 13 56.2
	baz=258,SNR=33					
W45A	**Hickory Valley**	**6.86 95**	Pn	**Pn**		**18 13 55.9 +0.4**
W45A	**Hickory Valley**	**6.86 95**	P			18 13 56.0
	baz=280,SNR=15					
SIUC	**Southern Illin**	**6.88 73**		**Pn**		**18 13 55.9 +0.2**
Y45A	**Yeager Farm, C**	**6.91 106**	Pn	**Pn**		**18 13 57.0 +1.0**
Y45A			IAmb_Lg			18 16 07.7
	comp=Z,2μm,0.8s					
Y45A	**Yeager Farm, C**	**6.91 106**	P			18 13 57.1
	baz=290,SNR=22					
VBMS	**Vicksburg**	**6.95 121**	P	**Pn**		**18 13 56.7 +0.1**
	baz=305,SNR=7.5					
VBMS	**Vicksburg**	**6.95 121**		**Pn**		**18 13 56.9 +0.3**
VBMS			IAmb_Lg			18 16 09.1
	comp=Z,2μm,1.0s					
N41A	**Harden Midland**	**7.04 46**		**Pn**		**18 13 58.7 +0.9**
N41A	**Harden Midland**	**7.04 46**	P			18 13 58.6
	baz=230,SNR=46					
735A	**Kenedy**	**7.14 182**	Pn	**Pn**		**18 14 00.1 +0.8**
735A			IAmb_Lg			18 16 18.5
	comp=Z,1μm,0.7s					
T45A	**Paducah**	**7.23 79**		**Pn**		**18 14 01.2 +0.7**
344A	**Westbrook Farm**	**7.27 127**		**Pn**		**18 14 02.2 +1.1**
344A			IAmb_Lg			18 16 17.9
	comp=Z,911nm,1.2s					
P43A	**Skaggs, Pawnee**	**7.30 58**		**Pn**		**18 14 02.2 +0.8**
P43A			IAmb_Lg			18 16 13.2
	comp=Z,2μm,0.9s					
P43A	**Skaggs, Pawnee**	**7.30 58**	P			18 14 02.6
	baz=243,SNR=87					
ANMO	**Albuquerque**	**7.35 264**	Pn	**Pn**		**18 14 03.1 +0.7**
	comp=Z,0.5nm,0.3s,baz=90,slow=14,SNR=12					
ANMO			Pg	Pb		18 14 27.9 +5.3
	comp=Z,4.9nm,0.3s,baz=74,slow=14,SNR=13					
ANMO			Lg	Lg		18 16 00.7
	comp=Z,11nm,0.3s,baz=112,slow=16,SNR=2.1					
ANMO			LR	LR		18 17 02.6
	comp=Z,1μm,18.3s,baz=78,slow=39					
ANMO	**Albuquerque**	**7.35 264**	P	**Pn**		**18 14 03.1 +0.7**
	baz=79					
ANMO	**Albuquerque**	**7.35 264**	Pn	**Pn**		**18 14 03.5 +1.1**
Q44A	**Meyer Farm, Va**	**7.36 64**	Pn	**Pn**		**18 14 03.4 +1.1**
Q44A	**Meyer Farm, Va**	**7.36 64**	P			18 14 03.6
	baz=250,SNR=20					
ISCO	**Idaho Springs**	**7.42 303**	P	**Pn**		**18 14 03.6 +0.3**
	baz=118,SNR=87					
ISCO	**Idaho Springs**	**7.42 303**	Pn	**Pn**		**18 14 03.5 +0.2**
ISCO	**Idaho Springs**	**7.42 303**	P			18 14 04.0
	baz=118,SNR=33					
K38A	**Parkersburg**	**7.58 28**		**Pn**		**18 14 05.8 +0.6**
K38A	**Parkersburg**	**7.58 28**	P			18 14 05.6
	baz=211,SNR=21					
S22A	**4UR Ranch, Cre**	**7.64 286**	P	**Pn**		**18 14 06.1 -0.3**
	baz=100,SNR=9.6					
BNM	**Barren Site**	**7.68 259**	Pn	**Pn**		**18 14 07.1 +0.2**
ECSD	**EROS Data Cent**	**7.74 5**	P	**Pn**		**18 14 07.2 -0.3**
	baz=186,SNR=108					
ECSD	**EROS Data Cent**	**7.74 5**	Pn	**Pn**		**18 14 07.4 -0.1**
ECSD			IAmb_Lg			18 16 26.4
	comp=Z,874nm,0.9s					
ECSD	**EROS Data Cent**	**7.74 5**	P			18 14 07.3
	baz=186,SNR=100					
146A	**Union**	**7.78 113**		**Pn**		**18 14 08.0 -0.1**
146A			IAmb_Lg			18 16 42.6
	comp=Z,2μm,0.8s					
L40A	**Anamosa**	**7.78 37**		**Pn**		**18 14 08.0 -0.1**
L40A			IAmb_Lg			18 16 28.7
	comp=Z,2μm,0.8s					
L40A	**Anamosa**	**7.78 37**	P			18 14 08.3
	baz=221,SNR=20					
PLAL	**Pickwick Lake**	**7.79 95**		**Pn**		**18 14 07.9 -0.2**
PLAL			IAmb_Lg			18 16 26.9
	comp=Z,1μm,0.9s					
MNTX	**Cornudas Mount**	**7.81 239**	P	**Pn**		**18 14 08.8 +0.2**
	baz=54,SNR=111					
MNTX	**Cornudas Mount**	**7.81 239**	Pn	**Pn**		**18 14 08.4 -0.1**
MNTX	**Cornudas Mount**	**7.81 239**	P			18 14 08.8
	baz=54,SNR=57					
833A	**Chaparral WMA,**	**7.83 192**	P	**Pn**		**18 14 08.8 +0.1**
	baz=11,SNR=9.2					
WVT	**Waverly**	**7.86 86**	P	**Pn**		**18 14 08.4 -0.8**
	baz=272					
WVT	**Waverly**	**7.86 86**	Pn	**Pn**		**18 14 08.7 -0.4**
WVT			IAmb_Lg			18 16 26.5
	comp=Z,1μm,0.9s					
HDIL	**Hopedale**	**7.91 53**	P	**Pn**		**18 14 10.0 +0.2**
	baz=238,SNR=91					
HDIL	**Hopedale**	**7.91 53**	Pn	**Pn**		**18 14 09.9 +0.2**
HDIL			IAmb_Lg			18 16 39.9
	comp=Z,2μm,0.7s					
HDIL	**Hopedale**	**7.91 53**	P			18 14 10.1
	baz=238,SNR=79					
Y22D	**IRIS PASSCAL I**	**7.93 259**	IAmb_Lg			18 16 36.6
	comp=Z,1μm,0.7s					
LENM	**Lemitar**	**7.95 259**	Pn	**Pn**		**18 14 09.2 -1.4**
OLIL	**Olney**	**7.99 67**		**Pn**		**18 14 11.8 +0.9**
PHWY	**Pilot Hill**	**8.13 313**		**Pn**		**18 14 13.6 +0.5**
346A	**Big Creek Wild**	**8.16 122**	IAmb_Lg			18 16 55.6
	comp=Z,638nm,1.1s					
N23A	**Red Feather La**	**8.20 309**	P	**Pn**		**18 14 14.4 +0.4**
	baz=124,SNR=79					
O44A	**Mansfield**	**8.26 57**		**Pn**		**18 14 15.2 +0.6**
O44A			IAmb_Lg			18 16 41.0
	comp=Z,2μm,0.8s					
O44A	**Mansfield**	**8.26 57**	P			18 14 15.1
	baz=243,SNR=18					
Z47A	**Carrollton**	**8.30 107**		**Pn**		**18 14 16.0 +0.8**
Z47A			IAmb_Lg			18 16 58.2
	comp=Z,1μm,0.9s					
TX31	**Lajitas Ar. Si**	**8.43 219**		**Pn**		**18 14 16.6 -0.5**
TX31	**Lajitas Ar. Si**	**8.43 219**	P			18 14 16.2
	baz=36,SNR=24					
TX32	**Lajitas Array**	**8.43 219**		**Pn**		**18 14 16.4 -0.7**
TXAR	**Lajitas Array**	**8.43 219**	Pn	**Pn**		**18 14 16.2 -0.8**
	comp=Z,1.8nm,0.3s,baz=41,slow=11,SNR=54					
TXAR			Pg	Pb		18 14 47.1 +6.3
	comp=Z,13nm,0.3s,baz=42,slow=12,SNR=19					
TXAR			Lg	Lg		18 16 24.3
	comp=Z,19nm,0.3s,baz=36,slow=17,SNR=2.9					
T47A	**Sharon Grove**	**8.46 80**		**Pn**		**18 14 17.7 +0.3**
SUSD	**Miller**	**8.49 353**		**Pn**		**18 14 19.0 +1.3**
SUSD			IAmb_Lg			18 16 59.7
	comp=Z,1μm,0.9s					
L42A	**Oliver, Polo**	**8.56 43**	Pn	**Pn**		**18 14 18.8 +0.1**
L42A			IAmb_Lg			18 16 48.5
	comp=Z,1μm,0.9s					
I37A	**Lemond, Waseca**	**8.60 20**	Pn	**Pn**		**18 14 18.8 -0.4**
I37A			IAmb_Lg			18 17 11.8
	comp=Z,2μm,1.0s					
V48A	**Smith Brothers**	**8.70 89**	Pn	**Pn**		**18 14 22.7 +2.0**
V48A			IAmb_Lg			18 16 53.4
	comp=Z,2μm,1.0s					
X48A	**Hartselle**	**8.73 97**		**Pn**		**18 14 22.1 +1.0**
X48A			IAmb_Lg			18 16 53.1
	comp=Z,836nm,0.8s					
JFWS	**Jewell Farm**	**8.90 37**	P	**Pn**		**18 14 22.7 -0.7**
	baz=222,SNR=40					
JFWS	**Jewell Farm**	**8.90 37**	Pn	**Pn**		**18 14 23.3 0.0**
JFWS			IAmb_Lg			18 16 56.4
	comp=Z,1μm,0.8s					
JFWS	**Jewell Farm**	**8.90 37**	P			18 14 22.9
	baz=222,SNR=43					
P46A	**Rosedale**	**8.93 63**	Pn	**Pn**		**18 14 24.4 +0.6**
P46A			IAmb_Lg			18 17 08.2
	comp=Z,2μm,1.0s					
M44A	**Midewin, Midew**	**9.15 51**		**Pn**		**18 14 27.2 +0.3**
M44A			IAmb_Lg			18 17 09.3
	comp=Z,2μm,1.2s					
M44A	**Midewin, Midew**	**9.15 51**	P			18 14 27.2
	baz=237,SNR=19					
121A	**Cookes Peak, D**	**9.16 251**	P	**Pn**		**18 14 28.0 +0.8**
	baz=65					
PV02	**Paradox Valley**	**9.21 287**	IAmb_Lg			18 17 16.3
	comp=Z,481nm,1.2s					
WCI	**Wyandotte Cave**	**9.25 73**	P	**Pn**		**18 14 28.5 +0.3**
	baz=260					
WCI	**Wyandotte Cave**	**9.25 73**	Pn	**Pn**		**18 14 29.7 +1.5**
WCI			IAmb_Lg			18 17 15.7
	comp=Z,2μm,0.9s					
BLO	**Bloomington**	**9.29 67**		**Pn**		**18 14 29.8 +1.0**
BLO			IAmb_Lg			18 17 13.1
	comp=Z,2μm,0.8s					
SFIN	**Lafayette**	**9.30 59**	P	**Pn**		**18 14 28.9 0.0**
	baz=245,SNR=35					
SFIN	**Lafayette**	**9.30 59**		**Pn**		**18 14 28.8 0.0**
SFIN			IAmb_Lg			18 17 20.2
	comp=Z,1μm,0.8s					
SFIN	**Lafayette**	**9.30 59**	P			18 14 28.9
	baz=245,SNR=42					
PV18	**Skein Mesa, Pa**	**9.35 287**	Pn	**Pn**		**18 14

K43A Burlington 9.76 44 P 18 14 35.5
baz=230,SNR=14
F33A 5 Mile Ranch, 9.86 5 Pn **Pn 18 14 36.2 -0.3**
F33A IAmb_Lg 18 17 50.0
comp=Z,921nm,1.1s
SPMN Marine on St. 9.88 20 P **Pn 18 14 35.9 -0.9**
baz=203,SNR=16
SPMN Marine on St. 9.88 20 Pn **Pn 18 14 36.0 -0.7**
SPMN IAmb_Lg 18 17 29.8
comp=Z,800nm,0.9s
W50A Signal Mountai 9.99 91 Pn 18 14 39.0 +0.6
R49A Shelbyville 10.13 73 Pn 18 14 41.8 +1.5
250A Grady 10.19 110 Pn **Pn 18 14 41.7 +0.6**
P48A Milroy 10.19 67 Pn **Pn 18 14 40.9 -0.2**
P48A Milroy 10.19 67 P 18 14 40.8
baz=254,SNR=13
P48A P 18 14 40.8
baz=254,SNR=13
I42A Draeger Farm, 10.28 37 Pn **Pn 18 14 42.1 -0.1**
I42A Draeger Farm, 10.28 37 P 18 14 42.2
baz=223,SNR=12
F36A Milaca 10.29 16 Pn **Pn 18 14 41.0 -1.4**
X51A Calhoun 10.47 94 Pn **Pn 18 14 45.8 +0.9**
N47A Urbana 10.48 59 Pn **Pn 18 14 43.9 -1.2**
Z51A Franklin 10.53 101 Pn **Pn 18 14 46.8 +1.0**
L46A Eue Claire 10.60 52 Pn 18 14 46.5 -0.1
CPCT Cooper Cave 10.60 89 Pn **Pn 18 14 47.7 +1.0**
V51A Loudon 10.70 87 Pn 18 14 48.9 +0.9
P49A Miami Univ. Ec 10.74 67 P **Pn 18 14 47.8 -0.8**
baz=255,SNR=9.2
P49A Miami Univ. Ec 10.74 67 Pn **Pn 18 14 48.4 -0.2**
P49A Miami Univ. Ec 10.74 67 P 18 14 48.3
baz=255,SNR=7.9
SRU San Rafael Swe 10.76 291 Pn **Pn 18 14 50.1 +1.1**
R50A Paris 10.79 74 Pn 18 14 50.0 +0.8
E28A Huff 10.81 348 Pn 18 14 48.9 -0.6
D32A Dogwood Acres, 11.12 2 Pn **Pn 18 14 53.3 -0.4**
TKL Tuckaleechee C 11.18 88 Pn **Pn 18 14 53.7 -1.0**
comp=Z,0.8nm,0.3s,baz=252,slow=8.3,SNR=5.2
TKL Lg Lg 18 17 55.6
comp=Z,17nm,0.3s,baz=41,slow=11,SNR=4.3
TKL LR LR 18 18 55.5
comp=Z,320nm,18.9s,baz=278,slow=36
TKL Tuckaleechee C 11.18 88 Pn **Pn 18 14 54.7 0.0**
O49A Covington 11.20 64 Pn **Pn 18 14 54.2 -0.7**
O49A Covington 11.20 64 P 18 14 54.1
baz=252,SNR=12
O49A P 18 14 54.1
baz=252,SNR=12
451A Vernon 11.24 115 Pn **Pn 18 14 54.7 -0.7**
H43A Windswept, Lux 11.26 38 Pn **Pn 18 14 54.9 -0.8**
H43A Windswept, Lux 11.26 38 P 18 14 54.9
baz=225,SNR=11
S51A Beattyville 11.29 78 Pn 18 14 56.5 +0.3
TZTN Tazewell 11.31 83 P **Pn 18 14 56.1 -0.3**
baz=271,SNR=7.8
TZTN Tazewell 11.31 83 Pn 18 14 56.8 +0.5
V52A Sevierville 11.31 87 Pn 18 14 57.1 +0.7
PD31 Pinedale Array 11.48 310 Pn 18 14 58.6 -0.4
PDAR Pinedale Array 11.48 310 Pn **Pn 18 14 58.5 -0.4**
comp=Z,2.3nm,0.3s,baz=127,slow=15,SNR=41
PDAR Lg Lg 18 18 15.2
comp=Z,5.5nm,0.3s,baz=99,slow=20,SNR=2.7
PDAR LR LR 18 19 57.8
comp=Z,963nm,21.2s,baz=122,slow=40
PDAR Pinedale Array 11.48 310 Pn 18 14 58.7 -0.3
BW06 Boulder Array 11.48 310 Pn 18 14 59.1 +0.2
E38A The Farm, Brul 11.49 21 Pn **Pn 18 14 57.7 -1.1**
N49A Columbus Grove 11.56 61 Pn **Pn 18 14 58.2 -1.6**
N49A Columbus Grove 11.56 61 P 18 14 58.1
baz=249,SNR=14
N49A P 18 14 58.1
baz=249,SNR=14
Q51A Peebles 11.66 71 Pn 18 15 00.6 -0.7
L48A N Adams 11.79 56 Pn **Pn 18 15 01.1 -1.9**
L48A N Adams 11.79 56 P 18 15 01.9
baz=244,SNR=21
L48A P 18 15 01.9
baz=244,SNR=21
GOGA Godfrey 11.87 99 P **Pn 18 15 03.4 -0.7**
baz=287
COWI Conover 11.89 30 Pn **Pn 18 15 03.0 -1.4**
MDND Maddock 11.92 353 P **Pn 18 15 03.1 -1.6**
baz=172
BG3 Lake Jocassee 11.95 91 Pn **Pn 18 15 05.2 0.0**
V53A Saluda 11.96 87 Pn 18 15 05.5 +0.2
P51A Williamsport 11.97 69 Pn 18 15 05.4 0.0
F42A Maple Grove Fa 12.05 33 Pn **Pn 18 15 05.1 -1.4**
J47A Sunmer 12.16 50 Pn **Pn 18 15 06.7 -1.4**
J47A Sunmer 12.16 50 P 18 15 06.6
baz=238,SNR=6.3
J47A P 18 15 06.6
baz=238,SNR=6.3
ACSO Alum Creek Sta 12.21 65 P **Pn 18 15 06.8 -1.9**
baz=254,SNR=14
ACSO Alum Creek Sta 12.21 65 Pn **Pn 18 15 07.8 -0.9**
AGMN Agassiz Nation 12.34 5 P **Pn 18 15 08.0 -2.4**
baz=186,SNR=10
553A Crawfordville 12.43 114 Pn **Pn 18 15 10.0 -1.7**
AAM Ann Arbor 12.46 56 P **Pn 18 15 10.6 -1.5**
baz=244,SNR=15
AAM Ann Arbor 12.46 56 Pn **Pn 18 15 10.6 -1.5**
Q52A Bidwell 12.48 72 Pn 18 15 11.9 -0.5
LAO LASA Array 12.49 331 P **Pn 18 15 11.0 -1.6**
baz=146,SNR=23
LAO LASA Array 12.49 331 Pn **Pn 18 15 11.2 -1.4**
M50A Fremont 12.53 60 Pn **Pn 18 15 11.8 -1.2**
HODGE Hodges 12.64 94 Pn **Pn 18 15 14.5 -0.1**
R53A Hurricane 12.65 75 Pn 18 15 14.9 +0.2
B35A Bob, Littlefor 12.65 12 Pn **Pn 18 15 12.4 -2.3**
U54A Nelsons Funny 12.70 83 Pn **Pn 18 15 14.9 -0.5**
P52A Corning 12.71 69 P **Pn 18 15 13.3 -2.2**
baz=258,SNR=17
P52A Corning 12.71 69 Pn **Pn 18 15 14.5 -1.0**
RLMT Red Lodge 12.72 319 P **Pn 18 15 14.7 -1.2**
baz=132,SNR=19
RLMT Red Lodge 12.72 319 Pn **Pn 18 15 15.7 -0.2**
TPAW Teton Pass 12.73 310 Pn **Pn 18 15 16.1 +0.1**
EYMN Ely 12.73 19 P **Pn 18 15 12.4 -3.5**
baz=203,SNR=46
EYMN Ely 12.73 19 Pn **Pn 18 15 13.3 -2.5**
G45A Suttons Bay 12.75 41 Pn **Pn 18 15 13.9 -2.2**
N51A Ashland 12.85 63 Pn **Pn 18 15 15.9 -1.5**
D41A Chassel 12.91 29 Pn **Pn 18 15 15.7 -2.5**
IMW Indian Meadow 12.94 312 Pn **Pn 18 15 17.6 -1.3**
E43A Lone Tree Farm 13.03 34 Pn **Pn 18 15 16.8 -3.1**
O52A Adamsville 13.03 67 Pn **Pn 18 15 17.5 -2.5**
S54A Dingess, Beckl 13.11 77 Pn **Pn 18 15 20.2 -0.9**
255A Hazlehurst 13.15 104 Pn **Pn 18 15 20.5 -1.1**
GLMI Grayling 13.19 44 P **Pn 18 15 18.9 -3.1**
baz=233,SNR=7.5
GLMI Grayling 13.19 44 Pn **Pn 18 15 19.8 -2.3**
KMSC Kings Mountain 13.22 89 P **Pn 18 15 21.2 -1.4**
baz=278
V55A Taylorsville 13.23 86 Pn **Pn 18 15 22.3 -0.4**
P53A Whipple 13.24 70 Pn **Pn 18 15 22.0 -0.8**
GCMT Greycliff 13.38 321 Pn 18 15 24.8 0.0
O53A New Philadelph 13.53 67 P **Pn 18 15 23.3 -3.4**
baz=257,SNR=8.8
BLA Blacksburg 13.81 80 P **Pn 18 15 28.1 -2.4**
baz=270,SNR=10.0
BLA Blacksburg 13.81 80 Pn 18 15 29.6 -1.0
N53A Lisbon 13.94 65 Pn **Pn 18 15 29.6 -2.7**
M53A WI Miller and 14.23 63 P **Pn 18 15 32.5 -3.8**
baz=253,SNR=10
ULM Lac du Bonnet 14.28 4 Pn Pn 18 15 32.6 -4.3
comp=Z,4.4nm,0.3s,baz=185,slow=11,SNR=24
ULM Sn Sn 18 18 02.6 -13
comp=Z,7.8nm,0.3s,baz=97,slow=21,SNR=4.7
ULM Lg Lg 18 19 34.5
comp=Z,5.0nm,0.3s,baz=271,slow=22,SNR=3.9
ULM LR LR 18 21 18.6
comp=Z,558nm,19.4s,baz=192,slow=38
ULM Lac du Bonnet 14.28 4 Pn **Pn 18 15 33.3 -3.6**
BOZ Bozeman (W) 14.31 316 P **Pn 18 15 35.7 -1.9**
baz=127
BOZ Bozeman (W) 14.31 316 Pn **Pn 18 15 37.6 0.0**
MCWV Mont Chateau 14.45 70 P **Pn 18 15 35.9 -3.3**
baz=261
N54A Moraine State 14.60 65 P **Pn 18 15 38.2 -3.1**
baz=256,SNR=9.7
ELK Elko 14.66 294 Pn **Pn 18 15 43.7 +1.3**
comp=Z,0.1nm,0.3s,baz=55,slow=6.1,SNR=2.9
ELK Lg Lg 18 19 54.5
comp=Z,0.1nm,0.3s,baz=175,slow=16,SNR=1.5
ELK LR LR 18 21 22.8
comp=Z,640nm,18.1s,baz=100,slow=37
ERPA Erie 14.92 61 P **Pn 18 15 43.4 -2.3**
baz=252
M54A Oil Creek Stat 14.98 63 P Pn 18 15 42.0 -4.5
baz=254,SNR=10
EGMT Eagleton 15.02 327 P **Pn 18 15 45.0 -2.1**
baz=139,SNR=13
O56A Blue Knob Stat 15.52 68 P **Pn 18 15 49.6 -4.0**
baz=260,SNR=6.9
PFO Pinyon Flats O 15.73 267 Lg Lg 18 20 28.6
comp=Z,0.2nm,0.3s,baz=221,slow=11,SNR=2.2
PFO LR LR 18 22 13.2
comp=Z,317nm,19.4s,baz=84,slow=38
SSPA Standing Stone 16.09 67 P **Pn 18 15 57.7 -3.3**
baz=260
LPIG La Paz 16.20 226 LR LR 18 22 26.4
comp=Z,576nm,19.9s,baz=44,slow=38
SADO Sadowa 16.49 52 Pn **Pn 18 16 00.8 -5.3**
comp=Z,1.7nm,0.3s,baz=258,slow=13,SNR=9.5
SADO Sn **Sn 18 19 06.8 -2.4**
comp=Z,1.4nm,0.3s,baz=170,slow=19,SNR=1.6
SADO Lg Lg 18 20 44.9
comp=Z,5.2nm,0.3s,baz=222,slow=7.9,SNR=1.8
SADO LR LR 18 22 39.1
comp=Z,1µm,19.9s,baz=266,slow=38
SADO Sadowa 16.49 52 Pn **Pn 18 16 00.9 -5.3**
NVAR Mina Array Bea 16.71 284 Pn **P 18 16 11.8 +0.3**
comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=5.4
NVAR Lg Lg 18 21 05.0
comp=Z,0.1nm,0.3s,baz=38,slow=16,SNR=1.5
NVAR LR LR 18 23 07.5
comp=Z,357nm,19.3s,baz=90,slow=39
K56A Middlesex 16.98 61 P **Pn 18 16 08.6 -3.7**
baz=254,SNR=7.7
P60A Greenville 17.69 71 P **Pn 18 16 18.4 -2.7**
baz=265
ALGO Algonquin Park 17.71 50 P **Pn 18 16 17.3 -4.1**
baz=243,SNR=43
N59A State Game Lan 17.72 67 P **Pn 18 16 17.7 -3.9**
baz=261,SNR=7.3
BINY Binghamton 17.81 63 P **Pn 18 16 19.3 -3.4**
baz=257
L58A Harry Jones Me 17.87 64 P **Pn 18 16 20.2 -3.3**
baz=257,SNR=7.8
I57A Carthage 18.50 58 P **P 18 16 28.2 -2.9**
baz=252,SNR=8.0
J58A Remsen 18.60 60 P **P 18 16 29.5 -2.6**
baz=254,SNR=9.7
H57A Richville 18.85 57 P **P 18 16 31.6 -3.3**
baz=251,SNR=11
I58A Old Forge 18.91 59 P **P 18 16 33.7 -1.9**
baz=254,SNR=9.8
NEW Newport 18.93 316 P **P 18 16 36.5 +0.8**
comp=Z,0.6nm,0.3s,baz=130,slow=14,SNR=6.4
NEW Lg Lg 18 22 07.0
comp=Z,0.3nm,0.3s,baz=319,slow=23,SNR=1.7
NEW LR LR 18 24 25.9
comp=Z,627nm,21.3s,baz=124,slow=38
PAL Palisades 19.13 68 P **P 18 16 35.9 -2.0**
baz=262
LONY Lake Ozonia 19.45 57 P **P 18 16 40.2 -1.2**
baz=252,SNR=11
J05D Fort Rock, OR 19.60 299 P **P 18 16 42.6 -0.6**
baz=104
H58A Gabriels 19.66 58 P **P 18 16 42.8 -1.0**
baz=253,SNR=14
I59A Olmsteadville 19.70 60 P **P 18 16 42.7 -1.5**
baz=255,SNR=9.9
K61A Williamstown 19.88 63 P **P 18 16 43.8 -2.3**
baz=259,SNR=9.8
J60A Lant Hill Farm 19.89 61 P **P 18 16 45.1 -1.1**
baz=257,SNR=8.6
LSQQ Lebel-sur-Quev 19.90 43 P **P 18 16 45.0 -1.3**
baz=237
MATQ Matagami 19.95 40 P **P 18 16 46.2 -0.6**
baz=234,SNR=14
H59A Cadyville 20.07 57 P **P 18 16 48.1 0.0**
baz=253,SNR=10
I60A Shoreham 20.12 60 P **P 18 16 47.5 -1.2**
baz=255,SNR=9.7
B08A Colville Reser 20.24 314 P **P 18 16 51.2 +1.2**
L61B Northampton 20.26 64 P **P 18 16 51.1 +0.8**
baz=260,SNR=17
O02D Mt. Diablo Mer 20.28 289 P **P 18 16 49.8 -0.8**
baz=94
N02D Trinity Center 20.28 292 P **P 18 16 48.8 -1.8**
baz=96
MCCM Marconi Confer 20.31 284 P **P 18 16 51.7 +0.9**
YBH Yreka Blue Hor 20.38 294 P **P 18 16 52.6 +0.9**
comp=Z,8.2nm,0.8s,baz=85,slow=5.8,SNR=15
YBH LR LR 18 25 01.0
comp=Z,286nm,18.1s,baz=94,slow=38
M02C Callahan 20.44 293 P **P 18 16 52.6 +0.3**
baz=97
EDM Edmonton 20.48 332 P **P 18 16 53.3 +0.7**
EDM IAmb IAmb 18 17 01.0
comp=Z,27nm,0.7s
J61A Chester 20.53 61 P **P 18 16 52.6 -0.6**
baz=258
LTY Liberty 20.54 310 P **P 18 16 54.1 +0.8**
LTY IAmb IAmb 18 17 00.2
comp=Z,42nm,1.8s
I04A Tendick Farm, 20.55 300 P **P 18 16 52.1 -1.4**
baz=104
H04A Detroit Lake 20.62 302 P **P 18 16 52.8 -1.5**
K62A Royalston 20.62 64 P **P 18 16 55.0 +0.8**
baz=260,SNR=6.1
K62A Royalston 20.62 64 P Pn 18 16 56.1 -0.4
K62A IAmb IAmb 18 16 57.5
comp=Z,23nm,0.8s
VT1 Waterbury 20.62 59 P **P 18 16 53.0 -1.3**
VT1 IAmb IAmb 18 17 00.8
comp=Z,22nm,0.9s
H60A Morristown 20.72 58 P **P 18 16 55.4 +0.1**
baz=254
J62A Henniker 21.03 62 P **P 18 16 59.2 +0.5**
baz=259
LON Longmire 21.05 308 P **P 18 16 59.1 +0.2**
HRV Adam Dziewonsk 21.09 64 P **P 18 16 58.4 -0.9**
baz=261
K63A Dunstable 21.14 64 P **P 18 17 00.2 +0.4**
baz=260
LBNH Lisbon 21.18 59 P **P 18 17 00.9 +0.8**
baz=256
M64A Tiverton 21.21 67 P **P 18 17 01.0 +0.4**
baz=264
MOQ Mont Orford 21.24 56 P **P 18 17 01.4 +0.5**
H61A Lyndonville 21.25 59 P **P 18 17 02.1 +1.2**
baz=255
E04D Cinebar 21.47 307 P **P 18 17 05.0 +1.7**
baz=110
I62A Tamworth 21.51 61 P **P 18 17 05.5 +1.8**
baz=258
I62A Tamworth 21.51 61 P **P 18 17 05.2 +1.5**
I62A IAmb IAmb 18 17 09.6
comp=Z,25nm,1.1s
J63A Strafford 21.57 62 P **P 18 17 04.6 +0.3**
baz=259
LATQ La Tuque 21.60 51 P **P 18 17 04.8 +0.1**
baz=247
LATQ La Tuque 21.60 51 P **P 18 17 04.7 +0.1**
LATQ IAmb IAmb 18 17 09.6
comp=Z,32nm,0.9s
G61A St-Isidore-de- 21.72 57 P **P 18 17 06.2 +0.2**
baz=254
H62A Milan 21.79 59 P **P 18 17 07.7 +0.9**
baz=256,SNR=5.2
CHGQ Chibougamau 21.80 43 P **P 18 17 07.5 +0.7**
baz=239,SNR=16
B05A Bryant 21.83 312 P **P 18 17 07.3 +0.2**
baz=115
I63A Otisfield 22.08 60 P **P 18 17 08.8 -1.0**
baz=258,SNR=5.3
I63A Otisfield 22.08 60 P **P 18 17 10.5 +0.7**
L65A Cape Cod Natio 22.13 66 P **P 18 17 08.6 -1.8**
baz=263
D03D Eldon 22.15 309 P **P 18 17 09.1 -1.5**
baz=112
G62A West of Eustis 22.38 57 P **P 18 17 13.4 +0.3**
baz=255,SNR=5.5
G62A West of Eustis 22.38 57 P 18 17 16.0 +2.8
G62A IAmb IAmb 18 17 20.1
comp=Z,21nm,1.2s
ESQI Esquipulas 22.59 159 P **P 18 17 15.8 +0.1**
MTO3 Montecristo 22.74 159 P **P 18 17 17.6 +0.2**
MTO3 IAmb IAmb 18 17 28.8
comp=Z,58nm,1.7s
LLLB Lillooet 22.80 317 P **P 18 17 17.0 -0.5**
F62A Pittston Farm, 22.94 56 P **P 18 17 16.6 -2.5**
baz=254
F62A Pittston Farm, 22.94 56 P **P 18 17 19.6 +0.5**
G63A Kingsbury 22.98 58 P **P 18 17 18.7 -0.8**
baz=256
H64A Troy 23.15 59 P **P 18 17 21.6 +0.4**
baz=258,SNR=5.6
LMQ La Malbaie 23.21 52 P **P 18 17 22.4 +0.6**
LMQ IAmb IAmb 18 17 24.6
comp=Z,25nm,1.0s
PKME Peaks-Kenny Pk 23.24 58 P **P 18 17 20.6 -1.5**
baz=256
E62A Clayton Lake 23.44 54 P **P 18 17 21.9 -2.2**
baz=253
F63A Nahmakanta, Br 23.48 57 P **P 18 17 22.7 -1.7**
baz=256
F63A Nahmakanta, Br 23.48 57 P **P 18 17 27.0 +2.5**
F63A IAmb IAmb 18 18 00.5
comp=Z,23nm,1.1s
G64A Maxfield 23.61 58 P **P 18 17 25.1 -0.7**
baz=257
TGUH Tegucigalpa,Un 23.73 155 P **P 18 17 27.2 0.0**
D62A Allapoint, All 23.89 54 P **P 18 17 28.6 +0.2**
baz=253,SNR=6.0
D62A Allapoint, All 23.89 54 P **P 18 17 30.4 +2.0**
D62A IAmb IAmb 18 17 32.0
comp=Z,20nm,1.1s
F64A Sherman 24.03 57 P **P 18 17 28.1 -1.6**
baz=256
F64A Sherman 24.03 57 P **P 18 17 31.4 +1.6**
F64A IAmb IAmb 18 17 33.0
comp=Z,10.0nm,0.8s
E63A Oxbow 24.12 55 P **P 18 17 31.0 +0.4**
baz=255,SNR=8.4
E63A Oxbow 24.12 55 P **P 18 17 31.6 +1.0**
E63A IAmb IAmb 18 17 34.2
comp=Z,20nm,0.9s
EMMW East Machias 24.40 60 P **P 18 17 34.3 +1.1**
G65A Princeton 24.42 59 P **P 18 17 31.7 -1.7**
baz=258
PQI Presque Isle 24.45 55 P **P 18 17 34.6 +0.9**
PQI IAmb IAmb 18 17 36.9
comp=Z,17nm,1.1s
D63A Stockholm 24.49 54 P **P 18 17 33.3 -0.7**
baz=254
E64A Bridgewater 24.51 56 P **P 18 17 34.6 +0.4**
baz=256,SNR=8.9
H66A Whiting 24.52 60 P **P 18 17 34.3 0.0**
baz=260
BBB Bella Bella 26.99 316 LR LR 18 29 37.2
comp=Z,694nm,18.3s,baz=130,slow=38
JTS Las Juntas de 28.05 153 LR LR 18 31 33.8
comp=Z,131nm,20.5s,baz=40,slow=42
SCHQ Schefferville 28.26 39 P **P 18 18 08.4 +0.5**
comp=Z,12nm,0.8s,baz=245,slow=8.2,SNR=11
SCHQ LR LR 18 29 35.4
comp=Z,508nm,20.2s,baz=246,slow=37
SCHQ Schefferville 28.26 39 P **P 18 18 07.9 0.0**
YKA Yellowknife Ar 28.56 343 P **P 18 18 11.2 +0.7**
comp=Z,1.9nm,0.6s,baz=144,slow=9.0,SNR=9.6
YKA LR LR 18 30 22.7
comp=Z,169nm,20.5s,baz=0.0,slow=38
ROSC El Rosal 37.67 140 LR LR 18 38 21.4
comp=Z,97nm,18.4s,baz=70,slow=42
EPYK Eagle Plains 37.90 336 P **P 18 19 30.9 -0.9**
baz=124
CRQE Cirque 37.93 325 P **P 18 19 31.3 -0.9**
baz=110
INK Inuvik 38.06 339 P **P 18 19 34.7 +1.7**
comp=Z,3.6nm,0.9s,baz=131,slow=4.9,SNR=6.0
INK Inuvik 38.06 339 P **P 18 19 31.4 -1.6**
baz=130
M26K Nabesna, AK 38.47 328 P **P 18 19 35.5 -1.2**
baz=112
EGAK Eagle 38.70 332 P **P 18 19 35.7 -2.8**
baz=117
K27K Chicken 38.73 330 P **P 18 19 38.1 -0.7**
baz=115
L26K Log Cabin Wild 38.86 329 P **P 18 19 39.8 -0.1**
baz=112
SCRK Sand Creek 39.48 330 P **P 18 19 42.1 -3.1**
baz=112
ILAR Eielson Array 40.95 330 P **P 18 19 59.2 +2.0**
comp=Z,5.5nm,0.6s,baz=108,slow=6.7,SNR=34
ILAR LR LR 18 38 36.5
comp=Z,393nm,18.2s,baz=118,slow=39
ILAR Eielson Array 40.95 330 P **P 18 19 58.8 +1.6**
SUA Susitna One 41.70 325 P **P 18 20 02.1 -1.4**
baz=103
H24K Noodor Dome 41.71 332 P **P 18 20 02.8 -0.7**
baz=110
TRF Thorofare Moun 41.97 328 P **P 18 20 05.3 -0.5**
baz=105
KDAK Kodiak Island 42.00 319 P **P 18 20 05.7 -0.1**
baz=97
I23K Minto, Yukon-K 42.07 330 P **P 18 20 06.4 +0.1**
baz=108
SKT Skwentna 42.17 325 P **P 18 20 07.3 0.0**
baz=102
H23K Yukon River 42.35 331 P **P 18 20 07.9 -0.9**
baz=109
BPAW Bear Paw Mtn. 42.44 328 P **P 18 20 09.1 -0.3**
baz=105
MLY Manley 42.59 330 P **P 18 20 08.1 -2.5**
baz=106
PPLA Purkeypile 42.67 327 P **P 18 20 10.9 -0.6**
baz=103
I21K Tanana 43.14 330 P **P 18 20 15.2 +0.1**
baz=105,SNR=6.4
L19K White Mountain 43.75 325 P **P 18 20 20.9 +0.9**
baz=99
J20K Nowinta River 43.80 328 P **P 18 20 21.7 +1.2**
baz=102,SNR=6.5
N18K Kilae Creek 44.03 323 P **P 18 20 23.8 +1.4**
baz=97
LPAZ La Paz 59.00 147 P **P 18 22 14.1 -1.4**
comp=Z,1.0nm,0.6s,baz=11,slow=6.7,SNR=4.5
LPAZ LR LR 18 52 13.5
comp=Z,92nm,18.2s,baz=314,slow=41
ARCES ARCESS Array B 66.89 19 P **P 18 23 06.3 -0.4**
comp=Z,5.9nm,0.9s,baz=318,slow=6.5,SNR=5.7
ARCES LR LR 18 50 01.1
comp=Z,46nm,20.5s,baz=330,slow=34
NOA NORSAR Array B 67.38 30 LR LR 18 51 47.0
comp=Z,112nm,19.3s,baz=300,slow=35
MA2 Magadan 69.42 330 LR LR 18 57 13.7
comp=Z,186nm,19.6s,baz=46,slow=39
PETK Petropavlovsk- 69.97 322 LR LR 18 55 17.9
comp=Z,62nm,19.5s,baz=64,slow=37
ESDC Sonseca Array 70.53 55 P **P 18 23 31.1 +1.2**
comp=Z,1.3nm,0.8s,baz=313,slow=6.5,SNR=7.0
ESDC LR LR 18 53 14.7
comp=Z,178nm,18.4s,baz=285,slow=35
ESDC Sonseca Array 70.53 55 IAmb IAmb 18 23 32.3
comp=Z,7.0nm,1.6s
PPT Papeete 72.54 232 LR LR 18 49 24.9
comp=Z,109nm,18.8s,baz=4.0,slow=31
FINES FINESS Array B 72.68 25 P **P 18 23 43.1 +0.8**
comp=Z,3.1nm,0.7s,baz=295,slow=3.5,SNR=18
CPUP Villa Florida 72.70 143 LR LR 19 01 50.1
comp=Z,31nm,19.3s,baz=33,slow=41
CLL Collm 73.91 38 *eP* **P 18 23 52.0 +2.2**
CLL *e*SS SS 18 38 11.0 +6.1
CLL Lm MLR 18 55 00.0
comp=Z,100nm,20.2s
NRIK Noril'sk 74.89 358 LR LR 18 58 49.0
comp=Z,78nm,18.7s,baz=22,slow=37
YAK Yakutsk 75.13 339 LR LR 19 03 11.4
comp=Z,48nm,19.2s,baz=3.5,slow=41
FETA Feichten 75.34 42 *eP* **P 18 24 00.6 +2.1**
comp=Z,6.1nm,1.3s
GERES GERESS Array B 75.79 39 P **P 18 24 00.3 -0.7**
comp=Z,0.5nm,0.6s,baz=346,slow=2.8,SNR=3.9
GERES LR LR 18 58 41.7
comp=Z,83nm,18.4s,baz=317,slow=37
ABTA Abfaltersbach 76.47 42 *eP* **P 18 24 06.6 +1.7**
comp=Z,7.4nm,1.5s
OBKA Obir 77.71 41 *eP* **P 18 24 13.1 +1.2**
comp=Z,4.2nm,0.8s
SOKA Soboth 77.86 41 *eP* **P 18 24 14.0 +1.3**
comp=Z,3.2nm,0.8s
KEST Kesra 81.44 52 LR LR 19 00 07.3
comp=Z,206nm,18.6s,baz=322,slow=35
AKASG Malin Array Be 81.76 31 P **P 18 24 33.8 +0.2**
comp=Z,0.8nm,0.6s,baz=309,slow=4.4,SNR=5.8
AKASG LR LR 19 00 45.4

comp=Z,92nm,18.7s,baz=295,slow=36
ASAJ Asahikawa 83.38 321 LR LR 19 02 53.1
comp=Z,54nm,21.2s,baz=32,slow=36
KLR Kul'dur 84.52 330 LR LR 19 07 40.8
comp=Z,87nm,18.0s,baz=30,slow=39
USRK Ussuriysk Ar. 88.38 327 LR LR 19 07 24.6
comp=Z,93nm,18.4s,baz=20,slow=37
ZALV Zalesovo Beam 90.38 359 P **P** **18 25 17.3 +1.3**
comp=Z,1.1nm,0.6s,baz=337,slow=6.4,SNR=5.9
ZALV LR LR 19 10 20.5
comp=Z,53nm,18.4s,baz=22,slow=39
MJAR Matsushiro Arr 91.17 318 LR LR 19 11 23.2
comp=Z,32nm,18.1s,baz=320,slow=39
BRTR Keskin Array B 92.23 36 LR LR 19 08 47.8
comp=Z,58nm,18.3s,baz=311,slow=37
SONM Songino Array 93.82 344 P **P** **18 25 34.2 +1.9**
comp=Z,0.4nm,0.6s,baz=10,slow=12,SNR=4.0
SONM LR LR 19 11 27.6
comp=Z,96nm,21.0s,baz=24,slow=38
KSRS Korea Array 95.62 325 LR LR 19 13 18.3
comp=Z,50nm,18.2s,baz=34,slow=38
JCJ Chichijima 95.69 309 LR LR 19 04 09.1
comp=Z,56nm,19.6s,baz=264,slow=32
MKAR Makanchi Array 97.56 0 P **P** **18 25 48.3 -0.9**
comp=Z,0.3nm,0.9s,baz=350,slow=4.4,SNR=2.4
ASAR Alice Springs 134.19 271 PKP **PKiKP** **18 31 34.9 +0.5**
comp=Z,0.2nm,0.6s,baz=70,slow=2.1,SNR=4.9
MAW Mawson 146.45 167 PKPbc **PKPbc** **18 31 56.1 +1.0**
comp=Z,1.6nm,0.5s,baz=142,slow=5.2,SNR=9.1

*IDC **27** 18:18:37.9±0.9,23°.46N×143°.56E,h0km,mb3.9/13, mb1 4.1/15,mb1mx3.9/44,mbtmp3.9/15,ML3.8/2,MS3.2/7, Ms1 3.2/7,ms1mx2.9/40 Error ellipse: s-maj=34.0km s-min=14.8km az=82.0*
*NEIC **27** 18:18:39.6±0.8,23°.5N±0°.1×143°.8E±0°.3,h14km±8km, mb4.7/17,Error ellipse: s-maj=45.7km s-min=16.3km az=82.0*
ISC 27 18:18:39.5±0.9,23°.53N±0°.08×143°.5E±0°.2,h10km,n37, σ1§10/37,mb4.2/22,MS3.1/3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.75**	**341**	Pn	**Pn**	**18 19 38.8**	**+1.3**
	8.7nm,0.3s,baz=101,slow=24,SNR=1.9						
JCJ				Sn	**Sn**	**18 20 19.2**	**-2.5**
	28nm,0.3s,baz=262,slow=22,SNR=6.5						
GUMO	**Guam**	**9.96**	**172**	LR	LR	18 24 21.9	
	comp=Z,100nm,18.8s,baz=14,slow=35						
MJAR	**Matsushiro Arr**	**13.76**	**342**	Pn	**Pn**	**18 21 52.2**	**-2.5**
	0.1nm,0.3s,baz=148,slow=14,SNR=2.9						
MJAR				LR	LR	18 27 28.2	
	comp=Z,75nm,18.2s,baz=170,slow=38						
JOW	**Kunigami**	**14.19**	**287**	LR	LR	18 26 47.7	
	comp=Z,119nm,20.0s,baz=97,slow=34						
JMM	**Marumori**	**14.48**	**351**	Pn	**Pn**	**18 22 03.9**	**-0.7**
KSRS	**Korea Array**	**19.29**	**320**	P	**P**	**18 23 04.4**	**0.0**
	0.2nm,0.3s,baz=129,slow=12,SNR=14						
KSRS				LR	LR	18 30 03.6	
	comp=Z,70nm,19.6s,baz=138,slow=35						
USRK	**Ussuriysk Ar.**	**22.69**	**338**	P	**P**	**18 23 41.7**	**+0.6**
	2.7nm,0.7s,baz=142,slow=10,SNR=5.7						
KLR	**Kul'dur**	**27.28**	**343**	P	**P**	**18 24 25.7**	**+1.7**
	2.4nm,0.7s,baz=146,slow=8.6,SNR=15						
KLR				LR	LR	18 34 51.4	
	comp=Z,53nm,19.8s,baz=126,slow=36						
SONM	**Songino Array**	**38.15**	**319**	P	**P**	**18 25 58.9**	**-0.2**
	0.5nm,0.6s,baz=108,slow=4.7,SNR=4.0						
SONM				LR	LR	18 42 33.0	
	comp=Z,47nm,18.3s,baz=98,slow=38						
CMAR	**Chiang Mai Arr**	**41.80**	**272**	P	**P**	**18 26 29.9**	**+0.3**
	0.7nm,0.6s,baz=60,slow=7.7,SNR=5.6						
CMAR				LR	LR	18 45 20.8	
	comp=Z,24nm,18.4s,baz=186,slow=38						
WB0	**Warramunga Arr**	**43.94**	**192**	P	**P**	**18 26 45.3**	**-1.5**
WB0				IAmb	IAmb	18 27 01.4	
	comp=Z,7.5nm,1.1s						
WR0	**Warramunga Arr**	**44.10**	**192**	P	**P**	**18 26 47.1**	**-1.0**
WR0				IAmb	IAmb	18 26 49.3	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**44.11**	**192**	P	**P**	**18 26 45.4**	**-2.8**
WB2	**Warramunga Arr**	**44.12**	**192**	P	**P**	**18 26 47.1**	**-1.1**
WB2				IAmb	IAmb	18 27 00.3	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**44.12**	**192**	P	**P**	**18 26 47.6**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=9.6,slow=8.1,SNR=21						
WRA				PcP	**PcP**	**18 28 33.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=7.0,slow=3.8,SNR=2.0						
WRA	**Warramunga Arr**	**44.12**	**192**	P	**P**	**18 26 46.5**	**-1.8**
ASAR	**Alice Springs**	**47.83**	**192**	P	**P**	**18 27 16.6**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=14,slow=9.5,SNR=12						
ZALV	**Zalesovo Beam**	**52.99**	**321**	P	**P**	**18 27 56.2**	**0.0**
	comp=Z,0.8nm,0.4s,baz=103,slow=8.5,SNR=3.8						
MK31	**Makanchi Array**	**53.71**	**312**	P	**P**	**18 28 02.1**	**+0.5**
MKAR	**Makanchi Array**	**53.71**	**312**	P	**P**	**18 28 02.5**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=86,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**53.71**	**312**	P	**P**	**18 28 02.3**	**+0.6**
MAKZ	**Makanchi**	**53.92**	**312**	P	**P**	**18 28 02.9**	**-0.4**
STKA	**Stephens Creek**	**55.12**	**182**	P	**P**	**18 28 11.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=348,slow=9.5,SNR=3.5						
ILAR	**Eielson Array**	**60.28**	**28**	P	**P**	**18 28 47.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=264,slow=6.2,SNR=6.3						
BRVK	**Borovoye**	**61.56**	**319**	P	**P**	**18 28 57.6**	**+0.8**
BRVK				IAmb	IAmb	18 28 58.4	
	comp=Z,8.4nm,0.8s						
KK31	**Karatay Array**	**62.18**	**308**	P	**P**	**18 29 02.1**	**+0.9**
KK31				IAmb	IAmb	18 29 03.0	
	comp=Z,6.4nm,0.8s						
KKAR	**Karatay Array**	**62.18**	**308**	P	**P**	**18 29 01.5**	**+0.3**
KKAR	**Karatay Array**	**62.18**	**308**	P	**P**	**18 29 01.9**	**+0.6**
KKAR				IAmb	IAmb	18 29 03.0	
	comp=Z,6.4nm,0.8s						
GAR	**Garm**	**62.91**	**303**	P	**P**	**18 29 06.9**	**+0.7**
CHGR	**Chuyangaron**	**63.86**	**303**	P	**P**	**18 29 13.5**	**+1.0**
KBL	**Kabul**	**64.74**	**298**	P	**P**	**18 29 19.0**	**+0.5**
KBL				IAmb	IAmb	18 29 20.6	
	comp=Z,7.8nm,0.8s						
ARU	**Arti**	**67.99**	**323**	P	**P**	**18 29 38.9**	**+0.3**
ARU				IAmb	IAmb	18 29 39.9	
	comp=Z,10nm,1.2s						
ABKAR	**Akbulak array**	**68.46**	**316**	P	**P**	**18 29 41.8**	**+0.1**
ABKAR				IAmb	IAmb	18 29 42.6	
	comp=Z,1.8nm,0.8s						
ABKAR	**Akbulak array**	**68.46**	**316**	P	**P**	**18 29 41.5**	**-0.3**
ARCES	**ARCESS Array B**	**77.30**	**341**	P	**P**	**18 30 34.7**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=72,slow=8.6,SNR=4.1						
KBZ	**Khabaz**	**81.33**	**314**	P	**P**	**18 30 57.0**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=185,slow=2.3,SNR=4.5						
FINES	**FINESS Array B**	**81.67**	**334**	P	**P**	**18 30 57.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=71,slow=3.3,SNR=6.6						

*NEIC **27** 18:24:23.5±2.1,38°.88N±0°.04×123°.77W±0°.05,h8km±6km, Error ellipse: s-maj=6.1km s-min=4.5km az=47.0*
*NCEDC **27** 18:24:25.2±2.8,38°.91N±0°.04×123°.62W±0°.05,h6km±6km, ML3.5/41,ML2.9/56(NEIC),Error ellipse: s-maj=6.3km s-min=4.2km az=48.0*
*ANF **27** 18:24:26.4±5.5,39°.16N×123°.58W,h0km,ML2.9/5,Error ellipse: s-maj=59.7km s-min=28.2km az=57.0*
ISC 27 18:24:24.1±1.1,38°.90N±0°.03×123°.70W±0°.05,h10km,n61, σ0§95/63,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNAM	**Navarro Ridge**	**0.30**	**11**		**Pg**	**18 24 31.0**	**+0.8**
HOPS	**Hopland Field**	**0.50**	**79**		**Pg**	**18 24 33.8**	**-0.1**
HOPS	**Hopland Field**	**0.50**	**79**		**Sg**	**18 24 41.0**	**+0.5**
HOPS	**Hopland Field**	**0.50**	**79**	IAML		18 24 41.4	
	comp=N,4μm,0.9s						
HOPS				IAML		18 24 42.2	
	comp=E,2μm,0.9s						
FTR	**Fort Ross**	**0.57**	**131**		**Pg**	**18 24 35.6**	**+0.4**
GPMM	**Pine Mountain**	**0.59**	**95**		**Pg**	**18 24 36.0**	**+0.3**
GPMM					**Sg**	**18 24 44.4**	**+0.9**
GDXM	**Geysers**	**0.72**	**97**		**Pg**	**18 24 37.8**	**-0.1**
GDXM				IAML		18 24 42.3	
	comp=E,631nm,0.5s						
GDXM				IAML		18 24 51.4	
	comp=N,813nm,1.0s						
GSGM	**Seigler Mounta**	**0.78**	**92**		**Pg**	**18 24 39.5**	**+0.4**
GCRM	**Castle Rock Sp**	**0.78**	**99**		**Pg**	**18 24 39.1**	**-0.1**
KCPM	**Cahto Peak**	**0.79**	**7**		**Pg**	**18 24 39.8**	**+0.3**
MNRC	**McLaughlin Min**	**0.98**	**91**		**Pg**	**18 24 42.8**	**-0.3**
MCCM	**Marconi Confer**	**0.99**	**139**		**Pg**	**18 24 43.0**	**-0.1**
KBSM	**Bell Springs**	**1.02**	**5**		**Pg**	**18 24 42.9**	**-0.9**
GASB	**Alder Springs**	**1.08**	**45**		**Pg**	**18 24 44.1**	**-0.7**
CVS	**Carmenet Viney**	**1.12**	**119**		**Pb**	**18 24 45.8**	**+0.2**
FARB	**Farallon Islan**	**1.32**	**155**		**Pn**	**18 24 48.0**	**-0.6**
KMRM	**Mail Ridge**	**1.32**	**360**		**Pn**	**18 24 47.5**	**-1.3**
KSMM	**Slide Mountain**	**1.34**	**344**		**Pn**	**18 24 46.9**	**-2.0**
O02D	**Mt. Diablo Mer**	**1.46**	**29**	P	**Pn**	**18 24 49.8**	**-0.9**
	baz=207,SNR=331						
SUTB	**Sutter Butte**	**1.53**	**77**		**Pn**	**18 24 51.7**	**+0.2**
VAK	**Adit at Lawren**	**1.53**	**131**		**Pn**	**18 24 52.3**	**+0.7**
BKS	**Berkeley--Byer**	**1.54**	**131**		**Pn**	**18 24 50.8**	**-0.8**
BDM	**Black Diamond**	**1.72**	**123**		**Pb**	**18 24 55.6**	**-0.3**
ORV	**Oroville**	**1.83**	**68**		**Pn**	**18 24 54.7**	**-1.0**
JRSC	**Jasper Ridge**	**1.89**	**142**		**Pn**	**18 24 54.2**	**-2.2**
WDC	**Whiskeytown Da**	**1.90**	**28**		**Pn**	**18 24 56.4**	**-0.3**
WDC	**Whiskeytown Da**	**1.90**	**28**	Pn	**Pn**	**18 24 56.2**	**-0.5**
JCC	**Jacoby Creek,**	**1.93**	**353**	Pn	**Pn**	**18 24 57.6**	**+0.6**
JCC					**Pg**	**18 25 02.9**	**+1.7**
JCC				IAML		18 25 38.3	
	comp=N,169nm,1.4s						
KHMM	**Horse Mountain**	**1.97**	**359**	Pn	**Pn**	**18 24 57.5**	**-0.3**
O03E	**Paynes Creek**	**2.03**	**46**	P	**Pn**	**18 24 57.9**	**-0.5**
	baz=226,SNR=16						
AFDM	**Forest Hills D**	**2.13**	**88**		**Pn**	**18 24 58.2**	**-1.7**
N02D	**Trinity Center**	**2.21**	**20**	P	**Pn**	**18 25 00.7**	**-0.2**
	baz=199,SNR=19						
MHC	**Mount Hamilton**	**2.25**	**133**		**Pn**	**18 25 00.6**	**-1.0**
LSHM	**Sage Hen Hill**	**2.29**	**34**		**Pn**	**18 25 01.3**	**-0.7**
GHS	**Gilroy Hot Spr**	**2.53**	**135**		**Pn**	**18 25 04.2**	**-1.2**
M02C	**Callahan**	**2.58**	**14**	P	**Pn**	**18 25 05.8**	**-0.1**
	baz=194,SNR=12						
HATC	**Hat Creek Radi**	**2.58**	**41**		**Pn**	**18 25 06.2**	**+0.1**
KRMB	**Red Mountain**	**2.63**	**357**		**Pn**	**18 25 05.7**	**-1.0**
KRMB				IAML		18 26 07.6	
	comp=N,42nm,2.2s						
CMB	**Columbia Colle**	**2.74**	**107**	Pn	**Pn**	**18 25 08.1**	**-0.2**
SAO	**San Andreas Ge**	**2.78**	**139**	Pn	**Pn**	**18 25 09.6**	**+0.9**
YBH	**Yreka Blue Hor**	**2.93**	**15**	Pn	**Pn**	**18 25 11.3**	**+0.4**
PNTR	**Pine Nut**	**3.20**	**85**		**Pn**	**18 25 14.0**	**-0.8**
PNTR				IAML		18 26 09.7	
	comp=N,52nm,0.9s						
WAKR	**Walker**	**3.36**	**95**		**Pn**	**18 25 15.8**	**-1.1**
WAKR				IAML		18 26 22.4	
	comp=E,22nm,1.1s						
WAKR				IAML		18 26 34.1	
	comp=N,22nm,1.5s						
PAHR	**Pah Rah Range**	**3.45**	**75**		**Pn**	**18 25 16.9**	**-1.1**
PAHR				IAML		18 26 30.6	
	comp=N,20nm,1.5s						
YERR	**Yerington**	**3.48**	**87**		**Pn**	**18 25 18.2**	**-0.3**
YERR				IAML		18 26 12.1	
	comp=N,22nm,1.2s						
YERR				IAML		18 26 17.2	
	comp=E,35nm,1.2s						
PMPB	**Monarch Peak**	**3.53**	**138**	Pn	**Pn**	**18 25 19.1**	**0.0**
HUMO	**Hull Mountain**	**3.75**	**8**	Pn	**Pn**	**18 25 22.5**	**+0.5**
HUMO				IAML		18 26 41.3	
	comp=E,14nm,2.3s						
K02D	**Willamette Mer**	**3.79**	**0**	P	**Pn**	**18 25 23.0**	**+0.3**
	baz=179,SNR=15						
K02D				S	**Sn**	**18 26 06.4**	**-1.1**
	baz=179						
MDPB	**Devils Postpil**	**3.85**	**108**	Pn	**Pn**	**18 25 25.1**	**+1.4**
MDPB				IAML		18 26 31.2	
	comp=E,16nm,1.1s						
MDPB				IAML		18 26 38.1	
	comp=N,18nm,1.0s						
MOD	**Modoc Plateau**	**3.97**	**40**		**Pn**	**18 25 25.9**	**+0.7**
MOD				IAML		18 26 48.8	
	comp=E,14nm,1.5s						
MOD				IAML		18 26 50.0	
	comp=N,13nm,2.8s						
RYN	**Ryan**	**4.06**	**92**		**Pn**	**18 25 28.1**	**+1.6**
RYN				IAML		18 26 45.6	
	comp=E,17nm,3.1s						
RYN				IAML		18 26 56.0	
	comp=N,12nm,1.6s						
LHV	**Little Huntoon**	**4.13**	**97**		**Pb**	**18 25 37.6**	**+0.8**
LHV				IAML		18 26 57.9	
	comp=N,22nm,1.6s						
LHV				IAML		18 27 14.4	
	comp=E,26nm,1.4s						
PAGB	**Antelope Grade**	**4.19**	**138**		**Pn**	**18 25 29.2**	**+1.0**
THIS	**South End of C**	**4.21**	**138**		**Pb**	**18 25 37.4**	**-0.9**
NVAR	**Mina Array Bea**	**4.25**	**95**	Pn	**Pn**	**18 25 29.2**	**+0.1**
NV11	**Mina Array Sit**	**4.37**	**94**	Pn	**Pn**	**18 25 30.4**	**-0.3**
NV11				IAML		18 27 07.2	
	comp=N,13nm,1.5s						
NV11				IAML		18 27 15.7	
	comp=E,16nm,4.3s						
KVN	**Kaiserville**	**4.37**	**86**		**Pn**	**18 25 30.6**	**-0.1**
KVN				IAML		18 27 01.2	
	comp=N,9.9nm,4.0s						
K05A	**Summer Lake**	**4.38**	**28**		**Pn**	**18 25 32.0**	**+1.1**
K05A				IAML		18 27 04.7	
	comp=N,16nm,2.0s						
K05A				IAML		18 27 26.0	
	comp=E,17nm,4.5s						
WVOR	**Wild Horse Val**	**5.23**	**46**	Pn	**Pn**	**18 25 41.0**	**-1.5**
WVOR				IAML		18 26 32.0	
	comp=E,9.9nm,4.8s						
WVOR				IAML		18 27 54.5	
	comp=E,7.1nm,4.0s						
ISA	**Isabella, Lake**	**5.27**	**126**	Pn	**Pn**	**18 25 45.2**	**+2.2**
ISA				IAML		18 28 00.2	
	comp=E,7.5nm,5.0s						
ISA				IAML		18 29 02.5	
	comp=N,6.3nm,4.2s						
GSC	**Goldstone, Bar**	**6.58**	**121**		**Pn**	**18 25 58.9**	**-2.1**

*IDC **27** 18:57:20.6±2.5,19°.21N×145°.50E,h147km±25km, mb3.7/13,mb1 3.7/15,mb1mx3.4/67,mbtmp4.0/15,Error ellipse: s-maj=25.0km s-min=12.5km az=85.0*
*NEIC **27** 18:57:20.2±1.6,19°.27N±0°.10×145°.4E±0°.2,h138km±8km, mb4.1/22,Error ellipse: s-maj=22.1km s-min=13.5km az=77.0*
ISC 27 18:57:21.0±0.6,19°.22N±0°.07×145°.3E±0°.1,h150km,n45, σ0§95/45,mb4.1/23,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.61**	**184**	P	**Pn**	**18 58 43.0**	**+0.3**
	2.3nm,0.3s,baz=179,slow=19,SNR=2.0						
GUMO				S	**Sn**	**18 59 45.0**	**-1.3**
	3.1nm,0.3s,baz=186,slow=24,SNR=2.0						
JMZ	**Minamidaito 2**	**14.53**	**299**	Pn	**Pn**	**19 00 38.3**	**-1.3**
JHJ2	**Mitsune**	**14.66**	**342**	Pn	**Pn**	**19 00 39.7**	**-1.5**
JWT	**Wachi**	**18.22**	**333**	P	**P**	**19 01 20.9**	**-1.7**
JWT				IAmb	IAmb	19 01 36.5	
	comp=Z,15nm,1.5s						
MJAR	**Matsushiro Arr**	**18.33**	**342**	P	**Pn**	**19 01 24.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=154,slow=8.2,SNR=2.1						
MJAR	**Matsushiro Arr**	**18.33**	**342**	IAmb	IAmb	19 01 25.2	
	comp=Z,1.2nm,0.7s						
MAJO	**Matsushiro**	**18.33**	**342**	P	**P**	**19 01 23.2**	**-0.8**
MAJO				IAmb	IAmb	19 01 45.5	
	comp=Z,6.6nm,1.2s						
MJB9	**Matsu-Tunnel**	**18.34**	**342**	P	**P**	**19 01 23.5**	**-0.5**
KSRS	**Korea Array**	**23.65**	**324**	P	**P**	**19 02 19.9**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=145,slow=9.2,SNR=10						
ASAJ	**Asahikawa**	**24.92**	**355**	P	**P**	**19 02 31.6**	**+1.5**
	comp=Z,3.9nm,0.9s,baz=359,slow=27,SNR=3.5						
KLR	**Kul'dur**	**31.85**	**343**	P	**P**	**19 03 32.7**	**+1.0**
	comp=Z,7.0nm,0.6s,baz=141,slow=8.9,SNR=25						
WB0	**Warramunga Arr**	**40.18**	**196**	P	**P**	**19 04 43.5**	**+0.7**
WB0				IAmb	IAmb	19 04 59.5	
	comp=Z,6.8nm,1.1s						
WR0	**Warramunga Arr**	**40.33**	**196**	P	**P**	**19 04 43.0**	**-0.9**
WB2	**Warramunga Arr**	**40.36**	**196**	P	**P**	**19 04 45.0**	**+0.7**
WB2				IAmb	IAmb	19 04 46.5	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**40.36**	**196**	P	**P**	**19 04 45.2**	**+1.0**
	comp=Z,1.7nm,0.4s,baz=15,slow=8.3,SNR=26						
WRA	**Warramunga Arr**	**40.36**	**196**	P	**P**	**19 04 44.3**	**0.0**
SONM	**Songino Array**	**42.47**	**321**	P	**P**	**19 05 02.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=133,slow=8.9,SNR=6.3						
SONM	**Songino Array**	**42.47**	**321**	P	**P**	**19 05 03.0**	**+1.6**
AS31	**Alice Springs**	**44.04**	**195**	P	**P**	**19 05 13.6**	**-0.4**
ASAR	**Alice Springs**	**44.04**	**195**	P	**P**	**19 05 14.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=9.8,slow=8.3,SNR=8.7						
ASAR	**Alice Springs**	**44.04**	**195**	P	**P**	**19 05 14.7**	**+0.7**
YAK	**Yakutsk**	**44.13**	**350**	P	**P**	**19 05 14.9**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=337,slow=1.8,SNR=5.9						
YAK	**Yakutsk**	**44.13**	**350**	P	**P**	**19 05 14.4**	**+0.1**
ZALV	**Zalesovo Beam**	**57.34**	**322**	P	**P**	**19 06 54.1**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=109,slow=7.9,SNR=4.8						
KURK	**Kurchatov**	**60.60**	**318**	P	**P**	**19 07 17.2**	**+1.4**
KURBB	**Kurchatov Arra**	**60.65**	**318**	P	**P**	**19 07 17.2**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=92,slow=7.5,SNR=6.7						
IMAR	**Indian Mountai**	**60.92**	**24**	P	**P**	**19 07 16.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**61.48**	**27**	P	**P**	**19 07 21.1**	**-0.4**
BPAW				IAmb	IAmb	19 07 22.2	
	comp=Z,2.7nm,0.9s						
MLY	**Manley**	**61.83**	**26**	P	**P**	**19 07 23.6**	**-0.3**
I23K	**Minto, Yukon-K**	**62.43**	**26**	P	**P**	**19 07 28.2**	**+0.4**
I23K				IAmb	IAmb	19 07 41.2	
	comp=Z,4.6nm,1.4s						
MDM	**Murphy Dome**	**62.85**	**26**	P	**P**	**19 07 29.8**	**-0.8**
MDM				IAmb	IAmb	19 07 31.4	
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**63.37**	**26**	P	**P**	**19 07 32.3**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=254,slow=4.7,SNR=8.5						
RIDG	**Independent Ri**	**64.06**	**28**	P	**P**	**19 07 38.4**	**-0.2**
RIDG				IAmb	IAmb	19 07 38.6	
	comp=Z,4.0nm,1.0s						
DOT	**Dot Lake**	**64.39**	**28**	P	**P**	**19 07 40.0**	**-0.8**
DOT				IAmb	IAmb	19 07 40.8	
	comp=Z,1.5nm,0.7s						
BMAR	**Burnt Mountain**	**64.81**	**24**	P	**P**	**19 07 44.2**	**+0.8**
BCAR	**Beaver Creek A**	**65.33**	**29**	P	**P**	**19 07 47.0**	**+0.1**
CTGM	**Chitina Glacie**	**65.34**	**31**	P	**P**	**19 07 47.4**	**+0.3**
EGAK	**Eagle**	**65.79**	**27**	P	**P**	**19 07 50.2**	**+0.5**
EGAK				IAmb	IAmb	19 08 13.4	
	comp=Z,3.4nm,1.4s						
HYT	**Haines Junctio**	**67.20**	**31**	P	**P**	**19 07 58.2**	**-0.8**
HYT				IAmb	IAmb	19 08 00.3	
	comp=Z,2.9nm,0.7s						
INK	**Inuvik**	**69.06**	**23**	P	**P**	**19 08 10.0**	**-0.2**
INK				IAmb	IAmb	19 08 11.6	
	comp=Z,3.3nm,1.1s						
ABKAR	**Akbulak array**	**72.67**	**317**	P	**P**	**19 08 32.5**	**+0.1**
ABKAR	**Akbulak array**	**72.67**	**317**	P	**P**	**19 08 32.3**	**0.0**
ABKAR				IAmb	IAmb	19 08 49.0	
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**77.73**	**28**	P	**P**	**19 09 00.5**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=287,slow=5.4,SNR=5.5						
NVAR	**Mina Array Bea**	**83.15**	**52**	P	**P**	**19 09 30.6**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=268,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**86.23**	**335**	P	**P**	**19 09 44.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=57,slow=4.7,SNR=11						

*IDC **27** 19:02:16.9±5.2,18°.54N×145°.32E,h495km±67km, mb2.7/12,mb1 2.9/13,mb1mx2.8/63,mbtmp3.7/13,Error ellipse: s-maj=26.9km s-min=13.2km az=71.0*
ISC 27 19:02:17.3±0.7,18°.5N±0°.1×145°.3E±0°.2,h500km,n13, σ0§69/13,mb3.1/12,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.75**	**301**	P	**P**	**19 05 54.8**	**-0.5**
	1.1nm,0.3s,baz=119,slow=13,SNR=2.3						
KSRS	**Korea Array**	**24.25**	**325**	P	**P**	**19 06 53.7**	**-0.2**
	0.2nm,0.3s,baz=137,slow=9.2,SNR=4.6						
WRA	**Warramunga Arr**	**39.70**	**196**	P	**P**	**19 09 04.8**	**-1.1**
	0.3nm,0.5s,baz=10,slow=8.5,SNR=2.1						
SONM	**Songino Array**	**43.05**	**322**	P	**P**	**19 09 33.1**	**+0.8**
	0.2nm,0.5s,baz=95,slow=30,SNR=1.9						
ASAR	**Alice Springs**	**43.38**	**195**	P	**P**	**19 09 34.8**	**-0.3**
	0.3nm,0.6s,baz=19,slow=6.5,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.87**	**278**	P	**P**	**19 09 39.7**	**+0.7**
	1.2nm,0.6s,baz=72,slow=7.7,SNR=9.0						
DZM	**Mont Dzumac**	**45.33**	**152**	P	**P**	**19 09 50.7**	**+0.4**
	1.8nm,0.5s,baz=168,slow=6.1,SNR=6.4						
STKA	**Stephens Creek**	**50.23**	**184**	P	**P**	**19 10 27.1**	**+0.3**
	0.7nm,0.6s,baz=324,slow=19,SNR=1.1						
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**19 11 24.0**	**+0.2**
	0.2nm,0.5s,baz=92,slow=8.7,SNR=2.3						
KURBB	**Kurchatov Arra**	**61.20**	**318**	P	**P**	**19 11 42.0**	**-0.9**
	0.3nm,0.3s,baz=96,slow=6.8,SNR=6.6						
ILAR	**Eielson Array**	**63.98**	**26**	P	**P**	**19 12 00.3**	**-0.3**
	0.2nm,0.7s,baz=84,slow=15,SNR=2.1						
YKA	**Yellowknife Ar**	**78.33**	**28**	P	**P**	**19 13 24.4**	**-0.6**
	0.1nm,0.3s,baz=275,slow=7.3,SNR=2.3						
NVAR	**Mina Array Bea**	**83.55**	**52**	P	**P**	**19 13 53.4**	**+0.6**
	0.4nm,0.6s,baz=290,slow=5.6,SNR=2.8						

*NNC **27** 19:03:28.6±3.9,37°.71N×77°.92E,h4km±23km,mb3.8, mpv3.5,Error ellipse: s-maj=38.7km s-min=25.4km az=79.0*
*IDC **27** 19:03:39.1±5.5,38°.28N×78°.01E,h17km±28km,mb3.4/3,

h25km±12km, mb3.9/12, ML3.5/25(AEIC), Error ellipse: s-maj=9.0km s-min=3.8km az=165.0
*AEIC **27** 19:10:05±2.6, 52°18N±0'06×169°36W±0'07, h22km±7km, Error ellipse: s-maj=9.7km s-min=5.0km az=152.0*
ISC 27 19:10:05.8±0.8, 52°2N±0'1×169°40W±0'07, h30km, n74, σ1§10/69, mb4.0/23, MS3.1/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**24**		**Pn**	**19 10 20.6**	**-0.7**
OKSP	**Okmok Steeple**	**1.23**	**33**		**Pn**	**19 10 26.3**	**-0.7**
OKTU	**Okmok Mt. Tuli**	**1.42**	**35**		**Pn**	**19 10 29.7**	**+0.1**
OKWE	**Okmok W'ng Wal**	**1.43**	**29**		**Pn**	**19 10 30.3**	**+0.6**
MAPS	**Pakushin South**	**2.17**	**42**		**Pn**	**19 10 40.1**	**+0.2**
MAPS					**Sn**	**19 11 06.2**	**+0.5**
MGOD	**Makushin Gods**	**2.19**	**43**		**Pn**	**19 10 40.8**	**+0.6**
MGOD					**Sn**	**19 11 08.4**	**+2.2**
MNAT	**Makushin Natee**	**2.33**	**44**		**Pn**	**19 10 42.4**	**+0.4**
MNAT					**Sn**	**19 11 12.3**	**+2.6**
UNV	**Unalaska Valle**	**2.38**	**46**		**Pn**	**19 10 43.0**	**+0.3**
MTBL	**Makushin Table**	**2.39**	**42**		**Pn**	**19 10 44.2**	**+1.2**
AKRB	**Akutan Reef Bi**	**2.76**	**45**		**Pn**	**19 10 49.9**	**+1.8**
AKGG	**Akutan Green G**	**2.84**	**45**		**Pn**	**19 10 51.5**	**+2.4**
KOFP	**Korovin Flat P**	**2.89**	**273**		**Pn**	**19 10 51.0**	**+1.2**
AKUT	**Akutan**	**2.90**	**47**	Pn	**Pn**	**19 10 48.3**	**-1.5**
ATKA	**Atka Island**	**2.95**	**271**		**Pn**	**19 10 50.7**	**+0.1**
GSTR	**Great Sitkin T**	**4.10**	**271**	Pn	**Pn**	**19 11 07.2**	**+0.7**
GSMY	**Great Sitkin M**	**4.11**	**270**		**Pn**	**19 11 07.5**	**+1.0**
GSTD	**Great Sitkin T**	**4.16**	**270**		**Pn**	**19 11 08.2**	**+0.9**
ADK	**Adak**	**4.51**	**268**		**Pn**	**19 11 12.4**	**+0.4**
KIWB	**Kanaga Island**	**4.80**	**269**		**Pn**	**19 11 16.9**	**+0.8**
TAPA	**Tanaga Point A**	**5.21**	**269**		**Pn**	**19 11 22.7**	**+0.9**
CNBA	**Chernabura Isl**	**6.40**	**62**	Pn	**Pn**	**19 11 37.7**	**-0.2**
AMKA	**Amchitka**	**7.06**	**268**		**Pn**	**19 11 48.0**	**+1.0**
OHAK	**Old Harbor**	**10.56**	**55**	Pn	**Pn**	**19 12 33.7**	**-1.3**
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**19 12 43.5**	**+0.9**
	0.6nm,0.3s,baz=248,slow=7.2,SNR=11						
KDAK	**Kodiak Island**	**11.13**	**53**	Pn	**Pn**	**19 12 42.0**	**-0.7**
SEW	**Seward**	**13.58**	**47**	Pn	**Pn**	**19 13 14.5**	**-1.6**
GLI	**Glacier Island**	**14.97**	**46**	Pn	**Pn**	**19 13 34.1**	**-0.9**
HIN	**Hinchinbrook I**	**15.04**	**48**	Pn	**Pn**	**19 13 36.0**	**0.0**
FID	**Port Fidalgo**	**15.19**	**47**	Pn	**Pn**	**19 13 35.9**	**-2.0**
BPAW	**Bear Paw Mtn.**	**15.28**	**32**	Pn	**Pn**	**19 13 38.7**	**-0.3**
BPAW				IAmb	IAmb	19 13 51.2	
	comp=Z,3.8nm,0.7s						
SCM	**Sheep Creek Mo**	**15.31**	**42**	Pn	**Pn**	**19 13 38.2**	**-1.3**
SCM				IAmb	IAmb	19 14 03.4	
	comp=Z,11nm,1.2s						
KLU	**Klutina**	**15.75**	**45**		**Pn**	**19 13 44.0**	**-1.2**
KLU				IAmb	IAmb	19 13 44.6	
	comp=Z,6.7nm,0.6s						
M24K	**Tolsona, Glenn**	**15.92**	**43**	Pn	**Pn**	**19 13 45.7**	**-1.7**
N25K	**Chitina, Valde**	**16.37**	**45**	Pn	**Pn**	**19 13 52.0**	**-1.2**
N25K				IAmb	IAmb	19 14 07.0	
	comp=Z,10nm,1.5s						
I23K	**Minto, Yukon-K**	**16.50**	**31**		**Pn**	**19 13 55.7**	**+0.9**
GLB	**Gilahina Butte**	**16.65**	**46**	Pn	**Pn**	**19 13 54.0**	**-2.8**
VRDI	**Verde Repeater**	**16.74**	**47**	Pn	**Pn**	**19 13 56.1**	**-1.8**
VRDI				IAmb	IAmb	19 14 07.8	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**17.08**	**34**	P	**Pn**	**19 14 01.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=227,slow=10,SNR=4.8						
SCRK	**Sand Creek**	**17.70**	**39**		**Pn**	**19 14 08.5**	**-1.3**
BMAR	**Burnt Mountain**	**19.46**	**29**	P	**P**	**19 14 29.6**	**-0.1**
PETK	**Petropavlovsk-**	**19.88**	**286**	P	**P**	**19 14 33.9**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=84,slow=14,SNR=48						
PETK				LR	LR	19 21 42.0	
	comp=Z,21nm,21.5s,baz=122,slow=35						
PETK	**Petropavlovsk-**	**19.88**	**286**	P	**P**	**19 14 33.4**	**-1.0**
MA2	**Magadan**	**23.20**	**304**	P	**P**	**19 15 10.2**	**+0.3**
	comp=Z,7.4nm,1.0s,baz=86,slow=14,SNR=2.4						
MA2				LR	LR	19 25 07.9	
	comp=Z,28nm,18.5s,baz=50,slow=39						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**19 15 12.3**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=239,slow=6.0,SNR=5.7						
INK	**Inuvik**	**23.47**	**33**	P	**P**	**19 15 11.6**	**-0.8**
INK				IAmb	IAmb	19 15 13.1	
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**30.35**	**49**	P	**P**	**19 16 15.3**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=273,slow=7.7,SNR=6.9						
YBH	**Yreka Blue Hor**	**33.00**	**90**	LR	LR	19 27 34.0	
	comp=Z,44nm,19.2s,baz=334,slow=32						
KLR	**Kul'dur**	**36.49**	**289**	P	**P**	**19 17 06.4**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=67,slow=8.0,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**37.33**	**219**	T	T	19 58 02.5	
	baz=24,slow=76,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	19 58 02.9	
	baz=24,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**37.35**	**219**	T	T	19 57 38.8	
	baz=24,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**38.52**	**218**	T	T	19 58 36.7	
	baz=23,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	19 58 38.5	
	baz=23,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	19 58 37.2	
	baz=23,slow=76,SNR=18						
PDAR	**Pinedale Array**	**40.45**	**79**	P	**P**	**19 17 42.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=292,slow=3.9,SNR=7.0						
KSRS	**Korea Array**	**45.40**	**277**	P	**P**	**19 18 22.1**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=57,slow=7.4,SNR=5.8						
NRIK	**Noril'sk**	**46.54**	**332**	P	**P**	**19 18 29.8**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=113,slow=5.3,SNR=2.8						
TLY	**Talaya**	**50.41**	**306**	P	**P**	**19 19 00.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=330,slow=4.0,SNR=2.6						
SONM	**Songino Array**	**51.36**	**301**	P	**P**	**19 19 06.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=48,slow=8.9,SNR=5.5						
LPIG	**La Paz**	**52.49**	**99**	LR	LR	19 36 06.7	
	comp=Z,27nm,19.0s,baz=2.5,slow=30						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**19 19 18.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=303,slow=7.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**57.51**	**318**	P	**P**	**19 19 51.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=74,slow=7.9,SNR=3.7						
ARCES	**ARCESS Array B**	**58.06**	**354**	P	**P**	**19 19 55.2**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=12,slow=6.2,SNR=6.6						
ARCES				LR	LR	19 46 55.2	
	comp=Z,12nm,18.3s,baz=335,slow=38						
MKAR	**Makanchi Array**	**63.89**	**313**	P	**P**	**19 20 33.9**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=57,slow=7.1,SNR=6.7						
ARU	**Arti**	**64.73**	**333**	P	**P**	**19 20 40.3**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=99,slow=8.8,SNR=3.6						
FINES	**FINESS Array B**	**66.00**	**352**	P	**P**	**19 20 48.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=18,slow=6.8,SNR=5.6						
NOA	**NORSAR Array B**	**67.08**	**360**	P	**P**	**19 20 56.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=360,slow=6.1,SNR=3.5						
BELG	**Belogornoye**	**71.21**	**337**	P	**P**	**19 21 22.4**	**+1.0**
	comp=Z,6.1nm,0.8s,baz=56,slow=0.9,SNR=3.4						
AKASG	**Malin Array Be**	**76.24**	**348**	P	**P**	**19 21 50.2**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=16,slow=6.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**76.63**	**283**	P	**P**	**19 21 54.1**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=28,slow=6.1,SNR=9.6						
GERES	**GERESS Array B**	**79.27**	**358**	P	**P**	**19 22 08.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=27,slow=6.7,SNR=2.9						
BRTR	**Keskin Array B**	**86.25**	**342**	P	**P**	**19 22 45.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=8.5,slow=9.2,SNR=2.6						
ESDC	**Sonseca Array**	**87.59**	**11**	P	**P**	**19 22 51.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=8.3,slow=3.2,SNR=4.2						
ASAR	**Alice Springs**	**90.29**	**230**	P	**P**	**19 23 03.0**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=42,slow=4.3,SNR=2.3						

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*IDC **27** 19:20:12.6±2.4, 59°92N×153°30W, h83km±35km, mb3.3/3, mb1 3.4/6, mb1mx3.1/56, mbtmp3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/27, Error ellipse: s-maj=40.3km s-min=19.0km az=104.0*
*ANF **27** 19:20:14.1±0.3, 59°85N×152°88W, h112km±3km, ML3.4/36, Error ellipse: s-maj=3.1km s-min=2.2km az=108.0*
*NEIC **27** 19:20:14.6±0.9, 59°87N±0°03×152°94W±0°08, h113km±4km, Error ellipse: s-maj=5.5km s-min=4.4km az=94.0*
*AEIC **27** 19:20:15.8±1.3, 59°87N±0°03×152°94W±0°07, h107km±4km, ML3.1/132, ML3.5/94(NEIC), Error ellipse: s-maj=5.3km s-min=4.7km az=99.0*
ISC 27 19:20:14.3±0.9, 59°85N±0°03×152°91W±0°03, h117km±5km, n225, σ0§78/241, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.13**	**322**		**Pn**	**19 20 30.2**	**-0.4**
IVE	**Iliamna Volcan**	**0.17**	**342**		**Pn**	**19 20 30.1**	**-0.6**
IVE					**Sn**	**19 20 42.0**	**-1.1**
OPT	**Oil Point**	**0.26**	**219**		**Pn**	**19 20 30.7**	**-0.2**
P19K	**Oil Pt**	**0.26**	**219**	P	**Pn**	**19 20 30.6**	**-0.2**
	baz=34,SNR=70						
P19K				S	**Sn**	**19 20 42.5**	**-0.8**
	baz=34						
P19K	**Oil Pt**	**0.26**	**219**		**Pn**	**19 20 30.6**	**-0.2**
P19K					**Sn**	**19 20 42.6**	**-0.7**
O20K	**Slope Mountain**	**0.27**	**32**	P	**Pn**	**19 20 30.8**	**-0.1**
	baz=216,SNR=49						
O20K				S	**Sn**	**19 20 42.6**	**-0.9**
	baz=216						
O20K	**Slope Mountain**	**0.27**	**32**		**Pn**	**19 20 30.8**	**-0.1**
O20K					**Sn**	**19 20 42.9**	**-0.6**
AU22	**Augustine Moun**	**0.54**	**205**		**Pn**	**19 20 32.0**	**-0.1**
AU22					**Sn**	**19 20 45.2**	**-0.4**
AUL	**Augustine Lava**	**0.54**	**210**		**Pn**	**19 20 32.1**	**-0.1**
AUL					**Sn**	**19 20 45.4**	**-0.3**
AGU	**Augustine-Summ**	**0.56**	**208**		**Pn**	**19 20 32.5**	**0.0**
AGU					**Sn**	**19 20 45.1**	**-1.1**
AUQ	**Augustine Qik'**	**0.56**	**207**		**Pn**	**19 20 32.5**	**0.0**
AUCH	**Augustine Cone**	**0.56**	**209**		**Pn**	**19 20 32.6**	**+0.1**
AUW	**Augustine West**	**0.56**	**211**		**Pn**	**19 20 32.5**	**+0.1**
RED	**Redoubt Volcan**	**0.57**	**7**		**Pn**	**19 20 32.3**	**-0.2**
RED					**Sn**	**19 20 45.0**	**-1.3**
RSO	**Redoubt South**	**0.61**	**7**		**Pn**	**19 20 32.8**	**-0.2**
RDWB	**Redoubt West**	**0.64**	**3**		**Pn**	**19 20 32.7**	**-0.4**
HOM	**Homer**	**0.67**	**107**	P	**Pn**	**19 20 33.4**	**+0.3**
	baz=289,SNR=9.3						
HOM				S	**Sn**	**19 20 47.5**	**+0.2**
	baz=289						
HOM	**Homer**	**0.67**	**107**		**Pn**	**19 20 33.3**	**+0.2**
HOM				IAML		19 20 48.9	
	comp=E,712nm,0.5s						
HOM				IAML		19 20 49.5	
	comp=N,976nm,0.9s						
NCT	**North Crescent**	**0.71**	**359**		**Pn**	**19 20 33.3**	**-0.2**
NCT					**Sn**	**19 20 46.7**	**-1.4**
RDJH	**Redoubt Jeurge**	**0.74**	**4**		**Pn**	**19 20 33.7**	**-0.2**
RDJH					**Sn**	**19 20 47.5**	**-1.2**
DFR	**Drift River**	**0.75**	**8**		**Pn**	**19 20 33.7**	**-0.2**
CNPM	**China Poot**	**0.91**	**111**		**Pn**	**19 20 35.3**	**+0.1**
CNPM					**Sn**	**19 20 50.5**	**-0.5**
CNPM				IAML		19 20 51.4	
	comp=E,1μm,0.4s						
CNPM				IAML		19 20 51.4	
	comp=N,1μm,0.2s						
BRLK	**Bradley Lake**	**1.03**	**94**		**Pn**	**19 20 36.4**	**+0.1**
BRLK	**Bradley Lake**	**1.03**	**94**	IAML		19 20 53.6	
	comp=E,702nm,0.2s						
BRLK				IAML		19 20 56.9	
	comp=N,585nm,0.1s						
BRSE	**Bradley Lake S**	**1.10**	**95**	P	**Pn**	**19 20 37.2**	**+0.1**
	baz=278,SNR=51						
BRSE				S	**Sn**	**19 20 53.7**	**-0.7**
	baz=278						
BRSE	**Bradley Lake S**	**1.10**	**95**		**Pn**	**19 20 37.2**	**+0.1**
BRSE					**Sn**	**19 20 53.9**	**-0.6**
O18K	**Koktuh Hills**	**1.16**	**271**		**Pn**	**19 20 37.5**	**-0.3**
N19K	**Bonanza Creek**	**1.24**	**322**	P	**Pn**	**19 20 38.4**	**-0.3**
	baz=140,SNR=98						
N19K				S	**Sn**	**19 20 55.8**	**-1.4**
	baz=140						
N19K	**Bonanza Creek**	**1.24**	**322**		**Pn**	**19 20 38.5**	**-0.3**
CAPN	**Captain Cook N**	**1.27**	**43**	P	**Pn**	**19 20 40.6**	**+1.8**
	baz=225						
CAPN				S	**Sn**	**19 20 57.4**	**-0.1**
	baz=225						
CAPN	**Captain Cook N**	**1.27**	**43**		**Pn**	**19 20 40.7**	**+1.9**
SPCR	**Spurr Chakacha**	**1.39**	**14**	P	**Pn**	**19 20 40.4**	**0.0**
	baz=195,SNR=20						
SPCR				S	**Sn**	**19 20 59.0**	**-1.2**
	baz=195						
SPCR	**Spurr Chakacha**	**1.39**	**14**		**Pn**	**19 20 40.4**	**0.0**
SPCN	**Chakachatna No**	**1.42**	**14**		**Pn**	**19 20 40.7**	**+0.1**
SPBG	**Spurr Blockage**	**1.44**	**10**		**Pn**	**19 20 41.2**	**+0.3**
SPBG					**Sn**	**19 21 00.6**	**-0.4**
KAPH	**Katmai Pasha**	**1.46**	**211**		**Pn**	**19 20 41.5**	**+0.3**
SPCP	**Crater Peak Br**	**1.47**	**14**		**Pn**	**19 20 41.5**	**+0.2**
SLKM	**Skilak Lake**	**1.49**	**63**		**Pn**	**19 20 41.2**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.51**	**17**		**Pn**	**19 20 41.8**	**+0.1**
SPCG					**Sn**	**19 21 02.0**	**-0.6**
SPNN	**North Nagishla**	**1.52**	**4**		**Pn**	**19 20 42.1**	**+0.1**
KAHC	**Katmai Hardscr**	**1.62**	**223**		**Pn**	**19 20 43.2**	**+0.2**
N18K	**Kilae Creek**	**1.70**	**300**	P	**Pn**	**19 20 43.6**	**-0.3**
	baz=118,SNR=14						
N18K				S	**Sn**	**19 21 05.1**	**-1.4**
	baz=118						
N18K	**Kilae Creek**	**1.70**	**300**		**Pn**	**19 20 43.7**	**-0.3**
N18K					**Sn**	**19 21 04.8**	**-1.8**
O22K	**Cooper Landing**	**1.71**	**67**	P	**Pn**	**19 20 44.1**	**+0.1**
	baz=250,SNR=7.3						
O22K				S	**Sn**	**19 21 04.9**	**-1.8**
	baz=250						
O22K	**Cooper Landing**	**1.71**	**67**		**Pn**	**19 20 44.3**	**+0.3**
STLK	**Strandline Lak**	**1.73**	**17**		**Pn**	**19 20 44.8**	**+0.4**
SEW	**Seward**	**1.75**	**80**	P	**Pn**	**19 20 44.6**	**+0.1**
	baz=264,SNR=19						
SEW				S	**Sn**	**19 21 06.5**	**-1.1**
	baz=264						
SEW	**Seward**	**1.75**	**80**		**Pn**	**19 20 44.5**	**+0.1**
SEW					**Sn**	**19 21 06.3**	**-1.3**
KAWH	**Katmai**	**1.77**	**214**		**Pn**	**19 20 45.0**	**+0.2**
SVW2	**Sparrevohn**	**1.82**	**314**		**Pn**	**19 20 45.0**	**-0.4**
FIS	**Fire Island**	**1.86**	**45**		**Pn**	**19 20 47.0**	**+1.2**
FIS	**Fire Island**	**1.86**	**45**	IAML		19 21 14.6	
	comp=E,355nm,0.3s						
FIS				IAML		19 21 17.4	
	comp=N,321nm,0.5s						
KVTA	**Katmai Vly 10**	**1.92**	**221**		**Pn**	**19 20 47.0**	**+0.4**
SUA	**Susitna One**	**1.93**	**32**	P	**Pn**	**19 20 47.3**	**+0.4**
	baz=215,SNR=95						
SUA				S	**Sn**	**19 21 11.4**	**-0.3**
	baz=215						
SUA	**Susitna One**	**1.93**	**32**		**Pn**	**19 20 47.3**	**+0.4**
SUA					**Sn**	**19 21 11.6**	**-0.1**
SUA	**Susitna One**	**1.93**	**32**	IAML		19 21 13.3	
	comp=N,330nm,0.5s						
KCE	**Katmai Mt Cerb**	**2.00**	**217**		**Pn**	**19 20 48.4**	**+0.8**
RC01	**Rabbit Creek A**	**2.00**	**50**	P	**Pn**	**19 20 47.7**	**+0.1**
	baz=234,SNR=7.5						
RC01				S	**Sn**	**19 21 11.9**	**-1.2**
	baz=234						
RC01	**Rabbit Creek A**	**2.00**	**50**		**Pn**	**19 20 47.7**	**+0.1**
RC01	**Rabbit Creek A**	**2.00**	**50**	IAML		19 21 12.8	
	comp=E,384nm,0.3s						
RC01				IAML		19 21 13.7	
	comp=N,377nm,0.4s						
KABR	**Katmai Barrier**	**2.03**	**213**		**Pn**	**19 20 48.2**	**+0.2**
M20K	**Styx River**	**2.04**	**357**		**Pn**	**19 20 48.5**	**+0.3**
KDAK	**Kodiak Island**	**2.08**	**175**	P	**Pn**	**19 20 47.9**	**-0.7**
	comp=N,22nm,0.3s,baz=0.0,slow=10,SNR=413						
KDAK				S	**Sn**	**19 21 13.3**	**-1.5**
	comp=N,37nm,0.3s,baz=324,slow=23,SNR=54						
KDAK	**Kodiak Island**	**2.08**	**175**	P	**Pn**	**19 20 47.9**	**-0.7**
	baz=355						
KDAK				S	**Sn**	**19 21 13.8**	**-1.1**
	baz=355						
KDAK	**Kodiak Island**	**2.08**	**175**	Pn	**Pn**	**19 20 47.9**	**-0.7**
KDAK				IAML		19 21 15.3	
	comp=N,338nm,0.3s						
KDAK				IAML		19 21 15.4	
	comp=N,407nm,0.5s						
ANCK	**Angle Creek**	**2.13**	**220**		**Pn**	**19 20 49.5**	**+0.2**
CAHL	**Cahill**	**2.19**	**216**		**Pn**	**19 20 50.6**	**+0.6**
SKT	**Skwentna**	**2.24**	**17**	P	**Pn**	**19 20 50.4**	**-0.2**
	baz=198,SNR=10						
SKT				S	**Sn**	**19 21 18.1**	**-0.3**
	baz=198						
SKT	**Skwentna**	**2.24**	**17**		**Pn**	**19 20 50.5**	**0.0**
PWL	**Port Wells**	**2.49**	**64**		**Pn**	**19 20 54.3**	**+0.5**
PWL	**Port Wells**	**2.49**	**64**	IAML		19 21 23.9	
	comp=N,329nm,0.5s						
PWL				IAML		19 21 24.0	
	comp=E,145nm,0.4s						
L19K	**White Mountain**	**2.52**	**339**	P	**Pn**	**19 20 54.1**	**-0.2**
	baz=157,SNR=46						
L19K				S	**Sn**	**19 21 23.8**	**-1.1**
	baz=157						
L19K	**White Mountain**	**2.52**	**339**		**Pn**	**19 20 54.0**	**-0.2**
PMR	**Palmer**	**2.55**	**45**	S	**Sn**	**19 21 23.0**	**-2.4**
	baz=229						
PMR	**Palmer**	**2.55**	**45**	Pn	**Pn**	**19 20 54.5**	**0.0**
OHAK	**Old Harbor**	**2.65**	**184**	P	**Pn**	**19 20 54.9**	**-0.9**
	baz=3.8,SNR=8.3						
OHAK				S	**Sn**	**19 21 25.3**	**-2.4**
	baz=3.8						
OHAK	**Old Harbor**	**2.65**	**184**		**Pn**	**19 20 54.9**	**-0.9**
OHAK	**Old Harbor**	**2.65**	**184**	IAML		19 21 26.6	
	comp=E,111nm,0.4s						
OHAK				IAML		19 21 33.6	
	comp=N,100nm,0.5s						
KNK	**Knik Glacier**	**2.69**	**53**	P	**Pn**	**19 20 55.7**	**-0.8**
	baz=237						
KNK				S	**Sn**	**19 21 26.7**	**-2.2**
	baz=237						
KNK	**Knik Glacier**	**2.69**	**53**		**Pn**	**19 20 55.8**	**-0.7**
KNK	**Knik Glacier**	**2.69**	**53**	IAML		19 21 27.5	
	comp=N,177nm,0.6s						
GHO	**Glory Hole Cre**	**2.74**	**44**		**Pn**	**19 20 56.4**	**-0.7**
GHO	**Glory Hole Cre**	**2.74**	**44**	IAML		19 21 29.1	
	comp=N,128nm,0.2s						
GHO				IAML		19 21 35.6	
	comp=E,206nm,0.6s						
PLK1	**Peulik 1**	**2.82**	**225**		**Pn**	**19 20 58.8**	**+0.8**
CUT	**Chulitna**	**2.86**	**25**	Pn	**Pn**	**19 20 58.4**	**-0.2**
CUT				IAML		19 21 33.9	
	comp=N,132nm,0.5s						
CUT				IAML		19 21 37.1	
	comp=E,185nm,0.3s						
SML	**Sawmill**	**2.98**	**47**	P	**Pn**	**19 20 59.4**	**-0.7**
	baz=231						
SML				S	**Sn**	**19 21 32.5**	**-3.0**
	baz=231						
SML	**Sawmill**	**2.98**	**47**		**Pn**	**19 20 59.5**	**-0.7**
SML	**Sawmill**	**2.98**	**47**	IAML		19 21 34.9	
	comp=N,86nm,0.6s						
SML				IAML		19 21 41.8	
	comp=E,93nm,0.5s						
GLI	**Glacier Island**	**3.06**	**68**	P	**Pn**	**19 21 01.1**	**-0.2**
	baz=253						
GLI				S	**Sn**	**19 21 34.2**	**-3.3**
	baz=253						
GLI	**Glacier Island**	**3.06**	**68**		**Pn**	**19 21 00.8**	**-0.5**
GLI	**Glacier Island**	**3.06**	**68**	IAML		19 21 37.0	
	comp=E,117nm,0.5s						
GLI				IAML		19 21 38.1	
	comp=N,98nm,0.4s						
PPLA	**Purkeypile**	**3.07**	**6**	P	**Pn**	**19 21 02.2**	**+0.7**
	baz=187						
PPLA	**Purkeypile**	**3.07**	**6**		**Pn**	**19 21 02.3**	**+0.7**
HIN	**Hinchinbrook I**	**3.25**	**78**		**Pn**	**19 21 03.2**	**-0.6**
HIN	**Hinchinbrook I**	**3.25**	**78**	IAML		19 21 42.0	
	comp=E,97nm,0.5s						
HIN				IAML		19 21 42.3	
	comp=N,136nm,0.6s						
FID	**Port Fidalgo**	**3.32**	**72**		**Pn**	**19 21 03.7**	**-1.0**
FID				IAML		19 21 43.0	
	comp=N,153nm,0.6s						
Q23K	**Middleton Isla**	**3.36**	**94**	P	**Pn**	**19 21 05.0**	**-0.1**
	baz=280						
Q23K	**Middleton Isla**	**3.36**	**94**	Pn	**Pn**	**19 21 05.4**	**+0.3**
Q23K				IAML		19 21 59.6	
	comp=N,172nm,2.5s						
MID	**Middleton Isla**	**3.36**	**94**		**Pn**	**19 21 04.9**	**-0.3**
MID	**Middleton Isla**	**3.36**	**94**	IAML		19 21 59.7	
	comp=N,150nm,2.4s						
SII	**Sitkinak Islan**	**3.37**	**192**	P	**Pn**	**19 21 04.4**	**-1.0**
	baz=11						
SII	**Sitkinak Islan**	**3.37**	**192**		**Pn**	**19 21 04.2**	**-1.2**
SII	**Sitkinak Islan**	**3.37**	**192**	IAML		19 21 45.2	
	comp=E,101nm,0.9s						
SII				IAML		19 22 21.0	
	comp=N,94nm,2.8s						
SCM	**Sheep Creek Mo**	**3.38**	**52**		**Pn**	**19 21 05.1**	**-0.4**
SCM	**Sheep Creek Mo**	**3.38**	**52**	IAML		19 21 45.2	
	comp=E,108nm,1.1s						
SCM				IAML		19 21 47.0	
	comp=N,76nm,0.8s						
TT01	**Tatalina**	**3.41**	**335**		**Pn**	**19 21 05.5**	**-0.3**
K20K	**Telida**	**3.56**	**352**	P	**Pn**	**19 21 08.0**	**+0.2**
	baz=171,SNR=35						
K20K	**Telida**	**3.56**	**352**		**Pn**	**19 21 08.1**	**+0.2**
WAT7	**Susitna Watana**	**3.57**	**31**		**Pn**	**19 21 08.1**	**0.0**
EYAK	**Cordova Ski Ar**	**3.64**	**76**	Pn	**Pn**	**19 21 09.2**	**+0.3**
WAT1	**Susitna Watana**	**3.65**	**33**	P	**Pn**	**19 21 08.8**	**-0.2**
	baz=217						
WAT1	**Susitna Watana**	**3.65**	**33**		**Pn**	**19 21 09.0**	**-0.1**
WAT6	**Susitna Watana**	**3.71**	**40**	P	**Pn**	**19 21 09.4**	**-0.5**
	baz=225

baz=214,SNR=14
HDA Harding Lake 5.36 29 Pn 19 21 31.4 -0.5
BALM Baldy 5.36 73 Pn 19 21 32.7 +0.6
CCB Clear Creek Bu 5.37 24 Pn 19 21 31.3 -0.7
M26K Nabesna, AK 5.44 58 P Pn 19 21 33.3 +0.2
baz=247,SNR=16
M26K Nabesna, AK 5.44 58 Pn 19 21 34.0 +0.9
RIDG Independent Ri 5.46 41 P Pn 19 21 33.4 +0.1
baz=228,SNR=7.8
RIDG Independent Ri 5.46 41 Pn 19 21 33.3 0.0
PS08 TAPS Pump Stn8 5.50 29 Pn 19 21 33.4 -0.4
MESA MESA 5.51 82 P Pn 19 21 34.7 +0.6
baz=272
MESA MESA 5.51 82 Pn Pn **19 21 35.3 +1.2**
TCOL CIGO, UAF Yank 5.56 23 P Pn 19 21 34.3 -0.3
baz=208
TCOL CIGO, UAF Yank 5.56 23 Pn 19 21 34.2 -0.3
COLA College 5.56 23 P Pn 19 21 34.3 -0.2
baz=208
COLA College 5.56 23 Pn 19 21 34.4 -0.2
I23K Minto, Yukon-K 5.56 16 P Pn 19 21 34.3 -0.3
baz=199,SNR=34
I23K Minto, Yukon-K 5.56 16 Pn 19 21 34.4 -0.3
MDM Murphy Dome 5.56 21 Pn 19 21 34.2 -0.5
YAH Yahtse 5.61 80 Pn 19 21 36.5 +1.1
DOT Dot Lake 5.67 44 Pn Pn **19 21 35.8 -0.3**
IL31 5.67 27 Pn 19 21 35.5 -0.6
ILAR Eielson Array 5.67 27 P Pn 19 21 35.4 -0.8
comp=N,2.3nm,0.3s,baz=217,slow=14,SNR=57
ILAR S **Sn 19 22 37.5 -2.5**
comp=N,1.0nm,0.3s,baz=214,slow=23,SNR=3.0
BARN Barnard Glacie 5.70 73 Pn 19 21 37.2 +0.6
RKAV Rock Avalanche 5.81 81 Pn 19 21 39.3 +1.2
CTG Chitna Glacier 5.84 74 P Pn 19 21 39.5 +0.9
baz=264
CTGM Chitina Glacie 5.84 74 Pn 19 21 39.6 +1.1
POKR Poker Plat Res 5.86 23 P Pn 19 21 38.1 -0.5
baz=208
POKR Poker Plat Res 5.86 23 Pn 19 21 38.5 -0.1
SCRK Sand Creek 5.90 42 P Pn 19 21 38.5 -0.8
baz=230,SNR=5.4
SCRK Sand Creek 5.90 42 Pn 19 21 38.4 -0.9
M27K Edge Creek, AK 5.91 60 P Pn 19 21 40.4 +1.0
baz=250
TABL Table Mountain 5.91 79 Pn 19 21 39.4 -0.1
LOGN Logan Glacier 5.99 76 Pn Pn **19 21 40.3 -0.3**
IM05 Indian Mountai 6.16 357 Pn 19 21 43.0 +0.3
IMAR Indian Mountai 6.17 357 Pn 19 21 42.6 -0.1
H23K Yukon River 6.19 13 P Pn 19 21 42.7 -0.3
baz=196,SNR=18
H23K Yukon River 6.19 13 Pn 19 21 43.2 +0.1
PS06 TAPS Pump Stn6 6.20 12 Pn 19 21 43.3 +0.1
CNBA Chernabura Isl 6.21 219 Pn Pn **19 21 42.6 -0.8**
L27K Beaver Creek, 6.21 54 Pn 19 21 44.2 +0.8
BCAR Beaver Creek A 6.23 54 Pn Pn 19 21 43.7 0.0
PCA Pinnacle 6.36 82 Pn Pn **19 21 46.5 +1.1**
H24K Noodor Dome 6.43 19 P Pn 19 21 45.3 -1.0
baz=203,SNR=7.3
H24K Noodor Dome 6.43 19 Pn 19 21 45.8 -0.6
K27K Chicken 6.60 46 Pn Pn **19 21 48.7 0.0**
PRP Porcupine Dome 6.62 28 P Pn 19 21 48.4 -0.6
baz=214,SNR=16
PRP Porcupine Dome 6.62 28 Pn 19 21 48.6 -0.4
BCPM Bancas Point 6.68 83 Pn Pn **19 21 50.4 +0.6**
PNL Peninsula 6.83 86 Pn 19 21 51.9 +0.1
EGAK Eagle 7.36 43 Pn Pn 19 21 58.3 -0.7
FYU Fort Yukon 7.57 24 Pn 19 22 01.3 -0.4
HYT Haines Junctio 7.71 76 Pn Pn **19 22 04.9 +1.2**
BM03 Burnt Mountain 8.44 22 Pn 19 22 11.8 -1.7
BMAR Burnt Mountain 8.45 22 Pn Pn 19 22 12.5 -1.2
TOLK Toolik Lake Re 8.94 8 Pn Pn **19 22 21.4 +1.1**
WHY Whitehorse 9.00 77 Pn Pn **19 22 22.1 +1.0**
YKA Yellowknife Ar 18.47 65 P Pn 19 24 22.5 +0.3
comp=N,0.1nm,0.3s,baz=287,slow=12,SNR=2.3
YAK Yakutsk 35.59 308 LR LR 19 43 12.0
comp=N,14nm,18.8s,baz=90,slow=39
SONM Songino Array 54.91 306 P P 19 29 34.2 +1.7
comp=N,0.4nm,0.7s,baz=42,slow=5.7,SNR=4.4
ZALV Zalesovo Beam 57.52 324 P P 19 29 51.6 +0.8
comp=N,0.8nm,0.5s,baz=34,slow=6.9,SNR=5.1
MKAR Makanchi Array 64.58 321 P P 19 30 38.6 0.0
comp=N,0.3nm,0.5s,baz=37,slow=5.4,SNR=6.7

*TUL **27** 19:27:56.9±1.4, 35°.99N±0°.02×97°.58W±0°.03, h5km±7km, ML3.0, mb_Lg2.7/42(NEIC), Error ellipse: s-maj=3.5km s-min=2.1km az=75.0*
NEIC 27 19:27:56.7±0.6, 36°.01N±0°.01×97°.58W±0°.01, h5km±7km, Error ellipse: s-maj=2.2km s-min=1.0km az=161.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.24**	**154**	Pg	Pg	19 28 01.5	+0.2
BCOK	**Bluff Creek, N**	**0.35**	**184**		Pg	19 28 03.6	+0.1
BCOK				Sg	Sg	19 28 08.5	+0.3
OK025	**Westminster Rd**	**0.47**	**155**		Pg	19 28 05.9	+0.1
OK025				Sg	Sg	19 28 12.3	+0.4
CROK	**Carrier**	**0.59**	**327**		Pg	19 28 08.6	+0.6
OK031	**S. Brethren Rd**	**0.60**	**95**		Pg	19 28 07.8	-0.6
OKCSW	**OKLAHOMA CITY**	**0.62**	**169**		Pg	19 28 08.4	-0.1
QUOK	**Quay**	**0.73**	**77**	Pg	Pg	19 28 10.9	+0.2
FNO	**Franklin**	**0.77**	**169**	Pg	Pg	19 28 11.0	-0.4
BLOK	**Blackwell**	**0.80**	**21**		Pg	19 28 12.6	+0.5
GC02	**Grant County #**	**0.87**	**345**		Pg	19 28 13.5	+0.1
OK032	**Salt Plains WL**	**0.94**	**328**	Pg	Pg	19 28 14.7	0.0
KAN13	**South Haven SW**	**1.00**	**5**	Pg	Pg	19 28 16.1	+0.1
KAN17	**Caldwell West**	**1.04**	**352**		Pg	19 28 16.7	0.0
KAN05	**Bluff City Nor**	**1.12**	**348**		Pg	19 28 18.3	+0.1
KAN09	**Caldwell North**	**1.12**	**359**	Pg	Pg	19 28 18.1	-0.2
KAN10	**Anthony SW Sta**	**1.18**	**340**		Pg	19 28 19.3	-0.1
U32A	**Winter Ranch,**	**1.21**	**288**		Pg	19 28 19.5	-0.3
KS20	**Mayfield South**	**1.22**	**1**		Pg	19 28 19.9	-0.1
T35A	**Sooner Cattle**	**1.25**	**43**	Pg	Pg	19 28 20.3	-0.3
KAN08	**Anthony NE Sta**	**1.25**	**346**	Pn	Pg	19 28 20.2	-0.6
KS21	**Milan North St**	**1.27**	**357**	IAmb_Lg		19 28 39.1	
comp=Z,48nm,0.8s							
KAN12	**Harper NE Stat**	**1.33**	**346**		Pn	19 28 21.7	-0.1
X34A	**Smith Ranch, M**	**1.42**	**188**	Pn	Pn	19 28 23.1	-0.1
WMOK	**Wichita Mounta**	**1.60**	**218**		Pn	19 28 25.6	-0.1
LOOK	**Love County**	**2.04**	**171**	Pn	Pn	19 28 31.8	+0.2
LOOK				IAmb_Lg		19 29 02.4	
comp=Z,24nm,0.8s							
X37A	**Clayton**	**2.30**	**127**	Pn	Pn	19 28 35.7	+0.5
X37A				IAmb_Lg		19 29 09.2	
comp=Z,20nm,0.8s							
U38A	**Gravette**	**2.62**	**80**	Pn	Pn	19 28 40.1	+0.4
Z35A	**Perchaven, San**	**2.69**	**174**	Pn	Pn	19 28 41.1	+0.6
HHAR	**Hobbs**	**2.96**	**84**	Pn	Pn	19 28 44.1	-0.2
KSU1	**Kansas State U**	**3.18**	**14**	IAmb_Lg		19 29 45.5	
comp=Z,20nm,0.8s							
W39A	**Magazine**	**3.20**	**104**	Pn	Pn	19 28 47.5	-0.1
W39A				IAmb_Lg		19 29 39.9	
comp=Z,17nm,0.7s							
CBKS	**Cedar Bluff**	**3.28**	**329**	IAmb_Lg		19 29 49.4	
comp=Z,15nm,0.7s							
AMTX	**Amarillo**	**3.53**	**253**	IAmb_Lg		19 29 56.2	
comp=Z,17nm,0.8s							
MIAR	**Mount Ida**	**3.59**	**113**	Pn	Pn	19 28 54.0	+1.1
MIAR				IAmb_Lg		19 30 01.1	
comp=Z,16nm,0.8s							
ABTX	**Abilene, Hawle**	**3.79**	**207**	IAmb_Lg		19 29 56.0	
comp=Z,12nm,0.9s							
U40A	**Yellville**	**3.84**	**83**	Pn	Pn	19 28 55.9	-0.5
X40A	**Basin Creek Fa**	**4.17**	**110**	Pn	Pn	19 28 59.7	-1.3
X40A				IAmb_Lg		19 30 19.8	
comp=Z,19nm,0.9s							
WHAR	**Wooly Hollow**	**4.37**	**98**	IAmb_Lg		19 30 21.7	
comp=Z,15nm,0.9s							
MGMO	**Mountain Grove**	**4.42**	**74**	IAmb_Lg		19 30 15.2	
comp=Z,9.9nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.43**	**90**	IAmb_Lg		19 30 22.9	
comp=Z,15nm,0.9s							
R40A	**Maddies Statio**	**4.82**	**60**	Pn	Pn	19 29 09.6	-0.2
LCAR	**Lake Charles**	**5.21**	**87**	IAmb_Lg		19 30 45.0	
comp=Z,14nm,0.9s							
CCM	**Cathedral Cave**	**5.46**	**66**	IAmb_Lg		19 30 53.5	
comp=Z,7.6nm,0.8s							
T25A	**Trinidad**	**5.61**	**284**	IAmb_Lg		19 30 58.1	
comp=Z,10nm,0.8s							
P40A	**Paris**	**5.62**	**50**	IAmb_Lg		19 31 01.6	
comp=Z,10nm,0.8s							
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		19 31 30.8	
comp=Z,6.8nm,0.9s							
SIUC	**Southern Illin**	**6.92**	**73**	IAmb_Lg		19 31 34.3	
comp=Z,17nm,0.8s							
N41A	**Harden Midland**	**7.06**	**46**	IAmb_Lg		19 31 41.7	
comp=Z,13nm,0.8s							
K38A	**Parkersburg**	**7.60**	**28**	IAmb_Lg		19 32 00.6	
comp=Z,12nm,0.8s							
P46A	**Rosedale**	**8.96**	**63**	IAmb_Lg		19 32 40.5	
comp=Z,10nm,0.9s							

*IDC **27** 19:30:26.3±1.1, 3°.54S×131°.69E, h0km, mb3.9/5, mb1 3.9/8, mb1mx3.7/31, mbtmp3.9/8, ML3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=45.6km s-min=17.9km az=78.0*
*DJA **27** 19:30:31.0±0.4, 3°.5±3°×13°.1E±°, h10km, M4.1/7, mb5.0/2, mB5.3/1, MLv3.6/7, Mw(mB)4.8/1*
ISC 27 19:30:30.4±0.8, 3°.53S±0°.06×131°.35E±0°.07, h24km, n15, σ2§28/18, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.08**	**56**	P	**Pn**	**19 30 51.4**	**+1.2**
FAKI				S	**Sn**	**19 31 09.4**	**+4.9**
BNDI	**Bandanaira**	**1.75**	**236**	P	**Pn**	**19 31 01.3**	**+2.1**
BNDI				S	**Sn**	**19 31 23.4**	**+2.6**
MSAI	**Masohi**	**2.42**	**274**	P	**Pn**	**19 31 09.1**	**+0.5**
SIJI	**Sorong**	**2.64**	**358**	Pn	**Pn**	**19 31 10.9**	**-0.7**
2.4nm,0.3s,baz=174,slow=10,SNR=27							
SIJI				Sn	**Sn**	**19 31 43.1**	**+0.1**
13nm,0.3s,baz=98,slow=23,SNR=10							
SWI	**Sorong**	**2.65**	**358**	P	**Pn**	**19 31 11.8**	**+0.1**
SWI				S	**Sn**	**19 31 43.0**	**-0.1**
SOEI	**Soe**	**9.36**	**228**	P	**Pn**	**19 32 45.7**	**+1.6**
34nm,1.2s							
BATI	**Baumata**	**10.11**	**229**	Pn	**Pn**	**19 32 57.4**	**+3.1**
1.8nm,0.3s,baz=82,slow=7.1,SNR=1.7							
WRA	**Warramunga Arr**	**16.57**	**170**	Pn	**Pn**	**19 34 17.2**	**-4.2**
0.4nm,0.3s,baz=355,slow=13,SNR=5.6							
WRA				Sn	Sn	19 37 11.3	-14
0.1nm,0.3s,baz=345,slow=23,SNR=3.5							
MTKI	**Muara Teweh, K**	**16.64**	**279**	P	**Pn**	**19 34 22.1**	**-0.2**
ASAR	**Alice Springs**	**20.17**	**173**	P	**P**	**19 35 01.4**	**-2.0**
2.6nm,0.6s,baz=355,slow=10,SNR=38							
ASAR				S	S	19 38 37.8	-11
0.5nm,0.8s,baz=357,slow=28,SNR=3.0							
CTA	**Charters Tower**	**21.96**	**140**	P	**P**	**19 35 20.4**	**-2.3**
3.8nm,0.9s,baz=243,slow=9.0,SNR=1.7							
KSRS	**Korea Array**	**40.90**	**356**	LR	LR	19 57 03.5	
comp=Z,11nm,18.0s,baz=5.0,slow=39							
YAK	**Yakutsk**	**65.39**	**359**	P	**P**	**19 41 10.9**	**+0.2**
2.7nm,0.5s,baz=170,slow=0.4,SNR=4.5							
MKAR	**Makanchi Array**	**66.11**	**325**	P	**P**	**19 41 16.6**	**+0.8**
0.9nm,0.8s,baz=121,slow=7.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**69.11**	**333**	P	**P**	**19 41 35.0**	**+0.5**
0.5nm,0.4s,baz=111,slow=8.0,SNR=4.2							

MAN 27 20:02:27.8, 6°.94N×123°.73E, h32km, mb4.5, ML3.3, MS3.1, Mindanao

*IDC **27** 20:03:18.8±1.8, 43°.29N×105°.26W, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.4/38, mbtmp3.6/4, ML3.3/3, MS3.7/3, Ms1 3.7/3, ms1mx2.7/51, Error ellipse: s-maj=44.0km s-min=9.5km az=156.0*
*NEIC **27** 20:03:21.8±1.8, 43°.75N±0°.05×105°.28W±0°.04, h0km±2km, ML3.1/34, Error ellipse: s-maj=9.6km s-min=3.0km az=155.0*
ISC 27 20:03:20.5±1.1, 43°.79N±0°.06×105°.14W±0°.06, h0km, n36, σ1§03/33, MS4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.86**	**67**	Pg	**Pn**	**20 03 40.4**	**+0.3**
K22A	**Casper**	**1.53**	**222**		**Pn**	**20 03 47.0**	**-2.1**
K22A				IAML		20 04 09.9	
comp=E,304nm,0.3s							
K22A				IAML		20 04 10.6	
comp=N,281nm,0.3s							
PHWY	**Pilot Hill**	**2.50**	**186**		**Pn**	**20 04 03.4**	**+0.7**
RWWY	**Rawlins**	**2.60**	**217**	Pn	**Pn**	**20 04 04.7**	**+0.7**
RWWY				IAML		20 04 39.6	
comp=N,88nm,0.7s							
RWWY				IAML		20 04 41.7	
comp=N,99nm,0.8s							
LAO	**LASA Array**	**3.00**	**346**		**Pn**	**20 04 10.0**	**+0.7**
RLMT	**Red Lodge**	**3.24**	**296**		**Pn**	**20 04 12.1**	**-0.8**
RLMT				IAML		20 05 05.2	
comp=N,38nm,0.7s							
RLMT				IAML		20 05 09.3	
comp=N,51nm,0.6s							
PD31	**Pinedale Array**	**3.39**	**254**		**Pn**	**20 04 14.1**	**-0.7**
PDAR	**Pinedale Array**	**3.39**	**254**	Pn	**Pn**	**20 04 14.4**	**-0.4**
comp=N,3.0nm,0.3s,baz=84,slow=19,SNR=25							
PDAR				Lg	Lg	20 04 57.7	
comp=N,12nm,0.3s,baz=85,slow=34,SNR=14							
PDAR	**Pinedale Array**	**3.39**	**254**	Pn	**Pn**	**20 04 14.1**	**-0.7**
OGNE	**Ogallala**	**3.66**	**140**	Pn	**Pn**	**20 04 16.1**	**-2.2**
YNE	**Yellowstone No**	**3.70**	**291**		**Pn**	**20 04 18.3**	**-0.8**
YNE				IAML		20 05 03.0	
comp=E,52nm,0.8s							
GCMT	**Greycliff**	**3.80**	**303**		**Pn**	**20 04 19.3**	**-1.0**
LOHW	**Long Hollow**	**3.97**	**269**		**Pn**	**20 04 23.3**	**+0.5**
ISCO	**Idaho Springs**	**4.00**	**185**		**Pn**	**20 04 23.9**	**+0.6**
FLWY	**Flagg Ranch**	**4.03**	**276**		**Pn**	**20 04 23.0**	**-0.6**
FLWY				IAML		20 05 26.8	
comp=E,24nm,1.1s							
FLWY				IAML		20 05 56.3	
comp=E,21nm,1.1s							
SNOW	**Snow King Moun**	**4.09**	**267**	Pn	**Pn**	**20 04 24.6**	**0.0**
REDW	**Red Top Meadow**	**4.18**	**266**		**Pn**	**20 04 25.6**	**0.0**
REDW				IAML		20 05 32.3	
comp=E,28nm,0.7s							
REDW				IAML		20 05 36.0	
comp=E,24nm,0.8s							
IMW	**Indian Meadow**	**4.20**	**273**		**Pn**	**20 04 26.1**	**+0.1**
IMW				IAML		20 05 35.9	
comp=E,26nm,0.6s							
IMW				IAML		20 05 44.6	
comp=E,15nm,0.7s							
YHH	**Holmes Hill**	**4.22**	**286**		**Pn**	**20 04 26.0**	**-0.4**
TPAW	**Teton Pass**	**4.23**	**268**		**Pn**	**20 04 26.7**	**+0.2**
TPAW				IAML		20 05 42.1	
comp=E,28nm,0.9s							
TPAW				IAML		20 05 42.6	
comp=E,17nm,0.7s							
RDMU	**Red Mountain**	**4.60**	**227**		**Pn**	**20 04 31.7**	**+0.2**
RDMU				IAML		20 05 48.0	
comp=N,18nm,1.2s							
RDMU				IAML		20 05 54.2	
comp=E,19nm,0.7s							
HWUT	**Hardware Ranch**	**5.22**	**247**	Pn	**Pn**	**20 04 39.6**	**-0.3**
HWUT				IAML		20 06 07.5	
comp=E,15nm,1.0s							
MCMT	**McKenzie Canyo**	**5.63**	**283**		**Pn**	**20 04 46.8**	**+1.1**
PV22	**Blue Mesa, Par**	**5.93**	**209**	Pn	**Pn**	**20 04 50.5**	**+0.8**
SPUT	**South Promonto**	**5.94**	**248**	Pn	**Pn**	**20 04 49.5**	**-0.4**
PV07	**Paradox Valley**	**5.97**	**208**		**Pn**	**20 04 49.9**	**-0.4**
P17A	**Butcher Ranch,**	**6.02**	**226**	Pn	**Pn**	**20 04 51.9**	**+1.0**
PV14	**Lion Creek, Pa**	**6.16**	**210**		**Pn**	**20 04 53.6**	**+0.8**
ECSD	**EROS Data Cent**	**6.17**	**88**	Pn	**Pn**	**20 04 53.6**	**+0.7**
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**Pn**	**20 05 34.0**	**+1.9**
comp=E,1.4nm,0.3s,baz=223,slow=9.9,SNR=8.6							
ULM				Pg		20 06 06.2	
comp=E,0.7nm,0.3s,baz=224,slow=16,SNR=3.3							
ULM				Lg	Lg	20 08 02.9	
comp=E,0.3nm,0.3s,baz=247,slow=3.7,SNR=1.7							
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**Pn**	**20 05 32.6**	**+0.5**
NVAR	**Mina Array Bea**	**11.28**	**246**	Pn	**Pn**	**20 06 00.3**	**-2.8**
comp=E,0.1nm,0.3s,baz=57,slow=12,SNR=2.0							
KDAK	**Kodiak Island**	**32.37**	**313**	LR	LR	20 22 43.8	
comp=E,478nm,21.0s,baz=256,slow=36							
SFJD	**Kangerlussuaq**	**36.93**	**32**	LR	LR	20 26 17.0	
comp=E,27nm,19.6s,baz=286,slow=37							
KEST	**Kesra**	**80.98**	**49**	LR	LR	20 50 37.0	
comp=E,60nm,18.1s,baz=206,slow=35							
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**20 16 19.1**	**-0.6**
comp=E,0.3nm,0.6s,baz=23,slow=5.4,SNR=4.0							

*IDC **27** 20:14:17.3±0.7, 52°.29N×169°.50W, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.3/61, mbtmp4.4/29, ML4.0/2, MS3.5/15, Ms1 3.5/15, ms1mx3.2/54, Error ellipse: s-maj=20.7km s-min=11.2km az=175.0*
*AEIC **27** 20:14:21.4±2.0, 52°.17N±0°.05×169°.35W±0°.06, h22km±4km, Error ellipse: s-maj=8.0km s-min=5.6km az=170.0*
*NEIC **27** 20:14:22.8±1.7, 52°.24N±0°.05×169°.37W±0°.06, h39km±7km, mb4.6/116, ML4.2/38(AEIC), Error ellipse: s-maj=8.3km s-min=2.7km az=218.0*
*ANF **27** 20:14:22.7±1.5, 52°.25N×169°.14W, h22km±8km, ML4.4/3, Error ellipse: s-maj=12.2km s-min=9.7km az=62.0*
ISC 27 20:14:21.9±0.5, 52°.08N±0°.07×169°.25W±0°.04, h35km±2km, n361, σ1§22/364, mb4.6/96, MS3.5/18, 3C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.92**	**15**	P	**Pn**	**20 14 36.9**	**-1.4**
baz=201,SNR=102							
NIKH				S	**Sn**	**20 14 46.7**	**-3.6**
baz=201							
NIKH	**Nikolski High**	**0.92**	**15**		**Pn**	**20 14 36.8**	**-1.6**
OKSP	**Okmok Steeple**	**1.31**	**26**		**Pn**	**20 14 42.8**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**1.50**	**29**		**Pn**	**20 14 46.0**	**-0.2**
OKNC	**Okmok New Cone**	**1.54**	**26**		**Pn**	**20 14 47.0**	**+0.2**
OKNC					**Sn**	**20 15 05.7**	**+0.2**
MAPS	**Pakushin South**	**2.22**	**38**		**Pn**	**20 14 56.3**	**+0.1**
MAPS					**Sn**	**20 15 24.0**	**+1.6**
MGOD	**Makushin Gods**	**2.24**	**39**		**Pn**	**20 14 56.7**	**+0.2**
MGOD					**Sn**	**20 15 24.5**	**+1.7**
MSW	**Makushin Switc**	**2.36**	**38**		**Pn**	**20 14 58.7**	**+0.6**
MNAT	**Makushin Natee**	**2.38**	**40**		**Pn**	**20 14 59.1**	**+0.7**
UNV	**Unalaska Valle**	**2.42**	**42**	P	**Pn**	**20 14 59.5**	**+0.6**
baz=227,SNR=42							
UNV				S	**Sn**	**20 15 26.9**	**-0.4**
baz=227							
UNV	**Unalaska Valle**	**2.42**	**42**		**Pn**	**20 14 59.3**	**+0.4**
UNV					**Sn**	**20 15 28.4**	**+1.1**
AKMO	**Akutan Morgan**	**2.80**	**43**		**Pn**	**20 15 05.7**	**+1.5**
AKRB	**Akutan Reef Bi**	**2.81**	**42**		**Pn**	**20 15 06.5**	**+2.3**
AKBBA	**Akutan Broad B**	**2.84**	**43**		**Pn**	**20 15 06.9**	**+2.2**
AKLV	**Akutan Long Va**	**2.88**	**42**		**Pn**	**20 15 07.4**	**+2.2**
AKGG	**Akutan Green G**	**2.89**	**41**		**Pn**	**20 15 07.7**	**+2.4**
AKUT	**Akutan**	**2.93**	**44**		**Pn**	**20 15 05.6**	**-0.3**
KOFP	**Korovin Flat P**	**2.99**	**276**		**Pn**	**20 15 07.2**	**+0.4**
ATKA	**Atka Island**	**3.05**	**274**		**Pn**	**20 15 07.0**	**-0.5**
KOKL	**Mount Kliuchef**	**3.06**	**276**		**Pn**	**20 15 08.3**	**+0.6**
GSTR	**Great Sitkin T**	**4.20**	**273**		**Pn**	**20 15 22.8**	**-0.7**
GSMY	**Great Sitkin M**	**4.20**	**272**		**Pn**	**20 15 23.5**	**+0.1**
GSTD	**Great Sitkin T**	**4.26**	**272**		**Pn**	**20 15 24.4**	**+0.2**
FALS	**False Pass**	**4.45**	**49**	Pn	**Pn**	**20 15 25.7**	**-1.1**
ADK	**Adak**	**4.60**	**270**		**Pn**	**20 15 26.3**	**-2.5**
KIWB	**Kanaga Island**	**4.89**	**270**	Pn	**Pn**	**20 15 32.1**	**-0.8**
KIMD	**Kanaga Island**	**4.96**	**269**		**Pn**	**20 15 33.8**	**+0.1**
SPIA	**Saint Paul Isl**	**5.14**	**354**	P	**Pn**	**20 15 37.6**	**+1.4**
baz=174,SNR=7.8							
SPIA				S	**Sn**	**20 16 35.5**	**+1.3**
baz=174							
SPIA	**Saint Paul Isl**	**5.14**	**354**		**Pn**	**20 15 37.8**	**+1.6**
SPIA					**Sn**	**20 16 35.8**	**+1.6**
TASE	**Tanaga Southea**	**5.44**	**271**		**Pn**	**20 15 40.9**	**+0.4**
SDPT	**Sand Point**	**6.15**	**54**	S	**Sn**	**20 16 57.5**	**-1.6**
baz=242							
SDPT	**Sand Point**	**6.15**	**54**		**Pn**	**20 15 51.6**	**+1.6**
CNBA	**Chernabura Isl**	**6.39**	**61**		**Pn**	**20 15 54.1**	**+0.7**
CHNA	**Chernabura Isl**	**6.39**	**61**	P	**Pn**	**20 15 54.2**	**+0.8**
baz=249							
CHNA				S	**Sn**	**20 17 02.2**	**-2.8**
baz=249							
AMKA	**Amchitka**	**7.15**	**269**		**Pn**	**20 16 04.3**	**+0.5**
OHAK	**Old Harbor**	**10.57**	**55**	P	**Pn**	**20 16 49.5**	**-1.2**
baz=248							
OHAK	**Old Harbor**	**10.57**	**55**	Pn	**Pn**	**20 16 50.0**	**-0.7**
KDAK	**Kodiak Island**	**11.14**	**53**	Pn	**Pn**	**20 16 57.9**	**-0.6**
1.4nm,0.3s,baz=211,slow=2.7,SNR=17							
KDAK					**Sn**	**20 18 57.1**	**-4.5**
0.4nm,0.3s,baz=318,slow=23,SNR=2.1							
KDAK	**Kodiak Island**	**11.14**	**53**	P	**Pn**	**20 16 58.2**	**-0.2**
baz=247							
N18K	**Kilae Creek**	**11.34**	**35**	P	**Pn**	**20 16 58.2**	**-3.0**
baz=227							
SVW2	**Sparrevohn**	**11.73**	**34**	Pn	**Pn**	**20 17 07.1**	**+0.5**
P19K	**Oil Pt**	**11.74**	**44**	P	**Pn**	**20 17 04.7**	**-2.0**
baz=237							
N19K	**Bonanza Creek**	**11.94**	**37**	P	**Pn**	**20 17 07.3**	**-2.1**
baz=230							
O20K	**Slope Mountain**	**12.23**	**43**	P	**Pn**	**20 17 11.1**	**-2.4**
baz=237							
RSO	**Redoubt South**	**12.39**	**41**		**Pn**	**20 17 15.1**	**-0.7**
HOM	**Homer**	**12.43**	**46**	Pn	**Pn**	**20 17 16.1**	**0.0**
CNPM	**China Poot**	**12.55**	**47**	Pn	**Pn**	**20 17 17.6**	**-0.1**
L19K	**White Mountain**	**12.75**	**32**	P	**Pn**	**20 17 19.6**	**-0.9**
baz=224,SNR=11							
BRLK	**Bradley Lake**	**12.82**	**46**	Pn	**Pn**	**20 17 20.7**	**-0.6**
BRSE	**Bradley Lake S**	**12.87**	**46**	P	**Pn**	**20 17 21.9**	**-0.2**
baz=242							
TNA	**Tin City**	**13.54**	**2**	P	**Pn**	**20 17 32.0**	**+0.9**
baz=184							
SEW	**Seward**	**13.61**	**46**	P	**Pn**	**20 17 31.2**	**-1.0**
baz=243							
SEW	**Seward**	**13.61**	**46**		**Pn**	**20 17 30.4**	**-1.8**
O22K	**Cooper Landing**	**13.68**	**44**		**Pn**	**20 17 32.6**	**-0.4**
SUA	**Susitna One**	**13.77**	**40**	P	**Pn**	**20 17 34.2**	**-0.3**
baz=236							
SKT	**Skwentna**	**13.78**	**37**	P	**Pn**	**20 17 33.5**	**-1.0**
baz=232							

comp=Z,30nm,0.8s
MDM Murphy Dome 16.82 32 P **Pn 20 18 12.8 -1.5**
HDA Harding Lake 16.91 35 P **Pn 20 18 14.6 -0.9**
H23K Yukon River 17.00 28 P **Pn 20 18 15.7 -0.9**
baz=226
MCARA McCarthy VSAT 17.02 47 P **Pn 20 18 16.0 -0.9**
MCARA IAmb IAmb 20 18 33.9
comp=Z,24nm,0.8s
ISLE Juniper Island 17.07 50 Pn **Pn 20 18 16.9 -0.7**
ISLE IAmb IAmb 20 18 30.0
comp=Z,20nm,0.7s
IL31 17.15 34 P **P 20 18 18.9 -0.8**
ILAR Eielson Array 17.15 34 P **Pn 20 18 15.4 -3.0**
comp=Z,0.2nm,0.3s,baz=225,slow=10,SNR=15
ILAR Eielson Array 17.15 34 P **Pn 20 18 17.6 -0.8**
YAH Yahtse 17.28 51 Pn **Pn 20 18 18.8 -1.6**
YAH IAmb IAmb 20 18 43.4
comp=Z,26nm,0.9s
RIDG Independent Ri 17.30 38 P **Pn 20 18 19.5 -0.9**
H24K Noodor Dome 17.50 30 P **Pn 20 18 22.1 -0.8**
baz=229,SNR=6.6
BARN Barnard Glacie 17.53 48 P **P 20 18 24.2 0.0**
DOT Dot Lake 17.56 39 P **Pn 20 18 22.6 -1.0**
CTG Chitna Glacier 17.65 49 P **Pn 20 18 23.6 -1.2**
baz=253
CTGM Chitina Glacie 17.65 49 P **P 20 18 26.4 +0.9**
SCRK Sand Creek 17.75 38 P **Pn 20 18 23.8 -2.3**
baz=240
SCRK Sand Creek 17.75 38 Pn 20 18 25.4 -0.6
LOGN Logan Glacier 17.76 49 Pn 20 18 26.2 0.0
M27K Edge Creek, AK 17.89 44 P **Pn 20 18 24.7 -3.0**
baz=248
PCA Pinnacle 17.93 52 P **P 20 18 29.5 +1.0**
PCA IAmb IAmb 20 18 36.9
comp=Z,25nm,0.6s
PRP Porcupine Dome 18.06 33 P **Pn 20 18 27.5 -2.3**
baz=234,SNR=5.7
PRP Porcupine Dome 18.06 33 P **Pn 20 18 28.6 -1.2**
L27K Beaver Creek, 18.19 42 P **P 20 18 29.4 -1.9**
baz=246
L27K Beaver Creek, 18.19 42 P **Pn 20 18 31.6 +0.3**
BCAR Beaver Creek A 18.21 42 P **P 20 18 31.3 -0.3**
K27K Chicken 18.52 39 P **Pn 20 18 35.8 +0.6**
TOLK Toolik Lake Re 19.08 22 P **P 20 18 41.1 0.0**
baz=220
TOLK Toolik Lake Re 19.08 22 P **P 20 18 41.0 0.0**
EGAK Eagle 19.22 38 P **P 20 18 41.7 -0.8**
baz=242
EGAK Eagle 19.22 38 P **P 20 18 42.1 -0.4**
HYT Haines Junctio 19.42 51 P **Pn 20 18 45.7 -0.6**
HYT IAmb IAmb 20 18 50.9
comp=Z,28nm,0.7s
BMAR Burnt Mountain 19.55 29 P **P 20 18 45.8 -0.4**
DAWY Dawson 19.60 41 P **P 20 18 47.0 +0.3**
PEA0B Petropavlovsk- 20.01 286 P **P 20 18 50.5 -0.7**
PEA0B IAmb IAmb 20 18 51.3
comp=Z,31nm,0.6s
PETK Petropavlovsk- 20.01 286 P **P 20 18 49.5 -1.8**
comp=Z,5.1nm,0.3s,baz=89,slow=12,SNR=147
PETK LR LR 20 26 56.7
comp=Z,68nm,19.4s,baz=108,slow=38
PETK Petropavlovsk- 20.01 286 P **P 20 18 49.7 -1.5**
SKAG Skagway 20.27 55 P **P 20 18 54.7 +0.7**
SKAG IAmb IAmb 20 19 20.0
comp=Z,18nm,0.8s
BESE Bessie Mountai 20.44 58 P Pn 20 18 58.4 +0.1
BESE IAmb IAmb 20 19 24.1
comp=Z,33nm,1.2s
WHY Whitehorse 20.66 52 P **P 20 18 59.4 +1.1**
baz=261,SNR=11
WHY Whitehorse 20.66 52 P Pn 20 19 00.0 -0.8
WHY IAmb IAmb 20 19 05.4
comp=Z,29nm,0.8s
JIS Juneau Island 20.67 59 P **P 20 18 58.2 -0.2**
JIS IAmb IAmb 20 19 13.0
comp=Z,12nm,0.6s
EPYK Eagle Plains 21.59 36 P **P 20 19 06.7 -1.5**
baz=245,SNR=16
EPYK Eagle Plains 21.59 36 P **P 20 19 06.6 -1.6**
EPYK IAmb IAmb 20 19 16.3
comp=Z,21nm,0.7s
MA2 Magadan 23.36 304 P **P 20 19 25.3 -1.6**
comp=Z,10nm,0.7s,baz=91,slow=11,SNR=8.4
MA2 LR LR 20 29 36.0
comp=Z,68nm,18.2s,baz=100,slow=40
MA2 Magadan 23.36 304 P **P 20 19 26.1 -0.7**
MA2 IAmb IAmb 20 19 54.2
comp=Z,29nm,1.3s
INK Inuvik 23.54 33 P **P 20 19 27.2 -1.3**
comp=Z,6.1nm,0.5s,baz=234,slow=7.2,SNR=22
INK Inuvik 23.54 33 P **P 20 19 26.8 -1.7**
baz=245,SNR=8.2
INK Inuvik 23.54 33 P **P 20 19 27.1 -1.3**
C36M Paulatuk 27.12 34 P **P 20 19 59.1 -1.9**
baz=254
YKA Yellowknife Ar 30.37 48 P **P 20 20 30.8 +0.8**
comp=Z,2.8nm,0.7s,baz=273,slow=10.0,SNR=21
YKA LR LR 20 34 41.7
comp=Z,78nm,18.6s,baz=0.0,slow=40
JKA Kamikawa-asahi 32.61 275 P **P 20 20 50.0 +0.1**
JKA IAmb IAmb 20 20 51.2
comp=Z,16nm,1.0s
NEW Newport 33.01 76 P **P 20 20 54.9 +1.5**
comp=Z,3.0nm,0.6s,baz=281,slow=6.4,SNR=3.2
H11N2 WAKE ISLAND Hy 37.28 219 T T 21 01 25.7
baz=24
H11N3 WAKE ISLAND Hy 37.28 219 T T 21 02 00.5
baz=24,slow=74
H11N1 WAKE ISLAND Hy 37.30 219 T T 21 02 10.5
baz=24,slow=74
NVAR Mina Array Bea 37.58 91 P **P 20 21 34.5 +1.4**
comp=Z,0.2nm,0.6s,baz=303,slow=8.5,SNR=1.7
NVAR LR LR 20 34 33.9
comp=Z,44nm,18.3s,baz=266,slow=32
BOZ Bozeman (W) 37.59 76 P **P 20 21 34.4 +1.5**
ELK Elko 38.08 85 P **P 20 21 38.7 +1.5**
comp=Z,0.3nm,0.4s,baz=292,slow=9.9,SNR=1.5
ELK LR LR 20 34 12.7
comp=Z,72nm,20.5s,baz=284,slow=31
H11S1 WAKE ISLAND Hy 38.46 218 T T 21 02 58.5
baz=23,slow=76,SNR=210
H11S2 WAKE ISLAND Hy 38.48 218 T T 21 02 59.9
baz=23,slow=76,SNR=155
H11S3 WAKE ISLAND Hy 38.48 218 T T 21 02 49.6
baz=23,slow=76,SNR=143
YHH Holmes Hill 38.49 77 P **P 20 21 42.3 +1.7**
YHH IAmb IAmb 20 21 47.1
comp=Z,6.3nm,1.2s
USRK Ussuriysk Ar. 39.03 282 LR LR 20 36 37.3
comp=Z,71nm,21.6s,baz=55,slow=34
MJAR Matsushiro Arr 39.76 268 P **P 20 21 50.8 -0.2**
comp=Z,0.9nm,0.5s,baz=229,slow=42,SNR=3.1
MAT Matsushiro 39.76 268 P **P 20 21 50.9 -0.2**
PD31 Pinedale Array 40.38 79 P **P 20 21 57.1 +0.7**
PDAR Pinedale Array 40.38 79 P **P 20 21 58.6 +2.2**
comp=Z,1.5nm,0.5s,baz=303,slow=2.7,SNR=12
PDAR Pinedale Array 40.38 79 P **P 20 21 57.7 +1.3**
LCMT Little Creek M 41.59 88 P **P 20 22 03.2 -3.1**
LCMT IAmb IAmb 20 22 20.3
comp=Z,6.5nm,0.8s
CN2 Changchun 43.16 286 *eP* **P 20 22 17.8 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,200nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
ULM Lac du Bonnet 44.22 62 P **P 20 22 28.1 +0.9**
comp=Z,2.2nm,0.6s,baz=280,slow=6.4,SNR=3.7
NEEM North Greenlan 45.24 16 *i P* **P 20 22 35.4 -0.1**
NEEM IAmb IAmb 20 22 36.0
comp=Z,6.6nm,0.6s
AGMN Agassiz Nation 45.28 64 P **P 20 22 35.7 -0.1**
AGMN IAmb IAmb 20 22 49.0
comp=Z,4.9nm,0.8s
KSRS Korea Array 45.51 277 P **P 20 22 36.6 -1.0**
comp=Z,6.0nm,0.9s,baz=56,slow=7.6,SNR=31
KSRS PcP **PcP 20 24 17.1 +1.2**
comp=Z,0.4nm,0.5s,baz=60,slow=6.5,SNR=1.4
KSRS LR LR 20 41 03.5
comp=Z,32nm,19.2s,baz=64,slow=35
KS19 Wonju Array Si 45.52 277 P **P 20 22 36.2 -1.5**
KS19 IAmb IAmb 20 22 39.5
comp=Z,7.5nm,0.8s
KSAR Wonju Array Be 45.54 277 P **P 20 22 36.0 -1.9**
NOR Nord 45.75 5 *i P* **P 20 22 38.7 -0.3**
NOR IAmb IAmb 20 22 39.4
comp=Z,5.8nm,1.1s
B35A Bob, Littlefor 46.43 63 P **P 20 22 44.9 +0.1**
B35A IAmb IAmb 20 23 00.6
comp=Z,5.7nm,0.9s
T25A Trinidad 46.94 82 P **P 20 22 50.6 +1.4**
T25A IAmb IAmb 20 23 06.2
comp=Z,6.2nm,0.8s
ECSD EROS Data Cent 47.50 70 P **P 20 22 53.2 0.0**
ECSD IAmb IAmb 20 22 54.9
comp=Z,3.3nm,0.7s
EYMN Ely 47.89 62 P **P 20 22 56.1 -0.1**
EYMN IAmb IAmb 20 23 09.3
comp=Z,6.5nm,1.0s
FRB Frobisher Bay 49.17 35 P **P 20 23 06.2 +0.5**
comp=Z,5.4nm,0.6s,baz=172,slow=6.5,SNR=2.0
I37A Lemond, Waseca 49.18 68 P **P 20 23 06.0 -0.1**
KBS Kingsbay 49.25 360 *eP* **P 20 23 06.3 +0.1**
DAG Danmarks Havn 50.06 8 *i P* **P 20 23 12.0 -0.4**
DAG IAmb IAmb 20 23 12.4
comp=Z,9.1nm,0.8s
SUMG Summit 51.03 17 *i P* **P 20 23 20.8 +0.6**
SUMG IAmb IAmb 20 23 22.8
comp=Z,9.7nm,0.8s
SUMG Summit 51.03 17 P **P 20 23 20.7 +0.4**
SUMG IAmb IAmb 20 23 23.0
comp=Z,9.6nm,0.7s
HSPB Hornsund (broa 51.15 359 *eP* **P 20 23 20.8 +0.3**
E43A Lone Tree Farm 51.29 62 P **P 20 23 21.5 -0.6**
E43A IAmb IAmb 20 23 35.5
comp=Z,5.8nm,0.7s
SONM Songino Array 51.51 301 P **P 20 23 23.0 -0.9**
comp=Z,3.5nm,0.8s,baz=57,slow=6.1,SNR=23
SONM PcP **PcP 20 24 38.2 +0.5**
comp=Z,0.9nm,0.5s,baz=94,slow=1.4,SNR=4.4
SONM LR LR 20 47 10.1
comp=Z,124nm,19.0s,baz=60,slow=38
SONM Songino Array 51.51 301 P **P 20 23 23.0 -0.9**
SONM IAmb IAmb 20 23 24.4
comp=Z,5.1nm,1.1s
DBG Daneborg 52.18 10⇑ *iP* **P 20 23 27.7 -0.6**
DBG IAmb IAmb 20 23 28.4
comp=Z,9.2nm,0.6s
TX31 Lajitas Ar. Si 52.68 89 P **P 20 23 33.1 +0.3**
TX32 Lajitas Array 52.68 89 P **P 20 23 33.0 +0.3**
TX32 IAmb IAmb 20 23 49.2
comp=Z,4.5nm,0.8s
TXAR Lajitas Array 52.68 89 P **P 20 23 34.5 +1.7**
comp=Z,1.2nm,0.7s,baz=301,slow=5.1,SNR=12
TXAR LR LR 20 45 35.1
comp=Z,62nm,18.3s,baz=0.0,slow=36
TXAR Lajitas Array 52.68 89 P **P 20 23 32.9 +0.1**
P40A Paris 52.80 71 P **P 20 23 33.3 -0.1**
P40A IAmb IAmb 20 23 34.9
comp=Z,14nm,1.0s
BJO1 Bjornoya 53.58 357 *eP* **P 20 23 37.3 -1.3**
ICESG Greenland Ices 53.61 20 *i P* **P 20 23 39.2 -0.1**
ICESG IAmb IAmb 20 23 41.1
comp=Z,7.5nm,0.7s
MIAR Mount Ida 55.23 77 P **P 20 23 52.2 +1.0**
MIAR IAmb IAmb 20 24 06.3
comp=Z,5.3nm,1.1s
SCHQ Schefferville 55.59 43 P **P 20 23 54.5 +1.0**
comp=Z,10nm,0.9s,baz=318,slow=7.9,SNR=8.1
SCHQ Schefferville 55.59 43 P **P 20 23 53.6 +0.1**
SCHQ IAmb IAmb 20 23 55.4
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 57.69 318 P **P 20 24 07.0 -1.3**
comp=Z,1.6nm,0.5s,baz=55,slow=3.4,SNR=10
ZALV PcP **PcP 20 25 00.6 -0.4**
comp=Z,0.8nm,0.5s,baz=44,slow=4.4,SNR=2.1
ZALV Zalesovo Beam 57.69 318 P **P 20 24 06.6 -1.8**
ARA0 ARCESS Array S 58.21 354 *eP* **P 20 24 11.5 -0.3**
ARCES ARCESS Array B 58.21 354 P **P 20 24 11.0 -0.9**
comp=Z,2.1nm,0.5s,baz=20,slow=6.5,SNR=19
ARCES LR LR 20 51 16.5
comp=Z,38nm,18.9s,baz=160,slow=38
TRO Tromso 58.45 357 *eP* **P 20 24 13.0 -0.4**
WHN Wuhan 58.46 280 ⇑P **P 20 24 14.0 -0.1**
WHN pmax pmax
comp=Z,42nm,1.0s
JETT Jettan, Norway 58.47 356 *eP* **P 20 24 12.7 -1.0**
L56A Greenwood 59.17 60 P **P 20 24 19.7 +0.7**
XAN Xi'an 59.25 287 P **P 20 24 19.8 +0.1**
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,53nm,5.1s
J58A Remsen 59.52 58 P **P 20 24 19.4 -1.9**
STEI Steigen 60.26 358 *eP* **P 20 24 25.6 -0.4**
GTA Gaotai 60.68 297 *eP* **P 20 24 28.5 -1.0**
GTA pP pP 20 24 33.5 -5.7
GTA sP pwP 20 24 36.3 -7.1
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,47nm,6.0s
GTA LR LR
comp=N,57nm,16.3s
GTA LR LR
comp=E,97nm,19.9s
GTA LR LR
comp=Z,99nm,15.5s
FAUS Fauske 60.81 358 *eP* **P 20 24 28.1 -1.7**
BORG Borgarnes 60.89 15 LR LR 20 54 32.5
comp=Z,63nm,18.2s,baz=342,slow=40
ENH Enshi 61.59 284 P **P 20 24 35.1 -0.5**
MOR8 Moi Rana 62.04 358 *eP* **P 20 24 36.4 -1.7**
V58A Windy Hill, Pi 62.80 66 P **P 20 24 43.3 -0.4**
LMN Caledonia Moun 62.92 49 P **P 20 24 45.0 +0.8**
NSS Namsos 63.72 359 *eP* **P 20 24 49.1 -0.1**
WMQ Urumqi 63.77 308 *eP* **P 20 24 53.3 +3.3**
BRVK Borovoye 63.99 325 P **P 20 24 50.6 -0.6**
BRVK IAmb IAmb 20 24 51.9
comp=Z,14nm,1.4s
MK31 Makanchi Array 64.06 314 P **P 20 24 49.8 -2.0**
MKAR Makanchi Array 64.06 314 P **P 20 24 50.6 -1.2**
comp=Z,1.2nm,0.4s,baz=53,slow=5.9,SNR=25
MKAR LR LR 20 55 52.0
comp=Z,45nm,18.7s,baz=35,slow=39
MKAR Makanchi Array 64.06 314 P **P 20 24 49.7 -2.1**
MAKZ Makanchi 64.19 314 P **P 20 24 50.4 -2.2**
MAKZ IAmb IAmb 20 24 52.3
comp=Z,4.3nm,1.1s
CD2 Chengdu 64.53 288 P **P 20 24 55.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,1.0s
ARU Arti 64.91 333 P **P 20 24 56.1 -1.1**
ARU IAmb IAmb 20 24 58.1
comp=Z,14nm,1.4s
KLMR Klimovskoe 65.08 345 *eP* P 20 24 52.2 -6.0
KLMR AMP 20 24 53.8
comp=Z,20nm,1.7s
MOL Molde 65.66 2 *eP* **P 20 25 01.8 -0.1**
AKN Aaknes 66.05 2 *eP* **P 20 25 04.5 0.0**
GYA Guiyang 66.07 283 P **P 20 25 04.5 -0.8**
GYA pP pP 20 25 09.5 -5.6
GYA pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 66.16 352 P **P 20 25 04.5 -0.7**
comp=Z,4.8nm,0.6s,baz=7.7,slow=8.5,SNR=25
FINES LR LR 20 53 53.9
comp=Z,33nm,21.7s,baz=1.0,slow=36
DOMB Dombas 66.21 1 *eP* **P 20 25 05.1 -0.4**
FOO Floro 66.58 3 *eP* **P 20 25 07.3 -0.5**
NC204 NORSAR Array S 66.99 360 P **P 20 25 10.1 -0.4**
NC300 NORSAR Array S 67.00 360 P **P 20 25 10.5 -0.1**
NC303 NORSAR Array S 67.04 360 P **P 20 25 09.4 -1.4**
NC405 NORSAR Array S 67.15 359 P **P 20 25 10.3 -1.2**
NB201 NORSAR Array S 67.22 360 P **P 20 25 11.9 0.0**
NB2 NORSAR Subarra 67.23 360 P **P 20 25 11.7 -0.3**
comp=Z,2.2nm,0.6s,baz=0.1,slow=6.5
NB2 NORSAR Subarra 67.23 360 P **P 20 25 11.7 -0.3**
baz=0.1,slow=6.5
NOA NORSAR Array B 67.23 360 P **P 20 25 10.5 -1.5**
comp=Z,3.7nm,0.7s,baz=0.4,slow=6.3,SNR=18
NOA LR LR 20 53 50.8
comp=Z,14nm,19.8s,baz=195,slow=35
MEF Metsahovi 67.51 353 *eP* **P 20 25 13.5 -0.3**
NC602 NORSAR Array S 67.53 360 *eP* **P 20 25 14.1 +0.2**
SKAR Skarslia 67.57 1 *eP* **P 20 25 14.1 -0.1**
BER Bergen 67.80 3 *eP* **P 20 25 15.0 -0.6**
ODD1 Odda 68.31 2 *eP* **P 20 25 19.1 +0.2**
KONO Kongsberg 68.62 1 *eP* **P 20 25 20.9 +0.2**
KONO Kongsberg 68.62 1 P **P 20 25 20.6 -0.2**
BLS5 Blasjo 68.79 2 *eP* **P 20 25 21.9 0.0**
VSU Vasula 69.05 351 *eP* **P 20 25 23.4 0.0**
MTSE Matsula 69.05 353 *eP* **P 20 25 20.6 -2.7**
KMI Kunming 69.41 285 ⇑P **P 20 25 27.0 +0.5**
KMI pP pP 20 25 31.5 -4.9
KMI sP sP 20 25 33.8 -6.3
KMI pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 69.98 313 P **P 20 25 28.7 -1.0**
TARG Taragay, Kyrgy 70.02 313 P **P 20 25 29.1 -1.2**
TARG IAmb IAmb 20 25 32.3
comp=Z,3.9nm,0.7s
TKM2 Tokmak 2 70.05 315 P **P 20 25 30.2 0.0**
SNR=6.7
BOOM Boomskoye usch 70.24 314 P **P 20 25 31.5 +0.2**
USP Ospenovka 70.24 316 P **P 20 25 30.7 -0.5**
SNR=16
KBK Karagaybulak 70.54 315 P **P 20 25 33.7 +0.6**
SNR=5.6
ABKAR Akbulak array 70.72 328 P **P 20 25 32.7 -1.1**
ABKAR Akbulak array 70.72 328 P **P 20 25 32.6 -1.2**
ABKAR IAmb IAmb 20 25 35.0
comp=Z,5.2nm,0.8s
AAK Ala-Archa 70.75 315 P **P 20 25 31.8 -2.6**
EKS2 Erkin-Say 71.04 316 P **P 20 25 36.4 +0.3**
SNR=14
AML Almayashu 71.51 316 P **P 20 25 40.1 +0.9**
SNR=7.0
PBUR Paburge 71.86 353 *eP* **P 20 25 40.8 +0.2**
KK31 Karatay Array 72.05 318 P **P 20 25 40.8 -1.2**
KK31 IAmb IAmb 20 25 43.0
comp=Z,9.4nm,0.9s
KKAR Karatay Array 72.05 318 P **P 20 25 40.3 -1.8**
KKAR Karatay Array 72.05 318 P **P 20 25 41.2 -0.8**
KKAR IAmb IAmb 20 25 43.0
comp=Z,9.4nm,0.9s
IIGN Ignalina 72.17 351 *eP* **P 20 25 42.5 +0.1**
PABE Paberze 72.22 352 *eP* **P 20 25 43.1 +0.4**
PABE Paberze 72.22 352 P **P 20 25 41.9 -0.9**
LSA Lhasa 72.64 296 P **P 20 25 45.9 -0.4**
MNK Minsk 72.83 350 *i P* **P 20 25 46.6 +0.2**
comp=E,2.0nm,1.1s
MNK *i* P **P 20 25 46.6 +0.2**
comp=N,20nm,1.0s
MNK *i* P **P 20 25 46.6 +0.2**
comp=Z,22nm,1.0s,baz=191
MNK *i* PcP **PcP 20 26 04.2 +0.8**
MNK *i* PP **PP 20 28 27.4 -0.5**
MNK *i* PPP PPP 20 30 11.5
MNK *i* S **S 20 35 11.2 +1.7**
MNK *i* ScS **ScS 20 35 53.3 +2.5**
MNK *i* SS **SS 20 39 50.6 +2.1**
MNK *i* SSS SSS 20 43 10.8
MNK *i* LQ LQ 20 52 41.1
MNK *i* LR LR 20 55 16.0
MNK *i* LRM MLR 20 59 34.7
comp=Z,118nm,20.6s
MNK *i* LRM MLR 20 59 46.7
comp=N,26nm,19.8s
MNK *i* LRM MLR 20 59 48.4
comp=E,2.0nm,15.4s
SUW Suwalki 73.77 352 *eP* **P 20 25 51.6 -0.3**
SUW Suwalki 73.77 352 *eP* **P 20 25 51.3 -0.6**
SUW Suwalki 73.77 352 P **P 20 25 50.9 -1.0**
BTK Batken 74.45 316 P **P 20 25 55.6 -0.7**
NONG Nongkai 74.51 279 P **P 20 25 59.0 +2.2**
comp=E,6μmcomp=E,12nm,1.1s
SKNT Sakolnakorn 74.84 278 P P 20 26 10.8 +12
SKNT Sakolnakorn 74.84 278 P P 20 26 10.8 +12
comp=E,20nm,1.1s
SHL Shillong 75.42 293 P **P 20 26 01.4 -0.9**
GAR Garm 75.55 316 P **P 20 26 01.4 -1.3**
BEL Belsk 76.11 354 *eP* **P 20 26 04.6 -0.9**
CHGR Chuyangaron 76.33 317 P **P 20 26 06.8 -0.3**
CM34 Chiang Mai Arr 76.33 283 P **P 20 26 08.0 +0.7**
UTTA Uttaradit 76.33 281 P **P 20 26 08.4 +1.2**
comp=E,41nmcomp=E,4.6nm,0.8s
AKASG Malin Array Be 76.40 348 P **P 20 26 06.3 -0.9**
comp=E,6.3nm,0.5s,baz=17,slow=6.1,SNR=8.3
AKASG LR LR 21 04 17.4
comp=E,26nm,18.9s,baz=305,slow=39
AKASG Malin Array Be 76.40 348 P **P 20 26 05.7 -1.5**
AKBB Malin Array Si 76.40 348 P **P 20 26 06.5 -0.7**
AKBB IAmb IAmb 20 26 07.1
comp=Z,9.7nm,0.7s
CM35 Chiang Mai Arr 76.46 283 P **P 20 26 09.0 +1.0**
CM31 Chiang Mai Arr 76.75 283 P **P 20 26 11.0 +1.3**
comp=Z,290nm,0.9s
CM31 Chiang Mai Arr 76.75 283 **P 20 26 08.9 -0.8**
CM31 IAmb IAmb 20 26 11.3
comp=Z,9.8nm,0.8s
CMAR Chiang Mai Arr 76.75 283 P **P 20 26 09.8 +0.1**
comp=Z,7.3nm,0.9s,baz=25,slow=6.6,SNR=31
CMAR Chiang Mai Arr 76.75 283 P **P 20 26 09.6 -0.1**
CM02 Chiang Mai Arr 76.77 283 P **P 20 26 11.1 +1.3**
comp=Z,96nmcomp=Z,14nm,0.9s
CM02 Chiang Mai Arr 76.77 283 P **P 20 26 11.2 +1.3**
comp=Z,96nmcomp=Z,14nm,0.9s
CM15 Chiang Mai Arr 76.77 283 P **P 20 26 11.3 +1.5**
comp=Z,77nmcomp=Z,8.3nm,1.0s
CM15 Chiang Mai Arr 76.77 283 P **P 20 26 11.4 +1.6**
comp=Z,77nmcomp=Z,8.3nm,1.0s
CM01 Chiang Mai Arr 76.77 283 P **P 20 26 11.7 +1.9**
comp=Z,88nmcomp=Z,11nm,0.9s
CM01 Chiang Mai Arr 76.77 283 P **P 20 26 11.0 +1.2**
comp=Z,88nmcomp=Z,11nm,0.9s
CM04 Chiang Mai Arr 76.78 283 P **P 20 26 11.3 +1.5**
comp=Z,109nmcomp=Z,13nm,0.9s
CM04 Chiang Mai Arr 76.78 283 P **P 20 26 11.0 +1.2**
comp=Z,109nmcomp=Z,13nm,0.9s
CM05 Chiang Mai Arr 76.80 283 P **P 20 26 11.6 +1.7**
comp=Z,91nmcomp=Z,11nm,0.9s
CM05 Chiang Mai Arr 76.80 283 P **P 20 26 11.7 +1.7**
comp=Z,91nmcomp=Z,11nm,0.9s
CM13 Chiang Mai Arr 76.80 283 P **P 20 26 11.2 +1.3**
comp=Z,92nmcomp=Z,12nm,0.9s
CM13 Chiang Mai Arr 76.80 283 P **P 20 26 11.2 +1.3**
comp=Z,92nmcomp=Z,12nm,0.9s
PHIT Phitsanulok 76.84 281 P P 20 26 23.9 +14
CLL Collm 76.97 359 *eP* **P 20 26 10.0 -0.4**
comp=Z,7.0nm,1.0s
CLL Collm 76.97 359 P **P 20 26 09.5 -0.8**
CLL IAmb IAmb 20 26 11.5
comp=Z,8.0nm,1.1s
KSP Ksiaz 77.34 356 *eP* **P 20 26 13.2 +0.8**
BRG Berggiesshubel 77.38 358 *eP* **P 20 26 12.9 +0.2**
BRG Amp 20 26 13.8
comp=Z,3.2nm,0.7s
CHVC Chvalec 77.61 357 *eP* **P 20 26 14.8 +0.8**
OSTC Ostas 77.63 356 *eP* **P 20 26 15.2 +1.1**
PVCC Panska Ves 77.71 358 *eP* **P 20 26 15.6 +1.0**
OJC Ojcow 77.78 354 P **P 20 26 14.6 -0.4**
OJC IAmb IAmb 20 26 16.4
comp=Z,7.7nm,1.1s
DPC Dobruska-Polom 77.83 356 *eP* **P 20 26 16.2 +0.9**
NKC Novy Kostel 78.05 359 *eP* **P 20 26 17.3 +0.8**
KRLC Kraliky 78.09 356 *eP* **P 20 26 17.5 +0.8**
PRU Pruhonice 78.25 358 *eP* **P 20 26 18.2 +0.6**
MORC Moravsky Berou 78.35 356 *eP* **P 20 26 18.5 +0.3**
NIL Nilore 78.68 311 P **P 20 26 20.4 +0.1**
VRAC Vranov 78.86 356 *eP* **P 20 26 21.5 +0.5**
LANS Liptovska Anna 78.87 354 *eP* **P 20 26 22.5 +1.4**
KOLS Kolonicke sedl 78.88 352 *eP* **P 20 26 21.3 +0.2**
KRUC Moravsky 79.12 356 *eP* **P 20 26 22.6 +0.3**
KHC Kasperske Hory 79.13 358 *eP* **P 20 26 23.3 +0.8**
KHC Kasperske Hory 79.13 358 P **P 20 26 23.1 +0.6**
KHC IAmb IAmb 20 26 24.6
comp=Z,7.6nm,1.2s
JAVC Velka Javorina 79.26 355 *eP* **P 20 26 24.5 +1.3**
GEC2 GERESS Array S 79.42 358 P **P 20 26 24.6 +0.5**
GEC2 IAmb IAmb 20 29 09.0
comp=Z,14nm,1.9s
GERES GERESS Array B 79.42 358 P **P 20 26 24.0 -0.1**
comp=Z,2.1nm,0.8s,baz=18,slow=4.8,SNR=15
CKRC Cesky Krumlov 79.43 358 *eP* **P 20 26 24.8 +0.7**
VYHS Vyhne 79.56 355 *eP* **P 20 26 25.5 +0.7**
SMOL Smolenice 79.62 355 *eP* **P 20 26 26.4 +1.3**
MODS Modra-Piesok 79.77 356 *eP* **P 20 26 28.2 +2.3**
KBL Kabul 79.84 314 P **P 20 26 25.9 -0.9**
KBL IAmb IAmb 20 26 26.8
comp=Z,11nm,0.8s
BUR08 Bucovina Ar. S 79.88 350 P **P 20 26 26.3 -0.4**

BUR08				IAmb	IAmb	20 26 27.6
	comp=Z,3.8nm,0.9s					
BURAR	Bucovina Array	79.91	350	P	P	20 26 26.4 -0.4
CONA	Conrad Observa	80.27	357	*i* P	P	20 26 29.9 +1.1
	comp=Z,7.5nm,0.9s,SNR=7.9					
KIV	Kislovodsk	80.44	337	P	P	20 26 30.2 +0.4
KIV				IAmb	IAmb	20 26 33.2
	comp=Z,11nm,0.8s					
KBZ	Khabaz	80.60	337	P	P	20 26 30.8 +0.3
	comp=Z,7.1nm,0.8s,baz=42,slow=3.4,SNR=21					
RETA	Reutte	80.81	360	*e*P	P	20 26 33.6 +2.0
	comp=Z,4.4nm,0.8s					
MOTA	Moosalm	80.95	360	*e*P	P	20 26 33.5 +1.0
	comp=Z,6.1nm,0.8s					
WATA	Walderalm	80.96	359	*e*P	P	20 26 33.2 +0.7
	comp=Z,6.1nm,0.9s					
ARSA	Arzberg	80.96	357	*e*P	P	20 26 33.6 +1.2
	comp=Z,4.5nm,0.7s					
WTTA	Wattenberg	81.03	359	*e*P	P	20 26 34.3 +1.4
	comp=Z,6.0nm,0.6s					
SQTA	Sankt Quirin	81.07	360	*e*P	P	20 26 34.2 +1.1
	comp=Z,7.8nm,1.0s					
KBA	Koelnbreinsper	81.19	358	*e*P	P	20 26 35.3 +1.5
	comp=Z,17nm,1.0s					
FETA	Feichten	81.27	0	*i* P	P	20 26 35.4 +1.2
	comp=Z,9.1nm,1.0s,SNR=6.3					
GEYT	Alibeck	81.31	324	P	P	20 26 34.5 +0.2
	comp=Z,5.9nm,0.9s,baz=233,slow=8.9,SNR=8.3					
ABTA	Abfaltersbach	81.54	359	*e*P	P	20 26 36.9 +1.4
	comp=Z,3.8nm,0.7s					
SOKA	Soboth	81.55	357	*i* P	P	20 26 36.5 +0.9
	comp=Z,11nm,1.0s,SNR=9.4					
MYKA	Terra Mystica	81.63	358	*e*P	P	20 26 37.3 +1.3
	comp=Z,6.5nm,1.0s					
OBKA	Obir	81.73	357	*i* P	P	20 26 37.7 +1.2
	comp=Z,6.9nm,0.9s,SNR=5.1					
TEOL	Teolo	82.93	359	P	P	20 26 43.1 +0.4
DIVS	Divibare	83.86	353	P	P	20 26 47.0 -0.6
DIVS				IAmb	IAmb	20 26 49.2
	comp=Z,2.4nm,0.8s					
VTS	Vitosha	85.06	351	P	P	20 26 53.5 -0.3
VTS				IAmb	IAmb	20 26 55.0
	comp=Z,2.7nm,0.8s					
NRCA	Norcia	85.44	358	P	P	20 26 56.1 +0.5
NRCA				IAmb	IAmb	20 26 57.8
	comp=Z,7.5nm,0.8s					
INTR	Introdacqua	86.24	358	P	P	20 26 60.0 +0.3
BRTR	Keskin Array B	86.42	343	P	P	20 27 00.9 +0.3
	comp=Z,1.1nm,0.7s,baz=141,slow=0.8,SNR=6.8					
ALN	Alexandroupoli	86.45	348	P	P	20 27 00.5 0.0
WRA	Warramunga Arr	86.89	232	P	P	20 27 02.3 -0.5
	comp=Z,1.0nm,0.8s,baz=42,slow=5.8,SNR=5.0					
FNA	Florina	87.05	352	P	P	20 27 03.2 -0.3
ESDC	Sonseca Array	87.72	11	P	P	20 27 06.2 -0.6
	comp=Z,2.6nm,0.9s,baz=343,slow=5.7,SNR=12					
ESDC	Sonseca Array	87.72	11	P	P	20 27 07.2 +0.3
ESDC				IAmb	IAmb	20 27 08.2
	comp=Z,2.5nm,0.9s					
ASAR	Alice Springs	90.27	230	P	P	20 27 19.1 +0.4
	comp=Z,1.6nm,0.9s,baz=30,slow=4.6,SNR=8.0					
H03N2	Juan Fernandez	115.75	112	T	T	22 39 48.2
	baz=314					
H03N1	Juan Fernandez	115.76	112	T	T	22 39 44.8
	baz=314					
H03N3	Juan Fernandez	115.77	112	T	T	22 39 43.4
	baz=314					
KMBO	Kilima Mbogo	124.58	327	PKP	PKiKP	20 33 19.2 +1.0
	comp=Z,1.6nm,0.8s,baz=54,slow=14,SNR=4.2					

*IDC **27** 20:15:59.6±0.9,5°.37S×152°.12E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/43, mbtmp4.2/14, ML2.9/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/33, Error ellipse: s-maj=33.0km s-min=14.3km az=119.0*

*NEIC **27** 20:16:07.9±1.2,5°.3S±0°.1×151°.9E±0°.2, h51km±7km, mb4.5/22, Error ellipse: s-maj=26.7km s-min=8.3km az=122.0*

ISC 27 20:16:06.6±0.7,5°.40S±0°.10×152°.0E±0°.1, h45km, n54, σ1s25/51, mb4.3/23, MS3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.21	6	Pn	Pn	20 16 27.6	+0.6
RABL	Rabaul	1.21	6	P	Pn	20 16 28.8	+1.8
PMG	Port Moresby	6.27	230	Pn	Pn	20 17 35.8	-0.7
	6.3nm,0.3s,baz=57,slow=8.8,SNR=14						
PMG				Sn	Sn	20 18 45.1	-1.8
	14nm,0.3s,baz=329,slow=19,SNR=10.0						
PMG	Port Moresby	6.27	230		Pn	20 17 36.4	-0.2
PMG					Sn	20 18 47.1	+0.2
PMG	Port Moresby	6.27	230	P	Pn	20 17 38.7	+2.2
PMG	Port Moresby	6.27	230	P	Pn	20 17 38.7	+2.2
HNR	Honiara	8.80	118	LR	LR	20 20 54.2	
	comp=Z,95nm,18.8s,baz=274,slow=34						
CTA	Charters Tower	15.65	201	Pn	Pn	20 19 43.1	-1.0
	0.1nm,0.3s,baz=354,slow=9.2,SNR=1.4						
DZM	Mont Dzumac	21.65	141	LR	LR	20 28 43.4	
	comp=Z,144nm,18.4s,baz=274,slow=35						
MTN	Manton Dam	21.92	249	P	P	20 20 56.1	-0.2
MTN				IAmb	IAmb	20 20 58.9	
	comp=Z,16nm,0.6s						
WB0	Warramunga Arr	22.34	229	P	P	20 21 00.9	+0.1
WB0				IAmb	IAmb	20 21 21.9	
	comp=Z,10nm,1.0s						
WR0	Warramunga Arr	22.34	228	P	P	20 21 00.8	0.0
WR0				IAmb	IAmb	20 21 08.7	
	comp=Z,8.5nm,1.0s						
WRAB	Tennant Creek	22.47	228	P	P	20 21 01.8	-0.4
WB2	Warramunga Arr	22.48	228	P	P	20 21 01.8	-0.5
WB2				IAmb	IAmb	20 21 09.5	
	comp=Z,8.9nm,0.7s						
WRA	Warramunga Arr	22.48	228	P	P	20 21 01.1	-1.3
	comp=Z,2.2nm,0.5s,baz=53,slow=9.5,SNR=19						
WRA	Warramunga Arr	22.48	228	IAmb	IAmb	20 21 09.4	
	comp=Z,0.3nm,0.9s						
KNRA	Kununurra	25.03	244		P	20 21 26.4	-0.3
AS31	Alice Springs	25.20	222	P	P	20 21 28.1	-0.1
ASAR	Alice Springs	25.20	222	P	P	20 21 27.6	-0.7
	comp=Z,8.9nm,0.8s,baz=53,slow=9.4,SNR=66						
ASAR				S	S	20 25 56.4	+5.7
	comp=Z,1.0nm,0.9s,baz=54,slow=18,SNR=4.6						
ASAR				LR	LR	20 32 46.5	
	comp=Z,83nm,18.4s,baz=90,slow=40						
ASAR	Alice Springs	25.20	222	P	P	20 21 28.4	+0.2
STKA	Stephens Creek	28.10	199	P	P	20 21 53.1	-1.1
	comp=Z,2.2nm,0.8s,baz=28,slow=14,SNR=4.0						
STKA				LR	LR	20 33 21.9	
	comp=Z,76nm,18.6s,baz=30,slow=37						
STKA	Stephens Creek	28.10	199	P	P	20 21 55.1	+0.9
BATI	Baumata	28.51	259	P	P	20 21 58.5	+0.4
	comp=Z,13nm,0.5s,baz=108,slow=3.2,SNR=2.5						
CMAR	Chiang Mai Arr	57.45	296	P	P	20 25 50.5	-0.8
	comp=Z,1.5nm,0.9s,baz=125,slow=5.8,SNR=6.4						
CMAR	Chiang Mai Arr	57.45	296	P	P	20 25 49.8	-1.6
SONM	Songino Array	66.43	328	P	P	20 26 51.6	+0.3
	comp=Z,1.4nm,0.6s,baz=148,slow=4.9,SNR=8.7						
SONM	Songino Array	66.43	328	IAmb	IAmb	20 26 53.7	
	comp=Z,1.4nm,0.7s						
SVW2	Sparrevohn	77.67	23	P	P	20 27 59.9	+1.7
SVW2				IAmb	IAmb	20 28 02.4	
	comp=Z,3.7nm,0.7s						
CNPM	China Poot	78.58	26	P	P	20 28 04.3	+1.1
BRLK	Bradley Lake	78.86	26	P	P	20 28 04.8	0.0
BRLK				IAmb	IAmb	20 28 06.3	
	comp=Z,7.4nm,0.8s						
SEW	Seward	79.65	26	P	P	20 28 09.4	+0.4
SUA	Susitna One	79.81	24	P	P	20 28 10.5	+0.4
SUA				IAmb	IAmb	20 28 11.7	
	comp=Z,5.5nm,0.8s						
RC01	Rabbit Creek A	80.03	25	P	P	20 28 11.0	-0.1
RC01				IAmb	IAmb	20 28 12.2	
	comp=Z,7.2nm,1.0s						
MK31	Makanchi Array	80.28	319	P	P	20 28 10.7	-2.1
MKAR	Makanchi Array	80.28	319	P	P	20 28 12.4	-0.4
	comp=Z,0.7nm,0.6s,baz=114,slow=5.2,SNR=5.7						
MKAR	Makanchi Array	80.28	319	P	P	20 28 12.1	-0.7
MAKZ	Makanchi	80.49	319	P	P	20 28 13.8	-0.1
PWL	Port Wells	80.51	25	P	P	20 28 14.3	+0.6
ZALV	Zalesovo Beam	81.23	327	P	P	20 28 16.9	-0.8
	comp=Z,1.3nm,0.5s,baz=103,slow=4.7,SNR=5.9						
ZALV	Zalesovo Beam	81.23	327	P	P	20 28 16.8	-0.9
RND	Reindeer	81.57	23	P	P	20 28 19.2	-0.2
RND				IAmb	IAmb	20 28 20.3	
	comp=Z,4.2nm,0.8s						
MCK	McKinley	81.70	23	P	P	20 28 19.7	-0.3
MCK				IAmb	IAmb	20 28 21.0	
	comp=Z,8.3nm,1.0s						
MLY	Manley	81.71	21	P	P	20 28 20.9	+0.8
MLY				IAmb	IAmb	20 28 21.6	
	comp=Z,4.1nm,0.6s						
ILAR	Eielson Array	83.00	22	P	P	20 28 26.1	-0.7
	comp=Z,2.2nm,0.6s,baz=247,slow=5.6,SNR=22						
ILAR	Eielson Array	83.00	22	P	P	20 28 26.4	-0.3
MAW	Mawson	84.73	203	P	P	20 28 35.6	+0.1
	comp=Z,1.0nm,0.8s,baz=18,slow=15,SNR=2.2						
NVAR	Mina Array Bea	93.05	52	P	P	20 29 15.1	-0.9
	comp=Z,0.2nm,0.5s,baz=264,slow=4.4,SNR=1.9						
NVAR				LR	LR	21 07 25.5	
	comp=Z,36nm,18.1s,baz=279,slow=33						
YKA	Yellowknife Ar	96.31	28	P	P	20 29 29.8	-0.3
	comp=Z,0.6nm,0.7s,baz=268,slow=4.9,SNR=3.9						
YKA	Yellowknife Ar	96.31	28	P	P	20 29 30.3	+0.2
ARU	Arti	96.39	326	LR	LR	21 14 05.8	
	comp=Z,23nm,20.0s,baz=350,slow=36						
PDAR	Pinedale Array	99.81	48	LR	LR	21 14 54.7	
	comp=Z,16nm,18.2s,baz=274,slow=35						
CLL	Collm	123.00	331	*e*PKPdf	PKiKP	20 34 59.0	+0.7
GERES	GERESS Array B	124.16	328	PKP	PKiKP	20 35 01.8	+1.0
	comp=Z,0.3nm,0.5s,baz=86,slow=1.7,SNR=4.8						
GERES	GERESS Array B	124.16	328		PKPdf	20 35 00.0	-0.5

*NNC **27** 20:16:39.6±3.6, 38°.72N×70°.17E, h4km±24km, mb3.8, mpv3.5, Error ellipse: s-maj=27.8km s-min=16.0km az=11.0*

*KRNET **27** 20:16:40.0±0.1, 38°.93N×70°.63E, h11km, mb3.2*

ISC 27 20:16:40.1±1.4, 39°.01N±0°.08×70°.63E±0°.04, h1km±12km, n18, σ2s72/24, 18C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	0.24	268	⇓*i*P	Pg	20 16 45.0	+0.2
	baz=87						
GAR				⇓*i*S	Sg	20 16 48.5	+0.6
	baz=87						
DRK	Karamyk	1.03	62	⇑*i*P	Pg	20 17 00.1	+0.3
	baz=58						
DRK				⇑*i*S	Sg	20 17 14.4	+1.3
	baz=58						
BTK	Batken	1.06	8	⇑*i*P	Pb	20 17 01.8	+0.5
	baz=7.0						
BTK				⇑*i*S	Sn	20 17 17.1	-0.6
	baz=7.0						
CHGR	Chuyangaron	1.20	253	⇑*i*P	Pb	20 17 02.2	-1.5
	baz=57						
CHGR				⇑*i*S	Sb	20 17 17.9	-1.9
	baz=57						
MNAS	Manas	3.76	22	⇑*i*P	Pn	20 17 42.0	+2.6
	baz=21						
MNAS				⇑*i*S	Sn	20 18 26.7	+2.4
	baz=21						
AML	Almayashu	3.90	36	⇑*i*P	Pn	20 17 43.5	+1.9
	baz=35						
AML				⇑*i*S	Sn	20 18 29.4	+1.2
	baz=35						
AML	Almayashu	3.90	36	P	Pb	20 17 46.6	-3.3
	SNR=5.8						
ARLS	Aral	4.01	44	⇑*e*P	Pn	20 17 45.5	+2.6
	baz=43						
ARLS				⇑*i*S	Sn	20 18 32.8	+2.2
	baz=43						
KK31	Karatay Array	4.09	359	⇑Pn	Pn	20 17 48.0	+4.1
	1.7nm,0.4s,baz=175,slow=12,SNR=26						
KK31				⇓Sn	Sb	20 18 39.9	-3.0
	3.7nm,0.6s,baz=123,slow=52,SNR=4.2						
KK31				⇑Lg	Lg	20 18 57.5	
	14nm,0.7s,baz=175,slow=27,SNR=9.0						
EKS2	Erkin-Say	4.36	32	P	Pb	20 17 53.5	-4.1
	SNR=7.6						
AAK	Ala-Archa	4.66	38	⇓Pn	Pn	20 17 57.3	+5.4
	5.9nm,0.6s						
AAK				⇑Sn	Sb	20 18 58.9	-0.7
	7.5nm,0.9s						
KBK	Karagaybulak	4.90	41	P	Pn	20 18 00.4	+5.3
	SNR=11						
CHMS	Chumysh	5.06	37	P	Pn	20 18 01.8	+4.6
	SNR=6.7						
USP	Ospenovka	5.16	33	P	Pn	20 18 02.9	+4.2
	SNR=24						
TKM2	Tokmak 2	5.42	42	P	Pn	20 18 07.9	+5.5
	SNR=12						
TKM2	Tokmak 2	5.42	42	⇑Pn	Pn	20 18 07.1	+4.7
	4.6nm,0.5s						
TKM2				⇓Sn	Sb	20 19 14.4	-7.1
	4.0nm,0.8s						
AB31	Akbulak array	12.78	327	⇓Pn	Pn	20 19 42.0	-1.0
	0.4nm,0.4s,baz=136,slow=14,SNR=35						
AB31				⇓Sn	Sn	20 22 06.8	+0.9
	3.2nm,0.7s,baz=153,slow=22,SNR=9.7						
AKTO	Aktyubinsk	14.50	326	⇑Pn	Pn	20 20 05.2	-1.2
	1.2nm,0.9s						
AKTO				⇑Sn	Sn	20 22 46.3	-1.4
	1.5nm,0.6s						

*NEIC **27** 20:26:25.1±1.5, 46°.56N±0°.04×75°.25W±0°.05, h15km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=143.0*

*OTT **27** 20:26:26.1±0.1, 46°.56N×75°.28W, h18km, MN3.1/16*

OTT 17km east from Mont-Laurier, Qc. Felt Western Quebec Seismic Zone. Felt at Mont-Laurier, Chute St Philippe, Qc.

ISC 27 20:26:25.6±1.1, 46°.55N±0°.04×75°.27W±0°.03, h16km±8km, n47, σ0s85/70, 1D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRQ	Grand Remous	0.41	278	⇓PG	Pg	20 26 34.0	0.0
GRQ				SG	Sg	20 26 39.5	-0.1
GRQ				Trac		20 26 39.7	
	comp=Z,121nm,0.1s						
GRQ	Grand Remous	0.41	278	Pg	Pg	20 26 34.0	0.0
GRQ				Sg	Sg	20 26 39.5	-0.1
VABQ	Val Des Bois	0.69	200	PG	Pg	20 26 38.7	-0.4
VABQ				SG	Sg	20 26 48.2	0.0
VABQ				Trac		20 26 48.5	
	comp=Z,135nm,0.1s						
VABQ	Val Des Bois	0.69	200	Pg	Pg	20 26 38.7	-0.4
VABQ				Sg	Sg	20 26 48.2	0.0
GAC	Glen Almond	0.86	190	PG	Pb	20 26 42.4	+0.3
GAC				PG	Pg	20 26 42.6	+0.3
GAC				SG	Sg	20 26 54.1	+0.5
GAC				SG	Sg	20 26 54.1	+0.5
GAC				Trac		20 26 54.8	
	comp=Z,32nm,0.1s						
GAC				Trac		20 26 55.6	
	comp=Z,98nm,0.1s						
ALFO	Alfred	0.96	164	PG	Pb	20 26 43.5	-0.3
ALFO				SG	Sb	20 26 56.3	0.0
ORIO	Orleans, Innes	1.11	189	PG	Pb	20 26 47.0	+0.6
ORIO				SG	Sn	20 27 01.7	+0.3
ORIO				Trac		20 27 02.2	
	comp=Z,68nm,0.1s						
OTT	Ottawa	1.20	195	PG	Pb	20 26 48.0	+0.1
OTT				SG	Sn	20 27 03.8	+0.3
OTT				Trac		20 27 08.3	
	comp=Z,54nm,0.1s						
KB1O	Rock site, Kin	1.32	209	PG	Pb	20 26 50.2	+0.3
KB1O				SG	Sg	20 27 08.3	+0.2
KB1O				Trac		20 27 08.9	
	comp=Z,120nm,0.2s						
CRLO	Chalk River	1.55	251	PN	Pn	20 26 53.3	+0.8
CRLO				SN	Sb	20 27 13.2	0.0
CRLO				Trac		20 27 15.3	
	comp=Z,26nm,0.1s						
WBO	Williamsburg	1.55	180	PN	Pb	20 26 53.8	-0.1
WBO				SN	Sn	20 27 12.9	+0.7
WBO				Trac		20 27 17.4	
	comp=Z,30nm,0.1s						
PEMO	Pembroke	1.63	238	PN	Pn	20 26 54.1	+0.6
PEMO				SN	Sb	20 27 15.4	-0.1
PEMO				Trac		20 27 17.6	
	comp=Z,54nm,0.1s						
DPQ	Saint Jean	1.72	85	PN	Pn	20 26 54.7	-0.1
DPQ				SN	Sn	20 27 16.2	-0.2
DPQ				Trac		20 27 23.4	
	comp=Z,14nm,0.0s						
PLVO	Plevna	1.97	220	PN	Pn	20 26 59.1	+0.9
PLVO				SN	Sn	20 27 22.8	+0.3
PLVO				LG	Lg	20 27 28.6	
PLVO				Trac		20 27 29.4	
	comp=Z,30nm,0.1s						
PLVO	Plevna	1.97	220		Pn	20 26 58.2	0.0
LONY	Lake Ozonia	1.99	166	PN	Pn	20 26 60.0	+1.4
LONY				SN	Sn	20 27 24.1	+0.9
LONY				LG	Lg	20 27 28.7	
LONY				Trac		20 27 30.0	
	comp=Z,27nm,0.2s						
LONY	Lake Ozonia	1.99	166		Pn	20 26 58.2	-0.3
FRNY	Flat Rock	2.08	145	PN	Pn	20 27 01.1	+1.3
FRNY				SN	Sn	20 27 25.7	+0.4
FRNY				LG	Lg	20 27 31.7	
FRNY				Trac		20 27 32.9	
	comp=Z,7.2nm,0.1s						
FRNY	Flat Rock	2.08	145	Pn	Pn	20 27 00.4	+0.7
FRNY					Sn	20 27 26.9	+1.6
MOQ	Mont Orford	2.44	119	PN	Pn	20 27 05.5	+0.8
MOQ				SN	Sn	20 27 34.1	-0.2
MOQ				LG	Lg	20 27 42.7	
MOQ				Trac		20 27 45.8	
	comp=Z,7.1nm,0.1s						
MOQ	Mont Orford	2.44	119	Pn	Pn	20 27 04.2	-0.5
MOQ					Sn	20 27 35.1	+0.8
DELO	Deloro Mine	2.62	220	PN	Pn	20 27 08.4	+1.2
DELO				SN	Sn	20 27 39.1	+0.5
DELO				LG	Lg	20 27 48.8	
DELO				Trac		20 27 52.4	
	comp=Z,22nm,0.1s						
DELO	Deloro Mine	2.62	220	Pn	Pn	20 27 05.6	-1.5
DELO				Sn	Sn	20 27 39.9	+1.3
DELO				IAmb_Lg		20 27 54.1	
	comp=Z,11nm,0.8s						
EEO	Eldee	2.62	273	PN	Pn	20 27 08.1	+0.9
EEO				SN	Sn	20 27 38.4	-0.3
EEO				Trac		20 27 46.8	
	comp=Z,11nm,0.2s						
NCB	Newcomb	2.69	164		Pn	20 27 09.4	+1.3
NCB					Sb	20 27 45.6	-0.3
PECO	Prince Edward	2.89	206	Pn	Pn	20 27 11.2	+0.4
PECO				Sn	Sn	20 27 43.5	-1.7
PECO				IAmb_Lg		20 28 05.0	
	comp=Z,9.8nm,0.8s						
J59A	Piesco	3.14	170	Pn	Pn	20 27 14.2	-0.1
J57A	Williamstown	3.19	190	Pn	Pn	20 27 15.4	+0.5
J58A	Remsen	3.19	180	Pn	Pn	20 27 13.3	-1.7
J58A				IAmb_Lg		20 28 11.9	
	comp=Z,9.8nm,0.8s						
SADO	Sadowa	3.25	238	PN	Pn	20 27 16.2	+0.4
SADO				SN	Sn	20 27 53.3	-0.8
SADO				LG	Lg	20 28 09.0	
SADO				Trac		20 28 10.4	
	comp=Z,11nm,0.2s						
SADO	Sadowa	3.25	238	Pn	Pn	20 27 15.8	0.0
SADO				Sn	Sn	20 27 52.6	-1.5
J56A	Wolcott	3.47	200	IAmb_Lg		20 28 21.7	
	comp=Z,8.5nm,0.8s						
H62A	Milan	3.50	123	Pn	Pn	20 27 18.9	-0.3
LMQ	La Malbaie	3.52	72	Pn	Pn	20 27 19.0	-0.6
G62A	West of Eustis	3.57	110	Pn	Pn	20 27 18.9	-1.3
F62A	Pittston Farm,	3.74	98	Pn	Pn	20 27 20.4	-2.1
F62A				IAmb_Lg		20 28 32.5	
	comp=Z,9.5nm,1.0s						
J55A	Hilton	3.75	210	Pn	Pn	20 27 21.5	-1.2
J55A				IAmb_Lg		20 28 34.8	
	comp=Z,6.8nm,0.8s						
K57A	Scipio Center	3.92	194	Pn	Pn	20 27 24.4	-0.7
K57A				IAmb_Lg		20 28 28.7	
	comp=Z,11nm,0.8s						
E62A	Clayton Lake	3.96	87	Pn	Pn	20 27 25.5	-0.1
MMNY	Mt. Morris Dam	4.26	207	IAmb_Lg		20 28 40.2	
	comp=Z,12nm,0.9s						
L59A	Walton	4.37	178	Pn	Pn	20 27 29.6	-1.6
L59A				IAmb_Lg		20 28 44.4	
	comp=Z,7.5nm,0.7s						
PKME	Peaks-Kenny Pk	4.37	105	Pn	Pn	20 27 29.0	-2.1
E63A	Oxbow	4.73	89	IAmb_Lg		20 28 55.4	
	comp=Z,5.2nm,0.9s						
KSPA	Keystone Colle	5.01	184	IAmb_Lg		20 29 08.5	
	comp=Z,8.9nm,0.8s						
M57A	Sunshine Farm,	5.38	195	IAmb_Lg		20 29 25.5	
	comp=Z,9.4nm,1.1s						
M55A	Ridgway	5.67	208	Pn	Pn	20 27 49.0	-0.2
N51A	Ashland	7.63	225		Pn	20 28 15.2	-0.7

SNET 27 20:30:05.9±0.7, 13°.46N×88°.37W, h1km±5km, ML1.4, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACA	Pacayal	0.05	80	*e*P	Pg	20 30 07.4	+0.5
PACA				*e*S	Sg	20 30 08.8	+1.2
PACA				IAML		20 30 09.8	
	comp=Z,432nm,0.1s						
PACA	Pacayal	0.05	80	*e*P	Pg	20 30 07.4	+0.5
PACA				*e*S	Sg	20 30 08.6	+1.0
PACA				IAML		20 30 09.2	
	comp=Z,366nm,0.1s						
LCY	Lacayo	0.09	116	*e*P	Pg	20 30 08.2	+0.6
LCY	Lacayo	0.09	116	*e*P	Pg	20 30 08.2	+0.6
TECA	Tecapa	0.13	285	*e*P	Pg	20 30 09.9	+1.5
TECA				*e*S	Sg	20 30 12.0	+1.8
TECA	Tecapa	0.13	285	*e*P	Pg	20 30 07.8	-0.6

*NOU **27** 20:37:45.5, 37°.00S×178°.59E, h204km, ML4.3/9, Off E. Coast of N. Island, N.Z.*

*IDC **27** 20:37:57.8±3.4, 37°.40S×177°.90E, h116km±38km, mb3.2/2, mb1 3.5/2, mb1mx3.2/19, mbtmp3.6/2, Error ellipse: s-maj=93.4km s-min=38.6km az=177.0*

*WEL **27** 20:38:00.2±0.8, 37°.5±6°.×17°.8E±°, h100km±6km, M3.8/42, ML4.0/42, MLv3.8/42, Error ellipse: s-maj=0.0km s-min=0.0km az=7.4*

ISC 27 20:37:59.0±0.9, 37°.42S±0°.06×177°.70E±0°.05, h122km±6km, n117, σ1s07/126, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	Te Kaha	0.34	169	P	Pn	20 38 16.0	-0.4
HAZ				S	Sn	20 38 28.1	-1.4
WIZ	White Island	0.42	256	P	Pn	20 38 16.3	-0.5
WSRZ	White Island S	0.43	257	P	Pn	20 38 16.7	-0.1
MXZ	Matakaoa Point	0.50	106	P	Pn	20 38 17.5	+0.3
MXZ				S	Sn	20 38 31.3	+0.3
RUGZ	Raukumara Rang	0.54	182	P	Pn	20 38 17.1	-0.6
PKGZ	Pakihiroa	0.55	147	P	Pn	20 38 18.2	+0.6
WMGZ	Waiomatatini S	0.69	125	P	Pn	20 38 19.3	+0.8
WMGZ				S	Sn	20 38 34.3	+1.0
WHRZ	Whale Island	0.72	233	P	Pn	20 38 18.9	+0.1
PUZ	Puketiti	0.78	146	P	Pn	20 38 20.0	+0.7
TWGZ	Tauwhareparae

KMRZ	Kaimai	1.46	253	P	Pn	20 38 26.3	+0.1
HRRZ	Handcock Road	1.48	229	P	Pn	20 38 27.5	+1.1
PRRZ	Plateau Road	1.49	223	P	Pn	20 38 27.1	+0.6
PRGZ	Paritu Road	1.50	175	P	Pn	20 38 27.4	+0.8
GRRZ	Galatos Road	1.56	233	P	Pn	20 38 28.3	+1.0
ALRZ	Allen Road	1.56	223	P	Pn	20 38 28.0	+0.7
RAHZ	Arahi	1.57	198	P	Pn	20 38 28.3	+0.9
MTHZ	Maungataniwha	1.58	205	P	Pn	20 38 27.8	+0.3
KNZ	Kokohu	1.60	181	P	Pn	20 38 28.4	+0.7
WPRZ	Whakapapatarin	1.64	228	P	Pn	20 38 29.3	+1.1
WHHZ	Waihua	1.69	192	P	Pn	20 38 29.7	+0.8
KUZ	Kuaotunu	1.72	293	P	Pn	20 38 28.4	-0.8
MHGZ	Mahia Peninsul	1.73	175	P	Pn	20 38 30.4	+1.1
MRHZ	Matea Rd	1.73	215	P	Pn	20 38 29.8	+0.4
TOZ	Tahuroa Road	1.77	259	P	Pn	20 38 30.1	+0.3
NMHZ	Naumai	1.81	203	P	Pn	20 38 31.1	+0.7
KUTZ	Kaahu Road	1.83	234	P	Pn	20 38 31.5	+1.1
WHTZ	Whakaora	1.85	227	P	Pn	20 38 32.3	+1.5
ARHZ	Aropaoanui	1.92	197	P	Pn	20 38 32.3	+0.7
TLZ	Tolley Road	1.94	241	P	Pn	20 38 32.7	+0.9
HATZ	Hinemaiaia	1.94	220	P	Pn	20 38 32.4	+0.6
BKZ	Black Stump Fm	1.98	208	P	Pn	20 38 32.4	0.0
WATZ	Wairara	2.02	230	P	Pn	20 38 33.9	+1.1
RATZ	Rangitukua	2.10	226	P	Pn	20 38 34.7	+0.8
RITZ	Rihia Road	2.12	223	P	Pn	20 38 35.2	+1.1
WIAZ	Waiheke Island	2.15	286	P	Pn	20 38 34.4	0.0
GRZ	Great Barrier	2.15	302	P	Pn	20 38 33.8	-0.6
MCHZ	McNeill Hill	2.17	201	P	Pn	20 38 35.2	+0.6
KATZ	Kakaramea	2.21	225	P	Pn	20 38 37.0	+1.6
KWHZ	Kaweka Forest	2.24	206	P	Pn	20 38 35.7	+0.1
ETAZ	East Tamaki Re	2.26	281	P	Pn	20 38 36.4	+0.5
CKHZ	Cape Kidnapper	2.29	192	P	Pn	20 38 36.2	0.0
TMVZ	Te Maari	2.31	222	P	Pn	20 38 37.2	+0.7
NTVZ	North Tongariр	2.31	223	P	Pn	20 38 37.6	+1.0
ETVZ	East Tongariro	2.32	222	P	Pn	20 38 37.2	+0.5
KRVZ	Karewarewa	2.33	224	P	Pn	20 38 37.6	+0.8
OTVZ	Oturere	2.36	222	P	Pn	20 38 38.1	+0.8
NNVZ	North Ngauruho	2.37	223	P	Pn	20 38 38.2	+0.9
WTVZ	West Tongariro	2.37	224	P	Pn	20 38 38.0	+0.7
SNVZ	South Ngauruho	2.39	222	P	Pn	20 38 38.3	+0.6
NGZ	Ngauruhoe	2.41	223	P	Pn	20 38 38.6	+0.8
TWVZ	Taurewa	2.43	227	P	Pn	20 38 38.8	+0.7
BHHZ	Black Hill Sta	2.43	211	P	Pn	20 38 37.8	-0.2
TUVZ	Tukino	2.45	221	P	Pn	20 38 38.6	+0.2
KRHZ	Kereru	2.45	205	P	Pn	20 38 37.9	-0.4
KAHZ	Kahuranaki	2.46	195	P	Pn	20 38 38.5	+0.1
AWAZ	Awhitu Peninsu	2.47	277	P	Pn	20 38 39.4	+0.9
FWVZ	Far West T-bar	2.49	222	P	Pn	20 38 39.2	+0.2
WHVZ	Whangaehu Hut	2.49	221	P	Pn	20 38 39.1	+0.1
HIZ	Hauiti	2.50	243	P	Pn	20 38 40.3	+1.4
DRZ	Dome Shelter	2.50	222	P	Pn	20 38 40.2	+1.0
MOVZ	Moawhango	2.50	217	P	Pn	20 38 38.5	-0.4
WNVZ	Wahianoa	2.52	220	P	Pn	20 38 39.3	0.0
TRVZ	Turoa	2.52	221	P	Pn	20 38 39.6	+0.2
MTVZ	Mangateitei	2.63	221	P	Pn	20 38 40.9	+0.3
PXZ	Pawanui	2.69	194	P	Pn	20 38 40.5	-0.7
PNHZ	Pukenui	2.75	205	P	Pn	20 38 41.2	-0.9
WPHZ	Waipukurau	2.82	200	P	Pn	20 38 42.0	-1.0
VRZ	Vera Road	2.87	233	P	Pn	20 38 44.7	+1.1
PRHZ	Porangahau	2.96	196	P	Pn	20 38 44.0	-0.8
TSZ	Takapari Road	2.96	207	P	Pn	20 38 43.6	-1.3
WCZ	Waipu Caves	3.08	298	P	Pn	20 38 49.0	+2.7
DVHZ	Dannevirke	3.11	202	P	Pn	20 38 45.2	-1.6
MHEZ	Mangahewa	3.13	237	P	Pn	20 38 50.1	+3.1
WAZ	Wanganui	3.15	222	P	Pn	20 38 47.6	+0.2
ANWZ	Angora Road	3.18	197	P	Pn	20 38 46.6	-1.1
LREZ	Lake Rotokare	3.29	231	P	Pn	20 38 50.1	+0.9
POWZ	Post Office Ro	3.33	206	P	Pn	20 38 49.2	-1.4
PREZ	Palmer Road	3.38	234	P	Pn	20 38 52.9	+2.6
NEZ	North Egmont	3.38	236	P	Pn	20 38 52.5	+2.0
PRWZ	Pori Road	3.41	203	P	Pn	20 38 49.3	-1.4
PKE	Pukeiti	3.42	238	P	Pn	20 38 53.8	+2.9
BFZ	Birch Farm	3.45	199	P	Pn	20 38 49.5	-1.7
KHEZ	Kahui Hut	3.45	236	P	Pn	20 38 53.4	+2.0
NBEZ	Newall Road No	3.53	237	P	Pn	20 38 54.8	+2.4
TIWZ	Tintock	3.63	202	P	Pn	20 38 52.2	-1.6
CPWZ	Castlepoint	3.67	198	P	Pn	20 38 53.0	-1.1
OGWZ	Otaki Gorge	3.92	209	P	Pn	20 38 55.5	-2.0
OUZ	Omahuta	3.98	302	P	Pn	20 39 03.7	+5.4
CTZ	Chatham Island	7.64	147	P	Pn	20 39 51.0	+3.5
ASAR	Alice Springs	39.79	277	P	P	20 45 20.9	+0.8
	0.5nm,0.6s,baz=122,slow=8.0,SNR=11						
ASAR				PcP	PcP	20 47 22.8	-1.2
	0.3nm,0.5s,baz=115,slow=3.7,SNR=4.9						
WRA	Warramunga Arr	41.44	283	P	P	20 45 34.4	+0.6
	0.5nm,0.5s,baz=121,slow=7.6,SNR=8.2						
ARCES	ARCESS Array B	144.50	344	PKP	PKPbc	20 57 18.7	0.0
	2.2nm,0.7s,baz=37,slow=3.0,SNR=7.9						
FINES	FINESS Array B	150.14	333	PKPbc	PKPbc	20 57 34.1	-0.3
	1.2nm,0.5s,baz=35,slow=4.5,SNR=15						
FINES				PKPab	PKPab	20 57 39.8	-1.2
	1.0nm,0.7s,baz=29,slow=4.4,SNR=5.0						

WEL ***27*** *20:52:00, 41.°25S×173.°57E, h72km, ML4.4, Mw4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15} Nm; M_{rr}-0.84; $M_{\theta\theta}$0.76; $M_{\phi\phi}$0.08; $M_{r\theta}$1.01; $M_{\theta\phi}$0.59; $M_{r\phi}$0.07; Fault plane solution: M_o1.42000×10^{15} NP1: ϕ_s37.00000°, δ27.00000°, λ-130.00000°. NP2: ϕ_s260.00000°, δ69.00000°, λ-72.00000°. Principal axes: T 147.7100, Plg22.0000°, Azm336.0000°; N -135.8400, Plg17.0000°, Azm73.0000°; P -11.8700, Plg62.0000°, Azm198.0000°;*

NOU ***27*** *20:52:19.8, 41.°19S×173.°49E, h80km, ML4.3/9, South Island, New Zealand*

WEL ***27*** *20:52:20.9, 41.°S±4.°×17.°4E±.°, h73km±7km, M4.4/58, ML4.7/58, MLv4.4/58, Error ellipse: s-maj=0.0km s-min=0.0km az=84.3*

NEIC ***27*** *20:52:20.6±2.2, 41.°21S±0.°04×173.°48E±0.°05, h72km±6km, mb4.7/9, Error ellipse: s-maj=7.3km s-min=4.5km az=221.0*

IDC ***27*** *20:52:22.2±3.7, 40.°93S×173.°61E, h98km±43km, mb3.7/4, mb1 3.7/5, mb1mx3.5/29, mbtmp4.0/5, Error ellipse: s-maj=31.3km s-min=22.7km az=58.0*

ISC 27 20:52:21.0±0.7, 41.°25S±0.°03×173.°51E±0.°03, h80km±5km, n171, σ1°27/179, mb4.6/7, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.10	287	Pn	Pn	20 52 31.6	-0.8
NNZ				Sn	Sn	20 52 39.5	-1.3
NNZ	Nelson	0.10	287	P	Pn	20 52 31.6	-0.8
NNZ				S	Sn	20 52 39.6	-1.3
TUWZ	Tuamarina	0.38	119		Pn	20 52 33.5	-0.2
TUWZ	Tuamarina	0.38	119	P	Pn	20 52 33.6	-0.1
TUWZ				S	Sn	20 52 42.6	-0.5
BSWZ	Blackbirch Sta	0.54	149	Pn	Pn	20 52 35.4	+0.3
BSWZ	Blackbirch Sta	0.54	149	P	Pn	20 52 35.5	+0.5
DUWZ	D'Urville Isla	0.55	35	P	Pn	20 52 34.7	-0.4
DUWZ				S	Sn	20 52 45.4	-0.2
TCW	Tory Channel	0.58	87	P	Pn	20 52 35.6	+0.2
THZ	Tophouse	0.68	221	Pn	Pn	20 52 36.3	-0.2
THZ	Tophouse	0.68	221	P	Pn	20 52 36.4	-0.1
THZ				S	Sn	20 52 48.2	+0.2
CMWZ	Cape Campbell	0.73	134		Pn	20 52 37.4	+0.4
CMWZ	Cape Campbell	0.73	134	P	Pn	20 52 38.0	+1.0
CMWZ				P	Pn	20 52 38.9	+2.0
QRZ	Quartz Range	0.85	299		Pn	20 52 37.4	-0.8
QRZ				Sn	Sn	20 52 48.5	-2.6
QRZ	Quartz Range	0.85	299	P	Pn	20 52 37.5	-0.8
QRZ				S	Sn	20 52 49.4	-1.7
SNZO	South Karori	0.91	94		Pn	20 52 38.7	-0.1
BHW	Baring Head	1.04	99		Pn	20 52 40.0	-0.5
BHW	Baring Head	1.04	99	P	Pn	20 52 40.1	-0.3
KIW	Kapiti Island	1.13	71	P	Pn	20 52 41.7	+0.1
KHZ	Kahutara	1.17	179	Pn	Pn	20 52 42.3	+0.3
KHZ	Kahutara	1.17	179	P	Pn	20 52 42.3	+0.3
CAW	Cannon Point	1.19	84	P	Pn	20 52 42.0	-0.3
MSWZ	Moikau Station	1.32	98		Pn	20 52 43.0	-1.1
MSWZ	Moikau Station	1.32	98	P	Pn	20 52 43.3	-0.7
OGWZ	Otaki Gorge	1.33	72	P	Pn	20 52 43.8	-0.2
PLWZ	Palliser	1.35	104	Pn	Pn	20 52 43.5	-0.9
PLWZ	Palliser	1.35	104	P	Pn	20 52 43.7	-0.7
DSZ	Denniston Nort	1.37	248	P	Pn	20 52 44.1	-0.5
PAWZ	Paruwai Farm	1.45	96	P	Pn	20 52 44.8	-0.9
MTW	Mount Morrison	1.51	87	P	Pn	20 52 45.4	-0.9
HOWZ	Holdsworth Sta	1.56	78	P	Pn	20 52 46.2	-0.9
TRWZ	Traveller	1.65	96	P	Pn	20 52 47.3	-0.9
MRZ	Mangatainoka R	1.68	70	P	Pn	20 52 47.6	-1.0
OHWZ	Ohakea	1.73	53	P	Pn	20 52 49.6	+0.4
GVZ	Greta Valley S	1.75	191	P	Pn	20 52 49.3	-0.3
LTZ	Lake Taylor	1.79	211	Pn	Pn	20 52 50.0	-0.1
LTZ	Lake Taylor	1.79	211	P	Pn	20 52 49.9	-0.1
TMWZ	Te Maipa	1.81	86	P	Pn	20 52 49.2	-1.1
NMEZ	Namu Road	1.85	9	P	Pn	20 52 51.4	+0.5
TIWZ	Tintock	1.86	76	P	Pn	20 52 50.2	-0.8
WAZ	Wanganui	1.87	38	P	Pn	20 52 52.3	+1.1
LREZ	Lake Rotokare	1.91	21	P	Pn	20 52 52.9	+1.2
POWZ	Post Office Ro	1.92	64	P	Pn	20 52 50.7	-1.1
PREZ	Palmer Road	1.97	15	P	Pn	20 52 53.2	+0.8
KHEZ	Kahui Hut	1.99	11	P	Pn	20 52 53.2	+0.4
PRWZ	Pori Road	1.99	71	P	Pn	20 52 51.7	-1.1
NBEZ	Newall Road No	2.00	8	P	Pn	20 52 53.5	+0.7
NEZ	North Egmont	2.03	13	P	Pn	20 52 53.6	+0.3
AMCZ	Amberley	2.03	198	P	Pn	20 52 52.8	-0.4
CPWZ	Castlepoint	2.07	82	P	Pn	20 52 53.7	0.0
PKE	Pukeiti	2.08	10	P	Pn	20 52 54.6	+0.6
DREZ	Durham Road	2.12	15	P	Pn	20 52 55.1	+0.5
BFZ	Birch Farm	2.15	76	Pn	Pn	20 52 53.2	-1.6
BFZ	Birch Farm	2.15	76	P	Pn	20 52 53.2	-1.6
TSZ	Takapari Road	2.21	58	P	Pn	20 52 54.5	-1.3
DVHZ	Dannevirke	2.23	66	P	Pn	20 52 54.7	-1.3
MHEZ	Mangahewa	2.26	16	P	Pn	20 52 57.1	+0.8
VRZ	Vera Road	2.33	25	P	Pn	20 52 58.1	+0.9
OXZ	Oxford	2.34	207	Pn	Pn	20 52 56.0	-1.4
OXZ	Oxford	2.34	207	P	Pn	20 52 56.1	-1.4
ANWZ	Angora Road	2.39	72	P	Pn	20 52 56.4	-1.6
MTVZ	Mangateitei	2.39	40	P	Pn	20 52 58.4	+0.2
PKVZ	Pokaka	2.41	36	P	Pn	20 52 58.4	0.0
PNHZ	Pukenui	2.45	58	P	Pn	20 52 57.1	-1.7
TUVZ	Turoa	2.50	39	P	Pn	20 52 59.8	+0.1
OKCZ	Okains Bay	2.50	187	P	Pn	20 52 59.1	-0.4
WNVZ	Wahianoa	2.50	41	P	Pn	20 52 59.7	0.0
MOVZ	Moawhango	2.52	44	P	Pn	20 52 59.1	-0.8
DRZ	Dome Shelter	2.52	39	P	Pn	20 53 00.8	+0.6
WPHZ	Waipukurau	2.53	63	P	Pn	20 52 59.4	-0.5
WHVZ	Whangaehu Hut	2.53	40	P	Pn	20 53 00.2	+0.1
FWVZ	Far West T-bar	2.53	39	P	Pn	20 53 00.2	0.0
MQZ	McQueen's Vall	2.54	194		Pn	20 52 58.1	-1.8
MQZ	McQueen's Vall	2.54	194	P	Pn	20 52 58.2	-1.8
MQZ				P	Pn	20 52 58.2	-1.8
PRHZ	Porangahau	2.57	69	P	Pn	20 52 59.5	-1.0
TUVZ	Tukino	2.57	40	P	Pn	20 53 00.7	+0.1
NGZ	Ngauruhoe	2.62	38	P	Pn	20 53 01.2	-0.1
BHHZ	Black Hill Sta	2.63	49	P	Pn	20 53 00.5	-0.8
SNVZ	South Ngauruho	2.63	39	P	Pn	20 53 01.6	+0.1
TWVZ	Taurewa	2.63	35	P	Pn	20 53 01.2	-0.2
OTVZ	Oturere	2.66	39	P	Pn	20 53 02.0	+0.2
AKCZ	Akaroa Harbour	2.66	189	P	Pn	20 53 00.7	-1.4
NNVZ	North Ngauruho	2.66	38	P	Pn	20 53 01.8	-0.1
WTVZ	West Tongariro	2.66	38	P	Pn	20 53 01.7	-0.1
RACZ	Rakaia	2.68	202	P	Pn	20 53 00.3	-1.6
MHCZ	Mount Hutt	2.70	212	P	Pn	20 53 00.9	-1.3
ETVZ	East Tongariro	2.70	39	P	Pn	20 53 02.2	-0.2
KRVZ	Karewarewa	2.70	38	P	Pn	20 53 02.0	-0.4
KRHZ	Kereru	2.71	55	P	Pn	20 53 01.0	-1.4
NTVZ	North Tongariр	2.71	38	P	Pn	20 53 03.5	+0.9
TMVZ	Te Maari	2.71	39	P	Pn	20 53 02.7	+0.1
WVZ	Waitaha Valley	2.75	228	P	Pn	20 53 02.3	-0.6
KATZ	Kakaramea	2.82	37	P	Pn	20 53 02.3	-1.8
KWHZ	Kaweka Forest	2.88	52	P	Pn	20 53 06.3	+1.6
HIZ	Hauiti	2.92	21	Pn	Pn	20 53 05.2	-0.1
HIZ	Hauiti	2.92	21	P	Pn	20 53 05.3	0.0
RATZ	Rangitukua	2.95	37	P	Pn	20 53 07.3	+1.6
KAHZ	Kahuranaki	2.95	62	P	Pn	20 53 03.8	-1.8
WACZ	Wakanui South	2.96	204	P	Pn	20 53 05.7	0.0
MCHZ	McNeill Hill	3.03	55	P	Pn	20 53 10.1	+3.3
WATZ	Wairara	3.06	35	P	Pn	20 53 08.4	+1.2
RPZ	Rata Peaks	3.06	216	Pn	Pn	20 53 05.8	-1.4
RPZ	Rata Peaks	3.06	216	P	Pn	20 53 06.3	-0.8
BKZ	Black Stump Fm	3.09	49	Pn	Pn	20 53 06.1	-1.5
BKZ	Black Stump Fm	3.09	49	P	Pn	20 53 06.4	-1.2
GCSZ	Gaunt Creek Bo	3.14	228	P	Pn	20 53 07.4	-0.7
ARCZ	Arundel	3.20	212	P	Pn	20 53 07.6	-1.4
KUTZ	Kaahu Road	3.28	34	P	Pn	20 53 11.7	+1.5
MRHZ	Matea Rd	3.29	44	P	Pn	20 53 08.3	-2.0
TLZ	Tolley Road	3.31	29	P	Pn	20 53 11.2	+0.7
NMHZ	Naumai	3.32	51	P	Pn	20 53 09.0	-1.7
ARHZ	Aropaoanui	3.33	55	P	Pn	20 53 10.4	-0.3
MTHZ	Maungataniwha	3.50	48	P	Pn	20 53 11.0	-2.1
FOZ	Fox Glacier	3.56	229	Pn	Pn	20 53 12.7	-1.2
FOZ	Fox Glacier	3.56	229	P	Pn	20 53 12.8	-1.1
RAHZ	Arahi	3.60	51	P	Pn	20 53 19.9	+5.4
TMZ	Timaru	3.63	210	P	Pn	20 53 13.3	-1.6
MUGZ	Murupara	3.74	43	P	Pn	20 53 13.7	-2.7
RTZ	Ruatahuna	3.75	47	P	Pn	20 53 14.0	-2.6
TOZ	Tahuroa Road	3.84	24	P	Pn	20 53 18.0	+0.4
OMRZ	Omania	3.84	36	P	Pn	20 53 21.3	+3.6
SNGZ	Shannon Statio	3.84	51	P	Pn	20 53 15.5	-2.2
MHGZ	Mahia Peninsul	3.97	60	P	Pn	20 53 18.6	-0.9
LBZ	Lake Benmore	3.98	217	Pn	Pn	20 53 18.3	-1.2
LBZ	Lake Benmore	3.98	217	P	Pn	20 53 17.5	-2.0
URZ	Urewera	4.08	44	P	Pn	20 53 17.6	-3.3
	2.2nm,0.3s,baz=226,slow=7.8,SNR=8.6						
URZ				S	Sn	20 54 03.1	-4.4
	28nm,0.3s,baz=87,slow=16,SNR=14						
TGRZ	Tauranga	4.11	32	P	Pn	20 53 21.5	+0.1
OPRZ	Ohinepanea	4.14	36	P	Pn	20 53 23.8	+2.0
AWAZ	Awhitu Peninsu	4.27	12	P	Pn	20 53 23.7	+0.1
ODZ	Otahua Downs	4.33	208		Pn	20 53 22.6	-1.8
ODZ	Otahua Downs	4.33	208	P	Pn	20 53 23.1	-1.2
WTAZ	Waiatarua	4.39	11	P	Pn	20 53 25.8	+0.6
ETAZ	East Tamaki Re	4.43	15	P	Pn	20 53 26.1	+0.3
JCZ	Jackson Bay	4.48	229	P	Pn	20 53 24.9	-1.6
MYRZ	Mayor Island	4.49	29	P	Pn	20 53 30.0	+3.4
MBAZ	Motutapu North	4.60	14	P	Pn	20 53 28.3	+0.2
TWGZ	Tauwhareparae	4.62	50	P	Pn	20 53 25.7	-2.6
WIAZ	Waiheke Island	4.62	16	P	Pn	20 53 28.8	+0.4
ABAZ	Army Bay	4.75	13	P	Pn	20 53 30.5	+0.4
KUZ	Kuaotunu	4.81	22	P	Pn	20 53 30.5	-0.5
WKZ	Wanaka	4.86	221		Pn	20 53 28.7	-2.9
WKZ	Wanaka	4.86	221	P	Pn	20 53 31.0	-0.6
EAZ	Earnscleugh	5.03	216	P	Pn	20 53 31.5	-2.3
HHSZ	Highcliff Hill	5.09	204	P	Pn	20 53 34.8	+0.1
MSZ	Milford Sound	5.34	228	P	Pn	20 53 37.7	-0.4
WCZ	Waipu Caves	5.34	7	P	Pn	20 53 38.7	+0.6
MLZ	Mavora Lakes	5.69	222	Pn	Pn	20 53 40.4	-2.5
MLZ	Mavora Lakes	5.69	222	P	Pn	20 53 42.5	-0.4
OUZ	Omahuta	6.02	1	Pn	Pn	20 53 47.8	+0.4
OUZ	Omahuta	6.02	1	P	Pn	20 53 47.7	+0.3
WHZ	Wether Hill Ro	6.15	219	Pn	Pn	20 53 49.4	+0.2
WHZ	Wether Hill Ro	6.15	219	P	Pn	20 53 50.0	+0.8
APZ	The Paps	6.85	214	P	Pn	20 53 57.7	-1.1
CTZ	Chatham Island	7.71	112	P	Pn	20 54 09.7	-0.8
ASAR	Alice Springs	37.36	286	P	P	20 59 25.2	-0.7
	0.4nm,0.4s,baz=124,slow=7.2,SNR=19						
ASAR				PcP	PcP	21 01 41.2	-2.3
	0.5nm,0.8s,baz=126,slow=4.1,SNR=4.3						
WB2	Warramunga Arr	39.39	291	P	P	20 59 41.0	-2.0
WB2				IAmb	IAmb	20 59 43.5	
	comp=Z,44nm,1.9s						
WRA	Warramunga Arr	39.40	291	P	P	20 59 42.7	-0.4
	comp=Z,1.2nm,0.8s,baz=128,slow=8.0,SNR=6.7						
WRA	Warramunga Arr	39.40	291	P	P	20 59 41.5	-1.6
WB0	Warramunga Arr	39.48	291	P	P	20 59 43.7	-0.1
WB0				IAmb	IAmb	21 00 42.8	
	comp=Z,8.8nm,1.1s						
CASY	Casey	42.33	212	P	P	21 00 07.5	+0.9
QSPA	South Pole Qui	48.88	180	P	P	21 01 01.0	+2.6
	comp=Z,3.7nm,0.5s,baz=327,slow=0.8,SNR=28						
QSPA	South Pole Qui	48.88	180	IAmb	IAmb	21 01 01.9	
	comp=Z,7.0nm,1.0s						
MAW	Mawson	59.68	205	P	P	21 02 16.9	+0.4
	comp=Z,1.7nm,0.6s,baz=122,slow=6.3,SNR=10.0						
MAW	Mawson	59.68	205	P	P	21 02 17.1	+0.7
BELA	Belgrano 2	59.91	173	P	P	21 02 19.2	+1.2
BELA				IAmb	IAmb	21 02 20.0	
	comp=Z,3.7nm,0.6s						
SNAA	Sanae	67.36	181	P	P	21 03 07.8	+0.7
VNA3	Neumayer Olymp	67.80	179	P	P	21 03 10.5	+0.7
VNA2	Neumayer--Watz	68.14	180	P	P	21 03 12.6	+0.6
	baz=166,slow=5.4						
VNA1	Neumayer--Stat	68.41	179	P	P	21 03 14.5	+0.9
BJT	Baijiatuau	96.21	319		P	21 05 39.5	-0.4
MCCM	Marconi Confer	98.03	46		pP	21 06 07.6	-2.2
ARCES	ARCESS Array B	147.11	340	PKPbc	PKPdf	21 11 51.3	0.0
	comp=Z,2.6nm,0.9s,baz=40,slow=1.5,SNR=1.3						

MOS ***27*** *21:05:55.3±1.1, 56.°29N×112.°99E, h13km, mb3.6/1, Error ellipse: s-maj=14.9km s-min=8.3km az=77.2*

BYKL ***27*** *21:05:56.3±0.2, 56.°33N×112.°98E, h21km±3km*

IDC ***27*** *21:06:00.9±2.0, 56.°43N×111.°55E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.2/65, mbtmp3.4/5, ML2.7/2, MS2.6/1, Ms1 2.8/1, ms1mx2.0/46, Error ellipse: s-maj=43.9km s-min=18.8km az=125.0*

ISC 27 21:05:54.1±0.6, 56.°25N±0.°03×112.°95E±0.°02, h10km, n51, σ2°41/89, mb3.5/3, 5C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	Severomuysk	0.36	110	⇓iPg	Pn	21 06 04.3	-1.2
SVKR				eSg	Sb	21 06 09.8	+1.4
SVKR				Pmax			
	1μm,0.1s						
SVKR				Smax			
	26μm,0.5s						
SVKR	Severomuysk	0.36	110	⇓iPG	Pn	21 06 04.3	-1.2
SVKR				e		21 06 09.4	
SVKR				pmax	pmax		
	comp=Z,2μm,0.1s						
SVKR				smax	smax		
	comp=N,25μm,0.4s						
YOA	Uoyan	0.69	261	ePg	Pn	21 06 10.5	+0.5
YOA				eSg	Sn	21 06 20.5	-0.3
YOA				Pmax			
	comp=N,718nm,0.2s						
YOA				Smax			
	comp=N,5μm,0.4s						
UKT	Uakit	0.85	153	⇑iPg	Pn	21 06 13.2	+1.0
UKT				eSg	Sn	21 06 25.5	+0.8
UKT				Pmax			
	comp=N,551nm,0.3s						
UKT				Smax			
	comp=N,749nm,0.2s						
UKT	Uakit	0.85	153	⇑iPG	Pn	21 06 13.2	+1.0
UKT				e		21 06 25.1	
UKT				pmax	pmax		
	comp=Z,508nm,0.4s						
UKT				smax	smax		
	comp=E,811nm,0.3s						
KMO	Kumora	1.04	251	iPg	Pn	21 06 16.3	+1.5
KMO				ePb	Pb	21 06 17.2	+3.0
KMO				eSg	Sn	21 06 30.1	+0.7
KMO				eSb	Sb	21 06 31.7	+3.7
KMO				max			
	comp=E,372nm,0.3s						
KMO				max			
	comp=E,1μm,0.4s						
KMO	Kumora	1.04	251	ePG	Pn	21 06 16.3	+1.5
KMO				e		21 06 29.3	
KMO				pmax	pmax		
	comp=Z,364nm,0.2s						
KMO				smax	smax		
	comp=N,1μm,0.5s						
NLYR	Nelyaty	1.55	80	⇑iPg	Pb	21 06 23.5	+0.6
NLYR				ePb	Pg	21 06 24.2	+0.4
NLYR				eSg	Sb	21 06 43.0	+0.4
NLYR				max			
	comp=N,158nm,0.6s						
NLYR				Smax			
	comp=N,1μm,0.8s						
NLYR	Nelyaty	1.55	80	⇑iPN	Pb	21 06 23.5	+0.6
NLYR				e		21 06 43.8	
NLYR				pmax	pmax		
	comp=Z,128nm,0.7s						
NLYR				smax	smax		

	comp=E,36nm,0.5s						
CIT				Smax			
	comp=E,223nm,0.2s						
CIT	**Chita**	**4.25**	**175**	*e*PN	**Pn**	**21 07 02.7**	**+3.9**
CIT				*e*		21 07 13.8	
CIT				*e*		21 08 10.0	
CIT				pmax	pmax		
	comp=Z,20nm,1.1s						
CIT				smax	smax		
	comp=E,187nm,1.5s						
TUP	**Tupik**	**4.39**	**112**	*e*	**Pn**	**21 07 02.4**	**+1.6**
TUP				*e*Pg	**Pg**	**21 07 15.2**	**-3.0**
TUP				*e*		21 07 52.9	
TUP				*e*Sg	**Sg**	**21 08 12.4**	**-2.7**
TUP				Pmax			
	comp=E,22nm,0.6s						
TUP				Smax			
	comp=E,124nm,1.0s						
TUP	**Tupik**	**4.39**	**112**	*e*PN	**Pn**	**21 07 02.2**	**+1.4**
TUP				*e*		21 07 14.0	
TUP				*e*S	**Sn**	**21 07 52.7**	**+0.6**
TUP				*e*		21 08 11.3	
TUP				pmax	pmax		
	comp=Z,20nm,0.5s						
TUP				smax	smax		
	comp=N,101nm,0.6s						
KELR	**Kotokel**	**4.50**	**221**	*e*	Pg	21 07 25.4	+5.2
KELR				*e*Sg	**Sg**	**21 08 17.0**	**-1.4**
YKLR	**Yuktali**	**4.85**	**82**	*e*Pn	**Pn**	**21 07 08.4**	**+1.4**
YKLR				*e*Pg	**Pb**	**21 07 22.5**	**+3.5**
YKLR				*e*Sg	**Sg**	**21 08 24.2**	**-5.3**
TRG	**Tyrgan**	**5.19**	**231**	*e*Pg	**Pg**	**21 07 30.3**	**-3.2**
TRG				*e*		21 08 15.6	
TRG				*e*Sg	**Sg**	**21 08 38.1**	**-2.6**
TRG				Pmax			
	comp=N,5.0nm,0.2s						
TRG				Smax			
	comp=N,40nm,0.9s						
FFNB	**Fofonovo**	**5.56**	**223**	Pg	**Pg**	**21 07 37.2**	**-3.2**
FFNB				*e*Sg	**Sg**	**21 08 50.4**	**-2.0**
STDB	**Stepnoy Dvoret**	**5.62**	**226**	*e*Sg	**Sg**	**21 08 52.2**	**-2.2**
HRMR	**Khuramsha**	**5.82**	**220**	*e*Pg	**Pg**	**21 07 43.4**	**-2.1**
HRMR				*e*		21 08 30.5	
HRMR				*e*Sg	**Sg**	**21 08 59.8**	**-1.1**
HRMR				Pmax			
	comp=N,13nm,0.5s						
HRMR				Smax			
	comp=N,147nm,0.9s						
BGT	**Bolshoye Golou**	**6.11**	**230**	*e*Pg	**Pg**	**21 07 47.6**	**-3.4**
BGT				*e*Sg	**Sg**	**21 09 07.2**	**-2.8**
BGT				Pmax			
	comp=N,7.0nm,1.0s						
BGT				Smax			
	comp=N,33nm,0.8s						
IRK	**Irkutsk**	**6.47**	**235**	*e*Sg	**Sg**	**21 09 19.3**	**-2.4**
IRK				Smax			
	comp=N,83nm,0.8s						
LSTR	**Listvyanka**	**6.48**	**231**	*e*	Pn	21 07 35.5	+6.0
LSTR				*e*Pg	**Pg**	**21 07 53.9**	**-4.2**
LSTR				*e*Sg	**Sg**	**21 09 18.4**	**-3.6**
LSTR				Pmax			
	comp=N,80nm,0.8s						
LSTR				Smax			
	comp=N,24nm,1.6s						
KPC	**Khapcheranga**	**6.56**	**183**	*e*Pn	Pn	21 07 35.1	+4.5
KPC				*e*Pg	**Pg**	**21 07 56.2**	**-3.4**
KPC				*e*Sg	**Sg**	**21 09 22.1**	**-2.4**
KPC				Pmax			
	comp=N,4.0nm,0.6s						
KPC				Smax			
	comp=N,69nm,1.4s						
KPC	**Khapcheranga**	**6.56**	**183**	*e*PN	**Pn**	**21 07 31.7**	**+1.1**
KPC				*e*		21 07 53.3	
KPC				*e*		21 09 21.4	
KPC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KPC				smax	smax		
	comp=E,68nm,1.3s						
IENR	**Iengra**	**6.64**	**85**	*e*	Pb	21 07 43.9	-5.7
IENR				*e*Sg	**Sg**	**21 09 21.1**	**-5.9**
IVK	**Ivanovka**	**6.71**	**232**	*e*	**Pg**	**21 08 03.1**	**+0.6**
IVK				*e*Sg	**Sg**	**21 09 25.6**	**-3.8**
IVK				Smax			
	comp=E,24nm,0.9s						
TLY	**Talaya**	**7.14**	**234**	Pg	**Pb**	**21 07 55.6**	**-2.5**
	comp=E,0.0nm,0.3s,baz=272,slow=9.1,SNR=2.2						
TLY				Lg	Lg	21 09 30.1	
	comp=E,0.0nm,0.3s,baz=244,slow=22,SNR=1.9						
ZAK	**Zakamensk**	**8.24**	**229**	*e*Pg	Pg	21 08 26.7	-5.0
ZAK				*e*		21 09 45.9	
ZAK				*e*Sg	**Sg**	**21 10 14.5**	**-3.8**
ZAK				Pmax			
	comp=E,2.0nm,0.3s						
ZAK				Smax			
	comp=E,17nm,1.1s						
MOY	**Mondy**	**8.41**	**242**	*e*	Pb	21 08 07.7	-12
MOY				*e*Pg	Pg	21 08 28.7	-6.2
MOY				*e*Sg	**Sg**	**21 10 18.4**	**-5.3**
MOY				Pmax			
	comp=E,6.0nm,0.7s						
MOY				Smax			
	comp=E,28nm,1.0s						
ORL	**Orlik**	**8.52**	**250**	*e*Pn	**Pn**	**21 07 59.6**	**+2.1**
ORL				*e*Pg	Pg	21 08 30.2	-6.8
ORL				*e*Sn	**Sn**	**21 09 32.0**	**-1.6**
ORL				*e*Sg	**Sg**	**21 10 20.6**	**-6.5**
ORL				Pmax			
	comp=E,6.0nm,0.9s						
ORL				Smax			
	comp=E,30nm,1.4s						
ORL	**Orlik**	**8.52**	**250**	*e*PN	**Pn**	**21 07 59.7**	**+2.2**
ORL				*e*		21 08 28.6	
ORL				*e*S	**Sn**	**21 09 33.1**	**-0.5**
ORL				*e*		21 10 18.5	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ORL				smax	smax		
	comp=N,31nm,1.3s						
SONM	**Songino Array**	**9.34**	**208**	Pn	Pn	21 08 14.8	+6.1
	comp=N,0.1nm,0.3s,baz=13,slow=13,SNR=2.5						
SONM				Lg	Lg	21 10 50.6	
	comp=N,0.6nm,0.3s,baz=17,slow=33,SNR=16						
ZALV	**Zalesovo Beam**	**16.22**	**274**	Pn	**Pn**	**21 09 39.3**	**-2.4**
	comp=N,0.1nm,0.3s,baz=68,slow=13,SNR=1.9						
MKAR	**Makanchi Array**	**21.13**	**256**	P	**P**	**21 10 40.2**	**+1.4**
	comp=N,2.0nm,0.8s,baz=50,slow=9.1,SNR=19						
CMAR	**Chiang Mai Arr**	**39.18**	**201**	LR	LR	21 31 14.0	
	comp=N,7.6nm,19.9s,baz=175,slow=39						
FINES	**FINESS Array B**	**42.08**	**314**	P	**P**	**21 13 47.8**	**+2.3**
	comp=N,0.9nm,0.9s,baz=46,slow=12,SNR=1.2						
ILAR	**Eielson Array**	**44.98**	**37**	P	P	21 14 19.4	+11
	comp=N,0.2nm,0.3s,baz=316,slow=6.3,SNR=2.3						

*TUL **27** 21:07:46.4±1.3, 35°.988N±0°.009×97°.52W±0°.02, h6km±7km, ML2.8, mb_Lg2.6/41(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=93.0*

NEIC 27 21:07:46.4±0.8, 36°.01N±0°.01×97°.516W±0°.007, h6km±7km, Error ellipse: s-maj=1.6km s-min=0.7km az=163.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.21**	**167**	Pg	Pg	21 07 50.8	+0.1
OK029				Sg	Sg	21 07 53.8	+0.3
BCOK	**Bluff Creek, N**	**0.35**	**192**	Pg	Pg	21 07 53.3	-0.1
BCOK				Sg	Sg	21 07 58.2	+0.2
OK025	**Westminster Rd**	**0.45**	**161**		Pg	21 07 55.1	0.0
OK025				Sg	Sg	21 08 01.3	+0.4
OK031	**S. Brethren Rd**	**0.55**	**95**	Pg	Pg	21 07 57.2	+0.2
OK031				Sg	Sg	21 08 04.8	+0.5
OKCSW	**OKLAHOMA CITY**	**0.60**	**174**	Pg	Pg	21 07 57.7	-0.3
OKCSW				Sg	Sg	21 08 06.2	+0.4
CROK	**Carrier**	**0.63**	**323**	Pg	Pg	21 07 58.8	+0.3
CROK				Sg	Sg	21 08 07.5	+0.8
QUOK	**Quay**	**0.68**	**75**	Pg	Pg	21 07 59.5	+0.1
QUOK				Sg	Sg	21 08 08.7	+0.4
FNO	**Franklin**	**0.75**	**173**	Pg	Pg	21 08 00.4	-0.5
FNO					Sg	21 08 10.6	0.0
BLOK	**Blackwell**	**0.79**	**18**	Pg	Pg	21 08 01.9	+0.2
BLOK				Sg	Sg	21 08 12.8	+0.8
GC02	**Grant County #**	**0.89**	**342**		Pg	21 08 03.4	-0.1
GC02				Sg	Sg	21 08 14.6	-0.5
OK032	**Salt Plains WL**	**0.97**	**325**	Pg	Pg	21 08 04.8	-0.4
OK032				Sg	Sg	21 08 18.0	+0.2
KAN13	**South Haven SW**	**1.01**	**2**	Pg	Pg	21 08 05.7	-0.1
KAN13				Sg	Sb	21 08 19.3	-0.4
KAN17	**Caldwell West**	**1.06**	**349**		Pg	21 08 06.5	-0.2
KAN09	**Caldwell North**	**1.13**	**356**	Pg	Pg	21 08 08.0	-0.2
KAN09				Sg	Sb	21 08 23.1	-0.2
KAN10	**Anthony SW Sta**	**1.21**	**338**	Pg	Pg	21 08 09.4	-0.2
T35A	**Sooner Cattle**	**1.22**	**41**	Pg	Pg	21 08 09.2	-0.5
T35A				Sg	Sg	21 08 25.4	-0.2
KS20	**Mayfield South**	**1.22**	**359**	Pg	Pg	21 08 09.3	-0.5
U32A	**Winter Ranch,**	**1.26**	**288**		Pn	21 08 09.7	-0.8
KAN08	**Anthony NE Sta**	**1.27**	**343**		Pn	21 08 10.4	-0.4
X34A	**Smith Ranch, M**	**1.42**	**191**		Pn	21 08 12.7	-0.1
WMOK	**Wichita Mounta**	**1.63**	**220**		Pn	21 08 15.5	-0.2
X37A	**Clayton**	**2.25**	**128**	IAmb_Lg		21 09 01.9	
	comp=Z,32nm,0.8s						
W39A	**Magazine**	**3.15**	**104**	IAmb_Lg		21 09 30.9	
	comp=Z,16nm,0.9s						
CBKS	**Cedar Bluff**	**3.31**	**328**	IAmb_Lg		21 09 37.1	
	comp=Z,19nm,0.7s						
AMTX	**Amarillo**	**3.58**	**253**	IAmb_Lg		21 09 49.9	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**4.12**	**110**	IAmb_Lg		21 09 59.5	
	comp=Z,11nm,0.9s						
WLAR	**White Oak Lake**	**4.30**	**121**	IAmb_Lg		21 10 06.2	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**4.32**	**98**	IAmb_Lg		21 10 05.5	
	comp=Z,8.8nm,0.8s						
MGMO	**Mountain Grove**	**4.38**	**73**	IAmb_Lg		21 10 05.9	
	comp=Z,10nm,0.8s						
R40A	**Maddies Statio**	**4.77**	**60**	IAmb_Lg		21 10 17.0	
	comp=Z,14nm,0.8s						
P38A	**Dawn**	**4.80**	**40**	IAmb_Lg		21 10 28.5	
	comp=Z,7.8nm,0.9s						
CCM	**Cathedral Cave**	**5.42**	**66**	IAmb_Lg		21 10 44.5	
	comp=Z,7.9nm,0.8s						
T25A	**Trinidad**	**5.66**	**284**	IAmb_Lg		21 10 53.5	
	comp=Z,7.3nm,0.8s						
PBMO	**Poplar Bluff**	**5.77**	**80**	IAmb_Lg		21 10 48.2	
	comp=Z,6.1nm,0.8s						
JCT	**Junction City**	**5.83**	**200**	IAmb_Lg		21 10 55.5	
	comp=Z,9.5nm,0.8s						
SDCO	**Great Sand Dun**	**6.63**	**288**	IAmb_Lg		21 11 29.7	
	comp=Z,4.7nm,1.2s						
SIUC	**Southern Illin**	**6.87**	**73**	IAmb_Lg		21 11 33.1	
	comp=Z,11nm,0.8s						
N41A	**Harden Midland**	**7.03**	**46**	IAmb_Lg		21 11 31.1	
	comp=Z,9.5nm,0.7s						
WVT	**Waverly**	**7.84**	**86**	IAmb_Lg		21 11 58.3	
	comp=Z,8.8nm,0.8s						
PHWY	**Pilot Hill**	**8.16**	**313**	IAmb_Lg		21 12 07.7	
	comp=Z,7.0nm,1.2s						
CLTN	**Cedars of Leba**	**9.06**	**86**	IAmb_Lg		21 12 59.5	
	comp=Z,5.1nm,1.2s						

*IDC **27** 21:07:53.9±1.3, 37°.12N×30°.66E, h88km±16km, mb3.3/3, mb1 3.3/7, mb1mx3.1/48, mbtmp3.6/7, MS2.6/1, Ms1 2.6/1, ms1mx2.0/33, Error ellipse: s-maj=21.4km s-min=11.2km az=141.0*

*ISK **27** 21:07:56.8, 37°.18N×30°.86E, h107km±1km, ML2.9/15*

*DDA **27** 21:07:57.0, 37°.18N×30°.81E, h99km±4km, ML3.0*

*NIC **27** 21:07:58.3±0.0, 36°.85N×30°.93E, h114km±3km, Ml3.3/4*

*HLW **27** 21:07:59.6, 36°.81N×30°.72E, h25km±42km, Md4.4, Ml4.0*

ISC 27 21:07:56.1±0.7, 37°.12N±0°.03×30°.85E±0°.03, h110km±6km, n75, σ1°.950/109, mb3.5/3, 2C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.27**	**216**	PG	**Pn**	**21 08 12.4**	**+0.7**
ANTB				SG	**Sn**	**21 08 24.2**	**+0.8**
BUCA	**Burdur, Bucak-**	**0.32**	**312**	*i* P	**Pn**	**21 08 12.5**	**+0.5**
BUCA				*i* S	**Sn**	**21 08 23.4**	**-0.6**
BUCA				IAML		21 08 26.0	
	comp=E,676nm,0.4s						
BCK	**Bucak**	**0.40**	**329**	PG	**Pn**	**21 08 13.1**	**+0.6**
BCK				SG	**Sn**	**21 08 25.0**	**+0.2**
KORT	**Korkueli**	**0.42**	**254**	PG	**Pn**	**21 08 13.7**	**+1.1**
KEPZ	**Antalya-Kepez**	**0.64**	**109**	*i* P	**Pn**	**21 08 14.9**	**+0.9**
KEPZ				*i* S	**Sn**	**21 08 27.3**	**-0.2**
KEPZ				IAML		21 08 28.0	
	comp=E,434nm,0.2s						
KEPZ				IAML		21 08 28.0	
	comp=N,436nm,0.3s						
ISP	**Isparta**	**0.75**	**340**	PG	**Pn**	**21 08 15.6**	**+0.5**
ISP				SG	**Sn**	**21 08 28.9**	**-0.4**
SEDI	**Konya, Seydise**	**0.79**	**65**	*i* P	**Pn**	**21 08 16.3**	**+0.8**
SEDI				*i* S	**Sn**	**21 08 29.9**	**-0.1**
SEDI				IAML		21 08 31.0	
	comp=N,588nm,0.3s						
SEDI				IAML		21 08 34.0	
	comp=E,295nm,0.5s						
SEYD	**Seydisehir-KON**	**0.84**	**70**	PG	**Pn**	**21 08 16.7**	**+0.9**
SEYD				SG	**Sn**	**21 08 30.9**	**+0.2**
ELL	**Elmali**	**0.84**	**244**	PG	**Pn**	**21 08 17.6**	**+1.7**
ELL	**Elmali**	**0.84**	**244**	P	**Pn**	**21 08 18.5**	**+2.6**
ELL				S	**Sn**	**21 08 33.9**	**+3.1**
BRDR	**BURDUR-Merkez**	**0.86**	**313**	*i* P	**Pn**	**21 08 15.8**	**-0.1**
BRDR				*i* S	**Sn**	**21 08 28.4**	**-2.6**
BAGO	**Egridir - ISPA**	**0.87**	**357**	*i* P	**Pn**	**21 08 16.4**	**+0.3**
BAGO				*i* S	**Sn**	**21 08 30.2**	**-1.0**
AKUM	**Antalya-Kumluc**	**0.89**	**207**	*i* P	**Pn**	**21 08 17.9**	**+1.7**
AKUM				*i* S	**Sn**	**21 08 32.5**	**+1.2**
AKUM				IAML		21 08 38.0	
	comp=N,293nm,0.4s						
AKUM				IAML		21 08 42.0	
	comp=E,418nm,0.6s						
BASM	**Basmaki-Afyon**	**1.02**	**322**	PG	**Pn**	**21 08 17.9**	**+0.3**
GOLH	**Golhisar**	**1.04**	**277**	*i* P	**Pn**	**21 08 18.1**	**+0.3**
GOLH				IAML		21 08 35.0	
	comp=E,294nm,1.2s						
DEMR	**Demre-Antalya**	**1.16**	**221**	PN	**Pn**	**21 08 20.9**	**+1.9**
DOGA	**KONYA_Doganhis**	**1.18**	**33**	*i* P	**Pn**	**21 08 19.4**	**0.0**
DOGA				*i* S	**Sn**	**21 08 36.6**	**-0.4**
DOGA				IAML		21 08 37.0	
	comp=N,472nm,0.2s						
DOGA				IAML		21 08 38.0	
	comp=E,342nm,0.2s						
YVAC	**Isparta, Yalva**	**1.19**	**15**	*i* P	**Pn**	**21 08 19.8**	**+0.3**
YVAC				*i* S	**Sn**	**21 08 35.6**	**-1.6**
CAEL	**Denizli, Camel**	**1.23**	**271**	*i* P	**Pn**	**21 08 21.5**	**+1.7**
CAEL				*i* S	**Sn**	**21 08 38.8**	**+1.0**
CAME	**Cameli-Denizli**	**1.25**	**263**	PN	**Pn**	**21 08 21.7**	**+1.5**
CAME				SN	**Sn**	**21 08 39.8**	**-0.1**
KZIL	**AFYON_Kizioren**	**1.27**	**334**	*i* P	**Pn**	**21 08 20.3**	**0.0**
KZIL				*i* S	**Sn**	**21 08 36.8**	**-1.9**
AKAS	**Kas**	**1.34**	**229**	*i* P	**Pn**	**21 08 22.5**	**+1.4**
AKAS				*i* S	**Sn**	**21 08 41.0**	**+0.9**
AKAS				IAML		21 08 43.0	
	comp=E,184nm,0.3s						
AKAS				IAML		21 08 51.0	
	comp=N,179nm,0.6s						
AKAS	**Kas**	**1.34**	**229**	PN	**Pn**	**21 08 22.5**	**+1.4**
KSL	**Kastellorizon**	**1.41**	**227**	⇓P	**Pn**	**21 08 23.1**	**+1.4**
KSL				S	**Sn**	**21 08 42.7**	**+1.5**
KSL				AML	AML	21 08 46.2	
	comp=N,0.5nm,0.4s						
KSL				AML	AML	21 08 46.2	
	comp=N,0.5nm,0.4s						
KSL				AML	AML	21 08 47.8	
	comp=N,0.3nm,0.6s						
KSL				AML	AML	21 08 47.8	
	comp=N,0.3nm,0.6s						
SHUT	**Suhut-Afyon**	**1.45**	**351**	PN	**Pn**	**21 08 22.8**	**+0.3**
KONT	**Konya--Tatoy**	**1.46**	**55**	*i* P	**Pn**	**21 08 23.3**	**+0.9**
KONT				*i* S	**Sn**	**21 08 43.2**	**+0.8**
KONT	**Konya--Tatoy**	**1.46**	**55**	PN	**Pn**	**21 08 23.5**	**+1.1**
GAZI	**Gazipasa**	**1.47**	**126**	*i* P	**Pn**	**21 08 23.9**	**+1.4**
GAZI				*i* S	**Sn**	**21 08 44.0**	**+1.4**
GAZI				IAML		21 08 47.0	
	comp=N,315nm,0.4s						
GAZI				IAML		21 08 48.0	
	comp=E,347nm,0.5s						
GAZI	**Gazipasa**	**1.47**	**126**	PN	**Pn**	**21 08 24.4**	**+1.8**
FETY	**Fethiye**	**1.50**	**252**	PN	**Pn**	**21 08 24.0**	**+1.1**
FETY				SN	**Sn**	**21 08 44.8**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.59**	**283**	*i* P	**Pn**	**21 08 25.0**	**+0.9**
TAVA				*i* S	**Sn**	**21 08 44.8**	**-0.5**
PASA	**Karahalli, USA**	**1.64**	**319**	*i* P	**Pn**	**21 08 24.6**	**-0.1**
KKBE	**Karaman, Kazim**	**1.67**	**86**	*i* P	**Pn**	**21 08 26.6**	**+1.5**
KKBE				*i* S	**Sn**	**21 08 47.0**	**-0.1**
KDHN	**Kadinhani**	**1.72**	**35**	*i* P	**Pn**	**21 08 25.9**	**+0.2**
KDHN				*i* S	**Sn**	**21 08 46.8**	**-1.5**
AFYO	**Afyonkarahisar**	**1.72**	**345**	*i* P	Pn	21 08 20.9	-4.8
DALY	**Dalyan (Mula)**	**1.79**	**261**	*i* P	**Pn**	**21 08 26.9**	**+0.6**
DALY				*i* S	**Sn**	**21 08 49.8**	**+0.4**
DALY				IAML		21 08 54.0	
	comp=N,108nm,0.2s						
DALY	**Dalyan (Mula)**	**1.79**	**261**	PN	**Pn**	**21 08 27.5**	**+1.1**
ALIN	**Konya, Altinte**	**1.99**	**53**	*i* P	**Pn**	**21 08 29.2**	**+0.1**
MULA	**Mugla, Merkez-**	**2.03**	**275**	*i* P	**Pn**	**21 08 30.1**	**+0.6**
MULA				*i* S	**Sn**	**21 08 51.3**	**-3.7**
TURN	**Turunc**	**2.12**	**262**	*i* P	**Pn**	**21 08 31.2**	**+0.6**
TURN				*i* S	**Sn**	**21 08 56.4**	**-0.5**
TURN				IAML		21 09 01.0	
	comp=N,77nm,0.2s						
USAK	**Uak-Merkez**	**2.16**	**318**	*i* P	**Pn**	**21 08 30.5**	**-0.7**
GULN	**MERSIN_Gulnar**	**2.36**	**112**	*i* P	**Pn**	**21 08 35.8**	**+2.2**
GULN				*i* S	**Sn**	**21 09 04.2**	**+1.8**
GULN				IAML		21 09 07.0	
	comp=N,57nm,0.4s						
SGAZ	**Eskisehir, Sey**	**2.41**	**360**	*i* P	**Pn**	**21 08 34.4**	**-0.1**
AKMS	**Akamas**	**2.41**	**150**	⇑P	**Pn**	**21 08 34.0**	**-0.4**
AKMS				S	**Sn**	**21 09 02.3**	**-1.5**
AKMS				AML	AML	21 09 03.4	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	21 09 03.4	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	21 09 04.0	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	21 09 04.0	
	comp=N,0.4nm,0.2s						
ALFC	**Alefka**	**2.41**	**144**	⇓P	**Pn**	**21 08 33.6**	**-0.8**
ALFC				AML	AML	21 09 01.2	
	comp=N,0.5nm,0.2s						
ALFC				AML	AML	21 09 01.2	
	comp=N,0.5nm,0.2s						
ALFC				S	**Sn**	**21 09 01.6**	**-2.2**
ALFC				AML	AML	21 09 03.1	
	comp=N,0.5nm,0.3s						
ALFC				AML	AML	21 09 03.1	
	comp=N,0.5nm,0.3s						
KKUL	**Konya-Kulu**	**2.62**	**38**	*i* P	**Pn**	**21 08 37.8**	**+0.6**
KERG	**Konya-Eregli**	**2.63**	**83**	*i* P	**Pn**	**21 08 38.0**	**+0.7**
KIZK	**Mersin**	**2.72**	**103**	*i* P	**Pn**	**21 08 41.6**	**+3.3**
KIZK				*i* S	**Sn**	**21 09 12.6**	**+1.7**
NATA	**Nata**	**2.72**	**149**	⇓P	**Pn**	**21 08 38.3**	**-0.1**
ATHAL	**Athalassa**	**2.85**	**133**	P	**Pn**	**21 08 41.0**	**+0.9**
SZAC	**Souni**	**2.88**	**144**	⇑P	**Pn**	**21 08 40.7**	**+0.3**
SZAC				AML	AML	21 09 14.1	
	comp=N,0.2nm,0.3s						
SZAC				AML	AML	21 09 15.3	
	comp=N,0.3nm,0.2s						
CSS	**Mathiatis**	**2.94**	**136**	P	**Pn**	**21 08 41.0**	**-0.3**
ASGA	**Asgata**	**3.03**	**139**	P	**Pn**	**21 08 42.6**	**+0.1**
EREN	**Erenkoy**	**3.11**	**120**	*i* P	**Pn**	**21 08 44.2**	**+0.7**
GULE	**Gulek**	**3.14**	**86**	*i* P	**Pn**	**21 08 46.1**	**+2.0**
DED	**Mersin**	**3.16**	**92**	*i* P	**Pn**	**21 08 46.9**	**+2.7**
BRTR	**Keskin Array B**	**3.40**	**39**	P	**Pn**	**21 08 48.1**	**+0.6**
	comp=N,2.9nm,0.3s,baz=218,slow=15,SNR=76						
BRTR				S	**Sn**	**21 09 26.5**	**-0.7**
	comp=N,0.7nm,0.3s,baz=219,slow=22,SNR=6.5						
OSC1	**CSNet OBS 1**	**3.62**	**174**	P	**Pn**	**21 08 49.6**	**-0.8**
IDI	**Anoyia**	**5.16**	**251**	P	**Pn**	**21 09 07.8**	**-3.3**
	comp=N,0.2nm,0.3s,baz=37,slow=20,SNR=1.9						
IDI				S	**Sn**	**21 10 02.9**	**-6.5**
	comp=N,0.4nm,0.3s,baz=197,slow=12,SNR=1.3						
MMAI	**Mount Meron Ar**	**5.54**	**136**	P	**Pn**	**21 09 14.8**	**-1.5**
	comp=N,8.6nm,0.3s,baz=311,slow=12,SNR=68						
MMAI				S	**Sn**	**21 10 15.8**	**-2.9**
	comp=N,6.9nm,0.3s,baz=315,slow=27,SNR=11						
MATC	**Matruh**	**6.49**	**209**	P	**Pn**	**21 09 28.4**	**-0.7**
	baz=209						
KOT	**Kottamia**	**7.22**	**173**	P	**Pn**	**21 09 38.8**	**-0.1**
	baz=172						
KOT				AMP		21 11 00.0	
	baz=172						
SLUM	**Salum**	**7.30**	**221**	P	**Pn**	**21 09 39.9**	**-0.1**
	baz=223						
SLUM				AMP		21 10 00.0	
	baz=223						
SLUM				S	Sn	21 10 52.1	-9.2
	baz=223						
HMYD	**Mayadein**	**7.30**	**180**	P	**Pn**	**21 09 39.9**	**-0.2**
	baz=179						
SUZ	**Suez**	**7.44**	**167**	P	**Pn**	**21 09 41.5**	**-0.5**
	baz=165						
HNAT	**Natroun**	**7.47**	**182**	P	**Pn**	**21 09 42.5**	**+0.1**
	baz=181						
HNAT				S	Sn	21 10 56.4	-9.1
	baz=181						
HNAT				AMP		21 11 00.0	
	baz=181						
HSAF	**As Saff**	**7.50**	**175**	P	**Pn**	**21 09 41.8**	**-1.0**
	baz=174						
GLL	**Jalalah**	**7.55**	**174**	P	**Pn**	**21 09 42.6**	**-0.9**
	baz=173						
RYAN	**Fayoum**	**8.03**	**184**	P	**Pn**	**21 09 48.9**	**-1.1**
	baz=183						
RYAN				AMP		21 11 00.0	
	baz=183						
EIL	**Elat**	**8.18**	**154**	P	**Pn**	**21 09 51.5**	**-0.4**
	comp=N,0.5nm,0.3s,baz=328,slow=3.6,SNR=6.8						
EIL				S	**Sn**	**21 11 18.1**	**-4.6**
	comp=N,0.9nm,0.3s,baz=103,slow=12,SNR=6.0						
EIL				LR	LR	21 13 35.1	
	comp=N,36nm,18.2s,baz=202,slow=41						
NBNS	**Bani Suef**	**8.48**	**177**	P	**Pn**	**21 09 55.2**	**-0.9**
	baz=176						
NBNS				AMP		21 11 00.0	
	baz=176						
SWA2		**9.06**	**211**	P	**Pn**	**21 10 03.4**	**-0.5**
	baz=212						
SWA2				AMP		21 12 00.0	
	baz=212						
ARCES	**ARCESS Array B**	**32.61**	**357**	P	**P**	**21 14 16.8**	**0.0**
	comp=N,1.5nm,0.8s,baz=169,slow=9.1,SNR=6.1						
MKAR	**Makanchi Array**	**38.84**	**59**	P	**P**	**21 15 10.9**	**+0.7**
	comp=N,0.3

comp=Z,3.8nm,0.8s
WB2 Warramunga Arr 32.08 254 P P 21 16 36.4 -1.4
WB2 IAmb IAmb 21 17 01.5
comp=Z,5.9nm,1.1s
WRA Warramunga Arr 32.09 254 P P 21 16 35.6 -2.3
comp=Z,1.1nm,0.6s,baz=86,slow=8.9,SNR=8.2
WRA PcP **PcP 21 19 21.1 -1.3**
comp=Z,0.7nm,0.7s,baz=74,slow=3.0,SNR=2.2
WRA Warramunga Arr 32.09 254 P P 21 16 36.5 -1.4
WRA PcP **PcP 21 19 22.5 +0.1**
AS31 Alice Springs 33.05 248 P P 21 16 44.5 -1.8
AS31 IAmb IAmb 21 16 45.5
comp=Z,1.3nm,0.5s
ASAR Alice Springs 33.05 248 P P 21 16 44.6 -1.6
comp=Z,2.5nm,0.5s,baz=75,slow=9.2,SNR=60
ASAR PcP **PcP 21 19 24.6 -0.4**
comp=Z,0.8nm,0.7s,baz=72,slow=2.4,SNR=8.0
ASAR ScP **ScP 21 22 50.1 0.0**
comp=Z,0.6nm,0.8s,baz=79,slow=4.9,SNR=3.5
BBOO Buckleboo 34.20 231 P P 21 16 55.7 -0.3
BBOO IAmb IAmb 21 17 10.4
comp=Z,13nm,1.1s
BBOO PcP **PcP 21 19 27.1 -1.0**
FORT Forrest 39.82 238 P P 21 17 42.8 -0.6
NWAO Narrogin (SRO) 49.27 238 P P 21 18 56.9 -1.1
NWAO IAmb IAmb 21 19 23.4
comp=Z,6.8nm,1.0s
VNDA Vanda 63.84 181 P P 21 20 40.0 +0.1
comp=Z,0.7nm,0.6s,baz=354,slow=6.6,SNR=7.2
VNDA Vanda 63.84 181 P P 21 20 40.1 +0.2
SBA Scott Base 64.12 180 P P 21 20 43.1 +1.4
SBA IAmb IAmb 21 20 43.4
comp=Z,3.8nm,0.8s
PETK Petropavlovsk- 67.09 354 P P 21 21 01.5 +0.6
comp=Z,1.7nm,0.8s,baz=162,slow=11,SNR=5.0
PETK Petropavlovsk- 67.09 354 P P 21 21 01.0 0.0
CMAR Chiang Mai Arr 74.57 294 P P 21 21 47.9 +1.2
comp=Z,1.5nm,0.8s,baz=116,slow=4.7,SNR=7.0
CMAR Chiang Mai Arr 74.57 294 P P 21 21 46.4 -0.4
QSPA South Pole Qui 76.28 180 P P 21 21 56.0 +0.2
QSPA IAmb IAmb 21 21 56.8
comp=Z,4.5nm,0.8s
SONM Songino Array 81.72 323 P P 21 22 25.2 -0.3
comp=Z,0.2nm,0.4s,baz=128,slow=3.6,SNR=3.6
MAW Mawson 82.80 202 P P 21 22 31.2 +0.5
comp=Z,2.4nm,0.6s,baz=116,slow=6.1,SNR=18
MAW Mawson 82.80 202 P P 21 22 31.4 +0.7
MKAR Makanchi Array 96.50 316 P P 21 23 36.2 +0.2
comp=Z,0.9nm,0.6s,baz=94,slow=6.8,SNR=12
MKAR Makanchi Array 96.50 316 P P 21 23 35.6 -0.3
ZALV Zalesovo Beam 96.61 324 P P 21 23 35.5 -0.7
comp=Z,0.5nm,0.5s,baz=98,slow=7.4,SNR=2.3
ARCES ARCESS Array B 119.31 346 PKP PKPdf 21 28 53.5 -0.6
comp=Z,3.2nm,0.8s,baz=77,slow=2.6,SNR=6.3
ARCES ARCESS Array B 119.31 346 PKPdf 21 28 53.9 -0.2
FINES FINESS Array B 124.81 338 PKP PKPdf 21 29 04.7 -0.2
comp=Z,1.6nm,0.9s,baz=61,slow=14,SNR=1.9
KEST Kesra 150.46 322 PKPbc PKPbc 21 29 57.7 +0.1
comp=Z,5.4nm,0.6s,baz=345,slow=3.0,SNR=6.6

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*TUL **27** 21:19:18.±1.4, 35.°742N±0.°010×97.°380W±0.°004, h5km±5km, ML2.6, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=1.4km s-min=0.5km az=172.0*

NEIC 27 21:19:18.2±1.1, 35.°76N±0.°01×97.°39W±0.°01, h8km±2km, Error ellipse: s-maj=1.5km s-min=1.5km az=144.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.07**	**306**		Pg	21 19 20.3	0.0
OK029				Sg	Sg	21 19 21.8	+0.1
OK025	**Westminster Rd**	**0.18**	**168**		Pg	21 19 21.8	-0.1
OK025				Sg	Sg	21 19 24.3	-0.1
OK005	**Luther M Schoo**	**0.19**	**122**	Pg	Pg	21 19 22.0	0.0
OK005				Sg	Sg	21 19 24.9	+0.2
BCOK	**Bluff Creek, N**	**0.21**	**242**		Pg	21 19 22.4	0.0
BCOK				Sg	Sg	21 19 25.7	+0.4
OKCSW	**OKLAHOMA CITY**	**0.35**	**187**		Pg	21 19 24.9	-0.2
OKCSW				Sg	Sg	21 19 30.1	+0.4
OK031	**S. Brethren Rd**	**0.48**	**66**		Pg	21 19 27.7	+0.1
OK031				Sg	Sg	21 19 34.5	+0.5
FNO	**Franklin**	**0.50**	**182**		Pg	21 19 27.6	-0.3
FNO				Sg	Sg	21 19 34.6	+0.2
QUOK	**Quay**	**0.69**	**53**		Pg	21 19 31.3	-0.2
QUOK				Sg	Sg	21 19 40.8	+0.3
CROK	**Carrier**	**0.89**	**327**	Pg	Pg	21 19 35.3	0.0
CROK				Sg	Sb	21 19 47.6	-0.4
BLOK	**Blackwell**	**1.01**	**8**	Pg	Pg	21 19 37.3	-0.4
GC02	**Grant County #**	**1.16**	**341**	Pg	Pg	21 19 39.9	-0.6
X34A	**Smith Ranch, M**	**1.21**	**198**		Pb	21 19 40.8	-0.6
OK032	**Salt Plains WL**	**1.24**	**328**	Pg	Pn	21 19 41.4	-0.4
KAN13	**South Haven SW**	**1.26**	**357**	Pg	Pn	21 19 41.8	-0.3
KAN17	**Caldwell West**	**1.32**	**347**	Pn	Pn	21 19 42.7	-0.3
T35A	**Sooner Cattle**	**1.36**	**31**		Pn	21 19 43.0	-0.5
KAN09	**Caldwell North**	**1.39**	**352**	Pn	Pn	21 19 43.0	-1.0
WM0K	**Wichita Mounta**	**1.53**	**229**		Pn	21 19 45.8	-0.1
KAN08	**Anthony NE Sta**	**1.54**	**342**	Pn	Pb	21 19 46.9	-0.2
LOOK	**Love County**	**1.77**	**174**	Pn	Pn	21 19 49.6	+0.5
X37A	**Clayton**	**2.02**	**125**		Pn	21 19 53.8	+1.3
MIAR	**Mount Ida**	**3.35**	**110**	Pn	Pn	21 20 12.0	+1.2
MIAR				IAmb_Lg		21 21 06.5	
ABTX	**Abilene, Hawle**	**3.64**	**212**	IAmb_Lg		21 21 14.9	
comp=Z,6.2nm,1.0s
WHAR Wooly Hollow 4.18 95 Pn Pn 21 20 21.7 -0.6
FCAR Ozark Folk Cen 4.28 87 IAmb_Lg 21 21 38.1
comp=Z,4.3nm,0.8s
MGMO Mountain Grove 4.35 70 IAmb_Lg 21 21 34.3
comp=Z,7.2nm,0.8s
R40A Maddies Statio 4.81 57 IAmb_Lg 21 21 54.9
comp=Z,4.3nm,0.9s
P38A Dawn 4.92 37 IAmb_Lg 21 22 01.9
comp=Z,3.6nm,0.7s
CCM Cathedral Cave 5.43 63 IAmb_Lg 21 22 11.7
comp=Z,6.2nm,0.7s
P40A Paris 5.67 47 IAmb_Lg 21 22 20.1
comp=Z,9.0nm,0.8s
PBMO Poplar Bluff 5.71 78 IAmb_Lg 21 22 25.9
comp=Z,4.7nm,0.7s

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*IDC **27** 21:25:07.5±2.2, 40.°97N×112.°85W, h0km, mb1 2.2/1, mb1mx2.2/41, mbtmp1.8/1, ML2.4/1, Error ellipse: s-maj=51.3km s-min=6.3km az=159.0*

*NEIC **27** 21:25:09.9±1.1, 41.°11N±0.°02×112.°87W±0.°05, h0km±2km, ML1.5/18, Error ellipse: s-maj=7.0km s-min=3.0km az=121.0*

ISC 27 21:25:09.8±1.1, 41.°10N±0.°05×112.°86W±0.°06, h0km, n13, σ0.°59/13, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**0.22**	**215**	Pg	**Pg**	**21 25 14.2**	**+0.2**
BGU				IAML		21 25 19.7	
comp=N,84nm,0.3s
BGU IAML 21 25 21.3
comp=E,122nm,0.3s
SPUT South Promonto 0.37 57 Pg **Pg 21 25 17.2 +0.2**
SPUT Sg **Sg 21 25 23.2 +1.4**
SPUT IAML 21 25 24.1
comp=N,58nm,0.2s
DUG Dugway, Tooele 0.91 178 Pb 21 25 28.1 -0.5
DUG IAML 21 25 50.3
comp=N,20nm,0.4s
CTU Camp Tracy 0.94 116 Pg **Pb 21 25 28.5 -0.6**
HWUT Hardware Ranch 1.10 62 Pg **Pg 21 25 30.6 -0.3**
HWUT IAML 21 25 50.8
comp=N,9.4nm,0.3s
HWUT IAML 21 25 54.3
comp=N,13nm,0.4s
JLU Jordanelle 1.18 115 Pg **Pg 21 25 32.3 -0.2**
JLU IAML 21 25 52.9
comp=E,9.3nm,0.4s
NLU North Lily Min 1.30 152 Pg **Pg 21 25 34.5 -0.1**
NLU IAML 21 25 57.9
comp=E,6.9nm,0.4s
ELK Elko 1.83 260 Pg **Pn 21 25 42.5 -0.3**
comp=E,1.2nm,0.3s,baz=64,slow=10,SNR=14
ELK Lg Lg 21 26 05.0
comp=E,0.6nm,0.3s,baz=210,slow=22,SNR=2.6
ELK Elko 1.83 260 Pn 21 25 42.5 -0.3
ELK IAML 21 26 10.5
comp=E,5.0nm,0.3s

SPR3 Spring Creek 3 2.38 209 Pn **Pn 21 25 51.2 +0.7**
SPR3 IAML 21 26 41.5
comp=E,3.1nm,1.9s
PDAR Pinedale Array 2.97 55 Pn **Pn 21 25 58.4 -0.1**
comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=1.9
PDAR Pg **Pb 21 26 03.4 -0.4**
comp=E,0.6nm,0.3s,baz=223,slow=16,SNR=7.4
PDAR Lg Lg 21 26 43.8
comp=E,0.6nm,0.3s,baz=229,slow=24,SNR=6.6
I56US NEWPORT INFRAS 7.78 338 *i* 22 08 50.0
baz=156,slow=320,SNR=2.6
I57US PINON FLAT INF 8.01 202 *i* 22 13 40.0
baz=16,slow=298,SNR=0.8

PRU 27 21:27:40.0±0.0, 51.°46N×16.°15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	Pg	21 27 51.6	-0.4
KSP				*e*Sg	Sg	21 27 59.9	-0.1
CHVC	**Chvalec**	**0.88**	**184**	*e*Pg	Pg	21 27 56.5	-0.2
CHVC				*e*SG	Sg	21 28 08.4	+0.3
comp=Z,20nm,0.3s
OSTC Ostas 0.91 177 *e*PG Pg 21 27 57.0 -0.3
OSTC *e*SG Sg 21 28 09.3 +0.3
comp=Z,20nm,0.3s
UPC Upice 0.96 185 *e*PG Pg 21 27 58.1 -0.2
UPC *e*SG Sg 21 28 11.1 +0.4
comp=Z,45nm,0.3s
DPC Dobruska-Polom 1.12 174 *e*PG Pg 21 28 00.5 -0.9
DPC *e*SG Sg 21 28 15.2 -0.6
comp=Z,10nm,0.3s
PVCC Panska Ves 1.37 228 *e*PG Pg 21 28 05.7 -0.5
PVCC *e*SG Sn 21 28 24.9 -0.2
comp=Z,46nm,0.2s
KRLC Kraliky 1.44 164 *e*PG Pn 21 28 05.9 -1.5
KRLC *e*SG Sg 21 28 24.9 -1.4
comp=Z,11nm,0.4s
BRG Berggiesshubel 1.51 248 Pg Pn 21 28 08.4 +0.1
BRG Sg Sn 21 28 28.7 +0.1
BRG Amp 21 28 30.2
comp=Z,14nm,0.2s
PRU Pruhonice 1.79 215 *e*PG Pn 21 28 12.7 +0.5
PRU *e*SG Sb 21 28 36.4 -0.3
comp=Z,6.9nm,0.3s
MORC Moravsky Berou 1.90 152 *e*PN Pn 21 28 12.2 -1.6
MORC *e*SG Sn 21 28 37.8 -0.7
CLL Collm 1.98 267 *e*Pn Pn 21 28 14.0 -0.7
CLL *e*Pg Pb 21 28 17.0 +0.2
CLL *e*Sg Sg 21 28 43.0 -0.5
comp=Z,8.0nm,0.6s
VRAC Vranov 2.17 172 *e*PN Pn 21 28 16.7 -0.7
VRAC *e*SG Sb 21 28 47.9 +0.3
TREC Trest 2.21 191 *e*SG Sb 21 28 49.7 +1.0
KRUC Moravsky 2.41 176 *e*PN Pn 21 28 19.3 -1.3
KRUC *e*SG Sg 21 28 55.9 -1.3
OJC Ojcow 2.62 117 *e*Pg Pb 21 28 29.0 +1.1
OJC *e*Sg Sg 21 29 03.1 -1.2
NKC Novy Kostel 2.65 244 *e*PN Pn 21 28 23.5 -0.5
NKC *e*PG Pb 21 28 29.3 +1.0
NKC *e*SG Sg 21 29 05.2 +0.2
comp=Z,7.2nm,0.3s
KHC Kasperske Hory 2.86 216 *e*PN Pn 21 28 26.2 -0.6
KHC *e*PG Pb 21 28 31.6 -0.2
KHC *e*SN Sn 21 29 00.6 -1.3
KHC *e*SG Sg 21 29 10.7 -1.0
comp=Z,3.2nm,0.3s
CKRC Cesky Krumlov 2.90 205 *e*PG Pb 21 28 33.2 +0.7
CKRC *e*SG Sb 21 29 10.7 +2.2
LANS Liptovska Anna 3.14 136 *e*SG Sg 21 29 21.2 +0.3
MODS Modra-Piesok 3.17 166 *e*SG Sg 21 29 23.3 +1.4

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*IDC **27** 21:41:14.1±0.3, 2.°65S×138.°56E, h0km, mb6.0/39, mb1 6.0/43, mb1mx6.0/43, mbtmp6.0/43, ML5.4/4, MS6.6/23, Ms1 6.6/23, ms1mx6.4/28, Error ellipse: s-maj=10.9km s-min=8.4km az=76.0*

*BJI **27** 21:41:18.5±0.0, 2.°70S×138.°60E, h40km, mB7.2/75, mb6.5/83, Ms7.0/92, Ms7 6.9/88*

*MOS **27** 21:41:18.5±1.0, 2.°64S×138.°50E, h42km, mb6.7/47, MS6.7/70, Error ellipse: s-maj=7.1km s-min=4.1km az=111.1*

*NEIC **27** 21:41:21.6, 2.°70S×138.°53E, h50km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr2.95; Mθθ-1.29; Mφφ-1.66; Mrθ1.65; Mrφ1.32; Mθφ-0.08; Fault plane solution: M0 3.32000×10¹⁹ NP1:φs120.34000°, δ58.68000°, λ70.78000°. NP2:φs334.19000°, δ36.23000°, λ118.41000°. Principal axes: T 3.5452, Plg70.0000°, Azm348.0000°; N -0.4994, Plg16.0000°, Azm131.0000°; P -3.0458, Plg12.0000°, Azm224.0000°;*

*NEIC **27** 21:41:21.7±2.4, 2.°63S±0.°07×138.°53E±0.°05, h48km±1km, mb6.7/335, Ms_20 7.0/736, Mwb6.9/53, Mwc7.0/125, Mww7.0, Mwc7.0(GCMT) Error ellipse: s-maj=11.2km s-min=9.3km az=179.0*

*DJA **27** 21:41:21.8±0.2, 3.°S±2.°×13.°9E±.°, h51km±2km, M7.0/121, mB7.1/120, mb6.6/121, MLv7.2/6, Mw6.9/57, Mw(mB)7.1/120, MwMwp6.8/117, Mwp6.7/117*

*NEIC **27** 21:41:30, 2.°69S×138.°48E, h46km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr3.28; Mθθ-1.69; Mφφ-1.59; Mrθ1.10; Mθφ1.79; Mrφ0.00; Fault plane solution: M0 3.53000×10¹⁹ NP1:φs327.00000°, δ40.00000°, λ110.00000°. NP2:φs122.00000°, δ53.00000°, λ74.00000°. Principal axes: T 3.5408, Plg76.0000°, Azm341.0000°; N -0.0185, Plg12.0000°, Azm131.0000°; P -3.5223, Plg7.0000°, Azm223.0000°;*

*GCMT **27** 21:41:30.7±0.0, 2.°53S×138.°44E, h41km, MW7.0/175, Moment Tensor Solution. s175,c480; s173,c843; Duration: 7s4 Moment tensor: Scale 10¹⁹Nm; Mrr3.10±.01; Mθθ-1.90±.01; Mφφ-1.20±.01; Mrθ1.20±.01; Mθφ1.95±.01; Mrφ0.30±.01; Best double couple: M0 3.55800×10¹⁹ NP1:φs327.00000°, δ42.00000°, λ117.00000°. NP2:φs113.00000°, δ54.00000°, λ68.00000°. Principal axes: T 3.5020, Plg71.0000°, Azm327.0000°; N 0.1100, Plg18.0000°, Azm126.0000°; P -3.6130, Plg6.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

*NEIC **27** 21:41:31, 2.°53S×138.°51E, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr2.94; Mθθ-1.82; Mφφ-1.13; Mrθ1.21; Mθφ2.02; Mrφ0.43; Fault plane solution: M0 3.51000×10¹⁹ NP1:φs330.00000°, δ43.00000°, λ121.00000°. NP2:φs110.00000°, δ54.00000°, λ64.00000°. Principal axes: T 3.4357, Plg68.0000°, Azm324.0000°; N 0.1519, Plg21.0000°, Azm126.0000°; P -3.5876, Plg6.0000°, Azm219.0000°;*

*NEIC **27** 21:41:44.6, 2.°48S×138.°22E, h45km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr3.75; Mθθ-2.22; Mφφ-1.53; Mrθ1.31; Mθφ2.02; Mrφ-0.30; Fault plane solution: M0 4.06000×10¹⁹ NP1:φs319.13000°, δ37.05000°, λ104.41000°. NP2:φs121.28000°, δ54.30000°, λ79.36000°. Principal axes: T 4.0265, Plg78.0000°, Azm354.0000°; N 0.0767, Plg9.0000°, Azm128.0000°; P -4.1032, Plg9.0000°, Azm219.0000°;*

ISC 27 21:41:20.8±0.2, 2.°71S±0.°02×138.°54E±0.°02, h48km±1km, h48km:pP-P, n2491, σ2.°34/2457, mb6.7/345, MS7.0/472, 300C-137D, Fault plane solution: NP1:φs100.86343°, δ66.60502°, λ40.55193°. **NP2:**φs352.09821°, δ53.36689°, λ150.34311°. **Principal axes:** T Plg44.6434°, Azm321.8266°; N Plg44.2149°, Azm125.7573°; P Plg8.1146°, Azm223.7314°; **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.63**	**86**	⇑P	**Pn**	**21 41 47.5**	**+0.5**
GENI	**Genyem**	**1.63**	**86**	P	**Pn**	**21 41 48.1**	**+1.1**
GENI				S	**Sn**	**21 42 08.1**	**+1.3**
SRPI	**Serui, Papua**	**2.45**	**290**	P	**Pn**	**21 41 59.4**	**+1.1**
SRPI				S	**Sn**	**21 42 28.7**	**+1.7**
KMPI	**Kaimana, Papua**	**4.92**	**259**	P	**Pn**	**21 42 33.5**	**+1.3**
MMPI	**Merauke**	**6.00**	**162**	P	**Pn**	**21 42 49.0**	**+1.9**
369nm758μm30μm,0.6s
FAKI Fak Fak 6.29 268 Pn **Pn 21 42 52.4 +1.3**
FAKI Sn **Sn 21 44 00.9 -0.7**
FAKI Fak Fak 6.29 268 ⇑P **Pn 21 42 52.4 +1.3**
116nm246μm9μm,0.7s
SIJI Sorong 7.50 284 Pn **Pn 21 43 08.0 +0.3**
413nm,0.3s,baz=200,slow=23,SNR=386
SIJI Sn **Sn 21 44 30.6 -0.8**
958nm,0.3s,baz=115,slow=23,SNR=12
SWI Sorong 7.51 284 P Pn 21 43 08.9 +1.2
71nm204μm9μm,0.6s
BNDI Bandanaira 8.81 258 ⇓P **Pn 21 43 26.5 +1.0**
BNDI Bandanaira 8.81 258 P Pn 21 43 26.5 +1.0
285μm15μm,1.5s
MANU Manus Island 8.84 86 Pn **Pn 21 43 28.2 +2.1**
MANU Manus Island 8.84 86 ⇓P **Pn 21 43 28.9 +2.8**
SAUI Saumlaki 8.91 234 Pn **Pn 21 43 29.9 +3.0**
SAUI Sn **Sn 21 45 09.2 +3.2**
SAUI Saumlaki 8.91 234 ⇓P **Pn 21 43 29.0 +2.0**
SAUI Saumlaki 8.91 234 P Pn 21 43 27.8 +0.8
360μm27μm,0.9s
MSAI Masohi 9.62 266 P Pn 21 43 37.7 +1.0
3μm14μm1μm,0.6s
PMG Port Moresby 10.84 128 Pn **Pn 21 43 55.7 +2.3**
12nm,0.3s,baz=322,slow=9.9,SNR=23
PMG Port Moresby 10.84 128 P Pn 21 43 54.4 +1.0
PMG Port Moresby 10.84 128 Pn **Pn 21 43 54.4 +1.0**
PMG Port Moresby 10.84 128 ⇑P **Pn 21 43 54.2 +0.8**
PMG Port Moresby 10.84 128 P Pn 21 43 57.4 +4.0
PMG Port Moresby 10.84 128 P Pn 21 43 57.4 +4.0
I39PW PALAU INFRASON 10.93 339 Pn **Pn 21 43 56.0 +1.3**
baz=162,slow=15,SNR=3.6
I39PW Sn Sn 21 45 45.0 -11
I39PW *i* 22 42 40.0
baz=160,slow=319,SNR=3.8
NLAI Namlea 11.44 267 P Pn 21 44 04.2 +2.6
95μm11μm,0.8s
KDU Kakadu 11.59 211 P Pn 21 44 02.4 -1.2
baz=12,SNR=1000
KDU Kakadu 11.59 211 ⇑P **Pn 21 44 01.0 -2.6**
TNTI Ternate 11.70 287 Pn **Pn 21 44 09.1 +4.0**
TNTI Ternate 11.70 287 P Pn 21 44 06.6 +1.5
542μm90μm2μm,1.4s
MTN Manton Dam 12.45 216 P Pn 21 44 15.3 -0.1
baz=12,SNR=54
MTN Manton Dam 12.45 216 Pn **Pn 21 44 14.1 -1.4**
MTN Manton Dam 12.45 216 ⇓P **Pn 21 44 14.3 -1.2**
SANI Sanana 12.56 273 ⇓P **Pn 21 44 16.3 -0.7**
SANI Sanana 12.56 273 P Pn 21 44 17.2 +0.3
85μm7μm,0.7s
RABL Rabaul 13.68 97 Pn 21 44 31.5 -0.7
RABL Rabaul 13.68 97 ⇓P **Pn 21 44 34.7 +2.5**
RABL Rabaul 13.68 97 P P 21 44 39.0 -0.7
4μm,0.8s
SGSI Sangihe 14.48 296 P Pn 21 44 44.3 +1.3
9μm24μm2μm,0.9s
SOEI Soe 15.81 243 Pn **Pn 21 44 58.5 -2.0**
SOEI Soe 15.81 243 ⇓P **Pn 21 44 59.1 -1.4**
SOEI Soe 15.81 243 P Pn 21 45 00.8 +0.3
933μm200μm13μm,0.8s
KNRA Kununurra 16.09 216 P Pn 21 45 03.5 -0.3
baz=16,SNR=969
KNRA Kununurra 16.09 216 Pn **Pn 21 45 01.9 -1.9**
KNRA IAmb IAmb 21 45 12.1
comp=Z,8μm,0.9s
DAV Davao City (W) 16.18 307 Pn **P 21 45 06.9 -0.6**
comp=Z,47nm,0.3s,baz=108,slow=2.3,SNR=15
DAV LR LR 21 51 22.2
comp=Z,762nm,19.5s,baz=112,slow=38
DAV Davao City (W) 16.18 307 P Pn 21 45 05.2 +0.1
DAV IAmb IAmb 21 45 23.7
comp=Z,6μm,1.2s
DAV Davao City (W) 16.18 307 P P 21 45 09.5 +1.9
DAV Davao City (W) 16.18 307 ⇓P **P 21 45 10.2 +2.6**
KCP Kidapawan 16.54 306 ⇓*e*P **Pn 21 45 03.2 -6.4**
BATI Baumata 16.54 243 Pn **Pn 21 45 09.3 -0.3**
comp=Z,46nm,0.3s,baz=139,slow=2.1,SNR=86
BATI Sn **Sn 21 48 09.0 -3.5**
comp=Z,59nm,0.3s,baz=87,slow=14,SNR=2.4
BATI Baumata 16.54 243 P P 21 45 10.7 -0.9
comp=Z,383μcomp=Z,149μcomp=Z,12μm,1.0s
MRSI Marisa 16.90 281 P P 21 45 14.9 -0.6
comp=Z,444μcomp=Z,76μcomp=Z,4μm,1.1s
APSI Ampana 16.98 276 P P 21 45 17.4 +1.0
comp=Z,360μcomp=Z,166μcomp=Z,9μm,1.5s
MMRI Maumere 17.25 249 Pn **Pn 21 45 16.4 -2.0**
MMRI IAmb IAmb 21 45 57.6
comp=Z,7μm,1.3s
MMRI Maumere 17.25 249 ⇓P **Pn 21 45 17.5 -1.0**
MMRI Maumere 17.25 249 P P 21 45 20.0 +0.6
comp=Z,617μcomp=Z,85μcomp=Z,4μm,1.5s
GUMO Guam 17.37 21 P Pn 21 45 19.2 -0.7
comp=Z,1.5nm,0.3s,baz=188,slow=4.1,SNR=24
GUMO S **Sn 21 48 31.2 -1.2**
comp=Z,8.5nm,0.3s,baz=31,slow=22,SNR=1.6
GUMO LR LR 21 52 10.8
comp=Z,86μm,18.9s,baz=222,slow=38
GUMO Guam 17.37 21 P Pn 21 45 19.8 -0.1
GUMO IAmb IAmb 21 45 34.1
comp=Z,12μm,1.6s
GUMO Guam 17.37 21 ⇑P **Pn 21 45 19.8 -0.1**
GUMO Guam 17.37 21 P P 21 45 23.9 +3.2
WB0 Warramunga Arr 17.43 193 P Pn 21 45 17.0 -3.6
WB0 IAmb IAmb 21 45 52.6
comp=Z,3μm,0.8s
WR0 Warramunga Arr 17.58 193 P Pn 21 45 19.6 -2.8
WR0 IAmb IAmb 21 45 42.5
comp=Z,5μm,1.1s
WRAB Tennant Creek 17.60 193 P Pn 21 45 19.8 -2.9
WRAB pmax pmax
comp=Z,5μm,1.0s
WRAB Tennant Creek 17.60 193 P Pn 21 45 19.8 -2.9
WRAB IAmb IAmb 21 45 56.3
comp=Z,5μm,0.9s
WRAB Tennant Creek 17.60 193 ⇓P **Pn 21 45 19.7 -3.0**
WB2 Warramunga Arr 17.61 193 IAmb IAmb 21 45 42.9
comp=Z,9μm,1.3s
WRA Warramunga Arr 17.61 193 P Pn 21 45 20.9 -1.9
comp=Z,24nm,0.3s,baz=15,slow=11,SNR=153
WRA S **Sn 21 48 29.4 -8.8**
comp=Z,31nm,0.3s,baz=5.9,slow=22,SNR=3.3
WRA LR LR 21 52 38.5
comp=Z,581μm,21.0s,baz=15,slow=39
WRA P3KP 22 20 44.9
comp=Z,0.1nm,0.3s,baz=114,slow=3.1,SNR=6.2
WRA Warramunga Arr 17.61 193 P Pn 21 45 21.0 -1.9
WRA Warramunga Arr 17.61 193 Pn 21 45 19.7 -3.1
WC3 Warramunga Arr 17.62 193 P Pn 21 45 20.8 -2.2
baz=18
CGP Cagayan de Oro 17.71 309 ⇓*i*P **P 21 45 26.8 +2.3**
QIS Mount Isa 17.77 177 P Pn 21 45 22.4 -2.4
baz=18,SNR=114
EDFI Ende, Flores 17.80 250 P P 21 45 26.1 +0.5
comp=Z,361μcomp=Z,50μcomp=Z,1μm,0.9s
TOLI2 Tolitoli 18.16 282 Pn 21 45 30.0 +0.4
TOLI2 IAmb IAmb 21 45 57.1
comp=Z,5μm,1.2s
BSSI Bau Bau, Buton 18.32 259 P Pn 21 45 32.2 +0.7
comp=Z,409μcomp=Z,122μcomp=Z,5μm,1.9s
BNSI Bone 18.48 264 P Pn 21 45 33.8 +0.3
comp=Z,653μcomp=Z,136μcomp=Z,4μm,2.0s
BKSI Bulukumba 18.56 261 P Pn 21 45 34.6 +0.2
comp=Z,674μcomp=Z,92μcomp=Z,2μm,1.2s
TTSI Tana Toraja 18.70 269 P Pn 21 45 36.5 +0.3
comp=Z,579μcomp=Z,191μcomp=Z,4μm,1.3s
CTA Charters Tower 18.84 157 P Pn 21 45 38.0 +0.2
comp=Z,7.2nm,0.3s,baz=330,slow=12,SNR=26
CTA Charters Tower 18.84 157 P Pn 21 45 38.0 +0.2
CTAO Charters Tower 18.84 157 P P 21 45 36.3 -0.6
CTAO pmax pmax
comp=Z,3μm,0.9s
CTAO Charters Tower 18.84 157 P P 21 45 36.3 -0.6
CTAO Charters Tower 18.84 157 ⇓P **P 21 45 37.0 +0.2**
DCPH Dipolog City 18.85 307 ⇑*e*P **Pn 21 45 42.6 +4.6**
MPSI Mapaga 18.88 279 P Pn 21 45 39.5 +1.1
comp=Z,582μcomp=Z,184μcomp=Z,3μm,2.5s
KAPI Kappang 18.89 262 P Pn 21 45 39.8 +1.4
comp=Z,8.2nm,0.3s,baz=116,slow=7.3,SNR=19
KAPI S **Sn 21 49 01.6 -7.6**
comp=Z,1.2nm,0.3s,baz=160,slow=13,SNR=1.4
KAPI LR LR 21 55 51.2
comp=Z,48μm,18.1s,baz=85,slow=46
KAPI Kappang 18.89 262 P Pn 21 45 39.2 +0.8
KAPI pmax pmax
comp=Z,3μm,1.2s
KAPI Kappang 18.89 262 Pn **Pn 21 45 39.2 +0.8**
KAPI Kappang 18.89 262 P Pn 21 45 41.9 +3.5
KAPI S **S 21 49 11.1 +1.3**
KAPI Kappang 18.89 262 ⇑P **Pn 21 45 40.0 +1.6**

LLP Lapu-Lapu 19.45 312 eP P 21 45 43.8 +0.2
LLP eS Sn 21 49 25.9 +3.3
CNOP Candoni, Negro 20.15 308⇓eP Pn 21 46 12.4 +19
WBSI Waikabubak, Su 20.23 249 P P 21 45 51.6 -0.6
comp=Z,453μmcomp=Z,80μmcomp=Z,6μm,0.9s
SGKI Sangatta, Kali 21.04 276 P P 21 46 03.5 +2.6
comp=Z,671μmcomp=Z,139μmcomp=Z,6μm,1.1s
MMPH Masbate 21.07 316⇑iP P 21 46 02.6 +1.4
RCP Roxas 21.16 312⇑eP P 21 46 03.8 +1.7
AS31 Alice Springs 21.31 192 IAmb IAmb 21 46 16.3
comp=Z,2μm,0.7s
ASAR Alice Springs 21.31 192 P P 21 46 03.0 -0.7
comp=Z,812nm,0.8s,baz=19,slow=8.2,SNR=641
ASAR S S 21 49 55.7 -2.2
comp=Z,64nm,0.6s,baz=4.9,slow=23,SNR=3.8
ASAR LR LR 21 54 53.6
comp=Z,380μm,19.8s,baz=15,slow=38
ASAR P3KPbc 22 19 59.6
comp=Z,3.9nm,1.1s,baz=190,slow=4.0,SNR=7.0
ASAR P3KP 22 20 39.5
comp=Z,2.7nm,0.9s,baz=268,slow=2.3,SNR=4.2
ASAR Alice Springs 21.31 192 P P 21 46 02.8 -0.9
PLAI Plampang 21.53 253 P P 21 46 04.6 -1.5
comp=Z,532μmcomp=Z,68μmcomp=Z,3μm,0.8s
BKB Balikpapan 21.68 273 P P 21 46 10.2 +2.5
BKB IAMs_20 IAMs_20 21 52 32.5
comp=Z,359μm,20.0s
BKB Balikpapan 21.68 273 ⇑P P 21 46 11.6 +3.8
BKB Balikpapan 21.68 273 P P 21 46 08.6 +0.9
comp=Z,237μmcomp=Z,8μm,1.5s
PATS Pohnpei 21.90 64 P P 21 46 10.6 +0.6
baz=22,SNR=16
PATS Pohnpei 21.90 64 P P 21 46 10.6 +0.6
PATS IAmb IAmb 21 46 38.2
comp=Z,6μm,1.2s
PATS IAMs_20 IAMs_20 21 52 44.4
comp=Z,505μm,22.0s
HNR Honiara 22.29 108 P P 21 46 15.0 +0.6
comp=Z,1μm,0.9s,baz=232,slow=1.3,SNR=13
HNR Honiara 22.29 108 P P 21 46 13.7 -0.6
HNR pmax pmax
comp=Z,5μm,1.0s
HNR MLR MLR
comp=Z,86μm,21.0s
HNR Honiara 22.29 108 P P 21 46 13.7 -0.6
HNR IAmb IAmb 21 47 01.9
comp=Z,5μm,1.0s
HNR Honiara 22.29 108 ⇑P P 21 46 14.0 -0.4
HNR Honiara 22.29 108 P P 21 46 15.4 +1.1
KBKI Kotabaru 22.35 268 P P 21 46 17.3 +2.3
comp=Z,11μmcomp=Z,31μmcomp=Z,2μm,0.8s
TWSI Taliwang, Sumb 22.36 254 P P 21 46 14.5 -0.5
comp=Z,250μmcomp=Z,25μmcomp=Z,1μm,0.9s
JCNP Jose Panganiba 23.07 317⇓eP P 21 46 19.4 -3.0
SPMM Sapulut 23.26 288 P P 21 46 26.0 +1.6
BBKI Banjar Baru 23.68 268 P P 21 46 30.8 +2.5
comp=Z,230μmcomp=Z,121μmcomp=Z,5μm,1.7s
MTKI Muara Teweh, K 23.70 274 P P 21 46 29.6 +1.1
comp=Z,203μmcomp=Z,68μmcomp=Z,1μm,1.3s
LQP Lukban 23.74 315 eP P 21 46 28.6 -0.5
PGP Puerto Galera 23.75 313⇑eP P 21 46 28.4 -0.6
SRBI Singaraja 23.82 256 P P 21 46 30.6 +1.0
comp=Z,329μmcomp=Z,105μmcomp=Z,4μm,1.6s
DNP Denpasar 23.95 255 P P 21 46 31.0 +0.2
comp=Z,316μmcomp=Z,120μmcomp=Z,7μm,1.2s
TGY Tagaytay City 24.16 314⇑eP P 21 46 35.5 +2.7
WRKA Warakurna 24.29 203 P P 21 46 33.1 -0.8
baz=24,SNR=1000
WRKA Warakurna 24.29 203 ⇑P P 21 46 32.2 -1.7
QLP Quilpie 24.35 168 P P 21 46 35.0 +0.6
baz=24,SNR=20
QLP Quilpie 24.35 168 ⇓P P 21 46 34.6 +0.2
LUBP Lubang 24.42 312⇑eP P 21 46 35.1 0.0
LUBP i S S 21 51 02.1 +10
ABJI Asem Bagus 24.72 257 P P 21 46 39.3 +1.5
comp=Z,266μmcomp=Z,83μmcomp=Z,3μm,1.1s
KMMI Kalianget 24.86 259 P P 21 46 40.8 +1.7
comp=Z,295μmcomp=Z,203μmcomp=Z,5μm,0.8s
JAGI Jajag, Banyuwa 24.93 256 P P 21 46 37.8 -1.9
JAGI IAmb IAmb 21 46 49.8
comp=Z,3μm,1.1s
JAGI Jajag, Banyuwa 24.93 256 ⇑P P 21 46 38.2 -1.6
JAGI Jajag, Banyuwa 24.93 256 P P 21 46 39.5 -0.3
comp=Z,241μmcomp=Z,64μmcomp=Z,3μm,1.2s
PCPH Palayan 25.05 317⇓eP P 21 46 40.5 -0.3
EIDS Eidsvold 25.56 153 P P 21 46 46.4 +1.1
baz=26,SNR=112
EIDS Eidsvold 25.56 153 P P 21 46 46.2 +0.9
EIDS IAmb IAmb 21 47 15.0
comp=Z,2μm,1.1s
EIDS Eidsvold 25.56 153 ⇑P P 21 46 46.4 +1.1
RMQ Roma 25.59 158 P P 21 46 46.7 +1.1
baz=26,SNR=42
MBWA Marble Bar 25.92 224 IAMs_20 IAMs_20 21 58 31.8
comp=Z,237μm,18.0s
PSA00 Pilbara Seismi 26.12 223 P P 21 46 50.2 -0.3
PSA00 Pilbara Seismi 26.12 223 P P 21 46 49.8 -0.7
PSA00 IAmb IAmb 21 46 56.2
comp=Z,1μm,0.8s
CVP Callao Caves 26.14 322⇓eP P 21 46 49.9 -0.8
SBUM Sibu 26.81 281 P P 21 46 59.0 +2.2
PBKI Pangkalan Bun 26.84 269 P P 21 46 59.2 +2.1
comp=Z,213μmcomp=Z,45μmcomp=Z,2μm,1.0s
SZP Santa 26.90 319 P P 21 46 56.1 -1.4
TBJI Tambak Boyo 26.91 260 P P 21 46 59.2 +1.5
comp=Z,123μmcomp=Z,52μmcomp=Z,2μm,1.1s
PWJI Pagerwojo 27.13 258 P P 21 46 59.2 -0.5
comp=Z,162μmcomp=Z,25μmcomp=Z,561nm,0.9s
STKI Sintang 27.20 275 P P 21 47 01.9 +1.6
comp=Z,147μmcomp=Z,22μmcomp=Z,721nm,1.4s
PCJI Pacitan 27.77 258 P P 21 47 03.8 -1.6
comp=Z,138μmcomp=Z,26μmcomp=Z,920nm,1.3s
SMRI Semarang 28.32 260 P P 21 47 10.5 +0.2
SMRI IAmb IAmb 21 47 47.6
comp=Z,3μm,1.2s
SMRI Semarang 28.32 260 ⇑P P 21 47 11.4 +1.0
SMRI Semarang 28.32 260 P P 21 47 11.8 +1.4
comp=Z,209μmcomp=Z,88μmcomp=Z,2μm,1.9s
UGM Wanagama 28.36 258 IAmb IAmb 21 48 11.6
comp=Z,2μm,1.2s
UGM Wanagama 28.36 258 P P 21 47 10.8 +0.1
comp=Z,169μmcomp=Z,32μmcomp=Z,858nm,1.0s
KSM Kuching 28.53 278 P P 21 47 14.0 +1.8
YOGI Yogyakarta 28.57 259 P P 21 47 12.3 -0.3
comp=Z,100μmcomp=Z,18μmcomp=Z,744nm,1.4s
STKA Stephens Creek 29.15 175 P P 21 47 17.0 -0.5
comp=Z,36nm,0.4s,baz=345,slow=8.3,SNR=91
STKA Stephens Creek 29.15 175 P P 21 47 16.5 -1.0
baz=29,SNR=164
STKA Stephens Creek 29.15 175 P P 21 47 16.8 -0.7
STKA pmax pmax
comp=Z,148nm,0.9s
STKA MLR MLR
comp=Z,36μm,22.0s
STKA Stephens Creek 29.15 175 P P 21 47 16.8 -0.7
JMZ Minamidaito 2 29.24 346 P P 21 47 18.5 +0.3
JMZ Minamidaito 2 29.24 346 ⇑P P 21 47 17.4 -0.9
CMSA Cobar Meteorol 29.45 168 P P 21 47 20.9 +0.8
baz=30,SNR=60
FORT Forrest 29.62 198 P P 21 47 20.8 -0.9
baz=30,SNR=92
FORT Forrest 29.62 198 P P 21 47 20.9 -0.8
FORT Forrest 29.62 198 ⇓P P 21 47 20.7 -0.9
JCJ Chichijima 29.84 7 P P 21 47 22.2 -1.4
comp=Z,471nm,0.9s,baz=136,slow=7.2,SNR=9.4
JCJ S S 21 52 17.6 +0.3
comp=Z,46nm,0.8s,baz=319,slow=21,SNR=1.0
JCJ Chichijima 29.84 7 P P 21 47 22.5 -1.1
KPJI Karang Pucung 29.84 260 P P 21 47 25.0 +1.2
comp=Z,205μmcomp=Z,40μmcomp=Z,844nm,0.8s
BBOO Buckleboo 30.03 184 P P 21 47 23.9 -1.4
baz=30,SNR=68
ARMA Armidale 30.21 157 P P 21 47 28.6 +1.6
baz=30,SNR=32
ARMA Armidale 30.21 157 P P 21 47 28.0 +0.9
ARMA Armidale 30.21 157 ⇑P P 21 47 28.3 +1.3
JCJI Jatiwangi 30.40 262 P P 21 47 30.4 +1.6
comp=Z,167μmcomp=Z,39μmcomp=Z,1μm,1.5s
MEEK Meekatharra 30.52 217 P P 21 47 29.3 -0.4
baz=31,SNR=173
KOUNC Koumac, New Ca 30.73 127 ⇑P P 21 47 30.7 -0.9
KOUNC Koumac, New Ca 30.73 127 P P 21 47 33.8 +2.2
GIRL Giralia 30.80 228 P P 21 47 34.0 +1.8
baz=31,SNR=75
GIRL Giralia 30.80 228 P P 21 47 33.0 +0.8
GIRL IAmb IAmb 21 47 42.6
comp=Z,3μm,1.1s
GIRL Giralia 30.80 228 ⇑P P 21 47 34.0 +1.8
YULB Yu-li 30.91 328 IAmb IAmb 21 47 43.9
comp=Z,2μm,1.3s
YULB IAMs_20 IAMs_20 21 57 07.3
comp=Z,238μm,22.0s
SANVU Saraoutou 30.94 116 P P 21 47 33.1 -0.3
SANVU Saraoutou 30.94 116 ⇑P P 21 47 35.0 +1.5
SANVU Saraoutou 30.94 116 P P 21 47 35.6 +2.1
YOJ Yonaguni jima 30.94 332 P P 21 47 33.8 +0.4
YOJ Yonaguni jima 30.94 332 ⇑P P 21 47 33.6 +0.3
JOW Kunigami 31.00 342 P P 21 47 34.5 +0.6
comp=Z,475nm,1.0s,baz=167,slow=8.6,SNR=40
JOW LR LR 21 58 15.2
comp=Z,101μm,20.6s,baz=170,slow=33
JOW Kunigami 31.00 342 P P 21 47 34.1 +0.2
JOW IAmb IAmb 21 47 44.3
comp=Z,4μm,1.5s
JOW Kunigami 31.00 342 ⇑P P 21 47 34.0 +0.2
LEM Lembang 31.08 261 LR LR 22 02 20.8
comp=Z,109μm,18.3s,baz=72,slow=41
KWAJ Kwajalein Atol 31.16 68 P P 21 47 34.6 -0.8
KWAJ pmax pmax
comp=Z,892nm,0.9s
KWAJ MLR MLR
comp=Z,177μm,21.0s
KWAJ Kwajalein Atol 31.16 68 P P 21 47 34.6 -0.8
KWAJ IAmb IAmb 21 47 41.7
comp=Z,892nm,0.8s
KWAJ Kwajalein Atol 31.16 68 ⇓P P 21 47 35.2 -0.2
KWAJ Kwajalein Atol 31.16 68 P P 21 47 35.3 -0.1
TPUB Ta-pu 31.20 327 IAMs_20 IAMs_20 21 57 43.8
comp=Z,312μm,22.0s
SSLB Suanglung 31.42 328 P P 21 47 36.4 -1.2
SSLB IAmb IAmb 21 47 44.9
comp=Z,1μm,1.1s
SSLB IAMs_20 IAMs_20 21 57 36.6
comp=Z,237μm,22.0s
CNJI Cibinong 31.61 261 P P 21 47 39.2 -0.3
comp=Z,125μmcomp=Z,19μmcomp=Z,1μm,1.1s
CBJI Citeko 31.80 262 P P 21 47 40.8 -0.3
comp=Z,155μmcomp=Z,19μmcomp=Z,473nm,1.0s
DBJI Dramaga 31.91 262 P P 21 47 41.8 -0.3
comp=Z,10μmcomp=Z,265nm,1.9s
YHNB Yeheng 31.92 329 IAMs_20 IAMs_20 21 58 02.0
comp=Z,268μm,22.0s
TATO Taipei 32.12 330 P P 21 47 43.6 -0.2
TATO Taipei 32.12 330 IAMs_20 IAMs_20 21 58 08.0
comp=Z,237μm,21.0s
TATO Taipei 32.12 330 P P 21 47 43.5 -0.2
PPBI Pangkal Pinang 32.38 270 P P 21 47 48.0 +1.8
comp=Z,176μmcomp=Z,18μmcomp=Z,494nm,0.9s
YNG Young 32.74 165 P P 21 47 50.2 +1.1
baz=33,SNR=24
RIV Riverview 33.12 161 P P 21 47 54.0 +1.6
baz=33,SNR=10
RIV Riverview 33.12 161 ⇑P P 21 47 55.3 +2.9
NOUC Port Laguerre 33.14 128 P P 21 47 52.9 +0.2
LIFNC LIFOU 33.23 125 IAmb IAmb 21 48 21.1
comp=Z,2μm,1.4s
LIFNC LIFOU 33.23 125 P P 21 47 55.4 +1.9
DZM Mont Dzumac 33.23 128 P P 21 47 53.9 +0.2
comp=Z,38nm,1.1s,baz=358,slow=4.8,SNR=15
DZM Mont Dzumac 33.23 128 eP P 21 47 54.1 +0.4
comp=Z,649nm,1.2s
DZM eS S 21 53 09.1 -1.6
comp=Z,42μm,36.5s
DZM eLR LR 21 56 47.9
comp=Z,699μm,28.3s
DZM Mont Dzumac 33.23 128 ⇓P P 21 47 53.8 +0.1
DZM Mont Dzumac 33.23 128 P P 21 47 54.2 +0.5
BLSI Bandar Lampung 33.31 264 P P 21 47 55.1 +0.7
comp=Z,122μmcomp=Z,14μmcomp=Z,211nm,0.5s
ONTNC Ouen Toro 33.37 128 P P 21 47 56.7 +2.0
XMI Christmas Isla 33.50 255 ⇑P P 21 47 55.6 -0.4
XMI Christmas Isla 33.50 255 P P 21 47 56.8 +0.8
comp=Z,660nm,0.8s
XMIS Christmas Isla 33.54 255 P P 21 47 55.9 -0.5
XMIS Christmas Isla 33.54 255 P P 21 47 56.7 +0.3
comp=Z,592nm,0.8s
YATNC Mamie plateau, 33.58 127 P P 21 47 57.8 +1.2
QZH Quanzhou 33.63 326⇑iP P 21 47 57.0 +0.1
QZH S S 21 53 17.0 +0.5
QZH pmax pmax
comp=Z,3μm,2.4s
QZH pmax pmax
comp=Z,27μm,3.9s
QZH LR LR
comp=Z,131μm,25.7s
QZH LR LR
comp=Z,141μm,22.7s
QZH LR LR
comp=Z,279μm,25.8s
OUENC Ouen Island, N 33.73 128 P P 21 48 01.7 +3.8
PMBI Palembang 33.73 269 P P 21 48 00.8 +2.8
comp=Z,173μmcomp=Z,31μmcomp=Z,3μm,1.3s
MORW Morawa 33.84 217 P P 21 47 58.4 -0.4
baz=34,SNR=190
MORW Morawa 33.84 217 P P 21 47 58.6 -0.1
MORW IAmb IAmb 21 48 08.0
comp=Z,738nm,0.9s
MORW Morawa 33.84 217 ⇑P P 21 47 58.4 -0.4
CAN Canberra 33.87 165 P P 21 48 01.5 +2.5
CAN pmax pmax
comp=Z,651nm,1.3s
CAN Canberra 33.87 165 ⇑P P 21 47 59.8 +0.8
CNB Canberra Magne 33.96 164 P P 21 48 00.5 +0.7
baz=34,SNR=28
ARPS Mount Arapiles 34.03 175 P P 21 48 00.2 -0.1
baz=34,SNR=76
KASI Kota Agung 34.07 264 P P 21 48 01.5 +0.6
comp=Z,115μmcomp=Z,15μmcomp=Z,668nm,0.9s
MARNC Mare, Loyalty 34.21 125 ⇑P P 21 48 04.5 +2.4
MARNC Mare, Loyalty 34.21 125 P P 21 48 03.6 +1.5
PINNC Pines Island, 34.31 128 P P 21 48 04.9 +2.0
MDSI Maura Dua 34.34 266 P P 21 48 03.5 +0.2
comp=Z,83μmcomp=Z,13μmcomp=Z,707nm,1.2s
HKC Hong Kong Obse 34.42 317 ⇑P P 21 48 04.0 +0.2
LWLI Liwa 34.48 265 P P 21 48 04.6 0.0
comp=Z,16μmcomp=Z,967nm,0.8s
LHI Lord Howe Isla 34.57 148 P P 21 48 07.1 +2.0
LHI Lord Howe Isla 34.57 148 ⇑p P 21 48 11.1 +6.1
LHI Lord Howe Isla 34.57 148 P P 21 48 06.8 +1.7
BLDU Ballidu 34.59 214 P P 21 48 04.6 -0.6
baz=35,SNR=113
TARA Tarawa 34.61 84 P P 21 48 06.1 +0.5
TARA IAmb IAmb 21 48 32.8
comp=Z,2μm,1.1s
TARA Tarawa 34.61 84 ⇑P P 21 48 07.8 +2.2
TARA Tarawa 34.61 84 P P 21 48 07.7 +2.1
MCO Taipa Grande 34.72 317 P P 21 48 08.0 +1.6
KLBR Kellerberrin 34.77 212 P P 21 48 05.9 -0.9
baz=35,SNR=156
H11S3 WAKE ISLAND Hy 34.81 52 P P 21 48 07.1 0.0
baz=231,slow=5.1,SNR=26
H11S2 WAKE ISLAND Hy 34.82 52 P P 21 48 07.1 -0.1
baz=231,slow=5.1,SNR=24
H11S1 WAKE ISLAND Hy 34.83 52 P P 21 48 06.0 -1.3
baz=231,slow=5.1,SNR=29
JSU Suzuyama 34.89 348 ⇑P P 21 48 08.0 +0.2
JMBI JAMBI 34.89 271 P P 21 48 09.0 +0.9
comp=Z,28μmcomp=Z,971nm,1.2s
MYKOM Kota Tinggi 34.97 277 P P 21 48 11.0 +2.3
LHSI Lahat 34.98 267 P P 21 48 10.3 +1.5
comp=Z,129μmcomp=Z,36μmcomp=Z,1μm,1.1s
WAKE Wake Island 35.23 50 IAMs_20 IAMs_20 21 59 26.1
comp=Z,261μm,22.0s
TOO Toolangi 35.27 170 P P 21 48 11.9 +0.9
baz=35,SNR=37
TOO Toolangi 35.27 170 IAmb IAmb 21 48 42.5
comp=Z,3μm,1.9s
TOO IAMs_20 IAMs_20 22 03 00.2
comp=Z,355μm,22.0s
TOO Toolangi 35.27 170 ⇑P P 21 48 11.9 +0.9
GZH Guangzhou 35.52 318 P P 21 48 15.8 +2.5
GZH S S 21 53 49.5 +3.9
GZH LR LR
comp=Z,40μm,18.4s
GZH LR LR
comp=Z,26μm,19.6s
MILA Mila 35.55 165 P P 21 48 14.1 +0.7
baz=36,SNR=48
MILA Mila 35.55 165 ⇑P P 21 48 14.2 +0.7
QIZ Qiongzhong 35.55 309 P P 21 48 13.5 -0.1
QIZ sP pP 21 48 27.3 +0.9
QIZ PP PP 21 49 39.0 +3.9
QIZ S S 21 53 44.8 -1.5
QIZ sS sS 21 54 06.8 -0.9
QIZ pmax pmax
comp=Z,350nm,1.1s
QIZ pmax pmax
comp=Z,19μm,3.1s
QIZ LR LR
comp=Z,85μm,20.2s
QIZ LR LR
comp=Z,78μm,18.6s
QIZ LR LR
comp=Z,121μm,29.9s
JHJ Hachijo jima 2 35.66 2 P P 21 48 14.7 +0.3
comp=Z,155nm,0.8s,baz=158,slow=3.8,SNR=1.7
H11N1 WAKE ISLAND Hy 35.66 50 P P 21 48 13.7 -0.7
baz=239,slow=10,SNR=27
H11N2 WAKE ISLAND Hy 35.68 50 P P 21 48 16.1 +1.6
baz=239,slow=10,SNR=14
H11N3 WAKE ISLAND Hy 35.68 50 P P 21 48 18.5 +4.0
baz=239,slow=10,SNR=21
MUN Mundaring 35.90 213 P P 21 48 15.8 -0.7
baz=36,SNR=25
KSI Kapahiang 35.91 268 P P 21 48 16.8 -0.1
comp=Z,17μmcomp=Z,845nm,1.0s
NWAO Narrogin (SRO) 36.09 211 LR LR 22 04 19.4
comp=Z,336μm,21.2s,baz=34,slow=38
NWAO Narrogin (SRO) 36.09 211 P P 21 48 17.7 -0.4
baz=36,SNR=56
NWAO Narrogin (SRO) 36.09 211 P P 21 48 17.1 -1.0
MASI Maura Aman, Be 36.26 268 P P 21 48 21.2 +1.3
comp=Z,125μmcomp=Z,52μmcomp=Z,4μm,1.3s
RGRI Rengat 36.27 273 P P 21 48 21.3 +1.4
comp=Z,2μmcomp=Z,541nm,1.2s
JNU Nakatsue 36.37 349 ⇑P P 21 48 20.3 -0.2
JMN Monobe 36.51 353 IAmb IAmb 21 48 48.7
comp=Z,2μm,1.4s
JMN Monobe 36.51 353 ⇑P P 21 48 21.7 0.0
JRMM Jerantut 36.64 280 P P 21 48 24.0 +1.0
SSE Sheshan 37.47 335 P P 21 48 30.3 +0.5
SSE S S 21 54 17.0 +1.8
SSE pmax pmax
comp=Z,60nm,0.5s
BKNI Bangkinang 37.61 274 P P 21 48 31.6 +0.3
BKNI Bangkinang 37.61 274 ⇑P P 21 48 31.7 +0.4
BKNI Bangkinang 37.61 274 P P 21 48 32.2 +0.9
comp=Z,155μmcomp=Z,44μmcomp=Z,3μm,1.0s
JHS Saijyo 37.86 353 IAmb IAmb 21 48 41.1
comp=Z,2μm,1.9s
JHS Saijyo 37.86 353 ⇑P P 21 48 32.9 -0.2
INU Inuyama 37.89 358 ⇑P P 21 48 32.4 -0.9
JWT Wachi 37.91 356 IAmb IAmb 21 48 44.2
comp=Z,3μm,1.8s
JWT Wachi 37.91 356 ⇑P P 21 48 33.3 -0.2
JTU Tsushima 38.03 348 IAmb IAmb 21 48 46.5
comp=Z,2μm,1.6s
JTU Tsushima 38.03 348 ⇑P P 21 48 34.4 -0.1
JGF Kuroka 38.13 358 ⇑P P 21 48 34.4 -1.0
IPM Ipoh 38.16 281 P P 21 48 36.0 0.0
NFK Norfolk Island 38.30 136 P P 21 48 37.7 +0.8
baz=38,SNR=3.5
NFK Norfolk Island 38.30 136 ⇑P P 21 48 43.1 +6.2
NFK Norfolk Island 38.30 136 P P 21 48 40.9 +4.0
KULM Kulim 38.68 282 P P 21 48 41.0 +0.7
BOSB Boseong-gun 38.77 345 P P 21 48 41.0 +0.3
SNR=16
BOSB Boseong-gun 38.77 345 P P 21 48 41.0 +0.3
SNR=16
JYT Yasato 38.77 2 P P 21 48 39.1 -1.6
JYT IAmb IAmb 21 48 54.6
comp=Z,1μm,1.1s
JYT Yasato 38.77 2 ⇑P P 21 48 39.2 -1.4
MJAR Matsushiro Arr 39.05 360 P P 21 48 41.9 -1.3
comp=Z,56nm,0.7s,baz=167,slow=9.9,SNR=54
MJAR PcP PcP 21 50 52.1 -0.4
comp=Z,33nm,0.9s,baz=191,slow=5.2,SNR=4.2
MJAR LR LR 22 03 17.1
comp=Z,77μm,20.6s,baz=175,slow=34
MJAR PKPPKP P'P'df 22 21 11.1 -3.3
comp=Z,2.1nm,0.7s,baz=60,slow=1.8,SNR=4.4
MJAR Matsushiro Arr 39.05 360 P P 21 48 41.0 -2.1
MJAR pmax pmax
comp=Z,465nm,1.1s
MJAR Matsushiro Arr 39.05 360 P P 21 48 41.0 -2.1
MAJO Matsushiro 39.05 360c iP P 21 48 41.3 -1.8
MAJO pmax pmax
comp=Z,1μm,3.1s
MAJO MLR MLR
comp=Z,72μm,21.0s
MAJO Matsushiro 39.05 360 P P 21 48 41.4 -1.7
MAJO Matsushiro 39.05 360 ⇑P P 21 48 41.4 -1.7
MAT Matsushiro 39.05 360 P P 21 48 40.8 -2.3
MAT S S 21 54 37.6 -1.6
SKLT Songkhla 39.10 285 P P 21 48 44.7 +0.9
comp=Z,47μmcomp=Z,2μm,1.5s
SKLT Songkhla 39.10 285 P P 21 48 44.7 +0.9
comp=Z,47μmcomp=Z,2μm,1.5s
MNSI Mandailing Nat 39.11 275 P P 21 48 43.4 -0.5
comp=Z,117μmcomp=Z,27μmcomp=Z,974nm,1.2s
H01W1 Cape Leeuwin H 39.23 212 P P 21 48 48.8 +4.5
baz=47,slow=7.4,SNR=33
H01W3 Cape Leeuwin H 39.23 212 P P 21 48 47.9 +3.5
baz=47,slow=7.4,SNR=58
H01W2 Cape Leeuwin H 39.24 212 P P 21 48 48.4 +3.9
baz=47,slow=7.4,SNR=35
NJ2 Nanjing 39.30 333⇑iP P 21 48 45.8 +0.6
NJ2 pP pP 21 48 57.5 -0.7
NJ2 sP sP 21 49 00.3 -3.6
NJ2 PP PP 21 50 21.0 +4.8
NJ2 S S 21 54 42.5 -0.4
NJ2 sS sS 21 55 05.8 +1.3
NJ2 pmax pmax
comp=Z,3μm,2.1s
NJ2 pmax pmax
comp=Z,43μm,3.5s
NJ2 LR LR
comp=Z,150μm,24.5s
NJ2 LR LR
comp=Z,80μm,20.8s
NJ2 LR LR
comp=Z,270μm,23.8s
KSDAG Daegu 39.33 348 P P 21 48 49.0 +3.5
SNR=8.8
KSDAG Daegu 39.33 348 P P 21 48 49.0 +3.5
SNR=8.8
RPSI Rantau Prapat 39.97 277 IAmb IAmb 21 48 59.4
comp=Z,3μm,1.3s
TJN Taejon 40.26 346c iP P 21 48 52.8 -0.3
MOO Moorlands 40.30 170 P P 21 48 55.6 +2.2
baz=40,SNR=12
WHN Wuhan 40.33 327 ⇑P P 21 48 55.0 +1.2
WHN S S 21 54 57.3 -1.1
WHN LR LR
comp=Z,80μm,16.4s
WHN LR LR
comp=Z,162μm,18.6s
WHN LR LR
comp=Z,558μm,29.7s
JMM Marumori 40.43 3 IAmb IAmb 21 49 05.5
comp=Z,1μm,1.0s
JMM Marumori 40.43 3 ⇑P P 21 48 53.8 -0.7
TSI Tuntungan 40.43 279 P P 21 48 55.6 +0.7
comp=Z,149μmcomp=Z,54μmcomp=Z,2μm,1.0s
PATY Pattaya 40.50 293 P P 21 48 56.3 +0.9
comp=Z,8μmcomp=Z,524nm,1.2s
PATY Pattaya 40.50 293 P P 21 48 56.3 +0.9
comp=Z,2μmcomp=Z,136nm,1.2s
NONG Nongkai 40.52 302 P P 21 48 55.1 -0.5
comp=Z,60μmcomp=Z,2μm,1.4s
NONG Nongkai 40.52 302 P P 21 48 55.2 -0.5
comp=Z,60μmcomp=Z,2μm,1.4s
JSD Sado 40.55 360 IAmb IAmb 21 49 01.2
comp=Z,2μm,1.3s
JSD Sado 40.55 360 ⇑P P 21 48 54.9 -0.6
CHAI Chaiyaphum 40.60 298 P P 21 48 55.9 -0.3
comp=Z,14μmcomp=Z,977nm,1.0s
CHAI Chaiyaphum 40.60 298 P P 21 48 56.0 -0.3
comp=Z,4μmcomp=Z,243nm,1.0s
TAU Tasmania Unive 40.78 170 P P 21 48 58.7 +1.4
TAU pmax pmax
comp=Z,2μm,1.6s
TAU MLR MLR
comp=Z,254μm,20.0s
TAU Tasmania Unive 40.78 170 P P 21 48 58.7 +1.4
TAU IAmb IAmb 21 49 22.7
comp=Z,2μm,1.6s
TAU Tasmania Unive 40.78 170 IAMs_20 IAMs_20 22 06 30.0

comp=Z,254μm,20.0s
TAU Tasmania Unive 40.78 170 ⇓P **P** **21 48 58.2 +0.9**
FUNA Funafuti 40.84 100 P **P** **21 48 58.9 +0.5**
FUNA IAmb IAmb 21 49 26.9
comp=Z,3μm,1.3s
TMDB BangkokBB_BH_I 41.00 294 P **P** **21 49 02.1 +2.6**
comp=Z,38μm,1.7s
TMDB BangkokBB_BH_I 41.00 294 P **P** **21 49 02.1 +2.6**
comp=Z,39μm,1.7s
GSI Gunungsitoli 41.15 275 P **P** **21 49 00.3 -0.5**
GSI IAmb IAmb 21 49 08.2
comp=Z,2μm,1.2s
GSI Gunungsitoli 41.15 275 ⇑P **P** **21 48 59.5 -1.4**
GSI Gunungsitoli 41.15 275 P **P** **21 49 00.0 -0.8**
comp=Z,129μmcomp=Z,35μmcomp=Z,2μm,1.2s
KSAR Wonju Array Be 41.16 347 P **P** **21 49 00.8 +0.3**
KSAR Wonju Array Be 41.16 347 P **P** **21 49 00.8 +0.3**
KSRS Korea Array 41.16 347 P **P** **21 49 01.1 +0.6**
comp=Z,146nm,0.9s,baz=166,slow=9.2,SNR=326
KSRS PcP **PcP** **21 50 59.4 +0.2**
comp=Z,85nm,1.1s,baz=171,slow=4.0,SNR=5.2
KSRS LR LR 22 06 34.1
comp=Z,71μm,19.3s,baz=156,slow=37
KSRS PKPPKP 22 21 08.4
comp=Z,2.4nm,0.9s,baz=346,slow=1.8,SNR=2.6
SURT Suratani 41.28 287 P **P** **21 49 03.5 +1.6**
comp=Z,296nmcomp=Z,19nm,1.2s
SURT Suratani 41.28 287 P **P** **21 49 03.0 +1.1**
comp=Z,296nmcomp=Z,19nm,1.2s
KSJMJ Jumunjin 41.40 348 P **P** **21 49 05.9 +3.5**
SNR=6.6
KSJMJ Jumunjin 41.40 348 P **P** **21 49 05.9 +3.5**
SNR=6.6
PKDT Phuket 41.47 285 P **P** **21 49 03.8 +0.4**
comp=Z,124μmcomp=Z,42μmcomp=Z,780nm,1.1s
PKDT Phuket 41.47 285 P **P** **21 49 03.8 +0.4**
comp=Z,124μmcomp=Z,42μmcomp=Z,780nm,1.1s
SLVN Son La 41.48 307 P **P** **21 49 04.3 +0.8**
SLVN IAmb IAmb 21 49 12.7
comp=Z,4μm,1.7s
INCN Inchon 41.49 346 P **P** **21 49 04.2 +0.9**
INCN pmax pmax
comp=Z,9μm,1.9s
INCN MLR MLR
comp=Z,77μm,19.0s
INCN Inchon 41.49 346 P **P** **21 49 04.2 +0.9**
INCN Inchon 41.49 346 P **P** **21 49 03.6 +0.3**
INCN S **S** **21 55 16.6 +1.1**
INCN Inchon 41.49 346 ⇑P **P** **21 49 03.6 +0.3**
MSVF Nonsavu 41.52 114 LR LR 22 06 18.1
comp=Z,50μm,20.2s,baz=287,slow=36
MSVF Nonsavu 41.52 114 P **P** **21 49 05.3 +1.4**
MSVF pmax pmax
comp=Z,1μm,1.4s
MSVF MLR MLR
comp=Z,81μm,20.0s
MSVF Nonsavu 41.52 114 P **P** **21 49 05.3 +1.4**
MSVF Nonsavu 41.52 114 ⇑P **P** **21 49 05.1 +1.2**
PHET Kaeng Krachan 41.63 293 P **P** **21 49 05.5 +0.8**
comp=Z,17μmcomp=Z,1μm,1.0s
PHET Kaeng Krachan 41.63 293 P **P** **21 49 05.5 +0.8**
comp=Z,4μmcomp=Z,348nm,1.0s
PBKT Sadao Pong 41.76 299 P **P** **21 49 07.9 +2.1**
comp=Z,7μmcomp=Z,223nm,1.8s
PBKT Sadao Pong 41.76 299 P **P** **21 49 07.9 +2.1**
comp=Z,7μmcomp=Z,223nm,1.8s
TPTI 41.77 278 P **P** **21 49 05.2 -0.7**
comp=Z,42μmcomp=Z,11μmcomp=Z,344nm,1.6s
SEHB SEOHWA 41.87 348 P **P** **21 49 07.8 +1.4**
SNR=16
SEHB SEOHWA 41.87 348 P **P** **21 49 07.8 +1.4**
SNR=16
GYA Guiyang 42.31 315 ⇑P **P** **21 49 10.5 +0.2**
GYA pP pP 21 49 18.5 -4.8
GYA PP **PP** **21 50 51.0 +2.0**
GYA S **S** **21 55 31.0 +2.9**
GYA sS sS 21 55 47.0 -2.8
GYA SS **SS** **21 58 36.5 -1.7**
GYA pmax pmax
comp=Z,5μm,4.0s
DACB Daecheong-do R 42.33 344 P **P** **21 49 12.0 +1.9**
SNR=24
DACB Daecheong-do R 42.33 344 P **P** **21 49 12.0 +1.9**
SNR=24
COCO West Island 42.35 255 P **P** **21 49 12.8 +2.2**
COCO pmax pmax
comp=Z,2μm,1.1s
COCO West Island 42.35 255 P **P** **21 49 12.8 +2.2**
COCO IAmb IAmb 21 49 22.7
comp=Z,2μm,1.1s
KSBAR Backryungdo 42.47 344 P **P** **21 49 12.8 +1.7**
SNR=30
PHIT Phitsanulok 42.50 299 P **P** **21 49 12.1 +0.4**
comp=Z,26μmcomp=Z,2μm,1.1s
PHIT Phitsanulok 42.50 299 P **P** **21 49 12.1 +0.4**
comp=Z,7μmcomp=Z,437nm,1.1s
SRDT SRDT 42.58 295 P **P** **21 49 13.4 +0.9**
comp=Z,56μmcomp=Z,2μm,2.0s
SRDT SRDT 42.58 295 P **P** **21 49 13.4 +0.9**
comp=Z,56μmcomp=Z,2μm,2.0s
UTTA Uttaradit 42.61 300 P **P** **21 49 12.8 +0.2**
comp=Z,15μmcomp=Z,878nm,1.1s
UTTA Uttaradit 42.61 300 P **P** **21 49 12.9 +0.2**
comp=Z,4μmcomp=Z,219nm,1.1s
UTHA Uthaitani 42.72 296 P **P** **21 49 13.9 +0.3**
comp=Z,15μmcomp=Z,926nm,1.0s
UTHA Uthaitani 42.72 296 P **P** **21 49 14.0 +0.3**
comp=Z,4μmcomp=Z,230nm,1.0s
NANT Nan 42.93 301 P **P** **21 49 17.9 +2.7**
comp=Z,108μmcomp=Z,8μm,1.2s
NANT Nan 42.93 301 P **P** **21 49 18.0 +2.7**
comp=Z,27μmcomp=Z,2μm,1.2s
JTM Tenmabayashi 43.35 3 IAmb IAmb 21 49 28.8
comp=Z,3μm,1.5s
JTM Tenmabayashi 43.35 3 ⇑P **P** **21 49 17.9 -0.4**
UMPA Umpang Tak 43.49 297 P **P** **21 49 20.2 +0.4**
comp=Z,17μmcomp=Z,1μm,1.1s
UMPA Umpang Tak 43.49 297 P **P** **21 49 20.3 +0.4**
comp=Z,4μmcomp=Z,288nm,1.1s
TIA Tai'an 43.58 335 ⇑P **P** **21 49 19.8 -0.5**
TIA S **S** **21 55 52.0 +5.7**
TIA pmax pmax
comp=Z,200nm,1.1s
TIA pmax pmax
comp=Z,25μm,4.4s
TIA LR LR
comp=Z,102μm,23.5s
TIA LR LR
comp=Z,94μm,21.6s
TIA LR LR
comp=Z,222μm,22.5s
LAMP Lampang 43.73 300 P **P** **21 49 22.3 +0.6**
comp=Z,15μmcomp=Z,1μm,1.0s
LAMP Lampang 43.73 300 P **P** **21 49 22.3 +0.6**
comp=Z,4μmcomp=Z,282nm,1.0s
CM36 Chiang Mai Arr 44.19 300 P **P** **21 49 25.0 -0.4**
CM35 Chiang Mai Arr 44.20 300 P **P** **21 49 25.0 -0.5**
CM04 Chiang Mai Arr 44.24 300 P **P** **21 49 26.5 +0.7**
comp=Z,2μmcomp=Z,9μmcomp=Z,576nm,1.2s
CM04 Chiang Mai Arr 44.24 300 P **P** **21 49 26.0 +0.2**
comp=Z,2μmcomp=Z,9μmcomp=Z,576nm,1.2s
CM09 Chiang Mai Arr 44.25 300 P **P** **21 49 26.5 +0.6**
comp=Z,10μmcomp=Z,558nm,1.3s
CM09 Chiang Mai Arr 44.25 300 P **P** **21 49 26.6 +0.6**
comp=Z,10μmcomp=Z,558nm,1.3s
DL2 Dalian 44.26 341 P **P** **21 49 26.8 +1.2**
DL2 S **S** **21 56 04.3 +8.3**
DL2 pmax pmax
comp=Z,2μm,1.6s
DL2 pmax pmax
comp=Z,32μm,3.9s
DL2 LR LR
comp=Z,107μm,23.7s
DL2 LR LR
comp=Z,59μm,24.5s
DL2 LR LR
comp=Z,150μm,27.9s
CM01 Chiang Mai Arr 44.27 300 P **P** **21 49 26.7 +0.7**
comp=Z,2μmcomp=Z,11μmcomp=Z,765nm,1.4s
CM01 Chiang Mai Arr 44.27 300 P **P** **21 49 26.8 +0.7**
comp=Z,2μmcomp=Z,11μmcomp=Z,765nm,1.4s
CM05 Chiang Mai Arr 44.27 300 P **P** **21 49 26.6 +0.5**
comp=Z,2μmcomp=Z,8μmcomp=Z,545nm,1.5s
CM05 Chiang Mai Arr 44.27 300 P **P** **21 49 26.6 +0.5**
comp=Z,2μmcomp=Z,8μmcomp=Z,545nm,1.5s
CM34 Chiang Mai Arr 44.28 301 P **P** **21 49 26.0 -0.1**
CM02 Chiang Mai Arr 44.28 300 P **P** **21 49 26.8 +0.6**
comp=Z,2μmcomp=Z,9μmcomp=Z,616nm,1.2s
CM02 Chiang Mai Arr 44.28 300 P **P** **21 49 26.8 +0.6**
comp=Z,2μmcomp=Z,9μmcomp=Z,616nm,1.2s
CM31 Chiang Mai Arr 44.29 300 P **P** **21 49 26.8 +0.5**
comp=Z,114μmcomp=Z,370μmcomp=Z,14μm,1.4s
CM31 Chiang Mai Arr 44.29 300 P **P** **21 49 27.1 +0.8**
SNR=329
CM31 S **S** **21 55 59.0 +1.8**
CMAR Chiang Mai Arr 44.29 300 P **P** **21 49 26.4 +0.2**
comp=Z,155nm,0.8s,baz=120,slow=6.4,SNR=257
CMAR PcP **PP** **21 51 11.8 +1.5**
comp=Z,44nm,0.8s,baz=160,slow=2.5,SNR=5.1
CMAR LR LR 22 06 15.3
comp=Z,57μm,21.6s,baz=162,slow=34
CMAR PKPPKP **P'P'df** **22 21 10.7 -0.9**
comp=Z,6.0nm,1.1s,baz=271,slow=3.1,SNR=4.5
CMAR Chiang Mai Arr 44.29 300 P **P** **21 49 26.8 +0.5**
CM15 Chiang Mai Arr 44.31 300 P **P** **21 49 26.8 +0.4**
comp=Z,1μmcomp=Z,9μmcomp=Z,784nm,1.2s
CM15 Chiang Mai Arr 44.31 300 P **P** **21 49 26.9 +0.4**
comp=Z,1μmcomp=Z,9μmcomp=Z,784nm,1.2s
CM13 Chiang Mai Arr 44.31 300 P **P** **21 49 26.9 +0.5**
comp=Z,2μmcomp=Z,8μmcomp=Z,588nm,1.0s
CM13 Chiang Mai Arr 44.31 300 P **P** **21 49 26.0 -0.4**
comp=Z,2μmcomp=Z,8μmcomp=Z,588nm,1.0s
KMI Kunming 44.40 311 ⇑P **P** **21 49 27.8 +0.5**
KMI pP pP 21 49 41.0 +0.6
KMI sP sP 21 49 48.3 +2.3
KMI PP **PP** **21 51 13.5 +2.0**
KMI S **S** **21 55 56.8 -2.1**
KMI pmax pmax
comp=Z,1μm,2.0s
KMI pmax pmax
comp=Z,21μm,6.1s
KMI LR LR
comp=Z,86μm,28.2s
KMI LR LR
comp=Z,72μm,25.7s
KMI LR LR
comp=Z,208μm,27.9s
CMMT Chiang Mai 44.44 300 P **P** **21 49 27.6 +0.2**
comp=Z,52μmcomp=Z,1μm,2.2s
CMMT Chiang Mai 44.44 300 P **P** **21 49 27.6 +0.2**
comp=Z,52μmcomp=Z,1μm,2.2s
CM33 Chiang Mai Arr 44.44 300 P **P** **21 49 27.0 -0.4**
CHTO Chiang Mai 44.44 300 P **P** **21 49 27.5 +0.1**
CHTO pmax pmax
comp=Z,7μm,2.1s
CHTO MLR MLR
comp=Z,116μm,22.0s
CHTO Chiang Mai 44.44 300 P **P** **21 49 27.6 +0.1**
comp=Z,112μmcomp=Z,53μmcomp=Z,1μm,2.2s
CHTO Chiang Mai 44.44 300 P **P** **21 49 27.5 +0.1**
CHTO Chiang Mai 44.44 300 IAms_20 IAms_20 22 06 41.8
comp=Z,116μm,22.0s
CHTO Chiang Mai 44.44 300 P **P** **21 49 27.6 +0.1**
CHTO S **S** **21 55 57.8 -1.5**
CHTO Chiang Mai 44.44 300 ⇑P **P** **21 49 27.1 -0.3**
CM32 Chiang Mai Arr 44.46 300 P **P** **21 49 28.0 +0.4**
ERM Erimo 44.72 5 *c i*P **P** **21 49 29.0 -0.2**
ERM pmax pmax
comp=Z,2μm,2.4s
ERM MLR MLR
comp=Z,53μm,18.0s
ERM Erimo 44.72 5 P **P** **21 49 28.8 -0.4**
ERM IAmb IAmb 21 49 39.2
comp=Z,5μm,2.4s
ERM Erimo 44.72 5 ⇑P **P** **21 49 29.3 +0.1**
MHMT Maesarieng 45.06 299 P **P** **21 49 32.9 +0.5**
comp=Z,114μmcomp=Z,54μmcomp=Z,2μm,2.6s
MHMT Maesarieng 45.06 299 P **P** **21 49 32.9 +0.5**
comp=Z,114μmcomp=Z,54μmcomp=Z,2μm,2.6s
JEW Eniwo 45.42 3 IAmb IAmb 21 49 42.0
comp=Z,2μm,1.1s
JEW Eniwo 45.42 3 ⇑P **P** **21 49 34.8 0.0**
MSHR Mys Shultsa 45.58 352 *c i*P **P** **21 49 36.5 +0.5**
MSHR pmax pmax
comp=Z,1μm,2.3s
MSHR MLR MLR
comp=Z,51μm,22.0s
OUZ Omahuta 45.85 139 P **P** **21 49 40.4 +2.1**
OUZ IAmb IAmb 21 50 05.0
comp=Z,2μm,1.6s
OUZ Omahuta 45.85 139 P **P** **21 49 39.7 +1.3**
OUZ Omahuta 45.85 139 ⇑P **P** **21 49 40.5 +2.1**
XAN Xi'an 45.98 325 P **P** **21 49 39.8 +0.3**
XAN pP pP 21 49 52.5 -0.1
XAN sP sP 21 49 58.0 -0.2
XAN PP **PP** **21 51 25.5 -2.6**
XAN S **S** **21 56 22.0 +0.7**
XAN ScS **ScS** **21 59 28.3 -3.1**
XAN SS **SS** **21 59 43.0 -3.8**
XAN pmax pmax
comp=Z,600nm,1.2s
XAN pmax pmax
comp=Z,45μm,5.1s
XAN LR LR
comp=Z,142μm,22.2s
XAN LR LR
comp=Z,81μm,23.9s
XAN LR LR
comp=Z,238μm,24.4s
XAN Xi'an 45.98 325 IAms_20 IAms_20 22 07 03.0
comp=Z,131μm,22.0s
VLA Vladivostok 46.02 353 *c i*P **P** **21 49 40.2 +0.7**
VLA pmax pmax
comp=Z,2μm,1.4s
VLA MLR MLR
comp=Z,92μm,23.0s
SNY Shenyang 46.37 345 ⇑P **P** **21 49 41.5 -0.8**
SNY pmax pmax
comp=Z,2μm,2.4s
SNY LR LR
comp=Z,93μm,24.3s
SNY LR LR
comp=Z,66μm,23.3s
SNY LR LR
comp=Z,162μm,26.0s
ASAJ Asahikawa 46.76 4 P **P** **21 49 45.4 +0.1**
comp=Z,454nm,0.8s,baz=222,slow=11,SNR=139
JKA Kamikawa-asahi 46.76 4 IAmb IAmb 21 49 55.1
comp=Z,2μm,1.3s
WCZ Waipu Caves 46.77 139 P **P** **21 49 46.5 +1.0**
TIY Taiyuan 46.94 331 *e*P **P** **21 49 48.3 +1.3**
TIY pP **pP** **21 50 02.0 +1.8**
TIY S **S** **21 56 35.5 +0.5**
TIY sS **sS** **21 56 58.0 +1.1**
TIY pmax pmax
comp=Z,190nm,0.9s
TIY pmax pmax
comp=Z,21μm,6.9s
TIY LR LR
comp=Z,175μm,27.8s
TIY LR LR
comp=Z,64μm,21.1s
TIY LR LR
comp=Z,162μm,28.0s
YUK Yuzh-Kuril'sk 47.00 7 *e*P **P** **21 49 47.5 +0.3**
YUK *e* 21 51 19.3
YUK *e* 21 51 38.8
YUK *e*PPP PPP 21 52 23.0
YUK *e*S **S** **21 56 35.8 +0.5**
YUK *e* 21 59 36.5
YUK *e*SSS SSS 22 01 07.3
YUK pmax pmax
comp=Z,4μm,1.7s
YUK pmax pmax
comp=Z,1μm,1.5s
YUK pmax pmax
comp=N,332nm,1.7s
YUK pmax pmax
comp=E,341nm,1.9s
YUK MLR MLR
comp=E,9μm,17.0s
YUK MLR MLR
comp=Z,18μm,17.0s
YUK MLR MLR
comp=N,26μm,18.0s
USRK Ussuriysk Ar. 47.07 354 P **P** **21 49 48.7 +0.9**
comp=N,305nm,0.8s,baz=179,slow=7.4,SNR=250
USRK S **S** **21 56 38.8 +2.4**
comp=N,2.9nm,0.9s,baz=200,slow=14,SNR=2.2
USRK LR LR 22 08 39.0
comp=N,30μm,19.0s,baz=156,slow=35
USRK PKPPKP 22 21 03.1
comp=N,1.6nm,0.8s,baz=39,slow=10,SNR=4.3
USRK PKP2ab 22 22 10.0
comp=N,3.9nm,0.8s,baz=322,slow=4.2,SNR=6.5
USRK Ussuriysk Ar. 47.07 354 P **P** **21 49 48.2 +0.5**
CD2 Chengdu 47.07 318 ⇑P **P** **21 49 48.5 +0.4**
CD2 PP **PP** **21 51 39.8 +0.5**
CD2 S **S** **21 56 40.5 +3.5**
CD2 pmax pmax
comp=N,4μm,1.6s
CD2 pmax pmax
comp=N,46μm,8.6s
CD2 LR LR
comp=N,88μm,20.1s
CD2 LR LR
comp=N,92μm,20.1s
CD2 LR LR
comp=N,126μm,20.0s
BJT Baijiatuau 47.22 337 IAms_20 IAms_20 22 07 36.6
comp=Z,126μm,22.0s
PBA Port Blair 47.72 288 *ex* x 21 49 50.3
PBA Port Blair 47.72 288 IAmb IAmb 21 50 26.0
comp=Z,1μm,1.2s
PBA IAms_20 IAms_20 22 13 02.9
comp=Z,86μm,18.0s
PBA Port Blair 47.72 288 P P 21 49 52.3 -1.0
SNR=7.1
PBA Port Blair 47.72 288 ⇑P P 21 49 52.9 -0.4
CN2 Changchun 47.78 347 ⇑*i*P **P** **21 49 53.0 -0.3**
CN2 pP pP 21 50 05.8 -0.7
CN2 S **S** **21 56 46.8 +0.4**
CN2 pmax pmax
comp=Z,350nm,1.0s
CN2 pmax pmax
comp=Z,30μm,4.0s
CN2 LR LR
comp=Z,139μm,25.0s
CN2 LR LR
comp=Z,72μm,25.0s
CN2 LR LR
comp=Z,170μm,25.0s
MDJ Mudanjiang 47.80 351 P **P** **21 49 53.8 +0.4**
MDJ pP pP 21 50 02.8 -3.9
MDJ S **S** **21 56 51.0 +4.3**
MDJ pmax pmax
comp=Z,520nm,1.2s
MDJ pmax pmax
comp=Z,38μm,3.9s
MDJ LR LR
comp=Z,74μm,24.1s
MDJ LR LR
comp=Z,70μm,24.0s
MDJ LR LR
comp=Z,217μm,24.1s
MDJ Mudanjiang 47.80 351 IAms_20 IAms_20 22 07 03.8
comp=Z,117μm,22.0s
DGPR DIGLIPUR 47.94 290 *e*P **P** **21 49 57.5 +2.5**
KUR Kuril'sk 48.45 9 *c i*P **P** **21 49 58.1 -0.3**
KUR *e*S **S** **21 56 55.9 0.0**
KUR *e**SS **sS** **21 57 18.1 +0.1**
KUR *e*SSS SSS 22 01 42.3
KUR pmax pmax
comp=Z,4μm,1.7s
KUR pmax pmax
comp=N,2μm,1.8s
KUR pmax pmax
comp=E,878nm,1.3s
KUR pmax pmax
comp=Z,27μm,5.3s
KUR pmax pmax
comp=N,18μm,2.9s
KUR pmax pmax
comp=E,6μm,4.8s
HIZ Hauiti 48.65 142 IAmb IAmb 21 50 28.7
comp=Z,888nm,1.1s
QRZ Quartz Range 48.76 146 IAmb IAmb 21 50 18.7
comp=Z,2μm,1.4s
QRZ IAms_20 IAms_20 22 09 54.5
comp=Z,105μm,22.0s
QRZ Quartz Range 48.76 146 P **P** **21 50 02.4 +1.4**
VRZ Vera Road 48.97 142 P **P** **21 50 04.9 +2.3**
DSZ Denniston Nort 48.99 147 P **P** **21 50 03.9 +1.2**
JCZ Jackson Bay 49.11 151 P **P** **21 50 05.6 +1.9**
MSZ Milford Sound 49.16 152 P **P** **21 50 07.8 +3.9**
WAZ Wanganui 49.50 143 P **P** **21 50 06.9 +0.3**
NNZ Nelson 49.51 145 IAmb IAmb 21 50 47.4
comp=Z,706nm,1.3s
DUWZ D'Urville Isla 49.54 145 P **P** **21 50 07.3 +0.4**
YSS Yuzh-Sakhalins 49.60 4 *ce*P **P** **21 50 06.9 -0.3**
YSS *e**SP **sP** **21 50 28.6 +2.5**
YSS *e*S **S** **21 57 12.9 +1.0**
YSS pmax pmax
comp=Z,1μm,1.1s
YSS pmax pmax
comp=E,600nm,1.0s
YSS pmax pmax
comp=Z,22μm,4.5s
YSS pmax pmax
comp=N,12μm,4.6s
YSS smax smax
comp=E,12μm,11.9s
YSS Yuzh-Sakhalins 49.60 4 P **P** **21 50 06.8 -0.4**
YSS IAmb IAmb 21 50 12.3
comp=Z,2μm,1.1s
YSS Yuzh-Sakhalins 49.60 4 ⇑P **P** **21 50 06.8 -0.3**
THZ Tophouse 49.60 146 IAms_20 IAms_20 22 10 20.6
comp=Z,113μm,21.0s
KNTN Kanton 49.68 91 P **P** **21 50 08.5 +0.1**
KNTN IAmb IAmb 21 50 18.3
comp=Z,808nm,1.3s
KNTN Kanton 49.68 91 ⇓P **P** **21 50 08.6 +0.1**
MOVZ Moawhango 49.75 142 P **P** **21 50 09.4 +0.7**
MLZ Mavora Lakes 49.78 153 IAmb IAmb 21 50 35.6
comp=Z,1μm,1.4s
WKZ Wanaka 49.78 152 IAmb IAmb 21 50 34.2
comp=Z,904nm,1.0s
WKZ Wanaka 49.78 152 P **P** **21 50 09.8 +1.1**
HHC Hu-ho-hao-te 49.86 333 *e*P **P** **21 50 10.0 +0.6**
HHC S **S** **21 57 14.3 -1.8**
HHC SS **SS** **22 00 39.5 -10**
HHC pmax pmax
comp=Z,260nm,1.2s
HHC pmax pmax
comp=Z,36μm,8.6s
HHC LR LR
comp=Z,132μm,21.6s
HHC LR LR
comp=Z,64μm,23.0s
HHC LR LR
comp=Z,210μm,23.9s
URZ Urewera 49.92 140 P **P** **21 50 10.3 +0.4**
comp=Z,168nm,0.8s,baz=272,slow=5.8,SNR=26
URZ S **S** **21 57 22.6 +5.8**
comp=Z,15nm,1.1s,baz=47,slow=21,SNR=1.3
URZ Urewera 49.92 140 IAmb IAmb 21 50 36.5
comp=Z,744nm,1.1s
URZ Urewera 49.92 140 ⇑P **P** **21 50 10.0 +0.2**
LTZ Lake Taylor 49.95 148 IAmb IAmb 21 50 44.0
comp=Z,783nm,1.1s
LTZ IAms_20 IAms_20 22 15 04.8
comp=Z,87μm,20.0s
LTZ Lake Taylor 49.95 148 P **P** **21 50 10.5 +0.5**
TUWZ Tuamarina 49.96 145 P **P** **21 50 10.3 +0.2**
RPZ Rata Peaks 49.97 149 P **P** **21 50 10.2 +0.1**
RPZ IAmb IAmb 21 50 43.6
comp=Z,1μm,1.1s
RPZ Rata Peaks 49.97 149 P **P** **21 50 10.7 +0.6**
LBZ Lake Benmore 50.02 151 IAmb IAmb 21 50 36.8
comp=Z,1μm,1.3s
LBZ Lake Benmore 50.02 151 P **P** **21 50 09.6 -0.9**
BKZ Black Stump Fm 50.06 141 IAmb IAmb 21 50 37.9
comp=Z,760nm,1.1s
BKZ IAms_20 IAms_20 22 11 02.0
comp=Z,101μm,22.0s
WHZ Wether Hill Ro 50.10 153 IAmb IAmb 21 50 37.5
comp=Z,1μm,1.6s
ARCZ Arundel 50.20 150 P **P** **21 50 11.8 0.0**
OXZ Oxford 50.20 148 P **P** **21 50 12.1 +0.2**
EAZ Earnscleugh 50.22 152 P **P** **21 50 12.8 +0.8**
AFI Afiamalu 50.29 106 P **P** **21 50 13.9 +0.8**
comp=Z,188nm,1.1s,baz=72,slow=15,SNR=6.2
AFI S **S** **21 57 24.6 +1.8**
comp=Z,32nm,0.8s,baz=62,slow=22,SNR=1.8
AFI Afiamalu 50.29 106 P **P** **21 50 13.6 +0.5**
AFI pmax pmax
comp=Z,758nm,1.2s
AFI MLR MLR
comp=Z,49μm,21.0s

AFI	**Afiamalu**	**50.29 106**	P	**P**	**21 50 13.6 +0.5**
AFI			IAmb	IAmb	21 50 42.1
	comp=Z,758nm,1.2s				
AFI	**Afiamalu**	**50.29 106**	⇑P	**P**	**21 50 14.5 +1.4**
MXZ	**Matakaoa Point**	**50.30 139**	IAmb	IAmb	21 50 27.4
	comp=Z,2μm,1.6s				
SNZO	**South Karori**	**50.32 145**	P	**P**	**21 50 12.6 -0.2**
SNZO			IAmb	IAmb	21 50 53.1
	comp=Z,801nm,1.1s				
SNZO	**South Karori**	**50.32 145**	⇓P	**P**	**21 50 12.7 -0.1**
BTO	**Baotou**	**50.38 332**	*e*P	**P**	**21 50 14.5 +1.1**
BTO			S	**S**	**21 57 25.5 +2.2**
BTO			LR	LR	
	comp=Z,351μm,23.5s				
BTO			LR	LR	
	comp=Z,287μm,23.5s				
LZH	**Lanzhou**	**50.38 323**	⇑*i*P	**P**	**21 50 14.3 +0.7**
LZH			pP	pP	21 50 26.5 -0.4
LZH			sP	sP	21 50 31.5 -0.9
LZH			PP	**PP**	**21 52 15.0 +5.4**
LZH			S	**S**	**21 57 18.3 -5.4**
LZH			sS	sS	21 57 37.8 -8.0
LZH			SS	**SS**	**22 00 56.0 -2.1**
LZH			pmax	pmax	
	comp=Z,3μm,1.3s				
LZH			pmax	pmax	
	comp=Z,36μm,5.2s				
LZH			LR	LR	
	comp=Z,25μm,17.6s				
LZH			LR	LR	
	comp=Z,127μm,16.0s				
LZH			LR	LR	
	comp=Z,161μm,19.8s				
KHZ	**Kahutara**	**50.39 147**	P	**P**	**21 50 13.0 -0.3**
KHZ			IAmb	IAmb	21 50 24.4
	comp=Z,326nm,0.5s				
KHZ			IAMs_20	IAMs_20	22 10 56.5
	comp=Z,147μm,22.0s				
KHZ	**Kahutara**	**50.39 147**	⇑P	**P**	**21 50 12.8 -0.5**
ODZ	**Otahua Downs**	**50.73 151**	⇑P	**P**	**21 50 16.8 +1.0**
MQZ	**McQueen's Vall**	**50.79 148**	IAmb	IAmb	21 50 58.1
	comp=Z,994nm,1.5s				
MQZ	**McQueen's Vall**	**50.79 148**	P	**P**	**21 50 16.6 +0.3**
PLWZ	**Palliser**	**50.81 145**	P	**P**	**21 50 15.4 -1.1**
LKP	**Lekhapani**	**50.83 309**	*e*P	**P**	**21 50 16.9 0.0**
LKP			IAmb	IAmb	21 50 23.9
	comp=Z,2μm,1.3s				
BFZ	**Birch Farm**	**50.83 143**	IAmb	IAmb	21 50 27.9
	comp=Z,682nm,0.7s				
MOKO	**MOKOCHONG**	**51.40 307**	*e*P	**P**	**21 50 21.7 +0.3**
MOKO			IAmb	IAmb	21 50 33.3
	comp=Z,926nm,0.4s				
KOHI	**KOHIMA**	**51.46 306**	*e*P	**P**	**21 50 21.0 -0.8**
KOHI			IAmb	IAmb	21 50 29.8
	comp=Z,3μm,1.3s				
DIBR	**DIBRUGARH**	**51.62 309**	*e*P	**P**	**21 50 23.3 +0.5**
UGL	**Uglegorsk**	**51.67 3**	⇓*i*P	**P**	**21 50 22.6 -0.2**
UGL			*e*		21 52 24.6
UGL			*e*S	**S**	**21 57 39.0 -1.6**
UGL			*e*SS	**SS**	**22 01 09.0 -8.7**
UGL			pmax	pmax	
	comp=Z,1μm,1.0s				
UGL			pmax	pmax	
	comp=Z,28μm,4.2s				
UGL			smax	smax	
	comp=N,47μm,18.0s				
UGL			MLR	MLR	
	comp=E,19μm,17.0s				
JORH	**JORHAT**	**51.80 307**	*e*P	**P**	**21 50 24.2 +0.1**
JORH			IAmb	IAmb	21 50 31.6
	comp=Z,2μm,0.9s				
KLR	**Kul'dur**	**52.07 354**	P	**P**	**21 50 26.4 +0.7**
	comp=Z,498nm,0.8s,baz=187,slow=5.0,SNR=456				
KLR	**Kul'dur**	**52.07 354**	*c i*P	**P**	**21 50 25.9 +0.2**
KLR			pmax	pmax	
	comp=Z,3μm,1.8s				
KLR			MLR	MLR	
	comp=Z,42μm,24.0s				
MIDW	**Midway**	**52.33 51**	P	**P**	**21 50 28.3 +0.2**
MIDW			IAmb	IAmb	21 50 39.9
	comp=Z,1μm,1.2s				
MIDW			IAMs_20	IAMs_20	22 07 42.4
	comp=Z,160μm,22.0s				
MIDW	**Midway**	**52.33 51**	⇑P	**P**	**21 50 28.9 +0.8**
ITAN	**ITANAGAR**	**52.41 308**	*e*P	**P**	**21 50 29.8 +1.1**
ITAN			IAmb	IAmb	21 50 38.8
	comp=Z,68μm,3.1s				
NIUE	**Niue**	**52.92 112**	P	**P**	**21 50 32.7 +0.1**
	baz=53,SNR=3.5				
AGT	**Agartala**	**53.04 303**	*e*P	**P**	**21 50 35.3 +1.9**
SHL	**Shillong**	**53.20 305**	*e*P	**P**	**21 50 34.6 -0.1**
SHL			IAmb	IAmb	21 50 42.3
	comp=Z,1μm,0.9s				
SHL	**Shillong**	**53.20 305**	P	**P**	**21 50 35.4 +0.6**
	SNR=289				
GRNR	**Gornyy**	**53.31 358**	⇑*i*P	**P**	**21 50 35.7 +0.8**
GRNR			*e*S	**S**	**21 58 04.2 +1.2**
GRNR			pmax	pmax	
	comp=N,70nm,1.0s				
GRNR			pmax	pmax	
	comp=Z,120nm,1.1s				
GRNR			smax	smax	
	comp=N,8.0nm,0.9s				
TYV	**Tymovskoe**	**53.49 3**	*e*P	**P**	**21 50 37.0 +0.8**
TYV			*e*		21 58 08.8
TYV			pmax	pmax	
	comp=Z,219nm,1.0s				
MCQ	**Macquarie Isla**	**54.25 165**	P	**P**	**21 50 42.1 +0.4**
	baz=54,SNR=9.0				
MCQ	**Macquarie Isla**	**54.25 165**	P	**P**	**21 50 43.4 +1.7**
MCQ			pmax	pmax	
	comp=Z,2μm,1.7s				
MCQ	**Macquarie Isla**	**54.25 165**	P	**P**	**21 50 43.4 +1.7**
MCQ			IAmb	IAmb	21 51 14.4
	comp=Z,2μm,1.7s				
MCQ	**Macquarie Isla**	**54.25 165**	⇑P	**P**	**21 50 44.4 +2.7**
HIA	**Hailar**	**54.28 345**	*c i*P	**P**	**21 50 42.2 +0.2**
HIA			pmax	pmax	
	comp=Z,3μm,1.6s				
HIA			MLR	MLR	
	comp=Z,73μm,22.0s				
JOHN	**Johnston Islan**	**54.78 67**	P	**P**	**21 50 46.9 +0.7**
JOHN	**Johnston Islan**	**54.78 67**	IAMs_20	IAMs_20	22 08 43.7
	comp=Z,95μm,22.0s				
GTA	**Gaotai**	**54.97 324**	⇑P	**P**	**21 50 47.8 +0.4**
GTA			pP	pP	21 50 56.0 -4.9
GTA			PP	**PP**	**21 52 54.0 +3.0**
GTA			S	**S**	**21 58 28.3 +2.1**
GTA			pmax	pmax	
	comp=Z,62nm,1.1s				
GTA			pmax	pmax	
	comp=Z,13μm,8.8s				
GTA			LR	LR	
	comp=Z,58μm,22.3s				
GTA			LR	LR	
	comp=Z,67μm,23.9s				
GTA			LR	LR	
	comp=Z,68μm,23.9s				
SKR	**Severo-Kuril's**	**55.28 14**	*e*P	**P**	**21 50 49.3 +0.1**
SKR			*e*S	**S**	**21 58 34.6 +5.1**
SKR			pmax	pmax	
	comp=Z,359nm,0.8s				
SKR			pmax	pmax	
	comp=Z,8μm,7.4s				
SKR			MLR	MLR	
	comp=Z,26μm,20.0s				
LSA	**Lhasa**	**55.59 309**	P	**P**	**21 50 53.8 +1.4**
LSA			S	**S**	**21 58 35.8 +0.5**
LSA			LR	LR	
	comp=Z,113μm,24.2s				
LSA			LR	LR	
	comp=Z,229μm,27.8s				
LSA			LR	LR	
	comp=Z,222μm,27.0s				
LSA	**Lhasa**	**55.59 309**	P	**P**	**21 50 52.8 +0.4**
NKL	**Nikolayevsk**	**55.69 2**	*e*P	**P**	**21 50 51.2 -0.9**
NKL			*e*		21 52 59.8
NKL			*e*S	**S**	**21 58 32.6 -2.3**
NKL			pmax	pmax	
	comp=N,707nm,1.0s				
NKL			pmax	pmax	
	comp=Z,1μm,1.9s				
NKL			pmax	pmax	
	comp=E,15nm,0.8s				
NKL			smax	smax	
	comp=E,30nm,2.1s				
NKL			smax	smax	
	comp=N,2μm,4.3s				
GTK	**Tadong**	**56.60 305**	*e*P	**P**	**21 50 59.5 +0.2**
GTK			IAmb	IAmb	21 51 10.6
	comp=Z,912nm,0.4s				
ZEA	**Zeya**	**57.04 352**	*e*P	**P**	**21 51 01.9 +0.2**
ZEA			*e*S	**S**	**21 58 55.9 +3.1**
ZEA			pmax	pmax	
	comp=E,2μm,3.5s				
ZEA			pmax	pmax	
	comp=N,10μm,6.0s				
ZEA			pmax	pmax	
	comp=Z,16μm,4.9s				
ZEA			pmax	pmax	
	comp=E,130nm,1.0s				
ZEA			pmax	pmax	
	comp=N,980nm,1.3s				
ZEA			pmax	pmax	
	comp=Z,1μm,1.5s				
ZEA			smax	smax	
	comp=E,18μm,12.8s				
ZEA			smax	smax	
	comp=N,25μm,17.1s				
ULN	**Ulaanbaatar**	**57.40 335**	P	**P**	**21 51 05.4 +0.8**
ULN			pmax	pmax	
	comp=Z,4μm,1.7s				
ULN			MLR	MLR	
	comp=Z,142μm,22.0s				
ULN	**Ulaanbaatar**	**57.40 335**	P	**P**	**21 51 05.4 +0.8**
ULN	**Ulaanbaatar**	**57.40 335**	IAMs_20	IAMs_20	22 13 58.5
	comp=Z,142μm,22.0s				
ULN	**Ulaanbaatar**	**57.40 335**	P	**P**	**21 51 05.3 +0.8**
ULN			S	**S**	**21 58 57.8 -0.4**
ULN	**Ulaanbaatar**	**57.40 335**	⇑P	**P**	**21 51 05.0 +0.4**
SONM	**Songino Array**	**57.65 335**	P	**P**	**21 51 07.3 +1.0**
	comp=Z,85nm,0.7s,baz=150,slow=6.7,SNR=152				
SONM			LR	LR	22 14 51.6
	comp=Z,141μm,21.8s,baz=136,slow=35				
SONM			PKPPKP	**P'P'df**	**22 20 46.2 -4.7**
	comp=Z,2.6nm,1.0s,baz=247,slow=2.7,SNR=6.6				
SONM			PKP2bc		22 21 01.7
	comp=Z,21nm,1.2s,baz=287,slow=1.5,SNR=15				
SONM	**Songino Array**	**57.65 335**	P	**P**	**21 51 07.0 +0.6**
PEA0B	**Petropavlovsk-**	**57.90 14**	*c i*P	**P**	**21 51 07.8 0.0**
PEA0B	**Petropavlovsk-**	**57.90 14**	IAMs_20	IAMs_20	22 12 03.3
	comp=Z,139μm,22.0s				
PETK	**Petropavlovsk-**	**57.90 14**	P	**P**	**21 51 08.4 +0.6**
	comp=Z,559nm,1.0s,baz=172,slow=5.5,SNR=110				
PETK			LR	LR	22 14 19.3
	comp=Z,27μm,21.4s,baz=204,slow=34				
PETK			PKPPKP		22 20 46.3
	comp=Z,5.4nm,1.1s,baz=67,slow=8.2,SNR=5.2				
PETK			PKP2bc		22 21 01.1
	comp=Z,10nm,1.1s,baz=87,slow=10,SNR=6.8				
PETK	**Petropavlovsk-**	**57.90 14**	P	**P**	**21 51 07.7 -0.1**
PET	**Petropavlovsk**	**58.05 14**	*c i*P	**P**	**21 51 09.2 +0.4**
PET			*e*		21 53 24.8
PET			*e*S	**S**	**21 59 06.7 +0.6**
PET			*e*		22 00 49.4
PET			*e*SS	**SS**	**22 02 59.5 +1.3**
PET			pmax	pmax	
	comp=Z,925nm,1.1s				
PET			pmax	pmax	
	comp=Z,23μm,10.7s				
PET			pmax	pmax	
	comp=Z,17μm,17.1s				
PET			smax	smax	
	comp=N,33μm,16.3s				
PET			smax	smax	
	comp=E,21μm,11.9s				
PET	**Petropavlovsk**	**58.05 14**	P	**P**	**21 51 08.8 -0.1**
PET	**Petropavlovsk**	**58.05 14**	⇑P	**P**	**21 51 08.5 -0.3**
HALK	**Hakmana**	**58.44 279**	⇑P	**P**	**21 51 12.4 +0.2**
CIT	**Chita**	**58.50 342**	*e*P	**P**	**21 51 13.6 +1.5**
CIT			*e*		21 51 25.6
CIT			*e*		21 51 34.8
CIT			*e*		21 52 02.6
CIT			*e*		21 53 29.1
CIT			pmax	pmax	
	comp=Z,11μm,2.5s				
PALK	**Pallekele**	**58.56 280**	P	**P**	**21 51 13.4 +0.2**
	comp=Z,254nm,0.9s,baz=193,slow=6.6				
PALK			S	**S**	**21 59 12.9 -1.4**
	comp=Z,9.4nm,1.0s,baz=169,slow=8.2,SNR=1.8				
PALK			LR	LR	22 20 15.3
	comp=Z,14μm,18.7s,baz=220,slow=40				
PALK	**Pallekele**	**58.56 280**	P	**P**	**21 51 13.0 -0.2**
PALK			pmax	pmax	
	comp=Z,6μm,2.5s				
PALK			MLR	MLR	
	comp=Z,39μm,21.0s				
PALK	**Pallekele**	**58.56 280**	P	**P**	**21 51 13.0 -0.2**
MALK	**Mahakanadarawa**	**58.88 281**	⇑P	**P**	**21 51 15.8 +0.5**
PKI	**Pulchoki**	**59.31 304**	*e*P	**P**	**21 51 18.4 -0.2**
	comp=Z,7μm,2.2s				
PKIN	**Phulchoki**	**59.33 304**	*e*P	**P**	**21 51 18.4 -0.2**
KKN	**Kakani**	**59.50 305**	*e*P	**P**	**21 51 19.9 +0.2**
MDRS	**Chennai**	**59.94 287**	*e*P	**P**	**21 51 23.3 +0.7**
MDRS			IAmb	IAmb	21 51 30.0
	comp=Z,5μm,2.2s				
GKN	**Gorkha**	**60.11 304**	*e*P	**P**	**21 51 24.1 +0.3**
ZAK	**Zakamensk**	**60.92 335**	*e*P	**P**	**21 51 29.2 +0.4**
ZAK			pmax	pmax	
	comp=Z,2μm,1.8s				
DANN	**Dangsing**	**60.95 305**	*e*P	**P**	**21 51 29.8 +0.1**
IRK	**Irkutsk**	**61.94 337**	*e*P	**P**	**21 51 36.2 +0.7**
IRK			*e*		22 00 24.7
IRK			pmax	pmax	
	comp=Z,6μm,2.6s				
TRD	**Trivandrum**	**62.40 281**	*e*P	**P**	**21 51 41.1 +1.7**
HYB	**Hyderabad**	**62.42 291**	*i* P	**P**	**21 51 39.0 -0.5**
	comp=Z,360nm,1.0s				
HYB			*e*sP	**sP**	**21 51 59.0 +0.4**
HYB			*e*PcP	**PcP**	**21 52 18.0 -0.6**
HYB			*e*PP	**PP**	**21 53 58.0 +0.7**
HYB			*e*S	**S**	**22 00 05.0 +1.6**
HYB	**Hyderabad**	**62.42 291**	*e*P	**P**	**21 51 38.8 -0.7**
RAR	**Rarotonga**	**62.68 112**	P	**P**	**21 51 41.1 0.0**
RAR			pmax	pmax	
	comp=Z,490nm,1.7s				
RAR			MLR	MLR	
	comp=Z,22μm,22.0s				
RAR	**Rarotonga**	**62.68 112**	P	**P**	**21 51 41.1 0.0**
MOY	**Mondy**	**62.84 335**	*e*P	**P**	**21 51 42.7 +1.0**
MOY			pmax	pmax	
	comp=Z,7μm,2.2s				
MA2	**Magadan**	**62.85 7**	P	**P**	**21 51 41.5 +0.1**
	comp=Z,454nm,0.9s,baz=189,slow=6.3,SNR=58				
MA2			S	**S**	**22 00 10.8 +3.6**
	comp=Z,1.5nm,0.3s,baz=46,slow=21,SNR=0.9				
MA2	**Magadan**	**62.85 7**	*c i*P	**P**	**21 51 41.3 -0.2**
MA2			pmax	pmax	
	comp=Z,3μm,1.9s				
MA2			MLR	MLR	
	comp=Z,25μm,22.0s				
MA2	**Magadan**	**62.85 7**	P	**P**	**21 51 41.6 +0.2**
MA2	**Magadan**	**62.85 7**	⇑P	**P**	**21 51 41.5 +0.1**
BOD	**Bodaibo**	**63.48 346**	⇑*i*P	**P**	**21 51 46.1 +0.5**
BOD			pmax	pmax	
	comp=Z,3μm,2.0s				
AMKA	**Amchitka**	**64.05 27**	P	**P**	**21 51 49.6 0.0**
XMAS	**Kiritimati**	**64.17 86**	P	**P**	**21 51 51.1 +0.1**
BHPL	**Bhopal**	**64.83 297**	*e*P	**P**	**21 51 55.8 +0.6**
WMQ	**Urumqi**	**64.91 322**	P	**P**	**21 51 56.5 +1.1**
WMQ			pP	pP	21 52 04.0 -5.3
WMQ			sP	sP	21 52 17.5 +2.7
WMQ			S	**S**	**22 00 39.5 +5.9**
WMQ			pmax	pmax	
	comp=Z,1μm,1.9s				
WMQ			pmax	pmax	
	comp=Z,38μm,5.3s				
WMQ			LR	LR	
	comp=Z,56μm,21.1s				
WMQ			LR	LR	
	comp=Z,37μm,23.5s				
WMQ			LR	LR	
	comp=Z,50μm,28.9s				
YAK	**Yakutsk**	**64.92 355**	*c i*P	**P**	**21 51 55.4 +0.4**
YAK			*e**PP	**pP**	**21 52 07.7 -1.2**
YAK			*e*		21 52 23.4
YAK			*e*		21 54 18.7
YAK			*e*PPP	PPP	21 55 54.8
YAK			*e*S	**S**	**22 00 34.0 +1.1**
YAK			*e**SS	**sS**	**22 00 54.6 -1.1**
YAK			*e*		22 01 45.1
YAK			*e*SS	**SS**	**22 04 52.1 +6.7**
YAK			pmax	pmax	
	comp=Z,2μm,1.0s				
YAK			pmax	pmax	
	comp=N,609nm,1.0s				
YAK			pmax	pmax	
	comp=E,253nm,1.4s				
YAK			pmax	pmax	
	comp=Z,4μm,3.0s				
YAK			pmax	pmax	
	comp=N,3μm,2.5s				
YAK			pmax	pmax	
	comp=E,588nm,2.2s				
YAK			smax	smax	
	comp=N,2μm,3.5s				
YAK			smax	smax	
	comp=E,5μm,3.8s				
YAK	**Yakutsk**	**64.92 355**	P	**P**	**21 51 55.1 +0.1**
YAK			IAMs_20	IAMs_20	22 17 00.5
	comp=Z,121μm,22.0s				
YAK	**Yakutsk**	**64.92 355**	⇑P	**P**	**21 51 54.9 -0.1**
H08S2	**Diego Garcia H**	**65.91 263**	P	**P**	**21 52 03.7 +1.6**
	baz=48,slow=6.8,SNR=43				
H08S3	**Diego Garcia H**	**65.92 263**	P	**P**	**21 52 03.2 +1.0**
	baz=48,slow=6.8,SNR=32				
H08S1	**Diego Carcia H**	**65.93 263**	P	**P**	**21 52 03.8 +1.6**
	baz=48,slow=6.8,SNR=28				
DGAR	**Diego Garcia**	**65.95 263**	*c i*P	**P**	**21 52 03.8 +1.2**
DGAR			pmax	pmax	
	comp=Z,3μm,1.8s				
DGAR			MLR	MLR	
	comp=Z,28μm,22.0s				
DGAR	**Diego Garcia**	**65.95 263**	P	**P**	**21 52 03.6 +1.0**
DGAR	**Diego Garcia**	**65.95 263**	P	**P**	**21 52 03.6 +1.0**
DGAR			S	**S**	**22 00 49.3 +2.1**
ADK	**Adak**	**66.26 28**	P	**P**	**21 52 03.9 0.0**
ADK			MLR	MLR	
	comp=Z,60μm,22.0s				
ADK	**Adak**	**66.26 28**	P	**P**	**21 52 03.9 0.0**
ADK	**Adak**	**66.26 28**	⇑P	**P**	**21 52 03.5 -0.4**
DDI	**Dehra Dun**	**66.31 305**	*e*P	**P**	**21 52 05.8 +1.0**
CASY	**Casey**	**66.44 192**	P	**P**	**21 52 05.8 +1.1**
CASY	**Casey**	**66.44 192**	IAMs_20	IAMs_20	22 20 48.5
	comp=Z,87μm,21.0s				
CASY	**Casey**	**66.44 192**	⇑P	**P**	**21 52 05.1 +0.4**
KIP	**Kipapa**	**66.48 65**	*c i*P	**P**	**21 52 06.5 +0.6**
KIP			pmax	pmax	
	comp=Z,2μm,1.4s				
KIP			MLR	MLR	
	comp=Z,18μm,19.0s				
KIP	**Kipapa**	**66.48 65**	P	**P**	**21 52 06.1 +0.2**
KIP			IAmb	IAmb	21 52 32.5
	comp=Z,1μm,1.1s				
KIP	**Kipapa**	**66.48 65**	IAMs_20	IAMs_20	22 14 46.8
	comp=Z,63μm,22.0s				
GOA	**Goa**	**66.50 288**	*e*P	**P**	**21 52 07.5 +1.4**
DHH	**Diamond Head**	**66.64 66**	P	**P**	**21 52 06.9 -0.1**
DHH	**Diamond Head**	**66.64 66**	P	**P**	**21 52 06.9 -0.1**
WMR	**Waimanalo Ridg**	**66.76 66**	P	**P**	**21 52 07.8 +0.1**
SMLA	**Simla**	**67.28 305**	*e*P	**P**	**21 52 11.8 +0.9**
SMLA			IAmb	IAmb	21 52 18.4
	comp=Z,4μm,2.2s				
ATKA	**Atka Island**	**67.66 29**	IAmb	IAmb	21 52 25.3
	comp=Z,985nm,1.1s				
ATKA	**Atka Island**	**67.66 29**	⇑P	**P**	**21 52 12.6 -0.2**
ATKA			⇓P	**P**	**21 52 12.8 +0.1**
ATKA			⇑P	**P**	**21 52 14.6 +1.9**
ATKA			⇓s	**pP**	**21 52 23.9 -2.9**
HLK	**Haleakala**	**67.95 66**	IAmb	IAmb	21 52 40.7
	comp=Z,1μm,1.2s				
KHLU	**Kahalu`u**	**68.04 68**	IAmb	IAmb	21 52 40.2
	comp=Z,1μm,1.1s				
BOM	**Bombay**	**68.06 291**	*i* P	P	21 52 21.2 +5.2
HUH	**Hualalai**	**68.11 68**	IAmb	IAmb	21 52 40.9
	comp=Z,779nm,1.1s				
DGZ	**Jazzator, Alta**	**68.20 327**	*c i*P	**P**	**21 52 16.1 -0.3**
DGZ			pmax	pmax	
	comp=Z,2μm,1.7s				
DGZ			MLR	MLR	
	comp=Z,60μm,21.0s				
KHU	**Kahuku**	**68.23 68**	IAmb	IAmb	21 52 29.4
	comp=Z,2μm,1.6s				
KHU			IAMs_20	IAMs_20	22 16 16.5
	comp=Z,70μm,22.0s				
MWH	**Moku'aweowe**	**68.30 68**	IAmb	IAmb	21 52 45.3
	comp=Z,673nm,1.1s				
HPAH	**Hawaii Prepara**	**68.31 67**	IAmb	IAmb	21 52 41.6
	comp=Z,959nm,1.3s				
MLOA	**Mauna Loa Obse**	**68.33 68**	IAmb	IAmb	21 52 45.7
	comp=Z,2μm,1.3s				
AIN	**Ainahou**	**68.40 68**	IAmb	IAmb	21 52 49.4
	comp=Z,994nm,1.2s				
AIN			IAMs_20	IAMs_20	22 16 21.0
	comp=Z,69μm,22.0s				
POHA	**Pohakuloa**	**68.41 68**	P	**P**	**21 52 19.3 +0.9**
POHA			IAmb	IAmb	21 52 42.8
	comp=Z,935nm,0.9s				
POHA	**Pohakuloa**	**68.41 68**	⇓P	**P**	**21 52 19.3 +0.9**
POHA			⇑s	**pP**	**21 52 27.2 -5.3**
ZSN	**Zaisan**	**68.47 324**	*e*P	**P**	**21 52 17.0 -1.0**
	baz=324				
ZSN			*e*S	S	22 01 26.8 +10
	baz=324				
ZSN	**Zaisan**	**68.47 324**	*e*P	**P**	**21 52 17.0 -1.0**
MLH	**Mauna Loa**	**68.49 68**	P	**P**	**21 52 19.7 +0.7**
MLH			IAmb	IAmb	21 52 30.0
	comp=Z,846nm,1.0s				
HLP	**Hilina Pali**	**68.53 68**	IAMs_20	IAMs_20	22 16 13.3
	comp=Z,76μm,22.0s				
WRMHI	**West Rim**	**68.56 68**	IAMs_20	IAMs_20	22 16 14.1
	comp=Z,66μm,22.0s				
SDHHI	**Sand Hill**	**68.56 68**	IAMs_20	IAMs_20	22 16 11.1
	comp=Z,67μm,22.0s				
NPH	**North Pit**	**68.58 68**	IAMs_20	IAMs_20	22 16 24.6
	comp=Z,64μm,22.0s				
RIM	**Rim**	**68.58 68**	IAMs_20	IAMs_20	22 16 13.6
	comp=Z,65μm,22.0s				
KKO	**Keanakako`i**	**68.59 68**	IAMs_20	IAMs_20	22 16 14.8
	comp=Z,65μm,22.0s				
SBLHI	**Steaming Bluff**	**68.59 68**	IAMs_20	IAMs_20	22 16 25.9
	comp=Z,64μm,22.0s				
BYL	**Byron's Ledge**	**68.59 68**	IAMs_20	IAMs_20	22 16 14.1
	comp=Z,65μm,22.0s				
HATHI	**Halema'uma'u T**	**68.59 68**	IAMs_20	IAMs_20	22 16 14.1
	comp=Z,65μm,22.0s				
PUH	**Pauahi**	**68.63 68**	IAmb	IAmb	21 52 31.8
	comp=Z,2μm,1.8s				
PUH			IAMs_20	IAMs_20	22 16 15.0
	comp=Z,68μm,22.0s				
NPOC	**North of Pu'u**	**68.73 68**	IAMs_20	IAMs_20	22 15 09.7
	comp=Z,61μm,22.0s				
JCUZ	**Jacuzzi**	**68.74 68**	IAMs_20	IAMs_20	22 16 16.8
	comp=Z,69μm,22.0s				
MK31	**Makanchi Array**	**69.69 322**	P	**P**	**21 52 26.3 +0.7**
MK31			pmax	pmax	
	comp=Z,3μm,1.6s				
MK31	**Makanchi Array**	**69.69 322**	P	**P**	**21 52 26.3 +0.7**
MKAR	**Makanchi Array**	**69.69 322**	P	**P**	**21 52 25.7 +0.1**
	comp=Z,253nm,0.9s,baz=116,slow=5.6,SNR=402				
MKAR			S	**S**	**22 01 34.3 +3.4**
	comp=Z,1.9nm,0.7s,baz=139,slow=7.7,SNR=1.4				
MKAR			PKP2ab		22 20 29.0
	comp=Z,1.9nm,0.8s,baz=272,slow=4.5,SNR=6.1				
MKAR			LR	LR	22 24 16.9
	comp=Z,32μm,21.9s,baz=107,slow=37				
MKAR			P4KPbc		22 29 11.3
	comp=Z,1.2nm,1.0s,baz=103,slow=3.9,SNR=5.3				
MKAR	**Makanchi Array**	**69.69 322**	*i* P	**P**	**21 52 25.5 -0.1**
MKAR			pmax	pmax	
	comp=Z,253nm,0.9s				
MKAR	**Makanchi Array**	**69.69 322**	P	**P**	**21 52 26.1 +0.5**
MAKZ	**Makanchi**	**69.89 322**	P	**P**	**21 52 27.4 +0.6**
MAKZ			pmax	pmax	
	comp=Z,5μm,1.7s				
MAKZ			MLR	MLR	
	comp=Z,51μm,22.0s				
MAKZ	**Makanchi**	**69.89 322**	P	**P**	**21 52 27.4 +0.6**
MAKZ	**Makanchi**	**69.89 322**	⇑P	**P**	**21 52 26.7 -0.1**
MAKZ			⇑P	**P**	**21 52 26.7 -0.1**
SHLS	**Shalkode**	**69.91 318**	⇑*i*P	**P**	**21 52 25.2 -1.9**
	comp=Z,164nm,0.9s,baz=318				
SHLS			*e*S	**S**	**22 01 30.3 -3.6**
	baz=318				
SHLS	**Shalkode**	**69.91 318**	*c i*P	**P**	**21 52 25.2 -1.9**
SHLS			*e*S	**S**	**22 01 30.2 -3.6**

SHLS					pmax	pmax		
	comp=Z,164nm,0.9s							
UZB	**Uzynbulak**	**70.20**	**318**	⇑ *i*	P	**P**	**21 52 29.0**	**0.0**
	comp=Z,230nm,1.0s,baz=318							
UZB				*e*	S	**S**	**22 01 34.5**	**-2.8**
	baz=318							
UZB	**Uzynbulak**	**70.20**	**318**	*c i*	P	**P**	**21 52 28.9**	**0.0**
UZB				*e*	S	**S**	**22 01 34.4**	**-2.8**
UZB					pmax	pmax		
	comp=Z,230nm,1.0s							
PRZ	**Przheval'sk**	**70.35**	**317**		IAmb	IAmb	21 52 42.5	
	comp=Z,1μm,1.0s							
KPKS	**Kokpek**	**70.55**	**318**	⇑ *i*	P	**P**	**21 52 30.6**	**-0.5**
	comp=Z,264nm,1.3s,baz=318							
KPKS				*e*	S	**S**	**22 01 41.3**	**+0.1**
	baz=318							
KPKS	**Kokpek**	**70.55**	**318**	*c i*	P	**P**	**21 52 30.5**	**-0.5**
KPKS				*e*	S	**S**	**22 01 41.3**	**+0.1**
KPKS					pmax	pmax		
	comp=Z,264nm,1.3s							
SATY	**Saty**	**70.58**	**318**	⇑ *i*	P	**P**	**21 52 31.2**	**-0.1**
	comp=Z,320nm,1.3s,baz=318							
SATY				*e*	S	**S**	**22 01 37.4**	**-4.2**
	baz=318							
SATY	**Saty**	**70.58**	**318**	*c i*	P	**P**	**21 52 31.1**	**-0.1**
SATY				*e*	S	**S**	**22 01 37.4**	**-4.2**
SATY					pmax	pmax		
	comp=Z,320nm,1.3s							
NIKH	**Nikolski High**	**70.76**	**31**		P	**P**	**21 52 31.8**	**-0.2**
	baz=237							
NIKH					S	**S**	**22 01 44.2**	**+1.1**
	baz=237							
KSH	**Kashi**	**70.97**	**313**		P	**P**	**21 52 35.3**	**+1.6**
KSH					pP	sP	21 52 50.3	-2.7
KSH					S	**S**	**22 01 50.3**	**+4.0**
KSH					sS	SKiKP	22 02 12.0	+0.1
KSH					SS	**SS**	**22 06 26.5**	**+6.4**
KSH					pmax	pmax		
	comp=Z,1μm,2.3s							
KSH					pmax	pmax		
	comp=Z,21μm,3.6s							
KSH					LR	LR		
	comp=Z,39μm,19.9s							
KSH					LR	LR		
	comp=Z,93μm,21.8s							
KSH					LR	LR		
	comp=Z,148μm,16.6s							
NIL	**Nilore**	**71.19**	**307**		P	**P**	**21 52 35.1**	**0.0**
NIL					pmax	pmax		
	comp=Z,5μm,2.2s							
NIL					MLR	MLR		
	comp=Z,24μm,20.0s							
NIL	**Nilore**	**71.19**	**307**		P	**P**	**21 52 35.1**	**0.0**
NIL	**Nilore**	**71.19**	**307**		P	**P**	**21 52 35.8**	**+0.7**
TDK	**Taldyqorghan**	**71.35**	**320**	*i*	P	**P**	**21 52 35.7**	**-0.1**
	comp=Z,628nm,2.2s,baz=320							
TDK				*e*	S	**S**	**22 01 59.1**	**+8.7**
	baz=320							
TDK				*e*	LR	LR	22 18 09.4	
	comp=Z,50μm,26.0s,baz=320							
TDK	**Taldyqorghan**	**71.35**	**320**	*i*	P	**P**	**21 52 35.7**	**-0.1**
TDK					pmax	pmax		
	comp=Z,628nm,2.2s							
MDOK	**Medeo**	**71.53**	**317**	*i*	P	**P**	**21 52 37.0**	**-0.2**
	baz=317							
MDOK				*e*	S	**S**	**22 01 59.5**	**+6.8**
	baz=317							
MDOK	**Medeo**	**71.53**	**317**	*i*	P	**P**	**21 52 36.9**	**-0.2**
MDOK				*e*	S	**S**	**22 01 59.5**	**+6.8**
AAA	**Alma-Ata**	**71.64**	**317**	⇑ *i*	P	**P**	**21 52 37.8**	**+0.2**
	comp=Z,809nm,1.3s,baz=317							
AAA				*e*	S	**S**	**22 02 02.2**	**+8.4**
	baz=317							
AAA				*e*	LR	LR	22 20 23.7	
	comp=Z,30μm,21.4s,baz=317							
AAA	**Alma-Ata**	**71.64**	**317**	*c i*	P	**P**	**21 52 37.8**	**+0.2**
AAA				*e*	S	**S**	**22 02 02.2**	**+8.4**
AAA					pmax	pmax		
	comp=Z,809nm,1.3s							
ULHL	**Ulahol**	**71.74**	**316**		P	**P**	**21 52 39.5**	**+1.1**
	SNR=15							
BHUJ	**Bhuj**	**71.79**	**295**	*e*	P	**P**	**21 52 40.0**	**+1.2**
CHKK	**Chushkaly**	**71.84**	**318**	⇑ *e*	P	**P**	**21 52 38.0**	**-0.7**
	baz=318							
CHKK	**Chushkaly**	**71.84**	**318**	⇑ *e*	P	**P**	**21 52 38.0**	**-0.7**
ZAA0	**Zalesovo Array**	**71.86**	**330**		IAmb	IAmb	21 52 47.0	
	comp=Z,3μm,1.9s							
ZAA0					IAMs_20	IAMs_20	22 23 01.0	
	comp=Z,67μm,22.0s							
ZALV	**Zalesovo Beam**	**71.86**	**330**		P	**P**	**21 52 37.7**	**-0.8**
	comp=Z,117nm,0.7s,baz=107,slow=5.0,SNR=142							
ZALV					PKP2bc		22 20 18.1	
	comp=Z,5.2nm,1.0s,baz=302,slow=2.8,SNR=5.6							
ZALV					LR	LR	22 23 33.3	
	comp=Z,59μm,21.9s,baz=114,slow=35							
ZALV	**Zalesovo Beam**	**71.86**	**330**		P	**P**	**21 52 37.2**	**-1.3**
PPT	**Papeete**	**71.91**	**107**		P	**P**	**21 52 41.6**	**+1.9**
	comp=Z,192nm,1.0s,baz=4.3,slow=3.3,SNR=10							
PPT					LR	LR	22 22 38.7	
	comp=Z,17μm,20.9s,baz=269,slow=34							
PAE	**Paea**	**71.92**	**108**	*e*	P	**P**	**21 52 39.2**	**-0.4**
	comp=Z,64nm,1.2s							
PPT2	**Papeete2**	**71.92**	**108**	*e*	P	**P**	**21 52 39.5**	**-0.2**
	comp=Z,323nm,1.3s							
PPT2				*e*	S	**S**	**22 01 55.8**	**-2.0**
	comp=Z,72μm,31.0s							
PPT2	**Papeete2**	**71.92**	**108**	*e*	LR	LR	22 14 44.5	
	comp=Z,223μm,33.0s							
PPTF	**Pamatai, Papee**	**71.92**	**108**		P	**P**	**21 52 39.9**	**+0.1**
TIAR	**Tiarei**	**72.13**	**107**	*e*	P	**P**	**21 52 40.6**	**-0.4**
	comp=Z,42nm,1.0s							
KUU	**Kurty**	**72.29**	**318**	⇑ *i*	P	**P**	**21 52 41.0**	**-0.5**
	comp=Z,1μm,1.9s,baz=318							
KUU				*e*	S	**SKiKP**	**22 02 08.7**	**-4.9**
	baz=318							
KUU	**Kurty**	**72.29**	**318**	*c i*	P	**P**	**21 52 40.9**	**-0.5**
KUU				*e*	S	**SKiKP**	**22 02 08.7**	**-4.9**
KUU					pmax	pmax		
	comp=Z,1μm,1.9s							
TBI	**Tubuai**	**72.41**	**114**	*e*	P	**P**	**21 52 42.0**	**-0.5**
	comp=Z,692nm,1.2s							
UNV	**Unalaska Valle**	**72.42**	**31**		P	**P**	**21 52 41.9**	**-0.1**
	baz=239							
UNV					S	**S**	**22 02 03.0**	**+0.9**
	baz=239							
TKM2	**Tokmak 2**	**72.43**	**317**		P	**P**	**21 52 42.6**	**0.0**
	SNR=297							
SPIA	**Saint Paul Isl**	**72.46**	**26**		P	**P**	**21 52 42.5**	**+0.4**
	baz=235,SNR=6.4							
SPIA					S	**S**	**22 02 04.8**	**+2.3**
	baz=235							
SEM	**Semipalatinsk**	**72.56**	**325**	⇑ *i*	P	**P**	**21 52 41.4**	**-1.7**
	comp=Z,740nm,2.8s,baz=325							
SEM				*e*	S	**S**	**22 02 07.6**	**+3.3**
	baz=325							
SEM	**Semipalatinsk**	**72.56**	**325**	*c i*	P	**P**	**21 52 41.4**	**-1.7**
SEM				*e*	S	**S**	**22 02 07.6**	**+3.3**
SEM					pmax	pmax		
	comp=Z,740nm,2.8s							
KBK	**Karagaybulak**	**72.78**	**316**		P	**P**	**21 52 45.5**	**+0.9**
	SNR=102							
AKUT	**Akutan**	**72.94**	**31**		IAmb	IAmb	21 52 51.3	
	comp=Z,1μm,1.3s							
CHMS	**Chumysh**	**73.04**	**317**		P	**P**	**21 52 46.4**	**+0.5**
	SNR=136							
FRU1	**Bishkek**	**73.06**	**316**		IAmb	IAmb	21 52 57.1	
	comp=Z,2μm,1.9s							
AAK	**Ala-Archa**	**73.09**	**316**		P	**P**	**21 52 46.9**	**+0.5**
	comp=Z,126nm,0.9s,baz=130,slow=6.3							
AAK					S	**SKiKP**	**22 02 13.0**	**-1.9**
	comp=Z,3.8nm,0.4s,baz=232,slow=20,SNR=1.4							
AAK	**Ala-Archa**	**73.09**	**316**		P	**P**	**21 52 47.3**	**+0.9**
	SNR=31							
AAK	**Ala-Archa**	**73.09**	**316**	*i*	P	**P**	**21 52 47.2**	**+0.7**
	SNR=501							
AAK	**Ala-Archa**	**73.09**	**316**		P	**P**	**21 52 47.1**	**+0.7**
AAK					pmax	pmax		
	comp=Z,4μm,2.0s							
AAK					MLR	MLR		
	comp=Z,25μm,20.0s							
AAK	**Ala-Archa**	**73.09**	**316**		P	**P**	**21 52 47.1**	**+0.7**
AAK	**Ala-Archa**	**73.09**	**316**		P	**P**	**21 52 47.9**	**+1.4**
AAK					S	**S**	**22 02 07.7**	**-3.0**
BILL	**Bilibino**	**73.20**	**11**	*d i*	P	**P**	**21 52 46.7**	**+0.4**
BILL				*i*			21 52 55.7	
BILL				*e*			21 53 03.5	
BILL				*i*			21 55 27.2	
BILL				*e*	S	**SKiKP**	**22 02 14.1**	**-0.1**
BILL				*e*	SS	**SS**	**22 06 55.5**	**+2.6**
BILL					pmax	pmax		
	comp=Z,1μm,2.1s							
BILL					MLR	MLR		
	comp=Z,29μm,20.0s							
BILL	**Bilibino**	**73.20**	**11**		P	**P**	**21 52 46.1**	**-0.2**
BILL					IAmb	IAmb	21 52 56.2	
	comp=Z,3μm,2.1s							
SGDS	**Sogindy**	**73.28**	**317**	⇑ *i*	P	**P**	**21 52 46.6**	**-0.8**
	baz=317							
SGDS				*e*	S	**SKiKP**	**22 02 18.9**	**+3.8**
	baz=317							
SGDS	**Sogindy**	**73.28**	**317**	*c i*	P	**P**	**21 52 46.6**	**-0.8**
SGDS				*e*	S	**SKiKP**	**22 02 18.9**	**+3.8**
USP	**Ospenovka**	**73.31**	**317**		P	**P**	**21 52 47.5**	**0.0**
	SNR=553							
PMOR	**Pomariorio Ree**	**73.43**	**105**	*e*	P	**P**	**21 52 48.1**	**-0.6**
	comp=Z,481nm,1.0s							
AML	**Almayashu**	**73.48**	**315**		P	**P**	**21 52 49.5**	**+0.5**
	SNR=430							
AML	**Almayashu**	**73.48**	**315**	*i*	P	**P**	**21 52 49.5**	**+0.5**
	SNR=435							
EKS2	**Erkin-Say**	**73.60**	**316**		P	**P**	**21 52 49.6**	**+0.2**
	SNR=247							
KURBB	**Kurchatov Arra**	**73.64**	**325**		S	**S**	**22 02 19.5**	**+3.5**
	comp=Z,2.1nm,0.9s,baz=113,slow=5.2,SNR=1.6							
VAH	**Vaihoa**	**73.69**	**105**	*e*	P	**P**	**21 52 49.5**	**-0.7**
	comp=Z,250nm,1.1s							
PAF	**Port-aux-Franc**	**73.93**	**219**		P	**P**	**21 52 50.7**	**-0.3**
PAF					pmax	pmax		
	comp=Z,1μm,1.5s							
PAF	**Port-aux-Franc**	**73.93**	**219**		P	**P**	**21 52 50.7**	**-0.3**
PAF					IAmb	IAmb	21 53 16.5	
	comp=Z,1μm,1.5s							
PAF					IAMs_20	IAMs_20	22 24 18.5	
	comp=Z,61μm,21.0s							
BTLS	**Baital**	**74.23**	**318**	⇑ *i*	P	**P**	**21 52 52.3**	**-0.6**
	baz=318							
BTLS				*e*	S		22 02 33.9	+11
	baz=318							
BTLS	**Baital**	**74.23**	**318**	*c i*	P	**P**	**21 52 52.2**	**-0.6**
FALS	**False Pass**	**74.49**	**31**		P	**P**	**21 52 54.0**	**-0.1**
	baz=242							
FALS					S	**S**	**22 02 26.3**	**+0.8**
	baz=242							
FALS	**False Pass**	**74.49**	**31**		IAmb	IAmb	21 53 04.0	
	comp=Z,979nm,0.8s							
TIXI	**Tiksi**	**74.50**	**357**		S	**S**	**22 02 25.1**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=130,slow=16,SNR=1.5							
TIXI	**Tiksi**	**74.50**	**357**	*c i*	P	**P**	**21 52 52.2**	**-1.6**
TIXI	**Tiksi**	**74.50**	**357**		P	**P**	**21 52 52.6**	**-1.2**
TIXI					IAMs_20	IAMs_20	22 22 30.1	
	comp=Z,94μm,22.0s							
KBL	**Kabul**	**74.80**	**307**		P	**P**	**21 52 55.8**	**-0.8**
KBL					pmax	pmax		
	comp=Z,2μm,2.2s							
KBL					MLR	MLR		
	comp=Z,45μm,22.0s							
KBL	**Kabul**	**74.80**	**307**		P	**P**	**21 52 55.8**	**-0.8**
KBL					IAmb	IAmb	21 53 05.1	
	comp=Z,2μm,2.1s							
KBL	**Kabul**	**74.80**	**307**		P	**P**	**21 52 56.5**	**-0.1**
	SNR=342							
BTK	**Batken**	**74.90**	**313**		IAmb	IAmb	21 53 26.5	
	comp=Z,2μm,1.6s							
GAR	**Garm**	**74.97**	**311**		P	**P**	**21 52 57.7**	**+0.2**
GAR					IAMs_20	IAMs_20	22 27 24.2	
	comp=Z,110μm,21.0s							
DZA	**Taraz**	**75.38**	**316**	⇑ *i*	P	**P**	**21 52 58.9**	**-0.7**
	comp=Z,196nm,0.9s,baz=316							
DZA				*e*	S	**S**	**22 02 37.2**	**+1.2**
	baz=316							
DZA	**Taraz**	**75.38**	**316**	*c i*	P	**P**	**21 52 58.8**	**-0.7**
DZA				*e*	S	**S**	**22 02 37.2**	**+1.2**
DZA					pmax	pmax		
	comp=Z,196nm,0.9s							
CHGR	**Chuyangaron**	**75.75**	**311**		IAmb	IAmb	21 53 29.2	
	comp=Z,2μm,1.2s							
VNDA	**Vanda**	**75.79**	**175**		P	**P**	**21 53 01.8**	**+0.6**
	comp=Z,56nm,0.6s,baz=322,slow=6.3,SNR=250							
VNDA					S	**S**	**22 02 39.0**	**-0.4**
	comp=Z,2.4nm,1.1s,baz=199,slow=4.7,SNR=1.3							
VNDA					PKKPbc	**PKKPbc**	**22 12 18.6**	**-3.6**
	comp=Z,1.8nm,0.9s,baz=284,slow=4.6,SNR=3.5							
VNDA					PKPPKP	**P'P'df**	**22 20 19.6**	**-1.1**
	comp=Z,3.8nm,1.2s,baz=78,slow=1.0,SNR=5.4							
VNDA					LR	LR	22 26 04.6	
	comp=Z,74μm,20.2s,baz=350,slow=36							
VNDA	**Vanda**	**75.79**	**175**		P	**P**	**21 53 01.7**	**+0.5**
VNDA					pmax	pmax		
	comp=Z,361nm,1.2s							
VNDA	**Vanda**	**75.79**	**175**		P	**P**	**21 53 01.7**	**+0.5**
GAMB	**Gambell**	**75.84**	**20**		P	**P**	**21 53 01.9**	**+0.3**
	baz=232							
GAMB					S	**S**	**22 02 44.5**	**+4.3**
	baz=232							
GAMB	**Gambell**	**75.84**	**20**		IAmb	IAmb	21 53 14.9	
	comp=Z,2μm,1.9s							
GAMB					IAMs_20	IAMs_20	22 21 29.1	
	comp=Z,71μm,21.0s							
KK31	**Karatay Array**	**76.02**	**316**		IAmb	IAmb	21 53 30.7	
	comp=Z,1μm,1.4s							
KKAR	**Karatay Array**	**76.02**	**316**		P	**P**	**21 53 02.9**	**-0.3**
KKAR	**Karatay Array**	**76.02**	**316**		P	**P**	**21 53 02.9**	**-0.3**
KKAR	**Karatay Array**	**76.02**	**316**		IAmb	IAmb	21 53 30.7	
	comp=Z,1μm,1.4s							
SDPT	**Sand Point**	**76.22**	**31**		P	**P**	**21 53 03.4**	**-0.6**
	baz=244							
SDPT					S	**S**	**22 02 46.6**	**+1.9**
	baz=244							
SDPT	**Sand Point**	**76.22**	**31**		IAmb	IAmb	21 53 17.0	
	comp=Z,1μm,0.9s							
CNBA	**Chernabura Isl**	**76.45**	**32**		IAmb	IAmb	21 53 18.1	
	comp=Z,2μm,2.0s							
CNBA					IAMs_20	IAMs_20	22 22 31.1	
	comp=Z,59μm,22.0s							
CHNA	**Chernabura Isl**	**76.46**	**32**		P	**P**	**21 53 05.0**	**-0.3**
	baz=245,SNR=26							
CHNA					S	**S**	**22 02 48.7**	**+1.4**
	baz=245							
SBA	**Scott Base**	**76.56**	**174**		P	**P**	**21 53 07.6**	**+2.0**
SBA					pmax	pmax		
	comp=Z,7μm,2.9s							
SBA					MLR	MLR		
	comp=Z,55μm,19.0s							
SBA	**Scott Base**	**76.56**	**174**		P	**P**	**21 53 07.6**	**+2.0**
SBA	**Scott Base**	**76.56**	**174**		IAMs_20	IAMs_20	22 29 03.9	
	comp=Z,55μm,19.0s							
BRZS	**Berezniki**	**76.83**	**323**	⇑ *i*	P	**P**	**21 53 07.1**	**-0.6**
	baz=323							
BRZS				*e*	S	**S**	**22 02 56.8**	**+5.0**
	baz=323							
BRZS	**Berezniki**	**76.83**	**323**	*c i*	P	**P**	**21 53 07.0**	**-0.6**
BRZS				*e*	S	**S**	**22 02 56.7**	**+5.0**
TNA	**Tin City**	**78.22**	**20**		P	**P**	**21 53 15.0**	**0.0**
	baz=235							
TNA					S	**S**	**22 03 05.9**	**-0.1**
	baz=235							
ANM	**Nome**	**78.56**	**21**		P	**P**	**21 53 17.3**	**+0.4**
	baz=238,SNR=23							
ANM					S	**S**	**22 03 12.2**	**+2.5**
	baz=238							
ANM	**Nome**	**78.56**	**21**		IAmb	IAmb	21 53 27.8	
	comp=Z,3μm,1.9s							
ANM					IAMs_20	IAMs_20	22 24 29.1	
	comp=Z,50μm,22.0s							
CHIR	**Chirikof Islan**	**78.93**	**32**		P	**P**	**21 53 19.3**	**+0.2**
	baz=248,SNR=8.2							
CHIR					S	**S**	**22 03 16.5**	**+2.5**
	baz=248							
CHIR	**Chirikof Islan**	**78.93**	**32**		IAmb	IAmb	21 53 30.9	
	comp=Z,3μm,1.9s							
CHIR					IAMs_20	IAMs_20	22 23 54.5	
	comp=Z,83μm,21.0s							
BVAR	**Borovoye Array**	**79.22**	**325**		PKPPKP		22 20 18.8	
	comp=Z,0.6nm,0.6s,baz=284,slow=9.0,SNR=5.5							
BRVK	**Borovoye**	**79.29**	**325**		P	**P**	**21 53 21.2**	**0.0**
BRVK					pmax	pmax		
	comp=Z,6μm,2.2s							
BRVK					MLR	MLR		
	comp=Z,36μm,22.0s							
BRVK	**Borovoye**	**79.29**	**325**		P	**P**	**21 53 21.2**	**0.0**
BRVK	**Borovoye**	**79.29**	**325**		P	**P**	**21 53 21.3**	**+0.2**
BRVK					S	**S**	**22 03 21.7**	**+3.8**
NRIK	**Noril'sk**	**79.68**	**344**		P	**P**	**21 53 22.5**	**-0.5**
	comp=Z,193nm,0.9s,baz=125,slow=5.8,SNR=160							
NRIK					S	**S**	**22 03 24.7**	**+3.3**
	comp=Z,2.6nm,0.5s,baz=87,slow=17,SNR=1.3							
NRIK					PKPPKP	**P'P'df**	**22 20 18.6**	**+5.6**
	comp=Z,1.7nm,0.6s,baz=327,slow=1.8,SNR=6.9							
NRIK					LR	LR	22 27 28.7	
	comp=Z,59μm,21.9s,baz=119,slow=35							
NRIK	**Noril'sk**	**79.68**	**344**		IAmb	IAmb	21 53 33.2	
	comp=Z,2μm,1.6s							
NRIK					IAMs_20	IAMs_20	22 26 54.4	
	comp=Z,72μm,22.0s							
SII	**Sitkinak Islan**	**79.95**	**31**		P	**P**	**21 53 24.5**	**-0.2**
	baz=249,SNR=37							
SII					S	**S**	**22 03 27.9**	**+3.1**
	baz=249							
SII	**Sitkinak Islan**	**79.95**	**31**		IAmb	IAmb	21 53 31.3	
	comp=Z,938nm,1.0s							
HRA	**Herat**	**80.26**	**305**		IAMs_20	IAMs_20	22 31 10.4	
	comp=Z,46μm,21.0s							
OHAK	**Old Harbor**	**80.64**	**31**		P	**P**	**21 53 27.9**	**-0.4**
	baz=250,SNR=88							
OHAK					S	**S**	**22 03 33.8**	**+1.9**
	baz=250							
OHAK	**Old Harbor**	**80.64**	**31**		IAmb	IAmb	21 53 53.0	
	comp=Z,1μm,1.4s							
N18K	**Kilae Creek**	**80.65**	**27**		P	**P**	**21 53 28.5**	**+0.1**
	baz=247,SNR=133							
N18K					S	**S**	**22 03 36.1**	**+4.1**
	baz=247							
SVW2	**Sparrevohn**	**80.95**	**27**		IAmb	IAmb	21 53 40.9	
	comp=Z,2μm,1.9s							
JLN	**Jalan Bani Buh**	**80.97**	**293**		P	**P**	**21 53 30.3**	**-0.6**
JLN					P	**PcP**	**21 53 31.4**	**-5.9**
	SNR=20							
JLN					S	**S**	**22 03 34.0**	**-2.8**
JLN					S	**SKSac**	**22 03 35.6**	**-11**
TAOE	**Nuku Hiva Isla**	**81.00**	**98**	*e*	S	**S**	**22 03 34.5**	**-3.1**
	comp=Z,40μm,27.5s							
TAOE	**Nuku Hiva Isla**	**81.00**	**98**	*e*	LR	LR	22 18 52.7	
	comp=Z,153μm,29.5s							
KDAK	**Kodiak Island**	**81.19**	**30**		P	**P**	**21 53 31.0**	**-0.3**
	comp=Z,172nm,0.9s,baz=262,slow=4.0,SNR=66							
KDAK					S	**S**	**22 03 44.4**	**+6.7**
	comp=Z,7.1nm,1.0s,baz=1.2,slow=14,SNR=2.6							
KDAK	**Kodiak Island**	**81.19**	**30**		P	**P**	**21 53 31.1**	**-0.1**
KDAK					pmax	pmax		
	comp=Z,629nm,1.2s							
KDAK					MLR	MLR		
	comp=Z,134μm,21.0s							
KDAK	**Kodiak Island**	**81.19**	**30**		P	**P**	**21 53 31.2**	**-0.1**
	baz=251							
KDAK					S	**S**	**22 03 39.7**	**+2.1**
	baz=251							
KDAK	**Kodiak Island**	**81.19**	**30**		P	**P**	**21 53 31.1**	**-0.1**
RDOG	**Red Dog Mine**	**81.24**	**19**		P	**P**	**21 53 32.6**	**+1.2**
	baz=240,SNR=49							
RDOG					S	**S**	**22 03 40.7**	**+2.8**
	baz=240							
RDOG	**Red Dog Mine**	**81.24**	**19**		IAmb	IAmb	21 53 54.4	
	comp=Z,979nm,1.5s							
N19K	**Bonanza Creek**	**81.34**	**27**		P	**P**	**21 53 32.0**	**-0.1**
	baz=248,SNR=223							
N19K					S	**S**	**22 03 43.5**	**+4.1**
	baz=248							
WBK	**Wadi Bani Khal**	**81.43**	**293**		P	**P**	**21 53 33.7**	**+0.3**
	SNR=28							
WBK					S	**S**	**22 03 39.0**	**-2.6**
TTA	**Tatalina**	**81.48**	**25**		S	**S**	**22 03 41.3**	**+0.5**
	baz=247							
P19K	**Oil Pt**	**81.51**	**28**		P	**P**	**21 53 32.0**	**-1.0**
	baz=250,SNR=64							
P19K					S	**S**	**22 03 39.2**	**-1.9**
	baz=250							
L19K	**White Mountain**	**81.69**	**26**		P	**P**	**21 53 33.9**	**0.0**
	baz=248,SNR=266							
L19K					S	**S**	**22 03 45.3**	**+2.5**
	baz=248							
WSAR	**Wadi Sarin**	**81.81**	**294**		P	**P**	**21 53 36.1**	**+0.8**
	comp=Z,73nm,1.0s,baz=168,slow=4.1,SNR=16							
WSAR	**Wadi Sarin**	**81.81**	**294**		P	**P**	**21 53 35.7**	**+0.4**
	SNR=39							
WSAR					S	**S**	**22 03 45.3**	**-0.2**
O20K	**Slope Mountain**	**81.94**	**28**		P	**P**	**21 53 34.0**	**-1.3**
	baz=250,SNR=16							
O20K					S	**S**	**22 03 45.2**	**-0.4**
	baz=250							
MAW	**Mawson**	**82.06**	**202**		P	**P**	**21 53 36.8**	**+1.2**
	comp=Z,167nm,1.1s,baz=73,slow=6.4,SNR=105							
MAW					S	**S**	**22 03 43.4**	**-2.9**
	comp=Z,2.9nm,0.9s,baz=152,slow=9.2,SNR=1.6							
MAW					PKKP	**PKKPdf**	**22 11 56.7**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=298,slow=11,SNR=4.1							
MAW					PKKPbc	**PKKPbc**	**22 12 05.7**	**-2.2**
	comp=Z,6.0nm,0.8s,baz=288,slow=3.2,SNR=6.2							
MAW					PKPPKP	**P'P'df**	**22 20 12.8**	**+2.9**
	comp=Z,1.9nm,0.7s,baz=296,slow=8.3,SNR=3.7							
MAW					LR	LR	22 27 21.2	
	comp=Z,54μm,21.9s,baz=74,slow=34							
MAW	**Mawson**	**82.06**	**202**		P	**P**	**21 53 36.9**	**+1.2**
	baz=82,SNR=97							
MAW	**Mawson**	**82.06**	**202**		P	**P**	**21 53 36.5**	**+0.8**
MAW					pmax	pmax		
	comp=Z,121nm,1.2s							
MAW	**Mawson**	**82.06**	**202**		P	**P**	**21 53 36.5**	**+0.8**
MHTO	**MHTO**	**82.18**	**291**		P	**P**	**21 53 37.2**	**-0.1**
	SNR=40							
MHTO					S	**S**	**22 03 48.7**	**-0.6**
JMDO	**Jabal Madar**	**82.20**	**293**		P	**P**	**21 53 37.4**	**0.0**
	SNR=20							
JMDO					S	**S**	**22 03 49.6**	**+0.1**
HOM	**Homer**	**82.27**	**29**		P	**P**	**21 53 36.4**	**-0.5**
	baz=251,SNR=19							
HOM					S	**S**	**22 03 49.8**	**+1.1**
	baz=251							
HOM	**Homer**	**82.27**	**29**		IAmb	IAmb	21 54 06.6	
	comp=Z,1μm,0.9s							
HOM					IAMs_20	IAMs_20	22 24 20.5	
	comp=Z,85μm,22.0s							
BIDO	**Bidbid**	**82.30**	**294**		P	**P**	**21 53 38.1**	**+0.2**
	SNR=70							
BIDO					S	**S**	**22

HOQ					S	S	22 03 53.8	-4.4
BSY	**Bisya**	83.07	293		P	P	21 53 43.0	+1.0
	SNR=48							
BSY					S	S	22 03 52.7	-5.7
SKT	**Skwentna**	83.08	27		P	P	21 53 39.4	-1.8
	baz=251,SNR=126							
SKT					S	S	22 03 59.2	+2.2
	baz=251							
SKT	**Skwentna**	83.08	27		IAMs_20	IAMs_20	22 25 56.8	
	comp=Z,81μm,22.0s							
PPLA	**Purkeypile**	83.10	26		P	P	21 53 40.5	-0.8
	baz=250							
PPLA					S	S	22 03 57.1	-0.4
	baz=250							
PPLA	**Purkeypile**	83.10	26		IAmb	IAmb	21 54 12.4	
	comp=Z,2μm,1.6s							
SUA	**Susitna One**	83.27	27		P	P	21 53 40.2	-2.1
	baz=252,SNR=182							
SUA					S	S	22 03 59.4	+0.3
	baz=252							
SUA	**Susitna One**	83.27	27		IAMs_20	IAMs_20	22 27 26.8	
	comp=Z,66μm,22.0s							
CHUM	**Lake Minchumin**	83.38	25		P	P	21 53 42.1	-0.6
	baz=250,SNR=352							
CHUM					S	S	22 04 02.2	+2.3
	baz=250							
FIS	**Fire Island**	83.41	28		IAmb	IAmb	21 54 12.8	
	comp=Z,1μm,1.2s							
O22K	**Cooper Landing**	83.44	28		P	P	21 53 41.6	-1.3
	baz=253,SNR=22							
O22K					S	S	22 04 01.0	+0.4
	baz=253							
O22K	**Cooper Landing**	83.44	28		P	P	21 53 42.5	-0.5
O22K					IAmb	IAmb	21 54 07.1	
	comp=Z,614nm,0.8s							
O22K					IAMs_20	IAMs_20	22 24 59.3	
	comp=Z,66μm,22.0s							
SEW	**Seward**	83.46	29		P	P	21 53 42.3	-0.8
	baz=253,SNR=74							
SEW					S	S	22 04 01.9	+1.1
	baz=253							
SEW	**Seward**	83.46	29		IAmb	IAmb	21 53 52.7	
	comp=Z,2μm,1.6s							
IMAR	**Indian Mountai**	83.56	22		P	P	21 53 43.9	+0.4
RC01	**Rabbit Creek A**	83.62	28		P	P	21 53 42.9	-1.0
	baz=253,SNR=179							
RC01					S	S	22 04 01.9	-0.5
	baz=253							
RC01	**Rabbit Creek A**	83.62	28		IAmb	IAmb	21 53 53.2	
	comp=Z,1μm,1.4s							
ARQ	**Araqi**	83.75	294		P	P	21 53 45.9	+0.5
	SNR=53							
ARQ					S	S	22 03 59.5	-5.8
CUT	**Chulitna**	83.78	26		IAmb	IAmb	21 54 16.2	
	comp=Z,2μm,1.6s							
CUT					IAMs_20	IAMs_20	22 26 40.3	
	comp=Z,77μm,21.0s							
SOHO	**SOHO**	83.81	294	*i*	P	P	21 53 45.0	-0.7
	SNR=68							
I21K	**Tanana**	83.96	23		P	P	21 53 45.6	0.0
	baz=250,SNR=110							
I21K					S	S	22 04 05.9	+0.2
	baz=250							
BPAW	**Bear Paw Mtn.**	84.01	25		P	P	21 53 45.1	-0.8
	baz=251,SNR=117							
BPAW					S	S	22 04 04.6	-1.6
	baz=251							
BPAW	**Bear Paw Mtn.**	84.01	25		IAMs_20	IAMs_20	22 25 09.2	
	comp=Z,53μm,22.0s							
PMR	**Palmer**	84.05	27		P	P	21 53 44.9	-1.1
	baz=253,SNR=47							
PMR					S	S	22 04 05.6	-1.0
	baz=253							
TRF	**Thorofare Moun**	84.09	25		P	P	21 53 45.0	-1.5
	baz=252,SNR=47							
TRF					S	S	22 04 03.6	-3.9
	baz=252							
SHAO	**Shalim**	84.10	288	*i*	P	P	21 53 46.1	-1.2
	SNR=5.8							
SHAO	**Shalim**	84.10	288		P	P	21 53 48.0	+0.7
SHAO					S	S	22 04 07.6	-1.3
GEYT	**Alibeck**	84.11	308		P	P	21 53 47.6	+0.6
	comp=Z,73nm,0.8s,baz=151,slow=3.4,SNR=41							
GEYT					S	S	22 04 02.0	-6.4
	comp=Z,8.2nm,0.8s,baz=123,slow=13,SNR=1.7							
GEYT					PKPPKP	P'P'df	22 19 55.4	-12
	comp=Z,4.9nm,0.6s,baz=116,slow=6.8,SNR=4.8							
GEYT					LR	LR	22 34 31.7	
	comp=Z,44μm,21.9s,baz=90,slow=38							
GEYT	**Alibeck**	84.11	308		P	P	21 53 47.4	+0.4
MDH	**Madha**	84.14	296	*i*	P	P	21 53 46.2	-1.2
	SNR=23							
MDH	**Madha**	84.14	296		P	P	21 53 49.0	+1.7
	SNR=8.4							
MDH					S	S	22 04 00.2	-9.0
UOSS	**Minazif**	84.19	295	*i*	P	P	21 53 46.8	-0.9
	SNR=30							
UOSS	**Minazif**	84.19	295		P	P	21 53 47.6	-0.1
UOSS					IAmb	IAmb	21 53 55.6	
	comp=Z,2μm,2.4s							
UOSS	**Minazif**	84.19	295		P	P	21 53 46.8	-0.9
UOSS					S	S	22 04 09.6	-0.1
BANOM	**Banah**	84.20	296	*i*	P	P	21 53 47.4	-0.3
	SNR=26							
BANOM	**Banah**	84.20	296		P	P	21 53 48.5	+0.8
	SNR=28							
BANOM					S	S	22 04 03.6	-6.2
PWL	**Port Wells**	84.21	28		IAmb	IAmb	21 53 56.6	
	comp=Z,1μm,1.2s							
HATD	**Hatta, Dubai**	84.25	295	*i*	P	P	21 53 47.4	-0.5
	SNR=25							
HATD	**Hatta, Dubai**	84.25	295		P	P	21 53 48.8	+0.9
	SNR=34							
HATD					S	S	22 04 06.4	-3.9
MSFE	**Esma-Masafi**	84.28	296	*i*	P	P	21 53 47.8	-0.3
	SNR=40							
MASF	**Masafi**	84.28	296		P	P	21 53 48.6	+0.5
	SNR=46							
MASF					S	S	22 04 10.8	+0.3
ASHO	**Ashiyiah**	84.30	295	*i*	P	P	21 53 47.4	-0.8
	SNR=28							
ASHO	**Ashiyiah**	84.30	295		P	P	21 53 48.0	-0.2
	SNR=46							
ASHO					S	S	22 04 10.7	-0.1
KNK	**Knik Glacier**	84.30	28		P	P	21 53 46.3	-1.1
	baz=254,SNR=214							
KNK					S	S	22 04 09.1	-0.2
	baz=254							
KNK	**Knik Glacier**	84.30	28		IAmb	IAmb	21 54 18.0	
	comp=Z,917nm,1.1s							
SHME	**Shamm**	84.36	296	*i*	P	P	21 53 48.2	-0.2
	SNR=27							
SHME	**Shamm**	84.36	296		P	P	21 53 48.8	+0.4
	SNR=37							
SHME					S	S	22 04 03.0	-8.3
MLY	**Manley**	84.41	24		P	P	21 53 47.4	-0.6
	baz=251,SNR=323							
MLY					S	S	22 04 11.9	+1.5
	baz=251							
MLY	**Manley**	84.41	24		IAmb	IAmb	21 53 57.0	
	comp=Z,633nm,1.3s							
SML	**Sawmill**	84.47	27		P	P	21 53 47.3	-1.0
	baz=254,SNR=237							
SML					S	S	22 04 10.7	-0.4
	baz=254							
ALNE	**Al Ain**	84.52	294	*i*	P	P	21 53 49.1	-0.2
	SNR=81							
ALNE	**Al Ain**	84.52	294		P	P	21 53 49.6	+0.2
	SNR=128							
ALNE					S	S	22 04 11.7	-1.3
ABKAR	**Akbulak array**	84.61	320		P	P	21 53 48.1	-1.1
WAT1	**Susitna Watana**	84.66	26		P	P	21 53 48.3	-0.9
	baz=254							
WAT1					S	S	22 04 11.7	-1.3
	baz=254							
NAZ	**Nazwa, Dubai**	84.69	295	*i*	P	P	21 53 49.5	-0.6
	SNR=35							
NAZ	**Nazwa, Dubai**	84.69	295		P	P	21 53 50.2	+0.1
	SNR=68							
NAZ					S	SKSac	22 04 03.0	-7.9
RND	**Reindeer**	84.70	26		IAmb	IAmb	21 53 55.7	
RND	comp=Z,838nm,1.1s				IAMs_20	IAMs_20	22 27 47.4	
	comp=Z,64μm,22.0s							
A21K	**Barrow**	84.70	17		P	P	21 53 48.7	-0.4
	baz=245							
A21K					S	S	22 04 14.1	+1.2
	baz=245							
DMTO	**DMTO**	84.72	288		P	P	21 53 52.4	+2.0
	SNR=6.2							
DMTO					S	SKSac	22 04 09.9	-1.4
FAQ	**Al Faqa, Dubai**	84.73	295	*i*	P	P	21 53 49.1	-1.3
	SNR=75							
FAQ	**Al Faqa, Dubai**	84.73	295		P	P	21 53 49.4	-0.9
	SNR=57							
FAQ					S	SKSac	22 04 09.3	-1.9
MCK	**McKinley**	84.76	25		P	P	21 53 48.1	-1.6
	baz=253,SNR=172							
MCK					S	S	22 04 13.6	-0.2
	baz=253							
MCK	**McKinley**	84.76	25		IAmb	IAmb	21 53 58.8	
	comp=Z,1μm,1.5s							
Q23K	**Middleton Isla**	84.79	30		P	P	21 53 49.5	-0.3
	baz=256							
Q23K					S	S	22 04 16.8	+2.6
	baz=256							
Q23K	**Middleton Isla**	84.79	30		IAMs_20	IAMs_20	22 25 58.8	
	comp=Z,63μm,22.0s							
GLI	**Glacier Island**	84.80	28		P	P	21 53 49.4	-0.5
	baz=255,SNR=84							
GLI					S	S	22 04 17.5	+3.3
	baz=255							
GLI	**Glacier Island**	84.80	28		P	P	21 53 49.2	-0.7
GLI					IAmb	IAmb	21 54 19.6	
	comp=Z,767nm,1.2s							
UMZA	**Um Al Zommool**	84.94	293		P	P	21 53 50.4	-1.0
SCM	**Sheep Creek Mo**	84.94	27		IAmb	IAmb	21 54 20.7	
	comp=Z,1μm,1.2s							
SCM					IAMs_20	IAMs_20	22 26 43.9	
	comp=Z,86μm,22.0s							
WAT6	**Susitna Watana**	84.95	26		P	P	21 53 49.8	-1.0
	baz=254,SNR=134							
WAT6					S	S	22 04 16.1	0.0
	baz=254							
NEA2	**Nenana**	84.95	24		P	P	21 53 49.3	-1.3
	baz=253,SNR=259							
NEA2					S	S	22 04 13.8	-1.8
	baz=253							
NEA2	**Nenana**	84.95	24		IAmb	IAmb	21 53 58.7	
	comp=Z,616nm,1.3s							
NEA2					IAMs_20	IAMs_20	22 26 33.2	
	comp=Z,61μm,22.0s							
ASUD	**Al Ashush, Dub**	84.95	295	*i*	P	P	21 53 50.9	-0.6
	SNR=95							
ASUD	**Al Ashush, Dub**	84.95	295		P	P	21 53 50.7	-0.8
	SNR=85							
ASUD					S	S	22 04 14.3	-2.9
HIN	**Hinchinbrook I**	84.96	29		IAmb	IAmb	21 53 56.7	
	comp=Z,888nm,1.3s							
HIN					IAMs_20	IAMs_20	22 28 32.1	
	comp=Z,76μm,22.0s							
I23K	**Minto, Yukon-K**	85.00	24		P	P	21 53 50.1	-0.7
	baz=253,SNR=429							
I23K					S	S	22 04 20.0	+4.0
	baz=253							
I23K	**Minto, Yukon-K**	85.00	24		IAmb	IAmb	21 54 20.8	
	comp=Z,618nm,1.1s							
I23K					IAMs_20	IAMs_20	22 27 06.4	
	comp=Z,92μm,22.0s							
H23K	**Yukon River**	85.13	23		P	P	21 53 51.0	-0.5
	baz=252,SNR=135							
H23K					S	S	22 04 17.7	+0.3
	baz=252							
SOCY	**Socotra**	85.25	282		P	P	21 53 51.8	-1.4
SOCY					IAmb	IAmb	21 54 01.3	
	comp=Z,2μm,1.8s							
SOCY	**Socotra**	85.25	282		P	P	21 54 00.6	+7.4
	SNR=8.3							
AJN	**Ajban**	85.26	295	*i*	P	P	21 53 52.2	-0.8
	SNR=18							
AJN	**Ajban**	85.26	295		P	P	21 53 52.6	-0.4
	SNR=81							
WRH	**Wood River Hil**	85.32	25		IAmb	IAmb	21 53 57.5	
	comp=Z,475nm,1.0s							
WRH					IAMs_20	IAMs_20	22 26 12.0	
	comp=Z,59μm,22.0s							
EYAK	**Cordova Ski Ar**	85.36	29		P	P	21 53 52.0	-0.6
	baz=256,SNR=34							
EYAK					S	S	22 04 21.0	+1.4
	baz=256							
EYAK	**Cordova Ski Ar**	85.36	29		IAmb	IAmb	21 54 04.4	
	comp=Z,2μm,1.9s							
EYAK					IAMs_20	IAMs_20	22 28 55.8	
	comp=Z,81μm,22.0s							
MDM	**Murphy Dome**	85.40	24		IAMs_20	IAMs_20	22 27 07.0	
	comp=Z,84μm,22.0s							
RBK	**Rabkut**	85.41	288		P	P	21 53 54.2	+0.2
	SNR=20							
RBK					S	S	22 04 20.3	-1.8
CCB	**Clear Creek Bu**	85.49	24		IAMs_20	IAMs_20	22 26 39.4	
	comp=Z,65μm,22.0s							
KLU	**Klutina**	85.50	28		P	P	21 53 53.0	-0.5
	baz=256,SNR=87							
KLU					S	S	22 04 21.0	-0.3
	baz=256							
TCOL	**CIGO, UAF Yank**	85.53	24		P	P	21 53 52.2	-1.3
	baz=254,SNR=21							
TCOL					S	S	22 04 21.2	-0.1
	baz=254							
TCOL	**CIGO, UAF Yank**	85.53	24		IAMs_20	IAMs_20	22 27 11.4	
	comp=Z,57μm,22.0s							
COLA	**College**	85.53	24		P	P	21 53 52.1	-1.3
COLA					pmax	pmax		
	comp=Z,3μm,2.1s							
COLA					MLR	MLR		
	comp=Z,54μm,22.0s							
COLA	**College**	85.53	24		P	P	21 53 52.2	-1.3
	baz=254							
COLA					S	S	22 04 21.9	+0.6
	baz=254							
COLA	**College**	85.53	24		P	P	21 53 52.0	-1.3
COLA	**College**	85.53	24		IAMs_20	IAMs_20	22 27 00.4	
	comp=Z,54μm,22.0s							
M24K	**Tolsona, Glenn**	85.53	27		P	P	21 53 53.4	-0.3
	baz=256,SNR=115							
M24K					S	S	22 04 24.9	+3.3
	baz=256							
M24K	**Tolsona, Glenn**	85.53	27		IAMs_20	IAMs_20	22 27 13.7	
	comp=Z,88μm,22.0s							
DOK	**Doka**	85.57	289		P	P	21 53 57.0	+2.3
	SNR=22							
SVE	**Sverdlovsk**	85.65	327	*de*	P	P	21 53 52.9	-1.3
SVE				*e*			21 57 20.4	
SVE				*e*			21 59 06.4	
SVE				*e*	S	SKSac	22 04 11.5	-4.2
SVE				*e*	SS	SS	22 09 53.3	-6.5
SVE					pmax	pmax		
	comp=Z,2μm,2.8s							
SVE					MLR	MLR		
	comp=Z,50μm,24.0s							
SVE					MLR	MLR		
	comp=E,51μm,23.0s							
CRZF	**Crozet Islands**	85.76	224		P	P	21 53 55.7	+0.7
CRZF					IAmb	IAmb	21 54 05.5	
	comp=Z,1μm,1.8s							
POKR	**Poker Plat Res**	85.77	24		P	P	21 53 53.2	-1.5
	baz=254,SNR=23							
POKR					S	S	22 04 23.1	-0.6
	baz=254							
POKR	**Poker Plat Res**	85.77	24		IAmb	IAmb	21 54 03.5	
	comp=Z,776nm,1.6s							
POKR					IAMs_20	IAMs_20	22 27 17.8	
	comp=Z,76μm,22.0s							
HDA	**Harding Lake**	85.78	25		P	P	21 53 53.5	-1.2
	baz=255,SNR=135							
HDA					S	S	22 04 23.9	+0.1
	baz=255							
HDA					S	S	22 04 23.9	+0.1
	baz=255							
HDA	**Harding Lake**	85.78	25		IAMs_20	IAMs_20	22 27 21.2	
	comp=Z,56μm,22.0s							
H24K	**Noodor Dome**	85.79	23		P	P	21 53 54.0	-0.8
	baz=254,SNR=168							
WHFO	**Wadi Hawf**	85.86	288		P	P	21 53 57.7	+1.5
	SNR=16							
WHFO					S	S	22 04 22.9	-3.5
KAIM	**Kayak Island**	85.86	29		P	P	21 53 55.1	-0.1
	baz=257,SNR=18							
KAIM					S	S	22 04 28.0	+3.3
	baz=257							
KAIM	**Kayak Island**	85.86	29		IAmb	IAmb	21 54 05.7	
	comp=Z,660nm,1.0s							
KAIM					IAMs_20	IAMs_20	22 26 43.2	
	comp=Z,55μm,21.0s							
IL31		85.91	24		IAmb	IAmb	21 54 19.9	
	comp=Z,528nm,1.2s							
ILAR	**Eielson Array**	85.91	24		P	P	21 53 53.7	-1.7
	comp=Z,68nm,0.7s,baz=261,slow=4.6,SNR=215							
ILAR					S	SKSac	22 04 14.1	-2.8
	comp=Z,0.9nm,0.9s,baz=286,slow=4.2,SNR=1.0							
ILAR					PKKPbc	PKKPbc	22 11 57.9	-1.1
	comp=Z,2.5nm,1.0s,baz=20,slow=2.7,SNR=4.5							
ILAR					PKPPKP	P'P'df	22 20 03.9	+1.8
	comp=Z,4.1nm,1.2s,baz=356,slow=1.6,SNR=6.6							
ILAR					LR	LR	22 31 20.1	
	comp=Z,20μm,20.5s,baz=251,slow=35							
ILAR	**Eielson Array**	85.91	24		P	P	21 53 53.2	-2.2
TOLK	**Toolik Lake Re**	85.98	20		P	P	21 53 56.0	+0.3
	baz=252,SNR=424							
TOLK					S	S	22 04 28.6	+2.8
	baz=252							
BMRM	**Bremner River**	86.00	28		P	P	21 53 55.2	-0.8
	baz=257,SNR=89							
BMRM					S	S	22 04 28.7	+2.5
	baz=257							
BMRM	**Bremner River**	86.00	28		IAmb	IAmb	21 54 07.1	
	comp=Z,600nm,1.1s							
AKTO	**Aktyubinsk**	86.04	321		PKPPKP		22 20 06.3	
	comp=Z,3.1nm,0.9s,baz=309,slow=4.2,SNR=5.7							
PAX	**Paxson**	86.06	26		P	P	21 53 55.4	-0.9
	baz=256,SNR=25							
PAX	**Paxson**	86.06	26		IAmb	IAmb	21 54 06.3	
	comp=Z,1μm,1.6s							
HARP	**HAARP**	86.07	27		P	P	21 53 55.8	-0.4
	baz=257,SNR=22							
HARP					S	S	22 04 26.0	-0.7
	baz=257							
N25K	**Chitina, Valde**	86.14	28		P	P	21 53 56.5	-0.2
	baz=257,SNR=58							
N25K					S	S	22 04 28.6	+1.0
	baz=257							
SUCK	**Suckling Hills**	86.20	29		IAmb	IAmb	21 54 27.6	
	comp=Z,664nm,1.3s							
ABTO	**Aybut**	86.27	287		P	P	21 53 58.6	+0.4
	SNR=24							
ABTO					S	S	22 04 26.8	-3.6
GLB	**Gilahina Butte**	86.48	28		P	P	21 53 57.8	-0.5
GLB					IAMs_20	IAMs_20	22 28 20.7	
	comp=Z,76μm,22.0s							
RIDG	**Independent Ri**	86.52	26		P	P	21 53 57.4	-1.0
	baz=257,SNR=162							
RIDG					S	S	22 04 31.2	+0.1
	baz=257							
VRDI	**Verde Repeater**	86.60	28		IAMs_20	IAMs_20	22 28 05.0	
	comp=Z,47μm,22.0s							
PRP	**Porcupine Dome**	86.65	24		P	P	21 53 56.8	-2.3
	baz=256,SNR=30							
PRP					S	S	22 04 29.6	-2.9
	baz=256							
PRP	**Porcupine Dome**	86.65	24		IAMs_20	IAMs_20	22 27 00.6	
	comp=Z,74μm,22.0s							
CRQM	**Cirque**	86.66	29		IAmb	IAmb	21 54 11.8	
	comp=Z,1μm,1.4s							
CRQE	**Cirque**	86.68	29		P	P	21 53 58.7	-0.7
	baz=259,SNR=84							
CRQE					S	S	22 04 34.2	+1.3
	baz=259							
ARU	**Arti**	86.71	327		PKKPbc	PKKPbc	22 11 55.4	-1.3
	comp=Z,1.2nm,0.7s,baz=138,slow=24,SNR=1.7							
ARU	**Arti**	86.71	327	*c i*	P	P	21 53 57.5	-2.0
ARU					*PP	sP	21 54 19.7	+0.7
ARU					S	SKSac	22 04 19.2	-3.0
ARU					SS	SS	22 10 18.8	+3.5
ARU					pmax	pmax		
	comp=Z,186nm,1.1s							
ARU					pmax	pmax		
	comp=Z,8μm,7.8s							
ARU					MLR	MLR		
	comp=Z,53μm,22.0s							
ARU	**Arti**	86.71	327		P	P	21 53 57.5	-2.0
ARU					IAMs_20	IAMs_20	22 34 03.8	
	comp=Z,40μm,20.0s							
WAX	**Waxell Ridge**	86.73	29		IAmb	IAmb	21 54 30.2	
	comp=Z,825nm,1.3s							
WAX					IAMs_20	IAMs_20	22 30 04.3	
	comp=Z,45μm,22.0s							
MCARA	**McCarthy VSAT**	86.83	28		P	P	21 53 59.9	0.0
	baz=259							
MCARA					S	S	22 04 32.7	-1.4
	baz=259							
MCARA	**McCarthy VSAT**	86.83	28		P	P	21 53 60.0	0.0
MCARA					IAMs_20	IAMs_20	22 28 46.2	
	comp=Z,48μm,21.0s							
MENT	**Mentasta**	86.83	27		IAmb	IAmb	21 54 10.3	
	comp=Z,976nm,1.5s							
SCRK	**Sand Creek**	86.94	26		P	P	21 53 59.9	-0.7
	baz=258,SNR=97							
SCRK					S	S	22 04 35.5	+0.1
	baz=258							
SCRK	**Sand Creek**	86.94	26		IAMs_20	IAMs_20	22 28 55.7	
	comp=Z,80μm,22.0s							
FYU	**Fort Yukon**	87.02	23		IAMs_20	IAMs_20	22 27 57.2	
	comp=Z,69μm,22.0s							
L26K	**Log Cabin Wild**	87.02	27		P	P	21 54 00.4	-0.5
	baz=258,SNR=76							
L26K					S	S	22 04 37.3	+1.4
	baz=258							
M26K	**Nabesna, AK**	87.05	27		P	P	21 54 01.0	-0.1
	baz=259,SNR=46							
M26K					S	S	22 04 36.0	-0.3
	baz=259							
MESA	**MESA**	87.12	29		P	P	21 54 01.3	-0.3
	baz=260,SNR=19							
MESA					S	S	22 04 38.6	+1.2
	baz=260							
MESA	**MESA**	87.12	29		IAmb	IAmb	21 54 26.6	
	comp=Z,362nm,1.0s							
MESA					IAMs_20	IAMs_20	22 29 43.9	
	comp=Z,52μm,21.0s							
GHWR	**Ruwais**	87.13	294		P	P	21 54 02.1	-0.1
GHWR					S	SKSac	22 04 26.2	0.0
JRN	**Qarnain Island**	87.23	295		P	P	21 54 02.5	-0.1
	SNR=17							
JRN					S	SKSac	22 04 25.4	-1.3
QSPA	**South Pole Qui**	87.23	180		S	SKSac	22 04 24.8	-0.6
	comp=Z,7.4nm,1.1s,baz=222,slow=6.6,SNR=1.4							
QSPA	**South Pole Qui**	87.23	180		P	P	21 54 01.8	-0.2
QSPA					IAmb	IAmb	21 54 26.8	
	comp=Z,1μm,1.3s							
YAH	**Yahtse**	87.26	29		IAMs_20	IAMs_20	22 30 10.0	
	comp=Z,53μm,22.0s							
BARN	**Barnard Glacie**	87.42	29		IAmb	IAmb	21 54 33.8	
	comp=Z,994nm,1.3s							
BMAR	**Burnt Mountain**	87.47	22		P	P	21 54 03.2	+0.2
M27K	**Edge Creek, AK**	87.55	27		P	P	21 54 03.9	+0.2
	baz=260,SNR=181							
M27K					S	S	22 04 43.6	+2.2
	baz=260							
CTG	**Chitna Glacier**	87.56	29		P	P	21 54 03.9	+0.2
	baz=260,SNR=160							
CTG					S	S	22 04 42.2	+0.7
	baz=260							
TABL	**Table Mountain**	87.56	29		IAmb	IAmb	21 54 34.2	
	comp=Z,912nm,1.2s							
TABL					IAMs_20	IAMs_20	22 30 30.3	
	comp=Z,50μm,22.0s							
LOGN	**Logan Glacier**	87.70	29		P	P	21 54 04.8	+0.5
L27K	**Beaver Creek,**	87.71	27		P	P	21 54 03.9	-0.3
	baz=260,SNR=292							
L27K					S	S	22 04 41.4	-1.2
	baz=260							
L27K	**Beaver Creek,**	87.71

EGAK	**Eagle**	**88.30**	**25**	P	**P**	**21 54 06.5**	**-0.4**
	baz=260,SNR=277						
EGAK				S	**S**	**22 04 48.6**	**+0.5**
	baz=260						
EGAK	**Eagle**	**88.30**	**25**	IAmb	IAmb	21 54 37.2	
	comp=Z,715nm,1.2s						
EGAK				IAMs_20	IAMs_20	22 28 36.5	
	comp=Z,79μm,22.0s						
KHOR	**Al-Khor Airpor**	**88.48**	**296**	P	**P**	**21 54 08.7**	**0.0**
KHOR				S	**SKSac**	**22 04 37.8**	**+3.5**
TRNA	**Turayna**	**88.70**	**295**	P	**P**	**21 54 09.4**	**-0.3**
TRNA				S	**SKSac**	**22 04 34.4**	**-1.2**
DAWY	**Dawson**	**88.95**	**26**	P	**P**	**21 54 09.9**	**-0.2**
DAWY				IAmb	IAmb	21 54 16.6	
	comp=Z,745nm,1.1s						
DAWY				IAMs_20	IAMs_20	22 28 24.6	
	comp=Z,73μm,22.0s						
SHMA	**Al-Shehemyia**	**88.99**	**296**	P	**P**	**21 54 09.6**	**-1.4**
SHMA				S	**SKSac**	**22 04 34.0**	**-3.3**
SAKB	**Bahrain**	**89.38**	**296**	P	**P**	**21 54 12.2**	**-0.7**
SAKB				S	**SKSac**	**22 04 38.3**	**-1.3**
SIT	**Sitka**	**90.15**	**33**	P	**P**	**21 54 16.9**	**+1.2**
	baz=265						
SIT				S	SKSac	22 04 57.2	+15
	baz=265						
SIT	**Sitka**	**90.15**	**33**	IAMs_20	IAMs_20	22 27 28.8	
	comp=Z,52μm,22.0s						
SKAG	**Skagway**	**90.34**	**31**	P	**P**	**21 54 15.2**	**-1.4**
	baz=265,SNR=32						
SKAG				S	SKSac	22 04 58.1	+14
	baz=265						
SKAG	**Skagway**	**90.34**	**31**	IAMs_20	IAMs_20	22 26 22.8	
	comp=Z,46μm,22.0s						
EPYK	**Eagle Plains**	**90.35**	**24**	P	**P**	**21 54 16.1**	**-0.5**
	baz=264						
EPYK				S	**S**	**22 05 05.6**	**-1.7**
	baz=264						
EPYK	**Eagle Plains**	**90.35**	**24**	IAmb	IAmb	21 54 26.3	
	comp=Z,550nm,1.6s						
EPYK				IAMs_20	IAMs_20	22 30 31.4	
	comp=Z,41μm,21.0s						
ABPO	**Ambohimpanom**	**90.37**	**251**	P	**P**	**21 54 17.5**	**-0.4**
ABPO				pmax	pmax		
	comp=Z,465nm,1.4s						
ABPO	**Ambohimpanom**	**90.37**	**251**	P	**P**	**21 54 17.5**	**-0.4**
ABPO				IAmb	IAmb	21 54 27.0	
	comp=Z,464nm,1.4s						
ABPO	**Ambohimpanom**	**90.37**	**251**	*i* P	**P**	**21 54 18.3**	**+0.4**
OPO	**Ambohidratompo**	**90.43**	**252**	P	**P**	**21 54 18.5**	**+0.4**
	comp=Z,215nm,0.9s,baz=93,slow=6.1						
BESE	**Bessie Mountai**	**90.52**	**32**	IAmb	IAmb	21 54 27.8	
	comp=Z,1μm,1.8s						
BESE				IAMs_20	IAMs_20	22 32 51.5	
	comp=Z,38μm,21.0s						
VOI	**Vohitsoka**	**90.62**	**248**	IAmb	IAmb	21 54 27.7	
	comp=Z,816nm,1.7s						
VOI	**Vohitsoka**	**90.62**	**248**	P	**P**	**21 54 18.9**	**0.0**
	SNR=20						
WHY	**Whitehorse**	**90.66**	**29**	P	**P**	**21 54 18.1**	**-0.1**
	baz=266,SNR=72						
SYO	**Syowa Base**	**90.69**	**201**	⇑*i* P	**P**	**21 54 18.6**	**+0.5**
SYO	**Syowa Base**	**90.69**	**201**	⇓*i* PcP	**PcP**	**21 54 20.4**	**+1.3**
SYO	**Syowa Base**	**90.69**	**201**	⇓*i* pP	pP	21 54 31.2	-1.1
JIS	**Juneau Island**	**90.74**	**32**	IAmb	IAmb	21 54 28.9	
	comp=Z,534nm,1.7s						
JIS				IAMs_20	IAMs_20	22 31 48.4	
	comp=Z,41μm,21.0s						
CRAG	**Craig**	**91.27**	**35**	P	**P**	**21 54 20.6**	**-0.4**
	baz=267						
CRAG				S	SKSac	22 05 05.4	+16
	baz=267						
LKRN	**Lenkeran, Azer**	**91.49**	**308**	P	**P**	**21 54 22.2**	**-0.2**
DIB	**Dawson Inlet,**	**91.54**	**37**	IAmb	IAmb	21 54 28.0	
	comp=Z,308nm,1.1s						
DIB				IAMs_20	IAMs_20	22 26 13.1	
	comp=Z,74μm,22.0s						
H02S1	**DAWSON INLET T**	**91.54**	**37**	P	**P**	**21 54 20.5**	**-1.8**
	SNR=35						
INK	**Inuvik**	**91.73**	**22**	P	**P**	**21 54 22.2**	**-0.7**
	comp=Z,115nm,1.1s,baz=268,slow=6.1,SNR=58						
INK				S	**SKSac**	**22 04 56.3**	**+4.9**
	comp=Z,1.8nm,0.5s,baz=99,slow=4.5,SNR=4.7						
INK				PKKPbc	**PKKPdf**	**22 11 42.9**	**+1.5**
	comp=Z,4.4nm,0.9s,baz=340,slow=4.7,SNR=3.7						
INK	**Inuvik**	**91.73**	**22**	P	**P**	**21 54 21.1**	**-1.7**
INK				pmax	pmax		
	comp=Z,220nm,1.3s						
INK				MLR	MLR		
	comp=Z,34μm,21.0s						
INK	**Inuvik**	**91.73**	**22**	P	**P**	**21 54 22.2**	**-0.7**
	baz=267						
INK				S	**S**	**22 05 16.4**	**-3.2**
	baz=267						
INK	**Inuvik**	**91.73**	**22**	P	**P**	**21 54 21.1**	**-1.7**
INK				IAMs_20	IAMs_20	22 33 52.0	
	comp=Z,34μm,21.0s						
WRAK	**Wrangell Islan**	**91.75**	**34**	P	**P**	**21 54 22.8**	**-0.4**
	baz=268						
WRAK				S	**S**	**22 05 19.5**	**-0.7**
	baz=268						
WRAK	**Wrangell Islan**	**91.75**	**34**	IAmb	IAmb	21 54 50.5	
	comp=Z,300nm,1.3s						
WRAK	**Wrangell Islan**	**91.75**	**34**	IAMs_20	IAMs_20	22 26 37.1	
	comp=Z,83μm,22.0s						
QRN	**Al-Qurain**	**91.84**	**299**	*e*P	**P**	**21 54 23.5**	**-0.7**
KIRV	**Kirov**	**91.84**	**328**	PP	PP	21 58 02.0	-0.9
	comp=Z,123nm,1.2s,baz=72,slow=22,SNR=2.1						
MOBC	**Moresby Island**	**91.84**	**37**	IAmb	IAmb	21 54 34.8	
	comp=Z,383nm,1.6s						
MOBC				IAMs_20	IAMs_20	22 26 22.2	
	comp=Z,79μm,22.0s						
UMR	**Umm Al-Rimmam**	**92.04**	**299**	*e*P	**P**	**21 54 25.9**	**+0.8**
RDF	**Al-Radifah**	**92.17**	**299**	*e*P	**P**	**21 54 24.6**	**-1.2**
MIB	**Mutribah**	**92.38**	**300**	*e*P	**P**	**21 54 25.3**	**-1.4**
AKT	**Akhty**	**92.39**	**311**	*e*P	**P**	**21 54 25.1**	**-1.6**
AKT				*e*		21 58 05.8	
AKT				pmax	pmax		
	comp=Z,227nm,1.3s						
MAK	**Makhachkala**	**92.59**	**313**	*e*P	**P**	**21 54 25.6**	**-1.8**
MAK				*e**PP	**pP**	**21 54 38.4**	**-3.3**
MAK				*e**SP	**sP**	**21 54 43.9**	**-3.1**
MAK				*e*		22 04 57.4	
MAK				pmax	pmax		
	comp=Z,2μm,2.2s						
MAK				pmax	pmax		
	comp=Z,541nm,1.8s						
RST	**Umm Al-Ruwaisa**	**92.67**	**299**	*e*P	**P**	**21 54 26.6**	**-1.5**
BELG	**Belogornoye**	**92.69**	**322**	P	**P**	**21 54 26.3**	**-1.3**
	comp=Z,247nm,0.9s,baz=107,slow=1.7,SNR=2.4						
BELG				PKKPbc	**PKKPdf**	**22 11 39.6**	**+0.3**
	comp=Z,20nm,1.0s,baz=198,slow=20,SNR=3.7						
BELG	**Belogornoye**	**92.69**	**322**	*c i* P	**P**	**21 54 25.2**	**-2.4**
BELG				pmax	pmax		
	comp=Z,216nm,1.8s						
SEKA	**Sheki**	**92.78**	**311**	P	**P**	**21 54 26.7**	**-1.8**
MNGR	**Mingechevir, A**	**92.86**	**311**	P	**P**	**21 54 27.5**	**-1.2**
DLBC	**Dease Lake**	**93.04**	**32**	P	**P**	**21 54 28.9**	**-0.4**
	comp=Z,65nm,1.3s,baz=286,slow=3.9,SNR=21						
DLBC				S	**SKSac**	**22 05 06.0**	**+6.7**
	comp=Z,2.9nm,0.3s,baz=146,slow=22,SNR=2.5						
DLBC	**Dease Lake**	**93.04**	**32**	IAmb	IAmb	21 54 40.6	
	comp=Z,475nm,1.8s						
DLBC				IAMs_20	IAMs_20	22 32 59.4	
	comp=Z,60μm,21.0s						
ZKTA	**Zakatala**	**93.22**	**311**	P	**P**	**21 54 29.0**	**-1.4**
GANJ	**Ganja**	**93.44**	**310**	P	**P**	**21 54 29.9**	**-1.5**
LGD	**Lagodekhi**	**93.51**	**312**	P	**P**	**21 54 31.6**	**-0.1**
DDFL	**Dedoflistskaro**	**93.60**	**311**	P	**P**	**21 54 33.4**	**+1.2**
PRGR	**Permogore**	**93.76**	**331**	*e*P	**P**	**21 54 30.4**	**-1.9**
PRGR				*e**SP	**sP**	**21 54 50.0**	**-1.9**
PRGR				*e*		21 58 15.7	
PRGR				pmax	pmax		
	comp=Z,38nm,0.8s						
GROC	**Groznyy**	**93.85**	**313**	*e*P	**P**	**21 54 31.7**	**-1.5**
GROC				*e*		21 58 22.8	
GROC				*e*S	**SKSac**	**22 05 06.1**	**+1.9**
GROC				*e*SS	**SS**	**22 12 05.1**	**+5.9**
GROC				pmax	pmax		
	comp=Z,95nm,1.4s						
NAX	**Nakhchivan**	**94.06**	**309**	P	**P**	**21 54 33.8**	**-0.6**
BBB	**Bella Bella**	**94.18**	**38**	P	**P**	**21 54 34.8**	**+0.3**
	comp=Z,89nm,1.1s,baz=288,slow=6.7,SNR=8.2						
BBB	**Bella Bella**	**94.18**	**38**	IAMs_20	IAMs_20	22 27 42.1	
	comp=Z,69μm,22.0s						
GNI	**Garni**	**94.64**	**310**	P	**P**	**21 54 37.0**	**-0.2**
	comp=Z,32nm,1.1s,baz=256,slow=4.0,SNR=9.9						
GNI	**Garni**	**94.64**	**310**	P	**P**	**21 54 36.2**	**-1.0**
GNI	**Garni**	**94.64**	**310**	*e*P	**P**	**21 54 36.6**	**-0.6**
GNI	**Garni**	**94.64**	**310**	P	**P**	**21 54 36.7**	**-0.4**
GNI				pmax	pmax		
	comp=Z,381nm,1.4s						
GNI				MLR	MLR		
	comp=Z,9μm,21.0s						
GNI	**Garni**	**94.64**	**310**	P	**P**	**21 54 36.7**	**-0.4**
GNI				IAmb	IAmb	21 55 03.8	
	comp=Z,381nm,1.4s						
GNI	**Garni**	**94.64**	**310**	P	**P**	**21 54 36.4**	**-0.8**
GNI				S	**SKSac**	**22 05 04.4**	**-4.7**
KZRT	**Kazreti**	**94.89**	**311**	P	**P**	**21 54 37.3**	**-0.8**
TASB	**TASBURUN-IGDIR**	**95.03**	**310**	*e*P	**P**	**21 54 37.3**	**-1.5**
C36M	**Paulatuk**	**95.14**	**21**	P	**P**	**21 54 36.7**	**-1.8**
	baz=276,SNR=43						
C36M				S	**S**	**22 05 44.5**	**-5.0**
	baz=276						
C36M	**Paulatuk**	**95.14**	**21**	IAmb	IAmb	21 54 43.0	
	comp=Z,250nm,1.1s						
C36M				IAMs_20	IAMs_20	22 33 31.8	
	comp=Z,55μm,21.0s						
ZEI	**Tsey**	**95.24**	**313**	*e*P	**P**	**21 54 37.2**	**-2.7**
ZEI				pmax	pmax		
	comp=Z,99nm,1.2s						
CLDR	**Caldiran**	**95.29**	**309**	*e*P	**P**	**21 54 39.2**	**-1.0**
NCK	**Nalchik**	**95.45**	**313**	*i* P	**P**	**21 54 39.3**	**-1.3**
NCK				pmax	pmax		
	comp=Z,357nm,2.0s						
CUKT	**Cukurca**	**95.56**	**307**	*e*P	**P**	**21 54 40.6**	**-0.8**
AKH	**Akhalkalaki**	**95.57**	**311**	⇓P	**P**	**21 54 40.7**	**-0.7**
AKH	**Akhalkalaki**	**95.57**	**311**	*e*P	**P**	**21 54 40.7**	**-0.7**
AKH	**Akhalkalaki**	**95.57**	**311**	P	**P**	**21 54 40.7**	**-0.7**
ONI	**Oni**	**95.58**	**312**	P	**P**	**21 54 40.5**	**-0.7**
ONI	**Oni**	**95.58**	**312**	IAmb	IAmb	21 54 49.2	
	comp=Z,366nm,1.6s						
VANB	**Van**	**95.71**	**308**	*e*P	**P**	**21 54 41.9**	**-0.1**
GOF	**Gofitskoye**	**95.80**	**315**	⇑*e*P	**P**	**21 54 41.2**	**-0.9**
GOF				pmax	pmax		
	comp=Z,254nm,1.5s						
KARS	**Kars**	**95.91**	**310**	*e*P	**P**	**21 54 42.5**	**-0.4**
KARS	**Kars**	**95.91**	**310**	IAMs_20	IAMs_20	22 41 16.9	
	comp=Z,46μm,22.0s						
KBZ	**Khabaz**	**95.95**	**314**	P	**P**	**21 54 42.0**	**-0.7**
	comp=Z,10.0nm,0.8s,baz=134,slow=2.5,SNR=19						
KBZ				PP	**PP**	**21 58 35.4**	**-0.1**
	comp=Z,17nm,1.1s,baz=185,slow=9.3,SNR=1.7						
KBZ				PKKP	**PKKPbc**	**22 11 32.1**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=309,slow=5.4,SNR=2.7						
KBZ	**Khabaz**	**95.95**	**314**	*ce*P	**P**	**21 54 40.1**	**-2.7**
KBZ				pmax	pmax		
	comp=Z,183nm,2.0s						
KBZ				MLR	MLR		
	comp=Z,27μm,23.0s						
GEVA	**Gevas**	**95.98**	**308**	IAmb	IAmb	21 55 10.5	
	comp=Z,281nm,1.2s						
AGRB	**Hanur-Agry**	**96.00**	**309**	*e*P	**P**	**21 54 43.6**	**+0.2**
AKDM	**Akdamar-Van**	**96.04**	**308**	*e*P	**P**	**21 54 43.7**	**+0.1**
NEY	**Neytrino**	**96.09**	**313**	*i* P	**P**	**21 54 42.7**	**-1.0**
NEY				pmax	pmax		
	comp=Z,61nm,1.8s						
KIV	**Kislovodsk**	**96.09**	**314**	⇑P	**P**	**21 54 42.0**	**-1.6**
KIV	**Kislovodsk**	**96.09**	**314**	*i* P	**P**	**21 54 42.4**	**-1.2**
	SNR=9.5						
KIV	**Kislovodsk**	**96.09**	**314**	*e*P	**P**	**21 54 40.9**	**-2.7**
KIV				*e*		21 58 34.6	
KIV				*e*		22 05 12.9	
KIV				*e*SS	SS	22 12 29.8	-1.5
KIV				*e*SSS	SSS	22 16 21.3	
KIV				pmax	pmax		
	comp=Z,128nm,3.8s						
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
KIV	**Kislovodsk**	**96.09**	**314**	P	**P**	**21 54 40.2**	**-3.3**
KIV				IAmb	IAmb	21 54 50.7	
	comp=Z,954nm,2.6s						
KIV	**Kislovodsk**	**96.09**	**314**	P	**P**	**21 54 42.2**	**-1.4**
KIV				S	**SKSac**	**22 05 18.7**	**+2.3**
ATD	**Arta Tunnel**	**96.11**	**281**	P	**P**	**21 54 45.2**	**+0.9**
	comp=Z,12nm,0.9s,baz=62,slow=8.5,SNR=3.0						
ATD				PP	**PP**	**21 58 38.0**	**+0.2**
	comp=Z,18nm,1.1s,baz=94,slow=5.3,SNR=2.4						
ATD	**Arta Tunnel**	**96.11**	**281**	P	**P**	**21 54 44.4**	**0.0**
	SNR=6.6						
ATD	**Arta Tunnel**	**96.11**	**281**	*i* P	**P**	**21 54 44.3**	**0.0**
SHA1	**Shidzhatmaz**	**96.12**	**314**	*i* P	**P**	**21 54 41.4**	**-2.5**
MLAZ	**Malazgirt-MUS**	**96.35**	**309**	*e*P	**P**	**21 54 45.4**	**+0.4**
VRH	**Novokhopyorsk**	**96.38**	**321**	*e*P	**P**	**21 54 43.1**	**-1.5**
VRH				*e*		21 58 34.7	
VRH				*e*S	**S**	**22 05 53.3**	**-7.8**
VRH				*e*SS	**SS**	**22 12 27.1**	**-7.6**
VRH				pmax	pmax		
	comp=Z,310nm,1.4s						
VRH				smax	smax		
	comp=E,7μm,15.4s						
SENK	**Senkaya-Erzuru**	**96.46**	**310**	*e*P	**P**	**21 54 45.5**	**0.0**
SIRT	**Sirnak**	**96.49**	**307**	*e*P	**P**	**21 54 50.3**	**+4.8**
CHVG	**Ch'k'valeri**	**96.58**	**313**	⇑P	**P**	**21 54 44.7**	**-1.0**
KLMR	**Klimovskoe**	**96.76**	**331**	*e*P	**P**	**21 54 42.7**	**-3.3**
KLMR				*e*		21 58 37.0	
KLMR				*e*S	**SKSac**	**22 05 14.8**	**-4.1**
KLMR				*e*SS	**SS**	**22 12 36.3**	**-3.2**
KLMR				pmax	pmax		
	comp=Z,220nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,69μm,22.0s						
KLMR	**Klimovskoe**	**96.76**	**331**	*e*P	**P**	**21 54 42.8**	**-3.3**
KLMR				AMP		21 54 49.3	
	comp=Z,220nm,1.6s						
KLMR				*e*PP	**PP**	**21 58 37.1**	**-4.1**
KLMR				*e*S	**SKSac**	**22 05 14.8**	**-4.1**
KLMR				*e*S	**SKSac**	**22 05 14.8**	**-4.1**
KLMR				*e*SS	**SS**	**22 12 36.3**	**-3.2**
KLMR				*e*SS	**SS**	**22 12 36.3**	**-3.2**
KLMR				LQ	LQ	22 28 03.5	
KLMR				LQ	LQ	22 28 03.5	
KLMR				LR	LR	22 32 39.7	
KLMR				AMP		22 37 18.0	
	comp=Z,69μm,22.4s						
GURO	**Guroymak-BITLI**	**96.78**	**308**	*e*P	**P**	**21 54 47.2**	**+0.3**
GURO	**Guroymak-BITLI**	**96.78**	**308**	IAmb	IAmb	21 54 55.0	
	comp=Z,439nm,1.8s						
KOPR	**Koprukoy-ERZUR**	**96.86**	**310**	*e*P	**P**	**21 54 46.8**	**-0.5**
BCA	**Borcka**	**96.98**	**311**	⇓P	**P**	**21 54 46.0**	**-1.6**
BCA	**Borcka**	**96.98**	**311**	*e*P	**P**	**21 54 46.5**	**-1.1**
NLWA	**Neilton Lookou**	**97.13**	**43**	IAMs_20	IAMs_20	22 29 24.4	
	comp=Z,50μm,22.0s						
VRTB	**Varto-Mus**	**97.20**	**309**	*e*P	Pdif	21 54 50.9	+2.0
J01E	**Myrtle Point**	**97.34**	**47**	P	**P**	**21 54 49.1**	**0.0**
	baz=273						
J01E				S	**S**	**22 06 04.2**	**-5.5**
	baz=273						
I02D	**Swisshome**	**97.35**	**46**	P	Pdif	21 54 49.4	+0.2
	baz=273						
I02D				S	**S**	**22 06 02.8**	**-6.9**
	baz=273						
E03A	**Lebam**	**97.39**	**44**	P	Pdif	21 54 49.4	0.0
E03A				IAmb	IAmb	21 55 16.8	
	comp=Z,302nm,1.1s						
SVAN	**Silvan-Diyarba**	**97.45**	**308**	*e*P	**P**	**21 54 49.7**	**-0.1**
KARO	**Karliova-Bingo**	**97.51**	**309**	*e*P	**P**	**21 54 50.3**	**0.0**
K02D	**Willamette Mer**	**97.56**	**47**	P	**P**	**21 54 49.8**	**-0.5**
	baz=273,SNR=5.8						
K02D				S	**S**	**22 06 06.0**	**-5.9**
	baz=273						
KHMM	**Horse Mountain**	**97.61**	**49**	IAmb	IAmb	21 55 02.9	
	comp=Z,250nm,1.4s						
L02E	**Cave Junction**	**97.64**	**48**	P	**P**	**21 54 50.5**	**-0.1**
	baz=273						
L02E				S	**S**	**22 06 06.3**	**-6.1**
	baz=273						
CHOM	**Cayeli-Rize**	**97.64**	**311**	*e*P	**P**	**21 54 49.4**	**-1.2**
D03D	**Eldon**	**97.65**	**43**	P	**P**	**21 54 49.5**	**-0.9**
	baz=274,SNR=33						
D03D				S	**S**	**22 06 06.3**	**-5.8**
	baz=274						
G03D	**McMinnville, O**	**97.69**	**45**	P	**P**	**21 54 50.7**	**0.0**
	baz=274						
G03D				S	**S**	**22 06 06.5**	**-6.1**
	baz=274						
COR	**Corvallis**	**97.71**	**46**	P	Pdif	21 54 51.7	+0.9
COR				pmax	pmax		
	comp=Z,952nm,2.1s						
COR				MLR	MLR		
	comp=Z,46μm,21.0s						
COR	**Corvallis**	**97.71**	**46**	P	Pdif	21 54 51.7	+0.9
COR	**Corvallis**	**97.71**	**46**	IAMs_20	IAMs_20	22 31 14.0	
	comp=Z,46μm,21.0s						
LVZ	**Lovozero**	**97.72**	**338**	*ce*P	**P**	**21 54 47.9**	**-2.4**
LVZ				pmax	pmax		
	comp=Z,298nm,1.7s						
LVZ				MLR	MLR		
	comp=Z,79μm,22.0s						
LVZ	**Lovozero**	**97.72**	**338**	P	**P**	**21 54 48.7**	**-1.6**
LVZ				IAmb	IAmb	21 54 57.2	
	comp=Z,399nm,1.6s						
LVZ				IAMs_20	IAMs_20	22 40 34.4	
	comp=Z,70μm,22.0s						
I03D	**Drain, OR**	**97.73**	**46**	P	**P**	**21 54 50.8**	**-0.1**
	baz=274						
I03D				S	**S**	**22 06 06.7**	**-6.3**
	baz=274						
A04D	**Lummi Island**	**97.81**	**41**	P	**P**	**21 54 50.7**	**-0.4**
	baz=275						
A04D				S	**S**	**22 06 05.5**	**-7.9**
	baz=275						
F04D	**Rainier, OR**	**97.81**	**44**	P	**P**	**21 54 51.1**	**-0.1**
	baz=274						
F04D				S	**S**	**22 06 06.3**	**-7.3**
	baz=274						
BNGB	**Bingl**	**97.81**	**309**	*e*P	**P**	**21 54 50.6**	**-0.9**
D04E	**Lakebay**	**97.89**	**43**	P	**P**	**21 54 50.9**	**-0.6**
	baz=275						
YEDI	**Yedisu-Bingol**	**97.90**	**309**	*e*P	**P**	**21 54 50.6**	**-1.4**
KOPT	**Kop Dagi**	**97.90**	**310**	IAmb	IAmb	21 55 26.6	
	comp=Z,232nm,1.1s						
VORD	**Divnogorie**	**97.93**	**321**	*e*P	**P**	**21 54 50.1**	**-1.6**
VORD				*e*		21 58 49.9	
VORD				pmax	pmax		
	comp=Z,280nm,1.6s						
BUCK	**Buck Mountain**	**97.96**	**46**	IAmb	IAmb	21 55 02.6	
	comp=Z,473nm,1.8s						
LPSR	**Galich'ya Gora**	**97.99**	**323**	*e*P	**P**	**21 54 50.5**	**-1.3**
LPSR				pmax	pmax		
	comp=Z,240nm,1.6s						
LPSR				MLR	MLR		
	comp=Z,32μm,21.0s						
HOPEN	**Hopen**	**98.01**	**347**	*e*P	**P**	**21 54 49.8**	**-1.7**
HOPEN				IVmB_BB		21 54 58.4	
	comp=Z,4μm,3.0s						
HOPEN				*e*PP	**PP**	**21 58 49.9**	**-0.6**
HOPEN				*e*SKSac	**SKSac**	**22 05 22.8**	**-2.0**
HOPEN				*e*SS	**SS**	**22 12 57.4**	**+1.0**
HOPEN				IVMs_BB	IVMs_BB	22 37 44.7	
	comp=Z,14μm,23.7s						
MAZI	**Mazidag**	**98.07**	**307**	*e*P	**P**	**21 54 51.9**	**-0.8**
E04D	**Cinebar**	**98.08**	**44**	P	**P**	**21 54 52.1**	**-0.3**
	baz=275,SNR=19						
E04D				S	S	22 06 06.0	-10
	baz=275						
HUMO	**Hull Mountain**	**98.09**	**48**	IAMs_20	IAMs_20	22 32 38.3	
	comp=Z,49μm,20.0s						
H04D	**Lebanon**	**98.12**	**46**	P	**P**	**21 54 52.6**	**0.0**
	baz=274,SNR=5.7						
H04D				S	**S**	**22 06 07.7**	**-8.6**
	baz=274						
LLLB	**Lilloet**	**98.17**	**39**	P	**P**	**21 54 52.5**	**-0.3**
HOPS	**Hopland Field**	**98.22**	**51**	IAMs_20	IAMs_20	22 40 09.2	
	comp=Z,35μm,20.0s						
M02C	**Callahan**	**98.25**	**49**	Pdiff	Pdif	21 54 53.7	+0.3
	baz=274						
M02C				S	**S**	**22 06 11.2**	**-6.5**
	baz=274						
APA	**Apatity**	**98.25**	**338**	⇑*i* P	P	21 54 46.2	-6.5
APA				*i* *PP	pP	21 55 01.5	-5.4
APA				*i*		22 05 26.0	
APA				*i* SS	SS	22 12 55.0	-5.1
APA				pmax	pmax		
	comp=Z,87nm,1.2s						
B05A	**Bryant**	**98.25**	**42**	Pdiff	**P**	**21 54 52.8**	**-0.3**
	baz=275						
B05A				S	**S**	**22 06 09.0**	**-8.2**
	baz=275						
SOC	**Sochi**	**98.26**	**313**	*c i* P	**P**	**21 54 50.3**	**-3.0**
SOC				*e*		21 58 48.0	
SOC				*e*PPP	PPP	22 00 57.8	
SOC				*e*S	**SKSac**	**22 05 23.7**	**-3.7**
SOC				pmax	pmax		
	comp=Z,34nm,0.9s						
SOC				MLR	MLR		
	comp=Z,25μm,22.0s						
YBH	**Yreka Blue Hor**	**98.33**	**48**	P	Pdif	21 54 54.3	+0.5
	comp=Z,9.6nm,0.8s,baz=253,slow=2.3,SNR=16						
O02D	**Mt. Diablo Mer**	**98.37**	**50**	Pdiff	Pdif	21 54 54.2	+0.2
	baz=274						
O02D				S	**S**	**22 06 12.6**	**-6.3**
	baz=274						
MOS	**Moscow**	**98.38**	**326**	*e*P	**P**	**21 54 52.0**	**-1.5**
MOS				*e*		21 58 49.4	
MOS				*e*S	**SKSac**	**22 05 26.6**	**-0.8**
MOS				*e*PS	PS	22 07 42.5	-6.1
MOS				*e*SS	**SS**	**22 13 00.7**	**-1.9**
MOS				*e*SSS	SSS	22 16 51.6	
MOS				pmax	pmax		
	comp=N,138nm,1.5s						
MOS				pmax	pmax		
	comp=Z,575nm,2.2s						
N02D	**Trinity Center**	**98.38**	**49**	Pdiff	**P**	**21 54 54.0**	**0.0**
	baz=274						
N02D				S	**S**	**22 06 11.1**	**-7.8**
	baz=274						
KTUT	**Trabzon**	**98.40**	**311**	⇑P	**P**	**21 54 53.6**	**-0.4**
I04A	**Tendick Farm,**	**98.40**	**46**	Pdiff	**P**	**21 54 53.4**	**-0.6**
	baz=274						
I04A				S	S	22 06 09.7	-9.2
	baz=274						
H04A	**Detroit Lake**	**98.50**	**45**	P	**P**	**21 54 54.3**	**0.0**
H04A				IAmb	IAmb	21 55 06.2	
	comp=Z,388nm,2.0s						
ERZN	**Erzincan**	**98.52**	**309**	*e*P	Pdif	21 55 00.8	+6.1
WDC	**Whiskeytown Da**	**98.53**	**50**	IAmb	IAmb	21 55 06.5	
	comp=Z,381nm,1.8s						
WDC				IAMs_20	IAMs_20	22 32 01.3	
	comp=Z,50μm,21.0s		

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KBS   Kingsbay        99.28 351  i P     Pdif    21 54 54.3 -2.8
KBS                              pmax    pmax
      comp=Z,152nm,3.2s
KBS   Kingsbay        99.28 351  ePdif    Pdif    21 55 00.3 +3.2
KBS                              IVmB_BB         21 55 04.6
      comp=Z,3μm,3.6s
KBS                              ePP     PP      21 59 00.5 +0.4
KBS                              eSKSac  SKSac   22 05 33.9 +2.8
KBS                              eSP     SP      22 07 51.8 +1.0
KBS                              eSS     SS      22 13 16.1 +2.0
KBS                              IVMs_BB IVMs_BB 22 33 00.4
      comp=Z,19μm,28.8s
KBS   Kingsbay        99.28 351  IAMs_20 IAMs_20 22 36 54.6
      comp=Z,46μm,22.0s
J05D  Fort Rock, OR   99.30  47  Pdiff   Pdif    21 54 58.0 -0.1
      baz=275
URFA  Urfa            99.36 307  eP      Pdif    21 54 56.1 -2.4
ILIC  ilic-Erzincan   99.42 309  eP      Pdif    21 54 58.3 -0.4
MALT  Malatya         99.62 308  eP      Pdif    21 55 00.0 +0.4
ARPR  Arapgir-MALATY  99.63 309  eP      Pdif    21 54 59.2 -0.5
SAO   San Andreas Ge  99.64  53  IAMs_20 IAMs_20 22 34 46.0
      comp=Z,43μm,20.0s
HSPB  Hornsund (broa  99.73 349  eP      Pdif    21 55 05.0 +5.9
HSPB                              ePP     PP      21 59 10.7 +7.2
HSPB                              eL      L       22 36 03.6
      comp=Z,95μm,27.7s
HSPB  Hornsund (broa  99.73 349  ePdif    Pdif    21 55 01.7 +2.6
HSPB                              ePP     PP      21 59 04.2 +0.7
HSPB                              IVMs_BB IVMs_BB 22 35 34.7
      comp=Z,21μm,27.1s
ALE   Alert           99.74   3  IAMs_20 IAMs_20 22 36 39.7
      comp=Z,45μm,22.0s
ANN   Anapa           99.79 315c i P     Pdif    21 54 58.1 -1.9
ANN                              i *PP   pP      21 55 11.0 -3.4
ANN                              i       i       21 59 03.1
ANN                              i PPP   PPP     22 01 09.8
ANN                              eS      SKSac   22 05 30.2 -4.7
ANN                              i SS    SS      22 13 15.7 -7.2
ANN                              i SSS   SSS     22 17 16.6
ANN                              pmax    pmax
      comp=N,260nm,1.7s
ANN                              pmax    pmax
      comp=Z,1μm,2.4s
ANN                              pmax    pmax
      comp=E,281nm,2.6s
ANN                              pmax    pmax
      comp=Z,234nm,1.7s
ANN                              pmax    pmax
      comp=N,111nm,1.8s
ANN                              pmax    pmax
      comp=E,27nm,1.0s
ANN                              smax    smax
      comp=E,2μm,6.0s
ANN                              smax    smax
      comp=N,2μm,5.7s
KEV   Kevo            99.89 341  IAMs_20 IAMs_20 22 40 52.7
      comp=Z,32μm,20.0s
YKA   Yellowknife Ar  100.14  27  P       Pdif    21 55 00.5 -0.7
      comp=Z,13nm,0.9s,baz=284,slow=4.0,SNR=35
YKA                              PP      PP      21 59 04.3 -2.7
      comp=Z,15nm,1.1s,baz=278,slow=7.6,SNR=4.2
YKA                              PKKPbc  PKKPbc  22 11 19.0 -2.6
      comp=Z,3.0nm,0.9s,baz=101,slow=2.2,SNR=4.2
YKA   Yellowknife Ar  100.14  27  Pdif    Pdif    21 55 00.3 -0.9
FURI  Furi            100.16 279  i P     Pdif    21 55 04.0 +1.2
HAWA  Hanford         100.18  43  IAMs_20 IAMs_20 22 33 04.3
      comp=Z,37μm,21.0s
BJO1  Bjornoya        100.24 346  ePdif   Pdif    21 54 59.7 -1.7
BJO1                             IVmB_BB         21 55 07.3
      comp=Z,2μm,2.4s
BJO1                             ePP     PP      21 59 07.2 -0.2
BJO1                             eSP     SP      22 08 02.0 +0.9
BJO1                             eSS     SS      22 13 28.7 +1.2
BJO1                             IVMs_BB IVMs_BB 22 36 14.9
      comp=Z,12μm,26.4s
RSDY  Resadiye-TOKAT  100.30 310  eP      Pdif    21 55 02.2 -0.3
DARE  Darende-Malaty  100.33 309  eP      Pdif    21 55 02.4 -0.4
NOR   Nord            100.36 356  i P     Pdif    21 55 02.0 +0.1
NOR                              i P     Pdif    21 55 02.2 +0.3
NOR   Nord            100.36 356  i P     Pdif    21 55 02.2 +0.3
KIBK  Kibwezi         100.36 267  P       Pdif    21 54 59.1 -4.4
      SNR=14
ARA0  ARCESS Array S  100.46 341  ePdif   Pdif    21 55 00.5 -2.0
ARCES ARCESS Array B  100.46 341  P       Pdif    21 55 00.9 -1.6
      comp=Z,58nm,0.9s,baz=76,slow=5.1,SNR=33
ARCES                            PP      PP      21 59 08.5 -0.7
      comp=Z,16nm,0.9s,baz=51,slow=4.8,SNR=2.7
ARCES                            PKIKP   PKiKP   21 59 28.6 -0.3
      comp=Z,8.1nm,0.8s,baz=104,slow=1.0,SNR=6.3
ARCES                            PKKPbc  PKKPbc  22 11 18.7 -2.2
      comp=Z,5.1nm,0.8s,baz=251,slow=3.7,SNR=3.7
SVSK  Karacayir       100.59 310  eP      Pdif    21 55 03.9 +0.2
HAMF  Hammerfest      100.62 342  ePdif   Pdif    21 55 00.7 -2.4
HAMF                             IVmB_BB         21 55 09.2
      comp=Z,3μm,3.6s
HAMF                             ePP     PP      21 59 11.6 +1.1
HAMF                             eSP     SP      22 08 08.5 +3.1
HAMF                             eSS     SS      22 13 33.6 +0.6
HAMF                             IVMs_BB IVMs_BB 22 39 12.7
      comp=Z,30μm,25.1s
GAZ   Gaziantep       100.67 307  eP      Pdif    21 55 03.8 -0.5
KMRS  Kahramanmaras   100.88 308  eP      Pdif    21 55 03.9 -1.3
TOKT  Tokat           100.90 310  eP      Pdif    21 55 04.6 -0.6
SMMC  Simmler         100.92  55  Pdiff   Pdif    21 55 04.9 -0.5
      baz=274
PKM   Mcpherson Peak  101.10  55  Pdiff   Pdif    21 55 05.4 -1.0
      baz=274
SARI  SarD1z-Kayseri  101.18 308  eP      Pdif    21 55 06.5 -0.2
KVT   Kavak           101.20 311  eP      Pdif    21 55 05.3 -1.2
SBC   Santa Barbara   101.22  56  Pdiff   Pdif    21 55 05.5 -1.1
      baz=274
KMBO  Kilima Mbogo    101.22 268  P       Pdif    21 55 08.1 +0.6
      comp=Z,16nm,1.1s,baz=51,slow=4.8,SNR=12
KMBO  Kilima Mbogo    101.22 268c i P     Pdif    21 55 08.2 +0.8
WVOR  Wild Horse Val  101.29  47  IAMs_20 IAMs_20 22 32 13.9
      comp=Z,34μm,22.0s
SCZ2  Santa Cruz Isl  101.31  56  Pdiff   Pdif    21 55 05.7 -1.5
      baz=274
VOG   Valley Oaks Go  101.33  54  Pdiff   Pdif    21 55 05.9 -1.2
      baz=275
KTK1  Kautokeino      101.40 341  ePdif   Pdif    21 55 04.2 -2.5
KTK1                             IVmB_BB         21 55 12.8
      comp=Z,3μm,3.2s
KTK1                             ePP     PP      21 59 16.2 -0.1
KTK1                             eSP     SP      22 08 15.2 +1.4
KTK1                             IVMs_BB IVMs_BB 22 39 59.7
      comp=Z,26μm,26.9s
SNCC  San Nicolas Is  101.46  57  Pdiff   Pdif    21 55 06.5 -1.3
      baz=274
NEW   Newport         101.55  41  P       Pdif    21 55 08.3 +0.4
      comp=Z,9.0nm,0.9s,baz=223,slow=4.0,SNR=7.9
NEW   Newport         101.55  41  Pdiff   Pdif    21 55 07.3 -0.6
      baz=279
NEW   Newport         101.55  41  IAMs_20 IAMs_20 22 34 28.2
      comp=Z,57μm,22.0s
BNN   Bunyan          101.58 309  eP      Pdif    21 55 07.8 -0.6
BNN   Bunyan          101.58 309  IAMs_20 IAMs_20 22 45 46.6
      comp=Z,49μm,22.0s
VES   Vestal, Richgr  101.61  54  Pdiff   Pdif    21 55 07.2 -1.2
      baz=275
MLAC  Mammoth, Mammt  101.65  52  Pdiff   Pdif    21 55 07.8 -1.0
      baz=276
SNAA  Sanae           101.67 192  Pdiff   Pdif    21 55 08.7 +0.8
SNAA  Sanae           101.67 192  S       SKSac   22 05 41.4 -1.9
      comp=Z,5.9nm,1.2s,baz=267,slow=23,SNR=1.9
SNAA                             PKKPbc  PKKPbc  22 11 14.5 -3.0
      comp=Z,6.5nm,0.8s,baz=355,slow=2.5,SNR=5.8
SNAA  Sanae           101.67 192c i P     Pdif    21 55 08.6 +0.6
SNAA                             pmax    pmax
      comp=Z,85nm,1.2s
SNOP  Sinop           101.72 312  eP      Pdif    21 55 06.5 -2.2
DIKM  Dikmen          101.72 312  eP      Pdif    21 55 08.0 -0.7
KOZT  Kozan           101.74 308  eP      Pdif    21 55 07.5 -1.4
RES   Resolute Bay    101.74  13  P       Pdif    21 55 08.6 +0.5
      comp=Z,50nm,1.1s,baz=300,slow=5.6,SNR=7.3
KIMO  Ikongo          101.76 259  i P     Pdif    21 55 05.4 -4.2
CEYT  Ceyhan          101.84 307  eP      Pdif    21 55 09.1 -0.3
ARVC  Arvin           101.88  55  Pdiff   Pdif    21 55 09.5 -0.1
      baz=275
YOZ   Yozgat          101.91 310  eP      Pdif    21 55 08.8 -1.0
BMO   Blue Mountains  101.93  45  IAMs_20 IAMs_20 22 31 39.7
      comp=Z,46μm,22.0s
ZOMB  Zomba           101.98 254  i P     Pdif    21 55 10.0 -0.6
NVAR  Mina Array Bea  101.98  51  P       Pdif    21 55 10.5 +0.2
      comp=Z,14nm,0.9s,baz=256,slow=5.9,SNR=36
NVAR                             PKiKP   PKiKP   21 59 31.8 -1.1
      comp=Z,13nm,1.0s,baz=272,slow=8.1,SNR=5.5
NVAR                             PKKP    PKKPdf  22 11 24.2 +1.6
      comp=Z,1.4nm,0.7s,baz=73,slow=4.4,SNR=3.6
NVAR                             PKPPKP          22 19 33.1
      comp=Z,0.9nm,0.9s,baz=357,slow=3.3,SNR=4.2
NVAR  Mina Array Bea  101.98  51  P       Pdif    21 55 09.8 -0.5
OSI   Osito Audit: C  102.02  55  Pdiff   Pdif    21 55 10.5 +0.2
      baz=275
JETT  Jettan, Norway  102.09 342  ePdif   Pdif    21 55 09.8  0.0
JETT                             IVmB_BB         21 55 17.2
      comp=Z,4μm,3.2s
JETT                             ePP     PKiKP   21 59 28.1 -3.8
JETT                             eSKSac  SKSac   22 05 44.5 -0.7
JETT                             eSP     SP      22 08 22.7 +1.5
JETT                             eSS     SS      22 13 55.4 +1.9
JETT                             IVMs_BB IVMs_BB 22 41 15.1
      comp=Z,38μm,24.2s
SIM   Simferopol'     102.11 315  eP      Pdif    21 55 08.1 -2.3
SIM                              i       i       21 59 29.0
SIM                              eS      Sdif    22 06 42.0 -7.8
SIM                              pmax    pmax
      comp=Z,296nm,1.6s
SIM                              pmax    pmax
      comp=Z,315nm,2.0s
NGEA  Songea          102.12 259  i P     Pdif    21 55 10.6 -0.7
ISA   Isabella, Lake  102.12  54  Pdiff   Pdif    21 55 09.7 -1.1
      baz=276
TIN   Tinemaha, Big   102.19  53  Pdiff   Pdif    21 55 10.3 -0.8
      baz=276
BANG  Mbangamawe      102.20 259  i P     Pdif    21 55 12.1 +0.5
KURU  Muhukuru        102.29 258  i P     Pdif    21 55 12.7 +0.8
SCI2  San Clemente I  102.30  57  Pdiff   Pdif    21 55 11.1 -0.5
      baz=275
CWC   Cottonwood Cre  102.37  53  Pdiff   Pdif    21 55 10.7 -1.2
      baz=276
DECC  Green Verdugo   102.37  56  Pdiff   Pdif    21 55 11.0 -0.8
      baz=275
CORM  Corum           102.37 310  eP      Pdif    21 55 09.0 -2.8
CIS   Catalina Islan  102.38  57  Pdiff   Pdif    21 55 10.2 -1.6
      baz=275
CMRD  Camardi-Nigde   102.38 308  eP      Pdif    21 55 14.6 +2.7
DODT  Dodoma, Tanzan  102.41 263  i P     Pdif    21 55 10.7 -1.8
FMP   Fort Macarthur  102.45  56  Pdiff   Pdif    21 55 10.8 -1.3
      baz=275
ZINI  Mgazini         102.47 259  i P     Pdif    21 55 11.7 -1.1
MMAI  Mount Meron Ar  102.49 303  P       Pdif    21 55 11.6 -0.9
      comp=Z,8.4nm,0.7s,baz=42,slow=10,SNR=15
MMAI                             PP      PP      21 59 25.1 -0.7
      comp=Z,19nm,1.2s,baz=104,slow=12,SNR=4.0
TRO   Tromso          102.53 342  ePdif   Pdif    21 55 09.9 -1.7
TRO                              IVmB_BB         21 55 17.8
      comp=Z,2μm,2.7s
TRO                              ePP     PP      21 59 25.7 +1.0
TRO                              eSKSac  SKSac   22 05 47.9 +0.9
TRO                              eSP     SP      22 08 26.9 +1.4
TRO                              eSS     SS      22 14 02.8 +3.5
TRO                              IVMs_BB IVMs_BB 22 41 25.0
      comp=Z,32μm,26.1s
LIGA  Liganga         102.53 259  i P     Pdif    21 55 10.5 -2.5
WINO  Wino            102.57 259  i P     Pdif    21 55 13.8 +0.4
EDW2  Edwards Air Fo  102.59  55  Pdiff   Pdif    21 55 12.0 -0.9
      baz=276
MFRI  Mfriga          102.60 260  i P     Pdif    21 55 13.5  0.0
BZK   Bozkurt         102.61 312  ⇓P      Pdif    21 55 12.1 -0.5
BZK   Bozkurt         102.61 312  eP      Pdif    21 55 11.7 -1.0
LRMC  Laurel Mtn Rad  102.78  54  Pdiff   Pdif    21 55 14.2 +0.4
      baz=276
PLID  Pearl Lake      102.81  44  IAMs_20 IAMs_20 22 34 15.0
      comp=Z,66μm,22.0s
MERS  Mersin          102.84 307  eP      Pdif    21 55 13.1 -0.8
GRAC  Grapevine Rang  102.88  53  Pdiff   Pdif    21 55 13.8 -0.3
      baz=276
KIDE  Kidegembe       102.89 260  i P     Pdif    21 55 12.4 -2.4
TIRI  Matiri          102.89 258  i P     Pdif    21 55 11.9 -2.8
BUMI  Ibumi           102.89 259  i P     Pdif    21 55 13.3 -1.4
MUDIN Mudindi         102.92 259  i P     Pdif    21 55 15.7 +0.8
BFSC  Mount Baldy Ra  102.93  56  Pdiff   Pdif    21 55 13.5 -1.0
      baz=276
MBAM  Mbamba Bay      102.93 258  i P     Pdif    21 55 16.5 +1.7
FINES FINESS Array B  102.98 333  P       Pdif    21 55 12.1 -1.7
      comp=Z,10.0nm,0.7s,baz=84,slow=5.9,SNR=22
FINES                            PKiKP   PKiKP   21 59 33.1 -0.6
      comp=Z,44nm,1.0s,baz=76,slow=8.0,SNR=8.9
FINES                            PKKPbc  PKKPbc  22 11 10.9 -2.4
      comp=Z,3.3nm,0.8s,baz=223,slow=1.9,SNR=5.7
FINES FINESS Array B  102.98 333  i P     Pdif    21 55 12.6 -1.3
FINES                            pmax    pmax
      comp=Z,10.0nm,0.7s
MKIL  Mkili           103.08 258  i P     Pdif    21 55 15.7 +0.3
UWEM  Njombe          103.10 260  i P     Pdif    21 55 15.2 -0.6
BAKO  Makambako       103.14 260  i P     Pdif    21 55 15.1 -0.8
EIL   Elat            103.15 300  Pdiff   Pdif    21 55 13.4 -2.0
      comp=Z,6.5nm,0.8s,baz=125,slow=9.4,SNR=4.9
YAYX  Yaylak          103.15 309  eP      Pdif    21 55 14.0 -1.3
VNA2  Neumayer--Watz  103.16 191  Pdiff   Pdif    21 55 15.9 +1.3
      baz=139,slow=4.3
BR131 Keskin Array S  103.18 310  P       Pdif    21 55 14.2 -1.3
      SNR=18
BRTR  Keskin Array B  103.18 310  Pdiff   Pdif    21 55 13.4 -2.1
      comp=Z,6.6nm,0.9s,baz=132,slow=3.5,SNR=20
BRTR                             PKKP    PKKPdf  22 11 21.4 +1.2
      comp=Z,2.4nm,0.9s,baz=265,slow=1.7,SNR=3.8
BRTR  Keskin Array B  103.18 310  eP      Pdif    21 55 13.4 -2.1
BRTR  Keskin Array B  103.18 310  P       Pdif    21 55 13.0 -2.5
BRTR  Keskin Array B  103.18 310          Pdif    21 55 12.9 -2.5
MANDA Manda           103.19 259  i P     Pdif    21 55 14.2 -1.8
MFID  Camas Ranch     103.20  46  IAMs_20 IAMs_20 22 34 07.3
      comp=Z,58μm,22.0s
NIND  Nindi           103.24 259  i P     Pdif    21 55 14.6 -1.7
TOLA  Matola          103.29 260  i P     Pdif    21 55 17.0 +0.4
LODK  Lodwar          103.31 273  P       Pdif    21 55 18.9 +2.4
      SNR=9.6
VNA3  Neumayer Olymp  103.31 190  Pdiff   Pdif    21 55 16.2 +1.0
FURC  Furnace Creek,  103.34  53  Pdiff   Pdif    21 55 15.0 -1.0
      baz=277
MURC  Murrieta        103.37  56  Pdiff   Pdif    21 55 16.8 +0.5
      baz=276
UNDA  Madunda         103.37 259  i P     Pdif    21 55 14.9 -2.0
RRX   Edison Barstow  103.41  55  Pdiff   Pdif    21 55 16.1 -0.3
      baz=276
KIPE  Kipengere       103.46 260  i P     Pdif    21 55 16.9 -0.5
GSC   Goldstone, Bar  103.52  54  Pdiff   Pdif    21 55 16.4 -0.6
      baz=276
109C  Camp Elliot, M  103.52  57  Pdiff   Pdif    21 55 17.7 +0.8
      baz=276
KEBE  Keben-Mersin    103.53 307  eP      Pdif    21 55 16.4 -0.6
BBRC  Big Bear Solar  103.53  56  Pdiff   Pdif    21 55 17.5 +0.2
      baz=276
VNA1  Neumayer--Stat  103.55 191  Pdiff   Pdif    21 55 17.7 +1.5
GAWA  Igawa           103.55 260  i P     Pdif    21 55 17.7 +0.1
IKL   Isikli          103.58 306  eP      Pdif    21 55 15.9 -1.2
VSU   Vasula          103.59 330  eP      Pdif    21 55 13.7 -2.9
VSU                              e       e       21 55 17.0
VSU   Vasula          103.59 330c i P     Pdif    21 55 15.2 -1.4
VSU                              pmax    pmax
      comp=Z,269nm,1.2s
UKWA  Ukwama          103.66 260  i P     Pdif    21 55 19.1 +0.8
TEVE  Tevekalti-Mers  103.75 307  eP      Pdif    21 55 16.4 -1.6
KULU  Kulu            103.76 309  eP      Pdif    21 55 19.0 +1.0
TPNV  Topopah Spring  103.77  53  Pdiff   Pdif    21 55 17.7 -0.5
      baz=277
TPNV  Topopah Spring  103.77  53  IAMs_20 IAMs_20 22 33 26.3
      comp=Z,34μm,21.0s
MAKE  Makete          103.80 260  i P     Pdif    21 55 20.2 +1.3
LFK   Lefkose         103.81 306  eP      Pdif    21 55 11.7 -6.6
SHOC  Shoshone, Teco  103.88  54  Pdiff   Pdif    21 55 18.5  0.0
      baz=277
CHML  Chimala         103.90 260  i P     Pdif    21 55 20.5 +1.3
CHBY  Cihanbeyli      103.91 309  eP      Pdif    21 55 21.7 +3.0
MSO   Missoula        103.92  42  Pdiff   Pdif    21 55 16.2 -2.4
      baz=281
MSO   Missoula        103.92  42  IAMs_20 IAMs_20 22 34 28.1
      comp=Z,63μm,21.0s
BERE  Bereket-Mersin  103.94 307  eP      Pdif    21 55 17.3 -1.6
MATAM Matamba         103.95 260  i P     Pdif    21 55 19.4 -0.2
HEC   Hector,Ludlow   103.95  55  Pdiff   Pdif    21 55 16.9 -2.0
      baz=277
PFO   Pinyon Flats O  103.98  56  Pdiff   Pdif    21 55 20.2 +1.0
      comp=Z,16nm,1.1s,baz=234,slow=5.8,SNR=6.9
PFO                              PKiKP   PKiKP   21 59 35.8 -0.7
      comp=Z,5.6nm,1.0s,baz=244,slow=2.1,SNR=3.9
PFO   Pinyon Flats O  103.98  56  Pdiff   Pdif    21 55 19.2 +0.1
      baz=276
TPFO  Pinon Flats     103.99  56  Pdiff   Pdif    21 55 18.7 -0.5
      baz=276
CSS   Mathiatis       104.01 305  eP      Pdif    21 55 17.6 -1.5
ELK   Elko            104.04  49  Pdiff   Pdif    21 55 19.2 -0.2
      comp=Z,9.7nm,0.9s,baz=257,slow=5.3,SNR=10
ELK                              PKiKP   PKiKP   21 59 36.6  0.0
      comp=Z,16nm,1.0s,baz=227,slow=3.7,SNR=5.1
ELK   Elko            104.04  49  P       Pdif    21 55 19.6 +0.2
ELK                              MLR     MLR
      comp=Z,54μm,21.0s
ELK   Elko            104.04  49          Pdif    21 55 19.6 +0.2
ELK                              IAMs_20 IAMs_20 22 35 38.9
      comp=Z,54μm,21.0s
TEKE  Tekeli-Mersin   104.05 306  eP      Pdif    21 55 16.7 -2.5
MONP2 Monument Peak   104.09  57  Pdiff   Pdif    21 55 18.9 -0.8
      baz=276
MNK   Minsk           104.11 326  i P     Pdif    21 55 18.5 -0.5
MNK                              i       i       21 59 37.0
MNK                              i PPP   PPP     22 01 48.7
MNK                              i       i       22 06 40.6
MNK                              i SS    SS      22 14 22.7 +0.7
MNK                              i SSS   SSS     22 18 19.1
MNK                              pmax    pmax
      comp=E,5.0nm,1.3s
MNK                              pmax    pmax
      comp=Z,32nm,0.8s
MNK                              pmax    pmax
      comp=N,23nm,1.1s
MNK                              MLR     MLR
      comp=N,33μm,24.0s
MNK                              MLR     MLR
      comp=E,2μm,22.0s
MNK                              MLR     MLR
      comp=Z,31μm,26.0s
MNK   Minsk           104.11 326  i P     Pdif    21 55 18.5 -0.5
      comp=E,5.0nm,1.3s
MNK                              i P     Pdif    21 55 18.5 -0.5
      comp=N,23nm,1.1s
MNK                              i P     Pdif    21 55 18.5 -0.5
      comp=Z,32nm,0.8s,baz=75
MNK                              i PP    PP      21 59 37.1  0.0
MNK                              i PPP   PPP     22 01 48.8
MNK                              i SKS           22 06 40.6
MNK                              i SS    SS      22 14 22.7 +0.8
MNK                              i SSS   SSS     22 18 19.1
MNK                              i LQ    LQ      22 36 16.0
MNK                              i LR    LR      22 40 21.4
MNK                              i LRM   MLR     22 42 13.8
      comp=N,33μm,24.3s
MNK                              i LRM   MLR     22 42 48.3
      comp=E,2μm,21.7s
MNK                              i LRM   MLR     22 42 48.3
      comp=Z,31μm,25.6s
R11A  Troy Canyon, C  104.11  51  Pdiff   Pdif    21 55 18.7 -1.0
      baz=278
NKAL  Nkalisi         104.12 260  i P     Pdif    21 55 14.3 -6.0
MEF   Metsahovi       104.17 332  eP      Pdif    21 55 23.7 +4.6
HLID  Hailey          104.19  46  Pdiff   Pdif    21 55 19.5 -0.4
      baz=280
HLID  Hailey          104.19  46  IAMs_20 IAMs_20 22 35 50.5
      comp=Z,49μm,21.0s
TUQ   Turquoise Moun  104.22  54  Pdiff   Pdif    21 55 18.9 -1.3
      baz=277
IGOM  Igoma           104.25 260  i P     Pdif    21 55 22.6 +1.6
AKASG Malin Array Be  104.27 322  Pdiff   Pdif    21 55 17.9 -1.9
      comp=Z,14nm,0.9s,baz=62,slow=4.4,SNR=44
AKASG                            PKiKP   PKiKP   21 59 36.3  0.0
      comp=Z,49nm,1.1s,baz=65,slow=6.5,SNR=6.8
AKASG                            PKKPbc  PKKPbc  22 11 07.5 -1.6
      comp=Z,5.0nm,0.8s,baz=273,slow=2.9,SNR=10
AKBB  Malin Array Si  104.27 322c i P     Pdif    21 55 18.8 -1.0
AKBB                             pmax    pmax
      comp=Z,220nm,2.5s
AKBB  Malin Array Si  104.27 322  IAMs_20 IAMs_20 22 50 17.6
      comp=Z,36μm,22.0s
BELC  Belle Mtn. Jos  104.32  56  Pdiff   Pdif    21 55 20.5 -0.2
      baz=277
LEF   Lefka           104.35 305  ⇑P      Pdif    21 55 19.4 -1.2
JILO  Lwanjilo        104.36 260  i P     Pdif    21 55 21.9 +0.5
ISOK  Kyela           104.37 260  i P     Pdif    21 55 20.9 -0.4
MZUN  Kiwira          104.37 260  i P     Pdif    21 55 19.7 -1.6
IKP   In-Ko-Pah, Jac  104.38  57  Pdiff   Pdif    21 55 19.6 -1.2
      baz=276
GMRC  Granite Mounta  104.51  55  Pdiff   Pdif    21 55 21.0 -0.5
      baz=277
IDID  Didziasalis     104.52 327  eP      Pdif    21 55 19.2 -1.6
STEI  Steigen         104.53 341  ePdif   Pdif    21 55 17.8 -2.8
STEI                             IVmB_BB         21 55 26.6
      comp=Z,3μm,3.1s
STEI                             ePP     PP      21 59 41.5 +1.9
STEI                             eSP     SP      22 08 45.4 -1.2
STEI                             eSS     SS      22 14 32.4 +5.6
STEI                             IVMs_BB IVMs_BB 22 41 24.9
      comp=Z,32μm,24.5s
ILIND Ilindi          104.56 260  i P     Pdif    21 55 21.5 -0.8
SWSC  Sam W. Stewart  104.60  57  Pdiff   Pdif    21 55 22.5 +0.8
      baz=276
PDHT  Panda Hill      104.66 260  i P     Pdif    21 55 22.3 -0.3
ITUM  Tunduma         104.68 260  i P     Pdif    21 55 22.9 +0.2
TULEG Thule           104.69   6  i P     Pdif    21 55 21.6 +0.4
ISAL  Salakas         104.78 327  eP      Pdif    21 55 21.6 -0.4
FAUS  Fauske          104.79 340  ePdif   Pdif    21 55 20.5 -1.3
FAUS                             IVmBBB          21 55 28.1
      comp=Z,2μm,2.2s
FAUS                             ePP     PP      21 59 41.6  0.0
FAUS                             eSKSac  SKSac   22 05 54.9 -2.7
FAUS                             ePS     PS      22 08 57.6 +1.5
FAUS                             eSS     SS      22 14 31.8 +1.4
FAUS                             IVMs_BB IVMs_BB 22 41 49.1
      comp=Z,33μm,24.9s
LOSI  Makongolosi     104.79 261  i P     Pdif    21 55 23.4 +0.2
IIGN  Ignalina        104.79 327  eP      Pdif    21 55 21.0 -1.1
MDUB  Mudurnu         104.93 311  IAMs_20 IAMs_20 22 52 22.5
      comp=Z,42μm,22.0s
DAG   Danmarks Havn   104.94 355  i P     Pdif    21 55 21.0 -1.3
DAG                              i P     Pdif    21 55 21.3 -1.0
DAG   Danmarks Havn   104.94 355  i P     Pdif    21 55 21.2 -1.0
MTSE  Matsula         104.96 331  eP      Pdif    21 55 27.7 +5.0
LOF   Lofoten         104.97 341  ePdif   Pdif    21 55 20.6 -1.9
LOF                              ePP     PP      21 59 46.6 +3.7
LOF                              eSKSac  SKSac   22 05 58.8 +0.4
LOF                              eSKSdf  SKKSac  22 06 44.6 +0.8
LOF                              ePS     PS      22 08 58.6 +0.6
LOF                              eSS     SS      22 14 35.2 +2.3
LOF                              IVMs_BB IVMs_BB 22 42 49.9
      comp=Z,19μm,28.3s
IRM   Iron Mountain   105.01  55  Pdiff   Pdif    21 55 24.3 +0.8
      baz=277
CPBX  Cerro Prieto    105.08  57  IAMs_20 IAMs_20 22 32 34.6
      comp=Z,63μm,22.0s
RAF   Rauma           105.08 333  eP      Pdif    21 55 19.4 -3.8
GETA  Geita           105.13 266  i P     Pdif    21 55 32.4 +7.7
DLMT  Dillon          105.13  44  IAMs_20 IAMs_20 22 34 16.6
      comp=Z,47μm,21.0s
NEEM  North Greenlan  105.15   2  i P     Pdif    21 55 23.2 -0.4
NEEM  North Greenlan  105.15   2  eP      PKiKP   21 59 39.7 +2.0
NEEM                             IAMs_20 IAMs_20 22 38 40.4
      comp=Z,84μm,24.2s
NEE2  Needles Airpor  105.36  55  Pdiff   Pdif    21 55 25.5 +0.4
      baz=278
KIS   Kishinev        105.37 318⇑ eP      Pdif    21 55 30.0 +5.2
      comp=Z,1μm,6.3s
KIS   Kishinev        105.37 318  ePKP     PKiKP   21 59 47.0 +8.5
KIS   Kishinev        105.37 318  ePP     PP      21 59 57.0 +10
      comp=Z,2μm,10.8s
KIS   Kishinev        105.37 318  ePS     PS      22 09 16.0 +13
KIS                              eLR     LR      22 39 36.0
      comp=Z,24μm,23.0s
KIS   Kishinev        105.37 318c eP      Pdif    21 55 30.0 +5.2
KIS                              e       e       21 59 47.0
KIS                              pmax    pmax
      comp=Z,1μm,6.3s
GLA   Glamis          105.40  57  Pdiff   Pdif    21 55 25.9 +0.5
      baz=277
SORM  Soroca          105.42 319  ⇑P      Pdif    21 55 23.8 -1.2
SORM  Soroca          105.42 319  ⇑P      Pdif    21 55 23.8 -1.2
MOR8  Moi Rana        105.69 340  ePdif   Pdif    21 55 22.4 -3.4
MOR8                             IVmB_BB         21 59 56.5
      comp=Z,9μm,9.0s
MOR8                             ePS     PS      22 09 04.2 -1.5
MOR8                             eSS     SS      22 14 43.6 +0.6
MOR8                             IVMs_BB IVMs_BB 22 43 11.6
      comp=Z,41μm,28.5s
BOZ   Bozeman (W)     105.75  43  Pdiff   Pdif    21 55 27.0 +0.2
      baz=283
BOZ   Bozeman (W)     105.75  43  IAMs_20 IAMs_20 22 35 47.8
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comp=Z,56µm,22.0s
PDMCI Parker Dam,Lak 105.81 55 Pdiff **Pdif 21 55 26.4 -0.7**
baz=278
W13A Hualapai Mount 105.91 54 IAMs_20 IAMs_20 22 33 39.4
comp=Z,49µm,22.0s
DUG Dugway, Tooele 105.95 49 Pdiff **Pdif 21 55 28.0 +0.2**
baz=280
DUG Dugway, Tooele 105.95 49 IAMs_20 IAMs_20 22 34 56.6
comp=Z,34µm,21.0s
PABE Paberze 105.96 327 *e*P **Pdif 21 55 28.3 +1.0**
PABE Paberze 105.96 327 IAMs_20 IAMs_20 22 51 13.2
comp=Z,35µm,22.0s
KONS Konsvik 105.98 340 *e*Pdif **Pdif 21 55 26.4 -0.6**
KONS *e*PP **PP 21 59 49.9 -0.5**
KONS *e*SP SP 22 09 00.6 -1.1
SLIT Slitere, Latvi 106.10 330 *e*P **Pdif 21 55 27.7 -0.1**
STOK Stokkvaagen 106.10 340 *e*Pdif **Pdif 21 55 27.1 -0.5**
STOK *e*PP **PP 21 59 54.1 +2.8**
STOK *e*SP SP 22 09 06.0 +2.9
TPGR Topolog 106.11 316 ⇑P **Pdif 21 55 27.2 -1.0**
TIRR Tirgusor 106.20 316 ⇑P **Pdif 21 55 27.1 -1.5**
TIRR Tirgusor 106.20 316 ⇑P **Pdif 21 55 27.1 -1.5**
CFR Carcaliu 106.24 316 ⇓P **Pdif 21 55 27.5 -1.2**
CFR Carcaliu 106.24 316 ⇓P **Pdif 21 55 27.5 -1.2**
SLCR Slobozia Conac 106.39 317 ⇑P **Pdif 21 55 31.7 +2.3**
IZVR Izvoarele 106.41 317 ⇑P **Pdif 21 55 30.3 +0.8**
EGMT Eagleton 106.43 41 Pdiff **Pdif 21 55 29.3 -0.3**
baz=285
EGMT Eagleton 106.43 41 IAMs_20 IAMs_20 22 35 09.2
comp=Z,38µm,22.0s
HARR Harsova 106.49 316 ⇓P **Pdif 21 55 29.8 0.0**
HARR Harsova 106.49 316 ⇓P **Pdif 21 55 29.8 0.0**
IMW Indian Meadow 106.59 45 IAMs_20 IAMs_20 22 36 52.1
comp=Z,58µm,21.0s
HWUT Hardware Ranch 106.62 47 IAMs_20 IAMs_20 22 38 54.0
comp=Z,51µm,20.0s
ICOR Ion Corvin 106.70 315 ⇑P **Pdif 21 55 31.5 +0.7**
AHID Auburn Hatcher 106.72 46 IAMs_20 IAMs_20 22 35 24.6
comp=Z,40µm,22.0s
FLWY Flagg Ranch 106.72 45 IAMs_20 IAMs_20 22 37 06.5
comp=Z,56µm,22.0s
LKWY Lake 106.82 44 IAMs_20 IAMs_20 22 36 38.1
comp=Z,45µm,22.0s
PBUR Paburge 106.87 328 *e*P **Pdif 21 55 35.8 +4.6**
SUW Suwalki 106.89 326 *e*P **Pdif 21 55 36.5 +5.1**
SUW *e*PP **PP 22 00 04.8 +7.3**
SUW *e*L L 22 45 20.1
comp=Z,88µm,25.9s
SUW Suwalki 106.89 326 *e*P **Pdif 21 55 29.8 -1.6**
SUW Suwalki 106.89 326 IAMs_20 IAMs_20 22 47 13.0
comp=Z,32µm,22.0s
TESR Tescani 106.93 318 ⇑P **Pdif 21 55 31.0 -0.8**
U15A North Rim 107.00 53 IAMs_20 IAMs_20 22 38 24.8
comp=Z,28µm,20.0s
VRI Vrincioaia 107.04 317 ⇓P **Pdif 21 55 31.5 -0.8**
VRI Vrincioaia 107.04 317 ⇓P **Pdif 21 55 31.5 -0.8**
PLOR Plostina 107.09 317 ⇑P **Pdif 21 55 32.2 -0.4**
PLOR Plostina 107.09 317 ⇑P **Pdif 21 55 32.2 -0.4**
BISRR Bisoca 107.13 317 ⇑P **Pdif 21 55 34.0 +1.2**
KULA Kula-Manisa 107.20 309 P **Pdif 21 55 34.0 +0.7**
214A Organ Pipe Nat 107.23 57 Pdiff **Pdif 21 55 33.9 +0.3**
baz=278
ISR Istrita 107.35 317 ⇑P **Pdif 21 55 33.1 -0.7**
ISR Istrita 107.35 317 ⇑P **Pdif 21 55 33.1 -0.7**
DBG Daneborg 107.38 354 *e*P **Pdif 21 55 35.1 +1.9**
NSS Namsos 107.44 339 *e*Pdif **Pdif 21 55 32.8 -0.8**
NSS *e*PP **PP 22 00 02.3 +1.1**
NSS *e*SP SP 22 09 17.1 +0.2
NSS IVMs_BB IVMs_BB 22 44 35.7
comp=Z,35µm,26.4s
RLMT Red Lodge 107.48 43 Pdiff **Pdif 21 55 34.8 +0.3**
baz=284
RLMT Red Lodge 107.48 43 IAMs_20 IAMs_20 22 37 46.2
comp=Z,53µm,22.0s
BURAR Bucovina Array 107.59 319 ⇑P **Pdif 21 55 33.3 -1.5**
BURAR Bucovina Array 107.59 319 ⇑P **Pdif 21 55 33.3 -1.5**
OZUR 107.62 318 ⇓P **Pdif 21 55 35.3 +0.4**
MLR Muntele Rosu 107.66 317 ⇓P **Pdif 21 55 34.3 -1.0**
MLR Muntele Rosu 107.66 317 ⇓P **Pdif 21 55 34.3 -1.0**
MLR Muntele Rosu 107.66 317 IAMs_20 IAMs_20 22 53 05.1
comp=Z,28µm,20.0s
LVV L'vov 107.71 322 *e*P **Pdif 21 55 34.0 -1.2**
LVV *e* 22 06 09.5
LVV *e* 22 06 52.3
LVV *e*PS **PS 22 09 14.1 -13**
LVV *e*SS SS 22 15 11.8 +0.4
LVV pmax pmax
comp=Z,150nm,1.8s
LVV MLR MLR
comp=N,33µm,24.0s
LVV MLR MLR
comp=E,29µm,24.0s
LVV MLR MLR
comp=Z,51µm,24.0s
RAZG Razgrad 107.74 315 ⇑P **Pdif 21 55 36.0 +0.5**
MBAR Mbarara 107.75 269 P **Pdif 21 55 36.6 +0.2**
MBAR Mbarara 107.75 269 *i* P **Pdif 21 55 38.2 +1.8**
BW06 Boulder Array 107.83 46 Pdiff **Pdif 21 55 35.2 -1.0**
baz=283
BW06 Boulder Array 107.83 46 IAMs_20 IAMs_20 22 37 01.9
comp=Z,34µm,22.0s
PDAR Pinedale Array 107.83 46 Pdiff **Pdif 21 55 35.2 -1.0**
comp=Z,3.5nm,0.6s,baz=276,slow=2.7,SNR=13
PDAR PKIKP **PKiKP 21 59 42.6 -1.0**
comp=Z,1.9nm,0.7s,baz=225,slow=0.9,SNR=3.5
PDAR PKKPbc **PKKPbc 22 10 56.7 -1.5**
comp=Z,7.6nm,1.0s,baz=126,slow=4.0,SNR=6.7
PDAR Pinedale Array 107.83 46 **Pdif 21 55 37.1 +0.9**
WUAZ Wupatki 107.88 54 Pdiff **Pdif 21 55 36.7 +0.2**
baz=280
WUAZ Wupatki 107.88 54 IAMs_20 IAMs_20 22 35 39.4
comp=Z,48µm,22.0s
DOPR Dopca 107.92 318 ⇓P **Pdif 21 55 36.5 +0.3**
EDRB Edirne 107.96 313 P **Pdif 21 55 38.5 +2.0**
EDRB Edirne 107.96 313 P PP 22 00 17.2 +11
ARG Arkhangelos 108.03 307 P **Pdif 21 55 40.4 +3.5**
VOIR 108.29 317 ⇑P **Pdif 21 55 38.8 +0.8**
VOIR 108.29 317 ⇑P **Pdif 21 55 38.8 +0.8**
SRIG Santa Rosalia 108.30 62 IAMs_20 IAMs_20 22 37 59.4
comp=Z,40µm,21.0s
DAT Datca 108.37 308 P **Pdif 21 55 41.0 +2.4**
COPA Copaceanca 108.51 316 ⇓P **Pdif 21 55 38.6 -0.2**
BODT Bodrum 108.52 308 P **Pdif 21 55 42.7 +3.6**
BODT Bodrum 108.52 308 P **PP 22 00 06.5 -3.6**
HUMR Humele 108.57 316 ⇑P **Pdif 21 55 38.4 -0.7**
JMIC Jan Mayen 108.61 349 *e*Pdif **Pdif 21 55 39.5 +0.7**
JMIC IVmB_BB 21 55 47.1
comp=Z,2µm,2.1s
JMIC *e*PP **PP 22 00 11.0 +1.4**
JMIC *e*SP SP 22 09 27.5 -1.0
JMIC IVMs_BB IVMs_BB 22 37 11.9
comp=Z,10µm,30.1s
ENEZ Enez 108.64 312 P **Pdif 21 55 43.8 +4.3**
ALN Alexandroupoli 108.69 312 P **Pdif 21 55 40.7 +1.0**
BMR Baia Mare 108.69 320 ⇑P **Pdif 21 55 38.8 -0.8**
BMR Baia Mare 108.69 320 ⇑P **Pdif 21 55 38.8 -0.8**
EZN Ezine 108.72 311 P **Pdif 21 55 40.7 +0.8**
TUC Tucson 108.88 57 Pdiff **Pdif 21 55 40.5 -0.5**
baz=279
TUC Tucson 108.88 57 IAMs_20 IAMs_20 22 35 56.3
comp=Z,62µm,22.0s
CJR Cluj-Napoca 108.91 319 ⇑P **Pdif 21 55 40.9 +0.3**
CJR Cluj-Napoca 108.91 319 ⇑P **Pdif 21 55 40.9 +0.3**
BOSA Boshof 108.95 239 Pdiff **Pdif 21 55 41.8 +0.4**
comp=Z,14nm,1.0s,baz=112,slow=5.6,SNR=8.4
BOSA PKiKP **PKiKP 21 59 45.8 -0.1**
comp=Z,12nm,1.0s,baz=112,slow=1.4,SNR=8.1
BOSA PP **PP 22 00 09.2 -4.4**
comp=Z,21nm,1.1s,baz=111,slow=3.6,SNR=4.6
BOSA PKKPbc **PKKPbc 22 10 51.1 -2.9**
comp=Z,3.9nm,0.6s,baz=285,slow=4.2,SNR=6.8
BOSA Boshof 108.95 239 P **Pdif 21 55 42.7 +1.3**
BOSA Boshof 108.95 239 **Pdif 21 55 42.7 +1.3**
GADA Gvkgeada 108.95 312 P **Pdif 21 55 39.9 -1.0**
GADA Gvkgeada 108.95 312 P **PP 22 00 11.4 -1.8**
BEL Belsk 109.00 324 *e*P **Pdif 21 55 46.9 +6.1**
BEL *e*PP **PP 22 00 20.5 +7.5**
BEL *e*L L 22 46 42.6
comp=Z,79µm,25.6s
RDO Rodhopi 109.00 313 P **Pdif 21 55 42.7 +1.6**
RDO Rodhopi 109.00 313 P PP 22 00 27.4 +14
KOLS Kolonicke sedl 109.08 321 *e*P **Pdif 21 55 42.2 +0.9**
KOLS Kolonicke sedl 109.08 321 *e*PDIFF **Pdif 21 55 42.2 +0.9**
LAO LASA Array 109.10 41 IAMs_20 IAMs_20 22 35 34.0
comp=Z,42µm,22.0s
UZH Uzhgorod 109.16 321 ⇓*i*P **Pdif 21 55 42.2 +0.6**
UZH *i* 22 09 40.1
UZH *e* 22 15 42.2
UZH *e* 22 19 32.8
SMTH Samothraki Isl 109.17 312 P **Pdif 21 55 41.8 -0.1**
TRPA Tarpa 109.17 320 ⇓P **Pdif 21 55 42.5 +0.9**
SIGR SIGRI 109.20 311 P **Pdif 21 55 42.1 +0.1**
SIGR SIGRI 109.20 311 P PP 22 00 24.4 +9.4
HSIG 109.22 60 IAMs_20 IAMs_20 22 34 50.6
comp=Z,55µm,22.0s
CHOS Chios island 109.23 310 P **Pdif 21 55 44.6 +2.3**
CHOS Chios island 109.23 310 P **PP 22 00 21.8 +6.5**
W18A Petrified Fore 109.27 54 Pdiff **Pdif 21 55 42.8 +0.1**
baz=281
O20A White River Ci 109.39 48 Pdiff **Pdif 21 55 43.8 +0.6**
baz=283
DRGR 109.46 319 ⇑P **Pdif 21 55 42.2 -0.9**
DRGR 109.46 319 ⇑P **Pdif 21 55 42.2 -0.9**
CRVS Cervenica-Dubn 109.60 321 *e*P **Pdif 21 55 44.1 +0.4**
CRVS *e* 22 00 25.5
CRVS MLR MLR
comp=Z,63µm,25.1s
CRVS Cervenica-Dubn 109.60 321 *e*PDIFF **Pdif 21 55 44.0 +0.4**
CRVS *e* 21 59 07.6
CRVS *e*PP PP 22 00 25.5 +8.0
CRVS *e* 22 09 50.0
CRVS *e*L L 22 46 54.5
NB2 NORSAR Subarra 109.63 336 P **Pdif 21 55 41.3 -2.2**
comp=Z,26nm,1.2s,baz=59,slow=4.6
NB2 NORSAR Subarra 109.63 336 P **Pdif 21 55 41.3 -2.2**
baz=59,slow=4.6
NOA NORSAR Array B 109.63 336 Pdiff **Pdif 21 55 41.6 -1.9**
comp=Z,7.3nm,0.9s,baz=59,slow=4.5,SNR=14
NOA PKiKP **PKiKP 21 59 44.6 -1.5**
comp=Z,3.5nm,1.0s,baz=59,slow=9.4,SNR=4.0
NOA PP **PP 22 00 11.8 -5.5**
comp=Z,5.7nm,0.9s,baz=49,slow=7.7,SNR=6.1
NOA PKKPbc **PKKPbc 22 10 54.4 +1.5**
comp=Z,1.3nm,0.9s,baz=228,slow=1.3,SNR=3.2
NC602 NORSAR Array S 109.65 335 *e*Pdif **Pdif 21 55 44.2 +0.7**
NC602 IVmB_BB 21 55 53.5
comp=Z,1µm,6.2s
NC602 *e*PP **PP 22 00 18.0 +0.6**
NC602 *e*SKSac **SKSac 22 06 18.8 -0.3**
NC602 *e*SP SP 22 09 38.5 -1.2
NC602 IVMs_BB IVMs_BB 22 45 00.3
comp=Z,35µm,25.8s
THAS Thassos island 109.73 312 P **Pdif 21 55 42.4 -2.0**
THAS Thassos island 109.73 312 P PP 22 00 30.9 +12
KAVA Kavala 109.79 313 P PP 22 00 33.1 +14
GZR Gura Zlata 109.84 318 ⇑P **Pdif 21 55 44.5 -0.3**
MVCO Mesa Verde 109.84 51 Pdiff **Pdif 21 55 44.7 -0.6**
baz=282
MVCO Mesa Verde 109.84 51 IAMs_20 IAMs_20 22 48 14.8
comp=Z,29µm,21.0s
APE Apeiranthos 109.91 308 P **Pdif 21 55 47.4 +2.1**
APE Apeiranthos 109.91 308 P **PP 22 00 21.1 +0.8**
DOMB Dombas 109.92 337 *e*Pdif **Pdif 21 55 43.5 -1.3**
DOMB IVmB_BB 21 55 57.9
comp=Z,1µm,6.9s
DOMB *e*PP **PP 22 00 13.7 -5.7**
DOMB *e*SP SP 22 09 42.2 -0.1
DOMB *e*SS **SS 22 15 41.1 +0.8**
DOMB IVMs_BB IVMs_BB 22 45 34.9
comp=Z,35µm,25.8s
K22A Casper 110.02 45 Pdiff **Pdif 21 55 45.5 -0.4**
baz=286
OJC Ojcow 110.16 323 *e*P **Pdif 21 55 52.1 +6.0**
OJC *e*PP **PP 22 00 29.2 +7.8**
OJC *e*L L 22 47 45.0
comp=Z,48µm,24.8s
OJC Ojcow 110.16 323 IAMs_20 IAMs_20 22 52 19.6
comp=Z,36µm,22.0s
MOL Molde 110.19 338 *e*Pdif **Pdif 21 55 44.2 -1.7**
MOL *e*PP **PP 22 00 24.1 +3.0**
MOL *e*PS PS 22 09 49.8 -1.5
MOL *e*SS SS 22 15 37.5 -6.1
MOL IVMs_BB IVMs_BB 22 44 54.8
comp=Z,34µm,24.6s
SUMG Summit 110.20 359 *e*P **Pdif 21 55 51.4 +5.0**
SUMG Summit 110.20 359 *i* P **PKKPbc 22 10 49.4 -2.4**
SUMG Summit 110.20 359 *e*P **Pdif 21 55 51.3 +5.0**
VTS Vitosha 110.30 315 ⇑P **Pdif 21 55 46.5 -0.6**
VTS Vitosha 110.30 315 ⇑P **Pdif 21 55 46.5 -0.6**
VTS Vitosha 110.30 315 IAMs_20 IAMs_20 22 49 39.3
comp=Z,26µm,21.0s
SIRR Siria 110.32 319 ⇓P **Pdif 21 55 47.3 +0.4**
LAST Lasithi 110.34 306 P **Pdif 21 55 45.2 -2.1**
LAST Lasithi 110.34 306 P **PP 22 00 26.7 +3.2**
KECS Kecovo 110.35 321 *e*PP **PP 22 00 27.8 +4.9**
OSL Oslo 110.43 335 *e*Pdif **Pdif 21 55 50.3 +3.3**
OSL IVmB_BB 21 55 56.0
comp=Z,2µm,8.2s
OSL *e*PP **PP 22 00 23.1 +0.1**
OSL *e*SP SP 22 09 47.3 +0.3
OSL IVMs_BB IVMs_BB 22 45 11.2
comp=Z,29µm,23.4s
SRS Serrai 110.44 313 P **Pdif 21 55 47.7 +0.2**
SRS Serrai 110.44 313 P **PP 22 00 31.2 +7.3**
GKP Gorka Klasztor 110.45 327 *e*P **Pdif 21 55 52.9 +5.7**
GKP *e*PP **PP 22 00 30.1 +6.7**
GKP *e*L L 22 42 16.0
comp=Z,61µm,29.8s
GKP Gorka Klasztor 110.45 327 *e*P **Pdif 21 55 51.0 +3.8**
GKP Gorka Klasztor 110.45 327 *e*P **PKKPab 22 11 01.9 +2.8**
KARY Karystos 110.55 310 P **PP 22 00 30.0 +5.2**
AKN Aaknes 110.63 338 *e*Pdif **Pdif 21 55 50.8 +2.9**
AKN IVmB_BB 21 55 59.6
comp=Z,2µm,4.7s
AKN *e*PP **PP 22 00 25.4 +1.0**
AKN *e*SP SP 22 09 47.8 -1.0
AKN *e*SS **SS 22 15 46.3 -3.3**
AKN IVMs_BB IVMs_BB 22 43 05.1
comp=Z,36µm,28.3s
PMSA Palmer Station 110.65 170 PKKPbc PKKPbc 22 10 46.4 -3.1
comp=Z,7.3nm,0.9s,baz=29,slow=5.3,SNR=6.6
PMSA Palmer Station 110.65 170 IAMs_20 IAMs_20 22 49 49.7
comp=Z,33µm,20.0s
KYMI Kymi, Euboea I 110.67 310 P **Pdif 21 55 49.1 +0.5**
KYMI Kymi, Euboea I 110.67 310 P PP 22 00 34.8 +9.2
PAIG Paliouri 110.67 312 P **Pdif 21 55 52.1 +3.5**
PAIG Paliouri 110.67 312 P PP 22 00 35.3 +10
PLG Polygyros 110.73 312 P PP 22 00 38.0 +12
MDVR Moldovita 110.74 317 ⇓P **Pdif 21 55 48.8 0.0**
LANS Liptovska Anna 110.74 322 *e*P **Pdif 21 55 51.6 +2.8**
LANS *e* 22 00 35.5
LANS Liptovska Anna 110.74 322 *e*PDIFF **Pdif 21 55 51.6 +2.8**
LANS Liptovska Anna 110.74 322 *e* PKiKP 21 59 20.5 -28
LANS Liptovska Anna 110.74 322 *e*PP PP 22 00 35.5 +10
SLBS Sierra La Lagu 110.77 66 IAMs_20 IAMs_20 22 35 27.1
comp=Z,56µm,22.0s
IDI Anoyia 110.79 307 ⇑P **Pdif 21 55 49.8 +0.5**
IDI Anoyia 110.79 307 P **PP 22 00 33.4 +6.7**
EREA Eretria 110.85 310 P **PP 22 00 26.8 -0.1**
BSD Bornholm Skovb 110.87 329 *e*P **Pdif 21 55 52.3 +3.2**
N23A Red Feather La 110.91 47 Pdiff **Pdif 21 55 48.3 -1.7**
baz=285
PSZ Piszkesteto 110.91 321 IAMs_20 IAMs_20 22 53 51.9
comp=Z,40µm,21.0s
DION Dionisos Attik 110.93 310 P **Pdif 21 55 51.0 +1.2**
DION Dionisos Attik 110.93 310 P **PP 22 00 32.9 +5.4**
KNT Kendrikon 110.93 313 P **Pdif 21 55 51.6 +1.9**
PTL Penteli 110.98 310 P **PP 22 00 34.4 +6.4**
SKAR Skarslia 111.01 336 *e*Pdif **Pdif 21 55 52.5 +2.8**
SKAR *e*PP **PP 22 00 29.1 +1.9**
SKAR *e*SKSac **SKSac 22 06 24.2 -0.7**
SKAR *e*PS PKKPbc 22 09 57.8 -51
SKAR *e*SS **SS 22 15 53.2 -1.7**
SKAR IVMs_BB IVMs_BB 22 47 05.9
comp=Z,26µm,24.3s
S22A 4UR Ranch, Cre 111.02 51 Pdiff **Pdif 21 55 50.9 +0.4**
baz=284
KONO Kongsberg 111.06 335 *e*Pdif **Pdif 21 55 49.2 -0.7**
KONO IVmBBB 21 55 59.5
comp=Z,1µm,4.3s
KONO *e*PP **PP 22 00 28.5 +1.0**
KONO *e*SP SP 22 09 52.8 0.0
KONO IVMs_BB IVMs_BB 22 45 40.8
comp=Z,31µm,24.2s
ATHU Athens Univers 111.07 310 P **PP 22 00 32.9 +4.4**
BOVS Bovan 111.08 316 ⇑P **Pdif 21 55 48.3 -2.1**
VLY Voula,Athens 111.08 310 P **PP 22 00 33.0 +4.4**
ATH Athens Observa 111.12 310 P **PP 22 00 33.9 +5.1**
VAY Valandovo 111.13 313 *i* P **Pdif 21 55 50.5 0.0**
PHWY Pilot Hill 111.15 47 IAMs_20 IAMs_20 22 38 47.9
comp=Z,52µm,22.0s
NEO Neokhori 111.17 311 P PP 22 00 38.3 +9.1
XOR Xorichti 111.18 311 P **Pdif 21 55 54.4 +3.5**
XOR Xorichti 111.18 311 P PP 22 00 38.1 +8.8
OKC Ostrava-Krasne 111.29 323 AMS AMS 22 47 20.0
comp=Z,42µm,22.1s
STIP Stip 111.30 314 *i* P **Pdif 21 55 49.6 -1.7**
RSSD Black Hills 111.34 43 Pdiff **Pdif 21 55 51.2 -0.5**
baz=288
RSSD Black Hills 111.34 43 IAMs_20 IAMs_20 22 39 12.5
comp=Z,32µm,22.0s
121A Cookes Peak, D 111.34 56 Pdiff **Pdif 21 55 51.6 -0.4**
baz=281
121A Cookes Peak, D 111.34 56 IAMs_20 IAMs_20 22 36 43.3
comp=Z,59µm,22.0s
VYHS Vyhne 111.37 322 *e*P **Pdif 21 55 52.0 +0.5**
VYHS *e* 22 00 35.4
VYHS *e* 22 10 00.0
VYHS MLR MLR
comp=Z,58µm,24.3s
VYHS Vyhne 111.37 322 *e*PDIFF **Pdif 21 55 52.0 +0.5**
VYHS *e* 21 59 29.0
VYHS *e*PP **PP 22 00 35.3 +5.0**
VYHS *e* 22 10 00.0
VYHS *e*SS SS 22 16 28.3 +28
VYHS *e*L L 22 48 10.0
VILL Villia 111.38 310 P **PP 22 00 36.2 +5.4**
ISCO Idaho Springs 111.44 48 Pdiff **Pdif 21 55 52.3 -0.1**
baz=285
ISCO Idaho Springs 111.44 48 IAMs_20 IAMs_20 22 47 47.8
comp=Z,27µm,20.0s
LKR Lokris 111.50 311 P **PP 22 00 38.9 +7.3**
LIT Litokhoron 111.51 312 P **Pdif 21 55 52.7 +0.3**
LIT Litokhoron 111.51 312 P PP 22 00 44.5 +13
GVDS Gavdos 111.52 306 P **PP 22 00 33.8 +1.9**
GVD Gavdhos 111.52 306 P **PP 22 00 33.9 +2.0**
HYA Hoyanger 111.55 337 *e*Pdif **Pdif 21 55 52.3 +0.4**
HYA *e*PP **PP 22 00 31.4 +0.4**
HYA *e*SP SP 22 09 53.9 -3.3
MORC Moravsky Berou 111.67 323 ⇑P **Pdif 21 55 53.3 +0.4**
MORC Moravsky Berou 111.67 323 ⇑P **Pdif 21 55 53.3 +0.4**
FOO Floro 111.72 338 *e*Pdif **Pdif 21 55 52.9 +0.3**
FOO IVmB_BB 21 56 06.8
comp=Z,985nm,6.6s
FOO *e*PP **PP 22 00 34.1 +2.0**
FOO *e*SP SP 22 10 00.7 +2.0
FOO *e*SS **SS 22 16 04.2 +0.2**
FOO IVMs_BB IVMs_BB 22 46 25.1
comp=Z,30µm,23.4s
Y22D IRIS PASSCAL I 111.75 54 Pdiff **Pdif 21 55 54.0 +0.3**
baz=282
SKO Skopje 111.76 314 *i* P **Pdif 21 55 54.0 +0.6**
FRGS Fruska Gora 111.90 318 ⇓P **Pdif 21 55 54.3 +0.4**
AGG Agios Georgios 111.91 311 P **Pdif 21 55 55.8 +1.6**
AGG Agios Georgios 111.91 311 P **PP 22 00 42.2 +7.6**
SRO2 Moca 111.91 321 *e*PP **PP 22 00 37.4 +3.3**
ANMO Albuquerque 111.94 53 Pdiff **Pdif 21 55 53.3 -1.3**
comp=Z,4.0nm,1.0s,baz=271,slow=10,SNR=8.0
ANMO PKiKP **PKiKP 21 59 51.1 -0.4**
comp=Z,19nm,0.9s,baz=235,slow=3.1,SNR=13
ANMO Albuquerque 111.94 53 *i* PKIKP **PKiKP 21 59 51.4 -0.1**
ANMO Albuquerque 111.94 53 Pdiff **Pdif 21 55 54.6 0.0**
baz=283
ANMO Albuquerque 111.94 53 **Pdif 21 55 56.0 +1.4**
ANMO Albuquerque 111.94 53 IAMs_20 IAMs_20 22 38 32.7
comp=Z,57µm,22.0s
JAVC Velka Javorina 111.95 322 *e*PDIFF **Pdif 21 55 56.1 +1.9**
JAVC *e*SP SP 22 10 03.2 +1.4
KSP Ksiaz 111.98 325 *e*P **Pdif 21 56 00.9 +6.7**
KSP *e*PP PP 22 00 43.2 +8.7
KSP *e*L L 22 46 38.2
comp=Z,83µm,27.1s
LNIZ Loecknitz 111.98 328 *e*Pdiff **Pdif 21 56 01.3 +7.2**
baz=61,slow=4.5
KZN Kozani 111.99 313 P PP 22 00 44.2 +9.1
Q24A Divide 112.00 49 Pdiff **Pdif 21 55 53.9 -1.1**
baz=285
KRLC Kraliky 112.01 324 *e*P **Pdif 21 55 54.6 +0.2**
KRLC *e* 21 59 50.1
KRLC MLR MLR
comp=Z,60µm,25.1s
KRLC Kraliky 112.01 324 *e*PDIFF **Pdif 21 55 54.6 +0.2**
KRLC *e*sP **sPdif 21 56 15.7 +1.7**
KRLC *e*PKP **PKiKP 21 59 50.1 -0.8**
KRLC AMS AMS 22 48 00.0
comp=Z,60µm,25.1s
VLI Veliai 112.02 309 P **Pdif 21 55 56.9 +2.3**
VLI Veliai 112.02 309 P **PP 22 00 42.0 +6.6**
SDCO Great Sand Dun 112.04 50 Pdiff **Pdif 21 55 55.3 +0.2**
baz=284
SDCO Great Sand Dun 112.04 50 IAMs_20 IAMs_20 22 39 06.0
comp=Z,38µm,21.0s
MAKR Makrakomi, Fth 112.06 311 P **Pdif 21 55 58.0 +3.2**
MAKR Makrakomi, Fth 112.06 311 P PP 22 00 44.8 +9.2
ODD1 Odda 112.14 336 *e*Pdif **Pdif 21 55 54.9 +0.2**
ODD1 *e*PP **PP 22 00 35.2 -0.1**
ODD1 *e*PKSdf PKSdf 22 03 26.9 -0.4
ODD1 *e*SP SP 22 10 02.9 +0.2
ODD1 *e*SS **SS 22 16 07.7 -2.2**
FNA Florina 112.14 313 P PP 22 00 44.0 +7.8
OSTC Ostas 112.14 324 *e*PDIFF **Pdif 21 55 55.9 +1.0**
OSTC *e*x x 21 56 18.1
SUE Sulen 112.17 338 *e*Pdif **Pdif 21 55 55.1 +0.4**
SUE *e*PP **PP 22 00 32.8 -2.6**
SUE *e*SP SP 22 10 04.0 +1.2
SUE IVMs_BB IVMs_BB 22 45 10.8
comp=Z,26µm,27.0s
DPC Dobruska-Polom 112.17 324 *e*P **Pdif 21 55 55.8 +0.7**
DPC MLR MLR
comp=Z,50µm,23.0s
DPC Dobruska-Polom 112.17 324 *e*PDIFF **Pdif 21 55 55.8 +0.7**
DPC *e*sP **sPdif 21 56 15.7 +1.0**
DPC AMS AMS 22 50 10.0
comp=Z,50µm,23.0s
CHVC Chvalec 112.22 324 *e*PDIFF **Pdif 21 55 56.2 +0.9**
CHVC *e*PKP **PKiKP 21 59 50.4 -0.9**
CHVC AMS AMS 22 46 10.0
comp=Z,81µm,26.8s
SMOL Smolenice 112.23 322 *e*P **Pdif 21 55 58.8 +3.5**
SMOL *e* 22 00 38.2
SMOL Smolenice 112.23 322 *e*PDIFF **Pdif 21 55 58.8 +3.5**
SMOL *e* 21 59 55.9
SMOL *e*PP **PP 22 00 38.2 +1.8**
TRIZ Trizonia 112.28 310 P **PP 22 00 40.5 +3.4**
UPC Upice 112.28 324 AMS AMS 22 46 30.0
comp=Z,86µm,27.1s
VLX Vlachokerasia 112.29 309 P **PP 22 00 43.1 +5.7**
KLV Kalavryta, Ach 112.30 310 P **PP 22 00 40.7 +3.3**
HOMB Homborsund 112.30 334 *e*Pdif **Pdif 21 55 57.5 +2.1**
HOMB *e*PP **PP 22 00 36.7 +0.3**
HOMB *e*SP SP 22 10 00.9 -3.3
HOMB IVMs_BB IVMs_BB 22 45 41.6
comp=Z,25µm,24.6s
MORH Mrgy, Hungar 112.31 319 ⇑P **Pdif 21 55 55.4 -0.3**
ANX Ano Chora 112.33 311 P **Pdif 21 55 57.1 +1.0**
ANX Ano Chora 112.33 311 P **PP 22 00 32.7 -5.0**
EVR Evrytania 112.33 311 P **Pdif 21 55 57.7 +1.6**
EVR Evrytania 112.33 311 P **PP 22 00 40.7 +3.1**
ASK Askoy 112.36 337 *e*Pdif **Pdif 21 55 52.7 -2.9**
ASK *e*PP **PP 22 00 36.3 -0.4**
ASK *e*SKPdf **SKiKP 22 03 22.8 -0.1**
ASK *e*SP **SP 22 10 05.9 +1.3**
ASK IVMs_BB IVMs_BB 22 46 28.5
comp=Z,56µm,27.0s
BER Bergen 112.36 337 *e*Pdif **Pdif 21 55 54.3 -1.3**
BER IVmBBB 21 56 08.5
comp=Z,1µm,4.0s
BER *e*PP **PP 22 00 37.5 +0.7**
BER *e*SKSac **SKSac 22 06 32.2 +2.0**
BER *e*SP SP 22 10 05.7 +1.0
BER IVMs_BB IVMs_BB 22 43 46.0
comp=Z,22µm,23.0s
MODS Modra-Piesok 112.38 322 *e*P **Pdif 21 55 57.4 +1.4**
MODS *e* 22 00 40.0
MODS *e* 22 10 05.2
MODS MLR MLR
comp=Z,64µm,26.2s
MODS Modra-Piesok 112.38 322 *e*PDIFF **Pdif 21 55 57.4 +1.4**
MODS Modra-Piesok 112.38 322 *e* **PKiKP 21 59 52.4 +0.7**
MODS Modra-Piesok 112.38 322 *e*PP **PP 22 00 40.0 +2.5**

MODS	Modra-Piesok	112.38	322	e		22 10 05.2	
MODS	Modra-Piesok	112.38	322	eSS	SS	22 16 44.9	+31
MODS	Modra-Piesok	112.38	322	eL	L	22 47 57.5	
EFP	Efpalio	112.39	311	P	Pdif	21 55 59.7	+3.5
VRAC	Vranov	112.43	323	‖P	Pdif	21 55 56.8	+0.6
VRAC	Vranov	112.43	323	‖P	Pdif	21 55 56.8	+0.6
VRAC	Vranov	112.43	323	ePDIFF	Pdif	21 55 58.2	+2.0
VRAC				eSP	SP	22 10 03.9	-2.2
BLS5	Blasjo	112.50	336	ePdif	Pdif	21 55 57.9	+1.6
BLS5				IVmB_BB		21 56 08.9	
	comp=Z,967nm,3.6s						
BLS5				ePP	PP	22 00 36.7	-1.2
BLS5				eSP	SP	22 10 03.8	-2.2
BLS5				IVMs_BB	IVMs_BB	22 46 48.2	
	comp=Z,38µm,25.9s						
ZST	Bratislava	112.55	322	eP	Pdif	21 55 58.2	+1.4
ZST				e		21 59 52.0	
ZST				e		22 00 40.0	
ZST				e		22 10 08.7	
ZST	Bratislava	112.55	322	ePDIFF	Pdif	21 55 58.2	+1.4
ZST				e		21 59 52.0	
ZST				ePP	PP	22 00 40.0	+1.3
ZST				e		22 10 08.7	
ZST				eSS	SS	22 16 50.2	+34
KRUC	Moravsky	112.64	323	ePDIFF	Pdif	21 55 56.9	-0.3
KRUC				eSP	SP	22 10 06.9	-1.2
RUE	Ruedersdorf	112.68	327	ePdiff	Pdif	21 56 04.2	+7.1
	baz=61,slow=4.5						
AMT	Artemida-Makis	112.77	310	P	PP	22 00 47.5	+6.8
SNART	Snartemo	112.83	335	ePdif	Pdif	21 55 59.2	+1.5
SNART				ePP	PP	22 00 40.5	+0.3
SNART				eSP	SP	22 10 08.2	-0.8
SNART				eSS	SS	22 16 17.8	-1.1
JAN	Janina	112.85	312	P	PP	22 00 46.3	+5.1
LSK	Leskovik	112.89	313	P	PP	22 00 51.9	+10
MDND	Maddock	112.94	38	Pdiff	Pdif	21 55 58.3	-0.2
	baz=293						
MUD	Monsted U'grnd	113.01	332	eP	Pdif	21 56 04.0	+5.4
MUD	Monsted U'grnd	113.01	332	eP	Pdif	21 56 03.9	+5.4
T25A	Trinidad	113.03	51	Pdiff	Pdif	21 55 58.5	-0.9
	baz=285						
TIR	Tirane	113.07	314	IAMs_20	IAMs_20	22 50 34.5	
	comp=Z,35µm,22.0s						
TREC	Trest	113.09	323	ePKIKP	PKiKP	21 59 53.2	+0.2
TREC				MLR	MLR		
	comp=Z,84µm,26.1s						
TREC	Trest	113.09	323	ePKP	PKiKP	21 59 53.2	+0.2
TREC				AMS	AMS	22 48 50.0	
	comp=Z,84µm,26.1s						
PVCC	Panska Ves	113.11	325	eP	Pdif	21 55 59.4	+0.2
PVCC				MLR	MLR		
	comp=Z,61µm,24.5s						
PVCC	Panska Ves	113.11	325	ePDIFF	Pdif	21 55 59.4	+0.2
PVCC				AMS	AMS	22 48 00.0	
	comp=Z,61µm,24.5s						
KMY	Karmoy	113.12	336	ePdif	Pdif	21 55 58.2	-0.8
KMY				ePP	PP	22 00 41.7	-0.5
KMY				eSP	SP	22 10 09.6	-2.1
KMY				IVMs_BB	IVMs_BB	22 48 19.3	
	comp=Z,31µm,23.6s						
IGT	Igoumenitsa	113.27	312	P	PP	22 00 52.6	+8.5
BRG	Berggiesshubel	113.31	325	P	PKiKP	21 59 53.4	+0.1
BRG				Amp		21 59 55.1	
	comp=Z,18nm,0.8s						
BRG	Berggiesshubel	113.31	325	Amp		22 00 55.0	
	comp=Z,1µm,2.6s						
BRG	Berggiesshubel	113.31	325	SKS	SKSdf	22 07 15.0	+13
BRG	Berggiesshubel	113.31	325	‖Sif		22 09 01.0	
BRG	Berggiesshubel	113.31	325	PS	PS	22 10 24.0	+3.4
BRG				PKKP	PKKPab	22 10 48.8	+2.3
BRG				Amp		22 10 53.8	
	comp=Z,19nm,1.1s						
BRG	Berggiesshubel	113.31	325	ePdiff	Pdif	21 56 07.0	+7.0
	baz=61,slow=4.5						
BRG				ePKiKP	PKiKP	21 59 54.0	+0.7
	baz=66,slow=1.9						
BRG	Berggiesshubel	113.31	325	P	PKiKP	22 00 20.5	+27
BRG	Berggiesshubel	113.31	325	Amp		22 00 22.0	
	comp=Z,44nm,1.4s						
BRG	Berggiesshubel	113.31	325	PP	PP	22 00 45.5	+1.5
BRG	Berggiesshubel	113.31	325	‖ePif	Pdif	21 56 00.7	+0.6
BRG	Berggiesshubel	113.31	325	Amp		21 56 06.1	
	comp=Z,582nm,2.9s						
PRU	Pruhonice	113.36	324	eP	Pdif	21 56 01.8	+1.5
PRU				e		21 59 53.2	
PRU				e		22 00 43.4	
PRU				MLR	MLR		
	comp=Z,72µm,24.3s						
PRU	Pruhonice	113.36	324	ePDIFF	Pdif	21 56 01.8	+1.5
PRU				esP	sPdif	21 56 23.0	+3.1
PRU				ePKP	PKiKP	21 59 53.2	-0.2
PRU				ePP	PP	22 00 43.4	-0.9
PRU				AMS	AMS	22 47 10.0	
	comp=Z,72µm,24.3s						
LTHK	Lithakia	113.39	310	P	Pdif	21 56 03.8	+3.1
FSK	Fiskardo	113.39	311	P	PP	22 00 52.3	+7.2
CONA	Conrad Observa	113.42	322	eP	Pdif	21 56 00.6	-0.1
	comp=Z,24nm,1.6s						
CONA				eP	PKiKP	21 59 53.2	-0.6
	comp=Z,9.2nm,0.9s						
CONA				eP	PP	22 00 43.9	-1.1
	comp=Z,196nm,1.6s						
CONA				eS	SKiKP	22 03 16.8	-8.8
	comp=Z,65nm,1.5s						
CONA				eP	PKKPbc	22 10 42.5	+2.5
	comp=Z,13nm,1.2s						
CONA				eS	SKKPbc	22 14 29.5	+7.8
	comp=Z,36nm,1.8s						
MNTX	Cornudas Mount	113.51	57	Pdiff	Pdif	21 56 00.8	-0.6
	baz=282						
KEF4	Livadi, Kephal	113.55	311	P	Pdif	21 56 05.0	+3.6
KEK	Kerkira	113.61	312	P	PP	22 00 55.3	+8.8
FBE	Freiberg	113.62	326	ePdiff	Pdif	21 56 08.5	+7.1
	baz=61,slow=4.5						
CLL	Collm	113.64	326	ePdif	Pdif	21 56 02.0	+0.5
CLL				i Pdiffmax		21 56 07.8	
	comp=Z,484nm,3.0s						
CLL				esPdif	sPdif	21 56 24.0	+2.9
CLL				e		21 59 37.0	
CLL				ePKiKP	PKiKP	21 59 55.0	+1.1
CLL				ePP	PP	22 00 44.0	-2.3
CLL				i PPmax		22 00 52.8	
	comp=Z,1µm,2.8s						
CLL				i pPP		22 00 58.2	
CLL				i		22 01 13.6	
CLL				e		22 01 20.0	
CLL				ePPP	PPP	22 03 11.0	
CLL				ePPPP		22 04 54.0	
CLL				esSKSac	sSKSac	22 07 06.0	+5.3
CLL				esSdiff		22 08 55.0	
CLL				ePS	PKKPbc	22 10 25.0	-14
CLL				ePKKPbc	PKKPab	22 10 40.0	-5.0
CLL				epPKKPbc		22 10 50.0	
	comp=Z,58nm,1.6s						
CLL				ePKKPdf	PKKPdf	22 10 59.0	-1.7
	comp=Z,57nm,1.2s						
CLL				esPKKPab		22 11 07.0	
CLL				esPPS		22 11 52.0	
CLL				esSKKPbc		22 14 44.0	
CLL				epSKKPdf		22 14 53.0	
CLL				e		22 15 05.0	
CLL				eSS	SS	22 16 54.0	+24
CLL				e		22 18 39.0	
CLL				eSSS	SSS	22 20 24.0	
CLL				ePPPPrev		22 22 18.0	
CLL				eSSSS		22 24 30.0	
CLL				e		22 27 30.0	
CLL				Lmax		22 51 00.0	
CLL				LmV		22 55 00.0	
	comp=Z,37µm,21.9s						
CLL	Collm	113.64	326	eP	Pdif	21 56 02.0	+0.5
CLL				e		22 00 44.0	
CLL	Collm	113.64	326	ePdiff	Pdif	21 56 08.1	+6.6
	baz=61,slow=4.5						
CLL				ePKiKP	PKiKP	21 59 54.3	+0.4
	baz=66,slow=1.9						
CLL				ePP	PP	22 00 45.5	-0.8
	baz=59,slow=6.6						
ICESG	Greenland Ices	113.72	359	i P	PKiKP	21 59 54.0	-0.1
ICESG				IAMs_20	IAMs_20	22 42 01.8	
	comp=Z,68µm,27.3s						
ICESG	Greenland Ices	113.72	359	i P	PKKPbc	22 10 41.6	+1.7
OGNE	Ogallala	113.73	46	Pdiff	Pdif	21 56 02.6	+0.3
	baz=288						
BSEG	Bad Segeberg	113.79	329	ePdiff	Pdif	21 56 09.3	+7.2
	baz=61,slow=4.5						
BSEG				ePP	PP	22 00 46.0	-1.2
	baz=59,slow=6.6						
PBCC	Pribram	113.81	324	ePKP	PKiKP	21 59 53.9	-0.4
KSCO	Kaye Shedlock'	113.88	48	Pdiff	Pdif	21 56 02.8	-0.2
	baz=287						
ARSA	Arzberg	113.91	321	i P	Pdif	21 56 03.5	+0.7
	comp=Z,22nm,1.8s,SNR=6.4						
ARSA				eP	PKiKP	21 59 53.9	-0.7
	comp=Z,8.7nm,0.8s						
ARSA				eP	PP	22 00 47.3	-1.0
	comp=Z,89nm,1.6s						
ARSA				eP	PKKPab	22 10 42.0	-1.9
	comp=Z,11nm,1.3s						
ARSA				eS	SKKPbc	22 14 12.2	-8.0
	comp=Z,16nm,1.6s						
CKRC	Cesky Krumlov	114.00	323	ePDIFF	Pdif	21 56 04.9	+1.7
CKRC				ex	x	21 56 27.9	
CKRC				ePKP	PKiKP	21 59 53.4	-1.4
CKRC				ePP	PP	22 00 52.5	+3.6
CKRC				AMS	AMS	22 49 40.0	
	comp=Z,62µm,25.6s						
FLTG	Flechtingen	114.12	328	ePdiff	Pdif	21 56 10.2	+6.6
	baz=61,slow=4.5						
FLTG				ePKiKP	PKiKP	21 59 56.8	+2.0
	baz=66,slow=1.9						
HPIG		114.15	62	IAMs_20	IAMs_20	22 41 31.3	
	comp=Z,52µm,21.0s						
ULM	Lac du Bonnet	114.15	35	PKP	PKPdf	21 59 53.3	-1.6
	comp=Z,12nm,0.8s,baz=324,slow=1.8,SNR=9.6						
ULM				PP	PP	22 00 50.2	+0.3
	comp=Z,21nm,1.0s,baz=302,slow=7.8,SNR=5.6						
ULM				PKKPbc	PKKPbc	22 10 36.1	-1.3
	comp=Z,11nm,1.0s,baz=73,slow=2.1,SNR=5.4						
GROS	Grobnik	114.23	321	ePdiff	Pdif	21 56 08.2	+3.8
KHC	Kasperske Hory	114.30	324	eP	Pdif	21 56 05.1	+0.5
KHC				e		21 59 52.1	
KHC				e		22 00 50.2	
KHC				MLR	MLR		
	comp=Z,79µm,26.3s						
KHC	Kasperske Hory	114.30	324	ePDIFF	Pdif	21 56 05.1	+0.5
KHC				epP	pPdif	21 56 20.7	+1.9
KHC				ePKP	PKPdf	21 59 52.1	-3.2
KHC				ePP	PP	22 00 50.2	-0.9
KHC				ePKKP	PKKPab	22 10 47.5	+5.3
KHC				AMS	AMS	22 47 30.0	
	comp=Z,79µm,26.3s						
KHC	Kasperske Hory	114.30	324	IAMs_20	IAMs_20	22 51 35.0	
	comp=Z,26µm,22.0s						
GEC2	GERESS Array S	114.35	323	IAMs_20	IAMs_20	22 49 14.3	
	comp=Z,31µm,22.0s						
GEC2	GERESS Array S	114.35	323	ePdiff	Pdif	21 56 11.6	+6.8
	baz=61,slow=4.5						
GERES	GERESS Array B	114.35	323	Pdiff	Pdif	21 56 04.2	-0.7
	comp=Z,2.3nm,0.8s,baz=46,slow=3.9,SNR=17						
GERES				PKP	PKPdf	21 59 54.7	-0.8
	comp=Z,8.0nm,0.6s,baz=84,slow=1.8,SNR=19						
GERES				PP	PP	22 00 49.3	-2.2
	comp=Z,10.0nm,1.0s,baz=94,slow=5.8,SNR=5.8						
GERES				PKKPbc	PKKPbc	22 10 35.5	-1.4
	comp=Z,1.8nm,0.9s,baz=160,slow=4.3,SNR=2.5						
GERES				PKKPab	PKKPab	22 10 42.9	+0.9
	comp=Z,2.7nm,0.9s,baz=204,slow=2.9,SNR=4.4						
GERES	GERESS Array B	114.35	323	PKiKP	PKPdf	21 59 54.1	-1.4
NEUB	Neuenburg	114.37	326	ePdiff	Pdif	21 56 11.7	+6.9
	baz=61,slow=4.5						
NEUB				ePKiKP	PKPdf	21 59 55.9	+0.6
	baz=66,slow=1.9						
WERD	Werda	114.44	326	ePdiff	Pdif	21 56 11.9	+6.8
	baz=61,slow=4.5						
WERD				ePP	PP	22 00 50.7	-1.2
	baz=59,slow=6.6						
MOA	Molln	114.44	322	eP	Pdif	21 56 06.3	+1.1
	comp=Z,36nm,1.8s						
MOA				eP	PKPdf	21 59 54.8	-0.9
	comp=Z,10nm,1.0s						
MOA				eP	PP	22 00 50.8	-1.3
	comp=Z,42nm,1.3s						
MOA				eP	PKKPab	22 10 41.3	-0.2
	comp=Z,18nm,0.9s						
MOA				eS	SKKPbc	22 14 18.7	+0.1
	comp=Z,20nm,2.2s						
SOKA	Soboth	114.44	321	i P	Pdif	21 56 05.2	-0.1
	comp=Z,12nm,1.3s,SNR=5.1						
SOKA				eP	PKPdf	21 59 55.2	-0.5
	comp=Z,10nm,0.6s						
SOKA				eP	PP	22 00 49.9	-2.4
	comp=Z,81nm,1.2s						
SOKA				eS	SKiKP	22 03 25.6	-1.9
	comp=Z,39nm,1.7s						
SOKA				eP	PKKPab	22 10 43.4	+1.8
	comp=Z,14nm,1.2s						
SOKA				eS	SKKPbc	22 14 15.0	-3.6
	comp=Z,14nm,1.2s						
NKC	Novy Kostel	114.45	325	eP	Pdif	21 56 06.0	+0.8
NKC				e		21 59 54.4	
NKC	Novy Kostel	114.45	325	ePDIFF	Pdif	21 56 06.0	+0.8
NKC				esP	sPdif	21 56 28.1	+3.3
NKC				ePKP	PKiKP	21 59 54.4	-1.2
GUNZ	Gunzen	114.46	325	ePdiff	Pdif	21 56 12.1	+6.8
	baz=61,slow=4.5						
GUNZ				ePP	PP	22 00 50.9	-1.2
	baz=59,slow=6.6						
WERN	Wernitzgruen	114.47	325	ePdiff	Pdif	21 56 12.4	+7.1
	baz=61,slow=4.5						
WERN				ePP	PP	22 00 51.2	-1.0
	baz=59,slow=6.6						
PLN	Plauen	114.50	326	ePdiff	Pdif	21 56 12.3	+7.0
	baz=61,slow=4.5						
PLN				ePP	PP	22 00 51.0	-1.4
	baz=59,slow=6.6						
ASSE	Asse, Remlinge	114.52	328	ePdiff	Pdif	21 56 12.6	+7.3
	baz=61,slow=4.5						
NRDL	Niedersach Rie	114.64	328	ePdiff	Pdif	21 56 13.4	+7.6
	baz=61,slow=4.5						
SUSD	Miller	114.66	42	Pdiff	Pdif	21 56 05.4	-0.9
	baz=292						
WET	Wettzell	114.70	324	ePdiff	Pdif	21 56 13.6	+7.2
	baz=61,slow=4.5						
MOX	Moxa	114.73	326	ePdiff	Pdif	21 56 13.5	+7.1
	baz=61,slow=4.5						
MOX				ePP	PP	22 00 52.7	-1.3
	baz=59,slow=6.6						
MOX				eL	L	22 52 08.5	
	comp=Z,44µm,22.0s						
MANZ	Manzenberg	114.76	325	ePdiff	Pdif	21 56 13.8	+7.2
	baz=61,slow=4.5						
MANZ				ePKiKP	PKPdf	21 59 56.8	+0.6
	baz=66,slow=1.9						
MANZ				ePP	PP	22 00 53.2	-1.1
	baz=59,slow=6.6						
ROTZ	Rotzenmuhle	114.81	325	ePdiff	Pdif	21 56 14.0	+7.3
	baz=61,slow=4.5						
ROTZ				ePP	PP	22 00 53.5	-1.1
	baz=59,slow=6.6						
OBKA	Obir	114.82	321	eP	Pdif	21 56 07.5	+0.5
	comp=Z,8.6nm,1.1s						
OBKA				eP	PKiKP	21 59 55.7	-0.8
	comp=Z,9.7nm,1.0s						
OBKA				eP	PP	22 00 53.2	-1.7
	comp=Z,68nm,1.2s						
OBKA				eS	SKiKP	22 03 25.5	-2.8
	comp=Z,30nm,1.2s						
OBKA				eP	PKKPab	22 10 40.2	+0.3
	comp=Z,22nm,1.1s						
OBKA				eS	SKKPbc	22 14 11.6	-5.8
	comp=Z,17nm,1.5s						
CLZ	Clausthal	114.83	327	ePdiff	Pdif	21 56 14.1	+7.2
	baz=61,slow=4.5						
VNDS	Vrh nad Dolski	114.89	320	ePdiff	Pdif	21 56 12.2	+5.0
LJU	Ljubljana	115.02	320	ePdiff	Pdif	21 56 12.2	+4.3
LJU				ePS	PKKPab	22 10 38.1	-0.9
LJU				i		22 17 28.2	
LJU				e		22 21 15.6	
AGMN	Agassiz Nation	115.04	37	Pdiff	Pdif	21 56 05.8	-2.0
	baz=296						
MSTX	Muleshoe	115.13	54	Pdiff	Pdif	21 56 07.7	-1.0
	baz=285						
GTTG	Gottingen	115.19	327	ePdiff	Pdif	21 56 15.6	+7.2
	baz=61,slow=4.5						
KBA	Koelnbreinsper	115.33	322	eP	Pdif	21 56 13.1	+3.7
	comp=Z,5.2nm,0.9s						
KBA				eP	PKiKP	21 59 57.2	-0.4
	comp=Z,8.9nm,0.5s						
KBA				eP	PP	22 00 58.8	+0.2
	comp=Z,202nm,2.1s						
KBA				eS	SKiKP	22 03 30.6	+1.1
	comp=Z,49nm,1.4s						
KBA				eP	PKKPab	22 10 36.3	-1.5
	comp=Z,15nm,1.1s						
KBA				eS	SKKPbc	22 14 22.4	+6.3
	comp=Z,7.4nm,1.1s						
MYKA	Terra Mystica	115.34	321	eP	Pdif	21 56 16.8	+7.5
	comp=Z,7.2nm,1.2s						
MYKA				eP	PKiKP	21 59 56.2	-1.3
	comp=Z,2.1nm,0.5s						
MYKA				eP	PP	22 00 58.4	-0.2
	comp=Z,133nm,2.5s						
MYKA				eS	SKiKP	22 03 28.0	-1.3
	comp=Z,48nm,1.9s						
MYKA				eP	PKKPab	22 10 37.1	-0.5
	comp=Z,9.0nm,0.7s						
MYKA				eS	SKKPbc	22 14 28.3	+12
	comp=Z,21nm,1.7s						
GRA1	Grafenberg Arr	115.41	325	IAMs_20	IAMs_20	22 54 56.2	
	comp=Z,29µm,21.0s						
GRF	Grafenberg Arr	115.41	325	ePdiff	Pdif	21 56 16.8	+7.3
	baz=61,slow=4.5						
GRF				ePP	PP	22 00 57.3	-1.5
	baz=59,slow=6.6						
GRF				eL	L	22 54 45.7	
	comp=Z,30µm,21.7s						
GRFO	Grafenberg	115.41	325	IAMs_20	IAMs_20	22 54 56.3	
	comp=Z,30µm,21.0s						
TX31	Lajitas Ar. Si	115.44	59		PKPdf	21 59 57.0	-1.2
TXAR	Lajitas Array	115.44	59	Pdiff	Pdif	21 56 13.8	+3.6
	comp=Z,0.8nm,0.9s,baz=284,slow=5.0,SNR=6.0						
TXAR				PKP	PKPdf	21 59 57.3	-0.9
	comp=Z,5.3nm,0.6s,baz=212,slow=2.2,SNR=29						
TXAR				PP	PP	22 01 00.5	+0.5
	comp=Z,10nm,1.0s,baz=211,slow=3.1,SNR=1.3						
TXAR				PKKPbc	PKKPbc	22 10 34.1	+1.6
	comp=Z,14nm,0.9s,baz=121,slow=6.1,SNR=16						
TXAR				PKPPKP	P'P'df	22 19 09.3	+0.7
	comp=Z,1.4nm,1.0s,baz=113,slow=3.3,SNR=3.7						
TXAR	Lajitas Array	115.44	59		PKPdf	21 59 57.0	-1.2
K31A	O'Neill	115.47	43	IAMs_20	IAMs_20	22 47 55.0	
	comp=Z,43µm,22.0s						
SFJD	Kangerlussuaq	115.52	4	eP	PKiKP	21 59 54.7	-2.4
SFJD				IAMs_20	IAMs_20	22 45 03.6	
	comp=Z,37µm,24.0s						
SFJD	Kangerlussuaq	115.52	4	i P	PKKPbc	22 10 34.8	+1.6
SFJD	Kangerlussuaq	115.52	4	PKIKP	PKiKP	21 59 55.6	-1.5
SFJD				MLR	MLR		
	comp=Z,29µm,22.0s						
SFJD	Kangerlussuaq	115.52	4		PKiKP	21 59 55.6	-1.5
SFJD	Kangerlussuaq	115.52	4	IAMs_20	IAMs_20	22 48 38.4	
	comp=Z,29µm,22.0s						
UBBA	Unterbreizbach	115.54	327	ePdiff	Pdif	21 56 17.0	+7.1
	baz=61,slow=4.5						
TRI	Trieste	115.64	320	IAMs_20	IAMs_20	22 51 52.0	
	comp=Z,29µm,22.0s						
AMTX	Amarillo	115.76	52	Pdiff	Pdif	21 56 11.1	-0.4
	baz=286						
AMTX	Amarillo	115.76	52	IAMs_20	IAMs_20	22 45 04.7	
	comp=Z,49µm,22.0s						
ZOU	Zoufplan	115.78	321	IAMs_20	IAMs_20	22 55 44.6	
	comp=Z,28µm,22.0s						
IBBN	Ibbenburen	115.96	329	ePdiff	Pdif	21 56 18.9	+7.2
	baz=61,slow=4.5						
IBBN				ePKiKP	PKPdf	21 59 59.3	+0.9
	baz=66,slow=1.9						
ABTA	Abfaltersbach	115.99	322	eP	Pdif	21 56 12.0	-0.2
	comp=Z,20nm,2.1s						
ABTA				eP	PKiKP	21 59 57.5	-1.2
	comp=Z,17nm,0.9s						
ABTA				eP	PP	22 01 01.1	-1.9
	comp=Z,78nm,1.6s						
ABTA				eS	SKiKP	22 03 29.6	-1.0
	comp=Z,24nm,1.2s						
ABTA				eP	PKKPbc	22 10 32.8	+1.7
	comp=Z,33nm,2.3s						
ABTA				eS	SKKPbc	22 14 22.2	+8.4
	comp=Z,51nm,1.6s						
TIP	Timpagrande	116.01	313	IAMs_20	IAMs_20	22 54 14.4	
	comp=Z,36µm,22.0s						
CBKS	Cedar Bluff	116.08	48	Pdiff	Pdif	21 56 12.7	0.0
	baz=289						
CBKS	Cedar Bluff	116.08	48	IAMs_20	IAMs_20	22 41 29.7	
	comp=Z,56µm,22.0s						
FUR	Furstenfeldbru	116.09	324	ePdiff	Pdif	21 56 19.8	+7.2
	baz=61,slow=4.5						
FUR				ePKiKP	PKPdf	21 59 59.2	+0.4
	baz=66,slow=1.9						
KASTN	Kahler Asten	116.20	328	ePdiff	Pdif	21 56 20.2	+7.3
	baz=61,slow=4.5						
DY2G	Dye2	116.27	2	eP	PKiKP	21 59 58.1	-0.8
DY2G				IAMs_20	IAMs_20	22 42 10.7	
	comp=Z,74µm,29.5s						
DY2G	Dye2	116.27	2	i P	PKKPab	22 10 32.4	-1.1
WTTA	Wattenberg	116.29	323	eP	Pdif	21 56 14.0	+0.4
	comp=Z,46nm,1.8s						
WTTA				eP	PKPdf	21 59 58.9	-0.5
	comp=Z,28nm,0.9s						
WTTA				eP	PP	22 01 02.6	-2.7
	comp=Z,173nm,1.6s						
WTTA				eS	SKiKP	22 03 30.6	-0.7
	comp=Z,72nm,1.4s						
WTTA				eP	PKKPab	22 10 34.2	+0.6
	comp=Z,22nm,1.2s						
WTTA				eS	SKKPbc	22 14 14.8	+1.7
	comp=Z,30nm,1.5s						
WATA	Walderalm	116.30	323	eP	Pdif	21 56 13.6	-0.1
	comp=Z,23nm,1.7s						
WATA				i P	PKPdf	21 59 58.6	-0.8
	comp=Z,9.4nm,0.5s,SNR=4.4						
WATA				eP	PP	22 01 02.5	-2.8
	comp=Z,109nm,1.4s						
WATA				eS	SKiKP	22 03 30.6	-0.7
	comp=Z,42nm,1.3s						
WATA				eP	PKKPab	22 10 35.3	+1.8
	comp=Z,16nm,1.0s						
WATA				eS	SKKPbc	22 14 10.3	-2.7
	comp=Z,56nm,1.6s						
BGNE	Belgrade	116.33	45		PKPdf	21 59 57.9	-1.6
BGNE				IAMs_20	IAMs_20	22 47 33.9	
	comp=Z,41µm,22.0s						
MILB	Miltenberg	116.43	326	ePdiff	Pdif	21 56 20.9	+6.9
	baz=61,slow=4.5						
MILB				ePKiKP	PKiKP	21 59 60.0	+0.6
	baz=66,slow=1.9						
ECSD	EROS Data Cent	116.49	42	Pdiff	Pdif	21 56 13.2	-1.2
	baz=294						
ECSD	EROS Data Cent	116.49	42	IAMs_20	IAMs_20	22 43 27.6	
	comp=Z,51µm,22.0s						
SQTA	Sankt Quirin	116.57	323	eP	Pdif	21 56 17.7	+2.9
	comp=Z,18nm,1.6s						
SQTA				eP	PKPdf	21 59 59.2	-0.7
	comp=Z,36nm,1.2s						
SQTA				eP	PP	22 01 03.8	-3.4
	comp=Z,120nm,1.6s						
SQTA				eS	SKiKP	22 03 32.9	+1.1
	comp=Z,55nm,1.5s						
SQTA				eP	PKKPab	22 10 33.4	+1.1
	comp=Z,18n

RETA eS **SKKPbc 22 14 20.4 +8.8**
comp=Z,24nm,1.5s
CTI Castel Tesino 116.83 321 IAMs_20 IAMs_20 22 55 20.3
comp=Z,37µm,22.0s
PAOL Paolisi 116.94 315 IAMs_20 IAMs_20 22 54 44.8
comp=Z,33µm,22.0s
FETA Feichten 116.95 323 eP **Pdif 21 56 19.5 +2.9**
comp=Z,12nm,1.8s
FETA eP **PKPdf 22 00 00.5 -0.2**
comp=Z,14nm,0.9s
FETA eP **PP 22 01 08.4 -1.5**
comp=Z,72nm,1.9s
FETA eS **SKiKP 22 03 36.3 +3.7**
comp=Z,47nm,1.4s
FETA eP **PKKPab 22 10 30.1 -0.5**
comp=Z,24nm,1.2s
FETA eS **SKKPbc 22 14 21.0 +10**
comp=Z,40nm,1.6s
R32A Long Quarter, 116.97 48 PKPdf 21 59 59.9 -0.9
R32A IAMs_20 IAMs_20 22 46 55.2
comp=Z,28µm,22.0s
STU Stuttgart 117.02 325 IAMs_20 IAMs_20 22 54 20.8
comp=Z,44µm,22.0s
STU Stuttgart 117.02 325 ePdiff **Pdif 21 56 23.6 +7.0**
baz=61,slow=4.5
STU ePKiKP **PKiKP 22 00 00.9 +0.4**
baz=66,slow=1.9
UBR Ueberruh 117.02 324 ePdiff **Pdif 21 56 23.5 +6.8**
baz=61,slow=4.5
UBR ePKiKP **PKiKP 22 00 00.7 +0.1**
baz=66,slow=1.9
N33A J Bar K, Exete 117.07 45 IAMs_20 IAMs_20 22 41 08.5
comp=Z,42µm,21.0s
BIGH Upper Bighouse 117.12 339 eP **PKiKP 22 00 00.4 0.0**
BIGH IAMs_20 IAMs_20 22 51 03.9
comp=Z,94µm,24.4s
TEOL Teolo 117.12 321 IAMs_20 IAMs_20 22 54 32.0
comp=Z,30µm,22.0s
ANGG Ammassalik, Gr 117.17 358 eP **PKPdf 21 59 58.9 -1.4**
ANGG IAMs_20 IAMs_20 22 44 52.0
comp=Z,46µm,24.6s
ANGG Ammassalik, Gr 117.17 358 PKPdf 21 59 58.8 -1.4
ANGG IAMs_20 IAMs_20 22 53 04.9
comp=Z,24µm,22.0s
AHRW Bad Neuenahr-A 117.28 327 ePdiff **Pdif 21 56 25.4 +7.7**
baz=61,slow=4.5
DAVA Damuels 117.34 323 eP **Pdif 21 56 21.4 +3.1**
comp=Z,27nm,2.1s
DAVA i P **PKPdf 22 00 00.3 -1.1**
comp=Z,19nm,0.5s,SNR=10.0
DAVA eP **PP 22 01 07.2 -5.4**
comp=Z,82nm,1.4s
DAVA eS **SKiKP 22 03 35.2 +1.9**
comp=Z,63nm,1.6s
DAVA eP **PKKPab 22 10 28.0 -0.9**
comp=Z,23nm,1.1s
DAVA eS **SKKPbc 22 14 19.6 +10**
comp=Z,38nm,1.6s
L34A Svendsen Farm, 117.35 43 IAMs_20 IAMs_20 22 50 46.8
comp=Z,39µm,22.0s
MURB Monte Urbino 117.47 318 IAMs_20 IAMs_20 22 58 25.4
comp=Z,29µm,22.0s
ZAIG Zacatecas 117.61 66 IAMs_20 IAMs_20 22 38 54.3
comp=Z,42µm,22.0s
DRUM Mains of Drumt 117.73 337 IAMs_20 IAMs_20 22 50 43.2
comp=Z,101µm,24.4s
BFO Black Forest 117.74 325 PKIKP **PKPdf 22 00 00.1 -1.9**
BFO MLR MLR
comp=Z,28µm,20.0s
BFO Black Forest 117.74 325 PKPdf 22 00 00.1 -1.9
BFO IAMs_20 IAMs_20 22 53 38.9
comp=Z,28µm,20.0s
BFO Black Forest 117.74 325 ePdiff **Pdif 21 56 27.4 +7.5**
baz=61,slow=4.5
BTNL Ternell 117.76 328 dPKPdf **PKPdf 22 00 01.9 -0.1**
BTNL dx x 22 01 23.8
EYMN Ely 117.78 36 Pdiff **Pdif 21 56 17.8 -2.3**
baz=300
MEM Membach 117.81 328 dPKPdf **PKPdf 22 00 01.6 -0.4**
MEM dx x 22 01 22.3
LINV Loch Inver, As 117.84 339 eP **PKiKP 22 00 02.0 +0.2**
BEBN Eben Emael 117.88 328 dPKPdf **PKiKP 22 00 02.5 +0.4**
BEBN dsPKP 22 00 22.2
BEBN dx x 22 01 01.2
BEBN dPP **PP 22 01 15.3 -0.6**
BEBN dx x 22 01 23.6
OK032 Salt Plains WL 117.88 49 IAMs_20 IAMs_20 22 44 41.4
comp=Z,37µm,21.0s
BHOU Houvegnez 117.95 328 dx x 22 01 01.3
BHOU dPP PP 22 01 15.8 -0.7
ABTX Abilene, Hawle 118.01 54 Pdiff **Pdif 21 56 19.4 -2.0**
baz=286
ZCCA Zocca 118.01 320 IAMs_20 IAMs_20 22 56 40.7
comp=Z,48µm,22.0s
TSUM Tsumeb 118.05 247 PKP **PKiKP 22 00 03.9 +0.3**
comp=Z,20nm,0.8s,baz=131,slow=4.1,SNR=8.5
TSUM PKKPbc **PKKPab 22 10 25.2 -1.3**
comp=Z,15nm,1.0s,baz=293,slow=3.3,SNR=9.6
TSUM Tsumeb 118.05 247 PKiKP 22 00 04.1 +0.5
TSUM Tsumeb 118.05 247 IAMs_20 IAMs_20 22 48 50.7
comp=Z,27µm,20.0s
BSTI Sart Tilman 118.06 328 dPKPdf **PKiKP 22 00 05.2 +2.7**
BSTI dPP **PP 22 01 13.0 -4.1**
BSTI dx x 22 01 23.6
WMOK Wichita Mounta 118.09 52 Pdiff **Pdif 21 56 20.9 -0.8**
baz=288
WMOK Wichita Mounta 118.09 52 IAMs_20 IAMs_20 22 43 07.3
comp=Z,41µm,22.0s
NUUK Nuuk 118.21 5 eP **PKPdf 22 00 00.7 -1.6**
NUUK IAMs_20 IAMs_20 22 41 44.8
comp=Z,67µm,28.4s
WLF Walferdange 118.25 327 dPKPdf **PKiKP 22 00 03.0 +0.1**
WLF dPP **PP 22 01 21.4 +2.9**
WLF Walferdange 118.25 327 IAMs_20 IAMs_20 22 52 39.3
comp=Z,35µm,22.0s
WLF Walferdange 118.25 327 ePdiff **Pdif 21 56 29.6 +7.5**
baz=61,slow=4.5
PRMA PARMA 118.25 321 IAMs_20 IAMs_20 22 59 45.9
comp=Z,27µm,22.0s
KSU1 Kansas State U 118.27 46 Pdiff **Pdif 21 56 21.8 -0.6**
baz=292
BCLA Clavier 118.29 328 dPKPdf **PKPdf 22 00 02.8 -0.2**
BCLA dx x 22 01 04.2
BCLA dPP **PP 22 01 18.0 -0.8**
BCLA dx x 22 01 25.8
N35A Tabor 118.29 44 IAMs_20 IAMs_20 22 49 41.8
comp=Z,32µm,22.0s
SPMN Marine on St. 118.31 39 Pdiff **Pdif 21 56 21.0 -1.4**
baz=298
KAC Achnashellach 118.36 339 eP **PKiKP 22 00 03.0 +0.2**
BGES Gesves 118.42 328 dPP PP 22 01 16.3 -3.4
LEWI Lewis, Hebride 118.42 340 eP **PKPdf 22 00 02.4 -0.5**
JCT Junction City 118.44 57 PKiKP **PKPdf 22 00 02.7 -1.2**
baz=285
JCT Junction City 118.44 57 IAMs_20 IAMs_20 22 40 56.3
comp=Z,36µm,21.0s
RCHB Rochefort 118.47 328 dPKPdf **PKiKP 22 00 05.9 +2.6**
RCHB dx x 22 01 11.5
RCHB dx x 22 01 26.4
I37A Lemond, Waseca 118.48 40 PKPdf 22 00 02.0 -1.5
VLC Villacollemand 118.48 320 IAMs_20 IAMs_20 22 57 49.0
comp=Z,34µm,22.0s
UCC Uccle 118.56 329 dPKPdf **PKiKP 22 00 09.5 +6.1**
UCC dx x 22 01 25.9
BMRD Maredsous 118.64 328 dPKPdf **PKPdf 22 00 02.9 -0.6**
BMRD dx x 22 00 07.5
BMRD dx x 22 01 26.7
BLOK Blackwell 118.65 49 IAMs_20 IAMs_20 22 42 53.7
comp=Z,54µm,22.0s
EDI Edinburgh 118.70 337 IAMs_20 IAMs_20 22 50 25.7
comp=Z,110µm,23.9s
GDLE Glaisdale, N Y 118.76 334 IAMs_20 IAMs_20 22 50 23.4
comp=Z,113µm,25.0s
SNF Seneffe 118.77 329 dPKPdf **PKPdf 22 00 03.6 -0.2**
SNF dPP **PP 22 01 18.1 -3.9**
SNF dx x 22 01 28.4
OK029 Liberty Lake 118.78 50 IAMs_20 IAMs_20 22 45 44.5
comp=Z,32µm,21.0s
DOU Dourbes 118.84 328 dPKPdf **PKiKP 22 00 04.2 +0.1**
DOU dpPKPdf **pPKPdf 22 00 17.1 -1.6**
DOU dsPKP 22 00 23.1
DOU dx x 22 01 10.2
DOU dPP **PP 22 01 21.0 -1.6**
OK025 Westminster Rd 118.94 50 PKPdf 22 00 03.5 -1.2
OK025 IAMs_20 IAMs_20 22 43 29.8
comp=Z,34µm,22.0s

MSSA Maissana 118.96 320 IAMs_20 IAMs_20 22 55 17.8
comp=Z,38µm,22.0s
EDMD Edmundbyers 118.97 335 eP **PKPdf 22 00 02.8 -1.3**
EDMD IAMs_20 IAMs_20 22 51 52.0
comp=Z,93µm,22.8s
CLTB Caltabellotta 119.17 312 IAMs_20 IAMs_20 23 01 49.2
comp=Z,29µm,22.0s
OK031 S. Brethren Rd 119.20 50 IAMs_20 IAMs_20 22 45 55.6
comp=Z,46µm,22.0s
WACR West Acre 119.22 332 eP **PKiKP 22 00 05.8 +1.1**
QUOK Quay 119.23 50 PKPdf 22 00 04.2 -1.0
QUOK IAMs_20 IAMs_20 22 50 33.2
comp=Z,32µm,22.0s
833A Chaparral WMA, 119.32 59 PKiKP **PKPdf 22 00 05.1 -0.5**
baz=284
SENIN Lac Senin/Sane 119.34 323 IAMs_20 IAMs_20 23 00 05.4
comp=Z,25µm,20.0s
SCIA State Center 119.53 42 PKiKP **PKPdf 22 00 05.0 -0.6**
baz=296
SCIA State Center 119.53 42 IAMs_20 IAMs_20 22 45 22.0
comp=Z,49µm,22.0s
WHTX Lake Whitney, 119.96 54 PKiKP **PKPdf 22 00 06.3 -0.4**
baz=287
ELSH Elham, Standar 119.98 331 IAMs_20 IAMs_20 22 53 09.4
comp=Z,126µm,23.6s
N38A Joes South For 119.99 44 IAMs_20 IAMs_20 22 43 23.5
comp=Z,42µm,22.0s
TUL1 Leonard 120.02 50 PKiKP **PKPdf 22 00 06.1 -0.6**
baz=291
GAL1 Galloway 120.07 336 IAMs_20 IAMs_20 22 51 15.8
comp=Z,105µm,24.3s
CWF Charnwood Fore 120.10 333 IAMs_20 IAMs_20 22 50 29.2
comp=Z,113µm,26.8s
COWI Conover 120.11 36 PKPdf 22 00 05.2 -1.4
435B Jarrell 120.20 56 PKiKP **PKPdf 22 00 06.6 -0.6**
baz=286
435B Jarrell 120.20 56 IAMs_20 IAMs_20 22 42 22.8
comp=Z,50µm,22.0s
P38A Dawn 120.27 45 IAMs_20 IAMs_20 22 45 27.1
comp=Z,38µm,21.0s
I40A Norwalk 120.31 39 IAMs_20 IAMs_20 22 45 49.4
comp=Z,53µm,22.0s
BNI Bardonecchia 120.38 322 IAMs_20 IAMs_20 22 59 21.0
comp=Z,37µm,21.0s
CLGH Cloghs, Cushen 120.46 337 IAMs_20 IAMs_20 22 46 24.7
comp=Z,56µm,28.8s
HMNX Herstmonceux 120.55 331 IAMs_20 IAMs_20 22 53 48.6
comp=Z,113µm,23.2s
KVTX Kingsville 120.80 59 IAMs_20 IAMs_20 22 42 09.9
comp=Z,48µm,22.0s
FOEL Foel Wylfa 120.84 334 IAMs_20 IAMs_20 22 51 48.7
comp=Z,103µm,25.9s
U38A Gravette 120.89 49 IAMs_20 IAMs_20 22 53 22.0
comp=Z,22µm,20.0s
HLM1 Long Mynd 120.96 334 IAMs_20 IAMs_20 22 51 55.5
comp=Z,119µm,25.3s
WME Mynydd Eilian 120.96 335 eP **PKPdf 22 00 07.2 -0.7**
JFWS Jewell Farm 121.02 40 PKiKP **PKPdf 22 00 06.9 -1.5**
baz=299
WPS Cemaes, Angles 121.04 335 eP **PKPdf 22 00 04.7 -3.4**
WLF1 Llynfaes 121.08 335 eP **PKPdf 22 00 06.6 -1.5**
STRD Stroud 121.14 333 eP **PKiKP 22 00 09.8 +1.3**
VSL Villasalto 121.19 315 PKPdf 22 00 08.3 -0.5
UNM Universidad Na 121.28 69 IAMs_20 IAMs_20 22 44 49.7
comp=Z,44µm,22.0s
HHAR Hobbs 121.28 49 IAMs_20 IAMs_20 22 52 34.4
comp=Z,36µm,22.0s
237A Washetta, Mont 121.29 54 IAMs_20 IAMs_20 22 44 22.4
comp=Z,49µm,22.0s
P40A Paris 121.35 44 IAMs_20 IAMs_20 22 47 10.7
comp=Z,33µm,22.0s
MCH1 Michaelchurch 121.37 333 eP **PKPdf 22 00 08.8 0.0**
Z38A Mt. Pleasant 121.55 52 PKPdf 22 00 09.3 -0.4
SSB Saint Sauveur 121.55 323 IAMs_20 IAMs_20 22 56 52.9
comp=Z,25µm,21.0s
NRS Narsarsuaq 121.62 2 IAMs_20 IAMs_20 22 52 48.7
comp=Z,30µm,22.0s
N41A Harden Midland 121.65 43 IAMs_20 IAMs_20 22 48 02.4
comp=Z,38µm,22.0s
H43A Windswept, Lux 121.79 38 PKPdf 22 00 08.2 -1.6
W39A Magazine 121.80 50 PKiKP **PKPdf 22 00 08.9 -1.2**
baz=292
W39A Magazine 121.80 50 IAMs_20 IAMs_20 22 52 52.3
comp=Z,38µm,21.0s
HKT Hockley 121.89 56 IAMs_20 IAMs_20 22 47 33.3
comp=Z,40µm,21.0s
U40A Yellville 122.06 48 PKiKP **PKPdf 22 00 09.2 -1.5**
baz=293
U40A Yellville 122.06 48 IAMs_20 IAMs_20 22 49 24.1
comp=Z,39µm,22.0s
MIAR Mount Ida 122.20 50 PKiKP **PKPdf 22 00 09.4 -1.5**
baz=292
NATX Nacogdoches 122.30 54 PKiKP **PKPdf 22 00 08.9 -2.3**
baz=289
NATX Nacogdoches 122.30 54 IAMs_20 IAMs_20 22 43 49.9
comp=Z,51µm,22.0s
CCM Cathedral Cave 122.55 46 PKIKP **PKPdf 22 00 09.8 -1.7**
CCM MLR MLR
comp=Z,57µm,22.0s
CCM Cathedral Cave 122.55 46 PKiKP **PKPdf 22 00 09.7 -1.7**
baz=295
CCM Cathedral Cave 122.55 46 PKPdf 22 00 09.8 -1.7
KEST Kesra 122.75 311 PKP **PKPdf 22 00 11.9 -0.1**
comp=Z,21nm,0.8s,baz=165,slow=2.3,SNR=13
HDIL Hopedale 122.77 42 PKiKP **PKPdf 22 00 10.4 -1.5**
baz=298
HDIL Hopedale 122.77 42 IAMs_20 IAMs_20 22 51 01.9
comp=Z,33µm,20.0s
X40A Basin Creek Fa 122.79 50 PKiKP **PKPdf 22 00 11.1 -1.0**
baz=292
FCAR Ozark Folk Cen 122.79 48 IAMs_20 IAMs_20 22 52 53.3
comp=Z,28µm,21.0s
DYA Yadsworthy 122.87 332 IAMs_20 IAMs_20 22 52 31.1
comp=Z,104µm,25.9s
L44A Lake County Fo 122.89 40 PKiKP **PKPdf 22 00 10.7 -1.3**
baz=301
WHAR Wooly Hollow 122.90 49 IAMs_20 IAMs_20 22 53 20.3
comp=Z,27µm,22.0s
W41B Gary Mavity, V 122.97 49 PKiKP **PKPdf 22 00 11.3 -1.1**
baz=293
SLM Saint Louis 123.01 45 IAMs_20 IAMs_20 22 48 22.6
comp=Z,48µm,21.0s
P43A Skaggs, Pawnee 123.05 43 IAMs_20 IAMs_20 22 47 43.5
comp=Z,43µm,22.0s
HOPE Hope Point 123.05 183 IAMs_20 IAMs_20 22 51 55.2
comp=Z,40µm,22.0s
Z41A Richland Creek 123.26 51 PKiKP **PKPdf 22 00 12.0 -1.0**
baz=291
LCAR Lake Charles 123.44 48 PKPdf 22 00 11.6 -1.7
LCAR IAMs_20 IAMs_20 22 46 48.4
comp=Z,38µm,22.0s
GLMI Grayling 123.47 36 PKiKP **PKPdf 22 00 11.8 -1.3**
baz=305
CCA1 Carnmenellis 123.64 333 IAMs_20 IAMs_20 22 53 15.0
comp=Z,105µm,25.2s
Q44A Meyer Farm, Va 123.74 44 IAMs_20 IAMs_20 22 52 14.8
comp=Z,31µm,22.0s
CMAH Djebel Manchou 123.81 313 P **PKPdf 22 00 13.7 -0.4**
441A DeRidder 123.82 54 IAMs_20 IAMs_20 22 45 14.3
comp=Z,34µm,21.0s
ABSA Djebel Ababsia 123.92 313 P **PKiKP 22 00 14.7 +0.1**
MATQ Matagami 123.97 27 PKiKP **PKPdf 22 00 12.6 -1.2**
baz=315
EFI East Falkland 124.00 168 PKIKP **PKiKP 22 00 14.9 +0.7**
EFI MLR MLR
comp=Z,28µm,19.0s
EFI East Falkland 124.00 168 PKiKP 22 00 14.9 +0.7
EFI East Falkland 124.00 168 IAMs_20 IAMs_20 23 00 48.1
comp=Z,28µm,19.0s
HBAR Harrisburg 124.02 48 IAMs_20 IAMs_20 22 48 13.8
comp=Z,32µm,22.0s
SCHQ Schefferville 124.09 17 PKP **PKPdf 22 00 12.9 -1.1**
comp=Z,29nm,0.8s,baz=307,slow=1.9,SNR=22
SCHQ PP **PP 22 01 53.8 -4.1**
comp=Z,17nm,1.0s,baz=302,slow=6.0,SNR=2.0
SCHQ PKKPbc **PKKPbc 22 10 02.4 +1.2**
comp=Z,7.8nm,0.7s,baz=155,slow=4.8,SNR=5.7
SCHQ SKKPbc SKKPbc 22 13 51.2 +3.0
comp=Z,9.3nm,0.9s,baz=194,slow=5.2,SNR=4.2
S44A Carbondale 124.12 45 IAMs_20 IAMs_20 22 48 05.1
comp=Z,38µm,21.0s
SIUC Southern Illin 124.14 45 IAMs_20 IAMs_20 22 48 05.2
comp=Z,41µm,22.0s
J47A Sunmer 124.25 37 PKPdf 22 00 13.5 -1.1
LPAR Lepanto 124.26 48 IAMs_20 IAMs_20 22 50 30.3
comp=Z,31µm,22.0s
GNAR Gosnell 124.32 47 IAMs_20 IAMs_20 22 47 03.7
comp=Z,41µm,22.0s
SFIN Lafayette 124.32 41 PKiKP **PKPdf 22 00 13.7 -1.1**
baz=300
PEBM Pemiscott Bayo 124.37 47 IAMs_20 IAMs_20 22 47 16.0
comp=Z,31µm,21.0s
PENMO Penman 124.40 47 IAMs_20 IAMs_20 22 47 11.7
comp=Z,39µm,21.0s
CKFL Kef-Lekhel 124.42 313 P **PKPdf 22 00 14.7 -0.6**
OLIL Olney 124.45 44 IAMs_20 IAMs_20 22 51 32.6
comp=Z,35µm,21.0s
MAHO Mahon 124.51 318 PKP **PKiKP 22 00 20.1 +4.6**
MAHO Mahon 124.51 318 PP PP 22 02 08.5 +7.0
143A Socs Landing, 124.56 52 IAMs_20 IAMs_20 22 45 55.6
comp=Z,48µm,22.0s
HDBT Hernando Brdge 124.63 48 IAMs_20 IAMs_20 22 47 25.0
comp=Z,31µm,22.0s
CASM Ain Smara 124.64 313 P **PKPdf 22 00 15.6 0.0**
LNXT Lenox 124.65 47 IAMs_20 IAMs_20 22 45 30.3
comp=Z,39µm,22.0s
GLAT Glass 124.72 47 IAMs_20 IAMs_20 22 45 44.3
comp=Z,37µm,22.0s
MET Memphis--Engin 124.73 48 IAMs_20 IAMs_20 22 47 27.8
comp=Z,40µm,22.0s
LSQQ Lebel-sur-Quev 124.77 28 PKiKP **PKPdf 22 00 13.8 -1.6**
baz=315
COYC Coyhaique 124.77 154 IAMs_20 IAMs_20 22 53 32.3
comp=Z,22µm,20.0s
CTEI Djebel Teioual 124.79 313 P **PKPdf 22 00 16.2 +0.2**
HALT Halls 124.84 47 IAMs_20 IAMs_20 22 46 41.4
comp=Z,39µm,22.0s
DFRA Djebel Bou Aff 124.96 314 P **PKiKP 22 00 17.2 +0.5**
N47A Urbana 124.98 40 PKPdf 22 00 14.4 -1.7
USIN University of 125.11 44 IAMs_20 IAMs_20 22 49 56.2
comp=Z,45µm,20.0s
W45A Hickory Valley 125.28 48 IAMs_20 IAMs_20 22 47 45.1
comp=Z,49µm,22.0s
CHGQ Chibougamau 125.31 26 PKiKP **PKPdf 22 00 15.2 -1.3**
baz=318
OXF Oxford 125.38 49 PKiKP **PKPdf 22 00 15.6 -1.4**
baz=295
OXF Oxford 125.38 49 IAMs_20 IAMs_20 22 49 08.9
comp=Z,41µm,22.0s
VBMS Vicksburg 125.43 52 PKiKP **PKPdf 22 00 16.1 -1.1**
baz=292
VBMS Vicksburg 125.43 52 PKPdf 22 00 16.2 -1.0
VBMS IAMs_20 IAMs_20 22 50 19.8
comp=Z,47µm,21.0s
CKHR Kef el Ahmar 125.46 313 P **PKiKP 22 00 18.4 +0.7**
SET Setif 125.46 314 P **PKiKP 22 00 19.0 +1.4**
AAM Ann Arbor 125.49 38 PKiKP **PKPdf 22 00 16.0 -1.0**
baz=305
Y45A Yeager Farm, C 125.54 50 IAMs_20 IAMs_20 22 47 47.4
comp=Z,30µm,20.0s
WVT Waverly 125.84 46 PKIKP **PKPdf 22 00 16.4 -1.5**
WVT MLR MLR
comp=Z,46µm,22.0s
WVT Waverly 125.84 46 PKiKP **PKPdf 22 00 16.3 -1.5**
baz=297
WVT Waverly 125.84 46 PKPdf 22 00 16.4 -1.5
WVT Waverly 125.84 46 IAMs_20 IAMs_20 22 46 40.9
comp=Z,45µm,22.0s
WCI Wyandotte Cave 125.93 43 PKIKP **PKPdf 22 00 15.9 -2.1**
WCI MLR MLR
comp=Z,47µm,21.0s
WCI Wyandotte Cave 125.93 43 PKiKP **PKPdf 22 00 16.7 -1.2**
baz=300
WCI Wyandotte Cave 125.93 43 PKPdf 22 00 15.9 -2.1
WCI Wyandotte Cave 125.93 43 IAMs_20 IAMs_20 22 53 12.8
comp=Z,47µm,21.0s
T47A Sharon Grove 125.97 45 IAMs_20 IAMs_20 22 47 09.9
comp=Z,44µm,22.0s
545A Edgard 126.25 54 IAMs_20 IAMs_20 22 46 57.7
comp=Z,40µm,22.0s
P49A Miami Univ. Ec 126.33 41 PKiKP **PKPdf 22 00 17.3 -1.4**
baz=302
P49A Miami Univ. Ec 126.33 41 IAMs_20 IAMs_20 22 53 21.8
comp=Z,34µm,20.0s
M50A Fremont 126.37 38 PKPdf **PKPdf 22 00 17.0 -1.7**
ALGO Algonquin Park 126.38 31 PKiKP **PKPdf 22 00 17.5 -1.1**
baz=312
346A Big Creek Wild 126.58 52 IAMs_20 IAMs_20 22 48 03.1
comp=Z,48µm,22.0s
V48A Smith Brothers 126.75 46 PKPdf 22 00 18.4 -1.2
CLTN Cedars of Leba 126.94 46 IAMs_20 IAMs_20 22 48 49.7
comp=Z,46µm,22.0s
Z47A Carrollton 126.94 50 IAMs_20 IAMs_20 22 49 13.3
comp=Z,45µm,22.0s
ACSO Alum Creek Sta 127.07 40 PKiKP **PKPdf 22 00 19.1 -1.0**
baz=304
ACSO Alum Creek Sta 127.07 40 PKPdf 22 00 19.2 -1.0
ACSO IAMs_20 IAMs_20 22 50 39.2
comp=Z,45µm,21.0s
X48A Hartselle 127.17 48 IAMs_20 IAMs_20 22 49 01.1
comp=Z,41µm,21.0s
T50A Nancy 127.53 44 IAMs_20 IAMs_20 22 52 37.3
comp=Z,41µm,22.0s
SWET Sewanee 127.63 46 PKPdf 22 00 20.0 -1.4
ERPA Erie 127.79 36 PKiKP **PKPdf 22 00 20.4 -1.0**
baz=308
M53A Wi Miller and 127.80 37 PKiKP **PKPdf 22 00 19.9 -1.6**
baz=307
Y49A Blount Mountai 127.90 48 IAMs_20 IAMs_20 22 48 23.6
comp=Z,36µm,22.0s
LATQ La Tuque 127.91 27 PKiKP **PKPdf 22 00 20.6 -0.9**
baz=319
P52A Corning 127.94 40 PKiKP **PKPdf 22 00 20.8 -1.0**
baz=304
S51A Beattyville 128.07 43 PKPpre 22 00 10.8
S51A PKPdf **PKPdf 22 00 21.8 -0.3**
O53A New Philadelph 128.17 39 PKiKP **PKPdf 22 00 21.4 -0.8**
baz=306
EBNR Beni Rached 128.17 316 P **PKiKP 22 00 26.0 +3.0**
FPAL Fort Paine 128.18 47 IAMs_20 IAMs_20 22 49 32.9
comp=Z,45µm,22.0s
Q52A Bidwell 128.23 40 PKPdf **PKPdf 22 00 21.1 -1.2**
M54A Oil Creek Stat 128.36 36 PKiKP **PKPdf 22 00 21.5 -1.0**
baz=308
ECHA Ech Chlef 128.36 315 P **PKiKP 22 00 25.0 +1.7**
CCIG Comitan 128.39 71 IAMs_20 IAMs_20 22 47 00.3
comp=Z,27µm,22.0s
N54A Moraine State 128.50 37 PKiKP **PKPdf 22 00 22.8 -0.1**
baz=308
CPCT Cooper Cave 128.53 45 PKPdf 22 00 21.8 -1.2
BRAL Brewton 128.56 52 PKiKP **PKPdf 22 00 22.4 -0.8**
baz=294
EANR 'Ain N'Sour 128.65 315 P **PKPdf 22 00 23.0 -0.3**
TZTN Tazewell 128.67 44 PKiKP **PKPdf 22 00 22.4 -0.9**
baz=301
TZTN Tazewell 128.67 44 IAMs_20 IAMs_20 22 55 28.3
comp=Z,35µm,21.0s
X51A Calhoun 128.72 47 IAMs_20 IAMs_20 22 54 59.1
comp=Z,37µm,22.0s
H57A Richville 128.78 31 PKiKP **PKPdf 22 00 22.5 -0.7**
baz=314
ETRT Tiaret 128.78 315 P **PKPdf 22 00 24.0 +0.3**
K56A Middlesex 128.94 34 PKiKP **PKPdf 22 00 23.0 -0.7**
baz=311
TKL Tuckaleechee C 128.96 45 PKP **PKPdf 22 00 23.8 -0.1**
comp=Z,66nm,1.0s
V52A Sevierville 128.99 45 PKPpre 22 00 14.1
V52A PKPdf **PKPdf 22 00 24.1 +0.2**
V52A IAMs_20 IAMs_20 22 55 12.0
comp=Z,36µm,21.0s
I57A Carthage 129.00 32 PKiKP **PKPdf 22 00 23.2 -0.5**
baz=314
Z51A Franklin 129.07 48 IAMs_20 IAMs_20 22 58 14.5
comp=Z,25µm,21.0s
LONY Lake Ozonia 129.07 30 PKiKP **PKPdf 22 00 23.4 -0.4**
baz=316
UCM Universidad Co 129.09 322 PKP **PKiKP 22 00 26.1 +1.4**
UCM Universidad Co 129.09 322 PP PP 22 02 37.4 +5.8
CART Cartagena 129.22 318 PKP **PKiKP 22 00 28.0 +3.0**
CART Cartagena 129.22 318 PP PP 22 02 40.1 +7.4
PLCA Paso Flores 129.25 151 PKP **PKiKP 22 00 25.7 +0.6**
comp=Z,34nm,1.0s,baz=231,slow=2.1,SNR=16
PLCA Paso Flores 129.25 151 eP **PKiKP 22 00 25.6 +0.5**
EKNA AfricaArray - 129.29 273 eP **PKiKP 22 00 30.8 +5.0**
MCWV Mont Chateau 129.37 38 PKiKP **PKPdf 22 00 24.3 -0.2**
baz=307
H58A Gabriels 129.42 30 PKiKP **PKPdf 22 00 24.1 -0.4**
baz=316
H59A Cadyville 129.50 30 PKiKP **PKPdf 22 00 24.5 -0.1**
baz=316
S54A Dingess, Beckl 129.50 41 PKPdf 22 00 24.5 -0.4
I58A Old Forge 129.53 31 PKiKP **PKPdf 22 00 24.4 -0.3**
baz=314

J58A	Remsen	129.60	32	PKiKP	PKPdf	22 00 24.1	-0.8	
	baz=314							
V53A	Saluda	129.63	44	IAMs_20	IAMs_20	22 55 50.8		
	comp=Z,35μm,20.0s							
MOQ	Mont Orford	129.70	28		PKPpre	22 00 11.2		
152A	Waverly Hall	129.70	49	IAMs_20	IAMs_20	22 47 47.4		
	comp=Z,42μm,22.0s							
D62A	Allapoint, All	129.74	24	PKiKP	PKPdf	22 00 24.8	-0.2	
	baz=323							
D62A	Allapoint, All	129.74	24	IAMs_20	IAMs_20	22 49 35.9		
	comp=Z,33μm,22.0s							
O56A	Blue Knob Stat	129.78	37	PKiKP	PKPdf	22 00 25.4	+0.1	
	baz=308							
ES19	SONSECA Array	129.85	322	IAMs_20	IAMs_20	23 03 53.8		
	comp=Z,36μm,22.0s							
U54A	Nelsons Funny	129.86	43	IAMs_20	IAMs_20	22 53 13.9		
	comp=Z,42μm,20.0s							
ES09	SONSECA Array	129.87	322	IAMs_20	IAMs_20	23 04 14.2		
	comp=Z,33μm,21.0s							
ES08	SONSECA Array	129.88	322	IAMs_20	IAMs_20	23 03 54.4		
	comp=Z,36μm,22.0s							
ES18	SONSECA Array	129.88	322	IAMs_20	IAMs_20	23 03 53.5		
	comp=Z,36μm,22.0s							
ES10	SONSECA Array	129.88	322	IAMs_20	IAMs_20	23 03 55.6		
	comp=Z,36μm,22.0s							
BG3	Lake Jocassee	129.89	45	IAMs_20	IAMs_20	22 50 21.9		
	comp=Z,44μm,22.0s							
ES02	SONSECA Array	129.89	322	IAMs_20	IAMs_20	23 03 54.8		
	comp=Z,35μm,22.0s							
ES07	SONSECA Array	129.89	322	IAMs_20	IAMs_20	23 00 15.9		
	comp=Z,36μm,22.0s							
ES03	SONSECA Array	129.90	322	IAMs_20	IAMs_20	23 04 09.9		
	comp=Z,34μm,21.0s							
ES11	SONSECA Array	129.90	322	IAMs_20	IAMs_20	23 03 56.0		
	comp=Z,36μm,22.0s							
ES17	SONSECA Array	129.90	322	IAMs_20	IAMs_20	23 04 09.0		
	comp=Z,35μm,21.0s							
ES01	SONSECA Array	129.90	322	IAMs_20	IAMs_20	23 03 55.1		
	comp=Z,37μm,22.0s							
ES06	SONSECA Array	129.90	322	IAMs_20	IAMs_20	23 03 55.1		
	comp=Z,37μm,22.0s							
ES04	SONSECA Array	129.91	322	IAMs_20	IAMs_20	23 03 56.2		
	comp=Z,36μm,22.0s							
ESBB	Sonseca Array	129.91	322	IAMs_20	IAMs_20	23 03 56.2		
	comp=Z,34μm,22.0s							
ESDC	Sonseca Array	129.91	322	PKP	PKPdf	22 00 25.1	-0.5	
	comp=Z,7.0nm,1.1s,baz=26,slow=2.2,SNR=18							
ESDC				PP	PP	22 02 38.9	+1.8	
	comp=Z,15nm,1.1s,baz=45,slow=5.3,SNR=5.2							
ESDC	Sonseca Array	129.91	322		PKPdf	22 00 24.9	-0.7	
E62A	Clayton Lake	129.91	25	PKiKP	PKPdf	22 00 25.0	-0.4	
	baz=322							
E62A	Clayton Lake	129.91	25	IAMs_20	IAMs_20	22 55 37.5		
	comp=Z,30μm,21.0s							
ES05	SONSECA Array	129.91	322	IAMs_20	IAMs_20	23 03 56.4		
	comp=Z,40μm,22.0s							
ES12	SONSECA Array	129.92	322	IAMs_20	IAMs_20	23 04 09.5		
	comp=Z,30μm,21.0s							
ES16	SONSECA Array	129.92	322	IAMs_20	IAMs_20	23 00 14.6		
	comp=Z,37μm,22.0s							
ES13	SONSECA Array	129.93	322	IAMs_20	IAMs_20	23 04 09.7		
	comp=Z,35μm,21.0s							
ES14	SONSECA Array	129.94	322	IAMs_20	IAMs_20	23 03 57.0		
	comp=Z,36μm,22.0s							
ES15	SONSECA Array	129.94	322	IAMs_20	IAMs_20	23 00 16.0		
	comp=Z,38μm,22.0s							
SSPA	Standing Stone	129.95	36	PKiKP	PKPdf	22 00 25.2	-0.3	
	baz=310							
SSPA	Standing Stone	129.95	36		PKPpre	22 00 15.2		
R55A	Marlinton	130.00	40		PKPdf	22 00 25.5	-0.4	
BINY	Binghamton	130.01	33	PKiKP	PKPdf	22 00 25.2	-0.5	
	baz=312							
I59A	Olmsteadville	130.02	30	PKiKP	PKPdf	22 00 25.4	-0.2	
	baz=316							
H60A	Morristown	130.05	29	PKiKP	PKPdf	22 00 25.6	-0.1	
	baz=318							
G61A	St-Isidore-de-	130.06	28	PKiKP	PKPdf	22 00 25.3	-0.4	
	baz=319							
352A	Blakely	130.08	50	IAMs_20	IAMs_20	22 50 36.5		
	comp=Z,41μm,22.0s							
D63A	Stockholm	130.16	24	PKiKP	PKPdf	22 00 25.5	-0.2	
	baz=324							
PBRG	Braganca	130.17	326	*e*Pdif	Pdif	21 57 22.4	+7.0	
PBRG	Braganca	130.17	326	*e*PKPdf	PKiKP	22 00 31.0	+4.2	
PBRG	Braganca	130.17	326	*e*PP	PP	22 02 43.5	+4.9	
L58A	Harry Jones Me	130.19	33	PKiKP	PKPdf	22 00 26.2	+0.1	
	baz=313							
PAB	San Pablo	130.22	322	PKiKP	PKPdf	22 00 25.9	-0.4	
PAB				MLR	MLR			
	comp=Z,36μm,22.0s							
PAB	San Pablo	130.22	322		PKPdf	22 00 25.9	-0.4	
PAB	San Pablo	130.22	322	IAMs_20	IAMs_20	23 03 02.6		
	comp=Z,36μm,22.0s							
I60A	Shoreham	130.28	30	PKiKP	PKPdf	22 00 26.2	+0.1	
	baz=316							
GOGA	Godfrey	130.28	47	PKiKP	PKPdf	22 00 17.9	-8.5	
GOGA				MLR	MLR			
	comp=Z,41μm,22.0s							
GOGA	Godfrey	130.28	47	PKiKP	PKPdf	22 00 25.7	-0.7	
	baz=299							
GOGA	Godfrey	130.28	47		PKPpre	22 00 17.9		
GOGA	Godfrey	130.28	47	IAMs_20	IAMs_20	22 55 46.6		
	comp=Z,41μm,22.0s							
F62A	Pittston Farm,	130.29	26	PKiKP	PKPdf	22 00 26.3	+0.2	
	baz=322							
BLA	Blacksburg	130.42	41	PKiKP	PKPdf	22 00 26.3	-0.4	
	baz=305							
H61A	Lyndonville	130.44	28	PKiKP	PKPdf	22 00 26.5	+0.1	
	baz=318							
PQI	Presque Isle	130.49	24	PKPdf	PKPdf	22 00 25.3	-1.1	
N58A	Sunbury	130.50	35		PKPpre	22 00 17.2		
N58A				PKPdf	PKPdf	22 00 26.4	-0.2	
E63A	Oxbow	130.53	24	PKiKP	PKPdf	22 00 26.1	-0.4	
	baz=324							
E63A	Oxbow	130.53	24	IAMs_20	IAMs_20	22 52 39.8		
	comp=Z,35μm,21.0s							
G62A	West of Eustis	130.56	27	PKiKP	PKPdf	22 00 26.7	+0.1	
	baz=320							
V55A	Taylorsville	130.64	43	IAMs_20	IAMs_20	22 58 29.4		
	comp=Z,40μm,22.0s							
J60A	Lant Hill Farm	130.64	31	PKiKP	PKPdf	22 00 26.9	+0.1	
	baz=316							
LBNH	Lisbon	130.66	29	PKiKP	PKPdf	22 00 25.9	-0.9	
LBNH				MLR	MLR			
	comp=Z,44μm,22.0s							
LBNH	Lisbon	130.66	29	PKiKP	PKPdf	22 00 27.1	+0.3	
	baz=318							
LBNH	Lisbon	130.66	29		PKPdf	22 00 25.9	-0.9	
LBNH				IAMs_20	IAMs_20	22 54 49.6		
	comp=Z,44μm,22.0s							
HODGE	Hodges	130.75	46	IAMs_20	IAMs_20	22 52 00.8		
	comp=Z,41μm,22.0s							
MVO	Moncorvo	130.76	326	*e*PKPdf	PKiKP	22 00 28.4	+0.3	
MVO	Moncorvo	130.76	326	*e*PP	PP	22 02 44.2	+1.7	
MVO	Moncorvo	130.76	326	*e*SS	SS	22 20 51.5	+43	
MVO	Moncorvo	130.76	326	*e*LQ	LQ	22 35 21.0		
MVO				*e*LR	LR	22 45 17.5		
	comp=Z,57μm,22.0s							
H62A	Milan	130.77	28	PKiKP	PKPdf	22 00 27.0	-0.1	
	baz=319							
E64A	Bridgewater	130.78	24	PKiKP	PKPdf	22 00 26.7	-0.2	
	baz=324							
F63A	Nahmakanta, Br	130.82	25	PKiKP	PKPdf	22 00 27.0	0.0	
	baz=322							
F63A	Nahmakanta, Br	130.82	25	IAMs_20	IAMs_20	22 55 13.5		
	comp=Z,34μm,21.0s							
HNH	Hanover	130.88	29		PKPdf	22 00 26.8	-0.4	
PGAV	Gavieira, Arco	130.90	327	*e*PKPdf	PKPdf	22 00 27.1	-0.4	
PGAV	Gavieira, Arco	130.90	327	*e*PP	PP	22 02 34.5	-8.9	
PGAV	Gavieira, Arco	130.90	327	*e*SS	SS	22 20 48.4	+38	
PGAV	Gavieira, Arco	130.90	327	*e*LQ	LQ	22 35 41.5		
PGAV				*e*LR	LR	22 45 26.9		
	comp=Z,47μm,24.0s							
KMSC	Kings Mountain	130.93	44	PKiKP	PKPdf	22 00 27.6	0.0	
	baz=302							
KMSC	Kings Mountain	130.93	44	IAMs_20	IAMs_20	22 50 06.4		
	comp=Z,44μm,22.0s							
PCAB	Cabril	130.95	327	*e*PKPdf	PKiKP	22 00 29.6	+1.2	
PCAB	Cabril	130.95	327	*e*PP	PP	22 02 46.2	+2.6	
N59A	State Game Lan	130.99	34	PKiKP	PKPdf	22 00 27.4	-0.2	
	baz=312							
J61A	Chester	131.01	30	PKiKP	PKPdf	22 00 26.8	-0.7	
	baz=317							
F64A	Sherman	131.01	25	PKiKP	PKPdf	22 00 27.3	-0.1	
	baz=323							
F64A	Sherman	131.01	25		PKPdf	22 00 26.7	-0.7	
POLO	Lamas de Olo	131.05	326	*e*PKPdf	PKiKP	22 00 28.9	+0.2	
POLO	Lamas de Olo	131.05	326	*e*PP	PP	22 02 49.3	+5.0	
G63A	Kingsbury	131.05	26	PKiKP	PKPdf	22 00 27.5	-0.1	
	baz=322							
PVRL	Vila Real	131.07	326	*e*PKPdf	PKiKP	22 00 29.2	+0.5	
PVRL	Vila Real	131.07	326	*e*PP	PP	22 02 46.3	+1.9	
PAYG	Puerto Ayora	131.07	93	IAMs_20	IAMs_20	22 51 46.6		
	comp=Z,19μm,20.0s							
PKME	Peaks-Kenny Pk	131.08	26	PKiKP	PKPdf	22 00 27.8	+0.2	
	baz=322							
TIGA	Tifton	131.12	50	PKiKP	PKPdf	22 00 27.9	-0.1	
	baz=297							
K61A	Williamstown	131.13	31	PKiKP	PKPdf	22 00 27.4	-0.3	
	baz=316							
I62A	Tamworth	131.21	29	PKiKP	PKPdf	22 00 28.0	+0.2	
	baz=319							
H63A	New Sharon	131.22	27	PKiKP	PKPdf	22 00 27.6	-0.3	
	baz=321							
MVL	Millersville	131.26	36	PKPpre	PKPpre	22 00 15.9		
G64A	Maxfield	131.32	26	PKiKP	PKPdf	22 00 27.4	-0.6	
	baz=323							
ESQI	Esquipulas	131.33	73	IAMs_20	IAMs_20	22 49 47.4		
	comp=Z,24μm,21.0s							
MTO3	Montecristo	131.34	73	IAMs_20	IAMs_20	22 49 47.5		
	comp=Z,26μm,21.0s							
SDMD	Soldier's Deli	131.35	37		PKPdf	22 00 25.3	-3.0	
I63A	Otisfield	131.44	28	PKiKP	PKPdf	22 00 28.3	+0.1	
	baz=320							
JSC	Jenkinsville	131.44	45	IAMs_20	IAMs_20	22 52 00.8		
	comp=Z,37μm,22.0s							
J62A	Hennker	131.46	30	PKiKP	PKPdf	22 00 27.4	-0.9	
	baz=318							
PVIS	Viseu	131.55	326	*e*PKPdf	PKiKP	22 00 30.1	+0.4	
PVIS	Viseu	131.55	326	*e*PP	PP	22 02 45.5	-2.0	
MTE	Manteigas	131.56	325	*e*PKPdf	PKiKP	22 00 30.4	+0.7	
MTE	Manteigas	131.56	325	*e*PP	PP	22 02 48.7	+1.0	
MTE	Manteigas	131.56	325	*e*SS	SS	22 20 58.9	+41	
MTE	Manteigas	131.56	325	*e*LQ	LQ	22 36 36.0		
MTE				*e*LR	LR	22 45 24.6		
	comp=Z,48μm,24.0s							
MTE	Manteigas	131.56	325	IAMs_20	IAMs_20	23 00 37.7		
	comp=Z,44μm,22.0s							
SNET	Serv Nac Est T	131.57	74	IAMs_20	IAMs_20	22 49 15.8		
	comp=Z,25μm,22.0s							
L61B	Northampton	131.59	31	PKiKP	PKPdf	22 00 28.6	0.0	
	baz=316							
H64A	Troy	131.60	26	PKiKP	PKPdf	22 00 28.4	-0.2	
	baz=322							
K62A	Royalston	131.66	30	PKiKP	PKPdf	22 00 29.1	+0.4	
	baz=317							
255A	Hazlehurst	131.73	48	IAMs_20	IAMs_20	22 53 13.0		
	comp=Z,44μm,22.0s							
JSRW	J. Sargeant Re	131.78	39		PKPdf	22 00 28.8	-0.3	
CBN	Corbin Frederi	131.78	38	PKiKP	PKiKP	22 00 29.9	-0.2	
	baz=308							
J63A	Strafford	131.78	29	PKiKP	PKiKP	22 00 29.6	-0.4	
	baz=319							
P60A	Greenville	131.80	35	PKiKP	PKPdf	22 00 27.4	-1.7	
	baz=311							
W57A	Gilead	131.85	43	IAMs_20	IAMs_20	22 53 47.6		
	comp=Z,37μm,21.0s							
G65A	Princeton	131.87	25	PKiKP	PKPdf	22 00 27.9	-1.1	
	baz=324							
G65A	Princeton	131.87	25		PKPpre	22 00 18.3		
G65A				PKPdf	PKPdf	22 00 29.3	+0.2	
PCBR	Castelo Branco	131.90	325	*e*PKPdf	PKiKP	22 00 30.6	+0.3	
PCBR	Castelo Branco	131.90	325	*e*PP	PP	22 03 00.8	+11	
EMAL	Malaga-Limoner	131.94	319	PKP	PKiKP	22 00 33.1	+2.6	
EMAL	Malaga-Limoner	131.94	319	PP	PP	22 02 54.5	+4.2	
PAL	Palisades	131.97	33	PKiKP	PKPdf	22 00 27.9	-1.5	
	baz=314							
I64A	Boothbay	131.97	27	PKiKP	PKPdf	22 00 27.9	-1.4	
	baz=321							
H65A	Eastbrook	131.98	26	PKiKP	PKPdf	22 00 28.1	-1.2	
	baz=323							
K63A	Dunstable	132.00	30	PKiKP	PKPdf	22 00 27.7	-1.7	
	baz=318							
K63A	Dunstable	132.00	30		PKPpre	22 00 18.8		
K63A				PKPdf	PKPdf	22 00 29.2	-0.1	
PMRV	Marv??o	132.12	324	*e*PKPdf	PKiKP	22 00 31.3	+0.5	
PMRV	Marv??o	132.12	324	*e*PP	PP	22 02 50.1	-1.1	
PMRV	Marv??o	132.12	324	*e*SS	SS	22 20 49.4	+25	
PMRV	Marv??o	132.12	324	*e*LQ	LQ	22 36 15.8		
PMRV				*e*LR	LR	22 45 15.2		
	comp=Z,46μm,24.0s							
HRV	Adam Dziewonsk	132.12	30	PKiKP	PKPdf	22 00 28.5	-1.1	
HRV				MLR	MLR			
	comp=Z,72μm,22.0s							
HRV	Adam Dziewonsk	132.12	30		PKPdf	22 00 28.5	-1.1	
H66A	Whiting	132.31	25	PKiKP	PKPdf	22 00 29.0	-0.9	
	baz=324							
PCAS	Casmilo, Conde	132.34	326	*e*PKPdf	PKiKP	22 00 31.9	+0.7	
PCAS	Casmilo, Conde	132.34	326	*e*PP	PP	22 02 42.0	-11	
LMN	Caledonia Moun	132.42	22		PKPdf	22 00 29.2	-0.9	
L63A	North Scituate	132.57	31	PKiKP	PKPdf	22 00 30.0	-0.5	
	baz=317							
L63A	North Scituate	132.57	31	IAMs_20	IAMs_20	22 56 54.4		
	comp=Z,41μm,20.0s							
Q61A	Milford	132.59	36	PKiKP	PKPdf	22 00 28.8	-1.7	
	baz=311							
PESTR	Estremoz	132.60	324	*e*PKPdf	PKiKP	22 00 32.1	+0.3	
PESTR	Estremoz	132.60	324	*e*PP	PP	22 02 58.6	+4.3	
PBAR	Barrancos	132.72	323	*e*PKPdf	PKiKP	22 00 32.0	0.0	
PBAR	Barrancos	132.72	323	*e*PP	PP	22 02 58.1	+3.0	
PVLZ	Peæn de	132.78	318	PKP	PKiKP	22 00 35.5	+3.3	
PVLZ	Peæn de	132.78	318	PP	PP	22 03 03.1	+7.4	
NHSC	New Hope	132.82	46	PKiKP	PKPdf	22 00 30.1	-1.1	
	baz=302							
PMTG	Montargil	132.84	324	*e*Pdif	Pdif	21 57 32.4	+5.2	
PMTG	Montargil	132.84	324	*e*PKPdf	PKPdf	22 00 29.4	-1.7	
PMTG	Montargil	132.84	324	*e*PP	PP	22 02 55.0	-0.8	
PSBE	So Bento	132.87	325	*e*PKPdf	PKiKP	22 00 36.6	+4.3	
PSBE	So Bento	132.87	325	*e*PP	PP	22 02 59.9	+3.9	
L64A	Middleborough	132.90	30	PKiKP	PKPdf	22 00 30.1	-1.0	
	baz=318							
M64A	Tiverton	133.00	31	PKiKP	PKPdf	22 00 29.8	-1.5	
	baz=318							
CEU	Ceuta	133.07	319	PKP	PKiKP	22 00 35.7	+2.9	
CEU	Ceuta	133.07	319	PP	PP	22 03 02.8	+5.3	
EVO	Evora	133.07	324	PKP	PKiKP	22 00 36.6	+3.9	
EVO	Evora	133.07	324	PP	PP	22 03 05.7	+8.4	
EVO	Evora	133.07	324	*e*PKPdf	PKiKP	22 00 33.6	+0.9	
EVO	Evora	133.07	324	*e*PP	PP	22 03 02.3	+5.0	
ARNO	Arenosillo	133.21	321	PKP	PKiKP	22 00 36.2	+3.2	
ARNO	Arenosillo	133.21	321	PP	PP	22 03 05.7	+7.5	
L65A	Cape Cod Natio	133.22	29	PKiKP	PKPdf	22 00 30.2	-1.5	
	baz=319							
CNNC	Cliffs of the	133.22	42	PKiKP	PKPdf	22 00 30.3	-1.6	
	baz=306							
SFS	San Fernando	133.27	320	PKP	PKiKP	22 00 39.0	+5.9	
SFS	San Fernando	133.27	320	PP	PP	22 03 03.5	+4.8	
M65A	Busby, Falmout	133.28	30	PKiKP	PKPdf	22 00 30.8	-1.0	
	baz=318							
PBEJ	Beja	133.31	323	*e*PKPdf	PKiKP	22 00 34.1	+0.9	
PBEJ	Beja	133.31	323	*e*PP	PP	22 03 05.5	+6.6	
TGUH	Tegucigalpa,Un	133.39	73	IAMs_20	IAMs_20	22 50 40.0		
	comp=Z,21μm,20.0s							
PMAFR	Mafra	133.53	325	*e*PKPdf	PKiKP	22 00 38.0	+4.4	
PMAFR	Mafra	133.53	325	*e*PP	PP	22 02 58.5	-1.7	
LIS	Lisbon	133.61	325	*e*PKPdf	PKPdf	22 00 32.9	+0.3	
LIS				*e*PP	PP	22 03 01.8	+1.1	
LIS				IAMs_20	IAMs_20	22 57 55.5		
	comp=Z,111μm,26.8s							
LIS	Lisbon	133.61	325	*e*PKIKP	PKPdf	22 00 32.8	+0.3	
LIS				*e*		22 03 01.8		
LIS	Lisbon	133.61	325	*e*PKPdf	PKiKP	22 00 37.9	+4.1	
LIS	Lisbon	133.61	325	*e*PP	PP	22 02 59.1	-1.6	
PMST	Lisbon--Monsan	133.62	325	*e*PKPdf	PKiKP	22 00 37.8	+4.0	
PMST	Lisbon--Monsan	133.62	325	*e*PP	PP	22 03 07.0	+6.3	
PVAQ	Vaqueiros	133.62	322	*e*PKPdf	PKiKP	22 00 37.4	+3.5	
PVAQ	Vaqueiros	133.62	322	*e*PP	PP	22 03 04.6	+3.7	
PVAQ	Vaqueiros	133.62	322	*e*SS	SS	22 20 54.2	+11	
PVAQ	Vaqueiros	133.62	322	*e*LQ	LQ	22 36 22.0		
PVAQ	Vaqueiros	133.62	322	*e*LR	LR	22 50 57.0		
	comp=Z,4μm,24.0s							
MESJ	Messejana	133.65	323	*e*PKPdf	PKPdf	22 00 32.9	+0.3	
MESJ				*e*PP	PP	22 03 02.2	+1.2	
MESJ				*e*SS	SS	22 20 45.7	+2.3	
MESJ				IAMs_20	IAMs_20	22 57 43.1		
	comp=Z,60μm,19.4s							
MESJ	Messejana	133.65	323	*e*PKIKP	PKPdf	22 00 32.9	+0.3	
MESJ				*e*		22 03 02.2		
MESJ				*e*SS	SS	22 20 45.7	+2.3	
MESJ	Messejana	133.65	323	*e*Pdif	Pdif	21 57 36.1	+5.3	
MESJ	Messejana	133.65	323	*e*PKPdf	PKiKP	22 00 34.2	+0.3	
MESJ	Messejana	133.65	323	*e*PP	PP	22 03 03.4	+2.4	
PNCL	Nicolau / Gran	133.65	324	*e*Pdif	Pdif	21 57 38.4	+7.6	
PNCL	Nicolau / Gran	133.65	324	*e*PKPdf	PKiKP	22 00 34.5	+0.6	
PNCL	Nicolau / Gran	133.65	324	*e*PP	PP	22 03 05.9	+4.9	
PCVE	Castro Verde	133.67	323	*e*PKPdf	PKPdf	22 00 32.8	+0.1	
PCVE	Castro Verde	133.67	323	*e*PP	PP	22 03 04.5	+3.3	
BO01	Tunca	133.76	146	IAMs_20	IAMs_20	23 08 06.8		
	comp=Z,20μm,22.0s							
PBDV	Barranco-do-Ve	133.86	322	*e*PKPdf	PKiKP	22 00 35.6	+1.2	
PBDV	Barranco-do-Ve	133.86	322	*e*PP	PP	22 03 04.7	+2.3	
PTEO	Sao Teotonio	134.14	323	*e*PKPdf	PKiKP	22 00 38.3	+3.4	
PTEO	Sao Teotonio	134.14	323	*e*PP	PP	22 03 06.8	+2.7	
IFR	Ifrane	134.28	316	PKP	PKiKP	22 00 41.2	+5.7	
IFR	Ifrane	134.28	316	PP	PP	22 03 13.0	+7.5	
DWPF	Disney Wildern	134.28	52	PKiKP	PKPdf	22 00 33.8	-0.3	
	baz=296							
DWPF	Disney Wildern	134.28	52	IAMs_20	IAMs_20	22 59 39.2		
	comp=Z,39μm,22.0s							
PFVI	Vila Bisbo	134.47	323	*e*PKPdf	PKiKP	22 00 39.0	+3.4	
PFVI	Vila Bisbo	134.47	323	*e*PP	PP	22 03 01.1	-5.2	
PFVI	Vila Bisbo	134.47	323	IAMs_20	IAMs_20	23 05 36.9		
	comp=Z,40μm,21.0s							
SOR	Soroa	135.07	60	PKIKP	PKPdf	22 00 34.9	-0.8	
SOR				MLR	MLR			
	comp=Z,16μm,22.0s							
SOR	Soroa	135.07	60		PKPdf	22 00 34.9	-0.8	
RTC	Rabat Centre	135.18	318	IAMs_20	IAMs_20	23 04 34.2		
	comp=Z,43μm,22.0s							
TRQA	Tornquist	135.20	157	IAMs_20	IAMs_20	23 07 02.2		
	comp=Z,28μm,20.0s							
TRQA	Tornquist	135.20	157	*e*P	PKiKP	22 00 36.6	-0.6	
060A	Indiantown	135.61	53	IAMs_20	IAMs_20	23 00 42.4		
	comp=Z,37μm,22.0s							
061Z	Ochoppi	135.67	55	IAMs_20	IAMs_20	22 53 19.3		
	comp=Z,36μm,22.0s							
ORTG	Ortega, Santa	135.67	78	IAMs_20	IAMs_20	22 47 19.8		
	comp=Z,19μm,22.0s							
ACON	Acoyapa	135.74	76	IAMs_20	IAMs_20	22 50 23.4		
	comp=Z,29μm,20.0s							
AVE	Averroes	135.96	318	PKP	PKiKP	22 00 43.3	+4.5	
AVE	Averroes	135.96	318	PP	PP	22 03 20.8	+4.8	
CAO2	Cobano, Puntar	136.09	79	IAMs_20	IAMs_20	22 51 51.0		
	comp=Z,21μm,22.0s							
JTS	Las Juntas de	136.18	78	PKP	PKPdf	22 00 37.6	-0.4	
	comp=Z,98nm,1.0s,baz=20,slow=1.8,SNR=15							
JTS				SKPbc	SKPab	22 04 10.3	-1.4	
	comp=Z,12nm,0.9s,baz=282,slow=9.4,SNR=1.9							
JTS	Las Juntas de	136.18	78	PKIKP	PKPdf	22 00 37.8	-0.2	
JTS				MLR	MLR			
	comp=Z,19μm,21.0s							
JTS	Las Juntas de	136.18	78		PKPdf	22 00 37.8	-0.2	
JTS	Las Juntas de	136.18	78	IAMs_20	IAMs_20	22 55 53.2		
	comp=Z,19μm,21.0s							
JTS	Las Juntas de	136.18	78	*e*P	PKPdf	22 00 36.4	-1.6	
CO03	El Pedregal	136.53	142	IAMs_20	IAMs_20	23 12 21.7		
	comp=Z,20μm,21.0s							
ESPN	Las Esperanzas	136.55	75	IAMs_20	IAMs_20	22 54 04.8		
	comp=Z,19μm,21.0s							
COVE	Coope Vega, Sa	136.66	77	IAMs_20	IAMs_20	22 56 05.0		
	comp=Z,19μm,21.0s							
GO04	Tololo Observa	136.93	142		PKPdf	22 00 36.4	-2.9	
GO04				IAMs_20	IAMs_20	23 12 30.3		
	comp=Z,22μm,22.0s							
HDC	Heredia	137.03	78	IAMs_20	IAMs_20	22 48 23.9		
	comp=Z,25μm,22.0s							
RIMA	Rio Macho	137.30	79	IAMs_20	IAMs_20	22 58 08.0		
	comp=Z,19μm,22.0s							
CVTR	Volcan Turrial	137.37	78

PPNO	Prainha do Nor	142.42	343	*e*PKP	PKPdf	22 00 49.1	+0.3
PPNO	Prainha do Nor	142.42	343	*e*PP	PP	22 03 57.4	+2.5
PICO	Pico	142.44	343	*e*PKP	PKPdf	22 00 48.5	-0.4
PICO	Pico	142.44	343	*e*PP	PP	22 03 57.4	+2.4
PICO	Pico	142.44	343	*e*LR	LR	22 47 57.5	
	comp=Z,4μm,20.0s						
CALA	Caldeira	142.45	344	*e*PKP	PKPdf	22 00 47.4	-1.5
CALA	Caldeira	142.45	344	*e*PP	PP	22 03 53.4	-1.7
PCAN	Candelaria	142.49	343	*e*PKP	PKPdf	22 00 48.7	-0.2
PCAN	Candelaria	142.49	343	*e*PP	PP	22 03 58.3	+3.0
PSMN	Pico do Norte,	142.69	338	*e*PKP	PKPdf	22 00 47.4	-1.9
PSMN	Pico do Norte,	142.69	338	*e*PP	PP	22 03 54.7	-1.9
PSMN	Pico do Norte,	142.69	338	*e*LR	LR	22 48 04.1	
	comp=Z,2μm,18.2s						
PB06	IPOC Station P	142.70	134	IAMs_20	IAMs_20	22 53 57.1	
	comp=Z,19μm,22.0s						
PSMA	Santa Maria	142.72	338	*e*PP	PP	22 03 54.7	-2.0
TUMC	Tumaco	142.75	91	*e*P	PKPdf	22 00 45.4	-4.6
CTUM2	Tumaco	142.75	91	*e*P	PKPdf	22 00 48.3	-1.8
OTAV	Otavalo	142.94	93	PKHKP	PKPpre	22 00 43.9	
OTAV				MLR	MLR		
	comp=Z,14μm,22.0s						
OTAV	Otavalo	142.94	93		PKPpre	22 00 43.9	
OTAV	Otavalo	142.94	93	*e*P	PKPdf	22 00 46.3	-4.7
GTBY	Guantanamo Bay	142.96	60	IAMs_20	IAMs_20	23 00 24.1	
	comp=Z,24μm,22.0s						
GTBY	Guantanamo Bay	142.96	60	*e*P	PKPdf	22 00 50.3	+0.1
CUSE	Cuicocha Este	143.00	93	*e*P	PKPdf	22 00 44.7	-6.3
UPD2	Meteti	143.18	79	*e*P	PKPdf	22 00 49.6	-1.1
KIC	Kosan Boka	143.23	277	*e*P	PKPdf	22 00 51.9	+1.0
	comp=Z,276nm,1.1s						
LVC	Limon Verde	143.24	135	PKP	PKPdf	22 00 50.5	-0.6
	comp=Z,100nm,0.9s,baz=206,slow=2.1,SNR=28						
LVC	Limon Verde	143.24	135	PKIKP	PKPbc	22 00 48.8	+0.7
LVC				MLR	MLR		
	comp=Z,21μm,22.0s						
LVC	Limon Verde	143.24	135		PKPbc	22 00 48.8	+0.6
LVC	Limon Verde	143.24	135	IAMs_20	IAMs_20	22 54 26.1	
	comp=Z,21μm,22.0s						
LVC	Limon Verde	143.24	135	*e*P	PKPbc	22 00 48.9	+0.7
BBSR	BB Station	143.30	34		PKPbc	22 00 47.0	-0.5
TIC	Toumodi	143.49	277	*e*P	PKPdf	22 00 50.7	-0.6
LIC	Lamto	143.52	277	*e*P	PKPbc	22 00 49.9	+1.2
	comp=Z,937nm,1.4s						
PTAC	Punta Ardita,	143.53	82	*e*P	PKPab	22 00 46.5	-1.3
TULM	Tulcn-Chalpat	143.63	92	*e*P	PKPab	22 00 46.1	-2.7
PLTB	Pedras Altas	143.82	162		PKPbc	22 00 49.6	+0.5
SOLC	Bahia Solano	144.00	83	*e*P	PKPab	22 00 49.8	+0.3
CCUFI	Cufio, Nario	144.10	92	*e*P	PKiKP	22 00 55.4	-1.2
GCUF	Volcan Galeras	144.10	92	*e*P	PKPab	22 00 50.7	0.0
PIZC	Pizarro, Choco	144.11	85	*e*P	PKPbc	22 00 51.1	+0.6
CPAS1	Pasto	144.12	92	*e*P	PKPdf	22 00 53.0	+0.1
MALC	Bahia Malaga	144.16	87	*e*P	PKPbc	22 00 50.9	+0.2
MALC	Bahia Malaga	144.16	87	*e*P	PKPbc	22 00 51.1	+0.5
BBAC	Balboa, Cauca	144.24	90	*e*P	PKPab	22 00 47.1	-3.6
CRUC	La Cruz	144.51	91	*e*P	PKPab	22 00 51.2	-0.8
ITQB	Itaqui	144.68	157	*e*P	PKPbc	22 00 52.4	+0.6
LCBC	Los crdobas,	144.75	79	*e*P	PKPbc	22 00 52.7	+0.2
POPC	Popayan, Colom	144.82	89	*e*P	PKPab	22 00 40.4	-13
SOTA	Rioblanco	144.88	90	*e*P	PKPab	22 00 52.5	-1.1
PCON	Cinco Dias	145.09	90	*e*P	PKPbc	22 00 54.1	-0.2
DBBC	Dabeiba	145.12	82	*e*P	PKPab	22 00 53.9	0.0
YOTC	Yotoco, Valle	145.15	87	*e*P	PKPbc	22 00 53.4	-0.6
YOTC	Yotoco, Valle	145.15	87	*e*P	PKPbc	22 00 52.8	-1.2
PLMC	San Jos del P	145.19	85	*e*P	PKPbc	22 00 51.1	-2.9
CBOC	Ciudad Bolivar	145.41	84	*e*P	PKPbc	22 00 53.8	-1.0
MOTC	Monteria, Cord	145.45	79	*e*P	PKPdf	22 00 52.0	-2.7
MARP	Paez Belalcaza	145.54	89	*e*P	PKPdf	22 00 54.9	-0.4
GRTK	Grand Turk	145.62	55	IAMs_20	IAMs_20	23 05 10.8	
	comp=Z,27μm,22.0s						
UREC	San Jos de Ur	145.71	80	*e*P	PKPdf	22 00 55.2	+0.1
SJCC	San Jacinto, C	145.76	76	*e*P	PKPdf	22 00 54.4	-0.9
HELC	Santa Helena	145.86	83	*e*P	PKPdf	22 00 54.9	-1.0
GARC	Garzon, Huila	145.99	90	*e*P	PKPdf	22 00 56.2	+0.2
BETC	Betania	146.05	89	*e*P	PKPbc	22 00 56.8	+0.1
ANIL	Santa Ana	146.08	86	*e*P	PKPdf	22 00 55.4	-0.8
GUY2C	Guyana, Caldas	146.09	85	*e*P	PKPdf	22 00 56.8	+0.4
TOLC	Tolima	146.16	86	*e*P	PKPdf	22 00 56.1	-0.3
ORTC	Ortega, Tolima	146.25	87	*e*P	PKPdf	22 00 55.5	-0.6
ZARC	Zaragoza, Cauc	146.41	81	*e*P	PKPdf	22 00 55.3	-1.0
SMRC	Santa Marta, M	146.44	74	*e*P	PKPdf	22 00 53.8	-2.5
CNOCA	NORCASIA, CALD	146.56	84	*e*P	PKPbc	22 00 57.9	-0.3
NORC	Norcasia	146.56	84	*e*P	PKPbc	22 00 56.2	-0.5
PTLC	Puerto Leguiza	146.58	94	*e*P	PKPdf	22 00 56.1	-0.6
SDDR	Presa de Saban	146.64	59	IAMs_20	IAMs_20	23 06 01.3	
	comp=Z,34μm,22.0s						
SDDR	Presa de Saban	146.64	59	*e*P	PKPdf	22 00 57.0	+0.4
ARGC	Ariguani, Magd	146.67	76	*e*P	PKPbc	22 00 57.7	-0.8
SMLC	San Martn de	147.01	78	*e*P	PKPdf	22 00 57.7	+0.4
CROSA	EL ROSAL, CUND	147.14	85	*e*P	PKiKP	22 01 02.7	0.0
ROSC	El Rosal	147.14	85	PKPbc	PKPbc	22 00 60.0	-0.3
	comp=Z,155nm,0.4s,baz=16,slow=4.0,SNR=33						
ROSC	El Rosal	147.14	85	PKP2	PKPdf	22 00 58.1	0.0
ROSC				MLR	MLR		
	comp=Z,13μm,21.0s						
ROSC	El Rosal	147.14	85		PKPdf	22 00 58.1	0.0
ROSC	El Rosal	147.14	85	*e*P	PKPdf	22 00 57.5	-0.6
CPUP	Villa Florida	147.30	153	PKPbc	PKPab	22 01 00.8	-0.8
	comp=Z,821nm,1.3s,baz=229,slow=2.5,SNR=56						
CPUP	Villa Florida	147.30	153	*e*P	PKPbc	22 00 58.8	-1.1
LL1C	La Loma 1 Cana	147.39	77	*e*P	PKPbc	22 01 01.1	+0.6
CVALL	Valledupar, Ce	147.50	75	*e*P	PKPbc	22 01 00.8	0.0
LL2C	La Loma 2 Cana	147.50	77	*e*P	PKPbc	22 00 59.6	-1.2
LPAZ	La Paz	147.58	126	PKPbc	PKPbc	22 01 02.0	+0.3
	comp=Z,181nm,1.1s,baz=285,slow=1.3,SNR=74						
LPAZ	La Paz	147.58	126		PKPdf	22 01 00.1	+1.1
LPAZ	La Paz	147.58	126	*e*P	PKPdf	22 00 58.2	-0.8
LPAZ	La Paz	147.58	126	*e*P	PKPdf	22 00 58.9	0.0
MACC	Macarena, Meta	147.63	90	*e*P	PKPdf	22 00 59.1	+0.7
MACC	Macarena, Meta	147.63	90	*e*P	PKPdf	22 00 58.5	+0.1
CHIC	Chingaza	147.74	86	*e*P	PKPdf	22 00 58.5	-0.6
OCAC	Ocana	147.83	79	*e*P	PKPdf	22 00 59.1	+0.2
BARC	Barichara	148.15	82	*e*P	PKPdf	22 01 00.9	+1.4
RUSC	La Rusia	148.31	83	*e*P	PKPdf	22 00 58.6	-1.6
URIC	Uribia, Colomb	148.45	72		PKPdf	22 00 59.8	+0.1
URIC	Uribia, Colomb	148.45	72	*e*P	PKPdf	22 00 56.9	-2.8
PAMC	Pamplona, Colo	148.55	80	*e*P	PKPdf	22 01 00.7	+0.2
PTGC	Puerto Gaitan,	149.34	86	*e*P	PKPdf	22 01 00.2	-1.0
DABV	Dabajuro	149.93	73	*e*P	PKPbc	22 01 06.2	-0.8
SOCV	Socops	150.23	78	*e*P	PKPdf	22 00 59.9	-2.7
SDV	Santo Domingo	150.35	77	PKP	PKPdf	22 01 03.0	0.0
	comp=Z,355nm,1.1s,baz=276,slow=2.1,SNR=34						
SDV				PKPbc	PKPbc	22 01 07.7	-0.6
	comp=Z,576nm,1.1s,baz=269,slow=4.7,SNR=12						
SDV	Santo Domingo	150.35	77	IAMs_20	IAMs_20	23 10 21.6	
	comp=Z,18μm,22.0s						
SDV	Santo Domingo	150.35	77	*e*P	PKPdf	22 01 01.4	-1.6
SDV	Santo Domingo	150.35	77	*e*P	PKPdf	22 01 04.0	+1.0
AOPR	Arecibo Observ	150.75	56	*e*P	PKPbc	22 01 06.7	-2.2
TBTG	Tabatinga, AM	150.75	103	*e*P	PKPdf	22 01 02.9	-0.5
ASCN	Ascension	150.97	248		PKPdf	22 01 03.9	+0.1
ASCN				IAMs_20	IAMs_20	23 05 14.4	
	comp=Z,18μm,22.0s						
H10N1	ASCENSION HYDR	151.12	249	PKPbc	PKPdf	22 01 05.0	+1.3
	baz=79,slow=4.0,SNR=13						
H10N2	ASCENSION HYDR	151.13	249	PKPbc	PKPdf	22 01 05.0	+1.3
	baz=79,slow=4.0,SNR=11						
H10N3	ASCENSION HYDR	151.14	249	PKPbc	PKPdf	22 01 04.4	+0.8
	baz=79,slow=4.0,SNR=13						
SJG	San Juan	151.36	56	PKP	PKPdf	22 01 04.5	+0.3
	comp=Z,59nm,0.8s,baz=344,slow=2.9,SNR=15						
SJG				PKPbc	PKPbc	22 01 09.7	-0.5
	comp=Z,449nm,0.9s,baz=43,slow=6.2,SNR=22						
SJG	San Juan	151.36	56	PKIKP	PKPdf	22 01 03.6	-0.6
SJG				MLR	MLR		
	comp=Z,20μm,21.0s						
SJG	San Juan	151.36	56		PKPdf	22 01 03.6	-0.6
SJG				PKPbc	PKPbc	22 01 09.9	-0.3
SJG	San Juan	151.36	56	IAMs_20	IAMs_20	23 11 38.2	
	comp=Z,20μm,21.0s						
SJG	San Juan	151.36	56	*e*P	PKPdf	22 01 01.4	-2.7
ELOV	Elorza	151.76	80	*e*P	PKPdf	22 01 05.6	+0.7
STVI	Saint Thomas	152.22	54		PKPdf	22 01 04.3	-1.2
STVI				PKPbc	PKPbc	22 01 11.4	-0.7
ETMB	Extrema	152.38	117	*e*P	PKPdf	22 01 06.1	+0.3
TRCB	Terra Rica	152.40	157	*e*P	PKPdf	22 01 07.6	+1.9
PET01	Itanhaem-SP	152.57	168	*e*P	PKPdf	22 01 07.0	+1.2
CDVI	St. Croix	152.68	55	*e*P	PKPdf	22 01 04.8	-1.3
AQDB	Aquidauana	153.05	149	*e*P	PKPdf	22 01 07.8	+1.1
SIV	San Ignacio	153.14	134	PKP	PKPdf	22 01 07.3	+0.3
	comp=Z,5.8nm,0.6s,baz=206,slow=0.5,SNR=20						
SIV				PKPbc	PKiKP	22 01 14.6	+0.1
	comp=Z,27nm,0.7s,baz=242,slow=1.5,SNR=26						
SPB	Sao Paulo	153.21	168	IAMs_20	IAMs_20	23 08 58.3	
	comp=Z,28μm,21.0s						
SPB	Sao Paulo	153.21	168	*e*P	PKPdf	22 01 09.3	+2.5
PARB	Paraibuna	153.79	171	*e*P	PKPdf	22 01 09.0	+1.2
VAO	Valinhos	153.88	168	*e*P	PKPdf	22 01 09.2	+1.2
SMRT	St. Maarten	153.89	53	*e*P	PKPdf	22 01 07.2	-0.8
SABA	Saba	153.99	54	*e*P	PKPdf	22 01 06.2	-1.9
PCMB	Pacaembu	154.00	159	*e*P	PKPdf	22 01 09.3	+1.3
SEUS	St. Eustatius	154.27	54	*e*P	PKPdf	22 01 06.4	-2.1
SKI	Saint Kitts	154.55	54	*e*P	PKPdf	22 01 06.4	-2.5
PTLB	Pontes e Lacer	154.87	136	*e*P	PKPdf	22 01 10.5	+1.2
VAS01	Vassouras-RJ	155.08	176	*e*P	PKPdf	22 01 10.3	+0.8
ANWB	Willy Bob	155.12	52	*e*P	PKPdf	22 01 08.8	-0.8
ANWB	Willy Bob	155.12	52	IAMs_20	IAMs_20	23 03 39.2	
	comp=Z,32μm,22.0s						
DUB01	Friburgo-RJ	155.34	178	*e*P	PKPdf	22 01 12.4	+2.5
BB19B	Bebedouro	155.37	164	*e*P	PKPdf	22 01 10.5	+0.5
ANOC	Antigua Open C	155.39	53	*e*P	PKPdf	22 01 09.2	-0.8
ANDO	Antigua, Disas	155.40	53	*e*P	PKPdf	22 01 16.2	+6.2
BPA	Boggy Peak	155.41	53	*e*P	PKPdf	22 01 09.2	-0.9
SAML	Samuel	155.44	118	IAMs_20	IAMs_20	23 26 27.1	
	comp=Z,20μm,22.0s						
ANBD	Bethesda, Anti	155.49	53	*e*P	PKPdf	22 01 13.3	+3.2
CAM01	Campos-RJ	155.61	180	*e*P	PKPdf	22 01 11.6	+1.4
VILB	Vilhena	155.74	130	*e*P	PKPdf	22 01 09.7	-0.9
PCRV	Puerto La Cruz	155.82	71	PKP	PKPdf	22 01 09.8	-0.9
	comp=Z,42nm,1.2s,baz=79,slow=5.0,SNR=4.2						
PCRV				PP	PP	22 05 18.8	+4.0
	comp=Z,10nm,0.8s,baz=238,slow=9.9,SNR=1.4						
PP1B	Ponte de Pedra	155.86	147	*e*P	PKPdf	22 01 12.9	+2.2
ABD	La Joyeuse, An	156.02	54	*e*P	PKPdf	22 01 13.4	+2.6
ITRB	Iturama	156.07	159	*e*P	PKPdf	22 01 13.3	+2.4
CBE	Ff, Capester	156.14	55	*e*P	PKPdf	22 01 10.2	-0.8
BSCB	Bom Sucesso	156.21	172	*e*P	PKPdf	22 01 11.8	+0.7
TDBA	Terre de Bas,	156.23	55	*e*P	PKPdf	22 01 12.8	+1.7
H05N1	Guadeloupe/Mar	156.45	54	PKP	PKPdf	22 01 09.4	-2.0
	SNR=5.0						
DSLB	Salisbury	156.62	56	*e*P	PKPdf	22 01 11.2	-0.5
SALV	Santo Antonio	156.76	143	*e*P	PKPdf	22 01 13.1	+1.2
ALF01	Guarapari-ES	156.80	182	*e*P	PKPdf	22 01 12.6	+0.8
DLPL	La Plaine	156.81	56	*e*P	PKPdf	22 01 14.7	+2.7
SVN	Savane Anatole	157.13	57	IAMs_20	IAMs_20	23 06 37.0	
	comp=Z,22μm,22.0s						
FDF	Fort de France	157.19	57	*e*P	PKPdf	22 01 11.0	-1.4
FDF	Fort de France	157.19	57	IAMs_20	IAMs_20	23 14 25.9	
	comp=Z,24μm,22.0s						
BIM	Bigot	157.37	58	*e*P	PKPdf	22 01 09.5	-3.2
ILAM	Ilet Lapin Mar	157.41	57	*e*P	PKPdf	22 01 09.5	-3.1
MPOM	Morne Pois Mar	157.58	58	*e*P	PKPdf	22 01 11.4	-1.5
SLBI	Saint Lucia, B	157.69	59	*e*P	PKPdf	22 01 16.6	+3.6
SVB	Belmont	157.79	61	*e*P	PKPdf	22 01 15.1	+1.9
SVV	Soufriere Volc	157.80	61	*e*P	PKPdf	22 01 10.8	-2.4
SSV	Crater Summit	157.82	61	*e*P	PKPdf	22 01 17.7	+4.4
MCLT	Moule a Chique	157.86	59	*e*P	PKPab	22 01 35.4	-11
GRGR	Grenville	157.91	64	*e*P	PKPdf	22 01 11.7	-1.7
GCMP	Grenada, Carri	157.97	63	*e*P	PKPdf	22 01 18.5	+5.1
RIB01	Linhares ES	158.09	183	*e*P	PKPdf	22 01 14.1	+0.6
IPMB	Ipameri, GO	158.38	162	*e*P	PKPdf	22 01 15.6	+1.7
BSFB	Barra de Sao F	158.58	182	*e*P	PKPdf	22 01 16.4	+2.4
SACV	Santiago Islan	158.59	306	IAMs_20	IAMs_20	23 16 12.2	
	comp=Z,14μm,22.0s						
TRN	Trinidad (W)	158.69	67	*e*P	PKPdf	22 01 13.8	-0.5
SJMB	Sao Joao De Ma	158.72	181	*e*P	PKPdf	22 01 16.6	+2.4
TPP	Pointe-a-Pierr	158.76	68	*e*P	PKPdf	22 01 14.9	+0.5
DIAM	Diamantina, MG	159.01	174	*e*P	PKPdf	22 01 17.5	+2.7
ARAG	Araguaiana, MT	159.03	151	*e*P	PKPdf	22 01 17.2	+2.5
TPR	Prosnject	159.07	65	*e*P	PKPdf	22 01 16.4	+1.6
TOSP	Speyside	159.25	65	*e*P	PKPdf	22 01 18.0	+3.1
TOSP	Speyside	159.25	65	PKPdf	PKPdf	22 01 16.3	+1.4
TOSP					PKPab	22 01 50.7	-1.5
BBGH	Gun Hill	159.31	59	*e*P	PKPdf	22 01 21.8	+6.8
BBSP	Saint Philip	159.42	59	*e*P	PKPdf	22 01 28.5	+13
NAN01	Guarapari, ES	159.53	184	*e*P	PKPdf	22 01 17.3	+2.1
CLDB	Colider	160.36	134	*e*P	PKPdf	22 01 16.7	+0.5
MC01	Montes Claros	160.55	173	*e*P	PKPdf	22 01 18.1	+1.6
BDFB	Brasilia	160.64	161	PKP	PKPdf	22 01 16.9	+0.3
	comp=Z,50nm,1.0s,baz=8.5,slow=2.2,SNR=19						
BDFB				PP	PP	22 05 41.1	+1.9
	comp=Z,9.5nm,0.8s,baz=173,slow=3.0,SNR=1.5						
BDFB	Brasilia	160.64	161	PKIKP	PKPdf	22 01 17.0	+0.3
GUA01	Guaratinga, BA	160.76	185	*e*P	PKPdf	22 01 18.8	+2.2
BOAV	Boa Vista	160.95	91	*e*P	PKPdf	22 01 17.5	+0.6
PTGA	Pitinga	161.18	100	PKP	PKPdf	22 01 16.7	-0.5
	comp=Z,37nm,1.3s,baz=300,slow=2.2,SNR=22						
PTGA				PKPab	PKPab	22 02 02.2	+1.4
	comp=Z,102nm,0.9s,baz=250,slow=4.1,SNR=9.4						
PTGA				PP	PP	22 05 43.6	-0.6
	comp=Z,10nm,1.1s,baz=185,slow=23,SNR=1.6						
PTGA	Pitinga	161.18	100		PKPdf	22 01 16.1	-1.1
CMC01	Camacan, BA	161.94	186	*e*P	PKPdf	22 01 19.4	+1.6
JANB	Januaria	162.12	171	*e*P	PKPdf	22 01 20.5	+2.4
SNDB	Serra Nova Dou	162.44	148	*e*P	PKPdf	22 01 21.1	+2.7
NPGB	Novo Progresso	163.07	125	*e*P	PKPdf	22 01 20.9	+1.8
GDU01	Guandu, BA	163.57	186	*e*P	PKPdf	22 01 22.0	+2.5
PEXB	Peixe	163.78	155	*e*P	PKPdf	22 01 19.9	+0.2
ITTB	Itaituba	164.09	116	*e*P	PKPdf	22 01 20.3	+0.3
SDBA	SAO DESIDERIO	164.59	167	*e*P	PKPdf	22 01 22.6	+2.1
MALB	Monte Alegre	166.42	109	*e*P	PKPdf	22 01 24.8	+2.9
NBPN	Ponto Novo - B	166.47	185	*e*P	PKPdf	22 01 24.7	+2.7
NBAN	Anadia - AL	166.66	203	*e*P	PKPdf	22 01 25.1	+3.0
SMTB	Santa Maria do	166.98	152	*e*P	PKPdf	22 01 25.4	+3.0
NBRF	Rio Formoso -	167.04	209	*e*P	PKPdf	22 01 25.7	+3.3
PRPB	Parauapebas	167.85	137	*e*P	PKPdf	22 01 24.8	+1.8
MDP	Montagnes des	168.59	78	PKP	PKPdf	22 01 22.7	-0.9
	comp=Z,27nm,1.2s,baz=87,slow=1.7,SNR=6.9						
MDP				PKPab	PKPab	22 02 34.7	+1.2
	comp=Z,79nm,1.1s,baz=278,slow=3.9,SNR=12						
MDP				PP	PP	22 06 23.6	+0.7
	comp=Z,37nm,1.1s,baz=360,slow=5.4,SNR=4.7						
MCPB	Macapa, AP	168.97	106	*e*P	PKPdf	22 01 25.3	+1.5
NBMA	Muriti-CE	169.63	195	*e*P	PKPdf	22 01 27.7	+3.5
RCBR	Riachuelo	169.86	213	PKP	PKPdf	22 01 24.3	-0.1
	comp=Z,42nm,1.1s,baz=300,slow=5.5,SNR=5.0						
RCBR				PKPab	PKPab	22 02 38.9	+0.1
	comp=Z,77nm,1.1s,baz=131,slow=5.1,SNR=4.3						
RCBR				PP	PP	22 06 29.5	+1.9
	comp=Z,15nm,0.9s,baz=127,slow=7.5,SNR=1.9						
RCBR	Riachuelo	169.86	213	PKPdf	PKPdf	22 01 23.1	-1.3
RCBR					PKPab	22 02 40.1	+1.3
NBPB	Pedra_Branca-C	171.59	193	*e*P	PKPdf	22 01 28.7	+3.5
TMAB	Tom-Àu,PA,Br	171.66	127	*e*P	PKPdf	22 01 28.6	+3.3
NBCL	Cascavel-CE	172.42	205	*e*P	PKPdf	22 01 29.2	+3.6
NBPS	Pedro II - PI	172.94	180	*e*P	PKPdf	22 01 29.5	+3.5
ROSB	Rosrio	173.82	154	*e*P	PKPdf	22 01 29.3	+3.2
NBMO	Morrinhos-CE	173.85	193	*e*P	PKPdf	22 01 30.5	+4.3

*TRN **27** 21:49:19.8, 19°.01N×64°.44W, h73km, M3.1(RSPR)*
*NEIC **27** 21:49:20.6±1.2, 19°.2N±0°.1×64°.58W±0°.08, h31km±24km,*
Error ellipse: s-maj=23.4km s-min=6.3km az=201.0
*RSPR **27** 21:49:21.2, 19°.14N×64°.46W, h66km±11km, MD3.1/5*
ISC 27 21:49:21.1±2.3, 19°.2N±0°.1×64°.63W±0°.07, h24km±17km,
n28, σ0°65/37, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	Anegada Island	0.55	149	Pn	Pb	21 49 32.0	-0.1
VGBI	Virgin Gorda,	0.74	163	*e*P	Pb	21 49 34.9	-0.4
VGBI	Virgin Gorda,	0.74	163	*e*S	Sb	21 49 45.2	+0.2
VGBI	Virgin Gorda,	0.74	163		Pb	21 49 34.9	-0.4
VGBI					Sb	21 49 45.2	+0.2
TBVI	Tortola	0.78	179	*e*P	Pb	21 49 35.1	-0.9
TBVI	Tortola	0.78	179	*e*P	Pb	21 49 35.1	-0.9
TBVI				*e*S	Sb	21 49 46.8	+0.7
TBVI	Tortola	0.78	179		Pb	21 49 35.1	-0.9
TBVI					Sb	21 49 46.8	+0.7
STVI	Saint Thomas	0.90	200	*e*P	Pb	21 49 37.5	-0.5
STVI	Saint Thomas	0.90	200	*e*P	Pb	21 49 37.5	-0.5
STVI				*e*S	Sb	21 49 50.4	+0.9
STVI	Saint Thomas	0.90	200		Pb	21 49 37.3	-0.7
STVI					Sb	21 49 50.2	+0.7
STVI				IAML		21 49 55.7	
	comp=N,121nm,0.4s						
CUPR	Culebra, Puert	1.08	215	*e*P	Pn	21 49 40.3	-0.5
CUPR	Culebra, Puert	1.08	215	*e*S	Sb	21 49 55.8	+1.0
CUPR	Culebra, Puert	1.08	215		Pn	21 49 40.2	-0.5
CUPR				Sn	Sb	21 49 55.2	+0.4
CUPR				IAML		21 50 01.0	
	comp=N,83nm,0.4s						
MTP	Monte Pirata	1.40	219	*e*P	Pn	21 49 45.0	-0.2
MTP	Monte Pirata	1.40	219	*e*P	Pn	21 49 45.0	-0.2
MTP				*e*S	Sn	21 50 03.4	+0.5
MTP	Monte Pirata	1.40	219		Pn	21 49 44.8	-0.3
MTP				Sn	Sn	21 50 02.0	-0.9
MTP				IAML		21 50 11.9	
	comp=N,57nm,0.2s						
CDVI	St. Croix	1.45	185	Pn	Pn	21 49 46.0	+0.3
CBYP	Canovanas	1.48	232	Pn	Pn	21 49 45.8	-0.5
CBYP				IAML		21 50 09.4	
	comp=E,162nm,0.2s						
HUMP	Col San Antoni	1.56	228	*e*P	Pn	21 49 47.7	+0.4
HUMP	Col San Antoni	1.56	228	*e*P	Pn	21 49 47.7	+0.4
HUMP				*e*S	Sn	21 50 07.8	+0.9
HUMP	Col San Antoni	1.56	228	Pn	Pn	21 49 47.6	+0.2
HUMP				IAML		21 50 10.5	
	comp=E,60nm,0.2s						
HUMP				IAML		21 50 14.8	
	comp=N,43nm,0.2s						
GCPR	Guaynabo City	1.64	237	Pn	Pn	21 49 47.6	-0.7
GCPR				IAML		21 50 56.0	
	comp=N,76nm,0.8s						
PDPR	Patillas Dam,	1.77	229	Pn	Pn	21 49 50.1	-0.1
PDPR				IAML		21 50 16.5	
	comp=E,47nm,1.1s						
SJG	San Juan	1.80	233	Pn	Pn	21 49 49.3	-1.3
AOPR	Arecibo Observ	2.18	247	Pn	Pn	21 49 55.0	-0.9
AOPR				IAML		21 50 39.7	
	comp=N,44nm,0.4s						
OBIP	Obispado Ponce	2.20	239	Pn	Pn	21 49 56.4	+0.2
OBIP				IAML		21 50 15.8	
	comp=E,29nm,2.5s						
OBIP				IAML		21 51 16.6	
	comp=N,26nm,2.4s						
MLPR	Magueyes Islan	2.59	242	Pn

GHO	Glory Hole Cre	80.76	24	P	P	22 04 13.0 +0.4
GHO				IAmb	IAmb	22 04 14.3
comp=Z,96nm,1.8s						
KNK	Knik Glacier	80.78	25	P	P	22 04 13.3 +0.7
KNK				IAmb	IAmb	22 04 32.2
comp=Z,77nm,1.7s						
SML	Sawmill	81.03	25	P	P	22 04 14.7 +0.8
baz=240						
SML	Sawmill	81.03	25	P	P	22 04 14.4 +0.5
SML				IAmb	IAmb	22 04 15.1
comp=Z,39nm,0.7s						
GLI	Glacier Island	81.10	26	P	P	22 04 15.1 +0.8
baz=242						
GLI	Glacier Island	81.10	26	P	P	22 04 14.6 +0.3
GLI				IAmb	IAmb	22 04 15.4
comp=Z,32nm,0.7s						
HIN	Hinchinbrook I	81.13	26	P	P	22 04 15.0 +0.6
BPAW	Bear Paw Mtn.	81.17	22	P	P	22 04 14.3 -0.3
ZAA0	Zalesovo Array	81.23	327	P	P	22 04 14.3 -0.8
ZALV	Zalesovo Beam	81.23	327	P	P	22 04 14.0 -1.1
comp=Z,4.8nm,0.5s,baz=115,slow=6.6,SNR=12						
ZALV	Zalesovo Beam	81.23	327	P	P	22 04 14.0 -1.1
IMAR	Indian Mountai	81.24	20	P	P	22 04 15.8 +0.9
FID	Port Fidalgo	81.30	26	P	P	22 04 15.9 +0.6
FID				IAmb	IAmb	22 04 16.4
comp=Z,30nm,1.0s						
WAT1	Susitna Watana	81.44	24	P	P	22 04 16.6 +0.5
baz=240						
SCM	Sheep Creek Mo	81.45	25	P	P	22 04 17.6 +1.4
RND	Reindeer	81.62	23	P	P	22 04 16.8 -0.3
RND				IAmb	IAmb	22 04 17.4
comp=Z,32nm,0.9s						
MCK	McKinley	81.75	23	P	P	22 04 17.9 +0.2
baz=240						
MCK	McKinley	81.75	23	P	P	22 04 17.6 -0.1
MCK				IAmb	IAmb	22 04 18.6
comp=Z,45nm,1.1s						
MLY	Manley	81.76	21	P	P	22 04 18.4 +0.7
baz=238						
MLY	Manley	81.76	21	P	P	22 04 18.0 +0.3
MLY				IAmb	IAmb	22 04 18.7
comp=Z,15nm,0.6s						
KAIM	Kayak Island	81.85	27	P	P	22 04 19.8 +1.6
KLU	Klutina	81.89	25	P	P	22 04 19.6 +1.0
baz=243						
KLU	Klutina	81.89	25	P	P	22 04 19.5 +1.0
KLU				IAmb	IAmb	22 04 20.2
comp=Z,32nm,1.1s						
M24K	Tolsona, Glenn	82.06	25	P	P	22 04 20.7 +1.3
baz=242						
M24K	Tolsona, Glenn	82.06	25	P	P	22 04 20.6 +1.1
NEA2	Nenana	82.14	22	P	P	22 04 19.6 -0.1
baz=239						
NEA2	Nenana	82.14	22	P	P	22 04 19.4 -0.3
BMRM	Bremner River	82.22	26	P	P	22 04 20.8 +0.5
BMRM				IAmb	IAmb	22 06 01.9
comp=Z,85nm,1.8s						
I23K	Minto, Yukon-K	82.31	21	P	P	22 04 21.0 +0.5
baz=239						
I23K	Minto, Yukon-K	82.31	21	P	P	22 04 20.8 +0.2
I23K				IAmb	IAmb	22 05 20.6
comp=Z,53nm,1.9s						
WRH	Wood River Hil	82.44	22	P	P	22 04 20.8 -0.5
H23K	Yukon River	82.60	21	P	P	22 04 22.8 +0.7
baz=239						
HARP	HAARP	82.62	25	P	P	22 04 23.2 +0.9
baz=243						
CCB	Clear Creek Bu	82.64	22	P	P	22 04 21.6 -0.6
TCOL	CIGO, UAF Yank	82.73	22	P	P	22 04 22.5 -0.2
baz=240						
PAX	Paxson	82.75	24	P	P	22 04 24.1 +1.0
baz=243						
GLB	Gilahina Butte	82.77	26	P	P	22 04 23.8 +0.7
CRQE	Cirque	82.80	27	P	P	22 04 24.3 +1.0
baz=245						
HDA	Harding Lake	82.84	23	P	P	22 04 22.9 -0.4
baz=241						
HDA	Harding Lake	82.84	23	P	P	22 04 23.3 0.0
HDA				IAmb	IAmb	22 04 40.1
comp=Z,41nm,1.7s						
IL31		83.04	22	P	P	22 04 23.6 -0.7
ILAR	Eielson Array	83.04	22	P	P	22 04 23.1 -1.3
comp=Z,8.9nm,0.7s,baz=246,slow=5.5,SNR=32						
ILAR	Eielson Array	83.04	22	P	P	22 04 23.5 -0.8
H24K	Noodor Dome	83.20	21	P	P	22 04 26.1 +0.9
baz=240						
H24K	Noodor Dome	83.20	21	S	S	22 04 26.2 -616
baz=254						
YAH	Yahtse	83.25	27	P	P	22 04 26.9 +1.1
RIDG	Independent Ri	83.35	24	P	P	22 04 26.9 +0.8
baz=243						
RIDG	Independent Ri	83.35	24	P	P	22 04 26.6 +0.5
TABL	Table Mountain	83.55	27	P	P	22 04 28.4 +1.0
TABL				IAmb	IAmb	22 04 28.9
comp=Z,27nm,0.7s						
BARN	Barnard Glacie	83.56	27	P	P	22 04 28.5 +1.2
BARN				IAmb	IAmb	22 04 29.2
comp=Z,21nm,0.6s						
DOT	Dot Lake	83.62	24	P	P	22 04 27.8 +0.4
L26K	Log Cabin Wild	83.65	24	P	P	22 04 28.6 +1.0
baz=245						
CTG	Chitna Glacier	83.67	27	P	P	22 04 29.2 +1.3
baz=247						
CTGM	Chitina Glacie	83.67	27	P	P	22 04 28.9 +1.0
CTGM				IAmb	IAmb	22 04 29.7
comp=Z,20nm,0.7s						
KURBB	Kurchatov Arra	83.80	322	P	P	22 04 26.8 -1.7
comp=Z,2.8nm,0.2s,baz=111,slow=3.9,SNR=4.9						
PCA	Pinnacle	83.83	28	P	P	22 04 29.6 +1.0
PCA				IAmb	IAmb	22 04 29.8
comp=Z,73nm,1.4s						
PINM	Pinnacle	83.83	28	P	P	22 04 29.8 +1.2
baz=248						
M27K	Edge Creek, AK	83.99	25	P	P	22 04 30.9 +1.5
baz=246						
TOLK	Toolik Lake Re	84.06	18	P	P	22 04 30.9 +1.3
baz=238						
L27K	Beaver Creek,	84.29	25	P	P	22 04 32.5 +1.6
baz=246						
BCAR	Beaver Creek A	84.31	25	P	P	22 04 32.4 +1.4
K27K	Chicken	84.58	24	P	P	22 04 33.7 +1.4
EGAK	Eagle	85.25	23	P	P	22 04 36.7 +1.1
baz=247						
EGAK	Eagle	85.25	23	P	P	22 04 36.4 +0.8
HYT	Haines Junctio	85.36	28	P	P	22 04 37.9 +1.5
HYT				IAmb	IAmb	22 04 38.7
comp=Z,17nm,0.8s						
WHY	Whitehorse	86.53	28	P	P	22 04 43.9 +1.8
baz=253						
RUBB	Prince Rupert	87.28	35	P	P	22 04 47.7 +2.0
EPYK	Eagle Plains	87.55	22	P	P	22 04 47.9 +1.0
baz=251						
EPYK	Eagle Plains	87.55	22	P	P	22 04 47.7 +0.8
DLBC	Dease Lake	88.33	31	P	P	22 04 49.9 -1.0
comp=Z,11nm,1.0s,baz=221,slow=7.5,SNR=5.6						
BVAR	Borovoye Array	89.26	323	P	P	22 04 52.9 -2.3
comp=Z,2.4nm,0.8s,baz=68,slow=4.0,SNR=5.6						
SYO	Syowa Base	92.81	199	↑iP	P	22 05 13.6 +2.2
NVAR	Mina Array Bea	93.10	52	P	P	22 05 12.0 -1.7
comp=Z,2.4nm,0.9s,baz=251,slow=5.6,SNR=2.8						
YKA	Yellowknife Ar	96.35	28	P	P	22 05 27.0 -0.7
comp=Z,2.2nm,0.8s,baz=260,slow=4.1,SNR=4.5						
NOA	NORSAR Array B	117.22	340	PKP	PKPdf	22 10 43.6 -0.5
comp=Z,0.7nm,0.7s,baz=48,slow=1.8,SNR=3.9						
PTGA	Pitinga	147.50	100	PKPbc	PKPbc	22 11 44.4 0.0
comp=Z,8.6nm,0.8s,baz=232,slow=5.1,SNR=6.3						
KOWA	Kowa	154.74	293	↑iP	PKPbc	22 12 00.3 -1.0
comp=Z,2.4nm,0.5s,baz=56,slow=2.8,SNR=6.2						
KOWA				PKPab	pPKPbc	22 12 14.9 -0.6
comp=Z,5.0nm,0.7s,baz=325,slow=6.8,SNR=4.4						
KOWA	Kowa	154.74	293		PKPbc	22 11 60.0 -1.3

MAN 27 21:55:35.1, 9°.40N×127°.47E, h17km, mb4.5, ML3.3, MS3.1, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.63	222	⇓eP	Pn	21 56 03.4	+0.4
BIPH				eS	Sn	21 56 21.2	-2.4
SCPH	Surigao	1.99	281	⇓eP	Pn	21 56 09.2	+1.2
SCPH				eS	Sn	21 56 33.4	+0.9
CGP	Cagayan de Oro	2.89	251	⇑eP	Pb	21 56 24.2	-2.1
CGP				eS	Sn	21 56 57.9	+3.0
KCP	Kidapawan	3.34	225	⇓eP	Pg	21 56 42.5	+3.3

INET 27 22:03:57.9, 13°.07N×88°.62W, h41km, MW2.8
SNET 27 22:04:00.7±1.1, 13°.03N×88°.72W, h59km±11km, ML3.5, 4C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.33	26	⇑iP	Pn	22 04 11.3	+0.3
ALJI				eS	Sn	22 04 19.7	+1.2
ALJI				IAML		22 04 20.9	
comp=Z,2μm,0.2s							
COEB	Comit de Eme	0.50	21	eP	Pn	22 04 12.7	-0.1
COEB				IAML		22 04 27.9	
comp=Z,1μm,0.3s							
JUCU	Jucuarın	0.51	64	⇓eP	Pn	22 04 12.5	-0.3
JUCU				eS	Sn	22 04 22.0	+0.4
JUCU				IAML		22 04 23.7	
comp=Z,3μm,0.2s							
TECA	Tecapa	0.51	24	eP	Pn	22 04 13.1	+0.2
TECO	Alcaldia de Te	0.51	353	⇓eP	Pn	22 04 12.7	-0.1
TECO				eS	Sn	22 04 22.2	+0.7
TECO				IAML		22 04 24.4	
comp=Z,1μm,0.1s							
PACA	Pacayal	0.58	41	eP	Pn	22 04 14.3	+0.6
PQSS	Presa 15 de Se	0.61	14	⇑eP	Pn	22 04 14.4	+0.5
SJTE	Alcalda de S	0.65	334	eP	Pn	22 04 14.4	0.0
SJTE				eS	Sn	22 04 24.8	+0.4
SJTE				IAML		22 04 27.1	
comp=Z,2μm,0.2s							
LFRS	El Faro	0.68	331	⇓iP	Pn	22 04 14.8	0.0
PAVA	Las Pavas	0.71	343	eP	Pn	22 04 15.6	+0.3
LBRS	Las Brisas	0.78	336	⇑iP	Pn	22 04 16.8	+0.8
LCND	La Caada	0.85	71	⇑iP	Pn	22 04 17.2	+0.4
LCND				eS	Sn	22 04 29.5	+0.8
LCND				IAML		22 04 31.2	
comp=Z,2μm,0.3s							
CNCH	Conchagua	0.90	74	eP	Pn	22 04 17.5	0.0

IDC 27 22:04:59.4±1.2, 35°.77N×80°.96E, h0km, mb3.7/9, mb1 3.8/15, mb1mx3.7/43, mbtmp3.8/15, ML3.8/5, Error ellipse: s-maj=28.3km s-min=17.6km az=49.0
NEIC 27 22:05:00.2±2.9, 35°.5N±0°.1×81°.06E±0°.10, h23km±10km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=7.9km az=152.0
BJI 27 22:05:02.2±0.0, 35°.82N×80°.69E, h10km, mb4.3/1, ML4.5/5
NNC 27 22:05:09.5±2.8, 36°.43N×80°.83E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=23.2km s-min=19.1km az=160.0
ISC 27 22:05:00.4±0.8, 35°.74N±0°.08×80°.97E±0°.08, h10km, n43, σ1§93/46, mb3.6/10, 6C-7D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	6.47	338		Pn	22 06 38.3	+2.2
PRZ	Przheval'sk	7.02	344	Pn	Pn	22 06 45.6	+2.2
KDJ	Kajisay	7.03	336	Pn	Pn	22 06 46.2	+2.6
PDGK	Podgornoye	7.67	352	⇑Pn	Pn	22 06 54.1	+1.8
19nm,0.6s							
PDGK				Lg	Lg	22 08 48.7	
98nm,0.9s							
BOOM	Boomskoye usch	7.79	331	Pn	Pn	22 06 56.4	+2.4
KNDC	Almaty	8.08	339	⇓Pg	Pb	22 07 25.2	+4.7
35nm,0.8s							
KNDC				⇓Lg	Lg	22 09 05.1	
167nm,0.6s							
TKM2	Tokmak 2	8.29	331	⇓Pn	Pn	22 07 01.9	+1.0
9.4nm,1.1s							
TKM2				⇓Lg	Lg	22 09 15.1	
37nm,1.1s							
AAK	Ala-Archa	8.53	326	Pn	Pn	22 07 08.0	+4.0
1.1nm,0.3s,baz=113,slow=6.0,SNR=3.8							
AAK				Pg	Pg	22 07 30.4	-13
2.8nm,0.3s,baz=128,slow=9.9,SNR=3.2							
AAK				Lg	Lg	22 09 24.7	
1.9nm,0.3s,baz=28,slow=20,SNR=6.9							
AAK	Ala-Archa	8.53	326	⇑Pg	Pg	22 07 30.1	-14
18nm,0.6s							
AAK				⇓Lg	Lg	22 09 22.2	
79nm,0.9s							
AAK	Ala-Archa	8.53	326	Pn	Pn	22 07 03.3	-0.8
BTK	Batken	9.11	301	Pn	Pn	22 07 11.6	-0.4
WMQ	Urumqi	9.58	31	eP	Pn	22 07 22.0	+3.6
WMQ				smax	smax		
comp=N,35nm,1.3s							
WMQ				smax	smax		
comp=E,56nm,1.1s							
KBL	Kabul	9.84	266	Pn	Pn	22 07 20.6	-1.6
KK31	Karatay Array	10.93	315	⇑Pn	Pn	22 07 41.3	+4.5
1.9nm,0.6s,baz=120,slow=12,SNR=5.8							
KK31				⇑Sn	Sn	22 09 36.7	-2.4
2.2nm,0.6s							
KK31	Karatay Array	10.93	315	Pn	Pn	22 07 35.4	-1.4
KKAR	Karatay Array	10.93	315	Pn	Pn	22 07 35.6	-1.2
MAKZ	Makanchi	11.08	4	⇓Pn	Pn	22 07 39.1	+0.1
9.7nm,0.7s							
MAKZ				⇑Sn	Sn	22 09 38.3	-4.7
6.8nm,0.6s							
MAKZ	Makanchi	11.08	4	Pn	Pn	22 07 39.3	+0.3
MAKZ					Sn	22 09 40.0	-2.9
MK31	Makanchi Array	11.09	5	⇓Pn	Pn	22 07 39.1	+0.1
2.7nm,0.5s,baz=181,slow=12,SNR=115							
MK31				⇑Sn	Sn	22 09 40.6	-2.5
5.7nm,0.6s,baz=190,slow=26,SNR=6.9							
MK31	Makanchi Array	11.09	5		Pn	22 07 39.6	+0.6
MKAR	Makanchi Array	11.09	5	Pn	Pn	22 07 39.2	+0.2
1.2nm,0.3s,baz=191,slow=13,SNR=38							
MKAR				Sn	Sn	22 09 39.7	-3.3
2.1nm,0.3s,baz=187,slow=27,SNR=2.1							
MKAR				Lg	Lg	22 10 47.1	
baz=196,slow=24,SNR=1.4							
MKAR	Makanchi Array	11.09	5	Pn	Pn	22 07 38.5	-0.5
KURBB	Kurchatov Arra	14.98	354	Pn	Pn	22 08 31.2	-0.9
baz=178,slow=11,SNR=4.3							
KURBB				Lg	Lg	22 12 51.8	
0.1nm,0.3s,baz=202,slow=27,SNR=4.1							
KURK	Kurchatov	15.06	354		Pn	22 08 31.2	-2.0
ZALV	Zalesovo Beam	16.40	7	P	P	22 09 14.4	-1.0
0.2nm,0.3s,baz=191,slow=12,SNR=4.9							
ZALV	Zalesovo Beam	18.40	7	P	P	22 09 16.9	+1.4
GEYT	Alibeck	18.42	284	P	P	22 09 16.9	+1.0
0.5nm,0.3s,baz=98,slow=7.4,SNR=2.7							
BVAR	Borovoye Array	18.83	340	P	P	22 09 19.7	-0.5
0.6nm,0.3s,baz=186,slow=20,SNR=4.7							
BRVK	Borovoye	18.89	340	P	P	22 09 21.2	+0.4
BRVK				IAmb	IAmb	22 09 40.1	
comp=Z,11nm,1.0s							
ABKAR	Abkulak array	20.47	318	P	P	22 09 37.2	-1.0
ABKAR				IAmb	IAmb	22 09 45.5	
comp=Z,6.7nm,0.8s							
ABKAR	Abkulak array	20.47	318	P	P	22 09 38.5	+0.4
AKTO	Aktyubinsk	22.16	319	P	P	22 09 57.0	+0.6
comp=Z,2.1nm,0.5s,baz=116,slow=14,SNR=6.7							
SONM	Songino Array	22.37	49	P	P	22 09 59.3	+0.6
comp=Z,0.6nm,0.6s,baz=250,slow=9.4,SNR=1.8							
CMAR	Chiang Mai Arr	23.43	133	P	P	22 10 11.3	+1.5
comp=Z,0.7nm,0.8s,baz=308,slow=10,SNR=2.2							
ARU	Arti	25.66	331	P	P	22 10 31.4	+1.2
comp=Z,0.4nm,0.4s,baz=142,slow=19,SNR=1.8							
BELG	Belogornoye	28.84	316	P	P	22 10 57.8	-0.9
comp=Z,3.4nm,0.6s,baz=77,slow=19,SNR=1.8							
USRK	Ussuriysk Ar.	39.45	62	P	P	22 12 28.3	-2.4
AKASG	Malin Array Be	39.73	309	P	P	22 12 32.1	-0.8
comp=Z,0.6nm,0.5s,baz=74,slow=8.2,SNR=2.7							
FIA1	FINESS Array S	42.71	325	P	P	22 12 56.6	-0.7
FIA1				IAmb	IAmb	22 13 21.4	
comp=Z,13nm,1.2s							
FINES	FINESS Array B	42.71	325	P	P	22 12 57.0	-0.3
comp=Z,5.0nm,1.0s,baz=114,slow=8.8,SNR=5.1							
FINES	FINESS Array B	42.71	325	P	P	22 12 56.7	-0.5
NOA	NORSAR Array B	49.84	323	P	P	22 13 54.5	+1.1
comp=Z,0.7nm,0.7s,baz=89,slow=7.5,SNR=3.8							
ASAR	Alice Springs	77.44	131	P	P	22 16 56.2	+0.2
comp=Z,0.3nm,0.8s,baz=322,slow=5.9,SNR=1.1							

IDC 27 22:23:41.9±1.6, 9°.25S×123°.86E, h85km±16km, mb3.8/9, mb1 4.0/10, mb1mx3.7/29, mbtmp4.2/10, Error ellipse: s-maj=37.6km s-min=14.8km az=58.0
DJA 27 22:23:41.7±0.2, 10°S±3°×12°4E±°, h85km±4km, M4.7/16, mb4.7/16, MLv4.7/15
NEIC 27 22:23:42.3±2.0, 9°.30S±0°.08×124°.04E±0°.08, h88km±7km, mb4.4/15, Error ellipse: s-maj=15.4km s-min=6.5km az=225.0
ISC 27 22:23:42.1±0.7, 9°.37S±0°.05×123°.92E±0°.05, h89km±7km, n79, σ1§67/79, mb4.1/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.52	138		Pn	22 23 56.7	-0.3
SOEI	Soe	0.52	138	P	Pn	22 23 56.7	-0.3
SOEI				S	Sn	22 24 07.2	-0.8
BATI	Baumata	0.87	197	P	Pn	22 24 01.2	+0.9
218nm,0.3s,baz=30,slow=1.5,SNR=178							
BATI				S	Sn	22 24 15.8	+1.9
1μm,0.3s,baz=119,slow=3.6,SNR=19							
BATI	Baumata	0.87	197	P	Pn	22 24 00.8	+0.5
BATI				S	Sn	22 24 12.2	-1.7
MMRI	Maumere	1.81	294	Pn	Pn	22 24 12.9	+1.1
MMRI	Maumere	1.81	294	P	Pn	22 24 12.9	+1.1
MMRI				S	Sn	22 24 34.9	+0.5
EDFI	Ende, Flores	2.28	285	P	Pn	22 24 18.8	+0.7
EDFI				S	Sn	22 24 45.8	+0.2
BASI	Baing, Sumba	3.40	255	P	Pn	22 24 32.9	0.0
WBSI	Waikabubak, Su	4.47	266	P	Pn	22 24 46.9	-0.7
BSSI	Bau Bau, Buton	4.67	313	P	Pn	22 24 51.9	+1.7
BKSI	Bulukumba	5.51	317	P	Pn	22 25 02.7	+1.1
0.3nm74nm,0.8s							
KAPI	Kappang	5.98	316	P	Pn	22 25 10.0	+1.9
2.9nm,0.3s,baz=176,slow=14,SNR=5.8							
KAPI	Kappang	5.98	316	Pn	Pn	22 25 10.3	+2.2
PLAI	Plampang	6.09	275	P	Pn	22 25 09.8	+0.3
0.5nm107nm,0.5s							
BNSI	Bone	6.22	322	P	Pn	22 25 13.2	+1.9
0.6nm194nm,1.0s							
NLAI	Namlea	6.86	28	P	Pn	22 25 21.9	+1.8
0.3nm59nm,0.9s							
TWSI	Taliwang, Sumb	6.98	275	P	Pn	22 25 21.7	0.0
0.2nm25nm,0.5s							
SAUI	Saumlaki	7.43	80	P	Pn	22 25 27.5	-0.3
3.5nm529nm,1.1s							
TTSI	Tana Toraja	7.49	327	P	Pn	22 25 30.6	+2.0
0.2nm51nm,0.8s							
SANI	Sanana	7.56	16	P	Pn	22 25 31.6	+2.0
0.6nm197nm,0.6s							
KNRA	Kununurra	7.85	143	P	Pn	22 25 31.1	-2.5
baz=7.7,SNR=52							
KNRA	Kununurra	7.85	143	Pn	Pn	22 25 31.4	-2.2
MTN	Manton Dam	7.88	117	P	Pn	22 25 32.4	-1.6
baz=7.8,SNR=12							
MTN	Manton Dam	7.88	117	Pn	Pn	22 25 32.4	-1.6
APSI	Ampana	8.70	345	P	Pn	22 25 47.4	+2.2
58nm,0.9s							
KDU	Kakadu	9.02	112	P	Pn	22 25 47.1	-2.4
baz=8.9,SNR=64							
GTOI	Gorontalo	9.98	355	P	Pn	22 26 06.8	+4.2
10nm,1.2s							
TOLI2	Tolitoli	10.87	343	Pn	Pn	22 26 17.8	+3.0
PSA00	Pilbara Seismi	12.75	197	Pn	Pn	22 26 40.4	+0.3
UGM	Wanagama	13.32	275	Pn	Pn	22 26 45.0	-2.8
SRPI	Serui, Papua	14.34	59	P	P	22 27 11.8	+6.4
WB0	Warramunga Arr	14.47	137	Pn	Pn	22 26 58.6	-4.0
WRA	Warramunga Arr	14.47	137	P	Pn	22 26 58.9	-4.8
2.7nm,0.3s,baz=320,slow=13,SNR=43							
WRA				S	Sn	22 29 30.6	-14
7.1nm,0.3s,baz=308,slow=24,SNR=10							
WRA	Warramunga Arr	14.56	137	Pn	Pn	22 26 59.7	-4.0
WB2	Warramunga Arr	14.56	137	P	Pn	22 26 58.9	-4.9
baz=14							
WB2				S	Sn	22 29 28.9	-15
baz=14							
WB2	Warramunga Arr	14.56	137	Pn	Pn	22 26 59.6	-4.3
WR0	Warramunga Arr	14.70	137	Pn	Pn	22 27 00.7	-5.0
CISI	Cisompet, Garu	16.03	275	Pn	P	22 27 23.6	-0.6
CISI				IAmb	IAmb	22 27 36.8	
comp=Z,22nm,0.9s							
WRKA	Warakurna	16.13	166	P	Pn	22 27 22.4	-1.3
baz=16,SNR=12							
LEM	Lembang	16.33	278	P	Pn	22 27 25.3	-1.1
comp=Z,3.8nm,0.3s,baz=180,slow=20,SNR=2.2							
AS31	Alice Springs	17.13	147		Pn	22 27 35.1	-0.8
ASAR	Alice Springs	17.13	147	P	Pn	22 27 34.5	-1.4
comp=Z,1.3nm,0.3s,baz=320,slow=12,SNR=145							
ASAR				S	Sn	22 30 34.6	-12
comp=Z,1.9nm,0.3s,baz=334,slow=25,SNR=11							
ASAR	Alice Springs	17.13	147	P	Pn	22 27 34.3	-1.6
MEEK	Meekatharra	17.90	196	P	P	22 27 45.0	+0.3
baz=18,SNR=4.9							
QIS	Mount Isa	18.78	128	P	Pn	22 27 56.0	+0.1
baz=19,SNR=26							
MORW	Morawa	20.95	200	P	P	22 28 18.9	+1.0
baz=21,SNR=3.8							
MORW	Morawa	20.95	200	P	P	22 28 18.8	+1.0
MORW				IAmb	IAmb	22 28 19.6	
comp=Z,12nm,1.0s							
FORT	Forrest	21.65	170	P	P	22 28 26.1	+0.7
baz=22							
FORT	Forrest	21.65	170	P	P	22 28 26.0	+0.7
FORT				IAmb	IAmb	22 28 28.3	
comp=Z,18nm,0.7s							
BLDU	Ballidu	22.18	197	P	P	22 28 31.7	+0.7
baz=22							
CTA	Charters Tower	24.06	119	P	P	22 28 50.9	+1.7
comp=Z,9.0nm,0.9s,baz=298,slow=11,SNR=5.8							
CTAO	Charters Tower	24.06	119	P	P	22 28 50.3	+1.0
CTAO				IAmb	IAmb	22 29 16.4	
comp=Z,20nm,1.1s							
BBOO	Buckleboo	25.89	156	P	P	22 29 07.2	+1.5
baz=26,SNR=15							
BBOO	Buckleboo	25.89	156	P	P	22 29 06.8	+1.1
STKA	Stephens Creek	27.76	146	P	P	22 29 23.9	+1.4
comp=Z,5.2nm,0.7s,baz=317,slow=9.4,SNR=10							
STKA	Stephens Creek	27.76	146	P	P	22 29 24.3	+1.7
baz=28,SNR=6.8							
STKA	Stephens Creek	27.76	146	P	P	22 29 23.4	+0.8
CMSA	Cobar Meteorol	29.93	141	P	P	22 29 43.9	+2.1
baz=30,SNR=15							
ARPS	Mount Arapiles	31.75	152	P	P	22 30 00.2	+2.4
baz=32,SNR=15							
CMAR	Chiang Mai Arr	37.04	318	P	P	22 30 44.0	+0.3
comp=Z,3.7nm,0.8s,baz=143,slow=6.7,SNR=22							
CMAR	Chiang Mai Arr	37.04	318	P	P	22 30 44.4	+0.7
SHL	Shillong	46.67	319	P	P	22 32 01.2	-1.0
SHL				IAmb	IAmb	22 32 01.8	
comp=Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.22**	**266**		**Pn**	**22 28 04.5**	**+1.0**
SIJI	**Sorong**	**7.37**	**282**	Pn	**Pn**	**22 28 20.8**	**+1.6**
	19nm,0.3s,baz=61,slow=13,SNR=33						
SIJI				Sn	**Sn**	**22 29 41.2**	**-0.5**
	2.2nm,0.3s,baz=157,slow=23,SNR=2.0						
PMG	**Port Moresby**	**11.05**	**129**	Pn	**Pn**	**22 29 10.5**	**+0.8**
SOEI	**Soe**	**15.84**	**242**	P	**P**	**22 30 18.1**	**-0.1**
BATI	**Baumata**	**16.58**	**242**	Pn	**P**	**22 30 25.6**	**-0.6**
	9.6nm,0.3s,baz=164,slow=0.8,SNR=5.2						
GUMO	**Guam**	**17.19**	**22**	P	**P**	**22 30 34.4**	**+1.4**
GUMO				IAmb	IAmb	22 30 34.7	
	comp=Z,60nm,1.4s						
JWT	**Wachi**	**37.68**	**356**	P	**P**	**22 33 46.6**	**+0.4**
JWT				IAmb	IAmb	22 33 47.2	
	comp=Z,5.1nm,0.7s						
KSRS	**Korea Array**	**40.92**	**347**	P	**P**	**22 34 13.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=170,slow=9.0,SNR=2.2						
USRK	**Ussuriysk Ar.**	**46.84**	**354**	P	**P**	**22 35 01.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=177,slow=8.6,SNR=4.8						
USRK	**Ussuriysk Ar.**	**46.84**	**354**	P	**P**	**22 35 02.1**	**+1.4**
SONM	**Songino Array**	**57.41**	**335**	P	**P**	**22 36 19.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=145,slow=10,SNR=2.0						
MK31	**Makanchi Array**	**69.46**	**322**	P	**P**	**22 37 38.6**	**-0.5**
MKAR	**Makanchi Array**	**69.46**	**322**	P	**P**	**22 37 38.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=101,slow=7.0,SNR=5.5						
MAKZ	**Makanchi**	**69.66**	**322**	P	**P**	**22 37 39.9**	**-0.4**
MAKZ				IAmb	IAmb	22 37 59.4	
	comp=Z,1.0nm,0.8s						
ABKAR	**Akbulak array**	**84.39**	**320**	P	**P**	**22 39 01.9**	**-1.1**
ILAR	**Eielson Array**	**85.73**	**24**	P	**P**	**22 39 06.9**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=277,slow=3.5,SNR=4.9						

*IDC **27** 22:27:29.8±1.2,2°.34S×138°.64E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/23, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=47.7km s-min=29.0km az=58.0*
*NEIC **27** 22:27:38.0±0.9,2°.5S±0°.1×138°.4E±0°.1, h48km±8km, mb4.4/5, Error ellipse: s-maj=19.8km s-min=12.9km az=224.0*
ISC 27 22:27:35.3±0.8,2°.3S±0°.1×138°.5E±0°.1,h32km,n16, σ0s72/16,mb4.1/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.23**	**265**	Pn	**Pn**	**22 29 05.7**	**+0.6**
SIJI	**Sorong**	**7.34**	**281**	Pn	**Pn**	**22 29 20.6**	**+0.2**
	1.9nm,0.3s,baz=90,slow=20,SNR=1.1						
PMG	**Port Moresby**	**11.14**	**129**	Pn	**Pn**	**22 30 13.5**	**+1.1**
WRAB	**Tennant Creek**	**17.94**	**193**	P	**P**	**22 31 41.9**	**-1.0**
WRAB				IAmb	IAmb	22 31 45.1	
	comp=Z,36nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.04**	**300**	P	**P**	**22 35 40.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=119,slow=7.3,SNR=2.4						
CMAR	**Chiang Mai Arr**	**44.04**	**300**	P	**P**	**22 35 40.4**	**-0.1**
MK31	**Makanchi Array**	**69.34**	**322**	P	**P**	**22 38 40.7**	**+0.8**
MK31				IAmb	IAmb	22 38 41.9	
	comp=Z,3.7nm,1.2s						
MKAR	**Makanchi Array**	**69.34**	**322**	P	**P**	**22 38 40.4**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=116,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**69.34**	**322**	P	**P**	**22 38 40.8**	**+0.9**
MAKZ	**Makanchi**	**69.54**	**322**	P	**P**	**22 38 41.7**	**+0.6**
MAKZ				IAmb	IAmb	22 38 42.4	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**71.49**	**330**	P	**P**	**22 38 52.4**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=115,slow=7.3,SNR=2.7						
BOOM	**Boomskoye usch**	**71.72**	**316**	P	**P**	**22 38 55.3**	**+0.6**
VNDA	**Vanda**	**76.17**	**175**	P	**P**	**22 39 19.3**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=331,slow=6.5,SNR=9.0						
VNDA	**Vanda**	**76.17**	**175**	P	**P**	**22 39 19.2**	**-0.7**
ABKAR	**Akbulak array**	**84.28**	**320**	P	**P**	**22 40 03.6**	**-0.4**
ILAR	**Eielson Array**	**85.60**	**24**	P	**P**	**22 40 09.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=274,slow=3.5,SNR=3.0						

*TUL **27** 22:48:57.6±1.2,36°.43N±0°.02×98°.43W±0°.02, h5km±7km, ML2.5, ML2.5/20(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=179.0*
NEIC 27 22:48:58.0±0.7,36°.43N±0°.02×98°.41W±0°.02,h12km±3km, Error ellipse: s-maj=3.3km s-min=2.1km az=141.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.35**	**77**		Pg	22 49 05.1	-0.1
CROK				Sg	Sg	22 49 10.3	+0.4
CROK				IAML		22 49 13.8	
	comp=E,501nm,0.3s						
CROK				IAML		22 49 16.9	
	comp=N,875nm,0.3s						
OK032	**Salt Plains WL**	**0.41**	**23**	Pg	Pg	22 49 06.0	-0.2
OK032				Sg	Sg	22 49 11.9	+0.2
OK032				IAML		22 49 12.2	
	comp=N,672nm,0.2s						
OK032				IAML		22 49 15.1	
	comp=N,314nm,0.2s						
U32A	**Winter Ranch,**	**0.48**	**265**	Pg	Pg	22 49 07.1	-0.3
U32A				Sg	Sg	22 49 14.0	+0.2
GC02	**Grant County #**	**0.61**	**46**		Pg	22 49 09.8	-0.2
GC02				Sg	Sg	22 49 18.3	+0.2
KAN10	**Anthony SW Sta**	**0.74**	**20**	Pg	Pg	22 49 11.8	-0.6
KAN10				Sg	Sg	22 49 22.4	+0.3
KAN05	**Bluff City Nor**	**0.81**	**32**	Pg	Pg	22 49 13.3	-0.3
KAN05				Sg	Sg	22 49 24.5	+0.3
KAN05				IAML		22 49 26.8	
	comp=E,160nm,0.1s						
KAN05				IAML		22 49 31.7	
	comp=N,190nm,0.2s						
KAN08	**Anthony NE Sta**	**0.87**	**24**	Pg	Pg	22 49 14.3	-0.6
KAN08				Sg	Sg	22 49 26.3	0.0
KAN08				IAML		22 49 29.2	
	comp=N,118nm,0.1s						
KAN08				IAML		22 49 30.9	
	comp=E,150nm,0.1s						
OK029	**Liberty Lake**	**1.00**	**129**	Pg	Pb	22 49 16.4	-0.8
OK029				Sg	Sb	22 49 30.4	+0.1
OK029				IAML		22 49 35.7	
	comp=E,104nm,0.5s						
BLOK	**Blackwell**	**1.02**	**71**		Pb	22 49 17.1	-0.5
BLOK				Sg	Sb	22 49 30.9	0.0
OK025	**Westminster Rd**	**1.21**	**134**	Pg	Pn	22 49 20.6	-0.1
OK025				IAML		22 49 39.0	
	comp=E,117nm,0.1s						
OK031	**S. Brethren Rd**	**1.36**	**110**	Pn	Pn	22 49 22.9	+0.1
QUOK	**Quay**	**1.40**	**100**		Pb	22 49 23.9	-0.1
T35A	**Sooner Cattle**	**1.60**	**72**		Pb	22 49 27.2	-0.4
WMOK	**Wichita Mounta**	**1.71**	**190**	Pn	Pn	22 49 28.3	+0.6

DJA 27 22:53:41.2±2.1,3°.S±25°.×13°.8E±°.,h33km±36km, M4.8/5, mb4.8/2, MLv4.8/5, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.76**	**88**	P	Pn	22 54 08.9	-0.4
GENI				S	Sn	22 54 31.5	+0.9
SRPI	**Serui, Papua**	**2.30**	**290**	P	Pn	22 54 17.2	+0.3
SRPI				S	Sn	22 54 44.5	+0.4
FAKI	**Fak Fak**	**6.16**	**267**	P	Pn	22 55 09.7	-0.2
SWI	**Sorong**	**7.36**	**284**	P	Pn	22 55 26.9	+0.4

*GRAL **27** 22:59:05.5±0.3, 33°.76N×34°.83E, h31km±1km, MD2.8*
*NIC **27** 22:59:06.8±0.0, 34°.14N×34°.60E, h8km±3km, Ml2.1/4*
ISC 27 22:59:04.3±1.7,33°.9N±0°.1×34°.83E±0°.07,h33km±8km,n11, σ0s82/18,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.63**	**103**	*e*P	**Pb**	**22 59 17.1**	**-0.1**
DQRL				*e*S	**Sb**	**22 59 25.8**	**-0.1**
BHL	**Bhannes**	**0.69**	**85**	*e*P	**Pb**	**22 59 18.5**	**+0.4**
RCY	**Rachaya**	**0.91**	**113**	*e*P	**Pn**	**22 59 21.1**	**+0.1**
RCY				*e*S	**Sb**	**22 59 32.5**	**-1.1**
HWQ	**Hawqa**	**1.02**	**65**	*e*P	**Pn**	**22 59 23.5**	**+1.1**
MVOU	**Mavrovouni**	**1.53**	**320**	P	**Pn**	**22 59 29.1**	**-0.3**
MVOU				S	**Sn**	**22 59 46.6**	**-1.4**
MVOU				AML	AML	22 59 47.2	
MVOU				AML	AML	22 59 47.2	
MVOU				AML	AML	22 59 49.0	
MVOU				AML	AML	22 59 49.0	
ASGA	**Asgata**	**1.61**	**306**	S	**Sn**	**22 59 49.6**	**-0.4**
ASGA				AML	AML	22 59 50.1	
CSS	**Mathiatis**	**1.66**	**312**	P	**Pn**	**22 59 31.5**	**+0.2**
CSS				S	**Sn**	**22 59 50.2**	**-1.2**
SZAC	**Souni**	**1.85**	**300**	P	**Pn**	**22 59 34.0**	**+0.2**
SZAC				S	**Sn**	**22 59 55.7**	**-0.4**
SZAC				AML	AML	22 59 58.3	
	0.1nm,0.5s						
SZAC				AML	AML	22 59 58.3	
	0.1nm,0.5s						
SZAC				AML	AML	22 59 59.7	
	0.1nm,0.4s						
SZAC				AML	AML	22 59 59.7	
	0.1nm,0.4s						
NATA	**Nata**	**2.09**	**297**	P	**Pn**	**22 59 38.1**	**+1.0**
NATA				S	**Sn**	**23 00 02.1**	**+0.1**
ALFC	**Alefka**	**2.26**	**306**	P	**Pn**	**22 59 40.5**	**+1.1**
ALFC				S	**Sn**	**23 00 05.9**	**-0.2**
ALFC				AML	AML	23 00 07.8	
	0.1nm,0.2s						
ALFC				AML	AML	23 00 07.8	
	0.1nm,0.2s						
ALFC				AML	AML	23 00 10.3	
	0.1nm,0.6s						
ALFC				AML	AML	23 00 10.3	
	0.1nm,0.6s						
AKMS	**Akamas**	**2.37**	**300**	S	**Sn**	**23 00 09.4**	**+0.6**

*MOS **27** 22:59:33.5±1.3, 52°.14N×141°.95E, h9km, mb4.0/2, Error ellipse: s-maj=18.3km s-min=10.5km az=103.0*
*IDC **27** 22:59:34.3±0.9, 52°.11N×142°.20E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.7/36, mbtmp3.8/8, Error ellipse: s-maj=28.9km s-min=24.1km az=106.0*
*SKHL **27** 22:59:35.9±0.2, 52°.20N×142°.40E, h10km±5km, mb4.8/6*
ISC 27 22:59:35.9±1.2,52°.06N±0°.03×142°.07E±0°.04,h10km±8km, n33,σ1s76/38,mb3.7/9,1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGLR	**Nogliki**	**0.71**	**113**	*e*PN	**Pg**	**22 59 48.5**	**-1.0**
NGLR				*e*S	**Sg**	**22 59 57.7**	**-1.1**
NGLR				pmax	pmax		
	comp=Z,2μm,0.6s						
TYV	**Tymovskoe**	**1.26**	**163**	*e*PN	**Pg**	**22 59 59.0**	**-1.0**
TYV				*e*S	**Sn**	**23 00 18.1**	**+1.8**
TYV				pmax	pmax		
	comp=Z,324nm,0.5s						
TYV	**Tymovskoe**	**1.26**	**163**	*e*P	**Pg**	**23 00 00.0**	**0.0**
TYV				AMB	AMB	23 00 00.1	
	comp=Z,324nm,0.5s						
TYV				*e*S	**Sn**	**23 00 18.2**	**+1.9**
TYV				A	A	23 00 18.4	
	comp=Z,600nm,0.4s						
TYV				A	A	23 00 18.4	
	comp=Z,800nm,0.4s						
NKL	**Nikolayevsk**	**1.38**	**323**	*e*PN	**Pn**	**23 00 01.4**	**+0.3**
NKL				*e*S	**Sg**	**23 00 21.0**	**+0.8**
NKL				pmax	pmax		
	comp=N,82nm,0.2s						
NKL				pmax	pmax		
	comp=E,6.0nm,0.3s						
NKL				pmax	pmax		
	comp=Z,231nm,0.3s						
NKL				smax	smax		
	comp=E,9.0nm,0.3s						
NKL				smax	smax		
	comp=N,184nm,0.4s						
NKL	**Nikolayevsk**	**1.38**	**323**	*e*P	**Pn**	**23 00 01.4**	**+0.3**
NKL				AMB	AMB	23 00 02.3	
	comp=N,231nm,0.3s						
NKL				*e*S	**Sn**	**23 00 20.3**	**+0.9**
NKL				A	A	23 00 23.4	
	comp=N,2μm,0.5s						
NKL				A	A	23 00 23.4	
	comp=N,2μm,0.5s						
OKH	**Okha**	**1.58**	**19**	*e*PN	Pn	22 59 55.8	-8.0
OKH				*e*S	**Sg**	**23 00 28.3**	**+1.7**
OKH				smax	smax		
	comp=N,315nm,1.2s						
OKH				smax	smax		
	comp=E,438nm,1.0s						
OKH	**Okha**	**1.58**	**19**	*e*Pg	**Pg**	**23 00 06.0**	**-0.1**
OKH				AMB	AMB	23 00 10.6	
	comp=E,600nm,0.4s						
OKH				*e*Sg	**Sg**	**23 00 27.2**	**+0.6**
OKH				A	A	23 00 28.4	
	comp=E,900nm,0.6s						
OKH				A	A	23 00 28.4	
	comp=E,1μm,0.6s						
UGL	**Uglegorsk**	**2.99**	**180**	PN	**Pn**	**23 00 22.2**	**-1.0**
UGL				pmax	pmax		
	comp=Z,46nm,0.4s						
UGL				MLR	MLR		
	comp=Z,4μm,15.0s						
UGL				MLR	MLR		
	comp=N,6μm,16.0s						
UGL				MLR	MLR		
	comp=E,3μm,14.0s						
UGL	**Uglegorsk**	**2.99**	**180**	*e*Pg	Pg	23 00 38.5	+5.4
UGL				AMB	AMB	23 00 39.9	
	comp=E,80nm,0.3s						
UGL				A	A	23 01 21.0	
	comp=E,150nm,0.6s						
UGL				A	A	23 01 21.0	
	comp=E,300nm,0.6s						
GRNR	**Gornyy**	**3.77**	**252**	*e*PN	**Pg**	**23 00 45.8**	**-2.2**
GRNR	**Gornyy**	**3.77**	**252**	*e*P	**Pg**	**23 00 45.8**	**-2.2**
YSS	**Yuzh-Sakhalins**	**5.13**	**175**	*e*PN	**Pn**	**23 00 55.1**	**+2.4**
EKMR	**Ekimchan**	**5.66**	**284**	*e*P	Pn	23 01 05.0	+5.1
KLR	**Kul'dur**	**7.15**	**251**	Pn	Pn	23 01 27.1	+6.8
	comp=E,0.2nm,0.3s,baz=70,slow=15,SNR=2.0						
KLR				Pg	**Pg**	**23 01 51.6**	**-1.0**
	comp=E,1.0nm,0.3s,baz=72,slow=14,SNR=6.9						
KLR				Lg	Lg	23 03 23.9	
	comp=E,1.4nm,0.3s,baz=338,slow=14,SNR=7.1						
KLR	**Kul'dur**	**7.15**	**251**	*i* PN	**Pn**	**23 01 20.1**	**-0.3**
BMKR	**Bomnak**	**8.34**	**294**	*e*Pg	**Pg**	**23 02 13.6**	**-1.8**
BMKR				AMB	AMB	23 02 14.0	
	comp=E,1.0nm,0.6s						
BMKR				*e*Sg	**Sg**	**23 04 10.5**	**+7.2**
BMKR				A	A	23 04 14.0	
	comp=E,16nm,0.4s						
ZEA	**Zeya**	**9.12**	**286**	*e*PN	**Pn**	**23 01 44.1**	**-3.2**
KROS	**Kirovskiy**	**9.36**	**291**	*e*P	Pn	23 01 57.0	+6.3
KROS				*e*Sg	Sn	23 04 33.1	+57
KROS				A	A	23 04 41.4	
	comp=E,13nm,0.5s						
DGZ	**Jazzator, Alta**	**33.87**	**288**	*i* P	**P**	**23 06 17.2**	**-1.3**
KDAK	**Kodiak Island**	**36.65**	**55**	*i* P	**P**	**23 06 40.6**	**-1.5**
ILAR	**Eielson Array**	**37.18**	**42**	P	**P**	**23 06 46.5**	**-0.1**
	comp=E,1.0nm,0.7s,baz=281,slow=9.6,SNR=4.8						
ILAR	**Eielson Array**	**37.18**	**42**	*e*P	**P**	**23 06 47.6**	**+1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**38.27**	**287**	P	**P**	**23 06 56.7**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=76,slow=7.6,SNR=2.8						
MKAR				PcP	**PcP**	**23 09 09.9**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=88,slow=5.8,SNR=2.8						
AAK	**Ala-Archa**	**45.20**	**286**	*i* P	**P**	**23 07 53.5**	**+0.6**
BELG	**Belogornoye**	**53.68**	**311**	*i* P	**P**	**23 08 57.5**	**+0.3**
BELG				pmax	pmax		
	comp=Z,1.0nm,1.7s						
FINES	**FINESS Array B**	**55.95**	**329**	P	**P**	**23 09 13.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=46,slow=8.2,SNR=11						
FINES	**FINESS Array B**	**55.95**	**329**	*e*P	**P**	**23 09 14.0**	**+0.4**
NB2	**NORSAR Subarra**	**60.62**	**335**	P	**P**	**23 09 46.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**60.62**	**335**	P	**P**	**23 09 46.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=32,slow=7.0,SNR=4.1						
PDAR	**Pinedale Array**	**67.11**	**49**	P	**P**	**23 10 28.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=319,slow=4.0,SNR=3.0						
WRA	**Warramunga Arr**	**72.02**	**188**	P	**P**	**23 10 59.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=360,slow=3.2,SNR=1.6						
ASAR	**Alice Springs**	**75.74**	**188**	P	**P**	**23 11 22.1**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=359,slow=5.5,SNR=8.2						
TXAR	**Lajitas Array**	**80.68**	**54**	P	**P**	**23 11 48.4**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=270,slow=1.3,SNR=3.7						

*IDC **27** 23:04:07.3±1.4, 52°.10N×169°.31W, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/40, mbtmp3.8/10, ML3.3/2, MS4.9/1, Ms1 4.9/1, ms1mx4.1/40, Error ellipse: s-maj=36.2km s-min=25.5km az=165.0*
*AEIC **27** 23:04:11±2.7, 51°.99N±0°.07×169°.29W±0°.07, h36km±3km, ML3.5/34, mb4.1/27(NEIC), Error ellipse: s-maj=10.2km s-min=6.2km az=176.0*
*NEIC **27** 23:04:12.5±2.5, 52°.04N±0°.06×169°.31W±0°.08, h47km±9km, Error ellipse: s-maj=9.1km s-min=7.0km az=170.0*
ISC 27 23:04:10.8±0.6,51°.97N±0°.07×169°.15W±0°.06,h29km,n84, σ1s42/84,mb4.0/17,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.02**	**10**		**Pb**	**23 04 28.9**	**-1.0**
NIKH	**Nikolski High**	**1.02**	**10**		**Sb**	**23 04 43.2**	**+0.3**
OKSP	**Okmok Steeple**	**1.39**	**22**		**Pn**	**23 04 34.3**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.57**	**25**		**Pb**	**23 04 37.5**	**-1.7**
OKCE	**Okmok Cone E**	**1.58**	**22**		**Pb**	**23 04 37.6**	**-1.7**
OKNC	**Okmok New Cone**	**1.62**	**22**		**Pb**	**23 04 38.2**	**-1.8**
OKNC					**Sb**	**23 05 00.3**	**+0.4**
MAPS	**Pakushin South**	**2.28**	**35**		**Pn**	**23 04 47.2**	**+0.8**
MAPS					**Sn**	**23 05 14.9**	**+1.4**
MSW	**Makushin Switc**	**2.42**	**35**		**Pn**	**23 04 49.8**	**+1.5**
MNAT	**Makushin Natee**	**2.43**	**37**		**Pn**	**23 04 49.7**	**+1.2**
MNAT					**Sn**	**23 05 18.2**	**+0.9**
UNV	**Unalaska Valle**	**2.47**	**39**		**Pn**	**23 04 50.1**	**+1.1**
UNV					**Sn**	**23 05 19.3**	**+1.1**
MTBL	**Makushin Table**	**2.50**	**36**		**Pn**	**23 04 50.9**	**+1.4**
AKMO	**Akutan Morgan**	**2.85**	**41**		**Pn**	**23 04 56.0**	**+1.7**
AKUT	**Akutan**	**2.98**	**42**	Pn	**Pn**	**23 04 58.1**	**+2.1**
KOSE	**Korovin Southe**	**3.04**	**279**		**Pn**	**23 04 57.5**	**+0.6**
KOFP	**Korovin Flat P**	**3.06**	**278**		**Pn**	**23 04 57.1**	**-0.1**
ATKA	**Atka Island**	**3.12**	**276**	Pn	**Pn**	**23 04 57.4**	**-0.5**
GSMY	**Great Sitkin M**	**4.27**	**274**		**Pn**	**23 05 13.9**	**+0.1**
GSTR	**Great Sitkin T**	**4.27**	**274**	Pn	**Pn**	**23 05 13.7**	**0.0**
GSTD	**Great Sitkin T**	**4.32**	**274**		**Pn**	**23 05 14.6**	**0.0**
ADK	**Adak**	**4.66**	**272**	Pn	**Pn**	**23 05 19.2**	**+0.1**
KIWB	**Kanaga Island**	**4.95**	**272**	Pn	**Pn**	**23 05 23.4**	**+0.2**
KIMD	**Kanaga Island**	**5.01**	**271**		**Pn**	**23 05 24.0**	**+0.1**
SPIA	**Saint Paul Isl**	**5.26**	**353**	Pn	**Pn**	**23 05 28.9**	**+1.6**
TAFP	**Tanaga Falls P**	**5.46**	**273**		**Pn**	**23 05 30.1**	**-0.1**
TASE	**Tanaga Southea**	**5.50**	**272**		**Pn**	**23 05 31.4**	**+0.7**
GAEA	**Gareloi East**	**5.95**	**272**		**Pn**	**23 05 38.2**	**+1.5**
SDPT	**Sand Point**	**6.17**	**53**	Pn	**Pn**	**23 05 41.3**	**+1.5**
CNBA	**Chernabura Isl**	**6.39**	**60**	Pn	**Pn**	**23 05 45.4**	**+2.5**
CERAA	**Semis' Rag'd T**	**6.91**	**274**		**Pn**	**23 05 50.9**	**+0.9**
CESW	**Semis' Southwe**	**6.98**	**274**		**Pn**	**23 05 51.8**	**+0.8**
AMKA	**Amchitka**	**7.21**	**270**	Pn	**Pn**	**23 05 55.1**	**+1.1**
SMY	**Shemya**	**10.28**	**281**	Pn	**Pn**	**23 06 34.4**	**-1.7**
KDAK	**Kodiak Island**	**11.16**	**52**	Pn	**Pn**	**23 06 48.3**	**+0.1**
	0.5nm,0.3s,baz=258,slow=10.0,SNR=5.3						
KDAK				Sn	**Sn**	**23 08 46.9**	**-5.0**
	0.2nm,0.3s,baz=201,slow=14,SNR=1.0						
KDAK	**Kodiak Island**	**11.16**	**52**	Pn	**Pn**	**23 06 48.2**	**0.0**
SVW2	**Sparrevohn**	**11.80**	**34**	Pn	**Pn**	**23 07 00.6**	**+3.7**
CNPM	**China Poot**	**12.58**	**46**	Pn	**Pn**	**23 07 06.3**	**-1.4**
TTA	**Tatalina**	**13.03**	**27**	Pn	**Pn**	**23 07 10.8**	**-3.0**
SUA	**Susitna One**	**13.82**	**39**	Pn	**Pn**	**23 07 26.8**	**+2.1**
SKT	**Skwentna**	**13.84**	**37**	Pn	**Pn**	**23 07 24.7**	**0.0**
SCM	**Sheep Creek Mo**	**15.40**	**42**	Pn	**Pn**	**23 07 44.5**	**-1.3**
SCM				IAmb	IAmb	23 08 01.0	
	comp=Z,16nm,1.3s						
KLU	**Klutina**	**15.83**	**44**	Pn	**Pn**	**23 07 50.0**	**-1.4**
KLU				IAmb	IAmb	23 08 05.2	
	comp=Z,4.9nm,0.7s						
M24K	**Tolsona, Glenn**	**16.01**	**42**	Pn	**Pn**	**23 07 53.3**	**-0.4**
M24K				IAmb	IAmb	23 08 14.8	
	comp=Z,9.0nm,0.8s						
MLY	**Manley**	**16.15**	**29**	P	**P**	**23 07 58.5**	**+0.1**
BERG	**Berg Lake**	**16.39**	**49**		**P**	**23 08 01.4**	**+0.3**
N25K	**Chitina, Valde**	**16.45**	**45**	Pn	**Pn**	**23 07 58.7**	**-0.6**
I23K	**Minto, Yukon-K**	**16.65**	**30**	Pn	**Pn**	**23 08 01.9**	**+0.2**
PAX	**Paxson**	**16.72**	**40**		**Pn**	**23 08 01.3**	**-1.4**
GLB	**Gilahina Butte**	**16.73**	**46**	Pn	**Pn**	**23 08 02.2**	**-0.5**
GLB				IAmb	IAmb	23 08 08.7	
	comp=Z,7.6nm,1.2s						
CCB	**Clear Creek Bu**	**16.82**	**33**	Pn	**Pn**	**23 08 03.6**	**-0.3**
ILAR	**Eielson Array**	**17.21**	**33**	P	**P**	**23 08 09.7**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=225,slow=8.1,SNR=1.6						
FYU	**Fort Yukon**	**18.87**	**30**		**Pn**	**23 08 31.0**	**+2.0**
HYT	**Haines Junctio**	**19.45**	**51**		**Pn**	**23 08 39.1**	**+2.9**
HYT				IAmb	IAmb	23 08 53.6	
	comp=Z,8.1nm,1.1s						
PEA0B	**Petropavlovsk-**	**20.10**	**286**	P	**P**	**23 08 41.3**	**-0.6**
PEA0B				IAmb	IAmb	23 08 42.6	
	comp=Z,22nm,1.5s						
PETK	**Petropavlovsk-**	**20.10**	**286**	P	**P**	**23 08 41.1**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=90,slow=14,SNR=34						
PETK	**Petropavlovsk-**	**20.10**	**286**	P	**P**	**23 08 40.8**	**-1.0**
WHY	**Whitehorse**	**20.68**	**52**	P	Pn	23 08 50.5	-0.2
WHY				IAmb	IAmb	23 09 10.1	
	comp=Z,6.9nm,1.0s						
EPYK	**Eagle Plains**	**21.65**	**36**	P	**P**	**23 08 57.5**	**-1.0**
EPYK				IAmb	IAmb	23 09 12.7	
	comp=Z,6.3nm,0.9s						
INK	**Inuvik**	**23.61**	**33**	P	**P**	**23 09 18.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=218,slow=9.3,SNR=4.7						
YAK	**Yakutsk**	**33.54**	**312**	LR	LR	23 26 05.3	
	comp=Z,2μm,21.4s,baz=318,slow=40						
H11S1	**WAKE ISLAND Hy**	**38.41**	**219**	T	T	23 52 38.8	
	baz=23,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**38.42**	**219

BCOK			Sg	Sg	23 15 42.1	+0.5
OK025	**Westminster Rd**	**0.45 156**		Pg	23 15 39.3	+0.1
OK025			Sg	Sg	23 15 45.8	+0.7
OK031	**S. Brethren Rd**	**0.59 94**		Pg	23 15 41.8	0.0
OK031			IAmb_Lg		23 15 48.7	
comp=Z,19nm,0.8s						
OK031			Sg	Sg	23 15 50.0	+0.5
OKCSW	**OKLAHOMA CITY**	**0.59 170**		Pg	23 15 41.9	0.0
OKCSW			Sg	Sg	23 15 50.2	+0.5
CROK	**Carrier**	**0.61 327**		Pg	23 15 42.4	+0.1
CROK			Sg	Sg	23 15 50.9	+0.5
QUOK	**Quay**	**0.71 75**		Pg	23 15 44.2	0.0
QUOK			Sg	Sg	23 15 54.1	+0.5
QUOK			IAmb_Lg		23 15 54.1	
comp=Z,13nm,0.8s						
FNO	**Franklin**	**0.75 170**		Pg	23 15 44.4	-0.4
FNO			Sg	Sg	23 15 55.0	+0.5
BLOK	**Blackwell**	**0.82 20**	Pg	Pg	23 15 46.0	-0.1
BLOK			Sg	Sg	23 15 57.1	+0.3
GC02	**Grant County #**	**0.89 345**	Pg	Pg	23 15 47.3	-0.3
OK032	**Salt Plains WL**	**0.96 327**		Pg	23 15 48.7	-0.2
KAN13	**South Haven SW**	**1.02 4**	Pg	Pg	23 15 49.8	-0.2
KAN05	**Bluff City Nor**	**1.14 348**	Pg	Pb	23 15 51.9	-0.4
KAN09	**Caldwell North**	**1.14 358**	Pg	Pb	23 15 51.8	-0.6
KAN10	**Anthony SW Sta**	**1.21 339**	Pg	Pg	23 15 53.6	0.0
U32A	**Winter Ranch,**	**1.23 289**	Pg	Pg	23 15 54.0	+0.1
KS20	**Mayfield South**	**1.23 0**	IAmb_Lg		23 16 10.6	
comp=Z,112nm,1.1s						
T35A	**Sooner Cattle**	**1.25 42**		Pn	23 15 53.5	-0.6
X34A	**Smith Ranch, M**	**1.41 189**	Pn	Pb	23 15 56.6	-0.3
WMOK	**Wichita Mounta**	**1.60 219**		Pn	23 15 59.2	+0.3
LOOK	**Love County**	**2.02 171**	Pn	Pn	23 16 04.8	+0.1
R32A	**Long Quarter,**	**2.59 340**	Pn	Pn	23 16 13.3	+0.7
U38A	**Gravette**	**2.61 79**	Pn	Pn	23 16 12.8	0.0
HHAR	**Hobbs**	**2.95 83**	Pn	Pn	23 16 18.4	+0.9
HALT	**Halls**	**6.67 88**	IAmb_Lg		23 19 07.0	
comp=Z,24nm,0.7s						
PV17	**East Wray Mesa**	**9.38 287**	IAmb_Lg		23 20 21.1	
comp=Z,11nm,0.8s						

*TUL **27** 23:35:30.3±1.1, 36.38N±0.01×96.89W±0.02, h0km±7km, ML2.6, mb_Lg2.4/4(NEIC), Error ellipse: s-maj=2.9km s-min=0.8km az=73.0*

ISC 27 23:35:30.7±1.1, 36.38N±0.01×96.89W±0.02, h6km±7km, Error ellipse: s-maj=2.4km s-min=1.6km az=83.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.26 145**			Pg	23 35 35.6	0.0
QUOK				Sg	Sg	23 35 39.3	+0.2
OK031	**S. Brethren Rd**	**0.43 174**			Pg	23 35 39.2	+0.2
OK031				Sg	Sg	23 35 45.1	+0.5
BLOK	**Blackwell**	**0.46 326**			Pg	23 35 39.9	+0.2
BLOK				Sg	Sg	23 35 46.1	+0.5
T35A	**Sooner Cattle**	**0.61 29**			Pg	23 35 42.2	-0.4
T35A				Sg	Sg	23 35 51.1	+0.5
OK029	**Liberty Lake**	**0.74 218**			Pg	23 35 45.1	+0.2
OK029				Sg	Sg	23 35 55.3	+0.7
KAN13	**South Haven SW**	**0.79 323**		Pg	Pg	23 35 45.9	0.0
KAN13				Sg	Sg	23 35 56.8	+0.6
OK025	**Westminster Rd**	**0.88 205**			Pg	23 35 47.4	-0.1
CROK	**Carrier**	**0.89 278**			Pg	23 35 47.8	0.0
GC02	**Grant County #**	**0.91 301**			Pg	23 35 48.2	0.0
BCOK	**Bluff Creek, N**	**0.93 219**			Pg	23 35 48.5	0.0
KAN09	**Caldwell North**	**0.95 322**		Pg	Pg	23 35 49.0	-0.1
KAN17	**Caldwell West**	**0.97 314**		Pg	Pg	23 35 49.2	0.0
OK032	**Salt Plains WL**	**1.14 292**			Pg	23 35 52.7	0.0
FNO	**Franklin**	**1.20 200**			Pg	23 35 52.8	-0.8
KAN08	**Anthony NE Sta**	**1.21 315**			Pg	23 35 53.8	-0.2
KAN10	**Anthony SW Sta**	**1.22 308**		Pg	Pg	23 35 54.1	0.0
KAN12	**Harper NE Stat**	**1.28 316**		Pg	Pn	23 35 54.5	-0.7
U32A	**Winter Ranch,**	**1.70 271**		Pn	Pn	23 36 01.6	+0.5
X34A	**Smith Ranch, M**	**1.93 204**			Pn	23 36 05.0	+0.8
U38A	**Gravette**	**2.02 88**			Pn	23 36 06.0	+0.6
X37A	**Clayton**	**2.17 145**		Pn	Pn	23 36 06.9	-0.6
WMOK	**Wichita Mounta**	**2.25 224**			Pn	23 36 08.9	+0.3
HHAR	**Hobbs**	**2.38 91**			Pn	23 36 11.1	+0.7
LOOK	**Love County**	**2.39 186**		Pn	Pn	23 36 11.1	+0.6
W39A	**Magazine**	**2.79 114**			Pn	23 36 17.1	+1.1
U40A	**Yellville**	**3.26 89**		Pn	Pn	23 36 22.8	+0.4
MIAR	**Mount Ida**	**3.27 123**		Pn	Pn	23 36 23.1	+0.6
X40A	**Basin Creek Fa**	**3.81 119**		Pn	Pn	23 36 30.6	+0.6
AMTX	**Amarillo**	**4.18 250**		IAmb_Lg		23 37 53.7	
comp=Z,7.0nm,0.7s							
P38A	**Dawn**	**4.19 38**		Pn	Pn	23 36 35.6	+0.4
P40A	**Paris**	**4.95 49**		IAmb_Lg		23 38 04.7	
comp=Z,6.8nm,0.8s							

*NEIC **27** 23:58:36.2±0.9, 19.7N±0.09×65.45W±0.06, h37km±45km, Error ellipse: s-maj=13.9km s-min=5.8km az=203.0*
*RSPR **27** 23:58:36.7, 19.69N×65.45W, h70km±10km, MD3.3/10*

ISC 27 23:58:36.6±2.0, 19.7N±0.1×65.48W±0.04, h35km, n47, σ0.50/57, 7C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.41 172**		⇑eP	**Pn**	**23 58 59.9**	**+0.2**
CUPR	**Culebra, Puert**	**1.41 172**		eS	**Sn**	**23 59 17.2**	**+0.1**
CUPR	**Culebra, Puert**	**1.41 172**			**Pn**	**23 58 59.8**	**+0.1**
CUPR				Sn	**Sn**	**23 59 17.3**	**+0.2**
CUPR				IAML		23 59 21.7	
comp=N,106nm,0.5s							
STVI	**Saint Thomas**	**1.44 160**			**Pn**	**23 59 00.3**	**+0.1**
STVI				Sn	**Sn**	**23 59 18.4**	**+0.5**
CBYP	**Canovanas**	**1.47 194**			**Pn**	**23 59 00.0**	**-0.7**
CBYP				Sn	**Sn**	**23 59 17.8**	**-1.0**
GCPR	**Guaynabo City**	**1.50 202**		⇓eP	**Pn**	**23 59 00.7**	**-0.5**
GCPR				eS	**Sn**	**23 59 19.5**	**0.0**
GCPR	**Guaynabo City**	**1.50 202**			**Pn**	**23 59 00.7**	**-0.5**
GCPR					**Sn**	**23 59 19.5**	**0.0**
EMPR	**Esperanza - Ma**	**1.58 219**		⇑eP	**Pn**	**23 59 01.9**	**-0.2**
EMPR	**Esperanza - Ma**	**1.58 219**		eS	**Sn**	**23 59 21.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.58 219**			**Pn**	**23 59 01.9**	**-0.2**
EMPR					**Sn**	**23 59 21.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.58 219**		IAML		23 59 25.5	
comp=N,168nm,0.8s							
EMPR				IAML		23 59 36.1	
comp=E,234nm,1.6s							
HUMP	**Col San Antoni**	**1.60 193**		⇓eP	**Pn**	**23 59 01.9**	**-0.5**
HUMP	**Col San Antoni**	**1.60 193**		eS	**Sn**	**23 59 22.1**	**+0.3**
HUMP	**Col San Antoni**	**1.60 193**			**Pn**	**23 59 01.9**	**-0.5**
HUMP					**Sn**	**23 59 22.1**	**+0.3**
HUMP	**Col San Antoni**	**1.60 193**		IAML		23 59 22.6	
comp=N,87nm,0.4s							
HUMP				IAML		23 59 24.4	
comp=E,102nm,0.2s							
MTP	**Monte Pirata**	**1.60 183**		⇑eP	**Pn**	**23 59 02.6**	**+0.1**
MTP				eS	**Sn**	**23 59 22.3**	**+0.3**
MTP	**Monte Pirata**	**1.60 183**			**Pn**	**23 59 02.6**	**+0.1**
MTP					**Sn**	**23 59 22.3**	**+0.3**
MTP	**Monte Pirata**	**1.60 183**		IAML		23 59 24.5	
comp=N,97nm,0.3s							
SJG	**San Juan**	**1.71 202**			**Pn**	**23 59 03.9**	**-0.1**
SJG				IAML		23 59 29.9	
comp=N,119nm,0.3s							
PDPR	**Patillas Dam,**	**1.76 197**			**Pn**	**23 59 03.8**	**-0.8**
PDPR				IAML		23 59 29.1	
comp=E,76nm,0.9s							
AOPR	**Arecibo Observ**	**1.81 222**		⇑eP	**Pn**	**23 59 05.2**	**-0.2**
AOPR	**Arecibo Observ**	**1.81 222**		eS	**Sn**	**23 59 27.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.81 222**			**Pn**	**23 59 05.2**	**-0.2**
AOPR					**Sn**	**23 59 27.9**	**+0.7**
AOPR	**Arecibo Observ**	**1.81 222**		IAML		23 59 33.3	
comp=N,214nm,0.3s							
IGPR	**InterUniversit**	**1.83 199**		⇑eP	**Pn**	**23 59 05.2**	**-0.4**
IGPR	**InterUniversit**	**1.83 199**		eS	**Sn**	**23 59 27.2**	**-0.4**
IGPR	**InterUniversit**	**1.83 199**			**Sn**	**23 59 27.2**	**-0.4**
CELP	**Cerrillos**	**1.93 213**		⇓eP	**Pn**	**23 59 06.8**	**-0.2**
CELP	**Cerrillos**	**1.93 213**		eS	**Sn**	**23 59 30.2**	**+0.2**
CELP	**Cerrillos**	**1.93 213**			**Pn**	**23 59 06.8**	**-0.2**
CELP					**Sn**	**23 59 30.2**	**+0.2**
OBIP	**Obispado Ponce**	**1.97 213**		Pn	**Pn**	**23 59 07.7**	**+0.2**
OBIP				IAML		23 59 43.1	
comp=E,67nm,1.1s							
AGPR	**Aguadilla, PR**	**1.98 232**		Pn	**Pn**	**23 59 07.8**	**+0.2**
AGPR				IAML		23 59 55.8	
comp=E,86nm,2.1s							
AGPR				IAML		00 00 29.1	
comp=N,122nm,2.7s							
CDVI	**St. Croix**	**2.06 161**		Pn	**Pn**	**23 59 09.0**	**+0.3**
CDVI				IAML		23 59 43.4	
comp=E,215nm,0.5s							
ICMP	**Isla Caja de M**	**2.07 209**		Pn	**Pn**	**23 59 08.4**	**-0.4**
ICMP				IAML		23 59 34.9	
comp=E,84nm,0.1s							
ICMP				IAML		23 59 41.4	
comp=N,77nm,1.0s							
LSP	**Las Mesas**	**2.15 225**		⇑eP	**Pn**	**23 59 10.1**	**0.0**
LSP				eS	**Sn**	**23 59 36.2**	**+0.6**
LSP	**Las Mesas**	**2.15 225**			**Pn**	**23 59 10.1**	**0.0**
LSP					**Sn**	**23 59 36.2**	**+0.6**
MPR	**Mayaguez**	**2.17 227**		Pn	**Pn**	**23 59 09.8**	**-0.4**
MLPR	**Magueyes Islan**	**2.28 221**		⇑eP	**Pn**	**23 59 11.3**	**-0.5**
MLPR	**Magueyes Islan**	**2.28 221**		eS	**Sn**	**23 59 39.1**	**+0.5**
MLPR	**Magueyes Islan**	**2.28 221**		Pn	**Pn**	**23 59 10.8**	**-0.9**
MLPR				Sn	**Sn**	**23 59 37.4**	**-1.2**
MLPR				IAML		00 00 01.2	
comp=E,42nm,1.1s							
PCDR	**Punta Cana, DR**	**2.99 247**		Pn	**Pn**	**23 59 21.4**	**-0.2**
BPA	**Boggy Peak**	**4.34 127**		eP	**Pn**	**23 59 40.3**	**+0.1**
BPA	**Boggy Peak**	**4.34 127**		eS	**Sn**	**00 00 30.0**	**+0.4**
ANBD	**Bethesda, Anti**	**4.41 126**		eP	**Pn**	**23 59 39.8**	**-1.3**
ANBD	**Bethesda, Anti**	**4.41 126**		eS	**Sn**	**00 00 30.9**	**-0.3**
SDDR	**Presa de Saban**	**5.53 263**		Pn	**Pn**	**23 59 57.5**	**+0.9**
GRTK	**Grand Turk**	**5.59 290**		Pn	**Pn**	**23 59 56.9**	**-0.4**

*IDC **28** 00:10:34.4±1.4, 54.46S×159.33E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.2/25, mbtmp4.3/7, Error ellipse: s-maj=71.3km s-min=22.8km az=71.0*
*NEIC **28** 00:10:38.1±1.4, 54.47S±0.05×158.60E±0.07, h10km±1km, mb4.3/8, Error ellipse: s-maj=9.7km s-min=3.9km az=36.0*

ISC 28 00:10:38.4±0.9, 54.42S±0.08×159.0E±0.1, h26km±6km, n39, σ1.43/29, mb4.4/11, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.08 195**			**Pb**	**00 10 42.4**	**-0.6**
MCQ				Sg	**Sb**	**00 10 47.0**	**+0.9**
WHZ	**Wether Hill Ro**	**10.28 38**		Pn	Pn	00 13 08.3	+4.2
MLZ	**Mavora Lakes**	**10.79 37**		Pn	Pn	00 13 15.8	+4.6
WKZ	**Wanaka**	**11.58 38**		Pn	Pn	00 13 25.4	+3.4
ODZ	**Otahua Downs**	**12.02 43**		Pn	**Pn**	**00 13 28.1**	**+0.2**
FOZ	**Fox Glacier**	**12.99 37**		Pn	**Pn**	**00 13 40.6**	**-0.5**
TAU	**Tasmania Unive**	**13.84 322**		Pn	**Pn**	**00 13 52.0**	**-0.7**
VNDA	**Vanda**	**23.22 178**		P	**P**	**00 15 43.6**	**+0.7**
0.8nm,0.7s,baz=3.4,slow=11,SNR=5.6							
VNDA	**Vanda**	**23.22 178**		P	**P**	**00 15 44.4**	**+1.4**
STKA	**Stephens Creek**	**25.72 324**		P	**P**	**00 16 07.7**	**+1.2**
2.7nm,0.9s,baz=171,slow=11,SNR=4.4							
BBOO	**Buckleboo**	**27.02 314**		P	**P**	**00 16 15.7**	**-2.5**
QSPA	**South Pole Qui**	**35.69 180**		P	**P**	**00 17 36.4**	**+2.1**
QSPA				IAmb	IAmb	00 17 36.5	
comp=Z,3.5nm,1.1s							
AS31	**Alice Springs**	**35.98 319**		P	**P**	**00 17 37.9**	**+0.8**
AS31				IAmb	IAmb	00 17 39.6	
comp=Z,2.7nm,0.8s							
ASAR	**Alice Springs**	**35.98 319**		P	**P**	**00 17 38.9**	**+1.8**
comp=Z,9.5nm,0.9s,baz=157,slow=8.4,SNR=44							
ASAR				PcP	**PcP**	**00 20 03.5**	**+0.3**
comp=Z,1.4nm,0.8s,baz=138,slow=2.9,SNR=7.1							
ASAR	**Alice Springs**	**35.98 319**		P	**P**	**00 17 38.2**	**+1.2**
H01W1	**Cape Leeuwin H**	**36.61 284**		T	T	00 56 18.5	
baz=137,slow=75,SNR=5662							
H01W2	**Cape Leeuwin H**	**36.61 284**		T	T	00 56 19.1	
baz=137,slow=75,SNR=6347							
H01W3	**Cape Leeuwin H**	**36.62 284**		T	T	00 56 19.8	
baz=137,slow=75,SNR=6455							
WR0	**Warramunga Arr**	**39.12 322**		P	**P**	**00 18 04.3**	**+0.7**
WB2	**Warramunga Arr**	**39.20 322**		P	**P**	**00 18 04.8**	**+0.5**
WB2				IAmb	IAmb	00 18 05.8	
comp=Z,7.9nm,0.9s							
WRA	**Warramunga Arr**	**39.21 322**		P	**P**	**00 18 05.2**	**+0.8**
comp=Z,8.8nm,1.0s,baz=158,slow=7.1,SNR=13							
WRA	**Warramunga Arr**	**39.21 322**		P	**P**	**00 18 04.5**	**+0.2**
WB0	**Warramunga Arr**	**39.35 322**		P	**P**	**00 18 06.3**	**+0.8**
WB0				IAmb	IAmb	00 18 07.4	
comp=Z,12nm,1.1s							
SNAA	**Sanae**	**53.55 187**		P	**P**	**00 19 54.4**	**-2.0**
VNA3	**Neumayer Olymp**	**54.38 184**		P	**P**	**00 19 59.2**	**-3.2**
VNA2	**Neumayer--Watz**	**54.58 185**		P	**P**	**00 20 01.9**	**-1.9**
VNA1	**Neumayer--Stat**	**54.90 185**		P	**P**	**00 20 04.2**	**-1.9**
H03S2	**Juan Fernandez**	**78.97 134**		T	T	01 49 60.0	
baz=208,slow=74,SNR=1484							
H03S1	**Juan Fernandez**	**78.97 134**		T	T	01 50 01.2	
baz=208,slow=74,SNR=1680							
H03S3	**Juan Fernandez**	**78.98 134**		T	T	01 50 00.5	
baz=208,slow=74,SNR=1574							
H08S2	**Diego Garcia H**	**81.80 268**		T	T	01 52 46.2	
baz=144,slow=76,SNR=320							
H08S1	**Diego Carcia H**	**81.81 268**		T	T	01 52 43.5	
baz=144,slow=76,SNR=366							
H08S3	**Diego Garcia H**	**81.82 268**		T	T	01 52 44.1	
baz=144,slow=76,SNR=348							
BOSA	**Boshof**	**88.20 219**		P	**P**	**00 23 26.3**	**-1.0**
comp=Z,2.9nm,1.0s,baz=173,slow=5.3,SNR=6.0							
CMAR	**Chiang Mai Arr**	**88.76 305**		P	**P**	**00 23 31.2**	**+1.6**
comp=Z,0.7nm,0.3s,baz=170,slow=3.5,SNR=9.1							
MJAR	**Matsushiro Arr**	**92.35 343**		P	**P**	**00 23 45.2**	**-0.7**
comp=Z,1.9nm,0.8s,baz=165,slow=10,SNR=2.8							
ILAR	**Eielson Array**	**125.90 25**		PKP	**PKiKP**	**00 29 36.8**	**0.0**
comp=Z,1.3nm,1.1s,baz=226,slow=3.7,SNR=6.2							
AKASG	**Malin Array Be**	**149.77 284**		PKPbc	**PKPbc**	**00 30 24.3**	**-0.5**
comp=Z,1.1nm,0.5s,baz=85,slow=2.2,SNR=8.7							
FINES	**FINESS Array B**	**154.53 305**		PKPab	**PKPab**	**00 30 51.5**	**+1.4**
comp=Z,3.9nm,1.0s,baz=44,slow=4.2,SNR=4.2							

*TRN **28** 00:23:55.3, 18.77N×64.65W, h56km, MD4.0, M2.8(RSPR)*
*NEIC **28** 00:23:58.8±1.6, 18.72N±0.07×64.72W±0.04, h55km±7km, Error ellipse: s-maj=10.1km s-min=5.7km az=184.0*
*RSPR **28** 00:23:58.6, 18.87N×64.75W, h10km±2km, MD2.8/10*

ISC 28 00:23:56.7±1.5, 18.75N±0.08×64.63W±0.03, h67km±7km, n46, σ0.96/60, 13C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.28 93**		Pg	**Pn**	**00 24 08.7**	**+1.3**
ABVI				Sg	**Sn**	**00 24 16.9**	**+1.6**
VGBI	**Virgin Gorda,**	**0.33 140**		⇑eP	**Pn**	**00 24 08.0**	**+0.1**
VGBI	**Virgin Gorda,**	**0.33 140**		eS	**Sn**	**00 24 15.8**	**-0.2**
VGBI	**Virgin Gorda,**	**0.33 140**			**Pn**	**00 24 08.0**	**+0.1**
VGBI					**Sn**	**00 24 15.8**	**-0.2**
STVI	**Saint Thomas**	**0.50 218**		⇓eP	**Pn**	**00 24 09.1**	**-0.2**
STVI	**Saint Thomas**	**0.50 218**		⇓eP	**Pn**	**00 24 09.1**	**-0.2**
STVI				eS	**Sn**	**00 24 17.2**	**-1.2**
STVI	**Saint Thomas**	**0.50 218**			**Pn**	**00 24 09.1**	**-0.2**
STVI	**Saint Thomas**	**0.50 218**			**Sn**	**00 24 17.2**	**-1.2**
STVI				IAML		00 24 17.7	
comp=E,405nm,0.2s							
STVI				IAML		00 24 18.1	
comp=N,436nm,0.2s							
CUPR	**Culebra, Puert**	**0.76 235**		⇑eP	**Pn**	**00 24 11.9**	**-0.2**
CUPR	**Culebra, Puert**	**0.76 235**		eS	**Sn**	**00 24 22.3**	**-1.1**
CUPR	**Culebra, Puert**	**0.76 235**		Sg	**Sn**	**00 24 22.3**	**-1.1**
CUPR				IAML		00 24 23.4	
comp=N,165nm,0.3s							
CUPR	**Culebra, Puert**	**0.76 235**			**Pn**	**00 24 11.9**	**-0.2**
CDVI	**St. Croix**	**1.00 188**		⇑eP	**Pn**	**00 24 16.0**	**+0.9**
CDVI	**St. Croix**	**1.00 188**		⇑eP	**Pn**	**00 24 16.0**	**+0.9**
CDVI				eS	**Sn**	**00 24 29.3**	**+0.7**
CDVI	**St. Croix**	**1.00 188**			**Pn**	**00 24 15.7**	**+0.6**
CDVI					**Sn**	**00 24 29.0**	**+0.4**
CDVI				IAML		00 24 30.8	
comp=E,376nm,0.5s							
MTP	**Monte Pirata**	**1.09 234**			**Pn**	**00 24 16.4**	**+0.2**
MTP				Sg	**Sn**	**00 24 30.0**	**-0.7**
MTP				IAML		00 24 31.3	
comp=N,191nm,0.1s							
CBYP	**Canovanas**	**1.26 248**		⇑eP	**Pn**	**00 24 18.5**	**+0.1**
CBYP	**Canovanas**	**1.26 248**		⇑eP	**Pn**	**00 24 18.5**	**+0.1**
CBYP				eS	**Sn**	**00 24 33.8**	**-0.9**
CBYP	**Canovanas**	**1.26 248**		Sg	**Sn**	**00 24 33.8**	**-0.9**
CBYP	**Canovanas**	**1.26 248**			**Pn**	**00 24 18.5**	**+0.1**
HUMP	**Col San Antoni**	**1.30 243**		⇑eP	**Pn**	**00 24 19.0**	**0.0**
HUMP	**Col San Antoni**	**1.30 243**		⇑eP	**Pn**	**00 24 19.0**	**0.0**
HUMP				eS	**Sn**	**00 24 35.4**	**-0.3**
HUMP	**Col San Antoni**	**1.30 243**			**Pn**	**00 24 19.1**	**0.0**
HUMP					**Sn**	**00 24 35.1**	**-0.6**
HUMP				IAML		00 24 35.3	
comp=E,104nm,0.2s							
HUMP				IAML		00 24 36.7	
comp=N,152nm,0.2s							
GCPR	**Guaynabo City**	**1.45 253**		⇑eP	**Pn**	**00 24 20.8**	**0.0**
GCPR	**Guaynabo City**	**1.45 253**		eS	**Sn**	**00 24 38.5**	**-0.6**
GCPR	**Guaynabo City**	**1.45 253**			**Pn**	**00 24 20.8**	**0.0**
GCPR	**Guaynabo City**	**1.45 253**			**Sn**	**00 24 38.4**	**-0.6**
GCPR				IAML		00 25 02.7	
comp=N,119nm,2.8s							
PDPR	**Patillas Dam,**	**1.51 242**		Pn	**Pn**	**00 24 22.4**	**+0.8**
PDPR				Sn	**Sn**	**00 24 40.7**	**+0.2**
PDPR				IAML		00 24 43.2	
comp=E,66nm,0.1s							
SJG	**San Juan**	**1.57 247**		Pn	**Pn**	**00 24 25.1**	**+2.5**
SJG				Sn	**Sn**	**00 24 42.5**	**+0.4**
IGPR	**InterUniversit**	**1.60 241**		⇑eP	**Pn**	**00 24 23.5**	**+0.5**
IGPR	**InterUniversit**	**1.60 241**		eS	**Sn**	**00 24 42.7**	**-0.1**
IGPR	**InterUniversit**	**1.60 241**			**Sn**	**00 24 42.7**	**-0.1**
IGPR	**InterUniversit**	**1.60 241**		Pn	**Pn**	**00 24 26.6**	**+3.7**
IGPR				IAML		00 24 49.2	
comp=E,118nm,0.2s							
SABA	**Saba**	**1.73 130**		Pn	Pn	00 24 30.6	+5.9
EMPR	**Esperanza - Ma**	**1.82 262**		⇑eP	**Pn**	**00 24 26.2**	**+0.4**
EMPR	**Esperanza - Ma**	**1.82 262**		eS	**Sn**	**00 24 47.2**	**-0.8**
EMPR	**Esperanza - Ma**	**1.82 262**			**Pn**	**00 24 27.1**	**+1.2**
EMPR				IAML		00 24 43.7	
comp=N,119nm,1.4s							
EMPR					**Sn**	**00 24 48.0**	**0.0**
EMPR				IAML		00 24 59.4	
comp=E,133nm,1.5s							
OBIP	**Obispado Ponce**	**2.00 250**		Pn	**Pn**	**00 24 29.5**	**+1.2**
AOPR	**Arecibo Observ**	**2.05 259**		⇑eP	**Pn**	**00 24 29.2**	**+0.1**
AOPR	**Arecibo Observ**	**2.05 259**		⇑eP	**Pn**	**00 24 29.2**	**+0.1**
AOPR				eS	**Sn**	**00 24 53.1**	**-0.6**
AOPR	**Arecibo Observ**	**2.05 259**			**Pn**	**00 24 29.6**	**+0.5**
AOPR				IAML		00 24 59.8	
comp=E,121nm,0.2s							
AOPR				IAML		00 25 05.6	
comp=N,58nm,0.4s							
AOPR	**Arecibo Observ**	**2.05 259**			**Sn**	**00 24 53.1**	**-0.6**
SKI	**Saint Kitts**	**2.28 128**		eP	**Pn**	**00 24 32.3**	**+0.1**
ANWB	**Willy Bob**	**2.91 111**		eS	**Sn**	**00 25 11.4**	**-3.1**
BPA	**Boggy Peak**	**3.13 122**		eP	**Pn**	**00 24 44.4**	**+0.6**
BPA				eS	**Sn**	**00 25 19.8**	**-0.3**
ANBD	**Bethesda, Anti**	**3.21 121**		eP	**Pn**	**00 24 44.7**	**0.0**
ANBD				eS	**Sn**	**00 25 21.2**	**-0.5**

*TUL **28** 00:24:03.4±1.4, 35.99N±0.01×97.58W±0.02, h5km±7km, ML3.5, mb_Lg3.2/103(NEIC), Error ellipse: s-maj=2.7km s-min=1.5km az=74.0*
*NEIC **28** 00:24:03.7±1.2, 35.999N±0.007×97.57W±0.02, h4km±7km, Error ellipse: s-maj=2.4km s-min=1.0km az=92.0*
*ANF **28** 00:24:05.9±0.7, 36.00N×97.59W, h24km±6km, ML4.1/11, Error ellipse: s-maj=4.2km s-min=3.1km az=175.0*

ISC 28 00:24:03.9±1.0, 36.01N±0.02×97.57W±0.02, h8km±9km, n104, σ0.75/83, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23 155**			**Pg**	**00 24 08.1**	**-0.4**
OK029				Sg	**Sg**	**00 24 11.5**	**-0.1**
BCOK	**Bluff Creek, N**	**0.35 185**			**Pg**	**00 24 10.3**	**-0.5**
BCOK				Sg	**Sg**	**00 24 15.2**	**-0.3**
OK009	**Oakdale Elemen**	**0.44 164**		Pg	**Pg**	**00 24 12.0**	**-0.5**
OK009				Sg	**Sg**	**00 24 18.3**	**-0.1**
OK025	**Westminster Rd**	**0.47 156**			**Pg**	**00 24 12.5**	**-0.4**
OK025				Sg	**Sg**	**00 24 19.0**	**-0.1**
OK005	**Luther M Schoo**	**0.47 139**		Pg	**Pg**	**00 24 12.6**	**-0.4**
OK005				Sg	**Sg**	**00 24 19.2**	**0.0**
OK001	**Jones High Sch**	**0.50 153**			**Pg**	**00 24 13.2**	**-0.5**
CROK	**Carrier**	**0.59 326**			**Pg**	**00 24 15.3**	**-0.1**
CROK				Sg	**Sb**	**00 24 24.3**	**-0.9**
OK031	**S. Brethren Rd**	**0.60 95**			**Pg**	**00 24 15.2**	**-0.2**
OK031		

MIAR	Mount Ida	3.58	113	P	Pn	00 25 00.6 +0.8
	baz=295					
MIAR				S	Sn	00 25 43.4 +1.1
	baz=295					
MIAR	Mount Ida	3.58	113		Pn	00 25 00.5 +0.8
MIAR				IAmb_Lg		00 26 01.9
	comp=Z,66nm,0.8s					
MIAR	Mount Ida	3.58	113	P		00 25 00.5
	baz=295,SNR=25					
ABTX	Abilene, Hawle	3.79	207	Pb	Pb	00 25 11.8 +0.8
	baz=26					
ABTX	Abilene, Hawle	3.79	207		Pn	00 25 02.2 -0.4
ABTX				IAmb_Lg		00 26 01.0
	comp=Z,48nm,0.8s					
U40A	Yellville	3.83	83	Pn	Pn	00 25 02.6 -0.7
WHTX	Lake Whitney,	4.01	179		Pn	00 25 04.7 -1.0
X40A	Basin Creek Fa	4.17	110	Pb	Pb	00 25 18.3 +0.9
	baz=292					
X40A	Basin Creek Fa	4.17	110		Pn	00 25 08.0 +0.2
X40A				IAmb_Lg		00 26 19.6
	comp=Z,86nm,0.8s					
237A	Washetta, Mont	4.26	159	Pn	Pn	00 25 07.2 -1.9
WLAR	White Oak Lake	4.34	121	Pn	Pn	00 25 09.9 -0.2
WLAR				IAmb_Lg		00 26 25.9
	comp=Z,40nm,0.8s					
WHAR	Wooly Hollow	4.36	98		Pn	00 25 10.4 -0.2
WHAR				IAmb_Lg		00 26 30.1
	comp=Z,60nm,0.8s					
MGMO	Mountain Grove	4.42	73		Pn	00 25 10.6 -0.8
MGMO				IAmb_Lg		00 26 22.2
	comp=Z,44nm,0.9s					
W41B	Gary Mavity, V	4.42	99	P	Pn	00 25 11.8 +0.5
	baz=282					
W41B				S	Sn	00 26 02.0 -1.0
	baz=282					
W41B	Gary Mavity, V	4.42	99	P		00 25 11.0
	baz=282,SNR=14					
FCAR	Ozark Folk Cen	4.42	90		Pn	00 25 11.3 -0.1
FCAR				IAmb_Lg		00 26 20.8
	comp=Z,50nm,0.8s					
N33A	J Bar K, Exete	4.72	1	IAmb_Lg		00 26 39.6
	comp=Z,42nm,0.7s					
MSTX	Muleshoe	4.73	246	Pn	Pn	00 25 16.8 +1.1
Z41A	Richland Creek	4.80	124	S	Sn	00 26 11.3 -1.0
	baz=306					
R40A	Maddies Statio	4.81	60	Pn	Pn	00 25 16.6 -0.1
R40A	Maddies Statio	4.81	60	P		00 25 16.5
	baz=243,SNR=20					
P38A	Dawn	4.82	40	Pn	Pn	00 25 16.9 +0.1
KSCO	Kaye Shedlock'	5.01	308	Pn	Pn	00 25 20.2 +0.6
N35A	Tabor	5.08	17	Pn	Pn	00 25 20.1 -0.2
CCAR	Cane Creek	5.20	112	IAmb_Lg		00 26 57.0
	comp=Z,78nm,0.8s					
LCAR	Lake Charles	5.20	87	IAmb_Lg		00 26 52.9
	comp=Z,50nm,0.8s					
435B	Jarrell	5.21	180	Pn	Pn	00 25 21.3 -0.9
435B				IAmb_Lg		00 26 53.9
	comp=Z,64nm,0.9s					
BGNE	Belgrade	5.41	355	S	Sn	00 26 25.2 -2.2
	baz=175					
BGNE	Belgrade	5.41	355	Pn	Pn	00 25 25.1 +0.1
BGNE				IAmb_Lg		00 27 01.9
	comp=Z,74nm,0.7s					
CCM	Cathedral Cave	5.46	66	IAmb_Lg		00 27 12.8
	comp=Z,32nm,0.8s					
P40A	Paris	5.61	50	Pn	Pn	00 25 28.2 +0.5
P40A				IAmb_Lg		00 27 08.8
	comp=Z,38nm,0.8s					
T25A	Trinidad	5.62	284	IAmb_Lg		00 27 04.0
	comp=Z,50nm,0.9s					
JCT	Junction City	5.82	199	Pn	Pn	00 25 30.3 -0.3
JCT				IAmb_Lg		00 27 16.6
	comp=Z,68nm,0.7s					
N38A	Joes South For	5.87	34	Pn	Pn	00 25 30.5 -0.7
N38A				IAmb_Lg		00 27 16.1
	comp=Z,67nm,0.7s					
OGNE	Ogallala	6.04	326	Pn	Pn	00 25 33.5 -0.2
OGNE				IAmb_Lg		00 27 24.2
	comp=Z,36nm,0.8s					
143A	Socs Landing,	6.08	121	IAmb_Lg		00 27 32.6
	comp=Z,30nm,0.9s					
SLM	Saint Louis	6.41	64	IAmb_Lg		00 27 24.4
	comp=Z,32nm,0.7s					
OXF	Oxford	6.84	100	IAmb_Lg		00 27 48.9
	comp=Z,42nm,0.8s					
W45A	Hickory Valley	6.89	95	IAmb_Lg		00 27 51.5
	comp=Z,54nm,0.8s					
Y45A	Yeager Farm, C	6.93	106	IAmb_Lg		00 27 55.8
	comp=Z,30nm,0.7s					
N41A	Harden Midland	7.06	46	IAmb_Lg		00 27 47.9
	comp=Z,36nm,0.8s					
P43A	Skaggs, Pawnee	7.33	58	IAmb_Lg		00 28 01.2
	comp=Z,33nm,0.9s					
Q44A	Meyer Farm, Va	7.39	64	IAmb_Lg		00 28 05.0
	comp=Z,30nm,0.8s					
ECSD	EROS Data Cent	7.75	5	IAmb_Lg		00 28 17.9
	comp=Z,17nm,0.9s					
146A	Union	7.81	113	IAmb_Lg		00 28 26.6
	comp=Z,26nm,0.8s					
L40A	Anamosa	7.81	37	IAmb_Lg		00 28 16.1
	comp=Z,25nm,0.8s					
WVT	Waverly	7.89	86	IAmb_Lg		00 28 19.6
	comp=Z,18nm,0.8s					
HDIL	Hopedale	7.94	53	IAmb_Lg		00 28 34.4
	comp=Z,30nm,0.8s					
O44A	Mansfield	8.29	57	IAmb_Lg		00 28 25.6
	comp=Z,27nm,0.9s					
SUSD	Miller	8.49	353	IAmb_Lg		00 28 36.6
	comp=Z,25nm,0.8s					
L42A	Oliver, Polo	8.58	43	IAmb_Lg		00 28 36.7
	comp=Z,16nm,0.8s					
I37A	Lemond, Waseca	8.61	21	IAmb_Lg		00 28 44.6
	comp=Z,21nm,0.8s					
V48A	Smith Brothers	8.73	89	IAmb_Lg		00 28 40.9
	comp=Z,18nm,0.9s					
JFWS	Jewell Farm	8.92	37	IAmb_Lg		00 28 49.1
	comp=Z,20nm,0.9s					
PV02	Paradox Valley	9.18	287	IAmb_Lg		00 29 09.1
	comp=Z,14nm,1.2s					
WCI	Wyandotte Cave	9.28	73	IAmb_Lg		00 29 03.7
	comp=Z,23nm,0.7s					
BLO	Bloomington	9.32	67	IAmb_Lg		00 28 58.1
	comp=Z,26nm,0.7s					
SFIN	Lafayette	9.33	59	IAmb_Lg		00 29 08.2
	comp=Z,18nm,0.8s					
Y49A	Blount Mountai	9.41	100	IAmb_Lg		00 29 07.4
	comp=Z,13nm,0.8s					
SWET	Sewanee	9.51	91	IAmb_Lg		00 29 11.3
	comp=Z,27nm,1.3s					
U49A	Red Boiling Sp	9.54	84	IAmb_Lg		00 29 03.9
	comp=Z,18nm,1.1s					
K43A	Burlington	9.79	44	IAmb_Lg		00 29 31.4
	comp=Z,17nm,0.9s					
F33A	5 Mile Ranch,	9.87	5	IAmb_Lg		00 29 24.9
	comp=Z,16nm,1.1s					
FPAL	Fort Paine	9.89	95	IAmb_Lg		00 29 29.3
	comp=Z,12nm,0.7s					

*IDC **28** 00:25:07.2±1.0, 26°.52N×141°.64E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/43, mbtmp3.7/4, Error ellipse: s-maj=33.5km s-min=15.3km az=123.0*

ISC 28 00:25:12.4±1.2, 26°.5N±0°.1×141°.9E±0°.2, h40km, n6, σ0°72/6, mb3.8/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	0.62	25	Pn	Pn	00 25 24.8	-0.1
	85nm,0.3s,baz=1.3,slow=22,SNR=84						
JCJ				Sn	Sn	00 25 39.0	+5.2
	104nm,0.3s,baz=280,slow=23,SNR=9.4						
KSRS	Korea Array	16.07	316	Pn	P	00 28 59.0	+0.7
	0.2nm,0.3s,baz=124,slow=10,SNR=4.2						
WRA	Warramunga Arr	46.77	190	P	P	00 33 38.4	+0.3
	2.9nm,0.6s,baz=12,slow=8.6,SNR=11						
ASAR	Alice Springs	50.49	189	P	P	00 34 06.5	-0.2
	0.4nm,0.5s,baz=8.8,slow=5.5,SNR=4.6						
MKAR	Makanchi Array	50.63	310	P	P	00 34 06.6	-0.9
	0.1nm,0.3s,baz=84,slow=9.7,SNR=5.4						
FINES	FINESS Array B	78.33	334	P	P	00 37 08.6	+0.4
	0.4nm,0.3s,baz=60,slow=4.0,SNR=5.5						

*NEIC **28** 00:41:51.7±1.0, 19°.63N±0°.03×65°.33W±0°.05, h36km±46km, Error ellipse: s-maj=8.1km s-min=1.2km az=118.0*

*RSPR **28** 00:41:51.8, 19°.64N×65°.24W, h60km±16km, MD3.4/4*

ISC 28 00:41:49.9±1.7, 19°.54N±0°.08×65°.35W±0°.05, h16km, n35, σ0°64/40, 7C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	Culebra, Puert	1.23	177	⇑eP	Pg	00 42 13.3	-0.4
CUPR	Culebra, Puert	1.23	177	eS	Sg	00 42 30.4	+0.7
CUPR	Culebra, Puert	1.23	177		Pg	00 42 13.3	-0.4
CUPR	Culebra, Puert	1.23	177		Sg	00 42 30.2	+0.5
CUPR				IAML		00 42 33.4	
	comp=E,42nm,0.7s						
STVI	Saint Thomas	1.24	162	Pn	Pg	00 42 13.8	-0.1
STVI				Sn	Sg	00 42 30.7	+0.6
STVI				IAML		00 42 41.0	
	comp=E,55nm,0.9s						
ABVI	Anegada Island	1.25	130	Pn	Pb	00 42 12.7	-0.5
ABVI				Sn	Sg	00 42 30.7	+0.2
CBYP	Canovanas	1.35	201	⇑eP	Pb	00 42 15.2	+0.2
CBYP	Canovanas	1.35	201	eS	Sg	00 42 33.5	-0.1
CBYP	Canovanas	1.35	201		Pn	00 42 14.3	+0.1
CBYP					Sb	00 42 32.5	+0.5
CBYP				IAML		00 42 35.0	
	comp=E,128nm,0.2s						
GCPR	Guaynabo City	1.41	210	⇑eP	Pb	00 42 16.0	+0.1
GCPR	Guaynabo City	1.41	210	eS	Sg	00 42 35.0	-0.5
GCPR	Guaynabo City	1.41	210		Pb	00 42 16.0	+0.1
GCPR	Guaynabo City	1.41	210		Sb	00 42 34.3	+0.7
GCPR				IAML		00 42 43.8	
	comp=N,34nm,1.5s						
MTP	Monte Pirata	1.45	188	⇑eP	Pb	00 42 16.4	-0.2
MTP	Monte Pirata	1.45	188	eS	Sg	00 42 35.8	-1.0
MTP	Monte Pirata	1.45	188		Pb	00 42 16.4	-0.2
MTP	Monte Pirata	1.45	188		Sb	00 42 35.5	+0.7
HUMP	Col San Antoni	1.47	199	⇑eP	Pb	00 42 17.4	+0.4
HUMP	Col San Antoni	1.47	199	eS	Sg	00 42 36.8	-0.7
HUMP	Col San Antoni	1.47	199		Pb	00 42 16.6	-0.3
HUMP					Sn	00 42 34.0	-0.7
HUMP				IAML		00 42 37.4	
	comp=N,35nm,0.3s						
HUMP				IAML		00 42 44.4	
	comp=E,42nm,0.2s						
EMPR	Esperanza - Ma	1.54	227	Pn	Pn	00 42 17.5	+0.8
EMPR				IAML		00 42 38.7	
	comp=E,149nm,1.5s						
EMPR				IAML		00 43 18.4	
	comp=N,106nm,1.9s						
SJG	San Juan	1.61	208	Pn	Pb	00 42 18.8	-0.6
SJG				IAML		00 42 42.9	
	comp=N,30nm,0.5s						
PDPR	Patillas Dam,	1.65	203	Pn	Pn	00 42 18.8	+0.7
PDPR				IAML		00 42 57.4	
	comp=E,45nm,1.2s						
AOPR	Arecibo Observ	1.79	228	Pn	Pn	00 42 20.2	+0.1
CDVI	St. Croix	1.86	163	Pn	Pb	00 42 22.5	-1.1
CELP	Cerrillos	1.87	219	⇑eP	Pb	00 42 23.0	-0.7
CELP	Cerrillos	1.87	219	eS	Sb	00 42 47.1	+0.3
CELP	Cerrillos	1.87	219		Pb	00 42 23.0	-0.7
CELP					Sb	00 42 47.1	+0.3
OBIP	Obispado Ponce	1.91	219	Pn	Pn	00 42 22.3	+0.4
OBIP				IAML		00 42 53.0	
	comp=N,31nm,1.8s						
AGPR	Aguadilla, PR	1.98	238	Pn	Pn	00 42 23.6	+0.8
LSP	Las Mesas	2.13	231	⇑eP	Pn	00 42 26.2	+1.2
LSP	Las Mesas	2.13	231		Pn	00 42 26.2	+1.2
MPR	Mayaguez	2.15	232	Pn	Pb	00 42 27.6	-0.9
MLPR	Magueyes Islan	2.24	226	Pn	Pn	00 42 27.1	+0.7
MLPR				IAML		00 43 40.4	
	comp=E,29nm,2.0s						
MLPR				IAML		00 43 48.2	
	comp=N,32nm,2.2s						
SDDR	Presa de Saban	5.64	265	Pn	Pn	00 43 13.7	+0.5

*IDC **28** 00:50:40.2±1.0, 19°.38N×75°.86W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=47.4km s-min=29.3km az=40.0*

*OSPL **28** 00:50:42.7±1.2, 19°.91N×76°.12W, h0km±6km, ML3.9*

*SSNC **28** 00:50:44.1±2.2, 19°.85N×76°.06W, h11km±11km, ML3.6, MW4.0*

*NEIC **28** 00:50:45.4±2.2, 19°.72N±0°.04×75°.98W±0°.04, h20km±5km, mb4.1/8, Error ellipse: s-maj=6.4km s-min=5.7km az=188.0*

ISC 28 00:50:43.1±1.1, 19°.82N±0°.05×76°.05W±0°.02, h15km±7km, n42, σ1°93/59, mb4.0/6, 3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	Rio Carpintero	0.38	63	⇓iP	Pg	00 50 50.5	-0.3
RCC				eS	Sg	00 50 55.3	-0.7
RCC				IAML		00 50 56.0	
	comp=E,5μm,0.4s						
RCC				IAML		00 50 56.6	
	comp=N,6μm,0.5s						
GTBY	Guantanamo Bay	0.89	83	eP	Pg	00 50 59.7	-0.7
GTBY				eS	Sb	00 51 11.9	-0.2
GTBY	Guantanamo Bay	0.89	83		Pg	00 50 59.8	-0.7
GTBY				Sg	Sb	00 51 11.8	-0.3
GTBY	Guantanamo Bay	0.89	83	iP	Pg	00 50 59.9	-0.6
GTBY				eS	Sb	00 51 12.1	0.0
GTBY				IAML		00 51 13.6	
	comp=Z,20μm,0.7s						
GTMO	Guantanamo	0.90	73	⇓iP	Pb	00 51 00.8	+0.5
GTMO				eS	Sn	00 51 13.2	-0.8
LMGC	Las Mercedes	0.93	285	⇓iP	Pg	00 51 00.9	-0.2
LMGC				eS	Sg	00 51 13.2	0.0
MOAC	Moa	1.32	51	eP	Pn	00 51 05.1	-1.9
MOAC				eS	Sb	00 51 23.5	-1.0
MOAC				IAML		00 51 27.8	
	comp=N,1μm,0.6s						
MOAC				IAML		00 51 28.1	
	comp=E,439nm,0.5s						
MASC	Masc	1.75	78	eP	Pn	00 51 11.4	-1.5
MASC				eS	Sn	00 51 33.1	-1.9
MASC				IAML		00 51 40.9	
	comp=E,623nm,0.3s						
MASC				IAML		00 51 41.5	
	comp=N,392nm,0.3s						
CCCC	Cccc	2.11	311	eP	Pn	00 51 15.2	-2.7
CCCC				eS	Sn	00 51 39.9	-4.0
CCCC				IAML		00 51 44.6	
	comp=N,326nm,0.3s						
CCCC				IAML		00 51 44.6	
	comp=E,655nm,0.3s						
MTDJ	Mount Denham	2.12	222	eP	Pn	00 51 17.4	-0.7
MTDJ				eS	Sn	00 51 41.4	-2.7
MTDJ	Mount Denham	2.12	222		Pn	00 51 17.8	-0.3
MTDJ				Sn	Sn	00 51 41.0	-3.1
CBCY	The Bluff, Cay	3.49	269		Pn	00 51 39.0	+2.1
LGNH	Logne	3.51	111	Pn	Pn	00 51 37.5	+0.3
LGNH	Logne	3.51	111	iP	Pn	00 51 37.0	-0.2
LGNH				eS	Sn	00 52 19.1	+0.7
LGNH				IAML		00 52 27.4	
	comp=Z,85nm,0.4s						
JAKH	Jacmel	3.70	115	Pn	Pn	00 51 39.4	-0.3
JAKH	Jacmel	3.70	115	iP	Pn	00 51 41.0	+1.3
LCCY	Blossom Villag	3.80	268		Pn	00 51 44.2	+3.1
MGV	Manicaragua	4.32	303	eP	Pn	00 51 49.7	+1.5
MGV				eS	Sn	00 52 36.5	-1.9
MGV				IAML		00 52 43.6	
	comp=N,50nm,0.7s						
MGV				IAML		00 52 57.8	
	comp=E,37nm,0.7s						
SDDR	Presa de Saban	4.58	100	eP	Pn	00 51 51.2	-0.7
SDDR				eS	Sn	00 52 45.0	+0.2
SDDR	Presa de Saban	4.58	100		Pn	00 51 51.8	-0.1
SDDR	Presa de Saban	4.58	100	iP	Pn	00 51 52.0	+0.1
FSCY	Frank Sound, G	4.86	265	eP	Pn	00 51 55.2	-0.5
FSCY				eS	Sn	00 52 46.7	-5.1
FSCY				IAML		00 52 49.7	
	comp=Z,28nm,0.2s						
FSCY	Frank Sound, G	4.86	265	Pn	Pn	00 51 56.2	+0.4
GRTK	Grand Turk	4.91	69	eP	Pn	00 51 56.3	-0.1
GRTK				eS	Sn	00 52 50.2	-2.7
GRTK	Grand Turk	4.91	69	Pn	Pn	00 51 56.2	-0.1
GRTK	Grand Turk	4.91	69	iP	Pn	00 51 56.1	-0.2
GRTK				eS	Sn	00 52 50.1	-2.7
GRTK				IAML		00 52 56.7	
	comp=Z,81nm,0.6s						
BANI	BANI	5.57	104	Pn	Pn	00 52 06.0	+0.4
SDD	Santo Domingo	5.96	102	Pn	Pn	00 52 11.9	+1.0
DR12	Loma Pena Alta	6.38	98		Pn	00 52 18.0	+1.3
SOR	Soroa	7.12	296		Pn	00 52 30.9	+4.0

T60A	Surry	17.27	358		Pn	00 54 45.2 +1.5
WHAR	Wooly Hollow	21.04	320	P	P	00 55 28.9 +2.4
WHAR				IAmb	IAmb	00 55 32.5
	comp=Z,9.6nm,1.1s					
PBMO	Poplar Bluff	21.07	326	P	P	00 55 29.2 +2.5
MIAR	Mount Ida	21.35	317	P	P	00 55 32.9 +3.1
MIAR				IAmb	IAmb	00 55 36.8
	comp=Z,7.5nm,1.1s					
FCAR	Ozark Folk Cen	21.36	322	P	P	00 55 32.6 +2.7
PTGA	Pitinga	25.81	140	P	P	00 56 08.9 -5.0
	comp=Z,0.8nm,0.3s,baz=287,slow=20,SNR=2.5					
TXAR	Lajitas Array	26.78	296	P	P	00 56 24.9 +2.2
	comp=Z,1.2nm,1.0s,baz=133,slow=7.5,SNR=4.6					
TX31	Lajitas Ar. Si	26.78	296	P	P	00 56 24.9 +2.1
TX31				IAmb	IAmb	00 56 26.6
	comp=Z,5.3nm,1.1s					
FINES	FINESS Array B	78.43	29	P	P	01 02 44.3 +1.2
	comp=Z,0.8nm,0.5s,baz=292,slow=6.0,SNR=6.8					
WRA	Warramunga Arr	151.44	265	PKPbc	PKPbc	01 10 37.1 -0.2
	comp=Z,1.6nm,0.6s,baz=86,slow=2.7,SNR=15					
ASAR	Alice Springs	151.94	257	PKPbc	PKPbc	01 10 38.4 0.0
	comp=Z,1.8nm,0.6s,baz=86,slow=1.9,SNR=17					
ASAR	Alice Springs	151.94	257		PKPbc	01 10 38.2 -0.2

*NOU **28** 00:58:01.4, 40°.24S×174°.32E, h97km, ML4.2/8, Cook Strait, New Zealand*

WEL 28 00:58:02.5±0.5, 40°.S±2°.×17°.4E±°, h82km±5km, M4.4/119, ML4.6/53, MLv4.4/119, Error ellipse: s-maj=0.0km s-min=0.0km az=83.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.65	213	P	Pn	00 58 18.4	+0.6
DUWZ				S	Sn	00 58 31.2	+2.0
WAZ	Wanganui	0.68	43	P	Pn	00 58 19.2	+1.2
WAZ				S	Sn	00 58 32.1	+2.4
OHWZ	Ohakea	0.71	86	P	Pn	00 58 19.6	+1.3
OHWZ				S	Sn	00 58 33.1	+3.0
KIW	Kapiti Island	0.72	147	P	Pn	00 58 19.2	+0.7
KIW				S	Sn	00 58 31.1	+0.6
LREZ	Lake Rotokare	0.80	1	P	Pn	00 58 20.0	+0.7
LREZ				S	Sn	00 58 33.8	+2.0
OGWZ	Otaki Gorge	0.82	134	P	Pn	00 58 20.3	+0.8
OGWZ				S	Sn	00 58 33.1	+0.9
NMEZ	Namu Road	0.93	335	P	Pn	00 58 21.0	+0.3
NMEZ				S	Sn	00 58 35.5	+1.1
PREZ	Palmer Road	0.93	349	P	Pn	00 58 21.2	+0.3
TCW	Tory Channel	0.96	185	P	Pn	00 58 21.8	+0.7
TCW				S	Sn	00 58 35.7	+0.7
MRZ	Mangatainoka R	0.99	114	P	Pn	00 58 22.2	+0.7
MRZ				S	Sn	00 58 36.2	+0.4
CAW	Cannon Point	0.99	149	P	Pn	00 58 22.4	+0.8
CAW				S	Sn	00 58 36.7	+0.9
KHEZ	Kahui Hut	1.00	343	P	Pn	00 58 21.9	+0.2
KHEZ				S	Sn	00 58 36.9	+0.7
NEZ	North Egmont	1.01	347	P	Pn	00 58 21.8	-0.1
NEZ				S	Sn	00 58 35.2	-1.1
POWZ	Post Office Ro	1.06	98	P	Pn	00 58 22.6	+0.2
POWZ				S	Sn	00 58 37.4	+0.2
NBEZ	Newall Road No	1.07	338	P	Pn	00 58 22.6	+0.2
HOWZ	Holdsworth Sta	1.07	127	P	Pn	00 58 22.9	+0.4
HOWZ				S	Sn	00 58 37.6	+0.2
DREZ	Durham Road	1.08	352	P	Pn	00 58 22.9	+0.3
DREZ				S	Sn	00 58 38.6	+1.0
PKE	Pukeiti	1.11	344	P	Pn	00 58 22.9	0.0
VRZ	Vera Road	1.17	14	P	Pn	00 58 23.8	+0.2
VRZ				S	Sn	00 58 40.8	+1.3
MHEZ	Mangahewa	1.18	357	P	Pn	00 58 24.2	+0.4
MTVZ	Mangateitei	1.20	44	P	Pn	00 58 24.4	+0.2
MTVZ				S	Sn	00 58 41.8	+1.3
BHW	Baring Head	1.21	163	P	Pn	00 58 24.4	+0.3
PKVZ	Pokaka	1.22	38	P	Pn	00 58 24.4	+0.1
TSZ	Takapari Road	1.22	81	P	Pn	00 58 24.2	-0.1
TUWZ	Tuamarina	1.22	196	P	Pn	00 58 24.4	+0.1
NNZ	Nelson	1.23	218	P	Pn	00 58 24.5	+0.1
MTW	Mount Morrison	1.23	137	P	Pn	00 58 24.8	+0.3
PRWZ	Pori Road	1.24	104	P	Pn	00 58 25.0	+0.5
TIWZ	Tintock	1.25	115	P	Pn	00 58 25.8	+1.1
TRVZ	Turoa	1.31	43	P	Pn	00 58 25.6	0.0
WNVZ	Wahianoa	1.31	45	P	Pn	00 58 25.6	0.0
MSWZ	Moikau Station	1.33	151	P	Pn	00 58 26.0	+0.3
DRZ	Dome Shelter	1.33	43	P	Pn	00 58 26.1	0.0
WHWZ	Whangaehu Hut	1.34	44	P	Pn	00 58 26.0	-0.1
FWVZ	Far West T-bar	1.34	42	P	Pn	00 58 25.9	-0.2
MOVZ	Moawhango	1.35	51	P	Pn	00 58 25.8	-0.2
DVHZ	Dannevirke	1.36	92	P	Pn	00 58 25.8	-0.3
PAWZ	Paruwai Farm	1.37	145	P	Pn	00 58 26.5	+0.2
TUVZ	Tukino	1.39	45	P	Pn	00 58 26.7	+0.2
TMWZ	Te Maipa	1.42	127	P	Pn	00 58 27.1	+0.3
NGZ	Ngauruhoe	1.43	41	P	Pn	00 58 26.8	-0.3
PNHZ	Pukenui	1.43	77	P	Pn	00 58 26.5	-0.5
TWVZ	Taurewa	1.43	35	P	Pn	00 58 26.8	-0.3
SNVZ	South Ngauruho	1.44	42	P	Pn	00 58 27.2	0.0
PLWZ	Palliser	1.47	154	P	Pn	00 58 27.4	0.0
NNVZ	North Ngauruho	1.47	40	P	Pn	00 58 27.3	-0.3
WTVZ	West Tongariro	1.47	39	P	Pn	00 58 27.2	-0.4
OTVZ	Oturere	1.47	42	P	Pn	00 58 27.6	-0.1
BFZ	Birch Farm	1.48	107	P	Pn	00 58 27.4	-0.2
CMWZ	Cape Campbell	1.50	185	P	Pn	00 58 28.7	+0.9
BHHZ	Black Hill Sta	1.50	60	P	Pn	00 58 27.3	-0.5
TRWZ	Traveller	1.51	140	P	Pn	00 58 27.9	-0.1
BSWZ	Blackbirch Sta	1.51	195	P	Pn	00 58 28.2	+0.2
KRVZ	Karewarewa	1.51	40	P	Pn	00 58 27.7	-0.4
ETVZ	East Tongariro	1.51	43	P	Pn	00 58 28.0	-0.2
NTVZ	North Tongarir	1.52	41	P	Pn	00 58 28.3	0.0
TMVZ	Te Maari	1.52	42	P	Pn	00 58 28.2	-0.1
CPWZ	Castlepoint	1.53	116	P	Pn	00 58 28.9	+0.7
QRZ	Quartz Range	1.53	248	P	Pn	00 58 27.2	-1.0
WPHZ	Waipukurau	1.58	84	P	Pn	00 58 28.5	-0.4
ANWZ	Angora Road	1.61	98	P	Pn	00 58 29.0	-0.1
KATZ	Kakaramea	1.63	39	P	Pn	00 58 29.2	-0.4
KRHZ	Kereru	1.64	69	P	Pn	00 58 28.9	-0.8
RITZ	Rihia Road	1.71	42	P	Pn	00 58

MWZ	Matawai	3.10	53	P	Pn	00 58 46.5	-2.8
AWAZ	Awhitu Peninsu	3.19	4	P	Pn	00 58 49.8	-0.7
AMCZ	Amberley	3.19	203	P	Pn	00 58 48.5	-1.9
TKGZ	Te Karaka	3.24	57	P	Pn	00 58 48.4	-2.6
INZ	Inchbonnie	3.31	221	P	Pn	00 58 50.7	-1.3
WTAZ	Waiatarua	3.32	3	P	Pn	00 58 51.7	-0.5
ETAZ	East Tamaki Re	3.33	7	P	Pn	00 58 51.6	-0.6
EPAZ	Eden Park BICE	3.39	5	P	Pn	00 58 52.6	-0.4
HBAZ	Herne Bay Bore	3.41	5	P	Pn	00 58 52.9	-0.5
RUGZ	Raukumara Rang	3.43	49	P	Pn	00 58 50.4	-3.4
CNGZ	Carnagh Statio	3.45	60	P	Pn	00 58 51.5	-2.4
TWGZ	Tauwhareparae	3.48	54	P	Pn	00 58 52.0	-2.3
RVAZ	Riverhead Bore	3.48	2	P	Pn	00 58 53.6	-0.8
MBAZ	Motutapu North	3.50	7	P	Pn	00 58 53.9	-0.7
WIAZ	Waiheke Island	3.51	10	P	Pn	00 58 53.8	-0.9
OKCZ	Okains Bay	3.60	196	P	Pn	00 58 53.7	-2.3
HAZ	Te Kaha	3.63	48	P	Pn	00 58 52.5	-3.9
KUZ	Kuaotunu	3.66	17	P	Pn	00 58 55.0	-1.8
ABAZ	Army Bay	3.67	6	P	Pn	00 58 56.4	-0.4
MQZ	McQueen's Vall	3.68	200	P	Pn	00 58 53.8	-3.2
PUZ	Puketiti	3.71	55	P	Pn	00 58 54.1	-3.4
PKGZ	Pakihiroa	3.72	52	P	Pn	00 58 54.5	-3.1
AKCZ	Akaroa Harbour	3.78	196	P	Pn	00 58 55.6	-2.8
RACZ	Rakaia	3.85	205	P	Pn	00 58 56.1	-3.2
MHCZ	Mount Hutt	3.89	212	P	Pn	00 58 57.0	-3.0
WVZ	Waitaha Valley	3.93	223	P	Pn	00 58 58.7	-1.7
WMGZ	Waiomatatini S	3.97	53	P	Pn	00 58 57.5	-3.4
GRZ	Great Barrier	4.09	12	P	Pn	00 59 01.0	-1.6
WACZ	Wakanui South	4.14	206	P	Pn	00 58 60.0	-3.3
RPZ	Rata Peaks	4.26	215	P	Pn	00 59 02.7	-2.2
GCSZ	Gaunt Creek Bo	4.31	223	P	Pn	00 59 03.2	-2.3
WCZ	Waipu Caves	4.31	360	P	Pn	00 59 05.0	-0.7
ARCZ	Arundel	4.39	212	P	Pn	00 59 03.9	-2.8
FOZ	Fox Glacier	4.73	225	P	Pn	00 59 08.4	-2.9
TMZ	Timaru	4.83	210	P	Pn	00 59 09.1	-3.5
LBZ	Lake Benmore	5.17	216	P	Pn	00 59 15.0	-2.4
ODZ	Otahua Downs	5.52	209	P	Pn	00 59 18.9	-3.2
JCZ	Jackson Bay	5.65	226	P	Pn	00 59 20.6	-3.3
WKZ	Wanaka	6.05	219	P	Pn	00 59 27.8	-1.5
EAZ	Earnscleugh	6.22	215	P	Pn	00 59 29.2	-2.5
HHSZ	Highcliff Hill	6.27	205	P	Pn	00 59 29.2	-3.1
TUZ	Tuapeka	6.67	210	P	Pn	00 59 35.8	-2.0
MLZ	Mavora Lakes	6.88	220	P	Pn	00 59 38.9	-1.8
SYZ	Scrubby Hill	7.35	210	P	Pn	00 59 44.7	-2.3
CTZ	Chatham Island	7.54	120	P	Pn	00 59 48.6	-1.1
APZ	The Paps	8.05	213	P	Pn	00 59 53.6	-3.0

*SOF **28** 01:03:46.8, 41°.27N×24°.47E, h13km, MD3.4*
*ISK **28** 01:03:47.2, 41°.32N×24°.39E, h5km, ML3.4/8*
*THE **28** 01:03:48.4, 41°.27N×24°.44E, h10km, ML3.4/17, Error ellipse: s-maj=1.2km s-min=0.5km az=179.0*
*ATH **28** 01:03:48.2, 41°.30N×24°.45E, h9km±2km, ML3.4/12, Error ellipse: s-maj=2.5km s-min=0.8km az=179.0*
*SKO **28** 01:03:49.0, 41°.27N×24°.44E, h10km*
*BEO **28** 01:03:49.5±0.5, 41°.29N×24°.39E, h10km±2km, ML3.6/16*
*DDA **28** 01:03:50.7, 41°.07N×24°.38E, h16km±1km, MW3.6*

ISC 28 01:03:48.4±0.9, 41°.28N±0°.01×24°.44E±0°.01, h13km±7km, n196, σ1°.24/276, 16C-22D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.29**	**169**	P	**Pg**	**01 03 54.3**	**0.0**
KAVA				S	**Sg**	**01 03 59.1**	**+0.8**
	3μm,0.3s						
KAVA	**Kavala**	**0.29**	**169**	P	**Pg**	**01 03 54.4**	**0.0**
KAVA				S	**Sg**	**01 03 59.1**	**+0.8**
KAVA				AML	AML	01 03 59.4	
	comp=N,6744μm,0.2s						
KAVA				AML	AML	01 03 59.4	
	comp=E,11446μm,0.2s						
RZN	**Rozhen**	**0.46**	**27**	P	**Pg**	**01 03 56.6**	**-0.9**
RZN	**Rozhen**	**0.46**	**27**	P	**Pg**	**01 03 56.6**	**-0.9**
MMB	**Musomiste**	**0.62**	**300**	P	**Pg**	**01 03 59.0**	**-1.4**
MMB	**Musomiste**	**0.62**	**300**	P	**Pg**	**01 03 59.0**	**-1.4**
SRS	**Serrai**	**0.66**	**256**	*e*Pg	**Pg**	**01 04 00.8**	**-0.4**
SRS				*e*Sg	**Sb**	**01 04 10.6**	**-0.3**
SRS	**Serrai**	**0.66**	**256**	P	**Pg**	**01 04 00.5**	**-0.7**
SRS				S	**Sb**	**01 04 10.5**	**-0.3**
	comp=E,3μm,0.3s						
SRS	**Serrai**	**0.66**	**256**	P	**Pg**	**01 04 00.8**	**-0.4**
SRS				S	**Sb**	**01 04 10.5**	**-0.3**
SRS				AML	AML	01 04 11.3	
	comp=E,6009μm,0.3s						
SRS				AML	AML	01 04 11.5	
	comp=N,6954μm,0.2s						
SRS	**Serrai**	**0.66**	**256**	*i* Pg	**Pg**	**01 04 00.6**	**-0.7**
SRS				*i* Sg	**Sb**	**01 04 10.7**	**-0.3**
THAS	**Thassos island**	**0.70**	**162**	P	**Pg**	**01 04 01.9**	**-0.2**
THAS				S	**Sg**	**01 04 11.2**	**-0.1**
	comp=N,8μm,0.4s						
THAS	**Thassos island**	**0.70**	**162**	P	**Pg**	**01 04 02.0**	**0.0**
THAS				S	**Sg**	**01 04 11.5**	**+0.2**
THAS				AML	AML	01 04 15.3	
	comp=E,13759μm,0.4s						
THAS				AML	AML	01 04 15.7	
	comp=N,17364μm,0.4s						
KDZ	**Kurdzhali**	**0.82**	**63**	P	**Pg**	**01 04 01.8**	**-2.5**
KDZ	**Kurdzhali**	**0.82**	**63**	P	**Pg**	**01 04 01.8**	**-2.5**
RDO	**Rodhopi**	**0.84**	**99**	P	**Pg**	**01 04 03.6**	**-1.0**
RDO				S	**Sg**	**01 04 15.1**	**-0.5**
	comp=N,2μm,0.3s						
RDO	**Rodhopi**	**0.84**	**99**	P	**Pg**	**01 04 03.7**	**-0.9**
RDO				S	**Sg**	**01 04 14.6**	**-1.0**
RDO				AML	AML	01 04 18.3	
	comp=E,3380μm,0.3s						
RDO				AML	AML	01 04 19.4	
	comp=N,3554μm,0.3s						
RDO	**Rodhopi**	**0.84**	**99**	PG	**Pg**	**01 04 04.3**	**-0.3**
PLD	**Plovdiv**	**0.85**	**13**	*e*Pg	**Pg**	**01 04 04.3**	**-0.5**
PLD				*e*Sg	**Sn**	**01 04 18.3**	**-0.1**
PLD	**Plovdiv**	**0.85**	**13**	PG	**Pg**	**01 04 04.6**	**-0.2**
PLD				SG	**Sb**	**01 04 16.6**	**+0.3**
PLD	**Plovdiv**	**0.85**	**13**	P	**Pg**	**01 04 04.4**	**-0.4**
PLD	**Plovdiv**	**0.85**	**13**	P	**Pg**	**01 04 04.4**	**-0.4**
PLD	**Plovdiv**	**0.85**	**13**	*i* Pg	**Pg**	**01 04 04.5**	**-0.2**
PLD				*i* Sg	**Sg**	**01 04 15.8**	**-0.1**
SOH	**Sokhos**	**0.94**	**241**	P	**Pg**	**01 04 06.2**	**-0.3**
SOH				S	**Sb**	**01 04 19.0**	**+0.1**
	comp=N,5μm,0.3s						
SOH	**Sokhos**	**0.94**	**241**	P	**Pg**	**01 04 06.3**	**-0.3**
SOH				S	**Sb**	**01 04 19.0**	**+0.1**
SOH				AML	AML	01 04 22.5	
	comp=E,13750μm,0.4s						
SOH				AML	AML	01 04 22.9	
	comp=N,9609μm,0.3s						
SOH	**Sokhos**	**0.94**	**241**	*i* Pg	**Pg**	**01 04 06.1**	**-0.4**
SOH				*i* Sg	**Sb**	**01 04 19.3**	**+0.3**
OUR	**Ouranopolis**	**1.01**	**200**	P	**Pg**	**01 04 07.6**	**-0.2**
OUR				S	**Sn**	**01 04 21.9**	**-0.3**
	comp=N,3μm,0.5s						
OUR	**Ouranopolis**	**1.01**	**200**	P	**Pb**	**01 04 07.8**	**+0.1**
OUR				S	**Sn**	**01 04 21.9**	**-0.3**
OUR				AML	AML	01 04 23.8	
	comp=N,7220μm,0.4s						
OUR				AML	AML	01 04 24.6	
	comp=E,6532μm,0.3s						
OUR	**Ouranopolis**	**1.01**	**200**	PG	**Pn**	**01 04 08.2**	**0.0**
DIM	**Dimitrovgrad**	**1.12**	**46**	P	**Pb**	**01 04 08.9**	**-0.8**
DIM	**Dimitrovgrad**	**1.12**	**46**	P	**Pb**	**01 04 08.9**	**-0.8**
SMTH	**Samothraki Isl**	**1.16**	**134**	P	**Pb**	**01 04 09.7**	**-0.5**
SMTH				S	**Sn**	**01 04 26.0**	**0.0**
	comp=E,578nm,0.5s						
SMTH	**Samothraki Isl**	**1.16**	**134**	P	**Pb**	**01 04 10.3**	**0.0**
SMTH				S	**Sn**	**01 04 26.0**	**0.0**
SMTH				AML	AML	01 04 30.2	
	comp=N,1498μm,0.7s						
SMTH				AML	AML	01 04 31.5	
	comp=E,1037μm,0.6s						
KNT	**Kendrikon**	**1.17**	**265**	P	**Pb**	**01 04 09.7**	**-0.7**
KNT				S	**Sg**	**01 04 26.0**	**-0.1**
	comp=E,3μm,0.3s						
KNT	**Kendrikon**	**1.17**	**265**	P	**Pn**	**01 04 10.8**	**+0.4**
KNT				S	**Sg**	**01 04 26.0**	**-0.1**
KNT				AML	AML	01 04 29.3	
	comp=E,4338μm,0.3s						
KNT				AML	AML	01 04 29.3	
	comp=N,6042μm,0.3s						
KNT	**Kendrikon**	**1.17**	**265**	*i* Pg	**Pb**	**01 04 09.9**	**-0.5**
KNT				*i* Sg	**Sg**	**01 04 26.4**	**+0.3**
KKB	**Krupnik**	**1.17**	**300**	P	**Pb**	**01 04 09.5**	**-1.1**
KKB	**Krupnik**	**1.17**	**300**	P	**Pb**	**01 04 09.5**	**-1.1**
PLG	**Polygyros**	**1.18**	**220**	P	**Pb**	**01 04 10.4**	**-0.2**
PLG				S	**Sg**	**01 04 26.3**	**-0.1**
	comp=N,3μm,0.3s						
PLG	**Polygyros**	**1.18**	**220**	P	**Pb**	**01 04 10.6**	**0.0**
HORT	**Hortiatis**	**1.22**	**237**	P	**Pn**	**01 04 11.1**	**-0.2**
HORT				S	**Sg**	**01 04 27.7**	**-0.1**
	comp=N,2μm,0.8s						
HORT	**Hortiatis**	**1.22**	**237**	P	**Pg**	**01 04 11.7**	**-0.2**
HORT				S	**Sg**	**01 04 27.7**	**-0.1**
HORT				AML	AML	01 04 30.8	
	comp=E,6390μm,0.4s						
HORT				AML	AML	01 04 32.5	
	comp=N,2801μm,0.3s						
HORT	**Hortiatis**	**1.22**	**237**	PN	**Pg**	**01 04 11.7**	**-0.2**
HORT				SN	**Sn**	**01 04 29.1**	**+1.4**
ALN	**Alexandroupoli**	**1.27**	**107**	P	**Pn**	**01 04 11.5**	**-0.4**
ALN				S	**Sg**	**01 04 29.1**	**-0.3**
	comp=N,942nm,0.7s						
ALN	**Alexandroupoli**	**1.27**	**107**	P	**Pn**	**01 04 11.7**	**-0.1**
ALN				S	**Sg**	**01 04 29.1**	**-0.3**
ALN				AML	AML	01 04 33.9	
	comp=E,2253μm,0.7s						
ALN				AML	AML	01 04 35.5	
	comp=N,1494μm,0.6s						
ALN	**Alexandroupoli**	**1.27**	**107**	*i* P	**Pn**	**01 04 11.7**	**-0.1**
ALN				*i* S	**Sb**	**01 04 27.4**	**-1.1**
ALN	**Alexandroupoli**	**1.27**	**107**	PN	**Pn**	**01 04 12.2**	**+0.3**
PGB	**Panagyurishte**	**1.29**	**351**	P	**Pn**	**01 04 11.0**	**-1.1**
PGB	**Panagyurishte**	**1.29**	**351**	P	**Pn**	**01 04 11.0**	**-1.1**
THE	**Thessaloniki**	**1.29**	**240**	P	**Pn**	**01 04 12.5**	**+0.4**
THE				S	**Sn**	**01 04 29.7**	**+0.5**
	comp=N,2μm,0.5s						
THE	**Thessaloniki**	**1.29**	**240**	P	**Pn**	**01 04 12.5**	**+0.4**
THE				S	**Sn**	**01 04 29.7**	**+0.5**
THE				AML	AML	01 04 33.3	
	comp=E,5043μm,0.7s						
THE				AML	AML	01 04 33.4	
	comp=N,6289μm,0.5s						
THE	**Thessaloniki**	**1.29**	**240**	*i* Pg	**Pn**	**01 04 12.4**	**+0.4**
THE				*i* Sg	**Sg**	**01 04 30.9**	**+0.9**
ENEZ	**Enez**	**1.41**	**112**	P	**Pn**	**01 04 14.0**	**+0.3**
ENEZ				S	**Sg**	**01 04 34.0**	**+0.4**
	comp=N,2μm,0.7s						
ENEZ	**Enez**	**1.41**	**112**	PN	**Pg**	**01 04 15.8**	**+0.4**
ENEZ				SN	**Sg**	**01 04 36.2**	**+2.6**
VAY	**Valandovo**	**1.41**	**272**	*e*Pg	**Pb**	**01 04 14.8**	**+0.3**
VAY				*e*Sg	**Sn**	**01 04 32.4**	**+0.2**
VAY	**Valandovo**	**1.41**	**272**	*i* Pg	**Pb**	**01 04 14.9**	**+0.3**
VAY				*i* Sg	**Sg**	**01 04 33.9**	**+0.2**
VAY				*e*Lg	Lg	01 04 37.3	
	comp=N,620nm,0.4s						
CAVK	**Edirne/Enez-Ca**	**1.43**	**114**	*i* P	**Pb**	**01 04 15.1**	**+0.1**
CAVK				*i* S	**Sg**	**01 04 35.1**	**+0.5**
PAIG	**Paliouri**	**1.47**	**203**	P	**Pn**	**01 04 14.3**	**-0.3**
PAIG				S	**Sb**	**01 04 34.3**	**+0.2**
	comp=N,648nm,0.7s						
PAIG	**Paliouri**	**1.47**	**203**	P	**Pn**	**01 04 14.4**	**-0.1**
PAIG				AML	AML	01 04 39.1	
	comp=E,1536μm,0.8s						
PAIG				AML	AML	01 04 41.7	
	comp=N,1198μm,0.4s						
LIA	**Limnos Island**	**1.49**	**157**	P	**Pn**	**01 04 14.8**	**-0.1**
LIA	**Limnos Island**	**1.49**	**157**	P	**Pn**	**01 04 14.9**	**0.0**
GADA	**Gvkgeada**	**1.55**	**134**	P	**Pn**	**01 04 15.9**	**+0.2**
GADA				S	**Sn**	**01 04 35.6**	**-0.1**
	comp=N,420nm,0.6s						
GOKA	**anakkale-Gk**	**1.56**	**134**	*i* P	**Pn**	**01 04 15.9**	**+0.2**
GOKA				*i* S	**Sn**	**01 04 34.5**	**-1.3**
GRG	**Griva**	**1.57**	**259**	*i* Pg	**Pn**	**01 04 16.2**	**+0.2**
VTS	**Vitosha**	**1.61**	**327**	*e*Pg	**Pb**	**01 04 17.8**	**-0.3**
VTS				*e*Sg	**Sb**	**01 04 39.3**	**+0.9**
VTS	**Vitosha**	**1.61**	**327**	⇑P	**Pb**	**01 04 17.8**	**-0.3**
VTS	**Vitosha**	**1.61**	**327**	P	**Pb**	**01 04 18.2**	**+0.1**
VTS	**Vitosha**	**1.61**	**327**	*i* Pn	**Pn**	**01 04 17.4**	**+0.7**
UKOP	**Uzunkopru-Edir**	**1.66**	**94**	PN	**Pb**	**01 04 19.0**	**+0.2**
UKOP				SN	**Sg**	**01 04 42.2**	**+0.4**
STIP	**Stip**	**1.74**	**285**	*i* Pn	**Pn**	**01 04 16.8**	**-1.5**
STIP				*i* Sn	**Sn**	**01 04 39.2**	**-1.3**
STIP				*e*Lg	Lg	01 04 40.3	
	comp=E,385nm,0.3s						
KESN	**Edirne-Kesan**	**1.75**	**104**	*i* P	**Pn**	**01 04 19.9**	**+1.0**
KESN				*i* S	**Sg**	**01 04 44.1**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.78**	**119**	PN	**Pb**	**01 04 21.1**	**+0.3**
GELI				SN	**Sg**	**01 04 45.6**	**+0.1**
ECEA	**Canakkale, Ece**	**1.81**	**132**	*i* P	**Pn**	**01 04 19.7**	**+0.5**
ECEA				*i* S	**Sn**	**01 04 40.3**	**-1.7**
EDRB	**Edirne**	**1.82**	**71**	P	**Pn**	**01 04 19.3**	**-0.1**
EDRB				S	**Sn**	**01 04 43.2**	**+0.9**
	comp=E,605nm,0.7s						
EDRB	**Edirne**	**1.82**	**71**	PN	**Pn**	**01 04 19.7**	**+0.3**
EDRB				SN	**Sb**	**01 04 45.6**	**+1.3**
BOZC	**Bozcaada**	**1.89**	**139**	*i* P	**Pn**	**01 04 20.2**	**-0.2**
BOZC				*i* S	**Sn**	**01 04 41.9**	**-2.1**
LIT	**Litokhoron**	**1.89**	**232**	P	**Pn**	**01 04 20.1**	**-0.3**
BOSS	**Bosilegrad**	**1.90**	**310**	*e*Pn	**Pn**	**01 04 22.1**	**+1.5**
BOSS				*e*Sn	**Sb**	**01 04 46.3**	**-0.3**
EZN	**Ezine**	**2.04**	**135**	P	**Pn**	**01 04 23.0**	**+0.6**
EZN				S	**Sn**	**01 04 47.4**	**-0.4**
	comp=E,200nm,0.8s						
KIRK	**Kırklareli**	**2.06**	**75**	*i* P	**Pn**	**01 04 22.5**	**-0.2**
KIRK				*i* S	**Sn**	**01 04 49.1**	**+0.9**
XOR	**Xorichti**	**2.14**	**207**	P	**Pn**	**01 04 23.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.16**	**105**	PN	**Pb**	**01 04 26.3**	**-1.0**
RKY				SN	**Sb**	**01 04 54.5**	**+0.5**
SART	**Tekirdag**	**2.16**	**105**	*i* P	**Pb**	**01 04 26.5**	**-0.9**
SART				*i* S	**Sb**	**01 04 55.2**	**+1.2**
NEO	**Neokhori**	**2.18**	**206**	P	**Pn**	**01 04 24.1**	**-0.3**
KOCA	**Canakkale, Ayv**	**2.20**	**143**	*i* P	**Pn**	**01 04 25.2**	**+0.5**
KOCA				*i* S	**Sn**	**01 04 49.5**	**-2.2**
BAYC	**CANAKKALE_Bayr**	**2.22**	**133**	*i* P	**Pn**	**01 04 26.4**	**+1.4**
BAYC				*i* S	**Sn**	**01 04 51.5**	**-0.8**
MAR2	**Marsite Statio**	**2.25**	**104**	PN	**Pb**	**01 04 27.7**	**-1.1**
KZN	**Kozani**	**2.25**	**245**	P	**Pn**	**01 04 26.5**	**+1.1**
GZKV	**Gazikoy-Tekird**	**2.25**	**103**	PN	**Pb**	**01 04 27.5**	**-1.3**
ARMN	**Kirklareli, Me**	**2.32**	**74**	*i* P	**Pn**	**01 04 26.7**	**+0.4**
ARMN				*i* S	**Sb**	**01 04 59.0**	**+0.4**
SIGR	**SIGRI**	**2.33**	**152**	P	**Pn**	**01 04 27.2**	**+0.8**
TKR	**Tekirdag**	**2.36**	**96**	PN	**Pn**	**01 04 28.7**	**+1.9**
FNA	**Florina**	**2.37**	**259**	*e*Pn	**Pn**	**01 04 27.9**	**+0.9**
FNA				*e*Sn	**Sn**	**01 04 57.0**	**+1.0**
FNA	**Florina**	**2.37**	**259**	P	**Pn**	**01 04 27.9**	**+0.9**
FNA	**Florina**	**2.37**	**259**	*i* P	**Pn**	**01 04 27.8**	**+0.7**
FNA				*i* S	**Sn**	**01 04 53.6**	**-2.4**
FNA	**Florina**	**2.37**	**259**	PN	**Pn**	**01 04 27.7**	**+0.7**
FNA	**Florina**	**2.37**	**259**	*i* Pn	**Pn**	**01 04 28.0**	**+0.9**
ZAPS	**Zavoj**	**2.40**	**327**	*e*Pn	**Pn**	**01 04 28.9**	**+1.5**
ZAPS				*e*Sn	**Sn**	**01 04 58.9**	**+2.1**
BARS	**Barje**	**2.48**	**309**	*e*Pn	**Pn**	**01 04 29.4**	**+0.8**
BARS				*e*Sn	**Sn**	**01 04 59.2**	**+0.4**
BARS	**Barje**	**2.48**	**309**	*i* Pn	**Pn**	**01 04 27.3**	**-1.3**
MRMT	**Marmara Adasi**	**2.48**	**105**	PN	**Pn**	**01 04 30.4**	**+1.8**
THL	**Klokotos Trika**	**2.52**	**228**	P	**Pn**	**01 04 29.1**	**+0.1**
KNL	**Balıkesir**	**2.55**	**112**	*i* P	**Pn**	**01 04 31.2**	**+1.7**
VIZE	**Kirklareli, Vi**	**2.58**	**82**	*i* P	**Pn**	**01 04 29.7**	**-0.1**
VIZE				*i* S	**Sb**	**01 05 06.9**	**+0.9**
AYVA	**Ayvalik**	**2.62**	**138**	*i* P	**Pn**	**01 04 31.2**	**+0.9**
AYVA				*i* S	**Sn**	**01 05 00.2**	**-1.7**
KYMI	**Kymi, Euboea I**	**2.66**	**186**	P	**Pn**	**01 04 30.6**	**-0.3**
BLKB	**Belogradchik**	**2.68**	**331**	⇓S	**Sg**	**01 05 13.4**	**-1.1**
BUHA	**Balikesir, Bur**	**2.69**	**131**	*i* P	**Pn**	**01 04 32.3**	**+1.0**
BUHA				*i* S	**Sn**	**01 05 04.4**	**+0.7**
RAZG	**Razgrad**	**2.75**	**33**	⇑P	**Pn**	**01 04 32.9**	**+0.7**
RAZG	**Razgrad**	**2.75**	**33**	⇑S	**Sb**	**01 05 13.2**	**+2.1**
AGG	**Agios Georgios**	**2.77**	**216**	P	**Pn**	**01 04 33.4**	**+0.8**
AGG	**Agios Georgios**	**2.77**	**216**	*i* P	**Pn**	**01 04 32.2**	**-0.3**
AGG				*i* S	**Sn**	**01 05 01.1**	**-4.9**
BALY	**Balya**	**2.87**	**121**	*i* P	**Pn**	**01 04 34.9**	**+1.0**
BALY				*i* S	**Sn**	**01 05 09.3**	**+0.9**
COPA	**Copaceanca**	**2.91**	**11**	⇑P	**Pn**	**01 04 35.6**	**+1.2**
ZAGS	**Zajecar**	**3.01**	**328**	*e*Pn	**Pn**	**01 04 36.9**	**+1.1**
ZAGS				*e*Sn	**Sn**	**01 05 12.3**	**+0.6**
ELBA	**Catalca**	**3.01**	**91**	*i* P	**Pn**	**01 04 36.2**	**+0.4**
ZEDA	**zmir-Bergama**	**3.07**	**138**	*i* P	**Pn**	**01 04 37.3**	**+0.7**
ZEDA				*i* S	**Sn**	**01 05 10.0**	**-3.2**
BOVS	**Bovan**	**3.10**	**320**	*e*Pn	**Pn**	**01 04 37.8**	**+0.8**
BOVS				*e*Sn	**Sn**	**01 05 14.0**	**0.0**
BOVS	**Bovan**	**3.10**	**320**	⇑P	**Pn**	**01 04 40.4**	**+3.3**
BOVS	**Bovan**	**3.10**	**320**	⇓S	**Sg**	**01 05 25.5**	**-2.5**
EVR	**Evrytania**	**3.10**	**221**	P	**Pn**	**01 04 38.3**	**+1.1**
SELS	**Selova**	**3.14**	**309**	*e*Pn	**Pn**	**01 04 38.0**	**+0.5**
SELS				*e*Sn	**Sn**	**01 05 16.1**	**+1.2**
CHOS	**Chios island**	**3.15**	**156**	P	**Pn**	**01 04 38.5**	**+0.8**
STEP	**BALIKESIR_Sava**	**3.15**	**126**	*i* P	**Pn**	**01 04 38.8**	**+1.1**
STEP				*i* S	**Sn**	**01 05 13.0**	**-2.1**
SGRR	**Singureni**	**3.15**	**21**	⇓P	**Pn**	**01 04 38.8**	**+1.1**
PUNG	**Punghina**	**3.20**	**340**	*e*Pn	**Pn**	**01 04 39.7**	**+1.4**
PUNG				*e*Sn	**Sn**	**01 05 16.1**	**-0.2**
PUNG	**Punghina**	**3.20**	**340**	⇓P	**Pn**	**01 04 40.0**	**+1.6**
ANX	**Ano Chora**	**3.31**	**217**	P	**Pn**	**01 04 41.1**	**+1.1**
URLA	**Izmir**	**3.35**	**150**	*i* P	**Pn**	**01 04 41.4**	**+0.9**
ZEYE	**Izmir, Urla-Ze**	**3.43**	**152**	*i* P	**Pn**	**01 04 42.3**	**+0.8**
DURS	**Dursunbey**	**3.51**	**117**	*i* P	**Pn**	**01 04 44.6**	**+1.9**
IGT	**Igoumenitsa**	**3.59**	**242**	*e*Pn	**Pn**	**01 04 44.4**	**+0.7**
IGT				*e*Sn	**Sn**	**01 05 26.8**	**+0.8**
KUBS	**Kucevo**	**3.73**	**328**	*e*Pn	**Pn**	**01 04 45.7**	**0.0**
KUBS				*e*Sn	**Sn**	**01 05 30.0**	**+0.5**
DGB	**zmir**	**3.73**	**149**	*i* P	**Pn**	**01 04 47.3**	**+1.6**
ICOR	**Ion Corvin**	**3.77**	**40**	⇑P	**Pn**	**01 04 48.0**	**+1.9**
GRUS	**Gruza**	**3.79**	**315**	*e*Pn	**Pn**	**01 04 46.9**	**+0.4**
GRUS				*e*Sn	**Sn**	**01 05 31.7**	**+0.8**
SJES	**Sjenica**	**3.86**	**302**	*e*Pn	**Pn**	**01 04 48.6**	**+1.0**
IVAS	**Ivanjica**	**3.92**	**307**	*e*Pn	**Pn**	**01 04 48.9**	**+0.6**
IVAS				*e*Sn	**Sn**	**01 05 33.5**	**-0.6**
SECR		**3.94**	**17**	⇓P	**Pn**	**01 04 50.6**	**+2.1**
MDVR	**Moldovita**	**4.03**	**331**	⇓P	**Pn**	**01 04 51.6**	**+1.7**
DRME	**Dracevica, Mon**	**4.04**	**285**	*e*Pn	**Pn**	**01 04 51.5**	**+1.6**
PDG	**Podgorica**	**4.04**	**288**	⇓P	**Pn**	**01 04 51.7**	**+1.8**
PDG	**Podgorica**	**4.04**	**288**	*e*Pn	**Pn**	**01 04 52.8**	**+2.9**
ISR	**Istrita**	**4.13**	**21**	⇓P	**Pn**	**01 04 53.3**	**+2.1**
TRUS	**Trudelj**	**4.18**	**316**	*e*Pn	**Pn**	**01 04 52.2**	**+0.3**
VOIR		**4.18**	**6**	⇓P	**Pn**	**01 04 53.2**	**+1.3**
LOT	**Lotru**	**4.20**	**354**	⇑P	**Pn**	**01 04 52.8**	**+0.7**
LOT	**Lotru**	**4.20**	**354**	PN	**Pn**	**01 04 53.6**	**+1.4**
MANT	**Manisa**	**4.22**	**130**	*i* P	**Pn**	**01 04 54.0**	**+1.4**
HARR	**Harsova**	**4.26**	**36**	⇑P	**Pn**	**01 04 54.3**	**+1.3**
GZR	**Gura Zlata**	**4.29**	**344**	⇓P	**Pn**	**01 04 53.3**	**0.0**
TIRR	**Tirgusor**	**4.32**	**41**	⇓P	**Pn**	**01 04 54.2**	**+0.6**
DIVS	**Divibare**	**4.32**	**312**	*e*Pn	**Pn**	**01 04 54.5**	**+0.6**
DIVS				*e*Sn	**Sn**	**01 05 43.2**	**-1.0**
DIVS	**Divibare**	**4.32**	**312**	*e*Pn	**Pn**	**01 04 54.3**	**+0.4**
KAND	**Kocaeli-Kandir**	**4.34**	**91**	*i* P	**Pn**	**01 04 54.9**	**+0.8**
MLR	**Muntele Rosu**	**4.35**	**14**	⇑P	**Pn**	**01 04 56.3**	**+2.0**
NEHR	**Nehoiu**	**4.36**	**17**	⇓P	**Pn**	**01 04 56.4**	**+2.1**
KAYN	**Sakarya, Kayna**	**4.47**	**92**	*i* P	**Pn**	**01 04 55.3**	**-0.5**
BBLS	**Lazići**	**4.53**	**306**	*e*Pn	**Pn**	**01 04 58.5**	**+1.8**
BBLS	**Lazići**	**4.53**	**306**	*e*Pn	**Pn**	**01 05 00.1**	**+3.4**
UPM	**Unac-Piva**	**4.54**

AMT				AML	AML	01 12 35.4	
	comp=E,791μm,0.5s						
LKD2	**Lefkada island**	**1.21**	**16**	P	**Pg**	**01 12 10.7**	**-0.2**
LKD2				S	**Sn**	**01 12 28.7**	**+1.6**
	comp=E,205nm,0.3s						
LKD2	**Lefkada island**	**1.21**	**16**	P	**Pn**	**01 12 11.9**	**+1.2**
LKD2				AML	AML	01 12 33.4	
	comp=N,449μm,0.2s						
LKD2				AML	AML	01 12 34.1	
	comp=E,458μm,0.5s						
TSLK	**Tsoukalades, L**	**1.24**	**16**	P	**Pg**	**01 12 11.2**	**-0.4**
UPR	**University Cam**	**1.40**	**62**	P	**Pb**	**01 12 15.8**	**+1.9**
PYL	**PYLOS**	**1.42**	**121**	P	**Pn**	**01 12 14.8**	**+1.3**
PYL	**PYLOS**	**1.42**	**121**	P	**Pn**	**01 12 14.8**	**+1.3**
PVO	**Paravola**	**1.42**	**46**	P	**Pn**	**01 12 14.4**	**+0.8**
ITM	**Ithomi**	**1.43**	**108**	P	**Pg**	**01 12 15.6**	**+0.5**
ITM	**Ithomi**	**1.43**	**108**	P	**Pg**	**01 12 15.6**	**+0.5**
LAKA	**Lakka**	**1.52**	**66**	P	**Pb**	**01 12 15.8**	**-0.1**
LAKA	**Lakka**	**1.52**	**66**	P	**Pb**	**01 12 15.9**	**-0.1**
EFP	**Efpalio**	**1.55**	**59**	P	**Pn**	**01 12 16.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.58**	**74**	P	**Pn**	**01 12 16.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.58**	**74**	P	**Pn**	**01 12 16.6**	**+0.7**
KLV				AML	AML	01 12 47.5	
	comp=E,103μm,0.4s						
KLV				AML	AML	01 12 47.6	
	comp=N,179μm,0.7s						
THL	**Klokotos Trika**	**2.39**	**35**	P	**Pn**	**01 12 28.9**	**+2.0**
HVAR	**Hvar**	**6.25**	**334**	*e*Pn	**Pn**	**01 13 19.9**	**0.0**
HVAR				Sn	Sn	01 14 24.3	-7.0
ZIRJ	**Zirje**	**6.95**	**331**	*e*Pn	**Pn**	**01 13 30.3**	**+0.8**
ZIRJ				Sn	Sn	01 14 42.1	-6.6
UDBI	**Udbina**	**7.67**	**335**	*e*Pn	**Pn**	**01 13 40.3**	**+0.8**
UDBI				Sn	**Sn**	**01 15 00.5**	**-6.0**

NEIC ***28*** *01:18:27.0±1.1,36°.01N±0°.02×97°.58W±0°.06,h5km±2km, Error ellipse: s-maj=8.5km s-min=3.0km az=245.0*

IDC ***28*** *01:18:26.1±0.7,36°.09N×97°.54W,h0km,mb4.3/4, mb1 4.2/13,mb1mx3.9/47,mbtmp4.0/13,ML3.7/8, Error ellipse: s-maj=13.0km s-min=9.0km az=150.0*

ANF ***28*** *01:18:28.0±1.2,36°.04N×97°.54W,h16km±8km,ML5.6/18, Error ellipse: s-maj=3.3km s-min=2.5km az=166.0*

TUL ***28*** *01:18:27.2±1.2,35°.99N±0°.02×97°.58W±0°.05,h5km±4km, ML4.6,mb4.1/21(NEIC),mb_Lg4.5/149(NEIC). Mwr4.1/40(NEIC),Error ellipse: s-maj=6.9km s-min=2.0km az=64.0*

NEIC ***28*** *01:18:27.3,36°.01N×97°.58W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.24; $M_{\theta\theta}$=0.64; $M_{\phi\phi}$=-0.40; $M_{r\theta}$=-0.66; $M_{\theta\phi}$=1.47; $M_{r\phi}$=0.45; Fault plane solution: M_0=1.76000×10^{15} NP1:ϕ_s=192.56000°, δ65.41000°,λ-167.21000°. NP2:ϕ_s=97.17000°,δ78.39000°, λ-25.14000°. Principal axes: T 1.7184, Plg9.0000°, Azm147.0000°; N 0.0833, Plg62.0000°, Azm254.0000°; P -1.8017, Plg26.0000°, Azm53.0000°;*

ISC 28 01:18:26.6±1.0,36°.02N±0°.02×97°.56W±0°.03,h10km±7km, n238,σ1°38/216,mb4.4/4,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.24**	**159**		**Pg**	**01 18 31.9**	**+0.3**
OK029				Sg	**Sg**	**01 18 35.5**	**+0.6**
BCOK	**Bluff Creek, N**	**0.37**	**186**		**Pg**	**01 18 33.9**	**+0.1**
BCOK				Sg	**Sg**	**01 18 39.2**	**+0.4**
OK009	**Oakdale Elemen**	**0.46**	**165**		**Pg**	**01 18 35.8**	**+0.3**
OK005	**Luther M Schoo**	**0.47**	**140**		**Pg**	**01 18 36.3**	**+0.5**
OK025	**Westminster Rd**	**0.48**	**157**		**Pg**	**01 18 36.3**	**+0.4**
OK025				Sg	**Sg**	**01 18 43.0**	**+0.8**
CROK	**Carrier**	**0.59**	**325**		**Pb**	**01 18 39.0**	**0.0**
CROK				Sg	**Sb**	**01 18 47.7**	**+0.2**
OK031	**S. Brethren Rd**	**0.59**	**97**		**Pb**	**01 18 39.1**	**0.0**
OK031				Sg	**Sb**	**01 18 47.5**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.62**	**171**		**Pg**	**01 18 38.8**	**+0.1**
OKCSW				Sg	**Sg**	**01 18 47.4**	**+0.5**
QUOK	**Quay**	**0.71**	**78**		**Pb**	**01 18 41.3**	**+0.3**
QUOK				Sg	**Sb**	**01 18 51.0**	**+0.1**
FNO	**Franklin**	**0.78**	**170**		**Pg**	**01 18 41.6**	**+0.1**
BLOK	**Blackwell**	**0.79**	**21**		**Pb**	**01 18 43.0**	**+0.6**
GC02	**Grant County #**	**0.86**	**344**		**Pb**	**01 18 44.0**	**+0.4**
OK032	**Salt Plains WL**	**0.94**	**326**		**Pb**	**01 18 45.3**	**+0.4**
KAN13	**South Haven SW**	**0.99**	**4**		**Pn**	**01 18 46.6**	**+0.1**
KAN17	**Caldwell West**	**1.03**	**351**		**Pn**	**01 18 47.3**	**+0.2**
KAN05	**Bluff City Nor**	**1.11**	**347**		**Pn**	**01 18 48.6**	**+0.4**
KAN09	**Caldwell North**	**1.11**	**358**	Pg	**Pn**	**01 18 48.7**	**+0.5**
KAN10	**Anthony SW Sta**	**1.18**	**339**	Pg	**Pn**	**01 18 49.5**	**+0.3**
KS20	**Mayfield South**	**1.21**	**0**		**Pg**	**01 18 50.5**	**+0.7**
U32A	**Winter Ranch,**	**1.22**	**287**		**Pn**	**01 18 49.9**	**+0.2**
U32A	**Winter Ranch,**	**1.22**	**287**	P		01 18 49.8	
	baz=108,SNR=602						
U32A				S		01 19 06.7	
	baz=108						
T35A	**Sooner Cattle**	**1.23**	**43**		**Pg**	**01 18 50.8**	**+0.6**
T35B	**Sooner Cattle**	**1.23**	**43**	P		01 18 50.8	
	baz=224,SNR=1000						
T35B				S		01 19 07.6	
	baz=224						
KAN08	**Anthony NE Sta**	**1.25**	**345**		**Pg**	**01 18 51.0**	**+0.4**
KS21	**Milan North St**	**1.26**	**356**		**Pg**	**01 18 51.4**	**+0.5**
KS21	**Milan North St**	**1.26**	**356**	IAmb_Lg		01 19 09.1	
	comp=Z,3μm,0.8s						
KAN12	**Harper NE Stat**	**1.32**	**345**	Pn	**Pg**	**01 18 52.1**	**+0.1**
X34A	**Smith Ranch, M**	**1.44**	**189**	Pn	**Pb**	**01 18 53.6**	**+0.2**
TUL1	**Leonard**	**1.44**	**94**	P	**Pb**	**01 18 53.4**	**-0.1**
	baz=274,SNR=326						
TUL1				S	**Sg**	**01 19 13.3**	**+0.3**
	baz=274						
TUL1	**Leonard**	**1.44**	**94**	P		01 18 53.4	
	baz=274,SNR=437						
TUL1				S		01 19 13.3	
	baz=274						
WMOK	**Wichita Mounta**	**1.62**	**218**	P	**Pn**	**01 18 55.9**	**+0.6**
	baz=37,SNR=1000						
WMOK				S	**Sn**	**01 19 17.1**	**+0.9**
	baz=37						
WMOK	**Wichita Mounta**	**1.62**	**218**		**Pn**	**01 18 55.7**	**+0.4**
WMOK				IAmb_Lg		01 19 19.5	
	comp=Z,2μm,0.7s						
WMOK	**Wichita Mounta**	**1.62**	**218**	P		01 18 55.8	
	baz=37,SNR=1000						
WMOK				S		01 19 17.4	
	baz=37						
LOOK	**Love County**	**2.05**	**171**		**Pn**	**01 19 02.5**	**+1.4**
LOOK				IAmb_Lg		01 19 36.6	
	comp=Z,2μm,0.7s						
X37A	**Clayton**	**2.29**	**128**		**Pn**	**01 19 05.1**	**+0.7**
X37A				IAmb_Lg		01 19 45.5	
	comp=Z,2μm,0.9s						
X37A	**Clayton**	**2.29**	**128**	P		01 19 06.0	
	baz=309,SNR=324						
X37A				S		01 19 36.3	
	baz=309						
R32A	**Long Quarter,**	**2.56**	**339**		**Pn**	**01 19 09.5**	**+1.2**
R32A	**Long Quarter,**	**2.56**	**339**	P		01 19 10.0	
	baz=159,SNR=344						
R32A				S		01 19 42.4	
	baz=159						
U38A	**Gravette**	**2.60**	**80**	Pn	**Pn**	**01 19 10.4**	**+1.7**
U38A	**Gravette**	**2.60**	**80**	P		01 19 10.5	
	baz=261,SNR=49						
Z35A	**Perchaven, San**	**2.70**	**174**		**Pn**	**01 19 11.1**	**+1.1**
Z35A	**Perchaven, San**	**2.70**	**174**	P		01 19 11.3	
	baz=354,SNR=84						
Z35A				S		01 19 45.6	
	baz=354						
HHAR	**Hobbs**	**2.94**	**84**		**Pn**	**01 19 14.7**	**+1.3**
HHAR	**Hobbs**	**2.94**	**84**	P		01 19 15.1	
	baz=266						
KSU1	**Kansas State U**	**3.17**	**14**	P	**Pn**	**01 19 18.3**	**+1.8**
	baz=194,SNR=26						
KSU1	**Kansas State U**	**3.17**	**14**	IAmb_Lg		01 20 16.0	
	comp=Z,2μm,0.7s						
KSU1	**Kansas State U**	**3.17**	**14**	P		01 19 18.5	
	baz=194,SNR=42						
W39A	**Magazine**	**3.19**	**104**	P	**Pn**	**01 19 18.3**	**+1.6**
	baz=286,SNR=144						
W39A				S	**Sn**	**01 19 56.8**	**+2.0**
	baz=286						
W39A	**Magazine**	**3.19**	**104**	Pn	**Pn**	**01 19 18.1**	**+1.3**
W39A				IAmb_Lg		01 20 10.9	
	comp=Z,2μm,0.9s						
W39A	**Magazine**	**3.19**	**104**	P		01 19 18.6	
	baz=286,SNR=94						
W39A				S		01 19 57.1	
	baz=286						
CBKS	**Cedar Bluff**	**3.28**	**329**	P	**Pn**	**01 19 19.6**	**+1.6**
	baz=148,SNR=26						
CBKS	**Cedar Bluff**	**3.28**	**329**		**Pn**	**01 19 19.4**	**+1.3**
CBKS				IAmb_Lg		01 20 13.7	
	comp=Z,1μm,0.8s						
CBKS	**Cedar Bluff**	**3.28**	**329**	P		01 19 19.8	
	baz=148,SNR=36						
Z38A	**Mt. Pleasant**	**3.48**	**142**	Pn	**Pn**	**01 19 21.8**	**+1.0**
Z38A				IAmb_Lg		01 20 24.4	
	comp=Z,2μm,1.0s						
Z38A	**Mt. Pleasant**	**3.48**	**142**	P		01 19 22.0	
	baz=323,SNR=7.4						
AMTX	**Amarillo**	**3.55**	**253**	P	**Pn**	**01 19 23.2**	**+1.4**
	baz=70						
AMTX	**Amarillo**	**3.55**	**253**		**Pn**	**01 19 22.7**	**+0.9**
AMTX				IAmb_Lg		01 20 19.4	
	comp=Z,799nm,0.7s						
AMTX	**Amarillo**	**3.55**	**253**	P		01 19 22.9	
	baz=70,SNR=9.3						
MIAR	**Mount Ida**	**3.58**	**113**	P	**Pn**	**01 19 23.9**	**+1.7**
	baz=295,SNR=197						
MIAR				S	**Sn**	**01 20 06.5**	**+2.0**
	baz=295						
MIAR	**Mount Ida**	**3.58**	**113**		**Pn**	**01 19 23.3**	**+1.2**
MIAR				IAmb_Lg		01 20 29.6	
	comp=Z,1μm,0.8s						
MIAR	**Mount Ida**	**3.58**	**113**	P		01 19 24.5	
	baz=295,SNR=162						
MIAR				S		01 20 06.8	
	baz=295						
ABTX	**Abilene, Hawle**	**3.80**	**208**	P	**Pn**	**01 19 26.0**	**+0.8**
	baz=26,SNR=79						
ABTX	**Abilene, Hawle**	**3.80**	**208**		**Pn**	**01 19 25.9**	**+0.7**
ABTX				IAmb_Lg		01 20 27.3	
	comp=Z,1μm,0.7s						
ABTX	**Abilene, Hawle**	**3.80**	**208**	P		01 19 26.3	
	baz=26,SNR=42						
U40A	**Yellville**	**3.82**	**84**	P	**Pn**	**01 19 26.4**	**+0.9**
	baz=266,SNR=89						
U40A				S	**Sn**	**01 20 12.1**	**+1.5**
	baz=266						
U40A	**Yellville**	**3.82**	**84**	Pn	**Pn**	**01 19 26.4**	**+0.9**
U40A				IAmb_Lg		01 20 31.1	
	comp=Z,2μm,1.0s						
U40A	**Yellville**	**3.82**	**84**	P		01 19 26.6	
	baz=266,SNR=68						
U40A				P		01 19 26.6	
	baz=266,SNR=68						
WHTX	**Lake Whitney,**	**4.02**	**179**	P	**Pn**	**01 19 29.2**	**+0.9**
	baz=359,SNR=19						
WHTX	**Lake Whitney,**	**4.02**	**179**	Pn	**Pn**	**01 19 29.1**	**+0.9**
WHTX	**Lake Whitney,**	**4.02**	**179**	P		01 19 29.2	
	baz=359,SNR=60						
X40A	**Basin Creek Fa**	**4.16**	**110**	P	**Pn**	**01 19 31.2**	**+1.0**
	baz=293,SNR=40						
X40A				S	**Sn**	**01 20 20.0**	**+1.2**
	baz=293						
X40A	**Basin Creek Fa**	**4.16**	**110**	Pn	**Pn**	**01 19 31.4**	**+1.3**
X40A				IAmb_Lg		01 20 50.6	
	comp=Z,1μm,0.7s						
X40A	**Basin Creek Fa**	**4.16**	**110**	P		01 19 31.6	
	baz=293,SNR=24						
X40A				P		01 19 31.6	
	baz=293,SNR=24						
237A	**Washetta, Mont**	**4.27**	**160**	Pn	**Pn**	**01 19 32.0**	**+0.4**
237A				IAmb_Lg		01 20 51.3	
	comp=Z,624nm,1.0s						
237A	**Washetta, Mont**	**4.27**	**160**	P		01 19 32.0	
	baz=340,SNR=9.5						
WLAR	**White Oak Lake**	**4.34**	**121**	Pn	**Pn**	**01 19 33.6**	**+1.1**
WLAR				IAmb_Lg		01 20 56.4	
	comp=Z,1μm,1.1s						
WHAR	**Wooly Hollow**	**4.36**	**98**	Pn	**Pn**	**01 19 34.0**	**+1.2**
WHAR				IAmb_Lg		01 20 52.2	
	comp=Z,1μm,0.9s						
MGMO	**Mountain Grove**	**4.41**	**74**	Pn	**Pn**	**01 19 34.7**	**+1.2**
MGMO				IAmb_Lg		01 20 59.3	
	comp=Z,1μm,0.9s						
W41B	**Gary Mavity, V**	**4.41**	**100**	P	**Pn**	**01 19 34.6**	**+1.1**
	baz=282,SNR=41						
W41B				S	**Sn**	**01 20 25.0**	**0.0**
	baz=282						
W41B	**Gary Mavity, V**	**4.41**	**100**	P		01 19 34.8	
	baz=282,SNR=98						
FCAR	**Ozark Folk Cen**	**4.41**	**90**	Pn	**Pn**	**01 19 34.0**	**+0.3**
FCAR				IAmb_Lg		01 20 44.8	
	comp=Z,1μm,0.8s						
N33B	**J Bar K, Exete**	**4.71**	**1**	P		01 19 38.4	
	baz=181,SNR=22						
N33A	**J Bar K, Exete**	**4.71**	**1**	Pn	**Pn**	**01 19 38.4**	**+0.7**
N33A				IAmb_Lg		01 21 06.8	
	comp=Z,1μm,0.7s						
MSTX	**Muleshoe**	**4.74**	**246**	P	**Pn**	**01 19 39.3**	**+1.1**
	baz=63,SNR=18						
MSTX	**Muleshoe**	**4.74**	**246**		**Pn**	**01 19 38.8**	**+0.6**
MSTX				IAmb_Lg		01 21 00.9	
	comp=Z,727nm,0.9s						
MSTX	**Muleshoe**	**4.74**	**246**	P		01 19 39.2	
	baz=63,SNR=39						
R40A	**Maddies Statio**	**4.80**	**60**	Pn	**Pn**	**01 19 40.4**	**+1.6**
R40A				IAmb_Lg		01 21 06.3	
	comp=Z,875nm,1.1s						
Z41A	**Richland Creek**	**4.80**	**124**	P	**Pn**	**01 19 39.4**	**+0.5**
	baz=306,SNR=12						
Z41A	**Richland Creek**	**4.80**	**124**	P		01 19 39.6	
	baz=306,SNR=8.7						
Z41A				P		01 19 39.6	
	baz=306,SNR=8.7						
R40A	**Maddies Statio**	**4.80**	**60**	P		01 19 40.4	
	baz=243,SNR=74						
P38A	**Dawn**	**4.81**	**40**		**Pn**	**01 19 40.3**	**+1.3**
P38A				IAmb_Lg		01 21 07.4	
	comp=Z,647nm,0.8s						
P38A	**Dawn**	**4.81**	**40**	P		01 19 40.3	
	baz=223,SNR=23						
NATX	**Nacogdoches**	**4.89**	**150**	P	**Pn**	**01 19 40.5**	**+0.4**
	baz=331						
KSCO	**Kaye Shedlock'**	**5.01**	**308**	P	**Pn**	**01 19 43.2**	**+1.2**
	baz=125,SNR=20						
KSCO	**Kaye Shedlock'**	**5.01**	**308**	P		01 19 43.5	
	baz=125,SNR=17						
N35A	**Tabor**	**5.06**	**17**	Pn	**Pn**	**01 19 43.6**	**+1.1**
N35A	**Tabor**	**5.06**	**17**	P		01 19 44.0	
	baz=198,SNR=16						
LCAR	**Lake Charles**	**5.19**	**88**	Pn	**Pn**	**01 19 45.0**	**+0.7**
LCAR				IAmb_Lg		01 21 17.3	
	comp=Z,1μm,0.9s						
CCAR	**Cane Creek**	**5.20**	**112**	Pn	**Pn**	**01 19 45.6**	**+1.2**
CCAR	**Cane Creek**	**5.20**	**112**	P		01 19 45.9	
	baz=295,SNR=14						
435B	**Jarrell**	**5.23**	**180**	P	**Pn**	**01 19 45.3**	**+0.5**
	baz=0.1,SNR=18						
435B	**Jarrell**	**5.23**	**180**	Pn	**Pn**	**01 19 45.2**	**+0.5**
435B				IAmb_Lg		01 21 17.5	
	comp=Z,1μm,0.9s						
435B	**Jarrell**	**5.23**	**180**	P		01 19 45.5	
	baz=0.1,SNR=19						
BGNE	**Belgrade**	**5.40**	**355**	P	**Pn**	**01 19 48.3**	**+1.1**
	baz=175,SNR=20						
BGNE				S	**Sn**	**01 20 48.7**	**-0.6**
	baz=175						
BGNE	**Belgrade**	**5.40**	**355**	Pn	**Pn**	**01 19 48.1**	**+1.0**
BGNE	**Belgrade**	**5.40**	**355**	P		01 19 48.2	
	baz=175,SNR=30						
CCM	**Cathedral Cave**	**5.45**	**66**	P	**Pn**	**01 19 48.3**	**+0.5**
	baz=250						
CCM	**Cathedral Cave**	**5.45**	**66**	Pn	**Pn**	**01 19 48.6**	**+0.8**
CCM				IAmb_Lg		01 21 28.4	
	comp=Z,824nm,0.8s						
CCM	**Cathedral Cave**	**5.45**	**66**	P		01 19 48.8	
	baz=250,SNR=25						
P40A	**Paris**	**5.60**	**50**	Pn	**Pn**	**01 19 51.2**	**+1.3**
P40A				IAmb_Lg		01 21 28.7	
	comp=Z,786nm,0.8s						
P40A	**Paris**	**5.60**	**50**	P		01 19 51.2	
	baz=233,SNR=14						
T25A	**Trinidad**	**5.62**	**283**	P	**Pn**	**01 19 50.9**	**+0.5**
	baz=100,SNR=13						
T25A	**Trinidad**	**5.62**	**283**	Pn	**Pn**	**01 19 51.2**	**+0.8**
T25A				IAmb_Lg		01 21 36.3	
	comp=Z,895nm,0.9s						
JCT	**Junction City**	**5.84**	**199**	P	**Pn**	**01 19 53.8**	**+0.6**
	baz=18,SNR=16						
JCT	**Junction City**	**5.84**	**199**		**Pn**	**01 19 52.5**	**-0.7**
N38A	**Joes South For**	**5.85**	**34**		**Pn**	**01 19 54.0**	**+0.7**
OGNE	**Ogallala**	**6.04**	**326**	P	**Pn**	**01 19 58.0**	**+2.0**
	baz=143,SNR=41						
OGNE	**Ogallala**	**6.04**	**326**		**Pn**	**01 19 57.3**	**+1.3**
OGNE				IAmb_Lg		01 21 42.0	
	comp=Z,681nm,0.8s						
OGNE	**Ogallala**	**6.04**	**326**	P		01 19 58.1	
	baz=143,SNR=28						
143A	**Socs Landing,**	**6.07**	**121**	IAmb_Lg		01 21 54.4	
	comp=Z,558nm,0.8s						
SLM	**Saint Louis**	**6.39**	**64**	Pn	**Pn**	**01 20 01.9**	**+1.1**
SLM				IAmb_Lg		01 21 50.4	
	comp=Z,812nm,0.7s						
SDCO	**Great Sand Dun**	**6.59**	**287**	P	**Pn**	**01 20 05.5**	**+1.7**
	baz=103,SNR=38						
SDCO	**Great Sand Dun**	**6.59**	**287**		**Pn**	**01 20 04.6**	**+0.8**
SDCO				IAmb_Lg		01 22 01.7	
	comp=Z,351nm,0.8s						
K31A	**O'Neill**	**6.66**	**352**	Pn	**Pn**	**01 20 06.4**	**+2.0**
Q24A	**Divide**	**6.71**	**298**	P	**Pn**	**01 20 06.0**	**+0.6**
	baz=114,SNR=6.6						
SCIA	**State Center**	**6.78**	**29**	P	**Pn**	**01 20 07.6**	**+1.5**
	baz=211,SNR=20						
SCIA	**State Center**	**6.78**	**29**	Pn	**Pn**	**01 20 07.6**	**+1.5**
SCIA	**State Center**	**6.78**	**29**	P		01 20 07.6	
	baz=211,SNR=11						
OXF	**Oxford**	**6.84**	**100**	P	**Pn**	**01 20 06.8**	**-0.1**
	baz=285,SNR=13						
OXF	**Oxford**	**6.84**	**100**	Pn	**Pn**	**01 20 07.0**	**+0.1**
OXF				IAmb_Lg		01 22 12.9	
	comp=Z,846nm,0.9s						
S44A	**Carbondale**	**6.87**	**73**	Pn	**Pn**	**01 20 08.0**	**+0.7**
S44A	**Carbondale**	**6.87**	**73**	P		01 20 08.3	
	baz=258,SNR=12						
W45A	**Hickory Valley**	**6.88**	**95**	IAmb_Lg		01 22 22.7	
	comp=Z,1μm,0.9s						
SIUC	**Southern Illin**	**6.90**	**73**	Pn	**Pn**	**01 20 08.4**	**+0.7**
Y45A	**Yeager Farm, C**	**6.93**	**106**	Pn	**Pn**	**01 20 08.9**	**+0.7**
Y45A				IAmb_Lg		01 22 23.5	
	comp=Z,602nm,0.7s						
VBMS	**Vicksburg**	**6.96**	**121**	IAmb_Lg		01 22 27.3	
	comp=Z,521nm,1.2s						
N41A	**Harden Midland**	**7.04**	**46**	Pn	**Pn**	**01 20 10.3**	**+0.5**
N41A	**Harden Midland**	**7.04**	**46**	P		01 20 10.5	
	baz=230,SNR=44						
735A	**Kenedy**	**7.15**	**182**	IAmb_Lg		01 22 29.0	
	comp=Z,445nm,0.7s						
P43A	**Skaggs, Pawnee**	**7.32**	**58**	IAmb_Lg		01 22 20.2	
	comp=Z,870nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.32**	**58**	P		01 20 14.3	
	baz=243,SNR=58						
ANMO	**Albuquerque**	**7.33**	**264**	Pn	**Pn**	**01 20 15.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=96,slow=17,SNR=7.4						
ANMO				Pg	Pb	01 20 40.1	+6.0
	comp=Z,1.8nm,0.3s,baz=90,slow=11,SNR=10						
ANMO				Lg	Lg	01 22 13.7	
	comp=Z,26nm,0.3s,baz=331,slow=24,SNR=8.8						
ANMO	**Albuquerque**	**7.33**	**264**	P	**Pn**	**01 20 15.1**	**+1.1**
	baz=79						
ISCO	**Idaho Springs**	**7.40**	**303**	P	**Pn**	**01 20 15.6**	**+0.8**
	baz=118,SNR=56						
ISCO	**Idaho Springs**	**7.40**	**303**		**Pn**	**01 20 15.7**	**+0.8**
ISCO				IAmb_Lg		01 22 24.0	
	comp=Z,301nm,0.8s						
ISCO	**Idaho Springs**	**7.40**	**303**	P		01 20 15.6	
	baz=118,SNR=23						
BNM	**Barren Site**	**7.66**	**259**		**Pn**	**01 20 19.0**	**+0.5**
ECSD	**EROS Data Cent**	**7.74**	**5**	P	**Pn**	**01 20 19.0**	**-0.3**
	baz=186,SNR=64						
ECSD	**EROS Data Cent**	**7.74**	**5**		**Pn**	**01 20 19.3**	**+0.1**
ECSD				IAmb_Lg		01 22 38.5	
	comp=Z,344nm,0.8s						
ECSD	**EROS Data Cent**	**7.74**	**5**	P		01 20 19.1	
	baz=186,SNR=112						
L40A	**Anamosa**	**7.79**	**37**	Pn	**Pn**	**01 20 19.9**	**0.0**
L40A				IAmb_Lg		01 22 56.3	
	comp=Z,510nm,0.9s						
L40A	**Anamosa**	**7.79**	**37**	P		01 20 20.6	
	baz=221,SNR=10						
MNTX	**Cornudas Mount**	**7.80**	**239**	P	**Pn**	**01 20 20.4**	**+0.2**
	baz=54,SNR=36						
MNTX	**Cornudas Mount**	**7.80**	**239**		**Pn**	**01 20 20.4**	**+0.2**
MNTX	**Cornudas Mount**	**7.80**	**239**	P		01 20 20.6	
	baz=54,SNR=40						
146A	**Union**	**7.80**	**113**	IAmb_Lg		01 22 56.0	
	comp=Z,717nm,1.1s						
PLAL	**Pickwick Lake**	**7.81**	**95**	IAmb_Lg		01 22 36.8	
	comp=Z,617nm,1.1s						
833A	**Chaparral WMA,**	**7.83**	**192**	P	**Pn**	**01 20 20.9**	**+0.4**
	baz=11						
WVT	**Waverly**	**7.88**	**86**	P	**Pn**	**01 20 20.4**	**-0.8**
	baz=272						
WVT	**Waverly**	**7.88**	**86**	Pn	**Pn**	**01 20 20.6**	**-0.6**
WVT				IAmb_Lg		01 22 44.3	
	comp=Z,316nm,0.8s						
Y22D	**IRIS PASSCAL I**	**7.92**	**259**	IAmb_Lg		01 22 46.7	
	comp=Z,610nm,0.9s						
HDIL	**Hopedale**	**7.92**	**53**	P	**Pn**	**01 20 21.8**	**0.0**
	baz=238,SNR=100						
HDIL	**Hopedale**	**7.92**	**53**	Pn	**Pn**	**01 20 22.4**	**+0.7**
HDIL	**Hopedale**	**7.92**	**53**	P		01 20 22.2	
	baz=238,SNR=58						
PHWY	**Pilot Hill**	**8.12**	**313**	Pn	**Pn**	**01 20 23.4**	**-1.4**
N23A	**Red Feather La**	**8.18**	**309**	P	**Pn**	**01 20 26.5**	**+1.0**
	baz=124,SNR=37						
O44A	**Mansfield**	**8.27**	**57**	Pn	**Pn**	**01 20 27.1**	**+0.5**
O44A				IAmb_Lg		01 22 51.9	
	comp=Z,532nm,0.8s						
O44A	**Mansfield**	**8.27**	**57**	P		01 20 26.9	
	baz=243,SNR=22						
Z47A	**Carrollton**	**8.32**	**107**	IAmb_Lg		01 23 07.5	
	comp=Z,276nm,0.8s						
TX31	**Lajitas Ar. Si**	**8.42**	**219**	P		01 20 28.8	
	baz=36,SNR=29						
TX32	**Lajitas Array**	**8.42**	**219**	Pn	**Pn**

baz=245,SNR=20
SFIN Lafayette 9.31 59 IAmb_Lg 01 23 32.1
comp=Z,318nm,0.8s
SFIN Lafayette 9.31 59 P 01 20 41.9
baz=245,SNR=11
O20A White River Ci 9.37 299 IAmb_Lg 01 23 36.4
comp=Z,220nm,1.3s
Y49A Blount Mountai 9.41 100 IAmb_Lg 01 23 30.5
comp=Z,313nm,0.8s
RWWY Rawlins 9.41 310 IAmb_Lg 01 23 30.4
comp=Z,214nm,1.1s
RSSD Black Hills 9.48 330 P **Pn 01 20 45.1 +1.7**
baz=146
RSSD Black Hills 9.48 330 Pn **Pn 01 20 44.3 +0.8**
RSSD IAmb_Lg 01 23 37.0
comp=Z,235nm,0.9s
SWET Sewanee 9.51 91 IAmb_Lg 01 23 35.6
comp=Z,388nm,0.8s
U49A Red Boiling Sp 9.53 84 IAmb_Lg 01 23 27.9
comp=Z,454nm,1.1s
K22A Casper 9.59 316 P **Pn 01 20 45.0 +0.3**
baz=131,SNR=8.4
K22A Casper 9.59 316 IAmb_Lg 01 23 57.1
comp=Z,344nm,1.2s
L44A Lake County Fo 9.69 48 P **Pn 01 20 45.4 -0.7**
baz=234,SNR=11
L44A Lake County Fo 9.69 48 IAmb_Lg 01 23 55.7
comp=Z,520nm,1.1s
K43A Burlington 9.77 44 IAmb_Lg 01 24 05.2
comp=Z,479nm,0.9s
F33A 5 Mile Ranch, 9.85 5 IAmb_Lg 01 23 41.6
comp=Z,395nm,1.1s
SPMN Marine on St. 9.88 20 P **Pn 01 20 47.9 -0.6**
baz=203,SNR=21
SPMN Marine on St. 9.88 20 IAmb_Lg 01 23 41.9
comp=Z,264nm,0.8s
FPAL Fort Paine 9.88 95 IAmb_Lg 01 23 49.9
comp=Z,335nm,0.9s
P48A Milroy 10.21 67 P 01 20 53.0
baz=254,SNR=7.6
P48A P 01 20 53.0
baz=254,SNR=7.6
I42A Draeger Farm, 10.28 38 **Pn 01 20 53.7 -0.4**
I42A Draeger Farm, 10.28 38 P 01 20 53.7
baz=223,SNR=11
L46A Eue Claire 10.61 52 P 01 20 58.7
baz=239,SNR=9.2
L46A P 01 20 58.7
baz=239,SNR=9.2
CPCT Cooper Cave 10.62 89 **Pn 01 20 59.2 +0.4**
V51A Loudon 10.72 87 **Pn 01 21 00.4 +0.3**
P49A Miami Univ. Ec 10.75 67 P **Pn 01 20 59.6 -1.0**
baz=255,SNR=12
TKL Tuckaleechee C 11.20 88 Pn **Pn 01 21 06.1 -0.6**
comp=Z,0.4nm,0.3s,baz=211,slow=7.8,SNR=5.0
TKL Lg Lg 01 24 10.5
comp=Z,4.8nm,0.3s,baz=25,slow=16,SNR=4.4
O49A Covington 11.22 64 P 01 21 06.6
baz=252,SNR=8.2
O49A P 01 21 06.6
baz=252,SNR=8.2
H43A Windswept, Lux 11.27 39 Pn **Pn 01 21 06.7 -1.0**
H43A Windswept, Lux 11.27 39 P 01 21 06.8
baz=225,SNR=16
S51A Beattyville 11.31 78 **Pn 01 21 08.4 +0.2**
TZTN Tazewell 11.32 83 P **Pn 01 21 08.9 +0.5**
baz=271
PDAR Pinedale Array 11.46 310 Pn **Pn 01 21 10.3 -0.1**
comp=Z,1.8nm,0.3s,baz=128,slow=15,SNR=26
PDAR Lg Lg 01 24 26.2
comp=Z,2.0nm,0.3s,baz=104,slow=34,SNR=2.8
N49A Columbus Grove 11.57 61 P 01 21 10.9
baz=249,SNR=7.7
N49A P 01 21 10.9
baz=249,SNR=7.7
L48A N Adams 11.80 56 P 01 21 13.8
baz=244,SNR=6.4
L48A P 01 21 13.8
baz=244,SNR=6.4
COWI Conover 11.90 30 P 01 21 15.0
baz=215,SNR=8.2
AGMN Agassiz Nation 12.33 5 P **Pn 01 21 19.7 -2.4**
baz=186,SNR=14
AAM Ann Arbor 12.47 56 P **Pn 01 21 22.9 -1.2**
baz=244,SNR=16
B35A Bob, Littlefor 12.65 12 P 01 21 24.5
baz=194,SNR=11
RLMT Red Lodge 12.71 319 P **Pn 01 21 27.2 -0.3**
baz=132,SNR=10
P52A Corning 12.72 69 P **Pn 01 21 26.5 -1.0**
baz=258,SNR=9.4
EYMN Ely 12.73 19 P **Pn 01 21 24.9 -2.7**
baz=203,SNR=22
GLMI Grayling 13.20 44 P **Pn 01 21 31.4 -2.5**
baz=233,SNR=12
O53A New Philadelph 13.54 67 P **Pn 01 21 36.4 -2.3**
baz=257
I49A Point Hope 13.78 50 P 01 21 39.5
baz=240,SNR=7.7
I49A P 01 21 39.5
baz=240,SNR=7.7
BLA Blacksburg 13.82 80 P **Pn 01 21 41.5 -1.1**
baz=270
M53A WI Miller and 14.24 63 P **Pn 01 21 45.5 -2.8**
baz=253
ULM Lac du Bonnet 14.27 4 Pn **Pn 01 21 44.5 -4.1**
comp=Z,2.0nm,0.3s,baz=183,slow=11,SNR=12
ULM Sn Sn 01 24 12.3 -15
comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=2.8
ULM Lg Lg 01 25 49.3
comp=Z,0.9nm,0.3s,baz=286,slow=20,SNR=1.9
N54A Moraine State 14.61 65 P **Pn 01 21 50.1 -3.3**
baz=256
ELK Elko 14.64 294 Pn **Pn 01 21 54.5 +0.6**
comp=Z,0.1nm,0.3s,baz=166,slow=4.2,SNR=4.4
M54A Oil Creek Stat 14.99 63 P **Pn 01 21 55.6 -2.8**
baz=254
M54A Oil Creek Stat 14.99 63 Pn **Pn 01 21 58.1 -0.4**
S57A Dark Hollow, R 14.99 78 Pn **Pn 01 21 55.7 -2.8**
S57A IAmb IAmb 01 22 05.2
comp=Z,8.8nm,0.8s
HRY Holter Researc 15.10 319 Pn **Pn 01 21 59.1 -0.9**
O56A Blue Knob Stat 15.53 68 P **Pn 01 22 02.2 -3.5**
baz=260
O56A Blue Knob Stat 15.53 68 Pn **Pn 01 22 03.3 -2.3**
O56A IAmb IAmb 01 22 04.2
comp=Z,12nm,1.1s
M55A Ridgway 15.63 64 Pn **Pn 01 22 04.1 -2.9**
R58B Mineral 15.85 77 Pn **Pn 01 22 08.1 -1.6**
SSPA Standing Stone 16.11 67 P **Pn 01 22 10.3 -2.8**
baz=260
SSPA Standing Stone 16.11 67 Pn **Pn 01 22 09.9 -3.1**
SSPA IAmb IAmb 01 22 11.6
comp=Z,14nm,1.1s
MEDO Medina 16.35 58 Pn **Pn 01 22 10.4 -5.7**
SADO Sadowa 16.50 52 Pn **Pn 01 22 13.5 -4.5**
comp=Z,1.3nm,0.3s,baz=246,slow=12,SNR=12
SADO Sn Sn 01 25 08.4 -13
comp=Z,0.8nm,0.3s,baz=225,slow=17,SNR=1.6
SADO Lg Lg 01 26 57.0
comp=Z,1.0nm,0.3s,baz=170,slow=22,SNR=3.4
SADO Sadowa 16.50 52 Pn **Pn 01 22 13.2 -4.9**
SADO IAmb IAmb 01 22 26.4
comp=Z,9.8nm,0.7s
MMNY Mt. Morris Dam 16.59 60 Pn **Pn 01 22 15.5 -3.7**
L56A Greenwood 16.67 62 Pn **Pn 01 22 18.1 -2.3**
L56A IAmb IAmb 01 22 24.8
comp=Z,10.0nm,0.5s
NVAR Mina Array Bea 16.69 284 Pn **P 01 22 23.1 -0.1**
comp=Z,0.1nm,0.3s,baz=92,slow=11,SNR=6.9
NVAR Mina Array Bea 16.69 284 **Pn 01 22 19.0 -1.7**
K56A Middlesex 16.99 61 P **Pn 01 22 21.3 -3.0**
baz=254
BINY Binghamton 17.82 63 P **Pn 01 22 32.8 -1.9**
baz=257
BINY Binghamton 17.82 63 Pn **Pn 01 22 32.9 -1.8**
L58A Harry Jones Me 17.89 64 P **Pn 01 22 34.1 -1.4**
baz=257
SOR Soroa 18.26 132 **P 01 22 40.7 +0.4**
SOR IAmb IAmb 01 22 48.7
comp=Z,20nm,1.3s
I57A Carthage 18.52 58 P **P 01 22 40.5 -2.5**
baz=252
J58A Remsen 18.61 60 P **P 01 22 41.9 -2.2**
baz=254,SNR=5.2
ODNJ Ogdensburg 18.63 67 P **P 01 22 42.9 -1.4**
ODNJ IAmb IAmb 01 22 55.2
comp=Z,5.9nm,0.6s
H57A Richville 18.87 57 P **P 01 22 45.0 -1.9**
baz=251
NEW Newport 18.91 316 P **Pn 01 22 49.3 +1.4**
comp=Z,0.2nm,0.3s,baz=123,slow=13,SNR=4.3
NEW Newport 18.91 316 **Pn 01 22 48.9 +0.9**
I58A Old Forge 18.92 59 P **P 01 22 46.0 -1.5**
baz=254
FFC Flin Flon 18.95 352 P **Pn 01 22 48.7 +0.4**
FFC IAmb IAmb 01 22 52.7
comp=Z,6.0nm,0.7s
HAWA Hanford 19.45 309 P **Pn 01 22 54.4 0.0**
LONY Lake Ozonia 19.46 57 P **P 01 22 52.8 -0.6**
baz=252
PINE Pine Mountain 19.50 301 P **Pn 01 22 55.4 +0.1**
PINE IAmb IAmb 01 22 59.2
comp=Z,10nm,0.8s
H58A Gabriels 19.68 58 P **P 01 22 55.3 -0.4**
baz=253
I59A Olmsteadville 19.72 60 P **P 01 22 55.7 -0.4**
baz=255
J60A Lant Hill Farm 19.90 61 P **P 01 22 57.8 -0.3**
baz=257
MATQ Matagami 19.96 40 P **P 01 22 59.5 +0.8**
baz=234,SNR=9.6
H59A Cadyville 20.08 57 P **P 01 23 00.6 +0.5**
baz=253,SNR=5.6
FRNY Flat Rock 20.21 57 P **P 01 23 02.4 +0.9**
FRNY IAmb IAmb 01 23 17.6
comp=Z,8.2nm,0.7s
L61B Northampton 20.28 64 P Pn 01 23 03.4 -0.8
baz=260
YBH Yreka Blue Hor 20.36 294 P Pn 01 23 07.5 +2.2
comp=Z,7.0nm,0.7s,baz=82,slow=6.3,SNR=15
EDM Edmonton 20.46 332 P Pn 01 23 05.8 -0.6
K62A Royalston 20.64 64 P Pn 01 23 08.4 -0.1
K62A IAmb IAmb 01 23 09.2
comp=Z,9.1nm,0.9s
CHGQ Chibougamau 21.80 43 P **P 01 23 19.3 +0.6**
baz=239,SNR=9.6
B05A Bryant 21.82 312 P **P 01 23 19.4 +0.6**
baz=115
SCHQ Schefferville 28.27 39 P **P 01 24 20.1 +0.2**
comp=Z,6.7nm,0.8s,baz=243,slow=8.6,SNR=9.2
SCHQ Schefferville 28.27 39 P **P 01 24 20.6 +0.7**
ILAR Eielson Array 40.93 330 P **P 01 26 11.2 +2.4**
comp=Z,1.1nm,0.7s,baz=105,slow=6.9,SNR=10.0
ILAR Eielson Array 40.93 330 P **P 01 26 07.9 -1.0**
ARCES ARCESS Array B 66.89 19 P **P 01 29 19.5 +1.0**
comp=Z,4.1nm,0.8s,baz=314,slow=7.8,SNR=4.6
FINES FINESS Array B 72.68 25 P **P 01 29 55.7 +1.5**
comp=Z,1.3nm,0.5s,baz=304,slow=3.8,SNR=15

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*IDC **28** 01:54:49.5±1.3, 15°.88S×167°.52E, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.0/34, mbtmp4.3/8, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=47.8km s-min=23.5km az=130.0*
*NOU **28** 01:54:52.4, 16°.07S×167°.62E, h0km, ML4.7/9, Vanuatu Islands*
*NEIC **28** 01:54:54.4±1.2, 15°.94S±0°.07×167°.6E±0°.1, h36km±10km, mb4.5/6, Error ellipse: s-maj=21.8km s-min=3.4km az=64.0*
ISC 28 01:54:54.8±0.8, 16°.00S±0°.05×167°.6E±0°.1, h39km, n41, σ1°33/42, mb4.3/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.65**	**328**		**Pn**	**01 55 06.0**	**-1.5**
SANVU					**Sn**	**01 55 15.4**	**-1.2**
SANVU	**Saraoutou**	**0.65**	**328**	P	**Pn**	**01 55 06.6**	**-1.0**
LIFNC	**LIFOU**	**4.76**	**184**	Pn	**Pn**	**01 56 04.0**	**-0.1**
LIFNC				Sn	**Sn**	**01 56 51.9**	**-6.1**
LIFNC	**LIFOU**	**4.76**	**184**	P	**Pn**	**01 56 04.2**	**+0.1**
MARNC	**Mare, Loyalty**	**5.47**	**175**		**Pn**	**01 56 13.4**	**-0.4**
MARNC	**Mare, Loyalty**	**5.47**	**175**	P	**Pn**	**01 56 14.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**5.49**	**214**	P	**Pn**	**01 56 14.9**	**+0.8**
YATNC	**Mamie plateau,**	**6.06**	**186**	P	**Pn**	**01 56 21.8**	**-0.1**
YATNC	**Mamie plateau,**	**6.06**	**186**	P	**Pn**	**01 56 21.5**	**-0.4**
DZM	**Mont Dzumac**	**6.13**	**190**	Pn	**Pn**	**01 56 23.5**	**+0.5**
	16nm,0.3s,baz=358,slow=11,SNR=177						
DZM				Sn	**Sn**	**01 57 31.0**	**-0.9**
	16nm,0.3s,baz=152,slow=21,SNR=8.3						
DZM	**Mont Dzumac**	**6.13**	**190**	Pn	**Pn**	**01 56 23.0**	**0.0**
DZM	**Mont Dzumac**	**6.13**	**190**	P	**Pn**	**01 56 23.2**	**+0.2**
DZM	**Mont Dzumac**	**6.13**	**190**	P	**Pn**	**01 56 23.5**	**+0.5**
NOUC	**Port Laguerre**	**6.19**	**191**	P	**Pn**	**01 56 24.2**	**+0.6**
NOUC	**Port Laguerre**	**6.19**	**191**	P	**Pn**	**01 56 24.6**	**+1.0**
ONTNC	**Ouen Toro**	**6.36**	**189**		**Pn**	**01 56 26.2**	**+0.2**
ONTNC	**Ouen Toro**	**6.36**	**189**	P	**Pn**	**01 56 27.2**	**+1.2**
ONTNC	**Ouen Toro**	**6.36**	**189**	P	**Pn**	**01 56 26.5**	**+0.5**
OUENC	**Ouen Island, N**	**6.42**	**186**		**Pn**	**01 56 27.2**	**+0.3**
OUENC	**Ouen Island, N**	**6.42**	**186**	P	**Pn**	**01 56 28.0**	**+1.1**
OUENC	**Ouen Island, N**	**6.42**	**186**	P	**Pn**	**01 56 28.6**	**+1.7**
HNR	**Honiara**	**9.89**	**310**	LR	LR	02 00 38.8	
	comp=Z,356nm,21.6s,baz=166,slow=36						
HNR	**Honiara**	**9.89**	**310**	*e*P	Pn	01 57 09.0	-5.4
HNR				*e*S	**Pn**	**01 57 16.0**	**+1.6**
EIDS	**Eidsvold**	**18.00**	**236**	P	**P**	**01 59 02.6**	**+0.3**
EIDS				IAmb	IAmb	01 59 06.8	
	comp=Z,46nm,1.4s						
BKZ	**Black Stump Fm**	**24.37**	**163**	P	**P**	**02 00 10.5**	**+1.2**
BKZ				IAmb	IAmb	02 00 25.4	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**28.41**	**232**	P	**P**	**02 00 46.5**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=75,slow=9.0,SNR=5.5						
WB0	**Warramunga Arr**	**31.76**	**258**	P	**P**	**02 01 15.6**	**0.0**
WB0				IAmb	IAmb	02 01 31.1	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**31.82**	**258**	P	**P**	**02 01 15.3**	**-0.7**
	comp=Z,2.4nm,1.1s,baz=87,slow=10,SNR=4.5						
AS31	**Alice Springs**	**32.51**	**251**	P	**P**	**02 01 21.7**	**-0.4**
AS31				IAmb	IAmb	02 01 23.3	
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**32.51**	**251**	P	**P**	**02 01 22.2**	**+0.1**
	comp=Z,13nm,0.8s,baz=79,slow=9.1,SNR=37						
ASAR	**Alice Springs**	**32.51**	**251**	P	**P**	**02 01 20.8**	**-1.4**
NWAO	**Narrogin (SRO)**	**48.35**	**240**	P	**P**	**02 03 33.2**	**+0.4**
	comp=Z,19nm,1.0s,baz=68,slow=9.4,SNR=4.5						
NWAO	**Narrogin (SRO)**	**48.35**	**240**	P	**P**	**02 03 31.0**	**-1.9**
SONM	**Songino Array**	**83.68**	**324**	P	**P**	**02 07 21.1**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=123,slow=5.5,SNR=6.4						
SONM	**Songino Array**	**83.68**	**324**	P	**P**	**02 07 18.9**	**-0.6**
ILAR	**Eielson Array**	**87.64**	**18**	P	**P**	**02 07 37.5**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=235,slow=5.4,SNR=2.4						
ILAR	**Eielson Array**	**87.64**	**18**	P	**P**	**02 07 38.4**	**-0.3**
PDAR	**Pinedale Array**	**95.60**	**47**	P	**P**	**02 08 17.4**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=260,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**96.63**	**62**	LR	LR	02 45 35.6	
	comp=Z,46nm,20.3s,baz=0.0,slow=32						
KEST	**Kesra**	**152.36**	**319**	PKPbc	**PKiKP**	**02 14 47.4**	**0.0**
	comp=Z,2.2nm,0.7s,baz=5.2,slow=0.4,SNR=5.3						
KEST	**Kesra**	**152.36**	**319**	PKPbc	**PKiKP**	**02 14 48.6**	**+1.2**

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*SIGU **28** 01:56:44.7, 48°.03N×23°.68E, h5km*
*KRSZO **28** 01:56:44.1±1.3, 48°.08N×23°.69E, h0km±3km, ML2.5/8, Error ellipse: s-maj=7.0km s-min=5.4km az=9.0*
*BUC **28** 01:56:45.3±0.4, 48°.07N×23°.69E, h1km, ml2.4/12, Error ellipse: s-maj=2.9km s-min=1.8km az=17.0*
ISC 28 01:56:44.5±1.0, 48°.06N±0°.02×23°.72E±0°.02, h7km±9km, n62, σ1°38/87, 31C-13D, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAKU	**Rahkiv**	**0.30**	**97**	*i*Pg	**Pg**	**01 56 51.5**	**+1.1**
RAKU				Pm		01 56 51.9	
RAKU				*i* Sg	**Sg**	**01 56 56.2**	**+1.8**
RAKU				m		01 56 56.8	
RAKU				Sm		01 56 57.1	
KORU	**Korolevo**	**0.40**	**284**	⇑*i*Pg	**Pg**	**01 56 52.8**	**+0.5**
KORU				Pm		01 56 56.4	
KORU				*e*Sg	**Sb**	**01 56 59.0**	**-1.3**
KORU				m		01 56 59.9	
KORU				Sm		01 57 06.4	
BMR	**Baia Mare**	**0.42**	**201**	⇑P	**Pg**	**01 56 53.2**	**+0.6**
BMR				⇑S	**Sg**	**01 56 59.1**	**+1.0**
BMR	**Baia Mare**	**0.42**	**201**	⇑P	**Pg**	**01 56 53.2**	**+0.6**
BMR				⇑S	**Sg**	**01 56 59.1**	**+1.0**
BMR	**Baia Mare**	**0.42**	**201**	Pg	**Pg**	**01 56 53.1**	**+0.6**
	comp=Z,0.8nm,SNR=23						
BMR				Sg	**Sg**	**01 56 59.2**	**+1.1**
MEZ	**Mezhgor'ye**	**0.47**	**343**	*i* Pg	**Pb**	**01 56 54.3**	**-0.8**
MEZ				Pm		01 56 54.6	
MEZ				m		01 57 01.7	
MEZ				*e*Sg	**Sb**	**01 57 01.8**	**-0.5**
MEZ				Sm		01 57 02.2	
NSLU	**Nyzhne Selyshc**	**0.51**	**75**	*e*Pg	Pg	01 56 49.2	-5.1
NSLU				Pm		01 56 52.3	
NSLU				*e*Sg	**Sg**	**01 56 53.0**	**-8.0**
NSLU				m		01 56 54.7	
NSLU				Sm		01 56 55.0	
TRSU	**Trosnyk**	**0.51**	**274**	*e*Pg	**Pb**	**01 56 55.0**	**-0.8**
TRSU				Pm		01 56 58.3	
TRSU				*e*Sg	**Sb**	**01 57 02.7**	**-0.7**
TRSU				Sm		01 57 03.5	
TRSU				m		01 57 04.7	
BRIU	**Brid**	**0.54**	**301**	*e*Pg	**Pb**	**01 56 55.9**	**-0.4**
BRIU				Pm		01 57 00.4	
BRIU				*e*Sg	**Sb**	**01 57 04.3**	**0.0**
BRIU				m		01 57 07.3	
BRIU				Sm		01 57 08.4	
BERU	**Beregovo**	**0.74**	**284**	⇑*i*Pg	**Pb**	**01 56 58.9**	**-0.7**
BERU				Pm		01 57 05.8	
BERU				*e*Sg	**Sb**	**01 57 09.6**	**-0.4**
BERU				Sm		01 57 11.9	
BERU				m		01 57 13.8	
MUKU	**Mukachevo**	**0.79**	**300**	*e*Pg	**Pg**	**01 56 59.3**	**-0.4**
MUKU				Pm		01 57 05.5	
MUKU				*e*Sg	**Sb**	**01 57 11.5**	**0.0**
MUKU				Sm		01 57 14.1	
MUKU				m		01 57 14.3	
TRPA	**Tarpa**	**0.80**	**275**	⇑P	**Pb**	**01 57 00.5**	**-0.1**
TRPA				⇑S	**Sb**	**01 57 10.3**	**-1.3**
TRPA	**Tarpa**	**0.80**	**275**	⇑P	**Pb**	**01 57 00.5**	**-0.1**
TRPA	**Tarpa**	**0.80**	**275**	*e*P	**Pg**	**01 56 59.8**	**+0.1**
TRPA				*e*S	**Sb**	**01 57 10.4**	**-1.2**
TRPA	**Tarpa**	**0.80**	**275**	Pg	**Pg**	**01 56 59.8**	**+0.1**
	comp=Z,0.2nm,SNR=9.6						
TRPA				Lg	Lg	01 57 10.4	
STNU	**Starunia**	**0.83**	**38**	*e*Pg	**Pn**	**01 57 04.0**	**+1.4**
STNU				*e*Sg	**Sn**	**01 57 15.9**	**+0.8**
KSV	**Kosov**	**0.94**	**74**	*e*Pg	**Pn**	**01 57 05.2**	**+1.2**
HOLU	**Holmets**	**1.01**	**298**	*e*Pg	**Pb**	**01 57 04.0**	**-0.2**
HOLU				*e*Sg	**Sn**	**01 57 18.5**	**-0.9**
ARCR	**ARCALIA**	**1.07**	**156**	⇑P	**Pn**	**01 57 05.9**	**+0.1**
ARCR				⇑S	**Sn**	**01 57 21.2**	**+0.3**
ARCR	**ARCALIA**	**1.07**	**156**	⇑P	**Pn**	**01 57 05.9**	**+0.1**
ARCR	**ARCALIA**	**1.07**	**156**	Pn	**Pn**	**01 57 05.9**	**+0.1**
	comp=Z,0.4nm,SNR=20						
MORS	**Morshin**	**1.08**	**6**	*e*Pg	**Pn**	**01 57 08.2**	**+2.2**
MORS				*e*Sg	**Sn**	**01 57 24.2**	**+3.0**
BURAR	**Bucovina Array**	**1.10**	**113**	⇑P	**Pb**	**01 57 06.1**	**+0.1**
BURAR				⇓S	**Sn**	**01 57 22.3**	**+0.4**
BURAR	**Bucovina Array**	**1.10**	**113**	⇑P	**Pb**	**01 57 06.1**	**+0.1**
BURAR	**Bucovina Array**	**1.10**	**113**	Pn	**Pb**	**01 57 06.0**	**+0.1**
UZH	**Uzhgorod**	**1.11**	**301**	*e*Sg	**Sn**	**01 57 21.5**	**-0.4**
SHIU	**Shidnytsya**	**1.19**	**349**	*e*Pg	**Pn**	**01 57 09.7**	**+2.2**
KOLS	**Kolonicke sedl**	**1.30**	**313**	Pg	**Pg**	**01 57 09.1**	**-0.2**
	comp=Z,28nm,SNR=28						
KOLS	**Kolonicke sedl**	**1.30**	**313**	*e*PG	**Pg**	**01 57 09.7**	**+0.4**
KOLS				*e*SG	**Sn**	**01 57 26.5**	**-0.2**
CBBR	**Cluj-Babes-Bol**	**1.30**	**185**	⇑P	**Pg**	**01 57 10.0**	**+0.6**
CBBR	**Cluj-Babes-Bol**	**1.30**	**185**	⇑P	**Pg**	**01 57 10.0**	**+0.6**
CJR	**Cluj-Napoca**	**1.35**	**184**	⇑P	**Pg**	**01 57 11.2**	**+0.9**
CJR				⇓S	**Sg**	**01 57 29.9**	**+2.0**
CJR	**Cluj-Napoca**	**1.35**	**184**	⇑P	**Pg**	**01 57 11.2**	**+0.9**
CJR	**Cluj-Napoca**	**1.35**	**184**	Pg	**Pg**	**01 57 10.8**	**+0.4**
	comp=Z,0.3nm,SNR=10.0						
LTVH	**Ltavrtes, Hu**	**1.40**	**242**	⇓P	**Pg**	**01 57 11.6**	**+0.3**
LTVH				⇑S	**Sg**	**01 57 31.3**	**+1.8**
LTVH	**Ltavrtes, Hu**	**1.40**	**242**	⇓P	**Pg**	**01 57 11.6**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.40**	**242**	*e*S	**Sg**	**01 57 29.9**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.40**	**242**	Sn	**Sg**	**01 57 29.9**	**+0.3**
DRGR		**1.45**	**209**	⇑P	**Pg**	**01 57 12.2**	**0.0**
DRGR		**1.45**	**209**	⇑P	**Pg**	**01 57 12.2**	**0.0**
DRGR		**1.45**	**209**	Pn	**Pn**	**01 57 11.0**	**-0.1**
	comp=Z,0.2nm,SNR=11						
CRVS	**Cervenica-Dubn**	**1.72**	**300**	*e*PN	**Pg**	**01 57 18.5**	**+1.1**
HORU	**Horodok**	**2.13**	**56**	*e*Sn	**Sg**	**01 57 52.0**	**-0.9**
KECS	**Kecovo**	**2.20**	**282**	*e*PN	**Pn**	**01 57 21.2**	**-0.2**
DEV	**Deva**	**2.25**	**195**	⇑P	**Pn**	**01 57 22.7**	**+0.6**
DEV				⇑S	**Sb**	**01 57 53.1**	**-0.3**
DEV	**Deva**	**2.25**	**195**	⇑P	**Pn**	**01 57 22.7**	**+0.6**
SIRR	**Siria**	**2.28**	**219**	⇓P	**Pb**	**01 57 25.0**	**-0.9**
SIRR				⇑S	**Sb**	**01 57 54.2**	**-0.2**
SIRR	**Siria**	**2.28**	**219**	⇓P	**Pb**	**01 57 25.0**	**-0.9**
DOPR	**Dopca**	**2.39**	**151**	⇑P	**Pb**	**01 57 26.8**	**-0.9**
DOPR	**Dopca**	**2.39**	**151**	⇑P	**Pb**	**01 57 26.8**	**-0.9**
PSZ	**Piszkesteto**	**2.57**	**268**	⇓P	**Pn**	**01 57 27.1**	**+0.4**
PSZ	**Piszkesteto**	**2.57**	**268**	⇓P	**Pn**	**01 57 27.1**	**+0.4**
PSZ	**Piszkesteto**	**2.57**	**268**	*e*P	**Pn**	**01 57 27.1**	**+0.4**
PSZ	**Piszkesteto**	**2.57**	**268**	Pn	**Pn**	**01 57 27.1**	**+0.4**
	SNR=1.9						
GZR	**Gura Zlata**	**2.75**	**194**	⇑P	**Pb**	**01 57 31.5**	**-2.4**
GZR				⇓S	**Sb**	**01 58 05.9**	**-2.0**
GZR	**Gura Zlata**	**2.75**	**194**	⇑P	**Pb**	**01 57 31.5**	**-2.4**
BZS	**Buzias**	**2.84**	**211**	⇑P	**Pn**	**01 57 32.0**	**+1.8**
BZS				⇓S	**Sb**	**01 58 07.8**	**-2.7**
BZS	**Buzias**	**2.84**	**211**	⇑P	**Pn**	**01 57 32.0**	**+1.8**
VYHS	**Vyhne**	**3.29**	**279**	Pn	**Pn**	**01 57 35.9**	**-0.5**
	SNR=2.1						
VYHS	**Vyhne**	**3.29**	**279**	*e*PN	**Pn**	**01 57 35.7**	**-0.7**
VYHS				*e*SN	**Sn**	**01 58 16.3**	**+0.5**
HERR	**Herculane**	**3.31**	**196**	⇓P	**Pn**	**01 57 38.3**	**+1.6**
HERR	**Herculane**	**3.31**	**196**	⇓P	**Pn**	**01 57 38.3**	**+1.6**

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*TUL **28** 02:13:47.2±0.9, 36°.836N±0°.008×97°.81W±0°.02, h5km±6km, ML2.6, mb_Lg2.4/37(NEIC), Error ellipse: s-maj=1.9km s-min=1.0km az=105.0*
NEIC 28 02:13:47.5±0.7, 36°.819N±0°.009×97°.79W±0°.01, h5km±5km, Error ellipse: s-maj=1.5km s-min=1.1km az=222.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.07**	**300**	Pg	Pg	02 13 48.8	-0.3
GC02				Sg	Sg	02 13 49.8	-0.3
KAN17	**Caldwell West**	**0.23**	**5**	Pg	Pg	02 13 51.9	0.0
KAN17				Sg	Sg	02 13 55.2	+0.3
KAN05	**Bluff City Nor**	**0.30**	**347**	Pg	Pg	02 13 53.1	-0.2
KAN05				Sg	Sg	02 13 57.3	+0.1
KAN13	**South Haven SW**	**0.32**	**52**	Pg	Pg	02 13 53.8	+0.1
KAN13				Sg	Sg	02 13 57.8	0.0
OK032	**Salt Plains WL**	**0.34**	**267**	Pg	Pg	02 13 53.9	-0.1
OK032				Sg	Sg	02 13 58.6	+0.1
KAN09	**Caldwell North**	**0.34**	**23**	Pg	Pg	02 13 54.2	0.0
KAN09				Sg	Sg	02 13 59.0	+0.2
CROK	**Carrier**	**0.35**	**206**	Pg	Pg	02 13 54.5	+0.2
CROK				Sg	Sg	02 13 59.5	+0.6
KAN10	**Anthony SW Sta**	**0.39**	**321**	Pg	Pg	02 13 54.9	-0.2
KAN08	**Anthony NE Sta**	**0.43**	**340**	Pg	Pg	02 13 55.7	-0.1
KS20	**Mayfield South**	**0.45**	**25**	Pg	Pg	02 13 56.2	0.0
KS20				Sg	Sg	02 14 02.1	-0.1
BLOK	**Blackwell**	**0.47**	**97**	Pg	Pg	02 13 56.6	+0.1
BLOK				Sg	Sg	02 14 03.2	+0.7
KAN12	**Harper NE Stat**	**0.51**	**341**	Pg	Pg	02 13 56.2	-1.1
T35A	**Sooner Cattle**	**1.03**	**84**		Pg	02 14 06.5	-0.8
OK029	**Liberty Lake**	**1.06**	**165**

Code	Station Name	Δ°	ΔZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HHAR	**Hobbs**	**3.15**	**99**		**Pn**	**02 14 37.9**	**+0.1**
HHAR				IAmb_Lg		02 15 36.3	
	comp=Z,10.0nm,0.8s						
W39A	**Magazine**	**3.63**	**115**	Pn	**Pn**	**02 14 43.6**	**-0.8**
W39A				IAmb_Lg		02 15 47.2	
	comp=Z,16nm,0.7s						
U40A	**Yellville**	**4.00**	**95**	Pn	**Pn**	**02 14 51.0**	**+1.5**
MIAR	**Mount Ida**	**4.11**	**122**	IAmb_Lg		**02 15 59.1**	
	comp=Z,6.4nm,0.8s						
P38A	**Dawn**	**4.37**	**49**	Pn	**Pn**	**02 14 54.5**	**-0.1**
P38A				IAmb_Lg		02 16 08.0	
	comp=Z,9.9nm,0.7s						
MGMO	**Mountain Grove**	**4.43**	**84**	IAmb_Lg		02 16 07.2	
	comp=Z,13nm,0.8s						
R40A	**Maddies Statio**	**4.63**	**70**	Pn	**Pn**	**02 14 58.6**	**+0.5**
R40A				IAmb_Lg		02 16 14.9	
	comp=Z,7.9nm,1.0s						
X40A	**Basin Creek Fa**	**4.66**	**119**	IAmb_Lg		02 16 27.1	
	comp=Z,5.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.67**	**100**	IAmb_Lg		02 16 20.6	
	comp=Z,9.0nm,0.9s						
WHAR	**Wooly Hollow**	**4.71**	**107**	IAmb_Lg		02 16 23.9	
	comp=Z,6.2nm,0.7s						
P40A	**Paris**	**5.27**	**57**	IAmb_Lg		02 16 39.5	
	comp=Z,5.6nm,0.7s						
T25A	**Trinidad**	**5.31**	**275**	IAmb_Lg		02 16 37.5	
	comp=Z,6.6nm,0.8s						
N38A	**Joes South For**	**5.33**	**40**	IAmb_Lg		02 16 35.1	
	comp=Z,9.1nm,0.8s						
LCAR	**Lake Charles**	**5.40**	**96**	IAmb_Lg		02 16 40.5	
	comp=Z,8.1nm,0.9s						
JCT	**Junction City**	**6.54**	**195**	IAmb_Lg		02 17 22.0	
	comp=Z,5.1nm,0.7s						

IDC ***28*** *02:38:45.0±0.4,2.°72S×122.°38E, h0km, mb4.8/23, mb1 4.9/25, mb1mx4.7/44, mbtmp4.8/25, ML4.8/2, MS4.2/10, Ms1 4.2/10, ms1mx3.7/35, Error ellipse: s-maj=15.5km s-min=10.4km az=67.0*

MOS ***28*** *02:38:47.5±0.9,2.°77S×122.°41E, h30km, mb5.2/57, Error ellipse: s-maj=8.5km s-min=5.3km az=115.3*

DJA ***28*** *02:38:50.2±0.3,3.°S±2.°×12.°2E±.°, h31km±3km, M5.1/74, mb5.2/74, mB5.6/38, MLv5.3/28, Mw(mB)5.1/38, MwMwp5.5/1, Mwp5.7/1*

NEIC ***28*** *02:38:51.6±1.7,2.°77S±0.°05×122.°35E±0.°06, h45km±5km, mb5.1/110, Error ellipse: s-maj=9.3km s-min=6.7km az=96.0*

ISC 28 02:38:50.2±0.2,2.°81S±0.°03×122.°39E±0.°04, h35km, n448, σ1**§47**/453**, mb5.0**/140**, MS4.1**/18**, 38C-33D, Fault plane solution: NP1:**ϕ_s110.84051°, δ25.40419°, λ8.52936°. **NP2:**ϕ_s13.12545°, δ86.35193°, λ115.15813°. **Principal axes:** T Plg43.1353°, Azm307.4517°; N Plg25.1036°, Azm191.4137°; P Plg36.4229°, Azm81.1889°; **Sulawesi**

Code	Station Name	Δ°	ΔZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.80**	**12**		**Pn**	**02 39 17.8**	**-0.9**
LUWI	**Luwuk**	**1.80**	**12**	P	**Pn**	**02 39 17.7**	**-1.0**
APSI	**Ampana**	**2.02**	**339**	P	**Pn**	**02 39 20.9**	**-1.0**
TTSI	**Tana Toraja**	**2.57**	**265**	P	**Pn**	**02 39 28.6**	**-0.8**
BNSI	**Bone**	**2.77**	**235**	P	**Pn**	**02 39 31.8**	**-0.3**
MRSI	**Marisa**	**3.29**	**352**	P	**Pn**	**02 39 38.7**	**-0.6**
BKSI	**Bulukumba**	**3.37**	**222**	P	**Pn**	**02 39 40.2**	**-0.1**
KAPI	**Kappang**	**3.42**	**230**	Pn	**Pn**	**02 39 41.3**	**+0.2**
	52nm,0.3s,baz=75,slow=3.9,SNR=81						
KAPI				Sn	**Sn**	**02 40 21.6**	**+1.1**
	32nm,0.3s,baz=234,slow=21,SNR=6.6						
KAPI	**Kappang**	**3.42**	**230**	Pn	**Pn**	**02 39 40.9**	**-0.2**
GTOI	**Gorontalo**	**3.48**	**10**	P	**Pn**	**02 39 42.6**	**+0.7**
SANI	**Sanana**	**3.68**	**78**	P	**Pn**	**02 39 42.3**	**-2.3**
KMSI	**Cibinong**	**3.72**	**25**	P	**Pn**	**02 39 45.6**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.81**	**210**	P	**Pn**	**02 39 46.6**	**+0.1**
MPSI	**Mapaga**	**3.99**	**321**	P	**Pn**	**02 39 47.8**	**-1.2**
TOLI2	**Tolitoli**	**4.21**	**338**		**Pn**	**02 39 51.2**	**-0.8**
NLAI	**Namlea**	**4.73**	**95**	P	**Pn**	**02 39 58.6**	**-0.4**
LBMI	**Labuha**	**5.55**	**67**	P	**Pn**	**02 40 09.3**	**-1.1**
	2.8nm10μm735nm,1.0s						
BKB	**Balikpapan**	**5.70**	**286**	Pn	**Pn**	**02 40 11.8**	**-0.6**
BKB	**Balikpapan**	**5.70**	**286**	P	**Pn**	**02 40 13.8**	**+1.4**
	2.5nm6μm426nm,0.8s						
MMRI	**Maumere**	**5.79**	**181**		**Pn**	**02 40 13.5**	**-0.1**
MMRI	**Maumere**	**5.79**	**181**	P	**Pn**	**02 40 14.0**	**+0.3**
	1.7nm10μm513nm,0.8s						
EDFI	**Ende, Flores**	**5.94**	**187**	P	**Pn**	**02 40 15.6**	**-0.3**
	0.4nm1μm134nm,0.8s						
TNTI	**Ternate**	**6.12**	**55**	Pn	**Pn**	**02 40 17.7**	**-0.5**
TNTI	**Ternate**	**6.12**	**55**	P	**Pn**	**02 40 17.1**	**-1.1**
	1.4nm3μm519nm,0.9s						
KBKI	**Kotabaru**	**6.23**	**265**	P	**Pn**	**02 40 20.4**	**+0.7**
	1.1nm4μm336nm,1.0s						
MSAI	**Masohi**	**6.55**	**95**	P	**Pn**	**02 40 25.7**	**+1.5**
	0.3nm912nm61nm,0.7s						
SOEI	**Soe**	**7.15**	**165**	Pn	**Pn**	**02 40 33.3**	**+0.8**
SOEI	**Soe**	**7.15**	**165**	P	**Pn**	**02 40 35.0**	**+2.5**
	1.6nm5μm480nm,1.1s						
SGSI	**Sangihe**	**7.18**	**26**	P	**Pn**	**02 40 34.1**	**+1.4**
	1.5nm5μm208nm,0.7s						
WBSI	**Waikabubak, Su**	**7.41**	**204**	P	**Pn**	**02 40 36.2**	**+0.2**
	0.7nm2μm222nm,0.9s						
BATI	**Baumata**	**7.46**	**170**	Pn	**Pn**	**02 40 38.9**	**+2.2**
	3.7nm,0.3s,baz=198,slow=2.9,SNR=4.2						
BATI				LR	LR	02 43 45.0	
	comp=Z,5μm,19.1s,baz=145,slow=40						
BATI	**Baumata**	**7.46**	**170**	P	**Pn**	**02 40 39.0**	**+2.4**
	0.5nm2μm121nm,0.9s						
PLAI	**Plampang**	**7.53**	**217**	P	**Pn**	**02 40 38.1**	**+0.5**
	0.5nm1μm165nm,0.9s						
BBKI	**Banjar Baru**	**7.56**	**265**	P	**Pn**	**02 40 39.7**	**+1.7**
	0.9nm130nm,1.1s						
MTKI	**Muara Teweh, K**	**7.71**	**284**	P	**Pn**	**02 40 40.7**	**+0.6**
TWSI	**Taliwang, Sumb**	**8.04**	**223**	P	**Pn**	**02 40 44.3**	**-0.3**
	545nm41nm,0.9s						
SWI	**Sorong**	**9.08**	**78**	P	**Pn**	**02 40 58.2**	**-0.6**
	3μm236nm,1.1s						
SIJI	**Sorong**	**9.08**	**78**	Pn	**Pn**	**02 40 57.4**	**-1.5**
	15nm,0.3s,baz=258,slow=6.9,SNR=30						
SIJI				LR	LR	02 45 07.6	
	comp=Z,758nm,19.6s,baz=239,slow=42						
KMMI	**Kalianget**	**9.38**	**243**	P	**Pn**	**02 41 04.3**	**+1.3**
	168nm,1.3s						
FAKI	**Fak Fak**	**9.85**	**91**	Pn	**Pn**	**02 41 08.5**	**-0.9**
FAKI	**Fak Fak**	**9.85**	**91**	P	**Pn**	**02 41 07.9**	**-1.6**
	1μm164nm,1.0s						
KCP	**Kidapawan**	**10.12**	**15⇑**	*e*P	Pn	02 41 18.0	+4.8
SMRI	**Semarang**	**12.62**	**250**	P	**Pn**	**02 41 49.8**	**+2.4**
	118nm,1.2s						
MTN	**Manton Dam**	**13.20**	**140**	P	**Pn**	**02 41 53.5**	**-1.8**
	baz=13						
MTN	**Manton Dam**	**13.20**	**140**	Pn	**Pn**	**02 41 53.6**	**-1.8**
SRPI	**Serui, Papua**	**13.87**	**86**	P	**Pn**	**02 42 02.6**	**-1.9**
KDU	**Kakadu**	**14.00**	**135**	P	**Pn**	**02 42 03.2**	**-3.0**
	baz=14						
KPJI	**Karang Pucung**	**14.13**	**251**	P	**P**	**02 42 12.2**	**-2.9**
	3μm282nm,0.9s						
KNRA	**Kununurra**	**14.25**	**154**	P	**Pn**	**02 42 07.1**	**-2.5**
	baz=14						
KNRA	**Kununurra**	**14.25**	**154**	Pn	**Pn**	**02 42 06.6**	**-2.9**
RCP	**Roxas**	**14.28**	**1⇑**	*e*P	**P**	**02 42 17.2**	**+0.4**
JCJI	**Jatiwangi**	**14.53**	**255**	P	**P**	**02 42 17.8**	**-1.8**
	312nm,0.8s						
LEM	**Lembang**	**15.24**	**254**	Pn	**Pn**	**02 42 25.4**	**+2.3**
	4.6nm,0.3s,baz=69,slow=8.8,SNR=17						
LEM				LR	LR	02 48 36.8	
	comp=Z,1μm,18.2s,baz=56,slow=39						
LEM	**Lembang**	**15.24**	**254**	P	**P**	**02 42 26.3**	**-1.4**
	2μm107nm,0.9s						
CISI	**Cisompet, Garu**	**15.25**	**251**	P	**Pn**	**02 42 22.9**	**-0.3**
CISI				IAmb	IAmb	02 42 45.0	
	comp=Z,77nm,0.9s						
CNJI	**Cibinong**	**15.84**	**253**	P	**Pn**	**02 42 31.9**	**+1.2**
	comp=Z,4μmcomp=Z,390nm,1.1s						
CBJI	**Citeko**	**15.89**	**256**	P	**Pn**	**02 42 32.0**	**+0.6**
	comp=Z,445nm,1.1s						
DBJI	**Dramaga**	**16.02**	**256**	P	**P**	**02 42 35.9**	**-0.2**
	comp=Z,61nm,0.9s						
TNG	**Tangerang**	**16.04**	**257**	P	**P**	**02 42 35.9**	**-0.5**
	comp=Z,374nm,0.5s						
TNG				P	**Pn**	**02 42 34.8**	**+1.5**
	comp=Z,546nm,0.5s						
PPBI	**Pangkal Pinang**	**16.25**	**272**	P	**Pn**	**02 42 35.4**	**-0.5**
	comp=Z,9μmcomp=Z,83nm,1.2s						
LQP	**Lukban**	**16.83**	**357**	*e*P	**P**	**02 42 46.2**	**+0.9**
BLSI	**Bandar Lampung**	**17.28**	**261**	P	**P**	**02 42 51.0**	**+0.8**
	comp=Z,225nm,1.1s						
GENI	**Genyem**	**17.76**	**90**	P	**P**	**02 42 55.5**	**0.0**
	comp=Z,8μmcomp=Z,302nm,0.6s						
DSRI	**Dabo**	**17.95**	**277**	P	**P**	**02 42 58.5**	**+1.0**
	comp=Z,3μmcomp=Z,36nm,2.1s						
KASI	**Kota Agung**	**18.04**	**261**	P	**P**	**02 42 59.0**	**+0.5**
	comp=Z,3μmcomp=Z,179nm,1.5s						
MDSI	**Maura Dua**	**18.25**	**264**	P	**Pn**	**02 43 01.6**	**+0.8**
	comp=Z,63nm,1.0s						
XMIS	**Christmas Isla**	**18.27**	**245**	P	**P**	**02 42 59.9**	**-1.2**
XMIS	**Christmas Isla**	**18.27**	**245**	P	**Pn**	**02 43 02.1**	**+0.9**
	comp=Z,187nm,1.3s						
LWLI	**Liwa**	**18.41**	**263**	P	**Pn**	**02 43 03.6**	**+0.6**
	comp=Z,120nm,0.7s						
PSA00	**Pilbara Seismi**	**18.81**	**187**	P	**Pn**	**02 43 07.8**	**+0.1**
PSA00	**Pilbara Seismi**	**18.81**	**187**	P	**Pn**	**02 43 08.1**	**+0.5**
PSA00				IAmb	IAmb	02 43 18.3	
	comp=Z,26nm,1.4s						
LHSI	**Lahat**	**18.86**	**266**	P	**Pn**	**02 43 09.0**	**+0.7**
	comp=Z,4μmcomp=Z,314nm,1.0s						
KSI	**Kapahiang**	**19.78**	**267**	P	**Pn**	**02 43 18.9**	**-0.5**
RGRI	**Rengat**	**20.19**	**277**	P	Pn	02 43 24.1	-0.1
CVP	**Callao Caves**	**20.39**	**358**	*e*P	**P**	**02 43 25.2**	**+1.1**
WB0	**Warramunga Arr**	**20.53**	**146**	P	**P**	**02 43 24.7**	**-1.0**
WB0				IAmb	IAmb	02 43 29.0	
	comp=Z,78nm,0.9s						
WRAB	**Tennant Creek**	**20.64**	**146**	*c i*P	**P**	**02 43 26.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,112nm,1.0s						
WRAB	**Tennant Creek**	**20.64**	**146**	P	**P**	**02 43 26.3**	**-0.6**
WRAB				IAmb	IAmb	02 43 31.1	
	comp=Z,92nm,1.0s						
WRA	**Warramunga Arr**	**20.64**	**146**	P	**P**	**02 43 25.4**	**-1.5**
	comp=Z,48nm,0.8s,baz=324,slow=12,SNR=90						
WRA	**Warramunga Arr**	**20.64**	**146**	P	**P**	**02 43 25.5**	**-1.5**
WB2	**Warramunga Arr**	**20.65**	**146**	P	**P**	**02 43 25.5**	**-1.6**
	baz=20						
WB2	**Warramunga Arr**	**20.65**	**146**	P	**P**	**02 43 25.7**	**-1.4**
WB2				IAmb	IAmb	02 43 31.1	
	comp=Z,100nm,0.9s						
WR0	**Warramunga Arr**	**20.77**	**146**	P	**P**	**02 43 27.1**	**-1.2**
WR0				IAmb	IAmb	02 43 33.8	
	comp=Z,73nm,0.8s						
KRJI	**Kerinci**	**20.92**	**271**	P	Pn	02 43 33.1	+0.4
	comp=Z,252nm,0.5s						
BKNI	**Bangkinang**	**21.56**	**278**	P	**P**	**02 43 38.9**	**+2.0**
	comp=Z,146nm,1.2s						
PDSI	**Padang**	**21.99**	**274**	P	**P**	**02 43 42.3**	**+0.7**
	comp=Z,33nm,1.3s						
MNSI	**Mandailing Nat**	**23.08**	**279**	P	**P**	**02 43 54.7**	**+1.7**
	comp=Z,7μmcomp=Z,48nm,1.2s						
AS31	**Alice Springs**	**23.54**	**153**	P	**P**	**02 43 57.4**	**-0.1**
ASAR	**Alice Springs**	**23.54**	**153**	P	**P**	**02 43 56.8**	**-0.7**
	comp=Z,28nm,0.8s,baz=346,slow=16,SNR=134						
ASAR				LR	LR	02 54 27.0	
	comp=Z,680nm,18.1s,baz=316,slow=40						
ASAR	**Alice Springs**	**23.54**	**153**	P	**P**	**02 43 57.4**	**-0.1**
ASAR	**Alice Springs**	**23.54**	**153**	P	**P**	**02 43 57.4**	**-0.1**
SKLT	**Songkhla**	**23.88**	**295**	P	**P**	**02 44 01.8**	**+1.0**
	comp=Z,100nm,1.8s						
SKLT	**Songkhla**	**23.88**	**295**	P	**P**	**02 44 01.0**	**+0.2**
	comp=Z,100nm,1.8s						
MEEK	**Meekatharra**	**23.97**	**188**	P	**P**	**02 44 01.1**	**-0.4**
	baz=24						
RPSI	**Rantau Prapat**	**24.08**	**283**	P	**P**	**02 44 02.0**	**-0.7**
RPSI				IAmb	IAmb	02 44 13.9	
	comp=Z,66nm,1.2s						
PSI	**Prapat**	**24.11**	**283**	P	**P**	**02 44 02.0**	**-1.0**
PSI				pmax	pmax		
	comp=Z,66nm,1.2s						
QIS	**Mount Isa**	**24.35**	**138**	P	**P**	**02 44 04.8**	**-0.3**
	baz=24						
QIZ	**Qiongzhong**	**24.96**	**331**	P	**P**	**02 44 11.0**	**+0.4**
QIZ				sP	**sP**	**02 44 24.5**	**+0.7**
QIZ				S	**S**	**02 48 33.5**	**+1.3**
QIZ				sS	**sS**	**02 48 49.0**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,43nm,1.6s						
QIZ				LR	LR		
	comp=Z,310nm,12.5s						
QIZ				LR	LR		
	comp=Z,220nm,12.6s						
QIZ	**Qiongzhong**	**24.96**	**331**	P	**P**	**02 44 11.3**	**+0.7**
QIZ				IAmb	IAmb	02 44 17.3	
	comp=Z,94nm,1.2s						
MANU	**Manus Island**	**24.97**	**89**	P	**P**	**02 44 11.6**	**+0.9**
MANU				IAmb	IAmb	02 44 14.2	
	comp=Z,45nm,0.8s						
TRTT	**Trang**	**24.99**	**295**	P	**P**	**02 44 12.4**	**+1.5**
	comp=Z,2μmcomp=Z,51nm,1.1s						
TRTT	**Trang**	**24.99**	**295**	P	**P**	**02 44 12.5**	**+1.5**
	comp=Z,2μmcomp=Z,51nm,1.1s						
GSI	**Gunungsitoli**	**25.14**	**279**	P	**P**	**02 44 10.9**	**-1.4**
GSI				IAmb	IAmb	02 44 33.8	
	comp=Z,48nm,1.0s						
GSI	**Gunungsitoli**	**25.14**	**279**	P	**P**	**02 44 11.1**	**-1.2**
	comp=Z,3μmcomp=Z,54nm,1.7s						
PMG	**Port Moresby**	**25.48**	**106**	P	**P**	**02 44 15.2**	**-0.1**
	comp=Z,30nm,0.8s,baz=314,slow=9.7,SNR=8.3						
PMG	**Port Moresby**	**25.48**	**106**	P	**P**	**02 44 15.1**	**-0.2**
PMG				pmax	pmax		
	comp=Z,82nm,1.2s						
PMG	**Port Moresby**	**25.48**	**106**	P	**P**	**02 44 15.1**	**-0.2**
PMG				IAmb	IAmb	02 44 17.7	
	comp=Z,82nm,1.1s						
PMG	**Port Moresby**	**25.48**	**106**	P	**P**	**02 44 16.0**	**+0.6**
PMG	**Port Moresby**	**25.48**	**106**	P	**P**	**02 44 15.9**	**+0.6**
TWG	**Pinlang**	**25.51**	**357**	P	**P**	**02 44 17.8**	**+2.3**
TWG				IAmb	IAmb	02 44 46.4	
	comp=Z,38nm,1.0s						
TPTI		**25.91**	**283**	P	**P**	**02 44 18.2**	**-1.1**
	comp=Z,5.5nm,0.9s						
TPUB	**Ta-pu**	**26.01**	**356**	P	**P**	**02 44 21.7**	**+1.6**
TPUB				IAmb	IAmb	02 44 44.4	
	comp=Z,74nm,1.1s						
YULB	**Yu-li**	**26.07**	**358**	P	**P**	**02 44 22.1**	**+1.5**
YULB				IAmb	IAmb	02 44 47.5	
	comp=Z,47nm,1.1s						
SURT	**Suratani**	**26.26**	**297**	P	P	02 44 36.1	+14
SSLB	**Suanglung**	**26.47**	**357**	P	**P**	**02 44 24.9**	**+0.7**
SSLB				IAmb	IAmb	02 44 53.9	
	comp=Z,120nm,1.5s						
LHMI	**Lhok Sumawe**	**26.64**	**287**	P	**P**	**02 44 24.8**	**-1.1**
LHMI	**Lhok Sumawe**	**26.64**	**287**	P	**P**	**02 44 25.1**	**-0.8**
	comp=Z,94nm,1.4s						
MORW	**Morawa**	**26.80**	**192**	P	**P**	**02 44 27.4**	**+0.2**
MORW				IAmb	IAmb	02 44 34.9	
	comp=Z,86nm,1.2s						
MLSI	**Meulaboh, Aceh**	**26.90**	**285**	P	**P**	**02 44 26.4**	**-1.8**
	comp=Z,58nm,0.9s						
COCO	**West Island**	**26.96**	**248**	P	**P**	**02 44 28.5**	**-0.3**
COCO				pmax	pmax		
	comp=Z,142nm,0.9s						
COCO	**West Island**	**26.96**	**248**	P	**P**	**02 44 28.5**	**-0.3**
YHNB	**Yeheng**	**27.33**	**358**	P	**P**	**02 44 33.4**	**+1.3**
YHNB				IAmb	IAmb	02 44 50.3	
	comp=Z,77nm,1.4s						
CHAI	**Chaiyaphum**	**27.43**	**313**	P	**P**	**02 44 34.0**	**+1.0**
	comp=Z,468nmcomp=Z,36nm,0.7s						
CHAI	**Chaiyaphum**	**27.43**	**313**	P	**P**	**02 44 34.0**	**+1.0**
	comp=Z,117nmcomp=Z,9.0nm,0.7s						
GUMO	**Guam**	**27.62**	**53**	P	**P**	**02 44 33.6**	**-1.1**
	comp=Z,15nm,0.3s,baz=261,slow=6.7,SNR=4.7						
GUMO	**Guam**	**27.62**	**53**	P	**P**	**02 44 34.2**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,86nm,1.3s						
GUMO	**Guam**	**27.62**	**53**	P	**P**	**02 44 34.2**	**-0.5**
GUMO				IAmb	IAmb	02 44 37.6	
	comp=Z,86nm,1.3s						
GUMO	**Guam**	**27.62**	**53**	P	**P**	**02 44 36.7**	**+2.0**
NONG	**Nongkai**	**28.10**	**318**	P	**P**	**02 44 41.3**	**+2.4**
	comp=Z,51nm,1.2s						
NONG	**Nongkai**	**28.10**	**318**	P	**P**	**02 44 41.3**	**+2.4**
	comp=Z,51nm,1.2s						
FORT	**Forrest**	**28.33**	**170**	P	**P**	**02 44 40.8**	**0.0**
FORT				IAmb	IAmb	02 44 46.6	
	comp=Z,53nm,1.1s						
CTA	**Charters Tower**	**28.94**	**128**	P	**P**	**02 44 47.0**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=314,slow=12,SNR=5.1						
CTA	**Charters Tower**	**28.94**	**128**	P	**P**	**02 44 47.0**	**+0.6**
CTAO	**Charters Tower**	**28.94**	**128**	P	**P**	**02 44 45.6**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s						
CTAO	**Charters Tower**	**28.94**	**128**	P	**P**	**02 44 45.6**	**-0.8**
LOEI	**Loei**	**29.01**	**315**	P	**P**	**02 44 50.4**	**+3.3**
	comp=Z,38nm,1.6s						
LOEI	**Loei**	**29.01**	**315**	P	**P**	**02 44 50.0**	**+2.9**
	comp=Z,38nm,1.6s						
UTHA	**Uthaitani**	**29.12**	**309**	P	P	02 44 54.2	+6.1
	comp=Z,5.4nm,1.1s						
PHIT	**Phitsanulok**	**29.41**	**313**	P	**P**	**02 44 52.3**	**+1.7**
	comp=Z,103nm,0.9s						
PHIT	**Phitsanulok**	**29.41**	**313**	P	**P**	**02 44 52.3**	**+1.7**
	comp=Z,26nm,0.9s						
UTTA	**Uttaradit**	**29.67**	**314**	P	**P**	**02 44 54.4**	**+1.5**
	comp=Z,31nm,0.9s						
UTTA	**Uttaradit**	**29.67**	**314**	P	**P**	**02 44 54.5**	**+1.5**
	comp=Z,7.7nm,0.9s						
JOW	**Kunigami**	**30.01**	**11**	LR	LR	02 56 06.9	
	comp=Z,354nm,21.8s,baz=228,slow=35						
SLVN	**Son La**	**30.05**	**324**	P	**P**	**02 44 55.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**30.35**	**189**	P	**P**	**02 44 57.9**	**-0.9**
	comp=Z,44nm,1.4s,baz=338,slow=11,SNR=2.6						
NWAO				LR	LR	03 00 41.0	
	comp=Z,305nm,18.5s,baz=70,slow=43						
NWAO	**Narrogin (SRO)**	**30.35**	**189**	P	**P**	**02 44 58.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,50nm,1.4s						
NWAO	**Narrogin (SRO)**	**30.35**	**189**	P	**P**	**02 44 58.2**	**-0.5**
NWAO				IAmb	IAmb	02 45 02.6	
	comp=Z,50nm,1.4s						
LAMP	**Lampang**	**30.84**	**314**	P	**P**	**02 45 05.1**	**+1.9**
LAMP	**Lampang**	**30.84**	**314**	P	**P**	**02 45 05.2**	**+1.9**
CM04	**Chiang Mai Arr**	**31.23**	**313**	P	**P**	**02 45 09.1**	**+2.4**
	comp=Z,217nmcomp=Z,27nm,0.9s						
CM04	**Chiang Mai Arr**	**31.23**	**313**	P	**P**	**02 45 09.2**	**+2.5**
	comp=Z,217nmcomp=Z,27nm,0.9s						
CM09	**Chiang Mai Arr**	**31.25**	**313**	P	**P**	**02 45 09.2**	**+2.3**
	comp=Z,26nm,0.9s						
CM09	**Chiang Mai Arr**	**31.25**	**313**	P	**P**	**02 45 09.0**	**+2.1**
	comp=Z,26nm,0.9s						
CM05	**Chiang Mai Arr**	**31.26**	**313**	P	**P**	**02 45 09.1**	**+2.2**
	comp=Z,130nmcomp=Z,17nm,1.1s						
CM05	**Chiang Mai Arr**	**31.26**	**313**	P	**P**	**02 45 09.2**	**+2.3**
	comp=Z,130nmcomp=Z,17nm,1.1s						
CM01	**Chiang Mai Arr**	**31.26**	**313**	P	**P**	**02 45 09.1**	**+2.1**
	comp=Z,192nmcomp=Z,25nm,0.9s						
CM01	**Chiang Mai Arr**	**31.26**	**313**	P	**P**	**02 45 09.2**	**+2.2**
	comp=Z,192nmcomp=Z,25nm,0.9s						
CM02	**Chiang Mai Arr**	**31.28**	**313**	P	**P**	**02 45 09.1**	**+2.0**
	comp=Z,188nmcomp=Z,26nm,0.8s						
CM02	**Chiang Mai Arr**	**31.28**	**313**	P	**P**	**02 45 09.2**	**+2.1**
	comp=Z,188nmcomp=Z,26nm,0.8s						
CM31	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 09.2**	**+1.9**
	comp=Z,8μmcomp=Z,394nm,0.6s						
CM31	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 07.8**	**+0.6**
CM31				IAmb	IAmb	02 45 13.5	
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 08.4**	**+1.1**
	comp=Z,11nm,0.8s,baz=138,slow=7.2,SNR=40						
CMAR	**Chiang Mai Arr**	**31.30**	**313**	*ce*P	**P**	**02 45 08.3**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 07.7**	**+0.4**
CM13	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 09.1**	**+1.8**
	comp=Z,147nmcomp=Z,23nm,0.8s						
CM13	**Chiang Mai Arr**	**31.30**	**313**	P	**P**	**02 45 09.2**	**+1.9**
	comp=Z,147nmcomp=Z,23nm,0.8s						
CM15	**Chiang Mai Arr**	**31.31**	**313**	P	**P**	**02 45 09.2**	**+1.8**
	comp=Z,23nm,0.8s						
CM15	**Chiang Mai Arr**	**31.31**	**313**	P	**P**	**02 45 09.0**	**+1.6**
	comp=Z,23nm,0.8s						
CM34	**Chiang Mai Arr**	**31.40**	**314**	P	P	02 45 19.0	+11
CM32	**Chiang Mai Arr**	**31.49**	**314**	P	P	02 45 19.2	+10
CMMT	**Chiang Mai**	**31.52**	**314**	P	**P**	**02 45 10.3**	**+1.1**
	comp=Z,29nm,1.2s						
CMMT	**Chiang Mai**	**31.52**	**314**	P	**P**	**02 45 10.4**	**+1.1**
	comp=Z,29nm,1.2s						
CHTO	**Chiang Mai**	**31.52**	**314**	P	**P**	**02 45 08.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,27nm,1.0s						
CHTO	**Chiang Mai**	**31.52**	**314**	P	**P**	**02 45 10.3**	**+1.0**
	comp=Z,30nm,1.5s						
CHTO	**Chiang Mai**	**31.52**	**314**	P	**P**	**02 45 08.8**	**-0.5**
CHTO				IAmb	IAmb	02 45

TOO IAmb IAmb 02 46 31.0
comp=Z,56nm,1.1s
CAN Canberra 40.69 146 P **P 02 46 25.9 -1.6**
CAN pmax pmax
comp=Z,51nm,0.9s
CAN Canberra 40.69 146 P **P 02 46 25.9 -1.6**
CAN IAmb IAmb 02 46 30.0
comp=Z,51nm,0.9s
SHL Shillong 40.85 316 P **P 02 46 29.0 -0.1**
SHL pmax pmax
comp=Z,37nm,1.3s
SHL Shillong 40.85 316 P **P 02 46 29.0 -0.1**
SHL IAmb IAmb 02 46 34.7
comp=Z,37nm,1.3s
MAJO Matsushiro 41.84 19 P **P 02 46 36.2 -0.7**
MAJO pmax pmax
comp=Z,20nm,1.1s
MAJO Matsushiro 41.84 19 P **P 02 46 36.2 -0.7**
MAT Matsushiro 41.84 19 P **P 02 46 36.3 -0.6**
MJAR Matsushiro Arr 41.84 19 P **P 02 46 36.6 -0.3**
comp=Z,11nm,1.0s,baz=193,slow=9.3,SNR=16
MJAR LR LR 03 02 23.9
comp=Z,184nm,22.0s,baz=205,slow=34
MJAR Matsushiro Arr 41.84 19 P **P 02 46 35.7 -1.1**
MJAR pmax pmax
comp=Z,15nm,1.4s
MJAR Matsushiro Arr 41.84 19 P **P 02 46 35.7 -1.1**
LZH Lanzhou 42.40 338 *e*P P 02 46 46.8 +5.2
LZH pP sP 02 46 55.5 +0.5
LZH sP pwP 02 47 00.3 +5.8
LZH *e*S **S 02 53 04.5 +3.5**
LZH sS sS 02 53 20.0 +2.6
LZH SS **SS 02 56 06.0 -4.9**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,73nm,4.6s
LZH LR LR
comp=Z,300nm,13.3s
LZH LR LR
comp=Z,270nm,12.7s
LZH LR LR
comp=Z,190nm,15.1s
JMM Marumori 43.92 21 P **P 02 46 54.5 +0.8**
JMM IAmb IAmb 02 47 14.4
comp=Z,36nm,1.2s
LSA Lhasa 44.02 320 P **P 02 46 56.5 +1.3**
LSA pmax pmax
comp=Z,88nm,1.4s
HHC Hu-ho-hao-te 44.56 348 *e*P **P 02 47 02.5 +3.6**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,120nm,8.4s
BTO Baotou 44.66 347 *e*P P 02 47 05.3 +5.6
BTO S **S 02 53 38.5 +4.6**
BTO LR LR
comp=Z,570nm,14.9s
BTO LR LR
comp=Z,970nm,17.3s
JTM Tenmabayashi 46.62 20 P **P 02 47 14.5 -0.6**
PKI Pulchoki 46.69 313 *e*P **P 02 47 15.6 -0.7**
comp=Z,32nm,1.0s
PKIN Phulchoki 46.70 313 *e*P **P 02 47 16.1 -0.2**
comp=Z,33nm,0.9s
NOUC Port Laguerre 46.73 118 P **P 02 47 16.9 +0.7**
DZM Mont Dzumac 46.84 118 P **P 02 47 17.8 +0.6**
comp=Z,15nm,0.9s,baz=304,slow=8.0,SNR=11
DZM Mont Dzumac 46.84 118 P **P 02 47 17.6 +0.4**
DZM IAmb IAmb 02 47 19.1
comp=Z,36nm,1.2s
DZM Mont Dzumac 46.84 118 P **P 02 47 18.1 +0.8**
GTA Gaotai 46.86 336 *e*P **P 02 47 17.0 -0.2**
GTA S **S 02 54 04.3 -1.4**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,67nm,5.6s
GTA LR LR
comp=Z,110nm,19.9s
GTA LR LR
comp=Z,170nm,14.3s
GTA LR LR
comp=Z,170nm,17.5s
KKN Kakani 46.91 313 *e*P **P 02 47 17.5 -0.3**
ONTNC Ouen Toro 46.92 118 P **P 02 47 18.1 +0.3**
ONTNC IAmb IAmb 02 47 20.4
comp=Z,32nm,0.9s
ONTNC Ouen Toro 46.92 118 P **P 02 47 18.4 +0.6**
YATNC Mamie plateau, 47.23 118 P **P 02 47 21.3 +1.1**
OUENC Ouen Island, N 47.30 118 P **P 02 47 21.1 +0.4**
OUENC Ouen Island, N 47.30 118 P **P 02 47 21.5 +0.8**
GKN Gorkha 47.50 313 *e*P **P 02 47 21.9 -0.5**
comp=Z,39nm,0.9s
USA0B Ussuriysk Arra 47.58 9 P **P 02 47 21.7 -0.8**
USA0B pmax pmax
comp=Z,12nm,0.9s
USA0B Ussuriysk Arra 47.58 9 P **P 02 47 21.7 -0.8**
USRK Ussuriysk Ar. 47.58 9 P **P 02 47 22.0 -0.5**
comp=Z,5.6nm,0.8s,baz=187,slow=7.7,SNR=17
USRK Ussuriysk Ar. 47.58 9 P **P 02 47 22.5 0.0**
USRK Ussuriysk Ar. 47.58 9 P **P 02 47 22.4 0.0**
HYB Hyderabad 47.67 297 *i* P **P 02 47 22.0 -1.7**
PINNC Pines Island, 47.89 118 P **P 02 47 25.6 +0.4**
DANN Dangsing 48.34 313 *e*P **P 02 47 28.7 -0.3**
comp=Z,61nm,0.7s
ERM Erimo 48.44 21 P **P 02 47 29.2 +0.1**
ERM pmax pmax
comp=Z,28nm,0.9s
ERM Erimo 48.44 21 P **P 02 47 29.2 +0.1**
ASAJ Asahikawa 50.11 19 P **P 02 47 42.3 +0.4**
ASAJ pmax pmax
comp=Z,44nm,1.0s
JKA Kamikawa-asahi 50.11 19 P **P 02 47 42.3 +0.4**
HIA Hailar 51.92 358 *i* P **P 02 47 56.3 +0.9**
HIA pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 52.22 347 P **P 02 47 57.2 -0.7**
ULN pmax pmax
comp=Z,14nm,1.2s
ULN Ulaanbaatar 52.22 347 P **P 02 47 57.2 -0.7**
SONM Songino Array 52.34 346 P **P 02 47 57.6 -1.1**
comp=Z,2.8nm,0.7s,baz=164,slow=8.3,SNR=10
SONM Songino Array 52.34 346 P **P 02 47 58.2 -0.6**
SONM pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 52.34 346 P **P 02 47 58.2 -0.6**
KLR Kul'dur 52.46 8*ce*P **P 02 47 59.4 0.0**
KLR pmax pmax
comp=Z,13nm,1.5s
YSS Yuzh-Sakhalins 52.70 17 *e*P **P 02 48 01.7 +0.5**
YSS *e*S **S 02 55 30.1 +3.5**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 52.70 17 P **P 02 48 01.1 -0.1**
ZAK Zakamensk 55.47 345 *e*P **P 02 48 25.3 +3.8**
ZAK pmax pmax
comp=Z,4.0nm,1.8s
WMQ Urumqi 55.88 330 *e*P **P 02 48 27.8 +3.2**
WMQ LR LR
comp=Z,270nm,16.9s
WMQ LR LR
comp=Z,150nm,20.7s
WMQ LR LR
comp=Z,200nm,20.7s
ZEA Zeya 56.49 3 *e*P **P 02 48 33.1 +4.5**
ZEA pmax pmax
comp=Z,10.0nm,0.5s
ZEA MLR MLR
comp=Z,100nm,17.0s
NIL Nilore 58.78 312 P **P 02 48 44.6 -0.6**
NIL pmax pmax
comp=Z,11nm,0.8s
NIL Nilore 58.78 312 P **P 02 48 44.6 -0.6**
NIL IAmb IAmb 02 48 45.2
comp=Z,11nm,0.8s
DGZ Jazzator, Alta 60.36 335 *i* P **P 02 48 55.0 -0.9**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 60.60 323 P **P 02 48 57.6 -0.2**
KDJ pmax pmax
comp=Z,7.0nm,0.9s
KDJ Kajisay 60.60 323 P **P 02 48 57.6 -0.2**

MK31 Makanchi Array 60.69 330 P **P 02 48 57.1 -0.9**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 60.69 330 P **P 02 48 57.1 -0.9**
MKAR Makanchi Array 60.69 330 P **P 02 48 57.5 -0.6**
comp=Z,7.1nm,0.9s,baz=132,slow=6.2,SNR=34
MKAR PcP **PcP 02 49 42.5 +0.6**
comp=Z,6.9nm,0.9s,baz=126,slow=6.2,SNR=6.4
MKAR Makanchi Array 60.69 330 P **P 02 48 57.3 -0.7**
BOD Bodaibo 60.81 355 *e*P **P 02 48 59.2 +0.6**
BOD pmax pmax
comp=Z,23nm,1.3s
MAKZ Makanchi 60.85 329 P **P 02 48 58.3 -0.9**
MAKZ pmax pmax
comp=Z,20nm,1.5s
MAKZ Makanchi 60.85 329 P **P 02 48 58.3 -0.9**
MAKZ IAmb IAmb 02 49 05.0
comp=Z,20nm,1.4s
KBL Kabul 62.30 312 P **P 02 49 08.0 -1.5**
KBL pmax pmax
comp=Z,44nm,1.1s
KBL Kabul 62.30 312 P **P 02 49 08.0 -1.5**
PEA0B Petropavlovsk- 63.09 23 P **P 02 49 14.4 +0.3**
PEA0B pmax pmax
comp=Z,39nm,1.5s
PEA0B Petropavlovsk- 63.09 23 P **P 02 49 14.3 +0.3**
PETK Petropavlovsk- 63.09 23 P **P 02 49 14.6 +0.5**
PETK Petropavlovsk- 63.09 23 P **P 02 49 14.6 +0.5**
GAR Garm 63.39 317 P **P 02 49 15.2 -1.3**
GAR IAmb IAmb 02 49 27.6
comp=Z,21nm,1.1s
BTK Batken 63.56 318 P **P 02 49 17.2 -0.4**
BTK pmax pmax
comp=Z,18nm,1.3s
BTK Batken 63.56 318 P **P 02 49 17.1 -0.4**
BTK IAmb IAmb 02 49 43.2
comp=Z,18nm,1.2s
CASY Casey 63.90 185 P **P 02 49 19.8 +0.7**
CASY IAmb IAmb 02 49 23.9
comp=Z,28nm,1.4s
CHGR Chuyangaron 64.03 316 P **P 02 49 19.7 -1.0**
ZAA0 Zalesovo Array 64.61 336 P **P 02 49 22.2 -1.8**
ZALV Zalesovo Beam 64.61 336 P **P 02 49 22.1 -2.0**
comp=Z,6.4nm,0.9s,baz=121,slow=4.3,SNR=14
ZALV Zalesovo Beam 64.61 336 P **P 02 49 22.4 -1.6**
ZALV Zalesovo Beam 64.61 336 P **P 02 49 22.4 -1.6**
YAK Yakutsk 64.90 4 *e*P **P 02 49 25.7 0.0**
YAK *e**PP **pP 02 49 35.5 -0.5**
YAK *e* 02 51 46.6
YAK *e*S **S 02 58 03.1 -1.4**
YAK *e**SS **sS 02 58 22.1 +1.3**
YAK *e* 02 59 07.3
YAK pmax pmax
comp=Z,26nm,0.8s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,145nm,3.8s
YAK pmax pmax
comp=N,66nm,2.8s
YAK pmax pmax
comp=E,83nm,3.8s
YAK smax smax
comp=E,154nm,4.3s
YAK smax smax
comp=N,119nm,4.3s
YAK Yakutsk 64.90 4 P **P 02 49 26.1 +0.4**
KKAR Karatay Array 65.26 321 P **P 02 49 27.9 -0.7**
KKAR Karatay Array 65.26 321 P **P 02 49 27.9 -0.7**
MA2 Magadan 66.09 15⇑*i*P **P 02 49 33.9 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 70.64 330 P **P 02 50 02.0 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 70.64 330 P **P 02 50 02.0 -0.1**
GEYT Alibeck 71.75 311 P **P 02 50 08.8 -0.4**
comp=Z,6.1nm,1.1s,baz=68,slow=17,SNR=5.7
GYA0B ALIBECK ARRAY 71.75 311 P **P 02 50 07.5 -1.7**
TIXI Tiksi 74.44 2⇑*i*P **P 02 50 23.5 -0.9**
TIXI Tiksi 74.44 2 P **P 02 50 24.5 +0.1**
ABKAR Akbulak array 74.58 323 P **P 02 50 24.9 -0.7**
ABKAR Akbulak array 74.58 323 P **P 02 50 24.7 -0.9**
ABPO Ambohimpanom 75.06 251 P **P 02 50 28.2 -1.0**
ABPO pmax pmax
comp=Z,11nm,0.8s
ABPO Ambohimpanom 75.06 251 P **P 02 50 28.2 -1.0**
VOI Vohitsoka 75.59 248 P **P 02 50 32.3 +0.1**
VOI IAmb IAmb 02 50 37.7
comp=Z,27nm,0.8s
NRIK Noril'sk 75.79 348 P **P 02 50 32.8 +0.6**
comp=Z,8.9nm,0.8s,baz=124,slow=6.7,SNR=12
NRIK Noril'sk 75.79 348⇑*i*P **P 02 50 32.3 +0.1**
NRIK pmax pmax
comp=Z,12nm,0.9s
NRIK Noril'sk 75.79 348 P **P 02 50 32.1 -0.1**
MAW Mawson 76.16 200 P **P 02 50 35.5 +1.1**
comp=Z,34nm,1.3s,baz=54,slow=7.1,SNR=8.3
MAW Mawson 76.16 200 P **P 02 50 35.2 +0.9**
BILL Bilibino 76.96 16 *i* P **P 02 50 38.7 -0.1**
BILL *i* 02 50 46.9
BILL pmax pmax
comp=Z,5.0nm,1.1s
SVE Sverdlovsk 77.34 330 *e*P **P 02 50 41.0 -0.2**
SVE pmax pmax
comp=Z,27nm,1.3s
VNDA Vanda 77.57 172 P **P 02 50 43.0 +0.8**
comp=Z,5.1nm,0.8s,baz=331,slow=6.2,SNR=19
VNDA Vanda 77.57 172 P **P 02 50 42.0 -0.1**
VNDA pmax pmax
comp=Z,29nm,1.4s
VNDA Vanda 77.57 172 P **P 02 50 42.0 -0.1**
VNDA IAmb IAmb 02 50 49.6
comp=Z,29nm,1.4s
ARU Arti 78.21 329*d i*P **P 02 50 45.1 -1.0**
ARU 02 53 37.0
ARU S **S 03 00 40.0 +1.7**
ARU SS **SS 03 05 34.7 -6.2**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 78.21 329 P **P 02 50 45.2 -0.9**
SBA Scott Base 78.53 171 P **P 02 50 47.9 +0.4**
SBA pmax pmax
comp=Z,27nm,1.4s
SBA Scott Base 78.53 171 P **P 02 50 47.9 +0.4**
SBA IAmb IAmb 02 51 15.0
comp=Z,26nm,1.4s
LKRN Lenkeran, Azer 79.03 310 P **P 02 50 52.5 +1.5**
AKT Akhty 80.42 313 *e*P **P 02 50 58.1 -0.5**
AKT *e* 02 51 05.4
AKT pmax pmax
comp=Z,16nm,0.9s
MNGR Mingechevir, A 80.75 312 P **P 02 51 01.1 +0.9**
SEKA Sheki 80.75 312 P **P 02 51 00.9 +0.6**
ZKTA Zakatala 81.26 313 P **P 02 51 03.5 +0.5**
GANJ Ganja 81.29 312 P **P 02 51 04.3 +1.1**
NAX Nakhchivan 81.64 310 P **P 02 51 06.7 +1.6**
GROC Groznyy 82.17 314 *e*P **P 02 51 06.2 -1.5**
GROC *e*S **S 03 01 22.0 +1.5**
GROC pmax pmax
comp=Z,12nm,0.5s
BELG Belogornoye 82.97 323*c i*P **P 02 51 10.3 -1.3**
BELG pmax pmax
comp=Z,5.0nm,1.0s
GEVA Gevas 83.37 309 P **P 02 51 13.1 -1.2**
ZEI Tsey 83.46 313 *e*P **P 02 51 13.9 -0.8**
ZEI pmax pmax
comp=Z,21nm,1.4s
KIRV Kirov 83.58 330⇑*i*P **P 02 51 14.9 +0.3**
KBZ Khabaz 84.34 314 P **P 02 51 18.6 -0.3**
comp=Z,3.4nm,0.8s,baz=128,slow=2.6,SNR=9.3
KBZ Khabaz 84.34 314*c i*P **P 02 51 18.5 -0.3**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
GOF Gofitskoye 84.46 316⇑*e*P **P 02 51 19.4 -0.1**
SHA1 Shidzhatmaz 84.52 314*c i*P **P 02 51 19.5 -0.6**
KIV Kislovodsk 84.53 314 *e*P **P 02 51 19.3 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
SYO Syowa Base 84.80 201⇓*e*P **P 02 51 20.9 +0.2**
SYO Syowa Base 84.80 201⇓*es*P sP 02 51 38.0 +2.5
MARD Mardin 85.02 308 P **P 02 51 22.4 -0.3**

KMBO Kilima Mbogo 85.08 269 P **P 02 51 24.8 +1.2**
comp=Z,7.3nm,1.0s,baz=46,slow=5.1,SNR=9.9
PRGR Permogore 86.19 332 *e*P **P 02 51 26.6 -1.1**
PRGR pmax pmax
comp=Z,39nm,0.9s
VRH Novokhopyorsk 86.33 322 *e*P **P 02 51 27.4 -1.2**
VRH pmax pmax
comp=Z,30nm,0.7s
SOC Sochi 86.61 314 *e*P **P 02 51 27.8 -2.4**
SOC *e*PPP PPP 02 56 45.2
SOC *e*S **SKSac 03 01 52.6 -1.8**
SOC *e*SS **SS 03 07 38.8 -7.4**
SOC *e*SSS SSS 03 11 13.8
SOC pmax pmax
comp=Z,22nm,1.0s
SOC MLR MLR
comp=Z,72nm,20.0s
QSPA South Pole Qui 87.14 180 P **P 02 51 32.6 +0.1**
QSPA IAmb IAmb 02 51 37.4
comp=Z,11nm,0.9s
VORD Divnogorie 87.81 321 *e*P **P 02 51 34.5 -1.3**
VORD pmax pmax
comp=Z,20nm,1.0s
GAZ Gaziantep 87.83 307 P **P 02 51 36.0 -0.3**
LPSR Galich'ya Gora 88.23 323 *e*P **P 02 51 35.6 -2.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
GHAJ Ghor Haditha 88.72 301 P **P 02 51 38.7 -1.9**
KLMR Klimovskoe 88.95 331 *e*P **P 02 51 38.9 -2.0**
KLMR pmax pmax
comp=Z,53nm,1.1s
KLMR Klimovskoe 88.95 331 *e*P **P 02 51 39.0 -2.0**
KLMR AMP 02 51 45.2
comp=Z,53nm,1.1s
BNN Bunyan 89.05 309 P **P 02 51 41.4 -0.7**
N19K Bonanza Creek 89.08 29 P **P 02 51 43.3 +1.5**
baz=263
MOS Moscow 89.34 326 *e*P **P 02 51 41.2 -1.7**
J20K Nowinta River 89.66 26 P **P 02 51 45.7 +1.5**
baz=263
M20K Styx River 89.85 28 P **P 02 51 46.9 +1.5**
baz=264
OBN Obninsk 89.89 325*c i*P **P 02 51 44.3 -1.2**
OBN *i* 02 51 48.5
OBN *i* SS SS 03 08 38.8 +5.5
OBN pmax pmax
comp=Z,26nm,1.5s
OBN Obninsk 89.89 325 P **P 02 51 45.3 -0.2**
IMAR Indian Mountai 90.04 24 P **P 02 51 46.8 +0.7**
BR131 Keskin Array S 90.81 310 P **P 02 51 49.9 -0.5**
BR131 pmax pmax
comp=Z,13nm,1.0s
BR131 Keskin Array S 90.81 310 P **P 02 51 49.9 -0.5**
BR131 IAmb IAmb 02 51 54.7
comp=Z,13nm,0.9s
BRTR Keskin Array B 90.81 310 P **P 02 51 49.4 -1.0**
comp=Z,4.1nm,0.8s,baz=116,slow=5.6,SNR=17
BRTR LR LR 03 38 51.4
comp=Z,69nm,21.0s,baz=147,slow=40
BRTR Keskin Array B 90.81 310*ce*P **P 02 51 49.9 -0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 90.81 310 P **P 02 51 49.6 -0.8**
ILGA Ilgaz 90.82 311 P **P 02 51 50.1 -0.4**
ILGA IAmb IAmb 02 51 55.4
comp=Z,11nm,1.1s
BPAW Bear Paw Mtn. 91.03 26 P **P 02 51 52.2 +1.5**
baz=266
MLY Manley 91.20 25 P **P 02 51 52.3 +0.8**
baz=266
MLY Manley 91.20 25 P **P 02 51 52.1 +0.6**
MBAR Mbarara 91.62 269*ce*P **P 02 51 56.3 +1.6**
H23K Yukon River 91.75 24 P **P 02 51 55.4 +1.4**
baz=267
I23K Minto, Yukon-K 91.79 25 P **P 02 51 55.4 +1.2**
baz=267
I23K Minto, Yukon-K 91.79 25 P **P 02 51 54.7 +0.6**
I23K IAmb IAmb 02 51 59.1
comp=Z,9.1nm,1.1s
NEA2 Nenana 91.89 26 P **P 02 51 56.9 +2.3**
baz=268
RND Reindeer 91.94 27 P **P 02 51 54.7 -0.3**
RND pmax pmax
comp=Z,4.0nm,0.9s
RND Reindeer 91.94 27 P **P 02 51 54.7 -0.3**
KNK Knik Glacier 92.04 29 P **P 02 51 57.4 +1.9**
baz=268
SML Sawmill 92.11 28 P **P 02 51 57.1 +1.3**
baz=268
WRH Wood River Hil 92.31 26 P **P 02 51 55.3 -1.2**
WAT6 Susitna Watana 92.42 28 P **P 02 51 58.3 +0.9**
baz=269
H24K Noodor Dome 92.43 24 P **P 02 51 59.2 +2.0**
baz=269
CCB Clear Creek Bu 92.44 26 P **P 02 51 57.5 +0.4**
HDA Harding Lake 92.80 26 P **P 02 51 58.1 -0.7**
ILAR Eielson Array 92.83 25 P **P 02 51 58.0 -1.0**
comp=Z,0.6nm,0.9s,baz=243,slow=4.1,SNR=6.0
LSZ Lusaka 93.31 255 P **P 02 52 01.3 -1.1**
LSZ pmax pmax
comp=Z,16nm,1.0s
LSZ Lusaka 93.31 255 P **P 02 52 01.3 -1.1**
PAX Paxson 93.46 27 P **P 02 52 02.2 +0.1**
PAX pmax pmax
comp=Z,9.0nm,1.4s
PAX Paxson 93.46 27 P **P 02 52 02.2 +0.1**
PAX IAmb IAmb 02 52 06.9
comp=Z,9.1nm,1.4s
BMAR Burnt Mountain 93.75 23 P **P 02 52 03.8 +0.6**
AKASG Malin Array Be 94.16 320 P **P 02 52 03.6 -1.8**
comp=Z,1.7nm,0.7s,baz=71,slow=4.5,SNR=12
AKASG LR LR 03 38 43.6
comp=Z,49nm,21.9s,baz=245,slow=38
AKASG Malin Array Be 94.16 320 P **P 02 52 04.4 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,1.4s
AKASG Malin Array Be 94.16 320 P **P 02 52 04.4 -1.0**
AKASG IAmb IAmb 02 52 09.4
comp=Z,7.4nm,1.4s
AKBB Malin Array Si 94.16 320*ce*P **P 02 52 03.9 -1.5**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
GLB Gilahina Butte 94.28 29 P **P 02 52 04.2 -1.6**
GLB IAmb IAmb 02 52 10.8
comp=Z,7.5nm,1.0s
SORM Soroca 94.77 318⇓*i*P **P 02 52 07.0 -1.2**
TIRR Tirgusor 94.79 314 P **P 02 52 07.3 -1.1**
TIRR pmax pmax
comp=Z,17nm,0.9s
TIRR Tirgusor 94.79 314 P **P 02 52 07.3 -1.1**
BOSA Boshof 94.92 241 LR LR 03 28 59.2
comp=Z,241nm,21.4s,baz=88,slow=32
K27K Chicken 94.94 26 P **P 02 52 10.8 +2.1**
baz=274
K27K Chicken 94.94 26 P **P 02 52 07.5 -1.2**
K27K IAmb IAmb 02 52 14.6
comp=Z,5.3nm,0.9s
CFR Carcaliu 94.98 315⇑*i*P **P 02 52 08.9 -0.4**
L27K Beaver Creek, 95.12 27 P **P 02 52 11.2 +1.6**
baz=274
L27K Beaver Creek, 95.12 27 P **P 02 52 07.2 -2.3**
L27K IAmb IAmb 02 52 12.6
comp=Z,6.1nm,1.1s
BCAR Beaver Creek A 95.14 27 P **P 02 52 10.8 +1.1**
EGAK Eagle 95.28 25 P **P 02 52 12.3 +2.0**
baz=275
EGAK Eagle 95.28 25 P **P 02 52 10.5 +0.3**
EGAK IAmb IAmb 02 52 14.5
comp=Z,6.2nm,1.2s
BARN Barnard Glacie 95.33 29 P **P 02 52 11.2 +0.4**
BARN IAmb IAmb 02 52 16.4
comp=Z,12nm,1.0s
VSU Vasula 95.34 328 *e*P **P 02 52 11.1 +0.5**
CTG Chitna Glacier 95.49 29 P **P 02 52 13.4 +2.0**
baz=274
CTGM Chitina Glacie 95.50 29 P **P 02 52 11.5 0.0**
IDID Didziasalis 95.52 325 *e*P **P 02 52 12.8 +1.3**
IIGN Ignalina 95.81 325 *e*P **P 02 52 14.0 +1.1**
KARP Karpathos 95.87 305 P **P 02 52 13.1 -0.6**
VRI Vrincioaia 95.95 316⇑P **P 02 52 14.1 +0.4**
TESR Tescani 95.98 316⇑P **P 02 52 13.3 -0.6**
PLOR Plostina 96.00 316⇑P **P 02 52 13.9 -0.1**
DAWY Dawson 96.12 26 P **P 02 52 13.5 -0.6**
DAWY IAmb IAmb 02 52 19.2
comp=Z,5.3nm,1.1s

MLR	**Muntele Rosu**	**96.51**	**315**	⇑P	**P**	**02 52 15.1**	**-1.3**
MLR	**Muntele Rosu**	**96.51**	**315**	P	**P**	**02 52 16.1**	**-0.3**
MLR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MLR	**Muntele Rosu**	**96.51**	**315**	P	**P**	**02 52 16.1**	**-0.3**
MLR				IAmb	IAmb	02 52 18.6	
	comp=Z,8.5nm,1.0s						
BURAR	**Bucovina Array**	**96.90**	**317**	⇑P	**P**	**02 52 17.8**	**-0.3**
BURAR	**Bucovina Array**	**96.90**	**317**	P	**P**	**02 52 18.0**	**-0.1**
BURAR				IAmb	IAmb	02 52 23.3	
	comp=Z,3.5nm,0.8s						
BUR08	**Bucovina Ar. S**	**96.91**	**317**	P	**P**	**02 52 18.2**	**0.0**
BUR08				IAmb	IAmb	02 52 23.1	
	comp=Z,3.7nm,0.8s						
PABE	**Paberze**	**97.08**	**325**	*e*P	Pdif	02 52 19.7	+1.1
PABE	**Paberze**	**97.08**	**325**	P	Pdif	02 52 18.9	+0.3
HYT	**Haines Junctio**	**97.37**	**29**	P	**P**	**02 52 19.1**	**-0.8**
HYT				IAmb	IAmb	02 52 41.9	
	comp=Z,7.1nm,1.1s						
SUW	**Suwalki**	**97.68**	**324**	*e*P	Pdif	02 52 21.7	+0.4
SUW	**Suwalki**	**97.68**	**324**	P	**P**	**02 52 20.7**	**-0.6**
SUW				pmax	pmax		
	comp=Z,23nm,0.9s						
SUW	**Suwalki**	**97.68**	**324**	P	**P**	**02 52 20.7**	**-0.6**
SNAA	**Sanae**	**97.82**	**195**	P	Pdif	02 52 23.4	+1.6
WHY	**Whitehorse**	**98.67**	**29**	P	Pdif	02 52 27.8	+2.0
	baz=280						
KOLS	**Kolonicke sedl**	**98.76**	**319**	*e*P	Pdif	02 52 26.6	+0.2
KOLS	**Kolonicke sedl**	**98.76**	**319**	*e*PDIFF	Pdif	02 52 26.6	+0.2
HERR	**Herculane**	**99.04**	**315**	⇓P	**Pdif**	**02 52 27.1**	**-0.6**
CRVS	**Cervenica-Dubn**	**99.29**	**319**	*e*P	**Pdif**	**02 52 28.4**	**-0.3**
CRVS	**Cervenica-Dubn**	**99.29**	**319**	*e*PDIFF	**Pdif**	**02 52 28.4**	**-0.3**
VNA2	**Neumayer--Watz**	**99.45**	**195**	P	**Pdif**	**02 52 29.3**	**+0.4**
VNA1	**Neumayer--Stat**	**99.84**	**195**	P	**Pdif**	**02 52 31.8**	**+1.1**
CLL	**Collm**	**104.24**	**322**	*e*PP	**PKiKP**	**02 57 06.0**	**-1.3**
GERES	**GERESS Array B**	**104.35**	**320**	PP	**PP**	**02 57 14.1**	**+4.1**
	comp=Z,0.5nm,0.8s,baz=77,slow=5.8,SNR=4.0						
HLID	**Hailey**	**115.53**	**42**	P	**PKPdf**	**02 57 31.3**	**+2.2**
	baz=292						
EGMT	**Eagleton**	**116.59**	**36**	PKPdf	**PKPdf**	**02 57 28.3**	**-2.6**
O20A	**White River Ci**	**121.13**	**44**	P	**PKiKP**	**02 57 42.4**	**+2.2**
	baz=296						
ANMO	**Albuquerque**	**124.59**	**49***c*	*i*PKIKP	**PKiKP**	**02 57 49.0**	**+1.9**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MNTX	**Cornudas Mount**	**126.71**	**52**	P	**PKiKP**	**02 57 53.2**	**+2.0**
	baz=293						
TXAR	**Lajitas Array**	**128.98**	**54**	PKP	**PKiKP**	**02 57 57.1**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=238,slow=7.2,SNR=3.6						
AC02	**Maricunga**	**148.50**	**160**	PKPdf	**PKPdf**	**02 58 31.1**	**-0.1**
CPUP	**Villa Florida**	**151.03**	**181**	PKPbc	**PKiKP**	**02 58 41.0**	**+0.1**
	comp=Z,7.6nm,0.8s,baz=108,slow=1.7,SNR=11						
CPUP	**Villa Florida**	**151.03**	**181**	PKIKP	**PKiKP**	**02 58 41.0**	**+0.1**
LVC	**Limon Verde**	**152.43**	**157**	PKPbc	**PKiKP**	**02 58 45.7**	**+1.3**
	comp=Z,3.8nm,0.7s,baz=189,slow=4.1,SNR=3.1						
LVC	**Limon Verde**	**152.43**	**157**	PKIKP	**PKPbc**	**02 58 41.6**	**-2.5**
LVC	**Limon Verde**	**152.43**	**157**	PKPbc	**PKPbc**	**02 58 41.6**	**-2.5**
MNMC	**Minye Minye**	**155.22**	**152**		**PKPdf**	**02 58 41.0**	**-0.2**
LPAZ	**La Paz**	**158.36**	**152**	PKP	**PKPdf**	**02 58 45.3**	**-0.3**
	comp=Z,2.1nm,1.2s,baz=48,slow=1.4,SNR=4.3						
LPAZ				PKPab	**PKPab**	**02 59 22.4**	**+2.6**
	comp=Z,4.0nm,1.0s,baz=176,slow=3.7,SNR=6.2						
SIV	**San Ignacio**	**161.01**	**170**	PKPab	**PKPab**	**02 59 32.6**	**+2.1**
	comp=Z,3.4nm,1.0s,baz=238,slow=6.0,SNR=3.8						

*IDC **28** 02:42:19.1±0.6, 5°.89S×74°.94W, h24km±3km, mb3.8/9, mb1 4.1/14, mb1mx3.9/34, mbtmp4.0/14, ML3.9/5 Error ellipse: s-maj=24.2km s-min=12.4km az=64.0*
*NEIC **28** 02:42:21.3±1.1, 5°.91S±0°.06×75°.08W±0°.07, h35km±7km, mb4.5/61, Error ellipse: s-maj=10.5km s-min=8.6km az=68.0*
*VAO **28** 02:42:34.7±0.5, 6°.35S×73°.55W, h10km, mbR4.2*
ISC 28 02:42:19.3±0.4, **5°.92S**±0°.05×**75°.03W**±0°.07, **h27**km, **n125,**
$_{\sigma}$**1**§**02**/131, **mb4.4**/37, **Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.56**	**250**	Pn	**Pn**	**02 43 13.4**	**+0.3**
	4.8nm,0.3s,baz=81,slow=7.2,SNR=31						
ATAH				Lg	Lg	02 44 05.2	
	63nm,0.3s,baz=320,slow=14,SNR=12						
PTLC	**Puerto Leguiza**	**6.06**	**2**	*e*P	**Pn**	**02 43 48.0**	**+0.8**
NNA	**Nana**	**6.29**	**196**	Pn	**Pn**	**02 43 50.0**	**-0.3**
	13nm,0.3s,baz=17,slow=13,SNR=20						
NNA				Sn	**Sn**	**02 44 59.0**	**-2.4**
	38nm,0.3s,baz=239,slow=19,SNR=6.1						
OTAV	**Otavalo**	**7.01**	**331**	Pn	**Pn**	**02 44 01.8**	**+1.2**
OTAV	**Otavalo**	**7.01**	**331**	*e*P	**Pn**	**02 44 04.0**	**+3.4**
OTAV	**Otavalo**	**7.01**	**331**	*e*P	Pb	02 44 33.5	+13
TULM	**Tulcn-Chalpat**	**7.15**	**337**	*e*P	**Pn**	**02 44 05.0**	**+2.5**
GCUF	**Volcan Galeras**	**7.47**	**342**	*e*P	**Pn**	**02 44 09.1**	**+2.1**
GARC	**Garzon, Huila**	**8.07**	**357**	*e*P	**Pn**	**02 44 15.1**	**+0.1**
MACC	**Macarena, Meta**	**8.10**	**8**	*e*P	**Pn**	**02 44 16.1**	**+0.8**
BBAC	**Balboa, Cauca**	**8.20**	**344**	*e*P	**Pn**	**02 44 17.5**	**+0.7**
PCON	**Cinco Dias**	**8.31**	**350**	*e*P	Pn	02 44 26.6	+8.0
POPC	**Popayan, Colom**	**8.57**	**349**	*e*P	Pn	02 44 17.1	-4.7
ORTC	**Ortega, Tolima**	**9.77**	**359**	*e*P	**Pn**	**02 44 38.7**	**+0.5**
YOTC	**Yotoco, Valle**	**9.93**	**352**	*e*P	**Pn**	**02 44 43.2**	**+2.8**
VILC	**Villavicencio,**	**10.06**	**8**	*e*P	**Pn**	**02 44 42.3**	**+0.1**
ROSC	**El Rosal**	**10.71**	**4**	Lg	Lg	02 47 54.9	
	1.7nm,0.3s,baz=31,slow=23,SNR=2.0						
ROSC	**El Rosal**	**10.71**	**4**	*e*P	Pn	02 45 00.4	+9.0
GUY2C	**Guyana, Caldas**	**11.08**	**358**	*e*P	**Pn**	**02 44 58.3**	**+1.8**
NORC	**Norcasia**	**11.41**	**1**	*e*P	**Pn**	**02 45 00.8**	**+0.1**
RUSC	**La Rusia**	**11.90**	**9**	Pn	**Pn**	**02 45 07.4**	**-0.3**
RUSC	**La Rusia**	**11.90**	**9**	*e*P	**Pn**	**02 45 07.1**	**-0.6**
SAML	**Samuel**	**12.12**	**105**	Pn	**Pn**	**02 45 09.1**	**-1.3**
LPAZ	**La Paz**	**12.32**	**147**	Pn	**Pn**	**02 45 14.0**	**+0.4**
	0.4nm,0.3s,baz=343,slow=11,SNR=12						
LPAZ				Lg	Lg	02 48 46.7	
	0.6nm,0.3s,baz=195,slow=19,SNR=2.0						
LPAZ	**La Paz**	**12.32**	**147**	Pn	**Pn**	**02 45 13.5**	**-0.1**
MNMC	**Minye Minye**	**14.15**	**159**	Pn	**Pn**	**02 45 39.7**	**+1.3**
PB08	**IPOC Station P**	**15.24**	**159**	Pn	**P**	**02 45 55.4**	**-2.5**
SDV	**Santo Domingo**	**15.35**	**17**	*e*P	P	02 46 11.7	+13
SJCC	**San Jacinto, C**	**15.72**	**359**	Pn	**Pn**	**02 45 59.0**	**0.0**
PTGA	**Pitinga**	**15.89**	**72**	Pn	**Pn**	**02 45 59.4**	**-1.9**
	0.6nm,0.3s,baz=294,slow=22,SNR=2.1						
PTGA				Lg	Lg	02 50 35.9	
	0.6nm,0.3s,baz=354,slow=21,SNR=1.7						
PTGA	**Pitinga**	**15.89**	**72**	Pn	**Pn**	**02 46 01.7**	**+0.5**
BOAV	**Boa Vista**	**16.68**	**61**	*e*P	**P**	**02 46 15.2**	**+1.8**
SIV	**San Ignacio**	**16.95**	**127**	Pn	**Pn**	**02 46 12.2**	**-2.6**
	0.2nm,0.3s,baz=294,slow=10,SNR=8.3						
SIV				Lg	Lg	02 51 12.7	
	1.7nm,0.3s,baz=31,slow=19,SNR=5.9						
SRBA	**San Rafael, Bu**	**17.19**	**331**	Pn	**Pn**	**02 46 17.1**	**-0.8**
LVC	**Limon Verde**	**17.61**	**161**	P	**P**	**02 46 26.0**	**+1.9**
	0.4nm,0.3s,baz=43,slow=12,SNR=3.5						
LVC	**Limon Verde**	**17.61**	**161**	P	**P**	**02 46 25.5**	**+1.4**
PTLB	**Pontes e Lacer**	**18.25**	**123**	*e*P	**Pn**	**02 46 28.5**	**-2.2**
ITTB	**Itaituba**	**19.28**	**86**	*e*P	**Pn**	**02 46 43.6**	**+0.3**
NPGB	**Novo Progresso**	**19.58**	**94**	*e*P	**P**	**02 46 45.6**	**+0.2**
CLDB	**Colider**	**19.64**	**106**	*e*P	**P**	**02 46 46.5**	**+0.3**
MALB	**Monte Alegre**	**21.10**	**80**	*e*P	**P**	**02 47 03.5**	**+1.5**
SALV	**Santo Antonio**	**21.40**	**119**	*e*P	**P**	**02 47 08.0**	**+2.9**
AC02	**Maricunga**	**21.54**	**166**	P	**P**	**02 47 08.4**	**+1.3**
PP1B	**Ponte de Pedra**	**22.85**	**122**	*e*P	**P**	**02 47 22.9**	**+2.2**
SNDB	**Serra Nova Dou**	**24.19**	**106**	*e*P	**P**	**02 47 36.0**	**+2.2**
CPUP	**Villa Florida**	**26.41**	**142**	P	**P**	**02 47 53.9**	**+0.2**
	1.1nm,0.6s,baz=324,slow=9.7,SNR=3.8						
CPUP				pP	**pP**	**02 48 00.6**	**-1.0**
	3.2nm,0.6s,baz=328,slow=8.8,SNR=6.5						
CPUP	**Villa Florida**	**26.41**	**142**	P	**P**	**02 47 54.5**	**+0.8**
JANB	**Januaria**	**31.50**	**109**	*e*P	P	02 48 44.5	+5.2
PLCA	**Paso Flores**	**34.89**	**174**	P	**P**	**02 49 09.4**	**+0.8**
	1.8nm,0.7s,baz=325,slow=10,SNR=3.8						
PLCA				pP	**pP**	**02 49 16.5**	**-0.2**
	2.6nm,0.6s,baz=344,slow=9.4,SNR=4.4						
PLCA	**Paso Flores**	**34.89**	**174**	P	**P**	**02 49 09.2**	**+0.6**
PLCA				IAmb	IAmb	02 49 25.1	
	comp=Z,7.0nm,1.1s						
NBRF	**Rio Formoso -**	**39.66**	**96**	*e*P	P	02 49 54.4	+5.1
Z47A	**Carrollton**	**40.83**	**343**	P	**P**	**02 49 58.0**	**-0.7**
W50A	**Signal Mountai**	**42.04**	**347**	P	**P**	**02 50 08.7**	**+0.1**
W50A				IAmb	IAmb	02 50 09.4	
	comp=Z,7.0nm,0.8s						
T57A	**Hurt**	**42.88**	**355**	P	**P**	**02 50 14.8**	**-0.6**
T57A				IAmb	IAmb	02 50 16.8	
	comp=Z,12nm,0.8s						
V48A	**Smith Brothers**	**42.90**	**346**	P	**P**	**02 50 15.3**	**-0.3**
V48A				IAmb	IAmb	02 50 15.7	
	comp=Z,10nm,0.7s						
S57A	**Dark Hollow, R**	**43.61**	**355**	P	**P**	**02 50 22.0**	**+0.7**
S57A				IAmb	IAmb	02 50 22.8	
	comp=Z,10nm,0.9s						
LCAR	**Lake Charles**	**44.43**	**341**	P	**P**	**02 50 26.6**	**-1.4**
LCAR				IAmb	IAmb	02 50 27.7	
	comp=Z,3.9nm,0.8s						
TXAR	**Lajitas Array**	**44.57**	**323**	P	**P**	**02 50 30.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=149,slow=8.7,SNR=10						
TXAR				pP	**pP**	**02 50 37.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=144,slow=9.4,SNR=6.8						
TXAR				PcP	**PcP**	**02 52 12.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=90,slow=7.5,SNR=4.3						
TXAR				pPcP		02 52 21.2	
	comp=Z,0.6nm,0.8s,baz=142,slow=6.3,SNR=4.4						
TXAR	**Lajitas Array**	**44.57**	**323**	P	**P**	**02 50 29.3**	**0.0**
TX31	**Lajitas Ar. Si**	**44.58**	**323**	P	**P**	**02 50 28.9**	**-0.5**
TX31				IAmb	IAmb	02 50 30.6	
	comp=Z,4.2nm,0.8s						
TX32	**Lajitas Array**	**44.58**	**323**	P	**P**	**02 50 29.1**	**-0.2**
U40A	**Yellville**	**45.26**	**340**	P	**P**	**02 50 33.3**	**-1.2**
MGMO	**Mountain Grove**	**45.78**	**341**	P	**P**	**02 50 37.5**	**-1.2**
MGMO				IAmb	IAmb	02 50 46.2	
	comp=Z,4.9nm,0.9s						
FNO	**Franklin**	**46.06**	**334**	P	**P**	**02 50 40.8**	**-0.1**
N54A	**Moraine State**	**46.88**	**355**	P	**P**	**02 50 47.7**	**+0.4**
M57A	**Sunshine Farm,**	**47.07**	**358**	P	**P**	**02 50 49.3**	**+0.6**
M55A	**Ridgway**	**47.29**	**356**	P	**P**	**02 50 50.7**	**+0.3**
MNTX	**Cornudas Mount**	**47.31**	**324**	P	**P**	**02 50 50.8**	**0.0**
M54A	**Oil Creek Stat**	**47.39**	**355**	P	**P**	**02 50 51.7**	**+0.5**
MSTX	**Muleshoe**	**47.58**	**328**	P	**P**	**02 50 53.2**	**+0.3**
MSTX				IAmb	IAmb	02 50 54.3	
	comp=Z,4.0nm,0.9s						
N47A	**Urbana**	**47.59**	**349**	P	**P**	**02 50 51.4**	**-1.4**
L56A	**Greenwood**	**47.88**	**357**	P	**P**	**02 50 54.3**	**-0.8**
BINY	**Binghamton**	**47.90**	**359**	P	**P**	**02 50 55.7**	**+0.5**
K57A	**Scipio Center**	**48.44**	**359**	P	**P**	**02 50 59.6**	**+0.3**
J56A	**Wolcott**	**49.00**	**358**	P	**P**	**02 51 04.1**	**+0.5**
J57A	**Williamstown**	**49.11**	**359**	P	**P**	**02 51 04.9**	**+0.5**
PECO	**Prince Edward**	**49.66**	**358**	P	**P**	**02 51 07.9**	**-0.6**
PECO				IAmb	IAmb	02 51 09.5	
	comp=Z,4.5nm,0.8s						
J47A	**Sunmer**	**49.73**	**351**	P	**P**	**02 51 08.4**	**-0.8**
BNM	**Barren Site**	**49.81**	**325**	P	**P**	**02 51 09.6**	**-0.6**
DELO	**Deloro Mine**	**50.26**	**358**	P	**P**	**02 51 13.3**	**+0.1**
DELO				IAmb	IAmb	02 51 13.6	
	comp=Z,4.8nm,0.7s						
ANMO	**Albuquerque**	**50.30**	**326**	P	**P**	**02 51 13.4**	**-0.4**
ANMO				IAmb	IAmb	02 51 15.7	
	comp=Z,4.3nm,0.8s						
SADO	**Sadowa**	**50.60**	**356**	P	**P**	**02 51 15.5**	**-0.2**
SADO				IAmb	IAmb	02 51 23.9	
	comp=Z,7.5nm,0.9s						
PLVO	**Plevna**	**50.77**	**358**	P	**P**	**02 51 17.3**	**+0.3**
PLVO				IAmb	IAmb	02 51 25.9	
	comp=Z,6.2nm,1.0s						
SDCO	**Great Sand Dun**	**51.89**	**329**	P	**P**	**02 51 26.0**	**0.0**
WUAZ	**Wupatki**	**53.54**	**323**	P	**P**	**02 51 37.9**	**-0.1**
WUAZ				IAmb	IAmb	02 51 40.0	
	comp=Z,4.0nm,0.9s						
PV01	**Paradox Valley**	**53.79**	**327**	P	**P**	**02 51 39.1**	**-0.8**
PV01				IAmb	IAmb	02 51 41.3	
	comp=Z,3.1nm,0.9s						
PV03	**Paradox Valley**	**54.03**	**327**	P	**P**	**02 51 41.6**	**0.0**
PV03				IAmb	IAmb	02 51 43.1	
	comp=Z,2.8nm,0.9s						
PV12	**Saucer Basin,**	**54.05**	**327**	P	**P**	**02 51 41.3**	**-0.4**
PV12				IAmb	IAmb	02 51 43.6	
	comp=Z,4.2nm,0.9s						
KNB	**Kanab**	**55.41**	**323**	P	**P**	**02 51 51.6**	**0.0**
KNB				IAmb	IAmb	02 51 53.2	
	comp=Z,4.1nm,1.0s						
LCMT	**Little Creek M**	**55.66**	**323**	P	**P**	**02 51 53.2**	**-0.1**
LCMT				IAmb	IAmb	02 52 03.1	
	comp=Z,3.1nm,0.8s						
PSUT	**Pine Spring**	**57.03**	**324**	P	**P**	**02 52 03.4**	**+0.2**
PDAR	**Pinedale Array**	**57.72**	**330**	P	**P**	**02 52 08.0**	**0.0**
	comp=Z,1.1nm,1.0s,baz=140,slow=9.4,SNR=8.4						
PDAR				pP	**pP**	**02 52 16.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=142,slow=13,SNR=3.2						
PDAR	**Pinedale Array**	**57.72**	**330**	P	**P**	**02 52 07.3**	**-0.7**
HWUT	**Hardware Ranch**	**57.89**	**328**	P	**P**	**02 52 09.1**	**-0.1**
HWUT				IAmb	IAmb	02 52 10.5	
	comp=Z,2.4nm,0.6s						
ULM	**Lac du Bonnet**	**58.79**	**345**	P	**P**	**02 52 14.2**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=156,slow=8.7,SNR=6.8						
ULM				pP	**pP**	**02 52 22.1**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=156,slow=6.7,SNR=3.4						
ULM				PcP	**PcP**	**02 53 04.2**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=37,slow=1.0,SNR=4.6						
ULM				pPcP		02 53 12.2	
	comp=Z,3.7nm,0.7s,baz=170,slow=3.7,SNR=3.9						
NVAR	**Mina Array Bea**	**59.65**	**321**	P	**P**	**02 52 22.5**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=116,slow=6.9,SNR=5.5						
NVAR				pP	**pP**	**02 52 30.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=119,slow=7.8,SNR=4.2						
NVAR				pPcP		02 53 17.0	
	comp=Z,0.8nm,0.6s,baz=136,slow=2.6,SNR=5.4						
YHH	**Holmes Hill**	**59.84**	**331**	P	**P**	**02 52 23.0**	**+0.2**
YHH				IAmb	IAmb	02 52 25.4	
	comp=Z,3.1nm,1.1s						
BCYI	**Bear Canyon**	**60.76**	**329**	P	**P**	**02 52 29.0**	**-0.1**
BOZ	**Bozeman (W)**	**60.81**	**331**	P	**P**	**02 52 28.8**	**-0.5**
BOZ				IAmb	IAmb	02 52 30.7	
	comp=Z,3.7nm,1.1s						
MFID	**Camas Ranch**	**61.41**	**327**	P	**P**	**02 52 33.6**	**+0.2**
MFID				IAmb	IAmb	02 52 35.1	
	comp=Z,5.5nm,0.8s						
HRY	**Holter Researc**	**61.73**	**332**	P	**P**	**02 52 35.6**	**+0.2**
MSO	**Missoula**	**62.81**	**331**	P	**P**	**02 52 42.1**	**-0.5**
MSO				IAmb	IAmb	02 52 52.1	
	comp=Z,5.6nm,1.0s						
I07A	**Izee**	**63.87**	**326**	P	**P**	**02 52 49.7**	**0.0**
I07A				IAmb	IAmb	02 52 59.2	
	comp=Z,2.8nm,0.7s						
WALA	**Waterton Lakes**	**64.40**	**333**	P	**P**	**02 52 53.5**	**+0.4**
WALA				IAmb	IAmb	02 52 54.3	
	comp=Z,2.7nm,0.7s						
YKA	**Yellowknife Ar**	**74.62**	**342**	P	**P**	**02 53 55.5**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=140,slow=6.7,SNR=7.1						
YKA				pP	**pP**	**02 54 03.6**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=135,slow=3.2,SNR=4.3						
VNA1	**Neumayer--Stat**	**76.85**	**162**	P	**P**	**02 54 09.8**	**+1.4**
VNA2	**Neumayer--Watz**	**77.22**	**162**	P	**P**	**02 54 11.0**	**+0.5**
	baz=293,slow=6.1						
SNAA	**Sanae**	**78.84**	**162**	P	**P**	**02 54 20.1**	**+0.4**
ESDC	**Sonseca Array**	**79.40**	**48**	P	**P**	**02 54 23.6**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=249,slow=7.2,SNR=7.4						
SUMG	**Summit**	**81.78**	**10**	P	**P**	**02 54 35.6**	**-0.2**
SUMG				IAmb	IAmb	02 54 45.1	
	comp=Z,5.9nm,1.0s						
ILAR	**Eielson Array**	**87.70**	**336**	P	**P**	**02 55 05.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=122,slow=4.0,SNR=8.2						
ILAR				pP	**pP**	**02 55 13.3**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=191,slow=22,SNR=1.7						
ILAR	**Eielson Array**	**87.70**	**336**	P	**P**	**02 55 06.1**	**+0.9**
MDM	**Murphy Dome**	**88.31**	**336**	P	**P**	**02 55 08.4**	**+0.3**
I23K	**Minto, Yukon-K**	**88.82**	**336**	P	**P**	**02 55 10.6**	**+0.1**
MLY	**Manley**	**89.35**	**336**	P	**P**	**02 55 13.0**	**-0.1**
MLY				IAmb	IAmb	02 55 13.9	
	comp=Z,3.6nm,1.0s						
ZALV	**Zalesovo Beam**	**129.40**	**15**	PKP	**PKiKP**	**03 01 26.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=318,slow=2.0,SNR=8.4						
ZALV				pPKP	**pPKPdf**	**03 01 34.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=278,slow=2.2,SNR=3.3						
MKAR	**Makanchi Array**	**134.84**	**22**	PKP	**PKPdf**	**03 01 35.7**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=348,slow=1.4,SNR=7.0						
MKAR				pPKP	**pPKPdf**	**03 01 44.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=282,slow=3.1,SNR=5.4						
MKAR	**Makanchi Array**	**134.84**	**22**	PKPdf	**PKPdf**	**03 01 35.8**	**-0.1**
ASAR	**Alice Springs**	**139.23**	**223**	PKP	**PKPdf**	**03 01 44.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=128,slow=1.9,SNR=6.3						
ASAR				pPKP	**pPKPdf**	**03 01 52.4**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=128,slow=2.3,SNR=5.4						
ASAR	**Alice Springs**	**139.23**	**223**	PKPdf	**PKPdf**	**03 01 44.2**	**-0.6**
WRA	**Warramunga Arr**	**141.33**	**228**	PKP	**PKPdf**	**03 01 48.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=119,slow=2.2,SNR=8.2						
WRA	**Warramunga Arr**	**141.33**	**228**	PKPdf	**PKPdf**	**03 01 48.2**	**-0.5**
BTO	**Baotou**	**145.17**	**353**	*e*PKPbc	**PKPbc**	**03 01 53.0**	**-1.5**
GTA	**Gaotai**	**146.34**	**7**	*e*PKPbc	**PKPbc**	**03 01 58.0**	**-0.2**
LZH	**Lanzhou**	**149.96**	**2**	*e*PKPbc	**PKPdf**	**03 02 04.0**	**+0.9**
LZH				pPKP	pPKPbc	03 02 17.5	+0.5
LZH				sPKP		03 02 21.8	

*SSNC **28** 03:05:34.6±1.2, 19°.87N×74°.13W, h8km±29km, MD3.0, ML3.0*
*OSPL **28** 03:05:35.0±1.6, 19°.87N×74°.16W, h23km±96km, ML2.9*
ISC 28 03:05:33.3±1.6, **19°.92N**±0°.08×**74°.13W**±0°.07, **h35**km, **n8,**
$_{\sigma}$**2**§**38**/11, **1C, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.28**	**339**	⇑*i*P	**Pn**	**03 05 40.4**	**-0.5**
MASC				*e*S	**Sn**	**03 05 44.8**	**-1.3**
MASC				IAML		03 05 45.0	
	comp=E,3μm,0.1s						
MASC				IAML		03 05 45.1	
	comp=N,5μm,0.1s						
GTBY	**Guantanamo Bay**	**0.93**	**271**	*i*P	**Pn**	**03 05 50.7**	**+0.9**
GTBY				*e*S	**Sn**	**03 06 02.3**	**+0.4**
GTBY				IAML		03 06 04.3	
	comp=Z,339nm,0.3s						
MOAC	**Moa**	**1.08**	**313**	*i*P	**Pn**	**03 05 54.0**	**+2.1**
MOAC				*e*S	**Sn**	**03 06 09.6**	**+3.9**
MOAC				IAML		03 06 13.1	
	comp=E,333nm,0.4s						
MOAC				IAML		03 06 13.1	
	comp=N,546nm,0.2s						
RCC	**Rio Carpintero**	**1.48**	**273**	*e*P	**Pn**	**03 05 58.2**	**+0.7**
RCC				*e*S	**Sn**	**03 06 16.2**	**+0.6**
RCC				IAML		03 06 20.4	
	comp=N,152nm,0.2s						
RCC				IAML		03 06 22.7	
	comp=E,162nm,0.2s						
LGNH	**Logne**	**2.00**	**134**	*i*P	**Pn**	**03 06 05.0**	**+0.4**
LGNH				IAML		03 06 45.2	
	comp=Z,45nm,1.9s						
SDDR	**Presa de Saban**	**2.83**	**109**	*i*P	Pn	03 06 18.8	+2.6
SDDR				IAML		03 07 01.8	
	comp=Z,57nm,0.4s						
GRTK	**Grand Turk**	**3.22**	**60**	*i*P	Pn	03 06 23.1	+1.7
CCCC	**Cccc**	**3.64**	**291**	*e*P	**Pn**	**03 06 25.2**	**-1.9**
CCCC				*e*S	**Sn**	**03 07 04.8**	**-4.2**
CCCC				IAML		03 07 07.7	
	comp=N,12nm,0.2s						
CCCC				IAML		03 07 09.3	
	comp=E,8.1nm,0.3s						

*TUL **28** 03:07:47.9±1.3, 35°.99N±0°.02×96°.75W±0°.03, h4km±5km, ML2.9, mb_Lg2.7/56(NEIC), Error ellipse: s-maj=3.9km s-min=2.4km az=104.0*
NEIC 28 03:07:48.4±1.2, **36°.00N**±0°.02×**96°.75W**±0°.02, **h6**km±4km,
Error ellipse: s-maj=3.3km s-min=1.1km az=137.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.09**	**236**		Pg	03 07 50.0	-0.4
OK031				Sg	Sg	03 07 51.5	-0.3
QUOK	**Quay**	**0.

	comp=Z,12nm,0.8s				
N35A	Tabor	4.93	10	IAmb_Lg	03 10 34.0
	comp=Z,14nm,0.8s				
P40A	Paris	5.12	45	IAmb_Lg	03 10 37.6
	comp=Z,18nm,0.8s				
PBMO	Poplar Bluff	5.16	80	IAmb_Lg	03 10 36.5
	comp=Z,14nm,0.8s				
N38A	Joes South For	5.52	29	IAmb_Lg	03 10 50.8
	comp=Z,15nm,0.7s				
KSCO	Kaye Shedlock'	5.55	304	IAmb_Lg	03 10 58.9
	comp=Z,8.9nm,0.8s				
S44A	Carbondale	6.24	72	IAmb_Lg	03 11 05.0
	comp=Z,12nm,0.7s				
SIUC	Southern Illin	6.28	72	IAmb_Lg	03 11 03.7
	comp=Z,11nm,0.8s				
SCIA	State Center	6.51	24	IAmb_Lg	03 11 22.6
	comp=Z,13nm,0.8s				
PLAL	Pickwick Lake	7.15	96	IAmb_Lg	03 11 36.4
	comp=Z,4.5nm,1.1s				
K38A	Parkersburg	7.32	24	IAmb_Lg	03 11 47.6
	comp=Z,8.4nm,0.8s				
L40A	Anamosa	7.42	34	IAmb_Lg	03 11 43.0
	comp=Z,8.5nm,1.0s				
L42A	Oliver, Polo	8.14	40	IAmb_Lg	03 12 19.0
	comp=Z,9.8nm,0.9s				
JFWS	Jewell Farm	8.54	34	IAmb_Lg	03 12 25.3
	comp=Z,5.3nm,0.8s				
WCI	Wyandotte Cave	8.64	72	IAmb_Lg	03 12 31.8

IDC 28 03:34:47.4±6.5, 2.76S×138.48E, h67km±62km, mb3.6/5, mb1 3.8/7, mb1mx3.5/41, mbtmp4.0/7, ML4.2/2, Error ellipse: s-maj=61.2km s-min=23.3km az=83.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	7.45	284	P	Pn	03 36 32.6	-0.9
	2.1nm,0.3s,baz=190,slow=21,SNR=13						
WRA	Warramunga Arr	17.55	193	P	Pn	03 38 47.2	-0.4
	1.2nm,0.3s,baz=17,slow=12,SNR=28						
ASAR	Alice Springs	21.25	192	P	P	03 39 28.3	+0.2
	4.5nm,0.7s,baz=21,slow=11,SNR=41						
KLR	Kul'dur	52.11	354	P	P	03 43 50.7	+0.1
	0.6nm,0.4s,baz=151,slow=6.4,SNR=4.1						
PETK	Petropavlovsk-	57.97	14	P	P	03 44 33.0	+0.2
	0.8nm,0.6s,baz=187,slow=10,SNR=3.5						
MKAR	Makanchi Array	69.69	323	P	P	03 45 50.4	+0.3
	0.8nm,0.7s,baz=113,slow=7.6,SNR=6.7						
ILAR	Eielson Array	85.98	24	P	P	03 47 19.4	-0.6
	0.3nm,0.8s,baz=248,slow=4.8,SNR=2.8						

*IDC **28** 03:36:13.1±1.2, 27.73N×85.78E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.5/56, mbtmp3.8/6, ML2.9/1, Error ellipse: s-maj=42.7km s-min=22.1km az=61.0*

ISC 28 03:36:16.0±1.3, 27.7N±0.2×85.8E±0.2, h19km, n7, σ0.57/7, mb4.1/5, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.21	125	Pn	P	03 39 54.4	-0.4
	0.7nm,0.3s,baz=305,slow=11,SNR=6.9						
MKAR	Makanchi Array	19.22	353	P	P	03 40 38.2	-0.6
	0.0nm,0.3s,baz=173,slow=13,SNR=3.0						
KURBB	Kurchatov Arra	23.51	348	P	P	03 41 24.2	-0.4
	0.3nm,0.3s,baz=172,slow=10,SNR=2.7						
SONM	Songino Array	25.69	33	P	P	03 41 45.6	+0.7
	1.0nm,0.6s,baz=215,slow=12,SNR=5.3						
KEST	Kesra	64.01	298	P	P	03 46 48.8	+0.2
	3.7nm,0.9s,baz=28,slow=14,SNR=4.3						
WRA	Warramunga Arr	66.73	130	P	P	03 47 06.5	+0.3
	1.4nm,0.6s,baz=324,slow=6.7,SNR=10						
ASAR	Alice Springs	69.04	133	P	P	03 47 20.6	-0.1
	0.8nm,0.6s,baz=316,slow=6.1,SNR=8.4						

*IDC **28** 03:36:24.3±1.6, 52.51N×169.27W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/64, mbtmp3.7/10, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=46.4km s-min=17.4km az=175.0*

*AEIC **28** 03:36:26.2±1.1, 51.98N±0.04×169.25W±0.08, h33km±3km, Error ellipse: s-maj=7.4km s-min=5.7km az=67.0*

*NEIC **28** 03:36:26.5±1.6, 52.00N±0.07×169.22W±0.07, h24km±7km, mb3.6/3, ML3.3/29(AEIC), Error ellipse: s-maj=10.5km s-min=5.9km az=174.0*

ISC 28 03:36:26.0±3.0, 52.0N±0.1×169.26W±0.07, h23km±21km, n39, σ1.01/46, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.98	14		Pn	03 36 44.2	-0.1
NIKH				Sn	Sn	03 36 57.4	-0.2
OKSP	Okmok Steeple	1.37	25		Pn	03 36 50.0	+0.3
OKTU	Okmok Mt. Tuli	1.55	28		Pn	03 36 52.6	+0.4
OKNC	Okmok New Cone	1.59	25		Sb	03 37 14.3	-0.2
OKFG	Magazine Ridge	1.61	30		Pn	03 36 53.6	+0.5
OKFG					Sn	03 37 14.0	+0.8
MAPS	Pakushin South	2.27	37		Pn	03 37 02.7	+0.6
MAPS					Sn	03 37 29.7	+0.3
MSW	Makushin Switc	2.42	37		Pn	03 37 05.1	+1.0
MSW					Sn	03 37 34.1	+1.2
MNAT	Makushin Natee	2.43	39		Pn	03 37 05.2	+0.9
MNAT					Sn	03 37 33.5	+0.3
UNV	Unalaska Valle	2.47	41		Pn	03 37 05.4	+0.6
UNV					Sn	03 37 34.6	+0.3
MTBL	Makushin Table	2.50	38		Pn	03 37 06.3	+1.0
AKMO	Akutan Morgan	2.85	42		Pn	03 37 11.0	+0.9
AKUT	Akutan	2.98	43	Pn	Pn	03 37 12.8	+1.0
KOFP	Korovin Flat P	2.99	277		Pn	03 37 12.6	+0.6
ATKA	Atka Island	3.05	275		Pn	03 37 12.7	0.0
GSMY	Great Sitkin M	4.20	273		Pn	03 37 28.5	0.0
GSTR	Great Sitkin T	4.20	274	Pn	Pn	03 37 29.1	+0.5
ADK	Adak	4.59	271	Pn	Pn	03 37 34.1	+0.1
KIWB	Kanaga Island	4.89	271	Pn	Pn	03 37 38.3	+0.3
KIMD	Kanaga Island	4.95	270		Pn	03 37 39.0	+0.2
SPIA	Saint Paul Isl	5.20	354		Pn	03 37 44.4	+2.2
TAPA	Tanaga Point A	5.30	271		Pn	03 37 44.2	+0.5
AMKA	Amchitka	7.14	269		Pn	03 38 10.0	+1.1
KDAK	Kodiak Island	11.19	52	Pn	Pn	03 39 03.2	-1.0
	0.2nm,0.3s,baz=234,slow=7.4,SNR=7.1						
KDAK				Sn	Sn	03 41 05.2	-3.2
	0.1nm,0.3s,baz=198,slow=19,SNR=1.1						
KDAK	Kodiak Island	11.19	52		Pn	03 39 05.8	+1.5
SCM	Sheep Creek Mo	15.40	42	Pn	Pn	03 40 00.4	-1.3
SCM				IAmb	IAmb	03 40 17.1	
	comp=Z,8.3nm,1.0s						
KLU	Klutina	15.84	44	Pn	Pn	03 40 05.7	-1.6
KLU				IAmb	IAmb	03 40 13.5	
	comp=Z,3.2nm,0.7s						
N25K	Chitina, Valde	16.46	45	Pn	Pn	03 40 14.4	-0.8
N25K				IAmb	IAmb	03 40 30.3	
	comp=Z,3.8nm,0.9s						
PETK	Petropavlovsk-	20.02	286	P	P	03 40 56.3	-0.6
	comp=Z,0.5nm,0.3s,baz=86,slow=13,SNR=15						
PDAR	Pinedale Array	40.40	79	P	P	03 44 04.5	+2.1
	comp=Z,0.2nm,0.6s,baz=287,slow=7.4,SNR=2.4						
PDAR	Pinedale Array	40.40	79	P	P	03 44 02.4	0.0
KSRS	Korea Array	45.51	277	P	P	03 44 44.3	+0.8
	comp=Z,0.7nm,0.6s,baz=49,slow=7.8,SNR=4.7						
KSRS				LR	LR	04 03 47.1	
	comp=Z,20nm,21.4s,baz=185,slow=36						
SONM	Songino Array	51.54	301	P	P	03 45 29.8	-0.1
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=2.6						
TXAR	Lajitas Array	52.69	89	P	P	03 45 40.1	+1.5
	comp=Z,0.2nm,0.6s,baz=323,slow=5.8,SNR=3.2						
TXAR	Lajitas Array	52.69	89	P	P	03 45 37.9	-0.7
KURK	Kurchatov	62.68	318	P	P	03 46 48.7	+0.2
KURBB	Kurchatov Arra	62.79	318	P	P	03 46 48.7	-0.5
	comp=Z,1.1nm,0.9s,baz=46,slow=7.0,SNR=8.2						
MKAR	Makanchi Array	64.09	314	P	P	03 46 57.1	-0.8
	comp=Z,0.2nm,0.4s,baz=34,slow=5.4,SNR=2.4						
FINES	FINESS Array B	66.22	352	P	P	03 47 11.2	-0.2
	comp=Z,1.4nm,0.6s,baz=28,slow=8.6,SNR=5.1						
AKTO	Aktyubinsk	70.35	330	P	P	03 47 37.3	-0.1
	comp=Z,0.9nm,0.6s,baz=54,slow=8.6,SNR=3.8						

*TRN **28** 03:51:15.3, 13.87N×58.47W, h102km, MD4.0*

ISC 28 03:51:13.2±2.5, 13.92N±0.04×58.4W±0.1, h10km, n32, σ1.65/45, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.31	232	eS	Sn	03 51 57.4	+2.3
BBGH	Gun Hill	1.37	236	i P	Pn	03 51 39.5	+1.1
BBGH				eS	Sg	03 51 59.3	+2.1
BCHC	Barbados, Cave	1.43	237	eS	Sg	03 52 00.2	+0.9
MPOM	Morne Pois Mar	2.44	283	eP	Pn	03 51 52.9	-0.3
MPOM				eS	Sn	03 52 21.8	-1.4
MCLT	Moule a Chique	2.48	266	eP	Pn	03 51 56.0	+2.4
SLBI	Saint Lucia, B	2.50	273	eP	Pn	03 51 54.6	+0.6
SLBI				eS	Sn	03 52 23.3	-1.4
MVM	Montagne Vaucl	2.50	285	eP	Pn	03 51 55.5	+1.5
SLCP	Castries, St.	2.52	272	eS	Sn	03 52 23.3	-1.7
ILAM	Ilet Lapin Mar	2.55	290	eP	Pn	03 51 55.0	+0.4
ILAM				eS	Sn	03 52 24.6	-1.1
LPMF	Morne Lapointe	2.58	285	eP	Pn	03 51 55.1	+0.1
ZAM	Aeronautique	2.63	285	eP	Pn	03 51 56.4	+0.6
TRMF	Trois Ilets	2.65	284	eP	Pn	03 51 56.4	+0.5
BIM	Bigot	2.66	283	eP	Pn	03 51 57.6	+1.4
BIM				eS	Sn	03 52 25.9	-2.6
FDF	Fort de France	2.79	287	eP	Pn	03 51 58.7	+0.7
FDF				eS	Sn	03 52 30.5	-1.3
BAMF	Morne Balai	2.81	289	eP	Pn	03 51 59.7	+1.4
PML	Morne Lenard	2.83	288	eP	Pn	03 52 00.5	+1.9
SVB	Belmont	2.85	257	eP	Pn	03 51 59.2	+0.4
SVB				eS	Sn	03 52 31.4	-1.8
PCM	Pelee Case Pet	2.87	288	eP	Pn	03 52 00.5	+1.4
GCMP	Grenada, Carri	3.27	245	eS	Sn	03 52 41.3	-2.3
DSLB	Salisbury	3.29	298	eP	Pn	03 52 05.1	+0.2
DSLB				eS	Sn	03 52 43.5	-0.7
TOSP	Speyside	3.34	219	eP	Pn	03 52 05.8	+0.4
TOSP				eS	Sn	03 52 42.9	-2.2
MAGL	Barre de l'ile	3.44	306	eP	Pn	03 52 08.1	+1.2
MAGL				eS	Sn	03 52 47.6	-0.3
GRGR	Grenville	3.64	241	eP	Pn	03 52 09.8	+0.2
GRGR				eS	Sn	03 52 50.5	-2.1
TBG	Guadaloupe-3	3.68	302	eP	Pn	03 52 11.0	+0.8
CBE	Ff, Capester	3.77	305	eP	Pn	03 52 12.7	+1.2
CBE				eS	Sn	03 52 54.6	-1.3
ABD	La Joyeuse, An	3.92	311	eP	Pn	03 52 14.9	+1.4
ABD				eS	Sn	03 52 57.6	-2.0
TRN	Trinidad (W)	4.38	222	eP	Pn	03 52 20.8	+1.0
TRN	Trinidad (W)	4.38	222	eS	Sn	03 53 06.5	-4.4
ANBD	Bethesda, Anti	4.50	314	eP	Pn	03 52 22.9	+1.4
ANBD	Bethesda, Anti	4.50	314	eS	Sn	03 53 11.1	-2.8
BPA	Boggy Peak	4.56	313	eP	Pn	03 52 23.2	+0.8
BPA	Boggy Peak	4.56	313	eS	Sn	03 53 13.1	-2.4

*ARE **28** 03:51:35.1±1.8, 9.86S±0.07×75.77W±0.07, h129km±6km, Error ellipse: s-maj=11.1km s-min=8.3km az=126.0*

*NEIC **28** 03:51:36.9±1.5, 9.94S±0.07×75.62W±0.08, h120km±7km, mb4.8/258, ML4.7(ARE), Error ellipse: s-maj=12.1km s-min=8.7km az=130.0*

*IDC **28** 03:51:37.6±1.0, 9.88S×75.76W, h120km±11km, mb4.1/11, mb1 4.3/18, mb1mx4.1/35, mbtmp4.5/18, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=15.1km s-min=8.8km az=74.0*

*VAO **28** 03:51:45.4±1.0, 9.65S×74.89W, h120km±7km, mb4.5*

ISC 28 03:51:35.8±0.4, 9.83S±0.05×75.65W±0.06, h100km, n444, σ1.06/385, mb4.8/137, 3D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.44	209	P	Pn	03 52 15.6	+1.4
	86nm,0.3s,baz=40,slow=3.7,SNR=185						
NNA				S	Sn	03 52 45.1	+1.4
	1μm,0.3s,baz=285,slow=19,SNR=26						
NNA				LR	LR	03 53 11.9	
	comp=Z,496nm,19.5s,baz=325,slow=40						
NNA	Nana	2.44	209	Pn	Pn	03 52 15.2	+1.0
NNA				Sn	Sn	03 52 44.3	+0.6
ATAH	Atahualpa	3.81	314	P	Pn	03 52 35.1	+2.2
	24nm,0.3s,baz=165,slow=5.0,SNR=188						
ATAH				S	Sn	03 53 19.4	+2.4
	28nm,0.3s,baz=266,slow=20,SNR=12						
TBTG	Tabatinga, AM	7.99	46	eP	Pn	03 53 30.4	+1.1
ETMB	Extrema	9.30	91	eP	Pn	03 53 46.7	-0.3
LPAZ	La Paz	9.74	132	P	Pn	03 53 55.4	+1.9
	0.5nm,0.3s,baz=322,slow=11,SNR=33						
LPAZ	La Paz	9.74	132	Pn	Pn	03 53 53.5	-0.1
LPAZ				Sn	Sn	03 55 38.9	-2.6
LPAZ	La Paz	9.74	132	eP	Pn	03 53 57.0	+3.5
PTLC	Puerto Leguiza	9.97	5	eP	Pn	03 53 50.6	-5.7
OTAV	Otavalo	10.38	344		Pn	03 54 03.1	+0.9
OTAV	Otavalo	10.38	344	eP	Pn	03 54 02.6	+0.4
CUSE	Cuicocha Este	10.43	345	eP	Pn	03 54 04.7	+1.8
PAC1	Pacto, Paraso	10.51	343	eP	Pn	03 54 05.8	+2.2
TULM	Tulcn-Chalpat	10.69	348	eP	Pn	03 54 05.7	-0.8
MNMC	Minye Minye	10.95	148	Pn	Pn	03 54 08.4	-1.3
GCUF	Volcan Galeras	11.11	351	eP	Pn	03 54 12.1	-0.1
PB11	IPOC Station P	11.45	150	Pn	Pn	03 54 15.4	-0.9
BBAC	Balboa, Cauca	11.88	352	eP	Pn	03 54 22.8	+0.6
SOTA	Rioblanco	11.93	355	eP	Pn	03 54 22.8	-0.2
MACC	Macarena, Meta	12.03	9	eP	Pn	03 54 23.1	-0.9
PCON	Cinco Dias	12.10	356	eP	Pn	03 54 26.8	+1.3
SAML	Samuel	12.33	87		Pn	03 54 27.1	-0.9
MARP	Paez Belalcaza	12.59	359	eP	Pn	03 54 32.0	+0.3
ORTC	Ortega, Tolima	13.65	2	eP	Pn	03 54 46.7	+1.3
YOTC	Yotoco, Valle	13.74	357	eP	Pn	03 54 46.7	+0.1
TOLC	Tolima	14.32	1	eP	P	03 55 00.0	+1.5
CHIC	Chingaza	14.49	8	eP	Pn	03 54 56.2	-0.4
ROSC	El Rosal	14.63	5	P	Pn	03 54 59.7	+1.3
	1.5nm,0.3s,baz=187,slow=19,SNR=1.9						
ROSC	El Rosal	14.63	5	P	Pn	03 54 59.5	+1.1
NORC	Norcasia	15.31	3	eP	P	03 55 10.9	+1.7
VILB	Vilhena	15.46	103	eP	Pn	03 55 08.8	+0.3
SIV	San Ignacio	15.47	115	P	Pn	03 55 09.7	+1.1
	1.3nm,0.3s,baz=299,slow=12,SNR=32						
CBOC	Ciudad Bolivar	15.60	359	eP	Pn	03 55 09.6	-0.8
RUSC	La Rusia	15.83	9		Pn	03 55 14.9	+1.4
RUSC				IAmb	IAmb	03 55 19.0	
	comp=Z,49nm,1.0s						
RUSC	La Rusia	15.83	9	eP	Pn	03 55 14.3	+0.8
MACA	Manacapuru-AM	16.27	67	eP	Pn	03 55 16.5	-2.1
BARC	Barichara	16.50	9	eP	Pn	03 55 23.9	+2.2
DBBC	Dabeiba	16.75	358	eP	Pn	03 55 26.6	+2.1
PTLB	Pontes e Lacer	17.05	111	eP	P	03 55 29.9	+1.5
ZARC	Zaragoza, Cauc	17.23	3	eP	P	03 55 30.5	+0.2
PAMC	Pamplona, Colo	17.31	10	eP	P	03 55 34.0	+2.2
UREC	San Jos de Ur	17.47	0	eP	P	03 55 33.4	+0.4
ELOV	Elorza	17.81	20	eP	P	03 55 37.6	+0.8
PTGA	Pitinga	18.03	61	P	P	03 55 40.1	+0.9
	comp=Z,7.5nm,0.3s,baz=238,slow=15,SNR=48						
PTGA	Pitinga	18.03	61	P	P	03 55 39.5	+0.3
PTGA				IAmb	IAmb	03 55 58.5	
	comp=Z,22nm,0.6s						
OCAC	Ocana	18.10	7	eP	P	03 55 39.7	-0.4
SMLC	San Martn de	18.58	5	eP	P	03 55 45.8	+0.7
SDV	Santo Domingo	19.25	15	P	P	03 55 54.5	+1.7
	comp=Z,5.7nm,0.3s,baz=197,slow=11,SNR=10						
SDV	Santo Domingo	19.25	15	P	P	03 55 53.4	+0.7
SDV				IAmb	IAmb	03 55 55.9	
	comp=Z,54nm,1.1s						
SDV	Santo Domingo	19.25	15	eP	P	03 55 54.7	+2.0
BOAV	Boa Vista	19.35	52	eP	P	03 55 55.2	+1.6
CLDB	Colider	19.56	95	eP	P	03 55 56.6	+0.6
SJCC	San Jacinto, C	19.60	1	P	P	03 55 57.5	+1.1
SJCC	San Jacinto, C	19.60	1	eP	P	03 55 56.3	-0.1
NPGB	Novo Progresso	20.26	84	eP	P	03 56 02.2	-1.3
SALV	Santo Antonio	20.36	109	eP	P	03 56 04.9	+0.4
DRK0	Durika	20.42	338	P	P	03 56 06.3	+1.0
DRK0				IAmb	IAmb	03 56 08.0	
	comp=Z,36nm,0.8s						
SRBA	San Rafael, Bu	20.43	338	P	P	03 56 06.2	+0.8
ITTB	Itaituba	20.49	76	eP	P	03 56 06.6	+0.6
RIMA	Rio Macho	21.11	337	P	P	03 56 12.8	-0.1
PP1B	Ponte de Pedra	21.59	113	eP	P	03 56 18.3	+0.5
AQDB	Aquidauana	21.95	121	eP	P	03 56 23.3	+1.8
COVE	Coope Vega, Sa	22.19	337	P	P	03 56 20.6	+1.9
COVE				IAmb	IAmb	03 56 27.8	
	comp=Z,38nm,1.0s						
MALB	Monte Alegre	22.69	71	eP	P	03 56 29.0	-0.3
PCRV	Puerto La Cruz	22.70	29	P	P	03 56 30.6	+1.2
	comp=Z,12nm,0.7s,baz=230,slow=3.4,SNR=7.2						
PLCV	Puerto La Cruz	22.71	29	P	P	03 56 30.6	+1.1
CPUP	Villa Florida	23.88	136	P	P	03 56 41.0	+0.8
	comp=Z,2.2nm,0.6s,baz=337,slow=11,SNR=6.6						
CPUP	Villa Florida	23.88	136	P	P	03 56 39.0	-1.2
ARAG	Araguaiana, MT	23.96	107	eP	P	03 56 42.8	+1.7
SNDB	Serra Nova Dou	24.01	97	eP	P	03 56 42.5	+0.9
MCPB	Macapa, AP	25.29	70	eP	P	03 56 54.2	+1.0
TRCB	Terra Rica	25.53	123	eP	P	03 56 58.0	+2.7
PRPB	Parauapebas	25.84	84	eP	P	03 56 58.7	+0.5
PCMB	Pacaembu	26.19	119	eP	P	03 57 03.7	+2.4
ITRB	Iturama	26.32	115	eP	P	03 57 05.4	+2.9
PEXB	Peixe	26.94	97	eP	P	03 57 09.4	+1.2
MTO3	Montecristo	27.65	330	P	P	03 57 14.6	0.0
SJG	San Juan	29.31	19	P	P	03 57 29.5	+0.5
	comp=Z,15nm,0.7s,baz=149,slow=3.8,SNR=8.6						
SJG	San Juan	29.31	19	P	P	03 57 28.5	-0.6
SJG				IAmb	IAmb	03 57 30.0	
	comp=Z,17nm,0.7s						
STVI	Saint Thomas	29.93	21	P	P	03 57 33.4	-1.1
SDBA	SAO DESIDERIO	30.27	98	eP	P	03 57 38.9	+1.1
VAO	Valinhos	30.40	119	eP	P	03 57 40.3	+1.4
JANB	Januaria	31.02	103	eP	P	03 57 44.9	+0.6
PLCA	Paso Flores	31.11	172	eP	P	03 57 52.2	+7.4
BSCB	Bom Sucesso	31.70	114	eP	P	03 57 54.0	+3.6
ROSB	Rosrio	32.06	80	eP	P	03 57 54.8	+1.3
DIAM	Diamantina, MG	32.10	109	eP	P	03 57 56.8	+2.9
NBPN	Ponto Novo - B	34.88	95	eP	P	03 58 19.0	+1.0
GDU01	Guandu, BA	35.51	100	eP	P	03 58 24.9	+1.5
NBPB	Pedra_Branca-C	35.98	86	eP	P	03 58 28.9	+1.4
NBMA	Muriti-CE	36.54	89	eP	P	03 58 33.4	+1.1
BRAL	Brewton	42.21	345	P	P	03 59 18.5	-0.4
	baz=163						
250A	Grady	42.80	347	P	P	03 59 22.8	-0.9
250A				IAmb	IAmb	03 59 24.0	
	comp=Z,24nm,1.1s						
152A	Waverly Hall	43.14	349	P	P	03 59 25.8	-0.7
152A				IAmb	IAmb	03 59 26.6	
	comp=Z,10.0nm,0.8s						
GOGA	Godfrey	43.64	351	P	P	03 59 29.2	-1.3
	baz=169						
Z51A	Franklin	43.85	348	P	P	03 59 31.7	-0.5
833A	Chaparral WMA,	44.34	329	P	P	03 59 36.5	+0.3
	baz=146						
Z47A	Carrollton	44.40	345	P	P	03 59 35.7	-0.8
Y49A	Blount Mountai	44.63	347	P	P	03 59 37.2	-1.3
Y49A				IAmb	IAmb	03 59 38.0	
	comp=Z,12nm,0.7s						
CNNC	Cliffs of the	44.87	357	P	P	03 59 40.3	0.0
	baz=177						
W57A	Gilead	44.93	355	P	P	03 59 40.0	-0.7
W57A				IAmb	IAmb	03 59 41.3	
	comp=Z,12nm,0.9s						
KMSC	Kings Mountain	45.05	353	P	P	03 59 41.5	-0.3
	baz=172						
KMSC	Kings Mountain	45.05	353	P	P	03 59 41.4	-0.3
FPAL	Fort Paine	45.13	348	P	P	03 59 41.3	-1.1
FPAL				IAmb	IAmb	03 59 42.0	
	comp=Z,17nm,0.7s						
NATX	Nacogdoches	45.18	337	P	P	03 59 43.1	+0.3
	baz=153						
X48A	Hartselle	45.35	347	P	P	03 59 43.0	-1.0
X48A				IAmb	IAmb	03 59 43.7	
	comp=Z,12nm,1.0s						
Y45A	Yeager Farm, C	45.42	344	P	P	03 59 44.2	-0.4
V58A	Windy Hill, Pi	45.50	356	P	P	03 59 45.0	-0.2
V58A				IAmb	IAmb	03 59 46.0	
	comp=Z,15nm,0.9s						
W50A	Signal Mountai	45.71	349	P	P	03 59 46.4	-0.6
W50A				IAmb	IAmb	03 59 46.8	
	comp=Z,14nm,0.7s						
SWET	Sewanee	45.84	348	P	P	03 59 46.9	-1.2
SWET				IAmb	IAmb	03 59 47.6	
	comp=Z,14nm,0.7s						
U59A	Littleton	45.98	358	P	P	03 59 49.0	0.0
U59A				IAmb	IAmb	03 59 50.2	
	comp=Z,12nm,0.8s						
OXF	Oxford	45.99	344	P	P	03 59 47.9	-1.2
	baz=161,SNR=5.2						
OXF	Oxford	45.99	344	P	P	03 59 48.4	-0.8
V52A	Sevierville	46.04	351	P	P	03 59 48.7	-0.8
V52A				IAmb	IAmb	03 59 49.5	
	comp=Z,9.9nm,0.8s						
PLAL	Pickwick Lake	46.09	346	P	P	03 59 48.7	-1.2
PLAL				IAmb	IAmb	03 59 49.7	
	comp=Z,16nm,0.8s						
V51A	Loudon	46.12	350	P	P	03 59 49.3	-0.9
V51A				IAmb	IAmb	03 59 50.0	
	comp=Z,8.4nm,0.7s						
WLAR	White Oak Lake	46.35	340	P	P	03 59 52.2	+0.2
WLAR				IAmb	IAmb	03 59 53.5	
	comp=Z,32nm,1.2s						
WHTX	Lake Whitney,	46.52	334	P	P	03 59 53.3	0.0
	baz=150						
WHTX	Lake Whitney,	46.52	334	P	P	03 59 53.1	-0.2
WHTX				IAmb	IAmb	03 59 55.2	
	comp=Z,18nm,1.1s						
V48A	Smith Brothers	46.53	347	P	P	03 59 52.5	-0.9
T59A	Double "B" Far	46.59	358	P	P	03 59 53.5	-0.3
T59A				IAmb	IAmb	03 59 54.9	
	comp=Z,18nm,0.8s						
T57A	Hurt	46.70	356	P	P	03 59 54.8	+0.2
TZTN	Tazewell	46.72	351	P	P	03 59 55.6	+0.7
	baz

T42A				IAmb	IAmb	04 00 10.2
	comp=Z,13nm,0.7s					
WCI	**Wyandotte Cave**	**48.83 349**	P	**P**	**04 00 09.4**	**-1.7**
	baz=166					
WCI	**Wyandotte Cave**	**48.83 349**	P	**P**	**04 00 09.6**	**-1.5**
WCI			IAmb	IAmb	04 00 10.4	
	comp=Z,12nm,1.1s					
USIN	**University of**	**48.86 347**	P	**P**	**04 00 09.3**	**-1.9**
Q52A	**Bidwell**	**48.93 353**	P	**P**	**04 00 10.7**	**-1.1**
Q52A			IAmb	IAmb	04 00 12.0	
	comp=Z,16nm,1.1s					
X34A	**Smith Ranch, M**	**48.94 336**	P	**P**	**04 00 11.8**	**-0.2**
X34A			IAmb	IAmb	04 00 13.2	
	comp=Z,15nm,0.8s					
S44A	**Carbondale**	**48.96 346**	P	**P**	**04 00 10.6**	**-1.5**
SIUC	**Southern Illin**	**48.97 346**	P	**P**	**04 00 10.7**	**-1.5**
HHAR	**Hobbs**	**48.99 340**	P	**P**	**04 00 11.4**	**-1.0**
HHAR			IAmb	IAmb	04 00 12.7	
	comp=Z,15nm,0.9s					
MGMO	**Mountain Grove**	**49.27 342**	P	**P**	**04 00 13.8**	**-0.7**
U38A	**Gravette**	**49.29 340**	P	**P**	**04 00 13.9**	**-0.7**
U38A			IAmb	IAmb	04 00 14.8	
	comp=Z,11nm,0.8s					
TUL1	**Leonard**	**49.30 338**	P	**P**	**04 00 14.0**	**-0.7**
	baz=154,SNR=5.2					
FNO	**Franklin**	**49.34 336**	P	**P**	**04 00 14.3**	**-0.7**
P53A	**Whipple**	**49.35 354**	P	**P**	**04 00 14.2**	**-0.8**
P53A			IAmb	IAmb	04 00 15.5	
	comp=Z,11nm,0.9s					
MCWV	**Mont Chateau**	**49.39 356**	P	**P**	**04 00 15.1**	**-0.3**
	baz=174					
WMOK	**Wichita Mounta**	**49.45 335**	P	**P**	**04 00 15.5**	**-0.4**
	baz=150					
WMOK	**Wichita Mounta**	**49.45 335**	P	**P**	**04 00 14.9**	**-1.0**
P52A	**Corning**	**49.58 353**	P	**P**	**04 00 15.5**	**-1.3**
	baz=172					
P52A	**Corning**	**49.58 353**	P	**P**	**04 00 15.2**	**-1.6**
P52A			IAmb	IAmb	04 00 16.7	
	comp=Z,13nm,1.1s					
MVL	**Millersville**	**49.58 359**	P	**P**	**04 00 17.1**	**+0.4**
MVL			IAmb	IAmb	04 00 18.3	
	comp=Z,11nm,0.9s					
OLIL	**Olney**	**49.69 347**	P	**P**	**04 00 15.8**	**-1.8**
OK031	**S. Brethren Rd**	**49.73 337**	P	**P**	**04 00 17.5**	**-0.5**
OK031			IAmb	IAmb	04 00 19.1	
	comp=Z,9.8nm,0.9s					
BLO	**Bloomington**	**49.79 349**	P	**P**	**04 00 16.8**	**-1.5**
CCM	**Cathedral Cave**	**49.82 344**	P	**P**	**04 00 17.0**	**-1.6**
	baz=160					
CCM	**Cathedral Cave**	**49.82 344**	P	**P**	**04 00 16.9**	**-1.8**
CCM			IAmb	IAmb	04 00 19.7	
	comp=Z,5.8nm,0.7s					
OK029	**Liberty Lake**	**49.83 337**	P	**P**	**04 00 17.7**	**-1.0**
OK029			IAmb	IAmb	04 00 18.8	
	comp=Z,11nm,0.7s					
P49A	**Miami Univ. Ec**	**49.83 351**	P	**P**	**04 00 16.6**	**-2.1**
	baz=168					
P49A	**Miami Univ. Ec**	**49.83 351**	P	**P**	**04 00 17.0**	**-1.7**
P49A			IAmb	IAmb	04 00 17.8	
	comp=Z,14nm,1.0s					
P48A	**Milroy**	**49.87 350**	P	**P**	**04 00 17.0**	**-2.0**
P48A			IAmb	IAmb	04 00 20.9	
	comp=Z,8.4nm,0.8s					
O56A	**Blue Knob Stat**	**49.92 357**	P	**P**	**04 00 19.7**	**+0.3**
	baz=176,SNR=7.0					
O56A	**Blue Knob Stat**	**49.92 357**	P	**P**	**04 00 19.4**	**0.0**
O56A			IAmb	IAmb	04 00 20.6	
	comp=Z,13nm,0.8s					
O52A	**Adamsville**	**50.02 354**	P	**P**	**04 00 19.2**	**-0.9**
O52A			IAmb	IAmb	04 00 20.0	
	comp=Z,12nm,1.0s					
Q44A	**Meyer Farm, Va**	**50.06 346**	P	**P**	**04 00 18.7**	**-1.6**
O53A	**New Philadelph**	**50.09 354**	P	**P**	**04 00 19.4**	**-1.2**
	baz=173					
MNTX	**Cornudas Mount**	**50.15 327**	P	**P**	**04 00 20.5**	**-0.8**
	baz=141,SNR=8.5					
MNTX	**Cornudas Mount**	**50.15 327**	P	**P**	**04 00 20.4**	**-0.8**
SSPA	**Standing Stone**	**50.25 358**	P	**P**	**04 00 21.8**	**0.0**
	baz=177					
SSPA	**Standing Stone**	**50.25 358**	P	**P**	**04 00 21.2**	**-0.6**
SSPA			IAmb	IAmb	04 00 22.5	
	comp=Z,8.4nm,0.8s					
ACSO	**Alum Creek Sta**	**50.27 353**	P	**P**	**04 00 20.9**	**-1.0**
	baz=171,SNR=6.5					
ACSO	**Alum Creek Sta**	**50.27 353**	P	**P**	**04 00 20.8**	**-1.1**
ACSO			IAmb	IAmb	04 00 21.8	
	comp=Z,21nm,1.1s					
R40A	**Maddies Statio**	**50.33 343**	P	**P**	**04 00 21.0**	**-1.4**
P46A	**Rosedale**	**50.35 348**	P	P	04 00 19.1	-3.5
O49A	**Covington**	**50.41 351**	P	**P**	**04 00 21.4**	**-1.6**
O49A			IAmb	IAmb	04 00 22.5	
	comp=Z,12nm,0.9s					
N58A	**Sunbury**	**50.42 359**	P	**P**	**04 00 22.5**	**-0.6**
N58A			IAmb	IAmb	04 00 24.4	
	comp=Z,9.9nm,0.9s					
T35A	**Sooner Cattle**	**50.46 338**	P	**P**	**04 00 22.9**	**-0.6**
T35A			IAmb	IAmb	04 00 25.0	
	comp=Z,8.1nm,0.9s					
N59A	**State Game Lan**	**50.49 360**	P	**P**	**04 00 24.0**	**+0.4**
	baz=180					
N59A	**State Game Lan**	**50.49 360**	P	**P**	**04 00 22.9**	**-0.7**
N59A			IAmb	IAmb	04 00 25.3	
	comp=Z,8.1nm,0.8s					
BLOK	**Blackwell**	**50.58 338**	P	**P**	**04 00 23.9**	**-0.5**
BLOK			IAmb	IAmb	04 00 25.0	
	comp=Z,14nm,0.8s					
PAL	**Palisades**	**50.61 2**	P	**P**	**04 00 24.2**	**-0.3**
	baz=182					
MSTX	**Muleshoe**	**50.61 331**	P	**P**	**04 00 24.1**	**-0.7**
	baz=145					
MSTX	**Muleshoe**	**50.61 331**	P	**P**	**04 00 23.7**	**-1.1**
N54A	**Moraine State**	**50.70 356**	P	**P**	**04 00 24.7**	**-0.5**
	baz=174,SNR=5.8					
N54A	**Moraine State**	**50.70 356**	P	**P**	**04 00 24.5**	**-0.7**
N54A			IAmb	IAmb	04 00 25.9	
	comp=Z,22nm,1.2s					
WSPT	**Westport, CT**	**50.79 2**	P	**P**	**04 00 25.5**	**-0.3**
P43A	**Skaggs, Pawnee**	**50.88 346**	P	**P**	**04 00 25.4**	**-1.1**
M57A	**Sunshine Farm,**	**50.93 359**	P	**P**	**04 00 26.1**	**-0.8**
M57A			IAmb	IAmb	04 00 28.3	
	comp=Z,20nm,1.1s					
SFIN	**Lafayette**	**51.07 349**	P	**P**	**04 00 26.0**	**-1.9**
	baz=166,SNR=6.9					
M55A	**Ridgway**	**51.12 357**	IAmb	IAmb	04 00 28.6	
	comp=Z,8.1nm,0.8s					
M54A	**Oil Creek Stat**	**51.22 356**	P	**P**	**04 00 28.6**	**-0.5**
	baz=175,SNR=5.9					
M54A	**Oil Creek Stat**	**51.22 356**	IAmb	IAmb	04 00 29.5	
	comp=Z,12nm,0.7s					
M64A	**Tiverton**	**51.29 4**	P	**P**	**04 00 30.2**	**+0.6**
	baz=186					
P40A	**Paris**	**51.42 344**	IAmb	IAmb	04 00 29.9	
	comp=Z,9.0nm,0.6s					
L58A	**Harry Jones Me**	**51.62 360**	P	**P**	**04 00 32.7**	**+0.6**
	baz=180,SNR=6.3					
HDIL	**Hopedale**	**51.70 347**	P	**P**	**04 00 31.0**	**-1.7**
	baz=163,SNR=11					
L56A	**Greenwood**	**51.74 358**	IAmb	IAmb	04 00 33.3	
	comp=Z,10nm,0.7s					
L59A	**Walton**	**51.77 1**	P	**P**	**04 00 32.9**	**-0.3**
L59A			IAmb	IAmb	04 00 34.6	
	comp=Z,13nm,0.9s					
BINY	**Binghamton**	**51.77 360**	P	**P**	**04 00 33.6**	**+0.3**
	baz=180,SNR=7.0					
ERPA	**Erie**	**51.85 356**	P	**P**	**04 00 33.0**	**-0.7**
	baz=174					
P38A	**Dawn**	**51.93 342**	IAmb	IAmb	04 00 34.1	
	comp=Z,29nm,1.5s					
121A	**Cookes Peak, D**	**52.11 325**	P	**P**	**04 00 36.7**	**+0.6**
	baz=139					
121A	**Cookes Peak, D**	**52.11 325**	IAmb	IAmb	04 00 37.6	
	comp=Z,9.2nm,1.1s					
319A	**Douglas**	**52.12 323**	IAmb	IAmb	04 00 37.5	
	comp=Z,14nm,0.8s					
L48A	**N Adams**	**52.15 352**	IAmb	IAmb	04 00 35.1	
	comp=Z,10nm,0.6s					
HRV	**Adam Dziewonsk**	**52.22 4**	P	**P**	**04 00 37.2**	**+0.7**
	baz=185					
K56A	**Middlesex**	**52.30 358**	P	**P**	**04 00 36.7**	**-0.5**
	baz=178					
MMNY	**Mt. Morris Dam**	**52.35 358**	IAmb	IAmb	04 00 37.9	
	comp=Z,11nm,0.9s					
J58A	**Remsen**	**52.94 0**	P	**P**	**04 00 41.8**	**0.0**
	baz=180					
J57A	**Williamstown**	**52.98 360**	IAmb	IAmb	04 00 42.9	
	comp=Z,12nm,1.1s					
J59A	**Piesco**	**53.05 1**	IAmb	IAmb	04 00 43.8	
	comp=Z,9.3nm,0.8s					
ANMO	**Albuquerque**	**53.23 328**	P	**P**	**04 00 44.1**	**-0.2**
	baz=141					
I58A	**Old Forge**	**53.27 1**	P	**P**	**04 00 44.1**	**-0.1**
	baz=181					
CBKS	**Cedar Bluff**	**53.34 337**	P	**P**	**04 00 44.4**	**-0.5**
	baz=150					
I59A	**Olmsteadville**	**53.39 2**	P	**P**	**04 00 45.3**	**+0.1**
	baz=182					
I60A	**Shoreham**	**53.46 2**	P	**P**	**04 00 46.5**	**+1.0**
	baz=183					
I57A	**Carthage**	**53.51 360**	P	**P**	**04 00 46.4**	**+0.4**
	baz=180					
NCB	**Newcomb**	**53.56 1**	IAmb	IAmb	04 00 47.0	
	comp=Z,4.5nm,0.6s					
L40A	**Anamosa**	**53.58 346**	IAmb	IAmb	04 00 45.8	
	comp=Z,17nm,0.9s					
TUC	**Tucson**	**53.68 323**	P	**P**	**04 00 47.6**	**0.0**
	baz=135					
TUC	**Tucson**	**53.68 323**	P	**P**	**04 00 46.9**	**-0.7**
I64A	**Boothbay**	**53.77 5**	P	**P**	**04 00 48.0**	**+0.1**
	baz=187					
I63A	**Otisfield**	**53.82 5**	P	**P**	**04 00 48.7**	**+0.4**
	baz=186					
LBNH	**Lisbon**	**53.92 3**	P	**P**	**04 00 49.2**	**+0.2**
	baz=184					
T25A	**Trinidad**	**53.95 332**	P	**P**	**04 00 49.5**	**-0.1**
	baz=144,SNR=10					
T25A	**Trinidad**	**53.95 332**	IAmb	IAmb	04 00 50.7	
	comp=Z,9.7nm,1.1s					
H58A	**Gabriels**	**54.01 1**	P	**P**	**04 00 49.7**	**+0.1**
	baz=182					
H57A	**Richville**	**54.04 0**	P	**P**	**04 00 49.6**	**-0.2**
	baz=180,SNR=8.4					
DELO	**Deloro Mine**	**54.12 358**	IAmb	IAmb	04 00 50.5	
	comp=Z,14nm,0.8s					
JFWS	**Jewell Farm**	**54.16 347**	P	**P**	**04 00 48.9**	**-1.9**
	baz=162,SNR=6.6					
JFWS	**Jewell Farm**	**54.16 347**	IAmb	IAmb	04 00 49.8	
	comp=Z,8.2nm,0.8s					
LONY	**Lake Ozonia**	**54.20 1**	P	**P**	**04 00 50.8**	**-0.2**
	baz=181					
LONY	**Lake Ozonia**	**54.20 1**	P	**P**	**04 00 50.6**	**-0.4**
SADO	**Sadowa**	**54.44 357**	IAmb	IAmb	04 00 52.2	
	comp=Z,10.0nm,0.8s					
FRNY	**Flat Rock**	**54.44 2**	IAmb	IAmb	04 00 53.5	
	comp=Z,10nm,0.7s					
PLVO	**Plevna**	**54.63 359**	IAmb	IAmb	04 00 54.4	
	comp=Z,8.7nm,0.9s					
214A	**Organ Pipe Nat**	**54.67 321**	P	**P**	**04 00 54.0**	**-0.7**
	baz=133					
214A	**Organ Pipe Nat**	**54.67 321**	IAmb	IAmb	04 00 56.0	
	comp=Z,7.9nm,0.9s					
KSCO	**Kaye Shedlock'**	**54.70 334**	P	**P**	**04 00 54.4**	**-0.5**
	baz=147					
SDCO	**Great Sand Dun**	**54.96 331**	P	**P**	**04 00 56.8**	**-0.2**
	baz=143,SNR=18					
G63A	**Kingsbury**	**54.96 5**	P	**P**	**04 00 56.5**	**+0.1**
	baz=187					
G61A	**St-Isidore-de-**	**54.98 4**	P	**P**	**04 00 57.3**	**+0.6**
	baz=185					
G62A	**West of Eustis**	**54.99 4**	P	**P**	**04 00 57.1**	**+0.4**
	baz=186					
BGNE	**Belgrade**	**55.03 339**	P	**P**	**04 00 56.3**	**-0.8**
	baz=153					
W18A	**Petrified Fore**	**55.11 326**	P	**P**	**04 00 57.9**	**-0.1**
	baz=138					
PKME	**Peaks-Kenny Pk**	**55.14 5**	P	**P**	**04 00 57.9**	**+0.2**
	baz=188					
G64A	**Maxfield**	**55.18 6**	P	**P**	**04 00 58.1**	**+0.1**
	baz=188					
G65A	**Princeton**	**55.26 7**	P	**P**	**04 00 59.2**	**+0.6**
	baz=190					
S22A	**4UR Ranch, Cre**	**55.60 330**	P	**P**	**04 01 01.2**	**-0.4**
	baz=142					
F64A	**Sherman**	**55.83 6**	P	**P**	**04 01 03.2**	**+0.5**
	baz=189					
I37A	**Lemond, Waseca**	**55.96 345**	IAmb	IAmb	04 01 02.7	
	comp=Z,8.6nm,0.6s					
MVCO	**Mesa Verde**	**56.02 329**	P	**P**	**04 01 04.0**	**-0.5**
	baz=140					
OGNE	**Ogallala**	**56.08 336**	P	**P**	**04 01 04.6**	**-0.1**
	baz=148					
LMN	**Caledonia Moun**	**56.28 9**	IAmb	IAmb	04 01 07.0	
	comp=Z,15nm,1.1s					
WUAZ	**Wupatki**	**56.32 325**	P	**P**	**04 01 06.6**	**0.0**
	baz=136					
E63A	**Oxbow**	**56.37 6**	P	**P**	**04 01 07.4**	**+0.8**
	baz=188					
E64A	**Bridgewater**	**56.43 6**	P	**P**	**04 01 06.9**	**-0.1**
	baz=189					
E62A	**Clayton Lake**	**56.46 5**	P	**P**	**04 01 07.6**	**+0.4**
	baz=187					
E46A	**Sault Ste Mari**	**56.48 353**	IAmb	IAmb	04 01 06.2	
	comp=Z,9.6nm,0.8s					
ECSD	**EROS Data Cent**	**56.62 342**	P	**P**	**04 01 07.0**	**-1.3**
	baz=155,SNR=17					
ECSD	**EROS Data Cent**	**56.62 342**	IAmb	IAmb	04 01 08.0	
	comp=Z,12nm,0.8s					
ISCO	**Idaho Springs**	**56.66 333**	P	**P**	**04 01 08.7**	**-0.5**
	baz=144					
E43A	**Lone Tree Farm**	**56.87 351**	IAmb	IAmb	04 01 09.1	
	comp=Z,19nm,1.1s					
PV15	**Paradox Valley**	**56.88 329**	IAmb	IAmb	04 01 11.8	
	comp=Z,7.4nm,0.9s					
SPMN	**Marine on St.**	**56.94 346**	P	**P**	**04 01 09.1**	**-1.5**
	baz=160,SNR=6.0					
D62A	**Allapoint, All**	**56.96 5**	P	**P**	**04 01 10.6**	**-0.1**
	baz=188					
COWI	**Conover**	**56.98 349**	IAmb	IAmb	04 01 10.0	
	comp=Z,5.2nm,0.7s					
PV03	**Paradox Valley**	**57.00 329**	IAmb	IAmb	04 01 12.2	
	comp=Z,11nm,1.4s					
D63A	**Stockholm**	**57.01 6**	P	**P**	**04 01 11.2**	**+0.1**
	baz=189					
LATQ	**La Tuque**	**57.02 2**	P	**P**	**04 01 11.3**	**+0.2**
	baz=183					
PV18	**Skein Mesa, Pa**	**57.02 329**	IAmb	IAmb	04 01 12.3	
	comp=Z,15nm,1.5s					
PV07	**Paradox Valley**	**57.04 329**	IAmb	IAmb	04 01 13.5	
	comp=Z,10.0nm,1.4s					
PV11	**David Mesa, Pa**	**57.05 329**	IAmb	IAmb	04 01 12.6	
	comp=Z,7.9nm,1.1s					
IRM	**Iron Mountain**	**57.60 321**	P	**P**	**04 01 15.8**	**+0.3**
	baz=132,SNR=12					
N23A	**Red Feather La**	**57.69 333**	P	**P**	**04 01 17.5**	**+1.2**
	baz=144					
F36A	**Mica**	**57.72 345**	IAmb	IAmb	04 01 15.7	
	comp=Z,12nm,0.8s					
D41A	**Chassel**	**57.80 350**	IAmb	IAmb	04 01 16.4	
	comp=Z,18nm,1.1s					
SUSD	**Miller**	**58.00 340**	P	**P**	**04 01 17.4**	**-0.7**
	baz=153					
BELC	**Belle Mtn. Jos**	**58.02 321**	P	**P**	**04 01 18.8**	**+0.2**
	baz=131					
TPFO	**Pinon Flats**	**58.05 320**	P	**P**	**04 01 19.3**	**+0.5**
	baz=131					
PFO	**Pinyon Flats O**	**58.06 320**	P	**P**	**04 01 19.3**	**+0.4**
	baz=131					
PFO	**Pinyon Flats O**	**58.06 320**	P	**P**	**04 01 17.9**	**-1.0**
O20A	**White River Ci**	**58.15 331**	P	**P**	**04 01 19.1**	**-0.4**
	baz=141					
KNB	**Kanab**	**58.21 325**	IAmb	IAmb	04 01 21.4	
	comp=Z,8.3nm,1.0s					
GMRC	**Granite Mounta**	**58.33 322**	P	**P**	**04 01 21.1**	**+0.3**
	baz=132,SNR=6.7					
F33A	**5 Mile Ranch,**	**58.44 343**	IAmb	IAmb	04 01 20.2	
	comp=Z,10nm,0.8s					
LSQQ	**Lebel-sur-Quev**	**58.65 359**	P	**P**	**04 01 21.7**	**-0.7**
	baz=178					
P17A	**Butcher Ranch,**	**58.88 329**	IAmb	IAmb	04 01 26.1	
	comp=Z,7.1nm,1.2s					
TUQ	**Turquoise Moun**	**58.93 322**	P	**P**	**04 01 25.2**	**+0.3**
	baz=132					
SHPR	**Sheep Range**	**59.19 323**	IAmb	IAmb	04 01 28.0	
	comp=Z,9.6nm,1.5s					
EYMN	**Ely**	**59.22 348**	P	**P**	**04 01 25.3**	**-1.1**
	baz=162					
EYMN	**Ely**	**59.22 348**	IAmb	IAmb	04 01 28.5	
	comp=Z,4.9nm,0.7s					
BFSC	**Mount Baldy Ra**	**59.23 320**	P	**P**	**04 01 27.0**	**0.0**
	baz=130					
MATQ	**Matagami**	**59.36 359**	P	**P**	**04 01 26.3**	**-1.1**
	baz=178,SNR=14					
GSC	**Goldstone, Bar**	**59.38 321**	P	**P**	**04 01 26.0**	**-1.9**
	baz=131					
CHGQ	**Chibougamau**	**59.50 1**	P	**P**	**04 01 27.7**	**-0.6**
	baz=181,SNR=10					
RSSD	**Black Hills**	**59.55 337**	P	**P**	**04 01 29.3**	**+0.2**
	baz=147					
RSSD	**Black Hills**	**59.55 337**	P	**P**	**04 01 28.2**	**-0.9**
EDW2	**Edwards Air Fo**	**59.85 320**	P	**P**	**04 01 31.1**	**0.0**
	baz=130					
B35A	**Bob, Littlefor**	**60.10 346**	IAmb	IAmb	04 01 31.4	
	comp=Z,6.5nm,0.5s					
TPNV	**Topopah Spring**	**60.14 323**	P	**P**	**04 01 33.4**	**+0.2**
	baz=132					
TPNV	**Topopah Spring**	**60.14 323**	IAmb	IAmb	04 01 34.5	
	comp=Z,5.6nm,0.9s					
FURC	**Furnace Creek,**	**60.18 322**	P	**P**	**04 01 33.7**	**+0.4**
	baz=132					
DUG	**Dugway, Tooele**	**60.49 328**	P	**P**	**04 01 35.5**	**0.0**
	baz=137,SNR=6.9					
DUG	**Dugway, Tooele**	**60.49 328**	IAmb	IAmb	04 01 36.9	
	comp=Z,14nm,1.4s					
AGMN	**Agassiz Nation**	**60.58 345**	P	**P**	**04 01 34.8**	**-0.9**
	baz=157,SNR=8.6					
ISA	**Isabella, Lake**	**60.65 321**	P	**P**	**04 01 36.6**	**0.0**
	baz=130					
R11A	**Troy Canyon, C**	**60.70 325**	P	**P**	**04 01 37.5**	**+0.5**
	baz=134					
BW06	**Boulder Array**	**60.82 332**	P	**P**	**04 01 37.2**	**-0.6**
	baz=141					
PDAR	**Pinedale Array**	**60.82 332**	P	**P**	**04 01 36.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=168,slow=7.6,SNR=8.8					
GRAC	**Grapevine Rang**	**60.84 322**	P	**P**	**04 01 37.9**	**+0.1**
	baz=132					
HWUT	**Hardware Ranch**	**60.90 330**	IAmb	IAmb	04 01 39.4	
	comp=Z,11nm,1.4s					
CWC	**Cottonwood Cre**	**60.91 321**	P	**P**	**04 01 38.6**	**+0.1**
	baz=131					
DRLN	**Deer Lake**	**60.96 13**	P	**P**	**04 01 37.7**	**-0.6**
VES	**Vestal, Richgr**	**61.15 320**	P	**P**	**04 01 40.4**	**+0.5**
	baz=130					
MDND	**Maddock**	**61.23 342**	P	**P**	**04 01 39.9**	**-0.3**
	baz=153					
MDPB	**Devils Postpil**	**62.28 322**	IAmb	IAmb	04 01 48.7	
	comp=Z,6.3nm,0.7s					
NVAR	**Mina Array Bea**	**62.34 323**	P	**P**	**04 01 48.3**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=150,slow=7.6,SNR=21					
LHV	**Little Huntoon**	**62.34 323**	IAmb	IAmb	04 01 49.4	
	comp=Z,6.3nm,0.7s					
ULM	**Lac du Bonnet**	**62.38 345**	P	**P**	**04 01 46.5**	**-1.3**
	comp=Z,21nm,0.5s,baz=156,slow=6.8,SNR=37					
RLMT	**Red Lodge**	**62.53 334**	P	**P**	**04 01 49.4**	**+0.2**
	baz=142					
KVN	**Kaiserville**	**62.63 324**	P	**P**	**04 01 48.7**	**-1.2**
VCNR	**Virginia City**	**63.70 323**	IAmb	IAmb	04 01 58.4	
	comp=Z,7.8nm,0.9s					
HLID	**Hailey**	**63.76 330**	P	**P**	**04 01 57.2**	**-0.1**
	baz=137,SNR=5.2					
PAHR	**Pah Rah Range**	**63.81 324**	IAmb	IAmb	04 01 59.1	
	comp=Z,7.9nm,0.9s					
BOZ	**Bozeman (W)**	**63.95 333**	P	**P**	**04 01 57.9**	**-0.6**
	baz=140,SNR=7.2					
AFDM	**Forest Hills D**	**64.27 322**	P	**P**	**04 01 59.4**	**-1.2**
SCHQ	**Schefferville**	**64.84 6**	P	**P**	**04 02 03.3**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=122,slow=4.9,SNR=5.3					
SCHQ	**Schefferville**	**64.84 6**	P	**P**	**04 02 03.1**	**-0.8**
ORV	**Oroville**	**64.97 322**	IAmb	IAmb	04 02 06.6	
	comp=Z,15nm,0.9s					
MSO	**Missoula**	**65.93 332**	P	**P**	**04 02 11.2**	**-0.2**
	baz=138,SNR=7.5					
MSO	**Missoula**	**65.93 332**	P	**P**	**04 02 10.5**	**-0.8**
M04C	**Macdoel**	**66.57 324**	P	**P**	**04 02 15.2**	**-0.3**
	baz=129					
L04D	**Klamath Falls**	**67.11 324**	P	**P**	**04 02 18.8**	**-0.2**
	baz=129					
J05D	**Fort Rock, OR**	**67.18 326**	P	**P**	**04 02 19.8**	**+0.4**
	baz=130					
J04D	**Umpqua Nationa**	**67.65 325**	P	**P**	**04 02 22.6**	**+0.2**
	baz=130					
I05D	**Terrebonne, OR**	**67.92 326**	P	**P**	**04 02 24.7**	**+0.8**
	baz=131					
FFC	**Flin Flon**	**68.02 344**	P	**P**	**04 02 22.3**	**-1.9**
K02D	**Willamette Mer**	**68.20 324**	P	**P**	**04 02 26.1**	**+0.4**
	baz=128					
NEW	**Newport**	**68.46 332**	P	**P**	**04 02 27.2**	**+0.1**
	baz=136					
G05D	**Wamic, OR**	**68.50 327**	P	**P**	**04 02 28.5**	**+1.1**
	baz=131					
E04D	**Cinebar**	**70.02 328**	P	**P**	**04 02 36.9**	**+0.2**
	baz=130					
EDM	**Edmonton**	**70.53 337**	IAmb	IAmb	04 02 39.5	
	comp=Z,20nm,0.8s					
B05A	**Bryant**	**70.88 329**	P	**P**	**04 02 42.2**	**+0.2**
	baz=131					
D03D	**Eldon**	**70.92 328**	P	**P**	**04 02 42.5**	**+0.3**
	baz=130					
YKA	**Yellowknife Ar**	**78.14 343**	P	**P**	**04 03 22.7**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=136,slow=6.5,SNR=20					
YKA			pP	**pP**	**04 03 50.5**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=134,slow=6.4,SNR=3.0					
DY2G	**Dye2**	**79.09 12** ⇓	*i* P	**P**	**04 03 28.4**	**-0.7**
DY2G			IAmb	IAmb	04 03 29.4	
	comp=Z,12nm,0.7s					
PAB	**San Pablo**	**82.14 48**	P	**P**	**04 03 44.8**	**-1.1**
PAB			IAmb	IAmb	04 03 48.0	
	comp=Z,13nm,1.2s					
ESDC	**Sonseca Array**	**82.47 48**	P	**P**	**04 03 49.0**	**+1.5**
	comp=Z,4.1nm,1.1s,baz=262,slow=6.3,SNR=15					
ESDC			pP	**pP**	**04 04 16.5**	**+2.9**
	comp=Z,0.9nm,0.9s,baz=245,slow=3.9,SNR=3.1					
ESDC	**Sonseca Array**	**82.47 48**	P	**P**	**04 03 46.0**	**-1.4**
ICESG	**Greenland Ices**	**82.65 12**	*i* P	**P**	**04 03 47.1**	**-1.1**
ICESG			IAmb	IAmb	04 03 48.1	
	comp=Z,16nm,1.2s					
SUMG	**Summit**	**85.71 11** ⇓	*i* P	**P**	**04 04 03.5**	**-0.1**
SUMG			IAmb	IAmb	04 04 04.4	
	comp=Z,18nm,0.8s					
SUMG	**Summit**	**85.71 11**	P	**P**	**04 04 02.5**	**-1.2**
CTG	**Chitna Glacier**	**87.14 334**	P	**P**	**04 04 10.9**	**+0.4**
	baz=116					
DAWY	**Dawson**	**87.74 337**	IAmb	IAmb	04 04 13.4	
	comp=Z,7.2nm,1.1s					
CRQE	**Cirque**	**87.83 333**	P	**P**	**04 04 14.2**	**+0.3**
	baz=114					
INK	**Inuvik**	**87.86 342**	P	**P**	**04 04 13.1**	**-0.5**
	baz=123,SNR=11					
EPYK	**Eagle Plains**	**87.88 339**	P	**P**	**04 04 13.2**	**-0.6**
	baz=120,SNR=7.1					
EPYK	**Eagle Plains**	**87.88 339**	IAmb	IAmb	04 04 14.2	
	comp=Z,

baz=112,SNR=6.1
PRP **Porcupine Dome** **90.74 337** IAmb IAmb 04 04 27.8
comp=Z,6.1nm,1.2s
HDA **Harding Lake** **90.89 336** P **P** **04 04 26.8 -1.1**
baz=111
RC01 **Rabbit Creek A** **90.97 332** P **P** **04 04 27.4 -1.0**
baz=109
ILAR **Eielson Array** **91.00 336** P **P** **04 04 27.3 -1.1**
comp=Z,1.4nm,0.8s,baz=153,slow=3.0,SNR=14
BRSE **Bradley Lake S** **91.02 331** P **P** **04 04 27.6 -1.1**
baz=108
RND **Reindeer** **91.33 334** IAmb IAmb 04 04 31.1
comp=Z,8.6nm,1.1s
POKR **Poker Plat Res** **91.34 336** P **P** **04 04 29.2 -0.8**
baz=111
WRH **Wood River Hil** **91.38 336** IAmb IAmb 04 04 31.1
comp=Z,3.8nm,0.9s
COLA **College** **91.42 336** P **P** **04 04 30.0 -0.3**
baz=110
COLA **College** **91.42 336** P **P** **04 04 29.1 -1.2**
TCOL **CIGO, UAF Yank** **91.42 336** P **P** **04 04 30.2 -0.2**
baz=110
TCOL **CIGO, UAF Yank** **91.42 336** IAmb IAmb 04 04 30.4
comp=Z,8.4nm,0.8s
CAPN **Captain Cook N** **91.53 332** P **P** **04 04 30.5 -0.4**
baz=107
SUA **Susitna One** **91.55 332** P **P** **04 04 30.6 -0.6**
baz=108
H24K **Noodor Dome** **91.76 337** P **P** **04 04 31.3 -0.7**
baz=110,SNR=6.0
NEA2 **Nenana** **91.82 336** P **P** **04 04 31.1 -1.1**
baz=109,SNR=7.9
NEA2 **Nenana** **91.82 336** IAmb IAmb 04 04 32.2
comp=Z,7.0nm,1.0s
TRF **Thorofare Moun** **91.96 334** P **P** **04 04 32.2 -1.0**
baz=108
SKT **Skwentna** **92.06 333** P **P** **04 04 32.4 -1.1**
baz=107,SNR=10
I23K **Minto, Yukon-K** **92.11 336** P **P** **04 04 32.4 -1.2**
baz=109,SNR=5.2
I23K **Minto, Yukon-K** **92.11 336** IAmb IAmb 04 04 33.5
comp=Z,3.4nm,0.8s
KTH **Kantishna Hill** **92.26 334** IAmb IAmb 04 04 34.6
comp=Z,5.6nm,0.9s
DAG **Danmarks Havn** **92.38 11** *i* P **P** **04 04 33.4 -1.1**
DAG IAmb IAmb 04 04 34.5
comp=Z,6.7nm,0.9s
H23K **Yukon River** **92.41 337** P **P** **04 04 34.1 -0.9**
baz=109
BPAW **Bear Paw Mtn.** **92.45 335** P **P** **04 04 34.0 -1.2**
baz=107,SNR=8.8
BPAW **Bear Paw Mtn.** **92.45 335** IAmb IAmb 04 04 35.5
comp=Z,6.3nm,1.0s
PPLA **Purkeypile** **92.62 334** P **P** **04 04 34.9 -1.2**
baz=106
MLY **Manley** **92.63 336** P **P** **04 04 34.0 -2.0**
baz=108,SNR=6.1
M20K **Styx River** **92.76 332** P **P** **04 04 35.5 -1.3**
baz=106
N19K **Bonanza Creek** **93.11 331** P **P** **04 04 37.4 -1.0**
baz=104
K20K **Telida** **93.57 334** P **P** **04 04 38.7 -1.7**
baz=105
L19K **White Mountain** **93.62 332** P **P** **04 04 39.3 -1.4**
baz=104
N18K **Kilae Creek** **93.75 331** P **P** **04 04 39.6 -1.6**
baz=103
A21K **Barrow** **96.36 341** P **P** **04 04 52.3 -0.5**
baz=102
FALS **False Pass** **96.67 324** P **P** **04 04 51.8 -2.8**
baz=98
ZALV **Zalesovo Beam** **133.30 16** PKP **PKPdf** **04 10 39.7 -0.3**
comp=Z,3.1nm,0.6s,baz=270,slow=1.6,SNR=11
ASAR **Alice Springs** **135.92 221** PKP **PKPdf** **04 10 45.2 -0.7**
comp=Z,0.7nm,0.7s,baz=121,slow=2.4,SNR=5.5
ASAR **Alice Springs** **135.92 221** PKPdf **PKPdf** **04 10 43.1 -2.9**
WRA **Warramunga Arr** **138.20 225** PKP **PKPdf** **04 10 49.6 -0.6**
comp=Z,1.3nm,0.9s,baz=128,slow=1.7,SNR=7.1
MKAR **Makanchi Array** **138.66 23** PKP **PKPdf** **04 10 49.5 -0.7**
comp=Z,0.5nm,0.6s,baz=318,slow=1.6,SNR=6.1
KSRS **Korea Array** **145.24 326** PKPbc **PKPbc** **04 11 00.9 -1.1**
comp=Z,7.0nm,0.7s,baz=54,slow=3.8,SNR=30
BTO **Baotou** **148.94 352** *e*PKPbc **PKPbc** **04 11 12.0 -0.5**

KMA 28 03:54:05.2±0.5, 38°.76N×126°.08E, h0^{km}, Error ellipse: s-maj=6.1km s-min=3.0km az=1.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNCB	**YEONCHEON**	**0.98**	**137**	P	Pg	03 54 23.8	-0.2
KSGAH	**Ganghwa** SNR=12	**1.09**	**165**	P	Pg	03 54 26.2	+0.1
KSGAH	**Ganghwa** SNR=12	**1.09**	**165**	P	Pg	03 54 26.2	+0.1
KSBAR	**Backryungdo** SNR=8.1	**1.33**	**234**	P	Pg	03 54 30.3	-0.3
KSBAR	**Backryungdo** SNR=8.1	**1.33**	**234**	P	Pg	03 54 30.3	-0.3
DACB	**Daecheong-do R** SNR=7.7	**1.43**	**230**	P	Pn	03 54 32.3	0.0
DACB	**Daecheong-do R** SNR=7.7	**1.43**	**230**	P	Pn	03 54 32.3	0.0
KSCHC	**Chuncheon** SNR=7.9	**1.68**	**125**	P	Pn	03 54 36.0	+0.1
KSCHC	**Chuncheon** SNR=7.9	**1.68**	**125**	P	Pn	03 54 36.0	+0.1
SEHB	**SEOHWA** SNR=7.1	**1.78**	**105**	P	Pn	03 54 37.1	-0.1
SEHB	**SEOHWA** SNR=7.1	**1.78**	**105**	P	Pn	03 54 37.1	-0.1

IDC 28 04:06:39.7±43.0, 23°.76S×176°.99W, h0^{km}, mb4.0/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.0/3, Error ellipse: s-maj=797.7km s-min=162.6km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.1nm,0.2s,baz=75,slow=8.7,SNR=4.9	**37.33**	**248**	P	P	04 13 53.1	-0.8
ASAR	**Alice Springs** 0.9nm,0.4s,baz=93,slow=7.4,SNR=18	**44.77**	**260**	P	P	04 14 55.2	-0.2
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=103,slow=7.8,SNR=7.7	**45.16**	**265**	P	P	04 14 59.1	+0.5

IASPEI ***28*** *04:07:11.3±0.8, 24°.43N±0°.01×121°.42E±0°.02, h6^{km}±4^{km}, Error ellipse: s-maj=2.5km s-min=1.6km az=107.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
JMA ***28*** *04:07:11.1±0.1, 24°.42N×121°.38E, h4^{km}, M2.9*
TAP ***28*** *04:07:11.0, 24°.43N×121°.43E, h6^{km}, ML3.5, B*
ISC 28 04:07:11.3±0.8, 24°.43N±0°.01×121°.42E±0°.01, h6^{km}±4^{km}, n130, σ0^{s}76/221, 21C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSH	**Datong** baz=270	**0.03**	**265**	*i* P	**Pg**	**04 07 12.8**	**+0.1**
NNSH				*i* S	**Sg**	**04 07 13.7**	**0.0**
NNSB	**Datong** baz=268	**0.03**	**265**	⇓*i* P	**Pg**	**04 07 12.8**	**+0.1**
NNSB				*i* S	**Sg**	**04 07 13.7**	**0.0**
NNS	**Nan Shan** baz=279	**0.04**	**283**	⇓*i* P	**Pg**	**04 07 12.9**	**+0.1**
NNS				S	**Sg**	**04 07 13.8**	**0.0**
NDT	**Datong Townshi** baz=23	**0.19**	**27**	⇑*i* P	**Pg**	**04 07 15.1**	**-0.1**
NDT				S	**Sg**	**04 07 18.4**	**+0.6**
ETLH	**Xiulin Townshi** baz=173	**0.23**	**165**	P	**Pg**	**04 07 16.8**	**+0.8**
ETLH				S	**Sg**	**04 07 19.9**	**+0.8**
YHNB	**Yeheng** baz=348	**0.24**	**351**	⇑*i* P	**Pg**	**04 07 16.4**	**+0.2**
YHNB				S	**Sg**	**04 07 19.0**	**-0.3**
FUSS	**Fushou** baz=230	**0.24**	**221**	⇑*i* P	**Pg**	**04 07 16.6**	**+0.5**
FUSS				S	**Sg**	**04 07 20.5**	**+1.1**
ENTT	**Nioudou** baz=31	**0.25**	**33**	⇑*i* P	**Pg**	**04 07 16.2**	**-0.1**
ENTT				*e*S	**Sg**	**04 07 19.8**	**+0.2**
NSK	**Sanguang** baz=347	**0.25**	**348**	P	**Pg**	**04 07 16.5**	**+0.2**
NSK				S	**Sg**	**04 07 19.8**	**+0.1**
TWT	**Tachien** baz=235	**0.28**	**231**	⇑*i* P	**Pg**	**04 07 17.4**	**+0.5**
TWT				*e*S	**Sg**	**04 07 21.5**	**+0.8**
TDCB	**Techi** baz=236	**0.29**	**233**	⇑*i* P	**Pg**	**04 07 17.4**	**+0.3**
TDCB				S	**Sg**	**04 07 21.0**	**-0.1**
NACB	**Ninganchiao** baz=149	**0.30**	**148**	⇓*i* P	**Pg**	**04 07 17.9**	**+0.6**
NACB				S	**Sg**	**04 07 21.8**	**+0.5**
WHF	**Hehuan Shan** baz=194	**0.32**	**206**	⇑*i* P	**Pg**	**04 07 18.1**	**+0.4**
WHF				*e*S	**Sg**	**04 07 22.8**	**+0.9**
ETL	**Fush Village** baz=146	**0.33**	**145**	P	**Pg**	**04 07 18.5**	**+0.7**
ETL				*e*S	**Sg**	**04 07 23.0**	**+0.9**
EWUT	**Wuta** baz=86	**0.33**	**87**	P	**Pg**	**04 07 17.6**	**-0.2**
EWUT				*e*S	**Sg**	**04 07 22.0**	**-0.2**
NDS	**Dongshan** baz=63	**0.34**	**53**	⇑*i* P	**Pg**	**04 07 17.7**	**-0.3**
NDS				*e*S	**Sg**	**04 07 22.8**	**+0.3**
NWLT	**Wulai** baz=10.0	**0.35**	**13**	⇑*i* P	**Pg**	**04 07 18.3**	**+0.1**
NWLT				S	**Sg**	**04 07 22.4**	**-0.5**
TWE	**Neicheng** baz=34	**0.37**	**38**	⇑*i* P	**Pg**	**04 07 18.6**	**+0.1**
TWE				S	**Sg**	**04 07 23.3**	**-0.1**
TWD	**Chiawan** baz=154	**0.39**	**155**	*i* P	**Pb**	**04 07 19.5**	**-1.1**
TWD				S	**Sg**	**04 07 24.7**	**+0.8**
LIOB	**Emei** baz=302	**0.42**	**300**	⇑*i* P	**Pb**	**04 07 20.6**	**-0.6**
LIOB				S	**Sg**	**04 07 25.8**	**+0.6**
NJD	**Zhudong** baz=325	**0.43**	**316**	*e*P	**Pg**	**04 07 20.0**	**+0.4**
NJD				*e*S	**Sb**	**04 07 27.2**	**-0.7**
NSTT	**Nanjuang** baz=299	**0.43**	**298**	⇑*i* P	**Pb**	**04 07 20.5**	**-0.8**
NSTT				*i* S	**Sb**	**04 07 26.4**	**-1.6**
CHGB	**Renai** baz=213	**0.43**	**211**	⇑*i* P	**Pg**	**04 07 19.8**	**0.0**
CHGB				S	**Sg**	**04 07 26.2**	**+0.8**
TWC	**Suao** baz=64	**0.43**	**66**	⇑*i* P	**Pg**	**04 07 19.4**	**-0.3**
TWC				*i* S	**Sg**	**04 07 24.7**	**-0.7**
ILA	**Ilan** baz=53	**0.45**	**42**	*e*P	**Pg**	**04 07 20.3**	**+0.3**
ILA				*e*S	**Sg**	**04 07 26.3**	**+0.4**
WHP	**Taichung City** baz=240	**0.46**	**251**	⇑*i* P	**Pb**	**04 07 21.0**	**-0.9**
ETM	**Tongmen** baz=172	**0.47**	**171**	*i* P	**Pb**	**04 07 20.9**	**-1.1**
ETM				S	**Sg**	**04 07 26.9**	**+0.4**
HWA	**Hwalien** baz=159	**0.48**	**159**	*e*P	**Pb**	**04 07 21.9**	**-0.4**
HWA				*e*S	**Sb**	**04 07 28.8**	**-0.8**
HSN1	**Hsinchu** baz=315	**0.50**	**314**	*e*P	**Pb**	**04 07 22.6**	**+0.1**
HSN1				*e*S	**Sb**	**04 07 30.3**	**+0.1**
OWD	**Renai** baz=206	**0.52**	**205**	*i* P	**Pg**	**04 07 21.2**	**-0.2**
OWD				*e*S	**Sg**	**04 07 27.4**	**-0.9**
SBCB	**Hsinchu** baz=312	**0.53**	**313**	*e*P	**Pb**	**04 07 22.6**	**-0.5**
NHDH	**Xindian Distri** baz=8.0	**0.54**	**11**	*e*P	**Pg**	**04 07 22.3**	**+0.6**
NHDH				*e*S	**Sg**	**04 07 27.5**	**-1.3**
TATO	**Taipei** baz=5.0	**0.55**	**7**	*e*P	**Pg**	**04 07 22.4**	**+0.5**
TATO				*e*S	**Sg**	**04 07 29.0**	**0.0**
NJN	**Zhunan** baz=297	**0.56**	**297**	*e*P	**Pb**	**04 07 24.0**	**+0.5**
NTC	**Toucheng** baz=24	**0.56**	**42**	*e*P	**Pg**	**04 07 22.7**	**+0.5**
TWA	**Mucha** baz=14	**0.57**	**16**	*e*P	**Pg**	**04 07 22.7**	**+0.4**
TWA				*e*S	**Sg**	**04 07 29.8**	**0.0**
NCUH	**Zhongli** baz=346	**0.57**	**339**	*e*P	**Pb**	**04 07 23.8**	**0.0**
NCUH				*e*S	**Sb**	**04 07 32.8**	**+0.5**
NCU	**National Centr** baz=347	**0.58**	**339**	*e*P	**Pb**	**04 07 24.6**	**+0.8**
NMLH	**Miaoli** baz=282	**0.58**	**281**	P	**Pb**	**04 07 23.7**	**-0.2**
NMLH				*e*S	**Sb**	**04 07 32.7**	**+0.3**
TEYL	**Yanliau Villag** baz=153	**0.58**	**163**	*e*P	**Pg**	**04 07 22.2**	**-0.4**
WPL	**Puli Township** baz=235	**0.59**	**225**	*e*P	**Pg**	**04 07 22.8**	**+0.1**
WPL				*e*S	**Sb**	**04 07 32.7**	**0.0**
TWQ1	**Liyutan** baz=264	**0.59**	**262**	P	**Pb**	**04 07 23.9**	**-0.3**
TWQ1				*e*S	**Sb**	**04 07 33.0**	**+0.2**
WCS	**Beigang Elemen** baz=241	**0.59**	**231**	P	**Pb**	**04 07 23.1**	**-1.0**
WCS				*e*S	**Sg**	**04 07 31.0**	**+0.5**
NSY	**Sanyi** baz=270	**0.60**	**269**	P	**Pb**	**04 07 24.1**	**-0.1**
NSY				*e*S	**Sb**	**04 07 33.8**	**+0.8**
TAP	**Taipei** baz=7.0	**0.61**	**8**	*e*P	**Pg**	**04 07 22.7**	**-0.4**
TAP				*e*S	**Sb**	**04 07 32.2**	**-1.1**
ESL	**Shilin** baz=179	**0.61**	**179**	P	**Pb**	**04 07 23.5**	**-1.0**
ESL				*e*S	**Sg**	**04 07 31.4**	**+0.2**
TIPB	**Shuangxi** baz=19	**0.66**	**35**	⇑*i* P	**Pg**	**04 07 23.8**	**-0.2**
TIPB				S	**Sg**	**04 07 30.8**	**-1.7**
TWS1	**Kuangyinshan** baz=8.0	**0.67**	**0**	*e*P	**Pb**	**04 07 25.7**	**+0.3**
TWS1				*e*S	**Sb**	**04 07 33.9**	**-1.0**
WDJ	**Dajia District** baz=265	**0.71**	**263**	P	**Pn**	**04 07 27.4**	**-0.6**
WDJ				*e*S	**Sn**	**04 07 37.6**	**-1.6**
NWF	**Wu-fen Shan** baz=26	**0.72**	**27**	⇑*i* P	**Pg**	**04 07 25.4**	**+0.2**
NWF				S	**Sg**	**04 07 34.4**	**-0.2**
WFSB	**Wu-fen Shan** baz=26	**0.72**	**27**	P	**Pg**	**04 07 25.4**	**+0.2**
WFSB				*e*S	**Sg**	**04 07 34.1**	**-0.4**
SMLT	**Sun Moon Lake** baz=213	**0.72**	**221**	*e*P	**Pb**	**04 07 25.4**	**-1.0**
SMLT				*e*S	**Sb**	**04 07 35.8**	**-0.7**
YM01	**YM01** baz=10.0	**0.73**	**11**	⇑*i* P	**Pb**	**04 07 26.1**	**-0.4**
YM01				S	**Sg**	**04 07 34.6**	**-0.2**
TEGC	**Jichi Village** baz=171	**0.73**	**171**	P	**Pb**	**04 07 26.6**	**+0.1**
TEGC				*e*S	**Sb**	**04 07 37.1**	**+0.5**
NTST	**Danshui** baz=9.0	**0.73**	**2**	*e*P	**Pb**	**04 07 26.8**	**+0.3**
NTST				*e*S	**Sb**	**04 07 37.4**	**+0.6**
TCU	**Taichung** baz=248	**0.73**	**247**	P	**Pn**	**04 07 27.4**	**-0.8**
TYC	**Yuchr** baz=217	**0.73**	**224**	⇑*i* P	**Pg**	**04 07 25.5**	**+0.1**
TYC				*e*S	**Sb**	**04 07 35.6**	**-1.1**
ANP	**Anpu** baz=21	**0.76**	**7**	P	**Pb**	**04 07 26.6**	**-0.4**
ANP				*e*S	**Sb**	**04 07 38.4**	**+0.7**
EGFH	**Guangfu** baz=180	**0.76**	**179**	*e*P	**Pb**	**04 07 26.3**	**-0.6**
EGFH				*e*S	**Sg**	**04 07 36.0**	**+0.2**
WWF	**Wufeng** baz=235	**0.76**	**240**	*e*P	**Pn**	**04 07 28.1**	**-0.5**
WWF				*e*S	**Sn**	**04 07 39.3**	**-1.1**
SSLB	**Suanglung** baz=215	**0.77**	**213**	⇑*i* P	**Pg**	**04 07 25.3**	**-0.8**
SSLB				*e*S	**Sg**	**04 07 34.4**	**-1.6**
YM08	**YM08** baz=11	**0.77**	**12**	*e*P	**Pg**	**04 07 26.4**	**+0.3**
TWB1	**Santiao Chiao** baz=28	**0.78**	**42**	P	**Pg**	**04 07 25.7**	**-0.6**
TNOU	**National Taiwa** baz=34	**0.79**	**24**	*e*P	**Pg**	**04 07 26.5**	**+0.1**
TNOU				*e*S	**Sb**	**04 07 38.4**	**0.0**
WNT1	**Nantou City** baz=227	**0.85**	**232**	P	**Pn**	**04 07 30.1**	**+0.2**
WNT1				*e*S	**Sn**	**04 07 43.7**	**+1.0**
WCHH	**Zhanghua** baz=248	**0.86**	**246**	*e*P	**Pn**	**04 07 29.7**	**-0.2**
WCHH				*e*S	**Sn**	**04 07 42.3**	**-0.5**
WNT	**Mingjian** baz=232	**0.87**	**231**	*e*P	**Pb**	**04 07 28.9**	**+0.2**
WNT				*e*S	**Sn**	**04 07 42.6**	**-0.4**
WJS	**Zhushan** baz=222	**0.87**	**226**	*e*P	**Pb**	**04 07 28.9**	**-0.1**
WJS				*e*S	**Sn**	**04 07 43.6**	**+0.4**
WHYT	**Xinyi Township** baz=216	**0.89**	**215**	*e*P	**Pg**	**04 07 28.2**	**-0.3**
WYL	**Yuanlin Townsh** baz=241	**0.90**	**239**	*e*P	**Pb**	**04 07 29.3**	**0.0**
WYL				*e*S	**Sn**	**04 07 43.2**	**-0.6**
EHY	**Hungye** baz=178	**0.93**	**185**	P	**Pb**	**04 07 29.1**	**-0.7**
EHY				S	**Sb**	**04 07 41.5**	**-0.9**
HGSD	**Ruisui** baz=180	**0.94**	**180**	P	**Pb**	**04 07 29.6**	**-0.4**
HGSD				*e*S	**Sg**	**04 07 41.5**	**+0.1**
YULB	**Yu-li** baz=174	**1.04**	**186**	⇑*i* P	**Pg**	**04 07 31.1**	**-0.2**
YULB				*e*S	**Sg**	**04 07 43.5**	**-1.3**
CHN5	**Tsauling** baz=220	**1.07**	**219**	P	**Pn**	**04 07 32.9**	**-0.1**
CHN5				*e*S	**Sn**	**04 07 48.1**	**-0.1**
ALS	**Alishan** baz=212	**1.07**	**212**	*e*P	**Pb**	**04 07 31.9**	**-0.6**
ALS				*e*S	**Sn**	**04 07 48.1**	**-0.5**
WGK	**Gukeng** baz=228	**1.08**	**227**	*e*P	**Pn**	**04 07 32.8**	**-0.1**
WGK				*e*S	**Sn**	**04 07 50.2**	**+2.0**
TWF1	**Yuli** baz=173	**1.08**	**186**	P	**Pb**	**04 07 31.9**	**-0.5**
TWF1				*e*S	**Sg**	**04 07 44.6**	**-1.5**
EYUL	**Yuli** baz=174	**1.08**	**185**	*e*P	**Pb**	**04 07 32.2**	**-0.2**
EYUL				*e*S	**Sn**	**04 07 48.0**	**-0.4**
WRL	**Guolierlin Hig** baz=244	**1.09**	**241**	P	**Pn**	**04 07 32.8**	**-0.3**
WRL				S	**Sn**	**04 07 48.7**	**+0.3**
WDLH	**Douliu** baz=230	**1.09**	**228**	P	**Pn**	**04 07 33.1**	**0.0**
WDLH				*e*S	**Sn**	**04 07 49.6**	**+1.0**
WTK	**Tuku** baz=235	**1.20**	**232**	*e*P	**Pn**	**04 07 34.6**	**0.0**
WTK				*e*S	**Sn**	**04 07 51.0**	**-0.1**
FULB	**Fuli** baz=195	**1.23**	**185**	*e*P	**Pn**	**04 07 35.4**	**+0.3**
FULB				*e*S	**Sn**	**04 07 52.1**	**0.0**
CHN2	**Minshiung** baz=226	**1.24**	**224**	*e*P	**Pn**	**04 07 35.6**	**+0.4**
CHN2				*e*S	**Sn**	**04 07 54.8**	**+2.5**
ELDTW	**Lidau** baz=186	**1.29**	**197**	P	**Pg**	**04 07 35.4**	**-0.7**
ELDTW				*e*S	**Sn**	**04 07 53.2**	**-0.5**
CHY	**Chiayi** baz=226	**1.30**	**225**	*e*P	**Pg**	**04 07 36.2**	**-0.1**
CHY				*e*S	**Sn**	**04 07 54.5**	**+0.8**
CHKT	**Chengkung** baz=169	**1.33**	**182**	*e*P	**Pg**	**04 07 36.8**	**0.0**
PCYT	**Pengchaiyu** baz=24	**1.33**	**26**	*e*P	**Pn**	**04 07 36.1**	**-0.4**
TPUB	**Ta-pu** baz=213	**1.34**	**213**	*e*P	**Pg**	**04 07 36.8**	**-0.2**
TPUB				*e*S	**Sn**	**04 07 57.2**	**+2.5**
STYH	**Taoyuan** baz=219	**1.39**	**205**	*e*P	**Pg**	**04 07 38.5**	**+0.6**
STYH				*e*S	**Sn**	**04 07 57.6**	**+1.8**
WTP	**Ta-pu** baz=212	**1.39**	**212**	*e*P	**Pg**	**04 07 38.2**	**+0.2**
WTP				*e*S	**Sn**	**04 07 56.8**	**+0.8**
JYNG	**Yonagunijimaku** baz=169	**1.39**	**89**	P	**Pn**	**04 07 37.3**	**0.0**
JYNG				*e*S	**Sb**	**04 07 55.5**	**-0.3**
STYT	**Tauyuan** baz=219	**1.40**	**206**	*e*P	**Pg**	**04 07 38.4**	**+0.2**
STYT				*e*S	**Sn**	**04 07 58.9**	**+2.7**
TWK	**Hsinying** baz=216	**1.44**	**216**	P	**Pg**	**04 07 39.0**	**+0.1**
TWK				*e*S	**Sg**	**04 07 58.5**	**+0.9**
YOJ	**Yonaguni jima** baz=88	**1.45**	**88**	P	**Pn**	**04 07 38.2**	**+0.1**
YOJ				*e*S	**Sb**	**04 07 57.7**	**+0.1**
YOJ	**Yonaguni jima** baz=88	**1.45**	**88**	*e*P	**Pn**	**04 07 37.6**	**-0.6**
EDH	**Donghe** baz=172	**1.46**	**184**	*e*P	**Pn**	**04 07 37.9**	**-0.3**
SNST	**Tainan City** baz=215	**1.47**	**215**	*e*P	**Pg**	**04 07 39.6**	**0.0**
SNST				*e*S	**Sg**	**04 08 00.2**	**+1.6**
CHN1	**Nanshi** baz=213	**1.48**	**213**	*e*P	**Pg**	**04 07 40.1**	**+0.3**
CHN1				*e*S	**Sg**	**04 07 60.0**	**+0.9**
ICHU	**Yijhu** baz=226	**1.49**	**225**	*e*P	**Pg**	**04 07 39.7**	**-0.2**

ICHU				*eS*		**Sg**	**04 08 00.2**	**+1.0**
	baz=226							
LONT	**Longtian**	**1.54**	**190**	*eP*		**Pb**	**04 07 39.7**	**-0.7**
	baz=176							
LONT				*eS*		**Sg**	**04 08 01.1**	**+0.2**
	baz=176							
CHN8	**Yiju**	**1.54**	**226**	*eP*		**Pb**	**04 07 39.6**	**-0.7**
	baz=227							
SGST	**Jiashian**	**1.54**	**210**	*eP*		**Pg**	**04 07 40.3**	**-0.7**
	baz=209							
SGST				*eS*		**Sg**	**04 08 01.4**	**+0.4**
	baz=209							
SLGT	**Liugui**	**1.60**	**206**	*eP*		**Pg**	**04 07 42.0**	**0.0**
	baz=191							
SLGT				*eS*		**Sg**	**04 08 04.7**	**+2.0**
	baz=191							
TWGBT	**Beinan**	**1.64**	**191**	*eP*		**Pb**	**04 07 41.2**	**-0.7**
	baz=192							
LDUT	**Ludao**	**1.75**	**178**	*eP*		**Pn**	**04 07 41.3**	**-0.9**
	baz=164							
SCST	**Cishan**	**1.76**	**209**	*eP*		**Pb**	**04 07 43.7**	**-0.2**
	baz=209							
SSD	**Sandimen**	**1.82**	**203**	*eP*		**Pg**	**04 07 45.4**	**-0.9**
	baz=204							
TSMG	**Majia**	**1.86**	**203**	*eP*		**Pb**	**04 07 45.9**	**+0.2**
	baz=203							
ECL	**Taimali**	**1.87**	**193**	*eP*		**Pb**	**04 07 46.0**	**+0.1**
	baz=193							
VWUC	**VWUC**	**1.87**	**288**	*eP*		**Pn**	**04 07 42.5**	**-1.4**
	baz=287							
PNG	**Penghu**	**1.91**	**244**	*eP*		**Pb**	**04 07 45.4**	**-1.1**
	baz=245							
PHUB	**P'eng-hu**	**1.92**	**242**	*eP*		**Pn**	**04 07 43.0**	**-1.6**
	baz=243							
MASBT	**Mashibuluo**	**1.95**	**202**	*eP*		**Pb**	**04 07 46.9**	**-0.3**
	baz=201							
MASBT				*eS*		**Sg**	**04 08 14.2**	**+0.2**
	baz=201							
WDGT	**Dungji**	**1.99**	**234**	*eP*		**Pn**	**04 07 45.3**	**-0.2**
	baz=236							
EAST	**Anshuo**	**2.10**	**194**	*eP*		**Pb**	**04 07 50.4**	**+0.4**
	baz=183							
IRIF	**Iriomote-Funau**	**2.11**	**92**	P		**Pn**	**04 07 47.5**	**+0.3**
IRIF				S		**Sn**	**04 08 13.8**	**0.0**
TAW	**Tawu**	**2.12**	**193**	*eP*		**Pb**	**04 07 48.6**	**-1.5**
	baz=177							
MATB	**Ma-tsu**	**2.17**	**322**	*eP*		**Pn**	**04 07 47.2**	**-0.8**
	baz=321							
PTMZ	**Houxiangcun**	**2.17**	**287**	*eP*		**Pn**	**04 07 48.9**	**+0.8**
	baz=286							
SCZT	**Fangliau**	**2.18**	**200**	*eP*		**Pb**	**04 07 50.5**	**-0.6**
	baz=219							
VCHM	**Qimei**	**2.19**	**237**	*eP*		**Pb**	**04 07 49.6**	**-1.7**
	baz=238							
HATJ	**Hateruma jima**	**2.21**	**99**	P		**Pn**	**04 07 50.0**	**+1.4**
SLIU	**Shizi**	**2.28**	**195**	*eP*		**Pb**	**04 07 52.1**	**-0.7**
	baz=177							
WLCH	**Liuqiu**	**2.28**	**205**	*eP*		**Pb**	**04 07 52.7**	**-0.2**
	baz=205							
JKRS	**Kuro-shima**	**2.37**	**94**	P		**Pn**	**04 07 52.1**	**+1.3**
JKRS				*eS*		**Sn**	**04 08 21.0**	**+0.8**
JIJ	**Ishigaki jima**	**2.49**	**91**	P		**Pn**	**04 07 53.6**	**+1.2**
LYJJ	**Jianjiangzhen**	**2.59**	**325**	*eP*		**Pn**	**04 07 54.7**	**+0.9**
	baz=325							
MHZQ	**Yeshan**	**2.73**	**308**	*eP*		**Pn**	**04 07 57.6**	**+1.9**
	baz=306							
KNMB	**Chin-men Tao**	**2.76**	**271**	*eP*		**Pn**	**04 07 55.4**	**-0.8**
	baz=271							
AXDP	**Jialang**	**3.17**	**279**	*eP*		**Pn**	**04 08 02.2**	**+0.5**
	baz=278							

IDC 28 04:08:12.5±4.8, 2°.37S×138°.27E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/32, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=199.0km s-min=32.3km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.88**	**192**	P	P	04 12 23.7	+0.1
	0.1nm,0.3s,baz=15,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**21.59**	**191**	P	P	04 13 03.7	-0.3
	0.2nm,0.5s,baz=11,slow=12,SNR=1.9						
MKAR	**Makanchi Array**	**69.26**	**322**	P	P	04 19 21.4	-0.1
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.3						

*IDC **28** 04:29:58.2±2.4, 7°.03S×129°.63E, h133km±25km, mb3.3/2, mb1 3.4/6, mb1mx3.2/31, mbtmp3.8/6, Error ellipse: s-maj=28.8km s-min=21.5km az=117.0*

ISC 28 04:29:58.1±1.0, 6°.98S±0°.09×129°.7E±0°.1, h139km, n6, σ1§88/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.26**	**14**	P	**Pn**	**04 31 28.9**	**+0.6**
	1.2nm,0.3s,baz=157,slow=23,SNR=1.7						
SIJI				S	**Sn**	**04 32 35.9**	**-3.0**
	1.8nm,0.3s,baz=280,slow=23,SNR=1.3						
BATI	**Baumata**	**6.78**	**241**	P	**Pn**	**04 31 35.8**	**+0.5**
	11nm,0.3s,baz=87,slow=5.1,SNR=2.9						
BATI				S	**Sn**	**04 32 49.4**	**-1.9**
	5.3nm,0.3s,baz=68,slow=23,SNR=1.8						
WRA	**Warramunga Arr**	**13.65**	**161**	P	**Pn**	**04 33 05.2**	**-0.9**
	0.5nm,0.3s,baz=337,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**17.08**	**167**	P	**Pn**	**04 33 48.9**	**+0.3**
	0.1nm,0.3s,baz=335,slow=9.1,SNR=4.6						
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**04 39 40.5**	**+1.9**
	0.2nm,0.5s,baz=152,slow=9.4,SNR=1.9						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**04 40 42.8**	**+0.2**
	0.6nm,0.4s,baz=116,slow=9.0,SNR=12						

IDC 28 04:53:08.3±5.1, 2°.64S×139°.26E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.5/28, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=202.4km s-min=30.0km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.86**	**195**	P	Pn	04 57 17.1	-1.4
	0.3nm,0.3s,baz=17,slow=13,SNR=12						
ASAR	**Alice Springs**	**21.54**	**193**	P	P	04 58 00.1	+0.7
	2.0nm,0.8s,baz=22,slow=11,SNR=13						
MKAR	**Makanchi Array**	**70.06**	**322**	P	P	05 04 22.4	0.0
	0.1nm,0.4s,baz=112,slow=9.1,SNR=4.6						

*IDC **28** 04:54:50.1±0.9, 52°.40N×169°.62W, h0km, mb4.0/19, mb1 4.2/21, mb1mx4.1/45, mbtmp4.0/21, ML3.9/2, MS3.0/1, Ms1 3.1/1, ms1mx2.5/49, Error ellipse: s-maj=27.2km s-min=15.2km az=0.0*

*AEIC **28** 04:54:54.5±2.0, 52°.29N±0°.06×169°.44W±0°.07, h35km±6km, ML3.9/39, mb3.9/24(NEIC), Error ellipse: s-maj=8.7km s-min=6.2km az=166.0*

*NEIC **28** 04:54:56.5±1.9, 52°.45N±0°.07×169°.50W±0°.08, h49km±6km, Error ellipse: s-maj=10.3km s-min=6.5km az=169.0*

ISC 28 04:54:56.0±1.4, 52°.4N±0°.1×169°.49W±0°.06, h43km±11km, n111, σ1§04/111, mb4.0/20, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.73**	**32**	Pn	**Pn**	**04 55 08.6**	**-1.2**
NIKH				Sn	**Sn**	**04 55 20.3**	**+0.5**
OKSP	**Okmok Steeple**	**1.16**	**39**		**Pn**	**04 55 15.0**	**-0.7**
OKCE	**Okmok Cone E**	**1.34**	**36**		**Pn**	**04 55 17.9**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**1.35**	**40**		**Pn**	**04 55 17.7**	**-0.7**
OKNC	**Okmok New Cone**	**1.38**	**36**		**Pn**	**04 55 18.8**	**0.0**
OKFG	**Magazine Ridge**	**1.42**	**42**		**Pn**	**04 55 18.7**	**-0.6**
OKFG					**Sn**	**04 55 38.0**	**+1.1**
MAPS	**Pakushin South**	**2.12**	**46**		**Pn**	**04 55 28.4**	**-0.4**
MAPS					**Sn**	**04 55 55.9**	**+2.0**
MGOD	**Makushin Gods**	**2.14**	**47**		**Pn**	**04 55 28.6**	**-0.5**
MGOD					**Sn**	**04 55 56.7**	**+2.3**
MSW	**Makushin Switc**	**2.26**	**45**		**Pn**	**04 55 30.7**	**-0.1**
MNAT	**Makushin Natee**	**2.28**	**47**		**Pn**	**04 55 30.8**	**-0.3**
UNV	**Unalaska Valle**	**2.34**	**49**		**Pn**	**04 55 31.2**	**-0.6**
UNV					**Sn**	**04 56 00.8**	**+1.5**
MTBL	**Makushin Table**	**2.34**	**45**		**Pn**	**04 55 32.3**	**+0.4**
AKRB	**Akutan Reef Bi**	**2.72**	**48**		**Pn**	**04 55 38.2**	**+1.1**
AKMO	**Akutan Morgan**	**2.72**	**49**		**Pn**	**04 55 37.8**	**+0.7**
AKMO					**Sn**	**04 56 11.9**	**+3.2**
AKBBA	**Akutan Broad B**	**2.76**	**49**		**Pn**	**04 55 39.1**	**+1.4**
AKGG	**Akutan Green G**	**2.79**	**47**		**Pn**	**04 55 39.2**	**+1.0**
KOSE	**Korovin Southe**	**2.80**	**272**		**Pn**	**04 55 38.3**	**+0.1**
KOFP	**Korovin Flat P**	**2.83**	**270**		**Pn**	**04 55 38.2**	**-0.5**
AKUT	**Akutan**	**2.86**	**50**		**Pn**	**04 55 40.5**	**+1.5**
KOKL	**Mount Kliuchef**	**2.89**	**271**		**Pn**	**04 55 40.0**	**+0.5**
ATKA	**Atka Island**	**2.89**	**269**		**Pn**	**04 55 39.2**	**-0.3**
GSTR	**Great Sitkin T**	**4.05**	**269**	Pn	**Pn**	**04 55 55.8**	**+0.4**
GSMY	**Great Sitkin M**	**4.05**	**268**		**Pn**	**04 55 55.4**	**0.0**
GSTD	**Great Sitkin T**	**4.10**	**268**		**Pn**	**04 55 56.0**	**-0.2**
ISLZ	**Isanotski Laza**	**4.18**	**53**		**Pn**	**04 55 59.5**	**+2.2**
FALS	**False Pass**	**4.40**	**53**	Pn	**Pn**	**04 55 59.5**	**-0.6**
ADK	**Adak**	**4.46**	**267**	Pn	**Pn**	**04 56 00.8**	**-0.2**
KIWB	**Kanaga Island**	**4.75**	**267**	Pn	**Pn**	**04 56 04.6**	**-0.3**
SPIA	**Saint Paul Isl**	**4.85**	**355**		**Pn**	**04 56 06.6**	**+0.3**
TASE	**Tanaga Southea**	**5.29**	**268**		**Pn**	**04 56 12.9**	**+0.4**
SDPT	**Sand Point**	**6.12**	**57**	Pn	**Pn**	**04 56 22.9**	**-0.8**
CNBA	**Chernabura Isl**	**6.39**	**63**	Pn	**Pn**	**04 56 26.6**	**-0.9**
CESW	**Semis' Southwe**	**6.76**	**270**		**Pn**	**04 56 33.4**	**+0.9**
AMKA	**Amchitka**	**7.01**	**266**		**Pn**	**04 56 36.2**	**+0.2**
LSPA	**Little Sitkin**	**7.36**	**272**		**Pn**	**04 56 41.6**	**+0.8**
CHIR	**Chirikof Islan**	**8.86**	**61**	Pn	**Pn**	**04 57 02.5**	**+1.2**
SII	**Sitkinak Islan**	**9.85**	**59**	Pn	**Pn**	**04 57 14.8**	**-0.1**
SMY	**Shemya**	**10.01**	**279**	Pn	**Pn**	**04 57 17.1**	**+0.1**
OHAK	**Old Harbor**	**10.54**	**56**	Pn	**Pn**	**04 57 22.2**	**-2.1**
KDAK	**Kodiak Island**	**11.10**	**54**	Pn	**Pn**	**04 57 30.5**	**-1.4**
	0.6nm,0.3s,baz=277,slow=5.6,SNR=15						
KDAK				Sn	**Sn**	**04 59 31.6**	**-2.8**
	0.2nm,0.3s,baz=7.7,slow=19,SNR=1.6						
KDAK	**Kodiak Island**	**11.10**	**54**		**Pn**	**04 57 31.2**	**-0.6**
KDAK					**Sn**	**04 59 33.6**	**-0.8**
SVW2	**Sparrevohn**	**11.60**	**36**	Pn	**Pn**	**04 57 39.9**	**+1.3**
CNPM	**China Poot**	**12.47**	**48**	Pn	**Pn**	**04 57 50.4**	**-0.2**
SEW	**Seward**	**13.53**	**47**	Pn	**Pn**	**04 58 04.0**	**-1.1**
O22K	**Cooper Landing**	**13.59**	**45**		**Pn**	**04 58 05.6**	**-0.2**
PWL	**Port Wells**	**14.37**	**45**	Pn	**Pn**	**04 58 14.2**	**-2.2**
PMR	**Palmer**	**14.38**	**42**	Pn	**Pn**	**04 58 14.8**	**-1.8**
GHO	**Glory Hole Cre**	**14.56**	**42**	Pn	**Pn**	**04 58 15.3**	**-3.8**
HIN	**Hinchinbrook I**	**15.00**	**49**	Pn	**Pn**	**04 58 22.7**	**-2.1**
BPAW	**Bear Paw Mtn.**	**15.20**	**32**	Pn	**Pn**	**04 58 26.1**	**-1.3**
BPAW				IAmb	IAmb	04 58 37.3	
	comp=Z,5.8nm,0.8s						
RND	**Reindeer**	**15.50**	**36**	P	**Pn**	**04 58 31.4**	**0.0**
RAGM	**Ragged Mountai**	**15.84**	**50**	Pn	**Pn**	**04 58 34.4**	**-1.3**
RAGM				IAmb	IAmb	04 58 46.8	
	comp=Z,24nm,1.4s						
MLY	**Manley**	**15.91**	**30**	Pn	**Pn**	**04 58 36.1**	**-0.5**
MLY				IAmb	IAmb	04 58 44.2	
	comp=Z,6.3nm,1.0s						
HMT	**Hamilton**	**16.02**	**50**	Pn	**Pn**	**04 58 37.0**	**-1.0**
HMT				IAmb	IAmb	04 58 49.0	
	comp=Z,19nm,1.0s						
NEA2	**Nenana**	**16.15**	**33**	P	**Pn**	**04 58 39.8**	**+0.1**
N25K	**Chitina, Valde**	**16.32**	**46**	Pn	**Pn**	**04 58 40.4**	**-1.5**
N25K				IAmb	IAmb	04 58 58.9	
	comp=Z,3.9nm,0.8s						
WRH	**Wood River Hil**	**16.41**	**34**	Pn	**Pn**	**04 58 42.6**	**-0.3**
I23K	**Minto, Yukon-K**	**16.42**	**31**	P	**Pn**	**04 58 43.4**	**+0.4**
I23K				IAmb	IAmb	04 58 52.0	
	comp=Z,3.5nm,0.7s						
CCB	**Clear Creek Bu**	**16.61**	**34**	P	**Pn**	**04 58 44.7**	**-0.7**
ILAR	**Eielson Array**	**17.00**	**34**	P	**Pn**	**04 58 49.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=226,slow=11,SNR=8.7						
ILAR				LR	LR	05 06 16.4	
	comp=Z,50nm,19.9s,baz=332,slow=40						
ILAR	**Eielson Array**	**17.00**	**34**	P	**Pn**	**04 58 49.5**	**-0.8**
SCRK	**Sand Creek**	**17.63**	**39**		**Pn**	**04 58 56.8**	**-1.4**
PRP	**Porcupine Dome**	**17.91**	**33**	P	**Pn**	**04 59 01.0**	**-0.6**
EGAK	**Eagle**	**19.09**	**38**	P	**P**	**04 59 14.7**	**0.0**
EGAK				IAmb	IAmb	04 59 22.4	
	comp=Z,2.5nm,0.8s						
HYT	**Haines Junctio**	**19.37**	**52**	Pn	**Pn**	**04 59 18.4**	**-0.8**
DAWY	**Dawson**	**19.49**	**41**		**P**	**04 59 19.1**	**+0.1**
DAWY				IAmb	IAmb	04 59 27.6	
	comp=Z,2.6nm,0.6s						
PEA0B	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 59 22.7**	**+0.3**
PETK	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 59 21.6**	**-0.8**
	comp=Z,3.5nm,0.3s,baz=90,slow=13,SNR=57						
PETK	**Petropavlovsk-**	**19.79**	**285**	P	**P**	**04 59 21.8**	**-0.6**
SKAG	**Skagway**	**20.24**	**56**	P	**P**	**04 59 27.4**	**+0.3**
EPYK	**Eagle Plains**	**21.45**	**37**	P	**P**	**04 59 39.4**	**-0.9**
EPYK				IAmb	IAmb	04 59 44.7	
	comp=Z,6.0nm,0.7s						
INK	**Inuvik**	**23.39**	**33**	P	**P**	**04 59 59.9**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=242,slow=6.2,SNR=6.7						
INK	**Inuvik**	**23.39**	**33**	P	**P**	**04 59 59.3**	**-1.2**
INK				IAmb	IAmb	05 00 16.5	
	comp=Z,6.7nm,1.4s						
YKA	**Yellowknife Ar**	**30.30**	**49**	P	**P**	**05 01 03.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=274,slow=7.2,SNR=12						
YKA	**Yellowknife Ar**	**30.30**	**49**	P	**P**	**05 01 03.3**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**37.40**	**218**	T	T	05 41 53.9	
	baz=24,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**37.41**	**218**	T	T	05 41 50.6	
	baz=24,slow=74,SNR=31						
H11N1	**WAKE ISLAND Hy**	**37.42**	**218**	T	T	05 42 32.6	
	baz=24,SNR=19						
NVAR	**Mina Array Bea**	**37.74**	**91**	P	**P**	**05 02 08.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=280,slow=7.2,SNR=2.1						
NVAR	**Mina Array Bea**	**37.74**	**91**	P	**P**	**05 02 08.0**	**+0.3**
H11S1	**WAKE ISLAND Hy**	**38.59**	**218**	T	T	05 43 15.0	
	baz=23,slow=76,SNR=160						
H11S2	**WAKE ISLAND Hy**	**38.60**	**218**	T	T	05 43 27.9	
	baz=23,slow=76,SNR=168						
H11S3	**WAKE ISLAND Hy**	**38.60**	**218**	T	T	05 43 25.6	
	baz=23,slow=76,SNR=197						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**05 02 31.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=292,slow=4.4,SNR=15						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**05 02 30.7**	**+0.2**
SPITS	**Spitsbergen Ar**	**49.68**	**358**	P	**P**	**05 03 42.3**	**-0.5**
	comp=Z,3.5nm,0.6s,baz=54,slow=7.3,SNR=4.3						
SONM	**Songino Array**	**51.24**	**301**	P	**P**	**05 03 55.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=58,slow=6.7,SNR=6.7						
SONM				PcP	**PcP**	**05 05 10.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=46,slow=4.3,SNR=3.8						
SONM	**Songino Array**	**51.24**	**301**	P	**P**	**05 03 55.3**	**+0.1**
SONM				IAmb	IAmb	05 03 56.5	
	comp=Z,1.6nm,1.0s						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**05 04 07.1**	**0.0**
	comp=Z,0.4nm,0.8s,baz=301,slow=5.4,SNR=6.7						
SCHQ	**Schefferville**	**55.49**	**43**	P	**P**	**05 04 26.7**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=323,slow=5.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.38**	**317**	P	**P**	**05 04 39.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=50,slow=7.7,SNR=3.1						
ARCES	**ARCESS Array B**	**57.92**	**354**	P	**P**	**05 04 42.8**	**-0.3**
	comp=Z,4.8nm,0.8s,baz=38,slow=8.0,SNR=12						
ARCES	**ARCESS Array B**	**57.92**	**354**	P	**P**	**05 04 42.4**	**-0.7**
MKAR	**Makanchi Array**	**63.76**	**313**	P	**P**	**05 05 22.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=56,slow=6.8,SNR=13						
MKAR	**Makanchi Array**	**63.76**	**313**	P	**P**	**05 05 22.3**	**-0.8**
FINES	**FINESS Array B**	**65.87**	**352**	P	**P**	**05 05 36.2**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=18,slow=7.7,SNR=20						
FINES	**FINESS Array B**	**65.87**	**352**	P	**P**	**05 05 36.4**	**-0.1**
NB2	**NORSAR Subarra**	**66.95**	**360**	P	**P**	**05 05 43.5**	**0.0**
	comp=Z,0.6nm,0.6s,baz=0.3,slow=6.2						
NOA	**NORSAR Array B**	**66.95**	**360**	P	**P**	**05 05 43.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=0.2,slow=6.3,SNR=4.9						
AKASG	**Malin Array Be**	**76.10**	**348**	P	**P**	**05 06 38.0**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=16,slow=5.8,SNR=7.7						
AKASG	**Malin Array Be**	**76.10**	**348**	P	**P**	**05 06 38.2**	**-0.5**
AKASG				IAmb	IAmb	05 06 58.2	
	comp=Z,1.8nm,1.5s						
CMAR	**Chiang Mai Arr**	**76.55**	**283**	P	**P**	**05 06 42.0**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=23,slow=6.3,SNR=9.9						
CMAR	**Chiang Mai Arr**	**76.55**	**283**	P	**P**	**05 06 41.5**	**-0.2**
GERES	**GERESS Array B**	**79.14**	**358**	P	**P**	**05 06 56.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=12,slow=6.8,SNR=3.8						
KBZ	**Khabaz**	**80.29**	**337**	P	**P**	**05 07 03.2**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=154,slow=3.2,SNR=5.5						
ESDC	**Sonseca Array**	**87.48**	**11**	P	**P**	**05 07 39.3**	**+0.4**
	comp=Z,1.9nm,1.1s,baz=6.3,slow=5.1,SNR=7.3						
ESDC	**Sonseca Array**	**87.48**	**11**	P	**P**	**05 07 38.9**	**+0.1**
ASAR	**Alice Springs**	**90.33**	**230**	P	**P**	**05 07 51.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=35,slow=5.0,SNR=1.6						
H03N2	**Juan Fernandez**	**115.99**	**112**	T	T	07 20 15.9	
	baz=330						
H03N1	**Juan Fernandez**	**116.00**	**112**	T	T	07 20 36.7	
	baz=330,slow=74						
H03N3	**Juan Fernandez**	**116.01**	**112**	T	T	07 20 16.3	
	baz=330,slow=74,SNR=4.5						

MAN 28 05:15:26.9, 9°.06N×125°.90E, h32km, mb4.3, ML3.1, MS2.8, Mindanao

*IDC **28** 05:16:37.7±1.2, 36°.23N×141°.88E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/42, mbtmp3.7/7, ML3.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/46, Error ellipse: s-maj=27.1km s-min=26.2km az=116.0*

*JMA **28** 05:16:40.3±0.2, 36°.28N×141°.88E, h45km, M3.4*

ISC 28 05:16:40.3±0.9, 36°.23N±0°.05×141°.86E±0°.07, h23km, n27, σ1§04/25, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.96**	**237**	P	**Pn**	**05 16 58.4**	**+0.1**
CHOJ				S	**Sn**	**05 17 11.7**	**+0.4**
JHYU	**Hitachinakayam**	**1.03**	**277**	P	**Pb**	**05 16 58.9**	**-0.5**
JHO	**Hitachi**	**1.11**	**291**	P	**Pn**	**05 16 59.3**	**-1.1**
JIHU	**Itakohorinouch**	**1.11**	**257**	P	**Pb**	**05 17 00.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.22**	**316**	P	**Pn**	**05 17 00.8**	**-1.2**
JFK	**Kawauchi**	**1.38**	**326**	P	**Pn**	**05 17 03.6**	**-0.6**
BSO1	**Boso 1**	**1.72**	**205**	P	**Pb**	**05 17 09.2**	**-1.7**
JFT	**Otama**	**1.77**	**317**	P	**Pn**	**05 17 10.2**	**+0.6**
JMM	**Marumori**	**1.84**	**333**	P	**Pn**	**05 17 10.3**	**-0.2**
JAG	**Ashikaga**	**1.95**	**277**	P	**Pn**	**05 17 12.3**	**+0.3**
JAG				S	**Sn**	**05 17 34.9**	**-0.8**
JFY	**Yanaizu**	**2.09**	**305**	P	**Pn**	**05 17 14.8**	**+0.9**
JKT	**Katashina**	**2.17**	**285**	P	**Pn**	**05 17 15.4**	**+0.4**
MJAR	**Matsushiro Arr**	**2.96**	**277**	Pn	**Pn**	**05 17 26.4**	**+0.6**
	1.3nm,0.3s,baz=111,slow=9.6,SNR=29						
MAT	**Matsushiro**	**2.96**	**277**	P	**Pn**	**05 17 27.5**	**+1.6**
MAT				S	**Sb**	**05 18 06.8**	**-1.3**
JHJ	**Hachijo jima 2**	**3.54**	**209**	Pn	**Pn**	**05 17 35.2**	**+1.4**
	12nm,0.3s,baz=97,slow=23,SNR=7.5						
JHJ				Sn	**Sn**	**05 18 13.3**	**-1.7**
	22nm,0.3s,baz=207,slow=22,SNR=7.4						
KSRS	**Korea Array**	**11.23**	**280**	LR	LR	05 23 00.0	
	comp=Z,34nm,20.4s,baz=88,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.43**	**120**	T	T	05 51 16.8	
	baz=312,slow=74,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**27.44**	**120**	T	T	05 51 02.9	
	baz=312,slow=74,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**27.45**	**120**	T	T	05 51 04.9	
	baz=312,slow=74,SNR=4.9						
SONM	**Songino Array**	**28.54**	**305**	P	**P**	**05 22 34.8**	**+0.6**
	0.9nm,0.6s,baz=105,slow=9.3,SNR=5.6						
ZALV	**Zalesovo Beam**	**42.72**	**313**	P	**P**	**05 24 36.4**	**+1.0**
	0.6nm,0.4s,baz=74,slow=6.3,SNR=1.7						
MKAR	**Makanchi Array**	**44.85**	**303**	P	**P**	**05 24 53.5**	**+0.9**
	0.9nm,0.7s,baz=93,slow=8.9,SNR=8.4						
ILAR	**Eielson Array**	**49.99**	**32**	P	**P**	**05 25 33.1**	**+0.9**
	0.6nm,0.8s,baz=253,slow=6.2,SNR=6.7						
WRA	**Warramunga Arr**	**56.31**	**189**	P	**P**	**05 26 19.4**	**+0.1**
	0.7nm,0.9s,baz=4.6,slow=6.8,SNR=1.9						
GNI	**Garni**	**72.47**	**307**	LR	LR	06 01 45.2	
	comp=Z,21nm,20.5s,baz=60,slow=37						
NOA	**NORSAR Array B**	**75.07**	**338**	LR	LR	06 05 05.5	
	comp=Z,8.3nm,19.1s,baz=95,slow=39						
LPAZ	**La Paz**	**146.78**	**61**	PKPbc	**PKiKP**	**05 36 22.6**	**-1.7**
	0.5nm,0.5s,baz=348,slow=2.6,SNR=6.8						

*NEIC **28** 05:26:38.8±2.2, 8°.6S±0°.1×160°.8E±0°.1, h58km±8km, mb4.5/15, Error ellipse: s-maj=19.5km s-min=14.2km az=116.0*

*IDC **28** 05:26:40.6±2.0, 8°.64S×160°.66E, h74km±17km, mb3.9/13, mb1 4.1/13, mb1mx3.9/31, mbtmp4.2/13, Error ellipse: s-maj=30.1km s-min=17.2km az=103.0*

ISC 28 05:26:37.5±0.6, 8°.48S±0°.08×161°.0E±0°.1, h50km, n41, σ1§76/35, mb4.3/20, Bougainville-Solomon Islands region

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

σ1$93/32, mb3.9/5, MS3.4/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.52**	**335**	P	**Pb**	**05 41 12.7**	**-0.2**
TWSI				S	**Sg**	**05 41 19.2**	**+0.5**
PLAI	**Plampang**	**0.77**	**60**	P	**Pg**	**05 41 15.4**	**-1.1**
PLAI				S	**Sg**	**05 41 23.3**	**-3.2**
DNP	**Denpasar**	**1.95**	**286**	P	**Pg**	**05 41 37.9**	**-1.1**
DNP				S	**Sg**	**05 42 04.2**	**-0.1**
SRBI	**Singaraja**	**2.18**	**301**	P	**Pb**	**05 41 40.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**3.01**	**284**	P	**Pb**	**05 41 52.4**	**-3.0**
JAGI				S	**Sb**	**05 42 29.6**	**-2.7**
ABJI	**Asem Bagus**	**3.17**	**296**	P	**Pb**	**05 41 55.4**	**-2.7**
KMMI	**Kalianget**	**3.78**	**304**	P	**Pn**	**05 42 03.5**	**+3.5**
BSSI	**Bau Bau, Buton**	**4.53**	**48**	P	**Pn**	**05 42 11.1**	**+0.7**
EDFI	**Ende, Flores**	**4.55**	**85**	P	**Pn**	**05 42 11.2**	**+0.4**
BKSI	**Bulukumba**	**4.89**	**38**	P	**Pn**	**05 42 16.0**	**+0.7**
KAPI	**Kappang**	**4.93**	**32**	Pn	**Pn**	**05 42 16.3**	**+0.4**
	8.2nm,0.3s,baz=229,slow=5.6,SNR=16						
KAPI				Sn	**Sn**	**05 43 10.5**	**-2.5**
	13nm,0.3s,baz=259,slow=22,SNR=14						
KAPI				LR	LR	05 44 33.8	
	comp=Z,168nm,18.8s,baz=296,slow=43						
MMRI	**Maumere**	**5.10**	**84**	P	**Pn**	**05 42 18.7**	**+0.4**
PWJI	**Pagerwojo**	**5.37**	**282**	P	Pn	05 42 25.9	+3.9
	0.9nm2μm89nm,0.7s						
BNSI	**Bone**	**5.63**	**32**	P	**Pn**	**05 42 26.6**	**+1.1**
	0.4nm931nm81nm,1.1s						
TBJI	**Tambak Boyo**	**5.72**	**294**	P	**Pn**	**05 42 28.7**	**+1.9**
	0.4nm99nm,1.1s						
PCJI	**Pacitan**	**5.95**	**279**	P	Pn	05 42 34.1	+4.2
	0.7nm75nm,0.7s						
KBKI	**Kotabaru**	**5.95**	**351**	P	**Pn**	**05 42 32.4**	**+2.5**
BBKI	**Banjar Baru**	**6.14**	**338**	P	**Pn**	**05 42 34.1**	**+1.6**
BATI	**Baumata**	**6.54**	**99**	Pn	**Pn**	**05 42 40.1**	**+2.0**
	10nm,0.3s,baz=82,slow=5.9,SNR=4.7						
BATI	**Baumata**	**6.54**	**99**	P	**Pn**	**05 42 40.0**	**+2.0**
	0.2nm35nm,1.1s						
UGM	**Wanagama**	**6.64**	**281**	P	Pn	05 42 44.1	+4.7
	1.1nm170nm,2.1s						
TTSI	**Tana Toraja**	**6.70**	**24**	P	**Pn**	**05 42 42.0**	**+1.9**
	0.2nm1μm29nm,1.1s						
SOEI	**Soe**	**7.08**	**95**	P	**Pn**	**05 42 47.5**	**+1.9**
	0.3nm92nm,0.8s						
KPJI	**Karang Pucung**	**8.30**	**282**	P	Pn	05 43 08.1	+5.9
	29nm,0.5s						
MTKI	**Muara Teweh, K**	**8.51**	**345**	P	**Pn**	**05 43 07.4**	**+2.4**
WRA	**Warramunga Arr**	**19.78**	**125**	P	**P**	**05 45 31.5**	**-0.8**
	0.2nm,0.3s,baz=302,slow=13,SNR=9.6						
WRA				LR	LR	05 53 53.6	
	comp=Z,90nm,18.5s,baz=305,slow=39						
ASAR	**Alice Springs**	**21.55**	**134**	P	**P**	**05 45 52.0**	**+0.5**
	3.6nm,0.7s,baz=310,slow=9.8,SNR=28						
NWAO	**Narrogin (SRO)**	**23.60**	**180**	LR	LR	05 55 42.6	
	comp=Z,92nm,21.0s,baz=172,slow=38						
CMAR	**Chiang Mai Arr**	**32.82**	**327**	LR	LR	06 01 07.5	
	comp=Z,77nm,20.2s,baz=180,slow=37						
H08S2	**Diego Garcia H**	**44.14**	**268**	T	T	06 36 07.0	
	baz=95,slow=76,SNR=203						
H08S3	**Diego Garcia H**	**44.15**	**269**	T	T	06 36 07.8	
	baz=95,slow=76,SNR=201						
H08S1	**Diego Carcia H**	**44.16**	**268**	T	T	06 36 08.4	
	baz=95,slow=76,SNR=91						
KSRS	**Korea Array**	**47.52**	**12**	P	**P**	**05 49 39.7**	**+2.6**
	0.4nm,0.4s,baz=196,slow=7.6,SNR=5.8						
USRK	**Ussuriysk Ar.**	**54.85**	**13**	P	**P**	**05 50 34.2**	**+2.1**
	1.9nm,0.7s,baz=198,slow=9.1,SNR=5.5						
SONM	**Songino Array**	**57.59**	**351**	LR	LR	06 16 37.2	
	comp=Z,34nm,19.2s,baz=172,slow=37						
KURBB	**Kurchatov Arra**	**68.34**	**335**	P	**P**	**05 52 02.5**	**-0.6**
	0.4nm,0.7s,baz=147,slow=5.8,SNR=5.5						
BOSA	**Boshof**	**87.26**	**242**	P	**P**	**05 53 51.2**	**+2.0**
	1.9nm,0.8s,baz=127,slow=5.1,SNR=3.1						

*IDC **28** 05:57:38.7±0.5, 15°.93S×173°.42W, h0km, mb4.6/14, mb1 4.9/17, mb1mx4.7/29, mbtmp4.6/17, ML4.3/3, MS3.7/12, Ms1 3.7/12, ms1mx3.4/35, Error ellipse: s-maj=22.3km s-min=13.4km az=133.0*

*NEIC **28** 05:57:42.2±2.6, 15°.89S±0°.07×173°.33W±0°.08, h22km±4km, mb4.8/146, Error ellipse: s-maj=12.1km s-min=9.6km az=126.0*

ISC 28 05:57:43.7±0.3, 15°.94S±0°.05×173°.35W±0°.06, h35km, n304, σ1$28/220, mb4.8/89, MS3.9/13, 7C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.53**	**37**	Pn	**Pn**	**05 58 23.1**	**+0.7**
	225nm,0.3s,baz=205,slow=2.4,SNR=226						
AFI				Sn	**Sn**	**05 58 48.8**	**-3.1**
	1μm,0.3s,baz=114,slow=19,SNR=20						
NIUE	**Niue**	**4.51**	**134**	P	**Pn**	**05 58 50.7**	**+1.2**
	baz=4.5						
NIUE				S	**Sn**	**05 59 36.0**	**-4.8**
	baz=4.5						
NIUE	**Niue**	**4.51**	**134**		**Pn**	**05 58 50.9**	**+1.4**
MSVF	**Nonsavu**	**8.43**	**257**	LR	LR	06 02 35.4	
	comp=Z,819nm,21.6s,baz=95,slow=36						
MSVF	**Nonsavu**	**8.43**	**257**	Pn	**Pn**	**05 59 45.6**	**+2.1**
KNTN	**Kanton**	**13.19**	**7**	Pn	**Pn**	**06 00 50.5**	**+2.0**
RAR	**Rarotonga**	**13.89**	**114**	Pn	**Pn**	**06 00 57.7**	**-0.4**
	3.3nm,0.3s,baz=268,slow=5.9,SNR=6.4						
RAR				Sn	Sn	06 03 18.6	-13
	0.7nm,0.3s,baz=90,slow=7.7,SNR=1.2						
RAR	**Rarotonga**	**13.89**	**114**	Pn	**Pn**	**06 00 58.0**	**-0.2**
RAO	**Raoul Island**	**13.90**	**197**	LR	LR	06 05 40.5	
	comp=Z,207nm,20.0s,baz=273,slow=35						
MARNC	**Mare, Loyalty**	**18.47**	**250**	P	**Pn**	**06 01 55.9**	**-1.1**
SANVU	**Saraoutou**	**18.73**	**269**	P	**P**	**06 01 58.0**	**-1.6**
PINNC	**Pines Island,**	**19.30**	**247**	P	**P**	**06 02 03.0**	**-2.7**
OUENC	**Ouen Island, N**	**19.78**	**248**	P	**P**	**06 02 10.5**	**-0.5**
DZM	**Mont Dzumac**	**20.05**	**249**	P	Pn	06 02 14.7	-1.3
	1.0nm,0.3s,baz=85,slow=15,SNR=13						
DZM				LR	LR	06 08 58.3	
	comp=Z,337nm,19.9s,baz=56,slow=34						
DZM	**Mont Dzumac**	**20.05**	**249**	*e*P	Pn	06 02 14.3	-1.7
	244nm,1.1s						
DZM				*e*LR	LR	06 06 45.1	
	comp=Z,1μm,28.3s						
DZM	**Mont Dzumac**	**20.05**	**249**	P	**P**	**06 02 11.6**	**-2.4**
ONTNC	**Ouen Toro**	**20.10**	**249**	P	**P**	**06 02 14.0**	**-0.5**
PAE	**Paea**	**22.81**	**98**	*e*T	T	06 26 10.9	
	3.7nm,0.3s						
PPT	**Papeete**	**22.82**	**97**	LR	LR	06 09 15.9	
	comp=Z,50nm,20.7s,baz=334,slow=30						
PPT2	**Papeete2**	**22.82**	**98**	*e*LR	LR	06 08 00.0	
	comp=Z,811nm,30.0s						
PPT2	**Papeete2**	**22.82**	**98**	*e*T	T	06 26 16.6	
	7.0nm,0.3s						
TIAR	**Tiarei**	**23.04**	**97**	*e*T	T	06 26 22.8	
	1.7nm,0.3s						
TBI	**Tubuai**	**23.65**	**112**	*e*LR	LR	06 08 30.2	
	comp=Z,706nm,29.0s						
TBI	**Tubuai**	**23.65**	**112**	*e*T	T	06 27 08.0	
	16nm,0.3s						
URZ	**Urewera**	**23.77**	**199**	P	**P**	**06 02 52.4**	**-0.5**
	48nm,0.5s,baz=10.0,slow=3.6,SNR=29						
URZ	**Urewera**	**23.77**	**199**	P	**P**	**06 02 51.5**	**-1.4**
PMOR	**Pomariorio Ree**	**24.54**	**91**	*e*T	T	06 28 27.9	
	3.3nm,0.2s						
VAH	**Vaihoa**	**24.78**	**92**	*e*T	T	06 28 44.6	
	8.9nm,0.3s						
HNR	**Honiara**	**26.83**	**281**	LR	LR	06 12 43.1	
	comp=Z,248nm,19.2s,baz=112,slow=34						
TUWZ	**Tuamarina**	**27.67**	**201**	P	**P**	**06 03 26.6**	**-1.7**
LTZ	**Lake Taylor**	**29.45**	**202**	P	**P**	**06 03 45.9**	**+1.7**
TAOE	**Nuku Hiva Isla**	**33.15**	**82**	*e*LR	LR	06 12 41.5	
	comp=Z,440nm,31.2s						
MLZ	**Mavora Lakes**	**33.22**	**204**	P	**P**	**06 04 17.1**	**-0.2**
WHZ	**Wether Hill Ro**	**33.72**	**204**	P	**P**	**06 04 22.6**	**+1.0**
H11S2	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	06 47 23.3	
	baz=149,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	06 47 22.7	
	baz=149,slow=76,SNR=40						
H11S1	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	06 47 24.8	
	baz=149,slow=76,SNR=4.4						
CMSA	**Cobar Meteorol**	**40.33**	**240**	P	**P**	**06 05 17.0**	**-1.0**
	baz=40						
H11N3	**WAKE ISLAND Hy**	**40.41**	**331**	T	T	06 48 37.8	
	baz=150,slow=77,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**40.41**	**331**	T	T	06 48 30.1	
	baz=150,slow=77,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**40.42**	**331**	T	T	06 48 48.9	
	baz=150,slow=77,SNR=7.6						
TOO	**Toolangi**	**42.16**	**231**	P	**P**	**06 05 32.3**	**-0.8**
	baz=42						
TOO	**Toolangi**	**42.16**	**231**	P	**P**	**06 05 32.2**	**-0.8**
TOO				IAmb	IAmb	06 05 33.0	
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**43.81**	**240**	P	**P**	**06 05 45.3**	**-1.2**
	comp=Z,17nm,0.8s,baz=74,slow=8.5,SNR=29						
STKA				LR	LR	06 22 40.9	
	comp=Z,58nm,20.6s,baz=33,slow=34						
STKA	**Stephens Creek**	**43.81**	**240**	P	**P**	**06 05 45.2**	**-1.2**
	baz=44						
STKA	**Stephens Creek**	**43.81**	**240**	P	**P**	**06 05 45.8**	**-0.6**
BBOO	**Buckleboo**	**48.59**	**240**	P	**P**	**06 06 22.9**	**-1.1**
	baz=49						
WR0	**Warramunga Arr**	**49.58**	**257**	P	**P**	**06 06 31.8**	**-0.1**
WR0				IAmb	IAmb	06 06 34.5	
	comp=Z,7.3nm,0.8s						
WB0	**Warramunga Arr**	**49.73**	**257**	P	**P**	**06 06 30.2**	**-2.8**
WB2	**Warramunga Arr**	**49.76**	**257**	P	**P**	**06 06 31.9**	**-1.2**
	baz=50						
WB2	**Warramunga Arr**	**49.76**	**257**	P	**P**	**06 06 29.2**	**-4.0**
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**06 06 31.4**	**-1.8**
	comp=Z,8.0nm,0.8s,baz=92,slow=7.0,SNR=47						
WRA				LR	LR	06 25 58.4	
	comp=Z,114nm,19.6s,baz=155,slow=34						
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**06 06 30.9**	**-2.4**
AS31	**Alice Springs**	**49.99**	**252**	IAmb	IAmb	06 06 35.3	
	comp=Z,9.6nm,0.8s						
ASAR	**Alice Springs**	**49.99**	**252**	P	**P**	**06 06 33.2**	**-1.7**
	comp=Z,36nm,0.7s,baz=86,slow=8.4,SNR=150						
ASAR				LR	LR	06 26 25.4	
	comp=Z,180nm,21.2s,baz=103,slow=35						
KNRA	**Kununurra**	**55.54**	**262**	P	**P**	**06 07 14.7**	**-1.3**
	baz=56						
SOEI	**Soe**	**60.96**	**268**	P	**P**	**06 07 55.8**	**+1.7**
SBA	**Scott Base**	**62.72**	**185**	P	**P**	**06 08 07.6**	**+2.9**
VNDA	**Vanda**	**62.84**	**186**	P	**P**	**06 08 07.3**	**+1.7**
	comp=Z,2.4nm,0.8s,baz=12,slow=6.5,SNR=12						
VNDA	**Vanda**	**62.84**	**186**	P	**P**	**06 08 07.7**	**+2.1**
PSA00	**Pilbara Seismi**	**63.10**	**254**	P	**P**	**06 08 07.4**	**-0.8**
PSA00	**Pilbara Seismi**	**63.10**	**254**	P	**P**	**06 08 05.7**	**-2.5**
PSA00				IAmb	IAmb	06 08 08.0	
	comp=Z,20nm,0.8s						
MEEK	**Meekatharra**	**63.66**	**248**	P	**P**	**06 08 10.1**	**-1.7**
	baz=64						
KLBR	**Kellerberrin**	**64.03**	**242**	P	**P**	**06 08 12.8**	**-1.4**
	baz=64						
MJAR	**Matsushiro Arr**	**69.39**	**320**	LR	LR	06 33 42.5	
	comp=Z,19nm,21.8s,baz=135,slow=31						
PKM	**Mcpherson Peak**	**71.66**	**44**	P	**P**	**06 09 03.1**	**+0.8**
	baz=235						
SMMC	**Simmler**	**71.79**	**44**	P	**P**	**06 09 03.8**	**+0.9**
	baz=234						
ARVC	**Arvin**	**72.46**	**44**	P	**P**	**06 09 07.3**	**+0.5**
	baz=235						
VES	**Vestal, Richgr**	**72.70**	**44**	P	**P**	**06 09 08.7**	**+0.5**
	baz=235						
MURC	**Murrieta**	**72.73**	**47**	P	**P**	**06 09 09.0**	**+0.5**
	baz=237						
BFSC	**Mount Baldy Ra**	**72.76**	**46**	P	**P**	**06 09 09.1**	**+0.3**
	baz=236						
EDW2	**Edwards Air Fo**	**72.89**	**45**	P	**P**	**06 09 10.1**	**+0.6**
	baz=236,SNR=6.6						
MONP2	**Monument Peak**	**72.89**	**48**	P	**P**	**06 09 10.2**	**+0.5**
	baz=238,SNR=5.4						
O02D	**Mt. Diablo Mer**	**72.97**	**38**	P	**P**	**06 09 11.0**	**+1.2**
	baz=231						
IKP	**In-Ko-Pah, Jac**	**72.98**	**48**	P	**P**	**06 09 10.8**	**+0.7**
	baz=238						
ISA	**Isabella, Lake**	**73.00**	**44**	P	**P**	**06 09 10.9**	**+0.8**
	baz=235,SNR=7.5						
ISA	**Isabella, Lake**	**73.00**	**44**	IAmb	IAmb	06 09 12.1	
	comp=Z,13nm,1.1s						
CMB	**Columbia Colle**	**73.14**	**41**	IAmb	IAmb	06 09 12.5	
	comp=Z,10nm,1.0s						
PETK	**Petropavlovsk-**	**73.16**	**342**	P	**P**	**06 09 10.9**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=134,slow=9.5,SNR=5.8						
PFO	**Pinyon Flats O**	**73.25**	**47**	P	**P**	**06 09 12.1**	**+0.4**
	baz=237						
PFO	**Pinyon Flats O**	**73.25**	**47**	P	**P**	**06 09 11.1**	**-0.6**
TPFO	**Pinon Flats**	**73.25**	**47**	P	**P**	**06 09 12.3**	**+0.6**
	baz=237						
AFDM	**Forest Hills D**	**73.32**	**40**	IAmb	IAmb	06 09 13.6	
	comp=Z,8.8nm,1.0s						
ORV	**Oroville**	**73.36**	**39**	P	**P**	**06 09 13.1**	**+1.0**
ORV				IAmb	IAmb	06 09 13.8	
	comp=Z,8.8nm,1.1s						
SWSC	**Sam W. Stewart**	**73.36**	**48**	P	**P**	**06 09 12.9**	**+0.7**
	baz=236						
WDC	**Whiskeytown Da**	**73.37**	**38**	IAmb	IAmb	06 09 18.8	
	comp=Z,17nm,1.4s						
LRMC	**Laurel Mtn Rad**	**73.43**	**45**	P	**P**	**06 09 13.4**	**+0.7**
	baz=236						
N02D	**Trinity Center**	**73.52**	**38**	P	**P**	**06 09 14.1**	**+1.1**
	baz=231						
O03E	**Paynes Creek**	**73.64**	**39**	P	**P**	**06 09 14.0**	**+0.2**
	baz=232,SNR=5.9						
M02C	**Callahan**	**73.70**	**37**	P	**P**	**06 09 15.2**	**+1.1**
	baz=231						
CWC	**Cottonwood Cre**	**73.71**	**44**	P	**P**	**06 09 14.6**	**+0.2**
	baz=235						
MDPB	**Devils Postpil**	**73.74**	**42**	IAmb	IAmb	06 09 16.4	
	comp=Z,7.5nm,1.0s						
BELC	**Belle Mtn. Jos**	**73.78**	**47**	P	**P**	**06 09 15.4**	**+0.5**
	baz=238,SNR=5.7						
GSC	**Goldstone, Bar**	**73.93**	**45**	P	**P**	**06 09 16.1**	**+0.5**
	baz=237,SNR=8.8						
GSC	**Goldstone, Bar**	**73.93**	**45**	IAmb	IAmb	06 09 17.2	
	comp=Z,12nm,1.1s						
HEC	**Hector,Ludlow**	**74.00**	**46**	P	**P**	**06 09 16.4**	**+0.4**
	baz=237,SNR=5.3						
YBH	**Yreka Blue Hor**	**74.00**	**37**	P	**P**	**06 09 16.3**	**+0.4**
K02D	**Willamette Mer**	**74.07**	**36**	P	**P**	**06 09 17.7**	**+1.4**
	baz=230						
QSPA	**South Pole Qui**	**74.10**	**180**	P	**P**	**06 09 17.6**	**+1.4**
GLA	**Glamis**	**74.11**	**48**	P	**P**	**06 09 17.6**	**+0.9**
	baz=238						
J01E	**Myrtle Point**	**74.22**	**35**	P	**P**	**06 09 18.5**	**+1.5**
	baz=229						
PNTR	**Pine Nut**	**74.26**	**41**	IAmb	IAmb	06 09 19.6	
	comp=Z,14nm,1.0s						
VCNR	**Virginia City**	**74.35**	**40**	P	**P**	**06 09 17.6**	**-0.5**
YERR	**Yerington**	**74.42**	**41**	P	**P**	**06 09 18.1**	**-0.4**
YERR				IAmb	IAmb	06 09 20.2	
	comp=Z,11nm,1.1s						
GMRC	**Granite Mounta**	**74.44**	**46**	P	**P**	**06 09 19.0**	**+0.4**
	baz=238,SNR=7.1						
LHV	**Little Huntoon**	**74.47**	**42**	P	**P**	**06 09 17.4**	**-1.0**
LHV				IAmb	IAmb	06 09 20.8	
	comp=Z,11nm,1.1s						
IRM	**Iron Mountain**	**74.47**	**47**	P	**P**	**06 09 19.5**	**+0.8**
	baz=238,SNR=9.9						
GRAC	**Grapevine Rang**	**74.49**	**44**	P	**P**	**06 09 19.8**	**+1.0**
	baz=236,SNR=5.1						
FURC	**Furnace Creek,**	**74.53**	**44**	P	**P**	**06 09 19.7**	**+0.7**
	baz=236,SNR=7.8						
M04C	**Macdoel**	**74.54**	**37**	P	**P**	**06 09 20.0**	**+1.0**
	baz=231						
L04D	**Klamath Falls**	**74.54**	**37**	P	**P**	**06 09 20.1**	**+1.0**
	baz=231						
TUQ	**Turquoise Moun**	**74.61**	**46**	P	**P**	**06 09 20.1**	**+0.5**
	baz=237,SNR=7.7						
SHOC	**Shoshone, Teco**	**74.62**	**45**	P	**P**	**06 09 19.9**	**+0.3**
	baz=237						
RYN	**Ryan**	**74.67**	**42**	IAmb	IAmb	06 09 21.7	
	comp=Z,7.8nm,1.0s						
NVAR	**Mina Array Bea**	**74.70**	**42**	P	**P**	**06 09 20.9**	**+0.7**
	comp=Z,5.6nm,0.8s,baz=226,slow=10,SNR=39						
NVAR				LR	LR	06 35 33.8	
	comp=Z,66nm,19.6s,baz=266,slow=30						
NV11	**Mina Array Sit**	**74.79**	**42**	IAmb	IAmb	06 09 22.6	
	comp=Z,12nm,1.1s						
I03D	**Drain, OR**	**74.89**	**35**	P	**P**	**06 09 21.7**	**+0.8**
	baz=230						
214A	**Organ Pipe Nat**	**75.02**	**50**	P	**P**	**06 09 22.4**	**+0.5**
	baz=240						
NEE2	**Needles Airpor**	**75.16**	**47**	P	**P**	**06 09 23.6**	**+1.0**
	baz=238						
KVN	**Kaiserville**	**75.18**	**41**	IAmb	IAmb	06 09 24.7	
	comp=Z,9.1nm,1.1s						
TPNV	**Topopah Spring**	**75.21**	**44**	P	**P**	**06 09 23.7**	**+0.6**
	baz=237,SNR=8.2						
TPNV	**Topopah Spring**	**75.21**	**44**	IAmb	IAmb	06 09 24.4	
	comp=Z,7.4nm,1.0s						
PDMCI	**Parker Dam,Lak**	**75.25**	**47**	P	**P**	**06 09 23.9**	**+0.8**
	baz=239,SNR=5.7						
J04D	**Umpqua Nationa**	**75.30**	**36**	P	**P**	**06 09 24.5**	**+1.0**
	baz=231,SNR=6.0						
I04A	**Tendick Farm,**	**75.48**	**36**	P	**P**	**06 09 25.5**	**+1.1**
	baz=230						
K05A	**Summer Lake**	**75.67**	**37**	P	**P**	**06 09 24.6**	**-1.1**
SHPR	**Sheep Range**	**75.71**	**45**	P	**P**	**06 09 24.6**	**-1.3**
SHPR				IAmb	IAmb	06 09 28.1	
	comp=Z,12nm,1.3s						
J05D	**Fort Rock, OR**	**75.82**	**36**	P	**P**	**06 09 27.5**	**+1.1**
	baz=232,SNR=9.2						
Y14A	**Wickenburg**	**75.87**	**48**	IAmb	IAmb	06 09 28.5	
	comp=Z,9.2nm,1.0s						
PRN	**Pahroc Range**	**76.26**	**44**	IAmb	IAmb	06 09 31.3	
	comp=Z,14nm,1.3s						
PINE	**Pine Mountain**	**76.31**	**36**	P	**P**	**06 09 29.6**	**+0.4**
R11A	**Troy Canyon, C**	**76.42**	**43**	P	**P**	**06 09 30.5**	**+0.5**
	baz=237						
R11A	**Troy Canyon, C**	**76.42**	**43**	P	**P**	**06 09 28.7**	**-1.3**
I05D	**Terrebonne, OR**	**76.42**	**36**	P	**P**	**06 09 31.1**	**+1.3**
	baz=231						
KSRS	**Korea Array**	**76.58**	**316**	P	**P**	**06 09 31.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=121,slow=5.4,SNR=4.1						
TUC	**Tucson**	**76.69**	**51**	P	**P**	**06 09 32.6**	**+1.1**
	baz=241						
TUC	**Tucson**	**76.69**	**51**	P	**P**	**06 09 32.1**	**+0.5**
TUC				IAmb	IAmb	06 09 33.0	
	comp=Z,6.6nm,0.9s						
WVOR	**Wild Horse Val**	**76.83**	**38**	IAmb	IAmb	06 09 33.9	
	comp=Z,11nm,1.1s						
X16A	**Lo Mia Camp, P**	**77.24**	**48**	IAmb	IAmb	06 09 36.8	
	comp=Z,9.2nm,0.9s						
LCMT	**Little Creek M**	**77.28**	**45**	IAmb	IAmb	06 09 36.8	
	comp=Z,9.5nm,1.2s						
319A	**Douglas**	**77.38**	**52**	IAmb	IAmb	06 09 37.4	
	comp=Z,12nm,1.0s						
J08A	**Circle Bar Ran**	**77.47**	**38**	IAmb	IAmb	06 09 37.5	
	comp=Z,7.9nm,1.0s						
D03D	**Eldon**	**77.53**	**32**	P	**P**	**06 09 36.7**	**+0.9**
	baz=229						
KNB	**Kanab**	**77.57**	**46**	IAmb	IAmb	06 09 38.7	
	comp=Z,16nm,1.3s						
SPR3	**Spring Creek 3**	**77.59**	**43**	IAmb	IAmb	06 09 38.0	
	comp=Z,11nm,1.3s						
U15A	**North Rim**	**77.64**	**46**	IAmb	IAmb	06 09 39.3	
	comp=Z,14nm,1.2s						
PSUT	**Pine Spring**	**77.66**	**44**	P	**P**	**06 09 35.4**	**-1.6**
SZCU	**Shurtz Canyon**	**77.69**	**45**	P	**P**	**06 09 36.7**	**-0.5**
SZCU				IAmb	IAmb	06 09 39.4	
	comp=Z,12nm,1.2s						
WUAZ	**Wupatki**	**77.83**	**47**	P	**P**	**06 09 38.7**	**+0.7**
	baz=240						
WUAZ	**Wupatki**	**77.83**	**47**	IAmb	IAmb	06 09 40.0	
	comp=Z,12nm,1.2s						
G08A	**Pilot Rock**	**78.34**	**36**	IAmb	IAmb	06 10 01.7	
	comp=Z,10nm,1.2s						
MTPU	**Mount Pierson**	**78.53**	**45**	IAmb	IAmb	06 09 44.7	
	comp=Z,19nm,1.4s						
121A	**Cookes Peak, D**	**79.04**	**52**	P	**P**	**06 09 45.5**	**+0.8**
	baz=243						
121A	**Cookes Peak, D**	**79.04**	**52**	IAmb	IAmb	06 09 46.8	
	comp=Z,9.6nm,1.1s						
KAIM	**Kayak Island**	**79.15**	**14**	P	**P**	**06 09 46.5**	**+2.1**
	baz=208						
DUG	**Dugway, Tooele**	**79.22**	**43**	P	**P**	**06 09 45.8**	**+0.3**
	baz=238						
TMUT	**Trail Mountain**	**79.82**	**44**	IAmb	IAmb	06 09 51.3	
	comp=Z,13nm,1.1s						
GHO	**Glory Hole Cre**	**79.85**	**12**	IAmb	IAmb	06 09 48.9	
	comp=Z,6.1nm,0.8s						
HLID	**Hailey**	**80.01**	**39**	P	**P**	**06 09 50.1**	**+0.3**
	baz=237						
HLID	**Hailey**	**80.01**	**39**	IAmb	IAmb	06 09 51.7	
	comp=Z,10nm,1.2s						
BMRM	**Bremner River**	**80.03**	**14**	P	**P**	**06 09 48.7**	**-0.6**
	baz=208						
CUT	**Chulitna**	**80.18**	**11**	P	**P**	**06 09 49.4**	**-0.5**
	baz=203						
SCM	**Sheep Creek Mo**	**80.22**	**12**	P	**P**	**06 09 50.5**	**+0.1**
SCM				IAmb	IAmb	06 09 51.0	
	comp=Z,6.1nm,0.6s						
P17A	**Butcher Ranch,**	**80.23**	**44**	P	**P**	**06 09 51.8**	**+0.8**
K20K	**Telida**	**80.46**	**9**	P	**P**	**06 09 52.3**	**+0.8**
	baz=199						
MNTX	**Cornudas Mount**	**80.51**	**53**	P	**P**	**06 09 53.0**	**+0.5**
	baz=245						
MNTX	**Cornudas Mount**	**80.51**	**53**	IAmb	IAmb	06 09 54.2	
	comp=Z,9.4nm,1.2s						
NJ2	**Nanjing**	**80.53**	**307**	*e*P	**P**	**06 09 52.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5

RIDG	Independent Ri baz=208	82.44	12	P	P	06 10 01.2	-0.8
WRH	Wood River Hil comp=Z,9.6nm,0.9s	82.47	11	IAmb	IAmb	06 10 02.8	
I21K	Tanana baz=201	82.49	9	P	P	06 10 02.7	+0.5
L27K	Beaver Creek, baz=210	82.50	14	P	P	06 10 02.7	+0.3
MLY	Manley baz=202	82.54	9	P	P	06 10 01.6	-0.9
FLWY	Flagg Ranch comp=Z,14nm,1.1s	82.57	40	IAmb	IAmb	06 10 05.3	
HDA	Harding Lake baz=206	82.63	11	P	P	06 10 02.7	-0.2
HDA	Harding Lake comp=Z,5.2nm,0.7s	82.63	11	P IAmb	P IAmb	06 10 02.4 06 10 03.5	-0.6
BW06	Boulder Array baz=240	82.63	42	P	P	06 10 03.7	-0.1
BW06	Boulder Array comp=Z,7.4nm,1.0s	82.63	42	P IAmb	P IAmb	06 10 03.4 06 10 04.7	-0.3
PD31	Pinedale Array comp=Z,6.4nm,0.9s	82.63	42	IAmb	IAmb	06 10 04.7	
PDAR	Pinedale Array comp=Z,4.6nm,0.9s,baz=205,slow=3.1,SNR=36	82.63	42	P	P	06 10 03.4	-0.4
PDAR				LR	LR	06 40 34.3	
BOZ	comp=Z,44nm,19.9s,baz=275,slow=31 Bozeman (W)	82.78	39	IAmb	IAmb	06 10 06.0	
H17A	comp=Z,9.3nm,1.2s Grant Village baz=240	82.81	40	P	P	06 10 06.0	+1.3
SCRK	Sand Creek baz=208	82.83	13	P	P	06 10 03.8	-0.4
YHH	Holmes Hill comp=Z,9.1nm,1.3s	82.84	40	IAmb	IAmb	06 10 08.0	
I23K	Minto, Yukon-K baz=203	82.88	10	P	P	06 10 03.9	-0.3
TCOL	CIGO, UAF Yank baz=205	82.88	11	P	P	06 10 04.2	0.0
COLA	College baz=205	82.88	11	P	P	06 10 04.1	-0.1
MDM	Murphy Dome comp=Z,11nm,1.4s	82.89	10	IAmb	IAmb	06 10 05.0	
ILAR	Eielson Array comp=Z,2.1nm,0.5s,baz=231,slow=6.4,SNR=47	82.97	11	P	P	06 10 04.2	-0.5
SDCO	Great Sand Dun baz=244	83.04	48	P	P	06 10 06.3	+0.2
SDCO	Great Sand Dun comp=Z,8.6nm,1.2s	83.04	48	IAmb	IAmb	06 10 07.5	
K27K	Chicken baz=210	83.29	13	P	P	06 10 07.4	+1.0
MSTX	Muleshoe baz=246	83.45	52	P	P	06 10 08.0	0.0
YNE	Yellowstone No comp=Z,8.6nm,1.2s	83.47	40	IAmb	IAmb	06 10 09.9	
T25A	Trinidad baz=245	83.56	49	P	P	06 10 08.4	-0.3
T25A	Trinidad comp=Z,8.2nm,1.1s	83.56	49	IAmb	IAmb	06 10 09.9	
Q24A	Divide baz=244	83.82	47	P	P	06 10 10.4	+0.3
ISCO	Idaho Springs baz=244	83.87	46	P	P	06 10 10.5	+0.1
ISCO	Idaho Springs	83.87	46	P	P	06 10 10.1	-0.2
PRP	Porcupine Dome baz=207	83.89	11	P	P	06 10 09.4	-0.2
PRP	Porcupine Dome comp=Z,6.5nm,0.7s	83.89	11	IAmb	IAmb	06 10 10.6	
DAWY	Dawson comp=Z,4.5nm,0.8s	83.93	14	IAmb	IAmb	06 10 10.5	
RLMT	Red Lodge baz=240	83.98	40	P	P	06 10 11.5	+0.9
N23A	Red Feather La baz=243	84.13	45	P	P	06 10 12.3	+0.7
EGAK	Eagle baz=211	84.14	13	P	P	06 10 10.9	+0.2
EGAK	Eagle	84.14	13	P	P	06 10 10.1	-0.6
K22A	Casper baz=243	84.55	43	P	P	06 10 13.9	+0.4
AMTX	Amarillo baz=246	84.64	52	P	P	06 10 13.8	-0.2
H03S2	Juan Fernandez baz=251,slow=75,SNR=5.1	84.86	124	T	T	07 44 12.8	
H03S1	Juan Fernandez baz=251,slow=75,SNR=5.2	84.87	124	T	T	07 44 08.6	
H03S3	Juan Fernandez baz=251,slow=75,SNR=6.1	84.88	124	T	T	07 44 12.1	
ABTX	Abilene, Hawle baz=248	85.33	54	P	P	06 10 17.5	0.0
TOLK	Toolik Lake Re baz=203	86.07	9	P	P	06 10 20.5	+0.1
EPYK	Eagle Plains baz=215	86.48	14	P	P	06 10 23.4	+1.0
EPYK	Eagle Plains comp=Z,5.3nm,0.9s	86.48	14	IAmb	IAmb	06 10 23.3	
MAW	Mawson comp=Z,5.9nm,1.0s,baz=134,slow=6.9,SNR=7.4	87.30	199	P	P	06 10 26.8	+0.3
MAW	Mawson	87.30	199	P	P	06 10 26.5	0.0
INK	Inuvik baz=218	88.78	14	P	P	06 10 34.8	+1.5
XAN	Xi'an comp=Z,5.0nm,1.1s	88.99	306	P pmax	P pmax	06 10 35.8	+0.6
XAN				pmax	pmax		
HHC	comp=Z,53nm,4.9s Hu-ho-hao-te comp=Z,24nm,1.0s	89.43	313	eP pmax	P pmax	06 10 37.5	+0.3
HHC				pmax	pmax		
YKA	comp=Z,51nm,8.5s Yellowknife Ar comp=Z,0.5nm,0.6s,baz=236,slow=4.5,SNR=4.4	90.57	23	P	P	06 10 41.8	-0.1
U40A	Yellville baz=252	91.88	53	P	P	06 10 48.7	+0.1
W41B	Gary Mavity, V baz=252	91.98	54	P	P	06 10 49.0	-0.1
FCAR	Ozark Folk Cen comp=Z,7.2nm,1.3s	92.30	53	IAmb	IAmb	06 10 51.2	
VNA3	Neumayer Olymp	92.31	175	P	P	06 10 51.0	+1.0
VNA3	Neumayer Olymp	92.31	175	PcP	PcP	06 10 55.0	+4.2
SNAA	Sanae	92.36	177	PcP	PcP	06 10 55.3	+4.2
MGMO	Mountain Grove	92.58	52	P	P	06 10 51.4	-0.5
VNA2	Neumayer--Watz	92.81	175	P	P	06 10 53.3	+1.0
VNA2	Neumayer--Watz	92.81	175	PcP	PcP	06 10 55.6	+2.6
CMAR	Chiang Mai Arr comp=Z,1.5nm,0.3s,baz=95,slow=2.4,SNR=13	92.83	288	P	P	06 10 54.4	+1.0
CMAR	Chiang Mai Arr	92.83	288	P	P	06 10 54.0	+0.6
VNA1	Neumayer--Stat	93.01	175	P	P	06 10 53.1	0.0
VNA1	Neumayer--Stat	93.01	175	PcP	PcP	06 10 54.6	+0.9
CCM	Cathedral Cave baz=253	93.62	52	P	P	06 10 56.4	-0.2
SPMN	Marine on St. baz=252	94.67	44	P	P	06 11 01.2	0.0
JFWS	Jewell Farm baz=254	95.75	47	P	P	06 11 05.1	-1.2
HDIL	Hopedale baz=254	95.79	50	P	P	06 11 05.7	-0.8
ARCES	ARCESS Array B comp=Z,1.8nm,0.6s,baz=349,slow=2.6,SNR=9.5	125.15	352	PKP	PKiKP	06 16 39.7	-0.5
FINES	FINESS Array B comp=Z,1.3nm,0.7s,baz=72,slow=6.2,SNR=6.4	132.48	347	PKP	PKiKP	06 16 54.6	-0.5
DPC	Dobruska-Polom	144.80	349	ePKP	PKPdf	06 17 15.2	-1.7
DPC				ex	x	06 17 37.8	
KRLC	Kraliky	144.98	349	ePKP	PKPdf	06 17 16.6	-0.7
KRLC				ex	x	06 17 39.3	
BZK	Bozkurt	145.00	323	⇑P	PKiKP	06 17 18.2	-3.1
KMBO	Kilima Mbogo comp=Z,9.6nm,0.9s,baz=95,slow=3.6,SNR=15	145.34	244	PKPbc	PKPbc	06 17 20.1	+1.0
CFR	Carcaliu	145.71	333	⇑P	PKiKP	06 17 19.8	-2.8
VRAC	Vranov comp=Z,2.2nm,0.3s,baz=47,slow=2.9,SNR=3.5	145.75	348	PKPbc	PKPbc	06 17 20.3	+1.3
VRAC	Vranov	145.75	348	ePKP	PKiKP	06 17 20.6	-2.0
VRI	Vrincioaia	145.76	335	⇑P	PKiKP	06 17 20.0	-2.7
PLOR	Plostina	145.80	335	⇑P	PKiKP	06 17 20.0	-2.9
TPGR	Topolog	145.83	332	⇓P	PKiKP	06 17 20.1	-2.8
JAVC	Velka Javorina	145.96	347	ePKP	PKiKP	06 17 21.1	-2.0
KRUC	Moravsky	146.03	349	ePKP	PKPab	06 17 20.0	-0.4
VYHS	Vyhne	146.03	345	ePKP	PKiKP	06 17 23.0	-0.3
HARR	Harsova	146.18	332	⇑P	PKiKP	06 17 21.2	-2.4
PSZ	Piszkesteto	146.30	344	⇑P	PKiKP	06 17 23.1	-0.8
MLR	Muntele Rosu comp=Z,2.8nm,0.6s,baz=329,slow=17,SNR=5.6	146.38	335	PKPbc	PKiKP	06 17 21.6	-2.7
MLR	Muntele Rosu	146.38	335	⇓P	PKiKP	06 17 21.8	-2.4
MLR	Muntele Rosu	146.38	335		PKPab	06 17 20.6	-1.4
KHC	Kasperske Hory	146.42	352	ePKP	PKiKP	06 17 22.4	-1.7
KHC				ex	x	06 17 45.4	
BRTR	Keskin Array B comp=Z,6.0nm,0.8s,baz=118,slow=2.0,SNR=32	146.61	321	PKPbc	PKPab	06 17 22.0	-1.2
GERES	GERESS Array B comp=Z,1.5nm,0.9s,baz=48,slow=2.0,SNR=6.0	146.69	352	PKPbc	PKPab	06 17 21.9	-1.1
VOIR		146.78	336	⇑P	PKiKP	06 17 23.5	-1.5
DAVOX	Davos/Dischmat comp=Z,2.9nm,0.5s,baz=225,slow=2.6,SNR=4.7	149.14	356	PKPbc	PKiKP	06 17 29.4	-0.5
TORD	Torodi Ar. Bea comp=Z,2.0nm,0.9s,baz=267,slow=4.7,SNR=4.8	174.45	119	PKPab	PKPab	06 19 23.1	-0.5

NNC ***28*** *06:11:05.1±2.4, 54.°47N×87.°57E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=24.2km s-min=13.3km az=0.0, Suspected Mining explosion.*
IDC ***28*** *06:11:12.8±3.2, 54.°38N×86.°82E, h0km, mb1 3.2/2, mb1mx3.1/45, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=28.4km s-min=16.1km az=61.0*
ISC 28 06:11:05.3±4.1, 54.°5N±0.°2×87.°6E±0.°2, h0km, n7, σ1°80/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA baz=65,slow=321,SNR=2.7	1.72	254	i			06 19 41.4	
ZAA0	Zalesovo Array 0.5nm,0.3s	1.72	254	⇓P		Pn	06 11 35.4	-1.1
ZAA0	2.1nm,0.5s			⇑S		Sb	06 11 58.7	-1.1
ZALV	Zalesovo Beam 1.8nm,0.3s,baz=70,slow=18,SNR=15	1.72	254	Pg		Pn	06 11 35.5	-1.0
ZALV	1.4nm,0.3s,baz=71,slow=24,SNR=4.5			Lg		Lg	06 11 54.0	
ZALV	6.2nm,0.4s,baz=73,slow=30,SNR=11			Rg		Rg	06 11 58.5	
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=54,slow=14,SNR=24	6.74	239	Pn		Pn	06 12 48.1	+2.7
KURBB	Kurchatov Arra 3.3nm,0.6s	6.74	239	⇑Pn		Pn	06 12 47.8	+2.4
KURBB	3.0nm,0.7s			⇓Sn		Sn	06 14 02.7	-0.1
KURBB	4.8nm,0.9s			⇓Lg		Lg	06 14 40.9	
MK31	Makanchi Array 0.3nm,0.5s,baz=24,slow=13,SNR=4.8	8.38	206	⇓Pn		Pn	06 13 06.9	-1.1
MK31	0.7nm,0.8s,baz=21,slow=26,SNR=4.3			⇑Sn		Sn	06 14 44.5	+1.2
MK31	1.9nm,1.1s			⇑Lg		Lg	06 15 30.5	
MKAR	Makanchi Array 0.2nm,0.3s,baz=26,slow=14,SNR=5.6	8.38	206	Pn		Pn	06 13 13.1	+5.0
MKAR	0.2nm,0.3s,baz=19,slow=27,SNR=4.8			Sn		Sn	06 14 42.7	-0.6
MKAR	0.0nm,0.3s,baz=28,slow=28,SNR=1.8			Lg		Lg	06 15 28.4	

JMA ***28*** *06:27:41.8±0.1, 24.°43N×121.°38E, h0km, M3.5*
IASPEI ***28*** *06:27:42.6±0.9, 24.°44N±0.°02×121.°43E±0.°02, h5km±6km, mb3.5/5, Error ellipse: s-maj=2.8km s-min=2.3km az=104.2, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
TAP ***28*** *06:27:42.2, 24.°43N×121.°43E, h6km, ML3.7, B*
IDC ***28*** *06:27:43.7±1.2, 24.°09N×120.°62E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/44, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=40.9km s-min=22.4km az=67.0*
ISC 28 06:27:42.5±1.1, 24.°44N±0.°02×121.°44E±0.°02, h0km±8km, n60, σ0°91/94, mb3.5/5, 8C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNSH	Datong baz=270	0.06	263	⇓iP		Pg	06 27 44.1	+0.4
NNSH	baz=270			S		Sg	06 27 44.9	+0.5
NNSB	Datong baz=267	0.06	263	⇓iP		Pg	06 27 44.1	+0.4
NNSB	baz=267			iS		Sg	06 27 44.9	+0.5
NNS	Nan Shan baz=278	0.06	274	⇓iP		Pg	06 27 44.1	+0.3
NNS	baz=278			iS		Sg	06 27 45.1	+0.4
NDT	Datong Townshi baz=22	0.18	21	⇑iP		Pg	06 27 46.4	+0.4
NDT	baz=22			S		Sg	06 27 49.4	+1.1
ETLH	Xiulin Townshi baz=173	0.23	171	eP		Pg	06 27 48.1	+1.1
ETLH	baz=173			eS		Sg	06 27 51.1	+1.1
ENTT	Nioudou baz=21	0.23	29	⇑iP		Pg	06 27 47.5	+0.5
ENTT	baz=21			eS		Sg	06 27 50.9	+0.9
YHNB	Yeheng baz=348	0.24	345	⇑iP		Pg	06 27 47.7	+0.5
YHNB	baz=348			S		Sg	06 27 50.7	+0.3
NSK	Sanguang baz=346	0.25	342	⇑iP		Pg	06 27 47.8	+0.4
NSK	baz=346			S		Sg	06 27 51.0	+0.3
FUSS	Fushou baz=225	0.26	224	P		Pg	06 27 47.7	+0.2
FUSS	baz=225			eS		Sg	06 27 51.7	+0.7
NACB	Ninganchiao baz=150	0.29	152	eP		Pg	06 27 49.0	+0.8
NACB	baz=150			eS		Sg	06 27 53.2	+1.2
TWT	Tachien baz=234	0.30	233	P		Pg	06 27 48.6	+0.2
EWUT	Wuta baz=86	0.31	88	P		Pg	06 27 48.9	+0.5
EWUT	baz=86			eS		Sg	06 27 52.9	+0.5
NDS	Dongshan baz=63	0.32	51	P		Pg	06 27 49.0	+0.3
NDS	baz=63			eS		Sg	06 27 54.0	+1.3
TDCB	Techi baz=230	0.32	235	eP		Pg	06 27 48.6	0.0
ETL	Fush Village baz=147	0.32	149	P		Pg	06 27 49.7	+1.0
ETL	baz=147			eS		Sg	06 27 54.2	+1.3
WHF	Hehuan Shan baz=195	0.33	209	P		Pg	06 27 49.2	+0.3
WHF	baz=195			eS		Sb	06 27 56.4	-1.1
NWLT	Wulai baz=10.0	0.34	9	iP		Pg	06 27 49.6	+0.4
NWLT	baz=10.0			S		Sg	06 27 53.6	0.0
TWE	Neicheng baz=33	0.35	36	⇑iP		Pg	06 27 49.9	+0.6
TWE	baz=33			S		Sg	06 27 54.5	+0.6
TWD	Chiawan baz=155	0.38	158	P		Pg	06 27 50.7	+0.9
TWD	baz=155			S		Sg	06 27 55.9	+1.1
TWC	Suao baz=64	0.41	65	⇑iP		Pg	06 27 50.6	+0.2
TWC	baz=64			S		Sg	06 27 56.2	+0.6
NJD	Zhudong baz=316	0.44	313	eP		Pg	06 27 51.4	+0.4
NJD	baz=316			S		Sb	06 27 58.8	-1.5
LIOB	Emei baz=302	0.44	298	⇑iP		Pb	06 27 51.9	-1.3
LIOB	baz=302			S		Sg	06 27 57.8	+1.0
CHGB	Renai baz=213	0.45	213	P		Pg	06 27 50.9	-0.2
NSTT	Nanjuang baz=299	0.45	296	⇑iP		Pg	06 27 51.8	+0.7
NSTT	baz=299			S		Sg	06 27 57.6	+0.7
ETM	Tongmen baz=161	0.47	174	eP		Pg	06 27 52.0	+0.5
HWA	Hwalien baz=150	0.48	162	eP		Pb	06 27 53.0	-0.8
WHP	Taichung City baz=254	0.48	251	P		Pg	06 27 52.1	+0.3
WHP	baz=254			eS		Sg	06 27 58.3	+0.3
HSN1	Hsinchu baz=313	0.52	311	eP		Pb	06 27 54.0	-0.5
NHDH	Xindian Distri baz=8.0	0.53	8	eP		Pg	06 27 53.2	+0.5
NHDH	baz=8.0			S		Sg	06 28 00.3	+0.7
OWD	Renai baz=198	0.54	207	eP		Pg	06 27 52.4	-0.5
TATO	Taipei baz=4.0	0.54	4	eP		Pg	06 27 53.5	+0.6
TATO	baz=4.0			eS		Sg	06 27 59.6	-0.3
NTC	Toucheng baz=24	0.55	40	eP		Pg	06 27 53.2	+0.2
TWA	Mucha baz=14	0.56	13	P		Pg	06 27 53.9	+0.6
TWA	baz=14			S		Sg	06 28 00.7	+0.2
NJN	Zhunan baz=289	0.58	295	eP		Pb	06 27 55.2	-0.3
NJN	baz=289			eS		Sb	06 28 03.0	-1.2
WPL	Puli Township baz=226	0.61	227	eP		Pg	06 27 54.1	-0.2
TWQ1	Liyutan baz=263	0.62	262	eP		Pb	06 27 55.1	-1.1
ESL	Shilin baz=179	0.62	181	eP		Pg	06 27 54.4	0.0
NSY	Sanyi baz=269	0.62	268	P		Pb	06 27 55.7	-0.5
TIPB	Shuangxi baz=20	0.64	33	P		Pg	06 27 55.0	+0.2
TWS1	Kuangyinshan baz=360	0.66	358	eP		Pb	06 27 57.0	+0.1
YM01	YM01 baz=10.0	0.72	9	eP		Pb	06 27 57.4	-0.6
SMLT	Sun Moon Lake baz=230	0.74	222	P		Pg	06 27 56.4	-0.4
TWB1	Santiao Chiao baz=50	0.76	41	eP		Pg	06 27 56.9	-0.2
YM08	YM08 baz=11	0.76	10	eP		Pg	06 27 57.7	+0.5
EHY	Hungye baz=177	0.93	187	eP		Pg	06 28 00.3	-0.1
JYNG	Yonagunijimaku	1.37	89	P		Pn	06 28 08.5	-0.4
JYNG				eS		Sg	06 28 26.5	-0.1
YOJ	Yonaguni jima	1.43	89	P		Pn	06 28 09.2	-0.5
YOJ				S		Sn	06 28 29.5	+0.4
IRIF	Iriomote-Funau	2.09	92	P		Pn	06 28 17.5	-1.2
IRIF				eS		Sn	06 28 44.6	-0.8
HATJ	Hateruma jima	2.19	99	P		Pb	06 28 21.5	-1.5
HATJ				eS		Sb	06 28 49.9	-0.7
JKRS	Kuro-shima	2.35	94	P		Pn	06 28 23.1	+0.8
JKRS				S		Sn	06 28 53.3	+1.4
JIJ	Ishigaki jima	2.46	91	P		Pn	06 28 23.3	-0.6
JIJ				eS		Sb	06 28 56.5	-2.0
JISG	Ishigakijimahi	2.62	86	P		Pn	06 28 25.6	-0.4
JISG				eS		Sn	06 28 58.9	+0.4
JTJ	Tarama	2.98	85	P		Pn	06 28 32.0	+1.1
JTJ				eS		Sn	06 29 09.0	+1.7
JOW	Kunigami 2.6nm,0.3s,baz=283,slow=18,SNR=2.2	6.61	67	Pn		Pb	06 29 34.5	-3.9
KSRS	Korea Array 0.3nm,0.3s,baz=204,slow=12,SNR=2.2	14.11	22	Pn		P	06 31 13.4	+1.8
SONM	Songino Array 0.5nm,0.4s,baz=148,slow=8.5,SNR=2.8	26.23	337	P		P	06 33 19.5	+0.2
MKAR	Makanchi Array 0.4nm,0.7s,baz=110,slow=10,SNR=4.2	38.32	316	P		P	06 35 05.4	+0.4
WRA	Warramunga Arr 0.5nm,0.6s,baz=346,slow=8.8,SNR=2.3	45.86	163	P		P	06 36 05.1	-1.6
ASAR	Alice Springs 0.3nm,0.6s,baz=345,slow=7.0,SNR=4.3	49.32	165	P		P	06 36 35.3	+1.8
FINES	FINESS Array B 0.4nm,0.3s,baz=199,slow=34,SNR=2.0	71.35	330	P		P	06 39 03.6	-0.3

ASIES ***28*** *06:27:52.6, 24.°44N×121.°43E, h20km, MW3.9*
IASPEI ***28*** *06:27:53.8±0.9, 24.°43N±0.°01×121.°46E±0.°01, h4km±6km, Error ellipse: s-maj=2.1km s-min=1.7km az=111.5, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
TAP ***28*** *06:27:53.5, 24.°43N×121.°44E, h7km, ML4.3, B*
JMA ***28*** *06:27:54.0, 24.°44N×121.°41E, h5km±1km, M4.1*
NIED ***28*** *06:27:54.1, 24.°44N×121.°41E, h5km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.05; $M_{\theta\theta}$0.38; $M_{\phi\phi}$0.68; $M_{r\theta}$-0.10; $M_{\phi\theta}$-0.32; $M_{\phi r}$0.27; Fault plane solution: $M_0$1.01000×10^{15} NP1: ϕ_s151.00000°, δ53.00000°, λ-87.00000°. NP2: ϕ_s325.00000°, δ37.00000°, λ-94.00000°.*
ISC 28 06:27:53.6±0.9, 24.°43N±0.°01×121.°46E±0.°01, h4km±6km, n136, σ0°72/233, 2C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNSB	Datong baz=270	0.07	272	⇓iP		Pg	06 27 55.4	+0.1
NNSB	baz=270			S		Sg	06 27 56.3	-0.2
NNSH	Datong baz=272	0.07	272	⇑iP		Pg	06 27 55.4	+0.1
NNSH	baz=272			S		Sg	06 27 56.3	-0.2
NNS	Nan Shan baz=280	0.08	279	⇑iP		Pg	06 27 55.5	0.0
NNS	baz=280			iS		Sg	06 27 56.5	-0.2
NDT	Datong Townshi baz=21	0.18	15	P		Pg	06 27 57.7	+0.5
NDT	baz=21			eS		Sg	06 28 00.5	+0.9
ETLH	Xiulin Townshi baz=168	0.22	175	eP		Pg	06 27 59.5	+1.5
ETLH	baz=168			eS		Sg	06 28 02.3	+1.5
ENTT	Nioudou baz=30	0.23	24	⇓iP		Pg	06 27 58.8	+0.6
ENTT	baz=30			eS		Sg	06 28 02.2	+1.0
YHNB	Yeheng baz=347	0.26	342	P		Pg	06 27 59.1	+0.5
YHNB	baz=347			S		Sg	06 28 01.9	-0.2
NSK	Sanguang baz=345	0.27	339	P		Pg	06 27 59.3	+0.4
NSK	baz=345			S		Sg	06 28 02.1	-0.3
FUSS	Fushou baz=231	0.27	228	P		Pg	06 27 59.1	+0.2
FUSS	baz=231			S		Sg	06 28 02.7	+0.2
EHP	Heping Village baz=99	0.28	114	S		Sb	06 28 05.0	-1.3
NACB	Ninganchiao baz=149	0.28	154	eP		Pb	06 28 00.7	-0.6
NACB	baz=149			eS		Sb	06 28 04.6	-1.6
EWUT	Wuta baz=86	0.29	86	P		Pb	06 28 00.4	-1.0
EWUT	baz=86			S		Sg	06 28 04.3	+1.3
ETL	Fush Village baz=147	0.30	151	eP		Pb	06 28 01.5	-0.1
ETL	baz=147			eS		Sb	06 28 05.6	-1.4
NDS	Dongshan baz=62	0.31	48	P		Pg	06 28 00.2	+0.5
NDS	baz=62			eS		Sb	06 28 06.1	-1.1
TWT	Tachien baz=235	0.31	237	eP		Pg	06 28 00.0	+0.2
TWT	baz=235			eS		Sg	06 28 04.1	+0.2
TDCB	Techi baz=236	0.33	238	P		Pg	06 27 59.9	-0.1
TDCB	baz=236			eS		Sg	06 28 05.0	+0.7

WHF	**Hehuan Shan**	**0.33**	**213**	*e*P	**Pg**	**06 28 00.7**	**+0.5**
	baz=195						
WHF				*e*S	**Sg**	**06 28 06.3**	**+1.6**
	baz=195						
TWE	**Neicheng**	**0.35**	**32**	P	**Pg**	**06 28 01.1**	**+0.7**
	baz=37						
TWE				S	**Sg**	**06 28 06.1**	**+1.1**
	baz=37						
NWLT	**Wulai**	**0.35**	**6**	*e*P	**Pg**	**06 28 00.9**	**+0.5**
	baz=2.0						
NWLT				S	**Sg**	**06 28 04.8**	**-0.2**
	baz=2.0						
TWD	**Chiawan**	**0.37**	**160**	*e*P	**Pb**	**06 28 02.1**	**-0.6**
	baz=155						
TWD				*e*S	**Sg**	**06 28 06.9**	**+1.4**
	baz=155						
TWC	**Suao**	**0.40**	**63**	P	**Pg**	**06 28 02.1**	**+0.8**
	baz=64						
TWC				*e*S	**Sg**	**06 28 07.8**	**+1.3**
	baz=64						
ILA	**Ilan**	**0.43**	**38**	*e*P	**Pg**	**06 28 00.3**	**-1.5**
	baz=53						
CHGB	**Renai**	**0.45**	**216**	*e*P	**Pg**	**06 28 02.5**	**+0.1**
	baz=214						
CHGB				*e*S	**Sg**	**06 28 08.6**	**+0.4**
	baz=214						
NJD	**Zhudong**	**0.46**	**312**	*e*P	**Pb**	**06 28 03.8**	**-0.6**
	baz=325						
NJD				*e*S	**Sb**	**06 28 10.2**	**-1.3**
	baz=325						
ETM	**Tongmen**	**0.46**	**177**	*e*P	**Pb**	**06 28 03.4**	**-0.9**
	baz=173						
ETM				*e*S	**Sg**	**06 28 09.3**	**+0.8**
	baz=173						
LIOB	**Emei**	**0.46**	**298**	*i* P	**Pg**	**06 28 03.2**	**+0.7**
	baz=302						
LIOB				S	**Sg**	**06 28 09.0**	**+0.5**
	baz=302						
HWA	**Hwalien**	**0.47**	**164**	*e*P	**Pb**	**06 28 03.8**	**-0.6**
	baz=159						
HWA				*e*S	**Sb**	**06 28 11.2**	**-0.4**
	baz=159						
NSTT	**Nanjuang**	**0.47**	**296**	⇓*i*P	**Pg**	**06 28 03.1**	**+0.4**
	baz=299						
NSTT				*i* S	**Sg**	**06 28 09.0**	**+0.3**
	baz=299						
WHP	**Taichung City**	**0.49**	**253**	P	**Pg**	**06 28 03.4**	**+0.2**
	baz=253						
WHP				*e*S	**Sg**	**06 28 09.2**	**-0.4**
	baz=253						
HSN1	**Hsinchu**	**0.54**	**311**	*e*P	**Pb**	**06 28 05.1**	**-0.5**
	baz=313						
NHDH	**Xindian Distri**	**0.54**	**6**	*e*P	**Pb**	**06 28 05.4**	**-0.3**
	baz=8.0						
NHDH				*e*S	**Sg**	**06 28 11.4**	**+0.4**
	baz=8.0						
OWD	**Renai**	**0.54**	**209**	*e*P	**Pg**	**06 28 03.9**	**-0.1**
	baz=199						
NTC	**Toucheng**	**0.54**	**38**	*e*P	**Pb**	**06 28 05.2**	**-0.5**
	baz=23						
TATO	**Taipei**	**0.55**	**2**	*e*P	**Pb**	**06 28 05.4**	**-0.4**
	baz=4.0						
TATO				*e*S	**Sg**	**06 28 11.5**	**+0.1**
	baz=4.0						
TWA	**Mucha**	**0.56**	**11**	*e*P	**Pb**	**06 28 05.8**	**-0.3**
	baz=13						
TWA				*e*S	**Sg**	**06 28 12.4**	**+0.6**
	baz=13						
SBCB	**Hsinchu**	**0.57**	**310**	*e*P	**Pb**	**06 28 06.1**	**0.0**
	baz=313						
SBCB				*e*S	**Sb**	**06 28 14.8**	**+0.3**
	baz=313						
BACT	**New Taipei Cit**	**0.57**	**358**	*e*P	**Pb**	**06 28 05.9**	**-0.2**
	baz=1.0						
TEYL	**Yanliau Villag**	**0.57**	**167**	*e*P	**Pb**	**06 28 05.4**	**-0.8**
	baz=163						
TEYL				*e*S	**Sb**	**06 28 13.8**	**-0.8**
	baz=163						
HSN	**Hsinchu**	**0.58**	**310**	*e*P	**Pb**	**06 28 07.0**	**+0.6**
	baz=318						
HSN				S	**Sb**	**06 28 14.3**	**-0.7**
	baz=318						
NCUH	**Zhongli**	**0.59**	**335**	*e*P	**Pb**	**06 28 07.0**	**+0.4**
	baz=345						
NCUH				*e*S	**Sb**	**06 28 15.8**	**+0.5**
	baz=345						
NCU	**National Centr**	**0.60**	**335**	*e*P	**Pb**	**06 28 06.8**	**+0.2**
	baz=346						
NCU				*e*S	**Sb**	**06 28 16.1**	**+0.7**
	baz=346						
NJN	**Zhunan**	**0.60**	**296**	*e*P	**Pb**	**06 28 06.4**	**-0.3**
	baz=286						
NJN				*e*S	**Sb**	**06 28 14.5**	**-0.9**
	baz=286						
ESL	**Shilin**	**0.61**	**183**	*e*P	**Pb**	**06 28 06.5**	**-0.4**
	baz=179						
ESL				*e*S	**Sb**	**06 28 14.5**	**-1.3**
	baz=179						
NHY	**Taipei**	**0.62**	**9**	*e*P	**Pg**	**06 28 06.2**	**+0.6**
	baz=11						
NHY				*e*S	**Sb**	**06 28 15.0**	**-1.0**
	baz=11						
WPL	**Puli Township**	**0.62**	**228**	*e*P	**Pg**	**06 28 05.3**	**-0.2**
	baz=235						
WPL				*e*S	**Sb**	**06 28 15.1**	**-1.0**
	baz=235						
NMLH	**Miaoli**	**0.62**	**280**	*e*P	**Pb**	**06 28 06.7**	**-0.3**
	baz=282						
NMLH				*e*S	**Sg**	**06 28 14.9**	**+1.2**
	baz=282						
WCS	**Beigang Elemen**	**0.62**	**234**	*e*P	**Pg**	**06 28 05.4**	**-0.2**
	baz=233						
TWQ1	**Liyutan**	**0.63**	**263**	*i* P	**Pb**	**06 28 06.6**	**-0.7**
	baz=264						
TWQ1				S	**Sg**	**06 28 15.2**	**+1.2**
	baz=264						
TIPB	**Shuangxi**	**0.64**	**31**	P	**Pg**	**06 28 06.2**	**+0.3**
	baz=19						
TIPB				S	**Sg**	**06 28 13.8**	**-0.4**
	baz=19						
NSY	**Sanyi**	**0.64**	**269**	*i* P	**Pb**	**06 28 06.8**	**-0.6**
	baz=270						
NSY				S	**Sb**	**06 28 15.6**	**-1.0**
	baz=270						
TWS1	**Kuangyinshan**	**0.67**	**357**	P	**Pb**	**06 28 08.4**	**+0.5**
	baz=8.0						
TWS1				S	**Sb**	**06 28 17.5**	**-0.1**
	baz=8.0						
WFSB	**Wu-fen Shan**	**0.70**	**24**	*e*P	**Pb**	**06 28 07.8**	**-0.7**
	baz=25						
WFSB				*e*S	**Sg**	**06 28 16.9**	**+0.5**
	baz=25						
TEGC	**Jichi Village**	**0.72**	**174**	*e*P	**Pg**	**06 28 07.4**	**0.0**
	baz=172						
YM01	**YM01**	**0.72**	**8**	*e*P	**Pb**	**06 28 08.6**	**-0.2**
	baz=9.0						
YM01				*e*S	**Sg**	**06 28 17.2**	**+0.2**
	baz=9.0						
NTST	**Danshui**	**0.73**	**359**	P	**Pb**	**06 28 09.6**	**+0.6**
	baz=9.0						
NTST				*e*S	**Sb**	**06 28 19.9**	**+0.5**
	baz=9.0						
SMLT	**Sun Moon Lake**	**0.75**	**224**	P	**Pg**	**06 28 08.0**	**0.0**
	baz=213						
SMLT				*e*S	**Sb**	**06 28 19.4**	**-0.4**
	baz=213						
TWB1	**Santiao Chiao**	**0.75**	**39**	P	**Pb**	**06 28 08.6**	**-0.7**
	baz=40						
TWB1				*e*S	**Sb**	**06 28 18.8**	**-1.1**
	baz=40						
WDJ	**Dajia District**	**0.75**	**264**	*e*P	**Pb**	**06 28 09.9**	**+0.6**
	baz=264						
EGFH	**Guangfu**	**0.76**	**182**	*e*P	**Pb**	**06 28 09.0**	**-0.3**
	baz=180						
EGFH				*e*S	**Sb**	**06 28 18.9**	**-1.1**
	baz=180						
ANP	**Anpu**	**0.76**	**4**	P	**Pb**	**06 28 09.3**	**-0.1**
	baz=21						
ANP				*e*S	**Sb**	**06 28 20.6**	**+0.4**
	baz=21						
TYC	**Yuchr**	**0.76**	**227**	P	**Pg**	**06 28 07.9**	**-0.4**
	baz=217						
TYC				*e*S	**Sb**	**06 28 20.0**	**-0.1**
	baz=217						
YM08	**YM08**	**0.77**	**9**	*e*P	**Pb**	**06 28 09.2**	**-0.4**
	baz=10.0						
TCU	**Taichung**	**0.77**	**249**	*e*P	**Pb**	**06 28 09.7**	**+0.2**
	baz=260						
TCU				*e*S	**Sb**	**06 28 20.4**	**0.0**
	baz=260						
TNOU	**National Taiwa**	**0.77**	**21**	*e*P	**Pb**	**06 28 09.7**	**0.0**
	baz=23						
SSLB	**Suanglung**	**0.79**	**216**	*e*P	**Pg**	**06 28 07.7**	**-1.1**
	baz=215						
WWF	**Wufeng**	**0.80**	**241**	*e*P	**Pb**	**06 28 10.7**	**+0.7**
	baz=235						
WNT1	**Nantou City**	**0.88**	**234**	*e*P	**Pn**	**06 28 12.2**	**-0.6**
	baz=234						
WNT1				*e*S	**Sn**	**06 28 26.5**	**+0.5**
	baz=234						
WCHH	**Zhanghua**	**0.89**	**247**	P	**Pb**	**06 28 12.2**	**+0.5**
	baz=248						
WCHH				*e*S	**Sn**	**06 28 25.7**	**-0.6**
	baz=248						
WNT	**Mingjian**	**0.90**	**233**	P	**Pb**	**06 28 11.9**	**+0.1**
	baz=232						
WNT				S	**Sn**	**06 28 27.4**	**+1.0**
	baz=232						
WJS	**Zhushan**	**0.90**	**228**	P	**Pb**	**06 28 11.5**	**-0.4**
	baz=222						
WJS				S	**Sn**	**06 28 26.9**	**+0.4**
	baz=222						
WHYT	**Xinyi Township**	**0.92**	**218**	*e*P	**Pg**	**06 28 10.9**	**-0.3**
	baz=217						
EHY	**Hungye**	**0.93**	**188**	*e*P	**Pb**	**06 28 12.1**	**-0.1**
	baz=179						
EHY				*e*S	**Sb**	**06 28 24.7**	**-0.2**
	baz=179						
WYL	**Yuanlin Townsh**	**0.93**	**240**	*e*P	**Pb**	**06 28 12.5**	**+0.2**
	baz=241						
WYL				*e*S	**Sn**	**06 28 27.0**	**-0.2**
	baz=241						
HGSD	**Ruisui**	**0.93**	**182**	*e*P	**Pb**	**06 28 12.6**	**+0.2**
	baz=189						
YULB	**Yu-li**	**1.04**	**188**	P	**Pb**	**06 28 13.9**	**-0.3**
	baz=174						
YULB				*e*S	**Sb**	**06 28 28.4**	**+0.2**
	baz=174						
TWF1	**Yuli**	**1.08**	**188**	P	**Pb**	**06 28 14.8**	**-0.1**
	baz=174						
TWF1				*e*S	**Sb**	**06 28 29.5**	**+0.2**
	baz=174						
EYUL	**Yuli**	**1.08**	**187**	*e*P	**Pb**	**06 28 15.0**	**0.0**
	baz=175						
EYUL				*e*S	**Sn**	**06 28 30.1**	**-0.9**
	baz=175						
ALS	**Alishan**	**1.09**	**214**	P	**Pb**	**06 28 15.1**	**-0.2**
	baz=212						
ALS				*e*S	**Sn**	**06 28 31.4**	**-0.2**
	baz=212						
CHN5	**Tsauling**	**1.09**	**221**	P	**Pn**	**06 28 15.4**	**-0.4**
	baz=220						
CHN5				*e*S	**Sb**	**06 28 30.5**	**+0.7**
	baz=220						
ECBN	**Changbin**	**1.10**	**181**	*e*P	**Pn**	**06 28 16.9**	**+1.0**
	baz=165						
WGK	**Gukeng**	**1.10**	**228**	*e*P	**Pn**	**06 28 15.6**	**-0.3**
	baz=228						
WGK				*e*S	**Sn**	**06 28 32.4**	**+0.8**
	baz=228						
WDLH	**Douliu**	**1.12**	**229**	*e*P	**Pb**	**06 28 15.7**	**+0.1**
	baz=229						
WDLH				*e*S	**Sn**	**06 28 32.1**	**+0.2**
	baz=229						
WRL	**Guolierlin Hig**	**1.12**	**242**	P	**Pb**	**06 28 15.3**	**-0.3**
	baz=244						
WRL				*e*S	**Sg**	**06 28 30.0**	**+0.3**
	baz=244						
WTK	**Tuku**	**1.23**	**233**	P	**Pg**	**06 28 17.1**	**-0.1**
	baz=234						
WTK				S	**Sn**	**06 28 34.3**	**-0.2**
	baz=234						
FULB	**Fuli**	**1.23**	**187**	*e*P	**Pn**	**06 28 18.1**	**+0.5**
	baz=195						
FULB				*e*S	**Sn**	**06 28 34.2**	**-0.5**
	baz=195						
CHN2	**Minshiung**	**1.27**	**226**	*e*P	**Pn**	**06 28 18.0**	**-0.1**
	baz=225						
CHN2				*e*S	**Sn**	**06 28 35.5**	**-0.1**
	baz=225						
ELDTW	**Lidau**	**1.30**	**198**	*e*P	**Pg**	**06 28 18.4**	**-0.2**
	baz=186						
ELDTW				*e*S	**Sb**	**06 28 35.9**	**+0.2**
	baz=186						
CHKT	**Chengkung**	**1.32**	**184**	*e*P	**Pg**	**06 28 19.2**	**+0.2**
	baz=169						
CHY	**Chiayi**	**1.32**	**226**	*e*P	**Pn**	**06 28 18.6**	**-0.3**
	baz=225						
CHY				*e*S	**Sn**	**06 28 37.5**	**+0.5**
	baz=225						
JYNG	**Yonagunijimaku**	**1.35**	**89**	P	**Pg**	**06 28 20.2**	**+0.6**
JYNG				S	**Sn**	**06 28 38.9**	**+1.3**
TPUB	**Ta-pu**	**1.35**	**214**	*e*P	**Pn**	**06 28 19.3**	**-0.1**
	baz=213						
TPUB				*e*S	**Sn**	**06 28 38.0**	**+0.2**
	baz=213						
WSF	**Szhu**	**1.38**	**236**	P	**Pn**	**06 28 19.4**	**-0.3**
	baz=249						
WSF				S	**Sn**	**06 28 38.2**	**-0.1**
	baz=249						
STYH	**Taoyuan**	**1.40**	**207**	*e*P	**Pg**	**06 28 20.3**	**-0.2**
	baz=219						
STYH				*e*S	**Sn**	**06 28 39.3**	**+0.5**
	baz=219						
WTP	**Ta-pu**	**1.41**	**214**	*e*P	**Pn**	**06 28 20.2**	**+0.1**
	baz=212						
WTP				*e*S	**Sn**	**06 28 39.2**	**0.0**
	baz=212						
YOJ	**Yonaguni jima**	**1.41**	**88**	P	**Pg**	**06 28 20.9**	**+0.2**
YOJ				S	**Sn**	**06 28 40.3**	**+1.2**
YOJ	**Yonaguni jima**	**1.41**	**88**	*e*P	**Pg**	**06 28 20.5**	**-0.3**
	baz=77						
YOJ				*e*S	**Sn**	**06 28 39.8**	**+0.7**
	baz=77						
STYT	**Tauyuan**	**1.41**	**207**	P	**Pg**	**06 28 20.9**	**+0.1**
	baz=219						
STYT				*e*S	**Sn**	**06 28 40.0**	**+0.7**
	baz=219						
EDH	**Donghe**	**1.46**	**186**	*e*P	**Pn**	**06 28 20.8**	**+0.1**
	baz=169						
EDH				*e*S	**Sg**	**06 28 40.5**	**0.0**
	baz=169						
TWK	**Hsinying**	**1.46**	**218**	P	**Pb**	**06 28 21.4**	**0.0**
	baz=216						
TWK				*e*S	**Sg**	**06 28 42.4**	**+1.9**
	baz=216						
SNST	**Tainan City**	**1.49**	**217**	*e*P	**Pn**	**06 28 21.3**	**+0.1**
	baz=216						
CHN1	**Nanshi**	**1.50**	**215**	P	**Pg**	**06 28 22.5**	**0.0**
	baz=213						
CHN1				*e*S	**Sg**	**06 28 42.4**	**+0.4**
	baz=213						
ICHU	**Yijhu**	**1.52**	**226**	*e*P	**Pn**	**06 28 21.2**	**-0.3**
	baz=246						
ICHU				*e*S	**Sg**	**06 28 42.3**	**0.0**
	baz=246						
LONT	**Longtian**	**1.54**	**191**	*e*P	**Pb**	**06 28 22.6**	**-0.2**
	baz=174						
SGST	**Jiashian**	**1.56**	**211**	P	**Pn**	**06 28 22.3**	**+0.1**
	baz=209						
SGST				S	**Sb**	**06 28 43.4**	**+0.2**
	baz=209						
CHN8	**Yiju**	**1.57**	**227**	*e*P	**Pb**	**06 28 22.8**	**-0.5**
	baz=227						
SLGT	**Liugui**	**1.61**	**208**	P	**Pg**	**06 28 24.3**	**-0.2**
	baz=221						
SLGT				*e*S	**Sg**	**06 28 46.8**	**+1.4**
	baz=221						
TWG	**Pinlang**	**1.64**	**193**	*e*P	**Pg**	**06 28 25.2**	**+0.2**
	baz=176						
TWG				*e*S	**Sg**	**06 28 47.6**	**+1.3**
	baz=176						
TWGBT	**Beinan**	**1.64**	**192**	*e*P	**Pb**	**06 28 24.3**	**-0.1**
	baz=174						
CHN3	**Shinhua**	**1.68**	**217**	*e*P	**Pg**	**06 28 26.2**	**+0.4**
	baz=216						
LDUT	**Ludao**	**1.75**	**180**	*e*P	**Pb**	**06 28 25.3**	**-0.9**
	baz=165						
SCST	**Cishan**	**1.77**	**210**	*e*P	**Pg**	**06 28 27.2**	**-0.5**
	baz=210						
SSD	**Sandimen**	**1.84**	**205**	*e*P	**Pb**	**06 28 27.5**	**-0.3**
	baz=204						
TWM1	**Shoushan**	**1.86**	**211**	*e*P	**Pb**	**06 28 27.6**	**-0.6**
	baz=210						
TSMG	**Majia**	**1.87**	**204**	*e*P	**Pb**	**06 28 27.7**	**-0.7**
	baz=202						
TSMG				*e*S	**Sn**	**06 28 50.9**	**+0.5**
	baz=202						
ECL	**Taimali**	**1.88**	**194**	*e*P	**Pb**	**06 28 28.7**	**+0.2**
	baz=177						
PNG	**Penghu**	**1.94**	**244**	*e*P	**Pn**	**06 28 28.2**	**+0.8**
	baz=248						
PNG				*e*S	**Sn**	**06 28 51.5**	**-0.7**
	baz=248						
PHUB	**P'eng-hu**	**1.95**	**243**	*e*P	**Pn**	**06 28 26.9**	**-0.7**
	baz=243						
MASBT	**Mashibuluo**	**1.96**	**203**	*e*P	**Pb**	**06 28 29.6**	**-0.3**
	baz=201						
MASBT				*e*S	**Sb**	**06 28 54.1**	**-0.6**
	baz=201						
WDGT	**Dungji**	**2.02**	**235**	*e*P	**Pn**	**06 28 29.3**	**+0.9**
	baz=235						
IRIF	**Iriomote-Funau**	**2.07**	**92**	P	**Pb**	**06 28 30.4**	**-1.4**
IRIF				*e*S	**Sb**	**06 28 57.0**	**-0.8**
HATJ	**Hateruma jima**	**2.17**	**99**	P	**Pb**	**06 28 32.4**	**-1.1**
HATJ				*e*S	**Sb**	**06 29 00.0**	**-0.7**
MATB	**Ma-tsu**	**2.20**	**322**	*e*P	**Pn**	**06 28 31.0**	**+0.1**
	baz=320						
PTMZ	**Houxiangcun**	**2.22**	**286**	*e*P	**Pn**	**06 28 31.4**	**+0.3**
	baz=286						
VCHM	**Qimei**	**2.22**	**237**	*e*P	**Pn**	**06 28 32.1**	**+0.9**
	baz=238						
MSUT	**Lienchiang**	**2.23**	**322**	*e*P	**Pn**	**06 28 30.6**	**-0.7**
	baz=321						
SLIU	**Shizi**	**2.28**	**196**	*e*P	**Pb**	**06 28 35.5**	**0.0**
	baz=178						
JKRS	**Kuro-shima**	**2.33**	**94**	P	**Pb**	**06 28 34.4**	**-1.8**
JKRS				*e*S	**Sb**	**06 29 03.4**	**-1.9**
JIJ	**Ishigaki jima**	**2.44**	**91**	P	**Pn**	**06 28 35.2**	**+0.9**
JIJ				*e*S	**Sn**	**06 29 05.3**	**+0.7**
JISG	**Ishigakijimahi**	**2.60**	**86**	P	**Pn**	**06 28 37.5**	**+1.1**
JISG				*e*S	**Sb**	**06 29 10.6**	**-2.5**
LYJJ	**Jianjiangzhen**	**2.62**	**324**	*e*P	**Pn**	**06 28 36.5**	**-0.2**
	baz=324						
QZH	**Quanzhou**	**2.66**	**282**	Pn	**Pn**	**06 28 36.8**	**-0.5**
QZH				Pg	**Pb**	**06 28 42.8**	**+1.0**
QZH				Sn	**Sn**	**06 29 07.5**	**-2.5**
QZH				smax	smax		
	comp=N,420nm,0.5s						
QZH				smax	smax		
	comp=E,220nm,0.5s						
QZH				LR	LR		
	comp=N,1μm,10.6s						
QZH				LR	LR		
	comp=E,880nm,9.5s						
QZH				LR	LR		
	comp=Z,790nm,11.8s						
MHZQ	**Yeshan**	**2.76**	**308**	*e*P	**Pn**	**06 28 36.9**	**-1.8**
	baz=307						
JTJ	**Tarama**	**2.96**	**85**	P	**Pn**	**06 28 43.3**	**+1.9**
AXDP	**Jialang**	**3.21**	**279**	*e*P	**Pn**	**06 28 45.1**	**+0.3**
	baz=278						
ZPLA	**Ao Xicun**	**3.43**	**262**	*e*P	**Pn**	**06 28 47.1**	**-0.7**
	baz=263						
NJ2	**Nanjing**	**7.94**	**344**	*e*P	**Pn**	**06 29 49.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				smax	smax		
	comp=N,81nm,0.8s						
NJ2				smax	smax		
	comp=E,57nm,1.2s						
NJ2				LR	LR		
	comp=N,310nm,8.1s						
NJ2				LR	LR		
	comp=E,450nm,10.9s						
NJ2				LR	LR		
	comp=Z,440nm,10.4s						

IDC ***28*** *06:37:35.5±1.2,21°.84S×67°.10W,h185km±13km,mb3.2/3, mb1 3.5/6,mb1mx3.2/24,mbtmp3.8/6,Error ellipse: s-maj=26.8km s-min=17.4km az=124.0*
GUC ***28*** *06:37:36.7±0.6,21°.82S×67°.49W,h227km±9km,ML4.3*
VAO ***28*** *06:37:37.2±0.4,21°.83S×67°.13W,h191km±6km,mb3.7*
SCB ***28*** *06:37:38.8±2.1,21°.75S×67°.29W,h174km±12km,ML4.0/8, Error ellipse: s-maj=6.1km s-min=4.5km az=0.0*
ISC 28 06:37:35.7±0.6,21°.78S±0'.04×67°.22W±0'.04,h187km±7km, n59,σ1.967/83,mb3.2/3,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.56**	**71**	P	**Pn**	**06 38 11.0**	**+1.6**
MOCB				S	**Sn**	**06 38 35.3**	**-0.1**
MOCB				IAML		06 38 38.9	
	892nm,0.5s						
YJA	**Yavi**	**1.63**	**104**	P	**Pn**	**06 38 11.6**	**+1.6**
YJA				S	**Sn**	**06 38 36.4**	**-0.2**
LVC	**Limon Verde**	**1.77**	**242**	P	**Pn**	**06 38 12.6**	**+1.3**
	13nm,0.3s,baz=83,slow=6.9,SNR=157						
LVC				S	**Sn**	**06 38 39.7**	**+0.8**
	20nm,0.3s,baz=241,slow=19,SNR=25						
LVC	**Limon Verde**	**1.77**	**242**	P	**Pn**	**06 38 12.2**	**+0.9**
LVC	**Limon Verde**	**1.77**	**242**	*e*P	**Pn**	**06 38 12.6**	**+1.3**
PB01	**IPOC Station P**	**2.23**	**289**	⇑*i*P	**Pn**	**06 38 16.9**	**+0.9**
PB01				*i* S	**Sn**	**06 38 47.8**	**+0.6**
PB01				IAML		06 38 48.8	
	comp=N,2μm,0.4s						
PB01	**IPOC Station P**	**2.23**	**289**	P	**Pn**	**06 38 17.0**	**+1.1**
PB01				S	**Sn**	**06 38 45.3**	**-1.9**
PB01				IAML		06 38 49.7	
	comp=N,464nm,0.3s						
PB06	**IPOC Station P**	**2.37**	**247**	*e*P	**Pn**	**06 38 18.0**	**+0.6**
PB06				*e*S	**Sn**	**06 38 49.8**	**-0.2**
PB06				IAML		06 38 51.5	
	comp=E,566nm,0.1s						
PB06	**IPOC Station P**	**2.37**	**247**	P	**Pn**	**06 38 18.1**	**+0.6**
PB08	**IPOC Station P**	**2.43**	**312**	⇑*i*P	**Pn**	**06 38 20.5**	**+2.0**
PB08				*e*S	**Sn**	**06 38 53.3**	**+1.7**
PB08				IAML		06 38 56.3	
	comp=N,414nm,0.2s						
PB08	**IPOC Station P**	**2.43**	**312**	P	**Pn**	**06 38 19.6**	**+1.1**
PB08				S	**Sn**	**06 38 49.2**	**-2.4**
PB07	**IPOC Station P**	**2.48**	**271**	*e*P	**Pn**	**06 38 18.8**	**0.0**
PB07				*e*S	**Sn**	**06 38 51.6**	**-0.6**
PB07				IAML		06 38 52.7	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**2.48**	**271**	P	**Pn**	**06 38 19.5**	**+0.7**
PB07				S	**Sn**	**06 38 50.1**	**-2.1**
PB07				IAML		06 38 52.2	
	comp=E,514nm,0.8s						
PB02	**IPOC Station P**	**2.53**	**280**	⇑*i*P	**Pn**	**06 38 20.0**	**+0.7**
PB02				*e*S	**Sn**	**06 38 52.4**	**-0.8**
PB02	**IPOC Station P**	**2.53**	**280**	P	**Pn**	**06 38 19.9**	**+0.6**
PB02				S	**Sn**	**06 38 50.9**	**-2.3**
PB02				IAML		06 38 54.2	
	comp=E,833nm,0.3s						
PB04	**IPOC Station P**	**2.77**	**258**	⇑*e*P	**Pn**	**06 38 22.6**	**+0.5**
PB04				*e*S	**Sn**	**06 38 56.9**	**-1.5**
PB04				IAML		06 39 01.8	
	comp=N,535nm,0.2s						
PB04	**IPOC Station P**	**2.77**	**258**	P	**Pn**	**06 38 22.7**	**+0.5**
PB05	**IPOC Station P**	**2.96**	**248**	⇑*e*P	**Pn**	**06 38 24.8**	**+0.4**
PB05				*e*S	**Sn**	**06 39 00.1**	**-2.2**
PB05	**IPOC Station P**	**2.96**	**248**	P	**Pn**	**06 38 24.8**	**+0.4**
PB05				S	**Sn**	**06 38 58.5**	**-3.8**
PB05				IAML		06 39 01.7	
	comp=N,153nm,0.3s						
TA01	**Diego Aracena**	**3.01**	**293**	⇑*i*P	**Pn**	**06 38 24.9**	**0.0**
TA01				*e*S	**Sn**	**06 39 01.5**	**-1.7**
TA01				IAML		06 39 03.7	
	comp=N,586nm,0.3s						
PB11	**IPOC Station P**	**3.04**	**311**	⇑*i*P	**Pn**	**06 38 25.9**	**+0.5**
PB11				*e*S	**Sn**	**06 39 03.1**	**-0.9**
PB11				IAML		06 39 05.6	
	comp=N,1μm,0.2s						
PB11	**IPOC Station P**	**3.04**	**311**	P	**Pn**	**06 38 25.9**	**+0.5**
PB11				S	**Sn**	**06 39 01.3**	**-2.7**
PB11				IAML		06 39 04.8	
	comp=N,376nm,0.3s						
SLA	**San Lorenzo**	**3.33**	**152**	P	**Pn**	**06 38 29.8**	**+0.9**
MNMC	**Minye Minye**	**3.45**	**319**	⇑*i*P	**Pn**	**06 38 31.6**	**+1.1**
MNMC				*i* S	**Sn**	**06 39 13.5**	**+0.2**
**MNM

PSGC				IAML		06 39 16.3	
	comp=N,114nm,0.4s						
PB10	**IPOC Station P**	**3.53**	**240**	*eP*	**Pn**	**06 38 30.9**	**-0.2**
PB10				*eS*	**Sn**	**06 39 10.3**	**-4.4**
PB10	**IPOC Station P**	**3.53**	**240**	P	**Pn**	**06 38 31.2**	**0.0**
PB14	**IPOC Station P**	**4.08**	**225**	P	**Pn**	**06 38 38.2**	**-0.1**
BBOE	**La Paz, Chanca**	**4.99**	**352**	P	**Pn**	**06 38 51.1**	**+0.8**
LPAZ	**La Paz**	**5.53**	**351**	P	**Pn**	**06 38 59.1**	**+1.9**
	comp=N,3.0nm,0.3s,baz=162,slow=6.8,SNR=165						
LPAZ	**La Paz**	**5.53**	**351**	P	**Pn**	**06 38 58.3**	**+1.0**
LPAZ	**La Paz**	**5.53**	**351**	*eP*	**Pn**	**06 38 59.2**	**+1.9**
SIV	**San Ignacio**	**8.18**	**46**	P	**Pn**	**06 39 30.0**	**-1.6**
	comp=N,5.5nm,0.3s,baz=250,slow=9.2,SNR=114						
SIV				S	**Sn**	**06 40 56.5**	**-7.0**
	comp=N,2.3nm,0.3s,baz=171,slow=17,SNR=8.3						
SIV	**San Ignacio**	**8.18**	**46**	P	**Pn**	**06 39 30.5**	**-1.0**
PTLB	**Pontes e Lacer**	**9.91**	**52**	*eP*	**Pn**	**06 39 54.3**	**+0.2**
CPUP	**Villa Florida**	**10.11**	**119**	*eP*	**Pn**	**06 39 56.7**	**+0.1**
VILB	**Vilhena**	**11.04**	**38**	*eP*	**Pn**	**06 40 11.4**	**+2.7**
ETMB	**Extrema**	**11.93**	**5**	*eP*	**Pn**	**06 40 23.3**	**+3.2**
CZSB	**Cruzeiro do Su**	**14.93**	**338**	*eP*	**P**	**06 40 60.0**	**+1.1**
PLTB	**Pedras Altas**	**15.70**	**132**	*eP*	**P**	**06 41 07.3**	**+0.1**
FRTB	**Fartura**	**16.39**	**99**	*eP*	**Pn**	**06 41 16.5**	**+1.1**
TRQA	**Tornquist**	**16.84**	**166**	*eP*	**Pn**	**06 41 20.3**	**-0.4**
BB19B	**Bebedouro**	**17.42**	**91**	*eP*	**P**	**06 41 26.5**	**+0.3**
TER01	**Tubaro-SC**	**17.70**	**116**	*eP*	**P**	**06 41 28.7**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.26**	**96**	*eP*	**P**	**06 41 35.6**	**+0.2**
IPMB	**Ipameri, GO**	**18.27**	**81**	*eP*	**P**	**06 41 36.4**	**+0.8**
PET01	**Itanhaem-SP**	**18.53**	**102**	*eP*	**Pn**	**06 41 39.0**	**-1.7**
VAO	**Valinhos**	**18.77**	**98**	*eP*	**P**	**06 41 40.9**	**-0.1**
PLCA	**Paso Flores**	**19.11**	**188**	P	**P**	**06 41 44.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=20,slow=11,SNR=3.8						
PLCA	**Paso Flores**	**19.11**	**188**	*eP*	**Pn**	**06 41 44.8**	**-2.7**
PEXB	**Peixe**	**20.47**	**65**	*eP*	**P**	**06 41 58.7**	**-0.5**
JANB	**Januaria**	**22.72**	**77**	*eP*	**P**	**06 42 20.4**	**-1.6**
SMTB	**Santa Maria do**	**22.84**	**59**	*eP*	**P**	**06 42 22.9**	**0.0**
PMSA	**Palmer Station**	**43.03**	**178**	*eP*	**P**	**06 45 18.1**	**+1.6**
TXAR	**Lajitas Array**	**61.76**	**324**	P	**P**	**06 47 34.9**	**+0.1**
	comp=N,0.1nm,0.6s,baz=134,slow=12,SNR=2.2						
PDAR	**Pinedale Array**	**75.14**	**329**	P	**P**	**06 48 58.3**	**+0.8**
	comp=N,0.2nm,0.4s,baz=129,slow=7.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.97**	**70**	P	**P**	**06 49 02.0**	**-0.6**
	comp=N,1.6nm,0.4s,baz=255,slow=5.4,SNR=5.2						

*OSPL **28** 06:55:51.9±1.2, 18°.37N×62°.56W, h0km±304km, ML4.0*
*TRN **28** 06:55:54.6, 19°.15N×62°.88W, h40km, MD4.4*
*IDC **28** 06:55:54.2±1.7, 19°.15N×62°.89W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.5/33, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=36.3km s-min=30.2km az=40.0*

ISC 28 06:55:56.1±1.9, **18°.97N**±0°.07×**63°.00W**±0°.06, **h18**km±8km, **n50**, σ1§**15**/65, **mb3.6**/3, **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABA	**Saba**	**1.36**	**190**	*eP*	**Pg**	**06 56 21.7**	**-0.7**
SABA				*eS*	**Sg**	**06 56 41.7**	**+1.6**
SEUS	**St. Eustatius**	**1.47**	**179**	*eP*	**Pb**	**06 56 22.9**	**0.0**
SEUS				*eS*	**Sg**	**06 56 42.6**	**-0.9**
SKI	**Saint Kitts**	**1.64**	**171**	*eP*	**Pn**	**06 56 24.5**	**+0.4**
SKI				*eS*	**Sb**	**06 56 47.0**	**+0.7**
ANWB	**Willy Bob**	**1.73**	**138**	*eP*	**Pn**	**06 56 24.3**	**-1.0**
NVDO	**Nevis, Disaste**	**1.87**	**169**	*eP*	**Pn**	**06 56 28.4**	**+1.1**
NVDO				*eS*	**Sn**	**06 56 51.2**	**+0.7**
CDVI	**St. Croix**	**2.07**	**235**	*eP*	**Pn**	**06 56 32.2**	**+2.2**
ANOC	**Antigua Open C**	**2.14**	**149**	*eP*	**Pn**	**06 56 31.1**	**+0.1**
ANOC				*eS*	**Sn**	**06 56 56.5**	**-0.7**
ANDO	**Antigua, Disas**	**2.15**	**149**	*eP*	**Pn**	**06 56 31.0**	**-0.1**
ANDO				*eS*	**Sn**	**06 56 56.9**	**-0.5**
BPA	**Boggy Peak**	**2.19**	**150**	*eP*	**Pn**	**06 56 32.1**	**+0.3**
BPA				*eS*	**Sn**	**06 56 58.6**	**+0.1**
ANBD	**Bethesda, Anti**	**2.24**	**148**	*eP*	**Pn**	**06 56 32.0**	**-0.3**
ANBD				*eS*	**Sn**	**06 56 58.6**	**-0.9**
ABD	**La Joyeuse, An**	**2.86**	**150**	*eP*	**Pn**	**06 56 42.4**	**+1.4**
ABD				*eS*	**Sn**	**06 57 13.8**	**-1.2**
SJG	**San Juan**	**3.11**	**255**	Pn	**Pn**	**06 56 45.9**	**+1.6**
	11nm,0.3s,baz=303,slow=24,SNR=9.1						
SJG				Sn	**Sb**	**06 57 27.3**	**-1.4**
	21nm,0.3s,baz=50,slow=21,SNR=6.0						
SJG	**San Juan**	**3.11**	**255**	*eP*	**Pn**	**06 56 46.0**	**+1.7**
CBE	**Ff, Capester**	**3.17**	**155**	*eP*	**Pn**	**06 56 45.6**	**+0.4**
CBE				*eS*	**Sn**	**06 57 23.9**	**+1.3**
H05N1	**Guadeloupe/Mar**	**3.22**	**145**	Pn	**Pn**	**06 56 47.5**	**+1.7**
TBG	**Guadaloupe-3**	**3.35**	**157**	*eP*	**Pn**	**06 56 48.1**	**+0.4**
TBG				*eS*	**Sn**	**06 57 28.2**	**+1.2**
TDBA	**Terre de Bas,**	**3.36**	**157**	*eP*	**Pn**	**06 56 49.1**	**+1.4**
TDBA				*eS*	**Sn**	**06 57 28.4**	**+1.1**
MAGL	**Barre de l'ile**	**3.42**	**151**	*eP*	**Pn**	**06 56 49.3**	**+0.7**
MAGL				*eS*	**Sn**	**06 57 27.8**	**-0.8**
AOPR	**Arecibo Observ**	**3.62**	**261**	*eP*	**Pn**	**06 56 51.1**	**-0.3**
AOPR				*eS*	**Sn**	**06 57 33.4**	**-0.3**
DSLB	**Salisbury**	**3.82**	**157**	*eP*	**Pn**	**06 56 54.7**	**+0.6**
DSLB				*eS*	**Sn**	**06 57 38.0**	**-0.6**
AGPR	**Aguadilla, PR**	**3.93**	**263**	*i P*	**Pn**	**06 56 56.0**	**+0.4**
AGPR				IAML		06 57 40.9	
	comp=Z,103nm,1.2s						
MPR	**Mayaguez**	**4.00**	**260**	*i P*	**Pn**	**06 56 57.7**	**+1.1**
ILAM	**Ilet Lapin Mar**	**4.64**	**154**	*eS*	**Sn**	**06 57 57.4**	**-1.4**
BIM	**Bigot**	**4.79**	**157**	*eP*	**Pn**	**06 57 09.3**	**+1.8**
BIM	**Bigot**	**4.79**	**157**	*eS*	**Sn**	**06 58 01.9**	**-0.8**
MPOM	**Morne Pois Mar**	**4.94**	**155**	*eP*	**Pn**	**06 57 10.5**	**+1.0**
MPOM	**Morne Pois Mar**	**4.94**	**155**	*eS*	**Sn**	**06 58 05.9**	**-0.3**
PCDR	**Punta Cana, DR**	**5.12**	**266**	*i P*	**Pn**	**06 57 13.5**	**+1.5**
SLBI	**Saint Lucia, B**	**5.28**	**158**	*eP*	**Pn**	**06 57 14.9**	**+0.6**
SLBI	**Saint Lucia, B**	**5.28**	**158**	*eS*	**Sn**	**06 58 14.1**	**-0.6**
SDDR	**Presa de Saban**	**7.85**	**271**	*e*	**Pn**	**06 57 49.6**	**+0.1**
SDDR	**Presa de Saban**	**7.85**	**271**	*i P*	**Pn**	**06 57 50.1**	**+0.6**
SDDR				*eS*	**Sn**	**06 59 17.2**	**-0.8**
SDDR				IAML		06 59 23.6	
	comp=Z,14nm,0.3s						
OCAC	**Ocana**	**14.63**	**225**	*eP*	**P**	**06 59 27.2**	**-1.6**
BARC	**Barichara**	**15.80**	**220**	*eP*	**Pn**	**06 59 37.8**	**-0.3**
MOTC	**Monteria, Cord**	**15.92**	**232**	*eP*	**P**	**06 59 43.6**	**+0.6**
RUSC	**La Rusia**	**16.29**	**218**	*eP*	**Pn**	**06 59 45.5**	**+0.9**
UREC	**San Jos de Ur**	**16.51**	**229**	*eP*	**Pn**	**06 59 48.4**	**+1.4**
DBBC	**Dabeiba**	**17.50**	**229**	*eP*	**Pn**	**06 59 58.1**	**-1.4**
HELC	**Santa Helena**	**17.61**	**225**	*eP*	**Pn**	**07 00 01.9**	**+0.7**
NORC	**Norcasia**	**17.65**	**222**	*eP*	**Pn**	**06 59 60.0**	**-1.3**
CHIC	**Chingaza**	**17.69**	**218**	*eP*	**Pn**	**07 00 02.9**	**+0.7**
CBOG1	**Bogota, SGC**	**17.88**	**219**	*eP*	P	07 00 19.3	+14
CBOC	**Ciudad Bolivar**	**18.18**	**226**	*eP*	**Pn**	**07 00 04.8**	**-3.2**
GUY2C	**Guyana, Caldas**	**18.22**	**223**	*eP*	**Pn**	**07 00 08.7**	**-0.2**
PLMC	**San Jos del P**	**19.06**	**225**	*eP*	**P**	**07 00 17.3**	**-0.5**
POPC	**Popayan, Colom**	**21.11**	**221**	*eP*	P	07 00 29.9	-10
BBAC	**Balboa, Cauca**	**21.87**	**221**	*eP*	**P**	**07 00 45.3**	**-3.2**
TXAR	**Lajitas Array**	**38.35**	**293**	P	**P**	**07 03 18.1**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=102,slow=12,SNR=4.8						
PDAR	**Pinedale Array**	**45.76**	**312**	P	**P**	**07 04 16.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=108,slow=9.5,SNR=4.6						
ILAR	**Eielson Array**	**70.42**	**333**	P	**P**	**07 07 09.2**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=102,slow=4.7,SNR=5.3						

*NIED **28** 06:59:09.7, 24°.42N×121°.34E, h8km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.42; $M_{\theta\theta}$0.33; $M_{\phi\phi}$3.09; $M_{r\theta}$0.94; $M_{\theta\phi}$-1.22; $M_{\phi r}$1.43; Fault plane solution: $M_0$3.87000×10^{15} NP1: ϕ_s178.00000°, δ56.00000°, λ-67.00000°. NP2: ϕ_s321.00000°, δ40.00000°, λ-120.00000°.*
*IDC **28** 06:59:09.7±0.6, 24°.31N×121°.41E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.1/44, mbtmp4.1/19, ML3.5/2, MS3.5/12, Ms1 3.5/12, ms1mx3.2/48 Error ellipse: s-maj=23.3km s-min=14.6km az=65.0*
*JMA **28** 06:59:09.7±0.1, 24°.42N×121°.34E, h8km±2km, M4.6*
*IASPEI **28** 06:59:10.9±0.9, 24°.44N±0°.01×121°.43E±0°.02, h4km±6km, mb4.3/32, MS3.5/9, Error ellipse: s-maj=2.3km s-min=1.6km az=113.6, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TAP **28** 06:59:10.3, 24°.43N×121°.43E, h6km, ML4.7, B*
*ASIES **28** 06:59:10.2, 24°.46N×121°.47E, h15km, MW4.2*
*NEIC **28** 06:59:11.9±1.8, 24°.39N±0°.06×121°.44E±0°.05, h10km±1km, mb4.5/19, Error ellipse: s-maj=10.8km s-min=6.7km az=149.0*
*BJI **28** 06:59:11.4±0.0, 24°.40N×121°.35E, h10km, mB4.4/15, mb4.3/27, ML4.3/6, Ms4.3/24, Ms7 4.1/23*

ISC 28 06:59:10.9±0.8, **24°.45N**±0°.01×**121°.44E**±0°.01, **h4**km±5km, **n229**, σ1§**05**/326, **mb4.3**/32, **MS3.5**/9, **36C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.05**	**251**	⇓*iP*	**Pg**	**06 59 12.2**	**-0.2**
	baz=267						
NNSB				S	**Sg**	**06 59 13.0**	**-0.3**
	baz=267						
NNSH	**Datong**	**0.05**	**251**	⇓*iP*	**Pg**	**06 59 12.2**	**-0.2**
	baz=270						
NNSH				S	**Sg**	**06 59 13.1**	**-0.2**
	baz=270						
NNS	**Nan Shan**	**0.06**	**264**	⇓*iP*	**Pg**	**06 59 12.2**	**-0.2**
	baz=278						
NNS				*i* S	**Sg**	**06 59 13.2**	**-0.3**
	baz=278						
NDT	**Datong Townshi**	**0.17**	**23**	⇑*iP*	**Pg**	**06 59 14.5**	**+0.2**
	baz=22						
NDT				S	**Sg**	**06 59 17.5**	**+0.9**
	baz=22						
ENTT	**Nioudou**	**0.23**	**31**	⇑*iP*	**Pg**	**06 59 15.6**	**+0.2**
	baz=21						
ENTT				S	**Sg**	**06 59 19.0**	**+0.6**
	baz=21						
YHNB	**Yeheng**	**0.23**	**346**	⇑*iP*	**Pg**	**06 59 15.8**	**+0.4**
	baz=348						
YHNB				S	**Sg**	**06 59 18.8**	**+0.3**
	baz=348						
YHNB	**Yeheng**	**0.23**	**346**	Pg	**Pg**	**06 59 15.9**	**+0.4**
NSK	**Sanguang**	**0.24**	**342**	⇑*iP*	**Pg**	**06 59 15.9**	**+0.3**
	baz=346						
NSK				*i* S	**Sg**	**06 59 19.1**	**+0.3**
	baz=346						
ETLH	**Xiulin Townshi**	**0.24**	**171**	P	**Pg**	**06 59 16.1**	**+0.5**
	baz=173						
ETLH				S	**Sg**	**06 59 19.2**	**+0.3**
	baz=173						
FUSS	**Fushou**	**0.27**	**222**	⇑*iP*	**Pg**	**06 59 16.0**	**-0.2**
	baz=224						
FUSS				S	**Sg**	**06 59 19.9**	**+0.2**
	baz=224						
NACB	**Ninganchiao**	**0.31**	**152**	⇓*iP*	**Pg**	**06 59 17.2**	**+0.4**
	baz=149						
NACB				S	**Sg**	**06 59 21.3**	**+0.4**
	baz=149						
NACB	**Ninganchiao**	**0.31**	**152**		**Pg**	**06 59 17.3**	**+0.4**
EHP	**Heping Village**	**0.31**	**116**	*eP*	**Pg**	**06 59 17.2**	**+0.3**
	baz=112						
EHP				*eS*	**Sg**	**06 59 21.7**	**+0.8**
	baz=112						
TWT	**Tachien**	**0.31**	**231**	⇑*iP*	**Pg**	**06 59 16.8**	**-0.2**
	baz=235						
TWT				S	**Sg**	**06 59 21.6**	**+0.6**
	baz=235						
EWUT	**Wuta**	**0.31**	**90**	P	**Pg**	**06 59 17.0**	**+0.1**
	baz=86						
EWUT				*eS*	**Sg**	**06 59 21.2**	**+0.2**
	baz=86						
NDS	**Dongshan**	**0.31**	**53**	⇑*iP*	**Pg**	**06 59 17.1**	**0.0**
	baz=63						
NDS				*eS*	**Sg**	**06 59 22.1**	**+0.9**
	baz=63						
TDCB	**Techi**	**0.32**	**233**	⇑*iP*	**Pg**	**06 59 16.8**	**-0.4**
	baz=236						
TDCB				*eS*	**Sg**	**06 59 20.9**	**-0.6**
	baz=236						
ETL	**Fush Village**	**0.33**	**150**	P	**Pg**	**06 59 17.6**	**+0.3**
	baz=147						
ETL				*eS*	**Sg**	**06 59 22.4**	**+0.6**
	baz=147						
NWLT	**Wulai**	**0.34**	**10**	⇑*iP*	**Pg**	**06 59 17.8**	**+0.3**
	baz=10.0						
NWLT				S	**Sg**	**06 59 21.9**	**0.0**
	baz=10.0						
WHF	**Hehuan Shan**	**0.34**	**208**	⇑*iP*	**Pg**	**06 59 17.4**	**-0.2**
	baz=195						
WHF				S	**Sg**	**06 59 23.4**	**+1.2**
	baz=195						
TWE	**Neicheng**	**0.34**	**37**	⇑*iP*	**Pg**	**06 59 18.0**	**+0.4**
	baz=37						
TWE				*i* S	**Sg**	**06 59 22.8**	**+0.7**
	baz=37						
TWD	**Chiawan**	**0.39**	**158**	⇑*iP*	**Pg**	**06 59 18.8**	**+0.3**
	baz=155						
TWD				S	**Sg**	**06 59 24.0**	**+0.4**
	baz=155						
TWC	**Suao**	**0.41**	**66**	⇑*iP*	**Pg**	**06 59 18.7**	**-0.1**
	baz=64						
TWC				S	**Sg**	**06 59 24.4**	**+0.3**
	baz=64						
ILA	**Ilan**	**0.42**	**41**	P	**Pg**	**06 59 19.5**	**+0.3**
	baz=52						
ILA				*eS*	**Sg**	**06 59 25.6**	**+0.9**
	baz=52						
NJD	**Zhudong**	**0.43**	**312**	P	**Pb**	**06 59 20.5**	**-0.6**
	baz=316						
NJD				S	**Sb**	**06 59 27.0**	**-1.0**
	baz=316						
LIOB	**Emei**	**0.43**	**297**	⇑*iP*	**Pg**	**06 59 20.1**	**+0.8**
	baz=302						
LIOB				*eS*	**Sg**	**06 59 25.9**	**+0.9**
	baz=302						
NSTT	**Nanjuang**	**0.44**	**295**	⇑*iP*	**Pg**	**06 59 20.0**	**+0.6**
	baz=299						
NSTT				S	**Sg**	**06 59 25.7**	**+0.6**
	baz=299						
CHGB	**Renai**	**0.45**	**212**	⇑*iP*	**Pg**	**06 59 19.2**	**-0.6**
	baz=213						
CHGB				S	**Sg**	**06 59 25.7**	**0.0**
	baz=213						
WHP	**Taichung City**	**0.48**	**250**	⇑*iP*	**Pg**	**06 59 20.4**	**+0.2**
	baz=253						
WHP				S	**Sg**	**06 59 26.5**	**+0.1**
	baz=253						
ETM	**Tongmen**	**0.48**	**174**	*eP*	**Pg**	**06 59 20.3**	**+0.1**
	baz=172						
ETM				*eS*	**Sg**	**06 59 26.4**	**-0.1**
	baz=172						
HWA	**Hwalien**	**0.49**	**162**	*eP*	**Pg**	**06 59 21.2**	**+0.8**
	baz=159						
HWA				*eS*	**Sg**	**06 59 27.9**	**+1.1**
	baz=159						
HSN1	**Hsinchu**	**0.51**	**311**	*eP*	**Pb**	**06 59 22.1**	**-0.3**
	baz=315						
HSN1				*eS*	**Sb**	**06 59 29.7**	**-0.4**
	baz=315						
NHDH	**Xindian Distri**	**0.52**	**9**	P	**Pg**	**06 59 21.6**	**+0.6**
	baz=8.0						
NHDH				S	**Sg**	**06 59 27.9**	**+0.2**
	baz=8.0						
TATO	**Taipei**	**0.53**	**5**	⇑*iP*	**Pg**	**06 59 21.8**	**+0.7**
	baz=5.0						
TATO				S	**Sg**	**06 59 28.2**	**+0.2**
	baz=5.0						
TATO	**Taipei**	**0.53**	**5**		**Pg**	**06 59 21.9**	**+0.7**
SBCB	**Hsinchu**	**0.54**	**310**	⇑P	**Pb**	**06 59 22.7**	**-0.2**
	baz=314						
SBCB				S	**Sb**	**06 59 30.7**	**-0.3**
	baz=314						
NTC	**Toucheng**	**0.54**	**41**	⇑*iP*	**Pg**	**06 59 21.2**	**-0.1**
	baz=24						
NTC				S	**Sg**	**06 59 28.1**	**-0.2**
	baz=24						
OWD	**Renai**	**0.55**	**206**	⇑*iP*	**Pg**	**06 59 20.6**	**-0.8**
	baz=207						
OWD				*eS*	**Sg**	**06 59 27.1**	**-1.4**
	baz=207						
TWA	**Mucha**	**0.55**	**14**	P	**Pg**	**06 59 22.1**	**+0.6**
	baz=14						
TWA				S	**Sg**	**06 59 28.9**	**+0.3**
	baz=14						
BACT	**New Taipei Cit**	**0.55**	**0**	*eP*	**Pb**	**06 59 23.1**	**0.0**
	baz=1.0						
HSN	**Hsinchu**	**0.56**	**310**	P	**Pb**	**06 59 23.1**	**-0.1**
	baz=318						
HSN				S	**Sb**	**06 59 31.3**	**-0.2**
	baz=318						
NTY	**Taoyuan**	**0.57**	**347**	*eP*	**Pb**	**06 59 23.6**	**+0.2**
	baz=349						
NTY				*eS*	**Sb**	**06 59 31.6**	**-0.2**
	baz=349						
NCUH	**Zhongli**	**0.57**	**336**	P	**Pb**	**06 59 23.5**	**+0.1**
	baz=346						
NCUH				*eS*	**Sb**	**06 59 32.8**	**+0.9**
	baz=346						
NJN	**Zhunan**	**0.57**	**295**	P	**Pb**	**06 59 23.2**	**-0.3**
	baz=289						
NJN				S	**Sb**	**06 59 31.3**	**-0.6**
	baz=289						
NCU	**National Centr**	**0.57**	**336**	P	**Pb**	**06 59 23.3**	**-0.1**
	baz=346						
NCU				*eS*	**Sb**	**06 59 32.5**	**+0.5**
	baz=346						
TAP	**Taipei**	**0.59**	**6**	P	**Pb**	**06 59 23.6**	**-0.3**
	baz=7.0						
TAP				S	**Sg**	**06 59 31.1**	**+1.0**
	baz=7.0						
TEYL	**Yanliau Villag**	**0.59**	**166**	*eP*	**Pg**	**06 59 22.4**	**0.0**
	baz=162						
TEYL				*eS*	**Sg**	**06 59 30.4**	**+0.4**
	baz=162						
NMLH	**Miaoli**	**0.60**	**279**	P	**Pb**	**06 59 23.6**	**-0.4**
	baz=282						
NMLH				S	**Sg**	**06 59 31.4**	**+1.2**
	baz=282						
NHY	**Taipei**	**0.60**	**11**	*eP*	**Pb**	**06 59 23.6**	**-0.4**
	baz=11						
NHY				*eS*	**Sb**	**06 59 31.6**	**-1.3**
	baz=11						
TWQ1	**Liyutan**	**0.61**	**261**	⇑*iP*	**Pg**	**06 59 23.5**	**+0.7**
	baz=264						
TWQ1				S	**Sg**	**06 59 31.0**	**+0.3**
	baz=264						
WPL	**Puli Township**	**0.62**	**226**	⇑*iP*	**Pg**	**06 59 22.3**	**-0.5**
	baz=226						
WCS	**Beigang Elemen**	**0.62**	**231**	P	**Pg**	**06 59 22.4**	**-0.4**
	baz=232						
NSY	**Sanyi**	**0.62**	**267**	⇑*iP*	**Pb**	**06 59 24.0**	**-0.3**
	baz=270						
NSY				S	**Sg**	**06 59 32.6**	**+1.7**
	baz=270						
ESL	**Shilin**	**0.63**	**180**	⇑*iP*	**Pg**	**06 59 22.8**	**-0.2**
	baz=179						
ESL				*eS*	**Sg**	**06 59 30.6**	**-0.6**
	baz=179						
TIPB	**Shuangxi**	**0.63**	**34**	⇑*iP*	**Pg**	**06 59 23.1**	**+0.1**
	baz=19						
TIPB				S	**Sg**	**06 59 30.5**	**-0.8**
	baz=19						
TWS1	**Kuangyinshan**	**0.65**	**358**	⇑*iP*	**Pb**	**06 59 25.1**	**+0.2**
	baz=8.0						
TWS1				S	**Sb**	**06 59 34.1**	**-0.2**
	baz=8.0						
NWF	**Wu-fen Shan**	**0.70**	**26**	⇑*iP*	**Pg**	**06 59 24.8**	**+0.5**
	baz=25						
NWF				S	**Sg**	**06 59 33.3**	**0.0**
	baz=25						
WFSB	**Wu-fen Shan**	**0.70**	**26**	⇑P	**Pg**	**06 59 24.7**	**+0.4**
	baz=25						
WFSB				*eS*	**Sg**	**06 59 33.4**	**0.0**
	baz=25						
YM01	**YM01**	**0.71**	**10**	P	**Pb**	**06 59 25.5**	**-0.3**
	baz=9.0						
YM01				*eS*	**Sg**	**06 59 34.1**	**+0.4**
	baz=9.0						
NTST	**Danshui**	**0.71**	**1**	P	**Pb**	**06 59 26.1**	**+0.1**
	baz=9.0						
NTST				*eS*	**Sb**	**06 59 36.4**	**+0.3**
	baz=9.0						
WDJ	**Dajia District**	**0.73**	**263**	*eP*	**Pb**	**06 59 26.7**	**+0.5**
	baz=264						
TEGC	**Jichi Village**	**0.74**	**173**	*eP*	**Pg**	**06 59 25.5**	**+0.3**
	baz=171						
ANP	**Anpu**	**0.74**	**6**	P	**Pb**	**06 59 26.1**	**-0.3**
	baz=21						
ANP				*eS*	**Sb**	**06 59 38.1**	**+1.1**
	baz=21						
SMLT	**Sun Moon Lake**	**0.75**	**221**	⇑*iP*	**Pg**	**06 59 24.8**	**-0.5**
	baz=213						
SMLT				*eS*	**Sg**	**06 59 33.9**	**-1.1**
	baz=213						
TWB1	**Santiao Chiao**	**0.75**	**42**	P	**Pg**	**06 59 25.0**	**-0.4**
	baz=40						
TWB1				*eS*	**Sg**	**06 59 34.7**	**-0.4**
	baz=40						
YM08	**YM08**	**0.75**	**10**	P	**Pg**	**06 59 25.9**	**+0.5**
	baz=11						
TCU	**Taichung**	**0.76**	**247**	P	**Pb**	**06 59 27.0**	**+0.4**
	baz=260						
TCU				*eS*	**Sb**	**06 59 37.3**	**0.0**
	baz=260						
TNOU	**National Taiwa**	**0.76**	**23**	P	**Pg**	**06 59 26.0**	**+0.4**
	baz=34						
TNOU				*eS*	**Sg**	**06 59 35.5**	**-0.1**
	baz=34						
EGFH	**Guangfu**	**0.77**	**181**	*eP*	**Pg**	**06 59 25.6**	**-0.2**
	baz=180						
EGFH				*eS*	**Sg**	**06 59 36.1**	**+0.3**
	baz=180						
WWF	**Wufeng**	**0.79**	**239**	*eP*	**Pb**	**06 59 27.4**	**+0.3**
	baz=235						
WWF				*eS*	**Sn**	**06 59 40.8**	**-0.1**
	baz=235						
SSLB	**Suanglung**	**0.79**	**214**	⇑*iP*	**Pg**	**06 59 24.9**	**-1.3**
	baz=215						
SSLB				*eS*	**Sg**	**06 59 34.4**	**-2.0**
	baz=215						
SSLB	**Suanglung**	**0.79**	**214**		**Pg**	**06 59 24.8**	**-1.3**
WNT1	**Nantou City**	**0.88**	**232**	*eP*	**Pb**	**06 59 29.1**	**+0.5**
	baz=227						
WNT1				*eS*	**Sn**	**06 59 43.8**	**+0.6**
	baz=227						
WCHH	**Zhanghua**	**0.88**	**246**	P	**Pb**	**06 59 29.2**	**+0.4**
	baz=248						
WCHH				*eS*	**Sn**	**06 59 43.9**	**+0.5**
	baz=248						
WNT	**Mingjian**	**0.89**	**231**	P	**Pb**	**06 59 29.0**	**0.0**
	baz=233						
WNT				*eS*	**Sn**	**06 59 44.0**	**+0.4**
	baz=233						
WJS	**

	baz=244						
ELDTW	Lidau	1.31 197	eP		Pg	06 59 35.2	-0.8
	baz=187						
PCYT	Pengchaiyu	1.31 26	P		Pg	06 59 35.6	-0.5
	baz=24						
CHY	Chiayi	1.32 225	eP		Pn	06 59 36.4	+0.3
	baz=226						
CHY			eS		Sn	06 59 55.2	+1.0
	baz=226						
CHKT	Chengkung	1.34 183	eP		Pn	06 59 35.9	-0.5
	baz=168						
TPUB	Ta-pu	1.36 213	⇑P		Pn	06 59 36.3	-0.4
	baz=213						
TPUB			S		Sn	06 59 56.2	+1.1
	baz=213						
TPUB	Ta-pu	1.36 213			Pn	06 59 36.4	-0.4
JYNG	Yonagunijimaku	1.37 89	P		Pn	06 59 36.2	-0.6
JYNG			S		Sn	06 59 56.2	+0.8
WSF	Szhu	1.37 234	eP		Pn	06 59 36.3	-0.5
	baz=255						
WSF			eS		Sn	06 59 55.9	+0.5
	baz=255						
STYH	Taoyuan	1.41 206	P		Pn	06 59 37.4	+0.1
	baz=220						
STYH			eS		Sn	06 59 58.7	+2.4
	baz=220						
WTP	Ta-pu	1.41 212	P		Pn	06 59 37.9	+0.5
	baz=212						
WTP			S		Sn	06 59 58.5	+2.0
	baz=212						
STYT	Tauyuan	1.42 206	P		Pb	06 59 38.2	+0.2
	baz=220						
STYT			S		Sn	06 59 59.4	+2.6
	baz=220						
YOJ	Yonaguni jima	1.43 89	P		Pn	06 59 37.1	-0.6
YOJ			eS		Sn	06 59 57.4	+0.5
YOJ	Yonaguni jima	1.43 89	eP		Pn	06 59 36.9	-0.8
	baz=87						
YOJ			eS		Sn	06 59 57.2	+0.3
	baz=87						
YOJ	Yonaguni jima	1.43 89			Pn	06 59 37.5	-0.1
EDH	Donghe	1.47 185	eP		Pn	06 59 38.4	+0.2
	baz=171						
SNST	Tainan City	1.49 215	eP		Pn	06 59 39.1	+0.5
	baz=215						
SNST			eS		Sg	07 00 01.0	+2.0
	baz=215						
CHN1	Nanshi	1.51 214	P		Pn	06 59 39.3	+0.6
	baz=213						
CHN1			S		Sg	07 00 00.9	+1.5
	baz=213						
ICHU	Yijhu	1.51 225	P		Pn	06 59 38.8	0.0
	baz=248						
ICHU			eS		Sg	07 00 00.4	+0.7
	baz=248						
LONT	Longtian	1.56 191	eP		Pb	06 59 40.1	-0.2
	baz=173						
SGST	Jiashian	1.57 210	P		Pn	06 59 39.4	-0.1
	baz=209						
SGST			S		Sg	07 00 01.8	+0.4
	baz=209						
CHN8	Yiju	1.57 226	eP		Pn	06 59 39.8	+0.3
	baz=249						
CHN8			eS		Sg	07 00 02.2	+0.8
	baz=249						
SLGT	Liugui	1.62 207	eP		Pb	06 59 41.3	0.0
	baz=222						
SLGT			eS		Sg	07 00 03.9	+0.9
	baz=222						
TWG	Pinlang	1.65 192	eP		Pn	06 59 41.4	+0.7
	baz=173						
TWG	Pinlang	1.65 192			Pn	06 59 40.1	-0.6
TWGBT	Beinan	1.65 192	eP		Pn	06 59 41.0	+0.3
	baz=173						
CHN3	Shinhua	1.68 216	eP		Pb	06 59 42.6	+0.2
	baz=215						
CHN3			eS		Sg	07 00 07.1	+2.1
	baz=215						
SCLT	Jiali	1.70 222	eP		Pn	06 59 41.9	+0.5
	baz=222						
SCLT			eS		Sg	07 00 06.7	+1.0
	baz=222						
SCST	Cishan	1.78 209	eP		Pb	06 59 44.0	-0.1
	baz=208						
SCST			eS		Sg	07 00 09.3	+1.2
	baz=208						
SSD	Sandimen	1.85 204	⇑iP		Pb	06 59 45.0	-0.2
	baz=202						
SSD			S		Sg	07 00 10.4	+0.1
	baz=202						
TWM1	Shoushan	1.86 210	P		Pb	06 59 45.7	+0.2
	baz=210						
TSMG	Majia	1.88 203	P		Pb	06 59 45.3	-0.5
	baz=202						
TSMG			eS		Sg	07 00 10.9	-0.4
	baz=202						
VWUC	VWUC	1.89 287	eP		Pn	06 59 42.4	-1.6
	baz=287						
ECL	Taimali	1.89 194	P		Pb	06 59 46.0	0.0
	baz=177						
SGLT	Jiouru	1.92 207	eP		Pb	06 59 46.8	+0.3
	baz=207						
PNG	Penghu	1.93 243	eP		Pn	06 59 44.0	-0.5
	baz=245						
PHUB	P'eng-hu	1.94 242	eP		Pn	06 59 43.4	-1.3
	baz=243						
SNJT	Kaohsiung City	1.97 211	eP		Pb	06 59 46.5	-0.8
	baz=211						
MASBT	Mashibuluo	1.97 202	⇑iP		Pb	06 59 46.7	-0.7
	baz=201						
MASBT			S		Sb	07 00 12.9	+0.7
	baz=201						
WDGT	Dungji	2.01 234	eP		Pn	06 59 45.4	-0.3
	baz=236						
IRIF	Iriomote-Funau	2.09 93	P		Pn	06 59 46.7	0.0
IRIF			eS		Sn	07 00 12.2	-1.0
EAST	Anshuo	2.12 195	eP		Pb	06 59 49.5	-0.5
	baz=175						
EAST			eS		Sg	07 00 19.1	-0.2
	baz=175						
TAW	Tawu	2.14 194	eP		Pb	06 59 50.7	+0.5
	baz=177						
MATB	Ma-tsu	2.17 322	eP		Pn	06 59 46.7	-1.1
	baz=322						
MATB			eS		Sn	07 00 13.7	-1.4
	baz=322						
PTMZ	Houxiangcun	2.19 286	eP		Pn	06 59 47.3	-0.7
	baz=286						
HATJ	Hateruma jima	2.19 100	P		Pn	06 59 48.9	+0.8
MSUT	Lienchiang	2.20 322	eP		Pn	06 59 48.0	-0.2
	baz=322						
SCZT	Fangliau	2.20 200	eP		Pn	06 59 49.7	+1.5
	baz=198						
SCZT			eS		Sb	07 00 17.9	-0.8
	baz=198						
VCHM	Qimei	2.21 237	eP		Pn	06 59 47.6	-0.8
	baz=240						
VCHM			eS		Sn	07 00 15.2	-1.0
	baz=240						
SLIU	Shizi	2.30 195	eP		Pb	06 59 51.9	-1.0
	baz=178						
WLCH	Liuqiu	2.30 205	eP		Pb	06 59 51.7	-1.3
	baz=205						
TWP	Hsiaoliuchiu	2.31 206	eP		Pb	06 59 52.8	-0.4
	baz=206						
JKRS	Kuro-shima	2.35 95	P		Pn	06 59 50.9	+0.6
JKRS			eS		Sn	07 00 19.8	+0.1
JIJ	Ishigaki jima	2.47 91	P		Pn	06 59 51.8	-0.1
JIJ			eS		Sn	07 00 21.4	-1.1
HEN	Hengchun	2.51 195	eP		Pb	06 59 54.9	-1.7
	baz=180						
TWK1	Hengchun	2.56 193	eP		Pb	06 59 55.6	-1.8
	baz=178						
TWKBT	Hengchun	2.56 193	eP		Pn	06 59 55.3	+2.1
	baz=178						
TSEB	Hengchuen, Pin	2.58 191	eP		Pb	06 59 56.1	-1.7
	baz=178						
LYJJ	Jianjiangzhen	2.59 324	eP		Pn	06 59 52.3	-1.3
	baz=325						
JISG	Ishigakijimahi	2.62 86	P		Pn	06 59 53.9	-0.1
QZH	Quanzhou	2.64 281	Pn		Pn	06 59 53.3	-0.9
QZH			Sn		Sn	07 00 24.3	-2.3
QZH			smax		smax		
	comp=N,2μm,0.5s						
QZH			smax		smax		
	comp=E,950nm,0.7s						
MHZQ	Yeshan	2.73 308	eP		Pn	06 59 55.1	-0.5
	baz=307						
KNM	Kinmen	2.74 270	eP		Pn	06 59 56.6	+1.0
	baz=270						
KNMB	Chin-men Tao	2.78 271	eP		Pn	06 59 55.1	-1.1
	baz=271						
KNMB	Chin-men Tao	2.78 271	Pn		Pn	06 59 55.1	-1.1
JTJ	Tarama	2.98 86	P		Pn	07 00 00.1	+1.2
AXDP	Jialang	3.19 279	eP		Pn	07 00 01.7	-0.1
	baz=278						
ZPLA	Ao Xicun	3.41 262	eP		Pn	07 00 03.8	-1.0
	baz=263						
JOW	Kunigami	6.61 67	Pn		Pn	07 00 49.5	+0.6
	2.2nm,0.3s,baz=225,slow=4.3,SNR=2.0						
SSE	Sheshan	6.63 358	Pn		Pn	07 00 49.0	-0.1
SSE			Sn		Sn	07 02 06.0	+0.9
NJ2	Nanjing	7.91 344	eP		Pn	07 01 04.3	-2.4
NJ2			S		Sn	07 02 33.5	-3.2
NJ2			pmax		pmax		
	comp=Z,13nm,0.7s						
NJ2			smax		smax		
	comp=N,250nm,0.9s						
NJ2			smax		smax		
	comp=E,230nm,1.2s						
NJ2			LR		LR		
	comp=N,920nm,5.9s						
NJ2			LR		LR		
	comp=E,530nm,4.3s						
NJ2			LR		LR		
	comp=Z,1μm,9.5s						
WHN	Wuhan	8.74 316	P		Pn	07 01 19.5	+1.3
WHN			LR		LR		
	comp=N,3μm,6.7s						
WHN			LR		LR		
	comp=E,2μm,8.6s						
WHN			LR		LR		
	comp=Z,3μm,8.3s						
JNU	Nakatsue	11.96 42	LR		LR	07 07 54.9	
	comp=Z,393nm,18.0s,baz=256,slow=44						
QIZ	Qiongzhong	12.05 246	P		Pn	07 02 06.5	+3.0
QIZ			S		Sn	07 04 20.5	+2.2
QIZ			LR		LR		
	comp=N,490nm,12.6s						
QIZ			LR		LR		
	comp=E,280nm,10.4s						
QIZ			LR		LR		
	comp=Z,480nm,12.6s						
KSAR	Wonju Array Be	14.08 22	P		P	07 02 38.1	-1.0
KSRS	Korea Array	14.10 22	Pn		Pn	07 02 32.5	+1.1
	0.3nm,0.3s,baz=209,slow=13,SNR=2.3						
KSRS			LR		LR	07 08 26.9	
	comp=Z,146nm,19.9s,baz=206,slow=39						
KS19	Wonju Array Si	14.13 21	P		P	07 02 38.5	-1.2
XAN	Xi'an	14.51 314	P		P	07 02 41.0	-2.9
XAN			pP		Pn	07 02 46.8	+10
XAN			S		Sn	07 05 11.5	-6.9
XAN			pmax		pmax		
	comp=Z,5.0nm,0.8s						
XAN			LR		LR		
	comp=N,590nm,7.0s						
XAN			LR		LR		
	comp=E,720nm,10.0s						
XAN			LR		LR		
	comp=Z,1μm,10.3s						
CD2	Chengdu	16.92 296	eP		Pn	07 03 05.5	-3.2
CD2			LR		LR		
	comp=N,760nm,7.5s						
CD2			LR		LR		
	comp=E,960nm,8.2s						
CD2			LR		LR		
	comp=Z,1μm,9.0s						
MJAR	Matsushiro Arr	18.79 46	LR		LR	07 11 50.7	
	comp=Z,111nm,18.4s,baz=255,slow=40						
LZH	Lanzhou	19.09 312	eP		Pn	07 03 38.5	+3.1
LZH			pmax		pmax		
	comp=Z,13nm,1.2s						
LAMP	Lampang	21.12 258	P		P	07 03 58.2	+1.4
	2μm138nm,0.5s						
CM09	Chiang Mai Arr	21.72 258	P		P	07 04 16.1	+13
CM04	Chiang Mai Arr	21.74 258	P		P	07 04 12.1	+8.6
	10nm,0.9s						
CM31	Chiang Mai Arr	21.76 258	P		P	07 04 03.7	+0.1
CM31			IAmb		IAmb	07 04 20.1	
	comp=Z,31nm,1.1s						
CMAR	Chiang Mai Arr	21.76 258	LR		LR	07 13 43.5	
	comp=Z,126nm,19.5s,baz=129,slow=40						
CMAR	Chiang Mai Arr	21.76 258	P		P	07 04 05.1	+1.4
CM02	Chiang Mai Arr	21.76 258	P		P	07 04 07.3	+3.6
	comp=Z,129nmcomp=Z,13nm,1.0s						
CM05	Chiang Mai Arr	21.77 258	P		P	07 04 08.3	+4.5
	comp=Z,102nmcomp=Z,10nm,1.1s						
CM13	Chiang Mai Arr	21.80 258	P		P	07 04 08.6	+4.5
	comp=Z,167nmcomp=Z,18nm,0.9s						
GTA	Gaotai	23.57 314	eP		P	07 04 25.5	+2.8
GTA			pP		sP	07 04 30.3	+5.1
GTA			sP		pP	07 04 33.3	+8.9
GTA			pmax		pmax		
	comp=Z,4.0nm,1.1s						
GUMO	Guam	24.60 112	LR		LR	07 13 46.8	
	comp=Z,48nm,18.5s,baz=295,slow=36						
ULN	Ulaanbaatar	26.01 338	P		P	07 04 44.8	-0.3
ULN			IAmb		IAmb	07 04 46.8	
	comp=Z,6.6nm,0.8s						
KLR	Kul'dur	26.03 16	P		P	07 04 45.9	+0.9
	comp=Z,3.1nm,0.8s,baz=216,slow=9.4,SNR=8.4						
SONM	Songino Array	26.22 337	P		P	07 04 47.5	+0.6
	comp=Z,5.3nm,1.0s,baz=157,slow=9.7,SNR=21						
SONM	Songino Array	26.22 337	P		P	07 04 47.2	+0.2
SONM			IAmb		IAmb	07 04 48.6	
	comp=Z,7.5nm,1.1s						
WMQ	Urumqi	33.64 313	eP		P	07 05 54.3	+1.6
MK31	Makanchi Array	38.31 316	P		P	07 06 32.9	+0.2
MK31			IAmb		IAmb	07 06 36.2	
	comp=Z,5.4nm,0.9s						
MKAR	Makanchi Array	38.31 316	P		P	07 06 33.2	+0.6
	comp=Z,5.8nm,0.8s,baz=110,slow=9.4,SNR=30						
MKAR			PcP		PcP	07 08 46.4	-0.2
	comp=Z,0.6nm,0.8s,baz=76,slow=6.1,SNR=3.9						
MKAR	Makanchi Array	38.31 316	P		P	07 06 33.0	+0.3
MAKZ	Makanchi	38.52 315	P		P	07 06 34.9	+0.5
MAKZ			IAmb		IAmb	07 06 38.1	
	comp=Z,8.6nm,0.9s						
PETK	Petropavlovsk-	39.52 34	LR		LR	07 24 08.3	
	comp=Z,60nm,18.1s,baz=201,slow=38						
ZAA0	Zalesovo Array	40.15 327	P		P	07 06 47.3	-0.6
ZALV	Zalesovo Beam	40.15 327	P		P	07 06 47.3	-0.6
	comp=Z,2.5nm,0.6s,baz=108,slow=7.2,SNR=10						
KURK	Kurchatov	42.04 320	P		P	07 07 04.1	+0.6
KURBB	Kurchatov Arra	42.06 320	P		P	07 07 04.1	+0.5
	comp=Z,1.3nm,0.8s,baz=118,slow=7.7,SNR=8.1						
PSA00	Pilbara Seismi	45.77 182	P		P	07 07 31.6	-2.1
PSA00	Pilbara Seismi	45.77 182	P		P	07 07 31.8	-1.9
PSA00			IAmb		IAmb	07 07 32.4	
	comp=Z,6.4nm,0.9s						
WRA	Warramunga Arr	45.88 163	P		P	07 07 32.6	-2.0
	comp=Z,1.8nm,0.5s,baz=345,slow=8.6,SNR=16						
WRA	Warramunga Arr	45.88 163	P		P	07 07 33.7	-0.8
WB2	Warramunga Arr	45.88 163	P		P	07 07 33.8	-0.8
WB2			IAmb		IAmb	07 07 39.5	
	comp=Z,6.0nm,0.9s						
WR0	Warramunga Arr	45.95 163	P		P	07 07 34.1	-0.9
WR0			IAmb		IAmb	07 07 39.6	
	comp=Z,6.6nm,1.0s						
GIRL	Giralia	47.33 189	P		P	07 07 45.7	-0.1
ASAR	Alice Springs	49.33 165	P		P	07 07 59.9	-1.5
	comp=Z,2.3nm,0.9s,baz=344,slow=7.4,SNR=12						
ABKAR	Akbulak array	53.42 314	P		P	07 08 33.2	+1.3
ABKAR	Akbulak array	53.42 314	P		P	07 08 33.0	+1.1
STKA	Stephens Creek	59.23 160	P		P	07 09 12.2	-1.1
	comp=Z,1.7nm,0.7s,baz=340,slow=11,SNR=4.0						
GNI	Garni	64.85 305	LR		LR	07 40 34.4	
	comp=Z,31nm,18.8s,baz=290,slow=38						
KBZ	Khabaz	65.50 309	P		P	07 09 56.0	+0.7
	comp=Z,1.7nm,0.5s,baz=102,slow=7.1,SNR=6.7						
KBZ			LR		LR	07 40 51.1	
	comp=Z,33nm,18.6s,baz=232,slow=38						
KVAR	Kislovodsk Arr	65.60 309	LR		LR	07 41 23.7	
	comp=Z,83nm,22.0s,baz=54,slow=39						
KDAK	Kodiak Island	67.56 35	P		P	07 10 09.5	+1.2
	comp=Z,3.7nm,0.7s,baz=283,slow=8.9,SNR=4.1						
KDAK	Kodiak Island	67.56 35	IAmb		IAmb	07 10 13.5	
	comp=Z,11nm,1.2s						
MDM	Murphy Dome	68.27 27	IAmb		IAmb	07 10 16.4	
	comp=Z,2.3nm,0.7s						
ILAR	Eielson Array	68.88 27	P		P	07 10 17.0	+0.6
	comp=Z,0.4nm,0.7s,baz=268,slow=5.1,SNR=4.8						
FINES	FINESS Array B	71.34 330	P		P	07 10 31.4	-0.1
	comp=Z,4.8nm,0.8s,baz=90,slow=7.6,SNR=14						
FINES			LR		LR	07 44 42.1	
	comp=Z,40nm,18.1s,baz=210,slow=38						
AKASG	Malin Array Be	72.83 318	P		P	07 10 40.5	-0.2
	comp=Z,0.2nm,0.2s,baz=63,slow=6.1,SNR=6.7						
AKASG			LR		LR	07 45 13.4	
	comp=Z,26nm,18.9s,baz=85,slow=38						
AKASG	Malin Array Be	72.83 318	IAmb		IAmb	07 10 42.3	
	comp=Z,4.0nm,1.4s						
BRTR	Keskin Array B	73.20 306	P		P	07 10 43.9	+0.5
	comp=Z,2.0nm,0.8s,baz=123,slow=4.6,SNR=7.1						
BRTR	Keskin Array B	73.20 306	P		P	07 10 43.4	0.0
HFS	Hagfors	77.45 331	LR		LR	07 49 04.1	
	comp=Z,32nm,18.4s,baz=144,slow=39						
NB2	NORSAR Subarra	78.10 332	P		P	07 11 09.8	-1.1
	comp=Z,1.0nm,0.7s,baz=59,slow=5.6						
NOA	NORSAR Array B	78.10 332	P		P	07 11 09.8	-1.1
	comp=Z,2.9nm,0.9s,baz=60,slow=5.6,SNR=6.1						
OJC	Ojcow	78.62 320	P		P	07 11 13.6	-0.4
VYHS	Vyhne	79.92 319	eP		P	07 11 22.0	+0.9
CLL	Collm	81.98 323	iP		P	07 11 32.1	+0.1
	comp=Z,7.0nm,1.0s						
YKA	Yellowknife Ar	82.64 23	P		P	07 11 34.5	-0.7
	comp=Z,1.6nm,0.9s,baz=316,slow=4.2,SNR=6.0						
GERES	GERESS Array B	82.79 321	P		P	07 11 36.5	+0.1
	comp=Z,2.4nm,0.9s,baz=65,slow=6.3,SNR=9.6						

*IDC **28** 07:02:49.7±0.8, 27°.61N×139°.85E, h458km±10km, mb3.5/10, mb1 3.5/14, mb1mx3.2/41, mbtmp4.3/14, Error ellipse: s-maj=31.1km s-min=12.8km az=66.0*
*JMA **28** 07:02:50.2±0.1, 27°.82N×140°.64E, h490km, M3.8*
*NEIC **28** 07:02:51.8±1.1, 27°.7N±0°.1×139°.9E±0°.2, h478km±8km, mb4.1/7, Error ellipse: s-maj=22.9km s-min=17.4km az=93.0*

ISC 28 07:02:50.1±0.6, 27°.73N±0°.07×139°.9E±0°.1, h450km, n55, σ2.9 10/61, mb3.9/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.11	107	eS		S	07 04 42.3	+1.4
JCJ	Chichijima	2.11	107	P		P	07 03 53.3	+2.0
	165nm,0.3s,baz=280,slow=22,SNR=64							
JCJ				S		S	07 04 42.0	+1.1
	57nm,0.3s,baz=307,slow=23,SNR=10							
JHH2	Haha-jima-NKT2	2.29	118	P		P	07 03 53.8	+1.4
JHH2				eS		S	07 04 44.3	+1.5
JHJ2	Mitsune	5.37	359	P		P	07 04 17.8	-0.1
JHJ	Hachijo jima 2	5.38	359	P		P	07 04 19.2	+1.2
	8.5nm,0.3s,baz=57,slow=24,SNR=1.6							
JHJ				S		S	07 05 32.0	+2.1
	8.0nm,0.3s,baz=228,slow=17,SNR=3.8							
BSO1	Boso 1	6.96	7	P		P	07 04 36.4	+2.7
BSO1				eS		S	07 05 59.4	+0.6
BSO3	Boso 3	7.07	4	eS		S	07 06 00.9	-0.4
JIE	Ise	7.19	338	P		P	07 04 41.1	+4.4
JKN2	Miekihoku	7.21	335	P		P	07 04 41.4	+4.5
BSO4	Boso 4	7.25	3	eS		S	07 06 05.5	+0.4
JMN	Monobe	7.92	321	P		P	07 04 47.2	+2.6
JMZ	Minamidaito 2	8.00	258	P		P	07 04 46.8	+1.2
JHU	Hanno	8.12	356	eS		S	07 06 19.4	-3.0
JAG	Ashikaga	8.68	358	P		P	07 04 53.3	+0.5
JAG				eS		S	07 06 29.5	-4.1
JHO	Hitachi	8.88	3	P		P	07 04 56.6	+1.8
JSU	Suzuyama	9.05	297	P		P	07 05 00.1	+3.1
JHS	Saijyo	9.29	323	P		P	07 05 02.8	+3.4
JNU	Nakatsue	9.47	307	P		P	07 05 05.5	+4.0
	1.1nm,0.3s,baz=167,slow=3.8,SNR=6.5							
JNU	Nakatsue	9.47	307	P		P	07 05 04.5	+3.0
JAMN	Amaminishikomi	9.51	276	P		P	07 05 04.9	+3.0
JSJ	Shimokoshiki	9.70	296	P		P	07 05 06.4	+2.5
JMM	Marumori	10.14	4	P		P	07 05 12.3	+3.7
JOW	Kunigami	10.39	268	P		P	07 05 14.1	+2.5
	13nm,0.3s,baz=108,slow=14,SNR=20							
JOW	Kunigami	10.39	268	P		P	07 05 14.0	+2.5
JOW	Kunigami	10.39	268	P		P	07 05 14.0	+2.4
KSRS	Korea Array	14.00	317	P		P	07 05 50.3	-0.1
	0.2nm,0.3s,baz=125,slow=9.7,SNR=4.9							
USA0B	Ussuriysk Arra	17.63	341	P		P	07 06 30.3	+1.5
USA0B				IAmb		IAmb	07 06 31.4	
	comp=Z,8.7nm,0.8s							
USRK	Ussuriysk Ar.	17.63	341	P		P	07 06 29.5	+0.7
	baz=164,slow=10,SNR=15							
USRK	Ussuriysk Ar.	17.63	341	P		P	07 06 29.7	+0.8
KLR	Kul'dur	22.38	346	P		P	07 07 13.8	+1.0
	comp=Z,1.7nm,0.5s,baz=175,slow=11,SNR=8.2							
WRA	Warramunga Arr	47.69	187	P		P	07 10 42.6	-2.1
	comp=Z,0.5nm,0.5s,baz=2.1,slow=7.6,SNR=5.1							
MK31	Makanchi Array	48.52	309	P		P	07 10 49.7	-0.9
MKAR	Makanchi Array	48.52	309	P		P	07 10 50.0	-0.6
	comp=Z,1.6nm,0.7s,baz=88,slow=10,SNR=10							
MKAR				PcP		PcP	07 12 06.8	-1.5
	comp=Z,0.4nm,0.6s,baz=88,slow=7.8,SNR=3.9							
MKAR	Makanchi Array	48.52	309	P		P	07 10 49.7	-0.8
KURBB	Kurchatov Arra	51.16	314	P		P	07 11 09.2	-0.8
	comp=Z,5.9nm,0.5s,baz=91,slow=8.0,SNR=51							
NRIK	Noril'sk	51.33	339	P		P	07 11 10.6	-0.3
	comp=Z,3.4nm,0.6s,baz=112,slow=11,SNR=5.0							
ASAR	Alice Springs	51.42	187	P		P	07 11 10.9	-1.3
BRVK	Borovoye	56.27	317	P		P	07 11 45.5	-0.9
BRVK				IAmb		IAmb	07 11 46.3	
	comp=Z,6.7nm,0.6s							
KK31	Karatay Array	57.08	305	P		P	07 11 51.0	-1.1
KK31				IAmb		IAmb	07 11 52.4	
	comp=Z,4.1nm,0.8s							
KKAR	Karatay Array	57.08	305	P		P	07 11 51.5	-0.7
KKAR				IAmb		IAmb	07 11 52.4	
	comp=Z,4.1nm,0.8s							
KKAR	Karatay Array	57.08	305	P		P	07 11 51.3	-0.9
ABKAR	Akbulak array	63.21	314	P		P	07 12 31.7	-1.2
ARCES	ARCESS Array B	72.28	340	P		P	07 13 27.9	-0.4
	comp=Z,1.6nm,0.5s,baz=74,slow=8.6,SNR=12							
ARCES	ARCESS Array B	72.28	340	P		P	07 13 28.5	+0.2
KBZ	Khabaz	76.10	312	P		P	07 13 49.9	-0.5
	comp=Z,1.3nm,0.4s,baz=253,slow=2.8,SNR=4.4							
FIA1	FINESS Array S	76.48	333	P		P	07 13 51.6	-0.6
FIA1				IAmb		IAmb	07 13 55.8	
	comp=Z,12nm,1.4s							
FINES	FINESS Array B	76.48	333	P		P	07 13 51.0	-1.2
	comp=Z,4.6nm,0.3s,baz=63,slow=5.0,SNR=56							
FINES	FINESS Array B	76.48	333	P		P	07 13 51.0	-1.2
AKASG	Malin Array Be	80.91	323	P		P	07 14 14.5	-1.7
	comp=Z,0.8nm,0.3s,baz=54,slow=6.0,SNR=5.0							
NB2	NORSAR Subarra	82.27	337	P		P	07 14 21.2	-1.8
	comp=Z,0.6nm,0.5s,baz=48,slow=4.6							
NOA	NORSAR Array B	82.27	337	P		P	07 14 21.2	-1.8
	comp=Z,1.5nm,0.7s,baz=47,slow=4.9,SNR=7.2							
LPAZ	La Paz	151.69	72	PKPbc		PKPbc	07 21 53.5	-0.7
	comp=Z,0.8nm,0.7s,baz=311,slow=2.7,SNR=5.1							
LPAZ	La Paz	151.69	72			PKPdf	07 21 50.3	+2.9
PLCA	Paso Flores	151.82	125	PKPbc		PKPbc	07 21 52.7	-0.5
	comp=Z,1.6nm,0.8s,baz=325,slow=8.5,SNR=3.7							
PLCA	Paso Flores	151.82	125			PKPdf	07 21 50.2	+3.9

	baz=219						
TDCB				*e*S	Sb	07 14 33.9	-1.3
	baz=219						
ETLH	**Xiulin Townshi**	**0.28 154**		*e*P	Pb	07 14 29.7	-0.8
	baz=154						
WHF	**Hehuan Shan**	**0.33 193**		*e*P	Pb	07 14 30.7	-0.8
WHF	baz=192			*e*S	Sb	07 14 36.3	-0.8
	baz=192						
NWLT	**Wulai**	**0.34**	**24**	*e*S	Sb	07 14 36.2	-0.9
	baz=24						

TAP 28 07:14:24.9, 24.°31N×121.°96E, h28km, ML2.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.20**	**270**	*e*P	Pb	07 14 31.2	+0.3
	baz=268						
EWUT	**Wuta**	**0.21**	**309**	*i* P	Pb	07 14 31.4	+0.4
	baz=309						
EWUT				*i* S	Sb	07 14 36.2	+1.0
	baz=309						
TWC	**Suao**	**0.31**	**342**	*i* P	Pb	07 14 32.8	+0.4
	baz=343						
TWC				*i* S	Sb	07 14 38.1	+0.6
	baz=343						
ETL	**Fush Village**	**0.34**	**244**	P	Pn	07 14 33.4	-0.5
	baz=243						
ETL				S	Sn	07 14 39.5	-0.5
	baz=243						
NACB	**Ninganchiao**	**0.36**	**248**	P	Pb	07 14 32.8	-0.2
	baz=247						
NACB				S	Sn	07 14 40.3	0.0
	baz=247						
NDS	**Dongshan**	**0.39**	**326**	P	Pn	07 14 34.1	-0.5
	baz=325						
NDS				*i* S	Sn	07 14 40.6	-0.5
	baz=325						
TWD	**Chiawan**	**0.40**	**235**	P	Pb	07 14 33.9	+0.3
	baz=234						
TWD				S	Sn	07 14 41.0	-0.4
	baz=234						
ETLH	**Xiulin Townshi**	**0.45**	**257**	P	Pb	07 14 34.6	+0.2
	baz=256						
ETLH				S	Sn	07 14 42.3	-0.4
	baz=256						
ETLH	**Xiulin Townshi**	**0.45**	**257**	*e*S	Pb	07 14 34.6	+0.2
	baz=154						
HWA	**Hwalien**	**0.46**	**224**	P	Pb	07 14 35.0	+0.4
	baz=223						
HWA				*e*S	Sn	07 14 42.4	-0.5
	baz=223						
ENTT	**Nioudou**	**0.48**	**313**	P	Pb	07 14 34.8	-0.2
	baz=312						
ENTT				S	Sn	07 14 43.4	-0.1
	baz=312						
TWE	**Neicheng**	**0.49**	**327**	P	Pb	07 14 35.3	+0.3
	baz=328						
TWE				S	Sn	07 14 43.6	+0.1
	baz=328						
ILA	**Ilan**	**0.49**	**337**	*e*S	Sb	07 14 42.8	+0.8
	baz=337						
NDT	**Datong Townshi**	**0.50**	**306**	P	Pb	07 14 35.6	+0.4
	baz=305						
NDT				S	Sn	07 14 43.7	-0.1
	baz=305						
NNSH	**Datong**	**0.54**	**283**	P	Pb	07 14 36.3	+0.4
	baz=282						
NNSH				*e*S	Sb	07 14 44.0	+0.6
	baz=282						
NNSB	**Datong**	**0.54**	**283**	P	Pb	07 14 36.2	+0.3
	baz=282						
NNSB				S	Sb	07 14 44.1	+0.6
	baz=282						
ETM	**Tongmen**	**0.55**	**231**	P	Pn	07 14 36.8	0.0
	baz=230						
ETM				*e*S	Sn	07 14 44.8	-0.2
	baz=230						
NNS	**Nan Shan**	**0.55**	**284**	*i* P	Pb	07 14 36.4	+0.3
	baz=283						
NNS				*i* S	Sb	07 14 44.4	+0.6
	baz=283						
TEYL	**Yanliau Villag**	**0.55**	**217**	*e*P	Pb	07 14 36.2	+0.2
	baz=218						
TEYL				*e*S	Sb	07 14 43.8	+0.1
	baz=218						
NTC	**Toucheng**	**0.55**	**348**	*e*S	Sn	07 14 45.0	-0.1
	baz=347						
NWLT	**Wulai**	**0.62**	**318**	P	Pn	07 14 37.8	-0.1
	baz=318						
NWLT				*e*S	Sn	07 14 46.5	-0.4
	baz=318						
YHNB	**Yeheng**	**0.64**	**304**	P	Pn	07 14 37.9	-0.3
	baz=304						
YHNB				S	Sn	07 14 47.0	-0.4
	baz=304						
WHF	**Hehuan Shan**	**0.65**	**255**	*i* P	Pb	07 14 37.4	-0.7
	baz=255						
WHF				*i* S	Sn	07 14 47.6	-0.6
	baz=255						
FUSS	**Fushou**	**0.65**	**265**	*i* P	Pn	07 14 38.4	-0.1
	baz=264						
FUSS				*i* S	Sn	07 14 48.3	+0.3
	baz=264						
TIPB	**Shuangxi**	**0.67**	**350**	P	Pn	07 14 39.0	+0.5
	baz=349						
TIPB				S	Sn	07 14 48.5	+0.4
	baz=349						
ESL	**Shilin**	**0.69**	**224**	*e*S	Sb	07 14 47.4	-0.1
	baz=223						
TDCB	**Techi**	**0.73**	**266**	P	Pn	07 14 39.4	-0.1
	baz=265						
TDCB				S	Sn	07 14 49.6	-0.2
	baz=265						
TWA	**Mucha**	**0.75**	**333**	*e*P	Pb	07 14 39.2	-0.2
	baz=333						
TWA				*e*S	Sn	07 14 50.0	0.0
	baz=333						
CHGB	**Renai**	**0.76**	**251**	*e*P	Pn	07 14 40.2	+0.3
	baz=250						
CHGB				S	Sb	07 14 50.1	+0.4
	baz=250						
NWF	**Wu-fen Shan**	**0.77**	**348**	*e*S	Sn	07 14 51.2	+0.5
	baz=348						
WFSB	**Wu-fen Shan**	**0.77**	**348**	*e*S	Sn	07 14 50.9	+0.3
	baz=348						
OWD	**Renai**	**0.80**	**244**	*e*P	Pb	07 14 40.0	-0.3
	baz=243						
OWD				*e*S	Sn	07 14 52.2	+0.8
	baz=243						
YM01	**YM01**	**0.90**	**337**	*e*P	Pb	07 14 42.2	+0.2
	baz=337						
YM01				*e*S	Sn	07 14 54.0	+0.1
	baz=337						
LIOB	**Emei**	**0.92**	**291**	*e*P	Pb	07 14 42.4	+0.2
	baz=291						
LIOB				*e*S	Sn	07 14 54.3	0.0
	baz=291						
WHP	**Taichung City**	**0.92**	**268**	*e*P	Pb	07 14 42.4	+0.1
	baz=267						
WHP				*e*S	Sn	07 14 55.0	+0.5
	baz=267						
NSTT	**Nanjuang**	**0.93**	**290**	*e*P	Pb	07 14 43.1	+0.7
	baz=290						
NSTT				*e*S	Sn	07 14 55.0	+0.5
	baz=290						
HGSD	**Ruisui**	**0.95**	**211**	*e*P	Pn	07 14 42.1	-0.2
	baz=210						
HGSD				*e*S	Sb	07 14 55.4	+0.5
	baz=210						
YOJ	**Yonaguni jima**	**0.97**	**81**	*e*S	Sb	07 14 56.7	+1.1
	baz=80						
EHY	**Hungye**	**0.99**	**216**	*e*S	Sb	07 14 56.6	+0.5
	baz=215						
SSLB	**Suanglung**	**1.05**	**241**	*e*P	Pb	07 14 44.4	-0.2
	baz=240						
SSLB				*e*S	Sn	07 14 57.7	+0.1
	baz=240						
YULB	**Yu-li**	**1.10**	**214**	*e*P	Pn	07 14 44.2	-0.2
	baz=213						
YULB				*e*S	Sn	07 14 58.5	-0.1
	baz=213						

*ECX **28** 07:14:33.0±0.6, 32.°58N×115.°70W, h5km±8km, MD2.1, ML2.3, Fault plane solution: NP1:φ=36.00000°, δ54.00000°, λ-62.00000°.*

*MEX **28** 07:14:34.9±0.6, 32.°72N×115.°74W, h15km±26km, MD3.8*
ISC 28 07:14:32.0±0.8, 32.°61N±0.°03×115.°71W±0.°02, h15km±5km, n31, σ0.58/49, 13C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.04**	**339**	⇑*i*P	**Pg**	**07 14 34.6**	**-0.2**
CEA0	**Mexicali**	**0.05**	**37**	⇓*i*P	**Pg**	**07 14 34.6**	**-0.3**
CEA0				*e*S	**Sg**	**07 14 36.5**	**-0.3**
ZC01	**Zona Comercial**	**0.11**	**79**	⇑*i*P	**Pg**	**07 14 35.3**	**-0.1**
ZC01				*e*S	**Sg**	**07 14 38.3**	**+0.6**
WESC	**Westside Schoo**	**0.15**	**352**	⇑*e*P	**Pb**	**07 14 36.5**	**0.0**
YUH2	**Yuha Desert**	**0.19**	**282**	*e*P	**Pg**	**07 14 36.6**	**+0.2**
YUH2				*e*S	**Sg**	**07 14 39.5**	**+0.1**
UABX	**UABC, Campus M**	**0.23**	**84**	*e*P	**Pg**	**07 14 37.1**	**0.0**
COK2	**Cook Ranch 2**	**0.24**	**356**	⇓*i*P	**Pb**	**07 14 38.1**	**+0.1**
DREC	**Desert Rsrch C**	**0.29**	**48**	*e*P	**Pb**	**07 14 38.8**	**-0.2**
RMX	**La Rumorosa**	**0.31**	**269**	*e*P	**Pg**	**07 14 38.3**	**-0.3**
RMX				*e*S	**Sg**	**07 14 42.3**	**-0.9**
IKP	**In-Ko-Pah, Jac**	**0.34**	**277**	⇑*i*P	**Pg**	**07 14 39.5**	**+0.4**
IKP				*e*S	**Sg**	**07 14 44.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.34**	**347**	*e*P	**Pb**	**07 14 39.5**	**-0.3**
SWSC				*e*S	**Sb**	**07 14 45.0**	**-0.1**
CRR	**Carrizo Plain**	**0.35**	**321**	⇑*i*P	**Pb**	**07 14 39.9**	**-0.1**
CPBX	**Cerro Prieto**	**0.39**	**119**	*e*P	**Pg**	**07 14 39.7**	**-0.2**
CPBX				⇓*e*		07 14 49.6	
CPBX				IAML		07 14 49.6	
	comp=N,1μm,0.1s						
CPBX				IAML		07 14 50.5	
	comp=E,1μm,0.4s						
CPBX				⇑*e*		07 14 50.5	
WEMD	**Westmorland, C**	**0.44**	**14**	*i* P	**Pb**	**07 14 41.7**	**+0.2**
MBIG	**Mexicali**	**0.47**	**115**	*i* P	**Pg**	**07 14 39.6**	**-1.8**
MBIG				*i* S	**Sg**	**07 14 46.5**	**-1.3**
CTLX	**Tlaxcala, TLX**	**0.49**	**106**	*e*P	**Pg**	**07 14 42.5**	**+0.7**
CBKC	**Canebrake**	**0.54**	**302**	⇑*i*P	**Pb**	**07 14 43.6**	**+0.3**
COA	**Coachella**	**0.55**	**62**	⇑*i*P	**Pg**	**07 14 42.9**	**0.0**
EMSC	**East Mesa**	**0.62**	**78**	*e*P	**Pg**	**07 14 43.9**	**-0.3**
EMSC				*i* S	**Sg**	**07 14 53.2**	**+0.7**
MONP2	**Monument Peak**	**0.67**	**295**	⇑*i*P	**Pb**	**07 14 45.4**	**-0.1**
MONP2				*e*S	**Sb**	**07 14 54.6**	**0.0**
SLH	**Sleepy Hollow**	**0.74**	**322**	*e*P	**Pb**	**07 14 46.5**	**-0.1**
SLH				*e*S	**Sn**	**07 14 57.0**	**-1.9**
TKX	**Tecate**	**0.76**	**267**	*e*P	**Pg**	**07 14 46.9**	**0.0**
BAR	**Barrett**	**0.82**	**275**	⇑*i*P	**Pb**	**07 14 47.9**	**0.0**
BAR				*e*S	**Sg**	**07 14 58.7**	**0.0**
BAR				IAML		07 14 59.5	
	comp=N,81nm,0.1s						
BAR				⇓*e*		07 14 59.5	
TJIG	**Tijuana**	**0.84**	**258**	*e*P	**Pb**	**07 14 48.1**	**-0.2**
TJIG				*e*S	**Sb**	**07 14 58.9**	**-0.4**
TJIG	**Tijuana**	**0.84**	**258**	*e*P	**Pb**	**07 14 48.0**	**-0.2**
TJIG				*e*S	**Sb**	**07 14 58.6**	**-0.6**
CBX	**Cerro Bola**	**0.86**	**250**	*e*P	**Pb**	**07 14 48.6**	**-0.1**
CBX				*e*S	**Sb**	**07 14 59.7**	**-0.4**
CBX	**Cerro Bola**	**0.86**	**250**	*e*P	**Pb**	**07 14 48.5**	**-0.1**
CBX				*e*S	**Sb**	**07 14 59.9**	**-0.2**
CBX				IAML		07 15 00.8	
	comp=N,127nm,0.2s						
CBX				⇑*e*		07 15 00.8	
CBX				*e*		07 15 01.5	
CBX				IAML		07 15 01.5	
	comp=E,118nm,0.1s						
EML	**El Monte Cty P**	**1.00**	**287**	*e*P	**Pb**	**07 14 50.7**	**-0.3**
OLP	**Otay Lakes Par**	**1.03**	**270**	⇑*e*P	**Pb**	**07 14 51.5**	**0.0**
OLP				*e*S	**Sb**	**07 15 04.9**	**0.0**
SDRC	**San Diego Road**	**1.05**	**277**	⇑*e*P	**Pb**	**07 14 51.8**	**0.0**
SDRC				*e*S	**Sb**	**07 15 05.4**	**0.0**
SPIG	**San Pedro Mart**	**1.57**	**172**	*e*P	**Pn**	**07 15 01.0**	**+1.3**
SPIG				*e*S	**Sn**	**07 15 20.4**	**+0.5**

*IDC **28** 07:24:31.9±1.2, 21.°06N×121.°45E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/59, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=70.7km s-min=20.1km az=66.0*
*NEIC **28** 07:24:40.2±1.2, 21.°2N±0.°1×121.°7E±0.°1, h66km±9km, mb4.5/10, Error ellipse: s-maj=16.6km s-min=13.9km az=47.0*
*JMA **28** 07:24:42.4±0.3, 21.°41N×121.°73E, h58km, M4.0*
*TAP **28** 07:24:42.1, 21.°43N×121.°61E, h99km, ML4.4, D*
ISC 28 07:24:42.1±0.8, 21.°35N±0.°05×121.°64E±0.°04, h95km±7km, n132, σ1.22/230, mb4.2/10, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.69**	**353**	*i* P	**Pn**	**07 24 58.6**	**-0.5**
	baz=355						
LAY				S	**Sn**	**07 25 11.0**	**-0.7**
	baz=355						
TSEB	**Hengchuen, Pin**	**0.88**	**308**	*i* P	**Pn**	**07 25 01.6**	**+0.7**
	baz=297						
TSEB				*i* S	**Sn**	**07 25 16.1**	**+1.1**
	baz=297						
TWKBT	**Hengchun**	**0.97**	**307**	P	**Pn**	**07 25 02.0**	**+0.2**
	baz=300						
TWKBT				S	**Sn**	**07 25 16.4**	**-0.3**
	baz=300						
TWK1	**Hengchun**	**0.98**	**307**	⇓*i*P	**Pn**	**07 25 02.1**	**+0.2**
	baz=300						
TWK1				*i* S	**Sn**	**07 25 16.5**	**-0.3**
	baz=300						
SNW	**Nanwan**	**1.03**	**306**	*i* P	**Pn**	**07 25 03.4**	**+0.9**
	baz=302						
SNW				*i* S	**Sn**	**07 25 18.4**	**+0.6**
	baz=302						
HEN	**Hengchun**	**1.06**	**308**	*i* P	**Pn**	**07 25 03.2**	**+0.3**
	baz=305						
HEN				*i* S	**Sn**	**07 25 18.2**	**-0.3**
	baz=305						
SLIU	**Shizi**	**1.17**	**318**	*i* P	**Pn**	**07 25 04.0**	**-0.1**
	baz=323						
SLIU				*i* S	**Sn**	**07 25 19.6**	**-1.1**
	baz=323						
TAW	**Tawu**	**1.22**	**325**	*i* P	**Pn**	**07 25 04.0**	**-0.7**
	baz=330						
TAW				*i* S	**Sn**	**07 25 20.1**	**-1.6**
	baz=330						
EAST	**Anshuo**	**1.27**	**324**	*i* P	**Pn**	**07 25 04.8**	**-0.5**
	baz=324						
EAST				*i* S	**Sn**	**07 25 22.1**	**-0.6**
	baz=324						
LDUT	**Ludao**	**1.33**	**353**	*i* P	**Pn**	**07 25 04.8**	**-1.2**
	baz=354						
LDUT				S	**Sn**	**07 25 21.3**	**-2.7**
	baz=354						
SCZT	**Fangliau**	**1.39**	**317**	*i* P	**Pn**	**07 25 06.6**	**-0.1**
	baz=324						
SCZT				*i* S	**Sn**	**07 25 24.3**	**-1.1**
	baz=324						
ECL	**Taimali**	**1.40**	**333**	*i* P	**Pn**	**07 25 05.6**	**-1.2**
	baz=333						
ECL				S	**Sn**	**07 25 23.9**	**-1.6**
	baz=333						
TTN	**Taitung**	**1.47**	**342**	*i* P	**Pn**	**07 25 08.2**	**+0.4**
	baz=334						
TTN				*i* S	**Sn**	**07 25 28.4**	**+1.3**
	baz=334						
SSPT	**Xinbi**	**1.51**	**319**	*i* P	**Pn**	**07 25 08.5**	**+0.3**
	baz=323						
SSPT				*i* S	**Sn**	**07 25 26.8**	**-1.1**
	baz=323						
WLCH	**Liuqiu**	**1.54**	**310**	*i* P	**Pn**	**07 25 09.8**	**+1.2**
	baz=309						
WLCH				S	**Sn**	**07 25 30.0**	**+1.3**
	baz=309						
TWP	**Hsiaoliuchiu**	**1.55**	**310**	*i* P	**Pn**	**07 25 09.9**	**+1.2**
	baz=309						
TWP				*i* S	**Sn**	**07 25 30.2**	**+1.3**
	baz=309						
TWGBT	**Beinan**	**1.55**	**340**	P	**Pn**	**07 25 07.8**	**-1.0**
	baz=334						
TWGBT				S	**Sn**	**07 25 27.3**	**-1.7**
	baz=334						
TWG	**Pinlang**	**1.56**	**340**	*i* P	**Pn**	**07 25 07.8**	**-1.0**
	baz=334						
TWG				*i* S	**Sn**	**07 25 27.3**	**-1.8**
	baz=334						
TWG	**Pinlang**	**1.56**	**340**		**Pn**	**07 25 07.7**	**-1.2**
MASBT	**Mashibuluo**	**1.57**	**323**	P	**Pn**	**07 25 08.8**	**-0.1**
	baz=322						
MASBT				S	**Sn**	**07 25 28.1**	**-1.2**
	baz=322						
LONT	**Longtian**	**1.62**	**343**	*i* P	**Pn**	**07 25 08.7**	**-1.0**
	baz=335						
LONT				*i* S	**Sn**	**07 25 28.9**	**-1.7**
	baz=335						
TSMG	**Majia**	**1.64**	**326**	*i* P	**Pn**	**07 25 09.7**	**-0.1**
	baz=325						
TSMG				*i* S	**Sn**	**07 25 29.0**	**-1.9**
	baz=325						
EDH	**Donghe**	**1.64**	**349**	*i* P	**Pn**	**07 25 09.7**	**-0.2**
	baz=342						
EDH				*i* S	**Sn**	**07 25 29.7**	**-1.4**
	baz=342						
SSD	**Sandimen**	**1.68**	**326**	*i* P	**Pn**	**07 25 10.1**	**-0.2**
	baz=326						
SSD				*i* S	**Sn**	**07 25 29.9**	**-1.8**
	baz=326						
TSPT	**Pingtung City**	**1.70**	**321**	P	**Pn**	**07 25 10.9**	**+0.3**
	baz=329						
TSPT				S	**Sn**	**07 25 33.0**	**+0.7**
	baz=329						
KAU	**Kaohsiung**	**1.73**	**315**	*i* P	**Pn**	**07 25 12.0**	**+1.0**
	baz=305						
KAU				*i* S	**Sn**	**07 25 34.5**	**+1.4**
	baz=305						
SGLT	**Jiouru**	**1.74**	**322**	*i* P	**Pn**	**07 25 11.8**	**+0.7**
	baz=329						
SGLT				S	**Sn**	**07 25 35.0**	**+1.9**
	baz=329						
CHKT	**Chengkung**	**1.76**	**352**	*i* P	**Pn**	**07 25 10.9**	**-0.4**
	baz=357						
CHKT				*i* S	**Sn**	**07 25 32.1**	**-1.5**
	baz=357						
ECS	**Chishang**	**1.78**	**347**	P	**Pn**	**07 25 12.0**	**+0.3**
	baz=340						
ECS				S	**Sn**	**07 25 33.9**	**-0.3**
	baz=340						
SNJT	**Kaohsiung City**	**1.85**	**319**	*i* P	**Pn**	**07 25 13.2**	**+0.6**
	baz=318						
SNJT				*e*S	**Sn**	**07 25 36.1**	**+0.4**
	baz=318						
SCST	**Cishan**	**1.86**	**325**	*i* P	**Pn**	**07 25 13.2**	**+0.5**
	baz=331						
SCST				*i* S	**Sn**	**07 25 35.2**	**-0.8**
	baz=331						
FULB	**Fuli**	**1.87**	**350**	*i* P	**Pn**	**07 25 12.9**	**+0.1**
	baz=343						
FULB				*i* S	**Sn**	**07 25 36.0**	**-0.2**
	baz=343						
SLGT	**Liugui**	**1.88**	**331**	*i* P	**Pn**	**07 25 13.0**	**+0.1**
	baz=330						
SLGT				*i* S	**Sn**	**07 25 35.2**	**-1.2**
	baz=330						
ELDTW	**Lidau**	**1.92**	**343**	*i* P	**Pn**	**07 25 12.7**	**-0.9**
	baz=345						
ELDTW				S	**Sn**	**07 25 34.8**	**-2.7**
	baz=345						
ECBN	**Changbin**	**1.96**	**355**	P	**Pn**	**07 25 13.8**	**-0.2**
ECBN				S	**Sn**	**07 25 37.0**	**-1.3**
STYH	**Taoyuan**	**1.98**	**336**	*i* P	**Pn**	**07 25 14.6**	**+0.3**
	baz=329						
STYH				*i* S	**Sn**	**07 25 38.0**	**-0.8**
	baz=329						
STYT	**Tauyuan**	**1.98**	**336**	*i* P	**Pn**	**07 25 14.4**	**+0.1**
	baz=328						
STYT				*i* S	**Sn**	**07 25 38.2**	**-0.7**
	baz=328						
SGST	**Jiashian**	**1.98**	**330**	P	**Pn**	**07 25 13.4**	**-0.9**
	baz=330						
SGST				*e*S	**Sn**	**07 25 37.2**	**-1.7**
	baz=330						
EYUL	**Yuli**	**2.01**	**351**	*i* P	**Pn**	**07 25 15.0**	**+0.4**
	baz=344						
EYUL				*i* S	**Sn**	**07 25 39.3**	**-0.1**
	baz=344						
TWF1	**Yuli**	**2.02**	**351**	*i* P	**Pn**	**07 25 14.3**	**-0.4**
	baz=344						
TWF1				*i* S	**Sn**	**07 25 37.6**	**-2.0**
	baz=344						
YULB	**Yu-li**	**2.06**	**351**	P	**Pn**	**07 25 14.6**	**-0.7**
	baz=344						
YULB				S	**Sn**	**07 25 37.9**	**-2.7**
	baz=344						
YULB	**Yu-li**	**2.06**	**351**		**Pn**	**07 25 14.4**	**-0.9**
CHN3	**Shinhua**	**2.09**	**326**	S	**Sn**	**07 25 42.2**	**+1.0**
	baz=335						
CHN1	**Nanshi**	**2.10**	**331**	*i* P	**Pn**	**07 25 15.6**	**-0.2**
	baz=330						
CHN1				*i* S	**Sn**	**07 25 39.5**	**-2.0**
	baz=330						
WTP	**Ta-pu**	**2.11**	**333**	*i* P	**Pn**	**07 25 15.7**	**-0.3**
	baz=333						
WTP				*i* S	**Sn**	**07 25 40.2**	**-1.8**
	baz=333						
HGSD	**Ruisui**	**2.14**	**355**	P	**Pn**	**07 25 15.9**	**-0.5**
HGSD				S	**Sn**	**07 25 41.9**	**-0.6**
TPUB	**Ta-pu**	**2.16**	**334**	P	**Pn**	**07 25 16.1**	**-0.5**
	baz=334						
TPUB				S	**Sn**	**07 25 41.4**	**-1.5**
	baz=334						
TPUB	**Ta-pu**	**2.16**	**334**		**Pn**	**07 25 16.0**	**-0.5**
EHY	**Hungye**	**2.17**	**352**	*i* P	**Pn**	**07 25 16.3**	**-0.3**
	baz=345						
EHY				*i* S	**Sn**	**07 25 41.0**	**-2.1**
	baz=345						
TWK	**Hsinying**	**2.19**	**331**	*i* P	**Pn**	**07 25 16.7**	**-0.3**
	baz=331						
TWK				*i* S	**Sn**	**07 25 41.9**	**-1.7**
	baz=331						
SCLT	**Jiali**	**2.26**	**324**	*i* P	**Pn**	**07 25 17.9**	**0.0**
	baz=331						
SCLT				*i* S	**Sn**	**07 25 43.8**	**-1.4**
	baz=331						
ALS	**Alishan**	**2.29**	**340**	*i* P	**Pn**	**07 25 18.8**	**+0.3**
	baz=332						
ALS				*i* S	**Sn**	**07 25 45.9**	**-0.4**
	baz=332						
EGFH	**Guangfu**	**2.32**	**355**	P	**Pn**	**07 25 18.9**	**+0.3**
	baz=347						
EGFH				*e*S	**Sn**	**07 25 45.1**	**-1.5**
	baz=347						
TEGC	**Jichi Village**	**2.35**	**358**	P	**Pn**	**07 25 19.2**	**+0.1**
	baz=2.0						
TEGC				S	**Sn**	**07 25 47.0**	**-0.4**
	baz=2.0						
ICHU	**Yijhu**	**2.37**	**328**	*i* P	**Pn**	**07 25 19.0**	**-0.2**
	baz=337						
ICHU				*i* S	**Sn**	**07 25 45.8**	**-2.0**
	baz=337						
CHN8	**Yiju**	**2.39**	**327**	*i* P	**Pn**	**07 25 19.3**	**-0.3**
	baz=335						
CHN8				*i* S	**Sn**	**07 25 46.7**	**-1.6**
	baz=335						
CHN5	**Tsauling**	**2.41**	**338**	*i* P	**Pn**	**07 25 19.8**	**-0.1**
	baz=338						
CHN5				*i* S	**Sn**	**07 25 47.6**	**-1.3**
	baz=338						
CHY	**Chiayi**	**2.42**	**332**	P	**Pn**	**07 25 18.2**	**-1.8**
	baz=332						
CHY				*i* S	**Sn**	**07 25 47.7**	**-1.2**
	baz=332						
WHYT	**Xinyi Township**	**2.45**	**343**	P	**Pn**	**07 25 21.2**	**+0.8**
	baz=333						
WHYT				S	**Sn**	**07 25 49.8**	**0.0**
	baz=333						
ESL	**Shilin**	**2.46**	**356**	*i* P	**Pn**	**07 25 21.2**	**+0.7**
	baz=349						
ESL				*i* S	**Sn**	**07 25 48.4**	**-1.6**
	baz=349						
TEYL	**Yanliau Villag**	**2.51**	**359**	P	**Pn**	**07 25 21.7**	**+0.6**
	baz=6.0						
TEYL				S	**Sn**	**07 25 51.9**	**+0.8**
	baz=6.0						
SSLB	**Suanglung**	**2.51**	**345**	P	**Pn**	**07 25 21.0**	**-0.2**
	baz=335						
SSLB				S	**Sn**	**07 25 50.8**	**-0.4**
	baz=335						
SSLB	**Suanglung**	**2.51**	**345**		**Pn**	**07 25 21.3**	**+0.1**
WGK	**Gukeng**	**2.53**	**337**	*e*P	**Pn**	**07 25 21.5**	**0.0**
	baz=337						
WGK				S	**Sn**	**07 25 50.5**	**-1.2**
	baz=337						
WDLH	**Douliu**	**2.54**	**336**	P	**Pn**	**07 25 20.7**	**-0.9**
	baz=336						
WDLH				S	**Sn**	**07 25 50.6**	**-1.3**
	baz=336						
WTK	**Tuku**	**2.60**	**334**	P	**Pn**	**07 25 21.2**	**-1.2**
	baz=333						
WTK				*i* S	**Sn**	**07 25 50.7**	**-2.6**
	baz=333						

WJS	**Zhushan**	**2.60**	**341**	*i* P	**Pn**	**07 25 22.6**	**+0.2**
	baz=333						
WJS				*i* S	**Sn**	**07 25 51.4**	**-2.0**
	baz=333						
ETM	**Tongmen**	**2.61**	**357**	P	**Pn**	**07 25 22.7**	**+0.2**
	baz=351						
ETM				S	**Sn**	**07 25 52.0**	**-1.5**
	baz=351						
SMLT	**Sun Moon Lake**	**2.61**	**345**	*i* P	**Pn**	**07 25 22.9**	**+0.2**
	baz=336						
SMLT				*i* S	**Sn**	**07 25 53.9**	**+0.1**
	baz=336						
HWA	**Hwalien**	**2.61**	**359**	P	**Pn**	**07 25 22.9**	**+0.3**
	baz=5.0						
HWA				*e*S	**Sn**	**07 25 52.9**	**-0.8**
	baz=5.0						
OWD	**Renai**	**2.63**	**351**	*i* P	**Pn**	**07 25 23.6**	**+0.7**
	baz=342						
OWD				S	**Sn**	**07 25 53.2**	**-1.0**
	baz=342						
WSF	**Szhu**	**2.63**	**330**	*e*P	**Pn**	**07 25 21.5**	**-1.3**
	baz=330						
WSF				*i* S	**Sn**	**07 25 51.7**	**-2.3**
	baz=330						
WDGT	**Dungji**	**2.64**	**316**	*i* P	**Pn**	**07 25 21.8**	**-1.1**
	baz=315						
WDGT				*i* S	**Sn**	**07 25 51.0**	**-3.4**
	baz=315						
WNT	**Mingjian**	**2.67**	**341**	*i* P	**Pn**	**07 25 23.6**	**+0.3**
	baz=333						
WNT				*i* S	**Sn**	**07 25 53.4**	**-1.5**
	baz=333						
WNT1	**Nantou City**	**2.69**	**341**	S	**Sn**	**07 25 54.2**	**-1.4**
	baz=333						
TWD	**Chiawan**	**2.72**	**359**	*i* P	**Pn**	**07 25 23.9**	**0.0**
	baz=6.0						
TWD				*i* S	**Sn**	**07 25 55.7**	**-0.4**
	baz=6.0						
WPL	**Puli Township**	**2.72**	**347**	*e*P	**Pn**	**07 25 24.5**	**+0.4**
	baz=337						
WPL				*e*S	**Sn**	**07 25 54.6**	**-1.7**
	baz=337						
CHGB	**Renai**	**2.73**	**351**	P	**Pn**	**07 25 25.5**	**+1.1**
	baz=341						
CHGB				S	**Sn**	**07 25 56.0**	**-0.8**
	baz=341						
VCHM	**Qimei**	**2.76**	**312**	P	**Pn**	**07 25 23.7**	**-0.8**
	baz=311						
VCHM				S	**Sn**	**07 25 53.5**	**-3.6**
	baz=311						
WMLT	**Mailiao**	**2.77**	**332**	*e*S	**Sn**	**07 25 55.6**	**-1.8**
	baz=332						
WCS	**Beigang Elemen**	**2.78**	**346**	*i* P	**Pn**	**07 25 25.4**	**+0.7**
	baz=337						
WCS				*i* S	**Sn**	**07 25 56.9**	**-0.7**
	baz=337						
WYL	**Yuanlin Townsh**	**2.78**	**339**	*e*S	**Sn**	**07 25 55.8**	**-1.8**
	baz=339						
ETL	**Fush Village**	**2.79**	**360**	*e*P	**Pn**	**07 25 25.6**	**+0.5**
	baz=8.0						
ETL				*e*S	**Sn**	**07 25 58.8**	**+0.8**
	baz=8.0						
WRL	**Guolierlin Hig**	**2.79**	**335**	*i* P	**Pn**	**07 25 24.0**	**-1.0**
	baz=335						
WRL				*i* S	**Sn**	**07 25 55.5**	**-2.5**
	baz=335						
WHF	**Hehuan Shan**	**2.80**	**353**	*i* P	**Pn**	**07 25 26.2**	**+0.6**
	baz=358						
WHF				*i* S	**Sn**	**07 25 58.9**	**+0.1**
	baz=358						
NACB	**Ninganchiao**	**2.81**	**359**	P	**Pn**	**07 25 25.1**	**-0.2**
	baz=352						
NACB				S	**Sn**	**07 25 57.7**	**-0.7**
	baz=352						
NACB	**Ninganchiao**	**2.81**	**359**		**Pn**	**07 25 25.1**	**-0.2**
WWF	**Wufeng**	**2.82**	**342**	P	**Pn**	**07 25 25.2**	**-0.1**
	baz=334						
WWF				*e*S	**Sn**	**07 25 57.0**	**-1.6**
	baz=334						
ETLH	**Xiulin Townshi**	**2.85**	**357**	P	**Pn**	**07 25 26.2**	**+0.5**
	baz=357						
ETLH				S	**Sn**	**07 25 58.9**	**-0.5**
	baz=357						
PHUB	**P'eng-hu**	**2.88**	**319**	P	**Pn**	**07 25 24.9**	**-1.3**
	baz=313						
PHUB				S	**Sn**	**07 25 55.9**	**-4.2**
	baz=313						
WCHH	**Zhanghua**	**2.90**	**340**	P	**Pn**	**07 25 26.2**	**-0.1**
	baz=333						
WCHH				S	**Sn**	**07 25 58.8**	**-1.6**
	baz=333						
FUSS	**Fushou**	**2.91**	**353**	P	**Pn**	**07 25 27.9**	**+1.2**
	baz=357						
FUSS				*e*S	**Sn**	**07 25 59.8**	**-1.2**
	baz=357						
TCU	**Taichung**	**2.92**	**342**	*e*P	**Pn**	**07 25 26.2**	**-0.5**
	baz=335						
TCU				S	**Sn**	**07 25 60.0**	**-1.1**
	baz=335						
TDCB	**Techi**	**2.92**	**351**	P	**Pn**	**07 25 28.1**	**+1.2**
	baz=344						
TDCB				S	**Sn**	**07 25 59.0**	**-2.3**
	baz=344						
PNG	**Penghu**	**2.93**	**319**	*i* P	**Pn**	**07 25 25.6**	**-1.2**
	baz=318						
PNG				*i* S	**Sn**	**07 25 57.6**	**-3.6**
	baz=318						
WHP	**Taichung City**	**2.98**	**348**	*i* P	**Pn**	**07 25 28.1**	**+0.5**
	baz=339						
WHP				*i* S	**Sn**	**07 26 02.9**	**+0.3**
	baz=339						
NNSB	**Datong**	**3.07**	**356**	P	**Pn**	**07 25 30.4**	**+1.6**
	baz=1.0						
EWUT	**Wuta**	**3.08**	**2**	P	**Pn**	**07 25 28.9**	**0.0**
	baz=3.0						
EWUT				S	**Sn**	**07 26 02.8**	**-2.1**
	baz=3.0						
NNS	**Nan Shan**	**3.08**	**355**	P	**Pn**	**07 25 30.6**	**+1.5**
	baz=1.0						
WDJ	**Dajia District**	**3.12**	**343**	S	**Sn**	**07 26 05.4**	**-0.5**
	baz=336						
NSY	**Sanyi**	**3.16**	**345**	P	**Pn**	**07 25 31.3**	**+1.4**
	baz=345						
NSY				S	**Sn**	**07 26 06.5**	**-0.2**
	baz=345						
NDT	**Datong Townshi**	**3.24**	**358**	P	**Pn**	**07 25 32.6**	**+1.7**
	baz=6.0						
TWC	**Suao**	**3.25**	**3**	*i* P	**Pn**	**07 25 32.5**	**+1.4**
	baz=4.0						
TWC				S	**Sn**	**07 26 07.2**	**-1.7**
	baz=4.0						
NDS	**Dongshan**	**3.27**	**1**	*i* P	**Pn**	**07 25 32.2**	**+0.8**
	baz=8.0						
NDS				S	**Sn**	**07 26 09.9**	**+0.6**
	baz=8.0						
YHNB	**Yeheng**	**3.31**	**356**	Pn	**Pn**	**07 25 33.8**	**+1.8**
YOJ	**Yonaguni jima**	**3.34**	**22**	P	**Pn**	**07 25 32.8**	**+0.5**
YOJ				*e*S	**Sn**	**07 26 10.3**	**-0.8**
YOJ	**Yonaguni jima**	**3.34**	**22**	Pn	**Pn**	**07 25 32.4**	**+0.1**
HATJ	**Hateruma jima**	**3.35**	**36**	P	**Pn**	**07 25 32.6**	**+0.1**
HATJ				*e*S	**Sn**	**07 26 10.5**	**-0.9**
IRIF	**Iriomote-Funau**	**3.54**	**33**	P	**Pn**	**07 25 35.4**	**+0.4**
IRIF				S	**Sn**	**07 26 15.9**	**0.0**
JKRS	**Kuro-shima**	**3.61**	**37**	P	**Pn**	**07 25 36.2**	**+0.3**
JKRS				*e*S	**Sn**	**07 26 17.0**	**-0.5**
JIJ	**Ishigaki jima**	**3.78**	**37**	P	**Pn**	**07 25 38.3**	**0.0**
JIJ				*e*S	**Sn**	**07 26 19.9**	**-1.9**
JISG	**Ishigakijimahi**	**4.05**	**37**	P	**Pn**	**07 25 41.5**	**-0.4**
JISG				S	**Sn**	**07 26 27.1**	**-1.2**
KNMB	**Chin-men Tao**	**4.31**	**317**	Pn	**Pn**	**07 25 44.9**	**-0.5**
JTJ	**Tarama**	**4.32**	**40**	P	**Pn**	**07 25 45.7**	**+0.2**
JTJ				*e*S	**Sn**	**07 26 33.9**	**-0.9**
KSRS	**Korea Array**	**16.95**	**17**	P	**P**	**07 28 34.4**	**+0.8**
	0.3nm,0.3s,baz=199,slow=12,SNR=3.2						
GUMO	**Guam**	**23.44**	**105**	P	**P**	**07 29 41.2**	**-1.9**
KNRA	**Kununurra**	**37.45**	**169**	P	**P**	**07 31 45.3**	**-1.1**
MK31	**Makanchi Array**	**40.69**	**318**	P	**P**	**07 32 15.5**	**+2.3**
MKAR	**Makanchi Array**	**40.69**	**318**	P	**P**	**07 32 15.3**	**+2.1**
	0.6nm,0.5s,baz=110,slow=9.7,SNR=5.7						
WB0	**Warramunga Arr**	**42.73**	**162**	P	**P**	**07 32 28.3**	**-1.7**
WB0				IAmb	IAmb	07 32 37.0	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**42.88**	**162**	P	**P**	**07 32 29.9**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=342,slow=8.8,SNR=28						
WRA	**Warramunga Arr**	**42.88**	**162**	P	**P**	**07 32 30.5**	**-0.7**
WB2	**Warramunga Arr**	**42.88**	**162**	P	**P**	**07 32 29.6**	**-1.7**
WB2				IAmb	IAmb	07 32 40.7	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**42.95**	**162**	P	**P**	**07 32 29.7**	**-2.1**
WR0				IAmb	IAmb	07 32 43.0	
	comp=Z,5.5nm,1.1s						
GIRL	**Giralia**	**44.32**	**190**	P	**P**	**07 32 42.3**	**-0.4**
GIRL				IAmb	IAmb	07 32 44.5	
	comp=Z,36nm,1.1s						
KURBB	**Kurchatov Arra**	**44.56**	**322**	P	**P**	**07 32 46.0**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=117,slow=7.3,SNR=7.2						
AS31	**Alice Springs**	**46.31**	**164**	P	**P**	**07 32 57.4**	**-1.1**
AS31				IAmb	IAmb	07 33 16.5	
	comp=Z,2.0nm,1.4s						
ASAR	**Alice Springs**	**46.31**	**164**	P	**P**	**07 32 58.1**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=351,slow=7.3,SNR=17						
ASAR	**Alice Springs**	**46.31**	**164**	P	**P**	**07 32 58.7**	**+0.2**
BBOO	**Buckleboo**	**55.59**	**165**	P	**P**	**07 34 07.2**	**-0.7**
BBOO				IAmb	IAmb	07 34 22.6	
	comp=Z,13nm,1.2s						
ABKAR	**Akbulak array**	**55.74**	**316**	P	**P**	**07 34 10.4**	**+1.6**
BMAR	**Burnt Mountain**	**71.93**	**24**	P	**P**	**07 35 56.3**	**+1.5**

*JMA **28** 07:30:05.9±0.1,24°.45N×121°.40E,h11km±2km,M3.2*
*TAP **28** 07:30:06.0,24°.44N×121°.43E,h6km,ML3.7,B*
*IASPEI **28** 07:30:06.2±0.8,24°.45N±0°.01×121°.42E±0°.02,h6km±4km,*
Error ellipse: s-maj=2.6km s-min=1.7km az=113.2,GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

ISC 28 07:30:06.1±0.8,24°.45N±0°.01×121°.42E±0°.01,h6km±4km, n114,σ0°79/185,16C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NNSH	**Datong**	**0.04**	**242**	*i* P		**Pg**	**07 30 07.8**	**+0.3**
	baz=262							
NNSH				S		**Sg**	**07 30 08.6**	**+0.1**
	baz=262							
NNSB	**Datong**	**0.04**	**242**	⇓*i* P		**Pg**	**07 30 07.8**	**+0.3**
	baz=258							
NNSB				S		**Sg**	**07 30 08.6**	**+0.1**
	baz=258							
NNS	**Nan Shan**	**0.04**	**262**	⇓*i* P		**Pg**	**07 30 07.8**	**+0.2**
	baz=270							
NNS				S		**Sg**	**07 30 08.7**	**+0.1**
	baz=270							
NDT	**Datong Townshi**	**0.18**	**29**	⇑*i* P		**Pg**	**07 30 10.0**	**+0.3**
	baz=24							
NDT				*e*S		**Sg**	**07 30 12.6**	**+0.5**
	baz=24							
YHNB	**Yeheng**	**0.23**	**350**	⇑*i* P		**Pg**	**07 30 11.2**	**+0.6**
	baz=348							
YHNB				S		**Sg**	**07 30 14.0**	**+0.4**
	baz=348							
ENTT	**Nioudou**	**0.24**	**35**	⇑*i* P		**Pg**	**07 30 11.1**	**+0.4**
	baz=32							
ENTT				*e*S		**Sg**	**07 30 14.4**	**+0.5**
	baz=32							
ETLH	**Xiulin Townshi**	**0.24**	**166**	P		**Pg**	**07 30 11.8**	**+0.9**
	baz=173							
ETLH				*e*S		**Sg**	**07 30 15.0**	**+0.8**
	baz=173							
FUSS	**Fushou**	**0.25**	**219**	⇑*i* P		**Pg**	**07 30 11.6**	**+0.5**
	baz=223							
FUSS				*e*S		**Sg**	**07 30 15.3**	**+0.7**
	baz=223							
TDCB	**Techi**	**0.30**	**231**	⇑P		**Pg**	**07 30 12.4**	**+0.3**
	baz=235							
TDCB				*e*S		**Sg**	**07 30 17.2**	**+1.1**
	baz=235							
NACB	**Ninganchiao**	**0.32**	**149**	⇓*i* P		**Pg**	**07 30 12.9**	**+0.6**
	baz=149							
NACB				S		**Sg**	**07 30 17.1**	**+0.8**
	baz=149							
EHP	**Heping Village**	**0.32**	**115**	*e*S		**Sg**	**07 30 17.4**	**+0.7**
	baz=113							
EWUT	**Wuta**	**0.33**	**90**	P		**Pg**	**07 30 12.7**	**+0.2**
	baz=87							
EWUT				*e*S		**Sg**	**07 30 16.7**	**-0.1**
	baz=87							
NDS	**Dongshan**	**0.33**	**55**	⇑P		**Pg**	**07 30 12.6**	**+0.1**
	baz=64							
NDS				*e*S		**Sg**	**07 30 17.6**	**+0.8**
	baz=64							
WHF	**Hehuan Shan**	**0.33**	**205**	⇑*i* P		**Pg**	**07 30 13.1**	**+0.4**
	baz=194							
WHF				*e*S		**Sg**	**07 30 18.1**	**+1.0**
	baz=194							
NWLT	**Wulai**	**0.34**	**13**	P		**Pg**	**07 30 13.2**	**+0.5**
	baz=11							
NWLT				*e*S		**Sg**	**07 30 17.5**	**+0.3**
	baz=11							
ETL	**Fush Village**	**0.34**	**147**	*e*P		**Pg**	**07 30 13.4**	**+0.7**
	baz=147							
ETL				*e*S		**Sg**	**07 30 18.0**	**+0.8**
	baz=147							
TWE	**Neicheng**	**0.36**	**39**	⇑*i* P		**Pg**	**07 30 13.5**	**+0.5**
	baz=34							
TWE				*e*S		**Sg**	**07 30 18.5**	**+0.8**
	baz=34							
TWD	**Chiawan**	**0.40**	**156**	P		**Pg**	**07 30 14.4**	**+0.6**
	baz=155							
TWD				S		**Sg**	**07 30 19.7**	**+0.7**
	baz=155							
LIOB	**Emei**	**0.42**	**299**	⇑P		**Pb**	**07 30 15.6**	**-0.3**
	baz=301							
LIOB				*e*S		**Sb**	**07 30 21.4**	**-1.1**
	baz=301							
NJD	**Zhudong**	**0.42**	**314**	P		**Pb**	**07 30 16.1**	**+0.2**
	baz=325							
NJD				*e*S		**Sb**	**07 30 21.9**	**-0.5**
	baz=325							
NSTT	**Nanjuang**	**0.42**	**296**	⇑*i* P		**Pb**	**07 30 15.5**	**-0.5**
	baz=299							
NSTT				S		**Sg**	**07 30 20.9**	**+1.1**
	baz=299							
TWC	**Suao**	**0.42**	**67**	⇑P		**Pg**	**07 30 14.3**	**0.0**
	baz=65							
TWC				S		**Sg**	**07 30 20.1**	**+0.3**
	baz=65							
ILA	**Ilan**	**0.44**	**43**	*e*P		**Pg**	**07 30 15.2**	**+0.6**
	baz=54							
CHGB	**Renai**	**0.44**	**210**	*i* P		**Pg**	**07 30 14.8**	**0.0**
	baz=213							
CHGB				*e*S		**Sg**	**07 30 21.1**	**+0.6**
	baz=213							
WHP	**Taichung City**	**0.46**	**249**	P		**Pb**	**07 30 15.9**	**-0.8**
	baz=252							
WHP				*e*S		**Sg**	**07 30 21.7**	**+0.6**
	baz=252							
ETM	**Tongmen**	**0.48**	**172**	P		**Pb**	**07 30 16.0**	**-1.0**
	baz=161							
HSN1	**Hsinchu**	**0.49**	**312**	*e*P		**Pb**	**07 30 17.8**	**+0.6**
	baz=313							
HWA	**Hwalien**	**0.50**	**160**	P		**Pb**	**07 30 16.9**	**-0.3**
	baz=159							
HWA				*e*S		**Sb**	**07 30 23.3**	**-1.4**
	baz=159							
NHDH	**Xindian Distri**	**0.52**	**11**	*e*P		**Pb**	**07 30 17.0**	**-0.7**
	baz=18							
SBCB	**Hsinchu**	**0.52**	**311**	*e*P		**Pb**	**07 30 18.4**	**+0.8**
	baz=312							
TATO	**Taipei**	**0.53**	**7**	*e*P		**Pb**	**07 30 17.5**	**-0.3**
	baz=5.0							
TATO				*e*S		**Sg**	**07 30 24.1**	**+0.8**
	baz=5.0							
OWD	**Renai**	**0.54**	**204**	*e*P		**Pg**	**07 30 16.3**	**-0.1**
	baz=198							
HSN	**Hsinchu**	**0.54**	**311**	*e*P		**Pn**	**07 30 18.8**	**-1.5**
	baz=317							
NJN	**Zhunan**	**0.55**	**296**	*e*P		**Pb**	**07 30 18.6**	**+0.4**
	baz=288							
NJN				*e*S		**Sb**	**07 30 26.4**	**+0.1**
	baz=288							
NTC	**Toucheng**	**0.55**	**43**	*e*P		**Pg**	**07 30 17.1**	**+0.4**
	baz=25							
TWA	**Mucha**	**0.55**	**16**	*e*P		**Pb**	**07 30 17.6**	**-0.6**
	baz=14							
TWA				*e*S		**Sg**	**07 30 24.8**	**+0.8**
	baz=14							
NCUH	**Zhongli**	**0.56**	**338**	*e*P		**Pn**	**07 30 19.5**	**-1.1**
	baz=346							
NMLH	**Miaoli**	**0.58**	**279**	*e*P		**Pn**	**07 30 19.4**	**-1.5**
	baz=281							
NMLH				*e*S		**Sb**	**07 30 27.7**	**+0.6**
	baz=281							
TEYL	**Yanliau Villag**	**0.60**	**164**	*e*P		**Pg**	**07 30 18.0**	**+0.5**
	baz=153							
WCS	**Beigang Elemen**	**0.60**	**230**	P		**Pb**	**07 30 18.1**	**-0.9**
	baz=232							
WPL	**Puli Township**	**0.60**	**224**	*e*P		**Pg**	**07 30 17.9**	**+0.2**
	baz=237							
WPL				*e*S		**Sg**	**07 30 25.3**	**-0.3**
	baz=237							
NHY	**Taipei**	**0.61**	**13**	*e*S		**Sb**	**07 30 27.3**	**-0.6**
	baz=11							
ESL	**Shilin**	**0.63**	**179**	P		**Pb**	**07 30 18.6**	**-0.8**
	baz=179							
ESL				*e*S		**Sg**	**07 30 26.4**	**0.0**
	baz=179							
TIPB	**Shuangxi**	**0.64**	**35**	⇑*i* P		**Pg**	**07 30 18.6**	**+0.2**
	baz=19							
TIPB				S		**Sg**	**07 30 26.4**	**-0.4**
	baz=19							
TWS1	**Kuangyinshan**	**0.65**	**360**	*e*P		**Pn**	**07 30 20.8**	**-1.1**
	baz=8.0							
TWS1				*e*S		**Sb**	**07 30 29.9**	**+0.7**
	baz=8.0							
NWF	**Wu-fen Shan**	**0.70**	**28**	P		**Pb**	**07 30 20.3**	**-0.5**
	baz=26							
NWF				*e*S		**Sg**	**07 30 28.8**	**-0.1**
	baz=26							
WFSB	**Wu-fen Shan**	**0.70**	**28**	*e*P		**Pb**	**07 30 20.3**	**-0.5**
	baz=26							
WFSB				*e*S		**Sg**	**07 30 28.4**	**-0.4**
	baz=26							
YM01	**YM01**	**0.71**	**11**	*e*P		**Pb**	**07 30 21.1**	**+0.1**
	baz=24							
YM01				*e*S		**Sb**	**07 30 30.2**	**-0.8**
	baz=24							
NTST	**Danshui**	**0.72**	**2**	*e*P		**Pn**	**07 30 21.9**	**-0.9**
	baz=9.0							
NTST				*e*S		**Sb**	**07 30 32.0**	**+0.9**
	baz=9.0							
WDJ	**Dajia District**	**0.72**	**262**	*e*P		**Pn**	**07 30 22.4**	**-0.4**
	baz=265							
WDJ				*e*S		**Sn**	**07 30 32.0**	**-2.0**
	baz=265							
SMLT	**Sun Moon Lake**	**0.73**	**220**	⇑*i* P		**Pg**	**07 30 20.3**	**+0.2**
	baz=213							
SMLT				*e*S		**Sb**	**07 30 30.4**	**-1.2**
	baz=213							
TCU	**Taichung**	**0.74**	**246**	*e*P		**Pn**	**07 30 22.7**	**-0.3**
	baz=247							
TEGC	**Jichi Village**	**0.74**	**171**	*e*P		**Pb**	**07 30 21.6**	**+0.2**
	baz=171							
ANP	**Anpu**	**0.74**	**7**	*e*P		**Pb**	**07 30 21.8**	**+0.3**
	baz=22							
TYC	**Yuchr**	**0.74**	**224**	⇑P		**Pg**	**07 30 20.4**	**0.0**
	baz=216							
TYC				*e*S		**Sb**	**07 30 30.9**	**-1.0**
	baz=216							
YM08	**YM08**	**0.76**	**12**	*e*P		**Pb**	**07 30 21.6**	**-0.1**
	baz=11							
TWB1	**Santiao Chiao**	**0.76**	**43**	*e*P		**Pg**	**07 30 20.8**	**0.0**
	baz=41							
TWB1				*e*S		**Sg**	**07 30 30.9**	**+0.2**
	baz=41							
WWF	**Wufeng**	**0.77**	**239**	*e*P		**Pn**	**07 30 23.0**	**-0.4**
	baz=234							
TNOU	**National Taiwa**	**0.77**	**25**	*e*P		**Pg**	**07 30 20.7**	**-0.2**
	baz=24							
EGFH	**Guangfu**	**0.77**	**179**	P		**Pb**	**07 30 21.5**	**-0.5**
	baz=180							
EGFH				*e*S		**Sb**	**07 30 31.6**	**-1.1**
	baz=180							
SSLB	**Suanglung**	**0.78**	**213**	⇑P		**Pg**	**07 30 20.4**	**-0.6**
	baz=215							
SSLB				*e*S		**Sg**	**07 30 30.3**	**-0.9**
	baz=215							
WNT1	**Nantou City**	**0.86**	**232**	*e*P		**Pn**	**07 30 25.0**	**+0.3**
	baz=233							
WCHH	**Zhanghua**	**0.86**	**245**	*e*P		**Pn**	**07 30 24.8**	**0.0**
	baz=248							
WCHH				*e*S		**Sn**	**07 30 37.0**	**-0.7**
	baz=248							
WNT	**Mingjian**	**0.88**	**230**	*e*P		**Pn**	**07 30 24.4**	**-0.5**
	baz=224							
WNT				*e*S		**Sn**	**07 30 37.9**	**-0.1**
	baz=224							
WJS	**Zhushan**	**0.89**	**226**	*e*P		**Pn**	**07 30 24.6**	**-0.5**
	baz=227							
WYL	**Yuanlin Townsh**	**0.91**	**238**	*e*S		**Sn**	**07 30 39.7**	**+1.0**
	baz=241							
WHYT	**Xinyi Township**	**0.91**	**215**	*e*P		**Pb**	**07 30 23.7**	**-0.6**
	baz=216							
EHY	**Hungye**	**0.94**	**185**	*e*P		**Pb**	**07 30 24.8**	**0.0**
	baz=178							
EHY				*e*S		**Sg**	**07 30 36.5**	**+0.2**
	baz=178							
HGSD	**Ruisui**	**0.95**	**180**	*e*P		**Pb**	**07 30 24.8**	**-0.1**
	baz=180							
HGSD				*e*S		**Sn**	**07 30 38.4**	**-1.4**
	baz=180							
YULB	**Yu-li**	**1.05**	**186**	⇑P		**Pg**	**07 30 26.1**	**-0.2**
	baz=174							
YULB				*e*S		**Sg**	**07 30 39.9**	**-0.1**
	baz=174							
CHN5	**Tsauling**	**1.08**	**219**	P		**Pn**	**07 30 27.9**	**+0.1**
	baz=221							
CHN5				*e*S		**Sn**	**07 30 44.2**	**+1.0**
	baz=221							
ALS	**Alishan**	**1.09**	**211**	*e*P		**Pg**	**07 30 26.8**	**-0.2**
	baz=212							
ALS				*e*S		**Sn**	**07 30 43.6**	**0.0**
	baz=212							
WGK	**Gukeng**	**1.09**	**226**	*e*P		**Pn**	**07 30 28.4**	**+0.6**
	baz=228							
WGK				*e*S		**Sn**	**07 30 44.3**	**+1.1**
	baz=228							
TWF1	**Yuli**	**1.09**	**186**	P		**Pb**	**07 30 27.1**	**-0.3**
	baz=174							
TWF1				*e*S		**Sg**	**07 30 41.1**	**-0.2**
	baz=174							
WRL	**Guolierlin Hig**	**1.09**	**241**	*e*P		**Pn**	**07 30 28.0**	**0.0**
	baz=244							
WRL				*e*S		**Sn**	**07 30 43.0**	**-0.4**
	baz=244							
EYUL	**Yuli**	**1.10**	**185**	*e*P		**Pn**	**07 30 27.6**	**-0.3**
	baz=178							
ECBN	**Changbin**	**1.12**	**178**	*e*P		**Pn**	**07 30 28.1**	**-0.2**
	baz=163							
WTK	**Tuku**	**1.21**	**231**	*e*P		**Pg**	**07 30 29.9**	**+0.7**
	baz=233							
FULB	**Fuli**	**1.25**	**185**	*e*P		**Pg**	**07 30 30.7**	**+0.7**
	baz=195							
FULB				*e*S		**Sn**	**07 30 48.5**	**+1.3**
	baz=195							
ELDTW	**Lidau**	**1.30**	**196**	*e*P		**Pn**	**07 30 30.5**	**-0.4**
	baz=186							
ELDTW				*e*S		**Sg**	**07 30 47.8**	**-0.2**
	baz=186							
CHY	**Chiayi**	**1.31**	**224**	*e*P		**Pg**	**07 30 32.2**	**+1.0**
	baz=225							
PCYT	**Pengchaiyu**	**1.32**	**27**	*e*P		**Pg**	**07 30 31.4**	**0.0**
	baz=24							
CHKT	**Chengkung**	**1.34**	**182**	*e*P		**Pg**	**07 30 32.1**	**+0.3**
	baz=169							
TPUB	**Ta-pu**	**1.35**	**213**	*e*P		**Pg**	**07 30 32.5**	**+0.6**
	baz=213							
TPUB				*e*S		**Sg**	**07 30 51.6**	**+2.1**
	baz=213							
STYH	**Taoyuan**	**1.40**	**205**	*e*P		**Pg**	**07 30 32.9**	**-0.1**
	baz=220							
STYH

	baz=214								
ICHU	Yijhu	1.50	224	eP		Pg		07 30 34.9	0.0
	baz=226								
LONT	Longtian	1.56	190	eP		Pg		07 30 35.9	0.0
	baz=173								
SGST	Jiashian	1.56	210	eP		Pg		07 30 35.4	-0.5
	baz=223								
SLGT	Liugui	1.61	206	eP		Pg		07 30 37.5	+0.6
	baz=223								
SLGT				eS		Sg		07 31 00.5	+2.7
	baz=223								
TWG	Pinlang	1.65	191	eP		Pg		07 30 37.6	-0.1
	baz=173								
TWGBT	Beinan	1.65	191	eP		Pg		07 30 37.1	-0.6
	baz=174								
LDUT	Ludao	1.77	178	eP		Pb		07 30 38.1	-0.7
	baz=164								
SCST	Cishan	1.77	209	eP		Pg		07 30 39.7	-0.3
	baz=209								
SSD	Sandimen	1.84	203	P		Pg		07 30 40.8	-0.5
	baz=202								
SSD				eS		Sb		07 31 03.9	+0.5
	baz=202								
TSMG	Majia	1.87	202	eP		Pg		07 30 41.5	-0.4
	baz=203								
ECL	Taimali	1.89	193	eP		Pg		07 30 41.4	-0.9
	baz=173								
ECL				eS		Sb		07 31 05.3	+0.5
	baz=173								
PNG	Penghu	1.92	243	eP		Pn		07 30 38.9	-0.4
	baz=244								
MASBT	Mashibuluo	1.96	202	eP		Pb		07 30 42.3	+0.1
	baz=201								
MASBT				eS		Sg		07 31 08.3	-0.9
	baz=201								
IRIF	Iriomote-Funau	2.11	93	P		Pb		07 30 43.1	-1.6
IRIF				eS		Sn		07 31 08.9	+0.4
EAST	Anshuo	2.12	194	P		Pb		07 30 45.3	+0.4
	baz=181								
EAST				eS		Sg		07 31 13.7	-0.5
	baz=181								
SCZT	Fangliau	2.19	200	P		Pb		07 30 45.7	-0.4
	baz=199								
SCZT				eS		Sb		07 31 13.8	+0.3
	baz=199								
HATJ	Hateruma jima	2.21	100	eS		Sb		07 31 13.2	-0.9
SLIU	Shizi	2.29	195	eP		Pb		07 30 47.9	0.0
	baz=177								
JKRS	Kuro-shima	2.37	94	P		Pb		07 30 47.1	-2.1
JKRS				eS		Sn		07 31 16.0	+1.1
JIJ	Ishigaki jima	2.48	91	P		Pn		07 30 48.4	+1.3
JIJ				eS		Sn		07 31 18.9	+1.2
TWKBT	Hengchun	2.56	193	eP		Pb		07 30 50.3	-2.0
	baz=178								
JISG	Ishigakijimahi	2.64	86	P		Pn		07 30 50.1	+0.9
JISG				eS		Sn		07 31 21.8	+0.3
JTJ	Tarama	3.00	86	P		Pn		07 30 56.3	+2.2
JTJ				eS		Sn		07 31 31.4	+1.1

*IDC **28** 07:30:57.4±3.2, 53°.86N×90°.87E, h0km, mb1 3.4/3, mb1mx3.2/67, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=28.2km s-min=22.5km az=49.0*
*NNC **28** 07:30:59.8±4.1, 53°.79N×90°.57E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=30.0km s-min=19.1km az=67.0, Suspected Mining explosion.*

ISC 28 07:31:01.0±4.1, 53°.8N±0°.1×90°.5E±0°.2, h0km, n9, σ1§12/12, 8C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.36	275	i		07 52 45.0	
	baz=89, slow=292, SNR=5.2						
ZAA0	Zalesovo Array	3.36	275	⇑Pg	Pb	07 32 01.0	-0.4
	7.0nm,0.8s						
ZAA0				⇓Lg	Lg	07 32 50.9	
	22nm,0.8s						
ZALV	Zalesovo Beam	3.36	275	Pn	Pn	07 31 56.0	+1.3
	0.3nm,0.3s,baz=97,slow=12,SNR=3.2						
ZALV				Pg	Pb	07 32 00.9	-0.5
	1.7nm,0.3s,baz=93,slow=15,SNR=17						
ZALV				Lg	Lg	07 32 51.1	
	3.8nm,0.3s,baz=93,slow=25,SNR=11						
KURBB	Kurchatov Arra	8.01	251	Pn	Pn	07 32 58.0	-0.5
	0.3nm,0.3s,baz=65,slow=14,SNR=25						
KURBB				Sn	Sn	07 34 29.0	-0.7
	baz=73,slow=16,SNR=4.4						
KURBB				Lg	Lg	07 35 17.9	
	0.1nm,0.3s,baz=66,slow=32,SNR=7.7						
KURBB	Kurchatov Arra	8.01	251	⇑Pn	Pn	07 32 58.4	-0.1
	9.7nm,0.8s						
KURBB				⇑Sn	Sn	07 34 29.3	-0.4
	62nm,0.9s						
KURBB				⇑Lg	Lg	07 35 13.2	
	140nm,1.1s						
MK31	Makanchi Array	8.76	220	⇑Pn	Pn	07 33 08.6	-0.3
	2.8nm,0.9s,baz=42,slow=13,SNR=8.5						
MK31				⇑Sn	Sn	07 34 50.3	+2.0
	7.5nm,0.8s,baz=46,slow=22,SNR=5.2						
MK31				⇓Lg	Lg	07 35 36.3	
	28nm,0.9s,baz=36,slow=27,SNR=4.2						
MKAR	Makanchi Array	8.76	220	Pn	Pn	07 33 07.8	-1.0
	0.3nm,0.3s,baz=40,slow=12,SNR=14						
MKAR				Sn	Sn	07 34 50.0	+1.8
	0.1nm,0.3s,baz=48,slow=22,SNR=6.5						
MKAR				Lg	Lg	07 35 36.3	
	0.1nm,0.3s,baz=36,slow=26,SNR=6.5						
MAKZ	Makanchi	8.87	221	⇑Sn	Sn	07 34 50.8	-0.2
	9.0nm,0.8s						
MAKZ				⇑Lg	Lg	07 35 41.3	
	33nm,1.0s						
SONM	Songino Array	11.69	114	Pg	Pn	07 34 18.4	+29
	0.1nm,0.3s,baz=301,slow=17,SNR=3.8						
SONM				Lg	Lg	07 36 50.5	
	0.2nm,0.3s,baz=303,slow=29,SNR=10						

*TUL **28** 07:32:04.3±1.3, 36°.52N±0°.03×98°.96W±0°.02, h0km±7km, ML2.8, mb_Lg2.7/65(NEIC), Error ellipse: s-maj=4.2km s-min=1.0km az=148.0*

NEIC 28 07:32:05.5±1.5, 36°.54N±0°.02×98°.93W±0°.04, h5km±2km, Error ellipse: s-maj=5.7km s-min=3.0km az=258.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.17	199	Pg	Pg	07 32 07.9	-1.0
U32A				Sg	Sg	07 32 10.4	-0.7
OK032	Salt Plains WL	0.64	65		Pg	07 32 17.9	+0.2
OK032				Sg	Sb	07 32 27.4	-0.9
CROK	Carrier	0.76	92		Pg	07 32 20.3	+0.1
CROK				Sg	Sg	07 32 30.8	+0.7
KAN10	Anthony SW Sta	0.89	49		Pg	07 32 22.4	-0.1
KAN10				Sg	Sg	07 32 34.7	+0.7
GC02	Grant County #	0.92	70		Pg	07 32 23.0	0.0
GC02				Sg	Sg	07 32 35.5	+0.6
KAN05	Bluff City Nor	1.02	56	Pg	Pg	07 32 25.0	-0.1
KAN05				Sg	Sb	07 32 39.0	-0.4
KAN08	Anthony NE Sta	1.03	48		Pg	07 32 25.0	-0.3
KAN08				Sg	Sg	07 32 39.0	+0.4
KAN12	Harper NE Stat	1.06	44		Pg	07 32 25.9	0.0
KAN12				Sg	Sb	07 32 40.3	-0.3
KAN17	Caldwell West	1.06	61		Pg	07 32 25.9	+0.1
KAN17				Sg	Sg	07 32 40.1	+0.5
KAN09	Caldwell North	1.21	60		Pg	07 32 28.6	0.0
KAN09				Sg	Sg	07 32 44.5	+0.1
KAN13	South Haven SW	1.26	68		Pg	07 32 29.2	-0.4
KS20	Mayfield South	1.30	58		Pg	07 32 30.4	0.0
BCOK	Bluff Creek, N	1.39	129		Pn	07 32 30.5	-1.0
BCOK				IAmb_Lg		07 32 48.4	
	comp=Z,47nm,1.0s						
BLOK	Blackwell	1.40	80		Pn	07 32 31.3	-0.3
OK029	Liberty Lake	1.41	121	Pn	Pn	07 32 31.5	-0.3
OK025	Westminster Rd	1.61	126		Pn	07 32 34.3	-0.2
OKCSW	OKLAHOMA CITY	1.66	133	Pn	Pn	07 32 34.6	-0.7
FNO	Franklin	1.78	135		Pn	07 32 37.2	+0.3
OK031	S. Brethren Rd	1.79	108		Pn	07 32 37.5	+0.4
WMOK	Wichita Mounta	1.80	176		Pn	07 32 36.4	-0.9
QUOK	Quay	1.83	101		Pn	07 32 37.9	+0.3
R32A	Long Quarter,	1.89	5		Pn	07 32 39.3	+0.9
R32A				IAmb_Lg		07 33 07.0	
	comp=Z,25nm,0.8s						
T35A	Sooner Cattle	1.98	78		Pn	07 32 40.1	+0.5
X34A	Smith Ranch, M	2.13	155		Pn	07 32 41.5	-0.3
CBKS	Cedar Bluff	2.36	345	Pn	Pn	07 32 45.8	+0.9
AMTX	Amarillo	2.78	234		Pn	07 32 49.9	-0.9
AMTX				IAmb_Lg		07 33 36.2	
	comp=Z,30nm,0.7s						
LOOK	Love County	2.92	150	Pn	Pn	07 32 51.9	-0.7
KSU1	Kansas State U	3.15	35	Pn	Pn	07 32 54.3	-1.4
Z35A	Perchaven, San	3.49	156	Pn	Pn	07 32 59.6	-0.8
X37A	Clayton	3.49	123		Pn	07 33 00.5	0.0
X37A				IAmb_Lg		07 34 02.8	
	comp=Z,20nm,0.9s						
U38A	Gravette	3.66	90		Pn	07 33 01.8	-1.0
U38A				IAmb_Lg		07 34 08.5	
	comp=Z,14nm,0.7s						
KSCO	Kaye Shedlock'	3.83	311		Pn	07 33 04.6	-0.6
ABTX	Abilene, Hawle	3.95	189	Pn	Pn	07 33 05.2	-1.5
HHAR	Hobbs	4.03	92		Pn	07 33 06.4	-1.5
HHAR				IAmb_Lg		07 34 17.8	
	comp=Z,14nm,0.8s						
MSTX	Muleshoe	4.06	232		Pn	07 33 09.7	+1.4
N33A	J Bar K, Exete	4.35	15	Pn	Pn	07 33 11.1	-1.1
W39A	Magazine	4.39	106		Pn	07 33 12.9	+0.1
W39A				IAmb_Lg		07 34 31.0	
	comp=Z,17nm,0.8s						
T25A	Trinidad	4.44	279		Pn	07 33 13.6	-0.1
T25A				IAmb_Lg		07 34 25.9	
	comp=Z,13nm,0.8s						
Z38A	Mt. Pleasant	4.61	134	Pn	Pn	07 33 15.6	-0.2
WHTX	Lake Whitney,	4.70	165	Pn	Pn	07 33 16.9	-0.1
MIAR	Mount Ida	4.80	113		Pn	07 33 18.7	+0.3
BGNE	Belgrade	4.90	7	IAmb_Lg		07 34 47.8	
	comp=Z,15nm,0.8s						
U40A	Yellville	4.90	90		Pn	07 33 18.9	-1.0
U40A				IAmb_Lg		07 34 50.6	
	comp=Z,12nm,0.7s						
OGNE	Ogallala	5.02	332	Pn	Pn	07 33 18.1	-3.5
N35A	Tabor	5.02	30	Pn	Pn	07 33 22.1	+0.6
P38A	Dawn	5.25	53	Pn	Pn	07 33 24.7	0.0
MGMO	Mountain Grove	5.38	81	Pn	Pn	07 33 25.2	-1.2
MGMO				IAmb_Lg		07 35 01.5	
	comp=Z,16nm,0.7s						
X40A	Basin Creek Fa	5.38	111	Pn	Pn	07 33 26.6	+0.2
SDCO	Great Sand Dun	5.38	285	Pn	Pn	07 33 26.2	-0.5
WHAR	Wooly Hollow	5.53	101		Pn	07 33 28.6	+0.1
WHAR				IAmb_Lg		07 35 04.3	
	comp=Z,10nm,0.7s						
FCAR	Ozark Folk Cen	5.54	95		Pn	07 33 28.2	-0.4
FCAR				IAmb_Lg		07 35 05.6	
	comp=Z,9.9nm,1.0s						
R40A	Maddies Statio	5.58	70	Pn	Pn	07 33 28.9	-0.3
R40A				IAmb_Lg		07 35 11.9	
	comp=Z,9.1nm,0.7s						
L34A	Svendsen Farm,	5.77	19	Pn	Pn	07 33 30.6	-1.1
435B	Jarrell	5.85	169	Pn	Pn	07 33 31.4	-1.4
435B				IAmb_Lg		07 35 18.6	
	comp=Z,12nm,0.8s						
JCT	Junction City	6.09	187	IAmb_Lg		07 35 25.8	
	comp=Z,10.0nm,0.8s						
N38A	Joes South For	6.16	45	Pn	Pn	07 33 36.0	-1.1
ISCO	Idaho Springs	6.19	304		Pn	07 33 37.7	-0.1
P40A	Paris	6.20	59	Pn	Pn	07 33 37.6	0.0
LCAR	Lake Charles	6.30	92	Pn	Pn	07 33 38.4	-0.6
T42A	Van Buren	6.31	83	Pn	Pn	07 33 40.1	+1.0
T42A				IAmb_Lg		07 35 27.5	
	comp=Z,11nm,1.1s						
CCM	Cathedral Cave	6.31	74	Pn	Pn	07 33 39.8	+0.6
CCM				IAmb_Lg		07 35 34.1	
	comp=Z,13nm,0.9s						
ANMO	Albuquerque	6.32	258	Pn	Pn	07 33 39.6	+0.1
BNM	Barren Site	6.73	251	Pn	Pn	07 33 45.3	+0.2
PBMO	Poplar Bluff	6.84	85	Pn	Pn	07 33 47.6	+1.2
PBMO				IAmb_Lg		07 35 54.9	
	comp=Z,6.7nm,0.7s						
SCIA	State Center	6.96	38	Pn	Pn	07 33 47.0	-1.1
PHWY	Pilot Hill	6.96	315	Pn	Pn	07 33 47.4	-1.0
Y22D	IRIS PASSCAL I	6.98	252	Pn	Pn	07 33 47.7	-0.8
HKT	Hockley	7.07	158	Pn	Pn	07 33 46.7	-2.8
MNTX	Cornudas Mount	7.21	230	Pn	Pn	07 33 52.1	+0.6
MNTX				IAmb_Lg		07 35 54.1	
	comp=Z,7.4nm,1.1s						
143A	Socs Landing,	7.29	119	Pn	Pn	07 33 52.1	-0.5
PARMO	Parma	7.38	86	IAmb_Lg		07 36 19.6	
	comp=Z,14nm,0.7s						
ECSD	EROS Data Cent	7.40	13	Pn	Pn	07 33 52.8	-1.3
PENMO	Penman	7.49	88	Pn	Pn	07 33 54.9	-0.5
342A	Flagon Creek P	7.53	131	Pn	Pn	07 33 55.7	-0.1
N41A	Harden Midland	7.57	54	Pn	Pn	07 33 55.8	-0.6
N41A				IAmb_Lg		07 36 12.8	
	comp=Z,15nm,0.9s						
K38A	Parkersburg	7.73	36	IAmb_Lg		07 36 29.0	
	comp=Z,11nm,0.9s						
S44A	Carbondale	7.82	79	Pn	Pn	07 33 59.5	-0.3
S44A				IAmb_Lg		07 36 17.6	
	comp=Z,14nm,0.8s						
SIUC	Southern Illin	7.85	79	Pn	Pn	07 34 00.1	-0.1
SIUC				IAmb_Lg		07 36 14.7	
	comp=Z,12nm,0.8s						
UTMT	University of	8.12	88	Pn	Pn	07 34 02.3	-1.6
L40A	Anamosa	8.13	45	Pn	Pn	07 34 03.9	-0.2
L40A				IAmb_Lg		07 36 23.5	
	comp=Z,11nm,0.9s						
Q44A	Meyer Farm, Va	8.20	70	Pn	Pn	07 34 06.8	+1.7
TX31	Lajitas Ar. Si	8.21	210	Pn	Pn	07 34 03.7	-1.7
TXAR	Lajitas Array	8.21	210	Pn	Pn	07 34 04.0	-1.4
TX32	Lajitas Array	8.21	210	Pn	Pn	07 34 03.7	-1.7
121A	Cookes Peak, D	8.33	244	Pn	Pn	07 34 05.5	-1.5
K22A	Casper	8.46	318	Pn	Pn	07 34 10.7	+1.9
K22A				IAmb_Lg		07 36 54.7	
	comp=Z,12nm,1.2s						
RSSD	Black Hills	8.51	334	Pn	Pn	07 34 09.9	+0.2
RSSD				IAmb_Lg		07 36 42.2	
	comp=Z,5.0nm,0.7s						
HDIL	Hopedale	8.55	59	Pn	Pn	07 34 09.4	-0.4
PLAL	Pickwick Lake	8.96	97	Pn	Pn	07 34 16.9	+1.3
L42A	Oliver, Polo	9.02	50	Pn	Pn	07 34 16.3	0.0
L42A				IAmb_Lg		07 37 10.4	
	comp=Z,7.1nm,0.8s						
JFWS	Jewell Farm	9.23	44	IAmb_Lg		07 37 15.6	
	comp=Z,7.2nm,0.8s						
T47A	Sharon Grove	9.50	84	IAmb_Lg		07 37 08.9	
	comp=Z,5.7nm,1.0s						
P46A	Rosedale	9.74	68	Pn	Pn	07 34 27.9	+1.7
P46A				IAmb_Lg		07 37 25.2	
	comp=Z,9.0nm,0.8s						
SFIN	Lafayette	10.04	64	Pn	Pn	07 34 29.6	-0.7
BLO	Bloomington	10.16	71	Pn	Pn	07 34 31.2	-0.7

*TRN **28** 07:38:29.0, 13°.78N×58°.68W, h122km, MD4.0*

ISC 28 07:38:27.6±2.7, 13°.92N±0°.05×58°.6W±0°.2, h10km, n19, σ1§58/24, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	Gun Hill	1.21	230	eP	Pn	07 38 52.0	+1.4
BBGH				eS	Sn	07 39 11.2	+4.1
MPOM	Morne Pois Mar	2.25	284	eP	Pn	07 39 06.0	+1.1
MPOM				eS	Sn	07 39 33.0	+0.3
MCLT	Moule a Chique	2.28	265	e	Pn	07 38 50.9	-14
MCLT	Moule a Chique	2.28	265	eP	Pn	07 39 07.1	+1.7
SLBI	Saint Lucia, B	2.31	273	eP	Pn	07 39 06.5	+0.9
SLBI				eS	Sn	07 39 34.6	+0.5
SLCP	Castries, St.	2.32	272	eP	Pn	07 39 06.5	+0.6
SVB	Belmont	2.66	256	eP	Pn	07 39 11.2	+0.7
SVB				eS	Sn	07 39 41.0	-1.7
DSLB	Salisbury	3.12	299	eP	Pn	07 39 17.7	+0.9
TOSP	Speyside	3.22	216	eP	Pn	07 39 17.1	-1.1
MAGL	Barre de l'ile	3.28	308	eP	Pn	07 39 21.5	+2.4
MAGL				eS	Sn	07 39 58.3	+0.1
GRGR	Grenville	3.47	239	e	Pg	07 39 32.3	-1.7
CBE	Ff, Capester	3.60	307	eP	Pn	07 39 24.4	+0.9
CBE				eS	Sn	07 40 06.3	+0.1
ABD	La Joyeuse, An	3.77	313	eP	Pn	07 39 26.9	+1.2
ABD				eS	Sn	07 40 08.5	-1.7
ANBD	Bethesda, Anti	4.35	316	e	Pn	07 39 29.8	-4.0
ANBD	Bethesda, Anti	4.35	316	eP	Pn	07 39 35.5	+1.7
ANBD	Bethesda, Anti	4.35	316	eS	Sn	07 40 24.4	-0.3
BPA	Boggy Peak	4.42	315	eP	Pn	07 39 36.0	+1.3
BPA	Boggy Peak	4.42	315	eS	Sn	07 40 25.7	-0.5
ANOC	Antigua Open C	4.45	316	eS	Sn	07 40 25.1	-1.9

*IDC **28** 07:44:48.0±0.9, 1°.56S×124°.16E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/33, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=36.8km s-min=17.3km az=84.0*
*NEIC **28** 07:44:51.9±1.6, 1°.59S±0°.07×124°.08E±0°.08, h19km±6km, mb4.1/5, Error ellipse: s-maj=13.6km s-min=5.4km az=48.0*
*DJA **28** 07:44:54.2±1.0, 2°.3S±2°.×12°.4E±°, h37km±24km, M4.6/20, mb4.9/7, mB5.0/3, MLv4.6/20, Mw(mB)4.3/3*

ISC 28 07:44:53.3±0.6, 1°.63S±0°.06×124°.09E±0°.05, h35km, n46, σ1§05/49, mb4.1/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.44	294		Pn	07 45 16.7	-0.2
LUWI	Luwuk	1.44	294	P	Pn	07 45 16.9	0.0
LUWI				S	Sn	07 45 36.1	+1.5
SANI	Sanana	1.94	103	P	Pn	07 45 24.3	+0.4
KMSI	Cibinong	2.19	357	P	Pn	07 45 28.6	+1.4
GTOI	Gorontalo	2.49	334	P	Pn	07 45 34.3	+2.9
GTOI				S	Sn	07 46 09.6	+9.0
APSI	Ampana	2.54	286	P	Pn	07 45 32.4	+0.3
MRSI	Marisa	3.00	314	P	Pn	07 45 38.2	-0.1
MRSI				S	Sn	07 46 14.0	+0.9
NLAI	Namlea	3.41	118	P	Pn	07 45 43.4	-0.6
NLAI				S	Sn	07 46 23.3	+0.1
TNTI	Ternate	4.05	54	P	Pn	07 45 54.9	+2.0
TOLI2	Tolitoli	4.28	309		Pn	07 45 55.1	-0.9
TTSI	Tana Toraja	4.49	252	P	Pn	07 45 58.7	-0.3
MPSI	Mapaga	4.62	295	P	Pn	07 46 02.9	+2.2
BNSI	Bone	4.84	235	P	Pn	07 46 02.7	-1.0
MSAI	Masohi	5.13	110	P	Pn	07 46 08.7	+1.0
	0.2nm14nm,0.7s						
BKSI	Bulukumba	5.40	227	P	Pn	07 46 12.1	+0.7
	0.4nm1μm102nm,0.5s						
KAPI	Kappang	5.49	232	Pn	Pn	07 46 12.8	+0.2
	6.9nm,0.3s,baz=39,slow=2.5,SNR=7.1						
KAPI				Sn	Sn	07 47 13.5	-1.0
	8.4nm,0.3s,baz=298,slow=22,SNR=4.8						
KAPI	Kappang	5.49	232		Pn	07 46 12.0	-0.6
BSSI	Bau Bau, Buton	5.75	219	P	Pn	07 46 17.1	+0.9
	0.4nm1μm96nm,0.8s						
BNDI	Bandanaira	6.48	116	P	Pn	07 46 27.1	+0.8
	1.3nm285nm,1.5s						
BKB	Balikpapan	7.20	273	Pn	Pn	07 46 35.8	-0.4
MMRI	Maumere	7.20	195		Pn	07 46 35.8	-0.5
MMRI	Maumere	7.20	195	P	Pn	07 46 35.3	-0.9
	0.6nm142nm,1.0s						
EDFI	Ende, Flores	7.47	199	P	Pn	07 46 39.5	-0.5
	0.4nm1μm72nm,1.3s						
SOEI	Soe	8.08	179		Pn	07 46 49.1	+0.8
SOEI	Soe	8.08	179	P	Pn	07 46 51.5	+3.1
	137nm,0.8s						
FAKI	Fak Fak	8.25	99	Pn	Pn	07 46 50.3	-0.4
BATI	Baumata	8.54	183	P	Pn	07 46 56.1	+1.6
WB0	Warramunga Arr	20.66	151	P	P	07 49 30.2	0.0
WRA	Warramunga Arr	20.78	152	P	P	07 49 30.4	-1.2
	5.2nm,0.9s,baz=330,slow=11,SNR=17						
WRA	Warramunga Arr	20.78	152	P	P	07 49 31.2	-0.4
WB2	Warramunga Arr	20.79	152	P	Pn	07 49 32.5	-1.7
WB2				IAmb	IAmb	07 49 37.8	
	comp=Z,13nm,1.1s						
WR0	Warramunga Arr	20.89	151	P	P	07 49 32.8	0.0
WR0				IAmb	IAmb	07 49 41.7	
	comp=Z,16nm,1.1s						
AS31	Alice Springs	23.89	157	P	P	07 50 05.2	+1.3
AS31				IAmb	IAmb	07 50 19.0	
	comp=Z,3.2nm,1.1s						
ASAR	Alice Springs	23.89	157	P	P	07 50 04.3	+0.4
	comp=Z,6.9nm,1.1s,baz=330,slow=8.0,SNR=20						
ASAR				PcP	PcP	07 53 46.6	+0.3
	comp=Z,0.4nm,0.8s,baz=4.4,slow=1.2,SNR=3.3						
ASAR	Alice Springs	23.89	157	P	P	07 50 05.2	+1.3
KSRS	Korea Array	39.05	5	P	P	07 52 16.8	0.0
	comp=Z,3.2nm,0.7s,baz=182,slow=9.8,SNR=18						
MJAR	Matsushiro Arr	40.18	18	P	P	07 52 24.7	-1.6
	comp=Z,2.2nm,0.6s,baz=185,slow=9.1,SNR=6.5						
USRK	Ussuriysk Ar.	46.17	8	P	P	07 53 13.8	-0.7
	comp=Z,2.3nm,0.6s,baz=202,slow=4.7,SNR=7.8						
USRK	Ussuriysk Ar.	46.17	8	P	P	07 53 13.6	-0.9
SONM	Songino Array	51.62	345	P	P	07 53 54.6	-1.9
	comp=Z,1.1nm,0.8s,baz=172,slow=7.5,SNR=5.9						
MKAR	Makanchi Array	60.56	328	P	P	07 55 00.4	+0.1
	comp=Z,0.6nm,0.7s,baz=115,slow=8.6,SNR=5.8						
MKAR	Makanchi Array	60.56	328	P	P	07 55 00.8	+0.5
PETK	Petropavlovsk-	61.35	22	P	P	07 55 05.5	-0.1
	comp=Z,1.9nm,0.8s,baz=224,slow=10.0,SNR=4.2						
PETK	Petropavlovsk-	61.35	22	P	P	07 55 06.1	+0.6
ABKAR	Akbulak array	74.67	322	P	P	07 56 29.1	-0.2
BMAR	Burnt Mountain	92.00	23	P	P	07 57 59.7	+1.4

*NEIC **28** 07:50:43.1±1.6, 2°.8S±0°.1×138°.3E±0°.1, h61km±8km, mb4.5/28, Error ellipse: s-maj=17.5km s-min=14.8km az=87.0*
*DJA **28** 07:50:44.2±0.8, 3°.5S±5°.×13°.8E±°, h37km±14km, M4.9/16, mB5.3/6, mb5.0/16, MLv5.0/5, Mw(mB)4.8/6*
*IDC **28** 07:50:45.0±0.6, 2°.69S×138°.42E, h69km±5km, mb4.0/13, mb1 4.0/14, mb1mx3.9/30, mbtmp4.3/14, MS3.3/9, Ms1 3.3/9, ms1mx3.0/37, Error ellipse: s-maj=23.7km s-min=13.7km az=82.0*

ISC 28 07:50:43.5±0.5, 2°.84S±0°.06×138°.40E±0°.07, h62km, n70, σ1§62/75, mb4.5/25, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.79	82	P	Pn	07 51 11.8	-0.3
SRPI	Serui, Papua	2.36	294	P	Pn	07 51 19.7	-0.2
KMPI	Kaimana, Papua	4.75	260	P	Pn	07 51 54.6	+2.0
FAKI	Fak Fak	6.14	269	Pn	Pn	07

comp=Z,33nm,1.5s
STKA Stephens Creek 29.04 174 LR LR 08 09 26.2
comp=Z,106nm,20.8s,baz=18,slow=38
FORT Forrest 29.46 198 P **P** **07 56 40.3 -1.3**
FORT IAmb IAmb 07 56 59.7
comp=Z,32nm,1.5s
BBOO Buckleboo 29.89 184 P **P** **07 56 44.0 -1.4**
BBOO IAmb IAmb 07 56 48.5
comp=Z,18nm,1.3s
GIRL Giralia 30.60 228 P **P** **07 56 50.2 -1.6**
JNU Nakatsue 36.47 349 P **P** **07 57 41.9 -0.8**
comp=Z,6.0nm,0.7s,baz=228,slow=3.1,SNR=5.3
JNU pP **pP** **07 58 02.9 +4.7**
comp=Z,10nm,0.9s,baz=139,slow=20,SNR=4.8
JNU Nakatsue 36.47 349 P **P** **07 57 40.8 -1.9**
KSRS Korea Array 41.26 347 P **P** **07 58 22.3 -0.3**
comp=Z,2.4nm,0.8s,baz=165,slow=9.8,SNR=12
KSRS pP **pP** **07 58 42.7 +4.3**
comp=Z,2.2nm,0.9s,baz=161,slow=9.1,SNR=3.4
KSRS LR LR 08 14 32.2
comp=Z,11nm,20.9s,baz=10.0,slow=35
MSVF Nonsavu 41.60 114 LR LR 08 14 36.5
comp=Z,61nm,19.0s,baz=146,slow=34
CMAR Chiang Mai Arr 44.23 300 P **P** **07 58 47.8 +0.7**
CMAR pP **pP** **07 59 06.5 +3.6**
comp=Z,1.0nm,0.5s,baz=120,slow=7.9,SNR=2.2
ASAJ Asahikawa 46.90 4 P **P** **07 59 07.5 -0.2**
comp=Z,3.3nm,0.5s,baz=217,slow=14,SNR=4.7
USRK Ussuriysk Ar. 47.18 354 P **P** **07 59 09.7 -0.2**
comp=Z,3.6nm,0.7s,baz=190,slow=8.9,SNR=9.0
USRK Ussuriysk Ar. 47.18 354 P **P** **07 59 09.6 -0.3**
USA0B Ussuriysk Arra 47.18 354 P **P** **07 59 09.2 -0.7**
USA0B IAmb IAmb 07 59 10.8
comp=Z,5.2nm,0.8s
KLR Kul'dur 52.18 354 P **P** **07 59 47.9 0.0**
comp=Z,9.2nm,0.6s,baz=189,slow=5.4,SNR=42
KLR LR LR 08 21 27.9
comp=Z,21nm,18.2s,baz=198,slow=35
ULN Ulaanbaatar 57.45 335 P **P** **08 00 25.1 -1.1**
ULN IAmb IAmb 08 00 27.5
comp=Z,3.1nm,0.6s
SONM Songino Array 57.70 335 P **P** **08 00 27.8 -0.1**
comp=Z,1.0nm,0.5s,baz=160,slow=6.0,SNR=4.7
PEA0B Petropavlovsk- 58.06 14 P **P** **08 00 30.0 -0.1**
PETK Petropavlovsk- 58.06 14 P **P** **08 00 30.0 -0.1**
comp=Z,3.8nm,0.7s,baz=186,slow=8.6,SNR=11
PETK LR LR 08 24 26.0
comp=Z,11nm,20.5s,baz=188,slow=35
PETK Petropavlovsk- 58.06 14 P **P** **08 00 29.9 -0.2**
ATKA Atka Island 67.84 29 P **P** **08 01 34.1 -1.0**
MK31 Makanchi Array 69.70 323 P **P** **08 01 44.6 -2.2**
MKAR Makanchi Array 69.70 323 P **P** **08 01 47.0 +0.2**
comp=Z,2.1nm,0.7s,baz=115,slow=8.0,SNR=21
MKAR pP **pP** **08 02 05.3 +1.5**
comp=Z,1.1nm,0.8s,baz=124,slow=6.5,SNR=4.5
MKAR Makanchi Array 69.70 323 P **P** **08 01 44.4 -2.4**
MAKZ Makanchi 69.90 322 P **P** **08 01 47.2 -0.8**
MAKZ IAmb IAmb 08 01 49.0
comp=Z,3.4nm,0.8s
ZALV Zalesovo Beam 71.89 330 P **P** **08 01 58.8 -1.1**
comp=Z,1.1nm,0.5s,baz=112,slow=4.0,SNR=4.9
BOOM Boomskoye usch 72.03 316 P **P** **08 02 01.2 -0.1**
BOOM IAmb IAmb 08 02 02.6
comp=Z,4.0nm,0.7s
VNDA Vanda 75.68 175 P **P** **08 02 24.4 +2.8**
comp=Z,0.4nm,0.5s,baz=335,slow=6.0,SNR=5.7
VNDA pP **pP** **08 02 40.8 +2.0**
comp=Z,0.8nm,0.6s,baz=336,slow=4.0,SNR=3.4
VNDA Vanda 75.68 175 P **P** **08 02 23.1 +1.4**
OHAK Old Harbor 80.83 31 P **P** **08 02 50.4 0.0**
OHAK IAmb IAmb 08 02 58.0
comp=Z,13nm,1.1s
KDAK Kodiak Island 81.38 30 P **P** **08 02 53.1 -0.2**
KDAK IAmb IAmb 08 03 06.1
comp=Z,13nm,1.4s
IMAR Indian Mountai 83.73 22 P **P** **08 03 02.9 -2.6**
MLY Manley 84.58 24 P **P** **08 03 09.6 -0.3**
ABKAR Akbulak array 84.62 320 P **P** **08 03 08.7 -1.6**
ILAR Eielson Array 86.08 24 P **P** **08 03 15.4 -1.9**
comp=Z,1.5nm,0.7s,baz=266,slow=4.6,SNR=13
ILAR pP **pP** **08 03 35.4 +0.6**
comp=Z,1.1nm,0.7s,baz=263,slow=4.7,SNR=5.1
ILAR Eielson Array 86.08 24 P **P** **08 03 16.0 -1.3**
QSPA South Pole Qui 87.11 180 P **P** **08 03 21.7 -0.7**
QSPA IAmb IAmb 08 03 26.7
comp=Z,2.0nm,0.9s
BMAR Burnt Mountain 87.64 22 **P** **08 03 25.0 +0.1**
BCAR Beaver Creek A 87.91 27 P **P** **08 03 26.1 -0.2**
DAWY Dawson 89.12 26 P **P** **08 03 32.2 +0.3**
DAWY IAmb IAmb 08 03 33.5
comp=Z,4.7nm,0.9s
HYT Haines Junctio 89.58 29 P **P** **08 03 34.6 +0.3**
CPUP Villa Florida 147.25 153 pPKP pPKPdf 08 10 42.3 +5.7
comp=Z,2.9nm,0.9s,baz=248,slow=3.8,SNR=4.0
LPAZ La Paz 147.62 127 PKPbc **PKPbc** **08 10 24.4 +1.7**
comp=Z,2.2nm,0.8s,baz=338,slow=1.8,SNR=6.9
LPAZ pPKPbc **pPKPbc** **08 10 43.4 +2.6**
comp=Z,4.2nm,0.8s,baz=156,slow=1.3,SNR=10.0

IDC 28 08:08:11.4±2.9, 53°.42N×87°.42E, h0km, mb1 3.1/2, mb1mx3.0/50, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=28.4km s-min=16.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**290**	*i*		08 18 11.4	
	baz=106,slow=307,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.64**	**290**	Pn	Pn	08 08 39.6	-1.8
	1.1nm,0.3s,baz=112,slow=16,SNR=7.8						
ZALV				Lg	Lg	08 09 04.3	
	0.8nm,0.3s,baz=116,slow=23,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.16**	**247**	Pn	Pn	08 09 44.3	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=7.2						
KURBB				Lg	Lg	08 11 24.9	
	0.0nm,0.3s,baz=72,slow=40,SNR=2.5						
MKAR	**Makanchi Array**	**7.41**	**208**	Pn	Pn	08 10 02.5	+1.7
	0.1nm,0.3s,baz=24,slow=12,SNR=6.6						
MKAR				Lg	Lg	08 12 04.0	
	0.1nm,0.3s,baz=29,slow=32,SNR=3.6						

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*NOU **28** 08:09:42.9, 38°.83S×174°.70E, h260km, ML3.4/7, North Island, New Zealand*
WEL 28 08:09:50.5±0.6, 39°S±5°×17°5E±°, h193km±4km, M3.4/103, mB4.4/3, ML3.0/8, MLv3.4/103, Mw(mB)3.5/3, Error ellipse: s-maj=0.0km s-min=0.0km az=137.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.13**	**249**	P	Pn	08 10 16.0	+0.3
VRZ				S	Sn	08 10 36.8	+1.5
PKVZ	**Pokaka**	**0.40**	**122**	P	Pn	08 10 17.2	+0.7
PKVZ				S	Sn	08 10 38.2	+1.6
TWVZ	**Taurewa**	**0.41**	**89**	P	Pn	08 10 17.1	+0.5
TWVZ				S	Sn	08 10 37.9	+1.3
MHEZ	**Mangahewa**	**0.46**	**270**	P	Pn	08 10 17.5	+0.9
MHEZ				S	Sn	08 10 39.1	+2.5
FWVZ	**Far West T-bar**	**0.53**	**110**	P	Pn	08 10 17.7	+0.6
FWVZ				S	Sn	08 10 38.7	+1.0
WTVZ	**West Tongariro**	**0.53**	**94**	P	Pn	08 10 17.7	+0.7
WTVZ				S	Sn	08 10 38.8	+1.4
TRVZ	**Turoa**	**0.54**	**114**	P	Pn	08 10 17.9	+0.7
TRVZ				S	Sn	08 10 38.9	+1.1
NGZ	**Ngauruhoe**	**0.54**	**100**	P	Pn	08 10 17.8	+0.7
NGZ				S	Sn	08 10 38.5	+0.9
NNVZ	**North Ngauruho**	**0.55**	**96**	P	Pn	08 10 17.8	+0.6
LREZ	**Lake Rotokare**	**0.55**	**226**	P	Pn	08 10 17.7	+0.8
WHVZ	**Whangaehu Hut**	**0.56**	**111**	P	Pn	08 10 18.0	+0.8
DREZ	**Durham Road**	**0.57**	**259**	P	Pn	08 10 17.6	+0.6
DREZ				S	Sn	08 10 39.4	+1.9
KRVZ	**Karewarewa**	**0.57**	**92**	P	Pn	08 10 17.8	+0.7
HIZ	**Hauiti**	**0.57**	**355**	P	Pn	08 10 17.3	+0.2
HIZ				S	Sn	08 10 39.2	+1.7
SNVZ	**South Ngauruho**	**0.57**	**101**	P	Pn	08 10 18.1	+0.8
WNVZ	**Wahianoa**	**0.59**	**115**	P	Pn	08 10 18.1	+0.8
OTVZ	**Oturere**	**0.59**	**98**	P	Pn	08 10 18.4	+1.1
OTVZ				S	Sn	08 10 39.7	+1.7
NTVZ	**North Tongarir**	**0.59**	**92**	P	Pn	08 10 18.0	+0.7
TMVZ	**Te Maari**	**0.62**	**94**	P	Pn	08 10 18.3	+1.0
KATZ	**Kakaramea**	**0.62**	**81**	P	Pn	08 10 17.9	+0.5
KATZ				S	Sn	08 10 40.1	+2.0
ETVZ	**East Tongariro**	**0.62**	**96**	P	Pn	08 10 16.4	-1.0
PREZ	**Palmer Road**	**0.64**	**246**	P	Pn	08 10 18.1	+0.7
NEZ	**North Egmont**	**0.67**	**253**	P	Pn	08 10 18.2	+0.7
WAZ	**Wanganui**	**0.68**	**175**	P	Pn	08 10 18.4	+0.9
WAZ				S	Sn	08 10 40.0	+1.4
RATZ	**Rangitukua**	**0.70**	**73**	P	Pn	08 10 18.1	+0.4
MOVZ	**Moawhango**	**0.73**	**117**	P	Pn	08 10 18.1	+0.3
MOVZ				S	Sn	08 10 39.1	0.0
PKE	**Pukeiti**	**0.73**	**261**	P	Pn	08 10 18.3	+0.5
KHEZ	**Kahui Hut**	**0.73**	**253**	P	Pn	08 10 18.4	+0.5
WATZ	**Wairara**	**0.74**	**60**	P	Pn	08 10 18.6	+0.7
RITZ	**Rihia Road**	**0.74**	**82**	P	Pn	08 10 18.6	+0.7
RITZ				S	Sn	08 10 41.1	+2.1
NBEZ	**Newall Road No**	**0.83**	**257**	P	Pn	08 10 18.9	+0.5
NMEZ	**Namu Road**	**0.87**	**247**	P	Pn	08 10 19.1	+0.5
TLZ	**Tolley Road**	**0.89**	**33**	P	Pn	08 10 19.0	+0.1
KUTZ	**Kaahu Road**	**0.92**	**51**	P	Pn	08 10 19.5	+0.5
BHHZ	**Black Hill Sta**	**0.98**	**115**	P	Pn	08 10 19.6	+0.2
WPRZ	**Whakapapatarin**	**1.12**	**61**	P	Pn	08 10 20.5	0.0
OHWZ	**Ohakea**	**1.17**	**165**	P	Pn	08 10 21.4	+0.8
GRRZ	**Galatos Road**	**1.19**	**52**	P	Pn	08 10 21.1	+0.2
MRHZ	**Matea Rd**	**1.20**	**79**	P	Pn	08 10 20.6	-0.4
KWHZ	**Kaweka Forest**	**1.22**	**107**	P	Pn	08 10 21.8	+0.6
ALRZ	**Allen Road**	**1.23**	**66**	P	Pn	08 10 21.1	-0.2
BKZ	**Black Stump Fm**	**1.23**	**95**	P	Pn	08 10 21.3	0.0
KRHZ	**Kereru**	**1.26**	**117**	P	Pn	08 10 21.8	+0.3
TSZ	**Takapari Road**	**1.27**	**141**	P	Pn	08 10 22.0	+0.5
HRRZ	**Handcock Road**	**1.27**	**58**	P	Pn	08 10 21.7	+0.1
PRRZ	**Plateau Road**	**1.29**	**64**	P	Pn	08 10 21.4	-0.3
HSRZ	**Hossack Road**	**1.29**	**54**	P	Pn	08 10 21.7	0.0
PNHZ	**Pukenui**	**1.30**	**130**	P	Pn	08 10 22.1	+0.3
UTU	**Utuhina**	**1.35**	**48**	P	Pn	08 10 22.4	+0.2
HLRZ	**Highlands Stat**	**1.40**	**54**	P	Pn	08 10 23.3	+0.7
MCHZ	**McNeill Hill**	**1.43**	**105**	P	Pn	08 10 23.7	+0.9
RRRZ	**Republican Roa**	**1.45**	**60**	P	Pn	08 10 22.9	-0.3
POWZ	**Post Office Ro**	**1.47**	**154**	P	Pn	08 10 23.1	0.0
NMHZ	**Naumai**	**1.47**	**91**	P	Pn	08 10 24.2	+0.8
OMRZ	**Omania**	**1.50**	**50**	P	Pn	08 10 23.4	-0.2
TARZ	**Mount Tarawera**	**1.50**	**56**	P	Pn	08 10 23.6	-0.1
MTHZ	**Maungataniwha**	**1.52**	**82**	P	Pn	08 10 23.5	-0.2
WPHZ	**Waipukurau**	**1.54**	**130**	P	Pn	08 10 24.1	+0.3
DVHZ	**Dannevirke**	**1.56**	**142**	P	Pn	08 10 23.9	-0.1
MUGZ	**Murupara**	**1.57**	**68**	P	Pn	08 10 22.5	-1.7
ARHZ	**Aropaoanui**	**1.63**	**97**	P	Pn	08 10 25.1	+0.4
MRZ	**Mangatainoka R**	**1.66**	**162**	P	Pn	08 10 24.4	-0.5
RTZ	**Ruatahuna**	**1.68**	**75**	P	Pn	08 10 24.7	-0.5
KAHZ	**Kahuranaki**	**1.68**	**116**	P	Pn	08 10 25.7	+0.5
PRWZ	**Pori Road**	**1.68**	**151**	P	Pn	08 10 25.2	0.0
RAHZ	**Arahi**	**1.70**	**85**	P	Pn	08 10 25.5	+0.1
TGRZ	**Tauranga**	**1.71**	**39**	P	Pn	08 10 25.2	-0.3
OGWZ	**Otaki Gorge**	**1.75**	**174**	P	Pn	08 10 25.4	-0.4
CKHZ	**Cape Kidnapper**	**1.77**	**110**	P	Pn	08 10 26.5	+0.5
KIW	**Kapiti Island**	**1.78**	**180**	P	Pn	08 10 25.4	-0.7
PRHZ	**Porangahau**	**1.78**	**132**	P	Pn	08 10 26.1	-0.1
PXZ	**Pawanui**	**1.78**	**123**	P	Pn	08 10 26.2	+0.1
OPRZ	**Ohinepanea**	**1.78**	**47**	P	Pn	08 10 25.6	-0.6
WHHZ	**Waihua**	**1.81**	**91**	P	Pn	08 10 26.5	+0.1
ANWZ	**Angora Road**	**1.83**	**139**	P	Pn	08 10 26.6	0.0
TIWZ	**Tintock**	**1.85**	**157**	P	Pn	08 10 26.4	-0.5
HOWZ	**Holdsworth Sta**	**1.87**	**166**	P	Pn	08 10 26.2	-0.9
DUWZ	**D'Urville Isla**	**1.88**	**204**	P	Pn	08 10 26.3	-0.9
BFZ	**Birch Farm**	**1.90**	**148**	P	Pn	08 10 26.8	-0.5
URZ	**Urewera**	**1.90**	**65**	P	Pn	08 10 26.1	-1.3
SNGZ	**Shannon Statio**	**1.92**	**82**	P	Pn	08 10 27.3	-0.3
CAW	**Cannon Point**	**2.03**	**177**	P	Pn	08 10 27.7	-1.0
RAGZ	**Rawiri**	**2.04**	**74**	P	Pn	08 10 28.2	-0.8
CPWZ	**Castlepoint**	**2.08**	**152**	P	Pn	08 10 28.9	-0.3
MTW	**Mount Morrison**	**2.12**	**168**	P	Pn	08 10 28.4	-1.3
KNZ	**Kokohu**	**2.15**	**89**	P	Pn	08 10 29.4	-0.5
TMWZ	**Te Maipa**	**2.16**	**160**	P	Pn	08 10 29.0	-1.1
MWZ	**Matawai**	**2.18**	**71**	P	Pn	08 10 29.2	-1.1
TCW	**Tory Channel**	**2.19**	**193**	P	Pn	08 10 29.3	-1.0
WEL	**Wellington**	**2.21**	**183**	P	Pn	08 10 29.2	-1.3
RIGZ	**Rimuhau**	**2.25**	**81**	P	Pn	08 10 30.7	-0.5
PRGZ	**Paritu Road**	**2.32**	**87**	P	Pn	08 10 31.3	-0.5
BHW	**Baring Head**	**2.33**	**181**	P	Pn	08 10 30.3	-1.6
MHGZ	**Mahia Peninsul**	**2.33**	**93**	P	Pn	08 10 31.7	-0.2
PAWZ	**Paruwai Farm**	**2.33**	**170**	P	Pn	08 10 30.5	-1.5
MSWZ	**Moikau Station**	**2.35**	**174**	P	Pn	08 10 30.6	-1.5
TKGZ	**Te Karaka**	**2.38**	**75**	P	Pn	08 10 31.8	-0.7
TRWZ	**Traveller**	**2.39**	**166**	P	Pn	08 10 31.2	-1.4
RUGZ	**Raukumara Rang**	**2.44**	**64**	P	Pn	08 10 31.0	-2.3
NNZ	**Nelson**	**2.44**	**208**	P	Pn	08 10 31.4	-1.7
TUWZ	**Tuamarina**	**2.46**	**197**	P	Pn	08 10 32.0	-1.4
PLWZ	**Palliser**	**2.50**	**174**	P	Pn	08 10 32.1	-1.8
QRZ	**Quartz Range**	**2.53**	**226**	P	Pn	08 10 31.7	-2.5
TWGZ	**Tauwhareparae**	**2.56**	**70**	P	Pn	08 10 33.9	-0.7
HAZ	**Te Kaha**	**2.61**	**61**	P	Pn	08 10 32.9	-2.2
CNGZ	**Carnagh Statio**	**2.64**	**78**	P	Pn	08 10 34.9	-0.6
CMWZ	**Cape Campbell**	**2.72**	**191**	P	Pn	08 10 35.2	-1.1
BSWZ	**Blackbirch Sta**	**2.75**	**196**	P	Pn	08 10 35.2	-1.5
PKGZ	**Pakihiroa**	**2.75**	**65**	P	Pn	08 10 35.3	-1.6
PUZ	**Puketiti**	**2.81**	**70**	P	Pn	08 10 35.7	-1.8
WMGZ	**Waiomatatini S**	**3.02**	**67**	P	Pn	08 10 38.1	-1.9
THZ	**Tophouse**	**3.09**	**209**	P	Pn	08 10 38.2	-2.6
KHZ	**Kahutara**	**3.49**	**197**	P	Pn	08 10 43.1	-2.5
DSZ	**Denniston Nort**	**3.57**	**221**	P	Pn	08 10 43.3	-3.3
GVZ	**Greta Valley S**	**4.14**	**199**	P	Pn	08 10 50.4	-3.2
LTZ	**Lake Taylor**	**4.21**	**208**	P	Pn	08 10 51.2	-3.3
AMCZ	**Amberley**	**4.44**	**202**	P	Pn	08 10 54.0	-3.3
INZ	**Inchbonnie**	**4.49**	**215**	P	Pn	08 10 55.3	-2.8
OXZ	**Oxford**	**4.76**	**206**	P	Pn	08 10 57.3	-4.3
OKCZ	**Okains Bay**	**4.85**	**196**	P	Pn	08 10 58.7	-3.9
MQZ	**McQueen's Vall**	**4.93**	**199**	P	Pn	08 10 58.8	-4.8
AKCZ	**Akaroa Harbour**	**5.02**	**197**	P	Pn	08 11 00.7	-4.1
WVZ	**Waitaha Valley**	**5.09**	**217**	P	Pn	08 11 01.9	-3.9
RACZ	**Rakaia**	**5.09**	**203**	P	Pn	08 11 01.4	-4.4
MHCZ	**Mount Hutt**	**5.11**	**208**	P	Pn	08 11 01.6	-4.5
WACZ	**Wakanui South**	**5.38**	**204**	P	Pn	08 11 05.2	-4.3
RPZ	**Rata Peaks**	**5.47**	**211**	P	Pn	08 11 06.0	-4.6
GCSZ	**Gaunt Creek Bo**	**5.47**	**218**	P	Pn	08 11 06.3	-4.3
ARCZ	**Arundel**	**5.62**	**209**	P	Pn	08 11 07.8	-4.8
FOZ	**Fox Glacier**	**5.88**	**219**	P	Pn	08 11 11.5	-4.3
TMZ	**Timaru**	**6.05**	**208**	P	Pn	08 11 13.9	-4.3
LBZ	**Lake Benmore**	**6.37**	**212**	P	Pn	08 11 17.4	-5.0
ODZ	**Otahua Downs**	**6.75**	**207**	P	Pn	08 11 23.2	-4.2
JCZ	**Jackson Bay**	**6.78**	**221**	P	Pn	08 11 22.8	-5.0
WKZ	**Wanaka**	**7.23**	**216**	P	Pn	08 11 28.2	-5.4
EAZ	**Earnscleugh**	**7.42**	**212**	P	Pn	08 11 30.2	-5.9

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*ANF **28** 08:11:56.8±0.2, 36°.31N×97°.54W, h5km, ML4.2/18, Error ellipse: s-maj=3.2km s-min=2.8km az=157.0*
*NEIC **28** 08:11:57.3±1.2, 36°.290N±0°.005×97°.52W±0°.02, h5km±7km, Error ellipse: s-maj=2.6km s-min=0.3km az=73.0*
*TUL **28** 08:11:57.5±1.2, 36°.29N±0°.01×97°.52W±0°.02, h7km±6km, ML3.5, mb_Lg3.4/137(NEIC), Error ellipse: s-maj=2.5km s-min=1.6km az=68.0*
ISC 28 08:11:57.3±0.9, 36°.28N±0°.02×97°.54W±0°.02, h11km±7km, n210, σ0°79/240, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**302**		**Pg**	**08 12 06.0**	**+0.3**
CROK				Sg	**Sg**	**08 12 11.6**	**+0.3**
OK029	**Liberty Lake**	**0.49**	**172**		**Pg**	**08 12 06.9**	**0.0**
OK029				Sg	**Sg**	**08 12 13.2**	**-0.2**
BLOK	**Blackwell**	**0.54**	**29**	Pg	**Pg**	**08 12 07.9**	**-0.1**
BLOK				Sg	**Sg**	**08 12 15.0**	**-0.2**
GC02	**Grant County #**	**0.62**	**336**		**Pg**	**08 12 09.4**	**0.0**
GC02				Sg	**Sg**	**08 12 17.3**	**-0.4**
BCOK	**Bluff Creek, N**	**0.63**	**185**		**Pg**	**08 12 09.6**	**+0.1**
BCOK				Sg	**Sg**	**08 12 18.0**	**+0.2**
BCOK				IAmb_Lg		08 12 18.3	
	comp=Z,321nm,0.9s						
OK031	**S. Brethren Rd**	**0.66**	**120**		**Pg**	**08 12 09.8**	**-0.2**
OK031				Sg	**Sg**	**08 12 17.9**	**-0.7**
QUOK	**Quay**	**0.68**	**99**		**Pg**	**08 12 10.2**	**-0.3**
QUOK				Sg	**Sg**	**08 12 19.0**	**-0.5**
OK005	**Luther M Schoo**	**0.69**	**156**	Pg	**Pg**	**08 12 10.6**	**0.0**
OK005				Sg	**Sb**	**08 12 20.7**	**-0.1**
OK009	**Oakdale Elemen**	**0.71**	**172**		**Pg**	**08 12 11.0**	**0.0**
OK009				Sg	**Sg**	**08 12 19.2**	**-1.1**
OK025	**Westminster Rd**	**0.72**	**167**		**Pg**	**08 12 11.2**	**0.0**
OK025				Sg	**Sg**	**08 12 20.8**	**+0.1**
KAN13	**South Haven SW**	**0.73**	**4**		**Pg**	**08 12 11.3**	**-0.2**
KAN13				Sg	**Sg**	**08 12 21.0**	**-0.1**
OK001	**Jones High Sch**	**0.75**	**164**	Pg	**Pg**	**08 12 11.7**	**-0.1**
OK001				Sg	**Sg**	**08 12 20.9**	**-0.6**
OK032	**Salt Plains WL**	**0.75**	**314**		**Pg**	**08 12 11.8**	**0.0**
OK032				Sg	**Sg**	**08 12 21.7**	**0.0**
KAN17	**Caldwell West**	**0.78**	**347**		**Pg**	**08 12 12.3**	**-0.2**
KAN17				Sg	**Sg**	**08 12 22.4**	**-0.3**
KAN09	**Caldwell North**	**0.85**	**356**		**Pg**	**08 12 13.6**	**-0.2**
KAN09				Sg	**Sg**	**08 12 24.9**	**-0.2**
KAN05	**Bluff City Nor**	**0.87**	**342**		**Pg**	**08 12 13.9**	**-0.2**
KAN05				Sg	**Sg**	**08 12 24.9**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**0.88**	**175**		**Pg**	**08 12 14.0**	**-0.3**
OKCSW				Sg	**Sg**	**08 12 26.2**	**+0.5**
KS20	**Mayfield South**	**0.94**	**359**		**Pg**	**08 12 15.2**	**-0.4**
KS20				Sg	**Sg**	**08 12 27.9**	**0.0**
KAN10	**Anthony SW Sta**	**0.95**	**332**		**Pg**	**08 12 15.4**	**-0.3**
KAN10				Sg	**Sg**	**08 12 28.5**	**+0.4**
KAN08	**Anthony NE Sta**	**1.00**	**340**		**Pg**	**08 12 16.5**	**-0.2**
KAN08				Sg	**Sg**	**08 12 29.7**	**-0.1**
FNO	**Franklin**	**1.03**	**174**		**Pg**	**08 12 16.6**	**-0.5**
FNO				Sg	**Sg**	**08 12 30.6**	**0.0**
T35A	**Sooner Cattle**	**1.04**	**52**		**Pg**	**08 12 16.7**	**-0.6**
T35A				Sg	**Sg**	**08 12 30.3**	**-0.6**
T35B	**Sooner Cattle**	**1.04**	**52**	P		08 12 16.7	
	baz=232,SNR=197						
T35B				S		08 12 30.1	
	baz=232						
KAN12	**Harper NE Stat**	**1.08**	**340**		**Pg**	**08 12 17.6**	**-0.5**
KAN12				Sg	**Sg**	**08 12 32.0**	**-0.2**
U32A	**Winter Ranch,**	**1.19**	**275**		**Pg**	**08 12 19.4**	**-0.7**
U32A	**Winter Ranch,**	**1.19**	**275**	P		08 12 19.7	
	baz=94						
U32A				S		08 12 36.3	
	baz=94						
TUL1	**Leonard**	**1.46**	**104**	P	**Pn**	**08 12 23.5**	**-0.1**
	baz=286,SNR=120						
TUL1				S	**Sb**	**08 12 43.5**	**+0.4**
	baz=286						
TUL1	**Leonard**	**1.46**	**104**	P		08 12 23.3	
	baz=286						
TUL1				S		08 12 43.2	
	baz=286						
X34A	**Smith Ranch, M**	**1.69**	**188**		**Pb**	**08 12 28.6**	**+0.1**
WMOK	**Wichita Mounta**	**1.84**	**214**	P	**Pn**	**08 12 30.1**	**+1.1**
	baz=33						
WMOK				S	**Sb**	**08 12 54.9**	**+0.8**
	baz=33						
WMOK	**Wichita Mounta**	**1.84**	**214**		**Pn**	**08 12 30.0**	**+1.1**
WMOK	**Wichita Mounta**	**1.84**	**214**	P		08 12 30.1	
	baz=33,SNR=274						
WMOK				S		08 12 54.8	
	baz=33						
LOOK	**Love County**	**2.30**	**173**		**Pn**	**08 12 36.6**	**+1.4**
LOOK				IAmb_Lg		08 13 15.2	
	comp=Z,109nm,0.8s						
R32A	**Long Quarter,**	**2.33**	**337**	Pn	**Pn**	**08 12 36.0**	**+0.3**
R32A	**Long Quarter,**	**2.33**	**337**	S		08 13 06.0	
	baz=156						
X37A	**Clayton**	**2.45**	**133**		**Pn**	**08 12 38.4**	**+1.3**
X37A				IAmb_Lg		08 13 20.7	
	comp=Z,132nm,0.8s						
X37A	**Clayton**	**2.45**	**133**	P		08 12 38.6	
	baz=315,SNR=32						
U38A	**Gravette**	**2.55**	**86**		**Pn**	**08 12 40.1**	**+1.5**
HHAR	**Hobbs**	**2.91**	**89**		**Pn**	**08 12 44.5**	**+1.0**
HHAR				IAmb_Lg		08 13 30.2	
	comp=Z,96nm,0.8s						
KSU1	**Kansas State U**	**2.91**	**14**	P	**Pn**	**08 12 44.6**	**+1.1**
	baz=195						
KSU1	**Kansas State U**	**2.91**	**14**	Pn	**Pn**	**08 12 44.6**	**+1.1**
KSU1				IAmb_Lg		08 13 29.9	
	comp=Z,72nm,0.8s						
KSU1	**Kansas State U**	**2.91**	**14**	P		08 12 44.6	
	baz=195,SNR=42						
Z35A	**Perchaven, San**	**2.95**	**175**	Pn	**Pn**	**08 12 45.7**	**+1.5**
Z35A	**Perchaven, San**	**2.95**	**175**	P		08 12 45.7	
	baz=356,SNR=9.4						
CBKS	**Cedar Bluff**	**3.07**	**326**	P	**Pn**	**08 12 47.3**	**+1.4**
	baz=144						
CBKS				S	**Sn**	**08 13 23.3**	**+0.7**
	baz=144						
CBKS	**Cedar Bluff**	**3.07**	**326**		**Pn**	**08 12 46.7**	**+0.8**
CBKS	**Cedar Bluff**	**3.07**	**326**	P		08 12 46.8	
	baz=144						
CBKS				S		08 13 23.6	
	baz=144						
W39A	**Magazine**	**3.24**	**108**	P	**Pn**	**08 12 49.0**	**+0.9**
	baz=291,SNR=14

KSCO	Kaye Shedlock'	4.87	306	P	Pn	08 13 09.8	-0.8
	baz=122						
KSCO	Kaye Shedlock'	4.87	306		Pn	08 13 11.5	+0.8
KSCO				IAmb_Lg		08 14 41.0	
	comp=Z,75nm,0.8s						
MSTX	Muleshoe	4.87	243	P	Pn	08 13 11.5	+0.9
	baz=60,SNR=8.4						
MSTX	Muleshoe	4.87	243		Pn	08 13 12.3	+1.6
MSTX				IAmb_Lg		08 14 37.0	
	comp=Z,40nm,0.8s						
Z41A	Richland Creek	4.93	126	P	Pn	08 13 11.9	+0.6
	baz=309						
Z41A				S	Sn	08 14 08.0	-0.3
	baz=309						
NATX	Nacogdoches	5.10	151	S	Sn	08 14 11.1	-1.6
	baz=333						
NATX	Nacogdoches	5.10	151	Pn	Pn	08 13 14.3	+0.6
NATX				IAmb_Lg		08 14 53.1	
	comp=Z,45nm,0.8s						
BGNE	Belgrade	5.14	355	P	Pn	08 13 14.5	+0.3
	baz=174,SNR=6.0						
BGNE				S	Sn	08 14 13.2	-0.3
	baz=174						
BGNE	Belgrade	5.14	355		Pn	08 13 14.4	+0.1
BGNE				IAmb_Lg		08 14 52.8	
	comp=Z,118nm,0.8s						
LCAR	Lake Charles	5.17	90	Pn	Pn	08 13 16.2	+1.6
LCAR				IAmb_Lg		08 14 41.7	
	comp=Z,48nm,0.8s						
T42A	Van Buren	5.24	80		Pn	08 13 16.2	+0.7
T42A				IAmb_Lg		08 14 51.2	
	comp=Z,65nm,0.9s						
CCAR	Cane Creek	5.28	115		Pn	08 13 15.3	-0.9
CCAR				IAmb_Lg		08 14 51.1	
	comp=Z,89nm,0.8s						
CCM	Cathedral Cave	5.33	69	P	Pn	08 13 17.0	+0.3
	baz=252						
CCM	Cathedral Cave	5.33	69		Pn	08 13 17.2	+0.4
CCM				IAmb_Lg		08 14 43.7	
	comp=Z,89nm,0.9s						
P40A	Paris	5.42	52		Pn	08 13 19.2	+1.2
P40A				IAmb_Lg		08 14 52.1	
	comp=Z,114nm,0.8s						
435B	Jarrell	5.49	180	P	Pn	08 13 19.7	+0.7
	baz=0.6						
435B				S	Sn	08 14 21.9	-0.2
	baz=0.6						
435B	Jarrell	5.49	180		Pn	08 13 19.5	+0.5
435B				IAmb_Lg		08 15 03.1	
	comp=Z,50nm,0.9s						
T25A	Trinidad	5.59	281	P	Pn	08 13 21.1	+0.6
	baz=97,SNR=8.6						
T25A				S	Sn	08 14 23.6	-1.3
	baz=97						
T25A	Trinidad	5.59	281		Pn	08 13 21.7	+1.1
T25A				IAmb_Lg		08 14 57.9	
	comp=Z,47nm,0.8s						
N38A	Joes South For	5.63	36		Pn	08 13 21.4	+0.5
N38A				IAmb_Lg		08 15 04.0	
	comp=Z,108nm,0.8s						
HBAR	Harrisburg	5.63	95	Pn	Pn	08 13 22.1	+1.2
PBMO	Poplar Bluff	5.75	83	Pn	Pn	08 13 22.5	0.0
L34A	Svendsen Farm,	5.75	9		Pn	08 13 23.6	+1.0
OGNE	Ogallala	5.83	324	Pn	Pn	08 13 23.5	-0.3
OGNE				IAmb_Lg		08 15 10.4	
	comp=Z,69nm,0.8s						
LPAR	Lepanto	5.91	94	Pn	Pn	08 13 25.5	+0.7
LPAR				IAmb_Lg		08 15 09.9	
	comp=Z,65nm,0.7s						
JCT	Junction City	6.09	199	P	Pn	08 13 27.8	+0.5
	baz=18						
JCT	Junction City	6.09	199	Pn	Pn	08 13 29.0	+1.7
JCT				IAmb_Lg		08 15 15.4	
	comp=Z,91nm,1.0s						
GNAR	Gosnell	6.09	91	Pn	Pn	08 13 26.8	-0.5
143A	Socs Landing,	6.20	123	Pn	Pn	08 13 28.6	-0.1
143A				IAmb_Lg		08 15 18.8	
	comp=Z,48nm,0.8s						
PEBM	Pemiscott Bayo	6.21	89	Pn	Pn	08 13 28.1	-0.8
SLM	Saint Louis	6.26	66	Pn	Pn	08 13 30.8	+1.2
PARMO	Parma	6.29	84	Pn	Pn	08 13 31.5	+1.6
K31A	O'Neill	6.40	352	Pn	Pn	08 13 31.8	+0.3
HKT	Hockley	6.47	167	Pn	Pn	08 13 31.6	-0.9
LNXT	Lenox	6.51	89	Pn	Pn	08 13 32.9	-0.1
HENM	Henderson Moun	6.51	84	Pn	Pn	08 13 32.2	-0.8
SDCO	Great Sand Dun	6.54	285	P	Pn	08 13 34.7	+1.0
	baz=100,SNR=18						
SDCO	Great Sand Dun	6.54	285		Pn	08 13 34.9	+1.2
342A	Flagon Creek P	6.54	137	Pn	Pn	08 13 33.6	+0.1
SCIA	State Center	6.54	30	P	Pn	08 13 33.8	+0.3
	baz=212,SNR=7.0						
SCIA	State Center	6.54	30		Pn	08 13 34.0	+0.5
SCIA				IAmb_Lg		08 15 36.2	
	comp=Z,87nm,0.8s						
441A	DeRidder	6.61	145	Pn	Pn	08 13 34.8	+0.5
Q24A	Divide	6.61	296	P	Pn	08 13 34.7	0.0
	baz=112,SNR=9.0						
Q24A				S	Sn	08 14 49.5	-0.6
	baz=112						
HALT	Halls	6.65	91		Pn	08 13 34.3	-0.6
HALT				IAmb_Lg		08 15 26.0	
	comp=Z,63nm,1.1s						
GLAT	Glass	6.67	88	IAmb_Lg		08 15 34.3	
	comp=Z,88nm,0.9s						
HICK	Hickman	6.71	85	Pn	Pn	08 13 35.4	-0.3
S44A	Carbondale	6.78	76	Pn	Pn	08 13 36.5	-0.1
SIUC	Southern Illin	6.81	75	Pn	Pn	08 13 36.7	-0.4
N41A	Harden Midland	6.85	48	Pn	Pn	08 13 38.7	+1.0
OXF	Oxford	6.87	103	P	Pn	08 13 38.5	+0.5
	baz=287						
OXF	Oxford	6.87	103		Pn	08 13 38.4	+0.4
OXF				IAmb_Lg		08 15 37.6	
	comp=Z,34nm,0.9s						
W45A	Hickory Valley	6.89	97	Pn	Pn	08 13 38.2	0.0
W45A				IAmb_Lg		08 15 38.8	
	comp=Z,82nm,1.2s						
Y45A	Yeager Farm, C	6.98	108	Pn	Pn	08 13 39.2	-0.3
Y45A				IAmb_Lg		08 15 53.5	
	comp=Z,24nm,0.7s						
UTMT	University of	7.00	87	IAmb_Lg		08 15 58.6	
	comp=Z,69nm,0.8s						
VBMS	Vicksburg	7.09	123	IAmb_Lg		08 16 01.5	
	comp=Z,27nm,1.2s						
P43A	Skaggs, Pawnee	7.17	60	Pn	Pn	08 13 41.2	-0.8
T45A	Paducah	7.19	81	Pn	Pn	08 13 41.5	-0.8
Q44A	Meyer Farm, Va	7.25	66	Pn	Pn	08 13 42.6	-0.6
ISCO	Idaho Springs	7.28	301		Pn	08 13 43.4	-0.4
ISCO				IAmb_Lg		08 16 02.0	
	comp=Z,24nm,0.7s						
K38A	Parkersburg	7.35	29	Pn	Pn	08 13 44.6	+0.2
ANMO	Albuquerque	7.39	262	Pn	Pn	08 13 45.2	-0.1
735A	Kenedy	7.41	182	Pn	Pn	08 13 46.4	+1.0
735A				IAmb_Lg		08 16 08.5	
	comp=Z,29nm,1.0s						
344A	Westbrook Farm	7.43	128	Pn	Pn	08 13 45.8	+0.2
344A				IAmb_Lg		08 15 54.9	
	comp=Z,21nm,1.2s						
ECSD	EROS Data Cent	7.48	5	P	Pn	08 13 45.5	-0.8
	baz=186						
ECSD	EROS Data Cent	7.48	5	Pn	Pn	08 13 45.9	-0.4
L40A	Anamosa	7.57	38	Pn	Pn	08 13 47.1	-0.5
L40A				IAmb_Lg		08 16 03.1	
	comp=Z,44nm,0.8s						
HDIL	Hopedale	7.75	54	P	Pn	08 13 49.9	-0.1
	baz=239						
HDIL	Hopedale	7.75	54		Pn	08 13 50.4	+0.3
PLAL	Pickwick Lake	7.81	97	Pn	Pn	08 13 50.8	-0.1
PLAL				IAmb_Lg		08 16 05.8	
	comp=Z,20nm,0.9s						
WVT	Waverly	7.85	88	Pn	Pn	08 13 51.7	+0.3
OLIL	Olney	7.89	69	Pn	Pn	08 13 51.0	-1.0
MNTX	Cornudas Mount	7.96	237	P	Pn	08 13 54.0	+1.1
	baz=53						
MNTX	Cornudas Mount	7.96	237		Pn	08 13 53.9	+0.9
PHWY	Pilot Hill	7.96	311	Pn	Pn	08 13 52.9	-0.3
PHWY				IAmb_Lg		08 16 21.3	
	comp=Z,50nm,1.0s						
LENM	Lemitar	8.01	257	Pn	Pn	08 13 53.3	-0.5
USIN	University of	8.06	75	Pn	Pn	08 13 53.0	-1.3
O44A	Mansfield	8.12	59	Pn	Pn	08 13 54.5	-0.6
O44A				IAmb_Lg		08 16 22.2	
	comp=Z,69nm,0.8s						
SUSD	Miller	8.22	353	IAmb_Lg		08 16 28.8	
	comp=Z,49nm,0.9s						
I37A	Lemond, Waseca	8.35	21	Pn	Pn	08 13 58.5	+0.3
I37A				IAmb_Lg		08 16 43.7	
	comp=Z,35nm,0.8s						
L42A	Oliver, Polo	8.37	45	Pn	Pn	08 13 57.3	-1.2
Z47A	Carrollton	8.38	109	Pn	Pn	08 13 58.3	-0.4
T47A	Sharon Grove	8.42	82	Pn	Pn	08 14 00.3	+1.1
TX31	Lajitas Ar. Si	8.64	218	Pn	Pn	08 14 02.6	+0.3
TX32	Lajitas Array	8.64	218	Pn	Pn	08 14 04.2	+1.9
TXAR	Lajitas Array	8.64	218	Pn	Pn	08 14 04.2	+1.9
JFWS	Jewell Farm	8.69	38	P	Pn	08 14 02.6	-0.3
	baz=223						
JFWS	Jewell Farm	8.69	38	Pn	Pn	08 14 03.4	+0.6
JFWS				IAmb_Lg		08 16 32.9	
	comp=Z,60nm,0.8s						
V48A	Smith Brothers	8.70	90	Pn	Pn	08 14 04.0	+0.9
V48A				IAmb_Lg		08 16 47.2	
	comp=Z,19nm,1.1s						
X48A	Hartselle	8.76	99	Pn	Pn	08 14 02.7	-1.3
P46A	Rosedale	8.81	65	Pn	Pn	08 14 04.0	-0.6
MVCO	Mesa Verde	8.85	279	Pn	Pn	08 14 05.4	+0.1
M44A	Midewin, Midew	8.99	53	Pn	Pn	08 14 07.1	+0.1
M44A				IAmb_Lg		08 16 49.5	
	comp=Z,52nm,1.0s						
PV01	Paradox Valley	8.99	285	Pn	Pn	08 14 08.4	+1.1
CLTN	Cedars of Leba	9.06	88	Pn	Pn	08 14 09.2	+1.1
CLTN				IAmb_Lg		08 16 49.0	
	comp=Z,26nm,1.1s						
PV07	Paradox Valley	9.10	287	Pn	Pn	08 14 09.1	+0.3
SFIN	Lafayette	9.17	60	Pn	Pn	08 14 10.4	+0.9
SFIN				IAmb_Lg		08 16 49.9	
	comp=Z,45nm,0.7s						
WCI	Wyandotte Cave	9.17	74	Pn	Pn	08 14 09.8	+0.2
WCI				IAmb_Lg		08 16 48.7	
	comp=Z,29nm,0.7s						
BLO	Bloomington	9.19	68	Pn	Pn	08 14 10.1	+0.3
121A	Cookes Peak, D	9.26	249	Pn	Pn	08 14 11.4	+0.6
121A				IAmb_Lg		08 17 08.2	
	comp=Z,25nm,1.1s						
O20A	White River Ci	9.26	298	Pn	Pn	08 14 11.9	+1.0
RWWY	Rawlins	9.26	309	Pn	Pn	08 14 11.4	+0.4
RWWY				IAmb_Lg		08 17 02.2	
	comp=Z,41nm,1.0s						
I40A	Norwalk	9.26	33	Pn	Pn	08 14 12.0	+1.2
I40A				IAmb_Lg		08 17 02.8	
	comp=Z,26nm,0.8s						
RSSD	Black Hills	9.27	330	Pn	Pn	08 14 11.6	+0.5
RSSD				IAmb_Lg		08 17 04.0	
	comp=Z,19nm,0.7s						
PV04	Paradox Valley	9.29	286	IAmb_Lg		08 17 05.7	
	comp=Z,17nm,1.1s						
PV20	West Nyswonger	9.34	286	IAmb_Lg		08 17 15.7	
	comp=Z,18nm,1.3s						
K22A	Casper	9.41	315	Pn	Pn	08 14 13.5	+0.5
K22A				IAmb_Lg		08 17 16.0	
	comp=Z,46nm,0.9s						
Y49A	Blount Mountai	9.44	102	Pn	Pn	08 14 14.0	+0.8
U49A	Red Boiling Sp	9.48	85	Pn	Pn	08 14 13.8	0.0
U49A				IAmb_Lg		08 16 55.8	
	comp=Z,15nm,0.9s						
SWET	Sewanee	9.49	93	Pn	Pn	08 14 13.0	-1.0
SWET				IAmb_Lg		08 16 55.7	
	comp=Z,16nm,1.0s						
F33A	5 Mile Ranch,	9.59	5	Pn	Pn	08 14 16.4	+1.1
F33A				IAmb_Lg		08 17 09.3	
	comp=Z,22nm,0.9s						
SPMN	Marine on St.	9.62	20	Pn	Pn	08 14 15.8	+0.1
SPMN				IAmb_Lg		08 17 13.1	
	comp=Z,17nm,0.8s						
FPAL	Fort Paine	9.89	97	Pn	Pn	08 14 20.1	+0.7
W50A	Signal Mountai	10.00	93	Pn	Pn	08 14 20.5	-0.4
W50A				IAmb_Lg		08 17 30.7	
	comp=Z,20nm,0.8s						
F36A	Milaca	10.04	16	Pn	Pn	08 14 21.3	-0.1
R49A	Shelbyville	10.06	75	Pn	Pn	08 14 22.1	+0.5
I42A	Draeger Farm,	10.06	38	Pn	Pn	08 14 21.6	-0.2
P48A	Milroy	10.09	68	Pn	Pn	08 14 22.4	+0.3
250A	Grady	10.28	111	Pn	Pn	08 14 25.5	+0.7
G40A	Rib Lake	10.55	29	Pn	Pn	08 14 28.4	-0.1
CPCT	Cooper Cave	10.60	91	Pn	Pn	08 14 29.6	+0.5
P49A	Miami Univ. Ec	10.64	68	Pn	Pn	08 14 29.6	0.0
V51A	Loudon	10.69	89	Pn	Pn	08 14 30.4	+0.1
R50A	Paris	10.71	75	Pn	Pn	08 14 30.5	-0.2
H43A	Windswept, Lux	11.05	39	Pn	Pn	08 14 36.3	+1.0
O49A	Covington	11.09	65	Pn	Pn	08 14 35.9	+0.1
TKL	Tuckaleechee C	11.17	89	Pn	Pn	08 14 37.2	+0.3
S51A	Beattyville	11.24	79	Pn	Pn	08 14 38.8	+0.9
TZTN	Tazewell	11.28	85	Pn	Pn	08 14 37.6	-0.8
V52A	Sevierville	11.30	88	Pn	Pn	08 14 38.0	-0.7
BW06	Boulder Array	11.31	309	Pn	Pn	08 14 39.5	+0.4
PD31	Pinedale Array	11.31	309	Pn	Pn	08 14 38.4	-0.7
PDAR	Pinedale Array	11.31	309	Pn	Pn	08 14 40.8	+1.7
N49A	Columbus Grove	11.43	62	Pn	Pn	08 14 40.3	-0.1
L48A	N Adams	11.64	57	Pn	Pn	08 14 42.7	-0.6
COWI	Conover	11.66	30	Pn	Pn	08 14 43.7	+0.1
AGMN	Agassiz Nation	12.07	5	Pn	Pn	08 14 49.8	+0.6
HWUT	Hardware Ranch	12.14	300	Pn	Pn	08 14 50.8	+0.5
B35A	Bob, Littlefor	12.39	12	Pn	Pn	08 14 54.0	+0.4
EYMN	Ely	12.48	19	Pn	Pn	08 14 53.7	-1.2
P52A	Corning	12.61	70	Pn	Pn	08 14 57.1	+0.5
U54A	Nelsons Funny	12.67	84	Pn	Pn	08 14 56.2	-1.3
D41A	Chassel	12.68	29	Pn	Pn	08 14 57.3	-0.1
E43A	Lone Tree Farm	12.81	35	Pn	Pn	08 14 58.1	-1.2
R55A	Marlinton	14.02	77	Pn	Pn	08 15 15.2	-0.6
E46A	Sault Ste Mari	14.13	40	Pn	Pn	08 15 15.6	-1.8
HRY	Holter Researc	14.92	319	Pn	Pn	08 15 27.6	-0.5
L56A	Greenwood	16.54	63	Pn	Pn	08 15 48.8	-0.4

IDC 28 08:22:44.7±4.6, 18°.08S×174°.50W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/20, mbtmp3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=344.8km s-min=36.6km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	23.73	93	LR	LR	08 35 16.5	
	comp=Z,45nm,19.7s,baz=210,slow=32						
HNR	Honiara	26.24	286	LR	LR	08 36 57.7	
	comp=Z,60nm,21.0s,baz=22,slow=32						
WRA	Warramunga Arr	48.26	259	P	P	08 31 27.8	-0.1
	0.9nm,1.0s,baz=97,slow=7.4,SNR=2.2						
ASAR	Alice Springs	48.33	254	P	P	08 31 28.2	-0.1
	1.9nm,0.8s,baz=86,slow=8.3,SNR=15						
PDAR	Pinedale Array	84.95	42	P	P	08 35 22.1	0.0
	0.2nm,0.5s,baz=184,slow=2.7,SNR=3.6						
YAK	Yakutsk	91.15	337	LR	LR	09 10 20.8	
	comp=Z,34nm,21.9s,baz=194,slow=31						

TRN 28 08:36:50.9, 11°.76N×61°.92W, h103km, MD3.5, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	Grenville	0.46	35	eP	Pn	08 37 06.5	-0.3
GRGR				eS	Sn	08 37 18.8	+0.2
GCMP	Grenada, Carri	0.87	34	eP	Pn	08 37 09.4	-0.8
GCMP				eS	Sn	08 37 23.8	-0.9
TRN	Trinidad (W)	1.22	155	eP	Pn	08 37 14.7	+0.7
TRN				eS	Sn	08 37 32.0	+0.6
TPR	Prospect	1.26	117	eP	Pn	08 37 14.8	+0.3
BOT	Bacolet	1.32	116	eP	Pn	08 37 14.8	-0.4
TOSP	Speyside	1.44	108	eP	Pn	08 37 16.4	-0.1
TOSP				eS	Sn	08 37 35.2	-0.7
TBH	Brigand Hill	1.52	146	eP	Pn	08 37 17.7	0.0
SVB	Belmont	1.64	23	eP	Pn	08 37 19.4	+0.3
SVV	Soufriere Volc	1.70	24	eP	Pn	08 37 20.3	+0.5
SSV	Crater Summit	1.71	24	eP	Pn	08 37 19.4	-0.7
MCLT	Moule a Chique	2.16	26	eP	Pn	08 37 25.6	-0.2
MCLT				eS	Sn	08 37 52.5	+0.1
SLBI	Saint Lucia, B	2.43	22	eP	Pn	08 37 28.8	-0.5
SLBI				eS	Sn	08 37 58.9	+0.3
MPOM	Morne Pois Mar	2.86	21	eP	Pn	08 37 35.3	+0.3

TRN 28 08:46:34.3, 13°.81N×58°.54W, h87km, MD3.8
ISC 28 08:46:33.6±2.3, 13°.89N±0°.04×58°.6W±0°.1, h10km, n48, σ1§21/70, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	Saint Philip	1.17	228	eP	Pn	08 46 56.7	+0.6
BBSP				eS	Sn	08 47 12.4	+0.3
BBGH	Gun Hill	1.22	233	eP	Pn	08 46 57.1	+0.3
BBGH				eS	Sn	08 47 15.1	+1.7
BCHC	Barbados, Cave	1.28	234	eP	Pn	08 46 58.0	+0.4
BCHC				eS	Sn	08 47 16.4	+1.6
MPOM	Morne Pois Mar	2.29	284	eP	Pn	08 47 11.9	+0.3
MPOM				eS	Sn	08 47 39.5	-0.3
MCLT	Moule a Chique	2.32	266	e	Pn	08 47 09.9	-1.9
MCLT	Moule a Chique	2.32	266	eP	Pn	08 47 14.1	+2.2
MCLT				eS	Sn	08 47 38.3	-2.2
SLBI	Saint Lucia, B	2.34	273	eP	Pn	08 47 12.7	+0.4
SLBI	Saint Lucia, B	2.34	273	e	Pb	08 47 16.9	+0.9
SLBI				eS	Sn	08 47 39.5	-1.6
MVM	Montagne Vaucl	2.35	287	eP	Pn	08 47 12.6	+0.2
SLCP	Castries, St.	2.36	273	eP	Pn	08 47 12.7	+0.3
SLCP				eS	Sn	08 47 40.9	-0.6
SLB	Belfond	2.41	269	eP	Pn	08 47 15.4	+2.3
SLB				eS	Sn	08 47 43.1	+0.3
LPMF	Morne Lapointe	2.43	287	eP	Pn	08 47 13.2	-0.2
ZAM	Aeronautique	2.48	286	eP	Pn	08 47 14.0	-0.2
TRMF	Trois Ilets	2.50	285	eP	Pn	08 47 14.0	-0.3
BIM	Bigot	2.51	285	eP	Pn	08 47 14.6	0.0
BIM				eS	Sn	08 47 45.6	+0.4
SFAN	Fancy Village	2.58	259	e	Pn	08 47 17.9	+2.3
SFAN				eS	Sn	08 47 46.4	-0.7
SSV	Crater Summit	2.62	258	eP	Pn	08 47 15.3	-0.8
SSV				eS	Sn	08 47 47.5	-0.5
SVV	Soufriere Volc	2.64	258	eP	Pn	08 47 17.9	+1.6
SVV				eS	Sn	08 47 47.1	-1.4
FDF	Fort de France	2.64	289	eP	Pn	08 47 16.7	+0.3
FDF				eS	Sn	08 47 46.4	-2.2
BAMF	Morne Balai	2.67	290	eP	Pn	08 47 17.4	+0.6
SVB	Belmont	2.69	257	eP	Pn	08 47 16.6	-0.3
SVB				eS	Sn	08 47 48.3	-1.2
PML	Morne Lenard	2.69	290	eP	Pn	08 47 17.7	+0.6
SVN	Savane Anatole	2.69	291	eP	Pn	08 47 18.4	+1.2
PCM	Pelee Case Pet	2.73	290	eP	Pn	08 47 18.0	+0.5
DLPL	La Plaine	2.97	299	eP	Pn	08 47 22.3	+1.5
DLPL				eS	Sn	08 47 56.7	+0.1
GCMP	Grenada, Carri	3.12	244	eP	Pn	08 47 21.9	-0.9
GCMP				eS	Sn	08 47 57.7	-2.5
DSLB	Salisbury	3.16	299	eP	Pn	08 47 24.1	+0.6
DSLB				eS	Sn	08 48 00.6	-0.8
TOSP	Speyside	3.22	217	eP	Pn	08 47 23.5	-0.8
MDCT	Cottage Hill,	3.29	302	eP	Pn	08 47 26.9	+1.6
MDCT				eS	Sn	08 48 03.6	-0.8
MAGL	Barre de l'ile	3.33	308	eP	Pn	08 47 26.6	+0.8
MAGL				eS	Sn	08 48 04.1	-1.4
GRGR	Grenville	3.48	240	eP	Pn	08 47 27.1	-0.8
GRGR				eS	Sn	08 48 07.5	-1.7
TDBA	Terre de Bas,	3.55	304	eP	Pn	08 47 29.8	+0.9
TBG	Guadaloupe-3	3.56	304	eP	Pn	08 47 29.3	+0.3
CBE	Ff, Capester	3.65	307	eP	Pn	08 47 31.2	+0.9
CBE				eS	Sn	08 48 13.3	-0.2
ABD	La Joyeuse, An	3.82	313	eP	Pn	08 47 33.5	+1.0
ABD				eS	Sn	08 48 16.7	-0.8
TRN	Trinidad (W)	4.25	221	eP	Pn	08 47 38.2	-0.4
ANBD	Bethesda, Anti	4.40	316	eP	Pn	08 47 41.0	+0.5
ANBD	Bethesda, Anti	4.40	316	eS	Sn	08 48 31.7	-0.3
BPA	Boggy Peak	4.46	315	eP	Pn	08 47 41.8	+0.4
BPA	Boggy Peak	4.46	315	eS	Sn	08 48 30.9	-2.6
ANDO	Antigua, Disas	4.49	316	eP	Pn	08 47 43.3	+1.5
ANDO	Antigua, Disas	4.49	316	eS	Sn	08 48 32.7	-1.4
ANOC	Antigua Open C	4.50	316	eP	Pn	08 47 42.8	+0.9
ANOC	Antigua Open C	4.50	316	eS	Sn	08 48 32.1	-2.2
ANWB	Willy Bob	4.87	321	eP	Pn	08 47 47.3	+0.3
ANWB	Willy Bob	4.87	321	eS	Sn	08 48 40.9	-2.6
NVDO	Nevis, Disaste	5.06	310	eP	Pn	08 47 50.4	+0.8
SKI	Saint Kitts	5.28	311	eP	Pn	08 47 53.4	+0.7

RSPR 28 09:02:34.8, 19°.67N×66°.12W, h68km±8km, MD3.3/8
NEIC 28 09:02:35.5±1.0, 19°.63N±0°.08×66°.18W±0°.06, h36km±55km, Error ellipse: s-maj=12.2km s-min=7.1km az=194.0
ISC 28 09:02:33.7±1.8, 19°.58N±0°.09×66°.15W±0°.05, h14km, n32, σ0§34/36, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.16	198	eP	Pb	09 02 55.5	+0.1
EMPR	Esperanza - Ma	1.16	198		Pb	09 02 55.5	+0.1
GCPR	Guaynabo City	1.27	177	eP	Pn	09 02 57.1	+0.1
GCPR	Guaynabo City	1.27	177		Pn	09 02 57.1	+0.1
CBYP	Canovanas	1.33	168	eP	Pn	09 02 57.6	-0.3
CBYP	Canovanas	1.33	168		Pn	09 02 57.6	-0.3
AOPR	Arecibo Observ	1.35	205	eP	Pn	09 02 58.1	-0.1
AOPR	Arecibo Observ	1.35	205	eS	Sb	09 03 16.3	+0.3
AOPR	Arecibo Observ	1.35	205		Pn	09 02 58.1	-0.1
AOPR					Sb	09 03 16.3	+0.3
HUMP	Col San Antoni	1.46	169	eP	Pn	09 02 59.6	-0.1
HUMP	Col San Antoni	1.46	169	eS	Sn	09 03 18.6	0.0
HUMP	Col San Antoni	1.46	169		Pn	09 02 59.6	-0.1
HUMP					Sn	09 03 18.6	0.0
SJG	San Juan	1.46	180		Pn	09 02 59.9	+0.2
SJG				IAML		09 03 20.7	
	921nm,0.6s						
CUPR	Culebra, Puert	1.51	147	eP	Pn	09 02 59.9	-0.5
CUPR	Culebra, Puert	1.51	147	eS	Sn	09 03 19.7	-0.2
CUPR	Culebra, Puert	1.51	147		Pn	09 02 59.9	-0.5
CUPR					Sn	09 03

comp=Z,1.5nm,0.9s,baz=343,slow=4.4,SNR=6.1

*IDC **28** 09:13:10.7±1.1,2.67S×138.74E, h0km, mb4.0/4, mb1 4.5/7, mb1mx4.0/37, mbtmp4.4/7, ML4.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/37, Error ellipse: s-maj=34.9km s-min=22.4km az=97.0*

*NEIC **28** 09:13:18.6±1.5,2.7S±0.1×138.41E±0.07, h54km±8km, mb4.2/14, Error ellipse: s-maj=17.5km s-min=4.4km az=149.0*

ISC 28 09:13:15.5±0.7,2.63S±0.09×138.48E±0.09, h32km, n31, σ1§46/30, mb4.1/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.23**	**267**	Pn	**Pn**	**09 14 47.6**	**+2.2**
SIJI	**Sorong**	**7.42**	**284**	Pn	**Pn**	**09 15 04.2**	**+2.5**
	6.4nm,0.3s,baz=182,slow=22,SNR=26						
SIJI				Sn	**Sn**	**09 16 20.8**	**-4.1**
	2.1nm,0.3s,baz=323,slow=20,SNR=1.6						
MTN	**Manton Dam**	**12.48**	**215**	Pn	**Pn**	**09 16 11.7**	**+0.6**
SOEI	**Soe**	**15.79**	**243**	Pn	**Pn**	**09 16 57.1**	**+1.3**
SOEI				IAmb	IAmb	09 17 12.3	
	comp=Z,31nm,0.6s						
KNRA	**Kununurra**	**16.11**	**216**	Pn	**Pn**	**09 16 58.8**	**-1.0**
KNRA				IAmb	IAmb	09 17 02.3	
	comp=Z,25nm,0.5s						
BATI	**Baumata**	**16.53**	**242**	Pn	**P**	**09 17 08.7**	**+1.2**
	comp=Z,10nm,0.3s,baz=50,slow=2.3,SNR=5.5						
GUMO	**Guam**	**17.32**	**21**	LR	LR	09 24 07.0	
	comp=Z,13nm,18.8s,baz=196,slow=38						
WB0	**Warramunga Arr**	**17.49**	**193**	P	**Pn**	**09 17 16.5**	**-0.6**
WR0	**Warramunga Arr**	**17.64**	**192**	P	**Pn**	**09 17 17.8**	**-1.2**
WR0				IAmb	IAmb	09 17 43.0	
	comp=Z,7.6nm,1.0s						
WRAB	**Tennant Creek**	**17.66**	**193**	P	**P**	**09 17 21.9**	**+2.0**
WRAB				IAmb	IAmb	09 17 30.6	
	comp=Z,9.9nm,0.8s						
WB2	**Warramunga Arr**	**17.67**	**193**	P	**Pn**	**09 17 19.5**	**+0.1**
WB2				IAmb	IAmb	09 17 30.3	
	comp=Z,8.6nm,0.7s						
WRA	**Warramunga Arr**	**17.67**	**193**	P	**Pn**	**09 17 18.4**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=16,slow=14,SNR=52						
WRA				S	Sn	09 20 24.2	-11
	comp=Z,0.4nm,0.3s,baz=15,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**17.67**	**193**	P	**Pn**	**09 17 19.5**	**+0.1**
TOLI2	**Tolitoli**	**18.08**	**282**		**P**	**09 17 24.7**	**+0.1**
KAPI	**Kappang**	**18.84**	**262**	LR	LR	09 26 12.7	
	comp=Z,134nm,18.2s,baz=192,slow=41						
AS31	**Alice Springs**	**21.37**	**192**	P	**P**	**09 17 59.9**	**-0.5**
AS31				IAmb	IAmb	09 18 11.5	
	comp=Z,5.1nm,0.8s						
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**09 18 00.1**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=22,slow=11,SNR=58						
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**09 18 00.6**	**+0.1**
MORW	**Morawa**	**33.87**	**217**	P	**P**	**09 19 53.1**	**-2.2**
TUWZ	**Tuamarina**	**50.06**	**145**	P	**P**	**09 22 07.4**	**+0.1**
KHZ	**Kahutara**	**50.49**	**147**	P	**P**	**09 22 10.5**	**-0.1**
KLR	**Kul'dur**	**51.98**	**354**	P	**P**	**09 22 22.6**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=182,slow=4.2,SNR=9.5						
CASY	**Casey**	**66.50**	**192**	P	**P**	**09 24 02.1**	**+0.4**
CASY				IAmb	IAmb	09 24 03.9	
	comp=Z,11nm,1.5s						
MKAR	**Makanchi Array**	**69.59**	**322**	P	**P**	**09 24 21.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=107,slow=6.5,SNR=5.6						
MKAR				LR	LR	09 53 54.9	
	comp=Z,20nm,21.7s,baz=166,slow=35						
MKAR	**Makanchi Array**	**69.59**	**322**	P	**P**	**09 24 20.9**	**-0.8**
OHAK	**Old Harbor**	**80.61**	**31**	P	**P**	**09 25 24.7**	**-0.1**
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**	**09 25 50.5**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=257,slow=4.6,SNR=6.8						
QSPA	**South Pole Qui**	**87.31**	**180**	P	**P**	**09 25 59.8**	**+0.7**
QSPA				IAmb	IAmb	09 26 03.1	
	comp=Z,2.6nm,1.2s						
BMAR	**Burnt Mountain**	**87.42**	**22**		**P**	**09 26 00.5**	**+1.0**
LPAZ	**La Paz**	**147.67**	**126**	PKPbc	**PKPbc**	**09 32 59.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=198,slow=3.3,SNR=8.8						
LPAZ	**La Paz**	**147.67**	**126**		**PKPdf**	**09 32 53.1**	**-2.9**

KRSC 28 09:14:30.4±1.4,50.34N×153.71E, h490km±18km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**3.12**	**60**	*e*P	P	09 15 43.1	+1.9
KDTR				*e*S	S	09 16 39.7	+0.7
GNL	**Ganaly**	**4.25**	**36**	*e*P	P	09 15 50.4	+0.3
UGLR	**Uglovaya**	**4.28**	**46**	*e*P	P	09 15 53.4	+3.0
SPN	**Mys Shipunski**	**4.80**	**52**	*e*P	P	09 15 57.0	+2.3
SPN				*e*S	S	09 17 03.7	-0.1
KZV	**Kizimen**	**6.23**	**37**	*e*P	P	09 16 10.6	+2.2
TUMR	**Tumrok**	**6.30**	**36**	*e*P	P	09 16 11.8	+2.7
MKZ	**Mys Kozlova**	**6.47**	**46**	*e*P	P	09 16 13.0	+2.4
MKZ				*e*S	S	09 17 31.6	-1.2
BDR	**Baidarnaya**	**7.67**	**33**	*e*P	P	09 16 25.0	+2.1
SRKR	**Sorokina**	**7.73**	**32**	*e*P	P	09 16 25.8	+2.3
SMKR	**Semkarok**	**7.78**	**34**	*e*P	P	09 16 26.3	+2.3
KBTR	**Krutoberegovo**	**8.02**	**39**	*e*P	P	09 16 28.5	+2.1

*IDC **28** 09:40:45.0±0.6,30.33N×94.88E, h0km, mb4.5/27, mb1 4.5/30, mb1mx4.4/49, mbtmp4.5/30, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/49, Error ellipse: s-maj=16.2km s-min=11.7km az=27.0*

*BJI **28** 09:40:47.2±0.0,30.35N×94.89E, h7km, mB4.5/20, mb4.5/40, ML4.1/9, Ms4.0/37, Ms7 3.7/35*

*NDI **28** 09:40:47.7±2.8,30.62N×94.81E, h33km, mb4.4, mb4.9(NEIC)*

*MOS **28** 09:40:47.7±1.0,30.38N×94.88E, h29km, mb5.2/50, Error ellipse: s-maj=6.8km s-min=3.7km az=124.2*

*NEIC **28** 09:40:50.3±1.4,30.33N±0.10×94.84E±0.09, h32km±5km, mb4.9/106, Error ellipse: s-maj=13.9km s-min=11.0km az=179.0*

ISC 28 09:40:48.9±0.3,30.38N±0.04×94.82E±0.04, h23km, n446, σ1§41/461, mb4.9/109, MS3.5/6, 24C-14D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.90**	**178**	*e*P	**Pn**	**09 41 36.1**	**+2.4**
LSA	**Lhasa**	**3.25**	**259**	Pn	**Pn**	**09 41 42.0**	**+3.1**
LSA				Sg	**Sb**	**09 42 32.3**	**+6.7**
LSA				LR	LR		
	comp=N,5μm,4.3s						
LSA				LR	LR		
	comp=E,7μm,6.4s						
LSA	**Lhasa**	**3.25**	**259**	P	**Pn**	**09 41 41.6**	**+2.7**
LSA	**Lhasa**	**3.25**	**259**	Pn	**Pn**	**09 41 41.6**	**+2.7**
ITAN	**ITANAGAR**	**3.36**	**197**	*e*P	**Pn**	**09 41 42.1**	**+2.1**
MOKO	**MOKOCHONG**	**4.05**	**184**	*e*P	**Pn**	**09 41 50.6**	**+1.0**
KOHI	**KOHIMA**	**4.68**	**188**	*e*P	**Pn**	**09 41 59.4**	**+1.1**
SHL	**Shillong**	**5.45**	**209**	P	**Pn**	**09 42 08.1**	**-0.8**
SHL	**Shillong**	**5.45**	**209**	*e*P	**Pn**	**09 42 07.6**	**-1.3**
SHL	**Shillong**	**5.45**	**209**	Pn	**Pn**	**09 42 08.1**	**-0.8**
IMP	**Imphal**	**5.58**	**188**	*e*P	**Pn**	**09 42 10.4**	**-0.1**
GTK	**Tadong**	**6.25**	**242**	*e*P	**Pn**	**09 42 21.2**	**+1.4**
CD2	**Chengdu**	**7.72**	**84**	Pn	**Pn**	**09 42 43.0**	**+3.1**
CD2				LR	LR		
	comp=N,1μm,8.4s						
CD2				LR	LR		
	comp=E,870nm,7.3s						
CD2				LR	LR		
	comp=Z,930nm,8.3s						
GUN	**Gumba**	**8.20**	**255**	*e*P	**Pn**	**09 42 46.6**	**-0.1**
	145nm,0.8s						
PKI	**Pulchoki**	**8.70**	**254**	*e*P	**Pn**	**09 42 53.2**	**-0.5**
	76nm,1.0s						
PKIN	**Phulchoki**	**8.71**	**254**	*e*P	**Pn**	**09 42 54.0**	**+0.2**
	20nm,0.4s						
KKN	**Kakani**	**8.73**	**255**	*e*P	**Pn**	**09 42 53.4**	**-0.6**
	107nm,1.0s						
KMI	**Kunming**	**8.75**	**125**	⇑P	**Pn**	**09 42 54.3**	**0.0**
KMI				S	**Sn**	**09 44 38.0**	**+5.7**
KMI				smax	smax		
	comp=N,65nm,1.8s						
KMI				smax	smax		
	comp=E,43nm,2.9s						
KMI				LR	LR		
	comp=N,710nm,5.3s						
KMI				LR	LR		
	comp=E,740nm,4.3s						
KMI				LR	LR		
	comp=Z,260nm,6.2s						
GKN	**Gorkha**	**9.21**	**258**	*e*P	**Pn**	**09 42 58.9**	**-1.6**
	19nm,0.4s						
LZH	**Lanzhou**	**9.46**	**51**	*e*P	**Pn**	**09 43 05.0**	**+1.1**
LZH				pP		09 43 11.3	
LZH				sP		09 43 16.8	
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				LR	LR		
	comp=N,380nm,6.2s						
LZH				LR	LR		
	comp=E,430nm,6.2s						
LZH				LR	LR		
	comp=Z,290nm,12.7s						
DANN	**Dangsing**	**9.86**	**261**	*e*P	**Pn**	**09 43 07.3**	**-2.2**
	61nm,0.8s						
GTA	**Gaotai**	**9.90**	**23**	*e*P	**Pn**	**09 43 13.0**	**+3.1**
GTA				pP		09 43 17.3	
GTA				sP		09 43 20.5	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,51nm,3.6s						
GTA				LR	LR		
	comp=N,310nm,8.8s						
GTA				LR	LR		
	comp=E,270nm,7.6s						
GTA				LR	LR		
	comp=Z,300nm,10.8s						
GYA	**Guiyang**	**11.13**	**108**	⇓P	**Pn**	**09 43 26.5**	**-0.3**
GYA				pP		09 43 36.8	
GYA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**09 43 39.8**	**-0.3**
CHTO	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**09 43 41.3**	**+1.3**
	10nm,1.1s						
CHTO	**Chiang Mai**	**12.11**	**161**	Pn	**Pn**	**09 43 39.8**	**-0.3**
CMMT	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**09 43 41.3**	**+1.2**
	10nm,1.1s						
CMMT	**Chiang Mai**	**12.11**	**161**	P	**Pn**	**09 43 41.3**	**+1.2**
	10nm,1.1s						
CM35	**Chiang Mai Arr**	**12.29**	**160**	P	**Pn**	**09 43 44.0**	**+1.4**
CM36	**Chiang Mai Arr**	**12.43**	**161**	P	**Pn**	**09 43 45.0**	**+0.5**
CM15	**Chiang Mai Arr**	**12.44**	**162**	P	**P**	**09 43 55.2**	**-1.2**
CM31	**Chiang Mai Arr**	**12.44**	**162**	Pn	**Pn**	**09 43 45.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**12.44**	**162**	Pn	**Pn**	**09 43 43.6**	**-1.0**
	baz=333,slow=13,SNR=23						
CMAR	**Chiang Mai Arr**	**12.44**	**162**	*i* P	**Pn**	**09 43 46.0**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**12.44**	**162**	Pn	**Pn**	**09 43 44.1**	**-0.5**
CM02	**Chiang Mai Arr**	**12.47**	**162**	P	**Pn**	**09 43 47.7**	**+2.7**
	comp=Z,9.2nm,1.2s						
CM02	**Chiang Mai Arr**	**12.47**	**162**	P	**Pn**	**09 43 47.0**	**+2.0**
	comp=Z,9.2nm,1.2s						
CM13	**Chiang Mai Arr**	**12.47**	**162**	P	P	09 43 51.5	-5.1
	comp=Z,6.0nm,1.0s						
CM13	**Chiang Mai Arr**	**12.47**	**162**	P	P	09 43 51.0	-5.6
	comp=Z,6.0nm,1.0s						
CM01	**Chiang Mai Arr**	**12.48**	**162**	P	**Pn**	**09 43 48.4**	**+3.2**
	comp=Z,8.6nm,1.0s						
CM01	**Chiang Mai Arr**	**12.48**	**162**	P	**Pn**	**09 43 48.5**	**+3.2**
	comp=Z,8.6nm,1.0s						
XAN	**Xi'an**	**12.49**	**69**	P	**Pn**	**09 43 44.0**	**-1.2**
XAN				S	**Sn**	**09 46 03.3**	**-0.3**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=Z,350nm,9.2s						
XAN				LR	LR		
	comp=Z,310nm,8.1s						
XAN				LR	LR		
	comp=Z,260nm,11.4s						
CM05	**Chiang Mai Arr**	**12.50**	**162**	P	Pn	09 43 51.0	+5.6
	comp=Z,82nmcomp=Z,7.9nm,1.0s						
CM04	**Chiang Mai Arr**	**12.51**	**161**	P	**Pn**	**09 43 48.2**	**+2.6**
	comp=Z,8.5nm,1.1s						
CM04	**Chiang Mai Arr**	**12.51**	**161**	P	**Pn**	**09 43 48.0**	**+2.4**
	comp=Z,8.5nm,1.1s						
ENH	**Enshi**	**12.67**	**87**	Pn	**Pn**	**09 43 48.4**	**+0.6**
UTTA	**Uttaradit**	**13.62**	**156**	P	**P**	**09 44 10.5**	**+1.1**
NONG	**Nongkai**	**14.41**	**146**	P	**P**	**09 44 19.0**	**+0.8**
	comp=Z,32nm,1.2s						
NONG	**Nongkai**	**14.41**	**146**	P	**P**	**09 44 19.0**	**+0.8**
	comp=Z,32nm,1.2s						
WMQ	**Urumqi**	**14.56**	**339**	*e*P	**Pn**	**09 44 12.8**	**-0.8**
WMQ				sP	P	09 44 21.0	+1.1
WMQ				pmax	pmax		
	comp=Z,23nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,51nm,3.7s						
WMQ				LR	LR		
	comp=Z,270nm,12.9s						
WMQ				LR	LR		
	comp=Z,250nm,23.7s						
SMLA	**Simla**	**15.20**	**277**	*e*P	**Pn**	**09 44 17.9**	**-4.2**
SMLA				IAmb	IAmb	09 44 27.9	
	comp=Z,14nm,0.8s						
UTHA	**Uthaitani**	**15.35**	**163**	P	**P**	**09 44 28.9**	**+0.2**
	comp=Z,7.0nm,1.0s						
CHAI	**Chaiyaphum**	**15.84**	**154**	P	**P**	**09 44 34.1**	**+0.1**
	comp=Z,15nm,1.2s						
CHAI	**Chaiyaphum**	**15.84**	**154**	P	**P**	**09 44 34.1**	**+0.1**
	comp=Z,3.8nm,1.2s						
BTO	**Baotou**	**16.02**	**46**	*e*P	**P**	**09 44 36.0**	**-0.1**
BTO				S	**Sn**	**09 47 35.3**	**+5.5**
BTO				LR	LR		
	comp=Z,570nm,10.8s						
BTO				LR	LR		
	comp=Z,340nm,7.4s						
TIY	**Taiyuan**	**16.32**	**59**	*e*P	**P**	**09 44 39.0**	**-0.4**
TIY				LR	LR		
	comp=Z,92nm,10.0s						
TIY				LR	LR		
	comp=Z,220nm,7.0s						
TIY				LR	LR		
	comp=Z,290nm,8.9s						
WHN	**Wuhan**	**16.84**	**84**	⇑P	**Pn**	**09 44 41.5**	**-1.7**
WHN				LR	LR		
	comp=Z,710nm,8.4s						
WHN				LR	LR		
	comp=Z,320nm,9.3s						
WHN				LR	LR		
	comp=Z,520nm,11.4s						
BHPL	**Bhopal**	**17.07**	**250**	*e*P	**Pn**	**09 44 42.7**	**-3.4**
BHPL				IAmb	IAmb	09 44 48.0	
	comp=Z,43nm,0.9s						
HHC	**Hu-ho-hao-te**	**17.14**	**48**	*e*P	**P**	**09 44 49.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,34nm,1.3s						
HHC				pmax	pmax		
	comp=Z,72nm,7.7s						
HHC				LR	LR		
	comp=Z,220nm,9.1s						
HHC				LR	LR		
	comp=Z,120nm,10.2s						
HHC				LR	LR		
	comp=Z,160nm,9.8s						
SHLS	**Shalkode**	**17.69**	**320**	*e*P	**Pn**	**09 44 49.9**	**-3.9**
	baz=321						
SHLS	**Shalkode**	**17.69**	**320**	*e*P	**Pn**	**09 44 49.9**	**-3.9**
QIZ	**Qiongzhong**	**17.70**	**126**	P	**P**	**09 44 56.3**	**+1.6**
QIZ				S	**Sn**	**09 48 11.0**	**+0.5**
QIZ				LR	LR		
	comp=Z,190nm,8.4s						
QIZ				LR	LR		
	comp=Z,130nm,10.6s						
QIZ				LR	LR		
	comp=Z,190nm,8.7s						
TARG	**Taragay, Kyrgy**	**17.79**	**314**	P	**Pn**	**09 44 55.0**	**-0.3**
TARG				IAmb	IAmb	09 45 04.2	
	comp=Z,91nm,1.3s						
PRZ	**Przheval'sk**	**17.87**	**317**	P	**P**	**09 44 57.6**	**+0.9**
PRZ				pmax	pmax		
	comp=Z,173nm,1.2s						
PRZ	**Przheval'sk**	**17.87**	**317**	P	**P**	**09 44 57.6**	**+0.9**
PRZ				IAmb	IAmb	09 45 01.6	
	comp=Z,173nm,1.2s						
KSH	**Kashi**	**17.91**	**306**	P	**P**	**09 44 59.3**	**+2.2**
KSH				sP	sP	09 45 07.5	-1.0
KSH				PP	PnPn	09 45 19.3	+12
KSH				pmax	pmax		
	comp=Z,13nm,1.6s						
SATY	**Saty**	**18.22**	**319**	*e*P	**Pn**	**09 44 59.3**	**-1.0**
	baz=319						
SATY				*e*S	**Sn**	**09 48 25.4**	**+2.3**
	baz=319						
SATY	**Saty**	**18.22**	**319**	*e*P	**Pn**	**09 44 59.3**	**-1.0**
SATY				*e*S	**Sn**	**09 48 25.3**	**+2.3**
KPKS	**Kokpek**	**18.32**	**320**	*e*P	**P**	**09 45 00.3**	**-1.2**
	baz=320						
KPKS	**Kokpek**	**18.32**	**320**	*e*P	**P**	**09 45 00.3**	**-1.2**
KDJ	**Kajisay**	**18.40**	**314**	P	**P**	**09 45 02.3**	**-0.2**
KDJ				pmax	pmax		
	comp=Z,60nm,1.3s						
KDJ	**Kajisay**	**18.40**	**314**		**P**	**09 45 02.3**	**-0.2**
NIL	**Nilore**	**18.58**	**286**	P	**P**	**09 45 01.3**	**-3.0**
NIL				pmax	pmax		
	comp=Z,70nm,1.3s						
NIL	**Nilore**	**18.58**	**286**	P	**P**	**09 45 01.3**	**-3.0**
ZSN	**Zaisan**	**18.70**	**339**	*e*P	**Pn**	**09 45 06.9**	**+0.8**
	baz=339						
ZSN				*e*S	**S**	**09 48 36.7**	**-0.3**
	baz=339						
ZSN	**Zaisan**	**18.70**	**339**	*e*P	**Pn**	**09 45 06.8**	**+0.8**
ZSN				*e*S	**S**	**09 48 36.7**	**-0.3**
MK31	**Makanchi Array**	**19.05**	**333**	P	**P**	**09 45 08.4**	**-1.1**
MK31				pmax	pmax		
	comp=Z,11nm,0.9s						
MK31	**Makanchi Array**	**19.05**	**333**	P	**P**	**09 45 08.4**	**-1.1**
MKAR	**Makanchi Array**	**19.05**	**333**	P	**P**	**09 45 08.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=139,slow=14,SNR=52						
MKAR	**Makanchi Array**	**19.05**	**333**	*i* P	**P**	**09 45 08.5**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**19.05**	**333**		**P**	**09 45 08.1**	**-1.4**
MDOK	**Medeo**	**19.07**	**317**	*e*P	**Pn**	**09 45 10.6**	**-0.1**
	baz=317						
MDOK	**Medeo**	**19.07**	**317**	*e*P	**Pn**	**09 45 10.6**	**-0.1**
MAKZ	**Makanchi**	**19.19**	**332**	P	**P**	**09 45 10.5**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,33nm,1.1s						
MAKZ	**Makanchi**	**19.19**	**332**	P	**P**	**09 45 10.5**	**-0.5**
ARXS	**Arharly**	**19.27**	**320**	*e*P	**Pn**	**09 45 12.9**	**-0.2**
BOOM	**Boomskoye usch**	**19.36**	**314**	P	**P**	**09 45 12.7**	**-0.4**
BOOM				pmax	pmax		
	comp=Z,72nm,1.4s						
BOOM	**Boomskoye usch**	**19.36**	**314**	P	**P**	**09 45 12.7**	**-0.4**
BOOM				IAmb	IAmb	09 45 35.8	
	comp=Z,72nm,1.4s						
TIA	**Tai'an**	**19.52**	**67**	*e*P	**P**	**09 45 14.3**	**-0.3**
TIA				pmax	pmax		
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**09 45 15.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=216,slow=10,SNR=47						
SONM				LR	LR	09 53 33.6	
	comp=Z,68nm,19.1s,baz=144,slow=39						
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**09 45 15.4**	**+0.1**
SONM				pmax	pmax		
	comp=Z,20nm,1.2s						
SONM	**Songino Array**	**19.57**	**24**	P	**P**	**09 45 15.4**	**+0.1**
TKM2	**Tokmak 2**	**19.81**	**314**	P	**Pn**	**09 45 19.2**	**-0.4**
	SNR=9.8						
ULN	**Ulaanbaatar**	**19.83**	**25**	P	**P**	**09 45 18.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**19.83**	**25**	P	**P**	**09 45 18.0**	**-0.1**
BJT	**Baijiatuau**	**19.88**	**55**	P	**P**	**09 45 17.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJT	**Baijiatuau**	**19.88**	**55**	P	**P**	**09 45 17.8**	**-0.7**
KUU	**Kurty**	**19.92**	**318**	*e*P	**P**	**09 45 18.8**	**-0.2**
	comp=Z,46nm,1.2s,baz=318						
KUU	**Kurty**	**19.92**	**318**	*e*P	**P**	**09 45 18.7**	**-0.2**
KUU				pmax	pmax		
	comp=Z,46nm,1.2s						
DGZ	**Jazzator, Alta**	**20.09**	**346**	⇑*e*P	Pn	09 45 22.2	-0.6
DGZ				pmax	pmax		
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**20.35**	**313**	P	**P**	**09 45 24.7**	**+0.8**
	comp=Z,57nm,1.1s,baz=125,slow=8.4,SNR=35						
AAK	**Ala-Archa**	**20.35**	**313**	P	Pn	09 45 26.0	0.0
	SNR=19						
AAK	**Ala-Archa**	**20.35**	**313**	P	Pn	09 45 25.3	-0.6
AAK				pmax	pmax		
	comp=Z,144nm,1.4s						
AAK	**Ala-Archa**	**20.35**	**313**	P	Pn	09 45 25.3	-0.7
FRU1	**Bishkek**	**20.35**	**313**	P	Pn	09 45 25.7	-0.2
FRU1				pmax	pmax		
	comp=Z,72nm,1.2s						
FRU1	**Bishkek**	**20.35**	**313**	P	Pn	09 45 25.7	-0.2
FRU1				IAmb	IAmb	09 45 27.8	
	comp=Z,72nm,1.1s						
CHMS	**Chumysh**	**20.38**	**314**	P	**P**	**09 45 24.7**	**+0.7**
	SNR=17						
NJ2	**Nanjing**	**20.62**	**79**	*e*P	**P**	**09 45 27.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,18nm,0.9s						
USP	**Ospenovka**	**20.67**	**314**	P	**P**	**09 45 28.4**	**+1.2**
	SNR=19						
SGDS	**Sogindy**	**20.69**	**315**	*e*P	**P**	**09 45 26.7**	**-0.7**
	baz=315						
SGDS	**Sogindy**	**20.69**	**315**	*e*P	**P**	**09 45 26.7**	**-0.7**
EKS2	**Erkin-Say**	**20.82**	**312**	P	Pn	09 45 30.7	-0.7
	SNR=17						
ZAK	**Zakamensk**	**20.97**	**15**	*e*P	**P**	**09 45 30.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,33nm,1.1s						
MOY	**Mondy**	**21.76**	**10**	*e*P	**P**	**09 45 40.2**	**+1.4**
MOY				pmax	pmax		
	comp=Z,49nm,2.1s						
BTK	**Batken**	**21.80**	**303**	P	**P**	**09 45 38.2**	**-1.2**
BTK				pmax	pmax		
	comp=Z,115nm,1.3s						
BTK	**Batken**	**21.80**	**303**	P	**P**	**09 45 38.2**	**-1.2**
BTK				IAmb	IAmb	09 45 42.8	
	comp=Z,115nm,1.3s						
GAR	**Garm**	**21.86**	**300**	P	**P**	**09 45 39.1**	**-0.9**
BTLS	**Baital**	**21.92**	**318**	*e*P	**P**	**09 45 39.4**	**-1.1**
	comp=Z,14nm,1.1s,baz=318						
BTLS				*e*S	**S**	**09 49 40.0**	**-1.5**
	baz=318						
BTLS	**Baital**	**21.92**	**318**	*e*P	**P**	**09 45 39.4**	**-1.1**
BTLS				*e*S	**S**	**09 49 40.0**	**-1.5**
BTLS				pmax	pmax		
	comp=Z,14nm,1.1s						
KBL	**Kabul**	**22.12**	**288**	P	**P**	**09 45 42.4**	**-0.6**
KBL				pmax	pmax		
	comp=Z,157nm,1.3s						
KBL	**Kabul**	**22.12**	**288**		**P**	**09 45 42.4**	**-0.6**
CHGR	**Chuyangaron**	**22.65**	**298**	P	**P**	**09 45 47.5**	**-1.0**
SEM	**Semipalatinsk**	**22.80**	**335**	*e*P	**P**	**09 45 48.9**	**-1.2**
	baz=336						
SEM	**Semipalatinsk**	**22.80**	**335**	*e*P	**P**	**09 45 48.9**	**-1.2**
TRTT	**Trang**	**22.88**	**168**	P	**P**	**09 45 51.6**	**+0.7**
	comp=Z,29nm,1.3s						
TRTT	**Trang**	**22.88**	**168**	P	**

CN2 pmax pmax
comp=Z,20nm,1.5s
CN2 LR LR
comp=Z,100nm,11.0s
CN2 LR LR
comp=Z,130nm,11.0s
CN2 LR LR
comp=Z,160nm,12.0s
HRA Herat 27.73 287 P **P** 09 46 35.2 -0.7
KSRS Korea Array 28.26 67 P **P** 09 46 39.5 -0.8
comp=Z,0.4nm,0.4s,baz=262,slow=8.7,SNR=4.7
BVAR Borovoye Array 28.81 329 P **P** 09 46 45.5 +0.4
comp=Z,7.3nm,1.0s,baz=172,slow=21,SNR=27
BRVK Borovoye 28.88 329*d i*P **P** 09 46 46.7 +1.1
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 28.88 329 P **P** 09 46 46.0 +0.3
BRVK IAmb IAmb 09 46 48.7
comp=Z,25nm,1.0s
GSI Gunungsitoli 29.03 174 P **P** 09 46 46.6 -0.7
comp=Z,57nm,1.6s
BKNI Bangkinang 30.46 168 P **P** 09 46 59.3 -0.7
comp=Z,54nm,0.5s
MDJ Mudanjiang 30.78 53 P **P** 09 47 02.8 +0.2
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ pmax pmax
comp=Z,61nm,4.3s
GEYT Alibeck 31.14 294 P **P** 09 47 06.0 +0.1
comp=Z,10nm,1.1s,baz=131,slow=6.7,SNR=10
GYA0B ALIBECK ARRAY 31.14 294 P **P** 09 47 06.2 +0.3
GYA0B IAmb IAmb 09 47 09.8
comp=Z,25nm,1.2s
ABKAR Akbulak array 32.37 316 P **P** 09 47 16.9 +0.4
ZEA Zeya 33.06 36 *eP* **P** 09 47 23.4 +0.9
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=Z,100nm,9.0s
KLR Kul'dur 33.61 45 P **P** 09 47 27.7 +0.3
comp=Z,6.0nm,1.0s,baz=261,slow=10,SNR=8.8
KLR Kul'dur 33.61 45⇓*eP* **P** 09 47 26.8 -0.6
STKI Sintang 34.05 149 P **P** 09 47 31.9 +0.4
PMBI Palembang 34.45 162 P **P** 09 47 35.0 0.0
SVE Sverdlovsk 35.58 328⇑*eP* **P** 09 47 45.7 +1.4
SVE pmax pmax
comp=Z,45nm,1.1s
ARU Arti 36.34 326*c i*P **P** 09 47 51.6 +0.8
ARU 09 49 12.3
ARU S **S** 09 53 32.7 +2.3
ARU SS **SnSn** 09 56 01.5 +3.2
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 36.34 326 P **P** 09 47 51.3 +0.5
ARU IAmb IAmb 09 47 53.2
comp=Z,36nm,1.3s
MJAR Matsushiro Arr 36.48 69 P **P** 09 47 53.1 +0.8
comp=Z,1.9nm,0.7s,baz=272,slow=8.4,SNR=4.2
MTKI Muara Teweh, K 36.55 145 P **P** 09 47 53.0 0.0
YAK Yakutsk 38.92 25⇑*eP* **P** 09 48 11.9 -0.6
YAK pmax pmax
comp=Z,12nm,0.8s
NRIK Noril'sk 39.23 356 P **P** 09 48 13.7 -1.4
comp=Z,1.8nm,0.4s,baz=149,slow=6.3,SNR=7.5
NRIK Noril'sk 39.23 356*de*P **P** 09 48 15.1 +0.1
NRIK pmax pmax
comp=Z,15nm,1.3s
NRIK Noril'sk 39.23 356 P **P** 09 48 14.5 -0.5
AKT Akhty 39.27 300 *eP* **P** 09 48 16.6 +0.6
AKT *e* 09 50 25.3
AKT pmax pmax
comp=Z,31nm,1.4s
SEKA Sheki 39.67 299 P **P** 09 48 20.3 +1.1
MNGR Mingechevir, A 39.76 299 P **P** 09 48 21.5 +1.7
KPJI Karang Pucung 39.87 158 P **P** 09 48 21.6 +0.7
comp=Z,24nm,3.0s
ASAJ Asahikawa 39.88 56 P **P** 09 48 20.2 -0.7
comp=Z,7.7nm,1.1s,baz=262,slow=24,SNR=4.5
JKA Kamikawa-asahi 39.89 56 P **P** 09 48 20.2 -0.6
ZKTA Zakatala 40.11 300 P **P** 09 48 23.3 +0.5
ERM Erimo 40.22 60*ce*P **P** 09 48 24.2 +0.6
ERM pmax pmax
comp=Z,31nm,2.5s
JEM Erimo 40.22 60 P **P** 09 48 20.6 -3.0
YSS Yuzh-Sakhalins 40.26 52*de*P **P** 09 48 23.7 -0.2
YSS pmax pmax
comp=Z,45nm,1.3s
YSS Yuzh-Sakhalins 40.26 52 P **P** 09 48 23.3 -0.5
YSS IAmb IAmb 09 48 25.4
comp=Z,35nm,1.1s
GANJ Ganja 40.34 298 P **P** 09 48 25.9 +1.2
LGD Lagodekhi 40.39 300 P **P** 09 48 27.1 +2.0
DDFL Dedoflistskaro 40.49 300 P **P** 09 48 29.6 +3.6
GROC Groznyy 40.75 302 *eP* **P** 09 48 29.5 +1.5
GROC *e* 09 50 23.4
GROC *e*S **S** 09 54 44.2 +7.0
GROC pmax pmax
comp=Z,24nm,0.6s
BELG Belogornoye 40.76 316⇑*eP* **P** 09 48 27.5 -0.4
BELG pmax pmax
comp=Z,5.0nm,1.3s
MIB Mutribah 40.85 282 *eP* **P** 09 48 27.6 -1.4
RDF Al-Radifah 40.87 280 *eP* **P** 09 48 28.1 -1.2
NAX Nakhchivan 41.03 296 P **P** 09 48 31.6 +1.1
RST Umm Al-Ruwaisa 41.21 281 *eP* **P** 09 48 30.4 -1.6
GNI Garni 41.56 298 P **P** 09 48 36.7 +1.8
comp=Z,7.4nm,0.5s,baz=152,slow=7.1,SNR=9.4
GNI Garni 41.56 298 P **P** 09 48 37.0 +2.0
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 41.56 298 P **P** 09 48 37.0 +2.0
GNI IAmb IAmb 09 48 39.4
comp=Z,35nm,1.3s
KIRV Kirov 41.72 326 P **P** 09 48 36.8 +1.0
comp=Z,34nm,0.5s,baz=108,slow=6.4,SNR=11
KIRV Kirov 41.72 326*de*P **P** 09 48 36.5 +0.8
KZRT Kazreti 41.78 299 P **P** 09 48 37.9 +1.3
ZEI Tsey 42.13 302 *eP* **P** 09 48 40.8 +1.2
ZEI pmax pmax
comp=Z,21nm,1.3s
AKH Akhalkalaki 42.46 300 P **P** 09 48 44.9 +2.6
ONI Oni 42.46 301 P **P** 09 48 44.1 +1.9
ONI pmax pmax
comp=Z,68nm,1.3s
ONI Oni 42.46 301 P **P** 09 48 44.1 +1.9
GOF Gofitskoye 42.78 305⇑*eP* **P** 09 48 45.3 +0.6
GOF pmax pmax
comp=Z,86nm,1.1s
KARS Kars 42.81 298 P **P** 09 48 47.2 +2.1
KARS pmax pmax
comp=Z,103nm,1.4s
KARS Kars 42.81 298 P **P** 09 48 47.2 +2.1
KBZ Khabaz 42.87 303 P **P** 09 48 47.2 +1.9
comp=Z,0.9nm,0.5s,baz=70,slow=16,SNR=4.7
KBZ Khabaz 42.87 303⇓*eP* **P** 09 48 45.8 +0.5
KBZ pmax pmax
comp=Z,7.0nm,1.4s
KIV Kislovodsk 43.02 303 *eP* **P** 09 48 48.2 +1.5
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 43.02 303 P **P** 09 48 48.3 +1.5
KIV IAmb IAmb 09 48 50.3
comp=Z,32nm,1.3s
PRGR Permogore 44.62 329 *eP* **P** 09 48 58.2 -1.0
PRGR pmax pmax
comp=Z,4.0nm,0.6s
SOC Sochi 45.18 303 *i*P **P** 09 49 02.9 -1.0
SOC *e* 09 50 52.9
SOC *e*PPP PPP 09 51 31.4
SOC *e*S **S** 09 55 41.8 -0.5
SOC *e*SSS SSS 09 59 53.2
SOC pmax pmax
comp=Z,29nm,1.1s
MALT Malatya 46.61 296 P **P** 09 49 18.3 +2.9
MOS Moscow 47.18 320 *eP* **P** 09 49 18.8 -0.6
MOS *e* 09 51 08.7
MOS pmax pmax
comp=Z,54nm,1.1s
KLMR Klimovskoe 47.19 327 *eP* **P** 09 49 19.4 0.0
KLMR *e* 09 51 10.5
KLMR pmax pmax
comp=Z,48nm,1.1s
KLMR Klimovskoe 47.19 327 *eP* **P** 09 49 19.4 0.0

KLMR AMP 09 49 21.4
comp=Z,48nm,1.1s
KLMR *e*PP **PP** 09 51 10.6 +0.3
OBN Obninsk 47.70 319 *i*P **P** 09 49 23.0 -0.4
OBN *i* 09 50 52.8
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,34nm,17.0s
GAZ Gaziantep 47.74 294 P **P** 09 49 24.1 -0.1
GAZ IAmb IAmb 09 49 26.5
comp=Z,10nm,1.1s
BNN Bunyan 48.54 297 P **P** 09 49 31.1 +0.6
BZK Bozkurt 49.50 301 ⇓P **P** 09 49 38.0 +0.4
BZK Bozkurt 49.50 301 P **P** 09 49 37.6 +0.1
BRTR Keskin Array B 50.09 298 P **P** 09 49 42.4 +0.1
BRTR Keskin Array B 50.09 298 P **P** 09 49 42.4 +0.1
PEA0B Petropavlovsk- 50.29 44 P **P** 09 49 43.2 -0.2
PEA0B pmax pmax
comp=Z,14nm,1.1s
PEA0B Petropavlovsk- 50.29 44 P **P** 09 49 43.2 -0.2
PEA0B IAmb IAmb 09 49 44.5
comp=Z,14nm,1.1s
PETK Petropavlovsk- 50.29 44 P **P** 09 49 43.2 -0.1
comp=Z,3.9nm,1.0s,baz=224,slow=4.1,SNR=7.1
PETK Petropavlovsk- 50.29 44 P **P** 09 49 43.5 +0.1
PETK Petropavlovsk- 50.29 44 P **P** 09 49 43.5 +0.1
ANTO Ankara 50.71 299 P **P** 09 49 47.6 +0.7
ANTO pmax pmax
comp=Z,54nm,1.3s
ANTO Ankara 50.71 299 P **P** 09 49 47.6 +0.7
BR231 Keskin MP Arra 50.73 299 P **P** 09 49 48.5 +1.5
JOF Joensuu 51.41 328 P **P** 09 49 52.4 +0.8
JOF pmax pmax
comp=Z,20nm,1.6s
MDUB Mudurnu 51.81 300 P **P** 09 49 55.8 +0.6
AKASG Malin Array Be 52.02 313 P **P** 09 49 55.9 -0.4
comp=Z,11nm,1.0s,baz=79,slow=6.7,SNR=27
AKASG Malin Array Be 52.02 313 P **P** 09 49 56.0 -0.4
AKASG pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 52.02 313 P **P** 09 49 56.0 -0.4
AKBB Malin Array Si 52.02 313 P **P** 09 49 56.1 -0.3
AKBB pmax pmax
comp=Z,36nm,1.3s
AKBB Malin Array Si 52.02 313 P **P** 09 49 56.1 -0.3
MNK Minsk 52.69 318 *i*P **P** 09 50 00.9 -0.4
MNK *i* 09 51 10.4
MNK *i* 09 52 00.3
MNK *i*PPP PPP 09 53 04.6
MNK *i*S **S** 09 57 27.6 +0.1
MNK *i*SS **SS** 10 00 56.9 -8.9
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK Minsk 52.69 318 *i*P **P** 09 50 01.0 -0.3
comp=E,1.0nm,0.8s
MNK *i*P **P** 09 50 01.0 -0.3
comp=N,8.0nm,0.8s
MNK *i*P **P** 09 50 01.0 -0.3
comp=Z,14nm,0.8s,baz=89
MNK *i*PcP **PcP** 09 51 10.4 -0.4
MNK *i*PP **PP** 09 52 00.4 0.0
MNK *i*PPP PPP 09 53 04.7
MNK *i*ScP ScP 09 54 36.6 -30
MNK *i*PcS **PcS** 09 55 09.1 -0.1
MNK *i*S **S** 09 57 27.6 +0.1
MNK *i*ScS ScS 09 59 02.2 -47
MNK *i*SS **SS** 10 00 57.0 -8.8
MNK *i*SSS SSS 10 03 17.0
MNK *i*LQ LQ 10 08 43.0
MNK *i*LR LR 10 15 31.0
MNK *i*LRM MLR 10 18 57.4
comp=E,47nm,18.1s
MNK *i*LRM MLR 10 18 59.2
comp=N,732nm,18.1s
MNK *i*LRM MLR 10 20 05.2
comp=Z,72nm,18.1s
SORM Soroca 52.79 310 ⇑P **P** 09 50 01.6 -0.6
SORM Soroca 52.79 310 ⇑P **P** 09 50 01.6 -0.6
ISP Isparta 52.84 296 P **P** 09 50 02.7 -0.1
ISP pmax pmax
comp=Z,13nm,0.8s
ISP Isparta 52.84 296 P **P** 09 50 02.7 -0.1
ISP IAmb IAmb 09 50 29.3
comp=Z,12nm,0.8s
TPGR Topolog 53.15 305 ⇑P **P** 09 50 05.8 +0.9
TIRR Tirgusor 53.21 305 ⇑P **P** 09 50 05.9 +0.6
TIRR Tirgusor 53.21 305 P **P** 09 50 05.6 +0.3
TIRR pmax pmax
comp=Z,29nm,1.3s
TIRR Tirgusor 53.21 305 P **P** 09 50 05.6 +0.3
TIRR IAmb IAmb 09 50 06.6
comp=Z,29nm,1.3s
CFR Carcaliu 53.30 306 ⇓P **P** 09 50 06.0 0.0
CFR Carcaliu 53.30 306 ⇓P **P** 09 50 06.0 0.0
VSU Vasula 53.30 323 *eP* **P** 09 50 06.1 +0.4
VSU Vasula 53.30 323*de*P **P** 09 50 06.3 +0.5
VSU pmax pmax
comp=Z,71nm,1.0s
ELL Elmali 53.55 295 P **P** 09 50 07.7 -0.5
ELL pmax pmax
comp=Z,102nm,1.0s
ELL Elmali 53.55 295 P **P** 09 50 07.7 -0.5
IIGN Ignalina 53.62 319 *eP* **P** 09 50 09.0 +0.9
ISAL Salakas 53.67 319 *eP* **P** 09 50 09.8 +1.3
ICOR Ion Corvin 53.70 305 ⇑P **P** 09 50 09.1 +0.2
FINES FINESS Array B 53.72 326 P **P** 09 50 09.1 +0.4
comp=Z,3.4nm,0.6s,baz=95,slow=8.5,SNR=15
FINES FINESS Array B 53.72 326 *i*P **P** 09 50 09.3 +0.6
FINES pmax pmax
comp=Z,3.0nm,0.6s
VRI Vrincioaia 54.18 307 ⇑P **P** 09 50 13.1 +0.7
VRI Vrincioaia 54.18 307 ⇑P **P** 09 50 13.1 +0.7
PLOR Plostina 54.24 307 ⇓P **P** 09 50 14.1 +1.2
PLOR Plostina 54.24 307 ⇓P **P** 09 50 14.1 +1.2
ISR Istrita 54.42 306 ⇑P **P** 09 50 15.3 +1.0
ISR Istrita 54.42 306 ⇑P **P** 09 50 15.3 +1.0
BIZ Bicaz 54.45 308 ⇑P **P** 09 50 14.4 0.0
MEF Metsahovi 54.51 325 *eP* **P** 09 50 15.7 +1.1
MLR Muntele Rosu 54.78 307 ⇑P **P** 09 50 17.7 +0.8
MLR Muntele Rosu 54.78 307 P **P** 09 50 17.3 +0.3
MLR pmax pmax
comp=Z,51nm,1.3s
MLR Muntele Rosu 54.78 307 P **P** 09 50 17.3 +0.3
MTSE Matsula 54.83 323 *eP* **P** 09 50 16.1 -0.8
PABE Paberze 54.90 319 *eP* **P** 09 50 17.4 0.0
PABE Paberze 54.90 319 P **P** 09 50 18.0 +0.6
BURAR Bucovina Array 54.95 309 P **P** 09 50 17.3 -0.8
BUR08 Bucovina Ar. S 54.96 309 P **P** 09 50 18.6 +0.5
BILL Bilibino 55.28 26 *i*P **P** 09 50 20.5 +0.5
BILL *i* 09 51 17.8
BILL pmax pmax
comp=Z,6.0nm,1.1s
BILL MLR MLR
comp=Z,35nm,16.0s
VOIR 55.41 307 ⇑P **P** 09 50 21.9 +0.5
VOIR 55.41 307 ⇑P **P** 09 50 21.9 +0.5
LVV L'vov 55.42 312 *eP* **P** 09 50 22.2 +0.8
SUW Suwalki 55.47 317 *eP* **P** 09 50 22.9 +1.3
SUW Suwalki 55.47 317 P **P** 09 50 21.5 -0.1
SUW pmax pmax
comp=Z,46nm,0.3s
SUW Suwalki 55.47 317 P **P** 09 50 21.5 -0.1
ALN Alexandroupoli 55.58 301 P **P** 09 50 22.2 -0.4
ALN pmax pmax
comp=Z,28nm,1.3s
ALN Alexandroupoli 55.58 301 P **P** 09 50 22.2 -0.4
ALN IAmb IAmb 09 50 24.4
comp=Z,28nm,1.3s
RAF Rauma 55.80 326 *eP* **P** 09 50 26.8 +3.0
UZH Uzhgorod 56.73 311 *eP* **P** 09 50 32.3 +1.6
UZH *i* 09 50 36.3
UZH *i* 09 50 45.3
SANT Santorini 57.12 296 P **P** 09 50 32.6 -1.1
MDVR Moldovita 57.85 306 ⇓P **P** 09 50 37.7 -1.1
UPP Uppsala 57.92 324 *eP* **P** 09 50 40.2 +1.3
OJC Ojcow 58.06 313 P **P** 09 50 40.3 +0.2
OJC pmax pmax
comp=Z,10.0nm,1.0s

OJC Ojcow 58.06 313 P **P** 09 50 40.3 +0.2
OJC IAmb IAmb 09 50 42.2
comp=Z,9.8nm,1.0s
AGG Agios Georgios 58.80 300 P **P** 09 50 43.8 -1.7
AGG pmax pmax
comp=Z,47nm,1.5s
AGG Agios Georgios 58.80 300 P **P** 09 50 43.8 -1.7
FNA Florina 59.04 302 P **P** 09 50 46.2 -1.0
FNA pmax pmax
comp=Z,7.0nm,1.0s
FNA Florina 59.04 302 P **P** 09 50 46.2 -1.0
FNA IAmb IAmb 09 50 47.0
comp=Z,7.3nm,1.0s
DIVS Divibare 59.21 306 P **P** 09 50 47.5 -0.8
DIVS IAmb IAmb 09 50 51.3
comp=Z,15nm,1.4s
KBN Korca 59.52 302 P **P** 09 50 49.8 -0.7
KBN pmax pmax
comp=Z,25nm,1.0s
KBN Korca 59.52 302 P **P** 09 50 49.8 -0.7
MORC Moravsky Berou 59.57 313 ⇑P **P** 09 50 51.7 +1.1
MORC Moravsky Berou 59.57 313 P **P** 09 50 51.5 +0.8
MORC pmax pmax
comp=Z,15nm,1.4s
MORC Moravsky Berou 59.57 313 P **P** 09 50 51.5 +0.8
MORC IAmb IAmb 09 50 52.3
comp=Z,15nm,1.4s
MORC Moravsky Berou 59.57 313 *eP* **P** 09 50 50.8 +0.1
ITM Ithomi 59.62 298 P **P** 09 50 50.1 -1.0
JAVC Velka Javorina 59.69 312 *eP* **P** 09 50 52.1 +0.6
KRLC Kraliky 59.99 313 *eP* **P** 09 50 54.4 +0.9
KRLC Kraliky 59.99 313 *eP* **P** 09 50 54.4 +0.9
PDG Podgorica 60.15 304 ⇑P **P** 09 50 54.9 +0.2
MPLH Magyarpolny 60.15 310 *eP* **P** 09 50 56.5 +1.9
DPC Dobruska-Polom 60.22 314 *eP* **P** 09 50 56.1 +1.0
DPC Dobruska-Polom 60.22 314 *eP* **P** 09 50 56.1 +1.0
OSTC Ostas 60.24 314 *eP* **P** 09 50 56.2 +1.0
VRAC Vranov 60.28 312 *eP* **P** 09 50 55.8 +0.3
CHVC Chvalec 60.33 314 *eP* **P** 09 50 57.4 +1.6
KRUC Moravsky 60.46 312 *eP* **P** 09 50 57.1 +0.4
NC405 NORSAR Array S 60.64 326 P **P** 09 50 56.2 -1.5
SOP Sopron 60.68 311 *eP* **P** 09 51 01.5 +3.3
NB2 NORSAR Subarra 60.90 326 P **P** 09 50 58.1 -1.4
comp=Z,1.4nm,0.6s,baz=78,slow=6.9
NOA NORSAR Array B 60.90 326 P **P** 09 50 58.4 -1.2
comp=Z,3.7nm,0.8s,baz=79,slow=6.7,SNR=9.8
BRG Berggiesshubel 61.57 315 *eP* **P** 09 51 04.5 +0.3
BRG Amp 09 51 06.6
comp=Z,8.3nm,1.2s
CKRC Cesky Krumlov 61.85 312 *eP* **P** 09 51 07.7 +1.5
CLL Collm 62.04 315 *eP* **P** 09 51 07.0 -0.3
CLL Collm 62.04 315 *eP* **P** 09 51 07.0 -0.3
GEC2 GERESS Array S 62.23 312 P **P** 09 51 08.9 +0.1
GEC2 IAmb IAmb 09 51 21.8
comp=Z,7.4nm,0.7s
GERES GERESS Array B 62.23 312 P **P** 09 51 09.8 +1.0
comp=Z,1.2nm,0.6s,baz=64,slow=6.1,SNR=7.5
GERES GERESS Array B 62.23 312 P **P** 09 51 09.1 +0.3
WRA Warramunga Arr 62.83 138 P **P** 09 51 12.3 -0.7
comp=Z,1.3nm,0.8s,baz=324,slow=8.3,SNR=14
WRA Warramunga Arr 62.83 138 P **P** 09 51 12.1 -0.9
WB2 Warramunga Arr 62.84 138 P **P** 09 51 12.2 -0.8
WB2 IAmb IAmb 09 51 26.5
comp=Z,13nm,1.3s
WR0 Warramunga Arr 62.97 138 P **P** 09 51 12.2 -1.7
WR0 IAmb IAmb 09 51 14.3
comp=Z,9.9nm,1.2s
KMBO Kilima Mbogo 63.03 251 P **P** 09 51 14.3 -0.4
comp=Z,1.0nm,0.3s,baz=356,slow=7.3,SNR=4.1
MURB Monte Urbino 64.64 307 P **P** 09 51 24.0 -0.9
GAMB Gambell 64.69 29 P **P** 09 51 23.9 -0.7
baz=287
AS31 Alice Springs 65.53 141 P **P** 09 51 30.3 -0.4
ASAR Alice Springs 65.53 141 P **P** 09 51 29.9 -0.8
comp=Z,1.0nm,0.4s,baz=324,slow=6.2,SNR=34
ASAR Alice Springs 65.53 141 P **P** 09 51 29.4 -1.2
RDOG Red Dog Mine 66.60 24 P **P** 09 51 36.1 -0.9
baz=293
LPL La Plagne 67.79 311 *eP* **P** 09 51 46.1 +0.9
LPL pmax pmax
comp=Z,34nm,1.4s
KEST Kesra 69.63 300 P **P** 09 51 56.2 -0.5
comp=Z,8.6nm,1.1s,baz=154,slow=0.7,SNR=7.3
KEST Kesra 69.63 300 P **P** 09 51 56.4 -0.3
KEST IAmb IAmb 09 51 58.0
comp=Z,26nm,1.4s
EUNU Eureka 69.80 0 P **P** 09 51 58.2 +1.2
EUNU IAmb IAmb 09 51 59.6
comp=Z,24nm,1.3s
TOLK Toolik Lake Re 70.65 20 P **P** 09 52 01.4 -0.9
baz=304
TOLK Toolik Lake Re 70.65 20 P **P** 09 52 02.1 -0.2
TOLK IAmb IAmb 09 52 03.7
comp=Z,11nm,1.1s
IMAR Indian Mountai 70.74 24 P **P** 09 52 02.4 -0.4
CAF Calviac 71.06 311 *eP* **P** 09 52 06.2 +1.0
CAF pmax pmax
comp=Z,16nm,1.2s
J20K Nowinta River 71.55 26 P **P** 09 52 06.0 -1.7
baz=302,SNR=9.0
I21K Tanana 71.79 24 P **P** 09 52 08.2 -1.0
baz=303
K20K Telida 72.01 26 P **P** 09 52 09.8 -0.7
baz=302,SNR=6.6
FALS False Pass 72.02 37 P **P** 09 52 10.1 -0.6
baz=297
H23K Yukon River 72.27 23 P **P** 09 52 11.5 -0.6
baz=305
MLY Manley 72.31 24 P **P** 09 52 11.3 -1.1
baz=304,SNR=7.8
L19K White Mountain 72.33 27 P **P** 09 52 11.4 -1.1
baz=302,SNR=6.7
CHUM Lake Minchumin 72.39 25 P **P** 09 52 12.1 -0.7
baz=303
SUMG Summit 72.46 347 P **P** 09 52 12.8 -0.8
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG Summit 72.46 347 P **P** 09 52 12.8 -0.8
SVW2 Sparrevohn 72.61 29 P **P** 09 52 15.0 +0.9
SVW2 IAmb IAmb 09 52 16.6
comp=Z,14nm,1.2s
M19K Big River Lodg 72.66 28 P **P** 09 52 13.0 -1.4
baz=302
N18K Kilae Creek 72.69 29 P **P** 09 52 13.4 -1.2
baz=301
I23K Minto, Yukon-K 72.73 23 P **P** 09 52 14.2 -0.5
baz=306
I23K Minto, Yukon-K 72.73 23 P **P** 09 52 15.7 +1.0
BPAW Bear Paw Mtn. 72.75 25 P **P** 09 52 13.7 -1.3
baz=304,SNR=9.9
BPAW Bear Paw Mtn. 72.75 25 P **P** 09 52 14.7 -0.2
BPAW IAmb IAmb 09 52 17.4
comp=Z,13nm,1.2s
H24K Noodor Dome 72.82 23 P **P** 09 52 14.8 -0.5
baz=306
BMAR Burnt Mountain 72.88 20 P **P** 09 52 16.2 +0.5
PPLA Purkeypile 72.98 26 P **P** 09 52 15.6 -0.9
baz=304
PPLA Purkeypile 72.98 26 P **P** 09 52 16.7 +0.2
PPLA IAmb IAmb 09 52 18.6
comp=Z,30nm,1.3s
KTH Kantishna Hill 73.09 25 P **P** 09 52 17.3 +0.2
KTH IAmb IAmb 09 52 19.8
comp=Z,18nm,1.4s
NEA2 Nenana 73.15 24 P **P** 09 52 16.5 -0.8
baz=306,SNR=7.6
NEA2 Nenana 73.15 24 P **P** 09 52 16.8 -0.5
M20K Styx River 73.18 27 P **P** 09 52 16.7 -0.9
baz=303
N19K Bonanza Creek 73.21 29 P **P** 09 52 16.9 -0.9
baz=302
FYU Fort Yukon 73.22 21 P **P** 09 52 18.3 +0.7
FYU IAmb IAmb 09 52 20.4
comp=Z,22nm,1.5s
MDM Murphy Dome 73.23 23 P **P** 09 52 17.5 -0.3
MDM IAmb IAmb 09 52 19.6
comp=Z,15nm,1.3s
SDPT Sand Point 73.28 35 P **P** 09 52 16.8 -1.3
baz=299
TRF Thorofare Moun 73.38 25 P **P** 09 52 18.0 -0.8
baz=305
POKR Poker Plat Res 73.40 23 P **P** 09 52 17.7 -1.1
baz=307
TCOL CIGO, UAF Yank 73.40 23 P **P** 09 52 17.1 -1.6
baz=307

TCOL	**CIGO, UAF Yank**	**73.40**	**23**	P	**P**	**09 52 19.4 +0.7**
TCOL				IAmb	IAmb	09 52 20.5
	comp=Z,15nm,1.1s					
COLA	**College**	**73.41**	**23**	P	**P**	**09 52 19.7 +1.0**
COLA				pmax	pmax	
	comp=Z,14nm,1.1s					
COLA	**College**	**73.41**	**23**	P	**P**	**09 52 17.2 -1.5**
	baz=307					
COLA	**College**	**73.41**	**23**	P	**P**	**09 52 19.7 +1.0**
COLA				IAmb	IAmb	09 52 20.4
	comp=Z,14nm,1.1s					
O18K	**Koktuh Hills**	**73.42**	**30**	P	**P**	**09 52 17.8 -1.1**
	baz=302					
CCB	**Clear Creek Bu**	**73.56**	**23**	P	**P**	**09 52 19.8 +0.2**
O19K	**Port Alsworth**	**73.61**	**29**	P	**P**	**09 52 18.9 -1.2**
	baz=303					
MCK	**McKinley**	**73.71**	**25**	P	**P**	**09 52 19.5 -1.1**
	baz=306					
SKT	**Skwentna**	**73.75**	**27**	P	**P**	**09 52 19.5 -1.4**
	baz=304,SNR=7.7					
SKT	**Skwentna**	**73.75**	**27**	P	**P**	**09 52 20.7 -0.2**
SKT				IAmb	IAmb	09 52 22.2
	comp=Z,19nm,1.4s					
PRP	**Porcupine Dome**	**73.79**	**22**	P	**P**	**09 52 19.6 -1.6**
	baz=309,SNR=13					
PRP	**Porcupine Dome**	**73.79**	**22**	P	**P**	**09 52 21.4 +0.2**
PRP				IAmb	IAmb	09 52 23.3
	comp=Z,12nm,1.2s					
IL31		**73.80**	**23**	P	**P**	**09 52 22.1 +1.1**
ILAR	**Eielson Array**	**73.80**	**23**	P	**P**	**09 52 20.8 -0.3**
	comp=Z,3.4nm,1.0s,baz=295,slow=4.9,SNR=29					
ILAR	**Eielson Array**	**73.80**	**23**	P	**P**	**09 52 20.3 -0.8**
RND	**Reindeer**	**73.93**	**25**	P	**P**	**09 52 22.2 +0.2**
RND				pmax	pmax	
	comp=Z,15nm,1.5s					
RND	**Reindeer**	**73.93**	**25**	P	**P**	**09 52 22.2 +0.2**
RND				IAmb	IAmb	09 52 23.1
	comp=Z,15nm,1.5s					
CHNA	**Chernabura Isl**	**73.98**	**35**	P	**P**	**09 52 21.0 -1.2**
	baz=300					
HDA	**Harding Lake**	**74.00**	**23**	P	**P**	**09 52 21.2 -1.1**
	baz=308					
SUA	**Susitna One**	**74.35**	**27**	P	**P**	**09 52 23.1 -1.5**
	baz=305					
WAT1	**Susitna Watana**	**74.39**	**25**	P	**P**	**09 52 23.2 -1.4**
	baz=307					
WAT6	**Susitna Watana**	**74.83**	**25**	P	**P**	**09 52 26.0 -1.3**
	baz=307					
PMR	**Palmer**	**74.91**	**26**	P	**P**	**09 52 27.9 +0.3**
PMR	**Palmer**	**74.91**	**26**	P	**P**	**09 52 26.8 -0.7**
	baz=306					
PMR	**Palmer**	**74.91**	**26**	P	**P**	**09 52 27.9 +0.3**
RC01	**Rabbit Creek A**	**74.97**	**27**	P	**P**	**09 52 26.6 -1.3**
	baz=306					
SML	**Sawmill**	**75.08**	**26**	P	**P**	**09 52 27.1 -1.5**
	baz=307,SNR=6.6					
RIDG	**Independent Ri**	**75.14**	**23**	P	**P**	**09 52 28.4 -0.6**
	baz=310,SNR=7.4					
RIDG	**Independent Ri**	**75.14**	**23**	P	**P**	**09 52 28.9 0.0**
RIDG				IAmb	IAmb	09 52 29.9
	comp=Z,14nm,1.2s					
SCRK	**Sand Creek**	**75.28**	**23**	P	**P**	**09 52 29.3 -0.6**
	baz=310,SNR=15					
SCRK	**Sand Creek**	**75.28**	**23**	P	**P**	**09 52 30.3 +0.4**
SCRK				IAmb	IAmb	09 52 31.2
	comp=Z,15nm,1.2s					
INK	**Inuvik**	**75.31**	**17**	P	**P**	**09 52 29.4 -0.4**
	comp=Z,12nm,1.1s,baz=296,slow=5.0,SNR=8.3					
INK	**Inuvik**	**75.31**	**17**	P	**P**	**09 52 30.3 +0.5**
INK				pmax	pmax	
	comp=Z,20nm,1.3s					
INK	**Inuvik**	**75.31**	**17**	P	**P**	**09 52 28.9 -0.9**
	baz=318,SNR=6.1					
INK	**Inuvik**	**75.31**	**17**	P	**P**	**09 52 30.3 +0.5**
INK				IAmb	IAmb	09 52 31.5
	comp=Z,20nm,1.3s					
EGAK	**Eagle**	**75.67**	**22**	P	**P**	**09 52 31.4 -0.5**
	baz=312,SNR=7.1					
EGAK	**Eagle**	**75.67**	**22**	P	**P**	**09 52 32.7 +0.7**
KDAK	**Kodiak Island**	**75.70**	**31**	P	**P**	**09 52 31.2 -1.0**
	baz=305					
M24K	**Tolsona, Glenn**	**75.70**	**25**	P	**P**	**09 52 31.5 -0.8**
	baz=309					
M24K	**Tolsona, Glenn**	**75.70**	**25**	P	**P**	**09 52 33.0 +0.7**
K27K	**Chicken**	**75.88**	**22**	P	**P**	**09 52 31.9 -1.2**
	baz=312					
K27K	**Chicken**	**75.88**	**22**	P	**P**	**09 52 33.5 +0.3**
K27K				IAmb	IAmb	09 52 35.0
	comp=Z,15nm,1.4s					
HARP	**HAARP**	**75.89**	**25**	P	**P**	**09 52 32.5 -0.7**
	baz=310					
EPYK	**Eagle Plains**	**75.89**	**19**	P	**P**	**09 52 32.6 -0.6**
	baz=316,SNR=6.0					
EPYK	**Eagle Plains**	**75.89**	**19**	P	**P**	**09 52 33.6 +0.4**
EPYK				IAmb	IAmb	09 52 34.5
	comp=Z,18nm,1.2s					
GLI	**Glacier Island**	**76.12**	**26**	P	**P**	**09 52 33.0 -1.6**
	baz=308					
KLU	**Klutina**	**76.18**	**26**	P	**P**	**09 52 34.6 -0.4**
	baz=309,SNR=6.0					
KLU	**Klutina**	**76.18**	**26**	P	**P**	**09 52 35.6 +0.6**
KLU				IAmb	IAmb	09 52 37.0
	comp=Z,12nm,1.1s					
N25K	**Chitina, Valde**	**76.60**	**25**	P	**P**	**09 52 36.1 -1.3**
	baz=310,SNR=5.7					
N25K	**Chitina, Valde**	**76.60**	**25**	P	**P**	**09 52 38.0 +0.6**
N25K				IAmb	IAmb	09 52 39.6
	comp=Z,14nm,1.3s					
L27K	**Beaver Creek,**	**76.61**	**23**	P	**P**	**09 52 36.8 -0.6**
	baz=312,SNR=10					
L27K	**Beaver Creek,**	**76.61**	**23**	P	**P**	**09 52 37.9 +0.5**
L27K				IAmb	IAmb	09 52 40.0
	comp=Z,12nm,1.2s					
BCAR	**Beaver Creek A**	**76.62**	**23**	P	**P**	**09 52 37.6 +0.2**
M26K	**Nabesna, AK**	**76.65**	**24**	P	**P**	**09 52 37.1 -0.5**
	baz=311					
DAWY	**Dawson**	**76.72**	**21**	P	**P**	**09 52 37.8 -0.2**
EYAK	**Cordova Ski Ar**	**76.85**	**26**	P	**P**	**09 52 37.6 -1.0**
	baz=309					
BMRM	**Bremner River**	**77.01**	**26**	P	**P**	**09 52 39.9 +0.3**
	baz=310					
M27K	**Edge Creek, AK**	**77.07**	**24**	P	**P**	**09 52 39.6 -0.5**
	baz=312					
ESDC	**Sonseca Array**	**77.40**	**309**	P	**P**	**09 52 42.6 +0.4**
	comp=Z,6.0nm,1.2s,baz=52,slow=5.5,SNR=13					
ESDC	**Sonseca Array**	**77.40**	**309**	P	**P**	**09 52 42.3 0.0**
LSZ	**Lusaka**	**78.52**	**245**	P	**P**	**09 52 47.9 -0.9**
LSZ				pmax	pmax	
	comp=Z,11nm,1.2s					
LSZ	**Lusaka**	**78.52**	**245**	P	**P**	**09 52 47.9 -0.9**
LSZ				IAmb	IAmb	09 52 49.6
	comp=Z,11nm,1.2s					
HYT	**Haines Junctio**	**79.64**	**23**	P	**P**	**09 52 55.7 +1.4**
SKAG	**Skagway**	**81.39**	**23**	P	**P**	**09 53 02.7 -0.8**
	baz=318					
SKAG	**Skagway**	**81.39**	**23**	P	**P**	**09 53 04.7 +1.2**
SKAG				IAmb	IAmb	09 53 06.4
	comp=Z,19nm,1.2s					
YKA	**Yellowknife Ar**	**84.48**	**13**	P	**P**	**09 53 19.7 +0.2**
	comp=Z,0.9nm,0.8s,baz=338,slow=4.4,SNR=7.1					
YKA	**Yellowknife Ar**	**84.48**	**13**	P	**P**	**09 53 19.1 -0.4**
TORD	**Torodi Ar. Bea**	**86.11**	**283**	P	**P**	**09 53 28.3 -0.2**
	comp=Z,8.5nm,1.2s,baz=44,slow=3.1,SNR=12					
TORD	**Torodi Ar. Bea**	**86.11**	**283**	P	**P**	**09 53 28.1 -0.3**
TORD				IAmb	IAmb	09 53 30.4
	comp=Z,18nm,1.4s					
LBTB	**Lobatse**	**86.18**	**238**	P	**P**	**09 53 27.9 -0.8**
LBTB				pmax	pmax	
	comp=Z,33nm,1.4s					
LBTB	**Lobatse**	**86.18**	**238**	P	**P**	**09 53 27.9 -0.8**
EDM	**Edmonton**	**93.21**	**17**	P	**P**	**09 54 02.1 +0.7**
EDM				pmax	pmax	
	comp=Z,7.0nm,1.2s					
EDM	**Edmonton**	**93.21**	**17**	P	**P**	**09 54 02.1 +0.7**
EDM				IAmb	IAmb	09 54 03.1
	comp=Z,7.4nm,1.2s					
TZTN	**Tazewell**	**113.41**	**359**	P	**PKiKP**	**09 59 24.6 -0.6**
	baz=1.6					
WMOK	**Wichita Mounta**	**113.98**	**12**	P	**PKiKP**	**09 59 25.4 -1.0**
	baz=347					
TXAR	**Lajitas Array**	**118.06**	**18**	PKP	**PKPdf**	**09 59 33.4 -1.0**
	comp=Z,0.5nm,1.0s,baz=58,slow=3.1,SNR=5.4					
TXAR	**Lajitas Array**	**118.06**	**18**		**PKPdf**	**09 59 33.2 -1.2**

*TRN **28** 09:42:35.9, 13.°97N×58.°56W, h78km, MD4.2*

ISC 28 09:42:34.7±2.1, 14.°01N±0.°04×58.°6W±0.°1, h10km, n43, σ1°16/61, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.24**	**223**	*i* P	**Pn**	**09 42 58.7**	**+0.7**
BBSP				*e*S	**Sn**	**09 43 16.1**	**+1.3**
BBGH	**Gun Hill**	**1.28**	**228**	*i* P	**Pn**	**09 42 59.8**	**+1.1**
BBGH				*e*S	**Sb**	**09 43 15.0**	**-0.4**
BCHC	**Barbados, Cave**	**1.34**	**229**	*e*P	**Pb**	**09 43 00.8**	**+0.9**
MPOM	**Morne Pois Mar**	**2.24**	**281**	*e*P	**Pn**	**09 43 11.8**	**-0.1**
MPOM				*e*S	**Sn**	**09 43 38.7**	**-1.0**
MVM	**Montagne Vaucl**	**2.30**	**284**	*e*P	**Pn**	**09 43 13.9**	**+1.2**
MCLT	**Moule a Chique**	**2.30**	**263**	*e*P	**Pb**	**09 43 16.8**	**+0.4**
MCLT				*e*S	**Sn**	**09 43 41.1**	**-0.1**
SLBI	**Saint Lucia, B**	**2.31**	**271**	*e*P	**Pn**	**09 43 13.5**	**+0.6**
SLBI				*e*S	**Sn**	**09 43 40.7**	**-0.7**
SLCP	**Castries, St.**	**2.33**	**270**	*e*P	**Pn**	**09 43 13.9**	**+0.8**
SLCP				*e*S	**Sn**	**09 43 41.0**	**-0.8**
ILAM	**Ilet Lapin Mar**	**2.34**	**289**	*e*P	**Pn**	**09 43 14.3**	**+1.1**
LPMF	**Morne Lapointe**	**2.37**	**284**	*e*P	**Pn**	**09 43 14.5**	**+0.8**
SLB	**Belfond**	**2.39**	**266**	*e*P	**Pb**	**09 43 17.8**	**-0.1**
SLB				*e*S	**Sn**	**09 43 43.9**	**+0.5**
ZAM	**Aeronautique**	**2.43**	**284**	*e*P	**Pn**	**09 43 15.3**	**+0.9**
TRMF	**Trois Ilets**	**2.44**	**283**	*e*P	**Pn**	**09 43 15.4**	**+0.8**
BIM	**Bigot**	**2.46**	**282**	*e*P	**Pn**	**09 43 15.2**	**+0.3**
BIM				*e*S	**Sn**	**09 43 43.7**	**-1.3**
FDF	**Fort de France**	**2.58**	**286**	*e*P	**Pn**	**09 43 15.6**	**-1.0**
FDF				*e*S	**Sn**	**09 43 46.5**	**-1.6**
BAMF	**Morne Balai**	**2.60**	**288**	*e*P	**Pn**	**09 43 18.2**	**+1.2**
CXM	**Morne La Croix**	**2.62**	**288**	*e*P	**Pn**	**09 43 18.8**	**+1.5**
SSV	**Crater Summit**	**2.62**	**255**	*e*P	**Pn**	**09 43 18.2**	**+1.0**
SSV				*e*S	**Sn**	**09 43 48.5**	**-0.7**
PML	**Morne Lenard**	**2.63**	**287**	*e*P	**Pn**	**09 43 18.3**	**+1.1**
SVN	**Savane Anatole**	**2.63**	**289**	*e*P	**Pn**	**09 43 18.9**	**+1.6**
SVV	**Soufriere Volc**	**2.65**	**255**	*e*P	**Pn**	**09 43 18.6**	**+1.1**
SVV				*e*S	**Sn**	**09 43 48.6**	**-1.1**
PCM	**Pelee Case Pet**	**2.66**	**288**	*e*P	**Pn**	**09 43 18.7**	**+1.0**
SVB	**Belmont**	**2.69**	**254**	*e*P	**Pn**	**09 43 18.2**	**+0.1**
DLPL	**La Plaine**	**2.89**	**297**	*e*P	**Pn**	**09 43 22.1**	**+1.3**
DSLB	**Salisbury**	**3.08**	**298**	*e*P	**Pn**	**09 43 24.7**	**+1.2**
DSLB				*e*S	**Sn**	**09 44 00.6**	**+0.1**
GCMP	**Grenada, Carri**	**3.15**	**242**	*e*P	**Pn**	**09 43 24.0**	**-0.5**
GCMP				*e*S	**Sn**	**09 44 00.2**	**-1.9**
MAGL	**Barre de l'ile**	**3.24**	**307**	*e*P	**Pn**	**09 43 26.6**	**+1.0**
MAGL				*e*S	**Sn**	**09 44 04.3**	**+0.1**
TOSP	**Speyside**	**3.30**	**215**	*e*P	**Pn**	**09 43 26.7**	**+0.2**
TOSP				*e*S	**Sn**	**09 44 03.0**	**-2.8**
TDBA	**Terre de Bas,**	**3.46**	**302**	*e*P	**Pn**	**09 43 30.4**	**+1.7**
TDBA				*e*S	**Sn**	**09 44 10.3**	**+0.4**
TBG	**Guadaloupe-3**	**3.47**	**302**	*e*P	**Pn**	**09 43 29.4**	**+0.6**
GRGR	**Grenville**	**3.52**	**238**	*e*P	**Pn**	**09 43 29.5**	**0.0**
TPR	**Prospect**	**3.53**	**217**	*e*P	**Pn**	**09 43 30.1**	**+0.4**
CBE	**Ff, Capester**	**3.56**	**305**	*e*P	**Pn**	**09 43 31.7**	**+1.6**
CBE				*e*S	**Sn**	**09 44 12.3**	**0.0**
ABD	**La Joyeuse, An**	**3.72**	**312**	*e*P	**Pn**	**09 43 33.6**	**+1.4**
ABD				*e*S	**Sn**	**09 44 15.3**	**-0.7**
ANBD	**Bethesda, Anti**	**4.30**	**315**	*e*P	**Pn**	**09 43 40.6**	**+0.4**
ANBD	**Bethesda, Anti**	**4.30**	**315**	*e*S	**Sn**	**09 44 27.7**	**-2.7**
TRN	**Trinidad (W)**	**4.33**	**220**	*e*P	**Pn**	**09 43 41.4**	**+0.8**
BPA	**Boggy Peak**	**4.36**	**314**	*e*P	**Pn**	**09 43 42.4**	**+1.3**
BPA	**Boggy Peak**	**4.36**	**314**	*e*S	**Sn**	**09 44 30.5**	**-1.5**
ANOC	**Antigua Open C**	**4.39**	**315**	*e*P	**Pn**	**09 43 41.0**	**-0.5**
ANWB	**Willy Bob**	**4.76**	**320**	*e*P	**Pn**	**09 43 47.3**	**+0.8**
ANWB	**Willy Bob**	**4.76**	**320**	*e*S	**Sn**	**09 44 38.6**	**-3.2**
SKI	**Saint Kitts**	**5.18**	**310**	*e*P	**Pn**	**09 43 52.8**	**+0.4**

*IDC **28** 09:43:56.5±1.0, 30.°13N×94.°39E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/48, mbtmp3.8/10, ML3.3/2, Error ellipse: s-maj=51.1km s-min=17.9km az=58.0*

ISC 28 09:44:01.7±1.2, 30.°2N±0.°2×94.°4E±0.°2, h35km, n10, σ0°89/10, mb3.8/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.07**	**334**	P	**Pn**	**09 48 22.3**	**+0.3**
	0.1nm,0.3s,baz=148,slow=12,SNR=3.8						
SONM	**Songino Array**	**19.90**	**24**	P	**P**	**09 48 29.6**	**-0.7**
	0.1nm,0.3s,baz=202,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**23.64**	**334**	P	**P**	**09 49 10.3**	**+0.8**
	1.3nm,0.7s,baz=142,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	**24.75**	**346**	P	**P**	**09 49 21.1**	**+1.4**
	1.5nm,0.6s,baz=141,slow=9.3,SNR=1.1						
BVAR	**Borovoye Array**	**28.79**	**329**	P	**P**	**09 49 54.6**	**-1.5**
	1.2nm,0.6s,baz=216,slow=7.3,SNR=5.3						
NRIK	**Noril'sk**	**39.40**	**356**	P	**P**	**09 51 27.6**	**-0.1**
	1.3nm,0.3s,baz=90,slow=3.0,SNR=2.1						
AKASG	**Malin Array Be**	**51.89**	**313**	P	**P**	**09 53 06.8**	**+0.2**
	2.0nm,0.8s,baz=75,slow=6.9,SNR=5.6						
NOA	**NORSAR Array B**	**60.86**	**326**	P	**P**	**09 54 10.7**	**+0.3**
	0.8nm,0.8s,baz=78,slow=6.8,SNR=3.6						
WRA	**Warramunga Arr**	**62.93**	**137**	P	**P**	**09 54 24.7**	**-0.1**
	0.7nm,0.8s,baz=329,slow=7.8,SNR=3.4						
ASAR	**Alice Springs**	**65.61**	**140**	P	**P**	**09 54 42.5**	**+0.2**
	0.8nm,0.9s,baz=324,slow=6.0,SNR=4.7						

*BJI **28** 09:58:39.0±0.0, 34.°53N×84.°79E, h9km, mb4.4/4, Ms3.8/1, Ms7 3.8/1*

*IDC **28** 09:58:41.9±1.0, 34.°72N×84.°60E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.8/61, mbtmp3.8/15, ML3.1/3, MS3.2/14, Ms1 3.2/14, ms1mx2.9/44, Error ellipse: s-maj=28.1km s-min=16.7km az=40.0*

ISC 28 09:58:43.6±0.7, 34.°76N±0.°08×84.°7E±0.°1, h10km, n30, σ1°27/20, mb3.7/8, MS3.2/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.43**	**187**	*e*P	**Pn**	**10 00 18.9**	**+0.2**
	36nm,0.4s						
GKN	**Gorkha**	**6.74**	**180**	*e*P	**Pn**	**10 00 23.9**	**+1.2**
	22nm,0.5s						
GUN	**Gumba**	**6.91**	**171**	*e*P	**Pn**	**10 00 26.0**	**+0.8**
	47nm,0.5s						
KKN	**Kakani**	**6.97**	**175**	*e*P	**Pn**	**10 00 27.7**	**+1.8**
	22nm,0.5s						
DMN	**Daman**	**7.14**	**177**	*e*P	**Pn**	**10 00 26.3**	**-2.0**
	2.4nm,0.2s						
PKIN	**Phulchoki**	**7.19**	**175**	*e*P	**Pn**	**10 00 29.4**	**+0.4**
	34nm,0.5s						
PKI	**Pulchoki**	**7.19**	**175**	*e*P	**Pn**	**10 00 30.2**	**+1.1**
	26nm,0.5s						
WMQ	**Urumqi**	**9.35**	**14**	*e*P	**Pn**	**10 01 00.8**	**+2.4**
WMQ				smax	smax		
	comp=N,14nm,0.7s						
WMQ				smax	smax		
	comp=E,13nm,0.9s						
AAK	**Ala-Archa**	**11.17**	**318**	Pn	**Pn**	**10 01 25.9**	**+2.5**
	0.3nm,0.3s,baz=260,slow=6.1,SNR=5.2						
AAK				LR	LR	10 06 06.6	
	comp=Z,141nm,19.1s,baz=132,slow=40						
MKAR	**Makanchi Array**	**12.15**	**352**	Pn	**Pn**	**10 01 36.8**	**0.0**
	0.2nm,0.3s,baz=183,slow=15,SNR=22						
MKAR				LR	LR	10 07 12.2	
	comp=Z,52nm,21.7s,baz=173,slow=42						
KURBB	**Kurchatov Arra**	**16.47**	**346**	Pn	**Pn**	**10 02 34.4**	**-0.3**
	0.0nm,0.3s,baz=165,slow=10,SNR=15						
ZALV	**Zalesovo Beam**	**19.19**	**0**	P	**Pn**	**10 03 07.9**	**-0.2**
	baz=178,slow=11,SNR=8.5						
ZALV				LR	LR	10 10 20.8	
	comp=Z,18nm,19.9s,baz=137,slow=36						
CMAR	**Chiang Mai Arr**	**20.62**	**138**	P	Pn	10 03 24.2	-1.2
	3.1nm,0.9s,baz=321,slow=11,SNR=11						
SONM	**Songino Array**	**20.83**	**45**	P	Pn	10 03 26.8	-1.0
	2.2nm,0.8s,baz=232,slow=11,SNR=10						
BVAR	**Borovoye Array**	**20.88**	**335**	P	Pn	10 03 25.8	-2.5
	0.8nm,0.8s,baz=167,slow=14,SNR=4.3						
GEYT	**Alibeck**	**21.58**	**286**	LR	LR	10 13 38.1	
	comp=Z,126nm,21.5s,baz=190,slow=42						
AKTO	**Aktyubinsk**	**24.91**	**317**	P	**P**	**10 04 06.8**	**+0.2**
	4.7nm,0.9s,baz=125,slow=10,SNR=9.0						
AKTO				LR	LR	10 14 49.5	
	comp=Z,54nm,20.5s,baz=122,slow=39						
ARU	**Arti**	**28.03**	**329**	LR	LR	10 16 54.1	
	comp=Z,26nm,20.3s,baz=145,slow=39						
KBZ	**Khabaz**	**33.26**	**298**	LR	LR	10 22 02.9	
	comp=Z,52nm,18.6s,baz=59,slow=42						
KSRS	**Korea Array**	**34.84**	**73**	P	**P**	**10 05 34.9**	**+0.1**
	0.7nm,0.7s,baz=266,slow=9.9,SNR=4.3						
KSRS				LR	LR	10 21 15.4	
	comp=Z,26nm,19.3s,baz=180,slow=39						
JOW	**Kunigami**	**38.06**	**90**	LR	LR	10 23 08.2	
	comp=Z,46nm,20.2s,baz=314,slow=38						
BRTR	**Keskin Array B**	**40.47**	**293**	P	**P**	**10 06 22.6**	**+0.1**
	1.3nm,0.8s,baz=107,slow=7.9,SNR=5.0						
AKASG	**Malin Array Be**	**42.68**	**309**	P	**P**	**10 06 39.0**	**-1.3**
	1.0nm,0.5s,baz=70,slow=3.3,SNR=2.2						
AKASG				LR	LR	10 28 35.1	
	comp=Z,49nm,18.0s,baz=15,slow=42						
MJAR	**Matsushiro Arr**	**43.09**	**72**	LR	LR	10 25 34.5	
	comp=Z,27nm,20.1s,baz=230,slow=37						
FINES	**FINESS Array B**	**45.25**	**325**	LR	LR	10 26 48.6	
	comp=Z,30nm,18.7s,baz=5.5,slow=37						
ARCES	**ARCESS Array B**	**47.17**	**336**	LR	LR	10 28 50.3	
	comp=Z,25nm,18.8s,baz=110,slow=38						
NOA	**NORSAR Array B**	**52.41**	**324**	P	**P**	**10 07 55.1**	**-0.8**
	1.5nm,1.0s,baz=89,slow=7.6,SNR=3.2						
NOA				LR	LR	10 31 11.2	
	comp=Z,22nm,19.4s,baz=335,slow=37						
WRA	**Warramunga Arr**	**72.02**	**131**	P	**P**	**10 10 07.5**	**-0.3**
	1.4nm,0.9s,baz=322,slow=6.3,SNR=4.8						
ILAR	**Eielson Array**	**72.94**	**21**	P	**P**	**10 10 11.4**	**-1.3**
	0.3nm,0.8s,baz=296,slow=6.1,SNR=5.1						
YKA	**Yellowknife Ar**	**81.85**	**9**	P	**P**	**10 11 03.2**	**+0.6**
	0.3nm,0.5s,baz=354,slow=5.0,SNR=3.8						

*HEL **28** 10:00:14.9±0.1, 64.°66N×30.°43E, h0km, ML1.8, Explosion*

*UPP **28** 10:00:16.0±2.5, 64.°63N×30.°65E, h0km, ML1.6, Suspected explosion*

*KOLA **28** 10:00:17.0, 64.°75N×30.°82E, h0km, ML2.3, Kostomuksha, Karelia*

*IDC **28** 10:00:18.3±1.7, 64.°69N×29.°92E, h0km, mb1 2.7/2, mb1mx2.7/53, mbtmp2.7/2, ML1.7/2, Error ellipse: s-maj=27.1km s-min=8.3km az=105.0*

ISC 28 10:00:15.1±1.0, 64.°76N±0.°03×30.°78E±0.°05, h0km, n32, σ1°64/47, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.32**	**344**	PG	**Pg**	**10 00 39.7**	**-0.7**
	baz=169						
KU6				MSG		10 00 56.6	
	comp=Z,5.3nm,0.2s						
KU6				SG	**Sb**	**10 00 57.8**	**-0.4**
MSF	**Maaselka**	**1.36**	**329**	PG	**Pg**	**10 00 39.7**	**-1.5**
MSF				SB	**Sb**	**10 00 58.6**	**-0.9**
JOF	**Joensuu**	**1.87**	**172**	PG	**Pn**	**10 00 47.0**	**-1.2**
JOF				SG	**Sn**	**10 01 10.4**	**-2.0**
OUF	**Merijarvi**	**2.64**	**264**	PG	**Pn**	**10 00 59.2**	**+0.4**
OUF				MSG		10 01 28.2	
	comp=Z,7.3nm,0.2s						
OUF				SG	**Sn**	**10 01 33.6**	**+2.1**
RNF	**Rovaniemi**	**2.71**	**315**	PG	**Pb**	**10 01 04.1**	**-0.2**
RNF				SG	**Sb**	**10 01 37.0**	**-1.0**
OBF0	**Syolatti, Pyha**	**2.83**	**268**	PG	**Pn**	**10 01 02.7**	**+1.3**
OBF0				SG	**Sb**	**10 01 40.0**	**-1.4**
SUF	**Sumiainen**	**2.90**	**227**	PG	**Pn**	**10 01 03.8**	**+1.4**
SUF				MSG		10 01 35.2	
	comp=Z,2.8nm,0.2s						
SUF				SG	**Sn**	**10 01 39.5**	**+1.5**
APA0	**Apatity Array**	**3.00**	**16**	P	**Pn**	**10 01 05.2**	**+1.4**
APA0				S	**Sn**	**10 01 41.2**	**+0.9**
VRF	**Varrio**	**3.04**	**352**	PB	**Pn**	**10 01 06.4**	**+2.1**
VRF				MSG		10 01 46.4	
	comp=Z,1.4nm,0.2s						
VRF				SG	**Sg**	**10 01 52.2**	**-0.3**
SGF	**Sodankyl**	**3.20**	**329**	SG	**Sb**	**10 01 51.4**	**-0.8**
KAF	**Kangasniemi**	**3.33**	**219**	PG	**Pn**	**10 01 11.0**	**+2.7**
KAF				SG	**Sn**	**10 01 52.1**	**+3.6**
KEF	**Keuruu**	**3.71**	**228**	PB	**Pn**	**10 01 14.8**	**+1.2**
KLF	**Kolari**	**3.73**	**315**	PB	**Pn**	**10 01 15.9**	**+2.1**
PAJU	**Pajala**	**3.88**	**309**	P	**Pn**	**10 01 16.8**	**+0.9**
PAJU				S	**Sn**	**10 02 04.3**	**+2.2**
SJUU	**Sjulsmark**	**3.94**	**285**	P	**Pn**	**10 01 17.3**	**+0.5**
SJUU				S	**Sn**	**10 02 03.0**	**-0.6**
FIA0	**FINESS Array S**	**3.96**	**215**	PB	**Pn**	**10 01 19.2**	**+2.3**
FIA0				SG	**Sb**	**10 02 14.9**	**+1.0**
FINES	**FINESS Array B**	**3.96**	**215**	Pn	**Pn**	**10 01 15.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=1.6						
FINES				Pg	**Pb**	**10 01 23.6**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=6.0						
FINES				Lg	Lg	10 02 14.6	
	comp=Z,0.9nm,0.3s,baz=29,slow=29,SNR=8.8						
FINES				Rg	Rg	10 02 34.2	
	comp=Z,12nm,1.1s,baz=38,slow=31,SNR=7.4						
ERTU	**Ertsjaerv**	**3.98**	**301**	P	**Pn**	**10 01 18.4**	**+1.1**
ERTU	**Ertsjaerv**	**3.98**	**301**	PB	**Pn**	**10 01 19.4**	**+2.1**
HARU	**Harads**	**4.32**	**293**	P

Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC **28** *10:34:52.9±1.4, 7.14N±0.09×104.4W±0.1, h10km±1km, mb5.0/434 Error ellipse: s-maj=20.6km s-min=15.1km az=248.0*

ISC 28 10:34:52.1±0.5, 7.06N±0.09×104.48W±0.09, h10km, n934, σ0.95/282, mb5.0/251, MS4.1/17, 13C-10D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**11.93**	**28**	Pn	Pn	10 37 39.2	-3.4
MOIG	**Morelia**	**12.94**	**14**	Pn	Pn	10 37 52.9	-3.7
HUEH	**Huehuetenango**	**15.14**	**56**	Pn	Pn	10 38 23.3	-3.2
HUEH				IAmb	IAmb	10 38 46.4	
comp=Z,59nm,0.8s							
CCIG	**Comitan**	**15.16**	**52**	Pn	**Pn**	**10 38 25.9**	**-0.8**
CCIG				IAmb	IAmb	10 38 35.2	
comp=Z,57nm,1.3s							
ZAIG	**Zacatecas**	**15.73**	**7**		**Pn**	**10 38 36.4**	**+2.2**
PAYG	**Puerto Ayora**	**16.11**	**118**		**Pn**	**10 38 40.3**	**+1.4**
PAYG				IAmb	IAmb	10 38 45.7	
comp=Z,143nm,1.2s							
SNET	**Serv Nac Est T**	**16.37**	**65**		**Pn**	**10 38 42.2**	**-0.1**
SNET				IAmb	IAmb	10 38 52.9	
comp=Z,178nm,1.3s							
MTO3	**Montecristo**	**16.54**	**63**		**Pn**	**10 38 46.0**	**+1.3**
ESQI	**Esquipulas**	**16.62**	**62**		**Pn**	**10 38 43.7**	**-1.9**
PETF	**Flores**	**17.31**	**54**		**Pn**	**10 38 51.0**	**-3.1**
LPIG	**La Paz**	**17.85**	**342**	LR	LR	10 43 33.2	
comp=Z,67nm,20.4s,baz=158,slow=29							
TGUH	**Tegucigalpa,Un**	**18.28**	**66**	P	**Pn**	**10 39 07.7**	**+1.5**
TGUH				IAmb	IAmb	10 39 14.1	
comp=Z,91nm,1.2s							
TGUH	**Tegucigalpa,Un**	**18.28**	**66**	*e*P	**Pn**	**10 39 06.2**	**0.0**
ORTG	**Ortega, Santa**	**19.08**	**79**		**P**	**10 39 12.8**	**-2.3**
JTS	**Las Juntas de**	**19.56**	**79**	P	**P**	**10 39 21.0**	**+0.6**
comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=2.7							
JTS	**Las Juntas de**	**19.56**	**79**	P	**P**	**10 39 19.5**	**-0.9**
JTS				pmax	pmax		
comp=Z,65nm,1.5s							
JTS	**Las Juntas de**	**19.56**	**79**	P	**P**	**10 39 19.5**	**-0.9**
ACON	**Acoyapa**	**19.65**	**74**	P	**P**	**10 39 20.4**	**-0.9**
ACON				IAmb	IAmb	10 39 38.0	
comp=Z,87nm,1.4s							
HPIG		**19.80**	**357**	P	**P**	**10 39 24.0**	**+0.9**
HDC	**Heredia**	**20.35**	**80**	P	**P**	**10 39 30.9**	**+1.8**
HDC				IAmb	IAmb	10 39 34.1	
comp=Z,114nm,1.4s							
ESPN	**Las Esperanzas**	**20.53**	**74**	P	**P**	**10 39 30.6**	**-0.3**
ESPN				IAmb	IAmb	10 39 41.5	
comp=Z,90nm,1.3s							
RIMA	**Rio Macho**	**20.57**	**81**	P	**P**	**10 39 31.7**	**+0.2**
CVTR	**Volcan Turrial**	**20.70**	**80**	P	**P**	**10 39 32.3**	**-0.9**
CVTR				IAmb	IAmb	10 39 49.0	
comp=Z,71nm,1.3s							
CDITO	**Canoas**	**21.46**	**85**	P	**P**	**10 39 40.6**	**-0.3**
CDITO				IAmb	IAmb	10 40 03.8	
comp=Z,58nm,1.3s							
SRIG	**Santa Rosalia**	**21.46**	**341**	P	**P**	**10 39 40.4**	**-0.4**
SRIG				IAmb	IAmb	10 39 47.2	
comp=Z,40nm,0.9s							
833A	**Chaparral WMA,**	**21.69**	**12**	P	**P**	**10 39 43.5**	**+0.2**
baz=194,SNR=12							
TX32	**Lajitas Array**	**22.17**	**2**	P	**P**	**10 39 48.8**	**+0.2**
TXAR	**Lajitas Array**	**22.17**	**2**	P	**P**	**10 39 48.5**	**-0.1**
comp=Z,4.2nm,0.7s,baz=184,slow=10,SNR=45							
TXAR				PcP	**PcP**	**10 43 44.7**	**-0.9**
comp=Z,1.2nm,0.8s,baz=192,slow=4.5,SNR=5.6							
TXAR				LR	LR	10 47 54.5	
comp=Z,494nm,19.9s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**22.17**	**2**	P	**P**	**10 39 48.6**	**+0.1**
TX31	**Lajitas Ar. Si**	**22.17**	**2**	P	**P**	**10 39 48.4**	**-0.2**
TX31				IAmb	IAmb	10 39 51.3	
comp=Z,70nm,1.4s							
735A	**Kenedy**	**22.58**	**15**	P	**P**	**10 39 52.4**	**-0.4**
735A				IAmb	IAmb	10 39 56.1	
comp=Z,82nm,1.1s							
HSIG		**22.68**	**345**	P	**P**	**10 39 53.5**	**-0.5**
JCT	**Junction City**	**23.71**	**10**	P	**P**	**10 40 04.1**	**-0.4**
JCT				pmax	pmax		
comp=Z,89nm,1.4s							
JCT	**Junction City**	**23.71**	**10**	P	**P**	**10 40 04.0**	**-0.4**
baz=191,SNR=23							
JCT	**Junction City**	**23.71**	**10**	P	**P**	**10 40 04.0**	**-0.4**
JCT				IAmb	IAmb	10 40 06.5	
comp=Z,89nm,1.4s							
HKT	**Hockley**	**24.18**	**19**	P	**P**	**10 40 08.3**	**-0.4**
HKT				pmax	pmax		
comp=Z,46nm,1.4s							
HKT	**Hockley**	**24.18**	**19**	P	**P**	**10 40 08.3**	**-0.4**
HKT				IAmb	IAmb	10 40 11.1	
comp=Z,46nm,1.4s							
435B	**Jarrell**	**24.47**	**14**	P	**P**	**10 40 10.6**	**-0.9**
baz=196							
435B	**Jarrell**	**24.47**	**14**	P	**P**	**10 40 10.9**	**-0.6**
435B				IAmb	IAmb	10 40 13.2	
comp=Z,61nm,1.1s							
MNTX	**Cornudas Mount**	**24.53**	**358**	P	**P**	**10 40 11.1**	**-1.0**
baz=178,SNR=84							
MNTX	**Cornudas Mount**	**24.53**	**358**	P	**P**	**10 40 11.2**	**-0.8**
MNTX				IAmb	IAmb	10 40 13.5	
comp=Z,43nm,1.1s							
319A	**Douglas**	**24.61**	**350**	P	**P**	**10 40 12.8**	**-0.1**
121A	**Cookes Peak, D**	**25.53**	**354**	P	**P**	**10 40 20.7**	**-0.5**
baz=172,SNR=23							
121A	**Cookes Peak, D**	**25.53**	**354**	P	**P**	**10 40 21.0**	**-0.2**
WHTX	**Lake Whitney,**	**25.66**	**14**	P	**P**	**10 40 21.1**	**-1.1**
baz=196,SNR=6.0							
WHTX	**Lake Whitney,**	**25.66**	**14**	P	**P**	**10 40 21.2**	**-1.0**
WHTX				IAmb	IAmb	10 40 22.2	
comp=Z,22nm,0.9s							
TUC	**Tucson**	**25.80**	**348**	P	**P**	**10 40 23.3**	**-0.3**
TUC				pmax	pmax		
comp=Z,44nm,1.2s							
TUC	**Tucson**	**25.80**	**348**	P	**P**	**10 40 24.1**	**+0.4**
baz=165							
TUC	**Tucson**	**25.80**	**348**	P	**P**	**10 40 23.3**	**-0.3**
TUC				IAmb	IAmb	10 40 26.8	
comp=Z,44nm,1.1s							
ABTX	**Abilene, Hawle**	**25.83**	**9**	P	**P**	**10 40 22.5**	**-1.3**
baz=191,SNR=14							
ABTX	**Abilene, Hawle**	**25.83**	**9**	P	**P**	**10 40 22.8**	**-1.0**
441A	**DeRidder**	**25.84**	**23**	P	**P**	**10 40 23.5**	**-0.4**
441A				IAmb	IAmb	10 40 29.3	
comp=Z,21nm,1.0s							
214A	**Organ Pipe Nat**	**25.96**	**344**	P	**P**	**10 40 25.7**	**+0.6**
baz=161							
214A	**Organ Pipe Nat**	**25.96**	**344**	P	**P**	**10 40 25.5**	**+0.5**
NATX	**Nacogdoches**	**26.23**	**19**	P	**P**	**10 40 26.8**	**-0.6**
baz=202							
NATX	**Nacogdoches**	**26.23**	**19**	P	**P**	**10 40 26.6**	**-0.8**
NATX				IAmb	IAmb	10 40 28.6	
comp=Z,39nm,1.0s							
MSTX	**Muleshoe**	**26.83**	**3**	P	**P**	**10 40 31.6**	**-1.3**
baz=184,SNR=8.2							
MSTX	**Muleshoe**	**26.83**	**3**	P	**P**	**10 40 31.7**	**-1.3**
OTAV	**Otavalo**	**26.83**	**104**	*ce*P	**P**	**10 40 34.5**	**+1.0**
OTAV				pmax	pmax		
comp=Z,35nm,2.5s							
OTAV	**Otavalo**	**26.83**	**104**	P	**P**	**10 40 33.8**	**+0.2**
OTAV	**Otavalo**	**26.83**	**104**	*e*P	**P**	**10 40 33.6**	**+0.1**
OTAV	**Otavalo**	**26.83**	**104**	*e*P	**P**	**10 40 32.5**	**-1.0**
Z35A	**Perchaven, San**	**26.99**	**13**	P	**P**	**10 40 33.5**	**-0.7**
Z35A				IAmb	IAmb	10 40 34.9	
comp=Z,46nm,1.2s							
113A	**Mohawk Valley,**	**27.00**	**343**	P	**P**	**10 40 33.6**	**-0.7**
113A				IAmb	IAmb	10 40 35.2	
comp=Z,30nm,1.3s							
BNM	**Barren Site**	**27.03**	**356**	P	**P**	**10 40 34.4**	**-0.5**
LENM	**Lemitar**	**27.07**	**355**	P	**P**	**10 40 34.1**	**-1.1**
344A	**Westbrook Farm**	**27.46**	**26**	P	**P**	**10 40 38.0**	**-0.5**
344A				IAmb	IAmb	10 40 39.4	
comp=Z,34nm,1.2s							
Z38A	**Mt. Pleasant**	**27.52**	**17**	P	**P**	**10 40 39.0**	**0.0**
Z38A				IAmb	IAmb	10 40 40.2	
comp=Z,27nm,1.0s							
GLA	**Glamis**	**27.59**	**341**	P	**P**	**10 40 39.8**	**+0.1**
GLA				pmax	pmax		
comp=Z,29nm,1.1s							
GLA	**Glamis**	**27.59**	**341**	P	**P**	**10 40 39.1**	**-0.6**
baz=157,SNR=7.4							
GLA	**Glamis**	**27.59**	**341**	P	**P**	**10 40 39.8**	**+0.1**
GLA				IAmb	IAmb	10 40 40.7	
comp=Z,29nm,1.1s							
LOOK	**Love County**	**27.64**	**13**	P	**P**	**10 40 39.2**	**-0.8**
LOOK				IAmb	IAmb	10 40 40.1	
comp=Z,40nm,1.3s							
IKP	**In-Ko-Pah, Jac**	**27.67**	**339**	P	**P**	**10 40 40.2**	**-0.3**
baz=154							
X18A	**Snowflake**	**27.80**	**350**	P	**P**	**10 40 41.7**	**-0.1**
AMTX	**Amarillo**	**27.81**	**5**	P	**P**	**10 40 40.6**	**-1.1**
baz=186							
AMTX	**Amarillo**	**27.81**	**5**	P	**P**	**10 40 41.1**	**-0.6**
AMTX				IAmb	IAmb	10 40 42.9	
comp=Z,37nm,1.2s							
ANMO	**Albuquerque**	**27.81**	**357**	P	**P**	**10 40 41.7**	**-0.2**
comp=Z,1.9nm,0.9s,baz=163,slow=13,SNR=7.5							
ANMO	**Albuquerque**	**27.81**	**357**	‖*e*P	**P**	**10 40 41.7**	**-0.2**
ANMO				pmax	pmax		
comp=Z,8.0nm,1.8s							
ANMO	**Albuquerque**	**27.81**	**357**	P	**P**	**10 40 41.2**	**-0.7**
baz=176							
ANMO	**Albuquerque**	**27.81**	**357**	P	**P**	**10 40 41.2**	**-0.7**
SWSC	**Sam W. Stewart**	**27.82**	**339**	P	**P**	**10 40 41.3**	**-0.4**
baz=155							
Y14A	**Wickenburg**	**27.89**	**345**	P	**P**	**10 40 41.8**	**-0.6**
BAR	**Barrett**	**27.90**	**338**	P	**P**	**10 40 42.9**	**+0.4**
X16A	**Lo Mia Camp, P**	**27.98**	**348**	P	**P**	**10 40 43.1**	**-0.2**
MONP2	**Monument Peak**	**28.00**	**338**	P	**P**	**10 40 42.7**	**-0.9**
baz=154							
WMOK	**Wichita Mounta**	**28.04**	**10**	P	**P**	**10 40 42.5**	**-1.2**
WMOK				pmax	pmax		
comp=Z,17nm,1.5s							
WMOK	**Wichita Mounta**	**28.04**	**10**	P	**P**	**10 40 41.8**	**-1.9**
baz=192,SNR=7.2							
WMOK	**Wichita Mounta**	**28.04**	**10**	P	**P**	**10 40 42.5**	**-1.2**
DBBC	**Dabeiba**	**28.05**	**88**	‖*e*P	**P**	**10 40 44.2**	**+0.1**
X34A	**Smith Ranch, M**	**28.09**	**12**	P	**P**	**10 40 43.0**	**-1.1**
X34A				IAmb	IAmb	10 40 47.9	
comp=Z,29nm,1.2s							
PLMC	**San Jos del P**	**28.12**	**93**	*e*P	**P**	**10 40 43.6**	**-1.2**
YOTC	**Yotoco, Valle**	**28.16**	**95**	*e*P	P	10 40 43.8	-1.4
VBMS	**Vicksburg**	**28.21**	**26**	P	**P**	**10 40 45.1**	**-0.1**
VBMS				IAmb	IAmb	10 40 45.8	
comp=Z,43nm,1.3s							
143A	**Socs Landing,**	**28.27**	**24**	P	P	10 40 44.2	-1.5
143A				IAmb	IAmb	10 40 46.1	
comp=Z,18nm,1.1s							
CBOC	**Ciudad Bolivar**	**28.31**	**91**	*e*P	**P**	**10 40 47.0**	**+0.5**
MTDJ	**Mount Denham**	**28.49**	**65**	*e*P	P	10 41 01.7	+14
WLAR	**White Oak Lake**	**28.51**	**20**	P	P	10 40 46.5	-1.3
WLAR				IAmb	IAmb	10 40 48.4	
comp=Z,22nm,1.1s							
PDMCI	**Parker Dam,Lak**	**28.54**	**343**	P	P	10 40 47.8	-0.4
baz=159,SNR=9.1							
MOTC	**Monteria, Cord**	**28.59**	**85**	‖*e*P	P	10 40 48.2	-0.6
TPFO	**Pinon Flats**	**28.65**	**339**	P	P	10 40 48.9	-0.4
baz=154,SNR=6.9							
X37A	**Clayton**	**28.66**	**16**	P	P	10 40 48.4	-0.8
PFO	**Pinyon Flats O**	**28.66**	**339**	P	P	10 40 49.5	+0.1
comp=Z,8.4nm,1.0s,baz=153,slow=9.6,SNR=10							
PFO	**Pinyon Flats O**	**28.66**	**339**	P	P	10 40 49.3	-0.1
PFO				pmax	pmax		
comp=Z,13nm,1.1s							
PFO	**Pinyon Flats O**	**28.66**	**339**	P	P	10 40 49.2	-0.2
baz=154,SNR=8.7							
PFO	**Pinyon Flats O**	**28.66**	**339**	P	P	10 40 49.3	0.0
IRM	**Iron Mountain**	**28.71**	**341**	P	P	10 40 49.4	-0.3
baz=157,SNR=11							
HELC	**Santa Helena**	**28.77**	**90**	‖*e*P	**P**	**10 40 50.6**	**-0.2**
FNO	**Franklin**	**28.81**	**12**	P	P	10 40 49.6	-1.0
BELC	**Belle Mtn. Jos**	**28.85**	**340**	P	P	10 40 51.0	-0.1
baz=156,SNR=9.2							
GUY2C	**Guyana, Caldas**	**29.00**	**92**	‖*e*P	**P**	**10 40 53.2**	**+0.2**
BRAL	**Brewton**	**29.00**	**32**	P	**P**	**10 40 51.9**	**-0.4**
baz=218							
WUAZ	**Wupatki**	**29.02**	**348**	P	P	10 40 52.4	-0.2
baz=166,SNR=13							
WUAZ	**Wupatki**	**29.02**	**348**	P	**P**	**10 40 52.9**	**+0.2**
WUAZ				IAmb	IAmb	10 40 54.0	
comp=Z,26nm,1.3s							
TOLC	**Tolima**	**29.11**	**93**	‖*e*P	**P**	**10 40 53.9**	**+0.1**
SJCC	**San Jacinto, C**	**29.11**	**82**	P	**P**	**10 40 54.2**	**+0.7**
NEE2	**Needles Airpor**	**29.12**	**343**	P	P	10 40 53.3	+0.1
baz=159							
OK025	**Westminster Rd**	**29.13**	**12**	P	P	10 40 52.7	-0.7
OK025				IAmb	IAmb	10 40 54.0	
comp=Z,23nm,1.3s							
MIAR	**Mount Ida**	**29.14**	**19**	P	P	10 40 52.3	-1.2
MIAR				pmax	pmax		
comp=Z,22nm,1.2s							
MIAR	**Mount Ida**	**29.14**	**19**	P	P	10 40 52.2	-1.3
baz=202,SNR=12							
MIAR	**Mount Ida**	**29.14**	**19**	P	P	10 40 52.3	-1.2
MIAR				IAmb	IAmb	10 40 54.3	
comp=Z,22nm,1.1s							
BCOK	**Bluff Creek, N**	**29.15**	**12**	P	P	10 40 52.5	-1.1
W13A	**Hualapai Mount**	**29.22**	**344**	P	P	10 40 54.4	0.0
ORTC	**Ortega, Tolima**	**29.26**	**95**	‖*e*P	**P**	**10 40 54.6**	**-0.2**
OK029	**Liberty Lake**	**29.32**	**12**	P	P	10 40 53.8	-1.2
OK029				IAmb	IAmb	10 41 00.5	
comp=Z,16nm,1.0s							
ZARC	**Zaragoza, Cauc**	**29.38**	**87**	‖*e*P	**P**	**10 40 55.6**	**-0.2**
BBRC	**Big Bear Solar**	**29.41**	**339**	P	P	10 40 56.3	+0.1
baz=154							
GMRC	**Granite Mounta**	**29.45**	**341**	P	P	10 40 56.0	-0.4
baz=157,SNR=8.1							
NORC	**Norcasia**	**29.46**	**91**	*e*P	**P**	**10 40 57.1**	**+0.4**
ATAH	**Atahualpa**	**29.59**	**118**	P	**P**	**10 40 58.9**	**+0.7**
comp=Z,8.3nm,0.9s,baz=304,slow=7.3,SNR=7.6							
OK031	**S. Brethren Rd**	**29.60**	**13**	P	P	10 40 56.6	-0.9
OK031				IAmb	IAmb	10 40 57.2	
comp=Z,25nm,1.3s							
U32A	**Winter Ranch,**	**29.61**	**9**	P	P	10 40 56.8	-0.8
BFSC	**Mount Baldy Ra**	**29.66**	**338**	P	P	10 40 57.9	-0.3
baz=153,SNR=6.5							
W39A	**Magazine**	**29.68**	**18**	P	**P**	**10 40 57.7**	**-0.6**
baz=202							
W39A	**Magazine**	**29.68**	**18**	P	**P**	**10 40 57.7**	**-0.6**
HEC	**Hector,Ludlow**	**29.72**	**340**	P	P	10 40 58.4	-0.2
baz=156							
TUL1	**Leonard**	**29.80**	**14**	P	P	10 40 58.1	-1.2
baz=197,SNR=6.2							
MWC	**Mount Wilson**	**29.80**	**337**	P	P	10 40 59.8	+0.2
MWC				pmax	pmax		
comp=Z,11nm,1.2s							
MWC	**Mount Wilson**	**29.80**	**337**	P	P	10 40 59.8	+0.2
QUOK	**Quay**	**29.84**	**13**	P	P	10 40 58.4	-1.2
QUOK				IAmb	IAmb	10 41 00.0	
comp=Z,20nm,1.1s							
T25A	**Trinidad**	**29.94**	**0**	P	P	10 41 00.2	-0.6
baz=180,SNR=11							
T25A	**Trinidad**	**29.94**	**0**	P	**P**	**10 41 00.8**	**0.0**
T25A				IAmb	IAmb	10 41 02.4	
comp=Z,28nm,1.4s							
Y45A	**Yeager Farm, C**	**30.04**	**25**	P	**P**	**10 41 00.9**	**-0.5**
Y45A				IAmb	IAmb	10 41 02.0	
comp=Z,20nm,1.1s							
250A	**Grady**	**30.05**	**32**	P	**P**	**10 41 01.4**	**-0.2**
250A				IAmb	IAmb	10 41 02.0	
comp=Z,26nm,0.9s							
ROSC	**El Rosal**	**30.07**	**93**	P	**P**	**10 41 03.1**	**+0.7**
comp=Z,7.7nm,0.4s,baz=260,slow=19,SNR=7.0							
ROSC				LR	LR	10 50 48.7	
comp=Z,191nm,20.2s,baz=260,slow=32							
ROSC	**El Rosal**	**30.07**	**93**	P	**P**	**10 41 02.8**	**+0.4**
ROSC				pmax	pmax		
comp=Z,29nm,1.1s							
ROSC	**El Rosal**	**30.07**	**93**	P	**P**	**10 41 02.8**	**+0.4**
ROSC				IAmb	IAmb	10 41 04.7	
comp=Z,29nm,1.1s							
ROSC	**El Rosal**	**30.07**	**93**	‖*e*P	**P**	**10 41 03.3**	**+0.9**
U15A	**North Rim**	**30.09**	**347**	P	P	10 41 01.9	-0.3
TUQ	**Turquoise Moun**	**30.14**	**341**	P	**P**	**10 41 02.6**	**+0.1**
baz=157							
OK032	**Salt Plains WL**	**30.16**	**10**	P	P	10 41 01.5	-0.9
OK032				IAmb	IAmb	10 41 02.8	
comp=Z,11nm,0.7s							
W41B	**Gary Mavity, V**	**30.16**	**20**	P	**P**	**10 41 01.9**	**-0.5**
baz=204,SNR=10							
SMLC	**San Martn de**	**30.16**	**85**	*e*P	**P**	**10 41 02.4**	**-0.4**
MVCO	**Mesa Verde**	**30.24**	**354**	P	P	10 41 02.9	-0.5
baz=172,SNR=18							
MVCO	**Mesa Verde**	**30.24**	**354**	P	P	10 41 03.0	-0.4
MVCO				IAmb	IAmb	10 41 04.8	
comp=Z,32nm,1.2s							
WHAR	**Wooly Hollow**	**30.25**	**20**	P	P	10 41 02.5	-0.8
WHAR				IAmb	IAmb	10 41 03.8	
comp=Z,44nm,1.5s							
BLOK	**Blackwell**	**30.30**	**12**	P	P	10 41 02.6	-1.1
BLOK				IAmb	IAmb	10 41 03.6	
comp=Z,32nm,1.2s							
GSC	**Goldstone, Bar**	**30.31**	**340**	P	**P**	**10 41 04.2**	**+0.3**
GSC				pmax	pmax		
comp=Z,15nm,1.1s							
GSC	**Goldstone, Bar**	**30.31**	**340**	P	P	10 41 03.9	0.0
baz=155,SNR=12							
GSC	**Goldstone, Bar**	**30.31**	**340**	P	**P**	**10 41 04.2**	**+0.3**
EDW2	**Edwards Air Fo**	**30.36**	**338**	P	P	10 41 04.0	-0.3
baz=152							
KAN17	**Caldwell West**	**30.47**	**11**	P	P	10 41 04.4	-0.8
KAN17				IAmb	IAmb	10 41 05.5	
comp=Z,25nm,1.1s							
KAN10	**Anthony SW Sta**	**30.49**	**10**	P	**P**	**10 41 04.8**	**-0.5**
KAN10				IAmb	IAmb	10 41 05.0	
comp=Z,43nm,1.5s							
KAN13	**South Haven SW**	**30.49**	**11**	P	P	10 41 04.8	-0.7
KAN13				IAmb	IAmb	10 41 05.8	
comp=Z,18nm,0.9s							
SDCO	**Great Sand Dun**	**30.56**	**358**	P	P	10 41 06.0	-0.4
baz=178							
SDCO	**Great Sand Dun**	**30.56**	**358**	P	**P**	**10 41 06.1**	**-0.3**
T35A	**Sooner Cattle**	**30.59**	**13**	P	P	10 41 05.0	-1.4
S22A	**4UR Ranch, Cre**	**30.62**	**356**	P	P	10 41 06.3	-0.6
baz=175,SNR=21							
HHAR	**Hobbs**	**30.64**	**17**	P	P	10 41 05.7	-1.1
SHOC	**Shoshone, Teco**	**30.68**	**341**	P	P	10 41 07.1	0.0
baz=156,SNR=5.3							
KNB	**Kanab**	**30.77**	**347**	P	**P**	**10 41 08.5**	**+0.4**
KNB				pmax	pmax		
comp=Z,30nm,1.2s							
KNB	**Kanab**	**30.77**	**347**	P	**P**	**10 41 08.5**	**+0.4**
KNB				IAmb	IAmb	10 41 10.3	
comp=Z,30nm,1.2s							
LRMC	**Laurel Mtn Rad**	**30.78**	**339**	P	P	10 41 08.2	0.0
baz=154							
FCAR	**Ozark Folk Cen**	**30.85**	**20**	P	P	10 41 05.2	-3.4
LCMT	**Little Creek M**	**30.87**	**346**	P	P	10 41 08.8	-0.1
SHPR	**Sheep Range**	**30.89**	**343**	P	**P**	**10 41 09.6**	**+0.4**
OCAC	**Ocana**	**30.90**	**86**	*e*P	P	10 41 08.5	-1.0
MACC	**Macarena, Meta**	**30.91**	**98**	*e*P	P	10 41 09.2	-0.2
U40A	**Yellville**	**31.04**	**18**	P	**P**	**10 41 09.6**	**-0.6**
baz=203,SNR=5.1							
U40A	**Yellville**	**31.04**	**18**	P	P	10 41 08.9	-1.4
BARC	**Barichara**	**31.07**	**89**	*e*P	**P**	**10 41 11.2**	**+0.1**
PV01	**Paradox Valley**	**31.16**	**354**	P	P	10 41 10.8	-0.7
PV01				IAmb	IAmb	10 41 12.5	
comp=Z,28nm,1.4s							
PV05	**Paradox Valley**	**31.16**	**353**	P	**P**	**10 41 11.9**	**+0.3**
RUSC	**La Rusia**	**31.21**	**90**	P	**P**	**10 41 12.9**	**+0.3**
RUSC	**La Rusia**	**31.21**	**90**	‖*i*P	**P**	**10 41 12.7**	**+0.1**
ISA	**Isabella, Lake**	**31.23**	**338**	P	P	10 41 12.1	0.0
ISA				pmax	pmax		
comp=Z,12nm,1.2s							
ISA	**Isabella, Lake**	**31.23**	**338**	P	P	10 41 12.0	0.0
baz=152,SNR=6.2							
ISA	**Isabella, Lake**	**31.23**	**338**	P	P	10 41 12.1	+0.1
PV17	**East Wray Mesa**	**31.34**	**353**	P	P	10 41 12.7	-0.5
LCAR	**Lake Charles**	**31.35**	**21**	P	P	10 41 12.0	-0.9
PV11	**David Mesa, Pa**	**31.35**	**353**	P	P	10 41 13.0	-0.2
FURC	**Furnace Creek,**	**31.39**	**341**	P	**P**	**10 41 13.6**	**+0.3**
baz=156,SNR=5.8							
SZCU	**Shurtz Canyon**	**31.39**	**347**	P	**P**	**10 41 13.9**	**+0.3**
CCUT	**Cedar City**	**31.41**	**346**	P	P	10 41 13.6	-0.2
152A	**Waverly Hall**	**31.41**	**33**	P	**P**	**10 41 12.8**	**-0.8**
Y49A	**Blount Mountai**	**31.47**	**30**	P	P	10 41 13.0	-1.1
Y49A				IAmb	IAmb	10 41 13.9	
comp=Z,22nm,1.4s							
PAMC	**Pamplona, Colo**	**31.52**	**87**	*e*P	P	10 41 11.0	-4.4
SMMC	**Simmler**	**31.53**	**335**	P	P	10 41 14.7	+0.1
baz=149							
PLAL	**Pickwick Lake**	**31.62**	**26**	P	P	10 41 14.4	-1.0
MTPU	**Mount Pierson**	**31.63**	**348**	P	**P**	**10 41 16.7**	**+0.9**
MTPU				IAmb	IAmb	10 41 17.6	
comp=Z,24nm,1.3s							
TPNV	**Topopah Spring**	**31.63**	**342**	P	**P**	**10 41 16.0**	**+0.3**
TPNV				pmax	pmax		
comp=Z,13nm,1.3s							
TPNV	**Topopah Spring**	**31.63**	**342**	P	**P**	**10 41 16.3**	**+0.7**
baz=157,SNR=10.0							
TPNV	**Topopah Spring**	**31.63**	**342**	P	**P**	**10 41 16.0**	**+0.3**
R32A	**Long Quarter,**	**31.66**	**9**	P	P	10 41 14.6	-1.1
R32A				IAmb	IAmb	10 41 16.3	
comp=Z,36nm,1.4s							
Z51A	**Franklin**	**31.67**	**32**	P	**P**	**10 41 15.2**	**-0.6**
PRN	**Pahroc Range**	**31.70**	**344**	P	**P**	**10 41 16.6**	**+0.3**
Q24A	**Divide**	**31.77**	**359**	P	P	10 41 16.4	-0.7
baz=178							
CWC	**Cottonwood Cre**	**31.78**	**339**	P	**P**	**10 41 17.4**	**+0.4**
baz=154							
KSCO	**Kaye Shedlock'**	**31.86**	**3**	P	P	10 41

SPR3 Spring Creek 3 33.02 346 P P 10 41 27.8 -0.2
SPR3 IAmb IAmb 10 41 28.6
comp=Z,26nm,1.4s
O20A White River Ci 33.11 355 P P 10 41 28.2 -0.4
baz=173,SNR=23
O20A White River Ci 33.11 355 P **P** **10 41 28.6 0.0**
CCM Cathedral Cave 33.11 19 P P 10 41 27.4 -1.0
CCM pmax pmax
comp=Z,4.0nm,1.0s
CCM Cathedral Cave 33.11 19 P P 10 41 26.4 -1.9
baz=204
CCM Cathedral Cave 33.11 19 P P 10 41 27.4 -1.0
MLAC Mammoth, Mammo 33.11 339 P P 10 41 28.8 0.0
baz=153
CLTN Cedars of Leba 33.33 27 P P 10 41 29.5 -0.9
CLTN IAmb IAmb 10 41 30.2
comp=Z,21nm,1.4s
MPU Maple Canyon 33.44 350 P **P** **10 41 32.4 +0.9**
NLU North Lily Min 33.46 349 P **P** **10 41 32.6 +0.9**
NLU IAmb IAmb 10 41 33.3
comp=Z,16nm,1.2s
S44A Carbondale 33.48 22 P **P** **10 41 31.0 -0.7**
SIUC Southern Illin 33.52 22 P **P** **10 41 31.8 -0.1**
SDV Santo Domingo 33.56 85 P **P** **10 41 32.9 0.0**
comp=Z,17nm,0.3s,baz=239,slow=5.3,SNR=5.1
SDV Santo Domingo 33.56 85 *eP* P 10 41 29.8 -3.1
NV11 Mina Array Sit 33.60 340 P **P** **10 41 33.8 +0.9**
NVAR Mina Array Bea 33.64 340 P **P** **10 41 34.0 +0.6**
comp=Z,2.0nm,0.7s,baz=158,slow=8.6,SNR=20
NVAR PcP **PcP** **10 44 12.9 -0.6**
comp=Z,2.8nm,1.1s,baz=152,slow=4.2,SNR=9.2
NVAR Mina Array Bea 33.64 340 P P 10 41 33.2 -0.1
NVAR PcP **PcP** **10 44 13.0 -0.6**
CPCT Cooper Cave 33.68 30 P P 10 41 32.4 -1.0
CPCT IAmb IAmb 10 41 33.3
comp=Z,17nm,1.0s
RDMU Red Mountain 33.68 353 P **P** **10 41 33.8 +0.2**
RDMU IAmb IAmb 10 41 34.6
comp=Z,30nm,1.5s
W52A Murphy 33.70 31 P P 10 41 32.8 -0.9
W52A IAmb IAmb 10 41 34.0
comp=Z,38nm,1.5s
N23A Red Feather La 33.72 358 P P 10 41 33.4 -0.6
baz=177,SNR=7.9
T47A Sharon Grove 33.74 25 P P 10 41 33.0 -1.0
T47A IAmb IAmb 10 41 33.6
comp=Z,23nm,1.3s
OGNE Ogallala 33.81 3 P P 10 41 33.8 -0.8
baz=184
DUG Dugway, Tooele 33.83 348 P **P** **10 41 35.5 +0.7**
DUG pmax pmax
comp=Z,32nm,1.2s
DUG Dugway, Tooele 33.83 348 P **P** **10 41 35.0 +0.2**
baz=165,SNR=24
DUG Dugway, Tooele 33.83 348 P **P** **10 41 35.5 +0.7**
DUG IAmb IAmb 10 41 37.3
comp=Z,32nm,1.2s
P38A Dawn 33.88 15 P P 10 41 34.2 -0.9
P38A IAmb IAmb 10 41 34.9
comp=Z,13nm,1.0s
RYN Ryan 33.90 340 P P 10 41 35.7 +0.2
U49A Red Boiling Sp 33.93 28 P P 10 41 34.4 -1.2
HODGE Hodges 33.94 34 P **P** **10 41 35.0 -0.7**
JLU Jordanelle 33.98 350 P **P** **10 41 36.8 +0.5**
JLU IAmb IAmb 10 41 38.2
comp=Z,21nm,1.2s
V51A Loudon 34.04 30 P P 10 41 35.5 -1.1
CMB Columbia Colle 34.04 337 P P 10 41 36.4 -0.2
CMB pmax pmax
comp=Z,5.0nm,1.1s
CMB Columbia Colle 34.04 337 P P 10 41 36.4 -0.3
WAKR Walker 34.10 339 P P 10 41 37.0 -0.3
PHWY Pilot Hill 34.11 359 P **P** **10 41 37.3 -0.2**
PHWY IAmb IAmb 10 41 38.8
comp=Z,24nm,1.2s
CTU Camp Tracy 34.12 350 P **P** **10 41 37.8 +0.5**
CTU IAmb IAmb 10 41 39.3
comp=Z,17nm,1.1s
KVN Kaiserville 34.14 341 P P 10 41 37.3 -0.3
KVN pmax pmax
comp=Z,13nm,1.2s
KVN Kaiserville 34.14 341 P P 10 41 37.3 -0.3
BG3 Lake Jocassee 34.14 32 P **P** **10 41 37.2 -0.3**
BG3 IAmb IAmb 10 41 38.0
comp=Z,18nm,1.3s
P40A Paris 34.21 17 P P 10 41 36.6 -1.3
TKL Tuckaleechee C 34.22 31 P P 10 41 36.9 -1.2
TKL pmax pmax
comp=Z,26nm,1.2s
TKL Tuckaleechee C 34.22 31 P P 10 41 36.9 -1.3
TKL IAmb IAmb 10 41 38.1
comp=Z,26nm,1.2s
V52A Sevierville 34.45 31 P **P** **10 41 39.4 -0.7**
V52A IAmb IAmb 10 41 40.9
comp=Z,26nm,1.3s
RWWY Rawlins 34.57 356 P **P** **10 41 41.6 +0.2**
BGU Big Grassy Mou 34.58 349 P **P** **10 41 41.4 +0.1**
BGU IAmb IAmb 10 41 43.5
comp=Z,30nm,1.5s
PAULI Pauline 34.62 34 P **P** **10 41 41.0 -0.6**
PAULI IAmb IAmb 10 41 48.0
comp=Z,21nm,1.2s
Q44A Meyer Farm, Va 34.64 21 P P 10 41 40.3 -1.3
BGNE Belgrade 34.67 8 P P 10 41 40.9 -1.1
baz=191
BGNE Belgrade 34.67 8 P **P** **10 41 41.5 -0.4**
PNTR Pine Nut 34.68 339 P **P** **10 41 43.1 +0.8**
PNTR IAmb IAmb 10 41 54.9
comp=Z,12nm,0.8s
V53A Saluda 34.72 32 P P 10 41 41.7 -0.9
V53A IAmb IAmb 10 41 43.5
comp=Z,28nm,1.2s
T50A Nancy 34.78 28 P P 10 41 41.8 -1.1
T50A IAmb IAmb 10 41 43.6
comp=Z,31nm,1.4s
OLIL Olney 34.83 23 P **P** **10 41 42.8 -0.6**
OLIL IAmb IAmb 10 41 43.5
comp=Z,27nm,1.1s
SPUT South Promonto 34.84 349 P **P** **10 41 44.3 +0.7**
SPUT IAmb IAmb 10 41 45.0
comp=Z,27nm,1.0s
VCNR Virginia City 34.88 339 P **P** **10 41 44.5 +0.4**
VCNR IAmb IAmb 10 41 45.8
comp=Z,16nm,1.2s
ELK Elko 34.89 346 P P 10 41 44.2 0.0
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 34.89 346 P **P** **10 41 44.2 0.0**
CZSB Cruzeiro do Su 34.92 114 *eP* **P** **10 41 44.7 +0.2**
HWUT Hardware Ranch 34.98 351 P **P** **10 41 45.2 +0.3**
HWUT IAmb IAmb 10 41 46.1
comp=Z,24nm,1.2s
TZTN Tazewell 35.02 30 P P 10 41 44.2 -0.9
baz=218
TZTN Tazewell 35.02 30 P P 10 41 44.2 -0.9
TZTN IAmb IAmb 10 41 45.4
comp=Z,41nm,1.4s
N38A Joes South For 35.06 15 P P 10 41 44.6 -0.7
N38A IAmb IAmb 10 41 45.3
comp=Z,33nm,1.1s
AFDM Forest Hills D 35.06 337 P P 10 41 45.6 +0.2
KMSC Kings Mountain 35.12 34 P **P** **10 41 45.4 -0.6**
KMSC IAmb IAmb 10 41 46.9
comp=Z,24nm,1.3s
WCI Wyandotte Cave 35.13 25 P **P** **10 41 45.3 -0.7**
WCI pmax pmax
comp=Z,26nm,1.2s
WCI Wyandotte Cave 35.13 25 P P 10 41 44.8 -1.1
baz=212
WCI Wyandotte Cave 35.13 25 P **P** **10 41 45.3 -0.7**
WCI IAmb IAmb 10 41 46.0
comp=Z,26nm,1.2s
PAHR Pah Rah Range 35.16 340 P **P** **10 41 47.4 +1.0**
K22A Casper 35.49 357 P P 10 41 48.8 -0.5
baz=176
K22A Casper 35.49 357 P **P** **10 41 49.6 +0.4**
R49A Shelbyville 35.67 26 P P 10 41 49.5 -1.1
V55A Taylorsville 35.71 33 P **P** **10 41 50.7 -0.4**
ORV Oroville 35.79 337 P **P** **10 41 52.7 +1.1**
ORV pmax pmax
comp=Z,23nm,1.3s
ORV Oroville 35.79 337 P **P** **10 41 52.7 +1.1**
ORV IAmb IAmb 10 41 53.5
comp=Z,22nm,1.3s
BLO Bloomington 35.83 24 P **P** **10 41 51.5 -0.5**
BLO pmax pmax
comp=Z,26nm,1.0s
BLO Bloomington 35.83 24 P **P** **10 41 51.5 -0.5**
BLO IAmb IAmb 10 41 52.1
comp=Z,26nm,1.0s
BW06 Boulder Array 35.84 354 P P 10 41 51.5 -0.9
baz=171,SNR=31
BW06 Boulder Array 35.84 354 P P 10 41 51.7 -0.6
BW06 IAmb IAmb 10 41 53.7
comp=Z,32nm,1.2s
PD31 Pinedale Array 35.84 354 P P 10 41 51.8 -0.6
PD31 IAmb IAmb 10 41 53.7
comp=Z,29nm,1.2s
PDAR Pinedale Array 35.84 354 P P 10 41 51.6 -0.7
comp=Z,13nm,1.0s,baz=168,slow=7.6,SNR=67
PDAR PcP **PcP** **10 44 18.2 -1.5**
comp=Z,2.2nm,0.8s,baz=158,slow=4.3,SNR=6.9
PDAR Pinedale Array 35.84 354 P P 10 41 50.9 -1.5
S51A Beattyville 35.87 29 P **P** **10 41 51.6 -0.7**
S51A IAmb IAmb 10 41 52.3
comp=Z,26nm,1.0s
U54A Nelsons Funny 35.89 32 P **P** **10 41 51.9 -0.7**
O44A Mansfield 35.94 21 P **P** **10 41 52.3 -0.6**
O44A IAmb IAmb 10 41 53.1
comp=Z,34nm,1.1s
P46A Rosedale 35.94 23 P **P** **10 41 52.5 -0.4**
P46A IAmb IAmb 10 41 53.4
comp=Z,36nm,1.4s
HDIL Hopedale 36.01 20 P P 10 41 52.2 -1.3
baz=206,SNR=14
HDIL Hopedale 36.01 20 P P 10 41 52.7 -0.8
R50A Paris 36.04 27 P P 10 41 52.7 -1.1
R50A IAmb IAmb 10 41 53.4
comp=Z,26nm,1.4s
AHID Auburn Hatcher 36.04 352 P P 10 41 53.8 -0.1
AHID IAmb IAmb 10 41 55.2
comp=Z,13nm,0.8s
SCIA State Center 36.12 14 P P 10 41 53.0 -1.4
baz=199
SCIA State Center 36.12 14 P P 10 41 53.5 -0.8
P48A Milroy 36.53 25 P P 10 41 56.5 -1.4
P48A IAmb IAmb 10 41 58.0
comp=Z,27nm,1.3s
U56A King 36.53 34 P **P** **10 41 57.6 -0.5**
O03E Paynes Creek 36.55 338 P P 10 41 57.5 -0.7
baz=150
REDW Red Top Meadow 36.59 352 P P 10 41 58.4 -0.3
SFIN Lafayette 36.64 22 P P 10 41 57.9 -1.0
baz=210,SNR=8.2
SFIN Lafayette 36.64 22 P P 10 41 57.9 -1.0
SNOW Snow King Moun 36.68 352 P P 10 41 58.8 -0.7
TPAW Teton Pass 36.73 352 P P 10 41 58.6 -1.3
L40A Anamosa 36.79 17 P P 10 41 58.7 -1.4
L40A IAmb IAmb 10 41 59.4
comp=Z,34nm,1.2s
LOHW Long Hollow 36.80 353 P P 10 41 59.6 -1.0
V58A Windy Hill, Pi 36.85 35 P **P** **10 42 00.1 -0.6**
V58A IAmb IAmb 10 42 01.5
comp=Z,43nm,1.4s
P49A Miami Univ. Ec 36.89 26 P P 10 41 59.2 -1.8
baz=214,SNR=7.2
P49A Miami Univ. Ec 36.89 26 P P 10 41 59.5 -1.6
RSSD Black Hills 36.92 1 P **P** **10 42 01.2 -0.3**
RSSD pmax pmax
comp=Z,14nm,1.1s
RSSD Black Hills 36.92 1 P P 10 42 00.6 -0.9
baz=181
RSSD Black Hills 36.92 1 P **P** **10 42 01.2 -0.3**
K38A Parkersburg 36.92 14 P P 10 41 59.7 -1.6
Q51A Peebles 37.09 28 P P 10 42 01.6 -1.1
Q51A IAmb IAmb 10 42 03.1
comp=Z,42nm,1.1s
S54A Dingess, Beckl 37.12 31 P P 10 42 02.0 -1.1
S54A IAmb IAmb 10 42 04.1
comp=Z,58nm,1.5s
IMW Indian Meadow 37.13 352 P P 10 42 03.0 -0.4
BLA Blacksburg 37.15 33 P **P** **10 42 02.7 -0.6**
BLA pmax pmax
comp=Z,63nm,1.4s
BLA Blacksburg 37.15 33 P P 10 42 01.7 -1.6
baz=222,SNR=6.3
BLA Blacksburg 37.15 33 P **P** **10 42 02.7 -0.6**
ECSD EROS Data Cent 37.18 9 P P 10 42 01.9 -1.5
baz=193,SNR=12
ECSD EROS Data Cent 37.18 9 P P 10 42 02.1 -1.3
ECSD IAmb IAmb 10 42 03.9
comp=Z,27nm,1.4s
L42A Oliver, Polo 37.20 18 P P 10 42 02.1 -1.5
L42A IAmb IAmb 10 42 03.7
comp=Z,49nm,1.2s
R53A Hurricane 37.21 30 P P 10 42 03.0 -0.8
FLWY Flagg Ranch 37.28 353 P **P** **10 42 05.0 +0.4**
FLWY IAmb IAmb 10 42 06.1
comp=Z,28nm,1.2s
WVOR Wild Horse Val 37.39 343 P **P** **10 42 05.8 +0.4**
WVOR pmax pmax
comp=Z,24nm,1.2s
WVOR Wild Horse Val 37.39 343 P **P** **10 42 05.8 +0.4**
WVOR IAmb IAmb 10 42 06.7
comp=Z,24nm,1.2s
HLID Hailey 37.39 348 P P 10 42 05.0 -0.4
baz=164,SNR=32
HLID Hailey 37.39 348 P **P** **10 42 05.6 +0.1**
MOD Modoc Plateau 37.43 340 P **P** **10 42 06.0 +0.2**
YPP Pitchstone Pla 37.48 353 P **P** **10 42 06.5 +0.1**
N02D Trinity Center 37.48 337 P P 10 42 06.1 0.0
baz=149
Q52A Bidwell 37.55 29 P P 10 42 05.7 -1.0
Q52A IAmb IAmb 10 42 06.2
comp=Z,51nm,1.4s
SUSD Miller 37.55 6 P P 10 42 05.5 -1.1
baz=189
MFID Camas Ranch 37.56 346 P P 10 42 06.8 0.0
H17A Grant Village 37.57 353 P **P** **10 42 07.4 +0.4**
baz=170
P51A Williamsport 37.59 28 P P 10 42 05.9 -1.1
P51A IAmb IAmb 10 42 07.2
comp=Z,43nm,1.1s
Q49A Covington 37.60 26 P P 10 42 05.7 -1.3
Q49A IAmb IAmb 10 42 06.5
comp=Z,26nm,1.4s
T57A Hurt 37.63 34 P P 10 42 06.3 -1.0
JFWS Jewell Farm 37.85 17 P P 10 42 07.9 -1.2
JFWS pmax pmax
comp=Z,9.0nm,0.7s
JFWS Jewell Farm 37.85 17 P P 10 42 07.1 -2.0
baz=203
JFWS Jewell Farm 37.85 17 P P 10 42 07.9 -1.2
M04C Macdoel 37.86 339 P P 10 42 09.3 -0.1
baz=151,SNR=11
YMR Madison River 37.89 352 P **P** **10 42 09.7 0.0**
M02C Callahan 37.90 337 P P 10 42 09.1 -0.6
baz=149
BCYI Bear Canyon 37.92 350 P **P** **10 42 10.7 +0.7**
L44A Lake County Fo 37.93 20 P P 10 42 08.2 -1.6
baz=207
YHH Holmes Hill 37.99 353 P P 10 42 10.2 -0.5
I37A Lemond, Waseca 38.07 13 P P 10 42 09.8 -1.2
R55A Marlinton 38.10 32 P **P** **10 42 11.2 -0.2**
R55A IAmb IAmb 10 42 11.8
comp=Z,28nm,1.3s
YNE Yellowstone No 38.11 354 P P 10 42 11.3 -0.3
QLMT Earthquake Lak 38.11 352 P **P** **10 42 11.8 +0.3**
YBH Yreka Blue Hor 38.14 338 P P 10 42 11.0 -0.7
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH Yreka Blue Hor 38.14 338 P P 10 42 11.0 -0.7
P52A Corning 38.14 28 P P 10 42 09.9 -1.8
baz=218,SNR=6.8
P52A Corning 38.14 28 P P 10 42 10.3 -1.3
RLMT Red Lodge 38.15 355 P P 10 42 10.8 -1.1
baz=172,SNR=8.8
RLMT Red Lodge 38.15 355 P P 10 42 11.2 -0.6
J08A Circle Bar Ran 38.19 343 P **P** **10 42 12.5 +0.3**
J08A IAmb IAmb 10 42 13.9
comp=Z,37nm,1.4s
ACSO Alum Creek Sta 38.23 27 P P 10 42 10.5 -1.9
baz=216,SNR=5.5
ACSO Alum Creek Sta 38.23 27 P P 10 42 11.1 -1.3
ACSO IAmb IAmb 10 42 12.5
comp=Z,38nm,1.3s
K43A Burlington 38.26 19 P P 10 42 11.4 -1.2
K43A IAmb IAmb 10 42 12.0
comp=Z,24nm,1.1s
Q54A Coxs Mills 38.27 30 P P 10 42 11.9 -0.8
N49A Columbus Grove 38.27 25 P P 10 42 11.4 -1.3
N49A IAmb IAmb 10 42 12.1
comp=Z,36nm,1.2s
S57A Dark Hollow, R 38.34 33 P P 10 42 12.6 -0.8
S57A IAmb IAmb 10 42 13.3
comp=Z,37nm,1.4s
V61A Roper 38.35 38 P **P** **10 42 12.9 -0.5**
K05A Summer Lake 38.37 340 P **P** **10 42 14.3 +0.6**
K05A IAmb IAmb 10 42 16.1
comp=Z,40nm,1.2s
P53A Whipple 38.38 29 P P 10 42 12.8 -0.9
P53A IAmb IAmb 10 42 14.3
comp=Z,36nm,1.4s
L04D Klamath Falls 38.41 339 P P 10 42 13.6 -0.5
baz=151,SNR=5.9
K04D Chiloquin, OR 38.57 339 P P 10 42 14.9 -0.4
baz=152
T59A Double "B" Far 38.57 36 P P 10 42 13.5 -1.8
T59A IAmb IAmb 10 42 15.9
comp=Z,31nm,1.1s
I40A Norwalk 38.65 16 P P 10 42 14.5 -1.3
O52A Adamsville 38.66 28 P P 10 42 14.2 -1.8
O52A IAmb IAmb 10 42 16.0
comp=Z,45nm,1.3s
DLMT Dillon 38.80 351 P **P** **10 42 17.6 +0.3**
DLMT IAmb IAmb 10 42 19.2
comp=Z,28nm,1.2s
L02E Cave Junction 38.84 337 P P 10 42 17.6 0.0
baz=149
BOZ Bozeman (W) 38.89 352 P **P** **10 42 18.2 +0.1**
BOZ pmax pmax
comp=Z,9.0nm,1.4s
BOZ Bozeman (W) 38.89 352 P P 10 42 17.3 -0.8
baz=168,SNR=12
BOZ Bozeman (W) 38.89 352 P **P** **10 42 18.2 +0.1**
TAOE Nuku Hiva Isla 38.91 247 *eLR* LR 10 52 34.0
comp=Z,652nm,27.0s
TAOE Nuku Hiva Isla 38.91 247 *eT* T 11 23 25.8
comp=Z,28nm,0.2s
J05D Fort Rock, OR 38.98 340 P P 10 42 18.9 +0.1
baz=153,SNR=15
L48A N Adams 39.02 24 P P 10 42 17.6 -1.5
L48A IAmb IAmb 10 42 19.2
comp=Z,27nm,0.8s
N51A Ashland 39.06 27 P P 10 42 18.1 -1.3
N51A IAmb IAmb 10 42 19.0
comp=Z,64nm,1.4s
O53A New Philadelph 39.06 29 P P 10 42 18.1 -1.3
baz=218
I42A Draeger Farm, 39.14 18 P P 10 42 18.8 -1.1
I42A IAmb IAmb 10 42 19.7
comp=Z,54nm,1.5s
I07A Izee 39.15 343 P **P** **10 42 20.6 +0.4**
Q56A Snyder Ridge, 39.16 32 P P 10 42 19.4 -0.8
Q56A IAmb IAmb 10 42 20.6
comp=Z,34nm,1.4s
PLID Pearl Lake 39.19 347 P P 10 42 20.2 -0.4
PLID IAmb IAmb 10 42 21.6
comp=Z,27nm,1.1s
LRM Limekiln Ridge 39.23 351 P P 10 42 20.8 -0.2
J04D Umpqua Nationa 39.23 340 P P 10 42 20.5 -0.5
baz=152,SNR=9.0
BMO Blue Mountains 39.27 346 P P 10 42 20.3 -0.9
BMO pmax pmax
comp=Z,12nm,1.2s
BMO Blue Mountains 39.27 346 P P 10 42 20.3 -0.9
MCWV Mont Chateau 39.28 31 P P 10 42 19.9 -1.3
baz=221
K02D Willamette Mer 39.33 338 P P 10 42 21.2 -0.5
baz=149,SNR=6.5
PINE Pine Mountain 39.33 341 P **P** **10 42 22.3 +0.5**
PINE IAmb IAmb 10 42 24.0
comp=Z,46nm,1.1s
SPMN Marine on St. 39.35 13 P P 10 42 20.0 -1.7
baz=198,SNR=5.5
SPMN Marine on St. 39.35 13 P P 10 42 20.4 -1.3
O54A Avella 39.41 30 P P 10 42 21.4 -0.9
O54A IAmb IAmb 10 42 22.1
comp=Z,62nm,1.4s
E28A Huff 39.51 4 P P 10 42 21.9 -1.1
E28A IAmb IAmb 10 42 22.6
comp=Z,52nm,1.4s
LAO LASA Array 39.51 358 P P 10 42 22.4 -0.7
baz=177
CBN Corbin Frederi 39.53 34 P P 10 42 21.6 -1.7
baz=225
AAM Ann Arbor 39.64 24 P P 10 42 22.5 -1.6
baz=213
N53A Lisbon 39.68 28 P P 10 42 22.9 -1.6
N53A IAmb IAmb 10 42 23.9
comp=Z,37nm,1.1s
F36A Milaca 39.80 12 P P 10 42 23.4 -2.0
I04A Tendick Farm, 39.83 340 P P 10 42 25.1 -0.7
baz=151
J01E Myrtle Point 39.83 338 P P 10 42 25.8 +0.1
baz=149
I05D Terrebonne, OR 39.95 341 P P 10 42 26.0 -0.8
baz=153,SNR=7.4
J47A Sunmer 39.97 22 P P 10 42 25.7 -1.2
J47A IAmb IAmb 10 42 26.3
comp=Z,25nm,0.9s
HRY Holter Researc 40.01 352 P P 10 42 26.7 -0.6
M52A Chesterland 40.01 27 P P 10 42 25.9 -1.4
H43A Windswept, Lux 40.02 19 P P 10 42 25.2 -2.1
G40A Rib Lake 40.03 16 P P 10 42 26.0 -1.4
I03D Drain, OR 40.07 339 P P 10 42 27.1 -0.6
baz=150
P57A Homestead Farm 40.10 32 P P 10 42 27.1 -0.9
G08A Pilot Rock 40.11 344 P **P** **10 42 28.9 +0.8**
N54A Moraine State 40.20 29 P P 10 42 27.4 -1.5
baz=219,SNR=7.9
N54A Moraine State 40.20 29 P P 10 42 27.9 -1.0
N54A IAmb IAmb 10 42 28.7
comp=Z,53nm,1.3s
M53A Wt Miller and 40.25 28 P P 10 42 27.1 -2.1
baz=218
M53A Wt Miller and 40.25 28 P P 10 42 27.9 -1.3
M53A IAmb IAmb 10 42 29.2
comp=Z,39nm,1.3s
F10A Beach Ranch, E 40.31 346 P P 10 42 28.8 -1.0
BUCK Buck Mountain 40.38 339 P **P** **10 42 30.8 +0.4**
O56A Blue Knob Stat 40.39 31 P P 10 42 29.0 -1.5
baz=222,SNR=5.9
O56A Blue Knob Stat 40.39 31 P P 10 42 29.6 -0.9
MSO Missoula 40.45 350 P P 10 42 29.8 -1.2
baz=165,SNR=8.4
MSO Missoula 40.45 350 P P 10 42 30.2 -0.8
H04A Detroit Lake 40.53 340 P P 10 42 31.6 0.0
H04A IAmb IAmb 10 42 32.2
comp=Z,31nm,1.2s
H04D Lebanon 40.58 340 P P 10 42 31.3 -0.6
baz=151
I02D Swisshome 40.61 338 P P 10 42 31.0 -1.2
baz=150
G05D Wamic, OR 40.75 342 P P 10 42 33.3 -0.1
baz=154
M54A Oil Creek Stat 40.78 29 P P 10 42 31.9 -1.7
baz=220,SNR=10
M54A Oil Creek Stat 40.78 29 P P 10 42 32.3 -1.4
M54A IAmb IAmb 10 42 33.3
comp=Z,54nm,1.4s
MDND Maddock 40.86 5 P P 10 42 32.3 -1.9
baz=187
MDND Maddock 40.86 5 P P 10 42 33.0 -1.2
MDND IAmb IAmb 10 42 34.3
comp=Z,55nm,1.4s
F07A Phinny Hill Vi 40.93 344 P **P** **10 42 35.5 +0.7**
SSPA Standing Stone 41.01 31 P P 10 42 33.7 -1.8
baz=222
SSPA Standing Stone 41.01 31 P P 10 42 34.6 -0.9
SSPA IAmb IAmb 10 42 35.4
comp=Z,50nm,1.5s
E09A Wood Farm, Sta 41.03 346 P P 10 42 35.2 -0.4
COWI Conover 41.09 16 P P 10 42 34.6 -1.5
COWI IAmb IAmb 10 42 36.5
comp=Z,26nm,1.1s
ERPA Erie 41.10 28 P P 10 42 34.0 -2.2
baz=219
ERPA Erie 41.10 28 P P 10 42 34.7 -1.6
ERPA IAmb IAmb 10 42 35.4
comp=Z,40nm,1.4s
M55A Ridgway 41.19 30 P P 10 42 35.9 -1.1
M55A IAmb IAmb 10 42 37.3
comp=Z,45nm,1.4s
HAWA Hanford 41.28 344 P P 10 42 37.8 +0.1
HAWA IAmb IAmb 10 42 38.9

comp=Z,36nm,1.1s
I49A Point Hope 41.34 24 P P 10 42 36.3 -1.9
I49A IAmb IAmb 10 42 37.3
comp=Z,57nm,1.4s
G03D McMinnville, O 41.36 340 P **P 10 42 39.2 +0.9**
baz=151
MVL Millersville 41.36 33 P P 10 42 37.5 -1.0
F05D White Salmon 41.38 342 P P 10 42 38.4 -0.1
baz=154,SNR=6.2
E07A Sunnyside 41.52 344 P **P 10 42 40.4 +0.7**
E07A IAmb IAmb 10 42 41.9
comp=Z,45nm,1.3s
P60A Greenville 41.62 34 P P 10 42 39.0 -1.6
baz=226
ETMB Extrema 41.64 113 *e*P P 10 42 39.2 -1.8
WUPA West Chester U 41.72 34 P P 10 42 40.2 -1.2
D08A Wollman Farm, 41.73 345 P P 10 42 41.2 -0.2
D08A IAmb IAmb 10 42 42.5
comp=Z,21nm,1.0s
AGMN Agassiz Nation 41.74 9 P P 10 42 39.9 -1.5
baz=193,SNR=25
AGMN Agassiz Nation 41.74 9 P P 10 42 40.1 -1.3
N58A Sunbury 41.77 32 P P 10 42 40.6 -1.1
M57A Sunshine Farm, 41.91 31 P P 10 42 41.8 -1.2
M57A IAmb IAmb 10 42 42.6
comp=Z,32nm,1.5s
E43A Lone Tree Farm 41.97 18 P P 10 42 41.5 -1.8
D41A Chassel 42.13 16 P P 10 42 43.3 -1.3
B35A Bob, Littlefor 42.16 11 P P 10 42 42.9 -1.9
B35A IAmb IAmb 10 42 44.7
comp=Z,30nm,1.2s
EYMN Ely 42.22 13 P P 10 42 43.4 -2.0
baz=199,SNR=7.2
EYMN Ely 42.22 13 P P 10 42 43.9 -1.5
EYMN IAmb IAmb 10 42 44.5
comp=Z,48nm,1.4s
LON Longmire 42.26 342 P P 10 42 45.4 -0.4
LON pmax pmax
comp=Z,22nm,1.0s
LON Longmire 42.26 342 P P 10 42 45.4 -0.4
LON IAmb IAmb 10 42 52.6
comp=Z,22nm,0.9s
C09A Chrisman Ranch 42.27 346 P P 10 42 45.1 -0.6
C09A IAmb IAmb 10 42 46.5
comp=Z,38nm,1.4s
L56A Greenwood 42.28 30 P P 10 42 44.8 -1.2
L56A IAmb IAmb 10 42 46.5
comp=Z,23nm,1.2s
LUPA Lehigh Univers 42.31 33 P **P 10 42 45.9 -0.3**
LUPA IAmb IAmb 10 42 47.3
comp=Z,23nm,1.1s
E04D Cinebar 42.32 341 P P 10 42 46.1 -0.1
baz=153,SNR=15
N59A State Game Lan 42.32 33 P P 10 42 45.2 -1.1
baz=225
N59A State Game Lan 42.32 33 P **P 10 42 45.8 -0.6**
LTY Liberty 42.39 344 P P 10 42 46.8 0.0
LTY IAmb IAmb 10 42 47.6
comp=Z,24nm,1.3s
NEW Newport 42.45 347 P P 10 42 46.4 -0.8
NEW Newport 42.45 347 P P 10 42 46.2 -1.1
baz=161,SNR=18
NEW Newport 42.45 347 P P 10 42 46.4 -0.9
NEW IAmb IAmb 10 42 47.6
comp=Z,22nm,1.1s
MMNY Mt. Morris Dam 42.56 29 P P 10 42 46.2 -2.0
MMNY IAmb IAmb 10 42 47.6
comp=Z,44nm,1.3s
WALA Waterton Lakes 42.61 351 P P 10 42 48.3 -0.3
WALA IAmb IAmb 10 42 49.9
comp=Z,26nm,1.1s
E03A Lebam 42.63 341 P **P 10 42 49.5 +0.8**
E03A IAmb IAmb 10 42 50.9
comp=Z,37nm,1.1s
D05A Enumclaw 42.71 342 P **P 10 42 49.7 +0.4**
LPAZ La Paz 42.80 123 P P 10 42 50.8 -0.4
comp=Z,23nm,1.2s,baz=311,slow=7.0,SNR=27
LPAZ LR LR 10 58 51.9
comp=Z,61nm,20.1s,baz=310,slow=34
LPAZ La Paz 42.80 123 P P 10 42 51.0 -0.2
LPAZ pmax pmax
comp=Z,39nm,1.4s
LPAZ La Paz 42.80 123 P P 10 42 51.0 -0.2
LPAZ IAmb IAmb 10 42 53.0
comp=Z,39nm,1.4s
LPAZ La Paz 42.80 123 *e*P P 10 42 50.9 -0.4
LPAZ La Paz 42.80 123 *e*P P 10 42 50.3 -0.9
K56A Middlesex 42.82 30 P P 10 42 48.8 -1.5
baz=222,SNR=5.2
E46A Sault Ste Mari 42.84 21 P P 10 42 48.7 -1.8
D04E Lakebay 42.94 342 P P 10 42 51.3 +0.1
baz=153
J55A Hilton 43.00 29 P P 10 42 50.1 -1.6
J55A IAmb IAmb 10 42 51.0
comp=Z,40nm,1.4s
B08A Colville Reser 43.05 345 P P 10 42 51.5 -0.6
C06D Leavenworth 43.06 344 P P 10 42 52.0 -0.2
baz=156
ODNJ Ogdensburg 43.07 33 P **P 10 42 52.0 -0.4**
ODNJ IAmb IAmb 10 42 52.3
comp=Z,24nm,1.2s
L58A Harry Jones Me 43.08 31 P P 10 42 51.1 -1.3
baz=224,SNR=8.0
BINY Binghamton 43.12 31 P P 10 42 51.6 -1.2
baz=224,SNR=6.0
BINY Binghamton 43.12 31 P P 10 42 51.8 -1.1
BINY IAmb IAmb 10 42 52.8
comp=Z,52nm,1.4s
K57A Scipio Center 43.24 30 P P 10 42 52.6 -1.1
K57A IAmb IAmb 10 42 54.1
comp=Z,38nm,1.4s
TRNY Table Rock, Ra 43.32 34 P P 10 42 53.6 -0.8
D03D Eldon 43.35 342 P P 10 42 54.4 -0.2
baz=152,SNR=10
PAL Palisades 43.40 34 P P 10 42 54.1 -0.9
PAL pmax pmax
comp=Z,28nm,1.1s
PAL Palisades 43.40 34 P P 10 42 53.7 -1.3
baz=227
PAL Palisades 43.40 34 P P 10 42 54.1 -0.9
PAL IAmb IAmb 10 42 55.5
comp=Z,28nm,1.1s
PB11 IPOC Station P 43.42 129 P P 10 42 55.4 -0.2
PB11 IAmb IAmb 10 42 56.2
comp=Z,33nm,1.1s
J56A Wolcott 43.48 29 P P 10 42 54.1 -1.5
J56A IAmb IAmb 10 42 54.5
comp=Z,13nm,0.8s
NLWA Neilton Lookou 43.48 341 P P 10 42 55.7 +0.1
NLWA IAmb IAmb 10 42 57.5
comp=Z,32nm,1.1s
SADO Sadowa 43.56 26 P P 10 42 54.3 -2.0
SADO IAmb IAmb 10 42 56.0
comp=Z,17nm,0.9s
L59A Walton 43.61 32 P P 10 42 56.0 -0.8
L59A IAmb IAmb 10 42 57.6
comp=Z,22nm,1.1s
ULM Lac du Bonnet 43.65 8 P P 10 42 54.4 -2.4
comp=Z,17nm,1.1s,baz=201,slow=8.9,SNR=11
ULM PcP **PP 10 44 42.1 +3.6**
comp=Z,6.6nm,0.8s,baz=153,slow=3.7,SNR=5.7
ULM LR LR 11 01 08.1
comp=Z,120nm,21.2s,baz=241,slow=36
ULM Lac du Bonnet 43.65 8 P P 10 42 55.0 -1.9
ULM pmax pmax
comp=Z,26nm,1.2s
ULM Lac du Bonnet 43.65 8 P P 10 42 55.0 -1.9
ULM IAmb IAmb 10 42 56.4
comp=Z,26nm,1.2s
B05A Bryant 43.71 343 P P 10 42 56.1 -1.3
baz=154,SNR=10
B06A Marblemount 43.76 344 P P 10 42 57.3 -0.5
WSPT Westport, CT 43.84 34 P P 10 42 57.4 -1.1
WSPT IAmb IAmb 10 42 58.0
comp=Z,36nm,1.3s
PECO Prince Edward 43.90 29 P P 10 42 57.5 -1.5
J57A Williamstown 44.00 30 P **P 10 42 59.3 -0.5**
J57A IAmb IAmb 10 42 59.9
comp=Z,31nm,1.4s
BOAV Boa Vista 44.03 94 *e*P P 10 42 59.0 -1.6
DELO Deloro Mine 44.05 28 P P 10 42 58.1 -2.1
DELO IAmb IAmb 10 42 59.3
comp=Z,36nm,1.4s
SAML Samuel 44.12 111 P P 10 42 59.3 -1.9
SAML pmax pmax
comp=Z,36nm,1.0s
SAML Samuel 44.12 111 P P 10 42 59.3 -1.9
SAML Samuel 44.12 111 *e*P P 10 42 59.6 -1.6
KSCT Kent School, K 44.12 34 P P 10 43 00.0 -0.8
KSCT IAmb IAmb 10 43 00.8
comp=Z,22nm,1.1s
PB01 IPOC Station P 44.28 130 P P 10 43 02.5 0.0
PB01 IAmb IAmb 10 43 03.8
comp=Z,25nm,1.3s
A04D Lummi Island 44.29 343 P P 10 43 02.0 0.0
baz=154,SNR=10
J58A Remsen 44.32 31 P P 10 43 00.6 -1.8
baz=224
J58A Remsen 44.32 31 P P 10 43 01.3 -1.1
A05A Maple Falls 44.37 343 P P 10 43 00.9 -1.7
A05A IAmb IAmb 10 43 03.7
comp=Z,23nm,0.7s
PGC Sidney 44.45 342 P P 10 43 02.9 -0.5
PGC IAmb IAmb 10 43 04.2
comp=Z,27nm,1.2s
I57A Carthage 44.55 30 P P 10 43 02.1 -2.1
baz=223,SNR=5.9
PLVO Plevna 44.70 28 P P 10 43 03.9 -1.5
PLVO IAmb IAmb 10 43 04.6
comp=Z,28nm,1.4s
I58A Old Forge 44.71 31 P P 10 43 04.0 -1.6
baz=224,SNR=7.0
TRY Troy 44.71 32 P P 10 43 04.0 -1.5
TRY IAmb IAmb 10 43 05.6
comp=Z,25nm,1.3s
J59A Piesco 44.79 31 P P 10 43 05.0 -1.2
J59A IAmb IAmb 10 43 05.8
comp=Z,33nm,1.4s
MACA Manacapuru-AM 44.87 102 *e*P P 10 43 04.9 -2.4
K61A Williamstown 44.88 33 P P 10 43 05.9 -1.0
baz=227,SNR=15
ALGO Algonquin Park 44.97 26 P P 10 43 05.5 -2.0
baz=219,SNR=13
L61B Northampton 45.05 33 P P 10 43 06.4 -1.9
baz=228
H57A Richville 45.07 29 P P 10 43 06.7 -1.6
baz=223,SNR=5.1
PTGA Pitinga 45.07 98 P P 10 43 07.3 -1.6
ACCN Adirondack Com 45.17 32 P P 10 43 08.1 -1.1
J60A Lant Hill Farm 45.20 32 P P 10 43 08.2 -1.2
baz=226,SNR=7.0
M64A Tiverton 45.29 35 P P 10 43 07.8 -2.3
baz=230
NCB Newcomb 45.29 31 P P 10 43 08.6 -1.5
NCB IAmb IAmb 10 43 09.9
comp=Z,15nm,1.2s
I59A Olmsteadville 45.35 31 P P 10 43 08.4 -2.2
baz=225
K62A Royalston 45.44 34 P P 10 43 08.6 -2.7
baz=228
K62A Royalston 45.44 34 P P 10 43 10.7 -0.7
LONY Lake Ozonia 45.58 30 P P 10 43 10.7 -1.7
baz=224,SNR=5.3
LONY Lake Ozonia 45.58 30 P P 10 43 11.7 -0.7
LVC Limon Verde 45.62 131 P P 10 43 13.5 0.0
LVC pmax pmax
comp=Z,29nm,1.5s
LVC Limon Verde 45.62 131 P P 10 43 13.5 0.0
LVC IAmb IAmb 10 43 15.3
comp=Z,30nm,1.4s
LVC Limon Verde 45.62 131 *e*P P 10 43 13.0 -0.5
H58A Gabriels 45.63 30 P P 10 43 10.6 -2.3
baz=224
I60A Shoreham 45.68 32 P P 10 43 11.7 -1.5
baz=226,SNR=7.3
HRV Adam Dziewonsk 45.71 34 P P 10 43 11.6 -1.9
baz=229
J61A Chester 45.73 33 P P 10 43 12.2 -1.4
baz=227,SNR=6.5
L64A Middleborough 45.75 35 P P 10 43 12.5 -1.3
baz=230,SNR=5.2
L64A Middleborough 45.75 35 P P 10 43 12.8 -0.9
LLLB Lillooet 45.77 345 P P 10 43 13.7 -0.1
LLLB IAmb IAmb 10 43 14.2
comp=Z,21nm,1.4s
K63A Dunstable 45.85 34 P P 10 43 12.8 -1.8
baz=229
K63A Dunstable 45.85 34 P P 10 43 13.4 -1.1
K63A IAmb IAmb 10 43 14.9
comp=Z,34nm,1.4s
H59A Cadyville 46.04 31 P P 10 43 14.5 -1.6
baz=225
J62A Henniker 46.05 33 P P 10 43 14.7 -1.5
baz=228,SNR=5.4
HNH Hanover 46.12 32 P P 10 43 16.0 -0.7
FRNY Flat Rock 46.23 30 P P 10 43 16.0 -1.5
FRNY IAmb IAmb 10 43 17.1
comp=Z,31nm,1.5s
H60A Morristown 46.49 31 P P 10 43 18.4 -1.2
baz=226
EDM Edmonton 46.59 353 P P 10 43 19.5 -0.8
EDM pmax pmax
comp=Z,87nm,1.2s
EDM Edmonton 46.59 353 P P 10 43 19.5 -0.8
LBNH Lisbon 46.67 32 P P 10 43 19.5 -1.5
baz=227
I62A Tamworth 46.74 33 P P 10 43 20.2 -1.3
baz=228
H61A Lyndonville 46.87 32 P P 10 43 21.4 -1.2
baz=227,SNR=5.4
H03N2 Juan Fernandez 47.01 150 T T 11 33 47.1
baz=326,slow=78,SNR=15
H03N1 Juan Fernandez 47.02 150 T T 11 33 46.4
baz=326,slow=78,SNR=14
H03N3 Juan Fernandez 47.03 150 T T 11 33 46.0
baz=326,slow=78,SNR=14
I63A Otisfield 47.26 33 P P 10 43 24.4 -1.2
baz=229
H62A Milan 47.30 32 P P 10 43 24.7 -1.3
baz=228
H62A Milan 47.30 32 P P 10 43 25.2 -0.8
FFC Flin Flon 47.57 2 P P 10 43 26.8 -1.1
FFC pmax pmax
comp=Z,36nm,1.4s
FFC Flin Flon 47.57 2 P P 10 43 26.8 -1.1
G61A St-Isidore-de- 47.59 31 P P 10 43 26.7 -1.5
baz=227,SNR=5.6
I64A Boothbay 47.70 34 P P 10 43 27.6 -1.4
baz=230
LSQQ Lebel-sur-Quev 47.85 24 P P 10 43 28.7 -1.4
baz=218
H63A New Sharon 47.96 33 P P 10 43 29.7 -1.3
baz=229
G62A West of Eustis 48.06 32 P P 10 43 30.6 -1.2
baz=228,SNR=5.4
G62A West of Eustis 48.06 32 P P 10 43 31.1 -0.8
MATQ Matagami 48.14 23 P P 10 43 30.8 -1.6
baz=217,SNR=7.0
VILB Vilhena 48.27 114 *e*P P 10 43 33.0 -0.9
H64A Troy 48.39 33 P P 10 43 32.9 -1.4
baz=230
G63A Kingsbury 48.48 33 P P 10 43 33.6 -1.5
baz=229,SNR=5.1
PKME Peaks-Kenny Pk 48.75 33 P P 10 43 35.6 -1.5
baz=229
F62A Pittston Farm, 48.81 32 P P 10 43 36.1 -1.5
baz=228
H65A Eastbrook 48.96 34 P P 10 43 37.1 -1.7
baz=231
G64A Maxfield 49.03 33 P P 10 43 37.6 -1.7
baz=230
F63A Nahmakanta, Br 49.14 32 P P 10 43 38.6 -1.5
baz=229
EMMW East Machias 49.41 34 P P 10 43 41.5 -0.7
E62A Clayton Lake 49.52 31 P P 10 43 41.8 -1.3
baz=228
E62A Clayton Lake 49.52 31 P P 10 43 42.1 -0.9
E62A IAmb IAmb 10 43 42.9
comp=Z,24nm,1.4s
H66A Whiting 49.54 34 P P 10 43 41.3 -1.8
baz=232
CHGQ Chibougamau 49.59 25 P P 10 43 41.6 -1.9
baz=221,SNR=9.6
F64A Sherman 49.65 33 P P 10 43 42.0 -2.0
baz=230,SNR=13
F64A Sherman 49.65 33 P P 10 43 43.1 -0.9
G65A Princeton 49.66 34 P P 10 43 42.5 -1.5
baz=231
G65A Princeton 49.66 34 P P 10 43 42.9 -1.1
G65A IAmb IAmb 10 43 44.5
comp=Z,25nm,1.2s
CO03 El Pedregal 49.67 141 P P 10 43 44.6 +0.1
ITTB Itaituba 49.95 102 *e*P P 10 43 44.0 -2.9
E63A Oxbow 49.97 32 P P 10 43 44.5 -1.9
baz=230,SNR=5.4
E63A Oxbow 49.97 32 P P 10 43 45.2 -1.2
E63A IAmb IAmb 10 43 46.8
comp=Z,25nm,1.2s
GGN Saint George 50.01 34 P P 10 43 45.9 -0.8
GGN IAmb IAmb 10 43 46.3
comp=Z,27nm,1.4s
D62A Allapoint, All 50.07 31 P P 10 43 45.8 -1.4
baz=228,SNR=7.5
D62A Allapoint, All 50.07 31 P P 10 43 46.2 -1.0
D62A IAmb IAmb 10 43 47.6
comp=Z,20nm,1.2s
PTLB Pontes e Lacer 50.17 117 *e*P P 10 43 46.9 -1.5
E64A Bridgewater 50.28 32 P P 10 43 47.0 -1.8
baz=230
D63A Stockholm 50.53 32 P P 10 43 49.2 -1.5
baz=230,SNR=5.5
PPT Papeete 50.82 241 LR LR 10 59 45.0
comp=Z,236nm,18.1s,baz=30,slow=30
PPT2 Papeete2 50.83 241 *e*LR LR 10 58 13.6
comp=Z,639nm,25.2s
MALB Monte Alegre 50.88 98 *e*P P 10 43 51.3 -2.5
NPGB Novo Progresso 50.96 105 *e*P P 10 43 51.3 -3.1
CLDB Colider 51.62 110 *e*P P 10 43 57.1 -2.3
FCC Fort Churchill 52.20 7 P P 10 44 01.5 -1.4
FCC pmax pmax
comp=Z,70nm,1.5s
FCC Fort Churchill 52.20 7 P P 10 44 01.5 -1.4
BO02 Sierra Bellavi 52.39 145 P P 10 44 04.8 -0.1
MCPB Macapa, AP 52.80 96 *e*P P 10 44 05.8 -2.5
TBI Tubuai 53.34 234 *e*LR LR 10 59 32.7
comp=Z,435nm,28.0s,baz=53
CRAG Craig 53.39 340 P P 10 44 11.1 -0.7
baz=144
SALV Santo Antonio 53.41 116 *e*P P 10 44 10.5 -2.1
BI02 San Fabin de 53.47 147 P P 10 44 12.9 0.0
PP1B Ponte de Pedra 54.77 117 *e*P P 10 44 21.0 -1.6
LC01 Cunco 54.82 149 P P 10 44 22.5 -0.1
LC01 IAmb IAmb 10 44 23.2
comp=Z,22nm,1.1s
DLBC Dease Lake 54.91 344 P P 10 44 23.0 0.0
DLBC IAmb IAmb 10 44 24.7
comp=Z,12nm,0.9s
AQDB Aquidauana 55.20 121 P P 10 44 24.4 -1.2
AQDB IAmb IAmb 10 44 25.1
comp=Z,16nm,1.3s
AQDB Aquidauana 55.20 121 *e*P P 10 44 24.7 -0.9
SIT Sitka 55.40 340 P P 10 44 26.6 +0.2
baz=142
YKA Yellowknife Ar 55.82 354 P P 10 44 27.3 -2.1
comp=Z,8.4nm,1.1s,baz=162,slow=7.7,SNR=26
YKA PcP **PcP 10 45 27.5 -0.8**
comp=Z,8.7nm,1.0s,baz=159,slow=4.0,SNR=14
YKA LR LR 11 08 49.4
comp=Z,71nm,18.0s,baz=0.0,slow=36
YKA Yellowknife Ar 55.82 354 P P 10 44 28.5 -0.9
YKA Yellowknife Ar 55.82 354 P P 10 44 28.5 -0.9
PRPB Parauapebas 56.10 102 *e*P P 10 44 30.0 -2.3
SNDB Serra Nova Dou 56.16 109 *e*P P 10 44 31.6 -1.0
SCHQ Schefferville 56.34 25 P P 10 44 31.0 -2.2
comp=Z,21nm,1.1s,baz=238,slow=5.5,SNR=12
SCHQ LR LR 11 10 27.9
comp=Z,149nm,19.1s,baz=210,slow=38
SCHQ Schefferville 56.34 25 P P 10 44 31.3 -1.9
CPUP Villa Florida 56.50 128 P P 10 44 34.1 -0.7
comp=Z,6.8nm,0.9s,baz=310,slow=6.3,SNR=13
CPUP Villa Florida 56.50 128 P P 10 44 34.5 -0.3
CPUP pmax pmax
comp=Z,21nm,1.2s
CPUP Villa Florida 56.50 128 P P 10 44 34.5 -0.3
CPUP IAmb IAmb 10 44 35.4
comp=Z,21nm,1.2s
CPUP Villa Florida 56.50 128 *e*P P 10 44 35.0 +0.2
ARAG Araguaiana, MT 56.84 114 *e*P P 10 44 35.4 -2.0
PLCA Paso Flores 56.87 150 P P 10 44 37.4 0.0
comp=Z,8.8nm,1.1s,baz=325,slow=8.8,SNR=8.5
PLCA LR LR 11 03 31.0
comp=Z,134nm,18.4s,baz=326,slow=30
PLCA Paso Flores 56.87 150 P P 10 44 37.7 +0.4
PLCA pmax pmax
comp=Z,21nm,1.3s
PLCA Paso Flores 56.87 150 P P 10 44 37.6 +0.3
PLCA IAmb IAmb 10 44 39.1
comp=Z,21nm,1.3s
PLCA Paso Flores 56.87 150 *e*P P 10 44 38.2 +0.9
TMAB Tom-Au,PA,Br 57.04 97 *e*P P 10 44 37.5 -1.4
SKAG Skagway 57.31 342 P P 10 44 39.8 -0.2
baz=143
WHY Whitehorse 58.14 343 P P 10 44 45.3 -0.7
baz=144
ITQB Itaqui 58.70 131 *e*P P 10 44 48.3 -2.0
TRCB Terra Rica 58.74 122 *e*P P 10 44 50.2 -0.6
SMTB Santa Maria do 58.86 105 *e*P P 10 44 50.5 -1.2
PEXB Peixe 59.01 109 *e*P P 10 44 50.9 -1.8
HYT Haines Junctio 59.06 342 P P 10 44 52.4 0.0
HYT IAmb IAmb 10 44 54.3
comp=Z,14nm,1.3s
PINM Pinnacle 59.40 340 P P 10 44 54.5 -0.2
baz=138
PCMB Pacaembu 59.44 120 *e*P P 10 44 55.1 -0.6
ITRB Iturama 59.52 118 *e*P P 10 44 55.1 -1.2
TRQA Tornquist 59.82 142 P P 10 44 57.3 -0.6
TRQA pmax pmax
comp=Z,17nm,1.4s
TRQA Tornquist 59.82 142 P P 10 44 57.2 -0.7
TRQA IAmb IAmb 10 44 58.1
comp=Z,17nm,1.4s
TRQA Tornquist 59.82 142 *e*P P 10 44 57.1 -0.8
COYC Coyhaique 59.88 154 P P 10 44 57.6 -0.6
MESA MESA 60.04 339 P P 10 44 59.1 -0.2
baz=136
BDFB Brasilia 60.29 112 P P 10 44 59.8 -1.9
comp=Z,10nm,0.8s,baz=290,slow=8.4,SNR=10
BDFB Brasilia 60.29 112 P P 10 45 00.2 -1.5
BDFB pmax pmax
comp=Z,20nm,1.0s
BDFB Brasilia 60.29 112 P P 10 45 00.2 -1.5
CTGM Chitina Glacie 60.40 340 P P 10 45 01.4 -0.2
CTGM IAmb IAmb 10 45 03.2
comp=Z,10nm,1.0s
CTG Chitna Glacier 60.40 340 P P 10 45 01.2 -0.5
baz=137
KAIM Kayak Island 60.74 338 P P 10 45 03.6 -0.3
baz=133
CRQE Cirque 60.84 339 P P 10 45 04.2 -0.6
baz=135
IPMB Ipameri, GO 60.85 115 *e*P P 10 45 02.5 -2.9
CRQM Cirque 60.86 339 P P 10 45 04.9 -0.1
CRQM IAmb IAmb 10 45 09.9
comp=Z,17nm,1.0s
ROSB Rosrio 61.04 97 *e*P P 10 45 05.1 -1.6
Q23K Middleton Isla 61.14 337 P P 10 45 06.3 -0.2
baz=131
RAGM Ragged Mountai 61.15 339 P **P 10 45 07.3 +0.6**
MCARA McCarthy VSAT 61.27 340 P P 10 45 06.9 -0.5
baz=135
MCARA McCarthy VSAT 61.27 340 P P 10 45 07.6 +0.2
VRDI Verde Repeater 61.30 340 P P 10 45 07.7 -0.2
VRDI IAmb IAmb 10 45 08.6
comp=Z,24nm,1.4s
CPSB Cacapava Do Su 61.46 130 *e*P P 10 45 09.4 +0.1
BMRM Bremner River 61.53 339 P P 10 45 08.6 -0.6
baz=133,SNR=5.9
BMRM Bremner River 61.53 339 P P 10 45 09.3 +0.1
FRTB Fartura 61.56 121 *e*P P 10 45 09.4 -0.7
GLB Gilahina Butte 61.58 340 P P 10 45 09.6 0.0
M27K Edge Creek, AK 61.59 341 P P 10 45 09.4 -0.3
baz=137
EYAK Cordova Ski Ar 61.66 338 P P 10 45 09.6 -0.4
baz=132,SNR=6.1
EYAK Cordova Ski Ar 61.66 338 P **P 10 45 10.6 +0.6**
HIN Hinchinbrook I 61.83 338 P P 10 45 11.3 +0.1
N25K Chitina, Valde 61.97 340 P P 10 45 11.8 -0.4
baz=133,SNR=14
N25K Chitina, Valde 61.97 340 P P 10 45 12.4 +0.2
M26K Nabesna, AK 61.99 341 P P 10 45 11.4 -1.0
baz=135,SNR=12
PLTB Pedras Altas 61.99 132 *e*P P 10 45 12.8 0.0
BCAR Beaver Creek A 62.08 342 P P 10 45 11.9 -1.0
L27K Beaver Creek, 62.09 342 P P 10 45 12.2 -0.8
baz=137,SNR=16
L27K Beaver Creek, 62.09 342 P P 10 45 12.6 -0.4

L27K IAmb IAmb 10 45 14.0
comp=Z,12nm,1.1s
DAWY Dawson 62.13 343 P P 10 45 12.2 -1.0
SDBA SAO DESIDERIO 62.29 108 *e*P P 10 45 14.7 -0.5
KLU Klutina 62.35 339 P P 10 45 13.7 -1.1
baz=132,SNR=7.0
KLU Klutina 62.35 339 P P 10 45 14.1 -0.8
GLI Glacier Island 62.37 338 P P 10 45 13.8 -1.1
baz=131
L26K Log Cabin Wild 62.55 341 P P 10 45 14.9 -1.2
baz=135,SNR=8.0
MENT Mentasta 62.60 341 P P 10 45 16.4 -0.1
HARP HAARP 62.70 340 P P 10 45 16.6 -0.4
baz=133
KDAK Kodiak Island 62.73 333‖ *e*P P 10 45 16.7 -0.6
KDAK pmax pmax
comp=Z,31nm,1.4s
KDAK Kodiak Island 62.73 333 P P 10 45 16.6 -0.7
baz=124
KDAK Kodiak Island 62.73 333 P **P 10 45 18.2 +0.9**
KDAK IAmb IAmb 10 45 18.5
comp=Z,19nm,1.3s
OHAK Old Harbor 62.74 333 P P 10 45 16.5 -0.9
baz=123
SEW Seward 62.78 337 P P 10 45 16.3 -1.3
baz=128,SNR=5.9
SEW Seward 62.78 337 P P 10 45 16.4 -1.1
SII Sitkinak Islan 62.80 332 P P 10 45 16.9 -0.9
baz=122
M24K Tolsona, Glenn 62.85 339 P P 10 45 17.4 -0.7
baz=132
K27K Chicken 62.88 342 P P 10 45 17.9 -0.3
baz=137
K27K Chicken 62.88 342 P P 10 45 17.9 -0.3
RCLB Rio Claro- Sao 62.96 119 *e*P P 10 45 18.7 -0.8
BRSE Bradley Lake S 63.08 336 P P 10 45 18.7 -0.9
baz=126,SNR=5.8
BRLK Bradley Lake 63.15 336 P P 10 45 19.5 -0.6
CNPM China Poot 63.16 335 P P 10 45 19.7 -0.5
EGAK Eagle 63.17 343 P P 10 45 18.9 -1.2
baz=138,SNR=12
EGAK Eagle 63.17 343 P P 10 45 19.0 -1.1
PAX Paxson 63.20 340 P P 10 45 18.9 -1.6
PAX pmax pmax
comp=Z,11nm,1.2s
PAX Paxson 63.20 340 P P 10 45 18.6 -1.9
baz=133
PAX Paxson 63.20 340 P P 10 45 18.9 -1.6
PAX IAmb IAmb 10 45 21.0
comp=Z,11nm,1.2s
DOT Dot Lake 63.22 341 P P 10 45 19.4 -1.1
DOT IAmb IAmb 10 45 19.9
comp=Z,10.0nm,0.8s
KNK Knik Glacier 63.22 338 P P 10 45 19.2 -1.4
baz=129,SNR=6.8
KNK Knik Glacier 63.22 338 P P 10 45 19.9 -0.7
EPYK Eagle Plains 63.25 346 P P 10 45 19.0 -1.6
baz=144,SNR=13
EPYK Eagle Plains 63.25 346 P P 10 45 19.2 -1.4
SCRK Sand Creek 63.43 342 P P 10 45 20.7 -1.2
baz=135,SNR=7.3
SCRK Sand Creek 63.43 342 P P 10 45 21.2 -0.8
SML Sawmill 63.43 338 P P 10 45 20.6 -1.3
baz=130,SNR=15
SML Sawmill 63.43 338 P P 10 45 21.0 -0.9
SPB Sao Paulo 63.47 121 *e*P P 10 45 23.0 +0.2
RC01 Rabbit Creek A 63.50 337 P P 10 45 20.7 -1.7
baz=128
RIDG Independent Ri 63.53 341 P P 10 45 21.3 -1.3
baz=134,SNR=16
RIDG Independent Ri 63.53 341 P P 10 45 21.9 -0.7
JANB Januaria 63.54 111 *e*P P 10 45 21.9 -1.6
PMR Palmer 63.59 338 P P 10 45 22.1 -0.8
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 63.59 338 P P 10 45 21.6 -1.3
baz=129
PMR Palmer 63.59 338 P P 10 45 22.1 -0.8
PMR IAmb IAmb 10 45 27.8
comp=Z,14nm,1.0s
GHO Glory Hole Cre 63.62 338 P P 10 45 22.4 -0.9
VAO Valinhos 63.65 120 *e*P P 10 45 23.3 -0.9
WAT6 Susitna Watana 63.72 339 P P 10 45 22.5 -1.5
baz=130,SNR=23
PET01 Itanhaem-SP 63.85 121 *e*P P 10 45 25.3 0.0
NBPS Pedro II - PI 63.93 98 *e*P P 10 45 24.9 -1.2
TER01 Tubaro-SC 63.99 126 *e*P P 10 45 26.4 +0.2
P19K Oil Pt 64.06 335 P P 10 45 25.9 -0.3
baz=124
SUA Susitna One 64.12 337 P P 10 45 25.0 -1.5
baz=127,SNR=11
SUA Susitna One 64.12 337 P P 10 45 25.8 -0.7
INK Inuvik 64.16 348 P P 10 45 25.1 -1.4
comp=Z,19nm,1.0s,baz=144,slow=7.8,SNR=18
INK Inuvik 64.16 348 P P 10 45 25.1 -1.4
INK pmax pmax
comp=Z,29nm,1.1s
INK Inuvik 64.16 348 P P 10 45 25.0 -1.5
baz=148,SNR=18
INK Inuvik 64.16 348 P P 10 45 25.1 -1.4
WAT1 Susitna Watana 64.16 339 P P 10 45 25.0 -1.7
baz=130
RSO Redoubt South 64.32 336 P P 10 45 26.9 -1.1
MC01 Montes Claros 64.34 112 *e*P P 10 45 28.4 -0.3
SPU Mount Spurr 64.46 337 P P 10 45 27.7 -1.0
CUT Chulitna 64.51 338 P P 10 45 27.8 -1.1
baz=128,SNR=5.1
CUT Chulitna 64.51 338 P P 10 45 28.3 -0.6
RND Reindeer 64.64 340 P P 10 45 29.2 -0.7
RND pmax pmax
comp=Z,72nm,1.3s
RND Reindeer 64.64 340 P P 10 45 29.2 -0.8
HDA Harding Lake 64.67 341 P P 10 45 28.1 -1.8
baz=132,SNR=6.8
HDA Harding Lake 64.67 341 P P 10 45 28.5 -1.5
HDA IAmb IAmb 10 45 29.3
comp=Z,20nm,1.4s
SKT Skwentna 64.73 338 P P 10 45 28.9 -1.5
baz=126,SNR=10
SKT Skwentna 64.73 338 P P 10 45 29.1 -1.4
O19K Port Alsworth 64.82 335 P P 10 45 28.3 -2.7
baz=123
MCK McKinley 64.88 340 P P 10 45 31.0 -0.4
MCK pmax pmax
comp=Z,24nm,1.2s
MCK McKinley 64.88 340 P P 10 45 29.5 -1.9
baz=130
MCK McKinley 64.88 340 P P 10 45 31.0 -0.4
BSCB Bom Sucesso 64.89 117 *e*P P 10 45 30.8 -1.5
IL31 64.89 341 P P 10 45 29.7 -1.7
ILAR Eielson Array 64.89 341 P P 10 45 29.6 -1.8
comp=Z,11nm,0.8s,baz=153,slow=4.9,SNR=80
PARB Paraibuna 64.93 120 *e*P P 10 45 32.9 +0.4
PRP Porcupine Dome 64.98 342 P P 10 45 30.8 -1.4
baz=134,SNR=27
PRP Porcupine Dome 64.98 342 P P 10 45 30.7 -1.4
O18K Koktuh Hills 65.01 334 P P 10 45 30.5 -1.9
baz=122
DIAM Diamantina, MG 65.05 114 *e*P P 10 45 32.0 -1.5
WRH Wood River Hil 65.08 341 P P 10 45 31.8 -0.8
WRH IAmb IAmb 10 45 33.6
comp=Z,18nm,1.3s
CCB Clear Creek Bu 65.10 341 P P 10 45 31.5 -1.2
CCB IAmb IAmb 10 45 33.2
comp=Z,13nm,1.2s
NBMO Morrinhos-CE 65.13 97 *e*P P 10 45 33.5 -0.4
TRF Thorofare Moun 65.17 339 P P 10 45 31.7 -1.8
baz=128,SNR=7.3
TRF Thorofare Moun 65.17 339 P P 10 45 32.2 -1.3
N19K Bonanza Creek 65.22 336 P P 10 45 32.0 -1.8
baz=123,SNR=7.1
COLA College 65.27 341 *de*P P 10 45 32.0 -1.8
COLA pmax pmax
comp=Z,8.0nm,1.0s
COLA College 65.27 341 P P 10 45 32.2 -1.6
baz=131
TCOL CIGO, UAF Yank 65.27 341 P P 10 45 32.7 -1.2
TCOL IAmb IAmb 10 45 34.9
comp=Z,9.0nm,1.1s
M20K Styx River 65.28 337 P P 10 45 32.7 -1.5
baz=125
POKR Poker Plat Res 65.30 341 P P 10 45 32.1 -1.9
baz=132
SDPT Sand Point 65.34 329 P P 10 45 31.9 -2.6
baz=115
MDM Murphy Dome 65.44 341 P P 10 45 34.6 -0.5
MDM IAmb IAmb 10 45 36.0
comp=Z,12nm,1.1s
KTH Kantishna Hill 65.46 339 P P 10 45 33.8 -1.5
NEA2 Nenana 65.48 341 P P 10 45 33.6 -1.6
baz=130,SNR=12
NEA2 Nenana 65.48 341 P P 10 45 33.8 -1.5
PPLA Purkeypile 65.52 338 P P 10 45 33.9 -1.8
baz=126
PPLA Purkeypile 65.52 338 P P 10 45 34.7 -1.0
FYU Fort Yukon 65.63 343 P P 10 45 35.3 -0.9
N18K Kilae Creek 65.74 335 P P 10 45 35.1 -1.9
baz=122,SNR=7.1
M19K Big River Lodg 65.79 337 P P 10 45 35.4 -2.0
baz=124
BPAW Bear Paw Mtn. 65.82 340 P P 10 45 35.2 -2.2
baz=128,SNR=6.8
BPAW Bear Paw Mtn. 65.82 340 P P 10 45 35.7 -1.8
BPAW IAmb IAmb 10 45 37.4
comp=Z,7.4nm,1.1s
SVW2 Sparrevohn 65.83 336 P P 10 45 35.8 -1.8
SVW2 IAmb IAmb 10 45 36.6
comp=Z,12nm,1.1s
H24K Noodor Dome 65.92 342 P P 10 45 36.6 -1.6
baz=132,SNR=34
I23K Minto, Yukon-K 65.93 341 P P 10 45 36.8 -1.3
baz=130,SNR=27
I23K Minto, Yukon-K 65.93 341 P P 10 45 36.8 -1.3
BMAR Burnt Mountain 66.07 344 P P 10 45 37.3 -1.7
L19K White Mountain 66.12 337 P P 10 45 37.7 -1.8
baz=123,SNR=10
CHUM Lake Minchumin 66.15 339 P P 10 45 37.6 -1.9
baz=126
MLY Manley 66.31 340 P P 10 45 39.1 -1.6
baz=128,SNR=29
MLY Manley 66.31 340 P P 10 45 39.1 -1.5
H23K Yukon River 66.43 341 P P 10 45 39.6 -1.8
baz=130,SNR=6.8
K20K Telida 66.48 338 P P 10 45 39.5 -2.2
baz=124,SNR=17
FALS False Pass 66.69 327 P P 10 45 42.1 -1.1
baz=112
I21K Tanana 66.82 340 P P 10 45 41.9 -1.9
baz=127,SNR=32
J20K Nowinta River 66.98 339 P P 10 45 42.8 -2.1
baz=125,SNR=16
NBMA Muriti-CE 67.08 101 *e*P P 10 45 46.1 -0.4
GDU01 Guandu, BA 67.64 108 *e*P P 10 45 48.7 -1.3
BSFB Barra de Sao F 67.77 114 *e*P P 10 45 49.7 -1.0
RES Resolute Bay 67.80 3 LR LR 11 15 18.1
comp=Z,130nm,18.8s,baz=254,slow=36
IMAR Indian Mountai 67.89 340 P P 10 45 48.7 -1.9
CAM01 Campos-RJ 67.91 117 *e*P P 10 45 51.6 +0.2
NBIT Itapeh - BA 68.06 109 *e*P P 10 45 52.7 +0.1
CMC01 Camacan, BA 68.09 110 *e*P P 10 45 52.4 -0.4
GUA01 Guaratinga, BA 68.13 111 *e*P P 10 45 52.5 -0.5
NAN01 Guarapari, ES 68.16 112 *e*P P 10 45 53.3 +0.1
TOLK Toolik Lake Re 68.27 344 P P 10 45 51.7 -1.4
baz=131,SNR=12
TOLK Toolik Lake Re 68.27 344 P P 10 45 52.2 -0.8
RIB01 Linhares ES 68.31 114 *e*P P 10 45 52.8 -1.3
ALF01 Guarapari-ES 68.38 115 *e*P P 10 45 54.0 -0.5
NBPA Parau_RN 68.41 99 *e*P P 10 45 53.9 -1.0
RCBR Riachuelo 69.61 99 *ce*P **P 10 46 03.0 +0.6**
RCBR pmax pmax
comp=Z,33nm,2.5s
RCBR Riachuelo 69.61 99 *e*P P 10 46 01.8 -0.6
NBAN Anadia - AL 69.94 103 *e*P P 10 46 03.1 -1.2
EFI East Falkland 70.70 151⇑ *e*P P 10 46 08.7 +0.6
EFI pmax pmax
comp=Z,22nm,1.4s
NBRF Rio Formoso - 70.87 102 *e*P P 10 46 09.5 -0.5
ILULI Ilulissat 71.01 18 P P 10 46 08.6 -1.2
ILULI pmax pmax
comp=Z,24nm,0.9s
ILULI Ilulissat 71.01 18 P P 10 46 08.6 -1.2
DY2G Dye2 71.23 21 *i* P P 10 46 09.8 -1.8
DY2G IAmb IAmb 10 46 10.5
comp=Z,13nm,0.8s
RDOG Red Dog Mine 72.03 340 P P 10 46 16.4 +0.4
baz=117
RDOG Red Dog Mine 72.03 340 P **P 10 46 17.0 +0.9**
EUNU Eureka 73.48 3 P P 10 46 24.1 -0.5
ICESG Greenland Ices 74.60 20 *i* P P 10 46 30.0 -1.6
ICESG IAmb IAmb 10 46 30.8
comp=Z,52nm,1.2s
NEEM North Greenlan 75.61 10 *i* P P 10 46 35.6 -1.6
NEEM IAmb IAmb 10 46 36.4
comp=Z,28nm,1.0s
AMKA Amchitka 75.92 321 P P 10 46 38.2 -0.9
SUMG Summit 76.24 16⇑ *i* P P 10 46 39.6 -1.5
SUMG IAmb IAmb 10 46 40.4
comp=Z,12nm,0.8s
SUMG Summit 76.24 16 P P 10 46 39.6 -1.4
SUMG pmax pmax
comp=Z,21nm,0.9s
SUMG Summit 76.24 16 P P 10 46 39.6 -1.4
PMSA Palmer Station 77.67 163 P **P 10 46 50.0 +1.4**
PMSA IAmb IAmb 10 46 51.6
comp=Z,16nm,1.3s
PMSA Palmer Station 77.67 163 *e*P **P 10 46 50.0 +1.4**
BILL Bilibino 83.22 338 *i* P P 10 47 15.3 -3.2
BILL *i* 10 50 23.9
BILL pmax pmax
comp=Z,13nm,1.3s
H11S2 WAKE ISLAND Hy 86.68 288 T T 12 23 19.1
baz=85,slow=74,SNR=17
H11S1 WAKE ISLAND Hy 86.68 288 T T 12 23 20.0
baz=85,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 86.70 288 T T 12 23 20.0
baz=85,slow=74,SNR=13
PEA0B Petropavlovsk- 89.09 323 P P 10 47 46.8 -0.9
PEA0B pmax pmax
comp=Z,30nm,1.3s
PEA0B Petropavlovsk- 89.09 323 P P 10 47 46.8 -1.0
PETK Petropavlovsk- 89.09 323 P P 10 47 46.6 -1.1
comp=Z,11nm,1.1s,baz=81,slow=9.2,SNR=14
PETK Petropavlovsk- 89.09 323 P P 10 47 46.2 -1.5
PETK Petropavlovsk- 89.09 323 P P 10 47 46.2 -1.5
DZM Mont Dzumac 91.77 248 *e*LR LR 11 17 20.0
comp=Z,201nm,27.1s
BELA Belgrano 2 92.70 169 P P 10 48 03.6 -0.3
BELA IAmb IAmb 10 48 04.8
comp=Z,8.6nm,1.3s
ESDC Sonseca Array 93.56 49 LR LR 11 27 28.3
comp=Z,63nm,18.4s,baz=280,slow=34
KONO Kongsberg 95.77 28 *ce*P **P 10 48 19.0 +0.6**
KONO pmax pmax
comp=Z,51nm,2.5s
NOA NORSAR Array B 95.90 26 LR LR 11 30 01.0
comp=Z,62nm,20.8s,baz=275,slow=34
ARCES ARCESS Array B 96.32 16 LR LR 11 32 02.6
comp=Z,47nm,21.1s,baz=240,slow=36
VNDA Vanda 97.64 193 LR LR 11 22 29.3
comp=Z,70nm,20.0s,baz=346,slow=29
SNAA Sanae 100.32 162⇑ *e*P **Pdif 10 48 39.4 +0.7**
SNAA pmax pmax
comp=Z,2.0nm,1.1s
FINES FINESS Array B 101.71 22 P **Pdif 10 48 42.6 -2.4**
comp=Z,5.5nm,1.1s,baz=312,slow=9.0,SNR=4.5
SYO Syowa Base 113.79 167⇑ *e*Pdiff **Pdif 10 49 36.0 -2.5**
SYO Syowa Base 113.79 167⇑ *e*PP PKiKP 10 54 24.0 +53
ULN Ulaanbaatar 118.65 336⇑ *i* PKIKP **PKPdf 10 53 40.3 -0.6**
SONM Songino Array 118.93 337 P PKP **PKPdf 10 53 40.1 -1.3**
comp=Z,1.0nm,0.8s,baz=79,slow=1.7,SNR=6.2
SONM Songino Array 118.93 337 PKIKP **PKPdf 10 53 40.6 -0.8**
SONM Songino Array 118.93 337 **PKPdf 10 53 40.6 -0.8**
BRTR Keskin Array B 119.48 36 PKP **PKPdf 10 53 40.5 -2.2**
comp=Z,1.3nm,0.8s,baz=232,slow=6.1,SNR=4.5
BRTR Keskin Array B 119.48 36 PKIKP **PKPdf 10 53 41.5 -1.3**
BRTR Keskin Array B 119.48 36 **PKPdf 10 53 41.5 -1.3**
BRVK Borovoye 119.95 4 *i* PKIKP **PKPdf 10 53 44.9 +1.9**
KIV Kislovodsk 121.19 27 *i* PKIKP **PKPdf 10 53 44.2 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.0s
WRA Warramunga Arr 121.66 251 PKP **PKPdf 10 53 45.6 -1.7**
comp=Z,1.7nm,0.7s,baz=94,slow=2.2,SNR=18
WRA Warramunga Arr 121.66 251 PKIKP **PKPdf 10 53 45.9 -1.4**
WRA Warramunga Arr 121.66 251 **PKPdf 10 53 45.9 -1.4**
ASAR Alice Springs 121.72 247 PKP **PKPdf 10 53 45.7 -1.6**
comp=Z,1.1nm,0.8s,baz=84,slow=2.2,SNR=10
DGZ Jazzator, Alta 122.53 351‖ *i* PKIKP **PKPdf 10 53 47.0 -1.3**
MKAR Makanchi Array 126.05 354 PKP **PKPdf 10 53 53.1 -1.9**
comp=Z,1.9nm,0.8s,baz=15,slow=1.9,SNR=13
MKAR PP **PP 10 55 44.9 -2.4**
comp=Z,1.3nm,0.9s,baz=12,slow=6.7,SNR=4.6
MKAR Makanchi Array 126.05 354 PKIKP **PKPdf 10 53 53.3 -1.7**
MKAR Makanchi Array 126.05 354 PKPdf **PKPdf 10 53 53.3 -1.7**
BOSA Boshof 128.02 121 PKP **PKPdf 10 53 58.0 -1.4**
comp=Z,5.3nm,1.0s,baz=293,slow=2.2,SNR=4.2
BOSA Boshof 128.02 121 PKIKP **PKPdf 10 53 57.8 -1.6**
BOSA Boshof 128.02 121 **PKPdf 10 53 57.8 -1.6**
LZH Lanzhou 129.50 330 *e*PKP **PKPdf 10 54 02.5 +0.4**
LZH sPKP 10 54 13.0
AAK Ala-Archa 130.53 1 *c i* PKIKP **PKPdf 10 54 04.6 +0.8**
AAK pmax pmax
comp=Z,49nm,1.7s
GEYT Alibeck 132.39 19 PKP **PKPdf 10 54 06.4 -0.9**
comp=Z,1.7nm,0.4s,baz=359,slow=7.4,SNR=4.4
UTTA Uttaradit 145.09 315 PKP **PKPbc 10 54 30.0 -0.3**
LAMP Lampang 145.19 317 PKP **PKPbc 10 54 31.4 +0.8**
CHAI Chaiyaphum 145.26 311 PKP **PKPbc 10 54 30.4 -0.5**
CMMT Chiang Mai 145.44 318 PKP **PKPbc 10 54 30.5 -1.0**
CHTO Chiang Mai 145.44 318 PKP **PKPbc 10 54 30.6 -0.8**
PHIT Phitsanulok 145.56 315 PKP **PKPdf 10 54 31.8 +0.1**
CM09 Chiang Mai Arr 145.68 318 PKP **PKPdf 10 54 32.0 0.0**
CMAR Chiang Mai Arr 145.70 318 PKPbc **PKPdf 10 54 31.6 -0.3**
comp=Z,29nm,1.1s,baz=19,slow=2.8,SNR=82
CM02 Chiang Mai Arr 145.71 318 PKP **PKPdf 10 54 32.2 +0.2**
CM01 Chiang Mai Arr 145.71 318 PKP **PKPdf 10 54 32.2 +0.2**
CM15 Chiang Mai Arr 145.71 318 PKP **PKPdf 10 54 32.1 +0.1**
CM04 Chiang Mai Arr 145.71 318 PKP **PKPdf 10 54 32.2 +0.2**
CM05 Chiang Mai Arr 145.74 318 PKP **PKPdf 10 54 32.1 0.0**
CM13 Chiang Mai Arr 145.75 318 PKP **PKPdf 10 54 32.2 +0.1**
TRTT Trang 151.72 301 PKP **PKPdf 10 54 49.2 +7.4**

TAP 28 10:51:29.3, 22.82N×120.67E, h17km, ML2.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.08**	**208**	*i* P	Pg	10 51 33.2	+0.6
SSD	baz=202			*i* S	Sg	10 51 36.0	+1.0
TSMG	**Majia**	**0.11**	**193**	*i* P	Pg	10 51 33.5	+0.5
TSMG	baz=192			*i* S	Sg	10 51 36.3	+0.8
SCST	**Cishan**	**0.18**	**293**	P	Pb	10 51 34.4	+0.3
SCST	baz=293			S	Sb	10 51 38.1	+0.8
SLGT	**Liugui**	**0.18**	**352**	*e*P	Pg	10 51 34.0	+0.1
SLGT	baz=352			S	Sb	10 51 37.7	+0.3
SGLT	**Jiouru**	**0.19**	**242**	P	Pb	10 51 34.9	+0.6
SGLT	baz=240			*e*S	Sb	10 51 38.2	+0.6
MASBT	**Mashibuluo**	**0.21**	**190**	*i* P	Pb	10 51 34.7	+0.2
MASBT	baz=190			S	Sb	10 51 38.5	+0.4
TSPT	**Pingtung City**	**0.21**	**230**	*e*S	Sb	10 51 39.2	+0.9
TWM1	**Shoushan**	**0.23**	**272**	*e*P	Pb	10 51 35.1	+0.1
SGST	**Jiashian**	**0.28**	**343**	*e*P	Pg	10 51 35.2	-0.2
SGST	baz=344			*e*S	Sb	10 51 40.3	+0.1
SNJT	**Kaohsiung City**	**0.32**	**259**	*e*P	Pg	10 51 36.2	+0.2
SNJT	baz=258			*e*S	Sb	10 51 42.2	+1.0
ECL	**Taimali**	**0.34**	**130**	P	Pb	10 51 37.1	+0.3
ECL	baz=129			*e*S	Sb	10 51 42.9	+0.9
SSPT	**Xinbi**	**0.34**	**196**	*e*S	Sb	10 51 43.0	+0.9
STYH	**Taoyuan**	**0.36**	**15**	P	Pb	10 51 37.5	+0.2
STYH	baz=15			S	Sb	10 51 44.0	+1.3
TWG	**Pinlang**	**0.37**	**89**	P	Pb	10 51 37.9	+0.6
TWG	baz=89			S	Sb	10 51 43.8	+1.0
TWGBT	**Beinan**	**0.38**	**90**	*i* P	Pb	10 51 37.9	+0.5
TWGBT	baz=89			S	Sb	10 51 43.7	+0.7
CHN3	**Shinhua**	**0.38**	**313**	*e*S	Sb	10 51 44.3	+1.1
CHN1	**Nanshi**	**0.39**	**340**	P	Pb	10 51 38.1	+0.3
CHN1	baz=340			*e*S	Sb	10 51 44.6	+1.1
WTP	**Ta-pu**	**0.43**	**353**	P	Pb	10 51 38.5	+0.1
WTP	baz=353			*e*S	Sb	10 51 45.7	+1.0
LONT	**Longtian**	**0.43**	**78**	P	Pb	10 51 38.8	+0.4
LONT	baz=77			*e*S	Sb	10 51 45.3	+0.6
TTN	**Taitung**	**0.44**	**98**	*e*S	Sb	10 51 46.0	+1.1
SCZT	**Fangliau**	**0.45**	**186**	P	Pb	10 51 38.7	+0.1
SCZT	baz=185			*e*S	Sb	10 51 45.9	+0.9
EAST	**Anshuo**	**0.46**	**159**	P	Pb	10 51 39.4	+0.4
EAST	baz=158			*e*S	Sb	10 51 46.5	+1.0
TAI	**Tainan**	**0.47**	**292**	*e*P	Pb	10 51 39.4	+0.3
TAI	baz=292			*e*S	Sb	10 51 46.9	+1.1
TWK	**Hsinying**	**0.48**	**339**	P	Pb	10 51 39.5	+0.2
TWK	baz=340			*e*S	Sb	10 51 47.1	+1.0
TPUB	**Ta-pu**	**0.48**	**355**	P	Pb	10 51 39.2	-0.1
TPUB	baz=355			S	Sb	10 51 47.0	+0.9
ELDTW	**Lidau**	**0.49**	**41**	P	Pb	10 51 39.9	+0.4
ELDTW	baz=41			S	Sb	10 51 47.3	+0.9
TAW	**Tawu**	**0.50**	**156**	*e*P	Pb	10 51 40.0	+0.4
WLCH	**Liuqiu**	**0.54**	**210**	*e*P	Pb	10 51 40.8	+0.6
WLCH	baz=210			*e*S	Sb	10 51 48.9	+1.3
SCLT	**Jiali**	**0.57**	**309**	*e*S	Sb	10 51 49.6	+1.1
ECS	**Chishang**	**0.58**	**61**	*e*S	Sb	10 51 50.2	+1.4
EDH	**Donghe**	**0.60**	**75**	P	Pb	10 51 42.0	+0.7
EDH	baz=75			*e*S	Sb	10 51 50.9	+1.3
SLIU	**Shizi**	**0.61**	**169**	P	Pb	10 51 41.8	+0.4
SLIU	baz=168			*e*S	Sb	10 51 50.9	+1.2
ICHU	**Yijhu**	**0.65**	**326**	*e*P	Pb	10 51 42.2	+0.1
ICHU	baz=326			*e*S	Sn	10 51 52.5	-1.1
FULB	**Fuli**	**0.69**	**56**	*e*P	Pg	10 51 43.2	+0.4
FULB	baz=56			*e*S	Sn	10 51 53.4	-1.1
CHKT	**Chengkung**	**0.70**	**66**	*e*S	Sn	10 51 54.0	-0.7
ALS	**Alishan**	**0.70**	**10**	P	Pb	10 51 43.4	+0.1
ALS	baz=10.0			*e*S	Sb	10 51 54.0	+1.3
CHY	**Chiayi**	**0.72**	**341**	P	Pg	10 51 43.6	+0.2
CHY	baz=342			*e*S	Sn	10 51 54.2	-0.9
LDUT	**Ludao**	**0.75**	**101**	*e*P	Pg	10 51 44.4	+0.5
	baz=100						

LDUT				*e*S	Sn	10 51 55.3	-0.7
	baz=100						
CHN5	**Tsauling**	**0.78**	**0**	P	Pg	10 51 44.9	+0.4
CHN5				*e*S	Sn	10 51 55.9	-0.9
TWF1	**Yuli**	**0.79**	**47**	P	Pg	10 51 44.7	+0.1
	baz=47						
EYUL	**Yuli**	**0.80**	**48**	*e*S	Sn	10 51 56.7	-0.5
	baz=48						
HEN	**Hengchun**	**0.81**	**176**	*e*S	Sn	10 51 57.0	-0.4
	baz=175						
YULB	**Yu-li**	**0.81**	**45**	*e*P	Pg	10 51 45.1	0.0
	baz=45						
YULB				*e*S	Sn	10 51 57.4	-0.2
	baz=45						
WGK	**Gukeng**	**0.87**	**353**	*e*S	Sn	10 51 58.8	-0.2
	baz=353						
TWK1	**Hengchun**	**0.88**	**172**	*e*P	Pg	10 51 46.2	-0.1
	baz=171						
TWK1				*e*S	Sn	10 51 59.2	+0.1
	baz=171						
WDLH	**Douliu**	**0.88**	**352**	*e*S	Sn	10 51 59.1	0.0
	baz=351						
TWKBT	**Hengchun**	**0.88**	**171**	*e*P	Pg	10 51 46.5	+0.1
	baz=171						
TWKBT				*e*S	Sn	10 51 59.4	+0.1
	baz=171						
WHYT	**Xinyi Township**	**0.89**	**11**	*e*P	Pg	10 51 46.7	0.0
	baz=10.0						
WHYT				*e*S	Sn	10 51 59.0	-0.6
	baz=10.0						
WTK	**Tuku**	**0.91**	**343**	P	Pb	10 51 46.6	+0.1
	baz=343						
WTK				*e*S	Sn	10 52 00.1	+0.2
	baz=343						
EHY	**Hungye**	**0.91**	**41**	*e*P	Pn	10 51 47.4	+0.1
	baz=41						
EHY				*e*S	Sn	10 52 00.2	+0.2
	baz=41						
WSF	**Szhu**	**0.92**	**333**	*e*P	Pg	10 51 47.0	-0.1
	baz=333						
WSF				*e*S	Sn	10 52 00.0	-0.1
	baz=333						
HGSD	**Ruisui**	**0.96**	**46**	*e*P	Pb	10 51 47.7	+0.2
	baz=45						
HGSD				S	Sn	10 52 01.8	+0.5
	baz=45						
SSLB	**Suanglung**	**1.00**	**15**	P	Pn	10 51 48.5	-0.1
	baz=15						
SSLB				S	Sn	10 52 02.2	0.0
	baz=15						
WJS	**Zhushan**	**1.00**	**3**	*e*P	Pn	10 51 48.5	0.0
	baz=2.0						
WJS				*e*S	Sn	10 52 02.5	+0.2
	baz=2.0						
WDGT	**Dungji**	**1.03**	**296**	*e*P	Pb	10 51 47.6	-1.0
	baz=295						
WNT	**Mingjian**	**1.06**	**1**	*e*S	Sg	10 52 04.0	+0.3
	baz=1.0						
SMLT	**Sun Moon Lake**	**1.08**	**11**	*e*P	Pn	10 51 49.7	-0.1
	baz=11						
SMLT				*e*S	Sg	10 52 04.7	+0.2
	baz=11						
TYC	**Yuchr**	**1.10**	**9**	*e*P	Pg	10 51 50.2	-0.3
	baz=9.0						
TYC				*e*S	Sg	10 52 04.9	0.0
	baz=9.0						
WRL	**Guolierlin Hig**	**1.11**	**346**	*e*S	Sg	10 52 05.3	-0.2
	baz=345						
ESL	**Shilin**	**1.22**	**35**	*e*S	Sn	10 52 08.0	+0.4
	baz=35						
WCS	**Beigang Elemen**	**1.25**	**10**	*e*P	Pn	10 51 52.0	0.0
	baz=10.0						
CHGB	**Renai**	**1.32**	**20**	*e*P	Pb	10 51 53.6	-0.1
	baz=20						
CHGB				*e*S	Sb	10 52 11.0	+0.5
	baz=20						
ETM	**Tongmen**	**1.37**	**33**	*e*S	Sb	10 52 11.9	+0.3
	baz=33						
WHP	**Taichung City**	**1.48**	**10**	*e*P	Pn	10 51 55.6	+0.5
	baz=9.0						

TAP 28 10:51:56.3,24.°44N×121.°41E,h11km,ML2.0,1C,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.03**	**254**	P	Pg	10 51 59.2	+0.7
	baz=254						
NNSB				S	Sg	10 52 00.1	+0.1
	baz=254						
NNSH	**Datong**	**0.03**	**254**	P	Pg	10 51 59.2	+0.7
	baz=254						
NNSH				S	Sg	10 52 00.1	0.0
	baz=254						
NNS	**Nan Shan**	**0.04**	**276**	*i* P	Pg	10 51 59.2	+0.6
	baz=273						
NNS				*i* S	Sg	10 52 00.2	+0.1
	baz=273						
NDT	**Datong Townshi**	**0.19**	**29**	*e*P	Pb	10 52 01.6	-0.3
	baz=28						
NDT				*e*S	Sg	10 52 04.4	+1.1
	baz=28						
YHNB	**Yeheng**	**0.23**	**352**	⇑P	Pb	10 52 02.8	+0.1
	baz=351						
YHNB				S	Sg	10 52 05.7	+1.0
	baz=351						
ETLH	**Xiulin Townshi**	**0.24**	**164**	P	Pb	10 52 02.7	0.0
	baz=164						
ETLH				S	Sg	10 52 05.9	+1.2
	baz=164						
FUSS	**Fushou**	**0.24**	**219**	P	Pb	10 52 02.7	-0.2
	baz=219						
FUSS				S	Sg	10 52 06.0	+1.1
	baz=219						
NSK	**Sanguang**	**0.24**	**348**	P	Pb	10 52 02.8	-0.1
	baz=350						
NSK				S	Sg	10 52 06.0	+1.1
	baz=350						
ENTT	**Nioudou**	**0.25**	**35**	P	Pb	10 52 02.6	-0.2
	baz=36						
ENTT				*e*S	Sg	10 52 05.6	+0.7
	baz=36						
TWT	**Tachien**	**0.28**	**230**	P	Pb	10 52 03.6	+0.1
	baz=230						
TWT				*e*S	Sb	10 52 07.4	-0.9
	baz=230						
TDCB	**Techi**	**0.29**	**232**	P	Pb	10 52 03.6	-0.2
	baz=231						
TDCB				*e*S	Sg	10 52 07.2	+0.8
	baz=231						
NACB	**Ninganchiao**	**0.31**	**147**	P	Pb	10 52 04.3	+0.4
	baz=147						
NACB				S	Sb	10 52 08.4	-0.5
	baz=147						
WHF	**Hehuan Shan**	**0.32**	**205**	P	Pb	10 52 04.1	-0.2
	baz=203						
WHF				*e*S	Sg	10 52 08.3	+0.9
	baz=203						
EWUT	**Wuta**	**0.33**	**88**	*e*S	Sb	10 52 08.9	-0.7
	baz=88						
ETL	**Fush Village**	**0.34**	**145**	*e*S	Sb	10 52 09.5	-0.3
	baz=145						
NDS	**Dongshan**	**0.34**	**55**	*e*P	Pb	10 52 03.9	-0.5
	baz=54						
NDS				*e*S	Sb	10 52 08.9	-0.9
	baz=54						
NWLT	**Wulai**	**0.35**	**14**	*e*P	Pb	10 52 04.6	0.0
	baz=13						
NWLT				*e*S	Sg	10 52 09.0	+1.0
	baz=13						
TWE	**Neicheng**	**0.37**	**39**	*e*P	Pb	10 52 04.8	0.0
	baz=41						
TWD	**Chiawan**	**0.39**	**155**	*e*S	Sb	10 52 11.2	-0.1
	baz=153						
LIOB	**Emei**	**0.42**	**300**	*e*P	Pb	10 52 05.8	+0.1
	baz=300						
LIOB				*e*S	Sb	10 52 11.6	-0.5
	baz=300						
NSTT	**Nanjuang**	**0.42**	**297**	*e*S	Sb	10 52 11.7	-0.5
	baz=297						
CHGB	**Renai**	**0.43**	**210**	P	Pb	10 52 06.0	-0.1
	baz=210						
CHGB				*e*S	Sb	10 52 12.0	-0.7
	baz=210						
TWC	**Suao**	**0.43**	**66**	*e*S	Sb	10 52 12.7	+0.2
	baz=67						
ILA	**Ilan**	**0.45**	**43**	*e*S	Sb	10 52 12.8	-0.2
	baz=43						
WHP	**Taichung City**	**0.45**	**250**	*e*P	Pb	10 52 06.2	-0.2
	baz=249						
WHP				*e*S	Sb	10 52 12.8	-0.4
	baz=249						
WHP	**Taichung City**	**0.45**	**250**	*e*S	Sb	10 52 12.7	-0.5
	baz=9.0						
ETM	**Tongmen**	**0.47**	**171**	*e*S	Sb	10 52 13.9	+0.2
	baz=171						
OWD	**Renai**	**0.53**	**204**	*e*S	Pb	10 52 07.4	-0.2
	baz=22						
OWD	**Renai**	**0.53**	**204**	*e*P	Pb	10 52 07.4	-0.2
	baz=204						
OWD				*e*S	Sb	10 52 15.1	-0.3
	baz=204						
NTY	**Taoyuan**	**0.57**	**350**	*e*S	Sb	10 52 16.9	+0.4
	baz=349						
TWQ1	**Liyutan**	**0.59**	**262**	*e*S	Sb	10 52 17.1	+0.1
	baz=261						
TEYL	**Yanliau Villag**	**0.59**	**163**	*e*S	Sb	10 52 16.3	-0.7
	baz=161						
WCS	**Beigang Elemen**	**0.59**	**231**	*e*P	Pb	10 52 09.1	+0.4
	baz=230						
WCS	**Beigang Elemen**	**0.59**	**231**	*e*S	Pb	10 52 09.1	+0.4
	baz=10.0						
TIPB	**Shuangxi**	**0.65**	**35**	*e*P	Pb	10 52 10.1	+0.3
	baz=35						
YM01	**YM01**	**0.72**	**11**	*e*P	Pb	10 52 11.3	+0.3
	baz=11						
YM01				*e*S	Sb	10 52 21.4	+0.5
	baz=11						

KRNET ***28*** *10:57:30.8±0.1,40.°97N×69.°78E,h8km,mb2.8*
ISC 28 10:57:30.9±1.3,41.°00N±0.°04×69.°85E±0.°06,h7km±15km, n7,σ1§10/14,6C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.53**	**308**	⇓*e*P	**Pg**	**10 57 41.2**	**0.0**
	baz=15						
TAS				⇓*e*S	**Sg**	**10 57 48.3**	**+0.1**
	baz=15						
TRKS	**Terek-Say**	**1.11**	**61**	⇑*i*P	**Pg**	**10 57 53.0**	**+0.8**
	baz=64						
TRKS				⇑*i*S	**Sn**	**10 58 09.5**	**+0.7**
	baz=64						
BTK	**Batken**	**1.19**	**141**	⇑*i*P	**Pb**	**10 57 53.9**	**0.0**
	baz=39						
BTK				⇑*i*S	**Sn**	**10 58 10.8**	**+0.2**
	baz=39						
GAR	**Garm**	**2.02**	**170**	⇓*i*P	**Pb**	**10 58 08.2**	**+0.1**
	baz=68						
GAR				⇓*i*S	**Sg**	**10 58 35.5**	**-0.5**
	baz=68						
KK31	**Karatay Array**	**2.16**	**13**	⇓Pn	**Pg**	**10 58 12.1**	**-0.3**
	1.0nm,0.3s,baz=200,slow=15,SNR=5.5						
KK31				⇓Sn	**Sg**	**10 58 41.7**	**+1.2**
	4.0nm,0.4s,baz=194,slow=26,SNR=12						
MNAS	**Manas**	**2.48**	**52**	⇑*i*P	**Pb**	**10 58 15.6**	**-0.4**
	baz=52						
MNAS				⇑*i*S	**Sb**	**10 58 48.4**	**+1.6**
	baz=52						
AML	**Almayashu**	**3.10**	**67**	⇓*i*P	**Pb**	**10 58 24.5**	**-2.1**
	baz=67						
AML				⇓*i*S	**Sb**	**10 59 03.4**	**-1.4**
	baz=67						

TAP 28 11:01:14.9,24.°42N×121.°44E,h7km,ML2.7,12C-2D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.05**	**280**	⇓*i*P	Pg	11 01 16.9	+0.3
	baz=280						
NNSH	**Datong**	**0.05**	**280**	*i* P	Pg	11 01 16.9	+0.3
	baz=281						
NNS	**Nan Shan**	**0.06**	**289**	⇓*i*P	Pg	11 01 16.9	+0.2
	baz=290						
NDT	**Datong Townshi**	**0.20**	**21**	⇑*i*P	Pg	11 01 19.2	+0.4
	baz=21						
ETLH	**Xiulin Townshi**	**0.22**	**169**	*e*P	Pg	11 01 20.6	+1.3
	baz=168						
FUSS	**Fushou**	**0.24**	**226**	⇑*i*P	Pg	11 01 20.5	+0.7
	baz=226						
ENTT	**Nioudou**	**0.25**	**28**	⇑*i*P	Pg	11 01 20.3	+0.4
	baz=30						
YHNB	**Yeheng**	**0.26**	**348**	⇑*i*P	Pg	11 01 20.3	+0.4
	baz=347						
NSK	**Sanguang**	**0.27**	**344**	⇑*i*P	Pg	11 01 20.5	+0.3
	baz=345						
TDCB	**Techi**	**0.30**	**237**	⇑*i*P	Pg	11 01 21.3	+0.4
	baz=232						
ETL	**Fush Village**	**0.31**	**147**	*e*P	Pb	11 01 22.4	-0.3
	baz=147						
EWUT	**Wuta**	**0.31**	**85**	*e*P	Pg	11 01 21.7	+0.7
	baz=98						
WHF	**Hehuan Shan**	**0.32**	**210**	⇑*i*P	Pg	11 01 21.9	+0.7
	baz=209						
NDS	**Dongshan**	**0.33**	**50**	⇑*i*P	Pg	11 01 21.8	+0.4
	baz=62						
NWLT	**Wulai**	**0.36**	**10**	*e*P	Pg	11 01 22.4	+0.4
	baz=358						
TWE	**Neicheng**	**0.37**	**35**	⇑*i*P	Pg	11 01 22.7	+0.7
	baz=33						
TWD	**Chiawan**	**0.37**	**157**	*e*P	Pb	11 01 23.4	-0.3
	baz=145						
TWC	**Suao**	**0.42**	**63**	P	Pg	11 01 23.5	+0.5
	baz=63						
CHGB	**Renai**	**0.43**	**214**	⇑*i*P	Pg	11 01 23.6	+0.3
	baz=205						
LIOB	**Emei**	**0.44**	**300**	P	Pb	11 01 24.5	-0.5
	baz=301						
NSTT	**Nanjuang**	**0.45**	**298**	⇑*i*P	Pb	11 01 24.4	-0.7
	baz=298						
ETM	**Tongmen**	**0.46**	**173**	*e*P	Pb	11 01 25.1	-0.2
	baz=162						
WHP	**Taichung City**	**0.47**	**253**	⇑*i*P	Pb	11 01 24.8	-0.7
	baz=244						
OWD	**Renai**	**0.52**	**207**	P	Pg	11 01 25.0	+0.1
	baz=199						

TAP 28 11:01:15.9,24.°43N×121.°42E,h7km,ML3.1,3C,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.04**	**265**	*i* P	Pg	11 01 17.9	+0.3
	baz=266						
NNSB				*i* S	Sg	11 01 18.8	+0.1
	baz=266						
NNSB	**Datong**	**0.04**	**265**	*i* S	Pg	11 01 17.9	+0.4
	baz=280						
NNSH	**Datong**	**0.04**	**265**	*i* P	Pg	11 01 17.9	+0.3
	baz=269						
NNSH				S	Sg	11 01 18.8	+0.1
	baz=269						
NNSH	**Datong**	**0.04**	**265**	S	Pg	11 01 17.9	+0.3
	baz=281						
NNS	**Nan Shan**	**0.05**	**280**	*i* P	Pg	11 01 17.9	+0.3
	baz=279						
NNS				*i* S	Sg	11 01 19.0	+0.1
	baz=279						
NNS	**Nan Shan**	**0.05**	**280**	*i* S	Pg	11 01 18.0	+0.4
	baz=290						
NDT	**Datong Townshi**	**0.19**	**25**	P	Pg	11 01 20.1	+0.4
	baz=25						
ETLH	**Xiulin Townshi**	**0.23**	**167**	*e*P	Pg	11 01 21.5	+1.0
	baz=166						
YHNB	**Yeheng**	**0.24**	**349**	⇑*i*P	Pg	11 01 21.3	+0.6
	baz=350						
YHNB				S	Sg	11 01 24.1	+0.1
	baz=350						
ENTT	**Nioudou**	**0.24**	**32**	⇑*i*P	Pg	11 01 21.3	+0.5
	baz=32						
ENTT				*i* S	Sg	11 01 24.7	+0.6
	baz=32						
FUSS	**Fushou**	**0.25**	**222**	⇑*i*P	Pg	11 01 21.5	+0.6
	baz=228						
FUSS				*i* S	Sg	11 01 25.1	+0.8
	baz=228						
NSK	**Sanguang**	**0.25**	**346**	*e*P	Pg	11 01 21.4	+0.5
	baz=348						
NSK				*e*S	Sg	11 01 24.4	+0.1
	baz=348						
TWT	**Tachien**	**0.29**	**232**	*e*P	Pg	11 01 22.4	+0.8
	baz=228						
ENA	**Nanau**	**0.29**	**91**	*e*P	Pb	11 01 22.7	-0.7
	baz=91						
NACB	**Ninganchiao**	**0.30**	**149**	*i* P	Pb	11 01 22.9	-0.8
	baz=149						
TDCB	**Techi**	**0.30**	**234**	*i* P	Pg	11 01 22.2	+0.3
	baz=229						
WHF	**Hehuan Shan**	**0.32**	**207**	*i* P	Pg	11 01 22.9	+0.5
	baz=206						
EWUT	**Wuta**	**0.32**	**88**	P	Pg	11 01 22.8	+0.5
	baz=87						
ETL	**Fush Village**	**0.33**	**146**	*e*P	Pg	11 01 23.1	+0.8
	baz=146						
NDS	**Dongshan**	**0.33**	**53**	*i* P	Pg	11 01 22.7	+0.3
	baz=64						
NWLT	**Wulai**	**0.35**	**12**	*e*P	Pg	11 01 23.3	+0.4
	baz=11						
NWLT				*e*S	Sg	11 01 27.5	0.0
	baz=11						
TWE	**Neicheng**	**0.36**	**37**	*i* P	Pg	11 01 23.6	+0.6
	baz=35						
TWE				*e*S	Sg	11 01 28.2	+0.4
	baz=35						
TWD	**Chiawan**	**0.38**	**156**	*e*P	Pb	11 01 24.4	-0.6
	baz=154						
TWD				*e*S	Sb	11 01 29.8	-1.3
	baz=154						
TWC	**Suao**	**0.42**	**65**	P	Pg	11 01 24.6	+0.4
	baz=65						
TWC				S	Sg	11 01 30.2	+0.4
	baz=65						
LIOB	**Emei**	**0.43**	**300**	P	Pb	11 01 25.4	-0.4
	baz=300						
NJD	**Zhudong**	**0.43**	**315**	*e*P	Pb	11 01 25.9	0.0
	baz=325						
NSTT	**Nanjuang**	**0.43**	**297**	*i* P	Pb	11 01 25.3	-0.6
	baz=299						
NSTT				*i* S	Sg	11 01 30.9	+0.8
	baz=299						
CHGB	**Renai**	**0.43**	**212**	*e*P	Pg	11 01 24.2	-0.2
	baz=212						
CHGB				*e*S	Sg	11 01 30.8	+0.6
	baz=212						
ILA	**Ilan**	**0.44**	**42**	*e*P	Pb	11 01 26.2	+0.2
	baz=41						
WHP	**Taichung City**	**0.46**	**251**	P	Pb	11 01 25.7	-0.7
	baz=253						
WHP				S	Sg	11 01 31.3	+0.3
	baz=253						
ETM	**Tongmen**	**0.47**	**172**	*e*P	Pb	11 01 27.4	+0.9
	baz=171						
ETM				S	Sb	11 01 32.5	-1.1
	baz=171						
HWA	**Hwalien**	**0.48**	**160**	*e*P	Pb	11 01 27.2	+0.5
	baz=158						
HWA				*e*S	Sb	11 01 33.7	-0.3
	baz=158						
HSN1	**Hsinchu**	**0.51**	**313**	*e*P	Pb	11 01 28.2	+1.1
	baz=313						
OWD	**Renai**	**0.53**	**206**	*e*P	Pg	11 01 26.0	-0.1
	baz=198						
NHDH	**Xindian Distri**	**0.54**	**10**	*e*P	Pb	11 01 27.5	-0.2
	baz=14						
SBCB	**Hsinchu**	**0.54**	**312**	*e*P	Pb	11 01 28.4	+0.8
	baz=312						
TATO	**Taipei**	**0.54**	**6**	P	Pb	11 01 27.3	-0.5
	baz=5.0						
TATO				S	Sg	11 01 33.9	+0.3
	baz=5.0						
HSN	**Hsinchu**	**0.55**	**312**	*e*P	Pb	11 01 28.8	+0.8
	baz=317						
NTC	**Toucheng**	**0.56**	**41**	*e*P	Pg	11 01 27.3	+0.5
	baz=27						
NJN	**Zhunan**	**0.56**	**297**	P	Pb	11 01 28.5	+0.4
	baz=289						
NJN				*e*S	Sb	11 01 35.9	-0.4
	baz=289						
TWA	**Mucha**	**0.56**	**15**	P	Pb	11 01 27.6	-0.6
	baz=14						
TWA				S	Sg	11 01 34.3	+0.1
	baz=14						
NCUH	**Zhongli**	**0.58**	**338**	*e*P	Pb	11 01 29.3	+0.9
	baz=346						
NCU	**National Centr**	**0.58**	**338**	*e*P	Pb	11 01 29.3	+1.0
	baz=347						
TEYL	**Yanliau Villag**	**0.58**	**164**	*e*P	Pb	11 01 28.2	-0.3
	baz=153						
NMLH	**Miaoli**	**0.59**	**280**	P	Pb	11 01 29.2	+0.7
	baz=280						
WPL	**Puli Township**	**0.60**	**226**	P	Pg	11 01 27.7	+0.2
	baz=226						
WCS	**Beigang Elemen**	**0.60**	**232**	*i* P	Pg	11 01 27.9	+0.4
	baz=232						
TWQ1	**Liyutan**	**0.60**	**262**	P	Pb	11 01 28.9	+0.2
	baz=262						
NSY	**Sanyi**	**0.60**	**269**	*e*P	Pb	11 01 29.4	+0.6
	baz=269						
TAP	**Taipei**	**0.61**	**7**	*e*P	Pb	11 01 29.1	+0.3
	baz=7.0						
ESL	**Shilin**	**0.61**	**179**	*e*P	Pb	11 01 28.6	-0.4
	baz=169						
EGS		**0.62**	**48**	*e*P	Pb	11 01 28.5	-0.6
	baz=48						
TIPB	**Shuangxi**	**0.65**	**34**	*i* P	Pg	11 01 28.7	+0.3
	baz=33						
TIPB				*i* S	Sg	11 01 36.5	-0.5
	baz=33						
TWS1	**Kuangyinshan**	**0.67**	**360**	*e*P	Pb	11 01 30.7	+0.8
	baz=9.0						
TWS1				*e*S	Sb	11 01 39.5	+0.2
	baz=9.0						
NWF	**Wu-fen Shan**	**0.71**	**27**	*i* P	Pb	11 01 30.4	-0.4
	baz=26						
NWF				*e*S	Sg	11 01 38.8	-0.2
	baz=26						
WFSB	**Wu-fen Shan**	**0.71**	**27**	P	Pb	11 01 30.3	-0.4
	baz=26						
WFSB				*e*S	Sg	11 01 39.1	+0.1
	baz=26						
WDJ	**Dajia District**	**0.72**	**263**	*e*P	Pn	11 01 32.0	-0.5
	baz=264						
YM01	**YM01**	**0.72**	**11**	P	Pb	11 01 31.1	+0.2
	baz=24						
YM01				*e*S	Sg	11 01 39.8	+0.4
	baz=24						
TEGC	**Jichi Village**	**0.73**	**172**	*e*P	Pn	11 01 32.3	-0.2
	baz=171						
NTST	**Danshui**	**0.73**	**2**	*e*P	Pn	11 01 32.0	-0.6
	baz=1.0						
TYC	**Yuchr**	**0.74**	**225**	P	Pg	11 01 30.2	0.0
	baz=225						
TCU	**Taichung**	**0.74**	**248**	P	Pn	11 01 32.3	-0.4
	baz=248						
ANP	**Anpu**	**0.76**	**7**	P	Pb	11 01 31.7	+0.3
	baz=21						
EGFH	**Guangfu**	**0.76**	**180**	*e*P	Pb	11 01 31.1	-0.3
	baz=180						
WWF	**Wufeng**	**0.77**	**240**	*e*P	Pn	11 01 33.1	0.0
	baz=234						
YM08	**YM08**	**0.77**	**11**	*e*P	Pb	11 01 31.6	-0.1
	baz=10.0						
TWB1	**Santiao Chiao**	**0.77**	**42**	*e*P	Pg	11 01 30.7	0.0
	baz=29						
SSLB	**Suanglung**	**0.77**	**214**	P	Pg	11 01 30.5	-0.3
	baz=214						
TNOU	**National Taiwa**	**0.78**	**24**	*e*P	Pb	11 01 31.5	-0.4
	baz=34						
WNT1	**Nantou City**	**0.86**	**233**	*e*P	Pn	11 01 34.2	-0.2
	baz=233						
WCHH	**Zhanghua**	**0.86**	**246**	*e*P	Pn	11 01 34.6	+0.2
	baz=246						
WNT	**Mingjian**	**0.87**	**231**	*e*P	Pn	11 01 34.8	+0.2
	baz=232						
WNT				*e*S	Sn	11 01 49.1	+1.5
	baz=232						
WJS	**Zhushan**	**0.88**	**226**	*e*P	Pn	11 01 34.3	-0.4
	baz=227						
WHYT	**Xinyi Township**	**0.90**	**216**	*e*P	Pg	11 01 33.0	-0.2
	baz=207						
WYL	**Yuanlin Townsh**	**0.90**	**239**	*e*P	Pn	11 01 35.2	+0.2
	baz=240						
EHY	**Hungye**	**0.93**	**186**	*e*P	Pg	11 01 33.6	-0.2
	baz=177						
HGSD	**Ruisui**	**0.94**	**180**	P	Pb	11 01 34.5	+0.1
	baz=187						
YUS	**Yu-Shan**	**1.03**	**205**	*e*P	Pg	11 01 35.5	-0.3
	baz=193						
YULB	**Yu-li**	**1.04**	**186**	*e*P	Pb	11 01 36.1	-0.1
	baz=173						
YULB				*e*S	Sg	11 01 49.5	+0.1
	baz=173						

CHN5	Tsauling	1.07	220	P	Pn	11 01 37.8 +0.3
	baz=220					
ALS	Alishan	1.08	212	eP	Pn	11 01 37.6 -0.1
	baz=212					
TWF1	Yuli	1.08	186	eP	Pb	11 01 37.0 0.0
	baz=173					
TWF1				S	Sb	11 01 51.6 +0.3
	baz=173					
WGK	Gukeng	1.08	227	eP	Pn	11 01 38.0 +0.5
	baz=228					
EYUL	Yuli	1.08	185	eP	Pn	11 01 37.3 -0.2
	baz=173					
WRL	Guolierlin Hig	1.09	241	eP	Pn	11 01 39.1 +1.4
	baz=242					
WDLH	Douliu	1.10	228	eP	Pn	11 01 38.6 +0.9
	baz=229					
ECBN	Changbin	1.11	179	eP	Pn	11 01 38.1 +0.2
	baz=164					
FULB	Fuli	1.23	186	eP	Pg	11 01 40.4 +0.8
	baz=171					
ELDTW	Lidau	1.29	197	eP	Pb	11 01 40.6 0.0
	baz=187					
CHY	Chiayi	1.30	225	eP	Pb	11 01 40.7 -0.1
	baz=226					
PCYT	Pengchaiyu	1.33	26	eP	Pb	11 01 41.3 +0.1
	baz=25					
TPUB	Ta-pu	1.34	213	eP	Pg	11 01 41.9 +0.2
	baz=214					
STYH	Taoyuan	1.39	205	eP	Pg	11 01 43.5 +0.9
	baz=220					
WTP	Ta-pu	1.39	212	eP	Pg	11 01 43.1 +0.4
	baz=212					
STYT	Tauyuan	1.40	206	eP	Pg	11 01 43.3 +0.4
	baz=220					
TWK	Hsinying	1.44	217	eP	Pg	11 01 43.9 +0.2
	baz=217					
YOJ	Yonaguni jima	1.45	89	eP	Pg	11 01 43.5 -0.2
	baz=89					
CHN1	Nanshi	1.49	214	eP	Pg	11 01 44.8 +0.4
	baz=215					
ICHU	Yijhu	1.50	225	eP	Pg	11 01 44.9 +0.3
	baz=226					
SGST	Jiashian	1.55	210	eP	Pb	11 01 45.3 +0.4
	baz=223					
SLGT	Liugui	1.60	207	eP	Pg	11 01 47.0 +0.4
	baz=221					
TWG	Pinlang	1.64	191	eP	Pg	11 01 47.9 +0.6
	baz=192					
TWGBT	Beinan	1.64	191	eP	Pg	11 01 47.6 +0.2
	baz=192					
SSD	Sandimen	1.83	204	eP	Pg	11 01 50.6 -0.4
	baz=204					
TSMG	Majia	1.86	203	eP	Pg	11 01 51.2 -0.4
	baz=203					
ECL	Taimali	1.88	193	eP	Pg	11 01 51.7 -0.2
	baz=177					
PNG	Penghu	1.91	244	eP	Pb	11 01 51.1 0.0
	baz=244					
PHUB	P'eng-hu	1.93	242	eP	Pb	11 01 51.0 -0.4
	baz=243					
MASBT	Mashibuluo	1.95	202	eP	Pg	11 01 52.7 -0.6
	baz=224					
WDGT	Dungji	1.99	235	eP	Pb	11 01 51.3 -1.1
	baz=235					
EAST	Anshuo	2.11	195	eP	Pb	11 01 55.3 +0.8
	baz=184					
SCZT	Fangliau	2.18	200	eP	Pb	11 01 55.6 0.0
	baz=200					
VCHM	Qimei	2.19	237	eP	Pb	11 01 54.7 -1.2
	baz=237					
KNMB	Chin-men Tao	2.77	271	eP	Pn	11 02 00.5 -0.2
	baz=271					

*IDC **28** 11:19:42.9±1.1, 52.°30N×169.°50W, h0km, mb4.0/13, mb1 4.2/15, mb1mx3.9/43, mbtmp3.9/15, ML3.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/47, Error ellipse: s-maj=29.2km s-min=16.8km az=175.0*

*AEIC **28** 11:19:46.9±2.4, 52.°20N±0.°07×169.°35W±0.°07, h23km±5km, ML3.5/38, mb3.9/47(NEIC), Error ellipse: s-maj=10.1km s-min=6.1km az=169.0*

*NEIC **28** 11:19:48.4±2.5, 52.°24N±0.°06×169.°36W±0.°07, h35km±2km, Error ellipse: s-maj=9.9km s-min=7.6km az=167.0*

ISC 28 11:19:47.0±0.6, 52.°18N±0.°09×169.°28W±0.°06, h30km, n129, σ1§27/128, mb4.0/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.84	18	Pn	Pn	11 20 02.1	-0.7
OKSP	Okmok Steeple	1.23	29		Pn	11 20 08.0	-0.3
OKCE	Okmok Cone E	1.42	28		Pn	11 20 11.3	+0.4
OKTU	Okmok Mt. Tuli	1.42	31		Pn	11 20 11.2	+0.3
OKNC	Okmok New Cone	1.46	28		Pn	11 20 12.1	+0.7
OKFG	Magazine Ridge	1.49	33		Pn	11 20 12.1	+0.4
OKFG					Sb	11 20 31.5	-1.1
MAPS	Pakushin South	2.16	40		Pn	11 20 21.6	+0.7
MAPS					Sn	11 20 49.0	+2.3
MGOD	Makushin Gods	2.18	41		Pn	11 20 22.2	+1.0
MSW	Makushin Switc	2.30	40		Pn	11 20 23.9	+1.0
MNAT	Makushin Natee	2.32	41		Pn	11 20 24.7	+1.5
MNAT					Sb	11 20 53.8	-2.6
UNV	Unalaska Valle	2.37	44		Pn	11 20 24.6	+0.8
UNV					Sn	11 20 53.4	+1.7
MTBL	Makushin Table	2.38	40		Pn	11 20 25.6	+1.6
AKMO	Akutan Morgan	2.75	44		Pn	11 20 31.1	+2.1
AKRB	Akutan Reef Bi	2.75	43		Pn	11 20 31.5	+2.4
AKBBA	Akutan Broad B	2.79	45		Pn	11 20 31.9	+2.3
AKGG	Akutan Green G	2.83	43		Pn	11 20 32.5	+2.4
AKUT	Akutan	2.88	46	Pn	Pn	11 20 32.1	+1.3
AKSA	Akutan Strait	2.92	46		Pn	11 20 33.4	+2.0
KOFP	Korovin Flat P	2.97	274		Pn	11 20 32.4	+0.3
ATKA	Atka Island	3.03	272	Pn	Pn	11 20 32.2	-0.7
KOKL	Mount Kliuchef	3.03	275		Pn	11 20 33.9	+0.9
GSTR	Great Sitkin T	4.18	272	Pn	Pn	11 20 49.3	+0.6
GSMY	Great Sitkin M	4.18	271		Pn	11 20 48.6	-0.2
ISLZ	Isanotski Laza	4.19	50		Pn	11 20 50.6	+1.7
GSTD	Great Sitkin T	4.24	271		Pn	11 20 49.8	+0.3
FALS	False Pass	4.41	50	Pn	Pn	11 20 53.3	+1.5
ADK	Adak	4.58	269	Pn	Pn	11 20 54.4	+0.2
KIWB	Kanaga Island	4.88	269	Pn	Pn	11 20 58.6	+0.3
KIMD	Kanaga Island	4.94	268		Pn	11 20 59.3	+0.2
SPIA	Saint Paul Isl	5.04	354		Pn	11 21 03.5	+3.0
TASE	Tanaga Southea	5.42	270		Pn	11 21 07.3	+1.5
SDPT	Sand Point	6.11	55	Pn	Pn	11 21 18.3	+3.1
CNBA	Chernabura Isl	6.36	62	Pn	Pn	11 21 19.6	+1.1
AMKA	Amchitka	7.13	268	Pn	Pn	11 21 30.0	+0.8
CHIR	Chirikof Islan	8.83	60	Pn	Pn	11 21 54.6	+2.1
SII	Sitkinak Islan	9.84	58	Pn	Pn	11 22 07.1	+0.9
OHAK	Old Harbor	10.53	55	Pn	Pn	11 22 15.4	-0.4
KDAK	Kodiak Island	11.10	53	Pn	Pn	11 22 23.2	-0.3
	0.7nm,0.3s,baz=210,slow=3.0,SNR=23						
KDAK				Sn	Sn	11 24 23.1	-3.4
	0.1nm,0.3s,baz=150,slow=20,SNR=1.8						
KDAK	Kodiak Island	11.10	53	Pn	Pn	11 22 24.1	+0.6
GAMB	Gambell	11.70	355	Pn	Pn	11 22 34.1	+2.4
CNPM	China Poot	12.50	47	Pn	Pn	11 22 43.3	+0.7
BRLK	Bradley Lake	12.77	46	Pn	Pn	11 22 48.5	+2.2
SEW	Seward	13.56	46		Pn	11 22 57.6	+0.5
O22K	Cooper Landing	13.62	45		Pn	11 22 57.3	-0.6
SUA	Susitna One	13.71	40	Pn	Pn	11 23 00.8	+1.5
SKT	Skwentna	13.72	37	Pn	Pn	11 22 58.6	-0.7
RC01	Rabbit Creek A	13.92	42	Pn	Pn	11 23 02.9	+0.8
PPLA	Purkeypile	14.07	34	Pn	Pn	11 23 05.4	+1.2
PWL	Port Wells	14.40	45	Pn	Pn	11 23 08.0	-0.6
SML	Sawmill	14.87	41	Pn	Pn	11 23 13.5	-1.5
GLI	Glacier Island	14.95	46	Pn	Pn	11 23 15.9	-0.2
HIN	Hinchinbrook I	15.02	48	Pn	Pn	11 23 16.1	-0.8
FID	Port Fidalgo	15.17	47	Pn	Pn	11 23 17.0	-2.0
FID				IAmb	IAmb	11 23 31.4	
	comp=Z,11nm,1.1s						
BPAW	Bear Paw Mtn.	15.28	32	Pn	Pn	11 23 21.0	+0.6
BPAW				IAmb	IAmb	11 23 25.9	
	comp=Z,5.3nm,0.9s						
SCM	Sheep Creek Mo	15.30	42		Pn	11 23 20.2	-0.4
SCM				IAmb	IAmb	11 23 20.7	
	comp=Z,6.0nm,0.5s						
EYAK	Cordova Ski Ar	15.42	48	Pn	Pn	11 23 21.5	-0.7
EYAK				IAmb	IAmb	11 23 48.1	
	comp=Z,6.8nm,1.2s						
RND	Reindeer	15.57	36	Pn	Pn	11 23 25.1	+1.0
RND				IAmb	IAmb	11 23 29.3	
	comp=Z,7.1nm,1.4s						
KLU	Klutina	15.73	45		Pn	11 23 25.1	-1.1
RAGM	Ragged Mountai	15.86	49	Pn	Pn	11 23 27.8	-0.1
RAGM				IAmb	IAmb	11 23 39.4	
	comp=Z,16nm,1.4s						
M24K	Tolsona, Glenn	15.91	42	Pn	Pn	11 23 28.0	-0.5
M24K				IAmb	IAmb	11 23 51.0	
	comp=Z,8.1nm,0.8s						
MLY	Manley	16.01	29		P	11 23 34.0	+1.0
HMT	Hamilton	16.04	50	Pn	Pn	11 23 29.1	-1.0
HMT				IAmb	IAmb	11 23 38.9	
	comp=Z,22nm,1.3s						
BMRM	Bremner River	16.10	47	Pn	Pn	11 23 30.4	-0.6
BMRM				IAmb	IAmb	11 23 44.8	
	comp=Z,5.9nm,0.9s						
N25K	Chitina, Valde	16.36	45	Pn	Pn	11 23 33.8	-0.5
N25K				IAmb	IAmb	11 23 39.9	
	comp=Z,3.2nm,0.8s						
WRH	Wood River Hil	16.49	33		P	11 23 37.6	-0.5
I23K	Minto, Yukon-K	16.51	30	Pn	Pn	11 23 37.2	+1.1
GLB	Gilahina Butte	16.64	46	Pn	Pn	11 23 36.3	-1.5
CCB	Clear Creek Bu	16.69	33	Pn	Pn	11 23 38.0	-0.4
CRQM	Cirque	16.70	49	Pn	Pn	11 23 39.2	+0.5
CRQM				IAmb	IAmb	11 24 07.6	
	comp=Z,13nm,0.9s						
VRDI	Verde Repeater	16.72	47	Pn	Pn	11 23 38.8	-0.1
VRDI				IAmb	IAmb	11 24 03.3	
	comp=Z,4.7nm,1.0s						
MDM	Murphy Dome	16.75	32	Pn	Pn	11 23 40.1	+1.0
ISLE	Juniper Island	17.02	50		P	11 23 44.0	-0.3
ISLE				IAmb	IAmb	11 24 00.3	
	comp=Z,9.0nm,1.1s						
IL31		17.08	34		P	11 23 44.4	-0.3
ILAR	Eielson Array	17.08	34	Pn	Pn	11 23 41.4	-1.9
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=5.7						
ILAR	Eielson Array	17.08	34		Pn	11 23 40.7	-2.6
RIDG	Independent Ri	17.24	38	P	P	11 23 46.4	-0.2
MENT	Mentasta	17.30	42	P	Pn	11 23 46.5	+0.4
BARN	Barnard Glacie	17.48	49		Pn	11 23 47.9	-0.5
BARN				IAmb	IAmb	11 23 51.8	
	comp=Z,4.6nm,0.6s						
DOT	Dot Lake	17.50	39	P	P	11 23 49.9	+0.4
TABL	Table Mountain	17.55	51	P	P	11 23 50.1	0.0
TABL				IAmb	IAmb	11 23 58.7	
	comp=Z,10.0nm,0.8s						
SCRK	Sand Creek	17.69	38	P	P	11 23 51.8	+0.1
BCAR	Beaver Creek A	18.15	42	P	Pn	11 23 56.1	-0.5
TOLK	Toolik Lake Re	19.00	22	P	P	11 24 06.2	+0.3
TOLK				IAmb	IAmb	11 24 20.9	
	comp=Z,4.8nm,1.2s						
EGAK	Eagle	19.16	38		Pn	11 24 08.8	+0.1
EGAK				IAmb	IAmb	11 24 19.8	
	comp=Z,2.7nm,0.8s						
HYT	Haines Junctio	19.38	51		Pn	11 24 13.5	+2.1
BMAR	Burnt Mountain	19.47	29	P	Pn	11 24 11.9	-0.6
DAWY	Dawson	19.54	41	P	P	11 24 11.9	+0.1
DAWY				IAmb	IAmb	11 24 16.2	
	comp=Z,5.8nm,1.4s						
PEA0B	Petropavlovsk-	19.97	286	P	P	11 24 16.1	-0.4
PETK	Petropavlovsk-	19.97	286	P	P	11 24 15.5	-1.0
	comp=Z,1.8nm,0.3s,baz=89,slow=13,SNR=29						
PETK	Petropavlovsk-	19.97	286		P	11 24 15.1	-1.5
EPYK	Eagle Plains	21.52	36	P	P	11 24 32.5	-0.8
EPYK				IAmb	IAmb	11 25 00.7	
	comp=Z,5.5nm,0.8s						
INK	Inuvik	23.48	33	P	P	11 24 52.0	-1.6
	comp=Z,1.7nm,0.4s,baz=254,slow=8.1,SNR=9.5						
INK	Inuvik	23.48	33	P	P	11 24 52.6	-1.0
INK				IAmb	IAmb	11 25 10.5	
	comp=Z,9.2nm,1.5s						
YKA	Yellowknife Ar	30.33	49	P	P	11 25 55.9	+0.5
	comp=Z,0.7nm,0.4s,baz=286,slow=10,SNR=8.8						
YKA				LR	LR	11 38 07.5	
	comp=Z,36nm,18.9s,baz=0.0,slow=36						
YKA	Yellowknife Ar	30.33	49	P	P	11 25 55.1	-0.4
ERM	Erimo	33.38	272	P	P	11 26 22.6	+0.2
MCMT	McKenzie Canyo	37.26	78	P	P	11 26 56.8	+0.7
H11N2	WAKE ISLAND Hy	37.34	219	T	T	12 06 50.7	
	baz=24,slow=75,SNR=8.3						
H11N3	WAKE ISLAND Hy	37.34	219	T	T	12 06 49.6	
	baz=24,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	37.36	219	T	T	12 06 51.9	
	baz=24,slow=75,SNR=10.0						
BOZ	Bozeman (W)	37.59	76	P	P	11 27 00.9	+2.1
BOZ				IAmb	IAmb	11 27 19.5	
	comp=Z,2.4nm,1.4s						
YHH	Holmes Hill	38.48	77	P	P	11 27 08.4	+1.9
YHH				IAmb	IAmb	11 27 09.0	
	comp=Z,1.6nm,0.5s						
H11S1	WAKE ISLAND Hy	38.52	218	T	T	12 08 18.2	
	baz=23,slow=76,SNR=56						
H11S2	WAKE ISLAND Hy	38.54	218	T	T	12 08 17.8	
	baz=23,slow=76,SNR=57						
H11S3	WAKE ISLAND Hy	38.54	218	T	T	12 08 19.5	
	baz=23,slow=76,SNR=39						
BW06	Boulder Array	40.38	79	P	P	11 27 23.8	+1.5
BW06				IAmb	IAmb	11 27 25.1	
	comp=Z,4.8nm,1.4s						
PD31	Pinedale Array	40.38	79	P	P	11 27 22.3	0.0
PD31				IAmb	IAmb	11 27 25.1	
	comp=Z,3.8nm,1.3s						
PDAR	Pinedale Array	40.38	79	P	P	11 27 24.1	+1.8
	comp=Z,1.2nm,0.5s,baz=299,slow=3.5,SNR=18						
PDAR	Pinedale Array	40.38	79	P	P	11 27 23.3	+1.0
ECSD	EROS Data Cent	47.48	70	P	P	11 28 19.4	+0.4
SONM	Songino Array	51.45	301	P	P	11 28 49.4	+0.1
	comp=Z,0.3nm,0.3s,baz=53,slow=7.6,SNR=4.3						
TX31	Lajitas Ar. Si	52.69	89	P	P	11 28 59.8	+1.1
TX32	Lajitas Array	52.69	89	P	P	11 28 59.7	+1.0
TX32				IAmb	IAmb	11 29 18.4	
	comp=Z,2.8nm,1.4s						
TXAR	Lajitas Array	52.69	89	P	P	11 29 00.1	+1.4
	comp=Z,0.5nm,0.5s,baz=306,slow=5.6,SNR=15						
TXAR	Lajitas Array	52.69	89	P	P	11 29 00.2	+1.5
P40A	Paris	52.79	71	P	P	11 28 59.6	+0.4
ABTX	Abilene, Hawle	52.87	83	P	P	11 28 55.8	-4.1
SCO	Scoresbysund	55.40	13	P	P	11 29 17.6	-0.1
ARCES	ARCESS Array B	58.12	354	P	P	11 29 36.4	-0.7
	comp=Z,9.8nm,1.2s,baz=12,slow=7.4,SNR=8.6						
ARCES	ARCESS Array B	58.12	354	P	P	11 29 36.8	-0.3
MKAR	Makanchi Array	63.98	314	P	P	11 30 15.9	-1.3
	comp=Z,0.3nm,0.3s,baz=52,slow=7.0,SNR=5.6						
FINES	FINESS Array B	66.07	352	P	P	11 30 29.7	-0.7
	comp=Z,1.7nm,0.7s,baz=15,slow=7.9,SNR=6.2						
FINES	FINESS Array B	66.07	352	P	P	11 30 29.5	-0.9
NB2	NORSAR Subarra	67.13	360	P	P	11 30 37.0	-0.4
	comp=Z,0.6nm,0.6s,baz=0.9,slow=6.5						
NOA	NORSAR Array B	67.13	360	P	P	11 30 36.9	-0.4
	comp=Z,0.9nm,0.6s,baz=0.5,slow=6.3,SNR=4.1						
AKASG	Malin Array Be	76.31	348	P	P	11 31 31.9	-0.6
	comp=Z,0.9nm,0.4s,baz=13,slow=5.5,SNR=4.3						
CMAR	Chiang Mai Arr	76.72	283	P	P	11 31 34.8	-0.6
	comp=Z,1.6nm,0.8s,baz=20,slow=6.3,SNR=5.7						
KBZ	Khabaz	80.51	337	P	P	11 31 57.0	+1.1
	comp=Z,1.5nm,0.7s,baz=63,slow=9.0,SNR=4.5						
ASAR	Alice Springs	90.31	230	P	P	11 32 44.5	-0.4
	comp=Z,0.3nm,0.8s,baz=43,slow=5.6,SNR=2.2						

JMA 28 11:28:36.3±0.2, 24.°86N×122.°99E, h124km, M1.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.40	177	P	Pn	11 28 54.0	-0.2
JYNG	Yonagunijimaku	0.41	186	P	Pn	11 28 54.7	+0.5
IRIF	Iriomote-Funau	0.85	128	P	Pn	11 28 57.4	+0.1
IRIF				eS	Sn	11 29 13.5	+0.3
HATJ	Hateruma jima	1.09	137	eS	Sn	11 29 17.6	+0.4
JKRS	Kuro-shima	1.12	124	P	Pn	11 29 00.4	+0.6
JKRS				S	Sn	11 29 18.0	+0.4
JIJ	Ishigaki jima	1.16	115	P	Pn	11 29 00.3	0.0
JIJ				S	Sn	11 29 17.6	-0.8
JISG	Ishigakijimahi	1.23	102	P	Pn	11 29 01.0	0.0
JISG				eS	Sn	11 29 19.3	-0.4
JTJ	Tarama	1.57	98	P	Pn	11 29 05.2	+0.4
JTJ				S	Sn	11 29 26.9	+0.4

TAP 28 11:29:00.3, 24.°58N×121.°52E, h8km±1km, ML0.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	Nioudou	0.08	34	P	Pg	11 29 02.7	+0.4
	baz=38						
ENTT				eS	Sg	11 29 05.1	+1.3
	baz=38						
YHNB	Yeheng	0.16	305	eP	Pg	11 29 04.5	+0.8
	baz=305						
YHNB				S	Sg	11 29 06.4	+0.3
	baz=305						
NSK	Sanguang	0.18	304	P	Pg	11 29 04.5	+0.5
	baz=305						
NSK				S	Sg	11 29 07.1	+0.6
	baz=305						
NNSB	Datong	0.19	220	P	Pg	11 29 04.6	+0.2
	baz=221						
NNSH	Datong	0.19	220	eP	Pg	11 29 04.5	+0.2
	baz=223						

*ECX **28** 11:30:34.0±0.4, 28.°05N×112.°09W, h20km±10km, MD3.2*
*MEX **28** 11:30:35.5±0.8, 28.°00N×112.°07W, h10km, MD3.7*

ISC 28 11:30:32.5±1.4, 28.°05N±0.°08×112.°05W±0.°08, h10km, n6, σ0§45/12, 1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.75	193	iP	Pg	11 30 47.0	0.0
SRIG				iS	Sg	11 30 56.7	-0.1
SRIG	Santa Rosalia	0.75	193	⇓eP	Pg	11 30 47.0	0.0
SRIG				iS	Sg	11 30 57.2	+0.3
GUYB	Guaymas	1.05	98	eP	Pg	11 30 52.8	+0.1
GUYB				eS	Sg	11 31 05.4	-1.0
GUYB	Guaymas	1.05	98	eP	Pg	11 30 52.8	+0.1
GUYB				eS	Sg	11 31 07.0	+0.7
HSIG		1.36	45	eP	Pn	11 30 57.5	-0.1
HSIG				eS	Sn	11 31 16.1	+0.4
HSIG		1.36	45	eP	Pn	11 30 57.3	-0.3
HSIG				eS	Sn	11 31 15.9	+0.2

*SOME **28** 11:36:12.7, 41.°02N×70.°25E, h5km*
*KRNET **28** 11:36:13.8±0.1, 41.°01N×70.°25E, h2km, mb3.1*

ISC 28 11:36:13.4±1.5, 41.°02N±0.°04×70.°25E±0.°04, h2km±16km, n9, σ1§70/17, 11C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	Tashkent	0.78	293	⇑eP	Pb	11 36 29.0	-0.7
	baz=94						
TAS				⇑eS	Sb	11 36 39.8	-0.9
	baz=94						
TRKS	Terek-Say	0.84	53	⇓iP	Pg	11 36 29.4	-0.1
	baz=57						
TRKS				⇓iS	Sg	11 36 41.3	+0.9
	baz=57						
BTK	Batken	1.06	156	⇑eP	Pb	11 36 33.8	-0.6
	baz=55						
BTK				⇑iS	Sb	11 36 48.8	+0.1
	baz=55						
GAR	Garm	2.02	179	⇑eP	Pb	11 36 50.4	-0.5
	baz=78						
GAR				⇑iS	Sg	11 37 17.7	-0.6
	baz=78						
KK31	Karatay Array	2.09	5	⇓Pn	Pg	11 36 52.8	-0.6
	1.3nm,0.3s,baz=187,slow=16,SNR=14						
KK31				⇑Lg	Lg	11 37 21.6	
	3.4nm,0.6s,baz=195,slow=27,SNR=7.8						
MNAS	Manas	2.23	48	⇑iP	Pb	11 36 53.9	-0.6
	baz=48						
MNAS				⇑iS	Sb	11 37 23.4	+0.7
	baz=48						
MRKS	Merke	2.81	51	eP	Pg	11 37 06.9	-0.4
	3.3nm,0.4s						
MRKS				eS	Sg	11 37 46.2	+2.6
	6.9nm,0.2s						
AML	Almayashu	2.81	66	⇑eP	Pb	11 37 02.2	-2.3
	baz=66						
AML				⇑iS	Sb	11 37 37.8	-1.8
	baz=66						
EKS2	Erkin-Say	3.10	57	⇓iP	Pn	11 37 05.9	+2.4
	baz=57						
EKS2				⇓iS	Sb	11 37 44.2	-3.5
	baz=57						

*BGS **28** 11:36:21.8±0.9, 46.°53N×3.°17W, h10km, ML3.3*
*STR **28** 11:36:27.3±0.9, 47.°N±3.°×±.°, h13km±8km, MLv3.7/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*
*LDG **28** 11:36:28.3±0.1, 46.°85N×2.°99W, h20km, Md3.6/3, Ml3.7/76, Error ellipse: s-maj=1.6km s-min=1.1km az=63.0*
*INMG **28** 11:36:29.0±1.0, 46.°98N×3.°28W, h31km, ML2.8, Error ellipse: s-maj=14.9km s-min=6.6km az=104.0*

ISC 28 11:36:25.4±0.7, 46.°81N±0.°02×2.°97W±0.°03, h10km, n123, σ2§41/198, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	Quistinic	1.11	353	ePn	Pg	11 36 46.5	-0.3
QUIF	Quistinic	1.11	353	ePg	Pg	11 36 48.4	+1.6
QUIF				eSn	Sg	11 36 59.7	-1.6
	423nm,0.2s						
QUIF				eSg	Sb	11 37 02.7	+1.4
	574nm,0.2s						
SGMF	Saint Gilles	1.47	11	ePn	Pn	11 36 51.5	-0.5
SGMF	Saint Gilles	1.47	11	eP	Pn	11 36 53.4	+1.4
SGMF	Saint Gilles	1.47	11	ePg	Pb	11 36 55.2	+2.3
SGMF				eSn	Sn	11 37 08.2	-3.1
SGMF				eSg	Sb	11 37 12.2	+0.6
	533nm,0.4s						
ROSF	Rostrenen	1.54	352	eP	Pn	11 36 52.3	-0.7
ROSF				eS	Sn	11 37 13.6	+0.6
ROSF				IAML		11 37 14.5	
	comp=E,602nm,0.4s						
ROSF				IAML		11 37 15.5	
	comp=N,234nm,0.2s						
ROSF	Rostrenen	1.54	352	ePn	Pn	11 36 52.2	-0.7
ROSF	Rostrenen	1.54	352	eP	Pn	11 36 54.5	+1.6
ROSF	Rostrenen	1.54	352	ePg	Pb	11 36 56.3	+2.2
ROSF				eSn	Sn	11 37 10.0	-3.0
	comp=N,300nm,0.2s						
ROSF				eSg	Sb	11 37 16.0	+2.4
	comp=N,342nm,0.3s						
ROSF	Rostrenen	1.54	352	Sn	Sn	11 37 13.6	+0.6
ROSF	Rostrenen	1.54	352	Pn	Pn	11 36 52.3	-0.7
ROSF				Pg	Pn	11 36 54.6	+1.6
RENF	Rennes	1.59	34	eP	Pn	11 36 51.2	-2.4
RENF				eS	Sn	11 37 14.3	0.0
RENF	Rennes	1.59	34	Pg	Pn	11 36 56.5	+2.8
RENF				Sn	Sn	11 37 16.5	+2.2
CAMF	Camaret-

FLN	**La Foliniere**	2.57	40	*e*Pg		**Pb**	**11 37 15.6 +3.9**
	baz=220						
FLN				*e*Sn		**Sn**	**11 37 34.4 -4.1**
	comp=N,64nm,0.3s						
FLN				*e*Sg		**Sg**	**11 37 48.7 +0.6**
	comp=N,136nm,0.3s,baz=220						
LDF	**La Druitiere**	2.62	46	*e*Pn		**Pn**	**11 37 07.8 0.0**
LDF	**La Druitiere**	2.62	46	*e*Pg		**Pg**	**11 37 16.9 +1.2**
LDF				*e*Sn		**Sn**	**11 37 36.3 -3.4**
	comp=N,46nm,0.3s						
LDF				*e*Sg		**Sg**	**11 37 50.4 +0.7**
	comp=N,113nm,0.3s						
LRVF	**chteau la Riv**	2.63	134	Pn		**Pn**	**11 37 09.9 +2.0**
LRVF				Sn		**Sg**	**11 37 56.4 +6.4**
LFF	**La Frestale**	3.20	124	*e*Pn		**Pn**	**11 37 16.7 +1.0**
LFF	**La Frestale**	3.20	124	*e*P		**Pn**	**11 37 19.1 +3.4**
LFF	**La Frestale**	3.20	124	*e*Pg		**Pg**	**11 37 28.1 +1.4**
LFF				*e*Sn		**Sn**	**11 37 51.1 -2.8**
	comp=N,36nm,0.3s						
LFF				*e*Sg		**Sg**	**11 38 09.8 +1.7**
	comp=N,173nm,0.3s						
RJF	**Les Rejaudoux**	3.47	114	*e*Pn		**Pn**	**11 37 19.7 +0.2**
RJF	**Les Rejaudoux**	3.47	114	*e*P		**Pn**	**11 37 22.9 +3.4**
RJF	**Les Rejaudoux**	3.47	114	*e*Pg		**Pg**	**11 37 33.0 +1.1**
RJF				*e*Sn		**Sn**	**11 37 57.9 -2.7**
	comp=N,30nm,0.2s						
RJF				*e*Sg		**Sg**	**11 38 18.1 +1.3**
	comp=N,130nm,0.2s						
TCF	**Toulx Ste Croi**	3.61	96	*e*Pn		**Pn**	**11 37 22.2 +0.7**
TCF	**Toulx Ste Croi**	3.61	96	*e*Pg		**Pg**	**11 37 35.6 +1.0**
TCF				*e*Sn		**Sn**	**11 38 01.0 -3.2**
	comp=N,38nm,0.2s						
TCF				*e*Sg		**Sg**	**11 38 22.3 +0.9**
	comp=N,60nm,0.3s						
DYA	**Yadsworthy**	3.68	350	*e*P		**Pn**	**11 37 22.0 -0.4**
DYA				IAML			11 38 25.8
	comp=E,76nm,0.3s						
DYA				IAML			11 38 30.1
	comp=N,38nm,0.2s						
DYA	**Yadsworthy**	3.68	350	Sn		**Sn**	**11 38 00.8 -5.0**
DYA	**Yadsworthy**	3.68	350	Pn		**Pn**	**11 37 22.0 -0.4**
CCA1	**Carnmenellis**	3.70	337	*e*P		**Pn**	**11 37 21.7 -0.9**
CCA1				IAML			11 38 31.1
	comp=N,23nm,0.4s						
CCA1				IAML			11 38 32.3
	comp=E,34nm,0.5s						
CCA1	**Carnmenellis**	3.70	337	Pn		**Pn**	**11 37 21.7 -0.9**
EALK	**Alkurruntz**	3.74	163	Sn		**Sn**	**11 38 03.7 -3.6**
EALK	**Alkurruntz**	3.74	163	Pn		**Pn**	**11 37 23.2 0.0**
CLF	**Chambon-Foret**	3.75	69	Pn		**Pn**	**11 37 24.1 +0.8**
CLF				Sn		**Sn**	**11 38 07.6 0.0**
MONQ	**Montcuq**	3.81	128	Pn		**Pn**	**11 37 25.0 +0.9**
HYF	**Humbligny**	3.86	81	*e*Pn		**Pn**	**11 37 25.9 +1.0**
HYF	**Humbligny**	3.86	81	*e*P		**Pn**	**11 37 28.4 +3.5**
HYF	**Humbligny**	3.86	81	*e*Pg		**Pg**	**11 37 39.9 +0.5**
HYF				*e*Sn		**Sn**	**11 38 06.9 -3.4**
HYF				*e*Sg		**Sg**	**11 38 29.8 +0.3**
SJPF	**Ste Jean**	3.90	161	*e*Pn		**Pn**	**11 37 24.8 -0.6**
SJPF	**Ste Jean**	3.90	161	*e*Pg		Pb	11 37 40.6 +6.3
SJPF				*e*Sn		**Sn**	**11 38 08.5 -2.8**
	comp=E,17nm,0.2s						
SJPF				*e*Sg		**Sg**	**11 38 31.2 +0.6**
	comp=E,50nm,0.5s						
CAF	**Calviac**	3.99	116	*e*Pn		**Pn**	**11 37 27.4 +0.7**
CAF	**Calviac**	3.99	116	*e*Pg		**Pg**	**11 37 42.8 +0.9**
CAF				*e*Sn		**Sn**	**11 38 10.4 -3.1**
	comp=E,16nm,0.2s						
CAF				*e*Sg		**Sg**	**11 38 34.1 +0.6**
	comp=E,70nm,0.3s						
BGF	**Bois d'Agland**	4.01	92	*e*Pn		**Pn**	**11 37 27.9 +1.0**
BGF	**Bois d'Agland**	4.01	92	*e*Pg		**Pg**	**11 37 43.1 +0.8**
BGF				*e*Sn		**Sn**	**11 38 10.7 -3.3**
	comp=E,71nm,0.3s						
BGF				*e*Sg		**Sg**	**11 38 34.4 +0.2**
	comp=E,275nm,0.4s						
ETSF	**Etsaut**	4.27	155	*e*Pn		**Pn**	**11 37 29.6 -1.0**
ETSF	**Etsaut**	4.27	155	*e*Pg		**Pg**	**11 37 47.9 +0.7**
ETSF				*e*Sn		**Sn**	**11 38 16.8 -3.7**
	comp=E,9.2nm,0.2s						
ETSF				*e*Sg		**Sg**	**11 38 43.3 +0.7**
	comp=E,15nm,0.3s						
AVF	**Avril sur Loir**	4.34	88	*e*Pn		**Pn**	**11 37 31.8 +0.3**
AVF				*e*Sn		**Sn**	**11 38 18.2 -3.9**
	comp=E,21nm,0.3s						
AVF				*e*Sg		**Sg**	**11 38 44.5 -0.3**
	comp=E,37nm,0.4s						
EPF	**Esparros**	4.45	147	*e*Pn		**Pn**	**11 37 32.4 -0.6**
EPF	**Esparros**	4.45	147	*e*P		**Pn**	**11 37 36.9 +3.9**
EPF	**Esparros**	4.45	147	*e*Pg		**Pg**	**11 37 51.2 +0.5**
EPF				*e*Sn		**Sn**	**11 38 21.4 -3.5**
	comp=E,18nm,0.2s						
EPF				*e*Sg		**Sg**	**11 38 49.0 +0.7**
	comp=E,33nm,0.4s						
SMF	**Signal de Mont**	4.69	90	*e*Pn		**Pn**	**11 37 36.5 +0.3**
SMF	**Signal de Mont**	4.69	90	*e*Pg		**Pg**	**11 37 55.1 -0.1**
SMF				*e*Sn		**Sn**	**11 38 26.3 -4.4**
	comp=E,12nm,0.2s						
SMF				*e*Sg		**Sg**	**11 38 55.6 -0.3**
	comp=E,24nm,0.2s						
LOR	**Lormes**	4.69	82	*e*Pn		**Pn**	**11 37 36.6 +0.3**
	baz=263						
LOR	**Lormes**	4.69	82	*e*Pg		**Pg**	**11 37 54.9 -0.4**
	baz=262						
LOR				*e*Sn		**Sn**	**11 38 26.1 -4.7**
	comp=E,15nm,0.2s,baz=261						
LOR				*e*Sg		**Sg**	**11 38 55.5 -0.5**
	comp=E,46nm,0.3s,baz=261						
LOR	**Lormes**	4.69	82	Pn		**Pn**	**11 37 36.2 -0.1**
ECHI	**Chisagues Biel**	4.72	150	Pn		**Pn**	**11 37 37.0 +0.2**
MTLF	**Montolieu**	5.05	131	*e*Pn		**Pn**	**11 37 41.5 +0.2**
MTLF	**Montolieu**	5.05	131	*e*Pg		**Pg**	**11 38 02.2 0.0**
MTLF				*e*Sn		**Sn**	**11 38 34.8 -4.9**
	comp=E,32nm,0.3s						
MTLF				*e*Sg		**Sg**	**11 39 07.4 -0.2**
	comp=E,25nm,0.3s						
LASF	**Ste Croix**	5.53	117	*e*Pn		**Pn**	**11 37 47.4 -0.4**
LASF	**Ste Croix**	5.53	117	*e*Pg		**Pg**	**11 38 11.0 -0.3**
LASF				*e*Sn		**Sn**	**11 38 47.0 -4.4**
	comp=E,6.5nm,0.2s						
LASF				*e*Sg		**Sg**	**11 39 22.5 -0.3**
	comp=E,40nm,0.5s						
SFTF	**Sexfontaines**	5.60	73	*e*Pn		**Pn**	**11 37 48.6 -0.2**
	baz=253						
SFTF	**Sexfontaines**	5.60	73	*e*P		**Pn**	**11 37 52.8 +4.0**
SFTF	**Sexfontaines**	5.60	73	*e*Pg		**Pg**	**11 38 11.7 -1.0**
	baz=246						
SFTF				*e*Sn		**Sn**	**11 38 48.5 -4.7**
	comp=E,13nm,0.2s						
SFTF				*e*Sg		**Sg**	**11 39 23.9 -1.3**
	comp=E,28nm,0.5s,baz=253						
MEZF	**Maizieres J'vi**	5.68	70	*e*Pn		**Pn**	**11 37 49.3 -0.5**
	baz=252						
MEZF	**Maizieres J'vi**	5.68	70	*e*P		**Pn**	**11 37 54.4 +4.6**
MEZF	**Maizieres J'vi**	5.68	70	*e*Pg		**Pg**	**11 38 13.3 -0.8**
	baz=251						
MEZF				*e*Sn		**Sn**	**11 38 49.8 -5.2**
	comp=E,18nm,0.3s						
MEZF				*e*Sg		**Sg**	**11 39 26.5 -1.1**
	comp=E,26nm,0.4s,baz=241						
VIVF	**Saint-Julien-l**	5.69	107	*e*Pn		**Pn**	**11 37 49.7 -0.3**
VIVF	**Saint-Julien-l**	5.69	107	*e*Pg		**Pg**	**11 38 14.4 +0.1**
VIVF				*e*Sn		**Sn**	**11 38 50.9 -4.4**
	comp=E,8.5nm,0.3s						
VIVF				*e*Sg		**Sg**	**11 39 26.6 -1.4**
	comp=E,27nm,0.3s						
PBRG	**Braganca**	5.69	210	*e*Pn		**Pn**	**11 37 50.1 +0.1**
PBRG				*e*Sn		**Sn**	**11 38 50.4 -5.0**
PBRG				A		A	11 38 53.5
	comp=E,7.0nm,0.4s						
SAVF	**Savonnieres en**	5.75	69	*e*P		**Pn**	**11 37 54.9 +4.1**
	baz=252						
SAVF				*e*Sn		**Sn**	**11 38 51.5 -5.4**
	comp=E,6.8nm,0.2s,baz=249						
SAVF				*e*Sg		**Sg**	**11 39 28.5 -1.5**
	comp=E,10nm,0.3s,baz=226						
BAIF	**Baives**	5.78	53	*e*Pn		**Pn**	**11 37 51.1 -0.1**
BAIF	**Baives**	5.78	53	*e*P		**Pn**	**11 37 55.0 +3.8**
BAIF				*e*Sn		**Sn**	**11 38 51.4 -6.0**
	comp=E,12nm,0.2s						
BAIF				*e*Sg		**Sg**	**11 39 29.3 -1.5**
	comp=E,10nm,0.3s						
DOU	**Dourbes**	6.01	54	*e*P		**Pn**	**11 37 54.3 0.0**
PAGF	**Fort de Pagny**	6.12	70	*e*Pn		**Pn**	**11 37 55.4 -0.6**
	baz=255						
PAGF	**Fort de Pagny**	6.12	70	*e*Pg		**Pg**	**11 38 21.3 -1.4**
	baz=241						
PAGF				*e*Sn		**Sn**	**11 39 00.9 -5.2**
	comp=E,4.3nm,0.2s,baz=241						
PAGF				*e*Sg		**Sg**	**11 39 40.0 -2.0**
	comp=E,14nm,0.4s,baz=249						
GIVF	**Givet**	6.14	55	*e*Pn		**Pn**	**11 37 55.8 -0.4**
GIVF	**Givet**	6.14	55	*e*P		**Pn**	**11 38 00.2 +4.0**
GIVF				*e*Sn		**Sn**	**11 39 00.8 -5.6**
	comp=E,17nm,0.3s						
GIVF				*e*Sg		**Sg**	**11 39 39.4 -3.0**
	comp=E,15nm,0.4s						
PGAV	**Gavieira, Arco**	6.15	220	*e*Pn		**Pn**	**11 37 55.2 -1.3**
PGAV				*e*Sn		Sn	11 39 00.2 -6.7
PGAV				A		A	11 39 08.9
	comp=E,12nm,0.5s						
CABF	**La Chapelle**	6.23	89	*e*Pn		**Pn**	**11 37 57.9 +0.4**
CABF	**La Chapelle**	6.23	89	*e*Pg		**Pg**	**11 38 23.5 -1.3**
CABF				*e*Sn		**Sn**	**11 39 04.0 -4.8**
	comp=E,2.1nm,0.3s						
CABF				*e*Sg		**Sg**	**11 39 44.7 -0.7**
	comp=E,18nm,0.6s						
PCAB	**Cabril**	6.26	217	*e*Pn		**Pn**	**11 37 57.0 -0.8**
PCAB				*e*Sn		Sn	11 39 02.9 -6.5
PCAB				A		A	11 39 06.9
	comp=E,6.9nm,0.2s						
MVO	**Moncorvo**	6.36	209	*e*Pn		**Pn**	**11 37 58.2 -1.0**
MVO				*e*Sn		**Sn**	**11 39 06.4 -5.5**
MVO				A		A	11 39 09.4
	comp=E,12nm,0.3s						
HAU	**Haudompre**	6.44	76	*e*Pn		**Pn**	**11 37 59.2 -1.1**
HAU	**Haudompre**	6.44	76	*e*P		**Pn**	**11 38 04.5 +4.2**
HAU				*e*Sn		**Sn**	**11 39 07.8 -6.0**
	comp=E,15nm,0.3s						
HAU				*e*Sg		**Sg**	**11 39 49.9 -2.1**
	comp=E,18nm,0.4s						
POLO	**Lamas de Olo**	6.45	214	*e*Pn		**Pn**	**11 37 59.6 -0.9**
POLO				*e*Sn		Sn	11 39 07.9 -6.3
POLO				A		A	11 39 11.0
	comp=E,1.3nm,0.3s						
ORIF	**Oris-en-Rattie**	6.46	104	*e*Pn		**Pn**	**11 38 01.1 +0.4**
ORIF				*e*Sg		**Sg**	**11 39 51.7 -1.1**
	comp=E,13nm,0.6s						
PVRL	**Vila Real**	6.50	213	*e*Pn		**Pn**	**11 38 00.8 -0.4**
SMRF	**Simiane la Rot**	6.65	112	*e*Pn		**Pn**	**11 38 03.4 +0.2**
SMRF	**Simiane la Rot**	6.65	112	*e*Pg		**Pg**	**11 38 31.6 -1.2**
SMRF				*e*Sn		**Sn**	**11 39 18.5 -0.6**
SMRF				*e*Sg		**Sg**	**11 39 56.9 -1.9**
	comp=E,26nm,0.7s						
HINF	**Hinteralfeld**	6.75	78	*e*Pn		**Pn**	**11 38 04.2 -0.4**
HINF	**Hinteralfeld**	6.75	78	*e*P		**Pn**	**11 38 09.0 +4.4**
HINF	**Hinteralfeld**	6.75	78	*e*Pg		**Pg**	**11 38 33.0 -1.7**
HINF				*e*Sn		Sn	11 39 15.6 -6.0
	comp=E,6.9nm,0.3s						
HINF				*e*Sg		**Sg**	**11 39 59.6 -2.6**
	comp=E,14nm,0.4s						
LPL	**La Plagne**	6.86	97	*e*Sg		**Sg**	**11 40 03.1 -2.5**
LPG	**La Plagne**	6.88	97	*e*Sg		**Sg**	**11 40 02.6 -3.6**
CDF	**Champ du Feu**	7.11	73	*e*Pn		**Pn**	**11 38 08.7 -0.9**
CDF	**Champ du Feu**	7.11	73	*e*P		Pn	11 38 14.4 +4.8
CDF	**Champ du Feu**	7.11	73	*e*Pg		Pg	11 38 39.1 -2.4
CDF				*e*Sn		Sn	11 39 24.1 -6.3
	comp=E,5.1nm,0.3s						
CDF				*e*Sg		**Sg**	**11 40 10.8 -2.7**
	comp=E,9.0nm,0.3s						
MBDF	**Montbardon**	7.12	103	*e*Pn		**Pn**	**11 38 09.5 -0.3**
MBDF	**Montbardon**	7.12	103	*e*Pg		Pg	11 38 40.3 -1.5
MBDF				*e*Sg		**Sg**	**11 40 11.4 -2.6**
	comp=E,11nm,0.6s						
MTE	**Manteigas**	7.22	209	*e*Sn		Sn	11 39 27.2 -5.8
FRF	**La Foret Royal**	7.53	112	*e*Pn		**Pn**	**11 38 15.6 +0.3**
FRF				*e*Sn		**Sn**	**11 39 36.5 -4.2**
FRF				*e*Sg		**Sg**	**11 40 24.7 -2.3**
	comp=E,4.4nm,0.4s						
LMR	**La Mourre**	7.56	114	*e*Pn		**Pn**	**11 38 16.0 +0.4**
LMR				*e*Sn		**Sn**	**11 39 36.0 -5.3**
	comp=E,3.6nm,0.3s						
LMR				*e*Sg		**Sg**	**11 40 25.4 -2.5**
	comp=E,2.3nm,0.4s						
PCBR	**Castelo Branco**	7.70	207	*e*Pn		**Pn**	**11 38 18.0 +0.4**
PCBR				*e*Sn		Sn	11 39 38.5 -6.4
PCBR				A		A	11 39 41.1
	comp=E,3.4nm,0.8s						
PMRV	**Marv??o**	8.05	205	*e*Pn		**Pn**	**11 38 22.6 +0.1**
PMRV				*e*Sn		Sn	11 39 47.1 -6.5
PMRV				A		A	11 39 51.2
	comp=E,2.4nm,0.6s						
PBAR	**Barrancos**	9.14	201	*e*Pn		**Pn**	**11 38 37.3 0.0**
PBAR				*e*Sn		Sn	11 40 12.2 -8.0
PBAR				A		A	11 40 16.7
	comp=E,1.7nm,0.8s						
PGF	**Pioggiola**	9.53	112	*e*Pn		**Pn**	**11 38 43.5 +0.7**
PNCL	**Nicolau / Gran**	9.61	207	*e*Pn		**Pn**	**11 38 43.1 -0.7**

*IDC **28** 11:37:49.2±0.7, 13°.93N×58°.35W, h0km, mb4.0/15, mb1 4.3/17, mb1mx4.1/43, mbtmp4.1/17, ML4.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/33, Error ellipse: s-maj=18.3km s-min=15.7km az=81.0*
*TRN **28** 11:37:52.4, 13°.94N×58°.48W, h93km, MD4.3*
*NEIC **28** 11:37:54.2±1.9, 13°.87N±0°.06×58°.53W±0°.10, h20km±4km, mb4.4/40, Error ellipse: s-maj=13.7km s-min=9.0km az=82.0*

ISC 28 11:37:51.5±0.6, 13°.98N±0°.04×58°.47W±0°.06, h10km, n150, σ1§50/162, mb4.3/33, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	1.30	228	*e*P	**Pg**	**11 38 17.1**	**+0.7**
BBSP				*e*S	**Sn**	**11 38 34.5**	**+1.4**
BBGH	**Gun Hill**	1.35	232	*e*P	**Pn**	**11 38 16.9**	**+0.6**
BBGH				*e*S	**Sg**	**11 38 35.5**	**+0.7**
BBGH	**Gun Hill**	1.35	232		**Pn**	**11 38 16.9**	**+0.6**
BCHC	**Barbados, Cave**	1.41	234	*e*P	**Pg**	**11 38 18.6**	**+0.1**
H05S1	**Guadeloupe/Mar**	2.34	281	Pn	**Pn**	**11 38 29.3**	**-0.8**
H05S1				Sn	**Sn**	**11 38 55.9**	**-2.9**
MPOM	**Morne Pois Mar**	2.37	282	*e*P	**Pn**	**11 38 30.7**	**+0.3**
MPOM				*e*S	**Sn**	**11 38 58.2**	**-1.3**
MPOM	**Morne Pois Mar**	2.37	282		**Pn**	**11 38 29.8**	**-0.6**
MCLT	**Moule a Chique**	2.42	264	*e*P	**Pn**	**11 38 31.7**	**+0.6**
MCLT				*e*S	**Sn**	**11 38 58.9**	**-1.9**
MCLT	**Moule a Chique**	2.42	264	Pn	Pn	11 38 25.5	-5.6
MVM	**Montagne Vaucl**	2.42	284	*e*P	**Pn**	**11 38 30.9**	**-0.3**
SLBI	**Saint Lucia, B**	2.44	271	*e*P	**Pn**	**11 38 31.4**	**+0.1**
SLBI				*e*S	**Sn**	**11 39 00.2**	**-1.0**
ILAM	**Ilet Lapin Mar**	2.46	289	Pn	**Pn**	**11 38 31.2**	**-0.5**
LPMF	**Morne Lapointe**	2.50	284	*e*P	**Pn**	**11 38 31.5**	**-0.6**
SLB	**Belfond**	2.50	267	*e*P	**Pn**	**11 38 33.6**	**+1.3**
SLB				*e*S	**Sn**	**11 39 02.6**	**-0.4**
ZAM	**Aeronautique**	2.55	284	*e*P	**Pn**	**11 38 32.6**	**-0.4**
TRMF	**Trois Ilets**	2.57	283	*e*P	**Pn**	**11 38 32.8**	**-0.3**
BIM	**Bigot**	2.58	282	*e*P	**Pn**	**11 38 33.0**	**-0.4**
BIM				*e*S	**Sn**	**11 39 00.5**	**-4.4**
BIM	**Bigot**	2.58	282		**Pn**	**11 38 33.0**	**-0.4**
FDF	**Fort de France**	2.71	286	*e*P	**Pn**	**11 38 35.0**	**-0.1**
FDF				*e*S	**Sn**	**11 39 05.2**	**-2.8**
FDF	**Fort de France**	2.71	286		**Pn**	**11 38 35.0**	**-0.1**
SSV	**Crater Summit**	2.73	257	*e*S	**Sn**	**11 39 07.4**	**-1.1**
BAMF	**Morne Balai**	2.73	288	*e*P	**Pn**	**11 38 35.8**	**+0.4**
CXM	**Morne La Croix**	2.75	288	*e*P	**Pn**	**11 38 36.3**	**+0.6**
PML	**Morne Lenard**	2.75	287	*e*P	**Pn**	**11 38 36.1**	**+0.4**
SVV	**Soufriere Volc**	2.75	257	*e*S	**Sn**	**11 39 08.1**	**-0.9**
SVN	**Savane Anatole**	2.75	289	*e*P	**Pn**	**11 38 36.2**	**+0.4**
SVN	**Savane Anatole**	2.75	289		**Pn**	**11 38 35.6**	**-0.1**
PCM	**Pelee Case Pet**	2.79	288	*e*P	**Pn**	**11 38 37.0**	**+0.9**
SVB	**Belmont**	2.80	256	*e*P	**Pn**	**11 38 36.4**	**+0.1**
SVB				*e*S	**Sn**	**11 39 08.8**	**-1.4**
SVB	**Belmont**	2.80	256		**Pn**	**11 38 35.8**	**-0.6**
DLPL	**La Plaine**	3.01	297	*e*P	**Pn**	**11 38 40.1**	**+0.8**
DLPL				*e*S	**Sn**	**11 39 14.3**	**-1.1**
DLPL	**La Plaine**	3.01	297		**Pn**	**11 38 40.1**	**+0.8**
DSLB	**Salisbury**	3.21	297	*e*P	**Pn**	**11 38 42.2**	**+0.2**
DSLB				*e*S	**Sn**	**11 39 18.9**	**-1.4**
GCMP	**Grenada, Carri**	3.24	243	*e*P	**Pn**	**11 38 42.3**	**-0.1**
GCMP				*e*S	**Sn**	**11 39 18.6**	**-2.4**
TOSP	**Speyside**	3.34	217	*e*P	**Pn**	**11 38 43.3**	**-0.5**
TOSP	**Speyside**	3.34	217	Pn	**Pn**	**11 38 43.5**	**-0.2**
MAGL	**Barre de l'ile**	3.35	306	*e*P	**Pn**	**11 38 44.2**	**+0.3**
MAGL				*e*S	**Sn**	**11 39 23.1**	**-0.8**
H05N1	**Guadeloupe/Mar**	3.42	313	Pn	**Pn**	**11 38 43.9**	**-0.9**
H05N1				Sn	**Sn**	**11 39 21.3**	**-4.1**
GRSS	**Sisters**	3.49	242	*e*P	**Pn**	**11 38 46.3**	**+0.5**
TDBA	**Terre de Bas,**	3.58	302	*e*P	**Pn**	**11 38 47.9**	**+0.8**
TDBA				*e*S	**Sn**	**11 39 27.5**	**-2.1**
TBG	**Guadaloupe-3**	3.59	302	*e*P	**Pn**	**11 38 47.4**	**+0.1**
GRGR	**Grenville**	3.61	240	*e*P	**Pn**	**11 38 46.9**	**-0.6**
GRGR				*e*S	**Sn**	**11 39 27.4**	**-2.7**
GRGR	**Grenville**	3.61	240		**Pn**	**11 38 47.5**	**+0.1**
CBE	**Ff, Capester**	3.68	305	*e*P	**Pn**	**11 38 47.8**	**-0.7**
CBE				*e*S	**Sn**	**11 39 31.4**	**-0.6**
ABD	**La Joyeuse, An**	3.83	311	*e*P	**Pn**	**11 38 51.0**	**+0.5**
ABD				*e*S	**Sn**	**11 39 33.6**	**-2.1**
TRN	**Trinidad (W)**	4.38	221	*e*P	**Pn**	**11 38 58.2**	**+0.1**
TRN	**Trinidad (W)**	4.38	221	*e*S	**Sn**	**11 39 44.8**	**-4.4**
ANBD	**Bethesda, Anti**	4.41	314	*e*P	**Pn**	**11 38 58.3**	**-0.1**
ANBD	**Bethesda, Anti**	4.41	314	*e*S	**Sn**	**11 39 46.7**	**-3.2**
BPA	**Boggy Peak**	4.47	313	*e*P	**Pn**	**11 38 59.6**	**+0.2**
BPA	**Boggy Peak**	4.47	313	*e*S	**Sn**	**11 39 47.4**	**-4.1**
ANOC	**Antigua Open C**	4.50	314	*e*P	**Pn**	**11 39 00.5**	**+0.8**
ANWB	**Willy Bob**	4.87	319	*e*P	**Pn**	**11 39 04.4**	**-0.3**
ANWB	**Willy Bob**	4.87	319	*e*S	**Sn**	**11 39 57.8**	**-3.4**
SKI	**Saint Kitts**	5.30	310	*e*P	**Pn**	**11 39 11.3**	**+0.5**
SKI	**Saint Kitts**	5.30	310	Pn	**Pn**	**11 39 12.3**	**+1.6**
PCRV	**Puerto La Cruz**	7.12	239	Pn	**Pn**	**11 39 37.4**	**+1.6**
	9.7nm,0.3s,baz=105,slow=4.8,SNR=28						
PCRV				Sn	**Sn**	**11 40 50.8**	**-6.0**
	baz=196,slow=18,SNR=1.1						
STVI	**Saint Thomas**	7.60	306	Pn	**Pn**	**11 39 43.1**	**+0.7**
CUPR	**Culebra, Puert**	7.84	304		**Pn**	**11 39 46.9**	**+1.3**
MTP	**Monte Pirata**	7.95	302	Pn	**Pn**	**11 39 48.3**	**+1.1**
HUMP	**Col San Antoni**	8.22	301	Pn	**Pn**	**11 39 50.0**	**-0.8**
CBVP	**Canovanas**	8.29	302	Pn	**Pn**	**11 39 50.4**	**-1.4**
PDPR	**Patillas Dam,**	8.30	300	Pn	**Pn**	**11 39 53.7**	**+1.7**
SJG	**San Juan**	8.45	300	Pn	**Pn**	**11 39 54.8**	**+0.7**
	3.9nm,0.3s,baz=132,slow=19,SNR=3.2						
GCPR	**Guaynabo City**	8.49	301		**Pn**	**11 39 56.0**	**+1.4**
OBIP	**Obispado Ponce**	8.81	298	Pn	**Pn**	**11 40 00.2**	**+1.3**
AOPR	**Arecibo Observ**	9.07	300	Pn	**Pn**	**11 40 04.5**	**+2.0**
MLPR	**Magueyes Islan**	9.15	297	Pn	**Pn**	**11 40 04.0**	**+0.4**
MPR	**Mayaguez**	9.34	298	Pn	**Pn**	**11 40 08.2**	**+2.0**
MDP	**Montagnes des**	10.52	146	Pn	Pn	11 40 16.7	-5.8
	2.1nm,0.3s,baz=333,slow=17,SNR=13						
MDP				Sn	Sn	11 42 01.6	-19
	13nm,0.3s,baz=49,slow=16,SNR=15						
MDP				LR	LR	11 44 51.6	
	comp=Z,75nm,20.2s,baz=271,slow=40						
DR12	**Loma Pena Alta**	11.51	296	Pn	**Pn**	**11 40 38.2**	**+2.1**
SDDR	**Presa de Saban**	13.26	294	Pn	**Pn**	**11 41 01.9**	**+1.9**
SDDR	**Presa de Saban**	13.26	294	*e*P	**Pn**	**11 41 01.0**	**+1.0**
PTGA	**Pitinga**	14.69	186	Pn	Pn	11 41 12.0	-7.5
	2.7nm,0.3s,baz=355,slow=16,SNR=17						
PTGA				Sn	Sn	11 43 45.5	-17
	1.8nm,0.3s,baz=296,slow=17,SNR=8.3						
PTGA	**Pitinga**	14.69	186	Pn	Pn	11 41 14.2	-5.3
SMLC	**San Martn de**	16.14	253	*e*P	**Pn**	**11 41 35.5**	**-3.1**
BARC	**Barichara**	16.23	245	*e*P	**P**	**11 41 42.5**	**-0.5**
RUSC

comp=Z,2.5nm,0.8s
DAWY Dawson 73.57 333 P P 11 49 25.6 +1.0
DAWY IAmb IAmb 11 49 26.2
comp=Z,2.2nm,0.8s
BCAR Beaver Creek A 74.63 332 P P 11 49 31.6 +0.8
L27K Beaver Creek, 74.65 332 P P 11 49 31.5 +0.6
L27K IAmb IAmb 11 49 33.4
comp=Z,6.5nm,1.2s
FINES FINESS Array B 75.24 30 P P 11 49 33.9 -0.4
comp=Z,2.5nm,0.7s,baz=252,slow=3.8,SNR=8.9
FIA1 FINESS Array S 75.24 30 P P 11 49 34.2 -0.1
VRDI Verde Repeater 75.46 330 P P 11 49 36.1 +0.3
MENT Mentasta 75.51 332 P P 11 49 37.5 +1.6
MENT IAmb IAmb 11 49 47.2
comp=Z,6.2nm,1.4s
BURAR Bucovina Array 75.58 44 P P 11 49 37.5 +0.8
BURAR IAmb IAmb 11 49 38.4
comp=Z,2.7nm,0.9s
ILAR Eielson Array 76.80 334 P P 11 49 43.0 -0.2
comp=Z,0.8nm,0.9s,baz=98,slow=5.0,SNR=9.2
KDAK Kodiak Island 80.48 327 P P 11 50 04.4 +0.9

IDC 28 11:43:47.5±2.9, 2°.59S×138°.77E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/41, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=73.4km s-min=29.8km az=77.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.69**	**283**	Pn	Pn	11 45 40.8	-0.2
	1.9nm,0.3s,baz=171,slow=23,SNR=14						
SIJI				Sn	Sn	11 46 57.9	-11
	0.7nm,0.3s,baz=288,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**17.78**	**194**	P	Pn	11 47 56.0	-0.7
	0.2nm,0.3s,baz=15,slow=12,SNR=18						
WRA				S	Sn	11 51 03.5	-12
	0.1nm,0.3s,baz=6.4,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**21.48**	**192**	P	P	11 48 38.3	+0.4
	1.0nm,0.7s,baz=22,slow=11,SNR=13						
MKAR	**Makanchi Array**	**69.73**	**322**	P	P	11 54 59.5	0.0
	0.6nm,0.6s,baz=110,slow=8.3,SNR=3.6						

*IDC **28** 11:47:04.7±5.7, 23°.68N×121°.32E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/51, mbtmp3.7/5, ML2.9/2, Error ellipse: s-maj=114.3km s-min=39.3km az=174.0*
*IASPEI **28** 11:47:08.8±0.9, 24°.44N±0°.01×121°.44E±0°.02, h4km±6km, mb3.4/3, Error ellipse: s-maj=2.3km s-min=1.8km az=110.8, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*TAP **28** 11:47:08.3, 24°.43N×121°.44E, h6km, ML3.9, B*
*JMA **28** 11:47:08.0±0.2, 24°.43N×121°.37E, h1km±3km, M3.4*
ISC 28 11:47:08.8±0.9, 24°.45N±0°.01×121°.44E±0°.01, h3km±6km, n151, σ0°.76/214, mb3.4/3, 46C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.06**	**252**	⇓*iP*	**Pg**	**11 47 10.2**	**+0.1**
	baz=265						
NNSB				*i* S	**Sg**	**11 47 11.0**	**0.0**
	baz=265						
NNSH	**Datong**	**0.06**	**252**	⇓*iP*	**Pg**	**11 47 10.2**	**0.0**
	baz=268						
NNSH				*i* S	**Sg**	**11 47 11.0**	**0.0**
	baz=268						
NNS	**Nan Shan**	**0.06**	**265**	⇓*iP*	**Pg**	**11 47 10.2**	**0.0**
	baz=276						
NNS				*i* S	**Sg**	**11 47 11.2**	**0.0**
	baz=276						
NDT	**Datong Townshi**	**0.17**	**22**	⇑*iP*	**Pg**	**11 47 12.4**	**+0.3**
	baz=22						
NDT				*e*S	**Sg**	**11 47 14.9**	**+0.6**
	baz=22						
ENTT	**Nioudou**	**0.22**	**30**	⇑*iP*	**Pg**	**11 47 13.6**	**+0.4**
	baz=21						
ENTT				*e*S	**Sg**	**11 47 16.9**	**+0.8**
	baz=21						
YHNB	**Yeheng**	**0.23**	**345**	⇓*iP*	**Pg**	**11 47 13.8**	**+0.5**
	baz=347						
YHNB				S	**Sg**	**11 47 16.5**	**+0.1**
	baz=347						
ETLH	**Xiulin Townshi**	**0.24**	**172**	*e*P	**Pg**	**11 47 14.2**	**+0.7**
	baz=174						
ETLH				S	**Sg**	**11 47 17.4**	**+0.8**
	baz=174						
NSK	**Sanguang**	**0.24**	**341**	⇓*iP*	**Pg**	**11 47 13.9**	**+0.4**
	baz=346						
NSK				S	**Sg**	**11 47 16.6**	**-0.1**
	baz=346						
FUSS	**Fushou**	**0.27**	**223**	⇑*iP*	**Pg**	**11 47 14.1**	**+0.1**
	baz=225						
FUSS				*i* S	**Sg**	**11 47 17.9**	**+0.3**
	baz=225						
EHP	**Heping Village**	**0.30**	**116**	*e*P	**Pb**	**11 47 16.1**	**-0.8**
	baz=113						
EHP				S	**Sg**	**11 47 19.9**	**+1.3**
	baz=113						
NACB	**Ninganchiao**	**0.30**	**153**	⇑*iP*	**Pg**	**11 47 15.3**	**+0.6**
	baz=150						
NACB				S	**Sg**	**11 47 19.4**	**+0.8**
	baz=150						
EWUT	**Wuta**	**0.31**	**90**	⇑*iP*	**Pg**	**11 47 14.9**	**+0.3**
	baz=86						
EWUT				S	**Sg**	**11 47 19.3**	**+0.6**
	baz=86						
NDS	**Dongshan**	**0.31**	**53**	⇑*iP*	**Pg**	**11 47 15.0**	**+0.2**
	baz=63						
NDS				S	**Sg**	**11 47 19.9**	**+1.0**
	baz=63						
TDCB	**Techi**	**0.32**	**234**	⇑*iP*	**Pg**	**11 47 14.8**	**-0.2**
	baz=236						
TDCB				S	**Sg**	**11 47 19.0**	**-0.3**
	baz=236						
ETL	**Fush Village**	**0.33**	**150**	P	**Pg**	**11 47 15.7**	**+0.6**
	baz=148						
ETL				S	**Sg**	**11 47 20.5**	**+1.0**
	baz=148						
NWLT	**Wulai**	**0.33**	**9**	⇓*iP*	**Pg**	**11 47 15.8**	**+0.5**
	baz=10.0						
NWLT				S	**Sg**	**11 47 20.0**	**+0.3**
	baz=10.0						
TWE	**Neicheng**	**0.34**	**37**	⇑*iP*	**Pg**	**11 47 16.0**	**+0.6**
	baz=30						
TWE				*e*S	**Sg**	**11 47 20.6**	**+0.8**
	baz=30						
WHF	**Hehuan Shan**	**0.34**	**208**	⇑*iP*	**Pg**	**11 47 15.6**	**+0.1**
	baz=192						
WHF				S	**Sg**	**11 47 20.7**	**+0.7**
	baz=192						
TWD	**Chiawan**	**0.39**	**159**	P	**Pg**	**11 47 16.8**	**+0.5**
	baz=155						
TWD				S	**Sg**	**11 47 22.0**	**+0.6**
	baz=155						
TWC	**Suao**	**0.40**	**66**	⇑*iP*	**Pg**	**11 47 16.7**	**+0.1**
	baz=64						
TWC				*i* S	**Sg**	**11 47 22.2**	**+0.4**
	baz=64						
ILA	**Ilan**	**0.42**	**41**	P	**Pg**	**11 47 17.2**	**+0.3**
	baz=52						
ILA				*e*S	**Sb**	**11 47 23.5**	**-2.2**
	baz=52						
NJD	**Zhudong**	**0.43**	**312**	P	**Pb**	**11 47 18.4**	**-0.7**
	baz=316						
NJD				S	**Sb**	**11 47 25.0**	**-1.0**
	baz=316						
LIOB	**Emei**	**0.44**	**297**	⇑*iP*	**Pg**	**11 47 18.1**	**+0.9**
	baz=302						
LIOB				S	**Sg**	**11 47 23.8**	**+0.8**
	baz=302						
NSTT	**Nanjuang**	**0.44**	**295**	⇑*iP*	**Pg**	**11 47 18.0**	**+0.7**
	baz=299						
NSTT				*i* S	**Sg**	**11 47 23.7**	**+0.6**
	baz=299						
CHGB	**Renai**	**0.46**	**213**	⇑*iP*	**Pg**	**11 47 17.3**	**-0.3**
	baz=214						
CHGB				*i* S	**Sg**	**11 47 23.2**	**-0.3**
	baz=214						
ETM	**Tongmen**	**0.48**	**175**	P	**Pg**	**11 47 18.3**	**+0.3**
	baz=173						
ETM				S	**Sg**	**11 47 24.4**	**+0.1**
	baz=173						
WHP	**Taichung City**	**0.48**	**250**	⇑*iP*	**Pg**	**11 47 18.5**	**+0.4**
	baz=253						
WHP				*i* S	**Sg**	**11 47 24.4**	**+0.1**
	baz=253						
HWA	**Hwalien**	**0.49**	**162**	P	**Pb**	**11 47 19.3**	**-0.7**
	baz=159						
HWA				S	**Sb**	**11 47 26.3**	**-1.3**
	baz=159						
HSN1	**Hsinchu**	**0.51**	**311**	P	**Pb**	**11 47 20.2**	**-0.2**
	baz=314						
HSN1				S	**Sb**	**11 47 28.0**	**-0.2**
	baz=314						
NHDH	**Xindian Distri**	**0.52**	**8**	P	**Pb**	**11 47 19.7**	**-0.9**
	baz=8.0						
NHDH				*i* S	**Sg**	**11 47 26.4**	**+0.8**
	baz=8.0						
TATO	**Taipei**	**0.53**	**4**	*i* P	**Pb**	**11 47 20.1**	**-0.6**
	baz=4.0						
TATO				*i* S	**Sg**	**11 47 26.6**	**+0.8**
	baz=4.0						
NTC	**Toucheng**	**0.54**	**41**	*e*P	**Pg**	**11 47 19.2**	**+0.1**
	baz=24						
NTC				*e*S	**Sg**	**11 47 26.7**	**+0.6**
	baz=24						
SBCB	**Hsinchu**	**0.54**	**310**	P	**Pb**	**11 47 20.8**	**-0.2**
	baz=314						
SBCB				S	**Sb**	**11 47 28.7**	**-0.4**
	baz=314						
OWD	**Renai**	**0.55**	**207**	*e*P	**Pg**	**11 47 18.7**	**-0.6**
	baz=198						
TWA	**Mucha**	**0.55**	**13**	*e*P	**Pb**	**11 47 20.0**	**-1.1**
	baz=13						
TWA				*e*S	**Sg**	**11 47 26.4**	**-0.1**
	baz=13						
BACT	**New Taipei Cit**	**0.55**	**360**	*e*P	**Pb**	**11 47 21.1**	**0.0**
	baz=1.0						
HSN	**Hsinchu**	**0.56**	**310**	*i* P	**Pb**	**11 47 21.1**	**-0.1**
	baz=318						
HSN				*e*S	**Sb**	**11 47 29.4**	**-0.2**
	baz=318						
NTY	**Taoyuan**	**0.57**	**347**	*e*P	**Pb**	**11 47 21.9**	**+0.5**
	baz=349						
NCUH	**Zhongli**	**0.57**	**336**	*e*P	**Pb**	**11 47 22.0**	**+0.6**
	baz=348						
NJN	**Zhunan**	**0.57**	**295**	*e*P	**Pb**	**11 47 21.3**	**-0.2**
	baz=285						
TEYL	**Yanliau Villag**	**0.59**	**166**	*e*P	**Pg**	**11 47 20.6**	**+0.4**
	baz=163						
TEYL				S	**Sg**	**11 47 27.4**	**-0.4**
	baz=163						
TAP1	**Taipei**	**0.59**	**7**	*e*P	**Pb**	**11 47 21.8**	**0.0**
	baz=6.0						
TAP1				S	**Sb**	**11 47 29.3**	**-1.3**
	baz=6.0						
NMLH	**Miaoli**	**0.60**	**279**	⇑P	**Pb**	**11 47 21.7**	**-0.2**
	baz=281						
NHY	**Taipei**	**0.60**	**11**	*e*P	**Pb**	**11 47 21.9**	**-0.1**
	baz=11						
NHY				*e*S	**Sb**	**11 47 29.8**	**-1.1**
	baz=11						
TWQ1	**Liyutan**	**0.62**	**261**	⇑*iP*	**Pb**	**11 47 21.6**	**-0.7**
	baz=264						
TWQ1				S	**Sg**	**11 47 29.9**	**+1.2**
	baz=264						
WPL	**Puli Township**	**0.62**	**226**	⇑*iP*	**Pg**	**11 47 20.4**	**-0.3**
	baz=238						
WPL				*e*S	**Sg**	**11 47 27.6**	**-1.1**
	baz=238						
WCS	**Beigang Elemen**	**0.62**	**232**	⇑*iP*	**Pg**	**11 47 20.6**	**-0.2**
	baz=232						
NSY	**Sanyi**	**0.62**	**267**	⇑*iP*	**Pb**	**11 47 22.0**	**-0.3**
	baz=269						
ESL	**Shilin**	**0.63**	**181**	⇑*iP*	**Pg**	**11 47 20.9**	**+0.1**
	baz=179						
TIPB	**Shuangxi**	**0.63**	**34**	⇑*iP*	**Pg**	**11 47 21.1**	**+0.2**
	baz=19						
TIPB				*i* S	**Sg**	**11 47 28.7**	**-0.4**
	baz=19						
TWS1	**Kuangyinshan**	**0.65**	**358**	⇑P	**Pb**	**11 47 23.0**	**+0.2**
	baz=360						
NWF	**Wu-fen Shan**	**0.69**	**26**	⇑P	**Pb**	**11 47 22.8**	**-0.8**
	baz=25						
NWF				*e*S	**Sg**	**11 47 30.9**	**-0.2**
	baz=25						
WFSB	**Wu-fen Shan**	**0.69**	**26**	⇑P	**Pb**	**11 47 22.8**	**-0.8**
	baz=25						
WFSB				*e*S	**Sg**	**11 47 31.2**	**+0.1**
	baz=25						
YM01	**YM01**	**0.71**	**9**	⇑*iP*	**Pb**	**11 47 23.5**	**-0.3**
	baz=9.0						
YM01				S	**Sb**	**11 47 32.4**	**-1.5**
	baz=9.0						
NTST	**Danshui**	**0.71**	**0**	*e*P	**Pb**	**11 47 23.6**	**-0.3**
	baz=2.0						
WDJ	**Dajia District**	**0.74**	**263**	*e*P	**Pb**	**11 47 24.4**	**+0.2**
	baz=264						
TEGC	**Jichi Village**	**0.74**	**173**	*e*P	**Pb**	**11 47 23.8**	**-0.5**
	baz=171						
ANP	**Anpu**	**0.74**	**5**	P	**Pb**	**11 47 24.2**	**-0.2**
	baz=22						
TWB1	**Santiao Chiao**	**0.75**	**41**	⇑P	**Pg**	**11 47 23.0**	**-0.2**
	baz=28						
SMLT	**Sun Moon Lake**	**0.75**	**222**	⇑*iP*	**Pg**	**11 47 22.8**	**-0.3**
	baz=232						
YM08	**YM08**	**0.75**	**10**	*e*P	**Pb**	**11 47 24.0**	**-0.6**
	baz=11						
TCU	**Taichung**	**0.76**	**247**	⇑P	**Pb**	**11 47 25.0**	**+0.4**
	baz=248						
TNOU	**National Taiwa**	**0.76**	**23**	*e*P	**Pg**	**11 47 23.6**	**+0.2**
	baz=24						
EGFH	**Guangfu**	**0.77**	**181**	*e*P	**Pg**	**11 47 23.8**	**+0.1**
	baz=180						
WWF	**Wufeng**	**0.79**	**240**	*e*P	**Pb**	**11 47 25.2**	**+0.1**
	baz=232						
SSLB	**Suanglung**	**0.79**	**214**	⇑*iP*	**Pg**	**11 47 23.0**	**-1.0**
	baz=215						
WNT1	**Nantou City**	**0.88**	**233**	*e*P	**Pb**	**11 47 26.8**	**+0.1**
	baz=224						
WCHH	**Zhanghua**	**0.89**	**246**	*e*P	**Pb**	**11 47 27.0**	**+0.2**
	baz=247						
WNT	**Mingjian**	**0.90**	**231**	*e*P	**Pg**	**11 47 26.5**	**+0.6**
	baz=232						
WJS	**Zhushan**	**0.90**	**227**	*e*P	**Pg**	**11 47 26.5**	**+0.4**
	baz=227						
WHYT	**Xinyi Township**	**0.92**	**216**	*e*P	**Pg**	**11 47 25.7**	**-0.7**
	baz=216						
WYL	**Yuanlin Townsh**	**0.92**	**239**	*e*P	**Pg**	**11 47 26.9**	**+0.3**
	baz=240						
HGSD	**Ruisui**	**0.95**	**181**	⇑*iP*	**Pg**	**11 47 27.3**	**+0.3**
	baz=180						
YULB	**Yu-li**	**1.06**	**187**	⇑*iP*	**Pg**	**11 47 28.6**	**-0.5**
	baz=174						
YULB				S	**Sg**	**11 47 42.6**	**-0.2**
	baz=174						
CHN5	**Tsauling**	**1.10**	**220**	⇑P	**Pg**	**11 47 30.0**	**+0.2**
	baz=221						
CHN5				*e*S	**Sn**	**11 47 46.7**	**-0.1**
	baz=221						
TWF1	**Yuli**	**1.10**	**187**	⇑P	**Pg**	**11 47 29.4**	**-0.5**
	baz=174						
TWF1				*i* S	**Sg**	**11 47 44.1**	**0.0**
	baz=174						
ALS	**Alishan**	**1.10**	**212**	⇑*iP*	**Pg**	**11 47 29.1**	**-0.8**
	baz=212						
EYUL	**Yuli**	**1.10**	**186**	*e*P	**Pg**	**11 47 29.4**	**-0.5**
	baz=178						
WGK	**Gukeng**	**1.10**	**227**	*e*P	**Pg**	**11 47 30.2**	**+0.2**
	baz=229						
WGK				*e*S	**Sn**	**11 47 46.5**	**-0.4**
	baz=229						
WRL	**Guolierlin Hig**	**1.11**	**241**	⇑P	**Pg**	**11 47 30.5**	**+0.3**
	baz=244						
WRL				S	**Sb**	**11 47 45.8**	**+0.2**
	baz=244						
WDLH	**Douliu**	**1.12**	**228**	⇑P	**Pg**	**11 47 30.5**	**+0.2**
	baz=229						
ECBN	**Changbin**	**1.12**	**180**	*e*P	**Pg**	**11 47 30.3**	**0.0**
	baz=162						
WTK	**Tuku**	**1.22**	**232**	⇑P	**Pg**	**11 47 32.2**	**0.0**
	baz=234						
FULB	**Fuli**	**1.25**	**186**	*e*P	**Pn**	**11 47 32.9**	**-0.2**
	baz=171						
CHN2	**Minshiung**	**1.27**	**224**	*e*P	**Pn**	**11 47 33.0**	**-0.4**
	baz=226						
PCYT	**Pengchaiyu**	**1.31**	**26**	*e*P	**Pn**	**11 47 33.4**	**-0.6**
	baz=24						
ELDTW	**Lidau**	**1.31**	**197**	*e*P	**Pn**	**11 47 32.0**	**-2.1**
	baz=186						
CHY	**Chiayi**	**1.33**	**225**	⇑*e*P	**Pn**	**11 47 34.1**	**-0.1**
	baz=226						
ECS	**Chishang**	**1.36**	**189**	*e*P	**Pn**	**11 47 34.1**	**-0.6**
	baz=171						
TPUB	**Ta-pu**	**1.36**	**213**	⇑*iP*	**Pn**	**11 47 34.4**	**-0.3**
	baz=214						
JYNG	**Yonaguni jima**	**1.37**	**89**	P	**Pb**	**11 47 34.5**	**-0.5**
JYNG				S	**Sn**	**11 47 53.9**	**+0.5**
WSF	**Szhu**	**1.38**	**234**	*e*P	**Pn**	**11 47 33.5**	**-1.4**
	baz=235						
STYH	**Taoyuan**	**1.41**	**206**	*e*P	**Pb**	**11 47 35.8**	**0.0**
	baz=220						
WTP	**Ta-pu**	**1.42**	**213**	⇑*iP*	**Pn**	**11 47 35.4**	**-0.1**
	baz=212						
WTP				*e*S	**Sg**	**11 47 56.8**	**+2.5**
	baz=212						
STYT	**Tauyuan**	**1.42**	**206**	*e*P	**Pg**	**11 47 36.1**	**0.0**
	baz=221						
YOJ	**Yonaguni jima**	**1.43**	**89**	P	**Pb**	**11 47 35.5**	**-0.6**
YOJ				*e*S	**Sg**	**11 47 55.2**	**+0.5**
YOJ	**Yonaguni jima**	**1.43**	**89**	P	**Pn**	**11 47 35.2**	**-0.4**
	baz=86						
YOJ				S	**Sg**	**11 47 54.8**	**0.0**
	baz=86						
TWK	**Hsinying**	**1.46**	**217**	⇑*iP*	**Pb**	**11 47 36.4**	**-0.3**
	baz=217						
TWK				*e*S	**Sg**	**11 47 57.6**	**+1.8**
	baz=217						
EDH	**Donghe**	**1.47**	**185**	*e*P	**Pn**	**11 47 35.8**	**-0.4**
	baz=172						
CHN1	**Nanshi**	**1.51**	**214**	P	**Pb**	**11 47 37.4**	**-0.1**
	baz=214						
CHN1				*e*S	**Sg**	**11 47 58.5**	**+1.2**
	baz=214						
ICHU	**Yijhu**	**1.52**	**225**	*e*P	**Pn**	**11 47 37.0**	**+0.2**
	baz=226						
LONT	**Longtian**	**1.56**	**191**	*e*P	**Pn**	**11 47 36.8**	**-0.6**
	baz=173						
SGST	**Jiashian**	**1.57**	**210**	⇑*e*P	**Pn**	**11 47 37.5**	**-0.1**
	baz=211						
SGST				*e*S	**Sb**	**11 47 58.7**	**0.0**
	baz=211						
CHN8	**Yiju**	**1.57**	**226**	*e*P	**Pn**	**11 47 36.7**	**-0.9**
	baz=227						
SLGT	**Liugui**	**1.62**	**207**	*e*P	**Pb**	**11 47 39.5**	**+0.2**
	baz=223						
TWG	**Pinlang**	**1.65**	**192**	*e*P	**Pn**	**11 47 38.9**	**+0.2**
	baz=173						
TWGBT	**Beinan**	**1.66**	**192**	*e*P	**Pn**	**11 47 38.5**	**-0.2**
	baz=173						
CHN3	**Shinhua**	**1.68**	**216**	*e*P	**Pb**	**11 47 39.3**	**+0.2**
	baz=216						
SCLT	**Jiali**	**1.71**	**222**	*e*P	**Pb**	**11 47 40.3**	**-0.4**
	baz=242						
LDUT	**Ludao**	**1.77**	**179**	*e*P	**Pn**	**11 47 39.9**	**-0.3**
	baz=164						
SCST	**Cishan**	**1.78**	**209**	⇑*e*P	**Pb**	**11 47 42.3**	**+0.2**
	baz=210						
SSD	**Sandimen**	**1.85**	**204**	⇑*iP*	**Pb**	**11 47 43.2**	**-0.1**
	baz=204						
TWM1	**Shoushan**	**1.87**	**210**	*e*P	**Pb**	**11 47 43.7**	**+0.2**
	baz=210						
TSMG	**Majia**	**1.88**	**203**	⇑P	**Pb**	**11 47 43.7**	**-0.1**
	baz=203						
VWUC	**VWUC**	**1.89**	**287**	*e*P	**Pn**	**11 47 39.8**	**-2.2**
	baz=288						
ECL	**Taimali**	**1.90**	**194**	*e*P	**Pb**	**11 47 43.9**	**-0.1**
	baz=193						
SGLT	**Jiouru**	**1.92**	**207**	*e*P	**Pb**	**11 47 43.8**	**-0.6**
	baz=207						
PNG	**Penghu**	**1.94**	**244**	*e*P	**Pn**	**11 47 41.2**	**-1.4**
	baz=245						
PHUB	**P'eng-hu**	**1.95**	**242**	*e*P	**Pn**	**11 47 41.5**	**-1.2**
	baz=243						
MASBT	**Mashibuluo**	**1.97**	**202**	⇑P	**Pb**	**11 47 45.1**	**-0.3**
	baz=201						
MASBT				*e*S	**Sb**	**11 48 10.9**	**+0.6**
	baz=201						
WDGT	**Dungji**	**2.02**	**234**	*e*P	**Pn**	**11 47 43.0**	**-0.7**
	baz=236						
IRIF	**Iriomote-Funau**	**2.09**	**93**	P	**Pn**	**11 47 45.1**	**+0.4**
IRIF				*e*S	**Sn**	**11 48 11.2**	**0.0**
SSPT	**Xinbi**	**2.11**	**203**	*e*P	**Pb**	**11 47 46.5**	**-1.2**
	baz=223						
EAST	**Anshuo**	**2.12**	**195**	*e*P	**Pb**	**11 47 46.9**	**-1.1**
	baz=178						
MATB	**Ma-tsu**	**2.17**	**322**	*e*P	**Pn**	**11 47 44.6**	**-1.3**
	baz=323						
HATJ	**Hateruma jima**	**2.19**	**100**	S	**Sb**	**11 48 14.8**	**-1.8**
PTMZ	**Houxiangcun**	**2.19**	**286**	*e*P	**Pn**	**11 47 45.8**	**-0.4**
	baz=286						
MSUT	**Lienchiang**	**2.20**	**322**	*e*P	**Pn**	**11 47 45.5**	**-0.7**
	baz=323						
SCZT	**Fangliau**	**2.20**	**200**	⇓*e*P	**Pb**	**11 47 48.2**	**-1.0**
	baz=200						
VCHM	**Qimei**	**2.22**	**237**	*e*P	**Pn**	**11 47 45.5**	**-1.0**
	baz=238						
SLIU	**Shizi**	**2.30**	**195**	*e*P	**Pb**	**11 47 49.8**	**-1.1**
	baz=178						
WLCH	**Liuqiu**	**2.30**	**205**	*e*P	**Pn**	**11 47 48.7**	**+1.0**
	baz=206						
JKRS	**Kuro-shima**	**2.35**	**95**	P	**Pn**	**11 47 49.2**	**+0.9**
JKRS				S	**Sn**	**11 48 17.5**	**-0.1**
LAY	**Lan-yu**	**2.40**	**178**	*e*P	**Pn**	**11 47 48.2**	**-0.8**
	baz=166						
JIJ	**Ishigaki jima**	**2.46**	**91**	P	**Pn**	**11 47 50.4**	**+0.6**
JIJ				*e*S	**Sn**	**11 48 18.9**	**-1.5**
TWK1	**Hengchun**	**2.56**	**193**	*e*P	**Pn**	**11 47 53.0**	**+1.8**
	baz=178						
TWKBT	**Hengchun**	**2.56**	**193**	*e*P	**Pn**	**11 47 52.5**	**+1.3**
	baz=178						
LYJJ	**Jianjiangzhen**	**2.59**	**324**	*e*P	**Pn**	**11 47 50.9**	**-0.7**
	baz=325						
JISG	**Ishigakijimahi**	**2.62**	**86**	P	**Pn**	**11 47 52.2**	**+0.3**
JISG				S	**Sb**	**11 48 25.8**	**-3.0**
QZH	**Quanzhou**	**2.64**	**281**	Pn	**Pn**	**11 47 52.0**	**-0.3**
QZH				Sn	**Sn**	**11 48 23.0**	**-1.8**
QZH				smax	smax		
	comp=N,140nm,0.5s						
QZH				smax	smax		
	comp=E,88nm,0.6s						
QZH				LR	LR		
	comp=E,250nm,8.1s						
QZH				LR	LR		
	comp=Z,250nm,7.8s						
MHZQ	**Yeshan**	**2.74**	**308**	*e*P	**Pn**	**11 47 53.3**	**-0.3**
	baz=307						
KNM	**Kinmen**	**2.74**	**270**	*e*P	**Pn**	**11 47 54.2**	**+0.5**
	baz=270						
KNMB	**Chin-men Tao**	**2.78**	**271**	*e*P	**Pn**	**11 47 53.1**	**-1.1**
	baz=271						
JTJ	**Tarama**	**2.97**	**86**	P	**Pn**	**11 47 57.9**	**+1.0**
JTJ				*e*S	**Sn**	**11 48 34.1**	**+1.1**
AXDP	**Jialang**	**3.19**	**279**	*e*P	**Pn**	**11 47 59.6**	**-0.3**
	baz=278						
ZPLA	**Ao Xicun**	**3.41**	**262**	*e*P	**Pn**	**11 48 02.2**	**-0.7**
	baz=262						
JOW	**Kunigami**	**6.61**	**67**	Pn	**Pn**	**11 48 48.8**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=288,slow=19,SNR=2.5						
KSRS	**Korea Array**	**14.10**	**22**	Pn	**P**	**11 50 37.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=201,slow=14,SNR=3.0						
SONM	**Songino Array**	**26.22**	**337**	P	**P**	**11 52 46.3**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=158,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**38.32**	**316**	P	**P**	**11 54 31.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=99,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**11 58 29.9**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=84,slow=13,SNR=2.6						

*IDC **28** 11:47:57.4±3.5, 19°.93N×145°.58E, h250km±34km, mb3.2/6, mb1 3.5/7, mb1mx3.0/50, mbtmp3.9/7, Error ellipse: s-maj=34.3km s-min=20.1km az=81.0*
ISC 28 11:47:57.2±1.0, 19°.9N±0°.1×145°.6E±0°.3, h250km, n8, σ0°.86/8, mb3.5/6, Mariana Islands

| Code | Station

FINES	FINESS Array B	85.72	335	P	P	12 00 06.5	-1.4
	0.6nm,0.5s,baz=60,slow=5.5,SNR=4.2						
LPAZ	La Paz	147.78	89	PKPbc	PKPbc	12 07 13.9	-0.2
	0.7nm,0.7s,baz=333,slow=2.3,SNR=3.6						

*IDC **28** 11:48:02.6±2.0, 17.°08N×145.°64E, h213km±20km, mb3.7/21, mb1 3.8/23, mb1mx3.7/47, mbtmp4.3/23, MS3.7/2, Ms1 3.7/2, ms1mx2.6/37, Error ellipse: s-maj=19.3km s-min=8.9km az=85.0*

*NEIC **28** 11:48:04.2±1.2, 16.°97N±0.°09×145.°6E±0.°1, h226km±8km, mb4.3/57, Error ellipse: s-maj=20.2km s-min=13.5km az=95.0*

ISC 28 11:48:05.8±0.5, 16.°93N±0.°06×145.°5E±0.°1, h250km, n102, σ1900/99, mb4.1/50, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	3.37	190	P	Pn	11 49 00.1	-2.4
	1.6nm,0.3s,baz=180,slow=19,SNR=1.7						
GUMO	Guam	3.37	190		Pn	11 48 59.4	-3.0
JHJ2	Mitsune	16.90	343	P	P	11 51 44.9	-1.5
JHJ	Hachijo jima 2	16.92	343	P	P	11 51 44.6	-2.0
	9.3nm,0.3s,baz=96,slow=21,SNR=8.0						
JHJ				LR	LR	11 57 52.6	
	comp=Z,53nm,21.0s,baz=80,slow=35						
JOW	Kunigami	18.74	305	P	Pn	11 52 10.1	-0.1
	3.8nm,0.3s,baz=141,slow=11,SNR=13						
JOW	Kunigami	18.74	305	P	P	11 52 06.8	+0.4
MJAR	Matsushiro Arr	20.57	343	P	P	11 52 22.3	-3.6
	1.2nm,0.5s,baz=183,slow=8.9,SNR=5.4						
JHS	Saijyo	21.11	331	P	P	11 52 30.6	-0.8
JHS				IAmb	IAmb	11 52 47.6	
	comp=Z,20nm,1.3s						
JMM	Marumori	21.26	350	P	P	11 52 31.9	-0.9
JMM				IAmb	IAmb	11 52 32.2	
	comp=Z,9.6nm,0.8s						
JSD	Sado	21.96	345	P	P	11 52 38.2	-1.1
JSD				IAmb	IAmb	11 52 39.1	
	comp=Z,17nm,1.1s						
YHNB	Yeheng	23.79	293	P	P	11 52 55.9	-0.3
SSLB	Suanglung	23.96	291	P	P	11 52 58.4	+0.7
JTM	Tenmabayashi	24.08	352	P	P	11 52 58.9	+0.4
KSRS	Korea Array	25.64	326	P	P	11 53 11.8	-0.8
	comp=Z,1.8nm,0.6s,baz=145,slow=9.7,SNR=9.8						
ASAJ	Asahikawa	27.21	355	P	P	11 53 26.2	-0.3
	comp=Z,2.9nm,0.5s,baz=224,slow=9.2,SNR=8.4						
USRK	Ussuriysk Ar.	29.48	340	P	P	11 53 46.2	-0.4
	comp=Z,2.7nm,0.7s,baz=147,slow=9.0,SNR=6.7						
USRK	Ussuriysk Ar.	29.48	340	P	P	11 53 46.4	-0.3
MTN	Manton Dam	32.80	206	P	P	11 54 16.6	+0.6
KLR	Kul'dur	34.09	344	P	P	11 54 25.4	-1.4
	comp=Z,10nm,0.6s,baz=147,slow=7.9,SNR=35						
KNRA	Kununurra	36.35	208	P	P	11 54 46.5	+0.2
PEA0B	Petropavlovsk-	37.35	12	P	P	11 54 54.4	0.0
PETK	Petropavlovsk-	37.35	12	P	P	11 54 54.1	-0.3
	comp=Z,0.6nm,0.6s,baz=146,slow=6.5,SNR=4.6						
PETK	Petropavlovsk-	37.35	12	P	P	11 54 53.6	-0.8
WB0	Warramunga Arr	38.06	197	P	P	11 55 01.5	+0.9
WB0				IAmb	IAmb	11 55 25.4	
	comp=Z,9.6nm,1.2s						
WR0	Warramunga Arr	38.20	197	P	P	11 55 02.0	+0.2
WR0				IAmb	IAmb	11 55 18.9	
	comp=Z,8.2nm,1.2s						
WB2	Warramunga Arr	38.24	197	P	P	11 55 03.2	+1.1
WB2				IAmb	IAmb	11 55 05.0	
	comp=Z,7.2nm,0.9s						
WRA	Warramunga Arr	38.24	197	P	P	11 55 04.5	+2.3
	comp=Z,2.7nm,0.5s,baz=15,slow=8.1,SNR=37						
WRA	Warramunga Arr	38.24	197	P	P	11 55 03.0	+0.8
AS31	Alice Springs	41.90	196	P	P	11 55 32.5	+0.4
ASAR	Alice Springs	41.90	196	P	P	11 55 33.8	+1.7
	comp=Z,0.7nm,0.4s,baz=12,slow=6.4,SNR=18						
ASAR	Alice Springs	41.90	196	P	P	11 55 32.1	0.0
MA2	Magadan	42.76	4	P	P	11 55 37.7	-0.8
	comp=Z,8.9nm,0.8s,baz=164,slow=24,SNR=4.8						
MA2	Magadan	42.76	4	P	P	11 55 38.4	-0.1
MA2				IAmb	IAmb	11 55 47.8	
	comp=Z,18nm,1.1s						
AMKA	Amchitka	43.62	30	P	P	11 55 45.1	-0.4
DZM	Mont Dzumac	43.86	151	P	P	11 55 47.7	-0.2
	comp=Z,3.9nm,0.6s,baz=170,slow=6.9,SNR=5.9						
DZM	Mont Dzumac	43.86	151	P	P	11 55 47.0	-0.9
DZM				IAmb	IAmb	11 55 52.8	
	comp=Z,17nm,1.2s						
CMAR	Chiang Mai Arr	44.27	279	P	P	11 55 57.1	+5.9
	comp=Z,4.5nm,0.7s,baz=73,slow=6.7,SNR=21						
CMAR	Chiang Mai Arr	44.27	279	P	P	11 55 55.6	+4.4
SONM	Songino Array	44.40	323	P	P	11 55 52.3	+0.3
	comp=Z,2.9nm,0.6s,baz=140,slow=8.0,SNR=16						
SONM	Songino Array	44.40	323	P	P	11 55 51.6	-0.3
YAK	Yakutsk	46.41	350	P	P	11 56 06.6	-0.6
ATKA	Atka Island	47.37	33	P	P	11 56 15.2	+0.4
STKA	Stephens Creek	48.67	184	P	P	11 56 25.2	+0.3
	comp=Z,1.1nm,0.6s,baz=1.8,slow=8.3,SNR=3.0						
FORT	Forrest	50.31	200	P	P	11 56 38.3	+1.1
FORT				IAmb	IAmb	11 56 44.9	
	comp=Z,18nm,0.9s						
AKUT	Akutan	52.74	34	P	P	11 56 55.1	+0.2
MORW	Morawa	53.85	212	P	P	11 57 03.9	+0.6
MORW				IAmb	IAmb	11 57 11.0	
	comp=Z,14nm,1.2s						
ZALV	Zalesovo Beam	59.29	323	P	P	11 57 41.6	+0.4
	comp=Z,1.3nm,0.3s,baz=103,slow=6.5,SNR=4.3						
ZALV	Zalesovo Beam	59.29	323	P	P	11 57 41.2	-0.1
MK31	Makanchi Array	59.54	315	P	P	11 57 44.2	+1.1
MKAR	Makanchi Array	59.54	315	P	P	11 57 44.4	+1.2
	comp=Z,2.5nm,0.7s,baz=93,slow=8.4,SNR=14						
MKAR				PcP	PcP	11 58 29.1	+1.3
	comp=Z,0.2nm,0.6s,baz=87,slow=5.9,SNR=4.3						
MKAR	Makanchi Array	59.54	315	P	P	11 57 43.6	+0.4
MAKZ	Makanchi	59.76	315	P	P	11 57 45.0	+0.4
MAKZ				IAmb	IAmb	11 57 46.6	
	comp=Z,4.8nm,0.9s						
KDAK	Kodiak Island	60.95	33	P	P	11 57 54.1	+1.7
	comp=Z,2.1nm,0.5s,baz=272,slow=3.0,SNR=9.9						
KDAK	Kodiak Island	60.95	33	P	P	11 57 52.4	+0.1
CNPM	China Poot	62.08	31	P	P	11 58 00.4	+0.5
KURBB	Kurchatov Arra	62.49	319	P	P	11 58 03.4	+0.6
	comp=Z,3.5nm,0.4s,baz=94,slow=7.2,SNR=32						
IMAR	Indian Mountai	62.91	24	P	P	11 58 06.1	+0.8
O22K	Cooper Landing	63.05	30	P	P	11 58 07.1	+0.8
SEW	Seward	63.09	31	P	P	11 58 07.3	+0.8
SEW				IAmb	IAmb	11 58 14.6	
	comp=Z,10nm,1.4s						
NRIK	Noril'sk	63.19	340	P	P	11 58 07.9	+0.8
NRIK				IAmb	IAmb	11 58 19.4	
	comp=Z,3.9nm,0.6s						
BPAW	Bear Paw Mtn.	63.43	26	P	P	11 58 09.2	+0.5
BPAW				IAmb	IAmb	11 58 10.1	
	comp=Z,2.5nm,0.6s						
TRF	Thorofare Moun	63.54	27	P	P	11 58 09.5	-0.2
TRF				IAmb	IAmb	11 58 35.0	
	comp=Z,7.8nm,1.4s						
BOOM	Boomskoye usch	63.75	309	P	P	11 58 12.2	+0.8
MLY	Manley	63.80	25	P	P	11 58 11.6	+0.5
MLY				IAmb	IAmb	11 58 13.0	
	comp=Z,4.2nm,1.0s						
PWL	Port Wells	63.80	30	P	P	11 58 11.2	-0.1
PWL				IAmb	IAmb	11 58 12.9	
	comp=Z,7.9nm,1.0s						
PALK	Pallekele	63.83	270	LR	LR	12 23 32.6	
	comp=Z,291nm,21.9s,baz=221,slow=33						
RND	Reindeer	64.16	27	P	P	11 58 14.1	+0.6
RND				IAmb	IAmb	11 58 14.6	
	comp=Z,2.1nm,0.5s						
I23K	Minto, Yukon-K	64.39	25	P	P	11 58 15.9	+1.0
I23K				IAmb	IAmb	11 58 16.9	
	comp=Z,2.1nm,0.6s						
SCM	Sheep Creek Mo	64.48	29	P	P	11 58 16.0	+0.3
SCM				IAmb	IAmb	11 58 17.7	
	comp=Z,6.9nm,1.0s						
HIN	Hinchinbrook I	64.59	31	P	P	11 58 16.5	+0.2
WRH	Wood River Hil	64.74	26	P	P	11 58 16.5	-0.7
WRH				IAmb	IAmb	11 58 18.0	
	comp=Z,2.2nm,0.6s						
MDM	Murphy Dome	64.81	26	P	P	11 58 18.0	+0.3
MDM				IAmb	IAmb	11 58 19.9	
	comp=Z,2.5nm,0.6s						
CCB	Clear Creek Bu	64.91	26	P	P	11 58 18.2	-0.1
HDA	Harding Lake	65.21	26	P	P	11 58 19.9	-0.3
TOLK	Toolik Lake Re	65.31	21	P	P	11 58 21.9	+1.1
TOLK				IAmb	IAmb	11 58 25.8	
	comp=Z,4.6nm,1.3s						
IL31		65.32	26	P	P	11 58 20.4	-0.4
ILAR	Eielson Array	65.32	26	P	P	11 58 20.3	-0.6
	comp=Z,1.2nm,0.5s,baz=246,slow=6.1,SNR=32						
ILAR	Eielson Array	65.32	26	P	P	11 58 20.4	-0.5
RIDG	Independent Ri	65.98	27	P	P	11 58 25.5	+0.3
RIDG				IAmb	IAmb	11 58 26.6	
	comp=Z,2.2nm,0.6s						
VRDI	Verde Repeater	66.20	30	P	P	11 58 27.1	+0.2
VRDI				IAmb	IAmb	11 58 33.7	
	comp=Z,7.3nm,1.2s						
DOT	Dot Lake	66.31	27	P	P	11 58 27.5	+0.3
DOT				IAmb	IAmb	11 58 28.6	
	comp=Z,3.2nm,0.6s						
FYU	Fort Yukon	66.38	24	P	P	11 58 28.3	+0.7
SCRK	Sand Creek	66.39	27	P	P	11 58 28.8	+0.8
SCRK				IAmb	IAmb	11 58 29.5	
	comp=Z,5.1nm,1.3s						
BMAR	Burnt Mountain	66.81	23	P	P	11 58 31.7	+1.3
L27K	Beaver Creek,	67.21	28	P	P	11 58 33.9	+0.9
BCAR	Beaver Creek A	67.23	28	P	P	11 58 33.8	+0.7
EGAK	Eagle	67.73	26	P	P	11 58 37.0	+0.9
KK31	Karatay Array	67.74	310	P	P	11 58 36.8	+0.1
KK31				IAmb	IAmb	11 58 38.9	
	comp=Z,5.8nm,0.8s						
KKAR	Karatay Array	67.74	310	P	P	11 58 37.2	+0.6
KKAR	Karatay Array	67.74	310	P	P	11 58 37.0	+0.3
KKAR				IAmb	IAmb	11 58 38.9	
	comp=Z,5.8nm,0.8s						
DAWY	Dawson	68.41	27	P	P	11 58 41.5	+1.0
INK	Inuvik	71.07	23	P	P	11 58 56.3	-0.1
	comp=Z,2.4nm,0.9s,baz=285,slow=6.6,SNR=3.5						
ABKAR	Abkulak array	74.49	317	P	P	11 59 17.4	+0.6
ABKAR	Abkulak array	74.49	317	P	P	11 59 17.7	+0.8
YKA	Yellowknife Ar	79.64	28	P	P	11 59 45.7	+0.5
	comp=Z,0.3nm,0.4s,baz=288,slow=12,SNR=4.4						
ARCES	ARCESS Array B	84.10	342	P	P	12 00 08.4	+0.1
	comp=Z,1.6nm,0.9s,baz=69,slow=8.1,SNR=3.8						
NVAR	Mina Array Bea	84.39	52	P	P	12 00 14.0	+3.3
	comp=Z,0.5nm,0.5s,baz=268,slow=6.2,SNR=8.6						
KBZ	Khabaz	87.24	315	P	P	12 00 25.1	+0.9
	comp=Z,2.3nm,0.8s,baz=112,slow=5.8,SNR=6.5						
FINES	FINESS Array B	88.39	335	P	P	12 00 28.2	-1.1
	comp=Z,1.2nm,0.4s,baz=64,slow=4.5,SNR=8.4						
FINES	FINESS Array B	88.39	335	P	P	12 00 28.5	-0.7
LPAZ	La Paz	147.81	94	PKPbc	PKPab	12 07 28.6	+2.6
	comp=Z,0.9nm,0.5s,baz=284,slow=4.2,SNR=2.5						
LPAZ	La Paz	147.81	94		PKPdf	12 07 17.0	-2.6

NEIC 28 12:02:27.5±0.9, 36.°210N±0.°004×97.°02W±0.°02, h2km±7km, mb_Lg2.4/24, Error ellipse: s-maj=2.4km s-min=0.7km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	Quay	0.26	99	Pg	Pg	12 02 32.5	+0.1
QUOK				Sg	Sg	12 02 36.1	+0.3
OK031	S. Brethren Rd	0.30	150	Pg	Pg	12 02 33.3	+0.1
OK031				Sg	Sg	12 02 37.4	+0.4
OK029	Liberty Lake	0.54	221	Pg	Pg	12 02 38.0	+0.1
OK029				Sg	Sg	12 02 45.3	+0.4
BLOK	Blackwell	0.57	344	Pg	Pg	12 02 38.7	+0.2
BLOK				Sg	Sg	12 02 46.5	+0.6
OK005	Luther M Schoo	0.57	194	Pg	Pg	12 02 38.4	0.0
OK005				Sg	Sg	12 02 45.0	-0.9
OK025	Westminster Rd	0.68	202	Pg	Pg	12 02 40.4	0.0
OK025				Sg	Sg	12 02 49.8	+0.5
BCOK	Bluff Creek, N	0.73	221	Pg	Pg	12 02 41.4	-0.1
BCOK				Sg	Sg	12 02 51.4	+0.5
T35A	Sooner Cattle	0.81	30	Pg	Pg	12 02 43.0	-0.2
T35A				Sg	Sg	12 02 53.4	-0.3
CROK	Carrier	0.83	291	Pg	Pg	12 02 43.4	0.0
CROK				Sg	Sg	12 02 54.6	+0.4
OKCSW	OKLAHOMA CITY	0.87	203	Pg	Pg	12 02 44.5	+0.3
OKCSW				Sg	Sg	12 02 55.9	+0.4
KAN13	South Haven SW	0.88	335	Pg	Pg	12 02 44.1	-0.2
KAN13				Sg	Sg	12 02 56.4	+0.5
GC02	Grant County #	0.93	314	Pg	Pg	12 02 45.1	-0.2
GC02				Sg	Sg	12 02 57.6	+0.2
FNO	Franklin	1.00	198	Pg	Pg	12 02 45.6	-1.0
FNO				Sg	Sg	12 02 59.7	+0.1
KAN17	Caldwell West	1.02	324	Pg	Pg	12 02 47.5	+0.3
KAN17				Sg	Sg	12 03 00.5	0.0
KAN09	Caldwell North	1.04	333	Pg	Pg	12 02 47.2	-0.3
KAN09				Sg	Sg	12 03 01.2	+0.2
KS20	Mayfield South	1.10	337	Pg	Pg	12 02 48.4	-0.3
KS20				Sg	Sg	12 03 03.0	0.0
OK032	Salt Plains WL	1.13	302	Pg	Pg	12 02 48.7	-0.4
OK032				Sg	Sg	12 03 03.7	0.0
KAN05	Bluff City Nor	1.13	323	Pg	Pg	12 02 49.2	0.0
KAN05				Sg	Sg	12 03 03.8	0.0
KAN10	Anthony SW Sta	1.26	317	Pg	Pg	12 02 51.4	-0.2
KAN10				Sg	Sg	12 03 07.3	-0.5
KAN08	Anthony NE Sta	1.27	323	Pg	Pg	12 02 51.7	-0.1
KAN08				Sg	Sg	12 03 08.0	-0.3
KAN12	Harper NE Stat	1.34	324		Pg	12 02 53.1	-0.1
U32A	Winter Ranch,	1.61	277	Pn	Pn	12 02 56.5	-0.4
X34A	Smith Ranch, M	1.74	203	Pn	Pn	12 02 58.9	+0.2
WMOK	Wichita Mounta	2.06	225	Pn	Pn	12 03 03.5	+0.5
WMOK				IAmb_Lg		12 03 32.0	
	comp=Z,16nm,0.8s						
X37A	Clayton	2.10	140	Pn	Pn	12 03 04.0	+0.3
U38A	Gravette	2.14	83	Pn	Pn	12 03 04.8	+0.6
LOOK	Love County	2.22	183	Pn	Pn	12 03 05.6	+0.3
HHAR	Hobbs	2.49	87	Pn	Pn	12 03 10.4	+1.4
R32A	Long Quarter,	2.59	329	Pn	Pn	12 03 10.2	-0.1
R32A				IAmb_Lg		12 03 56.1	
	comp=Z,11nm,0.9s						
W39A	Magazine	2.82	110	Pn	Pn	12 03 13.5	0.0
W39A				IAmb_Lg		12 04 03.3	
	comp=Z,9.3nm,1.1s						
MIAR	Mount Ida	3.27	120	Pn	Pn	12 03 19.0	-0.7
U40A	Yellville	3.37	86	Pn	Pn	12 03 20.9	-0.3
CBKS	Cedar Bluff	3.38	321	Pn	Pn	12 03 20.3	-1.0
X40A	Basin Creek Fa	3.83	115	Pn	Pn	12 03 29.3	+1.9
MGMO	Mountain Grove	3.93	75	Pn	Pn	12 03 28.2	-0.7
MGMO				IAmb_Lg		12 04 34.2	
	comp=Z,9.9nm,0.7s						
WHAR	Wooly Hollow	3.96	102	Pn	Pn	12 03 30.2	+1.1
WHAR				IAmb_Lg		12 04 32.3	
	comp=Z,7.4nm,0.9s						
FCAR	Ozark Folk Cen	3.98	93	Pn	Pn	12 03 30.1	+0.6
AMTX	Amarillo	4.02	252	Pn	Pn	12 03 30.0	-0.2
AMTX				IAmb_Lg		12 04 45.7	
	comp=Z,6.8nm,0.7s						
WHTX	Lake Whitney,	4.22	185	Pn	Pn	12 03 33.0	+0.1
R40A	Maddies Statio	4.32	60	Pn	Pn	12 03 34.0	-0.2
R40A				IAmb_Lg		12 04 47.0	
	comp=Z,6.4nm,0.7s						
P38A	Dawn	4.38	38	Pn	Pn	12 03 33.7	-1.3
P38A				IAmb_Lg		12 04 59.0	
	comp=Z,6.5nm,0.8s						
N33A	J Bar K, Exete	4.53	356	Pn	Pn	12 03 38.1	+1.0
LCAR	Lake Charles	4.75	90	Pn	Pn	12 03 40.0	0.0
T42A	Van Buren	4.84	79	Pn	Pn	12 03 42.7	+1.5
CCM	Cathedral Cave	4.97	67	IAmb_Lg		12 05 15.3	
	comp=Z,8.7nm,1.0s						
P40A	Paris	5.14	48	Pn	Pn	12 03 46.3	+0.8
P40A				IAmb_Lg		12 05 17.5	
	comp=Z,9.6nm,0.9s						
PBMO	Poplar Bluff	5.34	82	IAmb_Lg		12 05 20.5	
	comp=Z,7.2nm,0.8s						
L34A	Svendsen Farm,	5.77	5	Pn	Pn	12 03 54.4	+0.3
T25A	Trinidad	6.01	281	Pn	Pn	12 03 58.1	+0.5
JCT	Junction City	6.17	203	Pn	Pn	12 03 59.0	-0.6
SIUC	Southern Illin	6.42	74	IAmb_Lg		12 05 50.8	
	comp=Z,7.0nm,0.9s						
ISCO	Idaho Springs	7.67	300	Pn	Pn	12 04 21.8	+1.3

DJA 28 12:09:22.7±0.7, 3.°S±4.°×12.°9E±.°, h30km±11km, M4.0/10, mb4.1/3, MLv3.9/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	Masohi	0.62	197	P	Pb	12 09 34.3	-0.8
BNDI	Bandanaira	1.93	156	P	Pn	12 09 54.2	+0.7
NLAI	Namlea	2.06	256	P	Pn	12 09 56.4	+1.0
SWI	Sorong	2.85	49	P	Pn	12 10 07.2	+1.0
FAKI	Fak Fak	3.14	93	P	Pn	12 10 09.8	-0.4
SANI	Sanana	3.20	283	P	Pn	12 10 11.0	+0.1
SANI				S	Sn	12 10 46.4	-1.6
KMPI	Kaimana, Papua	4.68	101	P	Pn	12 10 31.0	-0.3
APSI	Ampana	7.68	284	P	Pn	12 11 13.5	+0.9
	0.1nm29nm,1.2s						

TAP 28 12:16:12.0, 24.°44N×121.°45E, h4km, ML0.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.06	263	*i* P	Pg	12 16 13.8	+0.3
	baz=263						
NNSB				S	Sg	12 16 14.9	+0.3
	baz=263						
NNSH	Datong	0.06	263	*i* P	Pg	12 16 13.8	+0.2
	baz=265						
NNSH				*i* S	Sg	12 16 14.9	+0.3
	baz=265						
NNS	Nan Shan	0.07	273	*i* P	Pg	12 16 13.9	+0.2
	baz=271						
NNS				S	Sg	12 16 15.1	+0.3
	baz=271						
ENTT	Nioudou	0.23	27	P	Pg	12 16 17.1	+0.6
	baz=29						
ENTT				*e*S	Sg	12 16 20.4	+0.8
	baz=29						
ETLH	Xiulin Townshi	0.23	173	*e*S	Sg	12 16 21.0	+1.5
	baz=173						
YHNB	Yeheng	0.24	344	*e*P	Pg	12 16 17.7	+0.9
	baz=345						
NSK	Sanguang	0.25	341	*e*S	Sg	12 16 21.9	+1.5
	baz=342						
NDS	Dongshan	0.31	51	*e*S	Sg	12 16 23.6	+1.4
	baz=67						
LIOB	Emei	0.45	298	*e*P	Pb	12 16 21.7	-0.8
	baz=299						

JMA 28 12:16:41.3±0.2, 24.°11N×123.°20E, h27km±4km, M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.53	65	P	Pb	12 16 51.7	-0.4
IRIF				*e*S	Sb	12 16 59.7	+0.2
JKRS	Kuro-shima	0.75	80	P	Pb	12 16 55.5	-0.3
JKRS				S	Sn	12 17 06.2	-0.4
JIJ	Ishigaki jima	0.90	73	P	Pn	12 16 57.7	-0.4
JIJ				*e*S	Sb	12 17 09.6	-0.2
JISG	Ishigakijimahi	1.12	65	P	Pn	12 17 00.9	-0.3
JISG				S	Sb	12 17 16.4	+0.2

*TUL **28** 12:30:36.8±1.4, 35.°99N±0.°01×97.°56W±0.°02, h5km±7km, ML3.3, mb_Lg3.1/110(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=77.0*

NEIC 28 12:30:36.9±0.7, 36.°001N±0.°007×97.°57W±0.°02, h5km±7km, Error ellipse: s-maj=2.3km s-min=0.8km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.22	156		Pg	12 30 41.3	0.0
OK029				Sg	Sg	12 30 44.5	+0.3
BCOK	Bluff Creek, N	0.34	186		Pg	12 30 43.6	0.0
BCOK				Sg	Sg	12 30 48.6	+0.5
OK025	Westminster Rd	0.46	156		Pg	12 30 45.7	0.0
OK025					Sg	12 30 52.2	+0.4
OK005	Luther M Schoo	0.46	138	Pg	Pg	12 30 45.7	-0.1
OK001	Jones High Sch	0.49	153	Pg	Pg	12 30 46.5	0.0
OK031	S. Brethren Rd	0.59	94		Pg	12 30 48.3	0.0
OK031				Sg	Sg	12 30 56.1	+0.1
OKCSW	OKLAHOMA CITY	0.60	170		Pg	12 30 48.3	-0.2
OKCSW				Sg	Sg	12 30 56.8	+0.4
CROK	Carrier	0.60	326		Pg	12 30 49.0	+0.4
CROK				Sg	Sg	12 30 57.6	+1.1
QUOK	Quay	0.72	76		Pg	12 30 50.7	0.0
QUOK				Sg	Sg	12 31 00.1	+0.1
FNO	Franklin	0.75	170		Pg	12 30 51.0	-0.4
FNO				Sg	Sg	12 31 01.4	+0.2
BLOK	Blackwell	0.81	20	Pg	Pg	12 30 52.6	+0.1
BLOK				Sg	Sg	12 31 03.5	+0.5
GC02	Grant County #	0.88	345		Pg	12 30 53.8	0.0
OK032	Salt Plains WL	0.95	327	Pg	Pg	12 30 55.1	-0.1
KAN13	South Haven SW	1.01	4		Pg	12 30 56.2	-0.1
KAN17	Caldwell West	1.05	351		Pg	12 30 57.0	-0.1
KAN05	Bluff City Nor	1.13	348		Pg	12 30 58.5	-0.2
KAN09	Caldwell North	1.13	358		Pg	12 30 58.4	-0.3
KAN10	Anthony SW Sta	1.20	339		Pg	12 30 59.7	-0.2
U32A	Winter Ranch,	1.22	288	Pg	Pg	12 30 59.8	-0.5
U32A				IAmb_Lg		12 31 17.8	
	comp=Z,102nm,0.7s						
KS20	Mayfield South	1.23	0		Pg	12 31 00.1	-0.3
T35A	Sooner Cattle	1.25	43	Pg	Pg	12 31 00.3	-0.6
KAN08	Anthony NE Sta	1.27	345	Pg	Pg	12 31 00.8	-0.4
KAN12	Harper NE Stat	1.34	345	Pn	Pn	12 31 02.0	-0.2
X34A	Smith Ranch, M	1.41	189		Pn	12 31 03.4	+0.1
WMOK	Wichita Mounta	1.60	219		Pn	12 31 05.7	-0.2
LOOK	Love County	2.03	171		Pn	12 31 12.1	+0.4
LOOK				IAmb_Lg		12 31 43.6	
	comp=Z,75nm,0.8s						
X37A	Clayton	2.28	127		Pn	12 31 15.1	-0.1
X37A				IAmb_Lg		12 31 50.8	
	comp=Z,56nm,0.8s						
R32A	Long Quarter,	2.58

OXF	**Oxford**	6.84	100	IAmb_Lg	12 34 24.5
	comp=E,26nm,0.8s				
S44A	**Carbondale**	6.88	73	IAmb_Lg	12 34 28.0
	comp=E,23nm,0.8s				
SIUC	**Southern Illin**	6.91	73	IAmb_Lg	12 34 24.2
	comp=E,26nm,0.9s				
Y45A	**Yeager Farm, C**	6.92	106	IAmb_Lg	12 34 27.7
	comp=Z,18nm,0.8s				
P43A	**Skaggs, Pawnee**	7.33	58	IAmb_Lg	12 34 32.5
	comp=Z,27nm,0.8s				
ISCO	**Idaho Springs**	7.41	303	IAmb_Lg	12 34 37.0
	comp=Z,20nm,1.0s				
PLAL	**Pickwick Lake**	7.81	95	IAmb_Lg	12 34 50.5
	comp=Z,16nm,1.0s				
Y22D	**IRIS PASSCAL I**	7.91	259	IAmb_Lg	12 35 01.4
	comp=Z,26nm,0.8s				
PHWY	**Pilot Hill**	8.13	313	IAmb_Lg	12 35 08.1
	comp=Z,14nm,1.0s				
USIN	**University of**	8.16	73	IAmb_Lg	12 35 09.1
	comp=Z,28nm,1.1s				
O44A	**Mansfield**	8.29	57	IAmb_Lg	12 35 03.4
	comp=Z,29nm,0.8s				
T47A	**Sharon Grove**	8.48	80	IAmb_Lg	12 35 25.7
	comp=Z,27nm,1.1s				
I37A	**Lemond, Waseca**	8.62	20	IAmb_Lg	12 35 23.9
	comp=Z,27nm,0.8s				
JFWS	**Jewell Farm**	8.92	37	IAmb_Lg	12 35 20.0
	comp=Z,22nm,0.8s				
P46A	**Rosedale**	8.96	63	IAmb_Lg	12 35 26.5
	comp=Z,22nm,0.9s				
M44A	**Midewin, Midew**	9.18	51	IAmb_Lg	12 35 30.1
	comp=Z,17nm,0.7s				
WCI	**Wyandotte Cave**	9.28	73	IAmb_Lg	12 35 31.2
	comp=Z,13nm,0.8s				
PV11	**David Mesa, Pa**	9.31	288	IAmb_Lg	12 35 43.4
	comp=Z,13nm,1.0s				
SFIN	**Lafayette**	9.33	59	IAmb_Lg	12 35 37.8
	comp=Z,18nm,0.9s				
PV04	**Paradox Valley**	9.36	288	IAmb_Lg	12 35 42.3
	comp=Z,11nm,1.3s				
SWET	**Sewanee**	9.51	91	IAmb_Lg	12 35 41.2
	comp=Z,13nm,0.7s				
I40A	**Norwalk**	9.51	32	IAmb_Lg	12 35 52.0
	comp=Z,11nm,0.7s				
K22A	**Casper**	9.60	316	IAmb_Lg	12 36 07.9
	comp=Z,23nm,1.1s				
FPAL	**Fort Paine**	9.88	95	IAmb_Lg	12 35 58.9
	comp=Z,13nm,1.0s				
SPMN	**Marine on St.**	9.90	20	IAmb_Lg	12 36 02.1
	comp=Z,10.0nm,0.7s				

IDC 28 12:33:29.7±2.9, 5°.97S×152°.62E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/38, mbtmp3.4/3, ML1.6/1, Error ellipse: s-maj=119.5km s-min=41.9km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	6.40	237	Pn	Pn	12 35 06.5	+1.2
	0.8nm,0.3s,baz=229,slow=20,SNR=2.2						
PMG				Sn	Sn	12 36 21.6	+2.4
	1.0nm,0.3s,baz=255,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	22.55	230	P	P	12 38 31.0	-0.7
	0.3nm,0.4s,baz=54,slow=9.8,SNR=6.8						
ASAR	**Alice Springs**	25.18	224	P	P	12 38 56.6	-0.5
	0.4nm,0.4s,baz=55,slow=9.6,SNR=6.2						
TORD	**Torodi Ar. Bea**	150.48	286	PKPbc	PKPbc	12 53 24.9	+0.3
	0.3nm,0.4s,baz=86,slow=2.7,SNR=1.8						

IDC 28 12:34:42.0±2.6, 3°.48N×128°.19E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/40, mbtmp3.4/3, Error ellipse: s-maj=189.9km s-min=27.1km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.05	166	P	P	12 39 57.4	-1.6
	0.5nm,0.5s,baz=345,slow=9.8,SNR=6.1						
ASAR	**Alice Springs**	27.55	169	P	P	12 40 32.0	+1.2
	0.4nm,0.8s,baz=330,slow=11,SNR=2.1						
MKAR	**Makanchi Array**	58.59	325	P	P	12 44 41.2	+0.5
	0.2nm,0.4s,baz=114,slow=8.6,SNR=2.3						

*IDC **28** 12:38:55.2±3.2, 8°.27N×127°.06E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/42, mbtmp3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.2/30, Error ellipse: s-maj=247.3km s-min=29.0km az=66.0*

MAN 28 12:38:51.9, 9°.04N×127°.09E, h22km, mb5.0, ML3.9, MS3.9, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	1.74	295	⇓iP	Pn	12 39 21.5	+0.7
CGP	**Cagayan de Oro**	2.44	256	⇓eP	Pb	12 39 32.9	-2.1
CGP				eS	Sn	12 40 00.0	+0.5
WRA	**Warramunga Arr**	29.67	166	P	P	12 44 56.2	0.0
	0.2nm,0.3s,baz=347,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	33.18	169	P	P	12 45 27.5	+0.4
	0.3nm,0.6s,baz=351,slow=7.0,SNR=5.5						
YAK	**Yakutsk**	52.93	2	LR	LR	13 12 38.2	
	comp=Z,10.0nm,19.4s,baz=209,slow=38						
MKAR	**Makanchi Array**	53.49	323	P	P	12 48 21.8	+11
	0.6nm,0.8s,baz=120,slow=8.5,SNR=3.5						

*IDC **28** 12:52:41.7±1.3, 22°.79S×69°.15W, h79km±7km, mb3.8/3, mb1 3.9/7, mb1mx3.5/32, mbtmp4.0/7, Error ellipse: s-maj=34.9km s-min=24.0km az=102.0*
*GUC **28** 12:52:42.1±0.6, 22°.84S×69°.37W, h80km±2km, ML4.2*

ISC 28 12:52:41.4±0.8, 22°.84S±0°.04×69°.36W±0°.04, h78km±6km, n31, σ0°97/37, mb4.2/3, 4C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	0.23	305	⇓iP	Pn	12 52 53.5	+0.2
PB06				iS	Sn	12 53 02.6	+0.5
PB06				IAML		12 53 03.2	
	comp=E,45μm,0.4s						
PB15	**IPOC Station P**	0.38	195	⇓iP	Pn	12 52 54.5	+0.3
PB15				iS	Sn	12 53 04.4	+0.7
LVC	**Limon Verde**	0.48	61	P	Pn	12 52 55.5	+0.4
	comp=E,1μm,0.3s,baz=169,slow=3.2						
LVC				S	Sn	12 53 05.3	0.0
	comp=E,2μm,0.3s,baz=0.0,slow=20,SNR=23						
LVC	**Limon Verde**	0.48	61	eP	Pn	12 52 54.5	-0.7
LVC				iS	Sn	12 53 05.5	+0.2
PB05	**IPOC Station P**	0.78	269	⇑iP	Pn	12 52 58.1	+0.3
PB05				iS	Sn	12 53 10.8	+0.7
PB04	**IPOC Station P**	0.88	305	⇑iP	Pn	12 52 59.5	+0.3
PB04				iS	Sn	12 53 13.1	+0.8
PB04				IAML		12 53 17.6	
	comp=E,11μm,0.3s						
PB09	**IPOC Station P**	1.04	6	⇓iP	Pn	12 53 02.0	+0.9
PB09				iS	Sn	12 53 17.0	+1.3
AF01	**San Pedro de A**	1.10	96	⇑iP	Pn	12 53 03.0	+1.2
AF01				iS	Sn	12 53 19.4	+2.4
AF01				IAML		12 53 24.9	
	comp=N,12μm,0.3s						
PB07	**IPOC Station P**	1.21	336	⇑iP	Pn	12 53 03.5	+0.4
PB07				iS	Sn	12 53 20.1	+0.8
PB07				IAML		12 53 20.8	
	comp=E,7μm,0.1s						
PB02	**IPOC Station P**	1.59	342	eP	Pn	12 53 08.5	+0.5
PB02				iS	Sn	12 53 29.1	+1.1
PB02				IAML		12 53 36.5	
	comp=E,4μm,0.4s						
PB01	**IPOC Station P**	1.79	356	⇓iP	Pn	12 53 11.5	+0.9
PB01				iS	Sn	12 53 34.2	+1.5
PB01				IAML		12 53 38.4	
	comp=E,3μm,0.3s						
PB14	**IPOC Station P**	2.02	208	eP	Pn	12 53 13.8	0.0
PB14				iS	Sn	12 53 40.5	+2.1
PB14				IAML		12 53 45.2	
	comp=E,1μm,0.2s						
GO02	**Mina Guanaco**	2.32	185	iP	Pn	12 53 18.2	+0.4
PB08	**IPOC Station P**	2.69	4	eP	Pn	12 53 23.5	+0.6
PB11	**IPOC Station P**	3.08	355	eP	Pn	12 53 27.5	-0.4
LPAZ	**La Paz**	5.62	10	P	Pn	12 54 17.9	+1.2
	comp=E,0.6nm,0.3s,baz=221,slow=6.6,SNR=13						
SIV	**San Ignacio**	10.37	50	P	Pn	12 55 06.0	-1.4
	comp=E,2.5nm,0.3s,baz=256,slow=10,SNR=37						
CPUP	**Villa Florida**	11.49	110	P	Pn	12 55 21.8	-0.7
	comp=E,0.2nm,0.3s,baz=292,slow=12,SNR=8.3						
PLCA	**Paso Flores**	17.87	183	P	P	12 56 45.0	+0.5
	comp=E,0.1nm,0.3s,baz=348,slow=11,SNR=3.4						
PTGA	**Pitinga**	23.80	24	P	P	12 57 45.9	-1.3
	comp=E,1.1nm,0.3s,baz=197,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	78.20	70	P	P	13 04 31.9	-1.0
	comp=E,1.3nm,0.4s,baz=260,slow=5.3,SNR=9.2						
YKA	**Yellowknife Ar**	92.31	341	P	P	13 05 42.1	-0.3
	comp=E,0.8nm,0.7s,baz=136,slow=4.8,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	27.62	276	T	T	15 31 37.3	
	baz=105,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	27.62	276	T	T	15 31 38.6	
	baz=105,slow=75,SNR=31						
H11S3	**WAKE ISLAND Hy**	27.63	276	T	T	15 31 42.4	
	baz=105,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	27.73	278	T	T	15 31 53.2	
	baz=104,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hy**	27.75	278	T	T	15 31 53.7	
	baz=104,slow=74,SNR=28						
H11N1	**WAKE ISLAND Hy**	27.75	278	T	T	15 31 54.5	
	baz=104,slow=74,SNR=24						
ASAR	**Alice Springs**	128.54	208	PKP	PKPdf	13 11 40.4	+0.3
	comp=E,0.4nm,0.8s,baz=123,slow=2.1,SNR=4.7						
WRA	**Warramunga Arr**	131.59	210	PKP	PKPdf	13 11 46.0	0.0
	comp=E,0.4nm,0.6s,baz=154,slow=1.7,SNR=6.8						
MKAR	**Makanchi Array**	146.96	37	PKPbc	PKPdf	13 12 13.9	+1.0
	comp=E,0.8nm,0.7s,baz=308,slow=2.9,SNR=5.2						

*IDC **28** 12:59:52.6±11.0, 51°.31N×168°.70W, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.3/54, mbtmp3.6/4, ML3.0/2, MS3.2/4, Ms1 3.2/4, ms1mx2.6/53, Error ellipse: s-maj=265.7km s-min=30.4km az=163.0*
*AEIC **28** 13:00:05.8±2.1, 52°.29N±0°.06×169°.58W±0°.08, h36km±8km, Error ellipse: s-maj=8.6km s-min=6.7km az=169.0*
*NEIC **28** 13:00:07.2±2.1, 52°.35N±0°.06×169°.59W±0°.09, h36km±14km, mb3.7/25, ML3.4/25(AEIC), Error ellipse: s-maj=9.0km s-min=7.1km az=152.0*

ISC 28 13:00:06.7±1.0, 52°.3N±0°.1×169°.48W±0°.07, h40km, n75, σ1°38/70, MS3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.78	29		Pn	13 00 19.9	-1.4
NIKH	**Nikolski High**	0.78	29		Sn	13 00 31.0	-0.7
OKSP	**Okmok Steeple**	1.20	36		Pn	13 00 26.6	-0.4
OKCE	**Okmok Cone E**	1.39	35		Pn	13 00 30.1	+0.5
OKTU	**Okmok Mt. Tuli**	1.40	38		Pn	13 00 30.0	+0.3
OKNC	**Okmok New Cone**	1.42	35		Pn	13 00 30.8	+0.7
OKFG	**Magazine Ridge**	1.47	40		Pn	13 00 30.9	+0.2
OKFG					Sn	13 00 49.8	+1.2
MAPS	**Pakushin South**	2.15	44		Pn	13 00 40.7	+0.6
MAPS					Sn	13 01 07.0	+1.4
MSW	**Makushin Switc**	2.29	44		Pn	13 00 43.2	+1.1
MSW					Sn	13 01 12.0	+3.0
MNAT	**Makushin Natee**	2.32	46		Pn	13 00 43.4	+1.1
UNV	**Unalaska Valle**	2.37	48		Pn	13 00 44.0	+0.9
UNV					Sn	13 01 12.6	+1.7
MTBL	**Makushin Table**	2.38	44		Pn	13 00 44.7	+1.4
KOFP	**Korovin Flat P**	2.84	271		Pn	13 00 49.2	-0.4
AKUT	**Akutan**	2.89	49	Pn	Pn	13 00 50.8	+0.6
ATKA	**Atka Island**	2.90	270		Pn	13 00 49.1	-1.2
GSTR	**Great Sitkin T**	4.06	270	Pn	Pn	13 01 06.9	+0.6
GSMY	**Great Sitkin M**	4.06	269		Pn	13 01 06.8	+0.5
ADK	**Adak**	4.46	268		Pn	13 01 11.8	0.0
KIWB	**Kanaga Island**	4.75	268		Pn	13 01 15.6	-0.2
SPIA	**Saint Paul Isl**	4.91	355		Pn	13 01 19.4	+1.4
CNBA	**Chernabura Isl**	6.41	63	Pn	Pn	13 01 38.8	+0.3
AMKA	**Amchitka**	7.02	267		Pn	13 01 47.5	+0.7
SMY	**Shemya**	10.03	279	Pn	Pn	13 02 27.9	-0.1
OHAK	**Old Harbor**	10.57	56	Pn	Pn	13 02 34.6	-0.7
KDAK	**Kodiak Island**	11.13	54	Pn	Pn	13 02 41.1	-1.9
	0.1nm,0.3s,baz=230,slow=16,SNR=5.8						
KDAK				Sn	Sn	13 04 39.4	-6.5
	baz=223,slow=18,SNR=1.9						
KDAK	**Kodiak Island**	11.13	54	Pn	Pn	13 02 42.8	-0.3
SVW2	**Sparrevohn**	11.64	35	Pn	Pn	13 02 51.6	+1.5
HOM	**Homer**	12.38	46	Pn	Pn	13 02 59.9	-0.3
CNPM	**China Poot**	12.50	47	Pn	Pn	13 03 02.5	+0.6
SEW	**Seward**	13.57	47	Pn	Pn	13 03 15.5	-0.9
O22K	**Cooper Landing**	13.62	45	Pn	Pn	13 03 16.6	-0.5
RC01	**Rabbit Creek A**	13.92	43	Pn	Pn	13 03 21.9	+0.7
PPLA	**Purkeypile**	14.04	34	P	P	13 03 31.6	+1.6
PWL	**Port Wells**	14.40	45	Pn	Pn	13 03 27.5	-0.2
HIN	**Hinchinbrook I**	15.03	48	Pn	Pn	13 03 34.9	-1.2
FID	**Port Fidalgo**	15.18	47	Pn	Pn	13 03 35.4	-2.7
FID				IAmb	IAmb	13 03 42.8	
	comp=Z,11nm,1.2s						
BPAW	**Bear Paw Mtn.**	15.25	32	P	P	13 03 43.6	+0.3
BPAW				IAmb	IAmb	13 03 57.9	
	comp=Z,2.7nm,0.8s						
SCM	**Sheep Creek Mo**	15.29	43	Pn	Pn	13 03 39.4	-0.1
SCM				IAmb	IAmb	13 03 51.5	
	comp=Z,6.4nm,1.1s						
RND	**Reindeer**	15.54	36	Pn	Pn	13 03 44.9	+2.1
RND				IAmb	IAmb	13 03 56.1	
	comp=Z,3.5nm,1.4s						
IMAR	**Indian Mountai**	15.84	24	P	P	13 03 51.1	+1.3
RAGM	**Ragged Mountai**	15.88	50	P	P	13 03 51.3	+1.0
RAGM				IAmb	IAmb	13 03 56.6	
	comp=Z,19nm,1.4s						
M24K	**Tolsona, Glenn**	15.90	43	Pn	Pn	13 03 48.2	+0.8
M24K				IAmb	IAmb	13 04 00.3	
	comp=Z,16nm,1.3s						
MLY	**Manley**	15.96	30	P	P	13 03 52.9	+1.6
HMT	**Hamilton**	16.05	50	Pn	Pn	13 03 49.1	-0.2
HMT				IAmb	IAmb	13 04 01.0	
	comp=Z,16nm,1.3s						
WRH	**Wood River Hil**	16.45	34	Pn	Pn	13 03 54.5	+0.1
I23K	**Minto, Yukon-K**	16.47	31	Pn	Pn	13 03 55.7	+1.2
GLB	**Gilahina Butte**	16.64	47	Pn	Pn	13 03 54.7	-2.1
GLB				IAmb	IAmb	13 03 57.9	
	comp=Z,3.8nm,1.2s						
CCB	**Clear Creek Bu**	16.66	34	Pn	Pn	13 03 56.8	-0.1
MDM	**Murphy Dome**	16.71	32	Pn	Pn	13 03 58.3	+0.7
WAX	**Waxell Ridge**	16.75	50	Pn	Pn	13 03 59.0	+0.8
WAX				IAmb	IAmb	13 04 25.2	
	comp=Z,8.3nm,0.8s						
IL31		17.05	34	Pn	Pn	13 04 00.8	-0.9
IL31				IAmb	IAmb	13 04 13.7	
	comp=Z,4.8nm,1.4s						
ILAR	**Eielson Array**	17.05	34	P	Pn	13 03 59.5	-2.3
	comp=Z,0.1nm,0.3s,baz=230,slow=11,SNR=5.9						
POKR	**Poker Flat Res**	17.07	33		Pn	13 04 03.3	+1.2
POKR				IAmb	IAmb	13 04 07.8	
	comp=Z,3.8nm,0.7s						
MESA	**MESA**	17.11	52	P	P	13 04 04.6	+0.6
RIDG	**Independent Ri**	17.23	39		Pn	13 04 05.1	+1.1
RIDG				IAmb	IAmb	13 04 13.6	
	comp=Z,6.2nm,1.4s						
MENT	**Mentasta**	17.29	42		Pn	13 04 05.5	+0.6
PET	**Petropavlovsk**	19.27	285	P	P	13 04 27.8	+0.2
BMAR	**Burnt Mountain**	19.43	29	P	P	13 04 29.9	+0.6
DAWY	**Dawson**	19.53	41	P	P	13 04 30.9	+0.4
DAWY				IAmb	IAmb	13 04 55.5	
	comp=Z,3.2nm,1.4s						
PEA0B	**Petropavlovsk-**	19.82	285	P	P	13 04 33.2	-0.5
PETK	**Petropavlovsk-**	19.82	285	P	P	13 04 32.8	-0.9
	comp=Z,2.1nm,0.4s,baz=90,slow=13,SNR=35						
PETK	**Petropavlovsk-**	19.82	285	P	P	13 04 32.3	-1.4
SKAG	**Skagway**	20.27	56	Pn	Pn	13 04 41.4	+0.8
MA2	**Magadan**	23.13	304	LR	LR	13 15 15.6	
	comp=Z,27nm,19.6s,baz=119,slow=38						
YBH	**Yreka Blue Hor**	33.05	90	LR	LR	13 16 50.9	
	comp=Z,38nm,21.4s,baz=301,slow=31						
H11N2	**WAKE ISLAND Hy**	37.35	218	T	T	13 47 07.8	
	baz=24,slow=76,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	37.36	218	T	T	13 47 08.4	
	baz=24,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	37.37	218	T	T	13 47 05.4	
	baz=24,slow=76,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	38.54	218	T	T	13 48 37.3	
	baz=23,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	38.56	218	T	T	13 48 38.6	
	baz=23,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	38.56	218	T	T	13 48 38.7	
	baz=23,slow=76,SNR=45						
SNCC	**San Nicolas Is**	40.38	98	P	P	13 07 41.0	+0.4
PDAR	**Pinedale Array**	40.48	79	P	P	13 07 43.4	+1.8
FINES	**FINESS Array B**	65.93	352	P	P	13 10 46.5	-1.5
	comp=Z,0.7nm,0.7s,baz=10,slow=9.9,SNR=3.6						
FINES				LR	LR	13 42 22.0	
	comp=Z,20nm,18.6s,baz=309,slow=38						
VRAC	**Vranov**	78.64	356	LR	LR	13 48 59.7	
	comp=Z,19nm,18.3s,baz=61,slow=37						

*DJA **28** 13:08:58.5±0.6, 3°.N±5°.×12°.8E±°, h10km, M4.5/12, mb4.6/9, mB5.0/7, MLv4.5/12, Mw(mB)4.3/7*
*NEIC **28** 13:09:02.0±1.5, 2°.89N±0°.05×127°.6E±0°.1, h97km±12km, mb4.2/19, Error ellipse: s-maj=20.7km s-min=6.5km az=80.0*
*IDC **28** 13:09:03.1±2.2, 2°.83N×127°.70E, h97km±24km, mb3.5/5, mb1 3.8/8, mb1mx3.5/43, mbtmp4.2/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=41.0km s-min=13.2km az=65.0*

ISC 28 13:09:02.4±0.6, 2°.89N±0°.05×127°.63E±0°.09, h100km, n51, σ1°62/50, mb4.2/14, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	2.12	187		Pn	13 09 36.2	-0.5
TNTI	**Ternate**	2.12	187	P	Pn	13 09 36.5	-0.2
TNTI				S	Sn	13 10 05.7	+2.9
SGSI	**Sangihe**	2.24	291	P	Pn	13 09 33.9	-4.2
DAV	**Davao City (W)**	4.62	334	P	Pn	13 10 10.5	+0.4
	113nm,0.3s,baz=108,slow=4.9,SNR=3.9						
DAV	**Davao City (W)**	4.62	334		Pn	13 10 09.4	-0.7
DMPH	**Davao City--Mi**	4.67	333	⇑eP	Pn	13 10 08.4	-2.3
DMPH				eS	Sn	13 11 09.4	+5.6
KCP	**Kidapawan**	4.81	328	⇑eP	Pn	13 10 10.0	-2.6
GTOI	**Gorontalo**	5.13	244	P	Pn	13 10 16.6	-0.4
	0.1nm312nm15nm,0.5s						
SANI	**Sanana**	5.18	198	P	Pn	13 10 16.0	-1.6
	0.5nm3μm62nm,0.6s						
SWI	**Sorong**	5.21	136	P	Pn	13 10 19.1	+1.1
	0.3nm93nm65nm,0.6s						
SIJI	**Sorong**	5.22	136	P	Pn	13 10 18.3	+0.2
	10nm,0.3s,baz=110,slow=24,SNR=34						
SIJI				S	Sn	13 11 16.3	-0.8
	7.4nm,0.3s,baz=174,slow=20,SNR=10						
NLAI	**Namlea**	6.12	185	P	Pn	13 10 30.6	+0.2
	0.2nm2μm24nm,0.4s						
MRSI	**Marisa**	6.17	247	P	Pn	13 10 31.2	+0.1
	1.1nm3μm328nm,0.5s						
TOLI2	**Tolitoli**	7.07	256		Pn	13 10 41.1	-2.2
APSI	**Ampana**	7.07	238	P	Pn	13 10 43.3	-0.1
	0.3nm31nm,0.9s						
FAKI	**Fak Fak**	7.39	141	Pn	Pn	13 10 49.1	+1.3
FAKI	**Fak Fak**	7.39	141	P	Pn	13 10 49.1	+1.3
	0.2nm41nm,1.2s						
MPSI	**Mapaga**	8.13	252	P	Pn	13 10 57.0	-0.8
	17nm,0.7s						
TTSI	**Tana Toraja**	9.78	233	P	Pn	13 11 19.5	-0.8
BKSI	**Bulukumba**	11.08	223	P	Pn	13 11 38.1	+0.2
BATI	**Baumata**	13.60	197	P	Pn	13 12 12.8	+1.5
	2.3nm,0.3s,baz=180,slow=1.0,SNR=2.7						
MTN	**Manton Dam**	16.02	168	Pn	Pn	13 12 40.9	-1.1
MTN				IAmb	IAmb	13 13 10.1	
	comp=Z,7.7nm,0.8s						
KNRA	**Kununurra**	18.49	177		P	13 13 11.0	+0.2
KNRA				IAmb	IAmb	13 13 32.7	
	comp=Z,19nm,1.2s						
YULB	**Yu-li**	21.28	344	P	P	13 13 38.6	-2.3
YULB				IAmb	IAmb	13 13 43.7	
	comp=Z,11nm,1.0s						
TPUB	**Ta-pu**	21.39	342	P	P	13 13 39.5	-2.6
SSLB	**Suanglung**	21.75	343	P	P	13 13 45.4	-0.6
SSLB				IAmb	IAmb	13 13 48.6	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	23.48	164	P	P	13 14 03.1	-0.2
WB0				IAmb	IAmb	13 14 18.8	
	comp=Z,23nm,1.5s						
WRAB	**Tennant Creek**	23.63	164	P	P	13 14 03.5	-1.2
WRAB				IAmb	IAmb	13 14 10.9	
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	23.63	164	P	P	13 14 04.7	-0.1
	comp=Z,1.4nm,0.5s,baz=343,slow=11,SNR=23						
WRA	**Warramunga Arr**	23.63	164	P	P	13 14 03.4	-1.3
WB2	**Warramunga Arr**	23.64	164	P	P	13 14 03.9	-0.9
WB2				IAmb	IAmb	13 14 13.5	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	23.70	164	P	P	13 14 05.0	-0.4
WR0				IAmb	IAmb	13 14 23.7	
	comp=Z,13nm,1.4s						
PSA00	**Pilbara Seismi**	25.48	197	P	P	13 14 20.9	-0.6
PSA00	**Pilbara Seismi**	25.48	197	P	P	13 14 21.2	-0.3
PSA00				IAmb	IAmb	13 14 23.7	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	27.10	167	P	P	13 14 35.1	-0.9
ASAR	**Alice Springs**	27.10	167	P	P	13 14 36.4	+0.3
	comp=Z,0.4nm,0.3s,baz=348,slow=12,SNR=8.3						
ASAR	**Alice Springs**	27.10	167	P	P	13 14 35.1	-0.9
JWT	**Wachi**	33.02	12	P	P	13 15 27.9	-0.3
JWT				IAmb	IAmb	13 15 41.9	
	comp=Z,9.4nm,1.5s						
FORT	**Forrest**	33.49	179	P	P	13 15 31.9	-0.4
KSRS	**Korea Array**	34.40	0	P	P	13 15 40.5	+0.5
	comp=Z,0.6nm,0.6s,baz=179,slow=10,SNR=4.2						
JSD	**Sado**	36.31	14	P	P	13 15 55.3	-1.2
BBOO	**Buckleboo**	36.40	168	P	P	13 15 56.8	-0.6
NWAO	**Narrogin (SRO)**	36.96	195	LR	LR	13 33 19.1	
	comp=Z,30nm,18.6s,baz=218,slow=39						
STKA	**Stephens Creek**	37.04	160	P	P

TXAR Lajitas Array 144.09 33 PKP PKPbc 13 45 22.7 +0.3
0.1nm,0.6s,baz=345,slow=3.2,SNR=2.6

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*ISU **28** 13:52:20,40.°70N×69.°52E,h15km*
*KRNET **28** 13:52:21.3±0.1,40.°80N×69.°67E,h22km,mb3.7*
*NNC **28** 13:52:22.8±1.5,40.°89N×69.°71E,h0km,mb4.0,mpv3.7,*
Error ellipse: s-maj=12.8km s-min=6.1km az=9.0
*SOME **28** 13:52:22.3,40.°88N×69.°83E,h10km*
ISC 28 13:52:21.8±0.8,40.°88N±0.°03×69.°76E±0.°02,h3km±4km,
n53,σ1§63/69,32C-13D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.57**	**322**	⇑*iP*	**Pg**	**13 52 33.0**	**+0.3**
TAS	baz=32			⇑*iS*	**Sg**	**13 52 41.2**	**+1.1**
TAS	**Tashkent**	**0.57**	**322**	*eP*	**Pg**	**13 52 33.0**	**+0.3**
TAS				*eS*	**Sb**	**13 52 42.0**	**-1.1**
TGS	**TashGRES**	**0.58**	**342**	*eP*	**Pg**	**13 52 34.0**	**+1.2**
TGS				*eS*	**Sb**	**13 52 43.0**	**-0.2**
CHMG	**Chimgan**	**0.70**	**15**	*eP*	**Pb**	**13 52 37.0**	**+0.3**
CHMG				*eS*	**Sb**	**13 52 47.0**	**+0.1**
CHRV	**Charvak**	**0.78**	**10**	*eP*	**Pb**	**13 52 39.0**	**+1.0**
CHRV				*eS*	**Sn**	**13 52 52.0**	**0.0**
BTK	**Batken**	**1.15**	**135**	⇓*iP*	**Pb**	**13 52 42.5**	**-1.8**
BTK	baz=30			⇓*iS*	**Sb**	**13 52 57.9**	**-1.8**
BTK	**Batken**	**1.15**	**135**	*eP*	**Pb**	**13 52 43.0**	**-1.3**
TRKS	**Terek-Say**	**1.23**	**57**	⇑*iP*	**Pn**	**13 52 45.7**	**-0.3**
TRKS	baz=59			⇑*iS*	**Sg**	**13 53 03.2**	**+2.0**
GAR	**Garm**	**1.92**	**167**	⇑*iP*	**Pn**	**13 52 54.9**	**-0.6**
GAR	baz=64			⇑*iS*	**Sn**	**13 53 18.8**	**-1.5**
ANR	**Andizhan**	**1.98**	**93**	*eP*	**Pb**	**13 52 59.0**	**+0.6**
ANR	baz=64			*eS*	**Sg**	**13 53 28.0**	**+2.8**
DRK	**Karamyk**	**2.09**	**131**	⇑*iP*	**Pn**	**13 52 58.0**	**0.0**
DRK	baz=28			⇑*iS*	**Sn**	**13 53 24.5**	**-0.3**
CHGR	**Chuyangaron**	**2.27**	**192**	⇓*iP*	**Pn**	**13 52 59.1**	**-1.1**
CHGR	baz=91			⇓*iS*	**Sn**	**13 53 26.2**	**-2.5**
KK31	**Karatay Array**	**2.29**	**14**	⇓Pn	**Pn**	**13 53 02.0**	**+1.5**
KK31	6.7nm,0.3s,baz=200,slow=14,SNR=246			⇑Lg	Lg	13 53 36.4	
OHH	**Osh**	**2.32**	**98**	⇑*iP*	**Pn**	**13 53 02.0**	**+1.0**
OHH	baz=96			⇑*iS*	**Sn**	**13 53 31.1**	**+0.9**
OHH	**Osh**	**2.32**	**98**	*eP*	**Pn**	**13 53 03.0**	**+2.0**
OHH				*eS*	**Sb**	**13 53 33.0**	**-0.5**
DZA	**Taraz**	**2.33**	**30**	*eP*	**Pg**	**13 53 07.4**	**+1.0**
DZA	113nm,0.2s			*eS*	**Sg**	**13 53 39.1**	**+2.5**
MNAS	**Manas**	**2.61**	**51**	⇑*eP*	**Pn**	**13 53 06.5**	**+1.5**
MNAS	baz=51			⇑*iS*	**Sn**	**13 53 39.3**	**+2.0**
SFK	**Sufi-Kurgan**	**2.98**	**106**	⇑*iP*	**Pn**	**13 53 10.8**	**+0.6**
SFK	baz=4.0			⇑*iS*	**Sn**	**13 53 47.5**	**+0.9**
MRKS	**Merke**	**3.19**	**53**	*eP*	**Pg**	**13 53 22.5**	**-0.5**
MRKS	9.2nm,0.4s			*eS*	**Sg**	**13 54 05.5**	**+1.2**
MRKS	**Merke**	**3.19**	**53**	Pg	**Pg**	**13 53 22.3**	**-0.6**
MRKS	9.2nm,0.4s			Lg	Lg	13 54 05.2	
AML	**Almayashu**	**3.21**	**66**	⇑*iP*	**Pn**	**13 53 14.8**	**+1.3**
AML	baz=65			⇑*iS*	**Sn**	**13 53 54.0**	**+1.6**
EKS2	**Erkin-Say**	**3.49**	**58**	⇑*eP*	**Pn**	**13 53 18.8**	**+1.7**
EKS2	baz=57			⇑*iS*	**Sn**	**13 54 00.3**	**+1.2**
ARLS	**Aral**	**3.57**	**73**	⇓*iP*	**Pn**	**13 53 19.3**	**+1.1**
ARLS	baz=72			⇓*iS*	**Sn**	**13 54 02.5**	**+1.5**
AAK	**Ala-Archa**	**3.95**	**62**	⇑*iP*	**Pn**	**13 53 25.1**	**+1.6**
AAK	baz=61			⇑*iS*	**Sn**	**13 54 11.5**	**+1.0**
AAK	**Ala-Archa**	**3.95**	**62**	⇑Pg	**Pg**	**13 53 36.9**	**-0.6**
AAK	8.3nm,0.5s			⇓Lg	Lg	13 54 29.7	
USP	**Ospenovka**	**4.26**	**54**	⇑*iP*	**Pn**	**13 53 29.1**	**+1.5**
USP	baz=54			⇑*iS*	**Sn**	**13 54 18.7**	**+0.8**
SGDS	**Sogindy**	**4.44**	**53**	Pg	Pb	13 53 44.5	+4.1
SGDS	4.4nm,0.4s			Lg	Lg	13 54 43.0	
TKM2	**Tokmak 2**	**4.81**	**63**	⇑*eP*	**Pn**	**13 53 36.8**	**+1.5**
TKM2	baz=62			⇑*iS*	**Sn**	**13 54 32.0**	**+0.3**
TKM2	**Tokmak 2**	**4.81**	**63**	⇑Pg	**Pb**	**13 53 50.6**	**+3.8**
TKM2	3.9nm,0.4s			⇓Lg	Lg	13 54 55.1	
BOOM	**Boomskoye usch**	**4.90**	**69**	⇑*iP*	**Pn**	**13 53 37.9**	**+1.4**
BOOM	baz=68			⇑*iS*	**Sn**	**13 54 34.4**	**+0.6**
DGS	**Degeres**	**5.06**	**60**	*eP*	Pb	13 53 55.9	+4.9
DGS	10nm,0.5s			*eS*	**Sg**	**13 55 02.9**	**-1.4**
DGS	**Degeres**	**5.06**	**60**	Pg	Pb	13 53 55.5	+4.5
DGS	10nm,0.5s			Lg	Lg	13 55 01.9	
KST	**Kastek**	**5.11**	**63**	*eP*	**Pg**	**13 53 57.4**	**-2.1**
KST	6.7nm,0.3s			*eS*	**Sg**	**13 55 05.3**	**-0.4**
KST	**Kastek**	**5.11**	**63**	Pg	**Pg**	**13 53 57.4**	**-2.1**
KST	6.7nm,0.3s			Lg	Lg	13 55 04.9	
KRBS	**Karabastau**	**5.21**	**55**	*eP*	Pb	13 53 58.7	+5.1
KRBS	3.3nm,0.5s			*eS*	**Sg**	**13 55 07.4**	**-1.7**
KRBS	**Karabastau**	**5.21**	**55**	Pg	Pb	13 53 58.4	+4.8
KRBS	3.3nm,0.5s			Lg	Lg	13 55 06.5	
BTLS	**Baital**	**5.21**	**36**	*eP*	Pb	13 53 57.9	+4.3
BTLS	1.2nm,0.1s			*eS*	**Sg**	**13 55 05.9**	**-3.3**
BTLS	**Baital**	**5.21**	**36**	Pg	**Pg**	**13 54 01.2**	**-0.4**
BTLS	6.1nm,0.5s			Lg	Lg	13 55 11.7	
KUU	**Kurty**	**5.73**	**56**	*eP*	Pg	13 54 08.3	-3.2
KUU	6.5nm,0.9s			*eS*	**Sg**	**13 55 23.1**	**-2.6**
KUU	**Kurty**	**5.73**	**56**	Pg	Pg	13 54 08.3	-3.2
KUU	6.5nm,0.9s			Lg	Lg	13 55 23.1	
TNSS	**Tian-Shan**	**5.78**	**66**	Pg	**Pg**	**13 54 10.4**	**-2.0**
TNSS				Lg	Lg	13 55 26.8	
KTBS	**Karatobe**	**5.86**	**59**	*eP*	Pb	13 54 09.8	+5.2
KTBS	2.7nm,0.5s			*eS*	**Sg**	**13 55 26.0**	**-3.9**
KTBS	**Karatobe**	**5.86**	**59**	Pg	Pb	13 54 09.8	+5.2
KTBS	2.7nm,0.5s			Lg	Lg	13 55 26.0	
MDOK	**Medeo**	**5.89**	**65**	*eP*	Pb	13 54 11.1	+6.0
MDOK	9.3nm,0.5s 2.6nm,0.4s			*eS*	**Sg**	**13 55 28.3**	**-2.5**
MDOK	**Medeo**	**5.89**	**65**	⇑Pg	Pb	13 54 09.3	+4.1
MDOK	12nm,1.0s 10.0nm,1.1s			⇓Lg	Lg	13 55 28.4	
MDOK	**Medeo**	**5.89**	**65**	Pg	Pb	13 54 11.1	+6.0
MDOK	15nm,0.8s 2.6nm,0.4s			Lg	Lg	13 55 28.3	
CHKK	**Chushkaly**	**6.12**	**59**	*eP*	Pb	13 54 15.2	+6.1
CHKK	12nm,1.0s 1.0nm,0.2s			*eS*	**Sg**	**13 55 35.8**	**-2.5**
CHKK	**Chushkaly**	**6.12**	**59**	Pg	Pb	13 54 15.2	+6.1
CHKK	11nm,0.8s 1.0nm,0.2s			Lg	Lg	13 55 35.8	
KPKS	**Kokpek**	**7.11**	**66**	*eP*	Pg	13 54 33.9	-4.1
KPKS	11nm,0.8s 3.5nm,0.1s			*eS*	**Sg**	**13 56 07.7**	**-2.5**
OTUK	**Ortayu**	**7.59**	**13**	⇓Pn	**Pn**	**13 54 14.2**	**+0.8**
OTUK	10nm,0.4s 1.0nm,0.3s			⇑Lg	Lg	13 56 24.2	
PDGK	**Podgornoye**	**7.64**	**68**	Pg	Pg	13 54 43.0	-5.0
PDGK	27nm,1.2s 0.4nm,0.3s			Lg	Lg	13 56 23.6	
PDGK	**Podgornoye**	**7.64**	**68**	⇓Pg	Pb	13 54 42.6	+7.7
PDGK	2.5nm,0.9s 2.6nm,0.7s			⇓Lg	Lg	13 56 24.8	
AB31	**Akbulak array**	**10.87**	**324**	Pn	**Pn**	**13 54 55.9**	**-2.4**
AB31	9.7nm,0.9s 0.8nm,0.4s,baz=144,slow=11,SNR=34			⇑Sn	**Sn**	**13 56 59.7**	**-0.7**
	1.2nm,0.6s,baz=151,slow=24,SNR=6.5						

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*IDC **28** 13:54:03.0±1.4,25.°38N×140.°90E,h203km±13km,*
mb3.6/18,mb1 3.8/24,mb1mx3.7/36,mbtmp4.3/24,MS2.3/1,
Ms1 2.3/1,ms1mx1.9/29,Error ellipse: s-maj=15.5km
s-min=9.1km az=92.0
*NEIC **28** 13:54:04.0±2.3,25.°42N±0.°09×141.°07E±0.°09,*
h203km±6km,mb4.3/88,Error ellipse: s-maj=14.1km
s-min=9.8km az=140.0
*JMA **28** 13:54:05.2±0.1,25.°59N×140.°72E,h165km,M4.5*
ISC 28 13:54:02.9±0.4,25.°40N±0.°05×141.°01E±0.°07,h200km,
n158,σ1§61/164,mb4.2/58,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.62**	**40**	P	**Pn**	**13 54 37.8**	**+0.1**
JHH2				S	**Sn**	**13 55 02.9**	**-1.9**
CBIJ	**Chichi jima**	**2.00**	**32**	P	**Pn**	**13 54 41.6**	**+0.2**
CBIJ				S	**Sn**	**13 55 09.5**	**-1.9**
JCJ	**Chichijima**	**2.00**	**32**	P	**Pn**	**13 54 41.7**	**+0.3**
JCJ	739nm,0.3s,baz=15,slow=12,SNR=644			S	**Sn**	**13 55 09.3**	**-2.1**
JCJ	804nm,0.3s,baz=155,slow=23,SNR=48			LR	LR	13 55 24.4	
JCJ	comp=Z,71nm,18.4s,baz=278,slow=39						
JCJ	**Chichijima**	**2.00**	**32**	Pn	**Pn**	**13 54 41.5**	**+0.1**
JHJ2	**Mitsune**	**7.76**	**353**	Pn	**Pn**	**13 55 52.4**	**-0.6**
JHJ	**Hachijo jima 2**	**7.77**	**352**	P	**Pn**	**13 55 52.8**	**-0.4**
JHJ	21nm,0.3s,baz=266,slow=19,SNR=34			S	**Sn**	**13 57 14.7**	**-6.2**
BSO3	**Boso 3**	**9.39**	**357**	P	**Pn**	**13 56 11.9**	**-2.0**
BSO3	13nm,0.3s,baz=68,slow=19,SNR=1.7			*eS*	**Sn**	**13 57 53.4**	**-5.4**
BSO4	**Boso 4**	**9.58**	**357**	P	**Pn**	**13 56 15.6**	**-1.0**
JNY	**Yasuok**	**10.30**	**345**	P	**Pn**	**13 56 25.6**	**-0.4**
JAO	**Obara**	**10.36**	**343**	P	**Pn**	**13 56 27.2**	**+0.4**
JMN	**Monobe**	**10.37**	**325**	Pn	**Pn**	**13 56 30.6**	**+3.7**
INU	**Inuyama**	**10.50**	**342**	Pn	**Pn**	**13 56 27.0**	**-1.6**
JHU	**Hanno**	**10.53**	**352**	P	**Pn**	**13 56 26.8**	**-2.1**
JGF	**Kuroka**	**10.65**	**344**	Pn	**Pn**	**13 56 29.3**	**-1.2**
JYT	**Yasato**	**10.82**	**356**	Pn	**Pn**	**13 56 30.1**	**-2.6**
JWT	**Wachi**	**10.98**	**335**	Pn	**Pn**	**13 56 35.0**	**+0.3**
JSU	**Suzuyama**	**11.10**	**306**	Pn	**Pn**	**13 56 35.4**	**-1.0**
MJAR	**Matsushiro Arr**	**11.37**	**348**	P	**Pn**	**13 56 37.6**	**-2.1**
MJAR	0.2nm,0.3s,baz=160,slow=9.3,SNR=12 **Matsushiro Arr**	**11.37**	**348**	Pn	**Pn**	**13 56 38.4**	**-1.3**
MAJO	**Matsushiro**	**11.37**	**348**		**Pn**	**13 56 38.4**	**-1.4**
JNU	**Nakatsue**	**11.72**	**313**	P	**P**	**13 56 49.1**	**-0.4**
GUMO	0.1nm,0.3s,baz=156,slow=10.0,SNR=1.8 **Guam**	**12.29**	**162**	P	**Pn**	**13 56 50.9**	**-0.8**
GUMO	0.9nm,0.3s,baz=37,slow=20,SNR=1.9 **Guam**	**12.29**	**162**	Pn	**Pn**	**13 56 48.0**	**-3.7**
JMM	**Marumori**	**12.44**	**359**		**Pn**	**13 56 50.3**	**-2.9**
JSD	**Sado**	**12.82**	**350**	Pn	**Pn**	**13 56 55.0**	**-3.1**
JTM	**Tenmabayashi**	**15.35**	**0**		**Pn**	**13 57 28.8**	**-0.5**
KSTBA	**Taebaek**	**15.57**	**322**	P	**P**	**13 57 34.9**	**+2.8**
KSJEU	SNR=15 **Jeongeup**	**15.76**	**313**	P	**Pn**	**13 57 37.8**	**+3.6**
KSMGY	SNR=9.1 **Mungyeong**	**15.77**	**318**	P	**Pn**	**13 57 37.1**	**+2.6**
KSBON	SNR=10.0 **Boeun**	**15.82**	**318**	P	**Pn**	**13 57 38.3**	**+3.2**
KSYOW	SNR=8.5 **Yeongwol**	**15.89**	**321**	P	**Pn**	**13 57 38.8**	**+2.9**
GOCB	SNR=7.4 **Gochang-gun**	**15.89**	**312**	P	**Pn**	**13 57 39.0**	**+3.1**
KSDGY	SNR=7.9 **Daegwallycong**	**16.13**	**322**	P	**Pn**	**13 57 42.0**	**+3.1**
KSJMJ	SNR=6.5 **Jumunjin**	**16.22**	**323**	P	**Pn**	**13 57 43.8**	**+3.9**
KSWJU	SNR=9.0 **Wonju**	**16.28**	**320**	P	**Pn**	**13 57 44.0**	**+3.4**
YOJ	SNR=24 **Yonaguni jima**	**16.36**	**271**	P	**P**	**13 57 40.7**	**-0.1**
KSRS	**Korea Array**	**16.39**	**320**	P	**P**	**13 57 42.5**	**+1.4**
KSAR	1.5nm,0.3s,baz=137,slow=11,SNR=48 **Wonju Array Be**	**16.40**	**320**		**Pn**	**13 57 43.0**	**+1.0**
KS19	**Wonju Array Si**	**16.45**	**320**	P	**P**	**13 57 42.0**	**+0.2**
ERM	**Erimo**	**16.67**	**6**	P	**Pn**	**13 57 45.4**	**+0.2**
KSCHC	**Chuncheon**	**16.68**	**321**	P	**Pn**	**13 57 50.2**	**+4.9**
KSCWO	SNR=12 **Cheorwon**	**17.06**	**321**	P	**Pn**	**13 57 53.9**	**+4.1**
KSMUS	SNR=10 **Musan**	**17.36**	**319**	P	**Pn**	**13 57 57.8**	**+4.4**
JEW	SNR=7.4 **Eniwo**	**17.41**	**1**	P	**P**	**13 57 52.4**	**+0.2**
SSLB	**Suanglung**	**18.31**	**269**		**Pn**	**13 58 06.0**	**+1.2**
SSLB				IAmb	IAmb	13 58 10.2	
ASAJ	comp=Z,11nm,0.9s **Asahikawa**	**18.72**	**4**	P	**P**	**13 58 08.2**	**+1.7**
JKA	comp=Z,1.2nm,0.3s,baz=233,slow=9.1,SNR=20 **Kamikawa-asahi**	**18.72**	**4**	P	**P**	**13 58 07.8**	**+1.3**
JKA				IAmb	IAmb	13 58 22.6	
USRK	comp=Z,9.8nm,0.9s **Ussuriysk Ar.**	**20.15**	**341**	P	**P**	**13 58 22.0**	**+0.2**
YSS	comp=Z,1.5nm,0.5s,baz=143,slow=9.2,SNR=6.7 **Yuzh-Sakhalins**	**21.56**	**3**	P	**P**	**13 58 36.8**	**+0.2**
YSS				IAmb	IAmb	13 58 42.2	
KLR	comp=Z,13nm,1.2s **Kul'dur**	**24.87**	**345**	P	**P**	**13 59 07.0**	**0.0**
HHC	comp=Z,5.1nm,0.5s,baz=162,slow=8.0,SNR=19 **Hu-ho-hao-te**	**28.91**	**310**	*eP*	**P**	**13 59 44.0**	**+0.6**
HHC				pmax	pmax		
HHC	comp=Z,15nm,0.7s			pmax	pmax		
PEA0B	comp=Z,61nm,7.8s **Petropavlovsk-**	**30.39**	**20**	P	**P**	**13 59 56.4**	**+0.3**
PEA0B				IAmb	IAmb	14 00 20.1	
PETK	comp=Z,14nm,1.4s **Petropavlovsk-**	**30.39**	**20**	P	**P**	**13 59 57.1**	**+1.0**
PETK	comp=Z,0.5nm,0.4s,baz=219,slow=3.3,SNR=4.2 **Petropavlovsk-**	**30.39**	**20**	P	**P**	**13 59 56.9**	**+0.8**
PET	**Petropavlovsk**	**30.62**	**21**	P	**P**	**13 59 59.2**	**+1.1**
PET				IAmb	IAmb	14 00 03.8	
TOLI2	comp=Z,14nm,1.4s **Tolitoli**	**31.05**	**222**	P	**P**	**14 00 02.7**	**+0.4**
MA2	**Magadan**	**34.84**	**9**	P	**P**	**14 00 35.2**	**+0.6**
MA2				IAmb	IAmb	14 00 36.0	
SMY	comp=Z,7.5nm,0.8s **Shemya**	**36.92**	**34**	P	**P**	**14 00 54.4**	**+1.9**
SOEI	**Soe**	**38.56**	**207**	P	**P**	**14 01 08.1**	**+1.4**
AMKA	**Amchitka**	**38.99**	**38**	P	**P**	**14 01 11.1**	**+1.4**
MTN	**Manton Dam**	**39.21**	**195**	P	**P**	**14 01 10.6**	**-1.3**
MTN				IAmb	IAmb	14 01 24.6	
CMAR	comp=Z,14nm,1.1s **Chiang Mai Arr**	**39.51**	**269**	P	**P**	**14 01 14.4**	**0.0**
ADK	comp=Z,0.9nm,0.6s,baz=58,slow=6.8,SNR=5.6 **Adak**	**41.47**	**39**	P	**P**	**14 01 29.5**	**-0.5**
ADK				IAmb	IAmb	14 01 52.9	
BILL	comp=Z,20nm,1.1s **Bilibino**	**45.34**	**13**	P	**P**	**14 02 01.8**	**+1.0**
BILL				IAmb	IAmb	14 02 02.4	
WB0	comp=Z,16nm,1.0s **Warramunga Arr**	**45.35**	**189**	P	**P**	**14 02 00.7**	**-0.7**
WB0				IAmb	IAmb	14 02 01.7	
CTAO	comp=Z,7.8nm,0.9s **Charters Tower**	**45.50**	**173**	P	**P**	**14 02 02.5**	**0.0**
CTAO				IAmb	IAmb	14 02 31.5	
WR0	comp=Z,18nm,1.1s **Warramunga Arr**	**45.52**	**189**	P	**P**	**14 02 02.1**	**-0.6**
WR0				IAmb	IAmb	14 02 19.7	
WRAB	comp=Z,10.0nm,1.2s **Tennant Creek**	**45.52**	**189**	P	**P**	**14 02 02.6**	**-0.1**
WRAB				IAmb	IAmb	14 02 03.4	
WB2	comp=Z,12nm,1.2s **Warramunga Arr**	**45.53**	**189**	P	**P**	**14 02 02.3**	**-0.4**
WB2				IAmb	IAmb	14 02 03.0	
WRA	comp=Z,8.2nm,0.8s **Warramunga Arr**	**45.53**	**189**	P	**P**	**14 02 02.5**	**-0.2**
WRA	comp=Z,5.0nm,0.6s,baz=9.6,slow=7.9,SNR=83 **Warramunga Arr**	**45.53**	**189**	P	**P**	**14 02 01.0**	**-1.8**
WMQ	**Urumqi**	**46.73**	**307**	*eP*	**P**	**14 02 14.0**	**+1.9**
TIXI	**Tiksi**	**46.79**	**355**	P	**P**	**14 02 11.2**	**-0.8**
TIXI				IAmb	IAmb	14 02 31.4	
SPIA	comp=Z,7.5nm,0.8s **Saint Paul Isl**	**46.96**	**34**	P	**P**	**14 02 14.6**	**+1.1**
AKUT	**Akutan**	**48.43**	**39**	P	**P**	**14 02 25.2**	**+0.4**
AS31	**Alice Springs**	**49.25**	**189**	P	**P**	**14 02 30.8**	**-0.7**
ASAR	**Alice Springs**	**49.26**	**189**	P	**P**	**14 02 30.6**	**-0.8**
ASAR	comp=Z,0.3nm,0.4s,baz=1.2,slow=5.9,SNR=16			pP	**pP**	**14 03 14.9**	**+0.3**
ZAA0	comp=Z,0.5nm,0.7s,baz=12,slow=14,SNR=5.0 **Zalesovo Array**	**50.10**	**320**	P	**P**	**14 02 36.6**	**-0.9**
ZALV	**Zalesovo Beam**	**50.10**	**320**	P	**P**	**14 02 35.1**	**-2.4**
ZALV	comp=Z,1.5nm,0.4s,baz=128,slow=7.1,SNR=4.6 **Zalesovo Beam**	**50.10**	**320**	P	**P**	**14 02 36.3**	**-1.1**
MK31	**Makanchi Array**	**50.76**	**311**	P	**P**	**14 02 42.5**	**-0.1**
MKAR	**Makanchi Array**	**50.76**	**311**	P	**P**	**14 02 42.4**	**-0.3**
PSA00	comp=Z,0.3nm,0.4s,baz=90,slow=9.5,SNR=6.9 **Pilbara Seismi**	**51.01**	**206**	P	**P**	**14 02 43.8**	**-0.8**
PSA00	**Pilbara Seismi**	**51.01**	**206**	P	**P**	**14 02 44.2**	**-0.5**
PSA00				IAmb	IAmb	14 02 44.5	
EIDS	comp=Z,19nm,1.4s **Eidsvold**	**51.40**	**168**	P	**P**	**14 02 47.7**	**+0.3**
EIDS				IAmb	IAmb	14 03 14.0	
SDPT	comp=Z,23nm,1.4s **Sand Point**	**51.69**	**38**	P	**P**	**14 02 49.2**	**-0.1**
CNBA	**Chernabura Isl**	**52.10**	**39**	P	**P**	**14 02 52.8**	**+0.4**
RDOG	**Red Dog Mine**	**54.20**	**23**	P	**P**	**14 03 09.6**	**+2.1**
BOOM	**Boomskoye usch**	**55.32**	**305**	P	**P**	**14 03 17.2**	**+1.0**
OHAK	**Old Harbor**	**55.92**	**37**	P	**P**	**14 03 20.4**	**+0.5**
KDAK	**Kodiak Island**	**56.35**	**36**	P	**P**	**14 03 23.5**	**+0.6**
KDAK				IAmb	IAmb	14 03 45.6	
RSO	comp=Z,7.5nm,1.1s **Redoubt South**	**56.56**	**33**	P	**P**	**14 03 24.1**	**-0.5**
STKA	**Stephens Creek**	**56.95**	**179**	P	**P**	**14 03 26.9**	**-0.5**
STKA	comp=Z,1.4nm,0.4s,baz=12,slow=6.8,SNR=7.0 **Stephens Creek**	**56.95**	**179**	P	**P**	**14 03 26.7**	**-0.7**
IMAR	**Indian Mountai**	**57.03**	**26**	P	**P**	**14 03 28.4**	**+0.8**
FORT	**Forrest**	**57.22**	**193**	P	**P**	**14 03 28.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**57.86**	**29**	P	**P**	**14 03 34.8**	**+1.4**
BPAW				IAmb	IAmb	14 03 35.9	
BBOO	comp=Z,3.4nm,0.8s **Buckleboo**	**58.07**	**185**	P	**P**	**14 03 34.6**	**-0.6**
TRF	**Thorofare Moun**	**58.09**	**30**	P	**P**	**14 03 35.8**	**+0.6**
TRF				IAmb	IAmb	14 03 36.9	
I23K	comp=Z,4.1nm,0.9s **Minto, Yukon-K**	**58.69**	**28**	P	**P**	**14 03 40.9**	**+1.7**
I23K				IAmb	IAmb	14 03 41.4	
RND	comp=Z,5.3nm,1.4s **Reindeer**	**58.72**	**30**	P	**P**	**14 03 40.2**	**+0.7**
KNK	**Knik Glacier**	**58.74**	**32**	P	**P**	**14 03 39.9**	**+0.3**
KNK				IAmb	IAmb	14 03 44.2	
NEA2	comp=Z,13nm,1.3s **Nenana**	**58.75**	**28**	P	**P**	**14 03 40.2**	**+0.6**
NEA2				IAmb	IAmb	14 03 41.7	
SML	comp=Z,2.9nm,0.8s **Sawmill**	**58.83**	**32**	P	**P**	**14 03 40.9**	**+0.6**
SML				IAmb	IAmb	14 03 41.8	
TOLK	comp=Z,4.7nm,0.8s **Toolik Lake Re**	**59.11**	**24**	P	**P**	**14 03 43.6**	**+1.5**
TOLK				IAmb	IAmb	14 03 45.0	
MDM	comp=Z,8.2nm,1.2s **Murphy Dome**	**59.15**	**28**	P	**P**	**14 03 43.4**	**+1.0**
MDM				IAmb	IAmb	14 03 44.4	
WRH	comp=Z,2.6nm,0.6s **Wood River Hil**	**59.16**	**28**	P	**P**	**14 03 42.9**	**+0.5**
KK31	**Karatay Array**	**59.23**	**307**	P	**P**	**14 03 43.0**	**-0.3**
KKAR	**Karatay Array**	**59.23**	**307**	P	**P**	**14 03 43.2**	**-0.1**
KKAR	**Karatay Array**	**59.23**	**307**	P	**P**	**14 03 43.3**	**-0.1**
CCB	**Clear Creek Bu**	**59.30**	**28**	P	**P**	**14 03 43.7**	**+0.3**
SCM	**Sheep Creek Mo**	**59.30**	**32**	P	**P**	**14 03 44.5**	**+1.0**
SCM				IAmb	IAmb	14 03 45.3	
GLI	comp=Z,10nm,1.0s **Glacier Island**	**59.37**	**33**	P	**P**	**14 03 44.5**	**+0.6**
GLI				IAmb	IAmb	14 03 48.0	
HIN	comp=Z,10nm,0.9s **Hinchinbrook I**	**59.65**	**33**	P	**P**	**14 03 47.0**	**+1.2**
HDA	**Harding Lake**	**59.65**	**29**	P	**P**	**14 03 46.6**	**+0.9**
HDA				IAmb	IAmb	14 03 47.4	
IL31	comp=Z,2.1nm,0.5s **Eielson Array**	**59.70**	**28**	P	**P**	**14 03 45.5**	**-0.6**
ILAR	**Eielson Array**	**59.70**	**28**	P	**P**	**14 03 46.0**	**-0.1**
ILAR	comp=Z,1.5nm,0.7s,baz=258,slow=5.9,SNR=18 **Eielson Array**	**59.70**	**28**	P	**P**	**14 03 45.5**	**-0.6**
KLU	**Klutina**	**59.96**	**32**	P	**P**	**14 03 48.7**	**+0.7**
KLU				IAmb	IAmb	14 03 49.5	
PAX	comp=Z,3.9nm,0.7s **Paxson**	**60.22**	**30**	P	**P**	**14 03 50.6**	**+0.9**
PRP	**Porcupine Dome**	**60.33**	**27**	P	**P**	**14 03 50.1**	**-0.5**
RIDG	**Independent Ri**	**60.53**	**29**	P	**P**	**14 03 52.2**	**+0.4**
BMRM	**Bremner River**	**60.59**	**33**	P	**P**	**14 03 53.1**	**+0.8**
BMRM				IAmb	IAmb	14 03 54.2	
N25K	comp=Z,8.0nm,1.2s **Chitina, Valde**	**60.60**	**32**	P	**P**	**14 03 53.0**	**+0.7**
BMAR	**Burnt Mountain**	**60.84**	**25**	P	**P**	**14 03 55.1**	**+1.3**
DOT	**Dot Lake**	**60.88**	**30**	P	**P**	**14 03 54.4**	**+0.3**
DOT				IAmb	IAmb	14 03 55.6	
SCRK	comp=Z,3.0nm,0.8s **Sand Creek**	**60.92**	**29**	P	**P**	**14 03 55.0**	**+0.5**
SCRK				IAmb	IAmb	14 03 56.0	
GLB	comp=Z,4.5nm,0.6s **Gilahina Butte**	**60.97**	**32**	P	**P**	**14 03 55.6**	**+0.7**
GLB				IAmb	IAmb	14 03 58.6	
MENT	comp=Z,4.8nm,1.0s **Mentasta**	**61.02**	**30**	P	**P**	**14 03 56.3**	**+1.2**
L27K	**Beaver Creek,**	**61.88**	**30**	P	**P**	**14 04 02.1**	**+1.2**
BCAR	**Beaver Creek A**	**61.90**	**30**	P	**P**	**14 04 02.0**	**+1.0**
EGAK	**Eagle**	**62.16**	**28**	P	**P**	**14 04 02.8**	**+0.2**
EGAK				IAmb	IAmb	14 04 08.9	
NWAO	comp=Z,4.8nm,1.4s **Narrogin (SRO)**	**62.27**	**203**	P	**P**	**14 04 03.7**	**0.0**
DAWY	**Dawson**	**62.94**	**29**	P	**P**	**14 04 09.1**	**+1.2**
EPYK	**Eagle Plains**	**63.94**	**26**	P	**P**	**14 04 15.6**	**+1.2**
EPYK				IAmb	IAmb	14 04 16.4	
INK	comp=Z,6.6nm,0.7s **Inuvik**	**65.01**	**24**

comp=Z,3.2nm,0.8s
PINE Pine Mountain 78.32 47 P P 14 05 42.7 +1.5
PINE IAmb IAmb 14 05 43.9
comp=Z,5.5nm,0.8s
K05A Summer Lake 78.79 48 P P 14 05 45.1 +1.3
K05A IAmb IAmb 14 06 11.3
comp=Z,12nm,1.4s
NEW Newport 78.87 42 P P 14 05 42.7 -1.3
NEW IAmb IAmb 14 05 45.9
comp=Z,2.9nm,0.7s
FIA1 FINESS Array S 79.00 334 P P 14 05 42.8 -1.5
FIA1 IAmb IAmb 14 05 48.5
comp=Z,5.2nm,1.2s
FINES FINESS Array B 79.00 334 P P 14 05 43.1 -1.2
comp=Z,3.9nm,0.3s,baz=67,slow=4.7,SNR=69
FINES FINESS Array B 79.00 334 P P 14 05 43.0 -1.3
MOD Modoc Plateau 79.52 49 P P 14 05 48.7 +0.9
NVAR Mina Array Bea 82.40 51 P P 14 06 04.0 +0.9
comp=Z,1.4nm,0.6s,baz=283,slow=5.4,SNR=6.0
AKASG Malin Array Be 83.36 324 P P 14 06 05.6 -1.9
comp=Z,1.4nm,0.4s,baz=52,slow=5.4,SNR=4.2
NB2 NORSAR Subarra 84.79 338 P P 14 06 12.8 -1.8
comp=Z,0.6nm,0.4s,baz=45,slow=5.1
NOA NORSAR Array B 84.79 338 P P 14 06 12.3 -2.3
comp=Z,1.2nm,0.5s,baz=60,slow=6.2,SNR=6.7
PDAR Pinedale Array 86.16 44 P P 14 06 22.1 +0.1
comp=Z,0.3nm,0.4s,baz=276,slow=2.8,SNR=5.9

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*BEO **28** 14:31:30.9±0.2, 43°.20N×20°.88E, h0km±2km, ML2.7/12*
*PDG **28** 14:31:30.8±0.4, 43°.23N×20°.88E, h14km, ML2.4/13, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*RHSSO **28** 14:31:32.2±0.6, 43°.24N×20°.81E, h5km±2km, ML2.6/12*
*SOF **28** 14:31:34.3, 43°.14N×21°.08E, h10km, MD2.7*
ISC 28 14:31:30.6±1.0, 43°.24N±0°.02×20°.89E±0°.01, h6km±8km, n74, σ0s95/123, 21C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.17**	**95**	*e*Pg	**Pg**	**14 31 34.5**	**+0.5**
SELS				*e*Sg	**Sg**	**14 31 37.4**	**+1.1**
IVAS	**Ivanjica**	**0.64**	**303**	*e*Pg	**Pg**	**14 31 42.5**	**-0.4**
IVAS				*e*Sg	**Sg**	**14 31 50.4**	**-0.8**
GRUS	**Gruza**	**0.67**	**349**	*e*Pg	**Pg**	**14 31 43.7**	**+0.3**
GRUS				*e*Sg	**Sg**	**14 31 53.3**	**+1.2**
SJES	**Sjenica**	**0.67**	**273**	*e*Pg	**Pg**	**14 31 43.4**	**-0.1**
SJES				*e*Sg	**Sg**	**14 31 51.2**	**-1.0**
BOVS	**Bovan**	**0.72**	**56**	*e*Pg	**Pg**	**14 31 44.1**	**-0.2**
BOVS				*e*Sg	**Sg**	**14 31 53.7**	**0.0**
BOVS	**Bovan**	**0.72**	**56**	⇓P	**Pg**	**14 31 44.2**	**-0.2**
BOVS				⇓S	**Sg**	**14 31 53.9**	**+0.2**
BARS	**Barje**	**0.80**	**121**	*e*Pg	**Pg**	**14 31 43.8**	**-2.1**
BARS				*e*Sg	**Sg**	**14 31 54.4**	**-1.8**
IVA	**Berane**	**0.82**	**244**	*e*Pg	**Pg**	**14 31 45.4**	**-0.9**
IVA				*i* Sg	**Sg**	**14 31 56.0**	**-0.9**
PVY	**Plav**	**0.94**	**227**	*e*Pg	**Pg**	**14 31 47.8**	**-0.8**
PVY				*i* Sg	**Sg**	**14 32 00.0**	**-0.7**
TRUS	**Trudelj**	**1.05**	**341**	*e*Pg	**Pg**	**14 31 50.7**	**0.0**
TRUS				*e*Sg	**Sb**	**14 32 06.3**	**+1.1**
SVIS	**Svilajnac**	**1.06**	**13**	*e*Pg	**Pg**	**14 31 51.2**	**+0.3**
SVIS				*e*Sg	**Sg**	**14 32 05.5**	**+0.9**
KOME	**Kolasin**	**1.08**	**250**	⇓*i*Pg	**Pg**	**14 31 50.7**	**-0.6**
KOME				*i* Sg	**Sg**	**14 32 04.7**	**-0.6**
DIVS	**Divibare**	**1.08**	**323**	*e*Pg	**Pg**	**14 31 51.0**	**-0.4**
DIVS				*e*Sg	**Sg**	**14 32 06.8**	**+1.4**
DIVS	**Divibare**	**1.08**	**323**	⇑*i*Pg	**Pg**	**14 31 50.7**	**-0.7**
DIVS				*e*Sg	**Sg**	**14 32 06.3**	**+0.9**
PLE	**Pljevlja**	**1.10**	**275**	*e*Pg	**Pg**	**14 31 51.0**	**-0.7**
PLE				*i* Sg	**Sg**	**14 32 05.4**	**-0.6**
ZAGS	**Zajecar**	**1.14**	**59**	*e*Pg	**Pb**	**14 31 52.2**	**-0.4**
ZAGS				*e*Sg	**Sb**	**14 32 07.1**	**-0.5**
RUDO	**Rudo**	**1.17**	**290**	⇑*i*Pg	**Pb**	**14 31 51.5**	**-1.8**
RUDO				*e*Sg	**Sb**	**14 32 07.1**	**-1.6**
BBLS	**Lazić**	**1.25**	**301**	*e*Pg	**Pn**	**14 31 54.2**	**-0.5**
BBLS				*e*Sg	**Sb**	**14 32 10.1**	**-0.9**
BBLS	**Lazići**	**1.25**	**301**	⇑*i*Pg	**Pn**	**14 31 53.9**	**-0.8**
BBLS				*e*Sg	**Sb**	**14 32 10.1**	**-0.9**
ZAPS	**Zavoj**	**1.27**	**88**	*e*Pg	**Pn**	**14 31 55.2**	**+0.2**
ZAPS				*e*Sg	**Sb**	**14 32 11.9**	**+0.2**
KUBS	**Kucevo**	**1.31**	**25**	*e*Pg	**Pn**	**14 31 54.3**	**-1.1**
KUBS				*e*Sg	**Sb**	**14 32 11.7**	**-0.9**
SKO	**Skopje**	**1.32**	**162**	*i* Pn	**Pn**	**14 31 55.5**	**-0.1**
BLKB	**Belogradchik**	**1.36**	**73**	⇑S	**Sb**	**14 31 55.4**	**+1.4**
BOSS	**Bosilegrad**	**1.38**	**122**	*e*Pg	**Pn**	**14 31 56.4**	**0.0**
BOSS				*e*Sg	**Sb**	**14 32 14.3**	**-0.4**
PDG	**Podgorica**	**1.45**	**237**	*e*Pn	**Pn**	**14 31 57.0**	**-0.3**
PDG				*e*Sn	**Sb**	**14 32 17.3**	**+0.8**
PDG	**Podgorica**	**1.45**	**237**	*e*Pg	**Pn**	**14 31 57.4**	**+0.1**
PDG				*e*Sg	**Sn**	**14 32 16.5**	**0.0**
TTG	**Podgorica**	**1.45**	**237**	⇑*i*Pg	**Pn**	**14 31 57.7**	**+0.4**
TTG				*i* Sg	**Sn**	**14 32 16.9**	**+0.4**
UPM	**Unac-Piva**	**1.45**	**269**	*e*Pg	**Pn**	**14 31 57.6**	**+0.1**
UPM				*e*Sg	**Sn**	**14 32 16.8**	**-0.2**
UPM	**Unac-Piva**	**1.45**	**269**	⇑*i*Pg	**Pn**	**14 31 57.8**	**+0.3**
UPM				*i* Sg	**Sn**	**14 32 17.0**	**0.0**
NKME	**Niksic**	**1.50**	**252**	*e*Pg	**Pn**	**14 31 58.4**	**+0.4**
NKME				*i* Sg	**Sn**	**14 32 18.5**	**+0.7**
CEME	**Cevo**	**1.60**	**245**	⇑*i*Pn	**Pn**	**14 31 59.9**	**+0.4**
CEME				*i* Sn	**Sb**	**14 32 21.8**	**+0.6**
DRME	**Dracevica, Mon**	**1.64**	**231**	⇑*i*Pn	**Pn**	**14 32 01.0**	**+1.1**
DRME				*e*Sn	**Sb**	**14 32 21.8**	**+0.6**
DRME	**Dracevica, Mon**	**1.64**	**231**	⇓*i*Pn	**Pn**	**14 32 00.4**	**+0.5**
DRME				*i* Sn	**Sb**	**14 32 22.6**	**+0.6**
TEKS	**Tekeris**	**1.64**	**324**	*e*Pg	**Pn**	**14 32 00.9**	**+0.9**
TEKS				*e*Sg	**Sb**	**14 32 23.3**	**+1.1**
TEKS	**Tekeris**	**1.64**	**324**	*e*Pn	**Pn**	**14 32 00.8**	**+0.8**
TEKS				*e*Sn	**Sn**	**14 32 22.2**	**+0.8**
MDVR	**Moldovita**	**1.66**	**21**	⇑P	**Pn**	**14 31 59.8**	**-0.5**
MDVR	**Moldovita**	**1.66**	**21**	⇓S	**Sn**	**14 32 20.5**	**-1.4**
BUM	**Brajici-Budva**	**1.74**	**238**	⇑*i*Pn	**Pn**	**14 32 01.9**	**+0.5**
BUM				*i* Sn	**Sn**	**14 32 25.1**	**+1.2**
BRY	**Bratogost**	**1.75**	**260**	*e*Pn	**Pn**	**14 32 02.4**	**+0.7**
BRY	**Bratogost**	**1.75**	**260**	⇓*i*Pn	**Pn**	**14 32 02.1**	**+0.4**
BRY				*i* Sn	**Sn**	**14 32 25.4**	**+1.0**
ULC	**Ulcinj**	**1.76**	**224**	*e*Pn	**Pn**	**14 32 02.1**	**+0.5**
ULC				*i* Sn	**Sn**	**14 32 25.6**	**+1.3**
PUNG	**Punghina**	**1.81**	**54**	⇑P	**Pn**	**14 32 03.9**	**+1.6**
PUNG	**Punghina**	**1.81**	**54**	⇑S	**Sn**	**14 32 25.6**	**0.0**
STIP	**Stip**	**1.81**	**148**	*i* Pn	**Pn**	**14 32 02.8**	**+0.5**
VTS	**Vitosha**	**1.83**	**109**	*i* P	**Pb**	**14 32 05.0**	**+0.5**
HCY	**Herceg Novi**	**1.93**	**247**	*e*Pn	**Pn**	**14 32 04.9**	**+1.0**
HCY	**Herceg Novi**	**1.93**	**247**	*e*Pn	**Pn**	**14 32 04.5**	**+0.6**
HCY				*i* Sn	**Sn**	**14 32 29.8**	**+1.3**
TREB	**Trebinje**	**1.94**	**255**	*e*Pn	**Pn**	**14 32 05.2**	**+1.2**
TREB				*e*Sn	**Sn**	**14 32 29.5**	**+0.9**
HERR	**Herculane**	**1.98**	**33**	⇓P	**Pn**	**14 32 04.9**	**+0.2**
HERR	**Herculane**	**1.98**	**33**	⇓S	**Sn**	**14 32 28.9**	**-0.9**
FRGS	**Fruska Gora**	**2.07**	**338**	*e*Pn	**Pn**	**14 32 07.7**	**+1.8**
FRGS				*e*Sn	**Sn**	**14 32 33.4**	**+1.4**
FRGS	**Fruska Gora**	**2.07**	**338**	⇑P	**Pn**	**14 32 05.6**	**-0.3**
FRGS	**Fruska Gora**	**2.07**	**338**	⇑S	**Sn**	**14 32 30.1**	**-1.9**
FRGS	**Fruska Gora**	**2.07**	**338**	*e*Pn	**Pn**	**14 32 07.5**	**+1.6**
FRGS				*e*Sn	**Sn**	**14 32 33.5**	**+1.4**
KKB	**Krupnik**	**2.12**	**129**	*i* P	**Pb**	**14 32 10.0**	**+0.6**
STON	**Ston**	**2.37**	**262**	⇑*i*Pn	**Pn**	**14 32 11.0**	**+1.1**
STON				*e*Sn	**Sn**	**14 32 39.4**	**+0.5**
STON	**Ston**	**2.37**	**262**	*e*Pn	**Pn**	**14 32 11.5**	**+1.6**
STON				Sn	**Sn**	**14 32 41.3**	**+2.1**
BZS	**Buzias**	**2.44**	**12**	⇓P	**Pn**	**14 32 10.1**	**-0.8**
BZS	**Buzias**	**2.44**	**12**	⇑S	**Sn**	**14 32 39.0**	**-2.0**
GZR	**Gura Zlata**	**2.55**	**31**	⇑S	**Sn**	**14 32 42.9**	**-0.9**
MMB	**Musomiste**	**2.67**	**127**	*i* P	**Pg**	**14 32 22.0**	**+0.3**
RICI	**Ricice**	**2.75**	**277**	*e*Pn	**Pn**	**14 32 17.2**	**+2.0**
RICI				Sn	**Sn**	**14 32 49.6**	**+0.8**
LOT	**Lotru**	**3.03**	**42**	⇑P	**Pn**	**14 32 19.5**	**+0.4**
LOT	**Lotru**	**3.03**	**42**	⇑S	**Sn**	**14 32 54.8**	**-0.9**
BLY	**Banja Luka**	**3.07**	**301**	*e*Pn	**Pn**	**14 32 20.6**	**+1.0**
BLY				*e*Sn	**Sn**	**14 32 57.1**	**+0.4**
SIRR	**Siria**	**3.08**	**10**	⇑P	**Pn**	**14 32 20.0**	**+0.2**
SIRR	**Siria**	**3.08**	**10**	⇑S	**Sn**	**14 32 55.3**	**-1.6**
MRAK	**Mrakovica**	**3.38**	**303**	*e*Pn	**Pn**	**14 32 24.6**	**+0.7**
MRAK				*e*Sn	**Sn**	**14 33 04.5**	**+0.2**
MOSL	**Moslavina**	**3.80**	**310**	*e*Pn	**Pn**	**14 32 29.5**	**-0.1**
ZIRJ	**Zirje**	**3.84**	**278**	*e*Pn	**Pn**	**14 32 31.7**	**+1.5**
ZIRJ				Sn	**Sn**	**14 33 14.8**	**-0.8**
KALN	**Kalnik**	**4.29**	**314**	*e*Pn	**Pn**	**14 32 35.8**	**-0.5**
DUGI	**Dugi Otok**	**4.30**	**282**	*e*Pn	**Pn**	**14 32 37.7**	**+1.1**
DUGI				Sn	**Sn**	**14 33 26.9**	**-0.1**
CRES	**Cresnjev**	**4.67**	**306**	*e*Pn	**Pn**	**14 32 41.8**	**+0.2**
CRES				*e*Sn	**Sn**	**14 33 34.8**	**-1.3**
MODS	**Modra-Piesok**	**5.73**	**335**	*e*PN	**Pn**	**14 32 57.7**	**+1.6**
MODS				*e*SN	**Sn**	**14 34 03.1**	**+1.0**

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*IDC **28** 14:53:26.0±1.6, 33°.09N×71°.04E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.5/61, mbtmp3.6/10, ML3.6/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/47, Error ellipse: s-maj=43.2km s-min=25.8km az=59.0*
ISC 28 14:53:31.5±1.6, 33°.2N±0°.2×71°.0E±0°.2, h35km, n11, σ1s13/10, mb3.8/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.84**	**15**	LR	LR	15 00 02.8	
	comp=Z,25nm,20.0s,baz=282,slow=40						
MKAR	**Makanchi Array**	**16.08**	**29**	Pn	**Pn**	**14 57 14.7**	**-0.1**
	0.1nm,0.3s,baz=209,slow=15,SNR=5.1						
KURBB	**Kurchatov Arra**	**18.29**	**15**	P	**P**	**14 57 41.9**	**-0.2**
	0.1nm,0.3s,baz=206,slow=9.8,SNR=3.5						
AKTO	**Aktyubinsk**	**19.75**	**335**	P	**P**	**14 57 56.7**	**-1.4**
	0.2nm,0.3s,baz=99,slow=13,SNR=2.9						
BVAR	**Borovoye Array**	**19.85**	**359**	P	**P**	**14 57 59.4**	**+0.2**
	0.5nm,0.3s,baz=209,slow=21,SNR=8.7						
ZALV	**Zalesovo Beam**	**22.96**	**21**	P	**P**	**14 58 32.2**	**-0.4**
	0.7nm,0.3s,baz=207,slow=9.6,SNR=3.7						
ZALV				LR	LR	15 07 05.4	
	comp=Z,22nm,18.2s,baz=106,slow=36						
FINES	**FINESS Array B**	**40.30**	**328**	P	**P**	**15 01 06.3**	**+1.3**
	1.9nm,0.9s,baz=82,slow=10.0,SNR=2.5						
ARCES	**ARCESS Array B**	**44.24**	**339**	P	**P**	**15 01 38.7**	**+1.7**
	1.2nm,0.8s,baz=106,slow=8.5,SNR=3.9						
NOA	**NORSAR Array B**	**47.09**	**325**	P	**P**	**15 01 58.2**	**-1.4**
	0.2nm,0.5s,baz=97,slow=7.3,SNR=1.4						
WRA	**Warramunga Arr**	**80.21**	**121**	P	**P**	**15 05 38.4**	**-0.2**
	0.9nm,1.0s,baz=320,slow=5.2,SNR=3.0						
YKA	**Yellowknife Ar**	**84.56**	**3**	P	**P**	**15 06 00.9**	**+0.3**
	0.6nm,0.6s,baz=354,slow=5.0,SNR=3.5						

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*MAN **28** 15:01:24.3, 7°.04N×127°.03E, h23km, mb3.2, ML1.8, MS1.1*
*NEIC **28** 15:01:28.5±2.0, 7°.03N±0°.07×126°.9E±0°.1, h59km±7km, mb4.4/17, Error ellipse: s-maj=15.0km s-min=9.3km az=71.0*
*IDC **28** 15:01:28.3±2.6, 7°.03N×126°.87E, h64km±26km, mb3.4/5, mb1 3.6/6, mb1mx3.3/38, mbtmp3.7/6, ML3.8/1, MS2.6/1, Ms1 2.8/1, ms1mx2.2/26, Error ellipse: s-maj=36.7km s-min=17.0km az=71.0*
ISC 28 15:01:28.0±0.6, 6°.99N±0°.07×126°.90E±0°.09, h60km, n31, σ1s05/32, mb4.1/12, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.31**	**274**	P	**Pn**	**15 01 50.4**	**+0.3**
	75nm,0.3s,baz=74,slow=0.5,SNR=13						
DMPH	**Davao City--Mi**	**1.38**	**274**	⇑*e*P	**Pn**	**15 01 51.4**	**+0.3**
KCP	**Kidapawan**	**1.79**	**271**	⇑*e*P	**Pn**	**15 01 56.5**	**-0.3**
CGP	**Cagayan de Oro**	**2.63**	**304**	⇑*e*P	**Pn**	**15 02 08.5**	**+0.5**
CGP				*e*S	**Sn**	**15 02 40.4**	**+1.7**
SCPH	**Surigao**	**3.11**	**333**	⇓*e*P	**Pn**	**15 02 14.8**	**+0.2**
TOLI2	**Tolitoli**	**8.44**	**227**	Pn	**Pn**	**15 03 26.4**	**-1.3**
SIJI	**Sorong**	**8.94**	**151**	P	**Pn**	**15 03 33.8**	**-0.8**
	1.1nm,0.3s,baz=241,slow=19,SNR=1.1						
FAKI	**Fak Fak**	**11.20**	**151**	Pn	**Pn**	**15 04 03.6**	**-1.8**
JOW	**Kunigami**	**19.78**	**4**	Pn	**Pn**	**15 05 54.4**	**-1.0**
JOW				IAmb	IAmb	15 06 21.8	
	comp=Z,30nm,1.3s						
MTN	**Manton Dam**	**20.14**	**168**	P	**P**	**15 05 58.1**	**+0.7**
MTN				IAmb	IAmb	15 06 11.6	
	comp=Z,26nm,1.4s						
KNRA	**Kununurra**	**22.59**	**175**	P	**P**	**15 06 24.4**	**+0.6**
KNRA				IAmb	IAmb	15 06 48.4	
	comp=Z,36nm,1.4s						
WB0	**Warramunga Arr**	**27.59**	**165**	P	**P**	**15 07 09.6**	**-0.1**
WB0				IAmb	IAmb	15 07 17.5	
	comp=Z,7.3nm,1.3s						
WRA	**Warramunga Arr**	**27.74**	**165**	P	**P**	**15 07 11.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=341,slow=11,SNR=6.8						
WB2	**Warramunga Arr**	**27.75**	**165**	P	**P**	**15 07 11.2**	**0.0**
WB2				IAmb	IAmb	15 07 36.8	
	comp=Z,9.7nm,1.4s						
WR0	**Warramunga Arr**	**27.81**	**164**	P	**P**	**15 07 11.0**	**-0.7**
JWT	**Wachi**	**29.23**	**14**	P	**P**	**15 07 23.4**	**-0.8**
JWT				IAmb	IAmb	15 07 49.5	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**29.50**	**295**	LR	LR	15 18 49.3	
	comp=Z,12nm,21.1s,baz=140,slow=35						
AS31	**Alice Springs**	**31.22**	**168**	P	**P**	**15 07 42.5**	**+0.5**
ASAR	**Alice Springs**	**31.23**	**168**	P	**P**	**15 07 42.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=7.3,SNR=13						
ASAR				PcP	**PcP**	**15 10 36.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=349,slow=2.4,SNR=9.9						
JMM	**Marumori**	**33.23**	**20**	P	**P**	**15 07 58.8**	**-0.5**
JMM				IAmb	IAmb	15 07 58.9	
	comp=Z,7.2nm,0.9s						
FORT	**Forrest**	**37.57**	**178**	P	**P**	**15 08 37.4**	**+0.7**
BBOO	**Buckleboo**	**40.52**	**168**	P	**P**	**15 09 02.1**	**+0.7**
DZM	**Mont Dzumac**	**48.33**	**128**	P	**P**	**15 10 06.8**	**+2.8**
PEA0B	**Petropavlovsk-**	**52.38**	**23**	P	**P**	**15 10 34.5**	**+0.5**
PEA0B				IAmb	IAmb	15 10 47.8	
	comp=Z,14nm,1.5s						
PETK	**Petropavlovsk-**	**52.38**	**23**	P	**P**	**15 10 34.8**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=206,slow=4.8,SNR=9.3						
PET	**Petropavlovsk**	**52.69**	**24**	P	**P**	**15 10 37.1**	**+0.8**
MK31	**Makanchi Array**	**55.02**	**324**	P	**P**	**15 10 52.2**	**-1.3**
MKAR	**Makanchi Array**	**55.02**	**324**	P	**P**	**15 10 52.2**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=119,slow=7.6,SNR=8.8						
MKAR	**Makanchi Array**	**55.02**	**324**	P	**P**	**15 10 51.9**	**-1.6**
MAKZ	**Makanchi**	**55.21**	**324**	P	**P**	**15 10 53.4**	**-1.4**
MAKZ				IAmb	IAmb	15 11 16.3	
	comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**82.11**	**26**	P	**P**	**15 13 40.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=239,slow=5.4,SNR=7.9						

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*KRNET **28** 15:12:44.2±0.1, 39°.04N×69°.95E, h12km, mb3.6*
*SOME **28** 15:12:46.9, 39°.10N×70°.15E, h0km*
*NNC **28** 15:12:49.2±3.3, 39°.19N×69°.75E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=24.9km s-min=18.7km az=16.0*
ISC 28 15:12:44.8±0.9, 39°.09N±0°.04×69°.94E±0°.03, h10km, n18, σ2s55/34, 18C-14D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.31**	**106**	⇑*i*P	**Pg**	**15 12 50.2**	**-0.8**
	baz=97						
GAR				⇑*i*S	**Sg**	**15 12 53.9**	**-1.2**
	baz=97						
CHGR	**Chuyangaron**	**0.75**	**235**	⇑*i*P	**Pg**	**15 12 58.2**	**-1.0**
	baz=39						
CHGR				⇑*i*S	**Sg**	**15 13 08.0**	**-0.9**
	baz=39						
BTK	**Batken**	**1.18**	**35**	⇑*e*P	**Pn**	**15 13 07.1**	**-0.4**
	baz=33						
BTK				⇑*e*S	**Sn**	**15 13 23.9**	**+0.2**
	baz=33						
DRK	**Karamyk**	**1.50**	**74**	⇑*i*P	**Pb**	**15 13 12.2**	**-0.6**
	baz=72						
DRK				⇑*i*S	**Sg**	**15 13 32.5**	**-0.4**
	baz=72						
TAS	**Tashkent**	**2.29**	**348**	⇓*e*P	**Pb**	**15 13 24.8**	**-1.4**
	baz=48						
TAS				⇓*e*S	**Sb**	**15 13 55.0**	**+0.5**
	baz=48						
TRKS	**Terek-Say**	**2.61**	**20**	⇑*e*P	**Pn**	**15 13 28.7**	**+1.6**
	baz=21						
TRKS				⇑*i*S	**Sn**	**15 14 01.1**	**+2.2**
	baz=21						
OHH	**Osh**	**2.62**	**56**	⇑*i*P	**Pn**	**15 13 29.0**	**+1.8**
	baz=55						
OHH				⇑*i*S	**Sn**	**15 14 01.6**	**+2.5**
	baz=55						
SFK	**Sufi-Kurgan**	**2.91**	**70**	⇓*i*P	**Pb**	**15 13 33.7**	**-3.1**
	baz=69						
SFK				⇓*i*S	**Sn**	**15 14 09.1**	**+2.7**
	baz=69						
MNAS	**Manas**	**3.91**	**29**	⇓*i*P	**Pn**	**15 13 47.7**	**+2.6**
	baz=29						
MNAS				⇓*i*S	**Sn**	**15 14 33.7**	**+2.6**
	baz=29						
KK31	**Karatay Array**	**4.04**	**6**	⇑Pn	**Pb**	**15 13 51.9**	**-4.0**
	2.2nm,0.5s,baz=207,slow=12,SNR=27						
KK31				⇑Pg	**Pg**	**15 14 02.2**	**+0.1**
	1.3nm,0.3s,baz=184,slow=16,SNR=6.5						
KK31				⇓Sn	**Sn**	**15 14 39.8**	**+5.9**
	7.2nm,0.5s						
KK31				⇓Lg	Lg	15 14 54.9	
	27nm,0.8s,baz=181,slow=29,SNR=7.0						
AML	**Almayashu**	**4.17**	**42**	⇓*i*P	**Pn**	**15 13 51.4**	**+2.6**
	baz=41						
AML				⇓*i*S	**Sn**	**15 14 40.1**	**+2.2**
	baz=41						
ARLS	**Aral**	**4.34**	**49**	⇓*e*P	**Pn**	**15 13 53.0**	**+2.0**
	baz=48						
ARLS				⇓*i*S	**Sn**	**15 14 43.3**	**+1.6**
	baz=48						
MRKS	**Merke**	**4.42**	**33**	*e*P	**Pg**	**15 14 07.6**	**-1.9**
	5.8nm,0.5s						
MRKS				*e*S	**Sg**	**15 15 03.2**	**-3.5**
	22nm,0.4s						
AAK	**Ala-Archa**	**4.95**	**43**	⇑Pn	Pb	15 14 06.0	-5.6
	3.4nm,0.5s						
AAK				⇑Lg	Lg	15 15 26.6	
	8.6nm,0.8s						
TKM2	**Tokmak 2**	**5.74**	**46**	⇑Pn	Pn	15 14 16.7	+6.5
	2.5nm,0.5s						
TKM2				⇑Sn	**Sn**	**15 15 23.6**	**+7.3**
	10nm,0.8s						
TKM2				⇓Lg	Lg	15 15 51.7	
	7.3nm,0.8s						
KST	**Kastek**	**6.03**	**47**	*e*P	**Pg**	**15 14 37.7**	**-2.4**
	1.7nm,0.3s						
KST				*e*S	**Sg**	**15 15 57.7**	**-0.5**
	9.0nm,0.9s						
BTLS	**Baital**	**6.69**	**26**	*e*P	**Pg**	**15 14 51.2**	**-1.5**
	1.0nm,0.5s						
BTLS				*e*S	**Sg**	**15 16 19.4**	**+0.1**
	5.3nm,0.9s						
AB31	**Akbulak array**	**12.43**	**328**	Pn	**Pn**	**15 15 42.0**	**+0.4**
	0.4nm,0.3s,baz=138,slow=13,SNR=29						
AB31				⇓Sn	**Sn**	**15 17 58.9**	**-1.3**
	1.9nm,0.6s,baz=262,slow=44,SNR=5.4						

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*TUL **28** 15:25:46.3±1.4, 36°.83N±0°.02×97°.80W±0°.02, h0km±8km, ML2.7, mb_Lg2.4/33(NEIC), Error ellipse: s-maj=2.5km s-min=1.9km az=216.0*
NEIC 28 15:25:46.9±0.8, 36°.80N±0°.01×97°.81W±0°.01, h5km±6km, Error ellipse: s-maj=2.2km s-min=1.3km az=173.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.06**	**323**	Pg	Pg	15 25 48.6	+0.1
KAN17	**Caldwell West**	**0.24**	**9**	Pg	Pg	15 25 49.9	-1.8
KAN05	**Bluff City Nor**	**0.31**	**351**	Pg	Pg	15 25 52.6	-0.3
OK032	**Salt Plains WL**	**0.32**	**270**	Pg	Pg	15 25 52.1	-1.1
CROK	**Carrier**	**0.33**	**205**	Pg	Pg	15 25 54.1	+0.8
KAN13	**South Haven SW**	**0.34**	**52**	Pg	Pg	15 25 53.2	-0.3
KAN09	**Caldwell North**	**0.37**	**25**	Pg	Pg	15 25 54.1	0.0
KAN10	**Anthony SW Sta**	**0.39**	**325**	Pg	Pg	15 25 54.6	0.0
KAN08	**Anthony NE Sta**	**0.44**	**343**	Pg	Pg	15 25 55.5	+0.1
KS20	**Mayfield South**	**0.47**	**26**	Pg	Pg	15 25 55.9	-0.2
BLOK	**Blackwell**	**0.48**	**95**	Pg	Pg	15 25 56.4	+0.2
BLOK				Sg	Sg	15 26 01.3	-1.2
KAN12	**Harper NE Stat**	**0.52**	**343**	Pg	Pg	15 25 56.8	0.0
U32A	**Winter Ranch,**	**1.04**	**247**	Pg	Pg	15 26 06.6	-0.3
T35A	**Sooner Cattle**	**1.05**	**83**	Pg	Pg	15 26 06.8	-0.3
QUOK	**Quay**	**1.09**	**125**	Pg	Pg	15 26 07.6	-0.2
BCOK	**Bluff Creek, N**	**1.16**	**172**	Pg	Pg	15 26 08.8	-0.3
OK031	**S. Brethren Rd**	**1.16**	**137**	Pg	Pg	15 26 08.8	-0.3
OK025	**Westminster Rd**	**1.28**	**162**	Pg	Pg	15 26 10.7	-0.7
OKCSW	**OKLAHOMA CITY**	**1.43**	**168**	Pn	Pb	15 26 13.9	-0.1
FNO	**Franklin**	**1.58**	**168**	Pn	Pn	15 26 15.9	+

BSWZ	Blackbirch Sta	34.45	96	P	P	16 02 34.6	+0.7
MAW	Mawson	35.47	216	LR	LR	16 14 41.2	
	comp=Z,80nm,19.5s,baz=62,slow=32						
HIZ	Hauiti	36.76	92	P	P	16 02 54.0	+0.1
URZ	Urewera	38.38	93	P	P	16 03 07.8	+0.4
	comp=Z,26nm,1.2s,baz=188,slow=9.4,SNR=3.5						
URZ	Urewera	38.38	93	P	P	16 03 08.7	+1.2
URZ				IAmb	IAmb	16 03 09.7	
	comp=Z,18nm,0.9s						
BATI	Baumata	38.94	358	LR	LR	16 17 10.2	
	comp=Z,96nm,21.6s,baz=164,slow=33						
MMRI	Maumere	40.56	356	P	P	16 03 24.6	-1.2
MMRI				IAmb	IAmb	16 03 29.4	
	comp=Z,31nm,0.9s						
QSPA	South Pole Qui	40.87	180	P	P	16 03 28.3	+0.1
	comp=Z,5.2nm,0.9s,baz=327,slow=4.5,SNR=11						
QSPA	South Pole Qui	40.87	180	P	P	16 03 26.5	-1.7
QSPA				IAmb	IAmb	16 03 32.1	
	comp=Z,11nm,1.2s						
DZM	Mont Dzumac	42.35	65	eLR	LR	16 15 35.0	
	comp=Z,273nm,28.0s						
PINNC	Pines Island,	42.53	67	P	P	16 03 40.7	-1.3
PMG	Port Moresby	43.76	32	LR	LR	16 20 43.8	
	comp=Z,74nm,20.4s,baz=178,slow=34						
LEM	Lembang	44.80	335	LR	LR	16 21 37.2	
	comp=Z,42nm,20.8s,baz=106,slow=35						
SIJI	Sorong	48.48	8	LR	LR	16 27 00.5	
	comp=Z,30nm,19.9s,baz=60,slow=39						
HNR	Honiara	49.15	48	LR	LR	16 23 19.7	
	comp=Z,128nm,19.9s,baz=199,slow=34						
SNAA	Sanae	53.92	198	P	P	16 05 09.4	-0.1
SNAA	Sanae	53.92	198	P	P	16 05 09.3	-0.1
	comp=Z,5.2nm,1.0s,baz=142,slow=8.4,SNR=14						
SNAA	Sanae	53.92	198	P	P	16 05 09.2	-0.2
SNAA				IAmb	IAmb	16 05 17.9	
	comp=Z,7.8nm,1.1s						
VNA2	Neumayer--Watz	55.41	197	P	P	16 05 20.1	0.0
	baz=158,slow=7.7						
VNA3	Neumayer Olymp	55.58	196	P	P	16 05 21.2	-0.1
VNA1	Neumayer--Stat	55.80	197	P	P	16 05 23.1	+0.1
TBI	Tubuai	69.73	102	eLR	LR	16 28 01.1	
	comp=Z,45nm,24.0s						
CMAR	Chiang Mai Arr	71.33	334	P	P	16 07 07.8	+1.7
	comp=Z,3.4nm,1.0s,baz=179,slow=5.6,SNR=12						
CMAR	Chiang Mai Arr	71.33	334	P	P	16 07 06.5	+0.4
PPT2	Papeete2	73.81	98	eLR	LR	16 30 05.7	
	comp=Z,53nm,26.2s						
BOSA	Boshof	74.89	244	LR	LR	16 35 55.5	
	comp=Z,64nm,20.4s,baz=182,slow=32						
JMZ	Minamidaito 2	74.93	6	P	P	16 07 27.6	+0.4
MJAR	Matsushiro Arr	86.20	10	P	P	16 08 28.0	+0.6
	comp=Z,1.8nm,0.9s,baz=191,slow=6.1,SNR=4.7						
MJAR				LR	LR	16 47 19.1	
	comp=Z,12nm,18.3s,baz=60,slow=36						
MJAR	Matsushiro Arr	86.20	10	IAmb	IAmb	16 08 29.7	
	comp=Z,2.0nm,1.1s						
KSAR	Wonju Array Be	86.35	2	P	P	16 08 28.9	+0.8
KSRS	Korea Array	86.37	2	P	P	16 08 29.6	+1.5
	comp=Z,1.8nm,1.0s,baz=183,slow=4.7,SNR=6.3						
KSRS				LR	LR	16 45 16.1	
	comp=Z,13nm,21.8s,baz=169,slow=34						
WMQ	Urumqi	98.33	334	eP	Pdif	16 09 25.5	+1.8
TXAR	Lajitas Array	138.13	100	PKP	PKPdf	16 15 12.0	+0.6
	comp=Z,0.7nm,1.0s,baz=223,slow=3.7,SNR=4.1						
YKA	Yellowknife Ar	145.30	45	PKPbc	PKPbc	16 15 22.9	+0.1
	comp=Z,3.8nm,0.9s,baz=261,slow=3.0,SNR=11						
YKA	Yellowknife Ar	145.30	45		PKPbc	16 15 22.2	-0.5

*IDC **28** 16:32:32.3±1.8, 54.°60N×162.°69E, h0km, mb3.5/2, mb1 4.0/3, mb1mx3.3/40, mbtmp3.5/3, ML2.6/1, MS3.5/1, Ms1 3.6/1, ms1mx2.3/43, Error ellipse: s-maj=186.8km s-min=31.1km az=157.0*

*KRSC **28** 16:32:39.3±0.6, 55.°30N×161.°03E, h107km±7km, ML3.8*

ISC 28 16:32:41.1±0.9, 55.°30N±0.°03×161.°04E±0.°05, h101km±7km, n43, σ0°83/60, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	0.38	256	*i* P	Pn	16 32 55.7	-0.5
TUMD				*e*S	Sn	16 33 08.2	+0.7
KZV	Kizimen	0.47	247	*i* P	Pn	16 32 56.3	-0.6
KZV				*e*S	Sn	16 33 09.3	+0.6
TUMR	Tumrok	0.51	269	*i* P	Pn	16 32 57.1	0.0
TUMR				*e*S	Sn	16 33 10.1	+0.9
KMNR	Kamenistaya	0.65	315	*e*P	Pn	16 32 57.8	-0.4
BZGR	Bezymyannyi-Gr	0.67	343	*e*P	Pn	16 32 57.6	-0.8
BZWR	Bezymyannyi-We	0.74	335	*e*P	Pn	16 32 58.4	-0.7
KIRR	Kirishev	0.77	329	*e*P	Pn	16 32 58.4	-0.9
KIRR				*e*S	Sn	16 33 12.8	-0.2
LGNR	Loginova	0.81	346	*i* P	Pn	16 32 59.7	-0.2
LGNR				*e*S	Sn	16 33 15.0	+1.0
KPT	Kopyto	0.81	326	*e*S	Sn	16 33 14.0	+0.3
CIRR	Tsirk	0.84	349	*e*P	Pn	16 32 59.8	-0.2
CIRR				*e*S	Sn	16 33 15.0	+0.8
MKZ	Mys Kozlova	0.84	152	*e*P	Pn	16 32 59.9	0.0
MKZ				*e*S	Sn	16 33 15.0	+1.0
KOZ	Kozyrevsk	1.01	320	*i* P	Pn	16 33 01.0	-0.6
KOZ				*e*S	Sn	16 33 17.2	+0.1
KLY	Klyuchi	1.04	348	*i* P	Pn	16 33 01.4	-0.5
KLY				*e*S	Sn	16 33 17.6	-0.1
SRDR	Sredinnyy	1.27	324	*e*P	Pn	16 33 03.6	-1.0
BDR	Baidarnaya	1.28	4	*e*P	Pn	16 33 04.7	0.0
BDR				*e*S	Sn	16 33 24.0	+1.4
SMKR	Semkarok	1.31	10	*e*P	Pn	16 33 05.7	+0.6
SMKR				*e*S	Sn	16 33 24.1	+0.8
KBG	Krutoberegovo	1.34	44	*e*P	Pn	16 33 05.7	+0.3
KBG				*e*S	Sn	16 33 25.0	+1.2
KBTR	Krutoberegovo	1.36	47	*e*P	Pn	16 33 05.9	+0.3
KBTR				*e*S	Sn	16 33 25.6	+1.4
SRKR	Sorokina	1.36	3	*e*P	Pn	16 33 05.5	-0.2
SRKR				*e*S	Sn	16 33 25.3	+0.9
ESO	Esso	1.47	296	*i* P	Pn	16 33 07.9	+0.9
ESO				*e*S	Sn	16 33 28.4	+1.8
SPN	Mys Shipunski	2.28	196	*e*P	Pn	16 33 15.8	-1.5
SPN				*e*S	Sn	16 33 44.0	-1.1
NLC	Nalytchevo	2.35	206	*e*P	Pn	16 33 17.9	-0.3
NLC				*e*S	Sn	16 33 47.6	+1.0
SDLR	Sedlovina	2.39	213	*e*P	Pn	16 33 19.0	+0.2
KRX	Arik	2.40	217	*e*P	Pn	16 33 19.2	+0.3
KRER	Koryakskii	2.41	215	*e*P	Pn	16 33 20.1	+1.0
GNL	Ganaly	2.42	230	*e*P	Pn	16 33 18.6	-0.6
SMAR	Somma	2.42	214	*e*P	Pn	16 33 19.4	0.0
KOK	Koryaka	2.46	216	*e*P	Pn	16 33 20.3	+0.7
UGLR	Uglovaya	2.46	213	*e*P	Pn	16 33 19.7	-0.1
DALK	Dalny	2.64	212	*e*P	Pn	16 33 21.8	-0.2
PET	Petropavlovsk	2.68	213	*e*P	Pn	16 33 22.7	+0.3
PET				*e*S	Sn	16 33 56.0	+1.7
PETK	Petropavlovsk-	2.94	223	Pn	Pn	16 33 25.5	-0.5
	3.1nm,0.3s,baz=64,slow=15,SNR=76						
KRMR	Karymshinskiy	3.01	216	*e*P	Pn	16 33 27.0	+0.1
KRMR				*e*S	Sn	16 34 03.7	+1.5
GRL	Gorelyy	3.26	214	*e*P	Pn	16 33 30.8	+0.4
MTVR	Mutnovka	3.29	212	*e*P	Pn	16 33 30.8	0.0
MTVR				*e*S	Sn	16 34 10.0	+0.9
APC	Apacha	3.30	225	*e*P	Pn	16 33 31.4	+0.7
KDTR	Khodutka, Kamc	3.92	208	*e*P	Pn	16 33 37.5	-1.5
MIPR	Malaya Ipel'ka	3.95	222	*e*P	Pn	16 33 40.8	+1.3
H11N2	WAKE ISLAND Hy	35.78	171	T	T	17 17 04.0	
	baz=355,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	35.80	171	T	T	17 17 05.2	
	baz=355,slow=76,SNR=39						
H11N1	WAKE ISLAND Hy	35.80	171	T	T	17 17 05.4	
	baz=355,slow=76,SNR=22						
NVAR	Mina Array Bea	54.50	72	P	P	16 41 58.2	-0.1
	0.4nm,0.6s,baz=306,slow=7.7,SNR=2.9						
NVAR				LR	LR	17 02 17.4	
	comp=Z,50nm,20.0s,baz=260,slow=33						
TXAR	Lajitas Array	69.28	68	P	P	16 43 36.2	-1.1
	0.4nm,0.6s,baz=300,slow=5.1,SNR=6.1						

*NEIC **28** 16:47:33.8±1.3, 13.°4N±0.°1×144.°44E±0.°08, h119km±6km, mb4.2/12, Error ellipse: s-maj=19.8km s-min=8.7km az=205.0*

*IDC **28** 16:47:33.3±0.9, 13.°36N×144.°37E, h111km±12km, mb3.6/4, mb1 3.7/4, mb1mx3.2/40, mbtmp3.9/4, Error ellipse: s-maj=40.3km s-min=22.1km az=49.0*

ISC 28 16:47:33.9±0.7, 13.°4N±0.°1×144.°5E±0.°1, h129km, n22, σ1°43/22, mb4.1/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.38	60	P	Pn	16 47 52.0	-0.3
	248nm,0.3s,baz=87,slow=3.4,SNR=371						
GUMO				S	Sn	16 48 05.0	-1.1
	668nm,0.3s,baz=157,slow=23,SNR=150						
GUMO	Guam	0.38	60	Pn	Pn	16 47 51.8	-0.4
GUMO				Sn	Sn	16 48 03.2	-2.9
PATS	Pohnpei	15.04	114	Pn	Pn	16 51 00.5	+0.6
RABL	Rabaul	19.05	156	P	P	16 51 45.0	-1.3
JMM	Marumori	24.59	353	P	P	16 52 42.8	+0.8
JMM				IAmb	IAmb	16 53 09.4	
	comp=Z,24nm,1.5s						
WR0	Warramunga Arr	34.58	197	P	P	16 54 10.0	-0.5
WR0				IAmb	IAmb	16 54 36.9	
	comp=Z,9.2nm,1.4s						
WRAB	Tennant Creek	34.60	197	P	P	16 54 10.5	-0.3
WRAB				IAmb	IAmb	16 54 22.9	
	comp=Z,12nm,1.1s						
WB2	Warramunga Arr	34.61	197	P	P	16 54 10.3	-0.5
WB2				IAmb	IAmb	16 54 39.4	
	comp=Z,6.9nm,1.1s						
WRA	Warramunga Arr	34.62	197	P	P	16 54 10.2	-0.6
	comp=Z,1.0nm,0.8s,baz=20,slow=9.7,SNR=4.6						
WRA	Warramunga Arr	34.62	197	IAmb	IAmb	16 54 19.3	
	comp=Z,0.3nm,1.4s						
AS31	Alice Springs	38.27	196	P	P	16 54 39.0	-2.9
ASAR	Alice Springs	38.28	196	P	P	16 54 38.9	-3.0
DZM	Mont Dzumac	41.28	148	P	P	16 55 08.3	+1.5
	comp=Z,5.0nm,0.4s,baz=311,slow=9.3,SNR=9.0						
DZM	Mont Dzumac	41.28	148	IAmb	IAmb	16 55 11.8	
	comp=Z,27nm,1.4s						
CMAR	Chiang Mai Arr	44.04	283	P	P	16 55 29.8	+0.6
	comp=Z,0.9nm,0.6s,baz=86,slow=6.8,SNR=5.7						
STKA	Stephens Creek	45.10	184	P	P	16 55 38.5	+1.2
STKA				IAmb	IAmb	16 55 40.4	
	comp=Z,2.1nm,1.4s						
SONM	Songino Array	46.70	325	P	P	16 55 50.0	+0.1
BHW	Baring Head	61.31	154	P	P	16 57 36.1	+0.3
MK31	Makanchi Array	61.40	316	P	P	16 57 36.2	-0.3
MK31				IAmb	IAmb	16 57 55.5	
	comp=Z,1.5nm,1.2s						
MKAR	Makanchi Array	61.40	316	P	P	16 57 36.1	-0.3
	comp=Z,0.3nm,0.6s,baz=99,slow=5.5,SNR=4.8						
MKAR	Makanchi Array	61.40	316	P	P	16 57 35.6	-0.9
LPAZ	La Paz	148.31	99	PKPbc	PKPbc	17 07 08.6	+1.8
	comp=Z,1.0nm,0.9s,baz=298,slow=5.5,SNR=4.4						

TAP 28 16:54:40.1, 24.°65N×122.°55E, h106km, ML2.3, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.46	114	*i* P	Pn	16 54 56.4	+0.2
	baz=120						
YOJ				S	Sn	16 55 08.4	0.0
	baz=120						
TWB1	Santiao Chiao	0.62	305	*e*P	Pn	16 54 57.5	+0.1
	baz=303						
TWC	Suao	0.64	266	*e*P	Pn	16 54 57.5	-0.1
	baz=264						
TIPB	Shuangxi	0.73	296	*e*P	Pn	16 54 58.4	0.0
	baz=290						
TIPB				*i* S	Sn	16 55 11.6	-0.6
	baz=290						
EWUT	Wuta	0.73	254	*e*P	Pn	16 54 58.6	+0.2
	baz=254						
NDS	Dongshan	0.76	269	P	Pn	16 54 59.1	+0.5
	baz=271						
NDS				S	Sn	16 55 12.0	-0.6
	baz=271						
ENA	Nanau	0.77	253	*e*P	Pn	16 54 59.1	+0.4
	baz=249						
ENA				*e*S	Sn	16 55 12.8	+0.1
	baz=249						
TWE	Neicheng	0.81	275	*i* P	Pn	16 54 59.5	+0.4
	baz=273						
TNOU	National Taiwa	0.86	305	*e*P	Pn	16 55 00.1	+0.5
	baz=301						
ENTT	Nicoudou	0.90	270	*e*P	Pn	16 55 00.5	+0.5
	baz=271						
ENTT				*e*S	Sn	16 55 15.2	+0.3
	baz=271						
NDT	Datong Townshi	0.95	267	*e*P	Pn	16 55 00.9	+0.5
	baz=263						
NWLT	Wulai	0.96	278	*e*P	Pn	16 55 00.8	+0.2
	baz=282						
NACB	Ninganchiao	0.99	242	*e*P	Pn	16 55 00.6	-0.3
	baz=242						
NACB				*e*S	Sn	16 55 15.9	-0.7
	baz=242						
YM01	YM01	1.02	299	*e*P	Pn	16 55 01.3	+0.1
	baz=290						
YM01				*e*S	Sn	16 55 16.6	-0.5
	baz=290						
TWD	Chiawan	1.04	237	*e*P	Pn	16 55 01.4	0.0
	baz=233						
TWD				*e*S	Sn	16 55 16.8	-0.6
	baz=233						
YHNB	Yeheng	1.07	271	*e*P	Pn	16 55 02.2	+0.4
	baz=265						
YHNB				*e*S	Sn	16 55 17.9	-0.3
	baz=265						
ETLH	Xiulin Townshi	1.07	246	*e*P	Pn	16 55 01.8	0.0
	baz=246						
ETLH				*e*S	Sn	16 55 17.4	-0.8
	baz=246						
NSK	Sanguang	1.09	272	*e*P	Pn	16 55 02.2	+0.3
	baz=266						
NSK				S	Sn	16 55 18.1	-0.4
	baz=266						
NNSB	Datong	1.09	258	*e*P	Pn	16 55 01.4	-0.6
	baz=253						
NNSH	Datong	1.09	258	*e*P	Pn	16 55 02.0	-0.1
	baz=255						
NNS	Nan Shan	1.09	259	*e*P	Pn	16 55 02.3	+0.2
	baz=254						
FUSS	Fushou	1.26	252	*e*P	Pn	16 55 04.6	+0.5
	baz=248						
FUSS				S	Sn	16 55 21.7	-0.5
	baz=248						
WHF	Hehuan Shan	1.28	247	*e*P	Pn	16 55 04.4	-0.1
	baz=243						
WHF				*e*S	Sn	16 55 22.0	-0.9
	baz=243						
TWT	Tachien	1.31	253	*e*P	Pn	16 55 05.6	+0.9
	baz=253						
TWT				*e*S	Sn	16 55 23.3	0.0
	baz=253						
ESL	Shilin	1.32	231	*e*P	Pn	16 55 04.3	-0.2
	baz=227						
ESL				*e*S	Sn	16 55 21.8	-1.2
	baz=227						
TDCB	Techi	1.33	253	*e*P	Pn	16 55 05.5	+0.7
	baz=247						
TDCB				*e*S	Sn	16 55 23.3	-0.2
	baz=247						
CHGB	Renai	1.39	245	*e*P	Pn	16 55 06.0	+0.4
	baz=240						
CHGB				*e*S	Sn	16 55 24.9	0.0
	baz=240						
LIOB	Emei	1.40	270	*e*P	Pn	16 55 05.9	+0.4
	baz=270						
LIOB				*e*S	Sn	16 55 24.4	-0.3
	baz=270						
NSTT	Nanjuang	1.41	270	*e*P	Pn	16 55 05.1	-0.5
	baz=269						
NSTT				*e*S	Sn	16 55 25.0	0.0
	baz=269						
WHP	Taichung City	1.51	256	*e*P	Pn	16 55 07.8	+1.0
	baz=251						
WHP				*e*S	Sn	16 55 27.6	+0.4
	baz=251						
HGSD	Ruisui	1.55	222	*e*P	Pn	16 55 07.5	+0.3
	baz=222						
HGSD				*e*S	Sn	16 55 27.6	-0.2
	baz=222						
YULB	Yu-li	1.70	223	*e*P	Pn	16 55 08.4	-0.8
	baz=230						
FULB	Fuli	1.85	219	*e*P	Pn	16 55 11.9	+0.9
	baz=214						
FULB				*e*S	Sn	16 55 34.1	-0.5
	baz=214						

JMA 28 16:55:23.8±0.1, 24.°65N×123.°42E, h10km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.42	243	P	Pg	16 55 31.9	-0.1
YOJ				S	Sg	16 55 37.5	0.0
IRIF	Iriomote-Funau	0.42	138	P	Pg	16 55 32.0	-0.1
IRIF				S	Sg	16 55 38.0	+0.3
JYNG	Yonagunijimaku	0.48	246	P	Pg	16 55 33.0	-0.1
JYNG				S	Sg	16 55 39.8	+0.4
JKRS	Kuro-shima	0.68	127	P	Pg	16 55 36.7	-0.2
JKRS				S	Sg	16 55 46.0	+0.3
JIJ	Ishigaki jima	0.72	113	P	Pg	16 55 37.4	-0.3
JIJ				S	Sg	16 55 46.6	-0.5
JISG	Ishigakijimahi	0.81	94	P	Pb	16 55 39.8	-0.2
JISG				S	Sb	16 55 50.6	-0.5
JTJ	Tarama	1.17	90	*e*S	Sb	16 56 00.7	-0.5

IDC 28 17:18:54.8±2.4, 3.°67S×137.°28E, h0km, mb3.0/1, mb1 3.7/3, mb1mx3.3/22, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=54.0km s-min=34.6km az=66.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.62	295	Pn	Pn	17 20 32.8	-0.7
	2.5nm,0.3s,baz=26,slow=24,SNR=31						
WRA	Warramunga Arr	16.43	190	Pn	Pn	17 22 47.9	+1.0
	0.2nm,0.3s,baz=16,slow=12,SNR=8.9						
WRA				Sn	Sn	17 25 53.9	+3.8
	0.2nm,0.3s,baz=12,slow=21,SNR=5.1						
ASAR	Alice Springs	20.15	189	P	P	17 23 29.6	-1.3
	0.3nm,0.3s,baz=9.3,slow=11,SNR=13						
LPAZ	La Paz	147.99	129	PKPbc	PKPbc	17 38 44.1	0.0
	0.8nm,0.5s,baz=231,slow=6.5,SNR=3.6						

KRSC 28 17:46:24.0±2.0, 53.°29N×163.°17E, h81km±35km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.52	327	*e*P	Pn	17 46 50.7	+1.1
MKZ				*e*S	Sn	17 47 09.5	+0.6
SPN	Mys Shipunski	1.90	265	*e*P	Pn	17 46 56.3	+1.7
SPN				*e*S	Sn	17 47 18.2	+0.4
NLC	Nalytchevo	2.30	268	*e*P	Pn	17 47 02.3	+2.5
NLC				*e*S	Sn	17 47 28.8	+1.5
KZV	Kizimen	2.49	318	*e*P	Pn	17 47 04.8	+2.3
KZV				*e*S	Sn	17 47 34.0	+2.0
TUMD	Tumrok D	2.51	321	*e*P	Pn	17 47 04.9	+2.2
TUMD				*e*S	Sn	17 47 33.7	+1.3
SDLR	Sedlovina	2.57	271	*e*P	Pn	17 47 06.7	+3.1
SDLR				*e*S	Sn	17 47 36.4	+2.4
UGLR	Uglovaya	2.61	270	*e*P	Pn	17 47 07.2	+3.0
UGLR				*e*S	Sn	17 47 37.6	+2.6
SMAR	Somma	2.62	271	*e*P	Pn	17 47 07.6	+3.2
KRER	Koryakskii	2.65	272	*e*P	Pn	17 47 07.9	+3.1
KRER				*e*S	Sn	17 47 38.7	+2.6
AVH	Avacha	2.66	271	*e*P	Pn	17 47 08.1	+3.3
TUMR	Tumrok	2.67	320	*e*P	Pn	17 47 07.7	+2.8
TUMR				*e*S	Sn	17 47 38.7	+2.4
DALK	Dalny	2.67	266	*e*P	Pn	17 47 07.3	+2.5
DALK				*e*S	Sn	17 47 38.6	+2.4
KRX	Arik	2.71	273	*e*P	Pn	17 47 08.4	+2.9
KRX				*e*S	Sn	17 47 39.1	+1.7
KOK	Koryaka	2.72	272	*e*P	Pn	17 47 08.6	+3.0
PET	Petropavlovsk	2.73	266	*e*P	Pn	17 47 08.8	+3.2
PET				*e*S	Sn	17 47 40.2	+2.5
KBTR	Krutoberegovo	2.93	356	*e*P	Pn	17 47 08.9	+0.6
KBG	Krutoberegovo	2.98	355	*e*P	Pn	17 47 10.1	+1.1
KBG				*e*S	Sn	17 47 44.4	+0.8
KMNR	Kamenistaya	3.00	326	*e*P	Pn	17 47 13.0	+3.6
KMNR				*e*S	Sn	17 47 47.9	+3.5
BZGR	Bezymyannyi-Gr	3.02	333	*e*P	Pn	17 47 12.6	+3.0
KRMR	Karymshinskiy	3.08	263	*e*P	Pn	17 47 12.6	+2.3
KRMR				*e*S	Sn	17 47 47.3	+1.3
MTVR	Mutnovka	3.13	257	*e*P	Pn	17 47 13.9	+2.8
MTVR				*e*S	Sn	17 47 48.8	+1.3
GNL	Ganaly	3.15	279	*e*P	Pn	17 47 14.6	+3.2
GRL	Gorelyy	3.17	259	*e*P	Pn	17 47 15.0	+3.3
SMKR	Semkarok	3.44	344	*e*P	Pn	17 47 16.8	+1.5
KDTR	Khodutka, Kamc	3.45	246	*e*P	Pn	17 47 17.1	+1.8
KDTR				*e*S	Sn	17 47 54.7	-0.3
BDR	Baidarnaya	3.47	342	*e*P	Pn	17 47 18.5	+2.8
SRKR	Sorokina	3.56	342	*e*P	Pn	17 47 18.9	+2.0
APC	Apacha	3.64	267	*e*P	Pn	17 47 22.4	+4.4
APC				*e*S	Sn	17 48 04.4	+4.7
ESO	Esso	3.70	317	*e*P	Pn	17 47 24.6	+5.8
ESO				*e*S	Sn	17 48 05.7	+4.4
SKR	Severo-Kuril's	5.08	242	*e*P	Pn	17 47 39.7	+2.2
SKR				*e*S	Sn	17 48 34.5	-0.3

*SJA **28** 18:05:09.3±0.6, 34.°95S×71.°95W, h14km, ML5.0, MW4.6*

*MOS **28** 18:05:09.5±1.1, 34.°95S×71.°77W, h33km, mb5.1/6, Error ellipse: s-maj=13.4km s-min=6.7km az=92.8*

*VAO **28** 18:05:09.6±0.2, 34.°82S×71.°46W, h10km, mb5.0*

*IDC **28** 18:05:12.1±0.6, 34.°93S×71.°73W, h44km±5km, mb4.5/15, mb1 4.6/18, mb1mx4.5/28, mbtmp4.7/18, ML4.6/3, MS3.7/17, Ms1 3.7/17, ms1mx3.6/26, Error ellipse: s-maj=15.9km s-min=11.5km az=80.0*

*GUC **28** 18:05:12.8±0.8, 35.°00S×71.°83W, h42km±2km, ML5.1*

*NEIC **28** 18:05:12.2, 34.°98S×71.°82W, h56km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.28; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$-1.24; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.11; $M_{\phi r}$-1.74; Fault plane solution: $M_0$2.16000×10^{16} NP1:ϕ_s177.84000°, δ72.12000°, λ85.67000°. NP2:ϕ_s11.68000°, δ18.38000°, λ103.17000°. Principal axes: T 2.1813, Plg63.0000°, Azm81.0000°; N -0.0480, Plg4.0000°, Azm179.0000°; P -2.1334, Plg27.0000°, Azm271.0000°;*

*NEIC **28** 18:05:12.2±1.5, 34.°96S±0.°03×71.°81W±0.°06, h45km±4km, mb5.0/231, Mwr4.8/30, Mwr5.0(GUC) Error ellipse: s-maj=7.3km s-min=4.6km az=94.0*

ISC 28 18:05:11.7±0.4, 34.°97S±0.°03×71.°80W±0.°03, h40km±3km, n580, σ1°24/534, mb5.0/132, MS3.9/19, 70C-26D, Fault plane solution: NP1:ϕ_s175.58327°, δ50.82754°, λ69.03313°. NP2:ϕ_s26.82677°, δ43.62117°, λ113.70970°. Principal axes: T Plg73.4427°, Azm22.9750°; N Plg16.1054°, Azm189.1901°; P Plg3.7405°, Azm280.2717°; Near coast of central Chile

| Code | Station Name | Δ° | AZ° | Ph

MT09 Sn **Sn** **18 05 54.8 +3.3**
BI02 San Fabin de 1.74 166 *e*P **Pn** **18 05 40.3 +0.8**
BI02 *i* S **Sn** **18 06 02.2 +1.7**
BI02 San Fabin de 1.74 166 Pn **Pn** **18 05 40.3 +0.8**
MT05 Renca 1.81 30⇑ *i*P **Pn** **18 05 42.2 +1.8**
MT05 *i* S **Sn** **18 06 06.0 +3.9**
MT05 IAML 18 06 12.8
comp=E,40µm,0.3s
MT05 Renca 1.81 30 **Pn** **18 05 42.2 +1.8**
MT03 Universidad Ad 1.82 36 *e*P **Pn** **18 05 42.5 +1.8**
MT03 IAML 18 06 14.5
comp=N,28µm,0.4s
MT03 Universidad Ad 1.82 36 **Pn** **18 05 42.4 +1.8**
MT03 Universidad Ad 1.82 36 *e*P **Pn** **18 05 42.6 +2.0**
MT03 *e*S **Sn** **18 06 09.6 +7.0**
MT03 IAML 18 06 12.3
comp=Z,17µm,0.7s
FSR Penalolen 1.83 36 *e*P **Pn** **18 05 43.5 +2.8**
VA01 Torpederas 1.95 4 *e*P **Pn** **18 05 43.2 +0.9**
VA01 IAML 18 06 14.9
comp=N,16µm,0.4s
VA01 Torpederas 1.95 4 **Pn** **18 05 43.2 +0.9**
PUMA Malargue 2.00 106 *e*P **Pn** **18 05 46.4 +3.5**
PUMA *e*P 18 05 46.5
ROC1 El Roble 2.10 18 *e*P **Pn** **18 05 46.4 +1.9**
ROC1 *e*S **Sn** **18 06 16.2 +6.7**
ROCH El Roble 2.10 18 *e*P **Pn** **18 05 46.2 +1.6**
EDS3 Malargue 2.12 113 *e*P **Pn** **18 05 48.7 +3.9**
CCSP San Pedro de C 2.15 209 *e*P **Pn** **18 05 46.6 +1.6**
CCSP *i* S **Sn** **18 06 12.6 +2.3**
CCSP IAML 18 06 22.6
comp=N,19µm,0.6s
VA03 San Esteban 2.44 26 *e*P **Pn** **18 05 50.8 +1.7**
VA03 IAML 18 06 28.9
comp=N,18µm,0.7s
VA03 San Esteban 2.44 26 **Pn** **18 05 50.5 +1.4**
RFA San Rafael 2.75 87 *e*P **Pn** **18 05 56.4 +3.0**
RFA *e*S Sn 18 06 39.2 +14
CANA Caviahue 2.97 169 *e*P **Pn** **18 05 59.9 +3.4**
CO03 El Pedregal 4.23 13⇑ *e*P **Pn** **18 06 14.8 +1.0**
CO03 El Pedregal 4.23 13 **Pn** **18 06 14.7 +1.0**
CO06 Fray Jorge 4.29 2 *e*P **Pn** **18 06 14.1 -0.3**
ZON Zonda 4.30 38 P **Pn** **18 06 17.1 +2.4**
ZON Zonda 4.30 38 **Pn** **18 06 17.1 +2.4**
PLCA Paso Flores 5.83 171 P **Pn** **18 06 37.6 +1.9**
comp=N,6.8nm,0.3s,baz=342,slow=11,SNR=147
PLCA LR LR 18 09 01.1
comp=N,1µm,21.1s,baz=354,slow=39
PLCA Paso Flores 5.83 171 Pn **Pn** **18 06 37.5 +1.8**
PLCA Paso Flores 5.83 171 *e*P **Pn** **18 06 38.5 +2.8**
PLCA Paso Flores 5.83 171 *e*P **Pn** **18 06 37.6 +1.9**
VA04 Juan Fernndez 5.96 281 **Pn** **18 06 37.3 -0.1**
H03S1 Juan Fernandez 5.98 279 P **Pn** **18 06 36.8 -0.6**
baz=63,slow=15,SNR=36
H03S1 T T 18 12 35.3
baz=99,slow=75,SNR=2647
H03S3 Juan Fernandez 5.99 279 P **Pn** **18 06 37.1 -0.3**
baz=63,slow=15,SNR=61
H03S3 T T 18 12 36.6
baz=99,slow=75,SNR=3310
H03S2 Juan Fernandez 6.00 279 P **Pn** **18 06 36.9 -0.7**
baz=63,slow=15,SNR=97
H03S2 T T 18 12 23.2
baz=99,slow=75,SNR=2460
LCO Las Campanas 6.02 9 P **Pn** **18 06 37.1 -1.4**
LCO Las Campanas 6.02 9 Pn **Pn** **18 06 37.1 -1.4**
H03N1 Juan Fernandez 6.08 283 P **Pn** **18 06 39.3 +0.5**
baz=135,slow=24,SNR=111
H03N1 T T 18 12 49.0
baz=100,slow=72,SNR=26
H03N3 Juan Fernandez 6.09 282 P **Pn** **18 06 39.6 +0.6**
baz=135,slow=24,SNR=101
H03N3 T T 18 12 48.5
baz=100,slow=72,SNR=28
H03N2 Juan Fernandez 6.10 282 P **Pn** **18 06 39.8 +0.7**
baz=135,slow=24,SNR=53
H03N2 T T 18 12 50.0
baz=100,slow=72,SNR=27
LL03 Petrohue 6.17 184 **Pn** **18 06 41.9 +1.7**
LL05 Los Muermos 6.55 191 Pn **Pn** **18 06 45.9 +0.4**
AC04 Llanos de Chal 6.78 5 Pn **Pn** **18 06 47.7 -0.9**
GO03 Copiap 7.48 11 **Pn** **18 06 57.3 -1.0**
LL02 Futaleuf 8.21 180 Pn **Pn** **18 07 09.8 +1.7**
AC02 Maricunga 8.43 17 Pn **Pn** **18 07 10.6 -1.1**
TRQA Tornquist 8.49 114 P **Pn** **18 07 14.1 +2.1**
TRQA Tornquist 8.49 114 Pn **Pn** **18 07 14.1 +2.1**
GO02 Mina Guanaco 9.96 12 Pn Pn 18 07 29.2 -3.4
PB14 IPOC Station P 10.38 7 Pn Pn 18 07 34.1 -4.2
COYC Coyhaique 10.59 181 Pn **Pn** **18 07 42.0 +1.2**
PB10 IPOC Station P 11.47 6 Pn **Pn** **18 07 50.1 -2.8**
PB15 IPOC Station P 11.90 10 **Pn** **18 07 55.9 -3.1**
PB05 IPOC Station P 12.16 7 *e*P Pn 18 07 56.6 -5.8
PB06 IPOC Station P 12.38 10 **Pn** **18 08 02.6 -2.9**
LVC Limon Verde 12.58 12 P **Pn** **18 08 07.2 -1.2**
comp=N,1.8nm,0.3s,baz=207,slow=6.9,SNR=15
LVC LR LR 18 13 58.2
comp=N,196nm,21.7s,baz=210,slow=42
LVC Limon Verde 12.58 12 **Pn** **18 08 07.4 -1.0**
LVC Limon Verde 12.58 12 Pn **Pn** **18 08 07.4 -1.0**
LVC Limon Verde 12.58 12 *e*P **Pn** **18 08 07.0 -1.4**
LVC Limon Verde 12.58 12 *e*P Pn 18 08 02.8 -5.6
PB04 IPOC Station P 12.68 7 **Pn** **18 08 08.8 -0.8**
PB07 IPOC Station P 13.30 8 **Pn** **18 08 18.2 +0.1**
PB09 IPOC Station P 13.32 10 **Pn** **18 08 18.3 0.0**
ITQB Itaqui 13.88 72 Pn **Pn** **18 08 23.3 -2.4**
ITQB Itaqui 13.88 72 *e*P **Pn** **18 08 23.4 -2.3**
PB01 IPOC Station P 14.03 9 **Pn** **18 08 26.4 -1.5**
TA01 Diego Aracena 14.42 6 P **Pn** **18 08 35.2 +2.0**
TA02 Huaiquique 14.72 6 P **Pn** **18 08 40.2 +3.0**
PB08 IPOC Station P 14.96 10 **Pn** **18 08 40.5 -0.3**
CPUP Villa Florida 15.13 59 P **Pn** **18 08 41.1 -1.5**
comp=N,0.5nm,0.3s,baz=224,slow=12,SNR=10
CPUP LR LR 18 15 16.9
comp=N,1µm,18.1s,baz=230,slow=40
CPUP Villa Florida 15.13 59 Pn **Pn** **18 08 41.0 -1.5**
CPUP Villa Florida 15.13 59 *e*P **Pn** **18 08 38.8 -3.8**
PB11 IPOC Station P 15.27 8 **Pn** **18 08 43.0 -1.6**
PSGCX Pisagua 15.39 6 P **Pn** **18 08 45.1 -1.0**
PSGCX IAmb IAmb 18 08 52.7
comp=Z,68nm,0.9s
PLTB Pedras Altas 15.54 83 Pn **Pn** **18 08 46.1 -1.9**
PLTB Pedras Altas 15.54 83 *e*P **Pn** **18 08 45.5 -2.4**
MNMC Minye Minye 15.90 8 Pn **Pn** **18 08 52.3 -0.6**
CPSB Cacapava Do Su 16.11 79 *e*P **Pn** **18 08 52.9 -2.4**
GO09 Cerro Castillo 16.30 181 P **Pn** **18 08 58.0 +0.6**
MG02 Cerro Sombrero 17.90 175 P **P** **18 09 19.2 +1.6**
GO10 Punta Arenas 18.18 179 P **Pn** **18 09 23.1 +2.3**
GO10 IAmb IAmb 18 09 35.9
comp=Z,100nm,1.2s
LPAZ La Paz 18.90 11 P **Pn** **18 09 31.2 +0.9**
comp=Z,2.5nm,0.3s,baz=183,slow=7.4,SNR=119
LPAZ La Paz 18.90 11 P **P** **18 09 30.9 +1.4**
LPAZ pmax pmax
comp=Z,36nm,0.9s
LPAZ La Paz 18.90 11 P **P** **18 09 30.9 +1.4**
LPAZ La Paz 18.90 11 *e*P **P** **18 09 30.2 +0.7**
EFI East Falkland 19.40 154 *de*P **P** **18 09 32.9 -1.2**
EFI pmax pmax
comp=Z,10.0nm,0.4s
EFI East Falkland 19.40 154 P **P** **18 09 32.5 -1.6**
EFI IAmb IAmb 18 10 18.0
comp=Z,71nm,1.1s
AQDB Aquidauana 20.25 49 P **P** **18 09 43.5 -0.1**
AQDB Aquidauana 20.25 49 *e*P **P** **18 09 43.0 -0.6**
TER01 Tubaro-SC 20.30 78 *e*P **P** **18 09 43.2 -1.0**
TRCB Terra Rica 20.67 59 P **P** **18 09 47.2 -0.9**
TRCB Terra Rica 20.67 59 *e*P **P** **18 09 47.1 -1.1**
SIV San Ignacio 21.21 30 P **P** **18 09 53.3 -0.7**
comp=Z,69nm,0.8s,baz=218,slow=8.8,SNR=232
SIV LR LR 18 19 29.5
comp=Z,274nm,19.9s,baz=219,slow=41
TIJ01 Guaruva-PR 21.89 70 *e*P **P** **18 09 56.3 -5.1**
PCMB Pacaembu 22.40 59 *e*P **P** **18 10 04.7 -2.1**
PTLB Pontes e Lacer 22.53 34 *e*P **P** **18 10 07.0 -1.1**
FRTB Fartura 22.56 65 *e*P **P** **18 10 06.7 -1.8**
NNA Nana 23.34 347 P **P** **18 10 17.7 +1.2**
comp=Z,13nm,0.7s,baz=189,slow=9.6,SNR=6.1
NNA LR LR 18 17 37.0
comp=Z,88nm,19.7s,baz=160,slow=32
NNA Nana 23.34 347 P **P** **18 10 16.7 +0.3**
NNA pmax pmax
comp=Z,29nm,1.0s
NNA Nana 23.34 347 P **P** **18 10 16.7 +0.3**

PET01 Itanhaem-SP 23.77 70 *e*P **P** **18 10 18.7 -1.8**
SALV Santo Antonio 23.86 41 *e*P **P** **18 10 20.1 -1.2**
SPB Sao Paulo 24.03 68 P **P** **18 10 21.6 -1.3**
SPB IAmb IAmb 18 10 23.6
comp=Z,48nm,1.0s
SPB Sao Paulo 24.03 68 *e*P **P** **18 10 22.2 -0.7**
ITRB Iturama 24.30 57 *e*P **P** **18 10 24.1 -1.3**
VILB Vilhena 24.31 28 *e*P **P** **18 10 24.7 -0.9**
RCLB Rio Claro- Sao 24.62 66 *e*P **P** **18 10 27.8 -0.6**
BB19B Bebedouro 24.70 62 *e*P **P** **18 10 27.4 -1.7**
VAO Valinhos 24.71 68 *e*P **P** **18 10 28.5 -0.8**
ETMB Extrema 25.56 13 *e*P **P** **18 10 37.3 +0.5**
PARB Paraibuna 25.56 70 *e*P **P** **18 10 36.1 -0.8**
ARAG Araguaiana, MT 26.26 48 *e*P **P** **18 10 42.0 -1.2**
IPMB Ipameri, GO 26.95 57 *e*P **P** **18 10 48.4 -1.1**
CZSB Cruzeiro do Su 27.13 358 *e*P **P** **18 10 52.0 +1.0**
BSCB Bom Sucesso 27.53 67 *e*P **P** **18 10 53.4 -1.3**
VAS01 Vassouras-RJ 27.82 71 *e*P **P** **18 10 56.9 -0.4**
CLDB Colider 28.07 35 *e*P **P** **18 10 58.4 -1.1**
ATAH Atahualpa 28.36 346 LR LR 18 19 51.4
comp=Z,105nm,21.2s,baz=197,slow=31
BDFB Brasilia 28.73 54 P **P** **18 11 04.0 -1.6**
comp=Z,17nm,0.8s,baz=225,slow=5.9,SNR=16
BDFB LR LR 18 23 48.8
comp=Z,653nm,18.0s,baz=257,slow=39
BDFB Brasilia 28.73 54 P **P** **18 11 03.9 -1.6**
BDFB pmax pmax
comp=Z,24nm,1.0s
BDFB Brasilia 28.73 54 P **P** **18 11 03.9 -1.6**
BDFB IAmb IAmb 18 11 22.9
comp=Z,24nm,1.0s
DUB01 Friburgo-RJ 28.75 71 *e*P **P** **18 11 04.7 -0.9**
CAM01 Campos-RJ 29.45 72 *e*P **P** **18 11 11.7 0.0**
SNDB Serra Nova Dou 29.51 44 *e*P **P** **18 11 11.5 -0.8**
PMSA Palmer Station 30.20 173 P **P** **18 11 18.6 +0.7**
comp=Z,2.2nm,0.6s,baz=11,slow=5.5,SNR=7.2
PMSA LR LR 18 23 03.2
comp=Z,319nm,20.0s,baz=356,slow=35
PMSA Palmer Station 30.20 173 P **P** **18 11 18.5 +0.7**
MC01 Montes Claros 30.82 61 *e*P **P** **18 11 22.2 -1.7**
PEXB Peixe 31.19 49 *e*P **P** **18 11 26.2 -0.9**
HOPE Hope Point 31.23 139 P **P** **18 11 26.7 -0.3**
HOPE pmax pmax
comp=Z,84nm,1.3s
HOPE Hope Point 31.23 139 P **P** **18 11 26.7 -0.3**
NPGB Novo Progresso 31.65 32 *e*P **P** **18 11 29.7 -1.5**
JANB Januaria 31.67 58 *e*P **P** **18 11 30.1 -1.3**
BSFB Barra de Sao F 31.78 68 *e*P **P** **18 11 31.2 -1.1**
RIB01 Linhares ES 31.84 69 *e*P **P** **18 11 32.2 -0.7**
SDBA SAO DESIDERIO 33.14 54 *e*P **P** **18 11 43.2 -1.1**
MACA Manacapuru-AM 33.30 21 *e*P **P** **18 11 45.0 -0.6**
ITTB Itaituba 33.90 30 *e*P **P** **18 11 49.6 -1.2**
GUA01 Guaratinga, BA 33.93 66 *e*P **P** **18 11 49.9 -1.2**
SMTB Santa Maria do 34.16 46 *e*P **P** **18 11 52.1 -1.0**
CMC01 Camacan, BA 34.92 64 *e*P **P** **18 11 58.4 -1.2**
PRPB Parauapebas 35.11 40 *e*P **P** **18 12 00.0 -1.3**
NBIT Itapeh - BA 35.25 64 *e*P **P** **18 12 02.0 -0.5**
OTAV Otavalo 35.58 349 P **P** **18 12 07.1 +1.3**
OTAV pmax pmax
comp=Z,6.0nm,0.8s
OTAV Otavalo 35.58 349 P **P** **18 12 07.1 +1.3**
PTGA Pitinga 35.81 21 P **P** **18 12 06.6 -0.7**
GDU01 Guandu, BA 35.94 62 *e*P **P** **18 12 07.0 -1.5**
MALB Monte Alegre 36.78 30 *e*P **P** **18 12 15.1 -0.5**
BBAC Balboa, Cauca 37.15 351 *e*P **P** **18 12 20.1 +1.2**
NBPN Ponto Novo - B 37.46 58 *e*P **P** **18 12 20.2 -1.2**
PAYG Puerto Ayora 38.23 329 P **P** **18 12 28.7 +0.8**
BOAV Boa Vista 38.65 18 *e*P **P** **18 12 30.7 -0.7**
ORTC Ortega, Tolima 38.81 355 *e*P **P** **18 12 34.5 +1.8**
YOTC Yotoco, Valle 38.98 353 *e*P **P** **18 12 33.5 -0.8**
MCPB Macapa, AP 39.06 32 *e*P **P** **18 12 33.8 -1.0**
CHIC Chingaza 39.43 357 *e*P **P** **18 12 37.9 -0.5**
TOLC Tolima 39.49 354 *e*P **P** **18 12 41.1 +2.4**
ROSC El Rosal 39.67 356 P **P** **18 12 41.2 +0.9**
ROSC pmax pmax
comp=Z,20nm,0.6s
ROSC El Rosal 39.67 356 P **P** **18 12 41.2 +0.9**
ROSC IAmb IAmb 18 12 44.4
comp=Z,20nm,0.6s
GUY2C Guyana, Caldas 40.12 354 *e*P **P** **18 12 45.0 +0.9**
NORC Norcasia 40.42 355 *e*P **P** **18 12 47.6 +1.4**
RUSC La Rusia 40.66 358 P **P** **18 12 48.8 +0.2**
RUSC La Rusia 40.66 358 *e*P **P** **18 12 48.1 -0.5**
CBOC Ciudad Bolivar 40.81 354 *e*P **P** **18 12 50.7 +1.2**
NBMA Muriti-CE 40.93 56 *e*P **P** **18 12 49.7 -0.7**
ROSB Rosrio 40.98 45 *e*P **P** **18 12 49.5 -1.2**
NBAN Anadia - AL 41.05 61 *e*P **P** **18 12 50.6 -0.8**
HELC Santa Helena 41.09 354 *e*P **P** **18 12 51.7 -0.3**
NBPS Pedro II - PI 41.41 50 *e*P **P** **18 12 53.2 -1.2**
NBPB Pedra_Branca-C 41.73 53 *e*P **P** **18 12 56.4 -0.6**
ELOV Elorza 41.80 3 *e*P **P** **18 12 56.1 -1.3**
DBBC Dabeiba 41.97 353 *e*P **P** **18 13 00.5 +1.6**
NBLV Livramento - P 42.20 58 *e*P **P** **18 12 59.6 -1.2**
ZARC Zaragoza, Cauc 42.33 356 *e*P **P** **18 13 00.2 -1.6**
NBPA Parau_RN 43.23 56 *e*P **P** **18 13 08.7 -0.4**
NBCL Cascavel-CE 43.56 53 *e*P **P** **18 13 11.3 -0.5**
SDV Santo Domingo 43.63 2 P **P** **18 13 11.9 -0.6**
SDV IAmb IAmb 18 13 13.2
comp=Z,31nm,0.9s
SDV Santo Domingo 43.63 2 *e*P **P** **18 13 12.4 -0.1**
RCBR Riachuelo 44.00 57 P **P** **18 13 15.3 0.0**
comp=Z,12nm,0.9s,baz=349,slow=2.4,SNR=4.4
RCBR Riachuelo 44.00 57 P **P** **18 13 15.4 0.0**
RCBR pmax pmax
comp=Z,51nm,1.3s
RCBR Riachuelo 44.00 57 P **P** **18 13 15.4 0.0**
RCBR IAmb IAmb 18 14 09.6
comp=Z,51nm,1.2s
SJCC San Jacinto, C 44.74 355 *e*P **P** **18 13 21.2 0.0**
SRBA San Rafael, Bu 45.30 344 P **P** **18 13 26.8 +1.0**
SRBA IAmb IAmb 18 13 39.7
comp=Z,33nm,1.5s
DRK0 Durika 45.31 344 P **P** **18 13 26.2 +0.4**
DRK0 IAmb IAmb 18 13 31.2
comp=Z,22nm,0.7s
JTS Las Juntas de 46.71 342⇑ *e*P **P** **18 13 36.4 -0.3**
JTS pmax pmax
comp=Z,9.0nm,1.0s
ORTG Ortega, Santa 46.91 341 P **P** **18 13 40.3 +2.0**
ORTG IAmb IAmb 18 13 59.0
comp=Z,13nm,0.9s
TOSP Speyside 47.24 15 P **P** **18 13 41.4 +0.5**
GRGR Grenville 47.83 13 P **P** **18 13 44.8 -0.6**
VNA3 Neumayer Olymp 48.39 158 P **P** **18 13 49.4 +0.2**
VNA1 Neumayer--Stat 48.70 157 P **P** **18 13 52.2 +0.7**
SVB Belmont 49.01 14 P **P** **18 13 53.4 -1.1**
VNA2 Neumayer--Watz 49.04 157 P **P** **18 13 54.4 +0.2**
baz=288,slow=9.1
MPOM Morne Pois Mar 50.23 14 P **P** **18 14 03.5 -0.2**
SNAA Sanae 50.61 158 P **P** **18 14 06.2 0.0**
SNAA Sanae 50.61 158 P **P** **18 14 06.2 0.0**
comp=Z,12nm,0.9s,baz=286,slow=6.5,SNR=39
SNAA Sanae 50.61 158 *ce*P **P** **18 14 06.1 0.0**
SNAA pmax pmax
comp=Z,13nm,0.9s
SNAA Sanae 50.61 158 P **P** **18 14 06.2 0.0**
SNAA IAmb IAmb 18 14 07.3
comp=Z,20nm,1.1s
MLPR Magueyes Islan 52.84 6 P **P** **18 14 21.3 -2.0**
SABA Saba 52.93 10 P **P** **18 14 23.1 -0.8**
OBIP Obispado Ponce 52.95 6 P **P** **18 14 23.1 -1.0**
AOPR Arecibo Observ 53.24 6 P **P** **18 14 26.1 -0.1**
CBYP Canovanas 53.25 7 P **P** **18 14 25.1 -1.2**
STVI Saint Thomas 53.43 8 P **P** **18 14 26.2 -1.3**
DR12 Loma Pena Alta 53.51 3 P **P** **18 14 27.1 -1.1**
GTBY Guantanamo Bay 54.69 356 P **P** **18 14 36.2 -0.5**
SOR Soroa 58.42 348 P **P** **18 15 02.9 -0.3**
SOR pmax pmax
comp=Z,18nm,0.9s
SOR Soroa 58.42 348 P **P** **18 15 02.9 -0.3**
061Z Ochoppi 61.12 351 P **P** **18 15 21.7 0.0**
VNDA Vanda 63.19 191 P **P** **18 15 36.5 +1.5**
comp=Z,1.3nm,0.9s,baz=136,slow=2.7,SNR=6.2
VNDA LR LR 18 39 58.9
comp=Z,28nm,18.2s,baz=98,slow=33
VNDA Vanda 63.19 191 P **P** **18 15 36.9 +1.8**
VNDA pmax pmax
comp=Z,7.0nm,1.2s
VNDA Vanda 63.19 191 P **P** **18 15 36.9 +1.8**
SYO Syowa Base 64.89 158‖ *e*P P 18 15 42.3 -4.0
SYO Syowa Base 64.89 158‖ *e*pP pP 18 15 55.2 -3.1
553A Crawfordville 65.90 348 P **P** **18 15 53.0 -0.1**

TBI Tubuai 67.28 257 *e*S **S** **18 25 02.0 +7.2**
comp=Z,80nm,40.2s
TBI Tubuai 67.28 257 *e*LR LR 18 36 15.3
comp=Z,374nm,29.2s,baz=127
833A Chaparral WMA, 68.14 334 P **P** **18 16 07.7 +0.2**
baz=156
152A Waverly Hall 68.37 348 P **P** **18 16 07.9 -1.0**
152A IAmb IAmb 18 16 09.0
comp=Z,10nm,1.1s
HKT Hockley 68.44 338⇑ *e*P **P** **18 16 09.5 +0.3**
HKT pmax pmax
comp=Z,4.0nm,0.7s
Y60A Bolivia 68.88 354 P **P** **18 16 11.6 -0.4**
GOGA Godfrey 68.90 350 P **P** **18 16 11.4 -0.7**
GOGA pmax pmax
comp=Z,15nm,1.1s
GOGA Godfrey 68.90 350 P **P** **18 16 11.5 -0.6**
baz=170
GOGA Godfrey 68.90 350 P **P** **18 16 11.4 -0.7**
GOGA IAmb IAmb 18 16 12.4
comp=Z,15nm,1.1s
Z51A Franklin 69.08 348 P **P** **18 16 12.6 -0.7**
Z51A IAmb IAmb 18 16 13.7
comp=Z,12nm,1.1s
HPIG 69.41 328 P **P** **18 16 15.2 -0.5**
Y52A Lilburn 69.44 349 P **P** **18 16 14.8 -0.7**
Y52A IAmb IAmb 18 16 16.0
comp=Z,21nm,0.9s
JSC Jenkinsville 69.46 352 P **P** **18 16 15.2 -0.4**
JSC pmax pmax
comp=Z,12nm,1.0s
JSC Jenkinsville 69.46 352 P **P** **18 16 15.2 -0.4**
JSC IAmb IAmb 18 16 15.6
comp=Z,12nm,1.0s
Z47A Carrollton 69.51 345 P **P** **18 16 15.0 -0.9**
HODGE Hodges 69.54 351 P **P** **18 16 15.4 -0.6**
HODGE IAmb IAmb 18 16 16.1
comp=Z,9.3nm,0.9s
435B Jarrell 69.77 336 P **P** **18 16 17.6 0.0**
Y49A Blount Mountai 69.83 347 P **P** **18 16 17.3 -0.6**
Y49A IAmb IAmb 18 16 18.9
comp=Z,12nm,1.0s
PAULI Pauline 70.06 351 P **P** **18 16 18.6 -0.6**
PAULI IAmb IAmb 18 16 19.9
comp=Z,18nm,0.9s
CNNC Cliffs of the 70.08 355 P **P** **18 16 19.6 +0.3**
baz=175
CNNC Cliffs of the 70.08 355 P **P** **18 16 19.0 -0.3**
TIAR Tiarei 70.12 262 *e*T T 19 32 24.6
comp=Z,1.2nm,0.2s
W57A Gilead 70.18 353 P **P** **18 16 19.5 -0.5**
W57A IAmb IAmb 18 16 20.8
comp=Z,17nm,0.8s
JCT Junction City 70.25 334 P **P** **18 16 20.7 +0.1**
JCT pmax pmax
comp=Z,9.0nm,0.8s
JCT Junction City 70.25 334 P **P** **18 16 21.0 +0.4**
baz=156
JCT Junction City 70.25 334 P **P** **18 16 20.7 +0.1**
JCT IAmb IAmb 18 16 21.9
comp=Z,9.2nm,0.8s
X51A Calhoun 70.25 349 P **P** **18 16 20.3 -0.1**
PPT2 Papeete2 70.29 262 *e*S **S** **18 25 32.7 +2.0**
comp=Z,50nm,27.5s
PPT2 Papeete2 70.29 262 *e*LR LR 18 37 34.6
comp=Z,286nm,27.8s
PPT Papeete 70.30 262 LR LR 18 39 09.0
comp=Z,39nm,18.1s,baz=147,slow=29
KMSC Kings Mountain 70.32 352 P **P** **18 16 20.3 -0.6**
baz=172
KMSC Kings Mountain 70.32 352 P **P** **18 16 20.2 -0.6**
KMSC IAmb IAmb 18 16 21.8
comp=Z,11nm,0.8s
FPAL Fort Paine 70.35 348 P **P** **18 16 20.4 -0.7**
BG3 Lake Jocassee 70.38 350 P **P** **18 16 21.1 -0.1**
BG3 IAmb IAmb 18 16 21.9
comp=Z,18nm,1.0s
Y45A Yeager Farm, C 70.47 344 P **P** **18 16 21.7 -0.1**
Y45A IAmb IAmb 18 16 22.7
comp=Z,16nm,0.7s
X48A Hartselle 70.52 347 P **P** **18 16 21.7 -0.4**
X48A IAmb IAmb 18 16 23.1
comp=Z,25nm,1.1s
W52A Murphy 70.62 349 P **P** **18 16 22.3 -0.4**
W52A IAmb IAmb 18 16 23.4
comp=Z,15nm,0.9s
TXAR Lajitas Array 70.68 331 P **P** **18 16 23.8 +0.5**
comp=Z,1.5nm,0.5s,baz=157,slow=8.5,SNR=36
TXAR pP **pP** **18 16 36.8 +1.4**
comp=Z,1.8nm,0.6s,baz=158,slow=9.4,SNR=9.0
TXAR LR LR 18 42 56.6
comp=Z,66nm,18.4s,baz=0.0,slow=32
TXAR Lajitas Array 70.68 331 P **P** **18 16 23.1 -0.1**
TX31 Lajitas Ar. Si 70.68 331 IAmb IAmb 18 16 44.5
comp=Z,12nm,0.8s
TX32 Lajitas Array 70.68 331 P **P** **18 16 23.4 +0.1**
V58A Windy Hill, Pi 70.73 354 P **P** **18 16 23.0 -0.4**
V58A IAmb IAmb 18 16 23.6
comp=Z,22nm,1.0s
WHTX Lake Whitney, 70.84 337 P **P** **18 16 24.1 0.0**
baz=158
WHTX Lake Whitney, 70.84 337 IAmb IAmb 18 16 25.2
comp=Z,20nm,0.9s
V55A Taylorsville 71.01 352 P **P** **18 16 24.5 -0.5**
V55A IAmb IAmb 18 16 25.6
comp=Z,19nm,0.8s
CPCT Cooper Cave 71.06 349 P **P** **18 16 24.7 -0.6**
CPCT IAmb IAmb 18 16 25.9
comp=Z,18nm,0.9s
OXF Oxford 71.06 345 P **P** **18 16 24.7 -0.6**
baz=165
TKL Tuckaleechee C 71.15 350 P **P** **18 16 24.9 -0.9**
comp=Z,12nm,0.8s,baz=167,slow=6.2,SNR=15
TKL Tuckaleechee C 71.15 350 P **P** **18 16 25.0 -0.9**
TKL Tuckaleechee C 71.15 350 P **P** **18 16 25.0 -0.9**
TKL IAmb IAmb 18 16 26.1
comp=Z,13nm,0.8s
PLAL Pickwick Lake 71.24 346 IAmb IAmb 18 16 26.8
comp=Z,28nm,1.1s
V52A Sevierville 71.31 350 P **P** **18 16 25.6 -1.2**
V52A IAmb IAmb 18 16 27.0
comp=Z,19nm,1.1s
V51A Loudon 71.38 349 IAmb IAmb 18 16 27.6
comp=Z,15nm,1.0s
U56A King 71.41 353 IAmb IAmb 18 16 27.8
comp=Z,16nm,0.7s
U54A Nelsons Funny 71.74 352 P **P** **18 16 29.1 -0.4**
T59A Double "B" Far 71.78 355 P **P** **18 16 29.8 +0.1**
X40A Basin Creek Fa 71.85 342 P **P** **18 16 30.0 -0.1**
baz=162
T57A Hurt 71.94 354 IAmb IAmb 18 16 31.1
comp=Z,14nm,1.0s
CLTN Cedars of Leba 71.99 348 IAmb IAmb 18 16 31.6
comp=Z,25nm,1.0s
TZTN Tazewell 71.99 350 P **P** **18 16 30.3 -0.6**
baz=170
MIAR Mount Ida 72.10 341 P **P** **18 16 31.3 -0.3**
baz=161
ABTX Abilene, Hawle 72.14 336 P **P** **18 16 31.8 -0.2**
baz=156
ABTX Abilene, Hawle 72.14 336 P **P** **18 16 32.0 0.0**
ABTX IAmb IAmb 18 16 54.4
comp=Z,10nm,0.9s
MAW Mawson 72.19 163 P **P** **18 16 32.2 +0.3**
comp=Z,13nm,0.8s,baz=214,slow=7.3,SNR=30
MAW LR LR 18 48 10.8
comp=Z,144nm,20.6s,baz=236,slow=36
MAW Mawson 72.19 163 P **P** **18 16 31.5 -0.4**
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 72.19 163 P **P** **18 16 31.5 -0.4**
WVT Waverly 72.30 346 P **P** **18 16 32.0 -0.8**
WVT pmax pmax
comp=Z,50nm,0.7s
WVT Waverly 72.30 346 P **P** **18 16 32.4 -0.4**
baz=166
WVT Waverly 72.30 346 P **P** **18 16 32.0 -0.8**
U49A Red Boiling Sp 72.30 348 IAmb IAmb 18 18 26.4
comp=Z,12nm,0.8s
W41B Gary Mavity, V 72.35 343 P **P** **18 16 32.7 -0.4**
baz=163
JSRW J. Sargeant Re 72.52 355 P **P** **18 16 34.3 +0.2**
S57A Dark Hollow, R 72.67 354 P **P** **18 16 34.8 -0.2**
S57A IAmb IAmb 18 16 35.7
comp=Z,17nm,0.9s
W39A Magazine 72.77 341 P **P** **18 16 35.9 +0.3**

baz=161
W39A Magazine 72.77 341 P **P** **18 16 35.6 0.0**
S54A Dingess, Beckl 72.94 352 IAmb IAmb 18 16 37.2
comp=Z,18nm,0.9s
T47A Sharon Grove 73.00 347 P **P** **18 16 36.2 -0.8**
T47A IAmb IAmb 18 16 37.1
comp=Z,20nm,0.9s
FCAR Ozark Folk Cen 73.00 343 P **P** **18 16 36.5 -0.5**
FCAR IAmb IAmb 18 16 37.7
comp=Z,10nm,0.7s
R55A Marlinton 73.30 353 IAmb IAmb 18 16 39.8
comp=Z,20nm,0.8s
MNTX Cornudas Mount 73.45 331 P **P** **18 16 39.2 -0.6**
baz=152,SNR=8.5
MNTX Cornudas Mount 73.45 331 P **P** **18 16 38.5 -1.2**
PBMO Poplar Bluff 73.46 344 IAmb IAmb 18 16 40.1
comp=Z,24nm,1.1s
R53A Hurricane 73.54 352 P **P** **18 16 39.5 -0.6**
R53A IAmb IAmb 18 16 39.9
comp=Z,9.8nm,0.8s
U40A Yellville 73.63 342 P **P** **18 16 40.1 -0.6**
baz=162
U40A Yellville 73.63 342 IAmb IAmb 18 16 41.2
comp=Z,26nm,1.1s
WMOK Wichita Mounta 73.80 337 P **P** **18 16 41.1 -0.6**
baz=157
R50A Paris 73.81 350 IAmb IAmb 18 17 39.4
comp=Z,11nm,0.8s
HHAR Hobbs 73.83 342 IAmb IAmb 18 16 42.4
comp=Z,13nm,1.1s
Q56A Snyder Ridge, 73.96 354 P **P** **18 16 42.5 -0.1**
Q56A IAmb IAmb 18 16 43.8
comp=Z,8.8nm,0.8s
TUL1 Leonard 73.98 340 P **P** **18 16 42.5 -0.3**
baz=160
S44A Carbondale 74.09 346 IAmb IAmb 18 16 44.0
comp=Z,20nm,0.8s
SIUC Southern Illin 74.11 346 IAmb IAmb 18 16 43.6
comp=Z,20nm,0.9s
Q52A Bidwell 74.20 352 IAmb IAmb 18 16 44.3
comp=Z,17nm,0.8s
MGMO Mountain Grove 74.24 343 P **P** **18 16 43.5 -0.8**
P57A Homestead Farm 74.31 355 IAmb IAmb 18 16 45.9
comp=Z,14nm,0.9s
Q51A Peebles 74.40 351 IAmb IAmb 18 16 46.0
comp=Z,25nm,0.9s
MSTX Muleshoe 74.46 334 P **P** **18 16 45.3 -0.4**
baz=154
MSTX Muleshoe 74.46 334 P **P** **18 16 45.4 -0.4**
P60A Greenville 74.50 357 P **P** **18 16 45.7 +0.1**
baz=177
WUPA West Chester U 74.62 357 P **P** **18 16 46.6 +0.3**
WUPA IAmb IAmb 18 16 47.6
comp=Z,10nm,0.8s
MCWV Mont Chateau 74.63 354 P **P** **18 16 46.5 0.0**
baz=173
P52A Corning 74.85 352 P **P** **18 16 46.7 -1.0**
baz=171
P52A Corning 74.85 352 P **P** **18 16 46.9 -0.8**
P52A IAmb IAmb 18 16 47.8
comp=Z,18nm,0.8s
CCM Cathedral Cave 74.87 344 P **P** **18 16 47.4 -0.4**
CCM pmax pmax
comp=Z,32nm,0.9s
CCM Cathedral Cave 74.87 344 P **P** **18 16 47.4 -0.4**
baz=164
CCM Cathedral Cave 74.87 344 P **P** **18 16 47.4 -0.4**
AMTX Amarillo 74.90 335 P **P** **18 16 48.1 -0.1**
baz=155
AMTX Amarillo 74.90 335 IAmb IAmb 18 16 49.5
comp=Z,21nm,1.3s
LIC Lamto 74.90 71 *e*P **P** **18 16 48.2 -0.4**
comp=Z,52nm,0.6s
S39A Bolivar 75.01 342 IAmb IAmb 18 16 49.3
comp=Z,6.9nm,0.6s
P49A Miami Univ. Ec 75.09 350 P **P** **18 16 48.2 -0.9**
baz=169
P49A Miami Univ. Ec 75.09 350 IAmb IAmb 18 16 49.1
comp=Z,16nm,1.1s
P48A Milroy 75.13 349 P **P** **18 16 47.9 -1.4**
T35A Sooner Cattle 75.13 340 IAmb IAmb 18 16 50.3
comp=Z,13nm,0.8s
O56A Blue Knob Stat 75.13 355 P **P** **18 16 49.0 -0.4**
baz=174
O56A Blue Knob Stat 75.13 355 IAmb IAmb 18 16 50.3
comp=Z,34nm,1.7s
TIC Toumodi 75.17 71 *e*P **P** **18 16 50.7 +0.5**
121A Cookes Peak, D 75.17 329 P **P** **18 16 50.1 +0.1**
baz=150,SNR=6.5
121A Cookes Peak, D 75.17 329 IAmb IAmb 18 17 12.9
comp=Z,11nm,1.0s
KIC Kosan Boka 75.21 71 *e*P **P** **18 16 51.1 +0.7**
comp=Z,90nm,0.8s
O52A Adamsville 75.29 352 IAmb IAmb 18 16 50.4
comp=Z,18nm,0.9s
DBIC Dimbokro 75.31 71 P **P** **18 16 50.2 -0.8**
DBIC Dimbokro 75.31 71 P **P** **18 16 50.2 -0.8**
R40A Maddies Statio 75.33 343 P **P** **18 16 50.0 -0.5**
O53A New Philadelph 75.35 353 P **P** **18 16 49.7 -0.9**
baz=172
SSPA Standing Stone 75.45 355 P **P** **18 16 50.8 -0.3**
baz=175
SSPA Standing Stone 75.45 355 P **P** **18 16 50.5 -0.6**
SSPA IAmb IAmb 18 16 51.8
comp=Z,9.7nm,0.9s
ACSO Alum Creek Sta 75.54 351 P **P** **18 16 51.3 -0.3**
baz=171
ACSO Alum Creek Sta 75.54 351 P **P** **18 16 50.8 -0.8**
P46A Rosedale 75.57 348 IAmb IAmb 18 16 51.5
comp=Z,20nm,1.0s
N59A State Game Lan 75.61 357 P **P** **18 16 52.4 +0.3**
baz=177
N59A State Game Lan 75.61 357 P **P** **18 16 52.3 +0.2**
N59A IAmb IAmb 18 16 53.5
comp=Z,13nm,0.9s
ODNJ Ogdensburg 75.73 358 IAmb IAmb 18 16 53.9
comp=Z,11nm,1.0s
N53A Lisbon 75.87 353 P **P** **18 16 53.5 0.0**
N53A IAmb IAmb 18 16 55.5
comp=Z,12nm,0.9s
N54A Moraine State 75.94 354 P **P** **18 16 53.7 -0.2**
baz=173
N54A Moraine State 75.94 354 IAmb IAmb 18 16 54.5
comp=Z,16nm,0.8s
TUC Tucson 76.29 327 P **P** **18 16 57.1 +0.9**
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 76.29 327 P **P** **18 16 57.1 +0.9**
SFIN Lafayette 76.30 348 P **P** **18 16 55.2 -0.7**
baz=167
M55A Ridgway 76.34 355 P **P** **18 16 55.8 -0.4**
M55A IAmb IAmb 18 16 56.8
comp=Z,19nm,0.9s
N49A Columbus Grove 76.38 350 IAmb IAmb 18 16 56.6
comp=Z,23nm,0.9s
M54A Oil Creek Stat 76.45 354 P **P** **18 16 56.3 -0.6**
baz=173
M54A Oil Creek Stat 76.45 354 IAmb IAmb 18 16 57.0
comp=Z,10nm,0.8s
L63A North Scituate 76.47 0 P **P** **18 16 56.5 -0.4**
baz=180
M53A WI Miller and 76.48 353 P **P** **18 16 56.5 -0.4**
baz=172
M53A WI Miller and 76.48 353 P **P** **18 16 56.0 -0.9**
M53A IAmb IAmb 18 16 57.3
comp=Z,19nm,0.9s
ANMO Albuquerque 76.73 331 P **P** **18 16 59.5 +0.7**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 76.73 331 P **P** **18 16 59.2 +0.4**
baz=151
ANMO Albuquerque 76.73 331 P **P** **18 16 59.5 +0.7**
L58A Harry Jones Me 76.74 357 P **P** **18 16 58.7 +0.2**
baz=177
L59A Walton 76.85 358 IAmb IAmb 18 17 00.3
comp=Z,16nm,0.9s
HDIL Hopedale 76.87 346 P **P** **18 16 58.9 -0.3**
baz=165
BINY Binghamton 76.90 357 P **P** **18 16 59.5 +0.1**
baz=176
L56A Greenwood 76.92 356 IAmb IAmb 18 17 00.3
comp=Z,20nm,0.9s
214A Organ Pipe Nat 76.92 325 P **P** **18 17 00.7 +0.9**
baz=146
L61B Northampton 77.06 359 P **P** **18 17 00.2 0.0**
baz=179,SNR=5.1
ERPA Erie 77.08 354 P **P** **18 17 00.2 -0.2**
baz=173
HRV Adam Dziewonsk 77.11 0 P **P** **18 17 00.5 0.0**
baz=180
KSU1 Kansas State U 77.20 340 P **P** **18 17 00.5 -0.6**
baz=159
K62A Royalston 77.27 360 P **P** **18 17 01.6 +0.3**
baz=180
TRY Troy 77.35 359 IAmb IAmb 18 17 03.4
comp=Z,17nm,0.9s
L48A N Adams 77.42 350 P **P** **18 17 01.0 -1.2**
L48A IAmb IAmb 18 17 02.0
comp=Z,19nm,1.0s
K56A Middlesex 77.46 356 P **P** **18 17 02.2 -0.4**
baz=175
J62A Henniker 77.83 360 P **P** **18 17 04.9 +0.4**
baz=180
CBKS Cedar Bluff 77.84 338 P **P** **18 17 04.8 +0.1**
baz=157
J60A Lant Hill Farm 77.86 359 P **P** **18 17 05.1 +0.5**
baz=179
J63A Strafford 77.88 1 P **P** **18 17 05.6 +0.8**
baz=181
T25A Trinidad 77.89 334 P **P** **18 17 06.0 +0.8**
baz=153,SNR=10
T25A Trinidad 77.89 334 IAmb IAmb 18 17 07.4
comp=Z,14nm,0.9s
ACCN Adirondack Com 78.00 359 IAmb IAmb 18 17 06.8
comp=Z,9.7nm,0.9s
J58A Remsen 78.03 357 P **P** **18 17 05.2 -0.5**
baz=177
J57A Williamstown 78.10 357 IAmb IAmb 18 17 06.8
comp=Z,14nm,0.8s
J59A Piesco 78.10 358 IAmb IAmb 18 17 06.5
comp=Z,6.7nm,0.7s
I58A Old Forge 78.34 358 P **P** **18 17 06.8 -0.6**
baz=177,SNR=8.6
X16A Lo Mia Camp, P 78.36 327 P **P** **18 17 08.3 +0.3**
I59A Olmsteadville 78.42 358 P **P** **18 17 07.3 -0.4**
baz=178
I60A Shoreham 78.46 359 P **P** **18 17 08.1 +0.2**
baz=179
I62A Tamworth 78.48 0 P **P** **18 17 08.8 +0.7**
baz=180
I57A Carthage 78.62 357 P **P** **18 17 08.5 -0.3**
baz=177,SNR=5.1
I63A Otisfield 78.66 1 P **P** **18 17 09.7 +0.6**
baz=181
I63A Otisfield 78.66 1 P **P** **18 17 09.9 +0.9**
I63A IAmb IAmb 18 17 11.0
comp=Z,17nm,0.8s
PECO Prince Edward 78.68 356 IAmb IAmb 18 17 09.8
comp=Z,15nm,1.0s
TSUM Tsumeb 78.76 106 P **P** **18 17 10.3 -0.3**
TSUM IAmb IAmb 18 17 11.9
comp=Z,9.7nm,0.9s
SDCO Great Sand Dun 78.83 333 P **P** **18 17 11.0 +0.4**
baz=152,SNR=9.6
SDCO Great Sand Dun 78.83 333 P **P** **18 17 10.6 +0.1**
LBNH Lisbon 78.84 360 P **P** **18 17 10.3 +0.2**
LBNH pmax pmax
comp=Z,13nm,0.8s
LBNH Lisbon 78.84 360 P **P** **18 17 10.9 +0.8**
baz=180
LBNH Lisbon 78.84 360 P **P** **18 17 10.3 +0.2**
LBNH IAmb IAmb 18 17 11.6
comp=Z,13nm,0.8s
H58A Gabriels 79.05 358 P **P** **18 17 11.3 +0.1**
baz=178
H57A Richville 79.13 357 P **P** **18 17 11.3 -0.3**
baz=177,SNR=6.1
H61A Lyndonville 79.13 360 P **P** **18 17 12.1 +0.4**
baz=180,SNR=8.1
H60A Morristown 79.17 359 P **P** **18 17 12.4 +0.6**
baz=179
H62A Milan 79.18 0 P **P** **18 17 12.0 +0.1**
baz=180
LONY Lake Ozonia 79.26 358 P **P** **18 17 12.6 +0.2**
baz=178,SNR=6.4
LONY Lake Ozonia 79.26 358 P **P** **18 17 12.1 -0.3**
LONY IAmb IAmb 18 17 13.4
comp=Z,9.8nm,0.8s
H59A Cadyville 79.26 359 P **P** **18 17 11.9 -0.5**
baz=178
S22A 4UR Ranch, Cre 79.32 332 P **P** **18 17 13.9 +0.6**
baz=151
JFWS Jewell Farm 79.33 346 P **P** **18 17 12.4 -0.4**
baz=165
JFWS Jewell Farm 79.33 346 IAmb IAmb 18 17 13.2
comp=Z,15nm,1.0s
BOSA Boshof 79.45 117 P **P** **18 17 13.9 -0.3**
comp=Z,29nm,0.8s,baz=247,slow=3.5,SNR=58
BOSA LR LR 18 49 27.0
comp=Z,25nm,18.3s,baz=196,slow=33
BOSA Boshof 79.45 117 P **P** **18 17 13.4 -0.8**
BOSA pmax pmax
comp=Z,33nm,1.0s
BOSA Boshof 79.45 117 P **P** **18 17 13.4 -0.8**
FRNY Flat Rock 79.45 359 P **P** **18 17 13.2 -0.2**
FRNY IAmb IAmb 18 17 14.4
comp=Z,10nm,0.8s
PDMCI Parker Dam,Lak 79.49 325 P **P** **18 17 14.9 +1.0**
baz=146
H66A Whiting 79.49 3 P **P** **18 17 14.7 +1.2**
baz=184
MVCO Mesa Verde 79.51 331 P **P** **18 17 15.0 +0.7**
baz=150
SADO Sadowa 79.65 355 P **P** **18 17 13.9 -0.5**
comp=Z,5.9nm,0.6s,baz=209,slow=5.9,SNR=6.0
G63A Kingsbury 79.74 2 P **P** **18 17 14.8 -0.1**
baz=182
BGNE Belgrade 79.77 340 P **P** **18 17 15.9 +0.7**
baz=158
Q24A Divide 79.78 334 P **P** **18 17 16.2 +0.5**
baz=153,SNR=5.6
PLVO Plevna 79.78 356 IAmb IAmb 18 17 16.0
comp=Z,12nm,0.9s
L34A Svendsen Farm, 79.81 342 IAmb IAmb 18 17 16.1
comp=Z,17nm,0.7s
G62A West of Eustis 79.83 1 P **P** **18 17 16.0 +0.5**
baz=181,SNR=5.5
G62A West of Eustis 79.83 1 P **P** **18 17 15.8 +0.3**
G62A IAmb IAmb 18 17 16.9
comp=Z,14nm,1.1s
IRM Iron Mountain 79.84 325 P **P** **18 17 16.5 +0.7**
baz=145
G65A Princeton 79.89 3 P **P** **18 17 16.3 +0.6**
baz=184
PKME Peaks-Kenny Pk 79.90 2 P **P** **18 17 15.9 +0.1**
baz=182
G64A Maxfield 79.90 2 P **P** **18 17 16.4 +0.6**
baz=182
TPFO Pinon Flats 80.03 323 P **P** **18 17 18.9 +1.9**
baz=144
PFO Pinyon Flats O 80.03 323 P **P** **18 17 18.6 +1.6**
baz=144
BELC Belle Mtn. Jos 80.12 324 P **P** **18 17 18.8 +1.3**
baz=145
F63A Nahmakanta, Br 80.34 2 P **P** **18 17 18.9 +0.7**
baz=182
PV02 Paradox Valley 80.46 331 P **P** **18 17 19.6 +0.2**
F62A Pittston Farm, 80.51 1 P **P** **18 17 19.7 +0.6**
baz=182
F62A Pittston Farm, 80.51 1 IAmb IAmb 18 17 20.1
comp=Z,10.0nm,0.9s
F64A Sherman 80.52 2 P **P** **18 17 19.5 +0.3**
baz=183
PV12 Saucer Basin, 80.58 331 P **P** **18 17 19.9 0.0**
PV11 David Mesa, Pa 80.60 331 IAmb IAmb 18 17 35.5
comp=Z,33nm,2.0s
GMRC Granite Mounta 80.60 325 P **P** **18 17 21.5 +1.5**
baz=145
ISCO Idaho Springs 80.68 334 P **P** **18 17 20.4 -0.2**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 80.68 334 P **P** **18 17 21.3 +0.7**
baz=152
ISCO Idaho Springs 80.68 334 P **P** **18 17 20.4 -0.2**
ALGO Algonquin Park 80.75 356 P **P** **18 17 19.7 -0.7**
baz=175,SNR=13
KOWA Kowa 80.86 65 P **P** **18 17 21.4 -0.3**
HEC Hector,Ludlow 80.96 324 P **P** **18 17 23.8 +2.0**
baz=144
E63A Oxbow 81.08 2 P **P** **18 17 21.8 -0.4**
baz=183
E64A Bridgewater 81.10 3 P **P** **18 17 22.1 -0.1**
baz=183
BFSC Mount Baldy Ra 81.13 323 P **P** **18 17 24.3 +1.4**
baz=144
E62A Clayton Lake 81.25 2 P **P** **18 17 23.3 +0.3**
baz=182
TUQ Turquoise Moun 81.25 325 P **P** **18 17 23.9 +0.4**
baz=145
DECC Green Verdugo 81.47 323 P **P** **18 17 24.8 +0.3**
baz=143
ECSD EROS Data Cent 81.53 342 P **P** **18 17 24.1 -0.5**
baz=160,SNR=18
ECSD EROS Data Cent 81.53 342 P **P** **18 17 24.0 -0.7**
ECSD IAmb IAmb 18 17 25.3
comp=Z,16nm,0.9s
GSC Goldstone, Bar 81.56 324 P **P** **18 17 25.6 +0.5**
GSC pmax pmax
comp=Z,11nm,1.5s
GSC Goldstone, Bar 81.56 324 P **P** **18 17 26.1 +1.0**
baz=144
GSC Goldstone, Bar 81.56 324 P **P** **18 17 25.6 +0.5**
D62A Allapoint, All 81.72 2 P **P** **18 17 25.6 +0.1**
baz=182
D62A Allapoint, All 81.72 2 P **P** **18 17 25.1 -0.4**
LBTB Lobatse 81.72 115 P **P** **18 17 25.7 -0.7**
LBTB pmax pmax
comp=Z,20nm,0.8s
LBTB Lobatse 81.72 115 P **P** **18 17 25.7 -0.7**
N23A Red Feather La 81.77 335 P **P** **18 17 26.5 +0.2**
baz=152
SHPR Sheep Range 81.77 326 P **P** **18 17 26.4 +0.1**
EDW2 Edwards Air Fo 81.81 323 P **P** **18 17 26.7 +0.4**
baz=143
E43A Lone Tree Farm 82.13 349 IAmb IAmb 18 17 27.9
comp=Z,10nm,0.6s
PRN Pahroc Range 82.46 327 IAmb IAmb 18 17 52.7
comp=Z,15nm,1.1s
FURC Furnace Creek, 82.53 325 P **P** **18 17 30.8 +0.8**
baz=144
TPNV Topopah Spring 82.64 326 P **P** **18 17 32.0 +1.2**
TPNV pmax pmax
comp=Z,5.0nm,1.0s
TPNV Topopah Spring 82.64 326 P **P** **18 17 32.0 +1.2**
baz=145
TPNV Topopah Spring 82.64 326 P **P** **18 17 32.0 +1.2**
ISA Isabella, Lake 82.66 323 P **P** **18 17 32.2 +1.4**
baz=143
ISA Isabella, Lake 82.66 323 IAmb IAmb 18 17 46.2
comp=Z,33nm,2.0s
PKM Mcpherson Peak 82.72 322 P **P** **18 17 32.2 +0.9**
baz=142
F36A Milaca 82.82 345 IAmb IAmb 18 17 31.8
comp=Z,8.3nm,0.8s
CWC Cottonwood Cre 83.09 324 P **P** **18 17 34.5 +1.4**
baz=143
SPR3 Spring Creek 3 83.46 328 IAmb IAmb 18 17 50.5
comp=Z,9.1nm,1.1s
R11A Troy Canyon, C 83.48 327 P **P** **18 17 35.7 +0.6**
baz=145
K22A Casper 83.52 335 P **P** **18 17 36.1 +0.9**
baz=152
K22A Casper 83.52 335 IAmb IAmb 18 17 50.5
comp=Z,15nm,1.4s
LSQQ Lebel-sur-Quev 83.79 357 P **P** **18 17 35.7 -0.5**
baz=176
DUG Dugway, Tooele 83.81 330 P **P** **18 17 37.7 +1.0**
baz=147
TPH Tonopah 84.00 326 P **P** **18 17 38.4 +0.5**
TPH pmax pmax
comp=Z,37nm,1.1s
TPH Tonopah 84.00 326 P **P** **18 17 38.4 +0.5**
RSSD Black Hills 84.01 337 P **P** **18 17 38.2 +0.5**
baz=154
TORD Torodi Ar. Bea 84.36 70 P **P** **18 17 39.7 -0.3**
comp=Z,28nm,0.8s,baz=258,slow=4.0,SNR=103
TORD pP **pP** **18 17 52.5 +0.2**
comp=Z,9.5nm,0.8s,baz=270,slow=3.9,SNR=8.1
TORD LR LR 18 53 53.5
comp=Z,75nm,19.2s,baz=245,slow=35
TORD Torodi Ar. Bea 84.36 70 P **P** **18 17 39.1 -0.8**
HWUT Hardware Ranch 84.49 331 IAmb IAmb 18 17 55.2
comp=Z,7.3nm,0.9s
MATQ Matagami 84.52 356 P **P** **18 17 40.1 +0.3**
baz=175
CHGQ Chibougamau 84.54 358 P **P** **18 17 40.4 +0.4**
baz=178
PDAR Pinedale Array 84.72 333 P **P** **18 17 40.8 -0.6**
comp=Z,1.4nm,0.6s,baz=136,slow=9.4,SNR=17
PDAR LR LR 18 53 02.3
comp=Z,7.0nm,19.1s,baz=160,slow=34
NVAR Mina Array Bea 84.79 325 P **P** **18 17 42.6 +0.8**
comp=Z,2.8nm,0.8s,baz=156,slow=5.9,SNR=16
AGMN Agassiz Nation 85.64 344 P **P** **18 17 45.3 -0.2**
baz=160
TPAW Teton Pass 85.86 333 P **P** **18 17 46.8 -0.3**
FLWY Flagg Ranch 86.27 333 IAmb IAmb 18 18 10.6
comp=Z,8.6nm,0.7s
RLMT Red Lodge 86.65 334 P **P** **18 17 51.2 +0.3**
baz=150
HLID Hailey 87.28 330 P **P** **18 17 54.3 +0.3**
baz=146
MCMT McKenzie Canyo 87.72 332 P **P** **18 17 56.3 +0.2**
BOZ Bozeman (W) 87.91 333 P **P** **18 17 57.2 +0.3**
baz=148
O03E Paynes Creek 87.93 324 P **P** **18 17 57.1 +0.1**
baz=141
MOD Modoc Plateau 88.48 326 **P** **18 17 59.5 -0.2**
MOD IAmb IAmb 18 18 17.1
comp=Z,5.8nm,0.9s
J08A Circle Bar Ran 88.82 328 IAmb IAmb 18 18 18.9
comp=Z,7.2nm,1.0s
PLID Pearl Lake 89.18 330 IAmb IAmb 18 18 21.5
comp=Z,5.2nm,0.9s
K05A Summer Lake 89.40 326 IAmb IAmb 18 18 36.8
comp=Z,8.8nm,1.0s
PINE Pine Mountain 90.25 327 P **P** **18 18 08.6 +0.6**
PINE IAmb IAmb 18 18 24.4
comp=Z,4.7nm,0.8s
NEW Newport 92.22 332 LR LR 18 56 02.3
comp=Z,34nm,20.7s,baz=184,slow=33
ESDC Sonseca Array 97.11 46 LR LR 19 01 23.2
comp=Z,36nm,20.0s,baz=260,slow=35
DZM Mont Dzumac 100.82 233 *e*LR LR 18 51 52.9
comp=Z,149nm,28.5s
GERES GERESS Array B 112.70 46 PKiKP **PKiKP** **18 23 43.7 +0.2**
comp=Z,0.4nm,0.8s,baz=316,slow=5.5,SNR=4.1
ILAR Eielson Array 115.15 333 PKP **PKPdf** **18 23 46.8 -0.8**
comp=Z,0.4nm,0.9s,baz=108,slow=0.3,SNR=3.2
ASAR Alice Springs 116.79 206 PKP **PKPdf** **18 23 50.7 -1.5**
comp=Z,0.4nm,0.5s,baz=131,slow=1.7,SNR=8.4
ASAR pPKP pPKPdf 18 24 05.2 +0.2
comp=Z,0.5nm,0.7s,baz=132,slow=1.8,SNR=3.7
ASAR PKKPbc **PKKPbc** **18 34 17.6 -0.3**
comp=Z,0.4nm,0.4s,baz=338,slow=3.1,SNR=14
WRA Warramunga Arr 120.00 209 PKP **PKPdf** **18 23 57.2 -1.2**
comp=Z,1.1nm,0.5s,baz=164,slow=1.6,SNR=15
WRA pPKP **pPKPdf** **18 24 11.9 +0.6**
comp=Z,0.9nm,0.6s,baz=170,slow=1.6,SNR=3.6
BRTR Keskin Array B 122.13 61 PKP **PKPdf** **18 24 01.6 -0.3**
comp=Z,2.1nm,0.7s,baz=166,slow=2.0,SNR=11
AKASG Malin Array Be 122.70 48 PKP **PKPdf** **18 24 00.9 -1.6**
comp=Z,1.0nm,0.5s,baz=259,slow=2.3,SNR=8.4
AKBB Malin Array Si 122.70 48 *c i*PKIKP **PKPdf** **18 24 01.7 -0.8**
VSU Vasula 123.33 38 *i*PKIKP **PKPdf** **18 24 02.9 -0.5**
ARCES ARCESS Array B 124.81 25 PKP **PKPdf** **18 24 06.6 +0.6**
comp=Z,0.7nm,0.5s,baz=256,slow=3.6,SNR=6.3
H11S2 WAKE ISLAND Hyl 25.94 268 T T 20 42 47.0
baz=119,slow=76,SNR=12
H11S1 WAKE ISLAND Hyl 25.96 268 T T 20 42 46.9
baz=119,slow=76,SNR=16
H11S3 WAKE ISLAND Hyl 25.96 268 T T 20 42 40.9
baz=119,slow=76,SNR=11
H11N3 WAKE ISLAND Hyl 26.38 270 T T 20 43 19.1
baz=115,slow=78,SNR=14
H11N1 WAKE ISLAND Hyl 26.39 270 T T 20 43 10.1
baz=115,slow=78,SNR=44
H11N2 WAKE ISLAND Hyl 26.40 270 T T 20 43 18.8
baz=115,slow=78,SNR=21
OBN Obninsk 128.01 44 *i* PKIKP **PKPdf** **18 24 10.7 -1.8**
OBN pmax pmax
comp=Z,8.0nm,0.7s
OBN MLR MLR
comp=Z,45nm,20.0s
RST Umm Al-Ruwaisa 128.64 78 *e*P **PKPdf** **18 24 14.1 -0.5**
MIB Mutribah 129.03 78 *e*P **PKPdf** **18 24 14.8 -0.5**
KIV Kislovodsk 129.83 59 *i* PKIKP **PKPdf** **18 24 16.6 +0.1**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,22nm,23.0s
KBZ Khabaz 129.93 59 PKP **PKPdf** **18 24 17.1 +0.6**

comp=Z,1.5nm,0.9s,baz=239,slow=7.7,SNR=4.3
KBZ Khabaz 129.93 59 i PKIKP **PKPdf 18 24 17.5 +1.0**
KLMR Klimovskoe 130.07 37 *e*PKIKP **PKPdf 18 24 15.7 -0.5**
KLMR pmax pmax
comp=Z,14nm,1.4s
KLMR Klimovskoe 130.07 37 *e*PKPdf **PKPdf 18 24 15.8 -0.5**
KLMR AMP 18 24 16.9
comp=Z,14nm,1.4s
ABKAR Akbulak array 142.12 53 PKPpre 18 24 32.4
ABKAR Akbulak array 142.12 53 PKPpre 18 24 32.3
NRIK Noril'sk 143.73 12 SKPbc **SKPbc 18 28 13.6 -3.0**
comp=Z,3.5nm,0.6s,baz=131,slow=7.8,SNR=4.9
BRVK Borovoye 147.78 44 *c i* PKP2 **PKPbc 18 24 51.6 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 147.78 44 PKPdf 18 24 49.9 +1.3
BVAR Borovoye Array 147.85 44 PKP **PKPdf 18 24 48.6 -0.2**
comp=Z,4.9nm,0.8s,baz=228,slow=16,SNR=23
BVAR PKPbc **PKPbc 18 24 51.6 -0.1**
comp=Z,3.7nm,0.6s,baz=236,slow=12,SNR=24
HYB Hyderabad 148.34 116 *i* PKP **PKPdf 18 24 53.0 +2.3**
CHGR Chuyangaron 148.69 72 PKPdf **PKPdf 18 24 50.7 0.0**
YAK Yakutsk 149.71 340 PKPbc **PKPbc 18 24 55.2 -0.9**
comp=Z,9.9nm,0.6s,baz=317,slow=0.6,SNR=20
YAK Yakutsk 149.71 340 *e*PKP2 **PKPbc 18 24 55.8 -0.3**
YAK pmax pmax
comp=Z,46nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.6s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK Yakutsk 149.71 340 PKPbc 18 24 55.1 -1.0
NIL Nilore 151.19 83 PKIKP **PKPbc 18 25 00.5 -0.2**
NIL Nilore 151.19 83 PKPbc 18 25 00.5 -0.2
YSS Yuzh-Sakhalins 151.52 305 i PKIKP **PKPbc 18 25 00.0 -0.9**
YSS pmax pmax
comp=Z,7.0nm,0.8s
JKA Kamikawa-asahi 152.11 300 PKPbc 18 25 01.8 -0.6
ASAJ Asahikawa 152.11 300 PKPbc **PKPbc 18 25 01.8 -0.6**
comp=Z,4.0nm,0.8s,baz=244,slow=5.5,SNR=5.0
AML Almayashu 152.22 65 P **PKPbc 18 25 03.5 +0.2**
SNR=10.0
EKS2 Erkin-Say 152.25 64 P **PKPbc 18 25 03.5 +0.5**
SNR=14
USP Ospenovka 152.72 62 P **PKPbc 18 25 04.1 +0.2**
SNR=10
AAK Ala-Archa 152.78 64 PKPbc **PKPbc 18 25 04.9 +0.7**
comp=Z,21nm,0.7s,baz=180,slow=3.9,SNR=12
AAK Ala-Archa 152.78 64 P **PKPbc 18 25 04.8 +0.7**
SNR=6.2
AAK Ala-Archa 152.78 64 *c i* PKIKP **PKPbc 18 25 04.8 +0.6**
AAK pmax pmax
comp=Z,96nm,1.0s
CHMS Chumysh 152.93 63 P **PKPbc 18 25 04.3 0.0**
SNR=7.5
KURBB Kurchatov Arra 153.43 45 PKP **PKPdf 18 24 57.3 -0.1**
comp=Z,0.6nm,0.8s,baz=295,slow=1.9,SNR=5.0
KURBB PKPbc **PKPbc 18 25 05.0 -0.1**
comp=Z,3.1nm,0.5s,baz=303,slow=3.1,SNR=27
KURBB PKPab **sPKPdf 18 25 17.0 +2.2**
comp=Z,3.7nm,0.9s,baz=295,slow=3.7,SNR=9.5
KURK Kurchatov 153.44 45 PKIKP **PKPdf 18 24 57.3 -0.1**
KURK 18 25 05.0
KURK 18 25 17.0
KURK Kurchatov 153.44 45 PKPdf 18 24 57.3 -0.1
TKM2 Tokmak 2 153.56 63 P **PKPbc 18 25 06.2 +0.2**
SNR=6.8
KSH Kashi 154.03 70 PKPbc **PKPbc 18 25 06.8 -0.1**
KSH sPKP 18 25 19.0
ZALV Zalesovo Beam 154.94 34 PKP **PKPdf 18 24 58.7 -0.8**
comp=Z,0.8nm,0.7s,baz=5.7,slow=4.5,SNR=5.1
ZALV PKPbc **PKPbc 18 25 07.8 -0.4**
comp=Z,1.1nm,0.4s,baz=291,slow=4.6,SNR=9.3
ZALV PKPab **pPKPbc 18 25 23.5 +2.5**
comp=Z,3.7nm,0.6s,baz=298,slow=5.0,SNR=8.0
ZALV Zalesovo Beam 154.94 34 PKPdf **PKPdf 18 24 58.7 -0.8**
ZALV PKPbc **PKPbc 18 25 08.3 +0.1**
BOD Bodaibo 156.82 352 *e*PKP2 **PKPab 18 25 30.7 -0.9**
BOD pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 157.24 51 PKP **PKPdf 18 25 02.3 -0.5**
comp=Z,1.1nm,0.9s,baz=300,slow=2.4,SNR=7.9
MKAR PKPbc **pPKPdf 18 25 12.8 -2.8**
comp=Z,1.1nm,0.8s,baz=27,slow=3.0,SNR=6.6
MKAR PKPab **PKPab 18 25 33.0 -0.9**
comp=Z,2.5nm,0.8s,baz=310,slow=2.7,SNR=4.5
CMAR Chiang Mai Arr 161.61 151 PKP **PKPdf 18 25 07.7 -0.9**
comp=Z,0.8nm,0.8s,baz=252,slow=3.0,SNR=6.1
CMAR PKPab **PKPab 18 25 52.5 -0.9**
comp=Z,1.5nm,0.9s,baz=222,slow=6.0,SNR=6.9
WMQ Urumqi 161.89 55 *e*P **PKPdf 18 25 06.5 -1.8**
WMQ pmax pmax
comp=Z,13nm,0.6s
WMQ pmax pmax
comp=Z,65nm,4.9s
SONM Songino Array 167.08 5 PKPab **PKPab 18 26 17.1 +0.1**
comp=Z,2.9nm,1.0s,baz=340,slow=4.4,SNR=10
NJ2 Nanjing 170.64 255 *e*P **PKPdf 18 25 16.3 +0.9**
NJ2 pmax pmax
comp=Z,11nm,0.6s
HHC Hu-ho-hao-te 173.56 337 *e*P **PKPdf 18 25 17.8 +1.2**

*IDC **28** 18:20:39.9±1.3, 51°.02N×160°.66E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.3/62, mbtmp3.5/4, ML2.6/1 Error ellipse: s-maj=39.7km s-min=28.4km az=65.0*
*KRSC **28** 18:20:41.6±1.7, 51°.09N×160°.74E, h76km±31km, ML3.9*
ISC 28 18:20:44.4±1.1, 51°.06N±0°.06×160°.80E±0°.06, h35km, n38, σ1§17/56, mb3.5/3, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.86**	**295**	*e*P	**Pn**	**18 21 12.6**	**-1.1**
KDTR				*e*S	**Sn**	**18 21 34.2**	**-1.8**
SPN	**Mys Shipunski**	**2.10**	**347**	*e*P	**Pn**	**18 21 15.5**	**-1.5**
SPN				*e*S	**Sn**	**18 21 39.6**	**-2.3**
MTVR	**Mutnovka**	**2.16**	**312**	*e*P	**Pn**	**18 21 17.1**	**-0.9**
MTVR				*e*S	**Sn**	**18 21 42.1**	**-1.6**
GRL	**Gorelyy**	**2.26**	**313**	*e*P	**Pn**	**18 21 19.0**	**-0.3**
GRL				*e*S	**Sn**	**18 21 45.7**	**-0.3**
NLC	**Nalytchevo**	**2.30**	**338**	*e*P	**Pn**	**18 21 19.4**	**-0.3**
NLC				*e*S	**Sn**	**18 21 46.0**	**-0.8**
DALK	**Dalny**	**2.35**	**328**	*e*P	**Pn**	**18 21 19.4**	**-1.0**
DALK				*e*S	**Sn**	**18 21 46.7**	**-1.2**
PET	**Petropavlovsk**	**2.38**	**327**	*e*P	**Pn**	**18 21 19.6**	**-1.2**
KRMR	**Karymshinskiy**	**2.43**	**318**	*e*P	**Pn**	**18 21 20.4**	**-1.1**
KRMR				*e*S	**Sn**	**18 21 48.5**	**-1.4**
UGLR	**Uglovaya**	**2.48**	**331**	*e*P	**Pn**	**18 21 21.8**	**-0.5**
SDLR	**Sedlovina**	**2.52**	**333**	*e*P	**Pn**	**18 21 22.1**	**-0.8**
PAU	**Pauzhetka**	**2.54**	**281**	*e*P	**Pn**	**18 21 22.4**	**-0.6**
PAU				*e*S	**Sn**	**18 21 52.0**	**-0.7**
AVH	**Avacha**	**2.55**	**331**	*e*P	**Pn**	**18 21 23.6**	**+0.3**
KRER	**Koryakskii**	**2.58**	**332**	*e*P	**Pn**	**18 21 23.8**	**0.0**
KOK	**Koryaka**	**2.61**	**330**	*e*P	**Pn**	**18 21 23.9**	**-0.1**
KRX	**Arik**	**2.66**	**331**	*e*P	**Pn**	**18 21 24.4**	**-0.4**
MIPR	**Malaya Ipel'ka**	**2.80**	**297**	*e*P	**Pn**	**18 21 26.5**	**-0.1**
MIPR				*e*S	**Sn**	**18 21 58.8**	**-0.3**
PETK	**Petropavlovsk-**	**2.81**	**318**	Pn	**Pn**	**18 21 25.5**	**-1.2**
	4.9nm,0.3s,baz=132,slow=18,SNR=172						
PETK				Sn	**Sn**	**18 22 01.1**	**+1.8**
	3.1nm,0.3s,baz=113,slow=10,SNR=3.0						
APC	**Apacha**	**2.93**	**311**	*e*P	**Pn**	**18 21 28.7**	**+0.4**
APC				*e*S	**Sn**	**18 22 02.8**	**+0.6**
SKR	**Severo-Kuril's**	**2.99**	**265**	*e*P	**Pn**	**18 21 28.1**	**-1.1**
SKR				*e*S	**Sn**	**18 22 01.6**	**-2.2**
GNL	**Ganaly**	**3.17**	**328**	*e*P	**Pn**	**18 21 32.2**	**+0.4**
GNL				*e*S	**Sn**	**18 22 09.4**	**+1.0**
ALID	**Alaid**	**3.32**	**269**	*e*P	**Pn**	**18 21 33.4**	**-0.6**
ALID				*e*S	**Sn**	**18 22 11.0**	**-1.3**
MKZ	**Mys Kozlova**	**3.55**	**9**	*e*P	**Pn**	**18 21 35.3**	**-1.6**
MKZ				*e*S	**Sn**	**18 22 14.8**	**-2.8**
KZV	**Kizimen**	**4.08**	**356**	*e*P	**Pn**	**18 21 44.1**	**-0.2**
KZV				*e*S	**Sn**	**18 22 29.7**	**-1.1**
TUMD	**Tumrok D**	**4.16**	**357**	*e*P	**Pn**	**18 21 45.0**	**-0.3**
TUMD				*e*S	**Sn**	**18 22 30.7**	**-2.0**
TUMR	**Tumrok**	**4.25**	**355**	*e*P	**Pn**	**18 21 47.3**	**+0.6**
KMNR	**Kamenistaya**	**4.72**	**356**	*e*P	**Pn**	**18 21 53.8**	**+0.7**
KMNR				*e*S	**Sn**	**18 22 45.9**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**4.89**	**359**	*e*P	**Pn**	**18 21 55.2**	**-0.3**
KIRR	**Kirishev**	**4.91**	**357**	*e*P	**Pn**	**18 21 56.8**	**+1.0**
BZWR	**Bezymyannyi-We**	**4.92**	**358**	*e*P	**Pn**	**18 21 57.3**	**+1.4**
ESO	**Esso**	**5.04**	**346**	*e*P	**Pn**	**18 21 59.9**	**+2.6**
KLY	**Klyuchi**	**5.27**	**359**	*e*P	**Pn**	**18 22 00.5**	**0.0**
KBTR	**Krutoberegovo**	**5.30**	**12**	*e*P	**Pn**	**18 21 59.8**	**-1.1**
KBG	**Krutoberegovo**	**5.33**	**12**	*e*P	**Pn**	**18 22 00.1**	**-1.2**
BDR	**Baidarnaya**	**5.53**	**2**	*e*P	**Pn**	**18 22 04.6**	**+0.5**
SRKR	**Sorokina**	**5.61**	**2**	*e*P	**Pn**	**18 22 05.6**	**+0.3**
TXAR	**Lajitas Array**	**71.04**	**67**	P	**P**	**18 32 00.4**	**+1.6**
	0.2nm,0.6s,baz=308,slow=4.4,SNR=3.4						
WRA	**Warramunga Arr**	**74.42**	**206**	P	**P**	**18 32 18.7**	**+0.1**
	0.5nm,0.7s,baz=19,slow=5.8,SNR=2.1						
ASAR	**Alice Springs**	**78.08**	**205**	P	**P**	**18 32 40.3**	**+0.9**
	0.4nm,0.7s,baz=18,slow=4.7,SNR=6.2						

*TUL **28** 18:21:39.7±1.7, 35°.99N±0°.01×97°.55W±0°.01, h4km±5km, ML2.8, mb_Lg2.5/38(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=143.0*
NEIC 28 18:21:39.8±1.3, 36°.00N±0°.01×97°.57W±0°.02, h6km±6km, Error ellipse: s-maj=2.1km s-min=1.7km az=91.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**156**		Pg	18 21 44.1	0.0
OK029				Sg	Sg	18 21 47.3	+0.4
BC0K	**Bluff Creek, N**	**0.34**	**186**		Pg	18 21 46.4	0.0
BC0K				Sg	Sg	18 21 51.4	+0.5
OK025	**Westminster Rd**	**0.45**	**156**		Pg	18 21 48.6	0.0
OK025				Sg	Sg	18 21 54.9	+0.5
OK031	**S. Brethren Rd**	**0.59**	**94**		Pg	18 21 51.2	0.0
OK031				Sg	Sg	18 21 58.9	+0.1
OKCSW	**OKLAHOMA CITY**	**0.60**	**170**		Pg	18 21 50.9	-0.4
OKCSW				Sg	Sg	18 21 59.4	+0.4
CROK	**Carrier**	**0.61**	**327**		Pg	18 21 51.5	0.0
CROK				Sg	Sg	18 22 00.5	+1.0
QUOK	**Quay**	**0.72**	**76**		Pg	18 21 53.5	-0.1
QUOK				Sg	Sg	18 22 03.2	+0.3
FNO	**Franklin**	**0.75**	**170**		Pg	18 21 53.8	-0.4
FNO				Sg	Sg	18 22 03.9	0.0
BLOK	**Blackwell**	**0.81**	**20**		Pg	18 21 55.5	0.0
BLOK				Sg	Sg	18 22 06.5	+0.4
GC02	**Grant County #**	**0.89**	**345**		Pg	18 21 56.9	+0.1
GC02				Sg	Sg	18 22 09.1	+0.7
OK032	**Salt Plains WL**	**0.96**	**327**		Pg	18 21 58.1	-0.1
OK032				Sg	Sg	18 22 11.2	+0.5
KAN13	**South Haven SW**	**1.02**	**4**	Pg	Pg	18 21 59.1	-0.3
KAN13				Sg	Sg	18 22 12.8	+0.2
KAN17	**Caldwell West**	**1.06**	**351**		Pg	18 22 00.1	0.0
KAN17				Sg	Sb	18 22 15.1	+0.3
KAN05	**Bluff City Nor**	**1.14**	**348**	Pg	Pg	18 22 01.2	-0.5
KAN05				Sg	Sb	18 22 17.2	+0.2
KAN09	**Caldwell North**	**1.14**	**358**		Pg	18 22 01.4	-0.3
KAN09				Sg	Sb	18 22 17.6	+0.6
KAN09				IAmb_Lg		18 22 18.7	
	comp=Z,51nm,0.7s						
KAN10	**Anthony SW Sta**	**1.21**	**339**	Pg	Pg	18 22 02.7	-0.3
KAN10				Sg	Sg	18 22 17.9	-0.6
U32A	**Winter Ranch,**	**1.22**	**289**	Pg	Pg	18 22 02.9	-0.4
U32A				Sg	Sg	18 22 18.4	-0.7
KS20	**Mayfield South**	**1.23**	**0**	Pn	Pg	18 22 03.2	-0.2
KS20				Sn	Sb	18 22 19.8	+0.1
T35A	**Sooner Cattle**	**1.25**	**42**		Pg	18 22 03.2	-0.6
T35A				Sn	Sg	18 22 19.6	-0.4
KAN08	**Anthony NE Sta**	**1.27**	**345**		Pn	18 22 03.9	-0.3
KAN08				Sn	Sb	18 22 21.2	+0.3
KAN12	**Harper NE Stat**	**1.35**	**345**	Pn	Pn	18 22 04.1	-1.1
KAN12					Pb	18 22 04.9	-0.6
KAN12				Sn	Sn	18 22 23.4	0.0
X34A	**Smith Ranch, M**	**1.41**	**189**		Pn	18 22 06.2	+0.2
X34A				Sn	Sg	18 22 25.9	+0.8
WMOK	**Wichita Mounta**	**1.60**	**219**		Pn	18 22 08.8	0.0
WMOK				Sn	Sb	18 22 30.1	-0.2
LOOK	**Love County**	**2.02**	**171**	Pn	Pb	18 22 16.0	-1.0
LOOK				IAmb_Lg		18 22 46.2	
	comp=Z,18nm,0.8s						
X37A	**Clayton**	**2.28**	**127**	Pn	Pn	18 22 18.7	+0.7
X37A				IAmb_Lg		18 22 56.7	
	comp=Z,27nm,1.1s						
R32A	**Long Quarter,**	**2.59**	**340**	Pn	Pn	18 22 24.3	+2.0
U38A	**Gravette**	**2.61**	**79**		Pn	18 22 23.0	+0.5
Z35A	**Perchaven, San**	**2.67**	**174**	Pn	Pn	18 22 23.6	+0.2
HHAR	**Hobbs**	**2.95**	**83**		Pn	18 22 26.7	-0.6
W39A	**Magazine**	**3.18**	**103**	Pn	Pn	18 22 30.9	+0.5
W39A				IAmb_Lg		18 23 28.1	
	comp=Z,13nm,0.7s						
KSU1	**Kansas State U**	**3.19**	**13**	IAmb_Lg		18 23 24.8	
	comp=Z,11nm,0.7s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	18 22 36.1	+0.7
MIAR	**Mount Ida**	**3.57**	**113**	Pn	Pn	18 22 36.5	+0.8
MIAR				IAmb_Lg		18 23 41.2	
	comp=Z,10nm,0.7s						
S39A	**Bolivar**	**3.80**	**62**	Pn	Pn	18 22 38.8	-0.1
S39A				IAmb_Lg		18 23 39.6	
	comp=Z,12nm,0.8s						
U40A	**Yellville**	**3.83**	**83**		Pn	18 22 39.6	+0.2
U40A				IAmb_Lg		18 23 48.3	
	comp=Z,9.8nm,0.7s						
WHTX	**Lake Whitney,**	**3.99**	**179**	Pn	Pn	18 22 39.7	-1.9
X40A	**Basin Creek Fa**	**4.15**	**110**	Pn	Pn	18 22 42.5	-1.3
X40A				IAmb_Lg		18 23 59.3	
	comp=Z,16nm,0.8s						
WLAR	**White Oak Lake**	**4.33**	**121**	IAmb_Lg		18 24 03.4	
	comp=Z,14nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**98**	Pn	Pn	18 22 47.4	+0.9
WHAR				IAmb_Lg		18 24 03.4	
	comp=Z,7.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	Pn	18 22 48.4	+1.0
FCAR				IAmb_Lg		18 24 00.8	
	comp=Z,8.4nm,0.8s						
MGMO	**Mountain Grove**	**4.42**	**73**	Pn	Pn	18 22 46.5	-1.0
MGMO				IAmb_Lg		18 23 58.4	
	comp=Z,8.5nm,0.7s						
R40A	**Maddies Statio**	**4.81**	**60**	Pn	Pn	18 22 51.5	-1.3
P38A	**Dawn**	**4.83**	**40**	Pn	Pn	18 22 52.9	-0.2
N35A	**Tabor**	**5.09**	**17**	Pn	Pn	18 22 55.4	-1.3
LCAR	**Lake Charles**	**5.20**	**87**	IAmb_Lg		18 24 24.1	
	comp=Z,6.2nm,0.8s						
CCM	**Cathedral Cave**	**5.46**	**66**	Pn	Pn	18 22 59.3	-2.4
P40A	**Paris**	**5.62**	**49**	Pn	Pn	18 23 01.6	-2.3
P40A				IAmb_Lg		18 24 43.0	
	comp=Z,9.2nm,0.7s						
T25A	**Trinidad**	**5.63**	**284**	Pn	Pn	18 23 01.6	-2.7
T25A				IAmb_Lg		18 24 41.8	
	comp=Z,6.7nm,0.8s						
PBMO	**Poplar Bluff**	**5.81**	**80**	IAmb_Lg		18 24 48.9	
	comp=Z,10nm,0.7s						
T47A	**Sharon Grove**	**8.48**	**80**	IAmb_Lg		18 26 13.6	
	comp=Z,6.2nm,0.8s						
JFWS	**Jewell Farm**	**8.93**	**37**	IAmb_Lg		18 26 30.4	
	comp=Z,6.8nm,1.1s						

*JMA **28** 18:28:07.9±0.1, 42°.22N×141°.22E, h115km±1km, M2.7*
*IDC **28** 18:28:10.9±5.7, 42°.56N×141°.26E, h141km±68km, mb3.3/4, mb1 3.3/4, mb1mx2.9/55, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.1/30, Error ellipse: s-maj=91.8km s-min=66.4km az=52.0*
ISC 28 18:28:07.8±1.0, 42°.22N±0°.05×141°.21E±0°.04, h118km±7km, n24, σ0§47/35, mb3.6/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.28**	**334**	P	**Pn**	**18 28 23.9**	**-0.5**
JNB				*e*S	**Sn**	**18 28 36.7**	**-0.2**
JKB	**Kayabe**	**0.35**	**201**	P	**Pn**	**18 28 24.4**	**-0.3**
JKB				*e*S	**Sn**	**18 28 36.8**	**-0.5**
JYM2	**Yakumo 2**	**0.63**	**261**	P	**Pn**	**18 28 26.3**	**0.0**
JEW	**Eniwo**	**0.65**	**16**	P	**Pn**	**18 28 26.5**	**0.0**
JEW				*e*S	**Sn**	**18 28 40.5**	**-0.1**
JIAM	**Iburiatsuma**	**0.67**	**52**	P	**Pn**	**18 28 26.8**	**+0.2**
JIAM				*e*S	**Sn**	**18 28 41.5**	**+0.7**
JOT	**Ohata**	**0.84**	**188**	P	**Pn**	**18 28 28.0**	**-0.1**
JOT				*e*S	**Sn**	**18 28 43.4**	**0.0**
JSR	**Shiriuchi**	**0.91**	**221**	P	**Pn**	**18 28 28.7**	**0.0**
JSH	**Shimam**	**0.96**	**297**	P	**Pn**	**18 28 29.7**	**+0.6**
JHST	**Hiyamasetana**	**1.01**	**282**	P	**Pn**	**18 28 29.6**	**0.0**
JHST				*e*S	**Sn**	**18 28 45.9**	**-0.2**
JBT2	**Biratori 2**	**1.02**	**56**	P	**Pn**	**18 28 29.7**	**-0.1**
JBT2				*e*S	**Sn**	**18 28 47.2**	**+0.7**
JISS	**Ishikarishitsu**	**1.07**	**8**	P	**Pn**	**18 28 30.7**	**+0.5**
JISS				*e*S	**Sn**	**18 28 48.2**	**+0.9**
JOMM	**Oshimamatsumae**	**1.13**	**233**	P	**Pn**	**18 28 31.2**	**+0.3**
JOMM				*e*S	**Sn**	**18 28 49.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.15**	**86**	P	**Pn**	**18 28 31.0**	**-0.1**
JNBK				*e*S	**Sn**	**18 28 49.1**	**+0.3**
JSK	**Shakotan**	**1.25**	**335**	P	**Pn**	**18 28 32.5**	**+0.3**
JOSM	**Okushiri--Mats**	**1.29**	**265**	P	**Pn**	**18 28 32.5**	**-0.2**
JOSM				*e*S	**Sn**	**18 28 51.5**	**0.0**
JFR	**Furan**	**1.39**	**47**	P	**Pn**	**18 28 33.1**	**-0.7**
JTM	**Tenmabayashi**	**1.43**	**184**	P	**Pn**	**18 28 34.7**	**+0.4**
JTM				*e*S	**Sn**	**18 28 54.5**	**+0.1**
JEM	**Erimo**	**1.47**	**97**	P	**Pn**	**18 28 34.8**	**+0.2**
ASAJ	**Asahikawa**	**2.15**	**28**	P	**Pn**	**18 28 43.3**	**+0.3**
	2.6nm,0.3s,baz=212,slow=17,SNR=73						
ASAJ				S	**Sn**	**18 29 09.1**	**-0.9**
	2.6nm,0.3s,baz=323,slow=29,SNR=4.2						
SONM	**Songino Array**	**25.09**	**295**	P	**P**	**18 33 21.1**	**-0.3**
	0.2nm,0.5s,baz=90,slow=7.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**38.46**	**308**	P	P	18 35 16.2	-1.6
	1.5nm,0.5s,baz=101,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**41.41**	**297**	P	**P**	**18 35 43.1**	**+0.7**
	0.6nm,0.6s,baz=86,slow=10,SNR=7.6						
KURBB	**Kurchatov Arra**	**42.84**	**304**	P	**P**	**18 35 53.1**	**-0.8**
	0.6nm,0.5s,baz=77,slow=8.8,SNR=6.6						
KAPI	**Kappang**	**50.90**	**208**	LR	LR	18 58 48.7	
	comp=Z,33nm,18.7s,baz=129,slow=36						

*IPEC **28** 18:32:06.0±0.1, 50°.02N×18°.59E, h1km, ML2.6/3, Error ellipse: s-maj=2.0km s-min=1.1km az=164.0*
*PRU **28** 18:32:07.3±0.0, 49°.98N×18°.49E, h0km*
ISC 28 18:32:06.2±0.8, 50°.00N±0°.03×18°.56E±0°.02, h0km, n33, σ0§78/58, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.31**	**239**	*e*PG	**Pg**	**18 32 13.0**	**+0.9**
OKC				*e*SG	**Sg**	**18 32 16.0**	**-0.2**
	comp=Z,105nm,0.7s						
MORC	**Moravsky Berou**	**0.70**	**252**	*e*Pg	**Pg**	**18 32 19.6**	**+0.1**
	baz=70						
MORC				*e*Sg	**Sg**	**18 32 28.7**	**+0.2**
	128nm,0.3s,baz=70						
MORC	**Moravsky Berou**	**0.70**	**252**	*e*PG	**Pg**	**18 32 19.6**	**+0.1**
MORC				*e*SG	**Sg**	**18 32 28.7**	**+0.2**
OJC	**Ojcow**	**0.82**	**74**	*e*Pg	**Pg**	**18 32 21.3**	**-0.7**
OJC				*e*Sg	**Sg**	**18 32 32.3**	**-0.3**
LANS	**Liptovska Anna**	**1.03**	**145**	*e*PG	**Pg**	**18 32 25.8**	**-0.1**
LANS				*e*SG	**Sb**	**18 32 40.8**	**-0.2**
LANS				*e*LG	Lg	18 32 48.1	
KRLC	**Kraliky**	**1.15**	**275**	*e*PG	**Pg**	**18 32 27.7**	**-0.5**
KRLC				*e*SG	**Sg**	**18 32 43.1**	**0.0**
	comp=Z,63nm,0.5s						
JAVC	**Velka Javorina**	**1.28**	**207**	*e*Pg	**Pg**	**18 32 30.8**	**+0.1**
	baz=27						
JAVC	**Velka Javorina**	**1.28**	**207**	*e*PG	**Pg**	**18 32 30.8**	**+0.1**
VRAC	**Vranov**	**1.46**	**242**	*e*Pg	**Pn**	**18 32 33.0**	**-0.7**
	baz=60						
VRAC				*e*Sg	**Sg**	**18 32 52.2**	**-0.7**
	71nm,0.5s,baz=60						
VRAC	**Vranov**	**1.46**	**242**	*e*PG	**Pn**	**18 32 33.0**	**-0.7**
VRAC				*e*SG	**Sg**	**18 32 52.2**	**-0.7**
DPC	**Dobruska-Polom**	**1.48**	**285**	*e*PG	**Pn**	**18 32 33.8**	**-0.3**
DPC				*e*SG	**Sn**	**18 32 54.4**	**+0.1**
	comp=Z,41nm,0.6s						
VYHS	**Vyhne**	**1.52**	**173**	*e*PG	**Pn**	**18 32 34.0**	**-0.5**
VYHS				*e*SG	**Sg**	**18 32 54.6**	**-0.2**
VYHS				*e*LG	Lg	18 32 58.6	
OSTC	**Ostas**	**1.61**	**291**	*e*PG	**Pn**	**18 32 35.9**	**+0.1**
OSTC				*e*SG	**Sg**	**18 32 57.4**	**-0.4**
	comp=Z,75nm,1.1s						
KSP	**Ksiaz**	**1.68**	**301**	*e*Pg	**Pg**	**18 32 39.5**	**+1.1**
KSP				*e*Sg	**Sg**	**18 33 00.4**	**+0.3**
KRUC	**Moravsky**	**1.69**	**237**	*e*Pn	**Pn**	**18 32 36.9**	**-0.1**
	baz=55						
KRUC				*e*Sg	**Sb**	**18 32 59.8**	**-0.3**
	48nm,0.7s,baz=55						
KRUC	**Moravsky**	**1.69**	**237**	*e*PN	**Pn**	**18 32 37.0**	**-0.1**
KRUC				*e*SG	**Sb**	**18 32 59.8**	**-0.3**
CHVC	**Chvalec**	**1.71**	**291**	*e*PG	**Pn**	**18 32 37.5**	**+0.2**
CHVC				*e*SG	**Sg**	**18 33 01.8**	**+0.6**
	comp=Z,62nm,1.0s						
UPC	**Upice**	**1.72**	**288**	*e*PG	**Pn**	**18 32 37.6**	**+0.3**
UPC				*e*SG	**Sg**	**18 33 01.3**	**+0.1**
	comp=Z,35nm,0.6s						
MODS	**Modra-Piesok**	**1.83**	**208**	*e*PN	**Pb**	**18 32 40.0**	**-0.5**
MODS				*e*SN	**Sg**	**18 33 05.8**	**+0.8**
STHS	**Stebnicka Huta**	**1.83**	**107**	*e*PN	**Pg**	**18 32 41.2**	**-0.1**
STHS				*e*SN	**Sg**	**18 33 06.2**	**+1.2**
KECS	**Kecovo**	**1.97**	**140**	*e*SN	**Sn**	**18 33 06.8**	**+0.6**
KECS				*e*LG	Lg	18 33 14.8	
ZST	**Bratislava**	**2.04**	**209**	*e*SN	**Sb**	**18 33 09.2**	**-0.9**
TREC	**Trest**	**2.12**	**252**	*e*SG	**Sb**	**18 33 12.3**	**0.0**
	comp=Z,21nm,0.3s						
CRVS	**Cervenica-Dubn**	**2.19**	**119**	*e*PN	**Pb**	**18 32 46.9**	**+0.3**
CRVS				*e*SN	**Sg**	**18 33 16.3**	**0.0**
**PRU

BNKB				Pg	**Pb**	**18 51 32.4**	**-0.4**
BNKB				Sg	**Sb**	**18 51 57.8**	**+0.2**
GRNB	**Grenville Isla**	**1.97**	**74**	Pn	**Pn**	**18 51 29.5**	**-1.4**
GRNB				Pg	**Pb**	**18 51 33.0**	**-0.1**
GRNB				Sg	**Sb**	**18 51 59.1**	**+0.9**
RUBB	**Prince Rupert**	**1.98**	**59**	Pn	**Pn**	**18 51 29.7**	**-1.3**
RUBB				Pg	**Pb**	**18 51 33.0**	**-0.3**
RUBB				Sg	**Sg**	**18 52 00.3**	**+0.1**
HWKB	**Hawksbury Isla**	**2.41**	**82**	Sg	**Sb**	**18 52 11.8**	**+1.1**
KITB	**Kitimat**	**2.79**	**73**	Sg	**Sb**	**18 52 23.8**	**+2.3**
BUTB	**Butedale**	**2.84**	**94**	Pn	**Pn**	**18 51 42.0**	**-0.8**
BUTB				Pg	**Pb**	**18 51 48.0**	**+0.1**
BUTB				Sg	**Sb**	**18 52 25.1**	**+2.0**
BBB	**Bella Bella**	**3.28**	**109**	Pn	**Pn**	**18 51 47.8**	**-1.0**
	1.8nm,0.3s,baz=283,slow=12,SNR=33						
BBB				Sn	**Sn**	**18 52 27.7**	**-0.7**
	14nm,0.3s,baz=359,slow=22,SNR=7.3						
BBB				Lg	Lg	18 52 37.2	
	19nm,0.3s,baz=207,slow=22,SNR=5.0						
BBB	**Bella Bella**	**3.28**	**109**	Pn	**Pn**	**18 51 47.8**	**-1.0**
BBB				Sn	**Sn**	**18 52 24.2**	**-4.2**
BBB				Sg	**Sb**	**18 52 38.3**	**+2.7**
HOLB	**Holberg**	**4.12**	**129**	Pn	**Pn**	**18 51 58.9**	**-1.6**
HOLB				Sn	**Sn**	**18 52 43.3**	**-5.9**
PHC	**Port Hardy**	**4.41**	**124**	Pn	Pn	18 51 59.5	-4.9
PHC				Sn	Sn	18 52 46.0	-10
PACB	**Port Alice, BC**	**4.56**	**127**	Pn	**Pn**	**18 52 07.1**	**+0.7**
PACB				Sn	**Sn**	**18 52 58.3**	**-1.7**
MAYB	**Maynard**	**4.73**	**126**	Pn	**Pn**	**18 52 08.1**	**-0.9**
MAYB				Sn	**Sn**	**18 53 02.6**	**-1.9**
EDB	**Eliza Dome**	**5.12**	**130**	Pn	**Pn**	**18 52 15.2**	**+1.1**
WOSB	**Woss**	**5.18**	**125**	Pn	**Pn**	**18 52 15.2**	**+0.1**
NCRB	**Newcastle Ridg**	**5.29**	**121**	Pn	**Pn**	**18 52 16.5**	**-0.1**
NCRB				Sn	**Sn**	**18 53 16.1**	**-2.1**
BESE	**Bessie Mountai**	**5.34**	**350**	Pn	**Pn**	**18 52 16.4**	**-0.7**
FSB	**Fort Saint Jam**	**5.34**	**74**	Pn	**Pn**	**18 52 17.5**	**+0.2**
FSB				Pg	**Pb**	**18 52 33.9**	**+3.3**
FSB				Sg	**Sb**	**18 53 40.7**	**+5.6**
DLBC	**Dease Lake**	**5.40**	**18**	Pn	**Pn**	**18 52 20.0**	**+1.9**
	3.6nm,0.3s,baz=195,slow=13,SNR=10.0						
DLBC				Lg	Lg	18 53 44.7	
	1.1nm,0.3s,baz=228,slow=12,SNR=5.8						
DLBC	**Dease Lake**	**5.40**	**18**	Pn	**Pn**	**18 52 18.9**	**+0.8**
DLBC				Sg	**Sg**	**18 53 44.5**	**-5.3**
UBRB	**Upper Baezaeko**	**5.49**	**91**	Sg	**Sg**	**18 53 46.6**	**-5.9**
BTB	**Buttle Lake**	**6.15**	**126**	Pn	**Pn**	**18 52 29.6**	**+1.1**
NBC5	**NorthernBC 5**	**7.29**	**51**	Pn	**Pn**	**18 52 44.5**	**+0.5**
NBC5				Sg	**Sg**	**18 54 45.5**	**-4.7**
WHY	**Whitehorse**	**7.40**	**353**	Pn	**Pn**	**18 52 45.3**	**-0.2**
WHY				Sg	**Sg**	**18 54 47.2**	**-6.6**
PCA	**Pinnacle**	**7.81**	**333**	Pn	**Pn**	**18 52 50.9**	**-0.2**
HYT	**Haines Junctio**	**7.87**	**344**	Pn	**Pn**	**18 52 51.9**	**-0.1**
LOGN	**Logan Glacier**	**8.63**	**334**	Pn	**Pn**	**18 53 01.5**	**-0.9**
CTGM	**Chitina Glacie**	**8.83**	**333**	Pn	**Pn**	**18 53 04.8**	**-0.4**
MNB	**Mounoet Dainar**	**9.03**	**91**	Sg	Sn	18 55 38.5	+48
KIAG	**Kiagna River**	**9.09**	**330**	Pn	**Pn**	**18 53 08.6**	**-0.1**
BALM	**Baldy**	**9.18**	**331**	Pn	**Pn**	**18 53 10.0**	**+0.1**
PTPK	**Patty Peak**	**9.33**	**331**	Pn	**Pn**	**18 53 12.1**	**0.0**
SLEB	**Sale Mountain**	**9.47**	**97**	Sg	Sn	18 55 50.8	+50
ILAR	**Eielson Array**	**13.42**	**334**	Pn	**Pn**	**18 54 10.6**	**+2.9**
	0.1nm,0.3s,baz=164,slow=12,SNR=4.4						
TXAR	**Lajitas Array**	**32.24**	**126**	P	**P**	**18 57 28.7**	**+2.4**
	0.4nm,0.6s,baz=324,slow=7.7,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**56.53**	**258**	T	T	20 02 02.1	
	baz=38,slow=76,SNR=1197						
H11N3	**WAKE ISLAND Hy**	**56.53**	**258**	T	T	20 02 02.3	
	baz=38,slow=76,SNR=1158						
H11N1	**WAKE ISLAND Hy**	**56.55**	**258**	T	T	20 02 03.3	
	baz=38,slow=76,SNR=1213						
MKAR	**Makanchi Array**	**75.77**	**336**	P	**P**	**19 02 43.8**	**+0.4**
	0.6nm,0.6s,baz=34,slow=6.2,SNR=2.7						

*KLM **28** 18:51:06,5˚.14N×123˚.36E,h588km,mb5.0*
*NEIC **28** 18:51:06.6±1.8,4˚.91N±0˚.08×123˚.11E±0˚.09,h583km±7km, mb4.8/123,Error ellipse: s-maj=12.7km s-min=11.6km az=75.0*
*DJA **28** 18:51:07.0±0.2,5˚N±3˚×12˚.3E±˚,h579km±3km,M4.5/30, mb4.6/30,mB5.0/13,MLv4.9/10,Mw(mB)4.3/13, MwMwp5.7/1,Mwp5.8/1*
*IDC **28** 18:51:07.4±0.6,4˚.96N×123˚.15E,h596km±6km,mb3.8/30, mb1 3.9/35,mb1mx3.7/52,mbtmp4.8/35,Error ellipse: s-maj=10.9km s-min=6.7km az=78.0*
*MAN **28** 18:51:07.6,5˚.12N×123˚.23E,h570km,mb5.5,ML4.5, MS4.8*

ISC 28 18:51:06.8±0.4,4˚.86N±0˚.04×123˚.15E±0˚.05,h591km±4km, n288,σ1°14/321,mb4.8/111,14C-4D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.65**	**116**	P	**P**	**18 52 21.4**	**-1.9**
SGSI				S	**S**	**18 53 25.8**	**+0.3**
KCP	**Kidapawan**	**2.88**	**42**	⇓iP	**P**	**18 52 23.8**	**-0.8**
DMPH	**Davao City--Mi**	**3.23**	**47**	⇑eP	**P**	**18 52 25.5**	**-1.0**
DMPH				eS	P	18 52 30.4	+3.9
DAV	**Davao City (W)**	**3.27**	**48**	P	**P**	**18 52 25.6**	**-1.2**
	42nm,0.3s,baz=101,slow=0.7,SNR=19						
DAV				S	**S**	**18 53 33.7**	**+1.8**
	57nm,0.3s,baz=113,slow=24,SNR=10						
CGP	**Cagayan de Oro**	**3.89**	**23**	⇓eP	**P**	**18 52 29.7**	**-1.1**
GTOI	**Gorontalo**	**4.20**	**182**	P	**P**	**18 52 31.8**	**-1.2**
GTOI				S	**S**	**18 53 40.2**	**-3.1**
TOLI2	**Tolitoli**	**4.41**	**212**	P	**P**	**18 52 33.2**	**-1.4**
MRSI	**Marisa**	**4.52**	**195**	P	**P**	**18 52 35.7**	**+0.3**
MRSI				S	**S**	**18 53 47.2**	**-0.4**
MPSI	**Mapaga**	**5.54**	**216**	P	**P**	**18 52 43.8**	**+0.2**
	0.3nm2μm38nm,1.1s						
MPSI				S	**S**	**18 54 01.4**	**-1.1**
	0.3nm2μm38nm,1.1s						
TNTI	**Ternate**	**5.86**	**134**	P	**P**	**18 52 44.6**	**-1.7**
TNTI	**Ternate**	**5.86**	**134**	P	**P**	**18 52 45.8**	**-0.4**
	1.2nm4μm383nm,1.2s						
TNTI				S	**S**	**18 54 05.4**	**-2.0**
	1.2nm4μm383nm,1.2s						
APSI	**Ampana**	**5.92**	**195**	P	**P**	**18 52 46.1**	**-0.7**
	0.4nm34nm,0.5s						
SPMM	**Sapulut**	**6.66**	**269**	P	**P**	**18 52 53.0**	**-0.4**
SANI	**Sanana**	**7.43**	**157**	P	**P**	**18 52 58.4**	**-2.1**
	1.5nm1μm78nm,0.4s						
TTSI	**Tana Toraja**	**8.53**	**203**	P	**P**	**18 53 12.1**	**+1.2**
	467nm67nm,1.0s						
BKB	**Balikpapan**	**8.71**	**226**	P	**P**	**18 53 10.2**	**-2.6**
BKB	**Balikpapan**	**8.71**	**226**	P	**P**	**18 53 14.2**	**+1.4**
	219nm,1.1s						
PGP	**Puerto Galera**	**8.85**	**346**	⇑eP	**P**	**18 53 13.7**	**-0.4**
NLAI	**Namlea**	**8.96**	**154**	P	**P**	**18 53 17.5**	**+2.3**
	2μm71nm,0.7s						
BNSI	**Bone**	**9.69**	**198**	P	**P**	**18 53 24.0**	**+1.7**
	528nm70nm,1.0s						
SIJI	**Sorong**	**9.91**	**125**	P	**P**	**18 53 24.7**	**+0.1**
	2.6nm,0.3s,baz=324,slow=21,SNR=4.8						
MTKI	**Muara Teweh, K**	**10.06**	**235**	P	**P**	**18 53 26.3**	**+0.3**
	52nm,1.1s						
KAPI	**Kappang**	**10.38**	**199**	P	**P**	**18 53 30.6**	**+1.4**
	0.8nm,0.3s,baz=136,slow=22,SNR=4.3						
KAPI	**Kappang**	**10.38**	**199**	P	**P**	**18 53 28.5**	**-0.7**
KBKI	**Kotabaru**	**10.69**	**221**	P	**P**	**18 53 32.8**	**+0.4**
	32nm,0.9s						
SBUM	**Sibu**	**11.16**	**258**	P	**P**	**18 53 38.0**	**+0.9**
BSSI	**Bau Bau, Buton**	**11.25**	**194**	P	**P**	**18 53 37.5**	**-0.5**
	27nm,1.4s						
FAKI	**Fak Fak**	**11.94**	**130**	P	**P**	**18 53 43.9**	**-1.0**
FAKI	**Fak Fak**	**11.94**	**130**	P	**P**	**18 53 45.7**	**+0.7**
	55nm,1.1s						
STKI	**Sintang**	**12.59**	**248**	P	**P**	**18 53 51.7**	**+0.1**
	23nm,0.7s						
SZP	**Santa**	**12.88**	**348**	P	**P**	**18 53 52.1**	**-2.3**
KSM	**Kuching**	**13.25**	**256**	P	**P**	**18 53 58.0**	**-0.3**
MMRI	**Maumere**	**13.44**	**184**	P	**P**	**18 53 58.0**	**-2.3**
SOEI	**Soe**	**14.56**	**176**	P	**P**	**18 54 10.0**	**-1.4**
PLAI	**Plampang**	**14.61**	**201**	P	**P**	**18 54 12.5**	**+0.7**
	44nm,1.0s						
SRPI	**Serui, Papua**	**14.69**	**117**	P	**P**	**18 54 13.0**	**+0.5**
	2μm76nm,0.6s						
TWSI	**Taliwang, Sumb**	**14.88**	**205**	P	**P**	**18 54 15.4**	**+1.1**
	22nm,1.1s						
BATI	**Baumata**	**14.98**	**178**	P	**P**	**18 54 15.9**	**+0.7**
	13nm,0.3s,baz=356,slow=1.1,SNR=23						
BATI				S	**S**	**18 56 49.5**	**+0.3**
	3.0nm,0.3s,baz=122,slow=23,SNR=3.9						
BATI	**Baumata**	**14.98**	**178**	P	**P**	**18 54 15.8**	**+0.6**
	54nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.99**	**214**	P	**P**	**18 54 23.1**	**-1.5**
UGM	**Wanagama**	**17.88**	**225**	P	**P**	**18 54 42.2**	**+0.3**
TWG	**Pinlang**	**17.97**	**354**	P	**P**	**18 54 41.8**	**-0.7**
TWG				IAmb	IAmb	18 54 43.7	
	comp=Z,23nm,0.5s						
TPUB	**Ta-pu**	**18.49**	**353**	P	**P**	**18 54 46.5**	**-0.9**
YULB	**Yu-li**	**18.51**	**355**	P	**P**	**18 54 46.3**	**-1.2**
YULB				IAmb	IAmb	18 54 52.2	
	comp=Z,18nm,0.5s						
GENI	**Genyem**	**18.55**	**113**	P	**P**	**18 54 49.3**	**+1.3**
	comp=Z,2μmcomp=Z,81nm,0.8s						
SSLB	**Suanglung**	**18.93**	**354**	P	**P**	**18 54 49.6**	**-1.7**
SSLB				IAmb	IAmb	18 54 56.2	
	comp=Z,22nm,0.6s						
QIZ	**Qiongzhong**	**19.15**	**318**	P	**P**	**18 54 53.8**	**+0.5**
QIZ				pP	**sP**	**18 57 17.3**	**-1.7**
QIZ				S	**S**	**18 57 59.0**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NACB	**Ninganchiao**	**19.26**	**356**	P	**P**	**18 54 53.9**	**-0.4**
NACB				IAmb	IAmb	18 54 59.0	
	comp=Z,14nm,0.8s						
MTN	**Manton Dam**	**19.30**	**156**	P	**P**	**18 54 54.9**	**+0.2**
MTN				IAmb	IAmb	18 55 00.6	
	comp=Z,22nm,0.8s						
LEM	**Lembang**	**19.36**	**233**	P	**P**	**18 54 57.3**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=17,slow=12,SNR=9.5						
YOJ	**Yonaguni jima**	**19.49**	**360**	P	**P**	**18 54 54.3**	**-2.0**
CBJI	**Citeko**	**19.75**	**236**	P	**P**	**18 55 01.0**	**+2.1**
	comp=Z,58nm,1.1s						
YHNB	**Yeheng**	**19.77**	**355**	P	**P**	**18 54 57.8**	**-1.2**
YHNB				IAmb	IAmb	18 55 22.4	
	comp=Z,40nm,1.3s						
PMBI	**Palembang**	**19.92**	**248**	P	**P**	**18 55 01.7**	**+1.3**
JRMM	**Jerantut**	**20.63**	**268**	P	**P**	**18 55 08.0**	**+1.2**
KNRA	**Kununurra**	**21.15**	**165**	P	**P**	**18 55 11.1**	**-0.3**
KNRA				IAmb	IAmb	18 55 38.5	
	comp=Z,59nm,1.7s						
LHSI	**Lahat**	**21.42**	**247**	P	**P**	**18 55 16.1**	**+2.2**
	comp=Z,59nm,0.9s						
IPM	**Ipoh**	**22.05**	**270**	P	**P**	**18 55 21.0**	**+1.5**
KSI	**Kapahiang**	**22.20**	**248**	P	**P**	**18 55 21.5**	**+0.5**
	comp=Z,3μmcomp=Z,64nm,0.8s						
JOW	**Kunigami**	**22.39**	**12**	P	**P**	**18 55 22.2**	**-0.2**
JOW				IAmb	IAmb	18 55 24.7	
	comp=Z,12nm,0.9s						
KULM	**Kulim**	**22.41**	**272**	P	**P**	**18 55 24.0**	**+1.3**
SKLT	**Songkhla**	**22.52**	**277**	P	**P**	**18 55 25.4**	**+1.8**
	comp=Z,43nm,1.0s						
SKLT	**Songkhla**	**22.52**	**277**	P	**P**	**18 55 25.4**	**+1.8**
	comp=Z,43nm,1.0s						
KHON	**Khomkaen**	**22.97**	**301**	P	**P**	**18 55 28.3**	**+0.7**
	comp=Z,89nm,0.9s						
KHON	**Khomkaen**	**22.97**	**301**	P	**P**	**18 55 28.3**	**+0.7**
	comp=Z,22nm,0.9s						
GUMO	**Guam**	**23.11**	**66**	P	**P**	**18 55 27.9**	**-1.0**
	comp=Z,11nm,0.5s,baz=155,slow=1.5,SNR=4.6						
GUMO	**Guam**	**23.11**	**66**	P	**P**	**18 55 28.4**	**-0.5**
CHAI	**Chaiyaphum**	**23.50**	**299**	P	**P**	**18 55 32.2**	**-0.1**
	comp=Z,814nmcomp=Z,99nm,0.8s						
CHAI	**Chaiyaphum**	**23.50**	**299**	P	**P**	**18 55 32.0**	**-0.3**
	comp=Z,203nmcomp=Z,25nm,0.8s						
NONG	**Nongkai**	**23.55**	**305**	P	**P**	**18 55 33.1**	**+0.3**
	comp=Z,29μmcomp=Z,76nm,1.0s						
NONG	**Nongkai**	**23.55**	**305**	P	**P**	**18 55 33.0**	**+0.3**
	comp=Z,29μmcomp=Z,77nm,1.0s						
RPSI	**Rantau Prapat**	**24.26**	**266**	P	**P**	**18 55 39.8**	**+0.6**
RPSI				IAmb	IAmb	18 55 41.2	
	comp=Z,17nm,0.7s						
SLVN	**Son La**	**24.83**	**313**	P	**P**	**18 55 43.9**	**-0.2**
SLVN				IAmb	IAmb	18 55 46.6	
	comp=Z,12nm,0.8s						
PKDT	**Phuket**	**24.84**	**278**	P	**P**	**18 55 45.8**	**+1.6**
	comp=Z,60nm,1.0s						
PKDT	**Phuket**	**24.84**	**278**	P	**P**	**18 55 45.8**	**+1.6**
	comp=Z,60nm,1.0s						
MANU	**Manus Island**	**25.15**	**105**	P	**P**	**18 55 47.0**	**0.0**
PHIT	**Phitsanulok**	**25.41**	**301**	P	**P**	**18 55 50.3**	**+1.1**
	comp=Z,3μmcomp=Z,210nm,0.8s						
PHIT	**Phitsanulok**	**25.41**	**301**	P	**P**	**18 55 50.3**	**+1.1**
	comp=Z,792nmcomp=Z,52nm,0.8s						
SRDT	**SRDT**	**25.47**	**293**	P	**P**	**18 55 52.1**	**+2.4**
	comp=Z,44nm,1.2s						
SRDT	**SRDT**	**25.47**	**293**	P	**P**	**18 55 52.2**	**+2.5**
	comp=Z,44nm,1.2s						
UTTA	**Uttaradit**	**25.54**	**302**	P	**P**	**18 55 51.9**	**+1.6**
	comp=Z,326nmcomp=Z,38nm,0.9s						
UTTA	**Uttaradit**	**25.54**	**302**	P	**P**	**18 55 52.0**	**+1.6**
	comp=Z,81nmcomp=Z,9.4nm,0.9s						
UTHA	**Uthaitani**	**25.60**	**296**	P	**P**	**18 55 51.6**	**+0.7**
	comp=Z,570nmcomp=Z,65nm,0.7s						
UTHA	**Uthaitani**	**25.60**	**296**	P	**P**	**18 55 51.0**	**+0.1**
	comp=Z,142nmcomp=Z,16nm,0.7s						
GSI	**Gunungsitoli**	**25.77**	**263**	P	**P**	**18 55 51.2**	**-1.3**
GSI				IAmb	IAmb	18 55 53.3	
	comp=Z,30nm,0.8s						
GSI	**Gunungsitoli**	**25.77**	**263**	P	**P**	**18 55 51.3**	**-1.2**
	comp=Z,41nm,0.9s						
UMPA	**Umpang Tak**	**26.36**	**297**	P	**P**	**18 55 59.5**	**+1.9**
	comp=Z,1μmcomp=Z,43nm,1.3s						
UMPA	**Umpang Tak**	**26.36**	**297**	P	**P**	**18 55 59.6**	**+1.9**
	comp=Z,252nmcomp=Z,11nm,1.3s						
PSA00	**Pilbara Seismi**	**26.47**	**187**	P	**P**	**18 55 58.8**	**+0.4**
PSA00				IAmb	IAmb	18 56 04.8	
	comp=Z,30nm,1.8s						
PSA00				ScP	**ScP**	**19 01 48.5**	**+0.4**
PSA00	**Pilbara Seismi**	**26.47**	**187**	P	**P**	**18 55 58.3**	**-0.2**
PSA00				IAmb	IAmb	18 55 59.6	
	comp=Z,2.4nm,1.0s						
PSA00				ScP	**ScP**	**19 01 48.1**	**0.0**
LAMP	**Lampang**	**26.68**	**303**	P	**P**	**18 56 02.0**	**+1.6**
	comp=Z,102nmcomp=Z,9.7nm,1.0s						
WB0	**Warramunga Arr**	**26.86**	**156**	P	**P**	**18 56 01.7**	**-0.2**
WB0				IAmb	IAmb	18 56 02.4	
	comp=Z,57nm,1.4s						
WRAB	**Tennant Creek**	**26.99**	**156**	P	**P**	**18 56 03.1**	**+0.1**
WRA	**Warramunga Arr**	**26.99**	**156**	P	**P**	**18 56 03.1**	**0.0**
	comp=Z,22nm,0.4s,baz=330,slow=11,SNR=315						
WRA				S	**S**	**18 59 56.9**	**-3.5**
	comp=Z,3.3nm,0.5s,baz=334,slow=16,SNR=9.4						
WRA				ScP	**ScP**	**19 01 49.2**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=340,slow=3.3,SNR=6.5						
WRA	**Warramunga Arr**	**26.99**	**156**	P	**P**	**18 56 03.0**	**0.0**
WB2	**Warramunga Arr**	**27.00**	**156**	P	**P**	**18 56 03.0**	**-0.1**
WB2				ScP	**ScP**	**19 01 48.0**	**-1.8**
WR0	**Warramunga Arr**	**27.09**	**156**	P	**P**	**18 56 03.8**	**-0.1**
CM31	**Chiang Mai Arr**	**27.23**	**302**	P	**P**	**18 56 05.3**	**+0.1**
CM31				IAmb	IAmb	18 56 08.0	
	comp=Z,24nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.23**	**302**	P	**P**	**18 56 05.7**	**+0.5**
	comp=Z,12nm,0.8s,baz=120,slow=7.0,SNR=56						
CMAR				PcP	**PcP**	**18 59 06.7**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=167,slow=1.6,SNR=8.6						
CMAR				ScP	**ScP**	**19 01 51.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=121,slow=2.1,SNR=10						
CMAR	**Chiang Mai Arr**	**27.23**	**302**	P	**P**	**18 56 04.9**	**-0.3**
CMAR				ScP	**ScP**	**19 01 50.0**	**-0.6**
NJ2	**Nanjing**	**27.35**	**352**	eP	**P**	**18 56 07.5**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
CMMT	**Chiang Mai**	**27.39**	**302**	P	**P**	**18 56 07.0**	**+0.4**
	comp=Z,51nm,0.9s						
CMMT	**Chiang Mai**	**27.39**	**302**	P	**P**	**18 56 07.0**	**+0.4**
	comp=Z,51nm,0.9s						
CM33	**Chiang Mai Arr**	**27.39**	**302**	P	**P**	**18 56 06.0**	**-0.6**
CHTO	**Chiang Mai**	**27.39**	**302**	P	**P**	**18 56 07.0**	**+0.4**
	comp=Z,50nm,0.9s						
CHTO	**Chiang Mai**	**27.39**	**302**	P	**P**	**18 56 06.6**	**0.0**
CHTO				IAmb	IAmb	18 56 09.0	
	comp=Z,30nm,0.8s						
CM32	**Chiang Mai Arr**	**27.40**	**302**	P	**P**	**18 56 08.0**	**+1.3**
PMG	**Port Moresby**	**27.82**	**121**	P	**P**	**18 56 10.1**	**-0.3**
PMG				IAmb	IAmb	18 56 11.9	
	comp=Z,29nm,0.9s						
KMI	**Kunming**	**28.10**	**318**	⇓P	**P**	**18 56 15.0**	**+2.1**
KMI				pmax	pmax		
	comp=Z,20nm,1.6s						
GIRL	**Giralia**	**28.69**	**197**	P	**P**	**18 56 19.5**	**+1.7**
JNU	**Nakatsue**	**29.03**	**13**	P	**P**	**18 56 19.3**	**-1.3**
AS31	**Alice Springs**	**30.23**	**160**	P	**P**	**18 56 31.9**	**+0.7**
AS31					**S**	**19 00 48.5**	**-1.9**
AS31				ScP	**ScP**	**19 01 58.8**	**-1.3**
ASAR	**Alice Springs**	**30.23**	**160**	P	**P**	**18 56 31.9**	**+0.8**
	comp=Z,7.4nm,0.4s,baz=341,slow=6.9,SNR=322						
ASAR				S	**S**	**19 00 49.6**	**-0.9**
	comp=Z,17nm,1.0s,baz=351,slow=20,SNR=31						
ASAR				ScP	**ScP**	**19 01 59.2**	**-0.8**
	comp=Z,6.8nm,0.6s,baz=342,slow=2.7,SNR=22						
ASAR	**Alice Springs**	**30.23**	**160**	P	**P**	**18 56 31.6**	**+0.5**
ASAR				ScP	**ScP**	**19 01 59.4**	**-0.7**
JMN	**Monobe**	**30.41**	**18**	P	**P**	**18 56 32.6**	**0.0**
JMN				IAmb	IAmb	18 57 05.4	
	comp=Z,54nm,1.8s						
COCO	**West Island**	**31.16**	**237**	P	**P**	**18 56 38.5**	**-0.6**
XAN	**Xi'an**	**31.90**	**337**	P	**P**	**18 56 46.0**	**+0.8**
XAN				pmax	pmax		
	comp=Z,39nm,0.9s						
XAN				pmax	pmax		
	comp=Z,86nm,3.8s						
JWT	**Wachi**	**32.32**	**19**	P	**P**	**18 56 48.4**	**-0.3**
KSRS	**Korea Array**	**32.73**	**7**	P	**P**	**18 56 52.1**	**0.0**
	comp=Z,2.4nm,0.7s,baz=187,slow=9.5,SNR=8.9						
KSRS				PcP	**PcP**	**18 59 20.3**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=184,slow=4.8,SNR=4.2						
KSRS				ScP	**ScP**	**19 02 07.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=185,slow=3.5,SNR=7.7						
CTA	**Charters Tower**	**33.62**	**138**	P	**P**	**18 57 01.4**	**+1.4**
	comp=Z,28nm,1.1s,baz=333,slow=12,SNR=8.6						
CTA				ScP	**ScP**	**19 02 12.0**	**+0.2**
	comp=Z,7.4nm,1.0s,baz=0.0,slow=4.0,SNR=2.2						
CTAO	**Charters Tower**	**33.62**	**138**	P	**P**	**18 57 00.7**	**+0.7**
TIY	**Taiyuan**	**34.13**	**345**	eP	**P**	**18 57 04.8**	**+0.8**
TIY				pmax	pmax		
	comp=Z,20nm,0.6s						
MORW	**Morawa**	**34.42**	**191**	P	**P**	**18 57 07.0**	**+0.6**
MORW				IAmb	IAmb	18 57 32.9	
	comp=Z,45nm,1.7s						
MAT	**Matsushiro**	**34.43**	**22**	P	**P**	**18 57 05.9**	**-0.5**
MJAR	**Matsushiro Arr**	**34.43**	**22**	P	**P**	**18 57 04.8**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=187,slow=9.1,SNR=8.1						
MJB9	**Matsu-Tunnel**	**34.43**	**22**	P	**P**	**18 57 04.1**	**-2.3**
MJB9				IAmb	IAmb	18 57 33.7	
	comp=Z,30nm,0.8s						
FORT	**Forrest**	**35.75**	**173**	P	**P**	**18 57 18.4**	**+1.0**
FORT				IAmb	IAmb	18 57 20.6	
	comp=Z,28nm,0.7s						
JSD	**Sado**	**35.78**	**21**	P	**P**	**18 57 16.7**	**-0.8**
LZH	**Lanzhou**	**35.79**	**333**	eP	**P**	**18 57 18.8**	**+0.9**
LZH				pP	PP	18 59 01.0	-1.8
LZH				pmax	pmax		
	comp=Z,56nm,1.0s						
SHL	**Shillong**	**36.35**	**308**	P	**P**	**18 57 22.2**	**-0.4**
JMM	**Marumori**	**36.59**	**24**	P	**P**	**18 57 24.3**	**+0.1**
HHC	**Hu-ho-hao-te**	**37.31**	**345**	eP	**P**	**18 57 30.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,57nm,8.0s						
NWAO	**Narrogin (SRO)**	**38.00**	**188**	P	**P**	**18 57 36.7**	**+1.0**
	comp=Z,10nm,0.8s,baz=22,slow=6.8,SNR=13						
NWAO	**Narrogin (SRO)**	**38.00**	**188**	P	**P**	**18 57 36.7**	**+1.0**
NWAO				IAmb	IAmb	18 58 16.7	
	comp=Z,49nm,1.6s						
LSA	**Lhasa**	**39.03**	**313**	P	**P**	**18 57 46.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,150nm,0.7s						
LSA	**Lhasa**	**39.03**	**313**	P	**P**	**18 57 45.6**	**+0.8**
JTM	**Tenmabayashi**	**39.23**	**22**	P	**P**	**18 57 44.7**	**-0.7**
JTM				IAmb	IAmb	18 58 07.5	
	comp=Z,44nm,1.7s						
HNR	**Honiara**	**39.33**	**111**	P	**P**	**18 57 46.5**	**-0.2**
BBOO	**Buckleboo**	**39.42**	**163**	P	**P**	**18 57 48.1**	**+0.9**
BBOO				IAmb	IAmb	18 57 50.5	
	comp=Z,22nm,1.0s						
USRK	**Ussuriysk Ar.**	**39.95**	**10**	P	**P**	**18 57 51.8**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=183,slow=8.3,SNR=12						

KSH pmax pmax
comp=Z,12nm,1.3s
KSH pmax pmax
comp=Z,65nm,3.1s
MAKZ Makanchi 54.80 326 P **P** 18 59 41.8 -0.4
MAKZ IAmb IAmb 18 59 44.1
comp=Z,29nm,0.9s
MAKZ PcP **PcP** 19 00 34.3 -1.0
KDJ Kajisay 55.15 319 P **P** 18 59 45.4 +0.5
KDJ IAmb IAmb 19 00 16.8
comp=Z,110nm,1.6s
BOOM Boomskoye usch 56.13 319 P **P** 18 59 51.5 -0.2
BOOM IAmb IAmb 19 00 10.2
comp=Z,37nm,1.5s
TKM2 Tokmak 2 56.55 319 P **P** 18 59 55.0 +0.4
SNR=14
CHMS Chumysh 57.14 319 P **P** 18 59 58.5 +0.2
SNR=7.5
AAK Ala-Archa 57.14 319 P **P** 18 59 59.3 +0.7
comp=Z,2.6nm,0.3s,baz=134,slow=8.3,SNR=4.4
YAK Yakutsk 57.25 4 P **P** 18 59 58.1 -0.5
YAK IAmb IAmb 19 00 00.5
comp=Z,34nm,0.9s
USP Ospenovka 57.42 319 P **P** 19 00 00.5 +0.2
SNR=16
AML Almayashu 57.44 318 P **P** 19 00 03.0 +2.1
SNR=17
EKS2 Erkin-Say 57.62 318 P **P** 19 00 02.7 +0.9
SNR=11
DRK Karamyk 57.66 314 P **P** 19 00 02.1 -0.2
DRK IAmb IAmb 19 00 04.6
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 58.00 334 P **P** 19 00 02.2 -1.7
ZALV Zalesovo Beam 58.00 334 P **P** 19 00 02.5 -1.4
comp=Z,4.4nm,0.4s,baz=120,slow=7.8,SNR=34
ZALV Zalesovo Beam 58.00 334 P **P** 19 00 02.2 -1.7
ZALV PcP **PcP** 19 00 46.2 -1.6
KBL Kabul 58.01 308 P **P** 19 00 04.1 -0.5
KBL IAmb IAmb 19 00 06.4
comp=Z,31nm,0.7s
GAR Garm 58.54 313 P **P** 19 00 08.0 -0.1
GAR IAmb IAmb 19 00 09.9
comp=Z,75nm,1.0s
MA2 Magadan 58.55 16 P **P** 19 00 07.8 +0.3
comp=Z,13nm,1.0s,baz=205,slow=8.4,SNR=11
MA2 Magadan 58.55 16 P **P** 19 00 08.7 +1.2
MA2 IAmb IAmb 19 00 32.1
comp=Z,59nm,1.8s
BTK Batken 58.58 315 P **P** 19 00 08.2 0.0
KURBB Kurchatov Arra 58.89 328 P **P** 19 00 09.4 -0.5
comp=Z,28nm,0.7s,baz=127,slow=6.2,SNR=86
KURBB PP **PP** 19 02 29.8 -0.2
comp=Z,2.6nm,1.1s,baz=129,slow=8.1,SNR=5.6
KURK Kurchatov 58.90 329 P **P** 19 00 09.4 -0.6
CHGR Chuyangaron 59.26 313 P **P** 19 00 12.6 -0.3
CHGR IAmb IAmb 19 00 14.7
comp=Z,46nm,1.0s
KK31 Karatay Array 59.98 318 P **P** 19 00 17.0 -0.4
KKAR Karatay Array 59.98 318 P **P** 19 00 16.6 -0.8
KKAR PcP **PcP** 19 00 55.9 -0.2
KKAR Karatay Array 59.98 318 P **P** 19 00 17.0 -0.4
KKAR IAmb IAmb 19 00 19.2
comp=Z,17nm,0.8s
HRA Herat 63.38 306 P **P** 19 00 39.7 -0.2
QRZ Quartz Range 64.06 140 P **P** 19 00 42.1 -1.7
MLZ Mavora Lakes 64.07 146 P **P** 19 00 43.6 -0.2
MLZ IAmb IAmb 19 00 51.6
comp=Z,45nm,1.3s
WKZ Wanaka 64.24 145 P **P** 19 00 44.3 -0.6
BRVK Borovoye 64.52 328 P **P** 19 00 45.9 -0.6
BRVK IAmb IAmb 19 00 48.0
comp=Z,34nm,1.0s
LBZ Lake Benmore 64.65 145 P **P** 19 00 48.4 +0.9
LBZ IAmb IAmb 19 00 59.7
comp=Z,50nm,1.4s
RPZ Rata Peaks 64.76 143 P **P** 19 00 49.1 +0.9
THZ Tophouse 64.80 141 P **P** 19 00 50.0 +1.4
NNZ Nelson 64.81 140 P **P** 19 00 50.0 +1.5
LTZ Lake Taylor 64.97 142 P **P** 19 00 50.4 +0.9
BSWZ Blackbirch Sta 65.39 140 P **P** 19 00 52.3 +0.2
KNTN Kanton 65.52 95 P **P** 19 00 53.3 -0.2
KNTN IAmb IAmb 19 01 23.0
comp=Z,59nm,1.1s
KHZ Kahutara 65.55 141 P **P** 19 00 53.1 0.0
KHZ IAmb IAmb 19 01 23.6
comp=Z,64nm,1.3s
AMKA Amchitka 65.58 35 P **P** 19 00 53.4 +0.3
URZ Urewera 65.82 136 P **P** 19 00 53.6 -1.2
URZ IAmb IAmb 19 01 02.6
comp=Z,33nm,1.1s
BKZ Black Stump Fm 65.83 137 P **P** 19 00 55.5 +0.5
BKZ IAmb IAmb 19 00 58.0
comp=Z,33nm,1.0s
PLWZ Palliser 66.20 140 P **P** 19 00 57.4 +0.2
GEYT Alibeck 67.41 309 P **P** 19 01 04.6 -0.1
comp=Z,19nm,0.8s,baz=161,slow=6.0,SNR=15
GYA0B ALIBECK ARRAY 67.41 309 P **P** 19 01 04.8 0.0
GYA0B IAmb IAmb 19 01 07.0
comp=Z,18nm,0.8s
NRIK Noril'sk 68.51 347 P **P** 19 01 10.2 -0.5
comp=Z,20nm,0.7s,baz=132,slow=5.2,SNR=22
NRIK Noril'sk 68.51 347 P **P** 19 01 10.3 -0.5
NRIK IAmb IAmb 19 01 12.2
comp=Z,20nm,0.7s
GSTR Great Sitkin T 68.52 35 P **P** 19 01 10.7 -0.4
SOCY Socotra 68.64 281 P **P** 19 01 10.7 -1.9
ABKAR Abkulak array 69.03 321 P **P** 19 01 13.7 -0.6
ABKAR IAmb IAmb 19 01 15.6
comp=Z,21nm,0.8s
ABKAR Abkulak array 69.03 321 P **P** 19 01 13.6 -0.6
CASY Casey 71.55 185 P **P** 19 01 29.2 +0.5
ARU Arti 72.09 328 P **P** 19 01 31.2 -0.9
ARU IAmb IAmb 19 01 32.8
comp=Z,24nm,0.7s
QRN Al-Qurain 74.73 298 *eP* **P** 19 01 46.2 -1.4
UMR Umm Al-Rimmam 74.95 299 *eP* **P** 19 01 47.3 -1.5
RDF Al-Radifah 75.06 299 *eP* **P** 19 01 47.5 -2.0
MIB Mutribah 75.29 299 *eP* **P** 19 01 49.3 -1.4
RST Umm Al-Ruwaisa 75.57 299 *eP* **P** 19 01 50.6 -1.7
AKH Akhalkalaki 79.04 311 ⇑P **P** 19 02 12.1 +1.0
ONI Oni 79.14 312 P **P** 19 02 10.7 -0.7
VOI Vohitsoka 79.22 247 P **P** 19 02 11.5 -0.8
VOI IAmb IAmb 19 02 18.8
comp=Z,66nm,1.7s
KARS Kars 79.31 310 P **P** 19 02 12.8 +0.3
KBZ Khabaz 79.61 313 P **P** 19 02 14.5 +0.7
comp=Z,6.1nm,1.1s,baz=134,slow=6.2,SNR=6.9
SIRT Sirnak 79.69 307 P **P** 19 02 14.6 +0.1
KIV Kislovodsk 79.78 314 P **P** 19 02 14.3 -0.5
GURO Guroymak-BITLI 80.04 308 P **P** 19 02 16.7 +0.3
GURO IAmb IAmb 19 02 18.9
comp=Z,28nm,1.0s
BCA Borcka 80.45 311 ⇑P **P** 19 02 18.3 0.0
KLMR Klimovskoe 82.67 331 *eP* **P** 19 02 27.1 -2.0
KLMR AMP 19 02 30.0
comp=Z,48nm,0.9s
MAW Mawson 83.59 200 P **P** 19 02 34.2 +0.8
comp=Z,1.9nm,0.9s,baz=78,slow=16,SNR=3.7
GAZ Gaziantep 83.85 307 IAmb IAmb 19 02 37.2
comp=Z,18nm,0.8s
OBN Obninsk 84.08 325 ⇑P **P** 19 02 35.7 -0.5
OBN Obninsk 84.08 325 P **P** 19 02 35.7 -0.5
OBN IAmb IAmb 19 02 37.1
comp=Z,29nm,0.7s
I23K Minto, Yukon-K 84.57 25 P **P** 19 02 38.8 +0.4
BNN Bunyan 84.88 308 P **P** 19 02 40.4 -0.3
BNN IAmb IAmb 19 02 42.3
comp=Z,32nm,0.9s
VNDA Vanda 85.01 172 P **P** 19 02 41.7 +1.4
comp=Z,1.7nm,0.9s,baz=313,slow=5.8,SNR=12
KIBK Kibwezi 85.32 267 P **P** 19 02 43.3 +0.1
GHAJ Ghor Haditha 85.44 301 IAmb IAmb 19 02 45.5
comp=Z,25nm,0.9s
KMBO Kilima Mbogo 86.00 269 P **P** 19 02 47.0 +0.3
comp=Z,3.0nm,0.5s,baz=46,slow=7.3,SNR=12
BZK Bozkurt 86.15 312 ⇑P **P** 19 02 47.1 +0.7
BR131 Keskin Array S 86.55 309 P **P** 19 02 48.1 -0.5
BRTR Keskin Array B 86.55 309 P **P** 19 02 46.9 -1.8
comp=Z,3.5nm,0.8s,baz=107,slow=6.6,SNR=14
BRTR pP **pP** 19 04 59.5 +3.9
comp=Z,1.3nm,0.9s,baz=141,slow=5.0,SNR=3.4
BRTR Keskin Array B 86.55 309 P **P** 19 02 47.0 -1.6
LODK Lodwar 87.51 273 P **P** 19 02 54.3 +0.7
ARCES ARCESS Array B 88.15 340 P **P** 19 02 53.6 -1.7
comp=Z,2.6nm,0.6s,baz=81,slow=7.5,SNR=11
AKASG Malin Array Be 88.76 321 P **P** 19 02 56.7 -1.7
comp=Z,2.7nm,0.6s,baz=67,slow=4.6,SNR=11
AKASG Malin Array Be 88.76 321 P **P** 19 02 57.0 -1.4
FIA1 FINESS Array S 89.14 332 IAmb IAmb 19 03 00.2
comp=Z,7.6nm,0.7s
FINES FINESS Array B 89.15 332 P **P** 19 02 58.4 -1.7
comp=Z,6.2nm,0.6s,baz=84,slow=4.6,SNR=27
TIRR Tirgusor 90.01 314 ⇑P **P** 19 03 04.1 -0.2
TIRR Tirgusor 90.01 314 IAmb IAmb 19 03 04.9
comp=Z,15nm,1.1s
CFR Carcaliu 90.12 315 ⇑P **P** 19 03 04.6 -0.3
TESR Tescani 90.97 317 ⇑P **P** 19 03 07.9 -0.9
VRI Vrincioaia 91.01 316 ⇑P **P** 19 03 07.1 -1.9
PLOR Plostina 91.06 316 ⇑P **P** 19 03 07.7 -1.6
BIZ Bicaz 91.28 317 ⇑P **P** 19 03 10.8 +0.5
MLR Muntele Rosu 91.61 316 ⇑P **P** 19 03 11.7 -0.2
MLR Muntele Rosu 91.61 316 P **P** 19 03 11.2 -0.8
MLR IAmb IAmb 19 03 12.9
comp=Z,4.3nm,0.8s
BURAR Bucovina Array 91.78 318 ⇑P **P** 19 03 12.3 -0.3
BURAR Bucovina Array 91.78 318 P **P** 19 03 11.9 -0.7
BURAR IAmb IAmb 19 03 14.2
comp=Z,9.9nm,0.8s
BUR08 Bucovina Ar. S 91.78 318 P **P** 19 03 12.0 -0.7
BUR08 IAmb IAmb 19 03 14.0
comp=Z,6.3nm,0.8s
KOLS Kolonicke sedl 93.48 320 *eP* **P** 19 03 20.8 +0.5
CRVS Cervenica-Dubn 94.01 320 *eP* **P** 19 03 22.3 -0.4
NOA NORSAR Array B 96.18 333 P **P** 19 03 30.3 -2.0
comp=Z,1.4nm,0.7s,baz=68,slow=4.6,SNR=9.0
BRG Berggiesshubel 98.19 323 *eP* **P** 19 03 42.1 +0.6
BRG Amp 19 03 42.9
comp=Z,3.9nm,0.9s
CLL Collm 98.62 323 *eP* **P** 19 03 44.0 +0.7
GERES GERESS Array B 98.97 321 P Pdif 19 03 44.3 -0.7
comp=Z,0.7nm,0.7s,baz=59,slow=5.1,SNR=7.2
TORD Torodi Ar. Bea 119.17 288 PKP **PKPdf** 19 08 49.4 -1.1
comp=Z,2.2nm,0.6s,baz=27,slow=2.4,SNR=9.1
TORD Torodi Ar. Bea 119.17 288 **PKPdf** 19 08 49.7 -0.8
TXAR Lajitas Array 123.67 50 PKKPab PKKPab 19 18 50.5 -0.2
comp=Z,0.4nm,0.9s,baz=145,slow=8.9,SNR=3.8
PLCA Paso Flores 142.22 163 PKP **PKPdf** 19 09 32.5 -0.7
comp=Z,1.5nm,0.8s,baz=320,slow=2.5,SNR=4.0

*IDC **28** 18:52:35.1±1.1,31°.23N×103°.73E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.7/51,mbtmp3.9/8,MS2.6/1,Ms1 2.6/1, ms1mx2.2/31,Error ellipse: s-maj=36.2km s-min=19.9km az=52.0*
*NEIC **28** 18:52:44.4±2.4,31°.72N±0°.09×104°.2E±0°.1,h41km±5km, mb4.3/28,Error ellipse: s-maj=15.1km s-min=12.6km az=106.0*
ISC 28 18:52:40.8±0.6,31°.72N±0°.07×104°.04E±0°.06,h14km,n67, σ1§56/64,**mb4.4**/19,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
XAN	**Xi'an**	**4.72**	**59**	Pn	**Pn**	**18 53 54.8**	**+3.2**
XAN				Pg	**Pg**	**18 54 11.5**	**+0.4**
XAN				Sn	**Sb**	**18 54 55.8**	**-4.2**
XAN				Sg	**Sg**	**18 55 16.3**	**+4.1**
XAN				smax	smax		
	comp=N,140nm,0.6s						
XAN				smax	smax		
	comp=E,170nm,0.8s						
ENH	**Enshi**	**4.90**	**106**		**Pn**	**18 53 54.5**	**+0.5**
KMI	**Kunming**	**6.67**	**190**		**Pn**	**18 54 21.3**	**+2.7**
CM35	**Chiang Mai Arr**	**13.71**	**200**	P	**P**	**18 56 05.0**	**+1.5**
LAMP	**Lampang**	**13.73**	**198**	P	**P**	**18 56 02.6**	**-1.1**
	comp=E,407nmcomp=E,39nm,1.0s						
CM36	**Chiang Mai Arr**	**13.88**	**200**	P	**P**	**18 56 06.0**	**+0.6**
CM09	**Chiang Mai Arr**	**13.98**	**200**	P	**P**	**18 56 07.1**	**+0.5**
	comp=E,142nmcomp=E,20nm,0.9s						
CM09	**Chiang Mai Arr**	**13.98**	**200**	P	**P**	**18 56 07.0**	**+0.5**
	comp=E,142nmcomp=E,20nm,0.9s						
CM31	**Chiang Mai Arr**	**13.98**	**200**	P	**P**	**18 56 06.4**	**-0.1**
	comp=E,5μmcomp=E,616nm,1.0s						
CM15	**Chiang Mai Arr**	**13.99**	**200**	P	**P**	**18 56 06.7**	**+0.1**
	comp=E,158nmcomp=E,24nm,0.8s						
CM15	**Chiang Mai Arr**	**13.99**	**200**	P	**P**	**18 56 06.8**	**+0.1**
	comp=E,158nmcomp=E,24nm,0.8s						
CM02	**Chiang Mai Arr**	**14.00**	**200**	P	**P**	**18 56 07.3**	**+0.5**
	comp=E,141nmcomp=E,22nm,0.9s						
CM02	**Chiang Mai Arr**	**14.00**	**200**	P	**P**	**18 56 07.3**	**+0.5**
	comp=E,141nmcomp=E,22nm,0.9s						
CM01	**Chiang Mai Arr**	**14.01**	**200**	P	**P**	**18 56 07.4**	**+0.5**
	comp=E,146nmcomp=E,24nm,1.0s						
CM01	**Chiang Mai Arr**	**14.01**	**200**	P	**P**	**18 56 07.0**	**+0.1**
	comp=E,146nmcomp=E,24nm,1.0s						
CM04	**Chiang Mai Arr**	**14.03**	**200**	P	**P**	**18 56 06.9**	**-0.1**
	comp=E,130nmcomp=E,20nm,1.0s						
CM04	**Chiang Mai Arr**	**14.03**	**200**	P	**P**	**18 56 07.0**	**-0.1**
	comp=E,130nmcomp=E,20nm,1.0s						
CM13	**Chiang Mai Arr**	**14.03**	**201**	P	**P**	**18 56 07.7**	**+0.6**
	comp=E,154nmcomp=E,22nm,0.9s						
CM13	**Chiang Mai Arr**	**14.03**	**201**	P	**P**	**18 56 07.0**	**-0.1**
	comp=E,154nmcomp=E,22nm,0.9s						
CM05	**Chiang Mai Arr**	**14.03**	**200**	P	**P**	**18 56 06.8**	**-0.3**
	comp=E,14nm,1.0s						
CM05	**Chiang Mai Arr**	**14.03**	**200**	P	**P**	**18 56 06.8**	**-0.3**
	comp=E,14nm,1.0s						
MHMT	**Maesarieng**	**14.57**	**204**	P	**P**	**18 56 13.5**	**+0.4**
	comp=E,59nm,1.0s						
MHMT	**Maesarieng**	**14.57**	**204**	P	**P**	**18 56 13.0**	**-0.1**
	comp=E,59nm,1.0s						
SONM	**Songino Array**	**16.20**	**6**	Pn	**P**	**18 56 35.2**	**+4.1**
	comp=E,0.2nm,0.3s,baz=185,slow=11,SNR=12						
SONM				LR	LR	19 03 53.7	
	comp=E,20nm,21.3s,baz=107,slow=41						
SONM	**Songino Array**	**16.20**	**6**	P	**P**	**18 56 30.6**	**-0.6**
SSLB	**Suanglung**	**16.92**	**114**		**P**	**18 56 37.9**	**-1.2**
WMQ	**Urumqi**	**17.65**	**318**	*eP*	**Pn**	**18 56 42.5**	**-3.8**
KSRS	**Korea Array**	**20.46**	**67**	P	Pn	18 57 20.0	0.0
	comp=E,2.2nm,0.6s,baz=262,slow=10,SNR=14						
MK31	**Makanchi Array**	**22.48**	**318**	P	**P**	**18 57 38.2**	**-1.4**
MKAR	**Makanchi Array**	**22.48**	**318**	P	**P**	**18 57 39.1**	**-0.6**
	comp=E,1.8nm,1.0s,baz=122,slow=13,SNR=9.2						
MKAR	**Makanchi Array**	**22.48**	**318**	P	**P**	**18 57 37.6**	**-2.1**
ZAA0	**Zalesovo Array**	**26.15**	**334**	P	**P**	**18 58 12.1**	**-2.3**
ZALV	**Zalesovo Beam**	**26.15**	**334**	P	**P**	**18 58 13.6**	**-0.7**
	comp=E,1.3nm,0.8s,baz=148,slow=8.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**26.15**	**334**	P	**P**	**18 58 13.1**	**-1.2**
KURBB	**Kurchatov Arra**	**26.72**	**322**	P	**P**	**18 58 18.1**	**-1.4**
	comp=E,13nm,0.3s,baz=131,slow=9.2,SNR=6.5						
ARCES	**ARCESS Array B**	**56.68**	**336**	P	**P**	**19 02 23.4**	**+0.1**
WRA	**Warramunga Arr**	**59.01**	**146**	P	P	19 02 35.1	-5.2
	comp=E,1.1nm,0.6s,baz=322,slow=9.6,SNR=6.6						
WRA	**Warramunga Arr**	**59.01**	**146**	P	P	19 02 34.6	-5.7
WB2	**Warramunga Arr**	**59.02**	**146**	P	P	19 02 34.2	-6.2
WR0	**Warramunga Arr**	**59.12**	**146**	P	P	19 02 35.7	-5.3
AS31	**Alice Springs**	**62.04**	**149**	P	**P**	**19 02 58.6**	**-2.3**
AS31				IAmb	IAmb	19 03 04.9	
	comp=Z,2.4nm,1.4s						
ASAR	**Alice Springs**	**62.04**	**149**	P	P	19 02 55.7	-5.2
	comp=Z,0.7nm,0.6s,baz=330,slow=6.6,SNR=2.4						
ASAR	**Alice Springs**	**62.04**	**149**	P	**P**	**19 02 56.9**	**-4.1**
NC405	**NORSAR Array S**	**63.86**	**327**	P	**P**	**19 03 12.6**	**0.0**
ITM	**Ithomi**	**65.91**	**300**	P	**P**	**19 03 28.9**	**+2.6**
IMAR	**Indian Mountai**	**66.20**	**26**	P	**P**	**19 03 27.4**	**-0.3**
COLD	**Coldfoot**	**66.93**	**24**	P	**P**	**19 03 31.7**	**-0.7**
COLD				IAmb	IAmb	19 03 43.2	
	comp=Z,6.0nm,1.6s						
MLY	**Manley**	**67.75**	**26**	P	**P**	**19 03 37.0**	**-0.6**
MLY				IAmb	IAmb	19 03 38.3	
	comp=Z,1.4nm,0.6s						
BPAW	**Bear Paw Mtn.**	**68.08**	**27**	P	**P**	**19 03 39.0**	**-0.7**
BPAW				IAmb	IAmb	19 04 12.5	
	comp=Z,7.0nm,1.6s						
PPLA	**Purkeypile**	**68.15**	**29**	P	**P**	**19 03 39.7**	**-0.6**
CNBA	**Chernabura Isl**	**68.17**	**38**	P	**P**	**19 03 40.0**	**-0.3**
I23K	**Minto, Yukon-K**	**68.21**	**26**	P	**P**	**19 03 40.9**	**+0.4**
I23K				IAmb	IAmb	19 03 43.1	
	comp=Z,4.6nm,1.4s						
MDM	**Murphy Dome**	**68.72**	**26**	P	**P**	**19 03 44.0**	**+0.3**
MDM				IAmb	IAmb	19 03 45.0	
	comp=Z,2.7nm,0.6s						
BMAR	**Burnt Mountain**	**68.73**	**23**	P	**P**	**19 03 44.3**	**+0.5**
ILAR	**Eielson Array**	**69.31**	**26**	P	**P**	**19 03 46.1**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=292,slow=4.0,SNR=3.3						
ILAR	**Eielson Array**	**69.31**	**26**	P	**P**	**19 03 45.4**	**-1.9**
PRP	**Porcupine Dome**	**69.42**	**25**	P	**P**	**19 03 48.3**	**+0.1**
PRP				IAmb	IAmb	19 03 49.0	
	comp=Z,3.1nm,0.6s						
KDAK	**Kodiak Island**	**70.36**	**34**	P	**P**	**19 03 53.7**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=317,slow=7.3,SNR=7.9						
RIDG	**Independent Ri**	**70.61**	**26**	P	**P**	**19 03 54.7**	**-0.7**
PAX	**Paxson**	**70.79**	**27**	P	**P**	**19 03 56.4**	**-0.1**
PAX				IAmb	IAmb	19 04 34.5	
	comp=Z,2.8nm,0.8s						
SCRK	**Sand Creek**	**70.80**	**26**	P	**P**	**19 03 55.9**	**-0.8**
SCRK				IAmb	IAmb	19 03 56.7	
	comp=Z,2.2nm,0.7s						
K27K	**Chicken**	**71.47**	**25**	P	**P**	**19 04 00.6**	**0.0**
INK	**Inuvik**	**71.60**	**19**	P	**P**	**19 04 00.4**	**-0.8**
INK				IAmb	IAmb	19 04 38.2	
	comp=Z,5.6nm,1.4s						
N25K	**Chitina, Valde**	**71.87**	**28**	P	**P**	**19 04 03.3**	**+0.1**
N25K				IAmb	IAmb	19 04 04.1	
	comp=Z,3.6nm,0.6s						
L27K	**Beaver Creek,**	**72.12**	**26**	P	**P**	**19 04 04.9**	**+0.4**
L27K				IAmb	IAmb	19 04 05.6	
	comp=Z,2.0nm,0.6s						
BCAR	**Beaver Creek A**	**72.13**	**26**	P	**P**	**19 04 05.2**	**+0.6**
BMRM	**Bremner River**	**72.22**	**28**	P	**P**	**19 04 03.8**	**-1.4**

*TEH **28** 19:51:03.4,33°.61N×60°.66E,h14km,ML3.5*
*THR **28** 19:51:03.7±0.9,33°.67N×60°.61E,h18km±7km,ML3.6*
ISC 28 19:51:03.0±1.5,33°.59N±0°.04×60°.75E±0°.08,h10km,n35, σ1§44/38,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**0.39**	**278**	*e*Pg	**Pb**	**19 51 10.4**	**-1.6**
SHRT	**Shahrakht**	**0.39**	**278**	*e*Pg	**Pb**	**19 51 10.4**	**-1.6**
IMON	**Monand**	**0.99**	**246**	*e*Pg	**Pb**	**19 51 21.6**	**-0.8**
IMON				*e*Sg	**Sn**	**19 51 35.7**	**-1.6**
IMON				*e*		19 51 38.4	
	comp=Z,34μm,0.2s						
IDAH	**Dahanechah**	**1.13**	**221**	*e*Pg	**Pg**	**19 51 23.9**	**-0.8**
IDAH				*e*		19 51 45.8	
	comp=Z,18μm,0.3s						
AFRZ	**Afriz**	**1.46**	**264**	*e*Pg	**Pg**	**19 51 30.6**	**-0.4**
AFRZ				*e*		19 51 31.4	
	comp=Z,13μm,0.3s						
ITEG	**Tejag**	**1.81**	**248**	*e*Pn	**Pb**	**19 51 35.2**	**-1.2**
ITEG				*e*		19 51 38.2	
	comp=Z,4μm,0.2s						
IKOO	**Kooshah**	**1.87**	**232**	*e*Pn	**Pb**	**19 51 36.5**	**-0.9**
IKOO				*e*		19 51 39.5	
	comp=Z,4μm,0.3s						
BSRN	**Basiran**	**2.12**	**221**	*e*Pn	**Pb**	**19 51 40.0**	**-1.6**
BSRN	**Basiran**	**2.12**	**221**	*e*Pn	**Pb**	**19 51 40.0**	**-1.6**
NHDN	**Nehbandan**	**2.27**	**195**	*e*Pn	**Pn**	**19 51 41.7**	**+1.0**
NHDN				*e*		19 52 20.9	
	comp=Z,2μm,0.4s						
JRKH	**Jarkhoshk**	**2.33**	**352**	*e*Pn	**Pn**	**19 51 41.9**	**+0.3**
IMOG	**Moghan**	**2.76**	**336**	*e*Pn	**Pn**	**19 51 48.3**	**+0.7**
IMOG				*e*		19 52 47.0	
	comp=Z,1μm,0.4s						
IMYA	**Miami**	**2.79**	**349**	*e*Pn	**Pn**	**19 51 48.9**	**+1.0**
IMYA				*e*		19 52 46.9	
	comp=Z,1μm,0.4s						
TKDS	**Koohdasht(Taba**	**3.03**	**271**	*e*Pn	**Pn**	**19 51 52.0**	**+0.9**
TKDS				*e*		19 52 48.4	
	comp=Z,942nm,0.6s						
TABS	**Tabas**	**3.03**	**272**	*e*Pn	**Pn**	**19 51 51.3**	**+0.2**
TABS				*e*Sg	**Sb**	**19 52 34.3**	**+0.2**
TABS				IAML		19 52 52.4	
	comp=N,156nm,1.0s						
TABS	**Tabas**	**3.03**	**272**	*e*Pn	**Pn**	**19 51 51.3**	**+0.2**
IPAY	**Payeh**	**3.19**	**334**	*e*Pn	**Pn**	**19 51 54.5**	**+1.0**
IPAY				*e*		19 52 06.5	
	comp=Z,666nm,0.3s						
IKRD	**Kardeh**	**3.33**	**343**	*e*Pn	**Pn**	**19 51 57.2**	**+1.8**
IAKL	**Akhelmad**	**3.42**	**332**	*e*Pn	**Pn**	**19 51 57.4**	**+0.8**
TPRV	**Parvadeh(Tabas**	**3.45**	**262**	*e*Pn	**Pn**	**19 51 58.3**	**+1.4**
TPRV				*e*		19 53 05.3	
	comp=Z,739nm,0.6s						
TNSJ	**Nastanj**	**3.47**	**277**	*e*Pn	**Pn**	**19 51 58.2**	**+1.1**
TNSJ				*e*		19 53 14.0	
	comp=Z,1μm,0.6s						
SBZV	**Sabzevar**	**3.80**	**318**	*e*Pn	**Pn**	**19 52 03.2**	**+1.4**
ISFR	**Sfrayin**	**4.12**	**328**	*e*Pn	**Pn**	**19 52 07.5**	**+1.2**
SHRO	**Shahrood**	**4.57**	**303**	*e*Pn	**Pn**	**19 52 11.9**	**-0.4**
SHRO				*e*Sg	**Sb**	**19 53 21.6**	**+3.0**
SHRO	**Shahrood**	**4.57**	**303**	*e*Pn	**Pn**	**19 52 11.9**	**-0.4**
CHMN	**Cheshme madani**	**4.62**	**217**	*e*Pn	**Pn**	**19 52 14.4**	**+1.2**
CHMN				*e*		19 53 09.2	
	comp=Z,246nm,0.5s						
IBAF	**Bafgh**	**4.81**	**247**	*e*Pn	**Pn**	**19 52 18.1**	**+2.5**
TVBK	**TV Kerman**	**4.94**	**224**	*e*Pn	**Pn**	**19 52 20.0**	**+2.3**
NGRK	**Negar Kerman**	**5.22**	**222**	*e*Pn	**Pn**	**19 52 23.9**	**+2.4**
YZKH	**Yazd**	**5.31**	**259**	*e*Pn	**Pn**	**19 52 23.5**	**+1.0**
YZKH	**Yazd**	**5.31**	**259**	*e*Pn	**Pn**	**19 52 23.5**	**+1.0**
IMEH	**Mehriz**	**5.63**	**249**	*e*Pn	**Pn**	**19 52 28.2**	**+1.2**
ANAR	**Anarak**	**5.88**	**268**	*e*Pn	**Pn**	**19 52 31.9**	**+1.5**
ISHM	**Shahmirzad**	**6.53**	**292**	*e*Pn	**Pn**	**19 52 41.1**	**+1.8**
KRSH	**Karshahi**	**7.18**	**275**	*e*Pn	**Pn**	**19 52 50.2**	**+2.0**

*NEIC **28** 20:07:52.9±2.3,32°.59S±0°.08×179°.6E±0°.1,h331km±8km, mb4.3/26,Error ellipse: s-maj=18.3km s-min=9.5km az=112.0*
*NOU **28** 20:07:53.0,32°.79S×179°.83W,h372km,MLv5.2/23,South of Kermadec Islands*
*IDC **28** 20:07:54.6±1.2,32°.33S×179°.69E,h351km±16km,mb3.7/7, mb1 3.9/8,mb1mx3.5/31,mbtmp4.5/8,Error ellipse: s-maj=20.0km s-min=15.9km az=43.0*
*WEL **28** 20:07:57.1±0.6,33°.5±5°.×18°.0W±1°.1,h294km±12km, M4.8/44,mB5.3/34,MLv5.4/44,Mw(mB)4.8/34,Error ellipse: s-maj=0.0km s-min=0.0km az=109.6*
ISC 28 20:07:53.8±0.5,32°.64S±0°.05×179°.72E±0°.08,h350km, **n155,**σ2§00/156,**mb4.2**/17,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.93**	**32**	P	**Pn**	**20 09 01.4**	**-0.7**
GLKZ				S	**S**	**20 09 52.9**	**-4.3**
RAO	**Raoul Island**	**3.94**	**32**	P	**Pn**	**20 09 01.9**	**-0.3**
	75nm,0.3s,baz=83,slow=14,SNR=6.2						
RAO				S	**S**	**20 09 53.5**	**-3.9**
	98nm,0.3s,baz=96,slow=22,SNR=2.5						
RAO	**Raoul Island**	**3.94**	**32**	Pn	**Pn**	**20 09 00.4**	**-1.8**
RAO	**Raoul Island**	**3.94**	**32**	P	**Pn**	**20 09 02.6**	**+0.4**
RIZ	**Raoul Island**	**3.94**	**31**	P	**Pn**	**20 09 02.0**	**-0.3**
GRZ	**Great Barrier**	**5.04**	**223**	P	Pn	20 09 17.6	+4.0
MXZ	**Matakaoa Point**	**5.05**	**193**	Pn	**Pn**	**20 09 14.5**	**+0.8**
MXZ	**Matakaoa Point**	**5.05**	**193**	P	**Pn**	**20 09 14.6**	**+0.8**
MXZ				S	**S**	**20 10 18.2**	**-0

HRRZ	Handcock Road	6.38 205	P	Pn	20 09 32.8	+3.9
GRRZ	Galatos Road	6.41 206	P	Pn	20 09 33.6	+4.4
SNGZ	Shannon Statio	6.43 197	P	Pn	20 09 29.5	+0.2
PRRZ	Plateau Road	6.44 204	P	Pn	20 09 33.1	+3.5
PRGZ	Paritu Road	6.45 193	P	Pn	20 09 30.6	+1.0
ALRZ	Allen Road	6.52 204	P	Pn	20 09 33.4	+3.0
WPRZ	Whakapapatarin	6.54 205	P	Pn	20 09 34.9	+4.2
KNZ	Kokohu	6.58 194	P	Pn	20 09 30.7	-0.4
RAHZ	Arahi	6.62 198	P	Pn	20 09 31.3	-0.3
TLZ	Tolley Road	6.62 210	P	Pn	20 09 36.7	+5.1
MTHZ	Maungataniwha	6.63 200	P	Pn	20 09 31.7	0.0
KUTZ	Kaahu Road	6.64 207	P	Pn	20 09 36.4	+4.5
MHGZ	Mahia Peninsul	6.66 192	P	Pn	20 09 33.2	+1.1
WHHZ	Waihua	6.73 197	P	Pn	20 09 32.7	-0.2
MRHZ	Matea Rd	6.74 203	P	Pn	20 09 35.3	+2.3
NMHZ	Naumai	6.86 199	P	Pn	20 09 34.6	+0.2
WATZ	Wairara	6.87 207	P	Pn	20 09 38.2	+3.7
ARHZ	Aropaoanui	6.97 198	P	Pn	20 09 35.3	-0.3
RATZ	Rangitukua	6.99 206	P	Pn	20 09 39.2	+3.3
BKZ	Black Stump Fm	7.02 201		Pn	20 09 35.5	-0.8
BKZ	Black Stump Fm	7.02 201	P	Pn	20 09 36.0	-0.2
RITZ	Rihia Road	7.06 205	P	Pn	20 09 39.7	+3.0
HIZ	Hauiti	7.07 213		Pn	20 09 39.7	+2.9
HIZ	Hauiti	7.07 213	P	Pn	20 09 42.3	+5.4
KATZ	Kakaramea	7.12 206	P	Pn	20 09 40.5	+3.0
MCHZ	McNeill Hill	7.22 199	P	Pn	20 09 40.7	+2.2
KRVZ	Karewarewa	7.24 206	P	Pn	20 09 40.7	+1.8
WTVZ	West Tongariro	7.28 206	P	Pn	20 09 41.5	+2.1
OTVZ	Oturere	7.29 206	P	Pn	20 09 40.9	+1.3
TWVZ	Taurewa	7.30 207	P	Pn	20 09 42.0	+2.4
CKHZ	Cape Kidnapper	7.32 196	P	Pn	20 09 39.9	+0.1
BFZ	Birch Farm	8.50 198		Pn	20 09 53.0	-0.6
MSWZ	Moikau Station	9.46 201		Pn	20 10 03.3	-1.6
SNZO	South Karori	9.54 203	Pn	Pn	20 10 04.1	-1.9
BHW	Baring Head	9.57 202		Pn	20 10 05.1	-1.3
PLWZ	Palliser	9.60 200	Pn	Pn	20 10 05.4	-1.4
TCW	Tory Channel	9.60 205	P	Pn	20 10 05.6	-1.2
TCW			S	S	20 11 50.1	-5.6
TUWZ	Tuamarina	9.91 206		Pn	20 10 08.4	-2.1
TUWZ	Tuamarina	9.91 206	P	Pn	20 10 09.0	-1.5
TUWZ			S	S	20 11 56.0	-6.6
NNZ	Nelson	9.95 209		Pn	20 10 09.8	-1.1
NNZ	Nelson	9.95 209	P	Pn	20 10 09.0	-1.9
NNZ			S	S	20 11 58.2	-5.2
QRZ	Quartz Range	10.00 213		Pn	20 10 10.2	-1.4
QRZ	Quartz Range	10.00 213	P	Pn	20 10 10.1	-1.4
QRZ			S	S	20 11 57.8	-6.8
CMWZ	Cape Campbell	10.10 204		Pn	20 10 11.7	-1.0
CMWZ	Cape Campbell	10.10 204	P	P	20 10 13.4	-0.7
CMWZ			S	S	20 12 03.1	-3.6
BSWZ	Blackbirch Sta	10.19 206		Pn	20 10 12.1	-1.7
THZ	Tophouse	10.60 209	Pn	Pn	20 10 17.0	-1.8
THZ	Tophouse	10.60 209	P	Pn	20 10 17.1	-1.6
THZ			S	S	20 12 13.4	-4.5
KHZ	Kahutara	10.92 205	Pn	Pn	20 10 21.3	-1.1
KHZ	Kahutara	10.92 205	P	Pn	20 10 20.9	-1.6
DSZ	Denniston Nort	11.06 212	P	Pn	20 10 23.0	-1.2
GVZ	Greta Valley S	11.58 205	P	Pn	20 10 29.0	-1.4
LTZ	Lake Taylor	11.71 208	P	Pn	20 10 30.2	-1.7
LTZ	Lake Taylor	11.71 208	P	Pn	20 10 30.0	-1.9
AMCZ	Amberley	11.90 206	P	P	20 10 33.2	-0.9
INZ	Inchbonnie	12.01 211	P	P	20 10 34.5	-0.8
OKCZ	Okains Bay	12.24 203	P	Pn	20 10 38.0	-0.2
OXZ	Oxford	12.26 207		P	20 10 35.2	-2.9
OXZ	Oxford	12.26 207	P	P	20 10 36.1	-2.0
MQZ	McQueen's Vall	12.36 205	P	P	20 10 37.3	-1.8
MQZ	McQueen's Vall	12.36 205	P	P	20 10 37.9	-1.3
AKCZ	Akaroa Harbour	12.42 203	P	Pn	20 10 40.4	+0.1
WVZ	Waitaha Valley	12.60 212	P	P	20 10 41.2	-0.5
MHCZ	Mount Hutt	12.62 208	P	P	20 10 41.0	-1.1
WACZ	Wakanui South	12.86 206	P	Pn	20 10 45.1	-0.4
GCSZ	Gaunt Creek Bo	12.97 212	P	Pn	20 10 45.9	-0.9
RPZ	Rata Peaks	12.98 209	P	Pn	20 10 45.9	-1.0
RPZ	Rata Peaks	12.98 209	P	P	20 10 45.7	-0.4
ARCZ	Arundel	13.12 208	P	P	20 10 47.2	-0.4
FOZ	Fox Glacier	13.37 213	P	Pn	20 10 50.2	-1.2
FOZ	Fox Glacier	13.37 213	P	Pn	20 10 50.5	-0.9
TMZ	Timaru	13.55 208	P	Pn	20 10 52.8	-0.9
LBZ	Lake Benmore	13.89 210		P	20 10 55.9	-0.2
LBZ	Lake Benmore	13.89 210	P	Pn	20 10 56.1	-1.4
ODZ	Otahua Downs	14.25 207	P	Pn	20 11 01.4	-0.4
ODZ	Otahua Downs	14.25 207	P	Pn	20 11 01.9	+0.2
WKZ	Wanaka	14.74 211		P	20 11 03.4	-2.0
PINNC	Pines Island,	14.75 310	P	Pn	20 11 07.4	-0.4
HHSZ	Highcliff Hill	14.98 205	P	Pn	20 11 13.3	+3.1
MLZ	Mavora Lakes	15.56 212		P	20 11 13.3	-1.0
DZM	Mont Dzumac	15.79 308	P	Pn	20 11 17.4	-2.6
DZM			IAmb	IAmb	20 11 23.5	
	comp=Z,20nm,0.9s					
WHZ	Wether Hill Ro	16.05 211		P	20 11 18.8	-0.8
SANVU	Saraoutou	20.55 323	P	P	20 12 06.3	-0.6
CAN	Canberra	25.57 255	P	P	20 12 53.7	+1.6
CAN			IAmb	IAmb	20 13 02.5	
	comp=Z,22nm,1.2s					
EIDS	Eidsvold	26.02 279	P	P	20 12 57.8	+1.6
EIDS			IAmb	IAmb	20 13 34.0	
	comp=Z,14nm,1.2s					
TAU	Tasmania Unive	27.43 239	P	P	20 13 10.2	+1.6
TOO	Toolangi	28.33 250	P	P	20 13 18.4	+1.8
TOO			IAmb	IAmb	20 13 20.5	
	comp=Z,19nm,1.4s					
PPTF	Pamatai, Papee	31.45 69	P	P	20 13 42.0	-2.1
STKA	Stephens Creek	32.13 261	P	P	20 13 51.5	+1.6
	comp=Z,5.0nm,0.8s,baz=103,slow=11,SNR=10.0					
STKA	Stephens Creek	32.13 261	P	P	20 13 51.4	+1.5
CTA	Charters Tower	32.34 284	P	P	20 13 52.8	+1.0
	comp=Z,4.2nm,0.6s,baz=112,slow=7.8,SNR=6.6					
CTAO	Charters Tower	32.34 284	P	P	20 13 52.4	+0.6
CTAO			IAmb	IAmb	20 14 23.7	
	comp=Z,22nm,1.2s					
BBOO	Buckleboo	36.53 258	P	P	20 14 27.3	+0.1
AS31	Alice Springs	41.11 271	P	P	20 15 04.6	-0.4
ASAR	Alice Springs	41.11 271	P	P	20 15 04.8	-0.2
	comp=Z,3.7nm,0.3s,baz=108,slow=8.0,SNR=100					
ASAR	Alice Springs	41.11 271	P	P	20 15 04.3	-0.7
WR0	Warramunga Arr	42.13 276	P	P	20 15 12.7	-0.5
WR0			IAmb	IAmb	20 15 33.8	
	comp=Z,20nm,1.6s					
WB2	Warramunga Arr	42.30 276	P	P	20 15 14.0	-0.5
WB2			IAmb	IAmb	20 15 14.3	
	comp=Z,12nm,0.4s					
WRA	Warramunga Arr	42.31 276	P	P	20 15 14.1	-0.5
	comp=Z,6.4nm,0.3s,baz=112,slow=7.7,SNR=118					
WRA	Warramunga Arr	42.31 276	P	P	20 15 14.1	-0.5
WB0	Warramunga Arr	42.34 276	P	P	20 15 14.1	-0.7
WB0			IAmb	IAmb	20 15 14.9	
	comp=Z,22nm,1.2s					
FORT	Forrest	43.63 258	P	P	20 15 24.7	-0.3
SBA	Scott Base	45.67 184	P	P	20 15 44.8	+4.6
VNDA	Vanda	45.69 185	P	P	20 15 43.3	+3.0
	comp=Z,0.4nm,0.6s,baz=2.8,slow=7.7,SNR=10					
VNDA	Vanda	45.69 185	P	P	20 15 43.2	+2.9
MTN	Manton Dam	48.48 282	P	P	20 16 01.7	-0.9
KNRA	Kununurra	49.00 278	P	P	20 16 06.2	-0.2
KNRA			IAmb	IAmb	20 16 10.9	
	comp=Z,24nm,1.3s					
CASY	Casey	52.25 209	P	P	20 16 29.9	+0.1
CASY			IAmb	IAmb	20 16 32.6	
	comp=Z,3.0nm,0.6s					
QSPA	South Pole Qui	57.48 180	P	P	20 17 10.1	+3.1
	comp=Z,13nm,0.7s,baz=322,slow=0.5,SNR=91					
QSPA	South Pole Qui	57.48 180	P	P	20 17 10.1	+3.1
QSPA			IAmb	IAmb	20 17 11.0	
	comp=Z,13nm,0.8s					
MAW	Mawson	69.53 201	P	P	20 18 25.3	+0.5
SNAA	Sanae	75.97 179	P	P	20 19 03.9	+1.5
SNAA	Sanae	75.97 179	P	P	20 19 04.0	+1.5
SNAA			IAmb	IAmb	20 19 04.7	
	comp=Z,8.8nm,1.3s					
VNA3	Neumayer Olymp	76.19 177	P	P	20 19 05.3	+1.6
VNA2	Neumayer--Watz	76.61 178	P	P	20 19 08.0	+2.0
	baz=178,slow=4.5					
VNA1	Neumayer--Stat	76.85 177	P	P	20 19 09.4	+2.1
PETK	Petropavlovsk-	87.52 347	P	P	20 20 02.3	+0.2
	comp=Z,0.6nm,0.5s,baz=107,slow=7.7,SNR=2.8					
HHC	Hu-ho-hao-te	96.41 315	eP	P	20 20 44.5	+1.0
HHC			pmax	pmax		
	comp=Z,9.0nm,0.8s					
HHC			pmax	pmax		
	comp=Z,70nm,7.5s					
FINES	FINESS Array B	146.51 337	PKPbc	PKPbc	20 26 52.6	-0.9
	comp=Z,1.2nm,0.7s,baz=49,slow=8.6,SNR=6.8					
NOA	NORSAR Array B	150.61 349	PKPbc	PKiKP	20 27 03.7	-0.8
	comp=Z,0.3nm,0.5s,baz=64,slow=1.9,SNR=3.5					
TORD	Torodi Ar. Bea	160.51 186	PKPab	PKPab	20 27 56.2	+0.5
	comp=Z,0.8nm,0.5s,baz=170,slow=3.7,SNR=10					

*DJA **28** 20:24:03.4±0.3, 1°S±3°×12°7E±°, h10km, M4.1/12, mb4.5/3, mB4.8/3, MLv4.0/12, Mw(mB)4.0/3*
*NEIC **28** 20:24:03.1±2.9, 0°98S±0°06×126°84E±0°06, h18km±3km, mb4.0/11, Error ellipse: s-maj=9.5km s-min=7.9km az=125.0*
*IDC **28** 20:24:07.6±3.0, 1°08S×126°86E, h61km±31km, mb3.5/6, mb1 3.8/8, mb1mx3.5/32, mbtmp3.9/8, ML3.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=29.2km s-min=19.8km az=66.0*

ISC 28 20:24:04.7±0.6, **1°00S**±0°05×**126°83E**±0°06, **h34**km, **n39**, σ1§**60**/41, **mb3.9/7, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.35	219	P	Pn	20 24 26.6	-0.5
TNTI	Ternate	1.83	17		Pn	20 24 32.6	-1.2
TNTI				Sn	Sn	20 24 54.8	-1.1
TNTI	Ternate	1.83	17	P	Pn	20 24 33.0	-0.9
NLAI	Namlea	2.25	173	P	Pn	20 24 40.2	+0.7
MSAI	Masohi	3.14	138	P	Pn	20 24 53.3	+1.5
GTOI	Gorontalo	4.15	293	P	Pn	20 25 10.1	+4.4
SWI	Sorong	4.43	88	P	Pn	20 25 10.5	+1.0
SIJI	Sorong	4.43	88	P	Pn	20 25 12.2	+2.5
	2.1nm,0.3s,baz=215,slow=22,SNR=9.9						
MRSI	Marisa	5.11	287	P	Pn	20 25 20.3	+1.4
	0.1nm407nm21nm,0.6s						
APSI	Ampana	5.18	271	P	Pn	20 25 20.7	+0.7
	0.3nm2um56nm,0.5s						
FAKI	Fak Fak	5.74	110		Pn	20 25 27.6	0.0
FAKI				Sn	Sn	20 26 33.5	+1.2
TOLI2	Tolitoli	6.40	289		Pn	20 25 38.3	+1.6
TOLI2				Sn	Sn	20 26 46.7	-2.0
TTSI	Tana Toraja	7.30	254	P	Pn	20 25 50.0	+1.0
	0.2nm22nm,0.7s						
BKSI	Bulukumba	7.96	237	P	Pn	20 26 00.8	+2.7
KAPI	Kappang	8.12	240	P	Pn	20 26 03.2	+2.9
	3.2nm,0.3s,baz=115,slow=4.3,SNR=15						
KAPI				LR	LR	20 29 34.8	
	comp=Z,65nm,19.1s,baz=124,slow=40						
KAPI	Kappang	8.12	240		Pn	20 26 01.8	+1.5
KAPI				Sn	Sn	20 27 31.2	+0.2
MTN	Manton Dam	12.52	160	Pn	Pn	20 26 58.9	-1.7
JAGI	Jajag, Banyuwa	14.65	239	Pn	Pn	20 27 29.9	+0.2
KNRA	Kununurra	14.71	173	Pn	Pn	20 27 30.1	-0.4
LEM	Lembang	20.02	253	LR	LR	20 38 56.2	
	comp=Z,59nm,18.5s,baz=166,slow=44						
CISI	Cisompet, Garu	20.04	250	P	P	20 28 33.7	-1.5
WB0	Warramunga Arr	20.07	159	P	P	20 28 34.1	-1.3
WB0				IAmb	IAmb	20 28 50.4	
	comp=Z,15nm,1.2s						
WRA	Warramunga Arr	20.21	159	P	P	20 28 35.6	-1.3
	comp=Z,2.1nm,0.8s,baz=338,slow=12,SNR=12						
WRA	Warramunga Arr	20.21	159	P	P	20 28 35.5	-1.4
WB2	Warramunga Arr	20.22	159	P	P	20 28 35.0	-1.9
WB2				IAmb	IAmb	20 28 40.9	
	comp=Z,8.7nm,1.1s						
WR0	Warramunga Arr	20.30	159	P	P	20 28 36.9	-1.0
WR0				IAmb	IAmb	20 28 50.7	
	comp=Z,13nm,1.2s						
AS31	Alice Springs	23.56	164	P	P	20 29 11.4	-0.9
ASAR	Alice Springs	23.56	164	P	P	20 29 11.7	-0.7
	comp=Z,2.8nm,0.9s,baz=341,slow=11,SNR=17						
ASAR	Alice Springs	23.56	164	P	P	20 29 09.6	-2.7
JMZ	Minamidaito 2	26.99	9	P	P	20 29 40.9	-2.7
STKA	Stephens Creek	33.73	157	P	P	20 30 43.9	+0.7
	comp=Z,3.9nm,1.0s,baz=317,slow=9.0,SNR=4.6						
STKA	Stephens Creek	33.73	157	IAmb	IAmb	20 30 45.0	
	comp=Z,1.2nm,1.0s						
USRK	Ussuriysk Ar.	45.23	5	P	P	20 32 20.2	+1.5
SONM	Songino Array	51.79	343	P	P	20 33 10.2	+0.9
	comp=Z,0.6nm,0.8s,baz=165,slow=12,SNR=3.7						
SONM	Songino Array	51.79	343	P	P	20 33 09.8	+0.4
SONM				IAmb	IAmb	20 33 29.0	
	comp=Z,1.6nm,1.2s						
MK31	Makanchi Array	61.51	327	P	P	20 34 18.4	+0.1
MK31				IAmb	IAmb	20 34 30.2	
	comp=Z,1.4nm,1.0s						
MKAR	Makanchi Array	61.51	327	P	P	20 34 18.4	+0.1
	comp=Z,0.4nm,0.4s,baz=122,slow=6.8,SNR=7.5						
MAKZ	Makanchi	61.69	327	P	P	20 34 19.5	0.0
MAKZ				IAmb	IAmb	20 34 31.8	
	comp=Z,2.9nm,1.2s						
ILAR	Eielson Array	89.30	25	P	P	20 36 57.5	+0.2
	comp=Z,0.4nm,0.7s,baz=232,slow=4.4,SNR=3.1						

*RSNC **28** 20:40:17.3±1.0, 8°71N×77°64W, h72km±5km, ML3.4, Mw3.7, Fault plane solution: NP1:φs67.00000°, δ69.00000°, λ78.00000°.*
*UPA **28** 20:40:17.5±1.6, 8°75N×77°59W, h61km±11km, MW4.8*

ISC 28 20:40:16.7±1.2, **8°75N**±0°03×**77°60W**±0°02, **h69**km±10km, **n54**, σ1§**37**/91, **7C-4D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	Meteti	0.46	244	⇑iP	Pn	20 40 28.9	-0.1
UPD2				iS	Sn	20 40 38.1	0.0
UPD2	Meteti	0.46	244	⇑iP	Pn	20 40 28.9	-0.1
UPD2				eS	Sn	20 40 37.8	-0.3
UPD2				i		20 40 39.3	
	comp=Z,3μm,0.4s						
LCBC	Los crdobas,	1.22	85	eP	Pn	20 40 39.4	+1.5
LCBC				e		20 40 39.4	
LCBC				eS	Sn	20 40 56.2	+2.4
LCBC				i		20 41 00.1	
	comp=Z,838nm,0.6s						
CNTA3	Canitas, Panam	1.36	290	iP	Pn	20 40 39.8	+0.1
CNTA3				iS	Sn	20 40 57.3	+0.2
CHPO	Chepo, Panama	1.56	286	⇓iP	Pn	20 40 42.5	+0.2
CHPO				iS	Sn	20 41 01.4	-0.3
PTAC	Punta Ardita,	1.61	188	eP	Pn	20 40 42.6	-0.5
PTAC				eS	Sn	20 41 02.3	-0.8
PTAC				i		20 41 07.9	
	comp=Z,251nm,0.2s						
MIRA3	Miramar, Colon	1.90	296	eP	Pn	20 40 47.7	+0.7
MOTC	Monteria, Cord	1.91	89	⇑eP	Pn	20 40 47.5	+0.4
MOTC				eS	Sn	20 41 10.5	+0.3
MOTC				i		20 41 12.2	
	comp=Z,434nm,0.4s						
MONA	Monteria	1.91	89	⇑iP	Pn	20 40 47.6	+0.4
MONA				iS	Sn	20 41 10.1	-0.3
FLAM	Flamenco Islan	1.93	275	iP	Pn	20 40 47.1	-0.2
UPA	Univ. de Panam	1.93	277	iP	Pn	20 40 48.1	+0.7
UPA	Univ. de Panam	1.93	277	eP	Pn	20 40 47.2	-0.2
UPA				eS	Sn	20 41 10.5	-0.2
TABO3	Taboga, Panama	1.94	271	eP	Pn	20 40 46.5	-0.9
CORZ	Corozal	1.97	277	eP	Pn	20 40 50.1	+2.2
CHOR3	La Chorrera	2.15	274	eP	Pn	20 40 51.9	+1.6
FRIJ	El Hiral	2.15	283	eP	Pn	20 40 51.6	+1.2
DBBC	Dabeiba	2.20	141	⇓iP	Pn	20 40 51.7	+0.5
DBBC				eS	Sn	20 41 18.4	+0.9
DBBC				i		20 41 20.7	
	comp=Z,649nm,0.5s						
BCIP	Isla Barro Col	2.25	281	eP	Pn	20 40 51.8	+0.1
BCIP				eS	Sn	20 41 17.8	-0.8
BCIP				i		20 41 27.8	
	comp=Z,91nm,0.4s						
ZANG	Zanguenga, Cho	2.25	275	iP	Pn	20 40 52.6	+0.8
SABA3	Sabanitas, Col	2.26	285	eP	Pn	20 40 53.7	+1.9
SABA3				eS	Sn	20 41 18.7	0.0
UREC	San Jos de Ur	2.27	116	⇑iP	Pn	20 40 51.9	-0.1
UREC				eS	Sn	20 41 18.9	-0.2
UREC				i		20 41 20.9	
	comp=Z,193nm,0.2s						
MLIR	Monte Lirio	2.28	282	iP	Pn	20 40 53.3	+1.2
VTON	El Valle, Cocl	2.49	267	eP	Pn	20 40 55.9	+0.8
SOLC	Bahia Solano	2.52	176	eP	Pn	20 40 55.0	-0.3
SOLC				eS	Sn	20 41 23.9	-1.0
SOLC				i		20 41 40.4	
	comp=Z,58nm,0.5s						
SJCC	San Jacinto, C	2.64	64	⇑iP	Pn	20 40 58.2	+1.1
SJCC				iS	Sn	20 41 22.5	-5.7
SJCC	San Jacinto, C	2.64	64	eP	Pn	20 40 58.0	+0.9
SJCC				eS	Sn	20 41 27.8	-0.3
SJCC				i		20 41 31.6	
	comp=Z,139nm,0.3s						
AZU	Azuero	2.82	250	eP	Pn	20 41 00.4	+1.0
AZU	Azuero	2.82	250	eS	Sn	20 41 30.1	-2.2
AZU				i		20 41 34.8	
	comp=Z,162nm,0.4s						
ZARC	Zaragoza, Cauc	2.99	115	⇑eP	Pn	20 41 01.8	0.0
ZARC				eS	Sn	20 41 35.0	-1.4
ZARC				i		20 41 38.3	
	comp=Z,208nm,0.3s						
HELC	Santa Helena	3.27	141	⇓eP	Pn	20 41 06.1	+0.2
HELC	Santa Helena	3.27	141	eP	Pn	20 41 06.3	+0.4
HELC				eS	Sn	20 41 43.0	-0.9
CBOC	Ciudad Bolivar	3.27	151	eP	Pn	20 41 06.5	+0.7
CBOC				eS	Sn	20 41 44.1	+0.4
CBOC				i		20 41 48.9	
	comp=Z,38nm,0.5s						
ARGC	Ariguani, Magd	3.48	71	eP	Pn	20 41 09.9	+1.4
ARGC				eS	Sn	20 41 48.0	-0.7
ARGC				i		20 41 52.7	
	comp=Z,141nm,0.3s						
CACAO	El Cacao, Vera	3.52	247	eP	Pn	20 41 09.9	+0.9
GMAL	Guarumal, Vera	3.73	255	eP	Pn	20 41 13.4	+1.5
PLMC	San Jos del P	4.04	161	eP	Pn	20 41 15.2	-1.0
PLMC				eS	Sn	20 42 00.3	-2.0
PLMC				i		20 42 03.8	
	comp=Z,18nm,0.5s						
LL1C	La Loma 1 Cana	4.07	79	eP	Pn	20 41 18.5	+2.0
LL1C				eS	Sn	20 42 03.4	+0.5
SMRC	Santa Marta, M	4.09	54	eP	Pn	20 41 17.5	+0.6
SMRC				eS	Sn	20 42 01.1	-2.4
GUY2C	Guyana, Caldas	4.15	148	eP	Pn	20 41 19.7	+1.7
GUY2C				eS	Sn	20 42 04.9	-0.6
GUY2C				i		20 42 17.8	
	comp=Z,19nm,0.6s						
NORC	Norcasia	4.17	139	eP	Pn	20 41 18.7	+0.7
NORC				eS	Sn	20 42 05.4	0.0
NORC				i		20 42 09.2	
	comp=Z,31nm,0.5s						
BRRC	Barranca, Sant	4.18	113	eP	Pn	20 41 18.6	+0.6
BRRC				eS	Sn	20 42 05.2	-0.4
BRRC				i		20 42 08.5	
	comp=Z,49nm,0.5s						
LL2C	La Loma 2 Cana	4.18	79	eP	Pn	20 41 19.1	+1.1
LL2C				eS	Sn	20 42 04.6	-1.1
LL2C				i		20 42 07.9	
	comp=Z,168nm,0.2s						
OCAC	Ocana	4.26	97	eP	Pn	20 41 19.2	-0.1
OCAC				eS	Sn	20 42 06.6	-1.3
CVALL	Valledupar, Ce	4.62	67	eP	Pn	20 41 24.4	+0.3
CVALL				eS	Sn	20 42 13.3	-3.2
TOLC	Tolima	4.72	151	eP	Pn	20 41 29.5	+3.8
TOLC				eS	Sn	20 42 18.6	-0.7
TOLC				i		20 42 47.4	
	comp=Z,11nm,0.8s						
ANIL	Santa Ana	4.76	153	eP	Pn	20 41 28.8	+2.6
ANIL				eS	Sn	20 42 22.8	+2.4
BARC	Barichara	4.87	116	eP	Pn	20 41 27.7	0.0
BARC				eS	Sn	20 42 23.1	+0.1
BARC				i		20 42 30.2	
	comp=Z,41nm,0.4s						
YOTC	Yotoco, Valle	4.90	165	eP	Pn	20 41 27.3	-0.7
YOTC				eS	Sn	20 42 20.3	-3.1
BRU2	Volcan	5.04	271	eP	Pn	20 41 29.9	0.0
PAMC	Pamplona, Colo	5.05	106	⇓eP	Pn	20 41 30.8	+0.4
PAMC				eS	Sn	20 42 27.6	0.0
PAMC				i		20 42 36.1	
	comp=Z,38nm,0.4s						
RUSC	La Rusia	5.30	122	eP	Pn	20 41 33.9	+0.1
RUSC				eS	Sn	20 42 33.5	-0.3
RUSC				i		20 42 38.0	
	comp=Z,52nm,0.8s						
CHIC	Chingaza	5.61	137	eP	Pn	20 41 39.7	+1.7
CHIC				eS	Sn	20 42 41.5	+0.2
SOCV	Socops	6.68	93	eP	Pn	20 41 52.1	-0.2
SOCV				eS	Sn	20 43 04.1	-3.0
BBAC	Balboa, Cauca	6.70	177	eP	Pn	20 41 53.0	+0.4

*IDC **28** 20:44:03.5±0.9, 52°09N×169°41W, h0km, mb4.0/15, mb1 4.2/17, mb1mx3.9/54, mbtmp3.9/17, ML3.5/2, Error ellipse: s-maj=26.7km s-min=17.8km az=163.0*
*NEIC **28** 20:44:05.5±2.4, 52°01N±0°06×169°28W±0°04, h14km±6km, mb3.9/25, ML3.6/38(AEIC), Error ellipse: s-maj=9.4km s-min=1.2km az=160.0*
*AEIC **28** 20:44:07.2±2.7, 52°01N±0°05×169°27W±0°08, h38km±7km, Error ellipse: s-maj=9.9km s-min=2.9km az=140.0*

ISC 28 20:44:04.4±3.3, **52°01N**±0°10×**169°31W**±0°07, **h8**km±20km, **n92**, σ1§**33**/93, **mb4.1**/15, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.00	16		Pb	20 44 24.4	+0.3
NIKH	Nikolski High	1.00	16		Sn	20 44 38.9	-0.2
OKTU	Okmok Mt. Tuli	1.58	29		Pn	20 44 33.2	+0.4
OKCE	Okmok Cone E	1.58	26		Pn	20 44 33.2	+0.4
OKCE					Sn	20 44 53.5	+0.1
OKNC	Okmok New Cone	1.62	26		Pn	20 44 34.1	+0.7
OKFG	Magazine Ridge	1.64	31		Pn	20 44 34.0	+0.4
OKFG					Sn	20 44 54.6	-0.2
MAPS	Pakushin South	2.30	38		Pn

comp=Z,12nm,1.2s
MLY Manley 16.16 29 Pn 20 47 52.3 +0.5
MLY IAmb IAmb 20 48 09.9
comp=Z,5.3nm,1.0s
SUCK Suckling Hills 16.30 50 Pn Pn 20 47 54.3 +0.8
N25K Chitina, Valde 16.49 45 Pn Pn 20 47 55.1 -0.9
N25K IAmb IAmb 20 48 14.0
comp=Z,7.8nm,1.2s
WRH Wood River Hil 16.63 33 Pn Pn 20 47 57.0 -0.7
I23K Minto, Yukon-K 16.66 30 P Pn 20 47 59.2 +1.1
GLB Gilahina Butte 16.77 46 P Pn 20 47 57.9 -1.6
GLB IAmb IAmb 20 48 13.3
comp=Z,8.9nm,1.2s
CCB Clear Creek Bu 16.84 33 Pn 20 47 58.5 -1.8
MDM Murphy Dome 16.90 32 Pn 20 47 59.5 -1.6
ISLE Juniper Island 17.15 49 P Pn 20 48 04.8 +0.5
ISLE IAmb IAmb 20 48 29.9
comp=Z,10nm,1.0s
ILAR Eielson Array 17.23 34 P Pn 20 48 03.8 -1.4
comp=Z,0.1nm,0.3s,baz=218,slow=8.7,SNR=2.6
BARN Barnard Glacie 17.61 48 Pn 20 48 10.5 +0.4
SCRK Sand Creek 17.83 38 Pn 20 48 11.8 -1.0
HYT Haines Junctio 19.50 51 Pn 20 48 34.4 +1.3
HYT IAmb IAmb 20 48 50.0
comp=Z,10nm,1.0s
BMAR Burnt Mountain 19.63 29 P P 20 48 32.5 -0.6
PEA0B Petropavlovsk- 19.99 286 P P 20 48 36.8 -0.4
PETK Petropavlovsk- 19.99 286 P P 20 48 36.4 -0.8
comp=Z,1.5nm,0.3s,baz=85,slow=14,SNR=25
PETK PcP PcP 20 52 53.6 +0.6
comp=Z,0.4nm,0.3s,baz=3.6,slow=0.8,SNR=13
WHY Whitehorse 20.73 52 Pn 20 48 47.0 -0.6
WHY IAmb IAmb 20 48 51.4
comp=Z,8.1nm,0.8s
INK Inuvik 23.62 33 P P 20 49 15.7 +0.1
comp=Z,1.9nm,0.5s,baz=310,slow=15,SNR=4.0
INK Inuvik 23.62 33 P P 20 49 15.2 -0.3
INK IAmb IAmb 20 49 19.3
comp=Z,7.5nm,1.3s
H11N2 WAKE ISLAND Hy 37.20 219 T T 21 31 16.6
baz=24
H11N3 WAKE ISLAND Hy 37.20 219 T T 21 31 38.7
baz=24
H11N1 WAKE ISLAND Hy 37.22 219 T T 21 31 42.1
baz=24
H11S1 WAKE ISLAND Hy 38.38 218 T T 21 32 44.8
baz=23,slow=76,SNR=37
H11S2 WAKE ISLAND Hy 38.40 218 T T 21 32 46.9
baz=23,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 38.40 218 T T 21 32 45.0
baz=23,slow=76,SNR=18
PDAR Pinedale Array 40.44 79 P P 20 51 44.8 +1.3
comp=Z,1.0nm,0.8s,baz=316,slow=5.0,SNR=3.0
KSRS Korea Array 45.48 277 P P 20 52 24.3 +0.4
comp=Z,2.5nm,0.8s,baz=58,slow=7.1,SNR=10
SONM Songino Array 51.51 301 P P 20 53 10.8 +0.3
comp=Z,1.3nm,0.8s,baz=54,slow=7.5,SNR=9.2
TXAR Lajitas Array 52.72 89 P P 20 53 20.1 +0.4
comp=Z,0.3nm,0.5s,baz=305,slow=4.4,SNR=5.5
MKAR Makanchi Array 64.08 314 P P 20 54 37.0 -1.6
comp=Z,0.6nm,0.8s,baz=48,slow=3.9,SNR=6.7
FINES FINESS Array B 66.23 352 P P 20 54 51.8 -0.5
comp=Z,2.4nm,0.7s,baz=28,slow=8.6,SNR=9.8
NB2 NORSAR Subarra 67.30 360 P P 20 54 59.0 -0.2
comp=Z,1.0nm,0.8s,baz=1.2,slow=6.5
NOA NORSAR Array B 67.30 360 P P 20 54 58.8 -0.4
comp=Z,1.3nm,0.8s,baz=0.7,slow=6.3,SNR=7.3
AKASG Malin Array Be 76.46 348 P P 20 55 53.1 -1.2
comp=Z,1.5nm,0.7s,baz=15,slow=5.3,SNR=6.7
CMAR Chiang Mai Arr 76.73 283 P P 20 55 56.9 +0.5
comp=Z,1.2nm,0.7s,baz=25,slow=6.2,SNR=5.4
GERES GERESS Array B 79.49 358 P P 20 56 11.5 +0.2
comp=Z,0.2nm,0.5s,baz=26,slow=4.7,SNR=3.9
KBZ Khabaz 80.65 337 P P 20 56 18.6 +1.0
comp=Z,2.1nm,0.8s,baz=357,slow=1.7,SNR=6.0
WRA Warramunga Arr 86.81 232 P P 20 56 48.4 -0.9
comp=Z,1.0nm,0.8s,baz=31,slow=6.5,SNR=4.6
ESDC Sonseca Array 87.80 11 P P 20 56 54.3 +0.2
comp=Z,0.3nm,0.3s,baz=323,slow=2.0,SNR=3.6
ASAR Alice Springs 90.19 230 P P 20 57 04.9 -0.4
comp=Z,1.6nm,0.9s,baz=38,slow=5.6,SNR=9.7

*IDC **28** 20:49:11.6±0.8, 52°.16N×169°.42W, h0km, mb4.1/16, mb1 4.3/18, mb1mx4.1/53, mbtmp4.0/18, ML3.7/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/43, Error ellipse: s-maj=24.9km s-min=16.9km az=175.0*

*NEIC **28** 20:49:13.3±2.9, 52°.03N±0°.04×169°.28W±0°.08, h15km±5km, mb4.0/49, ML3.7/47(AEIC), Error ellipse: s-maj=7.0km s-min=5.3km az=113.0*

*AEIC **28** 20:49:16.0±2.9, 52°.10N±0°.06×169°.35W±0°.06, h37km±6km, Error ellipse: s-maj=9.5km s-min=3.8km az=154.0*

ISC 28 20:49:11.9±1.9, 52°.08N±0°.09×169°.26W±0°.06, h5km±10km, n149, σ1§29/139, mb4.2/25, MS3.3/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.93	15		Pn	20 49 32.5	+0.8
NIKH	Nikolski High	0.93	15		Sn	20 49 46.8	+1.3
OKTU	Okmok Mt. Tuli	1.51	29		Pg	20 49 41.3	+0.5
OKNC	Okmok New Cone	1.55	26		Pg	20 49 42.3	+0.7
OKFG	Magazine Ridge	1.57	31		Pg	20 49 42.1	+0.1
OKFG					Sg	20 50 03.1	+0.7
MAPS	Pakushin South	2.23	38		Pb	20 49 51.3	-1.4
MAPS					Sb	20 50 19.4	-1.3
MGOD	Makushin Gods	2.25	39		Pb	20 49 51.6	-1.5
MGOD					Sb	20 50 19.8	-1.5
MSW	Makushin Switc	2.38	38		Pb	20 49 53.8	-1.4
MNAT	Makushin Natee	2.39	40		Pb	20 49 53.9	-1.6
MNAT					Sb	20 50 23.3	-1.9
UNV	Unalaska Valle	2.44	42		Pn	20 49 54.0	+1.6
UNV					Sn	20 50 23.3	+0.8
MTBL	Makushin Table	2.46	38		Pb	20 49 55.4	-1.2
AKMO	Akutan Morgan	2.82	43		Pb	20 50 00.4	-2.3
AKBBA	Akutan Broad B	2.85	43		Pb	20 50 00.8	-2.6
AKLV	Akutan Long Va	2.89	42		Pb	20 50 01.5	-2.5
AKGG	Akutan Green G	2.90	42		Pb	20 50 02.0	-2.1
AKUT	Akutan	2.95	44	Pn	Pn	20 50 01.6	+2.3
KOFP	Korovin Flat P	2.98	276		Pn	20 50 01.5	+1.6
ATKA	Atka Island	3.04	274	Pn	Pn	20 50 01.2	+0.5
ATKA	Atka Island	3.04	274		Sn	20 50 36.4	-1.0
KOKL	Mount Kliuchef	3.05	277		Pn	20 50 02.9	+2.1
GSTR	Great Sitkin T	4.19	273		Pn	20 50 17.7	+1.2
GSMY	Great Sitkin M	4.19	272		Pn	20 50 17.6	+1.1
GSTD	Great Sitkin T	4.25	272		Pn	20 50 18.5	+1.2
ISLZ	Isanotski Laza	4.25	49		Pn	20 50 20.4	+3.0
FALS	False Pass	4.47	49	Pn	Pn	20 50 20.3	+0.1
ADK	Adak	4.59	271		Pn	20 50 22.9	+1.0
KIWB	Kanaga Island	4.88	271		Pn	20 50 26.7	+0.7
KIKV	Kanaga Island	4.89	271		Pn	20 50 27.5	+1.4
KIMD	Kanaga Island	4.94	270		Pn	20 50 28.0	+1.2
SPIA	Saint Paul Isl	5.14	354	Pn	Pn	20 50 32.8	+3.3
TASE	Tanaga Southea	5.43	271		Pn	20 50 35.4	+1.8
GAEA	Gareloi East	5.88	271		Pn	20 50 42.2	+2.6
GALAA	Gareloi Lava P	5.89	271		Pn	20 50 42.4	+2.5
SDPT	Sand Point	6.16	54	Pn	Pn	20 50 46.2	+2.7
CNBA	Chernabura Isl	6.40	61	Pn	Pn	20 50 47.9	+1.1
CERAA	Semis' Rag'd T	6.83	273		Pn	20 50 54.9	+2.3
CESW	Semis' Southwe	6.90	273		Pn	20 50 55.8	+2.1
AMKA	Amchitka	7.14	269	Pn	Pn	20 50 57.8	+0.9
AMKA				Sn	Sn	20 52 14.7	-3.7
LSPA	Little Sitkin	7.51	274		Pn	20 51 04.6	+2.6
CHIR	Chirikof Islan	8.88	60	Pn	Pn	20 51 20.7	0.0
SII	Sitkinak Islan	9.88	57	Pn	Pn	20 51 36.2	+1.7
OHAK	Old Harbor	10.59	55	Pn	Pn	20 51 44.4	+0.2
KDAK	Kodiak Island	11.16	53	Pn	Pn	20 51 52.2	+0.3
	1.0nm,0.3s,baz=267,slow=8.0,SNR=11						
KDAK	Kodiak Island	11.16	53	Pn	Pn	20 51 51.6	-0.3
SVW2	Sparrevohn	11.75	34	Pn	Pn	20 52 01.6	+1.5
HOM	Homer	12.44	45	Pn	Pn	20 52 08.9	-0.6
CNPM	China Poot	12.56	46	Pn	Pn	20 52 10.1	-1.0
BRLK	Bradley Lake	12.83	46	Pn	Pn	20 52 15.8	+1.0
SEW	Seward	13.63	46	Pn	Pn	20 52 26.6	+0.9
SUA	Susitna One	13.79	40	Pn	Pn	20 52 30.1	+2.1
PPLA	Purkeypile	14.15	33	P	P	20 52 39.6	-1.1
PWL	Port Wells	14.47	44	Pn	Pn	20 52 36.7	-0.5
SML	Sawmill	14.94	41	Pn	Pn	20 52 42.7	-0.9
KTH	Kantishna Hill	15.02	33	Pn	Pn	20 52 41.5	-3.1
KTH				IAmb	IAmb	20 53 09.4	
	comp=Z,6.2nm,0.9s						
GLI	Glacier Island	15.02	45	Pn	Pn	20 52 43.3	-1.3
GLI				IAmb	IAmb	20 53 08.1	
	comp=Z,4.9nm,0.8s						
HIN	Hinchinbrook I	15.08	48		Pn	20 52 44.4	-1.1
FID	Port Fidalgo	15.24	46	Pn	Pn	20 52 45.4	-2.1
FID				IAmb	IAmb	20 53 11.4	
	comp=Z,7.8nm,0.8s						
BPAW	Bear Paw Mtn.	15.37	31		P	20 52 52.6	-1.4
BPAW				IAmb	IAmb	20 52 55.6	
	comp=Z,7.1nm,0.8s						
SCM	Sheep Creek Mo	15.37	42		Pn	20 52 48.3	-1.0
SCM				IAmb	IAmb	20 53 10.7	
	comp=Z,10.0nm,0.9s						
RND	Reindeer	15.64	36	Pn	Pn	20 52 53.4	+0.5
RND				IAmb	IAmb	20 53 21.2	
	comp=Z,6.8nm,1.0s						
KLU	Klutina	15.80	44		Pn	20 52 53.9	-1.0
KAIM	Kayak Island	15.89	51	Pn	Pn	20 52 56.0	0.0
KAIM				IAmb	IAmb	20 53 22.0	
	comp=Z,18nm,1.0s						
RAGM	Ragged Mountai	15.92	49	Pn	Pn	20 52 56.4	-0.1
RAGM				IAmb	IAmb	20 53 32.8	
	comp=Z,7.5nm,0.8s						
M24K	Tolsona, Glenn	15.98	42		Pn	20 52 57.4	+0.2
M24K				IAmb	IAmb	20 53 27.4	
	comp=Z,17nm,1.1s						
MLY	Manley	16.09	29		P	20 53 01.2	-0.9
HMT	Hamilton	16.10	49		Pn	20 52 58.9	+0.2
HMT				IAmb	IAmb	20 53 16.4	
	comp=Z,11nm,1.0s						
BMRM	Bremner River	16.17	47		Pn	20 52 58.8	-0.9
BMRM				IAmb	IAmb	20 53 20.4	
	comp=Z,11nm,1.0s						
SUCK	Suckling Hills	16.24	50	Pn	Pn	20 52 59.6	-0.9
N25K	Chitina, Valde	16.42	45	Pn	Pn	20 53 01.9	-1.1
N25K				IAmb	IAmb	20 53 17.3	
	comp=Z,5.4nm,0.7s						
WRH	Wood River Hil	16.57	33		Pn	20 53 05.5	+0.8
I23K	Minto, Yukon-K	16.60	30	P	P	20 53 07.8	+0.2
GLB	Gilahina Butte	16.70	46	P	Pn	20 53 06.2	-0.3
CRQM	Cirque	16.76	49	P	Pn	20 53 07.7	+0.3
CRQM				IAmb	IAmb	20 53 44.1	
	comp=Z,13nm,1.2s						
CCB	Clear Creek Bu	16.77	33	P	Pn	20 53 07.1	-0.2
WAX	Waxell Ridge	16.80	50	P	Pn	20 53 08.4	+0.8
MDM	Murphy Dome	16.83	32	P	Pn	20 53 08.2	+0.1
TGL	Tana Glacier	16.90	49	P	Pn	20 53 08.1	-1.0
TGL				IAmb	IAmb	20 53 23.2	
	comp=Z,12nm,0.7s						
MCARA	McCarthy VSAT	17.03	47	P	Pn	20 53 09.3	-1.3
MCARA				IAmb	IAmb	20 53 46.1	
	comp=Z,9.2nm,0.8s						
ISLE	Juniper Island	17.08	50	P	Pn	20 53 11.5	+0.1
ILAR	Eielson Array	17.16	34	P	Pn	20 53 12.0	-0.2
	comp=Z,0.1nm,0.3s,baz=226,slow=9.7,SNR=5.4						
ILAR	Eielson Array	17.16	34	P	Pn	20 53 12.1	-0.2
YAH	Yahtse	17.29	51	P	P	20 53 15.3	-0.3
YAH				IAmb	IAmb	20 53 36.3	
	comp=Z,19nm,0.8s						
RIDG	Independent Ri	17.32	38	P	Pn	20 53 13.9	-0.3
BARN	Barnard Glacie	17.54	48		Pn	20 53 17.6	+0.4
BARN				IAmb	IAmb	20 53 32.4	
	comp=Z,6.0nm,0.6s						
DOT	Dot Lake	17.57	39	P	Pn	20 53 17.4	0.0
TABL	Table Mountain	17.60	51	P	P	20 53 18.5	-0.5
TABL				IAmb	IAmb	20 53 43.0	
	comp=Z,14nm,0.8s						
CTGM	Chitina Glacie	17.66	49	P	Pn	20 53 17.7	-0.9
CTGM				IAmb	IAmb	20 53 39.1	
	comp=Z,7.0nm,0.8s						
SCRK	Sand Creek	17.77	38		Pn	20 53 20.0	+0.1
COLD	Coldfoot	17.86	24	P	P	20 53 22.2	+0.6
PCA	Pinnacle	17.94	52	P	P	20 53 23.9	+1.3
FYU	Fort Yukon	18.81	30	P	P	20 53 32.0	0.0
FYU				IAmb	IAmb	20 54 09.6	
	comp=Z,15nm,1.4s						
TOLK	Toolik Lake Re	19.09	22	P	Pn	20 53 36.2	+0.2
EGAK	Eagle	19.23	38	P	Pn	20 53 37.3	-0.3
HYT	Haines Junctio	19.44	51	P	Pn	20 53 39.8	-0.4
HYT				IAmb	IAmb	20 54 00.3	
	comp=Z,11nm,0.7s						
BMAR	Burnt Mountain	19.56	29	P	Pn	20 53 41.0	-0.5
PEA0B	Petropavlovsk-	20.00	286	P	P	20 53 45.1	0.0
PETK	Petropavlovsk-	20.00	286	P	P	20 53 44.5	-0.7
	comp=Z,2.6nm,0.3s,baz=87,slow=13,SNR=68						
WHY	Whitehorse	20.67	52		Pn	20 53 53.8	-1.0
EPYK	Eagle Plains	21.60	36	P	P	20 54 01.7	-0.6
EPYK				IAmb	IAmb	20 54 25.3	
	comp=Z,10.0nm,0.9s						
DLBC	Dease Lake	22.98	58	LR	LR	21 02 30.9	
	comp=Z,111nm,20.4s,baz=271,slow=35						
MA2	Magadan	23.36	304	LR	LR	21 02 54.4	
	comp=Z,75nm,19.2s,baz=114,slow=35						
MA2	Magadan	23.36	304	P	P	20 54 20.4	-0.5
INK	Inuvik	23.56	33	LR	LR	21 03 43.4	
	comp=Z,85nm,18.4s,baz=242,slow=37						
INK	Inuvik	23.56	33	P	P	20 54 21.7	-1.1
INK				IAmb	IAmb	20 54 59.0	
	comp=Z,9.2nm,1.4s						
BBB	Bella Bella	25.02	73	LR	LR	21 03 51.3	
	comp=Z,101nm,18.3s,baz=234,slow=35						
YKA	Yellowknife Ar	30.39	48	LR	LR	21 09 55.4	
	comp=Z,112nm,20.7s,baz=0.0,slow=41						
H11N2	WAKE ISLAND Hy	37.26	219	T	T	21 37 39.0	
	baz=24,slow=75,SNR=3.9						
H11N3	WAKE ISLAND Hy	37.27	219	T	T	21 37 20.7	
	baz=24,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	37.28	219	T	T	21 37 26.6	
	baz=24,slow=75,SNR=5.2						
MDPB	Devils Postpil	37.61	92		P	20 56 26.5	-1.2
H11S1	WAKE ISLAND Hy	38.45	218	T	T	21 37 50.2	
	baz=23,slow=76,SNR=62						
H11S2	WAKE ISLAND Hy	38.46	218	T	T	21 37 56.8	
	baz=23,slow=76,SNR=21						
H11S3	WAKE ISLAND Hy	38.47	218	T	T	21 37 51.5	
	baz=23,slow=76,SNR=25						
MJAR	Matsushiro Arr	39.75	268	LR	LR	21 12 48.8	
	comp=Z,41nm,20.8s,baz=70,slow=36						
PDAR	Pinedale Array	40.40	79	P	P	20 56 52.6	+1.7
	comp=Z,1.1nm,0.7s,baz=309,slow=5.2,SNR=11						
PDAR				LR	LR	21 12 27.9	
	comp=Z,65nm,19.7s,baz=285,slow=34						
PDAR	Pinedale Array	40.40	79	P	P	20 56 51.6	+0.7
KSRS	Korea Array	45.50	277	P	P	20 57 32.3	+0.3
	comp=Z,2.6nm,0.6s,baz=54,slow=7.9,SNR=14						
SUMG	Summit	51.04	17	*i* P	P	20 58 15.6	+0.7
SUMG	Summit	51.04	17	P	P	20 58 14.5	-0.4
SONM	Songino Array	51.51	301	P	P	20 58 18.6	+0.3
	comp=Z,1.6nm,0.7s,baz=54,slow=8.1,SNR=12						
SONM	Songino Array	51.51	301	IAmb	IAmb	20 58 19.1	
	comp=Z,3.1nm,1.1s						
TXAR	Lajitas Array	52.69	89	P	P	20 58 28.6	+1.2
	comp=Z,1.5nm,0.7s,baz=297,slow=5.4,SNR=16						
HHC	Hu-ho-hao-te	53.09	291	*e*P	P	20 58 31.0	+0.8
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,8.6s						
ZALV	Zalesovo Beam	57.68	318	P	P	20 59 02.1	-0.8
	comp=Z,1.0nm,0.5s,baz=86,slow=4.3,SNR=5.4						
ARCES	ARCESS Array B	58.22	354	P	P	20 59 06.2	-0.4
	comp=Z,1.3nm,0.7s,baz=22,slow=6.8,SNR=5.3						
XAN	Xi'an	59.24	287	P	P	20 59 13.8	-0.4
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				pmax	pmax		
	comp=Z,95nm,4.1s						
GTA	Gaotai	60.67	297	*e*P	P	20 59 23.5	-0.5
GTA				pP	pwP	20 59 28.0	-1.8
GTA				sP	sP	20 59 31.0	+6.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMQ	Urumqi	63.76	308	*e*P	P	20 59 46.0	+1.4
MKAR	Makanchi Array	64.06	314	P	P	20 59 45.9	-0.5
	comp=Z,0.4nm,0.4s,baz=54,slow=6.5,SNR=18						
FINES	FINESS Array B	66.17	352	P	P	20 59 59.5	-0.3
	comp=Z,2.6nm,0.6s,baz=20,slow=7.6,SNR=19						
NB2	NORSAR Subarra	67.23	360	P	P	21 00 07.0	+0.2
	comp=Z,1.1nm,0.7s,baz=360,slow=6.5						
NOA	NORSAR Array B	67.23	360	P	P	21 00 06.1	-0.6
	comp=Z,1.8nm,0.8s,baz=0.1,slow=6.2,SNR=8.6						
AKASG	Malin Array Be	76.41	348	P	P	21 01 00.8	-1.2
	comp=Z,1.6nm,0.5s,baz=16,slow=6.0,SNR=7.5						
AKASG	Malin Array Be	76.41	348	IAmb	IAmb	21 01 09.2	
	comp=Z,1.3nm,1.2s						
CMAR	Chiang Mai Arr	76.75	283	P	P	21 01 04.7	+0.4
	comp=Z,1.6nm,0.9s,baz=20,slow=5.7,SNR=8.1						
CMAR	Chiang Mai Arr	76.75	283	P	P	21 01 04.5	+0.1
DPC	Dobruska-Polom	77.84	356	*e*P	P	21 01 11.4	+1.3
KRLC	Kraliky	78.10	356	*e*P	P	21 01 11.3	-0.2
KHC	Kasperske Hory	79.14	358	*e*P	P	21 01 18.8	+1.5
GERES	GERESS Array B	79.43	358	P	P	21 01 19.8	+0.9
	comp=Z,0.5nm,0.7s,baz=354,slow=11,SNR=4.1						
CKRC	Cesky Krumlov	79.44	358	*e*P	P	21 01 30.9	+12
CONA	Conrad Observa	80.28	357	*e*P	P	21 01 24.8	+1.2
	comp=Z,3.6nm,1.3s						
KBZ	Khabaz	80.61	337	P	P	21 01 25.9	+0.7
	comp=Z,2.3nm,0.8s,baz=50,slow=4.9,SNR=6.2						
MOTA	Moosalm	80.96	360	*e*P	P	21 01 27.9	+0.7
	comp=Z,5.3nm,1.3s						
FETA	Feichten	81.28	0	*e*P	P	21 01 26.5	-2.6
	comp=Z,6.6nm,1.7s						
SOKA	Soboth	81.56	357	P	P	21 01 31.3	+0.9
	comp=Z,7.6nm,1.5s						
WRA	Warramunga Arr	86.87	232	P	P	21 01 56.7	-0.8
	comp=Z,1.1nm,0.8s,baz=36,slow=6.1,SNR=5.8						
ESDC	Sonseca Array	87.73	11	P	P	21 02 01.7	0.0
	comp=Z,0.5nm,0.7s,baz=326,slow=4.3,SNR=3.0						
ASAR	Alice Springs	90.25	230	P	P	21 02 13.5	0.0
	comp=Z,2.5nm,0.9s,baz=27,slow=4.9,SNR=11						

*NEIC **28** 21:21:07.6±1.0, 52°.09N±0°.09×169°.40W±0°.04, h25km±13km, Error ellipse: s-maj=12.8km s-min=3.2km az=185.0*

AEIC 28 21:21:08.0±1.5, 52°.10N±0°.07×169°.28W±0°.07, h37km±9km, ML4.2/16, mb3.9/3(NEIC), Error ellipse: s-maj=10.3km s-min=6.6km az=176.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.91	17	Pn	Pn	21 21 24.6	+0.3
NIKH	Nikolski High	0.91	17		Sn	21 21 38.5	+2.3
OKTU	Okmok Mt. Tuli	1.49	30		Pn	21 21 33.1	+0.9
OKNC	Okmok New Cone	1.53	27		Pn	21 21 33.9	+1.1
OKER	Okmok East Rim	1.55	28		Pn	21 21 33.8	+0.7
OKFG	Magazine Ridge	1.55	32		Pn	21 21 34.5	+1.4
OKFG					Sn	21 21 55.0	+3.0
MAPS	Pakushin South	2.22	39		Pn	21 21 43.0	+0.8
MGOD	Makushin Gods	2.24	40		Pn	21 21 43.4	+0.9
MSW	Makushin Switc	2.36	39		Pn	21 21 45.3	+1.1
MNAT	Makushin Natee	2.38	40		Pn	21 21 45.6	+1.2
AKUT	Akutan	2.94	45	Pn	Pn	21 21 53.3	+1.3
ATKA	Atka Island	3.03 274			Pn	21 21 53.0	-0.3
GSTR	Great Sitkin T	4.18 273		Pn	Pn	21 22 09.5	+0.4
ADK	Adak	4.58 270		Pn	Pn	21 22 14.6	0.0
KIWB	Kanaga Island	4.87 270		Pn	Pn	21 22 18.8	+0.2
SPIA	Saint Paul Isl	5.12 354		Pn	Pn	21 22 24.8	+2.8
CNBA	Chernabura Isl	6.40 61		Pn	Pn	21 22 40.9	+1.3
AMKA	Amchitka	7.13 269		Pn	Pn	21 22 50.0	+0.4
HYT	Haines Junctio	19.43 51		P	P	21 25 31.7	+0.7
HYT				IAmb	IAmb	21 25 41.7	
	comp=Z,2.1nm,0.9s						
PEA0B	Petropavlovsk-	19.98 286		P	P	21 25 36.8	-0.2
PEA0B				IAmb	IAmb	21 25 49.5	
	comp=Z,7.0nm,1.1s						
PETK	Petropavlovsk-	19.98 286		P	P	21 25 36.8	-0.2
INK	Inuvik	23.54 33		P	P	21 26 16.1	+1.7
INK				IAmb	IAmb	21 26 17.9	
	comp=Z,8.6nm,1.4s						

*BJI **28** 21:21:30.2±0.0, 52°.51N×169°.40W, h3km, mB5.4/63, mb5.2/82, Ms5.5/86, Ms7 5.3/79*

*AEIC **28** 21:21:32.6±3.1, 51°.92N±0°.05×169°.28W±0°.08, h8km±3km, Error ellipse: s-maj=7.8km s-min=6.7km az=141.0*

*MOS **28** 21:21:33.4±1.0, 52°.17N×169°.50W, h20km, mb5.6/53, MS5.0/82, Error ellipse: s-maj=6.2km s-min=4.2km az=98.9*

*IDC **28** 21:21:34.2±3.2, 52°.19N×169°.53W, h16km±19km, mb4.8/36, mb1 5.0/37, mb1mx4.8/61, mbtmp4.9/37, ML4.5/1, MS5.0/31, Ms1 5.0/31, ms1mx4.9/43, Error ellipse: s-maj=16.5km s-min=9.2km az=176.0*

*NEIC **28** 21:21:35.5±1.8, 52°.21N±0°.07×169°.47W±0°.09, h20km±1km, mb5.4/331, Ms_20 5.2/267, Mwb5.3/67, ML4.8/52(AEIC), Error ellipse: s-maj=13.3km s-min=7.5km az=153.0*

*NEIC **28** 21:21:35.2, 52°.15N×169°.49W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.80; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-0.39; $M_{r\theta}$0.51; $M_{\theta\phi}$-0.70; $M_{\phi r}$0.42; Fault plane solution: $M_0$1.19000×10^{17} NP1:ϕ_s219.07000°, δ27.91000°, λ80.39000°. NP2:ϕ_s49.91000°, δ62.52000°, λ95.05000°. Principal axes: T 1.0107, Plg72.0000°, Azm332.0000°; N 0.2951, Plg4.0000°, Azm228.0000°; P -1.3058, Plg17.0000°, Azm136.0000°;*

*GCMT **28** 21:21:38.5±0.1, 52°.03N±0°.01×169°.31W±0°.01, h18km, MW5.4/150, Moment Tensor Solution. s128,c237; s150,c298; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.41±.02; $M_{\theta\theta}$-0.79±.02; $M_{\phi\phi}$-0.61±.02; $M_{r\theta}$0.96±.04; $M_{\theta\phi}$-0.76±.01; $M_{\phi r}$0.59±.04; Best double couple: $M_0$1.83000×10^{17} NP1:ϕ_s221.00000°, δ26.00000°, λ78.00000°. NP2:ϕ_s55.00000°, δ64.00000°, λ96.00000°. Principal axes: T 1.8100, Plg70.0000°, Azm337.0000°; N 0.0450, Plg5.0000°, Azm232.0000°; P -1.8500, Plg19.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **28** 21:21:49.4±0.0, 53°.72N×169°.54W, h42km, mb5.5, Ms4.9*

**ISC 28 21:21:33.9±0.4, 52°.07N±0°.04×169°.43W±0°.03, h12km±1km, h12km:pP-P, n1454, σ1§83/1460, mb5.4/355, MS5.1/229, 135C-123D, Fault plane solution: NP1:ϕ_s87.58007°, δ73.58514°, λ115.89820°. NP2:ϕ_s

GALAA	Gareloi Lava P	5.79	271		Pn	21 23 00.1	+0.5
SDPT	Sand Point	6.25	55	P	Pn	21 23 05.8	-0.1
	baz=240,SNR=14						
SDPT	Sand Point	6.25	55		Pn	21 23 05.2	-0.6
CNBA	Chernabura Isl	6.50	61		Pn	21 23 07.9	-1.3
CHNA	Chernabura Isl	6.50	61	P	Pn	21 23 08.4	-0.8
	baz=247,SNR=24						
CESW	Semis' Southwe	6.80	273		Pn	21 23 14.2	+0.8
AMKA	Amchitka	7.04	269		Pn	21 23 16.6	0.0
LSPA	Little Sitkin	7.41	274		Pn	21 23 24.3	+2.6
LSNW	Little Sitkin	7.44	274		Pn	21 23 24.6	+2.4
CHIR	Chirikof Islan	8.97	60	P	Pn	21 23 42.7	-0.4
	baz=250						
CHIR	Chirikof Islan	8.97	60		Pn	21 23 42.0	-1.2
SII	Sitkinak Islan	9.97	57	P	Pn	21 23 56.4	-0.5
	baz=248,SNR=6.4						
SII	Sitkinak Islan	9.97	57		Pn	21 23 55.8	-1.1
SMY	Shemya	10.09	280	P	Pn	21 23 59.4	+0.9
SMY	Shemya	10.09	280		Pn	21 23 59.4	+0.9
OHAK	Old Harbor	10.68	55	P	Pn	21 24 05.1	-1.3
	baz=247,SNR=10						
OHAK	Old Harbor	10.68	55		Pn	21 24 04.3	-2.1
KDAK	Kodiak Island	11.24	53	Pn	Pn	21 24 11.9	-2.4
	5.0nm,0.3s,baz=271,slow=9.0,SNR=29						
KDAK	Kodiak Island	11.24	53	P	Pn	21 24 11.6	-2.6
KDAK	Kodiak Island	11.24	53	P	Pn	21 24 12.7	-1.5
	baz=246						
KDAK	Kodiak Island	11.24	53		Pn	21 24 11.6	-2.6
N18K	Kilae Creek	11.42	36	P	Pn	21 24 16.6	0.0
	baz=226						
GAMB	Gambell	11.80	355	P	Pn	21 24 21.6	-0.2
	baz=173						
GAMB	Gambell	11.80	355	Pn	Pn	21 24 22.5	+0.6
SVW2	Sparrevohn	11.81	35		Pn	21 24 23.6	+1.5
P19K	Oil Pt	11.83	44	P	Pn	21 24 22.6	+0.3
	baz=236						
N19K	Bonanza Creek	12.02	37	P	Pn	21 24 24.6	-0.3
	baz=229,SNR=6.9						
O20K	Slope Mountain	12.32	43	P	Pn	21 24 29.5	+0.5
	baz=236						
RSO	Redoubt South	12.48	41		Pn	21 24 31.4	0.0
CNPM	China Poot	12.64	47		Pn	21 24 31.9	-1.5
ANM	Nome	12.71	8	P	Pn	21 24 35.3	+1.0
ANM	Nome	12.71	8	P	Pn	21 24 33.6	-0.7
	baz=191						
ANM	Nome	12.71	8	Pn	Pn	21 24 35.3	+1.0
L19K	White Mountain	12.83	32	P	Pn	21 24 35.3	-0.6
	baz=224,SNR=36						
BRLK	Bradley Lake	12.91	46		Pn	21 24 37.2	+0.1
BRSE	Bradley Lake S	12.96	46	P	Pn	21 24 37.8	0.0
	baz=241,SNR=11						
TTA	Tatalina	13.03	28	P	Pn	21 24 39.2	+0.6
	baz=219						
SPCR	Spurr Chakacha	13.13	39	P	Pn	21 24 41.3	+1.2
	baz=233,SNR=6.6						
CAPN	Captain Cook N	13.31	42	P	Pn	21 24 43.1	+0.7
	baz=236						
TNA	Tin City	13.56	3	P	Pn	21 24 44.8	-1.0
	baz=184						
TNA	Tin City	13.56	3	Pn	Pn	21 24 46.0	+0.2
SEW	Seward	13.71	46	P	Pn	21 24 45.9	-2.0
	baz=242,SNR=14						
SEW	Seward	13.71	46		Pn	21 24 45.8	-2.0
O22K	Cooper Landing	13.77	45	P	Pn	21 24 47.5	-1.2
	baz=240,SNR=29						
O22K	Cooper Landing	13.77	45		Pn	21 24 47.6	-1.0
SUA	Susitna One	13.86	40	P	Pn	21 24 49.3	-0.8
	baz=235,SNR=30						
SKT	Skwentna	13.86	37	P	Pn	21 24 49.9	-0.1
	baz=232,SNR=9.0						
SKT	Skwentna	13.86	37		Pn	21 24 50.9	+0.9
K20K	Telida	13.93	30	P	Pn	21 24 49.8	-1.1
	baz=222,SNR=24						
RC01	Rabbit Creek A	14.07	42	P	Pn	21 24 52.0	-0.8
	baz=238,SNR=17						
RC01	Rabbit Creek A	14.07	42		Pn	21 24 51.0	-1.7
PPLA	Purkeypile	14.21	34	P	Pn	21 24 53.5	-1.4
	baz=228,SNR=9.7						
J20K	Nowinta River	14.52	27	P	Pn	21 24 59.1	+0.1
	baz=220,SNR=48						
PMR	Palmer	14.58	41	P	Pn	21 24 59.1	-0.7
	baz=238						
CUT	Chulitna	14.59	37	P	Pn	21 24 59.5	-0.5
	baz=233						
CUT	Chulitna	14.59	37		Pn	21 25 00.5	+0.6
GHO	Glory Hole Cre	14.76	41		Pn	21 25 01.6	-0.7
KNK	Knik Glacier	14.77	42	P	Pn	21 25 01.1	-1.2
	baz=239						
KNK	Knik Glacier	14.77	42		Pn	21 25 00.2	-2.1
CHUM	Lake Minchumin	14.85	31	P	Pn	21 25 03.6	+0.1
	baz=224,SNR=15						
Q23K	Middleton Isla	14.88	51		Pn	21 25 02.8	-1.1
MID	Middleton Isla	14.89	51	P	Pn	21 25 01.9	-2.1
MID	Middleton Isla	14.89	51	Pn	Pn	21 25 01.9	-2.1
SML	Sawmill	15.02	41	P	Pn	21 25 05.0	-0.7
	baz=238,SNR=7.0						
KTH	Kantishna Hill	15.08	33	Pn	Pn	21 25 06.8	+0.1
GLI	Glacier Island	15.10	46	P	Pn	21 25 04.3	-2.5
	baz=244,SNR=10						
TRF	Thorofare Moun	15.23	34	P	Pn	21 25 09.2	+0.5
	baz=230						
TRF	Thorofare Moun	15.23	34	Pn	Pn	21 25 09.3	+0.6
BPAW	Bear Paw Mtn.	15.43	31	P	Pn	21 25 11.3	+0.1
	baz=227,SNR=77						
BPAW	Bear Paw Mtn.	15.43	31		Pn	21 25 10.7	-0.5
BPAW				IAmb	IAmb	21 25 38.8	
	comp=Z,165nm,1.2s						
WAT1	Susitna Watana	15.49	38	P	Pn	21 25 11.6	-0.3
	baz=235						
EYAK	Cordova Ski Ar	15.57	48	P	Pn	21 25 11.4	-1.5
	baz=247,SNR=5.7						
EYAK	Cordova Ski Ar	15.57	48	Pn	Pn	21 25 11.9	-1.0
WAT6	Susitna Watana	15.66	39	P	Pn	21 25 12.7	-1.6
	baz=237,SNR=15						
RND	Reindeer	15.71	36	P	Pn	21 25 14.8	-0.1
RND				pmax	pmax		
	comp=Z,87nm,1.2s						
RND	Reindeer	15.71	36		Pn	21 25 14.8	-0.1
KLU	Klutina	15.88	44	P	Pn	21 25 13.7	-3.4
	baz=244,SNR=124						
MCK	McKinley	15.88	35	P	Pn	21 25 15.7	-1.3
	baz=232						
I21K	Tanana	15.89	28	P	Pn	21 25 18.7	+1.5
	baz=222,SNR=50						
KAIM	Kayak Island	15.97	51	P	Pn	21 25 17.2	-1.0
	baz=251						
KAIM	Kayak Island	15.97	51	Pn	Pn	21 25 17.0	-1.1
BWN	Browne	15.98	33		Pn	21 25 18.2	0.0
BWN				IAmb	IAmb	21 25 33.6	
	comp=Z,376nm,1.6s						
IMAR	Indian Mountai	16.04	24		Pn	21 25 18.3	-0.8
M24K	Tolsona, Glenn	16.05	42	P	Pn	21 25 16.6	-2.7
	baz=241,SNR=30						
MLY	Manley	16.15	29	P	Pn	21 25 21.7	+1.2
	baz=225,SNR=102						
MLY	Manley	16.15	29	P	Pn	21 25 21.3	+0.8
BMRM	Bremner River	16.25	47	P	Pn	21 25 19.0	-2.7
	baz=247,SNR=12						
BMRM	Bremner River	16.25	47		Pn	21 25 19.3	-2.5
SUCK	Suckling Hills	16.32	51		Pn	21 25 21.6	-1.1
RDOG	Red Dog Mine	16.35	9	P	Pn	21 25 22.5	-0.5
	baz=194						
NEA2	Nenana	16.38	32	P	Pn	21 25 22.3	-1.1
	baz=229,SNR=6.6						
NEA2	Nenana	16.38	32		Pn	21 25 22.6	-0.8
N25K	Chitina, Valde	16.50	45	P	Pn	21 25 22.2	-2.8
	baz=245,SNR=65						
HARP	HAARP	16.61	42	P	Pn	21 25 24.7	-1.7
	baz=242,SNR=11						
WRH	Wood River Hil	16.63	33		Pn	21 25 25.0	-1.6
I23K	Minto, Yukon-K	16.66	30	P	Pn	21 25 27.4	+0.6
	baz=227,SNR=36						
PAX	Paxson	16.76	40	P	Pn	21 25 26.9	-1.4
PAX				pmax	pmax		
	comp=Z,64nm,1.2s						
PAX	Paxson	16.76	40	P	Pn	21 25 29.2	+0.9
	baz=240,SNR=8.9						
PAX	Paxson	16.76	40		Pn	21 25 26.9	-1.4
GLB	Gilahina Butte	16.78	46		Pn	21 25 25.8	-2.8
CCB	Clear Creek Bu	16.84	33		Pn	21 25 27.2	-2.0
CRQM	Cirque	16.84	49		Pn	21 25 27.4	-2.0
CRQE	Cirque	16.86	49	P	Pn	21 25 29.1	-0.5
	baz=250,SNR=29						
VRDI	Verde Repeater	16.86	47	Pn	Pn	21 25 27.2	-2.5
WAX	Waxell Ridge	16.88	50		Pn	21 25 28.2	-1.6
WAX				IAmb	IAmb	21 25 47.9	
	comp=Z,362nm,1.2s						
MDM	Murphy Dome	16.89	32		Pn	21 25 28.8	-1.1
TCOL	CIGO, UAF Yank	16.96	33	P	Pn	21 25 29.9	-0.8
	baz=230						
COLA	College	16.96	33	*d iP*	Pn	21 25 31.5	+0.8
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
COLA	College	16.96	33	P	Pn	21 25 31.1	+0.4
	baz=230						
COLA	College	16.96	33	P	Pn	21 25 30.4	-0.3
HDA	Harding Lake	16.99	35	P	Pn	21 25 30.4	-0.7
	baz=233,SNR=13						
TGL	Tana Glacier	16.99	49		Pn	21 25 30.4	-0.8
H23K	Yukon River	17.07	29	P	Pn	21 25 31.2	-0.9
	baz=225,SNR=39						
MCARA	McCarthy VSAT	17.11	47	P	Pn	21 25 30.8	-1.9
	baz=248,SNR=9.6						
IL31	Talkeetna	17.23	34		Pn	21 25 32.2	-1.8
ILAR	Eielson Array	17.23	34	P	Pn	21 25 30.3	-3.7
	comp=Z,0.6nm,0.3s,baz=239,slow=10,SNR=18						
ILAR				ScP	ScP	21 33 47.9	-3.3
	comp=Z,0.0nm,0.3s,baz=270,slow=3.5,SNR=4.0						
ILAR	Eielson Array	17.23	34	P	Pn	21 25 32.3	-1.7
ILAR	Eielson Array	17.23	34		Pn	21 25 32.3	-1.7
MESA	MESA	17.23	51	P	Pn	21 25 33.2	-1.1
	baz=254,SNR=12						
MESA	MESA	17.23	51		Pn	21 25 34.0	-0.3
MESA				IAmb	IAmb	21 25 53.0	
	comp=Z,307nm,1.1s						
POKR	Poker Plat Res	17.25	32	P	Pn	21 25 33.1	-1.3
	baz=231						
POKR	Poker Plat Res	17.25	32	P	Pn	21 25 34.3	-0.2
YAH	Yahtse	17.38	51		Pn	21 25 35.8	-0.5
YAH				IAmb	IAmb	21 25 53.9	
	comp=Z,299nm,0.9s						
RIDG	Independent Ri	17.39	38	P	Pn	21 25 34.8	-1.4
	baz=239,SNR=14						
RIDG	Independent Ri	17.39	38	Pn	Pn	21 25 35.0	-1.1
M26K	Nabesna, AK	17.52	44	P	Pn	21 25 37.0	-0.7
	baz=245,SNR=44						
H24K	Noodor Dome	17.58	30	P	Pn	21 25 37.3	-1.2
	baz=228,SNR=45						
L26K	Log Cabin Wild	17.64	41	P	Pn	21 25 38.1	-1.1
	baz=243,SNR=17						
TABL	Table Mountain	17.69	51	P	Pn	21 25 39.9	-0.2
TABL				IAmb	IAmb	21 26 07.6	
	comp=Z,217nm,1.0s						
CTG	Chitna Glacier	17.75	49	P	Pn	21 25 39.7	-1.0
	baz=252,SNR=18						
SCRK	Sand Creek	17.84	38	P	Pn	21 25 40.2	-1.6
	baz=239,SNR=16						
SCRK	Sand Creek	17.84	38	Pn	Pn	21 25 39.9	-1.9
COLD	Coldfoot	17.91	25	P	Pn	21 25 41.8	-0.7
	baz=221,SNR=25						
COLD	Coldfoot	17.91	25	P	Pn	21 25 41.4	-1.1
M27K	Edge Creek, AK	17.98	44	P	Pn	21 25 42.6	-0.9
	baz=247,SNR=24						
PCA	Pinnacle	18.03	52	P	Pn	21 25 44.2	+0.2
PCA				IAmb	IAmb	21 26 02.9	
	comp=Z,211nm,1.0s						
PINM	Pinnacle	18.03	52	P	P	21 25 44.8	+0.2
	baz=256,SNR=20						
PRP	Porcupine Dome	18.14	33	P	Pn	21 25 44.9	-0.5
	baz=233						
PRP	Porcupine Dome	18.14	33	P	Pn	21 25 44.2	-1.2
L27K	Beaver Creek,	18.28	42	P	Pn	21 25 45.1	-2.0
	baz=245,SNR=21						
BCAR	Beaver Creek A	18.30	42	P	Pn	21 25 45.7	-1.7
BCPM	Bancas Point	18.30	53	P	Pn	21 25 47.3	0.0
K27K	Chicken	18.60	39	P	P	21 25 49.5	-1.2
TOLK	Toolik Lake Re	19.14	22	P	P	21 25 56.4	-0.2
	baz=219,SNR=24						
TOLK	Toolik Lake Re	19.14	22	P	P	21 25 55.8	-0.9
EGAK	Eagle	19.30	38	P	P	21 25 58.0	-0.4
	baz=242,SNR=23						
EGAK	Eagle	19.30	38	P	P	21 25 57.5	-0.9
PET	Petropavlovsk	19.36	286	*ce*P	P	21 25 58.7	-0.3
PET				*e*S	Sn	21 29 28.2	-8.7
PET				pmax	pmax		
	comp=Z,800nm,8.4s						
PET				pmax	pmax		
	comp=Z,109nm,0.9s						
PET				pmax	pmax		
	comp=Z,1μm,14.1s						
PET				MLR	MLR		
	comp=Z,4μm,20.0s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
PET	Petropavlovsk	19.36	286	P	P	21 25 58.0	-1.0
PET				IAmb	IAmb	21 26 04.2	
	comp=Z,318nm,1.8s						
HYT	Haines Junctio	19.52	51		P	21 26 01.5	+0.5
HYT				IAmb	IAmb	21 26 19.8	
	comp=Z,363nm,1.1s						
BMAR	Burnt Mountain	19.61	29	P	P	21 26 00.7	-1.2
DAWY	Dawson	19.68	41	P	P	21 26 01.2	-1.5
BILL	Bilibino	19.85	333	*de*P	Pn	21 26 06.9	+0.9
BILL				*i* S	S	21 29 45.8	-1.6
BILL				pmax	pmax		
	comp=Z,40nm,1.6s						
BILL				MLR	MLR		
	comp=Z,4μm,15.0s						
BILL	Bilibino	19.85	333	P	P	21 26 03.9	-0.5
PEA0B	Petropavlovsk-	19.91	286	*d iP*	P	21 26 04.8	-0.3
PEA0B	Petropavlovsk-	19.91	286	P	P	21 26 04.2	-0.9
PETK	Petropavlovsk-	19.91	286	P	P	21 26 04.0	-1.1
	comp=Z,6.4nm,0.3s,baz=89,slow=14,SNR=81						
PETK				ScP	ScP	21 33 56.5	-0.7
	comp=Z,0.1nm,0.3s,baz=67,slow=3.7,SNR=9.8						
PETK	Petropavlovsk-	19.91	286	P	P	21 26 03.9	-1.1
A21K	Barrow	20.17	12	P	P	21 26 08.2	+0.4
	baz=203						
A21K	Barrow	20.17	12	IAMs_20	IAMs_20	21 35 07.2	
	comp=Z,7μm,19.0s						
SIT	Sitka	20.25	62	P	P	21 26 08.8	0.0
SIT				pmax	pmax		
	comp=Z,79nm,1.1s						
SIT	Sitka	20.25	62	P	Pn	21 26 11.1	+0.3
	baz=270						
SIT	Sitka	20.25	62	P	P	21 26 08.8	0.0
SKAG	Skagway	20.38	55	P	Pn	21 26 11.3	-0.9
	baz=263						
SKAG	Skagway	20.38	55	P	P	21 26 09.8	-0.3
SKAG				IAmb	IAmb	21 26 29.9	
	comp=Z,154nm,0.8s						
WHY	Whitehorse	20.76	52	P	Pn	21 26 15.7	-1.1
	baz=261,SNR=44						
WHY	Whitehorse	20.76	52	P	P	21 26 14.7	+0.3
WHY				IAmb	IAmb	21 26 35.3	
	comp=Z,179nm,0.9s						
SKR	Severo-Kuril's	21.44	280	*e*P	P	21 26 22.8	+1.2
SKR				pmax	pmax		
	comp=Z,99nm,0.9s						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s						
CRAG	Craig	21.57	67	P	P	21 26 22.9	-0.1
CRAG				IAmb	IAmb	21 26 43.3	
	comp=Z,91nm,1.0s						
EPYK	Eagle Plains	21.67	36	P	P	21 26 21.9	-2.2
	baz=244,SNR=20						
EPYK	Eagle Plains	21.67	36	P	P	21 26 21.8	-2.2
EPYK				IAmb	IAmb	21 26 48.7	
	comp=Z,142nm,0.8s						
EPYK				IAMs_20	IAMs_20	21 35 27.8	
	comp=Z,6μm,19.0s						
WRAK	Wrangell Islan	21.92	64	P	P	21 26 27.3	+0.6
	baz=274						
WRAK	Wrangell Islan	21.92	64	P	P	21 26 28.0	+1.3
WRAK	Wrangell Islan	21.92	64	IAMs_20	IAMs_20	21 35 36.1	
	comp=Z,7μm,19.0s						
DIB	Dawson Inlet,	22.30	72	P	P	21 26 32.5	+1.6
H02S1	DAWSON INLET T	22.30	72	T	T	21 49 46.9	
	SNR=5.9						
MOBC	Moresby Island	22.61	72	P	P	21 26 34.7	+0.4
MOBC				IAmb	IAmb	21 27 07.0	
	comp=Z,130nm,1.2s						
DLBC	Dease Lake	23.08	58	P	P	21 26 39.2	+0.1
DLBC				IAmb	IAmb	21 27 01.1	
	comp=Z,138nm,1.3s						
MA2	Magadan	23.28	304	P	P	21 26 39.9	-1.2
	comp=Z,86nm,1.1s,baz=107,slow=10,SNR=6.3						
MA2	Magadan	23.28	304‖	*e*P	P	21 26 41.4	+0.3
MA2				pmax	pmax		
	comp=Z,79nm,1.0s						
MA2	Magadan	23.28	304	P	P	21 26 40.7	-0.4
MA2				IAmb	IAmb	21 26 45.3	
	comp=Z,71nm,0.9s						
INK	Inuvik	23.62	33	P	P	21 26 41.9	-2.5
	comp=Z,10nm,0.4s,baz=242,slow=9.3,SNR=21						
INK	Inuvik	23.62	33	P	P	21 26 42.4	-2.0
INK				pmax	pmax		
	comp=Z,68nm,1.1s						
INK	Inuvik	23.62	33	P	P	21 26 41.7	-2.6
	baz=244,SNR=12						
INK	Inuvik	23.62	33	P	P	21 26 42.4	-2.0
C36M	Paulatuk	27.20	34	P	P	21 27 16.7	-0.3
	baz=254						
KUR	Kuril'sk	28.69	273	*e*P	P	21 27 32.7	+2.2
KUR				*e*S	S	21 32 25.9	+6.9
KUR				pmax	pmax		
	comp=Z,176nm,1.5s						
KUR				MLR	MLR		
	comp=Z,2μm,17.0s						
KUR				MLR	MLR		
	comp=N,2μm,17.0s						
LLLB	Lilloet	29.33	74	P	P	21 27 37.0	+0.8
NLWA	Neilton Lookou	29.44	81	P	P	21 27 38.9	+1.7
TYV	Tymovskoe	29.45	287	*e*P	P	21 27 38.3	+1.1
TYV				*e*S	S	21 32 35.6	+4.7
TYV				pmax	pmax		
	comp=Z,25nm,1.3s						
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				smax	smax		
	comp=E,200nm,8.8s						
NKL	Nikolayevsk	29.82	292	*e*P	P	21 27 37.3	-3.2
NKL				pmax	pmax		
	comp=Z,53nm,1.2s						
NKL				pmax	pmax		
	comp=E,19nm,1.1s						
NKL				MLR	MLR		
	comp=E,2μm,19.0s						
NKL				MLR	MLR		
	comp=Z,4μm,18.0s						
A05A	Maple Falls	29.83	77	P	P	21 27 40.5	-0.1
D03D	Eldon	29.85	80	P	P	21 27 40.0	-0.8
	baz=296,SNR=5.5						
B05A	Bryant	30.13	78	P	P	21 27 43.7	+0.4
	baz=295,SNR=6.8						
YKA	Yellowknife Ar	30.47	48	P	P	21 27 45.4	-0.7
	comp=Z,18nm,1.1s,baz=273,slow=9.6,SNR=26						
YKA				ScP	ScP	21 34 23.9	-3.0
	comp=Z,1.3nm,0.8s,baz=311,slow=3.2,SNR=2.2						
YKA				LR	LR	21 42 17.2	
	comp=Z,5μm,18.9s,baz=0.0,slow=41						
YKA	Yellowknife Ar	30.47	48	P	P	21 27 45.6	-0.5
YKA						21 34 27.9	
YKA	Yellowknife Ar	30.47	48	P	P	21 27 45.6	-0.5
YKA					ScP	21 34 27.9	+0.9
UGL	Uglegorsk	30.50	284	*e*P	P	21 27 48.7	+2.2
UGL				*e*S	S	21 32 54.3	+7.0
UGL				pmax	pmax		
	comp=Z,90nm,0.8s						
UGL				MLR	MLR		
	comp=N,1μm,16.0s						
UGL				MLR	MLR		
	comp=Z,3μm,17.0s						
YUK	Yuzh-Kuril'sk	30.53	273	*c iP*	P	21 27 48.2	+1.4
YUK				*e*		21 28 47.6	
YUK				*e*S	S	21 32 49.3	+1.4
YUK				*e*SS	ScP	21 34 34.1	+6.6
YUK				*e*		21 38 27.7	
YUK				pmax	pmax		
	comp=E,222nm,1.3s						
YUK				pmax	pmax		
	comp=Z,457nm,1.3s						
YUK				pmax	pmax		
	comp=Z,593nm,1.5s						
YUK				pmax	pmax		
	comp=N,248nm,1.0s						
YUK				MLR	MLR		
	comp=Z,2μm,20.0s						
YUK				MLR	MLR		
	comp=N,1μm,17.0s						
YUK				MLR	MLR		
	comp=E,1μm,18.0s						
E04D	Cinebar	30.61	81	P	P	21 27 50.9	+3.3
	baz=298						
D05A	Enumclaw	30.67	80	P	P	21 27 49.0	+0.9
YSS	Yuzh-Sakhalins	31.01	280	*e*P	P	21 27 51.5	+0.5
YSS				*e*S	S	21 32 56.7	+1.3
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,300nm,4.5s						
YSS				smax	smax		
	comp=N,500nm,11.4s						
YSS				MLR	MLR		
	comp=N,600nm,17.0s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS	Yuzh-Sakhalins	31.01	280	P	P	21 27 51.1	+0.1
YSS				IAmb	IAmb	21 28 07.5	
	comp=Z,54nm,1.2s						
COR	Corvallis	31.12	85	IAMs_20	IAMs_20	21 37 57.1	
	comp=Z,3μm,19.0s						
LTY	Liberty	31.44	79	P	P	21 27 55.0	+0.1
B08A	Colville Reser	31.76	76	P	P	21 27 57.8	+0.1
B08A				IAmb	IAmb	21 28 15.0	
	comp=Z,64nm,1.3s						
H04A	Detroit Lake	31.76	84	P	P	21 27 58.2	+0.4
KIP	Kipapa	31.84	160	IAMs_20	IAMs_20	21 39 05.4	
	comp=Z,4μm,21.0s						
K02D	Willamette Mer	31.89	89	P	P	21 28 01.4	+2.4
	baz=303						
I04A	Tendick Farm,	32.08	86	P	P	21 28 03.1	+2.6
	baz=302						
HUMO	Hull Mountain	32.38	88	IAMs_20	IAMs_20	21 39 48.7	
	comp=Z,4μm,19.0s						
JKA	Kamikawa-asahi	32.49	275	P	P	21 28 03.9	-0.3
ASAJ	Asahikawa	32.50	275	P	P	21 28 03.8	-0.3
	comp=Z,97nm,0.9s,baz=286,slow=6.4,SNR=27						
ASAJ	Asahikawa	32.50	275	P	P	21 28 03.9	-0.3
ASAJ				pmax	pmax		
	comp=Z,141nm,1.0s						
HAWA	Hanford	32.54	80	P	P	21 28 04.9	+0.4
HAWA				IAmb	IAmb	21 28 22.7	
	comp=Z,63nm,1.1s						
D08A	Wollman Farm,	32.59	78	P	P	21 28 05.8	+0.8
D08A				IAmb	IAmb	21 28 22.7	
	comp=Z,46nm,1.1s						
C09A	Chrisman Ranch	32.64	77	P	P	21 28 05.5	+0.1
C09A				IAmb	IAmb	21 28 23.1	
	comp=Z,55nm,1.2s						
E08A	Dider Farm, El	32.78	79	P	P	21 28 06.6	0.0
E08A				IAmb	IAmb	21 28 24.6	
	comp=Z,83nm,1.4s						
KHMM	Horse Mountain	32.88	92	P	P	21 28 08.1	+0.4
KHMM				IAmb	IAmb	21 28 30.8	
	comp=Z,135nm,1.6s						
TIXI	Tiksi	32.98	329	LR	LR	21 41 39.7	
	comp=Z,2μm,20.9s,baz=93,slow=37						
TIXI	Tiksi	32.98	329	P	P	21 28 08.1	+0.1
TIXI				pmax	pmax		
	comp=Z,70nm,1.6s						
TIXI				MLR	MLR		
	comp=Z,2μ

comp=Z,50nm,1.0s
NEW Newport 33.12 75 IAMs_20 IAMs_20 21 42 02.3
comp=Z,3μm,18.0s
M02C Callahan 33.12 90 P **P** **21 28 11.8 +2.0**
baz=305,SNR=6.2
GRNR Gornyy 33.14 290⇑ *i*P **P** **21 28 08.5 -1.2**
GRNR *e*S **S** **21 33 27.6 -1.0**
GRNR pmax pmax
comp=N,7.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=E,1.0nm,0.8s
GRNR MLR MLR
comp=E,2μm,16.0s
GRNR MLR MLR
comp=N,690nm,17.0s
GRNR MLR MLR
comp=Z,2μm,17.0s
ERM Erimo 33.29 272 *ce*P **P** **21 28 10.1 -1.0**
ERM pmax pmax
comp=Z,141nm,1.7s
ERM Erimo 33.29 272 P **P** **21 28 10.5 -0.6**
EDM Edmonton 33.31 65 P **P** **21 28 10.9 -0.3**
EDM pmax pmax
comp=Z,145nm,1.1s
EDM Edmonton 33.31 65 P **P** **21 28 10.8 -0.3**
E09A Wood Farm, Sta 33.32 79 P **P** **21 28 12.0 +0.7**
E09A IAmb IAmb 21 28 29.0
comp=Z,77nm,1.2s
YAK Yakutsk 33.34 311 P **P** **21 28 09.9 -1.4**
comp=Z,10nm,0.5s,baz=248,slow=2.7,SNR=9.0
YAK LR LR 21 41 55.1
comp=Z,4μm,19.7s,baz=103,slow=37
YAK Yakutsk 33.34 311 *e*P **P** **21 28 12.4 +1.1**
YAK *e**PP **pwP** **21 28 19.6 +1.5**
YAK *e* 21 29 19.8
YAK *e*PPP PPP 21 29 35.6
YAK *e*S **S** **21 33 32.1 +0.6**
YAK *e**SS **sS** **21 33 39.8 +3.9**
YAK *e*SS **SnSn** **21 35 28.5 -3.5**
YAK *e*SSS SSS 21 35 50.2
YAK pmax pmax
comp=Z,52nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,23nm,1.5s
YAK pmax pmax
comp=Z,68nm,1.6s
YAK pmax pmax
comp=N,42nm,2.5s
YAK pmax pmax
comp=E,86nm,2.7s
YAK smax smax
comp=N,141nm,3.0s
YAK smax smax
comp=E,37nm,2.3s
YAK MLR MLR
comp=Z,3μm,14.0s
YAK MLR MLR
comp=N,641nm,19.0s
YAK MLR MLR
comp=E,2μm,17.0s
YAK Yakutsk 33.34 311 P **P** **21 28 09.7 -1.6**
YAK IAmb IAmb 21 28 25.6
comp=Z,76nm,1.1s
YAK IAMs_20 IAMs_20 21 41 44.2
comp=Z,4μm,20.0s
N02D Trinity Center 33.46 91 P **P** **21 28 14.3 +1.6**
baz=305
K05A Summer Lake 33.59 87 P **P** **21 28 15.2 +1.3**
K05A IAmb IAmb 21 28 36.8
comp=Z,56nm,1.0s
WDC Whiskeytown Da 33.79 91 P **P** **21 28 16.9 +1.5**
WDC pmax pmax
comp=Z,30nm,1.1s
WDC MLR MLR
comp=Z,2μm,20.0s
WDC Whiskeytown Da 33.79 91 P **P** **21 28 16.9 +1.5**
O02D Mt. Diablo Mer 33.87 92 P **P** **21 28 17.2 +0.9**
baz=306
JEW Eniwo 33.88 274 P **P** **21 28 16.8 +0.6**
POHA Pohakuloa 34.03 156 IAMs_20 IAMs_20 21 41 55.1
comp=Z,3μm,20.0s
HOPS Hopland Field 34.41 94 IAMs_20 IAMs_20 21 40 45.8
comp=Z,4μm,18.0s
MOD Modoc Plateau 34.41 87 IAMs_20 IAMs_20 21 41 33.3
comp=Z,5μm,18.0s
O03E Paynes Creek 34.41 91 P **P** **21 28 21.8 +0.8**
baz=306,SNR=5.6
BMO Blue Mountains 34.66 81 P **P** **21 28 24.3 +1.2**
BMO pmax pmax
comp=Z,43nm,1.4s
BMO MLR MLR
comp=Z,3μm,21.0s
BMO Blue Mountains 34.66 81 P **P** **21 28 24.2 +1.2**
BMO IAmb IAmb 21 28 41.2
comp=Z,43nm,1.4s
WALA Waterton Lakes 34.67 72 P **P** **21 28 24.5 +1.3**
WALA IAmb IAmb 21 28 49.0
comp=Z,36nm,1.1s
JTMT Jette 35.05 75 P **P** **21 28 27.2 +0.7**
JTMT IAmb IAmb 21 28 45.9
comp=Z,32nm,1.0s
WVOR Wild Horse Val 35.14 85 IAMs_20 IAMs_20 21 42 52.5
comp=Z,4μm,18.0s
JTM Tenmabayashi 35.28 271 P **P** **21 28 30.1 +1.7**
PLID Pearl Lake 35.33 80 IAMs_20 IAMs_20 21 42 56.1
comp=Z,4μm,20.0s
MSO Missoula 35.70 76 P **P** **21 28 32.8 +0.7**
baz=299
MSO Missoula 35.70 76 P **P** **21 28 33.4 +1.4**
MSO IAmb IAmb 21 28 58.2
comp=Z,46nm,1.1s
MSO IAMs_20 IAMs_20 21 43 39.5
comp=Z,3μm,18.0s
PAHR Pah Rah Range 36.25 90 P **P** **21 28 37.9 +1.0**
PAHR IAmb IAmb 21 29 00.0
comp=Z,59nm,1.2s
PNTR Pine Nut 36.49 91 P **P** **21 28 39.8 +0.7**
PNTR IAmb IAmb 21 29 01.6
comp=Z,52nm,0.9s
KLR Kul'dur 36.52 290 P **P** **21 28 36.8 -2.1**
comp=Z,23nm,0.9s,baz=56,slow=9.0,SNR=26
KLR Kul'dur 36.52 290 *c i*P **P** **21 28 36.6 -2.3**
KLR pmax pmax
comp=Z,42nm,1.0s
CMB Columbia Colle 36.66 93 IAMs_20 IAMs_20 21 42 27.3
comp=Z,3μm,18.0s
SAO San Andreas Ge 36.81 95 IAMs_20 IAMs_20 21 42 27.5
comp=Z,4μm,18.0s
WAKR Walker 36.95 91 P **P** **21 28 43.5 +0.6**
HLID Hailey 37.11 81 P **P** **21 28 43.5 -0.7**
baz=303,SNR=5.6
HLID Hailey 37.11 81 P **P** **21 28 44.9 +0.7**
ZEA Zeya 37.11 298 *e*P **P** **21 28 41.9 -1.9**
ZEA *e* 21 30 14.2
ZEA *e*S **S** **21 34 22.0 -7.5**
ZEA pmax pmax
comp=Z,200nm,5.2s
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.0s
ZEA pmax pmax
comp=E,200nm,5.5s
ZEA pmax pmax
comp=Z,200nm,5.7s
ZEA smax smax
comp=E,200nm,12.8s
H11N2 WAKE ISLAND Hy 37.19 219 T T 22 08 50.2
baz=24,slow=76,SNR=200
H11N3 WAKE ISLAND Hy 37.20 219 T T 22 08 58.9
baz=24,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 37.21 219 T T 22 08 53.0
baz=24,slow=76,SNR=123
JMM Marumori 37.21 268 P **P** **21 28 44.9 0.0**
JMM IAmb IAmb 21 29 12.1
comp=Z,78nm,1.3s
BCYI Bear Canyon 37.31 79 P **P** **21 28 45.4 -0.6**
PMPB Monarch Peak 37.56 95 P **P** **21 28 49.0 +1.1**
PMPB IAmb IAmb 21 29 29.1
comp=Z,55nm,1.3s
EGMT Eagleton 37.60 72 P **P** **21 28 46.8 -1.4**
baz=299,SNR=8.5

NVAR Mina Array Bea 37.70 91 P **P** **21 28 50.8 +1.5**
comp=Z,3.5nm,0.8s,baz=297,slow=8.3,SNR=5.2
NVAR LR LR 21 40 54.9
comp=Z,1μm,21.7s,baz=300,slow=31
NVAR Mina Array Bea 37.70 91 P **P** **21 28 49.7 +0.4**
BOZ Bozeman (W) 37.71 76 P **P** **21 28 48.9 -0.3**
BOZ pmax pmax
comp=Z,26nm,1.0s
BOZ MLR MLR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 37.71 76 P **P** **21 28 48.3 -0.9**
baz=301,SNR=11
BOZ Bozeman (W) 37.71 76 P **P** **21 28 48.9 -0.3**
BOZ IAMs_20 IAMs_20 21 44 54.7
comp=Z,2μm,18.0s
MDPB Devils Postpil 37.72 92 P **P** **21 28 49.9 +0.4**
NV11 Mina Array Sit 37.79 90 P **P** **21 28 51.0 +1.0**
EUNU Eureka 38.02 16 P **P** **21 28 52.1 +0.7**
ELK Elko 38.20 85 P **P** **21 28 53.6 +0.1**
ELK pmax pmax
comp=Z,20nm,0.9s
ELK MLR MLR
comp=Z,4μm,18.0s
ELK Elko 38.20 85 P **P** **21 28 53.5 +0.1**
ELK IAMs_20 IAMs_20 21 44 17.3
comp=Z,3μm,18.0s
H11S1 WAKE ISLAND Hy 38.38 218 T T 22 10 35.3
baz=20,slow=74,SNR=298
H11S2 WAKE ISLAND Hy 38.39 218 T T 22 10 36.3
baz=20,SNR=272
H11S3 WAKE ISLAND Hy 38.40 218 T T 22 10 04.1
baz=20,slow=74,SNR=481
TPH Tonopah 38.59 90 P **P** **21 28 57.9 +1.1**
TPH pmax pmax
comp=Z,131nm,1.2s
TPH Tonopah 38.59 90 P **P** **21 28 57.9 +1.1**
TPH IAmb IAmb 21 29 19.0
comp=Z,131nm,1.2s
JYT Yasato 38.62 266 P **P** **21 28 56.2 -0.6**
JYT IAmb IAmb 21 29 02.7
comp=Z,54nm,0.9s
JSD Sado 38.67 270 P **P** **21 28 56.7 -0.5**
YNR Norris Junctio 38.74 77 P **P** **21 28 58.5 +0.4**
YNR IAmb IAmb 21 29 16.5
comp=Z,61nm,1.0s
VES Vestal, Richgr 38.86 94 P **P** **21 29 00.8 +2.0**
baz=311
FFC Flin Flon 38.91 59 P **P** **21 28 59.6 +0.5**
FFC pmax pmax
comp=Z,21nm,0.8s
FFC MLR MLR
comp=Z,4μm,19.0s
FFC Flin Flon 38.91 59 P **P** **21 28 59.6 +0.5**
FFC Flin Flon 38.91 59 IAMs_20 IAMs_20 21 46 19.1
comp=Z,4μm,19.0s
USA0B Ussuriysk Arra 38.92 282 P **P** **21 28 59.6 +0.4**
USA0B pmax pmax
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 38.92 282 P **P** **21 28 59.6 +0.4**
USRK Ussuriysk Ar. 38.92 282 P **P** **21 28 58.3 -0.9**
comp=Z,9.4nm,0.8s,baz=51,slow=7.0,SNR=12
USRK LR LR 21 44 16.9
comp=Z,2μm,21.5s,baz=60,slow=35
USRK Ussuriysk Ar. 38.92 282 P **P** **21 28 59.4 +0.2**
USRK Ussuriysk Ar. 38.92 282 P **P** **21 28 59.4 +0.2**
IMW Indian Meadow 39.03 78 P **P** **21 29 00.7 +0.1**
PKM Mcpherson Peak 39.04 96 P **P** **21 29 02.8 +2.3**
baz=312
CWC Cottonwood Cre 39.09 93 P **P** **21 29 03.2 +2.2**
baz=310
GRAC Grapevine Rang 39.17 92 P **P** **21 29 03.8 +2.3**
baz=310
ISA Isabella, Lake 39.35 94 P **P** **21 29 03.9 +0.9**
ISA pmax pmax
comp=Z,17nm,1.1s
ISA Isabella, Lake 39.35 94 P **P** **21 29 03.7 +0.7**
baz=311
ISA Isabella, Lake 39.35 94 P **P** **21 29 03.9 +0.9**
RLMT Red Lodge 39.37 75 P **P** **21 29 03.3 +0.1**
baz=302,SNR=8.7
RLMT Red Lodge 39.37 75 P **P** **21 29 03.4 +0.1**
RLMT IAmb IAmb 21 29 20.8
comp=Z,58nm,1.1s
RLMT IAMs_20 IAMs_20 21 45 58.7
comp=Z,2μm,18.0s
R11A Troy Canyon, C 39.42 89 P **P** **21 29 05.1 +1.3**
baz=308
R11A Troy Canyon, C 39.42 89 P **P** **21 29 04.3 +0.5**
AHID Auburn Hatcher 39.56 80 P **P** **21 29 05.6 +0.7**
AHID IAMs_20 IAMs_20 21 44 36.1
comp=Z,3μm,19.0s
VLA Vladivostok 39.58 281 *de*P **P** **21 29 05.3 +0.6**
VLA pmax pmax
comp=Z,63nm,1.1s
MJAR Matsushiro Arr 39.65 268 P **P** **21 29 04.8 -0.6**
comp=Z,8.5nm,0.8s,baz=42,slow=7.2,SNR=23
MJAR LR LR 21 45 11.6
comp=Z,2μm,20.8s,baz=60,slow=36
MJAR Matsushiro Arr 39.65 268 P **P** **21 29 05.3 -0.1**
MJAR pmax pmax
comp=Z,76nm,1.8s
MJAR Matsushiro Arr 39.65 268 P **P** **21 29 05.3 -0.1**
MAJO Matsushiro 39.65 268 P **P** **21 29 05.5 0.0**
MAJO pmax pmax
comp=Z,190nm,1.7s
MAJO MLR MLR
comp=Z,2μm,20.0s
MAJO Matsushiro 39.65 268 P **P** **21 29 05.5 0.0**
MAJO IAmb IAmb 21 29 21.6
comp=Z,190nm,1.7s
MAJO Matsushiro 39.65 268 IAMs_20 IAMs_20 21 45 11.0
comp=Z,3μm,20.0s
MAT Matsushiro 39.65 268 P **P** **21 29 04.3 -1.1**
MAT S **S** **21 35 09.6 +1.3**
FURC Furnace Creek, 39.82 92 P **P** **21 29 08.3 +1.5**
baz=310
TPNV Topopah Spring 39.89 91 P **P** **21 29 08.6 +0.9**
TPNV pmax pmax
comp=Z,38nm,1.1s
TPNV MLR MLR
comp=Z,4μm,18.0s
TPNV Topopah Spring 39.89 91 P **P** **21 29 07.9 +0.2**
baz=310,SNR=9.1
TPNV Topopah Spring 39.89 91 P **P** **21 29 08.6 +0.9**
TPNV IAMs_20 IAMs_20 21 44 49.8
comp=Z,4μm,18.0s
LRMC Laurel Mtn Rad 39.96 94 P **P** **21 29 09.0 +0.8**
baz=311
DUG Dugway, Tooele 40.01 84 P **P** **21 29 09.2 +0.6**
DUG pmax pmax
comp=Z,56nm,1.1s
DUG MLR MLR
comp=Z,2μm,20.0s
DUG Dugway, Tooele 40.01 84 P **P** **21 29 10.8 +2.2**
baz=307
DUG Dugway, Tooele 40.01 84 P **P** **21 29 09.2 +0.6**
DUG IAmb IAmb 21 29 36.5
comp=Z,56nm,1.1s
DUG IAMs_20 IAMs_20 21 43 44.3
comp=Z,2μm,20.0s
MDJ Mudanjiang 40.13 284 P **P** **21 29 09.0 -0.3**
MDJ pP pP 21 29 12.0 +0.1
MDJ PP **PP** **21 30 41.0 -0.4**
MDJ S **S** **21 35 14.0 -1.3**
MDJ pmax pmax
comp=Z,13nm,1.3s
MDJ pmax pmax
comp=Z,220nm,4.8s
MDJ LR LR
comp=Z,2μm,18.6s
MDJ LR LR
comp=Z,2μm,20.6s
MDJ LR LR
comp=Z,4μm,16.1s
MDJ Mudanjiang 40.13 284 P **P** **21 29 09.7 +0.4**
MDJ IAMs_20 IAMs_20 21 47 50.5
comp=Z,3μm,19.0s
EDW2 Edwards Air Fo 40.16 95 P **P** **21 29 11.9 +2.1**
baz=311
MSHR Mys Shultsa 40.33 281⇓ *e*P **P** **21 29 10.7 -0.2**
MSHR pmax pmax
comp=Z,86nm,1.7s
LAO LASA Array 40.34 72 IAMs_20 IAMs_20 21 45 27.1
comp=Z,3μm,20.0s
BW06 Boulder Array 40.50 79 P **P** **21 29 12.2 -0.5**
baz=304,SNR=10

PD31 Pinedale Array 40.50 79 P **P** **21 29 12.1 -0.5**
PDAR Pinedale Array 40.50 79 P **P** **21 29 12.2 -0.5**
comp=Z,13nm,0.7s,baz=302,slow=4.4,SNR=79
PDAR LR LR 21 44 27.7
comp=Z,2μm,19.9s,baz=322,slow=34
PDAR Pinedale Array 40.50 79 P **P** **21 29 11.8 -0.9**
PASC Pasadena Art C 40.52 96 IAMs_20 IAMs_20 21 44 27.6
comp=Z,2μm,19.0s
SHOC Shoshone, Teco 40.55 92 P **P** **21 29 11.9 -1.0**
baz=310
MWC Mount Wilson 40.56 95 P **P** **21 29 14.3 +1.1**
MWC pmax pmax
comp=Z,40nm,1.2s
MWC Mount Wilson 40.56 95 P **P** **21 29 14.3 +1.1**
NLU North Lily Min 40.61 84 P **P** **21 29 14.5 +0.9**
GSC Goldstone, Bar 40.62 93 P **P** **21 29 14.4 +0.9**
GSC pmax pmax
comp=Z,115nm,1.7s
GSC Goldstone, Bar 40.62 93 P **P** **21 29 13.1 -0.5**
baz=311,SNR=11
GSC Goldstone, Bar 40.62 93 P **P** **21 29 14.4 +0.9**
GSC IAmb IAmb 21 29 35.5
comp=Z,115nm,1.7s
JGF Kuroka 40.78 268 P **P** **21 29 14.7 -0.2**
BFSC Mount Baldy Ra 40.79 95 P **P** **21 29 16.2 +1.1**
baz=312,SNR=6.9
SHPR Sheep Range 40.85 90 P **P** **21 29 15.7 +0.2**
ALE Alert 40.88 11 IAMs_20 IAMs_20 21 48 30.4
comp=Z,2μm,19.0s
JHJ Hachijo jima 2 40.94 263 LR LR 21 44 18.1
comp=Z,363nm,19.5s,baz=26,slow=33
TUQ Turquoise Moun 41.07 92 P **P** **21 29 19.6 +2.2**
baz=311
INU Inuyama 41.16 268 P **P** **21 29 17.9 0.0**
FCC Fort Churchill 41.16 50 P **P** **21 29 17.3 -0.4**
FCC pmax pmax
comp=Z,144nm,1.1s
FCC Fort Churchill 41.16 50 P **P** **21 29 17.3 -0.4**
FCC IAmb IAmb 21 29 33.5
comp=Z,144nm,1.1s
HEC Hector,Ludlow 41.22 93 P **P** **21 29 19.0 +0.5**
baz=311,SNR=8.6
MSU Marysvale 41.42 86 P **P** **21 29 21.4 +1.0**
MSU Marysvale 41.42 86 P **P** **21 29 21.4 +1.0**
MURC Murrieta 41.51 95 P **P** **21 29 21.8 +1.0**
baz=312
GMRC Granite Mounta 41.66 93 P **P** **21 29 24.1 +1.8**
baz=311,SNR=11
PFO Pinyon Flats O 41.95 95 P **P** **21 29 25.6 +1.0**
PFO pmax pmax
comp=Z,14nm,1.1s
PFO MLR MLR
comp=Z,2μm,18.0s
PFO Pinyon Flats O 41.95 95 P **P** **21 29 23.5 -1.1**
baz=312
PFO Pinyon Flats O 41.95 95 P **P** **21 29 25.6 +1.0**
PFO Pinyon Flats O 41.95 95 IAMs_20 IAMs_20 21 45 43.7
comp=Z,2μm,18.0s
TPFO Pinon Flats 41.96 95 P **P** **21 29 24.1 -0.6**
baz=312
BELC Belle Mtn. Jos 41.98 94 P **P** **21 29 26.5 +1.7**
baz=312,SNR=6.6
109C Camp Elliot, M 42.05 96 P **P** **21 29 26.3 +1.1**
baz=313
BOD Bodaibo 42.16 309 *e*P **P** **21 29 23.5 -2.3**
BOD pmax pmax
comp=Z,90nm,1.1s
JWT Wachi 42.20 269 P **P** **21 29 26.5 +0.1**
JWT IAmb IAmb 21 29 46.1
comp=Z,115nm,1.3s
NEE2 Needles Airpor 42.31 92 P **P** **21 29 29.3 +1.9**
baz=311
IRM Iron Mountain 42.40 93 P **P** **21 29 28.8 +0.7**
baz=312,SNR=7.5
K22A Casper 42.40 77 P **P** **21 29 28.7 +0.5**
baz=305
K22A Casper 42.40 77 P **P** **21 29 29.3 +1.1**
K22A IAmb IAmb 21 29 44.7
comp=Z,45nm,1.0s
TULEG Thule 42.42 20 IAMs_20 IAMs_20 21 50 17.5
comp=Z,3μm,19.0s
BAR Barrett 42.45 96 P **P** **21 29 30.3 +1.7**
MONP2 Monument Peak 42.46 95 P **P** **21 29 28.9 0.0**
baz=313,SNR=6.5
U15A North Rim 42.67 88 P **P** **21 29 30.9 +0.3**
SWSC Sam W. Stewart 42.81 95 P **P** **21 29 30.5 -0.9**
baz=313
IKP In-Ko-Pah, Jac 42.82 95 P **P** **21 29 32.6 +1.0**
baz=313,SNR=5.1
O20A White River Ci 42.84 81 P **P** **21 29 31.5 -0.4**
baz=307,SNR=9.7
O20A White River Ci 42.84 81 P **P** **21 29 31.5 -0.4**
O20A IAmb IAmb 21 29 52.0
comp=Z,61nm,0.9s
PDMCI Parker Dam,Lak 42.92 92 P **P** **21 29 31.8 -0.5**
baz=312
RSSD Black Hills 43.04 74 P **P** **21 29 34.2 +0.8**
RSSD pmax pmax
comp=Z,33nm,1.1s
RSSD Black Hills 43.04 74 P **P** **21 29 34.1 +0.6**
baz=304
RSSD Black Hills 43.04 74 P **P** **21 29 34.2 +0.8**
CN2 Changchun 43.06 286 *e*P **P** **21 29 31.0 -2.3**
CN2 PP **PP** **21 31 13.0 -0.1**
CN2 S **S** **21 35 56.0 -2.7**
CN2 SS **SS** **21 39 00.3 -10**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 LR LR
comp=Z,2μm,19.0s
CN2 LR LR
comp=Z,3μm,19.0s
CN2 LR LR
comp=Z,4μm,20.0s
GLA Glamis 43.34 94 P **P** **21 29 35.8 +0.1**
GLA pmax pmax
comp=Z,18nm,0.9s
GLA Glamis 43.34 94 P **P** **21 29 36.2 +0.4**
baz=313
GLA Glamis 43.34 94 P **P** **21 29 35.8 +0.1**
HIA Hailar 43.34 296 P **P** **21 29 34.0 -1.6**
HIA pmax pmax
comp=Z,50nm,1.0s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 43.34 296 P **P** **21 29 34.0 -1.6**
HIA IAmb IAmb 21 29 38.0
comp=Z,50nm,1.0s
HIA Hailar 43.34 296 IAMs_20 IAMs_20 21 48 38.6
comp=Z,3μm,20.0s
MDND Maddock 43.54 67 P **P** **21 29 38.9 +1.7**
baz=303
PV12 Saucer Basin, 43.62 84 P **P** **21 29 38.9 +0.6**
PV12 IAmb IAmb 21 30 04.8
comp=Z,34nm,0.9s
N23A Red Feather La 43.78 79 P **P** **21 29 40.0 +0.4**
baz=307
JCJ Chichijima 43.79 254 LR LR 21 45 24.7
comp=Z,1μm,21.8s,baz=38,slow=33
JCJ Chichijima 43.79 254 P **P** **21 29 39.1 -0.3**
WUAZ Wupatki 43.83 89 P **P** **21 29 40.1 +0.3**
baz=311,SNR=10.0
WUAZ Wupatki 43.83 89 IAMs_20 IAMs_20 21 47 24.7
comp=Z,4μm,18.0s
JMN Monobe 44.17 268 P **P** **21 29 44.2 +1.8**
JMN IAmb IAmb 21 30 22.3
comp=Z,54nm,1.2s
113A Mohawk Valley, 44.18 93 P **P** **21 29 44.1 +1.6**
ULM Lac du Bonnet 44.33 62 P **P** **21 29 42.5 -1.0**
comp=Z,5.7nm,0.7s,baz=302,slow=10,SNR=4.5
ULM LR LR 21 50 03.1
comp=Z,3μm,18.3s,baz=306,slow=39
ULM Lac du Bonnet 44.33 62 P **P** **21 29 44.1 +0.7**
ULM pmax pmax
comp=Z,49nm,1.1s
ULM Lac du Bonnet 44.33 62 P **P** **21 29 44.1 +0.7**
ULM IAmb IAmb 21 29 59.0
comp=Z,48nm,1.1s
MVCO Mesa Verde 44.51 85 P **P** **21 29 46.0 +0.6**
baz=310
X16A Lo Mia Camp, P 44.51 90 P **P** **21 29 45.4 +0.1**
ISCO Idaho Springs 44.65 80 P **P** **21 29 47.2 +0.7**
ISCO pmax pmax
comp=Z,12nm,1.0s
ISCO MLR MLR
comp=Z,3μm,20.0s

ISCO	**Idaho Springs**	**44.65**	**80**	P	**P**	**21 29 46.7**	**+0.2**
	baz=308						
ISCO	**Idaho Springs**	**44.65**	**80**	P	**P**	**21 29 47.2**	**+0.7**
ISCO				IAMs_20	IAMs_20	21 46 53.7	
	comp=Z,3μm,20.0s						
SEHB	**SEOHWA**	**44.69**	**278**	P	**P**	**21 29 49.6**	**+3.1**
	SNR=9.4						
KSIJA	**INJE**	**44.95**	**277**	P	**P**	**21 29 52.4**	**+3.9**
	SNR=7.7						
W18A	**Petrified Fore**	**45.10**	**88**	P	**P**	**21 29 50.1**	**+0.1**
	baz=311,SNR=5.6						
S22A	**4UR Ranch, Cre**	**45.19**	**83**	P	**P**	**21 29 50.6**	**-0.2**
	baz=309,SNR=5.9						
CIT	**Chita**	**45.23**	**302**	*e*P	**P**	**21 29 49.5**	**-1.2**
CIT				pmax	pmax		
	comp=Z,68nm,1.5s						
KSYOW	**Yeongwol**	**45.25**	**276**	P	**P**	**21 29 51.9**	**+0.9**
	SNR=15						
KSCHC	**Chuncheon**	**45.26**	**277**	P	**P**	**21 29 55.0**	**+3.9**
	SNR=9.1						
NEEM	**North Greenlan**	**45.29**	**16**	*i* P	**P**	**21 29 50.3**	**-0.8**
214A	**Organ Pipe Nat**	**45.33**	**93**	P	**P**	**21 29 51.3**	**-0.4**
	baz=314,SNR=11						
214A	**Organ Pipe Nat**	**45.33**	**93**	P	**P**	**21 29 52.1**	**+0.4**
214A				IAmb	IAmb	21 30 08.2	
	comp=Z,31nm,1.1s						
X18A	**Snowflake**	**45.35**	**89**	P	**P**	**21 29 52.8**	**+0.7**
X18A				IAmb	IAmb	21 30 09.1	
	comp=Z,68nm,1.8s						
KSWJU	**Wonju**	**45.35**	**277**	P	**P**	**21 29 55.0**	**+3.2**
	SNR=6.5						
AGMN	**Agassiz Nation**	**45.40**	**64**	P	**P**	**21 29 50.5**	**-1.5**
	baz=304						
AGMN	**Agassiz Nation**	**45.40**	**64**	P	**P**	**21 29 52.7**	**+0.7**
AGMN				IAmb	IAmb	21 30 07.4	
	comp=Z,67nm,1.3s						
AGMN				IAMs_20	IAMs_20	21 50 15.1	
	comp=Z,3μm,18.0s						
KSRS	**Korea Array**	**45.40**	**277**	P	**P**	**21 29 51.7**	**-0.4**
	comp=Z,36nm,0.9s,baz=55,slow=7.5,SNR=49						
KSRS				LR	LR	21 48 11.2	
	comp=Z,1μm,20.9s,baz=54,slow=35						
KS19	**Wonju Array Si**	**45.41**	**277**	P	**P**	**21 29 52.2**	**0.0**
KS19				IAmb	IAmb	21 29 56.4	
	comp=Z,55nm,0.9s						
KSAR	**Wonju Array Be**	**45.43**	**277**	P	**P**	**21 29 51.4**	**-1.0**
KSAR	**Wonju Array Be**	**45.43**	**277**	P	**P**	**21 29 51.4**	**-1.0**
Q24A	**Divide**	**45.45**	**80**	P	**P**	**21 29 53.1**	**+0.2**
	baz=309						
KSCHJ	**Chungju**	**45.74**	**276**	P	**P**	**21 29 58.0**	**+3.1**
	SNR=8.6						
KSCHJ	**Chungju**	**45.74**	**276**	P	**P**	**21 29 58.0**	**+3.1**
	SNR=8.6						
NOR	**Nord**	**45.78**	**5**	*i* P	**P**	**21 29 54.6**	**-0.1**
NOR				IAmb	IAmb	21 29 57.1	
	comp=Z,39nm,1.2s						
NOR	**Nord**	**45.78**	**5**	*i* P	**P**	**21 29 54.5**	**-0.1**
NOR				pmax	pmax		
	comp=Z,39nm,1.2s						
SUSD	**Miller**	**45.83**	**70**	P	**P**	**21 29 56.5**	**+1.0**
	baz=306						
SUSD	**Miller**	**45.83**	**70**	P	**P**	**21 29 55.9**	**+0.4**
SDCO	**Great Sand Dun**	**46.00**	**82**	P	**P**	**21 29 56.1**	**-1.2**
	baz=310,SNR=12						
KSBON	**Boeun**	**46.09**	**276**	P	**P**	**21 30 00.6**	**+3.0**
	SNR=8.5						
OGNE	**Ogallala**	**46.11**	**76**	P	**P**	**21 29 57.2**	**-0.6**
	baz=308						
OGNE	**Ogallala**	**46.11**	**76**	P	**P**	**21 29 58.9**	**+1.0**
OGNE				IAmb	IAmb	21 30 14.9	
	comp=Z,77nm,1.1s						
KSCPR	**CHUPUNGNYEONG**	**46.16**	**276**	P	**P**	**21 30 01.4**	**+3.2**
	SNR=7.6						
INCN	**Inchon**	**46.17**	**278**	P	**P**	**21 29 57.9**	**-0.4**
INCN				pmax	pmax		
	comp=Z,110nm,0.9s						
INCN				MLR	MLR		
	comp=Z,800nm,20.0s						
INCN	**Inchon**	**46.17**	**278**	P	**P**	**21 29 57.9**	**-0.4**
OKCB	**Cheongsan-myeo**	**46.19**	**276**	P	**P**	**21 30 01.7**	**+3.3**
	SNR=9.1						
TUC	**Tucson**	**46.33**	**91**	P	**P**	**21 29 60.0**	**+0.3**
	baz=313						
TUC	**Tucson**	**46.33**	**91**	IAMs_20	IAMs_20	21 48 43.3	
	comp=Z,2μm,18.0s						
JNU	**Nakatsue**	**46.43**	**270**	P	**P**	**21 30 00.2**	**-0.1**
TJN	**Taejon**	**46.44**	**276***c*	*i* P	**P**	**21 29 59.7**	**-0.6**
EURB	**Uiryeong-eup**	**46.56**	**274**	P	**P**	**21 30 05.0**	**+3.7**
	SNR=7.3						
NRIK	**Noril'sk**	**46.67**	**332**	P	**P**	**21 30 00.6**	**-1.2**
	comp=Z,8.0nm,0.5s,baz=58,slow=6.8,SNR=18						
NRIK				LR	LR	21 52 28.0	
	comp=Z,1μm,19.1s,baz=59,slow=40						
NRIK	**Noril'sk**	**46.67**	**332***ce*	P	**P**	**21 30 00.3**	**-1.5**
NRIK				pmax	pmax		
	comp=Z,47nm,1.5s						
NRIK	**Noril'sk**	**46.67**	**332**	P	**P**	**21 30 00.7**	**-1.0**
NRIK				IAmb	IAmb	21 30 04.7	
	comp=Z,39nm,1.2s						
KSCO	**Kaye Shedlock'**	**46.95**	**79**	P	**P**	**21 30 04.1**	**-0.4**
	baz=309						
T25A	**Trinidad**	**47.06**	**82**	P	**P**	**21 30 05.6**	**+0.1**
	baz=310,SNR=13						
T25A	**Trinidad**	**47.06**	**82**	P	**P**	**21 30 05.1**	**-0.4**
T25A				IAmb	IAmb	21 30 33.0	
	comp=Z,60nm,1.1s						
T25A				IAMs_20	IAMs_20	21 48 13.6	
	comp=Z,2μm,21.0s						
ANMO	**Albuquerque**	**47.23**	**85**	P	**P**	**21 30 06.9**	**0.0**
	comp=Z,3.4nm,0.9s,baz=303,slow=12,SNR=6.9						
ANMO	**Albuquerque**	**47.23**	**85**	P	**P**	**21 30 07.3**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,15nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,3μm,18.0s						
ANMO	**Albuquerque**	**47.23**	**85**	P	**P**	**21 30 05.4**	**-1.4**
	baz=311						
ANMO	**Albuquerque**	**47.23**	**85**	P	**P**	**21 30 07.3**	**+0.5**
ANMO	**Albuquerque**	**47.23**	**85**	IAMs_20	IAMs_20	21 49 50.6	
	comp=Z,3μm,18.0s						
ECSD	**EROS Data Cent**	**47.61**	**70**	P	**P**	**21 30 09.1**	**-0.4**
	baz=307,SNR=13						
ECSD	**EROS Data Cent**	**47.61**	**70**	P	**P**	**21 30 09.8**	**+0.3**
ECSD				IAmb	IAmb	21 30 28.0	
	comp=Z,30nm,0.8s						
ECSD	**EROS Data Cent**	**47.61**	**70**	IAMs_20	IAMs_20	21 50 08.2	
	comp=Z,3μm,20.0s						
BNM	**Barren Site**	**47.66**	**86**	P	**P**	**21 30 09.9**	**-0.3**
JSU	**Suzuyama**	**47.79**	**269**	P	**P**	**21 30 11.5**	**+0.5**
JSU				IAmb	IAmb	21 30 27.8	
	comp=Z,93nm,1.4s						
319A	**Douglas**	**47.90**	**91**	P	**P**	**21 30 12.9**	**+1.0**
EYMN	**Ely**	**48.00**	**62**	P	**P**	**21 30 11.5**	**-0.9**
	baz=306						
EYMN	**Ely**	**48.00**	**62**	P	**P**	**21 30 12.2**	**-0.2**
EYMN				IAmb	IAmb	21 30 27.8	
	comp=Z,68nm,1.2s						
EYMN	**Ely**	**48.00**	**62**	IAMs_20	IAMs_20	21 51 45.8	
	comp=Z,2μm,19.0s						
121A	**Cookes Peak, D**	**48.03**	**89**	P	**P**	**21 30 13.7**	**+0.7**
	baz=313,SNR=7.9						
121A	**Cookes Peak, D**	**48.03**	**89**	P	**P**	**21 30 14.3**	**+1.2**
121A				IAmb	IAmb	21 30 40.7	
	comp=Z,40nm,1.1s						
F36A	**Milaca**	**48.10**	**66**	P	**P**	**21 30 13.5**	**+0.3**
F36A				IAmb	IAmb	21 30 28.6	
	comp=Z,26nm,1.2s						
BGNE	**Belgrade**	**48.13**	**73**	P	**P**	**21 30 14.6**	**+1.0**
	baz=308						
DL2	**Dalian**	**48.31**	**283**	P	**P**	**21 30 16.5**	**+1.7**
DL2				S	**S**	**21 37 14.0**	**-0.4**
DL2				pmax	pmax		
	comp=Z,64nm,1.0s						
DL2				pmax	pmax		
	comp=Z,360nm,3.6s						
DL2				LR	LR		
	comp=Z,1μm,17.0s						
DL2				LR	LR		
	comp=Z,1μm,18.3s						
DL2				LR	LR		
	comp=Z,2μm,17.8s						
CBKS	**Cedar Bluff**	**48.82**	**77**	P	**P**	**21 30 19.6**	**+0.7**
CBKS				pmax	pmax		
	comp=Z,67nm,1.1s						
CBKS	**Cedar Bluff**	**48.82**	**77**	P	**P**	**21 30 19.7**	**+0.9**
	baz=310						
CBKS	**Cedar Bluff**	**48.82**	**77**	P	**P**	**21 30 19.6**	**+0.7**
CBKS				IAmb	IAmb	21 30 35.8	
	comp=Z,67nm,1.1s						
L34A	**Svendsen Farm,**	**48.83**	**71**	P	**P**	**21 30 18.5**	**-0.4**
SPMN	**Marine on St.**	**48.89**	**66**	P	**P**	**21 30 19.5**	**+0.2**
	baz=307						
SPMN	**Marine on St.**	**48.89**	**66**	P	**P**	**21 30 18.8**	**-0.5**
SPMN				IAmb	IAmb	21 30 35.8	
	comp=Z,79nm,1.6s						
KBS	**Kingsbay**	**49.27**	**360**⇓	*e*P	**P**	**21 30 21.0**	**-0.7**
KBS				pmax	pmax		
	comp=Z,22nm,1.0s						
KBS	**Kingsbay**	**49.27**	**360**	IAMs_20	IAMs_20	21 51 23.0	
	comp=Z,2μm,20.0s						
I37A	**Lemond, Waseca**	**49.29**	**67**	P	**P**	**21 30 23.1**	**+0.8**
IRK	**Irkutsk**	**49.84**	**307**	*e*P	**P**	**21 30 25.5**	**-1.0**
IRK				pmax	pmax		
	comp=Z,112nm,1.2s						
SPITS	**Spitsbergen Ar**	**49.97**	**358**	P	**P**	**21 30 25.7**	**-1.4**
	comp=Z,35nm,1.0s,baz=30,slow=6.8,SNR=8.6						
SPITS	**Spitsbergen Ar**	**49.97**	**358**	P	**P**	**21 30 26.8**	**-0.3**
SPITS				pmax	pmax		
	comp=Z,81nm,1.2s						
MNTX	**Cornudas Mount**	**50.09**	**88**	P	**P**	**21 30 27.9**	**-0.7**
	baz=314,SNR=40						
MNTX	**Cornudas Mount**	**50.09**	**88**	P	**P**	**21 30 28.4**	**-0.2**
DAG	**Danmarks Havn**	**50.10**	**8**	*i* P	**P**	**21 30 26.1**	**-1.9**
DAG				IAmb	IAmb	21 30 31.1	
	comp=Z,49nm,1.0s						
DAG	**Danmarks Havn**	**50.10**	**8**	*i* P	**P**	**21 30 26.1**	**-1.9**
DAG				pmax	pmax		
	comp=Z,49nm,1.0s						
D41A	**Chassel**	**50.12**	**62**	P	**P**	**21 30 29.9**	**+1.3**
D41A				IAmb	IAmb	21 30 44.4	
	comp=Z,102nm,1.6s						
MSTX	**Muleshoe**	**50.15**	**84**	P	**P**	**21 30 28.8**	**-0.4**
	baz=312,SNR=7.9						
MSTX	**Muleshoe**	**50.15**	**84**	P	**P**	**21 30 29.4**	**+0.2**
MSTX				IAmb	IAmb	21 30 49.1	
	comp=Z,40nm,1.1s						
AMTX	**Amarillo**	**50.20**	**82**	P	**P**	**21 30 29.8**	**+0.3**
	baz=312						
G40A	**Rib Lake**	**50.32**	**64**	P	**P**	**21 30 30.4**	**+0.2**
G40A				IAmb	IAmb	21 32 05.6	
	comp=Z,39nm,1.1s						
COWI	**Conover**	**50.40**	**63**	P	**P**	**21 30 30.8**	**+0.1**
COWI				IAmb	IAmb	21 30 45.9	
	comp=Z,45nm,1.3s						
COWI				IAMs_20	IAMs_20	21 53 11.3	
	comp=Z,2μm,18.0s						
KSU1	**Kansas State U**	**50.50**	**74**	P	**P**	**21 30 31.6**	**-0.1**
	baz=310						
KSU1	**Kansas State U**	**50.50**	**74**	P	**P**	**21 30 32.3**	**+0.7**
KSU1				IAmb	IAmb	21 30 47.9	
	comp=Z,35nm,0.9s						
KSU1	**Kansas State U**	**50.50**	**74**	IAMs_20	IAMs_20	21 54 12.2	
	comp=Z,1μm,18.0s						
SCIA	**State Center**	**50.71**	**70**	IAMs_20	IAMs_20	21 51 54.1	
	comp=Z,3μm,20.0s						
BJT	**Baijiatuau**	**50.85**	**287**	P	**P**	**21 30 34.1**	**-0.1**
BJT				pmax	pmax		
	comp=Z,27nm,1.3s						
BJT				MLR	MLR		
	comp=Z,2μm,19.0s						
BJT	**Baijiatuau**	**50.85**	**287**	P	**P**	**21 30 34.1**	**-0.1**
BJT	**Baijiatuau**	**50.85**	**287**	IAMs_20	IAMs_20	21 53 38.9	
	comp=Z,2μm,19.0s						
ILULI	**Ilulissat**	**50.93**	**24**	IAMs_20	IAMs_20	21 56 04.4	
	comp=Z,1μm,19.0s						
ULN	**Ulaanbaatar**	**51.05**	**301**	P	**P**	**21 30 35.0**	**-0.9**
ULN				pmax	pmax		
	comp=Z,34nm,0.9s						
ULN				MLR	MLR		
	comp=Z,4μm,20.0s						
ULN	**Ulaanbaatar**	**51.05**	**301**	P	**P**	**21 30 35.0**	**-0.9**
ULN				IAmb	IAmb	21 30 39.4	
	comp=Z,34nm,0.9s						
SUMG	**Summit**	**51.08**	**17**	*i* P	**P**	**21 30 35.1**	**-1.0**
SUMG				IAmb	IAmb	21 30 39.1	
	comp=Z,67nm,1.1s						
SUMG	**Summit**	**51.08**	**17**	*i* P	**P**	**21 30 35.0**	**-1.0**
SUMG				pmax	pmax		
	comp=Z,67nm,1.1s						
SUMG	**Summit**	**51.08**	**17**	P	**P**	**21 30 35.0**	**-1.0**
SUMG				IAmb	IAmb	21 30 51.8	
	comp=Z,56nm,0.9s						
SUMG				IAMs_20	IAMs_20	21 55 28.2	
	comp=Z,2μm,18.0s						
E43A	**Lone Tree Farm**	**51.40**	**61**	P	**P**	**21 30 37.0**	**-1.3**
E43A				IAmb	IAmb	21 30 53.1	
	comp=Z,51nm,1.1s						
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**21 30 37.5**	**-1.1**
	comp=Z,32nm,1.1s,baz=54,slow=7.4,SNR=36						
SONM				PcP	**PcP**	**21 31 52.7**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=64,slow=5.0,SNR=4.5						
SONM				LR	LR	21 54 28.6	
	comp=Z,4μm,19.4s,baz=56,slow=38						
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**21 30 37.7**	**-0.9**
SONM				pmax	pmax		
	comp=Z,56nm,1.2s						
SONM	**Songino Array**	**51.42**	**301**	P	**P**	**21 30 37.7**	**-0.9**
SONM				IAmb	IAmb	21 30 42.0	
	comp=Z,56nm,1.2s						
ZAK	**Zakamensk**	**51.46**	**305**	*e*P	**P**	**21 30 37.6**	**-1.2**
ZAK				*e*		21 31 55.0	
ZAK				pmax	pmax		
	comp=Z,46nm,1.4s						
JFWS	**Jewell Farm**	**51.77**	**67**	P	**P**	**21 30 40.1**	**-1.0**
	baz=309,SNR=5.2						
MOY	**Mondy**	**51.80**	**308**	*e*P	**P**	**21 30 40.9**	**-0.5**
MOY				pmax	pmax		
	comp=Z,62nm,1.8s						
WMOK	**Wichita Mounta**	**52.07**	**80**	P	**P**	**21 30 43.0**	**-0.5**
WMOK				pmax	pmax		
	comp=Z,22nm,1.0s						
WMOK				MLR	MLR		
	comp=Z,2μm,18.0s						
WMOK	**Wichita Mounta**	**52.07**	**80**	P	**P**	**21 30 41.7**	**-1.8**
	baz=312,SNR=18						
WMOK	**Wichita Mounta**	**52.07**	**80**	P	**P**	**21 30 43.0**	**-0.5**
WMOK	**Wichita Mounta**	**52.07**	**80**	IAMs_20	IAMs_20	21 53 58.2	
	comp=Z,2μm,18.0s						
OK029	**Liberty Lake**	**52.16**	**78**	IAMs_20	IAMs_20	21 55 48.5	
	comp=Z,1μm,18.0s						
DBG	**Daneborg**	**52.22**	**10**	*i* P	**P**	**21 30 42.2**	**-1.8**
OK025	**Westminster Rd**	**52.38**	**78**	IAMs_20	IAMs_20	21 54 39.2	
	comp=Z,1μm,18.0s						
JOW	**Kunigami**	**52.44**	**266**	P	**P**	**21 30 47.3**	**+1.0**
JOW				IAmb	IAmb	21 31 01.5	
	comp=Z,58nm,1.1s						
SFJD	**Kangerlussuaq**	**52.66**	**26**	*i* P	**P**	**21 30 45.5**	**-1.9**
SFJD	**Kangerlussuaq**	**52.66**	**26**	P	**P**	**21 30 47.2**	**-0.2**
SFJD				pmax	pmax		
	comp=Z,30nm,1.0s						
SFJD				MLR	MLR		
	comp=Z,3μm,19.0s						
SFJD	**Kangerlussuaq**	**52.66**	**26**	P	**P**	**21 30 47.2**	**-0.2**
SFJD				IAmb	IAmb	21 31 02.5	
	comp=Z,30nm,1.0s						
SFJD	**Kangerlussuaq**	**52.66**	**26**	IAMs_20	IAMs_20	21 57 18.4	
	comp=Z,3μm,19.0s						
L42A	**Oliver, Polo**	**52.68**	**67**	P	**P**	**21 30 48.2**	**+0.3**
TIA	**Tai'an**	**52.77**	**283**	⇓P	**P**	**21 30 48.0**	**-0.6**
TIA				pmax	pmax		
	comp=Z,80nm,1.6s						
TIA				pmax	pmax		
	comp=Z,210nm,9.3s						
TIA				LR	LR		
	comp=Z,1μm,19.6s						
TIA				LR	LR		
	comp=Z,1μm,17.6s						
TIA				LR	LR		
	comp=Z,2μm,19.5s						
TX32	**Lajitas Array**	**52.79**	**89**	P	**P**	**21 30 48.0**	**-0.9**
TX32				IAmb	IAmb	21 31 16.2	
	comp=Z,54nm,1.1s						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**21 30 48.0**	**-1.0**
	comp=Z,14nm,0.5s,baz=299,slow=5.5,SNR=77						
TXAR				LR	LR	21 52 56.9	
	comp=Z,1μm,18.1s,baz=0.0,slow=36						
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**21 30 48.0**	**-1.0**
TXAR	**Lajitas Array**	**52.79**	**89**	P	**P**	**21 30 47.9**	**-1.0**
GUMO	**Guam**	**52.92**	**241**	P	**P**	**21 30 49.4**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,225nm,1.3s						
GUMO	**Guam**	**52.92**	**241**	P	**P**	**21 30 49.4**	**-0.5**
ABTX	**Abilene, Hawle**	**52.98**	**83**	P	**P**	**21 30 50.4**	**+0.1**
	baz=313						
ABTX	**Abilene, Hawle**	**52.98**	**83**	P	**P**	**21 30 50.6**	**+0.4**
ABTX				IAmb	IAmb	21 31 13.3	
	comp=Z,52nm,1.1s						
HHC	**Hu-ho-hao-te**	**52.99**	**291**	*e*P	**P**	**21 30 51.0**	**+0.6**
HHC				PP	**PP**	**21 32 51.8**	**+2.1**
HHC				S	**S**	**21 38 17.3**	**-2.4**
HHC				SS	**SS**	**21 41 55.0**	**-3.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,430nm,7.9s						
HHC				LR	LR		
	comp=Z,2μm,19.3s						
HHC				LR	LR		
	comp=Z,800nm,19.0s						
HHC				LR	LR		
	comp=Z,2μm,20.0s						
SLBS	**Sierra La Lagu**	**53.02**	**99**	P	**P**	**21 30 51.2**	**+0.5**
TUL1	**Leonard**	**53.09**	**77**	P	**P**	**21 30 51.9**	**+1.0**
	baz=312						
HPIG		**53.27**	**92**	P	**P**	**21 30 53.1**	**+0.4**
HPIG				IAmb	IAmb	21 31 09.3	
	comp=Z,33nm,1.1s						
S39A	**Bolivar**	**53.38**	**74**	P	**P**	**21 30 52.8**	**-0.3**
ICESG	**Greenland Ices**	**53.67**	**20**	*i* P	**P**	**21 30 53.3**	**-1.9**
ICESG				*e*P	**pP**	**21 30 54.3**	**-3.7**
GLMI	**Grayling**	**53.67**	**62**	IAMs_20	IAMs_20	21 55 28.8	
	comp=Z,3μm,18.0s						
SSE	**Sheshan**	**53.79**	**276**	P	**P**	**21 30 55.5**	**-0.6**
SSE				S	**S**	**21 38 30.8**	**+0.4**
SSE				pmax	pmax		
	comp=Z,7.0nm,0.4s						
SSE				pmax	pmax		
	comp=Z,160nm,4.2s						
SSE				LR	LR		
	comp=Z,310nm,17.7s						
HDIL	**Hopedale**	**53.84**	**68**	P	**P**	**21 30 54.0**	**-2.4**
	baz=311						
HDIL	**Hopedale**	**53.84**	**68**	P	**P**	**21 30 55.9**	**-0.5**
HDIL				IAmb	IAmb	21 31 11.1	
	comp=Z,46nm,0.9s						
HDIL				IAMs_20	IAMs_20	21 54 10.8	
	comp=Z,3μm,20.0s						
BTO	**Baotou**	**54.04**	**292**	*e*P	**P**	**21 30 58.0**	**0.0**
BTO				S	**S**	**21 38 35.3**	**+1.5**
BTO				LR	LR		
	comp=Z,7μm,18.3s						
BTO				LR	LR		
	comp=Z,16μm,17.7s						
MATQ	**Matagami**	**54.10**	**53**	P	**P**	**21 30 55.5**	**-2.7**
	baz=310,SNR=6.3						
DY2G	**Dye2**	**54.20**	**24**	*i* P	**P**	**21 30 58.3**	**-0.7**
CCM	**Cathedral Cave**	**54.36**	**72**	P	**P**	**21 30 59.1**	**-1.1**
CCM				pmax	pmax		
	comp=Z,21nm,1.0s						
CCM				MLR	MLR		
	comp=Z,2μm,19.0s						
CCM	**Cathedral Cave**	**54.36**	**72**	P	**P**	**21 30 58.4**	**-1.8**
	baz=312						
CCM	**Cathedral Cave**	**54.36**	**72**	P	**P**	**21 30 59.1**	**-1.1**
CCM	**Cathedral Cave**	**54.36**	**72**	IAMs_20	IAMs_20	21 55 08.0	
	comp=Z,2μm,19.0s						
JCT	**Junction City**	**54.37**	**85**	P	**P**	**21 30 59.6**	**-0.9**
JCT				pmax	pmax		
	comp=Z,30nm,0.8s						
JCT				MLR	MLR		
	comp=Z,2μm,18.0s						
JCT	**Junction City**	**54.37**	**85**	P	**P**	**21 30 59.3**	**-1.2**
	baz=315,SNR=6.7						
JCT	**Junction City**	**54.37**	**85**	P	**P**	**21 30 59.6**	**-0.9**
JCT				IAmb	IAmb	21 31 26.5	
	comp=Z,30nm,0.8s						
JCT				IAMs_20	IAMs_20	21 53 56.5	
	comp=Z,2μm,18.0s						
U40A	**Yellville**	**54.55**	**75**	P	**P**	**21 31 00.4**	**-1.3**
	baz=312,SNR=6.6						
U40A	**Yellville**	**54.55**	**75**	IAMs_20	IAMs_20	21 55 21.3	
	comp=Z,1μm,19.0s						
NJ2	**Nanjing**	**54.55**	**278**	*e*P	**P**	**21 31 01.0**	**-0.7**
NJ2				pP	**pP**	**21 31 03.8**	**-0.5**
NJ2				sP	**pwP**	**21 31 08.0**	**-1.1**
NJ2				PcP	**PcP**	**21 32 06.8**	**+2.0**
NJ2				PP	**PP**	**21 33 02.8**	**-1.0**
NJ2				S	**S**	**21 38 39.0**	**-1.7**
NJ2				sS	**sS**	**21 38 51.0**	**+5.9**
NJ2				pmax	pmax		
	comp=Z,19nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,410nm,4.5s						
NJ2				LR	LR		
	comp=Z,750nm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,19.9s						
NJ2				LR	LR		
	comp=Z,1μm,19.6s						
TIY	**Taiyuan**	**54.56**	**288**	*e*P	**P**	**21 31 05.0**	**+3.2**
TIY				S	**S**	**21 38 41.8**	**+1.0**
TIY				pmax	pmax		
	comp=Z,41nm,1.0s						
TIY				pmax	pmax		
	comp=Z,340nm,4.1s						
TIY				LR	LR		
	comp=Z,720nm,15.0s						
TIY				LR	LR		
	comp=Z,770nm,17.3s						
TIY				LR	LR		
	comp=Z,2μm,20.0s						
L46A	**Eue Claire**	**54.58**	**65**	P	**P**	**21 31 02.0**	**+0.2**
L46A				IAmb	IAmb	21 31 04.1	
	comp=Z,31nm,0.7s						
WHTX	**Lake Whitney,**	**54.75**	**82**	P	**P**	**21 31 02.2**	**-1.0**
	baz=314,SNR=7.1						
WHTX	**Lake Whitney,**	**54.75**	**82**	P	**P**	**21 31 03.8**	**+0.6**
WHTX				IAmb	IAmb	21 31 26.3	
	comp=Z,67nm,1.1s						
W39A	**Magazine**	**54.78**	**76**	P	**P**	**21 31 02.1**	**-1.2**
	baz=313						
LSQQ	**Lebel-sur-Quev**	**54.89**	**53**	P	**P**	**21 31 02.6**	**-1.3**
	baz=311						
SFIN	**Lafayette**	**55.21**	**67**	P	**P**	**21 31 04.7**	**-1.7**
	baz=312,SNR=5.2						
MIAR	**Mount Ida**	**55.35**	**77**	P	**P**	**21 31 05.5**	**-2.0**
	baz=313,SNR=6.7						
MIAR	**Mount Ida**	**55.35**	**77**	IAMs_20	IAMs_20	21 57 31.6	
	comp=Z,1μm,18.0s						
435B	**Jarrell**	**55.52**	**83**	P	**P**	**21 31 06.3**	**-2.4**
	baz=315						
435B	**Jarrell**	**55.52**	**83**	IAMs_20	IAMs_20	21 54 57.7	
	comp=Z,2μm,18.0s						
SCO	**Scoresbysund**	**55.53**	**13**	*i* P	**P**	**21 31 07.0**	**-1.2**
SCO				IAmb	IAmb	21 31 10.9	
	comp=Z,63nm,1.3s						
SCO	**Scoresbysund**	**55.53**	**13**	P	**P**	**21 31 06.8**	**-1.4**
SCO				pmax	pmax		
	comp=Z,63nm,1.3s						
SCO		

WLAR	White Oak Lake	56.22	77	P	P	21 31 13.6	-0.1	
ALGO	Algonquin Park	56.41	57	P	P	21 31 13.7	-1.2	
	baz=312,SNR=5.2							
USIN	University of	56.51	70	P	P	21 31 15.3	-0.4	
NATX	Nacogdoches	56.62	80	IAMs_20	IAMs_20	21 54 36.6		
	comp=Z,2μm,20.0s							
SADO	Sadowa	56.64	59	P	P	21 31 17.3	+0.7	
	comp=Z,10.0nm,0.7s,baz=335,slow=9.2,SNR=9.7							
SADO	Sadowa	56.64	59	P	P	21 31 16.9	+0.3	
SADO				IAmb	IAmb	21 31 33.1		
	comp=Z,69nm,1.3s							
Z41A	Richland Creek	56.70	77	P	P	21 31 16.0	-1.1	
	baz=314							
ANGG	Ammassalik, Gr	56.98	22	eP	P	21 31 19.2	+0.5	
ANGG				IAmb	IAmb	21 31 20.2		
	comp=Z,30nm,1.0s							
ANGG	Ammassalik, Gr	56.98	22	P	P	21 31 17.7	-0.9	
ANGG				IAmb	IAmb	21 31 31.6		
	comp=Z,37nm,1.0s							
ANGG				IAMs_20	IAMs_20	21 58 44.3		
	comp=Z,2μm,20.0s							
WCI	Wyandotte Cave	57.12	69	P	P	21 31 19.6	-0.4	
WCI				pmax	pmax			
	comp=Z,31nm,1.1s							
WCI				MLR	MLR			
	comp=Z,3μm,20.0s							
WCI	Wyandotte Cave	57.12	69	P	P	21 31 21.5	+1.5	
	baz=313							
WCI	Wyandotte Cave	57.12	69	P	P	21 31 19.6	-0.4	
WCI				IAmb	IAmb	21 31 38.0		
	comp=Z,31nm,1.1s							
P49A	Miami Univ. Ec	57.13	66	P	P	21 31 18.7	-1.4	
	baz=313,SNR=5.9							
HKT	Hockley	57.17	82⇑	eP	P	21 31 20.9	+0.4	
HKT				pmax	pmax			
	comp=Z,6.0nm,0.9s							
HKT	Hockley	57.17	82	IAMs_20	IAMs_20	21 57 36.3		
	comp=Z,2μm,18.0s							
DELO	Deloro Mine	57.61	58	P	P	21 31 23.7	+0.3	
ZAA0	Zalesovo Array	57.62	318	P	P	21 31 22.4	-0.9	
ZAA0				IAmb	IAmb	21 32 32.4		
	comp=Z,40nm,1.1s							
ZALV	Zalesovo Beam	57.62	318	P	P	21 31 21.6	-1.8	
	comp=Z,3.4nm,0.5s,baz=44,slow=5.5,SNR=21							
ZALV				LR	LR	21 57 05.2		
	comp=Z,2μm,20.4s,baz=49,slow=37							
ZALV	Zalesovo Beam	57.62	318	P	P	21 31 21.8	-1.6	
ZALV	Zalesovo Beam	57.62	318	P	P	21 31 21.8	-1.6	
ACSO	Alum Creek Sta	57.63	65	P	P	21 31 24.7	+1.1	
	baz=313							
WVT	Waverly	57.67	71	P	P	21 31 24.4	+0.4	
WVT				pmax	pmax			
	comp=Z,28nm,1.1s							
WVT				MLR	MLR			
	comp=Z,1μm,18.0s							
WVT	Waverly	57.67	71	P	P	21 31 22.6	-1.3	
	baz=314							
WVT	Waverly	57.67	71	P	P	21 31 24.4	+0.4	
WVT				IAmb	IAmb	21 31 42.4		
	comp=Z,28nm,1.1s							
WVT	Waverly	57.67	71	IAMs_20	IAMs_20	21 57 19.5		
	comp=Z,1μm,18.0s							
OXF	Oxford	57.86	74	P	P	21 31 25.5	+0.2	
	baz=314							
KEV	Kevo	57.90	353	P	P	21 31 24.8	-0.2	
KEV				pmax	pmax			
	comp=Z,51nm,1.2s							
KEV				MLR	MLR			
	comp=Z,2μm,20.0s							
KEV	Kevo	57.90	353	P	P	21 31 24.8	-0.2	
KEV				IAmb	IAmb	21 31 27.5		
	comp=Z,51nm,1.2s							
KEV				IAMs_20	IAMs_20	21 56 23.7		
	comp=Z,2μm,20.0s							
J54A	Appleton	57.92	60	P	P	21 31 25.7	+0.1	
J54A				IAmb	IAmb	21 31 40.7		
	comp=Z,41nm,1.0s							
TATO	Taipei	57.97	270	IAMs_20	IAMs_20	21 56 02.9		
	comp=Z,2μm,20.0s							
ERPA	Erie	57.99	61	P	P	21 31 25.0	-1.1	
	baz=313							
ERPA	Erie	57.99	61	IAMs_20	IAMs_20	21 57 17.9		
	comp=Z,2μm,20.0s							
M53A	WI Miller and	58.08	62	P	P	21 31 25.4	-1.3	
	baz=313							
M53A	WI Miller and	58.08	62	IAMs_20	IAMs_20	21 58 48.5		
	comp=Z,2μm,18.0s							
ARCES	ARCESS Array B	58.22	354	P	P	21 31 25.9	-1.5	
	comp=Z,20nm,0.9s,baz=19,slow=7.7,SNR=21							
ARCES				LR	LR	21 56 10.8		
	comp=Z,2μm,22.0s,baz=350,slow=36							
ARCES	ARCESS Array B	58.22	354	P	P	21 31 25.6	-1.8	
ARCES				pmax	pmax			
	comp=Z,46nm,1.2s							
ARCES	ARCESS Array B	58.22	354	P	P	21 31 25.6	-1.8	
ARCES				IAmb	IAmb	21 31 29.8		
	comp=Z,46nm,1.1s							
ZAIG	Zacatecas	58.22	93	P	P	21 31 27.4	-0.9	
PLAL	Pickwick Lake	58.32	73	IAMs_20	IAMs_20	21 59 30.9		
	comp=Z,2μm,19.0s							
WHN	Wuhan	58.35	280	⇓P	P	21 31 28.5	-0.3	
WHN				S	S	21 39 31.0	-0.1	
WHN				pmax	pmax			
	comp=Z,60nm,0.9s							
WHN				LR	LR			
	comp=Z,1μm,15.8s							
WHN				LR	LR			
	comp=Z,3μm,18.4s							
WHN				LR	LR			
	comp=Z,3μm,17.7s							
TRO	Tromso	58.46	357	eP	P	21 31 27.6	-1.4	
JETT	Jettan, Norway	58.48	356	eP	P	21 31 29.1	0.0	
P52A	Corning	58.51	65	P	P	21 31 29.3	-0.6	
	baz=314							
M54A	Oil Creek Stat	58.58	62	P	P	21 31 31.1	+0.8	
	baz=314							
M54A	Oil Creek Stat	58.58	62	IAMs_20	IAMs_20	21 57 36.7		
	comp=Z,2μm,20.0s							
O53A	New Philadelph	58.60	64	P	P	21 31 29.9	-0.6	
	baz=314							
N54A	Moraine State	58.78	62	P	P	21 31 31.3	-0.4	
	baz=314							
N54A	Moraine State	58.78	62	IAMs_20	IAMs_20	21 59 10.1		
	comp=Z,2μm,20.0s							
VBMS	Vicksburg	58.80	77	IAMs_20	IAMs_20	21 59 56.0		
	comp=Z,1μm,18.0s							
H57A	Richville	58.80	57	P	P	21 31 30.1	-1.6	
	baz=314,SNR=5.7							
KTK1	Kautokeino	58.88	355	eP	P	21 31 30.1	-1.8	
LVZ	Lovozero	59.01	350	P	P	21 31 31.2	-1.7	
LVZ				pmax	pmax			
	comp=Z,89nm,0.9s							
LVZ				MLR	MLR			
	comp=Z,2μm,20.0s							
LVZ	Lovozero	59.01	350	P	P	21 31 31.2	-1.7	
LVZ				IAMs_20	IAMs_20	21 59 18.1		
	comp=Z,2μm,20.0s							
K56A	Middlesex	59.01	59	P	P	21 31 33.5	+0.2	
	baz=314							
I57A	Carthage	59.03	57	P	P	21 31 32.4	-1.0	
	baz=314							
M55A	Ridgway	59.10	61	P	P	21 31 32.4	-1.5	
LONY	Lake Ozonia	59.11	56	P	P	21 31 32.5	-1.4	
	baz=314,SNR=5.8							
LONY	Lake Ozonia	59.11	56	P	P	21 31 32.2	-1.7	
LONY				IAmb	IAmb	21 31 48.2		
	comp=Z,41nm,0.9s							
LONY				IAMs_20	IAMs_20	21 58 07.1		
	comp=Z,2μm,19.0s							
XAN	Xi'an	59.15	287	P	P	21 31 34.0	-0.4	
XAN				pP	pP	21 31 36.8	-0.2	
XAN				sP	pwP	21 31 40.3	-1.6	
XAN				PP	PP	21 33 47.8	+3.0	
XAN				S	S	21 39 43.5	+2.0	
XAN				sS	sS	21 39 50.5	+4.6	
XAN				ScS	ScS	21 41 18.5	-5.7	
XAN				pmax	pmax			
	comp=Z,23nm,1.0s							
XAN				pmax	pmax			
	comp=Z,580nm,5.4s							
XAN				LR	LR			
	comp=Z,2μm,19.0s							
XAN				LR	LR			
	comp=Z,2μm,18.4s							
XAN				LR	LR			
	comp=Z,3μm,20.1s							
SSLB	Suanglung	59.17	270	P	P	21 31 33.1	-1.5	
YULB	Yu-li	59.25	269	P	P	21 31 34.1	-1.0	
K57A	Scipio Center	59.42	59	P	P	21 31 35.3	-0.8	
H58A	Gabriels	59.45	56	P	P	21 31 35.8	-0.6	
	baz=314							
DGZ	Jazzator, Alta	59.52	313	d iP	P	21 31 36.2	-0.7	
DGZ				pmax	pmax			
	comp=Z,27nm,1.0s							
H59A	Cadyville	59.54	55	P	P	21 31 35.9	-1.0	
	baz=314,SNR=6.1							
I58A	Old Forge	59.55	57	P	P	21 31 37.5	+0.4	
	baz=314							
J58A	Remsen	59.62	57	P	P	21 31 37.2	-0.3	
	baz=314							
J58A	Remsen	59.62	57	P	P	21 31 36.0	-1.5	
TPUB	Ta-pu	59.73	270	IAMs_20	IAMs_20	21 56 44.7		
	comp=Z,1μm,20.0s							
MCWV	Mont Chateau	59.77	63	P	P	21 31 38.2	-0.3	
	baz=314							
QZH	Quanzhou	59.78	273	P	P	21 31 41.8	+3.0	
QZH				S	S	21 39 52.5	+2.8	
QZH				pmax	pmax			
	comp=Z,76nm,1.5s							
QZH				LR	LR			
	comp=Z,410nm,19.6s							
QZH				LR	LR			
	comp=Z,240nm,15.6s							
QZH				LR	LR			
	comp=Z,570nm,17.9s							
MOQ	Mont Orford	59.80	54	P	P	21 31 37.4	-1.3	
TZTN	Tazewell	59.86	68	P	P	21 31 36.9	-2.4	
	baz=314							
J59A	Piesco	59.96	57	P	P	21 31 38.9	-0.9	
J59A				IAmb	IAmb	21 31 54.6		
	comp=Z,33nm,1.1s							
O56A	Blue Knob Stat	60.04	62	P	P	21 31 39.8	-0.7	
	baz=314							
O56A	Blue Knob Stat	60.04	62	IAMs_20	IAMs_20	22 00 17.4		
	comp=Z,2μm,19.0s							
I59A	Olmsteadville	60.05	56	P	P	21 31 40.8	+0.4	
	baz=315							
BINY	Binghamton	60.07	59	P	P	21 31 41.1	+0.5	
	baz=315							
BINY	Binghamton	60.07	59	P	P	21 31 40.3	-0.3	
BINY				IAMs_20	IAMs_20	21 59 34.9		
	comp=Z,2μm,20.0s							
Y49A	Blount Mountai	60.09	72	P	P	21 31 39.8	-1.0	
Y49A				IAmb	IAmb	21 32 02.6		
	comp=Z,21nm,0.9s							
LOF	Lofoten	60.10	359	eP	P	21 31 39.9	-0.4	
H60A	Morristown	60.11	55	P	P	21 31 40.0	-0.8	
	baz=315							
D62A	Allapoint, All	60.11	51	P	P	21 31 40.1	-0.6	
	baz=315,SNR=7.6							
SSPA	Standing Stone	60.15	61	P	P	21 31 39.6	-1.5	
	baz=315							
SSPA	Standing Stone	60.15	61	P	P	21 31 39.6	-1.5	
SSPA				IAmb	IAmb	21 31 56.9		
	comp=Z,74nm,1.4s							
E62A	Clayton Lake	60.21	51	P	P	21 31 40.3	-1.2	
	baz=315,SNR=5.3							
E62A	Clayton Lake	60.21	51	P	P	21 31 41.0	-0.5	
E62A				IAmb	IAmb	21 31 55.9		
	comp=Z,33nm,1.1s							
L58A	Harry Jones Me	60.25	59	P	P	21 31 41.2	-0.6	
	baz=315,SNR=6.4							
STEI	Steigen	60.27	358	eP	P	21 31 39.1	-2.4	
I60A	Shoreham	60.31	56	P	P	21 31 41.7	-0.5	
	baz=315							
H61A	Lyndonville	60.52	55	P	P	21 31 43.0	-0.6	
	baz=316							
Q56A	Snyder Ridge,	60.56	63	P	P	21 31 44.0	-0.1	
Q56A				IAmb	IAmb	21 32 03.6		
	comp=Z,22nm,0.9s							
GTA	Gaotai	60.58	297	⇑P	P	21 31 43.0	-1.3	
GTA				pP	pP	21 31 47.5	+0.4	
GTA				sP	pwP	21 31 50.5	-0.6	
GTA				S	S	21 39 57.5	-2.5	
GTA				sS	sS	21 40 10.0	+5.3	
GTA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,240nm,8.8s							
GTA				LR	LR			
	comp=Z,2μm,20.3s							
GTA				LR	LR			
	comp=Z,3μm,18.3s							
GTA				LR	LR			
	comp=Z,3μm,18.3s							
D63A	Stockholm	60.59	50	P	P	21 31 43.3	-0.8	
	baz=316,SNR=5.7							
KSPA	Keystone Colle	60.64	59	P	P	21 31 44.5	+0.1	
KSPA				IAmb	IAmb	21 32 00.4		
	comp=Z,36nm,1.2s							
LZH	Lanzhou	60.66	292	eP	P	21 31 47.3	+2.4	
LZH				pP	pwP	21 31 52.0	-0.4	
LZH				sP	sP	21 31 55.5	+6.9	
LZH				PcP	PcP	21 32 28.0	-1.1	
LZH				S	S	21 39 59.5	-1.7	
LZH				sS	sS	21 40 09.5	+4.0	
LZH				SS	SS	21 43 56.5	-2.6	
LZH				pmax	pmax			
	comp=Z,74nm,1.3s							
LZH				pmax	pmax			
	comp=Z,400nm,4.6s							
LZH				LR	LR			
	comp=Z,3μm,17.1s							
LZH				LR	LR			
	comp=Z,2μm,16.8s							
LZH				LR	LR			
	comp=Z,3μm,19.5s							
J60A	Lant Hill Farm	60.67	56	P	P	21 31 43.7	-1.0	
	baz=315							
G62A	West of Eustis	60.72	53	P	P	21 31 44.0	-1.0	
	baz=316,SNR=5.4							
LBNH	Lisbon	60.72	55	P	P	21 31 43.5	-1.5	
	baz=315,SNR=5.6							
FAUS	Fauske	60.82	358	eP	P	21 31 43.7	-1.5	
H62A	Milan	60.87	54	P	P	21 31 44.0	-2.0	
	baz=316							
E63A	Oxbow	60.89	51	P	P	21 31 44.5	-1.6	
	baz=316,SNR=6.1							
TRY	Troy	60.91	57	IAMs_20	IAMs_20	22 01 18.9		
	comp=Z,2μm,18.0s							
BORG	Borgarnes	60.93	15	P	P	21 31 45.4	-0.7	
BORG				pmax	pmax			
	comp=Z,35nm,1.1s							
BORG				MLR	MLR			
	comp=Z,3μm,19.0s							
BORG	Borgarnes	60.93	15	P	P	21 31 45.4	-0.7	
BORG				IAmb	IAmb	21 31 50.3		
	comp=Z,35nm,1.1s							
PAGS	Pennsylvania G	61.07	61	P	P	21 31 47.9	+0.5	
PAGS				IAmb	IAmb	21 32 03.0		
	comp=Z,15nm,0.8s							
F63A	Nahmakanta, Br	61.08	52	P	P	21 31 46.8	-0.6	
	baz=316,SNR=5.6							
N59A	State Game Lan	61.09	60	P	P	21 31 46.6	-0.9	
	baz=315							
K61A	Williamstown	61.16	57	P	P	21 31 48.9	+0.9	
	baz=315							
BLA	Blacksburg	61.17	66	P	P	21 31 47.9	-0.3	
BLA				pmax	pmax			
	comp=Z,51nm,1.0s							
BLA				MLR	MLR			
	comp=Z,4μm,19.0s							
BLA	Blacksburg	61.17	66	P	P	21 31 47.2	-1.0	
	baz=315,SNR=7.6							
BLA	Blacksburg	61.17	66	P	P	21 31 47.9	-0.3	
BLA				IAmb	IAmb	21 32 04.8		
	comp=Z,51nm,0.9s							
E64A	Bridgewater	61.17	51	P	P	21 31 47.5	-0.5	
	baz=316,SNR=7.0							
G63A	Kingsbury	61.25	53	P	P	21 31 48.0	-0.6	
	baz=316							
I62A	Tamworth	61.28	55	P	P	21 31 49.5	+0.7	
	baz=316							
PKME	Peaks-Kenny Pk	61.30	52	P	P	21 31 49.5	+0.6	
	baz=316							
BG3	Lake Jocassee	61.31	69	P	P	21 31 49.0	-0.1	
BG3				IAmb	IAmb	21 32 48.3		
	comp=Z,20nm,0.9s							
F64A	Sherman	61.32	51	P	P	21 31 49.4	+0.4	
	baz=316							
H63A	New Sharon	61.37	53	P	P	21 31 48.1	-1.3	
	baz=316							
ENH	Enshi	61.48	283	P	P	21 31 49.5	-0.9	
ENH				IAMs_20	IAMs_20	22 02 58.7		
	comp=Z,2μm,18.0s							
J62A	Henniker	61.51	56	P	P	21 31 48.8	-1.5	
	baz=316,SNR=5.3							
I63A	Otisfield	61.54	54	P	P	21 31 50.2	-0.3	
	baz=316							
G64A	Maxfield	61.57	52	P	P	21 31 50.1	-0.6	
	baz=316							
BRAL	Brewton	61.62	75	IAMs_20	IAMs_20	21 59 59.5		
	comp=Z,2μm,18.0s							
L61B	Northampton	61.62	57	P	P	21 31 51.8	+0.7	
	baz=316							
WVL	Waterville	61.62	53	IAMs_20	IAMs_20	21 58 55.4		
	comp=Z,2μm,21.0s							
K62A	Royalston	61.69	56	P	P	21 31 51.8	+0.2	
	baz=316							
K62A	Royalston	61.69	56	P	P	21 31 50.2	-1.4	
K62A				IAmb	IAmb	21 32 06.7		
	comp=Z,43nm,1.1s							
J63A	Strafford	61.84	55	P	P	21 31 52.8	+0.2	
	baz=316							
STOK	Stokkvaagen	61.91	359	eP	P	21 31 52.0	-0.6	
P60A	Greenville	61.95	61	P	P	21 31 53.5	+0.1	
	baz=316							
PAL	Palisades	62.02	59	P	P	21 31 54.3	+0.5	
	baz=316							
PAL	Palisades	62.02	59	IAMs_20	IAMs_20	22 00 25.3		
	comp=Z,1μm,19.0s							
K63A	Dunstable	62.04	56	P	P	21 31 53.4	-0.5	
	baz=316							
R58B	Mineral	62.05	63	P	P	21 31 53.9	-0.2	
MOR8	Moi Rana	62.05	358	eP	P	21 31 51.0	-2.7	
I64A	Boothbay	62.10	54	P	P	21 31 54.0	-0.3	
	baz=316							
KMSC	Kings Mountain	62.12	68	P	P	21 31 55.4	+0.8	
	baz=316							
GOGA	Godfrey	62.13	71	P	P	21 31 54.3	-0.3	
	baz=316							
GOGA	Godfrey	62.13	71	IAMs_20	IAMs_20	21 58 28.5		
	comp=Z,2μm,21.0s							
HRV	Adam Dziewonsk	62.16	56	P	P	21 31 55.4	+0.7	
	baz=316							
G65A	Princeton	62.19	51	P	P	21 31 55.2	+0.4	
	baz=317							
WSPT	Westport, CT	62.20	58	IAMs_20	IAMs_20	22 00 34.2		
	comp=Z,1μm,18.0s							
H65A	Eastbrook	62.22	52	P	P	21 31 52.9	-2.2	
	baz=317,SNR=5.7							
WES	Weston	62.36	56	P	P	21 31 56.0	-0.1	
WES				pmax	pmax			
	comp=Z,40nm,1.0s							
WES				MLR	MLR			
	comp=Z,3μm,20.0s							
WES	Weston	62.36	56	P	P	21 31 56.0	-0.1	
WES				IAmb	IAmb	21 32 11.0		
	comp=Z,40nm,1.0s							
KURK	Kurchatov	62.58	318	P	P	21 31 56.3	-1.0	
KURK	Kurchatov	62.58	318	P	P	21 31 56.3	-1.0	
L63A	North Scituate	62.59	56	IAMs_20	IAMs_20	22 01 34.4		
	comp=Z,2μm,19.0s							
H66A	Whiting	62.61	52	P	P	21 31 56.4	-1.3	
	baz=317,SNR=5.1							
KURBB	Kurchatov Arra	62.68	318	P	P	21 31 56.3	-1.7	
	comp=Z,34nm,0.9s,baz=43,slow=6.7,SNR=79							
UNM	Universidad Na	62.88	93	IAMs_20	IAMs_20	21 57 53.8		
	comp=Z,2μm,18.0s							
LMN	Caledonia Moun	63.02	49	P	P	21 31 59.6	-0.8	
M64A	Tiverton	63.03	56	P	P	21 32 00.0	-0.4	
	baz=317							
PRGR	Permogore	63.26	342	eP	P	21 32 00.1	-1.6	
PRGR				pmax	pmax			
	comp=Z,60nm,1.2s							
DRLN	Deer Lake	63.69	43	P	P	21 32 04.7	-0.1	
WMQ	Urumqi	63.69	308	eP	P	21 32 07.0	+2.0	
WMQ				pP	sP	21 32 10.0	+1.3	
WMQ				sP	pwP	21 32 15.5	+3.7	
WMQ				PcP	PcP	21 32 44.0	+2.9	
WMQ				S	S	21 40 42.0	+3.1	
WMQ				SKS	SKKSac	21 41 57.5	-0.6	
WMQ				pmax	pmax			
	comp=Z,50nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,380nm,5.3s							
WMQ				LR	LR			
	comp=Z,3μm,20.5s							
WMQ				LR	LR			
	comp=Z,2μm,20.5s							
WMQ				LR	LR			
	comp=Z,2μm,20.5s							
NSS	Namsos	63.74	359	eP	P	21 32 03.5	-1.3	
BRVK	Borovoye	63.94	325	P	P	21 32 05.4	-1.0	
BRVK				pmax	pmax			
	comp=Z,75nm,1.2s							
BRVK				MLR	MLR			
	comp=Z,5μm,18.0s							
BRVK	Borovoye	63.94	325	P	P	21 32 05.4	-1.0	
SVE	Sverdlovsk	63.94	332	eP	P	21 32 05.8	-0.5	
SVE				eS	S	21 40 43.3	+1.8	
SVE				pmax	pmax			
	comp=Z,73nm,1.4s							
MK31	Makanchi Array	63.99	313	P	P	21 32 04.9	-2.0	
MK31				pmax	pmax			
	comp=Z,18nm,1.1s							
MK31	Makanchi Array	63.99	313	P	P	21 32 04.9	-2.0	
MK31				IAmb	IAmb	21 32 20.9		
	comp=Z,18nm,1.1s							
MKAR	Makanchi Array	63.99	313	P	P	21 32 05.0	-1.9	
	comp=Z,4.3nm,0.5s,baz=53,slow=6.9,SNR=36							
MKAR				LR	LR	22 00 50.3		
	comp=Z,2μm,19.9s,baz=29,slow=37							
MKAR	Makanchi Array	63.99	313	P	P	21 32 05.0	-1.9	
MKAR	Makanchi Array	63.99	313	P	P	21 32 04.7	-2.1	
MAKZ	Makanchi	64.11	314	P	P	21 32 05.7	-2.0	
MAKZ				pmax	pmax			
	comp=Z,32nm,1.2s							
MAKZ				MLR	MLR			
	comp=Z,2μm,20.0s							
MAKZ	Makanchi	64.11	314	P	P	21 32 05.7	-2.0	
MAKZ				IAmb	IAmb	21 32 21.8		
	comp=Z,32nm,1.2s							
MAKZ				IAMs_20	IAMs_20	22 04 47.8		
	comp=Z,2μm,20.0s							
SZP	Santa	64.14	266	P	P	21 32 08.7	+0.6	
CD2	Chengdu	64.43	288	P	P	21 32 09.5	-0.5	
CD2				pP	sP	21 32 13.3	-0.4	
CD2				S	S	21 40 49.3	+0.9	
CD2				pmax	pmax			
	comp=Z,160nm,1.1s							
CD2				pmax	pmax			
	comp=Z,430nm,6.7s							
CD2				LR	LR			
	comp=Z,2μm,21.0s							
CD2				LR	LR			
	comp=Z,1μm,20.4s							
CD2				LR	LR			
	comp=Z,2μm,21.4s							
ARU	Arti	64.87	333	c iP	P	21 32 10.9	-1.5	
ARU						21 32 44.9		
ARU						21 34 31.8		
ARU				S	S	21 40 53.4	+0.4	
ARU						21 42 05.1		
ARU				SS	SS	21 45 10.1	+6.7	
ARU				pmax	pmax			
	comp=Z,70nm,1.1s							
ARU	Arti	64.87	333	P	P	21 32 10.6	-1.8	
ARU				IAMs_20	IAMs_20	22 04 37.6		
	comp=Z,2μm,20.0s							
KLMR	Klimovskoe	65.07	345	eP	P	21 32 13.2	-0.3	
KLMR				e		21 32 44.6		
KLMR				e		21 34 35.5		
KLMR				eS	S	21 40 58.0	+2.7	
KLMR				eSS	SS	21 45 12.3	+6.1	
KLMR				pmax	pmax			
	comp=Z,56nm,1.2s							
KLMR	Klimovskoe	65.07	345	eP	P	21 32 13.3	-0.3	
KLMR				AMP		21 32 15.8		
	comp=Z,56nm,1.2s							
KLMR				ePcP	PcP	21 32 44.7	-1.6	
KLMR				ePP	PP	21 34 35.5	-0.6	
KLMR				eS	S	21 40 58.0	+2.7	
KLMR				eS	S	21 40 58.0	+2.7	
KLMR				eSS	SS	21 45 12.4	+6.2	
KLMR				eSS	SS	21 45 12.4	+6.2	
KLMR				LQ	LQ	21 56 41.4		

KLMR LQ LQ 21 56 41.4
KLMR LR LR 22 03 12.8
KLMR AMP 22 08 23.9
comp=Z,1µm,17.2s
KIRV Kirov 65.27 339 *de*P **P 21 32 13.7 -1.2**
TAOE Nuku Hiva Isla 65.68 148 *e*S **S 21 41 03.6 -0.4**
comp=Z,420nm,24.5s
TAOE Nuku Hiva Isla 65.68 148 *e*LR LR 21 51 53.4
comp=Z,1µm,20.7s
TAOE Nuku Hiva Isla 65.68 148 *e*T T 22 43 31.0
comp=Z,39nm,0.2s
MOL Molde 65.68 2 *e*P **P 21 32 16.4 -1.1**
GYA Guiyang 65.96 283 ⇓P **P 21 32 19.8 -0.3**
GYA pP pP 21 32 22.8 +0.1
GYA S **S 21 41 06.0 -1.4**
GYA pmax pmax
comp=Z,89nm,3.5s
GYA LR LR
comp=Z,110nm,14.3s
GYA LR LR
comp=Z,170nm,23.6s
GYA LR LR
comp=Z,280nm,14.8s
FIA1 FINESS Array S 66.16 352 P **P 21 32 18.7 -1.9**
FINES FINESS Array B 66.17 352 P **P 21 32 19.1 -1.6**
comp=Z,27nm,0.8s,baz=16,slow=7.5,SNR=38
FINES LR LR 22 01 13.3
comp=Z,1µm,21.8s,baz=12,slow=36
FINES FINESS Array B 66.17 352 P **P 21 32 18.6 -2.1**
DOMB Dombas 66.23 1 *e*P **P 21 32 19.6 -1.6**
RAF Rauma 66.91 354 *e*P **P 21 32 24.0 -1.4**
NC204 NORSAR Array S 67.01 360 P **P 21 32 24.0 -2.2**
HYA Hoyanger 67.06 2 *e*P **P 21 32 26.9 +0.5**
DWPF Disney Wildern 67.18 73 IAMs_20 IAMs_20 22 04 10.7
comp=Z,966nm,18.0s
NB2 NORSAR Subarra 67.24 360 P **P 21 32 26.0 -1.6**
comp=Z,55nm,1.2s,baz=0.2,slow=6.2
NB2 NORSAR Subarra 67.24 360 P **P 21 32 26.0 -1.6**
baz=0.2,slow=6.2
NOA NORSAR Array B 67.24 360 P **P 21 32 25.7 -1.9**
comp=Z,19nm,0.9s,baz=0.2,slow=6.3,SNR=24
NOA LR LR 22 01 30.7
comp=Z,567nm,20.0s,baz=350,slow=36
MEF Metsahovi 67.52 353 *e*P **P 21 32 28.9 -0.3**
NC602 NORSAR Array S 67.55 359 *e*P **P 21 32 28.2 -1.3**
SKAR Skarslia 67.59 1 *e*P **P 21 32 28.7 -1.1**
UPP Uppsala 68.28 356 *e*P **P 21 32 33.2 -0.9**
OSL Oslo 68.35 360 *e*P **P 21 32 35.9 +1.4**
KONO Kongsberg 68.64 1 *de*P **P 21 32 38.6 +2.2**
KONO pmax pmax
comp=Z,61nm,1.0s
KONO Kongsberg 68.64 1 *e*P **P 21 32 35.6 -0.8**
KONO Kongsberg 68.64 1 P **P 21 32 34.8 -1.6**
VSU Vasula 69.05 351 *e*P **P 21 32 38.3 -0.6**
VSU Vasula 69.05 351 *c i*P **P 21 32 37.2 -1.7**
VSU pmax pmax
comp=Z,102nm,1.1s
MTSE Matsula 69.05 353 *e*P **P 21 32 36.7 -2.2**
DAV Davao City (W) 69.19 254 IAMs_20 IAMs_20 21 58 39.0
comp=Z,1µm,21.0s
KMI Kunming 69.31 284 ⇑P **P 21 32 40.8 -0.5**
KMI pP pP 21 32 44.3 +0.3
KMI sP sP 21 32 46.0 +0.9
KMI PcP **PcP 21 33 04.5 -0.4**
KMI S **S 21 41 43.8 -4.0**
KMI pmax pmax
comp=Z,60nm,1.4s
KMI pmax pmax
comp=Z,460nm,4.1s
KMI LR LR
comp=Z,1µm,19.9s
KMI LR LR
comp=Z,730nm,19.9s
KMI LR LR
comp=Z,950nm,19.9s
PMOR Pomariorio Ree 69.36 158 *e*T T 22 48 02.3
comp=Z,4.7nm,0.4s
QIZ Qiongzhong 69.57 275 P **P 21 32 42.0 -0.7**
QIZ S **S 21 41 52.8 +2.2**
QIZ pmax pmax
comp=Z,170nm,2.2s
QIZ LR LR
comp=Z,460nm,18.1s
QIZ LR LR
comp=Z,660nm,17.2s
QIZ LR LR
comp=Z,630nm,22.6s
KDJ Kajisay 69.91 313 P **P 21 32 44.1 -0.7**
KDJ pmax pmax
comp=Z,58nm,1.1s
KDJ Kajisay 69.91 313 P **P 21 32 44.0 -0.7**
KDJ IAmb IAmb 21 32 48.1
comp=Z,58nm,1.1s
TARG Taragay, Kyrgy 69.95 313 P **P 21 32 44.9 -0.5**
TARG IAmb IAmb 21 32 49.8
comp=Z,16nm,0.7s
TKM2 Tokmak 2 69.98 315 P **P 21 32 47.9 +2.6**
SNR=22
BOOM Boomskoye usch 70.17 314 P **P 21 32 45.5 -0.9**
BOOM pmax pmax
comp=Z,50nm,0.9s
BOOM Boomskoye usch 70.17 314 P **P 21 32 45.5 -0.9**
BOOM IAmb IAmb 21 32 49.9
comp=Z,50nm,0.9s
USP Ospenovka 70.18 316 P **P 21 32 45.5 -0.7**
SNR=32
ULHL Ulahol 70.24 314 P **P 21 32 46.4 -0.5**
SNR=5.4
SLIT Slitere, Latvi 70.25 353 *e*P **P 21 32 46.1 -0.2**
MOS Moscow 70.25 344 *e*P **P 21 32 45.6 -0.8**
MOS *e* 21 33 05.8
MOS *e*S **S 21 41 55.3 -2.2**
MOS pmax pmax
comp=Z,71nm,1.2s
MOS MLR MLR
comp=Z,1µm,19.0s
TJOU Tjoern 70.26 359 *i*P **P 21 32 48.5 +2.1**
CHMS Chumysh 70.28 315 P **P 21 32 46.6 -0.3**
SNR=27
MSVF Nonsavu 70.35 193 IAMs_20 IAMs_20 21 58 40.9
comp=Z,871nm,20.0s
KBK Karagaybulak 70.47 315 P **P 21 32 47.6 -0.6**
SNR=21
FRU1 Bishkek 70.49 315 P **P 21 32 47.6 -0.6**
FRU1 pmax pmax
comp=Z,115nm,1.0s
FRU1 Bishkek 70.49 315 P **P 21 32 47.6 -0.6**
BORU Boraas 70.65 359 *i*P **P 21 32 50.7 +1.9**
ABKAR Abkulak array 70.67 328 P **P 21 32 47.6 -1.5**
ABKAR IAmb IAmb 21 32 52.2
comp=Z,43nm,1.0s
ABKAR Abkulak array 70.67 328 P **P 21 32 47.4 -1.7**
AAK Ala-Archa 70.69 315 P **P 21 32 49.3 -0.2**
SNR=12
AAK Ala-Archa 70.69 315 P **P 21 32 48.4 -1.1**
AAK pmax pmax
comp=Z,60nm,1.0s
AAK MLR MLR
comp=Z,1µm,18.0s
AAK Ala-Archa 70.69 315 P **P 21 32 48.4 -1.1**
AAK Ala-Archa 70.69 315 IAMs_20 IAMs_20 22 06 14.5
comp=Z,1µm,18.0s
EKS2 Erkin-Say 70.98 316 P **P 21 32 50.5 -0.7**
SNR=30
OBN Obninsk 71.03 345 *c i*P **P 21 32 51.2 +0.1**
OBN *i* 21 33 04.0
OBN *i*S S 21 41 57.0 -10
OBN pmax pmax
comp=Z,39nm,1.0s
OBN MLR MLR
comp=Z,1µm,21.0s
OBN Obninsk 71.03 345 P **P 21 32 49.3 -1.7**
OBN IAMs_20 IAMs_20 22 07 04.9
comp=Z,1µm,21.0s
FABU Falkenberg 71.28 359 *i*P **P 21 32 54.3 +1.7**
BELG Belogornoye 71.35 337 *c i*P **P 21 32 51.9 -1.2**
BELG pmax pmax
comp=Z,14nm,0.8s
AML Almayashu 71.44 316 P **P 21 32 54.5 +0.1**
SNR=24
SLVN Son La 71.46 281 P **P 21 32 54.1 -0.2**
SLVN IAMs_20 IAMs_20 22 07 56.4
comp=Z,930nm,19.0s
PPT Papeete 71.47 160 LR LR 22 03 47.9
comp=Z,518nm,18.3s,baz=338,slow=35

PPT2 Papeete2 71.49 160 *e*S **S 21 42 12.0 -0.7**
comp=Z,2µm,25.0s
PPT2 *e*LQ LQ 21 51 08.8
comp=Z,1µm,26.2s
PPT2 *e*LR LR 21 54 30.6
comp=Z,2µm,31.2s,baz=347
PMG Port Moresby 71.65 226 ⇓*e*P **P 21 32 56.6 +1.2**
PMG pmax pmax
comp=Z,21nm,1.0s
LKP Lekhapani 71.69 291 *e*P **P 21 32 55.9 +0.3**
DEL Delary 71.79 358 *i*P **P 21 32 57.4 +1.7**
MUD Monsted U'grnd 71.84 1 *i*P **P 21 32 57.9 +2.0**
MUD *i*P **P 21 32 58.1 +2.2**
MUD Monsted U'grnd 71.84 1 *i*P **P 21 32 58.1 +2.2**
BLEU Blekinge 71.91 357 *i*P **P 21 32 58.0 +1.6**
ISAL Salakas 71.96 351 *e*P **P 21 32 57.1 +0.4**
KK31 Karatay Array 71.99 318 P **P 21 32 55.9 -1.3**
KK31 pmax pmax
comp=Z,52nm,1.0s
KK31 Karatay Array 71.99 318 P **P 21 32 55.9 -1.3**
KK31 IAmb IAmb 21 33 00.1
comp=Z,52nm,0.9s
KKAR Karatay Array 71.99 318 P **P 21 32 55.8 -1.4**
KKAR pmax pmax
comp=Z,52nm,1.0s
KKAR Karatay Array 71.99 318 P **P 21 32 55.8 -1.4**
KKAR IAmb IAmb 21 33 00.1
comp=Z,52nm,0.9s
KKAR Karatay Array 71.99 318 P **P 21 32 55.8 -1.4**
IDID Didziasalis 72.15 350 *e*P **P 21 32 57.6 -0.3**
IIGN Ignalina 72.17 351 *e*P **P 21 32 57.7 -0.3**
BJUU Bjuv 72.21 359 *i*P **P 21 33 00.4 +2.2**
PABE Paberze 72.22 352 *e*P **P 21 32 57.9 -0.4**
PABE Paberze 72.22 352 P **P 21 32 57.1 -1.1**
PABE IAMs_20 IAMs_20 22 05 32.4
comp=Z,1µm,21.0s
SWI Sorong 72.34 244 P **P 21 33 02.6 +3.0**
ESK Eskdalemuir 72.38 8 P **P 21 32 59.4 +0.2**
ESK pmax pmax
comp=Z,30nm,1.0s
ESK Eskdalemuir 72.38 8 P **P 21 32 59.4 +0.2**
ESK IAmb IAmb 21 33 14.2
comp=Z,30nm,0.9s
LSA Lhasa 72.55 296 P **P 21 33 01.5 +0.2**
LSA Lhasa 72.55 296 P **P 21 33 00.9 -0.4**
LSA pmax pmax
comp=Z,76nm,1.0s
LSA MLR MLR
comp=Z,1µm,20.0s
LSA Lhasa 72.55 296 P **P 21 33 00.9 -0.4**
LSA IAMs_20 IAMs_20 22 08 24.8
comp=Z,1µm,20.0s
KSH Kashi 72.55 313 P **P 21 33 03.0 +2.2**
KSH S **S 21 42 28.5 +3.5**
KSH sS SKiKP 21 42 34.5 -0.5
KSH SS **SS 21 47 06.3 +3.4**
KSH pmax pmax
comp=Z,61nm,1.9s
KSH LR LR
comp=Z,2µm,13.3s
KSH LR LR
comp=Z,2µm,16.6s
KSH LR LR
comp=Z,3µm,11.6s
LUNU Lund 72.64 358 *e*P **P 21 32 60.0 -0.8**
MTO3 Montecristo 72.69 89 IAMs_20 IAMs_20 22 01 28.2
comp=Z,853nm,20.0s
MNK Minsk 72.83 350 *i*P **P 21 33 00.2 -1.7**
MNK *i* 21 33 17.1
MNK *i* 21 35 42.0
MNK *i*PPP PPP 21 37 26.4
MNK *i*S **S 21 42 25.2 -2.1**
MNK *i* 21 43 07.7
MNK pmax pmax
comp=N,32nm,1.0s
MNK pmax pmax
comp=Z,59nm,1.0s
MNK MLR MLR
comp=N,1µm,20.0s
MNK MLR MLR
comp=Z,789nm,20.0s
MNK Minsk 72.83 350 *i*P **P 21 33 00.2 -1.7**
MNK *i*P **P 21 33 00.2 -1.7**
comp=N,32nm,1.0s
MNK *i*P **P 21 33 00.2 -1.7**
comp=Z,59nm,1.0s,baz=191
MNK *i*PcP **PcP 21 33 17.1 -1.9**
MNK *i*PP **PP 21 35 42.0 -1.1**
MNK *i*PPP PPP 21 37 26.4
MNK *i*S **S 21 42 25.2 -2.1**
MNK *i*SS SS 21 47 18.3 +12
MNK *i*SSS SSS 21 50 41.6
MNK *i*LQ LQ 21 59 46.6
MNK *i*LR LR 22 03 26.3
MNK *i*LRM MLR 22 07 01.8
comp=E,32nm,19.7s
MNK *i*LRM MLR 22 07 03.6
comp=N,1µm,19.7s
MNK *i*LRM MLR 22 07 07.7
comp=Z,789nm,19.7s
LPSR Galich'ya Gora 73.02 342 *e*P **P 21 33 00.6 -2.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,930nm,20.0s
ITAN ITANAGAR 73.06 292 *e*P **P 21 33 04.4 +0.7**
TNTI Ternate 73.21 249 P **P 21 33 04.9 +0.2**
TNTI IAmb IAmb 21 33 30.6
comp=Z,32nm,1.2s
MOKO MOKOCHONG 73.23 291 *e*P **P 21 33 05.1 +0.2**
BBSR BB Station 73.36 59 IAMs_20 IAMs_20 22 05 56.7
comp=Z,799nm,20.0s
FAKI Fak Fak 73.50 242 P **P 21 33 05.4 -1.0**
FAKI IAmb IAmb 21 33 15.6
comp=Z,78nm,1.3s
RGN Rugen 73.73 358 IAMs_20 IAMs_20 22 05 41.3
comp=Z,952nm,20.0s
SUW Suwalki 73.77 352 *e*P **P 21 33 08.5 +1.0**
SUW Suwalki 73.77 352 *e*P **P 21 33 05.8 -1.7**
SUW Suwalki 73.77 352 P **P 21 33 05.8 -1.7**
SUW pmax pmax
comp=Z,115nm,1.0s
SUW MLR MLR
comp=Z,900nm,21.0s
SUW Suwalki 73.77 352 P **P 21 33 05.8 -1.7**
SUW IAMs_20 IAMs_20 22 06 29.3
comp=Z,915nm,21.0s
VRH Novokhopyorsk 73.79 340 *e*P **P 21 33 05.2 -2.5**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH MLR MLR
comp=Z,960nm,19.0s
KOHI KOHIMA 73.92 291 *e*P **P 21 33 08.9 -0.1**
TAS Tashkent 73.97 318 P **P 21 33 07.6 -1.4**
TAS pmax pmax
comp=Z,89nm,0.9s
TAS Tashkent 73.97 318 P **P 21 33 07.6 -1.4**
TGUH Tegucigalpa,Un 74.24 87 IAMs_20 IAMs_20 22 02 13.2
comp=Z,897nm,21.0s
BSEG Bad Segeberg 74.37 0 *e*P **P 21 33 13.5 +2.5**
comp=Z,43nm,1.1s,baz=0.6,slow=5.7
BSEG *e*pP **PcP 21 33 25.4 -0.2**
baz=0.6,slow=5.7
BTK Batken 74.38 316 P **P 21 33 10.5 -1.0**
BTK pmax pmax
comp=Z,74nm,1.1s
BTK Batken 74.38 316 P **P 21 33 10.5 -1.0**
NONG Nongkai 74.40 279 P **P 21 33 14.4 +2.7**
comp=Z,197nm,1.4s
NONG Nongkai 74.40 279 P **P 21 33 14.0 +2.3**
DRK Karamyk 74.44 315 P **P 21 33 10.7 -1.4**
DRK IAmb IAmb 21 33 15.8
comp=Z,52nm,0.9s
VORD Divnogorie 74.51 342 *e*P **P 21 33 10.3 -1.5**
VORD pmax pmax
comp=Z,30nm,0.9s
SKNT Sakolnakorn 74.73 278 P **P 21 33 16.3 +2.7**
comp=Z,115nm,1.3s
SKNT Sakolnakorn 74.73 278 P **P 21 33 16.0 +2.4**
comp=Z,115nm,1.3s
GKP Gorka Klasztor 74.89 356 *e*P **P 21 33 15.9 +1.9**
GKP Gorka Klasztor 74.89 356 *e*P **P 21 33 16.1 +2.1**
SHL Shillong 75.32 293 P **P 21 33 15.3 -1.9**
SHL pmax pmax
comp=Z,342nm,1.9s

SHL Shillong 75.32 293 *e*P **P 21 33 15.8 -1.4**
SHL IAmb IAmb 21 33 20.4
comp=Z,200nm,1.6s
SHL Shillong 75.32 293 P **P 21 33 15.3 -1.9**
SILR SILCHAR 75.40 291 *e*P **P 21 33 20.6 +3.1**
SILR IAmb IAmb 21 33 22.1
comp=Z,130nm,0.8s
GAR Garm 75.48 316 P **P 21 33 17.0 -0.9**
RUE Ruedersdorf 75.79 358 *e*P **P 21 33 21.7 +2.5**
comp=Z,80nm,1.2s,baz=0.6,slow=5.7
RUE *e*pP **PcP 21 33 33.6 +1.8**
baz=0.6,slow=5.7
GTK Tadong 75.80 296 *e*P **P 21 33 20.6 +0.6**
NRDL Niedersach Rie 75.81 0 *e*P **P 21 33 21.8 +2.5**
comp=Z,42nm,1.2s,baz=0.6,slow=5.7
NRDL *e*pP **PcP 21 33 33.6 +1.8**
baz=0.6,slow=5.7
IBBN Ibbenburen 75.97 2 *e*P **P 21 33 22.8 +2.6**
comp=Z,86nm,1.2s,baz=0.6,slow=5.7
IBBN *e*pP **PcP 21 33 34.7 +2.1**
baz=0.6,slow=5.7
FLTG Flechtingen 75.97 360 *e*P **P 21 33 22.2 +1.9**
comp=Z,70nm,1.7s,baz=0.6,slow=5.7
FLTG *e*pP **PcP 21 33 34.1 +1.5**
baz=0.6,slow=5.7
BEL Belsk 76.11 353 *e*P **P 21 33 23.2 +2.2**
ASSE Asse, Remlinge 76.18 360 *e*P **P 21 33 23.9 +2.5**
comp=Z,30nm,1.2s,baz=0.6,slow=5.7
ASSE *e*pP **PcP 21 33 35.7 +2.3**
baz=0.6,slow=5.7
LAMP Lampang 76.18 282 P **P 21 33 25.4 +3.4**
comp=Z,1µmcomp=Z,140nm,1.1s
LAMP Lampang 76.18 282 P **P 21 33 25.5 +3.4**
comp=Z,320nmcomp=Z,35nm,1.1s
CM34 Chiang Mai Arr 76.22 283 P **P 21 33 22.0 -0.2**
UTTA Uttaradit 76.22 281 P **P 21 33 23.6 +1.4**
comp=Z,2µmcomp=Z,190nm,1.2s
UTTA Uttaradit 76.22 281 P **P 21 33 23.6 +1.4**
comp=Z,416nmcomp=Z,47nm,1.2s
CHGR Chuyangaron 76.26 317 P **P 21 33 21.2 -1.1**
CM35 Chiang Mai Arr 76.35 283 P **P 21 33 25.0 +2.0**
CM33 Chiang Mai Arr 76.37 283 P **P 21 33 25.0 +1.9**
CMMT Chiang Mai 76.37 283 P **P 21 33 25.8 +2.7**
comp=Z,1µmcomp=Z,107nm,1.4s
CMMT Chiang Mai 76.37 283 P **P 21 33 25.8 +2.7**
comp=Z,1µmcomp=Z,107nm,1.4s
CHTO Chiang Mai 76.37 283 P **P 21 33 21.9 -1.2**
CHTO pmax pmax
comp=Z,208nm,1.5s
CHTO MLR MLR
comp=Z,1µm,19.0s
CHTO Chiang Mai 76.37 283 P **P 21 33 25.8 +2.7**
comp=Z,2µmcomp=Z,108nm,1.4s
CHTO Chiang Mai 76.37 283 P **P 21 33 21.9 -1.2**
CHTO Chiang Mai 76.37 283 IAMs_20 IAMs_20 22 10 47.2
comp=Z,990nm,19.0s
AKASG Malin Array Be 76.40 348 P **P 21 33 20.5 -2.2**
comp=Z,17nm,0.8s,baz=16,slow=6.0,SNR=21
AKASG LR LR 22 11 27.5
comp=Z,1µm,18.8s,baz=5.0,slow=39
AKASG Malin Array Be 76.40 348 P **P 21 33 21.2 -1.5**
AKASG pmax pmax
comp=Z,28nm,1.0s
AKASG Malin Array Be 76.40 348 P **P 21 33 21.2 -1.5**
AKASG IAmb IAmb 21 33 24.8
comp=Z,28nm,1.0s
AKBB Malin Array Si 76.40 348 P **P 21 33 20.8 -1.9**
AKBB pmax pmax
comp=Z,34nm,1.0s
AKBB Malin Array Si 76.40 348 P **P 21 33 20.8 -1.9**
AKBB IAmb IAmb 21 33 24.8
comp=Z,34nm,1.0s
CLZ Clausthal 76.47 0 *e*P **P 21 33 25.9 +2.8**
comp=Z,52nm,1.1s,baz=0.6,slow=5.7
CLZ *e*pP **PcP 21 33 37.8 +3.0**
baz=0.6,slow=5.7
CM36 Chiang Mai Arr 76.51 283 P **P 21 33 26.0 +2.1**
CM32 Chiang Mai Arr 76.56 283 P **P 21 33 27.0 +2.9**
CM09 Chiang Mai Arr 76.63 283 P **P 21 33 28.1 +3.6**
comp=Z,1µmcomp=Z,109nm,1.3s
CM09 Chiang Mai Arr 76.63 283 P **P 21 33 28.2 +3.7**
comp=Z,1µmcomp=Z,109nm,1.3s
CM31 Chiang Mai Arr 76.65 283 P **P 21 33 27.0 +2.4**
comp=Z,25µmcomp=Z,2µm,1.2s
CM31 Chiang Mai Arr 76.65 283 P **P 21 33 23.8 -0.8**
CMAR Chiang Mai Arr 76.65 283 P **P 21 33 23.9 -0.7**
comp=Z,16nm,0.9s,baz=29,slow=6.4,SNR=26
CMAR LR LR 22 11 50.8
comp=Z,1µm,18.2s,baz=79,slow=39
CMAR Chiang Mai Arr 76.65 283 P **P 21 33 24.2 -0.5**
CMAR Chiang Mai Arr 76.65 283 P **P 21 33 24.1 -0.5**
CM15 Chiang Mai Arr 76.66 283 P **P 21 33 27.3 +2.6**
comp=Z,1µmcomp=Z,110nm,1.2s
CM15 Chiang Mai Arr 76.66 283 P **P 21 33 27.4 +2.6**
comp=Z,1µmcomp=Z,110nm,1.2s
CM02 Chiang Mai Arr 76.66 283 P **P 21 33 27.8 +3.1**
comp=Z,1µmcomp=Z,123nm,1.2s
CM02 Chiang Mai Arr 76.66 283 P **P 21 33 27.9 +3.2**
comp=Z,1µmcomp=Z,123nm,1.2s
CM01 Chiang Mai Arr 76.67 283 P **P 21 33 27.9 +3.2**
comp=Z,1µmcomp=Z,138nm,1.2s
CM01 Chiang Mai Arr 76.67 283 P **P 21 33 27.0 +2.3**
comp=Z,1µmcomp=Z,138nm,1.2s
CM04 Chiang Mai Arr 76.67 283 P **P 21 33 28.0 +3.2**
comp=Z,1µmcomp=Z,161nm,1.2s
CM04 Chiang Mai Arr 76.67 283 P **P 21 33 28.1 +3.2**
comp=Z,1µmcomp=Z,161nm,1.2s
CM05 Chiang Mai Arr 76.69 283 P **P 21 33 26.5 +1.6**
comp=Z,1µmcomp=Z,112nm,1.2s
CM05 Chiang Mai Arr 76.69 283 P **P 21 33 26.0 +1.1**
comp=Z,1µmcomp=Z,112nm,1.2s
CM13 Chiang Mai Arr 76.70 283 P **P 21 33 27.5 +2.6**
comp=Z,1µmcomp=Z,113nm,1.2s
CM13 Chiang Mai Arr 76.70 283 P **P 21 33 27.0 +2.1**
comp=Z,1µmcomp=Z,113nm,1.2s
PHIT Phitsanulok 76.73 281 P **P 21 33 28.6 +3.5**
comp=Z,4µmcomp=Z,419nm,1.1s
PHIT Phitsanulok 76.73 281 P **P 21 33 28.6 +3.5**
comp=Z,904nmcomp=Z,104nm,1.1s
GTTG Gottingen 76.76 0 *e*P **P 21 33 27.5 +2.7**
comp=Z,60nm,1.1s,baz=0.6,slow=5.7
GTTG *e*pP **PcP 21 33 39.4 +3.3**
baz=0.6,slow=5.7
CHAI Chaiyaphum 76.77 279 P **P 21 33 28.6 +3.3**
comp=Z,712nmcomp=Z,70nm,1.3s
CHAI Chaiyaphum 76.77 279 P **P 21 33 28.6 +3.3**
comp=Z,178nmcomp=Z,17nm,1.3s
DZM Mont Dzumac 76.78 203 *e*S **S 21 43 10.4 -1.7**
comp=Z,355nm,24.1s
DZM Mont Dzumac 76.78 203 *e*LR LR 21 57 01.6
comp=Z,1µm,21.4s
TOLI2 Tolitoli 76.80 255 P **P 21 33 25.4 -0.1**
TOLI2 IAmb IAmb 21 33 40.9
comp=Z,44nm,1.4s
BUG Bochum--Univer 76.83 2 *e*P **P 21 33 27.3 +2.2**
comp=Z,46nm,1.2s,baz=0.6,slow=5.7
BUG *e*pP **PcP 21 33 39.3 +3.0**
baz=0.6,slow=5.7
PBKT Sadao Pong 76.87 280 P P 21 33 42.9 +17
CLL Collm 76.98 358 *i*P **P 21 33 25.3 -0.7**
comp=Z,27nm,1.2s
CLL *i*pP **pwP 21 33 31.5 -1.4**
CLL *i*sP **PcP 21 33 35.9 -1.1**
CLL *e*PPP PPP 21 38 06.0
CLL *e*S **S 21 43 13.0 -0.7**
CLL *e*PPS PPS 21 44 00.0
CLL *e*SS **SS 21 48 18.0 +9.0**
CLL *e*(SSS) 21 52 06.0
CLL *e*SSSS 21 53 54.0
CLL Lm MLR 22 11 00.0
comp=Z,700nm,19.8s
CLL Collm 76.98 358 *i*P **P 21 33 25.3 -0.7**
CLL *i* 21 33 31.5
CLL *i* 21 33 35.9
CLL *e*S **S 21 43 13.0 -0.7**
CLL pmax pmax
comp=Z,27nm,1.2s
CLL MLR MLR
comp=Z,700nm,19.8s
CLL Collm 76.98 358 P **P 21 33 25.1 -0.9**
CLL IAmb IAmb 21 33 29.3
comp=Z,25nm,1.1s
CLL Collm 76.98 358 *e*P **P 21 33 28.1 +2.1**
comp=Z,27nm,1.2s,baz=0.6,slow=5.7
CLL *e*pP **PcP 21 33 39.9 +2.9**
baz=0.6,slow=5.7

KASTN Kahler Asten 77.09 1 *eP* **P 21 33 29.1 +2.4**
comp=Z,34nm,1.4s,baz=0.6,slow=5.7
KASTN *epP* **PcP 21 33 41.0 +3.5**
baz=0.6,slow=5.7
NEUB Neuenburg 77.10 359 *eP* **P 21 33 29.1 +2.5**
comp=Z,63nm,1.3s,baz=0.6,slow=5.7
NEUB *epP* **PcP 21 33 41.0 +3.5**
baz=0.6,slow=5.7
TBI Tubuai 77.10 161 *eS* **S 21 43 15.4 0.0**
comp=Z,856nm,30.2s
TBI Tubuai 77.10 161 *eLQ* LQ 21 53 25.9
comp=Z,605nm,26.8s
TBI *eLR* LR 21 56 57.4
comp=Z,967nm,35.2s,baz=349
KSP Ksiaz 77.35 356 *eP* **P 21 33 29.9 +1.8**
BRG Berggiesshubel 77.40 358 *eP* **P 21 33 27.8 -0.6**
BRG Amp 21 33 30.1
comp=Z,8.0nm,1.2s
BRG Berggiesshubel 77.40 358 P **P 21 33 30.9 +2.5**
BRG Amp 21 33 32.7
comp=Z,42nm,1.3s
BRG Berggiesshubel 77.40 358 P P 21 33 42.1 +14
BRG Amp 21 33 43.6
comp=Z,33nm,1.2s
BRG Berggiesshubel 77.40 358 S **S 21 43 18.0 -0.3**
BRG Berggiesshubel 77.40 358 SS SS 21 48 17.0 +1.7
BRG Amp 22 07 57.0
comp=E,0.3nm,22.1s
BRG Amp 22 08 12.0
comp=Z,0.9nm,20.3s
BRG Amp 22 08 17.0
comp=N,0.5nm,20.3s
BRG Berggiesshubel 77.40 358 *eP* **P 21 33 30.7 +2.3**
comp=N,72nm,1.7s,baz=0.6,slow=5.7
BRG *epP* **PcP 21 33 42.6 +3.8**
baz=0.6,slow=5.7
MHMT Maesarieng 77.47 283 P **P 21 33 33.0 +3.8**
comp=N,3μmcomp=N,280nm,1.3s
MHMT Maesarieng 77.47 283 P **P 21 33 33.1 +3.8**
comp=N,3μmcomp=N,280nm,1.3s
UBBA Unterbreizbach 77.49 0 *eP* **P 21 33 31.3 +2.6**
comp=N,38nm,1.5s,baz=0.6,slow=5.7
CHVC Chvalec 77.62 356 *eP* **P 21 33 29.1 -0.5**
CHVC *ex* x 21 33 32.7
CHVC AMS AMS 22 16 50.0
comp=N,800nm,18.2s
MEM Membach 77.63 3 *dP* **P 21 33 28.0 -1.6**
MEM *dpP* **pP 21 33 32.2 -0.3**
MEM *dPcP* **PcP 21 33 39.7 -0.1**
BSTI Sart Tilman 77.64 3 *dpP* **pP 21 33 32.6 0.0**
BSTI *dPcP* **PcP 21 33 39.0 -0.9**
BSTI *dx* x 21 33 43.1
OSTC Ostas 77.64 356 *eP* **P 21 33 29.0 -0.8**
OSTC *ex* x 21 33 32.0
OSTC *eS* **S 21 43 28.2 +7.2**
OSTC AMS AMS 22 20 10.0
comp=N,800nm,17.5s
BTNL Ternell 77.66 3 *dpP* **pP 21 33 31.8 -1.0**
BTNL *dPcP* **PcP 21 33 38.9 -1.1**
MOX Moxa 77.66 359 *eP* **P 21 33 32.4 +2.5**
comp=N,42nm,1.2s,baz=0.6,slow=5.7
MOX *epP* **PcP 21 33 44.2 +4.2**
baz=0.6,slow=5.7
MOX *eL* L 22 10 04.0
comp=N,601nm,21.1s
SNF Seneffe 77.66 4 *dpP* **pP 21 33 32.9 +0.1**
SNF *dPcP* **PcP 21 33 40.1 +0.2**
SNF *dx* x 21 33 43.2
UPC Upice 77.70 356 *eP* **P 21 33 32.0 +1.9**
UPC *e* 21 33 44.0
UPC *eS* **S 21 43 21.5 -0.1**
UPC MLR MLR
comp=Z,800nm,15.5s
UPC Upice 77.70 356 *eP* **P 21 33 32.0 +1.9**
UPC *ex* x 21 33 44.0
UPC *eS* **S 21 43 21.5 -0.1**
UPC AMS AMS 22 16 50.0
comp=Z,800nm,15.5s
AHRW Bad Neuenahr-A 77.73 2 *eP* **P 21 33 32.8 +2.6**
comp=Z,61nm,1.4s,baz=0.6,slow=5.7
AHRW *epP* **PcP 21 33 44.8 +4.6**
baz=0.6,slow=5.7
PVCC Panska Ves 77.73 357 *eP* **P 21 33 32.4 +2.2**
PVCC *e* 21 33 43.1
PVCC MLR MLR
comp=Z,800nm,17.6s
PVCC Panska Ves 77.73 357 *eP* **P 21 33 32.4 +2.2**
PVCC *ex* x 21 33 43.1
PVCC AMS AMS 22 20 20.0
comp=Z,800nm,17.6s
OJC Ojcow 77.79 354 *eP* **P 21 33 32.6 +2.0**
OJC Ojcow 77.79 354 P **P 21 33 29.2 -1.4**
OJC pmax pmax
comp=Z,47nm,1.2s
OJC MLR MLR
comp=Z,800nm,21.0s
OJC Ojcow 77.79 354 P **P 21 33 29.2 -1.4**
OJC IAmb IAmb 21 33 34.1
comp=Z,48nm,1.2s
OJC IAMs_20 IAMs_20 22 09 28.7
comp=Z,844nm,21.0s
BCLA Clavier 77.79 3 *dpP* **P 21 33 31.9 +1.3**
PLN Plauen 77.82 359 *eP* **P 21 33 33.2 +2.4**
comp=Z,24nm,1.3s,baz=0.6,slow=5.7
PLN *epP* **PcP 21 33 45.1 +4.4**
baz=0.6,slow=5.7
BGES Gesves 77.82 4 *dP* **P 21 33 32.8 +2.0**
DPC Dobruska-Polom 77.84 356 *eP* **P 21 33 30.1 -0.8**
DPC *e* 21 33 34.1
DPC *eS* S 21 43 11.7 -12
DPC MLR MLR
comp=Z,700nm,16.8s
DPC Dobruska-Polom 77.84 356 *eP* **P 21 33 30.1 -0.8**
DPC *epP* **pP 21 33 34.1 +0.3**
DPC *eS* S 21 43 11.7 -12
DPC AMS AMS 22 20 20.0
comp=Z,700nm,16.8s
LVV L'vov 77.85 351 *eP* **P 21 33 29.4 -1.5**
LVV *e* 21 33 41.8
LVV *e*PPP PPP 21 38 20.5
LVV *eS* **S 21 43 18.1 -5.1**
LVV *e*PS **PnS 21 43 51.2 -12**
LVV MLR MLR
comp=E,600nm,20.0s
LVV MLR MLR
comp=N,1μm,21.0s
LVV MLR MLR
comp=Z,1μm,20.0s
WERD Werda 77.85 359 *eP* **P 21 33 33.5 +2.5**
comp=Z,97nm,2.1s,baz=0.6,slow=5.7
WERD *epP* **PcP 21 33 45.4 +4.6**
baz=0.6,slow=5.7
BMRD Maredsous 77.89 4 *dpP* **pP 21 33 33.0 -1.0**
BMRD *dPcP* **PcP 21 33 40.1 -0.9**
BMRD *dx* x 21 33 44.9
GUNZ Gunzen 77.94 359 *eP* **P 21 33 34.1 +2.7**
comp=Z,110nm,2.1s,baz=0.6,slow=5.7
GUNZ *epP* **PcP 21 33 46.0 +4.8**
baz=0.6,slow=5.7
MPSI Mapaga 77.94 255 P **P 21 33 33.9 +2.0**
comp=Z,38nm,1.5s
WERN Wernitzgruen 78.01 359 *eP* **P 21 33 34.6 +2.7**
comp=Z,39nm,1.3s,baz=0.6,slow=5.7
WERN *epP* **PcP 21 33 46.5 +5.0**
baz=0.6,slow=5.7
RCHB Rochefort 78.05 4 *dpP* **pP 21 33 33.9 -1.1**
RCHB *dx* x 21 33 45.7
NKC Novy Kostel 78.06 359 *eP* **P 21 33 34.9 +2.8**
NKC *eS* S 21 43 37.2 +12
NKC MLR MLR
comp=Z,800nm,18.2s
NKC Novy Kostel 78.06 359 *eP* **P 21 33 34.9 +2.8**
NKC *ex* x 21 43 37.2
NKC AMS AMS 22 16 20.0
comp=Z,800nm,18.2s
TNS Taunus Mts 78.07 1 *eP* **P 21 33 34.7 +2.5**
comp=Z,46nm,1.4s,baz=0.6,slow=5.7
TNS *epP* **PcP 21 33 46.5 +4.7**
baz=0.6,slow=5.7
DOU Dourbes 78.09 4 *dpP* **pP 21 33 33.9 -1.3**
comp=Z,33nm,1.3s
DOU *dPcP* **PcP 21 33 41.4 -0.4**
KRLC Kraliky 78.10 356 *eP* **P 21 33 31.7 -0.7**
KRLC *e* 21 33 35.3
KRLC MLR MLR
comp=Z,700nm,15.7s
KRLC Kraliky 78.10 356 *eP* **P 21 33 31.7 -0.7**
KRLC *epP* **pP 21 33 35.3 0.0**
KRLC AMS AMS 22 20 10.0
comp=Z,700nm,15.7s
PRA Prague 78.19 357 *eP* **P 21 33 35.4 +2.6**
PRA MLR MLR
comp=Z,800nm,19.5s
PRA Prague 78.19 357 *eP* **P 21 33 35.4 +2.6**
PRA AMS AMS 22 14 20.0
comp=Z,800nm,19.5s
PRU Pruhonice 78.27 357 *eP* **P 21 33 32.3 -0.9**
PRU *e* 21 33 35.8
PRU *eS* **S 21 43 22.8 -4.9**
PRU MLR MLR
comp=Z,900nm,18.7s
PRU Pruhonice 78.27 357 *eP* **P 21 33 32.3 -0.9**
PRU *ex* x 21 33 35.8
PRU *eS* **S 21 43 22.8 -4.9**
PRU AMS AMS 22 08 20.0
comp=Z,900nm,18.7s
OKC Ostrava-Krasne 78.27 355 *eP* **P 21 33 35.5 +2.3**
OKC *eS* **S 21 43 36.3 +8.6**
OKC MLR MLR
comp=Z,700nm,17.6s
OKC Ostrava-Krasne 78.27 355 *eP* **P 21 33 35.5 +2.3**
OKC *ex* x 21 43 36.3
OKC AMS AMS 22 16 10.0
comp=Z,700nm,17.6s
MANZ Manzenberg 78.32 359 *eP* **P 21 33 36.1 +2.5**
comp=Z,38nm,1.4s,baz=0.6,slow=5.7
MANZ *epP* **PcP 21 33 47.9 +5.0**
baz=0.6,slow=5.7
MORC Moravsky Berou 78.36 355 ⇑P **P 21 33 33.8 0.0**
MORC Moravsky Berou 78.36 355 P **P 21 33 33.1 -0.7**
MORC pmax pmax
comp=Z,46nm,1.3s
MORC Moravsky Berou 78.36 355 P **P 21 33 33.1 -0.7**
MORC IAmb IAmb 21 33 37.5
comp=Z,46nm,1.2s
MORC Moravsky Berou 78.36 355 *eP* **P 21 33 32.8 -1.0**
UMPA Umpang Tak 78.43 281 P P 21 33 47.3 +13
UMPA Umpang Tak 78.43 281 P P 21 33 47.4 +13
MILB Miltenberg 78.48 1 *eP* **P 21 33 37.0 +2.6**
comp=Z,48nm,1.2s,baz=0.6,slow=5.7
MILB *epP* **PcP 21 33 48.8 +5.3**
baz=0.6,slow=5.7
STHS Stebnicka Huta 78.49 353 *epP* pP 21 33 38.0 +0.6
ROTZ Rotzenmuhle 78.53 359 *eP* **P 21 33 37.5 +2.8**
comp=Z,89nm,1.8s,baz=0.6,slow=5.7
ROTZ *epP* **PcP 21 33 49.4 +5.6**
baz=0.6,slow=5.7
WLF Walferdange 78.58 3 *dpP* pP 21 33 36.4 -1.4
WLF Walferdange 78.58 3 IAMs_20 IAMs_20 22 15 05.5
comp=Z,1μm,19.0s
WLF Walferdange 78.58 3 *eP* **P 21 33 37.7 +2.8**
comp=Z,38nm,1.2s,baz=0.6,slow=5.7
WLF *epP* **PcP 21 33 49.7 +5.7**
baz=0.6,slow=5.7
UTHA Uthaitani 78.58 281 P **P 21 33 39.0 +3.6**
comp=Z,329nmcomp=Z,32nm,1.3s
PBCC Pribram 78.58 358 *eP* **P 21 33 38.0 +3.0**
PBCC *ex* x 21 33 48.7
NIL Nilore 78.60 311 P **P 21 33 35.0 -0.4**
NIL pmax pmax
comp=Z,127nm,1.0s
NIL MLR MLR
comp=Z,2μm,19.0s
NIL Nilore 78.60 311 P **P 21 33 35.0 -0.4**
GRA1 Grafenberg Arr 78.62 360 P **P 21 33 34.8 -0.4**
GRA1 IAmb IAmb 21 33 39.4
comp=Z,82nm,1.2s
GRA1 IAMs_20 IAMs_20 22 13 51.6
comp=Z,771nm,20.0s
GRF Grafenberg Arr 78.62 360 P **P 21 33 34.8 -0.4**
GRF pmax pmax
comp=Z,82nm,1.2s
GRF MLR MLR
comp=Z,800nm,20.0s
GRF Grafenberg Arr 78.62 360 *eP* **P 21 33 38.2 +3.0**
comp=Z,117nm,1.4s,baz=0.6,slow=5.7
GRF *epP* **PcP 21 33 50.1 +5.9**
baz=0.6,slow=5.7
GRF *eL* L 22 13 52.4
comp=Z,730nm,19.8s
GRFO Grafenberg 78.62 360 P **P 21 33 35.2 0.0**
GRFO pmax pmax
comp=Z,89nm,1.3s
GRFO MLR MLR
comp=Z,800nm,19.0s
GRFO Grafenberg 78.62 360 P **P 21 33 35.1 0.0**
GRFO IAMs_20 IAMs_20 22 13 51.6
comp=Z,762nm,19.0s
SMLA Simla 78.79 307 *eP* **P 21 33 36.2 -0.2**
SMLA IAmb IAmb 21 33 39.8
comp=Z,111nm,0.8s
VRAC Vranov 78.87 356 ⇓P **P 21 33 36.6 0.0**
VRAC Vranov 78.87 356 *eP* **P 21 33 35.8 -0.8**
LANS Liptovska Anna 78.88 354 *eP* **P 21 33 36.9 +0.2**
LANS pmax pmax
comp=Z,32nm,1.1s
LANS Liptovska Anna 78.88 354 *eP* **P 21 33 36.9 +0.2**
LANS *epP* **sP 21 33 40.5 +0.1**
KOLS Kolonicke sedl 78.89 352 *eP* **P 21 33 39.2 +2.5**
KOLS Kolonicke sedl 78.89 352 *eP* **P 21 33 39.2 +2.5**
TREC Trest 78.93 357 *eP* **P 21 33 39.5 +2.6**
TREC MLR MLR
comp=Z,700nm,16.3s
TREC Trest 78.93 357 *eP* **P 21 33 39.5 +2.6**
TREC AMS AMS 22 22 40.0
comp=Z,700nm,16.3s
CRVS Cervenica-Dubn 78.98 353 *eP* **P 21 33 38.5 +1.3**
CRVS pmax pmax
comp=Z,138nm,2.0s
CRVS Cervenica-Dubn 78.98 353 *eP* **P 21 33 38.5 +1.3**
CRVS *epP* **pP 21 33 40.2 +0.1**
DDI Dehra Dun 79.00 306 *eP* **P 21 33 37.2 -0.5**
DDI IAmb IAmb 21 33 41.2
comp=Z,93nm,0.8s
SORM Soroca 79.03 348 ⇑P **P 21 33 36.1 -1.3**
KRUC Moravsky 79.13 356 *eP* **P 21 33 37.3 -0.7**
KHC Kasperske Hory 79.15 358 *eP* **P 21 33 37.4 -0.8**
KHC *e* 21 33 41.4
KHC *e* 21 33 46.9
KHC *eS* **S 21 43 34.5 -2.7**
KHC MLR MLR
comp=Z,800nm,18.1s
KHC Kasperske Hory 79.15 358 *eP* **P 21 33 37.4 -0.8**
KHC *epP* **pP 21 33 41.4 +0.3**
KHC *eS*P **PcP 21 33 46.9 +0.4**
KHC *eS* **S 21 43 34.5 -2.7**
KHC AMS AMS 22 14 20.0
comp=Z,800nm,18.1s
KHC Kasperske Hory 79.15 358 P **P 21 33 37.4 -0.8**
KHC IAmb IAmb 21 33 42.4
comp=Z,69nm,1.3s
WET Wettzell 79.15 358 *eP* **P 21 33 41.0 +2.8**
comp=Z,39nm,1.4s,baz=0.6,slow=5.7
WET *epP* **PcP 21 33 52.9 +6.4**
baz=0.6,slow=5.7
UZH Uzhgorod 79.18 352 *eP* **P 21 33 35.7 -2.6**
UZH *i* 21 33 42.3
UZH *e* 21 33 48.5
JAVC Velka Javorina 79.27 355 *eP* **P 21 33 39.1 +0.3**
GEC2 GERESS Array S 79.43 358 P **P 21 33 39.3 -0.5**
GEC2 IAmb IAmb 21 33 43.5
comp=Z,41nm,1.2s
GEC2 GERESS Array S 79.43 358 *eP* **P 21 33 42.2 +2.5**
comp=Z,69nm,1.6s,baz=0.6,slow=5.7
GEC2 *epP* **PcP 21 33 54.2 +6.3**
baz=0.6,slow=5.7
GERES GERESS Array B 79.43 358 P **P 21 33 39.1 -0.7**
comp=Z,6.4nm,0.8s,baz=19,slow=3.0,SNR=33
GERES GERESS Array B 79.43 358 P **P 21 33 38.8 -1.0**
CKRC Cesky Krumlov 79.44 357 *eP* **P 21 33 38.6 -1.1**
CKRC *ex* x 21 33 41.9
CKRC *eS* **S 21 43 39.3 -1.0**
KECS Kecovo 79.47 353 *epP* pP 21 33 42.5 -0.3
STU Stuttgart 79.53 1 P **P 21 33 39.5 -0.7**
STU pmax pmax
comp=Z,31nm,1.0s
STU MLR MLR
comp=Z,800nm,20.0s
STU Stuttgart 79.53 1 P **P 21 33 39.5 -0.7**
STU IAmb IAmb 21 33 44.0
comp=Z,31nm,1.0s
STU IAMs_20 IAMs_20 22 10 03.8
comp=Z,774nm,20.0s
STU Stuttgart 79.53 1 *eP* **P 21 33 42.7 +2.5**
comp=Z,46nm,1.2s,baz=0.6,slow=5.7
STU *epP* **PcP 21 33 54.7 +6.5**
baz=0.6,slow=5.7
VYHS Vyhne 79.57 354 *epP* **pP 21 33 43.3 0.0**
VYHS *es*P **PcP 21 33 54.1 +5.8**
SMOL Smolenice 79.63 355 *eP* **P 21 33 40.8 +0.1**
SMOL pmax pmax
comp=Z,32nm,1.2s
SMOL Smolenice 79.63 355 *eP* **P 21 33 40.8 +0.1**
SMOL *epP* **pP 21 33 43.7 +0.1**
SMOL *es*P **PcP 21 33 54.9 +6.3**
SRDT SRDT 79.71 280 P P 21 33 53.0 +11
SRDT SRDT 79.71 280 P P 21 33 53.0 +11
comp=Z,115nm,1.4s
PATY Pattaya 79.75 278 P P 21 33 58.5 +17
KBL Kabul 79.77 314 P **P 21 33 40.2 -1.8**
KBL pmax pmax
comp=Z,72nm,1.1s
KBL Kabul 79.77 314 P **P 21 33 40.2 -1.8**
KBL IAmb IAmb 21 33 44.4
comp=Z,72nm,1.1s
MODS Modra-Piesok 79.78 355 *eP* **P 21 33 42.8 +1.3**
MODS pmax pmax
comp=Z,92nm,1.2s
MODS Modra-Piesok 79.78 355 *eP* **P 21 33 42.8 +1.3**
MODS *epP* **sP 21 33 46.1 +0.8**
MODS *es*P **PcP 21 33 56.9 +7.7**
BUR08 Bucovina Ar. S 79.88 350 P **P 21 33 40.8 -1.4**
BURAR Bucovina Array 79.91 350 ⇓P **P 21 33 41.6 -0.8**
BURAR Bucovina Array 79.91 350 P **P 21 33 41.1 -1.3**
ZST Bratislava 79.96 356 *eP* **P 21 33 42.5 0.0**
ZST pmax pmax
comp=Z,190nm,1.2s
ZST Bratislava 79.96 356 *eP* **P 21 33 42.5 0.0**
ZST *epP* **pP 21 33 45.6 +0.2**
ZST *es*P **PcP 21 33 56.9 +6.9**
BFO Black Forest 79.96 2 P **P 21 33 41.9 -0.7**
BFO pmax pmax
comp=Z,37nm,1.2s
BFO MLR MLR
comp=Z,700nm,19.0s
BFO Black Forest 79.96 2 P **P 21 33 41.9 -0.7**
BFO IAmb IAmb 21 33 46.4
comp=Z,37nm,1.2s
BFO IAMs_20 IAMs_20 22 13 52.2
comp=Z,661nm,19.0s
BFO Black Forest 79.96 2 *eP* **P 21 33 45.2 +2.6**
comp=Z,57nm,1.4s,baz=0.6,slow=5.7
BFO *epP* **PcP 21 33 57.1 +7.1**
baz=0.6,slow=5.7
CLF Chambon-Foret 80.03 6 P **P 21 33 42.5 -0.4**
CLF IAMs_20 IAMs_20 22 15 58.1
comp=Z,1μm,20.0s
PRAR RASCA 80.05 349 ⇓P **P 21 33 41.8 -1.2**
ECH Echery 80.05 2 P **P 21 33 42.1 -1.0**
ECH pmax pmax
comp=Z,57nm,1.0s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 80.05 2 P **P 21 33 42.1 -1.0**
ECH IAmb IAmb 21 33 58.4
comp=Z,57nm,1.0s
ECH IAMs_20 IAMs_20 22 14 42.6
comp=Z,1μm,20.0s
PSZ Piszkesteto 80.08 354 ⇓P **P 21 33 42.0 -1.2**
PSZ Piszkesteto 80.08 354 *eP* **P 21 33 44.6 +1.3**
PSZ Piszkesteto 80.08 354 P **P 21 33 42.0 -1.2**
PSZ pmax pmax
comp=Z,83nm,1.4s
PSZ MLR MLR
comp=Z,800nm,21.0s
PSZ Piszkesteto 80.08 354 P **P 21 33 42.0 -1.2**
PSZ IAmb IAmb 21 33 47.4
comp=Z,82nm,1.4s
PSZ IAMs_20 IAMs_20 22 10 33.1
comp=Z,838nm,21.0s
KIS Kishinev 80.08 347 ⇑*iP* **P 21 33 44.0 +0.8**
comp=Z,67nm,1.5s
KIS *eL* L 22 08 37.0
KIS LRM MLR 22 12 54.0
comp=Z,400nm,19.5s
KIS Kishinev 80.08 347 *c iP* **P 21 33 44.0 +0.8**
KIS *e* 21 33 56.0
KIS pmax pmax
comp=Z,67nm,1.5s
MAK Makhachkala 80.10 333 *eP* P 21 33 38.1 -5.2
MAK *eS* **S 21 43 40.6 -6.7**
MAK *e*SSS SSS 21 52 25.4
MAK pmax pmax
comp=Z,121nm,1.0s
FUR Furstenfeldbru 80.14 360 *eP* **P 21 33 46.4 +2.8**
comp=Z,114nm,1.5s,baz=0.6,slow=5.7
FUR *epP* **PcP 21 33 58.3 +7.5**
baz=0.6,slow=5.7
MILM Milestii Mici 80.16 347 ⇓P **P 21 33 42.1 -1.5**
CONA Conrad Observa 80.28 356 *eP* **P 21 33 44.4 0.0**
comp=Z,62nm,1.2s,SNR=36
GROC Groznyy 80.33 335 *eP* **P 21 33 41.9 -2.7**
GROC *eS* **S 21 43 51.3 +1.4**
GROC pmax pmax
comp=Z,14nm,0.7s
KIV Kislovodsk 80.41 337 ⇓P **P 21 33 44.4 -0.7**
KIV Kislovodsk 80.41 337 *eP* **P 21 33 45.0 -0.2**
KIV *e* 21 36 47.4
KIV *eS* **S 21 43 51.8 +0.9**
KIV *e*SS **SS 21 49 04.5 +3.4**
KIV pmax pmax
comp=Z,36nm,3.8s
KIV pmax pmax
comp=Z,45nm,1.0s
KIV MLR MLR
comp=Z,574nm,19.0s
KIV Kislovodsk 80.41 337 P **P 21 33 43.9 -1.3**
KIV IAmb IAmb 21 33 49.5
comp=Z,39nm,0.9s
MOA Molln 80.41 357 *eP* **P 21 33 47.3 +2.3**
comp=Z,11nm,1.0s,SNR=7.7
LTVH Ltavrtes, Hu 80.45 352 *eP* **P 21 33 48.7 +3.5**
BIZ Bicaz 80.48 349 ⇓P **P 21 33 44.6 -0.7**
SOP Sopron 80.50 356 *eP* **P 21 33 48.6 +3.2**
PHET Kaeng Krachan 80.52 279 P P 21 33 56.6 +11
PHET Kaeng Krachan 80.52 279 P P 21 33 56.7 +11
comp=Z,183nmcomp=Z,22nm,1.1s
ARCR ARCALIA 80.52 350 ⇑P **P 21 33 45.4 -0.2**
KBZ Khabaz 80.58 337 P **P 21 33 45.3 -0.6**
comp=Z,19nm,0.9s,baz=13,slow=4.2,SNR=24
KBZ Khabaz 80.58 337 *d iP* **P 21 33 45.9 0.0**
KBZ pmax pmax
comp=Z,35nm,1.1s
MESR Meseseni 80.59 351 ⇑P **P 21 33 45.4 -0.6**
NCK Nalchik 80.62 336 ⇓*iP* **P 21 33 46.3 +0.1**
NCK pmax pmax
comp=Z,114nm,1.0s
UBR Ueberruh 80.63 0 *eP* **P 21 33 49.0 +2.7**
comp=Z,62nm,1.4s,baz=0.6,slow=5.7
UBR *epP* pwP 21 34 01.0 +7.8
baz=0.6,slow=5.7
CSKK Cskako 80.73 355 *eP* **P 21 33 50.3 +3.6**
ANN Anapa 80.77 341 *eP* **P 21 33 45.8 -1.1**
ANN *e**PP **pP 21 33 49.2 -0.6**
ANN *e* 21 44 05.4
ANN pmax pmax
comp=Z,74nm,1.4s
RETA Reutte 80.83 360 *eP* **P 21 33 46.8 -0.5**
comp=Z,24nm,1.2s,SNR=7.7
TESR Tescani 80.83 349 ⇓P **P 21 33 47.7 +0.5**
MPLH Magyarpolny 80.96 355 *eP* **P 21 33 48.7 +0.8**
MOTA Moosalm 80.97 360 *eP* **P 21 33 47.5 -0.6**
comp=Z,55nm,1.2s,SNR=15
ARSA Arzberg 80.97 357 *eP* **P 21 33 48.1 +0.1**
comp=Z,41nm,1.2s,SNR=13
DRGR 80.97 352 ⇑P **P 21 33 47.3 -0.8**
DRGR 80.97 352 P **P 21 33 47.5 -0.6**
WATA Walderalm 80.97 359 *eP* **P 21 33 48.1 0.0**
comp=Z,43nm,1.2s,SNR=17
DAVA Damuels 81.03 0 *eP* **P 21 33 48.9 +0.5**
comp=Z,36nm,1.7s,SNR=6.1
WTTA Wattenberg 81.05 359 *eP* **P 21 33 48.2 -0.4**
comp=Z,73nm,1.5s,SNR=14
SQTA Sankt Quirin 81.09 360 *eP* **P 21 33 48.6 -0.2**
comp=Z,40nm,1.1s,SNR=16

KBA Koelnbreinsper 81.21 358 *e*P **P 21 33 49.7 +0.3**
comp=Z,116nm,1.0s,SNR=12
ZEI Tsey 81.21 336 *e*P **P 21 33 48.3 -1.3**
ZEI pmax pmax
comp=Z,45nm,1.4s
TIH Tihany 81.21 355 *e*P **P 21 33 53.3 +4.0**
GEYT Alibeck 81.25 324 P **P 21 33 48.6 -1.1**
comp=Z,40nm,1.0s,baz=257,slow=5.3,SNR=25
GEYT LR LR 22 14 48.4
comp=Z,955nm,18.4s,baz=50,slow=39
GYA0B ALIBECK ARRAY 81.25 324 P **P 21 33 48.4 -1.3**
GYA0B IAmb IAmb 21 33 53.3
comp=Z,58nm,1.2s
SIM Simferopol' 81.25 343 P **P 21 33 48.5 -1.0**
SIM pmax pmax
comp=Z,190nm,2.0s
MFF Saint Martin d 81.28 7 *e*P **P 21 33 48.3 -1.3**
MFF pmax pmax
comp=Z,87nm,1.2s
FETA Feichten 81.29 360 *e*P **P 21 33 49.4 -0.5**
comp=Z,39nm,1.3s,SNR=26
VLDR Vladesti 81.31 348 ⇓P **P 21 33 49.3 -0.5**
OZUR 81.35 349 ⇓P **P 21 33 49.7 -0.4**
AKT Akhty 81.41 333 *e*P **P 21 33 49.9 -0.6**
AKT *e* 21 33 56.4
AKT pmax pmax
comp=Z,116nm,0.9s
SOC Sochi 81.45 339 *e*P **P 21 33 51.8 +1.2**
SOC *e* 21 36 55.3
SOC *e*PPP PPP 21 38 43.8
SOC *e*S **S 21 44 07.2 +5.7**
SOC *e*SS **SS 21 49 11.3 -5.0**
SOC *e*SSS SSS 21 52 46.8
SOC pmax pmax
comp=Z,35nm,1.0s
SOC MLR MLR
comp=Z,927nm,14.0s
VRI Vrincioaia 81.46 349 ⇑P **P 21 33 51.2 +0.6**
PLOR Plostina 81.48 349 ⇓P **P 21 33 49.4 -1.4**
LGD Lagodekhi 81.49 334 P **P 21 33 50.6 -0.2**
ONI Oni 81.51 336 P **P 21 33 50.5 -0.5**
ONI pmax pmax
comp=Z,33nm,1.4s
ONI Oni 81.51 336 P **P 21 33 50.5 -0.5**
ONI IAmb IAmb 21 33 55.2
comp=Z,33nm,1.4s
DOPR Dopca 81.52 350 ⇓P **P 21 33 50.6 -0.3**
ODBI Odobesti 81.52 348 ⇓P **P 21 33 50.3 -0.6**
ABTA Abfaltersbach 81.55 359 *e*P **P 21 33 51.0 -0.2**
comp=Z,38nm,1.3s,SNR=23
SOKA Soboth 81.56 357 *e*P **P 21 33 50.8 -0.4**
comp=Z,84nm,1.2s,SNR=59
ZKTA Zakatala 81.57 334 P **P 21 33 50.8 -0.5**
PERS Pernice 81.60 357 *e*P **P 21 33 51.0 -0.4**
PERS *e*pP **pP 21 33 53.8 -0.5**
MYKA Terra Mystica 81.65 358 *e*P **P 21 33 51.6 -0.1**
comp=Z,33nm,1.2s,SNR=12
BEHE Becsehely 81.70 356 *e*P **P 21 33 56.5 +4.7**
BEHE Becsehely 81.70 356 ⇑*i*P **P 21 33 54.4 +2.6**
CHVG Ch'k'valeri 81.72 337 ⇓P **P 21 33 52.1 +0.1**
ZOU Zoufplan 81.73 358 P **P 21 33 51.8 -0.5**
ZOU IAmb IAmb 21 34 07.7
comp=Z,51nm,1.3s
OBKA Obir 81.75 357 *e*P **P 21 33 51.9 -0.3**
comp=Z,35nm,1.2s,SNR=13
GROS Grobnik 81.76 357 *e*P **P 21 33 51.5 -0.8**
GROS *e*pP **pP 21 33 54.6 -0.6**
BISRR Bisoca 81.78 349 ⇑P **P 21 33 51.8 -0.6**
SEKA Sheki 81.81 333 P **P 21 33 52.5 -0.1**
TUE Stuetta 81.84 1 P **P 21 33 52.6 -0.2**
TUE IAMs_20 IAMs_20 22 11 17.7
comp=Z,1μm,20.0s
MORH Mrgy, Hungar 81.85 354 ⇑P **P 21 33 51.6 -1.0**
MORH Mrgy, Hungar 81.85 354 *e*P **P 21 33 54.8 +2.2**
MORH Mrgy, Hungar 81.85 354 ⇑*i*P **P 21 33 54.0 +1.4**
TLCR 81.86 347 ⇑P **P 21 33 52.1 -0.6**
DDFL Dedoflistskaro 81.89 334 P **P 21 33 55.4 +2.4**
SENIN Lac Senin/Sane 81.91 2 P **P 21 33 53.1 -0.2**
MLR Muntele Rosu 81.92 349 ⇓P **P 21 33 53.9 +0.7**
MLR Muntele Rosu 81.92 349 P **P 21 33 52.8 -0.4**
MLR pmax pmax
comp=Z,29nm,1.3s
MLR MLR MLR
comp=Z,2μm,20.0s
MLR Muntele Rosu 81.92 349 P **P 21 33 52.8 -0.4**
MLR IAmb IAmb 21 34 15.0
comp=Z,30nm,1.3s
MTKI Muara Teweh, K 81.96 258 P **P 21 33 55.9 +2.3**
CFR Carcaliu 81.96 348 ⇓P **P 21 33 52.3 -0.9**
STAL STALIGIAL 82.04 358 P **P 21 33 54.2 +0.5**
STAL IAmb IAmb 21 33 56.8
comp=Z,61nm,1.6s
VOIR 82.08 350 ⇓P **P 21 33 53.4 -0.6**
LJU Ljubljana 82.21 357 ⇑*i*P **P 21 33 54.6 +0.1**
LJU Ljubljana 82.21 357 *e*P **P 21 33 54.7 +0.1**
BZS Buzias 82.23 352 ⇑P **P 21 33 53.3 -1.3**
TPGR Topolog 82.24 347 ⇓P **P 21 33 54.2 -0.5**
MNGR Mingechevir, A 82.24 333 P **P 21 33 55.3 +0.5**
CTI Castel Tesino 82.26 359 P **P 21 33 55.1 +0.2**
CTI pmax pmax
comp=Z,41nm,1.2s
CTI Castel Tesino 82.26 359 P **P 21 33 55.1 +0.2**
CTI IAmb IAmb 21 34 15.0
comp=Z,41nm,1.2s
JURR Jurilovca 82.26 347 ⇑P **P 21 33 53.9 -0.9**
GBAS Gorenja Brezov 82.32 357 *i*P **P 21 33 54.2 -0.9**
GZR Gura Zlata 82.35 351 ⇓P **P 21 33 54.4 -1.0**
MTN Manton Dam 82.39 238 P **P 21 33 54.6 -1.2**
MTN IAmb IAmb 21 35 12.2
comp=Z,43nm,1.2s
CRES Cresnjev 82.40 357 ⇑*i*P **P 21 33 53.9 -1.6**
KZRT Kazreti 82.40 335 P **P 21 33 58.6 +2.9**
HARR Harsova 82.47 348 ⇑P **P 21 33 55.3 -0.6**
CEY Cerknica 82.52 357 ⇑*i*P **P 21 33 57.9 +1.7**
GANJ Ganja 82.57 333 P **P 21 33 56.7 +0.1**
TLBR Topalu 82.59 347 ⇓P **P 21 33 56.6 0.0**
AKH Akhalkalaki 82.61 336 ⇑P **P 21 33 56.8 -0.1**
AKH Akhalkalaki 82.61 336 P **P 21 33 57.5 +0.5**
TIRR Tirgusor 82.63 347 ⇓P **P 21 33 56.0 -0.6**
TIRR Tirgusor 82.63 347 P **P 21 33 56.1 -0.6**
TIRR pmax pmax
comp=Z,59nm,0.9s
TIRR MLR MLR
comp=Z,3μm,20.0s
TIRR Tirgusor 82.63 347 P **P 21 33 56.1 -0.6**
SALO Salr 82.69 0 P **P 21 33 56.9 -0.3**
SKDS Skadanscina 82.72 358 ⇑*i*P **P 21 33 55.6 -1.7**
BOJS Bojanci 82.73 357 ⇑*i*P **P 21 33 56.3 -0.9**
LPL La Plagne 82.74 3 *e*P **P 21 34 00.6 +3.0**
LPL pmax pmax
comp=Z,52nm,1.6s
HRA Herat 82.78 319 P **P 21 33 57.1 -0.9**
HRA IAmb IAmb 21 34 01.4
comp=Z,50nm,1.3s
FRGS Fruska Gora 82.83 353 ⇓P **P 21 33 57.2 -0.6**
FRGS Fruska Gora 82.83 353 ⇑*i*P **P 21 33 56.3 -1.5**
HERR Herculane 82.89 352 ⇓P **P 21 33 57.0 -1.1**
SSB Saint Sauveur 82.89 4 P **P 21 33 57.3 -0.9**
SSB pmax pmax
comp=Z,38nm,1.1s
SSB MLR MLR
comp=Z,700nm,20.0s
SSB Saint Sauveur 82.89 4 P **P 21 33 57.3 -0.9**
SSB IAmb IAmb 21 34 15.0
comp=Z,38nm,1.1s
SSB IAMs_20 IAMs_20 22 17 52.8
comp=Z,728nm,20.0s
TEOL Teolo 82.95 359 P **P 21 33 58.0 -0.4**
LFF La Frestale 83.00 7 *e*P **P 21 33 58.1 -0.6**
LFF pmax pmax
comp=Z,88nm,1.4s
BCA Borcka 83.04 337 ⇑P **P 21 33 57.9 -1.1**
MDVR Moldovita 83.05 352 ⇓P **P 21 33 57.9 -1.1**
CAF Calviac 83.11 6 *e*P **P 21 34 01.5 +2.2**
CAF pmax pmax
comp=Z,53nm,1.4s
MRAK Mrakovica 83.15 355 ⇑*i*P **P 21 33 57.3 -2.2**
BNI Bardonecchia 83.20 3 P **P 21 34 00.3 +0.4**
BNI pmax pmax
comp=Z,51nm,1.0s
BNI MLR MLR
comp=Z,600nm,20.0s
BNI Bardonecchia 83.20 3 P **P 21 34 00.2 +0.4**
BNI IAmb IAmb 21 34 16.8
comp=Z,51nm,1.0s
BLY Banja Luka 83.40 355 ⇑*i*P **P 21 34 02.4 +1.7**
KARS Kars 83.45 336 P **P 21 34 01.7 +0.4**
KARS pmax pmax
comp=Z,373nm,1.9s
KARS Kars 83.45 336 P **P 21 34 01.7 +0.4**
GNI Garni 83.47 334 P **P 21 34 01.8 +0.4**
GNI pmax pmax
comp=Z,68nm,1.3s
GNI MLR MLR
comp=Z,500nm,18.0s
GNI Garni 83.47 334 P **P 21 34 01.8 +0.4**
SJG San Juan 83.79 69 IAMs_20 IAMs_20 22 15 10.1
comp=Z,1μm,19.0s
DIVS Divibare 83.87 353 ⇑*i*P **P 21 34 01.5 -1.8**
DIVS Divibare 83.87 353 P **P 21 34 02.3 -0.9**
DIVS IAmb IAmb 21 34 17.6
comp=Z,28nm,1.2s
SNOP Sinop 83.89 342 P **P 21 34 03.4 +0.1**
SNOP IAmb IAmb 21 34 07.2
comp=Z,41nm,1.2s
KTUT Trabzon 83.91 338 ⇑P **P 21 34 03.1 -0.3**
MSSA Maissana 83.99 1 P **P 21 34 02.7 -1.2**
BBLS Lazići 84.14 354 ⇑*i*P **P 21 34 03.7 -1.0**
VLC Villacollemand 84.15 0 IAMs_20 IAMs_20 22 13 20.1
comp=Z,980nm,21.0s
BZK Bozkurt 84.17 343 ⇓P **P 21 34 04.6 -0.1**
BZK Bozkurt 84.17 343 P **P 21 34 05.3 +0.6**
NAX Nakhchivan 84.17 333 P **P 21 34 06.3 +1.4**
BOVS Bovan 84.19 352 ⇑P **P 21 34 03.6 -1.2**
DIKM Dikmen 84.23 342 ⇓P **P 21 34 04.4 -0.6**
SKLT Songkhla 84.37 274 P P 21 34 22.3 +16
RUDO Rudo 84.39 354 *e*P **P 21 34 03.5 -2.4**
OSSC Osservatorio P 84.79 360 P **P 21 34 07.3 -0.6**
PGAV Gavieira, Arco 84.93 14 *i*LQ LQ 21 34 23.7
PGAV Gavieira, Arco 84.93 14 *e*S **S 21 44 44.3 +7.2**
PGAV Gavieira, Arco 84.93 14 *e*LR LR 22 03 04.0
comp=Z,1μm,18.0s
MURB Monte Urbino 85.03 359 P **P 21 34 08.8 -0.4**
BHPL Bhopal 85.10 302 *e*P **P 21 34 08.5 -1.3**
BHPL IAmb IAmb 21 34 12.5
comp=Z,91nm,1.1s
BRY Bratogost 85.16 354 ⇑*i*P **P 21 34 08.7 -1.2**
PKDT Phuket 85.21 277 P P 21 34 26.8 +16
PCAB Cabril 85.22 14 *e*P **P 21 34 10.7 +0.6**
comp=Z,35nm,2.0s
PCAB *i*LQ LQ 21 34 24.2
STON Ston 85.24 355 ⇑*i*P **P 21 34 06.6 -3.5**
PBRG Braganca 85.31 13 *e*P **P 21 34 12.9 +2.4**
comp=Z,53nm,2.0s
PBRG *i*LQ LQ 21 34 24.9
EDRB Edirne 85.42 348 P **P 21 34 13.0 +2.0**
NRCA Norcia 85.45 358 P **P 21 34 10.8 -0.5**
POLO Lamas de Olo 85.58 14 *e*P **P 21 34 13.4 +1.4**
comp=Z,19nm,1.6s
POLO *i*LQ LQ 21 34 26.5
PDG Podgorica 85.58 354 ⇓P **P 21 34 10.9 -1.0**
PDG Podgorica 85.58 354 *e*P **P 21 34 10.8 -1.0**
PDG Podgorica 85.58 354 P **P 21 34 10.1 -1.7**
PDG IAmb IAmb 21 34 14.7
comp=Z,39nm,1.1s
HCY Herceg Novi 85.61 354 ⇑*i*P **P 21 34 10.6 -1.4**
GURO Guroymak-BITLI 85.68 336 P **P 21 34 12.1 -0.4**
GURO IAmb IAmb 21 34 17.0
comp=Z,56nm,1.5s
PVRL Vila Real 85.69 14 *e*P **P 21 34 15.1 +2.7**
comp=Z,48nm,1.6s
PVRL *i*LQ LQ 21 34 27.2
DRME Dracevica, Mon 85.83 354 *e*P **P 21 34 12.1 -1.0**
SABA Saba 85.84 67 IAMs_20 IAMs_20 22 12 52.1
comp=Z,993nm,20.0s
ISK Istanbul-Kandi 85.86 346 P **P 21 34 15.3 +2.1**
SKO Skopje 85.87 352 *i*P **P 21 34 13.4 +0.1**
MVO Moncorvo 85.89 13 *e*P **P 21 34 14.3 +0.8**
comp=Z,38nm,1.3s
MVO *i*LQ LQ 21 34 27.9
MVO Moncorvo 85.89 13 *e*S **S 21 44 49.3 +2.7**
MVO Moncorvo 85.89 13 *e*LR LR 22 04 46.0
comp=Z,995nm,18.0s
AQU L'Aquila 85.93 358 P **P 21 34 12.9 -0.7**
AQU pmax pmax
comp=Z,89nm,1.0s
AQU MLR MLR
comp=Z,700nm,21.0s
AQU L'Aquila 85.93 358 ⇑*i*P **P 21 34 13.6 0.0**
AQU L'Aquila 85.93 358 P **P 21 34 12.9 -0.7**
AQU IAMs_20 IAMs_20 22 18 09.9
comp=Z,691nm,21.0s
KNRA Kununurra 86.00 238 P **P 21 34 12.9 -1.2**
KNRA IAmb IAmb 21 34 16.4
comp=Z,35nm,1.2s
STIP Stip 86.07 351 *i*P **P 21 34 12.9 -1.3**
MDUB Mudurnu 86.11 344 P **P 21 34 14.2 -0.4**
PVIS Viseu 86.21 14 *i*LQ LQ 21 34 29.9
PHP Peshkopia 86.23 353 P **P 21 34 16.6 +1.4**
NVR Nevrokopi 86.25 350 P **P 21 34 14.5 -0.7**
INTR Introdacqua 86.26 358 P **P 21 34 14.8 -0.5**
RDO Rodhopi 86.26 349 P **P 21 34 14.9 -0.3**
BR131 Keskin Array S 86.40 342 P **P 21 34 15.4 -0.7**
BR131 pmax pmax
comp=Z,82nm,1.8s
BR131 Keskin Array S 86.40 342 P **P 21 34 15.4 -0.7**
BRTR Keskin Array B 86.40 342 P **P 21 34 15.6 -0.5**
comp=Z,4.9nm,0.9s,baz=27,slow=1.1,SNR=17
BRTR LR LR 22 17 09.7
comp=Z,493nm,19.8s,baz=14,slow=39
BRTR Keskin Array B 86.40 342 P **P 21 34 15.4 -0.7**
VAY Valandovo 86.41 351 *i*P **P 21 34 15.8 -0.1**
ANTO Ankara 86.42 343 P **P 21 34 16.0 -0.1**
ANTO pmax pmax
comp=Z,53nm,1.2s
ANTO MLR MLR
comp=Z,500nm,19.0s
ANTO Ankara 86.42 343 P **P 21 34 16.0 -0.1**
ANTO IAmb IAmb 21 34 32.6
comp=Z,53nm,1.2s
ALN Alexandroupoli 86.44 348 P **P 21 34 15.2 -0.9**
ALN Alexandroupoli 86.44 348 P **P 21 34 15.1 -1.0**
ALN pmax pmax
comp=Z,61nm,1.2s
ALN Alexandroupoli 86.44 348 P **P 21 34 15.1 -1.0**
SRS Serrai 86.51 350 P **P 21 34 15.2 -1.2**
KNT Kendrikon 86.53 351 P **P 21 34 16.0 -0.6**
MTE Manteigas 86.57 14 *i*LQ LQ 21 34 35.2
MTE Manteigas 86.57 14 *e*S S 21 45 03.7 +11
MTE Manteigas 86.57 14 *e*LR LR 22 05 13.9
comp=Z,855nm,18.0s
MTE Manteigas 86.57 14 IAMs_20 IAMs_20 22 18 22.4
comp=Z,1μm,18.0s
ENEZ Enez 86.59 348 P **P 21 34 18.7 +1.9**
WB0 Warramunga Arr 86.61 232 P **P 21 34 15.5 -1.5**
WB0 IAmb IAmb 21 34 26.0
comp=Z,38nm,1.6s
TIR Tirane 86.61 353 ⇑P **P 21 34 17.2 +0.3**
TIR Tirane 86.61 353 P **P 21 34 17.0 +0.1**
TIR pmax pmax
comp=Z,36nm,1.1s
TIR MLR MLR
comp=Z,1μm,21.0s
TIR Tirane 86.61 353 P **P 21 34 17.0 +0.1**
TIR IAmb IAmb 21 34 37.0
comp=Z,36nm,1.1s
TIR IAMs_20 IAMs_20 22 15 32.2
comp=Z,1μm,21.0s
ANWB Willy Bob 86.62 66 IAMs_20 IAMs_20 22 14 56.8
comp=Z,1μm,20.0s
COI Coimbra 86.63 14 IAMs_20 IAMs_20 22 14 14.0
comp=Z,1μm,20.0s
PCAS Casmilo, Conde 86.77 15 *i*LQ LQ 21 34 31.3
MALT Malatya 86.77 338 P **P 21 34 19.9 +2.0**
WRAB Tennant Creek 86.77 232 ‖*e*P **P 21 34 16.8 -1.0**
WRAB pmax pmax
comp=Z,38nm,2.5s
OHR Ohrid 86.78 352 *i*P **P 21 34 17.5 -0.4**
GRG Griva 86.78 351 P **P 21 34 19.9 +2.1**
WRA Warramunga Arr 86.78 232 P **P 21 34 16.2 -1.7**
comp=Z,8.0nm,0.9s,baz=34,slow=6.0,SNR=16
WRA Warramunga Arr 86.78 232 P **P 21 34 16.5 -1.4**
WRA Warramunga Arr 86.78 232 P **P 21 34 16.5 -1.4**
BNN Bunyan 86.81 340 P **P 21 34 17.3 -0.8**
SOH Sokhos 86.82 350 P **P 21 34 17.3 -0.8**
HATO Hato, Curacao 86.83 74 IAMs_20 IAMs_20 22 10 47.5
comp=Z,1μm,22.0s
THAS Thassos island 86.89 349 P **P 21 34 17.1 -1.2**
SMTH Samothraki Isl 86.92 349 P **P 21 34 19.8 +1.3**
FNA Florina 87.05 352 P **P 21 34 20.6 +1.4**
FNA Florina 87.05 352 P **P 21 34 17.6 -1.6**
FNA pmax pmax
comp=Z,24nm,1.0s
FNA Florina 87.05 352 P **P 21 34 17.6 -1.6**
FNA IAmb IAmb 21 34 33.2
comp=Z,24nm,1.0s
PCBR Castelo Branco 87.13 14 *e*P **P 21 34 20.2 +0.7**
comp=Z,43nm,1.8s
PCBR *i*LQ LQ 21 34 32.7
GADA Gvkgeada 87.16 348 P **P 21 34 21.1 +1.5**
PAOL Paolisi 87.22 357 P **P 21 34 18.9 -1.1**
PAOL IAmb IAmb 21 34 34.2
comp=Z,51nm,1.2s
OUR Ouranopolis 87.24 350 P **P 21 34 18.6 -1.4**
PSBE So Bento 87.25 15 *i*LQ LQ 21 34 34.8
PLG Polygyros 87.26 350 P **P 21 34 21.3 +1.1**
BALB Balikesir 87.43 347 P **P 21 34 19.8 -1.2**
KZN Kozani 87.49 351 P **P 21 34 22.6 +1.3**
LIA Limnos Island 87.53 349 P **P 21 34 20.5 -0.9**
PMRV Marv??o 87.55 14 *e*P **P 21 34 24.4 +2.9**
comp=Z,17nm,1.7s
PMRV *i*LQ LQ 21 34 36.1
PMRV Marv??o 87.55 14 *e*S **S 21 45 07.2 +4.7**
PMRV Marv??o 87.55 14 *e*LR LR 22 06 37.1
comp=Z,1μm,18.0s
LIT Litokhoron 87.62 351 P **P 21 34 23.1 +1.2**
LIT Litokhoron 87.62 351 P **P 21 34 20.6 -1.3**
LIT Litokhoron 87.62 351 P **P 21 34 20.6 -1.3**
PAIG Paliouri 87.67 350 P **P 21 34 20.3 -1.8**
PMAFR Mafra 87.71 15 *e*P **P 21 34 25.0 +2.7**
PMAFR *i*LQ LQ 21 34 40.2
ESBB Sonseca Array 87.76 11 P **P 21 34 21.8 -0.8**
ESBB IAmb IAmb 21 34 38.0
comp=Z,43nm,1.1s
ESDC Sonseca Array 87.76 11 P **P 21 34 21.7 -0.9**
comp=Z,5.2nm,0.8s,baz=353,slow=4.4,SNR=21
ESDC LR LR 22 13 22.5
comp=Z,651nm,21.6s,baz=325,slow=36
ESDC Sonseca Array 87.76 11 P **P 21 34 21.5 -1.1**
ESDC IAmb IAmb 21 34 38.0
comp=Z,34nm,1.1s
PMTG Montargil 87.77 15 *e*P **P 21 34 23.9 +1.3**
comp=Z,22nm,1.6s
PMTG *i*LQ LQ 21 34 36.5
PAB San Pablo 87.84 11 P **P 21 34 21.7 -1.3**
PAB pmax pmax
comp=Z,30nm,1.2s
PAB MLR MLR
comp=Z,1μm,18.0s
PAB San Pablo 87.84 11 P **P 21 34 21.7 -1.3**
PAB IAmb IAmb 21 34 37.7
comp=Z,30nm,1.2s
PAB San Pablo 87.84 11 P 21 34 37.4
PRK Paraskevi 88.04 348 P **P 21 34 26.3 +2.5**
PESTR Estremoz 88.07 14 *i*LQ LQ 21 34 37.7
PLMC San Jos del P 88.11 85 *e*P **P 21 34 23.2 -1.4**
SIGR SIGRI 88.13 348 P **P 21 34 25.9 +1.6**
GAZ Gaziantep 88.13 339 P **P 21 34 23.9 -0.6**
GAZ IAmb IAmb 21 34 29.4
comp=Z,19nm,1.0s
THL Klokotos Trika 88.20 351 P **P 21 34 23.0 -1.6**
KEK Kerkira 88.24 353 P **P 21 34 26.6 +1.8**
XOR Xorichti 88.28 350 P **P 21 34 23.1 -2.0**
NEO Neokhori 88.34 350 P **P 21 34 26.3 +1.0**
IGT Igoumenitsa 88.38 352 P **P 21 34 26.9 +1.4**
GUY2C Guyana, Caldas 88.42 84 *e*P **P 21 34 28.1 +1.5**
KULA Kula-Manisa 88.42 346 P **P 21 34 27.6 +1.8**
SDV Santo Domingo 88.43 78 LR LR 22 14 50.4
comp=Z,323nm,20.1s,baz=328,slow=36
SDV Santo Domingo 88.43 78 IAMs_20 IAMs_20 22 17 04.1
comp=Z,764nm,20.0s
NORC Norcasia 88.46 83 *e*P **P 21 34 26.4 +0.1**
PNCL Nicolau / Gran 88.66 15 *i*LQ LQ 21 34 40.5
AGG Agios Georgios 88.71 351 P **P 21 34 27.6 +0.5**
AGG Agios Georgios 88.71 351 P **P 21 34 25.1 -2.0**
AGG pmax pmax
comp=Z,22nm,0.9s
AGG Agios Georgios 88.71 351 P **P 21 34 25.1 -2.0**
AGG IAmb IAmb 21 34 36.5
comp=Z,22nm,0.9s
MAKR Makrakomi, Fth 88.74 351 P **P 21 34 26.1 -1.1**
YOTC Yotoco, Valle 88.79 85 *e*P **P 21 34 28.0 +0.1**
PSI Prapat 88.83 273 P **P 21 34 26.6 -1.5**
PSI pmax pmax
comp=Z,192nm,1.2s
PSI MLR MLR
comp=Z,600nm,22.0s
PBAR Barrancos 88.83 14 *e*P **P 21 34 29.5 +1.9**
comp=Z,33nm,1.6s
PBAR *i*LQ LQ 21 34 41.6
PBEJ Beja 88.85 14 *i*LQ LQ 21 34 41.6
EVR Evrytania 88.86 351 P **P 21 34 29.7 +1.8**
KYMI Kymi, Euboea I 88.91 349 P **P 21 34 28.6 +0.6**
RPSI Rantau Prapat 88.91 273 P **P 21 34 26.6 -1.6**
CHOS Chios island 88.91 348 P **P 21 34 29.5 +1.4**
TOLC Tolima 88.95 84 *e*P **P 21 34 29.9 +1.0**
TIP Timpagrande 88.97 355 P **P 21 34 27.5 -0.9**
TIP IAmb IAmb 21 34 47.0
comp=Z,31nm,1.4s
TIP IAMs_20 IAMs_20 22 20 02.5
comp=Z,1μm,20.0s
MESJ Messejana 88.97 15 *e*P **P 21 34 28.7 +0.4**
MESJ IAMs_20 IAMs_20 22 15 45.7
comp=Z,1μm,17.8s
MESJ Messejana 88.97 15 *e*P **P 21 34 28.7 +0.4**
EREA Eretria 89.14 350 P **P 21 34 30.2 +1.1**
ANX Ano Chora 89.17 351 P **P 21 34 28.3 -1.1**
PCVE Castro Verde 89.21 15 *i*LQ LQ 21 34 44.0
HYB Hyderabad 89.25 298 *i*P **P 21 34 31.5 +1.6**
HYB *e*sP **pwP 21 34 36.5 -1.0**
HYB *e*PP sP 21 35 03.0 +29
HYB Hyderabad 89.25 298 *e*P **P 21 34 28.9 -1.1**
EVGI Lefkada island 89.26 352 P **P 21 34 30.8 +1.2**
RUSC La Rusia 89.29 81 P **P 21 34 30.0 -0.7**
RUSC La Rusia 89.29 81 *e*P **P 21 34 30.9 +0.2**
SERG Sergoula 89.34 351 P **P 21 34 28.5 -1.5**
EFP Efpalio 89.34 351 P **P 21 34 31.6 +1.6**
BKNI Bangkinang 89.45 270 P **P 21 34 30.1 -0.7**
BKNI Bangkinang 89.45 270 P P 21 34 37.5 +6.7
DION Dionisos Attik 89.47 349 P **P 21 34 30.7 0.0**
PVAQ Vaqueiros 89.48 14 *i*LQ LQ 21 34 43.1
PVAQ Vaqueiros 89.48 14 *e*S **S 21 45 21.1 +0.3**
LAKA Lakka 89.52 351 P **P 21 34 32.7 +1.8**
ORTC Ortega, Tolima 89.52 84 *e*P **P 21 34 29.4 -1.9**
ATHU Athens Univers 89.60 350 P **P 21 34 31.9 +0.6**
PBDV Barranco-do-Ve 89.61 15 *i*LQ LQ 21 34 46.6
KLV Kalavryta, Ach 89.70 351 P **P 21 34 33.2 +1.4**
RLS Riolos of Patr 89.75 351 P **P 21 34 33.9 +2.0**
YER Yerkesik 89.83 346 P **P 21 34 34.5 +2.1**
BODT Bodrum 90.05 347 P **P 21 34 34.3 +0.9**
CART Cartagena 90.15 9 IAMs_20 IAMs_20 22 19 53.9
comp=Z,833nm,19.0s
AS31 Alice Springs 90.17 230 P **P 21 34 33.0 -0.9**
ASAR Alice Springs 90.17 230 P **P 21 34 32.7 -1.2**
comp=Z,15nm,0.9s,baz=30,slow=4.5,SNR=32
ASAR LR LR 22 13 24.7
comp=Z,285nm,18.6s,baz=30,slow=34
ASAR Alice Springs 90.17 230 P **P 21 34 32.7 -1.2**
DAT Datca 90.33 346 P **P 21 34 35.2 +0.4**
CORL Corleone 90.38 358 P **P 21 34 34.4 -0.5**
OTAV Otavalo 90.42 89 *e*P P 21 34 44.6 +8.7
ITM Ithomi 90.57 351 P **P 21 34 35.7 -0.1**
KSL Kastellorizon 90.59 345 P **P 21 34 37.4 +1.5**
CSS Mathiatis 91.08 341 P **P 21 34 37.5 -0.7**
SMIR Smir Dam 91.51 13 P 21 34 56.0
KARP Karpathos 91.55 347 P **P 21 34 39.3 -1.1**
KARP IAMs_20 IAMs_20 22 23 12.0
comp=Z,531nm,18.0s
PMPST Porto Santo, M 92.00 22 *i*LQ LQ 21 34 54.7
PMOZ Porto Moniz, M 92.04 23 *e*LR LR 22 07 41.6
comp=Z,601nm,20.0s
IMMV Iera Moni Meta 92.05 349 P **P 21 34 44.0 +1.3**
IDI Anoyia 92.11 348 IAMs_20 IAMs_20 22 24 05.8
comp=Z,650nm,21.0s
LAST Lasithi 92.16 348 P **P 21 34 43.9 +0.6**
RSA Sarsar 92.24 13 P 21 34 59.0
SIVA Sivas 92.39 348 P **P 21 34 46.0 +1.8**
JBK JBK 93.20 11 P 21 35 03.0
UOSS Minazif 93.55 319 IAMs_20 IAMs_20 22 22 15.4
comp=Z,894nm,20.0s

STKA	Stephens Creek	93.94	220	P		P	21 34 50.2	-1.0
	comp=Z,1.9nm,0.5s,baz=2.6,slow=5.5,SNR=7.5							
STKA				LR		LR	22 11 42.1	
	comp=Z,483nm,20.8s,baz=24,slow=32							
CZD	Col de Zad	94.17	13	P			21 35 08.0	
MDT	Midelt	94.44	13	P			21 35 08.5	
TDRA	Tendrara	94.54	11	P			21 35 11.0	
RPN	Rapa Nui	94.73	129	LR		LR	22 10 58.0	
	comp=Z,436nm,18.1s,baz=328,slow=31							
FIGM	Figuig	95.52	10	P			21 35 14.0	
TZRR	Tazzarine	96.30	14	P			21 35 17.0	
PTGA	Pitinga	102.45	75	IAMs_20		IAMs_20	22 23 22.5	
	comp=Z,916nm,21.0s							
SAML	Samuel	106.99	83	IAMs_20		IAMs_20	22 28 18.7	
	comp=Z,671nm,22.0s							
ATD	Arta Tunnel	110.81	326	IAMs_20		IAMs_20	22 36 00.3	
	comp=Z,868nm,20.0s							
FURI	Furi	114.66	329	IAMs_20		IAMs_20	22 36 16.0	
	comp=Z,591nm,19.0s							
H03N2	Juan Fernandez	115.85	112	T		T	23 47 05.0	
	baz=323,slow=78,SNR=15							
H03N1	Juan Fernandez	115.86	112	T		T	23 47 18.3	
	baz=323,slow=78,SNR=16							
H03N3	Juan Fernandez	115.86	112	T		T	23 47 06.0	
	baz=323,slow=78,SNR=15							
RCBR	Riachuelo	120.16	57	IAMs_20		IAMs_20	22 27 13.3	
	comp=Z,530nm,19.0s							
LODK	Lodwar	120.85	331	IAMs_20		IAMs_20	22 39 19.0	
	comp=Z,595nm,19.0s							
NBLV	Livramento - P	120.92	58	eP		PKiKP	21 40 33.8	+7.3
NBPN	Ponto Novo - B	122.05	64	eP		PKiKP	21 40 35.6	+7.0
KMBO	Kilima Mbogo	124.53	327	PKP		PKiKP	21 40 33.9	0.0
	comp=Z,3.3nm,0.9s,baz=2.3,slow=5.1,SNR=8.4							
KIBK	Kibwezi	125.39	326	IAMs_20		IAMs_20	22 44 30.2	
	comp=Z,552nm,19.0s							
MATP	Matopo	145.47	329	PKPbc		PKPbc	21 41 10.6	-1.4
	comp=Z,37nm,1.0s,baz=12,slow=3.5,SNR=22							
TSUM	Tsumeb	146.75	348	PKPbc		PKPbc	21 41 15.0	-0.8
	comp=Z,9.5nm,0.8s,baz=358,slow=2.5,SNR=14							
TSUM	Tsumeb	146.75	348	PKPdf		PKPdf	21 41 13.6	-0.5
MAW	Mawson	150.61	218	PKPbc		PKPbc	21 41 23.3	-0.8
	comp=Z,3.6nm,0.9s,baz=113,slow=4.8,SNR=8.1							
MAW	Mawson	150.61	218			PKiKP	21 41 25.5	+0.7
LBTB	Lobatse	150.66	331	PKPbc		PKPbc	21 41 25.4	-0.3
	comp=Z,38nm,0.8s,baz=16,slow=0.8,SNR=29							
LBTB	Lobatse	150.66	331			PKPbc	21 41 25.2	-0.6
BOSA	Boshof	154.14	329	PKPbc		PKPbc	21 41 32.7	-0.8
	comp=Z,4.3nm,0.8s,baz=13,slow=4.5,SNR=5.3							
BOSA	Boshof	154.14	329	PKIKP		PKPbc	21 41 31.8	-1.7
BOSA	Boshof	154.14	329			PKPbc	21 41 31.8	-1.7

*IDC **28** 21:29:01.7±1.7, 12°.90N×92°.45E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.5/50, mbtmp3.7/6, ML3.7/1 Error ellipse: s-maj=43.0km s-min=24.1km az=72.0*
*NEIC **28** 21:29:07.6±2.0, 13°.1N±0°.1×92°.5E±0°.1, h30km±4km, mb4.2/9, Error ellipse: s-maj=18.3km s-min=14.5km az=163.0*

ISC 28 21:29:06.8±0.9, 13°.0N±0°.1×92°.5E±0°.1, h31km, n21, σ1§65/19, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.30	48	Pn	Pn	21 31 03.9	-1.2
	0.3nm,0.3s,baz=238,slow=14,SNR=5.8						
CMAR				Sn	Sn	21 32 42.3	+4.4
	0.3nm,0.3s,baz=229,slow=32,SNR=5.1						
CMAR	Chiang Mai Arr	8.30	48		Pn	21 31 05.4	+0.3
CHTO	Chiang Mai	8.53	46	Pn	Pn	21 31 07.1	-1.2
PALK	Pallekele	12.87	245	Pn	Pn	21 32 09.6	+1.8
KMI	Kunming	15.51	37		Pn	21 32 41.4	-2.1
H08S3	Diego Garcia H	28.50	225	T	T	22 04 51.3	
	baz=44,slow=76,SNR=33						
H08S2	Diego Garcia H	28.50	225	T	T	22 04 48.4	
	baz=44,slow=76,SNR=37						
H08S1	Diego Carcia H	28.52	225	T	T	22 04 40.7	
	baz=44,slow=76,SNR=25						
MK31	Makanchi Array	34.79	348	P	P	21 35 54.7	+0.1
MK31				IAmb	IAmb	21 36 03.6	
	comp=Z,2.9nm,1.1s						
MKAR	Makanchi Array	34.79	348	P	P	21 35 54.5	-0.1
	comp=Z,1.4nm,0.8s,baz=164,slow=8.5,SNR=3.3						
MAKZ	Makanchi	34.87	347	P	P	21 35 55.0	-0.2
MAKZ				IAmb	IAmb	21 36 08.8	
	comp=Z,8.2nm,1.4s						
ULN	Ulaanbaatar	36.87	16	P	P	21 36 12.4	-0.1
ULN				IAmb	IAmb	21 36 13.1	
	comp=Z,7.4nm,1.3s						
KSRS	Korea Array	39.94	46	P	P	21 36 37.1	-1.1
	comp=Z,1.0nm,0.6s,baz=242,slow=6.5,SNR=4.5						
ZAA0	Zalesovo Array	41.33	353	P	P	21 36 47.3	-2.2
ZAA0				IAmb	IAmb	21 36 49.9	
	comp=Z,6.2nm,1.4s						
ZALV	Zalesovo Beam	41.33	353	P	P	21 36 49.7	+0.2
	comp=Z,1.2nm,0.6s,baz=162,slow=11,SNR=4.0						
ZALV	Zalesovo Beam	41.33	353	P	P	21 36 47.5	-2.0
ABKAR	Akbulak array	45.00	330	P	P	21 37 19.8	+0.5
ABKAR				IAmb	IAmb	21 37 27.1	
	comp=Z,2.3nm,1.1s						
WB0	Warramunga Arr	52.56	128	P	P	21 38 18.6	+0.8
WRA	Warramunga Arr	52.62	128	P	P	21 38 18.1	-0.1
	comp=Z,0.6nm,0.7s,baz=296,slow=9.4,SNR=5.3						
ASAR	Alice Springs	54.49	132	P	P	21 38 30.7	-1.2
	comp=Z,0.3nm,0.4s,baz=308,slow=6.8,SNR=6.2						
FINES	FINESS Array B	67.46	332	P	P	21 39 58.9	-0.5

*IDC **28** 21:31:42.3±1.2, 52°.12N×169°.38W, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/48, mbtmp3.8/12, ML3.4/2, Error ellipse: s-maj=32.1km s-min=20.1km az=2.0*
*AEIC **28** 21:31:46.5±2.2, 52°.03N±0°.07×169°.32W±0°.07, h35km±6km, ML3.4/36, mb3.9/34(NEIC), Error ellipse: s-maj=10.3km s-min=6.1km az=175.0*
*NEIC **28** 21:31:47.8±1.8, 52°.09N±0°.07×169°.34W±0°.08, h41km±8km, Error ellipse: s-maj=9.9km s-min=7.2km az=166.0*

ISC 28 21:31:46.4±0.8, 52°.0N±0°.1×169°.32W±0°.07, h29km, n98, σ1§14/97, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.99	17		Pn	21 32 03.8	-0.5
NIKH	Nikolski High	0.99	17		Sn	21 32 17.0	-0.3
OKSP	Okmok Steeple	1.38	27		Pn	21 32 09.5	-0.2
OKTU	Okmok Mt. Tuli	1.56	29		Pn	21 32 12.7	+0.4
OKCE	Okmok Cone E	1.57	26		Pn	21 32 12.5	+0.2
OKNC	Okmok New Cone	1.60	26		Pn	21 32 13.6	+0.8
OKFG	Magazine Ridge	1.63	31		Pn	21 32 13.4	+0.3
OKFG					Sn	21 32 34.4	+1.3
MSW	Makushin Switc	2.43	38		Pn	21 32 24.9	+0.7
MNAT	Makushin Natee	2.45	40		Pn	21 32 25.0	+0.6
MNAT					Sn	21 32 54.6	+1.2
UNV	Unalaska Valle	2.49	42		Pn	21 32 25.1	+0.1
UNV					Sn	21 32 55.3	+0.9
MTBL	Makushin Table	2.51	38		Pn	21 32 26.4	+1.0
AKMO	Akutan Morgan	2.87	43		Pn	21 32 31.1	+0.9
AKBA	Akutan Broad B	2.91	43		Pn	21 32 32.1	+1.4
KOFP	Korovin Flat P	2.95	277		Pn	21 32 32.2	+0.8
AKGG	Akutan Green G	2.96	41		Pn	21 32 32.9	+1.5
AKUT	Akutan	3.00	44		Pn	21 32 32.9	+0.9
ATKA	Atka Island	3.01	275		Pn	21 32 32.3	+0.2
GSMY	Great Sitkin M	4.16	273		Pn	21 32 48.1	+0.2
GSTR	Great Sitkin T	4.16	274	Pn	Pn	21 32 48.9	+0.9
GSTD	Great Sitkin T	4.21	273		Pn	21 32 49.2	+0.5
ISLZ	Isanotski Laza	4.31	49		Pn	21 32 50.3	+0.3
FALS	False Pass	4.52	49	Pn	Pn	21 32 54.4	+1.5
ADK	Adak	4.56	271		Pn	21 32 53.9	+0.6
KIWB	Kanaga Island	4.85	271		Pn	21 32 58.1	+0.8
KIKV	Kanaga Island	4.86	271		Pn	21 32 58.4	+0.8
KIMD	Kanaga Island	4.91	270		Pn	21 32 58.7	+0.5
TAFP	Tanaga Falls P	5.36	272		Pn	21 33 04.9	+0.5
TASE	Tanaga Southea	5.40	271		Pn	21 33 06.2	+1.3
SDPT	Sand Point	6.22	54		Pn	21 33 16.6	+0.5
CNBA	Chernabura Isl	6.45	61	Pn	Pn	21 33 19.6	+0.2
CESW	Semis' Southwe	6.87	273		Pn	21 33 26.9	+1.7
AMKA	Amchitka	7.10	269		Pn	21 33 29.1	+0.9
LSPA	Little Sitkin	7.48	274		Pn	21 33 35.8	+2.3
CHIR	Chirikof Islan	8.93	59	Pn	Pn	21 33 53.3	0.0
SII	Sitkinak Islan	9.94	57	Pn	Pn	21 34 07.2	+0.1
OHAK	Old Harbor	10.64	54	Pn	Pn	21 34 15.6	-1.1
KDAK	Kodiak Island	11.21	53	Pn	Pn	21 34 23.3	-1.2
	0.8nm,0.3s,baz=302,slow=18,SNR=8.1						
CNPM	China Poot	12.62	46	Pn	Pn	21 34 43.6	-0.2
SUA	Susitna One	13.84	40	Pn	Pn	21 34 59.9	-0.7
RC01	Rabbit Creek A	14.05	42	Pn	Pn	21 35 02.0	-1.2
PWL	Port Wells	14.53	44	Pn	Pn	21 35 07.9	-1.9
GHO	Glory Hole Cre	14.74	41	Pn	Pn	21 35 11.4	-1.3
SML	Sawmill	15.00	41	Pn	Pn	21 35 14.7	-1.5
KTH	Kantishna Hill	15.07	33	Pn	Pn	21 35 16.4	-0.8
KTH				IAmb	IAmb	21 35 34.8	
	comp=Z,9.6nm,1.4s						
GLI	Glacier Island	15.07	45	Pn	Pn	21 35 14.4	-2.7
GLI				IAmb	IAmb	21 35 21.1	
	comp=Z,11nm,1.4s						
HIN	Hinchinbrook I	15.14	48	Pn	Pn	21 35 15.1	-2.9
HIN				IAmb	IAmb	21 35 23.3	
	comp=Z,9.1nm,1.0s						
FID	Port Fidalgo	15.29	46	Pn	Pn	21 35 16.7	-3.3
FID				IAmb	IAmb	21 35 31.1	
	comp=Z,5.6nm,0.6s						
BPAW	Bear Paw Mtn.	15.42	31		Pn	21 35 23.8	+2.1
BPAW				IAmb	IAmb	21 35 26.5	
	comp=Z,3.8nm,0.8s						
SCM	Sheep Creek Mo	15.42	42	Pn	Pn	21 35 19.8	-2.0
SCM				IAmb	IAmb	21 35 29.4	
	comp=Z,5.8nm,0.6s						
KLU	Klutina	15.86	44	Pn	Pn	21 35 25.1	-2.3
KLU				IAmb	IAmb	21 35 26.8	
	comp=Z,6.4nm,0.5s						
RAGM	Ragged Mountai	15.98	49	Pn	Pn	21 35 28.5	-0.3
RAGM				IAmb	IAmb	21 35 42.9	
	comp=Z,11nm,1.2s						
MLY	Manley	16.15	29		Pn	21 35 32.0	+0.9
MLY				IAmb	IAmb	21 35 35.1	
	comp=Z,8.2nm,1.4s						
HMT	Hamilton	16.15	49	Pn	Pn	21 35 30.0	-1.1
HMT				IAmb	IAmb	21 35 56.8	
	comp=Z,18nm,1.3s						
N25K	Chitina, Valde	16.48	45	Pn	Pn	21 35 33.9	-1.4
N25K				IAmb	IAmb	21 35 35.3	
	comp=Z,3.7nm,0.6s						
I23K	Minto, Yukon-K	16.65	30		Pn	21 35 38.0	+0.7
GLB	Gilahina Butte	16.76	46	Pn	Pn	21 35 36.9	-1.9
CCB	Clear Creek Bu	16.83	33	Pn	Pn	21 35 38.0	-1.6
VRDI	Verde Repeater	16.84	47	Pn	Pn	21 35 38.0	-1.9
VRDI				IAmb	IAmb	21 35 58.3	
	comp=Z,6.0nm,1.1s						
ILAR	Eielson Array	17.22	34	P	Pn	21 35 43.7	-0.8
	comp=Z,0.1nm,0.3s,baz=227,slow=9.6,SNR=4.1						
RIDG	Independent Ri	17.37	38		Pn	21 35 46.4	-0.1
SCRK	Sand Creek	17.82	38		Pn	21 35 50.7	-1.4
COLD	Coldfoot	17.91	24	P	P	21 35 54.9	+1.5
L27K	Beaver Creek,	18.26	42		P	21 35 57.6	+0.3
BCAR	Beaver Creek A	18.28	42	P	P	21 35 56.7	-0.9
K27K	Chicken	18.59	39	P	P	21 35 60.0	-0.9
HYT	Haines Junctio	19.49	51	Pn	Pn	21 36 14.0	+1.7
HYT				IAmb	IAmb	21 36 15.5	
	comp=Z,8.1nm,0.6s						
BMAR	Burnt Mountain	19.61	29	P	P	21 36 13.2	+1.1
PEA0B	Petropavlovsk-	19.98	286	P	P	21 36 16.3	+0.1
PEA0B				IAmb	IAmb	21 36 34.4	
	comp=Z,8.8nm,1.1s						
PETK	Petropavlovsk-	19.98	286	P	P	21 36 15.5	-0.7
	comp=Z,1.0nm,0.3s,baz=96,slow=14,SNR=20						
INK	Inuvik	23.61	33	P	P	21 36 53.4	-1.1
	comp=Z,1.8nm,0.5s,baz=214,slow=6.4,SNR=8.0						
INK	Inuvik	23.61	33	P	P	21 36 52.6	-1.8
INK				IAmb	IAmb	21 37 07.0	
	comp=Z,3.2nm,0.9s						
H11S1	WAKE ISLAND Hy	38.39	218	T	T	22 20 27.6	
	baz=23,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	38.41	218	T	T	22 20 26.5	
	baz=23,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	38.41	218	T	T	22 20 19.1	
	baz=23,slow=76,SNR=10						
PDAR	Pinedale Array	40.44	79	P	P	21 39 23.6	+1.4
	comp=Z,0.5nm,0.6s,baz=306,slow=6.0,SNR=5.0						
PDAR	Pinedale Array	40.44	79	P	P	21 39 23.1	+0.8
SONM	Songino Array	51.50	301	P	P	21 40 49.4	+0.2
	comp=Z,0.3nm,0.4s,baz=72,slow=5.5,SNR=2.3						
SONM	Songino Array	51.50	301	IAmb	IAmb	21 41 17.2	
	comp=Z,1.1nm,1.3s						
TX31	Lajitas Ar. Si	52.72	89	P	P	21 40 58.2	-0.2
TXAR	Lajitas Array	52.72	89	P	P	21 40 58.3	-0.2
	comp=Z,0.5nm,0.5s,baz=302,slow=5.3,SNR=9.5						
TXAR	Lajitas Array	52.72	89	P	P	21 40 58.6	+0.1
ARCES	ARCESS Array B	58.26	354	P	P	21 41 37.1	-0.5
	comp=Z,1.6nm,0.8s,baz=7.8,slow=7.3,SNR=5.8						
MK31	Makanchi Array	64.06	314	P	P	21 42 16.6	-0.7
MKAR	Makanchi Array	64.06	314	P	P	21 42 16.9	-0.4
	comp=Z,0.3nm,0.3s,baz=52,slow=6.9,SNR=10.0						
MKAR	Makanchi Array	64.06	314	P	P	21 42 16.6	-0.7
MAKZ	Makanchi	64.19	314	P	P	21 42 17.4	-0.8
FIA1	FINESS Array S	66.21	352	P	P	21 42 30.6	-0.3
FINES	FINESS Array B	66.21	352	P	P	21 42 30.7	-0.2
	comp=Z,1.2nm,0.5s,baz=353,slow=7.6,SNR=9.8						
NC405	NORSAR Array S	67.20	359	P	P	21 42 36.3	-1.0
NOA	NORSAR Array B	67.28	360	P	P	21 42 38.2	+0.4
	comp=Z,0.5nm,0.7s,baz=0.3,slow=6.2,SNR=3.8						
BOOM	Boomskoye usch	70.25	314	P	P	21 42 57.3	+0.5
ABKAR	Abkulak array	70.74	328	P	P	21 42 59.2	-0.2
ABKAR	Abkulak array	70.74	328	P	P	21 42 59.6	+0.2
ABKAR				IAmb	IAmb	21 43 00.2	
	comp=Z,1.4nm,0.8s						
KK31	Karatay Array	72.06	318	P	P	21 43 06.6	-1.0
KK31				IAmb	IAmb	21 43 19.7	
	comp=Z,1.9nm,1.0s						
KKAR	Karatay Array	72.06	318	P	P	21 43 07.1	-0.4
CHGR	Chuyangaron	76.33	317	P	P	21 43 32.2	-0.4
AKASG	Malin Array Be	76.44	348	P	P	21 43 32.0	-0.9
	comp=Z,0.4nm,0.3s,baz=15,slow=5.9,SNR=3.3						
ASAR	Alice Springs	90.20	230	P	P	21 44 44.3	+0.4
	comp=Z,1.0nm,0.9s,baz=34,slow=4.9,SNR=4.7						

*NEIC **28** 21:42:26.8±0.8, 51°.96N±0°.07×169°.26W±0°.07, h20km±7km, Error ellipse: s-maj=10.1km s-min=5.5km az=159.0*
*AEIC **28** 21:42:27.3±1.6, 52°.01N±0°.07×169°.22W±0°.05, h16km±6km, ML2.7/15, mb3.5/4(NEIC), Error ellipse: s-maj=10.1km s-min=4.3km az=170.0*

ISC 28 21:42:28.2±1.4, 52°.0N±0°.1×169°.31W±0°.09, h30km, n19, σ0§94/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.00	16		Pn	21 42 45.5	-0.8
NIKH				Sg	Sn	21 42 59.3	0.0
NIKH	Nikolski High	1.00	16		Sb	21 43 00.4	+0.5
OKSP	Okmok Steeple	1.39	26		Pn	21 42 50.9	-0.7
OKSP					Sn	21 43 09.4	+0.4
OKTU	Okmok Mt. Tuli	1.58	29		Pn	21 42 53.7	-0.5
OKCE	Okmok Cone E	1.58	26		Pn	21 42 54.2	0.0
OKFG	Magazine Ridge	1.64	31		Pn	21 42 54.8	-0.1
OKFG					Sn	21 43 15.5	+0.5
MNAT	Makushin Natee	2.46	39		Pn	21 43 06.0	-0.3
MNAT					Sn	21 43 35.6	+0.3
UNV	Unalaska Valle	2.50	42		Pn	21 43 07.8	+1.0
ATKA	Atka Island	3.02	276	Pn	Pn	21 43 13.1	-0.8
GSTR	Great Sitkin T	4.17	274	Pn	Pn	21 43 29.7	0.0
ADK	Adak	4.57	271	Pn	Pn	21 43 34.3	-0.9
KIWB	Kanaga Island	4.86	271	Pn	Pn	21 43 39.1	-0.1
AMKA	Amchitka	7.11	269	Pn	Pn	21 44 10.3	+0.2
SCM	Sheep Creek Mo	15.43	42	Pn	Pn	21 46 01.6	-2.0
BPAW	Bear Paw Mtn.	15.44	31	Pn	Pn	21 46 03.0	-0.5
KLU	Klutina	15.87	44	Pn	Pn	21 46 06.9	-2.3
KLU				IAmb	IAmb	21 46 34.0	
	comp=Z,3.5nm,1.2s						
HYT	Haines Junctio	19.50	51	P	P	21 46 53.0	+0.4
HYT				IAmb	IAmb	21 47 01.7	
	comp=Z,5.1nm,1.2s						
MKAR	Makanchi Array	64.08	314	P	P	21 53 00.9	+1.8
FINES	FINESS Array B	66.23	352	P	P	21 53 12.3	-0.4

*IDC **28** 21:46:45.9±1.1, 52°.24N×169°.45W, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.8/34, mbtmp3.8/13, ML3.6/1, Error ellipse: s-maj=33.2km s-min=18.7km az=178.0*
*AEIC **28** 21:46:49.7±2.1, 52°.10N±0°.07×169°.36W±0°.07, h30km±5km, ML3.5/38, mb4.0/40(NEIC), Error ellipse: s-maj=9.5km s-min=6.3km az=172.0*
*NEIC **28** 21:46:50.3±2.0, 52°.15N±0°.07×169°.36W±0°.08, h29km±6km, Error ellipse: s-maj=10.9km s-min=6.6km az=169.0*

ISC 28 21:46:49.1±0.8, 52°.1N±0°.1×169°.36W±0°.06, h21km±5km, n111, σ1§06/110, mb3.9/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.90	20		Pn	21 47 05.9	-0.6
NIKH				Sn	Sn	21 47 20.1	+1.4
OKSP	Okmok Steeple	1.30	30		Pn	21 47 11.7	-0.3
OKCE	Okmok Cone E	1.49	29		Pn	21 47 15.1	+0.5
OKTU	Okmok Mt. Tuli	1.49	32		Pn	21 47 15.0	+0.4
OKNC	Okmok New Cone	1.53	29		Pb	21 47 16.0	-0.7
OKFG	Magazine Ridge	1.56	34		Pn	21 47 15.8	+0.4
OKFG					Sb	21 47 36.4	0.0
MSW	Makushin Switc	2.37	40		Pn	21 47 27.5	+0.8
MSW					Sn	21 47 56.1	+1.0
MNAT	Makushin Natee	2.39	42		Pn	21 47 27.6	+0.7
MNAT					Sn	21 47 56.8	+1.3
UNV	Unalaska Valle	2.44	44		Pn	21 47 28.3	+0.8
UNV					Sn	21 47 57.5	+0.8
MTBL	Makushin Table	2.45	40		Pn	21 47 29.1	+1.3
AKMO	Akutan Morgan	2.82	44		Pn	21 47 34.0	+1.3
AKBBA	Akutan Broad B	2.86	45		Pn	21 47 34.6	+1.2
AKGG	Akutan Green G	2.90	43		Pn	21 47 35.6	+1.6
KOFP	Korovin Flat P	2.92	275		Pn	21 47 35.2	+1.0
AKUT	Akutan	2.95	46	Pn	Pn	21 47 35.6	+1.0
ATKA	Atka Island	2.98	273		Pn	21 47 35.2	+0.2
WESP	Westdahl Peak	3.65	48		Pn	21 47 45.3	+1.0
GSTR	Great Sitkin T	4.13	272		Pn	21 47 51.7	+0.8
GSMY	Great Sitkin M	4.13	271		Pn	21 47 51.4	+0.5
GSTD	Great Sitkin T	4.18	272		Pn	21 47 52.2	+0.6
FALS	False Pass	4.48	50	Pn	Pn	21 47 58.0	+2.5
ADK	Adak	4.53	270		Pn	21 47 56.9	+0.6
KIWB	Kanaga Island	4.82	270	Pn	Pn	21 48 01.1	+0.7
KIKV	Kanaga Island	4.83	270		Pn	21 48 01.2	+0.7
KIMD	Kanaga Island	4.88	269		Pn	21 48 01.8	+0.6
TAFP	Tanaga Falls P	5.33	271		Pn	21 48 08.1	+0.7
TASE	Tanaga Southea	5.37	270		Pn	21 48 08.9	+1.0
GAEA	Gareloi East	5.81	270		Pn	21 48 15.8	+1.8
SDPT	Sand Point	6.18	55		Pn	21 48 19.5	+0.5
CNBA	Chernabura Isl	6.43	61		Pn	21 48 21.9	-0.4
CESW	Semis' Southwe	6.84	272		Pn	21 48 29.8	+1.7
AMKA	Amchitka	7.08	268	Pn	Pn	21 48 32.2	+1.0
CHIR	Chirikof Islan	8.90	60	Pn	Pn	21 48 56.3	+0.1
SII	Sitkinak Islan	9.90	57	Pn	Pn	21 49 11.0	+1.0
OHAK	Old Harbor	10.60	55	Pn	Pn	21 49 18.3	-1.2
KDAK	Kodiak Island	11.17	53	Pn	Pn	21 49 25.9	-1.4
	0.8nm,0.3s,baz=226,slow=4.0,SNR=13						
KDAK	Kodiak Island	11.17	53		Pn	21 49 26.0	-1.2
CNPM	China Poot	12.56	47	Pn	Pn	21 49 46.4	0.0
BRLK	Bradley Lake	12.84	46	Pn	Pn	21 49 50.5	+0.5
SEW	Seward	13.63	46	Pn	Pn	21 50 00.4	-0.5
SUA	Susitna One	13.78	40	Pn	Pn	21 50 03.8	+0.7
RC01	Rabbit Creek A	13.99	42	Pn	Pn	21 50 05.0	-0.8
PWL	Port Wells	14.47	45	Pn	Pn	21 50 10.5	-1.9
SML	Sawmill	14.94	41	Pn	Pn	21 50 17.8	-1.0
GLI	Glacier Island	15.02	46	Pn	Pn	21 50 17.1	-2.7
GLI				IAmb	IAmb	21 50 43.5	
	comp=Z,4.0nm,0.8s						
HIN	Hinchinbrook I	15.09	48	Pn	Pn	21 50 18.3	-2.5
HIN				IAmb	IAmb	21 50 27.5	
	comp=Z,14nm,1.1s						
FID	Port Fidalgo	15.24	47	Pn	Pn	21 50 19.4	-3.4
FID				IAmb	IAmb	21 50 33.5	
	comp=Z,9.8nm,1.3s						
BPAW	Bear Paw Mtn.	15.35	32		Pn	21 50 25.2	+1.0
SCM	Sheep Creek Mo	15.37	42		Pn	21 50 22.4	-2.0
SCM				IAmb	IAmb	21 50 44.4	
	comp=Z,13nm,1.4s						
KLU	Klutina	15.80	44		Pn	21 50 28.1	-2.0
KLU				IAmb	IAmb	21 50 28.8	
	comp=Z,8.6nm,0.4s						
RAGM	Ragged Mountai	15.93	49	Pn	Pn	21 50 30.7	-1.0
RAGM				IAmb	IAmb	21 50 47.4	
	comp=Z,6.9nm,0.9s						
M24K	Tolsona, Glenn	15.98	42	Pn	Pn	21 50 30.8	-1.4
M24K				IAmb	IAmb	21 50 47.8	
	comp=Z,14nm,1.1s						
MLY	Manley	16.07	29	P	P	21 50 35.1	-1.7
HMT	Hamilton	16.11	50	Pn	Pn	21 50 32.3	-1.6
HMT				IAmb	IAmb	21 50 33.4	
	comp=Z,18nm,1.4s						
N25K	Chitina, Valde	16.43	45	Pn	Pn	21 50 36.6	-1.5
I23K	Minto,

KK31 IAmb IAmb 21 58 11.0
comp=Z,1.8nm,0.8s
KKAR Karatay Array 71.97 318 P **P** **21 58 09.9 -0.8**
PABE Paberze 72.16 352 P **P** **21 58 11.6 +0.1**
GAR Garm 75.46 316 P **P** **21 58 31.1 -0.3**
CHGR Chuyangaron 76.24 317 P **P** **21 58 36.0 +0.1**
CMAR Chiang Mai Arr 76.68 283 P **P** **21 58 38.8 +0.4**
comp=Z,0.7nm,0.7s,baz=40,slow=7.1,SNR=2.7
KBL Kabul 79.76 314 P **P** **21 58 55.2 -0.3**
KBZ Khabaz 80.53 337 P **P** **21 59 00.0 +0.8**
comp=Z,1.7nm,0.8s,baz=337,slow=2.3,SNR=3.9
ASAR Alice Springs 90.24 230 P **P** **21 59 47.6 -0.2**
comp=Z,0.6nm,0.9s,baz=27,slow=2.5,SNR=4.2

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*IDC **28** 21:57:38.0±0.7, 58°.23S×61°.36W, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.2/29, mbtmp4.3/12, ML4.3/3, Error ellipse: s-maj=36.0km s-min=14.5km az=81.0*
*NEIC **28** 21:57:39.2±1.2, 58°.27S±0°.03×61°.6W±0°.2, h10km±1km, mb4.8/34, Error ellipse: s-maj=16.5km s-min=3.5km az=255.0*
ISC 28 21:57:39.0±0.4, 58°.27S±0°.05×61°.69W±0°.07, h10km, n96, σ1°.12/93, mb4.7/20, Drake Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG01	**Puerto William**	**4.68**	**313**	Pn	**Pn**	**21 58 48.1**	**-1.5**
USHA	**Ushuaia**	**5.08**	**310**	Pn	**Pn**	**21 58 56.3**	**+1.2**
	4.2nm,0.3s,baz=195,slow=0.4,SNR=54						
USHA				Sn	**Sn**	**21 59 49.6**	**-4.1**
	13nm,0.3s,baz=270,slow=14,SNR=11						
PMSA	**Palmer Station**	**6.63**	**189**	Pn	**Pn**	**21 59 16.3**	**+0.1**
	4.0nm,0.3s,baz=30,slow=8.7,SNR=36						
PMSA				Sn	**Sn**	**22 00 27.9**	**-3.9**
	0.3nm,0.3s,baz=7.5,slow=15,SNR=0.8						
PMSA	**Palmer Station**	**6.63**	**189**	Pn	**Pn**	**21 59 15.9**	**-0.4**
EFI	**East Falkland**	**6.93**	**19**	Pn	**Pn**	**21 59 18.8**	**-1.6**
MG02	**Cerro Sombrero**	**6.96**	**319**	Pn	**Pn**	**21 59 20.9**	**-0.1**
GO10	**Punta Arenas**	**7.36**	**310**		**Pn**	**21 59 26.1**	**-0.3**
GO09	**Cerro Castillo**	**9.32**	**314**	Pn	**Pn**	**21 59 51.6**	**-1.7**
HOPE	**Hope Point**	**14.52**	**85**	Pn	**Pn**	**22 01 03.8**	**-0.5**
LL02	**Futaleuf**	**16.38**	**333**	Pn	**Pn**	**22 01 28.8**	**+0.1**
PLCA	**Paso Flores**	**18.44**	**338**	P	**Pn**	**22 01 56.7**	**+2.1**
	0.5nm,0.3s,baz=164,slow=8.3,SNR=18						
PLCA	**Paso Flores**	**18.44**	**338**		**Pn**	**22 01 55.3**	**+0.7**
PLCA	**Paso Flores**	**18.44**	**338**	*e*P	**Pn**	**22 01 56.9**	**+2.3**
TRQA	**Tornquist**	**20.23**	**359**	P	**P**	**22 02 14.1**	**+0.1**
TRQA				IAmb	IAmb	22 02 15.8	
	comp=Z,33nm,1.0s						
TRQA	**Tornquist**	**20.23**	**359**	*e*P	Pn	22 02 15.0	-0.9
LC01	**Cunco**	**20.48**	**337**	P	**P**	**22 02 16.8**	**0.0**
LC01				IAmb	IAmb	22 02 22.5	
	comp=Z,52nm,1.7s						
GO05	**Huala**	**24.25**	**339**	P	**P**	**22 02 55.8**	**-0.2**
GO05				IAmb	IAmb	22 02 57.4	
	comp=Z,41nm,0.8s						
BO02	**Sierra Bellavi**	**24.26**	**342**	P	**P**	**22 02 55.5**	**-0.6**
BO02				IAmb	IAmb	22 02 58.1	
	comp=Z,46nm,1.1s						
VNA3	**Neumayer Olymp**	**24.70**	**142**	P	**P**	**22 03 02.3**	**+2.5**
VNA1	**Neumayer--Stat**	**25.13**	**141**	P	**P**	**22 03 05.8**	**+2.2**
MT09	**Talagante**	**25.28**	**342**	P	**P**	**22 03 06.0**	**+0.5**
VNA2	**Neumayer--Watz**	**25.43**	**142**	P	**P**	**22 03 08.5**	**+2.2**
MT03	**Universidad Ad**	**25.48**	**343**	P	**P**	**22 03 07.9**	**+0.7**
MT05	**Renca**	**25.62**	**342**	P	**P**	**22 03 08.5**	**+0.1**
VA03	**San Esteban**	**26.20**	**343**	P	**P**	**22 03 14.2**	**+0.5**
SNAA	**Sanae**	**26.90**	**143**	P	**P**	**22 03 21.9**	**+2.2**
SNAA	**Sanae**	**26.90**	**143**	P	**P**	**22 03 20.4**	**+0.6**
	comp=Z,6.2nm,1.0s,baz=270,slow=5.1,SNR=7.9						
SNAA	**Sanae**	**26.90**	**143**	P	**P**	**22 03 19.5**	**-0.2**
PLTB	**Pedras Altas**	**27.07**	**15**	P	**P**	**22 03 19.8**	**-1.8**
PLTB	**Pedras Altas**	**27.07**	**15**	*e*P	**P**	**22 03 20.6**	**-0.9**
ZON	**Zonda**	**27.14**	**347**	P	**P**	**22 03 22.1**	**-0.2**
ZON				IAmb	IAmb	22 03 24.2	
	comp=Z,8.5nm,0.7s						
CO02	**Combarbal**	**27.80**	**343**	P	**P**	**22 03 28.5**	**+0.3**
CO02				IAmb	IAmb	22 03 33.6	
	comp=Z,22nm,0.9s						
CO03	**El Pedregal**	**28.11**	**343**	P	**P**	**22 03 31.0**	**+0.1**
CO03				IAmb	IAmb	22 03 38.1	
	comp=Z,15nm,0.7s						
GO04	**Tololo Observa**	**28.78**	**343**	P	**P**	**22 03 36.7**	**-0.4**
ITQB	**Itaqui**	**28.80**	**9**	P	**P**	**22 03 36.4**	**-0.6**
ITQB	**Itaqui**	**28.80**	**9**	*e*P	**P**	**22 03 37.0**	**0.0**
QSPA	**South Pole Qui**	**31.97**	**180**	P	**P**	**22 04 06.3**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=150,slow=1.6,SNR=6.4						
QSPA	**South Pole Qui**	**31.97**	**180**	P	**P**	**22 04 05.9**	**+1.0**
QSPA				IAmb	IAmb	22 04 16.6	
	comp=Z,13nm,1.5s						
CPUP	**Villa Florida**	**32.06**	**7**	P	**P**	**22 04 04.9**	**-0.9**
	comp=Z,9.7nm,0.7s,baz=185,slow=7.0,SNR=24						
CPUP	**Villa Florida**	**32.06**	**7**	*e*P	**P**	**22 04 04.4**	**-1.4**
CPUP				IAmb	IAmb	22 04 05.9	
	comp=Z,10nm,0.8s						
CPUP	**Villa Florida**	**32.06**	**7**	*e*P	**P**	**22 04 05.0**	**-0.8**
PTGB	**Pitanga**	**34.22**	**16**	*e*P	**P**	**22 04 24.8**	**+0.1**
LVC	**Limon Verde**	**36.00**	**349**	P	**P**	**22 04 40.7**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=160,slow=5.0,SNR=3.7						
LVC	**Limon Verde**	**36.00**	**349**	P	**P**	**22 04 40.1**	**-0.3**
LVC				IAmb	IAmb	22 04 41.5	
	comp=Z,9.2nm,0.9s						
LVC	**Limon Verde**	**36.00**	**349**	*e*P	**P**	**22 04 41.1**	**+0.7**
TRCB	**Terra Rica**	**36.03**	**14**	P	**P**	**22 04 39.7**	**-0.6**
VAO	**Valinhos**	**36.79**	**23**	*e*P	**P**	**22 04 48.3**	**+1.4**
PB01	**IPOC Station P**	**37.61**	**348**	P	**P**	**22 04 54.5**	**+0.6**
PB01				IAmb	IAmb	22 04 55.5	
	comp=Z,15nm,0.9s						
PB08	**IPOC Station P**	**38.47**	**349**	P	**P**	**22 05 01.6**	**+0.2**
PB08				IAmb	IAmb	22 05 04.3	
	comp=Z,17nm,1.1s						
PB11	**IPOC Station P**	**38.90**	**348**	P	**P**	**22 05 04.8**	**+0.1**
PB11				IAmb	IAmb	22 05 06.8	
	comp=Z,16nm,0.9s						
MNMC	**Minye Minye**	**39.51**	**348**	P	**P**	**22 05 10.2**	**+0.2**
MNMC				IAmb	IAmb	22 05 12.1	
	comp=Z,34nm,1.4s						
LPAZ	**La Paz**	**42.18**	**351**	P	**P**	**22 05 33.9**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=144,slow=4.9,SNR=7.7						
LPAZ	**La Paz**	**42.18**	**351**	P	**P**	**22 05 32.5**	**0.0**
LPAZ	**La Paz**	**42.18**	**351**	*e*P	**P**	**22 05 33.5**	**+1.1**
SIV	**San Ignacio**	**42.21**	**1**	P	**P**	**22 05 31.7**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=181,slow=1.1,SNR=4.1						
SALV	**Santo Antonio**	**42.53**	**9**	*e*P	**P**	**22 05 34.5**	**0.0**
PTLB	**Pontes e Lacer**	**42.79**	**4**	*e*P	**P**	**22 05 36.5**	**-0.1**
ARAG	**Araguaiana, MT**	**43.12**	**14**	*e*P	**P**	**22 05 39.4**	**0.0**
MC01	**Montes Claros**	**43.54**	**25**	*e*P	**P**	**22 05 42.0**	**-0.7**
BDFB	**Brasilia**	**43.76**	**19**	P	**P**	**22 05 44.4**	**-0.3**
	comp=Z,11nm,1.0s,baz=176,slow=5.7,SNR=9.2						
BDFB	**Brasilia**	**43.76**	**19**	P	**P**	**22 05 44.2**	**-0.5**
BDFB				IAmb	IAmb	22 05 45.1	
	comp=Z,13nm,1.0s						
GUA01	**Guaratinga, BA**	**44.68**	**31**	*e*P	**P**	**22 05 51.4**	**-0.5**
JANB	**Januaria**	**45.05**	**24**	*e*P	**P**	**22 05 54.5**	**-0.4**
VILB	**Vilhena**	**45.24**	**2**	*e*P	**P**	**22 05 57.4**	**+1.0**
CMC01	**Camacan, BA**	**45.92**	**30**	*e*P	**P**	**22 06 01.4**	**-0.3**
NBIT	**Itapeh - BA**	**46.35**	**30**	*e*P	**P**	**22 06 05.1**	**-0.1**
SNDB	**Serra Nova Dou**	**46.87**	**14**	*e*P	**P**	**22 06 09.4**	**+0.2**
PEXB	**Peixe**	**47.18**	**18**	*e*P	**P**	**22 06 11.4**	**-0.1**
GDU01	**Guandu, BA**	**47.48**	**30**	*e*P	**P**	**22 06 13.2**	**-0.7**
SDBA	**SAO DESIDERIO**	**47.50**	**23**	*e*P	**P**	**22 06 13.5**	**-0.6**
CLDB	**Colider**	**47.51**	**8**	*e*P	**P**	**22 06 15.4**	**+1.2**
ETMB	**Extrema**	**48.47**	**354**	*e*P	**P**	**22 06 22.0**	**+0.4**
SAML	**Samuel**	**49.22**	**358**	P	**P**	**22 06 27.1**	**-0.2**
NBPN	**Ponto Novo - B**	**50.07**	**28**	*e*P	**P**	**22 06 33.0**	**-0.9**
SMTB	**Santa Maria do**	**50.47**	**18**	*e*P	**P**	**22 06 36.9**	**0.0**
CZSB	**Cruzeiro do Su**	**51.13**	**346**	*e*P	**P**	**22 06 43.0**	**+1.2**
NPGB	**Novo Progresso**	**51.33**	**8**	*e*P	**P**	**22 06 42.9**	**-0.4**
NBMA	**Muriti-CE**	**53.78**	**29**	*e*P	**P**	**22 07 00.7**	**-0.8**
ROSB	**Rosrio**	**56.92**	**21**	*e*P	**P**	**22 07 23.5**	**-0.6**
OTAV	**Otavalo**	**59.83**	**341**	P	**P**	**22 07 45.5**	**+0.5**
OTAV				IAmb	IAmb	22 07 47.8	
	comp=Z,12nm,1.2s						
OTAV	**Otavalo**	**59.83**	**341**	*e*P	**P**	**22 07 47.6**	**+2.6**
BOAV	**Boa Vista**	**60.48**	**1**	*e*P	**P**	**22 07 49.0**	**+0.1**
H10S3	**ASCENSION HYDR**	**60.84**	**56**	T	T	23 14 04.6	
	SNR=5.2						
H10N3	**ASCENSION HYDR**	**61.91**	**55**	T	T	23 15 15.8	
	baz=206,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**61.91**	**56**	T	T	23 15 14.4	
	baz=206,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**61.92**	**55**	T	T	23 15 17.2	
	baz=206,slow=75,SNR=14						
LBTB	**Lobatse**	**67.69**	**102**	P	**P**	**22 08 35.4**	**-1.0**
LBTB				IAmb	IAmb	22 09 05.2	
	comp=Z,20nm,1.6s						
TORD	**Torodi Ar. Bea**	**87.78**	**61**	P	**P**	**22 10 27.4**	**-0.6**
TXAR	**Lajitas Array**	**94.05**	**324**	P	**P**	**22 10 58.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=153,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**97.35**	**194**	P	**P**	**22 11 12.6**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=177,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr**	**100.95**	**195**	P	**Pdif**	**22 11 28.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=180,slow=4.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**137.77**	**152**	PKP	**PKPdf**	**22 17 03.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=111,slow=30,SNR=3.1						
ILAR	**Eielson Array**	**138.42**	**320**	PKP	**PKPdf**	**22 17 03.6**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=155,slow=1.1,SNR=5.2						
KIRV	**Kirov**	**145.37**	**59**	PKPbc	**PKPbc**	**22 17 14.1**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=244,slow=9.6,SNR=4.1						
MKAR	**Makanchi Array**	**155.58**	**102**	PKP	**PKPdf**	**22 17 31.7**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=180,slow=1.4,SNR=2.1						
SONM	**Songino Array**	**167.35**	**141**	PKPab	**PKPab**	**22 18 48.9**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=227,slow=4.9,SNR=2.7						

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*IDC **28** 22:02:12.8±1.1, 8°.76S×108°.67W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.9/27, mbtmp3.8/9, Error ellipse: s-maj=44.6km s-min=19.0km az=59.0*
*NEIC **28** 22:02:15.6±1.3, 8°.7S±0°.1×108°.5W±0°.2, h10km±1km, mb4.6/35, Error ellipse: s-maj=28.9km s-min=19.5km az=252.0*
ISC 28 22:02:14.7±0.7, 8°.7S±0°.1×108°.5W±0°.2, h10km, n62, σ0°.53/54, mb4.5/26, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**31.22**	**75**	P	**P**	**22 08 34.8**	**-0.4**
OTAV				IAmb	IAmb	22 08 35.7	
	comp=Z,7.9nm,1.1s						
ZAIG	**Zacatecas**	**31.83**	**10**	P	**P**	**22 08 40.8**	**+0.5**
ZAIG				IAmb	IAmb	22 08 53.5	
	comp=Z,8.7nm,1.5s						
H03N2	**Juan Fernandez**	**36.71**	**136**	T	T	22 48 23.9	
	baz=308,slow=77,SNR=71						
H03N1	**Juan Fernandez**	**36.72**	**136**	T	T	22 48 25.6	
	baz=308,slow=77,SNR=75						
H03N3	**Juan Fernandez**	**36.72**	**136**	T	T	22 48 24.6	
	baz=308,slow=77,SNR=74						
TX32	**Lajitas Array**	**38.12**	**7**	P	**P**	**22 09 34.2**	**0.0**
TXAR	**Lajitas Array**	**38.12**	**7**	P	**P**	**22 09 33.8**	**-0.5**
	comp=Z,1.9nm,1.1s,baz=187,slow=8.8,SNR=12						
TXAR	**Lajitas Array**	**38.12**	**7**	P	**P**	**22 09 34.0**	**-0.2**
319A	**Douglas**	**39.88**	**359**	P	**P**	**22 09 49.3**	**+0.4**
LPAZ	**La Paz**	**40.05**	**105**	P	**P**	**22 09 52.5**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=260,slow=10,SNR=2.6						
ABTX	**Abilene, Hawle**	**41.97**	**11**	P	**P**	**22 10 06.0**	**-0.1**
Y14A	**Wickenburg**	**42.64**	**354**	P	**P**	**22 10 11.9**	**+0.4**
X18A	**Snowflake**	**43.04**	**358**	P	**P**	**22 10 15.7**	**+0.8**
BO02	**Sierra Bellavi**	**43.17**	**133**	P	**P**	**22 10 16.1**	**+0.1**
BO02				IAmb	IAmb	22 10 17.6	
	comp=Z,13nm,0.8s						
SAML	**Samuel**	**44.75**	**94**	P	**P**	**22 10 28.0**	**-0.9**
SAML				IAmb	IAmb	22 10 29.3	
	comp=Z,5.6nm,1.1s						
MIAR	**Mount Ida**	**45.29**	**17**	P	**P**	**22 10 33.1**	**+0.3**
MIAR				IAmb	IAmb	22 10 35.0	
	comp=Z,6.9nm,1.1s						
X40A	**Basin Creek Fa**	**45.46**	**18**	P	**P**	**22 10 34.6**	**+0.5**
X40A				IAmb	IAmb	22 10 59.3	
	comp=Z,11nm,1.5s						
MVCO	**Mesa Verde**	**45.69**	**360**	P	**P**	**22 10 36.3**	**+0.1**
MVCO				IAmb	IAmb	22 10 43.1	
	comp=Z,9.0nm,1.2s						
PRN	**Pahroc Range**	**46.30**	**353**	P	**P**	**22 10 41.5**	**+0.7**
PLCA	**Paso Flores**	**46.34**	**140**	P	**P**	**22 10 42.4**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=303,slow=14,SNR=4.6						
PLCA	**Paso Flores**	**46.34**	**140**	P	**P**	**22 10 41.1**	**-0.1**
WHAR	**Wooly Hollow**	**46.38**	**18**	P	**P**	**22 10 41.1**	**-0.2**
WHAR				IAmb	IAmb	22 10 49.7	
	comp=Z,9.3nm,1.1s						
SIV	**San Ignacio**	**46.79**	**104**	P	**P**	**22 10 45.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=291,slow=13,SNR=3.1						
U40A	**Yellville**	**47.19**	**17**	P	**P**	**22 10 47.4**	**-0.4**
U40A				IAmb	IAmb	22 10 49.5	
	comp=Z,10nm,1.4s						
TPH	**Tonopah**	**47.27**	**351**	P	**P**	**22 10 48.8**	**+0.3**
LCAR	**Lake Charles**	**47.45**	**19**	P	**P**	**22 10 49.4**	**-0.3**
NVAR	**Mina Array Bea**	**47.80**	**350**	P	**P**	**22 10 53.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=178,slow=9.9,SNR=4.7						
NVAR	**Mina Array Bea**	**47.80**	**350**	P	**P**	**22 10 52.9**	**+0.3**
RYN	**Ryan**	**48.03**	**349**	P	**P**	**22 10 54.6**	**+0.2**
RYN				IAmb	IAmb	22 10 55.9	
	comp=Z,3.8nm,1.2s						
MGMO	**Mountain Grove**	**48.10**	**17**	P	**P**	**22 10 54.8**	**0.0**
MGMO				IAmb	IAmb	22 10 56.8	
	comp=Z,9.1nm,1.4s						
S39A	**Bolivar**	**48.30**	**16**	P	**P**	**22 10 56.3**	**0.0**
S39A				IAmb	IAmb	22 11 03.7	
	comp=Z,6.3nm,1.4s						
PBMO	**Poplar Bluff**	**48.34**	**19**	P	**P**	**22 10 56.4**	**-0.2**
PBMO				IAmb	IAmb	22 11 04.5	
	comp=Z,11nm,1.3s						
PTGA	**Pitinga**	**48.96**	**83**	P	**P**	**22 11 01.3**	**-0.5**
PTGA				IAmb	IAmb	22 11 02.7	
	comp=Z,6.8nm,0.9s						
SIUC	**Southern Illin**	**49.59**	**20**	P	**P**	**22 11 06.2**	**+0.1**
SIUC				IAmb	IAmb	22 11 13.2	
	comp=Z,5.1nm,0.9s						
ELK	**Elko**	**49.62**	**353**	P	**P**	**22 11 07.3**	**+0.7**
Q44A	**Meyer Farm, Va**	**50.73**	**20**	P	**P**	**22 11 15.5**	**+0.7**
PDAR	**Pinedale Array**	**51.25**	**359**	P	**P**	**22 11 19.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=165,slow=7.5,SNR=3.9						
PDAR	**Pinedale Array**	**51.25**	**359**	P	**P**	**22 11 19.2**	**+0.3**
CPUP	**Villa Florida**	**51.47**	**117**	P	**P**	**22 11 20.6**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=316,slow=12,SNR=5.8						
IMW	**Indian Meadow**	**52.42**	**358**	P	**P**	**22 11 28.1**	**+0.4**
RSSD	**Black Hills**	**52.75**	**4**	P	**P**	**22 11 30.4**	**+0.3**
JFWS	**Jewell Farm**	**54.02**	**17**	P	**P**	**22 11 38.7**	**-0.5**
BCAR	**Beaver Creek A**	**75.99**	**345**	P	**P**	**22 14 01.5**	**-0.3**
RIDG	**Independent Ri**	**77.34**	**344**	P	**P**	**22 14 09.7**	**+0.3**
RND	**Reindeer**	**78.20**	**343**	P	**P**	**22 14 14.3**	**+0.1**
RND				IAmb	IAmb	22 14 15.5	
	comp=Z,5.1nm,1.0s						
ILAR	**Eielson Array**	**78.70**	**344**	P	**P**	**22 14 15.7**	**-1.2**
	comp=Z,1.1nm,1.1s,baz=157,slow=4.9,SNR=5.5						
ILAR	**Eielson Array**	**78.70**	**344**	P	**P**	**22 14 16.1**	**-0.8**
KTH	**Kantishna Hill**	**78.93**	**342**	P	**P**	**22 14 18.2**	**-0.1**
BMAR	**Burnt Mountain**	**80.25**	**347**	P	**P**	**22 14 25.5**	**+0.1**
QSPA	**South Pole Qui**	**81.35**	**180**	P	**P**	**22 14 32.0**	**+0.5**
QSPA				IAmb	IAmb	22 14 32.9	
	comp=Z,7.9nm,0.8s						
SNAA	**Sanae**	**86.64**	**162**	P	**P**	**22 14 57.8**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=263,slow=4.0,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**87.85**	**289**	T	T	23 52 00.4	
	baz=100,slow=74,SNR=179						
H11S1	**WAKE ISLAND Hy**	**87.86**	**289**	T	T	23 52 01.7	
	baz=100,slow=74,SNR=128						
H11S3	**WAKE ISLAND Hy**	**87.87**	**289**	T	T	23 52 00.8	
	baz=100,slow=74,SNR=119						
H11N3	**WAKE ISLAND Hy**	**87.87**	**290**	T	T	23 52 04.5	
	baz=100,slow=75,SNR=64						
H11N2	**WAKE ISLAND Hy**	**87.89**	**290**	T	T	23 52 03.9	
	baz=100,slow=75,SNR=77						
H11N1	**WAKE ISLAND Hy**	**87.89**	**290**	T	T	23 52 03.5	
	baz=100,slow=75,SNR=70						
KKAR	**Karatay Array**	**145.75**	**1**	PKPdf	**PKPdf**	**22 21 53.7**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**148.51**	**21**	PKPdf	**PKPdf**	**22 21 59.2**	**+0.4**
GAR	**Garm**	**149.84**	**2**		**PKPbc**	**22 22 05.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**151.67**	**293**	PKPbc	**PKPbc**	**22 22 09.7**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=8.7,slow=0.8,SNR=8.5						
CMAR	**Chiang Mai Arr**	**151.67**	**293**		**PKPdf**	**22 22 03.4**	**-0.8**
CMAR				PKPbc	**PKPbc**	**22 22 10.3**	**-0.2**

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*IDC **28** 22:04:48.8±22.0, 50°.69N×168°.54W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/40, mbtmp3.6/3, Error ellipse: s-maj=544.3km s-min=57.4km az=164.0*
*AEIC **28** 22:05:01.9±1.0, 51°.99N±0°.09×169°.3W±0°.1, h32km±7km, ML2.8/23, Error ellipse: s-maj=14.6km s-min=8.0km az=147.0*
*NEIC **28** 22:05:04.4±0.5, 52°.2N±0°.1×169°.44W±0°.09, h41km±57km, Error ellipse: s-maj=21.6km s-min=3.5km az=160.0*
ISC 28 22:05:02.9±1.8, 52°.1N±0°.2×169°.4W±0°.1, h30km, n23, σ0°.67/24, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.97**	**20**		**Pn**	**22 05 20.2**	**-0.3**
NIKH				Sn	**Sb**	**22 05 34.1**	**+0.5**
OKSP	**Okmok Steeple**	**1.37**	**29**		**Pn**	**22 05 25.2**	**-0.8**
OKCE	**Okmok Cone E**	**1.56**	**29**		**Pn**	**22 05 28.4**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.56**	**32**		**Pn**	**22 05 28.6**	**-0.1**
OKNC	**Okmok New Cone**	**1.60**	**29**		**Pn**	**22 05 29.1**	**0.0**
OKFG	**Magazine Ridge**	**1.63**	**33**		**Pn**	**22 05 29.4**	**-0.1**
MAPS	**Pakushin South**	**2.30**	**40**		**Pn**	**22 05 38.5**	**-0.2**
MSW	**Makushin Switc**	**2.44**	**40**		**Pn**	**22 05 40.6**	**0.0**
MNAT	**Makushin Natee**	**2.46**	**41**		**Pn**	**22 05 41.1**	**+0.2**
UNV	**Unalaska Valle**	**2.50**	**43**		**Pn**	**22 05 41.5**	**+0.1**
MTBL	**Makushin Table**	**2.52**	**40**		**Pn**	**22 05 42.0**	**+0.2**
KOFP	**Korovin Flat P**	**2.89**	**276**		**Pn**	**22 05 48.1**	**+1.2**
AKBBA	**Akutan Broad B**	**2.92**	**44**		**Pn**	**22 05 48.4**	**+1.1**
ATKA	**Atka Island**	**2.95**	**275**		**Pn**	**22 05 46.4**	**-1.2**
AKUT	**Akutan**	**3.02**	**45**	Pn	**Pn**	**22 05 48.8**	**+0.3**
GSTR	**Great Sitkin T**	**4.10**	**273**	Pn	**Pn**	**22 06 04.1**	**+0.6**
ADK	**Adak**	**4.50**	**271**	Pn	**Pn**	**22 06 09.7**	**+0.8**
KIWB	**Kanaga Island**	**4.79**	**271**	Pn	**Pn**	**22 06 14.2**	**+1.3**
CNBA	**Chernabura Isl**	**6.48**	**61**	Pn	**Pn**	**22 06 37.0**	**+0.9**
AMKA	**Amchitka**	**7.05**	**269**	Pn	**Pn**	**22 06 44.5**	**+0.6**
PETK	**Petropavlovsk-**	**19.92**	**286**	P	**P**	**22 09 32.1**	**+0.2**
	1.2nm,0.4s,baz=88,slow=13,SNR=11						
MKAR	**Makanchi Array**	**64.00**	**313**	P	**P**	**22 15 32.5**	**-0.6**
	0.2nm,0.7s,baz=56,slow=7.1,SNR=2.1						
FINES	**FINESS Array B**	**66.17**	**352**	P	**P**	**22 15 46.7**	**-0.2**
	1.5nm,0.9s,baz=0.0,slow=7.2,SNR=4.9						

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*IDC **28** 22:30:13.0±2.0, 46°.89N×147°.10E, h334km±30km, mb2.9/4, mb1 3.1/8, mb1mx2.8/49, mbtmp3.6/8, Error ellipse: s-maj=43.2km s-min=21.1km az=167.0*
ISC 28 22:30:13.5±1.1, 46°.8N±0°.2×147°.1E±0°.1, h346km, n8, σ0°.63/8, mb3.1/4, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.12**	**231**	P	**Pn**	**22 31 23.1**	**-0.5**
	4.0nm,0.3s,baz=68,slow=8.4,SNR=31						
KLR	**Kul'dur**	**10.56**	**289**	P	**Pn**	**22 32 38.2**	**+0.2**
	0.1nm,0.3s,baz=96,slow=12,SNR=2.1						
USRK	**Ussuriysk Ar.**	**10.90**	**262**	P	**Pn**	**22 32 42.2**	**+0.1**
	baz=64,slow=13,SNR=4.6						
MJAR	**Matsushiro Arr**	**12.18**	**216**	P	**P**	**22 32 57.5**	**+0.2**
	0.0nm,0.3s,baz=14,slow=12,SNR=2.1						
ILAR	**Eielson Array**	**39.11**	**38**	P	**P**	**22 37 07.8**	**-0.3**
	0.6nm,0.7s,baz=278,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**43.20**	**295**	P	**P**	**22 37 41.4**	**0.0**
	0.2nm,0.3s,baz=70,slow=8.3,SNR=11						
INK	**Inuvik**	**43.84**	**32**	P	**P**	**22 37 45.1**	**-0.9**
	1.6nm,0.5s,baz=285,slow=8.8,SNR=8.2						
TXAR	**Lajitas Array**	**81.02**	**57**	P	**P**	**22 41 51.6**	**+0.9**
	0.2nm,0.5s,baz=308,slow=4.4,SNR=2.6						

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*IDC **28** 22:38:10.3±3.0, 18°.61S×70°.56W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/28, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=62.9km s-min=22.5km az=112.0*
*GUC **28** 22:38:20.3±0.7, 18

0.2nm,0.3s,baz=354,slow=26,SNR=2.8
STKA Stephens Creek 27.40 160 P P 22 45 21.4 +2.4
0.9nm,0.4s,baz=349,slow=10,SNR=2.3
MKAR Makanchi Array 68.09 326 P P 22 50 30.4 -1.7
0.9nm,0.4s,baz=123,slow=8.1,SNR=21

*IDC **28** 22:43:56.2±32.0, 52.°17N×169.°18W, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/40, mbtmp3.5/3, Error ellipse: s-maj=762.6km s-min=58.4km az=160.0*
*AEIC **28** 22:44:00.3±1.2, 52.°0N±0.°1×169.°3W±0.°1, h42km±9km, ML2.7/19, mb3.6/4(NEIC), Error ellipse: s-maj=18.1km s-min=9.3km az=153.0*
*NEIC **28** 22:44:00.6±1.0, 52.°01N±0.°06×169.°4W±0.°1, h23km±6km, Error ellipse: s-maj=12.1km s-min=4.7km az=129.0*
ISC 28 22:43:59.9±3.8, 52.°0N±0.°2×169.°3W±0.°1, h25km±23km, n27, σ1§00/33, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	1.40	27		Pn	22 44 23.7	-0.1
OKSP					Sb	22 44 42.5	-0.3
OKCE	Okmok Cone E	1.59	26		Pn	22 44 27.3	+0.8
OKCE					Sb	22 44 49.0	+0.8
OKNC	Okmok New Cone	1.62	27		Pn	22 44 27.8	+0.8
OKER	Okmok East Rim	1.64	28		Pn	22 44 28.0	+0.8
MAPS	Pakushin South	2.31	38		Pn	22 44 36.9	+0.5
MAPS					Sn	22 45 05.9	+1.9
MSW	Makushin Switc	2.46	38		Pn	22 44 39.2	+0.9
MSW					Sn	22 45 08.6	+1.1
MNAT	Makushin Natee	2.47	40		Pn	22 44 39.0	+0.4
MNAT					Sn	22 45 08.3	+0.4
UNV	Unalaska Valle	2.51	42		Pn	22 44 40.1	+1.0
UNV					Sn	22 45 08.7	-0.2
KOFP	Korovin Flat P	2.94	277		Pn	22 44 46.4	+1.4
ATKA	Atka Island	3.00	276		Pn	22 44 46.6	+0.8
AKUT	Akutan	3.03	44	Pn	Pn	22 44 45.5	-0.7
GSTR	Great Sitkin T	4.15	274		Pn	22 45 01.8	+0.2
ADK	Adak	4.54	271		Pn	22 45 07.7	+0.7
KIWB	Kanaga Island	4.83	271	Pn	Pn	22 45 12.1	+1.1
CNBA	Chernabura Isl	6.47	60	Pn	Pn	22 45 34.6	+1.2
AMKA	Amchitka	7.09	269	Pn	Pn	22 45 43.4	+1.5
KDAK	Kodiak Island	11.23	52	Pn	Pn	22 46 37.4	-1.2
	0.1nm,0.3s,baz=260,slow=12,SNR=1.3						
KDAK	Kodiak Island	11.23	52		Pn	22 46 38.7	0.0
GAMB	Gambell	11.86	355	Pn	Pn	22 46 45.7	-1.5
SCM	Sheep Creek Mo	15.45	42	Pn	Pn	22 47 34.5	-1.4
SCM				IAmb	IAmb	22 47 38.8	
	comp=Z,4.9nm,1.2s						
KLU	Klutina	15.88	44	Pn	Pn	22 47 39.8	-1.7
HYT	Haines Junctio	19.51	51		P	22 48 25.9	+0.8
HYT				IAmb	IAmb	22 48 43.9	
	comp=Z,4.4nm,1.3s						
BMAR	Burnt Mountain	19.64	29	P	P	22 48 27.4	+1.1
PEA0B	Petropavlovsk-	19.97	286	P	P	22 48 30.4	+0.3
PETK	Petropavlovsk-	19.97	286	P	P	22 48 30.7	+0.6
	comp=Z,0.9nm,0.4s,baz=88,slow=12,SNR=12						
MKAR	Makanchi Array	64.06	314	P	P	22 54 30.9	-0.4
	comp=Z,0.1nm,0.4s,baz=51,slow=7.5,SNR=1.6						
FINES	FINESS Array B	66.22	352	P	P	22 54 44.6	-0.4
	comp=Z,1.1nm,0.8s,baz=28,slow=6.2,SNR=3.4						

*IDC **28** 22:47:06.2±1.4, 52.°25N×169.°42W, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.8/41, mbtmp3.7/14, ML3.4/2, Error ellipse: s-maj=37.6km s-min=18.6km az=0.0*
*AEIC **28** 22:47:09.1±1.8, 52.°00N±0.°09×169.°3W±0.°1, h36km±5km, ML3.5/33, mb3.9/30(NEIC), Error ellipse: s-maj=14.9km s-min=6.7km az=151.0*
*NEIC **28** 22:47:11.3±1.3, 52.°1N±0.°1×169.°4W±0.°1, h43km±8km, Error ellipse: s-maj=16.6km s-min=7.7km az=155.0*
ISC 28 22:47:10.4±0.8, 52.°0N±0.°1×169.°26W±0.°07, h37km±2km, n95, σ1§25/96, mb3.9/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	Okmok Steeple	1.36	25		Pn	22 47 32.2	-0.6
OKSP					Sn	22 47 50.3	+0.8
OKTU	Okmok Mt. Tuli	1.54	28		Pn	22 47 35.4	+0.1
OKCE	Okmok Cone E	1.55	25		Pn	22 47 35.5	+0.1
OKNC	Okmok New Cone	1.58	25		Pn	22 47 36.4	+0.6
OKNC					Sn	22 47 58.0	+3.0
MAPS	Pakushin South	2.27	37		Pn	22 47 45.4	+0.2
MAPS					Sn	22 48 13.1	+1.2
MSW	Makushin Switc	2.41	38		Pn	22 47 48.0	+0.8
MSW					Sn	22 48 16.2	+0.9
MNAT	Makushin Natee	2.42	39		Pn	22 47 47.9	+0.5
MNAT					Sn	22 48 16.9	+1.2
UNV	Unalaska Valle	2.46	41		Pn	22 47 48.4	+0.4
UNV					Sn	22 48 17.1	+0.4
MTBL	Makushin Table	2.49	38		Pn	22 47 49.5	+1.2
AKMO	Akutan Morgan	2.84	42		Pn	22 47 54.4	+1.3
AKUT	Akutan	2.98	44		Pn	22 47 56.1	+1.2
KOFP	Korovin Flat P	2.99	277		Pn	22 47 55.4	+0.2
ATKA	Atka Island	3.05	275		Pn	22 47 55.1	-0.8
KOKL	Mount Kliuchef	3.06	277		Pn	22 47 56.5	+0.4
GSMY	Great Sitkin M	4.20	273		Pn	22 48 11.7	0.0
GSTR	Great Sitkin T	4.20	274		Pn	22 48 12.0	+0.3
GSTD	Great Sitkin T	4.25	273		Pn	22 48 12.5	0.0
ADK	Adak	4.59	271		Pn	22 48 17.0	-0.1
KIWB	Kanaga Island	4.88	271		Pn	22 48 21.4	+0.3
KIKV	Kanaga Island	4.89	271		Pn	22 48 21.6	+0.3
KIMD	Kanaga Island	4.95	270		Pn	22 48 21.9	-0.1
TAFP	Tanaga Falls P	5.39	272		Pn	22 48 27.9	-0.2
TASE	Tanaga Southea	5.43	271		Pn	22 48 29.0	+0.3
GAEA	Gareloi East	5.88	271		Pn	22 48 36.2	+1.4
SDPT	Sand Point	6.18	54		Pn	22 48 40.2	+1.2
CNBA	Chernabura Isl	6.42	60	Pn	Pn	22 48 42.1	-0.1
CERAA	Semis' Rag'd T	6.83	273		Pn	22 48 48.8	+0.9
CESW	Semis' Southwe	6.91	273		Pn	22 48 49.4	+0.4
AMKA	Amchitka	7.14	269		Pn	22 48 52.0	-0.1
CHIR	Chirikof Islan	8.89	59	Pn	Pn	22 49 17.0	+0.9
SII	Sitkinak Islan	9.90	57	Pn	Pn	22 49 30.9	+0.9
SMY	Shemya	10.20	280	Pn	Pn	22 49 33.6	-0.4
OHAK	Old Harbor	10.61	54	Pn	Pn	22 49 38.7	-0.8
KDAK	Kodiak Island	11.18	52	Pn	Pn	22 49 46.1	-1.3
	0.5nm,0.3s,baz=249,slow=6.7,SNR=8.7						
KDAK				Sn	Sn	22 51 44.4	-6.4
	0.1nm,0.3s,baz=128,slow=20,SNR=1.5						
KDAK	Kodiak Island	11.18	52		Pn	22 49 46.0	-1.4
CNPM	China Poot	12.59	46	Pn	Pn	22 50 08.4	+1.8
PWL	Port Wells	14.50	44	Pn	Pn	22 50 30.5	-2.2
FID	Port Fidalgo	15.26	46	Pn	Pn	22 50 39.6	-3.3
FID				IAmb	IAmb	22 51 08.1	
	comp=Z,9.0nm,1.3s						
SCM	Sheep Creek Mo	15.40	42	Pn	Pn	22 50 42.7	-1.9
SCM				IAmb	IAmb	22 50 50.2	
	comp=Z,12nm,1.4s						
BPAW	Bear Paw Mtn.	15.40	31		Pn	22 50 46.2	+1.6
BPAW				IAmb	IAmb	22 50 49.6	
	comp=Z,2.1nm,0.7s						
KLU	Klutina	15.83	44	Pn	Pn	22 50 47.8	-2.4
KLU				IAmb	IAmb	22 50 49.0	
	comp=Z,5.3nm,0.4s						
RAGM	Ragged Mountai	15.95	49	Pn	Pn	22 50 50.3	-1.4
RAGM				IAmb	IAmb	22 50 59.8	
	comp=Z,7.5nm,0.9s						
M24K	Tolsona, Glenn	16.01	42	Pn	Pn	22 50 51.1	-1.3
M24K				IAmb	IAmb	22 51 03.7	
	comp=Z,6.2nm,0.8s						
MLY	Manley	16.13	29		P	22 50 56.3	-0.6
N25K	Chitina, Valde	16.45	45	Pn	Pn	22 50 56.5	-1.6
GLB	Gilahina Butte	16.73	46	Pn	Pn	22 50 59.8	-1.8
GLB				IAmb	IAmb	22 51 10.4	
	comp=Z,7.8nm,1.4s						
CCB	Clear Creek Bu	16.81	33	Pn	Pn	22 51 00.9	-1.6
VRDI	Verde Repeater	16.81	47	Pn	Pn	22 51 01.5	-1.3
ISLE	Juniper Island	17.11	49		Pn	22 51 05.8	-0.6
ISLE				IAmb	IAmb	22 51 22.0	
	comp=Z,10nm,1.2s						
ILAR	Eielson Array	17.19	33	Pn	Pn	22 51 06.5	-0.9
	comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=2.6						
RIDG	Independent Ri	17.35	38		Pn	22 51 09.5	+0.2
BARN	Barnard Glacie	17.57	48		Pn	22 51 12.2	0.0
BARN				IAmb	IAmb	22 51 37.1	
	comp=Z,2.7nm,0.6s						
SCRK	Sand Creek	17.80	38		Pn	22 51 13.9	-1.0
K27K	Chicken	18.56	39	Pn	Pn	22 51 24.9	+0.8
HYT	Haines Junctio	19.46	51	Pn	Pn	22 51 35.9	+0.9
HYT				IAmb	IAmb	22 51 40.9	
	comp=Z,4.5nm,0.9s						
BMAR	Burnt Mountain	19.59	29	P	P	22 51 35.4	+0.5
PEA0B	Petropavlovsk-	20.02	286	P	P	22 51 39.0	-0.6
PEA0B				IAmb	IAmb	22 51 41.9	
	comp=Z,6.5nm,0.7s						
PETK	Petropavlovsk-	20.02	286	P	P	22 51 38.8	-0.9
	comp=Z,1.2nm,0.3s,baz=88,slow=13,SNR=25						
PETK	Petropavlovsk-	20.02	286	P	P	22 51 38.4	-1.2
INK	Inuvik	23.59	33	P	P	22 52 15.8	-1.4
	comp=Z,1.4nm,0.6s,baz=213,slow=8.5,SNR=6.3						
INK	Inuvik	23.59	33	P	P	22 52 15.8	-1.4
ERM	Erimo	33.39	272	P	P	22 53 44.6	-0.4
H11N2	WAKE ISLAND Hy	37.23	219	T	T	23 34 44.3	
	baz=26						
H11N3	WAKE ISLAND Hy	37.24	219	T	T	23 34 24.9	
	baz=26						
H11N1	WAKE ISLAND Hy	37.25	219	T	T	23 34 25.0	
	baz=26						
H11S1	WAKE ISLAND Hy	38.42	218	T	T	23 35 36.5	
	baz=23,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	38.43	218	T	T	23 35 53.0	
	baz=23,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	38.44	218	T	T	23 35 44.3	
	baz=23,slow=76,SNR=16						
PDAR	Pinedale Array	40.40	79	P	P	22 54 46.6	+1.8
	comp=Z,0.4nm,0.6s,baz=315,slow=5.7,SNR=5.8						
PDAR	Pinedale Array	40.40	79	P	P	22 54 45.3	+0.5
SUMG	Summit	51.08	17	P	P	22 56 09.7	+0.8
SONM	Songino Array	51.53	301	P	P	22 56 12.9	+0.6
	comp=Z,0.6nm,0.7s,baz=65,slow=6.8,SNR=3.9						
TX32	Lajitas Array	52.69	89	P	P	22 56 22.1	+1.1
TX32				IAmb	IAmb	22 56 40.3	
	comp=Z,2.7nm,1.2s						
TXAR	Lajitas Array	52.69	89	P	P	22 56 22.9	+1.8
	comp=Z,0.4nm,0.6s,baz=286,slow=5.2,SNR=8.6						
TXAR	Lajitas Array	52.69	89	P	P	22 56 21.3	+0.2
SCO	Scoresbysund	55.54	13	P	P	22 56 41.8	+0.6
ZALV	Zalesovo Beam	57.72	318	P	P	22 56 57.3	+0.5
	comp=Z,0.5nm,0.4s,baz=56,slow=6.6,SNR=2.4						
ARCES	ARCESS Array B	58.26	354	P	P	22 57 00.3	-0.1
	comp=Z,2.3nm,0.9s,baz=16,slow=6.7,SNR=3.7						
LVZ	Lovozero	59.06	350	P	P	22 57 05.9	-0.2
MK31	Makanchi Array	64.08	314	P	P	22 57 39.4	-0.9
MK31				IAmb	IAmb	22 58 03.7	
	comp=Z,1.9nm,1.4s						
MKAR	Makanchi Array	64.08	314	P	P	22 57 39.7	-0.6
	comp=Z,0.2nm,0.3s,baz=49,slow=6.6,SNR=10.0						
MKAR	Makanchi Array	64.08	314	P	P	22 57 39.6	-0.7
MAKZ	Makanchi	64.21	314	P	P	22 57 40.0	-1.1
MAKZ				IAmb	IAmb	22 57 55.0	
	comp=Z,2.6nm,1.3s						
FIA1	FINESS Array S	66.21	352	P	P	22 57 53.3	-0.4
FINES	FINESS Array B	66.21	352	P	P	22 57 53.5	-0.3
	comp=Z,1.3nm,0.5s,baz=15,slow=8.2,SNR=10						
NOA	NORSAR Array B	67.28	360	P	P	22 58 00.4	-0.2
	comp=Z,0.7nm,0.8s,baz=335,slow=5.3,SNR=2.6						
BOOM	Boomskoye usch	70.27	314	P	P	22 58 20.0	+0.2
ABKAR	Akbulak array	70.76	328	P	P	22 58 22.3	0.0
ABKAR	Akbulak array	70.76	328	P	P	22 58 22.4	0.0
ABKAR				IAmb	IAmb	22 58 23.1	
	comp=Z,2.1nm,1.2s						
KK31	Karatay Array	72.08	318	P	P	22 58 30.4	-0.1
KK31				IAmb	IAmb	22 58 31.1	
	comp=Z,1.8nm,0.8s						
KKAR	Karatay Array	72.08	318	P	P	22 58 30.2	-0.3
AKASG	Malin Array Be	76.45	348	P	P	22 58 54.9	-0.8
	comp=Z,0.5nm,0.4s,baz=13,slow=5.6,SNR=2.0						
CMAR	Chiang Mai Arr	76.76	283	P	P	22 58 59.3	+1.3
	comp=Z,0.5nm,0.4s,baz=25,slow=6.9,SNR=0.9						
CMAR	Chiang Mai Arr	76.76	283	P	P	22 58 57.6	-0.4
ESDC	Sonseca Array	87.77	11	P	P	22 59 56.0	+0.7
	comp=Z,0.3nm,0.7s,baz=334,slow=4.4,SNR=1.8						

IDC 28 23:10:23.4±3.3, 17.°74S×178.°80W, h589km±22km, mb3.0/4, mb1 3.4/5, mb1mx3.0/30, mbtmp3.9/5, Error ellipse: s-maj=201.6km s-min=21.9km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.00	270	P	P	23 11 41.8	0.0
	3.3nm,0.3s,baz=93,slow=3.2,SNR=15						
WRA	Warramunga Arr	44.30	259	P	P	23 17 42.0	-0.4
	0.8nm,0.4s,baz=97,slow=6.9,SNR=9.6						
ASAR	Alice Springs	44.48	254	P	P	23 17 43.9	+0.1
	7.8nm,0.6s,baz=88,slow=8.4,SNR=64						
NVAR	Mina Array Bea	79.56	44	P	P	23 21 30.3	-0.2
	0.2nm,0.6s,baz=263,slow=7.2,SNR=2.5						
TXAR	Lajitas Array	86.22	58	P	P	23 22 03.9	+0.1
	0.3nm,0.7s,baz=227,slow=5.0,SNR=4.9						

*IDC **28** 23:18:15.4±1.1, 52.°10N×169.°38W, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/35, mbtmp3.7/12, ML3.4/2, Error ellipse: s-maj=31.8km s-min=19.0km az=175.0*
*AEIC **28** 23:18:19.6±1.8, 52.°03N±0.°04×169.°31W±0.°09, h34km±5km, Error ellipse: s-maj=8.2km s-min=5.9km az=111.0*
*NEIC **28** 23:18:21.1±1.8, 52.°12N±0.°04×169.°34W±0.°08, h34km±5km, mb4.0/28, ML3.3/33(AEIC), Error ellipse: s-maj=8.3km s-min=4.8km az=122.0*
ISC 28 23:18:20.3±0.6, 52.°11N±0.°08×169.°31W±0.°06, h30km, n88, σ1§30/88, mb4.0/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.91	18		Pb	23 18 37.0	-0.6
NIKH				Sn	Sb	23 18 50.5	+1.2
NIKH	Nikolski High	0.91	18		Sb	23 18 51.2	+1.9
OKSP	Okmok Steeple	1.31	28		Pb	23 18 42.6	-1.6
OKSP					Sb	23 19 00.9	+0.3
OKCE	Okmok Cone E	1.50	27		Pb	23 18 45.6	-1.8
OKTU	Okmok Mt. Tuli	1.50	31		Pb	23 18 45.5	-1.9
OKNC	Okmok New Cone	1.54	28		Pb	23 18 46.6	-1.5
MAPS	Pakushin South	2.23	39		Pn	23 18 55.5	+0.4
MAPS					Sn	23 19 23.2	+1.6
MGOD	Makushin Gods	2.25	40		Pn	23 18 56.0	+0.6
MSW	Makushin Switc	2.37	39		Pn	23 18 58.1	+1.0
MNAT	Makushin Natee	2.39	41		Pn	23 18 58.0	+0.7
UNV	Unalaska Valle	2.43	43		Pn	23 18 58.3	+0.4
UNV					Sn	23 19 27.2	+0.6
MTBL	Makushin Table	2.45	39		Pn	23 18 59.5	+1.2
AKMO	Akutan Morgan	2.81	44		Pn	23 19 04.0	+0.8
AKUT	Akutan	2.95	45	Pn	Pn	23 19 06.0	+1.0
KOFP	Korovin Flat P	2.95	275		Pn	23 19 05.4	+0.4
ATKA	Atka Island	3.01	274	Pn	Pn	23 19 05.0	-0.8
KOKL	Mount Kliuchef	3.01	276		Pn	23 19 06.7	+0.7
GSTR	Great Sitkin T	4.16	273	Pn	Pn	23 19 22.2	+0.6
GSMY	Great Sitkin M	4.16	272		Pn	23 19 21.8	+0.1
GSTD	Great Sitkin T	4.21	272		Pn	23 19 22.6	+0.1
ADK	Adak	4.56	270		Pn	23 19 27.1	0.0
KIWB	Kanaga Island	4.85	270		Pn	23 19 31.6	+0.4
KIKV	Kanaga Island	4.86	270		Pn	23 19 31.3	+0.1
KIMD	Kanaga Island	4.91	269		Pn	23 19 32.0	0.0
SPIA	Saint Paul Isl	5.11	354		Pn	23 19 37.8	+3.1
TAFP	Tanaga Falls P	5.36	271		Pn	23 19 38.2	0.0
TASE	Tanaga Southea	5.40	271		Pn	23 19 39.0	+0.3
SDPT	Sand Point	6.17	55	Pn	Pn	23 19 50.7	+1.5
CNBA	Chernabura Isl	6.41	61	Pn	Pn	23 19 52.3	-0.2
AMKA	Amchitka	7.11	269	Pn	Pn	23 20 01.8	-0.3
KDAK	Kodiak Island	11.16	53	Pn	Pn	23 20 56.3	-1.2
	0.4nm,0.3s,baz=288,slow=8.2,SNR=5.5						
KDAK				Sn	Sn	23 22 56.1	-5.0
	0.1nm,0.3s,baz=180,slow=20,SNR=2.1						
KDAK	Kodiak Island	11.16	53	Pn	Pn	23 20 55.8	-1.8
CNPM	China Poot	12.56	47	Pn	Pn	23 21 17.5	+0.8
SEW	Seward	13.63	46	Pn	Pn	23 21 30.7	-0.5
PWL	Port Wells	14.47	45	Pn	Pn	23 21 42.5	-0.3
HIN	Hinchinbrook I	15.09	48	Pn	Pn	23 21 49.0	-2.0
HIN				IAmb	IAmb	23 21 52.7	
	comp=Z,21nm,1.4s						
FID	Port Fidalgo	15.24	46	Pn	Pn	23 21 51.5	-1.5
FID				IAmb	IAmb	23 22 16.6	
	comp=Z,4.6nm,1.0s						
BPAW	Bear Paw Mtn.	15.36	31	P	P	23 21 57.1	-1.9
BPAW				IAmb	IAmb	23 22 19.1	
	comp=Z,3.1nm,0.7s						
SCM	Sheep Creek Mo	15.37	42	Pn	Pn	23 21 52.5	-2.2
SCM				IAmb	IAmb	23 22 06.6	
	comp=Z,4.1nm,0.5s						
KLU	Klutina	15.80	44	Pn	Pn	23 21 58.2	-2.2
KLU				IAmb	IAmb	23 22 10.6	
	comp=Z,3.6nm,0.6s						
M24K	Tolsona, Glenn	15.97	42	P	P	23 22 04.1	-1.8
M24K				IAmb	IAmb	23 22 20.5	
	comp=Z,10nm,1.2s						
MLY	Manley	16.08	29		P	23 22 06.5	-0.5
HMT	Hamilton	16.10	49	P	Pn	23 22 04.1	0.0
HMT				IAmb	IAmb	23 22 15.4	
	comp=Z,18nm,1.4s						
N25K	Chitina, Valde	16.42	45	P	Pn	23 22 07.4	-0.9
I23K	Minto, Yukon-K	16.59	30	P	P	23 22 12.2	-0.3
GLB	Gilahina Butte	16.70	46	P	P	23 22 12.3	-1.6
CCB	Clear Creek Bu	16.76	33	P	Pn	23 22 12.4	-0.1
VRDI	Verde Repeater	16.78	47	P	Pn	23 22 12.9	-0.1
ILAR	Eielson Array	17.15	34	P	Pn	23 22 17.1	-0.3
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=1.8						
EGAK	Eagle	19.23	38	P	Pn	23 22 42.7	0.0
HYT	Haines Junctio	19.44	51	P	Pn	23 22 47.3	+1.8
HYT				IAmb	IAmb	23 23 02.9	
	comp=Z,7.9nm,1.0s						
PEA0B	Petropavlovsk-	19.96	286	P	Pn	23 22 49.6	-1.9
PEA0B				IAmb	IAmb	23 22 50.4	
	comp=Z,28nm,1.5s						
PETK	Petropavlovsk-	19.96	286	P	P	23 22 48.8	-0.9
	comp=Z,1.0nm,0.3s,baz=88,slow=13,SNR=19						
PETK	Petropavlovsk-	19.96	286	P	P	23 22 48.7	-1.0
INK	Inuvik	23.55	33	P	P	23 23 27.1	-0.4
	comp=Z,0.9nm,0.5s,baz=250,slow=7.5,SNR=6.3						
INK	Inuvik	23.55	33	P	P	23 23 27.2	-0.4
INK				IAmb	IAmb	23 23 28.3	
	comp=Z,8.7nm,1.5s						
H11N2	WAKE ISLAND Hy	37.27	219	T	T	00 06 10.7	
	baz=23						
H11N3	WAKE ISLAND Hy	37.27	219	T	T	00 06 06.7	
	baz=23						
H11N1	WAKE ISLAND Hy	37.29	219	T	T	00 06 03.7	
	baz=23						
H11S1	WAKE ISLAND Hy	38.45	218	T	T	00 06 47.6	
	baz=23,slow=76,SNR=11						
H11S2	WAKE ISLAND Hy	38.47	218	T	T	00 06 52.1	
	baz=23,slow=76,SNR=4.5						
H11S3	WAKE ISLAND Hy	38.47	218	T	T	00 06 52.6	
	baz=23,slow=76,SNR=6.4						
PDAR	Pinedale Array	40.42	79	P	P	23 25 57.3	+1.5
	comp=Z,0.2nm,0.5s,baz=299,slow=3.0,SNR=3.7						
PDAR	Pinedale Array	40.42	79	P	P	23 25 57.0	+1.2
JHJ2	Mitsune	41.01	263	P	P	23 26 01.8	+1.4
KSRS	Korea Array	45.47	277	P	P	23 26 36.3	-0.1
	comp=Z,1.2nm,0.6s,baz=60,slow=7.0,SNR=5.2						
F33A	5 Mile Ranch,	46.47	67	P	P	23 26 46.2	+2.0
SONM	Songino Array	51.47	301	P	P	23 27 22.0	-0.6
	comp=Z,0.8nm,0.8s,baz=55,slow=8.1,SNR=5.1						
TX31	Lajitas Ar. Si	52.72	89	P	P	23 27 32.2	+0.1
TX32	Lajitas Array	52.72	89	P	P	23 27 33.1	+1.0
TX32				IAmb	IAmb	23 27 59.1	
	comp=Z,2.8nm,1.4s						
TXAR	Lajitas Array	52.72	89	P	P	23 27 30.7	-1.4
	comp=Z,0.2nm,0.4s,baz=279,slow=5.1,SNR=4.7						
TXAR				ScP	ScP	23 32 40.6	+4.1
	comp=Z,0.2nm,0.6s,baz=272,slow=4.3,SNR=2.0						
TXAR	Lajitas Array	52.72	89	P	P	23 27 33.1	+1.0
SCO	Scoresbysund	55.47	13	P	P	23 27 52.4	+0.9
ARCES	ARCESS Array B	58.19	354	P	P	23 28 10.6	-0.2
	comp=Z,1.1nm,0.8s,baz=8.4,slow=7.4,SNR=1.2						
ARCES	ARCESS Array B	58.19	354	P	P	23 28 11.7	+0.9
MK31	Makanchi Array	64.01	314	P	P	23 28 50.1	-0.5
MK31				IAmb	IAmb	23 28 54.1	
	comp=Z,3.0nm,1.4s						
MKAR	Makanchi Array	64.01	314	P	P	23 28 50.1	-0.5
	comp=Z,0.2nm,0.3s,baz=56,slow=6.9,SNR=6.9						
MKAR	Makanchi Array	64.01	314	P	P	23 28 49.9	-0.7
MAKZ	Makanchi	64.14	314	P	P	23 28 50.9	-0.6
MAKZ				IAmb	IAmb	23 28 55.2	
	comp=Z,2.5nm,1.2s						
FIA1	FINESS Array S	66.14	352	P	P	23 29 03.9	-0.2
FINES	FINESS Array B	66.14	352	P	P	23 29 03.9	-0.2
	comp=Z,1.5nm,0.6s,baz=26,slow=9.3,SNR=12						
NOA	NORSAR Array B	67.20	360	P	P	23 29 09.9	-1.1
	comp=Z,0.8nm,0.8s,baz=129,slow=18,SNR=3.2						
BOOM	Boomskoye usch	70.20	314	P	P	23 29 31.1	+1.0
ABKAR	Akbulak array	70.68	328	P	P	23 29 32.9	+0.2
KK31	Karatay Array	72.01	318	P	P	23 29 40.3	-0.6
KK31				IAmb	IAmb	23 29 41.4	
	comp=Z,1.7nm,0.8s						
KKAR	Karatay Array	72.01	318	P	P	23 29 40.9	0.0
ASAR	Alice Springs	90.25	230	P	P	23 31 17.1	-0.7
	comp=Z,0.8nm,0.9s,baz=27,slow=7.2,SNR=4.8						
ASAR	Alice Springs	90.25	230	P	P	23

JIO Ouri 0.70 249 P Pn 23 45 17.3 -0.8
JIO S Sn 23 45 26.7 -1.1
JMK Ichinoseki 0.79 288 P Pn 23 45 19.1 -0.2
JMK S Sn 23 45 29.7 -0.2
JOM Ohasama 1.03 318 P Pn 23 45 22.9 +0.3
JOM S Sn 23 45 36.2 +0.4
JOU Okura 1.24 254 P Pn 23 45 25.3 -0.2
JOU S Sn 23 45 41.3 +0.3
JTH Tanohata 1.25 349 P Pn 23 45 25.5 -0.1
JMM Marumori 1.38 233 P Pn 23 45 26.5 -0.8
JRG Rokugo 1.39 300 P Pn 23 45 27.9 +0.4
JYK Kaneyama 1.44 279 P Pn 23 45 28.4 +0.2
MAT Matsushiro 3.83 237 P Pn 23 46 02.6 +1.6
MAT eS Sn 23 46 48.3 +3.6
MJAR Matsushiro Arr 3.83 237 P Pn 23 46 03.9 +2.9
0.4nm,0.3s,baz=46,slow=11,SNR=22
MJAR LR LR 23 47 50.0
comp=Z,67nm,18.1s,baz=75,slow=44
ASAJ Asahikawa 5.41 3 P Pn 23 46 29.6 +6.9
1.3nm,0.3s,baz=213,slow=17,SNR=4.8
ASAJ S **Sn 23 47 25.6 +2.0**
1.7nm,0.3s,baz=253,slow=19,SNR=1.7
ASAJ LR LR 23 48 59.6
comp=Z,78nm,19.7s,baz=172,slow=42
JHJ Hachijo jima 2 5.91 200 P Pn 23 46 32.2 +2.7
5.2nm,0.3s,baz=34,slow=15,SNR=1.7
JHJ S **Sn 23 47 31.4 -4.6**
7.0nm,0.3s,baz=53,slow=20,SNR=1.6
JHJ LR LR 23 49 20.4
comp=Z,23nm,18.0s,baz=232,slow=43
USRK Ussuriysk Ar. 9.41 309 P Pn 23 47 20.7 +3.2
baz=122,slow=14,SNR=28
USRK LR LR 23 50 37.9
comp=Z,85nm,18.7s,baz=103,slow=35
KSRS Korea Array 11.31 268 P Pn 23 47 47.7 +4.2
0.3nm,0.3s,baz=82,slow=14,SNR=6.5
KSRS LR LR 23 51 30.4
comp=Z,66nm,19.3s,baz=44,slow=34
KLR Kul'dur 12.91 328 P P 23 48 11.0 -4.1
0.2nm,0.3s,baz=141,slow=13,SNR=2.2
KLR LR LR 23 53 01.2
comp=Z,62nm,18.4s,baz=137,slow=37
H11N2 WAKE ISLAND Hy 28.54 124 T T 00 21 15.9
baz=316,slow=75,SNR=304
H11N1 WAKE ISLAND Hy 28.55 125 T T 00 21 17.3
baz=316,slow=75,SNR=209
H11N3 WAKE ISLAND Hy 28.55 124 T T 00 21 17.3
baz=316,slow=75,SNR=285
H11S1 WAKE ISLAND Hy 29.31 126 T T 00 22 13.4
baz=318,slow=76,SNR=33
H11S3 WAKE ISLAND Hy 29.31 126 T T 00 22 18.0
baz=318,slow=76,SNR=39
H11S2 WAKE ISLAND Hy 29.33 126 T T 00 22 12.9
baz=318,slow=76,SNR=30
ZALV Zalesovo Beam 41.26 311 P P 23 52 43.5 -1.8
1.8nm,0.4s,baz=90,slow=8.0,SNR=7.7
MKAR Makanchi Array 43.77 301 P P 23 53 05.8 0.0
0.9nm,0.6s,baz=68,slow=6.3,SNR=8.4
ILAR Eielson Array 47.76 33 P P 23 53 38.6 +1.6
0.2nm,0.6s,baz=251,slow=5.6,SNR=3.0
WRA Warramunga Arr 58.80 189 P P 23 54 57.8 -0.8
0.2nm,0.4s,baz=7.8,slow=7.6,SNR=1.3
ASAR Alice Springs 62.53 189 P P 23 55 24.7 +0.8
0.3nm,0.7s,baz=21,slow=8.0,SNR=1.2
ARCES ARCESS Array B 62.65 339 P P 23 55 24.0 -0.3
1.3nm,0.8s,baz=54,slow=11,SNR=3.8
FINES FINESS Array B 67.62 332 P P 23 55 56.4 -0.1
1.5nm,0.8s,baz=43,slow=12,SNR=4.9
KBZ Khabaz 70.28 311 P P 23 56 13.6 +0.3
0.4nm,0.3s,baz=63,slow=4.5,SNR=5.0
NOA NORSAR Array B 72.88 337 P P 23 56 28.9 +0.1
0.4nm,0.7s,baz=39,slow=5.7,SNR=2.3
AKASG Malin Array Be 73.35 322 P P 23 56 31.5 -0.2
0.7nm,0.4s,baz=51,slow=6.1,SNR=1.7
GERES GERESS Array B 81.61 328 P P 23 57 17.5 -0.5
0.2nm,0.3s,baz=356,slow=6.1,SNR=1.9
TXAR Lajitas Array 88.62 53 P P 23 57 53.9 +0.5
0.1nm,0.6s,baz=309,slow=5.7,SNR=1.9

*IDC **28** 23:49:21.2±1.6, 17°.06S×175°.02W, h0km, mb3.9/7, mb1 4.2/9, mb1mx4.0/31, mbtmp3.9/9, ML4.1/2, MS3.3/4, Ms1 3.3/4, ms1mx3.1/36, Error ellipse: s-maj=72.0km s-min=21.1km az=154.0*
*NEIC **28** 23:49:25.4±2.6, 17°.7S±0°.1×174°.3W±0°.1, h32km±5km, mb4.4/9, Error ellipse: s-maj=16.2km s-min=15.4km az=83.0*
ISC 28 23:49:25.2±0.6, 17°.68S±0°.09×174°.5W±0°.1, h35km, n60, σ1§28/48, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.52**	**109**	Pn	**Pn**	**23 50 29.3**	**-1.8**
AFI	**Afiamalu**	**4.54**	**35**	Pn	**Pn**	**23 50 30.0**	**-1.6**
	4.1nm,0.3s,baz=180,slow=10,SNR=2.3						
AFI				LR	LR	23 51 55.5	
	comp=Z,150nm,20.2s,baz=116,slow=35						
AFI	**Afiamalu**	**4.54**	**35**	Pn	**Pn**	**23 50 31.7**	**+0.1**
MSVF	**Nonsavu**	**7.15**	**268**	Pn	Pn	23 51 00.9	-6.4
	0.2nm,0.3s,baz=49,slow=11,SNR=1.9						
MSVF				LR	LR	23 53 27.6	
	comp=Z,838nm,19.9s,baz=143,slow=37						
RAR	**Rarotonga**	**14.29**	**107**	LR	LR	23 57 02.6	
	comp=Z,110nm,18.9s,baz=272,slow=31						
PPT	**Papeete**	**23.71**	**94**	LR	LR	00 01 20.4	
	comp=Z,44nm,19.7s,baz=210,slow=30						
H11N3	**WAKE ISLAND Hy**	**41.42**	**333**	T	T	00 41 20.6	
	baz=154						
H11N1	**WAKE ISLAND Hy**	**41.43**	**333**	T	T	00 41 07.0	
	baz=154						
H11N2	**WAKE ISLAND Hy**	**41.44**	**333**	T	T	00 41 23.7	
	baz=154						
WB0	**Warramunga Arr**	**48.35**	**259**	P	**P**	**23 58 04.4**	**+0.6**
WB0				IAmb	IAmb	23 58 11.3	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**48.38**	**259**	P	**P**	**23 58 01.5**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=98,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**48.38**	**259**	P	**P**	**23 58 04.3**	**+0.2**
AS31	**Alice Springs**	**48.48**	**254**	P	**P**	**23 58 03.4**	**-1.4**
ASAR	**Alice Springs**	**48.48**	**254**	P	**P**	**23 58 02.6**	**-2.2**
	comp=Z,2.8nm,1.2s,baz=87,slow=8.4,SNR=4.1						
ASAR	**Alice Springs**	**48.48**	**254**	P	**P**	**23 58 03.6**	**-1.2**
SBA	**Scott Base**	**60.91**	**184**	P	**P**	**23 59 35.6**	**+1.5**
SBA				IAmb	IAmb	23 59 43.4	
	comp=Z,4.9nm,1.3s						
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**00 00 48.0**	**+0.4**
QSPA				IAmb	IAmb	00 00 58.8	
	comp=Z,4.1nm,1.1s						
PETK	**Petropavlovsk-**	**74.49**	**343**	P	**P**	**00 00 56.0**	**-3.8**
	comp=Z,0.9nm,0.5s,baz=101,slow=12,SNR=5.6						
NVAR	**Mina Array Bea**	**76.68**	**42**	P	**P**	**00 01 14.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=229,slow=8.8,SNR=5.5						
NVAR	**Mina Array Bea**	**76.68**	**42**	P	**P**	**00 01 13.8**	**+0.8**
U15A	**North Rim**	**79.59**	**46**	P	**P**	**00 01 30.6**	**+1.3**
U15A				IAmb	IAmb	00 01 32.1	
	comp=Z,5.5nm,1.3s						
BNM	**Barren Site**	**82.54**	**51**	P	**P**	**00 01 46.0**	**+1.0**
TXAR	**Lajitas Array**	**82.71**	**56**	P	**P**	**00 01 47.7**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=219,slow=5.8,SNR=6.1						
TXAR	**Lajitas Array**	**82.71**	**56**	P	**P**	**00 01 44.7**	**-1.0**
WRH	**Wood River Hil**	**84.36**	**11**	P	**P**	**00 01 53.4**	**+0.1**
MLY	**Manley**	**84.42**	**10**	P	**P**	**00 01 53.2**	**-0.5**
MLY				IAmb	IAmb	00 01 55.7	
	comp=Z,3.8nm,1.3s						
CCB	**Clear Creek Bu**	**84.58**	**11**	P	**P**	**00 01 54.0**	**-0.4**
PDAR	**Pinedale Array**	**84.62**	**42**	P	**P**	**00 01 55.8**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=225,slow=4.0,SNR=6.7						
H03S2	**Juan Fernandez**	**84.79**	**124**	T	T	01 35 42.8	
	baz=250,slow=75,SNR=73						
H03S1	**Juan Fernandez**	**84.80**	**124**	T	T	01 35 43.9	
	baz=250,slow=75,SNR=62						
H03S3	**Juan Fernandez**	**84.81**	**124**	T	T	01 35 42.6	
	baz=250,slow=75,SNR=64						
ILAR	**Eielson Array**	**84.86**	**11**	P	**P**	**00 01 55.3**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=217,slow=5.8,SNR=8.6						
H03N2	**Juan Fernandez**	**84.90**	**123**	T	T	01 35 45.4	
	baz=256,slow=73,SNR=13						
H03N3	**Juan Fernandez**	**84.91**	**123**	T	T	01 35 46.8	
	baz=256,slow=73,SNR=14						
H03N1	**Juan Fernandez**	**84.92**	**123**	T	T	01 35 48.3	
	baz=256,slow=73,SNR=9.7						
VNA3	**Neumayer Olymp**	**90.69**	**175**	PKPdf	**P**	**00 02 23.5**	**-0.5**
SNAA	**Sanae**	**90.70**	**177**	PKPdf	**P**	**00 02 23.1**	**-1.0**
VNA2	**Neumayer--Watz**	**91.17**	**176**	PKPdf	**P**	**00 02 25.6**	**-0.6**
	baz=188,slow=2.9						
VNA1	**Neumayer--Stat**	**91.38**	**175**	PKPdf	**P**	**00 02 27.4**	**+0.3**

OSTC	**Ostas**	**146.10**	**348**	*e*PKP	**PKPab**	**00 09 02.4**	**+0.3**
DPC	**Dobruska-Polom**	**146.28**	**348**	*e*PKP	**PKPbc**	**00 09 02.5**	**+0.4**
KRLC	**Kraliky**	**146.44**	**347**	*e*PKP	**PKPbc**	**00 09 03.0**	**+0.4**
MORC	**Moravsky Berou**	**146.55**	**346**	*e*PKP	**PKiKP**	**00 09 09.2**	**+3.4**
VRAC	**Vranov**	**147.20**	**347**	*e*PKP	**PKPab**	**00 09 06.7**	**+0.3**
BRTR	**Keskin Array B**	**147.22**	**318**	PKPbc	**PKPbc**	**00 09 05.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=116,slow=3.4,SNR=11						
BRTR	**Keskin Array B**	**147.22**	**318**		**PKPdf**	**00 09 04.2**	**+1.2**
JAVC	**Velka Javorina**	**147.37**	**345**	*e*PKP	**PKPab**	**00 09 07.7**	**+0.5**
KRUC	**Moravsky**	**147.48**	**347**	*e*PKP	**PKPab**	**00 09 07.1**	**-0.4**
KHC	**Kasperske Hory**	**147.95**	**350**	*e*PKP	**PKPab**	**00 09 11.9**	**+2.5**
CKRC	**Cesky Krumlov**	**148.13**	**349**	*e*PKP	**PKPbc**	**00 09 07.8**	**+0.5**
GERES	**GERESS Array B**	**148.21**	**350**	PKPbc	**PKPbc**	**00 09 07.6**	**0.0**
	comp=Z,1.3nm,0.9s,baz=20,slow=3.1,SNR=9.7						
GERES	**GERESS Array B**	**148.21**	**350**	PKPbc	**PKPbc**	**00 09 06.9**	**-0.7**
CONA	**Conrad Observa**	**148.67**	**347**	*e*P	**PKPbc**	**00 09 09.2**	**+0.4**
	comp=Z,4.8nm,1.0s						
MOA	**Molln**	**149.07**	**349**	*e*P	**PKiKP**	**00 09 12.7**	**+1.6**
	comp=Z,6.4nm,1.2s						
RETA	**Reutte**	**149.96**	**353**	*e*P	**PKPbc**	**00 09 12.1**	**+0.1**
	comp=Z,5.6nm,1.4s						
MOTA	**Moosalm**	**150.06**	**352**	*e*P	**PKPbc**	**00 09 12.4**	**+0.1**
	comp=Z,5.0nm,1.1s						
WTTA	**Wattenberg**	**150.07**	**352**	*e*P	**PKPbc**	**00 09 12.4**	**0.0**
	comp=Z,3.4nm,0.6s						
DAVA	**Damuels**	**150.25**	**354**	*e*P	**PKPbc**	**00 09 13.2**	**+0.4**
	comp=Z,5.6nm,1.4s						
FETA	**Feichten**	**150.42**	**353**	*e*P	**PKPbc**	**00 09 13.5**	**+0.3**
	comp=Z,2.1nm,0.8s						
ABTA	**Abfaltersbach**	**150.44**	**350**	*e*P	**PKPbc**	**00 09 12.9**	**-0.3**
	comp=Z,3.6nm,0.8s						

*NEIC **28** 23:56:25.8±1.7, 52°.08N±0°.10×169°.32W±0°.07, h21km±14km, Error ellipse: s-maj=14.3km s-min=6.2km az=171.0*
AEIC 28 23:56:25.8±1.7, 52°.05N±0°.02×169°.29W±0°.08, h33km±6km, ML2.9/29, mb3.8/6(NEIC), Error ellipse: s-maj=6.8km s-min=2.8km az=91.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.96**	**16**		Pn	23 56 43.0	-0.1
NIKH					Sb	23 56 57.0	+0.5
OKSO	**Okmok South**	**1.48**	**27**		Pn	23 56 50.6	+0.4
OKSO					Sb	23 57 09.9	-1.3
OKTU	**Okmok Mt. Tuli**	**1.54**	**29**		Pn	23 56 51.7	+0.7
OKFG	**Magazine Ridge**	**1.60**	**31**		Pn	23 56 52.6	+0.9
OKFG					Sn	23 57 12.9	+1.6
MAPS	**Pakushin South**	**2.27**	**38**		Pn	23 57 01.8	+0.8
MAPS					Sn	23 57 29.1	+1.4
MGOD	**Makushin Gods**	**2.28**	**39**		Pn	23 57 01.9	+0.8
MSW	**Makushin Switc**	**2.41**	**38**		Pn	23 57 03.9	+1.1
MSW					Sn	23 57 33.9	+2.7
MNAT	**Makushin Natee**	**2.42**	**40**		Pn	23 57 04.0	+1.0
UNV	**Unalaska Valle**	**2.47**	**42**		Pn	23 57 04.4	+0.7
UNV					Sn	23 57 34.8	+2.2
MTBL	**Makushin Table**	**2.49**	**38**		Pn	23 57 05.5	+1.4
AKRB	**Akutan Reef Bi**	**2.85**	**42**		Pn	23 57 10.9	+2.0
KOFP	**Korovin Flat P**	**2.97**	**276**		Pn	23 57 11.9	+1.3
ATKA	**Atka Island**	**3.03**	**275**		Pn	23 57 11.5	+0.2
GSTR	**Great Sitkin T**	**4.17**	**273**	Pn	Pn	23 57 27.7	+0.5
GSMY	**Great Sitkin M**	**4.18**	**273**		Pn	23 57 27.9	+0.8
GSTD	**Great Sitkin T**	**4.23**	**273**		Pn	23 57 28.2	+0.3
ADK	**Adak**	**4.57**	**271**	Pn	Pn	23 57 33.3	+0.7
KIWB	**Kanaga Island**	**4.87**	**271**	Pn	Pn	23 57 37.1	+0.6
KIMD	**Kanaga Island**	**4.93**	**270**		Pn	23 57 38.0	+0.6
TASE	**Tanaga Southea**	**5.41**	**271**		Pn	23 57 46.9	+2.8
CNBA	**Chernabura Isl**	**6.43**	**61**	Pn	Pn	23 57 58.4	+0.4
AMKA	**Amchitka**	**7.12**	**269**	Pn	Pn	23 58 08.7	+1.1
KDAK	**Kodiak Island**	**11.19**	**53**	Pn	Pn	23 59 02.2	-1.0
SUA	**Susitna One**	**13.82**	**40**	Pn	Pn	23 59 39.5	+0.3
PWL	**Port Wells**	**14.50**	**44**	Pn	Pn	23 59 46.3	-2.1
SCM	**Sheep Creek Mo**	**15.40**	**42**	Pn	Pn	23 59 58.2	-2.2
SCM				IAmb	IAmb	00 00 11.9	
	comp=Z,9.1nm,1.4s						
KLU	**Klutina**	**15.83**	**44**	Pn	Pn	00 00 04.0	-2.0
KLU				IAmb	IAmb	00 00 05.4	
	comp=Z,3.3nm,0.4s						
M24K	**Tolsona, Glenn**	**16.01**	**42**	Pn	Pn	00 00 07.4	-0.8
M24K				IAmb	IAmb	00 00 32.4	
	comp=Z,5.6nm,1.0s						
N25K	**Chitina, Valde**	**16.45**	**45**	Pn	Pn	00 00 12.8	-1.2
HYT	**Haines Junctio**	**19.47**	**51**	Pn	Pn	00 00 53.7	+2.7
HYT				IAmb	IAmb	00 01 14.0	
	comp=Z,8.6nm,1.5s						
PEA0B	**Petropavlovsk-**	**19.99**	**286**		P	00 00 55.0	-0.2

*MOS **29** 00:10:22.9±1.0, 8°.17N×77°.51W, h15km, mb6.1/63, MS5.6/40, Error ellipse: s-maj=6.8km s-min=4.5km az=94.6*
*VAO **29** 00:10:23.4±0.1, 8°.02N×77°.28W, h10km, mb5.7*
*IDC **29** 00:10:23.8±0.5, 8°.13N×77°.42W, h15km±2km, mb5.3/45, mb1 5.4/50, mb1mx5.4/53, mbtmp5.4/50, ML4.7/5, MS5.5/24, Ms1 5.5/24, ms1mx5.4/31, Error ellipse: s-maj=12.2km s-min=8.2km az=58.0*
*BJI **29** 00:10:23.5±0.0, 8°.10N×77°.30W, h15km, mB5.9/54, Ms6.0/63, Ms7 5.8/59*
*UPA **29** 00:10:23.5±1.1, 8°.15N×77°.37W, h10km±9km, MW5.8, Fault plane solution: NP1:φs11.53000°, δ83.28000°, λ18.88000°.*
*RSNC **29** 00:10:24.9±1.0, 8°.16N×77°.34W, h14km±3km, ML5.3, Mw5.8, Fault plane solution: NP1:φs30.00000°, δ88.00000°, λ12.00000°.*
*NEIC **29** 00:10:24.6, 8°.25N×77°.30W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}0.84; $M_{\theta\theta}$-4.67; $M_{\phi\phi}$3.83; $M_{r\theta}$0.01; $M_{\theta\phi}$-4.60; $M_{r\phi}$2.01; Fault plane solution: $M_0$6.62000×10^17^ NP1:φs22.77000°, δ81.73000°, λ17.64000°. NP2:φs290.15000°, δ72.55000°, λ171.33000°. Principal axes: T 6.4529, Plg18.0000°, Azm248.0000°; N 0.3197, Plg71.0000°, Azm47.0000°; P -6.7725, Plg6.0000°, Azm155.0000°;*
*NEIC **29** 00:10:24.7±3.1, 8°.23N±0°.04×77°.32W±0°.03, h12km±2km, mb6.0/775, Ms_20 5.6/584, Mwb5.8/76, Mww5.9, Mwc5.9(GCMT) Error ellipse: s-maj=7.3km s-min=4.7km az=27.0*
*GCMT **29** 00:10:26.7±0.1, 8°.24N×77°.32W, h23km, MW5.9/158, Moment Tensor Solution. s153,c311; s158,c525; Duration: 2s2 Moment tensor: Scale 10^18^Nm; M_{rr}0.44±.01; $M_{\theta\theta}$-0.92±.01; $M_{\phi\phi}$0.47±.01; $M_{r\theta}$-0.06±.01; $M_{\theta\phi}$-0.54±.01; $M_{r\phi}$0.29±.01; Best double couple: $M_0$0.98400×10^18^ NP1:φs291.00000°, δ65.00000°, λ155.00000°. NP2:φs32.00000°, δ67.00000°, λ27.00000°. Principal axes: T 0.8620, Plg35.0000°, Azm252.0000°; N 0.2430, Plg55.0000°, Azm69.0000°; P -1.1050, Plg2.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 00:10:28, 8°.24N×77°.20W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}5.28; $M_{\theta\theta}$-8.35; $M_{\phi\phi}$3.06; $M_{r\theta}$-0.21; $M_{\theta\phi}$-4.64; $M_{r\phi}$3.79; Fault plane solution: $M_0$9.46000×10^17^ NP1:φs285.00000°, δ55.00000°, λ145.00000°. NP2:φs37.00000°, δ62.00000°, λ40.00000°. Principal axes: T 8.6856, Plg47.0000°, Azm254.0000°; N 1.3886, Plg42.0000°, Azm66.0000°; P -10.0742, Plg4.0000°, Azm159.0000°;*
*NEIC **29** 00:10:28, 8°.26N×77°.31W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.47; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$0.46; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.56; $M_{r\phi}$0.30; Fault plane solution: $M_0$1.03000×10^18^ NP1:φs292.00000°, δ62.00000°, λ155.00000°. NP2:φs32.00000°, δ68.00000°, λ30.00000°. Principal axes: T 0.8629, Plg36.0000°, Azm253.0000°; N 0.2755, Plg54.0000°, Azm65.0000°; P -1.1384, Plg4.0000°, Azm160.0000°;*
*BGR **29** 00:10:29.6±0.0, 8°.63N×76°.58W, h16km, mb5.9, mB_BB6.1, Ms5.6*
ISC 29 00:10:23.5±0.3, 8°.16N±0°.02×77°.33W±0°.02, h13km±1km, h14km: pP-P, n2071, σ1§63/2003, mb6.0/578, MS5.6/365, 575C-236D, Fault plane solution: NP1:φs49.68015°, δ66.26182°, λ64.36493°. NP2:φs279.68738°, δ34.38207°, λ134.53197°. Principal axes: T Plg60.2524°, Azm281.6153°; N Plg23.3305°, Azm60.6137°; P

Plg17.3926°, Azm158.3781°; **Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.78**	**300**	⇓*iP*	**Pg**	**00 10 38.7**	**+0.1**
UPD2				*eS*	**Sb**	**00 10 49.3**	**0.0**
UPD2	**Meteti**	**0.78**	**300**	⇓*iP*	**Pg**	**00 10 38.7**	**+0.1**
UPD2				*eS*	**Sb**	**00 10 49.4**	**+0.1**
UPD2				*i*		00 10 54.8	
	comp=Z,327μm,0.4s						
PTAC	**Punta Ardita,**	**1.11**	**205**	⇑*eP*	**Pb**	**00 10 43.6**	**-1.1**
PTAC				*eS*	**Sb**	**00 10 57.5**	**-1.6**
PTAC	**Punta Ardita,**	**1.11**	**205**	⇑*iP*	**Pb**	**00 10 43.5**	**-1.1**
PTAC				*eS*	**Sb**	**00 10 58.5**	**-0.5**
PTAC				*i*		00 11 07.8	
	comp=Z,72μm,0.7s						
LCBC	**Los crdobas,**	**1.18**	**54**	⇑*iP*	**Pg**	**00 10 46.1**	**-0.2**
LCBC				*eS*	**Sg**	**00 11 02.1**	**+0.5**
LCBC				*i*		00 11 11.0	
	comp=Z,54μm,0.3s						
DBBC	**Dabeiba**	**1.59**	**136**	⇓*eP*	**Pn**	**00 10 51.7**	**+0.2**
DBBC				*eS*	**Sn**	**00 11 12.3**	**+0.4**
DBBC	**Dabeiba**	**1.59**	**136**	⇓*iP*	**Pn**	**00 10 51.2**	**-0.3**
DBBC				*eS*	**Sn**	**00 11 12.3**	**+0.4**
DBBC				*i*		00 11 22.4	
	comp=Z,399μm,0.7s						
MOTC	**Monteria, Cord**	**1.76**	**70**	⇑*iP*	**Pn**	**00 10 53.1**	**-0.6**
MOTC				*eS*	**Sn**	**00 11 15.8**	**-0.1**
MOTC				*i*		00 11 19.7	
	comp=Z,18μm,0.5s						
MONA	**Monteria**	**1.76**	**70**	⇑*iP*	**Pn**	**00 10 53.2**	**-0.5**
UREC	**San Jos de Ur**	**1.83**	**103**	⇑*eP*	**Pn**	**00 10 54.7**	**0.0**
UREC				*eS*	**Sn**	**00 11 17.5**	**-0.2**
UREC				*i*		00 11 27.3	
	comp=Z,15μm,0.8s						
CNTA3	**Canitas, Panam**	**1.86**	**304**	⇓*iP*	**Pn**	**00 10 53.7**	**-1.4**
SOLC	**Bahia Solano**	**1.93**	**182**	⇓*iP*	**Pn**	**00 10 56.1**	**+0.2**
SOLC				*eS*	**Sg**	**00 11 29.9**	**+4.3**
SOLC				*i*		00 11 33.6	
	comp=Z,25μm,0.7s						
CHPO	**Chepo, Panama**	**2.03**	**300**	*eS*	**Sn**	**00 11 22.8**	**+0.3**
TABO3	**Taboga, Panama**	**2.29**	**286**	⇑*eP*	**Pn**	**00 10 60.0**	**-0.9**
TABO3				*eS*	**Sn**	**00 11 27.3**	**-1.7**
UPA	**Univ. de Panam**	**2.32**	**291**	⇑*iP*	**Pn**	**00 11 00.7**	**-0.8**
UPA				*eS*	**Sn**	**00 11 30.0**	**+0.1**
UPA	**Univ. de Panam**	**2.32**	**291**	⇑*iP*	**Pn**	**00 11 00.9**	**-0.5**
UPA				*eS*	**Sn**	**00 11 30.9**	**+1.0**
UPA				*i*		00 11 38.5	
	comp=Z,6μm,0.5s						
MIRA3	**Miramar, Colon**	**2.42**	**306**	⇓*iP*	**Pn**	**00 11 02.0**	**-0.8**
CHOR3	**La Chorrera**	**2.51**	**287**	*eS*	**Sn**	**00 11 36.2**	**+1.6**
CHOR3				*eS*	**Sb**	**00 11 36.9**	**-2.6**
ZARC	**Zaragoza, Cauc**	**2.54**	**105**	⇑*eP*	**Pn**	**00 11 04.9**	**+0.5**
ZARC				*eS*	**Sn**	**00 11 35.2**	**-0.1**
ZARC				*i*		00 11 57.1	
	comp=Z,13μm,0.5s						
ZANG	**Zanguenga, Cho**	**2.63**	**288**	*eP*	**Pn**	**00 11 05.4**	**-0.3**
ZANG				*eS*	**Sb**	**00 11 42.0**	**-0.7**
CBOC	**Ciudad Bolivar**	**2.63**	**150**	⇓*eP*	**Pn**	**00 11 05.4**	**-0.5**
CBOC				*i*		00 11 54.6	
	comp=Z,16μm,0.6s						
HELC	**Santa Helena**	**2.65**	**137**	⇓*iP*	**Pn**	**00 11 07.9**	**+1.6**
HELC				*eS*	**Sb**	**00 11 45.8**	**+2.0**
HELC	**Santa Helena**	**2.65**	**137**	⇓*iP*	**Pn**	**00 11 08.1**	**+1.8**
HELC				*eS*	**Sn**	**00 11 37.6**	**-0.9**
BCIP	**Isla Barro Col**	**2.67**	**292**	⇑*iP*	**Pn**	**00 11 05.7**	**-0.5**
BCIP				*eS*	**Sn**	**00 11 38.1**	**-0.3**
BCIP	**Isla Barro Col**	**2.67**	**292**	P	**Pn**	**00 11 05.8**	**-0.5**
BCIP	**Isla Barro Col**	**2.67**	**292**		**Pn**	**00 11 05.8**	**-0.5**
BCIP	**Isla Barro Col**	**2.67**	**292**	⇑*eP*	**Pn**	**00 11 05.8**	**-0.5**
BCIP				*eS*	**Sn**	**00 11 39.4**	**+1.0**
BCIP				*i*		00 12 03.7	
	comp=Z,11μm,0.7s						
BCIP	**Isla Barro Col**	**2.67**	**292**	⇑P	**Pn**	**00 11 05.7**	**-0.5**
SJCC	**San Jacinto, C**	**2.74**	**51**	⇑*iP*	**Pn**	**00 11 06.2**	**-0.9**
SJCC	**San Jacinto, C**	**2.74**	**51**	Pn	**Pn**	**00 11 06.3**	**-0.9**
SJCC	**San Jacinto, C**	**2.74**	**51**	⇑*eP*	**Pn**	**00 11 06.3**	**-0.9**
SJCC				*i*		00 11 41.7	
	comp=Z,4μm,0.5s						
VTON	**El Valle, Cocl**	**2.79**	**279**	⇑*iP*	**Pn**	**00 11 07.6**	**-0.3**
VTON				*eS*	**Sn**	**00 11 42.1**	**+0.6**
AZU	**Azuero**	**2.94**	**263**	⇑*iP*	**Pn**	**00 11 09.9**	**0.0**
AZU				*eS*	**Sn**	**00 11 43.9**	**-1.1**
AZU	**Azuero**	**2.94**	**263**	⇑*iP*	**Pn**	**00 11 10.1**	**+0.2**
AZU				*eS*	**Sn**	**00 11 43.5**	**-1.5**
AZU				*i*		00 11 45.9	
	comp=Z,17μm,0.5s						
PNME	**Penonome**	**2.98**	**276**	⇑*iP*	**Pn**	**00 11 10.4**	**-0.1**
PNME				*eS*	**Sn**	**00 11 47.6**	**+1.5**
PNME	**Penonome**	**2.98**	**276**	⇑*iP*	**Pn**	**00 11 10.5**	**0.0**
PNME				*eS*	**Sn**	**00 11 44.7**	**-1.4**
PIZC	**Pizarro, Choco**	**3.18**	**180**	⇓*eP*	**Pn**	**00 11 14.0**	**+0.8**
PLMC	**San Jos del P**	**3.40**	**162**	⇓*eP*	**Pn**	**00 11 14.3**	**-2.0**
PLMC				*eS*	**Sn**	**00 11 54.4**	**-2.2**
PLMC				*i*		00 12 15.3	
	comp=Z,4μm,0.5s						
ARGC	**Ariguani, Magd**	**3.48**	**61**	⇑*iP*	**Pn**	**00 11 16.6**	**-0.8**
ARGC				*eS*	**Sn**	**00 11 57.3**	**-1.2**

comp=Z,6µm,0.6s
ORTC Ortega, Tolima 4.71 154⇓*iP* Pn 00 11 36.6 +2.3
ORTC *eS* **Sn 00 12 28.9 0.0**
ORTC *i* 00 13 01.9
comp=Z,2µm,0.7s
RUSC La Rusia 4.78 118 Pn **Pn 00 11 36.5 +0.8**
RUSC La Rusia 4.78 118⇓*iP* Pn 00 11 36.5 +0.8
RUSC *eS* **Sn 00 12 30.8 -0.5**
RUSC *i* 00 12 57.4
comp=Z,4µm,0.6s
CHIC Chingaza 5.01 134⇓*eP* Pn 00 11 41.9 +3.0
CHIC *eS* **Sn 00 12 42.8 +6.0**
CHIC *i* 00 12 55.3
comp=Z,4µm,0.8s
BRU2 Volcan 5.34 277⇑*iP* Pn 00 11 42.9 -0.2
BRU2 *eS* **Sb 00 12 59.4 -1.5**
VILC Villavicencio, 5.41 138⇓*eP* Pn 00 11 46.6 +2.5
VILC *i* 00 13 03.9
comp=Z,2µm,0.5s
MARP Paez Belalcaza 5.46 165⇓*eP* Pn 00 11 46.7 +1.8
MARP *eS* **Sn 00 12 47.7 0.0**
MARP *i* 00 13 02.3
comp=Z,225nm,0.6s
CDITO Canoas 5.50 275 Pn 00 11 46.4 +1.3
POPC Popayan, Colom 5.62 173⇓*eP* Pn 00 11 38.2 -8.9
POPC *i* 00 12 56.0
comp=Z,395nm,0.6s
POPC *eS* **Sn 00 12 59.1 +7.4**
BETC Betania 5.76 161 *eP* Pn 00 11 52.0 +3.1
BETC *i* 00 13 31.8
comp=Z,753nm,0.6s
PCON Cinco Dias 5.87 171⇓*eP* Pn 00 11 53.0 +2.3
MAPC Malpelo 5.93 226⇑*eP* Pn 00 11 52.5 +1.4
DRK0 Durika 5.95 281 Pn 00 11 52.0 +0.6
SOTA Rioblanco 6.03 173⇓*eP* Pn 00 11 55.4 +2.5
SRBA San Rafael, Bu 6.05 281 Pn **Pn 00 11 53.7 +0.8**
BBAC Balboa, Cauca 6.10 179⇓*eP* Pn 00 11 54.1 +0.5
GARC Garzon, Huila 6.21 163⇓*eP* Pn 00 11 55.7 +0.5
GARC *i* 00 13 20.9
comp=Z,320nm,0.7s
URIC Uribia, Colomb 6.33 56 Pn **Pn 00 11 56.4 -0.1**
URIC Uribia, Colomb 6.33 56 *eP* Pn 00 11 56.9 +0.3
URIC *eS* **Sn 00 13 04.8 -3.9**
URIC *i* 00 13 16.2
comp=Z,1µm,0.5s
PEZE Perez Zeledon, 6.39 281 Pn 00 11 57.7 +0.2
SOCV Socops 6.41 88⇑*iP* Pn 00 11 57.2 -0.5
SOCV *eS* **Sn 00 13 07.9 -3.0**
TUMC Tumaco 6.45 193 Pn **Pn 00 12 01.9 +3.7**
TUMC Tumaco 6.45 193⇓*iP* Pn 00 12 00.6 +2.4
PTGC Puerto Gaitan, 6.50 127⇑*eP* Pn 00 11 59.2 +0.3
PTGC ⇑*eS* **Sn 00 13 12.6 -0.3**
PTGC *i* 00 13 31.6
comp=Z,2µm,0.7s
PRVC Isla de Provid 6.52 323 Pn **Pn 00 11 58.2 -1.0**
PRVC Isla de Provid 6.52 323 *eP* Pn 00 11 57.2 -2.0
PRVC *eS* **Sn 00 13 08.9 -4.5**
PRVC *i* 00 13 29.6
comp=Z,662nm,0.6s
CVTR Volcan Turrial 6.61 287 Pn **Pn 00 12 01.0 +0.2**
RIMA Rio Macho 6.65 284 Pn 00 12 01.1 0.0
SDV Santo Domingo 6.67 83 Pn **Pn 00 12 01.4 +0.1**
comp=Z,89nm,0.3s,baz=259,slow=9.4,SNR=110
SDV Sn **Sn 00 13 13.6 -3.8**
comp=Z,239nm,0.3s,baz=30,slow=14,SNR=2.9
SDV LR LR 00 15 30.8
comp=Z,83µm,20.9s,baz=253,slow=46
SDV Santo Domingo 6.67 83 Pn **Pn 00 12 01.6 +0.2**
SDV Santo Domingo 6.67 83⇑*eP* Pn 00 12 01.3 -0.1
SDV *eS* **Sn 00 13 13.5 -3.8**
SDV *i* 00 13 22.4
comp=Z,1µm,0.5s
SDV Santo Domingo 6.67 83 *eP* Pn 00 12 01.2 -0.1
GCUF Volcan Galeras 6.89 180⇓*eP* Pn 00 12 07.1 +2.3
GCUF *i* 00 13 50.3
comp=Z,133nm,0.6s
MACC Macarena, Meta 6.91 150⇓*eP* Pn 00 12 05.2 +0.6
MACC *eS* **Sn 00 13 23.5 +0.3**
MACC *i* 00 14 14.1
comp=Z,873nm,0.7s
HDC Heredia 6.94 286 Pn 00 12 06.1 +1.0
HDC Heredia 6.94 286 ⇑P Pn 00 12 05.2 +0.1
DABV Dabajuro 7.15 67 *eP* Pn 00 12 08.1 +0.2
DABV *eS* **Sn 00 13 26.9 -2.2**
GUVC San Jose del G 7.29 140⇓*eP* Pn 00 12 10.8 +1.0
GUVC *eS* **Sn 00 13 33.7 +1.3**
GUVC *i* 00 13 59.5
comp=Z,434nm,0.4s
TULM Tulcn-Chalpat 7.41 184⇓*iP* Pn 00 12 13.8 +1.9
COVE Coope Vega, Sa 7.42 291 Pn 00 12 11.8 +0.2
JTS Las Juntas de 7.81 286 Pn **Pn 00 12 17.1 +0.1**
comp=Z,7.4nm,0.3s,baz=152,slow=14,SNR=25
JTS LR LR 00 15 42.8
comp=Z,70µm,19.1s,baz=160,slow=41
JTS Las Juntas de 7.81 286*c iP* Pn 00 12 17.2 +0.2
JTS pmax pmax
comp=Z,185nm,1.2s
JTS Las Juntas de 7.81 286 Pn 00 12 17.8 +0.8
JTS Las Juntas de 7.81 286⇑*eP* Pn 00 12 17.4 +0.4
JTS Las Juntas de 7.81 286 ⇑P Pn 00 12 17.8 +0.8
ELOV Elorza 7.87 98⇑*eP* Pn 00 12 16.8 -0.9
ELOV *eS* **Sn 00 13 44.2 -2.4**
CUSE Cuicocha Este 7.88 188⇓*eP* Pn 00 12 19.4 +1.1
ESPN Las Esperanzas 7.94 301 Pn 00 12 18.4 -0.4
OTAV Otavalo 7.95 188 P **Pn 00 12 20.8 +1.5**
OTAV Otavalo 7.95 188 Pn 00 12 20.8 +1.5
OTAV Otavalo 7.95 188⇓*eP* Pn 00 12 21.0 +1.7
OTAV Otavalo 7.95 188 ⇓P Pn 00 12 20.1 +0.8
OTAV Otavalo 7.95 188 *eS* Sn 00 13 47.0 -2.4
PAC1 Pacto, Paraso 7.98 191⇓*eP* Pn 00 12 19.4 0.0
DUNO Dulce Nombre, 8.28 284 Pn 00 12 24.4 +1.0
PTLC Puerto Leguiza 8.33 162⇓*iP* Pn 00 12 29.1 +5.0
HZTE Horizontes, Gu 8.54 288 Pn 00 12 28.3 +1.4
ACON Acoyapa 8.60 297 Pn 00 12 27.7 -0.1
HATO Hato, Curacao 9.16 63 Pn 00 12 35.5 +0.1
MCJ Malvern 9.71 358⇓*iP* Pn 00 12 44.2 +1.1
HOJ Hope 9.80 3⇑*iP* Pn 00 12 45.1 +0.9
STH Stony Hill 9.87 3⇓*iP* Pn 00 12 46.2 +1.0
STH *i* S **Sn 00 14 29.2 -6.7**
GWJ Greenwich 9.87 3 *iP* **Pn 00 12 46.2 +1.0**
CMJ Castle Mountai 9.96 5⇑*iP* Pn 00 12 47.8 +1.4
MTDJ Mount Denham 10.01 359 Pn 00 12 46.5 -0.6
MTDJ Mount Denham 10.01 359 ⇓P Pn 00 12 45.4 -1.7
BBJ Bamboo Saint A 10.16 0⇓*iP* Pn 00 12 50.4 +1.2
CNGN Cerro Negro 10.17 296 Pn 00 12 52.4 +3.0
CRIN San Cristobal 10.57 296 Pn 00 12 56.6 +1.9
JAKH Jacmel 11.05 25 Pn 00 13 00.3 -1.1
LGNH Logne 11.27 24 Pn **Pn 00 13 04.1 -0.2**
TGUH Tegucigalpa,Un 11.38 302 Pn 00 13 06.8 +0.9
TGUH Tegucigalpa,Un 11.38 302⇑*eP* Pn 00 13 05.6 -0.4
TGUH Tegucigalpa,Un 11.38 302 ⇑P Pn 00 13 05.7 -0.2
FSCY Frank Sound, G 11.70 342 Pn **Pn 00 13 08.5 -1.7**
LCCY Blossom Villag 11.74 347 Pn **Pn 00 13 10.6 -0.3**
CBCY The Bluff, Cay 11.74 349 Pn 00 13 09.7 -1.1
GTBY Guantanamo Bay 11.89 10 Pn 00 13 13.2 +0.4
GTBY Guantanamo Bay 11.89 10 ⇓P Pn 00 13 11.3 -1.5
BANI BANI 12.22 33 Pn 00 13 16.9 -0.6
SDDR Presa de Saban 12.25 28 Pn **Pn 00 13 17.9 0.0**
SDDR Presa de Saban 12.25 28⇓*eP* Pn 00 13 16.7 -1.1
SDDR Presa de Saban 12.25 28 ⇑P Pn 00 13 16.9 -1.0
SDDR ⇑S **Sn 00 15 34.7 +0.3**
PCRV Puerto La Cruz 12.69 80 Pn **Pn 00 13 22.0 -1.9**
comp=Z,13nm,0.3s,baz=245,slow=5.6,SNR=28
PCRV LR LR 00 20 22.1
comp=Z,69µm,19.3s,slow=47
DR12 Loma Pena Alta 13.08 35 Pn 00 13 27.6 -1.7
MTO3 Montecristo 13.32 299 Pn 00 13 32.5 -0.1
ESQI Esquipulas 13.38 299 Pn 00 13 34.0 +0.8
AGPR Aguadilla, PR 14.27 43 Pn 00 13 42.4 -3.0
ICMP Isla Caja de M 14.28 46 Pn 00 13 40.2 -5.4
TBTG Tabatinga, AM 14.33 149⇓*iP* Pn 00 13 43.2 -3.1
OBIP Obispado Ponce 14.33 46 Pn Pn 00 13 41.4 -4.8
AOPR Arecibo Observ 14.43 44 Pn 00 13 42.9 -4.8
GRTK Grand Turk 14.56 24 Pn 00 13 49.3 0.0
GRTK Grand Turk 14.56 24 ⇓P Pn 00 13 49.4 +0.1
EMPR Esperanza - Ma 14.68 45 Pn 00 13 46.9 -4.1
SJG San Juan 14.70 47 Pn Pn 00 13 44.9 -6.4
comp=Z,32nm,0.3s,baz=245,slow=10,SNR=57
SJG Sn Sn 00 16 17.9 -16
comp=Z,13nm,0.3s,baz=260,slow=23,SNR=2.8
SJG San Juan 14.70 47 ⇓P Pn 00 13 45.7 -5.6
HUMP Col San Antoni 14.94 47 Pn 00 13 49.2 -5.3

PETF Flores 15.00 307 Pn 00 13 57.5 +2.1
MTP Monte Pirata 15.13 48 Pn **Pn 00 13 52.3 -4.7**
ATAH Atahualpa 15.23 184 Pn **Pn 00 13 58.1 -0.7**
comp=Z,1.3nm,0.3s,baz=0.5,slow=8.3,SNR=50
ATAH LR LR 00 21 02.5
comp=Z,25µm,18.6s,baz=4.1,slow=42
CUPR Culebra, Puert 15.46 48 Pn 00 13 56.9 -4.4
CDVI St. Croix 15.51 51 IAmb IAmb 00 14 24.6
comp=Z,572nm,0.7s
SOR Soroa 15.53 340 P **Pn 00 14 02.6 +0.2**
SOR pmax pmax
comp=Z,1µm,1.7s
SOR Soroa 15.53 340 Pn 00 14 02.6 +0.2
SOR IAmb IAmb 00 14 17.1
comp=Z,1µm,1.7s
PAYG Puerto Ayora 15.61 236 Pn 00 14 05.3 +1.9
PAYG Puerto Ayora 15.61 236⇑*iP* Pn 00 14 04.1 +0.6
PAYG Puerto Ayora 15.61 236 ⇑P Pn 00 14 04.6 +1.1
GRGR Grenville 15.93 74 *eP* Pn 00 14 02.3 -5.2
GRGR Grenville 15.93 74 P **P 00 14 10.2 -0.9**
GRGR IAmb IAmb 00 14 44.9
comp=Z,1µm,1.1s
GRGR Grenville 15.93 74 ⇑P P 00 14 09.8 -1.4
GCMP Grenada, Carri 16.23 73 *eP* Pn 00 14 12.6 +1.2
SVB Belmont 16.59 71 *eP* P 00 14 26.0 +7.5
SABA Saba 16.63 54 *eP* P 00 14 20.4 +1.5
SABA Saba 16.63 54 IAmb IAmb 00 14 25.7
comp=Z,696nm,0.8s
SEUS St. Eustatius 16.77 55 *eP* P 00 14 22.9 +2.5
SEUS St. Eustatius 16.77 55 P **P 00 14 20.1 -0.4**
SEUS IAmb IAmb 00 14 47.2
comp=Z,675nm,0.8s
TOSP Speyside 16.85 78 *eP* Pn 00 14 19.4 +0.2
SKI Saint Kitts 16.89 56 *eP* P 00 14 22.9 +1.1
SMRT St. Maarten 17.00 53 *eP* Pn 00 14 20.9 -0.3
MCLT Moule a Chique 17.01 70 *eP* P 00 14 23.3 +0.2
SLBI Saint Lucia, B 17.07 69 *eP* Pn 00 14 20.1 -2.0
TDBA Terre de Bas, 17.14 62 *eP* P 00 14 23.9 -0.7
BIM Bigot 17.14 67 *eP* Pn 00 14 22.8 -0.3
FDF Fort de France 17.14 66 *eP* P 00 14 25.5 +0.9
FDF Fort de France 17.14 66 ⇑P Pn 00 14 17.1 -6.0
DSLB Salisbury 17.16 64 *eP* Pn 00 14 22.8 -0.4
SVN Savane Anatole 17.17 66 P **P 00 14 25.0 +0.1**
DLPL La Plaine 17.28 64 *eP* P 00 14 27.4 +1.3
MPOM Morne Pois Mar 17.31 67 *eP* Pn 00 14 23.9 -1.1
ILAM Ilet Lapin Mar 17.41 66 *eP* P 00 14 28.6 +1.1
BPA Boggy Peak 17.48 58 *eP* P 00 14 34.0 +5.6
MAGL Barre de l'ile 17.49 62 *eP* P 00 14 28.6 +0.2
ABD La Joyeuse, An 17.54 60 *eP* Pn 00 14 22.4 -5.4
ANOC Antigua Open C 17.54 58 *eP* P 00 14 36.6 +7.6
ANBD Bethesda, Anti 17.56 58 *eP* Pn 00 14 24.8 -3.4
BOAV Boa Vista 17.69 108 *eP* Pn 00 14 27.5 -2.3
ANWB Willy Bob 17.84 57 *eP* Pn 00 14 31.6 -0.1
ANWB Willy Bob 17.84 57 ⇑P Pn 00 14 28.8 -2.8
061Z Ochoppi 17.93 349 IAmb IAmb 00 14 43.0
comp=Z,2µm,1.4s
BBGH Gun Hill 18.15 73 *eP* P 00 14 36.7 +1.0
060A Indiantown 18.99 352 IAmb IAmb 00 14 55.7
comp=Z,732nm,1.0s
PTGA Pitinga 19.44 116 P **P 00 14 50.0 +0.1**
comp=Z,7.6nm,0.3s,baz=297,slow=20,SNR=48
PTGA Pitinga 19.44 116 P **P 00 14 49.6 -0.3**
NNA Nana 20.02 179 P **P 00 14 57.2 +0.9**
comp=Z,4.1nm,0.3s,baz=345,slow=11,SNR=14
NNA Nana 20.02 179 P Pn 00 14 57.6 -0.5
NNA pmax pmax
comp=Z,733nm,1.5s
NNA MLR MLR
comp=Z,20µm,21.0s
NNA Nana 20.02 179 P Pn 00 14 57.6 -0.5
NNA Nana 20.02 179 ⇑P Pn 00 14 57.8 -0.3
MACA Manacapuru-AM 20.06 123 *eP* P 00 14 55.8 -0.9
DWPF Disney Wildern 20.22 349 P **P 00 14 59.1 +0.9**
baz=168
DWPF S Sn 00 18 48.4 +0.7
baz=168
DWPF Disney Wildern 20.22 349 Pn 00 14 59.8 -0.4
DWPF IAmb IAmb 00 15 09.6
comp=Z,1µm,1.1s
DWPF Disney Wildern 20.22 349 ⇓P Pn 00 14 59.6 -0.6
ETMB Extrema 21.02 148 *eP* P 00 15 06.1 -0.9
TLIG Tlapa 22.69 296 IAms_20 IAms_20 00 25 31.5
comp=Z,21µm,21.0s
TIGA Tifton 23.88 347 P **P 00 15 38.0 +1.1**
baz=164,SNR=30
TIGA S **S 00 19 58.3 +5.5**
baz=164
TIGA Tifton 23.88 347 P **P 00 15 38.3 +1.5**
BRAL Brewton 24.62 340 P **P 00 15 46.6 +2.9**
baz=156,SNR=25
BRAL S **S 00 20 08.9 +4.3**
baz=156
BRAL Brewton 24.62 340 ⇓P P 00 15 46.0 +2.3
MDP Montagnes des 24.71 96 P **P 00 15 45.8 +1.0**
comp=Z,182nm,0.9s,baz=277,slow=9.4,SNR=23
MDP LR LR 00 26 15.5
comp=Z,44µm,18.6s,baz=282,slow=38
CSU Charleston Sou 24.83 355 P **P 00 15 47.4 +1.8**
ITTB Itaituba 24.88 119 *eP* P 00 15 45.2 -1.0
ITTB *eS* **S 00 20 09.8 +0.6**
NHSC New Hope 24.96 354 P **P 00 15 48.6 +1.9**
baz=173,SNR=14
NHSC S **S 00 20 16.6 +6.5**
baz=173
MALB Monte Alegre 25.06 112 *eP* P 00 15 47.4 -0.5
MALB *eS* **S 00 20 12.5 +0.3**
250A Grady 25.11 342 P **P 00 15 49.9 +1.8**
152A Waverly Hall 25.33 345 IAms_20 IAms_20 00 26 42.6
comp=Z,14µm,19.0s
Y58A Scranton 25.71 356 IAmb IAmb 00 16 04.1
comp=Z,795nm,1.3s
Y58A IAms_20 IAms_20 00 26 21.5
comp=Z,27µm,20.0s
Y60A Bolivia 25.73 358 IAmb IAmb 00 16 09.7
comp=Z,299nm,0.9s
GOGA Godfrey 25.76 348 P **P 00 15 55.7 +1.7**
baz=166,SNR=55
GOGA S **S 00 20 25.1 +2.3**
baz=166
GOGA Godfrey 25.76 348 IAmb IAmb 00 16 03.9
comp=Z,692nm,1.1s
LPAZ La Paz 25.95 159 P **P 00 15 56.2 -0.3**
comp=Z,22nm,0.5s,baz=340,slow=9.5,SNR=80
LPAZ La Paz 25.95 159 P **P 00 15 56.5 0.0**
LPAZ pmax pmax
comp=Z,695nm,1.9s
LPAZ La Paz 25.95 159 P **P 00 15 56.5 0.0**
LPAZ IAmb IAmb 00 16 05.9
comp=Z,695nm,1.9s
LPAZ La Paz 25.95 159⇓*iP* P 00 15 56.2 -0.3
LPAZ La Paz 25.95 159 *eP* P 00 15 56.0 -0.5
LPAZ *eS* **S 00 20 25.3 -1.8**
JSC Jenkinsville 26.25 353 IAmb IAmb 00 16 10.3
comp=Z,365nm,1.2s
X58A Rowland 26.33 356 IAms_20 IAms_20 00 26 38.9
comp=Z,20µm,19.0s
HODGE Hodges 26.34 351 P **P 00 16 00.2 +1.0**
BIRD Birdtown, Kers 26.51 354 IAms_20 IAms_20 00 27 08.8
comp=Z,24µm,20.0s
MCPB Macapa, AP 26.58 107 *eP* P 00 16 01.2 -0.4
MCPB *eS* **S 00 20 37.2 +1.0**
NPGB Novo Progresso 26.61 124 *eP* P 00 16 01.0 -0.9
NPGB *eS* **S 00 20 37.8 +1.1**
PAULI Pauline 26.85 352 IAmb IAmb 00 16 16.5
comp=Z,732nm,1.3s
VBMS Vicksburg 26.89 335 P **P 00 16 05.3 +1.1**
baz=150,SNR=11
VBMS S **S 00 20 43.1 +2.4**
baz=150
VBMS Vicksburg 26.89 335 P **P 00 16 06.3 +2.1**
Y49A Blount Mountai 26.91 343 IAmb IAmb 00 16 17.1
comp=Z,488nm,1.2s
441A DeRidder 26.92 329 IAmb IAmb 00 16 20.3
comp=Z,605nm,1.2s
CNNC Cliffs of the 26.95 359 P **P 00 16 04.4 -0.4**
baz=179
CNNC S **S 00 20 45.7 +4.1**
baz=179
W57A Gilead 26.97 355 IAmb IAmb 00 16 17.3
comp=Z,400nm,1.3s
342A Flagon Creek P 27.00 331 IAmb IAmb 00 16 18.5
comp=Z,862nm,1.4s
VILB Vilhena 27.01 141 *eP* P 00 16 05.4 -0.1
KMSC Kings Mountain 27.10 353 P **P 00 16 08.6 +2.5**
baz=171,SNR=15

KMSC S **S 00 20 45.0 +1.0**
baz=171
KMSC Kings Mountain 27.10 353 IAmb IAmb 00 16 18.8
comp=Z,343nm,1.4s
X51A Calhoun 27.17 346 IAmb IAmb 00 16 19.5
comp=Z,587nm,1.1s
BG3 Lake Jocassee 27.19 350 IAmb IAmb 00 16 17.4
comp=Z,442nm,1.3s
KVTX Kingsville 27.39 317 P 00 16 09.7 +0.9
KVTX IAmb IAmb 00 16 19.6
comp=Z,829nm,1.5s
KVTX IAms_20 IAms_20 00 27 24.1
comp=Z,12µm,20.0s
W52A Murphy 27.48 348 IAmb IAmb 00 16 19.7
comp=Z,688nm,1.4s
W52A IAms_20 IAms_20 00 27 13.5
comp=Z,12µm,20.0s
V58A Windy Hill, Pi 27.55 357 P **P 00 16 10.3 +0.1**
V58A IAmb IAmb 00 16 19.9
comp=Z,304nm,1.3s
V58A IAms_20 IAms_20 00 26 45.2
comp=Z,13µm,21.0s
HKT Hockley 27.76 324*c iP* P 00 16 12.0 0.0
HKT pmax pmax
comp=Z,83nm,1.6s
HKT Hockley 27.76 324 P **P 00 16 12.1 0.0**
HKT Hockley 27.76 324 ⇑P P 00 16 11.9 0.0
V55A Taylorsville 27.79 353 IAmb IAmb 00 16 26.0
comp=Z,393nm,1.3s
V55A IAms_20 IAms_20 00 29 15.6
comp=Z,16µm,20.0s
V53A Saluda 27.83 350 IAms_20 IAms_20 00 27 25.8
comp=Z,17µm,20.0s
CPCT Cooper Cave 27.95 347 IAmb IAmb 00 16 23.9
comp=Z,685nm,1.4s
CPCT IAms_20 IAms_20 00 27 38.9
comp=Z,13µm,19.0s
TKL Tuckaleechee C 28.00 349 P **P 00 16 16.0 +1.9**
comp=Z,58nm,1.1s,baz=170,slow=14,SNR=18
TKL LR LR 00 29 14.2
comp=Z,11µm,18.8s,baz=125,slow=40
TKL Tuckaleechee C 28.00 349 P **P 00 16 16.0 +1.9**
TKL Tuckaleechee C 28.00 349 IAmb IAmb 00 16 28.6
comp=Z,732nm,1.5s
SWET Sewanee 28.06 345 P **P 00 16 16.1 +1.4**
SWET IAms_20 IAms_20 00 28 26.9
comp=Z,16µm,19.0s
V52A Sevierville 28.14 349 IAmb IAmb 00 16 25.4
comp=Z,462nm,1.2s
MNMC Minye Minye 28.17 164 P **P 00 16 16.2 0.0**
MNMC IAmb IAmb 00 16 28.4
comp=Z,270nm,0.9s
MNMC Minye Minye 28.17 164 ⇑P P 00 16 16.4 +0.3
U56A King 28.19 355 IAmb IAmb 00 16 26.4
comp=Z,615nm,1.4s
735A Kenedy 28.20 320 IAmb IAmb 00 16 26.4
comp=Z,497nm,1.5s
V51A Loudon 28.25 348 IAmb IAmb 00 16 30.8
comp=Z,590nm,1.2s
ZAIG Zacatecas 28.25 304 IAms_20 IAms_20 00 27 34.7
comp=Z,15µm,21.0s
OXF Oxford 28.48 339 P **P 00 16 18.3 -0.1**
baz=154,SNR=19
OXF S **S 00 21 05.5 -0.2**
baz=154
OXF Oxford 28.48 339 IAmb IAmb 00 16 28.1
comp=Z,516nm,1.1s
PSGCX Pisagua 28.48 166 IAmb IAmb 00 16 36.8
comp=Z,394nm,1.3s
PSGCX IAms_20 IAms_20 00 29 42.5
comp=Z,10µm,18.0s
NATX Nacogdoches 28.49 328 P **P 00 16 19.1 +0.6**
baz=142
NATX S **S 00 21 05.0 -0.9**
baz=142
NATX Nacogdoches 28.49 328 IAmb IAmb 00 16 28.2
comp=Z,552nm,1.6s
U54A Nelsons Funny 28.52 352 IAmb IAmb 00 16 33.6
comp=Z,458nm,1.3s
CLDB Colider 28.58 131 *eP* P 00 16 18.2 -1.3
CLDB *eS* **S 00 21 05.8 -1.9**
Z41A Richland Creek 28.78 332 P **P 00 16 21.7 +0.6**
baz=147,SNR=6.2
Z41A S **S 00 21 12.4 +1.9**
baz=147
V48A Smith Brothers 28.79 344 IAms_20 IAms_20 00 28 49.3
comp=Z,17µm,18.0s
TZTN Tazewell 28.81 350 P **P 00 16 22.3 +0.9**
baz=167,SNR=18
TZTN S **S 00 21 14.6 +3.6**
baz=167
TZTN Tazewell 28.81 350 P **P 00 16 23.0 +1.6**
TZTN IAmb IAmb 00 16 31.5
comp=Z,517nm,1.5s
833A Chaparral WMA, 28.90 317 P **P 00 16 21.7 -0.6**
baz=130,SNR=29
833A S **S 00 21 10.2 -2.3**
baz=130
SIV San Ignacio 28.90 146 P **P 00 16 21.2 -1.2**
comp=Z,73nm,0.9s,baz=338,slow=8.6,SNR=93
CLTN Cedars of Leba 28.99 345 IAmb IAmb 00 16 32.9
comp=Z,510nm,1.3s
CLTN IAms_20 IAms_20 00 28 55.5
comp=Z,14µm,18.0s
BLA Blacksburg 29.05 355 P **P 00 16 23.0 -0.6**
baz=174,SNR=27
BLA S **S 00 21 18.8 +4.0**
baz=174
BLA Blacksburg 29.05 355 IAmb IAmb 00 16 39.0
comp=Z,333nm,1.3s
TA02 Huaiquique 29.13 166 IAmb IAmb 00 16 32.3
comp=Z,439nm,1.2s
U49A Red Boiling Sp 29.25 346 IAmb IAmb 00 16 35.0
comp=Z,386nm,1.2s
U49A IAms_20 IAms_20 00 29 34.5
comp=Z,13µm,20.0s
PB08 IPOC Station P 29.25 164 IAmb IAmb 00 16 37.7
comp=Z,215nm,1.1s
237A Washetta, Mont 29.29 327 IAmb IAmb 00 16 35.4
comp=Z,506nm,1.4s
TA01 Diego Aracena 29.40 166 IAmb IAmb 00 16 39.3
comp=Z,341nm,1.1s
435B Jarrell 29.41 323 P **P 00 16 26.5 -0.2**
baz=136
435B S **S 00 21 18.4 -2.0**
baz=136
WVT Waverly 29.44 343 P **P 00 16 27.5 +0.5**
WVT pmax pmax
comp=Z,501nm,1.3s
WVT MLR MLR
comp=Z,10µm,18.0s
WVT Waverly 29.44 343 P **P 00 16 27.5 +0.5**
baz=158
WVT S **S 00 21 21.1 +0.3**
baz=158
WVT Waverly 29.44 343 P **P 00 16 27.5 +0.5**
WVT IAmb IAmb 00 16 36.1
comp=Z,501nm,1.2s
WVT Waverly 29.44 343 IAms_20 IAms_20 00 29 18.6
comp=Z,10µm,18.0s
WVT Waverly 29.44 343 ⇑P P 00 16 27.8 +0.8
WVT ⇓S **S 00 21 22.1 +1.3**
S57A Dark Hollow, R 29.50 357 IAms_20 IAms_20 00 29 57.9
comp=Z,12µm,18.0s
T50A Nancy 29.53 348 IAmb IAmb 00 16 37.6
comp=Z,592nm,1.4s
T50A IAms_20 IAms_20 00 28 36.7
comp=Z,12µm,19.0s
PTLB Pontes e Lacer 29.59 142 *eP* P 00 16 27.0 -1.5
S54A Dingess, Beckl 29.72 354 IAmb IAmb 00 16 39.8
comp=Z,466nm,1.6s
X40A Basin Creek Fa 29.83 334 P **P 00 16 30.1 -0.3**
baz=148,SNR=35
X40A S **S 00 21 24.4 -2.6**
baz=148
X40A Basin Creek Fa 29.83 334 IAmb IAmb 00 16 39.5
comp=Z,361nm,1.3s
Z38A Mt. Pleasant 29.84 329 IAmb IAmb 00 16 41.5
comp=Z,474nm,1.2s
S51A Beattyville 29.89 350 IAms_20 IAms_20 00 28 50.8
comp=Z,14µm,20.0s
CBN Corbin Frederi 29.91 360 P **P 00 16 31.6 +0.5**
baz=180
CBN S **S 00 21 29.8 +1.8**
baz=180
GNAR Gosnell 30.00 339 P **P 00 16 33.5 +1.5**
T47A Sharon Grove 30.04 344 IAms_20 IAms_20 00 29 37.3

	comp=Z,17µm,18.0s						
R55A	**Marlinton**		**30.09**	**356**	IAmb	IAmb	00 16 43.4
	comp=Z,340nm,1.6s						
W41B	**Gary Mavity, V**		**30.16**	**335**	P	**P**	**00 16 33.5 +0.1**
W41B	baz=150,SNR=33				S	**S**	**00 21 33.4 +1.2**
	baz=150						
WHTX	**Lake Whitney,**		**30.20**	**324**	P	**P**	**00 16 33.6 -0.2**
WHTX	baz=137				S	**S**	**00 21 30.9 -2.0**
	baz=137						
WHTX	**Lake Whitney,**		**30.20**	**324**	IAmb	IAmb	00 16 42.9
	comp=Z,615nm,1.9s						
MIAR	**Mount Ida**		**30.21**	**333**	P	**P**	**00 16 33.5 -0.3**
MIAR	baz=147,SNR=65				S	**S**	**00 21 31.1 -1.9**
	baz=147						
MIAR	**Mount Ida**		**30.21**	**333**	⇑P	**P**	**00 16 33.5 -0.3**
WHAR	**Wooly Hollow**		**30.28**	**335**	P	**P**	**00 16 34.5 0.0**
R53A	**Hurricane**		**30.32**	**353**	IAmb	IAmb	00 16 44.8
	comp=Z,372nm,1.6s						
R53A					IAMs_20	IAMs_20	00 29 17.7
	comp=Z,19µm,20.0s						
JCT	**Junction City**		**30.57**	**320**	P	**P**	**00 16 36.0 -1.2**
JCT					pmax	pmax	
	comp=Z,302nm,2.0s						
JCT					MLR	MLR	
	comp=Z,4µm,22.0s						
JCT	**Junction City**		**30.57**	**320**	P	**P**	**00 16 36.1 -1.0**
	baz=132,SNR=6.0						
JCT					S	**S**	**00 21 35.4 -3.5**
	baz=132						
JCT	**Junction City**		**30.57**	**320**	P	**P**	**00 16 36.0 -1.2**
PB07	**IPOC Station P**		**30.59**	**166**	IAmb	IAmb	00 16 50.0
	comp=Z,140nm,0.9s						
Q61A	**Milford**		**30.64**	**3**	P	**P**	**00 16 37.8 +0.3**
	baz=184						
Q61A					S	**S**	**00 21 42.6 +3.2**
	baz=184						
R50A	**Paris**		**30.64**	**349**	IAmb	IAmb	00 16 47.7
	comp=Z,522nm,1.2s						
FCAR	**Ozark Folk Cen**		**30.73**	**336**	IAmb	IAmb	00 16 47.9
	comp=Z,359nm,1.0s						
PB09	**IPOC Station P**		**30.81**	**165**	IAmb	IAmb	00 16 52.1
	comp=Z,302nm,1.0s						
W39A	**Magazine**		**30.84**	**333**	P	**P**	**00 16 39.8 +0.4**
	baz=147,SNR=41						
W39A					S	**S**	**00 21 42.4 -0.5**
	baz=147						
W39A	**Magazine**		**30.84**	**333**	IAmb	IAmb	00 16 49.7
	comp=Z,456nm,1.1s						
Q54A	**Coxs Mills**		**30.85**	**355**	IAmb	IAmb	00 16 49.7
	comp=Z,257nm,1.4s						
PRPB	**Parauapebas**		**30.92**	**117**	*e*P	**P**	**00 16 39.5 -0.8**
PRPB					*e*S	**S**	**00 21 46.4 +1.9**
TMAB	**Tom-Au,PA,Br**		**30.98**	**109**	*e*P	**P**	**00 16 41.2 +0.3**
TMAB					*e*S	**S**	**00 21 43.4 -2.0**
Q52A	**Bidwell**		**30.98**	**353**	IAmb	IAmb	00 16 50.7
	comp=Z,394nm,1.2s						
WCI	**Wyandotte Cave**		**31.01**	**346**	P	**P**	**00 16 41.5 +0.7**
WCI					pmax	pmax	
	comp=Z,650nm,1.2s						
WCI					MLR	MLR	
	comp=Z,12µm,20.0s						
WCI	**Wyandotte Cave**		**31.01**	**346**	P	**P**	**00 16 41.9 +1.1**
	baz=163						
WCI					S	**S**	**00 21 47.0 +1.7**
	baz=163						
WCI	**Wyandotte Cave**		**31.01**	**346**	P	**P**	**00 16 41.5 +0.7**
WCI	**Wyandotte Cave**		**31.01**	**346**	IAMs_20	IAMs_20	00 30 29.5
	comp=Z,12µm,20.0s						
WCI	**Wyandotte Cave**		**31.01**	**346**	⇑P	**P**	**00 16 41.8 +1.0**
Z35A	**Perchaven, San**		**31.09**	**326**	IAmb	IAmb	00 16 50.9
	comp=Z,273nm,1.4s						
X37A	**Clayton**		**31.09**	**330**	IAmb	IAmb	00 16 52.1
	comp=Z,444nm,1.4s						
PB04	**IPOC Station P**		**31.11**	**167**	IAmb	IAmb	00 16 54.9
	comp=Z,359nm,1.0s						
Q51A	**Peebles**		**31.20**	**351**	IAmb	IAmb	00 16 52.6
	comp=Z,408nm,1.1s						
SIUC	**Southern Illin**		**31.33**	**342**	P	**P**	**00 16 44.8 +1.2**
P53A	**Whipple**		**31.40**	**354**	IAmb	IAmb	00 16 54.6
	comp=Z,323nm,1.3s						
U40A	**Yellville**		**31.43**	**336**	P	**P**	**00 16 44.8 +0.2**
	baz=150,SNR=155						
U40A					S	**S**	**00 21 52.2 +0.2**
	baz=150						
MCWV	**Mont Chateau**		**31.44**	**356**	P	**P**	**00 16 46.4 +1.8**
	baz=175						
MCWV					S	**S**	**00 21 55.7 +3.6**
	baz=175						
MCWV	**Mont Chateau**		**31.44**	**356**	IAmb	IAmb	00 16 55.3
	comp=Z,211nm,1.4s						
MCWV					IAMs_20	IAMs_20	00 28 43.8
	comp=Z,11µm,22.0s						
P61A	**Hammonton**		**31.46**	**4**	IAmb	IAmb	00 16 55.8
	comp=Z,381nm,1.1s						
P60A	**Greenville**		**31.55**	**2**	P	**P**	**00 16 46.7 +1.1**
	baz=183						
P60A					S	**S**	**00 21 55.0 +1.3**
	baz=183						
PB06	**IPOC Station P**		**31.61**	**166**	IAmb	IAmb	00 16 58.3
	comp=Z,244nm,1.1s						
P52A	**Corning**		**31.63**	**353**	P	**P**	**00 16 47.7 +1.4**
	baz=171,SNR=42						
P52A					S	**S**	**00 21 56.6 +1.6**
	baz=171						
WUPA	**West Chester U**		**31.67**	**3**	P	**P**	**00 16 47.4 +0.8**
LVC	**Limon Verde**		**31.68**	**165**	P	**P**	**00 16 48.6 +1.4**
	comp=Z,41nm,0.6s,baz=18,slow=5.6,SNR=58						
LVC	**Limon Verde**		**31.68**	**165**	P	**P**	**00 16 48.6 +1.4**
LVC					IAmb	IAmb	00 16 60.0
	comp=Z,400nm,1.2s						
LVC	**Limon Verde**		**31.68**	**165**	⇓P	**P**	**00 16 48.7 +1.4**
LVC	**Limon Verde**		**31.68**	**165**	*e*P	**P**	**00 16 46.6 -0.7**
P49A	**Miami Univ. Ec**		**31.93**	**349**	P	**P**	**00 16 49.3 +0.4**
	baz=166,SNR=18						
P49A					S	**S**	**00 22 01.2 +1.5**
	baz=166						
P49A	**Miami Univ. Ec**		**31.93**	**349**	IAMs_20	IAMs_20	00 29 54.9
	comp=Z,15µm,20.0s						
ABTX	**Abilene, Hawle**		**31.94**	**323**	P	**P**	**00 16 48.8 -0.4**
	baz=135,SNR=23						
ABTX					S	**S**	**00 21 57.2 -3.0**
	baz=135						
ABTX	**Abilene, Hawle**		**31.94**	**323**	P	**P**	**00 16 48.8 -0.4**
ABTX					IAmb	IAmb	00 16 58.8
	comp=Z,372nm,1.4s						
O56A	**Blue Knob Stat**		**31.99**	**358**	P	**P**	**00 16 51.3 +1.8**
	baz=178,SNR=29						
O56A					S	**S**	**00 22 03.2 +2.4**
	baz=178						
O56A	**Blue Knob Stat**		**31.99**	**358**	IAmb	IAmb	00 17 00.3
	comp=Z,252nm,1.3s						
O56A					IAMs_20	IAMs_20	00 31 32.3
	comp=Z,9µm,19.0s						
O54A	**Avella**		**32.00**	**356**	IAmb	IAmb	00 16 59.7
	comp=Z,223nm,1.1s						
O52A	**Adamsville**		**32.07**	**353**	IAmb	IAmb	00 17 00.4
	comp=Z,441nm,1.4s						
SALV	**Santo Antonio**		**32.11**	**138**	*e*P	**P**	**00 16 49.5 -1.2**
PB15	**IPOC Station P**		**32.11**	**166**	IAmb	IAmb	00 17 03.7
	comp=Z,152nm,1.0s						
PB15					IAMs_20	IAMs_20	00 31 44.2
	comp=Z,10µm,19.0s						
O53A	**New Philadelph**		**32.14**	**354**	P	**P**	**00 16 51.9 +1.1**
	baz=173,SNR=12						
O53A					S	**S**	**00 22 05.8 +2.8**
	baz=173						
O53A	**New Philadelph**		**32.14**	**354**	IAmb	IAmb	00 17 03.1
	comp=Z,353nm,1.2s						
O53A					IAMs_20	IAMs_20	00 30 10.3
	comp=Z,19µm,21.0s						
PB10	**IPOC Station P**		**32.17**	**168**	P	**P**	**00 16 54.6 +3.4**
PB10					IAmb	IAmb	00 17 00.8
	comp=Z,395nm,1.3s						
CCM	**Cathedral Cave**		**32.31**	**339**	P	**P**	**00 16 52.7 +0.5**
CCM					pmax	pmax	
	comp=Z,2µm,1.2s						
CCM	**Cathedral Cave**		**32.31**	**339**	P	**P**	**00 16 52.8 +0.5**
	baz=154						
CCM					S	**S**	**00 22 04.4 -1.3**
	baz=154						
CCM	**Cathedral Cave**		**32.31**	**339**	P	**P**	**00 16 52.7 +0.5**
CCM	**Cathedral Cave**		**32.31**	**339**	⇑P	**P**	**00 16 52.0 -0.2**
ACSO	**Alum Creek Sta**		**32.33**	**352**	P	**P**	**00 16 52.9 +0.5**
	baz=170,SNR=20						
ACSO					S	**S**	**00 22 07.4 +1.5**
	baz=170						
ACSO	**Alum Creek Sta**		**32.33**	**352**	IAMs_20	IAMs_20	00 31 59.4
	comp=Z,14µm,20.0s						
SSPA	**Standing Stone**		**32.34**	**359**	P	**P**	**00 16 53.3 +0.8**
	baz=179						
SSPA					S	**S**	**00 22 08.6 +2.5**
	baz=179						
SSPA	**Standing Stone**		**32.34**	**359**	P	**P**	**00 16 53.6 +1.1**
SSPA					IAmb	IAmb	00 17 03.1
	comp=Z,296nm,1.6s						
SSPA	**Standing Stone**		**32.34**	**359**	⇑P	**P**	**00 16 54.0 +1.5**
LUPA	**Lehigh Univers**		**32.35**	**3**	IAmb	IAmb	00 17 04.1
	comp=Z,186nm,1.0s						
TUL1	**Leonard**		**32.36**	**331**	P	**P**	**00 16 52.3 -0.5**
	baz=144,SNR=22						
TUL1					S	**S**	**00 22 04.3 -2.2**
	baz=144						
TX32	**Lajitas Array**		**32.49**	**314**	IAmb	IAmb	00 17 04.8
	comp=Z,376nm,1.4s						
TXAR	**Lajitas Array**		**32.49**	**314**	P	**P**	**00 16 53.9 -0.2**
	comp=Z,38nm,0.9s,baz=134,slow=8.8,SNR=162						
TXAR					PcP	**PcP**	**00 19 41.6 +0.5**
	comp=Z,18nm,0.9s,baz=120,slow=2.4,SNR=9.4						
TXAR					LR	LR	00 32 57.0
	comp=Z,2µm,19.0s,baz=0.0,slow=42						
TXAR					P3KP		00 49 52.6
	comp=Z,0.8nm,1.1s,baz=35,slow=4.6,SNR=4.4						
TXAR	**Lajitas Array**		**32.49**	**314**	P	**P**	**00 16 54.2 +0.1**
TXAR							00 19 40.9
TXAR	**Lajitas Array**		**32.49**	**314**	P	**P**	**00 16 54.2 +0.1**
TXAR						**PcP**	**00 19 40.9 -0.2**
FNO	**Franklin**		**32.64**	**329**	P	**P**	**00 16 55.0 -0.2**
N59A	**State Game Lan**		**32.65**	**2**	P	**P**	**00 16 56.6 +1.4**
	baz=183,SNR=38						
N59A					S	**S**	**00 22 12.3 +1.4**
	baz=183						
N53A	**Lisbon**		**32.66**	**355**	IAmb	IAmb	00 17 05.3
	comp=Z,210nm,1.2s						
HPIG			**32.70**	**308**	IAmb	IAmb	00 17 07.0
	comp=Z,325nm,1.4s						
SNDB	**Serra Nova Dou**		**32.72**	**127**	*e*P	**P**	**00 16 55.8 -0.3**
SNDB					*e*S	**S**	**00 22 13.2 +0.7**
N54A	**Moraine State**		**32.75**	**356**	P	**P**	**00 16 57.4 +1.4**
	baz=175,SNR=31						
N54A					S	**S**	**00 22 16.1 +3.7**
	baz=175						
N54A	**Moraine State**		**32.75**	**356**	IAmb	IAmb	00 17 06.6
	comp=Z,322nm,1.2s						
PAL	**Palisades**		**32.85**	**5**	P	**P**	**00 16 58.0 +1.1**
PAL					pmax	pmax	
	comp=Z,141nm,1.0s						
PAL	**Palisades**		**32.85**	**5**	P	**P**	**00 16 57.5 +0.6**
	baz=186,SNR=16						
PAL	**Palisades**		**32.85**	**5**	P	**P**	**00 16 58.0 +1.1**
PAL					IAmb	IAmb	00 17 07.0
	comp=Z,141nm,1.0s						
OK025	**Westminster Rd**		**32.86**	**329**	IAmb	IAmb	00 17 08.8
	comp=Z,169nm,1.1s						
TRNY	**Table Rock, Ra**		**32.96**	**4**	IAmb	IAmb	00 17 08.3
	comp=Z,192nm,0.9s						
TRNY					IAMs_20	IAMs_20	00 32 17.0
	comp=Z,8µm,18.0s						
WMOK	**Wichita Mounta**		**32.98**	**326**	P	**P**	**00 16 57.4 -0.8**
WMOK					pmax	pmax	
	comp=Z,76nm,1.2s						
WMOK	**Wichita Mounta**		**32.98**	**326**	P	**P**	**00 16 57.2 -1.1**
	baz=138,SNR=25						
WMOK	**Wichita Mounta**		**32.98**	**326**	P	**P**	**00 16 57.4 -0.8**
WMOK	**Wichita Mounta**		**32.98**	**326**	⇑P	**P**	**00 16 57.3 -0.9**
M57A	**Sunshine Farm,**		**33.04**	**0**	IAmb	IAmb	00 17 09.5
	comp=Z,224nm,1.1s						
WSPT	**Westport, CT**		**33.06**	**6**	IAmb	IAmb	00 17 09.5
	comp=Z,282nm,1.0s						
WSPT					IAMs_20	IAMs_20	00 31 53.7
	comp=Z,9µm,20.0s						
OK029	**Liberty Lake**		**33.09**	**329**	IAmb	IAmb	00 17 09.6
	comp=Z,260nm,1.1s						
SFIN	**Lafayette**		**33.24**	**346**	P	**P**	**00 17 00.4 0.0**
	baz=162,SNR=50						
SFIN	**Lafayette**		**33.24**	**346**	P	**P**	**00 17 00.7 +0.3**
M53A	**WI Miller and**		**33.27**	**355**	P	**P**	**00 17 01.8 +1.1**
	baz=174,SNR=36						
M53A	**WI Miller and**		**33.27**	**355**	IAMs_20	IAMs_20	00 30 34.3
	comp=Z,11µm,20.0s						
M54A	**Oil Creek Stat**		**33.27**	**357**	P	**P**	**00 17 01.9 +1.2**
	baz=176,SNR=32						
M54A	**Oil Creek Stat**		**33.27**	**357**	IAmb	IAmb	00 17 12.5
	comp=Z,254nm,1.1s						
M54A					IAMs_20	IAMs_20	00 32 14.3
	comp=Z,9µm,18.0s						
KSPA	**Keystone Colle**		**33.29**	**2**	IAmb	IAmb	00 17 11.5
	comp=Z,213nm,0.9s						
N47A	**Urbana**		**33.42**	**348**	IAMs_20	IAMs_20	00 31 00.3
	comp=Z,11µm,20.0s						
M52A	**Chesterland**		**33.43**	**355**	IAmb	IAmb	00 17 12.0
	comp=Z,362nm,1.3s						
M63A	**Gales Ferry**		**33.44**	**7**	IAmb	IAmb	00 17 12.8
	comp=Z,239nm,1.1s						
ALLY	**Alegheny Colle**		**33.44**	**356**	P	**P**	**00 17 03.2 +1.0**
ALLY					IAmb	IAmb	00 17 12.3
	comp=Z,383nm,1.3s						
ALLY					IAMs_20	IAMs_20	00 30 07.8
	comp=Z,10µm,20.0s						
M50A	**Fremont**		**33.49**	**352**	IAmb	IAmb	00 17 12.2
	comp=Z,403nm,1.3s						
M66A	**Nantucket**		**33.57**	**10**	P	**P**	**00 17 03.5 +0.3**
	baz=193						
M64A	**Tiverton**		**33.69**	**8**	P	**P**	**00 17 05.7 +1.4**
	baz=191,SNR=27						
M64A	**Tiverton**		**33.69**	**8**	IAmb	IAmb	00 17 15.5
	comp=Z,260nm,1.1s						
L58A	**Harry Jones Me**		**33.77**	**2**	P	**P**	**00 17 05.6 +0.6**
	baz=183,SNR=86						
M65A	**Busby, Falmout**		**33.79**	**9**	P	**P**	**00 17 06.0 +0.9**
	baz=192						
L56A	**Greenwood**		**33.84**	**360**	IAmb	IAmb	00 17 15.9
	comp=Z,191nm,1.4s						
PP1B	**Ponte de Pedra**		**33.87**	**139**	*e*P	**P**	**00 17 05.9 -0.2**
PP1B					*e*S	**S**	**00 22 30.5 +0.1**
ERPA	**Erie**		**33.90**	**356**	P	**P**	**00 17 07.6 +1.5**
	baz=175,SNR=15						
ERPA	**Erie**		**33.90**	**356**	P	**P**	**00 17 07.2 +1.1**
ERPA					IAmb	IAmb	00 17 16.2
	comp=Z,283nm,1.3s						
ERPA					IAMs_20	IAMs_20	00 32 34.8
	comp=Z,9µm,18.0s						
BINY	**Binghamton**		**33.92**	**2**	P	**P**	**00 17 07.7 +1.4**
	baz=182,SNR=56						
BINY	**Binghamton**		**33.92**	**2**	IAmb	IAmb	00 17 17.1
	comp=Z,194nm,1.1s						
L63A	**North Scituate**		**33.94**	**8**	P	**P**	**00 17 06.8 +0.4**
	baz=190						
L59A	**Walton**		**33.95**	**3**	IAmb	IAmb	00 17 18.4
	comp=Z,128nm,0.9s						
GO02	**Mina Guanaco**		**33.97**	**167**	IAmb	IAmb	00 17 19.8
	comp=Z,199nm,0.9s						
HDIL	**Hopedale**		**33.98**	**344**	P	**P**	**00 17 06.6 -0.2**
	baz=158,SNR=47						
HDIL	**Hopedale**		**33.98**	**344**	IAMs_20	IAMs_20	00 31 59.1
	comp=Z,13µm,19.0s						
SMTB	**Santa Maria do**		**34.12**	**119**	*e*P	**P**	**00 17 07.6 -0.8**
SMTB					*e*S	**S**	**00 22 34.7 +0.3**
L64A	**Middleborough**		**34.12**	**9**	P	**P**	**00 17 08.8 +0.8**
	baz=192						
OK032	**Salt Plains WL**		**34.25**	**329**	P	**P**	**00 17 08.7 -0.6**
L65A	**Cape Cod Natio**		**34.34**	**10**	P	**P**	**00 17 10.3 +0.4**
	baz=193						
L61B	**Northampton**		**34.40**	**6**	P	**P**	**00 17 10.3 -0.1**
	baz=188,SNR=15						
K56A	**Middlesex**		**34.40**	**0**	P	**P**	**00 17 11.5 +1.0**
	baz=180,SNR=18						
MMNY	**Mt. Morris Dam**		**34.44**	**359**	IAmb	IAmb	00 17 20.8
	comp=Z,272nm,1.5s						
K57A	**Scipio Center**		**34.44**	**1**	IAmb	IAmb	00 17 21.1
	comp=Z,231nm,1.1s						
AAM	**Ann Arbor**		**34.46**	**352**	P	**P**	**00 17 12.4 +1.4**
	baz=169						
AAM	**Ann Arbor**		**34.46**	**352**	IAmb	IAmb	00 17 20.6
	comp=Z,416nm,1.6s						
AAM					IAMs_20	IAMs_20	00 33 14.7
	comp=Z,16µm,20.0s						
BCX	**Boston College**		**34.47**	**8**	IAmb	IAmb	00 17 22.3
	comp=Z,377nm,1.2s						
WES	**Weston**		**34.49**	**8**	P	**P**	**00 17 12.5 +1.3**
WES					pmax	pmax	
	comp=Z,273nm,1.1s						
WES	**Weston**		**34.49**	**8**	P	**P**	**00 17 12.5 +1.3**
WES					IAmb	IAmb	00 17 22.7
	comp=Z,273nm,1.1s						
K61A	**Williamstown**		**34.55**	**5**	P	**P**	**00 17 12.6 +0.8**
	baz=187,SNR=18						
TRY	**Troy**		**34.58**	**5**	IAMs_20	IAMs_20	00 33 33.9
	comp=Z,8µm,19.0s						
HRV	**Adam Dziewonsk**		**34.58**	**8**	P	**P**	**00 17 13.4 +1.4**
HRV					pmax	pmax	
	comp=Z,196nm,1.1s						
HRV	**Adam Dziewonsk**		**34.58**	**8**	P	**P**	**00 17 13.0 +1.0**
	baz=190						
HRV	**Adam Dziewonsk**		**34.58**	**8**	P	**P**	**00 17 13.4 +1.4**
HRV					IAmb	IAmb	00 17 22.7
	comp=Z,196nm,1.1s						
HRV	**Adam Dziewonsk**		**34.58**	**8**	⇑P	**P**	**00 17 13.3 +1.3**
K62A	**Royalston**		**34.66**	**7**	P	**P**	**00 17 13.7 +1.0**
	baz=189,SNR=24						
K62A	**Royalston**		**34.66**	**7**	IAmb	IAmb	00 17 23.2
	comp=Z,226nm,0.9s						
K62A					IAMs_20	IAMs_20	00 33 08.9
	comp=Z,9µm,20.0s						
ARAG	**Araguaiana, MT**		**34.66**	**133**	*e*P	**P**	**00 17 12.1 -1.0**
ARAG					*e*S	**S**	**00 22 41.9 -0.8**
AMTX	**Amarillo**		**34.73**	**323**	P	**P**	**00 17 13.2 -0.3**
	baz=134						
AMTX	**Amarillo**		**34.73**	**323**	P	**P**	**00 17 13.1 -0.5**
AMTX					IAmb	IAmb	00 17 22.5
	comp=Z,502nm,1.9s						
K63A	**Dunstable**		**34.77**	**8**	P	**P**	**00 17 14.7 +1.2**
	baz=190,SNR=63						
K63A	**Dunstable**		**34.77**	**8**	IAmb	IAmb	00 17 24.4
	comp=Z,221nm,1.0s						
MSTX	**Muleshoe**		**34.77**	**321**	P	**P**	**00 17 13.2 -0.8**
	baz=132,SNR=60						
MSTX	**Muleshoe**		**34.77**	**321**	IAmb	IAmb	00 17 23.2
	comp=Z,300nm,1.4s						
K50A	**Casco**		**34.79**	**353**	IAmb	IAmb	00 17 23.2
	comp=Z,562nm,1.6s						
SLBS	**Sierra La Lagu**		**34.83**	**300**	P	**P**	**00 17 16.2 +1.6**
SLBS					IAmb	IAmb	00 17 18.4
	comp=Z,358nm,1.4s						
SLBS	**Sierra La Lagu**		**34.83**	**300**	IAMs_20	IAMs_20	00 32 01.5
	comp=Z,10µm,20.0s						
SLBS	**Sierra La Lagu**		**34.83**	**300**	⇑P	**P**	**00 17 16.5 +1.9**
MEDO	**Medina**		**34.88**	**359**	IAmb	IAmb	00 17 23.7
	comp=Z,259nm,1.2s						
MEDO					IAMs_20	IAMs_20	00 33 20.7
	comp=Z,9µm,18.0s						
ROSB	**Rosrio**		**34.90**	**107**	*e*P	**P**	**00 17 15.2 +0.1**
ROSB					*e*S	**S**	**00 22 45.4 -0.9**
J56A	**Wolcott**		**34.98**	**1**	IAmb	IAmb	00 17 25.5
	comp=Z,212nm,1.1s						
J54A	**Appleton**		**34.99**	**358**	IAMs_20	IAMs_20	00 33 24.7
	comp=Z,10µm,19.0s						
MNTX	**Cornudas Mount**		**35.06**	**316**	P	**P**	**00 17 15.8 -0.5**
	baz=126,SNR=85						
MNTX	**Cornudas Mount**		**35.06**	**316**	P	**P**	**00 17 15.6 -0.8**
MNTX					IAmb	IAmb	00 17 26.5
	comp=Z,380nm,1.5s						
J58A	**Remsen**		**35.10**	**3**	P	**P**	**00 17 17.6 +1.1**
	baz=184,SNR=75						
J58A	**Remsen**		**35.10**	**3**	IAmb	IAmb	00 17 26.9
	comp=Z,183nm,1.0s						
J60A	**Lant Hill Farm**		**35.11**	**5**	P	**P**	**00 17 17.8 +1.2**
	baz=187,SNR=37						
L44A	**Lake County Fo**		**35.14**	**346**	P	**P**	**00 17 16.3 -0.6**
	baz=162,SNR=6.7						
PEXB	**Peixe**		**35.19**	**125**	*e*P	**P**	**00 17 17.0 -0.7**
ACCN	**Adirondack Com**		**35.23**	**5**	IAMs_20	IAMs_20	00 33 43.0
	comp=Z,9µm,19.0s						
J59A	**Piesco**		**35.25**	**4**	P	**P**	**00 17 18.5 +0.7**
J59A					IAmb	IAmb	00 17 28.8
	comp=Z,175nm,1.1s						
J62A	**Henniker**		**35.26**	**7**	P	**P**	**00 17 19.1 +1.2**
	baz=189,SNR=23						
LPIG	**La Paz**		**35.29**	**301**	P	**P**	**00 17 20.1 +1.7**
	comp=Z,44nm,0.6s,baz=229,slow=0.7,SNR=8.3						
J61A	**Chester**		**35.30**	**6**	P	**P**	**00 17 19.3 +1.1**
	baz=188,SNR=19						
KSU1	**Kansas State U**		**35.34**	**334**	P	**P**	**00 17 18.1 -0.5**
	baz=146,SNR=38						
KSU1	**Kansas State U**		**35.34**	**334**	⇑P	**P**	**00 17 17.9 -0.8**
J63A	**Strafford**		**35.41**	**8**	P	**P**	**00 17 19.7 +0.6**
	baz=191,SNR=10						
L42A	**Oliver, Polo**		**35.42**	**344**	IAMs_20	IAMs_20	00 32 54.4
	comp=Z,12µm,19.0s						
I58A	**Old Forge**		**35.45**	**3**	P	**P**	**00 17 20.0 +0.5**
	baz=184,SNR=40						
AQDB	**Aquidauana**		**35.53**	**144**	*e*P	**P**	**00 17 19.5 -1.0**
J47A	**Sunmer**		**35.55**	**351**	IAMs_20	IAMs_20	00 33 38.6
	comp=Z,10µm,21.0s						
I59A	**Olmsteadville**		**35.62**	**4**	P	**P**	**00 17 21.3 +0.3**
	baz=186,SNR=27						
PECO	**Prince Edward**		**35.63**	**0**	P	**P**	**00 17 21.5 +0.4**
I57A	**Carthage**		**35.67**	**2**	P	**P**	**00 17 21.2 -0.2**
	baz=183,SNR=22						
HNH	**Hanover**		**35.68**	**6**	IAMs_20	IAMs_20	00 33 39.9
	comp=Z,9µm,19.0s						
AC02	**Maricunga**		**35.69**	**167**	IAmb	IAmb	00 17 35.5
	comp=Z,434nm,1.1s						
I60A	**Shoreham**		**35.72**	**5**	P	**P**	**00 17 22.3 +0.6**
	baz=187,SNR=22						
R32A	**Long Quarter,**		**35.77**	**331**	IAmb	IAmb	00 17 32.0
	comp=Z,298nm,1.1s						
NCB	**Newcomb**		**35.77**	**4**	IAmb	IAmb	00 17 32.7
	comp=Z,149nm,0.9s						
I62A	**Tamworth**		**35.96**	**7**	P	**P**	**00 17 24.4 +0.6**
	baz=190						
I62A	**Tamworth**		**35.96**	**7**	IAMs_20	IAMs_20	00 30 20.3
	comp=Z,8µm,22.0s						
I49A	**Point Hope**		**35.96**	**353**	IAmb	IAmb	00 17 33.1
	comp=Z,406nm,1.2s						
H57A	**Richville**		**36.20**	**2**	P	**P**	**00 17 26.3 +0.4**
	baz=183,SNR=45						
GO03	**Copiap**		**36.20**	**169**	IAmb	IAmb	00 17 40.6
	comp=Z,170nm,1.0s						
GO03	**Copiap**		**36.20**	**169**	⇑P	**P**	**00 17 29.2 +3.0**
DELO	**Deloro Mine**		**36.22**	**360**	P	**P**	**00 17 26.7 +0.6**
H58A	**Gabriels**		**36.22**	**4**	P	**P**	**00 17 26.7

CBKS	Cedar Bluff	36.57	330	P	P	00 17 29.4	+0.1	
CBKS	Cedar Bluff	36.57	330	⇑P	P	00 17 29.1	-0.1	
H62A	Milan	36.67	7	P	P	00 17 30.5	+0.5	
	baz=190,SNR=18							
H62A	Milan	36.67	7	IAms_20	IAms_20	00 30 41.1		
	comp=Z,8μm,21.0s							
FRNY	Flat Rock	36.68	4	IAms_20	IAms_20	00 34 26.4		
	comp=Z,8μm,19.0s							
WVL	Waterville	36.87	9	IAms_20	IAms_20	00 33 07.5		
	comp=Z,8μm,21.0s							
H63A	New Sharon	36.91	9	P	P	00 17 33.3	+1.4	
	baz=192,SNR=10							
H64A	Troy	37.02	10	P	P	00 17 33.8	+0.9	
	baz=193,SNR=10							
GLMI	Grayling	37.07	351	P	P	00 17 33.7	+0.4	
	baz=168							
GLMI	Grayling	37.07	351	P	P	00 17 33.9	+0.6	
GLMI				IAmb	IAmb	00 17 42.6		
	comp=Z,365nm,1.2s							
121A	Cookes Peak, D	37.21	315	P	P	00 17 36.2	+1.3	
	baz=124,SNR=35							
121A	Cookes Peak, D	37.21	315	IAmb	IAmb	00 17 47.9		
	comp=Z,722nm,1.8s							
H65A	Eastbrook	37.24	11	P	P	00 17 35.0	+0.3	
	baz=195							
BNM	Barren Site	37.36	318	P	P	00 17 36.0	-0.2	
G62A	West of Eustis	37.38	8	P	P	00 17 37.2	+1.2	
	baz=191,SNR=29							
G62A	West of Eustis	37.38	8	IAmb	IAmb	00 17 47.0		
	comp=Z,228nm,1.1s							
G62A				IAms_20	IAms_20	00 33 15.0		
	comp=Z,9μm,22.0s							
EMMW	East Machias	37.40	12	IAms_20	IAms_20	00 33 37.6		
	comp=Z,8μm,19.0s							
G63A	Kingsbury	37.42	9	P	P	00 17 37.1	+0.8	
	baz=193,SNR=12							
I40A	Norwalk	37.44	344	IAmb	IAmb	00 17 44.5		
	comp=Z,642nm,1.3s							
I40A				IAms_20	IAms_20	00 35 32.6		
	comp=Z,11μm,20.0s							
BDFB	Brasilia	37.45	129	P	P	00 17 37.2	+0.1	
	comp=Z,142nm,1.0s,baz=301,slow=12,SNR=116							
BDFB				LR	LR	00 33 59.9		
	comp=Z,20μm,20.9s,baz=306,slow=38							
BDFB	Brasilia	37.45	129	IAmb	IAmb	00 17 43.8		
	comp=Z,367nm,1.3s							
LCO	Las Campanas	37.51	170	P	P	00 17 40.1	+2.6	
LCO				pmax	pmax			
	comp=Z,260nm,1.2s							
LCO	Las Campanas	37.51	170	P	P	00 17 40.0	+2.6	
LCO				IAmb	IAmb	00 17 47.0		
	comp=Z,260nm,1.2s							
LCO	Las Campanas	37.51	170	⇓P	P	00 17 39.9	+2.4	
H66A	Whiting	37.51	12	P	P	00 17 37.7	+0.7	
	baz=196,SNR=8.6							
Y22D	IRIS PASSCAL I	37.51	318	P	P	00 17 37.8	+0.4	
	baz=127							
PKME	Peaks-Kenny Pk	37.61	9	P	P	00 17 38.7	+0.8	
	baz=193,SNR=24							
PKME	Peaks-Kenny Pk	37.61	9	P	P	00 17 38.7	+0.8	
PKME				IAms_20	IAms_20	00 33 41.1		
	comp=Z,11μm,21.0s							
ALGO	Algonquin Park	37.66	359	P	P	00 17 38.6	+0.3	
	baz=179,SNR=47							
319A	Douglas	37.67	312	IAmb	IAmb	00 17 50.4		
	comp=Z,453nm,1.3s							
G64A	Maxfield	37.69	10	P	P	00 17 39.4	+0.8	
	baz=194							
ANMO	Albuquerque	37.73	319	P	P	00 17 39.9	+0.5	
	comp=Z,57nm,0.9s,baz=136,slow=10,SNR=93							
ANMO	Albuquerque	37.73	319	*c iP*	P	00 17 39.8	+0.5	
ANMO				pmax	pmax			
	comp=Z,196nm,1.4s							
ANMO				MLR	MLR			
	comp=Z,4μm,20.0s							
ANMO	Albuquerque	37.73	319	P	P	00 17 40.0	+0.7	
	baz=128							
ANMO	Albuquerque	37.73	319	P	P	00 17 39.8	+0.5	
ANMO				IAmb	IAmb	00 17 50.3		
	comp=Z,459nm,1.5s							
ANMO	Albuquerque	37.73	319	⇑P	P	00 17 39.8	+0.5	
HSIG		37.80	308	IAms_20	IAms_20	00 33 06.8		
	comp=Z,11μm,21.0s							
G65A	Princeton	37.86	11	P	P	00 17 41.1	+1.2	
	baz=196,SNR=10							
G65A	Princeton	37.86	11	IAms_20	IAms_20	00 33 51.6		
	comp=Z,10μm,19.0s							
T25A	Trinidad	37.89	324	P	P	00 17 41.7	+1.0	
	baz=133,SNR=50							
T25A	Trinidad	37.89	324	IAmb	IAmb	00 17 52.4		
	comp=Z,635nm,1.6s							
BGNE	Belgrade	37.91	334	P	P	00 17 39.7	-0.8	
	baz=145,SNR=7.0							
NBPS	Pedro II - PI	37.91	108	*eP*	P	00 17 41.3	+0.3	
NBPS				*eS*	S	00 23 32.5	-0.1	
GGN	Saint George	37.92	12	IAms_20	IAms_20	00 34 02.3		
	comp=Z,8μm,19.0s							
F63A	Nahmakanta, Br	38.07	9	P	P	00 17 44.6	+2.8	
	baz=193,SNR=5.8							
F63A	Nahmakanta, Br	38.07	9	IAms_20	IAms_20	00 33 53.2		
	comp=Z,11μm,21.0s							
SRIG	Santa Rosalia	38.12	304	IAmb	IAmb	00 17 45.5		
	comp=Z,476nm,1.5s							
SDBA	SAO DESIDERIO	38.17	122	*eP*	P	00 17 42.3	-0.8	
SDBA				*eS*	S	00 23 34.9	-1.5	
KSCO	Kaye Shedlock'	38.21	327	P	P	00 17 43.6	+0.4	
	baz=137,SNR=25							
KSCO	Kaye Shedlock'	38.21	327	P	P	00 17 43.7	+0.4	
KSCO				IAmb	IAmb	00 17 53.1		
	comp=Z,414nm,1.1s							
HAL	Halifax	38.25	16	IAms_20	IAms_20	00 31 16.0		
	comp=Z,8μm,22.0s							
F64A	Sherman	38.35	10	P	P	00 17 44.7	+0.6	
	baz=194,SNR=13							
F64A	Sherman	38.35	10	IAms_20	IAms_20	00 34 09.7		
	comp=Z,11μm,20.0s							
ITRB	Iturama	38.37	136	*eP*	P	00 17 44.0	-0.7	
E46A	Sault Ste Mari	38.53	352	IAmb	IAmb	00 17 54.8		
	comp=Z,432nm,1.4s							
F42A	Maple Grove Fa	38.60	348	IAmb	IAmb	00 17 54.6		
	comp=Z,270nm,1.0s							
F42A				IAms_20	IAms_20	00 34 27.4		
	comp=Z,13μm,19.0s							
G40A	Rib Lake	38.61	345	IAmb	IAmb	00 17 54.8		
	comp=Z,634nm,1.3s							
GO04	Tololo Observa	38.63	171	P	P	00 17 49.3	+2.4	
GO04				IAmb	IAmb	00 18 01.2		
	comp=Z,431nm,1.6s							
IPMB	Ipameri, GO	38.75	132	*eP*	P	00 17 47.3	-0.7	
IPMB				*eS*	S	00 23 43.0	-2.2	
E63A	Oxbow	38.88	10	P	P	00 17 49.5	+0.9	
	baz=194,SNR=13							
E63A	Oxbow	38.88	10	IAms_20	IAms_20	00 34 15.7		
	comp=Z,10μm,20.0s							
E62A	Clayton Lake	38.90	9	P	P	00 17 50.0	+1.2	
	baz=192,SNR=36							
E62A	Clayton Lake	38.90	9	IAmb	IAmb	00 17 59.6		
	comp=Z,247nm,1.1s							
E62A				IAms_20	IAms_20	00 34 22.2		
	comp=Z,11μm,21.0s							
SDCO	Great Sand Dun	38.94	323	P	P	00 17 50.5	+0.9	
	baz=132,SNR=160							
SDCO	Great Sand Dun	38.94	323	P	P	00 17 50.6	+1.0	
SDCO				IAmb	IAmb	00 18 00.2		
	comp=Z,416nm,1.4s							
E43A	Lone Tree Farm	38.97	349	IAmb	IAmb	00 17 57.9		
	comp=Z,231nm,0.9s							
E43A				IAms_20	IAms_20	00 33 46.1		
	comp=Z,9μm,22.0s							
E64A	Bridgewater	38.98	10	P	P	00 17 50.1	+0.7	
	baz=195,SNR=11							
LMN	Caledonia Moun	39.07	14	IAms_20	IAms_20	00 32 06.8		
	comp=Z,12μm,22.0s							
PCMB	Pacaembu	39.11	140	*eP*	P	00 17 49.5	-1.4	
TRCB	Terra Rica	39.13	142	IAmb	IAmb	00 18 00.1		
	comp=Z,869nm,1.7s							
TRCB	Terra Rica	39.13	142	*eP*	P	00 17 49.0	-2.0	
COWI	Conover	39.14	347	IAmb	IAmb	00 17 59.5		
	comp=Z,445nm,1.2s							
COWI				IAms_20	IAms_20	00 35 30.7		
	comp=Z,10μm,19.0s							
PQI	Presque Isle	39.19	10	IAms_20	IAms_20	00 34 35.9		
	comp=Z,10μm,21.0s							
ECSD	EROS Data Cent	39.24	338	P	P	00 17 50.3	-1.4	
	baz=149,SNR=97							
ECSD	EROS Data Cent	39.24	338	IAmb	IAmb	00 17 59.9		
	comp=Z,627nm,1.1s							
TUC	Tucson	39.24	312	P	P	00 17 52.5	+0.6	
TUC				pmax	pmax			
	comp=Z,271nm,1.5s							
TUC				MLR	MLR			
	comp=Z,10μm,20.0s							
TUC	Tucson	39.24	312	P	P	00 17 52.6	+0.6	
	baz=120							
TUC	Tucson	39.24	312	P	P	00 17 52.5	+0.6	
TUC	Tucson	39.24	312	IAms_20	IAms_20	00 34 52.7		
	comp=Z,10μm,20.0s							
TUC	Tucson	39.24	312	⇑P	P	00 17 52.6	+0.6	
LATQ	La Tuque	39.27	5	P	P	00 17 52.9	+1.0	
	baz=187							
SPMN	Marine on St.	39.28	343	P	P	00 17 51.5	-0.4	
	baz=155,SNR=33							
SPMN	Marine on St.	39.28	343	IAms_20	IAms_20	00 35 12.4		
	comp=Z,9μm,18.0s							
OGNE	Ogallala	39.34	330	P	P	00 17 52.7	0.0	
	baz=139,SNR=12							
CPUP	Villa Florida	39.41	151	P	P	00 17 50.4	-2.8	
	comp=Z,8.0nm,0.9s,baz=336,slow=7.1,SNR=16							
CPUP				LR	LR	00 36 46.8		
	comp=Z,6μm,19.0s,baz=330,slow=40							
CPUP	Villa Florida	39.41	151	*eP*	P	00 17 51.5	-1.7	
CPUP				*eS*	S	00 23 54.0	-0.7	
D62A	Allapoint, All	39.42	9	P	P	00 17 54.3	+1.2	
	baz=193,SNR=23							
D62A				S	S	00 23 55.7	+1.3	
	baz=193							
D62A	Allapoint, All	39.42	9	IAms_20	IAms_20	00 34 36.0		
	comp=Z,11μm,20.0s							
D63A	Stockholm	39.53	10	P	P	00 17 55.1	+1.0	
	baz=194,SNR=52							
Q24A	Divide	39.56	325	P	P	00 17 55.2	+0.4	
	baz=134,SNR=20							
Q24A				S	S	00 23 58.9	+1.5	
	baz=134							
LMQ	La Malbaie	39.70	7	P	P	00 17 56.4	+1.0	
LMQ				IAmb	IAmb	00 18 05.8		
	comp=Z,281nm,1.1s							
LMQ				IAms_20	IAms_20	00 33 24.3		
	comp=Z,7μm,20.0s							
S22A	4UR Ranch, Cre	39.73	322	P	P	00 17 57.4	+1.2	
	baz=130,SNR=118							
S22A				S	S	00 24 01.6	+1.6	
	baz=130							
X18A	Snowflake	39.82	316	IAmb	IAmb	00 18 08.6		
	comp=Z,310nm,1.3s							
X18A				IAms_20	IAms_20	00 36 04.9		
	comp=Z,7μm,20.0s							
W18A	Petrified Fore	40.00	317	P	P	00 17 59.7	+1.3	
	baz=124,SNR=24							
W18A				S	S	00 24 05.8	+1.8	
	baz=124							
W18A	Petrified Fore	40.00	317	IAms_20	IAms_20	00 36 38.7		
	comp=Z,7μm,19.0s							
JANB	Januaria	40.05	125	*eP*	P	00 17 58.9	+0.1	
JANB				*eS*	S	00 24 03.5	-1.1	
E38A	The Farm, Brul	40.20	345	IAmb	IAmb	00 18 07.8		
	comp=Z,392nm,1.2s							
ZON	Zonda	40.34	169	IAmb	IAmb	00 18 10.2		
	comp=Z,368nm,1.2s							
ZON				IAms_20	IAms_20	00 35 16.2		
	comp=Z,6μm,20.0s							
ISCO	Idaho Springs	40.40	326	P	P	00 18 02.5	+0.8	
	baz=134,SNR=90							
ISCO				S	S	00 24 11.5	+1.6	
	baz=134							
ISCO	Idaho Springs	40.40	326	IAmb	IAmb	00 18 12.1		
	comp=Z,357nm,1.4s							
MVCO	Mesa Verde	40.42	320	P	P	00 18 02.5	+0.5	
	baz=128,SNR=59							
MVCO				S	S	00 24 11.3	+1.0	
	baz=128							
MVCO	Mesa Verde	40.42	320	P	P	00 18 02.5	+0.5	
MVCO				IAmb	IAmb	00 18 13.1		
	comp=Z,863nm,1.8s							
BB19B	Bebedouro	40.55	136	*eP*	P	00 18 01.7	-1.2	
214A	Organ Pipe Nat	40.57	311	P	P	00 18 03.5	+0.5	
	baz=118,SNR=35							
214A				S	S	00 24 13.7	+1.5	
	baz=118							
214A	Organ Pipe Nat	40.57	311	IAmb	IAmb	00 18 14.5		
	comp=Z,332nm,1.4s							
214A				IAms_20	IAms_20	00 35 26.0		
	comp=Z,11μm,22.0s							
SUSD	Miller	40.74	336	P	P	00 18 02.6	-1.5	
	baz=146,SNR=7.1							
LSQQ	Lebel-sur-Quev	40.76	0	P	P	00 18 04.1	0.0	
	baz=180							
LSQQ				S	S	00 24 13.1	-1.4	
	baz=180							
PTGB	Pitanga	40.92	144	*eP*	P	00 18 03.2	-2.8	
PTGB				*eS*	S	00 24 17.9	+0.2	
F33A	5 Mile Ranch,	40.94	340	IAmb	IAmb	00 18 13.7		
	comp=Z,467nm,1.1s							
PV01	Paradox Valley	41.04	321	P	P	00 18 08.2	+1.2	
PV01				IAmb	IAmb	00 18 18.5		
	comp=Z,650nm,1.4s							
PV02	Paradox Valley	41.19	321	IAmb	IAmb	00 18 19.6		
	comp=Z,640nm,1.3s							
MC01	Montes Claros	41.25	127	*eP*	P	00 18 08.7	-0.1	
MC01				*eS*	S	00 24 20.8	-1.8	
PV03	Paradox Valley	41.29	321	IAmb	IAmb	00 18 20.2		
	comp=Z,453nm,1.3s							
VA01	Torpederas	41.31	173	IAmb	IAmb	00 18 19.3		
	comp=Z,351nm,1.1s							
PV18	Skein Mesa, Pa	41.32	321	IAmb	IAmb	00 18 20.2		
	comp=Z,486nm,1.2s							
PV11	David Mesa, Pa	41.33	321	IAmb	IAmb	00 18 20.6		
	comp=Z,597nm,1.3s							
N23A	Red Feather La	41.34	327	P	P	00 18 10.0	+0.5	
	baz=134,SNR=43							
N23A				S	S	00 24 26.0	+2.1	
	baz=134							
WUAZ	Wupatki	41.34	316	P	P	00 18 10.3	+0.9	
	baz=123,SNR=111							
WUAZ				S	S	00 24 26.2	+2.3	
	baz=123							
WUAZ	Wupatki	41.34	316	P	P	00 18 10.5	+1.1	
WUAZ				IAmb	IAmb	00 18 20.9		
	comp=Z,362nm,1.1s							
WUAZ				IAms_20	IAms_20	00 37 31.1		
	comp=Z,6μm,19.0s							
WUAZ	Wupatki	41.34	316	⇑P	P	00 18 10.4	+1.1	
PHWY	Pilot Hill	41.36	327	IAmb	IAmb	00 18 19.5		
	comp=Z,373nm,1.5s							
PV16	Nyswonger Mesa	41.36	321	IAmb	IAmb	00 18 20.9		
	comp=Z,611nm,1.5s							
PV17	East Wray Mesa	41.37	321	IAmb	IAmb	00 18 20.8		
	comp=Z,840nm,1.5s							
PV20	West Nyswonger	41.41	321	IAmb	IAmb	00 18 20.2		
	comp=Z,313nm,1.3s							
EYMN	Ely	41.43	346	P	P	00 18 09.3	-0.4	
	baz=158,SNR=18							
EYMN				S	S	00 24 21.7	-2.7	
	baz=158							
EYMN	Ely	41.43	346	P	P	00 18 09.4	-0.4	
EYMN				IAmb	IAmb	00 18 18.0		
	comp=Z,594nm,1.2s							
NBMA	Muriti-CE	41.43	111	*eP*	P	00 18 09.9	-0.4	
NBMA				*eS*	S	00 24 24.4	-1.0	
FRTB	Fartura	41.45	140	*eP*	P	00 18 09.1	-1.1	
FRTB				*eS*	S	00 24 23.2	-2.2	
MATQ	Matagami	41.46	360	P	P	00 18 10.0	+0.1	
	baz=180,SNR=46							
MATQ				S	S	00 24 26.5	+1.7	
	baz=180							
PV14	Lion Creek, Pa	41.47	321	IAmb	IAmb	00 18 20.7		
	comp=Z,342nm,1.3s							
PV10	Paradox Valley	41.48	321	IAmb	IAmb	00 18 21.2		
	comp=Z,777nm,1.7s							
NBPN	Ponto Novo - B	41.50	116	*eP*	P	00 18 09.6	-1.2	
NBPN				*eS*	S	00 24 25.6	-0.8	
113A	Mohawk Valley,	41.66	311	IAms_20	IAms_20	00 36 34.0		
	comp=Z,8μm,22.0s							
Y14A	Wickenburg	41.67	313	IAms_20	IAms_20	00 35 39.9		
	comp=Z,6μm,22.0s							
CHGQ	Chibougamau	41.69	3	P	P	00 18 12.2	+0.4	
	baz=184,SNR=25							
CHGQ				S	S	00 24 28.7	+0.5	
	baz=184							
MT05	Renca	41.80	172	P	P	00 18 14.9	+1.9	
MT05				IAmb	IAmb	00 18 26.4		
	comp=Z,211nm,1.0s							
MT03	Universidad Ad	41.93	171	IAmb	IAmb	00 18 28.4		
	comp=Z,365nm,1.4s							
O20A	White River Ci	42.12	324	P	P	00 18 16.6	+0.9	
	baz=131,SNR=56							
O20A				S	S	00 24 36.3	+1.0	
	baz=131							
O20A	White River Ci	42.12	324	IAmb	IAmb	00 18 26.1		
	comp=Z,637nm,1.8s							
RCLB	Rio Claro- Sao	42.15	137	*eP*	P	00 18 15.1	-0.9	
D32A	Dogwood Acres,	42.31	340	IAmb	IAmb	00 18 24.9		
	comp=Z,337nm,1.0s							
DIAM	Diamantina, MG	42.37	129	*eP*	P	00 18 17.2	-0.8	
NBPA	Parau_RN	42.43	108	*eP*	P	00 18 17.9	-0.4	
U15A	North Rim	42.46	317	IAmb	IAmb	00 18 30.4		
	comp=Z,497nm,1.5s							
U15A				IAms_20	IAms_20	00 38 05.7		
	comp=Z,7μm,19.0s							
ITQB	Itaqui	42.57	153	*eS*	S	00 24 40.5	-1.1	
RWWY	Rawlins	42.57	327	IAmb	IAmb	00 18 30.8		
	comp=Z,957nm,1.9s							
GLA	Glamis	42.59	311	P	P	00 18 20.4	+0.9	
	baz=117,SNR=29							
GLA				S	S	00 24 42.6	+0.5	
	baz=117							
GLA	Glamis	42.59	311	IAmb	IAmb	00 18 31.2		
	comp=Z,425nm,1.5s							
GLA				IAms_20	IAms_20	00 35 58.4		
	comp=Z,7μm,22.0s							
PDMCI	Parker Dam,Lak	42.67	313	P	P	00 18 20.4	+0.3	
	baz=119,SNR=32							
PDMCI				S	S	00 24 45.0	+1.8	
	baz=119							
RSSD	Black Hills	42.71	332	P	P	00 18 20.7	+0.2	
RSSD				pmax	pmax			
	comp=Z,612nm,1.4s							
RSSD				MLR	MLR			
	comp=Z,4μm,20.0s							
RSSD	Black Hills	42.71	332	P	P	00 18 20.7	+0.2	
	baz=139							
RSSD				S	S	00 24 42.9	-1.0	
	baz=139							
RSSD	Black Hills	42.71	332	P	P	00 18 20.7	+0.2	
RSSD				IAmb	IAmb	00 18 30.7		
	comp=Z,612nm,1.4s							
RSSD	Black Hills	42.71	332	⇑P	P	00 18 20.4	-0.1	
BO01	Tunca	42.73	172	IAmb	IAmb	00 18 30.7		
	comp=Z,301nm,1.4s							
BO01				IAms_20	IAms_20	00 34 49.6		
	comp=Z,7μm,22.0s							
SRU	San Rafael Swe	42.85	321	IAmb	IAmb	00 18 32.6		
	comp=Z,620nm,1.6s							
K22A	Casper	42.88	328	P	P	00 18 22.2	+0.4	
	baz=135,SNR=45							
K22A				S	S	00 24 47.9	+1.6	
	baz=135							
K22A	Casper	42.88	328	IAmb	IAmb	00 18 32.7		
	comp=Z,587nm,1.6s							
W13A	Hualapai Mount	42.88	314	IAms_20	IAms_20	00 39 35.8		
	comp=Z,7μm,20.0s							
VAO	Valinhos	42.92	137	*eP*	P	00 18 20.9	-1.4	
AGMN	Agassiz Nation	42.96	342	P	P	00 18 21.8	-0.5	
	baz=152,SNR=62							
AGMN				S	S	00 24 43.5	-3.6	
	baz=152							
SPB	Sao Paulo	43.01	138	P	P	00 18 21.1	-1.9	
SPB	Sao Paulo	43.01	138	*eP*	P	00 18 21.5	-1.4	
NBLV	Livramento - P	43.14	110	*eP*	P	00 18 23.8	-0.5	
NBLV				*eS*	S	00 24 51.2	+0.6	
BSCB	Bom Sucesso	43.16	133	*eP*	P	00 18 23.3	-1.0	
BSCB				*eS*	S	00 24 47.7	-3.2	
BO02	Sierra Bellavi	43.17	172	P	P	00 18 27.0	+2.9	
BO02				IAmb	IAmb	00 18 34.4		
	comp=Z,270nm,1.3s							
BO02				IAms_20	IAms_20	00 39 08.1		
	comp=Z,6μm,20.0s							
P17A	Butcher Ranch,	43.20	321	IAmb	IAmb	00 18 35.5		
	comp=Z,407nm,1.3s							
TIJ01	Guaruva-PR	43.23	141	*eP*	P	00 18 23.9	-0.9	
NEE2	Needles Airpor	43.24	313	P	P	00 18 25.4	+0.8	
	baz=119							
NEE2				S	S	00 24 52.9	+1.4	
	baz=119							
SWSC	Sam W. Stewart	43.27	310	P	P	00 18 25.9	+0.9	
	baz=116,SNR=25							
SWSC				S	S	00 24 54.8	+2.8	
	baz=116							
MTPU	Mount Pierson	43.28	319	IAmb	IAmb	00 18 35.9		
	comp=Z,436nm,1.8s							
GDU01	Guandu, BA	43.33	120	*eP*	P	00 18 24.9	-0.7	
IRM	Iron Mountain	43.33	312	P	P	00 18 26.5	+1.0	
	baz=118,SNR=52							
IRM				S	S	00 24 54.7	+1.7	
	baz=118							
RMX	La Rumorosa	43.33	310	IAms_20	IAms_20	00 38 33.7		
	comp=Z,6μm,21.0s							
IKP	In-Ko-Pah, Jac	43.38	310	P	P	00 18 27.1	+1.1	
	baz=116,SNR=16							
IKP				S	S	00 24 56.0	+2.2	
	baz=116							
LCMT	Little Creek M	43.42	317	IAmb	IAmb	00 18 37.0		
	comp=Z,311nm,1.6s							
CCX	Cicese	43.48	308	IAms_20	IAms_20	00 38 13.1		
	comp=Z,6μm,21.0s							
MVU	Marysvale	43.56	319	P	P	00 18 28.6	+1.1	
RCBR	Riachuelo	43.59	107	*eP*	P	00 18 27.2	-0.7	
PET01	Itanhaem-SP	43.60	138	*eP*	P	00 18 26.4	-1.2	
PET01				*eS*	S	00 24 53.6	-3.3	
MONP2	Monument Peak	43.72	310	P	P	00 18 29.6	+0.8	
	baz=115,SNR=18							
MONP2				S	S	00 25 02.1	+3.0	
	baz=115							
TCRU	Three Creeks R	43.77	319	IAmb	IAmb	00 18 40.7		
	comp=Z,598nm,1.5s							
MDND	Maddock	43.83	338	P	P	00 18 29.0	-0.3	
	baz=147,SNR=9.9							
BELC	Belle Mtn. Jos	43.89	312	P	P	00 18 31.1	+1.0	
	baz=117,SNR=90							
BELC				S	S	00 25 04.1	+2.8	
	baz=117							
GMRC	Granite Mounta	44.00	313	P	P	00 18 31.9	+0.9	
	baz=118,SNR=34							
GMRC				S	S	00 25 04.4	+1.4	
	baz=118							
NBIT	Itapeh - BA	44.02	121	*eP*	P	00 18 30.3	-1.0	
NBIT				*eS*	S	00 25 02.6	-0.8	
TJX	Tijuana	44.04	309	IAms_20	IAms_20	00 38 44.0		
	comp=Z,9μm,22.0s							
TPFO	Pinon Flats	44.05	311	P	P	00 18 32.0	+0.5	
	baz=116,SNR=36							
TPFO				S	S	00 25 05.8	+2.0	
	baz=116							
PFO	Pinyon Flats O	44.06	311	P	P	00 18 32.4	+0.9	
	comp=Z,42nm,0.9s,baz=107,slow=7.5,SNR=47							
PFO	Pinyon Flats O	44.06	311	P	P	00 18 32.1	+0.6	
PFO				pmax	pmax			
	comp=Z,95nm,1.1s							
PFO				MLR	MLR			
	com

	baz=117,SNR=27					
HEC			S	**S**	**00 25 12.8**	**+2.5**
	baz=117					
GUA01	**Guaratinga, BA**	**44.53 124**	*e*P	**P**	**00 18 35.0**	**-0.2**
GUA01			*e*S	**S**	**00 25 10.9**	**+0.2**
SJMB	**Sao Joao De Ma**	**44.54 127**	*e*P	**P**	**00 18 35.8**	**+0.5**
CTU	**Camp Tracy**	**44.55 322**	IAmb	IAmb	00 18 45.5	
	comp=Z,190nm,1.2s					
NBAN	**Anadia - AL**	**44.56 113**	*e*P	**P**	**00 18 34.9**	**-0.7**
NBAN			*e*S	**S**	**00 25 09.7**	**-1.6**
BW06	**Boulder Array**	**44.59 326**	P	**P**	**00 18 35.7**	**0.0**
	baz=131,SNR=93					
BW06			S	**S**	**00 25 11.7**	**+0.1**
	baz=131					
PD31	**Pinedale Array**	**44.59 326**	IAmb	IAmb	00 18 46.1	
	comp=Z,674nm,1.8s					
PDAR	**Pinedale Array**	**44.59 326**	P	**P**	**00 18 35.5**	**-0.2**
	comp=Z,17nm,0.6s,baz=128,slow=6.2,SNR=131					
PDAR			PcP	**PcP**	**00 20 18.5**	**-0.2**
	comp=Z,11nm,0.8s,baz=125,slow=6.9,SNR=4.9					
PDAR			LR	LR	00 42 02.6	
	comp=Z,4μm,18.5s,baz=136,slow=43					
PDAR	**Pinedale Array**	**44.59 326**	P	**P**	**00 18 35.6**	**-0.1**
MURC	**Murrieta**	**44.61 310**	P	**P**	**00 18 36.4**	**+0.6**
	baz=115,SNR=30					
MURC			S	**S**	**00 25 14.2**	**+2.6**
	baz=115					
PSUT	**Pine Spring**	**44.65 318**	IAmb	IAmb	00 18 46.8	
	comp=Z,215nm,1.3s					
ESAR	**Angra dos Reis**	**44.68 135**	*e*P	**P**	**00 18 36.7**	**+0.3**
BBRC	**Big Bear Solar**	**44.69 311**	P	**P**	**00 18 38.1**	**+1.5**
	baz=116					
ULM	**Lac du Bonnet**	**44.71 343**	P	**P**	**00 18 35.1**	**-1.1**
	comp=Z,153nm,1.0s,baz=156,slow=7.8,SNR=67					
ULM	**Lac du Bonnet**	**44.71 343**	IAms_20	IAms_20	00 38 32.1	
	comp=Z,8μm,19.0s					
PRN	**Pahroc Range**	**44.85 316**	IAmb	IAmb	00 18 48.6	
	comp=Z,263nm,1.8s					
PRN	**Pahroc Range**	**44.85 316**	⇑P	**P**	**00 18 38.6**	**+0.8**
BSFB	**Barra de Sao F**	**44.88 127**	*e*P	**P**	**00 18 38.3**	**+0.3**
BSFB			*e*S	**S**	**00 25 14.5**	**-1.2**
DUG	**Dugway, Tooele**	**44.91 321**	P	**P**	**00 18 38.5**	**+0.3**
DUG			pmax	pmax		
	comp=Z,307nm,1.4s					
DUG	**Dugway, Tooele**	**44.91 321**	P	**P**	**00 18 39.0**	**+0.8**
	baz=126,SNR=95					
DUG			S	**S**	**00 25 18.8**	**+2.7**
	baz=126					
DUG	**Dugway, Tooele**	**44.91 321**	P	**P**	**00 18 38.5**	**+0.3**
DUG			IAmb	IAmb	00 18 48.6	
	comp=Z,308nm,1.4s					
NAN01	**Guarapari, ES**	**44.92 125**	*e*P	**P**	**00 18 38.8**	**+0.4**
NAN01			*e*S	**S**	**00 25 16.3**	**-0.1**
VAS01	**Vassouras-RJ**	**44.93 133**	*e*P	**P**	**00 18 38.2**	**-0.2**
VAS01			*e*S	**S**	**00 25 14.5**	**-1.9**
BI02	**San Fabin de**	**44.95 173**	P	**P**	**00 18 39.5**	**+1.1**
SHOC	**Shoshone, Teco**	**44.97 314**	P	**P**	**00 18 39.3**	**+0.7**
	baz=118,SNR=7.3					
SHOC			S	**S**	**00 25 19.5**	**+2.7**
	baz=118					
HWUT	**Hardware Ranch**	**45.00 323**	IAmb	IAmb	00 18 49.6	
	comp=Z,495nm,1.6s					
RRX	**Edison Barstow**	**45.02 312**	P	**P**	**00 18 40.2**	**+1.2**
	baz=117					
RRX			S	**S**	**00 25 20.2**	**+2.7**
	baz=117					
GSC	**Goldstone, Bar**	**45.07 313**	P	**P**	**00 18 40.1**	**+0.6**
	baz=117,SNR=39					
GSC			S	**S**	**00 25 20.0**	**+1.5**
	baz=117					
GSC	**Goldstone, Bar**	**45.07 313**	IAmb	IAmb	00 18 50.2	
	comp=Z,258nm,1.6s					
SPR3	**Spring Creek 3**	**45.21 319**	IAmb	IAmb	00 18 51.8	
	comp=Z,266nm,1.4s					
SPR3			IAms_20	IAms_20	00 39 38.4	
	comp=Z,7μm,20.0s					
BFSC	**Mount Baldy Ra**	**45.23 311**	P	**P**	**00 18 41.3**	**+0.4**
	baz=116,SNR=8.1					
BFSC			S	**S**	**00 25 23.9**	**+3.0**
	baz=116					
NBRF	**Rio Formoso -**	**45.26 111**	*e*P	**P**	**00 18 41.6**	**+0.4**
SPUT	**South Promonto**	**45.34 322**	IAmb	IAmb	00 18 55.0	
	comp=Z,282nm,1.4s					
SCI2	**San Clemente I**	**45.38 309**	P	**P**	**00 18 42.6**	**+0.7**
	baz=114					
CIS	**Catalina Islan**	**45.45 310**	P	**P**	**00 18 43.5**	**+1.0**
	baz=114,SNR=11					
CIS			S	**S**	**00 25 26.3**	**+2.4**
	baz=114					
TPNV	**Topopah Spring**	**45.45 315**	P	**P**	**00 18 43.6**	**+1.0**
TPNV			pmax	pmax		
	comp=Z,98nm,1.0s					
TPNV			MLR	MLR		
	comp=Z,7μm,21.0s					
TPNV	**Topopah Spring**	**45.45 315**	P	**P**	**00 18 43.3**	**+0.8**
	baz=119,SNR=70					
TPNV			S	**S**	**00 25 27.0**	**+3.0**
	baz=119					
TPNV	**Topopah Spring**	**45.45 315**	P	**P**	**00 18 43.6**	**+1.0**
TPNV			IAms_20	IAms_20	00 38 43.0	
	comp=Z,7μm,21.0s					
TPNV	**Topopah Spring**	**45.45 315**	⇑P	**P**	**00 18 43.4**	**+0.8**
BGU	**Big Grassy Mou**	**45.47 322**	IAmb	IAmb	00 18 52.7	
	comp=Z,286nm,1.4s					
FMP	**Fort Macarthur**	**45.49 310**	P	**P**	**00 18 43.7**	**+1.1**
	baz=114					
RIB01	**Linhares ES**	**45.50 127**	*e*P	**P**	**00 18 42.6**	**-0.3**
RIB01			*e*S	**S**	**00 25 22.5**	**-2.2**
TER01	**Tubaro-SC**	**45.52 144**	*e*P	**P**	**00 18 40.7**	**-2.3**
MWC	**Mount Wilson**	**45.52 311**	IAmb	IAmb	00 18 55.9	
	comp=Z,410nm,1.8s					
DUB01	**Friburgo-RJ**	**45.59 132**	*e*P	**P**	**00 18 43.2**	**-0.4**
PASC	**Pasadena Art C**	**45.59 311**	IAmb	IAmb	00 18 55.2	
	comp=Z,350nm,1.7s					
LAO	**LASA Array**	**45.65 332**	P	**P**	**00 18 43.2**	**-0.7**
	baz=138					
LAO			S	**S**	**00 25 30.9**	**+4.5**
	baz=138					
FURC	**Furnace Creek,**	**45.65 314**	P	**P**	**00 18 44.6**	**+0.6**
	baz=118,SNR=59					
FURC			S	**S**	**00 25 29.3**	**+2.7**
	baz=118					
R11A	**Troy Canyon, C**	**45.70 317**	P	**P**	**00 18 45.4**	**+0.8**
	baz=121,SNR=99					
R11A			S	**S**	**00 25 30.3**	**+2.7**
	baz=121					
SNOW	**Snow King Moun**	**45.71 326**	P	**P**	**00 18 45.2**	**+0.6**
DECC	**Green Verdugo**	**45.74 311**	P	**P**	**00 18 45.5**	**+0.8**
	baz=115,SNR=5.7					
DECC			S	**S**	**00 25 30.2**	**+2.2**
	baz=115					
EDW2	**Edwards Air Fo**	**45.76 312**	P	**P**	**00 18 45.1**	**+0.2**
	baz=116,SNR=38					
EDW2			S	**S**	**00 25 28.4**	**+0.1**
	baz=116					
LRMC	**Laurel Mtn Rad**	**45.79 313**	P	**P**	**00 18 45.7**	**+0.5**
	baz=117,SNR=34					
LRMC			S	**S**	**00 25 29.7**	**+0.8**
	baz=117					
TPAW	**Teton Pass**	**45.83 326**	IAmb	IAmb	00 18 55.5	
	comp=Z,249nm,1.1s					
CAM01	**Campos-RJ**	**45.96 131**	*e*P	**P**	**00 18 47.0**	**+0.4**
ALF01	**Guarapari-ES**	**45.97 129**	*e*P	**P**	**00 18 46.7**	**0.0**
RLMT	**Red Lodge**	**46.02 329**	P	**P**	**00 18 47.0**	**0.0**
	baz=133,SNR=80					
RLMT			S	**S**	**00 25 32.4**	**+0.3**
	baz=133					
IMW	**Indian Meadow**	**46.09 326**	IAmb	IAmb	00 18 58.2	
	comp=Z,347nm,1.4s					
OSI	**Osito Audit: C**	**46.19 311**	P	**P**	**00 18 48.5**	**+0.2**
	baz=115					
OSI			S	**S**	**00 25 35.4**	**+1.0**
	baz=115					
H17A	**Grant Village**	**46.22 327**	P	**P**	**00 18 49.8**	**+1.1**
	baz=131					
H17A			S	**S**	**00 25 35.9**	**+0.9**
	baz=131					
H17A	**Grant Village**	**46.22 327**	IAmb	IAmb	00 19 01.6	
	comp=Z,376nm,1.6s					
YMP	**Mirror Lake Pl**	**46.22 328**	IAmb	IAmb	00 19 10.3	
	comp=Z,212nm,1.2s					
LKWY	**Lake**	**46.24 327**	P	**P**	**00 18 50.2**	**+1.4**
LKWY			pmax	pmax		
	comp=Z,83nm,1.1s					
LKWY	**Lake**	**46.24 327**	P	**P**	**00 18 50.2**	**+1.4**
SNCC	**San Nicolas Is**	**46.24 309**	P	**P**	**00 18 49.2**	**+0.5**
	baz=113					
SNCC	**San Nicolas Is**	**46.24 309**	IAmb	IAmb	00 18 51.1	
	comp=Z,169nm,1.1s					
GRAC	**Grapevine Rang**	**46.26 315**	P	**P**	**00 18 49.7**	**+0.8**
	baz=118,SNR=15					
GRAC			S	**S**	**00 25 38.1**	**+2.6**
	baz=118					
YNE	**Yellowstone No**	**46.33 328**	IAmb	IAmb	00 18 58.6	
	comp=Z,112nm,1.0s					
ISA	**Isabella, Lake**	**46.45 312**	P	**P**	**00 18 51.0**	**+0.6**
	baz=116,SNR=20					
ISA			S	**S**	**00 25 40.9**	**+2.6**
	baz=116					
ARVC	**Arvin**	**46.48 311**	P	**P**	**00 18 51.3**	**+0.7**
	baz=115,SNR=11					
ARVC			S	**S**	**00 25 40.8**	**+2.2**
	baz=115					
CWC	**Cottonwood Cre**	**46.51 313**	P	**P**	**00 18 51.7**	**+0.8**
	baz=117					
CWC			S	**S**	**00 25 42.0**	**+2.7**
	baz=117					
LPA	**La Plata**	**46.60 158**	*d i*P	**P**	**00 18 48.0**	**-3.3**
LPA			PP	**PP**	**00 20 44.4**	**+3.3**
LPA			PPP	PPP	00 21 23.6	
LPA			SS	SS	00 29 20.9	+14
LPA			SS(2)		00 29 46.4	
YMR	**Madison River**	**46.61 327**	IAmb	IAmb	00 19 05.5	
	comp=Z,282nm,1.4s					
SCZ2	**Santa Cruz Isl**	**46.62 310**	P	**P**	**00 18 52.3**	**+0.6**
	baz=114,SNR=5.9					
YHH	**Holmes Hill**	**46.62 327**	P	**P**	**00 18 52.6**	**+0.7**
ELK	**Elko**	**46.75 320**	P	**P**	**00 18 52.9**	**0.0**
	comp=Z,11nm,0.7s,baz=117,slow=6.7,SNR=47					
RPN	**Rapa Nui**	**46.82 220**	IAms_20	IAms_20	00 34 09.7	
	comp=Z,7μm,18.0s					
SBC	**Santa Barbara**	**46.86 310**	P	**P**	**00 18 53.8**	**+0.3**
	baz=114					
TIN	**Tinemaha, Big**	**46.90 314**	P	**P**	**00 18 54.7**	**+0.7**
	baz=117					
VES	**Vestal, Richgr**	**46.97 312**	P	**P**	**00 18 55.1**	**+0.8**
	baz=116,SNR=36					
VES			S	**S**	**00 25 47.3**	**+1.7**
	baz=116					
LC01	**Cunco**	**47.09 174**	IAmb	IAmb	00 19 04.5	
	comp=Z,137nm,0.9s					
PKM	**Mcpherson Peak**	**47.12 311**	P	**P**	**00 18 56.0**	**+0.2**
	baz=114,SNR=13					
SCHQ	**Schefferville**	**47.29 8**	P	**P**	**00 18 56.9**	**+0.3**
	comp=Z,32nm,0.7s,baz=193,slow=7.5,SNR=54					
SCHQ			PcP	**PcP**	**00 20 27.8**	**+0.3**
	comp=Z,43nm,0.9s,baz=221,slow=5.2,SNR=4.0					
SCHQ			LR	LR	00 39 49.6	
	comp=Z,7μm,19.9s,baz=192,slow=37					
SCHQ	**Schefferville**	**47.29 8**	P	**P**	**00 18 56.9**	**+0.3**
SCHQ			IAmb	IAmb	00 19 06.4	
	comp=Z,229nm,1.2s					
SCHQ			IAms_20	IAms_20	00 39 28.2	
	comp=Z,9μm,20.0s					
SCHQ	**Schefferville**	**47.29 8**	⇓P	**P**	**00 18 57.5**	**+0.9**
SMMC	**Simmler**	**47.43 311**	P	**P**	**00 18 59.0**	**+1.0**
	baz=114,SNR=14					
NV11	**Mina Array Sit**	**47.49 316**	IAmb	IAmb	00 19 08.9	
	comp=Z,158nm,1.4s					
NV11			IAms_20	IAms_20	00 40 30.0	
	comp=Z,8μm,21.0s					
BOZ	**Bozeman (W)**	**47.57 328**	P	**P**	**00 18 59.7**	**+0.6**
	baz=131,SNR=137					
BOZ			S	**S**	**00 25 54.5**	**+0.4**
	baz=131					
MLAC	**Mammoth, Mammo**	**47.59 315**	P	**P**	**00 19 00.1**	**+0.6**
	baz=117					
NVAR	**Mina Array Bea**	**47.59 316**	P	**P**	**00 18 59.9**	**+0.5**
	comp=Z,23nm,0.9s,baz=129,slow=6.1,SNR=178					
NVAR			PcP	**PcP**	**00 20 29.3**	**0.0**
	comp=Z,9.4nm,0.6s,baz=134,slow=4.1,SNR=11					
NVAR			LR	LR	00 40 43.2	
	comp=Z,8μm,21.1s,baz=134,slow=38					
NVAR			PKPPKP	P'P'df	00 49 57.8	-19
	comp=Z,2.8nm,1.2s,baz=270,slow=1.6,SNR=5.2					
NVAR	**Mina Array Bea**	**47.59 316**	P	**P**	**00 19 00.0**	**+0.5**
MCMT	**McKenzie Canyo**	**47.74 326**	P	**P**	**00 19 01.8**	**+1.3**
MDPB	**Devils Postpil**	**47.76 314**	IAmb	IAmb	00 19 13.8	
	comp=Z,136nm,1.4s					
PAGB	**Antelope Grade**	**47.79 312**	IAmb	IAmb	00 19 09.3	
	comp=Z,90nm,0.9s					
PAGB			IAms_20	IAms_20	00 38 48.0	
	comp=Z,7μm,22.0s					
RYN	**Ryan**	**47.84 316**	P	**P**	**00 19 01.6**	**+0.3**
HLID	**Hailey**	**47.86 324**	P	**P**	**00 19 01.8**	**+0.5**
	baz=126,SNR=109					
HLID			S	**S**	**00 25 60.0**	**+1.7**
	baz=126					
HLID	**Hailey**	**47.86 324**	IAmb	IAmb	00 19 11.3	
	comp=Z,260nm,1.4s					
HLID			IAms_20	IAms_20	00 41 54.2	
	comp=Z,5μm,20.0s					
TRQA	**Tornquist**	**48.16 164**	P	**P**	**00 19 03.8**	**+0.3**
TRQA			pmax	pmax		
	comp=Z,94nm,1.1s					
TRQA			MLR	MLR		
	comp=Z,8μm,21.0s					
TRQA	**Tornquist**	**48.16 164**	P	**P**	**00 19 03.8**	**+0.3**
TRQA	**Tornquist**	**48.16 164**	IAms_20	IAms_20	00 40 47.2	
	comp=Z,8μm,21.0s					
TRQA	**Tornquist**	**48.16 164**	⇑P	**P**	**00 19 03.7**	**+0.1**
TRQA	**Tornquist**	**48.16 164**	*e*P	**P**	**00 19 03.1**	**-0.5**
TRQA			*e*S	**S**	**00 26 01.6**	**-0.7**
EGMT	**Eagleton**	**48.28 331**	P	**P**	**00 19 04.3**	**-0.1**
	baz=135,SNR=32					
EGMT			S	**S**	**00 26 04.0**	**+0.1**
	baz=135					
PMPB	**Monarch Peak**	**48.39 312**	IAmb	IAmb	00 19 16.2	
	comp=Z,390nm,2.0s					
WAKR	**Walker**	**48.41 315**	IAmb	IAmb	00 19 17.4	
	comp=Z,398nm,1.8s					
WAKR			IAms_20	IAms_20	00 40 26.4	
	comp=Z,7μm,22.0s					
YERR	**Yerington**	**48.50 316**	IAmb	IAmb	00 19 18.7	
	comp=Z,229nm,1.4s					
MFID	**Camas Ranch**	**48.61 323**	IAmb	IAmb	00 19 16.9	
	comp=Z,252nm,1.3s					
MFID			IAms_20	IAms_20	00 42 48.1	
	comp=Z,4μm,19.0s					
VCNR	**Virginia City**	**48.93 316**	P	**P**	**00 19 10.2**	**+0.5**
VCNR			IAmb	IAmb	00 19 21.2	
	comp=Z,454nm,2.0s					
PAHR	**Pah Rah Range**	**48.94 317**	IAmb	IAmb	00 19 21.9	
	comp=Z,259nm,1.7s					
PLCA	**Paso Flores**	**49.05 173**	P	**P**	**00 19 10.8**	**+0.4**
	comp=Z,57nm,1.0s,baz=348,slow=8.6,SNR=72					
PLCA			LR	LR	00 39 40.7	
	comp=Z,3μm,21.9s,baz=347,slow=36					
PLCA	**Paso Flores**	**49.05 173**	*e*P	**P**	**00 19 10.4**	**0.0**
SAO	**San Andreas Ge**	**49.09 312**	IAms_20	IAms_20	00 39 41.6	
	comp=Z,7μm,22.0s					
SAO	**San Andreas Ge**	**49.09 312**	⇓P	**P**	**00 19 11.5**	**+0.7**
MSO	**Missoula**	**49.59 327**	P	**P**	**00 19 14.6**	**+0.1**
	baz=129,SNR=38					
MSO			S	**S**	**00 26 21.7**	**-0.8**
	baz=129					
MSO	**Missoula**	**49.59 327**	IAmb	IAmb	00 19 24.8	
	comp=Z,245nm,1.4s					
PLID	**Pearl Lake**	**49.67 325**	IAmb	IAmb	00 19 24.4	
	comp=Z,225nm,1.4s					
AFDM	**Forest Hills D**	**49.69 315**	P	**P**	**00 19 15.3**	**0.0**
WVOR	**Wild Horse Val**	**49.80 320**	IAmb	IAmb	00 19 33.1	
	comp=Z,223nm,1.1s					
WVOR			IAms_20	IAms_20	00 44 07.9	
	comp=Z,4μm,19.0s					
WVOR	**Wild Horse Val**	**49.80 320**	⇑P	**P**	**00 19 16.1**	**-0.1**
J08A	**Circle Bar Ran**	**50.19 321**	IAmb	IAmb	00 19 29.4	
	comp=Z,174nm,1.2s					
ORV	**Oroville**	**50.32 316**	IAmb	IAmb	00 19 32.6	
	comp=Z,432nm,1.9s					
FFC	**Flin Flon**	**50.44 342**	P	**P**	**00 19 20.1**	**-0.6**
FFC			pmax	pmax		
	comp=Z,320nm,1.4s					
FFC			MLR	MLR		
	comp=Z,7μm,18.0s					
FFC	**Flin Flon**	**50.44 342**	P	**P**	**00 19 20.1**	**-0.6**
FFC			IAmb	IAmb	00 19 29.5	
	comp=Z,320nm,1.4s					
FFC	**Flin Flon**	**50.44 342**	IAms_20	IAms_20	00 42 28.8	
	comp=Z,7μm,18.0s					
FFC	**Flin Flon**	**50.44 342**	⇑P	**P**	**00 19 20.4**	**-0.3**
MOD	**Modoc Plateau**	**50.61 319**	IAms_20	IAms_20	00 42 55.3	
	comp=Z,6μm,21.0s					
O03E	**Paynes Creek**	**50.86 316**	P	**P**	**00 19 23.0**	**-1.2**
	baz=117,SNR=9.6					
O03E			S	**S**	**00 26 38.9**	**-1.5**
	baz=117					
F10A	**Beach Ranch, E**	**50.89 325**	IAmb	IAmb	00 19 33.6	
	comp=Z,374nm,1.5s					
F10A	**Beach Ranch, E**	**50.89 325**	⇑P	**P**	**00 19 23.9**	**-0.5**
WALA	**Waterton Lakes**	**51.01 330**	P	**P**	**00 19 25.2**	**-0.1**
WALA			IAmb	IAmb	00 19 34.5	
	comp=Z,324nm,1.9s					
GO07	**Milladeo Hill,**	**51.14 177**	IAmb	IAmb	00 19 36.4	
	comp=Z,207nm,0.8s					
HOPS	**Hopland Field**	**51.18 314**	IAms_20	IAms_20	00 41 09.8	
	comp=Z,6μm,22.0s					
O02D	**Mt. Diablo Mer**	**51.48 316**	P	**P**	**00 19 26.9**	**-2.0**
	baz=116,SNR=7.2					
WDC	**Whiskeytown Da**	**51.49 316**	⇓P	**P**	**00 19 27.3**	**-1.6**
G08A	**Pilot Rock**	**51.52 323**	IAmb	IAmb	00 19 39.6	
	comp=Z,468nm,1.6s					
M04C	**Macdoel**	**51.56 318**	P	**P**	**00 19 29.1**	**-0.4**
	baz=118,SNR=33					
M04C			S	**S**	**00 26 50.5**	**+0.4**
	baz=118					
H07S1	**FLORES T-PHASE**	**51.62 45**	*e*P	**P**	**00 19 30.3**	**+0.4**
E09A	**Wood Farm, Sta**	**51.72 325**	P	**P**	**00 19 30.1**	**-0.4**
E09A			IAmb	IAmb	00 19 40.7	
	comp=Z,406nm,1.4s					
N02D	**Trinity Center**	**51.78 317**	P	**P**	**00 19 29.5**	**-1.6**
	baz=116					
KCPM	**Cahto Peak**	**51.83 315**	IAmb	IAmb	00 19 43.3	
	comp=Z,516nm,1.8s					
J05D	**Fort Rock, OR**	**51.88 320**	P	**P**	**00 19 31.5**	**-0.5**
	baz=119,SNR=25					
J05D			S	**S**	**00 26 54.2**	**-0.3**
	baz=119					
K04D	**Chiloquin, OR**	**51.90 319**	P	**P**	**00 19 31.8**	**-0.3**
	baz=118,SNR=6.8					
K04D			S	**S**	**00 26 54.0**	**-0.7**
	baz=118					
PINE	**Pine Mountain**	**51.95 321**	IAmb	IAmb	00 19 44.6	
	comp=Z,178nm,1.3s					
M02C	**Callahan**	**52.06 317**	P	**P**	**00 19 31.7**	**-1.5**
	baz=116					
M02C			S	**S**	**00 26 56.2**	**-0.7**
	baz=116					
L04D	**Klamath Falls**	**52.07 318**	P	**P**	**00 19 32.9**	**-0.4**
	baz=118,SNR=26					
L04D			S	**S**	**00 26 56.0**	**-1.2**
	baz=118					
FCC	**Fort Churchill**	**52.09 349**	IAmb	IAmb	00 19 41.2	
	comp=Z,328nm,1.2s					
YBH	**Yreka Blue Hor**	**52.12 318**	P	**P**	**00 19 32.0**	**-1.7**
	comp=Z,20nm,0.9s,baz=100,slow=5.1,SNR=27					
YBH	**Yreka Blue Hor**	**52.12 318**	P	**P**	**00 19 32.0**	**-1.7**
YBH	**Yreka Blue Hor**	**52.12 318**	IAms_20	IAms_20	00 43 28.3	
	comp=Z,5μm,20.0s					
NEW	**Newport**	**52.18 327**	P	**P**	**00 19 33.5**	**-0.5**
	comp=Z,29nm,0.9s,baz=133,slow=7.3,SNR=69					
NEW	**Newport**	**52.18 327**	P	**P**	**00 19 33.3**	**-0.6**
NEW			pmax	pmax		
	comp=Z,251nm,1.3s					
NEW			MLR	MLR		
	comp=Z,4μm,20.0s					
NEW	**Newport**	**52.18 327**	P	**P**	**00 19 33.7**	**-0.2**
	baz=127,SNR=52					
NEW			S	**S**	**00 26 56.9**	**-1.3**
	baz=127					
NEW	**Newport**	**52.18 327**	P	**P**	**00 19 33.3**	**-0.6**
NEW			IAmb	IAmb	00 19 43.8	
	comp=Z,251nm,1.3s					
NEW	**Newport**	**52.18 327**	IAms_20	IAms_20	00 45 42.3	
	comp=Z,4μm,20.0s					
J04D	**Umpqua Nationa**	**52.42 319**	P	**P**	**00 19 35.6**	**-0.5**
	baz=118					
J04D			S	**S**	**00 27 02.3**	**+0.2**
	baz=118					
HAWA	**Hanford**	**52.45 324**	⇑P	**P**	**00 19 35.4**	**-0.6**
D08A	**Wollman Farm,**	**52.47 325**	IAmb	IAmb	00 19 45.6	
	comp=Z,359nm,1.7s					
I05D	**Terrebonne, OR**	**52.47 321**	P	**P**	**00 19 36.2**	**0.0**
	baz=120,SNR=7.6					
I05D			S	**S**	**00 27 04.6**	**+2.3**
	baz=120					
C09A	**Chrisman Ranch**	**52.53 326**	P	**P**	**00 19 36.3**	**-0.3**
C09A			IAmb	IAmb	00 19 47.0	
	comp=Z,306nm,1.4s					
JCC	**Jacoby Creek,**	**52.61 316**	IAmb	IAmb	00 19 52.5	
	comp=Z,224nm,1.2s					
JCC			IAms_20	IAms_20	00 42 34.5	
	comp=Z,4μm,22.0s					
HUMO	**Hull Mountain**	**52.68 318**	IAms_20	IAms_20	00 45 03.1	
	comp=Z,6μm,20.0s					
HUMO	**Hull Mountain**	**52.68 318**	⇓P	**P**	**00 19 38.4**	**+0.6**
I04A	**Tendick Farm,**	**52.88 320**	P	**P**	**00 19 38.7**	**-0.5**
	baz=118,SNR=18					
I04A			S	**S**	**00 27 07.3**	**-0.6**
	baz=118					
L02E	**Cave Junction**	**52.90 318**	P	**P**	**00 19 38.5**	**-0.9**
	baz=116					
L02E			S	**S**	**00 27 07.8**	**-0.5**
	baz=116					
G05D	**Wamic, OR**	**52.91 322**	P	**P**	**00 19 40.7**	**+1.3**
	baz=120,SNR=34					
G05D			S	**S**	**00 27 10.9**	**+2.6**
	baz=120					
SACV	**Santiago Islan**	**52.96 77**	P	**P**	**00 19 41.0**	**+0.8**
SACV	**Santiago Islan**	**52.96 77**	IAms_20	IAms_20	00 42 34.6	
	comp=Z,4μm,19.0s					
CALA	**Caldeira**	**53.10 47**	*e*P	**P**	**00 19 41.6**	**+0.6**
	comp=Z,190nm,0.9s					
PCED	**Cedros**	**53.12 47**	*e*P	**P**	**00 19 42.5**	**+1.5**
	comp=Z,106nm,1.0s					
H04A	**Detroit Lake**	**53.17 321**	IAmb	IAmb	00 19 53.1	
	comp=Z,178nm,1.1s					
K02D	**Willamette Mer**	**53.18 318**	P	**P**	**00 19 41.0**	**-0.6**
	baz=117,SNR=7.9					
K02D			S	**S**	**00 27 11.5**	**-0.7**
	baz=117					
PCAN	**Candelaria**	**53.22 48**	*e*P	**P**	**00 19 42.9**	**+1.1**
	comp=Z,177nm,0.8s					
PICO	**Pico**	**53.27 48**	*e*P	**P**	**00 19 44.1**	**+1.9**
	comp=Z,371nm,1.3s					
F05D	**White Salmon**	**53.32 323**	P	**P**	**00 19 43.0**	**+0.6**
	baz=121,SNR=17					
F05D			S	**S**	**00 27 16.3**	**+2.4**
	baz=121					
KBO	**Bosley Butte**	**53.34 317**	IAmb	IAmb	00 19 56.6	
	comp=Z,299nm,1.1s					
PPNO	**Prainha do Nor**	**53.38 48**	*e*P	**P**	**00 19 43.8**	**+0.8**
	comp=Z,140nm,0.5s					
B08A	**Colville Reser**	**53.43 326**	IAmb	IAmb	00 19 53.4	
	comp=Z,232nm,1.2s					
H04D	**Lebanon**	**53.43 321**	P	**P**	**00 19 42.6**	**-0.6**
	baz=119					
H04D			S	**S**	**00 27 14.1**	**-1.3**
	baz=119					
I03D	**Drain, OR**	**53.43 319**	P	**P**	**00 19 42.8**	**-0.4**
	baz=118,SNR=14					
I03D			S	**S**	**00 27 14.7**	**-0.6**
	baz=118					
BUCK	**Buck Mountain**	**53.44 320**	IAmb

I02D	Swisshome	53.94	320	P		P	00 19 47.0	0.0
	baz=117,SNR=7.7							
C06D	Leavenworth	54.06	325	P		P	00 19 47.8	0.0
	baz=123,SNR=8.5							
C06D				S		S	00 27 23.1	-0.8
	baz=123							
G03D	McMinnville, O	54.09	321	P		P	00 19 48.1	+0.1
	baz=119,SNR=7.1							
G03D				S		S	00 27 24.2	0.0
	baz=119							
ADH	Angra Heroismo	54.20	48	eP		P	00 19 49.3	+0.4
	comp=Z,92nm,0.7s							
PAGU	Agualva, Azore	54.27	48	eP		P	00 19 49.9	+0.4
	comp=Z,136nm,1.6s							
PSCM	Serra do Cume	54.30	48	eP		P	00 19 50.8	+1.1
	comp=Z,80nm,0.3s							
D05A	Enumclaw	54.30	324	IAmb		IAmb	00 20 00.0	
	comp=Z,171nm,1.1s							
E04D	Cinebar	54.33	323	P		P	00 19 49.2	-0.5
	baz=120,SNR=12							
F04D	Rainier, OR	54.36	322	P		P	00 19 49.9	0.0
	baz=119							
F04D				S		S	00 27 27.9	+0.1
	baz=119							
B06A	Marblemount	54.72	325	P		P	00 19 52.2	-0.3
D04E	Lakebay	54.76	323	P		P	00 19 53.0	+0.2
	baz=120							
E03A	Lebam	54.92	322	IAmb		IAmb	00 20 05.9	
	comp=Z,375nm,1.6s							
B05A	Bryant	54.93	325	P		P	00 19 53.2	-0.8
	baz=122,SNR=19							
B05A				S		S	00 27 33.0	-2.3
	baz=122							
PSET	Sete Cidades	55.04	49	eP		P	00 19 55.1	0.0
	comp=Z,365nm,1.5s							
PDA	Ponta Delgada	55.06	49	eP		P	00 19 56.8	+1.6
	comp=Z,257nm,1.4s							
D03D	Eldon	55.13	324	P		P	00 19 55.3	-0.2
	baz=120,SNR=23							
D03D				S		S	00 27 38.1	0.0
	baz=120							
CMLA	Cha da Macela	55.17	49	eP		P	00 19 57.6	+1.6
	comp=Z,303nm,1.6s							
PCALD	Caldeiras da R	55.21	49	eP		P	00 19 58.6	+2.3
	comp=Z,360nm,0.9s							
PSMA	Santa Maria	55.23	50	eP		P	00 19 57.4	+1.0
	comp=Z,170nm,0.9s							
PSMN	Pico do Norte,	55.28	50	eP		P	00 19 57.8	+1.0
	comp=Z,141nm,1.8s							
A05A	Maple Falls	55.31	326	IAmb		IAmb	00 20 06.8	
	comp=Z,515nm,1.9s							
BART	Pico Bartolome	55.44	49	eP		P	00 19 59.2	+1.1
	comp=Z,408nm,1.4s							
A04D	Lummi Island	55.51	325	P		P	00 19 57.8	-0.4
	baz=121,SNR=24							
A04D				S		S	00 27 43.6	+0.4
	baz=121							
NLWA	Neilton Lookou	55.51	323	IAms_20		IAms_20	00 47 32.8	
	comp=Z,5μm,18.0s							
NLWA	Neilton Lookou	55.51	323	⇑P		P	00 19 58.8	+0.4
FRB	Frobisher Bay	55.84	5	P		P	00 19 59.6	-0.7
	comp=Z,7.1nm,0.5s,baz=200,slow=9.0,SNR=4.6							
FRB	Frobisher Bay	55.84	5	⇓P		P	00 20 02.6	+2.3
LLLB	Lillooet	56.07	327	IAmb		IAmb	00 20 12.9	
	comp=Z,314nm,1.3s							
LLLB				IAms_20		IAms_20	00 48 26.2	
	comp=Z,4μm,20.0s							
NRS	Narsarsuaq	57.94	18	eP		P	00 20 19.0	+3.7
NRS				IAmb		IAmb	00 20 23.9	
	comp=Z,85nm,0.8s							
NRS	Narsarsuaq	57.94	18	eP		P	00 20 18.9	+3.7
NRS				pmax		pmax		
	comp=Z,85nm,0.8s							
NRS	Narsarsuaq	57.94	18	IAms_20		IAms_20	00 44 37.8	
	comp=Z,7μm,20.0s							
NRS	Narsarsuaq	57.94	18	⇓P		P	00 20 19.8	+4.6
NUUK	Nuuk	58.82	13	eP		P	00 20 22.3	+1.0
NUUK				IAmb		IAmb	00 20 25.7	
	comp=Z,27nm,0.8s							
NUUK	Nuuk	58.82	13	⇑P		P	00 20 22.0	+0.7
GO09	Cerro Castillo	59.35	176	IAmb		IAmb	00 20 39.6	
	comp=Z,330nm,1.8s							
BBB	Bella Bella	60.23	327	P		P	00 20 32.8	+1.5
	comp=Z,53nm,0.9s,baz=153,slow=9.7,SNR=8.9							
BBB	Bella Bella	60.23	327	⇓P		P	00 20 32.8	+1.5
MACI	Morro de la Ar	60.52	62	P		P	00 20 35.4	+1.4
PMOZ	Porto Moniz, M	60.58	57	eP		P	00 20 39.5	+5.2
	comp=Z,358nm,1.8s							
PMOZ				eS		S	00 29 02.5	+12
PMOZ				eLQ		LQ	00 35 50.5	
PMOZ				eLR		LR	00 39 00.1	
	comp=Z,2μm,22.0s							
YKA	Yellowknife Ar	60.61	341	P		P	00 20 32.4	-1.3
	comp=Z,63nm,0.8s,baz=131,slow=7.6,SNR=269							
YKA				PP		PP	00 22 48.5	+1.2
	comp=Z,8.4nm,0.9s,baz=145,slow=7.6,SNR=2.4							
YKA				PKP2bc			00 50 03.8	
	comp=Z,2.1nm,1.1s,baz=286,slow=2.1,SNR=4.2							
YKA	Yellowknife Ar	60.61	341	P		P	00 20 32.9	-0.8
YKA	Yellowknife Ar	60.61	341	P		P	00 20 32.9	-0.8
PMAR	Madeira	60.80	57	eP		P	00 20 38.5	+2.7
	comp=Z,194nm,1.4s							
FUL	Funchal	60.81	57	eP		P	00 20 35.4	-0.2
	comp=Z,164nm,1.7s							
GO10	Punta Arenas	61.31	176	P		P	00 20 40.2	+1.6
GO10				IAmb		IAmb	00 20 54.4	
	comp=Z,159nm,1.2s							
PMPS	Porto Santo	61.34	57	eP		P	00 20 44.5	+5.3
	comp=Z,335nm,1.4s							
PMPST	Porto Santo, M	61.34	57	eP		P	00 20 44.6	+5.3
	comp=Z,317nm,1.4s							
SFJD	Kangerlussuaq	61.49	12	P		P	00 20 38.9	-0.7
	comp=Z,8.5nm,0.6s,baz=226,slow=7.3,SNR=7.2							
SFJD				PcP		PcP	00 21 21.0	-0.4
	comp=Z,22nm,0.9s,baz=200,slow=7.1,SNR=3.9							
SFJD	Kangerlussuaq	61.49	12	eP		P	00 20 38.3	-1.3
SFJD	Kangerlussuaq	61.49	12	P		P	00 20 39.1	-0.5
SFJD				pmax		pmax		
	comp=Z,28nm,1.0s							
SFJD				MLR		MLR		
	comp=Z,4μm,19.0s							
SFJD	Kangerlussuaq	61.49	12	P		P	00 20 39.1	-0.5
SFJD	Kangerlussuaq	61.49	12	IAms_20		IAms_20	00 52 18.6	
	comp=Z,4μm,19.0s							
EFI	East Falkland	61.87	167	deP		P	00 20 42.8	+0.5
EFI				pmax		pmax		
	comp=Z,68nm,0.7s							
EFI				MLR		MLR		
	comp=Z,4μm,18.0s							
EFI	East Falkland	61.87	167	P		P	00 20 42.1	-0.2
EFI				IAmb		IAmb	00 20 50.3	
	comp=Z,208nm,1.2s							
EFI	East Falkland	61.87	167	IAms_20		IAms_20	00 49 09.8	
	comp=Z,4μm,20.0s							
EFI	East Falkland	61.87	167	⇓P		P	00 20 42.9	+0.5
EFI				⇓P		P	00 20 42.9	+0.5
DY2G	Dye2	61.99	14	⇑iP		P	00 20 42.7	-0.6
DY2G				IAmb		IAmb	00 20 44.8	
	comp=Z,139nm,1.5s							
RUBB	Prince Rupert	62.36	328	IAmb		IAmb	00 20 56.6	
	comp=Z,115nm,1.2s							
MOBC	Moresby Island	62.76	326	IAmb		IAmb	00 20 59.7	
	comp=Z,272nm,1.7s							
MOBC				IAms_20		IAms_20	00 52 36.2	
	comp=Z,4μm,18.0s							
DIB	Dawson Inlet,	63.06	326	IAmb		IAmb	00 21 01.5	
	comp=Z,157nm,1.3s							
ILULI	Ilulissat	63.33	10	P		P	00 20 51.2	-0.7
ILULI				pmax		pmax		
	comp=Z,66nm,1.3s							
ILULI				MLR		MLR		
	comp=Z,3μm,18.0s							
ILULI	Ilulissat	63.33	10	P		P	00 20 51.2	-0.7
ILULI				IAms_20		IAms_20	00 52 59.2	
	comp=Z,3μm,18.0s							
ANGG	Ammassalik, Gr	63.60	17	iP		P	00 20 53.6	-0.1
ANGG	Ammassalik, Gr	63.60	17	IAms_20		IAms_20	00 46 55.5	
	comp=Z,4μm,21.0s							
ANGG	Ammassalik, Gr	63.60	17	⇑P		P	00 20 53.6	-0.1
DLBC	Dease Lake	64.18	332	IAmb		IAmb	00 21 10.1	
	comp=Z,204nm,1.1s							
CRAG	Craig	64.35	329	P		P	00 20 59.0	+0.2
	baz=115							
CRAG	Craig	64.35	329	P		P	00 20 59.6	+0.8
CRAG				IAmb		IAmb	00 21 09.8	
	comp=Z,280nm,1.6s							
WRAK	Wrangell Islan	64.36	330	P		P	00 20 58.5	-0.4
	baz=116							
WRAK				S		S	00 29 38.4	+1.7
	baz=116							
WRAK	Wrangell Islan	64.36	330	IAms_20		IAms_20	00 51 34.4	
	comp=Z,4μm,20.0s							
ASCN	Ascension	64.77	103	IAms_20		IAms_20	00 45 11.5	
	comp=Z,4μm,22.0s							
TAOE	Nuku Hiva Isla	64.82	256	IAms_20		IAms_20	00 43 27.7	
	comp=Z,3μm,18.0s							
ICESG	Greenland Ices	65.61	14	⇑iP		P	00 21 06.7	-0.6
ICESG				IAmb		IAmb	00 21 08.0	
	comp=Z,142nm,1.2s							
UPNV	Upernavik	65.82	7	iP		P	00 21 07.9	-0.2
UPNV				IAmb		IAmb	00 21 09.0	
	comp=Z,34nm,1.0s							
SIT	Sitka	66.12	330	P		P	00 21 09.9	-0.4
	baz=113							
JIS	Juneau Island	66.16	331	IAms_20		IAms_20	00 54 11.8	
	comp=Z,4μm,19.0s							
BESE	Bessie Mountai	66.51	331	P		P	00 21 13.8	+0.9
SKAG	Skagway	67.09	332	P		P	00 21 16.7	+0.2
	baz=114							
SKAG	Skagway	67.09	332	P		P	00 21 17.3	+0.8
SKAG				IAmb		IAmb	00 21 28.6	
	comp=Z,169nm,1.4s							
SKAG	Skagway	67.09	332	⇑P		P	00 21 16.8	+0.2
SKAG				⇑P		pP	00 21 21.3	+0.2
RES	Resolute Bay	67.24	355	P		P	00 21 16.4	-0.8
	comp=Z,10nm,0.7s,baz=180,slow=7.9,SNR=6.1							
WHY	Whitehorse	67.39	333	P		P	00 21 18.2	-0.4
	baz=115,SNR=8.3							
WHY				S		S	00 30 14.7	+0.7
	baz=115							
TTIG	Tnine Tigouga,	67.73	60	P			00 21 24.0	
PMAFR	Mafra	67.86	51	eP		P	00 21 23.6	+1.8
	comp=Z,197nm,1.6s							
LIS	Lisbon	67.93	52	eP		P	00 21 23.0	+0.7
LIS				IAms_20		IAms_20	00 46 37.1	
	comp=Z,7μm,42.1s							
LIS	Lisbon	67.93	52	eP		P	00 21 22.9	+0.7
PFVI	Vila Bisbo	68.00	53	eP		P	00 21 25.0	+2.3
	comp=Z,161nm,1.9s							
PTEO	Sao Teotonio	68.12	53	eP		P	00 21 22.3	-1.2
	comp=Z,178nm,1.4s							
OUK	Oukaimeden	68.27	60	P			00 21 28.0	
PSBE	So Bento	68.31	51	eP		P	00 21 26.7	+2.1
	comp=Z,203nm,1.6s							
PNCL	Nicolau / Gran	68.34	52	eP		P	00 21 25.7	+0.9
	comp=Z,203nm,1.6s							
SUMG	Summit	68.49	12	⇑iP		P	00 21 25.8	+0.2
SUMG				IAmb		IAmb	00 21 27.6	
	comp=Z,117nm,1.0s							
SUMG	Summit	68.49	12	⇑iP		P	00 21 25.7	+0.2
SUMG				pmax		pmax		
	comp=Z,120nm,1.0s							
SUMG	Summit	68.49	12	IAmb		IAmb	00 21 38.8	
	comp=Z,106nm,0.8s							
SUMG				IAms_20		IAms_20	00 52 34.5	
	comp=Z,5μm,20.0s							
SUMG	Summit	68.49	12	⇑P		P	00 21 25.5	-0.1
SUMG				⇑P		P	00 21 25.6	-0.1
TULEG	Thule	68.50	2	⇑iP		P	00 21 25.2	+0.1
TULEG				IAmb		IAmb	00 21 26.4	
	comp=Z,151nm,1.1s							
TULEG	Thule	68.50	2	IAmb		IAmb	00 21 26.7	
	comp=Z,135nm,1.1s							
TULEG				IAms_20		IAms_20	00 51 46.7	
	comp=Z,6μm,21.0s							
MESJ	Messejana	68.55	53	eP		P	00 21 26.8	+0.7
MESJ				eS		S	00 30 29.8	+1.4
MESJ				IAms_20		IAms_20	00 47 12.4	
	comp=Z,4μm,22.4s							
MESJ	Messejana	68.55	53	eP		P	00 21 26.8	+0.7
MESJ				eS		S	00 30 29.7	+1.4
MESJ	Messejana	68.55	53	eP		P	00 21 27.6	+1.4
	comp=Z,129nm,1.5s							
BORG	Borgarnes	68.60	22	P		P	00 21 27.2	+1.3
BORG	Borgarnes	68.60	22	P		P	00 21 27.2	+1.3
PCAS	Casmilo, Conde	68.61	50	eP		P	00 21 27.8	+1.3
	comp=Z,317nm,1.6s							
HYT	Haines Junctio	68.64	333	IAmb		IAmb	00 21 39.3	
	comp=Z,264nm,1.8s							
PCVE	Castro Verde	68.67	53	eP		P	00 21 28.4	+1.5
	comp=Z,128nm,1.5s							
COI	Coimbra	68.69	50	eP		P	00 21 28.4	+1.4
	comp=Z,501nm,1.3s							
PMTG	Montargil	68.69	51	eP		P	00 21 28.1	+1.1
	comp=Z,142nm,1.5s							
PBDV	Barranco-do-Ve	68.72	53	eP		P	00 21 29.4	+2.2
	comp=Z,148nm,1.8s							
AVE	Averroes	68.79	58	iP		P	00 21 33.6	+5.9
AVE				eS		S	00 30 36.6	+5.2
AVE	Averroes	68.79	58	⇓P		P	00 21 31.1	+3.3
AVE	Averroes	68.79	58	P			00 21 31.2	
EVO	Evora	68.79	52	iP		P	00 21 27.1	-0.6
EVO				eS		S	00 30 38.8	+7.5
EVO	Evora	68.79	52	eP		P	00 21 28.8	+1.1
	comp=Z,111nm,1.5s							
PBEJ	Beja	68.85	52	eP		P	00 21 29.9	+1.9
	comp=Z,73nm,1.3s							
PVAQ	Vaqueiros	68.90	53	eP		P	00 21 30.7	+2.3
	comp=Z,15nm,1.4s							
PGAV	Gavieira, Arco	69.03	48	eP		P	00 21 30.5	+1.3
	comp=Z,172nm,1.5s							
PGAV				eS		S	00 30 37.4	+3.2
PGAV				eLQ		LQ	00 38 34.6	
PGAV				eLR		LR	00 43 02.7	
	comp=Z,2μm,20.0s							
PVIS	Viseu	69.15	50	eP		P	00 21 31.4	+1.5
	comp=Z,156nm,1.6s							
PESTR	Estremoz	69.16	52	eP		P	00 21 31.2	+1.2
	comp=Z,253nm,1.4s							
PESTR	Estremoz	69.16	52	IAmb		IAmb	00 21 37.0	
	comp=Z,146nm,1.4s							
PESTR	Estremoz	69.16	52	P			00 21 32.1	
PCAB	Cabril	69.18	49	eP		P	00 21 31.6	+1.6
	comp=Z,114nm,1.4s							
BCPM	Bancas Point	69.30	332	IAmb		IAmb	00 21 40.2	
	comp=Z,221nm,1.2s							
POLO	Lamas de Olo	69.31	49	eP		P	00 21 32.0	+1.1
	comp=Z,133nm,1.5s							
PVRL	Vila Real	69.35	49	eP		P	00 21 32.8	+1.7
	comp=Z,242nm,1.5s							
PCBR	Castelo Branco	69.36	51	eP		P	00 21 32.8	+1.7
	comp=Z,190nm,1.5s							
MTE	Manteigas	69.37	50	eP		P	00 21 31.9	+0.6
	comp=Z,137nm,1.5s							
MTE				eS		S	00 30 38.9	+0.7
MTE				eLQ		LQ	00 38 41.4	
MTE				eLR		LR	00 43 08.6	
	comp=Z,4μm,24.0s							
MTE	Manteigas	69.37	50	IAmb		IAmb	00 21 40.5	
	comp=Z,141nm,1.4s							
MTE				IAms_20		IAms_20	00 47 10.0	
	comp=Z,3μm,22.0s							
MTE	Manteigas	69.37	50	⇓P		P	00 21 32.8	+1.5
MTE				⇓P		P	00 21 32.8	+1.5
PMRV	Marv??o	69.38	51	eP		P	00 21 32.3	+1.0
	comp=Z,163nm,1.5s							
PMRV				eS		S	00 30 41.6	+3.5
PMRV				eLQ		LQ	00 39 36.8	
PMRV				eLR		LR	00 41 41.8	
	comp=Z,2μm,24.0s							
ZHG	ZHG	69.45	57	P			00 21 34.0	
PBAR	Barrancos	69.52	52	eP		P	00 21 33.5	+1.4
	comp=Z,133nm,1.4s							
VAL	Valentia	69.55	37	⇓P		P	00 21 33.7	+1.7
PINM	Pinnacle	69.64	332	P		P	00 21 33.2	+0.6
	baz=110,SNR=9.7							
PINM				S		S	00 30 42.0	+1.4
	baz=110							
PCA	Pinnacle	69.64	332	IAmb		IAmb	00 21 42.4	
	comp=Z,117nm,1.1s							
ARNO	Arenosillo	69.66	54	iP		P	00 21 33.1	+0.1
ARNO				eS		S	00 30 49.2	+7.8
MVO	Moncorvo	69.85	49	eP		P	00 21 35.4	+1.1
	comp=Z,174nm,1.4s							
MVO				eS		S	00 30 48.2	+4.4
MVO				eLQ		LQ	00 37 55.3	
MVO				eLR		LR	00 43 28.5	
	comp=Z,3μm,22.0s							
SFS	San Fernando	70.03	54	iP		P	00 21 36.6	+1.3
SFS				eS		S	00 30 53.9	+8.1
PBRG	Braganca	70.14	49	eP		P	00 21 37.4	+1.4
	comp=Z,132nm,1.4s							
TABL	Table Mountain	70.17	332	IAmb		IAmb	00 21 45.2	
	comp=Z,141nm,1.1s							
TZRR	Tazzarine	70.22	60	P			00 21 40.0	
RSA	Sarsar	70.22	56	P			00 21 40.0	
LOGN	Logan Glacier	70.24	332	IAmb		IAmb	00 21 49.1	
	comp=Z,159nm,1.3s							
LOGN				IAms_20		IAms_20	00 56 43.6	
	comp=Z,4μm,20.0s							
INK	Inuvik	70.38	341	P		P	00 21 37.3	+0.5
INK				pmax		pmax		
	comp=Z,161nm,1.1s							
INK	Inuvik	70.38	341	P		P	00 21 36.5	-0.3
	baz=119,SNR=51							
INK				S		S	00 30 46.3	-2.5
	baz=119							
INK	Inuvik	70.38	341	P		P	00 21 37.3	+0.5
INK				IAmb		IAmb	00 21 38.3	
	comp=Z,160nm,1.1s							
YAH	Yahtse	70.43	332	IAmb		IAmb	00 21 47.9	
	comp=Z,230nm,1.2s							
CTGM	Chitina Glacie	70.44	332	IAmb		IAmb	00 21 50.4	
	comp=Z,200nm,1.3s							
CTGM				IAms_20		IAms_20	00 56 50.0	
	comp=Z,4μm,20.0s							
CTG	Chitna Glacier	70.44	332	P		P	00 21 38.4	+0.9
	baz=109,SNR=25							
CTG				S		S	00 30 52.9	+2.8
	baz=109							
MESA	MESA	70.47	331	P		P	00 21 38.7	+0.9
	baz=108,SNR=11							
MESA				S		S	00 30 53.8	+3.2
	baz=108							
MESA	MESA	70.47	331	IAmb		IAmb	00 21 46.0	
	comp=Z,180nm,1.2s							
MESA				IAms_20		IAms_20	00 55 50.8	
	comp=Z,5μm,20.0s							
EPYK	Eagle Plains	70.59	338	P		P	00 21 38.1	-0.1
	baz=115,SNR=48							
EPYK				S		S	00 30 51.2	-0.3
	baz=115							
EPYK	Eagle Plains	70.59	338	IAmb		IAmb	00 21 40.0	
	comp=Z,192nm,1.1s							
BARN	Barnard Glacie	70.62	332	IAmb		IAmb	00 21 51.5	
	comp=Z,163nm,1.4s							
BARN				IAms_20		IAms_20	00 55 29.7	
	comp=Z,5μm,22.0s							
NEEM	North Greenlan	70.62	6	⇑iP		P	00 21 38.9	+0.4
NEEM				IAmb		IAmb	00 21 40.2	
	comp=Z,149nm,1.0s							
CHEFC	Chefchaouen	70.63	56	P			00 21 42.0	
SMIR	Smir Dam	70.63	55	P			00 21 42.0	
CEU	Ceuta	70.65	55	iP		P	00 21 39.4	+0.3
DAWY	Dawson	70.69	336	P		P	00 21 38.4	-0.5
IFR	Ifrane	70.71	57	iP		P	00 21 40.3	+0.5
IFR				eS		S	00 31 00.9	+6.6
CZD	Col de Zad	70.76	58	P			00 21 43.0	
LCRM	LCR	70.95	57	P			00 21 45.0	
WAX	Waxell Ridge	70.98	331	IAmb		IAmb	00 21 43.4	
	comp=Z,121nm,1.1s							
WAX				IAms_20		IAms_20	00 58 10.3	
	comp=Z,4μm,18.0s							
HOPE	Hope Point	71.04	156	P		P	00 21 40.8	-0.2
HOPE				pmax		pmax		
	comp=Z,183nm,1.3s							
HOPE	Hope Point	71.04	156	P		P	00 21 40.8	-0.2
HOPE				IAmb		IAmb	00 21 47.2	
	comp=Z,183nm,1.3s							
TGL	Tana Glacier	71.06	332	IAmb		IAmb	00 21 51.0	
	comp=Z,203nm,1.3s							
MDT	Midelt	71.12	58	P		P	00 21 43.9	+1.7
	comp=Z,24nm,1.1s,baz=278,slow=6.6,SNR=21							
MDT	Midelt	71.12	58	P			00 21 44.7	
M27K	Edge Creek, AK	71.14	334	P		P	00 21 42.5	+0.7
	baz=109,SNR=126							
M27K				S		S	00 30 59.2	+1.0
	baz=109							
CRQE	Cirque	71.19	332	P		P	00 21 42.5	+0.4
	baz=108,SNR=24							
CRQM	Cirque	71.21	332	IAmb		IAmb	00 21 44.5	
	comp=Z,140nm,1.2s							
SCO	Scoresbysund	71.22	17	iP		P	00 21 42.4	+0.4
SCO				IAmb		IAmb	00 21 43.4	
	comp=Z,37nm,1.4s							
SCO	Scoresbysund	71.22	17	iP		P	00 21 42.3	+0.4
SCO				pmax		pmax		
	comp=Z,37nm,1.4s							
SCO	Scoresbysund	71.22	17	IAms_20		IAms_20	00 52 07.0	
	comp=Z,3μm,19.0s							
SUCK	Suckling Hills	71.31	331	IAmb		IAmb	00 21 45.7	
	comp=Z,335nm,1.7s							
BCAR	Beaver Creek A	71.34	334	P		P	00 21 43.3	+0.5
MCARA	McCarthy VSAT	71.35	332	P		P	00 21 43.2	+0.4
	baz=108,SNR=28							
MCARA				S		S	00 31 03.1	+2.7
	baz=108							
MCARA	McCarthy VSAT	71.35	332	IAmb		IAmb	00 22 09.2	
	comp=Z,182nm,1.1s							
MCARA				IAms_20		IAms_20	00 55 53.0	
	comp=Z,5μm,22.0s							
L27K	Beaver Creek,	71.35	334	P		P	00 21 43.6	+0.7
	baz=109,SNR=191							
L27K				S		S	00 31 01.1	+0.7
	baz=109							
L27K	Beaver Creek,	71.35	334	IAmb		IAmb	00 21 45.5	
	comp=Z,205nm,1.1s							
BERG	Berg Lake	71.37	331	IAmb		IAmb	00 21 45.7	
	comp=Z,151nm,1.1s							
EMAL	Malaga-Limoner	71.47	54	iP		P	00 21 45.0	+0.9
EMAL				eS		S	00 31 00.5	-2.1
PVLZ	Peæn de	71.48	56	iP		P	00 21 43.9	-0.3
PVLZ				eS		S	00 30 58.9	-3.9
VRDI	Verde Repeater	71.50	332	P		P	00 21 44.7	+0.7
VRDI				IAmb		IAmb	00 21 55.5	
	comp=Z,197nm,1.4s							
KAIM	Kayak Island	71.58	331	P		P	00 21 45.1	+0.8
	baz=106,SNR=16							
KAIM				S		S	00 31 05.8	+2.8
	baz=106							
KAIM	Kayak Island	71.58	331	IAmb		IAmb	00 21 54.5	
	comp=Z,158nm,1.1s							
HMT	Hamilton	71.62	331	IAmb		IAmb	00 21 47.1	
	comp=Z,124nm,1.0s							
TIC	Toumodi	71.64	86	eP		P	00 21 46.4	+0.9
M26K	Nabesna, AK	71.65	333	P		P	00 21 44.9	+0.2
	baz=108,SNR=39							
M26K				S		S	00 31 04.6	+0.7
	baz=108							
EGAK	Eagle	71.67	336	P		P	00 21 44.9	+0.2
	baz=111,SNR=73							
EGAK				S		S	00 31 05.4	+1.5
	baz=111							
EGAK	Eagle	71.67	336	IAmb		IAmb	00 21 47.7	
	comp=Z,134nm,

BMRM				S	S	00 31 07.1	-0.4
	baz=106						
L26K	Log Cabin Wild	72.00	334	P	P	00 21 47.3	+0.5
	baz=108,SNR=106						
L26K				S	S	00 31 09.3	+1.5
	baz=108						
ESDC	Sonseca Array	72.04	51	P	P	00 21 48.3	+0.7
	comp=Z,62nm,0.9s,baz=271,slow=5.5,SNR=213						
ESDC				LR	LR	00 51 51.4	
	comp=Z,687nm,20.1s,baz=265,slow=34						
ESDC	Sonseca Array	72.04	51	P	P	00 21 48.6	+1.0
ESDC				IAmb	IAmb	00 21 54.8	
	comp=Z,218nm,1.3s						
ESBB	Sonseca Array	72.04	51	IAmb	IAmb	00 21 54.8	
	comp=Z,222nm,1.4s						
N25K	Chitina, Valde	72.14	332	P	P	00 21 48.2	+0.5
	baz=106,SNR=40						
N25K				S	S	00 31 11.2	+1.6
	baz=106						
N25K	Chitina, Valde	72.14	332	IAMs_20	IAMs_20	00 56 16.8	
	comp=Z,5μm,22.0s						
EYAK	Cordova Ski Ar	72.39	331	P	P	00 21 49.5	+0.4
	baz=105,SNR=11						
EYAK				S	S	00 31 13.0	+0.7
	baz=105						
EYAK	Cordova Ski Ar	72.39	331	IAmb	IAmb	00 21 51.4	
	comp=Z,105nm,1.1s						
Q23K	Middleton Isla	72.40	330	P	P	00 21 49.2	0.0
	baz=104						
Q23K				S	S	00 31 13.4	+1.0
	baz=104						
Q23K	Middleton Isla	72.40	330	P	P	00 21 50.5	+1.3
Q23K				IAmb	IAmb	00 21 52.1	
	comp=Z,248nm,1.3s						
Q23K				IAMs_20	IAMs_20	00 59 07.8	
	comp=Z,4μm,19.0s						
DOT	Dot Lake	72.50	335	IAmb	IAmb	00 21 52.1	
	comp=Z,223nm,1.0s						
GOG	Mont Gurugu	72.55	56	P		00 21 53.0	
GMM	Mts of Mourne	72.56	36	eP	P	00 21 51.0	+0.7
SCRK	Sand Creek	72.56	335	P	P	00 21 50.9	+0.6
	baz=108,SNR=206						
SCRK				S	S	00 31 15.4	+0.9
	baz=108						
SCRK	Sand Creek	72.56	335	IAmb	IAmb	00 21 52.7	
	comp=Z,320nm,1.4s						
MELI	Melilla	72.61	56	i P	P	00 21 51.1	+0.2
MELI				eS	SKiKP	00 31 23.0	-2.6
HARP	HAARP	72.61	333	P	P	00 21 50.6	+0.1
	baz=106,SNR=9.6						
HARP				S	S	00 31 17.0	+2.1
	baz=106						
UCM	Universidad Co	72.64	50	i P	P	00 21 48.5	-2.5
UCM				eS	S	00 31 17.1	+1.1
HIN	Hinchinbrook I	72.71	331	IAmb	IAmb	00 21 52.9	
	comp=Z,253nm,1.7s						
KLU	Klutina	72.71	332	P	P	00 21 51.3	+0.1
	baz=105,SNR=36						
KLU				S	S	00 31 16.6	+0.4
	baz=105						
KLU	Klutina	72.71	332	IAMs_20	IAMs_20	00 56 46.1	
	comp=Z,5μm,22.0s						
LEWI	Lewis, Hebride	72.83	32	eP	P	00 21 51.7	-0.1
LEWI				IAmb	IAmb	00 21 53.3	
	comp=Z,108nm,1.1s						
RIDG	Independent Ri	72.86	335	P	P	00 21 52.5	+0.5
	baz=107,SNR=243						
RIDG				S	S	00 31 19.8	+2.1
	baz=107						
RIDG	Independent Ri	72.86	335	P	P	00 21 52.4	+0.5
JBK	JBK	72.88	57	P		00 21 55.0	
RSBS	Rosebush, Pemb	72.89	38	eP	P	00 21 52.8	+0.5
RSBS				IAMs_20	IAMs_20	00 50 10.2	
	comp=Z,5μm,19.2s						
PAX	Paxson	72.91	334	P	P	00 21 52.2	-0.1
	baz=106,SNR=114						
PAX	Paxson	72.91	334	IAmb	IAmb	00 21 54.1	
	comp=Z,163nm,1.3s						
HTL	Hartland	72.91	39	eP	P	00 21 53.4	+1.0
HTL				IAmb	IAmb	00 21 54.8	
	comp=Z,222nm,1.3s						
M24K	Tolsona, Glenn	72.99	333	P	P	00 21 53.0	+0.3
	baz=105,SNR=25						
M24K				S	S	00 31 20.2	+0.9
	baz=105						
M24K	Tolsona, Glenn	72.99	333	IAmb	IAmb	00 21 55.1	
	comp=Z,252nm,1.2s						
TAF	Taforalt	73.02	56	P		00 21 56.0	
GLI	Glacier Island	73.11	331	P	P	00 21 53.0	-0.5
	baz=104,SNR=8.9						
GLI				S	S	00 31 18.9	-1.6
	baz=104						
GLI	Glacier Island	73.11	331	IAMs_20	IAMs_20	00 59 11.6	
	comp=Z,5μm,19.0s						
YRC	Rhoscolyn	73.20	37	eP	P	00 21 54.3	+0.3
WIM	Isle of Man	73.28	36	eP	P	00 21 54.8	+0.3
TDRA	Tendrara	73.29	58	P		00 21 58.0	
KPL	Plockton	73.31	33	eP	P	00 21 54.6	0.0
KPL				IAmb	IAmb	00 21 56.0	
	comp=Z,116nm,1.2s						
KPL				IAMs_20	IAMs_20	00 50 14.7	
	comp=Z,6μm,20.1s						
IOMK	Kirk Michael	73.36	36	eP	P	00 21 55.2	+0.2
IOMK				IAMs_20	IAMs_20	00 50 18.1	
	comp=Z,11μm,22.4s						
GAL1	Galloway	73.38	35	eP	P	00 21 55.8	+0.7
GAL1				IAmb	IAmb	00 21 56.9	
	comp=Z,150nm,1.1s						
GAL1				IAMs_20	IAMs_20	00 50 06.6	
	comp=Z,4μm,21.7s						
PMSA	Palmer Station	73.41	174	P	P	00 21 55.1	+0.1
	comp=Z,4.7nm,0.6s,baz=354,slow=8.4,SNR=9.0						
PMSA	Palmer Station	73.41	174	P	P	00 21 55.0	+0.1
PMSA	Palmer Station	73.41	174	eP	P	00 21 55.7	+0.7
PMSA				eS	S	00 31 23.6	0.0
VAH	Vaihoa	73.42	251	eP	P	00 21 57.5	+1.5
	comp=Z,178nm,1.4s						
SCM	Sheep Creek Mo	73.45	332	IAmb	IAmb	00 21 57.4	
	comp=Z,177nm,1.0s						
SCM				IAMs_20	IAMs_20	00 57 06.6	
	comp=Z,4μm,20.0s						
KAC	Achnashellach	73.53	32	eP	P	00 21 56.2	+0.2
PMOR	Pomariorio Ree	73.61	252	eP	P	00 21 58.8	+1.6
	comp=Z,374nm,1.4s						
DBG	Daneborg	73.62	14	i P	P	00 21 56.7	+0.5
DBG				IAmb	IAmb	00 21 57.6	
	comp=Z,56nm,1.4s						
PRP	Porcupine Dome	73.65	336	P	P	00 21 56.5	-0.2
	baz=107,SNR=63						
PRP	Porcupine Dome	73.65	336	IAmb	IAmb	00 21 58.7	
	comp=Z,111nm,0.9s						
PRP				IAMs_20	IAMs_20	00 58 18.6	
	comp=Z,4μm,19.0s						
PGBU	Glenifferbraes	73.67	34	eP	P	00 21 57.2	+0.5
PGBU				IAmb	IAmb	00 21 58.6	
	comp=Z,158nm,1.0s						
NEWG	New Galloway	73.69	35	eP	P	00 21 57.5	+0.6
NEWG				IAmb	IAmb	00 21 58.8	
	comp=Z,182nm,1.1s						
NEWG				IAMs_20	IAMs_20	00 50 26.1	
	comp=Z,4μm,21.3s						
PWL	Port Wells	73.70	331	P	P	00 21 56.0	-0.8
PWL				IAmb	IAmb	00 21 58.2	
	comp=Z,107nm,1.0s						
PWL				IAMs_20	IAMs_20	00 58 18.1	
	comp=Z,4μm,21.0s						
WAT6	Susitna Watana	73.82	333	P	P	00 21 57.3	-0.4
	baz=104,SNR=112						
WAT6				S	SKiKP	00 31 27.8	+0.8
	baz=104						
FYU	Fort Yukon	73.84	337	IAmb	IAmb	00 22 00.1	
	comp=Z,234nm,1.2s						
FYU				IAMs_20	IAMs_20	00 59 31.7	
	comp=Z,3μm,20.0s						
BMAR	Burnt Mountain	73.86	338	P	P	00 21 57.7	-0.1
KNK	Knik Glacier	73.88	332	P	P	00 21 57.9	0.0
	baz=103,SNR=43						
KNK				S	S	00 31 29.1	-0.2
	baz=103						
KNK	Knik Glacier	73.88	332	IAmb	IAmb	00 22 08.3	
	comp=Z,167nm,1.0s						
SML	Sawmill	73.91	332	P	P	00 21 57.9	-0.3
	baz=103,SNR=64						
SML				S	S	00 31 29.3	-0.4
	baz=103						
SML	Sawmill	73.91	332	IAmb	IAmb	00 22 06.0	
	comp=Z,300nm,1.4s						
FIGM	Figuig	73.93	59	P		00 22 01.5	
HDA	Harding Lake	73.93	335	P	P	00 21 57.9	-0.3
	baz=105,SNR=195						
HDA				S	SKiKP	00 31 27.8	+0.9
	baz=105						
HDA				S	SKiKP	00 31 27.8	+0.9
	baz=105						
HDA	Harding Lake	73.93	335	IAmb	IAmb	00 22 00.3	
	comp=Z,269nm,1.1s						
MCH1	Michaelchurch	73.97	38	eP	P	00 21 59.1	+0.5
MCH1				IAmb	IAmb	00 22 00.3	
	comp=Z,128nm,1.1s						
MCH1				IAMs_20	IAMs_20	00 49 33.0	
	comp=Z,5μm,24.2s						
ILAR	Eielson Array	74.00	335	P	P	00 21 57.9	-0.7
	comp=Z,54nm,0.8s,baz=115,slow=4.7,SNR=280						
ILAR				PP	PP	00 24 42.6	-1.0
	comp=Z,5.8nm,1.1s,baz=115,slow=6.2,SNR=2.6						
INVG	Invergeldie, C	74.01	34	eP	P	00 21 59.0	+0.2
INVG				IAmb	IAmb	00 22 00.3	
	comp=Z,150nm,1.2s						
MDO	Dochfour	74.01	33	eP	P	00 21 59.1	+0.3
SEW	Seward	74.08	330	P	P	00 21 58.5	-0.6
	baz=102,SNR=22						
SEW				S	SKiKP	00 31 27.6	+0.5
	baz=102						
SEW	Seward	74.08	330	IAmb	IAmb	00 22 09.4	
	comp=Z,124nm,1.0s						
HLM1	Long Mynd	74.11	38	eP	P	00 22 00.2	+0.7
HLM1				IAmb	IAmb	00 22 01.3	
	comp=Z,150nm,1.2s						
HLM1				IAMs_20	IAMs_20	00 51 05.8	
	comp=Z,5μm,21.3s						
OLDB	Oldbury-Upon-S	74.20	39	eP	P	00 22 00.9	+0.9
PMR	Palmer	74.23	332	P	P	00 21 59.9	-0.1
	baz=102,SNR=7.6						
PMR				S	S	00 31 31.9	-1.3
	baz=102						
WAT1	Susitna Watana	74.24	333	P	P	00 21 59.8	-0.3
	baz=103						
WAT1				S	S	00 31 33.6	+0.2
	baz=103						
CART	Cartagena	74.25	53	i P	P	00 22 02.3	+1.7
CART				eS	SKiKP	00 31 28.3	+0.3
KESW	Keswick, Cumbr	74.26	36	eP	P	00 22 01.2	+0.9
KESW				IAmb	IAmb	00 22 02.1	
	comp=Z,158nm,1.1s						
EBH	Black Hill	74.28	34	eP	P	00 22 01.2	+0.8
O22K	Cooper Landing	74.28	331	P	P	00 21 59.9	-0.3
	baz=101						
O22K				S	S	00 31 32.5	-1.3
	baz=101						
O22K	Cooper Landing	74.28	331	IAmb	IAmb	00 22 14.7	
	comp=Z,152nm,0.9s						
ESK	Eskdalemuir	74.31	35	eP	P	00 22 00.7	+0.1
ESK				IAmb	IAmb	00 22 02.2	
	comp=Z,130nm,1.0s						
ESK				IAMs_20	IAMs_20	00 50 44.4	
	comp=Z,4μm,19.6s						
ESK	Eskdalemuir	74.31	35	P	P	00 22 00.8	+0.3
ESK				pmax	pmax		
	comp=Z,132nm,1.0s						
ESK	Eskdalemuir	74.31	35	P	P	00 22 00.8	+0.3
ESK				IAmb	IAmb	00 22 02.5	
	comp=Z,132nm,1.0s						
ESK	Eskdalemuir	74.31	35	IAMs_20	IAMs_20	00 50 58.2	
	comp=Z,4μm,20.0s						
POKR	Poker Plat Res	74.31	336	P	P	00 22 00.4	-0.1
	baz=105,SNR=21						
POKR				S	S	00 31 34.4	+0.3
	baz=105						
POKR	Poker Plat Res	74.31	336	IAmb	IAmb	00 22 02.1	
	comp=Z,293nm,1.8s						
EKA	Eskdalemuir Ar	74.33	35	P	P	00 22 01.0	+0.3
	comp=Z,67nm,0.9s,baz=256,slow=5.5,SNR=92						
EKA				pP	pP	00 22 06.1	+0.7
	comp=Z,84nm,1.1s,baz=252,slow=4.6,SNR=11						
CCB	Clear Creek Bu	74.35	335	IAMs_20	IAMs_20	01 00 53.1	
	comp=Z,3μm,19.0s						
RC01	Rabbit Creek A	74.41	331	P	P	00 22 00.9	-0.1
	baz=102,SNR=23						
RC01				S	S	00 31 33.2	-2.0
	baz=102						
RC01	Rabbit Creek A	74.41	331	IAmb	IAmb	00 22 08.0	
	comp=Z,316nm,1.8s						
RC01				IAMs_20	IAMs_20	00 58 06.1	
	comp=Z,4μm,22.0s						
COLA	College	74.42	335	P	P	00 22 01.4	+0.4
COLA				pmax	pmax		
	comp=Z,113nm,1.2s						
COLA	College	74.42	335	P	P	00 22 00.6	-0.4
	baz=104						
COLA				S	S	00 31 34.7	-0.5
	baz=104						
COLA	College	74.42	335	P	P	00 22 01.4	+0.4
TCOL	CIGO, UAF Yank	74.43	335	P	P	00 22 00.5	-0.6
	baz=104,SNR=6.6						
TCOL				S	S	00 31 33.3	-1.9
	baz=104						
STRD	Stroud	74.46	39	eP	P	00 22 02.2	+0.7
STRD				IAmb	IAmb	00 22 03.4	
	comp=Z,164nm,0.9s						
STRD				IAMs_20	IAMs_20	00 48 04.0	
	comp=Z,5μm,26.2s						
EBL	Broad Law	74.46	34	eP	P	00 22 02.2	+0.7
EDU	Dundee	74.59	34	eP	P	00 22 03.0	+0.8
MDM	Murphy Dome	74.60	335	IAmb	IAmb	00 22 03.6	
	comp=Z,142nm,1.2s						
ALE	Alert	74.61	2	IAMs_20	IAMs_20	00 55 24.0	
	comp=Z,4μm,21.0s						
MCK	McKinley	74.61	334	P	P	00 22 02.2	0.0
	baz=103,SNR=39						
MCK				S	S	00 31 37.1	-0.4
	baz=103						
MCK	McKinley	74.61	334	IAmb	IAmb	00 22 04.8	
	comp=Z,212nm,1.3s						
MCK				IAMs_20	IAMs_20	01 00 21.2	
	comp=Z,4μm,20.0s						
MCD	Coleburn Disti	74.63	32	eP	P	00 22 02.4	+0.1
BRSE	Bradley Lake S	74.65	330	P	P	00 22 01.9	-0.5
	baz=100,SNR=23						
BRSE				S	S	00 31 34.9	-3.0
	baz=100						
FIS	Fire Island	74.65	331	IAmb	IAmb	00 22 04.8	
	comp=Z,237nm,1.0s						
FIS				IAMs_20	IAMs_20	00 58 02.4	
	comp=Z,4μm,22.0s						
H24K	Noodor Dome	74.68	336	P	P	00 22 02.6	0.0
	baz=104,SNR=155						
H24K				S	S	00 31 37.5	-0.7
	baz=104						
BRLK	Bradley Lake	74.72	330	P	P	00 22 03.5	+0.5
BRLK				IAmb	IAmb	00 22 10.3	
	comp=Z,114nm,1.0s						
BRLK				IAMs_20	IAMs_20	00 57 19.6	
	comp=Z,3μm,20.0s						
ESY	Stoneypath	74.72	34	eP	P	00 22 03.9	+1.0
CNPM	China Poot	74.86	330	IAMs_20	IAMs_20	00 57 10.9	
	comp=Z,4μm,21.0s						
NEA2	Nenana	74.86	335	P	P	00 22 03.2	-0.4
	baz=103,SNR=43						
NEA2				S	S	00 31 37.9	-2.3
	baz=103						
NEA2	Nenana	74.86	335	IAmb	IAmb	00 22 05.1	
	comp=Z,133nm,1.0s						
NEA2				IAMs_20	IAMs_20	01 00 02.8	
	comp=Z,3μm,19.0s						
LBWR	Ladybower, Pea	74.91	37	eP	P	00 22 04.7	+0.6
LBWR				IAmb	IAmb	00 22 06.9	
	comp=Z,252nm,1.1s						
LBWR				IAMs_20	IAMs_20	00 51 16.9	
	comp=Z,4μm,22.1s						
CUT	Chulitna	74.92	333	P	P	00 22 03.9	-0.1
	baz=101,SNR=11						
CUT				S	S	00 31 38.9	-2.0
	baz=101						
CUT	Chulitna	74.92	333	IAmb	IAmb	00 22 06.2	
	comp=Z,294nm,1.2s						
DRUM	Mains of Drumt	74.94	33	eP	P	00 22 05.2	+1.0
DRUM				IAmb	IAmb	00 22 05.9	
	comp=Z,128nm,0.9s						
DRUM				IAMs_20	IAMs_20	00 52 37.9	
	comp=Z,4μm,16.7s						
BWN	Browne	74.94	334	IAMs_20	IAMs_20	01 00 13.9	
	comp=Z,4μm,21.0s						
EDMD	Edmundbyers	74.95	35	eP	P	00 22 05.0	+0.7
EDMD				IAMs_20	IAMs_20	00 51 05.1	
	comp=Z,5μm,20.6s						
SUA	Susitna One	74.96	332	P	P	00 22 04.3	-0.1
	baz=101,SNR=76						
SUA				S	S	00 31 39.4	-2.2
	baz=101						
SUA	Susitna One	74.96	332	IAmb	IAmb	00 22 06.1	
	comp=Z,130nm,1.0s						
CAPN	Captain Cook N	75.03	331	P	P	00 22 05.5	+0.9
	baz=100						
CAPN	Captain Cook N	75.03	331	IAmb	IAmb	00 22 14.8	
	comp=Z,293nm,1.2s						
HOM	Homer	75.08	330	P	P	00 22 04.9	0.0
	baz=99						
HOM	Homer	75.08	330	IAMs_20	IAMs_20	01 00 52.9	
	comp=Z,3μm,20.0s						
CWF	Charnwood Fore	75.09	38	eP	P	00 22 05.8	+0.7
CWF				IAMs_20	IAMs_20	00 51 45.2	
	comp=Z,5μm,20.6s						
I23K	Minto, Yukon-K	75.11	335	P	P	00 22 05.1	+0.1
	baz=103,SNR=155						
I23K				S	S	00 31 41.0	-1.9
	baz=103						
I23K	Minto, Yukon-K	75.11	335	IAmb	IAmb	00 22 06.9	
	comp=Z,169nm,1.1s						
TRF	Thorofare Moun	75.14	334	P	P	00 22 05.5	0.0
	baz=102,SNR=44						
TRF				S	S	00 31 43.1	-0.5
	baz=102						
TRF	Thorofare Moun	75.14	334	IAmb	IAmb	00 22 07.2	
	comp=Z,138nm,1.1s						
TRF				IAMs_20	IAMs_20	00 57 53.2	
	comp=Z,5μm,21.0s						
DAG	Danmarks Havn	75.18	12⇑	i P	P	00 22 04.8	-0.5
DAG				IAmb	IAmb	00 22 06.0	
	comp=Z,58nm,1.1s						
DAG	Danmarks Havn	75.18	12⇑	i P	P	00 22 04.7	-0.5
DAG				pmax	pmax		
	comp=Z,58nm,1.1s						
KDAK	Kodiak Island	75.28	328	P	P	00 22 05.5	-0.6
	comp=Z,18nm,0.8s,baz=234,slow=2.6,SNR=15						
KDAK	Kodiak Island	75.28	328	P	P	00 22 06.3	+0.2
KDAK				pmax	pmax		
	comp=Z,43nm,1.1s						
KDAK				MLR	MLR		
	comp=Z,2μm,20.0s						
KDAK	Kodiak Island	75.28	328	P	P	00 22 05.9	-0.2
	baz=98						
KDAK				S	S	00 31 41.2	-3.7
	baz=98						
KDAK	Kodiak Island	75.28	328	P	P	00 22 06.3	+0.2
KDAK	Kodiak Island	75.28	328	IAMs_20	IAMs_20	00 57 47.2	
	comp=Z,2μm,20.0s						
MFF	Saint Martin d	75.31	44	eP	P	00 22 07.5	+0.9
MFF				pmax	pmax		
	comp=Z,313nm,1.4s						
H23K	Yukon River	75.34	336	P	P	00 22 06.4	0.0
	baz=103,SNR=88						
H23K				S	S	00 31 42.9	-2.5
	baz=103						
SKT	Skwentna	75.43	332	P	P	00 22 06.5	-0.4
	baz=100,SNR=100						
SKT				S	S	00 31 44.8	-1.8
	baz=100						
SKT	Skwentna	75.43	332	IAmb	IAmb	00 22 08.4	
	comp=Z,150nm,1.1s						
SKT				IAMs_20	IAMs_20	01 00 40.8	
	comp=Z,4μm,20.0s						
GDLE	Glaisdale, N Y	75.56	36	eP	P	00 22 08.5	+0.7
GDLE				IAmb	IAmb	00 22 09.9	
	comp=Z,187nm,1.0s						
BPAW	Bear Paw Mtn.	75.58	334	P	P	00 22 07.4	-0.4
	baz=101,SNR=316						
BPAW				S	S	00 31 45.3	-2.9
	baz=101						
BPAW	Bear Paw Mtn.	75.58	334	IAmb	IAmb	00 22 09.3	
	comp=Z,183nm,0.9s						
BPAW				IAMs_20	IAMs_20	01 00 47.6	
	comp=Z,3μm,20.0s						
OHAK	Old Harbor	75.58	327	P	P	00 22 07.4	-0.4
	baz=97,SNR=12						
OHAK				S	S	00 31 44.3	-4.0
	baz=97						
SPCR	Spurr Chakacha	75.61	331	P	P	00 22 07.3	-0.8
	baz=99,SNR=12						
SPCR				S	S	00 31 45.5	-3.3
	baz=99						
O20K	Slope Mountain	75.64	330	P	P	00 22 08.0	-0.3
	baz=99,SNR=13						
O20K				S	S	00 31 46.0	-3.1
	baz=99						
MLY	Manley	75.66	335	P	P	00 22 07.8	-0.5
	baz=102,SNR=231						
MLY				S	S	00 31 46.8	-2.3
	baz=102						
MLY	Manley	75.66	335	P	P	00 22 08.0	-0.3
MLY				IAmb	IAmb	00 22 09.8	
	comp=Z,142nm,1.0s						
MLY				IAMs_20	IAMs_20	01 01 22.8	
	comp=Z,4μm,20.0s						
PPT	Papeete	75.78	250	LR	LR	00 48 18.2	
	comp=Z,2μm,19.0s,baz=66,slow=30						
PPT2	Papeete2	75.78	250	eS	S	00 31 48.4	-3.7
	comp=Z,2μm,30.5s						
PPT2	Papeete2	75.78	250	eLQ	LQ	00 42 21.2	
	comp=Z,4μm,29.2s						
PPT2				eLR	LR	00 45 37.3	
	comp=Z,5μm,23.5s,baz=67						
PAE	Paea	75.80	249	eP	P	00 22 10.9	+1.1
	comp=Z,55nm,1.4s						
P19K	Oil Pt	75.88	329	P	P	00 22 08.9	-0.7
	baz=98,SNR=6.2						
P19K				S	S	00 31 48.0	-3.7
	baz=98						
PPLA	Purkeypile	75.89	333	P	P	00 22 09.2	-0.5
	baz=100,SNR=80						
PPLA				S	S	00 31 49.1	-2.8
	baz=100						
EANR	'Ain N'Sour	75.91	55	P	P	00 22 12.2	+1.9
COLD	Coldfoot	75.91	337	P	P	00 22 10.1	+0.5
	baz=103,SNR=100						
COLD				S	S	00 31 48.9	-2.8
	baz=103						
COLD	Coldfoot	75.91	337	IAmb	IAmb	00 22 12.0	
	comp=Z,119nm,1.0s						
COLD				IAMs_20	IAMs_20	00 59 54.3	
	comp=Z,3μm,21.0s						
PUH	Pauahi	75.95	288	P	P	00 22 11.8	+0.9
PUH				IAmb	IAmb	00 22 13.0	
	comp=Z,218nm,1.1s						
PUH				IAMs_20	IAMs_20	00 48 47.8	
	comp=Z,4μm,19.0s						
SII	Sitkinak Islan	75.99	326	P	P	00 22 09.6	-0.6
	baz=96						
SII	Sitkinak Islan	75.99	326	IAMs_20	IAMs_20	00 58 53.1	
	comp=Z,3μm,19.0s						
HATHI	Halema'uma'u T	75.99	288	IAMs_20	IAMs_20	00 47 55.8	
	comp=Z,4μm,20.0s						
TOLK	Toolik Lake Re	76.00	339	P	P	00 22 09.5	-0.6
	baz=104,SNR=41						
TOLK				S	S	00 31 48.7	-4.0
	baz=104						
TOLK	Toolik Lake Re	76.00	339	IAMs_20	IAMs_20	00 57 36.6	
	comp=Z,4μm,21.0s						
RIM	Rim	76.01	288	IAMs_20	IAMs_20	00 48 10.2	
	comp=Z,4μm,21.0s						
NPH	North Pit	76.01	288	IAMs_20	IAMs_20	00 48 11.3	
	comp=Z,5μm,22.0s						
SDHHI	Sand Hill	76.03	288	IAMs_20	IAMs_20	00 48 50.7	
	comp=Z,4μm,20.0s						
WRMHI	West Rim	76.03	288	IAMs_20	IAMs_20	00 48 31.8	
	comp=Z,4μm,20.0s						
HLP	Hilina Pali	76.05	288	IAMs_20	IAMs_20	00 49 00.2	
	comp=Z,4μm,19.0s						
MLH	Mauna Loa	76.11	288	IAMs_20	IAMs_20	00 48 23.8	
	comp=Z,4μm,20.0s						
CHUM	Lake Minchumin	76.11	334	P	P	00 22 10.5	-0.3
	baz=100,SNR=64						
CHUM				S	S	00 31 51.0	-3.0
	baz=100						
ECHA	Ech Chlef	76.12	55	P	P	00 22 16.9	+5.5
AIN	Ainahou	76.18	288	IAMs_20	IAMs_20	00 48 30.8	
	comp=Z,5μm,21.0s						
I21K	Tanana	76.20	335	P	P	00 22 11.1	-0.2
	baz=100,SNR=135						
I21K				S	S	00 31 51.9	-3.1
	baz=100

EBNR	Beni Rached	76.25	55	P	P		00 22 13.7	+1.5
WACR	West Acre	76.26	38	eP	P		00 22 12.8	+1.0
WACR				IAmb	IAmb		00 22 14.1	
	comp=Z,242nm,1.1s							
WACR				IAMs_20	IAMs_20		00 50 52.7	
	comp=Z,5µm,23.0s							
MWH	Moku'aweowe	76.31	288	IAMs_20	IAMs_20		00 48 30.1	
	comp=Z,4µm,20.0s							
N19K	Bonanza Creek	76.65	331	P	P		00 22 12.9	-1.1
	baz=97,SNR=27							
N19K				S	S		00 31 55.7	-4.5
	baz=97							
CHIR	Chirikof Islan	76.71	325	IAMs_20	IAMs_20		01 02 48.3	
	comp=Z,3µm,19.0s							
CAF	Calviac	76.78	46	eP	P		00 22 15.8	+0.8
CAF				pmax	pmax			
	comp=Z,133nm,1.1s							
K20K	Telida	76.80	333	P	P		00 22 14.0	-0.7
	baz=98,SNR=105							
K20K				S	S		00 31 57.9	-3.7
	baz=98							
HLK	Haleakala	76.83	289	IAMs_20	IAMs_20		00 48 43.9	
	comp=Z,4µm,22.0s							
O18K	Koktuh Hills	76.90	330	P	P		00 22 14.5	-0.8
	baz=96							
O18K				S	S		00 31 58.8	-4.0
	baz=96							
J20K	Nowinta River	76.95	334	P	P		00 22 15.2	-0.3
	baz=98,SNR=213							
J20K				S	S		00 31 59.5	-3.8
	baz=98							
L19K	White Mountain	77.00	332	P	P		00 22 15.1	-0.8
	baz=97,SNR=17							
L19K				S	S		00 32 01.4	-2.5
	baz=97							
CLF	Chambon-Foret	77.02	43	IAMs_20	IAMs_20		00 53 21.7	
	comp=Z,3µm,20.0s							
IMAR	Indian Mountai	77.06	336	P	P		00 22 15.5	-0.6
SVW2	Sparrevohn	77.22	331	IAMs_20	IAMs_20		00 59 45.8	
	comp=Z,3µm,20.0s							
N18K	Kilae Creek	77.32	330	P	P		00 22 16.8	-0.9
	baz=96,SNR=63							
N18K				S	S		00 32 02.2	-5.3
	baz=96							
TORD	Torodi Ar. Bea	77.56	78	P	P		00 22 20.1	+0.2
	comp=Z,21nm,0.5s,baz=288,slow=6.0,SNR=89							
TORD				pP	pP		00 22 25.3	+0.7
	comp=Z,38nm,1.0s,baz=290,slow=6.1,SNR=19							
TORD				PKPPKP	P'P'df		00 49 23.4	-5.4
	comp=Z,0.6nm,0.3s,baz=24,slow=1.8,SNR=4.0							
TORD				LR	LR		00 55 38.6	
	comp=Z,6µm,21.5s,baz=255,slow=35							
TORD	Torodi Ar. Bea	77.56	78	P	P		00 22 19.1	-0.8
TTA	Tatalina	77.62	333	S	S		00 32 07.2	-3.5
	baz=96							
NOR	Nord	77.83	8⇑	iP	P		00 22 20.5	+0.3
NOR				IAmb	IAmb		00 22 21.7	
	comp=Z,60nm,1.2s							
NOR	Nord	77.83	8⇑	iP	P		00 22 20.5	+0.3
NOR				pmax	pmax			
	comp=Z,60nm,1.2s							
MAHO	Mahon	78.38	51	i P	P		00 22 25.6	+1.6
MAHO				eS	S		00 32 20.6	+1.1
SNF	Seneffe	78.42	40	dP	P		00 22 25.1	+1.1
	comp=Z,106nm,1.5s							
KIP	Kipapa	78.43	290	deP	P		00 22 26.1	+1.5
KIP				pmax	pmax			
	comp=Z,40nm,0.9s							
UCC	Uccle	78.47	40	dP	P		00 22 24.8	+0.5
	comp=Z,107nm,1.3s							
UCC	Uccle	78.47	40	IAmb	IAmb		00 22 30.9	
	comp=Z,191nm,1.3s							
SSB	Saint Sauveur	78.54	45	IAmb	IAmb		00 22 32.3	
	comp=Z,178nm,1.7s							
DOU	Dourbes	78.61	41	dP	P		00 22 25.7	+0.7
	comp=Z,102nm,1.3s							
BMRD	Maredsous	78.73	40	dP	P		00 22 26.1	+0.4
	comp=Z,100nm,1.7s							
A21K	Barrow	78.88	341	P	P		00 22 25.9	-0.2
	baz=98							
A21K				S	S		00 32 19.2	-4.6
	baz=98							
A21K	Barrow	78.88	341	IAmb	IAmb		00 22 28.1	
	comp=Z,177nm,1.1s							
CHNA	Chernabura Isl	78.92	324	P	P		00 22 25.9	-0.7
	baz=92							
CHNA				S	S		00 32 22.0	-2.7
	baz=92							
BGES	Gesves	78.93	40	dP	P		00 22 28.3	+1.5
	comp=Z,106nm,2.1s							
RCHB	Rochefort	79.02	41	dP	P		00 22 28.7	+1.4
BCLA	Clavier	79.07	40	bP	P		00 22 28.5	+1.0
	comp=Z,91nm,1.9s							
SUE	Sulen	79.08	29	eP	P		00 22 28.3	+0.9
KMY	Karmoy	79.24	31	eP	P		00 22 29.1	+0.8
BSTI	Sart Tilman	79.24	40	dP	P		00 22 30.0	+1.5
BSTI				dPcP	PcP		00 22 37.9	+1.1
FOO	Floro	79.24	29⇑	iP	P		00 22 29.2	+0.9
ASK	Askoy	79.26	30⇑	iP	P		00 22 30.9	+2.6
BEBN	Eben Emael	79.31	40	dP	P		00 22 29.5	+0.7
BER	Bergen	79.33	30⇑	iP	P		00 22 30.1	+1.3
SDPT	Sand Point	79.44	325	P	P		00 22 28.7	-0.7
	baz=91,SNR=12							
SDPT				S	S		00 32 26.5	-3.7
	baz=91							
SDPT	Sand Point	79.44	325	IAmb	IAmb		00 22 30.8	
	comp=Z,150nm,1.2s							
CKHR	Kef el Ahmar	79.48	55	P	P		00 22 32.1	+1.8
BHOU	Houvegnez	79.52	40	dP	P		00 22 31.1	+1.0
	comp=Z,148nm,1.1s							
MEM	Membach	79.52	40	dP	P		00 22 31.3	+1.3
	comp=Z,77nm,1.4s							
BTNL	Ternell	79.60	40	dP	P		00 22 31.6	+1.1
	comp=Z,92nm,2.1s							
WLF	Walferdange	79.62	41	dP	P		00 22 31.1	+0.5
	comp=Z,151nm,1.4s							
WLF	Walferdange	79.62	41	IAmb	IAmb		00 22 33.4	
	comp=Z,171nm,1.0s							
WLF	Walferdange	79.62	41	eP	P		00 22 32.1	+1.6
	comp=Z,228nm,1.1s,baz=274,slow=5.3							
WLF				epP	sP		00 22 36.7	-0.3
	baz=274,slow=5.3							
DFRA	Djebel Bou Aff	79.75	54	P	P		00 22 33.8	+2.0
HYA	Hoyanger	79.77	29	eP	P		00 22 32.6	+1.4
BLS5	Blasjo	79.86	31⇑	iP	P		00 22 33.2	+1.4
XMAS	Kiritimati	79.93	271	P	P		00 22 32.9	0.0
ODD1	Odda	79.96	31	eP	P		00 22 34.0	+1.7
BNI	Bardonecchia	80.06	46	IAmb	IAmb		00 22 44.3	
	comp=Z,182nm,1.5s							
BNI				IAMs_20	IAMs_20		00 57 10.2	
	comp=Z,3µm,21.0s							
LPL	La Plagne	80.08	45	eP	P		00 22 34.7	+1.2
LPL				pmax	pmax			
	comp=Z,101nm,1.3s							
AKN	Aaknes	80.19	28⇑	iP	P		00 22 35.5	+2.1
AHRW	Bad Neuenahr-A	80.20	40	eP	P		00 22 35.5	+1.8
	comp=Z,190nm,1.2s,baz=274,slow=5.3							
AHRW				epP	sP		00 22 40.1	0.0
	baz=274,slow=5.3							
CTEI	Djebel Teioual	80.20	55	P	P		00 22 35.8	+1.6
SNART	Snartemo	80.24	32	i P	P		00 22 35.4	+1.6
SNART				IAmb	IAmb		00 22 36.5	
	comp=Z,248nm,1.3s							
SNART	Snartemo	80.24	32⇑	iP	P		00 22 34.0	+0.3
CASM	Ain Smara	80.26	55	P	P		00 22 36.0	+1.6
ECH	Echery	80.30	42	IAmb	IAmb		00 22 41.3	
	comp=Z,342nm,1.3s							
ECH				IAMs_20	IAMs_20		00 57 02.5	
	comp=Z,3µm,20.0s							
BUG	Bochum--Univer	80.31	39	eP	P		00 22 35.6	+1.3
	comp=Z,152nm,1.1s,baz=274,slow=5.3							
BUG				epP	sP		00 22 40.1	-0.5
	baz=274,slow=5.3							
CKFL	Kef-Lekhel	80.44	54	P	P		00 22 37.5	+2.0
MOL	Molde	80.45	28	eP	P		00 22 34.7	-0.1
SENIN	Lac Senin/Sane	80.45	44	IAmb	IAmb		00 22 43.0	
	comp=Z,197nm,1.5s							
SENIN				IAMs_20	IAMs_20		00 55 03.4	
	comp=Z,2µm,21.0s							
IBBN	Ibbenburen	80.60	38	eP	P		00 22 37.3	+1.5
	comp=Z,203nm,1.2s,baz=274,slow=5.3							
IBBN				epP	sP		00 22 41.8	-0.4
	baz=274,slow=5.3							
SKAR	Skarslia	80.80	30⇑	iP	P		00 22 38.2	+1.3
RDOG	Red Dog Mine	80.83	338	P	P		00 22 37.6	+0.9
	baz=91,SNR=18							
RDOG	Red Dog Mine	80.83	338	IAMs_20	IAMs_20		01 02 20.2	
	comp=Z,4µm,20.0s							
HOMB	Homborsund	80.92	32	i P	P		00 22 39.0	+1.5
HOMB	Homborsund	80.92	32	eP	P		00 22 38.9	+1.5
CMAH	Djebel Manchou	80.99	54	P	P		00 22 39.9	+1.5
KASTN	Kahler Asten	81.04	39	eP	P		00 22 39.5	+1.2
	comp=Z,81nm,1.3s,baz=274,slow=5.3							
KASTN				epP	PcP		00 22 44.0	-0.6
	baz=274,slow=5.3							
ABSA	Djebel Ababsia	81.06	55	P	P		00 22 40.3	+1.5
BFO	Black Forest	81.08	42	P	P		00 22 39.0	+0.4
BFO				pmax	pmax			
	comp=Z,107nm,1.4s							
BFO	Black Forest	81.08	42	P	P		00 22 39.0	+0.4
BFO	Black Forest	81.08	42	eP	P		00 22 39.3	+0.7
	comp=Z,52nm,1.3s,baz=274,slow=5.3							
BFO				epP	pP		00 22 43.8	+0.6
	baz=274,slow=5.3							
TNS	Taunus Mts	81.09	40	eP	P		00 22 40.1	+1.5
	comp=Z,175nm,1.3s,baz=274,slow=5.3							
TNS				epP	PcP		00 22 44.6	-0.3
	baz=274,slow=5.3							
FALS	False Pass	81.13	324	P	P		00 22 37.9	-0.7
	baz=88							
FALS	False Pass	81.13	324	IAmb	IAmb		00 22 40.4	
	comp=Z,155nm,1.1s							
FALS				IAMs_20	IAMs_20		01 05 01.3	
	comp=Z,2µm,19.0s							
DOMB	Dombas	81.16	28⇑	iP	P		00 22 39.6	+1.0
MUD	Monsted U'grnd	81.33	34	i P	P		00 22 41.2	+1.6
MUD				IAmb	IAmb		00 22 42.2	
	comp=Z,169nm,1.1s							
MUD	Monsted U'grnd	81.33	34	i P	P		00 22 41.2	+1.6
MUD				pmax	pmax			
	comp=Z,170nm,1.1s							
GOET	G??ttrup	81.34	34	i P	P		00 22 41.2	+1.6
GOET				IAmb	IAmb		00 22 42.8	
	comp=Z,111nm,1.0s							
KONO	Kongsberg	81.46	31	deP	P		00 22 41.7	+1.4
KONO				pmax	pmax			
	comp=Z,51nm,1.1s							
KONO	Kongsberg	81.46	31	eP	P		00 22 42.0	+1.7
KONO	Kongsberg	81.46	31	P	P		00 22 41.3	+1.1
KONO	Kongsberg	81.46	31	IAMs_20	IAMs_20		00 55 40.3	
	comp=Z,4µm,21.0s							
SKMB	Sankelmark Bun	81.53	36	eP	P		00 22 42.7	+2.0
	comp=Z,491nm,1.4s,baz=274,slow=5.3							
SKMB				epP	sP		00 22 47.2	+0.1
	baz=274,slow=5.3							
STU	Stuttgart	81.64	42	IAmb	IAmb		00 22 48.3	
	comp=Z,176nm,1.3s							
STU				IAMs_20	IAMs_20		00 56 19.8	
	comp=Z,3µm,21.0s							
STU	Stuttgart	81.64	42	eP	P		00 22 42.5	+1.1
	comp=Z,137nm,1.2s,baz=274,slow=5.3							
STU				epP	PcP		00 22 47.1	-0.1
	baz=274,slow=5.3							
MILB	Miltenberg	81.65	41	eP	P		00 22 42.8	+1.3
	comp=Z,171nm,1.1s,baz=274,slow=5.3							
MILB				epP	PcP		00 22 47.3	0.0
	baz=274,slow=5.3							
ANM	Nome	81.85	334	P	P		00 22 42.0	-0.2
	baz=88							
ANM				S	S		00 32 55.7	+0.6
	baz=88							
TUE	Stuetta	81.86	44	IAmb	IAmb		00 22 53.6	
	comp=Z,301nm,1.5s							
TUE				IAMs_20	IAMs_20		00 55 58.9	
	comp=Z,3µm,21.0s							
KBS	Kingsbay	81.91	11⇑	iP	P		00 22 43.8	+1.5
KBS				IAmb	IAmb		00 22 45.0	
	comp=Z,258nm,1.2s							
KBS	Kingsbay	81.91	11	P	P		00 22 44.0	+1.7
KBS				pmax	pmax			
	comp=Z,109nm,1.2s							
KBS				MLR	MLR			
	comp=Z,5µm,20.0s							
KBS	Kingsbay	81.91	11	eP	P		00 22 43.8	+1.5
KBS	Kingsbay	81.91	11	P	P		00 22 44.0	+1.7
NC204	NORSAR Array S	81.99	29	IAmb	IAmb		00 22 45.8	
	comp=Z,156nm,1.1s							
GTTG	Gottingen	81.99	39	eP	P		00 22 44.8	+1.6
	comp=Z,108nm,1.2s,baz=274,slow=5.3							
GTTG				epP	sP		00 22 49.4	-0.3
	baz=274,slow=5.3							
OSL	Oslo	82.02	31	eP	P		00 22 45.1	+1.9
NRDL	Niedersach Rie	82.03	38	eP	P		00 22 45.2	+1.9
	comp=Z,167nm,1.3s,baz=274,slow=5.3							
NRDL				epP	sP		00 22 49.7	0.0
	baz=274,slow=5.3							
UBBA	Unterbreizbach	82.05	40	eP	P		00 22 45.2	+1.7
	comp=Z,132nm,1.7s,baz=274,slow=5.3							
UBBA				epP	sP		00 22 49.7	-0.1
	baz=274,slow=5.3							
BSEG	Bad Segeberg	82.08	37	eP	P		00 22 45.1	+1.5
	comp=Z,116nm,1.2s,baz=274,slow=5.3							
BSEG				epP	PcP		00 22 49.6	+0.6
	baz=274,slow=5.3							
DAVA	Damuels	82.18	43	eP	P		00 22 45.4	+0.9
	comp=Z,131nm,1.1s,SNR=40							
DAVOX	Davos/Dischmat	82.21	44	P	P		00 22 45.6	+0.9
	comp=Z,58nm,0.9s,baz=274,slow=5.3,SNR=59							
NB2	NORSAR Subarra	82.22	29	P	P		00 22 45.4	+1.1
	comp=Z,382nm,1.7s,baz=272,slow=5.3							
NB2	NORSAR Subarra	82.22	29	P	P		00 22 45.4	+1.1
	baz=272,slow=5.3							
NOA	NORSAR Array B	82.22	29	P	P		00 22 45.4	+1.1
	comp=Z,64nm,1.0s,baz=274,slow=5.3,SNR=93							
NOA				PKKPbc	PKKPbc		00 41 14.7	0.0
	comp=Z,0.9nm,0.8s,baz=251,slow=3.0,SNR=4.3							
NOA				LR	LR		00 57 14.9	
	comp=Z,2µm,18.8s,baz=280,slow=34							
CLZ	Clausthal	82.23	39	eP	P		00 22 46.2	+1.6
	comp=Z,137nm,1.2s,baz=274,slow=5.3							
CLZ				epP	sP		00 22 50.7	-0.2
	baz=274,slow=5.3							
NC303	NORSAR Array S	82.28	29	IAmb	IAmb		00 22 47.2	
	comp=Z,123nm,1.3s							
STRU	Strueemstad	82.30	31	i P	P		00 22 46.0	+1.4
N2RO	R st	82.31	23	eP	P		00 22 45.5	+0.9
UBR	Ueberruh	82.31	43	eP	P		00 22 46.5	+1.4
	comp=Z,98nm,1.4s,baz=274,slow=5.3							
UBR				epP	sP		00 22 51.0	-0.5
	baz=274,slow=5.3							
VSL	Villasalto	82.34	51	P	P		00 22 46.4	+1.1
VSL				IAmb	IAmb		00 22 48.3	
	comp=Z,161nm,1.0s							
VSL				IAMs_20	IAMs_20		00 55 45.2	
	comp=Z,2µm,22.0s							
NC602	NORSAR Array S	82.39	30⇑	iP	P		00 22 46.1	+1.0
NC602	NORSAR Array S	82.39	30	IAmb	IAmb		00 22 48.0	
	comp=Z,197nm,1.1s							
NSS	Namsos	82.39	26	eP	P		00 22 46.1	+1.1
ASSE	Asse, Remlinge	82.40	38	eP	P		00 22 47.1	+1.9
	comp=Z,126nm,1.3s,baz=274,slow=5.3							
ASSE				epP	sP		00 22 51.7	0.0
	baz=274,slow=5.3							
N2VA	Vr,y	82.52	23	eP	P		00 22 46.9	+1.3
KEST	Kesra	82.61	55	P	P		00 22 47.6	+0.7
	comp=Z,27nm,1.0s,baz=176,slow=3.5,SNR=20							
KEST				LR	LR		00 57 12.8	
	comp=Z,588nm,21.3s,baz=220,slow=34							
KEST	Kesra	82.61	55	IAMs_20	IAMs_20		01 06 44.7	
	comp=Z,2µm,20.0s							
KEST	Kesra	82.61	55	P	P		00 22 49.7	+2.8
	SNR=18							
N2SV	S,rv¥gen	82.63	22	eP	P		00 22 47.4	+1.2
NBB40	Tonnes	82.71	24⇑	iP	P		00 22 48.2	+1.6
STOK	Stokkvaagen	82.73	24	eP	P		00 22 48.8	+2.1
FLTG	Flechtingen	82.73	38	eP	P		00 22 48.2	+1.1
	comp=Z,143nm,1.2s,baz=274,slow=5.3							
FLTG				epP	pP		00 22 52.7	+0.9
	baz=274,slow=5.3							
SALO	Salr	82.73	45	IAmb	IAmb		00 22 49.4	
	comp=Z,131nm,1.0s							
VLC	Villacollemand	82.75	46	IAmb	IAmb		00 22 48.7	
	comp=Z,95nm,1.1s							
HSPB	Hornsund (broa	82.75	13	eP	P		00 22 48.6	+1.9
KONS	Konsvik	82.76	24	eP	P		00 22 48.8	+1.9
RETA	Reutte	82.76	43	eP	P		00 22 48.2	+0.7
	comp=Z,57nm,1.1s,SNR=26							
FETA	Feichten	82.77	44	eP	P		00 22 48.6	+0.9
	comp=Z,84nm,1.0s,SNR=28							
ONAU	Onsala	82.78	33	i P	P		00 22 48.1	+0.9
ONAU				i P	PcP		00 22 48.4	-3.6
LOF	Lofoten	82.81	22⇑	iP	P		00 22 48.3	+1.1
SPA0	Spitsbergen Ar	82.83	12	eP	P		00 22 48.4	+1.3
SPITS	Spitsbergen Ar	82.83	12	P	P		00 22 48.1	+1.0
	comp=Z,55nm,0.9s,baz=178,slow=2.3,SNR=16							
SPITS	Spitsbergen Ar	82.83	12	P	P		00 22 48.3	+1.1
SPITS				pmax	pmax			
	comp=Z,142nm,1.2s							
NBB13	Alf Garage	82.83	24⇑	iP	P		00 22 48.5	+1.2
TNA	Tin City	82.88	335	P	P		00 22 48.0	+0.4
	baz=86							
TNA				S	S		00 33 06.4	+0.9
	baz=86							
TNA	Tin City	82.88	335	IAmb	IAmb		00 22 59.4	
	comp=Z,101nm,1.3s							
TNA				IAMs_20	IAMs_20		01 04 17.5	
	comp=Z,3µm,20.0s							
GRFO	Grafenberg	82.91	41	P	P		00 22 49.7	+1.6
GRFO				pmax	pmax			
	comp=Z,147nm,1.2s							
GRFO	Grafenberg	82.91	41	P	P		00 22 49.7	+1.6
GRFO				IAmb	IAmb		00 22 55.4	
	comp=Z,147nm,1.2s							
GRFO				IAMs_20	IAMs_20		00 57 08.2	
	comp=Z,3µm,20.0s							
GRA1	Grafenberg Arr	82.91	41	IAmb	IAmb		00 22 55.4	
	comp=Z,140nm,1.2s							
GRA1				IAMs_20	IAMs_20		00 57 08.3	
	comp=Z,3µm,20.0s							
GRF	Grafenberg Arr	82.91	41	eP	P		00 22 49.6	+1.5
	comp=Z,117nm,1.3s,baz=274,slow=5.3							
GRF				epP	sP		00 22 54.2	-0.3
	baz=274,slow=5.3							
GRF				eS	S		00 33 08.5	+1.8
GRF				eL	L		00 56 27.3	
	comp=Z,2µm,21.2s							
NBB15	Halsa Church	82.92	24⇑	iP	P		00 22 50.1	+2.3
NBB30	Finnes	82.97	23⇑	iP	P		00 22 49.3	+1.3
UNV	Unalaska Valle	82.99	323	P	P		00 22 48.0	-0.4
	baz=86,SNR=21							
UNV				S	S		00 33 06.0	-1.1
	baz=86							
MOTA	Moosalm	83.00	43	eP	P		00 22 49.1	+0.3
	comp=Z,41nm,1.4s,SNR=20							
N2VI	Vinje	83.04	22	eP	P		00 22 49.7	+1.4
FUR	Furstenfeldbru	83.06	42	eP	P		00 22 50.3	+1.4
	comp=Z,403nm,2.4s,baz=274,slow=5.3							
FUR				epP	sP		00 22 54.9	-0.5
	baz=274,slow=5.3							
NBB17	Glomfjord B¥r	83.07	23	eP	P		00 22 50.6	+2.0
NBB05	Inndyr	83.08	23	eP	P		00 22 50.0	+1.4
SQTA	Sankt Quirin	83.09	43	eP	P		00 22 50.0	+0.8
	comp=Z,58nm,1.1s,SNR=20							
MOX	Moxa	83.09	40	eP	P		00 22 50.5	+1.5
	comp=Z,82nm,1.4s,baz=274,slow=5.3							
MOX				epP	sP		00 22 55.0	-0.4
	baz=274,slow=5.3							
MOX				eS	S		00 33 10.4	+2.0
MOX				eL	L		00 56 47.3	
	comp=Z,4µm,21.7s							
NEUB	Neuenburg	83.15	39	eP	P		00 22 50.9	+1.6
	comp=Z,119nm,1.2s,baz=274,slow=5.3							
NEUB				epP	sP		00 22 55.4	-0.2
	baz=274,slow=5.3							
ZCCA	Zocca	83.15	46	IAmb	IAmb		00 22 58.8	
	comp=Z,146nm,1.1s							
BORU	Boraas	83.23	33	i P	P		00 22 50.4	+0.9
FABU	Falkenberg	83.25	33	i P	P		00 22 51.5	+1.9
NBB08	Skaug oppvekst	83.28	23	eP	P		00 22 51.4	+1.8
MOR8	Moi Rana	83.31	24⇑	iP	P		00 22 51.5	+1.7
WATA	Walderalm	83.33	43	eP	P		00 22 50.8	+0.3
	comp=Z,29nm,1.1s,SNR=10							
WTTA	Wattenberg	83.37	43	eP	P		00 22 51.2	+0.4
	comp=Z,87nm,1.3s,SNR=22							
OSSC	Osservatorio P	83.42	47	IAmb	IAmb		00 22 56.8	
	comp=Z,129nm,1.6s							
OSSC				IAMs_20	IAMs_20		00 59 00.3	
	comp=Z,2µm,21.0s							
PLN	Plauen	83.44	40	eP	P		00 22 52.3	+1.5
	comp=Z,100nm,1.2s,baz=274,slow=5.3							
PLN				epP	sP		00 22 56.9	-0.4
	baz=274,slow=5.3							
MANZ	Manzenberg	83.46	41	eP	P		00 22 52.7	+1.7
	comp=Z,102nm,1.3s,baz=274,slow=5.3							
MANZ				epP	sP		00 22 57.2	-0.1
	baz=274,slow=5.3							
N2TV	T¥rnvik	83.46	23⇑	iP	P		00 22 51.6	+1.1
STEI	Steigen	83.47	22⇑	iP	P		00 22 51.8	+1.2
CTI	Castel Tesino	83.48	44	IAmb	IAmb		00 22 58.0	
	comp=Z,131nm,1.4s							
CTI				IAMs_20	IAMs_20		00 58 47.9	
	comp=Z,2µm,20.0s							
BJUU	Bjuv	83.49	34	i P	P		00 22 52.6	+1.7
HFS	Hagfors	83.50	30	P	P		00 22 51.4	+0.6
	comp=Z,24nm,1.0s,baz=267,slow=3.0,SNR=24							
FAUS	Fauske	83.54	23⇑	iP	P		00 22 52.0	+1.1
ROTZ	Rotzenmuhle	83.54	41	eP	P		00 22 53.2	+1.8
	comp=Z,135nm,1.7s,baz=274,slow=5.3							
ROTZ				epP	sP		00 22 57.7	0.0
	baz=274,slow=5.3							
WERD	Werda	83.54	40	eP	P		00 22 52.9	+1.5
	comp=Z,98nm,1.2s,baz=274,slow=5.3							
WERD				epP	sP		00 22 57.4	-0.4
	baz=274,slow=5.3							
TEOL	Teolo	83.56	45	IAmb	IAmb		00 22 53.7	
	comp=Z,79nm,1.0s							
GUNZ	Gunzen	83.57	40	eP	P		00 22 53.1	+1.6
	comp=Z,86nm,1.4s,baz=274,slow=5.3							
GUNZ				epP	sP		00 22 57.7	-0.2
	baz=274,slow=5.3							
WERN	Wernitzgruen	83.60	40	eP	P		00 22 53.5	+1.8
	comp=Z,107nm,1.3s,baz=274,slow=5.3							
WERN				epP	sP		00 22 58.0	-0.1
	baz=274,slow=5.3							
NKC	Novy Kostel	83.65	40	eP	P		00 22 53.8	+1.9
NKC				MLR	MLR			
	comp=Z,4µm,21.3s							
NKC	Novy Kostel	83.65	40	eP	P		00 22 53.8	+1.9
NKC				AMS	AMS		00 56 30

comp=Z,200nm,1.3s,baz=274,slow=5.3
RUE *e*pP **sP** **00 23 01.1 -0.3**
baz=274,slow=5.3
MURB Monte Urbino 84.37 47 IAmb IAmb 00 23 01.4
comp=Z,136nm,1.3s
LNIZ Loecknitz 84.42 37 *e*P **P** **00 22 57.5 +1.8**
comp=Z,124nm,1.1s,baz=274,slow=5.3
LNIZ *e*pP **sP** **00 23 02.0 -0.1**
baz=274,slow=5.3
NIKH Nikolski High 84.47 323 P **P** **00 22 55.4 -0.6**
baz=84
NIKH S **S** **00 33 19.6 -2.5**
baz=84
NIKH Nikolski High 84.47 323 IAmb IAmb 00 22 57.4
comp=Z,170nm,1.3s
KHC Kasperske Hory 84.49 41 *e*P **P** **00 22 57.8 +1.5**
KHC *e* 00 26 13.6
KHC *e* 00 33 20.6
KHC MLR MLR
comp=Z,2μm,20.0s
KHC Kasperske Hory 84.49 41 *e*P **P** **00 22 57.8 +1.5**
KHC *e*PP **PP** **00 26 13.6 +2.2**
KHC *e*SKS **SKSac** **00 33 20.6 +0.6**
KHC AMS AMS 00 58 20.0
comp=Z,2μm,20.0s
KHC Kasperske Hory 84.49 41 IAmb IAmb 00 23 03.7
comp=Z,181nm,1.4s
BRG Berggiesshubel 84.54 40⇓*i*P **P** **00 22 58.3 +1.9**
BRG Amp 00 22 59.3
comp=Z,94nm,1.2s
BRG Berggiesshubel 84.54 40 P P 00 23 02.7 +6.3
BRG Amp 00 23 04.6
comp=Z,126nm,1.4s
BRG Berggiesshubel 84.54 40 S **S** **00 33 23.0 0.0**
BRG Berggiesshubel 84.54 40 SS SS 00 38 44.0 -9.5
BRG Amp 00 57 28.0
comp=Z,3.8nm,21.5s
BRG Amp 00 57 31.0
comp=N,2.1nm,21.4s
BRG Amp 00 57 33.0
comp=E,2.7nm,21.0s
BRG Berggiesshubel 84.54 40 *e*P **P** **00 22 58.1 +1.7**
comp=E,94nm,1.2s,baz=274,slow=5.3
BRG *e*pP **sP** **00 23 02.6 -0.2**
baz=274,slow=5.3
KBA Koelnbreinsper 84.55 43 *e*P **P** **00 22 57.4 +0.6**
comp=E,140nm,1.4s,SNR=27
TRO Tromso 84.59 20⇑*i*P **P** **00 22 57.0 +0.8**
GEC2 GERESS Array S 84.60 42 IAmb IAmb 00 23 04.0
comp=Z,148nm,1.4s
GEC2 IAMs_20 IAMs_20 00 59 05.1
comp=Z,3μm,20.0s
GEC2 GERESS Array S 84.60 42 *e*P **P** **00 22 58.2 +1.3**
comp=Z,107nm,1.2s,baz=274,slow=5.3
GEC2 *e*pP **sP** **00 23 02.8 -0.5**
baz=274,slow=5.3
GERES GERESS Array B 84.60 42 P **P** **00 22 57.4 +0.4**
comp=Z,37nm,1.0s,baz=262,slow=2.7,SNR=162
GERES PKKPbc **PKKPbc** **00 41 06.9 -1.9**
comp=Z,0.7nm,0.8s,baz=225,slow=0.4,SNR=3.7
GERES PKPPKP P'P'df 00 49 05.5 -10
comp=Z,0.1nm,0.3s,baz=347,slow=5.5,SNR=3.7
GERES LR LR 00 58 46.9
comp=Z,3μm,19.8s,baz=276,slow=34
GERES GERESS Array B 84.60 42 P **P** **00 22 57.9 +1.0**
GERES GERESS Array B 84.60 42 P **P** **00 22 57.9 +1.0**
BSD Bornholm Skovb 84.66 35 *i*P **P** **00 22 58.2 +1.3**
BSD Bornholm Skovb 84.66 35 *i*P **P** **00 22 58.1 +1.3**
GAMB Gambell 84.67 334 P **P** **00 22 57.4 +0.7**
baz=82
GAMB Gambell 84.67 334 IAmb IAmb 00 23 07.9
comp=Z,68nm,1.0s
PBCC Pribram 84.70 41 *e*P **P** **00 22 59.4 +2.1**
SPIA Saint Paul Isl 84.79 327 P **P** **00 22 58.0 +0.6**
baz=83
MYKA Terra Mystica 84.80 44 *e*P **P** **00 22 58.4 +0.5**
comp=Z,36nm,0.8s,SNR=18
NRCA Norcia 84.84 48 IAMs_20 IAMs_20 00 56 01.2
comp=Z,3μm,22.0s
PRA Prague 84.94 40 *e*P **P** **00 23 00.4 +2.0**
PRA MLR MLR
comp=Z,4μm,20.7s
PRA Prague 84.94 40 *e*P **P** **00 23 00.4 +2.0**
PRA AMS AMS 00 57 20.0
comp=Z,4μm,20.7s
PVCC Panska Ves 84.97 40 *e*P **P** **00 23 00.4 +1.8**
PVCC *e* 00 33 24.2
PVCC MLR MLR
comp=Z,5μm,21.6s
PVCC Panska Ves 84.97 40 *e*P **P** **00 23 00.4 +1.8**
PVCC *e*SKS **SKSac** **00 33 24.2 +1.2**
PVCC AMS AMS 00 57 20.0
comp=Z,5μm,21.6s
TRI Trieste 84.99 45 IAmb IAmb 00 23 05.9
comp=Z,160nm,1.3s
TRI IAMs_20 IAMs_20 01 04 23.7
comp=Z,2μm,19.0s
CKRC Cesky Krumlov 85.00 42 *e*P **P** **00 23 00.2 +1.4**
CKRC *e*SKS **SKSac** **00 33 25.3 +2.0**
CKRC AMS AMS 00 57 20.0
comp=Z,2μm,20.5s
BLEU Blekinge 85.02 34 *i*P **P** **00 22 59.8 +1.2**
PRU Pruhonice 85.02 40 *e*P **P** **00 23 00.2 +1.4**
PRU *e* 00 33 25.9
PRU MLR MLR
comp=Z,4μm,21.0s
PRU Pruhonice 85.02 40 *e*P **P** **00 23 00.2 +1.4**
PRU *e*SKS **S** **00 33 25.9 -1.9**
PRU AMS AMS 00 57 20.0
comp=Z,4μm,21.0s
MOA Molln 85.09 43 *e*P **P** **00 22 58.9 -0.4**
comp=Z,83nm,1.2s,SNR=50
AQU L'Aquila 85.11 48⇑*i*P **P** **00 23 00.3 +0.8**
AQU L'Aquila 85.11 48 IAmb IAmb 00 23 09.9
comp=Z,88nm,1.2s
AQU IAMs_20 IAMs_20 00 57 35.3
comp=Z,2μm,21.0s
JETT Jettan, Norway 85.11 20⇑*i*P **P** **00 23 00.4 +1.4**
JAVS Javornik 85.18 44 *i*P **P** **00 23 00.9 +1.0**
JAVS *e*S **SKSac** **00 33 25.2 +0.5**
SKDS Skadanscina 85.18 45⇑*i*P **P** **00 23 00.4 +0.6**
GBAS Gorenja Brezov 85.43 44 *i*P **P** **00 23 01.8 +0.7**
GBAS *e*S **SKSac** **00 33 26.4 +0.2**
GBAS *e* 00 45 34.1
OBKA Obir 85.44 44 *e*P **P** **00 23 01.4 +0.2**
comp=Z,52nm,1.8s,SNR=21
CEY Cerknica 85.45 45⇑*i*P **P** **00 23 02.0 +0.9**
LJU Ljubljana 85.48 44⇑*i*P **P** **00 23 02.2 +0.9**
LJU Ljubljana 85.48 44 *i*P **P** **00 23 02.2 +0.9**
LJU *i*sP **sP** **00 23 07.2 -0.5**
UPP Uppsala 85.49 30 *e*P **P** **00 23 01.4 +0.4**
CLTB Caltabellotta 85.52 53 IAMs_20 IAMs_20 00 58 32.5
comp=Z,3μm,21.0s
INTR Introdacqua 85.52 48 IAmb IAmb 00 23 08.3
comp=Z,268nm,1.8s
INTR IAMs_20 IAMs_20 00 56 49.1
comp=Z,3μm,22.0s
CORL Corleone 85.55 53 P **P** **00 23 03.0 +1.2**
CORL IAmb IAmb 00 23 18.4
comp=Z,206nm,1.5s
CORL IAMs_20 IAMs_20 01 08 17.4
comp=Z,2μm,19.0s
TREC Trest 85.71 41 *e*P **P** **00 23 03.6 +1.2**
TREC *e* 00 33 30.4
TREC MLR MLR
comp=Z,2μm,20.0s
TREC Trest 85.71 41 *e*P **P** **00 23 03.6 +1.2**
TREC *e*SKS **SKSac** **00 33 30.4 +2.6**
TREC AMS AMS 00 58 10.0
comp=Z,2μm,20.0s
SOKA Soboth 85.75 44 *e*P **P** **00 23 03.0 +0.3**
comp=Z,66nm,1.1s,SNR=26
UPC Upice 85.89 40 *e*P **P** **00 23 05.1 +1.9**
UPC *e* 00 33 29.5
UPC MLR MLR
comp=Z,5μm,20.7s
UPC Upice 85.89 40 *e*P **P** **00 23 05.1 +1.9**
UPC *e*SKS **SKSac** **00 33 29.5 +0.7**
UPC AMS AMS 00 58 00.0
comp=Z,5μm,20.7s
CHVC Chvalec 85.91 40 *e*P **P** **00 23 04.9 +1.6**
HAMF Hammerfest 85.99 19⇑*i*P **P** **00 23 03.6 +0.3**
ARSA Arzberg 86.01 43 *e*P **P** **00 23 04.0 +0.1**
comp=Z,42nm,1.0s,SNR=32
OSTC Ostas 86.01 40 *e*P **P** **00 23 05.5 +1.7**
OSTC AMS AMS 00 58 10.0
comp=Z,5μm,22.0s
KSP Ksiaz 86.02 39 *e*P **P** **00 23 05.0 +1.1**
BOJS Bojanci 86.05 45⇑*i*P **P** **00 23 04.9 +0.8**
DPC Dobruska-Polom 86.11 40 *e*P **P** **00 23 05.8 +1.5**
DPC *e* 00 26 26.4
DPC *e* 00 33 30.7
DPC MLR MLR
comp=Z,5μm,20.9s
DPC Dobruska-Polom 86.11 40 *e*P **P** **00 23 05.8 +1.5**
DPC *e*PP **PP** **00 26 26.4 +1.9**
DPC *e*SKS **SKSac** **00 33 30.7 +0.5**
DPC AMS AMS 00 58 10.0
comp=Z,5μm,20.9s
PAOL Paolisi 86.14 49 IAMs_20 IAMs_20 01 04 58.5
comp=Z,2μm,20.0s
CONA Conrad Observa 86.14 42 *e*P **P** **00 23 04.7 +0.1**
comp=Z,87nm,1.2s,SNR=49
CRES Cresnjev 86.15 44⇑*i*P **P** **00 23 05.5 +0.9**
KTK1 Kautokeino 86.21 21⇑*i*P **P** **00 23 05.2 +0.8**
GKP Gorka Klasztor 86.25 37 *e*P **P** **00 23 06.2 +1.3**
GKP Gorka Klasztor 86.25 37 *e*P **P** **00 23 07.2 +2.3**
KRUC Moravsky 86.34 41⇑*i*P **P** **00 23 06.3 +0.9**
KRUC *e*SKS **SKSac** **00 33 32.6 +1.0**
VRAC Vranov 86.43 41 P **P** **00 23 07.0 +1.1**
comp=Z,46nm,1.1s,baz=282,slow=6.9,SNR=52
VRAC Vranov 86.43 41⇑P **P** **00 23 07.7 +1.8**
VRAC Vranov 86.43 41⇑P **P** **00 23 07.7 +1.8**
VRAC Vranov 86.43 41⇑*i*P **P** **00 23 06.9 +1.0**
VRAC *e*SKS **SKSac** **00 33 34.7 +2.5**
KRLC Kraliky 86.44 40 *e*P **P** **00 23 07.7 +1.7**
KRLC MLR MLR
comp=Z,4μm,20.4s
KRLC Kraliky 86.44 40 *e*P **P** **00 23 07.7 +1.7**
KRLC AMS AMS 00 58 30.0
comp=Z,4μm,20.4s
VAE Valguarnera 86.47 53 P **P** **00 23 08.8 +2.4**
comp=Z,34nm,1.1s,baz=219,slow=4.6,SNR=7.0
KOGS Kog 86.61 44 *e*P **P** **00 23 07.3 +0.4**
KOGS *e*sP **pP** **00 23 12.5 +0.9**
KOGS *e*S **SKSac** **00 33 32.6 -0.8**
AAL Aland 86.61 30 *e*P **P** **00 23 06.9 +0.4**
SOP Sopron 86.64 42 *e*P **P** **00 23 08.2 +1.2**
ARA0 ARCESS Array S 86.87 20⇑*i*P **P** **00 23 08.2 +0.6**
ARCES ARCESS Array B 86.87 20 P **P** **00 23 07.8 +0.1**
comp=Z,69nm,0.8s,baz=291,slow=3.8,SNR=112
ARCES PKKPbc **PKKPbc** **00 41 03.4 -0.6**
comp=Z,1.5nm,0.7s,baz=109,slow=2.2,SNR=4.8
ARCES LR LR 00 57 39.2
comp=Z,925nm,21.8s,baz=240,slow=33
ARCES ARCESS Array B 86.87 20 P **P** **00 23 08.3 +0.7**
ARCES pmax pmax
comp=Z,110nm,1.0s
ARCES ARCESS Array B 86.87 20 P **P** **00 23 08.3 +0.7**
ARCES IAmb IAmb 00 23 09.4
comp=Z,110nm,0.9s
SGRT San Giovanni R 86.91 48 IAmb IAmb 00 23 14.2
comp=Z,86nm,1.2s
ZST Bratislava 86.93 42 *e*P **P** **00 23 10.3 +1.9**
ZST pmax pmax
comp=Z,294nm,1.3s
ZST Bratislava 86.93 42 *e*P **P** **00 23 10.2 +1.9**
ZST Bratislava 86.93 42 *e*S **S** **00 33 44.3 -2.2**
BEHE Becsehely 86.97 44 *e*P **P** **00 23 10.9 +2.3**
BEHE Becsehely 86.97 44⇑*i*P **P** **00 23 09.9 +1.3**
MORC Moravsky Berou 86.97 40⇑P **P** **00 23 10.7 +2.1**
MORC Moravsky Berou 86.97 40⇑P **P** **00 23 10.7 +2.1**
MORC Moravsky Berou 86.97 40 IAmb IAmb 00 23 16.6
comp=Z,162nm,1.5s
MORC IAMs_20 IAMs_20 00 59 14.7
comp=Z,3μm,20.0s
MORC Moravsky Berou 86.97 40⇑*i*P **P** **00 23 09.7 +1.1**
MORC *e*SKS **SKSac** **00 33 37.7 +2.1**
MODS Modra-Piesok 87.02 42 *e*P **P** **00 23 11.3 +2.5**
MODS pmax pmax
comp=Z,132nm,1.2s
MODS Modra-Piesok 87.02 42 *e*P **P** **00 23 11.3 +2.5**
MODS Modra-Piesok 87.02 42 *e*S **SKSac** **00 33 37.9 +2.0**
MODS *e*L L 01 00 51.4
SMOL Smolenice 87.09 42 *e*P **P** **00 23 11.2 +2.0**
SMOL pmax pmax
comp=Z,290nm,3.0s
SMOL Smolenice 87.09 42 *e*P **P** **00 23 11.2 +2.0**
JAVC Velka Javorina 87.20 41⇑*i*P **P** **00 23 11.7 +2.0**
JAVC *e*SKS **SKSac** **00 33 39.3 +2.2**
MRAK Mrakovica 87.27 45⇑*i*P **P** **00 23 11.2 +1.0**
RAF Rauma 87.31 29 *e*P **P** **00 23 10.6 +0.7**
KEV Kevo 87.31 20 P **P** **00 23 10.3 +0.6**
KEV pmax pmax
comp=Z,144nm,1.0s
KEV Kevo 87.31 20 P **P** **00 23 10.3 +0.6**
KEV IAmb IAmb 00 23 11.7
comp=Z,144nm,1.0s
OKC Ostrava-Krasne 87.35 40 *e*P **P** **00 23 12.6 +2.3**
OKC *e* 00 33 40.1
OKC MLR MLR
comp=Z,4μm,20.2s
OKC Ostrava-Krasne 87.35 40 *e*P **P** **00 23 12.6 +2.3**
OKC *e*SKS **SKSac** **00 33 40.1 +2.3**
OKC AMS AMS 00 59 00.0
comp=Z,4μm,20.2s
MPLH Magyarpolny 87.38 43 *e*P **P** **00 23 12.1 +1.5**
MGRS Mrkonjic Grad 87.49 46 *e*P **P** **00 23 09.0 -2.2**
BLY Banja Luka 87.51 45⇑*i*P **P** **00 23 12.1 +0.9**
TIH Tihany 87.66 43 *e*P **P** **00 23 14.6 +2.7**
KOLL Kolacno 87.72 41 *e*P **P** **00 23 14.4 +2.2**
KLNR Kaliningrad 87.76 35*ce*P **P** **00 23 13.0 +0.8**
KLNR pmax pmax
comp=Z,147nm,1.2s
KLNR MLR MLR
comp=Z,3μm,20.0s
MATE Matera 87.79 49⇑P **P** **00 23 13.0 +0.4**
ATKA Atka Island 87.80 322 IAmb IAmb 00 23 13.7
comp=Z,94nm,1.2s
ATKA IAMs_20 IAMs_20 01 08 52.9
comp=Z,2μm,19.0s
CSKK Cskako 87.83 43 *e*P **P** **00 23 14.6 +1.9**
VYHS Vyhne 88.02 41 *e*P **P** **00 23 15.3 +1.7**
VYHS pmax pmax
comp=Z,101nm,1.4s
VYHS Vyhne 88.02 41 *e*P **P** **00 23 15.3 +1.7**
VYHS Vyhne 88.02 41 *e*S **S** **00 33 54.4 -2.7**
TIP Timpagrande 88.06 51⇑P **P** **00 23 14.5 +0.4**
TIP Timpagrande 88.06 51 IAmb IAmb 00 23 19.8
comp=Z,111nm,1.7s
TIP IAMs_20 IAMs_20 01 04 41.6
comp=Z,2μm,22.0s
STON Ston 88.18 47⇑*i*P **P** **00 23 14.8 +0.4**
MORH Mrgy, Hungar 88.28 44⇑P **P** **00 23 15.9 +0.9**
MORH Mrgy, Hungar 88.28 44 *e*P **P** **00 23 16.2 +1.4**
MORH Mrgy, Hungar 88.28 44⇑*i*P **P** **00 23 15.8 +0.9**
SLIT Slitere, Latvi 88.29 32 *e*P **P** **00 23 15.3 +0.7**
LANS Liptovska Anna 88.31 41 *e*P **P** **00 23 18.2 +3.2**
LANS pmax pmax
comp=Z,73nm,1.3s
LANS Liptovska Anna 88.31 41 *e*P **P** **00 23 18.1 +3.1**
OJC Ojcow 88.33 40 *e*P **P** **00 23 16.4 +1.4**
OJC Ojcow 88.33 40 IAmb IAmb 00 23 23.0
comp=Z,184nm,1.4s
OJC IAMs_20 IAMs_20 00 59 55.6
comp=Z,3μm,21.0s
PBUR Paburge 88.44 34 *e*P **P** **00 23 17.0 +1.7**
BEL Belsk 88.63 38 *e*P **P** **00 23 18.7 +2.3**
TREB Trebinje 88.68 47 *e*P **P** **00 23 18.3 +1.5**
MEF Metsahovi 88.75 29 *e*P **P** **00 23 17.7 +1.0**
BRY Bratogost 88.78 47 *e*P **P** **00 23 18.8 +1.3**
PSZ Piszkesteto 88.82 42⇑P **P** **00 23 23.1 +5.6**
PSZ Piszkesteto 88.82 42 *e*P **P** **00 23 19.9 +2.4**
PSZ Piszkesteto 88.82 42 P **P** **00 23 18.7 +1.2**
PSZ pmax pmax
comp=Z,214nm,1.5s
PSZ MLR MLR
comp=Z,1μm,21.0s
PSZ Piszkesteto 88.82 42 P **P** **00 23 18.6 +1.2**
PSZ IAmb IAmb 00 23 25.7
comp=Z,214nm,1.5s
HCY Herceg Novi 88.83 47 *e*P **P** **00 23 18.3 +0.7**
UPM Unac-Piva 88.99 47 *e*P **P** **00 23 19.8 +1.2**
KECS Kecovo 89.10 41 *e*P **P** **00 23 21.3 +2.6**
KECS Kecovo 89.10 41 *e*P **P** **00 23 21.3 +2.6**
BSZH Besenyszg 89.19 42⇑P **P** **00 23 21.2 +2.1**
BSZH Besenyszg 89.19 42 *e*P **P** **00 23 22.1 +3.0**
TEKS Tekeris 89.19 45 *e*P **P** **00 23 20.0 +0.7**
BBLS Lazići 89.23 46⇑*i*P **P** **00 23 20.9 +1.4**
FINES FINESS Array B 89.23 28 P **P** **00 23 18.7 -0.3**
comp=Z,27nm,0.8s,baz=299,slow=2.0,SNR=85
FINES PKKPbc **PKKPbc** **00 40 56.0 -1.9**
comp=Z,1.3nm,0.7s,baz=162,slow=1.8,SNR=3.3
FINES LR LR 01 02 38.9
comp=Z,2μm,18.7s,baz=289,slow=35
FINES FINESS Array B 89.23 28 P **P** **00 23 19.8 +0.8**
FINES FINESS Array B 89.23 28 P **P** **00 23 19.8 +0.8**
FIA1 FINESS Array S 89.23 28 IAmb IAmb 00 23 25.9
comp=Z,132nm,1.2s
RUDO Rudo 89.25 46 *e*P **P** **00 23 19.9 +0.4**
FRGS Fruska Gora 89.28 45⇑P **P** **00 23 20.7 +1.1**
FRGS Fruska Gora 89.28 45⇑*i*P **P** **00 23 20.7 +1.1**
ADK Adak 89.37 322 P **P** **00 23 19.7 -0.2**
ADK pmax pmax
comp=Z,168nm,1.1s
ADK Adak 89.37 322 P **P** **00 23 19.7 -0.2**
ADK IAmb IAmb 00 23 22.0
comp=Z,168nm,1.1s
DRME Dracevica, Mon 89.38 48⇑*i*P **P** **00 23 21.4 +1.3**
PDG Podgorica 89.39 47⇑P **P** **00 23 22.0 +1.8**
PDG Podgorica 89.39 47⇑*i*P **P** **00 23 21.6 +1.5**
PDG Podgorica 89.39 47 IAMs_20 IAMs_20 00 58 56.4
comp=Z,3μm,22.0s
STHS Stebnicka Huta 89.40 40 *e*P **P** **00 23 22.2 +2.1**
STHS Stebnicka Huta 89.40 40 *e*P **P** **00 23 22.2 +2.1**
SUW Suwalki 89.58 35 *e*P **P** **00 23 21.5 +0.7**
SUW Suwalki 89.58 35 *e*P **P** **00 23 22.5 +1.7**
SUW Suwalki 89.58 35 IAMs_20 IAMs_20 01 02 03.4
comp=Z,2μm,21.0s
DIVS Divibare 89.61 46⇑*i*P **P** **00 23 22.6 +1.3**
DIVS Divibare 89.61 46 IAmb IAmb 00 23 29.2
comp=Z,113nm,1.4s
DIVS IAMs_20 IAMs_20 01 01 31.0
comp=Z,3μm,21.0s
CRVS Cervenica-Dubn 89.65 41 *e*P **P** **00 23 23.7 +2.4**
CRVS pmax pmax
comp=Z,281nm,1.4s
CRVS Cervenica-Dubn 89.65 41 *e*P **P** **00 23 23.7 +2.4**
CRVS Cervenica-Dubn 89.65 41 *e*S **S** **00 34 16.8 +4.4**
CRVS *e*L L 01 01 25.2
PABE Paberze 89.68 34 *e*P **P** **00 23 22.8 +1.6**
PABE Paberze 89.68 34 IAmb IAmb 00 23 23.5
comp=Z,194nm,1.2s
PABE IAMs_20 IAMs_20 01 00 05.7
comp=Z,4μm,22.0s
AMBH Ambrzfalva 89.68 43⇓P **P** **00 23 24.3 +2.9**
AMBH Ambrzfalva 89.68 43 *e*P **P** **00 23 23.9 +2.5**
TIR Tirane 90.03 48 IAmb IAmb 00 23 34.7
comp=Z,160nm,1.5s
BANR Banloc 90.15 44⇑P **P** **00 23 25.7 +2.0**
KOLS Kolonicke sedl 90.17 41 *e*P **P** **00 23 26.1 +2.4**
KOLS Kolonicke sedl 90.17 41 *e*P **P** **00 23 26.1 +2.4**
APA Apatity 90.25 21⇑*i*P **P** **00 23 23.3 -0.3**
APA *i* 00 26 58.0
APA *i* 00 33 48.0
APA *i*S **S** **00 34 15.0 -2.1**
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,1μm,17.0s
UZH Uzhgorod 90.25 41 *e*P **P** **00 23 25.0 +1.0**
UZH *e* 00 26 56.8
UZH *e* 00 33 53.6
UZH *e*S **S** **00 34 18.0 +0.1**
UZH *e* 00 35 30.0
UZH *e* 00 40 27.9
UZH MLR MLR
comp=N,220nm,18.0s
UZH MLR MLR
comp=E,430nm,18.0s
UZH MLR MLR
comp=Z,240nm,18.0s
LTVH Ltavrtes, Hu 90.26 42⇑P **P** **00 23 26.4 +2.3**
LTVH Ltavrtes, Hu 90.26 42 *e*P **P** **00 23 26.7 +2.6**
KEK Kerkira 90.29 50 P **P** **00 23 25.3 +0.8**
SIRR Siria 90.33 43⇑P **P** **00 23 25.7 +1.1**
VSU Vasula 90.37 31 *e*P **P** **00 23 25.2 +0.8**
VSU Vasula 90.37 31*c i*P **P** **00 23 24.1 -0.3**
VSU pmax pmax
comp=Z,203nm,1.1s
VSU MLR MLR
comp=Z,9μm,21.0s
PHP Peshkopia 90.39 48 P **P** **00 23 26.4 +1.4**
BZS Buzias 90.44 44⇑P **P** **00 23 26.4 +1.4**
BZS Buzias 90.44 44⇑P **P** **00 23 26.4 +1.4**
TRPA Tarpa 90.52 41⇑P **P** **00 23 28.0 +2.7**
LVZ Lovozero 90.56 21*ce*P **P** **00 23 25.6 +0.5**
LVZ pmax pmax
comp=Z,54nm,1.1s
LVZ Lovozero 90.56 21 P **P** **00 23 25.3 +0.2**
LVZ IAMs_20 IAMs_20 01 08 31.9
comp=Z,1μm,18.0s
VNA3 Neumayer Olymp 90.67 163 P **P** **00 23 25.2 -0.3**
VNA3 Neumayer Olymp 90.67 163 PP PP 00 27 00.1 -0.7
VNA3 Neumayer Olymp 90.67 163 sP sP 00 23 29.6 -2.4
MDVR Moldovita 90.68 45⇑P **P** **00 23 27.9 +1.6**
IGT Igoumenitsa 90.73 50 P **P** **00 23 27.8 +1.3**
OHR Ohrid 90.77 48 *i*P **P** **00 23 28.7 +2.0**
LSK Leskovik 90.81 49 P **P** **00 23 28.7 +1.7**
KBN Korca 90.86 49 P **P** **00 23 29.0 +1.8**
KBN Korca 90.86 49 IAmb IAmb 00 23 35.6
comp=Z,205nm,1.4s
VNA1 Neumayer--Stat 90.87 162 P **P** **00 23 26.4 +0.1**
VNA1 Neumayer--Stat 90.87 162 PP PP 00 27 02.0 -0.2
VNA1 Neumayer--Stat 90.87 162 sP sP 00 23 31.2 -1.7
BOVS Bovan 90.91 46⇑P **P** **00 23 28.0 +0.7**
DRGR 90.92 43⇑P **P** **00 23 28.4 +1.1**
DRGR 90.92 43⇑P **P** **00 23 28.4 +1.1**
IIGN Ignalina 90.96 34 *e*P **P** **00 23 27.7 +0.5**
MESR Meseseni 91.00 42⇑P **P** **00 23 30.3 +2.7**
SKO Skopje 91.07 47 *i*P **P** **00 23 29.2 +1.2**
LVV L'vov 91.08 39 *e*P **P** **00 23 28.6 +0.7**
LVV *e* 00 27 04.6
LVV *e* 00 33 51.1
LVV *e*S **S** **00 34 22.1 -3.5**
LVV *e*PS **PS** **00 35 32.4 -2.6**
LVV *e*SS **SS** **00 40 29.2 +0.3**
LVV pmax pmax
comp=Z,300nm,1.4s
LVV MLR MLR
comp=N,900nm,20.0s
LVV MLR MLR
comp=E,2μm,20.0s
LVV MLR MLR
comp=Z,2μm,21.0s
NEST Nestorio 91.09 49 P **P** **00 23 29.8 +1.5**
JAN Janina 91.10 50 P **P** **00 23 29.7 +1.4**
FSK Fiskardo 91.11 51 P **P** **00 23 29.5 +1.2**
LKD2 Lefkada island 91.12 51 P **P** **00 23 28.7 +0.3**
HERR Herculane 91.14 44⇑P **P** **00 23 29.9 +1.6**
EVGI Lefkada island 91.15 51 P **P** **00 23 28.8 +0.3**
VNA2 Neumayer--Watz 91.24 162 P **P** **00 23 27.7 -0.4**
baz=309,slow=5.8
VNA2 Neumayer--Watz 91.24 162 PP PP 00 27 04.6 -0.6
VNA2 Neumayer--Watz 91.24 162 sP sP 00 23 33.1 -1.5
BMR Baia Mare 91.25 42⇑P **P** **00 23 30.0 +1.3**
BMR Baia Mare 91.25 42⇑P **P** **00 23 30.0 +1.3**
IDID Didziasalis 91.25 34 *e*P **P** **00 23 29.3 +0.7**
FNA Florina 91.26 49 P **P** **00 23 29.9 +0.9**
FNA Florina 91.26 49 IAmb IAmb 00 23 31.9
comp=Z,66nm,1.1s
GZR Gura Zlata 91.28 44⇑P **P** **00 23 30.4 +1.4**
GZR Gura Zlata 91.28 44⇑P **P** **00 23 30.4 +1.4**
KPRO Kipourio 91.42 49 P **P** **00 23 31.3 +1.5**
CJR Cluj-Napoca 91.54 43⇓P **P** **00 23 31.9 +1.7**
CJR Cluj-Napoca 91.54 43⇓P **P** **00 23 31.9 +1.7**
KZN Kozani 91.66 49 P **P** **00 23 31.9 +1.0**
STIP Stip 91.67 48 *i*P **P** **00 23 33.4 +2.5**
PUL Pulkovo 91.73 29*de*P **P** **00 23 31.9 +1.2**
PUL pmax pmax
comp=Z,270nm,1.3s
PUL MLR MLR
comp=Z,2μm,20.0s
LOT Lotru 91.95 44⇑P P 00 23 37.2 +5.0
ARCR ARCALIA 91.95 42⇑P **P** **00 23 33.3 +1.3**
EVR Evrytania 91.97 50 P **P** **00 23 34.2 +1.8**
GRG Griva 91.99 48 P **P** **00 23 33.8 +1.4**
THL Klokotos Trika 92.00 50 P **P** **00 23 33.3 +0.9**
BILL Bilibino 92.00 340*d i*P **P** **00 23 31.5 -0.3**
BILL *i* 00 27 14.3
BILL pmax pmax

comp=Z,116nm,1.4s
BILL Bilibino 92.00 340 P **P 00 23 32.0 +0.2**
BILL IAmb IAmb 00 23 34.3
comp=Z,142nm,1.4s
BILL IAMs_20 IAMs_20 01 09 24.3
comp=Z,3μm,20.0s
VAY Valandovo 92.03 48 *i* P **P 00 23 33.7 +1.2**
MNK Minsk 92.12 34 *i* P **P 00 23 33.9 +1.3**
MNK *i* 00 27 15.9
MNK *i* PPP PPP 00 29 12.8
MNK *i* S **SKSac 00 34 06.8 +1.3**
MNK *i* PS PnS 00 35 48.8 +1.6
MNK *i* SS **SS 00 40 51.9 +8.4**
MNK *i* SSS SSS 00 44 26.7
MNK pmax pmax
comp=Z,75nm,1.0s
MNK pmax pmax
comp=E,7.0nm,1.3s
MNK pmax pmax
comp=N,39nm,1.4s
MNK MLR MLR
comp=N,807nm,22.0s
MNK MLR MLR
comp=E,83nm,20.0s
MNK MLR MLR
comp=Z,1μm,24.0s
MNK Minsk 92.12 34 *i* P **P 00 23 34.0 +1.4**
comp=E,7.0nm,1.3s
MNK *i* P **P 00 23 34.0 +1.4**
comp=N,39nm,1.4s
MNK *i* P **P 00 23 34.0 +1.4**
comp=Z,75nm,1.0s,baz=108
MNK *i* PP **PP 00 27 15.9 +3.7**
MNK *i* PPP PPP 00 29 12.8
MNK *i* S **SKSac 00 34 06.8 +1.3**
MNK *i* PS PnS 00 35 48.9 +1.7
MNK *i* SS **SS 00 40 52.0 +8.5**
MNK *i* SSS SSS 00 44 26.7
MNK *i* LQ LQ 00 59 13.2
MNK *i* LR LR 01 01 37.5
MNK *i* LRM MLR 01 05 51.1
comp=N,807nm,22.0s
MNK *i* LRM MLR 01 06 07.7
comp=E,83nm,20.0s
MNK *i* LRM MLR 01 06 21.8
comp=Z,1μm,23.6s
EFP Efpalio 92.15 51 P **P 00 23 34.4 +1.3**
MAKR Makrakomi, Fth 92.20 50 P **P 00 23 35.0 +1.6**
LIT Litokhoron 92.24 49 P **P 00 23 33.7 +0.2**
LAKA Lakka 92.25 51 P **P 00 23 34.7 +1.1**
SERG Sergoula 92.27 51 P **P 00 23 34.4 +0.7**
KNT Kendrikon 92.31 48 P **P 00 23 35.0 +1.2**
AGG Agios Georgios 92.35 50 P **P 00 23 35.0 +0.9**
BUR08 Bucovina Ar. S 92.37 41 IAmb IAmb 00 23 42.0
comp=Z,66nm,1.4s
BURAR Bucovina Array 92.39 41 ⇑P **P 00 23 36.1 +1.9**
BURAR Bucovina Array 92.39 41 ⇑P **P 00 23 36.1 +1.9**
BURAR Bucovina Array 92.39 41 P **P 00 23 35.4 +1.2**
KLV Kalavryta, Ach 92.42 51 P **P 00 23 35.8 +1.3**
ITM Ithomi 92.43 52 P **P 00 23 35.1 +0.6**
ITM Ithomi 92.43 52 IAmb IAmb 00 23 41.6
comp=Z,89nm,1.4s
HORT Hortiatis 92.58 49 P **P 00 23 36.1 +0.9**
SOH Sokhos 92.72 48 P **P 00 23 36.7 +0.9**
VLX Vlachokerasia 92.74 52 P **P 00 23 37.3 +1.3**
VOIR 92.83 44 ⇑P **P 00 23 38.5 +2.3**
VOIR 92.83 44 ⇑P **P 00 23 38.5 +2.3**
SRS Serrai 92.83 48 P **P 00 23 36.7 +0.5**
SNAA Sanae 92.87 162 P **P 00 23 35.4 -0.4**
SNAA Sanae 92.87 162 PP PP 00 27 18.1 0.0
SNAA Sanae 92.87 162 sP sP 00 23 41.2 -1.1
SNAA Sanae 92.87 162 P **P 00 23 35.3 -0.4**
comp=Z,17nm,0.7s,baz=269,slow=5.2,SNR=106
SNAA Sanae 92.87 162 *c i*P **P 00 23 35.1 -0.6**
SNAA pmax pmax
comp=Z,25nm,0.8s
SNAA MLR MLR
comp=Z,2μm,22.0s
SNAA Sanae 92.87 162 P **P 00 23 35.0 -0.8**
SNAA IAmb IAmb 00 23 42.3
comp=Z,84nm,1.3s
SNAA IAMs_20 IAMs_20 01 03 04.4
comp=Z,2μm,22.0s
PLG Polygyros 92.89 49 P **P 00 23 37.4 +0.8**
DOPR Dopca 92.92 43 ⇑P **P 00 23 37.7 +1.1**
XOR Xorichti 92.93 50 P **P 00 23 37.0 +0.3**
LKR Lokris 92.94 50 P **P 00 23 37.0 +0.2**
NEO Neokhori 92.97 50 P **P 00 23 37.0 +0.1**
NVR Nevrokopi 92.97 48 P **P 00 23 37.7 +0.8**
LOUT Loutraki 93.07 51 P **P 00 23 38.4 +1.0**
BIZ Bicaz 93.15 42 ⇑P **P 00 23 38.9 +1.4**
OZUR 93.16 43 ⇑P **P 00 23 39.0 +1.3**
PAIG Paliouri 93.17 49 P **P 00 23 38.5 +0.7**
COPA Copaceanca 93.27 45 ⇑P **P 00 23 39.6 +1.4**
VILL Villia 93.29 51 P **P 00 23 38.6 +0.1**
OUR Ouranopolis 93.30 49 P **P 00 23 38.9 +0.5**
VLI Veliai 93.32 52 P **P 00 23 39.8 +1.3**
KRND KRANIDI 93.34 52 P **P 00 23 38.2 -0.4**
MLR Muntele Rosu 93.42 43 P **P 00 23 39.9 +0.9**
comp=Z,30nm,1.0s,baz=275,slow=1.0,SNR=58
MLR Muntele Rosu 93.42 43 ⇑P **P 00 23 40.8 +1.8**
MLR Muntele Rosu 93.42 43 ⇑P **P 00 23 40.8 +1.8**
MLR Muntele Rosu 93.42 43 IAmb IAmb 00 23 49.9
comp=Z,167nm,1.5s
MLR IAMs_20 IAMs_20 01 06 02.7
comp=Z,3μm,21.0s
KTHA Kythira Island 93.52 53 P **P 00 23 41.6 +2.1**
TESR Tescani 93.62 42 ⇑P **P 00 23 40.8 +1.0**
ATH Athens Observa 93.64 51 P **P 00 23 41.1 +1.1**
ATHU Athens Univers 93.70 51 P **P 00 23 40.5 +0.2**
VLY Voula,Athens 93.73 51 P **P 00 23 40.5 +0.1**
THAS Thassos island 93.78 48 P **P 00 23 40.5 -0.1**
DION Dionisos Attik 93.78 51 P **P 00 23 40.9 +0.2**
KYMI Kymi, Euboea I 93.78 50 P **P 00 23 41.2 +0.5**
PLOR Plostina 93.80 43 ⇑P **P 00 23 43.2 +2.6**
PLOR Plostina 93.80 43 ⇑P **P 00 23 43.3 +2.6**
VRI Vrincioaia 93.85 43 ⇑P **P 00 23 43.5 +2.7**
VRI Vrincioaia 93.85 43 ⇑P **P 00 23 43.5 +2.7**
BISRR Bisoca 93.92 43 ⇑P **P 00 23 43.4 +2.1**
AKASG Malin Array Be 94.05 38 P **P 00 23 41.7 +0.2**
comp=Z,2.5nm,0.6s,baz=278,slow=3.7,SNR=36
AKASG PP **PP 00 27 27.7 +0.2**
comp=Z,0.2nm,0.3s,baz=293,slow=8.0,SNR=5.0
AKASG PKKPbc **PKKPdf 00 40 43.7 -0.3**
comp=Z,0.3nm,0.3s,baz=82,slow=2.9,SNR=4.3
AKASG LR LR 01 04 10.2
comp=Z,4μm,20.0s,baz=295,slow=34
AKASG Malin Array Be 94.05 38 P **P 00 23 41.1 -0.4**
AKASG pmax pmax
comp=Z,13nm,1.3s
AKASG Malin Array Be 94.05 38 P **P 00 23 41.1 -0.4**
AKBB Malin Array Si 94.05 38 ⇑*e*P **P 00 23 41.9 +0.3**
KNDR Palaiochora Ch 94.24 54 P **P 00 23 43.2 +0.4**
RDO Rodhopi 94.25 48 P **P 00 23 43.0 +0.3**
SORM Soroca 94.28 40 ⇑P **P 00 23 43.6 +0.9**
SORM Soroca 94.28 40 ⇑P **P 00 23 43.6 +0.9**
LIA Limnos Island 94.30 49 P **P 00 23 42.8 -0.2**
SMTH Samothraki Isl 94.41 48 P **P 00 23 43.5 0.0**
SMY Shemya 94.57 325 IAMs_20 IAMs_20 01 10 54.7
comp=Z,2μm,20.0s
GVD Gavdhos 94.65 54 P **P 00 23 45.7 +1.0**
GVDS Gavdos 94.65 54 P **P 00 23 45.9 +1.2**
ALN Alexandroupoli 94.68 48 P **P 00 23 44.1 -0.6**
GADA Gvkgeada 94.76 48 P **P 00 23 45.6 +0.5**
ENEZ Enez 94.80 48 P **P 00 23 45.7 +0.4**
KIS Kishinev 94.91 41 ⇑*i*P **P 00 23 45.0 -0.6**
comp=Z,100nm,2.9s
KIS M M 00 23 52.0
comp=Z,190nm,3.6s
KIS Kishinev 94.91 41 *c i*P **P 00 23 45.0 -0.6**
KIS *i* 00 23 51.0
KIS *e*PPP PPP 00 29 44.0
KIS pmax pmax
comp=Z,100nm,2.9s
MIDW Midway 94.93 299 IAMs_20 IAMs_20 00 59 50.2
comp=Z,2μm,21.0s
MILM Milestii Mici 94.93 41 ⇑P **P 00 23 46.6 +0.9**
EDRB Edirne 94.94 47 P **P 00 23 46.4 +0.5**
CFR Carcaliu 94.99 43 ⇑P **P 00 23 45.8 -0.2**
CFR Carcaliu 94.99 43 ⇑P **P 00 23 45.8 -0.2**
ICOR Ion Corvin 95.07 44 ⇑P **P 00 23 47.4 +1.0**
IDI Anoyia 95.18 53 P **P 00 23 47.7 +0.5**
comp=Z,35nm,1.1s,baz=299,slow=6.1,SNR=17
IDI PP **PP 00 27 39.0 +2.0**
comp=Z,13nm,1.2s,baz=281,slow=6.9,SNR=5.2
IDI Anoyia 95.18 53 ⇑P **P 00 23 46.5 -0.8**
IDI Anoyia 95.18 53 P **P 00 23 47.7 +0.5**
IDI Anoyia 95.18 53 IAmb IAmb 00 23 50.4
comp=Z,86nm,1.3s
APE Apeiranthos 95.26 52 ⇑P **P 00 23 47.9 +0.4**
APE Apeiranthos 95.26 52 P **P 00 23 47.5 0.0**
APE Apeiranthos 95.26 52 ⇑P **P 00 23 47.9 +0.4**
TPGR Topolog 95.28 43 ⇑P **P 00 23 48.0 +0.6**
CHOS Chios island 95.33 50 P **P 00 23 47.8 -0.1**
SANT Santorini 95.37 52 ⇑P **P 00 23 49.0 +0.9**
SANT Santorini 95.37 52 IAmb IAmb 00 23 54.0
comp=Z,100nm,1.4s
TIRR Tirgusor 95.39 44 ⇑P **P 00 23 49.2 +1.3**
TIRR Tirgusor 95.39 44 ⇑P **P 00 23 49.2 +1.3**
MFTR Murfatlar 95.48 44 ⇑P **P 00 23 50.0 +1.7**
KLMR Klimovskoe 95.50 26 *e*P **P 00 23 44.8 -3.2**
KLMR *e*S **SKSac 00 34 20.2 -3.4**
KLMR pmax pmax
comp=Z,156nm,1.4s
KLMR Klimovskoe 95.50 26 *e*P **P 00 23 44.9 -3.1**
KLMR AMP 00 23 50.4
comp=Z,156nm,1.4s
KLMR *e*PP **PP 00 27 34.6 -3.8**
KLMR *e*S **SKSac 00 34 20.3 -3.4**
KLMR *e*S **SKSac 00 34 20.3 -3.4**
KLMR LQ LQ 00 59 05.3
KLMR LQ LQ 00 59 05.3
KLMR LR LR 01 01 00.4
KLMR AMP 01 03 36.5
comp=Z,4μm,20.3s
JURR Jurilovca 95.62 43 ⇑P **P 00 23 51.0 +2.1**
LAST Lasithi 95.68 53 P **P 00 23 49.0 -0.5**
PURM Purcari 95.75 42 ⇑P **P 00 23 51.2 +1.8**
NPS Neapolis 95.76 53 P **P 00 23 50.5 +0.7**
AFI Afiamalu 96.21 257 IAMs_20 IAMs_20 00 56 25.5
comp=Z,2μm,22.0s
OBN Obninsk 96.60 32 P **P 00 23 53.8 +0.7**
comp=Z,6.6nm,0.5s,baz=308,slow=4.8,SNR=20
OBN Obninsk 96.60 32 ⇑P **P 00 23 51.3 -1.8**
OBN Obninsk 96.60 32 *c i*P **P 00 23 53.3 +0.2**
OBN *e* 00 27 46.1
OBN pmax pmax
comp=Z,130nm,1.6s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 96.60 32 P **P 00 23 53.5 +0.4**
OBN IAMs_20 IAMs_20 01 06 04.7
comp=Z,3μm,21.0s
BODT Bodrum 96.64 51 P **P 00 23 53.8 +0.1**
ISK Istanbul-Kandi 96.83 47 P **P 00 23 53.9 -0.6**
MOS Moscow 96.89 31 *e*P **P 00 23 50.3 -4.1**
MOS *e* 00 34 30.1
MOS pmax pmax
comp=Z,90nm,1.2s
MOS pmax pmax
comp=Z,300nm,2.2s
KARP Karpathos 96.92 53 P **P 00 23 54.6 -0.5**
KARP Karpathos 96.92 53 IAmb IAmb 00 24 01.2
comp=Z,81nm,1.3s
TSUM Tsumeb 97.26 108 P **P 00 23 57.0 0.0**
TSUM IAmb IAmb 00 24 04.1
comp=Z,85nm,1.3s
KULA Kula-Manisa 97.27 49 P Pdif 00 23 57.6 +0.8
PRGR Permogore 97.66 24 *e*P Pdif 00 23 58.1 +0.3
PRGR pmax pmax
comp=Z,74nm,1.0s
QSPA South Pole Qui 98.16 180 P Pdif 00 24 00.2 +0.1
comp=Z,10nm,1.1s,baz=165,slow=1.4,SNR=33
QSPA PP **PP 00 27 58.8 -0.4**
comp=Z,2.6nm,0.9s,baz=124,slow=4.7,SNR=3.9
QSPA South Pole Qui 98.16 180 P **P 00 23 59.9 -0.1**
QSPA IAmb IAmb 00 24 08.8
comp=Z,57nm,1.4s
LPSR Galich'ya Gora 98.94 34 *e*P Pdif 00 24 03.8 +0.1
LPSR pmax pmax
comp=Z,20nm,1.2s
VORD Divnogorie 99.86 35 *e*P **Pdif 00 24 08.2 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.1s
BR131 Keskin Array S 100.57 47 *d i*P **Pdif 00 24 12.3 +0.8**
BRTR Keskin Array B 100.57 47 P **Pdif 00 24 11.5 0.0**
comp=Z,4.5nm,0.9s,baz=258,slow=4.8,SNR=22
BRTR PP **PP 00 28 19.8 +1.6**
comp=Z,1.5nm,1.0s,baz=292,slow=7.6,SNR=2.4
BRTR PKKPbc **PKKPbc 00 40 25.6 -1.7**
comp=Z,0.8nm,0.7s,baz=158,slow=5.4,SNR=2.4
BRTR Keskin Array B 100.57 47 *i* P **Pdif 00 24 12.6 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 100.57 47 Pdif **Pdif 00 24 12.0 +0.5**
KIRV Kirov 100.96 25 P **Pdif 00 24 13.2 +0.7**
comp=Z,4.8nm,0.6s,baz=294,slow=5.2,SNR=7.2
KIRV Kirov 100.96 25 *de*P **Pdif 00 24 13.0 +0.5**
VRH Novokhopyorsk 101.12 34 *e*P **Pdif 00 24 12.8 -0.6**
VRH pmax pmax
comp=Z,10.0nm,1.4s
ANN Anapa 101.31 41 *e*P **Pdif 00 24 18.8 +4.3**
ANN *i* 00 28 24.9
ANN *e* 00 34 51.6
ANN *e*S **Sdif 00 35 59.1 +5.0**
ANN pmax pmax
comp=Z,36nm,1.0s
ANN MLR MLR
comp=Z,2μm,19.0s
NRIK Noril'sk 101.97 5 P **Pdif 00 24 17.7 +0.9**
comp=Z,4.3nm,0.9s,baz=18,slow=5.4,SNR=5.6
BNN Bunyan 102.48 47 IAMs_20 IAMs_20 01 13 36.0
comp=Z,3μm,20.0s
PET Petropavlovsk 102.83 329 *e*P **Pdif 00 24 23.2 +2.2**
PET *e* 00 28 35.4
PET *e*S **Sdif 00 36 01.6 -4.9**
PET *e*PS **PS 00 37 41.6 -0.9**
PET *e*PPS PPS 00 38 30.3
PET *e*SS **SS 00 43 18.5 +4.3**
PET pmax pmax
comp=Z,200nm,17.2s
PET pmax pmax
comp=Z,500nm,15.4s
PET Petropavlovsk 102.83 329 IAMs_20 IAMs_20 01 18 46.8
comp=Z,1μm,20.0s
PEA0B Petropavlovsk- 103.27 329 IAMs_20 IAMs_20 01 19 04.2
comp=Z,3μm,19.0s
PETK Petropavlovsk- 103.27 329 Pdiff **Pdif 00 24 23.9 +0.9**
comp=Z,1.1nm,0.5s,baz=46,slow=10,SNR=2.4
VNDA Vanda 104.36 191 PP **PKiKP 00 28 46.6 +3.0**
comp=Z,2.0nm,1.2s,baz=74,slow=3.2,SNR=4.2
VNDA PKKPbc **PKKPbc 00 40 12.4 -4.7**
comp=Z,0.8nm,0.8s,baz=308,slow=4.1,SNR=5.4
EIL Elat 104.91 56 PP **PKiKP 00 28 50.8 +4.8**
comp=Z,1.3nm,0.6s,baz=248,slow=2.3,SNR=4.2
KIV Kislovodsk 105.08 40 *i* PKiKP **PKiKP 00 28 49.9 +3.9**
SNR=9.4
KIV Kislovodsk 105.08 40 IAMs_20 IAMs_20 01 10 46.8
comp=Z,2μm,22.0s
KIV Kislovodsk 105.08 40 P **PKiKP 00 28 48.0 +2.0**
KIV S **SKSac 00 35 11.6 0.0**
KBZ Khabaz 105.32 40 Pdiff **Pdif 00 24 34.3 +2.0**
comp=Z,0.4nm,0.3s,baz=288,slow=3.7,SNR=3.9
KBZ PKiKP **PKiKP 00 28 46.7 +0.4**
comp=Z,2.2nm,0.8s,baz=295,slow=6.3,SNR=4.5
KBZ PKKPbc **PKKPbc 00 40 11.4 -1.8**
comp=Z,2.3nm,0.8s,baz=132,slow=3.3,SNR=6.2
ARU Arti 106.12 24 Pdiff **Pdif 00 24 37.0 +1.5**
comp=Z,0.3nm,0.3s,baz=299,slow=5.5,SNR=3.9
ARU Arti 106.12 24 P **Pdif 00 24 37.1 +1.5**
ARU 00 35 14.5
ARU MLR MLR
comp=Z,3μm,21.0s
ONI Oni 106.20 41 IAMs_20 IAMs_20 01 11 27.7
comp=Z,2μm,22.0s
MXZ Matakaoa Point 106.31 233 IAMs_20 IAMs_20 01 03 23.1
comp=Z,2μm,19.0s
MSVF Nonsavu 106.31 254 IAMs_20 IAMs_20 01 06 16.1
comp=Z,1μm,21.0s
YAK Yakutsk 106.94 347 IAMs_20 IAMs_20 01 19 10.8
comp=Z,2μm,19.0s
SYO Syowa Base 107.04 160 ‖*e*Pdiff **Pdif 00 24 38.5 -0.8**
SYO Syowa Base 107.04 160 ‖*e*PDiff PDif 00 24 43.9 -0.3
URZ Urewera 107.22 233 IAMs_20 IAMs_20 01 07 22.7
comp=Z,2μm,18.0s
GROC Groznyy 107.42 40 *e*P **Pdif 00 24 40.7 -1.0**
GROC *e* 00 29 10.0
GROC *e* 00 35 59.5
MBAR Mbarara 107.97 88 IAMs_20 IAMs_20 01 09 13.8
comp=Z,3μm,21.0s
GNI Garni 108.20 43 PP **PP 00 29 12.1 -2.7**
comp=Z,4.1nm,0.9s,baz=157,slow=11,SNR=3.2
MAK Makhachkala 108.62 39 *i* P **Pdif 00 24 42.8 -4.2**
MAK *e* 00 29 15.7
MAK *e* 00 35 27.1
MAK *e*PS **PS 00 38 42.3 -0.7**
AKTO Aktyubinsk 110.00 29 PKiKP **PKiKP 00 28 54.5 -0.4**
comp=Z,3.0nm,0.9s,baz=273,slow=7.7,SNR=4.9
AKTO PP **PP 00 29 25.3 -1.9**
comp=Z,6.1nm,1.1s,baz=265,slow=7.9,SNR=4.9
LODK Lodwar 111.90 83 IAMs_20 IAMs_20 01 15 20.5
comp=Z,2μm,21.0s
BRVK Borovoye 113.09 21 ⇑*i*PKiKP **PKiKP 00 29 00.1 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
BRVK Borovoye 113.09 21 IAMs_20 IAMs_20 01 24 56.6
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 114.49 88 ⇑*i*PKiKP **PKiKP 00 29 05.3 +0.6**
YSS Yuzh-Sakhalins 114.59 331 *e*P **Pdif 00 25 08.7 -4.8**
YSS *e* 00 29 58.7
YSS *e* 00 32 35.0
YSS *e* 00 35 48.0
YSS *e*PS **PS 00 39 38.0 -0.9**
YSS *e*SS SS 00 45 48.0 -4.6
YSS Yuzh-Sakhalins 114.59 331 IAMs_20 IAMs_20 01 25 00.3
comp=Z,2μm,20.0s
ZEA Zeya 114.92 344 *e*PKiKP **PKiKP 00 28 56.9 -7.2**
ZEA *e* 00 30 10.6
MAW Mawson 114.95 164 PP **PP 00 30 00.4 -1.8**
comp=Z,2.5nm,0.8s,baz=216,slow=9.0,SNR=3.8
ZAA0 Zalesovo Array 116.31 12 IAMs_20 IAMs_20 01 21 16.3
comp=Z,2μm,22.0s
ZALV Zalesovo Beam 116.31 12 PKP **PKiKP 00 29 05.8 -1.0**
comp=Z,7.6nm,0.9s,baz=270,slow=1.5,SNR=24
ZALV PKKPbc **PKKPbc 00 39 36.0 -1.7**
comp=Z,0.8nm,0.6s,baz=180,slow=0.9,SNR=4.5
JKA Kamikawa-asahi 116.67 329 IAMs_20 IAMs_20 01 30 14.0
comp=Z,1μm,20.0s
DZM Mont Dzumac 117.29 249 *e*SP SP 00 40 02.0 -1.3
comp=Z,563nm,36.0s
DZM *e*SS **SS 00 46 31.3 +0.3**
comp=Z,1μm,27.2s
DZM Mont Dzumac 117.29 249 *e*LQ LQ 00 59 47.8
comp=Z,2μm,35.2s
DZM *e*LR LR 01 04 51.5
comp=Z,1μm,25.4s
ATD Arta Tunnel 117.37 73 IAMs_20 IAMs_20 01 19 24.5
comp=Z,2μm,22.0s
KLR Kul'dur 117.43 339 ⇑*i*PKiKP **PKPdf 00 29 09.0 -0.1**
JEM Erimo 117.84 327 IAMs_20 IAMs_20 01 24 56.0
comp=Z,2μm,22.0s
ERM Erimo 117.84 327 IAMs_20 IAMs_20 01 30 33.0
comp=Z,1μm,20.0s
GEYT Alibeck 118.14 39 PKP **PKPdf 00 29 09.7 -1.1**
comp=Z,13nm,0.6s,baz=228,slow=13,SNR=7.8
GEYT pPKP **pPKPdf 00 29 15.8 +0.1**
comp=Z,6.2nm,0.7s,baz=252,slow=3.0,SNR=6.7
GYA0B ALIBECK ARRAY 118.14 39 IAMs_20 IAMs_20 01 20 46.2
comp=Z,2μm,21.0s
JEW Eniwo 118.17 328 IAMs_20 IAMs_20 01 28 16.5
comp=Z,1μm,21.0s
ASHT Ashkhabad 118.29 39 IAMs_20 IAMs_20 01 20 48.3
comp=Z,2μm,22.0s
MOY Mondy 120.39 1 *e*PKiKP **PKiKP 00 29 15.4 +0.4**
MOY *e* 00 30 40.2
MOY pmax pmax
comp=Z,26nm,2.3s
DGZ Jazzator, Alta 120.86 11 ⇓*i*PKiKP **PKiKP 00 29 16.1 +0.1**
KKAR Karatay Array 121.19 27 PKiKP **PKPdf 00 29 16.6 +0.1**
KKAR Karatay Array 121.19 27 PKPdf **PKPdf 00 29 16.6 +0.1**
USRK Ussuriysk Ar. 121.52 336 PKP **PKPdf 00 29 15.7 -1.4**
comp=Z,4.6nm,0.8s,baz=30,slow=2.3,SNR=15
USRK pPKP **pPKPdf 00 29 22.1 +0.1**
comp=Z,4.9nm,0.8s,baz=333,slow=2.1,SNR=6.2
USRK PP **PP 00 30 47.1 -0.8**
comp=Z,1.0nm,0.6s,baz=154,slow=40,SNR=2.5
USRK Ussuriysk Ar. 121.52 336 PKPdf **PKPdf 00 29 16.3 -0.8**
ZAK Zakamensk 121.70 360 *e*PKiKP **PKPdf 00 29 16.7 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
CASY Casey 121.72 184 **PKiKP 00 29 17.7 +0.8**
CASY Casey 121.72 184 IAMs_20 IAMs_20 01 32 41.5
comp=Z,1μm,19.0s
TAS Tashkent 122.00 29 IAMs_20 IAMs_20 01 21 00.1
comp=Z,1μm,21.0s
JMM Marumori 122.02 325 IAMs_20 IAMs_20 01 27 12.8
comp=Z,1μm,21.0s
MK31 Makanchi Array 122.35 16 PKIKP **PKPdf 00 29 17.3 -1.4**
MK31 Makanchi Array 122.35 16 PKPdf **PKPdf 00 29 17.3 -1.4**
MKAR Makanchi Array 122.35 16 PKP **PKPdf 00 29 17.4 -1.3**
comp=Z,4.9nm,0.6s,baz=310,slow=2.2,SNR=33
MKAR pPKP **pPKPdf 00 29 23.2 -0.4**
comp=Z,5.2nm,0.5s,baz=295,slow=2.7,SNR=18
MKAR PKKPbc **PKKPbc 00 39 13.6 -1.9**
comp=Z,2.1nm,1.0s,baz=188,slow=7.4,SNR=4.1
MKAR Makanchi Array 122.35 16 *c i*PKIKP **PKPdf 00 29 17.6 -1.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 122.35 16 PKPdf **PKPdf 00 29 17.2 -1.5**
USP Ospenovka 122.76 24 P **PKiKP 00 29 21.3 +1.5**
SNR=9.7
HRA Herat 122.95 40 PKPdf **PKPdf 00 29 19.7 -0.8**
HRA IAMs_20 IAMs_20 01 24 31.9
comp=Z,2μm,21.0s
EKS2 Erkin-Say 122.97 25 P **PKiKP 00 29 21.8 +1.5**
SNR=10
FRU1 Bishkek 123.20 24 IAMs_20 IAMs_20 01 31 24.7
comp=Z,2μm,21.0s
MSHR Mys Shultsa 123.20 335 ⇓*i*PKIKP **PKPdf 00 29 20.2 -0.2**
MSHR pmax pmax
comp=Z,27nm,2.5s
AAK Ala-Archa 123.28 25 *i* PKiKP **PKiKP 00 29 21.5 +0.5**
SNR=8.9
AAK Ala-Archa 123.28 25 *d i*PKIKP **PKiKP 00 29 22.0 +1.0**
AAK pmax pmax
comp=Z,148nm,2.5s
AAK MLR MLR
comp=Z,5μm,20.0s
AAK Ala-Archa 123.28 25 **PKiKP 00 29 21.5 +0.5**
AAK Ala-Archa 123.28 25 IAMs_20 IAMs_20 01 23 21.7
comp=Z,2μm,20.0s
AML Almayashu 123.36 26 P **PKiKP 00 29 21.8 +0.3**
SNR=9.0
AML Almayashu 123.36 26 *i* PKiKP **PKiKP 00 29 21.8 +0.3**
SNR=10
TKM2 Tokmak 2 123.49 24 P **PKiKP 00 29 22.8 +1.3**
SNR=12
ASUD Al Ashush, Dub 123.51 53 *i* PKiKP **PKiKP 00 29 22.4 +0.7**
SNR=20
ASUD Al Ashush, Dub 123.51 53 P **PKPdf 00 29 21.0 -0.5**
SNR=12
NAZ Nazwa, Dubai 123.60 53 *i* PKiKP **PKiKP 00 29 22.4 +0.5**
SNR=6.4
NAZ Nazwa, Dubai 123.60 53 P **PKPdf 00 29 20.7 -0.9**
SNR=6.4
BANOM Banah 123.63 52 P **PKPdf 00 29 21.6 -0.1**
FAQ Al Faqa, Dubai 123.66 53 *i* PKiKP **PKiKP 00 29 22.3 +0.3**
SNR=8.5
MASF Masafi 123.80 52 P **PKPdf 00 29 22.0 -0.1**
SNR=9.8
MSFE Esma-Masafi 123.81 52 *i* PKiKP **PKiKP 00 29 23.1 +0.8**
SNR=5.4
BOOM Boomskoye usch 123.99 24 IAMs_20 IAMs_20 01 23 29.3
comp=Z,2μm,21.0s
UOSS Minazif 124.05 53 *i* PKPdf **PKPdf 00 29 21.6 -0.9**
SNR=10
UOSS Minazif 124.05 53 **PKPdf 00 29 21.2 -1.4**
UOSS Minazif 124.05 53 IAMs_20 IAMs_20 01 31 58.7
comp=Z,1μm,20.0s
UOSS Minazif 124.05 53 P **PKPdf 00 29 21.1 -1.4**
HATD Hatta, Dubai 124.05 53 *i* PKPdf **PKPdf 00 29 22.5 -0.1**
SNR=19
HATD Hatta, Dubai 124.05 53 P **PKPdf 00 29 22.2 -0.3**
SNR=14
ULN Ulaanbaatar 124.08 356 *d i*PKIKP **PKPdf 00 29 22.2 0.0**
ULN pmax pmax
comp=Z,26nm,1.7s
ULN Ulaanbaatar 124.08 356 PKPdf **PKPdf 00 29 21.1 -1.0**
ULN Ulaanbaatar 124.08 356 P **PKPdf 00 29 21.3 -0.9**
ALNE Al Ain 124.13 54 *i* PKPdf **PKPdf 00 29 22.6 -0.1**
SNR=6.2
ALNE Al Ain 124.13 54 P **PKPdf 00 29 22.5 -0.2**
SNR=8.7
SONM Songino Array 124.15 357 PKP **PKPdf 00 29 21.3 -1.0**

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                comp=Z,7.9nm,0.8s,baz=328,slow=0.8,SNR=31
SONM                                    pPKP    pPKPdf  00 29 27.2 +0.1
                comp=Z,5.8nm,0.7s,baz=329,slow=0.9,SNR=14
SONM Songino Array      124.15 357      PKPdf   PKPdf   00 29 21.1 -1.1
UMZA Um Al Zommool      124.29  55      P       PKiKP   00 29 23.1 -0.2
CN2  Changchun          124.31 340 ePKP         PKPdf   00 29 21.0 -1.5
CN2                                     PP      PP      00 31 10.5 +3.9
CN2                                     AMB     AMB
                comp=Z,500nm,8.3s
CN2                                     LR      LR
                comp=Z,1μm,22.0s
CN2                                     LR      LR
                comp=Z,800nm,22.0s
CN2                                     LR      LR
                comp=Z,1μm,25.4s
ULHL Ulahol             124.32  24      P       PKiKP   00 29 24.9 +1.8
                SNR=6.3
MAJO Matsushiro         124.41 325d iPKIKP      PKPdf   00 29 22.3 -0.6
MAJO                                    MLR     MLR
                comp=Z,1μm,20.0s
MAJO Matsushiro         124.41 325      PKPdf   PKPdf   00 29 22.0 -1.0
MAJO Matsushiro         124.41 325      IAMs_20 IAMs_20 01 24 40.1
                comp=Z,1μm,21.0s
MJAR Matsushiro Arr     124.41 325      PKP     PKPdf   00 29 21.7 -1.3
                comp=Z,3.8nm,0.5s,baz=91,slow=3.3,SNR=20
MJAR                                    pPKP    pPKPdf  00 29 27.5 -0.3
                comp=Z,6.0nm,0.8s,baz=64,slow=1.4,SNR=5.5
SOHO SOHO               124.71  53 i PKPdf      PKPdf   00 29 23.5 -0.3
                SNR=13
SOHO SOHO               124.71  53      P       PKPdf   00 29 22.4 -1.4
KDJ  Kajisay            124.78  23      IAMs_20 IAMs_20 01 23 12.4
                comp=Z,2μm,21.0s
ABTO Aybut              125.02  62      P       PKPdf   00 29 24.7 +0.1
DOK  Doka               125.23  60      P       PKPdf   00 29 24.1 -0.8
ABPO Ambohimpanom       125.24 107      PKIKP   PKPdf   00 29 23.4 -1.7
ABPO                                    MLR     MLR
                comp=Z,3μm,20.0s
ABPO Ambohimpanom       125.24 107      PKPdf   PKPdf   00 29 23.4 -1.7
JGF  Kuroka             125.56 325      IAMs_20 IAMs_20 01 33 03.7
                comp=Z,925nm,20.0s
JSG  Sagara             125.75 324      IAMs_20 IAMs_20 01 17 18.8
                comp=Z,1μm,22.0s
BSY  Bisya              125.92  54      P       PKPdf   00 29 25.0 -1.2
                SNR=5.2
INU  Inuyama            125.94 325      IAMs_20 IAMs_20 01 33 14.4
                comp=Z,965nm,19.0s
BIDO Bidbid             126.28  53      P       PKPdf   00 29 26.4 -0.4
                SNR=8.5
SMDO Samad              126.45  54      P       PKPdf   00 29 26.9 -0.4
                SNR=17
WMQ  Urumqi             126.51  13      PKP     PKiKP   00 29 27.5 +0.2
WMQ                                     PP      PP      00 31 22.3 +1.0
WMQ                                     AMB     AMB
                comp=Z,590nm,4.5s
WMQ                                     LR      LR
                comp=Z,2μm,17.9s
WMQ                                     LR      LR
                comp=Z,1μm,23.7s
WMQ                                     LR      LR
                comp=Z,2μm,19.9s
WSAR Wadi Sarin         126.82  53      P       PKPdf   00 29 28.0 +0.1
                SNR=6.1
JWT  Wachi              126.89 326      IAMs_20 IAMs_20 01 25 53.5
                comp=Z,1μm,20.0s
KBL  Kabul              126.93  35      PKIKP   PKPdf   00 29 28.1  0.0
KBL                                     MLR     MLR
                comp=Z,3μm,22.0s
KBL  Kabul              126.93  35      PKPdf   PKPdf   00 29 28.1  0.0
KBL  Kabul              126.93  35      P       PKPdf   00 29 27.7 -0.4
                SNR=10
JHS  Saijyo             128.32 328      IAMs_20 IAMs_20 01 37 43.4
                comp=Z,1μm,18.0s
KSRS Korea Array        128.84 334      PKP     PKPdf   00 29 30.0 -1.3
                comp=Z,16nm,0.9s,baz=19,slow=1.2,SNR=62
KSRS Korea Array        128.84 334      PKIKP   PKPdf   00 29 30.0 -1.3
KSAR Wonju Array Be     128.87 334      PKIKP   PKPdf   00 29 29.9 -1.5
KSAR Wonju Array Be     128.87 334      PKPdf   PKPdf   00 29 29.9 -1.5
ARMA Armidale           129.24 237      IAMs_20 IAMs_20 01 15 21.0
                comp=Z,2μm,22.0s
CAN  Canberra           129.81 230      IAMs_20 IAMs_20 01 17 13.6
                comp=Z,1μm,20.0s
NIL  Nilore             129.91  32      IAMs_20 IAMs_20 01 37 31.1
                comp=Z,2μm,22.0s
TJN  Taejon             129.99 334⇓iPKIKP       PKPdf   00 29 33.6 +0.1
HHC  Hu-ho-hao-te       130.55 351 ePKP         PKPdf   00 29 31.0 -3.6
HHC                                     PP      PP      00 31 48.5 +0.8
HHC                                     LR      LR
                comp=Z,800nm,19.4s
HHC                                     LR      LR
                comp=Z,840nm,17.1s
HHC                                     LR      LR
                comp=Z,2μm,18.1s
JTU  Tsushima           130.58 331      IAMs_20 IAMs_20 01 35 33.6
                comp=Z,1μm,19.0s
EIDS Eidsvold           130.89 244      IAMs_20 IAMs_20 01 16 55.0
                comp=Z,1μm,22.0s
BTO  Baotou             131.00 353 ePKP         PKPdf   00 29 34.8 -0.7
BTO                                     LR      LR
                comp=Z,10μm,22.0s
BTO                                     LR      LR
                comp=Z,6μm,21.9s
TOO  Toolangi           131.50 226      PKIKP   PKPdf   00 29 36.7 +0.3
TOO  Toolangi           131.50 226      PKPdf   PKPdf   00 29 36.7 +0.3
TOO                                     IAMs_20 IAMs_20 01 19 03.9
                comp=Z,1μm,22.0s
GTA  Gaotai             132.59   3      PKP     PKPdf   00 29 38.0 -0.6
GTA                                     PP      PP      00 32 04.8 +3.9
GTA                                     SKKS            00 38 53.5
GTA                                     SS      SS      00 49 42.0 +2.1
GTA                                     AMB     AMB
                comp=Z,440nm,10.4s
GTA                                     LR      LR
                comp=Z,1μm,23.9s
GTA                                     LR      LR
                comp=Z,1μm,22.3s
GTA                                     LR      LR
                comp=Z,1μm,22.7s
TIY  Taiyuan            133.46 349 ePKP         PKiKP   00 29 40.8 -0.6
TIY                                     PP      PP      00 32 12.0 +5.5
TIY                                     AMB     AMB
                comp=Z,270nm,5.7s
TIY                                     LR      LR
                comp=Z,700nm,19.4s
TIY                                     LR      LR
                comp=Z,400nm,15.5s
TIY                                     LR      LR
                comp=Z,1μm,28.3s
TIA  Tai'an             133.81 344      PKP     PKPdf   00 29 40.0 -0.8
TIA                                     AMB     AMB
                comp=Z,560nm,8.6s
TIA                                     LR      LR
                comp=Z,1μm,18.8s
TIA                                     LR      LR
                comp=Z,1μm,17.1s
TIA                                     LR      LR
                comp=Z,3μm,19.8s
SMLA Simla              133.92  31 eP           PKPdf   00 29 41.6 +0.5
MANU Manus Island       135.09 275      IAMs_20 IAMs_20 01 20 20.2
                comp=Z,881nm,20.0s
LZH  Lanzhou            135.97 359 ⇑PKP         PKPdf   00 29 45.3 +0.2
LZH                                     sPKP            00 29 51.0
LZH                                     PP      PP      00 32 23.5 +1.1
LZH                                     PKS     PKSdf   00 33 20.3 -1.2
LZH                                     SKKS            00 39 17.5
LZH                                     AMB     AMB
                comp=Z,460nm,9.3s
LZH                                     LR      LR
                comp=Z,2μm,18.3s
LZH                                     LR      LR
                comp=Z,2μm,17.9s
LZH                                     LR      LR
                comp=Z,2μm,20.1s
PMG  Port Moresby       136.03 265      IAMs_20 IAMs_20 01 22 07.7
                comp=Z,1μm,19.0s
CTAO Charters Tower     136.23 250      IAMs_20 IAMs_20 01 21 21.9
                comp=Z,1μm,20.0s
JMZ  Minamidaito 2      136.28 321      IAMs_20 IAMs_20 01 36 14.9
                comp=Z,815nm,20.0s
STKA Stephens Creek     136.83 231      PKP     PKPdf   00 29 46.0 -0.5
                comp=Z,19nm,0.9s,baz=92,slow=2.4,SNR=16
SSE  Sheshan            137.12 336      PKP     PKPdf   00 29 43.0 -4.1
SSE                                     PP      PP      00 32 30.0 +0.2
SSE                                     AMB     AMB
                comp=Z,240nm,10.3s
SSE                                     LR      LR
                comp=Z,1μm,17.7s
SSE                                     LR      LR
                comp=Z,460nm,20.4s
NJ2  Nanjing            137.13 340 ⇑PKP         PKPdf   00 29 46.5 -0.6
NJ2                                     AMB     AMB
                comp=Z,370nm,4.7s
NJ2                                     LR      LR
                comp=Z,1μm,18.2s
NJ2                                     LR      LR
                comp=Z,1μm,20.8s
NJ2                                     LR      LR
                comp=Z,2μm,20.2s
JOW  Kunigami           137.26 325      IAMs_20 IAMs_20 01 40 52.2
                comp=Z,2μm,20.0s
XAN  Xi'an              137.61 352      PKP     PKPdf   00 29 39.0 -9.0
XAN                                     sPKP            00 29 53.5
XAN                                     PP      PP      00 32 24.0 -8.6
XAN                                     PKS     PKSdf   00 33 14.0 -10
XAN                                     SKS     SKSdf   00 36 44.8 -14
XAN                                     SKKS    SKKSac  00 39 11.0 -18
WHN  Wuhan              139.91 344 ⇑PKP         PKPdf   00 29 46.0 -6.2
WHN                                     PP      PP      00 32 47.3 +0.4
WHN                                     PKS     PKSdf   00 33 22.0 -6.3
WHN                                     AMB     AMB
                comp=Z,480nm,5.2s
WHN                                     LR      LR
                comp=Z,4μm,19.2s
WHN                                     LR      LR
                comp=Z,650nm,15.9s
WHN                                     LR      LR
                comp=Z,4μm,21.8s
BHPL Bhopal             140.20  38 eP           PKPdf   00 29 51.6 -1.4
LSA  Lhasa              140.76  16      PKP     PKPdf   00 29 54.5 +0.1
LSA  Lhasa              140.76  16      IAMs_20 IAMs_20 01 43 23.3
                comp=Z,1μm,20.0s
CD2  Chengdu            141.14 359      PKP     PKPdf   00 29 49.5 -5.0
CD2                                     SKKS            00 39 43.0
CD2                                     AMB     AMB
                comp=Z,710nm,9.3s
CD2                                     LR      LR
                comp=Z,2μm,21.6s
CD2                                     LR      LR
                comp=Z,1μm,18.1s
CD2                                     LR      LR
                comp=Z,2μm,21.6s
ENH  Enshi              141.23 351              PKPpre  00 29 47.8
ENH                                             PKPdf   00 29 53.6 -1.1
GTK  Tadong             142.19  21 eP           PKPdf   00 29 53.1 -3.5
QZH  Quanzhou           143.62 335 ⇑iPKP        PKPab   00 29 54.0 -1.5
QZH                                     PP      PP      00 33 16.5 +6.8
QZH                                     AMB     AMB
                comp=Z,580nm,6.1s
QZH                                     LR      LR
                comp=Z,940nm,20.9s
QZH                                     LR      LR
                comp=Z,1μm,19.9s
QZH                                     LR      LR
                comp=Z,2μm,19.6s
ITAN ITANAGAR           143.85  14 eP           PKPbc   00 29 56.6 -0.3
LKP  Lekhapani          144.10  10 eP           PKPbc   00 29 57.9 +0.2
KNMB Chin-men Tao       144.13 335      IAMs_20 IAMs_20 01 44 27.9
                comp=Z,2μm,20.0s
JORH JORHAT             144.35  13 eP           PKPab   00 29 58.3 +0.1
MOKO MOKOCHONG          144.82  13 eP           PKPbc   00 30 00.2  0.0
SHL  Shillong           144.87  17 eP           PKPab   00 29 58.9 -1.5
SHL  Shillong           144.87  17 P            PKPab   00 29 58.9 -1.5
                SNR=37
HYB  Hyderabad          145.16  43 i PKP        PKPbc   00 30 01.0 -0.4
HYB                                     epPKP   PKiKP   00 30 06.0 +0.2
HYB  Hyderabad          145.16  43 eP           PKPbc   00 30 00.8 -0.6
GYA  Guiyang            145.37 354 ⇑PKPbc       PKPbc   00 30 00.5 -1.4
GYA                                     PKPab   PKPdf   00 30 02.5 +0.3
GYA                                     sPKP            00 30 06.8
GYA                                     PP      PP      00 33 22.8 +2.9
GYA                                     SKKS            00 40 07.5
GYA                                     AMB     AMB
                comp=Z,42nm,14.5s
GYA                                     LR      LR
                comp=Z,330nm,19.2s
GYA                                     LR      LR
                comp=Z,170nm,16.9s
GYA                                     LR      LR
                comp=Z,350nm,19.3s
SILR SILCHAR            145.87  16 eP           PKPdf   00 30 01.6 -1.2
ASAR Alice Springs      146.35 239      PKPbc   PKPdf   00 30 03.1 -0.6
                comp=Z,112nm,1.0s,baz=117,slow=3.4,SNR=305
KMI  Kunming            146.91 360      PKPbc   PKiKP   00 30 12.3 +2.8
KMI                                     PP      PP      00 33 34.5 +5.3
KMI  Kunming            146.91 360 ⇑PKPbc       PKPdf   00 30 05.0  0.0
KMI                                     pPKP    PKPbc   00 30 06.8  0.0
WC3  Warramunga Arr     147.16 246      IAMs_20 IAMs_20 01 27 19.1
                comp=Z,1μm,19.0s
WR2  Warramunga Arr     147.17 246      IAMs_20 IAMs_20 01 30 55.5
                comp=Z,1μm,20.0s
WB7  Warramunga Arr     147.18 246      IAMs_20 IAMs_20 01 27 30.7
                comp=Z,1μm,22.0s
WRAB Tennant Creek      147.18 246⇓ePKIKP       PKPdf   00 30 05.0 -0.2
WRAB Tennant Creek      147.18 246              PKPdf   00 30 03.1 -0.6
WB4  Warramunga Arr     147.18 246      IAMs_20 IAMs_20 01 27 43.9
                comp=Z,2μm,22.0s
WB0  Warramunga Arr     147.19 246      IAMs_20 IAMs_20 01 27 44.1
                comp=Z,2μm,21.0s
WRA  Warramunga Arr     147.19 246      PKPbc   PKPdf   00 30 04.8 -0.4
                comp=Z,51nm,1.0s,baz=103,slow=2.5,SNR=74
GZH  Guangzhou          147.23 342      PKPbc   PKPdf   00 30 04.5 -0.7
GZH                                     PP      PP      00 33 34.3 +3.3
GZH                                     SS      SS      00 52 26.5 -5.3
GZH                                     LR      LR
                comp=Z,700nm,22.6s
GZH                                     LR      LR
                comp=Z,2μm,18.4s
FORT Forrest            147.31 223      PKPdf   PKPdf   00 30 04.3 -0.9
VIS  Vishakhapatnam     147.96  37 eP           PKPdf   00 30 04.1 -2.4
SZP  Santa              148.99 326      IAMs_20 IAMs_20 01 44 59.0
                comp=Z,1μm,21.0s
DGAR Diego Garcia       150.06  91      PKIKP   PKPab   00 30 21.1 +0.3
DGAR Diego Garcia       150.06  91              PKPab   00 30 21.1 +0.3
SWI  Sorong             150.61 283      PKP     PKPdf   00 30 11.7 +0.8
SLVN Son La             150.66 358      PKPdf   PKPdf   00 30 11.1 +0.2
SLVN                                    PKPbc   PKPbc   00 30 16.6 +0.2
MTN  Manton Dam         151.64 258      IAMs_20 IAMs_20 01 46 50.3
                comp=Z,1μm,20.0s
QIZ  Qiongzhong         152.07 345      PKPbc   PKPdf   00 30 13.0  0.0
QIZ                                     PP      PP      00 34 00.8 +1.9
QIZ                                     SS      SS      00 53 29.0 +3.3
QIZ                                     LR      LR
                comp=Z,1μm,21.6s
QIZ                                     LR      LR
                comp=Z,1μm,18.6s
DAV  Davao City (W)     152.60 303      IAMs_20 IAMs_20 01 53 51.6
                comp=Z,1μm,22.0s
CM34 Chiang Mai Arr     152.93   7      P       PKPdf   00 30 15.0 +0.7
CHTO Chiang Mai         152.94   8      PKIKP   PKPbc   00 30 20.0 -1.6
CHTO Chiang Mai         152.94   8      PKPdf   PKPdf   00 30 13.8 -0.5
CHTO                                    PKPbc   PKPbc   00 30 20.0 -1.6
CHTO Chiang Mai         152.94   8      IAMs_20 IAMs_20 01 51 47.9
                comp=Z,1μm,20.0s
CMMT Chiang Mai         152.95   8      P       PKPdf   00 30 15.2 +0.8
PALK Pallekele          153.27  56      PKPbc   PKPbc   00 30 22.2 -0.2
                comp=Z,32nm,1.0s,baz=261,slow=2.2,SNR=5.8
PALK Pallekele          153.27  56      PKIKP   PKPbc   00 30 20.7 -1.8
PALK Pallekele          153.27  56              PKPbc   00 30 20.7 -1.8
CM31 Chiang Mai Arr     153.29   8      P       PKPdf   00 30 15.1 +0.2
                SNR=18
CMAR Chiang Mai Arr     153.29   8      PKP     PKPdf   00 30 14.8 -0.1
                comp=Z,16nm,1.0s,baz=308,slow=2.1,SNR=64
CMAR                                    PKPbc   PKPbc   00 30 22.2 -0.1
                comp=Z,28nm,0.6s,baz=317,slow=3.1,SNR=22
CMAR                                    pPKPbc  pPKPbc  00 30 27.6 +0.4
                comp=Z,28nm,0.7s,baz=330,slow=3.2,SNR=12
CMAR Chiang Mai Arr     153.29   8      PKPdf   PKPdf   00 30 14.8 -0.1
CMAR                                    PKPbc   sPKPdf  00 30 20.9 -0.6
CMAR                                    PKPab   PKPab   00 30 34.4 +0.4
CM15 Chiang Mai Arr     153.30   8      PKP     PKPdf   00 30 16.7 +1.8
CM15 Chiang Mai Arr     153.30   8      P       PKPdf   00 30 16.0 +1.1
CM09 Chiang Mai Arr     153.31   8      PKP     PKPdf   00 30 16.4 +1.5
LAMP Lampang            153.32   6      PKP     PKPdf   00 30 16.3 +1.4
LAMP Lampang            153.32   6      P       PKPdf   00 30 16.4 +1.5
CM02 Chiang Mai Arr     153.32   8      PKP     PKPdf   00 30 16.4 +1.5
CM02 Chiang Mai Arr     153.32   8      P       PKPdf   00 30 16.4 +1.5
CM13 Chiang Mai Arr     153.33   8      PKP     PKPdf   00 30 16.3 +1.4
CM13 Chiang Mai Arr     153.33   8      P       PKPdf   00 30 16.0 +1.1
CM01 Chiang Mai Arr     153.33   8      PKP     PKPdf   00 30 16.5 +1.6
CM01 Chiang Mai Arr     153.33   8      P       PKPdf   00 30 16.5 +1.6
CM05 Chiang Mai Arr     153.35   8      P       PKPdf   00 30 16.4 +1.5
CM04 Chiang Mai Arr     153.36   8      P       PKPdf   00 30 16.6 +1.6
MHMT Maesarieng         153.41  10      PKP     PKPdf   00 30 16.9 +1.9
MHMT Maesarieng         153.41  10      P       PKPdf   00 30 16.0 +1.0
TNTI Ternate            153.83 289      IAMs_20 IAMs_20 01 34 07.3
                comp=Z,916nm,21.0s
UTTA Uttaradit          154.17   5      PKP     PKPdf   00 30 17.3 +1.2
LOEI Loei               154.45   3      PKP     PKPdf   00 30 17.3 +0.8
PHIT Phitsanulok        154.71   5      PKP     PKPdf   00 30 18.4 +1.5
SKNT Sakolnakorn        154.99 357      PKP     PKPdf   00 30 18.5 +1.2
PBKT Sadao Pong         155.37   4      P       PKPab   00 30 53.3 +11
UMPA Umpang Tak         155.50   9      PKP     PKPdf   00 30 20.4 +2.4
CHAI Chaiyaphum         156.08   2      PKP     PKPdf   00 30 20.2 +1.5
PSA00 Pilbara Seismi    158.74 229      PKPdf   PKPdf   00 30 20.8 -1.2
PSA00                                   PKPab   PKPab   00 30 56.7 -0.7
LUWI Luwuk              158.76 288      IAMs_20 IAMs_20 01 57 08.1
                comp=Z,1μm,22.0s
PHET Kaeng Krachan      158.85   8      PKP     PKPdf   00 30 29.6 +7.4
TOLI2 Tolitoli          159.73 296      PKPdf   PKPdf   00 30 21.2 -2.2
TOLI2                                   PKPab   PKPab   00 31 01.5 -0.5
PKDT Phuket             163.48  15      PKP     PKPdf   00 30 34.9 +7.7
SKLT Songkhla           164.63   8      PKP     PKPdf   00 30 34.6 +6.3
PSI  Prapat             168.49  19      PKIKP   PKPdf   00 30 28.3 -3.1
RPSI Rantau Prapat      168.59  19              PKPdf   00 30 28.3 -3.0
RPSI                                            PKPab   00 31 39.4 -1.2
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TUL ***29*** *00:24:01.8±1.4, 35°.757N±0°.010×97°.36W±0°.02, h6km±4km, ML2.3, ML2.4/29(NEIC) Error ellipse: s-maj=1.8km s-min=1.4km az=80.0*

NEIC 29 00:24:01.9±0.9, 35°.769N±0°.008×97°.36W±0°.01, h7km±4km, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, Oklahoma

```
Code  Station Name      Δ°   AZ°   Phase ID        Time      Res
                                   Op    ISC       h m s     ISC
OK029 Liberty Lake      0.08 291   Pg    Pg        00 24 04.0 +0.1
OK029                              Sg    Sg        00 24 05.5 +0.2
OK029                              IAML            00 24 05.9
                1μm,0.5s
OK029                              IAML            00 24 06.0
                2μm,0.5s
OK025 Westminster Rd    0.19 174   Pg    Pg        00 24 05.7 -0.1
OK025                              Sg    Sg        00 24 08.7 +0.3
BCOK Bluff Creek, N     0.23 241   Pg    Pg        00 24 06.6 +0.1
BCOK                               Sg    Sg        00 24 10.1 +0.5
BCOK                               IAML            00 24 14.8
                comp=N,593nm,0.6s
OKCSW OKLAHOMA CITY     0.37 189   Pg    Pg        00 24 09.1  0.0
OKCSW                              Sg    Sg        00 24 14.5 +0.5
OK031 S. Brethren Rd    0.46  66   Pg    Pg        00 24 11.1 +0.2
OK031                              Sg    Sg        00 24 17.6 +0.6
FNO   Franklin          0.51 183   Pg    Pg        00 24 11.7 -0.1
FNO                                Sg    Sg        00 24 19.0 +0.5
FNO                                IAML            00 24 19.2
                comp=N,294nm,0.3s
FNO                                IAML            00 24 19.2
                comp=E,301nm,0.2s
QUOK Quay               0.67  53   Pg    Pg        00 24 14.8  0.0
QUOK                               Sg    Sg        00 24 24.0 +0.5
QUOK                               IAML            00 24 25.6
                comp=N,113nm,0.2s
CROK Carrier            0.89 326   Pg    Pg        00 24 19.1 +0.1
CROK                               Sg    Sb        00 24 31.9 +0.1
CROK                               IAML            00 24 35.7
                comp=E,160nm,0.2s
BLOK Blackwell          1.00   7   Pg    Pg        00 24 20.8 -0.3
BLOK                               IAML            00 24 45.1
                comp=E,84nm,0.2s
GC02 Grant County #     1.15 340   Pg    Pg        00 24 23.7 -0.4
X34A Smith Ranch, M     1.23 198              Pb  00 24 25.0 -0.5
X34A                               IAML            00 24 43.4
                comp=N,43nm,0.4s
OK032 Salt Plains WL    1.24 327              Pb  00 24 25.1 -0.6
OK032                              Sg    Sb        00 24 42.2 +0.4
KAN17 Caldwell West     1.31 346   Pn    Pn        00 24 26.6 -0.1
T35A  Sooner Cattle     1.34  31   Pn    Pn        00 24 26.8 -0.2
T35A                               IAML            00 24 45.9
                comp=N,58nm,0.3s
T35A                               IAML            00 24 45.9
                comp=E,64nm,0.3s
WMOK Wichita Mounta     1.55 229   Pn    Pn        00 24 29.9  0.0
MIAR Mount Ida          3.33 110   Pn    Pn        00 24 55.6 +1.1
X40A Basin Creek Fa     3.93 108   Pn    Pn        00 25 03.7 +1.1
WHAR Wooly Hollow       4.17  95   Pn    Pn        00 25 06.5 +0.6
HKT  Hockley            5.94 167   Pn    Pn        00 25 30.8 +0.5
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RSPR ***29*** *00:26:59.2, 18°.51N×68°.94W, h150km±3km, MD4.2/15*
NEIC ***29*** *00:27:00.2±1.9, 18°.49N±0°.07×68°.92W±0°.05, h132km±5km, Error ellipse: s-maj=9.9km s-min=6.4km az=196.0*
IDC ***29*** *00:27:01.7±4.0, 18°.34N×68°.88W, h150km±50km, mb3.2/4, mb1 3.6/5, mb1mx3.2/35, mbtmp3.8/5, Error ellipse: s-maj=63.8km s-min=23.6km az=14.0*
OSPL ***29*** *00:27:02.5±0.3, 18°.34N×68°.94W, h123km±14km, ML4.1*

ISC 29 00:27:00.4±0.7, 18°.36N±0°.08×68°.90W±0°.04, h139km±6km, n112, σ1°.17/122, mb3.9/9, 14C-5D, Mona Passage

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Code  Station Name      Δ°   AZ°   Phase ID        Time      Res
                                   Op    ISC       h m s     ISC
PCDR  Punta Cana, DR    0.52  72 ⇑eP              Pn  00 27 20.1 -0.4
PCDR  Punta Cana, DR    0.52  72 eS              Sn  00 27 36.0  0.0
PCDR  Punta Cana, DR    0.52  72   Pn    Pn        00 27 20.3 -0.4
PCDR                               Sn    Sn        00 27 35.9  0.0
PCDR                               IAML            00 27 39.2
                comp=N,4μm,0.4s
PCDR                               IAML            00 27 41.1
                comp=E,2μm,0.5s
PCDR  Punta Cana, DR    0.52  72 i P               Pn  00 27 20.2 -0.4
PCDR                               IAML            00 27 38.3
                comp=Z,3μm,0.2s
DR12  Loma Pena Alta    0.62 314              Pn  00 27 19.9 -1.5
SDD   Santo Domingo     0.96 276   Pn    Pn        00 27 22.8 -1.1
SDD                                Sn    Sn        00 27 39.3 -2.4
SDD                                IAML            00 27 40.3
                comp=N,4μm,0.3s
SDD                                IAML            00 27 41.6
                comp=E,3μm,0.4s
LOSC1 San Cristbal      1.15 273 i P               Pn  00 27 24.9 -0.6
IDE   Isla Desecheo     1.36  89 ⇑eP              Pn  00 27 27.0 -0.7
IDE   Isla Desecheo     1.36  89 eS              Sn  00 27 48.7 +0.3
IDE   Isla Desecheo     1.36  89              Pn  00 27 27.0 -0.7
IDE                                            Sn  00 27 48.7 +0.3
BANI  BANI              1.38 272              Pn  00 27 27.3 -0.7
MPR   Mayaguez          1.68  95              Pn  00 27 30.6 -0.6
MPR                                IAML            00 27 58.5
                comp=N,2μm,0.9s
AGPR  Aguadilla, PR     1.71  86 eP              Pn  00 27 31.5 +0.1
AGPR  Aguadilla, PR     1.71  86 eS              Sn  00 27 55.8 +0.6
AGPR  Aguadilla, PR     1.71  86              Pn  00 27 31.5 +0.1
AGPR  Aguadilla, PR     1.71  86              Sn  00 27 56.7 +1.6
AGPR                               IAML            00 27 59.8
                comp=E,3μm,0.6s
AGPR                               IAML            00 28 00.9
                comp=N,2μm,0.5s
LSP   Las Mesas         1.74  96 ⇓eP              Pn  00 27 31.6 -0.3
LSP   Las Mesas         1.74  96              Pn  00 27 31.6 -0.3
MLPR  Magueyes Islan    1.81 102 eP              Pn  00 27 30.9 -1.8
MLPR  Magueyes Islan    1.81 102 eS              Sn  00 27 56.6 -0.7
MLPR  Magueyes Islan    1.81 102   Pn            Pn  00 27 31.1 -1.6
MLPR                                           Sn  00 27 54.9 -2.4
AOPR  Arecibo Observ    2.04  90 ⇑eP              Pn  00 27 35.7 +0.2
AOPR  Arecibo Observ    2.04  90 eS              Sn  00 28 02.7 +0.4
AOPR  Arecibo Observ    2.04  90   Pn            Pn  00 27 35.7 +0.2
AOPR                                           Sn  00 28 02.4 +0.1
LOBA1 Barahona          2.08 263 i P               Pn  00 27 35.4 -0.5
LOBA1                              IAML            00 28 02.5
                comp=Z,1μm,0.6s
OBIP  Obispado Ponce    2.21  98 ⇑eP              Pn  00 27 36.9 -0.4
OBIP  Obispado Ponce    2.21  98 eS              Sn  00 28 06.7 +0.9
OBIP  Obispado Ponce    2.21  98   Pn            Pn  00 27 37.0 -0.4
OBIP                                           Sn  00 28 05.4 -0.4
CELP  Cerrillos         2.23  97 ⇓eP              Pn  00 27 37.4 -0.3
CELP  Cerrillos         2.23  97 eS              Sn  00 28 07.0 +0.7
CELP  Cerrillos         2.23  97                  Pn  00 27 37.4 -0.3
CELP                                           Sn  00 28 07.0 +0.7
EMPR  Esperanza - Ma    2.26  87 ⇑eP              Pn  00 27 37.9 -0.1
EMPR  Esperanza - Ma    2.26  87 eS              Sn  00 28 08.5 +1.7
EMPR  Esperanza - Ma    2.26  87   Pn            Pn  00 27 38.0  0.0
EMPR                                           Sn  00 28 07.0 +0.2
EMPR                               IAML            00 28 10.6
                comp=E,2μm,0.6s
EMPR                               IAML            00 28 17.2
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comp=N,2μm,0.8s
ICMP Isla Caja de M 2.31 101⇑ eP Pn 00 27 37.3 -1.4
ICMP Isla Caja de M 2.31 101 eS Sn 00 28 08.1 +0.2
ICMP Isla Caja de M 2.31 101 Pn Pn 00 27 38.3 -0.3
ICMP **Sn 00 28 07.0 -1.0**
ICMP IAML 00 28 13.3
comp=E,604nm,0.7s
SDDR Presa de Saban 2.34 286 Pn **Pn 00 27 38.5 -0.6**
SDDR IAML 00 28 14.1
comp=E,1μm,1.2s
SDDR Presa de Saban 2.34 286 *i* P **Pn 00 27 38.6 -0.5**
SDDR IAML 00 28 13.3
comp=Z,648nm,0.6s
LONE1 Neyba 2.39 273 IAML 00 28 14.6
comp=Z,1μm,0.6s
SJG San Juan 2.63 95 Pn 00 27 42.3 -0.3
SJG IAML 00 28 18.8
comp=Z,615nm,0.4s
SJG IAML 00 28 20.5
comp=Z,609nm,0.3s
GCPR Guaynabo City 2.68 91⇑ eP Pn 00 27 42.8 -0.6
GCPR Guaynabo City 2.68 91 eS Sn 00 28 16.2 -0.1
GCPR Guaynabo City 2.68 91 Pn 00 27 42.7 -0.6
GCPR **Sn 00 28 15.4 -0.8**
IGPR InterUniversit 2.69 98⇑ eP Pn 00 27 42.9 -0.4
PDPR Patillas Dam, 2.76 97 Pn 00 27 44.1 -0.2
CBYP Canovanas 2.90 91⇓ eP Pn 00 27 45.2 -0.9
CBYP Canovanas 2.90 91 Pn 00 27 45.4 -0.6
HUMP Col San Antoni 2.91 94⇑ eP Pn 00 27 45.8 -0.4
HUMP Col San Antoni 2.91 94 eS Sn 00 28 22.1 +0.6
HUMP Col San Antoni 2.91 94 Pn 00 27 46.1 -0.1
HUMP **Sn 00 28 19.9 -1.6**
HUMP IAML 00 28 24.0
comp=E,650nm,0.4s
HUMP IAML 00 28 25.9
comp=N,574nm,0.4s
MTP Monte Pirata 3.19 94⇑ eP Pn 00 27 49.7 -0.2
MTP Monte Pirata 3.19 94 eS Sn 00 28 29.7 +1.6
MTP Monte Pirata 3.19 94 Pn 00 27 49.6 -0.3
MTP **Sn 00 28 28.6 +0.5**
JAKH Jacmel 3.44 269 Pn **Pn 00 27 52.6 -0.4**
CUPR Culebra, Puert 3.44 90⇑ eP Pn 00 27 52.0 -1.1
CUPR Culebra, Puert 3.44 90 Pn **Pn 00 27 51.8 -1.2**
LGNH Logne 3.52 273 Pn **Pn 00 27 53.7 -0.4**
LGNH IAML 00 28 37.1
comp=N,394nm,0.5s
LGNH IAML 00 28 46.2
comp=E,332nm,0.6s
STVI Saint Thomas 3.75 89⇓ eP Pn 00 27 55.9 -1.2
STVI Saint Thomas 3.75 89 Pn **Pn 00 27 56.6 -0.5**
STVI IAML 00 28 44.8
comp=N,264nm,0.4s
STVI IAML 00 28 46.5
comp=E,227nm,0.4s
GRTK Grand Turk 3.77 327 Pn **Pn 00 27 54.6 -2.8**
GRTK IAML 00 28 39.0
comp=E,724nm,0.2s
CDVI St. Croix 3.98 98⇓ eP Pn 00 27 58.9 -1.3
CDVI St. Croix 3.98 98 Pn **Pn 00 27 59.1 -1.1**
CDVI IAML 00 28 53.5
comp=N,376nm,0.5s
CDVI IAML 00 28 55.5
comp=E,447nm,0.6s
TBVI Tortola 4.07 88⇑ eP Pn 00 28 00.4 -0.9
TBVI Tortola 4.07 88 Pn 00 28 00.4 -0.9
ABVI Anegada Island 4.35 84 Pn **Pn 00 28 04.4 -0.7**
SMRT St. Maarten 5.55 92 Pn **Pn 00 28 19.8 -1.2**
SKI Saint Kitts 5.96 99 *eP* Pn **Pn 00 28 28.7 +2.2**
GTBY Guantanamo Bay 6.07 286 Pn **Pn 00 28 24.4 -3.6**
HATO Hato, Curacao 6.14 181 Pn **Pn 00 28 29.8 +0.8**
ANWB Willy Bob 6.81 95 *eP* **Pn 00 28 37.2 -0.7**
ANWB Willy Bob 6.81 95 *eS* **Sn 00 29 49.9 -4.2**
BPA Boggy Peak 6.84 100 *eP* **Pn 00 28 38.3 -0.1**
BPA Boggy Peak 6.84 100 *eS* **Sn 00 29 51.1 -3.9**
ANOC Antigua Open C 6.85 99 *eP* **Pn 00 28 38.1 -0.3**
ANBD Bethesda, Anti 6.93 100 *eP* **Pn 00 28 39.4 -0.1**
ANBD Bethesda, Anti 6.93 100 *eS* **Sn 00 29 54.5 -2.5**
URIC Uribia, Colomb 7.26 205 Pn **Pn 00 28 43.5 -0.4**
ABD La Joyeuse, An 7.32 104 *eP* **Pn 00 28 45.7 +0.9**
ABD La Joyeuse, An 7.32 104 *eS* **Sn 00 30 03.0 -3.5**
CBE Ff, Capester 7.33 107 *eP* **Pn 00 28 44.7 -0.3**
CBE Ff, Capester 7.33 107 *eS* Sn 00 30 17.2 +10
MAGL Barre de l'ile 7.67 107 *eP* **Pn 00 28 50.3 +0.9**
DSLB Salisbury 7.73 111 *eP* **Pn 00 28 51.5 +1.3**
H05N1 Guadeloupe/Mar 7.76 104 P **Pn 00 28 51.8 +1.1**
SNR=4.4
BIM Bigot 8.43 116 Pn **Pn 00 29 00.3 +0.6**
MPOM Morne Pois Mar 8.64 116 *eP* **Pn 00 29 03.6 +1.0**
MPOM Morne Pois Mar 8.64 116 Pn **Pn 00 29 04.3 +1.8**
SLBI Saint Lucia, B 8.75 118 *eP* **Pn 00 29 04.7 +0.7**
SVB Belmont 8.93 123 *eP* **Pn 00 29 07.3 +0.9**
SVB Belmont 8.93 123 Pn **Pn 00 29 06.4 0.0**
PCRV Puerto La Cruz 9.12 152 P **Pn 00 29 10.0 +1.0**
comp=E,1.0nm,0.3s,baz=304,slow=4.9,SNR=10
GRGR Grenville 9.34 130 Pn **Pn 00 29 12.3 +0.5**
RUSC La Rusia 13.04 199 Pn 00 30 03.6 +2.5
BCIP Isla Barro Col 14.00 231 Pn 00 30 13.0 +0.1
W57A Gilead 19.41 332 P 0 31 16.3 +0.5
W57A IAmb IAmb 00 31 41.2
comp=Z,18nm,1.4s
V58A Windy Hill, Pi 19.58 335 P 0 31 18.1 +0.5
V58A IAmb IAmb 00 31 20.7
comp=Z,15nm,1.4s
T59A Double "B" Far 20.05 339 P **P 00 31 23.3 +0.7**
T59A IAmb IAmb 00 31 23.9
comp=Z,6.8nm,0.7s
R58B Mineral 21.05 340 P **P 00 31 33.4 +0.1**
R58B IAmb IAmb 00 31 51.7
comp=Z,5.0nm,0.7s
TKL Tuckaleechee C 21.69 326 P 0 31 40.0 -0.2
TKL IAmb IAmb 00 32 07.4
comp=Z,13nm,1.5s
PLAL Pickwick Lake 23.76 318 P 0 32 01.5 +1.5
PLAL IAmb IAmb 00 32 03.0
comp=Z,3.1nm,0.8s
WVT Waverly 24.35 320 P **P 00 32 05.5 +0.2**
WMOK Wichita Mounta 31.16 308 P 0 33 06.1 -0.1
WMOK IAmb IAmb 00 33 25.4
comp=Z,3.3nm,1.3s
TX31 Lajitas Ar. Si 33.51 296 P **P 00 33 27.2 +0.4**
TX32 Lajitas Array 33.51 296 P **P 00 33 27.2 +0.4**
TXAR Lajitas Array 33.51 296 P **P 00 33 27.1 +0.2**
comp=Z,0.6nm,0.5s,baz=117,slow=8.3,SNR=20
MNTX Cornudas Mount 35.45 299 P **P 00 33 44.7 +1.2**
MNTX IAmb IAmb 00 33 44.8
comp=Z,1.7nm,0.8s
SPUT South Promonto 43.58 311 P **P 00 34 50.0 -0.9**
NVAR Mina Array Bea 47.22 306 P **P 00 35 20.7 +1.1**
comp=Z,0.4nm,0.5s,baz=117,slow=5.2,SNR=5.7
I07A Izee 49.35 313 P **P 00 35 36.4 +0.6**
TORD Torodi Ar. Bea 67.78 83 P **P 00 37 44.0 +0.2**
comp=Z,1.0nm,0.6s,baz=284,slow=5.4,SNR=3.0
ILAR Eielson Array 68.44 333 P **P 00 37 46.7 -0.3**
comp=Z,0.2nm,0.5s,baz=92,slow=5.4,SNR=2.2

IDC 29 00:33:43.3±1.4, 47°.18N×154°.19E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/44, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=50.5km s-min=30.3km az=114.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.35**	**20**	Pn	Pn	00 35 18.7	+0.6
	0.3nm,0.3s,baz=179,slow=14,SNR=10						
H11N2	**WAKE ISLAND Hy**	**29.28**	**155**	T	T	01 11 44.9	
	baz=341,slow=76,SNR=9.6						
H11N1	**WAKE ISLAND Hy**	**29.29**	**155**	T	T	01 11 36.9	
	baz=341,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.30**	**155**	T	T	01 11 14.9	
	baz=341,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**30.38**	**156**	T	T	01 12 23.7	
	baz=343,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**30.39**	**156**	T	T	01 12 21.9	
	baz=343,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**30.40**	**156**	T	T	01 12 22.5	
	baz=343,slow=76,SNR=30						
ILAR	**Eielson Array**	**35.75**	**39**	P	P	00 40 43.1	-0.3
	0.3nm,0.8s,baz=276,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**63.96**	**335**	P	P	00 44 17.7	-0.1
	0.4nm,0.6s,baz=31,slow=8.3,SNR=5.5						
ASAR	**Alice Springs**	**72.85**	**199**	P	P	00 45 13.9	+0.1
	0.4nm,0.6s,baz=12,slow=5.5,SNR=2.5						
TXAR	**Lajitas Array**	**76.64**	**61**	P	P	00 45 36.2	+0.1

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0.2nm,0.6s,baz=298,slow=3.7,SNR=4.0

*IDC **29** 00:34:18.1±11.0, 3°.21S×104°.07E, h294km±116km, mb3.4/8, mb1 3.5/8, mb1mx3.2/42, mbtmp4.0/8, Error ellipse: s-maj=73.1km s-min=11.7km az=61.0*
*DJA **29** 00:34:19.7±0.5, 3°S±8°×10°4E±°, h338km±8km, M4.3/12, mb4.4/7, mB5.1/3, MLv4.3/12, Mw(mB)4.4/3*
ISC 29 00:34:19.8±0.8, 3°.1S±0°.1×104°.2E±0°.1, h300km, n22, σ2°00/22, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.98**	**224**	P	**Pn**	**00 35 03.8**	**+3.7**
MDSI	**Maura Dua**	**1.36**	**181**	P	**Pn**	**00 35 05.0**	**+2.9**
KSI	**Kapahiang**	**1.70**	**252**	P	**Pn**	**00 35 07.0**	**+2.6**
LWLI	**Liwa**	**1.90**	**185**	P	**Pn**	**00 35 08.0**	**+2.1**
KASI	**Kota Agung**	**2.41**	**173**	P	**Pn**	**00 35 10.4**	**+0.4**
BLSI	**Bandar Lampung**	**2.47**	**155**	P	**Pn**	**00 35 13.1**	**+2.6**
CNJI	**Cibinong**	**5.08**	**145**	P	**Pn**	**00 35 37.1**	**-1.2**
	0.5nm3μm81nm,0.9s						
KPJI	**Karang Pucung**	**6.30**	**132**	P	**Pn**	**00 35 54.9**	**+2.2**
	0.4nm3μm101nm,0.6s						
UGM	**Wanagama**	**7.89**	**127**	P	**Pn**	**00 36 12.9**	**+0.8**
	0.8nm43nm,0.5s						
GSI	**Gunungsitoli**	**7.95**	**303**	P	**Pn**	**00 36 13.1**	**+0.3**
	0.3nm44nm,1.1s						
PCJI	**Pacitan**	**8.57**	**126**	P	**Pn**	**00 36 20.6**	**+0.1**
	38nm,1.3s						
PWJI	**Pagerwojo**	**8.99**	**123**	P	**Pn**	**00 36 27.4**	**+1.8**
KAPI	**Kappang**	**15.62**	**97**	P	**Pn**	**00 37 49.5**	**+3.9**
	1.4nm,0.3s,baz=285,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**22.05**	**347**	P	**P**	**00 38 50.0**	**-0.4**
	1.8nm,0.5s,baz=181,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**33.82**	**122**	P	**P**	**00 40 33.6**	**-1.0**
	1.0nm,0.3s,baz=286,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**35.23**	**128**	P	**P**	**00 40 45.8**	**-0.9**
	1.7nm,0.4s,baz=302,slow=7.5,SNR=25						
STKA	**Stephens Creek**	**45.30**	**133**	P	**P**	**00 42 07.7**	**-0.8**
	1.5nm,0.4s,baz=318,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**50.77**	**2**	P	**P**	**00 42 50.5**	**+0.5**
	0.7nm,0.5s,baz=184,slow=8.4,SNR=5.1						
MKAR	**Makanchi Array**	**53.33**	**341**	P	**P**	**00 43 07.3**	**-1.3**
	0.5nm,0.4s,baz=150,slow=9.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**59.12**	**347**	P	**P**	**00 43 47.4**	**-1.7**
	0.6nm,0.3s,baz=159,slow=5.7,SNR=4.7						
VNDA	**Vanda**	**80.28**	**169**	P	**P**	**00 45 55.9**	**-1.1**
	0.8nm,0.6s,baz=318,slow=6.2,SNR=13						
CPUP	**Villa Florida**	**145.71**	**210**	PKPbc	**PKPdf**	**00 53 22.2**	**-1.2**
	1.5nm,0.6s,baz=136,slow=8.7,SNR=4.5						

*TRN **29** 00:42:34.0, 13°.84N×58°.51W, h118km, MD4.9*
ISC 29 00:42:35.7±3.3, 14°.01N±0°.06×58°.6W±0°.2, h10km, n19, σ0°93/24, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**1.25**	**226**	*eP*	**Pg**	**00 42 58.8**	**-0.9**
BBGH				*eS*	**Sn**	**00 43 18.5**	**+2.4**
MPOM	**Morne Pois Mar**	**2.20**	**282**	*eP*	**Pn**	**00 43 13.0**	**+0.7**
MCLT	**Moule a Chique**	**2.26**	**263**	*eP*	**Pn**	**00 43 14.0**	**+0.8**
SLBI	**Saint Lucia, B**	**2.27**	**271**	*eP*	**Pn**	**00 43 12.6**	**-0.8**
SLBI				*eS*	**Sn**	**00 43 41.5**	**0.0**
LPMF	**Morne Lapointe**	**2.33**	**284**	*eP*	**Pn**	**00 43 14.7**	**+0.6**
ZAM	**Aeronautique**	**2.39**	**284**	*eP*	**Pn**	**00 43 15.5**	**+0.6**
BIM	**Bigot**	**2.42**	**282**	*eP*	**Pn**	**00 43 16.1**	**+0.7**
BAMF	**Morne Balai**	**2.57**	**289**	*eP*	**Pn**	**00 43 18.1**	**+0.7**
PCM	**Pelee Case Pet**	**2.62**	**288**	*eP*	**Pn**	**00 43 18.8**	**+0.6**
SVB	**Belmont**	**2.65**	**254**	*eP*	**Pn**	**00 43 17.5**	**-1.1**
SVB				*eS*	**Sn**	**00 43 50.6**	**-0.2**
DSLB	**Salisbury**	**3.05**	**298**	*eP*	**Pn**	**00 43 24.9**	**+0.9**
MAGL	**Barre de l'ile**	**3.21**	**307**	*eP*	**Pn**	**00 43 26.8**	**+0.6**
MAGL				*eS*	**Sn**	**00 44 05.7**	**+1.2**
TDBA	**Terre de Bas,**	**3.43**	**303**	*eP*	**Pn**	**00 43 29.9**	**+0.6**
CBE	**Ff, Capester**	**3.53**	**306**	*eP*	**Pn**	**00 43 31.7**	**+1.0**
CBE				*eS*	**Sn**	**00 44 12.7**	**+0.1**
ABD	**La Joyeuse, An**	**3.69**	**312**	*eP*	**Pn**	**00 43 33.4**	**+0.6**
ANBD	**Bethesda, Anti**	**4.27**	**315**	*eP*	**Pn**	**00 43 40.7**	**-0.2**
ANBD	**Bethesda, Anti**	**4.27**	**315**	*eS*	**Sn**	**00 44 30.8**	**+0.1**
BPA	**Boggy Peak**	**4.33**	**315**	*eP*	**Pn**	**00 44 31.5**	**-0.3**
BPA	**Boggy Peak**	**4.33**	**315**	*eS*	**Sn**	**00 44 30.8**	**-1.5**

*MEX **29** 01:01:39.6±0.9, 30°.23N×114°.40W, h5km, MD4.1*
ECX 29 01:01:40.7±0.6, 30°.38N×114°.45W, h5km±17km, MD3.0, ML3.1, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.74**	**332**	*eP*	Pg	01 01 53.5	-1.6
SFX				*eS*	Sg	01 02 03.8	-0.9
SFX				IAML		01 02 04.6	
	comp=E,808nm,0.4s						
SPIG	**San Pedro Mart**	**1.10**	**307**	*e*	Pg	01 01 59.9	-2.0
SPIG				⇑*iP*	Pb	01 02 00.0	-2.5
	baz=131,slow=14						
SPIG				*i* S	Sg	01 02 14.9	-1.3
SPIG	**San Pedro Mart**	**1.10**	**307**	*eP*	Pg	01 01 59.9	-2.0
SPIG				*eS*	Sg	01 02 14.9	-1.3
ECBX	**El Chinero**	**1.21**	**335**	*eP*	Pg	01 02 01.9	-2.0
ECBX				*eS*	Sg	01 02 18.1	-1.6
SVX	**San Vicente**	**1.82**	**302**	*eP*	Pn	01 02 12.1	-0.6
CBX	**Cerro Bola**	**2.71**	**316**	*i* P	Pn	01 02 27.2	+2.2
CBX				*i* S	Sn	01 02 55.1	-3.1
CBX	**Cerro Bola**	**2.71**	**316**	IAML		01 03 17.2	
	comp=N,97nm,0.6s						
CBX				⇑*e*		01 03 17.2	

*IDC **29** 01:33:48.0±9.2, 0°.47N×122°.43E, h135km±86km, mb3.7/6, mb1 3.8/7, mb1mx3.4/30, mbtmp4.1/7, Error ellipse: s-maj=119.4km s-min=14.5km az=56.0*
*NEIC **29** 01:33:49.2±1.0, 0°.41N±0°.09×122°.3E±0°.2, h141km±9km, mb4.1/11, Error ellipse: s-maj=23.7km s-min=12.1km az=81.0*
*DJA **29** 01:33:50.1±0.9, 0°N±8°×12°2E±°, h113km±7km, M3.8/6, mb3.9/2, mB5.0/1, MLv3.8/6, Mw(mB)4.3/1*
ISC 29 01:33:46.6±0.8, 0°.50N±0°.09×122°.3E±0°.1, h114km, n31, σ2°07/33, mb4.0/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.40**	**266**	P	**Pn**	**01 34 06.8**	**+3.5**
MRSI				S	**Sn**	**01 34 20.3**	**+4.5**
GTOI	**Gorontalo**	**0.69**	**79**	P	Pn	01 34 10.7	+5.5
GTOI				S	Sn	01 34 25.4	+6.1
APSI	**Ampana**	**1.56**	**206**	P	**Pn**	**01 34 16.5**	**+2.0**
LUWI	**Luwuk**	**1.59**	**164**	Pn	**Pn**	**01 34 17.9**	**+3.1**
LUWI				Sn	**Sn**	**01 34 40.3**	**+4.1**
LUWI	**Luwuk**	**1.59**	**164**	P	**Pn**	**01 34 18.5**	**+3.7**
MPSI	**Mapaga**	**2.44**	**266**	P	**Pn**	**01 34 27.0**	**+1.5**
TTSI	**Tana Toraja**	**4.33**	**216**	P	**Pn**	**01 34 52.0**	**+1.5**
BNSI	**Bone**	**5.36**	**205**	P	**Pn**	**01 35 06.3**	**+1.9**
	0.1nm2μm26nm,0.9s						
KAPI	**Kappang**	**6.06**	**205**	P	**Pn**	**01 35 14.9**	**+1.1**
	1.2nm,0.3s,baz=45,slow=4.3,SNR=3.8						
KAPI	**Kappang**	**6.06**	**205**	Pn	**Pn**	**01 35 15.2**	**+1.4**
DAV	**Davao City (W)**	**7.28**	**26**	Pn	Pn	01 35 33.1	+2.7
SOEI	**Soe**	**10.37**	**169**	Pn	**Pn**	**01 36 11.9**	**-0.5**
MTN	**Manton Dam**	**15.87**	**147**	P	**P**	**01 37 25.8**	**+0.6**
MTN				IAmb	IAmb	01 37 50.4	
	comp=Z,9.3nm,0.9s						
PSA00	**Pilbara Seismi**	**22.07**	**186**	P	**P**	**01 38 31.2**	**-1.4**
PSA00				IAmb	IAmb	01 38 58.7	
	comp=Z,7.7nm,0.9s						
WB0	**Warramunga Arr**	**23.36**	**150**	P	**P**	**01 38 43.6**	**-1.5**
WB0				IAmb	IAmb	01 38 44.8	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**23.48**	**151**	P	**P**	**01 38 44.8**	**-1.4**
	comp=Z,1.3nm,0.4s,baz=332,slow=8.3,SNR=26						
WRA	**Warramunga Arr**	**23.48**	**151**	P	**P**	**01 38 44.3**	**-1.9**
WB2	**Warramunga Arr**	**23.48**	**151**	P	**P**	**01 38 45.3**	**-1.0**
WB2				IAmb	IAmb	01 38 45.7	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**23.59**	**150**	P	**P**	**01 38 45.8**	**-1.5**
WR0				IAmb	IAmb	01 38 53.4	
	comp=Z,8.4nm,1.1s						
ASAR	**Alice Springs**	**26.52**	**156**	P	**P**	**01 39 12.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=345,slow=14,SNR=17						
ASAR				PcP	**PcP**	**01 42 33.4**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=346,slow=2.3,SNR=6.1						
ASAR	**Alice Springs**	**26.52**	**156**	P	**P**	**01 39 12.5**	**-1.3**
ASAR				PcP	**PcP**	**01 42 33.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**29.09**	**309**	P	**P**	**01 39 37.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=135,slow=6.6,SNR=5.5						
MORW	**Morawa**	**30.02**	**191**	P	**P**	**01 39 42.1**	**-2.6**
BBOO	**Buckleboo**	**35.58**	**160**	P	**P**	**01 40 31.5**	**-1.6**
STKA	**Stephens Creek**	**37.01**	**152**	P	**P**	**01 40 44.6**	**-0.8**
	comp=Z,2.2nm,0.4s,baz=324,slow=10.0,SNR=5.3						
STKA	**Stephens Creek**	**37.01**	**152**	P	**P**	**01 40 44.7**	**-0.7**
CAN	**Canberra**	**43.47**	**148**	P	**P**	**01 41 39.2**	**+0.5**
CAN				IAmb	IAmb	01 41 39.7	
	comp=Z,4.9nm,0.8s						
MK31	**Makanchi Array**	**57.84**	**329**	P	**P**	**01 43 26.6**	**+0.3**
MK31				IAmb	IAmb	01 43 27.1	
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**57.84**	**329**	P	**P**	**01 43 26.4**	**0.0**
	comp=Z,2.5nm,0.5s,baz=124,slow=8.8,SNR=33						
MAKZ	**Makanchi**	**58.01**	**328**	P	**P**	**01 43 27.7**	**+0.1**
ZALV	**Zalesovo Beam**	**61.59**	**336**	P	**P**	**01 43 50.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=62,slow=3.4,SNR=3.8						

IDC 29 01:56:42.9±5.7, 8°.28S×158°.52E, h70km±68km, mb3.5/4, mb1 3.7/4, mb1mx3.3/33, mbtmp3.8/4, Error ellipse: s-maj=51.9km s-min=33.5km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**129**	P	Pn	01 57 12.4	+0.3
	82nm,0.3s,baz=226,slow=6.7,SNR=23						
HNR				S	Sn	01 57 34.5	+0.2
	125nm,0.3s,baz=228,slow=24,SNR=35						
WRA	**Warramunga Arr**	**26.11**	**241**	P	P	02 02 10.6	+0.1
	0.3nm,0.4s,baz=64,slow=8.9,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.80**	**17**	T	T	02 31 24.0	
	baz=195,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**27.80**	**17**	T	T	02 31 13.7	
	baz=195,slow=76,SNR=119						
H11S1	**WAKE ISLAND Hy**	**27.82**	**17**	T	T	02 31 24.4	
	baz=195,slow=76,SNR=67						
STKA	**Stephens Creek**	**28.26**	**212**	P	P	02 02 29.3	-0.3
	2.0nm,0.7s,baz=45,slow=10,SNR=3.5						
H11N1	**WAKE ISLAND Hy**	**29.02**	**16**	T	T	02 32 46.8	
	baz=196,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**29.03**	**16**	T	T	02 32 46.6	
	baz=196,slow=76,SNR=46						
H11N2	**WAKE ISLAND Hy**	**29.04**	**16**	T	T	02 32 54.4	
	baz=196,slow=76,SNR=43						
SONM	**Songino Array**	**72.32**	**326**	P	P	02 08 02.2	+1.0
	0.8nm,0.5s,baz=128,slow=5.5,SNR=4.9						
MKAR	**Makanchi Array**	**86.68**	**318**	P	P	02 09 17.7	-1.4
	0.1nm,0.4s,baz=113,slow=6.2,SNR=1.6						

DJA 29 02:34:50.5±2.0, 3°S±16°×13°8E±°, h31km±28km, M4.6/5, mb4.6/3, mB4.9/1, MLv4.6/5, Mw(mB)4.2/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.75**	**88**	P	Pn	02 35 18.7	0.0
GENI				S	Sn	02 35 40.6	+0.7
SRPI	**Serui, Papua**	**2.31**	**290**	P	Pn	02 35 26.4	-0.1
SRPI				S	Sn	02 35 54.4	+0.5
KMPI	**Kaimana, Papua**	**4.81**	**258**	P	Pn	02 36 00.9	0.0
FAKI	**Fak Fak**	**6.17**	**267**	P	Pn	02 36 19.3	-0.3
	0.3nm61nm,1.2s						
SWI	**Sorong**	**7.37**	**284**	P	Pn	02 36 36.1	0.0

*BJI **29** 02:35:54.0±0.0, 59°.91N×153°.27W, h115km, mB6.5/72, mb6.4/95*
*MOS **29** 02:35:57.5±0.9, 60°.05N×153°.43W, h124km, mb6.0/87, Error ellipse: s-maj=6.9km s-min=3.2km az=92.9*
*IDC **29** 02:35:58.4±0.4, 60°.03N×153°.42W, h120km±3km, mb5.6/47, mb1 5.6/50, mb1mx5.6/55, mbtmp6.0/50, MS5.3/35, Ms1 5.3/35, ms1mx5.0/64, Error ellipse: s-maj=8.2km s-min=6.0km az=11.0*
*NEIC **29** 02:35:58.8, 59°.90N×153°.28W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.89; $M_{\theta\theta}$-2.62; $M_{\phi\phi}$0.72; $M_{r\theta}$0.08; $M_{\theta\phi}$1.43; $M_{\phi r}$2.19; Fault plane solution: $M_0$3.51000×10^{18} NP1:ϕ_s78.21000°, δ49.25000°, λ34.10000°. NP2:ϕ_s324.36000°, δ64.86000°, λ133.86000°. Principal axes: T 3.7149, Plg50.0000°, Azm284.0000°; N -0.4585, Plg39.0000°, Azm122.0000°; P -3.2564, Plg9.0000°, Azm25.0000°;*
*NEIC **29** 02:35:59.59°.91N×153°.15W, h116km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.78; $M_{\theta\theta}$-2.67; $M_{\phi\phi}$0.89; $M_{r\theta}$0.57; $M_{\theta\phi}$1.44; $M_{\phi r}$1.53; Fault plane solution: $M_0$3.21000×10^{18} NP1:ϕ_s323.04000°, δ57.80000°, λ141.74000°. NP2:ϕ_s75.84000°, δ58.40000°, λ38.73000°. Principal axes: T 3.2339, Plg48.0000°, Azm290.0000°; N -0.0539, Plg42.0000°, Azm109.0000°; P -3.1800, Plg0.0000°, Azm199.0000°;*
*AEIC **29** 02:35:59±3.2, 59°.89N±0°.01×153°.20W±0°.06, h119km±2km, ML6.6, mb6.4/635(NEIC), ML6.7/72(NEIC), Mwb6.3/67(NEIC), Mwc6.4(GCMT), Mwc6.3/90(NEIC), Mwr6.3/51(NEIC), Mww6.3(NEIC) Error ellipse: s-maj=4.8km s-min=0.9km az=111.0*
*NEIC **29** 02:35:59.2±3.2, 59°.91N±0°.03×153°.21W±0°.07, h121km±1km, Error ellipse: s-maj=5.6km s-min=5.5km az=112.0*
*BGR **29** 02:36:00.3±0.0, 60°.56N×153°.16W, h102km±4km, mb6.0, mB_BB6.3*
*GCMT **29** 02:36:01.0±0.0, 60°.02N×153°.15W, h130km, MW6.4/172, Moment Tensor Solution. s172,c461; s166,c708; Duration: 3°7 Moment tensor: Scale 10^{18}Nm; M_{rr}1.81±.01; $M_{\theta\theta}$-3.69±.02; $M_{\phi\phi}$1.87±.02; $M_{r\theta}$0.26±.01; $M_{\theta\phi}$2.33±.01; $M_{\phi r}$2.05±.01; Best double couple: $M_0$4.45600×10^{18} NP1:ϕ_s72.00000°, δ60.00000°, λ27.00000°. NP2:ϕ_s328.00000°, δ67.00000°, λ147.00000°. Principal axes: T 4.3380, Plg39.0000°, Azm288.0000°; N 0.2250, Plg51.0000°, Azm117.0000°; P -4.5730, Plg4.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 02:36:01.60°.03N×153°.21W, h130km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.63; $M_{\theta\theta}$-3.60; $M_{\phi\phi}$1.97;

baz=4.3,SNR=1000
P19K S Sn 02 36 28.6 +0.3
baz=4.3
P19K Oil Pt 0.32 172 Pn 02 36 15.2 -0.2
P19K Sn 02 36 28.9 +0.6
O20K Slope Mountain 0.37 72 P Pn 02 36 15.6 +0.1
baz=237
O20K S Sn 02 36 29.3 +0.5
baz=237
O20K Slope Mountain 0.37 72 Pn 02 36 15.9 +0.4
RED Redoubt Volcan 0.53 31 Pn 02 36 17.0 +0.5
RED Sn 02 36 31.1 +0.7
O19K Port Alsworth 0.55 295 P Pn 02 36 17.2 +0.8
baz=118
O19K Port Alsworth 0.55 295 Pn 02 36 17.2 +0.8
O19K Sn 02 36 32.0 +1.7
RSO Redoubt South 0.57 30 Pn 02 36 17.3 +0.4
RDWB Redoubt West 0.57 25 Pn 02 36 17.3 +0.4
AUL Augustine Lava 0.59 185 Pn 02 36 17.2 +0.4
AUL Sn 02 36 31.1 +0.2
AU22 Augustine Moun 0.60 182 Pn 02 36 16.7 -0.1
AU22 Sn 02 36 31.1 +0.2
AUW Augustine West 0.61 187 Pn 02 36 17.1 +0.2
AUCH Augustine Cone 0.61 186 Pn 02 36 17.1 0.0
AGU Augustine-Summ 0.62 185 Pn 02 36 17.2 +0.1
AUQ Augustine Qik' 0.62 184 Pn 02 36 17.0 0.0
NCT North Crescent 0.62 18 Pn 02 36 17.4 +0.3
NCT Sn 02 36 33.0 +1.6
RDJH Redoubt Jeurge 0.67 22 Pn 02 36 18.5 +1.0
RDJH Sn 02 36 33.7 +1.5
DFR Drift River 0.70 27 Pn 02 36 18.2 +0.5
HOM Homer 0.91 110 P Pn 02 36 19.2 -0.1
baz=288,SNR=1000
HOM S Sn 02 36 35.3 0.0
baz=288
HOM Homer 0.91 110 Pn 02 36 19.1 -0.1
HOM Sn Sn 02 36 35.5 +0.2
O18K Koktuh Hills 0.96 264 P Pn 02 36 20.6 +0.8
baz=87
O18K Koktuh Hills 0.96 264 Pn 02 36 20.5 +0.7
O18K Sn 02 36 36.9 +0.7
N19K Bonanza Creek 1.02 326 P Pn 02 36 21.7 +1.2
baz=145,SNR=1000
N19K S Sn 02 36 39.3 +1.8
baz=145
N19K Bonanza Creek 1.02 326 Pn 02 36 21.8 +1.2
N19K Sn 02 36 39.4 +1.8
CNPM China Poot 1.15 112 Pn 02 36 21.0 -0.7
CNPM Sn Sn 02 36 37.9 -1.7
BRLK Bradley Lake 1.25 99 Pn Pn 02 36 22.1 -0.7
BRLK Sn Sn 02 36 39.5 -2.1
BRSE Bradley Lake S 1.32 99 P Pn 02 36 23.0 -0.5
baz=278,SNR=1000
BRSE S Sn 02 36 41.1 -1.9
baz=278
BRSE Bradley Lake S 1.32 99 Pn 02 36 23.1 -0.5
BRSE Sn 02 36 41.6 -1.4
CAPN Captain Cook N 1.34 53 P Pn 02 36 25.5 +1.8
baz=230,SNR=1000
CAPN Captain Cook N 1.34 53 Pn 02 36 25.7 +2.0
SPCR Spurr Chakacha 1.35 24 P Pn 02 36 24.8 +0.9
baz=201,SNR=1000
SPCR Spurr Chakacha 1.35 24 Pn 02 36 24.8 +0.9
SPBG Spurr Blockage 1.38 20 Pn 02 36 25.5 +1.2
SPCN Chakachatna No 1.38 24 Pn 02 36 25.3 +1.1
SPCP Crater Peak Br 1.42 23 Pn 02 36 26.0 +1.2
SPCP Sn 02 36 47.4 +2.2
SPNN North Nagishla 1.43 12 Pn 02 36 26.1 +1.1
N18K Kilae Creek 1.46 300 P Pn 02 36 26.4 +1.3
baz=119,SNR=1000
N18K S Sn 02 36 47.1 +1.4
baz=119
N18K Kilae Creek 1.46 300 Pn 02 36 26.5 +1.4
SPCG Spurr Capps Gl 1.47 25 Pn 02 36 26.3 +1.0
SPCG Sn 02 36 47.6 +1.5
KAPH Katmai Pasha 1.48 201 Pn 02 36 25.4 0.0
SVW2 Sparrevohn 1.59 316 Pn 02 36 27.4 +0.8
SVW2 Sn Sn 02 36 49.8 +1.5
SLKM Skilak Lake 1.64 70 Pn 02 36 26.4 -0.8
SLKM Sn 02 36 48.1 -1.3
KARR Katmai Rainbow 1.64 206 Pn 02 36 27.4 +0.1
STLK Strandline Lak 1.70 25 Pn 02 36 28.9 +0.9
KAWH Katmai 1.77 206 Pn 02 36 28.7 -0.1
O22K Cooper Landing 1.87 73 P Pn 02 36 29.9 0.0
baz=253
O22K S Sn 02 36 52.0 -2.2
baz=253
O22K Cooper Landing 1.87 73 Pn 02 36 30.1 +0.2
O22K Sn Sn 02 36 51.8 -2.5
KVTA Katmai Vly 10 1.89 213 Pn 02 36 30.5 +0.2
FIS Fire Island 1.93 51 Pn 02 36 32.0 +1.3
SEW Seward 1.95 84 P Pn 02 36 30.1 -0.8
baz=265,SNR=1000
SEW Seward 1.95 84 Pn 02 36 30.1 -0.8
KBM Katmai Bkd Mtn 1.96 210 Pn 02 36 31.4 +0.3
SUA Susitna One 1.96 39 P Pn 02 36 32.0 +0.8
baz=218,SNR=1000
SUA Susitna One 1.96 39 Pn 02 36 32.2 +1.0
SUA IAML 02 36 58.8
comp=N,759μm,1.2s
SUA Susitna One 1.96 39 Sn 02 36 57.9 +1.4
KCE Katmai Mt Cerb 1.98 210 Pn 02 36 31.9 +0.5
KABU Katmai Buttres 1.98 211 Pn 02 36 31.7 +0.3
KABR Katmai Barrier 2.03 205 Pn 02 36 31.9 -0.1
RC01 Rabbit Creek A 2.10 56 P Pn 02 36 32.6 -0.2
baz=236,SNR=1000
RC01 Rabbit Creek A 2.10 56 Pn 02 36 32.7 0.0
ANCK Angle Creek 2.10 213 Pn 02 36 33.2 +0.3
CAHL Cahill 2.18 209 Pn 02 36 34.1 +0.2
SKT Skwentna 2.20 23 P Pn 02 36 35.0 +0.9
baz=202,SNR=1000
SKT Skwentna 2.20 23 Pn 02 36 35.1 +1.0
KDAK Kodiak Island 2.23 170 P Pn 02 36 32.4 -2.0
comp=N,5μm,0.3s,baz=30,slow=7.4
KDAK S Sn 02 36 58.6 -3.6
comp=N,7μm,0.3s,baz=161,slow=23,SNR=34
KDAK LR LR 02 37 18.9
comp=N,184μm,20.1s,baz=222,slow=35
KDAK Kodiak Island 2.23 170 *d* iP Pn 02 36 32.3 -2.1
KDAK Kodiak Island 2.23 170 P Pn 02 36 32.7 -1.8
baz=352
KDAK Kodiak Island 2.23 170 Pn Pn 02 36 32.7 -1.8
KDAK Kodiak Island 2.23 170 ⇑P Pn 02 36 31.9 -2.5
KJL Kejulik 2.25 212 Pn 02 36 35.4 +0.6
L19K White Mountain 2.34 342 P Pn 02 36 37.1 +1.3
baz=160,SNR=1000
L19K White Mountain 2.34 342 Pn 02 36 37.1 +1.3
PMR Palmer 2.62 50 P Pn 02 36 38.4 -1.0
PMR Palmer 2.62 50 P Pn 02 36 38.5 -1.0
baz=231,SNR=1000
PMR Palmer 2.62 50 Pn 02 36 38.4 -1.0
PMR IAML 02 37 11.3
comp=N,188μm,1.0s
PMR IAML 02 37 16.9
comp=E,203μm,1.1s
PWL Port Wells 2.63 68 Pn Pn 02 36 38.3 -1.3
PWL IAML 02 37 12.1
comp=N,342μm,0.8s
PWL IAML 02 37 15.4
comp=E,250μm,1.2s
PLK5 Peulik 5 2.70 224 Pn 02 36 41.4 +0.9
PLK3 Peulik 3 2.75 215 Pn 02 36 41.8 +0.5
OHAK Old Harbor 2.76 180 P Pn 02 36 38.9 -2.3
baz=1.0,SNR=1000
OHAK Old Harbor 2.76 180 Pn Pn 02 36 39.1 -2.1
PLK1 Peulik 1 2.76 219 Pn 02 36 42.0 +0.7
KNK Knik Glacier 2.80 57 P Pn 02 36 40.8 -0.9
baz=239,SNR=1000
KNK Knik Glacier 2.80 57 Pn Pn 02 36 41.2 -0.5
KNK IAML 02 37 16.2
comp=N,363μm,1.2s
KNK IAML 02 37 16.8
comp=E,399μm,1.1s
GHO Glory Hole Cre 2.81 48 Pn Pn 02 36 41.3 -0.6
GHO IAML 02 37 21.8
comp=E,443μm,1.1s
GHO IAML 02 37 29.3
comp=N,241μm,1.0s
CUT Chulitna 2.85 30 P Pn 02 36 43.0 +0.6
baz=211,SNR=1000
CUT Chulitna 2.85 30 Pn 02 36 42.9 +0.5
CUT IAML 02 37 41.7
comp=N,193μm,1.1s
CUT IAML 02 37 46.8

comp=E,284μm,1.0s
PPLA Purkeypile 2.98 10 P Pn 02 36 46.3 +2.0
baz=190,SNR=1000
PPLA Purkeypile 2.98 10 Pn Pn 02 36 46.2 +1.9
SML Sawmill 3.06 51 P Pn 02 36 44.3 -0.9
baz=233,SNR=1000
SML Sawmill 3.06 51 Pn Pn 02 36 44.3 -0.9
SML IAML 02 37 22.0
comp=N,273μm,1.3s
TT01 Tatalina 3.22 337 Pn 02 36 48.4 +1.2
GLI Glacier Island 3.22 71 P Pn 02 36 45.3 -1.9
baz=255,SNR=1000
GLI Glacier Island 3.22 71 Pn Pn 02 36 45.4 -1.9
GLI IAML 02 37 25.5
comp=N,129μm,0.8s
GLI IAML 02 37 40.0
comp=E,163μm,0.9s
TTA Tatalina 3.24 338 P Pn 02 36 48.4 +0.9
TTA Tatalina 3.24 338 P Pn 02 36 48.5 +0.9
baz=155,SNR=168
TTA Tatalina 3.24 338 Pn Pn 02 36 48.4 +0.9
TTA Tatalina 3.24 338 ⇓P Pn 02 36 48.5 +0.9
K20K Telida 3.42 354 P Pn 02 36 51.3 +1.5
baz=173,SNR=1000
K20K Telida 3.42 354 Pn 02 36 51.4 +1.5
HIN Hinchinbrook I 3.43 80 Pn 02 36 49.2 -0.9
HIN IAML 02 37 29.8
comp=N,201μm,1.7s
SII Sitkinak Islan 3.45 188 P Pn 02 36 48.4 -1.9
baz=8.4,SNR=1000
SII Sitkinak Islan 3.45 188 Pn Pn 02 36 48.2 -2.1
SII IAML 02 37 29.2
comp=N,172μm,0.8s
SII IAML 02 37 35.6
comp=E,93μm,0.7s
SCM Sheep Creek Mo 3.47 55 P Pn 02 36 50.2 -0.5
SCM Sheep Creek Mo 3.47 55 Pn 02 36 50.2 -0.5
FID Port Fidalgo 3.49 74 Pn Pn 02 36 48.9 -1.9
FID IAML 02 37 30.0
comp=E,179μm,0.8s
HUR Hurricane 3.50 29 Pn 02 36 51.5 +0.6
JPK Jack Peak 3.50 69 Pn 02 36 50.1 -0.8
Q23K Middleton Isla 3.58 96 P Pn 02 36 50.6 -1.3
baz=281,SNR=1000
Q23K Middleton Isla 3.58 96 Pn Pn 02 36 50.6 -1.3
Q23K IAML 02 37 34.0
comp=N,108μm,1.4s
Q23K IAML 02 38 02.7
comp=E,94μm,1.7s
MID Middleton Isla 3.58 96 P Pn 02 36 51.0 -1.0
MID Middleton Isla 3.58 96 Pn Pn 02 36 51.0 -1.0
MID IAML 02 37 34.0
comp=N,97μm,1.3s
WAT7 Susitna Watana 3.59 35 Pn 02 36 52.4 +0.2
VMT TAPS TI Valdez 3.62 69 Pn 02 36 52.0 -0.4
WAT1 Susitna Watana 3.67 37 P Pn 02 36 53.2 -0.1
baz=219
WAT1 Susitna Watana 3.67 37 Pn 02 36 53.5 +0.2
WAT6 Susitna Watana 3.76 43 P Pn 02 36 54.0 -0.4
baz=227,SNR=1000
WAT6 Susitna Watana 3.76 43 Pn 02 36 53.9 -0.6
KTH Kantishna Hill 3.77 17 Pn Pn 02 36 55.0 +0.4
KTH IAML 02 38 05.8
comp=E,83μm,1.6s
KTH IAML 02 38 20.6
comp=N,80μm,1.2s
TRF Thorofare Moun 3.78 21 P Pn 02 36 55.1 +0.3
baz=202,SNR=1000
TRF Thorofare Moun 3.78 21 Pn Pn 02 36 55.1 +0.3
TRF IAML 02 38 05.4
comp=N,73μm,1.3s
TRF IAML 02 38 06.5
comp=E,69μm,1.3s
EYAK Cordova Ski Ar 3.82 78 P Pn 02 36 54.1 -1.1
baz=263,SNR=1000
EYAK Cordova Ski Ar 3.82 78 Pn Pn 02 36 54.3 -0.9
DIV Divide 3.91 69 Pn 02 36 55.6 -0.8
KLU Klutina 3.94 64 P Pn 02 36 55.7 -1.2
baz=249,SNR=1000
KLU Klutina 3.94 64 Pn 02 36 55.9 -1.0
KLU IAML 02 37 41.4
comp=E,125μm,0.9s
CHUM Lake Minchumin 3.95 6 P Pn 02 36 58.2 +1.3
baz=186,SNR=1000
CHUM Lake Minchumin 3.95 6 Pn 02 36 58.1 +1.2
RND Reindeer 4.05 30 P Pn 02 36 58.2 -0.1
RND Reindeer 4.05 30 Pn Pn 02 36 58.2 -0.1
M24K Tolsona, Glenn 4.08 55 P Pn 02 36 58.2 -0.5
baz=240,SNR=1000
M24K Tolsona, Glenn 4.08 55 Pn Pn 02 36 58.7 0.0
J20K Nowinta River 4.24 355 P Pn 02 37 02.1 +1.4
baz=174,SNR=1000
J20K Nowinta River 4.24 355 Pn 02 37 01.9 +1.2
BPAW Bear Paw Mtn. 4.29 14 P Pn 02 37 01.4 0.0
baz=195,SNR=1000
PS12 TAPS Pump St12 4.29 66 Pn 02 37 00.8 -0.7
MCK McKinley 4.31 27 P Pn 02 37 02.2 +0.5
MCK McKinley 4.31 27 P Pn 02 37 01.4 -0.3
baz=210,SNR=1000
MCK McKinley 4.31 27 Pn Pn 02 37 02.2 +0.5
MCK IAML 02 37 57.1
comp=N,47μm,1.4s
GOAT Goat Mountain 4.32 78 Pn 02 37 00.9 -1.1
CHIR Chirikof Islan 4.34 197 P Pn 02 37 00.1 -2.0
baz=17,SNR=838
CHIR Chirikof Islan 4.34 197 Pn Pn 02 37 00.1 -2.0
RAGM Ragged Mountai 4.34 81 Pn 02 37 01.2 -0.9
PS11 TAPS Pump St11 4.37 58 Pn 02 37 01.9 -0.5
BMRM Bremner River 4.43 73 P Pn 02 37 01.7 -1.7
baz=260,SNR=1000
KAIM Kayak Island 4.48 87 P Pn 02 37 03.2 -0.7
baz=273,SNR=1000
N25K Chitina, Valde 4.58 65 P Pn 02 37 04.3 -1.0
baz=252,SNR=1000
N25K Chitina, Valde 4.58 65 Pn Pn 02 37 04.4 -1.0
N25K IAML 02 37 58.3
comp=E,63μm,0.8s
N25K IAML 02 38 19.5
comp=N,89μm,1.5s
BWN Browne 4.59 22 Pn 02 37 05.3 -0.1
BWN IAML 02 38 36.3
comp=N,97μm,1.6s
BWN IAML 02 38 48.4
comp=E,105μm,1.5s
HARP HAARP 4.64 55 P Pn 02 37 05.7 -0.5
baz=241,SNR=1000
HARP HAARP 4.64 55 Pn 02 37 05.7 -0.5
NICHA Nichawak Mount 4.69 83 Pn 02 37 05.8 -1.1
SUCK Suckling Hills 4.79 85 Pn Pn 02 37 07.7 -0.5
SUCK IAML 02 38 02.6
comp=E,85μm,1.5s
SUCK IAML 02 38 08.3
comp=N,78μm,1.2s
PAX Paxson 4.82 48 P Pn 02 37 08.5 -0.1
PAX Paxson 4.82 48 P Pn 02 37 08.5 -0.1
baz=234,SNR=1000
PAX Paxson 4.82 48 Pn 02 37 08.5 -0.1
BERG Berg Lake 4.82 81 Pn 02 37 07.9 -0.7
VNHG Veniaminof 1 4.87 222 Pn 02 37 09.8 +0.5
GLB Gilahina Butte 4.90 68 Pn Pn 02 37 09.1 -0.6
GLB IAML 02 38 24.1
comp=N,64μm,1.5s
GLB IAML 02 38 28.1
comp=E,35μm,2.3s
VNSG Veniaminof 6 4.92 221 Pn 02 37 09.9 -0.1
VNFG Fog Glacier, M 4.96 224 Pn 02 37 11.2 +0.7
VNSS Veniaminof 8 4.97 224 Pn 02 37 09.6 -1.1
GRIN Grindle Hills 5.01 82 Pn 02 37 10.5 -0.7
NEA2 Nenana 5.04 21 P Pn 02 37 11.0 -0.6
baz=204,SNR=1000
NEA2 Nenana 5.04 21 Pn Pn 02 37 11.6 +0.1
KHIT Khitrov Hills 5.05 80 Pn 02 37 10.4 -1.3
CRQM Cirque 5.12 77 Pn Pn 02 37 12.9 +0.2
WRH Wood River Hil 5.13 26 Pn Pn 02 37 12.2 -0.6
WRH IAML 02 38 12.4
comp=N,27μm,1.8s
CRQE Cirque 5.14 77 P Pn 02 37 11.4 -1.6
baz=265,SNR=1000
MLY Manley 5.22 12 P Pn 02 37 13.7 -0.1
baz=194,SNR=1000
MLY Manley 5.22 12 Pn Pn 02 37 13.8 -0.1
WAX Waxell Ridge 5.25 80 Pn 02 37 13.6 -0.8
SNH Sunshine Point 5.26 83 Pn 02 37 14.5 0.0
MCARA McCarthy VSAT 5.26 70 P Pn 02 37 13.3 -1.2
baz=258,SNR=1000

MCARA McCarthy VSAT 5.26 70 Pn 02 37 13.4 -1.0
I21K Tanana 5.26 6 P Pn 02 37 14.8 +0.3
baz=187,SNR=1000
I21K Tanana 5.26 6 Pn 02 37 14.8 +0.3
KULT Kultieth River 5.31 82 Pn 02 37 14.5 -0.7
PS09 TAPS Pump Stn9 5.34 39 Pn 02 37 16.6 +1.2
CCB Clear Creek Bu 5.35 26 Pn 02 37 14.9 -0.7
HDA Harding Lake 5.36 31 P Pn 02 37 15.5 -0.3
baz=216,SNR=1000
CYK Cape Yakataga 5.44 84 Pn 02 37 16.8 0.0
PTPK Patty Peak 5.49 72 Pn 02 37 17.6 -0.1
PS08 TAPS Pump Stn8 5.50 31 Pn 02 37 17.6 0.0
ISLE Juniper Island 5.50 79 Pn Pn 02 37 18.0 +0.2
I23K Minto, Yukon-K 5.51 18 P Pn 02 37 17.3 -0.4
baz=200,SNR=1000
I23K Minto, Yukon-K 5.51 18 Pn Pn 02 37 18.1 +0.4
RIDG Independent Ri 5.51 43 P Pn 02 37 18.1 +0.2
baz=229,SNR=1000
RIDG Independent Ri 5.51 43 Pn 02 37 17.8 -0.1
KIAG Kiagna River 5.51 75 Pn 02 37 17.2 -0.8
BALM Baldy 5.53 74 Pn 02 37 17.9 -0.3
MDM Murphy Dome 5.53 23 Pn Pn 02 37 18.2 +0.1
TCOL CIGO, UAF Yank 5.53 25 P Pn 02 37 17.7 -0.4
baz=209,SNR=1000
TCOL CIGO, UAF Yank 5.53 25 Pn 02 37 17.6 -0.4
I53US FAIRBANKS INFR 5.54 25 P Pn 02 37 17.7 -0.4
baz=200,slow=19,SNR=6.6
I53US *i* 02 58 10.0
baz=216,slow=316,SNR=1.6
COLA College 5.54 25 *d* iP Pn 02 37 17.5 -0.6
COLA College 5.54 25 P Pn 02 37 17.9 -0.2
baz=209
COLA College 5.54 25 Pn Pn 02 37 17.4 -0.6
COLA College 5.54 25 ⇓P Pn 02 37 17.1 -1.0
M26K Nabesna, AK 5.56 60 P Pn 02 37 17.8 -0.7
baz=248,SNR=1000
M26K Nabesna, AK 5.56 60 Pn 02 37 18.9 +0.4
BAGL Bagley Icefiel 5.62 80 Pn 02 37 19.1 -0.2
IL31 5.67 29 Pn 02 37 19.3 -0.6
ILAR Eielson Array 5.67 29 P Pn 02 37 19.1 -0.9
comp=N,2μm,0.3s,baz=218,slow=11
ILAR LR LR 02 39 00.4
comp=N,20μm,21.9s,baz=294,slow=32
ILAR ScP **ScP 02 47 33.5 -0.2**
comp=N,1.7nm,0.3s,baz=294,slow=2.8,SNR=8.5
ILAR PKiKP **PKiKP 02 52 13.8 -1.5**
comp=N,0.3nm,0.3s,baz=302,slow=2.5,SNR=8.1
ILAR P3KPbc 03 15 08.8
comp=N,0.2nm,0.3s,baz=232,slow=2.6,SNR=9.2
ILAR P3KP 03 15 43.1
comp=N,0.1nm,0.3s,baz=231,slow=3.2,SNR=5.0
ILAR Eielson Array 5.67 29 P Pn 02 37 19.5 -0.4
ILAR Eielson Array 5.67 29 Pn Pn 02 37 19.5 -0.4
L26K Log Cabin Wild 5.67 53 P Pn 02 37 19.7 -0.3
baz=241,SNR=1000
L26K Log Cabin Wild 5.67 53 Pn 02 37 19.4 -0.6
MESA MESA 5.70 83 P Pn 02 37 20.0 -0.5
baz=272,SNR=1000
MESA MESA 5.70 83 Pn Pn 02 37 21.2 +0.6
DOT Dot Lake 5.73 46 Pn 02 37 20.2 -0.6
POKR Poker Plat Res 5.84 25 P Pn 02 37 22.1 -0.1
baz=210,SNR=1000
POKR Poker Plat Res 5.84 25 Pn 02 37 21.9 -0.2
PS07 TAPS Pump Stn7 5.84 21 Pn 02 37 22.6 +0.4
BARN Barnard Glacie 5.86 74 Pn Pn 02 37 22.9 +0.1
SCRK Sand Creek 5.96 44 P Pn 02 37 23.2 -0.7
baz=231,SNR=1000
RKAV Rock Avalanche 6.00 82 Pn 02 37 24.5 0.0
CTG Chitna Glacier 6.01 75 P Pn 02 37 23.8 -0.9
baz=265,SNR=1000
CTGM Chitina Glacie 6.01 75 Pn 02 37 24.6 -0.2
SDPT Sand Point 6.02 223 P Pn 02 37 23.5 -1.1
baz=38,SNR=578
SDPT Sand Point 6.02 223 Pn 02 37 23.4 -1.2
M27K Edge Creek, AK 6.03 62 P Pn 02 37 25.3 +0.3
baz=251,SNR=1000
IMAR Indian Mountai 6.04 358 Pn 02 37 26.3 +1.4
TABL Table Mountain 6.09 80 Pn 02 37 25.4 -0.4
CHX Chaix Hills 6.12 84 Pn 02 37 26.7 +0.6
H23K Yukon River 6.12 15 P Pn 02 37 26.1 +0.1
baz=197,SNR=1000
H23K Yukon River 6.12 15 Pn 02 37 26.9 +0.9
PS06 TAPS Pump Stn6 6.13 14 Pn 02 37 26.2 +0.1
CHNA Chernabura Isl 6.17 216 P Pn 02 37 24.3 -2.3
baz=32,SNR=1000
LOGN Logan Glacier 6.17 77 Pn 02 37 26.4 -0.4
CNBA Chernabura Isl 6.17 216 Pn Pn 02 37 24.3 -2.5
SAMH Samovar Hills 6.29 83 Pn 02 37 28.5 +0.1
L27K Beaver Creek, 6.31 56 P Pn 02 37 28.2 -0.4
baz=245,SNR=1000
BCAR Beaver Creek A 6.33 56 Pn Pn 02 37 28.5 -0.4
YUK2 White River 6.36 68 Pn 02 37 28.8 -0.6
H24K Noodor Dome 6.39 21 P Pn 02 37 29.1 -0.5
baz=205,SNR=1000
H24K Noodor Dome 6.39 21 Pn 02 37 29.6 -0.1
PVV Pavlof Volcano 6.47 228 Pn 02 37 31.4 +0.7
BVCY Beaver Creek 6.50 63 Pn 02 37 31.4 +0.2
PS4A Pavlof South-4 6.51 228 Pn 02 37 32.2 +0.8
YUK3 Moose Creek 6.54 68 Pn 02 37 31.7 -0.1
PCA Pinnacle 6.55 83 Pn 02 37 31.9 0.0
PINM Pinnacle 6.55 83 P Pn 02 37 31.4 -0.6
baz=274,SNR=1000
HAG Hague Volcano 6.55 228 P Pn 02 37 32.9 +1.0
HAG Hague Volcano 6.55 228 Pn 02 37 32.9 +1.0
YUK1 Sand Pete Hill 6.58 65 Pn 02 37 33.1 +0.7
PRP Porcupine Dome 6.61 29 P Pn 02 37 32.3 -0.5
baz=216,SNR=1000
PRP Porcupine Dome 6.61 29 Pn 02 37 31.8 -1.0
K27K Chicken 6.67 48 P Pn 02 37 32.9 -0.6
baz=237
K27K Chicken 6.67 48 Pn 02 37 32.6 -0.9
DT1 Dutton Round H 6.85 229 Pn 02 37 36.5 +0.5
BCPM Bancas Point 6.88 84 Pn 02 37 35.8 -0.4
YKU2 Yakutat 6.92 88 Pn 02 37 36.6 -0.1
PS05 TAPS Pump Stn5 6.97 9 Pn 02 37 38.5 +1.1
BALA Baldy Mountain 6.98 231 Pn 02 37 39.4 +1.7
PNL Peninsula 7.03 86 Pn 02 37 38.0 -0.3
ANM Nome 7.26 315 P Pn 02 37 43.8 +2.4
ANM Nome 7.26 315 P Pn 02 37 43.6 +2.2
baz=124,SNR=324
ANM Nome 7.26 315 Pn Pn 02 37 43.8 +2.4
COLD Coldfoot 7.42 9 P Pn 02 37 43.8 +0.3
baz=192,SNR=1000
COLD Coldfoot 7.42 9 Pn Pn 02 37 43.7 +0.3
EGAK Eagle 7.42 44 P Pn 02 37 42.9 -0.6
baz=234,SNR=1000
EGAK Eagle 7.42 44 Pn Pn 02 37 42.8 -0.8
YUK6 Outpost Mounta 7.46 76 Pn 02 37 43.8 -0.5
FALS False Pass 7.48 231 P Pn 02 37 44.2 -0.2
baz=43,SNR=215
FYU Fort Yukon 7.55 25 Pn Pn 02 37 44.2 -1.1
ISNN Isanotski Nort 7.64 232 Pn 02 37 47.8 +1.2
ISLZ Isanotski Laza 7.69 231 Pn 02 37 47.8 +0.5
DAWY Dawson 7.73 52 Pn Pn 02 37 47.3 -0.5
SSLN Shishaldin Nor 7.74 233 Pn 02 37 49.2 +1.2
SSLS Shishaldin Sou 7.81 232 Pn 02 37 49.9 +0.9
SSLW Shishaldin Wes 7.82 233 Pn 02 37 49.8 +0.7
SSBA Shishaldin 7.82 233 Pn 02 37 49.8 +0.7
HYT Haines Junctio 7.88 77 Pn Pn 02 37 49.5 -0.4
WESN West Dahl Nort 8.15 233 Pn 02 37 54.2 +0.7
WEBT Westdahl Beart 8.21 234 Pn 02 37 55.2 +1.0
WESP Westdahl Peak 8.26 233 Pn 02 37 55.9 +0.8
BM03 Burnt Mountain 8.41 24 Pn 02 37 56.5 -0.4
BMAR Burnt Mountain 8.42 24 Pn Pn 02 37 56.2 -0.9
TNA Tin City 8.71 316 P Pn 02 38 03.0 +2.0
baz=123,SNR=57
TNA Tin City 8.71 316 Pn Pn 02 38 03.0 +2.0
TNA Tin City 8.71 316 ⇑P Pn 02 38 03.2 +2.2
TOLK Toolik Lake Re 8.85 9 P Pn 02 38 04.3 +1.4
baz=192,SNR=1000
TOLK Toolik Lake Re 8.85 9 Pn 02 38 04.3 +1.4
AKSA Akutan Strait 8.92 234 Pn 02 38 04.0 +0.2
AKUT Akutan 8.95 235 Pn Pn 02 38 04.0 -0.2
AKUT Akutan 8.95 235 ⇑P Pn 02 38 03.9 -0.2
AKGG Akutan Green G 8.99 236 Pn 02 38 05.2 +0.4
AKLV Akutan Long Va 9.00 235 Pn 02 38 05.2 +0.2
AKBBA Akutan Broad B 9.04 235 Pn 02 38 05.6 +0.2
AKRB Akutan Reef Bi 9.07 235 Pn 02 38 06.4 +0.5
AKMO Akutan Morgan 9.08 235 Pn 02 38 06.3 +0.3
SKAG Skagway 9.11 85 P Pn 02 38 05.7 -0.6
baz=280,SNR=1000
SKAG Skagway 9.11 85 Pn Pn 02 38 05.5 -0.8
SKAG Skagway 9.11 85 ⇑P Pn 02 38 05.7 -0.6

RDOG	Red Dog Mine	9.12 337	P	Pn	02 38 09.6	+3.1
	baz=148,SNR=64					
RDOG	Red Dog Mine	9.12 337	Pn	Pn	02 38 09.8	+3.3
WHY	Whitehorse	9.18 78	P	Pn	02 38 07.0	-0.3
	baz=273,SNR=1000					
WHY	Whitehorse	9.18 78	Pn	Pn	02 38 06.6	-0.8
SPIA	Saint Paul Isl	9.27 260	P	Pn	02 38 10.3	+1.8
	baz=66,SNR=21					
SPIA	Saint Paul Isl	9.27 260	Pn	Pn	02 38 10.8	+2.3
MTBL	Makushin Table	9.44 236		Pn	02 38 11.1	+0.1
UNV	Unalaska Valle	9.46 235	P	Pn	02 38 10.0	-1.0
	baz=45,SNR=336					
UNV	Unalaska Valle	9.46 235		Pn	02 38 10.6	-0.5
MNAT	Makushin Natee	9.50 236		Pn	02 38 11.5	-0.2
BESE	Bessie Mountai	9.55 90	Pn	Pn	02 38 10.5	-1.9
MGOD	Makushin Gods	9.65 236		Pn	02 38 13.5	-0.2
MAPS	Pakushin South	9.67 236		Pn	02 38 13.7	-0.2
EPYK	Eagle Plains	9.85 42	P	Pn	02 38 14.8	-1.5
	baz=237,SNR=1000					
EPYK	Eagle Plains	9.85 42	Pn	Pn	02 38 14.8	-1.5
SIT	Sitka	9.85 99	P	Pn	02 38 13.8	-2.6
SIT	Sitka	9.85 99	P	Pn	02 38 14.0	-2.3
	baz=294,SNR=250					
SIT	Sitka	9.85 99	Pn	Pn	02 38 13.8	-2.6
JIS	Juneau Island	9.88 92		Pn	02 38 15.8	-0.9
NIKH	Nikolski High	11.07 238	P	Pn	02 38 30.7	-2.1
	baz=45,SNR=76					
NIKH	Nikolski High	11.07 238	Pn	Pn	02 38 31.1	-1.7
A21K	Barrow	11.48 355	P	Pn	02 38 36.7	-1.3
	baz=171,SNR=50					
WRAK	Wrangell Islan	11.61 99	P	Pn	02 38 39.7	-0.2
	baz=296,SNR=817					
WRAK	Wrangell Islan	11.61 99		Pn	02 38 39.6	-0.2
CRAG	Craig	11.69 104	P	Pn	02 38 38.8	-2.1
	baz=301,SNR=185					
CRAG	Craig	11.69 104	⇑P	Pn	02 38 38.6	-2.3
INK	Inuvik	11.96 37	P	Pn	02 38 42.8	-1.5
	comp=N,21nm,0.3s,baz=225,slow=17,SNR=366					
INK			S	Sn	02 40 52.9	-2.9
	comp=N,10nm,0.3s,baz=147,slow=17,SNR=1.8					
INK	Inuvik	11.96 37	P	Pn	02 38 43.2	-1.2
	baz=235,SNR=1000					
INK	Inuvik	11.96 37	Pn	Pn	02 38 42.4	-2.0
INK	Inuvik	11.96 37	⇓P	Pn	02 38 42.7	-1.7
DLBC	Dease Lake	12.02 87	P	Pn	02 38 44.7	-0.6
	comp=N,116nm,0.3s,baz=330,slow=7.3,SNR=245					
DLBC	Dease Lake	12.02 87		Pn	02 38 45.2	-0.2
DIB	Dawson Inlet,	13.30 111		Pn	02 39 00.9	-1.0
H02S1	DAWSON INLET T	13.30 111	P	Pn	02 39 01.1	-0.8
MOBC	Moresby Island	13.57 111	Pn	Pn	02 39 05.1	-0.5
RUBB	Prince Rupert	13.70 104		Pn	02 39 07.0	0.0
ATKA	Atka Island	13.96 245		Pn	02 39 10.3	-0.1
ATKA	Atka Island	13.96 245	⇑P	Pn	02 39 10.1	-0.4
GSTR	Great Sitkin T	14.89 248	Pn	Pn	02 39 23.3	+1.0
ADK	Adak	15.32 248	P	Pn	02 39 28.1	+0.5
ADK			pmax	pmax		
	comp=Z,3μm,1.6s					
ADK	Adak	15.32 248	Pn	Pn	02 39 28.1	+0.5
ADK			IAmb	IAmb	02 40 04.7	
	comp=Z,3μm,1.6s					
ADK	Adak	15.32 248	⇑P	Pn	02 39 27.9	+0.3
C36M	Paulatuk	15.47 41	P	Pn	02 39 27.2	-2.1
	baz=247,SNR=274					
KIWB	Kanaga Island	15.56 249	Pn	P	02 39 31.8	-0.4
BBB	Bella Bella	16.01 108	P	Pn	02 39 36.4	+0.3
	comp=Z,3.3nm,0.3s,baz=303,slow=8.6,SNR=39					
BBB	Bella Bella	16.01 108	P	P	02 39 36.6	-0.5
BBB	Bella Bella	16.01 108	⇑P	P	02 39 36.7	-0.5
AMKA	Amchitka	17.56 253	P	P	02 39 53.8	-0.5
AMKA			PcP	PcP	02 44 27.1	-0.1
YKA	Yellowknife Ar	18.61 66	P	P	02 40 06.3	+0.6
	comp=Z,163nm,0.3s,baz=276,slow=11,SNR=2085					
YKA			S	S	02 43 28.5	-2.8
	comp=Z,1.3nm,0.3s,baz=276,slow=18,SNR=4.9					
YKA			PcP	PcP	02 44 29.9	+1.0
	comp=Z,3.9nm,0.3s,baz=304,slow=1.0,SNR=4.5					
YKA			LR	LR	02 47 00.4	
	comp=Z,17μm,18.9s,baz=0.0,slow=36					
YKA			ScP	ScP	02 47 53.2	+0.3
	comp=Z,3.5nm,0.3s,baz=296,slow=1.6,SNR=13					
YKA			PKiKP	PKiKP	02 52 17.9	-1.0
	comp=Z,0.3nm,0.3s,baz=286,slow=2.9,SNR=5.4					
YKA	Yellowknife Ar	18.61 66	P	P	02 40 06.5	+0.7
BILL	Bilibino	19.11 312	*d iP*	Pn	02 40 12.7	-0.5
BILL			*i* S	S	02 43 39.1	-1.9
BILL			pmax	pmax		
	comp=Z,1μm,1.3s					
BILL	Bilibino	19.11 312	P	Pn	02 40 12.3	-0.9
BILL			IAmb	IAmb	02 40 16.3	
	comp=Z,2μm,1.4s					
SMY	Shemya	19.29 262	P	P	02 40 13.1	0.0
SMY			pmax	pmax		
	comp=Z,1μm,0.8s					
SMY	Shemya	19.29 262	P	P	02 40 13.1	0.0
SMY			IAmb	IAmb	02 40 16.2	
	comp=Z,1μm,0.8s					
SMY	Shemya	19.29 262	⇑P	P	02 40 13.2	+0.1
LLLB	Lillooet	20.02 104	P	Pn	02 40 24.2	+0.1
LLLB			IAmb	IAmb	02 41 06.5	
	comp=Z,4μm,1.7s					
PGC	Sidney	20.59 110	P	Pn	02 40 29.5	-1.0
PGC			IAmb	IAmb	02 40 54.1	
	comp=Z,1μm,1.2s					
A04D	Lummi Island	20.89 109	P	Pn	02 40 32.9	-1.3
	baz=314,SNR=30					
A05A	Maple Falls	21.00 108	P	Pn	02 40 33.9	-1.5
A05A			IAmb	IAmb	02 41 03.7	
	comp=Z,6μm,1.9s					
NLWA	Neilton Lookou	21.30 113	P	P	02 40 37.6	+2.8
NLWA			IAmb	IAmb	02 41 05.0	
	comp=Z,3μm,1.4s					
NLWA	Neilton Lookou	21.30 113	⇑P	P	02 40 37.7	+2.8
B05A	Bryant	21.50 109	P	P	02 40 39.0	+2.1
	baz=315,SNR=86					
D03D	Eldon	21.55 112	P	P	02 40 40.2	+2.7
	baz=316,SNR=53					
J28D	J28D	21.64 122	P	pP	02 41 01.8	+1.3
J28D			S	Sn	02 44 59.8	+12
D04E	Lakebay	21.96 112	P	P	02 40 44.6	+2.9
	baz=317,SNR=6.0					
J27D	J27D	22.15 121	P	pP	02 41 07.9	+1.8
J27D			S	Sn	02 45 02.9	+3.1
J20D	J20D	22.20 123	P	pP	02 41 05.3	-1.3
J20D			S	Sn	02 45 10.8	+10
C06D	Leavenworth	22.31 108	P	P	02 40 47.8	+2.4
	baz=315,SNR=16					
E04D	Cinebar	22.51 113	P	P	02 40 50.2	+2.8
	baz=318,SNR=14					
F04D	Rainier, OR	22.66 114	P	P	02 40 51.3	+2.4
	baz=319					
LON	Longmire	22.72 111	P	P	02 40 52.2	+2.6
LON			pmax	pmax		
	comp=Z,1μm,1.4s					
LON	Longmire	22.72 111	P	P	02 40 52.2	+2.6
LON			IAmb	IAmb	02 41 45.9	
	comp=Z,1μm,1.4s					
EDM	Edmonton	22.73 89	P	P	02 40 51.0	+1.5
EDM					02 44 37.9	
EDM			pmax	pmax		
	comp=Z,4μm,1.1s					
EDM	Edmonton	22.73 89	P	P	02 40 51.0	+1.5
EDM			IAmb	IAmb	02 41 18.8	
	comp=Z,4μm,1.1s					
EDM			PcP	PcP	02 44 37.9	+1.0
B08A	Colville Reser	22.76 105	P	P	02 40 52.4	+2.5
B08A			IAmb	IAmb	02 41 18.9	
	comp=Z,2μm,1.1s					
LTY	Liberty	22.89 109	P	P	02 40 53.4	+2.1
LTY			IAmb	IAmb	02 41 22.1	
	comp=Z,2μm,1.1s					
LTY			PcP	PcP	02 44 38.0	+0.6
J11D	J11D	23.18 123	P	pP	02 41 17.2	+0.1
J11D			S	Sn	02 45 10.3	-14
G03D	McMinnville, O	23.21 116	P	P	02 40 56.8	+2.7
	baz=320,SNR=14					
F05D	White Salmon	23.53 113	P	P	02 40 59.7	+2.7
	baz=318,SNR=27					
G37D	G37D	23.54 126	P	pP	02 41 22.5	+1.5
G37D			S	S	02 45 14.5	+13
C09A	Chrisman Ranch	23.66 105	P	P	02 41 00.2	+2.0
COR	Corvallis	23.68 117	P	P	02 41 01.7	+3.4
COR			pmax	pmax		
	comp=Z,4μm,1.7s					
COR	Corvallis	23.68 117	P	P	02 41 01.7	+3.4
COR			IAmb	IAmb	02 41 33.0	
	comp=Z,4μm,1.6s					
COR	Corvallis	23.68 117	⇑P	P	02 41 02.4	+4.0
G29D	G29D	23.76 127	P	pP	02 41 24.8	+1.5
G29D			PP	sP	02 42 15.5	+37
G29D			S	S	02 45 18.4	+14
I02D	Swisshome	23.81 119	P	P	02 41 02.2	+2.6
	baz=322,SNR=11					
G36D	G36D	23.84 125	P	pP	02 41 25.6	+1.4
G36D			S	S	02 45 21.5	+16
NEW	Newport	23.90 103	P	P	02 41 02.4	+2.0
	comp=Z,126nm,0.9s,baz=314,slow=7.4,SNR=117					
NEW			pP	pP	02 41 27.1	+1.8
	comp=Z,623nm,1.0s,baz=308,slow=9.1,SNR=18					
NEW			ScP	ScP	02 48 07.0	+0.7
	comp=Z,18nm,0.8s,baz=76,slow=7.4,SNR=4.0					
NEW	Newport	23.90 103	P	P	02 41 03.0	+2.6
NEW			pmax	pmax		
	comp=Z,1μm,1.2s					
NEW	Newport	23.90 103	P	P	02 41 02.2	+1.8
	baz=313,SNR=157					
NEW	Newport	23.90 103	P	P	02 41 03.0	+2.6
NEW			IAmb	IAmb	02 41 29.6	
	comp=Z,1μm,1.2s					
G35D	G35D	23.97 125	P	pP	02 41 24.8	-0.8
G35D			PP	sP	02 42 17.1	+37
G35D			S	S	02 45 23.4	+15
H04D	Lebanon	23.98 116	P	P	02 41 03.5	+2.4
	baz=321,SNR=33					
HAWA	Hanford	24.06 109	⇓P	P	02 41 04.8	+3.0
G05D	Wamic, OR	24.08 113	P	P	02 41 04.0	+2.0
	baz=319,SNR=19					
H04A	Detroit Lake	24.11 115	P	P	02 41 05.5	+3.2
H04A			IAmb	IAmb	02 41 36.8	
	comp=Z,2μm,1.2s					
E08A	Dider Farm, El	24.21 108	P	P	02 41 05.8	+2.6
E08A			IAmb	IAmb	02 41 32.3	
	comp=Z,1μm,1.2s					
F07A	Phinny Hill Vi	24.24 111	P	P	02 41 06.3	+2.9
F07A			IAmb	IAmb	02 41 33.1	
	comp=Z,2μm,1.2s					
G22D	G22D	24.26 129	P	pP	02 41 25.6	-3.0
G22D			S	S	02 45 27.7	+15
I03D	Drain, OR	24.36 119	P	P	02 41 07.1	+2.7
	baz=322,SNR=17					
J01E	Myrtle Point	24.53 120	P	P	02 41 08.1	+2.1
	baz=324,SNR=15					
G33D	G33D	24.55 122	P	pP	02 41 27.9	-3.9
G33D			S	S	02 45 25.2	+7.4
E09A	Wood Farm, Sta	24.63 107	P	P	02 41 09.3	+2.4
E09A			IAmb	IAmb	02 41 36.1	
	comp=Z,3μm,1.7s					
I04A	Tendick Farm,	24.70 117	P	P	02 41 09.8	+2.2
	baz=322,SNR=46					
G20D	G20D	24.70 127	P	pP	02 41 32.5	-0.5
G20D			S	S	02 45 34.5	+15
G21D	G21D	24.75 128	P	pP	02 41 32.5	-0.9
G21D			S	S	02 45 35.2	+15
I05D	Terrebonne, OR	24.76 115	P	P	02 41 10.5	+2.3
	baz=320,SNR=14					
G13D	G13D	24.88 129	P	pP	02 41 33.3	-1.4
G13D			S	S	02 45 37.0	+15
WALA	Waterton Lakes	24.96 98	P	P	02 41 11.4	+1.3
WALA			IAmb	IAmb	02 41 51.7	
	comp=Z,2μm,1.4s					
K02D	Willamette Mer	25.02 120	P	P	02 41 12.8	+2.2
	baz=324,SNR=44					
G08A	Pilot Rock	25.14 110	P	P	02 41 14.6	+2.9
J04D	Umpqua Nationa	25.27 117	P	P	02 41 15.9	+2.9
	baz=322,SNR=32					
M16D	M16D	25.38 123	P	pP	02 41 38.6	-1.0
M16D			S	S	02 45 44.5	+14
HUMO	Hull Mountain	25.40 120	⇓P	P	02 41 17.3	+3.3
RES	Resolute Bay	25.41 32	P	P	02 41 13.7	-0.1
	comp=Z,116nm,0.8s,baz=258,slow=11,SNR=33					
RES			ScP	ScP	02 48 09.5	-0.4
	comp=Z,113nm,0.9s,baz=328,slow=2.1,SNR=4.5					
RES	Resolute Bay	25.41 32	P	P	02 41 14.7	+0.9
RES			pmax	pmax		
	comp=Z,2μm,1.4s					
RES	Resolute Bay	25.41 32	P	P	02 41 14.7	+0.9
RES			IAmb	IAmb	02 41 59.6	
	comp=Z,2μm,1.4s					
RES	Resolute Bay	25.41 32	⇓P	P	02 41 13.9	+0.1
G05D7	G05D7	25.44 130	P	pP	02 41 38.6	-1.0
G05D7			S	S	02 45 43.2	+12
F10A	Beach Ranch, E	25.46 107	P	P	02 41 16.7	+2.1
F10A			IAmb	IAmb	02 41 44.6	
	comp=Z,1μm,1.1s					
F10A			PcP	PcP	02 44 44.0	+1.0
F10A	Beach Ranch, E	25.46 107	⇓P	P	02 41 16.5	+1.8
L02E	Cave Junction	25.48 121	P	P	02 41 17.7	+3.0
	baz=325,SNR=9.2					
J05D	Fort Rock, OR	25.62 116	P	P	02 41 19.2	+3.1
	baz=322,SNR=39					
G10D	G10D	25.80 126	P	pP	02 41 43.2	+0.2
G10D			S	S	02 45 48.8	+12
G04D	G04D	25.84 128	P	pP	02 41 43.2	0.0
G04D			S	S	02 45 55.0	+18
K04D	Chiloquin, OR	25.91 118	P	P	02 41 20.4	+1.6
	baz=323					
L04D	Klamath Falls	26.00 119	P	P	02 41 22.2	+2.6
	baz=324,SNR=26					
FS44D	FS44D	26.17 124	P	pP	02 41 45.6	-1.2
G03D7	G03D7	26.17 127	P	pP	02 41 47.9	+1.6
G03D7			S	S	02 45 56.3	+14
YBH	Yreka Blue Hor	26.21 120	P	P	02 41 24.1	+2.7
	comp=Z,32nm,0.5s,baz=352,slow=7.7,SNR=81					
YBH			pP	pP	02 41 49.7	+2.3
	comp=Z,349nm,1.1s,baz=349,slow=3.5,SNR=19					
YBH			ScP	ScP	02 48 13.6	+0.7
	comp=Z,14nm,0.7s,baz=59,slow=4.6,SNR=11					
YBH			LR	LR	02 50 20.3	
	comp=Z,8μm,18.7s,baz=314,slow=33					
YBH	Yreka Blue Hor	26.21 120	P	P	02 41 23.2	+1.8
YBH			pmax	pmax		
	comp=Z,981nm,1.5s					
YBH	Yreka Blue Hor	26.21 120	P	P	02 41 23.2	+1.8
YBH			IAmb	IAmb	02 42 03.5	
	comp=Z,981nm,1.5s					
K05A	Summer Lake	26.22 117	P	P	02 41 24.7	+3.1
K05A			IAmb	IAmb	02 42 23.6	
	comp=Z,2μm,1.5s					
G09D	G09D	26.24 125	P	pP	02 41 49.1	+1.7
G09D			S	S	02 45 59.4	+15
BMO	Blue Mountains	26.25 109	P	P	02 41 24.5	+2.8
BMO			pmax	pmax		
	comp=Z,427nm,1.0s					
BMO	Blue Mountains	26.25 109		P	02 41 24.5	+2.8
FS13D	FS13D	26.35 125	P	pP	02 41 49.4	+1.2
FS13D			S	S	02 46 00.6	+15
FS09D	FS09D	26.40 125	P	pP	02 41 50.9	+2.3
FS09D			S	S	02 46 03.1	+16
M02C	Callahan	26.43 121	P	P	02 41 25.8	+2.4
	baz=325,SNR=16					
FS10D	FS10D	26.45 125	P	pP	02 41 50.2	+0.9
FS06D	FS06D	26.45 125	P	pP	02 41 53.2	+4.1
MSO	Missoula	26.45 102	P	P	02 41 24.8	+1.2
	baz=314,SNR=91					
MSO	Missoula	26.45 102	P	P	02 41 25.7	+2.1
MSO			IAmb	IAmb	02 41 57.4	
	comp=Z,2μm,1.4s					
MSO			PcP	PcP	02 44 45.6	+0.3
KHMM	Horse Mountain	26.48 123	P	P	02 41 26.7	+2.7
KHMM			IAmb	IAmb	02 41 55.9	
	comp=Z,1μm,1.3s					
KHMM			PcP	PcP	02 44 46.2	+0.7
M04C	Macdoel	26.55 119	P	P	02 41 26.5	+2.0
	baz=324,SNR=14					
PLID	Pearl Lake	26.70 107	P	P	02 41 28.4	+2.5
PLID			IAmb	IAmb	02 42 15.3	
	comp=Z,824nm,1.2s					
PLID			PcP	PcP	02 44 45.7	-0.4
J08A	Circle Bar Ran	26.83 113	P	P	02 41 30.0	+3.0
J08A			PcP	PcP	02 44 48.3	+2.0
N02D	Trinity Center	26.84 121	P	P	02 41 28.9	+1.9
	baz=326,SNR=20					
G01D	G01D	26.85 125	P	pP	02 41 55.5	+2.6
PET	Petropavlovsk	26.87 277	*ceP*	P	02 41 26.7	-0.4
PET			*e*SP*	sP	02 42 07.4	+0.1
PET			*e*		02 42 16.5	
PET			*eS*	S	02 45 52.6	-1.8
PET			pmax	pmax		
	comp=Z,10μm,10.1s					
PET			pmax	pmax		
	comp=Z,9μm,17.5s					
PET			pmax	pmax		
	comp=Z,735nm,1.4s					
PET			MLR	MLR		
	comp=Z,11μm,16.0s					
PET			MLR	MLR		
	comp=Z,8μm,13.0s					
PET	Petropavlovsk	26.87 277	P	P	02 41 29.2	+2.1
PET			IAmb	IAmb	02 41 32.2	
	comp=Z,1μm,1.4s					
PET	Petropavlovsk	26.87 277	⇑P	P	02 41 27.2	+0.2
MOD	Modoc Plateau	27.14 117	P	P	02 41 32.6	+2.8
MOD			IAmb	IAmb	02 42 02.9	
	comp=Z,762nm,1.3s					
MOD			PcP	PcP	02 44 48.1	+1.0
WDC	Whiskeytown Da	27.23 122	P	P	02 41 33.4	+3.0
WDC			pmax	pmax		
	comp=Z,780nm,1.3s					
WDC	Whiskeytown Da	27.23 122	P	P	02 41 33.4	+3.0
WDC			IAmb	IAmb	02 42 03.4	
	comp=Z,780nm,1.2s					
WDC	Whiskeytown Da	27.23 122	⇑P	P	02 41 33.5	+3.1
PEA0B	Petropavlovsk-	27.30 277	P	P	02 41 31.1	+0.1
PEA0B			pmax	pmax		
	comp=Z,475nm,0.7s					
PEA0B	Petropavlovsk-	27.30 277	P	P	02 41 31.1	+0.1
PEA0B			IAmb	IAmb	02 41 33.5	
	comp=Z,475nm,0.7s					
PETK	Petropavlovsk-	27.30 277	P	P	02 41 30.1	-0.8
	comp=Z,480nm,0.7s,baz=75,slow=9.5,SNR=403					
PETK			ScP	ScP	02 48 15.5	-0.4
	comp=Z,29nm,0.9s,baz=91,slow=7.9,SNR=7.9					
PETK			PKiKP	PKiKP	02 52 22.5	-1.1
	comp=Z,6.4nm,0.8s,baz=110,slow=4.1,SNR=5.8					
PETK	Petropavlovsk-	27.30 277	P	P	02 41 30.8	-0.2
PETK				ScP	02 48 14.9	-1.0
MA2	Magadan	27.44 294	P	P	02 41 33.2	+1.1
	comp=Z,466nm,0.7s,baz=69,slow=11,SNR=81					
MA2			ScP	ScP	02 48 15.5	-0.7
	comp=Z,60nm,1.0s,baz=78,slow=4.3,SNR=9.8					
MA2			LR	LR	02 52 41.5	
	comp=Z,5μm,20.2s,baz=62,slow=37					
MA2	Magadan	27.44 294	*c iP*	P	02 41 32.6	+0.5
MA2			pmax	pmax		
	comp=Z,424nm,0.8s					
MA2	Magadan	27.44 294	P	P	02 41 32.9	+0.8
MA2			IAmb	IAmb	02 41 36.8	
	comp=Z,531nm,0.8s					
MA2	Magadan	27.44 294	⇑P	P	02 41 32.8	+0.7
O02D	Mt. Diablo Mer	27.46 122	P	P	02 41 34.2	+1.6
	baz=326,SNR=7.5					
WVOR	Wild Horse Val	27.48 114	P	P	02 41 35.7	+3.0
WVOR			pmax	pmax		
	comp=Z,358nm,1.0s					
WVOR	Wild Horse Val	27.48 114	P	P	02 41 35.7	+3.0
WVOR			ScP	ScP	02 48 18.1	+1.3
WVOR	Wild Horse Val	27.48 114	⇑P	P	02 41 36.1	+3.4
KCPM	Cahto Peak	27.54 124	P	P	02 41 36.0	+2.7
KCPM			IAmb	IAmb	02 42 06.3	
	comp=Z,2μm,1.4s					
KCPM			PcP	PcP	02 44 49.2	+1.1
KCPM			ScP	ScP	02 48 19.1	+2.1
HRY	Holter Researc	27.58 100	P	P	02 41 35.1	+1.5
FFC	Flin Flon	27.59 78	P	P	02 41 34.9	+1.4
FFC			IAmb	IAmb	02 42 07.3	
	comp=Z,2μm,1.3s					
FFC			ScP	ScP	02 48 17.6	+0.9
FFC	Flin Flon	27.59 78	⇓P	P	02 41 34.5	+0.9
EUNU	Eureka	27.69 20	P	P	02 41 36.0	+1.7
EUNU			IAmb	IAmb	02 42 22.5	
	comp=Z,2μm,1.5s					
EGMT	Eagleton	27.72 96	P	P	02 41 35.6	+0.7
	baz=312,SNR=132					
EGMT	Eagleton	27.72 96	P	P	02 41 35.5	+0.7
EGMT			IAmb	IAmb	02 42 27.2	
	comp=Z,1μm,1.0s					
O03E	Paynes Creek	27.79 121	P	P	02 41 36.9	+1.4
	baz=326,SNR=58					
LRM	Limekiln Ridge	27.90 102	P	P	02 41 38.5	+1.8
LRM			ScP	ScP	02 48 18.8	+0.6
MFID	Camas Ranch	28.03 109	P	P	02 41 40.0	+2.3
DLMT	Dillon	28.15 103	P	P	02 41 41.7	+2.9
DLMT			IAmb	IAmb	02 42 12.4	
	comp=Z,855nm,1.2s					
DLMT			PcP	PcP	02 44 50.5	+1.1
HOPS	Hopland Field	28.33 124	P	P	02 41 43.2	+2.9
HOPS			IAmb	IAmb	02 42 10.6	
	comp=Z,850nm,1.6s					
HOPS			PcP	PcP	02 44 50.1	+0.3
HOPS			ScP	ScP	02 48 21.9	+2.6
MCMT	McKenzie Canyo	28.42 104	P	P	02 41 43.3	+2.1
BOZ	Bozeman (W)	28.46 101	P	P	02 41 43.3	+1.7
	baz=315,SNR=131					
BOZ	Bozeman (W)	28.46 101	P	P	02 41 43.2	+1.7
BOZ			ScP	ScP	02 48 20.1	+0.3
BCYI	Bear Canyon	28.52 105	P	P	02 41 44.3	+2.1
ORV	Oroville	28.53 121	P	P	02 41 43.1	+1.2
ORV			PcP	PcP	02 44 50.9	+0.6
HLID	Hailey	28.59 107	P	P	02 41 44.8	+2.0
	baz=319,SNR=112					
HLID	Hailey	28.59 107	P	P	02 41 44.0	+1.2
QLMT	Earthquake Lak	29.11 102	P	P	02 41 49.5	+2.1
AFDM	Forest Hills D	29.26 121	P	P	02 41 51.0	+2.5
AFDM			IAmb	IAmb	02 42 21.1	
	comp=Z,783nm,1.8s					
AFDM			PcP	PcP	02 44 52.8	+0.5
AFDM			ScP	ScP	02 48 24.1	+1.8
GCMT	Greycliff	29.30 99	P	P	02 41 51.3	+2.4
PAHR	Pah Rah Range	29.32 118	P	P	02 41 51.5	+2.3
PAHR			IAmb	IAmb	02 42 21.1	
	comp=Z,1μm,1.9s					
PAHR			PcP	PcP	02 44 53.2	+0.7
PAHR			ScP	ScP	02 48 23.6	+1.0
FCC	Fort Churchill	29.34 66	P	P	02 41 50.0	+1.1
FCC			pmax	pmax		
	comp=Z,1μm,1.3s					
FCC	Fort Churchill	29.34 66	P	P	02 41 50.0	+1.1
FCC			IAmb	IAmb	02 41 52.1	
	comp=Z,1μm,1.3s					
YHH	Holmes Hill	29.43 102	P	P	02 41 52.3	+2.0
YMR	Madison River	29.46 102	P	P	02 41 53.6	+3.2
YMR			IAmb	IAmb	02 42 20.5	
	comp=Z,913nm,1.2s					
SKR	Severo-Kuril's	29.52 275	*eP*	P	02 41 50.4	-0.3
SKR			*e*SP*	sP	02 42 30.3	-0.7
SKR			*e*		02 42 54.9	
SKR			*eS*	S	02 46 36.0	-0.1
SKR			*e*SS	ScP	02 48 21.3	-1.5
SKR			pmax	pmax		
	comp=Z,3μm,6.1s					
SKR			pmax	pmax		
	comp=Z,902nm,0.8s					
VCNR	Virginia City	29.55 119	P	P	02 41 53.3	+2.0
VCNR			IAmb	IAmb	02 42 23.3	
	comp=Z,2μm,1.9s					
VCNR			PcP	PcP	02 44 54.3	+1.1
VCNR			ScP	ScP	02 48 24.7	+1.3
YNR	Norris Junctio	29.56 102	P	P	02 41 54.3	+2.9
YNR			IAmb	IAmb	02 42 24.2	
	comp=Z,605nm,1.2s					
YNE	Yellowstone No	29.68 101	P	P	02 41 55.1	+2.7
YNE			IAmb	IAmb	02 42 24.1	
	comp=Z,610nm,1.3s					
YNE			ScP	ScP	02 48 26.3	+2.5
H17A	Grant Village	29.85 102	P	P	02 41 55.8	+1.9
	baz=317,SNR=38					
RLMT	Red Lodge	29.97 100	P	P	02 41 57.3	+2.4
	baz=316,SNR=226					
RLMT	Red Lodge	29.97 100	P	P	02 41 57.4	+2.4
RLMT			I

CMB	**Columbia Colle**	**30.27 122**	P	**P**	**02 42 00.0 +2.5**
CMB					02 44 55.6
CMB			pmax	pmax	
	comp=Z,842nm,2.0s				
CMB	**Columbia Colle**	**30.27 122**	P	**P**	**02 41 60.0 +2.5**
CMB			IAmb	IAmb	02 42 30.5
	comp=Z,842nm,1.9s				
CMB			PcP	**PcP**	**02 44 55.6 +0.8**
CMB			ScP	**ScP**	**02 48 27.0 +1.3**
WAKR	**Walker**	**30.29 120**	P	**P**	**02 42 00.8 +3.0**
WAKR			IAmb	IAmb	02 42 30.2
	comp=Z,2μm,1.9s				
WAKR			PcP	**PcP**	**02 44 56.5 +1.4**
WAKR			ScP	**ScP**	**02 48 27.7 +1.8**
TPAW	**Teton Pass**	**30.33 104**	P	**P**	**02 42 00.9 +2.7**
TPAW			IAmb	IAmb	02 42 31.0
	comp=Z,445nm,0.9s				
TPAW			ScP	**ScP**	**02 48 27.6 +1.6**
ELK	**Elko**	**30.38 112**	P	**P**	**02 42 01.3 +2.7**
ELK			pmax	pmax	
	comp=Z,348nm,1.1s				
ELK	**Elko**	**30.38 112**	P	**P**	**02 42 01.3 +2.7**
LAO	**LASA Array**	**30.39 95**	P	**P**	**02 42 00.2 +1.7**
	baz=313,SNR=31				
LAO	**LASA Array**	**30.39 95**	P	**P**	**02 42 00.2 +1.7**
LAO			pP	**pP**	**02 42 26.7 +1.8**
LAO			IAmb	IAmb	02 42 28.8
	comp=Z,2μm,1.6s				
LOHW	**Long Hollow**	**30.41 103**	P	**P**	**02 42 01.5 +2.7**
LOHW			IAmb	IAmb	02 42 29.3
	comp=Z,472nm,1.1s				
LOHW			ScP	**ScP**	**02 48 27.1 +1.0**
KVN	**Kaiserville**	**30.43 118**	P	**P**	**02 42 00.8 +1.8**
KVN			IAmb	IAmb	02 42 31.2
	comp=Z,631nm,1.6s				
KVN			PcP	**PcP**	**02 44 56.9 +1.4**
SNOW	**Snow King Moun**	**30.44 104**	P	**P**	**02 42 01.9 +2.8**
SNOW			IAmb	IAmb	02 42 30.6
	comp=Z,402nm,0.9s				
REDW	**Red Top Meadow**	**30.47 104**	P	**P**	**02 42 02.6 +3.2**
REDW			IAmb	IAmb	02 42 29.9
	comp=Z,634nm,1.2s				
REDW			PcP	**PcP**	**02 44 56.4 +0.9**
RYN	**Ryan**	**30.59 119**	P	**P**	**02 42 03.0 +2.6**
RYN				**pP**	**02 42 29.0 +2.2**
RYN			PcP	**PcP**	**02 44 57.3 +1.4**
RYN			ScP	**ScP**	**02 48 28.8 +2.0**
AHID	**Auburn Hatcher**	**30.79 105**	P	**P**	**02 42 04.9 +2.7**
NVAR	**Mina Array Bea**	**30.85 118**	P	**P**	**02 42 04.9 +2.1**
	comp=Z,32nm,0.5s,baz=308,slow=8.1,SNR=185				
NVAR			pP	**pP**	**02 42 31.8 +2.7**
	comp=Z,89nm,0.8s,baz=305,slow=8.7,SNR=8.4				
NVAR			PcP	**PcP**	**02 44 58.3 +1.7**
	comp=Z,30nm,0.7s,baz=285,slow=2.7,SNR=11				
NVAR			ScP	**ScP**	**02 48 29.5 +1.8**
	comp=Z,30nm,0.8s,baz=293,slow=2.7,SNR=13				
NVAR			PKiKP	**PKiKP**	**02 52 27.2 +0.6**
	comp=Z,1.3nm,0.7s,baz=278,slow=1.0,SNR=4.8				
NVAR			LR	LR	02 52 44.2
	comp=Z,7μm,19.4s,baz=319,slow=32				
NVAR			P3KPbc		03 13 46.5
	comp=Z,1.2nm,0.7s,baz=139,slow=4.5,SNR=9.3				
NVAR	**Mina Array Bea**	**30.85 118**	P	**P**	**02 42 04.6 +1.8**
NVAR				**pP**	**02 42 31.9 +2.8**
NVAR			PcP	**PcP**	**02 44 57.4 +0.8**
NVAR			ScP	**ScP**	**02 48 28.6 +0.8**
SAO	**San Andreas Ge**	**30.90 124**	P	**P**	**02 42 05.8 +2.8**
SAO			ScP	**ScP**	**02 48 29.6 +1.9**
SAO	**San Andreas Ge**	**30.90 124**	⇓P	**P**	**02 42 05.0 +2.0**
NV11	**Mina Array Sit**	**30.92 118**	P	**P**	**02 42 05.8 +2.5**
NV11			IAmb	IAmb	02 42 35.5
	comp=Z,1μm,1.8s				
NV11			PcP	**PcP**	**02 44 57.9 +1.2**
MDPB	**Devils Postpil**	**31.17 120**	P	**P**	**02 42 08.2 +2.5**
MDPB			IAmb	IAmb	02 42 38.1
	comp=Z,1μm,1.7s				
MDPB			PcP	**PcP**	**02 44 59.0 +1.4**
MDPB			ScP	**ScP**	**02 48 30.6 +1.7**
SPUT	**South Promonto**	**31.25 108**	P	**P**	**02 42 09.0 +2.8**
SPUT			IAmb	IAmb	02 42 38.6
	comp=Z,646nm,1.3s				
BGU	**Big Grassy Mou**	**31.27 109**	P	**P**	**02 42 09.4 +3.0**
BGU			ScP	**ScP**	**02 48 29.3 +0.3**
MLAC	**Mammoth, Mammo**	**31.28 120**	P	**P**	**02 42 07.7 +1.1**
	baz=327				
TIXI	**Tiksi**	**31.41 324**	P	**P**	**02 42 07.0 0.0**
	comp=Z,59nm,0.8s,baz=78,slow=8.5,SNR=19				
TIXI			PcP	**PcP**	**02 44 57.0 -0.2**
	comp=Z,32nm,0.6s,baz=61,slow=3.5,SNR=5.9				
TIXI	**Tiksi**	**31.41 324**	P	**P**	**02 42 08.7 +1.7**
TIXI					02 44 56.4
TIXI			pmax	pmax	
	comp=Z,562nm,1.8s				
TIXI	**Tiksi**	**31.41 324**	P	**P**	**02 42 08.7 +1.7**
TIXI			PcP	**PcP**	**02 44 56.4 -0.9**
TIXI	**Tiksi**	**31.41 324**	⇑P	**P**	**02 42 07.1 0.0**
HWUT	**Hardware Ranch**	**31.45 107**	P	**P**	**02 42 10.6 +2.7**
HWUT			IAmb	IAmb	02 42 38.4
	comp=Z,608nm,1.1s				
BW06	**Boulder Array**	**31.55 103**	P	**P**	**02 42 10.7 +1.9**
	baz=318,SNR=104				
BW06	**Boulder Array**	**31.55 103**	P	**P**	**02 42 11.5 +2.6**
PD31	**Pinedale Array**	**31.55 103**	P	**P**	**02 42 10.8 +1.9**
PD31	**Pinedale Array**	**31.55 103**	⇓P	**P**	**02 42 11.0 +2.1**
PDAR	**Pinedale Array**	**31.55 103**	P	**P**	**02 42 10.8 +1.9**
	comp=Z,96nm,1.1s,baz=310,slow=5.2,SNR=150				
PDAR			pP	**pP**	**02 42 36.7 +1.4**
	comp=Z,179nm,0.9s,baz=307,slow=5.1,SNR=16				
PDAR			ScP	**ScP**	**02 48 29.8 -0.2**
	comp=Z,9.7nm,0.8s,baz=294,slow=1.5,SNR=5.9				
PDAR			LR	LR	02 55 06.1
	comp=Z,7μm,18.0s,baz=340,slow=36				
PDAR			P3KPbc		03 13 41.2
	comp=Z,1.4nm,0.7s,baz=129,slow=6.0,SNR=14				
PDAR	**Pinedale Array**	**31.55 103**	P	**P**	**02 42 10.0 +1.1**
PDAR			pP	**pP**	**02 42 36.4 +1.2**
PDAR				**ScP**	**02 48 29.1 -1.0**
TULEG	**Thule**	**31.62 26**	⇓*i*P	**P**	**02 42 09.2 +0.4**
TULEG	**Thule**	**31.62 26**	P	**P**	**02 42 09.6 +0.8**
TULEG			IAmb	IAmb	02 43 18.4
	comp=Z,801nm,1.3s				
TULEG			ScP	**ScP**	**02 48 28.7 -0.7**
TULEG	**Thule**	**31.62 26**	⇓P	**P**	**02 42 08.9 +0.1**
TPH	**Tonopah**	**31.62 118**	P	**P**	**02 42 12.1 +2.6**
TPH			PcP	**PcP**	**02 44 59.4 +0.7**
DUG	**Dugway, Tooele**	**31.95 110**	P	**P**	**02 42 14.7 +2.4**
DUG			pmax	pmax	
	comp=Z,320nm,1.2s				
DUG	**Dugway, Tooele**	**31.95 110**	P	**P**	**02 42 14.2 +1.9**
	baz=322,SNR=51				
DUG	**Dugway, Tooele**	**31.95 110**	P	**P**	**02 42 14.7 +2.4**
TIN	**Tinemaha, Big**	**32.03 120**	P	**P**	**02 42 15.6 +2.6**
	baz=327,SNR=14				
CTU	**Camp Tracy**	**32.06 108**	P	**P**	**02 42 15.1 +1.7**
R11A	**Troy Canyon, C**	**32.14 115**	P	**P**	**02 42 15.4 +1.4**
	baz=325,SNR=89				
R11A	**Troy Canyon, C**	**32.14 115**	P	**P**	**02 42 16.4 +2.3**
R11A			IAmb	IAmb	02 42 46.0
	comp=Z,805nm,1.4s				
R11A			PcP	**PcP**	**02 45 00.9 +0.9**
R11A			ScP	**ScP**	**02 48 33.0 +1.0**
SPR3	**Spring Creek 3**	**32.19 113**	P	**P**	**02 42 17.9 +3.3**
SPR3			IAmb	IAmb	02 42 47.7
	comp=Z,637nm,1.2s				
SPR3			ScP	**ScP**	**02 48 34.0 +1.7**
JLU	**Jordanelle**	**32.28 108**	P	**P**	**02 42 17.9 +2.6**
JLU			IAmb	IAmb	02 42 45.6
	comp=Z,706nm,1.6s				
PAGB	**Antelope Grade**	**32.28 124**	P	**P**	**02 42 17.9 +2.8**
GRAC	**Grapevine Rang**	**32.45 119**	P	**P**	**02 42 18.3 +1.7**
	baz=327,SNR=25				
NLU	**North Lily Min**	**32.49 109**	P	**P**	**02 42 19.0 +1.9**
CWC	**Cottonwood Cre**	**32.61 120**	P	**P**	**02 42 19.7 +1.6**
	baz=328				
MPU	**Maple Canyon**	**32.65 109**	P	**P**	**02 42 20.9 +2.4**
VES	**Vestal, Richgr**	**32.68 122**	P	**P**	**02 42 20.4 +1.9**
	baz=328,SNR=20				
SMMC	**Simmler**	**32.75 124**	P	**P**	**02 42 21.4 +2.2**
	baz=329,SNR=18				
PSUT	**Pine Spring**	**32.78 113**	P	**P**	**02 42 22.6 +2.9**
PSUT			IAmb	IAmb	02 42 51.9
	comp=Z,760nm,1.2s				
MDND	**Maddock**	**32.94 87**	P	**P**	**02 42 22.2 +1.6**
	baz=312,SNR=8.4				
MDND	**Maddock**	**32.94 87**	P	**P**	**02 42 22.8 +2.2**
TPNV	**Topopah Spring**	**32.99 118**	P	**P**	**02 42 22.9 +1.5**
	baz=326,SNR=100				
TPNV	**Topopah Spring**	**32.99 118**	P	**P**	**02 42 24.1 +2.6**
TPNV			IAmb	IAmb	02 42 54.8
	comp=Z,1μm,1.8s				
TPNV			ScP	**ScP**	**02 48 35.7 +0.7**
TPNV	**Topopah Spring**	**32.99 118**	⇑P	**P**	**02 42 23.5 +2.1**
ISA	**Isabella, Lake**	**33.09 122**	P	**P**	**02 42 23.6 +1.4**
ISA			pmax	pmax	
	comp=Z,207nm,1.0s				
ISA	**Isabella, Lake**	**33.09 122**	P	**P**	**02 42 23.7 +1.4**
	baz=328,SNR=41				
ISA	**Isabella, Lake**	**33.09 122**	P	**P**	**02 42 23.6 +1.4**
FURC	**Furnace Creek,**	**33.12 119**	P	**P**	**02 42 24.4 +2.1**
	baz=327,SNR=72				
K22A	**Casper**	**33.13 100**	P	**P**	**02 42 24.0 +1.4**
	baz=318,SNR=64				
K22A	**Casper**	**33.13 100**	P	**P**	**02 42 24.4 +1.8**
K22A			IAmb	IAmb	02 42 54.8
	comp=Z,2μm,1.9s				
PRN	**Pahroc Range**	**33.15 116**	P	**P**	**02 42 24.9 +2.1**
PRN			PcP	**PcP**	**02 45 04.5 +1.7**
PRN	**Pahroc Range**	**33.15 116**	⇑P	**P**	**02 42 24.9 +2.1**
PKM	**Mcpherson Peak**	**33.19 124**	P	**P**	**02 42 25.6 +2.4**
	baz=330,SNR=63				
RDMU	**Red Mountain**	**33.21 106**	P	**P**	**02 42 25.8 +2.4**
RDMU			IAmb	IAmb	02 42 53.7
	comp=Z,1μm,1.3s				
ULM	**Lac du Bonnet**	**33.24 81**	P	**P**	**02 42 24.4 +1.1**
	comp=Z,591nm,1.3s,baz=308,slow=9.2,SNR=118				
ULM			pP	**pP**	**02 42 50.8 +1.0**
	comp=Z,434nm,0.9s,baz=308,slow=9.4,SNR=16				
ULM			ScP	**ScP**	**02 48 35.7 +0.4**
	comp=Z,101nm,1.0s,baz=304,slow=3.2,SNR=6.9				
ULM			LR	LR	02 56 35.0
	comp=Z,16μm,18.1s,baz=306,slow=37				
ULM	**Lac du Bonnet**	**33.24 81**	P	**P**	**02 42 24.3 +1.1**
ULM			pP	**pP**	**02 42 50.5 +0.8**
ULM			ScP	**ScP**	**02 48 35.3 -0.1**
ULM	**Lac du Bonnet**	**33.24 81**	⇓P	**P**	**02 42 24.3 +1.1**
E28A	**Huff**	**33.25 90**	P	**P**	**02 42 25.7 +2.3**
RSSD	**Black Hills**	**33.29 96**	P	**P**	**02 42 26.2 +2.2**
	baz=316				
RSSD	**Black Hills**	**33.29 96**	P	**P**	**02 42 25.9 +1.8**
RSSD			ScP	**ScP**	**02 48 35.8 -0.1**
RSSD	**Black Hills**	**33.29 96**	⇓P	**P**	**02 42 26.0 +2.0**
TCRU	**Three Creeks R**	**33.38 111**	P	**P**	**02 42 27.5 +2.6**
TCRU			ScP	**ScP**	**02 48 38.1 +1.7**
ARVC	**Arvin**	**33.40 123**	P	**P**	**02 42 26.6 +1.8**
	baz=329,SNR=6.9				
TMUT	**Trail Mountain**	**33.42 109**	P	**P**	**02 42 27.8 +2.5**
TMUT			IAmb	IAmb	02 42 55.8
	comp=Z,355nm,1.0s				
TMUT			PcP	**PcP**	**02 45 05.0 +1.2**
P17A	**Butcher Ranch,**	**33.50 108**	P	**P**	**02 42 28.6 +2.7**
P17A			IAmb	IAmb	02 42 56.3
	comp=Z,508nm,1.4s				
RWWY	**Rawlins**	**33.51 102**	P	**P**	**02 42 27.6 +1.6**
MVU	**Marysvale**	**33.57 111**	P	**P**	**02 42 29.4 +2.9**
MVU				**pP**	**02 42 56.2 +3.1**
MVU			PcP	**PcP**	**02 45 06.2 +2.1**
MVU			ScP	**ScP**	**02 48 39.0 +1.9**
MSU	**Marysvale**	**33.58 111**	P	**P**	**02 42 29.0 +2.3**
MSU			ScP	**ScP**	**02 48 38.5 +1.4**
LRMC	**Laurel Mtn Rad**	**33.59 121**	P	**P**	**02 42 27.8 +1.2**
	baz=328,SNR=52				
SBC	**Santa Barbara**	**33.62 124**	P	**P**	**02 42 28.1 +1.4**
	baz=330				
CCUT	**Cedar City**	**33.81 113**	P	**P**	**02 42 30.6 +2.0**
CCUT			IAmb	IAmb	02 43 01.0
	comp=Z,1μm,1.8s				
CCUT			ScP	**ScP**	**02 48 38.7 +0.8**
SHPR	**Sheep Range**	**33.84 117**	P	**P**	**02 42 30.4 +1.6**
SHPR			IAmb	IAmb	02 43 00.9
	comp=Z,868nm,1.8s				
SHOC	**Shoshone, Teco**	**33.85 119**	P	**P**	**02 42 30.3 +1.6**
	baz=327,SNR=32				
OSI	**Osito Audit: C**	**33.88 123**	P	**P**	**02 42 31.1 +2.1**
	baz=329				
OSI	**Osito Audit: C**	**33.88 123**	P	**P**	**02 42 32.4 +3.3**
OSI			IAmb	IAmb	02 42 59.9
	comp=Z,1μm,1.8s				
SRU	**San Rafael Swe**	**33.89 109**	P	**P**	**02 42 32.1 +2.8**
SRU	**San Rafael Swe**	**33.89 109**	P	**P**	**02 42 32.1 +2.8**
SRU				**pP**	**02 42 58.6 +2.8**
SRU			IAmb	IAmb	02 42 60.0
	comp=Z,1μm,1.3s				
SZCU	**Shurtz Canyon**	**33.90 113**	P	**P**	**02 42 31.7 +2.3**
SZCU			IAmb	IAmb	02 43 01.6
	comp=Z,874nm,1.5s				
MTPU	**Mount Pierson**	**33.96 112**	P	**P**	**02 42 32.2 +2.2**
MTPU			IAmb	IAmb	02 43 00.4
	comp=Z,553nm,1.6s				
MTPU			PcP	**PcP**	**02 45 07.5 +2.1**
MTPU			ScP	**ScP**	**02 48 40.3 +1.7**
EDW2	**Edwards Air Fo**	**33.97 122**	P	**P**	**02 42 31.0 +1.2**
	baz=329,SNR=11				
SCZ2	**Santa Cruz Isl**	**34.03 125**	P	**P**	**02 42 31.6 +1.3**
	baz=330				
GSC	**Goldstone, Bar**	**34.12 120**	P	**P**	**02 42 34.2 +3.0**
GSC	**Goldstone, Bar**	**34.12 120**	P	**P**	**02 42 32.7 +1.5**
	baz=328,SNR=49				
GSC	**Goldstone, Bar**	**34.12 120**	P	**P**	**02 42 34.2 +3.0**
GSC				**pP**	**02 43 00.6 +2.9**
GSC			IAmb	IAmb	02 43 22.5
	comp=Z,744nm,1.6s				
GSC			ScP	**ScP**	**02 48 40.4 +1.5**
O20A	**White River Ci**	**34.19 105**	P	**P**	**02 42 33.6 +1.7**
	baz=321,SNR=104				
O20A	**White River Ci**	**34.19 105**	P	**P**	**02 42 34.1 +2.3**
O20A			IAmb	IAmb	02 43 04.7
	comp=Z,360nm,0.8s				
LCMT	**Little Creek M**	**34.30 114**	P	**P**	**02 42 35.7 +3.0**
LCMT			IAmb	IAmb	02 43 05.2
	comp=Z,2μm,1.8s				
LCMT			PcP	**PcP**	**02 45 07.5 +1.4**
LCMT			ScP	**ScP**	**02 48 39.9 +0.3**
DECC	**Green Verdugo**	**34.36 123**	P	**P**	**02 42 34.6 +1.5**
	baz=329				
PKCU	**Pink Cliffs**	**34.38 112**	P	**P**	**02 42 36.4 +2.8**
PKCU				**pP**	**02 43 02.6 +2.4**
PKCU			IAmb	IAmb	02 43 06.6
	comp=Z,2μm,1.7s				
TUQ	**Turquoise Moun**	**34.40 119**	P	**P**	**02 42 35.6 +2.0**
	baz=327,SNR=54				
RRX	**Edison Barstow**	**34.40 120**	P	**P**	**02 42 35.6 +2.1**
	baz=328				
KNB	**Kanab**	**34.49 113**	P	**P**	**02 42 37.2 +2.8**
KNB			pmax	pmax	
	comp=Z,2μm,1.7s				
KNB	**Kanab**	**34.49 113**	P	**P**	**02 42 37.2 +2.8**
KNB			IAmb	IAmb	02 43 07.0
	comp=Z,2μm,1.7s				
KNB			ScP	**ScP**	**02 48 41.8 +1.5**
PASC	**Pasadena Art C**	**34.49 123**	P	**P**	**02 42 36.2 +2.0**
PASC			IAmb	IAmb	02 43 05.0
	comp=Z,1μm,1.7s				
MWC	**Mount Wilson**	**34.50 122**	P	**P**	**02 42 37.1 +2.6**
MWC	**Mount Wilson**	**34.50 122**	P	**P**	**02 42 37.1 +2.6**
MWC				**pP**	**02 43 04.0 +2.9**
MWC			IAmb	IAmb	02 43 05.6
	comp=Z,2μm,1.6s				
AGMN	**Agassiz Nation**	**34.51 84**	P	**P**	**02 42 35.5 +1.2**
	baz=312,SNR=95				
AGMN	**Agassiz Nation**	**34.51 84**	P	**P**	**02 42 35.2 +0.9**
BFSC	**Mount Baldy Ra**	**34.66 122**	P	**P**	**02 42 36.8 +1.0**
	baz=329,SNR=18				
PHWY	**Pilot Hill**	**34.66 101**	P	**P**	**02 42 37.7 +1.7**
PHWY			PcP	**PcP**	**02 45 07.6 +0.3**
D32A	**Dogwood Acres,**	**34.71 86**	P	**P**	**02 42 37.6 +1.6**
D32A			IAmb	IAmb	02 43 05.7
	comp=Z,2μm,1.4s				
HEC	**Hector,Ludlow**	**34.73 120**	P	**P**	**02 42 38.1 +1.8**
	baz=328,SNR=24				
N23A	**Red Feather La**	**34.73 102**	P	**P**	**02 42 38.4 +1.9**
	baz=320,SNR=101				
FMP	**Fort Macarthur**	**34.84 123**	P	**P**	**02 42 38.3 +1.1**
	baz=330				
NEEM	**North Greenlan**	**34.91 22**	⇓*i*P	**P**	**02 42 38.0 +0.3**
NEEM			IAmb	IAmb	02 42 42.4
	comp=Z,275nm,0.7s				
NEEM	**North Greenlan**	**34.91 22**	⇓P	**P**	**02 42 37.7 -0.1**
BBRC	**Big Bear Solar**	**34.95 121**	P	**P**	**02 42 39.8 +1.3**
	baz=329				
CIS	**Catalina Islan**	**35.05 124**	P	**P**	**02 42 40.9 +1.7**
	baz=330,SNR=6.0				
GMRC	**Granite Mounta**	**35.06 119**	P	**P**	**02 42 41.3 +2.1**
	baz=328,SNR=57				
U15A	**North Rim**	**35.22 113**	P	**P**	**02 42 42.6 +1.9**
U15A			IAmb	IAmb	02 43 13.2
	comp=Z,586nm,1.3s				
U15A			ScP	**ScP**	**02 48 44.5 +1.5**
YAK	**Yakutsk**	**35.35 307**	P	**P**	**02 42 41.4 +0.2**
	comp=Z,142nm,0.7s,baz=94,slow=0.3,SNR=22				
YAK			LR	LR	02 58 09.1
	comp=Z,10μm,18.8s,baz=60,slow=38				
YAK	**Yakutsk**	**35.35 307**	*c iP*	**P**	**02 42 41.4 +0.2**
YAK			*e*		02 44 06.0
YAK			*e*		02 45 10.6
YAK			*e*S	**S**	**02 48 06.6 +0.3**
YAK			*e*		02 52 46.2
YAK			pmax	pmax	
	comp=Z,380nm,1.0s				
YAK			pmax	pmax	
	comp=E,126nm,1.1s				
YAK			pmax	pmax	
	comp=N,101nm,1.3s				
YAK			pmax	pmax	
	comp=Z,7μm,4.6s				
YAK			pmax	pmax	
	comp=E,4μm,3.2s				
YAK			pmax	pmax	
	comp=N,3μm,3.6s				
YAK			smax	smax	
	comp=N,1μm,2.3s				
YAK			smax	smax	
	comp=E,901nm,3.2s				
YAK	**Yakutsk**	**35.35 307**	P	**P**	**02 42 41.3 0.0**
YAK			IAmb	IAmb	02 42 46.8
	comp=Z,783nm,1.4s				
YAK	**Yakutsk**	**35.35 307**	⇑P	**P**	**02 42 41.5 +0.2**
SCI2	**San Clemente I**	**35.36 124**	P	**P**	**02 42 44.1 +2.4**
	baz=330,SNR=5.9				
MURC	**Murrieta**	**35.40 122**	P	**P**	**02 42 43.4 +1.3**
	baz=329				
B35A	**Bob, Littlefor**	**35.53 82**	P	**P**	**02 42 43.6 +0.5**
B35A			pP	**pP**	**02 43 11.4 +1.6**
B35A			IAmb	IAmb	02 43 12.9
	comp=Z,1μm,1.3s				
NEE2	**Needles Airpor**	**35.53 118**	P	**P**	**02 42 44.0 +0.8**
	baz=327				
BELC	**Belle Mtn. Jos**	**35.58 120**	P	**P**	**02 42 45.3 +1.6**
	baz=328,SNR=41				
W13A	**Hualapai Mount**	**35.59 116**	P	**P**	**02 42 45.7 +1.8**
W13A			PcP	**PcP**	**02 45 11.4 +1.4**
NKL	**Nikolayevsk**	**35.59 289**	*e*P	**P**	**02 42 43.9 +0.5**
NKL			pmax	pmax	
	comp=N,288nm,0.9s				
NKL			pmax	pmax	
	comp=E,26nm,1.0s				
NKL			pmax	pmax	
	comp=Z,284nm,1.0s				
NKL			MLR	MLR	
	comp=E,245nm,17.0s				
NKL			MLR	MLR	
	comp=N,9μm,11.0s				
NKL			MLR	MLR	
	comp=Z,3μm,14.0s				
SUSD	**Miller**	**35.61 91**	P	**P**	**02 42 44.7 +0.9**
	baz=315,SNR=10				
SUSD	**Miller**	**35.61 91**	P	**P**	**02 42 45.1 +1.3**
SUSD			pP	**pP**	**02 43 12.1 +1.6**
SUSD			IAmb	IAmb	02 43 13.5
	comp=Z,904nm,1.1s				
PFO	**Pinyon Flats O**	**35.71 121**	P	**P**	**02 42 46.3 +1.5**
	baz=329,SNR=29				
PFO	**Pinyon Flats O**	**35.71 121**	P	**P**	**02 42 46.0 +1.2**
PFO			IAmb	IAmb	02 43 15.5
	comp=Z,2μm,1.9s				
PFO			ScP	**ScP**	**02 48 45.8 +1.1**
TPFO	**Pinon Flats**	**35.71 121**	P	**P**	**02 42 46.1 +1.2**
	baz=329,SNR=26				
ISCO	**Idaho Springs**	**35.73 103**	P	**P**	**02 42 47.0 +1.8**
ISCO			pmax	pmax	
	comp=Z,540nm,1.6s				
ISCO	**Idaho Springs**	**35.73 103**	P	**P**	**02 42 47.0 +1.8**
	baz=320,SNR=33				
ISCO	**Idaho Springs**	**35.73 103**	P	**P**	**02 42 47.0 +1.8**
ISCO			IAmb	IAmb	02 43 16.1
	comp=Z,540nm,1.6s				
IRM	**Iron Mountain**	**35.82 119**	P	**P**	**02 42 47.9 +2.3**
	baz=328,SNR=92				
F33A	**5 Mile Ranch,**	**35.97 87**	P	**P**	**02 42 47.3 +0.6**
F33A			pP	**pP**	**02 43 14.9 +1.4**
F33A			ScP	**ScP**	**02 48 47.0 +1.7**
109C	**Camp Elliot, M**	**36.05 122**	P	**P**	**02 42 49.2 +1.7**
	baz=330,SNR=8.9				
109C	**Camp Elliot, M**	**36.05 122**	P	**P**	**02 42 50.9 +3.3**
TYV	**Tymovskoe**	**36.08 285**	*e*P	**P**	**02 42 48.8 +1.2**
TYV			*e*S	**S**	**02 48 21.7 +4.1**
TYV			pmax	pmax	
	comp=Z,7μm,4.4s				
TYV			pmax	pmax	
	comp=Z,466nm,0.6s				
TYV			smax	smax	
	comp=E,6μm,7.8s				
PDMCI	**Parker Dam,Lak**	**36.14 118**	P	**P**	**02 42 49.9 +1.6**
	baz=327,SNR=30				
UPNV	**Upernavik**	**36.26 30**	⇓*i*P	**P**	**02 42 49.7 +0.8**
UPNV			IAmb	IAmb	02 42 52.8
	comp=Z,241nm,1.0s				
MONP2	**Monument Peak**	**36.34 122**	P	**P**	**02 42 52.2 +1.9**
	baz=329,SNR=41				
MVCO	**Mesa Verde**	**36.37 108**	P	**P**	**02 42 52.1 +1.6**
	baz=323,SNR=44				
MVCO	**Mesa Verde**	**36.37 108**	P	**P**	**02 42 51.4 +0.9**
MVCO			pP	**pP**	**02 43 18.3 +1.0**
WUAZ	**Wupatki**	**36.39 113**	P	**P**	**02 42 52.5 +1.8**
	baz=326,SNR=86				
WUAZ	**Wupatki**	**36.39 113**	P	**P**	**02 42 53.2 +2.6**
WUAZ			IAmb	IAmb	02 43 23.1
	comp=Z,484nm,0.8s				
WUAZ			ScP	**ScP**	**02 48 48.7 +1.5**
WUAZ	**Wupatki**	**36.39 113**	⇑P	**P**	**02 42 52.8 +2.1**
BAR	**Barrett**	**36.41 122**	P	**P**	**02 42 53.8 +3.1**
BAR			IAmb	IAmb	02 43 21.9
	comp=Z,2μm,1.7s				
BAR			PcP	**PcP**	**02 45 13.2 +0.9**
BAR			ScP	**ScP**	**02 48 47.8 +0.7**
SWSC	**Sam W. Stewart**	**36.56 121**	P	**P**	**02 42 53.6 +1.6**
	baz=329,SNR=19				
SWSC			S	**S**	**02 48 31.5 +6.2**
	baz=329				
Q24A	**Divide**	**36.60 103**	P	**P**	**02 42 54.8 +2.2**
	baz=321,SNR=47				
Q24A			S	**S**	**02 48 31.2 +4.7**
	baz=321				
OGNE	**Ogallala**	**36.63 98**	P	**P**	**02 42 54.3 +1.7**
	baz=319,SNR=15				
OGNE			S	**S**	**02 48 28.9 +2.5**
	baz=319				
OGNE	**Ogallala**	**36.63 98**	P	**P**	**02 42 55.0 +2.4**
OGNE			IAmb	IAmb	02 43 23.0
	comp=Z,1μm,1.1s				
IKP	**In-Ko-Pah, Jac**	**36.68 121**	P	**P**	**02 42 54.7 +1.7**
	baz=329,SNR=20				
CBX	**Cerro Bola**	**36.73 122**	P	**P**	**02 42 56.0 +2.4**
CBX			ScP	**ScP**	**02 48 49.1 +0.7**
S22A	**4UR Ranch, Cre**	**36.74 106**	P	**P**	**02 42 56.3 +2.5**
	baz=322,SNR=47				
S22A			S	**S**	**02 48 32.4 +3.9**
	baz=322				
NOR	**Nord**	**36.76 10**	⇓*i*P

baz=312
EYMN Ely 36.92 81 P **P** **02 42 55.7 +0.8**
EYMN pP **pP** **02 43 23.2 +1.5**
Y14A Wickenburg 36.95 117 P **P** **02 42 57.7 +2.4**
Y14A IAmb IAmb 02 43 32.2
comp=Z,401nm,1.4s
K31A O'Neill 37.03 93 P **P** **02 42 56.7 +0.9**
K31A **pP** **02 43 23.3 +0.6**
X16A Lo Mia Camp, P 37.26 114 P **P** **02 43 00.5 +2.4**
X16A PcP **PcP** **02 45 15.7 +0.7**
X16A ScP **ScP** **02 48 51.8 +1.3**
KUR Kuril'sk 37.28 274*c iP* **P** **02 42 58.2 +0.3**
KUR *e**PP **pP** **02 43 25.3 +0.5**
KUR *e**SP **sP** **02 43 39.8 +1.1**
KUR *i* 02 44 24.4
KUR *e* 02 45 12.5
KUR *i* S **S** **02 48 37.7 +1.7**
KUR pmax pmax
comp=Z,10μm,4.3s
KUR pmax pmax
comp=N,4μm,4.6s
KUR pmax pmax
comp=E,6μm,4.6s
KUR pmax pmax
comp=Z,3μm,1.3s
KUR pmax pmax
comp=E,1μm,1.5s
KUR pmax pmax
comp=N,253nm,1.0s
KUR MLR MLR
comp=Z,3μm,12.0s
KUR MLR MLR
comp=E,2μm,11.0s
ECSD EROS Data Cent 37.30 90 P **P** **02 42 58.7 +0.6**
baz=316,SNR=117
ECSD S **S** **02 48 36.9 +0.6**
baz=316
ECSD EROS Data Cent 37.30 90 P **P** **02 42 58.3 +0.2**
ECSD IAmb IAmb 02 43 27.5
comp=Z,1μm,1.6s
F36A Milaca 37.34 85 P **P** **02 42 59.3 +0.9**
F36A pP **pP** **02 43 26.8 +1.4**
SDCO Great Sand Dun 37.39 105 P **P** **02 43 01.3 +2.1**
baz=322,SNR=112
SDCO S **S** **02 48 42.5 +4.2**
baz=322
SDCO Great Sand Dun 37.39 105 P **P** **02 43 01.8 +2.6**
FRB Frobisher Bay 37.39 47 ⇓P **P** **02 42 59.2 +0.7**
W18A Petrified Fore 37.48 112 P **P** **02 43 01.7 +1.8**
baz=325,SNR=15
W18A S **S** **02 48 44.0 +4.5**
baz=325
W18A Petrified Fore 37.48 112 P **P** **02 43 02.0 +2.1**
W18A IAmb IAmb 02 43 32.4
comp=Z,2μm,2.0s
W18A ScP **ScP** **02 48 52.6 +1.3**
UGL Uglegorsk 37.53 283*c iP* **P** **02 43 00.7 +0.8**
UGL *e* 02 43 41.3
UGL *e* 02 44 30.5
UGL *e*S S 02 48 29.4 -10
UGL *e* 02 53 00.5
UGL pmax pmax
comp=Z,390nm,0.8s
UGL pmax pmax
comp=N,3μm,6.0s
UGL pmax pmax
comp=E,6μm,5.0s
UGL pmax pmax
comp=Z,8μm,5.0s
UGL pmax pmax
comp=Z,5μm,8.5s
UGL smax smax
comp=E,4μm,7.0s
UGL MLR MLR
comp=N,4μm,16.0s
UGL MLR MLR
comp=E,5μm,13.0s
UGL MLR MLR
comp=Z,4μm,13.0s
113A Mohawk Valley, 37.60 118 P **P** **02 43 02.6 +1.9**
113A IAmb IAmb 02 43 31.8
comp=Z,1μm,1.7s
113A ScP **ScP** **02 48 53.1 +1.6**
NUUG Nuugaatsiaq 37.71 31 ⇓*iP* **P** **02 43 01.9 +0.8**
NUUG IAmb IAmb 02 43 07.0
comp=Z,184nm,1.0s
E38A The Farm, Brul 37.81 82 P **P** **02 43 02.7 +0.4**
KSCO Kaye Shedlock' 37.81 100 P **P** **02 43 04.5 +1.9**
baz=321,SNR=33
KSCO S **S** **02 48 47.9 +3.5**
baz=321
KSCO Kaye Shedlock' 37.81 100 P **P** **02 43 04.9 +2.3**
X18A Snowflake 37.86 113 P **P** **02 43 05.8 +2.7**
X18A IAmb IAmb 02 43 35.7
comp=Z,336nm,1.1s
X18A PcP **PcP** **02 45 18.1 +1.3**
X18A ScP **ScP** **02 48 53.5 +0.8**
SPMN Marine on St. 38.15 85 P **P** **02 43 06.7 +1.5**
baz=315,SNR=100
SPMN S **S** **02 48 51.5 +2.5**
baz=315
SPMN Marine on St. 38.15 85 P **P** **02 43 06.6 +1.5**
SPMN pP **pP** **02 43 34.2 +2.0**
BGNE Belgrade 38.23 94 P **P** **02 43 07.3 +1.4**
baz=318,SNR=29
BGNE S **S** **02 48 52.6 +2.2**
baz=318
BGNE Belgrade 38.23 94 P **P** **02 43 07.6 +1.7**
T25A Trinidad 38.40 104 P **P** **02 43 09.6 +1.9**
baz=322,SNR=52
T25A S **S** **02 48 59.1 +5.7**
baz=322
T25A Trinidad 38.40 104 P **P** **02 43 09.8 +2.2**
T25A IAmb IAmb 02 43 38.9
comp=Z,2μm,1.5s
SFX San Felipe 38.61 121 P **P** **02 43 12.1 +2.9**
SFX IAmb IAmb 02 43 40.4
comp=Z,713nm,1.3s
YSS Yuzh-Sakhalins 38.64 280*ce*P **P** **02 43 09.5 +0.3**
YSS *e**SP **sP** **02 43 50.8 +0.7**
YSS *e* 02 44 42.0
YSS *e*PPP PPP 02 45 09.0
YSS *e*S **S** **02 48 56.0 -0.3**
YSS *e**SS **sS** **02 49 43.0 -0.5**
YSS *e* 02 53 11.0
YSS pmax pmax
comp=Z,10μm,4.7s
YSS pmax pmax
comp=N,4μm,4.9s
YSS pmax pmax
comp=E,3μm,4.6s
YSS pmax pmax
comp=Z,550nm,0.8s
YSS pmax pmax
comp=Z,3μm,5.1s
YSS pmax pmax
comp=N,2μm,4.1s
YSS smax smax
comp=N,5μm,7.6s
YSS MLR MLR
comp=N,4μm,17.0s
YSS Yuzh-Sakhalins 38.64 280 P **P** **02 43 10.4 +1.2**
YSS IAmb IAmb 02 43 13.3
comp=Z,431nm,0.7s
YSS Yuzh-Sakhalins 38.64 280 ⇑P **P** **02 43 09.8 +0.5**
KIP Kipapa 38.66 187*c iP* **P** **02 43 11.6 +2.0**
KIP pmax pmax
comp=Z,373nm,0.8s
KIP Kipapa 38.66 187 P **P** **02 43 11.2 +1.5**
KIP IAmb IAmb 02 43 14.3
comp=Z,463nm,1.1s
L34A Svendsen Farm, 38.70 92 P **P** **02 43 11.0 +1.1**
L34A IAmb IAmb 02 43 39.4
comp=Z,1μm,1.4s
I37A Lemond, Waseca 38.71 87 P **P** **02 43 11.1 +1.1**
I37A ScP **S** **02 48 57.0 -0.6**
214A Organ Pipe Nat 38.71 118 P **P** **02 43 12.1 +2.0**
baz=329,SNR=40
214A Organ Pipe Nat 38.71 118 P **P** **02 43 12.1 +2.0**
214A IAmb IAmb 02 43 41.6
comp=Z,1μm,1.6s
214A PcP **PcP** **02 45 20.5 +1.2**
WMR Waimanalo Ridg 38.74 187 P **P** **02 43 11.5 +1.2**
D41A Chassel 38.98 79 P **P** **02 43 13.4 +1.3**
N33A J Bar K, Exete 39.08 94 P **P** **02 43 14.6 +1.6**

GRNR Gornyy 39.14 289⇑*iP* **P** **02 43 14.0 +0.6**
GRNR *e*S **S** **02 49 05.8 +1.9**
GRNR pmax pmax
comp=E,100nm,0.7s
GRNR pmax pmax
comp=N,70nm,1.2s
GRNR pmax pmax
comp=Z,220nm,0.8s
GRNR smax smax
comp=N,10.0nm,0.9s
YUK Yuzh-Kuril'sk 39.14 274*c iP* **P** **02 43 13.0 -0.5**
YUK *i* 02 45 19.4
YUK *i* S **S** **02 49 05.7 +1.7**
YUK *i* *SS **sS** **02 49 53.5 +2.3**
YUK *e* 02 53 08.1
YUK pmax pmax
comp=Z,4μm,1.1s
YUK pmax pmax
comp=N,957nm,1.4s
YUK pmax pmax
comp=E,853nm,1.2s
ANMO Albuquerque 39.16 108*c iP* **P** **02 43 15.6 +1.6**
ANMO pmax pmax
comp=Z,30nm,1.3s
ANMO Albuquerque 39.16 108 P **P** **02 43 15.8 +1.8**
baz=324
ANMO Albuquerque 39.16 108 P **P** **02 43 14.7 +0.7**
ANMO IAmb IAmb 02 43 45.5
comp=Z,1μm,2.0s
ANMO PcP **PcP** **02 45 22.3 +1.4**
ANMO ScP **ScP** **02 48 58.8 +1.0**
ANMO Albuquerque 39.16 108 ⇑P **P** **02 43 15.9 +1.8**
HLK Haleakala 39.23 184 P **P** **02 43 16.3 +1.6**
TUC Tucson 39.33 115 P **P** **02 43 17.5 +2.2**
baz=328
TUC Tucson 39.33 115 P **P** **02 43 16.5 +1.2**
TUC **pP** **02 43 45.0 +2.6**
TUC IAmb IAmb 02 43 47.1
comp=Z,1μm,1.9s
TUC PcP **PcP** **02 45 23.0 +1.6**
TUC Tucson 39.33 115 ⇑P **P** **02 43 17.4 +2.2**
COWI Conover 39.36 81 P **P** **02 43 16.0 +0.7**
COWI IAmb IAmb 02 43 45.5
comp=Z,1μm,1.4s
CBKS Cedar Bluff 39.40 98 P **P** **02 43 17.7 +2.0**
baz=320,SNR=95
CBKS S **S** **02 49 12.1 +4.0**
baz=320
CBKS Cedar Bluff 39.40 98 P **P** **02 43 17.2 +1.5**
CBKS pP **pP** **02 43 44.7 +1.9**
CBKS Cedar Bluff 39.40 98 ⇓P **P** **02 43 17.8 +2.1**
G40A Rib Lake 39.42 83 P **P** **02 43 16.9 +1.1**
G40A IAmb IAmb 02 43 45.9
comp=Z,1μm,1.1s
LENM Lemitar 39.56 110 P **P** **02 43 20.7 +3.4**
LENM ScP **ScP** **02 49 02.1 +2.8**
Y22D IRIS PASSCAL I 39.66 110 P **P** **02 43 19.4 +1.3**
baz=325
ILULI Ilulissat 39.70 33⇓*iP* **P** **02 43 18.1 +0.3**
ILULI IAmb IAmb 02 43 21.2
comp=Z,61nm,1.0s
ILULI *i* 02 44 57.4
ILULI Ilulissat 39.70 33⇓*iP* **P** **02 43 18.1 +0.3**
ILULI *i* 02 44 57.3
ILULI pmax pmax
comp=E,61nm,1.0s
ILULI Ilulissat 39.70 33 P **P** **02 43 17.9 +0.1**
BNM Barren Site 39.73 109 P **P** **02 43 20.8 +2.0**
BNM PcP **PcP** **02 45 24.0 +1.2**
N35A Tabor 39.90 92 P **P** **02 43 21.4 +1.6**
HPAH Hawaii Prepara 39.94 183 P **P** **02 43 21.6 +1.2**
HPAH IAmb IAmb 02 43 22.9
comp=Z,269nm,0.8s
K38A Parkersburg 40.02 88 P **P** **02 43 22.2 +1.4**
K38A pP **pP** **02 43 49.6 +1.7**
F42A Maple Grove Fa 40.10 81 P **P** **02 43 23.4 +1.9**
POHA Pohakuloa 40.20 183 P **P** **02 43 24.0 +1.3**
POHA ScP **ScP** **02 49 02.7 +0.8**
POHA Pohakuloa 40.20 183 ⇓P **P** **02 43 24.7 +1.9**
R32A Long Quarter, 40.21 97 P **P** **02 43 24.4 +1.9**
E43A Lone Tree Farm 40.23 79 P **P** **02 43 23.5 +1.0**
E43A pP **pP** **02 43 52.0 +2.4**
E43A IAmb IAmb 02 43 53.1
comp=Z,2μm,1.2s
HUH Hualalai 40.28 184 P **P** **02 43 25.5 +2.1**
HUH IAmb IAmb 02 44 24.6
comp=Z,444nm,1.2s
KAPO Kapuskasing 40.29 72 ⇓P **P** **02 43 24.1 +1.1**
SCIA State Center 40.34 89 P **P** **02 43 24.4 +1.0**
baz=318
SCIA S **S** **02 49 22.7 +0.8**
baz=318
SCIA State Center 40.34 89 P **P** **02 43 25.4 +1.9**
SCIA pP **pP** **02 43 52.3 +1.6**
SCIA IAmb IAmb 02 43 53.6
comp=Z,1μm,1.3s
HMH Humu'ula Sheep 40.35 183 P **P** **02 43 25.1 +1.1**
HMH ScP **ScP** **02 49 03.3 +0.7**
KHLU Kahalu`u 40.38 184 P **P** **02 43 25.5 +1.5**
MLOA Mauna Loa Obse 40.42 183 P **P** **02 43 25.6 +0.8**
MLOA IAmb IAmb 02 43 27.9
comp=Z,350nm,0.9s
MLH Mauna Loa 40.46 183 P **P** **02 43 26.0 +1.2**
MLH IAmb IAmb 02 43 27.9
comp=Z,400nm,0.9s
MLH ScP **ScP** **02 49 03.6 +0.6**
MWH Moku'aweowe 40.47 183 P **P** **02 43 25.3 0.0**
RSD Rainshed 40.49 183 P **P** **02 43 26.7 +1.7**
SUMG Summit 40.50 25⇓*iP* **P** **02 43 25.5 +0.6**
SUMG Summit 40.50 25⇓*iP* **P** **02 43 25.4 +0.6**
SUMG Summit 40.50 25 P **P** **02 43 24.8 0.0**
SUMG IAmb IAmb 02 43 58.2
comp=Z,318nm,0.9s
SUMG ScP **ScP** **02 49 02.4 -0.2**
SUMG Summit 40.50 25 ⇓P **P** **02 43 24.9 0.0**
121A Cookes Peak, D 40.52 112 P **P** **02 43 27.2 +2.0**
baz=326,SNR=34
121A Cookes Peak, D 40.52 112 P **P** **02 43 27.7 +2.4**
121A IAmb IAmb 02 43 57.3
comp=Z,1μm,1.7s
121A ScP **ScP** **02 49 05.0 +2.0**
SBLHI Steaming Bluff 40.52 183 P **P** **02 43 26.5 +1.3**
UWB Uwekahuna B 40.52 183 P **P** **02 43 26.4 +1.2**
HATHI Halema'uma'u T 40.53 183 P **P** **02 43 26.8 +1.6**
OBL Observatory Le 40.53 183 P **P** **02 43 26.6 +1.3**
BYL Byron's Ledge 40.54 183 P **P** **02 43 26.1 +0.8**
BYL IAmb IAmb 02 43 27.9
comp=Z,314nm,0.9s
NPH North Pit 40.54 183 P **P** **02 43 26.5 +1.1**
WRMHI West Rim 40.54 183 P **P** **02 43 26.6 +1.1**
KKO Keanakako`i 40.55 183 P **P** **02 43 26.6 +1.1**
KKO IAmb IAmb 02 43 28.1
comp=Z,356nm,0.9s
RIM Rim 40.55 183 P **P** **02 43 26.7 +1.1**
RIM IAmb IAmb 02 43 28.1
comp=Z,344nm,0.9s
SDHHI Sand Hill 40.56 183 P **P** **02 43 26.9 +1.3**
DAG Danmarks Havn 40.57 15 *i* P **P** **02 43 24.4 -0.4**
DAG Danmarks Havn 40.57 15 *i* P **P** **02 43 24.4 -0.4**
DAG Danmarks Havn 40.57 15 ⇑P **P** **02 43 24.3 -0.5**
PUH Pauahi 40.57 183 P **P** **02 43 26.8 +1.2**
PUH IAmb IAmb 02 43 28.2
comp=Z,444nm,0.8s
AIN Ainahou 40.58 183 P **P** **02 43 27.3 +1.5**
AIN IAmb IAmb 02 43 28.9
comp=Z,410nm,0.8s
HLP Hilina Pali 40.65 183 P **P** **02 43 27.5 +1.2**
HLP IAmb IAmb 02 44 32.4
comp=Z,745nm,1.1s
KHU Kahuku 40.71 183 P **P** **02 43 28.4 +1.5**
KHU pmax pmax
comp=Z,497nm,0.8s
KHU Kahuku 40.71 183 P **P** **02 43 28.4 +1.5**
KHU IAmb IAmb 02 43 29.8
comp=Z,496nm,0.8s
JKA Kamikawa-asahi 40.72 277 P **P** **02 43 27.2 +0.8**
JKA IAmb IAmb 02 43 30.6
comp=Z,527nm,0.7s
ASAJ Asahikawa 40.72 277 P **P** **02 43 26.5 0.0**
comp=Z,525nm,0.7s,baz=7.5,slow=4.4,SNR=250
ASAJ LR LR 02 59 50.8
comp=Z,2μm,20.2s,baz=62,slow=35
ASAJ Asahikawa 40.72 277 P **P** **02 43 27.2 +0.7**
ASAJ pmax pmax

comp=Z,527nm,0.7s
KSU1 Kansas State U 40.74 95 P **P** **02 43 28.0 +1.3**
baz=320,SNR=63
KSU1 S **S** **02 49 28.7 +0.7**
baz=320
KSU1 Kansas State U 40.74 95 P **P** **02 43 27.7 +0.9**
KSU1 pP **pP** **02 43 55.2 +1.1**
KSU1 Kansas State U 40.74 95 ⇓P **P** **02 43 28.0 +1.3**
319A Douglas 40.80 114 P **P** **02 43 30.2 +2.8**
319A **pP** **02 43 57.6 +2.9**
319A IAmb IAmb 02 43 59.4
comp=Z,1μm,1.4s
I42A Draeger Farm, 41.05 83 P **P** **02 43 30.6 +1.4**
I42A pP **pP** **02 43 58.1 +1.6**
KBS Kingsbay 41.06 4 *i* P **P** **02 43 31.5 +2.6**
KBS IAmb IAmb 02 43 33.6
comp=Z,349nm,0.8s
KBS Kingsbay 41.06 4*de*P **P** **02 43 30.3 +1.4**
KBS pmax pmax
comp=Z,130nm,0.7s
KBS Kingsbay 41.06 4 *e*P **P** **02 43 30.9 +1.9**
KBS IVmB_BB 02 43 33.6
comp=Z,2μm,2.7s
KBS *e*PP **PP** **02 45 06.9 +1.2**
KBS *e*S **S** **02 49 33.5 +1.6**
KBS *e*SS **SS** **02 52 42.0 +3.8**
KBS IVMs_BB IVMs_BB 03 00 33.8
comp=Z,2μm,15.6s
KBS Kingsbay 41.06 4 P **P** **02 43 30.7 +1.8**
KBS ScP **ScP** **02 49 03.7 -0.5**
KBS Kingsbay 41.06 4 ⇑P **P** **02 43 31.0 +2.0**
JFWS Jewell Farm 41.09 85 P **P** **02 43 29.9 +0.3**
JFWS *PP **pP** **02 43 57.9 +1.0**
JFWS Jewell Farm 41.09 85 P **P** **02 43 30.4 +0.8**
baz=317,SNR=112
JFWS S **S** **02 49 33.7 +0.6**
baz=317
JFWS Jewell Farm 41.09 85 P **P** **02 43 29.9 +0.3**
JFWS pP **pP** **02 43 57.9 +1.0**
JFWS IAmb IAmb 02 43 59.3
comp=Z,2μm,1.4s
N38A Joes South For 41.16 90 P **P** **02 43 30.9 +0.7**
N38A pP **pP** **02 43 58.0 +0.5**
N38A IAmb IAmb 02 43 59.9
comp=Z,939nm,1.1s
H43A Windswept, Lux 41.20 82 P **P** **02 43 31.6 +1.1**
H43A IAmb IAmb 02 44 00.9
comp=Z,1μm,1.1s
L40A Anamosa 41.23 87 P **P** **02 43 31.0 +0.3**
L40A IAmb IAmb 02 44 00.4
comp=Z,1μm,0.9s
L40A ScP **ScP** **02 49 05.8 +0.4**
SFJD Kangerlussuaq 41.30 36 P **P** **02 43 31.6 +0.7**
comp=Z,178nm,0.6s,baz=318,slow=9.8,SNR=99
SFJD Kangerlussuaq 41.30 36⇓*iP* **P** **02 43 31.7 +0.7**
SFJD IAmb IAmb 02 43 35.0
comp=Z,155nm,0.8s
SFJD Kangerlussuaq 41.30 36 P **P** **02 43 31.1 +0.2**
SFJD pmax pmax
comp=Z,654nm,1.1s
SFJD Kangerlussuaq 41.30 36 P **P** **02 43 31.1 +0.2**
SFJD IAmb IAmb 02 44 04.3
comp=Z,654nm,1.1s
SFJD ScP **ScP** **02 49 04.9 -0.3**
SFJD Kangerlussuaq 41.30 36 ⇑P **P** **02 43 31.7 +0.7**
ZEA Zeya 41.40 298*c iP* **P** **02 43 32.5 +0.5**
ZEA *e**SP **sP** **02 44 13.9 +0.7**
ZEA *e* 02 45 11.8
ZEA *e*S **S** **02 49 37.5 +0.1**
ZEA pmax pmax
comp=E,700nm,8.1s
ZEA pmax pmax
comp=N,800nm,3.4s
ZEA pmax pmax
comp=Z,2μm,13.0s
ZEA pmax pmax
comp=E,100nm,0.7s
ZEA pmax pmax
comp=N,60nm,1.9s
ZEA pmax pmax
comp=Z,250nm,1.1s
ZEA pmax pmax
comp=E,900nm,4.7s
ZEA pmax pmax
comp=N,400nm,4.3s
ZEA pmax pmax
comp=Z,1μm,3.8s
ZEA smax smax
comp=N,1μm,5.6s
ZEA smax smax
comp=E,2μm,9.3s
ZEA MLR MLR
comp=E,2μm,10.0s
ZEA MLR MLR
comp=N,4μm,12.0s
ZEA MLR MLR
comp=Z,5μm,14.0s
KAN12 Harper NE Stat 41.44 98 P **P** **02 43 34.3 +1.8**
KAN12 IAmb IAmb 02 44 02.9
comp=Z,1μm,1.0s
KAN08 Anthony NE Sta 41.51 98 P **P** **02 43 34.6 +1.5**
KAN08 **pP** **02 44 02.0 +1.7**
KAN08 IAmb IAmb 02 44 03.3
comp=Z,1μm,1.1s
AMTX Amarillo 41.52 103 P **P** **02 43 34.8 +1.5**
baz=324
AMTX S **S** **02 49 43.6 +3.7**
baz=324
AMTX Amarillo 41.52 103 P **P** **02 43 35.4 +2.1**
KAN10 Anthony SW Sta 41.52 98 P **P** **02 43 36.0 +2.8**
E46A Sault Ste Mari 41.56 77 P **P** **02 43 34.1 +0.8**
E46A IAmb IAmb 02 44 04.1
comp=Z,921nm,1.0s
E46A ScP **ScP** **02 49 07.9 +1.2**
KAN05 Bluff City Nor 41.65 98 P **P** **02 43 35.5 +1.3**
KAN05 IAmb IAmb 02 44 04.5
comp=Z,1μm,1.2s
U32A Winter Ranch, 41.66 100 P **P** **02 43 35.7 +1.4**
U32A IAmb IAmb 02 44 05.1
comp=Z,720nm,1.2s
KS20 Mayfield South 41.71 97 P **P** **02 43 35.7 +1.0**
OK032 Salt Plains WL 41.72 98 P **P** **02 43 36.4 +1.7**
OK032 pP **pP** **02 44 03.0 +0.8**
OK032 PcP **PcP** **02 45 28.8 -0.1**
MSTX Muleshoe 41.73 105 P **P** **02 43 36.2 +1.2**
baz=324
MSTX S **S** **02 49 46.9 +4.0**
baz=324
MSTX Muleshoe 41.73 105 P **P** **02 43 36.8 +1.7**
MSTX IAmb IAmb 02 44 07.0
comp=Z,2μm,1.4s
KAN17 Caldwell West 41.75 98 P **P** **02 43 36.5 +1.4**
P38A Dawn 41.89 91 P **P** **02 43 37.2 +1.1**
P38A IAmb IAmb 02 44 06.0
comp=Z,1μm,1.3s
KAN13 South Haven SW 41.92 97 P **P** **02 43 38.0 +1.5**
SPA0 Spitsbergen Ar 41.95 3 *eP* **P** **02 43 36.7 +0.5**
SPA0 *e*S **S** **02 49 45.5 +0.4**
SPITS Spitsbergen Ar 41.95 3 P **P** **02 43 35.9 -0.3**
SPITS pmax pmax
comp=Z,212nm,0.8s
ERM Erimo 41.97 274 P **P** **02 43 37.2 +0.5**
ERM 02 45 30.3
ERM pmax pmax
comp=Z,833nm,0.8s
ERM Erimo 41.97 274 P **P** **02 43 37.2 +0.5**
ERM IAmb IAmb 02 43 39.7
comp=Z,833nm,0.8s
ERM PcP **PcP** **02 45 30.3 +0.7**
ERM ScP **ScP** **02 49 08.3 -0.1**
ERM Erimo 41.97 274 ⇑P **P** **02 43 36.9 +0.2**
L42A Oliver, Polo 42.05 86 P **P** **02 43 37.6 +0.2**
L42A pP **pP** **02 44 05.8 +1.0**
HSIG 42.05 118 P **P** **02 43 40.2 +2.6**
HSIG IAmb IAmb 02 44 09.2
comp=Z,1μm,1.3s
CROK Carrier 42.06 98 P **P** **02 43 38.7 +1.1**
K43A Burlington 42.20 84 P **P** **02 43 39.3 +0.7**
K43A pP **pP** **02 44 07.5 +1.5**
JEW Eniwo 42.22 276 P **P** **02 43 39.5 +0.7**
JEW IAmb IAmb 02 43 42.5
comp=Z,936nm,0.8s
JEW Eniwo 42.22 276 ⇑P **P** **02 43 39.0 +0.3**
BLOK Blackwell 42.25 97 P **P** **02 43 40.1 +1.0**

I45A Fountain 42.27 81 P P 02 43 40.6 +1.4
MNTX Cornudas Mount 42.34 110 P P 02 43 42.1 +2.1
baz=326,SNR=110
MNTX Cornudas Mount 42.34 110 P P 02 43 42.0 +2.1
MNTX IAmb IAmb 02 44 11.8
comp=Z,2μm,1.9s
MNTX ScP **ScP** **02 49 10.3 +0.2**
MATQ Matagami 42.39 69 P P 02 43 40.3 +0.2
baz=314,SNR=175
MATQ S **S** **02 49 52.4 +0.3**
baz=314
KLR Kul'dur 42.40 290 P P 02 43 40.2 +0.1
comp=Z,266nm,0.8s,baz=44,slow=8.0,SNR=218
KLR PKiKP **PKiKP** **02 52 34.1 -1.1**
comp=Z,2.3nm,0.6s,baz=101,slow=1.8,SNR=5.9
KLR LR LR 03 00 57.1
comp=Z,3μm,20.7s,baz=56,slow=35
N41A Harden Midland 42.42 88 P P 02 43 41.4 +1.0
N41A pP **pP** **02 44 08.5 +0.7**
DBG Daneborg 42.43 17⇓*iP* P 02 43 39.8 -0.2
DBG IAmb IAmb 02 43 43.4
comp=Z,109nm,0.8s
DBG Daneborg 42.43 17 ⇓P P 02 43 39.5 -0.5
T35A Sooner Cattle 42.48 97 P P 02 43 41.8 +0.9
GLMI Grayling 42.51 79 P P 02 43 42.1 +1.1
baz=316,SNR=53
GLMI S **S** **02 49 56.2 +2.4**
baz=316
GLMI Grayling 42.51 79 P P 02 43 42.9 +1.8
GLMI pP **pP** **02 44 10.6 +2.1**
P40A Paris 42.70 90 P P 02 43 43.6 +0.9
P40A IAmb IAmb 02 44 12.5
comp=Z,1μm,1.3s
ICESG Greenland Ices 42.76 29⇓*iP* P 02 43 43.6 +0.3
ICESG IAmb IAmb 02 43 46.2
comp=Z,323nm,1.0s
ICESG *i* 02 45 35.9
ICESG Greenland Ices 42.76 29 ⇓P P 02 43 43.3 +0.1
ICESG ⇑P **PcP** **02 45 36.2 +3.9**
L44A Lake County Fo 42.80 84 P P 02 43 44.1 +0.6
baz=318,SNR=24
L44A S **S** **02 49 58.5 +0.3**
baz=318
L44A Lake County Fo 42.80 84 P P 02 43 44.2 +0.8
NUUK Nuuk 42.88 39⇓*iP* P 02 43 45.0 +1.2
NUUK IAmb IAmb 02 43 46.5
comp=Z,451nm,1.2s
NUUK *i* 02 44 17.0
NUUK Nuuk 42.88 39 ⇓P P 02 43 45.0 +1.2
OK029 Liberty Lake 42.88 99 P P 02 43 45.6 +1.4
OK029 pP **pP** **02 44 13.1 +1.4**
OK029 IAmb IAmb 02 44 14.5
comp=Z,1μm,1.0s
DY2G Dye2 42.91 34⇓*iP* P 02 43 44.5 +0.2
DY2G IAmb IAmb 02 43 47.9
comp=Z,137nm,0.7s
DY2G Dye2 42.91 34 ⇑P P 02 43 44.0 -0.3
BCOK Bluff Creek, N 42.92 99 P P 02 43 45.9 +1.4
BCOK IAmb IAmb 02 44 14.8
comp=Z,969nm,1.0s
SRIG Santa Rosalia 42.96 121 P P 02 43 45.6 +0.8
SRIG pP **pP** **02 44 11.6 -0.7**
SRIG IAmb IAmb 02 44 16.5
comp=Z,2μm,1.6s
QUOK Quay 42.96 98 P P 02 43 45.9 +1.0
QUOK IAmb IAmb 02 44 14.9
comp=Z,837nm,1.2s
OK031 S. Brethren Rd 43.07 98 P P 02 43 46.8 +1.1
OK031 pP **pP** **02 44 13.8 +0.6**
OK031 IAmb IAmb 02 44 15.8
comp=Z,933nm,1.0s
WMOK Wichita Mounta 43.07 101 P P 02 43 47.5 +1.8
WMOK pmax pmax
comp=Z,1μm,1.2s
WMOK Wichita Mounta 43.07 101 P P 02 43 47.0 +1.3
baz=323,SNR=223
WMOK S **S** **02 50 04.9 +2.5**
baz=323
WMOK Wichita Mounta 43.07 101 P P 02 43 47.5 +1.8
WMOK IAmb IAmb 02 44 16.7
comp=Z,1μm,1.1s
WMOK Wichita Mounta 43.07 101 ⇓P P 02 43 47.5 +1.8
HSPB Hornsund (broa 43.10 4 *eP* P 02 43 46.6 +1.2
HSPB *eS* **S** **02 49 59.1 -2.6**
HSPB Hornsund (broa 43.10 4 *eP* P 02 43 46.0 +0.6
HSPB *ePP* **PP** **02 45 27.7 +0.3**
OK025 Westminster Rd 43.11 99 P P 02 43 47.1 +1.0
OK025 IAmb IAmb 02 44 16.3
comp=Z,1μm,1.0s
LSQQ Lebel-sur-Quev 43.19 69 P P 02 43 47.1 +0.6
baz=314
LSQQ S **S** **02 50 03.8 0.0**
baz=314
OKCSW OKLAHOMA CITY 43.20 99 P P 02 43 48.1 +1.3
OKCSW **pP** **02 44 16.1 +1.8**
HDIL Hopedale 43.31 87 P P 02 43 48.0 +0.4
baz=319,SNR=94
HDIL S **S** **02 50 05.9 +0.1**
baz=319
HDIL Hopedale 43.31 87 P P 02 43 48.4 +0.8
M44A Midewin, Midew 43.32 85 P P 02 43 48.6 +0.9
M44A ScP **ScP** **02 49 13.9 +0.1**
FNO Franklin 43.34 99 P P 02 43 49.3 +1.4
FNO pP **pP** **02 44 16.4 +0.9**
FNO IAmb IAmb 02 44 18.4
comp=Z,1μm,1.1s
S39A Bolivar 43.47 93 P P 02 43 48.8 -0.2
S39A IAmb IAmb 02 44 17.8
comp=Z,540nm,1.1s
R40A Maddies Statio 43.54 92 P P 02 43 49.7 +0.3
R40A IAmb IAmb 02 44 18.9
comp=Z,1μm,1.1s
J47A Sunmer 43.56 81 P P 02 43 50.4 +0.9
J47A pP **pP** **02 44 18.9 +1.8**
J47A IAmb IAmb 02 44 20.4
comp=Z,1μm,1.2s
TUL1 Leonard 43.62 97 P P 02 43 51.0 +0.8
baz=322,SNR=45
TUL1 S **S** **02 50 11.2 +0.9**
baz=322
X34A Smith Ranch, M 43.65 100 P P 02 43 52.3 +1.9
X34A IAmb IAmb 02 44 21.5
comp=Z,2μm,1.7s
SCHQ Schefferville 43.72 57 P P 02 43 50.9 +0.2
comp=Z,58nm,0.5s,baz=330,slow=7.0,SNR=141
SCHQ pP **pP** **02 44 20.4 +2.2**
comp=Z,107nm,0.9s,baz=311,slow=8.8,SNR=4.0
SCHQ ScP **ScP** **02 49 15.9 +0.6**
comp=Z,62nm,1.0s,baz=239,slow=3.7,SNR=4.3
SCHQ LR LR 03 02 44.7
comp=Z,7μm,20.8s,baz=307,slow=37
SCHQ Schefferville 43.72 57 P P 02 43 50.0 -0.6
SCHQ IAmb IAmb 02 43 52.9
comp=Z,740nm,1.6s
SCHQ ScP **ScP** **02 49 15.5 +0.2**
SCHQ Schefferville 43.72 57 ⇓P P 02 43 50.6 0.0
L46A Eue Claire 43.73 83 P P 02 43 51.8 +0.8
HOPEN Hopen 43.77 1 *eP* P 02 43 51.7 +0.9
HOPEN *eS* **S** **02 50 11.4 -0.1**
HOPEN *eSS* **ScS** **02 53 35.1 -1.1**
CHGQ Chibougamau 43.80 66 P P 02 43 50.9 -0.6
baz=314,SNR=158
CHGQ S **S** **02 50 12.4 -0.3**
baz=314
NRIK Noril'sk 43.85 333 P P 02 43 52.1 +0.6
comp=Z,379nm,0.5s,baz=50,slow=6.5,SNR=353
NRIK S **S** **02 50 12.0 -0.9**
comp=Z,31nm,1.1s,baz=176,slow=20,SNR=2.2
NRIK LR LR 03 05 58.4
comp=Z,8μm,18.8s,baz=42,slow=41
NRIK Noril'sk 43.85 333*c iP* P 02 43 52.3 +0.8
NRIK pmax pmax
comp=Z,841nm,1.1s
NRIK Noril'sk 43.85 333 P P 02 43 52.3 +0.8
NRIK IAmb IAmb 02 43 55.0
comp=Z,1μm,1.3s
P43A Skaggs, Pawnee 43.89 88 P P 02 43 53.0 +0.8
P43A IAmb IAmb 02 44 22.1
comp=Z,1μm,1.1s
P43A ScP **ScP** **02 49 17.6 +1.4**
U38A Gravette 43.91 95 P P 02 43 53.2 +0.8
JTM Tenmabayashi 43.93 275 P P 02 43 53.0 +0.5
JTM IAmb IAmb 02 43 54.5
comp=Z,605nm,0.9s
JTM ScP **ScP** **02 49 16.4 +0.1**

JTM Tenmabayashi 43.93 275 ⇑P P 02 43 52.6 +0.1
I49A Point Hope 44.03 78 P P 02 43 54.4 +1.1
I49A IAmb IAmb 02 44 24.4
comp=Z,2μm,1.2s
O44A Mansfield 44.03 87 P P 02 43 53.6 +0.2
O44A pP **pP** **02 44 21.6 +0.6**
O44A IAmb IAmb 02 44 23.2
comp=Z,2μm,1.7s
BOD Bodaibo 44.14 310⇓*iP* P 02 43 53.7 -0.3
BOD *e* 02 50 18.1
BOD pmax pmax
comp=Z,535nm,1.3s
CCM Cathedral Cave 44.24 91 P P 02 43 55.4 +0.4
CCM *PP **pP** **02 44 22.6 0.0**
CCM Cathedral Cave 44.24 91 P P 02 43 55.1 +0.1
baz=320
CCM S **S** **02 50 18.1 -1.1**
baz=320
CCM Cathedral Cave 44.24 91 P P 02 43 55.4 +0.4
CCM pP **pP** **02 44 22.6 0.0**
CCM IAmb IAmb 02 44 24.4
comp=Z,672nm,1.2s
CCM Cathedral Cave 44.24 91 ⇓P P 02 43 55.1 +0.1
ABTX Abilene, Hawle 44.35 103 P P 02 43 57.0 +1.0
baz=325,SNR=37
ABTX S **S** **02 50 22.7 +1.8**
baz=325
ABTX Abilene, Hawle 44.35 103 P P 02 43 57.5 +1.5
ABTX IAmb IAmb 02 44 27.6
comp=Z,1μm,1.2s
MGMO Mountain Grove 44.42 93 P P 02 43 56.6 +0.1
MGMO IAmb IAmb 02 44 25.7
comp=Z,965nm,1.1s
MGMO PcP **PcP** **02 45 38.2 +0.2**
LOOK Love County 44.46 100 P P 02 43 58.4 +1.5
SFIN Lafayette 44.55 85 P P 02 43 58.2 +0.7
baz=319,SNR=84
SFIN S **S** **02 50 23.6 -0.1**
baz=319
SFIN Lafayette 44.55 85 P P 02 43 58.7 +1.2
Q44A Meyer Farm, Va 44.71 88 P P 02 43 59.6 +0.9
Q44A pP **pP** **02 44 27.1 +0.7**
L48A N Adams 44.71 82 P P 02 44 00.1 +1.4
U40A Yellville 44.75 94 P P 02 43 58.9 -0.2
baz=322,SNR=54
U40A S **S** **02 50 25.3 -1.4**
baz=322
JOHN Johnston Islan 44.76 202 P P 02 44 00.1 +0.8
JOHN IAmb IAmb 02 44 02.6
comp=Z,402nm,1.1s
AAM Ann Arbor 44.83 81 P P 02 44 00.7 +1.0
AAM pmax pmax
comp=Z,2μm,1.5s
AAM Ann Arbor 44.83 81 P P 02 44 00.9 +1.2
baz=318,SNR=20
AAM S **S** **02 50 28.7 +1.0**
baz=318
AAM Ann Arbor 44.83 81 P P 02 44 00.7 +1.0
AAM IAmb IAmb 02 44 30.7
comp=Z,2μm,1.5s
N47A Urbana 44.88 84 P P 02 44 00.7 +0.7
X37A Clayton 44.88 98 P P 02 44 01.2 +1.0
ALGO Algonquin Park 44.89 73 P P 02 44 00.2 +0.1
baz=316,SNR=145
ALGO S **S** **02 50 29.1 +0.6**
baz=316
Z35A Perchaven, San 44.95 101 P P 02 44 01.6 +0.9
Z35A pP **pP** **02 44 29.7 +1.2**
K50A Casco 44.99 79 P P 02 44 02.5 +1.6
K50A IAmb IAmb 02 44 31.9
comp=Z,1μm,1.4s
P46A Rosedale 45.07 86 P P 02 44 02.9 +1.3
TX31 Lajitas Ar. Si 45.12 110 P P 02 44 03.7 +1.5
TX31 ScP **ScP** **02 49 22.3 +0.8**
TX31 Lajitas Ar. Si 45.12 110 ⇑P P 02 44 04.0 +1.7
TX32 Lajitas Array 45.12 110 P P 02 44 03.7 +1.5
TX32 IAmb IAmb 02 44 34.1
comp=Z,926nm,1.6s
TXAR Lajitas Array 45.12 110 P P 02 44 03.9 +1.6
comp=Z,20nm,0.5s,baz=322,slow=6.4,SNR=200
TXAR pP **pP** **02 44 32.3 +2.3**
comp=Z,94nm,1.0s,baz=314,slow=1.6,SNR=6.6
TXAR ScP **ScP** **02 49 22.4 +0.8**
comp=Z,19nm,0.8s,baz=293,slow=2.3,SNR=7.6
TXAR PKiKP **PKiKP** **02 52 38.1 -0.3**
comp=Z,1.8nm,0.8s,baz=205,slow=1.2,SNR=7.0
TXAR LR LR 03 01 56.3
comp=Z,5μm,20.3s,baz=0.0,slow=34
TXAR PKPPKP P'P'df 03 14 59.2 -38
comp=Z,0.6nm,0.9s,baz=169,slow=2.6,SNR=3.4
TXAR Lajitas Array 45.12 110 P P 02 44 03.8 +1.5
W39A Magazine 45.19 96 P P 02 44 02.9 +0.3
baz=322,SNR=48
W39A S **S** **02 50 33.5 +0.5**
baz=322
W39A Magazine 45.19 96 P P 02 44 02.7 +0.1
W39A pP **pP** **02 44 30.9 +0.6**
W39A IAmb IAmb 02 44 32.6
comp=Z,1μm,1.3s
SADO Sadowa 45.23 75 P P 02 44 02.9 +0.1
SADO IAmb IAmb 02 44 33.5
comp=Z,1μm,1.5s
SADO Sadowa 45.23 75 ⇓P P 02 44 03.1 +0.3
OLIL Olney 45.30 88 P P 02 44 04.0 +0.6
SCO Scoresbysund 45.39 21⇓*iP* P 02 44 04.2 +0.5
SCO Scoresbysund 45.39 21 P P 02 44 03.5 -0.2
SCO pmax pmax
comp=Z,739nm,1.7s
SCO Scoresbysund 45.39 21 P P 02 44 03.5 -0.2
SCO IAmb IAmb 02 44 42.9
comp=Z,739nm,1.7s
SCO Scoresbysund 45.39 21 ⇓P P 02 44 03.7 0.0
FCAR Ozark Folk Cen 45.48 94 P P 02 44 04.7 -0.1
FCAR IAmb IAmb 02 44 33.9
comp=Z,1μm,1.7s
FCAR PcP **PcP** **02 45 41.4 -0.2**
S44A Carbondale 45.52 89 P P 02 44 05.3 +0.2
S44A pP **pP** **02 44 33.6 +0.7**
S44A IAmb IAmb 02 44 35.2
comp=Z,2μm,1.3s
SIUC Southern Illin 45.52 89 P P 02 44 05.6 +0.4
SIUC pP **pP** **02 44 33.7 +0.8**
SIUC IAmb IAmb 02 44 35.2
comp=Z,2μm,1.2s
N49A Columbus Grove 45.60 82 P P 02 44 06.3 +0.6
N49A ScP **ScP** **02 49 23.3 +0.1**
PBMO Poplar Bluff 45.63 91 P P 02 44 06.9 +0.9
BJO1 Bjornoya 45.70 3 *eP* P 02 44 07.5 +1.4
BJO1 *eS* **S** **02 50 40.2 +0.9**
BLO Bloomington 45.75 86 P P 02 44 07.7 +0.7
BLO pmax pmax
comp=Z,3μm,1.5s
BLO Bloomington 45.75 86 P P 02 44 07.7 +0.7
M50A Fremont 45.80 81 P P 02 44 08.4 +1.0
M50A IAmb IAmb 02 44 37.9
comp=Z,586nm,1.1s
MIAR Mount Ida 45.81 96 P P 02 44 08.1 +0.6
baz=323,SNR=133
MIAR S **S** **02 50 42.7 +0.8**
baz=323
MIAR Mount Ida 45.81 96 P P 02 44 08.7 +1.2
MIAR IAmb IAmb 02 44 37.9
comp=Z,651nm,0.9s
MIAR ScP **ScP** **02 49 24.8 +0.6**
MIAR Mount Ida 45.81 96 ⇓P P 02 44 08.4 +0.9
LCAR Lake Charles 45.82 93 P P 02 44 07.8 +0.3
LCAR pP **pP** **02 44 34.8 -0.6**
LCAR IAmb IAmb 02 44 36.7
comp=Z,740nm,1.4s
LCAR PcP **PcP** **02 45 42.0 -0.9**
USA0B Ussuriysk Arra 45.89 285 P P 02 44 06.9 -1.1
USA0B pmax pmax
comp=Z,351nm,1.1s
USA0B Ussuriysk Arra 45.89 285 P P 02 44 06.9 -1.1
USRK Ussuriysk Ar. 45.89 285 P P 02 44 07.0 -1.0
comp=Z,198nm,0.7s,baz=54,slow=7.6,SNR=308
USRK PcP **PcP** **02 45 43.7 +0.7**
comp=Z,31nm,0.9s,baz=45,slow=3.3,SNR=4.6
USRK ScP **ScP** **02 49 24.4 0.0**
comp=Z,9.5nm,0.7s,baz=50,slow=2.6,SNR=7.4
USRK PKiKP **PKiKP** **02 52 37.4 -1.2**
comp=Z,1.1nm,0.5s,baz=293,slow=1.5,SNR=5.9
USRK Ussuriysk Ar. 45.89 285 P P 02 44 07.0 -1.0
USRK PcP **PcP** **02 45 43.7 +0.7**
USRK ScP **ScP** **02 49 23.9 -0.5**

ANGG Ammassalik, Gr 45.91 31⇓*iP* P 02 44 07.2 -0.6
ANGG IAmb IAmb 02 44 09.8
comp=Z,195nm,0.9s
ANGG Ammassalik, Gr 45.91 31 ⇑P P 02 44 07.2 -0.6
WHTX Lake Whitney, 45.93 102 P P 02 44 09.1 +0.7
baz=325,SNR=25
WHTX S **S** **02 50 44.8 +1.0**
baz=325
W41B Gary Mavity, V 45.98 94 P P 02 44 08.9 +0.1
baz=322,SNR=17
W41B S **S** **02 50 43.9 -0.4**
baz=322
JCT Junction City 46.02 105 P P 02 44 11.1 +1.8
JCT pmax pmax
comp=Z,5μm,1.6s
JCT Junction City 46.02 105 P P 02 44 10.9 +1.6
baz=326,SNR=200
JCT S **S** **02 50 47.3 +2.1**
baz=326
JCT Junction City 46.02 105 P P 02 44 11.1 +1.8
JCT Junction City 46.02 105 ⇑P P 02 44 10.8 +1.6
PARMO Parma 46.06 91 P P 02 44 10.0 +0.6
O49A Covington 46.08 83 P P 02 44 09.7 +0.1
P48A Milroy 46.08 85 P P 02 44 09.7 +0.1
P48A pP **pP** **02 44 37.6 +0.2**
USIN University of 46.10 88 P P 02 44 10.7 +0.9
Z38A Mt. Pleasant 46.13 98 P P 02 44 11.3 +1.3
DELO Deloro Mine 46.15 74 P P 02 44 10.9 +0.9
DELO IAmb IAmb 02 44 42.2
comp=Z,1μm,1.5s
HENM Henderson Moun 46.16 91 P P 02 44 10.7 +0.5
X40A Basin Creek Fa 46.23 95 P P 02 44 10.9 +0.1
baz=323,SNR=20
X40A S **S** **02 50 47.4 -0.5**
baz=323
PENMO Penman 46.29 91 P P 02 44 12.0 +0.7
PENMO pP **pP** **02 44 40.2 +1.1**
JMM Marumori 46.29 272 ⇑P P 02 44 11.6 +0.4
GAC Glen Almond 46.31 71 ⇓P P 02 44 11.3 +0.1
T45A Paducah 46.34 90 P P 02 44 11.8 +0.2
P49A Miami Univ. Ec 46.38 84 P P 02 44 11.5 -0.4
baz=320,SNR=23
P49A S **S** **02 50 48.8 -1.2**
baz=320
P49A Miami Univ. Ec 46.38 84 P P 02 44 12.0 +0.1
P49A IAmb IAmb 02 44 41.4
comp=Z,1μm,1.6s
HICK Hickman 46.42 90 P P 02 44 13.8 +1.6
WCI Wyandotte Cave 46.59 87 P P 02 44 13.9 +0.4
WCI pmax pmax
comp=Z,2μm,1.2s
WCI Wyandotte Cave 46.59 87 P P 02 44 14.0 +0.4
baz=320
WCI S **S** **02 50 53.0 0.0**
baz=320
WCI Wyandotte Cave 46.59 87 P P 02 44 13.9 +0.4
WCI Wyandotte Cave 46.59 87 ⇓P P 02 44 14.2 +0.6
LPIG La Paz 46.60 121 LR LR 03 01 53.5
comp=Z,3μm,19.2s,baz=320,slow=33
ACSO Alum Creek Sta 46.72 82 P P 02 44 14.9 +0.3
baz=319,SNR=33
ACSO S **S** **02 50 54.8 0.0**
baz=319
WLAR White Oak Lake 46.73 96 P P 02 44 15.8 +1.2
WLAR pP **pP** **02 44 43.8 +1.3**
MDJ Mudanjiang 46.74 287 P P 02 44 14.8 +0.2
MDJ pP pP 02 44 41.5 -1.1
MDJ sP sP 02 44 52.5 -3.7
MDJ PP **PP** **02 46 05.5 -0.2**
MDJ ScP **ScP** **02 49 27.8 -0.1**
MDJ PcS **PcS** **02 49 42.8 +1.9**
MDJ S **S** **02 50 52.5 -2.5**
MDJ pmax pmax
comp=Z,91nm,0.8s
MDJ pmax pmax
comp=Z,6μm,3.9s
MDJ LR LR
comp=Z,9μm,15.4s
MDJ LR LR
comp=Z,6μm,22.2s
MDJ LR LR
comp=Z,6μm,18.3s
MDJ Mudanjiang 46.74 287 P P 02 44 15.2 +0.5
MDJ IAmb IAmb 02 44 18.6
comp=Z,344nm,0.8s
VLA Vladivostok 46.74 284*c iP* P 02 44 14.4 -0.2
VLA pmax pmax
comp=Z,283nm,0.9s
UTMT University of 46.76 90 P P 02 44 16.0 +1.1
ERPA Erie 46.78 78 P P 02 44 15.7 +0.7
baz=319,SNR=37
ERPA S **S** **02 50 56.7 +1.0**
baz=319
435B Jarrell 46.86 103 P P 02 44 16.8 +1.1
baz=325,SNR=21
435B S **S** **02 50 58.6 +1.6**
baz=325
HALT Halls 46.86 91 P P 02 44 16.9 +1.3
M53A Wl Miller and 46.95 79 P P 02 44 17.1 +0.8
baz=319,SNR=141
M53A S **S** **02 50 59.1 +1.1**
baz=319
M53A Wl Miller and 46.95 79 P P 02 44 17.8 +1.4
JMIC Jan Mayen 47.01 15 *eP* P 02 44 17.6 +1.2
JMIC *eS* **S** **02 51 00.3 +2.1**
ALLY Alegheny Colle 47.05 79 P P 02 44 18.4 +1.3
NRS Narsarsuaq 47.08 39⇓*iP* P 02 44 17.5 +0.5
NRS Narsarsuaq 47.08 39 P P 02 44 17.7 +0.7
NRS pmax pmax
comp=Z,403nm,1.1s
NRS Narsarsuaq 47.08 39 P P 02 44 17.7 +0.7
NRS IAmb IAmb 02 44 52.4
comp=Z,403nm,1.1s
NRS Narsarsuaq 47.08 39 ⇑P P 02 44 17.4 +0.3
SLBS Sierra La Lagu 47.13 121 P P 02 44 19.5 +1.6
SLBS IAmb IAmb 02 44 50.1
comp=Z,2μm,1.9s
SLBS Sierra La Lagu 47.13 121 ⇑P P 02 44 19.7 +1.8
MET Memphis--Engin 47.18 92 P P 02 44 19.4 +1.2
MET pP **pP** **02 44 46.7 +0.7**
Z41A Richland Creek 47.22 96 P P 02 44 19.8 +1.3
baz=323,SNR=14
Z41A S **S** **02 51 03.7 +1.7**
baz=323
H57A Richville 47.27 72 P P 02 44 18.7 0.0
baz=318,SNR=67
H57A S **S** **02 51 02.5 +0.1**
baz=318
MMNY Mt. Morris Dam 47.34 76 P P 02 44 20.8 +1.5
MMNY IAmb IAmb 02 44 51.1
comp=Z,515nm,1.0s
O52A Adamsville 47.38 81 P P 02 44 20.2 +0.6
M54A Oil Creek Stat 47.40 78 P P 02 44 20.7 +0.9
baz=319,SNR=116
M54A S **S** **02 51 04.8 +0.4**
baz=319
M54A Oil Creek Stat 47.40 78 P P 02 44 20.3 +0.5
M54A pP **pP** **02 44 48.9 +1.1**
M54A IAmb IAmb 02 44 50.9
comp=Z,1μm,1.1s
JSD Sado 47.43 274 P P 02 44 20.6 +0.5
JSD IAmb IAmb 02 44 22.2
comp=Z,695nm,0.7s
JSD Sado 47.43 274 ⇑P P 02 44 20.2 +0.2
WVT Waverly 47.45 90 P P 02 44 21.1 +0.9
baz=322
WVT S **S** **02 51 05.4 +0.2**
baz=322
WVT Waverly 47.45 90 P P 02 44 21.5 +1.3
WVT IAmb IAmb 02 44 50.9
comp=Z,1μm,1.2s
WVT PcP **PcP** **02 45 49.3 +0.7**
WVT Waverly 47.45 90 ⇓P P 02 44 21.2 +1.0
MSHR Mys Shultsa 47.50 284*c iP* P 02 44 20.9 +0.4
MSHR pmax pmax
comp=Z,1μm,1.7s
NATX Nacogdoches 47.50 99 P P 02 44 21.9 +1.2
baz=324,SNR=19
NATX S **S** **02 51 07.3 +1.2**
baz=324
NATX Nacogdoches 47.50 99 P P 02 44 22.0 +1.3
I57A Carthage 47.53 73 P P 02 44 20.9 +0.2
baz=318,SNR=73
I57A S **S** **02 51 05.9 -0.2**
baz=318

LONY	**Lake Ozonia**	**47.53**	**72**	P	**P**	**02 44 20.4 -0.5**
	baz=318,SNR=89					
LONY				S	**S**	**02 51 06.2 -0.1**
	baz=318					
LONY	**Lake Ozonia**	**47.53**	**72**	P	**P**	**02 44 20.9 0.0**
LONY				IAmb	IAmb	02 44 51.7
	comp=Z,617nm,1.2s					
O53A	**New Philadelph**	**47.59**	**81**	P	**P**	**02 44 21.7 +0.5**
	baz=320					
O53A				S	**S**	**02 51 06.6 -0.4**
	baz=320					
P52A	**Corning**	**47.60**	**82**	P	**P**	**02 44 21.4 +0.1**
	baz=320,SNR=60					
P52A				S	**S**	**02 51 07.2 0.0**
	baz=320					
P52A	**Corning**	**47.60**	**82**	P	**P**	**02 44 21.8 +0.4**
P52A				pP	**pP**	**02 44 49.8 +0.5**
P52A				IAmb	IAmb	02 44 51.4
	comp=Z,1μm,1.2s					
K56A	**Middlesex**	**47.65**	**75**	P	**P**	**02 44 22.8 +1.0**
	baz=319,SNR=144					
K56A				S	**S**	**02 51 09.2 +1.2**
	baz=319					
N54A	**Moraine State**	**47.65**	**79**	P	**P**	**02 44 22.6 +0.8**
	baz=319,SNR=74					
N54A				S	**S**	**02 51 08.7 +0.7**
	baz=319					
J57A	**Williamstown**	**47.76**	**74**	P	**P**	**02 44 22.4 -0.1**
J57A				IAmb	IAmb	02 44 53.7
	comp=Z,864nm,1.4s					
JYT	**Yasato**	**47.87**	**271**	P	**P**	**02 44 23.6 +0.2**
JYT				IAmb	IAmb	02 44 27.5
	comp=Z,1μm,1.0s					
JYT	**Yasato**	**47.87**	**271**	⇑P	**P**	**02 44 23.8 +0.4**
M55A	**Ridgway**	**47.87**	**78**	P	**P**	**02 44 24.9 +1.4**
M55A				IAmb	IAmb	02 44 54.8
	comp=Z,1μm,0.9s					
M55A				ScP	**ScP**	**02 49 33.5 +0.7**
H58A	**Gabriels**	**47.88**	**72**	P	**P**	**02 44 23.5 0.0**
	baz=318,SNR=55					
H58A				S	**S**	**02 51 11.2 +0.1**
	baz=318					
HIA	**Hailar**	**47.88**	**298**	*c iP*	**P**	**02 44 23.6 +0.2**
HIA				pmax	pmax	
	comp=Z,245nm,0.9s					
HIA	**Hailar**	**47.88**	**298**	P	**P**	**02 44 23.6 +0.2**
HIA				IAmb	IAmb	02 44 27.1
	comp=Z,285nm,0.9s					
OXF	**Oxford**	**47.93**	**92**	P	**P**	**02 44 24.4 +0.5**
OXF				*PP	**pP**	**02 44 53.3 +1.4**
OXF	**Oxford**	**47.93**	**92**	P	**P**	**02 44 25.3 +1.3**
	baz=322,SNR=205					
OXF				S	**S**	**02 51 13.0 +1.0**
	baz=322					
OXF	**Oxford**	**47.93**	**92**	P	**P**	**02 44 24.4 +0.5**
OXF				pP	**pP**	**02 44 53.3 +1.4**
H59A	**Cadyville**	**47.94**	**71**	P	**P**	**02 44 24.0 +0.1**
	baz=318,SNR=124					
H59A				S	**S**	**02 51 11.7 -0.3**
	baz=318					
L56A	**Greenwood**	**47.95**	**76**	P	**P**	**02 44 25.2 +1.0**
L56A				IAmb	IAmb	02 44 56.3
	comp=Z,1μm,1.1s					
833A	**Chaparral WMA,**	**48.01**	**107**	P	**P**	**02 44 25.9 +1.3**
	baz=327,SNR=17					
833A				S	**S**	**02 51 14.7 +1.4**
	baz=327					
K57A	**Scipio Center**	**48.02**	**75**	P	**P**	**02 44 25.5 +1.0**
K57A				IAmb	IAmb	02 44 56.6
	comp=Z,1μm,1.3s					
I58A	**Old Forge**	**48.04**	**73**	P	**P**	**02 44 25.1 +0.4**
	baz=318,SNR=73					
I58A				S	**S**	**02 51 13.8 +0.3**
	baz=318					
Q52A	**Bidwell**	**48.04**	**83**	P	**P**	**02 44 25.5 +0.7**
Q52A				pP	**pP**	**02 44 53.3 +0.5**
MOQ	**Mont Orford**	**48.12**	**69**	P	**P**	**02 44 25.9 +0.4**
J58A	**Remsen**	**48.14**	**73**	P	**P**	**02 44 26.0 +0.5**
	baz=319,SNR=100					
J58A				S	**S**	**02 51 16.0 +1.1**
	baz=319					
PLAL	**Pickwick Lake**	**48.23**	**91**	P	**P**	**02 44 27.6 +1.4**
D62A	**Allapoint, All**	**48.30**	**66**	P	**P**	**02 44 27.2 +0.6**
	baz=318,SNR=130					
D62A				S	**S**	**02 51 17.5 +0.6**
	baz=318					
Y45A	**Yeager Farm, C**	**48.37**	**93**	P	**P**	**02 44 29.0 +1.7**
Y45A				pP	**pP**	**02 44 57.0 +1.6**
Y45A				ScP	**ScP**	**02 49 35.7 +0.7**
HKT	**Hockley**	**48.40**	**102**	*c iP*	**P**	**02 44 28.5 +1.0**
HKT				pmax	pmax	
	comp=Z,35nm,1.1s					
HKT	**Hockley**	**48.40**	**102**	P	**P**	**02 44 28.5 +1.0**
HKT	**Hockley**	**48.40**	**102**	⇑P	**P**	**02 44 29.1 +1.6**
S51A	**Beattyville**	**48.40**	**85**	P	**P**	**02 44 27.9 +0.4**
E62A	**Clayton Lake**	**48.42**	**66**	P	**P**	**02 44 27.6 0.0**
	baz=318,SNR=70					
E62A				S	**S**	**02 51 19.1 +0.3**
	baz=318					
H60A	**Morristown**	**48.48**	**70**	P	**P**	**02 44 28.1 0.0**
	baz=318,SNR=60					
H60A				S	**S**	**02 51 20.0 +0.4**
	baz=318					
I59A	**Olmsteadville**	**48.49**	**72**	P	**P**	**02 44 28.3 +0.2**
	baz=319,SNR=80					
I59A				S	**S**	**02 51 20.1 +0.4**
	baz=319					
CIT	**Chita**	**48.50**	**305**	*e*P	**P**	**02 44 31.0 +2.8**
CIT				*e*		02 45 00.6
CIT				*e*		02 45 14.2
CIT				*e*		02 45 55.0
CIT				pmax	pmax	
	comp=Z,2μm,2.5s					
MJAR	**Matsushiro Arr**	**48.62**	**273**	P	**P**	**02 44 28.9 -0.4**
	comp=Z,264nm,0.8s,baz=20,slow=6.9,SNR=307					
MJAR				ScP	**ScP**	**02 49 35.7 -0.3**
	comp=Z,21nm,1.0s,baz=20,slow=4.0,SNR=5.2					
MJAR	**Matsushiro Arr**	**48.62**	**273**	P	**P**	**02 44 29.2 -0.1**
MJAR				pmax	pmax	
	comp=Z,1μm,1.7s					
MJAR	**Matsushiro Arr**	**48.62**	**273**	P	**P**	**02 44 29.2 -0.1**
MJAR				IAmb	IAmb	02 44 32.9
	comp=Z,1μm,1.7s					
MJB9	**Matsu-Tunnel**	**48.62**	**273**	P	**P**	**02 44 30.1 +0.9**
MJB9				IAmb	IAmb	02 44 31.4
	comp=Z,800nm,0.8s					
MAJO	**Matsushiro**	**48.62**	**273**	P	**P**	**02 44 30.0 +0.7**
MAJO				pmax	pmax	
	comp=Z,763nm,0.8s					
MAJO	**Matsushiro**	**48.62**	**273**	P	**P**	**02 44 30.0 +0.7**
MAJO				IAmb	IAmb	02 44 31.5
	comp=Z,763nm,0.8s					
MAJO	**Matsushiro**	**48.62**	**273**	⇑P	**P**	**02 44 30.0 +0.7**
MAT	**Matsushiro**	**48.62**	**273**	P	**P**	**02 44 29.5 +0.2**
MAT				S	**S**	**02 51 23.0 +1.2**
VT1	**Waterbury**	**48.62**	**71**	P	**P**	**02 44 29.3 +0.1**
VT1				IAmb	IAmb	02 45 00.4
	comp=Z,668nm,1.3s					
BINY	**Binghamton**	**48.67**	**75**	P	**P**	**02 44 30.6 +1.0**
	baz=319,SNR=120					
BINY				S	**S**	**02 51 23.5 +1.1**
	baz=319					
MCWV	**Mont Chateau**	**48.71**	**80**	P	**P**	**02 44 30.5 +0.6**
	baz=320,SNR=55					
MCWV				S	**S**	**02 51 23.4 +0.4**
	baz=320					
MCWV	**Mont Chateau**	**48.71**	**80**	P	**P**	**02 44 30.5 +0.6**
I60A	**Shoreham**	**48.73**	**71**	P	**P**	**02 44 29.7 -0.3**
	baz=319,SNR=25					
I60A				S	**S**	**02 51 23.1 0.0**
	baz=319					
D63A	**Stockholm**	**48.76**	**65**	P	**P**	**02 44 30.4 +0.2**
	baz=318,SNR=55					
D63A				S	**S**	**02 51 23.3 -0.2**
	baz=318					
L58A	**Harry Jones Me**	**48.86**	**75**	P	**P**	**02 44 31.8 +0.8**
	baz=319,SNR=133					
L58A				S	**S**	**02 51 26.5 +1.5**
	baz=319					
H61A	**Lyndonville**	**48.86**	**70**	P	**P**	**02 44 31.0 0.0**
	baz=319,SNR=36					
H61A				S	**S**	**02 51 25.7 +0.7**
	baz=319					
O56A	**Blue Knob Stat**	**48.88**	**79**	P	**P**	**02 44 31.8 +0.5**
	baz=320,SNR=65					
O56A				S	**S**	**02 51 26.0 +0.7**
	baz=320					
O56A	**Blue Knob Stat**	**48.88**	**79**	P	**P**	**02 44 31.5 +0.3**
O56A				pP	**pP**	**02 45 00.2 +0.9**
O56A				IAmb	IAmb	02 45 02.1
	comp=Z,1μm,1.4s					
SSPA	**Standing Stone**	**48.93**	**78**	P	**P**	**02 44 32.4 +0.8**
	baz=320					
SSPA				S	**S**	**02 51 27.4 +1.4**
	baz=320					
SSPA	**Standing Stone**	**48.93**	**78**	P	**P**	**02 44 32.5 +0.9**
SSPA				ScP	**ScP**	**02 49 37.9 +0.6**
SSPA	**Standing Stone**	**48.93**	**78**	⇓P	**P**	**02 44 32.3 +0.8**
G62A	**West of Eustis**	**49.00**	**68**	P	**P**	**02 44 32.3 +0.3**
	baz=319,SNR=59					
G62A				S	**S**	**02 51 27.4 +0.5**
	baz=319					
G62A	**West of Eustis**	**49.00**	**68**	P	**P**	**02 44 32.7 +0.7**
G62A				IAmb	IAmb	02 45 04.7
	comp=Z,2μm,1.6s					
PQI	**Presque Isle**	**49.08**	**65**	P	**P**	**02 44 32.4 -0.2**
PQI				IAmb	IAmb	02 45 04.8
	comp=Z,1μm,1.8s					
PQI				ScP	**ScP**	**02 49 38.2 +0.4**
E63A	**Oxbow**	**49.08**	**66**	P	**P**	**02 44 32.5 -0.1**
	baz=318,SNR=61					
E63A				S	**S**	**02 51 27.1 -0.7**
	baz=318					
LBNH	**Lisbon**	**49.08**	**70**	P	**P**	**02 44 33.5 +0.8**
LBNH				pmax	pmax	
	comp=Z,2μm,2.0s					
LBNH	**Lisbon**	**49.08**	**70**	P	**P**	**02 44 32.8 +0.2**
	baz=319,SNR=39					
LBNH				S	**S**	**02 51 28.8 +0.8**
	baz=319					
LBNH	**Lisbon**	**49.08**	**70**	P	**P**	**02 44 33.5 +0.8**
J60A	**Lant Hill Farm**	**49.12**	**72**	P	**P**	**02 44 33.3 +0.3**
	baz=319,SNR=97					
J60A				S	**S**	**02 51 29.0 +0.4**
	baz=319					
H11N2	**WAKE ISLAND Hy**	**49.14**	**233**	P	**P**	**02 44 33.6 +0.5**
	baz=344,slow=3.5,SNR=26					
H11N3	**WAKE ISLAND Hy**	**49.15**	**233**	P	**P**	**02 44 33.5 +0.3**
	baz=344,slow=3.5,SNR=26					
H11N1	**WAKE ISLAND Hy**	**49.16**	**233**	P	**P**	**02 44 33.7 +0.4**
	baz=344,slow=3.5,SNR=57					
X48A	**Hartselle**	**49.16**	**90**	P	**P**	**02 44 33.9 +0.5**
H62A	**Milan**	**49.19**	**69**	P	**P**	**02 44 33.6 0.0**
	baz=319,SNR=70					
H62A				S	**S**	**02 51 30.8 +1.2**
	baz=319					
H62A	**Milan**	**49.19**	**69**	P	**P**	**02 44 34.2 +0.7**
H62A				pP	**pP**	**02 45 01.8 +0.2**
H62A				IAmb	IAmb	02 45 05.9
	comp=Z,662nm,1.1s					
VBMS	**Vicksburg**	**49.20**	**95**	P	**P**	**02 44 35.2 +1.5**
	baz=324,SNR=26					
VBMS				S	**S**	**02 51 32.0 +2.1**
	baz=324					
VBMS	**Vicksburg**	**49.20**	**95**	P	**P**	**02 44 35.5 +1.8**
VBMS				pP	**pP**	**02 45 03.8 +2.0**
KSPA	**Keystone Colle**	**49.27**	**75**	P	**P**	**02 44 35.2 +1.1**
TZTN	**Tazewell**	**49.27**	**86**	P	**P**	**02 44 34.6 +0.4**
	baz=322,SNR=32					
TZTN				S	**S**	**02 51 32.7 +1.8**
	baz=322					
TZTN	**Tazewell**	**49.27**	**86**	P	**P**	**02 44 35.7 +1.5**
F63A	**Nahmakanta, Br**	**49.30**	**67**	P	**P**	**02 44 34.2 -0.1**
	baz=319,SNR=37					
F63A				S	**S**	**02 51 31.3 +0.2**
	baz=319					
F63A	**Nahmakanta, Br**	**49.30**	**67**	P	**P**	**02 44 34.6 +0.3**
F63A				IAmb	IAmb	02 45 06.6
	comp=Z,446nm,1.0s					
HNH	**Hanover**	**49.31**	**71**	P	**P**	**02 44 35.8 +1.3**
HNH				IAmb	IAmb	02 45 06.2
	comp=Z,842nm,1.3s					
CN2	**Changchun**	**49.33**	**289**	*e*P	**P**	**02 44 34.5 -0.1**
CN2				PP	**PP**	**02 46 30.0 +0.7**
CN2				S	**S**	**02 51 31.5 0.0**
CN2				pmax	pmax	
	comp=Z,70nm,1.1s					
CN2				pmax	pmax	
	comp=Z,1μm,3.0s					
CN2				LR	LR	
	comp=Z,6μm,15.0s					
CN2				LR	LR	
	comp=Z,6μm,15.0s					
CN2				LR	LR	
	comp=Z,3μm,22.7s					
E64A	**Bridgewater**	**49.35**	**65**	P	**P**	**02 44 34.5 -0.2**
	baz=319,SNR=52					
E64A				S	**S**	**02 51 31.5 -0.2**
	baz=319					
N58A	**Sunbury**	**49.35**	**77**	P	**P**	**02 44 35.8 +1.1**
N58A				IAmb	IAmb	02 45 12.6
	comp=Z,426nm,1.1s					
N58A				ScP	**ScP**	**02 49 39.8 +0.8**
KVTX	**Kingsville**	**49.38**	**106**	P	**P**	**02 44 35.6 +0.5**
KVTX					**pP**	**02 45 06.4 +3.2**
TRY	**Troy**	**49.39**	**73**	P	**P**	**02 44 36.0 +1.0**
TRY				IAmb	IAmb	02 45 06.6
	comp=Z,515nm,1.4s					
S54A	**Dingess, Beckl**	**49.42**	**83**	P	**P**	**02 44 35.6 +0.2**
W50A	**Signal Mountai**	**49.44**	**88**	P	**P**	**02 44 36.7 +1.1**
J61A	**Chester**	**49.46**	**71**	P	**P**	**02 44 36.0 +0.4**
	baz=319,SNR=42					
J61A				S	**S**	**02 51 33.8 +0.5**
	baz=319					
G63A	**Kingsbury**	**49.51**	**68**	P	**P**	**02 44 36.0 +0.2**
	baz=319,SNR=44					
G63A				S	**S**	**02 51 34.3 +0.3**
	baz=319					
F64A	**Sherman**	**49.53**	**66**	P	**P**	**02 44 36.1 +0.1**
	baz=319,SNR=73					
F64A				S	**S**	**02 51 34.3 +0.1**
	baz=319					
PKME	**Peaks-Kenny Pk**	**49.54**	**67**	P	**P**	**02 44 36.3 +0.2**
	baz=319,SNR=46					
PKME				S	**S**	**02 51 34.9 +0.5**
	baz=319					
PKME	**Peaks-Kenny Pk**	**49.54**	**67**	P	**P**	**02 44 37.0 +0.9**
PKME				IAmb	IAmb	02 45 08.7
	comp=Z,1μm,1.6s					
PKME				ScP	**ScP**	**02 49 41.1 +1.4**
146A	**Union**	**49.60**	**94**	P	**P**	**02 44 38.2 +1.5**
K61A	**Williamstown**	**49.63**	**72**	P	**P**	**02 44 37.4 +0.6**
	baz=319,SNR=35					
K61A				S	**S**	**02 51 37.2 +1.4**
	baz=319					
I62A	**Tamworth**	**49.64**	**70**	P	**P**	**02 44 36.7 -0.2**
	baz=319,SNR=14					
I62A				S	**S**	**02 51 36.4 +0.6**
	baz=319					
CPCT	**Cooper Cave**	**49.64**	**87**	P	**P**	**02 44 37.7 +0.6**
CPCT				pP	**pP**	**02 45 05.9 +0.7**
CPCT				IAmb	IAmb	02 45 07.7
	comp=Z,1μm,1.2s					
H63A	**New Sharon**	**49.65**	**68**	P	**P**	**02 44 37.2 +0.2**
	baz=319,SNR=26					
H63A				S	**S**	**02 51 36.0 +0.1**
	baz=319					
HAMF	**Hammerfest**	**49.66**	**1**	*e*P	**P**	**02 44 37.2 +0.6**
HAMF				*e*S	**S**	**02 51 32.5 -2.9**
N59A	**State Game Lan**	**49.75**	**76**	P	**P**	**02 44 38.5 +0.7**
	baz=320,SNR=94					
N59A				S	**S**	**02 51 39.3 +1.7**
	baz=320					
JGF	**Kuroka**	**49.78**	**273**	P	**P**	**02 44 38.7 +0.6**
JGF				IAmb	IAmb	02 44 42.0
	comp=Z,833nm,1.0s					
JGF	**Kuroka**	**49.78**	**273**	⇑P	**P**	**02 44 38.8 +0.6**
FFD	**Franklin Falls**	**49.79**	**71**	P	**P**	**02 44 38.8 +0.8**
FFD				IAmb	IAmb	02 45 09.8
	comp=Z,552nm,1.3s					
V52A	**Sevierville**	**49.80**	**86**	P	**P**	**02 44 39.4 +1.2**
G64A	**Maxfield**	**49.80**	**67**	P	**P**	**02 44 38.2 +0.1**
	baz=319,SNR=32					
G64A				S	**S**	**02 51 38.3 +0.3**
	baz=319					
TKL	**Tuckaleechee C**	**49.86**	**87**	P	**P**	**02 44 39.4 +0.8**
TKL				pmax	pmax	
	comp=Z,2μm,1.2s					
TKL	**Tuckaleechee C**	**49.86**	**87**	P	**P**	**02 44 39.4 +0.8**
I63A	**Otisfield**	**49.86**	**69**	P	**P**	**02 44 39.1 +0.6**
	baz=319,SNR=44					
I63A				S	**S**	**02 51 40.0 +1.2**
	baz=319					
J62A	**Henniker**	**49.90**	**71**	P	**P**	**02 44 39.1 +0.2**
	baz=319,SNR=35					
J62A				S	**S**	**02 51 39.9 +0.4**
	baz=319					
WVL	**Waterville**	**49.90**	**68**	P	**P**	**02 44 39.3 +0.4**
WVL				IAmb	IAmb	02 45 11.3
	comp=Z,1μm,1.5s					
H64A	**Troy**	**50.05**	**68**	P	**P**	**02 44 39.8 -0.2**
	baz=319,SNR=22					
H64A				S	**S**	**02 51 41.7 +0.3**
	baz=319					
L61B	**Northampton**	**50.08**	**72**	P	**P**	**02 44 40.4 +0.2**
	baz=320,SNR=14					
L61B				S	**S**	**02 51 42.0 +0.1**
	baz=320					
JSG	**Sagara**	**50.10**	**272**	P	**P**	**02 44 41.5 +1.0**
JSG				IAmb	IAmb	02 44 44.9
	comp=Z,456nm,0.7s					
K62A	**Royalston**	**50.13**	**72**	P	**P**	**02 44 41.2 +0.6**
	baz=320,SNR=47					
K62A				S	**S**	**02 51 43.0 +0.4**
	baz=320					
K62A	**Royalston**	**50.13**	**72**	P	**P**	**02 44 41.6 +1.0**
K62A				pP	**pP**	**02 45 09.5 +0.7**
K62A				IAmb	IAmb	02 45 13.1
	comp=Z,915nm,1.1s					
INU	**Inuyama**	**50.15**	**273**	P	**P**	**02 44 41.0 +0.1**
INU				IAmb	IAmb	02 44 45.8
	comp=Z,321nm,0.9s					
INU	**Inuyama**	**50.15**	**273**	⇑P	**P**	**02 44 40.9 0.0**
U54A	**Nelsons Funny**	**50.16**	**84**	P	**P**	**02 44 42.3 +1.3**
MVL	**Millersville**	**50.17**	**77**	P	**P**	**02 44 42.3 +1.4**
MVL				IAmb	IAmb	02 45 12.5
	comp=Z,988nm,1.4s					
LUPA	**Lehigh Univers**	**50.19**	**76**	P	**P**	**02 44 41.8 +0.7**
J63A	**Strafford**	**50.21**	**70**	P	**P**	**02 44 41.3 +0.1**
	baz=320,SNR=18					
J63A				S	**S**	**02 51 44.1 +0.4**
	baz=320					
W52A	**Murphy**	**50.22**	**87**	P	**P**	**02 44 42.5 +1.0**
KSCT	**Kent School, K**	**50.24**	**73**	P	**P**	**02 44 42.6 +1.2**
KSCT				pP	**pP**	**02 45 10.2 +0.6**
BLA	**Blacksburg**	**50.32**	**83**	P	**P**	**02 44 42.4 +0.2**
BLA				pmax	pmax	
	comp=Z,3μm,1.6s					
BLA	**Blacksburg**	**50.32**	**83**	P	**P**	**02 44 42.9 +0.7**
	baz=321,SNR=45					
BLA				S	**S**	**02 51 46.2 +0.7**
	baz=321					
BLA	**Blacksburg**	**50.32**	**83**	P	**P**	**02 44 42.4 +0.2**
H11S1	**WAKE ISLAND Hy**	**50.32**	**232**	P	**P**	**02 44 42.3 +0.2**
	baz=287,slow=2.9,SNR=47					
V53A	**Saluda**	**50.33**	**86**	P	**P**	**02 44 43.4 +1.1**
V53A				pP	**pP**	**02 45 11.4 +0.9**
TRNY	**Table Rock, Ra**	**50.33**	**74**	P	**P**	**02 44 43.0 +0.8**
H11S2	**WAKE ISLAND Hy**	**50.34**	**232**	P	**P**	**02 44 42.3 +0.1**
	baz=287,slow=2.9,SNR=62					
H11S3	**WAKE ISLAND Hy**	**50.34**	**232**	P	**P**	**02 44 42.3 0.0**
	baz=287,slow=2.9,SNR=38					
SDMD	**Soldier's Deli**	**50.39**	**78**	P	**P**	**02 44 41.6 -1.0**
SDMD				IAmb	IAmb	02 45 12.9
	comp=Z,983nm,2.0s					
G65A	**Princeton**	**50.39**	**66**	P	**P**	**02 44 42.9 +0.3**
	baz=319,SNR=46					
G65A				S	**S**	**02 51 46.3 +0.1**
	baz=319					
G65A	**Princeton**	**50.39**	**66**	P	**P**	**02 44 42.7 +0.2**
G65A				IAmb	IAmb	02 45 15.2
	comp=Z,2μm,1.8s					
346A	**Big Creek Wild**	**50.40**	**95**	P	**P**	**02 44 44.3 +1.5**
I64A	**Boothbay**	**50.40**	**69**	P	**P**	**02 44 43.0 +0.4**
	baz=320,SNR=25					
I64A				S	**S**	**02 51 46.8 +0.5**
	baz=320					
K63A	**Dunstable**	**50.45**	**71**	P	**P**	**02 44 43.4 +0.5**
	baz=320,SNR=39					
K63A	**Dunstable**	**50.45**	**71**	P	**P**	**02 44 43.8 +0.8**
K63A				IAmb	IAmb	02 45 14.9
	comp=Z,1μm,1.5s					
H65A	**Eastbrook**	**50.46**	**67**	P	**P**	**02 44 43.3 +0.2**
	baz=319,SNR=30					
H65A				S	**S**	**02 51 46.1 -1.0**
	baz=319					
BORG	**Borgarnes**	**50.48**	**24**	P	**P**	**02 44 43.1 +0.2**
BORG				pmax	pmax	
	comp=Z,419nm,1.1s					
BORG	**Borgarnes**	**50.48**	**24**	P	**P**	**02 44 43.1 +0.2**
BORG				IAmb	IAmb	02 45 22.2
	comp=Z,419nm,1.1s					
BORG	**Borgarnes**	**50.48**	**24**	⇓P	**P**	**02 44 44.0 +1.1**
JHJ2	**Mitsune**	**50.52**	**269**	⇑P	**P**	**02 44 44.0 +0.3**
JHJ	**Hachijo jima 2**	**50.53**	**269**	P	**P**	**02 44 43.9 +0.1**
	comp=Z,246nm,0.4s,baz=110,slow=21,SNR=12					
KEV	**Kevo**	**50.56**	**360**	P	**P**	**02 44 43.4 -0.1**
KEV				pmax	pmax	
	comp=Z,145nm,1.2s					
KEV	**Kevo**	**50.56**	**360**	P	**P**	**02 44 43.4 -0.1**
KEV	**Kevo**	**50.56**	**360**	⇑P	**P**	**02 44 43.6 +0.1**
TRO	**Tromso**	**50.57**	**4**	*e*P	**P**	**02 44 44.2 +0.7**
TRO				IVmBBB		02 44 47.5
	comp=Z,2μm,3.5s					
TRO				*e*sP	**sP**	**02 45 25.1 -0.5**
TRO				*e*S	**S**	**02 51 47.0 -1.0**
TRO				*e*ScS	**ScS**	**02 54 19.1 -2.1**
TRO				IVMs_BB	IVMs_BB	03 06 06.0
	comp=Z,1μm,12.0s					
HRV	**Adam Dziewonsk**	**50.57**	**71**	P	**P**	**02 44 44.1 +0.2**
HRV				*PP	**pP**	**02 45 13.3 +1.1**
HRV	**Adam Dziewonsk**	**50.57**	**71**	S	**S**	**02 51 47.8 -0.9**
	baz=320					
HRV	**Adam Dziewonsk**	**50.57**	**71**	P	**P**	**02 44 44.1 +0.2**
HRV				pP	**pP**	**02 45 13.3 +1.1**
HRV				IAmb	IAmb	02 45 16.7
	comp=Z,2μm,1.9s					
HRV	**Adam Dziewonsk**	**50.57**	**71**	⇓P	**P**	**02 44 44.5 +0.6**
WUPA	**West Chester U**	**50.59**	**77**	P	**P**	**02 44 45.1 +1.0**
WUPA				IAmb	IAmb	02 45 15.7
	comp=Z,496nm,1.4s					
PAL	**Palisades**	**50.59**	**74**	P	**P**	**02 44 44.8 +0.7**
PAL				pmax	pmax	
	comp=Z,1μm,1.2s					
PAL	**Palisades**	**50.59**	**74**	P	**P**	**02 44 44.7 +0.6**
	baz=320,SNR=37					
PAL				S	**S**	**02 51 50.9 +1.9**
	baz=320					
PAL	**Palisades**	**50.59**	**74**	P	**P**	**02 44 44.8 +0.7**
PAL				IAmb	IAmb	02 45 16.5
	comp=Z,1μm,1.1s					
S57A	**Dark Hollow, R**	**50.62**	**81**	P	**P**	**02 44 44.8 +0.5**
S57A				pP	**pP**	**02 45 13.3 +0.7**
P60A	**Greenville**	**50.67**	**77**	P	**P**	**02 44 45.3 +0.6**
	baz=321,SNR=32					
P60A				S	**S**	**02 51 52.1 +2.0**
	baz=321					
JETT	**Jettan, Norway**	**50.69**	**3**	*e*P	**P**	**02 44 45.5 +1.0**
JETT				*e*S	**S**	**02 51 50.1 +0.4**
CPNY	**Central Park**	**50.73**	**75**	P	**P**	**02 44 45.3 +0.2**
WSPT	**Westport, CT**	**50.74**	**74**	P	**P**	**02 44 44.9 -0.3**
WSPT				IAmb	IAmb	02 45 16.8
	comp=Z,1μm,1.2s					
WES	**Weston**	**50.78**	**71**	P	**P**	**02 44 46.8 +1.4**
WES				pmax	pmax	
	comp=Z,1μm,1.4s					
WES	**Weston**	**50.78**	**71**	P	**P**	**02 44 46.8 +1.4**
WES				IAmb	IAmb	02 45 17.2
	comp=Z,1μm,1.4s					
ARA0	**ARCESS Array S**	**50.78**	**1**	*e*P	**P**	**02 44 45.6 +0.4**
ARCES	**ARCESS Array B**	**50.78**	**1**	P	**P**	**02 44 44.5 -0.7**
	comp=Z,31nm,0.6s,baz=3.9,slow=7.0,SNR=61					
ARCES				PKiKP	**PKiKP**	**02 52 41.7 -1.3**
	comp=Z,2.1nm,0.6s,baz=318,slow=1.6,SNR=4.9					
ARCES				PKPPKP	P'P'df	03 15 16.9 -14
	comp=Z,1.5nm,0.7s,baz=194,slow=4.6,SNR=4.1					
ARCES	**ARCESS Array B**	**50.78**	**1**	P	**P**	**02 44 44.5 -0.7**
ARCES				pmax	pmax	
	comp=Z,71nm,1.0s					
ARCES	**ARCESS Array B**	**50.78**	**1**	P	**P**	**02 44 44.5 -0.7**
GGN	**Saint George**	**50.79**	**66**	P	**P**	**02 44 46.0 +0.5**
BG3	**

H66A	**Whiting**	**50.82**	**66**	P		**P**	**02 44 46.0**	**+0.2**
	baz=320,SNR=17							
H66A				S		**S**	**02 51 52.4**	**+0.3**
	baz=320							
N62A	**Caumsett State**	**50.86**	**74**	P		**P**	**02 44 47.3**	**+1.2**
N62A				IAmb		IAmb	02 45 17.7	
	comp=Z,1μm,1.1s							
BCX	**Boston College**	**50.89**	**71**	P		**P**	**02 44 46.2**	**0.0**
BCX				pP		**pP**	**02 45 14.1**	**-0.5**
JWT	**Wachi**	**51.02**	**275**	P		**P**	**02 44 48.1**	**+0.7**
JWT				IAmb		IAmb	02 44 51.2	
	comp=Z,807nm,0.9s							
JWT	**Wachi**	**51.02**	**275**	⇑P		**P**	**02 44 47.8**	**+0.4**
L63A	**North Scituate**	**51.04**	**72**	P		**P**	**02 44 47.4**	**0.0**
	baz=320,SNR=18							
L63A				S		**S**	**02 51 56.3**	**+1.1**
	baz=320							
CBN	**Corbin Frederi**	**51.06**	**79**	P		**P**	**02 44 48.1**	**+0.5**
	baz=321,SNR=12							
CBN				S		**S**	**02 51 56.2**	**+0.7**
	baz=321							
T57A	**Hurt**	**51.07**	**82**	P		**P**	**02 44 48.4**	**+0.7**
LMN	**Caledonia Moun**	**51.15**	**64**	P		**P**	**02 44 48.9**	**+0.6**
P61A	**Hammonton**	**51.19**	**76**	P		**P**	**02 44 50.0**	**+1.4**
JSRW	**J. Sargeant Re**	**51.21**	**80**	P		**P**	**02 44 49.6**	**+0.9**
JSRW				pP		**pP**	**02 45 18.0**	**+1.0**
ZAIG	**Zacatecas**	**51.23**	**114**	P		**P**	**02 44 50.5**	**+1.1**
ZAIG				IAmb		IAmb	02 45 21.4	
	comp=Z,670nm,1.6s							
KTK1	**Kautokeino**	**51.29**	**2**	*e*P		**P**	**02 44 49.4**	**+0.4**
KTK1				*e*S		**S**	**02 51 54.7**	**-3.3**
L64A	**Middleborough**	**51.35**	**71**	P		**P**	**02 44 50.0**	**+0.2**
	baz=320,SNR=19							
L64A				S		**S**	**02 51 59.3**	**-0.2**
	baz=320							
L64A	**Middleborough**	**51.35**	**71**	P		**P**	**02 44 50.4**	**+0.7**
L64A				IAmb		IAmb	02 45 22.5	
	comp=Z,1μm,1.7s							
M64A	**Tiverton**	**51.47**	**72**	P		**P**	**02 44 50.9**	**+0.2**
	baz=320,SNR=20							
M64A				S		**S**	**02 52 01.3**	**+0.2**
	baz=320							
M64A	**Tiverton**	**51.47**	**72**	P		**P**	**02 44 51.0**	**+0.4**
KMSC	**Kings Mountain**	**51.49**	**85**	P		**P**	**02 44 51.6**	**+0.7**
	baz=322,SNR=40							
KMSC				S		**S**	**02 52 02.2**	**+0.7**
	baz=322							
KMSC	**Kings Mountain**	**51.49**	**85**	P		**P**	**02 44 51.4**	**+0.5**
250A	**Grady**	**51.53**	**92**	P		**P**	**02 44 51.8**	**+0.6**
Q61A	**Milford**	**51.54**	**77**	P		**P**	**02 44 52.7**	**+1.5**
	baz=321,SNR=5.8							
Q61A				S		**S**	**02 52 03.2**	**+1.0**
	baz=321							
L65A	**Cape Cod Natio**	**51.65**	**71**	P		**P**	**02 44 51.9**	**-0.1**
	baz=320							
DRLN	**Deer Lake**	**51.72**	**56**	⇓P		**P**	**02 44 52.8**	**+0.4**
M65A	**Busby, Falmout**	**51.73**	**71**	P		**P**	**02 44 53.1**	**+0.5**
	baz=320							
M65A				S		**S**	**02 52 04.4**	**-0.3**
	baz=320							
M65A	**Busby, Falmout**	**51.73**	**71**	P		**P**	**02 44 53.5**	**+0.9**
M65A				IAmb		IAmb	02 45 25.2	
	comp=Z,2μm,1.8s							
HODGE	**Hodges**	**51.74**	**86**	P		**P**	**02 44 53.6**	**+0.8**
152A	**Waverly Hall**	**51.75**	**90**	P		**P**	**02 44 53.2**	**+0.3**
152A				pP		**pP**	**02 45 21.0**	**-0.3**
BRAL	**Brewton**	**51.79**	**93**	P		**P**	**02 44 53.7**	**+0.6**
	baz=324,SNR=14							
BRAL				S		**S**	**02 52 07.5**	**+1.8**
	baz=324							
BRAL	**Brewton**	**51.79**	**93**	P		**P**	**02 44 54.0**	**+0.9**
BRAL	**Brewton**	**51.79**	**93**	⇓P		**P**	**02 44 54.5**	**+1.4**
GOGA	**Godfrey**	**51.79**	**88**	P		**P**	**02 44 53.6**	**+0.5**
GOGA				pmax		pmax		
	comp=Z,1μm,1.3s							
GOGA	**Godfrey**	**51.79**	**88**	P		**P**	**02 44 53.2**	**+0.1**
	baz=323,SNR=29							
GOGA				S		**S**	**02 52 05.7**	**0.0**
	baz=323							
GOGA	**Godfrey**	**51.79**	**88**	P		**P**	**02 44 53.6**	**+0.5**
LOF	**Lofoten**	**51.84**	**6**	*e*P		**P**	**02 44 53.5**	**+0.5**
LOF				IVmB_BB			02 45 33.0	
	comp=Z,2μm,2.7s							
LOF				*e*S		**S**	**02 52 05.0**	**-0.5**
LOF				*e*ScS		**ScS**	**02 54 27.8**	**-2.3**
LOF				IVMs_BB		IVMs_BB	02 57 28.5	
	comp=Z,3μm,17.4s							
T59A	**Double "B" Far**	**51.93**	**80**	P		**P**	**02 44 55.0**	**+0.9**
T59A				pP		**pP**	**02 45 23.9**	**+1.4**
T59A				IAmb		IAmb	02 45 25.6	
	comp=Z,1μm,1.4s							
R61A	**Willards**	**51.96**	**78**	P		**P**	**02 44 56.3**	**+1.9**
IRK	**Irkutsk**	**52.03**	**310**	*e*P		**P**	**02 44 54.9**	**+0.2**
IRK				pmax		pmax		
	comp=Z,1μm,3.0s							
N2SV	**S_rv¥gen**	**52.05**	**7**	*e*P		**P**	**02 44 54.8**	**+0.3**
KSSKC	**Sokcho**	**52.08**	**282**	P		**P**	**02 44 57.1**	**+1.9**
	SNR=12							
KSSKC	**Sokcho**	**52.08**	**282**	P		**P**	**02 44 57.1**	**+1.9**
	SNR=12							
N2IH	**Innhavet**	**52.12**	**5**	*e*P		**P**	**02 44 55.6**	**+0.5**
STEI	**Steigen**	**52.13**	**5**	*e*P		**P**	**02 44 55.4**	**+0.3**
STEI				*e*S		**S**	**02 52 06.4**	**-3.0**
STEI				*e*ScS		**ScS**	**02 54 29.8**	**-2.2**
STEI				IVMs_BB		IVMs_BB	03 01 44.6	
	comp=Z,2μm,37.6s							
JSC	**Jenkinsville**	**52.20**	**86**	P		**P**	**02 44 56.9**	**+0.7**
JSC				pmax		pmax		
	comp=Z,1μm,1.2s							
JSC	**Jenkinsville**	**52.20**	**86**	P		**P**	**02 44 56.9**	**+0.7**
T60A	**Surry**	**52.21**	**80**	P		**P**	**02 44 57.6**	**+1.5**
M66A	**Nantucket**	**52.21**	**71**	P		**P**	**02 44 56.0**	**-0.1**
	baz=321							
M66A				S		**S**	**02 52 11.6**	**+0.4**
	baz=321							
N2VA	**Vr_y**	**52.26**	**7**	*e*P		**P**	**02 44 56.3**	**+0.2**
KSJMJ	**Jumunjin**	**52.28**	**282**	P		**P**	**02 44 58.7**	**+2.0**
	SNR=40							
KSJMJ	**Jumunjin**	**52.28**	**282**	P		**P**	**02 44 58.7**	**+2.0**
	SNR=40							
KSJMJ	**Jumunjin**	**52.28**	**282**	P		**P**	**02 44 58.7**	**+2.0**
	SNR=40							
LVZ	**Lovozero**	**52.30**	**356**	*ce*P		**P**	**02 44 56.4**	**-0.1**
LVZ				pmax		pmax		
	comp=Z,184nm,1.0s							
LVZ	**Lovozero**	**52.30**	**356**	P		**P**	**02 44 56.5**	**-0.1**
LVZ				IAmb		IAmb	02 45 31.6	
	comp=Z,339nm,1.3s							
LVZ	**Lovozero**	**52.30**	**356**	⇑P		**P**	**02 44 56.4**	**-0.1**
S61A	**Accomac**	**52.31**	**78**	P		**P**	**02 44 57.6**	**+0.7**
S61A						**pP**	**02 45 25.7**	**+0.4**
N2RO	**R_st**	**52.37**	**7**	*e*P		**P**	**02 44 57.0**	**+0.1**
JHS	**Saijyo**	**52.38**	**276**	P		**P**	**02 44 58.0**	**+0.4**
JHS				IAmb		IAmb	02 44 59.7	
	comp=Z,569nm,0.8s							
JHS	**Saijyo**	**52.38**	**276**	⇑P		**P**	**02 44 58.1**	**+0.5**
KSDGY	**Daegwallycong**	**52.47**	**282**	P		**P**	**02 45 00.2**	**+2.0**
	SNR=9.9							
KSDGY	**Daegwallycong**	**52.47**	**282**	P		**P**	**02 45 00.2**	**+2.0**
	SNR=9.9							
KSDGY	**Daegwallycong**	**52.47**	**282**	P		**P**	**02 45 00.2**	**+2.0**
	SNR=9.9							
N2TV	**T¥rnvik**	**52.48**	**6**	*e*P		**P**	**02 44 58.0**	**+0.2**
352A	**Blakely**	**52.60**	**91**	P		**P**	**02 44 59.1**	**-0.1**
154A	**Montrose**	**52.61**	**88**	P		**P**	**02 44 59.0**	**-0.2**
HAL	**Halifax**	**52.63**	**64**	P		**P**	**02 45 00.0**	**+0.8**
HAL				IAmb		IAmb	02 45 32.1	
	comp=Z,893nm,1.5s							
HAL				ScP		**ScP**	**02 49 53.5**	**+0.4**
NBB08	**Skaug oppvekst**	**52.64**	**6**	*e*P		**P**	**02 44 58.8**	**-0.1**
APA	**Apatity**	**52.67**	**357**	⇑*i*P		**P**	**02 44 58.0**	**-1.1**
APA				*i* *PP		**pP**	**02 45 23.0**	**-4.9**
APA				*i* S		**S**	**02 52 08.0**	**-8.8**
APA				pmax		pmax		
	comp=Z,50nm,0.8s							
APA				MLR		MLR		
	comp=Z,4μm,16.0s							
FAUS	**Fauske**	**52.67**	**6**	*e*P		**P**	**02 44 60.0**	**+0.8**
FAUS				IVmB_BB			02 45 02.5	
	comp=Z,1μm,3.0s							
FAUS				*ep*P		**pP**	**02 45 27.5**	**-0.4**
FAUS				*e*S		**S**	**02 52 15.4**	**-1.5**
FAUS				*e*ScS		**ScS**	**02 54 33.8**	**-2.1**
FAUS				IVMs_BB		IVMs_BB	03 02 01.7	
	comp=Z,2μm,28.2s							
N2ST	**Straumen**	**52.72**	**5**	*e*P		**P**	**02 44 59.9**	**+0.4**
NBB28	**Valnes**	**52.82**	**6**	*e*P		**P**	**02 45 00.0**	**-0.2**
NBB05	**Inndyr**	**52.95**	**6**	*e*P		**P**	**02 45 01.7**	**+0.4**
GBN	**Guysborough**	**52.97**	**62**	P		**P**	**02 45 02.6**	**+1.0**
GBN				IAmb		IAmb	02 45 35.2	
	comp=Z,1μm,1.6s							
GBN				ScP		**ScP**	**02 49 56.1**	**+1.5**
NBB30	**Finnes**	**53.00**	**6**	*e*P		**P**	**02 45 01.9**	**+0.3**
KSWJU	**Wonju**	**53.00**	**282**	P		**P**	**02 45 05.0**	**+2.9**
	SNR=8.5							
JMN	**Monobe**	**53.01**	**275**	P		**P**	**02 45 03.1**	**+1.0**
JMN				IAmb		IAmb	02 45 07.1	
	comp=Z,502nm,0.9s							
JMN	**Monobe**	**53.01**	**275**	⇑P		**P**	**02 45 03.2**	**+1.0**
KS19	**Wonju Array Si**	**53.02**	**282**	P		**P**	**02 45 03.4**	**+1.2**
KSRS	**Korea Array**	**53.03**	**282**	P		**P**	**02 45 03.4**	**+1.2**
	comp=Z,724nm,0.8s,baz=36,slow=6.8,SNR=1390							
KSRS				ScP		**ScP**	**02 49 55.8**	**+0.9**
	comp=Z,18nm,0.9s,baz=45,slow=4.2,SNR=6.1							
KSRS				LR		LR	03 06 42.4	
	comp=Z,1μm,21.5s,baz=45,slow=35							
KSAR	**Wonju Array Be**	**53.05**	**282**	P		**P**	**02 45 03.2**	**+0.8**
KSAR				ScP		**ScP**	**02 49 55.9**	**+0.8**
YNCB	**YEONCHEON**	**53.05**	**284**	P		**P**	**02 45 04.4**	**+2.0**
	SNR=62							
CNNC	**Cliffs of the**	**53.13**	**82**	P		**P**	**02 45 03.9**	**+1.0**
	baz=322,SNR=6.1							
CNNC				S		**S**	**02 52 24.8**	**+0.9**
	baz=322							
CNNC	**Cliffs of the**	**53.13**	**82**	P		**P**	**02 45 04.5**	**+1.6**
CNNC				PcP		**PcP**	**02 46 10.4**	**+0.9**
NBB17	**Glomfjord B¥r**	**53.17**	**6**	*e*P		**P**	**02 45 03.4**	**+0.6**
NBB15	**Halsa Church**	**53.22**	**6**	*e*P		**P**	**02 45 03.9**	**+0.8**
Y58A	**Scranton**	**53.30**	**84**	P		**P**	**02 45 05.2**	**+1.0**
TIGA	**Tifton**	**53.31**	**90**	P		**P**	**02 45 04.7**	**+0.4**
	baz=324,SNR=11							
TIGA				S		**S**	**02 52 24.9**	**-1.4**
	baz=324							
TIGA	**Tifton**	**53.31**	**90**	P		**P**	**02 45 04.0**	**-0.3**
TIGA				pP		**pP**	**02 45 32.4**	**-0.4**
NBB13	**Alf Garage**	**53.32**	**7**	*e*P		**P**	**02 45 04.2**	**+0.3**
V61A	**Roper**	**53.34**	**81**	P		**P**	**02 45 06.0**	**+1.5**
KSICN	**Icheon**	**53.40**	**283**	P		**P**	**02 45 07.1**	**+2.1**
	SNR=12							
NBB40	**Tonnes**	**53.42**	**7**	*e*P		**P**	**02 45 05.0**	**+0.4**
KONS	**Konsvik**	**53.44**	**7**	*e*P		**P**	**02 45 05.4**	**+0.6**
KSCHJ	**Chungju**	**53.46**	**282**	P		**P**	**02 45 07.2**	**+1.8**
	SNR=8.3							
KSCHJ	**Chungju**	**53.46**	**282**	P		**P**	**02 45 07.2**	**+1.8**
	SNR=7.8						

TIA S **S** **02 53 44.3 -0.2**
TIA pmax pmax
comp=Z,180nm,1.4s
TIA pmax pmax
comp=Z,3μm,11.2s
TIA LR LR
comp=Z,3μm,22.6s
TIA LR LR
comp=Z,4μm,23.0s
TIA LR LR
comp=Z,5μm,23.3s
RAF Rauma 59.27 3 *e*P **P** **02 45 45.8 -0.4**
LEWI Lewis, Hebride 59.31 20 *e*P **P** **02 45 46.4 -0.1**
LEWI IAmb IAmb 02 45 48.8
comp=Z,197nm,1.0s
ODD1 Odda 59.43 12 *e*P **P** **02 45 47.9 +0.4**
ODD1 *e*S **S** **02 53 48.5 +1.9**
LINV Loch Inver, As 59.58 19 *e*P **P** **02 45 47.6 -0.8**
LINV IAmb IAmb 02 45 49.8
comp=Z,89nm,0.8s
MLA1 Latheron 59.72 18⇑*e*P **P** **02 45 49.4 +0.1**
OSL Oslo 59.78 9 *e*P **P** **02 45 50.2 +0.5**
OSL *e*S **S** **02 53 50.1 -0.7**
BLS5 Blasjo 59.90 12 *e*P **P** **02 45 51.3 +0.7**
BLS5 *e*S **S** **02 53 51.0 -1.4**
KONO Kongsberg 59.97 10*c i*P **P** **02 45 50.7 -0.3**
KONO pmax pmax
comp=Z,131nm,1.3s
KONO Kongsberg 59.97 10 *e*P **P** **02 45 51.3 +0.3**
KONO *e*S **S** **02 53 53.3 0.0**
KONO Kongsberg 59.97 10 P **P** **02 45 51.0 0.0**
KONO Kongsberg 59.97 10 ⇓P **P** **02 45 51.3 +0.3**
KMY Karmoy 59.98 13 *e*P **P** **02 45 51.7 +0.7**
KMY *e*S **S** **02 53 53.7 +0.4**
KMY *e*ScS **ScS** **02 55 28.4 -0.6**
AAL Aland 60.07 4 *e*P **P** **02 45 51.4 -0.3**
MEF Metsahovi 60.13 1 *e*P **P** **02 45 50.7 -1.3**
DGZ Jazzator, Alta 60.15 319*c i*P **P** **02 45 53.8 +1.2**
DGZ pmax pmax
comp=Z,381nm,1.1s
KAC Achnashellach 60.18 19 *e*P **P** **02 45 52.5 0.0**
TIY Taiyuan 60.20 294 *e*P **P** **02 45 54.5 +1.5**
TIY S **S** **02 54 01.8 +4.8**
TIY sS **sS** **02 54 50.8 +3.5**
TIY pmax pmax
comp=Z,450nm,0.8s
TIY pmax pmax
comp=Z,4μm,8.8s
TIY LR LR
comp=Z,5μm,13.2s
TIY LR LR
comp=Z,5μm,15.7s
TIY LR LR
comp=Z,4μm,20.0s
KPL Plockton 60.28 20 *e*P **P** **02 45 52.9 -0.2**
KPL IAmb IAmb 02 45 55.4
comp=Z,167nm,1.2s
UPP Uppsala 60.30 5 *e*P **P** **02 45 53.3 +0.1**
MDO Dochfour 60.39 19⇑*e*P **P** **02 45 54.5 +0.6**
MCD Coleburn Disti 60.43 18⇑*e*P **P** **02 45 54.4 +0.2**
KIRV Kirov 60.44 347*c i*P **P** **02 45 53.8 -0.4**
SVE Sverdlovsk 60.48 339*de*P **P** **02 45 54.5 -0.1**
SVE *e* 02 48 10.7
SVE *e*S **S** **02 53 58.4 -1.5**
SVE *e* 02 55 24.8
SVE pmax pmax
comp=Z,435nm,1.3s
PUL Pulkovo 60.56 358*c i*P **P** **02 45 56.2 +1.2**
PUL pmax pmax
comp=Z,241nm,1.0s
SOR Soroa 60.71 95 P **P** **02 45 55.5 -1.1**
SOR pP **pP** **02 46 22.9 -2.8**
SOR IAmb IAmb 02 46 27.4
comp=Z,920nm,1.4s
STRU Stroemstad 60.71 9 *i*P **P** **02 45 56.7 +0.7**
JMZ Minamidaito 2 60.77 271 P **P** **02 45 57.1 +0.2**
JMZ Minamidaito 2 60.77 271 ⇑P **P** **02 45 56.9 -0.1**
JMZ ⇓P **P** **02 45 57.2 +0.3**
SNART Snartemo 61.04 12 *i*P **P** **02 45 59.0 +0.7**
SNART IAmb IAmb 02 46 01.6
comp=Z,408nm,1.1s
SNART *i* 02 46 38.3
SNART Snartemo 61.04 12 *e*P **P** **02 45 58.8 +0.5**
SNART *e*ScP **ScP** **02 50 26.3 -3.6**
SNART *e*S **S** **02 54 05.9 -1.1**
DRUM Mains of Drumt 61.20 18 *e*P **P** **02 45 59.2 -0.2**
DRUM IAmb IAmb 02 46 00.7
comp=Z,339nm,0.7s
ARU Arti 61.22 340*c i*P **P** **02 45 59.1 -0.5**
ARU *PP **pP** **02 46 28.9 -0.2**
ARU 02 46 40.3
ARU S **S** **02 54 09.6 +0.3**
ARU *SS **pS** **02 54 43.9 +1.8**
ARU 02 55 34.7
ARU SS **SS** **02 58 11.1 +0.8**
ARU pmax pmax
comp=Z,208nm,0.6s
ARU Arti 61.22 340 P **P** **02 45 59.1 -0.5**
ARU IAmb IAmb 02 46 00.8
comp=Z,259nm,0.6s
ARU pP **pP** **02 46 29.2 +0.1**
HOMB Homborsund 61.23 11 *i*P **P** **02 45 59.7 +0.1**
HOMB Homborsund 61.23 11 *e*P **P** **02 46 00.2 +0.7**
HOMB *e*S **S** **02 54 07.2 -2.2**
LAWE Loch Awe, Argy 61.35 20⇑*e*P **P** **02 45 59.9 -0.5**
LAWE IAmb IAmb 02 46 01.8
comp=Z,118nm,0.7s
INVG Invergeldie, C 61.42 19⇑*e*P **P** **02 46 00.6 -0.3**
INVG IAmb IAmb 02 46 02.5
comp=Z,130nm,1.0s
INVG *e* 02 54 08.7
INVG IAMs_20 IAMs_20 03 06 22.2
comp=Z,17μm,48.1s
JOW Kunigami 61.42 275 P **P** **02 46 02.2 +0.9**
comp=Z,768nm,0.8s,baz=30,slow=5.9,SNR=174
JOW Kunigami 61.42 275 ⇑P **P** **02 46 02.0 +0.7**
JOW Kunigami 61.42 275 ⇑P **P** **02 46 02.0 +0.7**
SSE Sheshan 61.44 283 P **P** **02 46 02.0 +0.7**
SSE sP **sP** **02 46 46.3 +2.4**
SSE S **S** **02 54 17.3 +4.6**
SSE pmax pmax
comp=Z,150nm,1.2s
SSE pmax pmax
comp=Z,3μm,4.5s
SSE LR LR
comp=Z,2μm,17.7s
EDU Dundee 61.47 18⇑*e*P **P** **02 46 00.7 -0.5**
ANA2 Anatahan 61.57 253 P **P** **02 46 01.2 -1.2**
ANA2 IAmb IAmb 02 46 04.5
comp=Z,1μm,1.6s
MTSE Matsula 61.63 2 *e*P **P** **02 45 58.3 -3.9**
EBH Black Hill 61.67 19 *e*P **P** **02 46 02.6 0.0**
CCIG Comitan 61.73 107 P **P** **02 46 04.3 +0.6**
CCIG pP **pP** **02 46 30.8 -2.2**
CCIG IAmb IAmb 02 46 35.9
comp=Z,351nm,1.1s
TJOU Tjoern 61.74 9 *i*P **P** **02 46 03.7 +0.8**
NJ2 Nanjing 61.79 286⇑*i*P **P** **02 46 04.0 +0.3**
NJ2 pP **pP** **02 46 35.0 +1.9**
NJ2 PcP **PcP** **02 46 43.5 -0.2**
NJ2 sP **sP** **02 46 47.8 +1.5**
NJ2 PP **PP** **02 48 21.5 +0.8**
NJ2 S **S** **02 54 18.3 +1.2**
NJ2 sS **sS** **02 55 10.0 +2.4**
NJ2 ScS **ScS** **02 55 44.0 +0.5**
NJ2 pmax pmax
comp=Z,900nm,0.8s
NJ2 pmax pmax
comp=Z,3μm,3.5s
NJ2 LR LR
comp=Z,3μm,17.2s
NJ2 LR LR
comp=Z,2μm,14.8s
NJ2 LR LR
comp=Z,4μm,19.6s
VSU Vasula 61.91 360 *e*P **P** **02 46 04.5 +0.4**
VSU Vasula 61.91 360*c i*P **P** **02 46 03.9 -0.1**
VSU pmax pmax
comp=Z,527nm,1.1s
VSU Vasula 61.91 360 ⇑P **P** **02 46 04.0 -0.1**
BBSR BB Station 61.92 74 P **P** **02 46 04.8 +0.2**
BBSR pP **pP** **02 46 34.0 +0.2**
BBSR IAmb IAmb 02 46 37.4
comp=Z,762nm,1.4s
BBSR BB Station 61.92 74 ⇓P **P** **02 46 04.5 0.0**
BBSR ⇓p **pP** **02 46 31.4 -2.4**
PGBU Glenifferbraes 61.93 19⇑*e*P **P** **02 46 04.2 -0.1**
PGBU IAmb IAmb 02 46 06.6
comp=Z,207nm,0.9s
BRVK Borovoye 62.01 332*c i*P **P** **02 46 04.7 -0.2**
BRVK pmax pmax
comp=Z,656nm,1.3s
BRVK Borovoye 62.01 332 P **P** **02 46 05.1 +0.2**
BRVK IAmb IAmb 02 46 07.7
comp=Z,778nm,1.3s
BRVK pP **pP** **02 46 36.3 +1.9**
BRVK Borovoye 62.01 332 P **P** **02 46 05.3 +0.4**
BRVK P **P** **02 46 05.3 +0.4**
BRVK S **S** **02 54 15.3 -4.0**
BRVK S **S** **02 54 15.3 -4.0**
BVAR Borovoye Array 62.02 332 PKPPKP 03 15 04.4
comp=Z,1.9nm,0.9s,baz=245,slow=14,SNR=6.5
EDI Edinburgh 62.04 18 *e*P **P** **02 46 04.6 -0.4**
EDI IAmb IAmb 02 46 06.7
comp=Z,167nm,1.1s
KURBB Kurchatov Arra 62.07 325 PKPPKP 03 15 02.6
comp=Z,1.1nm,0.9s,baz=249,slow=4.1,SNR=4.5
KURBB PKP2bc 03 15 19.6
comp=Z,5.6nm,1.2s,baz=218,slow=3.6,SNR=8.7
ESY Stoneypath 62.13 18 *e*P **P** **02 46 05.1 -0.6**
EBL Broad Law 62.20 18 *e*P **P** **02 46 06.1 0.0**
BORU Boraas 62.22 8 *i*P **P** **02 46 06.2 0.0**
PETF Flores 62.28 105 P **P** **02 46 07.6 +0.5**
CLGH Cloghs, Cushen 62.35 21⇑*e*P **P** **02 46 06.9 -0.3**
CLGH IAmb IAmb 02 46 09.3
comp=Z,103nm,0.7s
CLGH *e* 02 54 20.1
CLGH IAMs_20 IAMs_20 03 07 47.9
comp=Z,16μm,46.0s
ONAU Onsala 62.39 9 *i*P **P** **02 46 07.7 +0.3**
GOET G??ttrup 62.52 11 *i*P **P** **02 46 05.0 -3.2**
GOET IAmb IAmb 02 46 11.5
comp=Z,148nm,1.0s
ESK Eskdalemuir 62.62 19 *e*P **P** **02 46 09.0 +0.1**
ESK IAmb IAmb 02 46 11.3
comp=Z,209nm,1.1s
ESK Eskdalemuir 62.62 19 P **P** **02 46 08.5 -0.4**
ESK pmax pmax
comp=Z,226nm,1.1s
ESK Eskdalemuir 62.62 19 P **P** **02 46 08.4 -0.4**
NEWG New Galloway 62.64 19 *e*P **P** **02 46 08.4 -0.6**
NEWG IAmb IAmb 02 46 11.2
comp=Z,278nm,1.3s
SLIT Slitere, Latvi 62.69 3 *e*P **P** **02 46 09.6 +0.3**
SLIT Slitere, Latvi 62.69 3 ⇑P **P** **02 46 09.1 -0.2**
GAL1 Galloway 62.80 20 *e*P **P** **02 46 09.9 -0.1**
GAL1 IAmb IAmb 02 46 11.5
comp=Z,228nm,0.7s
FABU Falkenberg 62.85 9 *i*P **P** **02 46 10.9 +0.6**
ZSN Zaisan 62.95 320⇑*i*P **P** **02 46 12.2 +0.9**
comp=Z,521nm,1.4s,baz=320
ZSN *e*S **S** **02 54 34.2 +2.9**
comp=Z,258nm,2.2s,baz=320
ZSN Zaisan 62.95 320*c i*P **P** **02 46 12.1 +0.9**
ZSN *e*S **S** **02 54 34.1 +2.9**
ZSN pmax pmax
comp=Z,521nm,1.4s
ZSN smax smax
comp=N,258nm,2.2s
MUD Monsted U'grnd 63.09 11 IAmb IAmb 02 46 16.2
comp=Z,296nm,1.4s
MUD *i*P **P** **02 46 10.8 -1.2**
MUD *i*P **P** **02 46 12.9 +1.0**
MUD Monsted U'grnd 63.09 11 *i*P **P** **02 46 12.9 +1.0**
MUD pmax pmax
comp=Z,300nm,1.4s
GMM Mts of Mourne 63.19 21 *e*P **P** **02 46 12.6 0.0**
ILTH Belurgan, Co L 63.32 21⇑*e*P **P** **02 46 12.9 -0.6**
IGLA Glengowla, Co 63.32 23⇑*e*P **P** **02 46 13.2 -0.3**
KESW Keswick, Cumbr 63.34 19 *e*P **P** **02 46 13.5 -0.1**
KESW IAmb IAmb 02 46 16.0
comp=Z,227nm,1.0s
IOMK Kirk Michael 63.41 20 *e*P **P** **02 46 13.8 -0.3**
IOMK IAMs_20 IAMs_20 03 07 18.0
comp=Z,29μm,45.6s
DEL Delary 63.46 8 *i*P **P** **02 46 14.2 -0.2**
BLEU Blekinge 63.75 7 *i*P **P** **02 46 16.1 -0.2**
BJUU Bjuv 63.79 8 *i*P **P** **02 46 17.0 +0.4**
HPK Haverah Park 64.18 18 *e*P **P** **02 46 19.4 +0.3**
HPK IAmb IAmb 02 46 21.2
comp=Z,117nm,0.8s
KNTN Kanton 64.21 200 P **P** **02 46 20.5 +0.8**
KNTN IAmb IAmb 02 46 21.5
comp=Z,370nm,1.1s
KNTN Kanton 64.21 200 ⇓P **P** **02 46 20.6 +0.8**
BRZS Berezniki 64.24 329⇑*i*P **P** **02 46 19.1 -0.6**
comp=Z,413nm,1.5s,baz=329
BRZS *e*pP **pP** **02 46 49.9 +0.6**
baz=329
BRZS *i* S **S** **02 54 45.7 -1.6**
comp=Z,776nm,4.1s,baz=329
BRZS Berezniki 64.24 329*c i*P **P** **02 46 19.1 -0.6**
BRZS *e**PP **pP** **02 46 49.9 +0.6**
BRZS *i* S **S** **02 54 45.7 -1.6**
BRZS pmax pmax
comp=Z,413nm,1.5s
BRZS smax smax
comp=E,776nm,4.1s
PATS Pohnpei 64.28 235 P **P** **02 46 19.8 -0.5**
WME Myndd Eilian 64.28 20 *e*P **P** **02 46 19.7 -0.1**
PBUR Paburge 64.29 3 *e*P **P** **02 46 19.6 -0.2**
MOS Moscow 64.31 353 *e*P **P** **02 46 17.3 -2.7**
MOS *e**PP **pP** **02 46 49.7 0.0**
MOS *e* 02 46 58.7
MOS *e*S **S** **02 54 43.3 -4.5**
MOS *e**SS **pS** **02 55 28.7 +6.5**
MOS pmax pmax
comp=Z,2μm,3.4s
MOS pmax pmax
comp=Z,115nm,1.0s
MOS smax smax
comp=E,6μm,5.0s
MOS smax smax
comp=N,4μm,4.6s
GTA Gaotai 64.31 305 ⇑P **P** **02 46 21.0 +0.6**
GTA pP pP 02 46 50.0 0.0
GTA sP sP 02 47 01.5 -1.7
GTA PP **PP** **02 48 45.0 +2.2**
GTA S **S** **02 54 47.5 -1.1**
GTA ScS **SKSac** **02 56 00.8 -2.0**
GTA SS **SS** **02 59 02.0 +2.5**
GTA pmax pmax
comp=N,590nm,1.1s
GTA pmax pmax
comp=N,14μm,4.3s
GTA LR LR
comp=N,4μm,17.1s
GTA LR LR
comp=N,6μm,15.1s
GTA LR LR
comp=N,4μm,17.5s
MK31 Makanchi Array 64.35 321 P **P** **02 46 20.4 -0.1**
MK31 pmax pmax
comp=Z,112nm,0.9s
MK31 Makanchi Array 64.35 321 P **P** **02 46 20.4 -0.1**
MKAR Makanchi Array 64.35 321 P **P** **02 46 20.0 -0.4**
comp=Z,111nm,0.7s,baz=44,slow=5.9,SNR=618
MKAR pP **pP** **02 46 51.1 +1.1**
comp=Z,38nm,0.8s,baz=47,slow=7.3,SNR=3.3
MKAR S **S** **02 54 50.1 +1.3**
comp=Z,4.0nm,0.8s,baz=26,slow=14,SNR=4.3
MKAR LR LR 03 14 44.3
comp=Z,3μm,18.9s,baz=10,slow=36
MKAR PKPPKP P'P'df 03 15 00.5 -10
comp=Z,1.9nm,1.0s,baz=45,slow=1.9,SNR=6.1
MKAR PKP2bc 03 15 09.6
comp=Z,7.5nm,1.0s,baz=202,slow=2.6,SNR=9.1
MKAR Makanchi Array 64.35 321*ce*P **P** **02 46 20.2 -0.3**
MKAR pmax pmax
comp=Z,111nm,0.7s
MKAR Makanchi Array 64.35 321 P **P** **02 46 20.2 -0.3**
GUMO Guam 64.35 252 P **P** **02 46 19.3 -1.5**
comp=Z,70nm,0.3s,baz=216,slow=6.8,SNR=8.9
GUMO LR LR 03 10 13.8
comp=Z,2μm,21.5s,baz=42,slow=32
GUMO Guam 64.35 252 P **P** **02 46 19.1 -1.7**
GUMO pmax pmax
comp=Z,300nm,1.5s
GUMO Guam 64.35 252 P **P** **02 46 19.1 -1.7**
GUMO Guam 64.35 252 ⇑P **P** **02 46 17.7 -3.1**
WLF1 Llynfaes 64.37 20 *e*P **P** **02 46 20.1 -0.3**
WLF1 IAmb IAmb 02 46 22.5
comp=Z,119nm,0.8s
MAKZ Makanchi 64.44 321 P **P** **02 46 20.7 -0.3**
MAKZ pmax pmax
comp=Z,345nm,1.1s
MAKZ Makanchi 64.44 321 P **P** **02 46 20.7 -0.3**
MAKZ IAmb IAmb 02 46 23.8
comp=Z,345nm,1.1s
VAL Valentia 64.54 24 ⇓P **P** **02 46 21.0 -0.5**
VAL ⇑P **P** **02 46 22.1 +0.6**
FSCY Frank Sound, G 64.54 95 P **P** **02 46 23.0 +1.0**
FSCY pP **pP** **02 46 51.3 -0.2**
YLL Llanberis 64.55 20⇑*e*P **P** **02 46 21.9 +0.4**
ESQI Esquipulas 64.56 106 P **P** **02 46 22.8 +0.5**
ESQI pP **pP** **02 46 52.7 +0.9**
ESQI IAmb IAmb 02 46 56.4
comp=Z,1μm,1.5s
MTO3 Montecristo 64.69 106 P **P** **02 46 23.2 -0.1**
MTO3 pP **pP** **02 46 53.6 +0.8**
MTO3 IAmb IAmb 02 46 54.8
comp=Z,587nm,1.3s
LBWR Ladybower, Pea 64.70 18 *e*P **P** **02 46 22.4 -0.2**
LBWR IAmb IAmb 02 46 24.9
comp=Z,286nm,1.1s
LBWR *e* 02 54 48.5
LBWR IAMs_20 IAMs_20 03 08 16.4
comp=Z,9μm,36.2s
LCCY Blossom Villag 64.80 94 P **P** **02 46 25.1 +1.4**
LCCY pP **pP** **02 46 53.0 -0.2**
ISAL Salakas 64.80 0 *e*P **P** **02 46 23.5 +0.3**
IWEX Carrickbyrne, 64.81 22 *e*P **P** **02 46 23.2 -0.1**
XAN Xi'an 64.83 295 P **P** **02 46 23.5 -0.3**
XAN pP pP 02 46 51.0 -2.4
XAN sP sP 02 47 04.0 -2.6
XAN PP **PP** **02 48 47.0 -0.4**
XAN S **S** **02 54 54.3 -0.7**
XAN sS sS 02 55 47.0 +1.0
XAN ScS **SKSac** **02 56 03.8 -2.9**
XAN SS **SS** **02 59 10.3 +2.5**
XAN pmax pmax
comp=Z,720nm,1.0s
XAN pmax pmax
comp=Z,5μm,6.5s
XAN LR LR
comp=Z,7μm,19.0s
XAN LR LR
comp=Z,8μm,18.2s
XAN LR LR
comp=Z,5μm,22.0s
PABE Paberze 64.85 2 *e*P **P** **02 46 23.2 -0.2**
PABE Paberze 64.85 2 P **P** **02 46 23.3 -0.2**
PABE IAmb IAmb 02 47 04.5
comp=Z,826nm,1.1s
LMK Market Rasen 64.86 17 *e*P **P** **02 46 23.4 -0.2**
BSD Bornholm Skovb 64.88 7 *e*P **P** **02 46 23.5 -0.1**
BSD Bornholm Skovb 64.88 7 *i*P **P** **02 46 23.1 -0.6**
BSD IAmb IAmb 02 46 27.5
comp=Z,87nm,1.1s
BSD Bornholm Skovb 64.88 7 *i*P **P** **02 46 23.1 -0.6**
BSD pmax pmax
comp=Z,87nm,1.1s
CBCY The Bluff, Cay 64.90 94 P **P** **02 46 25.7 +1.4**
CBCY pP **pP** **02 46 53.5 -0.3**
FOEL Foel Wylfa 64.95 19⇑*e*P **P** **02 46 24.0 -0.3**
FOEL IAmb IAmb 02 46 25.8
comp=Z,164nm,0.7s
FOEL *e* 02 54 54.4
FOEL IAMs_20 IAMs_20 03 08 25.4
comp=Z,11μm,37.3s
OBN Obninsk 64.99 354 ⇓P **P** **02 46 24.6 +0.2**
OBN Obninsk 64.99 354*c i*P **P** **02 46 23.7 -0.7**
OBN *i**PP **pP** **02 46 54.1 0.0**
OBN *i* 02 48 50.7
OBN *i*S **S** **02 54 47.3 -8.8**
OBN *i*SS **SS** **02 59 17.0 +8.0**
OBN pmax pmax
comp=Z,172nm,1.0s
OBN Obninsk 64.99 354 P **P** **02 46 24.1 -0.3**
OBN IAmb IAmb 02 47 08.5
comp=Z,2μm,1.9s
IIGN Ignalina 65.02 0 *e*P **P** **02 46 24.5 -0.1**
IDID Didziasalis 65.06 360 *e*P **P** **02 46 25.5 +0.6**
WMQ Urumqi 65.17 316 P **P** **02 46 27.5 +1.6**
WMQ pP PcP 02 46 58.0 +0.5
WMQ sP sP 02 47 11.0 +2.2
WMQ PP **PP** **02 48 51.0 +0.9**
WMQ S **S** **02 55 02.5 +3.6**
WMQ sS sS 02 55 50.0 +0.3
WMQ ScS **SKSac** **02 56 08.5 -0.5**
WMQ pmax pmax
comp=Z,890nm,1.1s
WMQ pmax pmax
comp=Z,6μm,4.5s
WMQ LR LR
comp=Z,6μm,13.7s
WMQ LR LR
comp=Z,4μm,18.3s
WMQ LR LR
comp=Z,2μm,29.0s
WHN Wuhan 65.20 288 ⇑P **P** **02 46 26.3 +0.2**
WHN PP **PP** **02 48 50.3 -0.3**
WHN S **S** **02 55 02.3 +2.9**
WHN sS **sS** **02 55 53.3 +2.9**
WHN pmax pmax
comp=Z,1μm,0.7s
WHN pmax pmax
comp=Z,9μm,10.6s
WHN LR LR
comp=Z,8μm,18.0s
WHN LR LR
comp=Z,9μm,18.5s
WHN LR LR
comp=Z,10μm,22.2s
RGN Rugen 65.33 9 P **P** **02 46 28.6 +2.0**
RGN IAmb IAmb 02 47 08.9
comp=Z,920nm,1.3s
HLM1 Long Mynd 65.37 19 *e*P **P** **02 46 27.0 +0.1**
HLM1 IAmb IAmb 02 46 29.5
comp=Z,205nm,1.3s
LZH Lanzhou 65.39 300 ⇑P **P** **02 46 28.0 +0.4**
LZH pP PcP 02 46 58.3 -0.3
LZH sP sP 02 47 08.0 -2.4
LZH PP **PP** **02 48 54.3 +1.9**
LZH S **S** **02 54 58.8 -3.3**
LZH sS sS 02 55 46.0 -7.0
LZH SS **SS** **02 59 17.0 +0.4**
LZH pmax pmax
comp=Z,2μm,1.4s
LZH pmax pmax
comp=Z,4μm,7.3s
LZH LR LR
comp=Z,6μm,14.6s
LZH LR LR
comp=Z,7μm,16.3s
LZH LR LR
comp=Z,5μm,18.4s
CWF Charnwood Fore 65.41 18 *e*P **P** **02 46 27.4 +0.2**
CWF *e* 02 54 58.6
CWF IAMs_20 IAMs_20 03 08 09.5
comp=Z,16μm,54.4s
RSBS Rosebush, Pemb 65.59 21⇑*e*P **P** **02 46 28.6 +0.2**
RSBS IAmb IAmb 02 46 29.9
comp=Z,168nm,0.7s
KLNR Kaliningrad 65.66 4*c i*P **P** **02 46 28.5 -0.2**
KLNR pmax pmax
comp=Z,480nm,1.1s
BSEG Bad Segeberg 65.69 11 *e*P **P** **02 46 29.9 +1.0**
comp=Z,141nm,1.1s
WACR West Acre 65.72 17 *e*P **P** **02 46 29.1 0.0**
WACR IAmb IAmb 02 46 31.4
comp=Z,786nm,1.0s
WACR *e* 02 55 01.2
WACR IAMs_20 IAMs_20 03 08 17.6
comp=Z,9μm,50.1s
MCH1 Michaelchurch 65.85 20⇑*e*P **P** **02 46 30.0 0.0**
MCH1 IAmb IAmb 02 46 32.4
comp=Z,204nm,1.1s
MCH1 *e* 02 55 00.5
MCH1 IAMs_20 IAMs_20 03 08 29.5
comp=Z,12μm,40.8s
MNK Minsk 65.87 359 *i*P **P** **02 46 29.9 -0.2**

MNK *i* *PP **pP** **02 46 59.3 -0.6**
MNK *i* 02 48 56.2
MNK *i* PPP PPP 02 50 31.9
MNK *i* S **S** **02 55 07.1 +0.2**
MNK *i* SS **SS** **02 59 26.3 +3.6**
MNK pmax pmax
comp=Z,189nm,1.0s
MNK pmax pmax
comp=N,126nm,1.1s
MNK MLR MLR
comp=E,69nm,18.0s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,671nm,18.0s
MNK Minsk 65.87 359 *i* P **P** **02 46 29.9 -0.2**
comp=E,6.0nm,1.0s
MNK *i* P **P** **02 46 29.9 -0.2**
comp=N,126nm,1.1s
MNK *i* P **P** **02 46 29.9 -0.2**
comp=Z,189nm,1.0s,baz=180
MNK *i* pP **pP** **02 46 59.3 -0.6**
MNK *i* PP **PP** **02 48 56.3 +0.5**
MNK *i* PPP PPP 02 50 31.9
MNK *i* S **S** **02 55 07.1 +0.2**
MNK *i* SS **SS** **02 59 26.3 +3.7**
MNK *i* SSS SSS 03 02 37.4
MNK *i* LR LR 03 11 30.0
MNK *i* LRM MLR 03 18 00.7
comp=E,69nm,18.4s
MNK *i* LRM MLR 03 18 00.7
comp=N,671nm,17.7s
MNK *i* LRM MLR 03 18 00.7
comp=Z,1μm,18.7s
TGUH Tegucigalpa,Un 66.00 104 P **P** **02 46 31.9 +0.3**
TGUH IAmb IAmb 02 47 05.4
comp=Z,1μm,1.1s
TGUH Tegucigalpa,Un 66.00 104 *e*P **P** **02 46 32.5 +0.9**
TGUH Tegucigalpa,Un 66.00 104 ⇑P **P** **02 46 32.3 +0.7**
TGUH ⇓P **P** **02 46 32.7 +1.1**
YOJ Yonaguni jima 66.02 278 P **P** **02 46 30.9 -0.5**
YOJ pmax pmax
comp=Z,293nm,1.3s
YOJ Yonaguni jima 66.02 278 P **P** **02 46 30.9 -0.5**
STRD Stroud 66.20 19⇑*e*P **P** **02 46 32.4 +0.1**
STRD IAmb IAmb 02 46 34.4
comp=Z,318nm,1.0s
OLDB Oldbury-Upon-S 66.25 19 *e*P **P** **02 46 32.6 0.0**
SUW Suwalki 66.33 2 *e*P **P** **02 46 32.4 -0.7**
SUW *e*S **S** **02 55 10.1 -2.4**
SUW Suwalki 66.33 2 *e*P **P** **02 46 32.3 -0.7**
SUW Suwalki 66.33 2 P **P** **02 46 32.9 -0.1**
SUW pmax pmax
comp=Z,560nm,1.1s
SUW Suwalki 66.33 2 P **P** **02 46 32.9 -0.1**
SUW IAmb IAmb 02 47 13.4
comp=Z,560nm,1.1s
TATO Taipei 66.34 279 P **P** **02 46 33.1 -0.5**
TATO Taipei 66.34 279 P **P** **02 46 32.8 -0.7**
TATO P **P** **02 46 32.8 -0.7**
HTL Hartland 66.55 21 *e*P **P** **02 46 34.8 +0.3**
YHNB Yeheng 66.66 279 P **P** **02 46 35.1 -0.6**
BELG Belogornoye 66.72 346 PKPPKP **P'P'df** **03 15 05.2 -1.4**
comp=Z,10nm,0.8s,baz=173,slow=3.0,SNR=6.0
BELG Belogornoye 66.72 346*c* *i*P **P** **02 46 35.0 -0.5**
BELG pmax pmax
comp=Z,53nm,1.0s
WOL Wolverton 66.80 19 *e*P **P** **02 46 36.5 +0.5**
GKP Gorka Klasztor 66.86 6 *e*P **P** **02 46 36.4 0.0**
GKP *e*S **S** **02 55 18.6 -0.3**
GKP Gorka Klasztor 66.86 6 *e*P **P** **02 46 36.2 -0.1**
NACB Ninganchiao 66.96 279 P **P** **02 46 36.3 -1.2**
NACB IAmb IAmb 02 46 40.6
comp=Z,365nm,0.9s
IBBN Ibbenburen 67.04 12 *e*P **P** **02 46 38.5 +0.9**
comp=Z,156nm,1.1s
IBBN Ibbenburen 67.04 12 ⇑P **P** **02 46 38.1 +0.5**
IBBN ⇓P **P** **02 46 38.5 +0.9**
AKTO Aktyubinsk 67.06 339 PKPPKP P'P'df 03 14 57.7 -8.3
comp=Z,3.0nm,1.0s,baz=250,slow=2.8,SNR=6.2
GTBY Guantanamo Bay 67.08 90 P **P** **02 46 38.1 -0.2**
GTBY IAmb IAmb 02 47 11.5
comp=Z,423nm,1.2s
GTBY Guantanamo Bay 67.08 90 *e*P pP 02 47 08.2 +0.3
GTBY Guantanamo Bay 67.08 90 ⇑P **P** **02 46 39.1 +0.8**
GTBY ⇑P **P** **02 46 39.3 +1.1**
NRDL Niedersach Rie 67.09 11 *e*P **P** **02 46 38.8 +0.9**
comp=Z,186nm,1.1s
NRDL *e*pP **PcP** **02 47 03.3 -1.8**
baz=350,slow=6.3
TDK Taldyqorghan 67.16 323 *i* P **P** **02 46 38.6 0.0**
comp=Z,728nm,1.6s,baz=323
TDK *e*pP **pP** **02 47 08.7 +0.4**
baz=323
TDK Taldyqorghan 67.16 323 *i* P **P** **02 46 38.5 0.0**
TDK *e**PP **pP** **02 47 08.7 +0.4**
TDK pmax pmax
comp=Z,728nm,1.6s
DYA Yadsworthy 67.19 21⇑*e*P **P** **02 46 38.6 0.0**
DYA IAmb IAmb 02 46 40.3
comp=Z,302nm,1.2s
DYA *e* 02 55 21.2
DYA IAMs_20 IAMs_20 03 10 10.2
comp=Z,9μm,32.6s
CCA1 Carnmenellis 67.19 22⇑*e*P **P** **02 46 38.8 +0.3**
CCA1 IAmb IAmb 02 46 40.5
comp=Z,277nm,1.2s
CCA1 *e* 02 55 19.0
CCA1 IAMs_20 IAMs_20 03 09 26.9
comp=Z,15μm,48.3s
CVJ Coleyville 67.29 93 *i* P **P** **02 46 41.2 +1.5**
MTDJ Mount Denham 67.29 93 P **P** **02 46 40.1 +0.3**
MTDJ pP **pP** **02 47 08.4 -1.0**
MTDJ Mount Denham 67.29 93 *e*P **P** **02 46 40.6 +0.9**
MTDJ Mount Denham 67.29 93 ⇑P **P** **02 46 40.5 +0.7**
MTDJ ⇓P **P** **02 46 40.7 +0.9**
BBJ Bamboo Saint A 67.29 92⇓*i*P **P** **02 46 40.9 +1.2**
BBJ *i* S **pP** **02 47 11.1 +1.7**
LPSR Galich'ya Gora 67.35 352 *e*P **P** **02 46 39.2 -0.3**
LPSR *e*S **S** **02 55 17.1 -7.7**
LPSR pmax pmax
comp=Z,90nm,1.0s
LPSR smax smax
comp=N,780nm,9.4s
FLTG Flechtingen 67.36 10 *e*P **P** **02 46 39.9 +0.3**
comp=N,119nm,1.2s
FLTG *e*pP **PcP** **02 47 04.6 -1.7**
baz=350,slow=6.3
RUE Ruedersdorf 67.42 9 *e*P **P** **02 46 40.9 +1.0**
comp=N,239nm,1.1s
RUE *e*pP **PcP** **02 47 05.8 -0.7**
baz=350,slow=6.3
RUE Ruedersdorf 67.42 9 ⇑P **P** **02 46 40.5 +0.6**
RUE ⇓P **P** **02 46 41.0 +1.0**
MCJ Malvern 67.47 93 *i* P **P** **02 46 42.2 +1.3**
ASSE Asse, Remlinge 67.51 11 *e*P **P** **02 46 41.3 +0.8**
comp=N,92nm,1.1s
ASSE *e*pP **PcP** **02 47 05.9 -1.0**
baz=350,slow=6.3
SSLB Suanglung 67.60 279 P **P** **02 46 41.3 -0.3**
SSLB IAmb IAmb 02 46 47.4
comp=Z,470nm,0.9s
ENH Enshi 67.72 292 P **P** **02 46 42.2 -0.1**
ENH IAmb IAmb 02 46 45.3
comp=Z,997nm,1.1s
YULB Yu-li 67.76 278 P **P** **02 46 41.6 -1.0**
CLZ Clausthal 67.77 11 *e*P **P** **02 46 43.4 +1.1**
comp=Z,211nm,1.1s
STH Stony Hill 67.78 92⇓*i*P **P** **02 46 43.8 +1.0**
STH *i* S **pP** **02 47 13.9 +1.4**
QZH Quanzhou 67.81 282⇑*i*P **P** **02 46 43.3 +0.5**
QZH sP **sP** **02 47 25.5 -0.3**
QZH PP **PP** **02 49 15.3 +1.9**
QZH S **S** **02 55 32.5 +1.5**
QZH sS **sS** **02 56 19.8 -2.5**
QZH pmax pmax
comp=Z,240nm,1.1s
QZH pmax pmax
comp=Z,4μm,7.7s
QZH LR LR
comp=Z,1μm,11.8s
QZH LR LR
comp=Z,2μm,15.6s
QZH LR LR

comp=Z,2μm,21.0s
ABKAR Akbulak array 67.83 337 P **P** **02 46 42.2 -0.4**
BUG Bochum--Univer 67.84 13 *e*P **P** **02 46 43.1 +0.5**
comp=Z,198nm,1.1s
HOJ Hope 67.87 92 *i* S pP 02 47 14.6 +1.6
GTTG Gottingen 68.02 11 *e*P **P** **02 46 44.9 +1.1**
comp=Z,305nm,1.1s
ARXS Arharly 68.05 323 *e*P **P** **02 46 44.1 -0.1**
UCC Uccle 68.12 15 *d*P **P** **02 46 44.1 -0.3**
UCC Uccle 68.12 15 P **P** **02 46 43.5 -0.8**
UCC pmax pmax
comp=Z,217nm,1.4s
UCC Uccle 68.12 15 P **P** **02 46 43.5 -0.8**
TPUB Ta-pu 68.17 279 P **P** **02 46 44.6 -0.6**
TPUB IAmb IAmb 02 46 47.8
comp=Z,394nm,1.1s
KASTN Kahler Asten 68.20 12 *e*P **P** **02 46 45.7 +0.7**
comp=Z,91nm,1.1s
BEBN Eben Emael 68.28 14 *d*P **P** **02 46 45.3 -0.1**
comp=Z,156nm,1.3s
TWG Pinlang 68.35 278 P **P** **02 46 44.8 -1.5**
SNF Seneffe 68.39 15 *d*P **P** **02 46 46.0 0.0**
comp=Z,98nm,1.1s
BTLS Baital 68.40 326⇑*i*P **P** **02 46 45.9 -0.4**
comp=Z,249nm,1.7s,baz=326
BTLS *e*pP **pP** **02 47 16.1 0.0**
baz=326
BTLS *e*S **S** **02 55 36.3 -1.4**
baz=326
BTLS Baital 68.40 326*c* *i*P **P** **02 46 45.9 -0.4**
BTLS *e**PP **pP** **02 47 16.1 0.0**
BTLS *e*S **S** **02 55 36.2 -1.4**
BTLS pmax pmax
comp=Z,249nm,1.7s
BEL Belsk 68.44 4 *e*P **P** **02 46 46.8 +0.4**
BEL *e*S **S** **02 55 37.9 +0.1**
KPKS Kokpek 68.46 322⇑*i*P **P** **02 46 47.0 +0.2**
comp=Z,673nm,2.2s,baz=322
KPKS *e*pP **pP** **02 47 16.6 -0.2**
baz=322
KPKS *i* S **S** **02 55 38.7 0.0**
comp=Z,466nm,6.8s,baz=322
KPKS Kokpek 68.46 322*c* *i*P **P** **02 46 47.0 +0.2**
KPKS *e**PP **pP** **02 47 16.5 -0.2**
KPKS *i* S **S** **02 55 38.6 0.0**
KPKS pmax pmax
comp=Z,673nm,2.2s
KPKS smax smax
comp=E,466nm,6.8s
BSTI Sart Tilman 68.48 14 *d*P **P** **02 46 46.6 0.0**
comp=Z,45nm,1.3s
SHLS Shalkode 68.50 321⇑*i*P **P** **02 46 46.9 -0.2**
comp=Z,713nm,1.9s,baz=321
SHLS *e*pP **pP** **02 47 17.4 +0.3**
baz=321
SHLS *e*S **S** **02 55 37.1 -2.0**
baz=321
SHLS Shalkode 68.50 321*c* *i*P **P** **02 46 46.9 -0.2**
SHLS *e**PP **pP** **02 47 17.3 +0.3**
SHLS *e*S **S** **02 55 37.1 -2.0**
SHLS pmax pmax
comp=Z,713nm,1.9s
MEM Membach 68.51 14 *d*P **P** **02 46 47.1 +0.3**
comp=Z,150nm,1.4s
VRH Novokhopyorsk 68.51 350 *e*P **P** **02 46 45.2 -1.6**
VRH *e*S **S** **02 55 34.2 -4.5**
VRH pmax pmax
comp=Z,40nm,0.7s
VRH smax smax
comp=E,3μm,9.8s
NEUB Neuenburg 68.52 10 *e*P **P** **02 46 47.7 +0.8**
comp=E,213nm,1.4s
NEUB *e*pP **PcP** **02 47 12.4 +1.2**
baz=350,slow=6.3
NEUB *e*sP **sP** **02 47 25.3 -4.8**
baz=351,slow=6.3
CLL Collm 68.53 9⇑*i*P **P** **02 46 46.5 -0.4**
comp=Z,86nm,1.2s
CLL *e*PcP **PcP** **02 47 10.0 -1.2**
CLL *i* pP **pP** **02 47 15.9 -1.0**
CLL *i* sP **sP** **02 47 27.5 -2.6**
comp=Z,212nm,1.0s
CLL *e* 02 48 01.0
CLL *e* 02 48 14.0
CLL *e*PP **PP** **02 49 17.0 -1.9**
CLL *e*pPP 02 49 48.0
CLL *e*sPP 02 49 58.0
CLL *e*PPP PPP 02 51 00.0
CLL *e*PPPP 02 51 42.0
CLL *e*S **S** **02 55 36.0 -2.8**
comp=N,2μm,22.4s
CLL *e*S **S** **02 55 36.0 -2.8**
comp=E,4μm,24.7s
CLL *e*S **S** **02 55 36.0 -2.8**
comp=Z,2μm,23.5s
CLL *e*PS **PnS** **02 56 20.0 -0.1**
CLL *e*sS **sS** **02 56 32.0 +1.2**
CLL *e* 02 57 42.0
CLL *e*SS **SS** **03 00 00.0 -3.8**
CLL *e* 03 01 30.0
CLL *e*SSS SSS 03 03 18.0
CLL *e*SSSS 03 04 42.0
CLL *e*PKPPKPdP **P'P'df** **03 15 00.0 -3.5**
comp=Z,1μm,4.1s
CLL Collm 68.53 9⇑*i*P **P** **02 46 46.5 -0.4**
CLL *e* 02 47 10.0
CLL *i* *PP **pP** **02 47 15.9 -1.0**
CLL *i* *SP **sP** **02 47 27.5 -2.6**
CLL *e*S **S** **02 55 36.0 -2.8**
CLL pmax pmax
comp=Z,86nm,1.2s
CLL Collm 68.53 9 P **P** **02 46 46.9 0.0**
CLL Collm 68.53 9 *e*P **P** **02 46 47.4 +0.5**
comp=Z,86nm,1.2s
CLL *e*pP **PcP** **02 47 12.1 +0.9**
baz=350,slow=6.3
CLL *e*sP **sP** **02 47 25.0 -5.1**
baz=351,slow=6.3
BTNL Ternell 68.55 14 *d*P **P** **02 46 47.1 0.0**
comp=Z,163nm,1.2s
BGES Gesves 68.62 15 *d*P **P** **02 46 47.0 -0.5**
comp=Z,108nm,1.4s
CHKK Chushkaly 68.63 323⇑*i*P **P** **02 46 47.1 -0.6**
baz=323
CHKK Chushkaly 68.63 323⇑*i*P **P** **02 46 47.1 -0.6**
UZB Uzynbulak 68.65 322⇑*i*P **P** **02 46 48.1 0.0**
comp=Z,403nm,2.7s,baz=322
UZB *i* S **S** **02 55 40.8 -0.2**
comp=Z,307nm,5.3s,baz=322
UZB Uzynbulak 68.65 322*c* *i*P **P** **02 46 48.0 0.0**
UZB *i* S **S** **02 55 40.7 -0.2**
UZB pmax pmax
comp=Z,403nm,2.7s
UZB smax smax
comp=E,307nm,5.3s
BMRD Maredsous 68.66 15 *d*P **P** **02 46 48.0 +0.3**
comp=Z,154nm,1.5s
AHRW Bad Neuenahr-A 68.70 13 *e*P **P** **02 46 48.8 +0.8**
comp=Z,104nm,1.1s
AHRW *e*sP **sP** **02 47 26.2 -5.0**
baz=351,slow=6.3
UBBA Unterbreizbach 68.74 11 *e*P **P** **02 46 49.0 +0.9**
comp=Z,75nm,1.4s
UBBA *e*sP **sP** **02 47 26.5 -4.9**
baz=351,slow=6.3
BHOU Houvegnez 68.76 14 *d*P **P** **02 46 48.7 +0.3**
comp=Z,90nm,2.4s
KUU Kurty 68.79 324⇑*i*P **P** **02 46 47.8 -0.9**
comp=Z,1μm,3.0s,baz=324
KUU *e*pP **pP** **02 47 17.5 -1.2**
baz=324
KUU *i* S **S** **02 55 41.2 -1.1**
comp=Z,2μm,5.7s,baz=324
KUU Kurty 68.79 324*c* *i*P **P** **02 46 47.8 -0.9**
KUU *e**PP **pP** **02 47 17.5 -1.2**
KUU *i* S **S** **02 55 41.1 -1.1**
KUU pmax pmax
comp=Z,1μm,3.0s
KUU smax smax
comp=E,2μm,5.7s
ACON Acoyapa 68.82 103 P **P** **02 46 48.5 -0.7**
ACON pP **pP** **02 47 18.5 -0.5**
ACON IAmb IAmb 02 47 20.3
comp=Z,567nm,1.3s
DOU Dourbes 68.84 15 *b*P **P** **02 46 48.8 0.0**
comp=Z,127nm,1.5s

RCHB Rochefort 68.86 15 *d*P **P** **02 46 49.1 +0.1**
comp=Z,126nm,1.1s
SATY Saty 68.92 322⇑*i*P **P** **02 46 49.9 +0.2**
comp=Z,409nm,2.2s,baz=322
SATY *e*pP **pP** **02 47 19.1 -0.6**
baz=322
SATY *i* S **S** **02 55 44.2 +0.1**
comp=Z,376nm,4.7s,baz=322
SATY Saty 68.92 322*c* *i*P **P** **02 46 49.9 +0.2**
SATY *e**PP **pP** **02 47 19.0 -0.6**
SATY *i* S **S** **02 55 44.2 +0.1**
SATY pmax pmax
comp=Z,409nm,2.2s
SATY smax smax
comp=E,375nm,4.7s
VORD Divnogorie 68.95 351 *e*P **P** **02 46 47.8 -1.7**
VORD *e*S **S** **02 55 37.1 -6.7**
VORD pmax pmax
comp=Z,90nm,0.8s
VORD smax smax
comp=N,150nm,4.0s
BRG Berggiesshubel 69.03 9 *e*P **P** **02 46 50.1 0.0**
BRG Amp 02 46 53.5
comp=Z,132nm,1.3s
BRG pP **PcP** **02 47 15.8 +2.4**
BRG Amp 02 47 21.4
comp=Z,140nm,1.3s
BRG sP **sP** **02 47 28.7 -4.8**
BRG Amp 02 47 32.5
comp=Z,233nm,1.1s
BRG Berggiesshubel 69.03 9 S **S** **02 55 44.0 -0.8**
BRG Berggiesshubel 69.03 9 sS sS 02 56 35.0 -1.8
BRG Berggiesshubel 69.03 9 *e*P **P** **02 46 50.8 +0.8**
comp=Z,132nm,1.3s
BRG *e*pP **PcP** **02 47 15.7 +2.4**
baz=350,slow=6.3
BRG *e*sP **sP** **02 47 28.7 -4.8**
baz=351,slow=6.3
ESPN Las Esperanzas 69.06 102 P **P** **02 46 50.8 +0.1**
ESPN pP **pP** **02 47 20.2 -0.3**
ESPN IAmb IAmb 02 47 22.2
comp=Z,990nm,1.3s
MOX Moxa 69.07 10 *e*P **P** **02 46 51.1 +0.8**
comp=Z,173nm,1.3s
MOX *e*pP **PcP** **02 47 15.8 +2.3**
baz=350,slow=6.3
MOX *e*sP **sP** **02 47 28.8 -4.8**
baz=351,slow=6.3
TNS Taunus Mts 69.17 12 *e*P **P** **02 46 51.8 +0.8**
comp=Z,105nm,1.1s
TNS *e*sP **sP** **02 47 29.2 -5.2**
baz=351,slow=6.3
KSP Ksiaz 69.22 7 *e*P **P** **02 46 51.4 +0.2**
KSP *e*S **S** **02 55 47.8 +0.7**
AAA Alma-Ata 69.24 323⇑*i*P **P** **02 46 51.7 +0.1**
comp=Z,1μm,2.1s,baz=323
AAA *e*pP **pP** **02 47 20.6 -0.9**
baz=323
AAA *e*S **S** **02 55 45.8 -1.9**
comp=Z,296nm,5.3s,baz=323
AAA Alma-Ata 69.24 323*c* *i*P **P** **02 46 51.7 +0.1**
AAA *e**PP **pP** **02 47 20.6 -0.9**
AAA *e*S **S** **02 55 45.8 -1.9**
AAA pmax pmax
comp=Z,1μm,2.1s
AAA smax smax
comp=E,296nm,5.3s
MDOK Medeo 69.24 323 *i* P **P** **02 46 51.3 -0.4**
baz=323
MDOK *e*pP **pP** **02 47 21.1 -0.7**
baz=323
MDOK *i* S **S** **02 55 47.0 -1.0**
comp=E,3μm,6.2s,baz=323
MDOK Medeo 69.24 323 *i* P **P** **02 46 51.3 -0.4**
MDOK *e**PP **pP** **02 47 21.0 -0.7**
MDOK *i* S **S** **02 55 46.9 -1.0**
MDOK smax smax
comp=E,3μm,6.2s
PLN Plauen 69.27 10 *e*P **P** **02 46 52.3 +0.8**
comp=E,126nm,1.3s
PLN *e*sP **sP** **02 47 30.1 -4.8**
baz=351,slow=6.3
WERD Werda 69.32 10 *e*P **P** **02 46 52.7 +0.8**
comp=E,90nm,1.3s
WERD *e*sP **sP** **02 47 30.5 -4.7**
baz=351,slow=6.3
ROSF Rostrenen 69.33 21 *e*P **P** **02 46 52.0 +0.1**
TAOE Nuku Hiva Isla 69.41 166 *e*P **P** **02 46 53.5 +0.7**
comp=E,195nm,0.7s
TAOE *e*S **S** **02 55 50.4 +0.3**
comp=E,5μm,27.2s
TAOE Nuku Hiva Isla 69.41 166 *e*LR LR 03 08 07.2
comp=E,11μm,29.4s,baz=1.3
TAOE Nuku Hiva Isla 69.41 166 *e*T T 03 59 05.3
comp=E,32nm,0.2s
TAOE Nuku Hiva Isla 69.41 166 P **P** **02 46 52.2 -0.6**
GUNZ Gunzen 69.41 10 *e*P **P** **02 46 53.3 +0.9**
comp=E,94nm,1.3s
GUNZ *e*sP **sP** **02 47 31.0 -4.7**
baz=351,slow=6.3
PVCC Panska Ves 69.42 8⇓*i*P **P** **02 46 53.1 +0.7**
PVCC *e* 02 47 20.3
PVCC *e*S **S** **02 55 49.6 +0.2**
PVCC Panska Ves 69.42 8⇓*i*P **P** **02 46 53.1 +0.7**
PVCC *e*x x 02 47 20.3
PVCC *e*S **S** **02 55 49.6 +0.2**
PRZ Przheval'sk 69.44 322 P **P** **02 46 54.8 +1.8**
PRZ pmax pmax
comp=Z,455nm,1.4s
PRZ Przheval'sk 69.44 322 P **P** **02 46 54.8 +1.8**
PRZ IAmb IAmb 02 46 57.8
comp=Z,455nm,1.4s
WLF Walferdange 69.46 14 *d*P **P** **02 46 53.4 +0.7**
comp=Z,212nm,1.4s
WLF Walferdange 69.46 14 P **P** **02 46 53.3 +0.6**
WLF pmax pmax
comp=Z,394nm,1.3s
WLF Walferdange 69.46 14 P **P** **02 46 53.3 +0.6**
WLF IAmb IAmb 02 47 31.6
comp=Z,394nm,1.3s
WLF Walferdange 69.46 14 *e*P **P** **02 46 53.8 +1.1**
comp=Z,224nm,1.1s
WLF *e*sP **sP** **02 47 31.3 -4.7**
baz=351,slow=6.3
WLF Walferdange 69.46 14⇑P **P** **02 46 53.1 +0.4**
WLF ⇓P **P** **02 46 53.8 +1.1**
CHVC Chvalec 69.46 7 *e*P **P** **02 46 53.4 +0.7**
CHVC *e*S **S** **02 55 50.2 +0.2**
WERN Wernitzgruen 69.49 10 *e*P **P** **02 46 53.9 +1.0**
comp=Z,127nm,1.3s
WERN *e*sP **sP** **02 47 31.7 -4.5**
baz=351,slow=6.3
PRVC Isla de Provid 69.50 99 *e*P P 02 47 20.4 +27
OSTC Ostas 69.50 7⇓*e*P **P** **02 46 53.2 +0.2**
OSTC *e*S **S** **02 55 50.8 +0.4**
UPC Upice 69.54 7 *e*P **P** **02 46 53.8 +0.6**
UPC *e* 02 47 21.6
UPC *e*S **S** **02 55 51.3 +0.5**
UPC Upice 69.54 7⇓*e*P **P** **02 46 53.8 +0.6**
UPC *e*pP **pP** **02 47 21.6 -1.8**
UPC *e*S **S** **02 55 51.3 +0.5**
NKC Novy Kostel 69.55 10 *e*P **P** **02 46 54.0 +0.7**
NKC *e* 02 47 21.0
NKC *e*S **S** **02 55 51.3 +0.3**
NKC Novy Kostel 69.55 10⇓*e*P **P** **02 46 54.0 +0.7**
NKC *e*x x 02 47 21.0
NKC *e*S **S** **02 55 51.3 +0.3**
MILB Miltenberg 69.65 12 *e*P **P** **02 46 54.8 +0.9**
comp=Z,169nm,1.2s
MILB *e*sP **sP** **02 47 32.5 -4.8**
baz=351,slow=6.3
AKASG Malin Array Be 69.66 358 P **P** **02 46 52.6 -1.2**
comp=Z,44nm,0.5s,baz=6.6,slow=6.3,SNR=88
AKASG pP **pP** **02 47 20.2 -3.9**
comp=Z,34nm,0.6s,baz=3.5,slow=5.9,SNR=4.1
AKASG PKPPKP **P'P'df** **03 14 57.0 -4.6**
comp=Z,2.1nm,0.8s,baz=186,slow=3.1,SNR=5.9
AKASG LR LR 03 15 27.9
comp=Z,1μm,21.8s,baz=350,slow=34
AKASG Malin Array Be 69.66 358 P **P** **02 46 52.7 -1.2**
AKASG pmax pmax
comp=Z,275nm,1.2s
AKASG Malin Array Be 69.66 358 P **P** **02 46 52.7 -1.2**
AKBB Malin Array Si 69.66 358*c* *i*P **P** **02 46 53.0 -0.9**
SGDS Sogindy 69.69 325⇑*i*P **P** **02 46 54.4 0.0**

comp=Z,243nm,2.0s,baz=325
SGDS *e*P **pP** **02 47 23.6 -0.8**
baz=325
SGDS *i* S **S** **02 55 52.8 -0.2**
comp=Z,523nm,5.1s,baz=325
SGDS Sogindy 69.69 325*c i*P **P** **02 46 54.4 0.0**
SGDS *e**PP **pP** **02 47 23.5 -0.8**
SGDS *i* S **S** **02 55 52.8 -0.2**
SGDS pmax pmax
comp=Z,243nm,2.0s
SGDS smax smax
comp=E,523nm,5.1s
DPC Dobruska-Polom 69.71 7 *e*P **P** **02 46 55.2 +0.9**
DPC *e*S **S** **02 55 53.6 +0.6**
DPC Dobruska-Polom 69.71 7⇓*e*P **P** **02 46 55.2 +0.9**
DPC *e*S **S** **02 55 53.6 +0.6**
DPC *e*PKPPKP 03 14 56.3
MANZ Manzenberg 69.76 10 *e*P **P** **02 46 55.3 +0.7**
comp=E,72nm,1.3s
MANZ *e*pP **PcP** **02 47 20.1 +3.5**
baz=350,slow=6.3
MANZ *e*sP **sP** **02 47 33.1 -4.9**
baz=351,slow=6.3
SDDR Presa de Saban 69.79 87 P **P** **02 46 55.4 +0.2**
SDDR pP **pP** **02 47 25.7 +0.6**
SDDR IAmb IAmb 02 47 28.7
comp=Z,670nm,1.4s
SDDR Presa de Saban 69.79 87 *e*P **P** **02 46 54.3 -0.9**
CD2 Chengdu 69.81 297 ⇑P **P** **02 46 55.3 +0.1**
CD2 pP pP 02 47 27.5 +2.3
CD2 PP **PP** **02 49 32.0 +1.4**
CD2 S **S** **02 55 53.0 -1.7**
CD2 pmax pmax
comp=Z,1μm,0.7s
CD2 pmax pmax
comp=Z,5μm,6.2s
CD2 LR LR
comp=Z,5μm,19.3s
CD2 LR LR
comp=Z,5μm,16.1s
CD2 LR LR
comp=Z,5μm,22.6s
PRA Prague 69.86 8 *e*P **P** **02 46 56.0 +0.8**
PRA *e*S **S** **02 55 54.7 +0.1**
PRA Prague 69.86 8⇓*e*P **P** **02 46 56.0 +0.8**
PRA *e*S **S** **02 55 54.7 +0.1**
TKM2 Tokmak 2 69.90 324 P **P** **02 46 56.2 +0.4**
SNR=151
USP Ospenovka 69.90 325 P **P** **02 46 57.0 +1.3**
SNR=112
H07N1 FLORES T-PHASE 69.94 44 *e*S **S** **02 55 53.8 -2.1**
PRU Pruhonice 69.95 8 *e*P **P** **02 46 56.4 +0.7**
PRU *e* 02 47 24.1
PRU *e*S **S** **02 55 55.8 +0.1**
PRU MLR MLR
comp=Z,2μm,16.9s
PRU Pruhonice 69.95 8⇓*e*P **P** **02 46 56.4 +0.7**
PRU *e*x x 02 47 24.1
PRU *e*S **S** **02 55 55.8 +0.1**
PRU AMS AMS 03 16 00.0
comp=Z,2μm,16.9s
GRA1 Grafenberg Arr 69.97 11 P **P** **02 46 56.1 +0.2**
GRF Grafenberg Arr 69.97 11 P **P** **02 46 56.1 +0.2**
GRF pmax pmax
comp=Z,228nm,1.2s
GRF Grafenberg Arr 69.97 11 *e*P **P** **02 46 56.9 +1.0**
comp=Z,121nm,1.2s
GRF *e*pP **pP** **02 47 21.8 -4.3**
baz=350,slow=6.3
GRF *e*sP **sP** **02 47 34.6 -4.6**
baz=351,slow=6.3
GRFO Grafenberg 69.97 11 P **P** **02 46 56.3 +0.4**
GRFO pmax pmax
comp=Z,214nm,1.2s
GRFO Grafenberg 69.97 11 P **P** **02 46 56.2 +0.4**
ROTZ Rotzenmuhle 69.99 10 *e*P **P** **02 46 56.9 +1.0**
comp=Z,129nm,1.3s
ROTZ *e*pP **PcP** **02 47 21.7 +4.3**
baz=350,slow=6.3
ROTZ *e*sP **sP** **02 47 34.7 -4.6**
baz=351,slow=6.3
KRLC Kraliky 70.02 7 *e*P **P** **02 46 56.8 +0.6**
KRLC *e*S **S** **02 55 57.5 +1.0**
KRLC Kraliky 70.02 7⇓*e*P **P** **02 46 56.8 +0.6**
KRLC *e*S **S** **02 55 57.5 +1.0**
KRLC *e*PKPPKP P'P'df 03 14 52.4 -8.7
OJC Ojcow 70.02 5 *e*P **P** **02 46 55.9 -0.2**
OJC *e*S **S** **02 55 55.8 -0.7**
OJC Ojcow 70.02 5 P **P** **02 46 56.5 +0.3**
OJC pmax pmax
comp=Z,120nm,1.0s
OJC Ojcow 70.02 5 P **P** **02 46 56.5 +0.3**
CHMS Chumysh 70.08 325 P **P** **02 46 57.0 +0.4**
SNR=110
KDJ Kajisay 70.14 322 P **P** **02 46 57.7 +0.5**
KDJ pmax pmax
comp=Z,277nm,1.1s
KDJ Kajisay 70.14 322 P **P** **02 46 57.7 +0.5**
BOOM Boomskoye usch 70.19 323 P **P** **02 46 58.2 +0.6**
BOOM pmax pmax
comp=Z,102nm,0.9s
BOOM Boomskoye usch 70.19 323 P **P** **02 46 58.1 +0.6**
H07S1 FLORES T-PHASE 70.19 44 *e*P **P** **02 47 00.0 +2.6**
H07S1 *e*pP **pP** **02 47 25.8 -1.7**
H07S1 *e*S **S** **02 56 00.3 +1.5**
FRU1 Bishkek 70.28 325 P **P** **02 46 58.9 +0.9**
FRU1 pmax pmax
comp=Z,400nm,1.2s
FRU1 Bishkek 70.28 325 P **P** **02 46 58.9 +0.9**
FRU1 IAmb IAmb 02 47 01.6
comp=Z,400nm,1.2s
TARG Taragay, Kyrgy 70.31 322 P **P** **02 46 59.9 +1.3**
ULHL Ulahol 70.32 323 P **P** **02 46 59.8 +1.4**
SNR=26
OKC Ostrava-Krasne 70.33 6 *e*P **P** **02 46 58.6 +0.6**
OKC *e* 02 47 27.9
OKC *e*S **S** **02 55 59.8 -0.2**
OKC Ostrava-Krasne 70.33 6⇓*e*P **P** **02 46 58.6 +0.6**
OKC *e*pP **pP** **02 47 27.9 -0.4**
OKC *e*S **S** **02 55 59.8 -0.2**
KBK Karagaybulak 70.33 324 P **P** **02 46 59.1 +0.7**
SNR=36
MORC Moravsky Berou 70.36 6 ⇓P **P** **02 46 58.9 +0.6**
MORC Moravsky Berou 70.36 6 P **P** **02 46 58.5 +0.2**
MORC pmax pmax
comp=Z,119nm,1.0s
MORC Moravsky Berou 70.36 6 P **P** **02 46 58.5 +0.2**
MORC Moravsky Berou 70.36 6⇑*i*P **P** **02 46 58.1 -0.2**
MORC *e*S **S** **02 55 59.5 -1.0**
MORC *e*PKPPKP **P'P'df** **03 14 53.9 -6.6**
AAK Ala-Archa 70.48 325 PKP2ab 03 14 56.5
comp=Z,1.8nm,0.3s,baz=194,slow=5.4,SNR=4.6
AAK LR LR 03 19 05.9
comp=Z,2μm,18.8s,baz=20,slow=37
AAK Ala-Archa 70.48 325 P **P** **02 47 00.6 +1.3**
SNR=35
AAK Ala-Archa 70.48 325 *i* P **P** **02 47 00.0 +0.7**
SNR=87
AAK Ala-Archa 70.48 325*c i*P **P** **02 46 59.8 +0.5**
AAK pmax pmax
comp=Z,725nm,1.3s
AAK Ala-Archa 70.48 325 P **P** **02 46 59.5 +0.2**
CLF Chambon-Foret 70.54 17 P **P** **02 47 00.1 +0.9**
CLF IAmb IAmb 02 47 38.8
comp=Z,370nm,1.1s
LVV L'vov 70.55 2 *e*P **P** **02 46 58.7 -0.6**
LVV *e* 02 47 26.2
LVV *e**PP **sP** **02 47 38.3 -4.5**
LVV *e*S **S** **02 55 55.5 -7.1**
LVV *e*PS **PnS** **02 56 51.5 +4.8**
LVV pmax pmax
comp=Z,100nm,1.2s
WET Wettzell 70.66 10 *e*P **P** **02 47 01.3 +1.2**
comp=Z,90nm,1.3s
WET *e*sP **sP** **02 47 39.2 -4.3**
baz=351,slow=6.3
EKS2 Erkin-Say 70.67 325 P **P** **02 47 01.7 +1.4**
SNR=7.6
STU Stuttgart 70.68 12 P **P** **02 47 00.5 +0.3**
STU pmax pmax
comp=Z,198nm,1.3s
STU Stuttgart 70.68 12 P **P** **02 47 00.5 +0.3**
STU Stuttgart 70.68 12 *e*P **P** **02 47 00.9 +0.7**
comp=Z,99nm,1.1s
STU *e*sP **sP** **02 47 38.8 -4.8**
baz=351,slow=6.3
TREC Trest 70.71 8 *e*P **P** **02 47 00.7 +0.3**
TREC *e* 02 47 27.9
TREC *e*S **S** **02 56 05.4 +0.8**
TREC Trest 70.71 8⇓*e*P **P** **02 47 00.7 +0.3**
TREC *e*x x 02 47 27.9
TREC *e*S **S** **02 56 05.4 +0.8**
KHC Kasperske Hory 70.73 9 *e*P **P** **02 47 01.5 +1.0**
KHC *e*S **S** **02 56 06.0 +1.1**
KHC Kasperske Hory 70.73 9⇓*e*P **P** **02 47 01.5 +1.0**
KHC *e*x x 02 47 40.0
KHC *e*S **S** **02 56 06.0 +1.1**
KHC *e*PKPPKP 03 14 52.0
BFO Black Forest 71.03 13 P **P** **02 47 02.1 -0.2**
BFO pmax pmax
comp=Z,167nm,1.3s
BFO Black Forest 71.03 13 P **P** **02 47 02.0 -0.2**
BFO Black Forest 71.03 13 *e*P **P** **02 47 02.9 +0.6**
comp=Z,120nm,1.1s
BFO *e*pP **pP** **02 47 27.7 -4.9**
baz=350,slow=6.3
BFO *e*sP **sP** **02 47 40.6 -5.2**
baz=351,slow=6.3
GEC2 GERESS Array S 71.03 9 P **P** **02 47 02.0 -0.4**
GEC2 GERESS Array S 71.03 9 *e*P **P** **02 47 03.2 +0.8**
comp=Z,101nm,1.3s
GEC2 *e*sP **sP** **02 47 41.1 -4.7**
baz=351,slow=6.3
GERES GERESS Array B 71.03 9 P **P** **02 47 02.3 -0.1**
comp=Z,37nm,1.1s,baz=0.0,slow=3.2,SNR=81
GERES pP **pP** **02 47 28.3 -4.3**
comp=Z,26nm,1.0s,baz=343,slow=4.2,SNR=4.0
GERES PKP2ab 03 14 50.9
comp=Z,1.3nm,0.9s,baz=165,slow=5.5,SNR=6.8
GERES GERESS Array B 71.03 9 P **P** **02 47 02.7 +0.3**
GERES GERESS Array B 71.03 9 P **P** **02 47 02.6 +0.3**
LANS Liptovska Anna 71.08 5 *e*P **P** **02 47 03.8 +1.2**
LANS pmax pmax
comp=Z,89nm,1.4s
LANS Liptovska Anna 71.08 5 *e*P **P** **02 47 03.8 +1.2**
LANS *e*sP **sP** **02 47 42.4 -3.7**
CKRC Cesky Krumlov 71.10 9⇓*i*P **P** **02 47 03.1 +0.4**
CKRC *e*S **S** **02 56 09.9 +0.8**
DZA Taraz 71.14 327 *e*P **P** **02 47 02.3 -0.9**
baz=327
DZA *e*S **S** **02 56 08.4 -1.4**
baz=327
DZA Taraz 71.14 327 *e*P **P** **02 47 02.2 -0.9**
DZA *e*S **S** **02 56 08.3 -1.4**
KK31 Karatay Array 71.17 328 P **P** **02 47 03.3 0.0**
KK31 pmax pmax
comp=Z,329nm,1.3s
KK31 Karatay Array 71.17 328 P **P** **02 47 03.3 0.0**
KKAR Karatay Array 71.17 328 P **P** **02 47 02.7 -0.6**
KKAR pmax pmax
comp=Z,329nm,1.3s
KKAR Karatay Array 71.17 328 P **P** **02 47 02.7 -0.6**
KKAR Karatay Array 71.17 328 P **P** **02 47 02.7 -0.6**
KKAR pP **pP** **02 47 34.2 +0.7**
AML Almayashu 71.18 325 P **P** **02 47 05.4 +1.6**
SNR=9.5
AML Almayashu 71.18 325 *i* P **P** **02 47 04.5 +0.6**
SNR=147
AML Almayashu 71.18 325 P **P** **02 47 04.2 +0.4**
JAVC Velka Javorina 71.28 6⇑*i*P **P** **02 47 04.6 +0.7**
JAVC *e*S **S** **02 56 14.3 +3.1**
JAVC *e*PKPPKP **P'P'df** **03 14 52.7 -6.2**
KOLS Kolonicke sedl 71.39 3 *e*P **P** **02 47 04.6 +0.1**
KOLS *e*S **S** **02 56 10.0 -2.4**
KOLS Kolonicke sedl 71.39 3 *e*P **P** **02 47 04.6 +0.1**
KOLS *e*S **S** **02 56 10.0 -2.4**
CRVS Cervenica-Dubn 71.40 4 *e*P **P** **02 47 05.0 +0.5**
CRVS pmax pmax
comp=Z,133nm,1.4s
CRVS Cervenica-Dubn 71.40 4 *e*P **P** **02 47 05.0 +0.5**
CRVS *e*sP **sP** **02 47 44.6 -3.5**
CRVS *e*S **S** **02 56 10.0 -2.5**
FUR Furstenfeldbru 71.49 11 *e*P **P** **02 47 05.9 +0.8**
comp=Z,176nm,1.2s
FUR *e*pP **pP** **02 47 30.8 -4.6**
baz=350,slow=6.3
FUR *e*sP **sP** **02 47 43.8 -4.8**
baz=351,slow=6.3
SRBC Serra Branca 71.58 42 *e*P **P** **02 47 07.9 +2.1**
comp=Z,548nm,0.7s
SRBC *e*pP **pP** **02 47 31.3 -4.7**
SRBC *e*S **S** **02 56 16.0 +1.1**
SMOL Smolenice 71.61 6 *e*P **P** **02 47 06.6 +0.8**
SMOL pmax pmax
comp=Z,50nm,1.2s
SMOL Smolenice 71.61 6 *e*P **P** **02 47 06.6 +0.8**
PGRA Graciosa 71.61 42 *e*P **P** **02 47 08.0 +2.1**
comp=Z,199nm,1.4s
PGRA *e*pP **pP** **02 47 32.6 -3.5**
PGRA *e*S **S** **02 56 17.8 +2.6**
UZH Uzhgorod 71.70 3 *e*P **P** **02 47 06.0 -0.3**
UZH *e**PP **pP** **02 47 31.0 -5.6**
UZH *e*S **S** **02 56 13.0 -2.8**
UZH MLR MLR
comp=Z,1μm,16.0s
VYHS Vyhne 71.70 5 *e*P **P** **02 47 06.7 +0.3**
VYHS pmax pmax
comp=Z,137nm,1.3s
VYHS Vyhne 71.70 5 *e*P **P** **02 47 06.7 +0.3**
VYHS *e*sP **sP** **02 47 45.0 -4.9**
VYHS *e*S **S** **02 56 10.9 -5.1**
PCED Cedros 71.73 43 *e*P **P** **02 47 08.0 +1.4**
comp=Z,187nm,1.1s
PCED *e*pP **pP** **02 47 34.4 -2.4**
PCED *e*S **S** **02 56 20.6 +4.1**
MODS Modra-Piesok 71.74 7 *e*P **P** **02 47 08.3 +1.7**
MODS pmax pmax
comp=Z,215nm,1.5s
MODS Modra-Piesok 71.74 7 *e*P **P** **02 47 08.3 +1.7**
MODS *e*sP **sP** **02 47 46.5 -3.7**
MODS *e*S **S** **02 56 13.4 -3.1**
CALA Caldeira 71.77 43 *e*P **P** **02 47 06.9 -0.1**
comp=Z,342nm,1.1s
CALA *e*pP **pP** **02 47 33.8 -3.4**
CALA *e*S **S** **02 56 23.4 +6.2**
KECS Kecovo 71.78 4 *e*P **P** **02 47 07.6 +0.8**
KECS pmax pmax
comp=Z,41nm,1.1s
KECS Kecovo 71.78 4 *e*P **P** **02 47 07.6 +0.8**
KECS *e*sP **sP** **02 47 46.6 -3.8**
ROSA Rosais 71.80 42 *e*P **P** **02 47 09.3 +2.2**
comp=Z,191nm,1.4s
ROSA *e*pP **pP** **02 47 34.8 -2.5**
ROSA *e*S **S** **02 56 20.6 +3.2**
HOR Horta 71.84 43 *e*P **P** **02 47 07.8 +0.5**
comp=Z,301nm,1.2s
HOR *e*pP **pP** **02 47 35.6 -1.9**
UBR Ueberruh 71.86 12 *e*P **P** **02 47 08.2 +0.8**
comp=Z,116nm,1.2s
ZST Bratislava 71.91 7 *e*P **P** **02 47 08.5 +0.9**
ZST pmax pmax
comp=Z,304nm,1.3s
ZST Bratislava 71.91 7 *e*P **P** **02 47 08.4 +0.9**
ZST *e*sP **sP** **02 47 46.6 -4.5**
ZST *e*S **S** **02 56 13.9 -4.4**
PMAN Manadas 71.93 42 *e*P **P** **02 47 08.6 +0.7**
comp=Z,252nm,1.1s
PMAN *e*pP **pP** **02 47 33.8 -4.3**
PMAN *e*S **S** **02 56 24.3 +5.4**
GZH Guangzhou 71.94 285 P **P** **02 47 05.3 -2.8**
GZH sP **sP** **02 47 48.8 -2.5**
GZH S **S** **02 56 15.3 -4.0**
GZH pmax pmax
comp=Z,5μm,7.2s
PICO Pico 71.94 43 *e*P **P** **02 47 08.6 +0.6**
comp=Z,243nm,1.1s
PICO *e*pP **pP** **02 47 36.8 -1.4**
PICO *e*S **SKiKP** **02 56 28.9 -3.6**
PCAN Candelaria 71.95 43 *e*pP **pP** **02 47 37.7 -0.5**
PCAN *e*S **S** **02 56 23.4 +4.3**
PPNO Prainha do Nor 72.02 42 *e*P **P** **02 47 09.4 +0.9**
comp=Z,145nm,0.6s
PPNO *e*pP **pP** **02 47 37.1 -1.6**
PPNO *e*S **S** **02 56 26.1 +6.1**
MOA Molln 72.06 9 *e*P **P** **02 47 08.3 -0.2**
comp=Z,48nm,1.2s,SNR=44
MOA *e*S **S** **02 56 20.8 +0.6**
comp=Z,15nm,2.1s
MOA *e*P **P'P'df** **03 14 59.4 +1.9**
comp=Z,7.2nm,1.2s
SRBA San Rafael, Bu 72.07 103 P **P** **02 47 09.6 +0.5**
SRBA IAmb IAmb 02 47 40.4
comp=Z,585nm,1.7s
PID Ribeirinha 72.09 42 *e*pP **pP** **02 47 37.5 -1.6**
PID *e*S **S** **02 56 23.4 +2.6**
CONA Conrad Observa 72.10 8 *e*P **P** **02 47 09.1 +0.3**
comp=Z,49nm,0.9s,SNR=58
CONA *e*S **S** **02 56 21.1 +0.4**
comp=Z,7.4nm,1.3s
DRK0 Durika 72.10 103 P **P** **02 47 09.8 +0.5**
DRK0 IAmb IAmb 02 47 41.6
comp=Z,407nm,1.1s
RETA Reutte 72.11 11 *e*P **P** **02 47 09.0 +0.1**
comp=Z,59nm,1.1s,SNR=26
RETA *e*S **S** **02 56 22.1 +1.2**
comp=Z,5.7nm,1.1s
RETA *e*P **P'P'df** **03 14 57.3 -0.2**
comp=Z,9.0nm,1.1s
PAGU Agualva, Azore 72.11 42 *e*P **P** **02 47 09.6 +0.6**
comp=Z,97nm,0.8s
PAGU *e*pP **pP** **02 47 38.3 -0.9**
PAGU *e*S **S** **02 56 25.2 +4.2**
PSCM Serra do Cume 72.20 42 *e*P **P** **02 47 10.5 +1.0**
comp=Z,138nm,0.9s
PSCM *e*pP **pP** **02 47 43.6 +3.9**
PSCM *e*S **S** **02 56 25.2 +3.3**
ADH Angra Heroismo 72.20 42 *e*P **P** **02 47 07.7 -1.7**
comp=Z,214nm,1.2s
ADH *e*pP **pP** **02 47 39.7 +0.1**
ADH *e*S **S** **02 56 26.1 +4.2**
TRPA Tarpa 72.20 3 *e*P **P** **02 47 10.9 +1.6**
DAVA Damuels 72.22 12 *e*P **P** **02 47 09.8 +0.1**
comp=Z,46nm,1.0s,SNR=12
DAVA *e*S **S** **02 56 24.5 +2.2**
comp=Z,33nm,1.7s
DAVA *e*P **P'P'df** **03 14 57.7 +0.3**
comp=Z,24nm,1.5s
SORM Soroca 72.24 359 ⇑P **P** **02 47 08.8 -0.7**
SORM Soroca 72.24 359 ⇑P **P** **02 47 08.8 -0.7**
GYA Guiyang 72.26 292 ⇑P **P** **02 47 10.5 +0.3**
GYA pP pP 02 47 38.5 -1.9
GYA PP **PP** **02 49 51.0 -0.8**
GYA S **S** **02 56 21.0 -2.2**
GYA SS **SS** **03 01 05.5 +2.8**
GYA pmax pmax
comp=Z,99nm,1.0s
GYA pmax pmax
comp=Z,670nm,3.8s
GYA LR LR
comp=Z,310nm,12.4s
GYA LR LR
comp=Z,280nm,21.9s
GYA LR LR
comp=Z,470nm,18.6s
MOTA Moosalm 72.29 11 *e*P **P** **02 47 10.1 0.0**
comp=Z,111nm,1.2s,SNR=52
MOTA *e*S **S** **02 56 24.4 +1.4**
comp=Z,20nm,2.3s
MOTA *e*P **P'P'df** **03 14 56.4 -0.9**
comp=Z,22nm,2.1s
PSZ Piszkesteto 72.33 5 ⇑P **P** **02 47 11.1 +1.0**
PSZ Piszkesteto 72.33 5 *e*P **P** **02 47 10.9 +0.7**
PSZ Piszkesteto 72.33 5 P **P** **02 47 10.2 0.0**
PSZ pmax pmax
comp=Z,211nm,1.1s
PSZ Piszkesteto 72.33 5 P **P** **02 47 10.2 0.0**
WATA Walderalm 72.34 11 *e*P **P** **02 47 10.5 +0.1**
comp=Z,190nm,1.2s,SNR=91
WATA *e*S **S** **02 56 24.1 +0.5**
comp=Z,24nm,1.9s
SOP Sopron 72.39 7 *e*P **P** **02 47 11.6 +1.2**
SRO2 Moca 72.41 6 *e*P **P** **02 47 10.3 -0.2**
SRO2 pmax pmax
comp=Z,66nm,1.2s
SRO2 Moca 72.41 6 *e*P **P** **02 47 10.3 -0.2**
SRO2 *e*sP **sP** **02 47 50.0 -4.1**
WTTA Wattenberg 72.42 11 *e*P **P** **02 47 11.2 +0.3**
comp=Z,109nm,0.9s,SNR=67
WTTA *e*S **S** **02 56 25.1 +0.5**
comp=Z,28nm,2.3s
WTTA *e*P **P'P'df** **03 14 57.1 +0.1**
comp=Z,11nm,1.2s
SQTA Sankt Quirin 72.42 11 *e*P **P** **02 47 11.0 +0.2**
comp=Z,224nm,1.2s,SNR=68
SQTA S **S** **02 56 25.0 +0.6**
comp=Z,17nm,1.6s
SQTA *e*P **P'P'df** **03 14 55.4 -1.6**
comp=Z,17nm,1.5s
FETA Feichten 72.57 11 *e*P **P** **02 47 12.1 +0.4**
comp=Z,128nm,1.2s,SNR=59
FETA *e*S **S** **02 56 27.4 +1.1**
comp=Z,25nm,3.0s
FETA *e*P **P'P'df** **03 14 56.7 -0.1**
comp=Z,13nm,1.8s
BMR Baia Mare 72.68 2 ⇓P **P** **02 47 12.9 +0.7**
BMR Baia Mare 72.68 2 ⇓P **P** **02 47 12.9 +0.7**
BUR08 Bucovina Ar. S 72.74 1 P **P** **02 47 12.8 +0.2**
ARSA Arzberg 72.75 8 *e*P **P** **02 47 12.9 +0.3**
comp=Z,75nm,1.7s,SNR=27
ARSA S **S** **02 56 29.7 +1.7**
comp=Z,3.8nm,1.4s
KBA Koelnbreinsper 72.75 9 *e*P **P** **02 47 13.2 +0.3**
comp=Z,209nm,1.1s,SNR=23
BURAR Bucovina Array 72.77 1 ⇓P **P** **02 47 13.0 +0.2**
BURAR Bucovina Array 72.77 1 ⇓P **P** **02 47 13.0 +0.2**
BURAR Bucovina Array 72.77 1 P **P** **02 47 12.3 -0.4**
CSKK Cskako 72.80 6 *e*P **P** **02 47 14.9 +2.1**
SENIN Lac Senin/Sane 72.84 14 P **P** **02 47 13.4 0.0**
LTVH Ltavrtes, Hu 72.93 3 ⇑P **P** **02 47 15.0 +1.3**
LTVH Ltavrtes, Hu 72.93 3 *e*P **P** **02 47 15.5 +1.9**
MPLH Magyarpolny 72.96 7 *e*P **P** **02 47 14.4 +0.7**
BSZH Besenyszg 72.96 5 ⇓P **P** **02 47 15.3 +1.5**
BSZH Besenyszg 72.96 5 *e*P **P** **02 47 16.5 +2.8**
TUE Stuetta 72.97 12 P **P** **02 47 14.2 0.0**
ABTA Abfaltersbach 73.01 10 *e*P **P** **02 47 14.1 -0.1**
comp=Z,49nm,1.2s,SNR=28
ABTA S **S** **02 56 30.5 -0.6**
comp=Z,8.1nm,1.2s
SZP Santa 73.10 276 P **P** **02 47 15.0 -0.1**
SJG San Juan 73.10 83 P **P** **02 47 14.9 -0.1**
SJG pmax pmax
comp=Z,175nm,1.1s
SJG San Juan 73.10 83 P **P** **02 47 14.9 -0.1**
SJG San Juan 73.10 83 *e*P **P** **02 47 14.9 -0.1**
MESR Meseseni 73.19 3 ⇓P **P** **02 47 16.3 +1.1**
MYKA Terra Mystica 73.22 9 *e*P **P** **02 47 15.2 -0.3**
comp=Z,94nm,1.4s,SNR=26
MYKA S **S** **02 56 33.5 0.0**
comp=Z,51nm,2.1s
ZOU Zoufplan 73.24 10 P **P** **02 47 15.4 -0.3**
TIH Tihany 73.25 6 *e*P **P** **02 47 17.9 +2.4**
SOKA Soboth 73.28 8 *e*P **P** **02 47 15.9 0.0**
comp=Z,98nm,1.3s,SNR=39
SOKA *e*S **SKiKP** **02 56 34.8 +0.5**
comp=Z,13nm,1.7s
SOKA *e*P **P'P'df** **03 14 57.4 +2.0**
comp=Z,4.6nm,0.7s
ARCR ARCALIA 73.28 2 ⇓P **P** **02 47 16.9 +1.1**
PERS Pernice 73.33 8 *i* P **P** **02 47 16.1 0.0**
PERS *e*pP **pP** **02 47 45.4 -1.2**
KIS Kishinev 73.37 358⇑*i*P **P** **02 47 15.0 -1.2**
comp=Z,430nm,10.4s
KIS Kishinev 73.37 358⇑*i*PcP **PcP** **02 47 25.0 -6.9**
KIS ⇑*i*pP **pP** **02 47 44.0 -2.7**
KIS *e*sP sP 02 47 51.0 -8.8
KIS Kishinev 73.37 358 *e*PP PP 02 50 15.0 +15
KIS *i* S **SKiKP** **02 56 31.0 -3.3**
comp=Z,980nm,13.1s
KIS *e*LQ LQ 03 01 18.0

comp=Z,800nm,22.0s
KIS *e*LR LR 03 22 11.0
comp=Z,700nm,14.0s
KIS Kishinev 73.37 358*c i*P **P** **02 47 15.0 -1.2**
KIS *i* *PP **pP** **02 47 44.0 -2.7**
KIS *i* S **SKiKP** **02 56 31.0 -3.3**
KIS *i* 02 57 11.0
KIS pmax pmax
comp=Z,430nm,10.4s
KIS pmax pmax
comp=N,240nm,2.8s
KIS smax smax
comp=N,980nm,13.1s
KIS smax smax
comp=E,1μm,14.6s
OBKA Obir 73.42 9 *e*P **P** **02 47 16.6 0.0**
comp=E,81nm,0.6s,SNR=106
OBKA S **SKiKP** **02 56 34.0 -0.6**
comp=E,31nm,2.1s
OBKA *e*P **P'P'df** **03 14 57.1 +1.9**
comp=E,9.4nm,1.1s
BIZ Bicaz 73.45 0 ⇓P **P** **02 47 17.2 +0.5**
MILM Milestii Mici 73.45 358 ⇓P **P** **02 47 15.7 -1.0**
PSET Sete Cidades 73.45 41 *e*P **P** **02 47 19.0 +2.1**
comp=E,294nm,1.1s
PSET *e*pP **pP** **02 47 45.4 -1.9**
PSET *e*S **S** **02 56 37.3 +1.1**
STAL STALIGIAL 73.51 10 P **P** **02 47 15.9 -1.2**
PDA Ponta Delgada 73.54 41 *e*P **P** **02 47 19.3 +1.9**
comp=E,381nm,1.3s
PDA *e*pP **pP** **02 47 44.4 -3.3**
PDA *e*S **S** **02 56 40.2 +3.1**
DRGR 73.55 3 ⇓P **P** **02 47 17.3 0.0**
DRGR 73.55 3 ⇓P **P** **02 47 17.3 0.0**
SSB Saint Sauveur 73.55 16 P **P** **02 47 17.3 -0.1**
SSB pmax pmax
comp=Z,131nm,1.2s
SSB Saint Sauveur 73.55 16 P **P** **02 47 17.3 -0.1**
PCALD Caldeiras da R 73.56 41 *e*pP **pP** **02 47 46.5 -1.4**
PCALD *e*S **S** **02 56 40.2 +2.9**
CMLA Cha da Macela 73.57 41 *e*P **P** **02 47 17.6 0.0**
comp=Z,237nm,1.3s
CMLA *e*pP **pP** **02 47 46.3 -1.7**
CMLA *e*S **S** **02 56 40.6 +3.1**
CMLA Cha da Macela 73.57 41 P **P** **02 47 18.8 +1.2**
CMLA pmax pmax
comp=Z,779nm,1.3s
CMLA Cha da Macela 73.57 41 P **P** **02 47 18.8 +1.2**
CMLA IAmb IAmb 02 47 55.7
comp=Z,779nm,1.3s
ROBS Robic 73.59 9 *i* P **P** **02 47 16.8 -0.8**
ROBS *e*S **SKiKP** **02 56 35.6 +0.9**
BEHE Becsehely 73.61 7 *e*P **P** **02 47 19.4 +1.8**
BEHE Becsehely 73.61 7⇑*i*P **P** **02 47 17.9 +0.3**
CTI Castel Tesino 73.62 11 P **P** **02 47 17.1 -0.8**
CTI pmax pmax
comp=Z,79nm,0.9s
CTI Castel Tesino 73.62 11 P **P** **02 47 17.1 -0.8**
CJR Cluj-Napoca 73.64 2 ⇓P **P** **02 47 19.5 +1.6**
CJR Cluj-Napoca 73.64 2 ⇓P **P** **02 47 19.5 +1.6**
BART Pico Bartolome 73.68 40 *e*P **P** **02 47 19.1 +0.8**
comp=Z,430nm,1.1s
BART *e*pP **pP** **02 47 45.9 -2.8**
BART *e*S **S** **02 56 40.9 +2.0**
PURM Purcari 73.83 358 ⇑P **P** **02 47 19.2 +0.3**
BCIP Isla Barro Col 73.86 100 P **P** **02 47 19.7 +0.2**
BCIP pP **pP** **02 47 47.8 -1.9**
BCIP IAmb IAmb 02 47 50.9
comp=Z,940nm,1.4s
BCIP Isla Barro Col 73.86 100 *e*P **P** **02 47 19.5 0.0**
TESR Tescani 73.88 0 ⇑*i*P **P** **02 47 18.5 -0.7**
LJU Ljubljana 73.88 9⇑*i*P **P** **02 47 18.6 -0.6**
LJU Ljubljana 73.88 9 *e*P **P** **02 47 18.6 -0.6**
LJU *e*pP **pP** **02 47 47.9 -1.9**
LJU *e*S **S** **02 56 38.1 -2.6**
PDKS Podkum 73.89 8 *e*P **P** **02 47 18.8 -0.5**
PDKS *e*S **S** **02 56 38.4 -2.5**
BTK Batken 73.92 326 P **P** **02 47 19.3 -0.4**
BTK pmax pmax
comp=Z,623nm,1.7s
BTK Batken 73.92 326 P **P** **02 47 19.2 -0.4**
BTK IAmb IAmb 02 47 23.4
comp=Z,623nm,1.7s
SALO Salr 73.94 12 P **P** **02 47 19.1 -0.6**
MORH Mrgy, Hungar 73.97 6 ⇓P **P** **02 47 19.9 +0.2**
MORH Mrgy, Hungar 73.97 6 *e*P **P** **02 47 19.5 -0.2**
MORH Mrgy, Hungar 73.97 6⇑*i*P **P** **02 47 19.4 -0.3**
SIRR Siria 74.04 4 ⇑P **P** **02 47 20.4 +0.2**
BNI Bardonecchia 74.06 15 P **P** **02 47 21.6 +1.2**
BNI pmax pmax
comp=Z,299nm,1.2s
BNI Bardonecchia 74.06 15 P **P** **02 47 21.6 +1.2**
CDVI St. Croix 74.10 82 *e*P **P** **02 47 20.8 0.0**
CRES Cresnjev 74.16 8⇑*i*P **P** **02 47 20.2 -0.7**
CEY Cerknica 74.17 9⇑*i*P **P** **02 47 19.8 -1.2**
UPA Univ. de Panam 74.17 100 *e*P pP 02 47 47.7 -3.8
OZUR 74.29 1 ⇓P **P** **02 47 22.5 +0.8**
TEOL Teolo 74.31 11 P **P** **02 47 21.1 -0.7**
GHRR 74.33 359 ⇓P **P** **02 47 23.4 +1.6**
SKDS Skadanscina 74.33 9⇑*i*P **P** **02 47 21.0 -0.9**
PSMA Santa Maria 74.40 41 *e*P **P** **02 47 21.1 -1.3**
comp=Z,119nm,1.1s
PSMA *e*pP **pP** **02 47 49.7 -3.0**
PSMA *e*S **S** **02 56 48.8 +2.0**
DOPR Dopca 74.41 1 ⇓P **P** **02 47 23.1 +0.8**
PSMN Pico do Norte, 74.42 41 *e*P **P** **02 47 22.4 -0.1**
comp=Z,96nm,1.0s
PSMN *e*pP **pP** **02 47 51.2 -1.6**
PSMN *e*S **S** **02 56 48.5 +1.5**
PGAV Gavieira, Arco 74.43 26 *e*P **P** **02 47 23.5 +0.9**
comp=Z,430nm,1.4s
PGAV *e*pP **pP** **02 47 52.3 -0.8**
PGAV *e*S **S** **02 56 49.0 +1.8**
BOJS Bojanci 74.47 8⇑*i*P **P** **02 47 22.1 -0.5**
BOJS Bojanci 74.47 8 *e*P **P** **02 47 22.2 -0.4**
GOF Gofitskoye 74.47 348⇑*e*P **P** **02 47 22.4 -0.3**
GOF *e*S **S** **02 56 45.7 -1.6**
GOF pmax pmax
comp=Z,249nm,0.8s
GOF smax smax
comp=N,608nm,2.0s
GOF smax smax
comp=E,120nm,1.3s
VRI Vrincioaia 74.52 360 ⇑P **P** **02 47 23.2 +0.2**
VRI Vrincioaia 74.52 360 ⇑P **P** **02 47 23.2 +0.2**
PLOR Plostina 74.54 0 ⇓P **P** **02 47 23.4 +0.3**
PLOR Plostina 74.54 0 ⇓P **P** **02 47 23.4 +0.3**
SMRT St. Maarten 74.69 81 *e*P **P** **02 47 26.0 +1.8**
BZS Buzias 74.69 4 ⇑P **P** **02 47 24.0 +0.1**
BZS Buzias 74.69 4 ⇑P **P** **02 47 24.0 +0.1**
SCTR Scanteiesti 74.71 359 ⇑P **P** **02 47 25.1 +1.1**
PCAB Cabril 74.73 26 *e*P **P** **02 47 25.0 +0.7**
comp=E,316nm,1.9s
PCAB *e*pP **pP** **02 47 54.9 +0.2**
PRMA PARMA 74.76 12 P **P** **02 47 24.9 +0.6**
TATR Tatarca 74.78 359 ⇑P **P** **02 47 25.8 +1.4**
SLCR Slobozia Conac 74.79 359 ⇑P **P** **02 47 24.7 +0.2**
AZU Azuero 74.83 101 *e*P **P** **02 47 24.7 -0.4**
BISRR Bisoca 74.84 360 ⇑P **P** **02 47 25.8 +0.9**
IZVR Izvoarele 74.84 359 ⇑P **P** **02 47 25.5 +0.7**
PMOR Pomariorio Ree 74.84 175 *e*P **P** **02 47 25.6 +0.6**
comp=E,244nm,1.3s
PMOR *e*pP **pP** **02 47 55.7 +0.5**
comp=E,196nm,1.2s
PMOR Pomariorio Ree 74.84 175 *e*T T 04 04 56.8
comp=E,96nm,0.3s
SCHL Schela 74.88 359 ⇑P **P** **02 47 26.8 +1.8**
MLR Muntele Rosu 74.89 1 PKPPKP 03 14 50.3
comp=E,0.9nm,0.4s,baz=163,slow=3.0,SNR=3.1
MLR Muntele Rosu 74.89 1 ⇑P **P** **02 47 26.4 +1.1**
MLR Muntele Rosu 74.89 1 P **P** **02 47 25.4 +0.1**
MLR pmax pmax
comp=Z,430nm,1.5s
MLR Muntele Rosu 74.89 1 P **P** **02 47 25.4 +0.1**
BANR Banloc 74.91 4 ⇑P **P** **02 47 26.5 +1.4**
LOT Lotru 74.91 2 ⇓P **P** **02 47 25.0 -0.4**
PBRG Braganca 74.92 25 *e*P **P** **02 47 26.2 +0.8**
comp=Z,202nm,1.8s
PBRG *e*pP **pP** **02 47 56.2 +0.4**
VOIR 74.94 1 ⇑P **P** **02 47 25.4 -0.1**
VOIR 74.94 1 ⇑P **P** **02 47 25.4 -0.1**
GZR Gura Zlata 74.94 3 ⇑P **P** **02 47 25.3 -0.2**
GZR Gura Zlata 74.94 3 ⇑P **P** **02 47 25.3 -0.2**

SMRC Santa Marta, M 74.95 94 *e*P **P** **02 47 26.9 +1.1**
NEHR Nehoiu 74.96 0 ⇓P **P** **02 47 26.0 +0.5**
SABA Saba 74.97 81 *e*P **P** **02 47 30.5 +4.6**
GAR Garm 75.04 326 P **P** **02 47 26.0 -0.2**
GAR pP **pP** **02 47 57.0 +0.3**
GAR IAmb IAmb 02 47 59.8
comp=Z,625nm,1.3s
MRAK Mrakovica 75.07 7⇑*i*P **P** **02 47 25.8 -0.4**
FRGS Fruska Gora 75.08 5 ⇓P **P** **02 47 26.4 +0.2**
FRGS Fruska Gora 75.08 5⇑*i*P **P** **02 47 25.6 -0.6**
VAH Vaihoa 75.09 174 *e*P **P** **02 47 26.8 +0.4**
VAH *e*pP **pP** **02 47 57.0 +0.4**
comp=Z,275nm,1.2s
POLO Lamas de Olo 75.10 26 *e*P **P** **02 47 26.9 +0.4**
comp=Z,118nm,1.5s
POLO *e*pP **pP** **02 47 56.6 -0.4**
AFI Afiamalu 75.12 199 P **P** **02 47 27.0 +0.3**
comp=Z,75nm,0.8s,baz=156,slow=5.5,SNR=5.1
AFI Afiamalu 75.12 199 P **P** **02 47 26.5 -0.2**
AFI pmax pmax
comp=Z,100nm,1.0s
AFI Afiamalu 75.12 199 P **P** **02 47 26.4 -0.2**
TLCR 75.19 358 ⇑P **P** **02 47 27.2 +0.4**
TLCR 75.19 358 ⇑P **P** **02 47 27.2 +0.4**
CFR Carcaliu 75.20 359 ⇓P **P** **02 47 26.8 0.0**
CFR Carcaliu 75.20 359 ⇓P **P** **02 47 26.8 0.0**
ANN Anapa 75.22 352 *e*P **P** **02 47 25.8 -1.1**
ANN *e**PP **pP** **02 47 56.9 -0.5**
ANN *e*S **S** **02 56 51.7 -3.8**
ANN *e**SS **sS** **02 57 46.0 -2.1**
ANN *e*SS **SS** **03 01 48.4 +2.4**
ANN pmax pmax
comp=Z,152nm,2.1s
PVRL Vila Real 75.22 26 *e*P **P** **02 47 27.7 +0.6**
comp=Z,350nm,1.6s
PVRL *e*pP **pP** **02 47 57.1 -0.4**
KMI Kunming 75.22 295 ⇑P **P** **02 47 27.0 -0.5**
KMI PP **PP** **02 50 13.0 -4.0**
KMI S **S** **02 56 54.0 -2.7**
KMI pmax pmax
comp=Z,250nm,1.3s
KMI LR LR
comp=Z,4μm,18.4s
KMI LR LR
comp=Z,4μm,18.9s
KMI LR LR
comp=Z,3μm,17.3s
ZCCA Zocca 75.24 12 P **P** **02 47 28.6 +1.4**
SIM Simferopol' 75.26 355*c i*P **P** **02 47 25.0 -2.2**
SIM *i* S **S** **02 56 54.0 -2.1**
SIM pmax pmax
comp=Z,30nm,0.5s
ISR Istrita 75.27 0 ⇑P **P** **02 47 27.7 +0.4**
ISR Istrita 75.27 0 ⇑P **P** **02 47 27.7 +0.4**
BLY Banja Luka 75.35 7⇑*i*P **P** **02 47 27.3 -0.4**
SECR 75.35 0 ⇑P **P** **02 47 29.1 +1.4**
VLC Villacollemand 75.37 12 P **P** **02 47 27.8 0.0**
HERR Herculane 75.45 3 ⇑P **P** **02 47 30.0 +1.7**
SKI Saint Kitts 75.46 81 *e*P **P** **02 47 25.9 -2.8**
MVO Moncorvo 75.47 26 *e*P **P** **02 47 29.4 +0.8**
comp=Z,258nm,1.4s
MVO *e*pP **pP** **02 47 59.4 +0.3**
MVO *e*S **S** **02 56 59.6 +0.9**
TPGR Topolog 75.52 359 ⇑P **P** **02 47 28.6 -0.1**
MDVR Moldovita 75.53 4 ⇑P **P** **02 47 28.2 -0.6**
SJCC San Jacinto, C 75.56 95 *e*P **P** **02 47 26.9 -2.4**
KIV Kislovodsk 75.60 348 ⇓P **P** **02 47 29.6 +0.3**
KIV Kislovodsk 75.60 348 *i* P **P** **02 47 28.7 -0.6**
SNR=39
KIV Kislovodsk 75.60 348 *e*P **P** **02 47 29.1 -0.2**
KIV *e**PP **pP** **02 47 59.3 -0.5**
KIV *e* 02 50 18.6
KIV *e*PPP PPP 02 52 06.9
KIV *e*S **S** **02 57 00.4 +0.3**
KIV pmax pmax
comp=Z,84nm,1.1s
KIV Kislovodsk 75.60 348 P **P** **02 47 29.2 0.0**
KIV Kislovodsk 75.60 348 P **P** **02 47 29.3 0.0**
KIV S **S** **02 56 57.4 -2.7**
URIC Uribia, Colomb 75.62 92 *e*P P 02 47 57.4 +28
ANWB Willy Bob 75.65 80 *e*P P 02 47 24.4 -5.4
MGRS Mrkonjic Grad 75.67 7 *e*P **P** **02 47 29.1 -0.5**
TEKS Tekeris 75.67 5⇑*i*P **P** **02 47 28.4 -1.2**
CHGR Chuyangaron 75.68 327 P **P** **02 47 29.5 -0.3**
SRE Strehaia 75.69 3 ⇑P **P** **02 47 30.4 +0.8**
SRE Strehaia 75.69 3 ⇑P **P** **02 47 30.4 +0.8**
HARR Harsova 75.69 359 ⇑P **P** **02 47 30.1 +0.4**
HARR Harsova 75.69 359 ⇑P **P** **02 47 30.1 +0.4**
SULR 75.71 0 ⇑P **P** **02 47 29.9 +0.2**
PVIS Viseu 75.71 26 *e*P **P** **02 47 30.6 +0.7**
comp=Z,372nm,1.8s
PVIS *e*pP **pP** **02 47 59.8 -0.6**
KBZ Khabaz 75.80 348 P **P** **02 47 30.1 -0.2**
comp=Z,46nm,0.8s,baz=336,slow=4.2,SNR=96
KBZ S **S** **02 57 00.7 -1.3**
comp=Z,3.5nm,1.1s,baz=246,slow=23,SNR=6.0
KBZ Khabaz 75.80 348*c i*P **P** **02 47 30.5 +0.2**
KBZ pmax pmax
comp=Z,275nm,3.3s
TLBR Topalu 75.84 359 ⇑P **P** **02 47 30.3 -0.2**
LCBC Los crdobas, 75.86 97 *e*P pP 02 48 00.7 -0.6
LEHL Lehliu 75.91 360 ⇓P **P** **02 47 31.1 +0.2**
TIRR Tirgusor 75.92 359 ⇑P **P** **02 47 31.1 +0.1**
TIRR Tirgusor 75.92 359 P **P** **02 47 30.1 -0.8**
TIRR pmax pmax
comp=Z,323nm,1.1s
TIRR Tirgusor 75.92 359 P **P** **02 47 30.1 -0.8**
NCK Nalchik 75.96 347*c i*P **P** **02 47 31.6 +0.4**
NCK pmax pmax
comp=Z,147nm,0.8s
GROC Groznyy 75.99 346 *e*P **P** **02 47 30.4 -1.0**
GROC *e* 02 47 41.8
GROC *e**PP **pP** **02 48 00.2 -1.7**
GROC *e**SP **sP** **02 48 14.0 -1.0**
GROC *e*S **S** **02 57 02.5 -1.6**
GROC pmax pmax
comp=Z,52nm,1.8s
MAK Makhachkala 76.00 344*d i*P **P** **02 47 31.9 +0.5**
MAK *e**PP **pP** **02 48 01.3 -0.7**
MAK *e**SP **sP** **02 48 14.0 -1.1**
MAK *e* 02 50 23.5
MAK *e*S **S** **02 57 02.4 -1.9**
MAK *e**SS **sS** **02 57 56.5 -0.7**
MAK *e*SSS SSS 03 05 19.0
MAK pmax pmax
comp=Z,350nm,1.8s
CVDA Cernavoda 76.05 359 ⇑P P 02 47 25.6 -6.1
COI Coimbra 76.08 27 P **P** **02 47 32.5 +0.6**
COI *PP **pP** **02 48 01.4 -1.1**
COI Coimbra 76.08 27 P **P** **02 47 32.5 +0.6**
COI pP **pP** **02 48 01.4 -1.1**
OSSC Osservatorio P 76.09 12 P **P** **02 47 32.3 +0.4**
MTE Manteigas 76.09 26 *e*P **P** **02 47 32.8 +0.7**
comp=Z,508nm,1.8s
MTE *e*pP **pP** **02 48 02.3 -0.3**
MTE *e*S **S** **02 57 06.2 +0.7**
MTE Manteigas 76.09 26 P **P** **02 47 32.8 +0.7**
BPA Boggy Peak 76.14 80 *e*P **P** **02 47 30.8 -1.8**
DIVS Divibare 76.14 5⇑*i*P **P** **02 47 31.6 -0.8**
DIVS Divibare 76.14 5 P **P** **02 47 31.7 -0.6**
ANBD Bethesda, Anti 76.19 80 *e*P **P** **02 47 32.2 -0.6**
MFTR Murfatlar 76.20 359 ⇑P **P** **02 47 32.7 +0.2**
PCAS Casmilo, Conde 76.21 27 *e*P **P** **02 47 33.5 +0.8**
comp=Z,679nm,1.5s
PCAS *e*pP **pP** **02 48 02.3 -0.9**
SOC Sochi 76.25 350 *e*P **P** **02 47 31.5 -1.3**
SOC *e**PP **pP** **02 48 02.8 -0.6**
SOC *e**SP **sP** **02 48 14.9 -1.6**
SOC *e* 02 50 27.0
SOC *i* S **S** **02 57 05.0 -2.0**
SOC *e* 02 57 31.1
SOC *e**SS **sS** **02 58 02.9 +3.3**
SOC *e*SSS SSS 03 05 25.0
SOC pmax pmax
comp=Z,44nm,0.9s
LSA Lhasa 76.26 306 P **P** **02 47 34.8 +1.1**
LSA S **S** **02 57 07.3 -1.2**
LSA pmax pmax
comp=Z,1μm,0.9s
LSA LR LR
comp=Z,9μm,23.5s
LSA LR LR

comp=Z,7μm,17.8s
LSA LR LR
comp=Z,14μm,23.5s
LSA Lhasa 76.26 306 P **P** **02 47 35.1 +1.4**
LSA Lhasa 76.26 306 P **P** **02 47 35.0 +1.2**
LSA pmax pmax
comp=Z,355nm,1.0s
LSA Lhasa 76.26 306 P **P** **02 47 35.0 +1.2**
LSA IAmb IAmb 02 47 38.0
comp=Z,355nm,1.0s
LSA Lhasa 76.26 306 P **P** **02 47 34.8 +1.1**
ICOR Ion Corvin 76.27 359 ⇓P **P** **02 47 33.5 +0.5**
MOTC Monteria, Cord 76.27 96 *e*P **P** **02 47 33.4 0.0**
EFOR EFORIE 76.30 359 ⇓P **P** **02 47 33.7 +0.7**
NEY Neytrino 76.30 348*de*P **P** **02 47 34.8 +1.4**
NEY pmax pmax
comp=Z,70nm,2.2s
BBLS Lazići 76.35 5⇑*i*P **P** **02 47 33.7 +0.2**
LKP Lekhapani 76.37 301 *e*P **P** **02 47 34.4 +0.6**
MURB Monte Urbino 76.47 11 P **P** **02 47 34.8 +0.6**
MURB IAmb IAmb 02 48 15.9
comp=Z,546nm,1.2s
MANR Mangalia 76.56 359 ⇓P **P** **02 47 35.1 +0.5**
RUDO Rudo 76.59 5⇑*i*P **P** **02 47 34.1 -0.7**
PTAC Punta Ardita, 76.61 99 *e*P **P** **02 47 34.7 -0.6**
ZEI Tsey 76.62 347 *e*P **P** **02 47 34.3 -0.9**
ZEI pmax pmax
comp=Z,60nm,1.1s
PCBR Castelo Branco 76.64 26 *e*P **P** **02 47 35.8 +0.7**
comp=Z,396nm,1.8s
PCBR *e*pP **pP** **02 48 05.0 -0.7**
PSBE So Bento 76.65 27 *e*P **P** **02 47 36.0 +0.8**
comp=Z,480nm,1.8s
PSBE *e*pP **pP** **02 48 05.3 -0.5**
DIBR DIBRUGARH 76.65 302 *e*P **P** **02 47 35.8 +0.4**
LL1C La Loma 1 Cana 76.68 94 *e*P **P** **02 47 35.1 -0.5**
LL2C La Loma 2 Cana 76.72 94 *e*P **P** **02 47 35.4 -0.5**
ZIMR 76.72 1 ⇑P **P** **02 47 36.3 +0.8**
ZIMR 76.72 1 ⇑P **P** **02 47 36.3 +0.8**
CASP Castiglione de 76.77 12 P **P** **02 47 35.4 -0.5**
ABD La Joyeuse, An 76.81 80 *e*P P 02 47 45.1 +8.7
RAZG Razgrad 76.82 0 ⇑P **P** **02 47 37.4 +1.3**
ONI Oni 76.87 347 P **P** **02 47 36.7 +0.2**
ONI pmax pmax
comp=Z,234nm,1.7s
ONI Oni 76.87 347 P **P** **02 47 36.7 +0.2**
PLE Pljevlja 76.88 5 *e*P **P** **02 47 35.6 -1.0**
CHVG Ch'k'valeri 76.89 348 ⇓P **P** **02 47 37.2 +0.8**
CHVG Ch'k'valeri 76.89 348 ⇓P **P** **02 47 37.2 +0.8**
NRCA Norcia 76.95 10 P **P** **02 47 36.8 -0.1**
UPM Unac-Piva 76.98 6⇑*i*P **P** **02 47 36.9 -0.3**
UPM Unac-Piva 76.98 6 *e*P **P** **02 47 36.4 -0.8**
PMRV Marv??o 77.05 26 *e*P **P** **02 47 38.0 +0.5**
comp=Z,338nm,1.7s
PMRV *e*pP **pP** **02 48 08.0 -0.1**
PMRV *e*S **S** **02 57 15.4 -0.5**
PMAFR Mafra 77.07 28 *e*P **P** **02 47 38.4 +0.8**
comp=Z,872nm,1.9s
PMAFR *e*pP **pP** **02 48 07.0 -1.2**
UCM Universidad Co 77.08 23 *i* P **P** **02 47 36.5 -1.1**
UCM *i* S **S** **02 57 14.2 -2.1**
QIZ Qiongzhong 77.08 285 P **P** **02 47 38.5 +0.6**
QIZ pP **pP** **02 48 08.8 +0.3**
QIZ sP **sP** **02 48 20.5 -1.0**
QIZ PP **PP** **02 50 34.0 +1.4**
QIZ S **S** **02 57 19.0 +2.3**
QIZ sS **sS** **02 58 11.5 +2.3**
QIZ pmax pmax
comp=Z,190nm,1.2s
QIZ pmax pmax
comp=Z,3μm,10.6s
QIZ LR LR
comp=Z,2μm,20.6s
QIZ LR LR
comp=Z,2μm,23.5s
QIZ LR LR
comp=Z,5μm,52.0s
QIZ Qiongzhong 77.08 285 P **P** **02 47 38.1 +0.2**
CBE Ff, Capester 77.10 80 *e*P **P** **02 47 37.9 -0.1**
PMTG Montargil 77.21 27 *e*P **P** **02 47 38.6 +0.3**
comp=Z,365nm,1.7s
PMTG *e*pP **pP** **02 48 07.9 -1.0**
UREC San Jos de Ur 77.22 97 *e*P **P** **02 47 36.8 -1.9**
STON Ston 77.25 7⇑*i*P **P** **02 47 37.3 -1.1**
BRY Bratogost 77.27 6⇑*i*P **P** **02 47 37.9 -0.8**
BRY Bratogost 77.27 6 *e*P **P** **02 47 38.0 -0.8**
TDBA Terre de Bas, 77.27 80 *e*P P 02 47 33.8 -5.2
LGD Lagodekhi 77.28 345 P **P** **02 47 38.5 -0.2**
TIAR Tiarei 77.32 176 *e*P **P** **02 47 39.6 +0.6**
comp=Z,35nm,1.2s
TIAR *e*pP **pP** **02 48 09.8 +0.4**
comp=Z,24nm,1.0s
TIAR Tiarei 77.32 176 *e*T T 04 07 55.5
comp=Z,5.4nm,0.2s
PPT Papeete 77.32 176 LR LR 03 18 09.6
comp=Z,3μm,18.1s,baz=355,slow=33
LIS Lisbon 77.33 28 *e*P **P** **02 47 39.1 +0.2**
LIS IAmb IAmb 02 47 42.1
comp=Z,536nm,1.2s
LIS *e*pP **pP** **02 48 09.8 +0.2**
LIS *e*S **S** **02 57 19.3 +0.4**
LIS Lisbon 77.33 28 *e*P **P** **02 47 39.1 +0.2**
LIS *e**PP **pP** **02 48 09.7 +0.2**
LIS *e*S **S** **02 57 19.2 +0.4**
LIS pmax pmax
comp=Z,536nm,1.2s
LIS Lisbon 77.33 28 *e*P **P** **02 47 39.5 +0.5**
comp=Z,415nm,1.2s
PPT2 Papeete2 77.34 176 *e*P **P** **02 47 40.0 +0.8**
comp=Z,125nm,1.3s
PPT2 *e*S **S** **02 57 20.4 +1.1**
comp=Z,1μm,31.2s
PPT2 Papeete2 77.34 176 *e*LQ LQ 03 08 03.3
comp=Z,9μm,29.5s
PPT2 *e*LR LR 03 11 40.0
comp=Z,11μm,34.2s,baz=353
PPT2 Papeete2 77.34 176 *e*T T 04 08 06.9
comp=Z,3.1nm,0.2s
IVA Berane 77.36 5 *e*P **P** **02 47 38.8 -0.4**
KOME Kolasin 77.37 5 *e*P **P** **02 47 38.9 -0.4**
PAE Paea 77.42 176 *e*P **P** **02 47 40.0 +0.5**
comp=Z,22nm,1.2s
NKME Niksic 77.42 6 *e*P **P** **02 47 39.0 -0.5**
ZKTA Zakatala 77.42 345 P **P** **02 47 39.4 -0.1**
AKT Akhty 77.43 344⇑*i*P **P** **02 47 39.7 0.0**
AKT *e* 02 47 50.7
AKT *e**PP **pP** **02 48 10.1 -0.3**
AKT *e**SP **sP** **02 48 24.5 +1.0**
AKT *e* 02 50 38.0
AKT *e*S **S** **02 57 17.6 -2.5**
AKT *e**SS **sS** **02 58 14.7 +1.7**
AKT pmax pmax
comp=Z,88nm,0.7s
ITAN ITANAGAR 77.44 303 *e*P **P** **02 47 40.2 +0.4**
TREB Trebinje 77.44 6⇑*i*P **P** **02 47 37.3 -2.3**
AQU L'Aquila 77.45 10 P **P** **02 47 40.6 +0.9**
AQU L'Aquila 77.45 10⇑*i*P **P** **02 47 39.7 0.0**
AQU L'Aquila 77.45 10 P **P** **02 47 40.5 +0.9**
DBBC Dabeiba 77.51 98 *e*P **P** **02 47 39.6 -0.8**
SEAG Tbilisi Sea 77.53 346 P **P** **02 47 41.3 +1.2**
PESTR Estremoz 77.54 27 *e*P **P** **02 47 40.7 +0.5**
comp=Z,316nm,1.8s
PESTR *e*pP **pP** **02 48 09.3 -1.5**
PESTR Estremoz 77.54 27 P **P** **02 47 40.0 -0.3**
PESTR Estremoz 77.55 27 P 02 47 40.9
ESBB Sonseca Array 77.55 24 P **P** **02 47 40.4 +0.1**
ESDC Sonseca Array 77.55 24 P **P** **02 47 40.7 +0.4**
comp=Z,99nm,1.0s,baz=343,slow=5.3,SNR=183
ESDC pP **pP** **02 48 09.5 -1.4**
comp=Z,42nm,0.9s,baz=341,slow=4.9,SNR=3.8
ESDC PKKPbc **PKKPbc** **03 06 39.3 -0.2**
comp=Z,1.6nm,1.0s,baz=172,slow=1.1,SNR=5.8
ESDC PKPPKP **P'P'df** **03 14 42.3 -5.5**
comp=Z,4.4nm,1.1s,baz=193,slow=2.6,SNR=14
ESDC Sonseca Array 77.55 24 P **P** **02 47 40.6 +0.3**
ESDC pP **pP** **02 48 09.9 -1.0**
JORH JORHAT 77.57 302 *e*P **P** **02 47 41.0 +0.6**
JORH IAmb IAmb 02 47 42.5
comp=Z,449nm,0.6s
PAB San Pablo 77.59 24 P **P** **02 47 40.8 +0.2**
PAB pmax pmax
comp=Z,196nm,1.3s
PAB San Pablo 77.59 24 P **P** **02 47 40.8 +0.2**

PAB	San Pablo	77.59	24	P		P	02 47 40.9	
SOLC	Bahia Solano	77.60	99	eP		P	02 47 40.1	-0.6
CEME	Cevo	77.64	6	eP		P	02 47 40.0	-0.7
PVY	Plav	77.64	5	eP		P	02 47 40.2	-0.6
DDFL	Dedoflistskaro	77.68	345	P		P	02 47 43.0	+2.0
HCY	Herceg Novi	77.72	6	⇑iP		P	02 47 39.8	-1.3
HCY	Herceg Novi	77.72	6	eP		P	02 47 40.1	-1.0
EVO	Evora	77.77	27	iP		P	02 47 31.3	-10
EVO				iS		S	02 57 24.1	+0.5
EVO	Evora	77.77	27	eP		P	02 47 39.8	-1.6
	comp=Z,408nm,2.0s							
EVO				epP		pP	02 48 10.8	-1.3
SEKA	Sheki	77.77	344	P		P	02 47 40.9	-0.6
PDG	Podgorica	77.77	6	⇓iP		P	02 47 41.0	-0.3
PDG	Podgorica	77.77	6	⇑iP		P	02 47 40.6	-0.8
PDG	Podgorica	77.77	6	P		P	02 47 40.3	-1.0
TTG	Podgorica	77.77	6	eP		P	02 47 41.0	-0.3
ZARC	Zaragoza, Cauc	77.78	96	eP		P	02 47 40.9	-0.9
MOKO	MOKOCHONG	77.82	302	eP		P	02 47 43.3	+1.2
MOKO				IAmb		IAmb	02 47 44.5	
	comp=Z,885nm,1.0s							
INTR	Introdacqua	77.83	10	P		P	02 47 41.9	0.0
BUM	Brajici-Budva	77.88	6	eP		P	02 47 41.5	-0.6
OCAC	Ocana	77.91	95	eP		P	02 47 40.9	-1.8
SLVN	Son La	77.94	292	P		P	02 47 42.9	+0.2
SLVN				IAmb		IAmb	02 47 44.8	
	comp=Z,556nm,0.6s							
DRME	Dracevica, Mon	78.01	6	⇑iP		P	02 47 42.4	-0.3
DRME	Dracevica, Mon	78.01	6	eP		P	02 47 42.5	-0.3
AKH	Akhalkalaki	78.03	347	⇓P		P	02 47 43.8	+0.7
PNCL	Nicolau / Gran	78.05	28	eP		P	02 47 43.8	+0.8
	comp=Z,501nm,2.0s							
PNCL				epP		pP	02 48 12.7	-0.9
SNOP	Sinop	78.12	354	P		P	02 47 43.7	+0.4
PUK	Puka	78.19	5	P		P	02 47 43.3	-0.5
BCA	Borcka	78.19	349	⇑P		P	02 47 42.6	-1.2
MNGR	Mingechevir, A	78.21	344	P		P	02 47 43.9	+0.1
SGRT	San Giovanni R	78.23	8	P		P	02 47 44.6	+0.6
SGRT				pP		pP	02 48 13.4	-1.4
ULC	Ulcinj	78.24	6	eP		P	02 47 43.6	-0.4
BZK	Bozkurt	78.25	354	⇓P		P	02 47 43.2	-0.8
BZK	Bozkurt	78.25	354	P		P	02 47 44.3	+0.3
PBEJ	Beja	78.28	27	eP		P	02 47 44.8	+0.5
	comp=Z,130nm,1.9s							
PBEJ				epP		pP	02 48 13.9	-1.1
SKO	Skopje	78.32	4	iPn		P	02 47 44.8	+0.4
PBAR	Barrancos	78.33	27	eP		P	02 47 45.4	+0.9
	comp=Z,609nm,1.4s							
PBAR				epP		pP	02 48 14.1	-1.1
MESJ	Messejana	78.38	28	eP		P	02 47 44.9	0.0
MESJ				IAmb		IAmb	02 47 47.7	
	comp=Z,153nm,1.2s							
MESJ				epP		pP	02 48 15.7	+0.1
MESJ				eS		S	02 57 30.5	+0.3
MESJ	Messejana	78.38	28	eP		P	02 47 44.8	0.0
MESJ				e*PP		pP	02 48 15.6	+0.1
MESJ				eS		S	02 57 30.5	+0.3
MESJ				pmax		pmax		
	comp=Z,153nm,1.2s							
MESJ	Messejana	78.38	28	eP		P	02 47 45.2	+0.4
	comp=Z,189nm,2.0s							
MESJ				epP		pP	02 48 14.3	-1.2
GANJ	Ganja	78.44	345	P		P	02 47 45.1	-0.1
FDF	Fort de France	78.46	81	P		P	02 47 44.8	-0.8
FDF				pmax		pmax		
	comp=Z,572nm,1.6s							
FDF	Fort de France	78.46	81	eP		P	02 47 46.8	+1.2
FDF	Fort de France	78.46	81	P		P	02 47 44.8	-0.8
FDF				IAmb		IAmb	02 48 20.7	
	comp=Z,572nm,1.6s							
DIKM	Dikmen	78.49	353	⇑P		P	02 47 46.1	+0.7
HNR	Honiara	78.50	227	P		P	02 47 46.1	+0.5
	comp=Z,82nm,0.4s,baz=197,slow=8.5,SNR=4.9							
HNR				LR		LR	03 17 11.6	
	comp=Z,2μm,21.1s,baz=16,slow=32							
HNR	Honiara	78.50	227	P		P	02 47 45.1	-0.5
HNR				pmax		pmax		
	comp=Z,203nm,0.8s							
HNR	Honiara	78.50	227	P		P	02 47 45.1	-0.5
KOHI	KOHIMA	78.53	302	eP		P	02 47 46.3	+0.3
KOHI				IAmb		IAmb	02 47 48.1	
	comp=Z,373nm,0.2s							
EDRB	Edirne	78.54	360	P		P	02 47 45.2	-0.4
PTEO	Sao Teotonio	78.54	28	eP		P	02 47 46.7	+1.0
	comp=Z,473nm,1.6s							
PTEO				epP		pP	02 48 15.2	-1.2
HELC	Santa Helena	78.56	97	eP		P	02 47 46.6	+0.1
PHP	Peshkopia	78.57	5	P		P	02 47 45.1	-0.8
CBOC	Ciudad Bolivar	78.60	98	eP		P	02 47 46.7	+0.1
PCVE	Castro Verde	78.62	27	eP		P	02 47 46.8	+0.6
	comp=Z,195nm,1.8s							
PCVE				epP		pP	02 48 15.6	-1.3
STIP	Stip	78.62	3	iPn		P	02 47 45.7	-0.4
SDV	Santo Domingo	78.70	92	P		P	02 47 46.6	-0.5
SDV				IAmb		IAmb	02 48 20.7	
	comp=Z,558nm,1.2s							
SDV	Santo Domingo	78.70	92	eP		P	02 47 45.3	-1.9
SDV	Santo Domingo	78.70	92	eP		P	02 47 47.6	+0.4
MAHO	Mahon	78.79	17	iP		P	02 47 44.6	-2.4
MAHO				iS		S	02 57 33.4	-1.0
KTUT	Trabzon	78.82	350	⇑P		P	02 47 47.3	+0.1
KARS	Kars	78.85	347	P		P	02 47 48.2	+0.7
KARS				pmax		pmax		
	comp=Z,2μm,1.8s							
KARS	Kars	78.85	347	P		P	02 47 48.2	+0.7
KARS				IAmb		IAmb	02 48 36.3	
	comp=Z,2μm,1.8s							
PAOL	Paolisi	78.86	9	P		P	02 47 46.7	-0.8
TIR	Tirane	78.88	5	⇑P		P	02 47 47.2	-0.4
TIR	Tirane	78.88	5	P		P	02 47 47.1	-0.4
TIR	Tirane	78.88	5	P		P	02 47 47.0	-0.5
TIR				pmax		pmax		
	comp=Z,352nm,1.4s							
TIR	Tirane	78.88	5	P		P	02 47 47.0	-0.5
PFVI	Vila Bisbo	78.91	28	eP		P	02 47 48.6	+0.9
	comp=Z,386nm,1.6s							
PFVI				epP		pP	02 48 17.9	-0.6
PFVI	Vila Bisbo	78.91	28	P		P	02 47 48.0	+0.3
PFVI	Vila Bisbo	78.91	28	P			02 47 48.8	
PVAQ	Vaqueiros	78.91	27	eP		P	02 47 48.9	+1.1
	comp=Z,61nm,2.1s							
PVAQ				epP		pP	02 48 18.1	-0.4
PVAQ				eS		S	02 57 38.2	+2.3
PVAQ	Vaqueiros	78.91	27	P		P	02 47 48.2	+0.4
PVAQ				pP		pP	02 48 17.4	-1.0
PVAQ	Vaqueiros	78.92	27	P			02 47 48.8	
PAMC	Pamplona, Colo	78.99	94	eP		P	02 47 48.3	-0.7
VAY	Valandovo	79.01	3	iPn		P	02 47 48.5	+0.3
NVR	Nevrokopi	79.01	2	P		P	02 47 48.2	-0.1
PBDV	Barranco-do-Ve	79.02	27	eP		P	02 47 49.6	+1.2
	comp=Z,470nm,1.9s							
PBDV				epP		pP	02 48 18.6	-0.5
GEYT	Alibeck	79.06	335	P		P	02 47 48.9	+0.3
	comp=Z,17nm,0.5s,baz=347,slow=3.3,SNR=24							
GEYT				pP		pP	02 48 19.9	+0.5
	comp=Z,60nm,0.9s,baz=237,slow=18,SNR=4.8							
GEYT				LR		LR	03 26 27.1	
	comp=Z,2μm,20.9s,baz=320,slow=38							
GEYT	Alibeck	79.06	335	P		P	02 47 49.6	+1.0
GYA0B	ALIBECK ARRAY	79.06	335	P		P	02 47 48.7	+0.1
SOCV	Socops	79.11	92	eP		P	02 47 48.2	-1.0
GNI	Garni	79.13	346	P		P	02 47 49.8	+0.7
GNI	Garni	79.13	346c	iP		P	02 47 49.9	+0.8
GNI				pmax		pmax		
	comp=Z,184nm,2.5s							
GNI	Garni	79.13	346	P		P	02 47 49.4	+0.3
NIL	Nilore	79.14	322	P		P	02 47 49.1	-0.1
NIL				IAmb		IAmb	02 47 53.2	
	comp=Z,427nm,1.1s							
NIL				pP		pP	02 48 20.6	+0.7
NIL	Nilore	79.14	322	P		P	02 47 49.5	+0.3
OHR	Ohrid	79.16	5	iPn		P	02 47 49.3	+0.2
KNT	Kendrikon	79.17	3	P		P	02 47 49.3	+0.2
RDO	Rodhopi	79.23	1	P		P	02 47 49.2	-0.2
SRS	Serrai	79.24	2	P		P	02 47 49.1	-0.4
PLMC	San Jos del P	79.29	99	eP		P	02 47 46.7	-3.5
ISK	Istanbul-Kandi	79.30	358	P		P	02 47 49.3	-0.5
GRG	Griva	79.37	3	P		P	02 47 50.4	+0.2
KAVA	Kavala	79.37	2	P		P	02 47 50.2	0.0
BARC	Barichara	79.39	95	eP		P	02 47 51.1	+0.1
GTK	Tadong	79.40	307	eP		P	02 47 51.9	+1.1
GTK				IAmb		IAmb	02 47 54.8	
	comp=Z,414nm,0.4s							
MATE	Matera	79.40	8	⇑P		P	02 47 50.7	+0.4
ARNO	Arenosillo	79.43	27	iP		P	02 47 50.9	+0.4
ARNO				eS		S	02 57 43.5	+2.2
NORC	Norcasia	79.43	97	eP		P	02 47 49.2	-1.7
GUY2C	Guyana, Caldas	79.47	98	eP		P	02 47 51.0	-0.7
ALN	Alexandroupoli	79.49	0	P		P	02 47 50.4	-0.4
ALN	Alexandroupoli	79.49	0	P		P	02 47 50.7	-0.1
ALN				pmax		pmax		
	comp=Z,291nm,1.2s							
ALN	Alexandroupoli	79.49	0	P		P	02 47 50.7	-0.1
FNA	Florina	79.51	4	P		P	02 47 50.4	-0.6
FNA	Florina	79.51	4	P		P	02 47 50.0	-1.0
FNA				pmax		pmax		
	comp=Z,448nm,1.3s							
FNA	Florina	79.51	4	P		P	02 47 50.0	-1.0
FNA				IAmb		IAmb	02 48 31.8	
	comp=Z,448nm,1.3s							
SOH	Sokhos	79.53	3	P		P	02 47 50.8	-0.3
KBL	Kabul	79.57	326	P		P	02 47 50.0	-1.6
KBL				pmax		pmax		
	comp=Z,96nm,1.0s							
KBL	Kabul	79.57	326	P		P	02 47 50.0	-1.6
KBL	Kabul	79.57	326	P		P	02 47 50.3	-1.4
	SNR=43							
KBL	Kabul	79.57	326	P		P	02 47 50.3	-1.4
	SNR=43							
SHL	Shillong	79.60	304	P		P	02 47 51.1	-0.8
SHL				pmax		pmax		
	comp=Z,669nm,1.4s							
SHL	Shillong	79.60	304	eP		P	02 47 51.9	-0.1
SHL				IAmb		IAmb	02 47 54.3	
	comp=Z,262nm,1.0s							
SHL	Shillong	79.60	304	P		P	02 47 51.1	-0.8
SHL				IAmb		IAmb	02 47 54.0	
	comp=Z,669nm,1.4s							
SHL	Shillong	79.60	304	P		P	02 47 51.6	-0.3
	SNR=39							
SHL	Shillong	79.60	304	P		P	02 47 51.6	-0.3
	SNR=39							
KBN	Korca	79.64	5	P		P	02 47 51.4	-0.4
KBN	Korca	79.64	5	P		P	02 47 51.4	-0.4
KBN				pmax		pmax		
	comp=Z,164nm,1.2s							
KBN	Korca	79.64	5	P		P	02 47 51.4	-0.4
ENEZ	Enez	79.65	0	P		P	02 47 51.4	-0.3
SVB	Belmont	79.66	82	eP		P	02 47 49.7	-2.4
THE	Thessaloniki	79.71	3	P		P	02 47 51.3	-0.7
TAPN	Taplejung	79.73	308	eP		P	02 47 53.2	+0.5
	comp=Z,1μm,0.6s							
TAPN	Taplejung	79.73	308	eP		P	02 47 53.5	+0.8
	comp=Z,1μm,0.6s							
VLO	Vlora	79.74	6	P		P	02 47 52.9	+0.7
VLO				pmax		pmax		
	comp=Z,240nm,1.1s							
VLO	Vlora	79.74	6	P		P	02 47 52.9	+0.7
HORT	Hortiatis	79.74	3	P		P	02 47 51.5	-0.8
THAS	Thassos island	79.77	2	P		P	02 47 51.8	-0.5
MDUB	Mudurnu	79.84	356	P		P	02 47 52.8	-0.1
MDUB				IAmb		IAmb	02 48 43.2	
	comp=Z,1μm,1.2s							
NEST	Nestorio	79.86	4	P		P	02 47 51.9	-1.1
VSL	Villasalto	79.86	14	P		P	02 47 52.6	-0.2
SMTH	Samothraki Isl	79.91	1	P		P	02 47 52.4	-0.7
KTI	Kastanea	79.92	4	P		P	02 47 53.4	+0.1
PLG	Polygyros	79.97	3	P		P	02 47 52.7	-0.8
LKRN	Lenkeran, Azer	79.99	343	P		P	02 47 53.4	-0.2
NAX	Nakhchivan	80.00	345	P		P	02 47 53.5	-0.2
KZN	Kozani	80.00	4	P		P	02 47 52.9	-0.8
OUR	Ouranopolis	80.03	2	P		P	02 47 53.2	-0.5
RUSC	La Rusia	80.04	96	eP		P	02 47 53.3	-1.4
TOLC	Tolima	80.05	98	eP		P	02 47 53.7	-0.9
JIRN	Jiri	80.05	309	eP		P	02 47 55.4	+0.9
	comp=Z,1μm,0.7s							
JIRN	Jiri	80.05	309	eP		P	02 47 55.4	+0.9
	comp=Z,1μm,0.7s							
YOTC	Yotoco, Valle	80.06	99	eP		P	02 47 53.3	-1.1
SCTE	Santa Cesarea	80.08	6	P		P	02 47 53.7	-0.3
SCTE				IAmb		IAmb	02 48 34.9	
	comp=Z,349nm,1.0s							
ANIL	Santa Ana	80.09	98	eP		P	02 47 54.9	+0.2
LSK	Leskovik	80.11	5	P		P	02 47 54.0	-0.3
CART	Cartagena	80.14	22	iP		P	02 47 52.8	-1.6
CART				iS		S	02 57 47.6	-1.2
CART	Cartagena	80.14	22	P		P	02 47 54.3	0.0
CART	Cartagena	80.15	22	P			02 47 54.8	
SFS	San Fernando	80.16	26	P		P	02 47 56.1	+1.7
SFS				pmax		pmax		
	comp=Z,742nm,1.3s							
SFS	San Fernando	80.16	26	iP		P	02 47 53.5	-1.0
SFS				eS		S	02 57 53.2	+4.3
SFS	San Fernando	80.16	26	P		P	02 47 56.1	+1.7
SFS				IAmb		IAmb	02 48 27.7	
	comp=Z,742nm,1.3s							
GADA	Gvkgeada	80.19	1	P		P	02 47 53.8	-0.8
SMLA	Simla	80.20	318	eP		P	02 47 55.5	+0.7
SMLA				IAmb		IAmb	02 47 57.0	
	comp=Z,787nm,1.6s							
SMLA				ipP		pP	02 48 27.1	+1.5
LIT	Litokhoron	80.22	3	P		P	02 47 54.1	-0.7
LIT	Litokhoron	80.22	3	P		P	02 47 54.1	-0.7
LIT	Litokhoron	80.22	3	P		P	02 47 54.1	-0.7
GCMP	Grenada, Carri	80.25	82	eP		P	02 47 54.0	-1.3
EMAL	Malaga-Limoner	80.26	25	iP		P	02 47 55.0	0.0
EMAL				iS		S	02 57 50.9	+0.9
KKN	Kakani	80.29	310	eP		P	02 47 56.3	+0.7
	comp=Z,295nm,0.6s							
KKN	Kakani	80.29	310	eP		P	02 47 56.1	+0.5
	comp=Z,295nm,0.6s							
ODAN	Odare	80.29	308	eP		P	02 47 56.3	+0.6
	comp=Z,1μm,1.2s							
ODAN	Odare	80.29	308	eP		P	02 47 56.2	+0.6
	comp=Z,612nm,0.9s							
ROSC	El Rosal	80.33	97	P		P	02 47 56.4	+0.3
	comp=Z,16nm,0.4s,baz=142,slow=2.9,SNR=13							
ROSC				pP		pP	02 48 26.7	0.0
	comp=Z,115nm,1.0s,baz=144,slow=16,SNR=6.6							
ROSC				LR		LR	03 27 43.7	
	comp=Z,2μm,19.6s,baz=9.5,slow=39							
ROSC	El Rosal	80.33	97	P		P	02 47 55.9	-0.3
ROSC				pP		pP	02 48 27.1	+0.4
ROSC				IAmb		IAmb	02 48 29.0	
	comp=Z,1μm,1.6s							
ROSC	El Rosal	80.33	97	eP		P	02 47 53.0	-3.2
KPRO	Kipourio	80.33	4	P		P	02 47 54.3	-1.2
GKN	Gorkha	80.34	311	eP		P	02 47 56.4	+0.6
	comp=Z,645nm,0.8s							
GKN	Gorkha	80.34	311	eP		P	02 47 56.2	+0.4
	comp=Z,645nm,0.8s							
SRN	Sarande	80.35	5	P		P	02 47 54.7	-0.8
DANN	Dangsing	80.36	311	eP		P	02 47 56.9	+0.8
	comp=Z,2μm,0.7s							
DANN	Dangsing	80.36	311	eP		P	02 47 56.8	+0.7
	comp=Z,2μm,0.7s							
ANTO	Ankara	80.39	355	P		P	02 47 55.8	0.0
ANTO				pmax		pmax		
	comp=Z,169nm,0.9s							
ANTO	Ankara	80.39	355	P		P	02 47 55.8	0.0
BR231	Keskin MP Arra	80.42	355	P		P	02 47 56.2	+0.2
PAIG	Paliouri	80.43	2	P		P	02 47 55.0	-0.9
PKI	Pulchoki	80.43	310	eP		P	02 47 56.8	+0.3
	comp=Z,436nm,0.8s							
PKI	Pulchoki	80.43	310	eP		P	02 47 56.8	+0.3
	comp=Z,2μm,1.5s							
PKIN	Phulchoki	80.43	310	eP		P	02 47 56.7	+0.2
	comp=Z,353nm,0.8s							
PKIN	Phulchoki	80.43	310	eP		P	02 47 56.5	0.0
	comp=Z,353nm,0.8s							
GRGR	Grenville	80.44	82	eP		P	02 47 54.6	-1.7
LIA	Limnos Island	80.48	1	P		P	02 47 55.4	-0.7
BR131	Keskin Array S	80.49	355	P		P	02 47 56.2	-0.2
BR131				pmax		pmax		
	comp=Z,160nm,1.1s							
BR131	Keskin Array S	80.49	355	P		P	02 47 56.2	-0.2
BR131	Keskin Array S	80.49	355	P		P	02 47 56.0	-0.4
	SNR=25							
BR131	Keskin Array S	80.49	355	P		P	02 47 56.0	-0.4
	SNR=25							
BRTR	Keskin Array B	80.49	355	P		P	02 47 56.0	-0.4
	comp=Z,50nm,1.1s,baz=0.7,slow=2.3,SNR=91							
BRTR				pP		pP	02 48 27.1	-0.3
	comp=Z,40nm,1.0s,baz=8.5,slow=2.5,SNR=7.1							
BRTR				PKKPbc		PKKPbc	03 06 34.3	+1.1
	comp=Z,2.9nm,0.8s,baz=180,slow=4.9,SNR=8.4							
BRTR				PKPPKP		P'P'df	03 14 30.3	-12
	comp=Z,1.1nm,0.8s,baz=183,slow=5.2,SNR=6.5							
BRTR	Keskin Array B	80.49	355	P		P	02 47 56.2	-0.3
KEK	Kerkira	80.51	5	P		P	02 47 55.9	-0.4
DMN	Daman	80.52	310	eP		P	02 47 57.5	+0.6
	comp=Z,343nm,0.6s							
DMN	Daman	80.52	310	eP		P	02 47 57.2	+0.3
	comp=Z,343nm,0.6s							
RAMN	Ramite	80.52	308	eP		P	02 47 57.4	+0.5
	comp=Z,645nm,0.5s							
RAMN	Ramite	80.52	308	eP		P	02 47 57.3	+0.4
EZN	Ezine	80.56	0	P		P	02 47 55.9	-0.7
JAN	Janina	80.61	5	P		P	02 47 57.0	+0.1
DDI	Dehra Dun	80.63	317	eP		P	02 47 58.0	+0.7
DDI				IAmb		IAmb	02 47 59.4	
	comp=Z,576nm,1.2s							
ORTC	Ortega, Tolima	80.67	98	eP		P	02 47 54.1	-3.4
IGT	Igoumenitsa	80.71	5	P		P	02 47 56.7	-0.7
PMOZ	Porto Moniz, M	80.73	36	eP		P	02 47 57.5	-0.3
	comp=Z,269nm,1.5s							
PMOZ				epP		pP	02 48 27.6	-0.9
PMOZ				eS		S	02 57 58.0	+2.6
BALB	Balikesir	80.74	359	P		P	02 47 57.3	-0.2
THL	Klokotos Trika	80.74	4	P		P	02 47 56.5	-1.1
PMPST	Porto Santo, M	80.75	35	eP		P	02 48 00.8	+3.1
	comp=Z,466nm,1.5s							
PMPST				epP		pP	02 48 25.9	-2.5
PMPS	Porto Santo	80.77	35	eP		P	02 47 59.9	+2.1
	comp=Z,584nm,1.9s							
PMPS				epP		pP	02 48 25.8	-2.7
CHIC	Chingaza	80.80	97	eP		P	02 47 58.8	+0.1
MSVF	Nonsavu	80.85	208	P		P	02 48 00.0	+1.7
	comp=Z,142nm,0.9s,baz=36,slow=1.6,SNR=39							
MSVF				LR		LR	03 16 38.6	
	comp=Z,2μm,21.4s,baz=0.9,slow=30							
MSVF	Nonsavu	80.85	208	P		P	02 47 59.3	+1.0
MSVF				pmax		pmax		
	comp=Z,239nm,1.0s							
MSVF	Nonsavu	80.85	208	P		P	02 47 59.3	+1.0
TIP	Timpagrande	80.87	8	⇑P		P	02 47 58.0	-0.3
TIP	Timpagrande	80.87	8	P		P	02 47 57.5	-0.8
PYUN	Piuthan	80.88	312	eP		P	02 47 59.3	+0.6
	comp=Z,1μm,0.7s							
PYUN	Piuthan	80.88	312	eP		P	02 47 59.0	+0.3
	comp=Z,1μm,0.7s							
CEU	Ceuta	80.88	26	iP		P	02 47 58.5	+0.1
CEU				eS		S	02 57 59.0	+2.4
ELOV	Elorza	80.90	92	eP		P	02 47 55.1	-3.6
PMAR	Madeira	80.91	36	epP		pP	02 48 28.6	-0.9
PMAR				A		A	02 48 33.6	
	comp=Z,522nm,1.5s							
KOLN	Koldanda	80.94	311	eP		P	02 47 59.7	+0.6
	comp=Z,650nm,0.8s							
KOLN	Koldanda	80.94	311	eP		P	02 47 59.6	+0.5
	comp=Z,650nm,0.8s							
XOR	Xorichti	80.97	3	P		P	02 47 57.7	-1.2
FUL	Funchal	80.99	36	eP		P	02 47 59.3	+0.3
	comp=Z,309nm,1.7s							
FUL				epP		pP	02 48 29.3	-0.4
PTGL	Punta Galera	81.01	104	eP		P	02 47 56.8	-2.5
GURO	Guroymak-BITLI	81.02	348	P		P	02 47 59.8	+0.6
NEO	Neokhori	81.04	3	P		P	02 47 58.5	-0.7
RAR	Rarotonga	81.06	186	P		P	02 48 00.3	+1.1
	comp=Z,43nm,1.0s,baz=134,slow=1.8,SNR=4.9							
RAR				LR		LR	03 17 31.9	
	comp=Z,1μm,19.4s,baz=2.0,slow=31							
RAR	Rarotonga	81.06	186	P		P	02 48 00.0	+0.8
RAR				pmax		pmax		
	comp=Z,477nm,1.9s							
RAR	Rarotonga	81.06	186	P		P	02 48 00.0	+0.8
SMIR	Smir Dam	81.09	26	P			02 48 01.0	
NONG	Nongkai	81.12	291	P		P	02 47 59.4	-0.4
	comp=Z,8μmcomp=Z,395nm,0.8s							
POPC	Popayan, Colom	81.14	100	eP		P	02 47 46.7	-14
PRK	Paraskevi	81.14	0	P		P	02 47 59.9	+0.3
SIGR	SIGRI	81.17	1	P		P	02 47 59.1	-0.7
MARP	Paez Belalcaza	81.23	100	eP		P	02 48 03.9	+3.1
BNN	Bunyan	81.24	353	P		P	02 48 00.3	-0.1
BNN				IAmb		IAmb	02 48 49.5	
	comp=Z,464nm,1.0s							
VILC	Villavicencio,	81.27	97	eP		P	02 47 57.4	-3.4
AGG	Agios Georgios	81.30	3	P		P	02 47 59.3	-1.3
AGG	Agios Georgios	81.30	3	P		P	02 47 59.0	-1.6
AGG				pmax		pmax		
	comp=Z,259nm,1.4s							
AGG	Agios Georgios	81.30	3	P		P	02 47 59.0	-1.6
MAKR	Makrakomi, Fth	81.30	4	P		P	02 47 59.3	-1.3
BBAC	Balboa, Cauca	81.30	101	eP		P	02 48 01.3	+0.2
AGT	Agartala	81.35	303	eP		P	02 48 02.6	+1.6
EVR	Evrytania	81.38	4	P		P	02 48 00.9	-0.2
PCON	Cinco Dias	81.46	100	eP		P	02 48 00.7	-1.6
LKD2	Lefkada island	81.47	5	P		P	02 48 00.7	-0.8
HRA	Herat	81.51	331	P		P	02 48 02.3	+0.3
SOTA	Rioblanco	81.52	100	eP		P	02 48 01.1	-1.5
NYDR	Nydri-Lefkada	81.55	5	P		P	02 48 01.0	-0.8
BETC	Betania	81.63	99	eP		P	02 48 03.1	+0.5
SANVU	Saraoutou	81.63

CHTO pmax pmax
comp=Z,160nm,0.9s
CHTO Chiang Mai 82.42 294 P **P 02 48 06.0 -0.7**
comp=Z,4µmcomp=Z,263nm,1.4s
CHTO Chiang Mai 82.42 294 P **P 02 48 05.6 -1.1**
CHTO Chiang Mai 82.42 294 P **P 02 48 06.0 -0.7**
CMAH Djebel Manchou 82.45 16 P **P 02 48 06.6 -0.1**
OJGS Djebel Guires 82.49 21 P **P 02 48 07.0 +0.1**
ODJA Bouhanifia 82.50 22 P **P 02 48 08.0 +1.1**
VLY Voula,Athens 82.50 2 P **P 02 48 04.8 -2.0**
LTHK Lithakia 82.55 9 P **P 02 48 06.1 -1.0**
TAF Taforalt 82.56 24 P 02 48 08.7
CKFL Kef-Lekhel 82.57 16 P **P 02 48 07.7 +0.3**
SET Setif 82.58 17 P **P 02 48 09.0 +1.6**
CM36 Chiang Mai Arr 82.60 294 P **P 02 48 07.0 -0.7**
UTTA Uttaradit 82.60 293 P **P 02 48 07.1 -0.5**
UTTA Uttaradit 82.60 293 P **P 02 48 07.2 -0.5**
SMG Samos 82.67 360 P **P 02 48 06.2 -1.5**
ETRT Tiaret 82.70 21 P **P 02 48 08.7 +0.6**
CM09 Chiang Mai Arr 82.72 294 P **P 02 48 08.3 +0.1**
comp=Z,258nmcomp=Z,2µmcomp=Z,296nm,0.7s
CM31 Chiang Mai Arr 82.73 294 P **P 02 48 08.3 0.0**
CM31 Chiang Mai Arr 82.73 294 P **P 02 48 07.9 -0.4**
CM31 IAmb IAmb 02 48 11.8
comp=Z,513nm,1.1s
CM31 Chiang Mai Arr 82.73 294 P **P 02 48 08.3 0.0**
SNR=84
CM31 Chiang Mai Arr 82.73 294 P **P 02 48 08.3 0.0**
SNR=84
CMAR Chiang Mai Arr 82.73 294 P **P 02 48 08.0 -0.3**
comp=Z,116nm,0.6s,baz=15,slow=5.5,SNR=282
CMAR pP **pP 02 48 39.0 -0.3**
comp=Z,110nm,1.2s,baz=12,slow=5.9,SNR=2.1
CMAR PKKPbc **PKKPbc 03 06 30.3 +2.3**
comp=Z,1.1nm,0.3s,baz=230,slow=4.1,SNR=5.4
CMAR PKPPKP **P'P'df 03 14 35.0 -3.1**
comp=Z,1.1nm,0.6s,baz=220,slow=4.3,SNR=5.1
CMAR LR LR 03 26 36.8
comp=Z,1µm,19.1s,baz=60,slow=37
CMAR Chiang Mai Arr 82.73 294 P **P 02 48 07.8 -0.5**
CM15 Chiang Mai Arr 82.74 294 P **P 02 48 08.4 0.0**
comp=Z,2µmcomp=Z,236nm,1.2s
CM02 Chiang Mai Arr 82.75 294 P **P 02 48 08.4 0.0**
comp=Z,2µmcomp=Z,278nm,1.1s
CM02 Chiang Mai Arr 82.75 294 P **P 02 48 08.0 -0.4**
CM01 Chiang Mai Arr 82.75 294 P **P 02 48 08.4 0.0**
comp=Z,261nmcomp=Z,3µmcomp=Z,277nm,0.8s
CM01 Chiang Mai Arr 82.75 294 P **P 02 48 08.4 0.0**
AMT Artemida-Makis 82.76 4 P **P 02 48 07.5 -0.7**
CM04 Chiang Mai Arr 82.76 294 P **P 02 48 08.4 0.0**
CM05 Chiang Mai Arr 82.78 294 P **P 02 48 08.5 0.0**
ABSA Djebel Ababsia 82.80 16 P **P 02 48 08.2 -0.4**
GAZ Gaziantep 82.82 352 P **P 02 48 08.4 -0.2**
GAZ pP **pP 02 48 40.0 +0.3**
CTEI Djebel Teioual 82.86 16 P **P 02 48 09.5 +0.6**
MACC Macarena, Meta 82.88 98 *eP* **P 02 48 04.8 -4.3**
AVE Averroes 82.91 28 *i P* **P 02 48 06.6 -2.4**
AVE *i* S **S 02 58 13.9 -3.6**
AVE Averroes 82.91 28 P 02 48 11.0
VLX Vlachokerasia 82.94 3 P **P 02 48 08.4 -0.9**
ZHG ZHG 82.95 28 P 02 48 11.0
KRND KRANIDI 82.95 3 P **P 02 48 07.5 -1.7**
JBK JBK 82.99 24 P 02 48 10.0
TBI Tubuai 83.08 176 *e*S **S 02 58 18.7 -0.2**
comp=Z,8µm,30.8s
TBI Tubuai 83.08 176 *e*LQ LQ 03 10 29.6
comp=Z,7µm,29.0s
TBI *e*LR LR 03 14 07.5
comp=Z,7µm,38.2s,baz=354
TBI Tubuai 83.08 176 *e*T T 04 15 13.7
comp=Z,20nm,0.3s
ITM Ithomi 83.12 4 P **P 02 48 09.3 -0.8**
ITM Ithomi 83.12 4 P **P 02 48 09.0 -1.0**
ITM IAmb IAmb 02 48 51.0
comp=Z,370nm,1.3s
LCRM LCR 83.12 26 P 02 48 12.0
IFR Ifrane 83.23 26 *i* P **P 02 48 10.3 -0.6**
IFR *i* S **S 02 58 17.9 -3.1**
YER Yerkesik 83.24 359 P **P 02 48 10.0 -0.7**
APE Apeiranthos 83.31 1 ⇓P **P 02 48 09.9 -1.2**
APE Apeiranthos 83.31 1 P **P 02 48 09.4 -1.7**
APE Apeiranthos 83.31 1 ⇓P **P 02 48 09.9 -1.2**
BODT Bodrum 83.32 359 P **P 02 48 09.4 -1.7**
PBKT Sadao Pong 83.43 292 P **P 02 48 12.3 +0.4**
PBKT Sadao Pong 83.43 292 P **P 02 48 12.3 +0.4**
PBKT Sadao Pong 83.43 292 P **P 02 48 12.2 +0.4**
MHMT Maesarieng 83.44 295 P **P 02 48 12.1 +0.2**
MHMT Maesarieng 83.44 295 P **P 02 48 12.2 +0.2**
SIJI Sorong 83.47 257 P **P 02 48 09.9 -2.2**
comp=Z,38nm,0.6s,baz=22,slow=5.7,SNR=18
CHAI Chaiyaphum 83.53 290 P **P 02 48 12.0 -0.4**
KEST Kesra 83.58 14 P **P 02 48 12.7 +0.2**
comp=Z,139nm,1.1s,baz=302,slow=1.2,SNR=47
KEST PKPPKP **P'P'df 03 14 34.8 -2.1**
comp=Z,5.5nm,1.0s,baz=255,slow=2.7,SNR=3.8
KEST Kesra 83.58 14 P **P 02 48 12.2 -0.3**
KEST Kesra 83.58 14 P **P 02 48 13.0 +0.4**
SNR=29
KEST Kesra 83.58 14 P **P 02 48 13.0 +0.4**
SNR=29
ELL Elmali 83.59 357 P **P 02 48 12.6 0.0**
ELL pmax pmax
comp=Z,272nm,1.1s
ELL Elmali 83.59 357 P **P 02 48 12.6 0.0**
PMG Port Moresby 83.60 239 P **P 02 48 12.4 -0.3**
comp=Z,48nm,0.7s,baz=22,slow=8.5,SNR=15
PMG Port Moresby 83.60 239 *c i P* **P 02 48 12.1 -0.6**
PMG pmax pmax
comp=Z,415nm,1.7s
PMG Port Moresby 83.60 239 P **P 02 48 11.8 -0.9**
PMG IAmb IAmb 02 48 15.1
comp=Z,471nm,1.5s
VLI Veliai 83.61 3 P **P 02 48 10.8 -1.8**
DAT Datca 83.65 359 P **P 02 48 10.7 -2.2**
MHLO Agia Marina, M 83.67 2 P **P 02 48 09.8 -3.1**
CZD Col de Zad 83.71 26 P 02 48 15.2
FETY Fethiye 83.72 358 P **P 02 48 11.9 -1.3**
EAH EAH 83.95 30 P 02 48 16.0
MDT Midelt 84.02 26 P 02 48 15.7
KTHA Kythira Island 84.08 3 P **P 02 48 12.3 -2.7**
PTLC Puerto Leguiza 84.11 100 *eP* **P 02 48 16.3 +0.9**
ARG Arkhangelos 84.15 359 P **P 02 48 13.6 -1.7**
KSL Kastellorizon 84.20 358 P **P 02 48 14.6 -0.9**
TDRA Tendrara 84.35 24 P 02 48 18.0
ANKY Antikythira Is 84.47 3 P **P 02 48 16.1 -0.8**
UMPA Umpang Tak 84.73 293 P **P 02 48 19.5 +1.0**
comp=Z,4µmcomp=Z,383nm,0.7s
UMPA Umpang Tak 84.73 293 P **P 02 48 19.6 +1.0**
FAKI Fak Fak 84.77 255 P **P 02 48 18.6 -0.1**
OUK Oukaimeden 84.80 29 P 02 48 20.0
KARP Karpathos 84.83 360 P **P 02 48 16.2 -2.6**
CGR Cap Guir 84.84 31 P 02 48 21.0
IMMV Iera Moni Meta 84.89 2 P **P 02 48 18.0 -1.1**
VAM Vamos 84.95 2 P **P 02 48 17.8 -1.5**
UTHA Uthaitani 85.02 292 P **P 02 48 20.1 +0.2**
IDI Anoyia 85.08 1 ⇓P **P 02 48 17.7 -2.3**
IDI Anoyia 85.08 1 P **P 02 48 17.6 -2.5**
NPS Neapolis 85.11 1 P **P 02 48 17.8 -2.4**
KNDR Palaiochora Ch 85.11 2 P **P 02 48 18.9 -1.2**
LEF Lefka 85.12 355 ⇓P **P 02 48 20.1 0.0**
STIA Sitia Lasithi 85.17 0 P **P 02 48 18.4 -2.0**
LAST Lasithi 85.21 1 P **P 02 48 18.5 -2.3**
CSS Mathiatis 85.25 355 P **P 02 48 20.0 -0.9**
ZKR Zakros 85.26 0 P **P 02 48 17.4 -3.5**
SIVA Sivas 85.34 2 P **P 02 48 20.9 -0.4**
FIGM Figuig 85.38 24 P 02 48 23.0
GVDS Gavdos 85.51 2 P **P 02 48 21.1 -1.0**
GVD Gavdhos 85.51 2 P **P 02 48 19.8 -2.4**
TZRR Tazzarine 85.75 27 P 02 48 25.0
PATY Pattaya 86.65 290 P **P 02 48 28.8 +0.8**
PHET Kaeng Krachan 87.24 291 P **P 02 48 31.0 +0.2**
BHPL Bhopal 87.34 315 *eP* **P 02 48 30.9 -0.4**
BHPL IAmb IAmb 02 48 32.7
comp=Z,119nm,1.0s
DZM Mont Dzumac 88.09 217 *eP* **P 02 48 34.8 +0.1**
comp=Z,145nm,1.4s
DZM Mont Dzumac 88.09 217 *e*S **S 02 59 07.8 -0.5**
comp=Z,4µm,34.5s
DZM Mont Dzumac 88.09 217 *e*LR LR 03 16 44.9
comp=Z,7µm,25.8s
DZM Mont Dzumac 88.09 217 LR LR 03 21 54.3
comp=Z,1µm,20.4s,baz=22,slow=31
GHAJ Ghor Haditha 88.77 352 P **P 02 48 37.7 -0.2**

MIB Mutribah 88.95 342 *eP* **P 02 48 38.1 -0.6**
UMR Umm Al-Rimmam 89.13 342 *eP* **P 02 48 38.8 -0.9**
RST Umm Al-Ruwaisa 89.30 342 *eP* **P 02 48 39.6 -0.7**
BOAV Boa Vista 89.35 86 *eP* **P 02 48 40.5 -0.3**
RDF Al-Radifah 89.77 342 *eP* **P 02 48 42.1 -0.5**
QRN Al-Qurain 89.89 341 *eP* **P 02 48 41.9 -1.3**
DGPR DIGLIPUR 90.08 297 *eP* **P 02 48 43.9 -0.3**
VIS Vishakhapatnam 90.12 307 *eP* **P 02 48 45.3 +1.0**
SBUM Sibu 90.13 275 P **P 02 48 45.0 +0.5**
TBTG Tabatinga, AM 90.30 98 *eP* **P 02 48 42.8 -2.4**
SHME Shamm 90.94 334 *i P* **P 02 48 46.9 -1.2**
SNR=7.3
SHME Shamm 90.94 334 P **P 02 48 47.0 -1.1**
SHME S **SKSac 02 59 00.8 -7.8**
BANOM Banah 91.03 334 *i P* **P 02 48 47.7 -0.9**
SNR=11
BANOM Banah 91.03 334 P **P 02 48 47.3 -1.3**
BANOM S **SKSac 02 59 02.7 -6.5**
PBA Port Blair 91.51 296 *eP* P 02 48 51.7 +0.8
PBA Port Blair 91.51 296 P P 02 48 51.3 +0.4
PBA IAmb IAmb 02 48 58.0
comp=Z,288nm,0.7s
MASF Masafi 91.59 334 P **P 02 48 50.1 -1.1**
MSFE Esma-Masafi 91.60 334 *i P* **P 02 48 49.8 -1.4**
SNR=7.9
MDH Madha 91.63 333 *i P* **P 02 48 49.6 -1.7**
SNR=9.5
SKLT Songkhla 91.77 287 P **P 02 48 53.1 +1.1**
KSM Kuching 91.93 276 P **P 02 48 53.0 +0.2**
CZSB Cruzeiro do Su 91.96 102 *eP* **P 02 48 52.3 -0.6**
UOSS Minazif 91.99 333 *i P* **P 02 48 51.3 -1.8**
SNR=6.7
UOSS Minazif 91.99 333 P **P 02 48 53.0 0.0**
UOSS Minazif 91.99 333 P **P 02 48 51.2 -1.8**
UOSS S **SKSac 02 59 10.1 -4.5**
NAZ Nazwa, Dubai 92.07 334 *i P* **P 02 48 52.3 -1.0**
SNR=5.7
HATD Hatta, Dubai 92.12 333 *i P* **P 02 48 52.6 -1.0**
SNR=6.0
HATD Hatta, Dubai 92.12 333 P **P 02 48 52.7 -0.9**
SNR=5.4
HATD Hatta, Dubai 92.12 333 P **P 02 48 52.7 -0.9**
SNR=5.4
PKDT Phuket 92.23 290 P **P 02 48 55.1 +0.9**
HYB Hyderabad 92.25 311 *i P* **P 02 48 54.0 -0.3**
HYB *e*pP **pP 02 49 26.0 +0.2**
HYB *e*PP **PP 02 52 34.0 -1.6**
HYB *e*ScS **S 02 59 50.0 +3.1**
HYB *e*PS PnS 03 01 22.0 +7.8
HYB *e*PPS PPS 03 02 00.0
HYB Hyderabad 92.25 311 *eP* **P 02 48 54.2 -0.2**
ASHO Ashiyiah 92.28 333 *i P* **P 02 48 52.8 -1.6**
SNR=7.6
ASHO Ashiyiah 92.28 333 P **P 02 48 53.4 -0.9**
SNR=5.2
ASHO Ashiyiah 92.28 333 P **P 02 48 53.4 -0.9**
SNR=5.2
ASHO S **SKSac 02 59 10.9 -5.4**
PTGA Pitinga 92.32 87 P **P 02 48 54.5 -0.1**
PTGA pP **pP 02 49 24.3 -1.5**
FAQ Al Faqa, Dubai 92.32 334 *i P* **P 02 48 58.0 +3.5**
SNR=7.0
ASUD Al Ashush, Dub 92.49 334 *i P* **P 02 48 54.1 -1.2**
SNR=6.8
ASUD Al Ashush, Dub 92.49 334 P **P 02 48 54.8 -0.5**
SNR=6.1
ASUD Al Ashush, Dub 92.49 334 P **P 02 48 54.8 -0.5**
SNR=6.1
AJN Ajban 92.63 334 *i P* **P 02 48 54.2 -1.7**
SNR=6.6
SOHO SOHO 92.70 333 *i P* **P 02 48 54.9 -1.3**
SNR=6.4
KAPI Kappang 92.76 265 P **P 02 48 55.4 -1.1**
comp=Z,6.9nm,0.5s,baz=113,slow=1.3,SNR=8.4
KAPI Kappang 92.76 265 P **P 02 48 54.9 -1.7**
KAPI pmax pmax
comp=Z,246nm,1.8s
KAPI Kappang 92.76 265 P **P 02 48 54.9 -1.7**
KAPI IAmb IAmb 02 48 59.8
comp=Z,246nm,1.8s
KAPI Kappang 92.76 265 P **P 02 48 55.2 -1.3**
KAPI S **SKSac 02 59 13.0 -5.9**
BIDO Bidbid 92.91 331 P **P 02 48 56.4 -0.9**
ALNE Al Ain 92.95 334 P **P 02 48 56.1 -1.4**
ALNE Al Ain 92.95 334 P **P 02 48 56.9 -0.6**
SNR=5.2
ALNE Al Ain 92.95 334 P **P 02 48 56.9 -0.6**
SNR=5.2
ALNE S **SKSac 02 59 13.1 -6.9**
KULM Kulim 93.39 287 P **P 02 49 00.0 +0.5**
ARQ Araqi 93.47 333 P **P 02 48 59.0 -0.8**
SNR=7.2
ARQ Araqi 93.47 333 P **P 02 48 59.0 -0.8**
SNR=7.2
ARQ S **SKSac 02 59 17.9 -5.0**
CTA Charters Tower 93.54 235 P **P 02 49 00.2 +0.2**
comp=Z,99nm,0.7s,baz=24,slow=6.2,SNR=92
CTA LR LR 03 26 50.0
comp=Z,933nm,21.9s,baz=24,slow=33
CTAO Charters Tower 93.54 235 P **P 02 48 59.9 -0.1**
CTAO pmax pmax
comp=Z,129nm,0.8s
CTAO Charters Tower 93.54 235 P **P 02 48 59.9 -0.1**
CTAO IAmb IAmb 02 49 01.2
comp=Z,129nm,0.8s
JRMM Jerantut 93.72 284 P **P 02 49 01.0 0.0**
SLWR Sila 93.79 337 P **P 02 49 00.0 -1.2**
SLWR S **SKSac 02 59 18.4 -6.1**
IPM Ipoh 93.91 286 P **P 02 49 03.0 +1.0**
MTN Manton Dam 93.92 251 P **P 02 49 01.5 -0.3**
MTN IAmb IAmb 02 49 56.5
comp=Z,169nm,1.3s
MACA Manacapuru-AM 94.04 89 *eP* **P 02 49 02.1 -0.4**
MCPB Macapa, AP 95.95 80 *eP* **P 02 49 10.5 -0.8**
MALB Monte Alegre 96.14 83 *eP* **P 02 49 11.8 -0.3**
PSI Prapat 96.39 287 P **P 02 49 12.4 -1.0**
PSI pmax pmax
comp=Z,90nm,0.9s
RPSI Rantau Prapat 96.48 287 P **P 02 49 12.4 -1.2**
RPSI IAmb IAmb 02 49 14.7
comp=Z,90nm,0.9s
ETMB Extrema 96.97 97 *eP* **P 02 49 13.8 -2.0**
ITTB Itaituba 97.56 86 *eP* **P 02 49 18.2 -0.3**
WB0 Warramunga Arr 98.42 245 P **P 02 49 20.7 -1.4**
WB0 IAmb IAmb 02 49 23.5
comp=Z,123nm,2.0s
WR0 Warramunga Arr 98.52 245 P **P 02 49 21.3 -1.3**
WRAB Tennant Creek 98.58 245 *deP* **P 02 49 21.9 -1.0**
WRAB pmax pmax
comp=Z,37nm,1.4s
WB2 Warramunga Arr 98.59 245 **P 02 49 21.2 -1.7**
WRA Warramunga Arr 98.60 245 P **P 02 49 21.2 -1.8**
comp=Z,7.9nm,0.9s,baz=33,slow=5.2,SNR=32
WRA PKKPbc **PKKPbc 03 05 49.9 +0.8**
comp=Z,0.8nm,0.7s,baz=217,slow=2.4,SNR=6.7
WRA LR LR 03 30 35.1
comp=Z,1µm,21.1s,baz=75,slow=33
WRA Warramunga Arr 98.60 245 *i P* **P 02 49 21.6 -1.4**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 98.60 245 P **P 02 49 21.5 -1.5**
TMAB Tom-Au,PA,Br 99.64 78 *eP* **Pdif 02 49 27.9 +0.1**
NPGB Novo Progresso 100.05 87 *eP* **Pdif 02 49 28.9 -0.7**
LPAZ La Paz 101.56 102 P **Pdif 02 49 35.4 -1.6**
comp=Z,2.1nm,0.9s,baz=321,slow=3.1,SNR=6.6
LPAZ pP **pPdif 02 50 06.3 -2.0**
comp=Z,5.4nm,0.9s,baz=352,slow=6.5,SNR=5.8
LPAZ PKPPKP **P'P'df 03 13 57.2 -5.3**
comp=Z,2.2nm,1.2s,baz=347,slow=15,SNR=2.5
LPAZ La Paz 101.56 102 Pdif **Pdif 02 49 34.8 -2.1**
LPAZ La Paz 101.56 102 *eP* **Pdif 02 49 35.3 -1.6**
ASAR Alice Springs 102.03 244 P **Pdif 02 49 36.9 -1.2**
comp=Z,2.2nm,0.7s,baz=32,slow=3.8,SNR=20
ASAR PKKPbc **PKKPbc 03 05 40.0 +0.5**
comp=Z,0.9nm,0.6s,baz=198,slow=2.7,SNR=6.9
ASAR SKKPbc SKKPbc 03 09 12.5 +2.7
comp=Z,1.5nm,0.8s,baz=195,slow=2.4,SNR=4.6
ROSB Rosrio 102.04 75 *eP* **Pdif 02 49 38.7 +0.3**
PRPB Parauapebas 102.07 81 *eP* **Pdif 02 49 39.4 +0.8**
VILB Vilhena 102.66 94 *eP* **Pdif 02 49 41.2 0.0**
CLDB Colider 103.10 89 *eP* **Pdif 02 49 41.9 -1.3**
TORD Torodi Ar. Bea 104.40 25 Pdiff **Pdif 02 49 47.3 -1.7**
comp=Z,2.8nm,1.1s,baz=354,slow=3.5,SNR=5.5
TORD PKiKP **PKiKP 02 54 03.6 -1.1**

comp=Z,2.6nm,0.8s,baz=355,slow=2.1,SNR=6.7
TORD PKKPbc **PKKPbc 03 05 32.9 +1.1**
comp=Z,6.8nm,0.6s,baz=154,slow=2.3,SNR=18
TORD Torodi Ar. Bea 104.40 25 PKKPbc PKKPbc 03 05 33.3 +1.4
NBPS Pedro II - PI 104.64 73 *eP* **Pdif 02 49 49.2 -0.9**
STKA Stephens Creek 105.90 233 Pdiff **Pdif 02 49 56.9 +1.8**
comp=Z,2.3nm,0.7s,baz=89,slow=14,SNR=3.0
STKA PKiKP **PKiKP 02 54 06.4 -0.5**
comp=Z,7.0nm,0.5s,baz=160,slow=1.2,SNR=6.0
LVC Limon Verde 106.57 106 PKKPbc PKKPbc 03 05 29.2 +3.1
comp=Z,3.4nm,0.7s,baz=100,slow=1.8,SNR=5.2
BDFB Brasilia 111.07 85 PKKPbc **PKiKP 02 54 17.2 +0.1**
comp=Z,1.9nm,0.6s,baz=287,slow=11,SNR=1.9
BDFB Brasilia 111.07 85 *i* PKiKP **PKiKP 02 54 17.4 +0.3**
BDFB Brasilia 111.07 85 **PKiKP 02 54 17.4 +0.3**
CPUP Villa Florida 115.37 99 PKP **PKPdf 02 54 24.5 -0.4**
comp=Z,5.5nm,1.0s,baz=326,slow=4.5,SNR=6.4
CPUP PKKPbc **PKKPbc 03 04 59.2 +2.3**
comp=Z,2.4nm,0.5s,baz=143,slow=1.2,SNR=12
CPUP Villa Florida 115.37 99 PKIKP **PKPdf 02 54 24.3 -0.6**
CPUP 03 04 59.6
CPUP Villa Florida 115.37 99 **PKPdf 02 54 24.3 -0.6**
CPUP PKKPbc **PKKPbc 03 04 59.6 +2.6**
BO02 Sierra Bellavi 115.93 115 **PKiKP 02 54 26.0 +0.2**
BO02 PKKPab **PKKPab 03 05 02.9 +2.7**
NWAO Narrogin (SRO) 117.61 252 PKIKP **PKPdf 02 54 28.4 -0.6**
NWAO Narrogin (SRO) 117.61 252 PKPdf **PKPdf 02 54 28.4 -0.6**
LC01 Cunco 118.83 118 PKPdf **PKPdf 02 54 30.5 -0.7**
CPSB Cacapava Do Su 120.65 98 *eP* **PKiKP 02 54 35.4 +0.4**
MBAR Mbarara 120.71 355 *c i* PKIKP **PKiKP 02 54 36.3 +0.3**
MBAR Mbarara 120.71 355 **PKiKP 02 54 36.5 +0.6**
KMBO Kilima Mbogo 120.74 348 PKP **PKPdf 02 54 35.8 -0.3**
comp=Z,14nm,0.7s,baz=22,slow=4.1,SNR=41
KMBO SKP 02 57 60.0
comp=Z,6.9nm,0.7s,baz=32,slow=4.8,SNR=5.8
KMBO PKKP **PKKPdf 03 05 12.0 +1.7**
comp=Z,1.6nm,0.9s,baz=152,slow=3.5,SNR=4.4
KMBO Kilima Mbogo 120.74 348 *c i* PKIKP **PKPdf 02 54 36.0 0.0**
KMBO pmax pmax
comp=Z,14nm,0.7s
PLCA Paso Flores 120.91 119 PKP **PKiKP 02 54 35.4 +0.1**
comp=Z,13nm,0.8s,baz=292,slow=2.3,SNR=31
PLCA PKKPbc **PKKPab 03 04 39.9 +1.5**
comp=Z,5.8nm,0.8s,baz=135,slow=2.1,SNR=16
PLCA Paso Flores 120.91 119 *eP* **PKiKP 02 54 35.6 +0.2**
TER01 Tubaro-SC 121.28 94 *eP* **PKPdf 02 54 35.6 -0.6**
LL01 San Ignacio de 121.44 121 **PKPdf 02 54 35.5 -0.5**
PLTB Pedras Altas 121.68 99 PKPdf **PKPdf 02 54 36.8 -0.1**
PLTB SKPdf **SKiKP 02 58 01.4 +0.2**
PLTB Pedras Altas 121.68 99 *eP* **PKiKP 02 54 37.1 +0.1**
KIBK Kibwezi 121.85 347 PKPdf **PKiKP 02 54 38.8 +0.7**
KIBK Kibwezi 121.85 347 PKPdf **PKPdf 02 54 37.2 -0.7**
SNR=6.0
KIBK Kibwezi 121.85 347 P **PKPdf 02 54 37.2 -0.7**
SNR=6.0
LL02 Futaleuf 122.34 121 PKPdf **PKiKP 02 54 38.0 0.0**
TRQA Tornquist 122.68 110 PKPdf **PKPdf 02 54 38.5 -0.2**
TRQA SKPdf **SKiKP 02 58 03.1 +0.1**
TRQA PKKPbc **PKKPab 03 04 31.8 +0.7**
TRQA Tornquist 122.68 110 *eP* **PKPdf 02 54 38.4 -0.2**
COYC Coyhaique 124.15 123 PKPdf **PKPdf 02 54 41.0 -0.1**
GO09 Cerro Castillo 128.53 128 PKPdf **PKiKP 02 54 50.5 +0.5**
GO10 Punta Arenas 130.49 128 **PKiKP 02 54 54.2 +0.3**
GO10 SKPbc **SKPab 02 58 07.2 +1.9**
MG02 Cerro Sombrero 130.93 127 PKPdf **PKPdf 02 54 54.0 +0.1**
MG02 SKPbc **SKPab 02 58 07.9 +0.8**
MG01 Puerto William 133.16 128 **PKiKP 02 54 58.8 -0.3**
EFI East Falkland 134.83 119 *c i* PKIKP **PKPdf 02 55 01.4 +0.2**
EFI pmax pmax
comp=Z,234nm,1.3s
EFI East Falkland 134.83 119 PKPdf **PKPdf 02 55 01.4 +0.2**
EFI SKPbc **SKPbc 02 58 20.1 0.0**
OPO Ambohidratompo 136.09 331 PKP **PKPdf 02 55 03.3 -1.5**
comp=Z,10.0nm,0.6s,baz=348,slow=2.0,SNR=16
OPO SKPbc **SKPbc 02 58 24.0 -1.4**
comp=Z,14nm,0.9s,baz=4.7,slow=4.2,SNR=5.0
ABPO Ambohimpanom 136.51 331 PKIKP **PKPdf 02 55 05.5 -0.1**
ABPO Ambohimpanom 136.51 331 **PKPdf 02 55 05.5 -0.1**
ABPO SKPbc **SKPbc 02 58 25.5 -1.1**
TSUM Tsumeb 138.76 13 SKPbc **SKPbc 02 58 31.5 -1.5**
comp=Z,12nm,0.7s,baz=2.9,slow=7.7,SNR=5.2
TSUM Tsumeb 138.76 13 PKPpre 02 55 03.8
TSUM **SKPdf 02 58 31.7 -1.3**
VOI Vohitsoka 139.39 331 PKPpre 02 55 03.1
VOI SKPdf **SKPdf 02 58 33.4 -0.7**
VNDA Vanda 140.00 194 SKPbc **SKPbc 02 58 34.8 +0.4**
comp=Z,15nm,0.8s,baz=345,slow=4.8,SNR=5.9
MATP Matopo 140.47 357 PKhKP PKPpre 02 55 05.7
comp=Z,9.4nm,0.6s,baz=37,slow=2.3,SNR=5.3
MATP SKPbc **SKPbc 02 58 36.2 -1.4**
comp=Z,18nm,0.8s,baz=358,slow=3.4,SNR=5.2
PMSA Palmer Station 141.10 137 PKhKP PKPpre 02 55 06.2
baz=323,slow=2.8
PMSA SKPbc **SKiKP 02 58 38.6 -0.9**
comp=Z,71nm,0.9s,baz=320,slow=2.4,SNR=13
PMSA Palmer Station 141.10 137 PKPpre 02 55 06.4
PMSA PKPdf **PKiKP 02 55 13.8 -1.3**
PMSA Palmer Station 141.10 137 *eP* **PKPdf 02 55 09.6 -2.7**
LBTB Lobatse 145.05 2 PKPbc **PKPbc 02 55 20.0 -0.4**
comp=Z,241nm,0.9s,baz=348,slow=3.0,SNR=238
LBTB SKPbc **SKPbc 02 58 48.3 -0.4**
comp=Z,49nm,0.8s,baz=358,slow=0.8,SNR=5.1
LBTB Lobatse 145.05 2 PKIKP **PKPdf 02 55 21.1 +0.3**
LBTB 02 58 48.6
LBTB Lobatse 145.05 2 **PKPdf 02 55 21.1 +0.3**
LBTB SKPbc **SKPbc 02 58 48.6 -0.2**
AUSN Aus 145.94 17 *i P* **PKPbc 02 55 23.5 +0.3**
HOPE Hope Point 146.44 109 PKIKP **PKPdf 02 55 22.2 +0.2**
HOPE Hope Point 146.44 109 PKPdf **PKPdf 02 55 22.2 +0.2**
BOSA Boshof 148.63 2 PKP **PKPdf 02 55 25.9 -0.8**
comp=Z,135nm,0.6s,baz=18,slow=1.6,SNR=36
BOSA PKPbc **PKPbc 02 55 30.2 -0.4**
comp=Z,135nm,0.6s,baz=360,slow=2.4,SNR=78
BOSA Boshof 148.63 2 PKIKP **PKPdf 02 55 26.5 -0.2**
BOSA 02 55 30.6
BOSA Boshof 148.63 2 PKPdf **PKPdf 02 55 26.5 -0.2**
BOSA PKPbc **PKPbc 02 55 30.6 +0.1**
QSPA South Pole Qui 149.77 180 PKP **PKPdf 02 55 24.1 -3.0**
comp=Z,28nm,1.0s,baz=83,slow=4.0,SNR=36
QSPA PKPbc **PKPbc 02 55 32.0 0.0**
comp=Z,337nm,1.1s,baz=78,slow=0.3,SNR=54
SUR Sutherland 152.13 11 PKP **PKPdf 02 55 32.3 +0.2**
comp=Z,16nm,0.8s,baz=6.6,slow=2.6,SNR=3.8
SUR PKPbc **PKiKP 02 55 39.1 0.0**
comp=Z,22nm,0.5s,baz=122,slow=0.7,SNR=18
SUR Sutherland 152.13 11 **PKPdf 02 55 32.6 +0.5**
SUR PKPbc **PKPbc 02 55 38.9 +0.1**
VNA3 Neumayer Olymp 161.60 143 PKPab **PKPab 02 56 35.9 +7.4**
VNA3 Neumayer Olymp 161.60 143 PKPdf **PKPdf 02 55 38.8 -3.9**
VNA1 Neumayer--Stat 162.24 141 PKPdf **PKPdf 02 55 42.8 -0.5**
VNA2 Neumayer--Watz 162.41 142 PKPab **PKPab 02 56 38.9 +6.9**
VNA2 Neumayer--Watz 162.41 142 PKPdf **PKPdf 02 55 41.1 -2.4**
MAW Mawson 162.53 229 PKP **PKPdf 02 55 42.3 -1.3**
comp=Z,28nm,1.1s,baz=150,slow=0.3,SNR=30
MAW PKPab **PKPab 02 56 32.8 +0.2**
comp=Z,128nm,0.9s,baz=93,slow=5.9,SNR=38
MAW Mawson 162.53 229 **PKPdf 02 55 43.2 -0.4**
MAW PKPab **PKPab 02 56 33.0 +0.4**
SNAA Sanae 163.41 147 PKPdf **PKPdf 02 55 40.7 -3.8**
SNAA Sanae 163.41 147 PKP **PKPdf 02 55 39.8 -4.7**
comp=Z,29nm,1.4s,baz=291,slow=1.7,SNR=15
SNAA PKPab **PKPab 02 56 36.1 -0.4**
comp=Z,14nm,0.8s,baz=244,slow=11,SNR=7.2
SYO Syowa Base 169.39 206 ⇑ *i* PKPdf **PKPdf 02 55 46.0 -3.1**
SYO Syowa Base 169.39 206 ⇑ *i* X **PKPab 02 57 00.8 -2.0**

IDC 29 02:50:11.1±11.0, 24°18'S×179°21'W, h391km±112km,
mb3.5/3, mb1 3.7/4, mb1mx3.2/48, mbtmp4.4/4 Error ellipse: s-maj=74.0km s-min=43.8km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.38**	**192**	P	P		02 53 17.2	+0.2
3.9nm,0.3s,baz=267,slow=4.6,SNR=20								
URZ				S	S		02 55 50.0	-0.9
0.7nm,0.3s,baz=35,slow=19,SNR=2.0								
CTA	**Charters Tower**	**32.20**	**270**	P	P		02 56 05.8	+1.1
9.0nm,0.9s,baz=93,slow=11,SNR=3.6								
ASAR	**Alice Springs**	**42.70**	**261**	P	P		02 57 31.4	-0.3
2.3nm,0.9s,baz=92,slow=8.8,SNR=4.5								
WRA	**Warramunga Arr**	**43.11**	**266**	P	P		02 57 34.4	-0.6
1.1nm,0.4s,baz=96,slow=8.4,SNR=16								

AKASG Malin Array Be 145.59 328 PKPbc PKPdf 03 09 03.6 +0.4
0.5nm,0.4s,baz=46,slow=3.9,SNR=1.5

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*NEIC **29** 02:55:13.1±1.5,28°.92N±0°.06×130°.79E±0°.09,h10km±1km, mb4.3/6, Error ellipse: s-maj=13.9km s-min=9.1km az=288.0*
*JMA **29** 02:55:15.3±0.1,29°.00N×130°.76E,h72km±3km,M3.5*
*IDC **29** 02:55:16.5±7.2,28°.97N×130°.72E,h30km±51km,mb3.7/11, mb1 3.9/13,mb1mx3.7/54,mbtmp3.9/13,ML3.3/2, Error ellipse: s-maj=29.2km s-min=16.8km az=85.0*
ISC 29 02:55:17.3±0.6,28°.96N±0°.03×130°.84E±0°.05,h45km,n50, σ1°68/68,mb4.0/14,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.00**	**230**	P	**Pn**	**02 55 33.7**	**-1.1**
JZK				*e*S	**Sn**	**02 55 48.6**	**+0.9**
JAM	**Amami Oshima**	**1.21**	**244**	P	**Pn**	**02 55 36.0**	**-1.8**
JAM				S	**Sn**	**02 55 51.2**	**-1.8**
JNN	**Nakanoshima**	**1.22**	**317**	P	**Pn**	**02 55 36.0**	**-1.9**
JNN				*e*S	**Sn**	**02 55 51.3**	**-2.0**
JYAK	**Yakushimahirau**	**1.31**	**347**	P	**Pn**	**02 55 37.4**	**-1.7**
JYAK				S	**Sn**	**02 55 53.3**	**-2.1**
JMTN	**Minamitane**	**1.44**	**2**	P	**Pn**	**02 55 39.0**	**-1.9**
JMTN				*e*S	**Sn**	**02 55 56.7**	**-1.9**
JTAJ	**Takarajima**	**1.45**	**278**	P	**Pn**	**02 55 38.9**	**-2.1**
JKC	**Kuchinoerabu**	**1.60**	**340**	P	**Pn**	**02 55 41.3**	**-1.8**
JKC				*e*S	**Sn**	**02 55 59.8**	**-2.8**
JAMN	**Amaminishikomi**	**1.63**	**245**	P	**Pn**	**02 55 42.2**	**-1.3**
JAMN				S	**Sn**	**02 56 02.4**	**-0.8**
JTN	**Tanegashima 3**	**1.70**	**4**	P	**Pn**	**02 55 42.7**	**-1.7**
JTN				*e*S	**Sn**	**02 56 03.1**	**-1.9**
JTK	**Tokunoshima**	**2.03**	**235**	P	**Pn**	**02 55 48.2**	**-0.8**
JTK				S	**Sn**	**02 56 12.4**	**-0.8**
JTSR	**Tashiro 2**	**2.21**	**2**	P	**Pn**	**02 55 50.2**	**-1.2**
JTSR				S	**Sn**	**02 56 15.7**	**-1.8**
JOKE	**Okinoerabujima**	**2.56**	**232**	P	**Pn**	**02 55 55.2**	**-1.0**
JOKE				S	**Sn**	**02 56 24.5**	**-1.6**
JSU	**Suzuyama**	**2.56**	**353**	P	**Pn**	**02 55 54.4**	**-1.9**
JSU				S	**Sn**	**02 56 23.2**	**-3.1**
JSU	**Suzuyama**	**2.56**	**353**	Pn	**Pn**	**02 55 54.0**	**-2.4**
JNAR	**Kushima--Naru**	**2.59**	**8**	P	**Pn**	**02 55 55.7**	**-1.0**
JNAR				*e*S	**Sn**	**02 56 25.7**	**-1.2**
JNKG	**Nichinankitago**	**2.74**	**10**	P	**Pn**	**02 55 57.8**	**-0.9**
JNKG				*e*S	**Sn**	**02 56 29.6**	**-0.9**
JYRO	**Yoronjima**	**2.86**	**228**	P	**Pn**	**02 55 59.0**	**-1.3**
JYRO				*e*S	**Sn**	**02 56 31.4**	**-2.1**
JSJ	**Shimokoshiki**	**2.88**	**341**	P	**Pn**	**02 55 58.2**	**-2.5**
JTZ	**Takazaki**	**2.94**	**4**	P	**Pn**	**02 56 00.7**	**-0.8**
JOW	**Kunigami**	**3.10**	**228**	Pn	**Pn**	**02 56 02.0**	**-1.7**
	14nm,0.3s,baz=107,slow=22,SNR=22						
JOW				Sn	**Sn**	**02 56 37.1**	**-2.5**
	14nm,0.3s,baz=135,slow=27,SNR=6.3						
JOW	**Kunigami**	**3.10**	**228**	Pn	**Pn**	**02 56 01.4**	**-2.3**
JMZ	**Minamidaito 2**	**3.14**	**174**	P	**Pn**	**02 56 01.7**	**-2.6**
JMZ				S	**Sn**	**02 56 36.1**	**-4.4**
JMZ	**Minamidaito 2**	**3.14**	**174**	Pn	**Pn**	**02 56 01.0**	**-3.3**
JIH	**Iheya**	**3.18**	**234**	P	**Pn**	**02 56 03.0**	**-1.8**
JNU	**Nakatsue**	**4.15**	**0**	Pn	**Pn**	**02 56 18.2**	**0.0**
	0.9nm,0.3s,baz=0.2,slow=5.0,SNR=8.8						
JNU				Sn	**Sn**	**02 57 03.9**	**-1.6**
	2.7nm,0.3s,baz=68,slow=21,SNR=8.7						
JNU	**Nakatsue**	**4.15**	**0**	Pn	**Pn**	**02 56 17.2**	**-1.0**
JMN	**Monobe**	**5.42**	**28**	Pn	**Pn**	**02 56 34.6**	**-1.0**
JWT	**Wachi**	**7.40**	**30**	Pn	**Pn**	**02 57 01.5**	**-1.1**
USA0B	**Ussuriysk Arra**	**15.24**	**3**	P	**P**	**02 58 52.2**	**-1.3**
USA0B				IAmb	IAmb	02 58 56.7	
	comp=Z,4.2nm,1.4s						
USRK	**Ussuriysk Ar.**	**15.24**	**3**	P	**P**	**02 58 52.2**	**-1.3**
SONM	**Songino Array**	**26.69**	**322**	P	**P**	**03 00 52.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=132,slow=9.5,SNR=2.2						
MKAR	**Makanchi Array**	**41.54**	**309**	P	**P**	**03 03 01.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=90,slow=11,SNR=2.0						
KURK	**Kurchatov**	**44.51**	**314**	P	**P**	**03 03 24.1**	**-0.1**
KURBB	**Kurchatov Arra**	**44.55**	**314**	P	**P**	**03 03 24.1**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=98,slow=8.8,SNR=15						
WB0	**Warramunga Arr**	**48.56**	**176**	P	**P**	**03 03 56.9**	**+0.7**
WRA	**Warramunga Arr**	**48.73**	**176**	P	**P**	**03 03 58.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=356,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr**	**48.73**	**176**	P	**P**	**03 03 58.5**	**+1.0**
BRVK	**Borovoye**	**49.91**	**317**	P	**P**	**03 04 06.1**	**-0.1**
BRVK				IAmb	IAmb	03 04 20.5	
	comp=Z,3.8nm,1.1s						
ASAR	**Alice Springs**	**52.40**	**176**	P	**P**	**03 04 26.5**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=9.5,slow=12,SNR=7.8						
ABKAR	**Akbulak array**	**56.51**	**312**	P	**P**	**03 04 54.3**	**-0.5**
EGAK	**Eagle**	**63.37**	**29**	P	**P**	**03 05 42.9**	**+1.4**
EGAK				IAmb	IAmb	03 05 57.4	
	comp=Z,5.4nm,1.3s						
KBZ	**Khabaz**	**69.23**	**309**	P	**P**	**03 06 20.9**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=26,slow=2.5,SNR=6.5						
FIA1	**FINESS Array S**	**71.63**	**331**	P	**P**	**03 06 34.1**	**+0.4**
FIA1				IAmb	IAmb	03 06 46.4	
	comp=Z,9.2nm,1.4s						
FINES	**FINESS Array B**	**71.63**	**331**	P	**P**	**03 06 34.1**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=81,slow=4.9,SNR=10						
FINES	**FINESS Array B**	**71.63**	**331**	P	**P**	**03 06 34.2**	**+0.4**
AKASG	**Malin Array Be**	**74.96**	**320**	P	**P**	**03 06 54.0**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=58,slow=6.3,SNR=8.3						
NOA	**NORSAR Array B**	**77.88**	**334**	P	**P**	**03 07 10.8**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=49,slow=5.4,SNR=3.5						
NVAR	**Mina Array Bea**	**86.96**	**47**	P	**P**	**03 07 59.4**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=270,slow=4.5,SNR=2.5						
PDAR	**Pinedale Array**	**89.59**	**40**	P	**P**	**03 08 11.7**	**+1.2**
	comp=Z,1.0nm,1.2s,baz=337,slow=2.1,SNR=3.6						
PDAR	**Pinedale Array**	**89.59**	**40**	P	**P**	**03 08 12.4**	**+1.9**

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*BJI **29** 03:12:34.9±0.0,25°.61N×64°.63E,h12km,mB5.3/5, mb4.3/9,Ms4.9/2,Ms7 4.6/2*
*IDC **29** 03:12:38.4±0.7,25°.80N×64°.85E,h0km,mb4.2/21, mb1 4.3/21,mb1mx4.1/54,mbtmp4.2/21,MS3.9/1, Ms1 3.9/1,ms1mx3.5/56,Error ellipse: s-maj=18.5km s-min=14.8km az=13.0*
*NEIC **29** 03:12:40.3±1.6,25°.76N±0°.09×64°.63E±0°.09,h20km±2km, mb4.4/24,Error ellipse: s-maj=14.8km s-min=10.4km az=143.0*
*MOS **29** 03:12:41.3±1.3,25°.90N×65°.00E,h23km,mb4.6/21,Error ellipse: s-maj=8.8km s-min=5.2km az=99.6*
*OMAN **29** 03:12:44.4±1.2,25°.59N×64°.42E,h63km,mb5.6/26, Mwp5.9/8,Error ellipse: s-maj=14.3km s-min=8.5km az=134.0*
*DSN **29** 03:12:49.8±2.2,25°.43N×63°.78E,h10km,ML4.2/11,Error ellipse: s-maj=45.6km s-min=19.0km az=9.0*
ISC 29 03:12:42.1±0.4,25°.68N±0°.05×64°.67E±0°.04,h35km,n169, σ2°56/203,mb4.4/44,8C-6D,Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**5.14**	**117**	*e*P	**Pn**	**03 13 55.3**	**-1.4**
BHUJ				*e*S	**Sn**	**03 14 51.9**	**-2.9**
BHUJ				IAML		03 14 54.8	
	comp=N,633nm,0.8s						
BHUJ				IAML		03 14 57.7	
	comp=E,708nm,0.6s						
JLN	**Jalan Bani Buh**	**5.95**	**235**	P	**Pn**	**03 14 06.1**	**-1.7**
JLN				P	**Pn**	**03 14 06.1**	**-1.7**
JLN				S	**Sn**	**03 15 11.3**	**-3.4**
JLN				S	**Sn**	**03 15 11.3**	**-3.4**
WSAR	**Wadi Sarin**	**6.01**	**247**	Pn	**Pn**	**03 14 08.0**	**-0.6**
	comp=E,24nm,0.3s,baz=114,slow=8.6,SNR=90						
WSAR				Sn	**Sn**	**03 15 10.0**	**-6.2**
	comp=E,5.0nm,0.3s,baz=360,slow=18,SNR=1.7						
WSAR				LR	LR	03 16 41.6	
	comp=E,1μm,21.9s,baz=77,slow=39						
WSAR	**Wadi Sarin**	**6.01**	**247**	P	**Pn**	**03 14 08.0**	**-0.6**
WSAR				S	**Sn**	**03 15 09.7**	**-6.5**
WBK	**Wadi Bani Khal**	**6.03**	**241**	P	**Pn**	**03 14 08.4**	**-0.5**
	SNR=6.3						
WBK				S	**Sn**	**03 15 11.4**	**-5.4**
BIDO	**Bidbid**	**6.33**	**252**	P	**Pn**	**03 14 12.3**	**-0.6**
	SNR=9.2						
BIDO				S	**Sn**	**03 15 20.0**	**-4.0**
SMDO	**Samad**	**6.57**	**248**	P	**Pn**	**03 14 15.8**	**-0.6**
	SNR=13						
SMDO				S	**Sn**	**03 15 26.8**	**-3.4**
JMDO	**Jabal Madar**	**6.84**	**243**	P	**Pn**	**03 14 20.5**	**+0.5**
	SNR=22						
JMDO				S	**Sn**	**03 15 35.4**	**-1.3**
HOQ	**Hoqain**	**7.01**	**254**	P	**Pn**	**03 14 21.0**	**-1.3**
HOQ				P	**Pn**	**03 14 21.0**	**-1.3**
BSY	**Bisya**	**7.41**	**248**	P	**Pn**	**03 14 29.0**	**+1.1**
	SNR=46						
SOHO	**SOHO**	**7.54**	**260**	P	**Pn**	**03 14 26.7**	**-2.9**
SOHO	**SOHO**	**7.54**	**260**	P	**Pn**	**03 14 28.5**	**-1.1**
BANOM	**Banah**	**7.54**	**274**	*i* P	**Pn**	**03 14 28.4**	**-1.3**
	SNR=28						
BANOM	**Banah**	**7.54**	**274**	P	**Pn**	**03 14 28.8**	**-0.9**
BANOM				P	**Pn**	**03 14 28.8**	**-0.9**
MDH	**Madha**	**7.57**	**269**	*i* P	**Pn**	**03 14 28.1**	**-1.9**
	SNR=24						
MDH				S	**Sn**	**03 15 47.3**	**-7.4**
MDH	**Madha**	**7.57**	**269**	P	**Pn**	**03 14 28.4**	**-1.6**
MDH				S	**Sn**	**03 15 47.1**	**-7.5**
SHME	**Shamm**	**7.69**	**275**	*i* P	**Pn**	**03 14 31.9**	**+0.3**
	SNR=18						
SHME	**Shamm**	**7.69**	**275**	P	**Pn**	**03 14 31.9**	**+0.3**
	SNR=11						
MASF	**Masafi**	**7.69**	**270**	P	**Pn**	**03 14 30.2**	**-1.5**
	SNR=12						
MASF				S	**Sn**	**03 15 51.9**	**-5.7**
MSFE	**Esma-Masafi**	**7.69**	**269**	*i* P	**Pn**	**03 14 29.6**	**-2.1**
	SNR=26						
UOSS	**Minazif**	**7.69**	**266**	P	**Pn**	**03 14 29.7**	**-2.0**
UOSS	**Minazif**	**7.69**	**266**	Pn	**Pn**	**03 14 29.4**	**-2.3**
UOSS				Sn	**Sn**	**03 15 51.4**	**-6.2**
UOSS	**Minazif**	**7.69**	**266**	P	**Pn**	**03 14 29.7**	**-2.0**
UOSS				P	**Pn**	**03 14 29.7**	**-2.0**
MHTO	**MHTO**	**7.72**	**234**	P	**Pn**	**03 14 33.5**	**+1.4**
	SNR=6.1						
MHTO				S	**Sn**	**03 15 54.7**	**-3.7**
HATD	**Hatta, Dubai**	**7.77**	**266**	*i* P	**Pn**	**03 14 32.2**	**-0.7**
	SNR=20						
HATD	**Hatta, Dubai**	**7.77**	**266**	P	**Pn**	**03 14 31.8**	**-1.0**
	SNR=20						
HATD				P	**Pn**	**03 14 31.8**	**-1.0**
	SNR=20						
HATD				S	**Sn**	**03 15 57.7**	**-1.9**
HATD				S	**Sn**	**03 15 57.7**	**-1.9**
ARQ	**Araqi**	**7.77**	**254**	P	**Pn**	**03 14 34.9**	**+2.0**
	SNR=32						
ARQ				S	**Sn**	**03 15 55.4**	**-4.3**
ASHO	**Ashiyiah**	**7.86**	**265**	*i* P	**Pn**	**03 14 35.4**	**+1.3**
	SNR=9.1						
ASHO	**Ashiyiah**	**7.86**	**265**	P	**Pn**	**03 14 35.3**	**+1.3**
	SNR=22						
ASHO				P	**Pn**	**03 14 35.3**	**+1.3**
	SNR=22						
ASHO				S	Sn	03 15 52.4	-9.4
ASHO				S	Sn	03 15 52.4	-9.4
NAZ	**Nazwa, Dubai**	**8.18**	**267**	P	**Pn**	**03 14 39.0**	**+0.6**
NAZ	**Nazwa, Dubai**	**8.18**	**267**	P	**Pn**	**03 14 38.1**	**-0.3**
	SNR=14						
ALNE	**Al Ain**	**8.26**	**261**	P	**Pn**	**03 14 38.2**	**-1.3**
ALNE	**Al Ain**	**8.26**	**261**	P	**Pn**	**03 14 40.5**	**+1.0**
	SNR=13						
ALNE				S	**Sn**	**03 16 10.2**	**-1.3**
FAQ	**Al Faqa, Dubai**	**8.27**	**266**	*i* P	**Pn**	**03 14 39.0**	**-0.6**
	SNR=20						
FAQ	**Al Faqa, Dubai**	**8.27**	**266**	P	**Pn**	**03 14 41.1**	**+1.4**
	SNR=20						
FAQ				P	**Pn**	**03 14 41.1**	**+1.4**
	SNR=20						
FAQ				S	**Sn**	**03 16 06.0**	**-5.8**
FAQ				S	**Sn**	**03 16 06.0**	**-5.8**
ASUD	**Al Ashush, Dub**	**8.52**	**265**	*i* P	**Pn**	**03 14 41.9**	**-1.2**
	SNR=15						
ASUD	**Al Ashush, Dub**	**8.52**	**265**	P	**Pn**	**03 14 44.7**	**+1.6**
	SNR=15						
ASUD				S	**Sn**	**03 16 17.9**	**-0.2**
AJN	**Ajban**	**8.84**	**265**	P	**Pn**	**03 14 48.2**	**+0.7**
AJN				S	**Sn**	**03 16 26.2**	**+0.3**
HRA	**Herat**	**8.93**	**347**	Pn	**Pn**	**03 14 46.1**	**-2.7**
UMZA	**Um Al Zommool**	**9.16**	**253**	P	**Pn**	**03 14 52.7**	**+0.8**
UMZA				S	**Sn**	**03 16 31.6**	**-2.2**
THW	**Thamme Wali**	**9.41**	**39**	P	**Pn**	**03 14 53.5**	**-1.7**
KBL	**Kabul**	**9.61**	**22**	P	**Pn**	**03 14 55.7**	**-2.5**
KBL	**Kabul**	**9.61**	**22**	Pn	**Pn**	**03 14 55.7**	**-2.5**
CEP	**Cherat**	**10.27**	**36**	P	**Pn**	**03 15 05.7**	**-1.5**
NIL	**Nilore**	**10.90**	**41**	P	**Pn**	**03 15 14.3**	**-1.4**
NIL	**Nilore**	**10.90**	**41**		**Pn**	**03 15 14.3**	**-1.4**
POO	**Poona**	**11.09**	**128**	*e*P	**Pn**	**03 15 22.0**	**+3.7**
BHPL	**Bhopal**	**11.87**	**99**	*e*P	**Pn**	**03 15 26.0**	**-3.0**
BHPL				*e*S	**Sn**	**03 17 36.0**	**-4.3**
BHPL				IAML		03 18 10.2	
	comp=N,82nm,1.0s						
BHPL				IAML		03 18 16.6	
	comp=E,70nm,1.0s						
DMTO	**DMTO**	**12.01**	**231**	P	**Pn**	**03 15 32.8**	**+1.9**
DOK	**Doka**	**12.02**	**236**	P	**Pn**	**03 15 31.9**	**+0.9**
DOK				S	**Sn**	**03 17 40.6**	**-3.4**
TRNA	**Turayna**	**12.22**	**268**	P	**Pn**	**03 15 29.3**	**-4.4**
SMLA	**Simla**	**12.27**	**61**	*e*P	**Pn**	**03 15 29.7**	**-4.6**
SMLA				*e*S	Sn	03 17 38.0	-12
SMLA				IAML		03 17 49.2	
	comp=N,181nm,1.1s						
SMLA				IAML		03 17 50.1	
	comp=E,186nm,0.5s						
SHMA	**Al-Shehemyia**	**12.35**	**274**	P	**Pn**	**03 15 33.1**	**-2.4**
RBK	**Rabkut**	**12.68**	**232**	P	**Pn**	**03 15 39.9**	**-0.2**
RBK				S	**Sn**	**03 17 52.4**	**-7.6**
DDI	**Dehra Dun**	**12.70**	**66**	*e*P	**Pn**	**03 15 37.2**	**-3.2**
WHFO	**Wadi Hawf**	**12.72**	**235**	P	**Pn**	**03 15 38.1**	**-2.5**
SAKB	**Bahrain**	**12.73**	**274**	P	**Pn**	**03 15 40.6**	**-0.1**
ABTO	**Aybut**	**13.43**	**234**	P	Pn	03 15 43.3	-7.0
CHGR	**Chuyangaron**	**13.49**	**15**		**Pn**	**03 15 47.7**	**-3.3**
QRN	**Al-Qurain**	**15.21**	**285**	*e*P	**Pn**	**03 16 10.9**	**-3.5**
BTK	**Batken**	**15.24**	**18**	P	**Pn**	**03 16 13.4**	**-1.3**
BTK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BTK	**Batken**	**15.24**	**18**		**Pn**	**03 16 13.4**	**-1.3**
UMR	**Umm Al-Rimmam**	**15.51**	**288**	*e*P	**Pn**	**03 16 15.4**	**-2.9**
RDF	**Al-Radifah**	**15.56**	**286**	*e*P	**Pn**	**03 16 15.6**	**-3.2**
MIB	**Mutribah**	**15.88**	**289**	*e*P	**Pn**	**03 16 20.4**	**-2.6**
RST	**Umm Al-Ruwaisa**	**16.12**	**288**	*e*P	**Pn**	**03 16 23.5**	**-2.6**
KSH	**Kashi**	**16.75**	**32**	P	Pn	03 16 26.8	-7.3
KSH				pmax	pmax		
	comp=Z,11nm,0.8s						
KSH				pmax	pmax		
	comp=Z,2μm,8.8s						
AML	**Almayashu**	**18.02**	**22**	P	**Pn**	**03 16 46.8**	**-3.5**
KK31	**Karatay Array**	**18.03**	**14**	P	**P**	**03 16 50.1**	**0.0**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KK31	**Karatay Array**	**18.03**	**14**	P	**P**	**03 16 50.1**	**0.0**
KKAR	**Karatay Array**	**18.03**	**14**	P	**Pn**	**03 16 49.7**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KKAR	**Karatay Array**	**18.03**	**14**		**Pn**	**03 16 48.8**	**-1.1**
KKAR	**Karatay Array**	**18.03**	**14**		**Pn**	**03 16 49.7**	**-0.2**
KKAR				IAmb	IAmb	03 16 53.9	
	comp=Z,10nm,0.9s						
AAK	**Ala-Archa**	**18.75**	**23**	⇓*e*P	**Pn**	**03 16 58.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,11nm,0.9s						
BOOM	**Boomskoye usch**	**19.17**	**26**	P	**P**	**03 17 01.0**	**-1.8**
BOOM				pmax	pmax		
	comp=Z,23nm,1.1s						
BOOM	**Boomskoye usch**	**19.17**	**26**	P	**P**	**03 17 01.0**	**-1.8**
BOOM				IAmb	IAmb	03 17 08.8	
	comp=Z,23nm,1.1s						
KDJ	**Kajisay**	**19.39**	**29**	P	**P**	**03 17 02.9**	**-2.3**
KDJ				pmax	pmax		
	comp=Z,15nm,0.9s						
KDJ	**Kajisay**	**19.39**	**29**	P	**P**	**03 17 02.9**	**-2.3**
KDJ				IAmb	IAmb	03 17 16.3	
	comp=Z,15nm,0.9s						
MNGR	**Mingechevir, A**	**20.99**	**320**	P	Pn	03 17 24.2	-0.9
NAX	**Nakhchivan**	**20.99**	**315**	P	**P**	**03 17 23.4**	**+0.9**
AKT	**Akhty**	**21.09**	**323**	*e*P	**P**	**03 17 25.7**	**+2.0**
AKT				*e**PP	**sP**	**03 17 45.0**	**+7.4**
AKT				*e**SP	pP	03 17 57.1	+24
AKT				*e*S	**S**	**03 21 14.7**	**-1.9**
AKT				pmax	pmax		
	comp=Z,62nm,0.8s						
SEKA	**Sheki**	**21.21**	**321**	P	**P**	**03 17 25.7**	**+0.9**
GANJ	**Ganja**	**21.35**	**319**	P	**P**	**03 17 27.7**	**+1.3**
ZKTA	**Zakatala**	**21.82**	**321**	P	**P**	**03 17 34.1**	**+2.8**
DDFL	**Dedoflistskaro**	**21.98**	**320**	P	**P**	**03 17 37.6**	**+4.5**
GNI	**Garni**	**22.02**	**316**	P	**P**	**03 17 37.1**	**+3.4**
	comp=Z,5.2nm,0.5s,baz=143,slow=10,SNR=2.2						
GNI	**Garni**	**22.02**	**316**	*de*P	**P**	**03 17 36.6**	**+2.9**
GNI				pmax	pmax		
	comp=Z,17nm,1.3s						
GNI	**Garni**	**22.02**	**316**	P	**P**	**03 17 33.4**	**-0.3**
GNI				IAmb	IAmb	03 17 51.4	
	comp=Z,19nm,0.9s						
GNI	**Garni**	**22.02**	**316**	P	**P**	**03 17 35.2**	**+1.6**
LGD	**Lagodekhi**	**22.16**	**321**	P	**P**	**03 17 41.2**	**+6.2**
GURO	**Guroymak-BITLI**	**23.00**	**309**	P	**P**	**03 17 43.1**	**-0.9**
GURO				IAmb	IAmb	03 17 51.9	
	comp=Z,11nm,1.0s						
GROC	**Groznyy**	**23.32**	**323**	*e*P	**P**	**03 17 49.5**	**+2.5**
GROC				*e*		03 21 37.6	
GROC				pmax	pmax		
	comp=Z,38nm,0.6s						
ABKAR	**Akbulak array**	**23.83**	**352**	P	**P**	**03 17 50.0**	**-1.8**
ABKAR				IAmb	IAmb	03 17 56.8	
	comp=Z,10nm,0.8s						
ABKAR	**Akbulak array**	**23.83**	**352**	P	**P**	**03 17 51.8**	**0.0**
ZEI	**Tsey**	**24.11**	**320**	*e*P	**P**	**03 17 58.8**	**+4.1**
ZEI				pmax	pmax		
	comp=Z,11nm,0.7s						
ONI	**Oni**	**24.25**	**319**	P	**P**	**03 17 54.6**	**-1.3**
ONI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ONI	**Oni**	**24.25**	**319**	P	**P**	**03 17 54.6**	**-1.3**
SHL	**Shillong**	**24.53**	**84**	P	**P**	**03 17 56.9**	**-1.9**
SHL				pmax	pmax		
	comp=Z,51nm,1.3s						
SHL	**Shillong**	**24.53**	**84**	P	**P**	**03 17 56.9**	**-1.9**
NCK	**Nalchik**	**24.72**	**321**	⇑*e*P	**P**	**03 18 03.6**	**+3.5**
NCK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ATD	**Arta Tunnel**	**24.95**	**240**	P	**P**	**03 18 06.3**	**+3.8**
	comp=Z,4.1nm,0.3s,baz=335,slow=4.1,SNR=5.3						
ATD	**Arta Tunnel**	**24.95**	**240**	P	**P**	**03 18 01.5**	**-1.0**
ATD				IAmb	IAmb	03 18 11.4	
	comp=Z,20nm,1.1s						
AKTO	**Aktyubinsk**	**25.25**	**350**	P	**P**	**03 18 04.7**	**0.0**
	comp=Z,5.8nm,0.6s,baz=150,slow=11,SNR=16						
KBZ	**Khabaz**	**25.27**	**321**	P	**P**	**03 18 06.9**	**+1.9**
	comp=Z,6.7nm,1.0s,baz=124,slow=8.2,SNR=8.8						
KBZ	**Khabaz**	**25.27**	**321**	⇑*e*P	**P**	**03 18 07.7**	**+2.7**
KBZ				pmax	pmax		
	comp=Z,13nm,1.0s						
MK31	**Makanchi Array**	**25.31**	**29**	P	**P**	**03 18 05.0**	**-0.4**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MK31	**Makanchi Array**	**25.31**	**29**	P	**P**	**03 18 05.0**	**-0.4**
MK31				IAmb	IAmb	03 18 07.9	
	comp=Z,8.5nm,1.1s						
MKAR	**Makanchi Array**	**25.31**	**29**	P	**P**	**03 18 04.7**	**-0.8**
	comp=Z,5.1nm,0.8s,baz=211,slow=10,SNR=16						
MKAR	**Makanchi Array**	**25.31**	**29**	P	**P**	**03 18 05.1**	**-0.4**
PYA1	**Pyatigorsk**	**25.36**	**322**	⇓*e*P	**P**	**03 18 09.8**	**+3.9**
PYA1				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SHA1	**Shidzhatmaz**	**25.41**	**321**	*ce*P	**P**	**03 18 10.6**	**+4.0**
MALT	**Malatya**	**25.48**	**306**	P	**P**	**03 18 10.6**	**+3.5**
KIV	**Kislovodsk**	**25.52**	**321**	*e*P	**P**	**03 18 12.4**	**+4.9**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV	**Kislovodsk**	**25.52**	**321**	P	**P**	**03 18 06.5**	**-1.0**
KIV				IAmb	IAmb	03 18 14.7	
	comp=Z,18nm,0.9s						
KIV	**Kislovodsk**	**25.52**	**321**	P	**P**	**03 18 06.1**	**-1.4**
MMAI	**Moron Meron Ar**	**26.48**	**293**	P	**P**	**03 18 19.3**	**+3.1**
	comp=Z,8.3nm,1.0s,baz=106,slow=8.6,SNR=9.2						
KURBB	**Kurchatov Arra**	**27.10**	**20**	P	**P**	**03 18 21.2**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=212,slow=8.7,SNR=18						
KURK	**Kurchatov**	**27.21**	**20**	P	**P**	**03 18 21.2**	**-1.3**
BRVK	**Borovoye**	**27.67**	**7**	⇓*e*P	**P**	**03 18 29.0**	**+2.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	**Borovoye**	**27.67**	**7**	P	**P**	**03 18 27.4**	**+0.8**
ARU	**Arti**	**31.04**	**353**	P	**P**	**03 18 58.2**	**+1.8**
	comp=Z,1.5nm,0.2s,baz=125,slow=8.6,SNR=3.5						
ARU	**Arti**	**31.04**	**353**	*d* P	**P**	**03 18 58.3**	**+1.8**
ARU						03 19 52.7	
ARU				S	**S**	**03 23 54.8**	**-4.3**
ARU				SS	**SnSn**	**03 25 37.9**	**-3.7**
ARU				pmax	pmax		
	comp=Z,17nm,1.8s						
ZAA0	**Zalesovo Array**	**31.97**	**23**	P	**P**	**03 19 04.8**	**+0.2**
ZALV	**Zalesovo Beam**	**31.97**	**23**	P	**P**	**03 19 04.4**	**-

comp=Z,1.1nm,0.9s,baz=316,slow=4.7,SNR=7.4
WRA **Warramunga Arr** **81.44 117** *i* P **P** **03 24 59.0 +3.0**
WRA pmax pmax
comp=Z,1.0nm,0.8s
TOLK **Toolik Lake Re** **82.67 12** P **P** **03 25 01.4 -0.4**
ASAR **Alice Springs** **83.03 120** P **P** **03 25 05.6 +1.2**
comp=Z,1.2nm,0.9s,baz=303,slow=5.1,SNR=8.3
ILAR **Eielson Array** **86.57 13** P **P** **03 25 22.7 +1.2**
comp=Z,0.4nm,0.7s,baz=326,slow=3.7,SNR=3.7
ILAR **Eielson Array** **86.57 13** P **P** **03 25 20.4 -1.0**
YKA **Yellowknife Ar** **92.14 360** P **P** **03 25 49.9 +2.2**
comp=Z,0.6nm,0.8s,baz=0.2,slow=4.7,SNR=4.5
YKA **Yellowknife Ar** **92.14 360** P **P** **03 25 47.8 +0.1**
TXAR **Lajitas Array** **124.17 348** PKP **PKiKP** **03 31 39.7 +1.7**
comp=Z,0.3nm,0.6s,baz=165,slow=2.3,SNR=6.1

*JMA **29** 03:15:45.8±0.2, 24.°29N×121.°77E, h0km, M3.0*
*TAP **29** 03:15:46.4, 24.°31N×121.°75E, h14km, ML3.3, C*
ISC 29 03:15:46.5±0.8, 24.°29N±0.°02×121.°77E±0.°02, h14km±4km, n77, σ0°63/134, 9C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.03**	**304**	⇑*i*P	**Pg**	**03 15 49.0**	**0.0**
EHP	baz=271			*i* S	**Sg**	**03 15 51.0**	**+0.2**
ENA	**Nanau**	**0.14**	**349**	*e*P	**Pg**	**03 15 50.4**	**+0.2**
ENA	baz=358			*e*S	**Sg**	**03 15 52.7**	**+0.1**
EWUT	**Wuta**	**0.15**	**3**	⇑*i*P	**Pg**	**03 15 50.3**	**0.0**
EWUT	baz=17			S	**Sg**	**03 15 52.6**	**-0.3**
ETL	**Fush Village**	**0.19**	**225**	⇓*i*P	**Pg**	**03 15 50.9**	**0.0**
ETL	baz=219			S	**Sg**	**03 15 54.0**	**+0.1**
NACB	**Ninganchiao**	**0.20**	**233**	⇓*i*P	**Pg**	**03 15 50.9**	**-0.1**
NACB	baz=222			*i* S	**Sg**	**03 15 54.0**	**-0.1**
TWD	**Chiawan**	**0.26**	**217**	⇑*i*P	**Pg**	**03 15 52.2**	**+0.1**
TWD	baz=211			*e*S	**Sg**	**03 15 55.5**	**-0.4**
ETLH	**Xiulin Townshi**	**0.28**	**252**	⇓*i*P	**Pg**	**03 15 52.3**	**-0.1**
ETLH	baz=248			S	**Sg**	**03 15 56.2**	**-0.2**
TWC	**Suao**	**0.32**	**13**	⇓*i*P	**Pg**	**03 15 53.2**	**0.0**
TWC	baz=13			*i* S	**Sg**	**03 15 57.5**	**-0.2**
NDS	**Dongshan**	**0.34**	**352**	⇓*i*P	**Pg**	**03 15 53.7**	**+0.1**
NDS	baz=354			S	**Sg**	**03 15 58.0**	**-0.4**
HWA	**Hwalien**	**0.35**	**206**	*e*P	**Pb**	**03 15 54.2**	**-0.3**
NNSB	**Datong**	**0.38**	**291**	⇑*i*P	**Pg**	**03 15 54.3**	**0.0**
NNSB	baz=290			S	**Sg**	**03 15 59.0**	**-0.5**
NNSH	**Datong**	**0.38**	**291**	⇑*i*P	**Pg**	**03 15 54.3**	**0.0**
NNSH	baz=290			S	**Sg**	**03 15 58.9**	**-0.6**
NDT	**Datong Townshi**	**0.39**	**323**	⇓*i*P	**Pg**	**03 15 54.5**	**+0.1**
NDT	baz=323			*i* S	**Sg**	**03 15 59.6**	**-0.1**
NNS	**Nan Shan**	**0.39**	**292**	⇑*i*P	**Pg**	**03 15 54.4**	**0.0**
NNS	baz=291			*i* S	**Sg**	**03 15 59.5**	**-0.4**
ENTT	**Nioudou**	**0.39**	**332**	⇓*i*P	**Pg**	**03 15 54.5**	**0.0**
ENTT	baz=333			*i* S	**Sg**	**03 15 59.7**	**-0.2**
ETM	**Tongmen**	**0.41**	**218**	P	**Pg**	**03 15 54.6**	**-0.2**
ETM	baz=216			*e*S	**Sg**	**03 15 60.0**	**-0.4**
TWE	**Neicheng**	**0.44**	**348**	⇓*i*P	**Pg**	**03 15 55.1**	**-0.1**
TWE	baz=351			S	**Sg**	**03 16 00.5**	**-0.7**
TEYL	**Yanliau Villag**	**0.45**	**200**	P	**Pg**	**03 15 55.9**	**+0.4**
ILA	**Ilan**	**0.47**	**358**	*e*P	**Pg**	**03 15 56.2**	**+0.3**
ILA	baz=354			*e*S	**Sg**	**03 16 02.7**	**+0.5**
FUSS	**Fushou**	**0.48**	**265**	⇓*i*P	**Pg**	**03 15 56.2**	**+0.1**
FUSS	baz=263			*i* S	**Sg**	**03 16 02.2**	**-0.5**
WHF	**Hehuan Shan**	**0.48**	**252**	⇓*i*P	**Pg**	**03 15 56.2**	**-0.1**
WHF	baz=250			*i* S	**Sg**	**03 16 02.3**	**-0.5**
YHNB	**Yeheng**	**0.52**	**316**	⇑*i*P	**Pg**	**03 15 56.8**	**0.0**
YHNB	baz=316			S	**Sg**	**03 16 03.2**	**-0.6**
NSK	**Sanguang**	**0.54**	**316**	P	**Pg**	**03 15 57.1**	**0.0**
NSK	baz=316			S	**Sg**	**03 16 03.5**	**-0.8**
NWLT	**Wulai**	**0.54**	**333**	P	**Pg**	**03 15 57.2**	**+0.1**
NWLT	baz=334			S	**Sg**	**03 16 04.0**	**-0.4**
TWT	**Tachien**	**0.54**	**266**	*e*P	**Pg**	**03 15 57.7**	**+0.4**
TWT	baz=264			S	**Sg**	**03 16 04.5**	**-0.1**
TDCB	**Techi**	**0.56**	**266**	⇓*i*P	**Pg**	**03 15 57.7**	**+0.2**
TDCB	baz=265			*i* S	**Sg**	**03 16 04.5**	**-0.6**
NTC	**Toucheng**	**0.56**	**6**	P	**Pg**	**03 15 57.5**	**-0.1**
NTC	baz=6.0			S	**Sg**	**03 16 04.5**	**-0.6**
ESL	**Shilin**	**0.57**	**213**	⇑*i*P	**Pg**	**03 15 57.2**	**-0.5**
CHGB	**Renai**	**0.59**	**247**	⇓*i*P	**Pg**	**03 15 58.1**	**-0.1**
CHGB	baz=245			S	**Sg**	**03 16 05.9**	**-0.2**
TEGC	**Jichi Village**	**0.62**	**200**	*e*P	**Pb**	**03 15 59.4**	**+0.3**
TEGC	baz=191			*e*S	**Sn**	**03 16 10.7**	**+0.1**
OWD	**Renai**	**0.64**	**238**	P	**Pg**	**03 15 59.0**	**0.0**
OWD	baz=230			*e*S	**Sg**	**03 16 05.8**	**-1.8**
TIPB	**Shuangxi**	**0.68**	**4**	⇓*i*P	**Pg**	**03 15 59.6**	**-0.2**
TIPB	baz=5.0			S	**Sg**	**03 16 07.8**	**-0.9**
NHDH	**Xindian Distri**	**0.70**	**342**	*e*P	**Pg**	**03 16 00.4**	**+0.2**
NHDH	baz=342			*e*S	**Sg**	**03 16 09.2**	**-0.4**
TWA	**Mucha**	**0.70**	**346**	*e*P	**Pg**	**03 16 00.5**	**+0.2**
TWA	baz=347			*e*S	**Sg**	**03 16 09.3**	**-0.3**
TWB1	**Santiao Chiao**	**0.74**	**16**	P	**Pg**	**03 16 00.5**	**-0.5**
TWB1	baz=16			S	**Sg**	**03 16 10.1**	**-0.6**
WHP	**Taichung City**	**0.75**	**269**	*e*P	**Pb**	**03 16 01.8**	**+0.3**
WHP	baz=268			S	**Sg**	**03 16 10.7**	**-0.4**
LIOB	**Emei**	**0.77**	**297**	*e*P	**Pb**	**03 16 02.3**	**+0.6**
LIOB	baz=297			*e*S	**Sg**	**03 16 11.3**	**-0.4**
NWF	**Wu-fen Shan**	**0.78**	**1**	*e*P	**Pg**	**03 16 01.8**	**+0.1**
NWF	baz=354			*e*S	**Sg**	**03 16 11.7**	**-0.2**
WFSB	**Wu-fen Shan**	**0.78**	**1**	*e*P	**Pg**	**03 16 01.6**	**0.0**
WFSB	baz=354			*e*S	**Sg**	**03 16 10.9**	**-0.9**
TAP1	**Taipei**	**0.78**	**343**	*e*S	**Sg**	**03 16 11.7**	**-0.1**
NSTT	**Nanjuang**	**0.78**	**296**	*e*P	**Pb**	**03 16 01.9**	**0.0**
NSTT	baz=296			*e*S	**Sg**	**03 16 10.9**	**-1.0**
WPL	**Puli Township**	**0.79**	**250**	*e*P	**Pb**	**03 16 02.2**	**+0.1**
WPL	baz=249			*e*S	**Sg**	**03 16 11.7**	**-0.7**
WCS	**Beigang Elemen**	**0.82**	**253**	P	**Pg**	**03 16 02.5**	**+0.1**
WCS	baz=253			*e*S	**Sg**	**03 16 12.5**	**-0.7**
TNOU	**National Taiwa**	**0.85**	**0**	*e*P	**Pg**	**03 16 03.0**	**-0.1**
TNOU	baz=1.0			*e*S	**Sg**	**03 16 13.4**	**-0.9**
NCUH	**Zhongli**	**0.86**	**322**	*e*S	**Sb**	**03 16 14.6**	**0.0**
HGSD	**Ruisui**	**0.86**	**202**	P	**Pb**	**03 16 03.8**	**+0.6**
HGSD	baz=215			*e*S	**Sn**	**03 16 17.4**	**+0.8**
TWS1	**Kuangyinshan**	**0.87**	**338**	*e*P	**Pb**	**03 16 03.9**	**+0.6**
TWS1	baz=339			*e*S	**Sn**	**03 16 16.1**	**-0.6**
YM01	**YM01**	**0.87**	**348**	*e*P	**Pg**	**03 16 03.4**	**0.0**
YM01	baz=348			*e*S	**Sg**	**03 16 14.2**	**-0.7**
EHY	**Hungye**	**0.88**	**208**	*e*P	**Pb**	**03 16 01.6**	**-2.0**
SMLT	**Sun Moon Lake**	**0.89**	**243**	P	**Pg**	**03 16 03.6**	**-0.2**
SSLB	**Suanglung**	**0.90**	**236**	⇑*i*P	**Pb**	**03 16 03.6**	**-0.3**
SSLB	baz=235			S	**Sg**	**03 16 14.2**	**-1.5**
YM08	**YM08**	**0.91**	**350**	*e*P	**Pb**	**03 16 03.8**	**-0.3**
TWQ1	**Liyutan**	**0.91**	**274**	P	**Pn**	**03 16 05.9**	**+1.0**
TWQ1	baz=273			*e*S	**Sb**	**03 16 16.7**	**+0.6**
NTST	**Danshui**	**0.92**	**342**	*e*P	**Pb**	**03 16 03.9**	**-0.3**
ANP	**Anpu**	**0.92**	**346**	P	**Pb**	**03 16 04.2**	**-0.1**
TYC	**Yuchr**	**0.92**	**245**	P	**Pb**	**03 16 03.9**	**-0.4**
TYC	baz=244			*e*S	**Sb**	**03 16 15.6**	**-0.7**
YULB	**Yu-li**	**0.99**	**206**	*e*P	**Pb**	**03 16 04.2**	**-1.3**
YULB	baz=215			*e*S	**Sb**	**03 16 18.4**	**-0.1**
TWF1	**Yuli**	**1.03**	**205**	*e*P	**Pb**	**03 16 05.6**	**-0.6**
TWF1	baz=213			*e*S	**Sg**	**03 16 20.1**	**+0.1**
JYNG	**Yonagunijimaku**	**1.08**	**81**	P	**Pb**	**03 16 07.4**	**+0.3**
YOJ	**Yonaguni jima**	**1.15**	**81**	P	**Pb**	**03 16 08.1**	**0.0**
YOJ	**Yonaguni jima**	**1.15**	**81**	*e*P	**Pb**	**03 16 08.2**	**+0.1**
YOJ	baz=69			*e*S	**Sn**	**03 16 26.0**	**+2.4**
FULB	**Fuli**	**1.17**	**202**	*e*P	**Pn**	**03 16 08.7**	**+0.1**
ALS	**Alishan**	**1.18**	**229**	*e*P	**Pb**	**03 16 08.6**	**-0.3**
CHN5	**Tsauling**	**1.22**	**235**	*e*P	**Pg**	**03 16 09.9**	**-0.1**
CHN5	baz=226			*e*S	**Sg**	**03 16 27.4**	**+1.6**
ELDTW	**Lidau**	**1.30**	**212**	*e*P	**Pb**	**03 16 11.0**	**+0.2**
WRL	**Guolierlin Hig**	**1.33**	**253**	*e*P	**Pb**	**03 16 11.8**	**+0.5**
WRL	baz=253			*e*S	**Sg**	**03 16 29.0**	**-0.4**
EDH	**Donghe**	**1.38**	**198**	*e*P	**Pn**	**03 16 10.6**	**-0.8**
EDH	baz=186			*e*S	**Sn**	**03 16 28.7**	**-0.7**
TPUB	**Ta-pu**	**1.44**	**227**	*e*P	**Pb**	**03 16 13.3**	**+0.2**
TPUB	baz=215			*e*S	**Sg**	**03 16 34.9**	**+2.0**
STYT	**Tauyuan**	**1.46**	**220**	*e*P	**Pn**	**03 16 12.0**	**-0.6**
WTP	**Ta-pu**	**1.48**	**226**	*e*P	**Pg**	**03 16 14.9**	**-0.2**
TWK	**Hsinying**	**1.56**	**229**	*e*P	**Pb**	**03 16 15.8**	**+0.6**
TWK	baz=215			*e*S	**Sg**	**03 16 38.0**	**+1.3**
CHN1	**Nanshi**	**1.58**	**226**	P	**Pg**	**03 16 16.7**	**-0.3**
CHN1	baz=227			S	**Sg**	**03 16 38.8**	**+1.2**
SLGT	**Liugui**	**1.65**	**219**	*e*P	**Pg**	**03 16 17.8**	**-0.6**
SLGT	baz=219			*e*S	**Sg**	**03 16 40.6**	**+0.8**
IRIF	**Iriomote-Funau**	**1.79**	**88**	P	**Pb**	**03 16 18.5**	**-0.6**
HATJ	**Hateruma jima**	**1.87**	**97**	P	**Pn**	**03 16 19.3**	**+1.1**
JKRS	**Kuro-shima**	**2.04**	**91**	P	**Pb**	**03 16 22.9**	**-0.6**
JISG	**Ishigakijimahi**	**2.33**	**82**	P	**Pn**	**03 16 25.2**	**+0.7**
JISG				*e*S	**Sb**	**03 16 55.7**	**-1.4**

*NEIC **29** 03:17:12.2±1.7, 20.°1S±0.°1×175.°3W±0.°1, h231km±8km, mb4.3/14, Error ellipse: s-maj=20.3km s-min=14.0km az=187.0*
*IDC **29** 03:17:16.6±3.9, 20.°24S×175.°79W, h249km±30km, mb3.7/5, mb1 3.9/7, mb1mx3.4/28, mbtmp4.4/7, Error ellipse: s-maj=35.2km s-min=24.3km az=99.0*
ISC 29 03:17:10.9±0.7, 20.°07S±0.°10×175.°50W±0.°07, h204km, n29, σ1°30/30, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.34**	**80**	Pn	**Pn**	**03 18 31.4**	**+1.6**
NIUE				Sn	**S**	**03 19 31.4**	**-0.4**
MSVF	**Nonsavu**	**6.53**	**290**	P	Pn	03 18 49.7	+4.5
	1.0nm,0.3s,baz=94,slow=20,SNR=5.3						
MSVF	**Nonsavu**	**6.53**	**290**		**Pn**	**03 18 48.3**	**+3.0**
AFI	**Afiamalu**	**7.08**	**31**	Pn	**Pn**	**03 18 50.7**	**-1.6**
RAO	**Raoul Island**	**9.41**	**193**	Pn	**Pn**	**03 19 22.7**	**+0.4**
PINNC	**Pines Island,**	**16.09**	**258**		**Pn**	**03 20 47.4**	**+1.2**
DZM	**Mont Dzumac**	**16.97**	**260**	P	**Pn**	**03 20 57.8**	**+1.0**
	0.8nm,0.3s,baz=104,slow=21,SNR=5.7						
DZM	**Mont Dzumac**	**16.97**	**260**	P		**03 20 55.9**	**-1.0**
DZM				IAmb	IAmb	03 21 05.4	
	comp=Z,20nm,1.0s						
URZ	**Urewera**	**19.23**	**198**	P	**P**	**03 21 19.3**	**-0.4**
	comp=Z,5.3nm,0.3s,baz=318,slow=3.5,SNR=23						
URZ	**Urewera**	**19.23**	**198**	P	**P**	**03 21 19.2**	**-0.4**
URZ				IAmb	IAmb	03 21 22.9	
	comp=Z,24nm,0.9s						
HIZ	**Hauiti**	**20.19**	**202**	P	**P**	**03 21 31.0**	**+1.0**
BKZ	**Black Stump Fm**	**20.25**	**198**	P	**P**	**03 21 28.1**	**-2.5**
BKZ				IAmb	IAmb	03 21 42.6	
	comp=Z,16nm,1.1s						
QRZ	**Quartz Range**	**23.08**	**204**	P	**P**	**03 21 58.1**	**-0.4**
EIDS	**Eidsvold**	**31.22**	**254**	P	**P**	**03 23 11.5**	**+0.1**
EIDS				IAmb	IAmb	03 23 11.9	
	comp=Z,4.1nm,0.8s						
ARMA	**Armidale**	**31.37**	**244**	P	**P**	**03 23 11.9**	**-0.9**
ARMA				IAmb	IAmb	03 23 28.6	
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**35.87**	**263**	P	**P**	**03 23 51.2**	**-0.4**
	comp=Z,7.7nm,0.5s,baz=93,slow=9.9,SNR=14						
CTAO	**Charters Tower**	**35.87**	**263**	P	**P**	**03 23 51.4**	**-0.2**
CTAO				IAmb	IAmb	03 23 51.7	
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**40.09**	**244**	P	**P**	**03 24 25.5**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=106,slow=12,SNR=4.0						
WR0	**Warramunga Arr**	**46.80**	**261**	P	**P**	**03 25 19.1**	**-1.4**
AS31	**Alice Springs**	**46.90**	**256**	P	**P**	**03 25 20.7**	**-0.5**
ASAR	**Alice Springs**	**46.90**	**256**	P	**P**	**03 25 19.9**	**-1.4**
	comp=Z,4.2nm,0.7s,baz=89,slow=8.6,SNR=32						
ASAR				PcP	**PcP**	**03 26 50.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=105,slow=4.1,SNR=7.2						
ASAR	**Alice Springs**	**46.90**	**256**	P	**P**	**03 25 19.6**	**-1.7**
WB0	**Warramunga Arr**	**46.97**	**261**	P	**P**	**03 25 20.1**	**-1.7**
WB0				IAmb	IAmb	03 25 23.6	
	comp=Z,4.6nm,1.0s						
WB2	**Warramunga Arr**	**46.98**	**261**	P	**P**	**03 25 20.2**	**-1.6**
WB2				IAmb	IAmb	03 25 28.9	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**46.99**	**261**	P	**P**	**03 25 20.5**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=95,slow=7.5,SNR=113						
WRA	**Warramunga Arr**	**46.99**	**261**	P	**P**	**03 25 20.3**	**-1.6**
PETK	**Petropavlovsk-**	**76.48**	**344**	P	**P**	**03 28 38.8**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=130,slow=7.9,SNR=3.7						
CLL	**Collm**	**148.11**	**350**	*e*PKPbc	**PKPdf**	**03 36 29.0**	**+0.2**
GERES	**GERESS Array B**	**150.35**	**348**	PKPbc	**PKiKP**	**03 36 39.0**	**+0.3**
	comp=Z,0.1nm,0.2s,baz=5.7,slow=5.4,SNR=4.5						

*SIGU **29** 03:25:34.5, 45.°72N×26.°60E, h88km*
*BUC **29** 03:25:35.0±0.2, 45.°69N×26.°64E, h83km±2km, ml3.7/60, Error ellipse: s-maj=1.5km s-min=1.2km az=17.0*
*SOF **29** 03:25:36.9, 45.°49N×26.°58E, h100km, MD3.3*
*BEO **29** 03:25:43.9±0.9, 45.°41N×25.°32E, h13km±5km, ML2.6/9*
ISC 29 03:25:34.3±1.1, 45.°70N±0.°02×26.°64E±0.°02, h91km±4km, n172, σ1°29/234, 97C-91D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BISRR	**Bisoca**	**0.15**	**161**	⇑P	**Pn**	**03 25 47.6**	**+0.2**
BISRR				⇓S	**Sn**	**03 25 56.5**	**-0.6**
BISRR	**Bisoca**	**0.15**	**161**	⇑P	**Pn**	**03 25 47.6**	**+0.2**
PLOR	**Plostina**	**0.16**	**3**	⇑P	**Pn**	**03 25 47.0**	**-0.4**
PLOR				⇑S	**Sn**	**03 25 56.3**	**-0.7**
PLOR	**Plostina**	**0.16**	**3**	⇑P	**Pn**	**03 25 47.0**	**-0.4**
VRI	**Vrincioaia**	**0.18**	**20**	⇑P	**Pn**	**03 25 47.2**	**-0.2**
VRI				⇑S	**Sn**	**03 25 55.9**	**-1.3**
VRI	**Vrincioaia**	**0.18**	**20**	⇑P	**Pn**	**03 25 47.2**	**-0.2**
ODBI	**Odobesti**	**0.30**	**77**	⇑P	**Pn**	**03 25 48.6**	**+0.8**
ODBI				⇑S	**Sn**	**03 25 58.3**	**+0.3**
ODBI	**Odobesti**	**0.30**	**77**	⇑P	**Pn**	**03 25 48.6**	**+0.8**
NEHR	**Nehoiu**	**0.36**	**222**	⇑P	**Pn**	**03 25 48.6**	**+0.4**
NEHR				⇑S	**Sn**	**03 25 58.3**	**-0.3**
NEHR	**Nehoiu**	**0.36**	**222**	⇑P	**Pn**	**03 25 48.6**	**+0.4**
GRER		**0.39**	**143**	⇑P	**Pn**	**03 25 49.6**	**+1.2**
GRER				⇑S	**Sn**	**03 25 59.6**	**+0.8**
GRER		**0.39**	**143**	⇑P	**Pn**	**03 25 49.6**	**+1.2**
PETR	**Petresti**	**0.42**	**86**	⇓P	**Pn**	**03 25 49.1**	**+0.6**
PETR				⇑S	**Sn**	**03 25 59.3**	**+0.2**
PETR	**Petresti**	**0.42**	**86**	⇓P	**Pn**	**03 25 49.1**	**+0.6**
MLR	**Muntele Rosu**	**0.53**	**248**	⇑P	**Pn**	**03 25 49.8**	**+0.3**
MLR				⇓S	**Sn**	**03 26 00.1**	**-0.8**
MLR	**Muntele Rosu**	**0.53**	**248**	⇑P	**Pn**	**03 25 49.8**	**+0.3**
ISR	**Istrita**	**0.58**	**187**	⇓P	**Pn**	**03 25 50.8**	**+1.0**
ISR				⇑S	**Sn**	**03 26 01.7**	**+0.2**
ISR	**Istrita**	**0.58**	**187**	⇓P	**Pn**	**03 25 50.8**	**+1.0**
GHRR		**0.65**	**56**	⇓P	**Pn**	**03 25 51.1**	**+0.7**
GHRR				⇑S	**Sn**	**03 26 02.5**	**+0.1**
GHRR		**0.65**	**56**	⇓P	**Pn**	**03 25 51.1**	**+0.7**
OZUR		**0.72**	**304**	⇓P	**Pn**	**03 25 51.0**	**-0.1**
OZUR				⇑S	**Sn**	**03 26 02.2**	**-1.4**
OZUR		**0.72**	**304**	⇓P	**Pn**	**03 25 51.0**	**-0.1**
TUDR		**0.73**	**98**	⇓P	**Pn**	**03 25 51.1**	**0.0**
TUDR				⇑S	**Sn**	**03 26 03.1**	**-0.6**
TUDR		**0.73**	**98**	⇓P	**Pn**	**03 25 51.1**	**0.0**
SECR		**0.77**	**212**	⇑P	**Pn**	**03 25 52.8**	**+1.2**
SECR				⇑S	**Sn**	**03 26 06.0**	**+1.4**
SECR		**0.77**	**212**	⇑P	**Pn**	**03 25 52.8**	**+1.2**
SLCR	**Slobozia Conac**	**0.80**	**97**	⇓P	**Pn**	**03 25 51.8**	**0.0**
SLCR				⇓S	**Sn**	**03 26 03.8**	**-1.2**
SLCR	**Slobozia Conac**	**0.80**	**97**	⇓P	**Pn**	**03 25 51.8**	**0.0**
IZVR	**Izvoarele**	**0.81**	**100**	⇑P	**Pn**	**03 25 52.1**	**+0.2**
IZVR				⇑S	**Sn**	**03 26 03.7**	**-1.4**
IZVR	**Izvoarele**	**0.81**	**100**	⇑P	**Pn**	**03 25 52.1**	**+0.2**
TESR	**Tescani**	**0.82**	**1**	⇓P	**Pn**	**03 25 52.3**	**+0.2**
TESR				⇑S	**Sn**	**03 26 04.4**	**-1.0**
TESR	**Tescani**	**0.82**	**1**	⇓P	**Pn**	**03 25 52.3**	**+0.2**
PGOR	**Pogoanele**	**0.82**	**163**	⇑P	**Pn**	**03 25 52.7**	**+0.6**
PGOR	**Pogoanele**	**0.82**	**163**	⇑P	**Pn**	**03 25 52.7**	**+0.6**
SCHL	**Schela**	**0.86**	**103**	⇓P	**Pn**	**03 25 52.4**	**-0.1**
SCHL				⇑S	**Sn**	**03 26 04.6**	**-1.4**
SCHL	**Schela**	**0.86**	**103**	⇓P	**Pn**	**03 25 52.4**	**-0.1**
VARL	**Varlezi**	**0.87**	**76**	⇓P	**Pn**	**03 25 53.3**	**+0.7**
VARL				⇑S	**Sn**	**03 26 06.1**	**-0.2**
VARL	**Varlezi**	**0.87**	**76**	⇓P	**Pn**	**03 25 53.3**	**+0.7**
PLAR	**PLOIESTI**	**0.89**	**209**	⇑S	**Sn**	**03 26 07.2**	**+0.5**
PLAR	**PLOIESTI**	**0.89**	**209**	⇑S	**Sn**	**03 26 07.2**	**+0.5**
BIR	**Birlad**	**0.90**	**50**	⇑P	**Pn**	**03 25 53.7**	**+0.8**
BIR				⇓S	**Sn**	**03 26 06.9**	**+0.1**
BIR	**Birlad**	**0.90**	**50**	⇑P	**Pn**	**03 25 53.7**	**+0.8**
DOPR	**Dopca**	**0.91**	**288**	⇑P	**Pn**	**03 25 53.4**	**+0.3**
DOPR				⇑S	**Sn**	**03 26 06.9**	**-0.4**
DOPR	**Dopca**	**0.91**	**288**	⇑P	**Pn**	**03 25 53.4**	**+0.3**
GISR	**Galati**	**1.03**	**104**	⇓S	**Sn**	**03 26 09.3**	**0.0**
GISR	**Galati**	**1.03**	**104**	⇓S	**Sn**	**03 26 09.3**	**0.0**
SULR		**1.05**	**195**	⇑P	**Pn**	**03 25 55.7**	**+1.1**
SULR				⇑S	**Sn**	**03 26 10.3**	**+0.5**
SULR		**1.05**	**195**	⇑P	**Pn**	**03 25 55.7**	**+1.1**
GIUM	**Giurgiulesti**	**1.12**	**100**	⇓P	**Pn**	**03 25 56.5**	**+1.0**
GIUM				⇓S	**Sn**	**03 26 11.5**	**+0.1**
GIUM	**Giurgiulesti**	**1.12**	**100**	⇓P	**Pn**	**03 25 56.5**	**+1.0**
GIUM	**Giurgiulesti**	**1.12**	**100**	P	**Pn**	**03 25 56.4**	**+1.0**
VOIR		**1.14**	**258**	⇑P	**Pn**	**03 25 56.2**	**+0.4**
VOIR				⇑S	**Sn**	**03 26 11.2**	**-0.7**
VOIR		**1.14**	**258**	⇑P	**Pn**	**03 25 56.2**	**+0.4**
CFR	**Carcaliu**	**1.18**	**116**	⇓P	**Pn**	**03 25 56.1**	**+0.1**
CFR				⇓S	**Sn**	**03 26 11.0**	**-1.4**
CFR	**Carcaliu**	**1.18**	**116**	⇓P	**Pn**	**03 25 56.1**	**+0.1**
AMRR	**Amara**	**1.19**	**155**	⇑P	**Pn**	**03 25 57.0**	**+0.8**
AMRR				⇓S	**Sn**	**03 26 13.5**	**+0.7**
AMRR	**Amara**	**1.19**	**155**	⇑P	**Pn**	**03 25 57.0**	**+0.8**
LEHL	**Lehliu**	**1.23**	**174**	⇑P	**Pn**	**03 25 57.7**	**+1.0**
LEHL				⇓S	**Sn**	**03 26 14.4**	**+0.9**
LEHL	**Lehliu**	**1.23**	**174**	⇑P	**Pn**	**03 25 57.7**	**+1.0**
GIRR	**Girov**	**1.26**	**356**	⇑P	**Pn**	**03 25 58.0**	**+0.9**
GIRR	**Girov**	**1.26**	**356**	⇑P	**Pn**	**03 25 58.0**	**+0.9**
BIZ	**Bicaz**	**1.30**	**344**	⇓P	**Pn**	**03 25 58.9**	**+1.3**
BIZ				⇑S	**Sn**	**03 26 16.5**	**+1.4**
BIZ	**Bicaz**	**1.30**	**344**	⇓P	**Pn**	**03 25 58.9**	**+1.3**
HARR	**Harsova**	**1.36**	**137**	⇓P	**Pn**	**03 25 58.9**	**+0.6**
HARR	**Harsova**	**1.36**	**137**	⇓P	**Pn**	**03 25 58.9**	**+0.6**
BUC1	**Bucharest**	**1.41**	**198**	⇓P	**Pn**	**03 25 59.8**	**+0.9**
BUC1				⇑S	**Sn**	**03 26 18.0**	**+0.3**
BUC1	**Bucharest**	**1.41**	**198**	⇓P	**Pn**	**03 25 59.8**	**+0.9**
STFAR	**Stefanesti-Arg**	**1.45**	**235**	⇓S	**Sn**	**03 26 18.7**	**+0.3**
STFAR	**Stefanesti-Arg**	**1.45**	**235**	⇓S	**Sn**	**03 26 18.7**	**+0.3**
TPGR	**Topolog**	**1.51**	**123**	⇓P	**Pn**	**03 26 00.6**	**+0.4**
TPGR				⇑S	**Sn**	**03 26 19.3**	**-0.6**
TPGR	**Topolog**	**1.51**	**123**	⇓P	**Pn**	**03 26 00.6**	**+0.4**
TLBR	**Topalu**	**1.52**	**139**	⇓P	**Pn**	**03 26 01.0**	**+0.7**
TLBR				⇑S	**Sn**	**03 26 20.0**	**-0.1**
TLBR	**Topalu**	**1.52**	**139**	⇓P	**Pn**	**03 26 01.0**	**+0.7**
RASA	**Rasa**	**1.52**	**166**	⇑P	**Pn**	**03 26 01.2**	**+0.9**
RASA				⇑S	**Sn**	**03 26 20.3**	**+0.2**
RASA	**Rasa**	**1.52**	**166**	⇑P	**Pn**	**03 26 01.2**	**+0.9**
SGRR	**Singureni**	**1.54**	**198**	⇑P	**Pn**	**03 26 00.2**	**-0.5**
SGRR				⇓S	**Sn**	**03 26 20.8**	**+0.2**
SGRR	**Singureni**	**1.54**	**198**	⇑P	**Pn**	**03 26 00.2**	**-

ICOR				⇓S		Sn	03 26 25.4 -0.5
ICOR	**Ion Corvin**	**1.78**	**152**	⇓P		**Pn**	**03 26 04.8 +1.1**
JURR	**Jurilovca**	**1.83**	**120**	⇑P		**Pn**	**03 26 05.3 +0.9**
JURR	**Jurilovca**	**1.83**	**120**	⇑P		**Pn**	**03 26 05.3 +0.9**
COPA	**Copaceanca**	**1.86**	**213**	⇓P		**Pn**	**03 26 04.7 0.0**
COPA	**Copaceanca**	**1.86**	**213**	⇓P		**Pn**	**03 26 04.7 0.0**
MILM	**Milestii Mici**	**1.94**	**50**	⇑P		**Pn**	**03 26 06.8 +1.1**
MILM				⇑S		**Sn**	**03 26 29.3 -0.4**
MILM	**Milestii Mici**	**1.94**	**50**	⇑P		**Pn**	**03 26 06.8 +1.1**
MILM	**Milestii Mici**	**1.94**	**50**	P		**Pn**	**03 26 06.8 +1.1**
MFTR	**Murfatlar**	**1.98**	**139**	⇓P		**Pn**	**03 26 07.0 +0.8**
MFTR				⇑S		**Sn**	**03 26 31.4 +0.9**
MFTR	**Murfatlar**	**1.98**	**139**	⇓P		**Pn**	**03 26 07.0 +0.8**
KIS	**Kishinev**	**2.00**	**48**	*e*P		**Pn**	**03 26 07.9 +1.5**
KIS	19nm,0.2s						
KIS				*e*S		**Sn**	**03 26 30.1 -0.8**
	34nm,0.3s						
KIS	**Kishinev**	**2.00**	**48**	P		**Pn**	**03 26 07.9 +1.5**
KIS				Pm			03 26 08.2
KIS				S		**Sn**	**03 26 30.1 -0.8**
KIS				m			03 26 31.0
LOT	**Lotru**	**2.03**	**264**	⇓P		**Pn**	**03 26 07.2 +0.3**
LOT				⇑S		**Sn**	**03 26 31.9 -0.1**
LOT	**Lotru**	**2.03**	**264**	⇓P		**Pn**	**03 26 07.2 +0.3**
ARCR	**ARCALIA**	**2.11**	**312**	⇓P		**Pn**	**03 26 08.4 +0.5**
ARCR	**ARCALIA**	**2.11**	**312**	⇓P		**Pn**	**03 26 08.4 +0.5**
EFOR	**EFORIE**	**2.15**	**138**	⇑P		**Pn**	**03 26 09.4 +1.0**
EFOR				⇓S		**Sn**	**03 26 35.3 +0.8**
EFOR	**EFORIE**	**2.15**	**138**	⇑P		**Pn**	**03 26 09.4 +1.0**
BURAR	**Bucovina Array**	**2.16**	**334**	⇓P		**Pn**	**03 26 10.5 +1.9**
BURAR				⇑S		**Sn**	**03 26 37.1 +2.2**
BURAR	**Bucovina Array**	**2.16**	**334**	⇓P		**Pn**	**03 26 10.5 +1.9**
ZIMR		**2.23**	**204**	⇓P		**Pn**	**03 26 09.8 +0.3**
ZIMR		**2.23**	**204**	⇓P		**Pn**	**03 26 09.8 +0.3**
TSSL	**Sulina**	**2.24**	**103**	⇓S		**Sn**	**03 26 36.3 -0.4**
TSSL	**Sulina**	**2.24**	**103**	⇓S		**Sn**	**03 26 36.3 -0.4**
PSN	**Preselentsi**	**2.29**	**151**	*i* P		**Pn**	**03 26 11.6 +1.2**
MANR	**Mangalia**	**2.34**	**143**	⇓P		**Pn**	**03 26 11.9 +1.0**
MANR				⇑S		**Sn**	**03 26 38.4 -0.5**
MANR	**Mangalia**	**2.34**	**143**	⇓P		**Pn**	**03 26 11.9 +1.0**
CJR	**Cluj-Napoca**	**2.34**	**297**	⇓P		**Pn**	**03 26 12.4 +1.4**
CJR				⇓S		**Sn**	**03 26 40.1 +0.8**
CJR	**Cluj-Napoca**	**2.34**	**297**	⇓P		**Pn**	**03 26 12.4 +1.4**
PURM	**Purcari**	**2.40**	**68**	⇓P		**Pn**	**03 26 12.4 +0.6**
PURM				⇑S		**Sn**	**03 26 40.3 -0.2**
PURM	**Purcari**	**2.40**	**68**	⇓P		**Pn**	**03 26 12.4 +0.6**
SZH	**Strazhica**	**2.48**	**192**	*i* P		**Pn**	**03 26 13.5 +0.6**
PRD	**Provadia**	**2.55**	**167**	*i* P		**Pn**	**03 26 15.4 +1.6**
KALB	**Balgarevo**	**2.62**	**150**	⇑P		**Pn**	**03 26 16.0 +1.3**
KALB				⇑S		**Sn**	**03 26 46.5 +0.8**
KALB	**Balgarevo**	**2.62**	**150**	⇑P		**Pn**	**03 26 16.0 +1.3**
DEV	**Deva**	**2.62**	**275**	⇑S		**Sn**	**03 26 47.0 +1.3**
DEV	**Deva**	**2.62**	**275**	⇑S		**Sn**	**03 26 47.0 +1.3**
SRE	**Strehaia**	**2.64**	**248**	⇑P		**Pn**	**03 26 15.1 +0.2**
SRE				⇓S		**Sn**	**03 26 45.7 -0.5**
SRE	**Strehaia**	**2.64**	**248**	⇑P		**Pn**	**03 26 15.1 +0.2**
ROIA	**ROIAK**	**2.65**	**168**	*i* P		**Pn**	**03 26 16.6 +1.4**
SORM	**Soroca**	**2.71**	**25**	⇓P		**Pn**	**03 26 16.2 +0.3**
SORM	**Soroca**	**2.71**	**25**	⇓P		**Pn**	**03 26 16.2 +0.3**
GZR	**Gura Zlata**	**2.73**	**265**	*e*Pn		**Pn**	**03 26 15.0 -1.2**
GZR				*e*Sn		Sn	03 26 38.3 -10
GZR	**Gura Zlata**	**2.73**	**265**	⇓P		**Pn**	**03 26 16.8 +0.6**
GZR				⇑S		**Sn**	**03 26 49.3 +0.8**
GZR	**Gura Zlata**	**2.73**	**265**	⇓P		**Pn**	**03 26 16.8 +0.6**
KSV	**Kosov**	**2.83**	**338**	*i* P		**Pn**	**03 26 19.0 +1.4**
KSV				Pm			03 26 22.5
KSV				*e*S		**Sn**	**03 26 52.2 +1.3**
KSV				Sm			03 27 12.2
KMPD	**K-Podol'skiy**	**2.87**	**358**	*e*P		**Pn**	**03 26 14.9 -3.1**
RAKU	**Rahkiv**	**2.88**	**325**	*i* P		**Pn**	**03 26 19.5 +1.3**
RAKU				Pm			03 26 20.4
RAKU				*e*S		**Sn**	**03 26 53.6 +1.5**
RAKU				Sm			03 26 56.4
NSLU	**Nyzhne Selyshc**	**2.92**	**330**	*e*P		Pn	03 26 25.3 +6.7
BMR	**Baia Mare**	**2.93**	**314**	⇓P		**Pn**	**03 26 19.8 +0.9**
BMR	**Baia Mare**	**2.93**	**314**	⇓P		**Pn**	**03 26 19.8 +0.9**
DRGR		**2.94**	**293**	*e*Pn		**Pn**	**03 26 19.7 +0.7**
DRGR				*e*Sn		**Sn**	**03 26 49.8 -3.7**
DRGR		**2.94**	**293**	⇓P		**Pn**	**03 26 19.7 +0.7**
DRGR		**2.94**	**293**	⇓P		**Pn**	**03 26 19.7 +0.7**
NDNU	**Novodnistrovsk**	**2.94**	**9**	*i* P		**Pn**	**03 26 12.2 +0.2**
NDNU				Pm			03 26 20.0
NDNU				*i* S		**Sn**	**03 26 51.1 -2.4**
NDNU				Sm			03 26 52.1
HERR	**Herculane**	**3.09**	**256**	⇓P		**Pn**	**03 26 21.4 +0.5**
HERR	**Herculane**	**3.09**	**256**	⇓P		**Pn**	**03 26 21.4 +0.5**
SIRR	**Siria**	**3.52**	**281**	⇑P		**Pn**	**03 26 28.2 +1.4**
SIRR	**Siria**	**3.52**	**281**	⇑P		**Pn**	**03 26 28.2 +1.4**
BZS	**Buzias**	**3.52**	**271**	*e*Pn		**Pn**	**03 26 24.9 -1.9**
BZS				*e*Sn		**Sn**	**03 26 58.9 -8.5**
BZS	**Buzias**	**3.52**	**271**	⇑P		**Pn**	**03 26 27.4 +0.6**
BZS				⇑S		**Sn**	**03 27 07.3 -0.1**
BZS	**Buzias**	**3.52**	**271**	⇑P		**Pn**	**03 26 27.4 +0.6**
HORU	**Horodok**	**3.52**	**358**	*e*P		**Pn**	**03 26 28.4 +1.6**
HORU				*i* S		**Sn**	**03 27 06.1 -1.4**
HORU				Sm			03 27 23.3
MDVR	**Moldovita**	**3.60**	**257**	⇑S		**Sn**	**03 27 09.2 -0.2**
MDVR	**Moldovita**	**3.60**	**257**	⇑S		**Sn**	**03 27 09.2 -0.2**
ZAGS	**Zajecar**	**3.66**	**241**	*e*Pn		**Pn**	**03 26 27.5 -1.2**
ZAGS				*e*Sn		Sn	03 27 00.4 -10
ZAPS	**Zavoj**	**3.75**	**231**	*e*Pn		**Pn**	**03 26 29.9 -0.1**
ZAPS				*e*Sn		Sn	03 27 03.4 -10
MORS	**Morshin**	**3.91**	**333**	*e*P		**Pn**	**03 26 34.2 +2.1**
BOSS	**Bosilegrad**	**4.38**	**225**	*e*Pn		**Pn**	**03 26 39.3 +0.8**
BOSS				*e*Sn		**Sn**	**03 27 20.4 -7.9**
KOLS	**Kolonicke sedl**	**4.39**	**319**	*e*P		**Pn**	**03 26 39.8 +1.2**
BARS	**Barje**	**4.50**	**232**	*e*Pn		**Pn**	**03 26 40.3 +0.2**
GRUS	**Gruza**	**4.58**	**249**	*e*Pn		**Pn**	**03 26 40.3 -0.9**
TRUS	**Trudelj**	**4.66**	**254**	*e*Pn		**Pn**	**03 26 40.1 -2.2**
CRVS	**Cervenica-Dubn**	**4.76**	**314**	*e*P		**Pn**	**03 26 47.8 +4.2**
DIVS	**Divibare**	**4.98**	**254**	*e*Pn		**Pn**	**03 26 44.4 -2.3**
DIVS				*e*Sn		Sn	03 27 29.6 -14
IVAS	**Ivanjica**	**5.09**	**248**	*e*Pn		**Pn**	**03 26 47.4 -0.7**
IVAS				*e*Sn		Sn	03 27 31.7 -14
SEV	**Sevastopol'**	**5.11**	**101**	P		**Pn**	**03 26 49.0 +0.7**
SEV				Pm			03 26 49.8
SEV				S		**Sn**	**03 27 43.7 -2.2**
SEV				Sm			03 27 45.4
STHS	**Stebnicka Huta**	**5.21**	**318**	*e*P		**Pn**	**03 26 52.3 +2.5**
SIM	**Simferopol'**	**5.33**	**95**	P		**Pn**	**03 26 50.9 -0.4**
SIM				S		**Sn**	**03 27 48.2 -3.1**
SIM				Sm			03 27 51.4
SJES	**Sjenica**	**5.35**	**245**	*e*Pn		**Pn**	**03 26 50.3 -1.5**
ALU	**Alushta**	**5.58**	**98**	P		**Pn**	**03 26 54.6 -0.1**
ALU				Pm			03 26 54.9
ALU				S		**Sn**	**03 27 56.5 -1.0**
ALU				Sm			03 27 59.4
SUDU	**Sudak**	**5.96**	**95**	P		**Pn**	**03 26 59.8 0.0**
SUDU				Pm			03 27 00.7
SUDU				S		**Sn**	**03 28 03.5 -3.1**
SUDU				Sm			03 28 03.8

*IDC **29** 03:30:30.8±1.5,2.°79S×141.°90E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.7/4, ML4.0/1, MS4.5/1, Ms1 4.5/1, ms1mx3.4/43, Error ellipse: s-maj=73.0km s-min=27.2km az=101.0*

*NEIC **29** 03:30:36.1±1.1,2.°8S±0.°2×141.°80E±0.°08, h34km±10km, mb4.2/10, Error ellipse: s-maj=23.9km s-min=11.2km az=165.0*

ISC 29 03:30:34.7±1.2,2.°8S±0.°1×141.°8E±0.°2, h30km, n25, σ0°90/18, mb3.7/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**14.53**	**226**	Pn	**Pn**	**03 33 58.7**	**+0.3**
KNRA	**Kununurra**	**18.13**	**224**		**P**	**03 34 45.0**	**+0.5**
KNRA				IAmb	IAmb	03 35 01.4	
	comp=Z,44nm,1.2s						
WB0	**Warramunga Arr**	**18.34**	**203**		**Pn**	**03 34 47.7**	**+0.6**
WB0				IAmb	IAmb	03 35 04.7	
	comp=Z,6.0nm,0.8s						
WR0	**Warramunga Arr**	**18.46**	**202**		**Pn**	**03 34 48.1**	**-0.4**
WR0				IAmb	IAmb	03 34 54.3	
	comp=Z,7.7nm,0.7s						
WB2	**Warramunga Arr**	**18.52**	**203**	P	**Pn**	**03 34 48.9**	**-0.3**
WB2				IAmb	IAmb	03 35 06.1	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**18.52**	**203**	P	**Pn**	**03 34 49.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=25,slow=11,SNR=21						
WRA	**Warramunga Arr**	**18.52**	**203**	P	**Pn**	**03 34 48.7**	**-0.5**
SOEI	**Soe**	**18.75**	**248**	P	**Pn**	**03 34 51.2**	**-0.9**
SOEI				IAmb	IAmb	03 35 07.3	
	comp=Z,52nm,1.1s						
LUWI	**Luwuk**	**19.11**	**275**	P	**Pn**	**03 34 55.0**	**-1.4**
TOLI2	**Tolitoli**	**21.39**	**280**	P	**P**	**03 35 20.4**	**+0.3**
TOLI2				IAmb	IAmb	03 35 23.1	
	comp=Z,6.9nm,1.0s						
AS31	**Alice Springs**	**22.10**	**200**	P	**P**	**03 35 28.1**	**+0.4**
ASAR	**Alice Springs**	**22.10**	**200**	P	**P**	**03 35 28.4**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=33,slow=10,SNR=14						
ASAR	**Alice Springs**	**22.10**	**200**	P	**P**	**03 35 28.2**	**+0.5**
FORT	**Forrest**	**30.71**	**204**	P	**P**	**03 36 47.5**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**32.37**	**48**	T	T	04 11 14.4	
	baz=232,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**32.38**	**48**	T	T	04 11 15.3	
	baz=232,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**32.39**	**48**	T	T	04 11 14.4	
	baz=232,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**33.28**	**47**	T	T	04 12 18.3	
	baz=230,slow=76,SNR=129						
H11N2	**WAKE ISLAND Hy**	**33.30**	**47**	T	T	04 12 19.6	
	baz=230,slow=76,SNR=149						
H11N3	**WAKE ISLAND Hy**	**33.30**	**47**	T	T	04 12 19.6	
	baz=230,slow=76,SNR=73						
KLR	**Kul'dur**	**52.56**	**352**	LR	LR	03 59 13.1	
	comp=Z,517nm,21.1s,baz=324,slow=33						
MKAR	**Makanchi Array**	**71.78**	**321**	P	**P**	**03 41 55.4**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=98,slow=6.9,SNR=5.1						
MKAR	**Makanchi Array**	**71.78**	**321**	P	**P**	**03 41 55.3**	**+0.9**
ILAR	**Eielson Array**	**84.65**	**24**	P	**P**	**03 43 05.5**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=274,slow=4.9,SNR=2.1						
LPAZ	**La Paz**	**144.84**	**124**	PKP	**PKiKP**	**03 50 12.1**	**-2.3**
	comp=Z,1.1nm,0.9s,baz=267,slow=4.6,SNR=4.8						

*NEIC **29** 03:33:45.5±1.6, 16.°42N±0.°05×93.°26W±0.°06, h176km±3km, Error ellipse: s-maj=8.8km s-min=6.7km az=52.0*

*MEX **29** 03:33:46.6±1.2, 16.°47N×93.°28W, h182km±7km, MD4.4*

*IDC **29** 03:33:46.5±3.2, 16.°60N×92.°64W, h182km±31km, mb3.5/8, mb1 3.8/10, mb1mx3.4/38, mbtmp4.0/10, Error ellipse: s-maj=43.8km s-min=11.8km az=56.0*

ISC 29 03:33:46.2±0.5, 16.°39N±0.°05×93.°26W±0.°03, h200km, n64, σ0°87/87, mb4.0/11, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.41**	**19**	*i* P	**Pn**	**03 34 09.9**	**-3.2**
TGIG				*i* S	**Sn**	**03 34 27.5**	**-6.5**
TGIG		**0.41**	**19**		**Pn**	**03 34 09.9**	**-3.2**
TGIG					**Sn**	**03 34 27.5**	**-6.5**
CCIG	**Comitan**	**1.08**	**96**	*e*P	**Pn**	**03 34 14.1**	**-2.7**
CCIG				*e*S	**Sn**	**03 34 35.9**	**-4.5**
CCIG	**Comitan**	**1.08**	**96**		**Pn**	**03 34 14.1**	**-2.7**
CCIG					**Sn**	**03 34 35.9**	**-4.5**
THIG		**1.76**	**147**	*i* P	**Pn**	**03 34 20.7**	**-1.6**
THIG				*e*S	**Sn**	**03 34 46.0**	**-4.4**
THIG				*i* S	**Sn**	**03 34 47.3**	**-3.1**
THIG		**1.76**	**147**		**Pn**	**03 34 20.7**	**-1.6**
THIG					**Sn**	**03 34 47.3**	**-3.1**
HUIG	**Huatulco**	**2.81**	**258**	*i* P	**Pn**	**03 34 30.0**	**-3.6**
HUIG				*i* S	**Sn**	**03 35 05.5**	**-5.1**
HUIG	**Huatulco**	**2.81**	**258**		**Pn**	**03 34 30.0**	**-3.6**
HUIG					**Sn**	**03 35 05.5**	**-5.1**
SCIG	**Sabancuy**	**3.24**	**37**	*i* P	**Pn**	**03 34 36.0**	**-2.6**
SCIG				*e*S	Sn	03 35 05.6	-14
SCIG				*e*S	**Sn**	**03 35 14.5**	**-5.3**
SCIG	**Sabancuy**	**3.24**	**37**		**Pn**	**03 34 36.0**	**-2.6**
SCIG					**Sn**	**03 35 14.5**	**-5.3**
PETF	**Flores**	**3.29**	**80**		**Pn**	**03 34 36.8**	**-2.5**
VHO	**Vista Hermosa**	**3.40**	**282**	*e*P	**Pn**	**03 34 39.5**	**-1.2**
VHO				*e*S	**Sn**	**03 35 18.8**	**-4.6**
PEIG	**Puerto Escondi**	**3.75**	**265**	*e*P	**Pn**	**03 34 43.1**	**-1.9**
PEIG				*e*S	**Sn**	**03 35 26.9**	**-4.2**
TOIG	**Toxpalan**	**4.01**	**296**	*e*P	**Pn**	**03 34 47.1**	**-1.1**
TOIG				*e*S	**Sn**	**03 35 30.7**	**-6.2**
YOIG	**Yosondua**	**4.13**	**277**	*e*P	**Pn**	**03 34 49.2**	**-0.7**
YOIG				*e*S	**Sn**	**03 35 34.7**	**-5.2**
ESQI	**Esquipulas**	**4.19**	**115**		**Pn**	**03 34 49.1**	**-1.4**
MTO3	**Montecristo**	**4.25**	**117**		**Pn**	**03 34 49.5**	**-1.8**
TPIG	**Tehuac#an**	**4.41**	**298**	*e*P	**Pn**	**03 34 52.6**	**-0.6**
TPIG				*e*S	Sn	03 35 33.9	-12
TPIG				*e*S	**Sn**	**03 35 40.8**	**-5.1**
TPIG	**Tehuac#an**	**4.41**	**298**		**Pn**	**03 34 52.6**	**-0.6**
TPIG					**Sn**	**03 35 40.8**	**-5.1**
HLIG	**Huajuapan de L**	**4.57**	**289**	*e*P	**Pn**	**03 34 55.1**	**-0.3**
HLIG				*e*S	**Sn**	**03 35 43.2**	**-6.7**
TLIG	**Tlapa**	**5.21**	**284**		**Pn**	**03 35 03.4**	**0.0**
TGUH	**Tegucigalpa,Un**	**6.23**	**111**		**Pn**	**03 35 16.8**	**+0.2**
MAVM	**Malinalco, Edo**	**6.47**	**294**	*i* P	**Pn**	**03 35 21.0**	**+1.3**
MAVM				*i* S	**Sn**	**03 36 31.2**	**-2.6**
MAVM	**Malinalco, Edo**	**6.47**	**294**		**Pn**	**03 35 21.0**	**+1.3**
MAVM					**Sn**	**03 36 31.2**	**-2.6**
JTS	**Las Juntas de**	**10.10**	**126**	P	**Pn**	**03 36 03.3**	**-3.6**
	2.8nm,0.3s,baz=26,slow=17,SNR=9.8						
JTS	**Las Juntas de**	**10.10**	**126**		**Pn**	**03 36 04.3**	**-2.6**
RIMA	**Rio Macho**	**11.27**	**125**		**Pn**	**03 36 21.8**	**-0.3**
SOR	**Soroa**	**11.57**	**55**		**Pn**	**03 36 24.2**	**-1.4**
PEZE	**Perez Zeledon,**	**11.65**	**126**		**Pn**	**03 36 25.9**	**-0.9**
SRBA	**San Rafael, Bu**	**11.99**	**125**	Pn	**Pn**	**03 36 30.5**	**-0.6**
DRK0	**Durika**	**12.06**	**125**		**Pn**	**03 36 31.8**	**-0.4**
TX32	**Lajitas Array**	**16.05**	**325**		**Pn**	**03 37 21.4**	**+0.2**
TXAR	**Lajitas Array**	**16.05**	**325**	P	**Pn**	**03 37 24.3**	**+3.1**
	0.4nm,0.3s,baz=145,slow=12,SNR=27						
TXAR	**Lajitas Array**	**16.05**	**325**		**Pn**	**03 37 21.1**	**0.0**
TX31	**Lajitas Ar. Si**	**16.05**	**325**	P	**Pn**	**03 37 21.5**	**+0.3**
TX31				IAmb	IAmb	03 37 26.0	
	comp=Z,8.0nm,0.7s						
SJCC	**San Jacinto, C**	**18.75**	**108**	P	**P**	**03 37 50.3**	**0.0**
MNTX	**Cornudas Mount**	**18.81**	**326**	P	**P**	**03 37 51.0**	**+0.2**
MSTX	**Muleshoe**	**19.49**	**336**	P	**P**	**03 37 58.4**	**+0.2**
MSTX				IAmb	IAmb	03 38 03.8	
	comp=Z,5.6nm,0.6s						
319A	**Douglas**	**20.87**	**318**	P	**P**	**03 38 14.3**	**+1.3**
319A				IAmb	IAmb	03 38 17.3	
	comp=Z,8.5nm,1.1s						
BNM	**Barren Site**	**21.38**	**328**	P	**P**	**03 38 18.7**	**+0.3**
ANMO	**Albuquerque**	**21.93**	**330**	P	**P**	**03 38 26.3**	**+2.3**
	comp=Z,1.0nm,0.5s,baz=139,slow=13,SNR=5.4						
ANMO	**Albuquerque**	**21.93**	**330**	P	**P**	**03 38 23.3**	**-0.7**
SDCO	**Great Sand Dun**	**23.86**	**335**	P	**P**	**03 38 42.1**	**+0.5**
MVCO	**Mesa Verde**	**24.73**	**330**	P	**P**	**03 38 51.2**	**+1.7**
PV13	**Radium Mtn., P**	**25.64**	**331**	P	**P**	**03 38 57.0**	**-0.2**
PV13				IAmb	IAmb	03 39 02.3	
	comp=Z,4.6nm,1.1s						
MCWV	**Mont Chateau**	**25.97**	**24**	P	**P**	**03 39 01.2**	**+0.8**
NVAR	**Mina Array Bea**	**31.06**	**320**	P	**P**	**03 39 50.0**	**+4.3**
	comp=Z,1.3nm,0.6s,baz=127,slow=8.9,SNR=13						
NVAR				PcP	**PcP**	**03 42 39.3**	**+2.9**
	comp=Z,0.4nm,0.6s,baz=64,slow=2.1,SNR=2.9						
NVAR	**Mina Array Bea**	**31.06**	**320**	P	**P**	**03 39 46.6**	**+0.9**
NVAR					**PcP**	**03 42 39.0**	**+2.5**
MCMT	**McKenzie Canyo**	**32.80**	**334**	P	**P**	**03 40 01.4**	**+0.5**
J08A	**Circle Bar Ran**	**34.38**	**327**	P	**P**	**03 40 16.0**	**+1.6**
J08A				IAmb	IAmb	03 40 18.3	
	comp=Z,4.3nm,0.7s						
F10A	**Beach Ranch, E**	**35.64**	**331**	P	**P**	**03 40 26.6**	**+1.5**
F10A				IAmb	IAmb	03 40 30.2	
	comp=Z,1.9nm,0.8s						
LPAZ	**La Paz**	**40.85**	**141**	P	**P**	**03 41 10.2**	**+0.7**
	comp=Z,5.2nm,0.7s,baz=328,slow=6.6,SNR=29						
LPAZ				PcP	**PcP**	**03 43 08.4**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=306,slow=4.7,SNR=3.3						
LPAZ	**La Paz**	**40.85**	**141**	P	**P**	**03 41 10.0**	**+0.6**
LPAZ				IAmb	IAmb	03 41 10.9	
	comp=Z,5.0nm,0.7s						
MNMC	**Minye Minye**	**42.28**	**146**	P	**P**	**03 41 19.4**	**-1.2**
YKA	**Yellowknife Ar**	**48.43**	**347**	P	**P**	**03 42 09.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=154,slow=7.8,SNR=2.7						
YKA	**Yellowknife Ar**	**48.43**	**347**	P	**P**	**03 42 09.3**	**+1.3**
BDFB	**Brasilia**	**54.83**	**123**	P	**P**	**03 42 54.8**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=300,slow=2.7,SNR=4.4						
CPUP	**Villa Florida**	**54.98**	**140**	P	**P**	**03 42 56.6**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=325,slow=6.1,SNR=5.5						
ILAR	**Eielson Array**	**60.17**	**337**	PcP	**PcP**	**03 44 15.5**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=119,slow=3.2,SNR=6.8						
PLCA	**Paso Flores**	**60.62**	**160**	P	**P**	**03 43 38.1**	**+2.1**
	comp=Z,3.5nm,0.9s,baz=347,slow=9.4,SNR=6.9						
PLCA	**Paso Flores**	**60.62**	**160**	P	**P**	**03 43 37.5**	**+1.5**
PLCA				IAmb	IAmb	03 43 38.6	
	comp=Z,3.9nm,0.9s						
ARCES	**ARCESS Array B**	**84.26**	**18**	P	**P**	**03 45 55.9**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=297,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**134.75**	**258**	PKP	**PKiKP**	**03 52 44.7**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=83,slow=2.4,SNR=7.2						
WRA	**Warramunga Arr**	**134.75**	**258**		**PKiKP**	**03 52 43.0**	**-0.3**

KRSC 29 03:40:14.9±1.9, 50.°37N×157.°29E, h68km±22km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.81**	**293**	*e*P	Pn	03 40 31.8	+0.9
SKR				*e*S	Sn	03 40 43.5	+0.7
PAU	**Pauzhetka**	**1.14**	**345**	*e*P	Pn	03 40 37.5	+2.5
PAU				*e*S	Sn	03 40 52.9	+2.9
ALID	**Alaid**	**1.22**	**295**	*e*P	Pn	03 40 37.4	+1.2
ALID				*e*S	Sn	03 40 52.5	+0.4
KDTR	**Khodutka, Kamc**	**1.52**	**19**	*e*P	Pn	03 40 42.0	+2.0
KDTR				*e*S	Sn	03 41 01.3	+2.3
MTVR	**Mutnovka**	**2.19**	**14**	*e*P	Pn	03 40 51.7	+2.6
MTVR				*e*S	Sn	03 41 17.8	+2.6
GRL	**Gorelyy**	**2.24**	**12**	*e*P	Pn	03 40 52.7	+2.9
GRL				*e*S	Sn	03 41 19.7	+3.3
KRMR	**Karymshinskiy**	**2.52**	**12**	*e*P	Pn	03 40 55.7	+2.3
APC	**Apacha**	**2.56**	**358**	*e*P	Pn	03 40 56.9	+2.9
DALK	**Dalny**	**2.81**	**18**	*e*P	Pn	03 41 00.0	+2.6
UGLR	**Uglovaya**	**3.00**	**18**	*e*P	Pn	03 41 03.2	+3.1
AVH	**Avacha**	**3.03**	**17**	*e*P	Pn	03 41 04.3	+3.8
KOK	**Koryaka**	**3.04**	**15**	*e*P	Pn	03 41 04.5	+3.9
SMAR	**Somma**	**3.04**	**17**	*e*P	Pn	03 41 04.2	+3.4
KRER	**Koryakskii**	**3.07**	**17**	*e*P	Pn	03 41 04.6	+3.4
SDLR	**Sedlovina**	**3.07**	**18**	*e*P	Pn	03 41 03.6	+2.5
KRX	**Arik**	**3.11**	**15**	*e*P	Pn	03 41 05.0	+3.4
SPN	**Mys Shipunski**	**3.21**	**31**	*e*P	Pn	03 41 05.3	+2.4
SPN				*e*S	Sn	03 41 41.3	+1.3
GNL	**Ganaly**	**3.35**	**7**	*e*P	Pn	03 41 08.0	+3.1
MKZ	**Mys Kozlova**	**4.99**	**31**	*e*P	Pn	03 41 28.4	+1.3
MKZ				*e*S	Sn	03 42 23.1	-0.3
TUMR	**Tumrok**	**5.21**	**18**	*e*P	Pn	03 41 33.9	+3.6

*BJI **29** 03:51:03.2±0.0, 13.°25N×144.°84E, h96km, mB4.9/25, mb4.9/51*

*DJA **29** 03:51:05.7±0.3, 13.°N±4.°×14.°5E±.°, h85km±4km, M4.8/43, mB5.5/14, mb5.1/43, MLv4.3/1, Mw(mB)5.0/14*

*NEIC **29** 03:51:06.6±1.4, 13.°35N±0.°08×144.°50E±0.°10, h90km±4km, mb4.9/173, Error ellipse: s-maj=14.3km s-min=11.0km az=104.0*

*IDC **29** 03:51:06.2±0.8, 13.°38N×144.°47E, h90km±6km, mb4.4/28, mb1 4.6/29, mb1mx4.4/54, mbtmp4.8/29, MS4.1/4, Ms1 4.1/4, ms1mx3.5/44,

KAPI Kappang 30.65 235 P P 03 57 11.8 -0.3
KAPI IAmb IAmb 03 57 12.7
comp=Z,45nm,1.1s
ASAJ Asahikawa 30.75 357 P P 03 57 13.6 +1.0
comp=Z,2.1nm,0.4s,baz=184,slow=6.7,SNR=4.1
ASAJ PcP PcP 04 00 09.3 +1.2
comp=Z,2.3nm,0.5s,baz=83,slow=20,SNR=3.6
USA0B Ussuriysk Arra 32.62 343 P P 03 57 29.6 +0.6
USRK Ussuriysk Ar. 32.62 343 P P 03 57 29.1 0.0
comp=Z,4.5nm,0.6s,baz=163,slow=9.1,SNR=19
USRK Ussuriysk Ar. 32.62 343 P P 03 57 29.5 +0.5
KNRA Kununurra 32.78 209 P P 03 57 31.0 +0.4
SBUM Sibu 33.77 254 P P 03 57 40.0 +0.6
WB0 Warramunga Arr 34.37 197 P P 03 57 44.2 -0.2
WR0 Warramunga Arr 34.51 197 P P 03 57 45.9 +0.3
WRAB Tennant Creek 34.54 197 P P 03 57 46.2 +0.4
WB2 Warramunga Arr 34.54 197 P P 03 57 46.4 +0.4
WRA Warramunga Arr 34.55 197 P P 03 57 45.7 -0.3
comp=Z,54nm,0.8s,baz=20,slow=9.2,SNR=172
WRA PcP PcP 04 00 19.6 +0.5
comp=Z,7.2nm,0.7s,baz=7.5,slow=3.3,SNR=11
WRA ScP ScP 04 03 56.4 +0.4
comp=Z,2.8nm,0.8s,baz=15,slow=3.7,SNR=7.6
WRA Warramunga Arr 34.55 197 P P 03 57 45.9 -0.1
KSM Kuching 35.91 254 P P 03 57 57.0 -0.8
BJI Beijing 36.49 322 P P 03 57 58.5 -4.0
BJI pmax pmax
comp=Z,12nm,0.7s
ENH Enshi 36.51 303 P P 03 58 02.5 -0.3
ENH IAmb IAmb 03 58 04.2
comp=Z,25nm,1.0s
KLR Kul'dur 37.35 346 P P 03 58 09.3 -0.3
comp=Z,4.4nm,0.6s,baz=209,slow=5.1,SNR=16
GYA Guiyang 37.83 296 P P 03 58 15.0 +0.8
AS31 Alice Springs 38.20 196 P P 03 58 17.3 +0.2
AS31 IAmb IAmb 03 58 18.8
comp=Z,10nm,0.5s
ASAR Alice Springs 38.20 196 P P 03 58 17.2 +0.1
comp=Z,11nm,0.4s,baz=21,slow=12,SNR=132
ASAR PcP PcP 04 00 30.4 +0.4
comp=Z,5.1nm,0.8s,baz=15,slow=3.5,SNR=10
XAN Xi'an 38.35 309 P P 03 58 18.0 -0.3
XAN pP pP 03 58 40.0 +1.2
XAN sP sP 03 58 51.3 +2.3
XAN S S 04 04 05.5 -0.8
XAN pmax pmax
comp=Z,15nm,0.7s
XAN pmax pmax
comp=Z,170nm,9.2s
XAN LR LR
comp=Z,200nm,13.6s
XAN LR LR
comp=Z,240nm,14.4s
XAN LR LR
comp=Z,400nm,14.9s
PWJI Pagerwojo 38.85 239 P P 03 58 21.9 -0.7
comp=Z,156nm,1.1s
PCJI Pacitan 39.46 239 P P 03 58 27.6 -0.1
comp=Z,143nm,1.1s
SLVN Son La 39.56 287 P P 03 58 28.2 -0.4
SLVN IAmb IAmb 03 58 31.2
comp=Z,15nm,1.2s
HHC Hu-ho-hao-te 39.80 320 *eP* **P 03 58 32.0 +1.6**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,72nm,9.2s
UGM Wanagama 39.86 240 P P 03 58 31.8 +0.7
comp=Z,152nm,1.2s
NONG Nongkai 40.12 282 P P 03 58 34.7 +1.5
comp=Z,11µmcomp=Z,21nm,1.2s
NONG Nongkai 40.12 282 P P 03 58 34.0 +0.8
comp=Z,11µmcomp=Z,22nm,1.2s
BTO Baotou 40.65 318 *eP* **P 03 58 39.0 +1.6**
BTO S S 04 04 44.8 +4.1
KPJI Karang Pucung 40.92 242 P P 03 58 40.1 +0.3
comp=Z,44nm,1.0s
KMI Kunming 41.06 293 ⇓P **P 03 58 42.3 +1.1**
KMI pP pwP 03 59 04.8 -1.4
KMI pmax pmax
comp=Z,11nm,0.8s
DZM Mont Dzumac 41.18 148 P P 03 58 43.1 +1.2
comp=Z,13nm,0.6s,baz=312,slow=9.6,SNR=16
DZM Mont Dzumac 41.18 148 P P 03 58 43.1 +1.2
CHAI Chaiyaphum 41.25 279 P P 03 58 43.3 +0.7
comp=Z,387nmcomp=Z,24nm,0.5s
CHAI Chaiyaphum 41.25 279 P P 03 58 43.0 +0.4
comp=Z,96nmcomp=Z,6.1nm,0.5s
CD2 Chengdu 41.41 302 P P 03 58 43.0 -0.7
CD2 pmax pmax
comp=Z,20nm,0.7s
PSA00 Pilbara Seismi 42.33 215 P P 03 58 51.6 +0.5
PSA00 Pilbara Seismi 42.33 215 P P 03 58 51.3 +0.2
PSA00 IAmb IAmb 03 58 52.2
comp=Z,61nm,1.2s
PSA00 PcP PcP 04 00 43.4 +0.2
JRMM Jerantut 42.61 261 P P 03 58 54.0 +0.4
PHIT Phitsanulok 42.72 281 P P 03 58 56.4 +1.9
comp=Z,76nm,1.0s
PHIT Phitsanulok 42.72 281 P P 03 58 56.0 +1.5
comp=Z,19nm,1.0s
LZH Lanzhou 42.98 309 *eP* **P 03 58 58.0 +1.4**
LZH pP pP 03 59 18.0 +0.7
LZH sP sP 03 59 28.8 +1.3
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.6s
LAMP Lampang 43.46 283 P P 03 59 01.0 +0.6
comp=Z,23nm,0.6s
SKLT Songkhla 43.65 266 P P 03 59 02.8 +0.9
comp=Z,54nm,1.0s
SKLT Songkhla 43.65 266 P P 03 59 02.9 +0.9
comp=Z,54nm,1.0s
UTHA Uthaitani 43.71 279 P P 03 59 04.2 +1.7
comp=Z,11nm,1.0s
MDSI Maura Dua 43.84 249 P P 03 59 02.5 -1.0
comp=Z,1µmcomp=Z,31nm,1.0s
IPM Ipoh 43.86 263 P P 03 59 04.0 +0.3
KULM Kulim 44.02 264 P P 03 59 06.0 +1.0
CM09 Chiang Mai Arr 44.06 283 P P 03 59 06.4 +1.1
comp=Z,148nmcomp=Z,15nm,0.7s
CM09 Chiang Mai Arr 44.06 283 P P 03 59 06.0 +0.7
comp=Z,148nmcomp=Z,15nm,0.7s
CM04 Chiang Mai Arr 44.08 283 P P 03 59 06.1 +0.7
comp=Z,308nmcomp=Z,28nm,0.6s
CM04 Chiang Mai Arr 44.08 283 P P 03 59 06.2 +0.7
comp=Z,308nmcomp=Z,28nm,0.6s
CM01 Chiang Mai Arr 44.09 283 P P 03 59 06.4 +0.8
comp=Z,230nmcomp=Z,21nm,0.6s
CM01 Chiang Mai Arr 44.09 283 P P 03 59 06.0 +0.4
comp=Z,230nmcomp=Z,21nm,0.6s
CMMT Chiang Mai 44.10 283 P P 03 59 06.7 +1.1
comp=Z,6.4nm,1.9s
CMMT Chiang Mai 44.10 283 P P 03 59 06.8 +1.1
comp=Z,6.4nm,1.9s
CM02 Chiang Mai Arr 44.11 283 P P 03 59 06.3 +0.7
comp=Z,163nmcomp=Z,19nm,0.8s
CM02 Chiang Mai Arr 44.11 283 P P 03 59 06.4 +0.8
comp=Z,163nmcomp=Z,19nm,0.8s
CM05 Chiang Mai Arr 44.11 283 P P 03 59 06.1 +0.4
comp=Z,227nmcomp=Z,17nm,0.6s
CM05 Chiang Mai Arr 44.11 283 P P 03 59 06.2 +0.5
comp=Z,227nmcomp=Z,17nm,0.6s
CHTO Chiang Mai 44.11 283 P P 03 59 06.8 +1.1
comp=Z,6.4nm,1.9s
CHTO Chiang Mai 44.11 283 P P 03 59 05.3 -0.3
CM31 Chiang Mai Arr 44.11 283 P P 03 59 05.5 -0.2
CM31 IAmb IAmb 03 59 07.8
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 44.11 283 P P 03 59 05.8 +0.2
comp=Z,14nm,0.6s,baz=83,slow=6.4,SNR=52
CMAR PcP PcP 04 00 49.7 +0.3
comp=Z,5.4nm,0.8s,baz=79,slow=2.1,SNR=11
CMAR Chiang Mai Arr 44.11 283 P P 03 59 05.0 -0.7
CM15 Chiang Mai Arr 44.13 283 P P 03 59 06.4 +0.6
comp=Z,326nmcomp=Z,25nm,0.6s
CM13 Chiang Mai Arr 44.14 283 P P 03 59 06.4 +0.5
comp=Z,270nmcomp=Z,19nm,0.7s
CM13 Chiang Mai Arr 44.14 283 P P 03 59 06.5 +0.5
comp=Z,270nmcomp=Z,19nm,0.7s
LHSI Lahat 44.17 250 P P 03 59 06.6 +0.4
comp=Z,5µmcomp=Z,54nm,1.0s
KSI Kapahiang 44.96 251 P P 03 59 11.9 -0.6
STKA Stephens Creek 45.02 184 P P 03 59 12.7 +0.1
comp=Z,11nm,0.4s,baz=4.9,slow=7.2,SNR=47
STKA Stephens Creek 45.02 184 P P 03 59 12.7 +0.1
SURT Suratani 45.09 269 P P 03 59 16.8 +3.4
comp=Z,16nmcomp=Z,1.7nm,1.1s
SURT Suratani 45.09 269 P P 03 59 16.9 +3.4
RPSI Rantau Prapat 46.34 261 P P 03 59 22.4 -1.0
RPSI IAmb IAmb 03 59 23.4
comp=Z,22nm,1.0s
GIRL Giralia 46.49 220 P P 03 59 24.9 +0.6
BBOO Buckleboo 46.58 190 P P 03 59 25.1 +0.2
BBOO IAmb IAmb 03 59 25.7
comp=Z,30nm,1.1s
SONM Songino Array 46.80 325 P P 03 59 26.4 -0.2
comp=Z,2.8nm,0.7s,baz=144,slow=9.4,SNR=15
SONM ScP ScP 04 04 41.7 -2.1
comp=Z,4.5nm,0.7s,baz=145,slow=4.0,SNR=16
SONM Songino Array 46.80 325 P P 03 59 26.8 +0.1
SONM ScP ScP 04 04 41.8 -2.1
AMKA Amchitka 47.18 29 P P 03 59 30.4 +1.1
AMKA PcP PcP 04 00 59.5 +0.1
GSI Gunungsitoli 48.03 260 P P 03 59 35.1 -1.4
MORW Morawa 50.35 213 P P 03 59 53.6 -0.3
TOO Toolangi 50.62 179 P P 03 59 57.1 +1.3
SHL Shillong 50.88 292 P P 03 59 57.1 -1.2
TAPN Taplejung 54.71 294 *eP* **P 04 00 25.7 -0.9**
comp=Z,28nm,0.6s
ODAN Odare 54.97 294 *eP* **P 04 00 27.7 -0.7**
comp=Z,16nm,0.5s
SPIA Saint Paul Isl 55.55 28 P P 04 00 31.8 +0.1
baz=237
RAMN Ramite 55.68 294 *eP* **P 04 00 33.0 -0.5**
comp=Z,7.7nm,0.3s
UNV Unalaska Valle 55.71 33 P P 04 00 32.6 -0.4
baz=243
JIRN Jiri 56.07 294 *eP* **P 04 00 35.9 -0.6**
comp=Z,18nm,0.4s
PKI Pulchoki 56.76 294 *eP* **P 04 00 40.1 -1.2**
comp=Z,14nm,0.4s
PKIN Phulchoki 56.77 294 *eP* **P 04 00 39.8 -1.5**
comp=Z,13nm,0.4s
WMQ Urumqi 57.13 314 *eP* **P 04 00 46.5 +3.2**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,290nm,10.7s
GKN Gorkha 57.46 295 *eP* **P 04 00 45.1 -0.9**
comp=Z,29nm,0.4s
DANN Dangsing 58.24 295 *eP* **P 04 00 50.7 -1.0**
comp=Z,100nm,0.7s
KOLN Koldanda 58.37 294 *eP* **P 04 00 51.5 -1.0**
PYUN Piuthan 58.92 295 *eP* **P 04 00 55.1 -1.1**
comp=Z,34nm,0.4s
SDPT Sand Point 59.52 33 P P 04 00 59.4 -0.2
baz=248
URZ Urewera 59.66 151 P P 04 01 01.1 +0.3
comp=Z,19nm,0.9s,baz=275,slow=8.2,SNR=3.9
CHNA Chernabura Isl 59.80 34 P P 04 01 01.1 -0.5
baz=249
MK31 Makanchi Array 61.50 316 P P 04 01 12.8 -0.6
MKAR Makanchi Array 61.50 316 P P 04 01 12.7 -0.6
comp=Z,5.5nm,0.6s,baz=91,slow=8.4,SNR=46
MKAR ScP ScP 04 05 45.8 -2.0
comp=Z,1.4nm,0.8s,baz=126,slow=6.2,SNR=6.2
MKAR Makanchi Array 61.50 316 P P 04 01 12.9 -0.4
ZALV Zalesovo Beam 61.69 325 P P 04 01 13.0 -1.4
comp=Z,1.4nm,0.5s,baz=122,slow=5.2,SNR=5.5
ZALV PcP PcP 04 01 53.8 -1.2
comp=Z,1.4nm,0.3s,baz=120,slow=1.8,SNR=4.6
ZALV LR LR 04 28 23.3
comp=Z,210nm,19.0s,baz=332,slow=36
ZALV Zalesovo Beam 61.69 325 P P 04 01 12.7 -1.7
MAKZ Makanchi 61.71 316 P P 04 01 14.2 -0.5
MAKZ IAmb IAmb 04 01 15.3
comp=Z,7.4nm,0.7s
SII Sitkinak Islan 63.26 33 P P 04 01 24.8 -0.1
baz=253
N18K Kilae Creek 63.76 28 P P 04 01 28.3 +0.2
baz=249
O18K Koktuh Hills 63.79 29 P P 04 01 28.6 +0.3
baz=250
KDAK Kodiak Island 64.45 32 P P 04 01 32.0 -0.6
comp=Z,2.4nm,0.3s,baz=286,slow=2.0,SNR=12
KDAK Kodiak Island 64.45 32 P P 04 01 32.3 -0.3
baz=254
KDAK Kodiak Island 64.45 32 P P 04 01 31.9 -0.7
KDAK IAmb IAmb 04 01 37.1
comp=Z,13nm,1.5s
N19K Bonanza Creek 64.45 28 P P 04 01 32.9 +0.2
baz=250
KURK Kurchatov 64.62 320 P P 04 01 33.0 -0.8
KURBB Kurchatov Arra 64.66 320 P P 04 01 33.0 -1.1
comp=Z,13nm,0.6s,baz=103,slow=7.0,SNR=106
P19K Oil Pt 64.68 30 P P 04 01 33.5 -0.6
baz=252
L19K White Mountain 64.76 27 P P 04 01 35.1 +0.6
baz=250
RSO Redoubt South 65.15 29 P P 04 01 37.8 +0.4
K20K Telida 65.50 26 P P 04 01 39.7 +0.4
baz=250
J20K Nowinta River 65.76 25 P P 04 01 41.4 +0.4
baz=249
PPLA Purkeypile 66.16 27 P P 04 01 43.9 +0.2
baz=252
SKT Skwentna 66.17 28 P P 04 01 43.8 +0.1
baz=253
CHUM Lake Minchumin 66.42 26 P P 04 01 45.4 +0.3
baz=251
SEW Seward 66.63 30 P P 04 01 46.2 -0.4
baz=256
RC01 Rabbit Creek A 66.75 29 P P 04 01 46.7 -0.6
baz=255
CUT Chulitna 66.86 27 P P 04 01 47.1 -0.9
baz=254
I21K Tanana 66.97 24 P P 04 01 48.5 -0.2
baz=251
BPAW Bear Paw Mtn. 67.04 25 P P 04 01 48.7 -0.5
baz=252
TRF Thorofare Moun 67.15 26 P P 04 01 49.5 -0.6
baz=253
PMR Palmer 67.16 28 P P 04 01 49.4 -0.4
baz=255
PMR Palmer 67.16 28 P P 04 01 49.5 -0.4
NIL Nilore 67.29 301 P P 04 01 50.5 -0.8
MLY Manley 67.43 25 P P 04 01 51.6 -0.1
baz=252
MLY Manley 67.43 25 P P 04 01 50.9 -0.8
KNK Knik Glacier 67.43 29 P P 04 01 51.1 -0.6
baz=256
SML Sawmill 67.58 28 P P 04 01 52.1 -0.6
baz=256
SML Sawmill 67.58 28 P P 04 01 52.3 -0.4
SML IAmb IAmb 04 01 53.2
comp=Z,8.3nm,1.0s
WAT1 Susitna Watana 67.74 27 P P 04 01 53.1 -0.6
baz=255
NEA2 Nenana 67.98 25 P P 04 01 54.8 -0.2
baz=254
I23K Minto, Yukon-K 68.02 25 P P 04 01 55.4 +0.2
baz=254
WAT6 Susitna Watana 68.04 27 P P 04 01 55.0 -0.7
baz=256
H23K Yukon River 68.14 24 P P 04 01 56.1 0.0
baz=253
COLD Coldfoot 68.31 22 P P 04 01 57.2 +0.1
baz=252
COLD Coldfoot 68.31 22 P P 04 01 56.5 -0.6
MDM Murphy Dome 68.43 25 P P 04 01 56.9 -1.0
H24K Noodor Dome 68.80 24 P P 04 02 00.5 +0.3
baz=255
HDA Harding Lake 68.82 26 P P 04 02 00.2 -0.2
baz=256
ILAR Eielson Array 68.94 25 P P 04 01 58.7 -2.3
comp=Z,2.3nm,0.5s,baz=250,slow=5.8,SNR=34
ILAR pP pP 04 02 22.9 -1.8
comp=Z,1.4nm,0.7s,baz=241,slow=4.5,SNR=3.0
ILAR Eielson Array 68.94 25 P P 04 01 59.3 -1.7
TOLK Toolik Lake Re 68.97 21 P P 04 02 01.5 +0.2
baz=252
PAX Paxson 69.14 27 P P 04 02 02.5 0.0
baz=258
PAX Paxson 69.14 27 P P 04 02 02.0 -0.4
KK31 Karatay Array 69.43 311 P P 04 02 03.9 -0.6
KKAR Karatay Array 69.43 311 P P 04 02 02.7 -1.8
KKAR Karatay Array 69.43 311 P P 04 02 03.9 -0.6
KKAR IAmb IAmb 04 02 04.9
comp=Z,2.7nm,0.8s
RIDG Independent Ri 69.58 27 P P 04 02 04.7 -0.4
baz=258
BVAR Borovoye Array 69.97 322 P P 04 02 06.1 -1.5
comp=Z,3.1nm,0.6s,baz=179,slow=12,SNR=8.9
MCARA McCarthy VSAT 69.98 29 P P 04 02 07.7 +0.2
baz=261
SCRK Sand Creek 70.00 26 P P 04 02 06.9 -0.8
baz=259
L26K Log Cabin Wild 70.11 27 P P 04 02 08.3 0.0
baz=260
BMAR Burnt Mountain 70.46 23 P P 04 02 11.4 +1.0
L27K Beaver Creek, 70.80 28 P P 04 02 12.7 +0.2
baz=261
K27K Chicken 70.84 27 P P 04 02 13.1 +0.5
baz=261
HYT Haines Junctio 72.58 30 P P 04 02 23.8 +0.5
EPYK Eagle Plains 73.37 24 P P 04 02 28.2 +0.4
baz=265
EPYK Eagle Plains 73.37 24 P P 04 02 28.5 +0.8
WHY Whitehorse 73.86 30 P P 04 02 30.7 -0.2
baz=268
INK Inuvik 74.73 22 P P 04 02 35.2 -0.4
comp=Z,2.6nm,0.7s,baz=280,slow=5.9,SNR=6.7
INK Inuvik 74.73 22 P P 04 02 35.1 -0.4
baz=268
INK Inuvik 74.73 22 P P 04 02 35.5 0.0
HRA Herat 76.36 302 P P 04 02 45.3 -0.6
HRA IAmb IAmb 04 02 46.3
comp=Z,7.3nm,0.8s
DLBC Dease Lake 76.37 33 P P 04 02 46.1 +0.8
comp=Z,2.4nm,0.8s,baz=270,slow=11,SNR=4.0
DLBC Dease Lake 76.37 33 P P 04 02 46.0 +0.8
ABKAR Abkulak array 76.56 318 P P 04 02 45.1 -1.4
ABKAR Abkulak array 76.56 318 P P 04 02 45.2 -1.2
ABKAR IAmb IAmb 04 02 49.0
comp=Z,2.9nm,0.6s
NLWA Neilton Lookou 81.37 43 P P 04 03 12.8 0.0
NLWA IAmb IAmb 04 03 15.1
comp=Z,11nm,0.7s
D03D Eldon 81.87 43 P P 04 03 16.1 +0.8
baz=281
I02D Swisshome 81.98 47 P P 04 03 16.9 +0.8
baz=281
K02D Willamette Mer 82.38 48 P P 04 03 18.1 -0.1
baz=281
B05A Bryant 82.38 42 P P 04 03 18.4 +0.3
baz=281
E04D Cinebar 82.40 44 P P 04 03 18.5 +0.3
baz=281
I03D Drain, OR 82.41 47 P P 04 03 18.9 +0.6
baz=281
BUCK Buck Mountain 82.57 46 P P 04 03 19.9 +0.6
H04D Lebanon 82.69 46 P P 04 03 19.5 -0.2
baz=281
HUMO Hull Mountain 82.91 48 P P 04 03 21.8 +0.8
HUMO IAmb IAmb 04 03 23.2
comp=Z,8.8nm,0.8s
H04A Detroit Lake 83.04 46 P P 04 03 21.4 -0.2
H04A IAmb IAmb 04 03 23.0
comp=Z,11nm,0.7s
I04A Tendick Farm, 83.06 47 P P 04 03 21.7 -0.1
baz=282
M02C Callahan 83.23 49 P P 04 03 23.1 +0.4
baz=282,SNR=5.2
YKA Yellowknife Ar 83.23 27 P P 04 03 21.3 -0.8
comp=Z,3.4nm,0.8s,baz=286,slow=5.0,SNR=18
YKA Yellowknife Ar 83.23 27 P P 04 03 21.1 -1.1
YBH Yreka Blue Hor 83.26 49 P P 04 03 24.1 +1.2
comp=Z,13nm,0.7s,baz=313,slow=2.5,SNR=25
YBH Yreka Blue Hor 83.26 49 P P 04 03 23.4 +0.5
YBH IAmb IAmb 04 03 25.1
comp=Z,16nm,0.8s
CASY Casey 83.28 193 P P 04 03 22.2 +0.1
CASY IAmb IAmb 04 03 23.5
comp=Z,21nm,1.2s
F05D White Salmon 83.29 45 P P 04 03 22.6 -0.2
baz=282
J04D Umpqua Nationa 83.39 47 P P 04 03 23.9 +0.3
baz=282
N02D Trinity Center 83.42 50 P P 04 03 24.3 +0.6
baz=282
L04D Klamath Falls 83.46 48 P P 04 03 24.2 +0.2
baz=282,SNR=5.7
O02D Mt. Diablo Mer 83.52 50 P P 04 03 24.9 +0.7
baz=282
G05D Wamic, OR 83.53 45 P P 04 03 24.4 +0.3
baz=282
LTY Liberty 83.53 43 P P 04 03 24.9 +0.7
LTY IAmb IAmb 04 03 25.4
comp=Z,6.3nm,0.8s
WDC Whiskeytown Da 83.62 50 P P 04 03 24.9 +0.2
WDC IAmb IAmb 04 03 30.4
comp=Z,7.0nm,0.8s
K04D Chiloquin, OR 83.77 48 P P 04 03 26.2 +0.7
baz=282
M04C Macdoel 83.89 49 P P 04 03 26.7 +0.5
baz=282,SNR=6.6
J05D Fort Rock, OR 84.00 47 P P 04 03 27.5 +0.8
baz=282
PINE Pine Mountain 84.10 47 P P 04 03 27.7 +0.4
B08A Colville Reser 84.17 42 P P 04 03 27.5 +0.2
B08A IAmb IAmb 04 03 28.5
comp=Z,13nm,0.7s
E07A Sunnyside 84.23 44 P P 04 03 28.5 +0.8
E07A IAmb IAmb 04 03 29.4
comp=Z,12nm,0.7s
O03E Paynes Creek 84.23 50 P P 04 03 28.0 +0.1
baz=282,SNR=6.1
K05A Summer Lake 84.37 48 P P 04 03 29.1 +0.4
K05A IAmb IAmb 04 03 30.7
comp=Z,16nm,0.7s
HAWA Hanford 84.49 44 P P 04 03 28.9 0.0
HAWA IAmb IAmb 04 03 30.6
comp=Z,9.3nm,0.7s
ORV Oroville 84.62 51 P P 04 03 29.5 -0.2
D08A Wollman Farm, 84.74 43 P P 04 03 30.2 +0.1
D08A IAmb IAmb 04 03 31.7
comp=Z,16nm,1.3s
MOD Modoc Plateau 84.98 48 IAmb IAmb 04 03 33.3
comp=Z,8.2nm,0.7s
C09A Chrisman Ranch 84.99 42 P P 04 03 31.9 +0.5
C09A IAmb IAmb 04 03 32.8
comp=Z,12nm,1.1s
E09A Wood Farm, Sta 85.39 43 IAmb IAmb 04 03 36.1
comp=Z,9.3nm,0.7s
NEW Newport 85.62 42 P P 04 03 35.0 +0.4
comp=Z,19nm,0.8s,baz=262,slow=4.1,SNR=35
NEW Newport 85.62 42 P P 04 03 34.6 0.0
baz=285
CMB Columbia Colle 85.81 52 IAmb IAmb 04 03 37.5
comp=Z,7.0nm,0.8s
J08A Circle Bar Ran 85.95 47 IAmb IAmb 04 03 38.2
comp=Z,10nm,0.9s
WVOR Wild Horse Val 86.06 47 IAmb IAmb 04 03 38.7
comp=Z,8.7nm,0.8s
VCNR Virginia City 86.08 51 IAmb IAmb 04 03 40.1
comp=Z,7.1nm,0.8s
F10A Beach Ranch, E 86.14 44 IAmb IAmb 04 03 38.7
comp=Z,7.3nm,1.0s
PNTR Pine Nut 86.17 51 IAmb IAmb 04 03 39.8
comp=Z,12nm,0.9s
PAHR Pah Rah Range 86.18 50 IAmb IAmb 04 03 39.4
comp=Z,7.9nm,0.9s
WAKR Walker 86.43 51 IAmb IAmb 04 03 40.6
comp=Z,6.2nm,1.0s
YERR Yerington 86.46 51 IAmb IAmb 04 03 41.0
comp=Z,7.6nm,0.9s
EDM Edmonton 86.54 36 IAmb IAmb 04 03 39.6
comp=Z,10nm,0.8s
SMMC Simmler 86.76 55 P P 04 03 41.0 +0.5
baz=284
PKM Mcpherson Peak 87.01 55 P P 04 03 42.1 +0.2
baz=284
RYN Ryan 87.09 51 IAmb IAmb 04 03 44.2
comp=Z,5.9nm,0.8s
KVN Kaiserville 87.31 51 IAmb IAmb 04 03 45.1
comp=Z,9.0nm,0.7s
NVAR Mina Array Bea 87.31 51 P P 04 03 44.0 +0.7
comp=Z,6.3nm,0.6s,baz=264,slow=6.1,SNR=61
NVAR pP pP 04 04 07.3 -0.5
comp=Z,7.3nm,1.1s,baz=264,slow=6.9,SNR=2.3
VES Vestal, Richgr 87.36 54 P P 04 03 42.9 -0.3
baz=284
NV11 Mina Array Sit 87.42 51 IAmb IAmb 04 03 45.8
comp=Z,8.5nm,0.9s
WALA Waterton Lakes 87.44 40 IAmb IAmb 04 03 45.0
comp=Z,7.0nm,0.8s
SNCC San Nicolas Is 87.64 57 P P 04 03 44.2 -0.5
baz=284

ARVC	Arvin	87.73	55	P	P	04 03 44.8	-0.3
	baz=285						
ISA	Isabella, Lake	87.88	54	P	P	04 03 45.6	-0.2
	baz=285						
CWC	Cottonwood Cre	87.99	53	P	P	04 03 46.1	-0.4
	baz=285						
MSO	Missoula	88.09	42	P	P	04 03 47.1	+0.4
	baz=287						
DECC	Green Verdugo	88.35	55	P	P	04 03 48.4	+0.4
	baz=285						
GRAC	Grapevine Rang	88.40	52	P	P	04 03 48.9	+0.6
	baz=285						
EDW2	Edwards Air Fo	88.46	55	P	P	04 03 49.2	+0.6
	baz=285						
LRMC	Laurel Mtn Rad	88.55	54	P	P	04 03 49.7	+0.6
	baz=285,SNR=11						
HLID	Hailey	88.74	46	P	P	04 03 50.4	+0.5
	baz=287						
HLID	Hailey	88.74	46	IAmb	IAmb	04 03 51.8	
	comp=Z,11nm,0.8s						
FURC	Furnace Creek,	88.93	53	P	P	04 03 51.5	+0.8
	baz=286,SNR=18						
ELK	Elko	88.97	48	P	P	04 03 52.1	+1.0
	comp=Z,20nm,0.8s,baz=291,slow=5.7,SNR=94						
ELK				pP	pP	04 04 15.5	-0.2
	comp=Z,6.2nm,0.9s,baz=288,slow=2.8,SNR=4.2						
TPNV	Topopah Spring	89.27	52	P	P	04 03 53.0	+0.4
	baz=286,SNR=34						
GSC	Goldstone, Bar	89.29	54	P	P	04 03 53.0	+0.5
	baz=286,SNR=13						
R11A	Troy Canyon, C	89.39	51	P	P	04 03 53.4	+0.3
	baz=286						
MURC	Murrieta	89.44	56	P	P	04 03 53.1	-0.1
	baz=286						
SHOC	Shoshone, Teco	89.54	53	P	P	04 03 54.0	+0.4
	baz=286,SNR=7.0						
109C	Camp Elliot, M	89.70	56	P	P	04 03 54.8	+0.4
	baz=286						
HEC	Hector,Ludlow	89.79	54	P	P	04 03 55.2	+0.3
	baz=286,SNR=7.5						
TUQ	Turquoise Moun	89.94	54	P	P	04 03 56.2	+0.5
	baz=286,SNR=11						
BOZ	Bozeman (W)	90.00	43	P	P	04 03 56.1	+0.4
	baz=289						
PFO	Pinyon Flats O	90.02	56	P	P	04 03 56.5	+0.4
	baz=286						
PFO	Pinyon Flats O	90.02	56	P	P	04 03 56.5	+0.4
PFO				IAmb	IAmb	04 03 58.0	
	comp=Z,10nm,1.2s						
TPFO	Pinon Flats	90.03	56	P	P	04 03 56.4	+0.3
	baz=286						
PRN	Pahroc Range	90.06	52	IAmb	IAmb	04 03 58.5	
	comp=Z,8.4nm,1.0s						
BAR	Barrett	90.11	56	IAmb	IAmb	04 03 57.7	
	comp=Z,11nm,0.9s						
SPR3	Spring Creek 3	90.14	50	IAmb	IAmb	04 03 59.0	
	comp=Z,8.6nm,1.1s						
SHPR	Sheep Range	90.24	52	IAmb	IAmb	04 03 59.4	
	comp=Z,9.3nm,0.7s						
MONP2	Monument Peak	90.25	56	P	P	04 03 57.9	+0.7
	baz=286,SNR=7.9						
BELC	Belle Mtn. Jos	90.29	55	P	P	04 03 57.5	+0.2
	baz=286,SNR=6.8						
GMRC	Granite Mounta	90.33	54	P	P	04 03 58.0	+0.5
	baz=286,SNR=14						
EGMT	Eagleton	90.39	40	P	P	04 03 58.1	+0.7
	baz=290						
IKP	In-Ko-Pah, Jac	90.57	56	P	P	04 03 58.8	+0.2
	baz=286						
PSUT	Pine Spring	90.64	50	IAmb	IAmb	04 04 02.0	
	comp=Z,6.5nm,0.7s						
SWSC	Sam W. Stewart	90.74	56	P	P	04 03 59.0	-0.2
	baz=286						
YMR	Madison River	90.75	44	IAmb	IAmb	04 04 01.9	
	comp=Z,9.9nm,0.9s						
YHH	Holmes Hill	90.79	44	IAmb	IAmb	04 04 02.0	
	comp=Z,4.3nm,1.0s						
SPUT	South Promonto	90.81	47	IAmb	IAmb	04 04 00.9	
	comp=Z,5.1nm,0.8s						
DUG	Dugway, Tooele	90.89	48	P	P	04 04 00.1	+0.1
	baz=288						
DUG	Dugway, Tooele	90.89	48	IAmb	IAmb	04 04 01.7	
	comp=Z,5.9nm,0.8s						
IRM	Iron Mountain	90.92	55	P	P	04 04 00.6	+0.5
	baz=287,SNR=9.1						
YNR	Norris Junctio	90.92	44	IAmb	IAmb	04 04 03.3	
	comp=Z,11nm,0.9s						
IMW	Indian Meadow	91.02	44	IAmb	IAmb	04 04 02.8	
	comp=Z,6.9nm,0.7s						
H17A	Grant Village	91.10	44	P	P	04 04 03.1	+2.1
	baz=290						
H17A	Grant Village	91.10	44	IAmb	IAmb	04 04 04.6	
	comp=Z,7.1nm,0.8s						
TPAW	Teton Pass	91.15	45	IAmb	IAmb	04 04 03.2	
	comp=Z,3.3nm,0.6s						
NEE2	Needles Airpor	91.16	54	P	P	04 04 01.7	+0.6
	baz=287						
VNDA	Vanda	91.21	176	P	P	04 04 01.1	+0.8
	comp=Z,6.0nm,1.0s,baz=316,slow=5.1,SNR=23						
VNDA	Vanda	91.21	176	P	P	04 04 01.1	+0.8
VNDA				IAmb	IAmb	04 04 02.3	
	comp=Z,9.5nm,1.1s						
FINES	FINESS Array B	91.30	335	P	P	04 03 59.9	-1.3
	comp=Z,2.2nm,0.5s,baz=69,slow=4.9,SNR=26						
FINES	FINESS Array B	91.30	335	P	P	04 04 00.1	-1.0
HWUT	Hardware Ranch	91.34	47	IAmb	IAmb	04 04 03.6	
	comp=Z,8.1nm,0.8s						
GLA	Glamis	91.49	56	P	P	04 04 03.2	+0.4
	baz=287,SNR=8.4						
SZCU	Shurtz Canyon	91.50	51	IAmb	IAmb	04 04 04.5	
	comp=Z,3.8nm,0.8s						
LCMT	Little Creek M	91.56	52	IAmb	IAmb	04 04 05.3	
	comp=Z,4.4nm,0.8s						
W13A	Hualapai Mount	91.64	53	IAmb	IAmb	04 04 05.8	
	comp=Z,4.8nm,0.8s						
PDMCI	Parker Dam,Lak	91.67	54	P	P	04 04 04.2	+0.7
	baz=287,SNR=5.3						
RLMT	Red Lodge	91.73	43	P	P	04 04 04.6	+0.7
	baz=291						
RLMT	Red Lodge	91.73	43	IAmb	IAmb	04 04 06.1	
	comp=Z,7.6nm,1.0s						
JLU	Jordanelle	91.75	48	IAmb	IAmb	04 04 05.6	
	comp=Z,5.9nm,0.7s						
SBA	Scott Base	91.87	175	P	P	04 04 05.0	+1.7
MTPU	Mount Pierson	92.04	50	IAmb	IAmb	04 04 07.8	
	comp=Z,2.4nm,0.8s						
BW06	Boulder Array	92.36	45	P	P	04 04 06.6	-0.2
	baz=290						
PDAR	Pinedale Array	92.36	45	P	P	04 04 06.3	-0.5
	comp=Z,1.4nm,0.6s,baz=236,slow=2.3,SNR=22						
113A	Mohawk Valley,	92.43	56	IAmb	IAmb	04 04 09.1	
	comp=Z,6.0nm,0.9s						
U15A	North Rim	92.47	52	IAmb	IAmb	04 04 09.7	
	comp=Z,5.1nm,0.8s						
SRU	San Rafael Swe	92.92	49	IAmb	IAmb	04 04 10.7	
	comp=Z,5.1nm,0.8s						
LAO	LASA Array	93.12	41	P	P	04 04 10.0	0.0
	baz=293						
214A	Organ Pipe Nat	93.44	56	P	P	04 04 12.3	+0.4
	baz=288,SNR=5.5						
WUAZ	Wupatki	93.46	52	P	P	04 04 12.6	+0.7
	baz=289						
WUAZ	Wupatki	93.46	52	IAmb	IAmb	04 04 14.3	
	comp=Z,7.7nm,0.8s						
O20A	White River Ci	94.22	47	P	P	04 04 15.1	-0.3
	baz=291						
PV05	Paradox Valley	94.32	49	IAmb	IAmb	04 04 17.2	
	comp=Z,2.7nm,0.7s						
PV04	Paradox Valley	94.35	49	IAmb	IAmb	04 04 17.4	
	comp=Z,7.1nm,0.9s						
PV17	East Wray Mesa	94.35	49	IAmb	IAmb	04 04 17.2	
	comp=Z,6.6nm,0.8s						
PV22	Blue Mesa, Par	94.39	49	IAmb	IAmb	04 04 18.5	
	comp=Z,5.2nm,1.4s						
PV18	Skein Mesa, Pa	94.40	49	IAmb	IAmb	04 04 17.3	
	comp=Z,5.6nm,0.7s						
PV03	Paradox Valley	94.44	49	IAmb	IAmb	04 04 17.5	
	comp=Z,4.7nm,0.8s						
K22A	Casper	94.48	44	P	P	04 04 16.5	0.0
	baz=293						
PV13	Radium Mtn., P	94.50	49	IAmb	IAmb	04 04 17.8	
	comp=Z,4.8nm,0.8s						
PV02	Paradox Valley	94.54	49	IAmb	IAmb	04 04 18.1	
	comp=Z,5.8nm,0.7s						
TUC	Tucson	94.96	55	P	P	04 04 19.4	+0.6
	baz=289						
TUC	Tucson	94.96	55	P	P	04 04 18.1	-0.7
TUC				IAmb	IAmb	04 04 20.8	
	comp=Z,2.6nm,0.9s						
MVCO	Mesa Verde	95.07	50	P	P	04 04 19.4	0.0
	baz=291						
N23A	Red Feather La	95.56	46	P	P	04 04 21.5	-0.1
	baz=293						
RSSD	Black Hills	95.56	42	P	P	04 04 20.7	-0.8
	baz=294						
RSSD	Black Hills	95.56	42	P	P	04 04 20.6	-0.9
RSSD				IAmb	IAmb	04 04 21.7	
	comp=Z,3.2nm,0.8s						
S22A	4UR Ranch, Cre	96.11	49	P	P	04 04 24.2	0.0
	baz=292						
ISCO	Idaho Springs	96.21	47	P	P	04 04 24.6	0.0
	baz=293						
SDCO	Great Sand Dun	97.09	49	P	P	04 04 28.1	-0.5
	baz=293						
121A	Cookes Peak, D	97.27	54	P	Pdif	04 04 30.1	+0.6
	baz=291						
ANMO	Albuquerque	97.43	52	P	Pdif	04 04 30.7	+0.5
	baz=292						
ANMO	Albuquerque	97.43	52	P	Pdif	04 04 30.2	0.0
MAW	Mawson	99.06	203		Pdif	04 04 37.1	+0.9
MNTX	Cornudas Mount	99.48	54	P	Pdif	04 04 40.0	+0.9
	baz=292						
TXAR	Lajitas Array	101.74	56	P	Pdif	04 04 50.1	+0.8
	comp=Z,0.5nm,0.8s,baz=273,slow=4.8,SNR=7.1						
TXAR				PKIKP	PKiKP	04 09 12.8	+0.4
	comp=Z,0.4nm,0.6s,baz=54,slow=1.2,SNR=8.0						
TXAR				PKKPbc	PKKPbc	04 20 55.1	-0.5
	comp=Z,0.6nm,0.8s,baz=102,slow=5.3,SNR=7.5						
W39A	Magazine	106.67	47	P	PKiKP	04 09 20.6	-0.5
	baz=300						
U40A	Yellville	106.73	45	P	PKiKP	04 09 20.8	-0.4
	baz=301						
CCM	Cathedral Cave	106.93	43	P	PKiKP	04 09 21.0	-0.5
	baz=303						
MIAR	Mount Ida	107.14	47	P	PKiKP	04 09 21.7	-0.3
	baz=300						
WCI	Wyandotte Cave	110.05	41	P	PKiKP	04 09 27.1	-0.3
	baz=307						
P49A	Miami Univ. Ec	110.23	39	P	PKiKP	04 09 27.3	-0.4
	baz=308						
WVT	Waverly	110.27	43	P	PKiKP	04 09 27.2	-0.7
	baz=305						
ACSO	Alum Creek Sta	110.84	37	P	PKiKP	04 09 28.3	-0.5
	baz=310						
ERPA	Erie	111.29	34	P	PKiKP	04 09 29.2	-0.4
	baz=313						
M53A	WI Miller and	111.37	35	P	PKiKP	04 09 29.0	-0.8
	baz=312						
M54A	Oil Creek Stat	111.88	34	P	PKiKP	04 09 30.2	-0.6
	baz=313						
N54A	Moraine State	112.07	35	P	PKiKP	04 09 31.0	-0.1
	baz=313						
LONY	Lake Ozonia	112.26	29	P	PKiKP	04 09 31.3	-0.1
	baz=318						
H58A	Gabriels	112.61	29	P	PKiKP	04 09 31.5	-0.6
	baz=319						
I58A	Old Forge	112.77	30	P	PKiKP	04 09 32.1	-0.4
	baz=318						
TZTN	Tazewell	112.80	41	P	PKiKP	04 09 32.8	+0.1
	baz=308						
J58A	Remsen	112.86	30	P	PKiKP	04 09 32.2	-0.3
	baz=318						
I59A	Olmsteadville	113.22	29	P	PKiKP	04 09 33.0	-0.2
	baz=319						
BINY	Binghamton	113.35	32	P	PKiKP	04 09 33.2	-0.4
	baz=316						
SSPA	Standing Stone	113.46	34	P	PKiKP	04 09 33.1	-0.7
	baz=314						
I60A	Shoreham	113.46	29	P	PKiKP	04 09 33.1	-0.5
	baz=319						
H61A	Lyndonville	113.56	28	P	PKiKP	04 09 33.8	-0.1
	baz=321						
BRAL	Brewton	113.58	47	P	PKiKP	04 09 33.6	-0.6
	baz=304						
G62A	West of Eustis	113.64	26	P	PKiKP	04 09 33.1	-0.9
	baz=322						
K62A	Royalston	114.86	29	P	PKiKP	04 09 36.2	-0.2
	baz=320						
KMSC	Kings Mountain	115.08	41	P	PKiKP	04 09 36.1	-1.0
	baz=310						
K63A	Chinstable	115.17	29	P	PKiKP	04 09 36.6	-0.3
	baz=321						
HRV	Adam Dziewonsk	115.30	29	P	PKPdf	04 09 37.7	+0.4
	baz=321						
TIGA	Tifton	115.86	45	P	PKiKP	04 09 38.4	-0.2
	baz=306						
SNAA	Sanae	118.46	191	PKPdf	PKPdf	04 09 41.8	-0.7
DWPF	Disney Wildern	119.34	47	P	PKiKP	04 09 45.4	0.0
	baz=307						
ESDC	Sonseca Array	119.70	332	PKP	PKPdf	04 09 45.5	-0.4
	comp=Z,0.5nm,0.7s,baz=29,slow=1.4,SNR=6.5						
VNA2	Neumayer--Watz	119.91	190	PKPdf	PKPdf	04 09 45.0	-0.2
VNA3	Neumayer Olymp	120.01	189	PKPdf	PKPdf	04 09 44.6	-0.8
VNA1	Neumayer--Stat	120.29	190	PKPdf	PKPdf	04 09 45.6	-0.3
BOSA	Boshof	121.89	245	PKP	PKPdf	04 09 50.3	-0.1
	comp=Z,6.9nm,1.0s,baz=217,slow=3.4,SNR=6.0						
SMRC	Santa Marta, M	134.46	60	eP	PKPdf	04 10 14.0	-0.6
DBBC	Dabeiba	134.73	66	eP	PKiKP	04 10 16.8	+0.2
TORD	Torodi Ar. Bea	134.79	304	PKP	PKPdf	04 10 15.8	+0.6
	comp=Z,2.8nm,0.7s,baz=27,slow=2.3,SNR=12						
TORD				SKPbc	SKPbc	04 13 35.7	-1.6
	comp=Z,4.3nm,0.9s,baz=42,slow=2.3,SNR=12						
TORD	Torodi Ar. Bea	134.79	304	PKPdf	PKPdf	04 10 14.4	-0.7
UREC	San Jos de Ur	135.00	65	eP	PKPdf	04 10 14.0	-1.7
CBOC	Ciudad Bolivar	135.41	67	eP	PKPdf	04 10 16.9	+0.2
PLMC	San Jos del P	135.57	69	eP	PKPdf	04 10 15.9	-0.9
ZARC	Zaragoza, Cauc	135.71	64	eP	PKPdf	04 10 15.9	-1.1
BBAC	Balboa, Cauca	135.80	73	eP	PKPdf	04 10 17.6	+0.2
YOTC	Yotoco, Valle	135.88	70	eP	PKPdf	04 10 16.8	-0.6
GCUF	Volcan Galeras	135.99	74	eP	PKPdf	04 10 18.7	+0.6
URIC	Uribia, Colomb	136.02	57	eP	PKPdf	04 10 10.2	-7.3
POPC	Popayan, Colom	136.14	72	eP	PKPdf	04 10 06.3	-12
GUY2C	Guyana, Caldas	136.26	68	eP	PKPdf	04 10 16.8	-1.7
NORC	Norcasia	136.56	67	eP	PKPdf	04 10 15.9	-2.7
TOLC	Tolima	136.57	68	eP	PKPdf	04 10 19.7	+0.7
MARP	Paez Belalcaza	136.69	71	eP	PKPdf	04 10 19.7	+0.6
OCAC	Ocana	136.70	62	eP	PKPdf	04 10 19.7	+0.7
BRRC	Barranca, Sant	136.89	64	eP	PKPdf	04 10 19.3	+0.2
ORTC	Ortega, Tolima	136.92	69	eP	PKPdf	04 10 17.8	-1.5
VILC	Villavicencio,	138.24	68	eP	PKPdf	04 10 20.6	-1.2
PTLC	Puerto Leguiza	138.74	74	eP	PKPdf	04 10 21.6	-1.0
MACC	Macarena, Meta	138.90	71	eP	PKPdf	04 10 21.6	-1.3
PLCA	Paso Flores	138.91	138	PKP	PKiKP	04 10 23.6	-0.8
	comp=Z,5.9nm,0.6s,baz=238,slow=1.7,SNR=15						
PLCA				SKPbc	SKPbc	04 13 49.1	+0.2
	comp=Z,2.5nm,1.0s,baz=234,slow=2.5,SNR=3.3						
ELOV	Elorza	140.60	61	eP	PKPdf	04 10 24.5	-1.5
KIC	Kosan Boka	143.81	301	ePKP1	PKPbc	04 10 29.8	+0.3
	comp=Z,17nm,0.6s						
TIC	Toumodi	143.88	301	ePKP1	PKPbc	04 10 29.9	+0.2
LIC	Lamto	144.12	301	ePKP1	PKPab	04 10 29.0	-0.9
	comp=Z,46nm,0.5s						
TBTG	Tabatinga, AM	144.77	78	eP	PKPab	04 10 32.1	-0.3
LPAZ	La Paz	148.25	99	PKP	PKPdf	04 10 40.9	+1.1
	comp=Z,52nm,0.8s,baz=132,slow=1.1,SNR=90						
LPAZ				PKPbc	PKiKP	04 10 44.5	-0.4
	comp=Z,52nm,0.8s,baz=336,slow=2.6,SNR=58						
LPAZ	La Paz	148.25	99	eP	PKiKP	04 10 44.5	-0.4
CPUP	Villa Florida	155.70	126	PKP	PKPdf	04 10 51.2	+1.3
	comp=Z,1.3nm,0.7s,baz=134,slow=3.0,SNR=4.5						
CPUP				PKPab	PKPab	04 11 17.8	+1.1
	comp=Z,3.3nm,0.8s,baz=245,slow=6.7,SNR=6.7						
BDFB	Brasilia	167.58	102	PKP	PKPdf	04 11 03.4	+0.8
	comp=Z,3.3nm,0.8s,baz=235,slow=0.7,SNR=5.9						
BDFB				PKPab	PKPab	04 12 09.9	+0.8
	comp=Z,4.0nm,0.9s,baz=121,slow=2.7,SNR=4.5						

*VAO **29** 03:52:47.4±0.3,21°.88S×68°.72W,h143km,mb4.0*
*GUC **29** 03:52:47.9±0.6,21°.70S×68°.59W,h125km±5km,ML3.9*
ISC 29 03:52:47.1±0.7,**21°.72S**±0°.03×**68°.70W**±0°.07,**h134**km±9km,
n48,σ0°82/64,**8C-4D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.91	193	∥eP	Pn	03 53 10.0	+0.1
LVC				eS	Sn	03 53 26.5	-0.9
LVC	Limon Verde	0.91	193	eP	Pn	03 53 10.1	+0.1
LVC				eS	Sn	03 53 26.5	-0.9
PB01	IPOC Station P	1.00	312	⇑∥P	Pn	03 53 10.4	0.0
PB01				i S	Sn	03 53 27.6	-0.4
PB01				IAML		03 53 28.3	
	comp=N,4μm,0.3s						
PB03	IPOC Station P	1.04	251	⇑∥P	Pn	03 53 11.4	+0.6
PB03				i S	Sn	03 53 29.1	+0.3
PB03				IAML		03 53 29.8	
	comp=E,3μm,0.2s						
PB07	IPOC Station P	1.11	269	⇑∥P	Pn	03 53 12.0	+0.5
PB07				i S	Sn	03 53 30.5	+0.4
PB02	IPOC Station P	1.19	289	⇑∥P	Pn	03 53 12.6	+0.4
PB02				i S	Sn	03 53 31.4	+0.1
PB06	IPOC Station P	1.28	219	⇑∥P	Pn	03 53 14.0	+0.8
PB06				i S	Sn	03 53 33.9	+0.8
PB06				IAML		03 53 34.8	
	comp=E,3μm,0.4s						
PB04	IPOC Station P	1.48	245	⇑∥P	Pn	03 53 16.1	+0.7
PB04				i S	Sn	03 53 37.7	+0.7
PB04				IAML		03 53 39.6	
	comp=E,1μm,0.1s						
PB08	IPOC Station P	1.62	345	⇓∥P	Pn	03 53 17.9	+0.7
PB08				i S	Sn	03 53 40.2	0.0
PB08				IAML		03 53 43.1	
	comp=N,773nm,0.3s						
PB15	IPOC Station P	1.65	206	⇑∥P	Pn	03 53 18.2	+0.9
PB15				i S	Sn	03 53 41.9	+1.4
PB05	IPOC Station P	1.80	231	⇑∥P	Pn	03 53 19.6	+0.7
PB05				i S	Sn	03 53 43.5	+0.2
TA01	Diego Aracena	1.80	309	eP	Pn	03 53 19.1	+0.3
TA01				i S	Sn	03 53 42.9	-0.2
PB11	IPOC Station P	2.14	335	⇓∥P	Pn	03 53 23.1	-0.1
PB11				i S	Sn	03 53 50.1	-0.7
PB10	IPOC Station P	2.48	223	eP	Pn	03 53 27.5	+0.3
PB10				eS	Sn	03 53 57.0	-1.1
PB10				IAML		03 53 59.5	
	comp=E,292nm,0.8s						
PSGC	Pisagua	2.50	327	∥iP	Pn	03 53 26.6	-0.9
PSGC				i S	Sn	03 53 57.0	-1.6
PSGC				IAML		03 53 58.8	
	comp=E,472nm,0.3s						
MNMC	Minye Minye	2.71	342	eP	Pn	03 53 30.4	0.0
MNMC				eS	Sn	03 54 03.5	-0.1
MNMC				IAML		03 54 08.5	
	comp=E,989nm,0.3s						
GO02	Mina Guanaco	3.53	193	eP	Pn	03 53 41.1	+0.2
LPAZ	La Paz	5.42	6	eP	Pn	03 54 08.5	+1.9
CPUP	Villa Florida	11.36	116	eP	Pn	03 55 24.5	-0.9
AQDB	Aquidauana	12.19	87	eP	Pn	03 55 36.6	+0.2
SALV	Santo Antonio	13.60	67	eP	Pn	03 55 56.0	+1.4
PP1B	Ponte de Pedra	13.64	75	eP	Pn	03 55 55.6	+0.5
PTGB	Pitanga	15.58	104	eP	Pn	03 56 19.1	-0.4
CPSB	Cacapava Do Su	16.20	125	eP	Pn	03 56 26.8	-0.3
PCMB	Pacaembu	16.21	93	eP	P	03 56 27.8	-0.1
CLDB	Colider	16.40	51	eP	Pn	03 56 30.5	+0.8
ARAG	Araguaiana, MT	17.07	72	eP	P	03 56 37.5	+0.1
ITRB	Iturama	17.27	87	eP	P	03 56 39.7	+0.1
TRQA	Tornquist	17.29	162	eP	P	03 56 37.2	-2.4
FRTB	Fartura	17.75	99	eP	P	03 56 45.0	+0.1
SNDB	Serra Nova Dou	19.25	63	eP	P	03 56 59.9	-1.4
NPGB	Novo Progresso	19.46	43	eP	P	03 57 02.0	-1.5
IPMB	Ipameri, GO	19.62	83	eP	P	03 57 04.7	-0.6
BSCB	Bom Sucesso	22.29	93	eP	P	03 57 33.6	-0.1
DIAM	Diamantina, MG	23.75	86	eP	P	03 57 47.7	+0.3
MC01	Montes Claros	23.89	82	eP	P	03 57 47.7	-0.9
PRPB	Paraiapebas	23.92	53	eP	P	03 57 48.7	-0.2
SMTB	Santa Maria do	24.00	61	eP	P	03 57 49.6	0.0
JANB	Januaria	24.05	78	eP	P	03 57 50.0	-0.1
MALB	Monte Alegre	24.23	37	eP	P	03 57 52.8	+1.1
SDBA	SAO DESIDERIO	24.52	72	eP	P	03 57 54.6	+0.2
CAM01	Campos-RJ	25.10	95	eP	P	03 57 59.6	+0.1
BOAV	Boa Vista	25.26	19	eP	P	03 58 01.7	+0.7
BSFB	Barra de Sao F	26.27	89	eP	P	03 58 10.5	+0.4
RIB01	Linhares ES	26.60	90	eP	P	03 58 12.7	-0.4
MCPB	Macapa, AP	26.72	40	eP	P	03 58 16.2	+2.1
NAN01	Guarapari, ES	27.14	87	eP	P	03 58 19.0	+1.1
GUA01	Guaratinga, BA	27.74	84	eP	P	03 58 23.3	0.0

*IDC **29** 03:59:26.3±1.4, 17°.86S×178°.85W,h538km±15km,*
mb3.4/12,mb1 3.6/13,mb1mx3.3/37,mbtmp4.2/13,Error
ellipse: s-maj=25.5km s-min=11.7km az=145.0
ISC 29 03:59:27.9±0.8,**17°.9S**±0°.2×**178°.9W**±0°.2,**h562**km,**n22**,
σ1♀21/24,**mb3.8**/11,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	2.90	272	P	P	04 00 40.3	-3.1
	16nm,0.3s,baz=104,slow=4.5,SNR=86						
URZ	Urewera	20.62	189	P	P	04 03 26.7	-2.1
	17nm,0.7s,baz=177,slow=4.9,SNR=6.7						
STKA	Stephens Creek	38.23	241	P	P	04 06 02.4	+1.8
	1.6nm,0.4s,baz=103,slow=8.7,SNR=5.9						
WRA	Warramunga Arr	44.17	260	P	P	04 06 47.5	-0.2
	0.5nm,0.4s,baz=95,slow=6.9,SNR=2.9						
ASAR	Alice Springs	44.34	254	P	P	04 06 49.8	+0.7
	1.6nm,0.4s,baz=91,slow=7.9,SNR=15						
ASAR				PcP	PcP	04 08 22.3	+1.5
	0.6nm,0.5s,baz=102,slow=3.9,SNR=4.8						
ASAR				S	S	04 12 44.5	+1.4
	1.3nm,0.9s,baz=91,slow=16,SNR=6.7						
PETK	Petropavlovsk-	73.51	346	P	P	04 10 03.0	-0.6
	1.9nm,0.9s,baz=145,slow=11,SNR=4.6						
KDAK	Kodiak Island	78.47	14	P	P	04 10 31.2	+0.4
	4.9nm,0.9s,baz=240,slow=4.3,SNR=4.1						
NVAR	Mina Array Bea	79.72	44	P	P	04 10 38.6	+0.4
	1.4nm,0.7s,baz=229,slow=9.4,

ZAM	Aeronautique	2.50 283	eP	Pn	04 08 14.9	0.0
BIM	Bigot	2.53 282	eP	Pn	04 08 15.0	-0.3
FDF	Fort de France	2.66 286	eP	Pn	04 08 17.6	+0.6
FDF			eS	Sn	04 08 48.7	-0.6
BAMF	Morne Balai	2.68 288	eP	Pn	04 08 18.8	+1.5
PML	Morne Lenard	2.70 287	eP	Pn	04 08 18.2	+0.7
SVN	Savane Anatole	2.70 288	eP	Pn	04 08 18.4	+0.7
PCM	Pelee Case Pet	2.73 287	eP	Pn	04 08 18.7	+0.6
SVB	Belmont	2.77 255	eP	Pn	04 08 17.8	-0.6
SVB			eS	Sn	04 08 50.7	-1.3
DSLB	Salisbury	3.15 297	eP	Pn	04 08 24.7	+0.9
DSLB			eS	Sn	04 09 01.1	-0.5
MAGL	Barre de l'ile	3.30 306	eP	Pn	04 08 26.7	+0.9
MAGL			eS	Sn	04 09 05.7	+0.6
GRGR	Grenville	3.59 239	eP	Pn	04 08 29.8	0.0
CBE	Ff, Capester	3.62 305	eP	Pn	04 08 31.0	+0.7
CBE			eS	Sn	04 09 13.3	+0.1
ABD	La Joyeuse, An	3.77 311	eP	Pn	04 08 33.5	+1.2
ANBD	Bethesda, Anti	4.35 314	eP	Pn	04 08 40.5	+0.2
ANBD	Bethesda, Anti	4.35 314	eS	Sn	04 09 29.2	-1.9
BPA	Boggy Peak	4.42 313	eP	Pn	04 08 41.8	+0.7
BPA	Boggy Peak	4.42 313	eS	Sn	04 09 29.7	-3.0
ANWB	Willy Bob	4.81 319	eP	Pn	04 08 46.5	-0.1

TAP 29 04:10:25.9, 24.°44N×121.°43E, h9km, ML2.1, 4C-2D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.04	257	⇓P		Pg	04 10 28.4 +0.6
NNSB	baz=256			S		Sg	04 10 29.3 +0.1
NNSH	Datong	0.04	257	i P		Pg	04 10 28.4 +0.6
NNSH	baz=256			i S		Sg	04 10 29.2 +0.1
NNS	Nan Shan	0.05	272	⇓i P		Pg	04 10 28.5 +0.6
NNS	baz=268			i S		Sg	04 10 29.5 +0.2
NDT	Datong Townshi	0.18	25	⇑i P		Pg	04 10 30.8 +1.1
NDT	baz=25			i S		Sg	04 10 34.0 +1.6
YHNB	Yeheng	0.23	349	P		Pg	04 10 32.2 +1.5
YHNB	baz=348			S		Sg	04 10 35.2 +1.2
ETLH	Xiulin Townshi	0.24	168	eP		Pg	04 10 32.2 +1.5
ETLH	baz=167			S		Sg	04 10 35.4 +1.4
ENTT	Nioudou	0.24	32	⇑i P		Pg	04 10 31.9 +1.1
ENTT	baz=33			i S		Sg	04 10 35.2 +1.3
NSK	Sanguang	0.24	345	i P		Pg	04 10 32.2 +1.4
NSK	baz=346			i S		Sg	04 10 35.5 +1.3
FUSS	Fushou	0.25	221	i P		Pb	04 10 32.1 -0.7
FUSS	baz=221			S		Sg	04 10 35.4 +0.9
TWT	Tachien	0.29	231	P		Pb	04 10 33.0 -0.4
TWT	baz=232			S		Sb	04 10 37.6 -0.9
NACB	Ninganchiao	0.30	150	P		Pg	04 10 32.3 +0.4
NACB	baz=149			S		Sb	04 10 37.9 -0.7
TDCB	Techi	0.31	233	⇑P		Pg	04 10 32.8 +0.8
EWUT	Wuta	0.32	89	P		Pg	04 10 32.9 +0.7
EWUT	baz=88			eS		Sb	04 10 38.3 -0.7
NDS	Dongshan	0.33	53	i P		Pb	04 10 33.4 -0.6
WHF	baz=53 Hehuan Shan	0.33	207	⇑i P		Pb	04 10 33.4 -0.7
WHF	baz=205			i S		Sb	04 10 38.7 -1.0
ETL	Fush Village	0.33	147	eS		Sb	04 10 39.1 -0.3
NWLT	baz=147 Wulai	0.34	11	eP		Pb	04 10 34.0 -0.3
NWLT	baz=11			eS		Sb	04 10 38.6 -1.3
TWE	Neicheng	0.36	38	eP		Pb	04 10 33.9 -0.5
TWD	baz=39 Chiawan	0.39	157	P		Pb	04 10 34.9 0.0
TWD	baz=155			S		Sb	04 10 41.2 +0.1
TWC	Suao	0.42	66	i P		Pb	04 10 35.1 -0.3
TWC	baz=66			i S		Sb	04 10 41.7 -0.3
LIOB	Emei	0.43	299	S		Sb	04 10 42.5 +0.3
NJD	baz=299 Zhudong	0.43	314	eP		Pb	04 10 35.1 -0.5
NSTT	baz=313 Nanjuang	0.43	296	P		Pg	04 10 35.0 +0.7
NSTT	baz=296			eS		Sb	04 10 41.9 -0.4
ILA	Ilan	0.44	42	eP		Pb	04 10 35.6 -0.2
ILA	baz=42			eS		Sb	04 10 42.1 -0.4
CHGB	Renai	0.44	212	P		Pg	04 10 35.2 +0.6
CHGB	baz=211			eS		Sb	04 10 42.0 -0.7
WHP	Taichung City	0.47	250	i P		Pb	04 10 35.9 -0.5
WHP	baz=250			S		Sb	04 10 43.1 -0.3
ETM	Tongmen	0.47	173	eP		Pb	04 10 36.2 -0.2
ETM	baz=172			S		Sb	04 10 43.2 -0.3
HWA	Hwalien	0.49	160	eP		Pb	04 10 36.3 -0.3
HSN1	baz=159 Hsinchu	0.50	312	eP		Pb	04 10 37.1 +0.2
HSN1	baz=312			eS		Sb	04 10 44.5 +0.2
NHDH	Xindian Distri	0.53	10	eP		Pb	04 10 37.8 +0.4
NHDH	baz=9.0			eS		Sb	04 10 45.4 +0.2
SBCB	Hsinchu	0.54	311	P		Pb	04 10 37.6 +0.2
BACT	baz=311 New Taipei Cit	0.56	1	eP		Pb	04 10 37.8 -0.1
BACT	baz=1.0			eS		Sb	04 10 45.9 0.0
TWA	Mucha	0.56	15	eP		Pb	04 10 37.4 -0.5
TEYL	baz=15 Yanliau Villag	0.59	165	eP		Pg	04 10 37.6 +0.4
TEYL	baz=163			S		Sb	04 10 46.4 -0.3
TAP	Taipei	0.60	7	eP		Pg	04 10 37.8 +0.2
TAP	baz=7.0			eS		Sb	04 10 47.8 +0.6

TAP 29 04:10:31.2, 24.°79N×121.°98E, h7km, ML2.0, 4C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	Toucheng	0.15	295	⇑eP		Pg	04 10 35.7 +1.3
NTC	baz=294			eS		Sg	04 10 38.5 +1.9
ILA	Ilan	0.22	264	P		Pg	04 10 36.6 +1.1
ILA	baz=262			eS		Sg	04 10 40.5 +2.1
TWB1	Santiao Chiao	0.22	1	i P		Pg	04 10 36.3 +0.8
TWB1	baz=3.0			i S		Sg	04 10 39.2 +0.7
TWC	Suao	0.22	214	P		Pg	04 10 36.1 +0.6
TWC	baz=212			i S		Sg	04 10 40.0 +1.5
TIPB	Shuangxi	0.23	322	⇑i P		Pg	04 10 37.1 +1.3
TIPB	baz=321			i S		Sg	04 10 40.6 +1.6
NDS	Dongshan	0.29	237	P		Pb	04 10 38.2 -0.5
NDS	baz=237			S		Sb	04 10 42.8 -0.9
NDS	Dongshan	0.29	237	i S		Pb	04 10 38.5 -0.1
TWE	baz=53 Neicheng	0.30	257	eS		Sg	04 10 42.1 +1.1
NWF	baz=255 Wu-fen Shan	0.34	327	⇑i P		Pb	04 10 39.3 -0.3
NWF	baz=326			i S		Sb	04 10 44.4 -0.8
WFSB	Wu-fen Shan	0.34	327	⇑P		Pb	04 10 39.1 -0.4
WFSB	baz=326			S		Sb	04 10 44.4 -0.6
EWUT	Wuta	0.39	209	P		Pb	04 10 39.9 -0.5
EWUT	baz=208			S		Sb	04 10 45.6 -1.1
TNOU	National Taiwa	0.41	332	P		Pb	04 10 40.5 -0.2
TNOU	baz=331			eS		Sb	04 10 46.4 -0.7
ENTT	Nioudou	0.41	249	eP		Pb	04 10 40.2 -0.5
ENTT	baz=247			S		Sb	04 10 46.7 -0.5
TWA	Mucha	0.41	298	i P		Pb	04 10 40.5 -0.3
TWA	baz=297			S		Sb	04 10 46.7 -0.5
TWA	Mucha	0.41	298	eS		Sb	04 10 46.7 -0.5
NWLT	baz=15 Wulai	0.44	268	i P		Pb	04 10 41.2 -0.1
NWLT	baz=268			S		Sb	04 10 47.9 -0.1
NHDH	Xindian Distri	0.45	293	eP		Pb	04 10 41.6 +0.1
NHDH	baz=292			eS		Sb	04 10 47.5 -0.8
NHY	Taipei	0.45	303	P		Pb	04 10 41.3 -0.2
NHY	baz=303			eS		Sb	04 10 47.9 -0.4
NDT	Datong Townshi	0.47	247	eS		Sb	04 10 48.6 -0.2
TATO	baz=246 Taipei	0.49	292	eP		Pb	04 10 42.1 0.0
TATO	baz=292			eS		Sb	04 10 49.0 -0.4
YM01	YM01	0.52	313	eP		Pb	04 10 42.9 +0.3
YM01	baz=313			eS		Sb	04 10 49.8 -0.5
YM08	YM08	0.53	318	P		Pb	04 10 42.4 -0.5
YM08	baz=317			S		Sb	04 10 50.6 -0.2
YHNB	Yeheng	0.57	258	eP		Pb	04 10 44.1 +0.7
YHNB	baz=257			eS		Sb	04 10 51.9 +0.1
NSK	Sanguang	0.58	259	P		Pb	04 10 44.3 +0.6
NSK	baz=258			S		Sb	04 10 52.3 +0.1
TWS1	Kuangyinshan	0.60	301	eP		Pb	04 10 44.7 +0.7
TWS1	baz=301			eS		Sb	04 10 53.5 +0.8

IDC 29 04:13:37.8±1.6, 1.°26N×126.°25E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/48, mbtmp3.8/4, Error ellipse: s-maj=144.0km s-min=27.2km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.52	160	P	P	04 18 39.2	-0.1
	0.2nm, 0.4s, baz=336, slow=11, SNR=5.0						
SONM	Songino Array	49.48	342	P	P	04 22 28.4	-1.7
	0.8nm, 0.6s, baz=145, slow=7.1, SNR=4.6						
MKAR	Makanchi Array	59.31	326	P	P	04 23 42.5	+0.9
	0.8nm, 0.4s, baz=118, slow=8.6, SNR=8.4						
KURBB	Kurchatov Arra	63.56	328	P	P	04 24 10.3	+0.1
	2.1nm, 0.8s, baz=126, slow=6.1, SNR=18						

IDC 29 04:24:04.3±3.1, 25.°82N×64.°65E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/54, mbtmp3.8/8, ML4.4/1, MS4.1/2, Ms1 4.1/2, ms1mx3.2/48, Error ellipse: s-maj=74.8km s-min=24.4km az=143.0

OMAN 29 04:24:12.5±0.2, 25.°73N×64.°29E, h33km, mb5.5/16, Error ellipse: s-maj=7.7km s-min=2.9km az=325.0

ISC 29 04:24:09.8±1.2, 25.°82N±0.°10×64.°44E±0.°10, h35km, n27, σ1°59/40, mb3.6/7, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	Jalan Bani Buh	5.88	233	P	Pn	04 25 34.2	-0.3
WSAR	Wadi Sarin	5.88	245	Pn	Pn	04 25 34.5	0.0
WSAR	8.8nm, 0.3s, baz=109, slow=8.8, SNR=41			Sn	Sn	04 26 35.7	-5.1
	2.4nm, 0.3s, baz=160, slow=12, SNR=1.9						
WSAR	Wadi Sarin	5.88	245	P	Pn	04 25 34.5	0.0
WSAR	SNR=6.4			S	Sn	04 26 38.5	-2.3
WBK	Wadi Bani Khal	5.93	239	P	Pn	04 25 35.0	-0.2
WBK	SNR=27			S	Sn	04 26 39.1	-2.9
BIDO	Bidbid	6.18	250	P	Pn	04 25 40.1	+1.4
BIDO	SNR=6.8			S	Sn	04 26 47.8	-0.3
SMDO	Samad	6.44	246	P	Pn	04 25 42.6	+0.3
SMDO				S	Sn	04 26 55.9	+1.2
JMDO	Jabal Madar	6.73	241	P	Pn	04 25 46.8	+0.5
JMDO	SNR=7.1			S	Sn	04 27 02.0	+0.3
HOQ	Hoqain	6.86	253	P	Pn	04 25 47.6	-0.3
HOQ	SNR=8.4			S	Sn	04 27 03.8	-1.0
BSY	Bisya	7.28	247	P	Pn	04 25 55.6	+1.9
BSY	SNR=12			S	Sn	04 27 14.8	-0.5
BANOM	Banah	7.33	273	P	Pn	04 25 54.9	+0.4
BANOM	SNR=23			S	Sn	04 27 17.2	+0.7
SOHO	SOHO	7.37	259	P	Pn	04 25 55.5	+0.6
SOHO				S	Sn	04 27 16.2	-1.1
MDH	Madha	7.37	268	P	Pn	04 25 56.2	+1.2
MASF	Masafi	7.49	268	P	Pn	04 25 57.6	+0.9
MASF				S	Sn	04 27 19.6	-0.8
UOSS	Minazif	7.50	265	P	Pn	04 25 57.4	+0.7
UOSS				S	Sn	04 27 18.2	-2.4
ARQ	Araqi	7.62	253	P	Pn	04 26 01.5	+3.0
ARQ	SNR=14			S	Sn	04 27 23.3	-0.3
MHTO	MHTO	7.65	232	P	Pn	04 26 02.1	+3.3
MHTO				S	Sn	04 27 23.1	-1.1
ASHO	Ashiyiah	7.67	263	P	Pn	04 26 00.3	+1.1
ASHO	SNR=126						
ASUD	Al Ashush, Dub	8.34	264	P	Pn	04 26 08.9	+0.7
UMZA	Um Al Zommool	9.01	252	P	Pn	04 26 19.4	+1.9
AKTO	Aktyubinsk	25.07	350	P	P	04 29 30.4	-0.4
	0.9nm, 0.5s, baz=166, slow=14, SNR=2.8						
MKAR	Makanchi Array	25.28	30	P	P	04 29 31.3	-1.6
	0.5nm, 0.4s, baz=215, slow=9.9, SNR=9.8						
MKAR				LR	LR	04 40 14.4	
	comp=Z, 222nm, 19.8s, baz=293, slow=38						
KURBB	Kurchatov Arra	27.03	20	P	P	04 29 48.3	-0.2
	0.4nm, 0.7s, baz=211, slow=9.2, SNR=2.6						
ZALV	Zalesovo Beam	31.91	23	P	P	04 30 30.6	-1.2
	0.6nm, 0.4s, baz=216, slow=8.0, SNR=2.3						
FINES	FINESS Array B	43.99	335	P	P	04 32 14.0	+0.6
	1.6nm, 0.6s, baz=131, slow=7.8, SNR=8.9						
NOA	NORSAR Array B	50.13	329	P	P	04 33 01.3	-0.2
	0.4nm, 0.6s, baz=110, slow=7.4, SNR=4.1						
JNU	Nakatsue	57.46	66	LR	LR	05 00 04.0	
	comp=Z, 287nm, 21.8s, baz=289, slow=38						
TORD	Torodi Ar. Bea	60.00	271	P	P	04 34 14.8	+1.4
	0.5nm, 0.6s, baz=68, slow=6.1, SNR=2.9						

JMA 29 04:53:49.0±0.1, 36.°33N×141.°05E, h45km±1km, M3.6
JMA Felt I J1.
IDC 29 04:53:50.4±3.5, 36.°30N×141.°17E, h45km±32km, mb3.4/6, mb1 3.5/8, mb1mx3.3/33, mbtmp3.6/8, ML2.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=32.6km s-min=12.8km az=63.0

ISC 29 04:53:48.5±1.3, 36.°36N±0.°03×141.°15E±0.°06, h27km±9km, n30, σ0°85/35, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.45	268	P	Pn	04 53 58.7	-0.5
JHYU				S	Sb	04 54 05.2	+0.8
JHO	Hitachi	0.53	298	P	Pb	04 53 59.6	+0.3
JHO				S	Sb	04 54 07.3	+0.4
JIHU	Itakohorinouch	0.64	232	P	Pb	04 54 01.2	+0.1
JIHU				S	Sb	04 54 10.2	+0.6
CHOJ	Chosi	0.70	200	P	Pb	04 54 01.7	-0.3
CHOJ				S	Sb	04 54 10.6	-0.7
JYT	Yasato	0.78	261	P	Pb	04 54 02.6	-0.8
JYT				S	Sb	04 54 11.9	-1.8
ONAJ	Iwakimizuishiy	0.79	339	P	Pn	04 54 03.6	-0.3
ONAJ				S	Sb	04 54 13.8	-0.3
JSMT	Sammumatsuo	0.91	219	P	Pb	04 54 05.1	-0.6
JSMT				S	Sb	04 54 16.6	-0.8
JFK	Kawauchi	1.03	348	P	Pn	04 54 06.9	-0.3
JFT	Otama	1.32	331	P	Pb	04 54 12.5	-0.2
JFT				S	Sn	04 54 28.7	+0.7
JAG	Ashikaga	1.37	273	P	Pn	04 54 11.1	-0.7
JMM	Marumori	1.53	349	P	Pn	04 54 14.7	+0.7
JMM				eS	Sn	04 54 33.1	+0.1
JFY	Yanaizu	1.56	313	P	Pn	04 54 15.1	+0.7
JKT	Katashina	1.58	285	P	Pn	04 54 15.3	+0.5
JKT				S	Sn	04 54 33.9	-0.5
MJAR	Matsushiro Arr	2.38	275	P	Pn	04 54 25.6	-0.1
	1.4nm, 0.3s, baz=106, slow=6.9, SNR=41						
MJAR				S	Sn	04 54 55.5	+1.6
	1.5nm, 0.3s, baz=94, slow=12, SNR=2.2						
MJAR				LR	LR	04 55 30.4	
	comp=Z, 231nm, 20.3s, baz=135, slow=42						
MAT	Matsushiro	2.38	275	P	Pn	04 54 26.5	+0.8
MAT				S	Sn	04 54 55.7	+1.7
JHJ	Hachijo jima 2	3.42	200	P	Pn	04 54 42.4	+2.3
	7.5nm, 0.3s, baz=49, slow=20, SNR=0.9						
JHJ				S	Sn	04 55 19.4	-0.3
	31nm, 0.3s, baz=254, slow=24, SNR=5.9						
USRK	Ussuriysk Ar.	10.49	321	P	Pn	04 56 22.4	+5.4
	baz=133, slow=14, SNR=9.9						
SONM	Songino Array	27.99	305	P	P	04 59 36.5	-0.5
	0.5nm, 0.5s, baz=88, slow=8.3, SNR=1.8						
H11N2	WAKE ISLAND Hy	28.00	119	T	T	05 28 58.9	
	baz=312, slow=75, SNR=28						
H11N1	WAKE ISLAND Hy	28.00	119	T	T	05 29 02.4	
	baz=312, slow=75, SNR=22						
H11N3	WAKE ISLAND Hy	28.01	119	T	T	05 28 58.5	
	baz=312, slow=75, SNR=25						
H11S1	WAKE ISLAND Hy	28.68	121	T	T	05 29 49.1	
	baz=314, slow=76, SNR=80						
H11S3	WAKE ISLAND Hy	28.68	122	T	T	05 29 48.8	
	baz=314, slow=76, SNR=55						
H11S2	WAKE ISLAND Hy	28.70	122	T	T	05 29 50.5	
	baz=314, slow=76, SNR=46						
ZALV	Zalesovo Beam	42.21	313	P	P	05 01 39.3	+0.4
	0.4nm, 0.3s, baz=99, slow=6.6, SNR=4.2						
MKAR	Makanchi Array	44.30	303	P	P	05 01 56.3	+0.4
	0.6nm, 0.6s, baz=82, slow=9.9, SNR=4.8						
ILAR	Eielson Array	50.18	32	P	P	05 02 41.3	-0.1
	0.2nm, 0.6s, baz=247, slow=6.1, SNR=4.1						
AAK	Ala-Archa	50.62	299	LR	LR	05 24 22.6	
	comp=Z, 70nm, 18.9s, baz=269, slow=36						
WRA	Warramunga Arr	56.37	188	P	P	05 03 26.6	-0.7
	0.2nm, 0.5s, baz=4.8, slow=7.4, SNR=5.7						
AKASG	Malin Array Be	74.70	322	P	P	05 05 25.4	-0.1
	0.7nm, 0.6s, baz=42, slow=6.7, SNR=2.7						

IDC 29 05:23:15.2±1.9, 13.°90S×72.°70W, h80km±39km, mb3.1/2, mb1 3.4/5, mb1mx3.3/27, mbtmp3.6/5, Error ellipse: s-maj=152.8km s-min=14.2km az=24.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.46	295	P	Pn	05 24 20.6	+0.2
	4.4nm, 0.3s, baz=131, slow=14, SNR=13						
NNA				S	Sn	05 25 11.2	0.0
	7.9nm, 0.3s, baz=342, slow=18, SNR=12						
LPAZ	La Paz	5.01	119	P	Pn	05 24 30.0	+1.5
	0.6nm, 0.3s, baz=318, slow=8.6, SNR=24						
SIV	San Ignacio	11.43	102	P	Pn	05 25 54.5	-1.0
	0.4nm, 0.3s, baz=321, slow=9.6, SNR=8.3						
TXAR	Lajitas Array	52.36	325	P	P	05 32 20.8	+1.5
	0.1nm, 0.4s, baz=153, slow=8.1, SNR=2.0						
TORD	Torodi Ar. Bea	78.43	73	P	P	05 35 06.7	-1.2
	0.7nm, 0.9s, baz=259, slow=5.6, SNR=2.4						

TUL 29 05:26:01.3±1.4, 36.°847N±0.°009×97.°84W±0.°02, h1km±5km, ML2.7, mb_Lg2.3/27(NEIC), Error ellipse: s-maj=2.4km s-min=0.9km az=67.0

NEIC 29 05:26:01.1±0.9, 36.°82N±0.°01×97.°87W±0.°02, h4km±4km, Error ellipse: s-maj=2.5km s-min=1.8km az=91.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.03	14		Pg	05 26 02.3	+0.1
KAN17	Caldwell West	0.24	20		Pg	05 26 05.8	0.0
OK032	Salt Plains WL	0.27	267		Pg	05 26 06.3	-0.1
KAN05	Bluff City Nor	0.29	359		Pg	05 26 06.4	-0.3
CROK	Carrier	0.33	196		Pg	05 26 07.9	+0.4
KAN10	Anthony SW Sta	0.35	329		Pg	05 26 07.7	-0.2
KAN13	South Haven SW	0.37	58		Pg	05 26 08.1	-0.1
KAN09	Caldwell North	0.37	32		Pg	05 26 08.0	-0.3
KAN08	Anthony NE Sta	0.41	349		Pg	05 26 08.9	-0.2
KS20	Mayfield South	0.48	32		Pg	05 26 09.9	-0.4
KAN12	Harper NE Stat	0.49	348	Pg	Pg	05 26 10.3	-0.3
KAN12					Sg	05 26 17.5	+0.6
BLOK	Blackwell	0.53	96		Pg	05 26 11.3	0.0
U32A	Winter Ranch,	1.01	245	Pg	Pg	05 26 20.4	-0.2
U32A					Sg	05 26 33.1	-0.5
U32A				IAmb_Lg		05 26 36.9	
	comp=Z, 34nm, 0.7s						
OK029	Liberty Lake	1.07	162		Pg	05 26 21.2	-0.5
OK029					Sb	05 26 36.2	-0.4
T35A	Sooner Cattle	1.09	85		Pg	05 26 21.6	-0.5
QUOK	Quay	1.14	124		Pg	05 26 22.6	-0.4
BCOK	Bluff Creek, N	1.18	170		Pg	05 26 23.0	-0.7
BCOK					Sn	05 26 40.5	-0.4
OK031	S. Brethren Rd	1.20	136		Pg	05 26 23.6	-0.5
OK025	Westminster Rd	1.31	161		Pn	05 26 25.7	-0.4
OKCSW	OKLAHOMA CITY	1.45	166		Sg	05 26 49.0	+1.2
FNO	Franklin	1.60	166	Pn	Pn	05 26 30.3	+0.1
FNO					Sg	05 26 54.0	+1.3
R32A	Long Quarter,	1.73	338		Pn	05 26 32.1	0.0
R32A					Sn	05 26 54.8	+0.1
WMOK	Wichita Mounta	2.21	200		Pn	05 26 38.4	-0.1
X34A	Smith Ranch, M	2.21	179		Pn	05 26 39.9	+1.2
X34A					LR	05 27 12.5	
CBKS	Cedar Bluff	2.48	324	Pn	Pn	05 26 42.6	+0.3
CBKS				IAmb_Lg		05 27 25.9	
	comp=Z, 14nm, 0.8s						
KSU1	Kansas State U	2.48	23		Pn	05 26 41.9	-0.4
KSU1				IAmb_Lg		05 27 21.4	
	comp=Z, 14nm, 0.8s						
U38A	Gravette	2.83	97	Pn	Pn	05 26 48.5	+1.4
X37A	Clayton	3.02	137	Pn	Pn	05 26 51.1	+1.5
X37A				IAmb_Lg		05 27 41.9	
	comp=Z, 10.0nm, 0.7s						
HHAR	Hobbs	3.21	98		Pn	05 26 52.4	+0.1
AMTX	Amarillo	3.65	239	IAmb_Lg		05 28 07.7	

comp=Z,7.5nm,0.7s
W39A Magazine 3.69 115 IAmb_Lg 05 28 02.1
comp=Z,6.6nm,0.8s
U40A Yellville 4.06 95 Pn Pn 05 27 05.5 +1.4
U40A IAmb_Lg 05 28 20.6
comp=Z,6.3nm,0.7s
MIAR Mount Ida 4.17 122 IAmb_Lg 05 28 14.4
comp=Z,5.7nm,0.8s
KSCO Kaye Shedlock' 4.35 302 IAmb_Lg 05 28 25.5
comp=Z,8.6nm,1.0s
P38A Dawn 4.42 49 IAmb_Lg 05 28 21.6
comp=Z,7.4nm,0.8s
MGMO Mountain Grove 4.50 84 IAmb_Lg 05 28 22.9
comp=Z,6.6nm,0.9s
R40A Maddies Statio 4.69 70 IAmb_Lg 05 28 31.9
comp=Z,7.1nm,0.9s
X40A Basin Creek Fa 4.71 118 IAmb_Lg 05 28 29.6
comp=Z,8.5nm,1.2s
T25A Trinidad 5.25 275 IAmb_Lg 05 28 57.5
comp=Z,4.6nm,0.9s
CCM Cathedral Cave 5.41 75 IAmb_Lg 05 28 56.5
comp=Z,5.1nm,0.8s

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*GCG **29** 06:02:54.2±0.3, 12°.87N×92°.84W, h50km, MD4.1*
*MEX **29** 06:03:04.1±1.1, 14°.59N×92°.41W, h87km±13km, MD4.2*
*UCR **29** 06:03:06.7±0.8, 14°.50N×92°.37W, h24km±78km, ML3.9, mb4.2(NEIC)*
*SNET **29** 06:03:06.8±0.7, 14°.50N×92°.37W, h24km±71km, ML4.1*
*NEIC **29** 06:03:06.7±3.0, 14°.60N±0°.06×92°.62W±0°.06, h58km±8km, mb4.2/21, Md4.2/30(MEX), Error ellipse: s-maj=9.6km s-min=8.5km az=206.0*
*IDC **29** 06:03:10.5±4.8, 15°.08N×91°.94W, h105km±61km, mb3.4/5, mb1 3.8/7, mb1mx3.4/34, mbtmp3.8/7, Error ellipse: s-maj=57.5km s-min=33.8km az=41.0*

ISC 29 06:03:06.0±1.0, 14°.59N±0°.06×92°.59W±0°.05, h60km±9km, n79, σ2°.12/83, mb4.0/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.44**	**45**	*i* P	**Pn**	**06 03 16.1**	**-1.3**
THIG				*i* S	**Sn**	**06 03 25.4**	**-0.2**
THIG		**0.44**	**45**		**Pn**	**06 03 16.0**	**-1.3**
THIG					**Sn**	**06 03 25.8**	**+0.1**
HUEH	**Huehuetenango**	**1.27**	**55**	*e*P	**Pn**	**06 03 28.0**	**+0.1**
HUEH				*e*S	**Sn**	**06 03 45.2**	**+1.0**
HUEH	**Huehuetenango**	**1.27**	**55**		**Pn**	**06 03 28.0**	**+0.1**
FUG	**Fuego 3**	**1.70**	**95**	*e*P	**Pn**	**06 03 33.2**	**-0.3**
CCIG	**Comitan**	**1.74**	**14**	*e*P	**Pn**	**06 03 35.0**	**+0.9**
CCIG				*e*S	**Sn**	**06 03 57.4**	**+2.1**
CCIG	**Comitan**	**1.74**	**14**		**Pn**	**06 03 34.6**	**+0.6**
CCIG	**Comitan**	**1.74**	**14**		**Sn**	**06 03 57.4**	**+2.1**
PCG	**Pacaya**	**1.93**	**96**	*e*P	**Pn**	**06 03 37.3**	**+0.6**
PCG				*e*S	**Sn**	**06 04 06.7**	**+6.7**
NBG	**Las Nubes**	**2.17**	**90**	*e*P	**Pn**	**06 03 40.1**	**+0.1**
NBG				*e*S	Sn	06 04 15.8	+10
TGIG		**2.23**	**347**	*e*P	**Pn**	**06 03 39.9**	**-0.8**
TGIG				*e*S	**Sn**	**06 04 06.6**	**-0.7**
TGIG		**2.23**	**347**		**Pn**	**06 03 39.9**	**-0.8**
TGIG					**Sn**	**06 04 06.6**	**-0.7**
SLOZ	**Alcaldia de Sa**	**2.77**	**101**	*e*P	**Pn**	**06 03 46.9**	**-1.1**
SLOZ				*e*S	**Sn**	**06 04 18.3**	**-2.2**
SBLS	**San Blas**	**2.97**	**104**	*e*S	**Sn**	**06 04 23.9**	**-1.6**
SBLS	**San Blas**	**2.97**	**104**	*e*S	**Sn**	**06 04 23.9**	**-1.6**
CEVE	**Cerro Verde**	**2.97**	**104**	*e*P	**Pn**	**06 03 50.4**	**-0.6**
CEVE				*e*S	**Sn**	**06 04 24.1**	**-1.5**
CEVE				IAML		06 04 36.3	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**2.97**	**104**	*e*P	**Pn**	**06 03 50.4**	**-0.6**
CEVE				*e*S	**Sn**	**06 04 24.1**	**-1.5**
CEVE				IAML		06 04 36.3	
	comp=Z,2μm,0.3s						
MTO3	**Montecristo**	**3.13**	**93**	*e*P	**Pn**	**06 03 52.0**	**-1.1**
MTO3	**Montecristo**	**3.13**	**93**	*e*P	**Pn**	**06 03 52.0**	**-1.1**
MTO3	**Montecristo**	**3.13**	**93**	Pn	**Pn**	**06 03 52.3**	**-0.8**
ESQI	**Esquipulas**	**3.14**	**90**	*e*P	**Pn**	**06 03 52.8**	**-0.4**
ESQI	**Esquipulas**	**3.14**	**90**	Pn	**Pn**	**06 03 53.1**	**0.0**
CPRS	**Casa Presidenc**	**3.37**	**105**	*e*S	**Sn**	**06 04 32.8**	**-2.3**
SNET	**Serv Nac Est T**	**3.38**	**105**	*e*S	**Sn**	**06 04 33.4**	**-1.9**
SNET				IAML		06 04 37.9	
	comp=Z,464nm,0.2s						
SNET	**Serv Nac Est T**	**3.38**	**105**	*e*S	**Sn**	**06 04 33.4**	**-1.9**
SNET				IAML		06 04 37.9	
	comp=Z,464nm,0.2s						
SNET	**Serv Nac Est T**	**3.38**	**105**	Pn	**Pn**	**06 03 56.4**	**+0.1**
UDBS	**Universidad Do**	**3.44**	**104**	IAML		06 04 41.4	
	comp=Z,716nm,0.5s						
UDBS	**Universidad Do**	**3.44**	**104**	IAML		06 04 41.4	
	comp=Z,716nm,0.5s						
PETF	**Flores**	**3.49**	**48**	Pn	**Pn**	**06 03 57.5**	**-0.4**
HUIG	**Huatulco**	**3.59**	**289**	*e*P	**Pn**	**06 03 58.0**	**-1.2**
HUIG				*e*S	Sn	06 04 34.7	-5.8
HUIG	**Huatulco**	**3.59**	**289**		**Pn**	**06 03 58.0**	**-1.2**
HUIG					Sn	06 04 34.7	-5.8
SJTE	**Alcalda de S**	**3.61**	**105**	*e*P	**Pn**	**06 03 58.9**	**-0.6**
SJTE	**Alcalda de S**	**3.61**	**105**	*e*P	**Pn**	**06 03 58.9**	**-0.6**
COEB	**Comit de Eme**	**4.08**	**105**	IAML		06 04 58.5	
	comp=Z,269nm,0.4s						
COEB	**Comit de Eme**	**4.08**	**105**	IAML		06 04 58.5	
	comp=Z,269nm,0.4s						
SCIG	**Sabancuy**	**4.55**	**17**	*e*P	**Pn**	**06 04 12.2**	**-0.2**
SCIG				*e*S	**Sn**	**06 04 56.9**	**-7.2**
SCIG	**Sabancuy**	**4.55**	**17**		**Pn**	**06 04 12.2**	**-0.2**
SCIG					**Sn**	**06 04 56.9**	**-7.2**
VHO	**Vista Hermosa**	**4.69**	**302**	*e*P	**Pn**	**06 04 17.7**	**+3.3**
VHO				*e*S	**Sn**	**06 05 08.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**5.18**	**95**	Pn	**Pn**	**06 04 22.0**	**+0.9**
TOIG	**Toxpalan**	**5.53**	**310**	*e*P	Pn	06 04 31.1	+5.2
TOIG				*e*S	**Sn**	**06 05 22.0**	**-6.3**
CRIN	**San Cristobal**	**5.70**	**109**		**Pn**	**06 04 29.6**	**+1.4**
TPIG	**Tehuac#an**	**5.96**	**310**	*i* P	Pn	06 04 23.8	-7.9
TPIG				*i* S	**Sn**	**06 05 41.0**	**+2.2**
TPIG	**Tehuac#an**	**5.96**	**310**		**Sn**	**06 05 41.0**	**+2.2**
HLIG	**Huajuapan de L**	**5.96**	**303**	*e*P	**Pn**	**06 04 31.4**	**-0.4**
HLIG				*e*S	**Sn**	**06 05 40.7**	**+1.8**
CNGN	**Cerro Negro**	**6.09**	**109**		**Pn**	**06 04 34.8**	**+1.3**
ORTG	**Ortega, Santa**	**8.13**	**120**		**Pn**	**06 05 03.5**	**+2.0**
JTS	**Las Juntas de**	**8.59**	**119**	P	**Pn**	**06 05 07.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=20,SNR=1.8						
JTS				S	**Sn**	**06 06 42.1**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=356,slow=18,SNR=2.8						
RIMA	**Rio Macho**	**9.78**	**118**		**Pn**	**06 05 25.4**	**+1.2**
PEZE	**Perez Zeledon,**	**10.14**	**120**	Pn	**Pn**	**06 05 32.2**	**+3.2**
SRBA	**San Rafael, Bu**	**10.48**	**120**	Pn	**Pn**	**06 05 33.4**	**-0.3**
DRK0	**Durika**	**10.56**	**119**		**Pn**	**06 05 36.1**	**+1.3**
SOR	**Soroa**	**12.20**	**47**	Pn	**Pn**	**06 05 55.0**	**-2.0**
TX32	**Lajitas Array**	**17.89**	**327**	P	**Pn**	**06 07 10.7**	**-0.1**
TXAR	**Lajitas Array**	**17.89**	**327**	P	**Pn**	**06 07 11.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=13						
TXAR	**Lajitas Array**	**17.89**	**327**	Pn	**Pn**	**06 07 11.8**	**+1.0**
TX31	**Lajitas Ar. Si**	**17.89**	**327**	P	**Pn**	**06 07 11.4**	**+0.5**
Y45A	**Yeager Farm, C**	**19.39**	**8**	P	**P**	**06 07 27.9**	**+0.9**
Y45A				IAmb	IAmb	06 07 30.0	
	comp=Z,17nm,1.1s						
MIAR	**Mount Ida**	**19.89**	**358**	P	**Pn**	**06 07 34.7**	**+0.2**
MIAR				IAmb	IAmb	06 07 37.1	
	comp=Z,14nm,0.8s						
NHSC	**New Hope**	**21.61**	**29**	P	**P**	**06 07 52.5**	**+1.5**
PBMO	**Poplar Bluff**	**22.18**	**5**	P	**P**	**06 08 01.0**	**+3.9**
PBMO				IAmb	IAmb	06 08 04.5	
	comp=Z,5.0nm,0.8s						
TKL	**Tuckaleechee C**	**22.42**	**19**	P	**P**	**06 07 54.1**	**-5.7**
	comp=Z,3.1nm,0.8s,baz=349,slow=5.2,SNR=3.3						
TKL	**Tuckaleechee C**	**22.42**	**19**	IAmb	IAmb	06 08 06.7	
	comp=Z,8.1nm,1.1s						
Y58A	**Scranton**	**22.51**	**29**	P	**P**	**06 08 02.2**	**+1.5**
T47A	**Sharon Grove**	**22.84**	**11**	IAmb	IAmb	06 08 02.2	
	comp=Z,5.5nm,0.8s						
BNM	**Barren Site**	**23.25**	**329**	P	**P**	**06 08 08.6**	**+0.1**
ANMO	**Albuquerque**	**23.81**	**331**	P	**P**	**06 08 12.1**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=188,slow=13,SNR=4.9						
MVCO	**Mesa Verde**	**26.61**	**331**	P	**P**	**06 08 39.7**	**+0.6**
MVCO				IAmb	IAmb	06 08 56.5	
	comp=Z,5.7nm,0.8s						
PV05	**Paradox Valley**	**27.59**	**331**	IAmb	IAmb	06 09 05.2	
	comp=Z,6.9nm,1.2s						
PV03	**Paradox Valley**	**27.61**	**332**	P	**P**	**06 08 48.3**	**+0.2**
PV12	**Saucer Basin,**	**27.64**	**332**	P	**P**	**06 08 49.4**	**+1.0**
PV12				IAmb	IAmb	06 09 06.0	
	comp=Z,8.4nm,1.2s						
REDW	**Red Top Meadow**	**32.67**	**335**	IAmb	IAmb	06 09 33.1	
	comp=Z,2.8nm,1.0s						
SNOW	**Snow King Moun**	**32.71**	**335**	IAmb	IAmb	06 09 33.6	
	comp=Z,3.9nm,0.8s						
NVAR	**Mina Array Bea**	**32.86**	**321**	P	**P**	**06 09 35.7**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=134,slow=7.9,SNR=7.2						
YMR	**Madison River**	**33.80**	**336**	P	**P**	**06 09 43.5**	**+0.9**
MCCM	**Marconi Confer**	**35.60**	**317**	P	**P**	**06 09 58.2**	**+0.4**
J08A	**Circle Bar Ran**	**36.24**	**327**	IAmb	IAmb	06 10 04.5	
	comp=Z,9.0nm,1.3s						
F10A	**Beach Ranch, E**	**37.52**	**331**	P	**P**	**06 10 13.5**	**-0.8**
YKA	**Yellowknife Ar**	**50.32**	**347**	P	P	06 11 53.5	-3.0
	comp=Z,0.5nm,0.5s,baz=150,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**62.08**	**337**	P	**P**	**06 13 18.4**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=118,slow=4.8,SNR=9.5						

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*DJA **29** 06:03:16.4±2.0, 3°.N±5°.×12°.9E±°, h35km±43km, M4.3/6, mb4.5/4, mB5.6/2, MLv4.2/6, Mw(mB)5.1/2*
*IDC **29** 06:03:21.1±3.0, 2°.95N×128°.85E, h71km±29km, mb3.6/5, mb1 3.8/7, mb1mx3.5/33, mbtmp4.0/7, MS2.7/2, Ms1 2.7/2, ms1mx2.5/33, Error ellipse: s-maj=36.3km s-min=17.8km az=69.0*

ISC 29 06:03:17.1±0.9, 2°.97N±0°.08×128°.56E±0°.08, h35km, n20, σ0°.87/16, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.49**	**209**	P	**Pn**	**06 03 54.8**	**-0.3**
TNTI				S	**Sn**	**06 04 24.8**	**+0.5**
SGSI	**Sangihe**	**3.11**	**283**	P	**Pn**	**06 04 03.5**	**-0.2**
SGSI				S	**Sn**	**06 04 39.2**	**-0.5**
SIJI	**Sorong**	**4.67**	**145**	P	**Pn**	**06 04 27.6**	**+2.4**
	2.6nm,0.3s,baz=126,slow=19,SNR=13						
SIJI				S	**Sn**	**06 05 17.6**	**-0.7**
	1.5nm,0.3s,baz=217,slow=20,SNR=1.9						
SIJI				LR	LR	06 06 12.5	
	comp=Z,83nm,21.6s,baz=202,slow=38						
GTOI	**Gorontalo**	**6.01**	**247**	P	**Pn**	**06 04 44.5**	**+0.9**
	0.1nm10nm,0.7s						
MRSI	**Marisa**	**7.07**	**250**	P	**Pn**	**06 04 57.8**	**-0.3**
	0.3nm1μm87nm,0.5s						
MPSI	**Mapaga**	**9.05**	**253**	P	**Pn**	**06 05 25.0**	**-0.3**
SRPI	**Serui, Papua**	**9.05**	**122**	P	**Pn**	**06 05 24.7**	**-0.7**
	11μm250nm,0.4s						
KAPI	**Kappang**	**11.85**	**228**	P	Pn	06 06 11.9	+8.2
	1.0nm,0.3s,baz=272,slow=2.5,SNR=3.6						
GUMO	**Guam**	**19.26**	**56**	LR	LR	06 14 08.5	
	comp=Z,28nm,20.3s,baz=186,slow=34						
WRA	**Warramunga Arr**	**23.46**	**166**	P	**P**	**06 08 24.1**	**+0.4**
	2.2nm,0.7s,baz=345,slow=10,SNR=25						
ASAR	**Alice Springs**	**26.98**	**169**	P	**P**	**06 08 55.2**	**-0.5**
	0.4nm,0.5s,baz=349,slow=7.5,SNR=5.2						
ASAR				PcP	**PcP**	**06 12 17.4**	**+0.3**
	0.5nm,0.6s,baz=357,slow=2.3,SNR=4.7						
STKA	**Stephens Creek**	**36.80**	**161**	P	**P**	**06 10 21.1**	**-0.6**
	1.1nm,0.4s,baz=351,slow=8.8,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**40.38**	**65**	T	T	06 54 09.4	
	baz=252,slow=75,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**40.39**	**65**	T	T	06 54 09.2	
	baz=252,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**40.39**	**65**	T	T	06 54 10.0	
	baz=252,slow=75,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**40.95**	**63**	T	T	06 54 52.5	
	baz=252,slow=75,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**40.96**	**63**	T	T	06 54 53.9	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**40.96**	**63**	T	T	06 54 53.9	
	baz=252,slow=75,SNR=3.9						
USRK	**Ussuriysk Ar.**	**41.17**	**4**	P	**P**	**06 10 58.7**	**+0.6**
	2.8nm,0.7s,baz=192,slow=7.5,SNR=8.3						
MKAR	**Makanchi Array**	**59.23**	**325**	P	**P**	**06 13 15.1**	**+0.2**
	0.6nm,0.6s,baz=117,slow=8.3,SNR=4.7						

IDC 29 06:30:20.8±2.5, 3°.33S×152°.50E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/30, mbtmp3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/33, Error ellipse: s-maj=132.9km s-min=43.2km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**21.36**	**276**	LR	LR	06 42 44.6	
	comp=Z,74nm,19.0s,baz=115,slow=35						
WRA	**Warramunga Arr**	**24.22**	**226**	P	P	06 35 40.5	+1.0
	1.9nm,0.5s,baz=50,slow=9.9,SNR=31						
WRA				PcP	PcP	06 39 19.1	-1.3
	0.4nm,0.4s,baz=48,slow=2.5,SNR=4.8						
ASAR	**Alice Springs**	**27.05**	**220**	P	P	06 36 05.0	-0.2
	0.3nm,0.4s,baz=54,slow=8.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**149.54**	**290**	PKPbc	PKPbc	06 50 12.8	-0.6
	1.3nm,0.4s,baz=88,slow=2.3,SNR=21						

KRSC 29 06:31:27.6±1.3, 48°.05N×155°.34E, h86km±32km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.83**	**3**	*e*P	Pn	06 32 12.3	+1.5
ALID				*e*S	Sn	06 32 45.7	+1.7
KDTR	**Khodutka, Kamc**	**4.16**	**24**	*e*P	Pn	06 32 30.8	+2.2
KDTR				*e*S	Sn	06 33 18.6	+2.6
GRL	**Gorelyy**	**4.83**	**20**	*e*P	Pn	06 32 41.4	+3.4
SPN	**Mys Shipunski**	**5.87**	**29**	S	Sn	06 34 00.2	+2.5

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*TUL **29** 06:36:35.1±1.0, 36°.33N±0°.01×96°.79W±0°.02, h2km±4km, ML2.5, mb_Lg2.3/34(NEIC), Error ellipse: s-maj=2.2km s-min=1.4km az=222.0*

NEIC 29 06:36:35.3±1.5, 36°.331N±0°.007×96°.79W±0°.02, h11km±4km, Error ellipse: s-maj=2.5km s-min=0.6km az=68.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.17**	**158**		Pg	06 36 39.0	-0.1
QUOK				Sg	Sg	06 36 41.0	-0.7
OK031	**S. Brethren Rd**	**0.38**	**186**		Pg	06 36 42.8	-0.1
BLOK	**Blackwell**	**0.55**	**321**		Pg	06 36 45.9	-0.1
BLOK				Sg	Sg	06 36 53.0	-0.3
T35A	**Sooner Cattle**	**0.62**	**21**		Pg	06 36 47.3	-0.1
T35A				Sg	Sg	06 36 55.5	-0.2
OK029	**Liberty Lake**	**0.76**	**226**		Pg	06 36 49.9	-0.1
OK025	**Westminster Rd**	**0.87**	**211**		Pg	06 36 51.8	-0.3
OK025				Sg	Sb	06 37 04.0	-0.2
KAN13	**South Haven SW**	**0.88**	**321**		Pg	06 36 52.1	-0.1
BCOK	**Bluff Creek, N**	**0.95**	**225**		Pg	06 36 53.1	-0.5
CROK	**Carrier**	**0.98**	**281**	Pg	Pg	06 36 54.0	-0.2
CROK				Sg	Sg	06 37 06.4	-0.5
GC02	**Grant County #**	**1.01**	**301**		Pg	06 36 54.2	-0.5
KAN09	**Caldwell North**	**1.04**	**321**		Pg	06 36 55.1	-0.3
KAN09				Sg	Sb	06 37 09.6	+0.4
KAN17	**Caldwell West**	**1.06**	**313**		Pg	06 36 55.8	0.0
OKCSW	**OKLAHOMA CITY**	**1.06**	**210**	Pg	Pb	06 36 54.3	-1.5
KS20	**Mayfield South**	**1.09**	**326**		Pb	06 36 55.9	-0.3
KAN05	**Bluff City Nor**	**1.17**	**312**		Pb	06 36 57.3	-0.2
FNO	**Franklin**	**1.18**	**205**	Pg	Pb	06 36 57.2	-0.6
OK032	**Salt Plains WL**	**1.24**	**293**	Pn	Pn	06 36 58.5	-0.1
KAN08	**Anthony NE Sta**	**1.30**	**314**	Pn	Pb	06 36 60.0	+0.1
KAN10	**Anthony SW Sta**	**1.31**	**307**	Pn	Pb	06 37 00.1	0.0
U32A	**Winter Ranch,**	**1.79**	**272**	IAmb_Lg		06 37 33.7	
	comp=Z,15nm,0.7s						
X34A	**Smith Ranch, M**	**1.93**	**207**		Pb	06 37 09.6	-0.9
U38A	**Gravette**	**1.94**	**86**		Pb	06 37 09.7	-1.0
U38A					Sb	06 37 35.9	+0.9
X37A	**Clayton**	**2.09**	**146**		Pn	06 37 11.7	+1.4
X37A				IAmb_Lg		06 37 46.0	
	comp=Z,15nm,0.8s						
WMOK	**Wichita Mounta**	**2.27**	**226**	Pn	Pb	06 37 14.6	-1.8
HHAR	**Hobbs**	**2.30**	**90**		Pn	06 37 14.9	+1.7
R32A	**Long Quarter,**	**2.59**	**324**	Pn	Pb	06 37 19.8	-2.0
W39A	**Magazine**	**2.69**	**114**	Pn	Pn	06 37 21.0	+2.4
W39A					Sb	06 37 55.5	-1.1
KSU1	**Kansas State U**	**2.77**	**3**	IAmb_Lg		06 38 07.6	
	comp=Z,10nm,0.8s						
S39A	**Bolivar**	**3.09**	**63**	Pn	Pn	06 37 24.4	+0.4
MIAR	**Mount Ida**	**3.17**	**123**	Pn	Pn	06 37 26.4	+1.2
U40A	**Yellville**	**3.18**	**88**		Pn	06 37 26.6	+1.3
Z38A	**Mt. Pleasant**	**3.40**	**154**	IAmb_Lg		06 38 30.7	
	comp=Z,11nm,0.9s						
CBKS	**Cedar Bluff**	**3.41**	**318**	IAmb_Lg		06 38 27.1	
	comp=Z,8.8nm,0.7s						
X40A	**Basin Creek Fa**	**3.72**	**119**	IAmb_Lg		06 38 40.3	
	comp=Z,11nm,1.0s						
MGMO	**Mountain Grove**	**3.72**	**76**		Pn	06 37 34.2	+1.4
MGMO				IAmb_Lg		06 38 43.1	
	comp=Z,5.5nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.80**	**95**	Pn	Pn	06 37 34.6	+0.8
WHAR	**Wooly Hollow**	**3.80**	**105**	Pn	Pn	06 37 34.5	+0.6
WHAR				IAmb_Lg		06 38 37.2	
	comp=Z,10nm,0.8s						
P38A	**Dawn**	**4.17**	**37**	Pn	Pn	06 37 40.0	+1.1
P38A				IAmb_Lg		06 38 54.3	
	comp=Z,6.2nm,1.0s						
AMTX	**Amarillo**	**4.24**	**252**	IAmb_Lg		06 38 57.4	
	comp=Z,6.4nm,0.7s						
LCAR	**Lake Charles**	**4.56**	**92**	IAmb_Lg		06 38 56.8	
	comp=Z,4.7nm,1.0s						
CCM	**Cathedral Cave**	**4.75**	**67**	Pn	Pn	06 37 47.7	+0.8
CCM				IAmb_Lg		06 39 15.2	
	comp=Z,4.3nm,0.9s						
P40A	**Paris**	**4.92**	**48**	IAmb_Lg		06 39 09.6	
	comp=Z,6.3nm,0.8s						
PBMO	**Poplar Bluff**	**5.14**	**83**	IAmb_Lg		06 39 21.4	
	comp=Z,7.2nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.35**	**302**	IAmb_Lg		06 39 33.8	
	comp=Z,5.2nm,0.7s						
L34A	**Svendsen Farm,**	**5.64**	**3**	IAmb_Lg		06 39 45.6	
	comp=Z,6.9nm,0.7s						
T25A	**Trinidad**	**6.17**	**280**	IAmb_Lg		06 39 55.7	
	comp=Z,6.1nm,1.0s						
S44A	**Carbondale**	**6.18**	**75**	IAmb_Lg		06 39 51.0	
	comp=Z,7.2nm,0.9s						

IDC 29 06:46:23.8±4.0, 4°.18S×150°.91E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/34, mbtmp3.3/2, Error ellipse: s-maj=150.7km s-min=52.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**225**	P	P	06 51 25.5	+0.4
	0.7nm,0.5s,baz=50,slow=10,SNR=18						
ASAR	**Alice Springs**	**25.39**	**219**	P	P	06 51 52.4	-0.7
	0.6nm,0.9s,baz=55,slow=8.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**148.32**	**288**	PKPbc	PKPbc	07 06 12.9	-0.3
	0.2nm,0.3s,baz=103,slow=2.5,SNR=1.6						

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*NNC **29** 06:53:39.7±1.9, 54°.44N×87°.19E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=19.6km s-min=11.1km az=176.0, Suspected Mining explosion.*

IDC 29 06:53:41.7±2.9, 54°.43N×87°.01E, h0km, mb1 3.0/2, mb1mx2.9/39, mbtmp3.0/2, ML2.6/2, 5C-3D, Error ellipse: s-maj=23.2km s-min=17.2km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**250**	*i*		07 02 00.0	
	baz=69,slow=317,SNR=2.1						
ZAA0	**Zalesovo Array**	**1.38**	**250**	⇑P	Pg	06 54 06.6	-1.4
	0.7nm,0.8s						
ZAA0				⇓S	Sn	06 54 27.3	+0.3
	7.6nm,0.8s						
ZALV	**Zalesovo Beam**	**1.38**	**250**	Pg	Pg	06 54 05.8	-2.2
	1.4nm,0.3s,baz=68,slow=17,SNR=8.9						
ZALV				Lg	Lg	06 54 26.1	
	1.3nm,0.3s,baz=72,slow=26,SNR=9.2						
KURBB	**Kurchatov Arra**	**6.43**	**237**	Pn	Pn	06 55 17.8	+0.3
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Sn	Sn	06 56 30.6	-0.8
	0.0nm,0.3s,baz=52,slow=22,SNR=4.0						
KURBB				Lg	Lg	06 57 06.7	
	0.0nm,0.3s,baz=56,slow=27,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.43**	**237**	⇓Pn	Pn	06 55 17.3	-0.2
	1.8nm,0.7s						
KURBB				⇑Sn	Sn	06 56 31.2	-0.3
	3.8nm,0.6s						
KURBB				⇓Lg	Lg	06 57 06.3	
	9.8nm,1.1s						
MK31	**Makanchi Array**	**8.21**	**203**	⇑Pn	Pn	06 55 42.2	+0.1
	0.9nm,0.8s,baz=24,slow=15,SNR=5.3						
MK31				⇑Sn	Sn	06 57 15.9	+0.4
	1.5nm,0.8s						
MK31				⇑Lg	Lg	06 58 00.3	
	2.5nm,0.8s,baz=19,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**8.21**	**203**	Pn	Pn	06 55 43.9	+1.9
	0.1nm,0.3s,baz=21,slow=14,SNR=4.4						
MKAR				Sn	Sn	06 57 15.6	+0.1
	0.1nm,0.3s,baz=32,slow=27,SNR=3.8						
MKAR				Lg	Lg	06 58 00.1	
	0.1nm,0.3s,baz=32,slow=30,SNR=5.1						

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*IDC **29** 06:53:56.5±0.9, 8°.47N×77°.09W, h0km, mb3.6/7, mb1 4.0/12, mb1mx3.9/31, mbtmp3.9/12, ML3.7/5, MS3.1/4, Ms1 3.1/4, ms

GUY2C	**Guyana, Caldas**	**3.53 147**	*eP*		**Pn**	**06 54 53.9**	**+1.1**
GUY2C			*eS*		**Sn**	**06 55 34.5**	**+0.3**
GUY2C			*i*			06 55 47.9	
	comp=Z,79nm,0.6s						
NORC	**Norcasia**	**3.56 137**	*eP*		**Pn**	**06 54 54.5**	**+1.5**
NORC			*eS*		**Sn**	**06 55 35.2**	**+0.7**
NORC			*i*			06 55 48.4	
	comp=Z,73nm,0.5s						
BRRC	**Barranca, Sant**	**3.71 107**	⇑*iP*		**Pn**	**06 54 55.4**	**+0.4**
BRRC			*eS*		**Sn**	**06 55 37.0**	**-1.1**
BRRC			*i*			06 55 46.0	
	comp=Z,86nm,0.6s						
OCAC	**Ocana**	**3.94 89**	*eP*		**Pn**	**06 54 57.8**	**-0.4**
OCAC			*eS*		**Sn**	**06 55 42.4**	**-1.4**
OCAC			*i*			06 55 51.8	
	comp=Z,382nm,0.6s						
TOLC	**Tolima**	**4.10 151**	*eP*		**Pn**	**06 55 03.0**	**+2.5**
ANIL	**Santa Ana**	**4.14 153**	*eP*		**Pn**	**06 55 04.1**	**+2.9**
ANIL			*i*			06 55 59.1	
	comp=Z,48nm,0.6s						
SMRC	**Santa Marta, M**	**4.22 46**	*eP*		**Pn**	**06 55 02.3**	**+0.4**
SMRC			*eS*		**Sn**	**06 55 49.8**	**-0.8**
SMRC			*i*			06 55 52.9	
	comp=Z,30nm,0.4s						
YOTC	**Yotoco, Valle**	**4.30 167**	*eP*		**Pn**	**06 55 00.4**	**-2.8**
YOTC			*i*			06 55 25.2	
	comp=Z,14nm,0.6s						
YOTC			*eS*		**Sn**	**06 55 47.4**	**-5.4**
BARC	**Barichara**	**4.38 111**	*eP*		**Pn**	**06 55 04.7**	**+0.3**
BARC			*eS*		**Sn**	**06 55 53.2**	**-1.8**
BARC			*i*			06 56 03.9	
	comp=Z,130nm,0.5s						
ROSC	**El Rosal**	**4.46 138**	Pn		**Pn**	**06 55 09.7**	**+4.0**
	comp=Z,4.7nm,0.3s,baz=85,slow=14,SNR=5.2						
ROSC			LR		LR	06 56 50.7	
	comp=Z,309nm,18.1s,baz=26,slow=38						
ROSC	**El Rosal**	**4.46 138**			**Pn**	**06 55 07.4**	**+1.8**
ROSC	**El Rosal**	**4.46 138**	*eP*		**Pn**	**06 55 09.2**	**+3.6**
ROSC			*i*			06 56 28.3	
	comp=Z,42nm,0.6s						
CVALL	**Valledupar, Ce**	**4.59 60**	*eP*		**Pn**	**06 55 06.2**	**-1.0**
CVALL			*eS*		**Sn**	**06 55 56.4**	**-3.5**
CVALL			*i*			06 56 00.1	
	comp=Z,84nm,0.7s						
PAMC	**Pamplona, Colo**	**4.63 100**	*eP*		**Pn**	**06 55 08.7**	**+0.7**
PAMC			*eS*		**Sn**	**06 56 00.8**	**-0.7**
PAMC			*i*			06 56 06.9	
	comp=Z,76nm,0.3s						
ORTC	**Ortega, Tolima**	**4.73 154**	*eP*		**Pn**	**06 55 11.0**	**+2.0**
RUSC	**La Rusia**	**4.77 119**			**Pn**	**06 55 10.0**	**0.0**
RUSC	**La Rusia**	**4.77 119**	*eP*		**Pn**	**06 55 10.2**	**+0.3**
RUSC			*eS*		**Sn**	**06 56 05.7**	**+0.8**
RUSC			*i*			06 56 32.3	
	comp=Z,64nm,0.6s						
CHIC	**Chingaza**	**5.02 135**	*eP*		**Pn**	**06 55 15.8**	**+2.5**
CHIC			*eS*		**Sn**	**06 56 10.6**	**-0.3**
CHIC			*i*			06 56 29.0	
	comp=Z,33nm,0.6s						
DRK0	**Durika**	**5.97 281**	Pn		**Pn**	**06 55 27.1**	**+0.9**
SRBA	**San Rafael, Bu**	**6.08 280**	Pn		**Pn**	**06 55 28.4**	**+0.8**
URIC	**Uribia, Colomb**	**6.27 56**	Pn		**Pn**	**06 55 30.1**	**-0.1**
SDV	**Santo Domingo**	**6.62 84**	Pn		**Pn**	**06 55 33.2**	**-2.0**
	comp=Z,4.7nm,0.3s,baz=272,slow=8.1,SNR=7.8						
SDV			Sn		**Sn**	**06 56 47.4**	**-2.8**
	comp=Z,10nm,0.3s,baz=8.4,slow=18,SNR=4.1						
SDV	**Santo Domingo**	**6.62 84**			**Pn**	**06 55 35.1**	**-0.1**
RIMA	**Rio Macho**	**6.67 284**	Pn		**Pn**	**06 55 38.1**	**+2.2**
GUVC	**San Jose del G**	**7.29 140**	*eP*		**Pn**	**06 55 45.4**	**+1.2**
JTS	**Las Juntas de**	**7.84 286**	Pn		**Pn**	**06 55 53.4**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=97,slow=18,SNR=3.3						
JTS			LR		LR	06 59 22.1	
	comp=Z,126nm,19.7s,baz=182,slow=41						
ESPN	**Las Esperanzas**	**7.95 300**	Pn		**Pn**	**06 55 53.0**	**-0.2**
OTAV	**Otavalo**	**8.00 188**	Pn		**Pn**	**06 55 55.8**	**+1.5**
MTDJ	**Mount Denham**	**9.96 359**	Pn		**Pn**	**06 56 21.3**	**+0.4**
GTBY	**Guantanamo Bay**	**11.84 10**	Pn		**Pn**	**06 56 47.9**	**+1.3**
SDDR	**Presa de Saban**	**12.20 28**	Pn		**Pn**	**06 56 51.9**	**+0.5**
PCRV	**Puerto La Cruz**	**12.65 80**	Pn		**Pn**	**06 56 55.2**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=225,slow=4.3,SNR=3.8						
SJG	**San Juan**	**14.64 47**	Pn		Pn	06 57 19.5	-5.4
	comp=Z,1.6nm,0.3s,baz=199,slow=7.9,SNR=5.1						
MTP	**Monte Pirata**	**15.07 48**	Pn		**Pn**	**06 57 25.4**	**-5.2**
ATAH	**Atahualpa**	**15.28 184**	Pn		**P**	**06 57 38.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=9.5,slow=6.1,SNR=4.3						
CUPR	**Culebra, Puert**	**15.40 48**	Pn		**Pn**	**06 57 30.6**	**-4.4**
PTGA	**Pitinga**	**19.42 116**	LR		LR	07 06 34.0	
	comp=Z,61nm,19.5s,baz=294,slow=39						
SAML	**Samuel**	**22.09 140**	P		**P**	**06 58 53.5**	**+0.6**
SAML			IAmb		IAmb	06 59 00.7	
	comp=Z,7.5nm,0.7s						
SIV	**San Ignacio**	**28.91 146**	P		**P**	**06 59 58.8**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=337,slow=8.1,SNR=9.8						
CCM	**Cathedral Cave**	**32.28 339**	P		**P**	**07 00 26.4**	**+0.2**
CCM			IAmb		IAmb	07 00 34.9	
	comp=Z,5.6nm,0.7s						
TXAR	**Lajitas Array**	**32.49 314**	P		**P**	**07 00 28.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=132,slow=9.3,SNR=6.9						
TXAR			LR		LR	07 16 50.5	
	comp=Z,26nm,19.1s,baz=0.0,slow=42						
PDAR	**Pinedale Array**	**44.57 326**	P		**P**	**07 02 11.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=126,slow=8.3,SNR=5.1						
REDW	**Red Top Meadow**	**45.68 326**	P		**P**	**07 02 19.2**	**+0.7**
REDW			IAmb		IAmb	07 02 25.7	
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**47.59 316**	P		**P**	**07 02 35.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=118,slow=7.2,SNR=2.1						
YKA	**Yellowknife Ar**	**60.58 341**	P		**P**	**07 04 07.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=132,slow=7.4,SNR=7.7						
ILAR	**Eielson Array**	**73.97 335**	P		**P**	**07 05 32.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=105,slow=3.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.51 78**	P		**P**	**07 05 53.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=269,slow=5.9,SNR=1.9						
ASAR	**Alice Springs**	**146.40 239**	PKPbc		**PKPdf**	**07 13 38.1**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=103,slow=4.2,SNR=3.0						
WRA	**Warramunga Arr**	**147.24 246**	PKPbc		**PKiKP**	**07 13 44.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=105,slow=3.1,SNR=1.8						

IDC 29 07:11:42.2±3.4, 54°21N×87°31E, h0km, mb1 2.7/2, mb1mx2.7/45, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=31.7km s-min=19.2km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**261**	*i*		07 20 50.2	
	baz=77,slow=322,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.49**	**261**	Pg	Pn	07 12 08.6	-1.6
	1.7nm,0.3s,baz=82,slow=16,SNR=11						
ZALV				Lg	Lg	07 12 29.6	
	1.0nm,0.3s,baz=82,slow=27,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.46**	**240**	Pn	Pn	07 13 19.3	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=6.3						
MKAR	**Makanchi Array**	**8.08**	**205**	Pn	Pn	07 13 41.9	+1.1
	0.1nm,0.3s,baz=28,slow=14,SNR=6.0						

*OSPL **29** 07:14:48.9±0.6, 19°45N×66°28W, h2km±10km, ML3.0*
*NEIC **29** 07:14:50.3±1.2, 19°36N±0°04×66°32W±0°03, h16km±7km, Error ellipse: s-maj=6.4km s-min=2.7km az=157.0*
*RSPR **29** 07:14:51.0, 19°47N×66°35W, h12km±5km, MD3.4/12*
ISC 29 07:14:49.3±0.9, 19°43N±0°05×66°30W±0°03, h19km, n72, σ0.92/73, 14C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.97**	**193**	⇑*eP*	**Pg**	**07 15 07.5**	**-0.7**
EMPR	**Esperanza - Ma**	**0.97**	**193**	*eS*	**Sn**	**07 15 20.8**	**-0.3**
EMPR	**Esperanza - Ma**	**0.97**	**193**		**Sn**	**07 15 20.8**	**-0.3**
EMPR	**Esperanza - Ma**	**0.97**	**193**	Pg	**Pg**	**07 15 07.6**	**-0.6**
EMPR	**Esperanza - Ma**	**0.97**	**193**	IAML		07 15 29.8	
	comp=N,2μm,0.8s						
EMPR				IAML		07 15 33.5	
	comp=E,2μm,0.5s						
GCPR	**Guaynabo City**	**1.13**	**169**	⇑*eP*	**Pb**	**07 15 09.9**	**-0.3**
GCPR	**Guaynabo City**	**1.13**	**169**	*eS*	**Sn**	**07 15 25.1**	**-0.1**
GCPR	**Guaynabo City**	**1.13**	**169**		**Sn**	**07 15 25.1**	**-0.1**
GCPR	**Guaynabo City**	**1.13**	**169**	Pn	**Pb**	**07 15 09.6**	**-0.6**
GCPR	**Guaynabo City**	**1.13**	**169**	IAML		07 15 29.5	
	comp=E,636nm,0.6s						
GCPR				IAML		07 15 30.2	
	comp=N,379nm,0.9s						
AOPR	**Arecibo Observ**	**1.16**	**202**	⇑*eP*	**Pb**	**07 15 10.2**	**-0.5**
AOPR	**Arecibo Observ**	**1.16**	**202**	*eS*	**Sn**	**07 15 25.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.16**	**202**		**Pb**	**07 15 10.2**	**-0.5**
AOPR	**Arecibo Observ**	**1.16**	**202**		**Sn**	**07 15 25.7**	**-0.1**
AGPR	**Aguadilla, PR**	**1.22**	**219**	Pn	**Pb**	**07 15 11.7**	**-0.1**
AGPR				IAML		07 15 43.2	
	comp=E,519nm,0.9s						
AGPR	**Aguadilla, PR**	**1.22**	**219**	*eP*	**Pb**	**07 15 11.3**	**-0.5**
AGPR				IAML		07 15 35.7	
	comp=Z,256nm,0.7s						
CBYP	**Canovanas**	**1.23**	**160**	⇑*eP*	**Pb**	**07 15 11.3**	**-0.5**
CBYP	**Canovanas**	**1.23**	**160**	*eS*	**Sb**	**07 15 27.9**	**+0.6**
CBYP	**Canovanas**	**1.23**	**160**	Pn	**Pg**	**07 15 12.2**	**-0.8**
CBYP				IAML		07 15 35.0	
	comp=N,1μm,0.2s						
CBYP				IAML		07 15 35.8	
	comp=E,833nm,0.2s						
CBYP	**Canovanas**	**1.23**	**160**		**Sb**	**07 15 27.9**	**+0.6**
SJG	**San Juan**	**1.32**	**174**	Pn	**Pb**	**07 15 13.4**	**0.0**
SJG				IAML		07 15 34.2	
	comp=E,500nm,0.5s						
SJG				IAML		07 15 37.5	
	comp=E,473nm,0.6s						
HUMP	**Col San Antoni**	**1.35**	**161**	⇑*eP*	**Pb**	**07 15 13.3**	**-0.6**
HUMP	**Col San Antoni**	**1.35**	**161**	*eS*	**Sb**	**07 15 31.1**	**+0.3**
HUMP	**Col San Antoni**	**1.35**	**161**	Pn	**Pb**	**07 15 13.6**	**-0.4**
HUMP				IAML		07 15 34.6	
	comp=N,401nm,0.7s						
HUMP				IAML		07 15 38.3	
	comp=E,498nm,0.3s						
HUMP	**Col San Antoni**	**1.35**	**161**		**Sb**	**07 15 31.1**	**+0.3**
CELP	**Cerrillos**	**1.37**	**191**	⇑*eP*	**Pb**	**07 15 13.8**	**-0.6**
CELP	**Cerrillos**	**1.37**	**191**	*eS*	**Sn**	**07 15 30.6**	**-0.4**
CELP	**Cerrillos**	**1.37**	**191**		**Pb**	**07 15 13.8**	**-0.6**
CELP					**Sn**	**07 15 30.6**	**-0.4**
OBIP	**Obispado Ponce**	**1.41**	**192**	⇑*eP*	**Pb**	**07 15 14.2**	**-0.8**
OBIP	**Obispado Ponce**	**1.41**	**192**	*eS*	**Sn**	**07 15 31.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.41**	**192**	Pn	**Pb**	**07 15 14.7**	**-0.3**
OBIP				IAML		07 15 37.1	
	comp=N,443nm,0.6s						
OBIP	**Obispado Ponce**	**1.41**	**192**		**Sn**	**07 15 31.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.43**	**169**	Pn	**Pb**	**07 15 14.3**	**-1.0**
PDPR				IAML		07 15 34.5	
	comp=E,503nm,0.7s						
MPR	**Mayaguez**	**1.45**	**213**	Pn	**Pb**	**07 15 14.7**	**-0.9**
MPR				IAML		07 15 48.7	
	comp=N,460nm,0.7s						
MPR	**Mayaguez**	**1.45**	**213**	*i* P	**Pb**	**07 15 14.3**	**-1.3**
MPR				*eS*	**Sb**	**07 15 33.8**	**+0.1**
MPR				IAML		07 15 35.6	
	comp=Z,226nm,0.7s						
IGPR	**InterUniversit**	**1.47**	**173**	⇑*eP*	**Pb**	**07 15 15.2**	**-0.8**
IGPR	**InterUniversit**	**1.47**	**173**	*eS*	**Sb**	**07 15 34.0**	**-0.2**
IGPR	**InterUniversit**	**1.47**	**173**		**Sb**	**07 15 34.0**	**-0.2**
CUPR	**Culebra, Puert**	**1.48**	**139**	⇑*eP*	**Pb**	**07 15 14.7**	**-1.4**
CUPR	**Culebra, Puert**	**1.48**	**139**	*eS*	**Sb**	**07 15 34.1**	**-0.3**
CUPR	**Culebra, Puert**	**1.48**	**139**	Pn	**Pb**	**07 15 14.6**	**-1.5**
CUPR	**Culebra, Puert**	**1.48**	**139**		**Sb**	**07 15 34.1**	**-0.3**
MTP	**Monte Pirata**	**1.50**	**152**	⇑*eP*	**Pb**	**07 15 15.5**	**-1.1**
MTP	**Monte Pirata**	**1.50**	**152**	*eS*	**Sb**	**07 15 35.1**	**-0.2**
MTP	**Monte Pirata**	**1.50**	**152**	Pn	**Pb**	**07 15 16.6**	**0.0**
MTP	**Monte Pirata**	**1.50**	**152**		**Sb**	**07 15 35.1**	**-0.2**
ICMP	**Isla Caja de M**	**1.55**	**188**	⇑*eP*	**Pb**	**07 15 16.3**	**-1.1**
ICMP	**Isla Caja de M**	**1.55**	**188**		**Pb**	**07 15 16.9**	**-0.5**
ICMP				IAML		07 15 42.4	
	comp=N,345nm,0.7s						
ICMP				IAML		07 15 44.1	
	comp=E,492nm,0.6s						
MLPR	**Magueyes Islan**	**1.61**	**206**	⇑*eP*	**Pn**	**07 15 16.3**	**-0.4**
MLPR	**Magueyes Islan**	**1.61**	**206**	*eS*	**Sn**	**07 15 36.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.61**	**206**		**Pn**	**07 15 16.3**	**-0.4**
MLPR					**Sn**	**07 15 36.1**	**-0.9**
MLPR	**Magueyes Islan**	**1.61**	**206**	IAML		07 15 52.1	
	comp=E,308nm,0.8s						
STVI	**Saint Thomas**	**1.67**	**130**	⇑*eP*	**Pb**	**07 15 18.0**	**-1.4**
STVI	**Saint Thomas**	**1.67**	**130**	*eS*	**Sb**	**07 15 39.0**	**-0.9**
STVI	**Saint Thomas**	**1.67**	**130**		**Pb**	**07 15 18.0**	**-1.4**
STVI					**Sb**	**07 15 39.0**	**-0.9**
ABVI	**Anegada Island**	**1.99**	**110**	Pn	**Pb**	**07 15 23.8**	**-1.1**
VGBI	**Virgin Gorda,**	**2.03**	**117**	⇑*eP*	**Pb**	**07 15 23.6**	**-2.0**
VGBI	**Virgin Gorda,**	**2.03**	**117**		**Pb**	**07 15 23.6**	**-2.0**
PCDR	**Punta Cana, DR**	**2.17**	**246**	Pn	**Pb**	**07 15 25.7**	**-2.2**
PCDR					**Sn**	**07 15 51.5**	**+0.8**
PCDR				IAML		07 15 56.0	
	comp=N,378nm,0.6s						
PCDR				IAML		07 16 13.7	
	comp=E,224nm,1.0s						
PCDR	**Punta Cana, DR**	**2.17**	**246**	*i* P	**Pn**	**07 15 24.8**	**+0.4**
PCDR				*eS*	**Sn**	**07 15 50.7**	**0.0**
PCDR				IAML		07 15 52.6	
	comp=Z,261nm,0.7s						
CDVI	**St. Croix**	**2.21**	**139**	Pn	**Pb**	**07 15 27.5**	**-1.2**
DR12	**Loma Pena Alta**	**2.98**	**258**		**Pn**	**07 15 35.2**	**-0.4**
SKI	**Saint Kitts**	**3.97**	**121**	*eP*	**Pn**	**07 15 52.0**	**+2.8**
BANI	**BANI**	**3.98**	**256**	Pn	Pb	07 15 52.9	-5.9
SDDR	**Presa de Saban**	**4.73**	**265**	Pn	**Pn**	**07 16 01.4**	**+1.7**
SDDR				IAML		07 17 11.7	
	comp=Z,57nm,0.8s						
BPA	**Boggy Peak**	**4.84**	**119**	*eP*	**Pn**	**07 16 03.3**	**+2.1**
ANBD	**Bethesda, Anti**	**4.92**	**118**	*eP*	**Pn**	**07 16 02.1**	**-0.1**
GRTK	**Grand Turk**	**4.98**	**295**	Pn	**Pn**	**07 16 02.8**	**-0.2**
DSLB	**Salisbury**	**6.12**	**130**	*e*	Pb	07 16 26.8	-8.5
ECSD	**EROS Data Cent**	**35.08**	**320**	P	**P**	**07 21 41.6**	**+0.4**
TX32	**Lajitas Array**	**35.30**	**294**	P	**P**	**07 21 44.1**	**+0.7**
TXAR	**Lajitas Array**	**35.30**	**294**	P	**P**	**07 21 45.1**	**+1.7**

*KRNET **29** 07:31:54.6±0.1, 41°23N×72°50E, h16km, mb3.3*
*SOME **29** 07:31:55.6, 41°22N×72°70E, h15km*
*ISU **29** 07:31:55, 41°20N×72°56E, h10km*
*KNET **29** 07:31:56.5±0.6, 41°41N×72°52E, h7km±2km, ml3.0, Error ellipse: s-maj=9.3km s-min=4.1km az=140.0*
*NNC **29** 07:31:57.1±0.7, 41°36N×72°57E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=6.1km s-min=2.8km az=0.0*
ISC 29 07:31:53.7±1.1, 41°28N±0°02×72°59E±0°02, h1km±10km, n68, σ1.957/115, 47C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.56**	**198**	*eP*	**Pb**	**07 32 06.0**	**-0.2**
ANR				*eS*	**Sb**	**07 32 14.0**	**-0.7**
OHH	**Osh**	**0.77**	**169**	⇑*iP*	**Pg**	**07 32 08.9**	**+0.5**
	baz=63						
OHH				⇑*iS*	**Sg**	**07 32 18.5**	**+0.1**
	baz=63						
OHH	**Osh**	**0.77**	**169**	*eP*	**Pg**	**07 32 09.0**	**+0.5**
OHH				*eS*	**Sg**	**07 32 18.0**	**-0.4**
FRG	**Fergana**	**0.82**	**228**	*eP*	**Pn**	**07 32 16.0**	**+3.6**
FRG				*eS*	**Sn**	**07 32 28.0**	**+2.8**
TRKS	**Terek-Say**	**1.12**	**283**	⇑*iP*	**Pg**	**07 32 14.0**	**-1.1**
	baz=83						
TRKS				⇑*iS*	**Sg**	**07 32 28.1**	**-1.5**
	baz=83						
AML	**Almayashu**	**1.18**	**44**	⇑*iP*	**Pn**	**07 32 18.6**	**+0.8**
	baz=45						
AML				⇑*iS*	**Sn**	**07 32 35.7**	**+0.9**
	baz=45						
AML	**Almayashu**	**1.18**	**44**	⇑P	**Pn**	**07 32 18.4**	**+0.6**
	68nm,0.2s,SNR=57						
AML				⇑S	**Sn**	**07 32 35.6**	**+0.9**
	162nm,0.2s						
MNAS	**Manas**	**1.21**	**357**	⇑*iP*	**Pn**	**07 32 17.9**	**0.0**
	baz=0.0						
MNAS				⇑*iS*	**Sn**	**07 32 34.9**	**-0.1**
	baz=0.0						
ARLS	**Aral**	**1.42**	**65**	⇑*iP*	**Pg**	**07 32 22.6**	**+1.7**
	baz=65						
ARLS				⇑*iS*	**Sg**	**07 32 42.6**	**+3.2**
	baz=65						
SFK	**Sufi-Kurgan**	**1.45**	**151**	⇑*iP*	**Pg**	**07 32 21.7**	**+0.3**
	baz=48						
SFK				⇑*iS*	**Sg**	**07 32 40.4**	**+0.3**
	baz=48						
MRKS	**Merke**	**1.54**	**18**	*eP*	**Pg**	**07 32 24.7**	**+1.6**
	baz=19						
MRKS				*eS*	**Sg**	**07 32 45.6**	**+2.6**
	baz=19						
MRKS	**Merke**	**1.54**	**18**	*eP*	**Pg**	**07 32 24.7**	**+1.6**
	66nm,0.3s						
MRKS				*eS*	**Sg**	**07 32 45.6**	**+2.6**
	283nm,0.2s						
MRKS	**Merke**	**1.54**	**18**	P	**Pg**	**07 32 24.7**	**+1.6**
	66nm,0.3s						
MRKS				S	**Sg**	**07 32 45.6**	**+2.6**
	283nm,0.2s						
EKS2	**Erkin-Say**	**1.64**	**32**	⇑*iP*	**Pg**	**07 32 25.9**	**+0.9**
	baz=33						
EKS2				⇑*iS*	**Sg**	**07 32 48.9**	**+2.7**
	baz=33						
EKS2	**Erkin-Say**	**1.64**	**32**	⇑P	**Pg**	**07 32 26.5**	**+1.4**
	39nm,0.4s,SNR=46						
EKS2				⇑S	**Sg**	**07 32 49.0**	**+2.7**
	40nm,0.2s						
BTK	**Batken**	**1.82**	**228**	⇑*iP*	**Pn**	**07 32 26.5**	**+0.3**
	baz=28						
BTK				⇑*iS*	**Sn**	**07 32 49.8**	**-0.2**
	baz=28						
BTK	**Batken**	**1.82**	**228**	*eP*	**Pg**	**07 32 29.0**	**+0.5**
BTK				*eS*	**Sb**	**07 32 51.0**	**-0.2**
DZA	**Taraz**	**1.86**	**330**	*eP*	**Pg**	**07 32 30.5**	**+1.1**
	96nm,0.2s						
DZA				*eS*	**Sg**	**07 32 55.1**	**+1.7**
	1μm,0.3s						
DZA	**Taraz**	**1.86**	**330**	P	**Pg**	**07 32 30.5**	**+1.1**
	96nm,0.2s						
DZA				S	**Sg**	**07 32 55.1**	**+1.7**
	1μm,0.3s						
DRK	**Karamyk**	**1.90**	**199**	⇑*iP*	**Pb**	**07 32 28.3**	**-1.0**
	baz=97						
DRK				⇑*iS*	**Sb**	**07 32 52.7**	**-1.0**
	baz=97						
CHMG	**Chimgan**	**1.96**	**279**	*eP*	Pg	07 32 39.0	+7.8
CHMG				*eS*	**Sg**	**07 32 56.0**	**-0.6**
AAK	**Ala-Archa**	**1.96**	**46**	⇑*iP*	**Pg**	**07 32 31.1**	**-0.2**
	baz=46						
AAK				⇑*iS*	**Sg**	**07 32 58.2**	**+1.5**
	baz=46						
AAK	**Ala-Archa**	**1.96**	**46**	⇑P	**Pg**	**07 32 31.9**	**+0.6**
	24nm,0.2s,SNR=13						
AAK				⇑S	**Sg**	**07 32 59.1**	**+2.4**
	75nm,0.3s						
AAK	**Ala-Archa**	**1.96**	**46**	⇓Pn	**Pg**	**07 32 31.7**	**+0.4**
AAK				⇑Lg	Lg	07 32 59.6	
	93nm,0.6s						
CHRV	**Charvak**	**2.02**	**281**	*eP*	**Pg**	**07 32 32.0**	**-0.3**
CHRV				*eS*	**Sg**	**07 32 59.0**	**+0.6**
FRU1	**Bishkek**	**2.15**	**44**	⇓*iP*	**Pg**	**07 32 34.5**	**-0.4**
	baz=44						
FRU1				⇓*iS*	**Sg**	**07 33 03.2**	**+0.4**
	baz=44						
KBK	**Karagaybulak**	**2.23**	**51**	⇑*eP*	**Pb**	**07 32 35.1**	**+0.2**
	baz=51						
KBK				⇑*iS*	**Sb**	**07 33 04.6**	**-0.7**
	baz=51						
KBK	**Karagaybulak**	**2.23**	**51**	⇓P	**Pg**	**07 32 36.5**	**+0.1**
	14nm,0.1s,SNR=10						
KBK				⇓S	**Sg**	**07 33 07.9**	**+2.6**
	327nm,0.5s						
CHMS	**Chumysh**	**2.35**	**42**	⇑*iP*	**Pb**	**07 32 36.6**	**-0.3**
	baz=43						
CHMS				⇑*iS*	**Sg**	**07 33 07.3**	**-1.9**
	baz=43						
CHMS	**Chumysh**	**2.35**	**42**	⇑P	**Pb**	**07 32 37.1**	**+0.2**
	17nm,0.3s,SNR=9.3						
CHMS				⇓S	**Sg**	**07 33 09.2**	**+0.1**
	52nm,0.3s						
KK31	**Karatay Array**	**2.39**	**320**	⇑Pn	**Pb**	**07 32 35.6**	**-1.9**
	6.9nm,0.3s,baz=126,slow=12,SNR=168						
KK31				⇓Lg	Lg	07 33 09.7	
	24nm,0.3s,baz=122,slow=27,SNR=13						
USP	**Ospenovka**	**2.44**	**35**	⇑*iP*	**Pb**	**07 32 37.6**	**-0.7**
	baz=35						
USP				⇑*iS*	**Sb**	**07 33 09.3**	**+0.4**
	baz=35						
USP	**Ospenovka**	**2.44**	**35**	⇑P	**Pb**	**07 32 38.0**	**-0.3**
	21nm,0.2s,SNR=18						
USP				⇑S	**Sg**	**07 33 11.1**	**-0.8**
	81nm,0.3s						
SGDS	**Sogindy**	**2.64**	**34**	Pg	**Pg**	**07 32 42.8**	**-1.5**
	5.9nm,0.2s						
SGDS				Lg	Lg	07 33 16.6	
	83nm,0.7s						
TKM2	**Tokmak 2**	**2.77**	**53**	⇑Pn	**Pb**	**07 32 42.7**	**-1.5**
	1.6nm,0.3s						
TKM2				⇑Pg	**Pg**	**07 32 47.5**	**+0.7**
	7.6nm,0.5s						
TKM2				⇓Lg	Lg	07 33 23.3	
	23nm,0.4s						
BOOM	**Boomskoye usch**	**2.78**	**63**	⇑*iP*	**Pb**	**07 32 42.6**	**-1.6

SATY				*e*S		**Sg**	**07 34 25.1 +1.4**
	20nm,0.5s						
SATY	**Saty**	**4.67**	**66**	Pg		**Pg**	**07 33 23.1 -0.1**
	3.4nm,0.2s						
SATY				Lg		Lg	07 34 25.1
	20nm,0.5s						
ARXS	**Arharly**	**4.84**	**51**	*e*P		**Pg**	**07 33 23.9 -2.5**
	4.8nm,0.7s						
ARXS				*e*S		**Sg**	**07 34 26.4 -2.7**
	26nm,0.6s						
KPKS	**Kokpek**	**5.01**	**62**	*e*P		**Pg**	**07 33 28.7 -1.0**
	3.7nm,0.4s						
KPKS				*e*S		**Sg**	**07 34 34.9 +0.2**
	25nm,0.4s						
UZB	**Uzynbulak**	**5.13**	**67**	*e*P		**Pg**	**07 33 29.2 -2.7**
	1.4nm,0.2s						
UZB				*e*S		**Sg**	**07 34 35.5 -2.8**
	6.6nm,0.6s						
UZB	**Uzynbulak**	**5.13**	**67**	Pg		**Pg**	**07 33 29.2 -2.7**
	1.4nm,0.2s						
UZB				Lg		Lg	07 34 35.5
	6.6nm,0.6s						
SHLS	**Shalkode**	**5.43**	**68**	*e*P		**Pg**	**07 33 41.7 +3.9**
	2.6nm,0.2s						
SHLS				*e*S		Sg	07 34 57.0 +8.8
	15nm,0.6s						
SHLS	**Shalkode**	**5.43**	**68**	Pg		**Pg**	**07 33 41.7 +3.9**
	2.6nm,0.2s						
SHLS				Lg		Lg	07 34 57.0
	15nm,0.6s						
PDGK	**Podgornoye**	**5.51**	**66**	⇑Pg		**Pg**	**07 33 38.2 -1.0**
	1.6nm,0.6s						
PDGK				⇓Lg		Lg	07 34 51.3
	12nm,0.7s						
KAPS	**Kapalarasan**	**6.35**	**49**	*e*P		**Pg**	**07 33 52.6 -2.8**
	8.8nm,0.5s						
KAPS				*e*S		**Sg**	**07 35 16.1 -1.6**
	7.7nm,0.8s						
KAPS	**Kapalarasan**	**6.35**	**49**	Pg		**Pg**	**07 33 51.5 -3.8**
	13nm,0.8s						
KAPS				Lg		Lg	07 35 14.8
	7.7nm,0.8s						
OTUK	**Ortayu**	**6.96**	**359**	⇑Lg		Lg	07 35 35.3
	17nm,0.6s						

MOS ***29*** *07:41:05.3±1.3, 52°.46N×169°.44W, h31km, mb4.9/35, Error ellipse: s-maj=8.9km s-min=6.5km az=95.1*
IDC ***29*** *07:41:08.0±0.3, 52°.51N×169°.59W, h37km±1km, mb4.1/40, mb1 4.3/42, mb1mx4.2/74, mbtmp4.3/42, ML4.0/2, MS3.5/29, Ms1 3.5/29, ms1mx3.5/49, Error ellipse: s-maj=11.1km s-min=6.7km az=174.0*
AEIC ***29*** *07:41:07±3.2, 52°.39N±0°.06×169°.37W±0°.08, h25km±3km, Error ellipse: s-maj=9.0km s-min=6.5km az=154.0*
NEIC ***29*** *07:41:08.4±2.4, 52°.43N±0°.06×169°.39W±0°.07, h42km±5km, mb4.9/308, ML4.6(AEIC), Error ellipse: s-maj=8.4km s-min=6.3km az=176.0*
GCMT ***29*** *07:41:14.4±0.3, 52°.26N±0°.02×169°.31W±0°.04, h34km, MW5.1/74, Moment Tensor Solution. s39,c43; s74,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.39±.28; $M_{\theta\theta}$-3.51±.17; $M_{\phi\phi}$-1.88±.17; $M_{r\theta}$2.03±.15; $M_{\theta\phi}$-1.10±.07; $M_{r\phi}$0.52±.16; Best double couple: $M_0$5.16600×10^{16} NP1:ϕ_s241.00000°, δ33.00000°, λ84.00000°. NP2: ϕ_s68.00000°, δ57.00000°, λ94.00000°. Principal axes: T 5.8410, Plg78.0000°, Azm350.0000°; N -1.3500, Plg3.0000°, Azm246.0000°; P -4.4910, Plg12.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***29*** *07:41:30.3±0.0, 54°.17N×169°.94W, h33km, mb5.1*
ISC 29 07:41:07.9±0.3, 52°.43N±0°.06×169°.38W±0°.03, h40km±2km, h40km:pP-P, n780, σ1$30/701, mb4.9/246, MS3.7/37, 3C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.63**	**30**	P	**Pn**	**07 41 19.6**	**-0.9**
	baz=209						
NIKH	**Nikolski High**	**0.63**	**30**		**Sn**	**07 41 30.5**	**+1.1**
NIKH	**Nikolski High**	**0.63**	**30**	Pn	**Pn**	**07 41 19.5**	**-1.0**
OKWE	**Okmok W'ng Wal**	**1.25**	**33**		**Pn**	**07 41 29.3**	**+0.3**
OKER	**Okmok East Rim**	**1.31**	**37**		**Pn**	**07 41 30.1**	**+0.3**
OKFG	**Magazine Ridge**	**1.33**	**41**		**Pn**	**07 41 29.9**	**-0.1**
OKFG					**Sn**	**07 41 48.5**	**+2.1**
MAPS	**Pakushin South**	**2.02**	**46**		**Pn**	**07 41 39.7**	**+0.2**
MAPS					**Sn**	**07 42 04.9**	**+1.4**
MGOD	**Makushin Gods**	**2.04**	**47**		**Pn**	**07 41 39.7**	**-0.1**
MSW	**Makushin Switc**	**2.16**	**45**		**Pn**	**07 41 42.0**	**+0.6**
MNAT	**Makushin Natee**	**2.18**	**47**		**Pn**	**07 41 42.2**	**+0.5**
MNAT					**Sn**	**07 42 10.9**	**+3.3**
UNV	**Unalaska Valle**	**2.24**	**49**	P	**Pn**	**07 41 42.5**	**0.0**
	baz=231						
UNV	**Unalaska Valle**	**2.24**	**49**		**Pn**	**07 41 42.5**	**0.0**
AKRB	**Akutan Reef Bi**	**2.62**	**48**		**Pn**	**07 41 49.1**	**+1.4**
AKMO	**Akutan Morgan**	**2.62**	**49**		**Pn**	**07 41 48.9**	**+1.2**
AKBBA	**Akutan Broad B**	**2.66**	**50**		**Pn**	**07 41 49.9**	**+1.6**
AKBBA					**Sn**	**07 42 22.6**	**+3.3**
AKLV	**Akutan Long Va**	**2.69**	**48**		**Pn**	**07 41 50.0**	**+1.3**
AKGG	**Akutan Green G**	**2.70**	**47**		**Pn**	**07 41 50.4**	**+1.6**
AKUT	**Akutan**	**2.76**	**50**	Pn	**Pn**	**07 41 51.7**	**+2.1**
AKSA	**Akutan Strait**	**2.80**	**51**		**Pn**	**07 41 51.3**	**+1.2**
KOFP	**Korovin Flat P**	**2.90**	**269**		**Pn**	**07 41 52.7**	**+1.1**
KOKL	**Mount Kliuchef**	**2.96**	**270**		**Pn**	**07 41 53.7**	**+1.3**
ATKA	**Atka Island**	**2.97**	**268**		**Pn**	**07 41 53.6**	**+1.2**
WESP	**Westdahl Peak**	**3.47**	**51**		**Pn**	**07 42 01.1**	**+1.6**
WEBT	**Westdahl Beart**	**3.51**	**50**		**Pn**	**07 42 01.2**	**+1.2**
GSIG	**Igitkin Island**	**4.05**	**266**		**Pn**	**07 42 07.7**	**+0.3**
ISLZ	**Isanotski Laza**	**4.09**	**53**		**Pn**	**07 42 09.2**	**+1.2**
GSTR	**Great Sitkin T**	**4.12**	**268**		**Pn**	**07 42 09.4**	**+1.1**
GSMY	**Great Sitkin M**	**4.12**	**267**		**Pn**	**07 42 09.6**	**+1.3**
GSTD	**Great Sitkin T**	**4.18**	**268**		**Pn**	**07 42 09.6**	**+0.5**
FALS	**False Pass**	**4.30**	**53**	P	**Pn**	**07 42 11.6**	**+0.8**
	baz=238						
FALS	**False Pass**	**4.30**	**53**		**Pn**	**07 42 13.9**	**+3.1**
ADK	**Adak**	**4.53**	**266**	P	**Pn**	**07 42 15.1**	**+1.2**
ADK	**Adak**	**4.53**	**266**	Pn	**Pn**	**07 42 15.1**	**+1.2**
SPIA	**Saint Paul Isl**	**4.79**	**354**	P	**Pn**	**07 42 19.4**	**+2.0**
	baz=174,SNR=22						
SPIA	**Saint Paul Isl**	**4.79**	**354**	Pn	**Pn**	**07 42 19.9**	**+2.4**
KIWB	**Kanaga Island**	**4.82**	**266**	Pn	**Pn**	**07 42 18.7**	**+0.7**
KIKV	**Kanaga Island**	**4.83**	**267**		**Pn**	**07 42 18.9**	**+0.8**
KIMD	**Kanaga Island**	**4.89**	**265**		**Pn**	**07 42 19.8**	**+0.9**
TAFP	**Tanaga Falls P**	**5.32**	**268**		**Pn**	**07 42 26.3**	**+1.4**
TASE	**Tanaga Southea**	**5.37**	**267**		**Pn**	**07 42 27.5**	**+2.0**
SDPT	**Sand Point**	**6.02**	**57**	P	**Pn**	**07 42 35.5**	**+1.1**
	baz=244						
SDPT	**Sand Point**	**6.02**	**57**		**Pn**	**07 42 37.4**	**+3.0**
CNBA	**Chernabura Isl**	**6.30**	**64**		**Pn**	**07 42 39.0**	**+0.9**
CHNA	**Chernabura Isl**	**6.30**	**64**	P	**Pn**	**07 42 39.7**	**+1.5**
	baz=251,SNR=7.9						
CERAA	**Semis' Rag'd T**	**6.75**	**270**		**Pn**	**07 42 45.4**	**+1.0**
CESW	**Semis' Southwe**	**6.83**	**270**		**Pn**	**07 42 46.6**	**+1.2**
AMKA	**Amchitka**	**7.08**	**266**		**Pn**	**07 42 49.6**	**+0.6**
LSPA	**Little Sitkin**	**7.42**	**271**		**Pn**	**07 42 55.2**	**+1.6**
LSNW	**Little Sitkin**	**7.46**	**271**		**Pn**	**07 42 55.7**	**+1.6**
CHIR	**Chirikof Islan**	**8.76**	**62**	P	**Pn**	**07 43 12.9**	**+1.0**
	baz=253						
CHIR	**Chirikof Islan**	**8.76**	**62**		**Pn**	**07 43 13.2**	**+1.2**
SII	**Sitkinak Islan**	**9.76**	**59**	P	**Pn**	**07 43 26.3**	**+0.7**
	baz=251						
SII	**Sitkinak Islan**	**9.76**	**59**		**Pn**	**07 43 26.8**	**+1.2**
KABU	**Katmai Buttres**	**9.93**	**48**		**Pn**	**07 43 30.6**	**+2.7**
KVTA	**Katmai Vly 10**	**9.98**	**48**		**Pn**	**07 43 32.1**	**+3.6**
SMY	**Shemya**	**10.07**	**278**	P	**Pn**	**07 43 29.7**	**-0.1**
SMY	**Shemya**	**10.07**	**278**		**Pn**	**07 43 29.7**	**-0.1**
OHAK	**Old Harbor**	**10.44**	**56**	P	**Pn**	**07 43 34.7**	**-0.3**
	baz=249						
OHAK	**Old Harbor**	**10.44**	**56**		**Pn**	**07 43 33.6**	**-1.3**
O18K	**Koktuh Hills**	**10.84**	**41**	P	**Pn**	**07 43 42.2**	**+1.8**
	baz=233						
KDAK	**Kodiak Island**	**11.00**	**54**	Pn	**Pn**	**07 43 41.1**	**-1.5**
	2.7nm,0.3s,baz=243,slow=6.8,SNR=22						
KDAK					Sn	**07 45 42.5**	**-1.6**
	0.8nm,0.3s,baz=245,slow=17,SNR=2.1						
KDAK	**Kodiak Island**	**11.00**	**54**	P	**Pn**	**07 43 42.4**	**-0.1**
KDAK						07 45 42.5	
KDAK	**Kodiak Island**	**11.00**	**54**	P	**Pn**	**07 43 42.5**	**0.0**
	baz=248						
KDAK	**Kodiak Island**	**11.00**	**54**	Pn	**Pn**	**07 43 42.4**	**-0.1**
N18K	**Kilae Creek**	**11.11**	**37**	P	**Pn**	**07 43 44.8**	**+0.7**
	baz=228						
O19K	**Port Alsworth**	**11.40**	**41**	P	**Pn**	**07 43 48.8**	**+0.8**
	baz=234						
GAMB	**Gambell**	**11.45**	**355**	P	**Pn**	**07 43 49.5**	**+0.9**
	baz=173						
SVW2	**Sparrevohn**	**11.50**	**36**		Pn	07 43 54.2	+4.9
N19K	**Bonanza Creek**	**11.72**	**38**	P	**Pn**	**07 43 53.3**	**+0.9**
	baz=231,SNR=10						
O20K	**Slope Mountain**	**12.04**	**44**	P	**Pn**	**07 43 58.4**	**+1.6**
	baz=238						
RSO	**Redoubt South**	**12.19**	**42**		**Pn**	**07 44 02.1**	**+3.1**
HOM	**Homer**	**12.25**	**47**	P	**Pn**	**07 44 00.4**	**+0.8**
	baz=241						
ANM	**Nome**	**12.35**	**8**	P	Pn	07 44 06.4	+5.5
ANM	**Nome**	**12.35**	**8**	P	**Pn**	**07 44 01.6**	**+0.6**
	baz=192						
ANM	**Nome**	**12.35**	**8**	Pn	Pn	07 44 06.4	+5.4
CNPM	**China Poot**	**12.37**	**48**	Pn	**Pn**	**07 44 01.7**	**+0.4**
M19K	**Big River Lodg**	**12.47**	**35**	P	**Pn**	**07 44 03.9**	**+1.3**
	baz=227,SNR=18						
L19K	**White Mountain**	**12.51**	**33**	P	**Pn**	**07 44 04.8**	**+1.7**
	baz=225,SNR=33						
BRLK	**Bradley Lake**	**12.64**	**47**		**Pn**	**07 44 08.0**	**+3.0**
BRSE	**Bradley Lake S**	**12.69**	**47**	P	**Pn**	**07 44 06.3**	**+0.6**
	baz=243						
SPU	**Mount Spurr**	**12.88**	**40**	Pn	**Pn**	**07 44 11.3**	**+3.0**
SEW	**Seward**	**13.44**	**47**	P	**Pn**	**07 44 15.4**	**-0.4**
	baz=244						
SEW	**Seward**	**13.44**	**47**		**Pn**	**07 44 15.2**	**-0.5**
O22K	**Cooper Landing**	**13.49**	**46**	P	**Pn**	**07 44 16.9**	**+0.5**
	baz=242						
SKT	**Skwentna**	**13.56**	**38**	P	**Pn**	**07 44 16.9**	**-0.5**
	baz=233						
SUA	**Susitna One**	**13.56**	**41**	P	**Pn**	**07 44 16.8**	**-0.9**
	baz=236						
K20K	**Telida**	**13.60**	**30**	P	**Pn**	**07 44 18.1**	**0.0**
	baz=223,SNR=6.6						
RC01	**Rabbit Creek A**	**13.78**	**43**	P	**Pn**	**07 44 20.2**	**-0.2**
	baz=240						
RC01	**Rabbit Creek A**	**13.78**	**43**		**Pn**	**07 44 19.3**	**-1.1**
PPLA	**Purkeypile**	**13.90**	**34**	P	**Pn**	**07 44 22.7**	**+0.6**
	baz=225						
J20K	**Nowinta River**	**14.19**	**28**	P	**Pn**	**07 44 26.8**	**+0.8**
	baz=221,SNR=23						
PWL	**Port Wells**	**14.27**	**45**	Pn	**Pn**	**07 44 26.0**	**-1.1**
CUT	**Chulitna**	**14.29**	**38**	P	**Pn**	**07 44 28.4**	**+1.1**
	baz=234						
PMR	**Palmer**	**14.29**	**42**	P	**P**	**07 44 31.3**	**-2.5**
PMR	**Palmer**	**14.29**	**42**	P	**Pn**	**07 44 27.5**	**+0.2**
	baz=239						
PMR	**Palmer**	**14.29**	**42**	P	**P**	**07 44 31.3**	**-2.5**
KNK	**Knik Glacier**	**14.48**	**43**	P	**Pn**	**07 44 29.8**	**-0.1**
	baz=241						
CHUM	**Lake Minchumin**	**14.53**	**31**	P	**Pn**	**07 44 31.3**	**+0.8**
	baz=226						
Q23K	**Middleton Isla**	**14.63**	**52**	P	**Pn**	**07 44 32.1**	**+0.2**
	baz=251						
SML	**Sawmill**	**14.73**	**42**	P	**Pn**	**07 44 33.2**	**-0.1**
	baz=240						
GLI	**Glacier Island**	**14.82**	**46**	P	**Pn**	**07 44 35.1**	**+0.5**
	baz=245						
GLI	**Glacier Island**	**14.82**	**46**	Pn	**Pn**	**07 44 34.2**	**-0.4**
HIN	**Hinchinbrook I**	**14.90**	**49**		**Pn**	**07 44 34.2**	**-1.4**
TRF	**Thorofare Moun**	**14.91**	**35**	P	**Pn**	**07 44 36.5**	**+0.6**
	baz=231						
FID	**Port Fidalgo**	**15.05**	**47**	P	**Pn**	**07 44 35.0**	**-2.6**
BPAW	**Bear Paw Mtn.**	**15.10**	**32**	P	**Pn**	**07 44 38.9**	**+0.6**
	baz=228,SNR=38						
BPAW	**Bear Paw Mtn.**	**15.10**	**32**	Pn	**Pn**	**07 44 40.8**	**+2.6**
BPAW				IAmb	IAmb	07 44 59.0	
	comp=Z,74nm,0.8s						
SCM	**Sheep Creek Mo**	**15.15**	**43**	P	**Pn**	**07 44 37.9**	**-1.1**
SCM				pmax	pmax		
	comp=Z,49nm,0.7s						
SCM	**Sheep Creek Mo**	**15.15**	**43**	Pn	**Pn**	**07 44 37.9**	**-1.1**
SCM				IAmb	IAmb	07 44 57.9	
	comp=Z,49nm,0.7s						
WAT1	**Susitna Watana**	**15.18**	**39**	P	**Pn**	**07 44 40.5**	**+1.2**
	baz=236						
EYAK	**Cordova Ski Ar**	**15.30**	**49**	P	**Pn**	**07 44 41.0**	**+0.2**
	baz=248						
WAT6	**Susitna Watana**	**15.36**	**40**	P	**Pn**	**07 44 40.8**	**-1.0**
	baz=238						
I21K	**Tanana**	**15.56**	**28**	P	**Pn**	**07 44 45.2**	**+1.1**
	baz=223,SNR=18						
MCK	**McKinley**	**15.57**	**35**	P	**Pn**	**07 44 44.2**	**-0.1**
	baz=233						
KLU	**Klutina**	**15.60**	**45**	P	**Pn**	**07 44 42.1**	**-2.6**
	baz=245,SNR=14						
KLU	**Klutina**	**15.60**	**45**	Pn	**Pn**	**07 44 43.7**	**-1.1**
KLU				IAmb	IAmb	07 44 58.5	
	comp=Z,41nm,0.6s						
IMAR	**Indian Mountai**	**15.70**	**24**	P	**P**	**07 44 49.1**	**-0.3**
KAIM	**Kayak Island**	**15.72**	**52**	Pn	**Pn**	**07 44 46.0**	**-0.2**
KAIM				IAmb	IAmb	07 45 08.0	
	comp=Z,147nm,1.5s						
RAGM	**Ragged Mountai**	**15.74**	**50**		**Pn**	**07 44 47.6**	**+1.0**
RAGM				IAmb	IAmb	07 45 05.9	
	comp=Z,44nm,0.8s						
M24K	**Tolsona, Glenn**	**15.76**	**43**	P	**Pn**	**07 44 45.7**	**-1.2**
	baz=242						
M24K	**Tolsona, Glenn**	**15.76**	**43**	IAmb	IAmb	07 45 03.5	
	comp=Z,59nm,0.8s						
MLY	**Manley**	**15.82**	**30**	P	**Pn**	**07 44 49.1**	**+1.6**
	baz=226,SNR=48						
MLY	**Manley**	**15.82**	**30**	P	**P**	**07 44 51.7**	**+0.9**
MLY				IAmb	IAmb	07 45 08.4	
	comp=Z,44nm,0.8s						
HMT	**Hamilton**	**15.92**	**50**	P	**Pn**	**07 44 48.9**	**0.0**
BMRM	**Bremner River**	**15.98**	**48**	P	**Pn**	**07 44 47.0**	**-2.6**
	baz=249						
BMRM	**Bremner River**	**15.98**	**48**	P	**Pn**	**07 44 48.1**	**-1.5**
RDOG	**Red Dog Mine**	**15.99**	**9**	P	P	07 45 00.8	+8.2
NEA2	**Nenana**	**16.06**	**33**	P	**Pn**	**07 44 50.3**	**-0.3**
	baz=230						
NEA2	**Nenana**	**16.06**	**33**	P	**Pn**	**07 44 51.4**	**+0.9**
N25K	**Chitina, Valde**	**16.23**	**46**	P	**Pn**	**07 44 52.2**	**-0.5**
	baz=247						
HARP	**HAARP**	**16.32**	**43**	P	**Pn**	**07 44 54.1**	**+0.1**
	baz=243						
I23K	**Minto, Yukon-K**	**16.33**	**31**	P	**Pn**	**07 44 53.9**	**0.0**
	baz=228,SNR=28						
PAX	**Paxson**	**16.46**	**41**	P	**Pn**	**07 44 55.4**	**-0.4**
	baz=241						
GLB	**Gilahina Butte**	**16.51**	**47**	P	**Pn**	**07 44 54.1**	**-2.2**
CRQM	**Cirque**	**16.58**	**50**	IAmb	IAmb	07 45 13.9	
	comp=Z,61nm,0.9s						
CRQE	**Cirque**	**16.60**	**50**	P	**Pn**	**07 44 56.5**	**-1.1**
	baz=252						
WAX	**Waxell Ridge**	**16.62**	**51**	P	**Pn**	**07 44 58.4**	**+0.6**
WAX				IAmb	IAmb	07 45 16.2	
	comp=Z,87nm,0.7s						
TCOL	**CIGO, UAF Yank**	**16.64**	**33**	P	**Pn**	**07 44 57.1**	**-0.7**
	baz=232						
TCOL	**CIGO, UAF Yank**	**16.64**	**33**	P	**Pn**	**07 44 57.5**	**-0.3**
COLA	**College**	**16.64**	**33**	P	**Pn**	**07 44 57.3**	**-0.6**
COLA				pmax	pmax		
	comp=Z,32nm,1.0s						
COLA	**College**	**16.64**	**33**	P	**Pn**	**07 44 57.0**	**-0.8**
	baz=232						
COLA	**College**	**16.64**	**33**		**Pn**	**07 44 57.3**	**-0.6**
HDA	**Harding Lake**	**16.67**	**35**	P	**Pn**	**07 44 58.0**	**-0.3**
	baz=234						
TGL	**Tana Glacier**	**16.73**	**50**	IAmb	IAmb	07 45 19.5	
	comp=Z,53nm,0.8s						
H23K	**Yukon River**	**16.73**	**29**	P	**Pn**	**07 44 58.6**	**-0.5**
	baz=226,SNR=23						
MCARA	**McCarthy VSAT**	**16.84**	**48**	P	**Pn**	**07 44 58.8**	**-1.7**
	baz=250,SNR=6.4						
MCARA	**McCarthy VSAT**	**16.84**	**48**	P	**Pn**	**07 45 00.8**	**+0.3**
MCARA				IAmb	IAmb	07 45 20.8	
	comp=Z,73nm,0.9s						
ILAR	**Eielson Array**	**16.91**	**34**	Pn	**Pn**	**07 44 59.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=238,slow=9.2,SNR=22						
ILAR				LR	LR	07 51 30.8	
	comp=Z,94nm,19.1s,baz=224,slow=37						
ISLE	**Juniper Island**	**16.91**	**50**	IAmb	IAmb	07 45 22.1	
	comp=Z,70nm,0.8s						
POKR	**Poker Plat Res**	**16.93**	**33**	P	**Pn**	**07 45 00.7**	**-0.9**
	baz=232						
MESA	**MESA**	**16.98**	**52**	P	**Pn**	**07 45 00.4**	**-2.0**
	baz=255						
MESA	**MESA**	**16.98**	**52**	P	**Pn**	**07 45 03.0**	**+0.6**
MESA				IAmb	IAmb	07 45 22.3	
	comp=Z,96nm,0.8s						
RIDG	**Independent Ri**	**17.09**	**39**	P	**Pn**	**07 45 02.3**	**-1.2**
	baz=240						
YAH	**Yahtse**	**17.13**	**52**	IAmb	IAmb	07 45 24.3	
	comp=Z,111nm,0.9s						
MENT	**Mentasta**	**17.16**	**42**	P	**Pn**	**07 45 04.5**	**+0.1**
M26K	**Nabesna, AK**	**17.23**	**44**	P	**Pn**	**07 45 04.5**	**-0.8**
	baz=247,SNR=25						
H24K	**Noodor Dome**	**17.25**	**31**	P	**Pn**	**07 45 05.3**	**-0.2**
	baz=229,SNR=17						
L26K	**Log Cabin Wild**	**17.35**	**42**	P	**Pn**	**07 45 06.1**	**-0.7**
	baz=244,SNR=19						
TABL	**Table Mountain**	**17.44**	**52**	P	**P**	**07 45 09.1**	**+0.1**
TABL				IAmb	IAmb	07 45 31.2	
	comp=Z,100nm,0.9s						
CTG	**Chitna Glacier**	**17.48**	**50**	P	**Pn**	**07 45 06.9**	**-1.7**
	baz=253						
CTGM	**Chitina Glacie**	**17.49**	**50**	P	**Pn**	**07 45 08.4**	**-0.2**
SCRK	**Sand Creek**	**17.54**	**39**	P	**Pn**	**07 45 07.9**	**-1.2**
	baz=241,SNR=9.1						
COLD	**Coldfoot**	**17.57**	**25**	P	**Pn**	**07 45 08.7**	**-0.7**
	baz=222,SNR=14						
COLD	**Coldfoot**	**17.57**	**25**		**P**	**07 45 11.1**	**+1.0**
M27K	**Edge Creek, AK**	**17.70**	**45**	P	**Pn**	**07 45 10.3**	**-1.0**
	baz=248,SNR=22						
PCA	**Pinnacle**	**17.78**	**53**	IAmb	IAmb	07 45 36.9	
	comp=Z,73nm,0.9s						
PINM	**Pinnacle**	**17.79**	**53**	P	**Pn**	**07 45 11.7**	**-0.5**
	baz=257						
PRP	**Porcupine Dome**	**17.82**	**33**	P	**Pn**	**07 45 11.8**	**-0.8**
	baz=234,SNR=12						
L27K	**Beaver Creek,**	**17.99**	**43**	P	**Pn**	**07 45 13.4**	**-1.3**
	baz=246						
BCAR	**Beaver Creek A**	**18.01**	**43**		**Pn**	**07 45 14.1**	**-0.9**
BCPM	**Bancas Point**	**18.06**	**54**	P	**Pn**	**07 45 12.3**	**-3.2**
K27K	**Chicken**	**18.30**	**40**	P	**P**	**07 45 17.6**	**-0.6**
	baz=243						
FYU	**Fort Yukon**	**18.54**	**31**		**P**	**07 45 20.7**	**-0.1**
TOLK	**Toolik Lake Re**	**18.80**	**23**	P	**P**	**07 45 23.4**	**-0.2**
	baz=220						
EGAK	**Eagle**	**19.00**	**38**	P	**P**	**07 45 25.2**	**-0.6**
	baz=243,SNR=13						
HYT	**Haines Junctio**	**19.27**	**52**	IAmb	IAmb	07 45 44.9	
	comp=Z,86nm,1.2s						
DAWY	**Dawson**	**19.39**	**41**	P	**P**	**07 45 29.4**	**-0.9**
BILL	**Bilibino**	**19.55**	**332**	*de*P	**Pn**	**07 45 34.3**	**+1.0**
BILL				*e*S	**S**	**07 49 06.6**	**-3.5**
BILL				pmax	pmax		
	comp=Z,23nm,1.1s						
BILL				MLR	MLR		
	comp=Z,205nm,14.0s						
PEA0B	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**07 45 34.8**	**-0.4**
PEA0B				pmax	pmax		
	comp=Z,114nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**07 45 34.8**	**-0.4**
PEA0B				IAmb	IAmb	07 45 47.4	
	comp=Z,114nm,1.4s						
PETK	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**07 45 34.3**	**-0.8**
	comp=Z,4.8nm,0.3s,baz=90,slow=13,SNR=68						
PETK				sP	**pP**	**07 45 46.7**	**+1.7**
	comp=Z,4.0nm,0.3s,baz=84,slow=15,SNR=18						
PETK				pPcP		07 50 02.2	
	baz=142,slow=5.3,SNR=4.1						
PETK				LR	LR	07 53 55.1	
	comp=Z,74nm,19.9s,baz=88,slow=39						
PETK	**Petropavlovsk-**	**19.84**	**285**	P	**P**	**07 45 33.9**	**-1.2**
SKAG	**Skagway**	**20.14**	**56**	P	**P**	**07 45 38.8**	**+0.5**
	baz=264						
SKAG	**Skagway**	**20.14**	**56**	Pn	Pn	07 45 41.2	+0.7
WHY	**Whitehorse**	**20.51**	**53**	P	**P**	**07 45 42.7**	**+0.2**
	baz=262,SNR=16						
WHY	**Whitehorse**	**20.51**	**53**	IAmb	IAmb	07 46 06.6	
	comp=Z,39nm,0.9s						
JIS	**Juneau Island**	**20.57**	**60**	IAmb	IAmb	07 46 02.7	
	comp=Z,29nm,0.8s						
EPYK	**Eagle Plains**	**21.36**	**37**	P	**P**	**07 45 50.6**	**-0.9**
	baz=245,SNR=36						
EPYK	**Eagle Plains**	**21.36**	**37**	P	**P**	**07 45 50.2**	**-1.3**
SKR	**Severo-Kuril's**	**21.41**	**279**	*e*P	**P**	**07 45 51.6**	**-0.4**
SKR				*e*S	**S**	**07 49 51.5**	**+4.3**
SKR				pmax	pmax		
	comp=Z,19nm,0.9s						
SKR				MLR	MLR		
	comp=Z,100nm,13.0s						
H02S1	**DAWSON INLET T**	**22.16**	**73**	T	T	08 08 59.2	
	SNR=7.0						
DLBC	**Dease Lake**	**22.86**	**59**	P	**P**	**07 46 09.4**	**+1.9**
	comp=Z,48nm,1.3s,baz=260,slow=12,SNR=12						
DLBC				sP	**sP**	**07 46 22.2**	**+0.4**
	comp=Z,48nm,1.1s,baz=274,slow=9.3,SNR=9.5						
DLBC				LR	LR	07 54 44.5	
	comp=Z,97nm,18.5s,baz=282,slow=36						
DLBC	**Dease Lake**	**22.86**	**59**	IAmb	IAmb	07 46 27.2	
	comp=Z,57n

G08A Pilot Rock 33.34 82 P **P** **07 47 44.0 +2.0**
G08A IAmb IAmb 07 47 55.7
comp=Z,11nm,1.1s
I07A Izee 33.64 84 IAmb IAmb 07 47 58.8
comp=Z,13nm,1.0s
F10A Beach Ranch, E 34.04 80 P **P** **07 47 48.4 +0.3**
F10A IAmb IAmb 07 48 01.6
comp=Z,8.4nm,0.9s
WALA Waterton Lakes 34.53 73 IAmb IAmb 07 48 05.7
comp=Z,15nm,1.1s
J08A Circle Bar Ran 34.66 84 IAmb IAmb 07 48 07.5
comp=Z,11nm,0.9s
JTMT Jette 34.93 75 P **P** **07 47 57.2 +1.5**
JTMT IAmb IAmb 07 48 16.7
comp=Z,8.7nm,0.9s
WVOR Wild Horse Val 35.08 86 IAmb IAmb 07 48 25.1
comp=Z,10nm,0.9s
MSO Missoula 35.58 76 P **P** **07 48 01.2 -0.1**
baz=300,SNR=5.7
MSO Missoula 35.58 76 P **P** **07 48 01.7 +0.3**
MSO IAmb IAmb 07 48 15.1
comp=Z,7.9nm,0.8s
PAHR Pah Rah Range 36.22 90 P **P** **07 48 09.4 +2.5**
PAHR IAmb IAmb 07 48 27.3
comp=Z,8.7nm,0.8s
MFID Camas Ranch 36.24 83 IAmb IAmb 07 48 20.5
comp=Z,11nm,0.9s
KLR Kul'dur 36.44 289 P **P** **07 48 06.4 -2.1**
comp=Z,2.7nm,0.5s,baz=57,slow=6.0,SNR=16
KLR pP **pP** **07 48 17.9 -1.5**
comp=Z,7.7nm,0.6s,baz=65,slow=7.9,SNR=13
KLR Kul'dur 36.44 289 *i* P **P** **07 48 06.2 -2.3**
KLR pmax pmax
comp=Z,8.0nm,1.4s
PNTR Pine Nut 36.47 91 P **P** **07 48 07.8 -1.3**
PNTR **pP** **07 48 19.0 -0.6**
PNTR IAmb IAmb 07 48 31.5
comp=Z,17nm,0.8s
YERR Yerington 36.75 91 P **P** **07 48 12.2 +0.7**
YERR IAmb IAmb 07 48 32.5
comp=Z,12nm,0.9s
WAKR Walker 36.93 92 pP 07 48 23.1 -0.4
ZEA Zeya 36.97 298 *e*P **P** **07 48 09.4 -3.5**
ZEA pmax pmax
comp=Z,10.0nm,0.4s
ZEA MLR MLR
comp=Z,100nm,16.0s
LRM Limekiln Ridge 36.98 77 P **P** **07 48 12.8 -0.7**
HLID Hailey 37.02 81 P **P** **07 48 12.6 -1.1**
baz=304,SNR=8.5
HLID Hailey 37.02 81 IAmb IAmb 07 48 27.4
comp=Z,14nm,1.1s
BCYI Bear Canyon 37.22 80 P **P** **07 48 14.9 -0.6**
EGMT Eagleton 37.45 72 P **P** **07 48 16.2 -1.0**
baz=300,SNR=14
H11N2 WAKE ISLAND Hy 37.49 219 T T 08 28 47.6
baz=24,slow=76,SNR=517
H11N3 WAKE ISLAND Hy 37.50 218 T T 08 28 47.6
baz=24,slow=76,SNR=544
H11N1 WAKE ISLAND Hy 37.51 219 T T 08 28 49.9
baz=24,slow=76,SNR=373
BOZ Bozeman (W) 37.59 77 P **P** **07 48 18.3 -0.2**
baz=302,SNR=11
BOZ Bozeman (W) 37.59 77 IAmb IAmb 07 48 31.5
comp=Z,9.1nm,0.8s
NVAR Mina Array Bea 37.67 91 P **P** **07 48 21.9 +2.6**
comp=Z,1.5nm,0.9s,baz=300,slow=8.0,SNR=6.7
NVAR pP **pwP** **07 48 32.9 +0.1**
comp=Z,2.7nm,0.8s,baz=292,slow=8.6,SNR=6.3
NVAR PcP **PcP** **07 50 36.7 +0.7**
comp=Z,0.7nm,0.8s,baz=318,slow=1.2,SNR=2.0
NVAR pPcP 07 50 48.3
comp=Z,2.1nm,0.9s,baz=278,slow=3.3,SNR=3.9
NVAR ScP **ScP** **07 54 21.5 +1.6**
comp=Z,0.3nm,0.5s,baz=268,slow=3.8,SNR=5.5
NVAR pScP 07 54 32.3
comp=Z,1.6nm,0.8s,baz=280,slow=3.1,SNR=8.9
NVAR LR LR 07 59 25.9
comp=Z,49nm,21.3s,baz=297,slow=29
NVAR Mina Array Bea 37.67 91 P **P** **07 48 20.9 +1.5**
NVAR **pP** **07 48 28.6 -1.2**
MDPB Devils Postpil 37.70 93 P **P** **07 48 20.4 +0.7**
MDPB pP **pP** **07 48 29.3 -0.6**
NV11 Mina Array Sit 37.76 91 P **P** **07 48 20.0 -0.1**
QLMT Earthquake Lak 38.12 78 P **P** **07 48 23.1 0.0**
YHH Holmes Hill 38.49 77 P **P** **07 48 26.6 +0.3**
YHH IAmb IAmb 07 48 39.9
comp=Z,27nm,1.0s
YNR Norris Junctio 38.63 77 IAmb IAmb 07 48 41.7
comp=Z,22nm,1.0s
H11S1 WAKE ISLAND Hy 38.68 218 T T 08 30 07.0
baz=23,slow=76,SNR=2147
H11S2 WAKE ISLAND Hy 38.70 218 T T 08 30 08.1
baz=23,slow=76,SNR=1320
H11S3 WAKE ISLAND Hy 38.70 218 T T 08 30 08.7
baz=23,slow=76,SNR=1000
JSD Sado 38.70 270 pP pP 07 48 38.5 -0.4
H17A Grant Village 38.87 78 P **P** **07 48 27.7 -1.7**
baz=304,SNR=6.5
H17A Grant Village 38.87 78 IAmb IAmb 07 48 44.1
comp=Z,12nm,0.8s
USRK Ussuriysk Ar. 38.88 282 P **P** **07 48 27.6 -1.5**
comp=Z,1.2nm,0.5s,baz=61,slow=9.0,SNR=4.5
USRK pPcP 07 50 51.5
comp=Z,4.4nm,0.8s,baz=80,slow=2.3,SNR=9.0
IMW Indian Meadow 38.93 79 P **P** **07 48 30.9 +0.9**
IMW IAmb IAmb 07 48 44.0
comp=Z,11nm,0.9s
YMP Mirror Lake Pl 38.93 77 pP 07 48 38.1 -2.3
FLWY Flagg Ranch 38.97 78 P **P** **07 48 30.6 +0.4**
TPAW Teton Pass 39.15 79 P **P** **07 48 32.8 +1.0**
GRAC Grapevine Rang 39.15 92 P **P** **07 48 31.6 0.0**
baz=310
RLMT Red Lodge 39.25 76 P **P** **07 48 32.2 -0.3**
baz=303,SNR=15
RLMT Red Lodge 39.25 76 IAmb IAmb 07 48 46.6
comp=Z,24nm,0.9s
ISA Isabella, Lake 39.34 95 P **P** **07 48 33.6 +0.3**
baz=312
BGU Big Grassy Mou 39.37 84 P **P** **07 48 34.1 +0.6**
R11A Troy Canyon, C 39.38 89 P **P** **07 48 33.9 +0.2**
baz=309
MJAR Matsushiro Arr 39.69 268 P **P** **07 48 36.1 0.0**
comp=Z,1.6nm,0.7s,baz=51,slow=7.3,SNR=6.9
MJAR pP **pP** **07 48 47.4 +0.1**
comp=Z,7.3nm,0.7s,baz=48,slow=7.1,SNR=10
MJAR pPcP 07 50 53.0
comp=Z,4.2nm,0.8s,baz=75,slow=2.0,SNR=6.9
MJAR LR LR 08 03 42.7
comp=Z,44nm,20.7s,baz=65,slow=34
MJB9 Matsu-Tunnel 39.69 268 P **P** **07 48 35.7 -0.4**
MJB9 IAmb IAmb 07 48 48.7
comp=Z,27nm,0.8s
MAJO Matsushiro 39.69 268 *i* P **P** **07 48 35.8 -0.3**
MAJO pmax pmax
comp=Z,15nm,1.4s
MAJO Matsushiro 39.69 268 P **P** **07 48 35.1 -1.0**
MAJO IAmb IAmb 07 48 48.7
comp=Z,27nm,0.8s
MAT Matsushiro 39.69 268 P **P** **07 48 35.5 -0.6**
SPR3 Spring Creek 3 39.75 87 pP pP 07 48 49.8 +2.4
TPNV Topopah Spring 39.87 91 P **P** **07 48 38.0 +0.3**
baz=310
DUG Dugway, Tooele 39.94 85 P **P** **07 48 39.9 +1.6**
DUG pmax pmax
comp=Z,16nm,1.1s
DUG Dugway, Tooele 39.94 85 P **P** **07 48 38.0 -0.3**
baz=307,SNR=8.1
DUG Dugway, Tooele 39.94 85 P **P** **07 48 39.9 +1.6**
DUG IAmb IAmb 07 48 51.9
comp=Z,16nm,1.1s
CTU Camp Tracy 40.29 83 pP 07 48 53.7 +2.1
MSHR Mys Shultsa 40.29 280 *i* P **P** **07 48 39.8 -1.1**
MSHR pmax pmax
comp=Z,2.0nm,0.4s
PRN Pahroc Range 40.31 90 P **P** **07 48 43.6 +2.2**
PRN IAmb IAmb 07 49 12.8
comp=Z,22nm,1.0s
PSUT Pine Spring 40.33 87 P **P** **07 48 41.4 -0.2**
DECC Green Verdugo 40.37 96 P **P** **07 48 42.1 +0.4**
baz=313
BW06 Boulder Array 40.40 79 P **P** **07 48 42.0 -0.1**
baz=305,SNR=14
BW06 Boulder Array 40.40 79 P **P** **07 48 42.6 +0.5**
BW06 IAmb IAmb 07 48 55.1
comp=Z,15nm,0.8s

PD31 Pinedale Array 40.40 79 IAmb IAmb 07 48 55.1
comp=Z,14nm,0.8s
PDAR Pinedale Array 40.40 79 P **P** **07 48 42.5 +0.4**
comp=Z,5.9nm,0.8s,baz=301,slow=3.1,SNR=52
PDAR pP **pP** **07 48 54.0 +1.5**
comp=Z,17nm,0.8s,baz=318,slow=2.0,SNR=31
PDAR LR LR 08 03 58.9
comp=Z,53nm,19.1s,baz=286,slow=34
JLU Jordanelle 40.53 83 IAmb IAmb 07 48 56.5
comp=Z,14nm,1.0s
NLU North Lily Min 40.54 84 P **P** **07 48 44.0 +0.7**
GSC Goldstone, Bar 40.60 94 P **P** **07 48 43.7 -0.1**
baz=312
FCC Fort Churchill 40.91 50 P **P** **07 48 47.2 +1.5**
FCC pP **pP** **07 48 57.8 +1.2**
HEC Hector,Ludlow 41.20 94 P **P** **07 48 48.6 -0.1**
baz=312
CCUT Cedar City 41.25 88 P **P** **07 48 49.3 +0.1**
CCUT pP **pP** **07 48 56.7 -3.0**
TMUT Trail Mountain 41.47 85 IAmb IAmb 07 49 04.7
comp=Z,16nm,1.0s
RDMU Red Mountain 41.69 82 IAmb IAmb 07 49 06.7
comp=Z,26nm,0.9s
PFO Pinyon Flats O 41.95 95 P **P** **07 48 55.5 +0.6**
comp=Z,1.3nm,0.8s,baz=246,slow=10.0,SNR=1.3
PFO pP **pP** **07 49 07.5 +2.3**
comp=Z,4.4nm,1.0s,baz=301,slow=5.2,SNR=5.7
BOD Bodaibo 41.95 309 *e*P **P** **07 48 53.6 -0.8**
BOD *e* 07 49 04.0
SRU San Rafael Swe 42.00 84 P **P** **07 48 55.5 +0.2**
SRU pmax pmax
comp=Z,20nm,0.9s
SRU San Rafael Swe 42.00 84 P **P** **07 48 55.5 +0.2**
SRU IAmb IAmb 07 49 10.0
comp=Z,20nm,0.9s
JWT Wachi 42.24 269 pP pP 07 49 08.4 +0.2
K22A Casper 42.28 77 P **P** **07 48 57.4 -0.2**
baz=306
K22A Casper 42.28 77 **pP** **07 49 07.2 -0.8**
K22A IAmb IAmb 07 49 09.9
comp=Z,17nm,0.8s
IRM Iron Mountain 42.38 93 P **P** **07 48 58.5 +0.2**
baz=313
U15A North Rim 42.63 89 P **P** **07 49 00.8 +0.3**
O20A White River Ci 42.76 81 P **P** **07 49 00.8 -0.6**
baz=308,SNR=20
O20A White River Ci 42.76 81 IAmb IAmb 07 49 14.3
comp=Z,31nm,0.8s
RSSD Black Hills 42.91 74 P **P** **07 49 03.2 +0.6**
RSSD pmax pmax
comp=Z,20nm,1.4s
RSSD Black Hills 42.91 74 P **P** **07 49 02.2 -0.4**
baz=305
RSSD Black Hills 42.91 74 P **P** **07 49 03.2 +0.6**
RSSD IAmb IAmb 07 49 15.0
comp=Z,20nm,1.4s
CN2 Changchun 42.99 285 *e*P P 07 49 12.5 +9.5
CN2 *e*S S 07 55 37.3 +12
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,15.0s
CN2 LR LR
comp=E,100nm,15.0s
CN2 LR LR
comp=Z,100nm,17.0s
PV10 Paradox Valley 43.37 84 IAmb IAmb 07 49 20.1
comp=Z,22nm,0.9s
PV14 Lion Creek, Pa 43.38 84 P **P** **07 49 07.0 +0.5**
PV22 Blue Mesa, Par 43.42 84 IAmb IAmb 07 49 22.0
comp=Z,21nm,1.0s
PV20 West Nyswonger 43.43 84 IAmb IAmb 07 49 19.6
comp=Z,14nm,0.9s
PV04 Paradox Valley 43.44 84 IAmb IAmb 07 49 20.2
comp=Z,17nm,0.8s
PV19 Morning Glory 43.44 84 IAmb IAmb 07 49 19.7
comp=Z,14nm,0.9s
PV17 East Wray Mesa 43.48 84 IAmb IAmb 07 49 20.5
comp=Z,26nm,0.9s
PV16 Nyswonger Mesa 43.48 84 IAmb IAmb 07 49 20.1
comp=Z,15nm,0.9s
PV11 David Mesa, Pa 43.52 84 IAmb IAmb 07 49 26.4
comp=Z,20nm,0.7s
PV05 Paradox Valley 43.52 84 IAmb IAmb 07 49 31.3
comp=Z,13nm,0.9s
PV18 Skein Mesa, Pa 43.53 84 IAmb IAmb 07 49 21.3
comp=Z,16nm,0.7s
PV12 Saucer Basin, 43.55 84 P **P** **07 49 08.0 +0.1**
PV12 IAmb IAmb 07 49 27.6
comp=Z,28nm,1.0s
PV03 Paradox Valley 43.56 84 IAmb IAmb 07 49 20.7
comp=Z,19nm,0.9s
PV07 Paradox Valley 43.57 84 IAmb IAmb 07 49 25.3
comp=Z,9.0nm,0.6s
PV02 Paradox Valley 43.66 84 IAmb IAmb 07 49 22.1
comp=Z,28nm,0.9s
N23A Red Feather La 43.68 79 P **P** **07 49 08.4 -0.5**
baz=308,SNR=5.9
PV15 Paradox Valley 43.73 84 IAmb IAmb 07 49 22.5
comp=Z,16nm,0.9s
WUAZ Wupatki 43.79 89 P **P** **07 49 09.0 -0.8**
baz=312
PV01 Paradox Valley 43.81 84 IAmb IAmb 07 49 22.7
comp=Z,22nm,0.9s
ULM Lac du Bonnet 44.13 62 P **P** **07 49 12.3 +0.2**
comp=Z,8.1nm,0.9s,baz=311,slow=8.9,SNR=5.5
ULM pP **pP** **07 49 23.4 +0.3**
comp=Z,14nm,0.9s,baz=292,slow=6.9,SNR=7.8
ULM LR LR 08 08 32.9
comp=Z,81nm,18.5s,baz=116,slow=37
ULM Lac du Bonnet 44.13 62 P **P** **07 49 10.6 -1.5**
ULM pP **pP** **07 49 23.7 +0.6**
ULM IAmb IAmb 07 49 24.4
comp=Z,19nm,0.9s
MVCO Mesa Verde 44.44 85 P **P** **07 49 14.6 -0.4**
baz=310
ISCO Idaho Springs 44.55 80 P **P** **07 49 14.8 -1.2**
baz=309
S22A 4UR Ranch, Cre 45.11 83 P **P** **07 49 19.6 -0.9**
baz=310,SNR=8.7
AGMN Agassiz Nation 45.21 64 P **P** **07 49 20.5 -0.2**
baz=304
AGMN Agassiz Nation 45.21 64 P **P** **07 49 19.9 -0.8**
AGMN IAmb IAmb 07 49 32.9
comp=Z,25nm,1.0s
214A Organ Pipe Nat 45.31 94 P **P** **07 49 21.7 -0.1**
baz=314
KSRS Korea Array 45.39 277 P **P** **07 49 22.2 0.0**
comp=Z,1.0nm,0.4s,baz=56,slow=8.3,SNR=5.6
KSRS pP **pP** **07 49 33.8 +0.3**
comp=Z,5.9nm,0.7s,baz=52,slow=7.4,SNR=13
KSRS pPcP 07 51 12.9
comp=Z,1.2nm,0.5s,baz=75,slow=2.3,SNR=4.8
KSRS LR LR 08 11 06.0
comp=Z,22nm,18.2s,baz=58,slow=40
SDCO Great Sand Dun 45.92 82 P **P** **07 49 26.2 -0.7**
baz=310,SNR=10
SDCO Great Sand Dun 45.92 82 P **P** **07 49 27.2 +0.3**
SDCO IAmb IAmb 07 49 40.1
comp=Z,9.7nm,0.9s
OGNE Ogallala 45.99 76 P **P** **07 49 27.4 +0.2**
baz=308
TUC Tucson 46.31 92 P **P** **07 49 31.5 +1.8**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 46.31 92 P **P** **07 49 30.0 +0.3**
baz=314
TUC Tucson 46.31 92 P **P** **07 49 31.5 +1.8**
NRIK Noril'sk 46.37 331 pP **pP** **07 49 40.6 -0.3**
comp=Z,6.8nm,0.6s,baz=88,slow=9.5,SNR=4.9
NRIK LR LR 08 10 50.2
comp=Z,51nm,18.6s,baz=104,slow=38
NRIK Noril'sk 46.37 331 *i* P **P** **07 49 30.3 +0.7**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
JNU Nakatsue 46.46 270 P **P** **07 49 30.7 -0.1**
comp=Z,7.7nm,0.8s,baz=204,slow=7.1,SNR=4.6
JNU pP **pP** **07 49 42.7 +0.6**
comp=Z,31nm,0.9s,baz=54,slow=6.8,SNR=12
KSCO Kaye Shedlock' 46.85 79 P **P** **07 49 34.2 +0.3**
baz=310
KSCO Kaye Shedlock' 46.85 79 P **P** **07 49 34.6 +0.7**
T25A Trinidad 46.97 82 P **P** **07 49 34.5 -0.6**
baz=311,SNR=16
ANMO Albuquerque 47.17 86 P **P** **07 49 37.8 +1.3**
comp=Z,1.9nm,1.0s,baz=305,slow=12,SNR=5.6
ANMO pP **pP** **07 49 49.3 +2.1**
comp=Z,4.1nm,1.0s,baz=314,slow=9.3,SNR=7.5
ANMO pPcP 07 51 20.1
comp=Z,4.7nm,0.9s,baz=249,slow=3.0,SNR=8.1
ANMO Albuquerque 47.17 86 P **P** **07 49 37.5 +0.9**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 47.17 86 P **P** **07 49 36.9 +0.3**
baz=312
ANMO Albuquerque 47.17 86 P **P** **07 49 37.5 +0.9**
ECSD EROS Data Cent 47.46 70 P **P** **07 49 37.6 -0.8**
baz=308,SNR=8.3
ECSD EROS Data Cent 47.46 70 IAmb IAmb 07 49 49.9
comp=Z,17nm,1.2s
EYMN Ely 47.80 63 P **P** **07 49 40.8 -0.3**
baz=306
F36A Milaca 47.92 66 P **P** **07 49 41.5 -0.6**
F36A IAmb IAmb 07 49 53.8
comp=Z,18nm,1.4s
121A Cookes Peak, D 47.99 89 P **P** **07 49 42.4 -0.5**
baz=314
121A Cookes Peak, D 47.99 89 IAmb IAmb 07 49 57.5
comp=Z,6.9nm,0.8s
BGNE Belgrade 48.00 73 P **P** **07 49 42.4 -0.3**
baz=309
CBKS Cedar Bluff 48.70 77 P **P** **07 49 47.8 -0.4**
baz=310
SPMN Marine on St. 48.71 66 P **P** **07 49 47.5 -0.6**
baz=308
SPITS Spitsbergen Ar 49.61 358 P **P** **07 49 54.0 -0.5**
comp=Z,8.0nm,0.9s,baz=38,slow=9.6,SNR=6.2
SPITS pP **pP** **07 50 05.6 -0.3**
comp=Z,6.9nm,0.6s,baz=63,slow=9.4,SNR=7.3
DAG Danmarks Havn 49.74 8 *i* P **P** **07 49 55.4 -0.1**
DAG *i* 07 50 06.2
DAG Danmarks Havn 49.74 8 *i* P **P** **07 49 55.3 -0.1**
DAG *i* 07 50 06.1
MNTX Cornudas Mount 50.04 88 P **P** **07 49 58.0 -0.5**
baz=314,SNR=8.8
MNTX Cornudas Mount 50.04 88 IAmb IAmb 07 50 12.4
comp=Z,9.8nm,0.8s
MSTX Muleshoe 50.08 84 P **P** **07 49 58.6 -0.2**
baz=313,SNR=5.5
MSTX Muleshoe 50.08 84 IAmb IAmb 07 50 28.6
comp=Z,23nm,1.1s
AMTX Amarillo 50.12 82 P **P** **07 49 58.2 -0.9**
baz=312
G40A Rib Lake 50.14 65 P **P** **07 49 58.9 0.0**
G40A IAmb IAmb 07 50 10.9
comp=Z,26nm,1.3s
KSU1 Kansas State U 50.38 75 P **P** **07 49 60.0 -0.9**
baz=311
SUMG Summit 50.73 17 *i* P **P** **07 50 04.0 +0.4**
SUMG Summit 50.73 17 P **P** **07 50 03.1 -0.4**
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 50.73 17 P **P** **07 50 03.1 -0.4**
SUMG IAmb IAmb 07 50 16.4
comp=Z,18nm,0.9s
HSPB Hornsund (broa 50.81 359 *e*P **P** **07 50 08.0 +4.5**
HSPB *e*pP **pP** **07 50 17.2 +2.2**
ULN Ulaanbaatar 50.90 300 *i* P **P** **07 50 03.3 -1.6**
ULN pmax pmax
comp=Z,6.0nm,1.5s
ULN Ulaanbaatar 50.90 300 P **P** **07 50 04.5 -0.4**
ULN pP **pP** **07 50 15.9 -0.4**
ULN IAmb IAmb 07 50 16.5
comp=Z,7.2nm,0.8s
KS20 Mayfield South 51.04 77 P **P** **07 50 05.5 -0.4**
KS20 IAmb IAmb 07 50 18.3
comp=Z,22nm,0.9s
SONM Songino Array 51.27 301 P **P** **07 50 06.7 -0.9**
comp=Z,1.3nm,0.4s,baz=47,slow=6.5,SNR=11
SONM pP **pP** **07 50 18.1 -0.9**
comp=Z,4.2nm,0.8s,baz=59,slow=6.1,SNR=10.0
SONM pPcP 07 51 33.4
comp=Z,4.5nm,0.8s,baz=55,slow=2.6,SNR=7.1
SONM pScP 07 55 27.4
comp=Z,0.6nm,0.5s,baz=103,slow=3.2,SNR=4.7
SONM LR LR 08 13 40.4
comp=Z,56nm,18.4s,baz=56,slow=38
SONM Songino Array 51.27 301 P **P** **07 50 07.5 -0.1**
SONM pmax pmax
comp=Z,19nm,1.4s
SONM Songino Array 51.27 301 P **P** **07 50 07.5 -0.1**
SONM IAmb IAmb 07 50 20.9
comp=Z,19nm,1.4s
ZAK Zakamensk 51.28 305 *e*P **P** **07 50 07.0 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.4s
JFWS Jewell Farm 51.60 67 P **P** **07 50 08.1 -1.9**
baz=310
JFWS Jewell Farm 51.60 67 **pP** **07 50 20.4 -0.3**
JFWS IAmb IAmb 07 50 21.0
comp=Z,14nm,1.1s
DBG Daneborg 51.86 10 *i* P **P** **07 50 10.6 -0.9**
DBG *i* 07 50 22.2
T35A Sooner Cattle 51.87 77 P **P** **07 50 11.4 -0.7**
T35A IAmb IAmb 07 50 24.3
comp=Z,16nm,0.9s
WMOK Wichita Mounta 51.98 80 P **P** **07 50 11.5 -1.4**
baz=313,SNR=6.7
E46A Sault Ste Mari 52.64 60 P **P** **07 50 17.1 -0.5**
TIA Tai'an 52.72 283 ⇑P P 07 50 29.0 +11
TIA pmax pmax
comp=Z,14nm,0.9s
TX32 Lajitas Array 52.75 89 IAmb IAmb 07 50 32.4
comp=Z,9.3nm,0.8s
TXAR Lajitas Array 52.75 89 P **P** **07 50 19.5 +0.7**
comp=Z,4.8nm,0.9s,baz=299,slow=5.8,SNR=49
TXAR pP **pP** **07 50 31.2 +1.4**
comp=Z,10nm,0.8s,baz=298,slow=5.8,SNR=27
TXAR sP **sP** **07 50 36.6 +2.4**
comp=Z,3.1nm,0.5s,baz=302,slow=5.2,SNR=6.6
TXAR LR LR 08 11 13.9
comp=Z,49nm,18.8s,baz=0.0,slow=34
K43A Burlington 52.81 66 P **P** **07 50 18.6 -0.3**
K43A IAmb IAmb 07 50 30.3
comp=Z,25nm,1.2s
HHC Hu-ho-hao-te 52.90 291 *e*P **P** **07 50 21.0 +1.2**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,110nm,8.9s
ABTX Abilene, Hawle 52.90 83 P **P** **07 50 19.5 -0.4**
baz=314
ABTX Abilene, Hawle 52.90 83 P **P** **07 50 20.6 +0.7**
ABTX IAmb IAmb 07 50 49.1
comp=Z,22nm,1.0s
TUL1 Leonard 52.98 77 P **P** **07 50 19.6 -0.7**
baz=313
S39A Bolivar 53.24 74 P **P** **07 50 19.8 -2.5**
S39A IAmb IAmb 07 50 32.5
comp=Z,10nm,0.8s
ICESG Greenland Ices 53.32 20 *i* P **P** **07 50 22.2 -0.6**
ICESG *i* 07 50 34.2
L44A Lake County Fo 53.39 66 P **P** **07 50 21.7 -1.5**
baz=311
U38A Gravette 53.46 76 IAmb IAmb 07 50 35.6
comp=Z,14nm,0.8s
R40A Maddies Statio 53.46 73 IAmb IAmb 07 50 35.3
comp=Z,13nm,0.7s
GLMI Grayling 53.47 62 P **P** **07 50 23.1 -0.8**
baz=311
HDIL Hopedale 53.67 69 P **P** **07 50 24.5 -0.8**
baz=312
HDIL Hopedale 53.67 69 P **P** **07 50 24.5 -0.8**
HHAR Hobbs 53.83 76 IAmb IAmb 07 50 37.6
comp=Z,11nm,1.0s
MATQ Matagami 53.86 53 P **P** **07 50 25.5 -1.1**
baz=311,SNR=6.5
BTO Baotou 53.94 292 *e*P **P** **07 50 28.0 +0.6**
BTO S **S** **07 58 01.3 +1.3**
BTO LR LR
comp=N,660nm,23.8s
BTO LR LR
comp=E,840nm,17.3s
X37A Clayton 54.13 78 P **P** **07 50 28.3 -0.4**
CCM Cathedral Cave 54.22 72 P **P** **07 50 28.0 -1.4**
CCM pmax pmax
comp=Z,11nm,0.9s
CCM Cathedral Cave 54.22 72 P **P** **07 50 27.9 -1.4**
baz=312
CCM Cathedral Cave 54.22 72 P **P** **07 50 28.0 -1.4**
CCM IAmb IAmb 07 50 40.0

comp=Z,10nm,0.9s
JCT Junction City 54.30 85 P P 07 50 29.3 -0.8
baz=315
JCT Junction City 54.30 85 lAmb lAmb 07 50 42.0
comp=Z,14nm,0.7s
U40A Yellville 54.42 75 P P 07 50 29.2 -1.7
baz=313,SNR=5.7
U40A Yellville 54.42 75 P P 07 50 28.9 -1.9
U40A lAmb lAmb 07 50 41.6
comp=Z,17nm,0.9s
NJ2 Nanjing 54.53 278 *e*P **P 07 50 32.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
LSQQ Lebel-sur-Quev 54.65 54 P P 07 50 31.3 -1.0
baz=312
W39A Magazine 54.66 77 P P 07 50 31.8 -0.8
baz=314
W39A Magazine 54.66 77 lAmb lAmb 07 50 44.4
comp=Z,16nm,1.1s
SFIN Lafayette 55.04 67 P P 07 50 34.5 -0.8
baz=312
SFIN Lafayette 55.04 67 lAmb lAmb 07 50 47.0
comp=Z,19nm,0.9s
SCO Scoresbysund 55.17 13 *i* P **P 07 50 34.7 -1.0**
SCO *i* 07 50 47.4
SCO Scoresbysund 55.17 13 P **P 07 50 34.1 -1.7**
SCO pmax pmax
comp=Z,11nm,0.7s
SCO Scoresbysund 55.17 13 P **P 07 50 34.1 -1.7**
SCO lAmb lAmb 07 50 47.7
comp=Z,11nm,0.7s
MIAR Mount Ida 55.23 77 P P 07 50 35.8 -1.0
baz=314,SNR=6.0
CHGQ Chibougamau 55.35 52 P P 07 50 35.9 -1.5
baz=312,SNR=5.3
SCHQ Schefferville 55.40 43 P P 07 50 38.4 +0.7
comp=Z,7.4nm,0.9s,baz=343,slow=8.0,SNR=7.2
SCHQ pP **pP 07 50 49.2 +0.3**
comp=Z,15nm,0.8s,baz=326,slow=8.4,SNR=14
SCHQ LR LR 08 13 45.7
comp=Z,64nm,18.6s,baz=134,slow=35
SCHQ Schefferville 55.40 43 lAmb lAmb 07 50 50.0
comp=Z,19nm,0.9s
435B Jarrell 55.44 83 P P 07 50 37.9 -0.4
baz=315
L48A N Adams 55.48 64 P P 07 50 37.8 -0.6
L48A lAmb lAmb 07 50 50.8
comp=Z,28nm,1.4s
WHAR Wooly Hollow 55.48 75 lAmb lAmb 07 50 52.4
comp=Z,7.5nm,0.9s
PBMO Poplar Bluff 55.56 73 lAmb lAmb 07 50 49.8
comp=Z,20nm,1.3s
W41B Gary Mavity, V 55.59 75 P P 07 50 37.9 -1.4
baz=314
SIUC Southern Illin 55.63 71 lAmb lAmb 07 50 51.1
comp=Z,16nm,0.8s
X40A Basin Creek Fa 55.72 76 P P 07 50 39.4 -0.8
baz=314
833A Chaparral WMA, 56.09 87 P P 07 50 42.6 -0.3
baz=316
WLAR White Oak Lake 56.10 77 P P 07 50 43.1 +0.1
ALGO Algonquin Park 56.19 57 P P 07 50 42.7 -0.7
baz=313
SADO Sadowa 56.42 59 P P 07 50 44.6 -0.6
SADO lAmb lAmb 07 50 57.1
comp=Z,15nm,0.9s
NATX Nacogdoches 56.52 80 P P 07 50 44.9 -1.1
baz=315
P48A Milroy 56.61 67 P P 07 50 45.3 -1.2
P48A lAmb lAmb 07 50 57.4
comp=Z,12nm,0.8s
HAMF Hammerfest 56.88 355 *e*P **P 07 50 50.5 +2.6**
HAMF *e*pP **pP 07 50 58.5 -1.1**
P49A Miami Univ. Ec 56.96 67 P P 07 50 47.8 -1.2
baz=313
WCI Wyandotte Cave 56.96 69 P P 07 50 48.1 -0.9
WCI pmax pmax
comp=Z,13nm,0.8s
WCI Wyandotte Cave 56.96 69 P P 07 50 48.2 -0.8
baz=314
WCI Wyandotte Cave 56.96 69 P P 07 50 48.1 -0.9
WCI lAmb lAmb 07 51 00.4
comp=Z,13nm,0.8s
T47A Sharon Grove 57.35 70 P P 07 50 50.3 -1.5
ZALV Zalesovo Beam 57.38 318 pP **pP 07 51 02.3 -1.0**
comp=Z,2.8nm,0.6s,baz=40,slow=6.4,SNR=3.4
ZALV pPcP 07 51 55.5
comp=Z,3.8nm,0.7s,baz=46,slow=6.4,SNR=5.9
ZALV LR LR 08 16 48.0
comp=Z,38nm,19.7s,baz=50,slow=37
DELO Deloro Mine 57.39 58 lAmb lAmb 07 51 04.5
comp=Z,19nm,0.9s
ACSO Alum Creek Sta 57.45 65 P P 07 50 51.5 -0.9
baz=314
WVT Waverly 57.52 72 P P 07 50 51.8 -1.2
WVT pmax pmax
comp=Z,10.0nm,1.0s
WVT Waverly 57.52 72 P P 07 50 52.2 -0.9
baz=314
WVT Waverly 57.52 72 P P 07 50 51.8 -1.2
WVT lAmb lAmb 07 51 04.8
comp=Z,10nm,0.9s
OXF Oxford 57.73 74 P P 07 50 53.9 -0.6
baz=315
ERPA Erie 57.78 62 P P 07 50 54.1 -0.7
baz=314
ARCES ARCESS Array B 57.87 354 P P 07 50 53.5 -1.5
comp=Z,1.7nm,0.5s,baz=19,slow=7.7,SNR=12
ARCES pP **pP 07 51 05.1 -1.5**
comp=Z,7.3nm,0.8s,baz=25,slow=7.2,SNR=9.3
ARCES PcP **PcP 07 51 47.0 0.0**
comp=Z,5.2nm,0.9s,baz=356,slow=3.6,SNR=4.9
ARCES pPcP 07 51 58.2
comp=Z,9.5nm,0.7s,baz=3.6,slow=3.9,SNR=12
ARCES LR LR 08 18 17.8
comp=Z,86nm,18.1s,baz=5.0,slow=39
ARCES ARCESS Array B 57.87 354 P **P 07 50 53.0 -1.9**
ARCES lAmb lAmb 07 50 56.7
comp=Z,23nm,1.4s
ARCES pP **pP 07 51 05.7 -0.9**
MEDO Medina 57.88 60 P **P 07 50 54.5 -1.0**
M53A WI Miller and 57.88 63 P **P 07 50 54.5 -1.0**
baz=314
R50A Paris 58.04 68 lAmb lAmb 07 51 08.3
comp=Z,15nm,0.9s
Q51A Peebles 58.08 66 P **P 07 50 56.4 -0.5**
TRO Tromso 58.10 357 *e*P **P 07 50 58.7 +2.1**
TRO epP **pP 07 51 07.7 -0.5**
JETT Jettan, Norway 58.12 356 *e*P **P 07 50 58.8 +2.0**
JETT epP **pP 07 51 08.4 0.0**
O52A Adamsville 58.16 64 P **P 07 50 55.6 -1.9**
WHN Wuhan 58.32 280 ||P P 07 51 09.5 +11
P52A Corning 58.33 65 P **P 07 50 57.4 -1.3**
baz=314
M54A Oil Creek Stat 58.38 62 P **P 07 50 57.9 -1.1**
baz=314
M54A Oil Creek Stat 58.38 62 lAmb lAmb 07 51 10.9
comp=Z,11nm,0.9s
O53A New Philadelph 58.41 64 P **P 07 50 58.1 -1.2**
baz=314
CLTN Cedars of Leba 58.42 71 P **P 07 50 58.6 -0.7**
CLTN lAmb lAmb 07 51 11.2
comp=Z,16nm,1.0s
KTK1 Kautokeino 58.52 355 *e*P **P 07 51 01.2 +1.6**
KTK1 *e*pP **pP 07 51 10.4 -0.8**
H57A Richville 58.58 57 P **P 07 50 59.7 -0.6**
baz=314,SNR=7.6
N54A Moraine State 58.59 63 P **P 07 50 59.4 -1.1**
baz=314
N54A Moraine State 58.59 63 P **P 07 51 00.9 +0.4**
T50A Nancy 58.63 69 lAmb lAmb 07 51 12.4
comp=Z,12nm,0.8s
LVZ Lovozero 58.66 350 *i* P **P 07 50 59.4 -1.2**
VBMS Vicksburg 58.68 77 P **P 07 51 00.1 -1.1**
baz=315
K56A Middlesex 58.80 59 P **P 07 51 00.8 -1.1**
baz=314
I57A Carthage 58.80 57 P **P 07 51 00.7 -1.2**
baz=314,SNR=13
LONY Lake Ozonia 58.88 56 P **P 07 51 01.6 -0.8**
baz=315,SNR=5.3
O54A Avella 58.92 63 P **P 07 51 01.6 -1.2**
XAN Xi'an 59.08 287 P P 07 51 13.3 +9.3
XAN pP sP 07 51 24.0 +3.9
XAN sP pP 07 51 27.5 +12
XAN S S 07 59 26.8 +19
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,87nm,4.6s
XAN LR LR
comp=N,79nm,14.9s
XAN LR LR
comp=E,100nm,16.3s
XAN LR LR
comp=Z,130nm,16.3s
X48A Hartselle 59.16 73 P **P 07 51 02.5 -1.9**
SSLB Suanglung 59.20 270 P **P 07 51 03.9 -1.1**
H58A Gabriels 59.23 56 P **P 07 51 03.7 -1.1**
baz=315
DGZ Jazzator, Alta 59.30 313 *i* P **P 07 51 05.5 +0.1**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
H59A Cadyville 59.31 56 P **P 07 51 04.3 -1.1**
baz=315,SNR=6.9
I58A Old Forge 59.33 57 P **P 07 51 04.5 -1.1**
baz=315,SNR=8.1
J58A Remsen 59.40 58 P **P 07 51 05.3 -0.8**
baz=315,SNR=6.2
J58A Remsen 59.40 58 P **P 07 51 06.0 -0.1**
NCB Newcomb 59.52 57 lAmb lAmb 07 51 20.0
comp=Z,9.2nm,0.9s
MCWV Mont Chateau 59.58 64 P **P 07 51 05.8 -1.5**
baz=315
W50A Signal Mountai 59.63 71 lAmb lAmb 07 51 19.2
comp=Z,9.8nm,0.8s
TZTN Tazewell 59.70 68 P **P 07 51 07.7 -0.4**
baz=315
TZTN Tazewell 59.70 68 P **P 07 51 08.3 +0.1**
TZTN lAmb lAmb 07 51 19.9
comp=Z,13nm,0.9s
J59A Piesco 59.73 57 lAmb lAmb 07 51 20.4
comp=Z,10nm,0.7s
LOF Lofoten 59.74 359 *e*P **P 07 51 10.3 +2.3**
I59A Olmsteadville 59.82 56 P **P 07 51 08.1 -0.9**
baz=315
O56A Blue Knob Stat 59.84 62 P **P 07 51 08.1 -1.1**
baz=315
O56A Blue Knob Stat 59.84 62 lAmb lAmb 07 51 35.5
comp=Z,12nm,0.9s
BINY Binghamton 59.86 59 P **P 07 51 08.6 -0.6**
baz=315,SNR=6.1
D62A Allapoint, All 59.86 51 P **P 07 51 08.6 -0.5**
baz=316
D62A Allapoint, All 59.86 51 pP 07 51 20.6 0.0
M57A Sunshine Farm, 59.86 60 lAmb lAmb 07 51 22.2
comp=Z,23nm,1.4s
H60A Morristown 59.87 55 P **P 07 51 08.5 -0.8**
baz=315
STEI Steigen 59.91 358 *e*P **P 07 51 11.5 +2.3**
STEI *e*pP **pP 07 51 19.9 -0.5**
SSPA Standing Stone 59.95 62 P **P 07 51 09.3 -0.6**
baz=315
SSPA Standing Stone 59.95 62 P **P 07 51 09.9 0.0**
E62A Clayton Lake 59.96 52 P **P 07 51 08.5 -1.3**
baz=316
E62A Clayton Lake 59.96 52 lAmb lAmb 07 51 21.6
comp=Z,8.1nm,0.8s
VT1 Waterbury 60.01 55 P **P 07 51 09.7 -0.5**
VT1 lAmb lAmb 07 51 22.1
comp=Z,11nm,1.0s
L58A Harry Jones Me 60.04 59 P **P 07 51 09.9 -0.5**
baz=315,SNR=7.3
I60A Shoreham 60.08 56 P **P 07 51 10.4 -0.3**
baz=315
V52A Sevierville 60.17 69 lAmb lAmb 07 51 24.4
comp=Z,12nm,0.8s
ACCN Adirondack Com 60.22 57 lAmb lAmb 07 51 23.9
comp=Z,14nm,0.9s
H61A Lyndonville 60.28 55 P **P 07 51 11.1 -1.0**
baz=316
D63A Stockholm 60.34 51 P **P 07 51 11.5 -0.9**
baz=316
L59A Walton 60.36 58 P **P 07 51 12.6 -0.1**
R55A Marlinton 60.40 65 P **P 07 51 13.5 +0.5**
R55A lAmb lAmb 07 51 26.0
comp=Z,20nm,1.2s
KSPA Keystone Colle 60.43 59 P **P 07 51 13.3 +0.2**
KSPA lAmb lAmb 07 51 25.5
comp=Z,14nm,1.0s
N58A Sunbury 60.43 61 P **P 07 51 12.5 -0.6**
N58A lAmb lAmb 07 51 25.4
comp=Z,18nm,1.1s
J60A Lant Hill Farm 60.45 57 P **P 07 51 11.9 -1.3**
baz=316,SNR=6.9
GTA Gaotai 60.45 297 *e*P P 07 51 24.3 +11
GTA pP sP 07 51 28.8 -0.7
GTA sP pP 07 51 32.3 +7.3
GTA pmax pmax
comp=Z,11nm,1.0s
FAUS Fauske 60.46 358 *e*pP pP 07 51 23.6 -0.6
G62A West of Eustis 60.48 53 P **P 07 51 12.2 -1.2**
baz=316
G62A West of Eustis 60.48 53 P **P 07 51 13.7 +0.2**
G62A lAmb lAmb 07 51 25.4
comp=Z,14nm,0.9s
LBNH Lisbon 60.49 55 P **P 07 51 12.3 -1.2**
baz=316
LZH Lanzhou 60.56 292 *e*P **P 07 51 14.8 +0.5**
LZH pP pP 07 51 26.0 +0.1
LZH sP sP 07 51 31.3 +0.9
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.7s
LZH LR LR
comp=N,210nm,15.4s
LZH LR LR
comp=E,170nm,16.3s
LZH LR LR
comp=Z,180nm,18.6s
BORG Borgarnes 60.58 15 pP pP 07 51 26.3 +1.3
comp=Z,4.4nm,0.6s,baz=336,slow=4.0,SNR=2.4
E63A Oxbow 60.63 51 P **P 07 51 13.0 -1.4**
baz=316
H62A Milan 60.63 54 P **P 07 51 14.1 -0.4**
baz=316
P57A Homestead Farm 60.70 63 lAmb lAmb 07 51 27.1
comp=Z,16nm,1.1s
J61A Chester 60.81 56 P **P 07 51 15.1 -0.6**
baz=316
F63A Nahmakanta, Br 60.83 52 P **P 07 51 14.9 -0.9**
baz=316
F63A Nahmakanta, Br 60.83 52 lAmb lAmb 07 51 27.6
comp=Z,14nm,0.8s
N59A State Game Lan 60.88 60 P **P 07 51 15.3 -1.0**
baz=316
N59A State Game Lan 60.88 60 lAmb lAmb 07 51 29.2
comp=Z,12nm,0.9s
E64A Bridgewater 60.92 51 P **P 07 51 15.0 -1.3**
baz=317
K61A Williamstown 60.94 57 P **P 07 51 15.6 -1.0**
baz=316
BLA Blacksburg 60.99 66 P **P 07 51 16.6 -0.5**
baz=316
G63A Kingsbury 61.00 53 P **P 07 51 16.4 -0.5**
baz=316
I62A Tamworth 61.05 55 P **P 07 51 16.8 -0.5**
baz=316
PKME Peaks-Kenny Pk 61.05 53 P **P 07 51 16.7 -0.6**
baz=316
PKME Peaks-Kenny Pk 61.05 53 lAmb lAmb 07 51 17.9
comp=Z,16nm,1.1s
F64A Sherman 61.07 52 P **P 07 51 16.6 -0.9**
baz=317
J62A Henniker 61.28 56 P **P 07 51 18.2 -0.6**
baz=316
I63A Otisfield 61.30 54 P **P 07 51 18.2 -0.7**
baz=316
LUPA Lehigh Univers 61.32 60 lAmb lAmb 07 51 32.2
comp=Z,15nm,0.9s
250A Grady 61.37 74 pP pP 07 51 30.1 -0.6
ODNJ Ogdensburg 61.38 59 pP 07 51 30.7 -0.2
K62A Royalston 61.47 56 P **P 07 51 19.2 -1.0**
baz=316
BRAL Brewton 61.49 75 P **P 07 51 19.6 -0.9**
baz=316
KSCT Kent School, K 61.50 58 lAmb lAmb 07 51 32.9
comp=Z,12nm,0.8s
U56A King 61.63 67 pP 07 51 32.0 -0.2
MOR8 Moi Rana 61.70 358 *e*pP pP 07 51 31.0 -1.7
K63A Dunstable 61.81 56 P **P 07 51 21.6 -0.8**
baz=317
HRV Adam Dziewonsk 61.93 56 P **P 07 51 22.2 -1.1**
baz=317
KMSC Kings Mountain 61.96 68 P **P 07 51 22.0 -1.5**
baz=316
H65A Eastbrook 61.98 52 P **P 07 51 22.6 -0.9**
baz=317
GOGA Godfrey 61.98 71 P **P 07 51 22.6 -1.1**
baz=316,SNR=5.3
H66A Whiting 62.36 52 P **P 07 51 25.2 -0.8**
baz=318
L63A North Scituate 62.37 57 P **P 07 51 25.2 -0.9**
baz=317
M63A Gales Ferry 62.48 57 P **P 07 51 27.8 +0.9**
352A Blakely 62.52 73 P **P 07 51 26.6 -0.8**
352A pP **pP 07 51 37.9 -0.5**
Q61A Milford 62.58 61 P **P 07 51 28.0 +0.4**
baz=317
LMN Caledonia Moun 62.76 50 P **P 07 51 29.1 +0.3**
U59A Littleton 63.07 65 lAmb lAmb 07 51 32.1
comp=Z,25nm,1.5s
NSS Namsos 63.38 359 *e*P **P 07 51 34.5 +2.0**
NSS *e*pP **pP 07 51 43.1 -0.8**
WMQ Urumqi 63.49 308 *e*P **P 07 51 37.0 +3.3**
MKAR Makanchi Array 63.76 313 P **P 07 51 33.8 -1.6**
comp=Z,0.6nm,0.4s,baz=46,slow=5.5,SNR=12
MKAR pP **pP 07 51 45.6 -1.5**
comp=Z,4.8nm,0.7s,baz=41,slow=4.3,SNR=30
MKAR LR LR 08 20 23.2
comp=Z,55nm,18.1s,baz=26,slow=37
CD2 Chengdu 64.35 288 P **P 07 51 40.3 +0.8**
CD2 pP pP 07 51 50.5 -0.7
CD2 pmax pmax
comp=Z,20nm,0.7s
ARU Arti 64.57 333 P **P 07 51 39.7 -0.8**
comp=Z,1.6nm,0.2s,baz=34,slow=4.5,SNR=3.6
ARU pP **pP 07 51 51.0 -1.1**
comp=Z,1.6nm,0.3s,baz=349,slow=1.7,SNR=2.5
ARU Arti 64.57 333*c i* P **P 07 51 40.0 -0.5**
ARU 07 52 13.1
ARU 07 53 57.8
ARU S **S 08 00 17.6 +1.0**
ARU SS **SS 08 04 27.1 +0.6**
ARU pmax pmax
comp=Z,5.0nm,1.1s
ARU Arti 64.57 333 lAmb lAmb 07 51 52.0
comp=Z,12nm,0.9s
KLMR Klimovskoe 64.73 345 *e*P P 07 51 46.5 +5.1
KLMR pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 64.73 345 *e*P P 07 51 46.6 +5.2
KLMR AMP 07 51 55.1
comp=Z,12nm,1.3s
KIRV Kirov 64.95 339 pP pP 07 51 53.5 -0.9
comp=Z,12nm,0.5s,baz=306,slow=6.4,SNR=2.0
MOL Molde 65.32 2 *e*P **P 07 51 48.7 +3.4**
AKN Aaknes 65.71 2 *e*P **P 07 51 50.3 +2.5**
AKN *e*pP **pP 07 51 59.5 +0.2**
FINES FINESS Array B 65.81 352 P **P 07 51 47.6 -0.8**
comp=Z,2.2nm,0.5s,baz=13,slow=7.3,SNR=18
FINES pP **pP 07 51 59.1 -0.8**
comp=Z,12nm,0.6s,baz=28,slow=8.6,SNR=24
FINES LR LR 08 23 06.9
comp=Z,30nm,18.5s,baz=11,slow=38
DOMB Dombas 65.87 1 *e*P **P 07 51 51.0 +2.1**
DOMB *e*pP **pP 07 52 00.0 -0.4**
GYA Guiyang 65.91 282 P **P 07 51 50.5 +0.7**
GYA pP pP 07 52 00.8 -0.7
GYA pmax pmax
comp=Z,2.0nm,0.7s
TAOE Nuku Hiva Isla 65.97 148 *e*T T 09 03 36.2
comp=Z,40nm,0.2s
NC405 NORSAR Array S 66.81 359 pP pP 07 52 03.4 -3.0
NB2 NORSAR Subarra 66.88 360 P **P 07 51 54.7 -0.7**
comp=Z,7.4nm,0.7s,baz=0.6,slow=6.5
NB2 NORSAR Subarra 66.88 360 P **P 07 51 54.7 -0.7**
baz=0.6,slow=6.5
NOA NORSAR Array B 66.88 360 P **P 07 51 54.4 -1.0**
comp=Z,3.4nm,1.0s,baz=359,slow=6.1,SNR=5.3
NOA pP **pP 07 52 05.8 -1.1**
comp=Z,3.4nm,0.7s,baz=322,slow=5.0,SNR=12
NOA LR LR 08 22 08.5
comp=Z,21nm,18.7s,baz=15,slow=37
MEF Metsahovi 67.16 353 *e*P **P 07 52 00.1 +3.0**
NC602 NORSAR Array S 67.19 360 *e*P **P 07 51 59.0 +1.8**
NC602 *e*pP **pP 07 52 08.0 -0.8**
SKAR Skarslia 67.23 1 *e*P **P 07 51 59.7 +2.1**
SKAR *e*pP **pP 07 52 08.6 -0.6**
BER Bergen 67.46 3 *e*P **P 07 52 01.0 +2.1**
HFS Hagfors 67.77 358 P **P 07 51 59.9 -1.0**
comp=Z,3.6nm,0.4s,baz=29,slow=3.4,SNR=46
HFS pP **pP 07 52 11.5 -1.0**
comp=Z,8.9nm,0.4s,baz=30,slow=3.6,SNR=15
UPP Uppsala 67.93 356 *e*P **P 07 52 04.9 +3.0**
ODD1 Odda 67.97 2 *e*P **P 07 52 04.8 +2.5**
KONO Kongsberg 68.28 1 *e*P **P 07 52 07.0 +2.9**
KONO *e*pP **pP 07 52 15.5 -0.2**
BLS5 Blasjo 68.46 2 *e*P P 07 52 07.5 +2.2
BLS5 *e*pP **pP 07 52 16.4 -0.4**
VSU Vasula 68.69 351 *e*P **P 07 52 09.7 +3.0**
MTSE Matsula 68.70 353 *e*P **P 07 52 06.5 -0.3**
KMI Kunming 69.25 284 ||P **P 07 52 13.0 +2.0**
KMI pP pP 07 52 22.0 -0.8
KMI pmax pmax
comp=Z,12nm,1.0s
SNART Snartemo 69.56 2 *e*P **P 07 52 14.8 +2.7**
PMOR Pomariorio Ree 69.68 158 *e*T T 09 08 15.3
comp=Z,3.8nm,0.3s
SLIT Slitere, Latvi 69.89 353 *e*P **P 07 52 17.0 +2.9**
AKTO Aktyubinsk 69.96 330 P **P 07 52 14.2 -0.5**
comp=Z,1.7nm,0.5s,baz=54,slow=7.8,SNR=7.3
AKTO pP **pP 07 52 25.8 -0.7**
comp=Z,9.2nm,0.6s,baz=45,slow=6.6,SNR=21
ABKAR Akbulak array 70.38 328 P **P 07 52 16.5 -0.8**
ABKAR Akbulak array 70.38 328 lAmb lAmb 07 52 30.4
comp=Z,10.0nm,0.7s
AAK Ala-Archa 70.45 315 LR LR 08 26 14.8
comp=Z,68nm,18.2s,baz=30,slow=38
AAK Ala-Archa 70.45 315 *i* P **P 07 52 18.3 +0.2**
AAK pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 70.69 345*ce*P **P 07 52 20.0 +1.0**
OBN *e* 07 52 41.5
OBN *e* 07 54 57.6
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,45nm,17.0s
BELG Belogornoye 71.03 337 LR LR 08 27 21.1
comp=Z,54nm,18.5s,baz=79,slow=39
SLVN Son La 71.42 281 P **P 07 52 24.9 +0.8**
KK31 Karatay Array 71.74 318 lAmb lAmb 07 52 37.9
comp=Z,8.1nm,0.8s
KKAR Karatay Array 71.74 318 P **P 07 52 24.9 -0.8**
KKAR Karatay Array 71.74 318 P **P 07 52 24.9 -0.8**
KKAR Karatay Array 71.74 318 lAmb lAmb 07 52 37.9
comp=Z,8.1nm,0.8s
PPT Papeete 71.79 160 LR LR 08 15 10.6
comp=Z,54nm,20.7s,baz=350,slow=28
PPT2 Papeete2 71.81 160 *e*LR LR 08 14 04.3
comp=Z,170nm,34.2s
PABE Paberze 71.87 352 *e*P **P 07 52 29.1 +2.9**
EKA Eskdalemuir Ar 72.00 8 P **P 07 52 26.9 -0.2**
comp=Z,0.9nm,0.4s,baz=350,slow=4.4,SNR=10
EKA pP **pP 07 52 38.4 -0.3**
comp=Z,6.9nm,0.6s,baz=356,slow=4.4,SNR=12
KSH Kashi 72.33 312 P P 07 52 43.8 +14
KSH pmax pmax
comp=Z,19nm,0.5s
KSH pmax pmax
comp=Z,90nm,4.1s
MNK Minsk 72.48 350 *i* P **P 07 52 25.5 -4.3**
MNK *i* 07 52 40.7
MNK *i* S **S 08 01 45.1 -5.5**
MNK *i* SS **SS 08 06 26.7 -1.6**
MNK *i* SSS SSS 08 09 46.8
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=Z,4.0nm,0.7s
MNK pmax pmax
comp=N,20nm,0.9s
MNK MLR MLR
comp=Z,62nm,16.0s
MNK MLR MLR
comp=N,136nm,19.0s

MNK MLR MLR
comp=E,14nm,24.0s
MNK Minsk 72.48 350 *i* P **P 07 52 25.6 -4.3**
comp=E,2.0nm,0.8s
MNK *i* P **P 07 52 25.6 -4.3**
comp=N,20nm,0.8s
MNK *i* P **P 07 52 25.6 -4.3**
comp=Z,4.0nm,0.7s,baz=191
MNK *i* PcP **pP 07 52 40.7 -0.9**
MNK *i* PP PP 07 55 01.4 -9.1
MNK *i* PPP PPP 07 56 29.6
MNK *i* S **S 08 01 45.1 -5.4**
MNK *i* SS **SS 08 06 26.7 -1.6**
MNK *i* SSS SSS 08 09 46.9
MNK *i* LQ LQ 08 19 19.2
MNK *i* LR LR 08 21 32.7
MNK *i* LRM MLR 08 26 57.9
comp=Z,62nm,15.9s
MNK *i* LRM MLR 08 27 03.3
comp=N,136nm,19.2s
MNK *i* LRM MLR 08 27 12.7
comp=E,14nm,23.5s
BSEG Bad Segeberg 74.01 0 *eP* pP 07 52 50.7 +0.2
comp=E,39nm,1.6s,baz=0.7,slow=5.7
BTK Batken 74.15 316 IAmb IAmb 07 52 54.0
comp=Z,18nm,1.1s
NONG Nongkai 74.38 279 P **P 07 52 42.0 +0.4**
NRDL Niedersach Rie 75.45 0 *eP* pP 07 52 59.0 +0.1
comp=Z,11nm,0.9s,baz=0.7,slow=5.7
IBBN Ibbenburen 75.61 2 *eP* pP 07 53 00.1 +0.2
comp=Z,41nm,1.1s,baz=0.7,slow=5.7
FLTG Flechtingen 75.61 360 *eP* pP 07 52 59.4 -0.5
comp=Z,15nm,1.0s,baz=0.7,slow=5.7
KHON Khomkaen 75.90 278 P pP 07 53 02.6 +0.4
LOEI Loei 75.94 280 P **P 07 52 49.7 -0.9**
AKASG Malin Array Be 76.05 348 P **P 07 52 49.2 -1.4**
comp=Z,1.7nm,0.4s,baz=15,slow=6.2,SNR=8.9
AKASG pP **PcP 07 53 00.4 -2.4**
comp=Z,8.3nm,0.7s,baz=16,slow=6.3,SNR=12
AKASG LR LR 08 31 00.3
comp=Z,53nm,18.5s,baz=345,slow=39
AKBB Malin Array Si 76.05 348 P **P 07 52 50.1 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 76.05 348 P **P 07 52 50.1 -0.6**
AKBB IAmb IAmb 07 53 01.2
comp=Z,8.1nm,0.7s
CLZ Clausthal 76.11 0 *eP* pP 07 53 03.1 +0.3
comp=Z,22nm,1.0s,baz=0.7,slow=5.7
LAMP Lampang 76.14 282 P pP 07 53 03.6 +0.1
comp=Z,529nmcomp=Z,39nm,1.0s
UTTA Uttaradit 76.19 281 P **P 07 52 53.2 +1.2**
CM35 Chiang Mai Arr 76.30 283 P **P 07 52 53.5 +0.8**
CM35 P **pP 07 53 02.0 -2.5**
CMMT Chiang Mai 76.32 283 P **P 07 52 55.5 +2.7**
CHTO Chiang Mai 76.32 283 P **P 07 52 54.0 +1.2**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 76.32 283 P pP 07 53 04.1 -0.5
comp=Z,28nm,1.4s
CHTO Chiang Mai 76.32 283 P **P 07 52 54.0 +1.2**
CHTO IAmb IAmb 07 53 04.9
comp=Z,17nm,0.9s
GTTG Gottingen 76.40 0 *eP* pP 07 53 04.7 +0.3
comp=Z,30nm,1.0s,baz=0.7,slow=5.7
CM32 Chiang Mai Arr 76.51 283 P pP 07 53 05.0 -0.6
CM09 Chiang Mai Arr 76.58 283 P pP 07 53 06.0 -0.1
comp=Z,331nmcomp=Z,42nm,0.9s
CM09 Chiang Mai Arr 76.58 283 P **P 07 52 56.0 +1.8**
CMAR Chiang Mai Arr 76.60 283 P **P 07 52 54.5 +0.2**
comp=Z,6.6nm,0.8s,baz=26,slow=6.2,SNR=29
CMAR pP **pP 07 53 05.6 -0.6**
comp=Z,30nm,0.9s,baz=26,slow=6.6,SNR=31
CMAR LR LR 08 30 33.9
comp=Z,39nm,18.1s,baz=170,slow=39
CM15 Chiang Mai Arr 76.61 283 P pP 07 53 06.1 -0.1
comp=Z,276nmcomp=Z,40nm,0.9s
CM15 Chiang Mai Arr 76.61 283 P **P 07 52 56.4 +1.9**
CM02 Chiang Mai Arr 76.62 283 P pP 07 53 05.9 -0.4
comp=Z,363nmcomp=Z,50nm,0.9s
CM01 Chiang Mai Arr 76.62 283 P pP 07 53 06.3 0.0
comp=Z,373nmcomp=Z,50nm,0.9s
CM01 Chiang Mai Arr 76.62 283 P **P 07 52 56.0 +1.6**
CLL Collm 76.62 358 *eP* **P 07 52 53.0 -0.9**
comp=Z,6.0nm,0.9s
CLL *i* pP **pP 07 53 05.2 -0.5**
comp=Z,13nm,0.8s
CLL Collm 76.62 358 *eP* **P 07 52 53.0 -0.9**
CLL *i* *SP **pP 07 53 05.2 -0.5**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 76.62 358 *eP* pP 07 53 05.3 -0.5
comp=Z,13nm,0.8s,baz=0.7,slow=5.7
CM04 Chiang Mai Arr 76.62 283 P pP 07 53 06.3 0.0
comp=Z,425nmcomp=Z,59nm,0.9s
CM04 Chiang Mai Arr 76.62 283 P **P 07 52 56.0 +1.5**
CM13 Chiang Mai Arr 76.65 283 P **P 07 52 55.8 +1.2**
PHIT Phitsanulok 76.70 281 P **P 07 52 56.0 +1.1**
NEUB Neuenburg 76.74 359 *eP* pP 07 53 06.4 0.0
comp=Z,25nm,0.8s,baz=0.7,slow=5.7
CHAI Chaiyaphum 76.75 279 P pP 07 53 07.0 0.0
BRG Berggiesshubel 77.04 358 *eP* **pP 07 53 07.7 -0.4**
BRG Amp 07 53 09.9
comp=Z,13nm,1.1s
BRG Berggiesshubel 77.04 358 *eP* pP 07 53 07.9 -0.2
comp=Z,13nm,1.1s,baz=0.7,slow=5.7
CHVC Chvalec 77.26 356 *eP* **P 07 52 58.2 +0.6**
CHVC *ep*P **PcP 07 53 08.9 +0.8**
BSTI Sart Tilman 77.28 3 *dp*P pP 07 53 08.8 -0.6
OSTC Ostas 77.28 356 *eP* **P 07 52 59.5 +1.8**
OSTC *ep*P **pP 07 53 09.5 0.0**
MOX Moxa 77.30 359 *eP* pP 07 53 09.6 0.0
comp=Z,14nm,0.9s,baz=0.7,slow=5.7
MHMT Maesarieng 77.42 283 P pP 07 53 10.8 0.0
TBI Tubuai 77.43 161 *eT* T 09 17 57.6
comp=Z,4.3nm,0.3s
PLN Plauen 77.46 359 *eP* pP 07 53 10.3 -0.1
comp=Z,8.5nm,1.0s,baz=0.7,slow=5.7
BGES Gesves 77.46 4 *dp*P pP 07 53 09.7 -0.8
DPC Dobruska-Polom 77.49 356 *eP* **P 07 52 59.9 +1.0**
DPC *e*PP **pP 07 53 10.5 -0.2**
DPC Dobruska-Polom 77.49 356 *eP* **P 07 52 59.9 +1.0**
DPC *ep*P **pP 07 53 10.5 -0.2**
WERD Werda 77.49 359 *eP* pP 07 53 10.6 -0.1
comp=Z,17nm,1.4s,baz=0.7,slow=5.7
BMRD Maredsous 77.53 4 *dP* **P 07 52 59.4 +0.4**
comp=Z,22nm,1.4s
BMRD *dp*P **pP 07 53 10.5 -0.4**
GUNZ Gunzen 77.58 359 *eP* pP 07 53 11.3 +0.1
comp=Z,7.1nm,1.0s,baz=0.7,slow=5.7
WERN Wernitzgruen 77.65 359 *eP* pP 07 53 11.8 +0.2
comp=Z,14nm,1.0s,baz=0.7,slow=5.7
NKC Novy Kostel 77.70 359 *eP* **P 07 53 00.9 +0.8**
NKC *e*PP **pP 07 53 11.4 -0.5**
NKC Novy Kostel 77.70 359 *eP* **P 07 53 00.9 +0.8**
NKC *ep*P **pP 07 53 11.4 -0.5**
TNS Taunus Mts 77.71 1 *eP* pP 07 53 12.0 0.0
comp=Z,11nm,0.9s,baz=0.7,slow=5.7
PRU Pruhonice 77.91 357 *eP* **P 07 53 05.5 +4.3**
PRU *e*PP **pP 07 53 12.7 -0.3**
PRU Pruhonice 77.91 357 *eP* **P 07 53 05.5 +4.3**
PRU *ep*P **pP 07 53 12.7 -0.3**
MANZ Manzenberg 77.96 359 *eP* pP 07 53 13.2 -0.1
comp=Z,28nm,1.9s,baz=0.7,slow=5.7
MORC Moravsky Berou 78.00 355 *eP* **P 07 53 02.5 +0.7**
MORC *e* 07 53 13.0
MILB Miltenberg 78.12 1 *eP* pP 07 53 14.2 0.0
comp=Z,24nm,0.9s,baz=0.7,slow=5.7
ROTZ Rotzenmuhle 78.17 359 *eP* pP 07 53 14.7 +0.2
comp=Z,19nm,1.7s,baz=0.7,slow=5.7
GRF Grafenberg Arr 78.26 360 *eP* pP 07 53 15.4 +0.4
comp=Z,19nm,1.0s,baz=0.7,slow=5.7
NIL Nilore 78.39 311 P **P 07 53 05.1 +0.9**
NIL pmax pmax
comp=Z,34nm,0.9s
NIL Nilore 78.39 311 P **P 07 53 05.1 +0.9**
UMPA Umpang Tak 78.39 281 P pP 07 53 18.1 +1.9
comp=Z,0.1nmcomp=Z,999nmcomp=Z,11nm,1.1s
VRAC Vranov 78.52 356 P **P 07 53 05.1 +0.6**
comp=Z,2.4nm,0.4s,baz=16,slow=6.8,SNR=7.2
VRAC pP **pP 07 53 16.7 +0.3**
comp=Z,19nm,0.8s,baz=1.3,slow=5.5,SNR=7.7
VRAC Vranov 78.52 356 *eP* **P 07 53 05.6 +1.0**
VRAC *e* 07 53 16.1
LANS Liptovska Anna 78.52 354 *eP* **P 07 53 06.2 +1.5**
LANS *e* 07 53 17.3
LANS pmax pmax
comp=Z,10.0nm,1.0s
LANS Liptovska Anna 78.52 354 *eP* **P 07 53 06.2 +1.5**
LANS *e* 07 53 17.3
KOLS Kolonicke sedl 78.53 352 *eP* pP 07 53 16.2 -0.3
KOLS Kolonicke sedl 78.53 352 *e* pP 07 53 16.2 -0.3
UTHA Uthaitani 78.55 281 P pP 07 53 17.7 +0.6
KRUC Moravsky 78.77 356 *eP* **P 07 53 06.9 +0.9**
KRUC *e* 07 53 17.4
KHC Kasperske Hory 78.79 358 *eP* **P 07 53 07.7 +1.6**
KHC *e*PP **pP 07 53 17.7 -0.2**
KHC Kasperske Hory 78.79 358 *eP* **P 07 53 07.7 +1.6**
KHC *ep*P **pP 07 53 17.7 -0.2**
KHC Kasperske Hory 78.79 358 IAmb IAmb 07 53 19.1
comp=Z,14nm,1.0s
WET Wettzell 78.79 358 *eP* pP 07 53 18.2 +0.3
comp=Z,11nm,1.2s,baz=0.7,slow=5.7
JAVC Velka Javorina 78.91 355 *eP* **P 07 53 08.7 +1.9**
JAVC *e* 07 53 19.3
GEC2 GERESS Array S 79.07 358 *eP* pP 07 53 19.5 -0.1
comp=Z,11nm,1.0s,baz=0.7,slow=5.7
GERES GERESS Array B 79.07 358 P **P 07 53 07.9 +0.2**
comp=Z,1.6nm,0.8s,baz=29,slow=3.0,SNR=10
GERES pP **pP 07 53 19.2 -0.4**
comp=Z,5.4nm,0.7s,baz=15,slow=5.5,SNR=16
CKRC Cesky Krumlov 79.08 358 *ep*P pP 07 53 19.0 -0.5
STU Stuttgart 79.17 1 *eP* pP 07 53 20.1 +0.1
comp=Z,19nm,0.7s,baz=0.7,slow=5.7
VYHS Vyhne 79.21 354 *eP* pP 07 53 20.0 -0.2
VYHS Vyhne 79.21 354 *e* pP 07 53 20.0 -0.2
SMOL Smolenice 79.27 355 *eP* **P 07 53 09.8 +1.1**
SMOL *e* 07 53 20.9
SMOL pmax pmax
comp=Z,10.0nm,0.9s
SMOL Smolenice 79.27 355 *eP* **P 07 53 09.8 +1.1**
SMOL *e* 07 53 20.9
MODS Modra-Piesok 79.42 355 *eP* **P 07 53 11.9 +2.4**
MODS *e* 07 53 22.7
MODS pmax pmax
comp=Z,28nm,1.1s
MODS Modra-Piesok 79.42 355 *eP* **P 07 53 11.9 +2.4**
MODS *e* 07 53 22.7
BFO Black Forest 79.60 2 *eP* pP 07 53 22.4 0.0
comp=Z,10nm,1.0s,baz=0.7,slow=5.7
ZST Bratislava 79.60 356 *eP* **P 07 53 11.8 +1.3**
ZST *e* 07 53 22.7
ZST pmax pmax
comp=Z,46nm,0.9s
ZST Bratislava 79.60 356 *eP* **P 07 53 11.8 +1.3**
ZST *e* 07 53 22.7
CONA Conrad Observa 79.92 356 *eP* **P 07 53 13.3 +0.9**
comp=Z,6.0nm,1.0s
CONA *eP* **pP 07 53 24.2 0.0**
comp=Z,8.4nm,0.7s
MOA Molln 80.05 358 *eP* pP 07 53 24.3 -0.5
comp=Z,5.0nm,1.1s
KVAR Kislovodsk Arr 80.09 337 P **P 07 53 14.0 +0.6**
comp=Z,2.1nm,0.3s,baz=270,slow=20,SNR=3.2
KVAR pP **pP 07 53 24.9 -0.5**
comp=Z,3.1nm,0.4s,baz=104,slow=23,SNR=1.9
KIV Kislovodsk 80.09 337 *eP* **P 07 53 14.3 +0.9**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 80.09 337 pP 07 53 24.6 -0.7
KBZ Khabaz 80.26 337 P **P 07 53 14.8 +0.7**
comp=Z,4.7nm,1.1s,baz=122,slow=5.3,SNR=5.6
KBZ pP **pP 07 53 25.8 -0.2**
comp=Z,7.6nm,0.9s,baz=142,slow=2.8,SNR=11
KBZ Khabaz 80.26 337 *i* P **P 07 53 14.7 +0.6**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
UBR Ueberruh 80.27 0 *eP* pP 07 53 26.2 +0.1
comp=Z,27nm,1.3s,baz=0.7,slow=5.7
RETA Reutte 80.47 360 *i* P pP 07 53 27.1 -0.1
comp=Z,7.3nm,0.8s
MOTA Moosalm 80.61 360 *i* P **P 07 53 17.2 +1.1**
comp=Z,8.4nm,1.3s
MOTA *i* P **pP 07 53 27.8 -0.2**
SNR=4.1
ARSA Arzberg 80.61 357 *eP* **P 07 53 16.9 +0.8**
comp=Z,5.2nm,1.1s
ARSA *eP* **pP 07 53 27.9 +0.1**
comp=Z,11nm,0.7s
WATA Walderalm 80.61 359 *eP* **P 07 53 17.2 +1.0**
comp=Z,11nm,1.2s
WATA *eP* **pP 07 53 27.7 -0.3**
DAVA Damuels 80.66 1 *eP* pP 07 53 29.3 +1.0
comp=Z,10.0nm,0.9s
WTTA Wattenberg 80.69 359 *i* P **P 07 53 17.5 +0.9**
comp=Z,5.6nm,0.8s
WTTA *eP* **pP 07 53 28.3 -0.1**
comp=Z,17nm,0.7s
SQTA Sankt Quirin 80.73 360 *eP* **P 07 53 18.0 +1.2**
SQTA *eP* **pP 07 53 28.6 0.0**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 80.85 358 *eP* **P 07 53 18.7 +1.2**
comp=Z,18nm,1.1s,SNR=5.9
KBA *eP* **pP 07 53 29.7 +0.4**
comp=Z,35nm,0.7s
ZEI Tsey 80.90 336 *eP* **P 07 53 17.4 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,0.7s
FETA Feichten 80.93 360 *eP* **P 07 53 19.5 +1.6**
comp=Z,7.7nm,0.9s
FETA *i* P **pP 07 53 29.8 0.0**
comp=Z,22nm,0.8s
GEYT Alibeck 80.98 324 P **P 07 53 18.6 +0.4**
comp=Z,1.5nm,0.5s,baz=37,slow=20,SNR=5.2
GEYT pP **pP 07 53 29.4 -0.8**
comp=Z,9.5nm,0.9s,baz=262,slow=4.0,SNR=7.4
GEYT LR LR 08 33 01.1
comp=Z,21nm,19.0s,baz=110,slow=38
GYA0B ALIBECK ARRAY 80.98 324 pP 07 53 29.8 -0.4
AKT Akhty 81.10 333 *eP* **P 07 53 19.5 +0.7**
AKT *e* 07 53 30.3
AKT pmax pmax
comp=Z,14nm,0.9s
ABTA Abfaltersbach 81.19 359 *eP* **P 07 53 20.1 +0.9**
comp=Z,9.0nm,1.2s
ABTA *eP* **pP 07 53 30.7 -0.4**
comp=Z,8.8nm,1.0s
SOKA Soboth 81.20 357 *eP* **P 07 53 20.2 +0.9**
comp=Z,12nm,1.1s
SOKA *eP* **pP 07 53 30.8 -0.3**
comp=Z,21nm,0.9s
MYKA Terra Mystica 81.29 358 *eP* **P 07 53 20.7 +1.0**
comp=Z,1.3nm,0.4s
MYKA *eP* **pP 07 53 31.7 +0.2**
comp=Z,8.2nm,0.9s
OBKA Obir 81.39 357 *eP* pP 07 53 31.9 -0.2
comp=Z,16nm,0.7s,SNR=7.4
TUE Stuetta 81.47 1 P **P 07 53 21.6 +0.7**
TUE pP **pP 07 53 31.0 -1.7**
TUE IAmb IAmb 07 53 35.4
comp=Z,19nm,0.9s
BNI Bardonecchia 82.84 3 P **P 07 53 29.7 +1.7**
BNI pmax pmax
comp=Z,26nm,1.0s
BNI Bardonecchia 82.84 3 P **P 07 53 29.7 +1.7**
DIVS Divibare 83.52 353 P **P 07 53 30.7 -0.7**
DIVS IAmb IAmb 07 53 43.3
comp=Z,9.0nm,1.1s
PGAV Gavieira, Arco 84.57 14 *ep*P pP 07 53 49.8 +1.0
PBRG Braganca 84.95 13 *eP* **P 07 53 39.5 +0.9**
PBRG *ep*P **pP 07 53 50.5 -0.1**
POLO Lamas de Olo 85.22 14 *ep*P pP 07 53 51.7 -0.4
MVO Moncorvo 85.54 13 *ep*P pP 07 53 52.8 -0.8
PVIS Viseu 85.85 14 *ep*P pP 07 53 54.9 -0.3
BRTR Keskin Array B 86.07 342 P **P 07 53 44.9 +0.5**
comp=Z,0.6nm,0.5s,baz=5.7,slow=1.4,SNR=4.6
BRTR pP **pP 07 53 55.8 -0.7**
comp=Z,2.6nm,0.8s,baz=29,slow=2.8,SNR=6.3
BRTR LR LR 08 40 24.4
comp=Z,26nm,18.0s,baz=24,slow=41
BRTR Keskin Array B 86.07 342 P **P 07 53 44.8 +0.4**
MTE Manteigas 86.21 14 *ep*P pP 07 53 55.8 -1.2
PCAS Casmilo, Conde 86.41 15 *ep*P pP 07 53 57.8 -0.1
PCBR Castelo Branco 86.77 14 *ep*P pP 07 53 59.2 -0.5
WRA Warramunga Arr 87.03 232 P **P 07 53 47.4 -1.6**
comp=Z,1.9nm,1.1s,baz=33,slow=5.5,SNR=6.2
WRA pP **pP 07 53 58.7 -2.2**
comp=Z,2.1nm,0.9s,baz=34,slow=6.1,SNR=6.0
WRA sP **sP 07 54 04.2 -1.1**
comp=Z,1.6nm,0.7s,baz=33,slow=5.7,SNR=5.6
PMRV Marv??o 87.19 14 *ep*P pP 07 53 59.3 -2.4
ESDC Sonseca Array 87.40 11 P **P 07 53 51.4 +0.6**
comp=Z,4.7nm,1.0s,baz=343,slow=4.5,SNR=13
ESDC pP **pP 07 54 02.1 -0.7**
comp=Z,11nm,0.7s,baz=348,slow=4.6,SNR=26
ESDC LR LR 08 33 56.3
comp=Z,12nm,20.2s,baz=170,slow=36
ESDC Sonseca Array 87.40 11 P **P 07 53 50.6 -0.1**
ESDC IAmb IAmb 07 54 03.0
comp=Z,11nm,0.8s
PMTG Montargil 87.42 15 *ep*P pP 07 54 01.5 -1.3
PESTR Estremoz 87.71 14 *ep*P pP 07 54 03.5 -0.8
PNCL Nicolau / Gran 88.30 15 *ep*P pP 07 54 06.2 -0.9
PBAR Barrancos 88.47 14 *ep*P pP 07 54 07.1 -0.8
ASAR Alice Springs 90.43 230 P **P 07 54 03.6 -1.4**
comp=Z,0.9nm,0.7s,baz=23,slow=4.8,SNR=7.5
ASAR pP **pP 07 54 15.9 -1.1**
comp=Z,3.3nm,0.7s,baz=23,slow=5.0,SNR=15
ASAR sP **sP 07 54 21.0 -0.4**
comp=Z,3.6nm,0.8s,baz=34,slow=4.5,SNR=9.4
ASAR Alice Springs 90.43 230 P **P 07 54 05.1 +0.1**
MMAI Mount Meron Ar 92.20 339 P **P 07 54 12.8 -0.6**
comp=Z,0.5nm,0.3s,baz=344,slow=9.6,SNR=4.3
MMAI pP **pP 07 54 25.1 -0.5**
comp=Z,7.2nm,0.8s,baz=9.2,slow=6.8,SNR=5.1
MDT Midelt 94.08 13 P **P 07 54 22.6 +0.5**
comp=Z,3.4nm,0.9s,baz=327,slow=2.8,SNR=4.8
MDT pP **pP 07 54 33.9 -0.3**
comp=Z,7.8nm,0.8s,baz=338,slow=15,SNR=9.2
STKA Stephens Creek 94.24 220 LR LR 08 42 35.0
comp=Z,60nm,18.1s,baz=203,slow=39
TORD Torodi Ar. Bea 114.24 10 PKKP 08 10 39.2
comp=Z,0.3nm,0.6s,baz=192,slow=2.4,SNR=2.1
H03N2 Juan Fernandez 115.95 112 T T 10 06 32.6
baz=322,slow=77,SNR=27
H03N1 Juan Fernandez 115.96 112 T T 10 06 33.2
baz=322,slow=77,SNR=34
H03N3 Juan Fernandez 115.97 112 T T 10 06 33.3
baz=322,slow=77,SNR=21
KMBO Kilima Mbogo 124.25 327 pPKP pPKPdf 08 00 14.9 0.0
comp=Z,2.2nm,0.7s,baz=351,slow=2.8,SNR=3.1
PLCA Paso Flores 125.82 112 PKP **PKPdf 08 00 04.6 -0.1**
comp=Z,1.4nm,0.9s,baz=293,slow=7.7,SNR=3.1
PLCA pPKP **pPKPdf 08 00 16.1 -0.4**
comp=Z,1.8nm,0.8s,baz=253,slow=2.9,SNR=3.6
MAW Mawson 150.91 219 PKPbc **PKPbc 08 00 54.5 -0.1**
comp=Z,2.6nm,1.0s,baz=260,slow=3.9,SNR=5.4
MAW pPKPbc **sPKPdf 08 01 05.6 +0.6**
comp=Z,5.9nm,0.8s,baz=80,slow=6.6,SNR=8.3
BOSA Boshof 153.84 330 PKPbc **PKPbc 08 01 02.0 -0.6**
comp=Z,1.2nm,0.6s,baz=256,slow=4.2,SNR=2.9
BOSA pPKPbc **sPKPdf 08 01 13.8 +2.7**
comp=Z,5.8nm,0.9s,baz=14,slow=3.2,SNR=3.5
VNA3 Neumayer Olymp 159.05 162 PKPdf **PKPdf 08 01 02.8 +2.8**
VNA2 Neumayer--Watz 159.73 163 PKPdf **PKPdf 08 01 01.7 +0.9**

ISK ***29*** *07:46:40.6, 36.51N×28.79E, h4km, ML2.7/18*
DDA ***29*** *07:46:40.8, 36.48N×28.74E, h20km±2km, ML2.4*
THE ***29*** *07:46:40.6, 36.51N×28.78E, h5km±3km, ML2.5/1, Error ellipse: s-maj=3.2km s-min=0.6km az=109.0*
ISC 29 07:46:41.5±0.9, 36.52N±0.02×28.78E±0.02, h11km±8km, n38, σ1.9/01/64, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.27**	**64**	P	**Pg**	**Pg**	**07 46 46.4**	**-0.7**
FETY				S	**Sg**	**Sg**	**07 46 51.0**	**+0.1**
FETY	**Fethiye**	**0.27**	**64**	PG	**Pg**	**Pg**	**07 46 46.4**	**-0.7**
FETY				SG	**Sg**	**Sg**	**07 46 51.0**	**+0.1**
DALY	**Dalyan (Mula)**	**0.32**	**342**	*i* P	**Pg**	**Pg**	**07 46 47.8**	**-0.2**
DALY				IAML			07 46 53.0	
	comp=E,1μm,0.2s							
DALY				*i* S	**Sg**	**Sg**	**07 46 53.3**	**+1.1**
DALY				IAML			07 46 55.0	
	comp=N,1μm,0.2s							
DALY	**Dalyan (Mula)**	**0.32**	**342**	PG	**Pg**	**Pg**	**07 46 47.6**	**-0.3**
DALY				SG	**Sg**	**Sg**	**07 46 53.1**	**+0.9**
TURN	**Turunc**	**0.50**	**301**	*i* P	**Pg**	**Pg**	**07 46 51.1**	**-0.2**
TURN				*i* S	**Sg**	**Sg**	**07 46 58.9**	**+0.9**
TURN	**Turunc**	**0.50**	**301**	PG	**Pg**	**Pg**	**07 46 51.2**	**-0.1**
TURN				SG	**Sg**	**Sg**	**07 46 58.7**	**+0.7**
MRSB	**Marmaris-Mugla**	**0.51**	**293**	PG	**Pg**	**Pg**	**07 46 51.4**	**-0.1**
CAME	**Cameli-Denizli**	**0.60**	**44**	PG	**Pg**	**Pg**	**07 46 52.6**	**-0.6**
CAME				SG	**Sg**	**Sg**	**07 47 01.6**	**+0.4**
ARG	**Arkhangelos**	**0.60**	**241**	P	**Pg**	**Pg**	**07 46 52.4**	**-0.9**
ARG				S	**Sb**	**Sb**	**07 47 02.3**	**-0.4**
	comp=N,555nm,0.4s							
ARG	**Arkhangelos**	**0.60**	**241**	PG	**Pg**	**Pg**	**07 46 52.8**	**-0.5**
ARG				SG	**Sg**	**Sg**	**07 47 02.0**	**+0.7**
AKAS	**Kas**	**0.72**	**113**	*i* P	**Pg**	**Pg**	**07 46 54.8**	**-0.7**
AKAS				*i* S	**Sb**	**Sb**	**07 47 06.4**	**+0.2**
AKAS				IAML			07 47 10.0	
	comp=E,136nm,0.4s							
AKAS				IAML			07 47 14.0	
	comp=N,151nm,0.4s							
AKAS	**Kas**	**0.72**	**113**	PG	**Pg**	**Pg**	**07 46 55.0**	**-0.6**
AKAS				SG	**Sg**	**Sg**	**07 47 05.7**	**+0.6**
YER	**Yerkesik**	**0.73**	**327**	P	**Pg**	**Pg**	**07 46 55.5**	**-0.2**
YER				S	**Sg**	**Sg**	**07 47 05.8**	**+0.4**
YER	**Yerkesik**	**0.73**	**327**	PG	**Pg**	**Pg**	**07 46 55.6**	**-0.2**
YER				SG	**Sb**	**Sb**	**07 47 06.5**	**0.0**
CAEL	**Denizli, Camel**	**0.75**	**36**	*i* P	**Pg**	**Pg**	**07 46 55.1**	**-0.9**
CAEL				*i* S	**Sn**	**Sn**	**07 47 08.0**	**-1.6**
CAEL				IAML			07 47 17.0	
	comp=N,167nm,0.4s							
CAEL				IAML			07 47 20.0	
	comp=E,206nm,0.6s							
KSL	**Kastellorizon**	**0.75**	**119**	P	**Pg**	**Pg**	**07 46 54.9**	**-1.1**
MULA	**Mugla, Merkez-**	**0.82**	**334**	*i* P	**Pg**	**Pg**	**07 46 57.2**	**-0.3**
MULA				*i* S	**Sg**	**Sg**	**07 47 08.3**	**0.0**
MULA				IAML			07 47 15.0	
	comp=E,93nm,0.3s							
ELL	**Elmali**	**0.94**	**75**	PG	**Pb**	**Pb**	**07 46 59.2**	**-0.7**
TAVA	**DENIZLI_Tavas**	**0.95**	**6**	*i* P	**Pb**	**Pb**	**07 46 59.7**	**-0.5**
TAVA				*i* S	**Sg**	**Sg**	**07 47 13.1**	**+0.7**
TAVA				IAML			07 47 18.0	
	comp=E,94nm,0.6s							
GOLH	**Golhisar**	**0.95**	**41**	*i* P	**Pb**	**Pb**	**07 46 57.9**	**-2.3**
GOLH				*i* S	**Sn**	**Sn**	**07 47 14.8**	**0.0**
GOLH				IAML			07 47 18.0	
	comp=N,126nm,0.4s							
DAT	**Datca**	**0.99**	**283**	P	**Pb**	**Pb**	**07 46 59.2**	**-1.6**
DAT				S	**Sb**	**Sb**	**07 47 13.7**	**-0.2**
DAT	**Datca**	**0.99**	**283**	PG	**Pb**	**Pb**	**07 47 00.3**	**-0.5**
DAT				SG	**Sg**	**Sg**	**07 47 14.3**	**+0.8**
MLSB	**Milas**	**1.12**	**314**	PN	**Pb**	**Pb**	**07 47 02.8**	**-0.1**
BDRM	**Kayabasi**	**1.20**	**298**	*i* P	**Pb**	**Pb**	**07 47 04.5**	**+0.2**
BDRM				*i* S	**Sg**	**Sg**	**07 47 21.5**	**+1.0**
BDRM				IAML			07 47 29.0	
	comp=N,80nm,0.5s							
AKUM	**Antalya-Kumluc**	**1.28**	**98**	*i* P	**Pn**	**Pn**	**07 47 05.0**	**-0.3**
AKUM				*i* S	**Sg**	**Sg**	**07 47 25.2**	**+2.5**
BODT	**Bodrum**	**1.30**	**295**	PN	**Pb**	**Pb**	**07 47 06.2**	**+0.2**
AYDN	**Tasoluk**	**1.35**	**328**	*i* P	**Pb**	**Pb**	**07 47 06.8**	**-0.2**
AYDN				*i* S	**Sg**	**Sg**	**07 47 26.0**	**+1.0**
AYDN				IAML			07 47 28.0	
	comp=N,46nm,0.3s							
KORT	**Korkueli**	**1.35**	**69**	*i* P	**Pb**	**Pb**	**07 47 07.3**	**+0.3**
KORT				*i* S	**Sg**	**Sg**	**07 47 29.5**	**+4.4**
KORT				IAML			07 47 30.0	
	comp=N,71nm,0.5s							
KORT				IAML			07 47 31.0	
	comp=E,146nm,0.5s							
KORT	**Korkueli**	**1.35**	**69**	PN	**Pb**	**Pb**	**07 47 06.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.59**	**334**	PN	**Pb**	**Pb**	**07 47 10.5**	**-0.6**
KARP	**Karpathos**	**1.63**	**234**	PN	**Pb**	**Pb**	**07 47 10.8**	**-0.8**
GCAM	**G?zelcaml?**	**1.71**	**314**	PN	**Pb**	**Pb**	**07 47 12.2**	**-0.8**
PASA	**Karahalli, USA**	**1.91**	**17**	*i* P	**Pn**	**Pn**	**07 47 14.0**	**-0.2**
PASA				*i* S	**Sb**	**Sb**	**07 47 39.6**	**-0.9**
MANT	**Manisa**	**1.98**	**355**	*i* P	**Pn**	**Pn**	**07 47 14.6**	**-0.7**
MANT				*i* S	**Sn**	**Sn**	**07 47 39.8**	**-0.3**
KULA	**Kula-Manisa**	**2.00**	**357**	PN	**Pn**	**Pn**	**07 47 16.1**	**+0.8**
KEPZ	**Antalya-Kepez**	**2.30**	**80**	*i* P	**Pn**	**Pn**	**07 47 21.1**	**+1.6**
KEPZ				*i* S	**Sb**	**Sb**	**07 47 52.5**	**+0.9**
KEPZ				IAML			07 47 53.0	
	comp=N,25nm,1.0s							
URLA	**Izmir**	**2.53**	**317**	PN	**Pn**	**Pn**	**07 47 24.1**	**+1.5**
SEYD	**Seydisehir-KON**	**2.61**	**69**	PN	**Pn**	**Pn**	**07 47 24.7**	**+1.0**

IDC 29 08:09:36.0±2.4, 21.65S×174.36E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/24, mbtmp3.7/4, ML5.1/1, Error

ellipse: s-maj=128.4km s-min=25.7km az=155.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.22**	**42**	Pn	Pn	08 10 55.9	+0.5
	2.3nm,0.3s,baz=88,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**37.30**	**259**	P	P	08 16 50.4	+0.3
	0.8nm,0.6s,baz=94,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**37.38**	**265**	P	P	08 16 50.4	-0.4
	0.3nm,0.3s,baz=97,slow=8.1,SNR=20						
TXAR	**Lajitas Array**	**93.75**	**60**	P	P	08 22 54.9	-0.3
	0.3nm,0.6s,baz=262,slow=6.2,SNR=5.4						

*JMA **29** 08:10:34.2±0.3, 43°.49N×147°.55E, h10km, M3.8*
*NIED **29** 08:10:34.3, 43°.49N×147°.55E, h10km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr2.43; Mθθ0.59; Mφφ-3.02; Mrθ0.81; Mθφ-1.21; Mφr-1.43; Fault plane solution: M0 3.43000×10^14 NP1: φs173.00000°, δ61.00000°, λ60.00000°. NP2: φs43.00000°, δ41.00000°, λ132.00000°.*
*SKHL **29** 08:10:36.0±0.2, 43°.60N×147°.60E, h20km±4km, mb4.8/4*
ISC 29 08:10:36.9±2.2, 43°.61N±0°.10×147°.6E±0°.1, h45km, n18, σ0s75/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.33**	**289**	*i* P	**Pn**	**08 10 58.6**	**-0.4**
YUK				AMB	AMB	08 10 59.0	
	350nm,0.5s						
YUK				AMB	AMB	08 10 59.0	
	590nm,0.5s						
YUK				AMB	AMB	08 10 59.0	
	2μm,0.5s						
YUK				*e*S	**Sn**	**08 11 15.5**	**-0.1**
YUK				A	A	08 11 19.0	
	1μm,0.4s						
YUK				A	A	08 11 19.0	
	1μm,0.4s						
NEM2	**Nemuro 2**	**1.38**	**260**	P	**Pn**	**08 10 58.6**	**-1.0**
NEM2				*e*S	**Sn**	**08 11 16.0**	**-0.7**
GRPR	**Tuman**	**1.38**	**287**	*e*P	**Pn**	**08 10 59.4**	**-0.3**
GRPR				AMB	AMB	08 11 00.3	
	550nm,0.5s						
GRPR				AMB	AMB	08 11 00.3	
	280nm,0.5s						
GRPR				AMB	AMB	08 11 00.3	
	820nm,0.5s						
GRPR				*e*S	**Sn**	**08 11 16.0**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.39**	**261**	*i* P	**Pn**	**08 10 58.6**	**-1.2**
NMR				*e*S	**Sn**	**08 11 15.3**	**-1.6**
GLVR	**Golovnino**	**1.52**	**276**	*e*P	**Pn**	**08 11 01.5**	**-0.1**
GLVR				AMB	AMB	08 11 01.9	
	50nm,0.4s						
GLVR				AMB	AMB	08 11 01.9	
	410nm,0.4s						
GLVR				*e*S	**Sn**	**08 11 20.6**	**+0.5**
KUR	**Kuril'sk**	**1.64**	**7**	*e*P	**Pn**	**08 11 02.9**	**-0.3**
KUR				AMB	AMB	08 11 04.4	
	80nm,0.4s						
KUR				*e*S	**Sn**	**08 11 23.2**	**+0.2**
KUR				A	A	08 11 23.9	
	470nm,0.3s						
KUR				A	A	08 11 23.9	
	230nm,0.3s						
JRA	**Rausu**	**1.83**	**281**	P	**Pn**	**08 11 05.9**	**+0.1**
JKHN	**Kushirohamanak**	**1.86**	**254**	P	**Pn**	**08 11 05.9**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.89**	**276**	P	**Pn**	**08 11 06.9**	**+0.2**
JNK	**Nakash**	**2.10**	**270**	P	**Pn**	**08 11 09.0**	**-0.5**
JNK				*e*S	**Sn**	**08 11 34.9**	**+0.5**
JAK	**Akkeshi**	**2.21**	**255**	P	**Pn**	**08 11 10.6**	**-0.5**
JAK				*e*S	**Sn**	**08 11 38.4**	**+1.3**
JTKR	**Abashiri--Toko**	**2.70**	**279**	P	**Pn**	**08 11 18.6**	**+0.8**
JAR	**Ashorobuto**	**2.81**	**265**	P	**Pn**	**08 11 19.6**	**+0.3**
JOB	**Onbets**	**2.84**	**257**	*e*S	**Sn**	**08 11 53.2**	**+0.5**
JMP	**Maruseppu**	**3.10**	**279**	P	**Pn**	**08 11 24.4**	**+1.1**
JCH	**Churui**	**3.26**	**254**	P	**Pn**	**08 11 25.6**	**+0.1**
JCH				*e*S	**Sn**	**08 12 02.7**	**-0.3**
JEM	**Erimo**	**3.64**	**246**	P	**Pn**	**08 11 32.1**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.80**	**251**	P	**Pn**	**08 11 32.9**	**0.0**

*IDC **29** 08:19:01.2±3.6, 53°.55N×87°.96E, h0km, mb1 3.4/2, mb1mx3.1/50, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=40.2km s-min=18.9km az=81.0*
*NNC **29** 08:19:02.8±0.9, 53°.49N×87°.80E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=8.0km s-min=3.6km az=65.0, Suspected Mining explosion.*
ISC 29 08:19:00.2±3.3, 53°.6N±0°.1×88°.0E±0°.2, h0km, n8, σ1s06/13, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**281**	*i*		08 30 50.0	
	baz=99,slow=306,SNR=2.4						
ZAA0	**Zalesovo Array**	**1.90**	**281**	⇑Pn	**Pb**	**08 19 35.3**	**-0.5**
ZAA0	0.5nm,0.3s			⇑Sn	**Sb**	**08 20 00.5**	**+0.5**
	8.1nm,0.8s						
ZALV	**Zalesovo Beam**	**1.90**	**281**	**Pn**	**Pn**	**08 19 33.6**	**-0.3**
	2.7nm,0.3s,baz=98,slow=16,SNR=17						
ZALV				Sn	**Sg**	**08 20 01.9**	**+0.6**
	6.6nm,0.3s,baz=107,slow=24,SNR=12						
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn	**Pn**	**08 20 38.9**	**+1.1**
	0.4nm,0.3s,baz=63,slow=14,SNR=9.3						
KURBB	**Kurchatov Arra**	**6.56**	**246**	⇑Pn	**Pn**	**08 20 38.6**	**+0.8**
	1.6nm,0.3s						
KURBB				⇑Sn	**Sn**	**08 21 52.5**	**-0.7**
	11nm,0.6s						
KURBB				⇓Lg	Lg	08 22 24.7	
	16nm,0.6s						
MK31	**Makanchi Array**	**7.76**	**210**	⇓Pn	**Pn**	**08 20 54.9**	**+0.5**
	0.2nm,0.3s,baz=28,slow=13,SNR=19						
MK31				⇓Sn	**Sn**	**08 22 22.2**	**-0.8**
	3.1nm,1.1s,baz=32,slow=21,SNR=5.5						
MK31				⇑Lg	Lg	08 23 02.1	
	1.4nm,0.6s,baz=256,slow=56,SNR=4.4						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	**Pn**	**08 20 55.8**	**+1.4**
	0.5nm,0.3s,baz=29,slow=13,SNR=18						
MKAR				Sn	**Sn**	**08 22 20.7**	**-2.2**
	0.1nm,0.3s,baz=30,slow=23,SNR=8.6						
MKAR				Lg	Lg	08 23 02.8	
	0.1nm,0.3s,baz=28,slow=29,SNR=2.9						
MAKZ	**Makanchi**	**7.85**	**212**	⇑Pn	**Pn**	**08 20 55.9**	**+0.4**
	0.5nm,0.5s						
MAKZ				⇓Sn	**Sn**	**08 22 24.9**	**-0.1**
	2.8nm,1.0s						
MAKZ				⇑Lg	Lg	08 23 05.5	
	3.4nm,0.9s						

*NEIC **29** 08:19:13.7±3.1, 16°.76N±0°.08×95°.19W±0°.05, h89km±21km, Error ellipse: s-maj=11.5km s-min=6.8km az=181.0*
*MEX **29** 08:19:14.6±3.8, 16°.77N×95°.18W, h98km±54km, MD4.3*
ISC 29 08:19:13.5±0.8, 16°.76N±0°.05×95°.21W±0°.04, h102km±14km, n62, σ1s92/89, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.31**	**221**	*i* P	**Pn**	**08 19 36.9**	**-0.7**
HUIG				*i* S	**Sn**	**08 19 56.1**	**+0.3**
HUIG	**Huatulco**	**1.31**	**221**		**Pn**	**08 19 36.9**	**-0.7**
HUIG					**Sn**	**08 19 56.1**	**+0.3**
VHO	**Vista Hermosa**	**1.49**	**282**	*e*P	**Pn**	**08 19 41.1**	**+1.2**
VHO				*e*S	**Sn**	**08 20 01.1**	**+1.1**
PANG	**Puerto Angel**	**1.63**	**228**	*e*P	**Pn**	**08 19 40.8**	**-0.6**
PANG				*e*S	**Sn**	**08 19 59.7**	**-3.0**
PANG	**Puerto Angel**	**1.63**	**228**		**Pn**	**08 19 40.8**	**-0.6**
TGIG		**2.00**	**89**	*e*P	**Pn**	**08 19 46.6**	**+0.3**
TGIG				*e*S	**Sn**	**08 20 08.6**	**-2.7**
TGIG		**2.00**	**89**		**Pn**	**08 19 46.6**	**+0.3**
TGIG					**Sn**	**08 20 08.6**	**-2.7**
PEIG	**Puerto Escondi**	**2.01**	**248**	*i* P	**Pn**	**08 19 45.2**	**-1.1**
PEIG				*e*S	**Sn**	**08 20 10.2**	**-1.1**
TGBT	**Tuxtla Gutierr**	**2.04**	**89**	*e*P	Pn	08 19 51.9	+5.3
TGBT				*e*S	**Sn**	**08 20 10.1**	**-1.8**
TGBT	**Tuxtla Gutierr**	**2.04**	**89**		**Sn**	**08 20 10.1**	**-1.8**
YOIG	**Yosondua**	**2.24**	**273**	*e*P	**Pn**	**08 19 49.9**	**+0.4**
YOIG				*e*S	**Sn**	**08 20 15.9**	**-1.1**
HLIG	**Huajuapan de L**	**2.69**	**294**	*i* P	**Pn**	**08 19 56.7**	**+1.3**
HLIG				*e*S	**Sn**	**08 20 21.9**	**-5.7**
CCIG	**Comitan**	**2.99**	**99**	*e*P	**Pn**	**08 19 59.8**	**+0.5**
CCIG				*e*S	**Sn**	**08 20 33.8**	**-0.9**
CCIG	**Comitan**	**2.99**	**99**		**Pn**	**08 19 59.8**	**+0.5**
CCIG					**Sn**	**08 20 33.8**	**-0.9**
LVIG	**Laguna Verde**	**3.16**	**339**	*i* P	**Pn**	**08 19 59.3**	**-2.1**
LVIG				*i* S	**Sn**	**08 20 32.7**	**-5.7**
LVIG	**Laguna Verde**	**3.16**	**339**		**Pn**	**08 19 59.3**	**-2.1**
TLIG	**Tlapa**	**3.30**	**284**	*i* P	**Pn**	**08 20 04.7**	**+1.2**
TLIG				*e*S	**Sn**	**08 20 40.1**	**-2.0**
TLIG	**Tlapa**	**3.30**	**284**		**Pn**	**08 20 04.7**	**+1.2**
TLIG					**Sn**	**08 20 40.1**	**-2.0**
MGIG	**Malinaltepec**	**3.31**	**279**	*e*P	**Pn**	**08 20 04.0**	**+0.5**
MGIG				*e*S	**Sn**	**08 20 40.6**	**-1.6**
HMTT	**Tlapaneco**	**3.36**	**288**	*e*P	**Pn**	**08 20 06.2**	**+2.0**
HMTT				*e*S	**Sn**	**08 20 39.6**	**-3.7**
HMTT	**Tlapaneco**	**3.36**	**288**		**Pn**	**08 20 06.2**	**+2.0**
CRIG	**Cruz Grande**	**3.75**	**270**	*e*P	**Pn**	**08 20 08.7**	**-0.7**
CRIG				*e*S	**Sn**	**08 20 50.4**	**-2.3**
CRIG	**Cruz Grande**	**3.75**	**270**		**Pn**	**08 20 08.7**	**-0.7**
HUEH	**Huehuetenango**	**3.85**	**111**		**Pn**	**08 20 11.3**	**+0.4**
AMVM	**AMECAMECA**	**4.14**	**305**	*e*P	**Pn**	**08 20 17.5**	**+2.6**
AMVM				*e*S	**Sn**	**08 21 03.4**	**+1.0**
AMVM	**AMECAMECA**	**4.14**	**305**		**Pn**	**08 20 17.5**	**+2.6**
AMVM					**Sn**	**08 21 03.4**	**+1.0**
DAIG	**Los Arroyos**	**4.26**	**274**	*e*P	**Pn**	**08 20 15.9**	**-0.3**
DAIG				*e*S	**Sn**	**08 21 01.8**	**-3.1**
DAIG	**Los Arroyos**	**4.26**	**274**		**Pn**	**08 20 15.9**	**-0.3**
PLIG	**Platanillo**	**4.40**	**292**	*e*P	**Pn**	**08 20 20.1**	**+1.8**
PLIG				*i* S	**Sn**	**08 21 07.7**	**-0.8**
PLIG	**Platanillo**	**4.40**	**292**		**Pn**	**08 20 20.1**	**+1.8**
PLIG					**Sn**	**08 21 07.7**	**-0.8**
MAVM	**Malinalco, Edo**	**4.62**	**299**	*e*P	**Pn**	**08 20 23.7**	**+2.4**
MAVM				*e*S	**Sn**	**08 21 12.0**	**-2.1**
MAVM	**Malinalco, Edo**	**4.62**	**299**		**Pn**	**08 20 23.7**	**+2.4**
MAVM					**Sn**	**08 21 12.0**	**-2.1**
CAIG	**El Cayaco**	**4.85**	**274**	*e*P	**Pn**	**08 20 23.9**	**-0.3**
CAIG				*e*S	**Sn**	**08 21 15.5**	**-3.7**
CAIG	**El Cayaco**	**4.85**	**274**		**Pn**	**08 20 23.9**	**-0.3**
TOVM	**TOLUCA**	**4.93**	**301**	*e*P	**Pn**	**08 20 28.6**	**+3.0**
TOVM	**TOLUCA**	**4.93**	**301**		**Pn**	**08 20 28.6**	**+3.0**
PETF	**Flores**	**5.12**	**88**		**Pn**	**08 20 27.6**	**-0.3**
ARIG	**Puente Sto Nin**	**5.13**	**288**	*e*P	**Pn**	**08 20 30.1**	**+2.1**
ARIG				*e*S	**Sn**	**08 21 22.8**	**-3.2**
ARIG	**Puente Sto Nin**	**5.13**	**288**		**Pn**	**08 20 30.1**	**+2.1**
ACIG	**Acambay**	**5.46**	**307**	*e*P	**Pn**	**08 20 36.5**	**+3.8**
ZIIG	**Zihuatanejo**	**6.03**	**279**	*i* P	**Pn**	**08 20 41.4**	**+1.1**
ZIIG	**Zihuatanejo**	**6.03**	**279**		**Pn**	**08 20 41.4**	**+1.1**
ESQI	**Esquipulas**	**6.07**	**110**	Pn	**Pn**	**08 20 41.7**	**+0.8**
MOIG	**Morelia**	**6.38**	**298**		**Pn**	**08 20 47.6**	**+2.5**
MMIG	**Aquila**	**7.91**	**282**	*e*P	**Pn**	**08 21 07.1**	**+1.3**
MMIG				*e*S	**Sn**	**08 22 30.4**	**-3.2**
MMIG	**Aquila**	**7.91**	**282**		**Pn**	**08 21 07.1**	**+1.3**
CVTR	**Volcan Turrial**	**13.00**	**120**		**Pn**	**08 22 15.9**	**+1.1**
435B	**Jarrell**	**14.12**	**352**	Pn	**Pn**	**08 22 30.0**	**+1.0**
MIAR	**Mount Ida**	**17.77**	**4**	P	**P**	**08 23 14.0**	**+0.3**
MIAR				IAmb	IAmb	08 23 27.6	
	comp=Z,8.9nm,1.4s						
WMOK	**Wichita Mounta**	**18.18**	**351**	P	**P**	**08 23 19.5**	**+1.2**
W39A	**Magazine**	**18.40**	**4**	P	**P**	**08 23 21.1**	**+0.5**
W39A				IAmb	IAmb	08 23 32.3	
	comp=Z,6.1nm,0.6s						
FCAR	**Ozark Folk Cen**	**19.25**	**8**	P	**P**	**08 23 29.8**	**0.0**
FCAR				IAmb	IAmb	08 23 30.5	
	comp=Z,5.9nm,0.9s						
QUOK	**Quay**	**19.38**	**356**	P	**P**	**08 23 31.2**	**-0.1**
HHAR	**Hobbs**	**19.47**	**3**	P	**P**	**08 23 33.1**	**+0.7**
U38A	**Gravette**	**19.61**	**2**	P	**P**	**08 23 33.9**	**0.0**
U38A				IAmb	IAmb	08 23 38.0	
	comp=Z,2.7nm,0.6s						
U40A	**Yellville**	**19.63**	**6**	P	**P**	**08 23 34.3**	**+0.3**
T35A	**Sooner Cattle**	**20.11**	**357**	P	**P**	**08 23 39.2**	**0.0**
T35A				IAmb	IAmb	08 23 39.6	
	comp=Z,7.7nm,0.6s						
WVT	**Waverly**	**20.38**	**17**	P	**P**	**08 23 40.0**	**-2.1**
W50A	**Signal Mountai**	**20.38**	**24**	P	**P**	**08 23 39.9**	**-2.3**
W50A				IAmb	IAmb	08 23 40.6	
	comp=Z,4.2nm,0.5s						
PBMO	**Poplar Bluff**	**20.38**	**11**	P	**P**	**08 23 41.5**	**-0.6**
PBMO				IAmb	IAmb	08 23 42.5	
	comp=Z,5.9nm,1.0s						
U49A	**Red Boiling Sp**	**21.38**	**21**	P	**P**	**08 23 52.0**	**-0.9**
U49A				IAmb	IAmb	08 23 53.1	
	comp=Z,4.7nm,0.5s						
T47A	**Sharon Grove**	**21.39**	**18**	P	**P**	**08 23 52.5**	**-0.4**
T47A				IAmb	IAmb	08 23 53.8	
	comp=Z,6.6nm,0.6s						

*TRN **29** 08:29:38.8, 13°.85N×58°.49W, h106km, MD4.1*
ISC 29 08:29:38.2±2.4, 13°.96N±0°.05×58°.5W±0°.1, h10km, n32, σ1s02/45, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.28**	**229**	*i* P	**Pg**	**08 30 02.8**	**0.0**
BBSP				*e*S	**Sn**	**08 30 20.5**	**+1.2**
BBGH	**Gun Hill**	**1.33**	**233**	*i* P	**Pg**	**08 30 03.1**	**-0.6**
BBGH				*e*S	**Sn**	**08 30 22.7**	**+2.1**
BCHC	**Barbados, Cave**	**1.39**	**234**	*e*P	**Pg**	**08 30 04.4**	**-0.5**
BCHC				*e*S	**Sg**	**08 30 24.4**	**+1.4**
MPOM	**Morne Pois Mar**	**2.36**	**282**	*e*P	**Pn**	**08 30 17.1**	**+0.1**
MPOM				*e*S	**Sn**	**08 30 46.2**	**+0.1**
MCLT	**Moule a Chique**	**2.41**	**264**	*e*P	**Pn**	**08 30 18.7**	**+1.0**
MCLT				*e*S	**Sn**	**08 30 46.0**	**-1.3**
MVM	**Montagne Vaucl**	**2.42**	**284**	*e*P	**Pn**	**08 30 18.4**	**+0.5**
SLBI	**Saint Lucia, B**	**2.43**	**272**	*e*P	**Pn**	**08 30 18.0**	**+0.1**
SLBI				*e*S	**Sn**	**08 30 46.9**	**-0.8**
SLCP	**Castries, St.**	**2.44**	**272**	*e*P	**Pn**	**08 30 18.3**	**+0.1**
SLCP				*e*S	**Sn**	**08 30 47.0**	**-1.1**
LPMF	**Morne Lapointe**	**2.49**	**285**	*e*P	**Pn**	**08 30 19.1**	**+0.2**
ZAM	**Aeronautique**	**2.55**	**284**	*e*P	**Pn**	**08 30 19.9**	**+0.3**
FDF	**Fort de France**	**2.71**	**287**	*e*P	**Pn**	**08 30 22.1**	**+0.3**
FDF				*e*S	**Sn**	**08 30 54.8**	**+0.1**
BAMF	**Morne Balai**	**2.73**	**289**	*e*P	**Pn**	**08 30 22.9**	**+0.7**
CXM	**Morne La Croix**	**2.75**	**288**	*e*P	**Pn**	**08 30 23.2**	**+0.7**
SVN	**Savane Anatole**	**2.76**	**289**	*e*P	**Pn**	**08 30 23.6**	**+1.1**
SVB	**Belmont**	**2.79**	**256**	*e*P	**Pn**	**08 30 22.1**	**-0.7**
SVB				*e*S	**Sn**	**08 30 55.1**	**-1.5**
PCM	**Pelee Case Pet**	**2.79**	**288**	*e*P	**Pn**	**08 30 23.7**	**+0.8**
DLPL	**La Plaine**	**3.01**	**297**	*e*P	**Pn**	**08 30 25.4**	**-0.6**
DLPL				*e*S	**Sn**	**08 31 03.1**	**+0.9**
DSLB	**Salisbury**	**3.21**	**298**	*e*P	**Pn**	**08 30 29.7**	**+0.9**
DSLB				*e*S	**Sn**	**08 31 05.9**	**-1.2**
GCMP	**Grenada, Carri**	**3.23**	**243**	*e*P	**Pn**	**08 30 28.6**	**-0.2**
TOSP	**Speyside**	**3.32**	**218**	*e*P	**Pn**	**08 30 29.3**	**-0.9**
MAGL	**Barre de l'ile**	**3.36**	**306**	*e*P	**Pn**	**08 30 33.0**	**+2.2**
MAGL				*e*S	**Sn**	**08 31 10.7**	**-0.1**
TDBA	**Terre de Bas,**	**3.59**	**302**	*e*P	**Pn**	**08 30 35.1**	**+1.1**
GRGR	**Grenville**	**3.59**	**240**	*e*P	**Pn**	**08 30 33.4**	**-0.5**
GRFF	**Grenada Fort F**	**3.70**	**240**	*e*P	**Pn**	**08 30 35.5**	**0.0**
ABD	**La Joyeuse, An**	**3.84**	**311**	*e*P	**Pn**	**08 30 38.4**	**+1.1**
ABD				*e*S	**Sn**	**08 31 22.5**	**-0.1**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*e*P	**Pn**	**08 30 46.5**	**+1.2**
ANBD	**Bethesda, Anti**	**4.42**	**315**	*e*S	**Sn**	**08 31 34.6**	**-2.2**
BPA	**Boggy Peak**	**4.48**	**314**	*e*P	**Pn**	**08 30 47.0**	**+0.8**
BPA	**Boggy Peak**	**4.48**	**314**	*e*S	**Sn**	**08 31 36.3**	**-2.2**
ANOC	**Antigua Open C**	**4.51**	**315**	*e*P	**Pn**	**08 30 46.3**	**-0.3**
ANWB	**Willy Bob**	**4.88**	**320**	*e*P	**Pn**	**08 30 52.4**	**+0.8**
SKI	**Saint Kitts**	**5.31**	**310**	*e*P	**Pn**	**08 30 57.0**	**-0.5**

IDC 29 08:57:26.7±2.7, 53°.41N×87°.19E, h0km, mb1 3.1/2, mb1mx3.0/52, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=24.4km s-min=14.8km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**292**	*i*		09 07 25.3	
	baz=107,slow=305,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.51**	**292**	Pg	Pn	08 57 53.5	-1.5
	1.0nm,0.3s,baz=112,slow=17,SNR=11						
ZALV				Lg	Lg	08 58 14.1	
	1.5nm,0.3s,baz=113,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.03**	**246**	Pn	Pn	08 58 58.8	+1.6
	0.2nm,0.3s,baz=62,slow=13,SNR=3.1						
KURBB				Lg	Lg	09 00 39.9	
	0.1nm,0.3s,baz=60,slow=32,SNR=6.2						
MKAR	**Makanchi Array**	**7.34**	**207**	Pn	Pn	08 59 16.1	+1.0
	0.1nm,0.3s,baz=27,slow=15,SNR=6.1						
MKAR				Lg	Lg	09 01 17.0	
	0.1nm,0.3s,baz=35,slow=32,SNR=3.0						

IDC 29 09:00:00.6±3.1, 52°.27N×35°.47E, h0km, mb1 3.4/3, mb1mx3.1/46, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=35.9km s-min=12.1km az=119.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.92**	**12**	Sn	Sn	09 01 23.6	-0.4
	1.4nm,0.3s,baz=290,slow=15,SNR=1.2						
AKASG	**Malin Array Be**	**4.21**	**251**	Pn	Pn	09 01 03.9	-2.0
	2.1nm,0.3s,baz=60,slow=15,SNR=6.5						
AKASG				Pg	Pb	09 01 13.6	-1.7
	2.2nm,0.3s,baz=56,slow=16,SNR=5.5						
AKASG				Sn	Sn	09 01 56.1	+0.4
	2.8nm,0.3s,baz=60,slow=22,SNR=4.4						
AKASG				Lg	Lg	09 02 11.6	
	3.9nm,0.3s,baz=66,slow=30,SNR=6.2						
FINES	**FINESS Array B**	**10.52**	**335**	Pn	Pn	09 02 27.4	-5.0
	0.3nm,0.3s,baz=151,slow=14,SNR=9.5						
FINES				Sn	Sn	09 04 21.2	-10
	0.3nm,0.3s,baz=151,slow=21,SNR=5.3						
I26DE	**FREYUNG INFRAS**	**14.23**	**265**	*i*		10 18 48.8	
	baz=67,slow=315,SNR=11						
ARCES	**ARCESS Array B**	**17.94**	**349**	Pn	Pn	09 04 06.2	-5.0
	baz=161,slow=9.5,SNR=7.2						

*IDC **29** 09:09:24.1±7.9, 32°.53S×179°.93E, h384km±95km, mb3.2/2, mb1 3.5/3, mb1mx3.0/31, mbtmp4.1/3, Error ellipse: s-maj=113.3km s-min=43.8km az=2.0*
*WEL **29** 09:09:25.8±0.8, 32°.S±7°.×18°.0W±1°.7, h285km±14km, M4.4/17, mB4.8/7, ML4.8/8, MLv4.8/17, Mw(mB)4.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4*
ISC 29 09:09:20.6±1.0, 32°.17S±0°.08×179°.7W±0°.1, h350km, n64, σ2s76/81, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.28**	**28**	P	**Pn**	**09 10 23.5**	**+0.8**
GLKZ				S	**S**	**09 11 11.3**	**-1.2**
RIZ	**Raoul Island**	**3.29**	**28**	P	**Pn**	**09 10 23.9**	**+1.1**
RIZ				S	**S**	**09 11 12.1**	**-0.6**
MXZ	**Matakaoa Point**	**5.62**	**196**	P	**Pn**	**09 10 51.5**	**+4.6**
MXZ				S	**S**	**09 11 55.7**	**-1.2**
WMGZ	**Waiomatatini S**	**5.84**	**195**	P	**Pn**	**09 10 53.8**	**+4.4**
KUZ	**Kuaotunu**	**5.92**	**218**	P	Pn	09 10 55.4	+5.0
HAZ	**Te Kaha**	**5.94**	**200**	P	**Pn**	**09 10 50.8**	**+0.2**
HAZ				S	**S**	**09 12 01.7**	**-1.8**
HAZ	**Te Kaha**	**5.94**	**200**	P	**S**	**09 12 04.4**	**+0.8**
PKGZ	**Pakihiroa**	**5.98**	**197**	P	**Pn**	**09 10 55.6**	**+4.4**
PKGZ				S	**S**	**09 12 05.7**	**+1.1**
PUZ	**Puketiti**	**6.12**	**195**	P	**Pn**	**09 10 56.6**	**+3.9**
PUZ				S	**S**	**09 12 07.5**	**+0.2**
RUGZ	**Raukumara Rang**	**6.16**	**200**	P	**Pn**	**09 10 55.8**	**+2.5**
RUGZ				S	**S**	**09 12 07.1**	**-1.4**
RUGZ	**Raukumara Rang**	**6.16**	**200**	P	**S**	**09 12 05.5**	**-3.0**
WCZ	**Waipu Caves**	**6.21**	**231**	P	**Pn**	**09 10 56.2**	**+2.6**
WIAZ	**Waiheke Island**	**6.28**	**221**	P	**Pn**	**09 10 57.4**	**+2.9**
TWGZ	**Tauwhareparae**	**6.28**	**197**	P	**Pn**	**09 10 58.7**	**+4.1**
TWGZ				S	**S**	**09 12 13.2**	**+2.4**
TWGZ	**Tauwhareparae**	**6.28**	**197**	P	**S**	**09 12 12.6**	**+1.7**
OPRZ	**Ohinepanea**	**6.44**	**207**	P	**Pn**	**09 11 00.4**	**+4.1**
CNGZ	**Carnagh Statio**	**6.52**	**195**	P	**Pn**	**09 10 57.8**	**+0.5**
MWZ	**Matawai**	**6.55**	**199**	P	**Pn**	**09 10 57.6**	**-0.1**
MWZ				S	**S**	**09 12 16.1**	**-0.4**
MWZ	**Matawai**	**6.55**	**199**	P	**S**	**09 12 13.2**	**-3.3**
TKGZ	**Te Karaka**	**6.56**	**197**	P	**Pn**	**09 10 58.0**	**+0.2**
TKGZ				S	**S**	**09 12 14.9**	**-1.8**
TKGZ	**Te Karaka**	**6.56**	**197**	P	**S**	**09 12 13.9**	**-2.7**
URZ	**Urewera**	**6.61**	**202**	P	**Pn**	**09 10 58.9**	**+0.7**
	4.8nm,0.3s,baz=271,slow=5.2,SNR=103						
URZ				S	**S**	**09 12 13.2**	**-4.4**
	9.0nm,0.3s,baz=74,slow=23,SNR=16						
URZ	**Urewera**	**6.61**	**202**	P	**Pn**	**09 10 58.8**	**+0.5**
URZ				S	**S**	**09 12 15.3**	**-2.3**
URZ	**Urewera**	**6.61**	**202**	P	**S**	**09 12 17.5**	**-0.1**
TOZ	**Tahuroa Road**	**6.80**	**214**	P	**Pn**	**09 11 04.6**	**+4.2**
RIGZ	**Rimuhau**	**6.84**	**197**	P	**Pn**	**09 11

JIE	Ise	7.26 339	P	P	09 13 32.3	+2.1
JKN2	Miekihoku	7.27 336	P	P	09 13 32.7	+2.4
JNY	Yasuok	7.89 348	P	P	09 13 37.3	+0.5
INU	Inuyama	8.07 343	P	P	09 13 37.5	-1.1
JRY	Ryogami san	8.40 355	P	P	09 13 41.6	-0.6
JWT	Wachi	8.53 335	P	P	09 13 42.6	-0.9
MJAR	Matsushiro Arr	8.99 351	P	P	09 13 48.9	+0.4
	0.1nm,0.3s,baz=181,slow=8.4,SNR=5.0					
MJAR	Matsushiro Arr	8.99 351	P	P	09 13 47.0	-1.4
MAJO	Matsushiro	9.00 351	P	P	09 13 48.3	-0.2
MJB9	Matsu-Tunnel	9.00 351		S	09 15 32.8	+0.3
JSU	Suzuyama	9.05 297	P	P	09 13 51.2	+2.1
JMM	Marumori	10.24 4	P	P	09 14 02.3	+0.6
JSD	Sado	10.46 353	P	P	09 14 03.1	-1.1
AMKA	Amchitka	37.92 40		S	09 23 34.1	+0.4
WB0	Warramunga Arr	47.41 187	P	P	09 19 31.9	-0.4
WB0			IAmb	IAmb	09 20 20.9	
	comp=Z,44nm,2.0s					
WR0	Warramunga Arr	47.59 187	P	P	09 19 33.0	-0.7
WR0			IAmb	IAmb	09 20 08.6	
	comp=Z,25nm,1.6s					
WB2	Warramunga Arr	47.59 187	P	P	09 19 33.2	-0.5
WB2			IAmb	IAmb	09 19 43.2	
	comp=Z,37nm,1.8s					
WRA	Warramunga Arr	47.59 187	P	P	09 19 33.3	-0.5
	comp=Z,0.8nm,0.4s,baz=3.4,slow=7.6,SNR=32					
WRA	Warramunga Arr	47.59 187	P	P	09 19 33.0	-0.7
MK31	Makanchi Array	48.54 309	P	P	09 19 40.4	-0.2
MKAR	Makanchi Array	48.54 309	P	P	09 19 40.2	-0.4
	comp=Z,0.3nm,0.4s,baz=91,slow=11,SNR=5.3					
MKAR	Makanchi Array	48.54 309	P	P	09 19 40.0	-0.6
KURK	Kurchatov	51.14 314	P	P	09 19 59.5	-0.2
KURBB	Kurchatov Arra	51.19 314	P	P	09 19 59.5	-0.5
	comp=Z,1.9nm,0.5s,baz=91,slow=8.0,SNR=18					
ASAR	Alice Springs	51.32 187	P	P	09 20 00.8	-0.5
	comp=Z,0.3nm,0.4s,baz=2,2,slow=5.0,SNR=17					
ASAR	Alice Springs	51.32 187	P	P	09 20 01.1	-0.2
BVAR	Borovoye Array	56.25 317	P	P	09 20 35.6	-0.4
	comp=Z,1.4nm,0.4s,baz=317,slow=53,SNR=4.6					
KK31	Karatay Array	57.09 305	P	P	09 20 42.1	+0.2
KK31			IAmb	IAmb	09 21 33.5	
	comp=Z,2.9nm,1.2s					
KKAR	Karatay Array	57.09 305	P	P	09 20 41.7	-0.3
FORT	Forrest	59.16 192	P	P	09 20 53.1	-2.9
BMAR	Burnt Mountain	59.27 26	P	P	09 20 57.1	+0.7
SCRK	Sand Creek	59.49 30	P	P	09 20 57.2	-0.8
SCRK			IAmb	IAmb	09 21 55.8	
	comp=Z,4.5nm,1.6s					
TGL	Tana Glacier	60.16 34	P	P	09 21 04.5	+2.0
ABKAR	Abkulak array	63.24 314	P	P	09 21 21.9	-0.9
GEYT	Alibeck	67.47 302		PcP	09 22 18.2	+5.3
ARCES	ARCESS Array B	72.35 340	P	P	09 22 17.6	-0.6
	comp=Z,0.8nm,0.6s,baz=64,slow=8.4,SNR=4.1					
FINES	FINESS Array B	76.55 333	P	P	09 22 40.8	-1.2
	comp=Z,1.0nm,0.3s,baz=70,slow=5.3,SNR=14					
HRY	Holter Researc	81.78 41	P	P	09 23 10.4	+0.1

IDC 29 09:12:24.5±3.6, 53°.47N×90°.74E, h0km, mb1 3.1/3, mb1mx2.9/50, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=30.8km s-min=24.0km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.55 280		*i*		09 34 00.0	
	baz=90,slow=305,SNR=3.6						
ZALV	Zalesovo Beam	3.55 280		Pn	Pn	09 13 22.3	+1.4
	0.7nm,0.3s,baz=94,slow=16,SNR=4.4						
ZALV				Lg	Lg	09 14 15.3	
	1.8nm,0.3s,baz=92,slow=29,SNR=6.2						
KURBB	Kurchatov Arra	8.05 254		Pn	Pn	09 14 22.0	-0.5
	0.1nm,0.3s,baz=66,slow=15,SNR=2.7						
KURBB				Sn	Sn	09 15 53.7	-0.5
	0.0nm,0.3s,baz=68,slow=24,SNR=2.7						
KURBB				Lg	Lg	09 16 43.5	
	0.0nm,0.3s,baz=64,slow=31,SNR=10						
MKAR	Makanchi Array	8.60 222		Pn	Pn	09 14 31.2	+1.1
	0.2nm,0.3s,baz=41,slow=14,SNR=6.6						
MKAR				Sn	Sn	09 16 04.8	-3.0
	0.1nm,0.3s,baz=48,slow=18,SNR=1.9						

*NNC **29** 09:29:02.4±2.2, 53°.47N×87°.95E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=18.3km s-min=9.6km az=59.0, Suspected Mining explosion.*
*IDC **29** 09:29:03.2±2.8, 53°.52N×87°.92E, h0km, mb1 3.2/2, mb1mx3.0/52, mbtmp3.2/2, ML2.9/2, Error ellipse: s-maj=26.5km s-min=17.7km az=85.0*

ISC 29 09:29:03.3±3.6, 53°.5N±0°.1×87°.9E±0°.2, h0km, n7, σ1°.02/12, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.88 284		*i*		09 41 05.8	
	baz=97,slow=306,SNR=5.8						
ZAA0	Zalesovo Array	1.88 284		⇑Pn	Pn	09 29 35.8	-0.9
	0.5nm,0.3s						
ZAA0				⇓Sn	Sn	09 30 02.3	+1.3
	2.7nm,0.4s						
ZALV	Zalesovo Beam	1.88 284		Pn	Pn	09 29 35.9	-0.8
	4.0nm,0.3s,baz=102,slow=14,SNR=23						
ZALV				Sn	Sb	09 30 02.6	+0.2
	6.0nm,0.3s,baz=103,slow=24,SNR=23						
KURBB	Kurchatov Arra	6.46 247		Pn	Pn	09 30 40.4	+0.8
	0.2nm,0.3s,baz=60,slow=14,SNR=12						
KURBB				Sn	Sn	09 31 53.3	-0.6
	0.1nm,0.3s,baz=72,slow=21,SNR=3.9						
KURBB				Lg	Lg	09 32 28.9	
	0.1nm,0.3s,baz=60,slow=32,SNR=5.7						
KURBB	Kurchatov Arra	6.46 247		⇑Pn	Pn	09 30 40.1	+0.5
	1.4nm,0.3s						
KURBB				⇑Sn	Sn	09 31 53.5	-0.4
	2.8nm,0.5s						
KURBB				⇑Lg	Lg	09 32 27.1	
	3.8nm,0.6s						
MK31	Makanchi Array	7.63 210		⇓Pn	Pn	09 30 55.5	-0.2
	0.2nm,0.4s,baz=30,slow=14,SNR=10						
MK31				⇓Sn	Sn	09 32 22.3	-0.6
	0.3nm,0.4s						
MK31				⇓Lg	Lg	09 33 03.9	
	0.5nm,0.5s,baz=14,slow=36,SNR=4.1						
MKAR	Makanchi Array	7.63 210		Pn	Pn	09 30 57.2	+1.5
	0.2nm,0.3s,baz=29,slow=14,SNR=8.2						
MKAR				Sn	Sn	09 32 21.5	-1.4
	0.2nm,0.3s,baz=24,slow=27,SNR=5.2						
MKAR				Lg	Lg	09 33 05.0	
	0.1nm,0.3s,baz=30,slow=30,SNR=1.9						

ISC 29 09:31:54.8±1.2, 49°.05N±0°.05×18°.69E±0°.05, h10km, n5, σ0°.85/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLL	Kolacno	0.51 202		*e*PG	Pg	09 32 03.4	-1.3
KOLL				*e*SG	Sg	09 32 11.0	-0.4
LANS	Liptovska Anna	0.52 79		*e*PG	Pg	09 32 04.6	-0.4
VYHS	Vyhne	0.56 170		*e*PG	Pb	09 32 07.9	+1.1
VYHS				*e*SG	Sb	09 32 14.8	-0.1
JAVC	Velka Javorina	0.70 255		*e*PG	Pg	09 32 08.6	+0.3
JAVC				*e*SG	Sb	09 32 18.9	+0.1
MORC	Moravsky Berou	1.04 315		*e*PG	Pg	09 32 13.9	-1.0
MORC				*e*SG	Sb	09 32 28.9	+0.1

*SOME **29** 09:34:46.6, 37°.75N×78°.10E, h0km*
NNC 29 09:34:48.9±2.4, 37°.83N×78°.47E, h0km, mb3.8, mpv3.5, 2C-1D, Error ellipse: s-maj=20.3km s-min=14.7km az=44.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	5.33 4		*e*P	Pg	09 36 28.1	-2.8
	1.8nm,0.3s						
UZB				*e*S	Sg	09 37 41.3	+1.2
	7.6nm,0.5s						
TNSS	Tian-Shan	5.33 348		Pg	Pb	09 36 26.6	+3.4
	3.5nm,0.5s						
TNSS				Lg	Lg	09 37 38.6	
	18nm,1.3s						
IZV	Izvestkoviy	5.39 345		*e*P	Pg	09 36 28.5	-3.7
	3.9nm,0.4s						
IZV				*e*S	Sg	09 37 41.7	-0.3
	9.2nm,0.3s						
MDOK	Medeo	5.44 349		*e*P	Pg	09 36 29.2	-3.9
	4.7nm,0.3s						
MDOK				*e*S	Sg	09 37 43.2	-0.3
	11nm,0.6s						
MDOK	Medeo	5.44 349		Pg	Pg	09 36 29.2	-3.9
	4.7nm,0.3s						
MDOK				Lg	Lg	09 37 43.2	
	11nm,0.6s						
TKM2	Tokmak 2	5.54 338		⇓Pg	Pb	09 36 28.4	+1.8
	3.5nm,1.0s						
TKM2				⇑Lg	Lg	09 37 43.7	
	6.1nm,0.7s						
KST	Kastek	5.55 341		*e*P	Pb	09 36 29.9	+3.2
	3.2nm,0.8s						
KST				*e*S	Sg	09 37 44.4	-2.7
	5.3nm,0.7s						
KST	Kastek	5.55 341		Pg	Pb	09 36 29.7	+3.0
	3.2nm,0.8s						
KST				Lg	Lg	09 37 44.4	
	5.3nm,0.7s						
KPKS	Kokpek	5.63 2		*e*P	Pb	09 36 32.0	+3.9
	3.1nm,0.3s						
KPKS				*e*S	Sg	09 37 47.9	-1.9
	11nm,0.6s						
DGS	Degeres	5.79 340		*e*P	Pg	09 36 35.5	-4.2
	5.8nm,0.6s						
DGS				*e*S	Sg	09 37 54.0	-0.7
	6.6nm,0.5s						
DGS	Degeres	5.79 340		Pg	Pg	09 36 35.5	-4.2
	5.8nm,0.6s						
DGS				Lg	Lg	09 37 54.0	
	6.6nm,0.5s						
KTBS	Karatobe	6.03 348		*e*P	Pb	09 36 38.5	+3.6
	1.2nm,0.4s						
KTBS				*e*S	Sg	09 37 59.1	-3.5
	9.5nm,0.4s						
KUU	Kurty	6.27 346		*e*P	Pb	09 36 43.4	+4.5
	0.3nm,0.1s						
KUU				*e*S	Sg	09 38 07.5	-2.8
	6.4nm,0.8s						
ARXS	Arharly	6.40 356		*e*P	Pb	09 36 45.7	+4.6
	3.1nm,0.5s						
ARXS				*e*S	Sg	09 38 11.4	-2.9
	7.9nm,0.6s						
MK31	Makanchi Array	9.39 16		Pn	Pn	09 37 05.5	0.0
	0.1nm,0.2s,baz=195,slow=12,SNR=16						
MK31				⇑Sn	Sn	09 38 52.5	+0.7
	0.3nm,0.3s,baz=203,slow=24,SNR=5.3						

IDC 29 09:42:18.5±2.1, 4°.60N×126°.37E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/45, mbtmp3.5/3, Error ellipse: s-maj=164.3km s-min=26.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.61 162		P	P	09 47 50.2	+0.3
	0.5nm,0.5s,baz=342,slow=10,SNR=11						
ASAR	Alice Springs	29.04 166		P	P	09 48 20.2	-0.4
	0.3nm,0.7s,baz=350,slow=7.5,SNR=4.0						
MKAR	Makanchi Array	56.65 325		P	P	09 52 03.5	-0.1
	0.3nm,0.4s,baz=125,slow=6.4,SNR=4.9						

IDC 29 09:42:25.4±4.4, 18°.14S×178°.24W, h626km±33km, mb2.7/3, mb1 3.1/4, mb1mx2.7/39, mbtmp3.7/4, Error ellipse: s-maj=265.0km s-min=29.9km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.55 276		P	P	09 43 50.1	-0.1
	3.1nm,0.3s,baz=133,slow=3.9,SNR=13						
WRA	Warramunga Arr	44.75 260		P	P	09 49 45.2	-0.3
	0.5nm,0.4s,baz=96,slow=6.8,SNR=20						
ASAR	Alice Springs	44.88 254		P	P	09 49 46.8	+0.3
	1.1nm,0.4s,baz=90,slow=8.3,SNR=33						
TXAR	Lajitas Array	85.98 58		P	P	09 54 01.5	+0.1
	0.1nm,0.6s,baz=210,slow=6.3,SNR=2.5						

*DDA **29** 10:02:59.8, 38°.68N×26°.58E, h7km±2km, ML2.4*
*ISK **29** 10:02:59.5, 38°.69N×26°.58E, h15km, ML2.5/11*
*ATH **29** 10:03:00.8, 38°.65N×26°.60E, h17km±3km, ML2.5/6, Error ellipse: s-maj=3.8km s-min=1.3km az=241.0*
*THE **29** 10:03:01.3, 38°.67N×26°.48E, h17km±1km, ML2.5/4, Error ellipse: s-maj=2.7km s-min=0.6km az=266.0*

ISC 29 10:03:00.1±0.9, 38°.68N±0°.02×26°.60E±0°.02, h13km±6km, n49, σ0°.43/77, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	Karaburun	0.09 203		PG	Pg	10 03 02.9	-0.1
FOCM	Foa	0.11 70		PG	Pg	10 03 02.9	-0.3
URLA	Izmir	0.32 180		*i* P	Pg	10 03 06.7	+0.1
URLA				*i* S	Sb	10 03 12.2	-0.4
URLA				IAML		10 03 13.0	
	comp=E,299nm,0.3s						
URLA				IAML		10 03 14.0	
	comp=N,180nm,0.6s						
URLA	Izmir	0.32 180		PG	Pg	10 03 06.7	+0.1
URLA				SG	Sb	10 03 12.2	-0.4
CAND	Candarli	0.32 30		PG	Pg	10 03 06.7	0.0
ZEYE	Izmir, Urla-Ze	0.44 190		*i* P	Pg	10 03 08.6	-0.3
ZEYE				*i* S	Sb	10 03 15.9	-0.3
ZEYE				IAML		10 03 16.0	
	comp=N,549nm,0.2s						
ZEYE				IAML		10 03 16.0	
	comp=E,635nm,0.2s						
DKL	Dikili	0.46 31		PG	Pg	10 03 09.0	-0.3
DKL				SG	Sg	10 03 16.2	+0.8
ZEDA	zmir-Bergama	0.47 52		*i* P	Pg	10 03 08.9	-0.6
ZEDA				*i* S	Sg	10 03 15.9	+0.1
CHOS	Chios island	0.52 236		P	Pg	10 03 10.4	+0.2
CHOS				S	Sg	10 03 16.8	-0.3
	comp=E,695nm,0.2s						
CHOS	Chios island	0.52 236		P	Pg	10 03 10.5	+0.2
CHOS				S	Sg	10 03 17.2	+0.2
CHOS				AML	AML	10 03 18.5	
	comp=N,1232μm,0.1s						
CHOS				AML	AML	10 03 19.7	
	comp=E,1587μm,0.3s						
CHOS	Chios island	0.52 236		PG	Pg	10 03 10.4	+0.2
CHOS				SG	Sg	10 03 17.3	+0.2
PRK	Paraskevi	0.62 336		P	Pb	10 03 13.1	+0.2
PRK				S	Sb	10 03 21.7	+0.2
	comp=E,1μm,0.3s						
PRK	Paraskevi	0.62 336		P	Pb	10 03 12.9	0.0
PRK				S	Sb	10 03 21.6	+0.2
PRK				AML	AML	10 03 22.3	
	comp=N,1071μm,0.8s						
PRK				AML	AML	10 03 23.6	
	comp=E,1608μm,0.4s						
AYVA	Ayvalik	0.64 6		*i* P	Pg	10 03 12.1	-0.4
AYVA				*i* S	Sg	10 03 21.2	+0.2
AYVA				IAML		10 03 23.0	
	comp=E,96nm,0.6s						
AYVA				IAML		10 03 24.0	
	comp=N,164nm,0.3s						
SIGR	SIGRI	0.79 313		P	Pg	10 03 15.1	-0.3
SIGR	SIGRI	0.79 313		P	Pg	10 03 15.2	-0.2
SIGR				S	Sb	10 03 26.5	+0.2
SIGR				AML	AML	10 03 27.5	
	comp=E,395μm,0.5s						
SIGR				AML	AML	10 03 28.4	
	comp=N,688μm,0.6s						
SIGR	SIGRI	0.79 313		PG	Pg	10 03 14.9	-0.5
SIGR				SG	Sb	10 03 26.3	0.0
PSRA	Psara	0.82 261		P	Pg	10 03 16.0	0.0
PSRA				S	Sb	10 03 27.4	+0.2
PSRA				AML	AML	10 03 30.2	
	comp=E,2527μm,0.2s						
PSRA				AML	AML	10 03 33.2	
	comp=N,1454μm,0.2s						
KOCA	Canakkale, Ayv	0.90 337		*i* P	Pg	10 03 17.2	-0.3
KOCA				*i* S	Sb	10 03 29.8	+0.4
KOCA				IAML		10 03 31.0	
	comp=E,320nm,0.4s						
KOCA				IAML		10 03 31.0	
	comp=N,438nm,0.8s						
BUHA	Balikesir, Bur	0.90 24		*i* P	Pg	10 03 16.6	-1.0
BUHA				*i* S	Sb	10 03 30.5	+0.8
BUHA				IAML		10 03 33.0	
	comp=N,116nm,0.4s						
BUHA				IAML		10 03 33.0	
	comp=E,156nm,0.5s						
SMG	Samos	0.98 169		P	Pb	10 03 18.9	-0.1
SMG				S	Sn	10 03 33.8	+0.4
	comp=E,290nm,0.3s						
SMG	Samos	0.98 169		P	Pb	10 03 18.7	-0.4
SMG				S	Sb	10 03 30.8	-1.1
SMG				AML	AML	10 03 35.2	
	comp=N,518μm,0.3s						
SMG				AML	AML	10 03 37.4	
	comp=E,635μm,0.3s						
BAYC	CANAKKALE_Bayr	1.06 358		*i* P	Pb	10 03 19.6	-0.8
BAYC				*i* S	Sb	10 03 33.2	-1.0
BAYC				IAML		10 03 37.0	
	comp=N,111nm,0.2s						
BAYC				IAML		10 03 37.0	
	comp=E,116nm,0.2s						
GCAM	G?zelcaml?	1.09 153		*i* P	Pb	10 03 20.1	-0.8
GCAM				*i* S	Sb	10 03 35.5	+0.4
GCAM				IAML		10 03 38.0	
	comp=N,96nm,0.3s						
GCAM				IAML		10 03 39.0	
	comp=E,46nm,0.2s						
GCAM	G?zelcaml?	1.09 153		PN	Pb	10 03 20.9	0.0
STEP	BALIKESIR_Sava	1.12 51		*i* P	Pb	10 03 21.1	-0.3
STEP				*i* S	Sb	10 03 35.8	0.0
STEP				IAML		10 03 40.0	
	comp=N,108nm,0.6s						
STEP				IAML		10 03 41.0	
	comp=E,109nm,0.4s						
STEP	BALIKESIR_Sava	1.12 51		*i* P	Pb	10 03 21.5	+0.2
STEP				*i* S	Sg	10 03 36.3	+0.1
STEP				IAML		10 03 38.0	
	comp=N,87nm,0.5s						
STEP				IAML		10 03 41.0	
	comp=E,109nm,0.4s						
EZN	Ezine	1.17 350		P	Pb	10 03 21.9	-0.2
EZN				S	Sb	10 03 37.0	-0.2
	comp=E,140nm,0.3s						
EZN	Ezine	1.17 350		PN	Pb	10 03 21.7	-0.4
AYDB	Zeytinkoy-Aydi	1.25 125		PN	Pn	10 03 23.5	+0.1
BALY	Balya	1.33 36		*i* P	Pn	10 03 24.1	-0.3
BALY				*i* S	Sg	10 03 42.8	0.0
BALY				IAML		10 03 45.0	
	comp=N,123nm,0.5s						
BALY				IAML		10 03 45.0	
	comp=E,65nm,0.4s						
BALB	Balikesir	1.39 46		PN	Pn	10 03 24.9	-0.2
AYDN	Tasoluk	1.43 135		*i* P	Pn	10 03 25.5	-0.3
MANT	Manisa	1.55 96		*i* P	Pb	10 03 28.8	0.0
MANT				*i* S	Sb	10 03 48.4	0.0
MANT				IAML		10 03 51.0	
	comp=N,18nm,0.7s						
MANT				IAML		10 03 52.0	
	comp=E,28nm,0.3s						
GADA	Gvkgeada	1.61 341		P	Pn	10 03 28.4	+0.2
GADA	Gvkgeada	1.61 341		PN	Pn	10 03 27.7	-0.5
GONE	Gonen-Balikesi	1.61 31		PN	Pn	10 03 28.1	-0.1
KULA	Kula-Manisa	1.62 95		PN	Pn	10 03 28.8	+0.3
DEMI	Demirci	1.69 77		*i* P	Pb	10 03 30.6	-0.5
DEMI				*i* S	Sb	10 03 52.7	+0.3
DEMI				IAML		10 03 55.0	
	comp=E,72nm,0.4s						
DEMI				IAML		10 03 58.0	
	comp=N,73nm,1.2s						
BODT	Bodrum	1.71 161		P	Pn	10 03 29.6	0.0
BODT	Bodrum	1.71 161		PN	Pn	10 03 30.0	+0.4
GELI	Tayfur-Gelibol	1.72 357		PN	Pn	10 03 29.7	-0.1
DURS	Dursunbey	1.73 57		*i* P	Pb	10 03 31.8	+0.1
DURS				*i* S	Sn	10 03 52.2	+0.4
DURS				IAML		10 03 55.0	
	comp=N,99nm,0.5s						
DURS				IAML		10 03 55.0	
	comp=E,71nm,0.9s						
APE	Apeiranthos	1.81 208		PN	Pn	10 03 30.8	-0.3
USAK	Uak-Merkez	1.89 88		*i* P	Pb	10 03 34.9	+0.4
USAK				*i* S	Sb	10 03 59.6	+1.5
USAK				IAML		10 04 02.0	
	comp=E,29nm,1.1s						
USAK				IAML		10 04 13.0	
	comp=N,28nm,0.5s						
SMTH	Samothraki Isl	1.97 336		P	Pn	10 03 32.9	-0.3
SMTH	Samothraki Isl	1.97 336		P	Pb	10 03 36.3	+0.4
ALN	Alexandroupoli	2.26 349		P	Pn	10 03 37.2	+0.1
ALN	Alexandroupoli	2.26 349		P	Pb	10 03 41.3	+0.6
ALN				AML	AML	10 04 14.1	
	comp=N,52μm,0.5s						
ALN				AML	AML	10 04 14.6	
	comp=E,70μm,0.3s						

*IDC **29** 10:24:18.6±3.8, 36°.06N×71°.25E, h53km±30km, mb3.7/10, mb1 3.9/15, mb1mx3.6/48, mbtmp4.1/15, ML4.2/4, MS2.6/2, Ms1 2.6/2, ms1mx2.3/32, Error ellipse: s-maj=30.6km s-min=22.3km az=166.0*
*NNC **29** 10:24:26.2±2.6, 36°.67N×71°.17E, h110km±22km, mb3.5, mpv4.2, Error ellipse: s-maj=23.7km s-min=19.2km az=178.0*

ISC 29 10:24:18.4±0.6, 36°.17N±0°.07×71°.20E±0°.06, h50km, n59, σ2°.24/63, mb3.8/9, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.26 17		P	Pn	10 25 50.8	+2.3
	SNR=36						
EKS2	Erkin-Say	6.78 16		P	Pn	10 25 57.9	+2.5
	SNR=18						
AAK	Ala-Archa	6.94 21		P	Pn	10 26 00.4	+2.7
	12nm,0.3s,baz=190,slow=5.9,SNR=16						
AAK				S	Sn	10 27 12.6	-2.7
	3.1nm,0.3s,baz=315,slow=16,SNR=3.4						
AAK				LR	LR	10 29 07.4	
	comp=Z,36nm,20.7s,baz=176,slow=41						
AAK	Ala-Archa	6.94 21		P	Pn	10 26 00.2	+2.6
	SNR=13						
AAK	Ala-Archa	6.94 21		⇓P	Pn	10 26 00.0	+2.4
	22nm,0.5s						
AAK				⇓S	Sn	10 27 12.2	-3.1
	12nm,0.6s						
KK31	Karatay Array	6.95 356		⇓P	Pn	10 25 58.5	+1.0
	5.1nm,0.3s,baz=174,slow=12,SNR=176						
KK31				⇑S	Sn	10 27 11.1	-4.1
	6.8nm,0.4s,baz=182,slow=24,SNR=4.3						
ULHL	Ulahol	7.22 31		P	Pn	10 25 50.0	-11
	SNR=7.0						
CHMS	Chumysh	7.35 21		P	Pn	10 26 05.6	+2.5
	SNR=19						
USP	Ospenovka	7.53 19		P	Pn	10 26 08.1	+2.5
	SNR=15						
TKM2	Tokmak 2	7.55 25		P	Pn	10 26 08.2	+2.2
	SNR=18						
TKM2	Tokmak 2	7.55 25		⇑P	Pn	10 26 07.8	+1.8
	23nm,1.1s						
MDOK	Medeo	8.31 31		P	Pn	10 26 18.9	+2.5
	5.3nm,0.8s						
PDGK	Podgornoye	9.58 39		⇑P	Pn	10 26 34.9	+1.2
	3.6nm,1.1s						
GEYT	Alibeck	10.61 283		P	Pn	10 26 48.3	+0.6
	1.7nm,0.3s,baz=119,slow=9.5,SNR=5.5						
GEYT				S	Sn	10 28 37.8	-7.2
	1.8nm,0.3s,baz=70,slow=27,SNR=2.7						
GEYT				LR	LR	10 31 40.6	
	comp=Z,40nm,18.2s,baz=200,slow=41						
PYUN	Piuthan	12.82 126		*e*P	Pn	10 27 20.3	+2.3
	61nm,0.3s						
PYUN				*e*S	Sn	10 29 35.7	-3.6
DANN	Dangsing	13.17 123		*e*P	Pn	10 27 25.0	+2.0
	21nm,0.3s						
KOLN	Koldanda	13.44 125		*e*P	Pn	10 27 28.4	+1.9
	16nm,0.3s						
MK31	Makanchi Array	13.47 35		P	Pn	10 27 26.1	-0.6
	0.6nm,0.5s,baz=215,slow=9.9,SNR=6.3						
MKAR	Makanchi Array	13.47 35		P	Pn	10 27 26.6	-0.1
	0.1nm,0.3s,baz=222,slow=12,SNR=6.1						
GKN	Gorkha	13.99 122		*e*P	Pn	10 27 34.7	+0.7

2.0nm,0.5s
AB31 Akbulak array 15.45 331 P **Pn 10 27 50.5 -2.4**
1.5nm,0.3s,baz=138,slow=13,SNR=40
RAMN Ramite 16.00 121 *eP* **P 10 28 01.3 -1.8**
TAPN Taplejung 16.55 117 *eP* **P 10 28 08.3 -0.9**
10.0nm,0.2s
BVAR Borovoye Array 16.86 358 P **Pn 10 28 08.9 -1.8**
0.6nm,0.3s,baz=155,slow=7.2,SNR=5.7
BRVK Borovoye 16.90 358 ⇓P **Pn 10 28 09.5 -1.7**
2.1nm,0.6s
AKTO Aktyubinsk 17.15 330 P **Pn 10 28 13.9 -0.4**
1.9nm,0.3s,baz=116,slow=16,SNR=9.7
AKTO Aktyubinsk 17.15 330 ⇓P **Pn 10 28 14.3 0.0**
7.6nm,0.5s
ZAA0 Zalesovo Array 20.15 24 ⇑P **P 10 28 46.7 -1.5**
0.9nm,0.8s
ZALV Zalesovo Beam 20.15 24 P **P 10 28 47.1 -1.1**
3.1nm,0.3s,baz=233,slow=10,SNR=12
ARU Arti 22.00 341 P **P 10 29 11.0 +3.0**
1.7nm,0.4s,baz=148,slow=11,SNR=5.1
AKASG Malin Array Be 33.28 309 P **P 10 30 52.8 +2.0**
0.4nm,0.3s,baz=79,slow=7.1,SNR=4.5
FINES FINESS Array B 37.85 326 P **P 10 31 30.8 +0.9**
1.8nm,0.5s,baz=117,slow=9.8,SNR=17
ARA0 ARCESS Array S 41.51 338 *eP* **P 10 32 02.8 +2.5**
ARCES ARCESS Array B 41.51 338 P **P 10 32 01.0 +0.7**
2.4nm,0.5s,baz=108,slow=7.8,SNR=25
KTK1 Kautokeino 41.99 336 *eP* **P 10 32 06.0 +1.8**
HAMF Hammerfest 42.59 339 *eP* **P 10 32 11.7 +2.7**
JETT Jettan, Norway 43.13 337 *eP* **P 10 32 16.6 +3.1**
TRO Tromso 43.64 336 *eP* **P 10 32 20.3 +2.9**
FAUS Fauske 44.17 333 *eP* **P 10 32 23.8 +2.0**
MOR8 Moi Rana 44.19 331 *eP* **P 10 32 23.2 +1.2**
NC602 NORSAR Array S 44.56 323 *eP* **P 10 32 26.6 +1.7**
NB2 NORSAR Subarra 44.74 323 P **P 10 32 26.8 +0.3**
comp=Z,1.7nm,0.5s,baz=98,slow=7.9
NB2 NORSAR Subarra 44.74 323 P **P 10 32 26.8 +0.3**
baz=98,slow=7.9
NOA NORSAR Array B 44.74 323 P **P 10 32 26.8 +0.3**
comp=Z,0.2nm,0.3s,baz=104,slow=7.3,SNR=12
KONS Konsvik 44.78 331 *eP* **P 10 32 28.6 +2.0**
LOF Lofoten 45.01 333 *eP* **P 10 32 30.0 +1.6**
BJO1 Bjornoya 45.63 343 *eP* **P 10 32 35.5 +2.2**
SKAR Skarslia 46.14 323 *eP* **P 10 32 39.9 +2.3**
SNART Snartemo 46.66 319 *eP* **P 10 32 44.3 +2.7**
TORD Torodi Ar. Bea 65.88 269 P **P 10 34 58.6 -0.5**
comp=Z,0.5nm,0.4s,baz=55,slow=6.1,SNR=8.8
INK Inuvik 74.20 9 P **P 10 35 49.7 +0.4**
comp=Z,1.2nm,0.2s,baz=340,slow=6.0,SNR=4.3
YKA Yellowknife Ar 81.57 3 P **P 10 36 30.5 +0.2**
comp=Z,0.3nm,0.5s,baz=353,slow=5.0,SNR=2.8
ASAR Alice Springs 83.93 125 P **P 10 36 43.5 +0.3**
comp=Z,0.2nm,0.5s,baz=308,slow=4.9,SNR=2.4

IDC 29 10:28:08.0±7.3, 19°.45S×177°.02W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/28, mbtmp3.4/2, Error ellipse: s-maj=339.1km s-min=112.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.67**	**256**	P	P	10 36 30.9	0.0
	0.2nm,0.4s,baz=95,slow=8.6,SNR=5.0						
WRA	**Warramunga Arr**	**45.67**	**261**	P	P	10 36 30.7	-0.2
	0.6nm,1.0s,baz=96,slow=8.1,SNR=10						
AKASG	**Malin Array Be**	**142.53**	**332**	PKP	PKPdf	10 47 42.3	-0.5
	0.3nm,0.3s,baz=36,slow=3.9,SNR=4.1						

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*IDC **29** 10:37:21.8±1.2, 6°.78N×72°.92W, h166km±15km, mb3.2/4, mb1 3.5/6, mb1mx3.1/27, mbtmp3.7/6, Error ellipse: s-maj=36.7km s-min=14.0km az=130.0*
*RSNC **29** 10:37:22.6±1.2, 6°.80N×73°.13W, h151km±4km, ML3.6, Mw3.8, Fault plane solution: NP1:φs128.00000°, δ42.00000°, λ-102.00000°.*

ISC 29 10:37:21.2±0.8, 6°.82N±0°.03×73°.11W±0°.03, h159km±6km, n49, σ1°69/80, mb3.3/4, 6C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**197**	⇓*iP*	**Pn**	**10 37 43.1**	**+0.2**
BARC				*eS*	**Sn**	**10 37 58.5**	**-1.0**
BARC				*i*		10 37 59.9	
	comp=Z,668nm,0.5s						
PAMC	**Pamplona, Colo**	**0.66**	**38**	⇓*iP*	**Pn**	**10 37 45.9**	**+0.9**
PAMC				*eS*	**Sn**	**10 38 02.9**	**-0.3**
PAMC				*i*		10 38 05.3	
	comp=Z,615nm,0.5s						
BRRC	**Barranca, Sant**	**0.66**	**296**	⇓*iP*	**Pn**	**10 37 45.0**	**+0.6**
BRRC				*i*		10 37 45.3	
	comp=Z,649nm,0.2s						
BRRC				*eS*	**Sn**	**10 38 01.3**	**-0.9**
RUSC	**La Rusia**	**0.92**	**178**	⇓*iP*	**Pn**	**10 37 47.0**	**+0.2**
RUSC				*eS*	**Sn**	**10 38 05.6**	**-0.8**
RUSC				*i*		10 38 08.3	
	comp=Z,347nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.36**	**258**	*eP*	**Pn**	**10 37 50.0**	**-0.1**
OCAC	**Ocana**	**1.42**	**352**	⇓*eP*	**Pn**	**10 37 51.3**	**+0.5**
OCAC				*eS*	**Sn**	**10 38 13.7**	**0.0**
OCAC				*i*		10 38 19.0	
	comp=Z,838nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	⇓*eP*	**Pn**	**10 37 55.4**	**+0.1**
ZARC				*eS*	**Sn**	**10 38 20.6**	**-0.9**
ZARC				*i*		10 38 27.6	
	comp=Z,501nm,0.4s						
NORC	**Norcasia**	**2.15**	**235**	⇑*eP*	**Pn**	**10 37 58.7**	**+0.1**
NORC				*eS*	**Sn**	**10 38 26.7**	**-0.8**
NORC				*i*		10 38 29.5	
	comp=Z,334nm,0.3s						
CHIC	**Chingaza**	**2.26**	**196**	⇑*eP*	**Pn**	**10 38 01.1**	**+0.7**
CHIC				*eS*	**Sn**	**10 38 30.3**	**-0.3**
CHIC				*i*		10 38 36.2	
	comp=Z,151nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**10 38 02.8**	**+2.0**
	comp=Z,44nm,0.3s,baz=27,slow=1.7,SNR=41						
ROSC				S	**Sn**	**10 38 29.5**	**-1.9**
	comp=Z,26nm,0.3s,baz=266,slow=22,SNR=8.9						
ROSC	**El Rosal**	**2.31**	**211**	⇓*eP*	**Pn**	**10 38 02.6**	**+1.8**
ROSC				*eS*	**Sn**	**10 38 31.0**	**-0.4**
ROSC				*i*		10 38 36.4	
	comp=Z,356nm,0.4s						
HELC	**Santa Helena**	**2.48**	**256**	*eP*	**Pn**	**10 38 02.8**	**-0.1**
HELC				*eS*	**Sn**	**10 38 35.0**	**0.0**
HELC				*i*		10 38 41.8	
	comp=Z,189nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**291**	*eP*	**Pn**	**10 38 02.8**	**-0.9**
UREC				*eS*	**Sn**	**10 38 32.9**	**-3.6**
UREC				*i*		10 38 43.9	
	comp=Z,269nm,0.3s						
SOCV	**Socops**	**2.67**	**57**	*eP*	**Pn**	**10 38 04.5**	**-0.3**
SOCV				*eS*	**Sn**	**10 38 36.1**	**-2.4**
LL2C	**La Loma 2 Cana**	**2.74**	**353**	*eP*	**Pn**	**10 38 07.3**	**+1.7**
LL2C				*eS*	**Sn**	**10 38 40.6**	**+0.5**
LL2C				*i*		10 38 49.8	
	comp=Z,205nm,0.2s						
LL1C	**La Loma 1 Cana**	**2.74**	**351**	*eP*	**Pn**	**10 38 08.2**	**+2.5**
LL1C				*i*		10 38 09.6	
	comp=Z,327nm,0.2s						
LL1C				*eS*	**Sn**	**10 38 42.3**	**+2.1**
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*eP*	**Pn**	**10 38 06.6**	**+0.4**
GUY2C				*eS*	**Sn**	**10 38 41.1**	**+0.1**
GUY2C				*i*		10 38 50.0	
	comp=Z,200nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.78**	**159**	⇓*iP*	**Pn**	**10 38 06.0**	**-0.3**
PTGC				*i*		10 38 06.4	
	comp=Z,474nm,0.2s						
PTGC				*eS*	**Sn**	**10 38 39.0**	**-2.1**
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*eP*	**Pn**	**10 38 10.7**	**+1.1**
CBOC				*i*		10 38 11.8	
	comp=Z,76nm,0.4s						
CBOC				*eS*	**Sn**	**10 38 45.1**	**-1.9**
DBBC	**Dabeiba**	**3.08**	**274**	⇑*eP*	**Pn**	**10 38 10.5**	**+0.5**
DBBC				*eS*	**Sn**	**10 38 45.0**	**-2.9**
TOLC	**Tolima**	**3.12**	**225**	*eP*	**Pn**	**10 38 11.5**	**+0.7**
TOLC				*eS*	**Sn**	**10 38 49.2**	**-0.1**
TOLC				*i*		10 38 56.5	
	comp=Z,186nm,0.4s						
MOTC	**Monteria, Cord**	**3.19**	**308**	*eP*	**Pn**	**10 38 10.3**	**-1.0**
MOTC				*eS*	**Sn**	**10 38 47.9**	**-2.4**
MOTC				*i*		10 39 05.2	
	comp=Z,155nm,0.4s						
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**10 38 11.6**	**0.0**
	comp=Z,16nm,0.3s,baz=221,slow=7.1,SNR=4.9						
SDV				S	**Sn**	**10 38 49.5**	**-1.2**
	comp=Z,32nm,0.3s,baz=62,slow=20,SNR=28						
SDV	**Santo Domingo**	**3.20**	**50**	*eP*	**Pn**	**10 38 12.6**	**+1.0**
SDV				*eS*	**Sn**	**10 38 49.1**	**-1.6**
SDV				*i*		10 38 51.6	
	comp=Z,67nm,0.4s						
ARGC	**Ariguani, Magd**	**3.22**	**340**	*eP*	**Pn**	**10 38 13.3**	**+1.6**
ARGC				*eS*	**Sn**	**10 38 47.4**	**-3.5**
ARGC				*i*		10 39 02.5	
	comp=Z,79nm,0.4s						
ANIL	**Santa Ana**	**3.25**	**225**	*eP*	**Pn**	**10 38 13.5**	**+1.1**
ANIL				*eS*	**Sn**	**10 38 51.5**	**-0.5**
ORTC	**Ortega, Tolima**	**3.59**	**216**	*eP*	**Pn**	**10 38 17.0**	**+0.6**
ORTC				*eS*	**Sn**	**10 38 58.9**	**-0.5**
ORTC				*i*		10 39 04.9	
	comp=Z,89nm,0.3s						
ELOV	**Elorza**	**3.61**	**87**	⇑*eP*	**Pn**	**10 38 17.0**	**+0.4**
ELOV				*eS*	**Sn**	**10 38 56.0**	**-3.7**
CVALL	**Valledupar, Ce**	**3.67**	**358**	*eP*	**Pn**	**10 38 17.6**	**+0.2**
CVALL				*eS*	**Sn**	**10 38 58.3**	**-2.9**
CVALL				*i*		10 39 20.1	
	comp=Z,68nm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*eP*	**Pn**	**10 38 16.8**	**-0.8**
SJCC				*eS*	**Sn**	**10 38 57.6**	**-3.9**
SJCC				*i*		10 39 02.6	
	comp=Z,63nm,0.4s						
PLMC	**San Jos del P**	**3.68**	**239**	⇑*eP*	**Pn**	**10 38 18.6**	**+0.9**
PLMC				*i*		10 38 19.9	
	comp=Z,79nm,0.4s						
GUVC	**San Jose del G**	**4.28**	**174**	*eP*	**Pn**	**10 38 24.6**	**-0.7**
GUVC				*eS*	**Sn**	**10 39 11.9**	**-3.4**
GUVC				*i*		10 39 19.8	
	comp=Z,108nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	⇓*eP*	**Pn**	**10 38 25.6**	**+0.1**
SOLC	**Bahia Solano**	**4.31**	**262**	*eP*	**Pn**	**10 38 26.7**	**+1.0**
SOLC				*i*		10 38 30.8	
	comp=Z,19nm,0.3s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**10 38 28.2**	**+0.6**
SMRC				*eS*	**Sn**	**10 39 13.1**	**-6.4**
SMRC				*i*		10 39 22.6	
	comp=Z,38nm,0.3s						
PTAC	**Punta Ardita,**	**4.67**	**274**	*eP*	**Pn**	**10 38 30.6**	**+0.1**
PTAC				*i*		10 38 31.8	
	comp=Z,57nm,0.4s						
MACC	**Macarena, Meta**	**4.70**	**189**	⇓*eP*	**Pn**	**10 38 29.6**	**-1.3**
MACC				*i*		10 38 30.1	
	comp=Z,28nm,0.4s						
DABV	**Dabajuro**	**4.75**	**31**	⇑*eP*	**Pn**	**10 38 31.5**	**0.0**
MARP	**Paez Belalcaza**	**4.86**	**216**	*eP*	**Pn**	**10 38 33.2**	**0.0**
MALC	**Bahia Malaga**	**5.05**	**237**	*eP*	**Pn**	**10 38 37.7**	**+2.3**
MALC				*i*		10 38 39.1	
	comp=Z,38nm,0.5s						
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*	**Pn**	**10 38 36.1**	**-1.3**
GARC				*i*		10 39 37.6	
	comp=Z,35nm,0.2s						
POPC	**Popayan, Colom**	**5.54**	**220**	*eP*	Pn	10 38 32.4	-10
BBAC	**Balboa, Cauca**	**6.30**	**221**	*eP*	**Pn**	**10 38 53.7**	**+1.5**
BBAC				*i*		10 38 55.9	
	comp=Z,13nm,0.4s						
BBAC				*eS*	**Sn**	**10 40 00.5**	**-3.2**
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**10 44 12.5**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=120,slow=8.6,SNR=8.5						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**10 45 45.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=124,slow=8.8,SNR=3.6						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**10 45 46.4**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=189,slow=9.4,SNR=2.2						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**10 47 32.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=125,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**10 56 50.9**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=109,slow=3.5,SNR=4.2						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**10 56 54.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=103,slow=3.6,SNR=1.8						

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*IDC **29** 10:49:55.4±7.9, 7°.12S×126°.19E, h461km±109km, mb3.1/3, mb1 3.1/5, mb1mx2.8/24, mbtmp3.9/5, Error ellipse: s-maj=138.8km s-min=40.1km az=61.0*

ISC 29 10:49:54.4±1.4, 6°.7S±0°.7×12°.7E±°, h450km, n5, σ1°40/6, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.92**	**153**	P	**P**	**10 53 05.5**	**+0.7**
	0.5nm,0.3s,baz=335,slow=8.4,SNR=37						
WRA				S	**S**	**10 55 40.1**	**-1.9**
	0.1nm,0.3s,baz=317,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**18.09**	**160**	P	**P**	**10 53 38.5**	**+0.3**
	0.6nm,0.3s,baz=342,slow=13,SNR=26						
STKA	**Stephens Creek**	**28.47**	**154**	P	**P**	**10 55 12.5**	**+1.0**
	0.9nm,0.4s,baz=327,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**66.44**	**328**	P	**P**	**10 59 57.5**	**-0.4**
	0.5nm,0.6s,baz=127,slow=6.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**70.07**	**335**	P	**P**	**11 00 19.3**	**-0.5**
	0.8nm,0.4s,baz=123,slow=5.3,SNR=3.0						

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*TEH **29** 11:00:10.7, 29°.01N×58°.30E, h12km, ML3.6*
*THR **29** 11:00:12.5±0.5, 29°.09N×58°.36E, h18km±9km, ML3.9*
*OMAN **29** 11:00:13.7±0.2, 28°.88N×58°.68E, h10km, ml3.3/8, Error ellipse: s-maj=10.0km s-min=2.9km az=320.0*

ISC 29 11:00:11.8±1.9, 29°.00N±0°.04×58°.42E±0°.05, h1km±15km, n37, σ1°93/50, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**0.14**	**11**	*ePg*	**Pg**	**11 00 15.1**	**+0.7**
CHMN	**Cheshme madani**	**1.15**	**318**	*ePg*	**Pb**	**11 00 31.7**	**-3.0**
CHMN				*e*		11 00 50.2	
	comp=Z,13μm,0.2s						
KHNJ	**Kahnooj**	**1.23**	**211**	*ePg*	**Pn**	**11 00 32.7**	**-3.4**
NGRK	**Negar Kerman**	**1.61**	**294**	*ePg*	**Pn**	**11 00 39.4**	**-2.3**
NGRK				*e*		11 01 02.5	
	comp=Z,16μm,0.2s						
KRBR	**Kerman**	**1.75**	**304**	*ePn*	**Pn**	**11 00 42.5**	**-1.0**
KRBR				*eSg*	**Sn**	**11 01 05.0**	**-1.5**
KRBR				IAML		11 01 08.8	
	comp=N,670nm,0.2s						
KRBR	**Kerman**	**1.75**	**304**	*ePn*	**Pn**	**11 00 42.5**	**-1.0**
TVBK	**TV Kerman**	**1.75**	**305**	*ePn*	**Pn**	**11 00 40.8**	**-2.8**
ZHDN	**Zahedan**	**2.12**	**79**	*ePn*	**Pn**	**11 00 48.7**	**+0.1**
KHGB	**Koh Gabri**	**2.18**	**309**	*ePn*	**Pn**	**11 00 49.8**	**+0.5**
KHGB				*e*		11 01 20.6	
	comp=Z,4μm,0.3s						
IBND	**Bandar-abas**	**2.27**	**227**	*e*	Sg	11 01 37.7	+13
	comp=Z,3μm,0.6s						
GENO	**Geno**	**2.55**	**232**	*ePn*	**Pn**	**11 00 55.4**	**+1.0**
BNDS	**Bandar-Abbas**	**2.55**	**232**	*eP*	**Pn**	**11 00 55.4**	**+1.0**
BNDS	**Bandar-Abbas**	**2.55**	**232**	*ePn*	**Pn**	**11 00 55.4**	**+1.0**
NHDN	**Nehbandan**	**2.77**	**30**	*ePn*	**Pn**	**11 00 57.5**	**+0.1**
IKOO	**Kooshah**	**3.45**	**8**	*ePn*	**Pn**	**11 01 06.0**	**-0.9**
SHME	**Shamm**	**3.57**	**215**	P	**Pn**	**11 01 10.8**	**+2.5**
SHME				S	**Sn**	**11 01 53.1**	**+1.9**
BANOM	**Banah**	**3.60**	**212**	P	**Pn**	**11 01 09.8**	**+1.1**
	SNR=9.9						
BANOM				S	**Sn**	**11 01 53.7**	**+1.8**
SRVN	**Saravan**	**3.85**	**113**	*ePn*	**Pn**	**11 01 14.0**	**+1.7**
MASF	**Masafi**	**4.14**	**210**	P	**Pn**	**11 01 16.3**	**+0.1**
MASF				S	**Sn**	**11 02 07.5**	**+2.3**
MDH	**Madha**	**4.14**	**208**	P	**Pn**	**11 01 14.5**	**-1.7**
MDH				S	**Sn**	**11 02 03.1**	**-2.2**
AFRZ	**Afriz**	**4.44**	**6**	*ePn*	**Pn**	**11 01 19.3**	**-1.1**
UOSS	**Minazif**	**4.50**	**207**	P	**Pn**	**11 01 19.6**	**-1.5**
UOSS				S	**Sn**	**11 02 13.1**	**-0.9**
HATD	**Hatta, Dubai**	**4.63**	**207**	P	**Pn**	**11 01 25.8**	**+2.8**
YZKH	**Yazd**	**4.72**	**317**	*ePn*	**Pn**	**11 01 24.0**	**-0.2**
YZKH				IAML		11 02 43.2	
	comp=N,144nm,0.5s						
YZKH	**Yazd**	**4.72**	**317**	*ePn*	**Pn**	**11 01 24.0**	**-0.2**
TABS	**Tabas**	**4.76**	**347**	*ePn*	**Pn**	**11 01 24.1**	**-0.7**
TABS				*eSg*	**Sb**	**11 02 37.0**	**+2.9**
TABS	**Tabas**	**4.76**	**347**	*ePn*	**Pn**	**11 01 24.1**	**-0.7**
ASHO	**Ashiyiah**	**4.79**	**207**	P	**Pn**	**11 01 27.0**	**+1.9**
ASHO				S	**Sn**	**11 02 23.1**	**+1.8**
FAQ	**Al Faqa, Dubai**	**4.94**	**211**	P	**Pn**	**11 01 28.1**	**+1.1**
FAQ				S	**Sn**	**11 02 24.6**	**-0.2**
SOHO	**SOHO**	**5.13**	**200**	P	**Pn**	**11 01 29.0**	**-0.8**
ASUD	**Al Ashush, Dub**	**5.16**	**213**	P	**Pn**	**11 01 32.1**	**+1.9**
ASUD				S	**Sn**	**11 02 29.3**	**-1.0**
BIDO	**Bidbid**	**5.46**	**183**	P	**Pn**	**11 01 32.4**	**-2.0**
HOQ	**Hoqain**	**5.49**	**191**	P	**Pn**	**11 01 32.8**	**-1.9**
HOQ				S	**Sn**	**11 02 37.3**	**-1.2**
WSAR	**Wadi Sarin**	**5.74**	**178**	P	**Pn**	**11 01 37.0**	**-1.2**
	SNR=13						
WSAR				S	**Sn**	**11 02 40.0**	**-4.8**
ARQ	**Araqi**	**5.89**	**197**	P	**Pn**	**11 01 40.8**	**+0.5**
ARQ				S	**Sn**	**11 02 47.2**	**-1.3**
NASN	**Na'in**	**6.13**	**310**	*ePn*	**Pn**	**11 01 43.7**	**-0.1**
NASN				*eSg*	**Sb**	**11 03 18.9**	**+5.3**
NASN				IAML		11 03 29.5	
	comp=E,23nm,0.6s						
NASN	**Na'in**	**6.13**	**310**	*ePn*	**Pn**	**11 01 43.7**	**-0.1**

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*MAN **29** 11:05:18.3, 4°.47N×125°.86E, h9km, mb4.6, ML3.5, MS3.4*
*IDC **29** 11:05:22.2±4.6, 5°.28N×126°.65E, h81km±48km, mb3.6/6, mb1 3.8/7, mb1mx3.4/46, mbtmp3.9/7, ML4.1/1, MS2.7/2, Ms1 2.7/2, ms1mx2.3/32, Error ellipse: s-maj=78.0km s-min=17.5km az=61.0*

ISC 29 11:05:24.9±0.9, 4°.9N±0°.2×126°.4E±0°.3, h100km, n10, σ2°31/11, mb3.7/6, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**2.33**	**337**	⇑*iP*	**Pn**	**11 06 01.2**	**-0.7**
DMPH				*i* S	**Sn**	**11 06 34.5**	**+4.3**
KCP	**Kidapawan**	**2.47**	**327**	⇑*iP*	**Pn**	**11 06 02.3**	**-1.4**
KCP				*i* S	**Sn**	**11 06 33.9**	**+0.5**
SIJI	**Sorong**	**7.51**	**140**	P	**Pn**	**11 07 10.8**	**-1.0**
	2.9nm,0.3s,baz=326,slow=12,SNR=5.5						
SIJI				LR	LR	11 09 25.5	
	comp=Z,16nm,18.9s,baz=208,slow=32						
WRA	**Warramunga Arr**	**25.91**	**163**	P	**P**	**11 10 50.4**	**+2.6**
	2.7nm,0.5s,baz=339,slow=10,SNR=65						
ASAR	**Alice Springs**	**29.34**	**166**	P	**P**	**11 11 18.9**	**+0.4**
	0.7nm,0.6s,baz=346,slow=7.3,SNR=21						
CMAR	**Chiang Mai Arr**	**30.03**	**299**	P	**P**	**11 11 25.2**	**+0.5**
	0.6nm,0.4s,baz=98,slow=6.5,SNR=5.3						
STKA	**Stephens Creek**	**39.34**	**159**	P	**P**	**11 12 46.1**	**+1.5**
	2.2nm,0.6s,baz=330,slow=9.7,SNR=7.7						
SONM	**Songino Array**	**46.08**	**341**	LR	LR	11 36 35.7	
	comp=Z,23nm,18.6s,baz=262,slow=41						
MKAR	**Makanchi Array**	**56.42**	**325**	P	**P**	**11 14 54.4**	**-1.7**
	0.3nm,0.4s,baz=111,slow=6.6,SNR=3.7						
KURBB	**Kurchatov Arra**	**60.58**	**327**	P	**P**	**11 15 22.0**	**-2.9**
	0.3nm,0.5s,baz=126,slow=6.7,SNR=4.8						

JMA 29 11:32:28.8±0.6, 44°.91N×150°.44E, h30km, M3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.72**	**247**	P	Pn	11 33 23.1	-1.0
NEM2				*eS*	Sn	11 34 04.0	-2.8
JRA	**Rausu**	**3.93**	**258**	P	Pn	11 33 28.8	+1.8
JRA				*eS*	Sn	11 34 13.9	+1.8
JNK	**Nakash**	**4.32**	**254**	P	Pn	11 33 32.7	+0.3
JAK	**Akkeshi**	**4.57**	**247**	P	Pn	11 33 34.9	-0.9
JTKR	**Abashiri--Toko**	**4.77**	**261**	P	Pn	11 33 41.4	+2.8
JAR	**Ashorobuto**	**5.07**	**254**	P	Pn	11 33 43.8	+1.1
JAR				*eS*	Sn	11 34 39.8	-0.4
JMP	**Maruseppu**	**5.15**	**262**	P	Pn	11 33 46.6	+2.8
JOB	**Onbets**	**5.18**	**250**	*eS*	Sn	11 34 42.0	-0.8
JCH	**Churui**	**5.62**	**248**	P	Pn	11 33 50.0	-0.2
JCH				*eS*	Sn	11 34 51.2	-2.5
JNBK	**Urakawa-nobuka**	**6.17**	**247**	P	Pn	11 33 57.3	-0.5
JBT2	**Biratori 2**	**6.22**	**253**	P	Pn	11 33 58.9	+0.4
JKB	**Kayabe**	**7.49**	**249**	P	Pn	11 34 15.2	-0.7
JKB				*eS*	Sn	11 35 33.8	-5.9
JRG	**Rokugo**	**9.13**	**236**	*eS*	Sn	11 36 08.7	-11

IDC 29 12:15:13.9±2.7, 26°.90S×176°.58W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.7/31, mbtmp3.9/4, ML4.7/1, MS2.7/3, Ms1 2.7/3, ms1mx2.5/33, Error ellipse: s-maj=67.5km s-min=28.0km az=110.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.63**	**206**	Pn	Pn	12 15 58.3	+0.7
	148nm,0.3s,baz=72,slow=11,SNR=9.8						
RAO				Sn	Sn	12 16 30.5	+0.3
	242nm,0.3s,baz=83,slow=21,SNR=10						
MSVF	**Nonsavu**	**10.38**	**330**	LR	LR	12 20 32.3	
	comp=Z,12nm,21.8s,baz=82,slow=31						
URZ	**Urewera**	**12.51**	**204**	LR	LR	12 22 26.6	
	comp=Z,69nm,18.2s,baz=358,slow=35						
PPT	**Papeete**	**26.61**	**75**	LR	LR	12 29 21.2	
	comp=Z,30nm,18.2s,baz=284,slow=32						
ASAR	**Alice Springs**	**44.67**	**263**	P	P	12 23 28.2	-0.6
	0.4nm,0.5s,baz=92,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**45.34**	**268**	P	P	12 23 33.8	-0.4
	0.9nm,0.8s,baz=107,slow=6.2,SNR=14						
MJAR	**Matsushiro Arr**	**76.12**	**324**	P	P	12 27 04.2	+0.6
	1.0nm,0.6s,baz=162,slow=5.1,SNR=3.8						
NOA	**NORSAR Array B**	**145.46**	**353**	PKPbc	PKPbc	12 34 52.4	-1.0
	1.5nm,0.9s,baz=16,slow=4.9,SNR=3.5						

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*JMA **29** 12:17:39.7±0.2, 35°.31N×129°.38E, h11km±2km, M1.6*
*KMA **29** 12:17:41.9±0.9, 35°.32N×129°.34E, h0km, Error ellipse: s-maj=9

RSPR ***29*** *12:26:12.2, 19°.11N×67°.17W, h99km±8km, MD3.5/13*

ISC 29 12:26:13.4±0.9, 19°.16N±0°.05×67°.15W±0°.03, h29km, n52, σ1§16/59, mb3.5/3, 14C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.69**	**177**	↑*e*P	**Pn**	**12 26 26.8**	**-0.4**
AGPR	**Aguadilla, PR**	**0.69**	**177**		**Pb**	**12 26 25.9**	**-1.0**
AOPR	**Arecibo Observ**	**0.89**	**155**	↑*e*P	**Pn**	**12 26 29.4**	**-0.5**
AOPR	**Arecibo Observ**	**0.89**	**155**		**Pn**	**12 26 29.0**	**-1.0**
EMPR	**Esperanza - Ma**	**0.90**	**139**	↑*e*P	**Pn**	**12 26 29.8**	**-0.2**
EMPR	**Esperanza - Ma**	**0.90**	**139**	*e*S	**Sn**	**12 26 46.2**	**+4.2**
EMPR	**Esperanza - Ma**	**0.90**	**139**		**Pn**	**12 26 29.8**	**-0.2**
EMPR				Sn	**Sn**	**12 26 46.2**	**+4.2**
EMPR				IAML		12 26 50.0	
	comp=E,3μm,0.5s						
EMPR				IAML		12 26 53.2	
	comp=N,2μm,0.5s						
MPR	**Mayaguez**	**0.94**	**180**		**Pn**	**12 26 29.8**	**-0.9**
MPR				IAML		12 26 46.3	
	comp=N,3μm,0.4s						
LSP	**Las Mesas**	**0.98**	**177**	↑*e*P	**Pn**	**12 26 30.7**	**-0.5**
LSP	**Las Mesas**	**0.98**	**177**	*e*S	**Sb**	**12 26 44.7**	**+0.3**
LSP	**Las Mesas**	**0.98**	**177**		**Pn**	**12 26 30.7**	**-0.5**
LSP					**Sb**	**12 26 44.7**	**+0.3**
MLPR	**Magueyes Islan**	**1.19**	**175**	↑*e*P	**Pn**	**12 26 32.9**	**-1.2**
MLPR	**Magueyes Islan**	**1.19**	**175**	*e*S	**Sb**	**12 26 49.6**	**-0.7**
MLPR	**Magueyes Islan**	**1.19**	**175**		**Pn**	**12 26 32.5**	**-1.5**
MLPR					**Sn**	**12 26 49.1**	**-0.1**
MLPR				IAML		12 26 50.2	
	comp=E,1μm,0.7s						
MLPR				IAML		12 26 59.7	
	comp=N,807nm,0.5s						
CELP	**Cerrillos**	**1.21**	**153**	↑*e*P	**Pn**	**12 26 34.1**	**-0.2**
CELP	**Cerrillos**	**1.21**	**153**	*e*S	**Sb**	**12 26 50.2**	**-0.6**
CELP	**Cerrillos**	**1.21**	**153**		**Pn**	**12 26 34.1**	**-0.2**
CELP					**Sb**	**12 26 50.2**	**-0.6**
OBIP	**Obispado Ponce**	**1.22**	**155**	↑*e*P	**Pn**	**12 26 34.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.22**	**155**	*e*S	**Sb**	**12 26 51.5**	**+0.2**
OBIP	**Obispado Ponce**	**1.22**	**155**		**Pn**	**12 26 34.1**	**-0.4**
OBIP					**Sb**	**12 26 51.1**	**-0.2**
OBIP				IAML		12 26 52.1	
	comp=E,2μm,0.4s						
OBIP				IAML		12 26 53.3	
	comp=N,2μm,0.5s						
GCPR	**Guaynabo City**	**1.32**	**130**	↑*e*P	**Pn**	**12 26 35.3**	**-0.5**
GCPR	**Guaynabo City**	**1.32**	**130**		**Pn**	**12 26 34.7**	**-1.1**
PCDR	**Punta Cana, DR**	**1.33**	**241**	↑*e*P	**Pn**	**12 26 36.4**	**+0.4**
PCDR	**Punta Cana, DR**	**1.33**	**241**	*e*S	**Sb**	**12 26 54.3**	**-0.2**
PCDR	**Punta Cana, DR**	**1.33**	**241**		**Pn**	**12 26 36.0**	**0.0**
PCDR					**Sb**	**12 26 53.2**	**-1.3**
PCDR				IAML		12 26 57.6	
	comp=E,687nm,0.8s						
PCDR				IAML		12 27 01.1	
	comp=N,1μm,0.6s						
ICMP	**Isla Caja de M**	**1.40**	**155**	*e*S	**Sb**	**12 26 55.6**	**-0.6**
ICMP	**Isla Caja de M**	**1.40**	**155**		**Pn**	**12 26 36.3**	**-0.6**
ICMP				IAML		12 27 01.5	
	comp=N,893nm,0.7s						
ICMP				IAML		12 27 08.2	
	comp=E,1μm,1.0s						
SJG	**San Juan**	**1.41**	**138**	Pn	**Pn**	**12 26 36.3**	**-0.7**
	comp=E,27nm,0.3s,baz=323,slow=17,SNR=14						
SJG				Sn	**Sb**	**12 26 56.3**	**-0.3**
	comp=E,214nm,0.3s,baz=60,slow=21,SNR=18						
SJG				LR	LR	12 27 17.0	
	comp=E,125nm,18.2s,baz=296,slow=48						
SJG	**San Juan**	**1.41**	**138**		**Pn**	**12 26 36.5**	**-0.5**
SJG				IAML		12 27 01.0	
	comp=E,710nm,0.3s						
SJG				IAML		12 27 05.3	
	comp=E,778nm,0.5s						
CBYP	**Canovanas**	**1.51**	**126**	↑*e*P	**Pn**	**12 26 38.1**	**-0.4**
CBYP	**Canovanas**	**1.51**	**126**	Pn	**Pn**	**12 26 37.9**	**-0.6**
CBYP				IAML		12 27 07.9	
	comp=E,2μm,0.2s						
IGPR	**InterUniversit**	**1.54**	**140**	↑*e*P	**Pn**	**12 26 38.7**	**-0.2**
IGPR	**InterUniversit**	**1.54**	**140**	*e*S	**Sb**	**12 26 59.6**	**-0.8**
PDPR	**Patillas Dam,**	**1.56**	**137**		**Pn**	**12 26 38.6**	**-0.6**
HUMP	**Col San Antoni**	**1.59**	**129**	↑*e*P	**Pn**	**12 26 39.0**	**-0.6**
HUMP	**Col San Antoni**	**1.59**	**129**	*e*S	**Sn**	**12 26 59.6**	**+0.4**
HUMP	**Col San Antoni**	**1.59**	**129**		**Pn**	**12 26 39.0**	**-0.6**
HUMP				IAML		12 27 05.2	
	comp=E,557nm,0.5s						
MTP	**Monte Pirata**	**1.84**	**125**		**Pn**	**12 26 42.1**	**-1.0**
CUPR	**Culebra, Puert**	**1.96**	**115**	↑*e*P	**Pn**	**12 26 43.8**	**-0.9**
CUPR	**Culebra, Puert**	**1.96**	**115**		**Pn**	**12 26 43.6**	**-1.1**
DR12	**Loma Pena Alta**	**2.15**	**260**		**Pn**	**12 26 47.0**	**-0.2**
STVI	**Saint Thomas**	**2.23**	**111**	↑*e*P	**Pn**	**12 26 47.5**	**-0.8**
STVI	**Saint Thomas**	**2.23**	**111**	*e*S	**Sn**	**12 27 14.7**	**-0.2**
STVI	**Saint Thomas**	**2.23**	**111**	Pn	**Pn**	**12 26 47.2**	**-1.2**
STVI				IAML		12 27 31.6	
	comp=N,278nm,0.6s						
SDDR	**Presa de Saban**	**3.92**	**268**	Pn	**Pn**	**12 27 12.8**	**+1.1**
BPA	**Boggy Peak**	**5.45**	**112**	*e*P	**Pn**	**12 27 32.0**	**-0.8**
BPA	**Boggy Peak**	**5.45**	**112**	*e*S	**Sn**	**12 28 38.4**	**+3.9**
ANBD	**Bethesda, Anti**	**5.53**	**111**	*e*P	**Pn**	**12 27 34.7**	**+0.9**
ANBD	**Bethesda, Anti**	**5.53**	**111**	*e*S	**Sn**	**12 28 37.4**	**+0.9**
TXAR	**Lajitas Array**	**34.68**	**294**	P	**P**	**12 33 00.6**	**-0.2**
	comp=N,0.5nm,0.9s,baz=108,slow=11,SNR=5.8						
NVAR	**Mina Array Bea**	**48.12**	**305**	P	**P**	**12 34 51.6**	**+0.5**
	comp=N,0.4nm,0.7s,baz=113,slow=5.5,SNR=4.6						
ILAR	**Eielson Array**	**68.47**	**333**	P	**P**	**12 37 12.0**	**-0.6**
	comp=N,0.3nm,0.8s,baz=107,slow=5.8,SNR=4.4						

ATH ***29*** *12:30:54.3, 34°.83N×26°.80E, h10km±31km, ML3.6/5, Error ellipse: s-maj=31.6km s-min=1.9km az=0.0*
DDA ***29*** *12:30:54.9, 34°.70N×26°.73E, h8km±3km, ML2.9*
ISK ***29*** *12:30:55.9, 34°.97N×26°.69E, h2km, ML3.3/18*
IDC ***29*** *12:30:55.7±1.7, 35°.52N×26°.39E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.7/3, Error ellipse: s-maj=357.3km s-min=29.6km az=142.0*
THE ***29*** *12:30:56.9, 35°.02N×26°.67E, h0km±2km, ML3.4/5, Error ellipse: s-maj=6.3km s-min=1.1km az=158.0*

ISC 29 12:30:55.6±1.4, 34°.94N±0°.05×26°.71E±0°.03, h3km±10km, n64, σ0§99/88, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.44**	**294**	P	**Pg**	**12 31 04.6**	**+0.5**
ZKR				S	**Sb**	**12 31 11.9**	**-1.2**
	11μm,0.3s						
ZKR	**Zakros**	**0.44**	**294**	P	**Pg**	**12 31 04.6**	**+0.5**
ZKR				S	**Sb**	**12 31 11.9**	**-1.2**
ZKR				AML	AML	12 31 12.1	
	comp=E,30428μm,0.4s						
ZKR				AML	AML	12 31 12.3	
	comp=N,11496μm,0.3s						
ZKR	**Zakros**	**0.44**	**294**	PG	**Pg**	**12 31 04.7**	**+0.5**
ZKR				SG	**Sb**	**12 31 11.6**	**-1.5**
STIA	**Sitia Lasithi**	**0.57**	**298**	P	**Pg**	**12 31 06.8**	**+0.2**
STIA				S	**Sb**	**12 31 15.7**	**-1.2**
KARP	**Karpathos**	**0.71**	**31**	P	**Pg**	**12 31 09.2**	**-0.1**
KARP				S	**Sb**	**12 31 20.6**	**-0.4**
	comp=N,7μm,0.4s						
KARP	**Karpathos**	**0.71**	**31**	P	**Pg**	**12 31 09.1**	**-0.1**
KARP				AML	AML	12 31 22.7	
	comp=N,11978μm,0.5s						
KARP				AML	AML	12 31 23.5	
	comp=E,15153μm,0.3s						
KARP	**Karpathos**	**0.71**	**31**	PG	**Pb**	**12 31 09.9**	**-0.8**
KARP				SG	**Sb**	**12 31 20.7**	**-0.3**
FRMA	**Ierapetra Chan**	**0.81**	**276**	P	**Pg**	**12 31 09.2**	**-1.8**
FRMA				S	**Sg**	**12 31 20.9**	**-0.6**
	comp=E,1μm,0.4s						
NPS	**Neapolis**	**0.96**	**290**	P	**Pg**	**12 31 14.0**	**+0.1**
NPS				S	**Sb**	**12 31 28.2**	**+0.2**
	comp=E,3μm,0.4s						
NPS	**Neapolis**	**0.96**	**290**	P	**Pg**	**12 31 14.0**	**+0.1**
NPS				S	**Sn**	**12 31 28.6**	**-1.6**
NPS				AML	AML	12 31 30.1	
	comp=E,8317μm,0.4s						
NPS				AML	AML	12 31 31.7	
	comp=N,4199μm,0.3s						
LAST	**Lasithi**	**1.03**	**283**	P	**Pg**	**12 31 15.0**	**-0.5**
LAST				S	**Sb**	**12 31 30.6**	**+0.3**
	comp=N,2μm,0.5s						
LAST	**Lasithi**	**1.03**	**283**	P	**Pg**	**12 31 15.0**	**-0.5**
LAST				S	**Sb**	**12 31 30.6**	**+0.3**
LAST				AML	AML	12 31 36.1	
	comp=E,3218μm,0.6s						
LAST				AML	AML	12 31 36.7	
	comp=N,4254μm,0.5s						
HRKL	**Herakleio**	**1.37**	**286**	P	**Pb**	**12 31 22.6**	**+0.7**
HRKL	**Herakleio**	**1.37**	**286**	PN	**Pb**	**12 31 22.4**	**+0.5**
IDI	**Anoyia**	**1.53**	**284**	P	**Pg**	**12 31 24.6**	**-0.4**
IDI				S	**Sg**	**12 31 44.7**	**-0.2**
IDI	**Anoyia**	**1.53**	**284**	P	**Pg**	**12 31 24.6**	**-0.4**
IDI	**Anoyia**	**1.53**	**284**	PN	**Pg**	**12 31 25.0**	**0.0**
IDI				SN	**Sg**	**12 31 45.7**	**+0.8**
SIVA	**Sivas**	**1.56**	**274**	P	**Pn**	**12 31 24.4**	**+0.1**
SIVA				S	**Sg**	**12 31 47.1**	**+1.3**
SIVA	**Sivas**	**1.56**	**274**	P	**Pn**	**12 31 24.4**	**+0.1**
SIVA				AML	AML	12 31 53.9	
	comp=N,2859μm,0.6s						
SIVA				AML	AML	12 31 58.8	
	comp=E,3852μm,0.6s						
NIS1	**Nisyros Isl.**	**1.71**	**13**	PN	**Pb**	**12 31 27.1**	**-0.5**
ARG	**Arkhangelos**	**1.72**	**42**	P	**Pb**	**12 31 27.7**	**-0.2**
ARG	**Arkhangelos**	**1.72**	**42**	PN	**Pb**	**12 31 27.7**	**-0.2**
ARG				SN	**Sg**	**12 31 50.8**	**-0.1**
SANT	**Santorini**	**1.76**	**325**	PN	**Pn**	**12 31 26.9**	**-0.1**
THR5	**Thira Island,**	**1.85**	**324**	P	**Pn**	**12 31 28.0**	**-0.2**
PRNS	**Prines Rethymn**	**1.86**	**284**	P	**Pg**	**12 31 31.8**	**+0.6**
DAT	**Datca**	**1.92**	**21**	P	**Pn**	**12 31 28.8**	**-0.6**
DAT	**Datca**	**1.92**	**21**	*i* P	**Pn**	**12 31 29.2**	**-0.2**
DAT				*i* S	**Sg**	**12 31 58.0**	**+0.6**
DAT				IAML		12 32 00.0	
	comp=E,147nm,0.8s						
DAT				IAML		12 32 04.0	
	comp=N,138nm,0.4s						
DAT	**Datca**	**1.92**	**21**	PN	**Pb**	**12 31 30.7**	**-0.7**
VAM	**Vamos**	**2.11**	**284**	P	**Pb**	**12 31 33.9**	**-0.6**
VAM	**Vamos**	**2.11**	**284**	P	**Pb**	**12 31 33.9**	**-0.6**
GVDS	**Gavdos**	**2.16**	**268**	PN	**Pb**	**12 31 34.3**	**-1.0**
GVD	**Gavdhos**	**2.16**	**268**	PN	**Pb**	**12 31 34.3**	**-1.0**
BODT	**Bodrum**	**2.18**	**13**	PN	**Pb**	**12 31 33.9**	**-1.8**
BDRM	**Kayabasi**	**2.21**	**15**	*i* P	**Pg**	**12 31 37.6**	**-0.2**
BDRM				*i* S	**Sb**	**12 32 04.0**	**+0.1**
TURN	**Turunc**	**2.22**	**34**	*i* P	**Pb**	**12 31 35.1**	**-1.2**
TURN				*i* S	**Sb**	**12 32 04.5**	**+0.3**
TURN				IAML		12 32 09.0	
	comp=E,79nm,0.5s						
TURN				IAML		12 32 20.0	
	comp=N,106nm,0.7s						
TURN	**Turunc**	**2.22**	**34**	PN	**Pb**	**12 31 34.7**	**-1.6**
IMMV	**Iera Moni Meta**	**2.30**	**284**	P	**Pb**	**12 31 36.6**	**-1.1**
IMMV	**Iera Moni Meta**	**2.30**	**284**	P	**Pb**	**12 31 36.6**	**-1.1**
IMMV	**Iera Moni Meta**	**2.30**	**284**	PN	**Pn**	**12 31 35.3**	**+0.9**
APE	**Apeiranthos**	**2.33**	**336**	PN	**Pn**	**12 31 35.6**	**+0.6**
APE				SN	**Sn**	**12 32 04.9**	**+0.7**
DALY	**Dalyan (Mula)**	**2.45**	**39**	*i* P	**Pn**	**12 31 37.9**	**+1.4**
DALY				*i* S	**Sg**	**12 32 14.4**	**0.0**
DALY				IAML		12 32 27.0	
	comp=N,71nm,0.5s						
DALY				IAML		12 32 38.0	
	comp=E,67nm,0.6s						
DALY	**Dalyan (Mula)**	**2.45**	**39**	PN	**Pn**	**12 31 37.9**	**+1.4**
KNDR	**Palaiochora Ch**	**2.50**	**278**	PN	**Pb**	**12 31 39.6**	**-1.5**
YER	**Yerkesik**	**2.54**	**30**	PN	**Pn**	**12 31 38.8**	**+1.0**
DDIM	**Aydin, Didim**	**2.55**	**10**	*i* S	**Sg**	**12 32 19.0**	**+1.4**
FETY	**Fethiye**	**2.57**	**48**	PN	**Pn**	**12 31 39.3**	**+1.1**
KSL	**Kastellorizon**	**2.64**	**62**	P	**Pn**	**12 31 39.6**	**+0.5**
KSL	**Kastellorizon**	**2.64**	**62**	P	**Pn**	**12 31 39.6**	**+0.5**
MULA	**Mugla, Merkez-**	**2.66**	**29**	*i* P	**Pb**	**12 31 42.0**	**-1.9**
MULA				*i* S	**Sb**	**12 32 16.5**	**-0.5**
MULA				IAML		12 32 21.0	
	comp=N,41nm,0.9s						
MULA				IAML		12 32 29.0	
	comp=E,47nm,0.5s						
AKAS	**Kas**	**2.69**	**60**	*i* P	**Pn**	**12 31 40.2**	**+0.2**
AKAS				*i* S	**Sn**	**12 32 13.5**	**+0.4**
AKAS	**Kas**	**2.69**	**60**	PN	**Pn**	**12 31 40.7**	**+0.7**
AYDN	**Tasoluk**	**2.88**	**19**	*i* P	**Pn**	**12 31 43.9**	**+1.5**
AYDN				*i* S	**Sb**	**12 32 23.0**	**-0.4**
AYDN				IAML		12 32 43.0	
	comp=E,30nm,0.6s						
AYDN				IAML		12 32 46.0	
	comp=N,32nm,0.8s						
CAME	**Cameli-Denizli**	**2.91**	**46**	PN	**Pn**	**12 31 44.5**	**+1.6**
ANKY	**Antikythira Is**	**2.94**	**289**	P	**Pn**	**12 31 44.2**	**+1.0**
TAVA	**DENİZLİ_Tavas**	**3.09**	**35**	*i* P	**Pn**	**12 31 46.6**	**+1.2**
TAVA				*i* S	**Sb**	**12 32 26.6**	**-2.9**
TAVA				IAML		12 32 39.0	
	comp=N,47nm,0.6s						
TAVA				IAML		12 32 48.0	
	comp=E,51nm,0.6s						
ELL	**Elmali**	**3.17**	**54**	PN	**Pn**	**12 31 47.5**	**+1.0**
GOLH	**Golhisar**	**3.26**	**44**	*i* P	**Pn**	**12 31 47.5**	**-0.2**
URLA	**Izmir**	**3.42**	**358**	PN	**Pn**	**12 31 51.7**	**+1.8**
CHOS	**Chios island**	**3.48**	**351**	PN	**Pn**	**12 31 52.3**	**+1.5**
VLI	**Veliai**	**3.54**	**301**	P	**Pn**	**12 31 52.3**	**+0.7**
KORT	**Korkueli**	**3.60**	**54**	PN	**Pn**	**12 31 54.4**	**+1.9**
TORD	**Torodi Ar. Bea**	**31.34**	**232**	P	**P**	**12 37 19.3**	**+1.8**
	comp=E,0.3nm,0.5s,baz=36,slow=9.4,SNR=2.3						
MKAR	**Makanchi Array**	**42.84**	**56**	P	**P**	**12 38 54.5**	**-0.4**
	comp=E,0.4nm,0.5s,baz=278,slow=7.7,SNR=5.6						
ZALV	**Zalesovo Beam**	**44.24**	**46**	P	**P**	**12 39 04.9**	**-1.2**
	comp=E,1.1nm,0.5s,baz=280,slow=8.1,SNR=1.6						

NEIC ***29*** *12:34:53.6±1.6, 36°.04N±0°.05×139°.93E±0°.06, h51km±7km, mb4.3/23, Error ellipse: s-maj=9.2km s-min=4.9km az=135.0*
NIED ***29*** *12:34:54.1, 36°.08N×139°.86E, h45km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.84; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$0.16; $M_{r\theta}$0.52; $M_{\theta\phi}$-0.28; $M_{\phi r}$0.80; Fault plane solution: $M_0$1.36000×10^{15} NP1:ϕ_s49.00000°, δ69.00000°, λ64.00000°. NP2:ϕ_s283.00000°, δ33.00000°, λ139.00000°.*
JMA ***29*** *12:34:54.0±0.1, 36°.07N×139°.86E, h45km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s244.00000°, δ25.00000°, λ111.00000°. NP2: ϕ_s41.00000°, δ67.00000°, λ80.00000°. Principal axes: T Plg67.0000°, Azm293.0000°; N Plg9.0000°, Azm45.0000°; P Plg21.0000°, Azm138.0000°;*
JMA Felt III J1.
IDC ***29*** *12:34:54.2±1.5, 35°.99N×139°.73E, h56km±14km, mb3.8/14, mb1 3.9/18, mb1mx3.7/65, mbtmp4.1/18, MS2.9/8, Ms1 2.9/8, ms1mx2.7/58 Error ellipse: s-maj=20.1km s-min=9.4km az=73.0*

ISC 29 12:34:53.2±0.7, 36°.03N±0°.04×139°.86E±0°.05, h47km±7km, n93, σ1§02/91, mb4.2/27, MS2.8/4, 2C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.33**	**54**	⇑P	**Pn**	**12 35 02.8**	**+0.4**
JYT				S	**Sn**	**12 35 09.0**	**+0.1**
JYT	**Yasato**	**0.33**	**54**	Pn	**Pn**	**12 35 02.8**	**+0.4**
JAG	**Ashikaga**	**0.51**	**320**	⇓P	**Pn**	**12 35 04.9**	**+0.4**
JAG				S	**Sn**	**12 35 12.4**	**-0.2**
JRY	**Ryogami san**	**0.78**	**269**	⇓P	**Pn**	**12 35 08.5**	**+0.5**
JRY				S	**Sn**	**12 35 18.9**	**+0.2**
JKT	**Katashina**	**0.89**	**326**	⇓P	**Pn**	**12 35 09.4**	**0.0**
JKT				S	**Sn**	**12 35 20.9**	**-0.4**
JOD2	**Odawara 2**	**0.99**	**220**	⇓P	**Pn**	**12 35 11.9**	**+1.1**
JOD2				S	**Sn**	**12 35 25.8**	**+2.0**
JYN	**Shimob**	**1.20**	**244**	⇑P	**Pn**	**12 35 15.1**	**+1.4**
JFNN	**Fujinakano**	**1.27**	**229**	P	**Pn**	**12 35 16.4**	**+1.8**
JFY	**Yanaizu**	**1.38**	**355**	⇓P	**Pn**	**12 35 16.6**	**+0.5**
JFY				S	**Sn**	**12 35 33.6**	**+0.4**
MJAR	**Matsushiro Arr**	**1.43**	**291**	P	**Pn**	**12 35 16.3**	**-0.5**
	18nm,0.3s,baz=94,slow=15,SNR=536						
MJAR				LR	LR	12 36 03.7	
	comp=Z,283nm,20.1s,baz=90,slow=53						
MJAR	**Matsushiro Arr**	**1.43**	**291**	Pn	**Pn**	**12 35 16.7**	**-0.1**
MAJO	**Matsushiro**	**1.43**	**291**	Pn	**Pn**	**12 35 17.6**	**+0.8**
MAT	**Matsushiro**	**1.43**	**291**	P	**Pn**	**12 35 16.6**	**-0.2**
MAT				*e*S	**Sn**	**12 35 33.3**	**-1.2**
JSG	**Sagara**	**1.93**	**226**		**Pn**	**12 35 24.6**	**+1.0**
JMM	**Marumori**	**1.98**	**22**		**Pn**	**12 35 24.9**	**+0.7**
JGF	**Kuroka**	**2.08**	**259**		**Pn**	**12 35 28.1**	**+2.4**
JSD	**Sado**	**2.38**	**328**		**Pn**	**12 35 30.0**	**+0.3**
INU	**Inuyama**	**2.42**	**254**		**Pn**	**12 35 32.2**	**+1.9**
JHJ	**Hachijo jima 2**	**2.91**	**181**	P	**Pn**	**12 35 37.9**	**+0.9**
	157nm,0.3s,baz=324,slow=16,SNR=326						
JHJ				S	**Sn**	**12 36 11.0**	**+0.3**
	123nm,0.3s,baz=64,slow=22,SNR=8.4						
JHJ				LR	LR	12 37 07.7	
	comp=Z,193nm,18.0s,baz=290,slow=47						
JHJ2	**Mitsune**	**2.91**	**181**		**Pn**	**12 35 37.5**	**+0.4**
JWT	**Wachi**	**3.71**	**260**		**Pn**	**12 35 49.3**	**+1.3**
JTM	**Tenmabayashi**	**4.84**	**11**	Pn	**Pn**	**12 36 03.7**	**+0.2**
JMN	**Monobe**	**5.43**	**247**	Pn	**Pn**	**12 36 12.8**	**+1.1**
JHS	**Saijyo**	**5.60**	**261**		**Pn**	**12 36 15.2**	**+1.2**
ERM	**Erimo**	**6.50**	**22**	Pn	**Pn**	**12 36 26.1**	**-0.1**
JEW	**Eniwo**	**6.91**	**10**	Pn	**Pn**	**12 36 31.6**	**-0.3**
JNU	**Nakatsue**	**7.96**	**251**	Pn	**Pn**	**12 36 47.4**	**+1.0**
ASAJ	**Asahikawa**	**8.34**	**14**	P	**Pn**	**12 36 52.2**	**+0.7**
	0.8nm,0.3s,baz=204,slow=14,SNR=13						
ASAJ				LR	LR	12 40 16.2	
	comp=Z,53nm,20.3s,baz=164,slow=38						
JKA	**Kamikawa-asahi**	**8.34**	**14**	Pn	**Pn**	**12 36 50.1**	**-1.4**
JCJ	**Chichijima**	**9.13**	**167**	P	**Pn**	**12 37 00.6**	**-1.7**
	9.8nm,0.3s,baz=56,slow=22,SNR=8.8						
JCJ	**Chichijima**	**9.13**	**167**	Pn	**Pn**	**12 37 00.7**	**-1.6**
KSRS	**Korea Array**	**9.69**	**282**	P	**Pn**	**12 37 10.1**	**+0.1**
	0.1nm,0.3s,baz=98,slow=13,SNR=2.0						
KSRS				LR	LR	12 40 50.9	
	comp=Z,69nm,19.7s,baz=66,slow=37						
USA0B	**Ussuriysk Arra**	**10.14**	**326**	Pn	**Pn**	**12 37 15.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**10.14**	**326**	P	**Pn**	**12 37 17.8**	**+1.7**
	baz=134,slow=12,SNR=11						
USRK	**Ussuriysk Ar.**	**10.14**	**326**	Pn	**Pn**	**12 37 16.9**	**+0.8**
MDJ	**Mudanjiang**	**11.61**	**321**	Pn	**Pn**	**12 37 36.0**	**-0.2**
JOW	**Kunigami**	**13.48**	**230**	Pn	**Pn**	**12 38 00.8**	**-1.0**
KLR	**Kul'dur**	**14.46**	**338**	LR	LR	12 43 09.4	
	comp=Z,50nm,21.8s,baz=88,slow=34						
YULB	**Yu-li**	**20.42**	**237**	P	**P**	**12 39 26.0**	**-0.5**
PETK	**Petropavlovsk-**	**21.18**	**31**	LR	LR	12 46 57.8	
	comp=Z,30nm,20.4s,baz=229,slow=34						
HHC	**Hu-ho-hao-te**	**22.63**	**291**	*e*P	**P**	**12 39 50.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,73nm,10.1s						
MA2	**Magadan**	**24.60**	**13**	LR	LR	12 49 52.1	
	comp=Z,18nm,20.2s,baz=52,slow=36						
YAK	**Yakutsk**	**26.80**	**349**	LR	LR	12 50 40.4	
	comp=Z,35nm,19.9s,baz=102,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.76**	**117**	T	T	13 11 00.3	
	baz=313,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.76**	**117**	T	T	13 10 58.1	
	baz=313,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.77**	**117**	T	T	13 10 57.9	
	baz=313,slow=75,SNR=29						
LZH	**Lanzhou**	**29.02**	**281**	*e*P	**P**	**12 40 50.8**	**+1.9**
LZH				pP	pP	12 41 02.5	+1.3
LZH				sP	sP	12 41 07.5	+0.6
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
H11S3	**WAKE ISLAND Hy**	**29.41**	**119**	T	T	13 11 47.8	
	baz=314,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.41**	**119**	T	T	13 11 49.4	
	baz=314,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**29.43**	**119**	T	T	13 11 45.4	
	baz=314,slow=76,SNR=14						
WMQ	**Urumqi**	**40.19**	**298**	*e*P	**P**	**12 42 27.5**	**+2.6**
ZAA0	**Zalesovo Array**	**41.68**	**313**	P	**P**	**12 42 36.0**	**-0.9**
ZAA0				IAmb	IAmb	12 42 37.4	
	comp=Z,6.6nm,0.6s						
ZALV	**Zalesovo Beam**	**41.68**	**313**	P	**P**	**12 42 36.8**	**-0.2**
	comp=Z,5.2nm,0.5s,baz=88,slow=6.1,SNR=14						
ZALV	**Zalesovo Beam**	**41.68**	**313**	P	**P**	**12 42 36.4**	**-0.5**
BKB	**Balikpapan**	**42.83**	**215**	P	**P**	**12 42 45.5**	**-1.2**
MK31	**Makanchi Array**	**43.60**	**303**	P	**P**	**12 42 52.4**	**-0.3**
MKAR	**Makanchi Array**	**43.60**	**303**	P	**P**	**12 42 52.0**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=87,slow=9.8,SNR=23						
MKAR	**Makanchi Array**	**43.60**	**303**	P	**P**	**12 42 52.4**	**-0.4**
MAKZ	**Makanchi**	**43.81**	**303**	P	**P**	**12 42 54.0**	**-0.4**
SVW2	**Sparrevohn**	**47.07**	**37**	P	**P**	**12 43 19.4**	**-0.5**
SVW2				IAmb	IAmb	12 43 22.1	
	comp=Z,3.1nm,1.0s		

DSLB	**Salisbury**	**3.26 298**	*eP*	**Pn**	**12 49 36.2 0.0**
MAGL	**Barre de l'ile**	**3.42 307**	*eP*	**Pn**	**12 49 39.1 +0.8**
MAGL			*eS*	**Sn**	**12 50 18.1 -0.8**
TDBA	**Terre de Bas,**	**3.65 302**	*eP*	**Pn**	**12 49 42.3 +0.8**
CBE	**Ff, Capester**	**3.74 305**	*eP*	**Pn**	**12 49 44.2 +1.3**
ANBD	**Bethesda, Anti**	**4.48 315**	*eP*	**Pn**	**12 49 53.4 +0.5**
ANBD	**Bethesda, Anti**	**4.48 315**	*eS*	**Sn**	**12 50 43.1 -1.9**
ANWB	**Willy Bob**	**4.94 320**	*eP*	**Pn**	**12 49 60.0 +0.7**
ANWB	**Willy Bob**	**4.94 320**	*eS*	**Sn**	**12 50 55.1 -1.4**

*IDC **29** 12:50:13.5±4.5,2°.80S×138°.25E,h75km±37km,mb3.3/4, mb1 3.5/5,mb1mx3.2/44,mbtmp3.7/5,ML4.2/2,MS2.6/1, Ms1 2.6/1,ms1mx2.2/21,Error ellipse: s-maj=36.2km s-min=14.3km az=90.0*

ISC 29 12:50:11.9±1.3,2°.89S±0°.10×138°.3E±0°.1,h62km,n6, σ2°.66/9,mb3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.31**	**286**	P	**Pn**	**12 51 57.2**	**+1.2**
	13nm,0.3s,baz=76,slow=17,SNR=64						
SIJI				S	**Sn**	**12 53 16.4**	**-1.3**
	1.5nm,0.3s,baz=147,slow=23,SNR=2.1						
SIJI				LR	LR	12 54 47.2	
	comp=Z,50nm,21.5s,baz=182,slow=38						
WRA	**Warramunga Arr**	**17.38**	**193**	P	**P**	**12 54 12.9**	**+2.0**
	0.5nm,0.3s,baz=16,slow=12,SNR=34						
WRA				S	**Sn**	**12 57 18.6**	**-4.7**
	0.3nm,0.3s,baz=14,slow=22,SNR=5.2						
ASAR	**Alice Springs**	**21.09**	**191**	P	**P**	**12 54 54.2**	**+2.9**
	1.1nm,0.7s,baz=16,slow=11,SNR=15						
ASAR				S	**S**	**12 58 44.1**	**+1.4**
	1.1nm,0.8s,baz=16,slow=21,SNR=4.7						
MKAR	**Makanchi Array**	**69.68**	**323**	P	**P**	**13 01 15.7**	**+0.6**
	0.9nm,0.7s,baz=116,slow=7.8,SNR=10.0						
KURBB	**Kurchatov Arra**	**73.64**	**325**	P	**P**	**13 01 37.9**	**-0.8**
	0.3nm,0.7s,baz=121,slow=5.9,SNR=4.7						
ILAR	**Eielson Array**	**86.17**	**24**	P	**P**	**13 02 44.5**	**-1.5**
	0.4nm,0.7s,baz=236,slow=4.8,SNR=5.1						

*JMA **29** 13:02:01.4±0.2,24°.73N×122°.59E,h8km,M1.8*
*TAP **29** 13:02:04.0,24°.91N×122°.42E,h31km±1km,ML2.5,C*

ISC 29 13:02:00.2±1.3,24°.84N±0°.05×122°.57E±0°.03,h6km±10km, n34,σ0°.97/67,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**138**	P	**Pg**	**13 02 09.9**	**-0.2**
JYNG				*eS*	**Sg**	**13 02 15.4**	**-1.4**
YOJ	**Yonaguni jima**	**0.55**	**133**	P	**Pg**	**13 02 10.5**	**-0.2**
YOJ				*eS*	**Sg**	**13 02 17.3**	**-0.6**
YOJ	**Yonaguni jima**	**0.55**	**133**	S	**Sn**	**13 02 26.0**	**+2.0**
	baz=121						
NTC	**Toucheng**	**0.67**	**272**	*eP*	**Pb**	**13 02 14.6**	**+0.3**
	baz=271						
NTC				*eS*	**Sb**	**13 02 23.2**	**-0.8**
	baz=271						
TIPB	**Shuangxi**	**0.69**	**281**	P	**Pb**	**13 02 14.9**	**+0.3**
	baz=276						
TIPB				S	**Sg**	**13 02 21.6**	**-0.9**
	baz=276						
TWC	**Suao**	**0.69**	**251**	P	**Pb**	**13 02 15.4**	**+0.7**
	baz=239						
TWC				S	**Sg**	**13 02 23.4**	**+0.8**
	baz=239						
NDS	**Dongshan**	**0.80**	**256**	P	**Pb**	**13 02 17.0**	**+0.4**
	baz=246						
NDS				*eS*	**Sb**	**13 02 27.1**	**-0.6**
	baz=246						
EWUT	**Wuta**	**0.82**	**242**	P	**Pb**	**13 02 17.8**	**+0.9**
	baz=231						
EWUT				*eS*	**Sg**	**13 02 27.4**	**+0.8**
	baz=231						
TWE	**Neicheng**	**0.83**	**262**	P	**Pb**	**13 02 17.6**	**+0.6**
	baz=254						
TWE				S	**Sg**	**13 02 27.1**	**+0.2**
	baz=254						
ENTT	**Nioudou**	**0.94**	**258**	P	**Pb**	**13 02 19.7**	**+0.8**
	baz=237						
ENTT				S	**Sg**	**13 02 30.6**	**+0.3**
	baz=237						
YM08	**YM08**	**0.96**	**292**	P	**Pg**	**13 02 19.1**	**+0.5**
	baz=290						
YM08				*eS*	**Sg**	**13 02 30.0**	**-1.0**
	baz=290						
YM01	**YM01**	**0.96**	**289**	P	**Pg**	**13 02 19.4**	**+0.8**
	baz=287						
YM01				*eS*	**Sg**	**13 02 29.9**	**-1.1**
	baz=287						
NWLT	**Wulai**	**0.97**	**267**	P	**Pg**	**13 02 19.6**	**+0.8**
	baz=261						
NWLT				S	**Sg**	**13 02 30.7**	**-0.8**
	baz=261						
NDT	**Datong Townshi**	**0.99**	**257**	P	**Pg**	**13 02 20.0**	**+0.8**
	baz=237						
NDT				S	**Sg**	**13 02 31.8**	**-0.3**
	baz=237						
YHNB	**Yeheng**	**1.10**	**262**	P	**Pg**	**13 02 21.6**	**+0.3**
	baz=266						
YHNB				S	**Sg**	**13 02 34.1**	**-1.5**
	baz=266						
NACB	**Ninganchiao**	**1.11**	**234**	P	**Pn**	**13 02 22.6**	**+0.4**
	baz=231						
NACB				S	**Sg**	**13 02 35.9**	**+0.1**
	baz=231						
NNSH	**Datong**	**1.16**	**250**	*eP*	**Pb**	**13 02 22.9**	**+0.3**
	baz=243						
NNSH				*eS*	**Sg**	**13 02 35.9**	**-1.5**
	baz=243						
NNSB	**Datong**	**1.16**	**250**	P	**Pb**	**13 02 22.9**	**+0.3**
	baz=243						
NNSB				S	**Sg**	**13 02 36.0**	**-1.4**
	baz=243						
NNS	**Nan Shan**	**1.16**	**250**	P	**Pn**	**13 02 23.7**	**+0.7**
	baz=243						
NNS				S	**Sg**	**13 02 36.5**	**-1.0**
	baz=243						
ETLH	**Xiulin Townshi**	**1.17**	**238**	*eP*	**Pb**	**13 02 23.3**	**+0.4**
	baz=239						
ETLH				*eS*	**Sb**	**13 02 37.6**	**-0.9**
	baz=239						
FUSS	**Fushou**	**1.34**	**244**	P	**Pg**	**13 02 27.1**	**+1.2**
	baz=238						
FUSS				S	**Sb**	**13 02 42.0**	**-1.5**
	baz=238						
WHF	**Hehuan Shan**	**1.38**	**240**	P	**Pb**	**13 02 27.0**	**+0.4**
	baz=242						
WHF				S	**Sb**	**13 02 43.3**	**-1.2**
	baz=242						
TWT	**Tachien**	**1.40**	**246**	P	**Pb**	**13 02 27.2**	**+0.4**
	baz=240						
TWT				S	**Sb**	**13 02 43.6**	**-1.3**
	baz=240						
TDCB	**Techi**	**1.41**	**246**	*eP*	**Pn**	**13 02 27.2**	**+0.7**
	baz=240						
TDCB				S	**Sb**	**13 02 43.4**	**-1.9**
	baz=240						
LIOB	**Emei**	**1.43**	**263**	*eP*	**Pb**	**13 02 27.6**	**+0.4**
	baz=258						
LIOB				*eS*	**Sb**	**13 02 42.9**	**-2.8**
	baz=258						
CHGB	**Renai**	**1.49**	**239**	P	**Pb**	**13 02 29.1**	**+0.7**
	baz=242						
CHGB				S	**Sn**	**13 02 47.1**	**-0.5**
	baz=242						
WHP	**Taichung City**	**1.58**	**250**	P	**Pg**	**13 02 31.0**	**+0.5**
	baz=245						
WHP				*eS*	**Sn**	**13 02 48.6**	**-1.0**
	baz=245						
HGSD	**Ruisui**	**1.70**	**218**	P	**Pn**	**13 02 30.9**	**+0.5**
	baz=201						
HGSD				*eS*	**Sn**	**13 02 52.5**	**0.0**
	baz=201						
WCS	**Beigang Elemen**	**1.70**	**243**	P	**Pb**	**13 02 32.0**	**+0.2**
	baz=245						
WCS				*eS*	**Sn**	**13 02 51.6**	**-0.8**
	baz=245						
SSLB	**Suanglung**	**1.81**	**235**	P	**Pb**	**13 02 33.4**	**-0.3**
	baz=216						
SSLB				S	**Sn**	**13 02 54.5**	**-0.6**
	baz=216						
YULB	**Yu-li**	**1.85**	**219**	*eP*	**Pn**	**13 02 32.6**	**+0.1**
	baz=214						
YULB				*eS*	**Sn**	**13 02 55.0**	**-1.2**
	baz=214						
ALS	**Alishan**	**2.08**	**231**	*eP*	**Pn**	**13 02 37.3**	**+1.4**
	baz=212						
ALS				*eS*	**Sn**	**13 03 02.2**	**-0.2**
	baz=212						
TPUB	**Ta-pu**	**2.34**	**230**	*eP*	**Pn**	**13 02 41.2**	**+2.0**
	baz=213						
TPUB				*eS*	**Sn**	**13 03 08.7**	**+0.3**
	baz=213						
SLGT	**Liugui**	**2.54**	**224**	*eP*	**Pn**	**13 02 43.7**	**+1.6**
	baz=220						
SLGT				*eS*	**Sn**	**13 03 13.8**	**+0.4**
	baz=220						

TAP 29 13:12:28.9,23°.02N×121°.28E,h17km,ML1.1,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.05**	**156**	P	Pg	13 12 32.5	+0.4
	baz=155						
EDH				S	Sg	13 12 34.4	+0.3
	baz=155						
ECS	**Chishang**	**0.10**	**323**	*eP*	Pg	13 12 33.5	+1.1
	baz=323						
CHKT	**Chengkung**	**0.11**	**44**	*eP*	Pb	13 12 33.2	+0.5
	baz=46						
CHKT				S	Sb	13 12 35.9	+0.8
	baz=46						
LONT	**Longtian**	**0.18**	**232**	*eP*	Pb	13 12 34.6	+0.8
	baz=231						
LONT				*eS*	Sb	13 12 37.8	+0.8
	baz=231						
FULB	**Fuli**	**0.18**	**3**	*eP*	Pb	13 12 34.6	+0.7
	baz=3.0						
TWGBT	**Beinan**	**0.27**	**223**	*eP*	Pb	13 12 35.7	+0.3
	baz=222						
TWGBT				*eS*	Sb	13 12 40.7	+0.9
	baz=222						
TWG	**Pinlang**	**0.28**	**225**	*eP*	Pb	13 12 35.9	+0.4
	baz=222						
TWG				*eS*	Sb	13 12 40.5	+0.6
	baz=222						
ELDTW	**Lidau**	**0.30**	**305**	P	Pb	13 12 35.9	0.0
	baz=305						
ELDTW				*eS*	Sb	13 12 40.4	-0.3
	baz=305						
EYUL	**Yuli**	**0.33**	**6**	*eP*	Pb	13 12 37.2	+0.8
	baz=6.0						
EYUL				*eS*	Sb	13 12 42.9	+1.4
	baz=6.0						
TWF1	**Yuli**	**0.33**	**2**	*eP*	Pg	13 12 36.1	+0.1
	baz=3.0						
TWF1				*eS*	Sb	13 12 42.5	+1.0
	baz=3.0						
YULB	**Yu-li**	**0.37**	**2**	*eP*	Pb	13 12 37.0	-0.1
	baz=2.0						
YULB				*eS*	Sg	13 12 41.8	-0.1
	baz=2.0						
LDUT	**Ludao**	**0.38**	**153**	*eP*	Pb	13 12 37.4	+0.1
	baz=153						
LDUT				*eS*	Sb	13 12 43.4	+0.5
	baz=153						
EHY	**Hungye**	**0.49**	**4**	*eP*	Pb	13 12 39.0	-0.1
	baz=5.0						
EHY				*eS*	Sb	13 12 46.1	+0.1
	baz=5.0						
HGSD	**Ruisui**	**0.49**	**15**	*eP*	Pb	13 12 39.8	+0.7
	baz=15						
HGSD				*eS*	Sb	13 12 46.9	+0.8
	baz=15						
STYH	**Taoyuan**	**0.49**	**288**	*eS*	Sb	13 12 46.5	+0.4
	baz=287						
STYT	**Tauyuan**	**0.51**	**287**	*eS*	Sb	13 12 46.5	0.0
	baz=286						
ECL	**Taimali**	**0.52**	**216**	*eP*	Pb	13 12 39.8	+0.3
	baz=215						
ECL				*eS*	Sg	13 12 46.4	+0.1
	baz=215						
SLGT	**Liugui**	**0.59**	**268**	*eS*	Sg	13 12 46.9	-1.5
	baz=267						
SGST	**Jiashian**	**0.65**	**276**	*eP*	Pn	13 12 42.8	-0.6
	baz=275						
SGST				*eS*	Sg	13 12 50.2	-0.1
	baz=275						
SGST	**Jiashian**	**0.65**	**276**	S	Pn	13 12 42.6	-0.8
	baz=155						
ALS	**Alishan**	**0.66**	**318**	*eS*	Sg	13 12 48.6	-2.2
	baz=318						

TAP 29 13:12:33.1,23°.28N×120°.49E,h7km,ML1.0,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.01**	**200**	P	Pg	13 12 34.9	+0.4
	baz=151						
TWK				*eS*	Sg	13 12 36.2	+0.7
	baz=151						
CHN1	**Nanshi**	**0.10**	**160**	P	Pg	13 12 36.1	+0.7
	baz=160						
CHN1				S	Sg	13 12 38.2	+1.2
	baz=160						
WTP	**Ta-pu**	**0.12**	**105**	P	Pg	13 12 36.6	+0.8
	baz=105						
WTP				*eS*	Sg	13 12 39.0	+1.5
	baz=105						
TPUB	**Ta-pu**	**0.13**	**79**	P	Pg	13 12 36.7	+0.8
	baz=79						
TPUB				S	Sg	13 12 38.8	+0.9
	baz=79						
SGST	**Jiashian**	**0.21**	**157**	*eP*	Pg	13 12 38.1	+0.7
	baz=155						
ICHU	**Yijhu**	**0.21**	**293**	*eP*	Pg	13 12 37.8	+0.4
	baz=292						
ICHU				*eS*	Sg	13 12 42.3	+2.0
	baz=292						
CHN3	**Shinhua**	**0.23**	**210**	*eP*	Pg	13 12 38.6	+0.9
	baz=210						
CHN3				*eS*	Sg	13 12 42.7	+1.8
	baz=210						
STYT	**Tauyuan**	**0.27**	**115**	*eP*	Pb	13 12 39.7	-0.6
	baz=114						
STYT				*eS*	Sb	13 12 45.7	+0.6
	baz=114						
STYT	**Tauyuan**	**0.27**	**115**	*eP*	Pb	13 12 39.6	-0.7
	baz=286						
STYH	**Taoyuan**	**0.28**	**112**	*eP*	Pg	13 12 39.3	+0.6
	baz=112						
STYH				*eS*	Sb	13 12 44.6	-0.8
	baz=112						
STYH	**Taoyuan**	**0.28**	**112**	*eP*	Pg	13 12 39.3	+0.6
	baz=287						
SLGT	**Liugui**	**0.32**	**153**	*eP*	Pb	13 12 40.9	-0.2
	baz=153						
SLGT				*eS*	Sb	13 12 45.5	-0.9
	baz=153						
SLGT	**Liugui**	**0.32**	**153**	*eP*	Pb	13 12 40.8	-0.3
	baz=267						
ALS	**Alishan**	**0.37**	**51**	*eP*	Pb	13 12 42.0	-0.2
	baz=52						
ALS				*eS*	Sb	13 12 47.9	-0.3
	baz=52						
ALS	**Alishan**	**0.37**	**51**	*eP*	Pb	13 12 42.0	-0.2
	baz=318						
WDLH	**Douliu**	**0.41**	**6**	*eP*	Pb	13 12 42.0	-0.8
	baz=5.0						
WDLH				*eS*	Sb	13 12 48.8	-0.4
	baz=5.0						

NNC 29 13:13:31.2±4.6,37°.88N×70°.27E,h0km,mb3.8,mpv3.4, 5C-2D,Error ellipse: s-maj=44.5km s-min=32.2km az=161.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.22**	**2**	Pn	Pn	13 14 51.1	+0.5
	0.6nm,0.3s,baz=142,slow=44,SNR=13						
KK31				⇑Pg	Pb	13 15 06.3	+2.9
	1.9nm,0.3s,baz=180,slow=15,SNR=12						
KK31				⇑Lg	Lg	13 16 18.3	
	6.7nm,0.7s,baz=178,slow=28,SNR=3.9						
AAK	**Ala-Archa**	**5.74**	**33**	⇓Pn	Pn	13 14 58.5	+0.5
	2.3nm,0.3s						
AAK				⇑Pg	Pb	13 15 14.9	+2.5
	4.3nm,0.5s						
AAK				⇑Lg	Lg	13 16 33.2	
	13nm,1.1s						
AB31	**Akbulak array**	**13.60**	**330**	⇑Pn	Pn	13 16 41.9	-3.4
	0.3nm,0.4s,baz=171,slow=12,SNR=10						
AKTO	**Aktyubinsk**	**15.30**	**329**	⇓Pn	P	13 17 11.7	-1.7
	1.7nm,0.5s						

MAN 29 13:22:58.0,14°.63N×119°.84E,h33km,mb4.3,ML3.2, MS2.9,Luzon

NNC 29 13:25:41.9±1.6,48°.98N×68°.55E,h0km,mb3.5,mpv3.3, 6C-1D,Error ellipse: s-maj=15.1km s-min=7.7km az=48.0,Suspected Mining explosion.,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.62**	**105**	⇑Pg	Pb	13 26 29.6	0.0
	1.2nm,0.5s						
OTUK				⇑Lg	Lg	13 27 04.1	
	33nm,1.1s						
BRVK	**Borovoye**	**4.23**	**14**	⇑Pg	Pb	13 26 59.9	+2.8
	1.8nm,0.7s						
BRVK				⇑Lg	Lg	13 27 55.5	
	4.3nm,0.5s						
BTLS	**Baital**	**5.44**	**134**	P	Pg	13 28 18.5	+52
BTLS				S	Sg	13 28 38.8	+2.1
AB31	**Akbulak array**	**5.66**	**276**	⇑Lg	Lg	13 28 39.1	
	1.1nm,0.6s,baz=84,slow=29,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.67**	**72**	⇑Lg	Lg	13 29 12.5	
	6.5nm,0.7s						
KRBS	**Karabastau**	**7.22**	**134**	Pg	Pg	13 28 51.0	+51
	1.1nm,0.4s						
KRBS				Lg	Lg	13 29 35.4	
	3.4nm,0.5s						
KST	**Kastek**	**7.86**	**136**	Pg	Pg	13 29 00.5	+48
	2.5nm,0.2s						
KST				Lg	Lg	13 29 54.1	
	3.8nm,0.9s						
KAPS	**Kapalarasan**	**8.24**	**113**	Pg	Pg	13 29 10.5	+51
	0.1nm,0.4s						
KAPS				Lg	Lg	13 30 06.0	
	0.4nm,0.6s						
PDGK	**Podgornoye**	**9.46**	**123**	Pg		13 29 31.3	
	0.4nm,0.4s						
PDGK				Lg	Lg	13 30 42.9	
	1.5nm,0.8s						
MK31	**Makanchi Array**	**9.49**	**98**	⇓Lg	Lg	13 30 41.3	
	1.7nm,0.6s						

*IDC **29** 13:26:26.8±1.1,52°.10N×169°.55W,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.6/54,mbtmp3.7/9,ML3.6/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/44,Error ellipse: s-maj=37.0km s-min=20.9km az=179.0*
*AEIC **29** 13:26:30±1.1,52°.0N±0°.1×169°.46W±0°.09,h35km±4km, Error ellipse: s-maj=16.1km s-min=7.4km az=162.0*
*NEIC **29** 13:26:30.8±1.2,52°.03N±0°.08×169°.52W±0°.09,h21km±4km, ML3.1(AEIC),Error ellipse: s-maj=11.2km s-min=7.5km az=168.0*

ISC 29 13:26:31.2±0.9,52°.0N±0°.2×169°.49W±0°.07,h30km,n42, σ0°.81/41,mb3.8/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.01**	**22**		**Pn**	**13 26 49.0**	**-0.3**
OKSP	**Okmok Steeple**	**1.42**	**31**		**Pn**	**13 26 55.0**	**0.0**
OKCE	**Okmok Cone E**	**1.61**	**30**		**Pn**	**13 26 58.5**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.61**	**33**		**Pn**	**13 26 58.0**	**+0.4**
OKNC	**Okmok New Cone**	**1.65**	**30**		**Pn**	**13 26 59.3**	**+1.2**
OKFG	**Magazine Ridge**	**1.68**	**34**		**Pn**	**13 26 59.1**	**+0.6**
MAPS	**Pakushin South**	**2.35**	**40**		**Pn**	**13 27 08.3**	**+0.5**
MGOD	**Makushin Gods**	**2.37**	**41**		**Pn**	**13 27 08.8**	**+0.7**
MSW	**Makushin Switc**	**2.49**	**40**		**Pn**	**13 27 10.5**	**+0.8**
MNAT	**Makushin Natee**	**2.51**	**41**		**Pn**	**13 27 10.9**	**+0.9**
UNV	**Unalaska Valle**	**2.56**	**44**		**Pn**	**13 27 11.4**	**+0.8**
MTBL	**Makushin Table**	**2.58**	**40**		**Pn**	**13 27 11.7**	**+0.7**
KOFP	**Korovin Flat P**	**2.85**	**277**		**Pn**	**13 27 15.3**	**+0.7**
ATKA	**Atka Island**	**2.90**	**275**		**Pn**	**13 27 14.9**	**-0.4**
AKUT	**Akutan**	**3.07**	**45**	Pn	**Pn**	**13 27 18.3**	**+0.7**
AKSA	**Akutan Strait**	**3.11**	**46**		**Pn**	**13 27 19.8**	**+1.6**
GSMY	**Great Sitkin M**	**4.05**	**273**		**Pn**	**13 27 31.6**	**+0.4**
GSTR	**Great Sitkin T**	**4.05**	**273**		**Pn**	**13 27 30.9**	**-0.2**
GSTD	**Great Sitkin T**	**4.11**	**273**		**Pn**	**13 27 32.5**	**+0.5**
ADK	**Adak**	**4.45**	**271**		**Pn**	**13 27 36.8**	**+0.2**
KIWB	**Kanaga Island**	**4.74**	**271**		**Pn**	**13 27 40.6**	**0.0**
KIMD	**Kanaga Island**	**4.80**	**270**		**Pn**	**13 27 41.5**	**+0.1**
SPIA	**Saint Paul Isl**	**5.17**	**355**		**Pn**	**13 27 47.5**	**+1.1**
TAFP	**Tanaga Falls P**	**5.25**	**272**		**Pn**	**13 27 49.7**	**+2.0**
TASE	**Tanaga Southea**	**5.29**	**271**		**Pn**	**13 27 49.8**	**+1.7**
CNBA	**Chernabura Isl**	**6.54**	**61**	Pn	**Pn**	**13 28 05.3**	**+0.1**
AMKA	**Amchitka**	**7.00**	**269**		**Pn**	**13 28 12.2**	**+0.6**
OHAK	**Old Harbor**	**10.72**	**55**	Pn	**Pn**	**13 29 01.3**	**-1.2**
KDAK	**Kodiak Island**	**11.29**	**53**	Pn	**Pn**	**13 29 08.9**	**-1.4**
	0.1nm,0.3s,baz=210,slow=4.4,SNR=11						
KDAK	**Kodiak Island**	**11.29**	**53**		**Pn**	**13 29 10.6**	**+0.3**
CAPN	**Captain Cook N**	**13.36**	**42**	Pn	**Pn**	**13 29 37.6**	**-0.8**
GSTR	**Great Sitkin T**	**19.88**	**286**	P	**P**	**13 30 59.6**	**-0.1**
	0.9nm,0.3s,baz=86,slow=14,SNR=2.4						
MA2	**Magadan**	**23.27**	**305**	LR	LR	13 39 15.5	
	comp=Z,18nm,21.9s,baz=99,slow=33						
INK	**Inuvik**	**23.66**	**33**	P	**P**	**13 31 38.8**	**-0.9**
	0.6nm,0.5s,baz=229,slow=7.5,SNR=4.0						
PDAR	**Pinedale Array**	**40.54**	**79**	P	**P**	**13 34 07.9**	**+0.1**
	0.2nm,0.6s,baz=297,slow=6.0,SNR=2.4						
KSRS	**Korea Array**	**45.37**	**277**	P	**P**	**13 34 46.5**	**-0.1**
	1.0nm,0.8s,baz=48,slow=6.6,SNR=5.6						
TXAR	**Lajitas Array**	**52.83**	**89**	P	**P**	**13 35 44.7**	**+0.7**
	1.4nm,1.1s,baz=292,slow=6.6,SNR=4.9						
KURK	**Kurchatov**	**62.57**	**318**	P	**P**	**13 36 52.4**	**+0.5**
KURBB	**Kurchatov Arra**	**62.68**	**318**	P	**P**	**13 36 52.4**	**-0.3**
	0.9nm,0.8s,baz=42,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**63.98**	**313**	P	**P**	**13 37 00.9**	**-0.4**
	0.2nm,0.6s,baz=74,slow=8.9,SNR=3.6						
FINES	**FINESS Array B**	**66.19**	**352**	P	**P**	**13 37 15.5**	**+0.1**
	1.8nm,0.9s,baz=26,slow=9.9,SNR=2.7						
ASAR	**Alice Springs**	**90.12**	**230**	P	**P**	**13 39 28.2**	**0.0**
	0.5nm,0.7s,baz=38,slow=4.5,SNR=8.1						

*NEIC **29** 13:28:22.8±1.1,19°.57N±0°.09×64°.65W±0°.08,h38km±52km, Error ellipse: s-maj=14.8km s-min=8.2km az=212.0*
*RSPR **29** 13:28:23.2,19°.63N×64°.69W,h20km±15km,MD3.3/6*

ISC 29 13:28:22.1±2.6,19°.6N±0°.1×64°.69W±0°.09,h27km,n34, σ0°.59/34,7C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.88**	**158**		**Pb**	**13 28 38.8**	**0.0**
VGBI	**Virgin Gorda,**	**1.08**	**166**	⇑*eP*	**Pb**	**13 28 41.9**	**-0.3**
VGBI	**Virgin Gorda,**	**1.08**	**166**	*eS*	**Sn**	**13 28 55.7**	**0.0**
VGBI	**Virgin Gorda,**	**1.08**	**166**		**Pb**	**13 28 41.9**	**-0.3**
VGBI					**Sn**	**13 28 55.7**	**0.0**
TBVI	**Tortola**	**1.13**	**177**	⇑*eP*	**Pn**	**13 28 42.1**	**0.0**
TBVI	**Tortola**	**1.13**	**177**	*eS*	**Sb**	**13 28 57.5**	**+0.3**
TBVI	**Tortola**	**1.13**	**177**		**Pn**	**13 28 42.1**	**0.0**
TBVI					**Sb**	**13 28 57.5**	**+0.3**
STVI	**Saint Thomas**	**1.22**	**192**	⇑*eP*	**Pn**	**13 28 43.2**	**-0.2**
STVI	**Saint Thomas**	**1.22**	**192**	*eS*	**Sn**	**13 28 59.1**	**+0.2**
STVI	**Saint Thomas**	**1.22**	**192**		**Pn**	**13 28 43.2**	**-0.2**
STVI					**Sn**	**13 28 59.1**	**+0.2**
STVI	**Saint Thomas**	**1.22**	**192**	IAML		13 29 07.5	
	comp=N,108nm,0.2s						
CUPR	**Culebra, Puert**	**1.36**	**205**	⇑*eP*	**Pn**	**13 28 45.1**	**-0.1**
CUPR	**Culebra, Puert**	**1.36**	**205**	*eS*	**Sn**	**13 29 02.7**	**+0.4**
CUPR	**Culebra, Puert**	**1.36**	**205**		**Pn**	**13 28 45.1**	**-0.1**
CUPR					**Sn**	**13 29 02.7**

HUMP	Col San Antoni	1.78	218	IAML		13 29 18.7
	comp=E,77nm,0.2s					
HUMP				IAML		13 29 19.4
	comp=N,58nm,0.3s					
CDVI	St. Croix	1.79	182	Pn	Pb	13 28 52.8 -1.4
GCPR	Guaynabo City	1.81	227	Pn	Pn	13 28 51.7 +0.2
PDPR	Patillas Dam,	1.98	220	Pn	Pn	13 28 53.4 -0.4
PDPR				IAML		13 29 42.6
	comp=E,47nm,1.8s					
SJG	San Juan	1.99	224	Pn	Pn	13 28 55.2 +1.2
SJG				IAML		13 29 19.6
	comp=E,40nm,0.3s					
AOPR	Arecibo Observ	2.29	239	Pn	Pn	13 28 58.3 +0.1
AOPR				IAML		13 29 43.3
	comp=N,57nm,0.4s					
MLPR	Magueyes Islan	2.73	235	Pn	Pn	13 29 03.4 -0.8
MLPR				IAML		13 30 19.4
	comp=N,27nm,3.1s					
DR12	Loma Pena Alta	4.50	261	Pn	Pn	13 29 29.3 +0.7
BIM	Bigot	6.08	145	Pn	Pn	13 29 52.0 +1.7
SDDR	Presa de Saban	6.26	266	Pn	Pn	13 29 54.0 +1.2

NEIC 29 13:38:51.5±0.5, 37°.08N±0°.02×98°.01W±0°.02, h9km±5km, Error ellipse: s-maj=3.2km s-min=1.9km az=132.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	Anthony SW Sta	0.08	299		Pg	13 38 53.4	-0.4
KAN10					Sg	13 38 54.8	-0.5
KAN08	Anthony NE Sta	0.14	12		Pg	13 38 54.5	-0.2
KAN08					Sg	13 38 56.7	-0.2
KAN17	Caldwell West	0.20	102		Pg	13 38 55.6	0.0
KAN17					Sg	13 38 58.5	+0.1
KAN06	Argonia West S	0.20	36		Pg	13 38 55.5	-0.1
KAN06					Sg	13 38 58.5	0.0
KAN12	Harper NE Stat	0.21	2		Pg	13 38 55.7	-0.1
KAN12					Sg	13 38 58.8	0.0
GC02	Grant County #	0.26	153		Pg	13 38 56.7	0.0
KAN09	Caldwell North	0.32	80		Pg	13 38 57.7	0.0
KAN09					Sg	13 39 02.1	+0.2
OK032	Salt Plains WL	0.32	210		Pg	13 38 57.9	0.0
OK032					Sg	13 39 02.7	+0.5
KS21	Milan North St	0.34	54		Pg	13 38 58.1	-0.1
KS21					Sg	13 39 02.9	+0.1
KS20	Mayfield South	0.39	68		Pg	13 38 59.0	-0.1
KS20					Sg	13 39 04.4	+0.1
KAN13	South Haven SW	0.43	99		Pg	13 38 59.8	-0.1
KAN13					Sg	13 39 05.7	+0.1
CROK	Carrier	0.58	178		Pg	13 39 02.4	-0.2
BLOK	Blackwell	0.71	117	Pg	Pg	13 39 04.9	-0.3
U32A	Winter Ranch,	1.06	229	Pg	Pg	13 39 11.2	-0.7
T35A	Sooner Cattle	1.21	98		Pb	13 39 13.7	-0.8
OK029	Liberty Lake	1.36	161		Pn	13 39 16.3	-0.4
QUOK	Quay	1.39	131		Pn	13 39 16.6	-0.4
R32A	Long Quarter,	1.45	338		Pn	13 39 17.7	-0.2
BCOK	Bluff Creek, N	1.46	167	Pn	Pn	13 39 17.9	-0.1
OK031	S. Brethren Rd	1.47	140		Pn	13 39 18.1	-0.1
OK025	Westminster Rd	1.59	160	Pn	Pn	13 39 20.2	+0.3
CBKS	Cedar Bluff	2.20	322	Pn	Pn	13 39 28.2	0.0
KSU1	Kansas State U	2.30	28	Pn	Pn	13 39 28.9	-0.6
WMOK	Wichita Mounta	2.42	195		Pn	13 39 31.1	-0.2
U38A	Gravette	2.98	101	Pn	Pn	13 39 39.0	0.0
X37A	Clayton	3.29	139	IAmb_Lg		13 40 40.2	
	comp=Z,11nm,0.7s						
HHAR	Hobbs	3.37	103	Pn	Pn	13 39 44.8	+0.6
S39A	Bolivar	3.78	79	Pn	Pn	13 39 50.1	+0.1
S39A				IAmb_Lg		13 40 51.7	
	comp=Z,6.9nm,1.0s						
U40A	Yellville	4.21	98	Pn	Pn	13 39 56.1	+0.3
U40A				IAmb_Lg		13 41 14.5	
	comp=Z,7.1nm,0.9s						
P38A	Dawn	4.34	53	IAmb_Lg		13 41 08.9	
	comp=Z,7.5nm,0.7s						
MIAR	Mount Ida	4.40	124	Pn	Pn	13 39 58.6	+0.1
MIAR				IAmb_Lg		13 41 15.4	
	comp=Z,9.4nm,1.0s						
MGMO	Mountain Grove	4.59	87	Pn	Pn	13 40 01.5	+0.5
R40A	Maddies Statio	4.71	73	Pn	Pn	13 40 02.7	0.0
FCAR	Ozark Folk Cen	4.89	102	Pn	Pn	13 40 04.9	-0.3
FCAR				IAmb_Lg		13 41 27.1	
	comp=Z,4.5nm,0.8s						
X40A	Basin Creek Fa	4.94	120	Pn	Pn	13 40 06.5	+0.6
X40A				IAmb_Lg		13 41 34.7	
	comp=Z,5.8nm,0.8s						
WHAR	Wooly Hollow	4.96	109	IAmb_Lg		13 41 32.8	
	comp=Z,7.4nm,0.8s						
P40A	Paris	5.29	61	IAmb_Lg		13 41 37.6	
	comp=Z,6.1nm,0.7s						
CCM	Cathedral Cave	5.46	78	IAmb_Lg		13 41 53.5	
	comp=Z,4.7nm,0.7s						
LCAR	Lake Charles	5.61	98	IAmb_Lg		13 42 03.8	
	comp=Z,4.7nm,1.0s						
PBMO	Poplar Bluff	6.08	91	IAmb_Lg		13 42 07.4	
	comp=Z,5.8nm,0.8s						
ISCO	Idaho Springs	6.56	297	IAmb_Lg		13 42 18.3	
	comp=Z,3.4nm,1.1s						
MNTX	Cornudas Mount	8.12	231	IAmb_Lg		13 43 17.8	
	comp=Z,2.2nm,0.8s						

*TUL **29** 13:46:20.7±0.8, 36°.93N±0°.01×97°.68W±0°.02, h2km±7km, ML2.6, mb_Lg2.3/17(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=58.0*

NEIC 29 13:46:20.9±0.6, 36°.929N±0°.006×97°.68W±0°.02, h5km±6km, Error ellipse: s-maj=1.9km s-min=0.8km az=101.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	Caldwell West	0.14	328	Pg	Pg	13 46 23.9	+0.2
GC02	Grant County #	0.17	243	Pg	Pg	13 46 24.3	0.0
KAN13	South Haven SW	0.18	62	Pg	Pg	13 46 24.7	+0.2
KAN09	Caldwell North	0.21	12	Pg	Pg	13 46 25.4	+0.2
KS20	Mayfield South	0.32	18	Pg	Pg	13 46 27.2	+0.1
KS20				Sg	Sg	13 46 30.4	-0.8
KAN08	Anthony NE Sta	0.38	322	Pg	Pg	13 46 28.4	0.0
KAN10	Anthony SW Sta	0.39	300	Pg	Pg	13 46 28.4	0.0
BLOK	Blackwell	0.41	114	Pg	Pg	13 46 28.8	0.0
BLOK				Sg	Sg	13 46 33.6	-0.5
OK032	Salt Plains WL	0.45	254	Pg	Pg	13 46 29.4	-0.1
KAN12	Harper NE Stat	0.45	325	Pg	Pg	13 46 29.6	0.0
CROK	Carrier	0.49	210		Pg	13 46 30.4	0.0
CROK				Sg	Sg	13 46 36.3	-0.5
T35A	Sooner Cattle	0.93	90	Pg	Pg	13 46 38.6	-0.2
QUOK	Quay	1.08	134	Pg	Pg	13 46 41.1	-0.6
QUOK				Sg	Sg	13 46 55.6	-0.2
OK029	Liberty Lake	1.14	171		Pg	13 46 42.3	-0.6
OK031	S. Brethren Rd	1.18	145		Pg	13 46 43.0	-0.6
BCOK	Bluff Creek, N	1.27	178		Pg	13 46 44.5	-0.8
OK025	Westminster Rd	1.37	168		Pn	13 46 46.0	-0.7
OKCSW	OKLAHOMA CITY	1.53	173	Pn	Pn	13 46 48.6	-0.4
FNO	Franklin	1.68	172	Pn	Pn	13 46 51.1	+0.1
R32A	Long Quarter,	1.70	331	Pn	Pn	13 46 51.5	+0.2
KSU1	Kansas State U	2.33	21	IAmb_Lg		13 47 34.4	
	comp=Z,14nm,0.9s						
WMOK	Wichita Mounta	2.36	203	IAmb_Lg		13 47 36.1	
	comp=Z,8.1nm,0.8s						
CBKS	Cedar Bluff	2.49	320	IAmb_Lg		13 47 46.3	
	comp=Z,8.4nm,0.7s						
U38A	Gravette	2.69	99	Pn	Pn	13 47 04.9	+0.1
S39A	Bolivar	3.55	76	Pn	Pn	13 47 17.1	+0.4
AMTX	Amarillo	3.84	239	IAmb_Lg		13 48 27.2	
	comp=Z,7.2nm,0.8s						
U40A	Yellville	3.92	97	IAmb_Lg		13 48 24.7	
	comp=Z,4.5nm,0.8s						
P38A	Dawn	4.23	49	IAmb_Lg		13 48 34.8	
	comp=Z,13nm,0.7s						
P40A	Paris	5.13	58	IAmb_Lg		13 49 16.9	
	comp=Z,4.1nm,0.7s						
V48A	Smith Brothers	8.84	94	IAmb_Lg		13 51 15.9	
	comp=Z,4.6nm,1.3s						
PV11	David Mesa, Pa	8.99	282	IAmb_Lg		13 51 25.2	
	comp=Z,3.7nm,0.9s						

*IDC **29** 14:09:39.2±1.3, 52°.11N×169°.53W, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.6/67, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=34.5km s-min=21.3km az=164.0*

*AEIC **29** 14:09:42±1.9, 51°.97N±0°.10×169°.45W±0°.09, h33km±6km, Error ellipse: s-maj=15.2km s-min=6.3km az=155.0*

*NEIC **29** 14:09:42.6±2.1, 52°.00N±0°.09×169°.50W±0°.10, h21km±5km, mb3.7/20, ML3.2/36(AEIC), Error ellipse: s-maj=14.3km s-min=5.7km az=148.0*

ISC 29 14:09:43.3±0.9, 52°.0N±0°.1×169°.45W±0°.06, h30km, n88, σ1°.16/86, mb4.0/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.03	21		Pn	14 10 01.2	-0.5
NIKH	Nikolski High	1.03	21		Sb	14 10 16.9	+1.1
OKSP	Okmok Steeple	1.44	29		Pn	14 10 07.0	-0.2
OKTU	Okmok Mt. Tuli	1.63	31		Pn	14 10 10.2	+0.3
OKNC	Okmok New Cone	1.66	29		Pn	14 10 11.2	+0.8
OKFG	Magazine Ridge	1.69	33		Pn	14 10 11.1	+0.4
MAPS	Pakushin South	2.36	39		Pn	14 10 20.4	+0.5
MAPS					Sn	14 10 49.5	+1.5
MGOD	Makushin Gods	2.38	40		Pn	14 10 20.8	+0.6
MGOD					Sn	14 10 50.3	+1.9
MSW	Makushin Switc	2.50	39		Pn	14 10 23.0	+1.1
MNAT	Makushin Natee	2.52	41		Pn	14 10 23.0	+0.9
UNV	Unalaska Valle	2.56	43		Pn	14 10 23.3	+0.6
UNV					Sn	14 10 54.7	+1.8
MTBL	Makushin Table	2.58	39		Pn	14 10 24.2	+1.2
KOFP	Korovin Flat P	2.87	277		Pn	14 10 27.9	+0.8
ATKA	Atka Island	2.93	276		Pn	14 10 27.2	-0.5
ATKA					Sn	14 11 01.8	-0.1
KOKL	Mount Kliuchef	2.94	278		Pn	14 10 28.9	+0.9
AKUT	Akutan	3.08	45	Pn	Pn	14 10 31.8	+2.0
GSIG	Igitkin Island	4.00	272		Pn	14 10 42.4	0.0
GSMY	Great Sitkin M	4.08	273		Pn	14 10 43.9	+0.3
GSTR	Great Sitkin T	4.08	274	Pn	Pn	14 10 43.9	+0.3
GSTD	Great Sitkin T	4.13	273		Pn	14 10 44.8	+0.4
ADK	Adak	4.47	271	Pn	Pn	14 10 48.8	-0.1
KIWB	Kanaga Island	4.77	271	Pn	Pn	14 10 52.5	-0.5
KIKV	Kanaga Island	4.78	272		Pn	14 10 53.5	+0.3
KICM	Kanaga Island	4.79	272		Pn	14 10 53.5	+0.3
KIMD	Kanaga Island	4.83	270		Pn	14 10 54.2	+0.4
TAPA	Tanaga Point A	5.18	271		Pn	14 11 00.5	+1.8
SPIA	Saint Paul Isl	5.20	355	Pn	Pn	14 10 59.6	+0.7
TAFP	Tanaga Falls P	5.28	272		Pn	14 11 01.0	+1.0
TASE	Tanaga Southea	5.32	272		Pn	14 11 01.8	+1.2
GAEA	Gareloi East	5.76	271		Pn	14 11 08.0	+1.4
SDPT	Sand Point	6.30	54	Pn	Pn	14 11 14.7	+0.7
CNBA	Chernabura Isl	6.54	61	Pn	Pn	14 11 17.4	+0.1
AMKA	Amchitka	7.02	269	Pn	Pn	14 11 24.0	+0.1
CHIR	Chirikof Islan	9.01	59	Pn	Pn	14 11 52.8	+1.7
SII	Sitkinak Islan	10.02	57	Pn	Pn	14 12 06.7	+1.6
OHAK	Old Harbor	10.72	55	Pn	Pn	14 12 14.1	-0.5
KDAK	Kodiak Island	11.29	53	Pn	Pn	14 12 20.0	-2.4
	0.3nm,0.3s,baz=262,slow=8.7,SNR=7.1						
KDAK				Sn	Sn	14 14 22.9	-4.4
	0.1nm,0.3s,baz=355,slow=20,SNR=1.2						
KDAK	Kodiak Island	11.29	53	Pn	Pn	14 12 21.6	-0.8
SVW2	Sparrevohn	11.87	34	Pn	Pn	14 12 30.8	+0.5
CNPM	China Poot	12.69	46	Pn	Pn	14 12 41.1	-0.4
SEW	Seward	13.76	46	Pn	Pn	14 12 55.2	-0.8
O22K	Cooper Landing	13.82	44	Pn	Pn	14 12 57.7	+0.2
SUA	Susitna One	13.91	40	Pn	Pn	14 12 57.7	-0.6
RC01	Rabbit Creek A	14.12	42	Pn	Pn	14 13 00.0	-1.0
PWL	Port Wells	14.60	44	Pn	Pn	14 13 06.0	-1.6
HIN	Hinchinbrook I	15.22	48	Pn	Pn	14 13 14.4	-1.3
BPAW	Bear Paw Mtn.	15.48	31		P	14 13 22.5	-0.9
BPAW				IAmb	IAmb	14 13 24.1	
	comp=Z,4.4nm,1.0s						
MLY	Manley	16.21	29	Pn	Pn	14 13 29.4	+0.9
MLY				IAmb	IAmb	14 13 32.5	
	comp=Z,8.2nm,1.4s						
I23K	Minto, Yukon-K	16.71	30		Pn	14 13 35.4	+0.5
I23K				IAmb	IAmb	14 13 59.5	
	comp=Z,8.7nm,1.4s						
CCB	Clear Creek Bu	16.89	33	Pn	Pn	14 13 36.5	-0.6
VRDI	Verde Repeater	16.91	47	Pn	Pn	14 13 36.5	-1.2
VRDI				IAmb	IAmb	14 13 37.6	
	comp=Z,8.4nm,1.4s						
IL31		17.28	34	Pn	Pn	14 13 41.1	-0.9
ILAR	Eielson Array	17.28	34	P	Pn	14 13 40.4	-1.6
	comp=Z,0.1nm,0.3s,baz=233,slow=11,SNR=5.6						
ILAR	Eielson Array	17.28	34	Pn	Pn	14 13 40.9	-1.1
POKR	Poker Plat Res	17.31	32	Pn	Pn	14 13 41.2	-1.2
POKR				IAmb	IAmb	14 13 41.8	
	comp=Z,3.5nm,0.6s						
RIDG	Independent Ri	17.44	38	Pn	Pn	14 13 40.9	-3.2
RIDG				IAmb	IAmb	14 13 56.3	
	comp=Z,6.5nm,1.4s						
DOT	Dot Lake	17.70	39	Pn	Pn	14 13 44.1	-3.1
CTGM	Chitina Glacie	17.80	49	P	Pn	14 13 49.4	+0.8
CTGM				IAmb	IAmb	14 13 54.5	
	comp=Z,8.8nm,1.0s						
SCRK	Sand Creek	17.89	38	Pn	Pn	14 13 47.4	-2.3
BCPM	Bancas Point	18.35	53	P	P	14 13 55.5	+0.4
BCAR	Beaver Creek A	18.35	42	P	P	14 13 55.6	+0.4
TOLK	Toolik Lake Re	19.20	22	P	P	14 14 04.0	-0.4
TOLK				IAmb	IAmb	14 14 30.3	
	comp=Z,4.9nm,1.3s						
EGAK	Eagle	19.36	38	P	P	14 14 05.6	-0.4
BMAR	Bunt Mountain	19.67	29	P	P	14 14 09.8	+0.3
DAWY	Dawson	19.74	41	P	P	14 14 10.2	-0.1
DAWY				IAmb	IAmb	14 14 23.6	
	comp=Z,4.9nm,1.3s						
PETK	Petropavlovsk-	19.91	286	P	P	14 14 11.8	-0.4
	comp=Z,1.3nm,0.3s,baz=88,slow=13,SNR=10						
PETK	Petropavlovsk-	19.91	286	P	P	14 14 12.1	0.0
A21K	Barrow	20.23	12	P	P	14 14 14.8	-0.6
EPYK	Eagle Plains	21.73	36	P	P	14 14 30.6	-1.1
INK	Inuvik	23.68	33	P	P	14 14 51.0	-0.8
	comp=Z,1.1nm,0.5s,baz=262,slow=5.0,SNR=13						
INK	Inuvik	23.68	33	P	P	14 14 50.9	-1.0
INK				IAmb	IAmb	14 15 11.0	
	comp=Z,3.3nm,1.2s						
H11N2	WAKE ISLAND Hy	37.14	219	T	T	14 57 26.8	
	baz=24,slow=74,SNR=2.5						
H11N3	WAKE ISLAND Hy	37.14	219	T	T	14 57 19.9	
	baz=24,slow=74,SNR=3.1						
H11N1	WAKE ISLAND Hy	37.16	219	T	T	14 57 17.4	
	baz=24						
H11S1	WAKE ISLAND Hy	38.32	218	T	T	14 58 15.8	
	baz=23,slow=76,SNR=22						
H11S2	WAKE ISLAND Hy	38.34	218	T	T	14 58 15.9	
	baz=23,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	38.34	218	T	T	14 58 15.2	
	baz=23,slow=76,SNR=12						
KSRS	Korea Array	45.40	277	P	P	14 17 59.0	+0.2
	comp=Z,1.7nm,1.0s,baz=61,slow=8.1,SNR=4.9						
SONM	Songino Array	51.44	301	P	P	14 18 45.7	+0.2
	comp=Z,0.3nm,0.4s,baz=76,slow=6.3,SNR=4.4						
SONM	Songino Array	51.44	301	IAmb	IAmb	14 18 46.2	
	comp=Z,2.1nm,1.3s						
TXAR	Lajitas Array	52.81	89	P	P	14 18 57.1	+1.3
	comp=Z,0.2nm,0.5s,baz=258,slow=5.0,SNR=3.6						
KURK	Kurchatov	62.61	318	P	P	14 20 04.8	+0.6
KURBB	Kurchatov Arra	62.72	318	P	P	14 20 04.8	-0.2
	comp=Z,1.1nm,0.8s,baz=41,slow=7.0,SNR=8.3						
BVAR	Borovoye Array	63.97	324	P	P	14 20 13.4	+0.2
	comp=Z,0.8nm,0.5s,baz=179,slow=21,SNR=5.7						
MKAR	Makanchi Array	64.02	313	P	P	14 20 12.6	-1.1
	comp=Z,0.4nm,0.8s,baz=47,slow=7.1,SNR=3.9						
FINES	FINESS Array B	66.22	352	P	P	14 20 27.7	+0.1
	comp=Z,1.0nm,0.6s,baz=12,slow=9.8,SNR=7.4						
HFS	Hagfors	68.19	358	P	P	14 20 40.1	0.0
	comp=Z,1.5nm,0.7s,baz=358,slow=4.5,SNR=7.9						
ASAR	Alice Springs	90.12	230	P	P	14 22 40.6	+0.4
	comp=Z,0.7nm,0.8s,baz=40,slow=4.9,SNR=6.2						

IDC 29 14:18:24.7±619.0, 53°.52N×37°.82E, h0km, Error ellipse: s-maj=215.9km s-min=46.5km az=163.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.23	354	*i*		14 39 30.0	
	baz=171,slow=322,SNR=0.9						
I26DE	FREYUNG INFRAS	15.79	263	*i*		15 55 00.0	
	baz=60,slow=330,SNR=1.6						
I37NO	I37NO	17.98	337	*i*		16 10 00.0	
	baz=141,slow=320,SNR=0.8						

*TUL **29** 14:30:33.0±1.0, 36°.84N±0°.01×97°.77W±0°.01, h3km±6km, ML2.5, mb_Lg2.1/14(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=136.0*

NEIC 29 14:30:33.0±0.6, 36°.841N±0°.009×97°.75W±0°.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=1.1km az=56.0,

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.09	277	Pg	Pg	14 30 35.0	+0.2
GC02				Sg	Sg	14 30 36.2	0.0
KAN17	Caldwell West	0.20	358	Pg	Pg	14 30 37.1	+0.1
KAN17				Sg	Sg	14 30 38.8	-0.9
KAN13	South Haven SW	0.28	52	Pg	Pg	14 30 37.6	-0.8
KAN13				Sg	Sg	14 30 42.1	0.0
KAN09	Caldwell North	0.31	20	Pg	Pg	14 30 38.3	-0.8
OK032	Salt Plains WL	0.37	264	Pg	Pg	14 30 40.1	0.0
OK032				Sg	Sg	14 30 44.9	0.0
CROK	Carrier	0.38	209	Pg	Pg	14 30 40.4	0.0
CROK				Sg	Sg	14 30 45.3	-0.1
KAN10	Anthony SW Sta	0.39	316	Pg	Pg	14 30 40.6	0.0
KS20	Mayfield South	0.42	22	Pg	Pg	14 30 41.4	+0.3
KAN08	Anthony NE Sta	0.42	336	Pg	Pg	14 30 41.7	+0.5
BLOK	Blackwell	0.44	100	Pg	Pg	14 30 41.7	+0.3
BLOK				Sg	Sg	14 30 47.2	0.0
KAN12	Harper NE Stat	0.50	337	Pg	Pg	14 30 42.7	+0.2
T35A	Sooner Cattle	1.00	85	Pg	Pg	14 30 52.0	-0.1
T35A				Sg	Sg	14 31 05.1	+0.1
OK029	Liberty Lake	1.07	167	Pg	Pg	14 30 53.0	-0.4
QUOK	Quay	1.08	128	Pg	Pg	14 30 53.4	-0.2
U32A	Winter Ranch,	1.10	246	Pg	Pg	14 30 53.0	-1.2
OK031	S. Brethren Rd	1.15	140	Pg	Pg	14 30 54.6	-0.5
BCOK	Bluff Creek, N	1.19	174	Pg	Pg	14 30 55.1	-0.6
OK025	Westminster Rd	1.30	165	Pg	Pn	14 30 57.2	-0.5
OKCFA	Oklahoma City	1.44	170	Pn	Pn	14 30 59.5	-0.3
OKCSW	OKLAHOMA CITY	1.46	170	Pn	Pn	14 30 59.9	0.0
FNO	Franklin	1.61	170	Pn	Pn	14 31 02.1	+0.2
FNO				IAmb_Lg		14 31 27.4	
	comp=Z,48nm,0.9s						
X34A	Smith Ranch, M	2.24	182	IAmb_Lg		14 31 45.0	
	comp=Z,6.9nm,0.8s						
WMOK	Wichita Mounta	2.26	202	Pn	Pn	14 31 11.2	+0.2
WMOK				IAmb_Lg		14 31 44.0	
	comp=Z,8.3nm,0.8s						
KSU1	Kansas State U	2.43	22	IAmb_Lg		14 31 50.2	
	comp=Z,5.5nm,0.9s						
X37A	Clayton	2.97	139	IAmb_Lg		14 32 13.5	
	comp=Z,6.9nm,1.0s						
P38A	Dawn	4.33	49	IAmb_Lg		14 32 51.2	
	comp=Z,4.7nm,0.7s						
MGMO	Mountain Grove	4.40	84	IAmb_Lg		14 32 53.8	
	comp=Z,3.2nm,0.8s						
FCAR	Ozark Folk Cen	4.64	100	IAmb_Lg		14 33 00.9	
	comp=Z,3.2nm,0.8s						

*IDC **29** 14:32:25.6±1.0, 52°.10N×169°.56W, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.0/38, mbtmp4.0/16, ML3.9/2, MS3.6/23, Ms1 3.6/23, ms1mx3.4/53, Error ellipse: s-maj=29.3km s-min=15.9km az=175.0*

*ANF **29** 14:32:25.9±2.8, 51°.57N×169°.49W, h41km±11km, ML4.0/2, Error ellipse: s-maj=29.6km s-min=12.1km az=28.0*

*AEIC **29** 14:32:29±3.1, 52°.0N±0°.1×169°.5W±0°.1, h29km±5km, Error ellipse: s-maj=16.8km s-min=7.5km az=159.0*

*NEIC **29** 14:32:33.5±2.2, 52°.5N±0°.1×169°.7W±0°.1, h45km±7km, mb4.1/50, ML3.6/45(AEIC), Error ellipse: s-maj=18.9km s-min=7.5km az=157.0*

ISC 29 14:32:31.3±1.3, 52°.03N±0°.09×169°.46W±0°.05, h45km±10km, n204, σ1°.51/188, mb4.1/25, MS3.6/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.01	21	P	Pn	14 32 47.0	-2.1
	baz=199						
NIKH				S	Sn	14 33 02.3	+0.2
	baz=199						
NIKH	Nikolski High	1.01	21		Pn	14 32 47.3	-1.8
NIKH	Nikolski High	1.01	21		Sn	14 33 02.6	+0.5
OKSP	Okmok Steeple	1.41	30		Pn	14 32 53.1	-1.5
OKSO	Okmok South	1.54	30		Sn	14 33 15.9	+0.7
OKTU	Okmok Mt. Tuli	1.60	32		Pn	14 32 56.1	-1.1
OKFG	Magazine Ridge	1.67	34		Pn	14 32 57.2	-0.9
OKFG					Sn	14 33 19.9	+1.6
MAPS	Pakushin South	2.34	40		Pn	14 33 06.5	-0.8
MAPS					Sn	14 33 36.5	+1.8
MGOD	Makushin Gods	2.36	41		Pn	14 33 07.0	-0.6
MGOD					Sn	14 33 36.1	+0.9
MSW	Makushin Switc	2.48	40		Pn	14 33 09.3	0.0
MNAT	Makushin Natee	2.50	41		Pn	14 33 09.3	-0.2
MNAT					Sn	14 33 41.5	+2.8
UNV	Unalaska Valle	2.55	43	P	Pn	14 33 09.5	-0.6
UNV				S	Sn	14 33 39.6	-0.2
	baz=224						
UNV	Unalaska Valle	2.55	43		Pn	14 33 09.4	-0.7
UNV					Sn	14 33 40.2	+0.5
MTBL	Makushin Table	2.56	40		Pn	14 33 10.4	0.0
KOFP	Korovin Flat P	2.87	277		Pn	14 33 14.4	-0.2
AKMO	Akutan Morgan	2.93	44		Pn	14 33 14.4	-0.9
ATKA	Atka Island	2.93	275	Pn	Pn	14 33 13.3	-1.9
AKRB	Akutan Reef Bi	2.93	43		Pn	14 33 15.3	0.0
KOKL	Mount Kliuchef	2.94	278	

PWL	Port Wells	14.58	44	Pn	Pn	14 35 52.2	-2.4
KNK	Knik Glacier	14.80	42	Pn	Pn	14 35 55.3	-2.1
CHUM	Lake Minchumin	14.89	31	P	Pn	14 35 58.2	-0.4
	baz=225						
SML	Sawmill	15.05	41	P	Pn	14 36 01.7	+1.0
	baz=239						
SML	Sawmill	15.05	41	Pn	Pn	14 36 00.1	-0.7
KTH	Kantishna Hill	15.12	33	Pn	Pn	14 35 58.5	-3.1
HIN	Hinchinbrook I	15.20	48	Pn	Pn	14 36 00.4	-2.2
TRF	Thorofare Moun	15.27	34	P	Pn	14 36 03.6	-0.1
	baz=230						
FID	Port Fidalgo	15.35	46	Pn	Pn	14 36 02.5	-2.2
BPAW	Bear Paw Mtn.	15.46	31	P	Pn	14 36 06.1	+0.1
	baz=227,SNR=18						
BPAW	Bear Paw Mtn.	15.46	31	P	P	14 36 08.9	-0.9
BPAW				IAmb	IAmb	14 36 10.7	
	comp=Z,15nm,1.0s						
SCM	Sheep Creek Mo	15.48	42		Pn	14 36 03.2	-3.1
SCM				IAmb	IAmb	14 36 20.7	
	comp=Z,19nm,1.2s						
WAT6	Susitna Watana	15.70	39	P	Pn	14 36 07.2	-2.0
	baz=237						
RND	Reindeer	15.75	36	Pn	Pn	14 36 08.6	-1.1
KLU	Klutina	15.91	44	P	Pn	14 36 09.1	-2.8
	baz=244						
KLU	Klutina	15.91	44	Pn	Pn	14 36 09.5	-2.4
KLU				IAmb	IAmb	14 36 33.8	
	comp=Z,10nm,1.0s						
I21K	Tanana	15.93	28	P	Pn	14 36 12.3	+0.3
	baz=222,SNR=13						
RAGM	Ragged Mountai	16.04	49	Pn	Pn	14 36 11.8	-1.7
RAGM				IAmb	IAmb	14 36 36.3	
	comp=Z,15nm,1.0s						
M24K	Tolsona, Glenn	16.09	42	P	Pn	14 36 12.8	-1.3
	baz=242						
M24K	Tolsona, Glenn	16.09	42	Pn	Pn	14 36 12.2	-1.8
M24K				IAmb	IAmb	14 36 28.3	
	comp=Z,14nm,0.9s						
MLY	Manley	16.19	29	P	Pn	14 36 14.5	-0.9
	baz=225,SNR=18						
HMT	Hamilton	16.21	49	Pn	Pn	14 36 14.4	-1.3
HMT				IAmb	IAmb	14 36 42.9	
	comp=Z,27nm,1.3s						
BMRM	Bremner River	16.28	47	P	Pn	14 36 14.2	-2.3
	baz=248						
BMRM	Bremner River	16.28	47	Pn	Pn	14 36 13.8	-2.7
BMRM				IAmb	IAmb	14 36 36.1	
	comp=Z,18nm,1.1s						
RDOG	Red Dog Mine	16.39	9	Pn	Pn	14 36 13.1	-4.7
NEA2	Nenana	16.42	32	Pn	Pn	14 36 14.9	-3.3
BERG	Berg Lake	16.49	49	Pn	Pn	14 36 18.4	-0.8
BERG				IAmb	IAmb	14 36 34.2	
	comp=Z,28nm,1.3s						
N25K	Chitina, Valde	16.54	45	P	Pn	14 36 17.4	-2.4
	baz=246						
N25K	Chitina, Valde	16.54	45	Pn	Pn	14 36 17.0	-2.8
N25K				IAmb	IAmb	14 36 46.4	
	comp=Z,7.5nm,1.1s						
HARP	HAARP	16.64	42	P	Pn	14 36 19.4	-1.7
	baz=242						
I23K	Minto, Yukon-K	16.69	30	P	Pn	14 36 20.9	-0.7
	baz=227						
I23K	Minto, Yukon-K	16.69	30	P	P	14 36 22.3	-1.0
I23K				IAmb	IAmb	14 36 45.1	
	comp=Z,12nm,1.1s						
PAX	Paxson	16.79	40	P	Pn	14 36 22.2	-0.8
	baz=240						
GLB	Gilahina Butte	16.82	46	Pn	Pn	14 36 20.6	-2.7
VRDI	Verde Repeater	16.90	47	Pn	Pn	14 36 22.4	-2.1
WAX	Waxell Ridge	16.91	50	P	P	14 36 27.5	+1.5
MDM	Murphy Dome	16.93	32	Pn	Pn	14 36 20.3	-4.3
H23K	Yukon River	17.10	28	P	Pn	14 36 25.8	-1.0
	baz=226,SNR=6.8						
MCARA	McCarthy VSAT	17.15	47	P	Pn	14 36 24.7	-2.6
	baz=249						
ISLE	Juniper Island	17.20	50	Pn	Pn	14 36 27.4	-0.8
ISLE				IAmb	IAmb	14 36 40.4	
	comp=Z,21nm,1.0s						
IL31		17.26	34	Pn	Pn	14 36 24.7	-3.9
ILAR	Eielson Array	17.26	34	P	Pn	14 36 26.6	-2.1
	comp=Z,0.3nm,0.3s,baz=231,slow=10.0,SNR=8.4						
YAH	Yahtse	17.41	51	P	P	14 36 32.1	+0.4
RIDG	Independent Ri	17.42	38	P	Pn	14 36 30.0	-0.7
	baz=239						
M26K	Nabesna, AK	17.55	43	P	Pn	14 36 31.4	-1.0
	baz=246						
H24K	Noodor Dome	17.61	30	P	Pn	14 36 32.7	-0.4
	baz=228,SNR=6.9						
BARN	Barnard Glacie	17.66	48	Pn	Pn	14 36 32.9	-1.0
BARN				IAmb	IAmb	14 36 55.2	
	comp=Z,8.6nm,1.0s						
L26K	Log Cabin Wild	17.67	41	P	Pn	14 36 31.8	-2.0
	baz=243						
DOT	Dot Lake	17.68	39	P	Pn	14 36 33.7	-0.2
TABL	Table Mountain	17.72	51	P	P	14 36 36.0	+1.0
TABL				IAmb	IAmb	14 36 50.7	
	comp=Z,23nm,1.0s						
CTG	Chitna Glacier	17.78	49	P	Pn	14 36 33.6	-1.7
	baz=252						
CTGM	Chitina Glacie	17.78	49	P	P	14 36 37.3	+1.6
CTGM				IAmb	IAmb	14 37 02.9	
	comp=Z,16nm,1.2s						
SCRK	Sand Creek	17.87	38	P	Pn	14 36 34.4	-2.0
	baz=240						
SCRK	Sand Creek	17.87	38		Pn	14 36 34.7	-1.7
COLD	Coldfoot	17.94	25	P	Pn	14 36 36.6	-0.5
	baz=221,SNR=5.9						
M27K	Edge Creek, AK	18.01	44	P	Pn	14 36 36.7	-1.4
	baz=247,SNR=6.2						
PCA	Pinnacle	18.06	52	P	Pn	14 36 39.3	+0.6
PCA				IAmb	IAmb	14 36 53.8	
	comp=Z,19nm,1.0s						
PRP	Porcupine Dome	18.17	33	P	P	14 36 37.8	-2.0
	baz=233						
PRP	Porcupine Dome	18.17	33		P	14 36 37.2	-2.6
L27K	Beaver Creek,	18.32	42	P	P	14 36 39.4	-1.9
	baz=246						
L27K	Beaver Creek,	18.32	42	P	P	14 36 39.5	-1.9
BCPM	Bancas Point	18.33	53		P	14 36 39.9	-1.7
BCPM				IAmb	IAmb	14 37 04.2	
	comp=Z,12nm,1.0s						
BCAR	Beaver Creek A	18.33	42	P	P	14 36 40.8	-0.8
TOLK	Toolik Lake Re	19.18	22	P	P	14 36 50.0	-0.7
	baz=220						
TOLK	Toolik Lake Re	19.18	22	P	P	14 36 47.8	-3.0
TOLK				IAmb	IAmb	14 37 05.4	
	comp=Z,8.4nm,1.2s						
EGAK	Eagle	19.34	38	P	P	14 36 51.8	-0.7
	baz=242						
EGAK	Eagle	19.34	38	P	P	14 36 52.2	-0.3
HYT	Haines Junctio	19.55	51		Pn	14 36 57.4	+0.7
BMAR	Burnt Mountain	19.65	29	P	P	14 36 54.9	-1.1
PEA0B	Petropavlovsk-	19.90	286		P	14 36 58.2	-0.5
PETK	Petropavlovsk-	19.90	286	P	P	14 36 57.7	-1.1
	comp=Z,2.0nm,0.3s,baz=90,slow=13,SNR=27						
PETK	Petropavlovsk-	19.90	286		P	14 36 57.5	-1.2
WHY	Whitehorse	20.79	52	P	P	14 37 08.4	0.0
	baz=261,SNR=5.3						
WHY	Whitehorse	20.79	52		Pn	14 37 09.6	-1.7
WHY				IAmb	IAmb	14 37 37.3	
	comp=Z,11nm,0.9s						
MA2	Magadan	23.29	305	P	P	14 37 33.8	-0.9
	comp=Z,4.2nm,0.6s,baz=118,slow=13,SNR=3.5						
MA2	Magadan	23.29	305	IAmb	IAmb	14 37 40.7	
	comp=Z,9.4nm,1.0s						
INK	Inuvik	23.66	33	P	P	14 37 37.6	-0.5
	comp=Z,2.0nm,0.5s,baz=238,slow=6.9,SNR=9.0						
INK	Inuvik	23.66	33	P	P	14 37 37.3	-0.8
	baz=244						
INK	Inuvik	23.66	33	P	P	14 37 37.4	-0.8
INK				IAmb	IAmb	14 37 48.7	
	comp=Z,7.0nm,1.1s						
YKA	Yellowknife Ar	30.50	48	P	P	14 38 40.6	+1.0
	comp=Z,2.1nm,0.9s,baz=276,slow=9.1,SNR=6.1						
YKA				LR	LR	14 53 19.4	
	comp=Z,198nm,19.0s,baz=0.0,slow=41						
YKA	Yellowknife Ar	30.50	48	P	P	14 38 41.5	+1.9
ASAJ	Asahikawa	32.48	275	LR	LR	14 52 35.3	
	comp=Z,76nm,20.2s,baz=80,slow=37						
TIXI	Tiksi	33.00	329	LR	LR	14 52 21.0	
	comp=Z,72nm,20.5s,baz=214,slow=36						
YBH	Yreka Blue Hor	33.04	89	LR	LR	14 48 19.3	
	comp=Z,36nm,20.0s,baz=301,slow=29						
YAK	Yakutsk	33.35	311	LR	LR	14 52 55.3	
	comp=Z,87nm,18.3s,baz=90,slow=37						
KLR	Kul'dur	36.52	290	P	P	14 39 29.1	-2.9
	comp=Z,1.3nm,0.4s,baz=38,slow=10,SNR=6.3						
KLR				LR	LR	14 55 47.5	
	comp=Z,107nm,18.7s,baz=66,slow=38						
NVAR	Mina Array Bea	37.71	90	LR	LR	14 52 28.3	
	comp=Z,52nm,19.5s,baz=284,slow=32						
ELK	Elko	38.21	85	LR	LR	14 52 36.3	
	comp=Z,68nm,18.4s,baz=284,slow=32						
H11S1	WAKE ISLAND Hy	38.34	218	T	T	15 21 09.1	
	baz=23,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	38.36	218	T	T	15 21 13.1	
	baz=23,slow=76,SNR=17						
H11S3	WAKE ISLAND Hy	38.36	218	T	T	15 21 02.6	
	baz=23,slow=76,SNR=17						
TPNV	Topopah Spring	39.91	91	P	P	14 40 06.0	+5.1
TPNV				IAmb	IAmb	14 40 18.0	
	comp=Z,2.3nm,1.1s						
PRN	Pahroc Range	40.36	89	P	P	14 40 06.6	+2.0
PRN				IAmb	IAmb	14 40 19.1	
	comp=Z,7.6nm,1.4s						
PDAR	Pinedale Array	40.52	79	P	P	14 40 06.9	+0.9
	comp=Z,0.8nm,0.8s,baz=291,slow=4.1,SNR=6.3						
PDAR				LR	LR	14 55 31.0	
	comp=Z,68nm,19.6s,baz=307,slow=34						
PDAR	Pinedale Array	40.52	79	P	P	14 40 07.4	+1.4
JCJ	Chichijima	43.76	254	LR	LR	14 55 52.0	
	comp=Z,46nm,20.9s,baz=70,slow=32						
ULM	Lac du Bonnet	44.35	62	LR	LR	15 00 39.1	
	comp=Z,80nm,18.5s,baz=92,slow=38						
NEEM	North Greenlan	45.33	16	*i* P	P	14 40 44.6	+0.1
NEEM				IAmb	IAmb	14 40 45.4	
	comp=Z,6.2nm,0.9s						
KSRS	Korea Array	45.39	277	P	P	14 40 45.4	+0.3
	comp=Z,1.7nm,0.6s,baz=54,slow=7.8,SNR=13						
ANMO	Albuquerque	47.25	85	LR	LR	15 00 45.0	
	comp=Z,87nm,18.5s,baz=301,slow=36						
DAG	Danmarks Havn	50.13	8	*i* P	P	14 41 20.8	-0.5
DAG				IAmb	IAmb	14 41 21.7	
	comp=Z,7.8nm,0.9s						
SUMG	Summit	51.12	17	*i* P	P	14 41 29.7	+0.4
SUMG				IAmb	IAmb	14 41 30.3	
	comp=Z,14nm,1.0s						
SONM	Songino Array	51.43	301	P	P	14 41 32.0	+0.3
	comp=Z,1.0nm,0.5s,baz=53,slow=7.9,SNR=9.4						
SONM				LR	LR	15 05 28.2	
	comp=Z,93nm,19.2s,baz=69,slow=39						
SONM	Songino Array	51.43	301	IAmb	IAmb	14 41 32.6	
	comp=Z,3.1nm,1.1s						
DBG	Daneborg	52.25	10	*i* P	P	14 41 36.8	-0.5
DBG				IAmb	IAmb	14 41 37.8	
	comp=Z,16nm,1.1s						
TXAR	Lajitas Array	52.81	89	P	P	14 41 43.0	+0.9
	comp=Z,1.0nm,0.8s,baz=291,slow=5.1,SNR=9.4						
HHC	Hu-ho-hao-te	52.99	291	*e*P	P	14 41 43.3	0.0
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,70nm,9.7s						
ICESG	Greenland Ices	53.70	20	*i* P	P	14 41 48.9	+0.5
SCHQ	Schefferville	55.72	43	LR	LR	15 06 44.2	
	comp=Z,83nm,21.4s,baz=346,slow=37						
SADO	Sadowa	56.67	58	LR	LR	15 08 34.6	
	comp=Z,38nm,18.8s,baz=290,slow=38						
ZALV	Zalesovo Beam	57.64	318	PcP	PcP	14 43 10.3	+1.3
	comp=Z,0.3nm,0.3s,baz=7.1,slow=3.6,SNR=3.6						
ZALV				LR	LR	15 10 48.4	
	comp=Z,41nm,18.4s,baz=36,slow=40						
ARCES	ARCESS Array B	58.25	354	LR	LR	15 06 31.1	
	comp=Z,50nm,22.0s,baz=325,slow=35						
TKL	Tuckaleechee C	60.38	69	LR	LR	15 09 13.1	
	comp=Z,49nm,20.0s,baz=323,slow=36						
WMQ	Urumqi	63.70	308	*e*P	P	14 42 58.8	+0.9
BRVK	Borovoye	63.96	325	P	P	14 42 58.4	-1.0
MK31	Makanchi Array	64.00	313	P	P	14 42 58.3	-1.4
MK31				IAmb	IAmb	14 43 19.4	
	comp=Z,1.4nm,1.1s						
MKAR	Makanchi Array	64.00	313	P	P	14 42 59.0	-0.8
	comp=Z,0.4nm,0.3s,baz=54,slow=6.2,SNR=8.8						
MKAR	Makanchi Array	64.00	313	P	P	14 42 58.2	-1.6
ARU	Arti	64.89	333	P	P	14 43 04.0	-1.4
FIA1	FINESS Array S	66.19	352	P	P	14 43 13.2	-0.4
FINES	FINESS Array B	66.19	352	P	P	14 43 13.6	-0.1
	comp=Z,4.1nm,0.8s,baz=28,slow=8.6,SNR=10						
FINES				LR	LR	15 12 07.4	
	comp=Z,30nm,21.9s,baz=26,slow=36						
FINES	FINESS Array B	66.19	352	P	P	14 43 13.0	-0.7
CMIG	Matias Romero	67.24	91	LR	LR	15 09 35.1	
	comp=Z,77nm,21.7s,baz=6.0,slow=33						
NB2	NORSAR Subarra	67.28	360	P	P	14 43 21.4	+0.7
	comp=Z,0.8nm,0.6s,baz=360,slow=6.2						
NOA	NORSAR Array B	67.28	360	P	P	14 43 21.0	+0.3
	comp=Z,1.7nm,0.9s,baz=2.4,slow=6.5,SNR=4.9						
ABKAR	Akbulak array	70.69	328	P	P	14 43 41.5	-0.5
KK31	Karatay Array	72.00	318	P	P	14 43 49.9	-0.2
KKAR	Karatay Array	72.00	318	P	P	14 43 49.1	-1.0
KKAR	Karatay Array	72.00	318	P	P	14 43 49.7	-0.4
KKAR				IAmb	IAmb	14 43 51.0	
	comp=Z,4.1nm,0.8s						
AKASG	Malin Array Be	76.42	348	P	P	14 44 15.4	-0.2
	comp=Z,1.0nm,0.3s,baz=10,slow=5.2,SNR=5.0						
AKASG	Malin Array Be	76.42	348	IAmb	IAmb	14 44 16.5	
	comp=Z,1.2nm,1.1s						
CMAR	Chiang Mai Arr	76.64	283	LR	LR	15 22 50.4	
	comp=Z,36nm,18.0s,baz=210,slow=40						
CMAR	Chiang Mai Arr	76.64	283	P	P	14 44 17.6	+0.3
BURAR	Bucovina Array	79.94	350	P	P	14 44 34.4	-0.8
BURAR				IAmb	IAmb	14 44 37.1	
	comp=Z,2.2nm,1.2s						
KBZ	Khabaz	80.60	337	P	P	14 44 40.3	+1.6
	comp=Z,3.1nm,1.0s,baz=349,slow=3.7,SNR=4.5						
GEYT	Alibeck	81.27	324	P	P	14 44 43.5	+1.0
	comp=Z,1.0nm,0.6s,baz=216,slow=15,SNR=4.1						
BRTR	Keskin Array B	86.43	342	LR	LR	15 29 36.2	
	comp=Z,31nm,18.1s,baz=58,slow=40						
ESDC	Sonseca Array	87.80	11	P	P	14 45 16.4	+1.0
	comp=Z,0.3nm,0.7s,baz=327,slow=4.5,SNR=4.5						
ESDC				LR	LR	15 28 53.4	
	comp=Z,35nm,18.1s,baz=295,slow=39						
ESDC	Sonseca Array	87.80	11	IAmb	IAmb	14 45 17.1	
	comp=Z,1.2nm,1.1s						
ASAR	Alice Springs	90.14	230	P	P	14 45 26.8	+0.3
	comp=Z,1.5nm,0.8s,baz=32,slow=4.3,SNR=13						

*IDC **29** 14:42:01.7±0.9, 52.°11N×169.°53W, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.1/60, mbtmp4.3/23, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/45, Error ellipse: s-maj=26.1km s-min=13.8km az=170.0*

*NEIC **29** 14:42:04.2±2.3, 51.°94N±0.°07×169.°42W±0.°08, h27km±4km, mb4.1/68, ML3.8/43(AEIC), Error ellipse: s-maj=9.9km s-min=6.6km az=168.0*

*AEIC **29** 14:42:05±2.3, 52.°00N±0.°06×169.°46W±0.°06, h46km±5km, Error ellipse: s-maj=9.1km s-min=4.7km az=199.0*

*ANF **29** 14:42:07.1±1.2, 52.°00N×169.°37W, h55km±7km, ML4.1/3, Error ellipse: s-maj=11.1km s-min=8.0km az=29.0*

ISC 29 14:42:04.9±0.6, 51.°96N±0.°07×169.°37W±0.°05, h30km, n205, σ1°23/202, mb4.4/39, MS4.0/4, 1D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	1.06	17	P	Pn	14 42 23.6	-0.2
	baz=201,SNR=144						
NIKH				S	Sb	14 42 38.9	+0.7
	baz=201						
NIKH	Nikolski High	1.06	17	Pn	Pn	14 42 23.5	-0.2
NIKH	Nikolski High	1.06	17		Sb	14 42 39.1	+0.9
OKSP	Okmok Steeple	1.45	27		Pn	14 42 29.2	+0.1
OKTU	Okmok Mt. Tuli	1.64	29		Pn	14 42 32.5	+0.8
OKFG	Magazine Ridge	1.70	31		Sb	14 42 56.2	-0.3
MAPS	Pakushin South	2.37	38		Pn	14 42 42.7	+1.0
MGOD	Makushin Gods	2.38	39		Pn	14 42 42.9	+1.0
MSW	Makushin Switc	2.51	38		Pn	14 42 45.0	+1.4
MNAT	Makushin Natee	2.52	39		Pn	14 42 45.4	+1.6
UNV	Unalaska Valle	2.57	41	P	Pn	14 42 45.7	+1.3
	baz=225,SNR=36						
UNV				S	Sn	14 43 16.5	+2.0
	baz=225						
UNV	Unalaska Valle	2.57	41		Pn	14 42 45.5	+1.2
UNV					Sn	14 43 16.8	+2.3
MTBL	Makushin Table	2.59	38		Pn	14 42 46.6	+1.9
KOFP	Korovin Flat P	2.93	278		Pn	14 42 50.0	+0.5
AKRB	Akutan Reef Bi	2.95	41		Pn	14 42 52.3	+2.7
AKBBA	Akutan Broad B	2.98	43		Pn	14 42 52.2	+2.1
ATKA	Atka Island	2.98	277	Pn	Pn	14 42 49.2	-0.9
KOKL	Mount Kliuchef	3.00	279		Pn	14 42 51.7	+1.4
AKGG	Akutan Green G	3.03	41		Pn	14 42 52.9	+2.2
AKUT	Akutan	3.08	44	Pn	Pn	14 42 53.7	+2.4
GSMY	Great Sitkin M	4.13	274		Pn	14 43 06.3	+0.4
GSTR	Great Sitkin T	4.13	274	Pn	Pn	14 43 05.4	-0.5
GSTD	Great Sitkin T	4.18	274		Pn	14 43 07.0	+0.3
GSSP	Great Sitkin S	4.20	274		Pn	14 43 07.3	+0.4
ADK	Adak	4.53	272	Pn	Pn	14 43 10.8	-0.4
FALS	False Pass	4.59	49	Pn	Pn	14 43 16.6	+4.4
KIRH	Kanaga Island	4.78	272		Pn	14 43 15.8	+1.0
KIWB	Kanaga Island	4.82	272	Pn	Pn	14 43 15.1	-0.2
KIKV	Kanaga Island	4.83	272		Pn	14 43 15.9	+0.5
KICM	Kanaga Island	4.84	273		Pn	14 43 16.2	+0.6
KIMD	Kanaga Island	4.88	271		Pn	14 43 16.5	+0.4
SPIA	Saint Paul Isl	5.25	355	P	Pn	14 43 23.4	+2.2
	baz=175						
TAFP	Tanaga Falls P	5.33	273		Pn	14 43 23.4	+1.1
TASE	Tanaga Southea	5.37	272		Pn	14 43 23.9	+1.0
GAEA	Gareloi East	5.81	272		Pn	14 43 30.4	+1.4
SDPT	Sand Point	6.28	54	P	Pn	14 43 37.1	+1.8
	baz=242						
CNBA	Chernabura Isl	6.52	60	Pn	Pn	14 43 39.8	+1.2
CHNA	Chernabura Isl	6.52	60	P	Pn	14 43 40.5	+1.9
	baz=248						
CERAA	Semis' Rag'd T	6.77	274		Pn	14 43 43.6	+1.6
CEAP	Semis' Anvil P	6.83	275		Pn	14 43 44.8	+1.9
CESW	Semis' Southwe	6.84	274		Pn	14 43 44.5	+1.4
AMKA	Amchitka	7.07	270	Pn	Pn	14 43 46.2	0.0
LSSE	Little Sitkin	7.46	275		Pn	14 43 53.2	+1.7
CHIR	Chirikof Islan	8.99	59	Pn	Pn	14 44 12.8	+0.2
OHAK	Old Harbor	10.71	54	Pn	Pn	14 44 35.7	-0.3
O18K	Koktuh Hills	11.19	40	P	Pn	14 44 43.4	+0.7
	baz=232						
KDAK	Kodiak Island	11.28	52	Pn	Pn	14 44 43.7	-0.1
	0.3nm,0.3s,baz=250,slow=9.1,SNR=12						
KDAK	Kodiak Island	11.28	52	P	Pn	14 44 44.3	+0.6
	baz=246						
KDAK	Kodiak Island	11.28	52	Pn	Pn	14 44 44.1	+0.3
RSO	Redoubt South	12.54	41	Pn	Pn	14 45 02.1	+0.9
CNPM	China Poot	12.69	46	Pn	Pn	14 45 03.4	+0.3
BRSE	Bradley Lake S	13.01	46	P	Pn	14 45 08.3	+0.8
	baz=242						
SEW	Seward	13.76	46	P	Pn	14 45 17.7	+0.1
	baz=243						
SEW	Seward	13.76	46	Pn	Pn	14 45 17.4	-0.1
O22K	Cooper Landing	13.82	44		Pn	14 45 18.4	0.0
RC01	Rabbit Creek A	14.12	42	P	Pn	14 45 23.6	+1.0
	baz=239						
RC01	Rabbit Creek A	14.12	42	Pn	Pn	14 45 22.1	-0.5
PPLA	Purkeypile	14.28	33	P	Pn	14 45 25.5	+0.6
	baz=228						
J20K	Nowinta River	14.60	27	P	Pn	14 45 29.3	+0.2
	baz=220						
PWL	Port Wells	14.60	44	Pn	Pn	14 45 27.4	-1.7
SML	Sawmill	15.07	41	Pn	Pn	14 45 35.9	+0.4
SML				IAmb	IAmb	14 45 57.5	
	comp=Z,7.6nm,1.1s						
KTH	Kantishna Hill	15.15	33	Pn	Pn	14 45 34.1	-2.4
KTH				IAmb	IAmb	14 45 51.5	
	comp=Z,9.6nm,1.0s						
HIN	Hinchinbrook I	15.21	47	Pn	Pn	14 45 36.8	-0.5
HIN				IAmb	IAmb	14 46 02.0	
	comp=Z,26nm,1.1s						
TRF	Thorofare Moun	15.30	34	P	P	14 45 42.8	-0.3
SCM	Sheep Creek Mo	15.50	42		Pn	14 45 40.0	-1.1
SCM				IAmb	IAmb	14 45 45.7	
	comp=Z,16nm,1.0s						
BPAW	Bear Paw Mtn.	15.50	31	P	Pn	14 45 41.0	-0.1
	baz=227,SNR=16						
BPAW	Bear Paw Mtn.	15.50	31	Pn	Pn	14 45 40.0	-1.0
BPAW				IAmb	IAmb	14 45 46.3	
	comp=Z,13nm,1.0s						
KLU	Klutina	15.93	44	P	Pn	14 45 45.0	-1.6
	baz=244,SNR=8.0						
KLU	Klutina	15.93	44		Pn	14 45 45.8	-0.9
KLU				IAmb	IAmb	14 46 03.0	
	comp=Z,6.9nm,0.8s						
I21K	Tanana	15.97	27	P	Pn	14 45 46.7	-0.3
	baz=222,SNR=9.3						
RAGM	Ragged Mountai	16.05	49		P	14 45 50.6	-0.7
RAGM				IAmb	IAmb	14 46 15.9	
	comp=Z,10.0nm,0.8s						
M24K	Tolsona, Glenn	16.11	42	P	Pn	14 45 48.3	-0.6
	baz=242						
M24K	Tolsona, Glenn	16.11	42	Pn	Pn	14 45 48.5	-0.4
M24K				IAmb	IAmb	14 46 10.7	
	comp=Z,11nm,0.8s						
IMAR	Indian Mountai	16.13	23	P	P	14 45 52.1	0.0
HMT	Hamilton	16.22	49	Pn	Pn	14 45 49.6	-0.7
HMT				IAmb	IAmb	14 45 56.8	
	comp=Z,28nm,1.2s						
MLY	Manley	16.23	29	P	Pn	14 45 50.1	-0.3
	baz=225,SNR=21						
MLY	Manley	16.23	29	Pn	Pn	14 45 49.0	-1.4
MLY				IAmb	IAmb	14 45 55.4	
	comp=Z,14nm,1.1s						
BMRM	Bremner River	16.29	47	P	Pn	14 45 50.4	-0.8
	baz=248						
BMRM	Bremner River	16.29	47	Pn	Pn	14 45 49.8	-1.4
BMRM				IAmb	IAmb	14 46 12.1	
	comp=Z,9.1nm,1.0s						
NEA2	Nenana	16.45	32	P	Pn	14

EGAK	**Eagle**	**19.36**	**38**	P	**P**	**14 46 27.4**	**-0.3**
	baz=242						
EGAK	**Eagle**	**19.36**	**38**	P	**P**	**14 46 26.2**	**-1.5**
EGAK				IAmb	IAmb	14 46 43.5	
	comp=Z,4.8nm,0.8s						
BMAR	**Burnt Mountain**	**19.69**	**29**	P	**P**	**14 46 31.4**	**0.0**
DAWY	**Dawson**	**19.74**	**41**	P	**P**	**14 46 30.4**	**-1.5**
PEA0B	**Petropavlovsk-**	**19.97**	**286**	P	**P**	**14 46 32.0**	**-2.5**
PETK	**Petropavlovsk-**	**19.97**	**286**	P	**P**	**14 46 33.6**	**-0.8**
	comp=Z,5.2nm,0.3s,baz=90,slow=12,SNR=212						
WHY	**Whitehorse**	**20.79**	**52**	P	**P**	**14 46 43.7**	**+0.3**
	baz=261,SNR=5.5						
EPYK	**Eagle Plains**	**21.73**	**36**	P	**P**	**14 46 53.0**	**-0.4**
	baz=245,SNR=10.0						
EPYK	**Eagle Plains**	**21.73**	**36**	P	**P**	**14 46 52.7**	**-0.7**
EPYK				IAmb	IAmb	14 47 06.6	
	comp=Z,11nm,0.8s						
MA2	**Magadan**	**23.37**	**305**	P	**P**	**14 47 10.6**	**0.0**
	comp=Z,12nm,0.9s,baz=54,slow=11,SNR=5.3						
MA2	**Magadan**	**23.37**	**305**	IAmb	IAmb	14 47 27.8	
	comp=Z,12nm,1.1s						
INK	**Inuvik**	**23.69**	**33**	P	**P**	**14 47 13.3**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=262,slow=6.0,SNR=11						
INK	**Inuvik**	**23.69**	**33**	P	**P**	**14 47 13.1**	**-0.4**
INK				IAmb	IAmb	14 47 15.0	
	comp=Z,3.9nm,0.6s						
YKA	**Yellowknife Ar**	**30.52**	**48**	P	**P**	**14 48 15.9**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=275,slow=10,SNR=5.7						
JKA	**Kamikawa-asahi**	**32.54**	**275**	P	**P**	**14 48 32.5**	**-0.4**
ASAJ	**Asahikawa**	**32.54**	**275**	P	**P**	**14 48 33.8**	**+0.8**
	comp=Z,11nm,0.9s,baz=55,slow=4.3,SNR=18						
YBH	**Yreka Blue Hor**	**32.99**	**89**	LR	LR	14 58 49.7	
	comp=Z,37nm,20.9s,baz=325,slow=30						
KLR	**Kul'dur**	**36.59**	**290**	P	**P**	**14 49 07.5**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=65,slow=5.9,SNR=13						
H11N2	**WAKE ISLAND Hy**	**37.13**	**219**	T	T	15 29 09.6	
	baz=24,slow=75,SNR=3.2						
H11N3	**WAKE ISLAND Hy**	**37.14**	**219**	T	T	15 29 47.9	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.15**	**219**	T	T	15 29 09.1	
	baz=24,slow=75,SNR=3.2						
BCYI	**Bear Canyon**	**37.30**	**79**	P	**P**	**14 49 10.9**	**-3.3**
H11S1	**WAKE ISLAND Hy**	**38.32**	**218**	T	T	15 30 39.5	
	baz=23,slow=76,SNR=33						
H11S2	**WAKE ISLAND Hy**	**38.33**	**218**	T	T	15 30 40.3	
	baz=23,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**38.34**	**218**	T	T	15 30 42.5	
	baz=23,slow=76,SNR=28						
JSD	**Sado**	**38.71**	**270**	P	**P**	**14 49 25.5**	**-0.4**
JSD				IAmb	IAmb	14 49 27.9	
	comp=Z,4.8nm,0.8s						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**14 49 43.1**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=324,slow=3.8,SNR=4.4						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**14 49 40.5**	**-0.4**
NEEM	**North Greenlan**	**45.38**	**16**	*i* P	**P**	**14 50 20.7**	**+0.5**
NEEM				IAmb	IAmb	14 50 21.5	
	comp=Z,5.8nm,0.8s						
KSRS	**Korea Array**	**45.45**	**277**	P	**P**	**14 50 21.6**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=57,slow=7.6,SNR=24						
JNU	**Nakatsue**	**46.46**	**270**	P	**P**	**14 50 28.1**	**-0.9**
ECSD	**EROS Data Cent**	**47.62**	**70**	P	**P**	**14 50 35.1**	**-2.8**
ECSD				IAmb	IAmb	14 50 51.0	
	comp=Z,6.3nm,1.1s						
DAG	**Danmarks Havn**	**50.20**	**8**	*i* P	**P**	**14 50 57.5**	**+0.4**
DAG				IAmb	IAmb	14 50 57.8	
	comp=Z,8.5nm,0.7s						
SUMG	**Summit**	**51.17**	**17**	*i* P	**P**	**14 51 05.9**	**+0.9**
SUMG				IAmb	IAmb	14 51 07.3	
	comp=Z,8.2nm,0.8s						
SUMG	**Summit**	**51.17**	**17**	P	**P**	**14 51 04.1**	**-1.0**
SONM	**Songino Array**	**51.51**	**301**	P	**P**	**14 51 07.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=44,slow=8.2,SNR=9.0						
SONM				PcP	**PcP**	**14 52 22.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=29,slow=3.3,SNR=2.1						
SONM	**Songino Array**	**51.51**	**301**	IAmb	IAmb	14 51 08.6	
	comp=Z,3.1nm,1.2s						
DBG	**Daneborg**	**52.31**	**10**	⇓*i* P	**P**	**14 51 13.3**	**+0.3**
DBG				IAmb	IAmb	14 51 13.9	
	comp=Z,9.4nm,0.6s						
TX31	**Lajitas Ar. Si**	**52.76**	**89**	P	**P**	**14 51 16.1**	**-1.0**
TX32	**Lajitas Array**	**52.76**	**89**	P	**P**	**14 51 15.7**	**-1.4**
TX32				IAmb	IAmb	14 51 32.3	
	comp=Z,7.1nm,1.3s						
TXAR	**Lajitas Array**	**52.76**	**89**	P	**P**	**14 51 18.9**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=299,slow=5.7,SNR=16						
HHC	**Hu-ho-hao-te**	**53.06**	**291**	*e*P	**P**	**14 51 19.5**	**+0.3**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,54nm,8.6s						
ICESG	**Greenland Ices**	**53.76**	**20**	*i* P	**P**	**14 51 24.7**	**+0.6**
ICESG				IAmb	IAmb	14 51 25.3	
	comp=Z,5.5nm,0.6s						
DY2G	**Dye2**	**54.28**	**24**	*i* P	**P**	**14 51 28.2**	**+0.3**
DY2G				IAmb	IAmb	14 51 30.9	
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**57.72**	**318**	P	**P**	**14 51 51.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=77,slow=5.1,SNR=5.2						
ZALV				PcP	**PcP**	**14 52 46.0**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=50,slow=3.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**57.72**	**318**	P	**P**	**14 51 51.4**	**-0.9**
ARCES	**ARCESS Array B**	**58.33**	**354**	P	**P**	**14 51 56.6**	**+0.2**
	comp=Z,5.2nm,0.9s,baz=12,slow=6.2,SNR=8.3						
ARCES	**ARCESS Array B**	**58.33**	**354**	P	**P**	**14 51 56.4**	**0.0**
ARCES				IAmb	IAmb	14 51 57.2	
	comp=Z,6.6nm,1.0s						
XAN	**Xi'an**	**59.21**	**287**	P	**P**	**14 52 03.0**	**-0.1**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,69nm,5.7s						
XAN				LR	LR		
	comp=N,140nm,15.5s						
XAN				LR	LR		
	comp=E,120nm,16.8s						
XAN				LR	LR		
	comp=Z,120nm,15.5s						
WMQ	**Urumqi**	**63.78**	**308**	*e*P	**P**	**14 52 35.0**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,72nm,3.7s						
BRVK	**Borovoye**	**64.05**	**325**	P	**P**	**14 52 34.6**	**-0.7**
MK31	**Makanchi Array**	**64.08**	**314**	P	**P**	**14 52 34.3**	**-1.4**
MK31				IAmb	IAmb	14 52 36.4	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**64.08**	**314**	P	**P**	**14 52 34.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=52,slow=6.9,SNR=17						
MKAR	**Makanchi Array**	**64.08**	**314**	P	**P**	**14 52 34.4**	**-1.3**
FIA1	**FINESS Array S**	**66.27**	**352**	P	**P**	**14 52 49.2**	**-0.4**
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**14 52 49.8**	**+0.2**
	comp=Z,5.8nm,0.7s,baz=19,slow=8.5,SNR=22						
FINES	**FINESS Array B**	**66.27**	**352**	P	**P**	**14 52 49.2**	**-0.4**
NC204	**NORSAR Array S**	**67.11**	**360**	P	**P**	**14 52 55.2**	**+0.2**
NC303	**NORSAR Array S**	**67.16**	**360**	P	**P**	**14 52 55.1**	**-0.2**
NC405	**NORSAR Array S**	**67.27**	**359**	P	**P**	**14 52 55.4**	**-0.7**
NB201	**NORSAR Array S**	**67.34**	**360**	P	**P**	**14 52 57.0**	**+0.6**
NB2	**NORSAR Subarra**	**67.35**	**360**	P	**P**	**14 52 56.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=0.3,slow=6.5						
NOA	**NORSAR Array B**	**67.35**	**360**	P	**P**	**14 52 57.3**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=0.3,slow=6.3,SNR=9.1						
BOOM	**Boomskoye usch**	**70.27**	**314**	P	**P**	**14 53 15.5**	**+0.3**
ABKAR	**Abkulak array**	**70.78**	**328**	P	**P**	**14 53 17.9**	**-0.1**
ABKAR	**Abkulak array**	**70.78**	**328**	P	**P**	**14 53 17.9**	**-0.1**
ABKAR				IAmb	IAmb	14 53 19.8	
	comp=Z,5.5nm,0.9s						
KK31	**Karatay Array**	**72.09**	**318**	P	**P**	**14 53 25.6**	**-0.5**
KKAR	**Karatay Array**	**72.09**	**318**	P	**P**	**14 53 24.9**	**-1.2**
MNK	**Minsk**	**72.94**	**350**	*i* P	**P**	**14 53 29.7**	**-1.0**
	comp=E,1.0nm,0.5s						
MNK				*i* P	**P**	**14 53 29.7**	**-1.0**
	comp=N,18nm,0.8s						
MNK				*i* P	**P**	**14 53 29.7**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=191						
MNK				*i* PcP	**PcP**	**14 53 47.7**	**0.0**
MNK				*i* PP	**PP**	**14 56 14.6**	**+2.1**
MNK				*i* PPP	PPP	14 57 47.8	
MNK				*i* S	**S**	**15 02 51.6**	**-3.4**
MNK				*i* SS	**SS**	**15 07 28.5**	**-5.8**
MNK				*i* SSS	SSS	15 10 56.6	
MNK				*i* LQ	LQ	15 19 43.1	
MNK				*i* LR	LR	15 22 46.4	
MNK				*i* LRM	MLR	15 28 39.5	
	comp=N,414nm,16.4s						
MNK				*i* LRM	MLR	15 28 41.8	
	comp=E,159nm,23.6s						
MNK				*i* LRM	MLR	15 29 29.1	
	comp=Z,186nm,17.7s						
CHGR	**Chuyangaron**	**76.36**	**317**	P	**P**	**14 53 49.4**	**-1.7**
AKASG	**Malin Array Be**	**76.51**	**348**	P	**P**	**14 53 51.6**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=14,slow=5.1,SNR=5.9						
AKASG	**Malin Array Be**	**76.51**	**348**	IAmb	IAmb	14 54 20.1	
	comp=Z,1.5nm,1.3s						
CMAR	**Chiang Mai Arr**	**76.71**	**283**	P	**P**	**14 53 54.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=33,slow=7.0,SNR=7.1						
CMAR	**Chiang Mai Arr**	**76.71**	**283**	P	**P**	**14 53 51.7**	**-1.5**
MORC	**Moravsky Berou**	**78.47**	**355**	P	**P**	**14 54 01.5**	**-1.1**
MORC				IAmb	IAmb	14 54 05.0	
	comp=Z,5.1nm,1.3s						
NIL	**Nilore**	**78.70**	**311**	P	**P**	**14 54 03.6**	**-0.6**
LANS	**Liptovska Anna**	**78.98**	**354**	*e*P	**P**	**14 54 08.0**	**+2.6**
KOLS	**Kolonicke sedl**	**78.99**	**352**	*e*P	**P**	**14 54 06.3**	**+0.8**
GERES	**GERESS Array B**	**79.54**	**358**	P	**P**	**14 54 09.6**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=15,slow=5.5,SNR=5.8						
GERES	**GERESS Array B**	**79.54**	**358**	P	**P**	**14 54 08.7**	**+0.1**
KBL	**Kabul**	**79.87**	**314**	P	**P**	**14 54 09.9**	**-0.8**
BUR08	**Bucovina Ar. S**	**79.99**	**350**	P	**P**	**14 54 10.4**	**-0.6**
BUR08				IAmb	IAmb	14 54 25.5	
	comp=Z,1.1nm,0.8s						
KBZ	**Khabaz**	**80.69**	**337**	P	**P**	**14 54 16.8**	**+2.1**
	comp=Z,1.9nm,0.7s,baz=156,slow=0.7,SNR=6.0						
GEYT	**Alibeck**	**81.36**	**324**	P	**P**	**14 54 19.4**	**+0.9**
	comp=Z,3.7nm,0.9s,baz=248,slow=7.8,SNR=5.2						
ESDC	**Sonseca Array**	**87.86**	**11**	P	**P**	**14 54 52.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=336,slow=5.6,SNR=4.8						
ASAR	**Alice Springs**	**90.13**	**230**	P	**P**	**14 55 02.9**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=36,slow=4.6,SNR=14						
EIL	**Elat**	**95.36**	**339**	LR	LR	15 45 06.8	
	comp=Z,23nm,18.1s,baz=48,slow=40						
H03N2	**Juan Fernandez**	**115.78**	**112**	T	T	17 07 05.4	
	baz=308,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**115.79**	**112**	T	T	17 07 07.7	
	baz=308,slow=77,SNR=18						
H03N3	**Juan Fernandez**	**115.79**	**112**	T	T	17 07 06.6	
	baz=308,slow=77,SNR=15						

IDC ***29*** *14:47:38.5±7.0, 2°.73S×138°.44E, h63km±68km, mb3.4/6, mb1 3.5/7, mb1mx3.3/27, mbtmp3.7/7, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/23, Error ellipse: s-maj=66.8km s-min=22.5km az=83.0*

NEIC ***29*** *14:47:39.3±1.5, 2°.74S±0°.08×138°.38E±0°.08, h68km±8km, mb4.4/21, Error ellipse: s-maj=16.0km s-min=3.7km az=223.0*

ISC 29 14:47:35.1±0.6,**2°.65S**±0°.08×**138°.53E**±0°.08,**h32**km,**n35**, σ1**°17**/35,**mb4.3**/12,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.28**	**267**	Pn	**Pn**	**14 49 06.8**	**+1.2**
SIJI	**Sorong**	**7.47**	**284**	P	**Pn**	**14 49 23.1**	**+1.2**
	14nm,0.3s,baz=215,slow=22,SNR=54						
SIJI				S	**Sn**	**14 50 43.2**	**-2.4**
	1.6nm,0.3s,baz=296,slow=23,SNR=2.4						
PMG	**Port Moresby**	**10.89**	**128**	LR	LR	14 55 59.0	
	comp=Z,68nm,19.9s,baz=333,slow=46						
MTN	**Manton Dam**	**12.49**	**215**	Pn	**Pn**	**14 50 32.8**	**+2.0**
SOEI	**Soe**	**15.83**	**243**	Pn	**Pn**	**14 51 15.3**	**-0.5**
SOEI				IAmb	IAmb	14 51 26.2	
	comp=Z,50nm,1.3s						
KNRA	**Kununurra**	**16.13**	**216**	Pn	**Pn**	**14 51 19.1**	**-0.4**
KNRA				IAmb	IAmb	14 51 31.9	
	comp=Z,28nm,1.2s						
BATI	**Baumata**	**16.56**	**242**	P	**P**	**14 51 30.2**	**+2.8**
	comp=Z,5.0nm,0.3s,baz=124,slow=3.3,SNR=6.7						
WB0	**Warramunga Arr**	**17.48**	**193**		**Pn**	**14 51 36.5**	**-0.1**
WR0	**Warramunga Arr**	**17.64**	**192**		**Pn**	**14 51 38.4**	**-0.1**
WR0				IAmb	IAmb	14 51 52.0	
	comp=Z,13nm,1.3s						
WRAB	**Tennant Creek**	**17.66**	**193**		**P**	**14 51 39.0**	**-0.4**
WRAB				IAmb	IAmb	14 52 07.2	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**17.66**	**193**		**P**	**14 51 39.4**	**-0.2**
WB2				IAmb	IAmb	14 51 55.9	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**17.67**	**193**	P	**P**	**14 51 39.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=16,slow=12,SNR=14						
WRA				S	Sn	14 54 42.6	-12
	comp=Z,0.2nm,0.3s,baz=9.3,slow=21,SNR=5.8						
AS31	**Alice Springs**	**21.36**	**192**	P	**P**	**14 52 20.0**	**0.0**
ASAR	**Alice Springs**	**21.37**	**192**	P	**P**	**14 52 19.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=6.7,slow=12,SNR=14						
LIFNC	**LIFOU**	**33.27**	**125**	P	**P**	**14 54 12.2**	**+2.3**
ONTNC	**Ouen Toro**	**33.41**	**128**	P	**P**	**14 54 09.5**	**-1.6**
XMIS	**Christmas Isla**	**33.55**	**255**	P	**P**	**14 54 10.7**	**-1.7**
JNU	**Nakatsue**	**36.31**	**349**	P	**P**	**14 54 37.1**	**+1.1**
JNU				IAmb	IAmb	14 55 00.5	
	comp=Z,12nm,1.3s						
JMN	**Monobe**	**36.45**	**353**	P	**P**	**14 54 37.8**	**+0.6**
JMN				IAmb	IAmb	14 54 49.0	
	comp=Z,13nm,1.2s						
JWT	**Wachi**	**37.85**	**356**	P	**P**	**14 54 49.4**	**+0.4**
JWT				IAmb	IAmb	14 54 50.2	
	comp=Z,3.8nm,0.7s						
MAJO	**Matsushiro**	**38.99**	**360**	P	**P**	**14 54 58.9**	**+0.3**
MAJO				IAmb	IAmb	14 54 59.3	
	comp=Z,8.2nm,1.4s						
JSD	**Sado**	**40.48**	**360**	P	**P**	**14 55 11.2**	**+0.3**
JSD				IAmb	IAmb	14 55 30.2	
	comp=Z,6.5nm,1.2s						
KSRS	**Korea Array**	**41.10**	**347**	P	**P**	**14 55 17.0**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=160,slow=12,SNR=4.4						
TUWZ	**Tuamarina**	**50.02**	**145**	P	**P**	**14 56 26.9**	**+0.3**
KLR	**Kul'dur**	**52.01**	**354**	P	**P**	**14 56 42.5**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=177,slow=6.7,SNR=9.3						
MCQ	**Macquarie Isla**	**54.31**	**165**	P	**P**	**14 56 56.4**	**-1.8**
PEA0B	**Petropavlovsk-**	**57.85**	**14**	P	**P**	**14 57 23.1**	**-0.4**
PEA0B				IAmb	IAmb	14 57 49.4	
	comp=Z,7.9nm,1.1s						
PETK	**Petropavlovsk-**	**57.85**	**14**	P	**P**	**14 57 24.4**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=206,slow=13,SNR=4.1						
PETK	**Petropavlovsk-**	**57.85**	**14**	P	**P**	**14 57 23.2**	**-0.3**
PET	**Petropavlovsk**	**58.00**	**14**	P	**P**	**14 57 24.6**	**+0.1**
MK31	**Makanchi Array**	**69.63**	**322**	P	**P**	**14 58 40.9**	**-0.6**
MKAR	**Makanchi Array**	**69.63**	**322**	P	**P**	**14 58 41.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=99,slow=7.5,SNR=5.0						
MAKZ	**Makanchi**	**69.83**	**322**	P	**P**	**14 58 42.4**	**-0.3**
KKAR	**Karatay Array**	**75.96**	**316**	P	**P**	**14 59 18.0**	**-1.1**
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**	**15 00 10.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=262,slow=4.7,SNR=4.7						

TAP 29 14:49:04.1,24°.15N×121°.82E,h20km,**ML1.1,D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.21**	**276**	P	Pb	14 49 09.8	0.0
	baz=276						
NACB				S	Sb	14 49 14.1	+0.2
	baz=276						
EWUT	**Wuta**	**0.30**	**352**	*e*P	Pb	14 49 11.2	+0.5
	baz=352						
EWUT				*e*S	Sb	14 49 16.6	+1.4
	baz=352						
ETLH	**Xiulin Townshi**	**0.32**	**280**	*e*P	Pb	14 49 11.5	+0.5
	baz=280						
NNSB	**Datong**	**0.49**	**305**	*e*P	Pb	14 49 14.6	+0.6
	baz=304						
NNSH	**Datong**	**0.49**	**305**	*e*P	Pb	14 49 14.2	+0.3
	baz=304						
NDS	**Dongshan**	**0.49**	**349**	*e*P	Pb	14 49 14.6	+0.7
	baz=348						
NDS				*e*S	Sb	14 49 22.1	+1.3
	baz=348						
FUSS	**Fushou**	**0.54**	**280**	*e*P	Pb	14 49 15.4	+0.4
	baz=280						
FUSS				*e*S	Sb	14 49 23.7	+1.3
	baz=280						
ENTT	**Nioudou**	**0.54**	**334**	*e*P	Pb	14 49 15.3	+0.4
	baz=334						
ENTT				*e*S	Sn	14 49 23.7	-1.4
	baz=334						
YHNB	**Yeheng**	**0.66**	**322**	*e*P	Pb	14 49 17.6	+0.6
	baz=321						
YHNB				*e*S	Sb	14 49 26.8	+1.0
	baz=321						
NSK	**Sanguang**	**0.67**	**321**	*e*P	Pb	14 49 17.5	+0.3
	baz=321						
NSK				*e*S	Sb	14 49 27.1	+1.0
	baz=321						

TAP 29 14:49:12.8,24°.03N×121°.56E,h10km±1km,**ML1.1,B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.07**	**137**	P	Pg	14 49 15.5	+0.6
	baz=133						
HWA				S	Sg	14 49 17.1	+0.7
	baz=133						
TWD	**Chiawan**	**0.07**	**33**	P	Pg	14 49 15.8	+0.9
	baz=37						
TWD				S	Sg	14 49 17.3	+0.9
	baz=37						
ETM	**Tongmen**	**0.08**	**225**	P	Pg	14 49 16.1	+1.0
	baz=224						
ETM				S	Sg	14 49 17.9	+1.1
	baz=224						
ETL	**Fush Village**	**0.15**	**24**	*e*P	Pg	14 49 17.0	+0.9
	baz=24						
ETL				*e*S	Sg	14 49 19.5	+1.1
	baz=24						
NACB	**Ninganchiao**	**0.15**	**13**	*e*P	Pg	14 49 17.2	+1.1
	baz=13						
NACB				*e*S	Sg	14 49 19.6	+1.1
	baz=13						
TEYL	**Yanliau Villag**	**0.16**	**166**	*e*P	Pg	14 49 16.6	+0.4
	baz=161						
TEYL				*e*S	Sg	14 49 19.4	+0.7
	baz=161						
ETLH	**Xiulin Townshi**	**0.19**	**339**	*e*P	Pg	14 49 17.3	+0.4
	baz=339						
ETLH				*e*S	Sg	14 49 21.9	+2.2
	baz=339						
ETLH	**Xiulin Townshi**	**0.19**	**339**	*e*S	Pg	14 49 17.0	+0.1
	baz=280						
ESL	**Shilin**	**0.24**	**208**	*e*P	Pg	14 49 18.3	+0.7
	baz=206						
ESL				*e*S	Sg	14 49 21.5	+0.6
	baz=206						
WHF	**Hehuan Shan**	**0.29**	**294**	*e*P	Pg	14 49 19.5	+0.7
	baz=294						
WHF				*e*S	Sg	14 49 23.3	+0.5
	baz=294						
CHGB	**Renai**	**0.35**	**276**	*e*P	Pb	14 49 21.0	-0.3
	baz=275						
CHGB				*e*S	Sb	14 49 26.0	-1.0
	baz=275						
NNSB	**Datong**	**0.43**	**338**	*e*P	Pb	14 49 22.3	-0.3
	baz=338						
NNSB				*e*S	Sb	14 49 29.0	-0.2
	baz=338						
NNSB	**Datong**	**0.43**	**338**	*e*S	Pb	14 49 22.1	-0.5
	baz=304						
NNSH	**Datong**	**0.43**	**338**	*e*P	Pb	14 49 22.2	-0.5
	baz=338						
NNSH				*e*S	Sb	14 49 29.1	-0.1
	baz=338						
NNSH	**Datong**	**0.43**	**338**	*e*S	Pb	14 49 22.2	-0.5
	baz=304						
NNS	**Nan Shan**	**0.45**	**338**	*e*S	Sb	14 49 29.6	0.0
	baz=338						

NEIC ***29*** *15:11:02.5±1.4, 19°.46N±0°.08×66°.29W±0°.04, h16km±12km, Error ellipse: s-maj=11.6km s-min=5.4km az=179.0*

RSPR ***29*** *15:11:03.6, 19°.61N×66°.31W, h18km±5km, MD3.3/5*

ISC 29 15:11:02.6±1.9,**19°.47N**±0°.07×**66°.27W**±0°.04,**h19**km±3km, **n37**,σ0**°67**/44,**8C-1D**,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**1.02**	**194**⇑	*e*P	**Pg**	**15 11 22.0**	**-0.5**
EMPR	**Esperanza - Ma**	**1.02**	**194**	*e*S	**Sg**	**15 11 36.3**	**+0.5**
EMPR	**Esperanza - Ma**	**1.02**	**194**		**Pg**	**15 11 21.9**	**-0.5**
EMPR					**Sg**	**15 11 37.3**	**+1.5**
EMPR				IAML		15 11 43.0	
	comp=N,452nm,0.8s						
EMPR				IAML		15 11 50.6	
	comp=E,431nm,1.0s						
GCPR	**Guaynabo City**	**1.17**	**171**		**Pn**	**15 11 23.2**	**-0.7**
GCPR				IAML		15 11 39.5	
	comp=E,194nm,0.8s						
GCPR				IAML		15 11 43.9	
	comp=N,240nm,0.8s						
AOPR	**Arecibo Observ**	**1.21**	**202**⇑	*e*P	**Pn**	**15 11 24.2**	**-0.4**
AOPR	**Arecibo Observ**	**1.21**	**202**	*e*S	**Sn**	**15 11 41.1**	**+0.8**
AOPR	**Arecibo Observ**	**1.21**	**202**		**Pn**	**15 11 24.0**	**-0.6**
AOPR					**Sn**	**15 11 41.3**	**+0.9**
CBYP	**Canovanas**	**1.25**	**162**		**Pn**	**15 11 25.2**	**-0.1**
CBYP				IAML		15 11 51.3	
	comp=E,331nm,0.2s						
SJG	**San Juan**	**1.35**	**175**		**Pn**	**15 11 26.3**	**-0.3**
SJG				IAML		15 11 45.9	
	comp=E,149nm,0.5s						
SJG				IAML		15 11 47.8	
	comp=E,147nm,0.6s						
HUMP	**Col San Antoni**	**1.38**	**163**⇑	*e*P	**Pn**	**15 11 26.7**	**-0.2**
HUMP	**Col San Antoni**	**1.38**	**163**	*e*S	**Sb**	**15 11 45.5**	**+0.5**
HUMP	**Col San Antoni**	**1.38**	**163**		**Pn**	**15 11 27.0**	**+0.1**
HUMP					**Sb**	**15 11 45.8**	**+0.7**
HUMP				IAML		15 11 48.1	
	comp=N,107nm,0.7s						
HUMP				IAML		15 11 51.5	
	comp=E,136

comp=Z,16nm,0.2s
NBB17 Glomfjord B¥r 0.26 47 eS Sg 15 17 34.9 -0.2
NBB17 IAML 15 17 36.5
comp=Z,34nm,0.1s
NBB14 Nordeng Farm 0.34 190 eP Pg 15 17 33.0 -0.4
NBB14 Nordeng Farm 0.34 190 eS Sg 15 17 37.7 -0.2
NBB14 IAML 15 17 38.3
comp=Z,9.6nm,0.3s
NBB30 Finnes 0.35 17 eP Pg 15 17 32.8 -0.7
NBB30 eS Sg 15 17 37.4 -0.7
NBB30 IAML 15 17 38.8
comp=Z,4.4nm,0.1s
STOK Stokkvaagen 0.36 211 eP Pg 15 17 33.3 -0.4
STOK eS Sg 15 17 38.5 +0.1
NBB05 Inndyr 0.45 28 eS Sg 15 17 41.0 -0.3
NBB05 IAML 15 17 42.5
comp=Z,15nm,0.1s
MOR8 Moi Rana 0.61 140 eP Pg 15 17 37.9 -0.6
MOR8 eS Sg 15 17 46.1 -0.3
MOR8 IAML 15 17 48.3
comp=Z,2.4nm,0.2s
NBB28 Valnes 0.68 35 eP Pg 15 17 38.8 -1.0
NBB28 eS Sg 15 17 47.8 -0.6
NBB28 IAML 15 17 49.4
comp=Z,2.5nm,0.6s
NBB03 Karbol 0.75 51 eP Pg 15 17 40.2 -0.9
NBB03 Karbol 0.75 51 eS Sg 15 17 49.6 -1.2
NBB03 IAML 15 17 51.0
comp=Z,2.9nm,0.2s
FAUS Fauske 1.03 43 eP Pg 15 17 44.5 -2.0
FAUS eS Sg 15 17 59.0 -0.8
FAUS IAML 15 18 00.9
comp=Z,1.8nm,0.5s
N2VA Vr¸y 1.07 344 eP Pg 15 17 45.8 -1.6
N2VA eS Sg 15 17 60.0 -1.2
N2VA IAML 15 18 02.4
comp=Z,3.4nm,0.7s
N2SV S¸rv¥gen 1.27 352 eP Pg 15 17 49.6 -1.5
N2SV eS Sg 15 18 06.2 -1.4
N2SV IAML 15 18 12.6
comp=Z,2.1nm,0.6s
N2NF Nordfold 1.31 30 eP Pn 15 17 50.0 -1.9
N2NF eS Sg 15 18 07.6 -1.4
N2NF IAML 15 18 09.9
comp=Z,1.2nm,0.8s
STEI Steigen 1.47 27 ePg Pn 15 17 53.1 -0.8
STEI eSg Sb 15 18 13.1 -0.3
STEI IAML 15 18 28.0
comp=Z,1.0nm,0.6s
N2LO L¸dingen 2.01 27 eSg Sb 15 18 28.7 -0.3
N2LO IAML 15 18 39.9
comp=Z,2.6nm,0.7s

DNK 29 15:18:10.2±0.5, 58.°05N×7.°85E, h6km±36km, ML1.3, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMB	**Homborsund**	**0.41**	**57**	*e*	Pg	15 18 15.6	-2.6
	baz=238,slow=18						
HOMB				*i* P	Pb	15 18 18.0	-1.8
HOMB				*i* S	Sg	15 18 23.2	-0.4
HOMB				IAML		15 18 26.9	
	comp=Z,12nm,0.4s						
SNART	**Snartemo**	**0.45**	**311**	eP	Pg	15 18 18.4	-0.5
SNART				eS	Sg	15 18 24.9	+0.3
SNART				IAML		15 18 29.1	
	comp=Z,11nm,0.4s						

NNC 29 15:23:05.5±2.9, 37.°88N×78.°20E, h0km, mb3.8, mpv3.5, 3C-4D, Error ellipse: s-maj=25.8km s-min=13.8km az=23.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**5.41**	**339**	⇓Pg	Pb	15 24 43.5	+2.4
	4.5nm,1.0s						
TKM2				⇓Lg	Lg	15 25 59.1	
	5.6nm,0.7s						
PDGK	**Podgornoye**	**5.53**	**10**	⇑Pg	Pg	15 24 47.4	-4.1
	5.3nm,0.8s						
AAK	**Ala-Archa**	**5.53**	**330**	⇑Pg	Pb	15 24 46.4	+3.4
	4.5nm,0.6s						
AAK				⇑Lg	Lg	15 26 00.5	
	15nm,1.1s						
MAKZ	**Makanchi**	**9.35**	**16**	⇓Pn	Pn	15 25 21.7	+0.2
	1.6nm,0.7s						
MK31	**Makanchi Array**	**9.41**	**17**	Pn	Pn	15 25 22.1	-0.2
	0.2nm,0.3s,baz=199,slow=12,SNR=21						
MK31				⇓Sn	Sn	15 27 08.6	-0.1
	1.8nm,0.5s,baz=202,slow=24,SNR=5.4						

BJI ***29*** *16:04:57.9±0.0, 52.°13N×169.°72W, h10km, mB5.2/61, mb5.4/85, Ms5.2/87, Ms7 5.1/82*
IDC ***29*** *16:05:01.0±2.7, 52.°16N×169.°53W, h16km±16km, mb5.1/43, mb1 5.2/45, mb1mx5.1/57, mbtmp5.2/45, ML4.5/2, MS4.7/24, Ms1 4.8/24, ms1mx4.6/40, Error ellipse: s-maj=13.9km s-min=9.7km az=173.0*
MOS ***29*** *16:05:00.5±1.1, 52.°13N×169.°52W, h25km, mb5.6/100, MS4.7/28, Error ellipse: s-maj=7.8km s-min=4.3km az=102.7*
NEIC ***29*** *16:05:02.4±2.0, 52.°05N±0.°05×169.°36W±0.°05, h29km±1km, mb5.3/507, Mwb5.2/70, ML4.9(AEIC), Error ellipse: s-maj=9.3km s-min=5.5km az=181.0*
AEIC ***29*** *16:05:02±2.5, 52.°04N±0.°06×169.°35W±0.°08, h48km±4km, Error ellipse: s-maj=8.4km s-min=6.8km az=162.0*
NEIC ***29*** *16:05:03.3, 52.°16N×169.°37W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr6.47; Mθθ-5.08; Mφφ-1.40; Mrθ4.37; Mφφ-3.21; Mφφ2.61; Fault plane solution: M0 8.43000×10^16 NP1:φ240.45000°, δ26.41000°, λ90.94000°. NP2:φ59.39000°, δ63.60000°, λ89.53000°. Principal axes: T 8.1853, Plg71.0000°, Azm328.0000°; N 0.4651, Plg0.0000°, Azm60.0000°; P -8.6504, Plg19.0000°, Azm150.0000°;*
GCMT ***29*** *16:05:04.4±0.1, 52.°00N±0.°01×169.°32W±0.°01, h17km, MW5.3/143, Moment Tensor Solution. s110,c188; s143,c266; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.93±.02; Mθθ-0.62±.01; Mφφ-0.30±.01; Mrθ0.77±.04; Mθφ-0.51±.01; Mφr0.22±.03; Best double couple: M0 1.25300×10^17 NP1:φ220.00000°, δ27.00000°, λ66.00000°. NP2:φ67.00000°, δ65.00000°, λ102.00000°. Principal axes: T 1.2460, Plg68.0000°, Azm359.0000°; N 0.0150, Plg11.0000°, Azm242.0000°; P -1.2600, Plg19.0000°, Azm148.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ANF ***29*** *16:05:07.8±1.1, 52.°33N×168.°97W, h58km±5km, ML5.2/4 Error ellipse: s-maj=10.6km s-min=5.0km az=55.0*
BGR ***29*** *16:05:13.0±0.0, 53.°72N×169.°52W, h31km, mb5.4, Ms4.6*
ISC 29 16:05:02.3±0.4, **52.°05N**±0.°04×**169.°32W**±0.°03, **h26**km±2km, **h27**km:**pP-P, n1399**,σ**1s39**/1310, **mb5.3**/463, **MS4.8**/81, **263C-129D, Fault plane solution: NP1:**φ81.14204°, δ68.83004°, λ106.07434°. **NP2:**φ222.55568°, δ26.35573°, λ54.43667°. **Principal axes:** T Plg62.7439°, Azm16.4517°; N Plg14.9632°, Azm255.2011°; P Plg22.2250°, Azm158.9318°; **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.97**	**17**	P	**Pn**	**16 05 19.2**	**-1.0**
	baz=196,SNR=1000						
NIKH				S	**Sn**	**16 05 33.3**	**+0.3**
	baz=196						
NIKH	**Nikolski High**	**0.97**	**17**		**Sn**	**16 05 34.6**	**+1.6**
NIKH	**Nikolski High**	**0.97**	**17**		**Pn**	**16 05 19.2**	**-1.0**
OKSP	**Okmok Steeple**	**1.36**	**27**		**Pn**	**16 05 24.8**	**-0.8**
OKSO	**Okmok South**	**1.49**	**28**		**Sb**	**16 05 48.2**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.55**	**30**		**Pn**	**16 05 28.0**	**-0.2**
OKER	**Okmok East Rim**	**1.60**	**28**		**Pn**	**16 05 29.1**	**+0.1**
OKRE	**Okmok R'deer P**	**1.63**	**25**		**Pn**	**16 05 29.6**	**+0.3**
MAPS	**Pakushin South**	**2.28**	**38**		**Pn**	**16 05 37.8**	**-0.3**
MAPS					**Sn**	**16 06 06.1**	**+0.8**
MGOD	**Makushin Gods**	**2.29**	**39**		**Pn**	**16 05 38.0**	**-0.4**
MGOD					**Sn**	**16 06 06.8**	**+1.1**
MSW	**Makushin Switc**	**2.42**	**38**		**Pn**	**16 05 40.5**	**+0.4**
MSW					**Sn**	**16 06 10.7**	**+1.8**
MNAT	**Makushin Natee**	**2.43**	**40**		**Pn**	**16 05 40.3**	**0.0**
MNAT					**Sn**	**16 06 10.7**	**+1.5**
UNV	**Unalaska Valle**	**2.48**	**42**	P	**Pn**	**16 05 40.9**	**0.0**
	baz=224,SNR=382						
UNV				S	**Sn**	**16 06 11.3**	**+1.1**
	baz=224						
UNV	**Unalaska Valle**	**2.48**	**42**		**Pn**	**16 05 40.9**	**0.0**
UNV					**Sn**	**16 06 11.6**	**+1.3**
MTBL	**Makushin Table**	**2.50**	**39**		**Pn**	**16 05 41.9**	**+0.6**
AKMO	**Akutan Morgan**	**2.86**	**43**		**Pn**	**16 05 47.2**	**+1.1**
AKMO					**Sn**	**16 06 22.5**	**+2.8**
AKRB	**Akutan Reef Bi**	**2.86**	**42**		**Pn**	**16 05 47.4**	**+1.2**
ZRO	**Akutan Zero**	**2.87**	**43**		**Pn**	**16 05 47.4**	**+1.0**
AKBBA	**Akutan Broad B**	**2.90**	**44**		**Pn**	**16 05 47.8**	**+1.1**
KOSE	**Korovin Southe**	**2.92**	**278**		**Pn**	**16 05 47.7**	**+0.6**
AKLV	**Akutan Long Va**	**2.93**	**42**		**Pn**	**16 05 48.4**	**+1.2**
AKGG	**Akutan Green G**	**2.94**	**42**		**Pn**	**16 05 48.9**	**+1.6**
KOFP	**Korovin Flat P**	**2.95**	**276**		**Pn**	**16 05 47.8**	**+0.3**
AKUT	**Akutan**	**2.99**	**44**		**Pn**	**16 05 48.5**	**+0.6**
ATKA	**Atka Island**	**3.01**	**275**		**Pn**	**16 05 47.4**	**-0.8**
KOKL	**Mount Kliuchef**	**3.02**	**277**		**Pn**	**16 05 48.8**	**+0.4**
AKSA	**Akutan Strait**	**3.02**	**45**		**Pn**	**16 05 49.0**	**+0.6**
WESP	**Westdahl Peak**	**3.69**	**47**		**Pn**	**16 05 59.0**	**+1.4**
WEBT	**Westdahl Beart**	**3.74**	**45**		**Pn**	**16 05 59.5**	**+1.2**
SSBA	**Shishaldin**	**4.14**	**47**		**Pn**	**16 06 04.5**	**+0.8**
GSMY	**Great Sitkin M**	**4.16**	**273**		**Pn**	**16 06 03.6**	**-0.4**
GSTR	**Great Sitkin T**	**4.16**	**273**		**Pn**	**16 06 03.6**	**-0.4**
GSTD	**Great Sitkin T**	**4.21**	**273**		**Pn**	**16 06 04.5**	**-0.3**
GSSP	**Great Sitkin S**	**4.23**	**273**		**Pn**	**16 06 05.5**	**+0.5**
ISLZ	**Isanotski Laza**	**4.30**	**49**		**Pn**	**16 06 07.3**	**+1.4**
FALS	**False Pass**	**4.51**	**49**	P	**Pn**	**16 06 09.5**	**+0.7**
	baz=233						
FALS				S	**Sn**	**16 07 02.5**	**+2.2**
	baz=233						
FALS	**False Pass**	**4.51**	**49**		**Pn**	**16 06 09.3**	**+0.5**
ADK	**Adak**	**4.56**	**271**	P	**Pn**	**16 06 08.8**	**-0.6**
ADK	**Adak**	**4.56**	**271**	Pn	**Pn**	**16 06 08.8**	**-0.6**
KIWB	**Kanaga Island**	**4.85**	**271**		**Pn**	**16 06 12.9**	**-0.6**
KIKV	**Kanaga Island**	**4.86**	**271**		**Pn**	**16 06 13.9**	**+0.3**
KICM	**Kanaga Island**	**4.87**	**272**		**Pn**	**16 06 14.3**	**+0.5**
KIMD	**Kanaga Island**	**4.91**	**270**		**Pn**	**16 06 14.0**	**-0.3**
SPIA	**Saint Paul Isl**	**5.17**	**354**	P	**Pn**	**16 06 19.9**	**+2.1**
	baz=174,SNR=93						
SPIA	**Saint Paul Isl**	**5.17**	**354**	Pn	**Pn**	**16 06 18.7**	**+0.9**
DT1	**Dutton Round H**	**5.19**	**51**		**Pn**	**16 06 19.6**	**+1.4**
TAFP	**Tanaga Falls P**	**5.36**	**272**		**Pn**	**16 06 20.8**	**+0.4**
TASE	**Tanaga Southea**	**5.40**	**271**		**Pn**	**16 06 21.8**	**+0.8**
GAEA	**Gareloi East**	**5.84**	**271**		**Pn**	**16 06 28.2**	**+1.1**
SDPT	**Sand Point**	**6.21**	**54**	P	**Pn**	**16 06 32.7**	**+0.6**
	baz=241,SNR=13						
SDPT				S	**Sn**	**16 07 40.8**	**-1.2**
	baz=241						
SDPT	**Sand Point**	**6.21**	**54**		**Pn**	**16 06 32.1**	**+0.1**
CNBA	**Chernabura Isl**	**6.44**	**61**	Pn	**Pn**	**16 06 34.8**	**-0.6**
CHNA	**Chernabura Isl**	**6.45**	**61**	P	**Pn**	**16 06 34.8**	**-0.5**
	baz=248,SNR=21						
CHNA				S	**Sn**	**16 07 45.6**	**-2.4**
	baz=248						
CERAA	**Semis' Rag'd T**	**6.79**	**273**		**Pn**	**16 06 41.0**	**+0.8**
CESW	**Semis' Southwe**	**6.87**	**273**		**Pn**	**16 06 42.0**	**+0.8**
AMKA	**Amchitka**	**7.10**	**269**	Pn	**Pn**	**16 06 44.2**	**-0.1**
VNFG	**Fog Glacier, M**	**7.13**	**50**		**Pn**	**16 06 47.2**	**+2.3**
VNSG	**Veniaminof 6**	**7.27**	**52**		**Pn**	**16 06 48.5**	**+1.7**
VNHG	**Veniaminof 1**	**7.28**	**51**		**Pn**	**16 06 48.7**	**+1.8**
LSPA	**Little Sitkin**	**7.48**	**274**		**Pn**	**16 06 50.7**	**+1.2**
LSNW	**Little Sitkin**	**7.51**	**274**		**Pn**	**16 06 51.8**	**+1.9**
LSSA	**Little Sitkin**	**7.51**	**274**		**Pn**	**16 06 51.4**	**+1.3**
CHIR	**Chirikof Islan**	**8.92**	**60**	P	**Pn**	**16 07 09.9**	**+0.6**
	baz=250						
CHIR				S	**Sn**	**16 08 44.0**	**-4.8**
	baz=250						
CHIR	**Chirikof Islan**	**8.92**	**60**	Pn	**Pn**	**16 07 09.2**	**-0.1**
SII	**Sitkinak Islan**	**9.93**	**57**	P	**Pn**	**16 07 23.1**	**0.0**
	baz=249,SNR=9.3						
SII				S	**Sn**	**16 09 10.9**	**-2.7**
	baz=249						
SII	**Sitkinak Islan**	**9.93**	**57**	Pn	**Pn**	**16 07 22.5**	**-0.6**
ANCK	**Angle Creek**	**10.02**	**47**		**Pn**	**16 07 25.9**	**+1.4**
OHAK	**Old Harbor**	**10.63**	**55**	P	**Pn**	**16 07 30.9**	**-1.8**
	baz=247,SNR=9.4						
OHAK				S	**Sn**	**16 09 25.5**	**-5.2**
	baz=247						
OHAK	**Old Harbor**	**10.63**	**55**	Pn	**Pn**	**16 07 31.0**	**-1.6**
O18K	**Koktuh Hills**	**11.10**	**40**	P	**Pn**	**16 07 40.4**	**+1.3**
	baz=231,SNR=79						
KDAK	**Kodiak Island**	**11.20**	**53**	Pn	**Pn**	**16 07 38.4**	**-2.0**
	5.5nm,0.3s,baz=256,slow=8.7,SNR=72						
KDAK				Sn	**Sn**	**16 09 37.8**	**-6.8**
	4.1nm,0.3s,baz=338,slow=23,SNR=7.4						
KDAK	**Kodiak Island**	**11.20**	**53**	*i* P	**Pn**	**16 07 38.8**	**-1.6**
KDAK	**Kodiak Island**	**11.20**	**53**	P	**Pn**	**16 07 39.0**	**-1.4**
	baz=246						
KDAK	**Kodiak Island**	**11.20**	**53**	Pn	**Pn**	**16 07 38.6**	**-1.8**
N18K	**Kilae Creek**	**11.39**	**35**	P	**Pn**	**16 07 44.1**	**+1.0**
	baz=226,SNR=12						
O19K	**Port Alsworth**	**11.67**	**40**	P	**Pn**	**16 07 47.7**	**+0.9**
	baz=232,SNR=14						
SVW2	**Sparrevohn**	**11.79**	**34**	Pn	**Pn**	**16 07 48.9**	**+0.3**
P19K	**Oil Pt**	**11.80**	**43**	P	**Pn**	**16 07 48.2**	**-0.4**
	baz=237,SNR=6.0						
GAMB	**Gambell**	**11.83**	**355**	P	**Pn**	**16 07 49.6**	**+0.6**
	baz=173						
GAMB	**Gambell**	**11.83**	**355**	Pn	**Pn**	**16 07 49.0**	**+0.1**
N19K	**Bonanza Creek**	**11.99**	**37**	P	**Pn**	**16 07 52.8**	**+1.4**
	baz=229,SNR=22						
O20K	**Slope Mountain**	**12.29**	**43**	P	**Pn**	**16 07 55.9**	**+0.5**
	baz=236,SNR=10						
RSO	**Redoubt South**	**12.45**	**41**	Pn	**Pn**	**16 07 58.7**	**+0.9**
HOM	**Homer**	**12.49**	**45**	P	**Pn**	**16 07 58.9**	**+0.9**
	baz=240						
CNPM	**China Poot**	**12.60**	**46**	Pn	**Pn**	**16 07 59.0**	**-0.6**
ANM	**Nome**	**12.72**	**8**	P	**Pn**	**16 08 01.0**	**-0.2**
	baz=191						
M19K	**Big River Lodg**	**12.76**	**34**	P	**Pn**	**16 08 02.4**	**+0.6**
	baz=226,SNR=37						
L19K	**White Mountain**	**12.80**	**32**	P	**Pn**	**16 08 03.7**	**+1.3**
	baz=224,SNR=23						
BRLK	**Bradley Lake**	**12.87**	**46**	Pn	**Pn**	**16 08 03.4**	**0.0**
BRSE	**Bradley Lake S**	**12.93**	**46**	P	**Pn**	**16 08 02.8**	**-1.3**
	baz=241,SNR=8.7						
SPCR	**Spurr Chakacha**	**13.10**	**39**	P	**Pn**	**16 08 06.2**	**-0.3**
	baz=233						
TNA	**Tin City**	**13.57**	**2**	Pn	**Pn**	**16 08 16.1**	**+3.4**
SEW	**Seward**	**13.67**	**46**	P	**Pn**	**16 08 12.3**	**-1.8**
	baz=242,SNR=22						
SEW	**Seward**	**13.67**	**46**	Pn	**Pn**	**16 08 13.3**	**-0.9**
O22K	**Cooper Landing**	**13.73**	**44**	P	**Pn**	**16 08 12.8**	**-2.2**
	baz=241,SNR=50						
O22K	**Cooper Landing**	**13.73**	**44**	Pn	**Pn**	**16 08 13.5**	**-1.5**
SUA	**Susitna One**	**13.83**	**40**	P	**Pn**	**16 08 15.5**	**-1.0**
	baz=235,SNR=16						
SUA	**Susitna One**	**13.83**	**40**		**Pn**	**16 08 16.6**	**+0.2**
SKT	**Skwentna**	**13.84**	**37**	P	**Pn**	**16 08 16.5**	**+0.1**
	baz=232,SNR=23						
SKT	**Skwentna**	**13.84**	**37**	Pn	**Pn**	**16 08 17.8**	**+1.3**
K20K	**Telida**	**13.91**	**30**	P	**Pn**	**16 08 17.4**	**-0.1**
	baz=222,SNR=16						
RC01	**Rabbit Creek A**	**14.03**	**42**	P	**Pn**	**16 08 17.1**	**-2.0**
	baz=238						
RC01	**Rabbit Creek A**	**14.03**	**42**		**Pn**	**16 08 17.9**	**-1.2**
PPLA	**Purkeypile**	**14.19**	**33**	P	**Pn**	**16 08 21.4**	**0.0**
	baz=229,SNR=16						
PPLA	**Purkeypile**	**14.19**	**33**		**Pn**	**16 08 24.5**	**+3.1**
J20K	**Nowinta River**	**14.51**	**27**	P	**Pn**	**16 08 25.5**	**0.0**
	baz=220,SNR=25						
PWL	**Port Wells**	**14.51**	**44**	Pn	**Pn**	**16 08 22.8**	**-2.9**
KNK	**Knik Glacier**	**14.73**	**42**	P	**Pn**	**16 08 26.6**	**-2.0**
	baz=240,SNR=14						
KNK	**Knik Glacier**	**14.73**	**42**		**Pn**	**16 08 27.5**	**-1.1**
CHUM	**Lake Minchumin**	**14.83**	**30**	P	**Pn**	**16 08 29.8**	**-0.2**
	baz=225,SNR=23						
Q23K	**Middleton Isla**	**14.84**	**51**	P	**Pn**	**16 08 29.2**	**-0.9**
	baz=250						
Q23K	**Middleton Isla**	**14.84**	**51**		**Pn**	**16 08 27.5**	**-2.6**
MID	**Middleton Isla**	**14.85**	**51**	P	**Pn**	**16 08 27.1**	**-3.0**
MID	**Middleton Isla**	**14.85**	**51**	Pn	**Pn**	**16 08 27.1**	**-3.0**
SML	**Sawmill**	**14.98**	**41**	P	**Pn**	**16 08 29.0**	**-3.1**
	baz=239,SNR=12						
SML	**Sawmill**	**14.98**	**41**		**Pn**	**16 08 29.9**	**-2.2**
KTH	**Kantishna Hill**	**15.06**	**33**	Pn	**Pn**	**16 08 33.9**	**+0.8**
GLI	**Glacier Island**	**15.06**	**45**	P	**Pn**	**16 08 30.3**	**-2.8**
	baz=244						
HIN	**Hinchinbrook I**	**15.13**	**48**	IAmb	IAmb	16 08 43.2	
	comp=Z,103nm,0.8s						
TRF	**Thorofare Moun**	**15.21**	**34**	P	**Pn**	**16 08 34.4**	**-0.7**
	baz=230,SNR=27						
BPAW	**Bear Paw Mtn.**	**15.41**	**31**	P	**Pn**	**16 08 35.2**	**-2.4**
	baz=227,SNR=233						
BPAW	**Bear Paw Mtn.**	**15.41**	**31**		**Pn**	**16 08 39.1**	**+1.5**
BPAW				IAmb	IAmb	16 08 43.3	
	comp=Z,164nm,0.8s						
SCM	**Sheep Creek Mo**	**15.41**	**42**	IAmb	IAmb	16 08 49.7	
	comp=Z,149nm,0.6s						
WAT1	**Susitna Watana**	**15.46**	**38**	P	**Pn**	**16 08 36.5**	**-1.8**
	baz=235						
EYAK	**Cordova Ski Ar**	**15.53**	**48**	P	**Pn**	**16 08 36.6**	**-2.5**
	baz=247,SNR=14						
WAT6	**Susitna Watana**	**15.63**	**39**	P	**Pn**	**16 08 38.6**	**-2.0**
	baz=237,SNR=35						
KLU	**Klutina**	**15.84**	**44**	P	**Pn**	**16 08 39.4**	**-3.9**
	baz=244,SNR=110						
KLU	**Klutina**	**15.84**	**44**	IAmb	IAmb	16 08 54.1	
	comp=Z,166nm,0.6s						
MCK	**McKinley**	**15.86**	**35**	P	**Pn**	**16 08 41.6**	**-1.9**
	baz=232,SNR=8.5						
I21K	**Tanana**	**15.88**	**27**	P	**Pn**	**16 08 42.1**	**-1.5**
	baz=222,SNR=101						
KAIM	**Kayak Island**	**15.93**	**51**	Pn	**Pn**	**16 08 44.0**	**-0.4**
KAIM				IAmb	IAmb	16 09 07.3	
	comp=Z,113nm,0.8s						
BWN	**Browne**	**15.95**	**33**	IAmb	IAmb	16 09 02.7	
	comp=Z,152nm,1.0s						
RAGM	**Ragged Mountai**	**15.96**	**49**	IAmb	IAmb	16 08 53.8	
	comp=Z,111nm,0.8s						
M24K	**Tolsona, Glenn**	**16.02**	**42**	P	**Pn**	**16 08 43.5**	**-2.0**
	baz=241,SNR=37						
M24K	**Tolsona, Glenn**	**16.02**	**42**	IAmb	IAmb	16 08 56.6	
	comp=Z,181nm,0.9s						
IMAR	**Indian Mountai**	**16.03**	**23**	P	**Pn**	**16 08 47.2**	**+1.6**
MLY	**Manley**	**16.13**	**29**	P	**Pn**	**16 08 46.3**	**-0.7**
	baz=225,SNR=273						
MLY	**Manley**	**16.13**	**29**	P	**Pn**	**16 08 47.9**	**+0.9**
HMT	**Hamilton**	**16.14**	**49**	IAmb	IAmb	16 09 06.5	
	comp=Z,122nm,0.8s						
BMRM	**Bremner River**	**16.21**	**47**	P	**Pn**	**16 08 45.1**	**-2.9**
	baz=248,SNR=40						
BMRM	**Bremner River**	**16.21**	**47**	IAmb	IAmb	16 09 09.9	
	comp=Z,146nm,0.9s						
RDOG	**Red Dog Mine**	**16.36**	**9**	P	**Pn**	**16 08 47.8**	**-2.0**
	baz=194						
NEA2	**Nenana**	**16.36**	**32**	P	**Pn**	**16 08 48.4**	**-1.4**
	baz=229,SNR=23						
N25K	**Chitina, Valde**	**16.47**	**45**	P	**Pn**	**16 08 48.6**	**-2.7**
	baz=246,SNR=58						
HARP	**HAARP**	**16.58**	**42**	P	**Pn**	**16 08 50.5**	**-2.1**
	baz=242,SNR=26						
WRH	**Wood River Hil**	**16.61**	**33**	P	**Pn**	**16 08 50.1**	**-2.8**
I23K	**Minto, Yukon-K**	**16.64**	**30**	P	**Pn**	**16 08 51.3**	**-2.0**
	baz=227,SNR=120						
PAX	**Paxson**	**16.73**	**40**	P	**Pn**	**16 08 53.2**	**-1.3**
	baz=240,SNR=22						
CRQE	**Cirque**	**16.82**	**49**	P	**Pn**	**16 08 53.9**	**-1.9**
	baz=250,SNR=23						
WAX	**Waxell Ridge**	**16.84**	**50**	IAmb	IAmb	16 09 19.9	
	comp=Z,289nm,0.8s						
MDM	**Murphy Dome**	**16.87**	**32**		**Pn**	**16 08 55.3**	**-1.0**
COLA	**College**	**16.94**	**32**	*i* P	**Pn**	**16 08 56.1**	**-1.0**
COLA	**College**	**16.94**	**32**		**Pn**	**16 08 55.9**	**-1.2**
TGL	**Tana Glacier**	**16.95**	**49**	IAmb	IAmb	16 09 19.9	
	comp=Z,159nm,1.0s						
HDA	**Harding Lake**	**16.96**	**35**	P	**Pn**	**16 08 55.2**	**-2.3**
	baz=234						
HDA	**Harding Lake**	**16.96**	**35**		**Pn**	**16 08 54.6**	**-2.8**
H23K	**Yukon River**	**17.05**	**28**	P	**Pn**	**16 08 57.7**	**-0.8**
	baz=225,SNR=70						
MCARA	**McCarthy VSAT**	**17.08**	**47**	P	**Pn**	**16 08 56.7**	**-2.1**
	baz=248,SNR=22						
MCARA	**McCarthy VSAT**	**17.08**	**47**	IAmb	IAmb	16 09 13.6	
	comp=Z,163nm,0.8s						
MESA	**MESA**	**17.19**	**51**	P	**Pn**	**16 08 59.7**	**-0.8**
	baz=254,SNR=15						
MESA	**MESA**	**17.19**	**51**	IAmb	IAmb	16 09 21.8	
	comp=Z,264nm,1.0s						
ILAR	**Eielson Array**	**17.20**	**34**	P	**Pn**	**16 08 58.4**	**-2.1**
	comp=Z,0.9nm,0.3s,baz=238,slow=11,SNR=43						
ILAR	**Eielson Array**	**17.20**	**34**	P	**Pn**	**16 08 58.5**	**-1.9**
ILAR	**Eielson Array**	**17.20**	**34**		**Pn**	**16 08 58.5**	**-1.9**
POKR	**Poker Plat Res**	**17.23**	**32**	P	**Pn**	**16 08 57.2**	**-3.6**
	baz=231						
YAH	**Yahtse**	**17.34**	**51**	IAmb	IAmb	16 09 07.6	
	comp=Z,240nm,0.9s						
RIDG	**Independent Ri**	**17.36**	**38**	P	**Pn**	**16 09 01.2**	**-1.2**
	baz=239,SNR=34						
RIDG	**Independent Ri**	**17.36**	**38**	Pn	**Pn**	**16 09 01.6**	**-0.8**
M26K	**Nabesna, AK**	**17.48**	**43**	P	**Pn**	**16 09 03.0**	**-0.9**
	baz=246,SNR=66						
H24K	**Noodor Dome**	**17.56**	**30**	P	**Pn**	**16 09 03.7**	**-1.2**
	baz=228,SNR=103						
L26K	**Log Cabin Wild**	**17.61**	**41**	P	**Pn**	**16 09 03.6**	**-1.8**
	baz=243,SNR=25						
TABL	**Table Mountain**	**17.65**	**51**	IAmb	IAmb	16 09 28.6	
	comp=Z,272nm,1.0s						
CTG	**Chitna Glacier**	**17.70**	**49**	P	**Pn**	**16 09 04.6**	**-2.2**
	baz=252,SNR=28						
SCRK	**Sand Creek**	**17.81**	**38**	P	**Pn**	**16 09 04.7**	**-3.4**
	baz=240,SNR=44						
COLD	**Coldfoot**	**17.89**	**25**	P	**Pn**	**16 09 07.7**	**-1.3**
	baz=221,SNR=81						
COLD	**Coldfoot**	**17.89**	**25**		**P**	**16 09 09.2**	**-0.2**
M27K	**Edge Creek, AK**	**17.95**	**44**	P	**Pn**	**16 09 07.6**	**-2.2**
	baz=247,SNR=76						
PCA	**Pinnacle

SKR pmax pmax
comp=Z,200nm,9.4s
SKR MLR MLR
comp=Z,1µm,19.0s
SKR MLR MLR
comp=Z,1µm,17.0s
EPYK Eagle Plains 21.64 36 P **P 16 09 47.7 -2.5**
baz=244,SNR=131
EPYK Eagle Plains 21.64 36 P **P 16 09 47.7 -2.5**
EPYK IAmb IAmb 16 10 07.1
comp=Z,124nm,0.9s
H02S1 DAWSON INLET T 22.24 72 P **P 16 10 00.1 +3.3**
SNR=14
H02S1 T T 16 33 17.2
SNR=12
MOBC Moresby Island 22.55 72 IAmb IAmb 16 10 22.7
comp=Z,89nm,1.0s
DLBC Dease Lake 23.03 58 P **P 16 10 05.8 +0.8**
comp=Z,25nm,1.0s,baz=270,slow=10.0,SNR=20
DLBC Dease Lake 23.03 58 IAmb IAmb 16 10 22.3
comp=Z,60nm,1.0s
RUBB Prince Rupert 23.32 69 IAmb IAmb 16 10 33.5
comp=Z,54nm,0.9s
MA2 Magadan 23.35 305 P **P 16 10 07.1 -1.1**
comp=Z,78nm,0.9s,baz=90,slow=8.5,SNR=40
MA2 LR LR 16 18 49.9
comp=Z,1µm,19.7s,baz=104,slow=36
MA2 Magadan 23.35 305 *ce*P **P 16 10 06.8 -1.4**
MA2 pmax pmax
comp=Z,77nm,0.9s
MA2 Magadan 23.35 305 P **P 16 10 07.7 -0.5**
MA2 IAmb IAmb 16 10 10.3
comp=Z,77nm,0.9s
INK Inuvik 23.60 33 P **P 16 10 08.3 -2.2**
comp=Z,50nm,0.8s,baz=243,slow=8.2,SNR=47
INK PcP **PcP 16 13 55.8 +1.3**
comp=Z,16nm,0.9s,baz=185,slow=5.5,SNR=5.1
INK Inuvik 23.60 33 P **P 16 10 07.6 -2.9**
baz=244,SNR=58
INK Inuvik 23.60 33 P **P 16 10 07.4 -3.1**
INK PcP **PcP 16 13 55.4 +0.9**
BBB Bella Bella 25.07 73 P **P 16 10 26.1 +2.0**
comp=Z,13nm,1.0s,baz=274,slow=14,SNR=4.5
C36M Paulatuk 27.18 33 P **P 16 10 41.6 -1.5**
baz=254,SNR=9.9
C36M Paulatuk 27.18 33 P **P 16 10 41.7 -1.3**
C36M PcP **PcP 16 14 03.4 +0.8**
KUR Kuril'sk 28.76 273 *e*P **P 16 10 56.2 -1.2**
KUR *e*S **S 16 15 48.1 +3.1**
KUR *e*SS **SnSn 16 17 05.8 -1.0**
KUR pmax pmax
comp=Z,132nm,1.1s
KUR MLR MLR
comp=Z,695nm,14.0s
LLLB Lillooet 29.27 74 P **P 16 11 04.1 +2.1**
A04D Lummi Island 29.51 78 P **P 16 11 03.2 -0.8**
baz=294
TYV Tymovskoe 29.52 287 *e*P **P 16 11 04.3 +0.2**
TYV *e*S **S 16 16 00.9 +3.9**
TYV pmax pmax
comp=Z,100nm,5.6s
TYV pmax pmax
comp=Z,16nm,1.1s
TYV smax smax
comp=N,10.0nm,1.6s
TYV smax smax
comp=E,300nm,8.7s
TYV MLR MLR
comp=E,2µm,17.0s
TYV MLR MLR
comp=Z,2µm,17.0s
A05A Maple Falls 29.77 77 IAmb IAmb 16 11 22.7
comp=Z,38nm,1.2s
D03D Eldon 29.79 80 P **P 16 11 06.2 -0.4**
baz=296
B05A Bryant 30.07 78 P **P 16 11 07.3 -1.7**
baz=295,SNR=9.5
YKA Yellowknife Ar 30.43 48 P **P 16 11 12.5 +0.5**
comp=Z,31nm,0.9s,baz=274,slow=9.7,SNR=61
YKA PcP **PcP 16 14 12.0 +1.1**
comp=Z,5.8nm,1.0s,baz=302,slow=1.6,SNR=3.9
YKA ScP **ScP 16 17 52.5 +1.3**
comp=Z,1.8nm,0.8s,baz=286,slow=2.0,SNR=4.5
YKA LR LR 16 25 42.4
comp=Z,3µm,18.6s,baz=0.0,slow=41
YKA Yellowknife Ar 30.43 48 P **P 16 11 12.4 +0.3**
YKA PcP **PcP 16 14 11.1 +0.2**
UGL Uglegorsk 30.57 284 *e*P **P 16 11 12.4 -1.0**
UGL *e*S **S 16 16 08.6 -4.7**
UGL pmax pmax
comp=Z,110nm,1.0s
UGL MLR MLR
comp=E,1µm,17.0s
UGL MLR MLR
comp=N,600nm,15.0s
YUK Yuzh-Kuril'sk 30.60 273 *i*P **P 16 11 13.3 -0.4**
D05A Enumclaw 30.61 80 P **P 16 11 16.2 +2.4**
YSS Yuzh-Sakhalins 31.08 280 *ce*P **P 16 11 17.8 -0.1**
YSS *e**SP **pwP 16 11 32.5 +3.2**
YSS *e* 16 12 23.6
YSS *e*S **S 16 16 20.7 -0.7**
YSS *e* 16 16 34.2
YSS pmax pmax
comp=Z,300nm,3.2s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 31.08 280 P **P 16 11 17.7 -0.1**
YSS IAmb IAmb 16 11 21.7
comp=Z,50nm,1.0s
B08A Colville Reser 31.70 76 IAmb IAmb 16 11 39.6
comp=Z,44nm,1.1s
HAWA Hanford 32.47 80 IAmb IAmb 16 11 51.5
comp=Z,43nm,0.9s
D08A Wollman Farm, 32.53 78 IAmb IAmb 16 11 52.4
comp=Z,38nm,1.1s
JKA Kamikawa-asahi 32.56 275 P **P 16 11 31.0 -0.1**
ASAJ Asahikawa 32.57 275 P **P 16 11 31.0 0.0**
ASAJ pmax pmax
comp=Z,136nm,0.9s
C09A Chrisman Ranch 32.58 77 P **P 16 11 32.5 +1.3**
C09A IAmb IAmb 16 11 52.9
comp=Z,36nm,1.0s
E08A Dider Farm, El 32.71 79 IAmb IAmb 16 11 56.6
comp=Z,31nm,1.2s
TIXI Tiksi 33.03 329 *ce*P **P 16 11 34.6 -0.2**
TIXI Tiksi 33.03 329 P **P 16 11 34.8 0.0**
TIXI PcP **PcP 16 14 18.1 +0.4**
M02C Callahan 33.06 90 P **P 16 11 34.2 -1.3**
baz=305,SNR=6.1
NEW Newport 33.06 75 P **P 16 11 33.0 -2.5**
baz=296
NEW Newport 33.06 75 IAmb IAmb 16 11 56.8
comp=Z,35nm,1.0s
GRNR Gornyy 33.21 290 ⇑ *i*P **P 16 11 35.0 -1.6**
GRNR *e*S **S 16 16 53.7 -0.9**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=E,3.0nm,1.0s
GRNR MLR MLR
comp=E,1µm,16.0s
GRNR MLR MLR
comp=Z,1µm,17.0s
EDM Edmonton 33.25 65 P **P 16 11 37.8 +0.8**
EDM pmax pmax
comp=Z,67nm,0.8s
EDM Edmonton 33.25 65 P **P 16 11 37.8 +0.8**
E09A Wood Farm, Sta 33.26 79 IAmb IAmb 16 11 58.4
comp=Z,39nm,1.0s
ERM Erimo 33.36 272 P **P 16 11 37.7 -0.2**
G08A Pilot Rock 33.36 81 P **P 16 11 38.6 +0.4**
N02D Trinity Center 33.39 91 P **P 16 11 36.9 -1.5**
baz=305
YAK Yakutsk 33.41 312 *e*P **P 16 11 36.1 -2.1**
YAK *e**PP **pP 16 11 43.5 -1.6**
YAK *e* 16 14 19.0
YAK *e*S **S 16 16 53.5 -3.9**
YAK *e**SS **sS 16 17 09.3 +0.4**
YAK *e*SS **SnSn 16 18 53.2 -6.2**
YAK *e* 16 22 02.4
YAK pmax pmax
comp=Z,49nm,0.9s

YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK smax smax
comp=N,56nm,2.6s
YAK smax smax
comp=E,35nm,2.8s
YAK MLR MLR
comp=Z,2µm,16.0s
YAK MLR MLR
comp=E,1µm,19.0s
YAK MLR MLR
comp=N,1µm,18.0s
YAK Yakutsk 33.41 312 P **P 16 11 36.1 -2.1**
YAK IAmb IAmb 16 11 38.8
comp=Z,46nm,0.8s
YAK PcP **PcP 16 14 18.8 -0.2**
O02D Mt. Diablo Mer 33.80 92 P **P 16 11 41.6 -0.4**
baz=306
F10A Beach Ranch, E 34.08 79 IAmb IAmb 16 12 10.2
comp=Z,26nm,0.9s
O03E Paynes Creek 34.34 91 P **P 16 11 44.6 -2.1**
baz=306
WALA Waterton Lakes 34.61 72 IAmb IAmb 16 12 07.1
comp=Z,22nm,0.8s
JTMT Jette 34.99 75 IAmb IAmb 16 12 16.6
comp=Z,25nm,1.0s
WVOR Wild Horse Val 35.07 85 IAmb IAmb 16 12 13.7
comp=Z,31nm,1.0s
JTM Tenmabayashi 35.35 271 P **P 16 11 53.6 -1.6**
JTM IAmb IAmb 16 11 56.4
comp=Z,60nm,1.2s
MSO Missoula 35.64 76 P **P 16 11 57.0 -0.8**
baz=299
MSO Missoula 35.64 76 IAmb IAmb 16 12 19.8
comp=Z,56nm,1.3s
PAHR Pah Rah Range 36.19 90 IAmb IAmb 16 12 24.0
comp=Z,38nm,1.1s
KLR Kul'dur 36.59 290 *ce*P **P 16 12 04.0 -1.8**
KLR pmax pmax
comp=Z,42nm,1.1s
WAKR Walker 36.88 91 P **P 16 12 10.5 +1.9**
HRY Holter Researc 36.96 75 P **P 16 12 10.2 +1.1**
HLID Hailey 37.04 81 P **P 16 12 08.9 -1.0**
baz=303
HLID Hailey 37.04 81 P **P 16 12 10.4 +0.5**
H11N2 WAKE ISLAND Hy 37.22 219 T T 16 52 39.9
baz=24,slow=76,SNR=204
H11N3 WAKE ISLAND Hy 37.23 219 T T 16 52 49.5
baz=24,slow=76,SNR=92
H11N1 WAKE ISLAND Hy 37.24 219 T T 16 53 11.8
baz=24,slow=76,SNR=256
JMM Marumori 37.28 268 IAmb IAmb 16 12 24.7
comp=Z,53nm,1.3s
EGMT Eagleton 37.54 72 P **P 16 12 11.9 -2.0**
baz=299,SNR=33
NVAR Mina Array Bea 37.63 91 P **P 16 12 17.1 +2.1**
comp=Z,3.4nm,0.9s,baz=294,slow=8.1,SNR=19
NVAR ScP **ScP 16 18 17.7 +0.3**
comp=Z,2.1nm,1.0s,baz=288,slow=2.6,SNR=5.5
NVAR LR LR 16 24 20.3
comp=Z,590nm,21.3s,baz=298,slow=31
BOZ Bozeman (W) 37.65 76 P **P 16 12 13.0 -2.0**
baz=301,SNR=15
MDPB Devils Postpil 37.65 92 IAmb IAmb 16 12 47.3
comp=Z,29nm,1.0s
MLAC Mammoth, Mammo 37.80 92 P **P 16 12 16.8 +0.4**
baz=309
ELK Elko 38.13 85 P **P 16 12 20.4 +1.2**
ELK pmax pmax
comp=Z,15nm,0.8s
ELK Elko 38.13 85 P **P 16 12 20.4 +1.2**
H11S1 WAKE ISLAND Hy 38.41 218 T T 16 54 05.9
baz=23,slow=76,SNR=302
H11S2 WAKE ISLAND Hy 38.42 218 T T 16 53 43.7
baz=23,slow=76,SNR=336
H11S3 WAKE ISLAND Hy 38.42 218 T T 16 53 36.9
baz=23,slow=76,SNR=638
TPH Tonopah 38.52 90 IAmb IAmb 16 12 43.6
comp=Z,76nm,1.0s
YHH Holmes Hill 38.54 77 IAmb IAmb 16 12 44.0
comp=Z,42nm,1.0s
YNR Norris Junctio 38.68 77 P **P 16 12 25.6 +1.7**
YNR IAmb IAmb 16 12 47.0
comp=Z,76nm,1.4s
JYT Yasato 38.69 266 IAmb IAmb 16 12 27.3
comp=Z,88nm,1.1s
JSD Sado 38.74 270 IAmb IAmb 16 12 37.0
comp=Z,50nm,1.0s
FFC Flin Flon 38.86 59 P **P 16 12 24.5 -0.4**
FFC pmax pmax
comp=Z,21nm,0.8s
FFC Flin Flon 38.86 59 P **P 16 12 24.5 -0.4**
USRK Ussuriysk Ar. 38.99 282 P **P 16 12 23.8 -2.3**
comp=Z,15nm,1.0s,baz=64,slow=6.4,SNR=15
USRK PcP **PcP 16 14 36.4 +0.5**
comp=Z,6.5nm,0.8s,baz=82,slow=2.5,SNR=7.8
USRK LR LR 16 27 31.0
comp=Z,1µm,21.9s,baz=60,slow=35
USRK Ussuriysk Ar. 38.99 282 P **P 16 12 23.7 -2.4**
USRK PcP **PcP 16 14 36.0 +0.1**
ISA Isabella, Lake 39.28 94 P **P 16 12 27.1 -1.6**
baz=311
RLMT Red Lodge 39.31 76 P **P 16 12 27.5 -1.5**
baz=302,SNR=8.9
RLMT Red Lodge 39.31 76 IAmb IAmb 16 12 49.1
comp=Z,48nm,0.9s
R11A Troy Canyon, C 39.36 89 P **P 16 12 28.7 -0.7**
baz=308,SNR=23
BGU Big Grassy Mou 39.38 83 P **P 16 12 31.0 +1.4**
VLA Vladivostok 39.65 281 *i*P **P 16 12 31.4 -0.2**
VLA pmax pmax
comp=Z,31nm,1.1s
MJAR Matsushiro Arr 39.71 268 P **P 16 12 31.1 -1.1**
comp=Z,8.9nm,0.9s,baz=44,slow=7.2,SNR=30
MJAR PcP **PcP 16 14 38.6 +0.2**
comp=Z,9.0nm,1.0s,baz=108,slow=0.9,SNR=8.3
MJAR LR LR 16 28 36.4
comp=Z,1µm,20.8s,baz=60,slow=36
MJAR Matsushiro Arr 39.71 268 P **P 16 12 31.0 -1.3**
MJAR 16 14 38.8
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 39.71 268 P **P 16 12 31.0 -1.3**
MJAR PcP **PcP 16 14 38.8 +0.3**
MAJO Matsushiro 39.72 268 P **P 16 12 31.3 -1.0**
MAJO pmax pmax
comp=Z,86nm,1.6s
MAJO Matsushiro 39.72 268 P **P 16 12 31.3 -1.0**
MAJO IAmb IAmb 16 12 47.6
comp=Z,86nm,1.6s
MAT Matsushiro 39.72 268 P **P 16 12 31.3 -1.0**
MAT S **S 16 18 34.2 0.0**
FURC Furnace Creek, 39.76 92 P **P 16 12 30.4 -2.1**
baz=310
OSI Osito Audit: C 39.82 96 P **P 16 12 32.7 -0.5**
baz=312
TPNV Topopah Spring 39.83 91 P **P 16 12 32.1 -1.2**
baz=310,SNR=9.4
LRMC Laurel Mtn Rad 39.89 94 P **P 16 12 32.5 -1.4**
baz=311
MDJ Mudanjiang 40.20 284 P **P 16 12 34.5 -1.7**
MDJ PP **PP 16 14 06.5 -2.2**
MDJ pmax pmax
comp=Z,150nm,4.9s
MDJ LR LR
comp=Z,1µm,16.8s
MDJ LR LR
comp=Z,1µm,17.0s
MDJ LR LR
comp=Z,2µm,17.4s
SNCC San Nicolas Is 40.25 98 P **P 16 12 33.9 -2.8**
baz=313
LAO LASA Array 40.28 72 P **P 16 12 35.6 -1.3**
baz=302
MSHR Mys Shultsa 40.40 281 *ce*P **P 16 12 37.0 -0.8**
MSHR pmax pmax
comp=Z,22nm,0.8s
BW06 Boulder Array 40.44 79 P **P 16 12 38.9 +0.5**
baz=305,SNR=23
BW06 Boulder Array 40.44 79 P **P 16 12 38.9 +0.5**
PDAR Pinedale Array 40.44 79 P **P 16 12 38.9 +0.5**
comp=Z,9.3nm,0.9s,baz=306,slow=5.3,SNR=44
PDAR LR LR 16 28 53.7
comp=Z,855nm,18.3s,baz=322,slow=35
PDAR Pinedale Array 40.44 79 P **P 16 12 39.1 +0.7**

SHOC Shoshone, Teco 40.48 92 P **P 16 12 38.9 +0.3**
baz=311
GSC Goldstone, Bar 40.55 93 P **P 16 12 40.9 +1.6**
GSC pmax pmax
comp=Z,27nm,1.2s
GSC Goldstone, Bar 40.55 93 P **P 16 12 39.2 0.0**
baz=311,SNR=12
GSC Goldstone, Bar 40.55 93 P **P 16 12 40.9 +1.6**
BFSC Mount Baldy Ra 40.73 95 P **P 16 12 40.9 +0.1**
baz=312
TUQ Turquoise Moun 41.00 92 P **P 16 12 43.1 0.0**
baz=311
SCI2 San Clemente I 41.03 97 P **P 16 12 43.1 -0.1**
baz=313
FCC Fort Churchill 41.12 50 P **P 16 12 44.0 +0.4**
FCC pmax pmax
comp=Z,62nm,0.8s
FCC Fort Churchill 41.12 50 P **P 16 12 44.0 +0.4**
FCC IAmb IAmb 16 12 58.1
comp=Z,62nm,0.8s
HEC Hector,Ludlow 41.15 93 P **P 16 12 43.0 -1.2**
baz=312
INU Inuyama 41.22 268 P **P 16 12 43.3 -1.4**
MVU Marysvale 41.34 86 P **P 16 12 47.5 +1.6**
MVU IAmb IAmb 16 13 06.5
comp=Z,70nm,1.0s
GMRC Granite Mounta 41.59 93 P **P 16 12 47.8 -0.1**
baz=312
RDMU Red Mountain 41.71 82 IAmb IAmb 16 13 06.2
comp=Z,48nm,1.1s
TPFO Pinon Flats 41.89 95 P **P 16 12 49.0 -1.3**
baz=312
BELC Belle Mtn. Jos 41.91 94 P **P 16 12 49.2 -1.2**
baz=312
BOD Bodaibo 42.22 309 *e*P **P 16 12 50.8 -1.8**
BOD pmax pmax
comp=Z,76nm,0.8s
JWT Wachi 42.26 269 P **P 16 12 52.0 -1.2**
IRM Iron Mountain 42.33 93 P **P 16 12 52.9 -0.9**
baz=312
K22A Casper 42.33 77 P **P 16 12 51.8 -2.2**
baz=305
MONP2 Monument Peak 42.39 96 P **P 16 12 54.0 -0.5**
baz=313
W13A Hualapai Mount 42.48 91 P **P 16 12 56.2 +0.9**
SWSC Sam W. Stewart 42.74 95 P **P 16 12 57.0 -0.1**
baz=313
IKP In-Ko-Pah, Jac 42.75 96 P **P 16 12 57.8 +0.5**
baz=313
O20A White River Ci 42.78 81 P **P 16 12 57.9 +0.3**
baz=307,SNR=14
O20A White River Ci 42.78 81 IAmb IAmb 16 13 18.3
comp=Z,67nm,0.8s
PDMCI Parker Dam,Lak 42.85 92 P **P 16 12 58.7 +0.8**
baz=312
RSSD Black Hills 42.98 74 P **P 16 12 58.9 -0.3**
RSSD pmax pmax
comp=Z,18nm,1.1s
RSSD Black Hills 42.98 74 P **P 16 12 58.5 -0.7**
baz=305
RSSD Black Hills 42.98 74 P **P 16 12 58.9 -0.3**
CN2 Changchun 43.13 286 *e*P **P 16 12 58.5 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,2µm,20.0s
CN2 LR LR
comp=Z,2µm,19.0s
GLA Glamis 43.27 94 P **P 16 13 01.5 0.0**
baz=313
HIA Hailar 43.41 296 IAmb IAmb 16 13 03.2
comp=Z,79nm,1.2s
PV17 East Wray Mesa 43.48 84 IAmb IAmb 16 13 23.6
comp=Z,28nm,0.7s
MDND Maddock 43.49 67 P **P 16 13 02.0 -1.0**
baz=303
MDND Maddock 43.49 67 P **P 16 13 04.1 +1.1**
PV11 David Mesa, Pa 43.52 84 IAmb IAmb 16 13 29.5
comp=Z,65nm,0.7s
PV18 Skein Mesa, Pa 43.53 84 IAmb IAmb 16 13 25.5
comp=Z,30nm,0.7s
PV12 Saucer Basin, 43.55 84 P **P 16 13 04.4 +0.5**
PV12 IAmb IAmb 16 13 31.5
comp=Z,46nm,0.8s
PV03 Paradox Valley 43.57 84 IAmb IAmb 16 13 29.8
comp=Z,26nm,0.8s
PV13 Radium Mtn., P 43.64 84 IAmb IAmb 16 13 30.6
comp=Z,62nm,0.9s
PV02 Paradox Valley 43.66 84 IAmb IAmb 16 13 30.8
comp=Z,36nm,0.8s
N23A Red Feather La 43.72 79 P **P 16 13 04.1 -1.2**
baz=307,SNR=12
WUAZ Wupatki 43.76 89 P **P 16 13 04.8 -0.8**
baz=311,SNR=6.5
WUAZ Wupatki 43.76 89 IAmb IAmb 16 13 33.1
comp=Z,25nm,0.8s
PHWY Pilot Hill 43.77 78 P **P 16 13 05.6 -0.1**
PV01 Paradox Valley 43.81 84 IAmb IAmb 16 13 31.8
comp=Z,40nm,0.8s
JHS Saijyo 43.86 271 IAmb IAmb 16 13 19.7
comp=Z,80nm,1.5s
ULM Lac du Bonnet 44.27 62 P **P 16 13 09.4 +0.1**
comp=Z,21nm,0.9s,baz=290,slow=9.4,SNR=11
ULM LR LR 16 33 28.1
comp=Z,2µm,18.3s,baz=294,slow=38
X16A Lo Mia Camp, P 44.44 90 P **P 16 13 13.1 +2.0**
ISCO Idaho Springs 44.59 80 P **P 16 13 11.0 -1.3**
baz=308
W18A Petrified Fore 45.03 88 P **P 16 13 15.4 -0.4**
baz=311
S22A 4UR Ranch, Cre 45.12 83 P **P 16 13 16.0 -0.5**
baz=309
214A Organ Pipe Nat 45.26 94 P **P 16 13 17.7 +0.3**
baz=314
214A Organ Pipe Nat 45.26 94 P **P 16 13 19.1 +1.8**
NEEM North Greenlan 45.29 16 *i*P **P 16 13 16.8 -0.6**
NEEM IAmb IAmb 16 13 18.7
comp=Z,49nm,0.9s
CIT Chita 45.30 302 *e*P **P 16 13 15.8 -1.7**
CIT *e* 16 13 20.1
CIT *e* 16 13 26.9
CIT pmax pmax
comp=Z,61nm,1.2s
AGMN Agassiz Nation 45.34 64 P **P 16 13 16.4 -1.4**
baz=304,SNR=12
AGMN Agassiz Nation 45.34 64 IAmb IAmb 16 13 19.6
comp=Z,50nm,1.0s
Q24A Divide 45.38 80 P **P 16 13 17.7 -0.9**
baz=309
KSRS Korea Array 45.47 277 P **P 16 13 18.8 -0.1**
comp=Z,45nm,0.9s,baz=55,slow=7.4,SNR=125
KSRS LR LR 16 31 36.0
comp=Z,701nm,20.9s,baz=54,slow=35
KS19 Wonju Array Si 45.48 277 IAmb IAmb 16 13 21.3
comp=Z,53nm,0.9s
KSAR Wonju Array Be 45.50 277 P **P 16 13 18.4 -0.8**
KSAR Wonju Array Be 45.50 277 P **P 16 13 18.4 -0.8**
YNCB YEONCHEON 45.71 278 P **P 16 13 20.9 +0.1**
SNR=11
YNCB YEONCHEON 45.71 278 P **P 16 13 20.9 +0.1**
SNR=11
SUSD Miller 45.77 70 P **P 16 13 21.1 -0.2**
baz=306
SUSD Miller 45.77 70 P **P 16 13 20.7 -0.6**
NOR Nord 45.79 5 *i*P **P 16 13 20.2 -0.7**
NOR IAmb IAmb 16 13 22.2
comp=Z,39nm,1.0s
NOR Nord 45.79 5 *i*P **P 16 13 20.2 -0.7**
NOR pmax pmax
comp=Z,39nm,1.0s
KSUSN UIsan 45.86 274 P **P 16 13 23.5 +1.4**
SNR=8.0
KSUSN UIsan 45.86 274 P **P 16 13 23.5 +1.4**
SNR=8.0
KSMUS Musan 45.91 278 P **P 16 13 23.9 +1.6**
SNR=19
KSMUS Musan 45.91 278 P **P 16 13 23.9 +1.6**
SNR=19
SDCO Great Sand Dun 45.94 82 P **P 16 13 22.3 -0.7**
baz=310,SNR=11
KSSOD Songwoldong 45.98 278 P **P 16 13 24.7 +1.7**
SNR=5.8
KSSOD Songwoldong 45.98 278 P **P 16 13 24.7 +1.7**

	SNR=5.8							
OGNE	Ogallala	46.05	76	P		P	16 13 23.5	-0.1
	baz=308							
KSSEO	Seoul	46.06	278	P		P	16 13 24.4	+0.7
	SNR=20							
KSSEO	Seoul	46.06	278	P		P	16 13 25.0	+1.4
	SNR=19							
KSSEO	Seoul	46.06	278	P		P	16 13 24.4	+0.7
	SNR=20							
KSSEO	Seoul	46.06	278	P		P	16 13 25.0	+1.4
	SNR=19							
KSBON	Boeun	46.16	276	P		P	16 13 24.7	+0.3
	SNR=5.9							
KSBON	Boeun	46.16	276	P		P	16 13 24.7	+0.3
	SNR=5.9							
KSSWO	Suwon	46.18	278	P		P	16 13 25.6	+1.1
	SNR=15							
KSSWO	Suwon	46.18	278	P		P	16 13 25.1	+0.6
	SNR=7.7							
KSCPR	CHUPUNGNYEONG	46.23	276	P		P	16 13 26.0	+1.0
	SNR=7.0							
KSCPR	CHUPUNGNYEONG	46.23	276	P		P	16 13 26.0	+1.0
	SNR=7.0							
INCN	Inchon	46.24	278	P		P	16 13 24.3	-0.8
INCN				pmax		pmax		
	comp=Z,110nm,0.9s							
INCN	Inchon	46.24	278	P		P	16 13 24.3	-0.8
KSGIC	Gimchen	46.25	275	P		P	16 13 26.3	+1.3
	SNR=5.9							
KSGIC	Gimchen	46.25	275	P		P	16 13 26.3	+1.3
	SNR=5.9							
OKCB	Cheongsan-myeo	46.26	276	P		P	16 13 26.0	+0.8
	SNR=18							
OKCB	Cheongsan-myeo	46.26	276	P		P	16 13 26.0	+0.8
	SNR=18							
TUC	Tucson	46.26	92	P		P	16 13 25.4	0.0
TUC				pmax		pmax		
	comp=Z,24nm,1.0s							
TUC	Tucson	46.26	92	P		P	16 13 26.3	+0.9
	baz=313							
TUC	Tucson	46.26	92	P		P	16 13 25.4	0.0
TUC				IAmb		IAmb	16 13 44.7	
	comp=Z,24nm,1.0s							
KSCEA	Cheonan	46.28	277	P		P	16 13 26.6	+1.2
	SNR=9.8							
KSCEA	Cheonan	46.28	277	P		P	16 13 26.6	+1.2
	SNR=9.8							
SHHB	Siheung-si	46.29	278	P		P	16 13 26.0	+0.6
	SNR=17							
SHHB	Siheung-si	46.29	278	P		P	16 13 26.0	+0.6
	SNR=17							
HAWB	Hwaseong-si	46.41	277	P		P	16 13 28.0	+1.6
	SNR=8.4							
HAWB	Hwaseong-si	46.41	277	P		P	16 13 28.0	+1.6
	SNR=8.4							
B35A	Bob, Littlefor	46.49	63	P		P	16 13 27.1	+0.3
B35A				IAmb		IAmb	16 13 41.8	
	comp=Z,33nm,0.8s							
JNU	Nakatsue	46.49	270	IAmb		IAmb	16 13 48.5	
	comp=Z,53nm,1.1s							
TJN	Taejon	46.51	276	*ce*P		P	16 13 26.4	-0.7
KOJ2	Gongju-si	46.58	277	P		P	16 13 30.0	+2.3
	SNR=6.7							
KOJ2	Gongju-si	46.58	277	P		P	16 13 30.0	+2.3
	SNR=6.7							
NRIK	Noril'sk	46.72	332	P		P	16 13 27.8	-0.6
	comp=Z,16nm,0.7s,baz=71,slow=8.2,SNR=26							
NRIK				LR		LR	16 37 23.5	
	comp=Z,777nm,18.0s,baz=53,slow=42							
NRIK	Noril'sk	46.72	332	*ce*P		P	16 13 27.4	-1.0
NRIK				pmax		pmax		
	comp=Z,20nm,0.8s							
NRIK	Noril'sk	46.72	332	P		P	16 13 27.2	-1.2
NRIK				IAmb		IAmb	16 13 29.2	
	comp=Z,19nm,0.8s							
KSCO	Kaye Shedlock'	46.89	79	P		P	16 13 29.0	-1.2
	baz=309							
T25A	Trinidad	46.99	82	P		P	16 13 29.7	-1.5
	baz=310,SNR=16							
T25A	Trinidad	46.99	82	IAmb		IAmb	16 13 50.7	
	comp=Z,31nm,0.9s							
ANMO	Albuquerque	47.17	86	*ce*P		P	16 13 34.4	+1.9
ANMO	Albuquerque	47.17	86	P		P	16 13 31.5	-1.1
	baz=312							
UPNV	Upernavik	47.28	22	*i* P		P	16 13 32.5	-0.2
UPNV				IAmb		IAmb	16 13 34.2	
	comp=Z,56nm,1.1s							
LENM	Lemitar	47.37	87	P		P	16 13 35.4	+1.3
ECSD	EROS Data Cent	47.55	70	P		P	16 13 33.1	-2.1
	baz=307,SNR=15							
ECSD	EROS Data Cent	47.55	70	IAmb		IAmb	16 13 36.6	
	comp=Z,24nm,1.1s							
JSU	Suzuyama	47.86	269	IAmb		IAmb	16 13 40.9	
	comp=Z,49nm,1.3s							
EYMN	Ely	47.95	62	P		P	16 13 35.9	-2.3
	baz=306,SNR=8.8							
EYMN	Ely	47.95	62	IAmb		IAmb	16 13 40.0	
	comp=Z,43nm,0.9s							
121A	Cookes Peak, D	47.97	89	P		P	16 13 37.4	-1.3
	baz=313							
121A	Cookes Peak, D	47.97	89	IAmb		IAmb	16 14 00.3	
	comp=Z,21nm,0.9s							
BGNE	Belgrade	48.07	73	P		P	16 13 38.0	-1.3
	baz=308							
BGNE	Belgrade	48.07	73	P		P	16 13 39.5	+0.2
DL2	Dalian	48.38	283	P		P	16 13 41.5	-0.1
DL2				S		S	16 20 44.0	+3.8
DL2				pmax		pmax		
	comp=Z,83nm,1.1s							
DL2				pmax		pmax		
	comp=Z,200nm,4.6s							
DL2				LR		LR		
	comp=Z,660nm,17.5s							
DL2				LR		LR		
	comp=Z,810nm,17.7s							
DL2				LR		LR		
	comp=Z,1μm,18.0s							
E38A	The Farm, Brul	48.71	64	P		P	16 13 44.4	+0.3
E38A				IAmb		IAmb	16 13 45.1	
	comp=Z,43nm,0.9s							
CBKS	Cedar Bluff	48.76	77	P		P	16 13 43.4	-1.2
	baz=310							
SPMN	Marine on St.	48.84	66	P		P	16 13 43.0	-2.0
	baz=307							
SPMN	Marine on St.	48.84	66	P		P	16 13 44.8	-0.3
SPMN				IAmb		IAmb	16 13 46.3	
	comp=Z,16nm,0.7s							
KBS	Kingsbay	49.28	360	⇑*i*P		P	16 13 49.2	+1.2
KBS				IAmb		IAmb	16 13 50.2	
	comp=Z,164nm,1.0s							
KBS	Kingsbay	49.28	360	P		P	16 13 49.1	+1.0
KBS				pmax		pmax		
	comp=Z,76nm,1.1s							
KBS	Kingsbay	49.28	360	*e*P		P	16 13 49.1	+1.0
KBS	Kingsbay	49.28	360	P		P	16 13 49.1	+1.0
R32A	Long Quarter,	49.62	77	IAmb		IAmb	16 14 14.4	
	comp=Z,35nm,0.8s							
IRK	Irkutsk	49.91	307	*e*P		P	16 13 51.6	-1.6
IRK				*e*			16 14 03.2	
IRK				*e*			16 15 13.8	
IRK				pmax		pmax		
	comp=Z,103nm,1.1s							
SPA0	Spitsbergen Ar	49.99	358	*e*P		P	16 13 53.6	+0.1
SPITS	Spitsbergen Ar	49.99	358	P		P	16 13 52.7	-0.8
SPITS				pmax		pmax		
	comp=Z,72nm,1.0s							
MNTX	Cornudas Mount	50.02	88	P		P	16 13 54.0	-0.3
	baz=314,SNR=20							
MNTX	Cornudas Mount	50.02	88	IAmb		IAmb	16 14 04.8	
	comp=Z,17nm,0.8s							
MSTX	Muleshoe	50.08	84	P		P	16 13 54.0	-0.9
	baz=312							
MSTX	Muleshoe	50.08	84	IAmb		IAmb	16 14 21.4	
	comp=Z,26nm,1.0s							
DAG	Danmarks Havn	50.10	8	*i* P		P	16 13 53.4	-1.0
DAG				IAmb		IAmb	16 13 55.2	
	comp=Z,94nm,0.9s							
DAG	Danmarks Havn	50.10	8	*i* P		P	16 13 53.3	-1.0
DAG				pmax		pmax		
	comp=Z,94nm,0.9s							
G40A	Rib Lake	50.27	64	IAmb		IAmb	16 13 57.6	
	comp=Z,31nm,1.1s							
COWI	Conover	50.35	63	P		P	16 13 56.3	-0.3
COWI				IAmb		IAmb	16 13 58.0	
	comp=Z,30nm,1.1s							
KSU1	Kansas State U	50.44	74	P		P	16 13 56.1	-1.3
	baz=310							
KSU1	Kansas State U	50.44	74	IAmb		IAmb	16 14 12.5	
	comp=Z,36nm,1.1s							
SCIA	State Center	50.65	70	P		P	16 13 57.1	-1.8
	baz=309							
BJI	Beijing	50.90	288	P		P	16 14 01.0	+0.2
BJI				S		S	16 21 17.3	+1.9
BJI				pmax		pmax		
	comp=Z,29nm,1.0s							
BJI				pmax		pmax		
	comp=Z,230nm,3.9s							
BJI				LR		LR		
	comp=Z,2μm,18.0s							
ILULI	Ilulissat	50.92	24	P		P	16 14 00.4	-0.1
ILULI				pmax		pmax		
	comp=Z,18nm,0.9s							
ILULI	Ilulissat	50.92	24	P		P	16 14 00.4	-0.1
BJT	Baijiatuau	50.92	288	IAmb		IAmb	16 14 02.9	
	comp=Z,18nm,0.8s							
SUMG	Summit	51.08	17	*i* P		P	16 14 02.2	0.0
SUMG				IAmb		IAmb	16 14 04.2	
	comp=Z,121nm,1.0s							
SUMG	Summit	51.08	17	*i* P		P	16 14 02.2	0.0
SUMG				pmax		pmax		
	comp=Z,120nm,1.0s							
SUMG	Summit	51.08	17	P		P	16 14 01.4	-0.8
F42A	Maple Grove Fa	51.11	63	P		P	16 14 02.2	-0.1
F42A				IAmb		IAmb	16 14 04.3	
	comp=Z,54nm,1.0s							
ULN	Ulaanbaatar	51.12	301	*ce*P		P	16 14 01.0	-1.6
ULN				pmax		pmax		
	comp=Z,52nm,0.9s							
ULN	Ulaanbaatar	51.12	301	P		P	16 14 01.1	-1.6
ULN				IAmb		IAmb	16 14 04.4	
	comp=Z,51nm,0.9s							
ULN				PcP		PcP	16 15 18.6	+0.6
N38A	Joes South For	51.34	71	IAmb		IAmb	16 14 19.4	
	comp=Z,50nm,0.8s							
E43A	Lone Tree Farm	51.35	61	P		P	16 14 03.3	-0.8
E43A				IAmb		IAmb	16 14 18.9	
	comp=Z,39nm,0.8s							
HOPEN	Hopen	51.39	356	*e*P		P	16 14 04.3	+0.4
SONM	Songino Array	51.49	301	P		P	16 14 04.6	-0.7
	comp=Z,46nm,1.1s,baz=53,slow=6.5,SNR=107							
SONM				PcP		PcP	16 15 19.8	+0.6
	comp=Z,13nm,0.9s,baz=46,slow=1.9,SNR=6.5							
SONM				LR		LR	16 38 02.4	
	comp=Z,2μm,18.8s,baz=56,slow=39							
SONM	Songino Array	51.49	301	P		P	16 14 04.8	-0.5
SONM							16 15 19.9	
SONM				pmax		pmax		
	comp=Z,55nm,1.1s							
SONM	Songino Array	51.49	301	P		P	16 14 04.8	-0.5
SONM				IAmb		IAmb	16 14 07.1	
	comp=Z,56nm,1.1s							
SONM				PcP		PcP	16 15 19.9	+0.6
ZAK	Zakamensk	51.53	305	*e*P		P	16 14 04.5	-1.0
ZAK				*e*			16 15 19.8	
ZAK				pmax		pmax		
	comp=Z,40nm,1.3s							
L40A	Anamosa	51.70	68	IAmb		IAmb	16 14 24.6	
	comp=Z,24nm,0.8s							
JFWS	Jewell Farm	51.71	67	P		P	16 14 05.4	-1.4
	baz=309							
JFWS	Jewell Farm	51.71	67	IAmb		IAmb	16 14 21.3	
	comp=Z,27nm,0.9s							
I42A	Draeger Farm,	51.85	65	IAmb		IAmb	16 14 09.3	
	comp=Z,32nm,1.0s							
P38A	Dawn	51.92	72	IAmb		IAmb	16 14 23.1	
	comp=Z,36nm,0.9s							
WMOK	Wichita Mounta	52.01	80	P		P	16 14 08.9	-0.3
	baz=312,SNR=18							
WMOK	Wichita Mounta	52.01	80	IAmb		IAmb	16 14 35.0	
	comp=Z,22nm,1.0s							
H43A	Windswept, Lux	52.12	64	IAmb		IAmb	16 14 11.3	
	comp=Z,53nm,0.8s							
DBG	Daneborg	52.22	10	⇑*i*P		P	16 14 08.9	-1.3
DBG				IAmb		IAmb	16 14 10.9	
	comp=Z,91nm,0.8s							
OK031	S. Brethren Rd	52.37	78	P		P	16 14 11.7	-0.2
OK031				IAmb		IAmb	16 14 32.8	
	comp=Z,74nm,1.2s							
JOW	Kunigami	52.50	267	IAmb		IAmb	16 14 35.2	
	comp=Z,41nm,1.1s							
L42A	Oliver, Polo	52.62	67	IAmb		IAmb	16 14 14.4	
	comp=Z,28nm,1.1s							
SFJD	Kangerlussuaq	52.65	26	*i* P		P	16 14 14.0	+0.5
SFJD				IAmb		IAmb	16 14 14.9	
	comp=Z,22nm,0.8s							
SFJD	Kangerlussuaq	52.65	26	P		P	16 14 12.8	-0.7
SFJD				pmax		pmax		
	comp=Z,33nm,0.9s							
SFJD	Kangerlussuaq	52.65	26	P		P	16 14 12.8	-0.7
SFJD				IAmb		IAmb	16 14 15.1	
	comp=Z,33nm,0.8s							
TX32	Lajitas Array	52.72	89	IAmb		IAmb	16 14 32.6	
	comp=Z,24nm,0.9s							
TXAR	Lajitas Array	52.72	89	P		P	16 14 15.2	+0.5
	comp=Z,6.5nm,0.7s,baz=299,slow=5.2,SNR=57							
TXAR				LR		LR	16 36 13.7	
	comp=Z,774nm,18.4s,baz=0.0,slow=35							
N41A	Harden Midland	52.78	69	P		P	16 14 13.9	-1.0
N41A				IAmb		IAmb	16 14 29.3	
	comp=Z,50nm,1.1s							
E46A	Sault Ste Mari	52.80	60	P		P	16 14 14.4	-0.5
E46A				IAmb		IAmb	16 14 29.7	
	comp=Z,38nm,0.8s							
E46A				PcP		PcP	16 15 24.8	+0.8
TIA	Tai'an	52.84	283	⇑P		P	16 14 14.3	-1.1
TIA				pmax		pmax		
	comp=Z,98nm,1.1s							
TIA				pmax		pmax		
	comp=Z,240nm,3.5s							
TIA				LR		LR		
	comp=Z,730nm,15.0s							
TIA				LR		LR		
	comp=Z,900nm,15.9s							
TIA				LR		LR		
	comp=Z,1μm,17.5s							
ABTX	Abilene, Hawle	52.91	83	P		P	16 14 15.8	-0.2
	baz=314							
ABTX	Abilene, Hawle	52.91	83	IAmb		IAmb	16 14 41.8	
	comp=Z,34nm,1.1s							
K43A	Burlington	52.93	66	IAmb		IAmb	16 14 22.3	
	comp=Z,36nm,1.0s							
GUMO	Guam	52.97	241	P		P	16 14 14.8	-1.7
	comp=Z,58nm,0.8s,baz=33,slow=1.6,SNR=4.2							
GUMO	Guam	52.97	241	P		P	16 14 14.4	-2.1
GUMO				pmax		pmax		
	comp=Z,101nm,0.9s							
GUMO	Guam	52.97	241	P		P	16 14 14.4	-2.1
TUL1	Leonard	53.03	77	P		P	16 14 15.5	-1.2
	baz=312							
HHC	Hu-ho-hao-te	53.06	291	*e*P		P	16 14 17.3	+0.2
HHC				PP		PP	16 16 17.3	+0.6
HHC				pmax		pmax		
	comp=Z,14nm,1.0s							
HHC				pmax		pmax		
	comp=Z,340nm,9.3s							
HHC				LR		LR		
	comp=Z,920nm,18.8s							
HHC				LR		LR		
	comp=Z,680nm,15.6s							
HHC				LR		LR		
	comp=Z,1μm,20.0s							
L44A	Lake County Fo	53.51	66	P		P	16 14 18.6	-1.6
	baz=311							
R40A	Maddies Statio	53.54	72	IAmb		IAmb	16 14 43.5	
	comp=Z,16nm,0.7s							
BJO1	Bjornoya	53.61	357	*e*P		P	16 14 21.1	+0.7
GLMI	Grayling	53.62	62	P		P	16 14 18.8	-2.2
	baz=310							
ICESG	Greenland Ices	53.66	20	⇑*i*P		P	16 14 20.6	-0.8
ICESG				IAmb		IAmb	16 14 22.5	
	comp=Z,59nm,0.8s							
HDIL	Hopedale	53.78	68	P		P	16 14 20.5	-1.7
	baz=311							
HDIL	Hopedale	53.78	68	P		P	16 14 20.9	-1.2
SSE	Sheshan	53.86	276	P		P	16 14 22.8	0.0
SSE				S		S	16 21 57.8	+1.7
SSE				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SSE				pmax		pmax		
	comp=Z,160nm,4.2s							
SSE				LR		LR		
	comp=Z,200nm,17.7s							
SSE				LR		LR		
	comp=Z,160nm,17.7s							
M44A	Midewin, Midew	53.95	67	IAmb		IAmb	16 14 38.3	
	comp=Z,32nm,0.8s							
MATQ	Matagami	54.06	53	P		P	16 14 22.2	-1.9
	baz=310,SNR=8.9							
BTO	Baotou	54.11	292	*e*P		P	16 14 24.0	-0.7
BTO				LR		LR		
	comp=Z,4μm,17.7s							
BTO				LR		LR		
	comp=Z,9μm,17.7s							
X37A	Clayton	54.17	78	IAmb		IAmb	16 14 50.3	
	comp=Z,30nm,0.8s							
DY2G	Dye2	54.19	25	*i* P		P	16 14 24.6	-0.5
DY2G				IAmb		IAmb	16 14 28.0	
	comp=Z,30nm,0.8s							
MGMO	Mountain Grove	54.30	74	IAmb		IAmb	16 14 47.6	
	comp=Z,21nm,0.8s							
CCM	Cathedral Cave	54.30	72	P		P	16 14 24.6	-1.4
CCM				pmax		pmax		
	comp=Z,18nm,1.0s							
CCM	Cathedral Cave	54.30	72	P		P	16 14 24.3	-1.7
	baz=312							
CCM	Cathedral Cave	54.30	72	P		P	16 14 24.6	-1.4
CCM				IAmb		IAmb	16 14 40.0	
	comp=Z,18nm,0.9s							
JCT	Junction City	54.30	85	P		P	16 14 26.1	-0.1
	baz=315							
JCT	Junction City	54.30	85	IAmb		IAmb	16 14 55.4	
	comp=Z,28nm,0.9s							
NUUK	Nuuk	54.42	29	*i* P		P	16 14 28.1	+1.6
NUUK				IAmb		IAmb	16 14 28.5	
	comp=Z,24nm,1.0s							
U40A	Yellville	54.49	75	P		P	16 14 25.8	-1.6
	baz=312,SNR=6.3							
U40A	Yellville	54.49	75	IAmb		IAmb	16 14 48.5	
	comp=Z,28nm,1.2s							
L46A	Eue Claire	54.52	65	IAmb		IAmb	16 14 28.3	
	comp=Z,34nm,0.8s							
NJ2	Nanjing	54.62	278	⇑P		P	16 14 27.5	-0.9
NJ2				pP		pP	16 14 35.5	0.0
NJ2				sP		sP	16 14 38.3	0.0
NJ2				pmax		pmax		
	comp=Z,66nm,0.9s							
NJ2				LR		LR		
	comp=Z,450nm,20.0s							
NJ2				LR		LR		
	comp=Z,560nm,19.9s							
NJ2				LR		LR		
	comp=Z,790nm,19.4s							
TIY	Taiyuan	54.63	288	*e*P		P	16 14 29.0	+0.5
TIY				S		S	16 22 07.8	+1.2
TIY				pmax		pmax		
	comp=Z,53nm,0.9s							
TIY				LR		LR		
	comp=Z,400nm,14.9s							
TIY				LR		LR		
	comp=Z,420nm,16.0s							
TIY				LR		LR		
	comp=Z,730nm,21.3s							
WHTX	Lake Whitney,	54.69	82	P		P	16 14 28.5	-0.4
	baz=314							
WHTX	Lake Whitney,	54.69	82	P		P	16 14 29.1	+0.2
WHTX				IAmb		IAmb	16 14 54.8	
	comp=Z,46nm,0.9s							
W39A	Magazine	54.72	76	P		P	16 14 28.1	-0.9
	baz=313							
W39A	Magazine	54.72	76	IAmb		IAmb	16 14 51.3	
	comp=Z,31nm,1.1s							
LSQQ	Lebel-sur-Quev	54.84	54	P		P	16 14 29.0	-0.8
	baz=311							
SFIN	Lafayette	55.15	67	P		P	16 14 30.3	-1.8
	baz=312							
SFIN	Lafayette	55.15	67	IAmb		IAmb	16 14 46.8	
	comp=Z,38nm,0.9s							
FCAR	Ozark Folk Cen	55.24	75	IAmb		IAmb	16 14 47.5	
	comp=Z,36nm,1.0s							
MIAR	Mount Ida	55.28	77	P		P	16 14 32.1	-1.1
	baz=313,SNR=9.2							
MIAR	Mount Ida	55.28	77	IAmb		IAmb	16 14 54.4	
	comp=Z,44nm,1.1s							
435B	Jarrell	55.45	83	P		P	16 14 35.1	+0.6
	baz=315							
SCO	Scoresbysund	55.53	13	*i* P		P	16 14 34.0	-0.4
SCO				IAmb		IAmb	16 14 36.0	
	comp=Z,51nm,0.9s							
SCO	Scoresbysund	55.53	13	*i* P		P	16 14 34.0	-0.4
SCO				pmax		pmax		
	comp=Z,51nm,0.9s							
WHAR	Wooly Hollow	55.55	75	P		P	16 14 35.7	+0.6
WHAR				IAmb		IAmb	16 14 49.6	
	comp=Z,49nm,1.7s							
CHGQ	Chibougamau	55.55	51	P		P	16 14 32.9	-2.0
	baz=312,SNR=7.1							
PBMO	Poplar Bluff	55.64	73	IAmb		IAmb	16 14 49.8	
	comp=Z,21nm,1.1s							
SCHQ	Schefferville	55.65	43	P		P	16 14 35.7	+0.1
	comp=Z,34nm,1.0s,baz=324,slow=8.0,SNR=23							
SCHQ				LR		LR	16 41 34.9	
	comp=Z,1μm,18.4s,baz=318,slow=39							
SCHQ	Schefferville	55.65	43	IAmb		IAmb	16 14 49.6	
	comp=Z,34nm,0.8s							
W41B	Gary Mavity, V	55.65	75	P		P	16 14 35.1	-0.7
	baz=313							
X40A	Basin Creek Fa	55.77	76	P		P	16 14 35.5	-1.2
	baz=314							
X40A	Basin Creek Fa	55.77	76	IAmb		IAmb	16 14 57.4	
	comp=Z,25nm,1.4s							
833A	Chaparral WMA,	56.08	86	P		P	16 14 39.1	+0.2
	baz=316							
ALGO	Algonquin Park	56.36	57	P		P	16 14 39.6	-1.1
	baz=312,SNR=18							
N49A	Columbus Grove	56.44	65	P		P	16 14 39.8	-1.5
N49A				IAmb		IAmb	16 14 42.4	
	comp=Z,26nm,1.1s							
USIN	University of	56.45	70	P		P	16 14 41.2	-0.3
NATX	Nacogdoches	56.55	80	P		P	16 14 41.1	-1.2
	baz=314							
SADO	Sadowa	56.59	59	IAmb		IAmb	16 14 56.9	
	comp=Z,26nm,0.8s							
Z41A	Richland Creek	56.64	77	P		P	16 14 40.5	-2.3
	baz=314							
P48A	Milroy	56.72	67	P		P	16 14 42.1	-1.3
P48A				IAmb		IAmb	16 14 57.2	
	comp=Z,39nm,1.0s							
O49A	Covington	56.84	66	P		P	16 14 43.4	-0.9
O49A				IAmb		IAmb	16 14 45.1	
	comp=Z,24nm,1.1s							
ANGG	Ammassalik, Gr	56.97	22	⇑*i*P		P	16 14 44.6	-0.1
ANGG				IAmb		IAmb	16 14 45.4	
	comp=Z,52nm,1.0s							
WCI	Wyandotte Cave	57.06	69	P		P	16 14 43.3	-2.5
	baz=313							
P49A	Miami Univ. Ec	57.07	67	P		P	16 14 44.6	-1.3
	baz=313							
P49A	Miami Univ. Ec	57.07	67	IAmb		IAmb	16 14 59.6	
	comp=Z,25nm,0.9s							
HAMF	Hammerfest	57.26	355	*e*P		P	16 14 46.5	-0.2
T47A	Sharon Grove	57.44	70	IAmb		IAmb	16 15 03.9	
	comp=Z,39nm,1.0s							
N51A	Ashland	57.45	64	IAmb		IAmb	16 14 49.6	
	comp=Z,40nm,1.1s							
PLVO	Plevna	57.49	57	P		P	16 14 48.0	-0.8
PLVO				IAmb		IAmb	16 15 07.3	
	comp=Z,38nm,0.9s							
DELO	Deloro Mine	57.56	58	IAmb		IAmb	16 15 04.3	
	comp=Z,28nm,0.9s							
ACSO	Alum Creek Sta	57.58	65	P		P	16 14 47.2	-2.2
	baz=313							
M52A	Chesterland	57.58	63	IAmb		IAmb	16 14 50.8	
	comp=Z,34nm,1.1s							
WVT	Waverly	57.61	71	P		P	16 14 49.7	0.0
WVT				pmax		pmax		
	comp=Z,40nm,1.3s							
WVT	Waverly	57.61	71	P		P	16 14 48.1	-1.7
	baz=314							
WVT	Waverly	57.61	71	P		P	16 14 49.7	0.0
WVT				IAmb		IAmb	16 15 11.3	
	comp=Z,40nm,1.2s							
ZAA0

comp=Z,952nm,18.1s,baz=48,slow=39
ZALV Zalesovo Beam 57.68 318 P **P** **16 14 48.5 -1.4**
ZALV PcP **PcP** **16 15 43.2 +0.5**
OXF Oxford 57.80 74 P **P** **16 14 49.8 -1.3**
baz=314
J54A Appleton 57.87 60 IAmb IAmb 16 15 06.6
comp=Z,36nm,0.8s
KEV Kevo 57.92 353 P **P** **16 14 51.0 -0.4**
KEV pmax pmax
comp=Z,48nm,0.9s
KEV Kevo 57.92 353 P **P** **16 14 51.0 -0.4**
ERPA Erie 57.93 61 P **P** **16 14 50.4 -1.6**
baz=313
M53A WI Miller and 58.02 62 P **P** **16 14 50.0 -2.6**
baz=313,SNR=8.1
M53A WI Miller and 58.02 62 IAmb IAmb 16 14 54.2
comp=Z,42nm,1.0s
MEDO Medina 58.04 60 P **P** **16 14 51.5 -1.2**
MEDO IAmb IAmb 16 15 06.8
comp=Z,32nm,0.9s
R50A Paris 58.15 67 IAmb IAmb 16 15 08.2
comp=Z,22nm,0.9s
Q51A Peebles 58.20 66 IAmb IAmb 16 14 55.4
comp=Z,48nm,1.1s
ARA0 ARCESS Array S 58.24 354 *e*P **P** **16 14 53.5 -0.2**
ARCES ARCESS Array B 58.24 354 P **P** **16 14 52.8 -0.9**
comp=Z,38nm,0.9s,baz=22,slow=6.7,SNR=31
ARCES LR LR 16 42 11.6
comp=Z,777nm,19.0s,baz=355,slow=38
ARCES ARCESS Array B 58.24 354 P **P** **16 14 52.5 -1.2**
ARCES pmax pmax
comp=Z,48nm,1.1s
ARCES ARCESS Array B 58.24 354 P **P** **16 14 52.5 -1.2**
ARCES IAmb IAmb 16 14 54.8
comp=Z,48nm,1.1s
PLAL Pickwick Lake 58.26 73 P **P** **16 14 53.7 -0.6**
PLAL IAmb IAmb 16 15 17.7
comp=Z,20nm,0.9s
PECO Prince Edward 58.28 58 IAmb IAmb 16 15 09.5
comp=Z,39nm,0.9s
J55A Hilton 58.31 59 IAmb IAmb 16 15 09.6
comp=Z,30nm,0.8s
N53A Lisbon 58.37 63 P **P** **16 14 54.2 -0.9**
N53A IAmb IAmb 16 14 56.4
comp=Z,33nm,1.1s
WHN Wuhan 58.42 280 ⇑P **P** **16 14 55.0 -0.5**
WHN S **S** **16 22 57.0 +0.3**
WHN pmax pmax
comp=Z,160nm,0.9s
WHN LR LR
comp=Z,920nm,13.9s
WHN LR LR
comp=Z,670nm,18.1s
WHN LR LR
comp=Z,1μm,16.9s
P52A Corning 58.46 65 P **P** **16 14 53.0 -2.6**
baz=314
TRO Tromso 58.48 357 *e*P **P** **16 14 55.7 +0.4**
JETT Jettan, Norway 58.50 356 *e*P **P** **16 14 55.8 +0.2**
CLTN Cedars of Leba 58.51 71 IAmb IAmb 16 15 11.7
comp=Z,18nm,0.9s
M54A Oil Creek Stat 58.53 62 P **P** **16 14 54.5 -1.6**
baz=314,SNR=6.9
M54A Oil Creek Stat 58.53 62 IAmb IAmb 16 14 57.7
comp=Z,24nm,0.9s
O53A New Philadelph 58.55 64 P **P** **16 14 53.9 -2.4**
baz=314
O53A New Philadelph 58.55 64 IAmb IAmb 16 14 56.9
comp=Z,17nm,0.8s
NRS Narsarsuaq 58.61 28 *i* P **P** **16 14 56.0 -0.3**
NRS IAmb IAmb 16 14 58.2
comp=Z,40nm,0.9s
NRS Narsarsuaq 58.61 28 *i* P **P** **16 14 56.0 -0.3**
NRS pmax pmax
comp=Z,40nm,0.9s
N54A Moraine State 58.73 62 P **P** **16 14 56.4 -1.1**
baz=314,SNR=6.0
N54A Moraine State 58.73 62 P **P** **16 14 56.4 -1.1**
N54A IAmb IAmb 16 14 59.0
comp=Z,25nm,1.1s
T50A Nancy 58.73 69 IAmb IAmb 16 15 12.3
comp=Z,27nm,0.9s
H57A Richville 58.75 57 P **P** **16 14 56.1 -1.5**
baz=314,SNR=23
J56A Wolcott 58.81 59 IAmb IAmb 16 15 12.9
comp=Z,29nm,0.9s
KTK1 Kautokeino 58.90 355 *e*P **P** **16 14 58.0 -0.3**
K56A Middlesex 58.97 59 P **P** **16 14 57.9 -1.2**
baz=314,SNR=9.3
P53A Whipple 58.98 64 IAmb IAmb 16 15 00.0
comp=Z,20nm,0.9s
I57A Carthage 58.98 57 P **P** **16 14 57.1 -2.1**
baz=314,SNR=21
S51A Beattyville 59.02 67 IAmb IAmb 16 15 19.9
comp=Z,15nm,0.8s
LVZ Lovozero 59.04 350 *ce*P **P** **16 14 57.8 -1.5**
LVZ pmax pmax
comp=Z,142nm,1.0s
LVZ Lovozero 59.04 350 P **P** **16 14 58.6 -0.7**
LONY Lake Ozonia 59.06 56 P **P** **16 14 57.7 -2.0**
baz=314,SNR=13
LONY Lake Ozonia 59.06 56 IAmb IAmb 16 15 19.9
comp=Z,22nm,0.8s
LMQ La Malbaie 59.13 51 IAmb IAmb 16 15 17.9
comp=Z,34nm,1.1s
XAN Xi'an 59.22 287 P **P** **16 15 00.5 -0.6**
XAN pP pP 16 15 06.8 -1.4
XAN sP sP 16 15 09.8 -1.1
XAN PP **PP** **16 17 14.3 +2.6**
XAN S **S** **16 23 08.5 +1.3**
XAN sS sS 16 23 19.5 +0.4
XAN ScS **ScS** **16 24 42.0 -7.2**
XAN pmax pmax
comp=Z,130nm,1.2s
XAN pmax pmax
comp=Z,330nm,4.7s
XAN LR LR
comp=Z,880nm,18.7s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,2μm,21.1s
K57A Scipio Center 59.37 59 P **P** **16 15 01.6 -0.3**
K57A IAmb IAmb 16 15 16.9
comp=Z,29nm,0.9s
H58A Gabriels 59.41 56 P **P** **16 14 59.9 -2.3**
baz=314,SNR=5.9
R53A Hurricane 59.47 66 IAmb IAmb 16 15 17.4
comp=Z,41nm,1.1s
APA Apatity 59.49 350 ⇑*i*P **P** **16 15 00.4 -1.9**
APA *i* 16 17 10.0
APA *i* S **S** **16 23 03.0 -6.6**
APA *i* SS **SS** **16 27 11.0 +7.1**
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,1μm,16.0s
H59A Cadyville 59.50 56 P **P** **16 15 00.9 -1.9**
baz=314,SNR=12
I58A Old Forge 59.51 57 P **P** **16 15 01.9 -1.0**
baz=314,SNR=20
J58A Remsen 59.58 58 P **P** **16 15 02.4 -1.0**
baz=314,SNR=20
DGZ Jazzator, Alta 59.58 313 *i* P **P** **16 15 03.0 -0.5**
DGZ pmax pmax
comp=Z,24nm,0.6s
Q54A Coxs Mills 59.64 65 IAmb IAmb 16 15 04.9
comp=Z,26nm,0.9s
MCWV Mont Chateau 59.71 63 P **P** **16 15 03.4 -0.9**
baz=314
MCWV Mont Chateau 59.71 63 P **P** **16 15 03.6 -0.7**
TPUB Ta-pu 59.80 270 IAmb IAmb 16 15 30.2
comp=Z,25nm,0.9s
TZTN Tazewell 59.80 68 P **P** **16 15 04.7 -0.3**
baz=315
TZTN Tazewell 59.80 68 IAmb IAmb 16 15 19.8
comp=Z,30nm,1.1s
QZH Quanzhou 59.85 273 P **P** **16 15 03.0 -2.4**
QZH S **S** **16 23 19.0 +3.7**
QZH LR LR
comp=Z,280nm,18.0s
QZH LR LR
comp=Z,280nm,18.0s
J59A Piesco 59.91 57 IAmb IAmb 16 15 23.9
comp=Z,18nm,0.7s
N2VI Vinje 59.92 358 *e*P **P** **16 15 05.7 +0.4**

O56A Blue Knob Stat 59.99 62 P **P** **16 15 05.7 -0.6**
baz=315,SNR=9.5
O56A Blue Knob Stat 59.99 62 IAmb IAmb 16 15 25.9
comp=Z,24nm,0.8s
I59A Olmsteadville 60.00 56 P **P** **16 15 06.0 -0.2**
baz=315,SNR=8.5
FPAL Fort Paine 60.02 71 IAmb IAmb 16 15 29.8
comp=Z,29nm,0.8s
M57A Sunshine Farm, 60.02 60 P **P** **16 15 05.8 -0.6**
M57A IAmb IAmb 16 15 23.8
comp=Z,19nm,0.8s
BINY Binghamton 60.02 59 P **P** **16 15 06.0 -0.5**
baz=315,SNR=8.2
BINY Binghamton 60.02 59 IAmb IAmb 16 15 21.7
comp=Z,36nm,0.9s
H60A Morristown 60.06 55 P **P** **16 15 05.8 -0.9**
baz=315,SNR=5.7
D62A Allapoint, All 60.07 51 P **P** **16 15 05.6 -1.1**
baz=316,SNR=6.8
D62A Allapoint, All 60.07 51 IAmb IAmb 16 15 24.8
comp=Z,18nm,0.8s
SSPA Standing Stone 60.10 61 P **P** **16 15 05.4 -1.5**
baz=315
SSPA Standing Stone 60.10 61 P **P** **16 15 06.4 -0.6**
SSPA IAmb IAmb 16 15 08.7
comp=Z,35nm,0.9s
LOF Lofoten 60.12 359 *e*P **P** **16 15 06.0 -0.7**
E62A Clayton Lake 60.17 52 P **P** **16 15 05.3 -2.1**
baz=316
E62A Clayton Lake 60.17 52 IAmb IAmb 16 15 29.5
comp=Z,14nm,0.9s
VT1 Waterbury 60.20 55 IAmb IAmb 16 15 21.5
comp=Z,29nm,1.0s
S54A Dingess, Beckl 60.20 66 IAmb IAmb 16 15 22.5
comp=Z,34nm,0.9s
L58A Harry Jones Me 60.20 59 P **P** **16 15 07.3 -0.3**
baz=315,SNR=15
N2IH Innavet 60.24 358 *e*P **P** **16 15 07.5 0.0**
I60A Shoreham 60.27 56 P **P** **16 15 06.6 -1.4**
baz=315
V52A Sevierville 60.27 69 IAmb IAmb 16 15 22.9
comp=Z,19nm,0.9s
STEI Steigen 60.29 358 *e*P **P** **16 15 07.2 -0.6**
N2SV S rv gen 60.37 359 *e*P **P** **16 15 07.9 -0.4**
H61A Lyndonville 60.47 55 P **P** **16 15 07.8 -1.6**
baz=315
Q56A Snyder Ridge, 60.51 63 P **P** **16 15 08.9 -0.9**
Q56A IAmb IAmb 16 15 11.6
comp=Z,19nm,1.1s
R55A Marlinton 60.53 65 IAmb IAmb 16 15 36.9
comp=Z,32nm,1.1s
D63A Stockholm 60.55 50 P **P** **16 15 08.8 -1.1**
baz=316
N58A Sunbury 60.59 60 IAmb IAmb 16 15 12.2
comp=Z,26nm,1.1s
N2VA Vr y 60.60 359 *e*P **P** **16 15 10.1 +0.2**
J60A Lant Hill Farm 60.62 57 P **P** **16 15 09.9 -0.6**
baz=315,SNR=16
GTA Gaotai 60.65 297 ⇑P **P** **16 15 10.0 -0.9**
GTA pP pP 16 15 15.8 -2.4
GTA sP sP 16 15 18.8 -1.8
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,120nm,7.6s
GTA LR LR
comp=Z,930nm,17.9s
GTA LR LR
comp=Z,2μm,18.7s
GTA LR LR
comp=Z,2μm,17.5s
N2TV T rnvik 60.66 358 *e*P **P** **16 15 10.5 +0.2**
G62A West of Eustis 60.68 53 P **P** **16 15 10.2 -0.6**
baz=316,SNR=8.4
G62A West of Eustis 60.68 53 IAmb IAmb 16 15 24.9
comp=Z,20nm,0.8s
LBNH Lisbon 60.68 55 P **P** **16 15 09.9 -1.0**
baz=315
LZH Lanzhou 60.73 292 ⇑P **P** **16 15 11.8 +0.2**
LZH pP pP 16 15 18.0 -0.7
LZH sP sP 16 15 21.0 -0.5
LZH S **S** **16 23 27.3 +0.5**
LZH SS **SS** **16 27 24.0 -1.1**
LZH pmax pmax
comp=Z,74nm,1.3s
LZH pmax pmax
comp=Z,270nm,6.5s
LZH LR LR
comp=Z,2μm,17.4s
LZH LR LR
comp=Z,2μm,16.3s
LZH LR LR
comp=Z,2μm,17.4s
N2RO R st 60.75 359 *e*P **P** **16 15 11.3 +0.4**
U54A Nelsons Funny 60.81 67 IAmb IAmb 16 15 31.9
comp=Z,20nm,0.8s
H62A Milan 60.83 54 P **P** **16 15 11.4 -0.4**
baz=316,SNR=12
H62A Milan 60.83 54 P **P** **16 15 11.5 -0.4**
H62A IAmb IAmb 16 15 30.0
comp=Z,24nm,0.8s
V53A Saluda 60.84 69 IAmb IAmb 16 15 30.6
comp=Z,16nm,0.9s
FAUS Fauske 60.84 358 *e*P **P** **16 15 11.9 +0.3**
P57A Homestead Farm 60.84 62 IAmb IAmb 16 15 13.9
comp=Z,35nm,1.1s
E63A Oxbow 60.84 51 P **P** **16 15 09.0 -3.0**
baz=316
E63A Oxbow 60.84 51 IAmb IAmb 16 15 29.3
comp=Z,17nm,0.8s
NBB08 Skaug oppvekst 60.85 358 *e*P **P** **16 15 12.1 +0.5**
TRY Troy 60.86 57 P **P** **16 15 12.0 -0.1**
TRY IAmb IAmb 16 15 33.7
comp=Z,18nm,0.9s
N2ST Straumen 60.87 358 *e*P **P** **16 15 12.0 +0.2**
J61A Chester 61.00 56 P **P** **16 15 12.2 -0.8**
baz=316,SNR=7.5
PAGS Pennsylvania G 61.02 61 IAmb IAmb 16 15 34.1
comp=Z,27nm,1.0s
F63A Nahmakanta, Br 61.03 52 P **P** **16 15 11.0 -2.2**
baz=316,SNR=9.3
F63A Nahmakanta, Br 61.03 52 IAmb IAmb 16 15 35.5
comp=Z,26nm,0.8s
N59A State Game Lan 61.04 60 P **P** **16 15 11.9 -1.5**
baz=315
K61A Williamstown 61.11 57 P **P** **16 15 11.7 -2.1**
baz=316,SNR=5.7
BLA Blacksburg 61.11 66 P **P** **16 15 13.7 -0.3**
BLA pmax pmax
comp=Z,49nm,0.9s
BLA Blacksburg 61.11 66 P **P** **16 15 12.5 -1.4**
baz=315,SNR=14
BLA Blacksburg 61.11 66 P **P** **16 15 13.7 -0.3**
E64A Bridgewater 61.13 51 P **P** **16 15 11.3 -2.5**
baz=316,SNR=5.6
G63A Kingsbury 61.20 53 P **P** **16 15 12.1 -2.4**
baz=316
NBB05 Inndyr 61.21 358 *e*P **P** **16 15 14.4 +0.3**
I62A Tamworth 61.24 55 P **P** **16 15 13.2 -1.4**
baz=316
PKME Peaks-Kenny Pk 61.26 52 P **P** **16 15 13.1 -1.6**
baz=316
PKME Peaks-Kenny Pk 61.26 52 IAmb IAmb 16 15 40.2
comp=Z,15nm,0.8s
F64A Sherman 61.28 51 P **P** **16 15 12.8 -2.1**
baz=316,SNR=5.8
F64A Sherman 61.28 51 IAmb IAmb 16 15 32.3
comp=Z,22nm,0.9s
NBB30 Finnes 61.28 359 *e*P **P** **16 15 14.0 -0.6**
H63A New Sharon 61.32 53 P **P** **16 15 12.6 -2.6**
baz=316
NBB17 Glomfjord B r 61.44 359 *e*P **P** **16 15 16.1 +0.5**
250A Grady 61.45 74 P **P** **16 15 16.1 -0.1**
J62A Henniker 61.46 56 P **P** **16 15 14.2 -2.0**
baz=316,SNR=6.7
I63A Otisfield 61.49 54 P **P** **16 15 14.1 -2.3**
baz=316
I63A Otisfield 61.49 54 IAmb IAmb 16 15 34.8
comp=Z,17nm,0.8s
NBB15 Halsa Church 61.51 359 *e*P **P** **16 15 16.9 +0.7**
G64A Maxfield 61.53 52 P **P** **16 15 15.2 -1.3**
baz=316
S57A Dark Hollow, R 61.55 64 IAmb IAmb 16 15 31.4
comp=Z,58nm,1.5s
ENH Enshi 61.55 284 P **P** **16 15 15.8 -1.2**
BRAL Brewton 61.56 75 P **P** **16 15 16.0 -1.0**
baz=316

L61B Northampton 61.57 57 P **P** **16 15 14.7 -2.2**
baz=316
WVL Waterville 61.58 53 IAmb IAmb 16 15 39.3
comp=Z,17nm,0.8s
V55A Taylorsville 61.63 67 IAmb IAmb 16 15 32.9
comp=Z,19nm,0.9s
NBB13 Alf Garage 61.63 359 *e*P **P** **16 15 17.2 +0.3**
K62A Royalston 61.65 56 P **P** **16 15 16.1 -1.4**
baz=316,SNR=10
K62A Royalston 61.65 56 IAmb IAmb 16 15 32.5
comp=Z,22nm,0.8s
H64A Troy 61.74 53 P **P** **16 15 16.9 -1.2**
baz=316
U56A King 61.75 66 P **P** **16 15 18.0 -0.2**
NBB40 Tonnes 61.75 359 *e*P **P** **16 15 18.0 +0.3**
KONS Konsvik 61.77 359 *e*P **P** **16 15 18.3 +0.4**
J63A Strafford 61.80 55 P **P** **16 15 17.0 -1.4**
baz=316
WUPA West Chester U 61.83 61 IAmb IAmb 16 15 23.3
comp=Z,18nm,0.9s
P60A Greenville 61.90 61 P **P** **16 15 17.2 -2.0**
baz=316
P60A Greenville 61.90 61 P **P** **16 15 16.3 -2.9**
T57A Hurt 61.92 65 IAmb IAmb 16 15 21.0
comp=Z,24nm,0.9s
STOK Stokkvaagen 61.93 359 *e*P **P** **16 15 19.1 +0.1**
PAL Palisades 61.97 59 P **P** **16 15 18.0 -1.6**
baz=316
PAL Palisades 61.97 59 IAmb IAmb 16 15 34.8
comp=Z,29nm,0.9s
K63A Dunstable 61.99 56 P **P** **16 15 17.8 -1.9**
baz=316,SNR=5.7
K63A Dunstable 61.99 56 P **P** **16 15 19.9 +0.2**
K63A IAmb IAmb 16 15 37.8
comp=Z,47nm,1.3s
R58B Mineral 62.00 64 IAmb IAmb 16 15 21.5
comp=Z,18nm,0.9s
PAULI Pauline 62.02 69 IAmb IAmb 16 15 34.7
comp=Z,14nm,0.9s
I64A Boothbay 62.06 54 P **P** **16 15 17.9 -2.3**
baz=316
KMSC Kings Mountain 62.06 68 P **P** **16 15 19.7 -0.7**
baz=316
KMSC Kings Mountain 62.06 68 IAmb IAmb 16 15 35.6
comp=Z,28nm,0.9s
GOGA Godfrey 62.07 71 P **P** **16 15 18.8 -1.6**
baz=316
MOR8 Moi Rana 62.08 358 *e*P **P** **16 15 18.3 -1.6**
HRV Adam Dziewonsk 62.11 56 P **P** **16 15 19.4 -1.2**
HRV pmax pmax
comp=Z,31nm,1.3s
HRV Adam Dziewonsk 62.11 56 P **P** **16 15 18.3 -2.2**
baz=316
HRV Adam Dziewonsk 62.11 56 P **P** **16 15 19.4 -1.2**
HRV IAmb IAmb 16 15 38.4
comp=Z,31nm,1.3s
G65A Princeton 62.14 52 P **P** **16 15 18.8 -1.9**
baz=317
G65A Princeton 62.14 52 IAmb IAmb 16 15 38.8
comp=Z,14nm,0.9s
WSPT Westport, CT 62.15 58 P **P** **16 15 21.0 +0.2**
WSPT IAmb IAmb 16 15 35.8
comp=Z,26nm,0.8s
H65A Eastbrook 62.18 52 P **P** **16 15 20.4 -0.6**
baz=317
SEM Semipalatinsk 62.19 317 *e*P **P** **16 15 18.5 -2.8**
baz=317
SEM Semipalatinsk 62.19 317 *e*P **P** **16 15 18.4 -2.8**
WES Weston 62.32 56 IAmb IAmb 16 15 25.2
comp=Z,31nm,1.1s
ZSN Zaisan 62.39 313 *e*P **P** **16 15 21.2 -1.2**
comp=Z,31nm,0.9s,baz=312
ZSN Zaisan 62.39 313 *e*P **P** **16 15 21.2 -1.2**
ZSN pmax pmax
comp=Z,31nm,0.9s
BRYW Bryant College 62.54 56 P **P** **16 15 23.1 -0.4**
BRYW IAmb IAmb 16 15 41.9
comp=Z,14nm,0.7s
L63A North Scituate 62.55 57 P **P** **16 15 21.4 -2.1**
baz=316
L63A North Scituate 62.55 57 IAmb IAmb 16 15 26.9
comp=Z,32nm,1.2s
GGN Saint George 62.55 51 IAmb IAmb 16 15 44.2
comp=Z,12nm,0.8s
EMMW East Machias 62.55 52 IAmb IAmb 16 15 41.4
comp=Z,26nm,0.9s
H66A Whiting 62.57 52 P **P** **16 15 22.0 -1.6**
baz=317
KURK Kurchatov 62.63 318 P **P** **16 15 23.4 -0.5**
KURBB Kurchatov Arra 62.74 318 P **P** **16 15 23.4 -1.2**
comp=Z,59nm,0.9s,baz=44,slow=7.4,SNR=9.2
W57A Gilead 62.82 67 P **P** **16 15 25.4 -0.1**
W57A IAmb IAmb 16 15 38.7
comp=Z,20nm,1.0s
V58A Windy Hill, Pi 62.86 66 IAmb IAmb 16 15 27.6
comp=Z,42nm,1.1s
BIRD Birdtown, Kers 62.92 68 IAmb IAmb 16 15 40.0
comp=Z,23nm,1.0s
M64A Tiverton 62.98 57 P **P** **16 15 23.4 -2.9**
baz=317
M64A Tiverton 62.98 57 IAmb IAmb 16 15 28.3
comp=Z,28nm,1.1s
U59A Littleton 63.20 65 IAmb IAmb 16 15 43.2
comp=Z,24nm,1.1s
PRGR Permogore 63.30 342 *e*P **P** **16 15 27.3 -0.8**
PRGR pmax pmax
comp=Z,83nm,1.0s
X58A Rowland 63.63 67 IAmb IAmb 16 15 44.5
comp=Z,51nm,1.2s
DRLN Deer Lake 63.65 43 P **P** **16 15 31.2 +0.6**
WMQ Urumqi 63.75 308 *e*P **P** **16 15 31.5 -0.1**
WMQ pP pP 16 15 37.5 -1.4
WMQ sP pwP 16 15 44.0 +1.1
WMQ PcP **PcP** **16 16 05.3 -2.1**
WMQ pmax pmax
comp=Z,52nm,1.3s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ LR LR
comp=Z,2μm,20.1s
WMQ LR LR
comp=Z,970nm,20.1s
WMQ LR LR
comp=Z,1μm,18.7s
NSS Namsos 63.75 359 *e*P **P** **16 15 31.2 +0.1**
SVE Sverdlovsk 63.99 332 *de*P **P** **16 15 32.3 -0.5**
SVE *e*S **S** **16 24 13.3 +6.5**
SVE pmax pmax
comp=Z,68nm,1.1s
BRVK Borovoye 63.99 325 *ce*P **P** **16 15 31.8 -1.1**
BRVK pmax pmax
comp=Z,47nm,0.9s
BRVK Borovoye 63.99 325 P **P** **16 15 32.3 -0.6**
MK31 Makanchi Array 64.05 314 IAmb IAmb 16 15 34.1
comp=Z,20nm,1.1s
MKAR Makanchi Array 64.05 314 P **P** **16 15 31.4 -2.0**
comp=Z,9.7nm,0.7s,baz=46,slow=6.9,SNR=70
MKAR LR LR 16 44 15.3
comp=Z,964nm,19.9s,baz=30,slow=37
MKAR Makanchi Array 64.05 314 P **P** **16 15 31.7 -1.7**
MKAR Makanchi Array 64.05 314 P **P** **16 15 31.7 -1.7**
MAKZ Makanchi 64.18 314 P **P** **16 15 33.0 -1.3**
MAKZ Makanchi 64.18 314 P **P** **16 15 33.0 -1.3**
MAKZ IAmb IAmb 16 15 35.0
comp=Z,26nm,1.1s
NHSC New Hope 64.19 69 P **P** **16 15 33.4 -1.0**
baz=317
SZP Santa 64.21 266 P **P** **16 15 33.6 -1.1**
CD2 Chengdu 64.50 288 P **P** **16 15 34.5 -2.1**
CD2 pP pP 16 15 37.0 -6.8
CD2 S **S** **16 24 12.5 -1.5**
CD2 SS **SS** **16 28 22.8 -1.1**
CD2 pmax pmax
comp=Z,190nm,1.0s
CD2 pmax pmax
comp=Z,320nm,4.5s
CD2 LR LR
comp=Z,950nm,21.2s
CD2 LR LR
comp=Z,750nm,17.7s
CD2 LR LR
comp=Z,940nm,21.0s
GBN Guysborough 64.84 48 P **P** **16 15 39.3 +0.8**
ARU Arti 64.92 333 P **P** **16 15 37.7 -1.2**
comp=Z,20nm,1.0s,baz=15,slow=7.2,SNR=14
ARU Arti 64.92 333 *c i*P **P** **16 15 37.8 -1.0**

ARU 16 16 10.7
ARU 16 17 57.3
ARU S **S** **16 24 19.7 +1.4**
ARU pmax pmax
comp=Z,82nm,1.0s
ARU Arti 64.92 333 P **P** **16 15 37.9 -1.0**
KLMR Klimovskoe 65.10 345 *e*P **P** **16 15 37.2 -2.8**
KLMR *e* 16 17 59.9
KLMR *e*S **S** **16 24 22.2 +1.8**
KLMR pmax pmax
comp=Z,67nm,1.2s
KLMR Klimovskoe 65.10 345 *e*P **P** **16 15 37.2 -2.8**
KLMR AMP 16 15 40.9
comp=Z,67nm,1.2s
KLMR *e*PP **PP** **16 18 00.0 -2.6**
KLMR *e*S **S** **16 24 22.2 +1.8**
KLMR *e*S **S** **16 24 22.2 +1.8**
KLMR LQ LQ 16 39 48.5
KLMR LQ LQ 16 39 48.5
KLMR LR LR 16 46 19.9
KLMR AMP 16 51 48.5
comp=Z,668nm,17.4s
KIRV Kirov 65.31 339 P **P** **16 15 40.9 -0.4**
comp=Z,61nm,0.9s,baz=27,slow=4.5,SNR=7.0
KIRV Kirov 65.31 339*c*e**P** **P** **16 15 40.6 -0.7**
BRZS Berezniki 65.58 321⇑*i*P **P** **16 15 41.9 -1.4**
comp=Z,24nm,1.0s,baz=321
BRZS Berezniki 65.58 321*c i*P **P** **16 15 41.9 -1.4**
BRZS pmax pmax
comp=Z,24nm,1.0s
TAOE Nuku Hiva Isla 65.63 148 *e*S **S** **16 24 30.2 +2.2**
comp=Z,2μm,27.4s
TAOE *e*LQ LQ 16 32 39.3
comp=Z,1μm,34.3s
TAOE *e*LR LR 16 35 25.0
comp=Z,624nm,20.8s
TAOE Nuku Hiva Isla 65.63 148 *e*T T 17 27 04.9
comp=Z,24nm,0.2s
MOL Molde 65.70 2 *e*P **P** **16 15 44.3 +0.5**
GYA Guiyang 66.03 283 ⇓P **P** **16 15 46.5 -0.2**
GYA sP pwP 16 15 58.3 -0.2
GYA S **S** **16 24 34.8 +1.8**
GYA pmax pmax
comp=Z,78nm,1.0s
GYA pmax pmax
comp=Z,270nm,3.5s
GYA LR LR
comp=Z,570nm,19.3s
GYA LR LR
comp=Z,710nm,18.8s
GYA LR LR
comp=Z,1μm,17.2s
AKN Aaknes 66.08 2 *e*P **P** **16 15 46.8 +0.4**
FINES FINESS Array B 66.19 352 P **P** **16 15 45.8 -1.2**
comp=Z,69nm,0.9s,baz=21,slow=6.3,SNR=99
FINES LR LR 16 44 38.7
comp=Z,630nm,21.8s,baz=11,slow=36
FINES FINESS Array B 66.19 352 P **P** **16 15 46.1 -0.9**
FINES FINESS Array B 66.19 352 P **P** **16 15 46.1 -0.9**
DOMB Dombas 66.25 1 *e*P **P** **16 15 47.6 +0.2**
FOO Floro 66.61 3 *e*P **P** **16 15 50.1 +0.5**
RAF Rauma 66.93 354 *e*P **P** **16 15 51.0 -0.7**
HYA Hoyanger 67.08 2 *e*P **P** **16 15 53.1 +0.4**
DWPF Disney Wildern 67.12 73 P **P** **16 15 51.0 -2.4**
baz=318
TDK Taldyqorghan 67.16 315 *e*P **P** **16 15 52.4 -1.1**
baz=314
TDK Taldyqorghan 67.16 315 *e*P **P** **16 15 52.4 -1.1**
NB2 NORSAR Subarra 67.26 360 P **P** **16 15 53.2 -0.7**
comp=Z,40nm,0.8s,baz=0.8,slow=6.9
NB2 NORSAR Subarra 67.26 360 P **P** **16 15 53.2 -0.7**
baz=0.8,slow=6.9
NOA NORSAR Array B 67.26 360 P **P** **16 15 52.6 -1.3**
comp=Z,31nm,0.8s,baz=0.8,slow=6.3,SNR=78
NOA LR LR 16 44 55.9
comp=Z,283nm,19.9s,baz=350,slow=36
MEF Metsahovi 67.54 353 *e*P **P** **16 15 55.3 -0.3**
NC602 NORSAR Array S 67.56 360 *e*P **P** **16 15 55.8 +0.1**
SKAR Skarslia 67.61 1 *e*P **P** **16 15 56.3 +0.2**
ASK Askoy 67.73 3 *e*P **P** **16 15 57.5 +0.7**
BER Bergen 67.84 3 *e*P **P** **16 15 57.8 +0.3**
AAL Aland 67.88 355 *e*P **P** **16 15 56.6 -1.1**
ARXS Arharly 68.03 314 *e*P **P** **16 15 58.1 -1.0**
SHLS Shalkode 68.13 313⇑*i*P **P** **16 15 57.8 -2.1**
comp=Z,52nm,1.0s,baz=312
SHLS Shalkode 68.13 313*c i*P **P** **16 15 57.7 -2.1**
SHLS pmax pmax
comp=Z,52nm,1.0s
KPKS Kokpek 68.24 313⇑*i*P **P** **16 15 59.5 -0.9**
comp=Z,48nm,1.0s,baz=313
KPKS Kokpek 68.24 313*c i*P **P** **16 15 59.5 -0.9**
KPKS pmax pmax
comp=Z,48nm,1.0s
UPP Uppsala 68.31 356 *e*P **P** **16 15 59.9 -0.5**
UZB Uzynbulak 68.34 313⇑*i*P **P** **16 15 59.1 -2.0**
comp=Z,18nm,1.0s,baz=313
UZB Uzynbulak 68.34 313*c i*P **P** **16 15 59.9 -1.2**
UZB pmax pmax
comp=Z,18nm,1.0s
ODD1 Odda 68.35 2 *e*P **P** **16 16 01.3 +0.5**
OSL Oslo 68.37 360 *e*P **P** **16 16 01.3 +0.5**
KONO Kongsberg 68.65 1*c*e**P** **P** **16 16 02.0 -0.6**
KONO pmax pmax
comp=Z,64nm,0.8s
KONO Kongsberg 68.65 1 *e*P **P** **16 16 01.9 -0.7**
KONO Kongsberg 68.65 1 P **P** **16 16 02.0 -0.6**
SATY Saty 68.68 313⇑*i*P **P** **16 16 02.4 -0.9**
comp=Z,21nm,1.1s,baz=313
SATY Saty 68.68 313*c i*P **P** **16 16 02.4 -0.9**
SATY pmax pmax
comp=Z,21nm,1.1s
CHKK Chushkaly 68.69 315 *e*P **P** **16 16 01.1 -2.1**
baz=315
CHKK Chushkaly 68.69 315 *e*P **P** **16 16 01.0 -2.1**
BLS5 Blasjo 68.83 2 *e*P **P** **16 16 03.6 -0.1**
KUU Kurty 68.94 315⇑*e*P **P** **16 16 02.6 -2.1**
comp=Z,49nm,1.0s,baz=315
KUU Kurty 68.94 315*c*e**P** **P** **16 16 02.6 -2.1**
KUU pmax pmax
comp=Z,49nm,1.0s
BTLS Baital 69.00 317⇑*i*P **P** **16 16 03.9 -1.2**
comp=Z,32nm,0.9s,baz=317
BTLS Baital 69.00 317*c i*P **P** **16 16 03.8 -1.2**
BTLS pmax pmax
comp=Z,32nm,0.9s
KMY Karmoy 69.01 3 *e*P **P** **16 16 05.2 +0.5**
VSU Vasula 69.07 351 *e*P **P** **16 16 05.0 -0.2**
VSU Vasula 69.07 351 *i*P **P** **16 16 04.2 -1.0**
MTSE Matsula 69.08 353 *e*P **P** **16 16 03.0 -2.2**
GENI Genyem 69.08 236 P **P** **16 16 05.9 0.0**
comp=Z,50nm,0.9s
MDOK Medeo 69.21 314 *i*P **P** **16 16 05.0 -1.5**
baz=314
MDOK Medeo 69.21 314 *i*P **P** **16 16 05.0 -1.5**
AAA Alma-Ata 69.23 314 *e*P **P** **16 16 05.0 -1.6**
baz=314
AAA Alma-Ata 69.23 314 *e*P **P** **16 16 05.0 -1.6**
STRU Stroemstad 69.27 360 *i*P **P** **16 16 07.2 +0.7**
PMOR Pomariorio Ree 69.32 158 *e*P **P** **16 16 09.0 +1.9**
comp=Z,67nm,1.1s
PMOR Pomariorio Ree 69.32 158 *e*T T 17 31 36.0
comp=Z,2.4nm,0.3s
KMI Kunming 69.38 285 ⇓P **P** **16 16 08.3 +0.4**
KMI pP pP 16 16 14.0 -1.2
KMI sP sP 16 16 16.0 -1.7
KMI S **S** **16 25 11.0 -2.3**
KMI pmax pmax
comp=Z,65nm,1.1s
KMI pmax pmax
comp=Z,320nm,4.4s
KMI LR LR
comp=Z,600nm,19.9s
KMI LR LR
comp=Z,370nm,17.7s
KMI LR LR
comp=Z,510nm,21.0s
VAH Vaihoa 69.60 158 *e*P **P** **16 16 10.7 +1.8**
comp=Z,36nm,1.0s
QIZ Qiongzhong 69.64 275 P **P** **16 16 09.8 +0.5**
QIZ S **S** **16 25 16.3 +0.2**
QIZ pmax pmax
comp=Z,160nm,6.9s
QIZ LR LR
comp=Z,300nm,23.5s
QIZ LR LR
comp=Z,310nm,19.6s
QIZ LR LR
comp=Z,360nm,20.1s
SNART Snartemo 69.94 2 *i*P **P** **16 16 11.7 +1.1**
SNART IAmb IAmb 16 16 13.3
comp=Z,44nm,0.9s
SNART Snartemo 69.94 2 *e*P **P** **16 16 11.0 +0.5**
HOMB Homborsund 70.03 1 *i*P **P** **16 16 11.2 +0.2**
HOMB Homborsund 70.03 1 *e*P **P** **16 16 11.1 0.0**
SGDS Sogindy 70.03 316⇑*i*P **P** **16 16 10.3 -1.2**
comp=Z,23nm,1.0s,baz=316
SGDS Sogindy 70.03 316*c i*P **P** **16 16 10.3 -1.2**
SGDS pmax pmax
comp=Z,23nm,1.0s
TKM2 Tokmak 2 70.04 315 P **P** **16 16 10.7 -1.1**
SNR=55
USP Ospenovka 70.24 316 P **P** **16 16 12.6 -0.1**
SNR=115
SLIT Slitere, Latvi 70.27 353 *e*P **P** **16 16 12.9 +0.3**
MOS Moscow 70.29 344 *e*P **P** **16 16 11.6 -1.1**
MOS *e* 16 16 23.2
MOS pmax pmax
comp=Z,80nm,0.8s
MOS pmax pmax
comp=Z,100nm,0.8s
MOS MLR MLR
comp=Z,900nm,20.0s
ULHL Ulahol 70.30 314 P **P** **16 16 13.4 +0.1**
SNR=36
AKTO Aktyubinsk 70.30 330 P **P** **16 16 12.2 -0.7**
comp=Z,62nm,0.9s,baz=47,slow=7.6,SNR=87
CHMS Chumysh 70.34 316 P **P** **16 16 13.2 -0.2**
SNR=44
MSVF Nonsavu 70.35 193 P **P** **16 16 14.4 +0.8**
comp=Z,14nm,0.9s,baz=107,slow=14,SNR=3.4
KBK Karagaybulak 70.54 315 P **P** **16 16 14.5 -0.2**
SNR=27
BORU Boraas 70.67 359 *i*P **P** **16 16 15.1 +0.1**
ABKAR Akbulak array 70.72 328 P **P** **16 16 14.9 -0.7**
AAK Ala-Archa 70.75 315 P **P** **16 16 16.0 0.0**
comp=Z,74nm,0.9s,baz=100,slow=2.8,SNR=56
AAK Ala-Archa 70.75 315 P **P** **16 16 16.0 0.0**
SNR=27
AAK Ala-Archa 70.75 315 P **P** **16 16 15.3 -0.7**
AAK pmax pmax
comp=Z,76nm,0.9s
AAK Ala-Archa 70.75 315 P **P** **16 16 15.3 -0.7**
ONAU Onsala 70.91 359 *i*P **P** **16 16 15.5 -1.0**
EKS2 Erkin-Say 71.04 316 P **P** **16 16 17.5 -0.2**
SNR=82
OBN Obninsk 71.06 345 P **P** **16 16 16.7 -0.8**
comp=Z,11nm,0.8s,baz=158,slow=2.4,SNR=15
OBN Obninsk 71.06 345⇑*e*P **P** **16 16 15.9 -1.5**
OBN *e* 16 16 39.1
OBN *e* 16 18 58.4
OBN *i*S **S** **16 25 37.4 +5.8**
OBN pmax pmax
comp=Z,57nm,0.8s
OBN MLR MLR
comp=Z,577nm,20.0s
OBN Obninsk 71.06 345 P **P** **16 16 16.3 -1.1**
FABU Falkenberg 71.30 359 *i*P **P** **16 16 18.3 -0.6**
BELG Belogornoye 71.39 337 P **P** **16 16 19.2 -0.3**
comp=Z,205nm,0.9s,baz=129,slow=0.6,SNR=51
BELG Belogornoye 71.39 337 *i*P **P** **16 16 19.5 0.0**
BELG pmax pmax
comp=Z,40nm,0.9s
PPT Papeete 71.43 160 LR LR 16 47 03.8
comp=Z,325nm,18.0s,baz=331,slow=35
PPT2 Papeete2 71.45 160 *e*S **S** **16 25 39.7 +2.8**
comp=Z,1μm,25.5s
PPT2 Papeete2 71.45 160 *e*LR LR 16 37 58.3
comp=Z,486nm,23.2s,baz=348
TIAR Tiarei 71.47 160 *e*P **P** **16 16 22.0 +1.7**
comp=Z,7.6nm,1.0s
AML Almayashu 71.50 316 P **P** **16 16 21.5 +0.6**
SNR=45
DEL Delary 71.81 358 *i*P **P** **16 16 21.9 0.0**
DEL *i*P **P** **16 16 22.0 0.0**
MUD Monsted U'grnd 71.85 1 *i*P **P** **16 16 22.4 +0.2**
MUD *i*P **P** **16 16 23.4 +1.2**
MUD IAmb IAmb 16 16 24.4
comp=Z,41nm,0.9s
MUD Monsted U'grnd 71.85 1 *i*P **P** **16 16 23.4 +1.2**
MUD pmax pmax
comp=Z,41nm,0.9s
DZA Taraz 71.88 318 *e*P **P** **16 16 21.5 -1.3**
baz=318
DZA Taraz 71.88 318 *e*P **P** **16 16 21.4 -1.3**
BLEU Blekinge 71.93 357 *i*P **P** **16 16 22.8 +0.1**
ISAL Salakas 71.98 351 *e*P **P** **16 16 23.9 +0.9**
KKAR Karatay Array 72.05 318 P **P** **16 16 22.8 -0.9**
KKAR pmax pmax
comp=Z,70nm,0.9s
KKAR Karatay Array 72.05 318 P **P** **16 16 22.8 -0.9**
IDID Didziasalis 72.18 350 *e*P **P** **16 16 25.0 +0.9**
IIGN Ignalina 72.19 351 *e*P **P** **16 16 24.9 +0.6**
BJUU Bjuv 72.22 359 *i*P **P** **16 16 24.7 +0.3**
PABE Paberze 72.25 352 *e*P **P** **16 16 24.7 +0.1**
PABE Paberze 72.25 352 P **P** **16 16 23.7 -0.9**
ESK Eskdalemuir 72.38 8 P **P** **16 16 25.5 +0.1**
ESK pmax pmax
comp=Z,37nm,1.0s
ESK Eskdalemuir 72.38 8 P **P** **16 16 25.5 +0.1**
ESK IAmb IAmb 16 16 27.1
comp=Z,37nm,1.0s
SWI Sorong 72.40 245 P **P** **16 16 26.0 0.0**
comp=Z,1μmcomp=Z,112nm,1.0s
KSH Kashi 72.61 313 P **P** **16 16 30.3 +3.0**
KSH sP pwP 16 16 38.3 -0.4
KSH S **S** **16 25 53.5 +3.2**
KSH sS sS 16 26 02.0 -0.5
KSH pmax pmax
comp=Z,75nm,1.3s
KSH pmax pmax
comp=Z,110nm,3.4s
KSH LR LR
comp=Z,1μm,12.1s
KSH LR LR
comp=Z,1μm,10.9s
KSH LR LR
comp=Z,610nm,12.4s
LSA Lhasa 72.62 296 P **P** **16 16 28.5 +0.7**
LSA pmax pmax
comp=Z,360nm,1.3s
LUNU Lund 72.66 358 *i*P **P** **16 16 27.1 0.0**
MNK Minsk 72.86 350 *i*P **P** **16 16 27.4 -0.8**
MNK *i* 16 16 41.1
MNK *i*PPP PPP 16 20 57.0
MNK *i*S **S** **16 25 51.6 -0.7**
MNK *i*SS **SS** **16 30 32.6 +1.4**
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK pmax pmax
comp=N,56nm,1.0s
MNK pmax pmax
comp=Z,128nm,1.0s
MNK MLR MLR
comp=N,642nm,21.0s
MNK MLR MLR
comp=E,37nm,17.0s
MNK MLR MLR
comp=Z,667nm,21.0s
MNK Minsk 72.86 350 *i*P **P** **16 16 27.4 -0.8**
comp=E,4.0nm,1.2s
MNK *i*P **P** **16 16 27.4 -0.8**
comp=N,56nm,1.0s
MNK *i*P **P** **16 16 27.4 -0.8**
comp=Z,128nm,1.0s,baz=191
MNK *i*PcP **pwP** **16 16 41.2 +1.4**
MNK *i*PP PP 16 18 59.8 -10
MNK *i*PPP PPP 16 20 57.1
MNK *i*S **S** **16 25 51.7 -0.6**
MNK *i*SS **SS** **16 30 32.6 +1.4**
MNK *i*SSS SSS 16 33 50.8
MNK *i*LQ LQ 16 43 18.4
MNK *i*LR LR 16 46 57.3
MNK *i*LRM MLR 16 50 38.2
comp=N,642nm,21.0s
MNK *i*LRM MLR 16 50 43.8
comp=E,37nm,17.4s
MNK *i*LRM MLR 16 50 44.5
comp=Z,667nm,21.0s
LPSR Galich'ya Gora 73.05 342 *e*P **P** **16 16 27.4 -2.0**
LPSR pmax pmax
comp=Z,50nm,1.0s
LPSR MLR MLR
comp=Z,490nm,20.0s
FAKI Fak Fak 73.55 243 P **P** **16 16 31.4 -1.5**
FAKI Fak Fak 73.55 243 P **P** **16 16 32.8 -0.1**
comp=Z,71nm,1.0s
SUW Suwalki 73.79 352 *e*P **P** **16 16 33.8 0.0**
SUW Suwalki 73.79 352 *e*P **P** **16 16 33.2 -0.6**
VRH Novokhopyorsk 73.83 340 *e*P **P** **16 16 32.5 -1.5**
VRH pmax pmax
comp=Z,40nm,0.8s
VRH MLR MLR
comp=Z,650nm,22.0s
NONG Nongkai 74.47 279 P **P** **16 16 39.0 +0.7**
comp=Z,57nm,1.2s
NONG Nongkai 74.47 279 P **P** **16 16 39.0 +0.7**
comp=Z,57nm,1.2s
DRK Karamyk 74.50 315 P **P** **16 16 38.2 -0.4**
VORD Divnogorie 74.54 342 *e*P **P** **16 16 36.2 -2.0**
VORD pmax pmax
comp=Z,30nm,0.6s
SKNT Sakolnakorn 74.80 278 P **P** **16 16 40.6 +0.4**
comp=Z,34nm,1.4s
SKNT Sakolnakorn 74.80 278 P **P** **16 16 40.0 -0.2**
comp=Z,34nm,1.4s
GKP Gorka Klasztor 74.91 356 *e*P **P** **16 16 40.2 -0.1**
GAR Garm 75.54 316 P **P** **16 16 44.0 -0.3**
RUE Ruedersdorf 75.81 358 *e*P **P** **16 16 46.0 +0.5**
comp=Z,56nm,1.2s,baz=0.6,slow=5.7
NRDL Niedersach Rie 75.83 0 *e*P **P** **16 16 46.0 +0.5**
comp=Z,34nm,1.1s,baz=0.6,slow=5.7
NRDL *es*P **PcP** **16 16 58.4 +0.4**
baz=0.6,slow=5.7
IBBN Ibbenburen 75.99 2 *e*P **P** **16 16 47.1 +0.6**
comp=Z,78nm,1.0s,baz=0.6,slow=5.7
IBBN *es*P **PcP** **16 16 59.6 +0.8**
baz=0.6,slow=5.7
KHON Khomkaen 75.99 279 P **P** **16 16 48.0 +1.0**
comp=Z,99nm,1.0s
KHON Khomkaen 75.99 279 P **P** **16 16 48.1 +1.0**
comp=Z,25nm,1.0s
FLTG Flechtingen 75.99 360 *e*P **P** **16 16 46.4 -0.1**
comp=Z,24nm,1.0s,baz=0.6,slow=5.7
FLTG *es*P **PcP** **16 16 58.9 +0.1**
baz=0.6,slow=5.7
LOEI Loei 76.04 281 P **P** **16 16 47.4 +0.1**
comp=Z,10μmcomp=Z,36nm,1.2s
BEL Belsk 76.14 354 *e*P **P** **16 16 48.7 +1.3**
ASSE Asse, Remlinge 76.19 0 *e*P **P** **16 16 48.1 +0.5**
comp=Z,17nm,1.0s,baz=0.6,slow=5.7
LAMP Lampang 76.25 282 P **P** **16 16 50.5 +2.0**
comp=Z,468nmcomp=Z,31nm,1.0s
LAMP Lampang 76.25 282 P **P** **16 16 50.5 +2.0**
comp=Z,117nmcomp=Z,7.8nm,1.0s
CM34 Chiang Mai Arr 76.29 283 P **P** **16 16 49.0 +0.3**
UTTA Uttaradit 76.29 281 P **P** **16 16 49.3 +0.6**
comp=Z,712nmcomp=Z,72nm,1.0s
UTTA Uttaradit 76.29 281 P **P** **16 16 49.4 +0.6**
comp=Z,178nmcomp=Z,18nm,1.0s
TAPN Taplejung 76.34 297 *e*P **P** **16 16 49.0 -0.3**
comp=Z,194nm,1.2s
SANI Sanana 76.36 248 P **P** **16 16 49.1 0.0**
comp=Z,110nm,0.9s
CM35 Chiang Mai Arr 76.42 283 P **P** **16 16 50.0 +0.5**
AKASG Malin Array Be 76.43 348 P **P** **16 16 47.4 -1.5**
comp=Z,36nm,0.8s,baz=16,slow=5.9,SNR=70
AKASG LR LR 16 54 42.9
comp=Z,519nm,18.7s,baz=5.0,slow=39
AKBB Malin Array Si 76.43 348*c*e**P** **P** **16 16 47.9 -1.1**
AKBB Malin Array Si 76.43 348 IAmb IAmb 16 16 49.9
comp=Z,42nm,0.9s
CM33 Chiang Mai Arr 76.44 283 P **P** **16 16 49.0 -0.6**
CMMT Chiang Mai 76.44 283 P **P** **16 16 49.8 +0.2**
comp=Z,26nm,1.3s
CMMT Chiang Mai 76.44 283 P **P** **16 16 49.9 +0.2**
comp=Z,26nm,1.3s
CHTO Chiang Mai 76.44 283 P **P** **16 16 48.3 -1.3**
CHTO pmax pmax
comp=Z,68nm,1.4s
CHTO Chiang Mai 76.44 283 P **P** **16 16 49.8 +0.2**
CHTO Chiang Mai 76.44 283 P **P** **16 16 48.3 -1.3**
CHTO IAmb IAmb 16 17 04.2
comp=Z,68nm,1.4s
CLZ Clausthal 76.48 0 *e*P **P** **16 16 50.2 +0.8**
comp=Z,48nm,1.0s,baz=0.6,slow=5.7
CLZ *es*P **pwP** **16 17 02.6 +1.5**
baz=0.6,slow=5.7
CM36 Chiang Mai Arr 76.58 283 P **P** **16 16 51.0 +0.6**
SPMM Sapulut 76.61 260 P **P** **16 16 51.0 +0.4**
CM32 Chiang Mai Arr 76.62 283 P **P** **16 16 52.0 +1.4**
MRSI Marisa 76.68 253 P **P** **16 16 50.8 -0.1**
comp=Z,459nmcomp=Z,38nm,1.3s
CM09 Chiang Mai Arr 76.70 283 P **P** **16 16 52.5 +1.4**
comp=Z,378nmcomp=Z,46nm,1.1s
CM09 Chiang Mai Arr 76.70 283 P **P** **16 16 52.5 +1.4**
comp=Z,378nmcomp=Z,46nm,1.1s
CM31 Chiang Mai Arr 76.72 283 P **P** **16 16 52.3 +1.2**
comp=Z,9μmcomp=Z,1μm,1.1s
CMAR Chiang Mai Arr 76.72 283 P **P** **16 16 50.9 -0.2**
comp=Z,27nm,1.0s,baz=26,slow=6.1,SNR=74
CMAR LR LR 16 55 15.6
comp=Z,605nm,18.1s,baz=86,slow=39
CMAR Chiang Mai Arr 76.72 283 P **P** **16 16 51.5 +0.3**
CMAR Chiang Mai Arr 76.72 283 P **P** **16 16 51.5 +0.3**
CM15 Chiang Mai Arr 76.73 283 P **P** **16 16 52.6 +1.4**
comp=Z,349nmcomp=Z,44nm,1.1s
CM15 Chiang Mai Arr 76.73 283 P **P** **16 16 52.0 +0.8**
comp=Z,349nmcomp=Z,44nm,1.1s
CM02 Chiang Mai Arr 76.73 283 P **P** **16 16 52.3 +1.1**
comp=Z,399nmcomp=Z,57nm,1.1s
CM02 Chiang Mai Arr 76.73 283 P **P** **16 16 52.4 +1.1**
comp=Z,399nmcomp=Z,57nm,1.1s
CM01 Chiang Mai Arr 76.74 283 P **P** **16 16 52.3 +1.0**
comp=Z,459nmcomp=Z,63nm,1.1s
CM01 Chiang Mai Arr 76.74 283 P **P** **16 16 52.0 +0.7**
comp=Z,459nmcomp=Z,63nm,1.1s
CM04 Chiang Mai Arr 76.74 283 P **P** **16 16 52.7 +1.4**
comp=Z,499nmcomp=Z,65nm,1.1s
CM04 Chiang Mai Arr 76.74 283 P **P** **16 16 52.8 +1.4**
comp=Z,499nmcomp=Z,65nm,1.1s
CM05 Chiang Mai Arr 76.76 283 P **P** **16 16 52.4 +1.1**
comp=Z,401nmcomp=Z,54nm,1.1s
CM05 Chiang Mai Arr 76.76 283 P **P** **16 16 52.5 +1.1**
comp=Z,401nmcomp=Z,54nm,1.1s
CM13 Chiang Mai Arr 76.77 283 P **P** **16 16 52.4 +1.0**
comp=Z,426nmcomp=Z,57nm,1.1s
CM13 Chiang Mai Arr 76.77 283 P **P** **16 16 52.5 +1.0**
comp=Z,426nmcomp=Z,57nm,1.1s
GTTG Gottingen 76.78 0 *e*P **P** **16 16 51.8 +0.8**
comp=Z,76nm,1.1s,baz=0.6,slow=5.7
DZM Mont Dzumac 76.79 203 *e*S **S** **16 26 37.5 +0.6**
comp=Z,246nm,23.3s
DZM Mont Dzumac 76.79 203 *e*LR LR 16 40 25.8
comp=Z,550nm,21.6s
PHIT Phitsanulok 76.80 281 P **P** **16 16 53.0 +1.4**
comp=Z,1μmcomp=Z,126nm,1.0s
PHIT Phitsanulok 76.80 281 P **P** **16 16 53.0 +1.4**
comp=Z,283nmcomp=Z,31nm,1.0s
CHAI Chaiyaphum 76.84 279 P **P** **16 16 53.1 +1.3**
comp=Z,346nmcomp=Z,37nm,1.0s
CHAI Chaiyaphum 76.84 279 P **P** **16 16 53.1 +1.3**
comp=Z,86nmcomp=Z,9.2nm,1.0s
BUG Bochum--Univer 76.84 2 *e*P **P** **16 16 51.5 +0.2**
comp=Z,45nm,1.1s,baz=0.6,slow=5.7
BUG *es*P **pwP** **16 17 04.0 +1.1**
baz=0.6,slow=5.7
TOLI2 Tolitoli 76.86 255 P **P** **16 16 50.7 -1.2**
TOLI2 IAmb IAmb 16 17 06.2
comp=Z,33nm,1.3s
ODAN Odare 76.90 297 *e*P **P** **16 16 52.8 +0.4**
JIRN Jiri 76.93 298 *e*P **P** **16 16 52.7 0.0**
CLL Collm 77.00 359⇓*i*P **P** **16 16 52.5 +0.3**
comp=Z,31nm,1.2s
CLL *e* 16 16 57.0
CLL *e*S **S** **16 26 42.0 +3.5**
CLL *e*SS SS 16 31 54.0 +20
CLL *e* 16 35 54.0
CLL Lm MLR 16 54 00.0
comp=Z,400nm,19.6s
CLL Collm 77.00 359⇓*i*P **P** **16 16 52.5 +0.3**
CLL *e* 16 16 57.0
CLL pmax pmax
comp=Z,31nm,1.2s
CLL MLR MLR
comp=Z,400nm,19.6s
CLL Collm 77.00 359 IAmb IAmb 16 16 54.3
comp=Z,19nm,0.8s

CLL Collm 77.00 359 *eP* **P 16 16 52.3 0.0**
comp=Z,31nm,1.2s,baz=0.6,slow=5.7
CLL *esP* **pwP 16 17 04.7 +0.8**
baz=0.6,slow=5.7
TBI Tubuai 77.06 161 *eLR* LR 16 40 18.2
comp=Z,543nm,35.5s,baz=336
KASTN Kahler Asten 77.11 1 *eP* **P 16 16 53.4 +0.5**
comp=Z,24nm,1.0s,baz=0.6,slow=5.7
KASTN *esP* **pwP 16 17 05.8 +1.3**
baz=0.6,slow=5.7
NEUB Neuenburg 77.11 359 *eP* **P 16 16 53.4 +0.5**
comp=Z,52nm,0.9s,baz=0.6,slow=5.7
NEUB *esP* **pwP 16 17 05.9 +1.4**
baz=0.6,slow=5.7
RAMN Ramite 77.26 297 *eP* **P 16 16 54.4 0.0**
comp=Z,108nm,1.0s
KKN Kakani 77.32 299 *eP* **P 16 16 55.1 +0.4**
KSP Ksiaz 77.37 356 *eP* **P 16 16 54.3 0.0**
BRG Berggiesshubel 77.42 358 *i P* **P 16 16 54.6 0.0**
BRG Amp 16 16 57.1
comp=Z,28nm,1.1s
BRG Berggiesshubel 77.42 358 P P 16 17 06.8 +12
BRG Amp 16 17 08.9
comp=Z,32nm,1.3s
BRG Berggiesshubel 77.42 358 *eP* **P 16 16 54.9 +0.3**
comp=Z,28nm,1.1s,baz=0.6,slow=5.7
BRG *esP* **pwP 16 17 07.3 +1.1**
baz=0.6,slow=5.7
PKI Pulchoki 77.42 299 *eP* **P 16 16 55.5 +0.1**
comp=Z,216nm,1.2s
PKIN Phulchoki 77.43 299 *eP* **P 16 16 55.3 -0.1**
comp=Z,191nm,1.2s
BEBN Eben Emael 77.44 3 *dP* **P 16 16 56.0 +1.3**
comp=Z,40nm,1.2s
GKN Gorkha 77.50 299 *eP* **P 16 16 55.7 +0.1**
comp=Z,138nm,0.9s
UBBA Unterbreizbach 77.51 0 *eP* **P 16 16 55.6 +0.6**
comp=Z,24nm,1.6s,baz=0.6,slow=5.7
UBBA *esP* **pwP 16 17 07.9 +1.3**
baz=0.6,slow=5.7
MHMT Maesarieng 77.54 283 P **P 16 16 57.0 +1.2**
comp=Z,100nm,1.1s
MHMT Maesarieng 77.54 283 P **P 16 16 57.0 +1.2**
comp=Z,100nm,1.1s
CHVC Chvalec 77.64 356 *eP* **P 16 16 56.9 +1.0**
CHVC AMS AMS 17 05 30.0
comp=Z,500nm,17.9s
MEM Membach 77.64 3 *dP* **P 16 16 56.3 +0.5**
comp=Z,38nm,1.2s
OSTC Ostas 77.66 356 *eP* **P 16 16 56.9 +0.9**
OSTC *ex* x 16 17 08.3
OSTC AMS AMS 17 05 10.0
comp=Z,400nm,15.4s
BTNL Ternell 77.67 3 *dP* **P 16 16 54.7 -1.3**
comp=Z,37nm,1.2s
MOX Moxa 77.68 359 *eP* **P 16 16 56.6 +0.5**
comp=Z,33nm,1.1s,baz=0.6,slow=5.7
MOX *esP* **pwP 16 17 09.1 +1.3**
baz=0.6,slow=5.7
MOX *eL* L 16 53 28.7
comp=Z,316nm,21.9s
DANN Dangsing 77.69 300 *eP* **P 16 16 57.3 +0.4**
comp=Z,247nm,0.9s
UPC Upice 77.72 357 *eP* **P 16 16 57.6 +1.3**
UPC MLR MLR
comp=Z,500nm,17.5s
UPC Upice 77.72 357 *eP* **P 16 16 57.6 +1.3**
UPC AMS AMS 17 00 10.0
comp=Z,500nm,17.5s
AHRW Bad Neuenahr-A 77.74 2 *eP* **P 16 16 57.1 +0.7**
comp=Z,35nm,1.1s,baz=0.6,slow=5.7
AHRW *esP* **pwP 16 17 09.6 +1.6**
baz=0.6,slow=5.7
PVCC Panska Ves 77.75 357 *eP* **P 16 16 57.7 +1.3**
PVCC MLR MLR
comp=Z,500nm,17.4s
PVCC Panska Ves 77.75 357 *eP* **P 16 16 57.7 +1.3**
PVCC AMS AMS 17 03 40.0
comp=Z,500nm,17.4s
BCLA Clavier 77.81 4 *dP* **P 16 16 56.7 -0.1**
comp=Z,26nm,1.2s
OJC Ojcow 77.81 354 *eP* **P 16 16 56.9 +0.1**
OJC Ojcow 77.81 354 IAmb IAmb 16 16 59.2
comp=Z,34nm,1.0s
BGES Gesves 77.83 4 *dP* **P 16 16 57.9 +1.0**
comp=Z,23nm,1.2s
PLN Plauen 77.83 359 *eP* **P 16 16 57.4 +0.5**
comp=Z,92nm,2.3s,baz=0.6,slow=5.7
PLN *esP* **pwP 16 17 09.8 +1.2**
baz=0.6,slow=5.7
DPC Dobruska-Polom 77.86 356 *eP* **P 16 16 57.8 +0.6**
DPC MLR MLR
comp=Z,500nm,17.4s
DPC Dobruska-Polom 77.86 356 *eP* **P 16 16 57.8 +0.6**
DPC AMS AMS 17 06 20.0
comp=Z,500nm,17.4s
WERD Werda 77.87 359 *eP* **P 16 16 57.8 +0.6**
comp=Z,100nm,2.3s,baz=0.6,slow=5.7
WERD *esP* **pwP 16 17 10.1 +1.3**
baz=0.6,slow=5.7
LVV L'vov 77.88 351 *eP* **P 16 16 57.0 -0.2**
LVV *eS* **S 16 26 46.1 -2.0**
BHOU Houvegnez 77.90 3 *dP* **P 16 16 56.5 -0.8**
BMRD Maredsous 77.90 4 *dP* **P 16 16 58.2 +1.0**
comp=Z,41nm,1.1s
GUNZ Gunzen 77.95 359 *eP* **P 16 16 58.3 +0.7**
comp=Z,106nm,2.5s,baz=0.6,slow=5.7
GUNZ *esP* **pwP 16 17 10.8 +1.5**
baz=0.6,slow=5.7
MPSI Mapaga 78.00 255 P **P 16 16 58.2 -0.1**
comp=Z,36nm,1.2s
WERN Wernitzgruen 78.03 359 *eP* **P 16 16 58.9 +0.8**
comp=Z,37nm,1.1s,baz=0.6,slow=5.7
RCHB Rochefort 78.07 4 *dP* **P 16 16 58.6 +0.4**
NKC Novy Kostel 78.08 359 *eP* **P 16 16 59.1 +0.7**
NKC MLR MLR
comp=Z,600nm,18.6s
NKC Novy Kostel 78.08 359 *eP* **P 16 16 59.1 +0.7**
NKC AMS AMS 16 59 40.0
comp=Z,600nm,18.6s
TNS Taunus Mts 78.09 1 *eP* **P 16 16 58.9 +0.4**
comp=Z,26nm,1.0s,baz=0.6,slow=5.7
TNS *esP* **pwP 16 17 11.2 +1.2**
baz=0.6,slow=5.7
DOU Dourbes 78.10 4 *dP* **P 16 16 58.2 -0.1**
comp=Z,34nm,1.3s
KRLC Kraliky 78.12 356 *eP* **P 16 16 59.0 +0.4**
KRLC MLR MLR
comp=Z,400nm,15.4s
KRLC Kraliky 78.12 356 *eP* **P 16 16 59.0 +0.4**
KRLC AMS AMS 17 03 30.0
comp=Z,400nm,15.4s
PRA Prague 78.21 358 AMS AMS 17 03 00.0
comp=Z,400nm,17.9s
KOLN Koldanda 78.24 300 *eP* **P 16 17 00.0 +0.2**
comp=Z,199nm,1.2s
PRU Pruhonice 78.29 357 *eP* **P 16 16 56.3 -3.1**
PRU MLR MLR
comp=Z,400nm,16.6s
PRU Pruhonice 78.29 357 *eP* **P 16 16 56.3 -3.1**
PRU AMS AMS 17 03 00.0
comp=Z,400nm,16.6s
OKC Ostrava-Krasne 78.29 355 AMS AMS 17 03 30.0
comp=Z,500nm,20.1s
PYUN Piuthan 78.30 301 *eP* **P 16 17 00.4 +0.2**
MANZ Manzenberg 78.33 359 *eP* **P 16 17 00.3 +0.6**
comp=Z,13nm,1.1s,baz=0.6,slow=5.7
MANZ *esP* **pwP 16 17 12.7 +1.3**
baz=0.6,slow=5.7
MORC Moravsky Berou 78.38 355 ⇑P **P 16 17 00.1 0.0**
MORC Moravsky Berou 78.38 355 IAmb IAmb 16 17 02.6
comp=Z,33nm,1.1s
MORC Moravsky Berou 78.38 355 *eP* **P 16 17 00.0 0.0**
MILB Miltenberg 78.49 1 *eP* **P 16 17 01.2 +0.6**
comp=Z,40nm,1.0s,baz=0.6,slow=5.7
MILB *esP* **pwP 16 17 13.7 +1.5**
baz=0.6,slow=5.7
UMPA Umpang Tak 78.50 281 P P 16 17 09.6 +8.4
UMPA Umpang Tak 78.50 281 P P 16 17 09.7 +8.5
comp=Z,141nmcomp=Z,16nm,1.2s
STHS Stebnicka Huta 78.51 353 *eP* **P 16 17 02.2 +1.5**
STHS Stebnicka Huta 78.51 353 *eP* **P 16 17 02.2 +1.5**
ROTZ Rotzenmuhle 78.55 359 *eP* **P 16 17 01.8 +0.8**
comp=Z,46nm,1.6s,baz=0.6,slow=5.7
ROTZ *esP* **pwP 16 17 14.1 +1.5**
baz=0.6,slow=5.7
WLF Walferdange 78.59 3 *dP* **P 16 17 02.1 +1.0**

WLF Walferdange 78.59 3 IAmb IAmb 16 17 04.1
comp=Z,34nm,1.2s
WLF Walferdange 78.59 3 *eP* **P 16 17 02.1 +1.0**
comp=Z,31nm,1.1s,baz=0.6,slow=5.7
GRF Grafenberg Arr 78.64 360 *eP* **P 16 17 02.5 +1.1**
comp=Z,58nm,1.0s,baz=0.6,slow=5.7
GRF *eL* L 16 57 17.2
comp=Z,382nm,20.0s
GRFO Grafenberg 78.64 360 P **P 16 17 01.1 -0.3**
GRFO pmax pmax
comp=Z,57nm,1.1s
GRFO Grafenberg 78.64 360 P **P 16 17 01.1 -0.3**
UTHA Uthaitani 78.65 281 P **P 16 17 03.9 +2.0**
NIL Nilore 78.67 311 P **P 16 17 01.7 -0.2**
NIL pmax pmax
comp=Z,138nm,0.9s
NIL Nilore 78.67 311 P **P 16 17 01.7 -0.2**
VRAC Vranov 78.89 356 ⇑P **P 16 17 04.0 +1.2**
VRAC Vranov 78.89 356 *eP* **P 16 17 03.1 +0.3**
LANS Liptovska Anna 78.90 354 *eP* **P 16 17 04.2 +1.3**
LANS pmax pmax
comp=Z,36nm,0.9s
LANS Liptovska Anna 78.90 354 *eP* **P 16 17 04.2 +1.3**
KOLS Kolonicke sedl 78.91 352 *eP* **P 16 17 03.1 +0.2**
KOLS Kolonicke sedl 78.91 352 *eP* **P 16 17 03.1 +0.2**
TREC Trest 78.95 357 *eP* **P 16 17 02.9 -0.3**
TREC MLR MLR
comp=Z,400nm,17.7s
TREC Trest 78.95 357 *eP* **P 16 17 02.9 -0.3**
TREC AMS AMS 17 06 00.0
comp=Z,400nm,17.7s
CRVS Cervenica-Dubn 79.01 353 *eP* **P 16 17 04.3 +0.8**
CRVS pmax pmax
comp=Z,48nm,1.3s
CRVS Cervenica-Dubn 79.01 353 *eP* **P 16 17 04.3 +0.8**
SORM Soroca 79.06 348 ⇑P **P 16 17 03.2 -0.5**
KRUC Moravsky 79.15 356 *eP* **P 16 17 04.3 +0.1**
KHC Kasperske Hory 79.17 358 *eP* **P 16 17 04.7 +0.3**
KHC *eS* **S 16 27 05.4 +3.3**
KHC MLR MLR
comp=Z,500nm,20.4s
KHC Kasperske Hory 79.17 358 *eP* **P 16 17 04.7 +0.3**
KHC *eS* **S 16 27 05.4 +3.3**
KHC AMS AMS 16 57 40.0
comp=Z,500nm,20.4s
KHC Kasperske Hory 79.17 358 IAmb IAmb 16 17 07.5
comp=Z,44nm,1.1s
WET Wettzell 79.17 359 *eP* **P 16 17 05.3 +0.9**
comp=Z,39nm,1.4s,baz=0.6,slow=5.7
WET *esP* **pwP 16 17 17.8 +1.8**
baz=0.6,slow=5.7
UZH Uzhgorod 79.21 352 *eP* **P 16 17 04.0 -0.5**
UZH *e* 16 17 12.6
UZH *e* 16 17 17.6
JAVC Velka Javorina 79.29 355 *eP* **P 16 17 06.2 +1.1**
GOF Gofitskoye 79.33 337⇑*eP* **P 16 17 05.8 +0.5**
GOF pmax pmax
comp=Z,399nm,0.9s
GEC2 GERESS Array S 79.45 358 IAmb IAmb 16 17 08.5
comp=Z,28nm,1.1s
GEC2 GERESS Array S 79.45 358 *eP* **P 16 17 06.5 +0.5**
comp=Z,30nm,1.1s,baz=0.6,slow=5.7
GEC2 *esP* **pwP 16 17 19.0 +1.3**
baz=0.6,slow=5.7
GERES GERESS Array B 79.45 358 P **P 16 17 05.9 -0.1**
comp=Z,12nm,0.9s,baz=26,slow=3.4,SNR=58
GERES GERESS Array B 79.45 358 P **P 16 17 05.3 -0.7**
CKRC Cesky Krumlov 79.46 358 *eP* **P 16 17 06.3 +0.4**
CKRC *ex* x 16 17 17.9
CKRC *eS* **SKSac 16 27 20.4 +0.1**
CKRC AMS AMS 16 56 40.0
comp=Z,600nm,19.8s
KECS Kecovo 79.50 353 *eP* **P 16 17 07.5 +1.4**
KECS pmax pmax
comp=Z,20nm,1.0s
KECS Kecovo 79.50 353 *eP* **P 16 17 07.5 +1.4**
STU Stuttgart 79.55 1 P **P 16 17 06.1 -0.3**
STU pmax pmax
comp=Z,34nm,0.9s
STU Stuttgart 79.55 1 P **P 16 17 06.1 -0.3**
STU IAmb IAmb 16 17 09.1
comp=Z,34nm,0.9s
STU Stuttgart 79.55 1 *eP* **P 16 17 07.0 +0.6**
comp=Z,43nm,1.1s,baz=0.6,slow=5.7
VYHS Vyhne 79.59 354 *eP* **P 16 17 07.7 +1.0**
VYHS pmax pmax
comp=Z,47nm,1.0s
VYHS Vyhne 79.59 354 *eP* **P 16 17 07.7 +1.0**
SMOL Smolenice 79.65 355 *eP* **P 16 17 08.7 +1.7**
SMOL pmax pmax
comp=Z,32nm,1.0s
SMOL Smolenice 79.65 355 *eP* **P 16 17 08.7 +1.7**
SRDT SRDT 79.78 280 P **P 16 17 09.6 +1.5**
comp=Z,44nm,1.3s
MODS Modra-Piesok 79.80 356 *eP* **P 16 17 10.3 +2.5**
MODS pmax pmax
comp=Z,90nm,1.1s
MODS Modra-Piesok 79.80 356 *eP* **P 16 17 10.3 +2.5**
KBL Kabul 79.83 314 P **P 16 17 06.7 -1.8**
KBL pmax pmax
comp=Z,86nm,1.0s
KBL Kabul 79.83 314 P **P 16 17 06.7 -1.8**
BUR08 Bucovina Ar. S 79.91 350 P **P 16 17 07.2 -1.4**
BUR08 IAmb IAmb 16 17 10.5
comp=Z,25nm,1.1s
BURAR Bucovina Array 79.94 350 ⇑P **P 16 17 08.8 +0.1**
BURAR Bucovina Array 79.94 350 P **P 16 17 07.7 -1.0**
BURAR IAmb IAmb 16 17 10.9
comp=Z,30nm,1.1s
BFO Black Forest 79.98 2 P **P 16 17 08.2 -0.6**
BFO pmax pmax
comp=Z,26nm,1.0s
BFO Black Forest 79.98 2 P **P 16 17 08.2 -0.6**
BFO IAmb IAmb 16 17 11.3
comp=Z,26nm,1.0s
BFO Black Forest 79.98 2 *eP* **P 16 17 09.4 +0.6**
comp=Z,36nm,1.2s,baz=0.6,slow=5.7
BFO *esP* **pwP 16 17 21.8 +1.4**
baz=0.6,slow=5.7
ZST Bratislava 79.98 356 *eP* **P 16 17 09.8 +1.1**
ZST pmax pmax
comp=Z,169nm,1.1s
ZST Bratislava 79.98 356 *eP* **P 16 17 09.8 +1.1**
BMR Baia Mare 80.05 351 ⇑P **P 16 17 10.5 +1.4**
PSZ Piszkesteto 80.10 354 ⇑P **P 16 17 10.9 +1.4**
PSZ Piszkesteto 80.10 354 *eP* **P 16 17 10.7 +1.3**
PSZ Piszkesteto 80.10 354 P **P 16 17 09.6 +0.1**
PSZ pmax pmax
comp=Z,47nm,1.1s
PSZ Piszkesteto 80.10 354 P **P 16 17 09.6 +0.1**
PSZ IAmb IAmb 16 17 12.5
comp=Z,47nm,1.1s
KIS Kishinev 80.11 348 *eP* **P 16 17 10.0 +0.5**
KIS *eLR* LR 16 51 41.0
comp=Z,200nm,21.0s
KIS Kishinev 80.11 348 *eP* **P 16 17 10.0 +0.5**
FUR Furstenfeldbru 80.16 360 *eP* **P 16 17 10.7 +0.9**
comp=Z,99nm,1.5s,baz=0.6,slow=5.7
FUR *esP* **pwP 16 17 23.0 +1.5**
baz=0.6,slow=5.7
MILM Milestii Mici 80.19 347 ⇑P **P 16 17 09.9 +0.1**
PYA1 Pyatigorsk 80.26 337 *i P* **P 16 17 10.7 +0.3**
CONA Conrad Observa 80.30 356 *i P* **P 16 17 11.5 +0.9**
comp=Z,30nm,1.0s,SNR=35
PURM Purcari 80.43 347 ⇓P **P 16 17 12.2 +1.1**
MOA Molln 80.43 358 *i P* **P 16 17 12.3 +1.0**
comp=Z,3.8nm,0.7s,SNR=8.8
KIV Kislovodsk 80.46 337 ⇑P **P 16 17 12.5 +1.0**
KIV Kislovodsk 80.46 337 *eP* **P 16 17 11.9 +0.4**
KIV *e* 16 20 14.3
KIV *eS* **S 16 27 17.7 +1.8**
KIV *eSS* **SS 16 32 30.3 +3.7**
KIV pmax pmax
comp=Z,81nm,1.0s
KIV pmax pmax
comp=Z,39nm,3.5s
KIV MLR MLR
comp=Z,424nm,19.0s
KIV Kislovodsk 80.46 337 P **P 16 17 11.1 -0.4**
BIZ Bicaz 80.51 349 ⇑P **P 16 17 12.1 +0.5**
SOP Sopron 80.52 356 *eP* **P 16 17 13.6 +2.0**
ARCR ARCALIA 80.55 351 ⇑P **P 16 17 13.3 +1.5**
PHET Kaeng Krachan 80.58 279 P P 16 17 26.4 +14
PHET Kaeng Krachan 80.58 279 P P 16 17 26.4 +14

KBZ Khabaz 80.62 337 P **P 16 17 12.4 +0.2**
comp=Z,41nm,0.9s,baz=21,slow=1.3,SNR=63
KBZ Khabaz 80.62 337*eP* **P 16 17 12.5 +0.3**
KBZ pmax pmax
comp=Z,46nm,0.9s
UBR Ueberruh 80.65 0 *eP* **P 16 17 13.3 +0.8**
comp=Z,54nm,1.3s,baz=0.6,slow=5.7
UBR *esP* **pwP 16 17 25.8 +1.6**
baz=0.6,slow=5.7
NCK Nalchik 80.67 336 *i P* **P 16 17 13.5 +0.9**
NCK pmax pmax
comp=Z,147nm,0.9s
TTSI Tana Toraja 80.75 253 P **P 16 17 13.4 +0.1**
comp=Z,30nm,1.4s
CSKK Cskako 80.75 355 *eP* **P 16 17 15.0 +2.0**
ANN Anapa 80.81 341 *eP* **P 16 17 11.6 -1.6**
ANN *eS* **S 16 27 25.3 +6.0**
ANN pmax pmax
comp=Z,73nm,1.1s
ANN MLR MLR
comp=Z,504nm,16.0s
RETA Reutte 80.84 360 *i P* **P 16 17 13.9 +0.4**
comp=Z,1.5nm,0.2s,SNR=9.4
TESR Tescani 80.86 349 ⇑P **P 16 17 13.4 -0.1**
SBUM Sibu 80.98 262 P **P 16 17 15.0 +0.5**
MOTA Moosalm 80.98 360 *i P* **P 16 17 15.0 +0.6**
comp=Z,30nm,1.0s,SNR=23
MPLH Magyarpolny 80.98 355 *eP* **P 16 17 15.5 +1.3**
WATA Walderalm 80.99 359 *i P* **P 16 17 15.1 +0.7**
comp=Z,19nm,0.8s,SNR=16
ARSA Arzberg 80.99 357 *i P* **P 16 17 15.1 +0.9**
comp=Z,23nm,1.1s,SNR=26
CJR Cluj-Napoca 80.99 351 ⇑P **P 16 17 15.4 +1.2**
DRGR 81.00 352 ⇑P **P 16 17 14.7 +0.4**
DRGR 81.00 352 P **P 16 17 15.2 +0.9**
DAVA Damuels 81.04 1 *i P* **P 16 17 14.9 +0.3**
comp=Z,1.2nm,0.2s,SNR=8.8
WTTA Wattenberg 81.06 359 *i P* **P 16 17 15.3 +0.5**
comp=Z,17nm,0.8s,SNR=14
SQTA Sankt Quirin 81.11 360 *i P* **P 16 17 15.9 +0.9**
comp=Z,38nm,1.1s,SNR=24
KBA Koelnbreinsper 81.23 358 *i P* **P 16 17 16.6 +0.9**
comp=Z,39nm,0.8s,SNR=38
ZEI Tsey 81.25 336 *eP* **P 16 17 15.2 -0.7**
ZEI pmax pmax
comp=Z,57nm,1.4s
MFF Saint Martin d 81.29 8 *eP* **P 16 17 16.3 +0.5**
MFF pmax pmax
comp=Z,89nm,1.1s
SIM Simferopol' 81.29 343 *eP* **P 16 17 16.0 +0.2**
SIM *e* 17 17 29.0
SIM pmax pmax
comp=Z,85nm,1.2s
GEYT Alibeck 81.31 324 P **P 16 17 15.9 -0.2**
comp=Z,43nm,1.0s,baz=256,slow=4.4,SNR=46
GEYT LR LR 16 58 22.6
comp=Z,441nm,18.9s,baz=30,slow=40
FETA Feichten 81.31 360 *i P* **P 16 17 16.8 +0.7**
comp=Z,37nm,1.1s,SNR=32
OZUR 81.38 349 ⇑P **P 16 17 17.0 +0.7**
AKT Akhty 81.45 333 *eP* **P 16 17 16.8 -0.1**
AKT *e* 16 17 22.2
AKT pmax pmax
comp=Z,189nm,0.9s
SOC Sochi 81.49 339 *eP* **P 16 17 17.9 +1.0**
SOC *e* 16 20 19.7
SOC *e*PPP PPP 16 22 09.7
SOC *eS* **S 16 27 33.1 +6.6**
SOC *eSS* **SS 16 32 43.9 +2.1**
SOC pmax pmax
comp=Z,52nm,1.0s
SOC MLR MLR
comp=Z,476nm,16.0s
VRI Vrincioaia 81.49 349 ⇑P **P 16 17 18.4 +1.5**
PLOR Plostina 81.52 349 ⇑P **P 16 17 17.1 0.0**
LGD Lagodekhi 81.53 334 P **P 16 17 17.3 +0.1**
DOPR Dopca 81.55 350 ⇑P **P 16 17 18.2 +1.1**
ONI Oni 81.55 336 P **P 16 17 17.7 +0.3**
ONI pmax pmax
comp=Z,22nm,1.2s
ONI Oni 81.55 336 P **P 16 17 17.7 +0.3**
ABTA Abfaltersbach 81.57 359 *i P* **P 16 17 17.8 +0.4**
comp=Z,30nm,1.2s,SNR=19
SOKA Soboth 81.58 357 *i P* **P 16 17 17.8 +0.4**
comp=Z,32nm,0.9s,SNR=55
CTAO Charters Tower 81.61 222 P **P 16 17 17.8 +0.1**
CTAO pmax pmax
comp=Z,38nm,1.0s
CTAO Charters Tower 81.61 222 P **P 16 17 17.8 +0.1**
CTAO IAmb IAmb 16 17 19.9
comp=Z,38nm,1.0s
SIRR Siria 81.61 352 ⇑P **P 16 17 18.3 +0.8**
ZKTA Zakatala 81.61 334 P **P 16 17 17.8 +0.2**
PERS Pernice 81.62 357 *i P* **P 16 17 17.9 +0.3**
MYKA Terra Mystica 81.67 358 *i P* **P 16 17 18.5 +0.6**
comp=Z,7.1nm,0.8s,SNR=12
IZVR Izvoarele 81.68 348 ⇑P **P 16 17 18.6 +0.8**
BEHE Becsehely 81.72 356⇑*iP* P 16 17 31.2 +13
ZOU Zoufplan 81.75 358 IAmb IAmb 16 17 21.7
comp=Z,37nm,1.2s
OBKA Obir 81.77 357 *i P* **P 16 17 18.8 +0.4**
comp=Z,16nm,0.7s,SNR=10
BISRR Bisoca 81.81 349 ⇑P **P 16 17 20.2 +1.6**
SEKA Sheki 81.85 333 P **P 16 17 19.1 +0.2**
TUE Stuetta 81.85 1 P **P 16 17 20.0 +1.0**
MORH Mrgy, Hungar 81.88 354 ⇑P **P 16 17 18.8 -0.1**
MORH Mrgy, Hungar 81.88 354 *eP* **P 16 17 19.4 +0.6**
MORH Mrgy, Hungar 81.88 354⇑*iP* **P 16 17 18.1 -0.8**
TLCR 81.89 347 ⇑P **P 16 17 18.6 -0.4**
DDFL Dedoflistskaro 81.93 334 P **P 16 17 23.1 +3.7**
MLR Muntele Rosu 81.95 349 P **P 16 17 19.7 +0.2**
comp=Z,14nm,1.0s,baz=18,slow=4.5,SNR=14
MLR Muntele Rosu 81.95 349 ⇑P **P 16 17 19.9 +0.4**
MLR Muntele Rosu 81.95 349 IAmb IAmb 16 17 22.0
comp=Z,21nm,1.1s
GORS Gorjuse 81.97 358 *eP* **P 16 17 20.2 +0.7**
NEHR Nehoiu 81.98 349 ⇑P **P 16 17 20.6 +1.1**
CFR Carcaliu 81.99 348 ⇑P **P 16 17 19.7 +0.3**
MTKI Muara Teweh, K 82.02 258 P **P 16 17 20.1 0.0**
comp=Z,2µmcomp=Z,14nm,1.0s
KOVH Kovagotottos 82.03 355 *eP* **P 16 17 20.6 +0.9**
STAL STALIGIAL 82.06 359 IAmb IAmb 16 17 33.8
comp=Z,26nm,1.1s
VOIR 82.11 350 ⇑P **P 16 17 21.0 +0.8**
CRNS Crni Vrh 82.20 357 *eP* **P 16 17 20.1 -0.6**
ARR Arges 82.22 350 ⇑P **P 16 17 21.5 +0.7**
LJU Ljubljana 82.23 357 *eP* **P 16 17 21.5 +0.7**
BZS Buzias 82.26 352 ⇑P **P 16 17 20.5 -0.4**
TPGR Topolog 82.27 347 ⇑P **P 16 17 21.5 +0.5**
CTI Castel Tesino 82.28 359 IAmb IAmb 16 17 35.3
comp=Z,27nm,0.9s
MNGR Mingechevir, A 82.29 333 P **P 16 17 21.9 +0.8**
JURR Jurilovca 82.29 347 ⇑P **P 16 17 21.3 +0.3**
GZR Gura Zlata 82.38 351 ⇑P **P 16 17 22.0 +0.4**
BKSI Bulukumba 82.40 251 P **P 16 17 22.1 +0.1**
comp=Z,35nm,1.0s
CRES Cresnjev 82.42 357 *eP* **P 16 17 21.3 -0.5**
MTN Manton Dam 82.44 238 P **P 16 17 21.8 -0.3**
KZRT Kazreti 82.44 335 P **P 16 17 23.6 +1.6**
HARR Harsova 82.50 348 ⇑P **P 16 17 21.9 -0.3**
CEY Cerknica 82.54 357 *eP* **P 16 17 21.7 -0.7**
GANJ Ganja 82.62 333 P **P 16 17 24.2 +1.3**
AKH Akhalkalaki 82.65 336 ⇑P **P 16 17 24.4 +1.1**
AKH Akhalkalaki 82.65 336 P **P 16 17 24.9 +1.6**
TIRR Tirgusor 82.66 347 ⇑P **P 16 17 23.6 +0.6**
TIRR Tirgusor 82.66 347 P **P 16 17 22.4 -0.6**
TIRR pmax pmax
comp=Z,126nm,1.1s
TIRR Tirgusor 82.66 347 P **P 16 17 22.4 -0.6**
SALO Salr 82.71 0 P **P 16 17 23.4 +0.1**
SKDS Skadanscina 82.74 358 *eP* **P 16 17 23.1 -0.4**
BOJS Bojanci 82.75 357⇑*iP* **P 16 17 23.0 -0.4**
LPL La Plagne 82.75 3 *eP* **P 16 17 25.2 +1.4**
LPL pmax pmax
comp=Z,17nm,0.8s
HRA Herat 82.84 319 IAmb IAmb 16 17 26.4
comp=Z,37nm,1.1s
FRGS Fruska Gora 82.85 354 ⇑P **P 16 17 24.5 +0.4**
FRGS Fruska Gora 82.85 354 *eP* **P 16 17 23.5 -0.5**
SSB Saint Sauveur 82.91 4 IAmb IAmb 16 17 27.3
comp=Z,32nm,1.0s
KSM Kuching 82.91 263 P **P 16 17 25.0 +0.3**
HERR Herculane 82.92 352 ⇑P **P 16 17 24.3 0.0**
TEOL Teolo 82.97 359 P **P 16 17 24.3 -0.3**

LFF	**La Frestale**	**83.01**	**7**	*eP*	**P**	**16 17 25.5**	**+0.7**
LFF				pmax	pmax		
	comp=Z,46nm,1.0s						
HUMR	**Humele**	**83.01**	**350**	⇑P	**P**	**16 17 24.5**	**-0.4**
RASA	**Rasa**	**83.07**	**348**	⇓P	**P**	**16 17 26.2**	**+1.1**
BCA	**Borcka**	**83.08**	**337**	⇑P	**P**	**16 17 25.4**	**+0.1**
CAF	**Calviac**	**83.12**	**6**	*eP*	**P**	**16 17 26.1**	**+0.7**
CAF				pmax	pmax		
	comp=Z,37nm,1.1s						
MRAK	**Mrakovica**	**83.17**	**356**	⇑*i*P	**P**	**16 17 25.2**	**-0.5**
SGRR	**Singureni**	**83.20**	**349**	⇑P	**P**	**16 17 26.2**	**+0.4**
STKI	**Sintang**	**83.30**	**262**	P	**P**	**16 17 26.8**	**+0.1**
	comp=Z,16nm,0.9s						
COPA	**Copaceanca**	**83.38**	**350**	⇓P	**P**	**16 17 26.4**	**-0.3**
BLY	**Banja Luka**	**83.42**	**355**	⇑*i*P	**P**	**16 17 27.6**	**+0.7**
TEKS	**Tekeris**	**83.48**	**354**	*eP*	**P**	**16 17 26.3**	**-1.0**
GNI	**Garni**	**83.51**	**334**	P	**P**	**16 17 29.0**	**+1.3**
	comp=Z,15nm,0.8s,baz=124,slow=4.0,SNR=9.0						
GNI	**Garni**	**83.51**	**334**	*ceP*	**P**	**16 17 29.4**	**+1.7**
GNI				pmax	pmax		
	comp=Z,45nm,1.7s						
GNI	**Garni**	**83.51**	**334**	P	**P**	**16 17 28.4**	**+0.7**
LKRN	**Lenkeran, Azer**	**83.70**	**331**	P	**P**	**16 17 29.2**	**+0.7**
MGRS	**Mrkonjic Grad**	**83.75**	**355**	*eP*	**P**	**16 17 29.3**	**+0.6**
DIVS	**Divibare**	**83.89**	**353**	⇑*i*P	**P**	**16 17 29.1**	**-0.4**
DIVS	**Divibare**	**83.89**	**353**	IAmb	IAmb	16 17 31.5	
	comp=Z,25nm,1.1s						
KTUT	**Trabzon**	**83.95**	**338**	⇑P	**P**	**16 17 30.6**	**+0.8**
BBLS	**Lazići**	**84.17**	**354**	⇑*i*P	**P**	**16 17 30.9**	**0.0**
BOVS	**Bovan**	**84.22**	**352**	⇑P	**P**	**16 17 30.7**	**-0.3**
EDFI	**Ende, Flores**	**84.26**	**248**	P	**P**	**16 17 31.8**	**+0.1**
	comp=Z,12nm,1.0s						
DIKM	**Dikmen**	**84.27**	**342**	⇑P	**P**	**16 17 32.6**	**+1.2**
OSSC	**Osservatorio P**	**84.81**	**360**	P	**P**	**16 17 33.5**	**-0.6**
UPM	**Unac-Piva**	**84.86**	**354**	*eP*	**P**	**16 17 35.5**	**+1.0**
PGAV	**Gavieira, Arco**	**84.93**	**14**	*i* LQ	LQ	16 17 48.6	
PGAV	**Gavieira, Arco**	**84.93**	**14**	*eS*	S	16 28 16.4	+15
PGAV	**Gavieira, Arco**	**84.93**	**14**	*eLR*	LR	16 48 28.3	
	comp=Z,786nm,18.0s						
BRY	**Bratogost**	**85.18**	**354**	*eP*	**P**	**16 17 35.7**	**-0.4**
STON	**Ston**	**85.26**	**355**	⇑*i*P	**P**	**16 17 36.3**	**0.0**
PBRG	**Braganca**	**85.31**	**13**	*eP*	**P**	**16 17 38.3**	**+1.7**
	comp=Z,42nm,1.3s						
PBRG				*i* LQ	LQ	16 17 49.3	
TREB	**Trebinje**	**85.38**	**354**	*eP*	**P**	**16 17 37.5**	**+0.6**
EDRB	**Edirne**	**85.45**	**348**	P	**P**	**16 17 37.2**	**-0.1**
POLO	**Lamas de Olo**	**85.58**	**14**	*eP*	**P**	**16 17 38.9**	**+0.8**
POLO				*i* LQ	LQ	16 17 51.6	
PDG	**Podgorica**	**85.61**	**354**	⇑P	**P**	**16 17 38.2**	**+0.2**
PDG	**Podgorica**	**85.61**	**354**	*eP*	**P**	**16 17 37.0**	**-1.0**
HCY	**Herceg Novi**	**85.64**	**354**	*eP*	**P**	**16 17 38.2**	**0.0**
DRME	**Dracevica, Mon**	**85.85**	**354**	*eP*	**P**	**16 17 38.8**	**-0.5**
KULM	**Kulim**	**85.89**	**273**	P	**P**	**16 17 41.0**	**+1.2**
SKO	**Skopje**	**85.89**	**352**	*i* P	**P**	**16 17 40.2**	**+0.8**
MVO	**Moncorvo**	**85.90**	**13**	*eP*	**P**	**16 17 42.6**	**+3.0**
	comp=Z,59nm,1.4s						
MVO				*i* LQ	LQ	16 17 52.9	
MVO	**Moncorvo**	**85.90**	**13**	*eLR*	LR	16 47 59.6	
	comp=Z,624nm,18.0s						
AQU	**L'Aquila**	**85.95**	**358**	*eP*	**P**	**16 17 40.8**	**+1.0**
KNRA	**Kununurra**	**86.05**	**238**	IAmb	IAmb	16 17 41.7	
	comp=Z,23nm,0.8s						
STIP	**Stip**	**86.10**	**351**	*i* P	**P**	**16 17 40.2**	**-0.3**
PVIS	**Viseu**	**86.21**	**14**	*eP*	**P**	**16 17 41.6**	**+0.5**
PVIS				*i* LQ	LQ	16 17 54.8	
PHP	**Peshkopia**	**86.26**	**353**	P	**P**	**16 17 41.9**	**+0.5**
INTR	**Introdacqua**	**86.28**	**358**	P	**P**	**16 17 42.8**	**+1.4**
NVR	**Nevrokopi**	**86.28**	**350**	P	**P**	**16 17 41.6**	**+0.2**
IPM	**Ipoh**	**86.29**	**272**	P	**P**	**16 17 42.0**	**+0.2**
RDO	**Rodhopi**	**86.29**	**349**	P	**P**	**16 17 41.8**	**+0.4**
DBBC	**Dabeiba**	**86.44**	**83**	*eP*	P	16 17 48.6	+6.0
VAY	**Valandovo**	**86.44**	**351**	*i* P	**P**	**16 17 42.1**	**0.0**
ALN	**Alexandroupoli**	**86.47**	**348**	P	**P**	**16 17 41.9**	**-0.4**
SRS	**Serrai**	**86.53**	**350**	P	**P**	**16 17 42.5**	**-0.2**
KAVA	**Kavala**	**86.55**	**350**	P	**P**	**16 17 42.7**	**0.0**
KNT	**Kendrikon**	**86.56**	**351**	P	**P**	**16 17 42.8**	**0.0**
MTE	**Manteigas**	**86.57**	**14**	*eP*	**P**	**16 17 44.5**	**+1.6**
	comp=Z,35nm,2.6s						
MTE	**Manteigas**	**86.57**	**14**	*eS*	**S**	**16 28 19.0**	**+1.3**
MTE	**Manteigas**	**86.57**	**14**	*eLR*	LR	16 48 39.2	
	comp=Z,619nm,18.0s						
MYKOM	**Kota Tinggi**	**86.64**	**269**	P	**P**	**16 17 44.0**	**+0.5**
WB0	**Warramunga Arr**	**86.65**	**232**	P	**P**	**16 17 42.2**	**-1.2**
WB0				IAmb	IAmb	16 17 43.8	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**86.75**	**231**	IAmb	IAmb	16 17 44.7	
	comp=Z,28nm,1.1s						
PCAS	**Casmilo, Conde**	**86.77**	**15**	*eP*	**P**	**16 17 45.1**	**+1.3**
PCAS				*i* LQ	LQ	16 17 57.0	
OHR	**Ohrid**	**86.80**	**352**	*i* P	**P**	**16 17 44.1**	**+0.1**
GRG	**Griva**	**86.81**	**351**	P	**P**	**16 17 44.2**	**+0.1**
WRAB	**Tennant Creek**	**86.81**	**232**	*ceP*	**P**	**16 17 43.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**86.81**	**232**	P	**P**	**16 17 42.8**	**-1.3**
WRAB				IAmb	IAmb	16 17 45.2	
	comp=Z,24nm,1.0s						
WB2	**Warramunga Arr**	**86.82**	**232**	P	**P**	**16 17 43.4**	**-0.7**
WB2				IAmb	IAmb	16 17 45.3	
	comp=Z,29nm,1.1s						
WRA	**Warramunga Arr**	**86.83**	**232**	P	**P**	**16 17 42.9**	**-1.3**
	comp=Z,15nm,0.9s,baz=39,slow=5.7,SNR=53						
WRA	**Warramunga Arr**	**86.83**	**232**	P	**P**	**16 17 43.1**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**86.83**	**232**	P	**P**	**16 17 43.1**	**-1.1**
BNN	**Bunyan**	**86.85**	**341**	P	**P**	**16 17 44.6**	**+0.2**
PCBR	**Castelo Branco**	**87.13**	**14**	*eP*	**P**	**16 17 46.2**	**+0.6**
PCBR				*i* LQ	LQ	16 17 58.6	
PSBE	**So Bento**	**87.25**	**15**	*i* LQ	LQ	16 18 00.1	
OUR	**Ouranopolis**	**87.27**	**350**	P	**P**	**16 17 45.7**	**-0.5**
PLG	**Polygyros**	**87.29**	**350**	P	**P**	**16 17 46.5**	**+0.1**
BALB	**Balikesir**	**87.47**	**347**	P	**P**	**16 17 47.1**	**0.0**
MATE	**Matera**	**87.53**	**355**	⇑P	**P**	**16 17 47.2**	**-0.2**
PMRV	**Marv??o**	**87.55**	**14**	*eP*	**P**	**16 17 48.5**	**+0.9**
	comp=Z,24nm,1.2s						
PMRV				*i* LQ	LQ	16 18 01.6	
PMRV	**Marv??o**	**87.55**	**14**	*eLR*	LR	16 50 00.9	
	comp=Z,698nm,18.0s						
LIT	**Litokhoron**	**87.65**	**351**	P	**P**	**16 17 48.0**	**-0.1**
PAIG	**Paliouri**	**87.70**	**350**	P	**P**	**16 17 47.3**	**-1.0**
PMAFR	**Mafra**	**87.71**	**15**	*i* LQ	LQ	16 18 01.7	
ESDC	**Sonseca Array**	**87.77**	**11**	P	**P**	**16 17 48.4**	**-0.3**
	comp=Z,15nm,0.9s,baz=347,slow=4.3,SNR=63						
ESDC				LR	LR	16 56 47.9	
	comp=Z,379nm,21.7s,baz=325,slow=35						
ESDC	**Sonseca Array**	**87.77**	**11**	P	**P**	**16 17 48.8**	**+0.1**
ESDC				IAmb	IAmb	16 18 03.1	
	comp=Z,24nm,0.9s						
PMTG	**Montargil**	**87.77**	**15**	*eP*	**P**	**16 17 48.2**	**-0.5**
	comp=Z,31nm,1.5s						
PMTG				*i* LQ	LQ	16 18 01.9	
PAB	**San Pablo**	**87.84**	**12**	P	**P**	**16 17 48.0**	**-1.1**
PAB				pmax	pmax		
	comp=Z,22nm,1.0s						
PAB	**San Pablo**	**87.84**	**12**	P	**P**	**16 17 48.0**	**-1.1**
PAB				IAmb	IAmb	16 18 03.4	
	comp=Z,22nm,0.9s						
PESTR	**Estremoz**	**88.07**	**14**	*eP*	**P**	**16 17 50.3**	**+0.2**
	comp=Z,37nm,1.0s						
PESTR				*i* LQ	LQ	16 18 03.3	
PESTR	**Estremoz**	**88.07**	**14**	IAmb	IAmb	16 18 03.5	
	comp=Z,17nm,1.0s						
PRK	**Paraskevi**	**88.07**	**348**	P	**P**	**16 17 51.8**	**+1.7**
JAN	**Janina**	**88.24**	**352**	P	**P**	**16 17 52.1**	**+1.2**
XOR	**Xorichti**	**88.31**	**350**	P	**P**	**16 17 50.1**	**-1.2**
PAMC	**Pamplona, Colo**	**88.33**	**80**	*eP*	**P**	**16 17 51.8**	**-0.4**
EVO	**Evora**	**88.33**	**15**	*eP*	**P**	**16 17 52.4**	**+1.1**
	comp=Z,29nm,1.0s						
EVO				*i* LQ	LQ	16 18 04.2	
GUY2C	**Guyana, Caldas**	**88.36**	**84**	*eP*	**P**	**16 17 50.5**	**-1.9**
NORC	**Norcasia**	**88.39**	**83**	*eP*	**P**	**16 17 51.5**	**-0.5**
IGT	**Igoumenitsa**	**88.41**	**353**	P	**P**	**16 17 52.3**	**+0.6**
BARC	**Barichara**	**88.62**	**81**	*eP*	**P**	**16 17 54.0**	**+0.7**
PNCL	**Nicolau / Gran**	**88.66**	**15**	*eP*	**P**	**16 17 54.0**	**+1.1**
	comp=Z,42nm,1.2s						
PNCL				*i* LQ	LQ	16 18 06.5	
YOTC	**Yotoco, Valle**	**88.72**	**85**	*eP*	**P**	**16 17 53.6**	**-0.1**
AGG	**Agios Georgios**	**88.74**	**351**	P	**P**	**16 17 51.7**	**-1.6**
AGG	**Agios Georgios**	**88.74**	**351**	P	**P**	**16 17 52.1**	**-1.2**
AGG				pmax	pmax		
	comp=Z,27nm,0.9s						
AGG	**Agios Georgios**	**88.74**	**351**	P	**P**	**16 17 52.1**	**-1.2**
MAKR	**Makrakomi, Fth**	**88.76**	**351**	P	**P**	**16 17 52.8**	**-0.6**
PBAR	**Barrancos**	**88.83**	**14**	*eP*	**P**	**16 17 54.5**	**+0.8**
	comp=Z,52nm,1.1s						
PBAR				*i* LQ	LQ	16 18 06.7	
PBEJ	**Beja**	**88.85**	**15**	*eP*	**P**	**16 17 54.9**	**+1.1**
	comp=Z,28nm,1.2s						
PBEJ				*i* LQ	LQ	16 18 07.2	
TOLC	**Tolima**	**88.88**	**84**	*eP*	**P**	**16 17 55.3**	**+0.7**
EVR	**Evrytania**	**88.89**	**351**	P	**P**	**16 17 54.8**	**+0.7**
CHOS	**Chios island**	**88.94**	**348**	P	**P**	**16 17 53.5**	**-0.8**
ARMA	**Armidale**	**88.97**	**213**	IAmb	IAmb	16 17 57.4	
	comp=Z,14nm,0.9s						
MESJ	**Messejana**	**88.97**	**15**	*eP*	**P**	**16 17 53.8**	**-0.6**
MESJ				IAMs_20	IAMs_20	16 59 11.6	
	comp=Z,754nm,17.3s						
MESJ	**Messejana**	**88.97**	**15**	*eP*	**P**	**16 17 53.8**	**-0.6**
TIP	**Timpagrande**	**88.99**	**355**	⇑P	**P**	**16 17 54.4**	**-0.1**
LKR	**Lokris**	**89.04**	**350**	P	**P**	**16 17 53.8**	**-0.9**
PTEO	**Sao Teotonio**	**89.18**	**15**	*i* LQ	LQ	16 18 09.3	
PCVE	**Castro Verde**	**89.21**	**15**	*i* LQ	LQ	16 18 08.7	
HYB	**Hyderabad**	**89.32**	**298**	*i* P	**P**	**16 17 56.0**	**-0.3**
HYB				*es*P	**pwP**	**16 18 13.0**	**+4.2**
EFP	**Efpalio**	**89.37**	**351**	P	**P**	**16 17 56.3**	**+0.1**
ORTC	**Ortega, Tolima**	**89.46**	**84**	*eP*	**P**	**16 17 56.4**	**-0.6**
PVAQ	**Vaqueiros**	**89.48**	**15**	*i* LQ	LQ	16 18 10.1	
DION	**Dionisos Attik**	**89.50**	**350**	P	**P**	**16 17 55.4**	**-1.5**
BKNI	**Bangkinang**	**89.52**	**270**	P	**P**	**16 17 57.4**	**+0.2**
	comp=Z,4μmcomp=Z,139nm,1.2s						
LAKA	**Lakka**	**89.55**	**351**	P	**P**	**16 17 56.8**	**-0.3**
PFVI	**Vila Bisbo**	**89.57**	**15**	*i* LQ	LQ	16 18 10.3	
KLV	**Kalavryta, Ach**	**89.72**	**351**	P	**P**	**16 17 57.1**	**-0.9**
YER	**Yerkesik**	**89.86**	**346**	P	**P**	**16 17 59.8**	**+1.1**
AS31	**Alice Springs**	**90.21**	**230**	P	**P**	**16 18 00.4**	**+0.3**
ASAR	**Alice Springs**	**90.21**	**230**	P	**P**	**16 17 59.6**	**-0.6**
	comp=Z,37nm,0.9s,baz=30,slow=4.2,SNR=155						
ASAR				LR	LR	17 01 15.1	
	comp=Z,150nm,18.0s,baz=24,slow=37						
ASAR	**Alice Springs**	**90.21**	**230**	P	**P**	**16 17 59.7**	**-0.5**
OTAV	**Otavalo**	**90.35**	**89**	P	**P**	**16 18 01.7**	**0.0**
OTAV				pmax	pmax		
	comp=Z,17nm,1.5s						
OTAV	**Otavalo**	**90.35**	**89**	P	**P**	**16 18 01.7**	**0.0**
OTAV				IAmb	IAmb	16 18 26.0	
	comp=Z,17nm,1.4s						
ITM	**Ithomi**	**90.60**	**351**	P	**P**	**16 18 02.0**	**0.0**
VLI	**Veliai**	**90.96**	**350**	P	**P**	**16 18 01.8**	**-1.9**
LEF	**Lefka**	**91.05**	**342**	⇑P	**P**	**16 18 05.1**	**+1.0**
PMOZ	**Porto Moniz, M**	**92.03**	**23**	*eLR*	LR	16 52 30.5	
	comp=Z,384nm,18.0s						
GUVC	**San Jose del G**	**92.13**	**83**	*eP*	**P**	**16 18 08.6**	**-0.9**
IDI	**Anoyia**	**92.14**	**348**	P	**P**	**16 18 09.6**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=336,slow=9.9,SNR=3.8						
IDI	**Anoyia**	**92.14**	**348**	IAmb	IAmb	16 18 22.6	
	comp=Z,19nm,1.1s						
LAST	**Lasithi**	**92.19**	**348**	P	**P**	**16 18 10.1**	**+0.6**
MMAI	**Mount Meron Ar**	**92.57**	**339**	P	**P**	**16 18 10.7**	**-0.5**
	comp=Z,16nm,0.9s,baz=11,slow=5.2,SNR=20						
KEST	**Kesra**	**92.58**	**1**	P	**P**	**16 18 12.0**	**+0.7**
	comp=Z,7.1nm,1.0s,baz=360,slow=2.3,SNR=4.3						
KEST	**Kesra**	**92.58**	**1**	P	**P**	**16 18 11.6**	**+0.3**
STKA	**Stephens Creek**	**93.97**	**220**	P	**P**	**16 18 18.6**	**+1.2**
	comp=Z,4.2nm,0.6s,baz=346,slow=4.3,SNR=13						
STKA				LR	LR	16 54 46.6	
	comp=Z,297nm,21.6s,baz=25,slow=32						
STKA	**Stephens Creek**	**93.97**	**220**	P	**P**	**16 18 17.3**	**0.0**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
STKA	**Stephens Creek**	**93.97**	**220**	P	**P**	**16 18 17.3**	**0.0**
WSAR	**Wadi Sarin**	**94.12**	**317**	P	**P**	**16 18 19.1**	**+0.6**
	comp=Z,20nm,1.0s,baz=19,slow=3.5,SNR=4.2						
EIL	**Elat**	**95.89**	**339**	P	**P**	**16 18 26.4**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=64,slow=8.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**114.61**	**10**	PKP	PKPdf	16 23 40.7	+0.5
	comp=Z,2.1nm,1.0s,baz=348,slow=1.8,SNR=7.1						
TORD				PKKPbc	**PKKPbc**	**16 34 17.1**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=154,slow=2.2,SNR=4.8						
H03N2	**Juan Fernandez**	**115.78**	**112**	T	T	18 30 40.4	
	baz=323,slow=78,SNR=15						
H03N1	**Juan Fernandez**	**115.79**	**112**	T	T	18 30 47.9	
	baz=323,slow=78,SNR=22						
H03N3	**Juan Fernandez**	**115.80**	**112**	T	T	18 30 35.0	
	baz=323,slow=78,SNR=20						
KMBO	**Kilima Mbogo**	**124.58**	**327**	PKP	**PKPdf**	**16 23 59.5**	**-0.1**
	comp=Z,8.1nm,0.9s,baz=10.0,slow=3.3,SNR=13						
SPB	**Sao Paulo**	**127.76**	**80**	*eP*	**PKiKP**	**16 24 06.3**	**+0.7**
BSFB	**Barra de Sao F**	**128.04**	**70**	*eP*	**PKiKP**	**16 24 08.5**	**+2.2**
CPSB	**Cacapava Do Su**	**128.97**	**91**	*eP*	**PKiKP**	**16 24 10.7**	**+2.8**
DUB01	**Friburgo-RJ**	**129.66**	**74**	*eP*	**PKiKP**	**16 24 09.8**	**+0.2**
PMSA	**Palmer Station**	**141.29**	**139**	*eP*	**PKiKP**	**16 24 30.8**	**-1.0**
BELA	**Belgrano 2**	**149.38**	**163**		**PKPbc**	**16 24 46.2**	**-0.8**
MAW	**Mawson**	**150.64**	**218**	PKPbc	**PKiKP**	**16 24 50.6**	**-0.3**
	comp=Z,9.0nm,1.0s,baz=58,slow=0.6,SNR=12						
MAW	**Mawson**	**150.64**	**218**	PKIKP	**PKPbc**	**16 24 50.3**	**+0.1**
MAW				PKP	**pPKPbc**	**16 24 57.7**	**-0.2**
MAW	**Mawson**	**150.64**	**218**		**PKPbc**	**16 24 50.3**	**+0.1**
MAW				PKPab	**pPKPbc**	**16 24 57.7**	**-0.2**
BOSA	**Boshof**	**154.19**	**329**	PKPbc	**PKiKP**	**16 25 00.2**	**+0.5**
	comp=Z,12nm,0.9s,baz=351,slow=1.7,SNR=12						
BOSA	**Boshof**	**154.19**	**329**	PKIKP	**PKPbc**	**16 24 59.5**	**-0.1**
BOSA	**Boshof**	**154.19**	**329**		**PKPbc**	**16 24 59.5**	**-0.1**
SYO	**Syowa Base**	**158.20**	**208**	⇑*e*PP	PP	16 29 10.6	+0.6
VNA3	**Neumayer Olymp**	**158.68**	**162**	PKPdf	**PKPdf**	**16 24 58.1**	**+2.3**
VNA2	**Neumayer--Watz**	**159.36**	**163**	PKPdf	**PKPdf**	**16 24 57.5**	**+0.9**

KRSC 29 16:09:00.9±1.5, 49°.67N×156°.22E, h69km±18km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.02**	**356**	*eP*	Pn	16 09 20.5	+1.0
SKR				*eS*	Sn	16 09 34.4	+1.0
ALID	**Alaid**	**1.28**	**341**	*eP*	Pn	16 09 23.9	+0.9
ALID				*eS*	Sn	16 09 40.1	+0.5
PAU	**Pauzhetka**	**1.84**	**12**	*eP*	Pn	16 09 32.7	+2.4
PAU				*eS*	Sn	16 09 55.8	+3.1
KDTR	**Khodutka, Kamc**	**2.45**	**28**	*eP*	Pn	16 09 41.3	+2.8
KDTR				*eS*	Sn	16 10 10.3	+3.0
MTVR	**Mutnovka**	**3.08**	**23**	*eP*	Pn	16 09 50.8	+3.6
DALK	**Dalny**	**3.72**	**24**	*eS*	Sn	16 10 42.1	+3.7
KOK	**Koryaka**	**3.93**	**22**	*eP*	Pn	16 10 03.2	+4.4
MKZ	**Mys Kozlova**	**5.96**	**33**	*eP*	Pn	16 10 28.3	+2.0

TAP 29 16:36:48.2, 24°.46N×121°.43E, h8km, ML1.9, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.05**	**240**	P	Pg	16 36 50.4	+0.3
	baz=239						
NNSH	**Datong**	**0.05**	**239**	P	Pg	16 36 50.4	+0.3
	baz=239						
NNSH				S	Sg	16 36 52.5	+1.0
	baz=239						
NNS	**Nan Shan**	**0.06**	**254**	*i* P	Pg	16 36 50.4	+0.2
	baz=248						
NDT	**Datong Townshi**	**0.16**	**26**	*eP*	Pg	16 36 52.7	+1.0
	baz=26						
ENTT	**Nioudou**	**0.22**	**33**	⇑*i*P	Pg	16 36 53.6	+1.0
	baz=35						
ENTT				*eS*	Sg	16 36 57.5	+1.8
	baz=35						
YHNB	**Yeheng**	**0.22**	**346**	P	Pg	16 36 53.7	+1.0
	baz=345						
NSK	**Sanguang**	**0.23**	**342**	*eP*	Pg	16 36 53.8	+0.9
	baz=344						
ETLH	**Xiulin Townshi**	**0.25**	**170**	*eP*	Pb	16 36 54.9	-0.2
	baz=170						
FUSS	**Fushou**	**0.27**	**220**	*eP*	Pg	16 36 54.1	+0.4
	baz=219						
NDS	**Dongshan**	**0.31**	**55**	*eP*	Pg	16 36 55.2	+0.8
	baz=55						
NACB	**Ninganchiao**	**0.32**	**152**	P	Pb	16 36 55.5	-0.6
	baz=152						
TDCB	**Techi**	**0.32**	**231**	*eS*	Sb	16 37 01.0	-0.7
	baz=231						
NWLT	**Wulai**	**0.33**	**11**	*eP*	Pb	16 36 55.9	-0.4
	baz=11						
NWLT				*eS*	Sb	16 37 00.9	-0.8
	baz=11						
TWE	**Neicheng**	**0.34**	**39**	*eP*	Pb	16 36 56.1	-0.4
	baz=40						
TWC	**Suao**	**0.41**	**68**	*eP*	Pb	16 36 57.2	-0.5
	baz=68						

TAP 29 16:36:49.6, 24°.45N×121°.42E, h8km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.04**	**238**	P	Pg	16 36 51.6	+0.3
	baz=238						
NNSB				*i* S	Sg	16 36 52.6	0.0
	baz=238						
NNSB	**Datong**	**0.04**	**238**	*eS*	Sg	16 36 52.2	-0.4
	baz=239						
NNSH	**Datong**	**0.04**	**238**	P	Pg	16 36 51.6	+0.2
	baz=246						
NNSH				*i* S	Sg	16 36 53.1	+0.5
	baz=246						
NNS	**Nan Shan**	**0.04**	**259**	P	Pg	16 36 51.6	+0.2
	baz=253						
NNS				*i* S	Sg	16 36 52.7	+0.1
	baz=253						
NNS	**Nan Shan**	**0.04**	**259**	S	Pg	16 36 51.6	+0.2
	baz=248						
NDT	**Datong Townshi**	**0.18**	**30**	*eP*	Pg	16 36 53.8	+0.5
	baz=30						
YHNB	**Yeheng**	**0.22**	**350**	*i* P	Pg	16 36 54.9	+0.7
	baz=350						
YHNB				*i* S	Sg	16 36 57.5	+0.2
	baz=350						
YHNB	**Yeheng**	**0.22**	**350**	S	Sg	16 36 57.5	+0.2
	baz=345						
NSK	**Sanguang**	**0.23**	**347**	P	Pg	16 36 55.0	+0.6
	baz=348						
NSK				*i* S	Sg	16 36 57.9	+0.3
	baz=348						
NSK	**Sanguang**	**0.23**	**347**	*eS*	Sg	16 36 57.8	+0.3
	baz=344						
ENTT	**Nioudou**	**0.23**	**35**	P	Pg	16 36 54.8	+0.4
	baz=36						
ETLH	**Xiulin Townshi**	**0.25**	**166**	*eP*	Pg	16 36 55.5	+0.9
	baz=165						
ETLH				*eS*	Sg	16 36 58.8	+0.8
	baz=165						
ETLH	**Xiulin Townshi**	**0.25**	**166**	*eS*	Sg	16 36 58.5	+0.5
	baz=170						
FUSS	**Fushou**	**0.25**	**218**	P	Pg	16 36 55.2	+0.4
	baz=225						
FUSS				*eS*	Sg	16 36 58.6	+0.3
	baz=225						
TWT	**Tachien**	**0.29**	**229**	*eP*	Pg	16 36 55.7	+0.2
	baz=230						
TWT	**Tachien**	**0.29**	**229**	*eP*	Pg	16 36 56.1	+0.6
	baz=221						
TDCB	**Techi**	**0.30**	**231**	P	Pg	16 36 56.0	+0.2
	baz=222						
TDCB	**Techi**	**0.30**	**231**	*eP*	Pg	16 36 55.7	-0.1
	baz=231						
NACB	**Ninganchiao**	**0.32**	**149**	P	Pg	16 36 56.6	+0.7
	baz=149						
NACB				*eS*	Sg	16 37 00.8	+0.7
	baz=149						
NACB	**Ninganchiao**	**0.32**	**149**	*eS*	Sg	16 37 00.8	+0.7
	baz=152						
EWUT	**Wuta**	**0.33**	**90**	*eP*	Pg	16 36 56.4	+0.2
	baz=91						
EWUT				*eS*	Sg	16 37 00.5	0.0
	baz=91						
EWUT	**Wuta**	**0.33**	**90**	*eP*	Pg	16 36 56.5	+0.4
	baz=89						
EWUT				*eS*	Sg	16 37 00.8	+0.3
	baz=89						
NDS	**Dongshan**	**0.33**	**56**	P	Pg	16 36 56.3	+0.2
	baz=67						
NDS				*eS*	Sg	16 37 01.5	+0.9
	baz=67						
WHF	**Hehuan Shan**	**0.33**	**205**	*eP*	Pg	16 36 56.5	+0.1
	baz=205						
WHF	**Hehuan Shan**	**0.33**	**205**	*eP*	Pg	16 36 56.7	+0.4
	baz=192						
WHF				*eS*	Sg	16 37 01.1	+0.3
	baz=192						
**

baz=26
NDT eS Sg 16 37 14.9 +1.8
baz=26
YHNB Yeheng 0.23 348 P Pg 16 37 12.6 +1.1
YHNB baz=348 eS Sg 16 37 15.3 +0.6
baz=348
ENTT Nioudou 0.23 33⇑ *i* P Pg 16 37 12.6 +1.1
ENTT baz=34 S Sg 16 37 16.4 +1.7
baz=34
NSK Sanguang 0.24 345 *i* P Pg 16 37 12.8 +1.1
NSK baz=346 eS Sg 16 37 15.5 +0.4
baz=346
ETLH Xiulin Townshi 0.24 168 eP Pg 16 37 13.5 +1.7
ETLH baz=168 eS Sg 16 37 16.5 +1.4
baz=168
FUSS Fushou 0.26 220 eP Pb 16 37 13.0 -0.7
FUSS baz=220 eS Sg 16 37 16.8 +1.1
baz=220
TWT Tachien 0.30 230 eP Pb 16 37 14.0 -0.3
NACB baz=231 eP Pb 16 37 14.5 +0.1
NACB baz=150 eS Sb 16 37 18.8 -0.7
baz=150
TDCB Techi 0.31 232 P Pb 16 37 13.8 -0.7
TDCB baz=231 eS Sb 16 37 18.5 -1.2
baz=231
EWUT Wuta 0.32 90 eP Pb 16 37 14.2 -0.3
EWUT baz=90 eS Sg 16 37 18.4 +1.0
baz=90
NDS Dongshan 0.32 54 eP Pb 16 37 14.2 -0.5
NDS baz=54 eS Sb 16 37 18.9 -1.1
baz=54
WHF Hehuan Shan 0.33 206 eP Pb 16 37 14.6 -0.5
WHF baz=205 eS Sb 16 37 19.8 -0.9
baz=205
NWLT Wulai 0.34 12 eP Pb 16 37 14.8 -0.1
NWLT baz=11 eS Sg 16 37 18.7 +0.7
baz=11
TWE Neicheng 0.35 38 P Pb 16 37 15.0 -0.1
TWE baz=40 eS Sb 16 37 19.8 -0.9
baz=40
TWC Suao 0.42 67 P Pb 16 37 16.1 -0.2
TWC baz=67 eS Sb 16 37 21.8 -0.9
baz=67
LIOB Emei 0.42 298 eP Pb 16 37 16.9 +0.5
LIOB baz=298 eS Sb 16 37 22.5 -0.4
baz=298
NSTT Nanjuang 0.43 296 P Pb 16 37 16.8 +0.4
NSTT baz=295 S Sb 16 37 22.4 -0.6
baz=295
CHGB Renai 0.45 211 eP Pb 16 37 16.5 -0.4
CHGB baz=211 eS Sg 16 37 22.3 +0.8
baz=211
WHP Taichung City 0.47 249 eP Pb 16 37 17.3 +0.1
WHP baz=249 eS Sg 16 37 22.9 +0.7
baz=249
ESL Shilin 0.63 179 eS Sg 16 37 27.1 -0.1
baz=178

TAP 29 16:37:14.6, 23°.73N×121°.66E, h35km±1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag** baz=163	**0.15**	**338**	eP	Pb	16 37 21.3	+0.4
TEYL	baz=163			eS	Sb	16 37 26.8	+1.5
TEYL	**Yanliau Villag** baz=350	**0.15**	**338**	eP	Pb	16 37 21.3	+0.4
TEYL	baz=350			eS	Sb	16 37 26.8	+1.5
EGFH	**Guangfu** baz=265	**0.22**	**255**	eP	Pb	16 37 21.5	-0.1
ESL	**Shilin** baz=283	**0.23**	**293**	P	Pb	16 37 21.3	-0.3
ESL	baz=283			S	Sb	16 37 26.5	+0.1
ESL	**Shilin** baz=178	**0.23**	**293**	eP	Pb	16 37 21.3	-0.3
HGSD	**Ruisui** baz=218	**0.32**	**223**	P	Pn	16 37 23.2	+0.5
HGSD	baz=218			S	Sb	16 37 29.7	+1.5
EHY	**Hungye** baz=243	**0.38**	**235**	P	Pb	16 37 23.0	-0.5
EHY	baz=243			S	Sn	16 37 29.2	-0.4
YULB	**Yu-li** baz=235	**0.47**	**225**	P	Pb	16 37 24.1	-0.6
YULB	baz=235			S	Sb	16 37 31.3	-0.6
TWF1	**Yuli** baz=232	**0.50**	**222**	eP	Pb	16 37 24.6	-0.6
TWF1	baz=232			eS	Sb	16 37 32.1	-0.5
FULB	**Fuli** baz=225	**0.62**	**213**	eP	Pb	16 37 27.7	+0.5
FULB	baz=225			eS	Sb	16 37 37.2	+1.4
ELDTW	**Lidau** baz=227	**0.80**	**228**	eP	Pn	16 37 28.7	-0.7
ELDTW	baz=227			eS	Sn	16 37 38.7	-1.5

*IDC **29** 16:45:29.9±0.7, 36°.94N×137°.57E, h245km±6km, mb3.0/5, mb1 3.1/7, mb1mx2.8/54, mbtmp3.5/7, Error ellipse: s-maj=31.4km s-min=16.6km az=63.0*
*JMA **29** 16:45:30.4±0.2, 36°.79N×137°.38E, h238km±2km, M2.4*
ISC 29 16:45:29.9±0.9, 36°.79N±0°.07×137°.39E±0°.09, h242km±7km, n20, σ0°98/27, mb3.1/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**0.70**	**111**	P	**Pn**	**16 46 02.8**	**+0.1**
MAT				S	**S**	**16 46 28.9**	**+0.6**
MAT	**Matsushiro**	**0.70**	**111**	P	**Pn**	**16 46 02.9**	**+0.2**
MAT				eS	**S**	**16 46 27.8**	**-0.5**
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=298,slow=5.1,SNR=68	**0.70**	**111**	P	**Pn**	**16 46 02.3**	**-0.4**
MJAR	baz=292,slow=9.9,SNR=7.8			S	**S**	**16 46 29.8**	**+1.5**
JYTA	**Yamagatataniai**	**1.31**	**204**	P	**Pn**	**16 46 06.2**	**+0.1**
JYTA				S	**S**	**16 46 34.1**	**-0.4**
JSD	**Sado**	**1.42**	**29**	P	**Pn**	**16 46 07.0**	**+0.2**
JSD				S	**S**	**16 46 34.8**	**-1.1**
JRY	**Ryogami san**	**1.44**	**122**	P	**Pn**	**16 46 07.3**	**+0.2**
JYN	**Shimob**	**1.59**	**144**	P	**Pn**	**16 46 08.6**	**+0.2**
JAG	**Ashikaga**	**1.70**	**102**	P	**Pn**	**16 46 08.8**	**-0.3**
JOD2	**Odawara 2**	**2.05**	**138**	P	**Pn**	**16 46 13.0**	**+0.7**
JWT	**Wachi**	**2.21**	**228**	P	**Pn**	**16 46 13.7**	**0.0**
JWT				S	**S**	**16 46 47.0**	**-1.2**
JFT	**Otama**	**2.46**	**72**	P	**Pn**	**16 46 17.0**	**+0.8**
JIE	**Ise**	**2.46**	**193**	P	**Pn**	**16 46 16.8**	**+0.5**
JIE				eS	**S**	**16 46 51.9**	**-0.8**
TK02	**Tokai 2**	**2.86**	**174**	P	**Pn**	**16 46 18.0**	**-2.2**
KSRS	**Korea Array** baz=106,slow=12,SNR=4.5	**7.59**	**278**	P	**Pn**	**16 47 19.3**	**+1.3**
ASAJ	**Asahikawa** 1.0nm,0.3s,baz=239,slow=9.6,SNR=10	**8.32**	**27**	P	**Pn**	**16 47 24.7**	**-2.4**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=66,slow=9.2,SNR=1.5	**41.51**	**302**	P	**P**	**16 52 53.4**	**-0.1**
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=84,slow=7.7,SNR=6.5	**43.60**	**308**	P	**P**	**16 53 10.2**	**+0.1**
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=360,slow=7.5,SNR=9.2	**56.50**	**183**	P	**P**	**16 54 47.9**	**+0.8**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=5.0,slow=5.1,SNR=4.1	**60.22**	**184**	P	**P**	**16 55 13.7**	**+1.0**
STKA	**Stephens Creek** 2.8nm,0.9s,baz=355,slow=11,SNR=3.1	**68.43**	**176**	P	**P**	**16 56 05.2**	**-0.4**

*IDC **29** 16:52:32.2±2.2, 52°.14N×168°.97W, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/55, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=65.6km s-min=29.2km az=161.0*
*AEIC **29** 16:52:38±1.5, 52°.13N±0°.08×169°.4W±0°.1, h60km±8km, ML3.0, mb3.7/11(NEIC), Error ellipse: s-maj=12.7km s-min=8.0km az=149.0*
*NEIC **29** 16:52:39.0±1.5, 52°.10N±0°.07×169°.34W±0°.10, h41km±18km, Error ellipse: s-maj=11.1km s-min=8.1km az=161.0*
ISC 29 16:52:37.3±1.0, 52°.0N±0°.1×169°.22W±0°.07, h29km, n48, σ1°04/46, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.00**	**13**		**Pn**	**16 52 54.8**	**-0.5**
NIKH				Sn	**Sb**	**16 53 09.4**	**+0.6**
OKSP	**Okmok Steeple**	**1.37**	**24**		**Pn**	**16 53 00.4**	**-0.2**
OKSO	**Okmok South**	**1.50**	**25**		**Pn**	**16 53 02.7**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**1.56**	**27**		**Pn**	**16 53 03.7**	**+0.6**
OKCE	**Okmok Cone E**	**1.56**	**24**		**Pn**	**16 53 04.0**	**+0.8**
OKNC	**Okmok New Cone**	**1.60**	**24**		**Pn**	**16 53 04.6**	**+0.9**
OKFG	**Magazine Ridge**	**1.62**	**29**		**Pn**	**16 53 04.4**	**+0.5**
MAPS	**Pakushin South**	**2.27**	**36**		**Pn**	**16 53 13.7**	**+0.8**
MGOD	**Makushin Gods**	**2.29**	**37**		**Pn**	**16 53 14.0**	**+0.9**
MSW	**Makushin Switc**	**2.42**	**37**		**Pn**	**16 53 16.0**	**+1.1**
MNAT	**Makushin Natee**	**2.43**	**38**		**Pn**	**16 53 16.3**	**+1.3**
MTBL	**Makushin Table**	**2.50**	**37**		**Pn**	**16 53 17.3**	**+1.3**
AKUT	**Akutan**	**2.98**	**43**	Pn	**Pn**	**16 53 23.7**	**+1.1**
KOFP	**Korovin Flat P**	**3.02**	**277**		**Pn**	**16 53 23.2**	**0.0**
ATKA	**Atka Island**	**3.08**	**276**	Pn	**Pn**	**16 53 23.1**	**-0.8**
GSMY	**Great Sitkin M**	**4.22**	**273**		**Pn**	**16 53 40.1**	**+0.4**
GSTR	**Great Sitkin T**	**4.22**	**274**	Pn	**Pn**	**16 53 40.0**	**+0.3**
GSTD	**Great Sitkin T**	**4.28**	**273**		**Pn**	**16 53 40.4**	**-0.1**
ADK	**Adak**	**4.62**	**271**		**Pn**	**16 53 44.9**	**-0.2**
KIWB	**Kanaga Island**	**4.91**	**271**	Pn	**Pn**	**16 53 49.4**	**+0.3**
KIMD	**Kanaga Island**	**4.97**	**270**		**Pn**	**16 53 49.8**	**-0.1**
SPIA	**Saint Paul Isl**	**5.22**	**354**	Pn	**Pn**	**16 53 55.9**	**+2.6**
TAFP	**Tanaga Falls P**	**5.42**	**272**		**Pn**	**16 53 56.3**	**+0.1**
TASE	**Tanaga Southea**	**5.46**	**272**		**Pn**	**16 53 57.4**	**+0.6**
SDPT	**Sand Point**	**6.18**	**54**	Pn	**Pn**	**16 54 08.1**	**+1.6**
CNBA	**Chernabura Isl**	**6.41**	**60**	Pn	**Pn**	**16 54 09.5**	**-0.2**
AMKA	**Amchitka**	**7.17**	**270**		**Pn**	**16 54 20.3**	**+0.3**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=265,slow=5.8,SNR=5.6	**11.18**	**52**	Pn	**Pn**	**16 55 14.6**	**-0.3**
KDAK	**Kodiak Island**	**11.18**	**52**	Pn	**Pn**	**16 55 13.7**	**-1.2**
CNPM	**China Poot**	**12.59**	**46**	Pn	**Pn**	**16 55 34.9**	**+0.7**
HIN	**Hinchinbrook I**	**15.11**	**47**	Pn	**Pn**	**16 56 07.6**	**-0.9**
SCM	**Sheep Creek Mo**	**15.40**	**42**	Pn	**Pn**	**16 56 11.4**	**-1.0**
SCM	comp=Z,5.6nm,1.1s			IAmb	IAmb	16 56 34.9	
BPAW	**Bear Paw Mtn.**	**15.41**	**31**	P	**P**	**16 56 16.0**	**-0.8**
KLU	**Klutina**	**15.83**	**44**	Pn	**Pn**	**16 56 16.4**	**-1.6**
KLU	comp=Z,3.3nm,0.8s			IAmb	IAmb	16 56 28.4	
M24K	**Tolsona, Glenn**	**16.01**	**42**	P	**Pn**	**16 56 17.7**	**-2.5**
M24K	comp=Z,16nm,1.3s			IAmb	IAmb	16 56 34.6	
N25K	**Chitina, Valde**	**16.45**	**45**	P	**Pn**	**16 56 25.1**	**-0.8**
N25K	comp=Z,7.6nm,1.4s			IAmb	IAmb	16 56 46.0	
GLB	**Gilahina Butte**	**16.73**	**46**	P	**Pn**	**16 56 27.7**	**-1.7**
VRDI	**Verde Repeater**	**16.81**	**47**	P	**Pn**	**16 56 29.1**	**-1.4**
VRDI	comp=Z,6.5nm,1.3s			IAmb	IAmb	16 56 48.1	
CTGM	**Chitina Glacie**	**17.69**	**49**	P	**Pn**	**16 56 41.5**	**+0.1**
CTGM	comp=Z,7.6nm,1.2s			IAmb	IAmb	16 56 56.7	
PEA0B	**Petropavlovsk-**	**20.05**	**286**	P	**P**	**16 57 07.3**	**-0.6**
PEA0B	comp=Z,6.5nm,1.0s			IAmb	IAmb	16 57 26.3	
PETK	**Petropavlovsk-** comp=Z,1.2nm,0.4s,baz=94,slow=13,SNR=8.8	**20.05**	**286**	P	**P**	**16 57 07.0**	**-0.9**
PETK	**Petropavlovsk-**	**20.05**	**286**	P	**P**	**16 57 05.7**	**-2.1**
NEW	**Newport**	**33.01**	**75**	P	**P**	**16 59 10.3**	**+0.7**
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=12	**38.41**	**219**	T	T	17 41 16.2	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=6.4	**38.43**	**219**	T	T	17 41 04.5	
H11S3	**WAKE ISLAND Hy** baz=23,slow=76,SNR=6.2	**38.43**	**219**	T	T	17 41 14.5	
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=54,slow=9.7,SNR=2.3	**51.57**	**301**	P	**P**	**17 01 41.1**	**+0.5**
ASAR	**Alice Springs** comp=Z,0.3nm,0.9s,baz=23,slow=5.6,SNR=2.0	**90.23**	**230**	P	**P**	**17 05 35.4**	**+0.5**

*ANF **29** 16:52:55.9±0.5, 41°.84N×119°.53W, h4km±5km, ML3.1/14, Error ellipse: s-maj=4.9km s-min=2.2km az=83.0*
*REN **29** 16:52:57.7±1.8, 41°.92N±0°.03×119°.63W±0°.06, h10km±6km, ML3.0/5, ML3.1/24(SEA), ML2.9/56(NEIC), Error ellipse: s-maj=5.9km s-min=4.9km az=85.0*
*SEA **29** 16:52:58.1±3.0, 41°.89N±0°.04×119°.62W±0°.05, h0km±6km, Error ellipse: s-maj=6.2km s-min=4.0km az=48.0*
NEIC 29 16:52:58.5±1.9, 41°.94N±0°.03×119°.62W±0°.05, h12km±6km, Error ellipse: s-maj=6.1km s-min=4.1km az=72.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOD	**Modoc Plateau**	**0.51**	**266**	Pg	Pg	16 53 07.7	-0.8
MOD				Sg	Sg	16 53 15.0	-0.4
LKVW	**Lakeview**	**0.62**	**297**		Pg	16 53 09.9	-0.7
LKVW					Sg	16 53 19.2	+0.3
WVOR	**Wild Horse Val**	**0.88**	**56**		Pg	16 53 14.9	-0.6
WVOR					Sg	16 53 27.0	0.0
WVOR	443nm,0.7s			IAML		16 53 31.0	
WVOR	359nm,0.8s			IAML		16 53 31.2	
K05A	**Summer Lake**	**1.23**	**310**		Pn	16 53 21.2	-0.5
K05A					Sn	16 53 38.5	+0.3
K05A	comp=E,330nm,0.7s			IAML		16 53 41.8	
LASM	**Arnica Sink**	**1.50**	**258**		Pn	16 53 24.7	-0.7
LASM					Sb	16 53 45.8	+0.2
HOG	**Hogback Mounta**	**1.58**	**282**		Pn	16 53 26.2	-0.3
LTIM	**Timbered Crate**	**1.60**	**242**		Pn	16 53 26.0	-0.6
J08A	**Circle Bar Ran**	**1.65**	**30**	Pn	Pn	16 53 27.1	-0.3
J08A				IAML		16 53 54.8	
M04C	**Macdoel** baz=84,SNR=131	**1.67**	**265**	P	Pn	16 53 26.9	-0.7
M04C				S	Sb	16 53 50.4	+0.3
M04C	**Macdoel** baz=84	**1.67**	**265**		Pn	16 53 26.9	-0.7
LBCM	**Butte Creek Ri**	**1.71**	**230**		Pn	16 53 27.4	-0.7
K04D	**Chiloquin, OR** baz=113,SNR=19	**1.73**	**294**	P	Pn	16 53 28.3	-0.1
K04D				S	Sg	16 53 53.0	-1.0
K04D	**Chiloquin, OR** baz=113	**1.73**	**294**		Pn	16 53 28.9	+0.5
J05D	**Fort Rock, OR** baz=138,SNR=62	**1.80**	**319**	Pb	Pb	16 53 31.2	-0.2
J05D				Sb	Sg	16 53 57.7	+1.5
J05D	**Fort Rock, OR** baz=138	**1.80**	**319**		Pb	16 53 31.2	-0.1
L04D	**Klamath Falls** baz=98,SNR=48	**2.02**	**279**	P	Pn	16 53 31.6	-0.9
L04D				S	Sb	16 54 00.5	+0.2
L04D	**Klamath Falls** baz=98	**2.02**	**279**		Pn	16 53 31.9	-0.5
SVIC	**Surveyors Ice**	**2.08**	**325**		Pb	16 53 36.8	+0.5
PINE	**Pine Mountain**	**2.09**	**333**	Pg	Pb	16 53 36.4	0.0
PINE	comp=E,95nm,0.6s			IAML		16 54 09.9	
I07A	**Izee**	**2.14**	**2**	Pg	Pb	16 53 37.5	+0.3
PAHR	**Pah Rah Range**	**2.24**	**175**	Pn	Pn	16 53 35.0	-0.4
PAHR	comp=E,50nm,0.6s			IAML		16 54 19.3	
J04D	**Umpqua Nationa** baz=125	**2.25**	**306**	Pb	Pb	16 53 39.2	0.0
J04D	baz=125			Sb	Sg	16 54 11.4	+0.6
ASBU	**Astronaut Butt**	**2.28**	**326**		Pb	16 53 40.0	+0.5
YBH	**Yreka Blue Hor**	**2.32**	**266**		Pn	16 53 35.4	-1.1
O03E	**Paynes Creek** baz=44,SNR=90	**2.33**	**226**	P	Pn	16 53 35.7	-1.0
O03E				Sb	Sb	16 54 09.6	+0.5
M02C	**Callahan** baz=76,SNR=9.2	**2.48**	**258**	P	Pn	16 53 37.2	-1.6
M02C				Sb	Sb	16 54 15.3	+1.7
N02D	**Trinity Center** baz=67,SNR=6.1	**2.51**	**248**	P	Pn	16 53 37.8	-1.3
N02D	baz=67			Sb	Sb	16 54 16.8	+2.3
HUMO	**Hull Mountain**	**2.56**	**286**		Pn	16 53 38.9	-1.0
HUMO	comp=N,62nm,1.3s			IAML		16 54 18.6	
HUMO	comp=E,46nm,0.7s			IAML		16 54 19.4	
WDC	**Whiskeytown Da**	**2.59**	**239**	Pn	Pn	16 53 38.9	-1.2
WDC	comp=N,55nm,0.5s			IAML		16 54 17.5	
VCNR	**Virginia City**	**2.64**	**181**	Pg	Pb	16 53 44.4	-1.5
VCNR	comp=N,76nm,0.8s			IAML		16 54 22.5	
I04A	**Tendick Farm,** baz=132	**2.77**	**313**	Pb	Pb	16 53 48.1	+0.2
I04A	baz=132			Sb	Sg	16 54 25.8	-1.5
ORV	**Oroville**	**2.78**	**212**	Pn	Pn	16 53 42.0	-0.8
PNTR	**Pine Nut**	**2.85**	**180**	Pg	Pb	16 53 49.0	-0.4
PNTR	comp=E,64nm,0.9s			IAML		16 54 34.6	
PNTR	comp=N,70nm,0.9s			IAML		16 54 35.5	
YERR	**Yerington**	**2.97**	**174**	Pg	Pb	16 53 50.9	-0.5
O02D	**Mt. Diablo Mer** baz=53	**2.98**	**235**	P	Pn	16 53 44.2	-1.3
O02D	baz=53			Sb	Sb	16 54 28.7	+1.0
K02D	**Willamette Mer** baz=103	**3.09**	**285**	P	Pn	16 53 47.3	+0.1
KVN	**Kaiserville**	**3.11**	**158**	Pn	Pn	16 53 47.5	0.0
KVN	comp=N,20nm,0.6s			IAML		16 54 39.5	
KVN	comp=E,21nm,0.7s			IAML		16 54 39.6	
MFID	**Camas Ranch**	**3.16**	**61**	Pn	Pn	16 53 47.9	-0.2
AFDM	**Forest Hills D**	**3.16**	**200**	Pn	Pn	16 53 47.7	-0.4
KRMB	**Red Mountain**	**3.24**	**264**	Pn	Pn	16 53 49.1	0.0
KRMB	comp=E,23nm,2.6s			IAML		16 54 53.0	
KRMB	comp=N,25nm,2.3s			IAML		16 54 56.0	
I03D	**Drain, OR** baz=122	**3.26**	**304**	Pb	Pb	16 53 55.9	-0.3
I03D	baz=122			Sb	Sg	16 54 40.9	-2.2
KHMM	**Horse Mountain**	**3.27**	**252**	Pn	Pn	16 53 49.6	-0.1
KHMM	comp=N,32nm,3.1s			IAML		16 54 56.2	
KHMM	comp=E,34nm,4.0s			IAML		16 55 18.0	
G08A	**Pilot Rock**	**3.38**	**8**	Pn	Pn	16 53 50.0	-1.2
WAKR	**Walker**	**3.44**	**178**		Pb	16 54 00.1	+0.7
WAKR	comp=N,15nm,0.7s			IAML		16 54 51.2	
KBO	**Bosley Butte**	**3.44**	**276**	Pn	Pn	16 53 52.2	+0.3
ELK	**Elko**	**3.51**	**108**	Pn	Pn	16 53 53.2	+0.2
ELK	comp=N,15nm,0.3s			IAML		16 54 50.6	
ELK	comp=N,15nm,0.4s			IAML		16 54 52.2	
KMRM	**Mail Ridge**	**3.54**	**242**	Pn	Pn	16 53 52.6	-0.6
KEBM	**Edson Butte**	**3.61**	**287**	Pn	Pn	16 53 54.4	+0.1
HLID	**Hailey** baz=249	**4.16**	**65**	Sb	Sb	16 55 04.3	+2.3
HLID	**Hailey**	**4.16**	**65**	Pn	Pn	16 54 02.4	+0.5
HLID	comp=N,12nm,0.6s			IAML		16 55 15.7	
HLID	comp=N,18nm,0.7s			IAML		16 55 16.6	
R11A	**Troy Canyon, C** baz=320	**4.74**	**138**	Sg	Sg	16 55 27.6	-2.9
R11A	**Troy Canyon, C**	**4.74**	**138**	Pn	Pn	16 54 11.9	+2.1
R11A	comp=E,6.6nm,0.6s			IAML		16 55 28.4	
R11A	comp=N,9.0nm,0.6s			IAML		16 55 30.8	
RVW	**Rose Valley**	**4.77**	**333**		Pb	16 54 21.2	-0.8
SPR3	**Spring Creek 3**	**4.99**	**124**	Pn	Pn	16 54 16.0	+2.5
SPR3	comp=N,12nm,0.7s			IAML		16 55 40.0	
BGU	**Big Grassy Mou**	**5.06**	**99**	Pn	Pn	16 54 15.4	+1.2
BGU	comp=N,6.2nm,1.4s			IAML		16 55 41.9	
BGU	comp=E,8.6nm,1.1s			IAML		16 55 46.4	
FMW	**Mount Fremont**	**5.20**	**344**		Pb	16 54 32.1	+2.7
DUG	**Dugway, Tooele**	**5.43**	**106**	Pn	Pn	16 54 21.0	+1.7
GSM	**Grass Mountain**	**5.49**	**344**		Pn	16 54 26.5	+6.5
PSUT	**Pine Spring**	**5.57**	**126**	Pn	Pn	16 54 23.6	+2.2
TPNV	**Topopah Spring** baz=333	**5.62**	**151**	Sg	Sg	16 55 56.1	-2.9
MCMT	**McKenzie Canyo**	**5.71**	**57**	Pn	Pn	16 54 25.8	+2.5
PRN	**Pahroc Range**	**5.74**	**141**	Pn	Pn	16 54 26.2	+2.7
PMPB	**Monarch Peak**	**5.79**	**190**	Pn	Pn	16 54 20.2	-4.0
B011	**North Saanich**	**7.23**	**339**		Pb	16 54 58.5	-5.3

*IDC **29** 17:18:03.4±1.0, 52°.19N×169°.36W, h0km, mb4.0/14, mb1 4.2/16, mb1mx3.9/40, mbtmp3.9/16, ML3.4/2, MS3.8/3, Ms1 3.8/3, ms1mx3.0/41, Error ellipse: s-maj=30.3km s-min=17.3km az=172.0*
*NEIC **29** 17:18:06.5±2.0, 52°.02N±0°.07×169°.27W±0°.08, h22km±6km, mb3.9/13, ML3.5/43(AEIC), Error ellipse: s-maj=10.9km s-min=6.5km az=165.0*
*AEIC **29** 17:18:06±2.1, 51°.99N±0°.04×169°.26W±0°.07, h39km±6km, Error ellipse: s-maj=7.5km s-min=2.3km az=50.0*
ISC 29 17:18:03.7±3.1, 52°.01N±0°.09×169°.22W±0°.06, h6km±19km, n84, σ1°22/79, mb4.2/24, MS3.8/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.99**	**13**		**Pn**	**17 18 24.2**	**+0.1**
NIKH					**Sn**	**17 18 39.3**	**+0.9**
OKSP	**Okmok Steeple**	**1.36**	**24**		**Pn**	**17 18 29.5**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**1.55**	**27**		**Pn**	**17 18 32.7**	**+0.8**
OKCE	**Okmok Cone E**	**1.56**	**24**		**Pb**	**17 18 33.0**	**+0.1**
OKNC	**Okmok New Cone**	**1.59**	**24**		**Pn**	**17 18 33.4**	**+1.0**
OKFG	**Magazine Ridge**	**1.61**	**29**		**Pn**	**17 18 33.5**	**+0.9**
OKFG					**Sb**	**17 18 54.9**	**+0.5**
MAPS	**Pakushin South**	**2.27**	**37**		**Pn**	**17 18 42.7**	**+1.0**
MAPS					**Sn**	**17 19 11.0**	**+1.1**
MGOD	**Makushin Gods**	**2.28**	**38**		**Pn**	**17 18 42.5**	**+0.6**
MGOD					**Sn**	**17 19 11.4**	**+1.0**
MSW	**Makushin Switc**	**2.41**	**37**		**Pn**	**17 18 45.0**	**+1.4**
MNAT	**Makushin Natee**	**2.42**	**38**		**Pn**	**17 18 45.1**	**+1.3**
MNAT					**Sn**	**17 19 14.2**	**+0.4**
UNV	**Unalaska Valle**	**2.46**	**41**		**Pn**	**17 18 46.0**	**+1.6**
MTBL	**Makushin Table**	**2.49**	**37**		**Pn**	**17 18 46.2**	**+1.4**
AKRB	**Akutan Reef Bi**	**2.85**	**41**		**Pn**	**17 18 51.6**	**+1.9**
AKBBA	**Akutan Broad B**	**2.88**	**42**		**Pn**	**17 18 51.9**	**+1.7**
AKUT	**Akutan**	**2.97**	**43**		**Pb**	**17 18 56.4**	**-0.6**
KOFP	**Korovin Flat P**	**3.01**	**277**		**Pn**	**17 18 52.7**	**+0.7**
ATKA	**Atka Island**	**3.07**	**275**		**Pn**	**17 18 52.5**	**-0.2**
KOKL	**Mount Kliuchef**	**3.08**	**278**		**Pn**	**17 18 54.1**	**+1.2**
GSIG	**Igitkin Island**	**4.14**	**272**		**Pn**	**17 19 07.5**	**0.0**
GSMY	**Great Sitkin M**	**4.22**	**273**		**Pn**	**17 19 09.2**	**+0.7**
GSTR	**Great Sitkin T**	**4.22**	**274**		**Pn**	**17 19 09.2**	**+0.6**
GSTD	**Great Sitkin T**	**4.28**	**273**		**Pn**	**17 19 09.6**	**+0.3**
ADK	**Adak**	**4.62**	**271**		**Pn**	**17 19 14.1**	**+0.2**
KIWB	**Kanaga Island**	**4.91**	**271**	Pn	**Pn**	**17 19 17.7**	**-0.2**
KIKV	**Kanaga Island**	**4.92**	**272**		**Pn**	**17 19 18.5**	**+0.3**
KIMD	**Kanaga Island**	**4.97**	**270**		**Pn**	**17 19 19.1**	**+0.3**
SPIA	**Saint Paul Isl**	**5.21**	**354**		**Pn**	**17 19 24.7**	**+2.7**
TAFP	**Tanaga Falls P**	**5.42**	**272**		**Pn**	**17 19 26.3**	**+1.3**
TASE	**Tanaga Southea**	**5.46**	**272**		**Pn**	**17 19 26.9**	**+1.3**
GAEA	**Gareloi East**	**5.90**	**272**		**Pn**	**17 19 33.3**	**+1.7**
SDPT	**Sand Point**	**6.18**	**54**		**Pn**	**17 19 37.3**	**+2.0**
CNBA	**Chernabura Isl**	**6.41**	**60**		**Pn**	**17 19 40.3**	**+1.8**
AMKA	**Amchitka**	**7.16**	**269**		**Pn**	**17 19 49.7**	**+0.8**
LSPA	**Little Sitkin**	**7.54**	**274**		**Pn**	**17 19 56.0**	**+2.0**
LSNW	**Little Sitkin**	**7.57**	**274**		**Pn**	**17 19 56.3**	**+1.8**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=281,slow=1.2,SNR=7.2	**11.17**	**52**	Pn	**Pn**	**17 20 43.6**	**-0.1**
SCM	**Sheep Creek Mo**	**15.39**	**42**	Pn	**Pn**	**17 21 39.3**	**-2.0**
BPAW	**Bear Paw Mtn.**	**15.40**	**31**	Pn	**Pn**	**17 21 41.6**	**+0.2**

BPAW				IAmb	IAmb	17 21 47.4	
	comp=Z,7.1nm,0.7s						
KLU	**Klutina**	**15.83**	**44**	Pn	**Pn**	**17 21 44.2**	**-2.7**
KLU				IAmb	IAmb	17 21 58.6	
	comp=Z,11nm,1.0s						
MLY	**Manley**	**16.13**	**29**		**P**	**17 21 53.4**	**-0.8**
MLY				IAmb	IAmb	17 21 56.0	
	comp=Z,6.2nm,0.8s						
N25K	**Chitina, Valde**	**16.45**	**45**	Pn	**Pn**	**17 21 52.5**	**-2.4**
I23K	**Minto, Yukon-K**	**16.64**	**30**	Pn	**Pn**	**17 21 57.4**	**+0.2**
I23K				IAmb	IAmb	17 22 14.1	
	comp=Z,16nm,1.6s						
GLB	**Gilahina Butte**	**16.73**	**46**	Pn	**Pn**	**17 21 55.9**	**-2.6**
VRDI	**Verde Repeater**	**16.81**	**47**	Pn	**Pn**	**17 21 58.6**	**-0.9**
ILAR	**Eielson Array**	**17.20**	**33**	P	**Pn**	**17 22 03.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=233,slow=8.9,SNR=4.7						
RIDG	**Independent Ri**	**17.35**	**38**	Pn	**Pn**	**17 22 04.3**	**-2.0**
RIDG				IAmb	IAmb	17 22 21.2	
	comp=Z,22nm,1.9s						
PEA0B	**Petropavlovsk-**	**20.04**	**286**		**P**	**17 22 36.4**	**-0.8**
PETK	**Petropavlovsk-**	**20.04**	**286**	P	**P**	**17 22 36.2**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=96,slow=14,SNR=63						
PETK	**Petropavlovsk-**	**20.04**	**286**	P	**P**	**17 22 36.0**	**-1.2**
INK	**Inuvik**	**23.59**	**33**	P	**P**	**17 23 14.0**	**-0.8**
	comp=Z,2.4nm,0.6s,baz=252,slow=10,SNR=8.8						
INK	**Inuvik**	**23.59**	**33**	P	**P**	**17 23 13.1**	**-1.7**
INK				IAmb	IAmb	17 23 16.2	
	comp=Z,4.2nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**37.23**	**219**	T	T	18 05 45.8	
	baz=24,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**37.24**	**219**	T	T	18 05 19.6	
	baz=24,slow=75,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**37.25**	**219**	T	T	18 05 50.3	
	baz=24,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**38.42**	**219**	T	T	18 06 41.3	
	baz=23,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**38.43**	**219**	T	T	18 06 40.9	
	baz=23,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**38.44**	**219**	T	T	18 06 42.4	
	baz=23,slow=76,SNR=21						
MJAR	**Matsushiro Arr**	**39.77**	**268**	LR	LR	17 41 08.0	
	comp=Z,40nm,21.1s,baz=330,slow=35						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**17 25 43.4**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=328,slow=5.3,SNR=5.1						
KSRS	**Korea Array**	**45.54**	**277**	P	**P**	**17 26 24.1**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=55,slow=7.6,SNR=9.0						
SONM	**Songino Array**	**51.56**	**301**	P	**P**	**17 27 10.4**	**0.0**
	comp=Z,1.9nm,1.0s,baz=53,slow=7.6,SNR=9.7						
SONM	**Songino Array**	**51.56**	**301**	IAmb	IAmb	17 27 11.2	
	comp=Z,2.5nm,1.1s						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**17 27 20.2**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=299,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**58.28**	**354**	LR	LR	17 55 15.6	
	comp=Z,60nm,18.2s,baz=280,slow=38						
MKAR	**Makanchi Array**	**64.11**	**314**	P	**P**	**17 28 37.0**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=53,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	**66.23**	**352**	P	**P**	**17 28 51.3**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=15,slow=8.3,SNR=12						
NOA	**NORSAR Array B**	**67.30**	**360**	P	**P**	**17 28 58.3**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=0.9,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**76.47**	**348**	P	**P**	**17 29 52.5**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=18,slow=6.8,SNR=6.2						
CMAR	**Chiang Mai Arr**	**76.78**	**283**	P	**P**	**17 29 56.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=40,slow=7.3,SNR=4.9						
GERES	**GERESS Array B**	**79.49**	**358**	P	**P**	**17 30 11.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=350,slow=1.5,SNR=5.8						
CONA	**Conrad Observa**	**80.34**	**357**	*eP*	**P**	**17 30 16.3**	**+0.8**
	comp=Z,5.2nm,1.3s						
MOA	**Molln**	**80.47**	**358**	*eP*	**P**	**17 30 17.6**	**+1.5**
	comp=Z,3.5nm,1.4s						
KBZ	**Khabaz**	**80.67**	**337**	P	**P**	**17 30 17.8**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=282,slow=3.5,SNR=5.1						
RETA	**Reutte**	**80.88**	**0**	*eP*	**P**	**17 30 16.7**	**-1.7**
	comp=Z,2.4nm,0.6s						
MOTA	**Moosalm**	**81.02**	**360**	*eP*	**P**	**17 30 19.4**	**+0.2**
	comp=Z,5.8nm,1.2s						
WTTA	**Wattenberg**	**81.10**	**359**	*eP*	**P**	**17 30 21.0**	**+1.3**
	comp=Z,1.3nm,0.4s						
SQTA	**Sankt Quirin**	**81.14**	**360**	*eP*	**P**	**17 30 20.8**	**+0.9**
	comp=Z,1.6nm,0.4s						
KBA	**Koelnbreinsper**	**81.26**	**358**	*eP*	**P**	**17 30 18.9**	**-1.6**
	comp=Z,5.7nm,0.9s						
RAO	**Raoul Island**	**81.28**	**188**	LR	LR	18 00 26.9	
	comp=Z,205nm,20.1s,baz=281,slow=31						
FETA	**Feichten**	**81.34**	**0**	*eP*	**P**	**17 30 21.9**	**+1.0**
	comp=Z,3.9nm,1.0s						
ABTA	**Abfaltersbach**	**81.61**	**359**	*eP*	**P**	**17 30 22.7**	**+0.4**
	comp=Z,5.3nm,1.3s						
SOKA	**Soboth**	**81.62**	**357**	*eP*	**P**	**17 30 22.7**	**+0.4**
	comp=Z,2.9nm,1.0s						
ESDC	**Sonseca Array**	**87.79**	**11**	P	**P**	**17 30 53.5**	**0.0**
	comp=Z,0.9nm,1.0s,baz=2.2,slow=7.6,SNR=4.3						
ASAR	**Alice Springs**	**90.24**	**230**	P	**P**	**17 31 04.9**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=31,slow=4.3,SNR=5.6						

*TUL **29** 17:37:42.1±0.9, 36°.076N±0°.009×97°.21W±0°.02, h0km±7km, ML2.7, mb_Lg2.3/18(NEIC), Error ellipse: s-maj=1.9km s-min=1.2km az=97.0*

NEIC 29 17:37:42.6±1.1, 36°.08N±0°.01×97°.21W±0°.02, h5km±7km, Error ellipse: s-maj=2.1km s-min=1.3km az=127.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.33**	**112**	Pg	Pg	17 37 49.0	+0.1
OK031				Sg	Sg	17 37 53.7	+0.5
OK029	**Liberty Lake**	**0.34**	**215**	Pg	Pg	17 37 49.3	+0.1
OK029					Sg	17 37 54.2	+0.5
QUOK	**Quay**	**0.42**	**77**	Pg	Pg	17 37 50.8	+0.2
QUOK				Sg	Sg	17 37 56.8	+0.7
OK005	**Luther M Schoo**	**0.42**	**178**	Pg	Pg	17 37 50.5	-0.2
OK025	**Westminster Rd**	**0.51**	**192**	Pg	Pg	17 37 52.3	0.0
BCOK	**Bluff Creek, N**	**0.53**	**218**	Pg	Pg	17 37 52.8	+0.1
BCOK				Sg	Sg	17 38 00.1	+0.5
BLOK	**Blackwell**	**0.68**	**360**	Pg	Pg	17 37 55.6	0.0
OKCFA	**Oklahoma City**	**0.69**	**197**	Pg	Pg	17 37 55.7	-0.1
OKCFA				Sg	Sg	17 38 05.3	+0.5
OKCSW	**OKLAHOMA CITY**	**0.69**	**195**	Pg	Pg	17 37 55.3	-0.6
CROK	**Carrier**	**0.76**	**305**	Pg	Pg	17 37 57.1	0.0
FNO	**Franklin**	**0.83**	**191**	Pg	Pg	17 37 58.0	-0.5
FNO				IAmb_Lg	Sg	17 38 09.6	+0.3
	comp=Z,34nm,0.8s						
FNO				Sg	Sg	17 38 09.6	+0.3
GC02	**Grant County #**	**0.93**	**326**	Pg	Pg	17 38 00.2	-0.3
GC02				Sg	Sg	17 38 12.9	+0.3
KAN13	**South Haven SW**	**0.96**	**347**	Pg	Pg	17 38 00.7	-0.3
T35A	**Sooner Cattle**	**1.01**	**34**		Pg	17 38 01.6	-0.3
T35A				Sg	Sg	17 38 14.9	-0.2
KAN09	**Caldwell North**	**1.11**	**343**	Pg	Pg	17 38 03.4	-0.4
KAN09				Sg	Sg	17 38 18.2	0.0
KAN05	**Bluff City Nor**	**1.16**	**333**	Pg	Pg	17 38 04.4	-0.4
KS20	**Mayfield South**	**1.18**	**347**	Pg	Pg	17 38 04.7	-0.5
KAN10	**Anthony SW Sta**	**1.26**	**326**	Pg	Pg	17 38 06.1	-0.7
U32A	**Winter Ranch,**	**1.48**	**282**		Pn	17 38 09.5	-0.4
X34A	**Smith Ranch, M**	**1.56**	**199**		Pn	17 38 11.0	+0.1
WMOK	**Wichita Mounta**	**1.85**	**224**	Pn	Pn	17 38 15.4	+0.4
LOOK	**Love County**	**2.08**	**179**	Pn	Pn	17 38 19.4	+1.2
U38A	**Gravette**	**2.31**	**80**	Pn	Pn	17 38 22.0	+0.6
W39A	**Magazine**	**2.93**	**106**	Pn	Pn	17 38 29.0	-0.7
CBKS	**Cedar Bluff**	**3.39**	**324**	IAmb_Lg		17 39 37.5	
	comp=Z,10.0nm,0.9s						
U40A	**Yellville**	**3.53**	**84**	Pn	Pn	17 38 37.8	-0.3
AMTX	**Amarillo**	**3.84**	**253**	IAmb_Lg		17 39 48.7	
	comp=Z,7.2nm,0.8s						
X40A	**Basin Creek Fa**	**3.92**	**113**	IAmb_Lg		17 39 48.9	
	comp=Z,5.7nm,0.8s						
ABTX	**Abilene, Hawle**	**3.99**	**211**	IAmb_Lg		17 39 57.0	
	comp=Z,4.4nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.13**	**91**	IAmb_Lg		17 39 59.2	
	comp=Z,4.5nm,0.8s						
R40A	**Maddies Statio**	**4.52**	**59**	Pn	Pn	17 38 52.0	+0.3
P38A	**Dawn**	**4.58**	**38**	IAmb_Lg		17 40 18.7	
	comp=Z,6.9nm,0.8s						
CCM	**Cathedral Cave**	**5.16**	**66**	IAmb_Lg		17 40 27.6	
	comp=Z,7.5nm,0.8s						
P40A	**Paris**	**5.35**	**48**	IAmb_Lg		17 40 31.6	
	comp=Z,5.6nm,0.7s						
PBMO	**Poplar Bluff**	**5.51**	**81**	IAmb_Lg		17 40 36.8	
	comp=Z,4.6nm,0.7s						

DJA 29 17:46:40.2±1.3, 8°S±4°×10°9E±°, h31km±21km, M3.6/11, MLv3.6/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**1.15**	**343**	P	Pn	17 47 00.0	-0.2
KPJI				S	Sb	17 47 15.8	-0.3
YOGI	**Yogyakarta**	**1.19**	**59**	P	Pn	17 47 00.9	+0.2
YOGI				S	Sn	17 47 14.6	-1.2
UGM	**Wanagama**	**1.35**	**67**	P	Pn	17 47 03.1	+0.2
UGM				S	Sn	17 47 19.8	0.0
SMRI	**Semarang**	**1.80**	**40**	P	Pn	17 47 09.2	0.0
SMRI				S	Sn	17 47 32.4	+1.3
PCJI	**Pacitan**	**1.90**	**83**	P	Pn	17 47 10.8	+0.3
PCJI				S	Sn	17 47 33.9	+0.4
LEM	**Lembang**	**2.29**	**314**	P	Pn	17 47 15.9	-0.1
CNJI	**Cibinong**	**2.40**	**298**	P	Pn	17 47 17.2	-0.2
PWJI	**Pagerwojo**	**2.54**	**81**	P	Pn	17 47 19.8	+0.5

*IDC **29** 17:56:37.0±0.5, 10°.83S×166°.25E, h142km±3km, mb5.0/44, mb1 5.0/48, mb1mx5.0/55, mbtmp5.4/48, MS3.8/15, Ms1 3.8/15, ms1mx3.6/34, Error ellipse: s-maj=8.2km s-min=8.1km az=43.0*

*BJI **29** 17:56:37.9±0.0, 10°.38S×165°.95E, h144km, mB5.0/47, mb5.2/78*

*NEIC **29** 17:56:37.4±1.7, 10°.88S±0°.06×166°.24E±0°.07, h142km±3km, mb5.4/385, Error ellipse: s-maj=10.3km s-min=9.1km az=61.0*

*MOS **29** 17:56:37.2±1.0, 10°.75S×166°.17E, h154km, mb5.3/25, Error ellipse: s-maj=6.4km s-min=5.7km az=97.2*

*GCMT **29** 17:56:39.4±0.1, 10°.91S±0°.01×166°.15E±0°.01, h147km, MW5.3/136, Moment Tensor Solution. s116,c179; s136,c261; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.96±.01; Mθθ-0.48±.02; Mφφ-0.47±.02; Mrθ-0.10±.01; Mrφ0.67±.02; Mθφ-0.74±.01; Best double couple: M0=1.29900×10^17 NP1:φs291.00000°, δ39.00000°, λ47.00000°. NP2:φs161.00000°, δ62.00000°, λ119.00000°. Principal axes: T 1.3440, Plg61.0000°, Azm116.0000°; N -0.0910, Plg25.0000°, Azm326.0000°; P -1.2530, Plg13.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 17:56:37.1±0.3, 10°.89S±0°.04×166°.29E±0°.04, h149km±2km, h149km:pP-P, n1421, σ1§06/1518, mb5.4/317, 219C-79D, Fault plane solution: NP1:φs267.26526°, δ45.58641°, λ37.17766°. **NP2:**φs149.30714°, δ64.42785°, λ129.11954°. **Principal axes:** T Plg53.1375°, Azm107.3545°; N Plg34.6899°, Azm309.9643°; P Plg10.9315°, Azm212.2816°; **Fault plane solution: NP1:** φs177.75542°, δ71.42120°, λ99.98640°. **NP2:** φs328.82773°, δ21.00888°, λ62.70979°. **Principal axes:** T Plg62.2998°, Azm103.0506°; N Plg9.4611°, Azm354.5444°; P Plg25.7733°, Azm259.9292°; **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.62**	**169**		**Pn**	**17 57 45.8**	**+0.4**
SANVU	**Saraoutou**	**4.62**	**169**	P	**Pn**	**17 57 46.0**	**+0.6**
HNR	**Honiara**	**6.41**	**283**	P	**Pn**	**17 58 10.1**	**+0.9**
	38nm,0.3s,baz=189,slow=2.3,SNR=62						
HNR				S	**Sn**	**17 59 22.7**	**+1.3**
	baz=83,slow=18,SNR=1.1						
HNR	**Honiara**	**6.41**	**283**		**Pn**	**17 58 09.8**	**+0.5**
HNR	**Honiara**	**6.41**	**283**	P	**Pn**	**17 58 11.0**	**+1.7**
KOUNC	**Koumac, New Ca**	**9.79**	**191**	P	**Pn**	**17 58 56.8**	**+2.4**
LIFNC	**LIFOU**	**9.87**	**175**	Pn	**Pn**	**17 58 54.8**	**-0.7**
LIFNC	**LIFOU**	**9.87**	**175**	P	**Pn**	**17 58 55.2**	**-0.2**
MARNC	**Mare, Loyalty**	**10.66**	**171**		**Pn**	**17 59 05.3**	**-0.5**
DZM	**Mont Dzumac**	**11.12**	**179**	*e*Pn	**Pn**	**17 59 13.2**	**+1.2**
DZM	636nm,0.8s						
				*e*LR	LR	18 01 47.0	
	comp=Z,886nm,37.5s						
DZM	**Mont Dzumac**	**11.12**	**179**	P	**Pn**	**17 59 13.4**	**+1.4**
	37nm,0.3s,baz=29,slow=15,SNR=180						
DZM				S	**Sn**	**18 01 12.2**	**-2.8**
	1.6nm,0.3s,baz=43,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**11.12**	**179**		**Pn**	**17 59 13.0**	**+1.1**
ONTNC	**Ouen Toro**	**11.35**	**179**		**Pn**	**17 59 15.5**	**+0.5**
OUENC	**Ouen Island, N**	**11.47**	**177**		**Pn**	**17 59 17.7**	**+1.1**
PINNC	**Pines Island,**	**11.71**	**175**		**Pn**	**17 59 19.9**	**+0.3**
MSVF	**Nonsavu**	**13.27**	**122**	P	**P**	**17 59 42.8**	**-1.5**
	2.9nm,0.3s,baz=282,slow=8.5,SNR=24						
MSVF	**Nonsavu**	**13.27**	**122**	P	**Pn**	**17 59 40.6**	**+0.7**
MSVF	**Nonsavu**	**13.27**	**122**	Pn	**Pn**	**17 59 40.6**	**+0.7**
TARA	**Tarawa**	**13.84**	**29**	Pn	**Pn**	**17 59 47.8**	**+0.7**
PMG	**Port Moresby**	**18.89**	**273**	P	**Pn**	**18 00 47.4**	**-1.1**
	4.3nm,0.3s,baz=97,slow=5.5,SNR=17						
PMG	**Port Moresby**	**18.89**	**273**	P	**P**	**18 00 45.3**	**-0.9**
PATS	**Pohnpei**	**19.32**	**335**	P	**P**	**18 00 51.6**	**+0.7**
	baz=19,SNR=5.9						
PATS	**Pohnpei**	**19.32**	**335**	P	**P**	**18 00 50.9**	**0.0**
PATS				IAmb	IAmb	18 00 55.8	
	comp=Z,327nm,1.0s						
KWAJ	**Kwajalein Atol**	**19.61**	**4**	P	**P**	**18 00 54.5**	**+0.5**
KWAJ				pmax	pmax		
	comp=Z,203nm,1.0s						
KWAJ	**Kwajalein Atol**	**19.61**	**4**	P	**P**	**18 00 54.5**	**+0.5**
KWAJ				IAmb	IAmb	18 00 56.5	
	comp=Z,203nm,0.9s						
EIDS	**Eidsvold**	**20.37**	**223**	P	**P**	**18 01 03.6**	**+1.5**
	baz=21,SNR=113						
EIDS	**Eidsvold**	**20.37**	**223**	P	**P**	**18 01 03.1**	**+1.0**
MANU	**Manus Island**	**20.74**	**294**	P	**P**	**18 01 06.3**	**+0.2**
CTA	**Charters Tower**	**21.34**	**242**	P	**P**	**18 01 13.5**	**+0.9**
	comp=Z,138nm,0.8s,baz=71,slow=12,SNR=87						
CTAO	**Charters Tower**	**21.34**	**242**	P	**P**	**18 01 13.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,199nm,0.9s						
CTAO	**Charters Tower**	**21.34**	**242**	P	**P**	**18 01 13.0**	**+0.4**
CTAO				IAmb	IAmb	18 01 16.1	
	comp=Z,199nm,0.9s						
LHI	**Lord Howe Isla**	**21.59**	**197**	P	**P**	**18 01 16.3**	**+1.2**
	baz=22,SNR=4.5						
LHI	**Lord Howe Isla**	**21.59**	**197**	P	**P**	**18 01 15.7**	**+0.6**
AFI	**Afiamalu**	**21.63**	**100**	P	**P**	**18 01 17.7**	**+1.9**
	comp=Z,203nm,0.8s,baz=139,slow=1.5,SNR=15						
AFI	**Afiamalu**	**21.63**	**100**	P	**P**	**18 01 16.6**	**+0.8**
AFI				pmax	pmax		
	comp=Z,267nm,0.9s						
AFI	**Afiamalu**	**21.63**	**100**	P	**P**	**18 01 16.6**	**+0.8**
RMQ	**Rome**	**22.68**	**224**	P	**P**	**18 01 26.8**	**+0.8**
	baz=23,SNR=63						
KNTN	**Kanton**	**23.26**	**71**	P	**P**	**18 01 31.6**	**+0.1**
KNTN				IAmb	IAmb	18 01 34.2	
	comp=Z,129nm,0.8s						
ARMA	**Armidale**	**23.73**	**213**	P	**P**	**18 01 37.5**	**+1.7**
	baz=24,SNR=30						
NIUE	**Niue**	**24.35**	**112**	P	**P**	**18 01 40.5**	**-0.9**
NIUE				IAmb	IAmb	18 01 45.0	
	comp=Z,168nm,0.9s						
OUZ	**Omahuta**	**25.12**	**166**	P	**P**	**18 01 49.7**	**+1.6**
OUZ				IAmb	IAmb	18 01 51.7	
	comp=Z,142nm,1.0s						
QLP	**Quilpie**	**26.00**	**230**	P	**P**	**18 01 57.0**	**+0.8**
	baz=26,SNR=28						
GENI	**Genyem**	**27.19**	**286**	P	**P**	**18 02 07.0**	**-0.1**
	comp=Z,1μmcomp=Z,39nm,0.9s						
QIS	**Mount Isa**	**27.38**	**246**	P	**P**	**18 02 09.0**	**+0.3**
	baz=28,SNR=17						
CMSA	**Cobar Meteorol**	**28.02**	**220**	P	**P**	**18 02 14.9**	**+0.7**
	baz=28,SNR=64						
OPRZ	**Ohinepanea**	**28.38**	**163**	P	**P**	**18 02 19.4**	**+2.1**
YNG	**Young**	**28.46**	**212**	P	**P**	**18 02 20.0**	**+1.9**
	baz=29,SNR=6.4						
NGRZ	**Ngongotaha**	**28.51**	**163**	P	**P**	**18 02 21.5**	**+2.9**
WHRZ	**Whale Island**	**28.51**	**162**	P	**P**	**18 02 21.4**	**+2.9**
MARZ	**Manawahe**	**28.54**	**163**	P	**P**	**18 02 22.1**	**+3.3**
TLZ	**Tolley Road**	**28.55**	**165**	P	**P**	**18 02 20.8**	**+1.9**
HIZ	**Hauiti**	**28.55**	**166**	P	**P**	**18 02 20.1**	**+1.2**
HIZ	**Hauiti**	**28.55**	**166**	P	**P**	**18 02 21.2**	**+2.4**
OMRZ	**Omania**	**28.57**	**163**	P	**P**	**18 02 21.5**	**+2.4**
MXZ	**Matakaoa Point**	**28.67**	**160**	P	**P**	**18 02 20.4**	**+0.5**
MXZ	**Matakaoa Point**	**28.67**	**160**	P	**P**	**18 02 20.6**	**+0.7**
HAZ	**Te Kaha**	**28.67**	**161**	P	**P**	**18 02 20.9**	**+1.0**
HSRZ	**Hossack Road**	**28.72**	**164**	P	**P**	**18 02 24.7**	**+4.3**
CNB	**Canberra Magne**	**28.77**	**210**	P	**P**	**18 02 22.5**	**+1.6**
	baz=29,SNR=7.2						
RRRZ	**Republican Roa**	**28.83**	**163**	P	**P**	**18 02 24.4**	**+3.1**
RUGZ	**Raukumara Rang**	**28.83**	**161**	P	**P**	**18 02 22.3**	**+0.8**
PKGZ	**Pakihiroa**	**28.89**	**160**	P	**P**	**18 02 22.9**	**+1.0**
URZ	**Urewera**	**28.93**	**162**	P	**P**	**18 02 22.7**	**+0.5**
	comp=Z,218nm,0.8s,baz=357,slow=3.6,SNR=80						
URZ				LR	LR	18 12 48.1	
	comp=Z,258nm,18.4s,baz=8.0,slow=34						
URZ	**Urewera**	**28.93**	**162**	P	**P**	**18 02 22.5**	**+0.4**
URZ	**Urewera**	**28.93**	**162**	P	**P**	**18 02 22.9**	**+0.8**
PRRZ	**Plateau Road**	**28.94**	**163**	P	**P**	**18 02 25.0**	**+2.7**
WMGZ	**Waiomatatini S**	**28.94**	**160**	P	**P**	**18 02 23.0**	**+0.7**
MUGZ	**Murupara**	**29.03**	**163**	P	**P**	**18 02 25.0**	**+1.9**
PUZ	**Puketiti**	**29.12**	**160**	P	**P**	**18 02 24.2**	**+0.4**
TWGZ	**Tauwhareparae**	**29.12**	**161**	P	**P**	**18 02 24.9**	**+1.0**
MWZ	**Matawai**	**29.12**	**162**	P	**P**	**18 02 24.5**	**+0.6**
H11S2	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	18 33 12.1	
	baz=186,slow=74,SNR=181						
H11S3	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	18 33 12.8	
	baz=186						
H11S1	**WAKE ISLAND Hy**	**29.22**	**1**	T	T	18 33 15.3	
	baz=186,slow=74,SNR=114						
RTZ	**Ruatahuna**	**29.22**	**163**	P	**P**	**18 02 23.6**	**-1.2**
MRHZ	**Matea Rd**	**29.26**	**164**	P	**P**	**18 02 27.2**	**+2.0**
MTHZ	**Maungataniwha**	**29.40**	**163**	P	**P**	**18 02 27.5**	**+1.2**
CNGZ	**Carnagh Statio**	**29.47**	**161**	P	**P**	**18 02 27.6**	**+0.6**
SNGZ	**Shannon Statio**	**29.48**	**162**	P	**P**	**18 02 27.8**	**+0.7**
RAHZ	**Arahi**	**29.53**	**163**	P	**P**	**18 02 28.5**	**+1.0**
RIGZ	**Rimuhau**	**29.54**	**162**	P	**P**	**18 02 28.3**	**+0.7**
BKZ	**Black Stump Fm**	**29.59**	**164**	P	**P**	**18 02 28.7**	**+0.6**
NMHZ	**Naumai**	**29.61**	**163**	P	**P**	**18 02 30.2**	**+1.9**
KWHZ	**Kaweka Forest**	**29.81**	**164**	P	**P**	**18 02 31.4**	**+1.3**
KRHZ	**Kereru**	**30.00**	**164**	P	**P**	**18 02 32.5**	**+0.8**
H11N1	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	18 34 43.7	
	baz=182,slow=76,SNR=199						
H11N3	**WAKE ISLAND Hy**	**30.42**	**1**	T	T	18 35 06.2	
	baz=182,slow=76,SNR=109						
H11N2	**WAKE ISLAND Hy**	**30.43**	**1**	T	T	18 34 45.3	
	baz=182,slow=76,SNR=157						
STKA	**Stephens Creek**	**30.92**	**224**	P	**P**	**18 02 41.0**	**+1.1**
	comp=Z,41nm,0.8s,baz=40,slow=9.6,SNR=63						
STKA				PcP	**PcP**	**18 05 33.8**	**+0.9**
	comp=Z,18nm,0.8s,baz=17,slow=4.7,SNR=6.0						
STKA				ScP	**ScP**	**18 09 05.6**	**+3.7**
	comp=Z,3.7nm,0.7s,baz=1.9,slow=2.8,SNR=5.8						
STKA				LR	LR	18 15 25.4	
	comp=Z,335nm,18.3s,baz=102,slow=36						
STKA	**Stephens Creek**	**30.92**	**224**	P	**P**	**18 02 41.0**	**+1.1**
	baz=31,SNR=52						
STKA	**Stephens Creek**	**30.92**	**224**	P	**P**	**18 02 40.3**	**+0.4**
STKA						18 05 33.8	
STKA				pmax	pmax		
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**30.92**	**224**	P	**P**	**18 02 40.3**	**+0.4**
BFZ	**Birch Farm**	**30.95**	**165**	P	**P**	**18 02 39.3**	**-0.7**
TUWZ	**Tuamarina**	**31.16**	**169**	P	**P**	**18 02 41.4**	**-0.3**
SNZO	**South Karori**	**31.19**	**168**	P	**P**	**18 02 42.4**	**+0.3**
THZ	**Tophouse**	**31.30**	**170**	P	**P**	**18 02 42.9**	**-0.2**
BHW	**Baring Head**	**31.32**	**168**	P	**P**	**18 02 42.8**	**-0.4**
MSWZ	**Moikau Station**	**31.41**	**167**	P	**P**	**18 02 43.8**	**-0.3**
WR0	**Warramunga Arr**	**31.85**	**250**	P	**P**	**18 02 47.6**	**-0.6**
WR0				IAmb	IAmb	18 02 49.1	
	comp=Z,73nm,1.0s						
WB0	**Warramunga Arr**	**31.95**	**250**	P	**P**	**18 02 47.9**	**-1.2**
WRAB	**Tennant Creek**	**32.02**	**250***ce*P		**P**	**18 02 49.8**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,155nm,1.3s						
WRAB	**Tennant Creek**	**32.02**	**250**	P	**P**	**18 02 48.9**	**-0.8**
WRAB					**PcP**	**18 05 36.4**	**+0.3**
WB2	**Warramunga Arr**	**32.02**	**250**	P	**P**	**18 02 49.4**	**-0.4**
WRA	**Warramunga Arr**	**32.03**	**250**	P	**P**	**18 02 49.7**	**-0.2**
	comp=Z,92nm,0.8s,baz=83,slow=9.0,SNR=367						
WRA				PcP	**PcP**	**18 05 36.9**	**+0.7**
	comp=Z,14nm,0.8s,baz=77,slow=3.3,SNR=11						
WRA				ScP	**ScP**	**18 09 09.0**	**+3.1**
	comp=Z,3.8nm,0.8s,baz=76,slow=

PPTF IAmb IAmb 18 04 29.3
comp=Z,186nm,1.2s
TIAR Tiarei 43.44 104 *e*P **P 18 04 26.9 +1.3**
comp=Z,17nm,0.9s
TBI Tubuai 43.90 112 *e*P **P 18 04 30.1 +1.0**
comp=Z,253nm,1.0s
TBI Tubuai 43.90 112 *e*LQ LQ 18 15 09.3
comp=Z,570nm,33.2s
TBI *e*LR LR 18 16 52.6
comp=Z,567nm,34.8s
EDFI Ende, Flores 43.97 269 P **P 18 04 30.8 +0.8**
comp=Z,21nm,0.8s
JCJ Chichijima 44.42 329 P **P 18 04 33.6 +0.4**
comp=Z,25nm,0.6s,baz=277,slow=20,SNR=5.3
JCJ Chichijima 44.42 329 P **P 18 04 32.2 -1.0**
MEH Mehetia 44.67 104 *e*P **P 18 04 36.6 +1.2**
comp=Z,61nm,1.0s
PMOR Pomariorio Ree 44.78 100 *e*P **P 18 04 37.6 +1.3**
comp=Z,184nm,0.9s
VAH Vaihoa 45.04 101 *e*P **P 18 04 39.4 +1.1**
comp=Z,173nm,1.3s
PSA00 Pilbara Seismi 45.68 251 P **P 18 04 43.3 0.0**
PSA00 IAmb IAmb 18 04 45.3
comp=Z,94nm,0.8s
PSA00 Pilbara Seismi 45.68 251 P **P 18 04 43.0 -0.3**
PSA00 IAmb IAmb 18 04 45.4
comp=Z,50nm,0.8s
BNSI Bone 46.18 274 P **P 18 04 48.1 +0.8**
comp=Z,974nmcomp=Z,109nm,0.8s
KAPI Kappang 46.41 273 P **P 18 04 49.4 +0.2**
comp=Z,25nm,0.7s,baz=140,slow=4.0,SNR=9.4
KAPI PcP **PcP 18 06 22.9 +1.3**
comp=Z,24nm,0.7s,baz=190,slow=3.1,SNR=5.9
KAPI Kappang 46.41 273 P **P 18 04 47.7 -1.5**
KAPI pmax pmax
comp=Z,35nm,0.8s
KAPI Kappang 46.41 273 P **P 18 04 47.7 -1.5**
TOLI2 Tolitoli 46.79 282 P **P 18 04 50.0 -2.0**
MPSI Mapaga 47.44 281 P **P 18 04 56.9 -0.2**
comp=Z,25nm,0.6s
MEEK Meekatharra 47.49 244 P **P 18 04 58.3 +0.9**
baz=48,SNR=119
KIP Kipapa 47.54 47 *ce*P **P 18 04 58.8 +1.1**
KIP pmax pmax
comp=Z,302nm,2.5s
KIP Kipapa 47.54 47 P **P 18 04 58.3 +0.6**
KIP IAmb IAmb 18 05 00.4
comp=Z,90nm,0.8s
WMR Waimanalo Ridg 47.72 48 P **P 18 05 01.0 +1.9**
KHU Kahuku 48.03 52 P **P 18 05 03.1 +1.3**
KHU pmax pmax
comp=Z,305nm,1.1s
KHU Kahuku 48.03 52 P **P 18 05 03.1 +1.3**
MWH Moku'aweowe 48.18 51 P **P 18 05 04.3 +1.0**
AIN Ainahou 48.22 52 P **P 18 05 04.5 +1.3**
MLOA Mauna Loa Obse 48.22 51 P **P 18 05 04.3 +0.8**
HMH Humu'ula Sheep 48.33 51 P **P 18 05 06.0 +1.8**
MLH Mauna Loa 48.35 52 P **P 18 05 05.8 +1.6**
MLH IAmb IAmb 18 05 07.1
comp=Z,114nm,1.0s
WRMHI West Rim 48.36 52 P **P 18 05 05.8 +1.6**
RIM Rim 48.38 52 P **P 18 05 05.8 +1.5**
NPH North Pit 48.38 52 P **P 18 05 05.2 +0.9**
OBL Observatory Le 48.38 52 P **P 18 05 05.4 +1.0**
KKO Keanakako'i 48.38 52 P **P 18 05 04.9 +0.5**
POHA Pohakuloa 48.39 51 P **P 18 05 06.0 +1.5**
UWB Uwekahuna B 48.39 52 P **P 18 05 05.0 +0.6**
PUH Pauahi 48.41 52 P **P 18 05 06.3 +1.7**
PUH IAmb IAmb 18 05 07.2
comp=Z,112nm,0.9s
HPAH Hawaii Prepara 48.42 51 P **P 18 05 06.1 +1.5**
HLK Haleakala 48.44 50 P **P 18 05 06.2 +1.3**
KLBR Kellerberrin 49.24 238 P **P 18 05 10.7 0.0**
baz=49,SNR=20
BLDU Ballidu 49.90 239 P **P 18 05 15.8 +0.2**
baz=50,SNR=9.2
JMZ Minamidaito 2 49.96 317 P **P 18 05 15.9 -0.2**
NWAO Narrogin (SRO) 49.99 236 P **P 18 05 16.8 +0.5**
baz=50,SNR=14
NWAO Narrogin (SRO) 49.99 236 P **P 18 05 15.8 -0.5**
NWAO pmax pmax
comp=Z,35nm,0.9s
NWAO Narrogin (SRO) 49.99 236 P **P 18 05 15.8 -0.5**
MORW Morawa 50.16 241 P **P 18 05 18.2 +0.5**
baz=50,SNR=12
MORW Morawa 50.16 241 P **P 18 05 18.0 +0.3**
JHJ2 Mitsune 50.52 331 P **P 18 05 20.0 -0.1**
JHJ Hachijo jima 2 50.54 331 P **P 18 05 20.4 0.0**
comp=Z,84nm,0.7s,baz=178,slow=9.1,SNR=6.0
MUN Mundaring 50.61 237 P **P 18 05 21.6 +0.6**
baz=51,SNR=6.9
GIRL Giralia 50.96 250 P **P 18 05 25.5 +1.7**
baz=51,SNR=5.1
SPMM Sapulut 51.95 285 P **P 18 05 32.0 +0.7**
JOW Kunigami 52.61 316 P **P 18 05 36.7 +0.8**
comp=Z,38nm,0.7s,baz=153,slow=6.5,SNR=26
JOW Kunigami 52.61 316 P **P 18 05 36.2 +0.4**
JOW IAmb IAmb 18 05 37.6
comp=Z,47nm,0.8s
TAOE Nuku Hiva Isla 52.76 93 *e*P **P 18 05 38.0 +0.7**
comp=Z,354nm,1.0s
TAOE Nuku Hiva Isla 52.76 93 P **P 18 05 37.6 +0.3**
JYT Yasato 52.93 334 P **P 18 05 37.9 -0.1**
JYT IAmb IAmb 18 05 39.0
comp=Z,49nm,0.7s
JYT pP **pP 18 06 10.4 -1.6**
INU Inuyama 53.68 330 P **P 18 05 42.8 -0.7**
INU **pP 18 06 16.3 -1.3**
JGF Kuroka 53.72 331 P **P 18 05 43.3 -0.5**
PWJI Pagerwojo 53.76 268 P **P 18 05 45.8 +1.3**
comp=Z,41nm,0.8s
JMN Monobe 54.03 327 P **P 18 05 46.4 +0.2**
JMM Marumori 54.06 335 P **P 18 05 45.6 -0.6**
MJAR Matsushiro Arr 54.08 332 P **P 18 05 44.8 -1.6**
comp=Z,18nm,0.7s,baz=168,slow=8.6,SNR=50
MJAR pP **pP 18 06 18.6 -2.0**
comp=Z,18nm,1.1s,baz=154,slow=8.0,SNR=6.3
MJAR Matsushiro Arr 54.08 332 P **P 18 05 45.0 -1.5**
MJAR *PP **pP 18 06 18.2 -2.4**
MJAR pmax pmax
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 54.08 332 P **P 18 05 45.0 -1.5**
MJAR pP **pP 18 06 18.2 -2.4**
MAJO Matsushiro 54.08 332 ⇑*i*P **P 18 05 45.9 -0.6**
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 54.08 332 P **P 18 05 45.5 -1.0**
MAJO **pP 18 06 18.8 -1.8**
MAT Matsushiro 54.08 332 P **P 18 05 45.8 -0.7**
MAT S **S 18 13 10.0 -1.4**
JSU Suzuyama 54.37 322 P **P 18 05 48.2 -0.4**
JSU pP **pP 18 06 21.7 -1.2**
JWT Wachi 54.43 329 P **P 18 05 48.6 -0.3**
JWT **pP 18 06 21.8 -1.3**
JNU Nakatsue 55.27 324 P **P 18 05 55.7 +0.6**
comp=Z,31nm,0.8s,baz=112,slow=4.5,SNR=16
JNU pP **pP 18 06 28.3 -1.0**
comp=Z,38nm,1.1s,baz=116,slow=5.5,SNR=6.5
JNU Nakatsue 55.27 324 P **P 18 05 54.9 -0.2**
JNU IAmb IAmb 18 05 56.0
comp=Z,43nm,0.9s
JNU **pP 18 06 27.9 -1.5**
JSD Sado 55.29 333 P **P 18 05 54.7 -0.4**
JSD IAmb IAmb 18 05 56.4
comp=Z,42nm,1.0s
SBUM Sibu 55.40 281 P **P 18 05 57.0 +0.7**
JHS Saijyo 55.40 327 P **P 18 05 55.2 -0.8**
JHS IAmb IAmb 18 05 57.2
comp=Z,35nm,0.7s
TWG Pinlang 55.53 307 P **P 18 05 54.8 -2.3**
STKI Sintang 55.54 278 P **P 18 06 00.6 +3.2**
comp=Z,2μmcomp=Z,13nm,1.2s
YULB Yu-li 55.66 308 P **P 18 05 56.6 -1.4**
YULB **pP 18 06 31.2 -1.0**
TPUB Ta-pu 56.13 308 P **P 18 05 59.7 -1.7**
TPUB IAmb IAmb 18 06 02.0
comp=Z,48nm,1.0s
SSLB Suanglung 56.14 308 P **P 18 06 00.1 -1.3**
YHNB Yeheng 56.29 309 P **P 18 06 02.4 -0.2**
YHNB IAmb IAmb 18 06 03.4
comp=Z,39nm,0.7s
TATO Taipei 56.38 310 P **P 18 06 02.5 -0.6**
TATO IAmb IAmb 18 06 03.5
comp=Z,54nm,0.9s
JTM Tenmabayashi 56.46 337 P **P 18 06 03.1 -0.2**
JTM IAmb IAmb 18 06 04.4
comp=Z,116nm,1.4s
ERM Erimo 56.77 340 *i*P **P 18 06 05.9 +0.4**
ERM pmax pmax
comp=Z,14nm,0.6s
ERM Erimo 56.77 340 P **P 18 06 05.5 0.0**
KSM Kuching 57.00 279 P **P 18 06 08.0 +0.3**
CISI Cisompet, Garu 57.74 268 P **P 18 06 12.3 -0.6**
CISI IAmb IAmb 18 06 14.9
comp=Z,17nm,0.5s
LEM Lembang 58.04 269 LR LR 18 34 17.5
comp=Z,112nm,18.4s,baz=155,slow=39
JEW Eniwo 58.10 339 P **P 18 06 14.3 -0.5**
JEW IAmb IAmb 18 06 20.1
comp=Z,30nm,0.9s
KUR Kuril'sk 58.29 345 *i*P **P 18 06 16.1 +0.1**
QZH Quanzhou 58.57 308 P **P 18 06 15.5 -2.9**
QZH S **S 18 14 09.5 -1.4**
QZH LR LR
comp=Z,140nm,17.1s
QZH LR LR
comp=Z,140nm,18.0s
JKA Kamikawa-asahi 58.83 340 P **P 18 06 20.4 +0.6**
JKA IAmb IAmb 18 06 21.8
comp=Z,51nm,0.8s
ASAJ Asahikawa 58.83 340 P **P 18 06 20.9 +1.1**
comp=Z,56nm,0.8s,baz=208,slow=7.0,SNR=106
ASAJ pP **pP 18 06 54.0 -0.8**
comp=Z,14nm,0.9s,baz=235,slow=16,SNR=2.9
ASAJ Asahikawa 58.83 340 P **P 18 06 20.4 +0.6**
ASAJ pmax pmax
comp=Z,51nm,0.8s
TJN Taejon 59.61 324 *ce*P **P 18 06 24.8 -0.6**
KSRS Korea Array 60.05 325 P **P 18 06 28.6 +0.3**
comp=Z,8.4nm,0.7s,baz=136,slow=7.1,SNR=50
KSRS pP **pP 18 07 02.4 -0.7**
comp=Z,3.7nm,0.9s,baz=146,slow=6.9,SNR=3.2
KSRS PcP **PcP 18 07 13.4 +0.6**
comp=Z,7.2nm,0.9s,baz=140,slow=4.9,SNR=4.3
KSAR Wonju Array Be 60.07 325 P **P 18 06 28.0 -0.5**
KSAR Wonju Array Be 60.07 325 P **P 18 06 28.0 -0.5**
KS19 Wonju Array Si 60.12 325 P **P 18 06 28.5 -0.4**
YSS Yuzh-Sakhalins 61.31 342 *ce*P **P 18 06 37.8 +1.2**
YSS *e**PP **pP 18 07 11.3 -0.5**
YSS *e*S **S 18 14 46.1 +1.0**
YSS *e*SS **SS 18 18 41.3 -7.2**
YSS pmax pmax
comp=Z,200nm,3.9s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 61.31 342 P **P 18 06 37.1 +0.5**
SKR Severo-Kuril's 61.95 353 *ce*P **P 18 06 42.1 +1.2**
MSHR Mys Shultsa 62.18 331 *ce*P **P 18 06 42.9 +0.3**
MSHR pmax pmax
comp=Z,10.0nm,0.9s
VLA Vladivostok 62.25 332 *i*P **P 18 06 43.4 +0.3**
VLA pmax pmax
comp=Z,51nm,1.6s
NJ2 Nanjing 62.29 315 ⇑P **P 18 06 44.0 +0.5**
NJ2 pP **pP 18 07 17.8 -0.8**
NJ2 pmax pmax
comp=Z,51nm,0.8s
AMKA Amchitka 63.03 9 P **P 18 06 48.5 +0.5**
USA0B Ussuriysk Arra 63.05 333 P **P 18 06 49.0 +0.7**
USA0B *PP **pP 18 07 23.0 -0.4**
USA0B pmax pmax
comp=Z,68nm,1.3s
USA0B Ussuriysk Arra 63.05 333 P **P 18 06 49.0 +0.7**
USA0B IAmb IAmb 18 06 50.5
comp=Z,68nm,1.2s
USA0B pP **pP 18 07 23.0 -0.4**
USRK Ussuriysk Ar. 63.05 333 P **P 18 06 48.7 +0.4**
comp=Z,19nm,0.9s,baz=140,slow=6.2,SNR=65
USRK pP **pP 18 07 23.3 0.0**
comp=Z,14nm,1.0s,baz=148,slow=7.9,SNR=4.2
USRK PKPPKP **P'P'df 18 35 41.0 -5.0**
comp=Z,2.7nm,0.9s,baz=7.1,slow=2.5,SNR=4.6
USRK Ussuriysk Ar. 63.05 333 P **P 18 06 48.1 -0.2**
QIZ Qiongzhong 63.08 298 P **P 18 06 50.0 +1.0**
QIZ pP **pP 18 07 21.5 -2.5**
QIZ S **S 18 15 10.3 +1.9**
QIZ sS **sS 18 16 09.5 +1.6**
QIZ LR LR
comp=Z,120nm,13.9s
QIZ LR LR
comp=Z,180nm,12.9s
QIZ LR LR
comp=Z,110nm,21.4s
MYKOM Kota Tinggi 63.35 278 P **P 18 06 52.0 +1.0**
UGL Uglegorsk 63.41 342 *e*P **P 18 06 50.1 -0.5**
UGL pmax pmax
comp=Z,90nm,0.9s
SMY Shemya 63.72 5 P **P 18 06 53.4 +0.9**
SMY pmax pmax
comp=Z,215nm,1.0s
SMY Shemya 63.72 5 P **P 18 06 53.4 +0.9**
PET Petropavlovsk 63.99 355 *ce*P **P 18 06 54.3 0.0**
PET pmax pmax
comp=Z,43nm,1.3s
PET Petropavlovsk 63.99 355 P **P 18 06 54.2 -0.1**
PET IAmb IAmb 18 06 56.0
comp=Z,37nm,1.0s
KIWB Kanaga Island 64.11 11 P **P 18 06 55.9 +0.8**
PEA0B Petropavlovsk- 64.17 354 P **P 18 06 55.8 +0.3**
PEA0B pmax pmax
comp=Z,99nm,1.3s
PEA0B Petropavlovsk- 64.17 354 P **P 18 06 55.8 +0.3**
PEA0B IAmb IAmb 18 06 57.5
comp=Z,99nm,1.3s
PETK Petropavlovsk- 64.17 354 P **P 18 06 55.6 +0.2**
comp=Z,42nm,1.0s,baz=167,slow=9.0,SNR=49
PETK pP **PcP 18 07 29.9 +0.7**
comp=Z,6.5nm,0.6s,baz=112,slow=6.7,SNR=3.6
PETK LR LR 18 30 21.6
comp=Z,63nm,20.6s,baz=144,slow=32
PETK PKPPKP **P'P'df 18 35 48.5 +5.1**
comp=Z,3.0nm,1.0s,baz=66,slow=5.4,SNR=5.4
PETK Petropavlovsk- 64.17 354 P **P 18 06 55.0 -0.5**
ADK Adak 64.23 12 P **P 18 06 55.9 0.0**
ADK pmax pmax
comp=Z,136nm,1.4s
ADK Adak 64.23 12 P **P 18 06 55.9 0.0**
MDJ Mudanjiang 64.47 332 P **P 18 06 58.0 +0.4**
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,120nm,4.3s
MDJ Mudanjiang 64.47 332 P **P 18 06 57.9 +0.3**
MDJ IAmb IAmb 18 06 59.5
comp=Z,43nm,1.1s
GSTR Great Sitkin T 64.55 12 P **P 18 06 58.6 +0.6**
DL2 Dalian 64.68 323 P **P 18 06 59.5 +0.4**
DL2 pP **PcP 18 07 32.5 +0.9**
DL2 S **S 18 15 28.3 +0.9**
DL2 pmax pmax
comp=Z,52nm,0.9s
DL2 pmax pmax
comp=Z,63nm,3.9s
WHN Wuhan 64.69 311 ⇑P **P 18 06 59.0 -0.3**
WHN S **S 18 15 25.3 -2.6**
WHN pmax pmax
comp=Z,42nm,0.5s
WHN LR LR
comp=Z,460nm,29.6s
TYV Tymovskoe 64.85 344 *e*P **P 18 07 00.4 +0.5**
TYV pmax pmax
comp=Z,18nm,0.8s
TYV pmax pmax
comp=Z,200nm,4.1s
JRMM Jerantut 65.17 279 P **P 18 07 04.0 +1.2**
BKNI Bangkinang 65.78 275 P **P 18 07 11.5 +4.7**
comp=Z,94nm,0.6s
TIA Tai'an 65.86 318 ⇑P **P 18 07 06.3 -0.5**
TIA pmax pmax
comp=Z,18nm,1.1s
CN2 Changchun 65.89 329 *e*P **P 18 07 07.0 +0.2**
CN2 S **S 18 15 40.0 -2.0**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,100nm,15.0s
CN2 LR LR
comp=Z,100nm,16.0s
VNDA Vanda 66.66 181 P **P 18 07 11.8 +0.6**
comp=Z,16nm,1.0s,baz=358,slow=6.8,SNR=63
VNDA Vanda 66.66 181 P **P 18 07 11.7 +0.5**
VNDA pmax pmax
comp=Z,41nm,1.2s
VNDA Vanda 66.66 181 P **P 18 07 11.7 +0.5**
GRNR Gornyy 66.68 340 ⇑*i*P **P 18 07 12.9 +1.2**
GRNR pmax pmax
comp=E,6.0nm,0.9s
GRNR pmax pmax
comp=N,8.0nm,1.0s
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR MLR MLR
comp=E,40nm,15.0s
GRNR MLR MLR
comp=N,40nm,14.0s
GRNR MLR MLR
comp=Z,70nm,16.0s
CASY Casey 66.72 201 P **P 18 07 11.9 +0.1**
CASY IAmb IAmb 18 07 13.4
comp=Z,41nm,1.1s
IPM Ipoh 66.72 280 P **P 18 07 13.0 +0.2**
SBA Scott Base 66.95 180 P **P 18 07 14.3 +1.2**
SBA pmax pmax
comp=Z,54nm,0.9s
SBA Scott Base 66.95 180 P **P 18 07 14.3 +1.2**
SBA IAmb IAmb 18 07 15.9
comp=Z,54nm,0.9s
NIKH Nikolski High 67.08 16 P **P 18 07 14.7 +0.5**
baz=207
KLR Kul'dur 67.13 336 P **P 18 07 15.4 +0.8**
comp=Z,13nm,0.7s,baz=134,slow=3.0,SNR=41
KLR pP **pP 18 07 49.4 -0.7**
comp=Z,11nm,1.1s,baz=142,slow=6.7,SNR=2.7
KLR Kul'dur 67.13 336 *ce*P **P 18 07 14.4 -0.2**
KLR pmax pmax
comp=Z,13nm,0.7s
MNSI Mandailing Nat 67.31 275 P **P 18 07 16.0 -0.5**
comp=Z,36nm,0.7s
ENH Enshi 68.22 309 P **P 18 07 21.2 -0.6**
ENH IAmb IAmb 18 07 22.5
comp=Z,42nm,0.8s
ENH **pP 18 07 56.2 -1.3**
RPSI Rantau Prapat 68.35 277 P **P 18 07 22.6 -0.4**
PSI Prapat 68.38 277 P **P 18 07 22.6 -0.7**
PSI pmax pmax
comp=Z,9.0nm,0.7s
UNV Unalaska Valle 68.51 17 P **P 18 07 22.9 -0.1**
baz=209
NONG Nongkai 68.64 294 P **P 18 07 24.9 +0.3**
comp=Z,20μmcomp=Z,85nm,0.9s
BJT Baijiatuau 68.69 321 P **P 18 07 24.8 +0.3**
BJT pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 68.69 321 P **P 18 07 24.8 +0.3**
BJI Beijing 68.70 321 P **P 18 07 25.0 +0.4**
BJI pP **pP 18 07 59.8 -0.4**
BJI sP **sP 18 08 17.0 +0.9**
BJI S **S 18 16 16.8 +1.1**
BJI sS **ScS 18 17 10.8 +0.2**
BJI pmax pmax
comp=Z,36nm,0.8s
BJI LR LR
comp=Z,120nm,16.8s
GYA Guiyang 68.77 304 ⇑P **P 18 07 25.5 0.0**
GYA pP pP 18 07 59.8 -1.4
GYA pmax pmax
comp=Z,28nm,0.8s
GYA pmax pmax
comp=Z,120nm,3.5s
AKUT Akutan 68.97 17 P **P 18 07 25.3 -0.6**
AKUT IAmb IAmb 18 07 26.6
comp=Z,33nm,0.8s
CHAI Chaiyaphum 68.98 292 P **P 18 07 26.8 0.0**
comp=Z,448nmcomp=Z,48nm,0.6s
SLVN Son La 69.11 298 P **P 18 07 28.1 +0.5**
TIY Taiyuan 69.81 317 *e*P **P 18 07 32.8 +1.2**
TIY pP **pwP 18 08 09.8 +0.5**
TIY S **S 18 16 29.3 +0.2**
TIY pmax pmax
comp=Z,82nm,1.3s
FALS False Pass 70.29 18 P **P 18 07 33.5 -0.5**
baz=212
XAN Xi'an 70.41 312 P **P 18 07 35.8 +0.5**
XAN pP pP 18 08 08.0 -3.2
XAN sP sP 18 08 25.3 -1.8
XAN S **S 18 16 35.5 -0.7**
XAN pmax pmax
comp=Z,82nm,0.9s
XAN pmax pmax
comp=Z,120nm,4.3s
SPIA Saint Paul Isl 70.53 13 P **P 18 07 35.7 +0.3**
baz=204
SPIA Saint Paul Isl 70.53 13 P **P 18 07 35.6 +0.2**
SPIA IAmb IAmb 18 07 37.0
comp=Z,96nm,1.0s
PHIT Phitsanulok 70.81 293 P **P 18 07 39.4 +1.4**
comp=Z,54nm,1.0s
UTTA Uttaradit 70.86 293 P **P 18 07 39.5 +1.2**
comp=Z,183nmcomp=Z,21nm,0.9s
MA2 Magadan 71.33 352 P **P 18 07 40.0 -0.2**
comp=Z,26nm,0.9s,baz=152,slow=6.5,SNR=17
MA2 Magadan 71.33 352 *ce*P **P 18 07 39.4 -0.8**
MA2 pmax pmax
comp=Z,22nm,0.9s
MA2 Magadan 71.33 352 P **P 18 07 39.2 -1.0**
CNBA Chernabura Isl 71.49 20 P **P 18 07 40.4 -0.8**
KMI Kunming 71.50 301 ⇑P **P 18 07 43.5 +1.2**
KMI PP **PP 18 10 19.5 -3.6**
KMI S **S 18 16 50.0 +0.6**
KMI pmax pmax
comp=Z,32nm,1.3s
CHNA Chernabura Isl 71.50 20 P **P 18 07 40.7 -0.6**
baz=216
SDPT Sand Point 71.63 19 P **P 18 07 41.5 -0.6**
baz=215
LAMP Lampang 71.94 294 P **P 18 07 46.0 +1.3**
comp=Z,610nmcomp=Z,78nm,0.8s
LAMP Lampang 71.94 294 P **P 18 07 46.0 +1.3**
HHC Hu-ho-hao-te 72.06 319 *e*P **P 18 07 48.5 +3.3**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,140nm,9.3s
ZEA Zeya 72.41 337 *ce*P **P 18 07 48.2 +1.4**
ZEA *e* 18 08 22.5
ZEA pmax pmax
comp=E,10.0nm,1.3s
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.0s
CM35 Chiang Mai Arr 72.42 294 P **P 18 07 48.0 +0.4**
CM36 Chiang Mai Arr 72.42 293 P **P 18 07 48.0 +0.4**
CM34 Chiang Mai Arr 72.48 294 P **P 18 07 48.0 +0.1**
CM04 Chiang Mai Arr 72.49 293 P **P 18 07 49.3 +1.3**
comp=Z,258nmcomp=Z,37nm,0.8s
CM04 Chiang Mai Arr 72.49 293 P **P 18 07 49.4 +1.3**
comp=Z,258nmcomp=Z,37nm,0.8s
CM09 Chiang Mai Arr 72.49 293 P **P 18 07 49.4 +1.4**
comp=Z,275nmcomp=Z,40nm,0.8s
CM09 Chiang Mai Arr 72.49 293 P **P 18 07 49.0 +1.0**
comp=Z,275nmcomp=Z,40nm,0.8s
HIA Hailar 72.50 330 P **P 18 07 46.5 -1.0**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 72.50 330 P **P 18 07 46.5 -1.0**
CM01 Chiang Mai Arr 72.51 293 P **P 18 07 49.4 +1.3**
comp=Z,258nmcomp=Z,37nm,0.8s
CM01 Chiang Mai Arr 72.51 293 P **P 18 07 49.5 +1.3**
comp=Z,258nmcomp=Z,37nm,0.8s
CM05 Chiang Mai Arr 72.52 293 P **P 18 07 49.4 +1.2**
comp=Z,226nmcomp=Z,30nm,0.8s
CM05 Chiang Mai Arr 72.52 293 P **P 18 07 49.5 +1.2**
comp=Z,226nmcomp=Z,30nm,0.8s
CM02 Chiang Mai Arr 72.53 293 P **P 18 07 49.5 +1.2**
comp=Z,272nmcomp=Z,37nm,0.8s
CM02 Chiang Mai Arr 72.53 293 P **P 18 07 49.0 +0.7**
comp=Z,272nmcomp=Z,37nm,0.8s
CM31 Chiang Mai Arr 72.54 293 P **P 18 07 49.6 +1.3**
comp=Z,7μmcomp=Z,980nm,0.8s
CM31 Chiang Mai Arr 72.54 293 P **P 18 07 48.7 +0.4**
CMAR Chiang Mai Arr 72.54 293 P **P 18 07 49.1 +0.8**

comp=Z,22nm,0.8s,baz=120,slow=4.5,SNR=107
CMAR pP **pP** **18 08 23.7 -0.8**
comp=Z,6.4nm,0.9s,baz=110,slow=3.2,SNR=2.4
CMAR PKPPKP **P'P'df** **18 35 28.9 -3.7**
comp=Z,1.0nm,0.8s,baz=244,slow=2.1,SNR=6.0
CMAR LR LR 18 41 42.6
comp=Z,30nm,18.1s,baz=187,slow=37
CMAR Chiang Mai Arr 72.54 293 P **P** **18 07 48.8 +0.4**
CM15 Chiang Mai Arr 72.55 293 P **P** **18 07 49.6 +1.2**
comp=Z,271nmcomp=Z,36nm,0.8s
CM15 Chiang Mai Arr 72.55 293 P **P** **18 07 49.6 +1.2**
comp=Z,271nmcomp=Z,36nm,0.8s
CM13 Chiang Mai Arr 72.56 293 P **P** **18 07 49.7 +1.3**
comp=Z,234nmcomp=Z,33nm,0.9s
CM13 Chiang Mai Arr 72.56 293 P **P** **18 07 49.0 +0.6**
comp=Z,234nmcomp=Z,33nm,0.9s
CMMT Chiang Mai 72.64 294 P **P** **18 07 49.6 +0.6**
comp=Z,30nm,0.9s
CMMT Chiang Mai 72.64 294 P **P** **18 07 49.7 +0.7**
comp=Z,30nm,0.9s
CM33 Chiang Mai Arr 72.65 294 P **P** **18 07 49.0 0.0**
CHTO Chiang Mai 72.65 294 P **P** **18 07 49.2 +0.2**
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO Chiang Mai 72.65 294 P **P** **18 07 49.6 +0.6**
comp=Z,30nm,0.9s
CHTO Chiang Mai 72.65 294 P **P** **18 07 49.2 +0.2**
CM32 Chiang Mai Arr 72.69 293 P **P** **18 07 50.0 +0.8**
BTO Baotou 72.93 319 *e*P **P** **18 07 52.5 +2.2**
BTO S **SKiKP** **18 17 08.3 -0.1**
BTO LR LR
comp=Z,380nm,20.8s
BTO LR LR
comp=Z,310nm,20.0s
CD2 Chengdu 72.93 307 P **P** **18 07 51.0 +0.5**
CD2 pP pP 18 08 27.0 +0.3
CD2 S **S** **18 17 04.5 -0.7**
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,90nm,4.5s
CHIR Chirikof Islan 73.66 21 P **P** **18 07 54.1 0.0**
baz=219
SII Sitkinak Islan 74.75 21 P **P** **18 08 00.6 +0.2**
baz=220
SII Sitkinak Islan 74.75 21 P **P** **18 08 00.6 +0.2**
SII IAmb IAmb 18 08 04.6
comp=Z,52nm,0.8s
LZH Lanzhou 75.05 312 ⇑P **P** **18 08 04.5 +1.7**
LZH pP pP 18 08 38.5 -0.4
LZH sP sP 18 08 57.5 +2.9
LZH S **S** **18 17 30.5 +1.5**
LZH SS **SS** **18 22 20.0 -1.4**
LZH pmax pmax
comp=Z,91nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.4s
OHAK Old Harbor 75.57 21 P **P** **18 08 05.6 +0.6**
baz=221,SNR=20
OHAK Old Harbor 75.57 21 P **P** **18 08 04.9 -0.2**
OHAK IAmb IAmb 18 08 06.7
comp=Z,66nm,1.0s
KDAK Kodiak Island 76.24 21 P **P** **18 08 09.4 +0.6**
comp=Z,39nm,0.9s,baz=219,slow=1.9,SNR=28
KDAK Kodiak Island 76.24 21 P **P** **18 08 09.1 +0.3**
KDAK pmax pmax
comp=Z,36nm,1.0s
KDAK Kodiak Island 76.24 21 P **P** **18 08 09.5 +0.6**
baz=222
KDAK Kodiak Island 76.24 21 P **P** **18 08 09.1 +0.3**
GAMB Gambell 76.33 10 P **P** **18 08 10.2 +1.0**
baz=202
GAMB Gambell 76.33 10 P **P** **18 08 09.9 +0.7**
GAMB IAmb IAmb 18 08 11.2
comp=Z,100nm,0.8s
O18K Koktuh Hills 76.94 19 P **P** **18 08 12.9 +0.1**
baz=219,SNR=39
CIT Chita 77.30 330 *e*P **P** **18 08 16.0 +1.0**
CIT *e* 18 08 25.2
CIT *e* 18 08 51.8
CIT *e* 18 09 14.6
CIT pmax pmax
comp=Z,149nm,1.3s
N18K Kilae Creek 77.38 18 P **P** **18 08 16.0 +0.8**
baz=218,SNR=33
P19K Oil Pt 77.43 20 P **P** **18 08 15.8 +0.3**
baz=221,SNR=34
SVW2 Sparrevohn 77.80 18 P **P** **18 08 18.0 +0.5**
SVW2 IAmb IAmb 18 08 19.8
comp=Z,90nm,1.3s
N19K Bonanza Creek 77.92 18 P **P** **18 08 18.3 0.0**
baz=219,SNR=21
O20K Slope Mountain 77.96 20 P **P** **18 08 18.6 +0.2**
baz=221,SNR=6.0
HOM Homer 77.97 20 P **P** **18 08 19.4 +0.9**
baz=222
HOM Homer 77.97 20 P **P** **18 08 19.1 +0.7**
CNPM China Poot 78.01 21 P **P** **18 08 18.8 +0.1**
CNPM IAmb IAmb 18 08 20.7
comp=Z,100nm,1.2s
YAK Yakutsk 78.10 343 P **P** **18 08 19.4 +0.2**
comp=Z,58nm,0.6s,baz=135,slow=0.6,SNR=79
YAK Yakutsk 78.10 343 *c i*P **P** **18 08 19.3 +0.2**
YAK *e* 18 08 27.0
YAK *e**PP **pwP** **18 08 56.4 -1.4**
YAK *e*S **S** **18 18 01.3 +0.6**
YAK *e* 18 18 22.9
YAK *e**SS **sS** **18 19 09.2 +6.6**
YAK *e*SS **SS** **18 23 05.0 -1.0**
YAK pmax pmax
comp=Z,77nm,1.0s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,24nm,1.1s
YAK smax smax
comp=N,45nm,2.3s
YAK smax smax
comp=E,29nm,2.1s
YAK Yakutsk 78.10 343 P **P** **18 08 19.2 +0.1**
RSO Redoubt South 78.20 19 P **P** **18 08 19.3 -0.7**
ANM Nome 78.23 12 P **P** **18 08 21.1 +1.3**
baz=208
BRLK Bradley Lake 78.31 21 P **P** **18 08 20.5 +0.1**
BRSE Bradley Lake S 78.34 21 P **P** **18 08 21.3 +0.8**
baz=223,SNR=20
ULN Ulaanbaatar 78.49 324 P **P** **18 08 22.2 +0.4**
ULN pmax pmax
comp=Z,48nm,1.0s
ULN Ulaanbaatar 78.49 324 P **P** **18 08 22.2 +0.4**
TNA Tin City 78.62 11 P **P** **18 08 22.8 +0.9**
baz=206
BILL Bilibino 78.72 360 ⇓*i*P **P** **18 08 23.0 +0.5**
BILL *e**PP **pP** **18 09 00.4 +1.0**
BILL *e* 18 11 21.1
BILL *e*PPP PPP 18 13 10.9
BILL pmax pmax
comp=Z,141nm,1.3s
BILL Bilibino 78.72 360 P **P** **18 08 22.8 +0.3**
BILL IAmb IAmb 18 08 24.2
comp=Z,105nm,1.0s
M19K Big River Lodg 78.79 18 P **P** **18 08 24.0 +1.1**
baz=219,SNR=58
SONM Songino Array 78.86 324 P **P** **18 08 24.3 +0.5**
comp=Z,15nm,0.8s,baz=136,slow=5.2,SNR=77
SONM pP **pP** **18 08 59.9 -0.3**
comp=Z,8.0nm,1.1s,baz=142,slow=5.0,SNR=3.0
SONM PKKPbc **PKKPbc** **18 27 16.7 -2.3**
comp=Z,1.1nm,0.7s,baz=253,slow=2.4,SNR=8.3
SONM PKPPKP **P'P'df** **18 35 17.0 -2.4**
comp=Z,0.5nm,0.6s,baz=197,slow=2.5,SNR=3.9
SONM Songino Array 78.86 324 P **P** **18 08 24.1 +0.2**
SONM pP **pP** **18 08 59.7 -0.5**
L19K White Mountain 78.87 17 P **P** **18 08 24.8 +1.4**
baz=219,SNR=90
SPCR Spurr Chakacha 78.93 19 P **P** **18 08 23.5 -0.3**
baz=222
CAPN Captain Cook N 78.96 20 P **P** **18 08 25.2 +1.4**
baz=223
CAPN Captain Cook N 78.96 20 P **P** **18 08 25.6 +1.8**
SEW Seward 79.05 21 P **P** **18 08 24.9 +0.6**
baz=224,SNR=9.7
SEW Seward 79.05 21 P **P** **18 08 24.4 0.0**
SEW IAmb IAmb 18 08 26.0
comp=Z,49nm,0.8s
QSPA South Pole Qui 79.11 180 P **P** **18 08 24.8 -0.1**
QSPA IAmb IAmb 18 08 27.1
comp=Z,68nm,0.8s
O22K Cooper Landing 79.23 20 P **P** **18 08 26.1 +0.8**
baz=224
O22K Cooper Landing 79.23 20 P **P** **18 08 25.9 +0.6**
GTA Gaotai 79.34 314 ⇑P **P** **18 08 27.8 +1.2**
GTA pP pP 18 09 03.0 -0.4
GTA sP sP 18 09 18.0 -1.1
GTA S **S** **18 18 15.5 +0.4**
GTA ScS **SKSac** **18 18 29.8 +0.6**
GTA SS SS 18 23 14.8 -11
GTA pmax pmax
comp=Z,45nm,1.1s
GTA pmax pmax
comp=Z,140nm,11.9s
GTA LR LR
comp=Z,87nm,17.5s
GTA LR LR
comp=Z,170nm,17.5s
GTA LR LR
comp=Z,84nm,16.7s
SUA Susitna One 79.60 19 P **P** **18 08 27.5 0.0**
baz=223,SNR=20
SUA Susitna One 79.60 19 P **P** **18 08 27.2 -0.3**
SUA IAmb IAmb 18 08 31.8
comp=Z,86nm,1.2s
RC01 Rabbit Creek A 79.67 20 P **P** **18 08 28.2 +0.5**
baz=224,SNR=11
RC01 Rabbit Creek A 79.67 20 P **P** **18 08 28.0 +0.3**
Q23K Middleton Isla 79.71 22 P **P** **18 08 27.9 0.0**
baz=227
SKT Skwentna 79.73 19 P **P** **18 08 27.0 -1.1**
baz=222
SKT Skwentna 79.73 19 P **P** **18 08 27.1 -1.0**
PWL Port Wells 79.98 21 P **P** **18 08 29.5 +0.1**
K20K Telida 80.01 17 P **P** **18 08 30.7 +1.1**
baz=220,SNR=40
PPLA Purkeypile 80.22 18 P **P** **18 08 31.0 +0.2**
baz=221,SNR=14
PPLA Purkeypile 80.22 18 P **P** **18 08 30.6 -0.2**
PMR Palmer 80.23 20 P **P** **18 08 30.9 +0.2**
PMR pmax pmax
comp=Z,60nm,1.1s
PMR Palmer 80.23 20 P **P** **18 08 31.2 +0.5**
baz=224
PMR Palmer 80.23 20 P **P** **18 08 30.9 +0.2**
PMR IAmb IAmb 18 08 32.3
comp=Z,60nm,1.1s
HIN Hinchinbrook I 80.31 22 P **P** **18 08 31.7 +0.5**
HIN IAmb IAmb 18 08 33.0
comp=Z,111nm,1.0s
KNK Knik Glacier 80.33 20 P **P** **18 08 32.0 +0.7**
baz=225,SNR=19
KNK Knik Glacier 80.33 20 P **P** **18 08 31.7 +0.4**
KNK IAmb IAmb 18 08 35.8
comp=Z,42nm,0.7s
GLI Glacier Island 80.43 21 P **P** **18 08 32.2 +0.3**
baz=226,SNR=6.0
GLI Glacier Island 80.43 21 P **P** **18 08 32.5 +0.7**
GLI IAmb IAmb 18 08 33.3
comp=Z,76nm,0.9s
FID Port Fidalgo 80.56 21 P **P** **18 08 32.3 -0.2**
FID IAmb IAmb 18 08 34.0
comp=Z,101nm,0.9s
BOD Bodaibo 80.62 335 *e*P **P** **18 08 32.5 -0.4**
BOD pmax pmax
comp=Z,34nm,1.3s
J20K Nowinta River 80.63 16 P **P** **18 08 33.9 +1.1**
baz=219,SNR=41
SML Sawmill 80.65 20 P **P** **18 08 33.7 +0.6**
baz=225,SNR=28
SML Sawmill 80.65 20 P **P** **18 08 33.5 +0.5**
SML IAmb IAmb 18 08 34.9
comp=Z,86nm,1.0s
EYAK Cordova Ski Ar 80.69 22 P **P** **18 08 33.8 +0.7**
baz=228,SNR=9.7
EYAK Cordova Ski Ar 80.69 22 P **P** **18 08 33.3 +0.2**
EYAK IAmb IAmb 18 08 34.9
comp=Z,53nm,1.0s
KAIM Kayak Island 80.77 23 P **P** **18 08 35.0 +1.4**
baz=229,SNR=18
KAIM Kayak Island 80.77 23 P **P** **18 08 35.0 +1.4**
SHL Shillong 80.91 298 P **P** **18 08 35.3 -0.1**
SHL pmax pmax
comp=Z,37nm,1.0s
SHL Shillong 80.91 298 P **P** **18 08 35.3 -0.1**
CHUM Lake Minchumin 80.92 17 P **P** **18 08 34.6 +0.2**
baz=221
RAGM Ragged Mountai 80.97 22 P **P** **18 08 35.4 +0.6**
RAGM IAmb IAmb 18 08 36.8
comp=Z,80nm,1.1s
SCM Sheep Creek Mo 81.01 20 P **P** **18 08 35.2 +0.2**
SCM pmax pmax
comp=Z,127nm,0.9s
SCM Sheep Creek Mo 81.01 20 P **P** **18 08 35.2 +0.2**
KTH Kantishna Hill 81.09 18 P **P** **18 08 34.3 -1.0**
HMT Hamilton 81.10 22 P **P** **18 08 36.2 +0.8**
HMT IAmb IAmb 18 08 37.4
comp=Z,107nm,1.0s
TRF Thorofare Moun 81.21 18 P **P** **18 08 35.6 -0.5**
baz=223,SNR=34
TRF Thorofare Moun 81.21 18 P **P** **18 08 35.4 -0.7**
KLU Klutina 81.26 21 P **P** **18 08 37.0 +0.7**
baz=227,SNR=37
KLU Klutina 81.26 21 P **P** **18 08 36.8 +0.4**
KLU IAmb IAmb 18 08 38.3
comp=Z,72nm,0.9s
WAT1 Susitna Watana 81.31 19 P **P** **18 08 36.8 +0.3**
baz=225
BERG Berg Lake 81.34 23 P **P** **18 08 37.5 +0.8**
BMRM Bremner River 81.39 22 P **P** **18 08 37.6 +0.7**
baz=229,SNR=28
BMRM Bremner River 81.39 22 P **P** **18 08 37.3 +0.3**
BMRM IAmb IAmb 18 08 38.8
comp=Z,78nm,0.9s
WAT6 Susitna Watana 81.39 20 P **P** **18 08 37.6 +0.4**
baz=226,SNR=52
BPAW Bear Paw Mtn. 81.47 18 P **P** **18 08 36.7 -0.6**
baz=222,SNR=27
BPAW Bear Paw Mtn. 81.47 18 P **P** **18 08 36.4 -1.0**
M24K Tolsona, Glenn 81.59 21 P **P** **18 08 39.5 +1.5**
baz=227,SNR=55
M24K Tolsona, Glenn 81.59 21 P **P** **18 08 39.2 +1.2**
RND Reindeer 81.62 19 P **P** **18 08 37.8 -0.4**
RND pmax pmax
comp=Z,65nm,0.8s
RND Reindeer 81.62 19 P **P** **18 08 37.8 -0.4**
RND IAmb IAmb 18 08 40.9
comp=Z,65nm,0.8s
WAX Waxell Ridge 81.70 23 P **P** **18 08 39.4 +0.7**
WAX IAmb IAmb 18 08 40.9
comp=Z,103nm,0.9s
RDOG Red Dog Mine 81.77 11 P **P** **18 08 41.3 +2.5**
baz=211,SNR=9.5
RDOG Red Dog Mine 81.77 11 P **P** **18 08 40.5 +1.7**
RDOG IAmb IAmb 18 08 42.3
comp=Z,115nm,1.0s
CRQM Cirque 81.79 23 P **P** **18 08 39.8 +0.5**
CRQM IAmb IAmb 18 08 41.3
comp=Z,131nm,1.1s
CRQE Cirque 81.81 23 P **P** **18 08 40.1 +0.8**
baz=230,SNR=33
N25K Chitina, Valde 81.81 21 P **P** **18 08 40.3 +1.1**
baz=229,SNR=81
N25K Chitina, Valde 81.81 21 P **P** **18 08 39.7 +0.4**
MCK McKinley 81.83 18 P **P** **18 08 38.8 -0.4**
MCK pmax pmax
comp=Z,75nm,0.9s
MCK McKinley 81.83 18 P **P** **18 08 39.1 -0.1**
baz=224,SNR=34
MCK McKinley 81.83 18 P **P** **18 08 38.8 -0.4**
MCK IAmb IAmb 18 08 42.4
comp=Z,75nm,0.9s
MESA MESA 81.88 23 P **P** **18 08 40.5 +0.8**
baz=231,SNR=11
MESA MESA 81.88 23 P **P** **18 08 40.7 +1.0**
ZAK Zakamensk 81.88 325 *e*P **P** **18 08 39.2 -0.7**
ZAK pmax pmax
comp=Z,29nm,1.1s
TGL Tana Glacier 81.91 23 P **P** **18 08 40.5 +0.7**
TGL IAmb IAmb 18 08 41.8
comp=Z,112nm,1.1s
VRDI Verde Repeater 81.98 22 P **P** **18 08 40.5 +0.3**
VRDI IAmb IAmb 18 08 41.5
comp=Z,45nm,0.8s
BWN Browne 81.98 18 P **P** **18 08 39.7 -0.2**
GLB Gilahina Butte 81.99 22 P **P** **18 08 40.5 +0.3**
GLB IAmb IAmb 18 08 41.9
comp=Z,91nm,0.9s
I21K Tanana 82.00 16 P **P** **18 08 41.0 +1.0**
baz=221,SNR=38
ISLE Juniper Island 82.00 23 P **P** **18 08 40.5 +0.2**
ISLE IAmb IAmb 18 08 42.2
comp=Z,119nm,1.0s
MCCM Marconi Confer 82.02 49 P **P** **18 08 40.6 -0.1**
KCPM Cahto Peak 82.06 47 P **P** **18 08 42.6 +1.5**
YAH Yahtse 82.08 23 P **P** **18 08 41.3 +0.5**
YAH IAmb IAmb 18 08 43.2
comp=Z,116nm,1.2s
IMAR Indian Mountai 82.14 15 P **P** **18 08 41.5 +0.8**
HARP HAARP 82.14 21 P **P** **18 08 41.9 +1.0**
baz=228,SNR=30
JCC Jacoby Creek, 82.15 46 P **P** **18 08 43.3 +2.0**
JCC IAmb IAmb 18 08 44.3
comp=Z,89nm,1.1s
KMRM Mail Ridge 82.16 47 P **P** **18 08 43.4 +1.8**
HOPS Hopland Field 82.18 48 P **P** **18 08 42.5 +1.0**
IRK Irkutsk 82.22 327 *e*P **P** **18 08 40.2 -1.3**
IRK *e* 18 09 16.6
IRK pmax pmax
comp=Z,40nm,1.6s
MLY Manley 82.24 17 P **P** **18 08 41.3 0.0**
baz=222,SNR=58
MLY Manley 82.24 17 P **P** **18 08 41.0 -0.3**
MCARA McCarthy VSAT 82.24 22 P **P** **18 08 42.0 +0.7**
baz=230,SNR=14
MCARA McCarthy VSAT 82.24 22 P **P** **18 08 42.0 +0.7**
MCARA IAmb IAmb 18 08 43.4
comp=Z,67nm,1.0s
DIB Dawson Inlet, 82.28 32 P **P** **18 08 41.6 -0.1**
DIB IAmb IAmb 18 08 44.3
comp=Z,50nm,1.0s
GDXM Geysers 82.32 48 P **P** **18 08 43.9 +1.6**
GDXM IAmb IAmb 18 08 45.3
comp=Z,69nm,0.9s
TABL Table Mountain 82.36 23 P **P** **18 08 42.9 +0.6**
KHMM Horse Mountain 82.38 46 P **P** **18 08 44.7 +1.9**
KHMM IAmb IAmb 18 08 45.9
comp=Z,75nm,0.9s
NEA2 Nenana 82.41 18 P **P** **18 08 41.8 -0.4**
baz=224,SNR=7.2
NEA2 Nenana 82.41 18 P **P** **18 08 41.9 -0.2**
PAX Paxson 82.42 20 P **P** **18 08 42.2 -0.2**
PAX pmax pmax
comp=Z,19nm,0.8s
PAX Paxson 82.42 20 P **P** **18 08 42.7 +0.3**
baz=228,SNR=20
PAX Paxson 82.42 20 P **P** **18 08 42.2 -0.2**
KRMB Red Mountain 82.49 45 P **P** **18 08 44.6 +1.3**
KRMB IAmb IAmb 18 08 46.4
comp=Z,107nm,1.4s
PCA Pinnacle 82.50 24 P **P** **18 08 43.5 +0.7**
PINM Pinnacle 82.50 24 P **P** **18 08 43.5 +0.7**
baz=233,SNR=25
MOBC Moresby Island 82.52 32 P **P** **18 08 44.1 +1.1**
MOBC IAmb IAmb 18 08 45.2
comp=Z,82nm,0.9s
BARN Barnard Glacie 82.55 23 P **P** **18 08 43.5 +0.3**
CTG Chitna Glacier 82.61 23 P **P** **18 08 44.5 +1.0**
baz=232,SNR=71
CTGM Chitina Glacie 82.61 23 P **P** **18 08 44.1 +0.6**
WRH Wood River Hil 82.62 18 P **P** **18 08 42.9 -0.3**
WRH IAmb IAmb 18 08 45.3
comp=Z,90nm,0.8s
SAO San Andreas Ge 82.62 50 P **P** **18 08 45.1 +1.2**
SAO pmax pmax
comp=Z,58nm,0.9s
SAO San Andreas Ge 82.62 50 P **P** **18 08 45.1 +1.2**
SAO IAmb IAmb 18 08 46.5
comp=Z,58nm,0.9s
LOGN Logan Glacier 82.65 23 P **P** **18 08 44.0 +0.3**
BCPM Bancas Point 82.66 24 P **P** **18 08 43.7 +0.1**
BCPM IAmb IAmb 18 08 45.4
comp=Z,79nm,1.0s
I23K Minto, Yukon-K 82.72 17 P **P** **18 08 43.6 -0.1**
baz=224,SNR=32
I23K Minto, Yukon-K 82.72 17 P **P** **18 08 43.3 -0.4**
LSA Lhasa 82.72 302 P **P** **18 08 46.5 +1.3**
LSA Lhasa 82.72 302 P **P** **18 08 45.2 0.0**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 82.72 302 P **P** **18 08 45.2 0.0**
O02D Mt. Diablo Mer 82.80 47 P **P** **18 08 46.7 +1.8**
baz=249,SNR=42
CCB Clear Creek Bu 82.83 18 P **P** **18 08 43.6 -0.7**
CCB IAmb IAmb 18 08 46.0
comp=Z,59nm,0.7s
SIT Sitka 82.87 28 P **P** **18 08 45.5 +0.8**
SIT pmax pmax
comp=Z,29nm,0.9s
SIT Sitka 82.87 28 P **P** **18 08 44.3 -0.3**
baz=238
SIT Sitka 82.87 28 P **P** **18 08 45.5 +0.8**
M26K Nabesna, AK 82.91 21 P **P** **18 08 45.8 +1.0**
baz=230,SNR=121
MDM Murphy Dome 82.92 18 P **P** **18 08 44.3 -0.5**
MDM IAmb IAmb 18 08 46.3
comp=Z,80nm,0.8s
HDA Harding Lake 82.93 19 P **P** **18 08 45.2 +0.3**
baz=226,SNR=204
HDA Harding Lake 82.93 19 P **P** **18 08 44.9 0.0**
PMPB Monarch Peak 82.94 51 P **P** **18 08 47.0 +1.4**
PMPB IAmb IAmb 18 08 48.6
comp=Z,79nm,1.0s
L02E Cave Junction 82.94 45 P **P** **18 08 47.2 +1.8**
baz=248
TCOL CIGO, UAF Yank 82.97 18 P **P** **18 08 45.1 +0.1**
baz=225
TCOL CIGO, UAF Yank 82.97 18 P **P** **18 08 44.7 -0.3**
COLA College 82.98 18 *i*P **P** **18 08 44.5 -0.5**
COLA pmax pmax
comp=Z,133nm,0.9s
MENT Mentasta 83.00 21 P **P** **18 08 45.9 +0.6**
SNCC San Nicolas Is 83.00 54 P **P** **18 08 47.3 +1.4**
baz=252
SNCC San Nicolas Is 83.00 54 P **P** **18 08 46.8 +0.8**
SNCC IAmb IAmb 18 08 48.6
comp=Z,105nm,1.0s
J01E Myrtle Point 83.08 44 P **P** **18 08 47.7 +1.6**
baz=248,SNR=10
CRAG Craig 83.09 30 P **P** **18 08 47.0 +1.1**
baz=240
K02D Willamette Mer 83.09 44 P **P** **18 08 47.8 +1.5**
baz=248,SNR=21
WDC Whiskeytown Da 83.12 47 P **P** **18 08 47.3 +0.9**
WDC pmax pmax
comp=Z,33nm,1.0s
WDC Whiskeytown Da 83.12 47 P **P** **18 08 47.3 +0.9**
N02D Trinity Center 83.14 46 P **P** **18 08 48.5 +1.9**
baz=249,SNR=27
SCZ2 Santa Cruz Isl 83.14 54 P **P** **18 08 47.9 +1.2**
baz=252,SNR=6.5
RIDG Independent Ri 83.15 20 P **P** **18 08 46.9 +0.8**
baz=228,SNR=120
RIDG Independent Ri 83.15 20 P **P** **18 08 46.5 +0.4**
H23K Yukon River 83.16 17 P **P** **18 08 46.7 +0.6**
baz=224,SNR=81
M02C Callahan 83.19 46 P **P** **18 08 48.7 +1.8**
baz=249,SNR=28
L26K Log Cabin Wild 83.19 21 P **P** **18 08 47.4 +1.2**
baz=230,SNR=121
IL31 83.20 18 P **P** **18 08 45.8 -0.4**
IL31 IAmb IAmb 18 08 47.3
comp=Z,46nm,0.8s
ILAR Eielson Array 83.20 18 P **P** **18 08 46.0 -0.2**
comp=Z,33nm,0.6s,baz=237,slow=5.2,SNR=346
ILAR PKiKP **PKiKP** **18 14 02.9 -0.6**
comp=Z,0.6nm,0.6s,baz=276,slow=3.2,SNR=5.1
ILAR PKKPbc **PKKPbc** **18 27 06.2 -3.5**
comp=Z,0.9nm,0.6s,baz=356,slow=2.6,SNR=8.8
ILAR PKPPKP **P'P'df** **18 35 10.7 +0.4**
comp=Z,0.7nm,0.9s,baz=14,slow=3.5,SNR=5.4
ILAR LR LR 18 42 08.7
comp=Z,42nm,18.9s,baz=238,slow=33
ILAR Eielson Array 83.20 18 P **P** **18 08 45.6 -0.7**
ILAR **PKiKP** **18 14 02.5 -0.9**
ILAR **PKKPdf** **18 27 05.0 +4.6**
PAGB Antelope Grade 83.20 52 P **P** **18 08 47.0 +0.1**
PAGB IAmb IAmb 18 08 49.8
comp=Z,82nm,1.3s
SMMC Simmler 83.27 52 P **P** **18 08 48.8 +1.5**

baz=252,SNR=11
POKR Poker Plat Res 83.27 18 P P 18 08 46.4 -0.3
baz=226,SNR=17
POKR Poker Plat Res 83.27 18 P P 18 08 45.7 -0.9
POKR IAmb IAmb 18 08 47.5
comp=Z,57nm,0.7s
PKM Mcpherson Peak 83.28 53 P P 18 08 49.1 +1.5
baz=252,SNR=24
M27K Edge Creek, AK 83.28 22 P P 18 08 47.6 +0.8
baz=231
DOT Dot Lake 83.35 20 P P 18 08 47.5 +0.4
YBH Yreka Blue Hor 83.41 45 P P 18 08 49.6 +1.6
comp=Z,56nm,0.9s,baz=200,slow=1.8,SNR=81
YBH Yreka Blue Hor 83.41 45 P P 18 08 49.3 +1.3
YBH pmax pmax
comp=Z,68nm,0.9s
YBH Yreka Blue Hor 83.41 45 P P 18 08 49.3 +1.3
YBH IAmb IAmb 18 08 50.8
comp=Z,68nm,0.9s
I02D Swisshome 83.49 43 P P 18 08 49.7 +1.6
baz=248,SNR=6.9
ORV Oroville 83.52 48 P P 18 08 49.3 +0.9
ORV pmax pmax
comp=Z,61nm,1.0s
ORV Oroville 83.52 48 P P 18 08 49.3 +0.9
ORV IAmb IAmb 18 08 50.6
comp=Z,61nm,1.0s
HUMO Hull Mountain 83.55 45 P P 18 08 50.1 +1.6
HUMO IAmb IAmb 18 08 51.4
comp=Z,78nm,0.9s
O03E Paynes Creek 83.55 47 P P 18 08 49.7 +1.0
baz=250,SNR=54
SCRK Sand Creek 83.59 20 P P 18 08 49.4 +1.0
baz=229,SNR=187
SCRK Sand Creek 83.59 20 P P 18 08 49.0 +0.6
H24K Noodor Dome 83.65 17 P P 18 08 48.1 -0.5
baz=225,SNR=20
I03D Drain, OR 83.67 43 P P 18 08 50.5 +1.4
baz=248,SNR=9.0
AFDM Forest Hills D 83.70 49 P P 18 08 50.4 +0.9
SCI2 San Clemente I 83.70 55 P P 18 08 50.7 +1.2
baz=253
L27K Beaver Creek, 83.74 21 P P 18 08 50.1 +1.0
baz=231,SNR=87
L27K Beaver Creek, 83.74 21 P P 18 08 49.8 +0.7
L27K IAmb IAmb 18 08 51.3
comp=Z,60nm,0.8s
MOY Mondy 83.75 325 eP P 18 08 49.6 +0.1
MOY pmax pmax
comp=Z,37nm,2.5s
BCAR Beaver Creek A 83.76 21 P P 18 08 49.9 +0.7
CMB Columbia Colle 83.84 50 P P 18 08 51.1 +0.9
CMB pmax pmax
comp=Z,62nm,1.0s
CMB Columbia Colle 83.84 50 P P 18 08 51.1 +0.9
CMB IAmb IAmb 18 08 52.4
comp=Z,62nm,0.9s
L04D Klamath Falls 83.86 45 P P 18 08 51.6 +1.3
baz=249,SNR=26
BESE Bessie Mountai 83.90 27 P P 18 08 50.5 +0.4
BESE IAmb IAmb 18 08 52.2
comp=Z,39nm,0.8s
CIS Catalina Islan 83.93 54 P P 18 08 51.7 +1.0
baz=253
WRAK Wrangell Islan 83.94 29 P P 18 08 51.0 +0.8
baz=240,SNR=17
WRAK Wrangell Islan 83.94 29 P P 18 08 50.3 +0.1
WRAK IAmb IAmb 18 08 52.1
comp=Z,74nm,0.8s
JIS Juneau Island 83.95 27 P P 18 08 50.6 +0.4
RUBB Prince Rupert 83.98 32 P P 18 08 51.4 +1.1
RUBB IAmb IAmb 18 08 52.6
comp=Z,47nm,0.9s
COLD Coldfoot 84.01 16 P P 18 08 51.8 +1.5
baz=223,SNR=16
COLD Coldfoot 84.01 16 P P 18 08 51.5 +1.2
HYT Haines Junctio 84.03 24 P P 18 08 50.7 0.0
HYT IAmb IAmb 18 08 52.6
comp=Z,48nm,0.8s
COR Corvallis 84.03 43 P P 18 08 51.2 +0.3
COR pmax pmax
comp=Z,87nm,1.3s
COR Corvallis 84.03 43 P P 18 08 51.2 +0.3
COR IAmb IAmb 18 08 53.8
comp=Z,87nm,1.2s
M04C Macdoel 84.03 46 P P 18 08 52.5 +1.3
baz=250,SNR=38
OSI Osito Audit: C 84.05 53 P P 18 08 52.6 +1.3
baz=252
BUCK Buck Mountain 84.10 43 P P 18 08 52.0 +0.6
BUCK IAmb IAmb 18 08 54.1
comp=Z,53nm,0.9s
ARVC Arvin 84.12 53 P P 18 08 52.7 +1.1
baz=252
FMP Fort Macarthur 84.12 54 P P 18 08 52.6 +1.0
baz=253
PRP Porcupine Dome 84.13 18 P P 18 08 50.3 -0.9
baz=227,SNR=20
PRP Porcupine Dome 84.13 18 P P 18 08 50.2 -0.9
VES Vestal, Richgr 84.14 52 P P 18 08 52.4 +0.8
baz=252,SNR=10
BBB Bella Bella 84.15 34 P P 18 08 52.3 +1.0
comp=Z,28nm,1.0s,baz=290,slow=7.1,SNR=14
BBB Bella Bella 84.15 34 P P 18 08 51.7 +0.4
BBB IAmb IAmb 18 08 53.4
comp=Z,79nm,1.4s
SKAG Skagway 84.17 26 P P 18 08 52.0 +0.8
baz=237
SKAG Skagway 84.17 26 P P 18 08 51.0 -0.2
SKAG IAmb IAmb 18 08 53.5
comp=Z,66nm,1.2s
DECC Green Verdugo 84.25 54 P P 18 08 52.9 +0.6
baz=253
K27K Chicken 84.27 20 P P 18 08 53.1 +1.4
G03D McMinnville, O 84.29 42 P P 18 08 53.8 +1.6
baz=248,SNR=5.3
I04A Tendick Farm, 84.34 44 P P 18 08 53.5 +0.9
baz=249,SNR=19
PASC Pasadena Art C 84.34 54 P P 18 08 53.0 +0.2
J04D Umpqua Nationa 84.35 44 P P 18 08 54.2 +1.3
baz=250,SNR=14
H04D Lebanon 84.39 43 P P 18 08 54.1 +1.4
baz=249,SNR=11
K04D Chiloquin, OR 84.39 45 P P 18 08 54.1 +1.2
baz=250
MWC Mount Wilson 84.46 54 P P 18 08 54.1 +0.5
MWC pmax pmax
comp=Z,46nm,0.9s
MWC Mount Wilson 84.46 54 P P 18 08 54.1 +0.5
MWC IAmb IAmb 18 08 55.2
comp=Z,46nm,0.9s
ISA Isabella, Lake 84.56 52 P P 18 08 54.6 +0.7
ISA pmax pmax
comp=Z,54nm,0.9s
ISA Isabella, Lake 84.56 52 P P 18 08 55.1 +1.2
baz=252,SNR=39
ISA Isabella, Lake 84.56 52 P P 18 08 54.6 +0.7
ISA IAmb IAmb 18 08 56.3
comp=Z,54nm,0.9s
E03A Lebam 84.59 41 P P 18 08 55.0 +1.3
MDPB Devils Postpil 84.69 50 P P 18 08 55.7 +0.9
MDPB IAmb IAmb 18 08 57.1
comp=Z,84nm,0.9s
WAKR Walker 84.69 49 P P 18 08 55.8 +1.1
EDW2 Edwards Air Fo 84.70 53 P P 18 08 56.0 +1.4
baz=253,SNR=69
NLWA Neilton Lookou 84.71 40 P P 18 08 55.6 +1.2
NLWA IAmb IAmb 18 08 57.0
comp=Z,48nm,1.1s
PNTR Pine Nut 84.76 49 P P 18 08 56.3 +1.2
PNTR IAmb IAmb 18 08 57.6
comp=Z,71nm,0.9s
F04D Rainier, OR 84.77 41 P P 18 08 56.1 +1.5
baz=249
VCNR Virginia City 84.79 49 P P 18 08 56.8 +1.7
H04A Detroit Lake 84.81 43 P P 18 08 55.3 +0.4
H04A IAmb IAmb 18 08 56.8
comp=Z,57nm,1.2s
109C Camp Elliot, M 84.84 55 P P 18 08 56.5 +1.2
baz=254
109C Camp Elliot, M 84.84 55 P P 18 08 55.6 +0.3
109C IAmb IAmb 18 08 57.8
comp=Z,68nm,1.3s
CCX Cicese 84.91 56 P P 18 08 56.4 +0.7
CCX IAmb IAmb 18 08 58.1
comp=Z,41nm,0.9s

FYU Fort Yukon 84.93 17 P P 18 08 54.4 -0.6
FYU IAmb IAmb 18 08 57.4
comp=Z,44nm,1.0s
MURC Murrieta 84.97 55 P P 18 08 57.0 +1.1
baz=254,SNR=7.4
J05D Fort Rock, OR 84.97 44 P P 18 08 57.3 +1.4
baz=250,SNR=70
YERR Yerington 84.99 49 P P 18 08 56.9 +0.7
TAPN Taplejung 85.00 299 eP P 18 08 56.9 +0.3
WHY Whitehorse 85.01 25 P P 18 08 55.5 -0.2
baz=238,SNR=12
WHY Whitehorse 85.01 25 P P 18 08 55.1 -0.5
K05A Summer Lake 85.02 45 P P 18 08 57.2 +1.1
K05A IAmb IAmb 18 08 58.8
comp=Z,90nm,0.9s
CBX Cerro Bola 85.04 56 P P 18 08 57.3 +0.8
EGAK Eagle 85.05 20 P P 18 08 56.5 +0.9
baz=232,SNR=237
EGAK Eagle 85.05 20 P P 18 08 55.9 +0.4
MAW Mawson 85.06 202 P P 18 08 56.8 +1.1
comp=Z,87nm,0.9s,baz=112,slow=6.3,SNR=95
MAW LR LR 18 39 42.9
comp=Z,54nm,21.5s,baz=68,slow=30
MAW Mawson 85.06 202 P P 18 08 56.8 +1.1
baz=85,SNR=23
MAW Mawson 85.06 202 P P 18 08 56.5 +0.8
CWC Cottonwood Cre 85.09 52 P P 18 08 57.9 +1.2
baz=253
PAHR Pah Rah Range 85.11 48 P P 18 08 57.6 +0.9
PAHR IAmb IAmb 18 08 59.1
comp=Z,86nm,1.1s
LRMC Laurel Mtn Rad 85.12 53 P P 18 08 58.2 +1.4
baz=253,SNR=56
BAR Barrett 85.13 56 P P 18 08 57.2 +0.4
ODAN Odare 85.15 298 eP P 18 08 56.8 -0.4
MOD Modoc Plateau 85.16 46 P P 18 08 57.5 +0.7
MOD IAmb IAmb 18 08 59.1
comp=Z,42nm,0.8s
TIN Tinemaha, Big 85.16 51 P P 18 08 58.5 +1.5
baz=253,SNR=6.0
TOLK Toolik Lake Re 85.21 15 P P 18 08 57.7 +1.3
baz=223,SNR=35
TOLK Toolik Lake Re 85.21 15 P P 18 08 57.4 +1.0
E04D Cinebar 85.23 41 P P 18 08 58.4 +1.5
baz=249,SNR=14
D03D Eldon 85.25 40 P P 18 08 58.4 +1.5
baz=248,SNR=20
I05D Terrebonne, OR 85.26 43 P P 18 08 58.3 +1.1
baz=250,SNR=6.1
D04E Lakebay 85.32 40 P P 18 08 59.1 +1.8
baz=249
PINE Pine Mountain 85.34 44 P P 18 08 58.7 +1.0
PINE IAmb IAmb 18 09 00.4
comp=Z,75nm,0.8s
BBRC Big Bear Solar 85.37 54 P P 18 08 59.2 +1.0
baz=254
MONP2 Monument Peak 85.39 55 P P 18 08 59.7 +1.4
baz=254,SNR=36
RYN Ryan 85.42 49 P P 18 08 59.1 +0.9
RYN IAmb IAmb 18 09 00.6
comp=Z,59nm,1.0s
PGC Sidney 85.44 39 P P 18 08 58.7 +0.8
PGC IAmb IAmb 18 09 00.1
comp=Z,69nm,1.0s
RRX Edison Barstow 85.49 53 P P 18 08 59.7 +1.2
baz=254
NVAR Mina Array Bea 85.52 50 P P 18 08 60.0 +1.2
comp=Z,54nm,0.9s,baz=233,slow=7.8,SNR=240
NVAR pP pP 18 09 36.4 +1.0
comp=Z,7.0nm,1.1s,baz=226,slow=7.5,SNR=1.0
NVAR PKKPbc PKKPbc 18 27 03.3 +0.2
comp=Z,0.6nm,0.7s,baz=107,slow=3.2,SNR=4.8
NVAR PKPPKP P'P'df 18 35 02.2 -6.1
comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=3.6
NVAR LR LR 18 39 20.1
comp=Z,61nm,21.0s,baz=270,slow=30
NVAR Mina Array Bea 85.52 50 P P 18 08 59.5 +0.6
PFO Pinyon Flats O 85.56 55 P P 18 09 00.2 +1.2
comp=Z,22nm,0.7s,baz=259,slow=3.7,SNR=28
PFO Pinyon Flats O 85.56 55 P P 18 08 59.6 +0.6
PFO pmax pmax
comp=Z,45nm,1.1s
PFO Pinyon Flats O 85.56 55 P P 18 09 00.2 +1.2
baz=254,SNR=22
PFO Pinyon Flats O 85.56 55 P P 18 08 59.5 +0.6
PFO IAmb IAmb 18 09 01.3
comp=Z,45nm,1.1s
TPFO Pinon Flats 85.56 55 P P 18 09 00.2 +1.2
baz=254,SNR=21
IKP In-Ko-Pah, Jac 85.58 56 P P 18 09 00.6 +1.5
baz=254,SNR=15
G05D Wamic, OR 85.58 42 P P 18 08 59.7 +1.0
baz=250,SNR=8.6
RMX La Rumorosa 85.59 56 P P 18 08 59.9 +0.7
RMX IAmb IAmb 18 09 02.1
comp=Z,60nm,1.1s
NV11 Mina Array Sit 85.63 50 P P 18 08 59.9 +0.7
NV11 IAmb IAmb 18 09 01.7
comp=Z,85nm,1.1s
BMAR Burnt Mountain 85.70 17 P P 18 09 00.1 +1.3
F05D White Salmon 85.71 42 P P 18 09 00.5 +1.1
baz=250,SNR=10
A21K Barrow 85.72 11 P P 18 08 59.6 +0.9
baz=216
GSC Goldstone, Bar 85.76 53 P P 18 09 01.0 +1.1
GSC pmax pmax
comp=Z,53nm,1.3s
GSC Goldstone, Bar 85.76 53 P P 18 09 01.1 +1.1
baz=254,SNR=24
GSC Goldstone, Bar 85.76 53 P P 18 09 01.0 +1.1
GSC IAmb IAmb 18 09 02.3
comp=Z,52nm,1.2s
LON Longmire 85.78 41 P P 18 08 59.8 +0.1
LON pmax pmax
comp=Z,11nm,0.8s
LON Longmire 85.78 41 P P 18 08 59.8 +0.1
GRAC Grapevine Rang 85.81 51 P P 18 09 01.4 +1.3
baz=253,SNR=42
D05A Enumclaw 85.83 40 P P 18 09 00.1 +0.3
D05A IAmb IAmb 18 09 03.4
comp=Z,89nm,1.1s
RAMN Ramite 85.85 298 eP P 18 09 01.3 +0.6
comp=Z,10.0nm,0.4s
KVN Kaiserville 85.86 49 P P 18 09 01.3 +0.9
KVN pmax pmax
comp=Z,58nm,1.0s
KVN Kaiserville 85.86 49 P P 18 09 01.3 +0.9
KVN IAmb IAmb 18 09 02.7
comp=Z,58nm,1.0s
SWSC Sam W. Stewart 85.91 56 P P 18 09 02.0 +1.5
baz=254,SNR=21
A04D Lummi Island 85.93 39 P P 18 09 01.7 +1.4
baz=249,SNR=55
HEC Hector,Ludlow 86.00 54 P P 18 09 02.1 +1.0
baz=254,SNR=18
DLBC Dease Lake 86.02 28 P P 18 09 00.5 -0.1
comp=Z,24nm,0.9s,baz=234,slow=5.0,SNR=34
DLBC Dease Lake 86.02 28 P P 18 09 00.9 +0.3
BELC Belle Mtn. Jos 86.04 54 P P 18 09 02.7 +1.4
baz=254,SNR=85
FURC Furnace Creek, 86.04 52 P P 18 09 02.4 +1.3
baz=254,SNR=32
TIXI Tiksi 86.04 349 P P 18 08 59.9 -0.4
comp=Z,20nm,0.9s,baz=111,slow=5.4,SNR=5.6
TIXI Tiksi 86.04 349 ceP P 18 08 59.7 -0.6
TIXI Tiksi 86.04 349 P P 18 08 59.8 -0.6
TIXI IAmb IAmb 18 09 01.6
comp=Z,49nm,1.2s
B05A Bryant 86.14 39 P P 18 09 02.5 +1.1
baz=249,SNR=12
SFX San Felipe 86.19 58 P P 18 09 02.4 +0.5
SFX IAmb IAmb 18 09 04.3
comp=Z,42nm,0.8s
TPH Tonopah 86.23 50 P P 18 09 03.1 +0.8
TPH pmax pmax
comp=Z,250nm,1.4s
TPH Tonopah 86.23 50 P P 18 09 03.1 +0.8
SHOC Shoshone, Teco 86.34 53 P P 18 09 03.6 +1.0
baz=254,SNR=16
JIRN Jiri 86.38 299 eP P 18 09 03.8 +0.3
A05A Maple Falls 86.41 39 P P 18 09 03.1 +0.5
TUQ Turquoise Moun 86.49 53 P P 18 09 04.7 +1.1
baz=254,SNR=22
WVOR Wild Horse Val 86.50 46 P P 18 09 04.2 +0.8
WVOR pmax pmax
comp=Z,70nm,1.2s

WVOR Wild Horse Val 86.50 46 P P 18 09 04.2 +0.8
WVOR IAmb IAmb 18 09 06.0
comp=Z,70nm,1.1s
GMRC Granite Mounta 86.52 54 P P 18 09 04.9 +1.2
baz=254,SNR=55
B06A Marblemount 86.61 39 P P 18 09 04.0 +0.4
TPNV Topopah Spring 86.65 52 P P 18 09 05.2 +0.9
TPNV pmax pmax
comp=Z,20nm,0.8s
TPNV Topopah Spring 86.65 52 P P 18 09 05.5 +1.2
baz=254,SNR=29
TPNV Topopah Spring 86.65 52 P P 18 09 05.2 +0.9
LTY Liberty 86.69 41 P P 18 09 04.3 +0.1
LTY IAmb IAmb 18 09 06.0
comp=Z,65nm,1.4s
F07A Phinny Hill Vi 86.72 42 P P 18 09 04.8 +0.6
F07A IAmb IAmb 18 09 06.5
comp=Z,40nm,0.9s
GLA Glamis 86.73 56 P P 18 09 06.3 +1.6
GLA pmax pmax
comp=Z,90nm,0.9s
GLA Glamis 86.73 56 P P 18 09 06.5 +1.9
baz=255,SNR=43
GLA Glamis 86.73 56 P P 18 09 06.3 +1.6
IRM Iron Mountain 86.76 54 P P 18 09 06.2 +1.5
baz=255,SNR=52
C06D Leavenworth 86.78 40 P P 18 09 05.2 +0.7
baz=250
J08A Circle Bar Ran 86.90 45 P P 18 09 06.4 +1.0
J08A IAmb IAmb 18 09 07.6
comp=Z,59nm,0.9s
E07A Sunnyside 86.99 42 P P 18 09 06.4 +0.8
E07A IAmb IAmb 18 09 07.8
comp=Z,62nm,1.0s
PKI Pulchoki 87.03 299 eP P 18 09 06.4 -0.2
comp=Z,109nm,1.1s
PKIN Phulchoki 87.04 299 eP P 18 09 06.3 -0.3
comp=Z,77nm,1.0s
LLLB Lilloet 87.11 37 P P 18 09 06.4 +0.3
HAWA Hanford 87.14 42 P P 18 09 06.5 +0.2
HAWA IAmb IAmb 18 09 08.6
comp=Z,50nm,0.9s
G08A Pilot Rock 87.17 43 P P 18 09 07.0 +0.4
G08A IAmb IAmb 18 09 08.8
comp=Z,56nm,1.0s
KKN Kakani 87.19 299 eP P 18 09 07.4 +0.2
NEE2 Needles Airpor 87.34 54 P P 18 09 08.9 +1.4
baz=255,SNR=5.8
SHPR Sheep Range 87.37 52 P P 18 09 08.9 +1.1
SHPR IAmb IAmb 18 09 10.7
comp=Z,85nm,1.4s
E08A Dider Farm, El 87.48 42 P P 18 09 08.8 +0.9
E08A IAmb IAmb 18 09 10.4
comp=Z,67nm,1.0s
EPYK Eagle Plains 87.49 20 P P 18 09 07.6 +0.1
baz=236,SNR=40
EPYK Eagle Plains 87.49 20 P P 18 09 07.4 -0.1
EPYK IAmb IAmb 18 09 09.8
comp=Z,46nm,0.9s
113A Mohawk Valley, 87.52 56 P P 18 09 09.7 +1.3
113A IAmb IAmb 18 09 10.6
comp=Z,36nm,0.9s
R11A Troy Canyon, C 87.54 50 P P 18 09 09.5 +0.9
baz=254,SNR=61
R11A Troy Canyon, C 87.54 50 P P 18 09 09.1 +0.4
R11A IAmb IAmb 18 09 11.0
comp=Z,41nm,1.1s
PDMCI Parker Dam,Lak 87.60 55 P P 18 09 10.3 +1.6
baz=255,SNR=58
PRN Pahroc Range 87.69 51 P P 18 09 10.6 +1.3
D08A Wollman Farm, 87.75 41 P P 18 09 10.0 +0.9
D08A IAmb IAmb 18 09 11.4
comp=Z,46nm,1.1s
GKN Gorkha 87.80 299 eP P 18 09 09.7 -0.3
comp=Z,94nm,0.9s
B08A Colville Reser 87.91 40 P P 18 09 10.1 +0.1
B08A IAmb IAmb 18 09 11.7
comp=Z,31nm,1.0s
W13A Hualapai Mount 88.01 54 P P 18 09 12.1 +1.2
E09A Wood Farm, Sta 88.09 42 P P 18 09 10.9 +0.2
E09A IAmb IAmb 18 09 13.0
comp=Z,45nm,1.2s
214A Organ Pipe Nat 88.10 57 P P 18 09 13.1 +1.9
baz=256,SNR=52
214A Organ Pipe Nat 88.10 57 P P 18 09 12.8 +1.6
BMO Blue Mountains 88.15 44 P P 18 09 11.8 +0.6
BMO pmax pmax
comp=Z,20nm,1.0s
BMO Blue Mountains 88.15 44 P P 18 09 11.8 +0.6
C09A Chrisman Ranch 88.41 41 P P 18 09 12.7 +0.4
Y14A Wickenburg 88.42 55 P P 18 09 13.5 +0.8
Y14A IAmb IAmb 18 09 15.3
comp=Z,73nm,1.5s
ELK Elko 88.45 48 P P 18 09 13.9 +1.0
ELK pmax pmax
comp=Z,15nm,0.9s
ELK Elko 88.45 48 P P 18 09 13.9 +1.0
F10A Beach Ranch, E 88.54 43 P P 18 09 13.4 +0.4
F10A IAmb IAmb 18 09 14.4
comp=Z,30nm,0.8s
DANN Dangsing 88.63 299 eP P 18 09 13.5 -0.6
comp=Z,81nm,0.7s
KOLN Koldanda 88.64 298 eP P 18 09 13.3 -0.8
comp=Z,71nm,0.9s
SPR3 Spring Creek 3 88.66 50 P P 18 09 14.9 +0.8
SPR3 IAmb IAmb 18 09 16.5
comp=Z,74nm,1.1s
SLBS Sierra La Lagu 88.70 66 P P 18 09 15.0 +0.7
SLBS IAmb IAmb 18 09 17.0
comp=Z,53nm,0.9s
MFID Camas Ranch 88.76 45 P P 18 09 14.3 +0.2
MFID IAmb IAmb 18 09 15.9
comp=Z,27nm,1.0s
PSUT Pine Spring 88.90 51 P P 18 09 16.3 +1.2
PSUT IAmb IAmb 18 09 17.6
comp=Z,45nm,1.0s
HSIG 88.98 60 P P 18 09 15.5 +0.1
HSIG IAmb IAmb 18 09 18.1
comp=Z,70nm,1.2s
LCMT Little Creek M 88.99 52 P P 18 09 16.4 +1.0
CCUT Cedar City 89.03 52 P P 18 09 16.9 +1.2
PLID Pearl Lake 89.11 44 P P 18 09 16.3 +0.4
PLID IAmb IAmb 18 09 17.7
comp=Z,45nm,1.2s
SZCU Shurtz Canyon 89.25 52 P P 18 09 18.2 +1.5
NEW Newport 89.28 41 P P 18 09 17.1 +0.7
comp=Z,16nm,0.8s,baz=243,slow=3.6,SNR=23
NEW Newport 89.28 41 P P 18 09 16.7 +0.3
NEW pmax pmax
comp=Z,18nm,0.8s
NEW Newport 89.28 41 P P 18 09 17.0 +0.7
baz=253,SNR=12
NEW Newport 89.28 41 P P 18 09 16.7 +0.3
KNB Kanab 89.32 52 P P 18 09 18.4 +1.4
KNB pmax pmax
comp=Z,136nm,1.3s
KNB Kanab 89.32 52 P P 18 09 18.4 +1.4
WMQ Urumqi 89.36 315 eP P 18 09 17.3 +0.4
WMQ pP pP 18 09 52.8 -1.4
WMQ pmax pmax
comp=Z,40nm,1.1s
WMQ pmax pmax
comp=Z,160nm,6.3s
INK Inuvik 89.58 19 P P 18 09 16.9 -0.4
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 89.58 19 P P 18 09 16.9 -0.4
baz=238
INK Inuvik 89.58 19 P P 18 09 16.9 -0.4
U15A North Rim 89.59 53 P P 18 09 19.9 +1.5
HLID Hailey 89.79 46 P P 18 09 20.5 +1.5
baz=255,SNR=60
HLID Hailey 89.79 46 P P 18 09 20.2 +1.1
HLID IAmb IAmb 18 09 21.7
comp=Z,36nm,0.9s
X16A Lo Mia Camp, P 89.80 55 P P 18 09 20.6 +1.3
X16A IAmb IAmb 18 09 22.4
comp=Z,58nm,0.9s
PKCU Pink Cliffs 89.81 52 P P 18 09 20.9 +1.3
TUC Tucson 89.86 57 P P 18 09 20.6 +1.1
TUC pmax pmax
comp=Z,37nm,0.8s
TUC Tucson 89.86 57 P P 18 09 21.4 +1.9
baz=257
TUC Tucson 89.86 57 P P 18 09 20.6 +1.1

TUC IAmb IAmb 18 09 22.6
comp=Z,37nm,0.8s
TCRU Three Creeks R 89.99 51 P **P 18 09 21.6 +1.4**
MTPU Mount Pierson 90.06 51 P **P 18 09 22.6 +2.0**
DUG Dugway, Tooele 90.10 49 P **P 18 09 21.5 +1.0**
DUG pmax pmax
comp=Z,34nm,0.9s
DUG Dugway, Tooele 90.10 49 P **P 18 09 21.7 +1.1**
baz=256,SNR=30
DUG Dugway, Tooele 90.10 49 P **P 18 09 21.5 +1.0**
DUG IAmb IAmb 18 09 22.9
comp=Z,34nm,0.9s
WUAZ Wupatki 90.10 54 P **P 18 09 22.4 +1.7**
baz=257,SNR=38
WUAZ Wupatki 90.10 54 P **P 18 09 21.9 +1.2**
BGU Big Grassy Mou 90.11 48 P **P 18 09 21.5 +0.9**
BGU IAmb IAmb 18 09 23.1
comp=Z,47nm,0.9s
MVU Marysvale 90.14 51 P **P 18 09 22.6 +1.7**
MSU Marysvale 90.17 51 P **P 18 09 22.9 +1.9**
MSU Marysvale 90.17 51 P **P 18 09 22.9 +1.9**
NLU North Lily Min 90.59 50 P **P 18 09 24.0 +1.1**
BELA Belgrano 2 90.60 176 P **P 18 09 21.2 -0.8**
BELA IAmb IAmb 18 09 22.7
comp=Z,23nm,0.7s
SPUT South Promonto 90.63 48 P **P 18 09 24.1 +1.1**
SPUT IAmb IAmb 18 09 25.5
comp=Z,33nm,0.8s
BCYI Bear Canyon 90.69 45 P **P 18 09 24.3 +1.0**
319A Douglas 90.90 58 P **P 18 09 24.4 0.0**
MSO Missoula 90.96 43 P **P 18 09 24.5 +0.2**
baz=255,SNR=9.3
MSO Missoula 90.96 43 P **P 18 09 24.1 -0.3**
JTMT Jette 90.97 42 P **P 18 09 24.4 0.0**
JTMT IAmb IAmb 18 09 25.7
comp=Z,26nm,1.0s
CTU Camp Tracy 91.00 49 P **P 18 09 25.4 +0.6**
X18A Snowflake 91.02 55 P **P 18 09 26.2 +1.2**
X18A IAmb IAmb 18 09 27.8
comp=Z,41nm,0.9s
TMUT Trail Mountain 91.09 50 P **P 18 09 26.6 +1.2**
TMUT IAmb IAmb 18 09 28.2
comp=Z,34nm,1.0s
DGZ Jazzator, Alta 91.12 320⇑ *i*P **P 18 09 24.9 -0.1**
DGZ pmax pmax
comp=Z,19nm,0.7s
MCMT McKenzie Canyo 91.20 45 P **P 18 09 26.7 +1.0**
JLU Jordanelle 91.20 49 P **P 18 09 26.3 +0.5**
JLU IAmb IAmb 18 09 28.3
comp=Z,46nm,1.0s
W18A Petrified Fore 91.32 55 P **P 18 09 27.8 +1.4**
baz=258
HWUT Hardware Ranch 91.35 48 P **P 18 09 26.4 +0.1**
HWUT IAmb IAmb 18 09 28.4
comp=Z,32nm,0.8s
P17A Butcher Ranch, 91.48 50 P **P 18 09 27.8 +0.7**
DLMT Dillon 91.50 44 P **P 18 09 27.8 +0.9**
WALA Waterton Lakes 91.55 40 P **P 18 09 27.6 +0.6**
SRU San Rafael Swe 91.57 51 P **P 18 09 28.1 +0.7**
SRU pmax pmax
comp=Z,13nm,0.9s
SRU San Rafael Swe 91.57 51 P **P 18 09 28.1 +0.7**
LRM Limekiln Ridge 91.71 44 P **P 18 09 28.6 +0.6**
ECR Eagle Creek 91.82 47 P **P 18 09 28.6 +0.1**
SYO Syowa Base 92.08 197⇑ *e*P **P 18 09 28.6 -0.4**
SYO Syowa Base 92.08 197⇑ *e*PcP **PcP 18 09 30.5 +0.8**
SYO Syowa Base 92.08 197⇓ *e*pP pP 18 10 05.2 -0.9
QLMT Earthquake Lak 92.18 45 P **P 18 09 31.5 +1.3**
TPAW Teton Pass 92.22 46 P **P 18 09 31.3 +0.8**
BOZ Bozeman (W) 92.22 44 P **P 18 09 31.1 +0.9**
BOZ pmax pmax
comp=Z,38nm,1.1s
BOZ Bozeman (W) 92.22 44 P **P 18 09 31.5 +1.3**
baz=257,SNR=34
BOZ Bozeman (W) 92.22 44 P **P 18 09 31.1 +0.9**
BOZ IAmb IAmb 18 09 32.7
comp=Z,38nm,1.1s
REDW Red Top Meadow 92.26 46 P **P 18 09 31.5 +0.9**
REDW IAmb IAmb 18 09 33.0
comp=Z,44nm,1.4s
IMW Indian Meadow 92.31 46 P **P 18 09 31.6 +0.7**
IMW IAmb IAmb 18 09 33.4
comp=Z,23nm,0.9s
HRY Holter Researc 92.34 43 P **P 18 09 31.3 +0.5**
SNOW Snow King Moun 92.35 46 P **P 18 09 31.6 +0.6**
SNOW IAmb IAmb 18 09 34.9
comp=Z,23nm,0.9s
121A Cookes Peak, D 92.38 57 P **P 18 09 32.8 +1.5**
baz=259
121A Cookes Peak, D 92.38 57 P **P 18 09 32.5 +1.1**
121A IAmb IAmb 18 09 34.0
comp=Z,40nm,0.8s
PV05 Paradox Valley 92.44 52 P **P 18 09 33.1 +1.6**
PV05 IAmb IAmb 18 09 35.1
comp=Z,16nm,0.7s
YMR Madison River 92.47 45 P **P 18 09 32.6 +1.0**
YMR IAmb IAmb 18 09 34.4
comp=Z,27nm,0.7s
LOHW Long Hollow 92.49 46 P **P 18 09 32.5 +0.9**
LOHW IAmb IAmb 18 09 33.8
comp=Z,29nm,1.4s
FLWY Flagg Ranch 92.53 46 P **P 18 09 33.2 +1.5**
FLWY IAmb IAmb 18 09 34.3
comp=Z,37nm,0.9s
PV10 Paradox Valley 92.55 52 P **P 18 09 32.7 +0.7**
PV10 IAmb IAmb 18 09 35.6
comp=Z,31nm,1.0s
PV14 Lion Creek, Pa 92.56 52 P **P 18 09 33.0 +0.9**
PV14 IAmb IAmb 18 09 35.3
comp=Z,22nm,0.7s
YHH Holmes Hill 92.57 45 P **P 18 09 32.5 +0.4**
PV19 Morning Glory 92.58 52 P **P 18 09 32.9 +0.8**
PV19 IAmb IAmb 18 09 35.8
comp=Z,23nm,0.8s
PV17 East Wray Mesa 92.59 52 P **P 18 09 33.0 +0.8**
PV17 IAmb IAmb 18 09 35.8
comp=Z,25nm,1.0s
PV20 West Nyswonger 92.59 52 P **P 18 09 33.3 +1.1**
PV20 IAmb IAmb 18 09 35.4
comp=Z,21nm,0.8s
RDMU Red Mountain 92.59 49 P **P 18 09 33.0 +0.8**
RDMU IAmb IAmb 18 09 34.5
comp=Z,28nm,1.2s
PV18 Skein Mesa, Pa 92.62 52 P **P 18 09 33.0 +0.7**
PV18 IAmb IAmb 18 09 35.9
comp=Z,15nm,0.8s
PV16 Nyswonger Mesa 92.63 52 P **P 18 09 33.0 +0.7**
PV04 Paradox Valley 92.65 52 P **P 18 09 33.6 +1.1**
PV04 IAmb IAmb 18 09 35.9
comp=Z,23nm,0.8s
PV11 David Mesa, Pa 92.66 52 P **P 18 09 33.2 +0.7**
PV11 IAmb IAmb 18 09 36.9
comp=Z,18nm,0.7s
PV03 Paradox Valley 92.67 52 P **P 18 09 33.0 +0.4**
YNR Norris Junctio 92.68 45 P **P 18 09 34.1 +1.6**
PV12 Saucer Basin, 92.72 52 P **P 18 09 33.5 +0.6**
PV12 IAmb IAmb 18 09 36.2
comp=Z,22nm,0.8s
MVCO Mesa Verde 92.73 53 P **P 18 09 34.0 +1.1**
baz=258
MVCO Mesa Verde 92.73 53 P **P 18 09 33.2 +0.3**
PV02 Paradox Valley 92.74 52 P **P 18 09 33.6 +0.6**
PV22 Blue Mesa, Par 92.77 51 P **P 18 09 33.9 +0.8**
PV22 IAmb IAmb 18 09 37.3
comp=Z,26nm,0.8s
PV01 Paradox Valley 92.86 52 P **P 18 09 34.0 +0.5**
PV07 Paradox Valley 92.86 52 P **P 18 09 34.5 +1.1**
PV07 IAmb IAmb 18 09 37.4
comp=Z,22nm,0.8s
EDM Edmonton 92.93 36 P **P 18 09 33.0 -0.2**
EDM pmax pmax
comp=Z,25nm,0.8s
EDM Edmonton 92.93 36 P **P 18 09 33.0 -0.2**
EDM IAmb IAmb 18 09 34.7
comp=Z,25nm,0.8s
PV15 Paradox Valley 92.97 52 P **P 18 09 34.2 +0.2**
BW06 Boulder Array 93.06 47 P **P 18 09 34.7 +0.4**
baz=258
BW06 Boulder Array 93.06 47 P **P 18 09 34.7 +0.4**
BW06 IAmb IAmb 18 09 36.9
comp=Z,15nm,0.9s
PDAR Pinedale Array 93.06 47 P **P 18 09 34.6 +0.3**
comp=Z,15nm,0.9s,baz=240,slow=1.2,SNR=21
PDAR PKKPbc **PKKPdf 18 26 42.3 -0.5**
comp=Z,1.5nm,0.7s,baz=106,slow=5.7,SNR=12
PDAR PKPPKP 18 34 52.7
comp=Z,0.4nm,0.9s,baz=84,slow=7.6,SNR=4.7
PDAR LR LR 18 46 58.9
comp=Z,33nm,18.7s,baz=282,slow=32
C36M Paulatuk 93.11 19 P **P 18 09 33.0 -0.6**
baz=247
C36M Paulatuk 93.11 19 P **P 18 09 32.5 -1.0**
C36M IAmb IAmb 18 09 34.1
comp=Z,20nm,0.8s
LENM Lemitar 93.36 56 P **P 18 09 36.0 +0.2**
O20A White River Ci 93.50 50 P **P 18 09 37.2 +0.9**
baz=259
O20A White River Ci 93.50 50 P **P 18 09 36.8 +0.4**
BNM Barren Site 93.64 56 P **P 18 09 36.9 -0.3**
RLMT Red Lodge 93.74 45 P **P 18 09 38.5 +1.1**
baz=258
ZAA0 Zalesovo Array 93.74 324 P **P 18 09 35.5 -1.4**
ZAA0 IAmb IAmb 18 09 37.1
comp=Z,21nm,0.9s
ZALV Zalesovo Beam 93.74 324 P **P 18 09 35.8 -1.1**
comp=Z,17nm,0.8s,baz=112,slow=4.4,SNR=61
ZALV PKKPbc **PKKPdf 18 26 40.4 -1.2**
comp=Z,1.8nm,0.6s,baz=306,slow=2.2,SNR=8.0
ZALV Zalesovo Beam 93.74 324 P **P 18 09 35.3 -1.5**
ZALV *PP **pP 18 10 12.7 -1.4**
ZALV Zalesovo Beam 93.74 324 P **P 18 09 35.3 -1.5**
ZALV **pP 18 10 12.7 -1.4**
ZALV **PKKPdf 18 26 38.0 -3.6**
MK31 Makanchi Array 93.77 317 P **P 18 09 37.0 -0.2**
MK31 pmax pmax
comp=Z,23nm,0.8s
MK31 Makanchi Array 93.77 317 P **P 18 09 37.0 -0.2**
MK31 IAmb IAmb 18 09 38.4
comp=Z,23nm,0.8s
MKAR Makanchi Array 93.77 317 P **P 18 09 37.4 +0.1**
comp=Z,25nm,0.6s,baz=92,slow=6.4,SNR=192
MKAR pP **pP 18 10 13.0 -1.7**
comp=Z,4.6nm,0.9s,baz=149,slow=3.0,SNR=2.2
MKAR PKIKP **PKiKP 18 14 21.5 -0.1**
comp=Z,0.6nm,0.6s,baz=225,slow=1.1,SNR=4.6
MKAR PKKPbc **PKKPdf 18 26 40.5 -0.9**
comp=Z,11nm,0.7s,baz=281,slow=2.8,SNR=62
MKAR Makanchi Array 93.77 317 P **P 18 09 37.2 -0.1**
ANMO Albuquerque 93.92 55 P **P 18 09 39.2 +0.8**
comp=Z,5.8nm,0.8s,baz=235,slow=5.1,SNR=12
ANMO Albuquerque 93.92 55 P **P 18 09 38.4 0.0**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 93.92 55 P **P 18 09 39.2 +0.8**
baz=260
ANMO Albuquerque 93.92 55 P **P 18 09 38.4 0.0**
MAKZ Makanchi 93.99 317 P **P 18 09 37.8 -0.4**
MAKZ pmax pmax
comp=Z,31nm,1.0s
MAKZ Makanchi 93.99 317 P **P 18 09 37.8 -0.4**
MAKZ IAmb IAmb 18 09 39.4
comp=Z,31nm,1.0s
EGMT Eagleton 94.00 42 P **P 18 09 39.1 +0.8**
baz=258,SNR=19
EGMT Eagleton 94.00 42 P **P 18 09 38.8 +0.5**
S22A 4UR Ranch, Cre 94.14 53 P **P 18 09 40.8 +1.3**
baz=260
MNTX Cornudas Mount 94.23 59 P **P 18 09 40.4 +0.7**
baz=260
MNTX Cornudas Mount 94.23 59 P **P 18 09 40.2 +0.5**
MNTX IAmb IAmb 18 09 41.5
comp=Z,15nm,0.9s
SMCO Snowmass 94.28 51 P **P 18 09 40.8 +0.6**
YKA Yellowknife Ar 94.59 27 P **P 18 09 39.7 -0.8**
comp=Z,11nm,0.6s,baz=249,slow=4.4,SNR=30
YKA LR LR 18 44 55.1
comp=Z,43nm,21.3s,baz=0.0,slow=31
YKA Yellowknife Ar 94.59 27 P **P 18 09 39.4 -1.2**
SDCO Great Sand Dun 95.17 53 P **P 18 09 44.8 +0.6**
baz=260
SDCO Great Sand Dun 95.17 53 P **P 18 09 44.5 +0.3**
K22A Casper 95.23 48 P **P 18 09 44.6 +0.4**
baz=260
TX31 Lajitas Ar. Si 95.29 61 P **P 18 09 44.9 +0.2**
TX31 IAmb IAmb 18 09 47.8
comp=Z,14nm,0.7s
TX32 Lajitas Array 95.29 61 P **P 18 09 45.1 +0.5**
TXAR Lajitas Array 95.29 61 P **P 18 09 45.5 +0.9**
comp=Z,3.9nm,0.6s,baz=225,slow=5.4,SNR=27
TXAR PP **PP 18 13 36.5 -0.5**
comp=Z,4.6nm,1.1s,baz=236,slow=5.9,SNR=14
TXAR PKKPbc **PKKPdf 18 26 38.4 +0.3**
comp=Z,0.5nm,0.6s,baz=92,slow=4.3,SNR=8.5
TXAR LR LR 18 48 27.1
comp=Z,48nm,18.2s,baz=0.0,slow=33
TXAR Lajitas Array 95.29 61 P **P 18 09 44.6 -0.1**
TXAR 18 13 36.3
TXAR Lajitas Array 95.29 61 P **P 18 09 44.6 -0.1**
TXAR PP **PP 18 13 36.3 -0.7**
N23A Red Feather La 95.36 50 P **P 18 09 46.0 +1.0**
baz=260
ISCO Idaho Springs 95.43 51 P **P 18 09 46.9 +1.6**
baz=260
Q24A Divide 95.65 52 P **P 18 09 47.1 +0.8**
baz=261
PMSA Palmer Station 95.68 161 P **P 18 09 46.0 +0.5**
PMSA IAmb IAmb 18 09 48.5
comp=Z,15nm,1.1s
T25A Trinidad 95.93 53 P **P 18 09 48.1 +0.6**
baz=261
T25A Trinidad 95.93 53 P **P 18 09 47.8 +0.2**
TARG Taragay, Kyrgy 96.03 311 P **P 18 09 47.8 -0.4**
LAO LASA Array 96.12 44 P **P 18 09 49.1 +1.2**
baz=261
NRIK Noril'sk 96.17 340 P **P 18 09 47.2 -0.4**
comp=Z,5.4nm,0.6s,baz=111,slow=4.5,SNR=10.0
NRIK LR LR 18 53 25.2
comp=Z,31nm,19.5s,baz=328,slow=36
NRIK Noril'sk 96.17 340 *ce*P **P 18 09 47.4 -0.2**
NRIK pmax pmax
comp=Z,21nm,1.3s
NRIK Noril'sk 96.17 340 P **P 18 09 47.1 -0.4**
NRIK IAmb IAmb 18 09 48.1
comp=Z,20nm,1.2s
MSTX Muleshoe 96.77 57 P **P 18 09 51.6 +0.3**
baz=262
MSTX Muleshoe 96.77 57 P **P 18 09 50.7 -0.5**
KURK Kurchatov 96.86 320 P **P 18 09 50.2 -0.9**
KURK Kurchatov 96.86 320 P **P 18 09 50.2 -0.9**
KURK **PKiKP 18 14 27.8 +1.0**
KURBB Kurchatov Arra 96.91 320 P **P 18 09 50.2 -1.2**
comp=Z,1.4nm,0.5s,baz=107,slow=4.2,SNR=14
KURBB PKiKP **PKiKP 18 14 27.8 +1.0**
comp=Z,1.1nm,0.8s,baz=110,slow=1.9,SNR=5.5
RSSD Black Hills 97.25 47 P Pdif 18 09 53.5 +0.1
baz=262
SNAA Sanae 97.30 183 P **P 18 09 52.1 -0.8**
SNAA Sanae 97.30 183 PKKPdf PKKPdf 18 26 29.9 -4.4
SNAA Sanae 97.30 183 PKiKP **PKiKP 18 14 31.2 +4.0**
SNAA Sanae 97.30 183 *ce*P **P 18 09 52.6 -0.3**
SNAA pmax pmax
comp=Z,16nm,1.7s
SNAA Sanae 97.30 183 P **P 18 09 51.9 -1.0**
BOOM Boomskoye usch 97.51 312 P **P 18 09 53.8 -0.7**
BOOM pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 97.51 312 P **P 18 09 53.8 -0.7**
KSCO Kaye Shedlock' 97.60 52 P Pdif 18 09 55.1 +0.2
baz=262
AMTX Amarillo 97.79 56 P **P 18 09 55.9 0.0**
baz=262
AMTX Amarillo 97.79 56 P Pdif 18 09 56.0 +0.2
VNA3 Neumayer Olymp 98.01 181 P **P 18 09 55.3 -0.7**
VNA3 Neumayer Olymp 98.01 181 PKKPdf PKKPdf 18 26 28.1 -4.8
VNA3 Neumayer Olymp 98.01 181 PKiKP **PKiKP 18 14 32.5 +4.1**
VNA2 Neumayer--Watz 98.26 182 PKKPdf PKKPdf 18 26 28.2 -4.3
VNA2 Neumayer--Watz 98.26 182 PKiKP **PKiKP 18 14 28.9 +0.1**
VNA2 Neumayer--Watz 98.26 182 Pdiff **P 18 09 56.6 -0.5**
baz=174,slow=4.4
OGNE Ogallala 98.30 50 P Pdif 18 09 58.6 +0.5
baz=263
VNA1 Neumayer--Stat 98.56 182 PKKPdf PKKPdf 18 26 27.0 -4.8
VNA1 Neumayer--Stat 98.56 182 Pdiff **P 18 09 57.7 -0.7**
AAK Ala-Archa 98.59 312 *ce*P Pdif 18 09 59.7 +0.3
AAK pmax pmax
comp=Z,9.0nm,0.7s
JCT Junction City 98.78 61 P **P 18 09 59.5 -0.8**
JCT Junction City 98.78 61 P **P 18 10 00.0 -0.3**
baz=262
JCT Junction City 98.78 61 P **P 18 09 59.5 -0.8**
JCT IAmb IAmb 18 10 01.1
comp=Z,9.5nm,0.8s
833A Chaparral WMA, 98.85 63 P Pdif 18 10 00.7 +0.1
baz=262
ABTX Abilene, Hawle 99.18 59 P **Pdif 18 10 01.7 -0.3**
baz=263
ABTX Abilene, Hawle 99.18 59 **Pdif 18 10 01.9 -0.2**
ABTX IAmb IAmb 18 10 03.0
comp=Z,10.0nm,0.9s
CBKS Cedar Bluff 99.81 52 P **Pdif 18 10 04.7 0.0**
baz=264
KSU1 Kansas State U 102.27 52 P **Pdif 18 10 16.2 +0.6**
baz=266
ECSD EROS Data Cent 102.55 47 P **Pdif 18 10 17.2 +0.5**
baz=267
MIAR Mount Ida 104.40 57 P **Pdif 18 10 25.9 +0.8**
baz=267
W41B Gary Mavity, V 105.52 56 P **PKiKP 18 14 42.5 -0.4**
baz=268
EYMN Ely 106.18 43 P **PKiKP 18 14 43.5 -0.2**
baz=272
PLCA Paso Flores 106.64 138 PKiKP **PKiKP 18 14 45.9 +0.9**
comp=Z,1.2nm,0.7s,baz=275,slow=0.7,SNR=4.0
PLCA PKKPbc **PKKPbc 18 26 05.4 -0.2**
comp=Z,1.6nm,1.0s,baz=323,slow=1.9,SNR=3.2
JFWS Jewell Farm 107.18 48 P **PKiKP 18 14 45.2 -0.6**
baz=271
WCI Wyandotte Cave 110.32 53 P **PKiKP 18 14 51.8 0.0**
baz=272
GEYT Alibeck 110.92 306 PKiKP **PKiKP 18 14 53.3 +0.3**
comp=Z,1.2nm,0.6s,baz=38,slow=49,SNR=2.3
GEYT PKKPab **PKKPab 18 26 01.9 +0.9**
comp=Z,2.5nm,0.7s,baz=238,slow=9.7,SNR=4.0
P49A Miami Univ. Ec 111.49 52 P **PKiKP 18 14 53.3 -0.7**
baz=274
ACSO Alum Creek Sta 112.77 51 P **PKiKP 18 14 56.1 -0.3**
baz=275
GOGA Godfrey 112.78 58 P **PKiKP 18 14 56.2 -0.4**
baz=272
KIRV Kirov 113.11 329 *c i* PKIKP **PKiKP 18 14 57.2 +0.8**
P52A Corning 113.47 52 P **PKiKP 18 14 57.2 -0.6**
baz=275
O53A New Philadelph 114.11 51 P PKPdf 18 14 58.6 -0.4
baz=276
M53A Wt Miller and 114.38 49 P PKPdf 18 14 58.8 -0.6
baz=277
KMSC Kings Mountain 114.46 56 P PKPdf 18 14 59.5 -0.3
baz=274
N54A Moraine State 114.95 50 P **PKiKP 18 15 00.3 -0.3**
baz=277
MATQ Matagami 115.02 40 P **PKiKP 18 15 00.1 -0.3**
baz=283
BLA Blacksburg 115.03 54 P **PKiKP 18 15 00.3 -0.6**
baz=275
M54A Oil Creek Stat 115.12 49 P **PKiKP 18 15 00.6 -0.3**
baz=278
M54A Oil Creek Stat 115.12 49 **PKiKP 18 14 59.8 -1.1**
R55A Marlinton 115.16 53 **PKiKP 18 14 59.9 -1.3**
MCWV Mont Chateau 115.22 51 P **PKiKP 18 15 00.3 -0.8**
baz=277
ALGO Algonquin Park 115.55 44 P **PKiKP 18 15 01.3 -0.2**
baz=281
NHSC New Hope 115.55 59 P **PKPdf 18 15 01.9 0.0**
baz=274
LSQQ Lebel-sur-Quev 115.60 41 P **PKiKP 18 15 01.4 -0.2**
baz=284
M55A Ridgway 115.80 49 **PKPdf 18 15 01.8 -0.4**
HAMF Hammerfest 115.92 347 *e*PKPdf **PKPdf 18 15 00.6 -0.9**
DELO Deloro Mine 116.12 46 **PKPdf 18 15 02.1 -0.6**
O56A Blue Knob Stat 116.12 50 P **PKPdf 18 15 02.6 -0.2**
baz=278
O56A Blue Knob Stat 116.12 50 **PKPdf 18 15 02.7 -0.2**
ARA0 ARCESS Array S 116.32 346 *e*PKPdf **PKiKP 18 15 02.5 +0.1**
ARCES ARCESS Array B 116.32 346 PKP **PKPdf 18 15 02.2 -0.1**
comp=Z,19nm,0.6s,baz=76,slow=1.3,SNR=111
ARCES PKKPbc **PKKPbc 18 25 31.4 -3.1**
comp=Z,6.3nm,0.7s,baz=209,slow=1.2,SNR=19
ARCES ARCESS Array B 116.32 346 PKIKP **PKPdf 18 15 02.1 -0.3**
ARCES 18 25 31.1
ARCES ARCESS Array B 116.32 346 **PKPdf 18 15 02.0 -0.3**
ARCES **PKKPbc 18 25 31.1 -3.5**
PLVO Plevna 116.40 45 PKPdf **PKPdf 18 15 02.0 -1.2**
SSPA Standing Stone 116.58 50 P **PKPdf 18 15 03.5 -0.2**
baz=279
SSPA Standing Stone 116.58 50 PKPdf **PKPdf 18 15 03.0 -0.7**
L56A Greenwood 116.58 48 PKPdf **PKPdf 18 15 02.6 -1.1**
SUMG Summit 116.60 8 PKIKP **PKPdf 18 15 03.1 -0.2**
SUMG Summit 116.60 8 PKPdf **PKPdf 18 15 03.1 -0.2**
K56A Middlesex 116.66 48 P **PKPdf 18 15 02.8 -1.0**
baz=280
KLMR Klimovskoe 116.84 334 *e*PKIKP **PKPdf 18 15 01.8 -1.7**
KLMR pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 116.84 334 *e*PKPdf **PKPdf 18 15 01.9 -1.6**
KLMR AMP 18 15 04.1
comp=Z,15nm,1.1s
KLMR *e*PKKPbc **PKKPbc 18 25 27.5 -5.0**
J56A Wolcott 116.89 47 **PKPdf 18 15 03.1 -1.1**
CHGQ Chibougamau 117.02 39 P **PKPdf 18 15 03.1 -1.2**
baz=286
M57A Sunshine Farm, 117.03 49 **PKPdf 18 15 03.6 -0.9**
K57A Scipio Center 117.24 47 **PKPdf 18 15 03.7 -1.2**
KTK1 Kautokeino 117.25 346 *e*PKPdf **PKPdf 18 15 03.5 -0.6**
T59A Double "B" Far 117.34 54 **PKPdf 18 15 04.5 -0.8**
N58A Sunbury 117.42 50 **PKPdf 18 15 04.6 -0.7**
JETT Jettan, Norway 117.48 347 *e*PKPdf **PKiKP 18 15 05.2 +0.5**
YOTC Yotoco, Valle 117.61 91 *e*P **PKPdf 18 15 05.6 -1.0**
I57A Carthage 117.61 46 P **PKPdf 18 15 05.0 -0.6**
baz=282
H57A Richville 117.69 45 P **PKPdf 18 15 05.0 -0.7**
baz=282
BINY Binghamton 117.72 48 P **PKPdf 18 15 05.2 -0.7**
baz=281
TRO Tromso 117.74 348 *e*PKPdf **PKPdf 18 15 04.6 -0.4**
L58A Harry Jones Me 117.85 48 P **PKPdf 18 15 05.6 -0.5**
baz=281
J58A Remsen 118.00 47 P **PKPdf 18 15 06.0 -0.3**
baz=282
J58A Remsen 118.00 47 **PKPdf 18 15 05.9 -0.5**
N59A State Game Lan 118.12 49 P **PKPdf 18 15 06.2 -0.5**
baz=280
N59A State Game Lan 118.12 49 **PKPdf 18 15 06.1 -0.5**
I58A Old Forge 118.15 46 P **PKPdf 18 15 06.0 -0.7**
baz=282
LONY Lake Ozonia 118.22 45 P **PKPdf 18 15 06.1 -0.6**
baz=283
DBBC Dabeiba 118.23 88 *e*P **PKPdf 18 15 07.7 0.0**
CBOC Ciudad Bolivar 118.25 89‖ *e*P **PKPdf 18 15 07.2 -0.7**
PTLC Puerto Leguiza 118.39 96 *e*P **PKPdf 18 15 06.7 -1.3**
P60A Greenville 118.41 51 P **PKPdf 18 15 06.8 -0.4**
baz=280
L59A Walton 118.41 48 **PKPdf 18 15 06.8 -0.4**
WUPA West Chester U 118.41 50 **PKPdf 18 15 06.7 -0.5**
AKT Akhty 118.47 311 *e*PKIKP **PKiKP 18 15 08.1 +0.6**
AKT *e* 18 15 47.4
AKT *e* 18 16 24.9
AKT pmax pmax
comp=Z,14nm,1.1s
J59A Piesco 118.53 46 **PKPdf 18 15 06.5 -0.9**
H58A Gabriels 118.55 45 P **PKPdf 18 15 06.7 -0.7**
baz=284
NCB Newcomb 118.62 46 **PKPdf 18 15 06.7 -0.9**
ORTC Ortega, Tolima 118.67 91 *e*P **PKPdf 18 15 06.9 -1.6**
TOLC Tolima 118.72 91 *e*P **PKPdf 18 15 08.8 -0.2**
GUY2C Guyana, Caldas 118.78 90 *e*P **PKPdf 18 15 09.1 -0.2**
Q61A Milford 118.81 52 P **PKPdf 18 15 07.5 -0.5**
baz=280
H59A Cadyville 118.83 45 P **PKPdf 18 15 07.7 -0.2**
baz=284
FRNY Flat Rock 118.86 45 **PKPdf 18 15 07.0 -1.0**
I59A Olmsteadville 118.91 46 P **PKPdf 18 15 07.8 -0.3**
baz=283
TRNY Table Rock, Ra 119.22 49 **PKPdf 18 15 08.0 -0.8**
TRY Troy 119.29 47 **PKPdf 18 15 08.8 0.0**
I60A Shoreham 119.30 46 P **PKPdf 18 15 08.8 0.0**
baz=284
NORC Norcasia 119.32 90 *e*P **PKPdf 18 15 09.1 -0.8**
J60A Lant Hill Farm 119.35 46 P **PKPdf 18 15 08.7 -0.3**
baz=283
PAL Palisades 119.48 49 P **PKPdf 18 15 08.8 -0.4**
baz=282
H60A Morristown 119.54 45 P **PKPdf 18 15 09.0 -0.3**
baz=285
VT1 Waterbury 119.56 45 **PKPdf 18 15 09.2 -0.2**

K61A Williamstown 119.59 47 P PKPdf 18 15 09.3 -0.1
baz=283
SCHQ Schefferville 119.61 32 PKP PKPdf 18 15 09.1 0.0
comp=Z,5.8nm,0.6s,baz=307,slow=1.9,SNR=11
SCHQ PKKPbc PKKPab 18 25 21.2 -1.0
comp=Z,7.5nm,0.7s,baz=84,slow=2.9,SNR=9.5
SCHQ Schefferville 119.61 32 PKPdf PKPdf 18 15 09.0 -0.2
SCHQ PKKPab 18 25 20.9 -1.2
ZARC Zaragoza, Cauc 119.63 88 eP PKPdf 18 15 09.3 -1.0
KSCT Kent School, K 119.65 48 PKPdf 18 15 09.3 -0.2
MOQ Mont Orford 119.65 44 PKPdf 18 15 08.6 -0.9
MACC Macarena, Meta 119.72 94 eP PKPdf 18 15 09.7 -0.8
ROSC El Rosal 119.74 91 PKP PKPdf 18 15 11.1 +0.1
comp=Z,14nm,0.5s,baz=355,slow=23,SNR=4.3
LPAZ La Paz 119.77 116 PKP PKiKP 18 15 11.7 +0.3
comp=Z,8.7nm,0.6s,baz=284,slow=1.3,SNR=34
LPAZ PKKPbc PKKPbc 18 25 21.7 +0.2
comp=Z,1.5nm,0.8s,baz=117,slow=3.6,SNR=5.1
LPAZ La Paz 119.77 116 PKPdf PKPdf 18 15 11.3 0.0
LPAZ La Paz 119.77 116 eP PKPdf 18 15 11.4 +0.1
STEI Steigen 119.91 348 ePKPdf PKPdf 18 15 09.2 -0.1
J61A Chester 119.94 46 P PKPdf 18 15 10.0 0.0
baz=284
QRN Al-Qurain 119.98 297 eP PKPdf 18 15 09.4 -1.1
HNH Hanover 120.05 46 PKPdf 18 15 10.4 +0.1
L61B Northampton 120.07 47 P PKPdf 18 15 10.2 -0.1
baz=284
LOF Lofoten 120.08 349 ePKPdf PKPdf 18 15 09.7 +0.1
H61A Lyndonville 120.08 45 P PKPdf 18 15 10.2 -0.1
baz=285
UMR Umm Al-Rimmam 120.09 298 eP PKPdf 18 15 09.9 -0.9
LBNH Lisbon 120.16 45 P PKPdf 18 15 10.1 -0.4
baz=285
LMQ La Malbaie 120.28 41 PKPdf PKPdf 18 15 09.7 -0.9
RDF Al-Radifah 120.29 297 eP PKPdf 18 15 10.8 -0.4
K62A Royalston 120.34 47 P PKPdf 18 15 10.7 -0.1
baz=284
FAUS Fauske 120.36 347 ePKPdf PKPdf 18 15 09.4 -0.8
MIB Mutribah 120.40 298 eP PKPdf 18 15 10.6 -0.8
J62A Henniker 120.50 46 P PKiKP 18 15 11.4 +0.2
baz=285
H62A Milan 120.60 44 P PKPdf 18 15 11.5 +0.2
baz=286
H62A Milan 120.60 44 PKPdf 18 15 11.6 +0.2
I62A Tamworth 120.67 45 P PKPdf 18 15 11.5 +0.1
baz=285
I62A Tamworth 120.67 45 PKPdf 18 15 10.9 -0.6
RST Umm Al-Ruwaisa 120.72 298 eP PKPdf 18 15 11.4 -0.6
K63A Dunstable 120.83 47 P PKPdf 18 15 11.7 -0.1
baz=285
G62A West of Eustis 120.85 44 P PKPdf 18 15 11.4 -0.4
baz=287
G62A West of Eustis 120.85 44 PKPdf PKPdf 18 15 11.3 -0.4
HRV Adam Dziewonsk 120.86 47 P PKPdf 18 15 11.8 -0.1
baz=284
OBN Obninsk 120.95 329⇑ iPKIKP PKPdf 18 15 11.5 -0.1
OBN e 18 15 51.5
OBN e 18 16 38.6
OBN pmax pmax
comp=Z,14nm,1.1s
GNI Garni 120.96 310c iPKIKP PKiKP 18 15 12.8 +0.3
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 120.96 310 PKiKP 18 15 13.0 +0.5
L63A North Scituate 120.98 48 P PKPdf 18 15 11.9 -0.2
baz=284
J63A Strafford 121.00 46 P PKPdf 18 15 12.2 +0.1
baz=285
E62A Clayton Lake 121.09 42 P PKPdf 18 15 11.7 -0.5
baz=288
E62A Clayton Lake 121.09 42 PKPdf 18 15 11.4 -0.8
RUSC La Rusia 121.13 90 PKPdf PKPdf 18 15 12.9 -0.9
RUSC La Rusia 121.13 90 eP PKPdf 18 15 12.3 -1.6
I63A Otisfield 121.14 45 P PKiKP 18 15 12.6 +0.1
baz=286
OCAC Ocana 121.24 87 eP PKPdf 18 15 13.6 0.0
D62A Allapoint, All 121.25 41 P PKPdf 18 15 11.9 -0.6
baz=289
D62A Allapoint, All 121.25 41 PKPdf 18 15 11.7 -0.8
ONI Oni 121.32 313 PKIKP PKiKP 18 15 13.2 +0.2
ONI Oni 121.32 313 PKPdf PKiKP 18 15 13.2 +0.2
H63A New Sharon 121.34 44 P PKPdf 18 15 12.7 0.0
baz=287
M64A Tiverton 121.34 48 P PKPdf 18 15 12.7 0.0
baz=284
KBZ Khabaz 121.41 315 PKP PKiKP 18 15 13.5 +0.5
comp=Z,2.3nm,1.0s,baz=106,slow=3.5,SNR=4.7
KBZ PKKPbc PKKPab 18 25 14.6 0.0
comp=Z,1.0nm,0.4s,baz=255,slow=4.4,SNR=4.7
KBZ Khabaz 121.41 315c iPKIKP PKiKP 18 15 14.1 +1.1
KIV Kislovodsk 121.49 315 iPKIKP PKiKP 18 15 13.5 +0.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,38nm,22.0s
G63A Kingsbury 121.50 43 P PKPdf 18 15 13.0 -0.1
baz=288
L64A Middleborough 121.52 47 P PKPdf 18 15 13.1 0.0
baz=285
MOR8 Moi Rana 121.56 347 ePKPdf PKPdf 18 15 11.6 -0.9
KONS Konsvik 121.56 348 ePKPdf PKPdf 18 15 12.5 0.0
F63A Nahmakanta, Br 121.66 43 P PKPdf 18 15 13.3 0.0
baz=288
F63A Nahmakanta, Br 121.66 43 PKPdf PKPdf 18 15 13.3 0.0
PKME Peaks-Kenny Pk 121.67 43 P PKiKP 18 15 13.5 +0.1
baz=288
PKME Peaks-Kenny Pk 121.67 43 PKPdf 18 15 12.9 -0.4
M65A Busby, Falmout 121.75 48 P PKPdf 18 15 13.6 +0.1
baz=285
FIA1 FINESS Array S 121.82 339 PKPdf PKPdf 18 15 12.4 -0.7
FINES FINESS Array B 121.82 339 PKP PKPdf 18 15 12.8 -0.3
comp=Z,9.1nm,0.7s,baz=27,slow=2.4,SNR=49
FINES PKKPbc PKKPab 18 25 12.0 -0.4
comp=Z,3.9nm,0.9s,baz=197,slow=6.0,SNR=7.8
FINES FINESS Array B 121.82 339 PKPdf 18 15 12.5 -0.6
I64A Boothbay 121.83 45 P PKPdf 18 15 13.7 +0.1
baz=287
D63A Stockholm 121.88 41 P PKPdf 18 15 12.9 -0.7
baz=290
E63A Oxbow 121.88 42 P PKPdf 18 15 13.2 -0.5
baz=289
E63A Oxbow 121.88 42 PKPdf PKPdf 18 15 13.1 -0.5
H64A Troy 121.91 44 P PKPdf 18 15 13.5 -0.3
baz=288
G64A Maxfield 122.03 43 P PKPdf 18 15 14.0 0.0
baz=288
PQI Presque Isle 122.06 41 PKPdf 18 15 13.2 -0.8
L65A Cape Cod Natio 122.06 47 P PKiKP 18 15 14.4 +0.1
baz=285
F64A Sherman 122.11 42 P PKPdf 18 15 13.8 -0.3
baz=289
F64A Sherman 122.11 42 PKPdf 18 15 13.4 -0.8
M66A Nantucket 122.20 48 P PKPdf 18 15 13.8 -0.6
baz=285
ITQB Itaqui 122.25 136 PKPdf PKPdf 18 15 14.9 -0.1
E64A Bridgewater 122.27 42 P PKPdf 18 15 13.9 -0.5
baz=290
H65A Eastbrook 122.55 44 P PKPdf 18 15 14.9 -0.1
baz=288
G65A Princeton 122.85 43 P PKPdf 18 15 15.6 0.0
baz=289
G65A Princeton 122.85 43 PKPdf 18 15 15.3 -0.3
PLTB Pedras Altas 122.93 139 PKPdf PKPdf 18 15 15.9 -0.4
BCA Borcka 122.94 313 ⇓P PKiKP 18 15 16.1 0.0
EMMW East Machias 123.08 43 PKPdf 18 15 15.9 -0.1
HEL Helsinki 123.09 338 PKIKP PKPdf 18 15 07.7 -7.9
H66A Whiting 123.15 43 P PKPdf 18 15 16.0 -0.1
baz=289
MEF Metsahovi 123.26 338 eP PKPdf 18 15 15.9 +0.1
GGN Saint George 123.36 43 PKPdf 18 15 16.2 -0.4
GURO Guroymak-BITLI 123.37 309 PKiKP 18 15 17.8 +0.5
NSS Namsos 123.51 347 ePKPdf PKPdf 18 15 16.0 -0.2
VSU Vasula 123.55 336 eP PKiKP 18 15 16.9 +0.1
RAF Rauma 123.61 340 eP PKPdf 18 15 16.3 -0.2
SOC Sochi 123.66 315 iPKIKP PKiKP 18 15 18.2 +0.7
SOC e 18 17 02.3
SOC ePPP PPP 18 19 36.5
SOC ePS PS 18 26 42.9 -18
SOC eSSS SSS 18 38 13.4
CPUP Villa Florida 123.73 132 PKP PKPdf 18 15 18.0 +0.1
comp=Z,16nm,0.7s,baz=289,slow=1.4,SNR=45
CPUP Villa Florida 123.73 132 PKIKP PKPdf 18 15 18.0 +0.1
CPUP Villa Florida 123.73 132 PKPdf PKPdf 18 15 17.5 -0.5
SDV Santo Domingo 123.96 87 PKPdf PKPdf 18 15 18.3 -0.5
SDV Santo Domingo 123.96 87 eP PKPdf 18 15 18.6 -0.2

SDDR Presa de Saban 123.99 74 PKPdf PKPdf 18 15 16.5 -2.1
SDDR Presa de Saban 123.99 74 eP PKPdf 18 15 18.0 -0.6
LMN Caledonia Moun 124.43 41 PKPdf PKPdf 18 15 17.8 -0.8
MTSE Matsula 124.52 337 eP PKiKP 18 15 18.7 +0.1
NRS Narsarsuaq 124.70 18 PKIKP PKPdf 18 15 18.0 -0.6
NRS Narsarsuaq 124.70 18 PKPdf 18 15 18.0 -0.6
AAL Aland 124.82 340 eP PKPdf 18 15 18.6 -0.3
BOSA Boshof 125.59 223 PKP PKiKP 18 15 22.2 +0.3
comp=Z,23nm,0.7s,baz=140,slow=1.9,SNR=51
ISAL Salakas 125.65 333 eP PKiKP 18 15 21.6 +0.6
HAL Halifax 125.69 42 PKIKP PKPdf 18 15 21.0 0.0
HAL Halifax 125.69 42 PKPdf PKPdf 18 15 21.0 0.0
IIGN Ignalina 125.75 333 eP PKiKP 18 15 21.9 +0.7
UPP Uppsala 125.83 341 eP PKPdf 18 15 20.0 -0.9
SIV San Ignacio 126.05 119 PKP PKPdf 18 15 22.6 0.0
comp=Z,13nm,0.7s,baz=262,slow=2.3,SNR=58
MOL Molde 126.18 348 ePKPdf PKPdf 18 15 21.7 +0.3
DOMB Dombas 126.33 347 ePKPdf PKiKP 18 15 22.2 -0.1
NC303 NORSAR Array S 126.49 345 PKPdf 18 15 21.9 -0.2
PABE Paberze 126.63 334 eP PKiKP 18 15 23.3 +0.3
PABE Paberze 126.63 334 PKPdf PKPdf 18 15 22.3 -0.2
AKN Aaknes 126.64 348 ePKPdf PKPdf 18 15 22.6 +0.2
NB201 NORSAR Array S 126.66 345 PKPdf 18 15 21.7 -0.8
NB2 NORSAR Subarra 126.69 345 PKPdf PKPdf 18 15 21.9 -0.7
comp=Z,14nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 126.69 345 PKPdf PKPdf 18 15 21.9 -0.7
baz=31,slow=1.9
NOA NORSAR Array B 126.69 345 PKP PKPdf 18 15 22.0 -0.5
comp=Z,8.0nm,0.7s,baz=32,slow=2.0,SNR=36
GBN Guysborough 126.73 41 PKPdf PKPdf 18 15 23.3 +0.3
NBO00 NORSAR Array S 126.81 345 PKPdf 18 15 22.0 -0.8
NC602 NORSAR Array S 126.87 345 ePKPdf PKPdf 18 15 22.8 -0.1
NC602 NORSAR Array S 126.87 345 PKPdf 18 15 22.2 -0.6
NAO01 NORSAR Array S 126.94 345 PKiKP 18 15 23.5 0.0
SAML Samuel 126.98 110 PKIKP PKPdf 18 15 24.0 -0.4
SAML Samuel 126.98 110 PKPdf 18 15 24.0 -0.4
AKASG Malin Array Be 127.02 327 PKP PKPdf 18 15 23.0 -0.4
comp=Z,4.8nm,0.7s,baz=51,slow=2.2,SNR=23
AKASG PKKPbc PKKPdf 18 24 52.0 -47
comp=Z,1.0nm,0.6s,baz=247,slow=3.8,SNR=5.4
AKASG Malin Array Be 127.02 327 PKPdf PKPdf 18 15 22.7 -0.7
AKBB Malin Array Si 127.02 327c iPKIKP PKPdf 18 15 23.4 0.0
AKBB Malin Array Si 127.02 327 PKPdf PKPdf 18 15 22.8 -0.7
GAZ Gaziantep 127.41 309 PKPdf PKiKP 18 15 25.2 0.0
FOO Floro 127.56 349 ePKPdf PKPdf 18 15 24.3 +0.2
LBTB Lobatse 127.63 227 PKIKP PKiKP 18 15 26.0 -0.1
LBTB Lobatse 127.63 227 PKPdf PKiKP 18 15 26.0 -0.1
SKAR Skarslia 127.70 347 ePKPdf PKPdf 18 15 24.5 0.0
BNN Bunyan 127.94 311 PKPdf PKPdf 18 15 25.7 0.0
KMBO Kilima Mbogo 127.94 260 PKP PKiKP 18 15 28.1 +0.9
comp=Z,5.6nm,0.8s,baz=62,slow=2.9,SNR=9.2
SUW Suwalki 127.96 333 ePKPdf PKPdf 18 15 25.3 +0.2
SUW Suwalki 127.96 333 eP PKPdf 18 15 25.3 +0.2
SUW Suwalki 127.96 333 PKIKP PKPdf 18 15 24.8 -0.3
SUW Suwalki 127.96 333 PKPdf 18 15 24.8 -0.3
MLPR Magueyes Islan 128.02 76 PKPdf PKPdf 18 15 24.4 -1.8
AQDB Aquidauana 128.26 127 PKPdf PKPdf 18 15 26.1 -0.6
KONO Kongsberg 128.30 345 ePKPdf PKPdf 18 15 25.6 +0.1
OBIP Obispado Ponce 128.43 76 PKPdf PKPdf 18 15 26.3 -0.7
ODD1 Odda 128.77 347 ePKPdf PKPdf 18 15 26.5 0.0
SJG San Juan 128.87 76 PKIKP PKPdf 18 15 27.7 -0.2
SJG San Juan 128.87 76 PKPdf 18 15 27.7 -0.2
SJG San Juan 128.87 76 eP PKPdf 18 15 28.0 +0.2
SORM Soroca 128.89 325 ⇑P PKPdf 18 15 27.0 -0.1
SORM Soroca 128.89 325 ⇑PKIKP PKPdf 18 15 27.0 -0.1
GCPR Guaynabo City 128.93 75 PKPdf 18 15 27.1 -0.9
PDPR Patillas Dam, 128.99 76 PKPdf 18 15 27.5 -0.6
HUMP Col San Antoni 129.15 75 PKPdf 18 15 28.2 -0.2
BLS5 Blasjo 129.25 347 ePKPdf PKPdf 18 15 25.9 -1.5
BRTR Keskin Array B 129.25 313 PKP PKPdf 18 15 28.2 -0.1
comp=Z,4.8nm,1.0s,baz=147,slow=2.9,SNR=15
BRTR Keskin Array B 129.25 313 PKPdf PKPdf 18 15 27.5 -0.7
TRCB Terra Rica 129.26 132 PKPdf 18 15 28.8 +0.2
MTP Monte Pirata 129.43 76 PKiKP 18 15 29.6 -0.1
HOMB Homborsund 129.78 345 ePKPdf PKPdf 18 15 28.2 -0.2
ANTO Ankara 129.80 313 ⇓P PKPdf 18 15 22.9 -6.2
ANTO Ankara 129.80 313 PKIKP PKPdf 18 15 29.1 -0.1
ANTO Ankara 129.80 313 PKPdf PKPdf 18 15 29.1 -0.1
SNART Snartemo 130.05 346 ePKPdf PKiKP 18 15 30.2 +0.4
CDVI St. Croix 130.19 76 PKPdf PKPdf 18 15 30.2 -0.2
LVV L'vov 130.25 329 ePKIKP PKPdf 18 15 29.1 -0.5
CFR Carcaliu 130.56 322 ⇓P PKPdf 18 15 30.7 +0.4
CFR Carcaliu 130.56 322 ⇓PKIKP PKPdf 18 15 30.7 +0.4
BIZ Bicaz 130.82 325 ⇑P PKiKP 18 15 32.0 +0.3
BUR08 Bucovina Ar. S 130.93 326 PKPdf PKiKP 18 15 32.2 +0.2
BURAR Bucovina Array 130.94 326 ⇑P PKiKP 18 15 32.1 0.0
BURAR Bucovina Array 130.94 326 ⇑PKIKP PKiKP 18 15 32.1 0.0
BURAR Bucovina Array 130.94 326 PKPdf PKPdf 18 15 31.6 +0.4
KOLS Kolonicke sedl 131.70 329 ePKIKP PKiKP 18 15 33.8 +0.4
KOLS Kolonicke sedl 131.70 329 ePKP PKiKP 18 15 33.8 +0.4
MLR Muntele Rosu 131.71 323 ⇑P PKPdf 18 15 32.6 -0.1
MLR Muntele Rosu 131.71 323 ⇑PKIKP PKPdf 18 15 32.6 -0.1
MLR Muntele Rosu 131.71 323 PKPdf PKPdf 18 15 32.1 -0.6
UZH Uzhgorod 131.88 328 ePKIKP PKiKP 18 15 33.4 -0.4
UZH e 18 16 12.6
OJC Ojcow 132.06 331 ePKPdf PKPdf 18 15 33.5 +0.4
OJC Ojcow 132.06 331 PKIKP PKPdf 18 15 33.3 +0.3
OJC Ojcow 132.06 331 PKPdf PKPdf 18 15 33.3 +0.3
CRVS Cervenica-Dubn 132.13 329 ePKIKP PKiKP 18 15 34.3 0.0
CRVS Cervenica-Dubn 132.13 329 ePKP PKiKP 18 15 34.3 0.0
SPB Sao Paulo 132.44 136 PKPdf 18 15 34.7 +0.2
ARR Arges 132.55 324 ⇑P PKiKP 18 15 35.5 +0.1
PTGA Pitinga 132.59 101 PKPdf PKPdf 18 15 34.5 -0.6
LANS Liptovska Anna 132.95 331 ePKIKP PKiKP 18 15 36.6 +0.6
LANS Liptovska Anna 132.95 331 ePKP PKiKP 18 15 36.6 +0.6
BSEG Bad Segeberg 132.99 341 ePKPdf PKiKP 18 15 36.0 +0.2
baz=37,slow=1.9
KSP Ksiaz 133.19 344 ePKPdf PKiKP 18 15 35.9 -0.5
MORC Moravsky Berou 133.41 332 ⇓P PKPdf 18 15 35.1 -0.5
MORC Moravsky Berou 133.41 332 PKIKP PKPdf 18 15 36.2 +0.5
MORC Moravsky Berou 133.41 332 PKPdf PKPdf 18 15 36.2 +0.5
MORC Moravsky Berou 133.41 332 ePKP PKiKP 18 15 36.4 -0.5
OSTC Ostas 133.44 334 ePKPDF PKiKP 18 15 36.5 -0.4
DPC Dobruska-Polom 133.54 334 ePKIKP PKiKP 18 15 37.0 -0.2
DPC Dobruska-Polom 133.54 334 ePKPDF PKiKP 18 15 37.0 -0.2
KRLC Kraliky 133.54 333 ePKIKP PKPdf 18 15 36.4 +0.5
KRLC Kraliky 133.54 333 ePKPDF PKPdf 18 15 36.4 +0.5
UPC Upice 133.56 334 ePKIKP PKiKP 18 15 37.0 -0.1
UPC Upice 133.56 334 ePKPDF PKiKP 18 15 37.0 -0.1
GZR Gura Zlata 133.60 325 ⇓P PKPdf 18 15 36.1 -0.1
GZR Gura Zlata 133.60 325 ⇓PKIKP PKPdf 18 15 36.1 -0.1
SIRR Siria 133.69 326 ⇓P PKPdf 18 15 36.6 +0.3
VYHS Vyhne 133.70 330 ePKIKP PKPdf 18 15 36.4 +0.2
VYHS Vyhne 133.70 330 ePKP PKPdf 18 15 36.4 +0.2
FLTG Flechtingen 134.01 339 ePKPdf PKiKP 18 15 37.7 -0.2
baz=37,slow=1.9
JAVC Velka Javorina 134.01 331 ePKP PKiKP 18 15 38.4 +0.2
HERR Herculane 134.11 324 ⇓P PKiKP 18 15 38.3 -0.1
BZS Buzias 134.12 326 ⇑P PKPdf 18 15 37.8 +0.8
BZS Buzias 134.12 326 ⇑PKIKP PKPdf 18 15 37.8 +0.8
BRG Berggiesshubel 134.14 336 ePKP PKPdf 18 15 37.6 +0.6
BRG Amp 18 15 39.5
comp=Z,12nm,0.9s
BRG SKP 18 18 55.2
BRG Amp 18 18 58.3
comp=Z,22nm,1.7s
BRG Berggiesshubel 134.14 336 ePKPdf PKiKP 18 15 38.2 -0.1
baz=37,slow=1.9
PVCC Panska Ves 134.15 335 ePKIKP PKiKP 18 15 38.1 -0.2
PVCC Panska Ves 134.15 335 ePKPDF PKiKP 18 15 38.1 -0.2
CLL Collm 134.18 337 iPKPdf PKPdf 18 15 37.2 +0.3
comp=Z,17nm,0.8s
CLL e 18 15 47.0
CLL epPKiKP pPKiKP 18 16 19.0 +1.3
CLL esPKPdf sPKPdf 18 16 31.0 -0.6
CLL eSKPbc SKPab 18 15 55.0 -0.7
comp=Z,8.0nm,1.1s
CLL Collm 134.18 337 iPKIKP PKPdf 18 15 37.2 +0.3
CLL e 18 16 19.0
CLL pmax pmax
comp=Z,17nm,0.8s
CLL Collm 134.18 337 PKPdf PKPdf 18 15 37.2 +0.3
CLL Collm 134.18 337 ePKPdf PKiKP 18 15 38.0 -0.4
baz=37,slow=1.9
VRAC Vranov 134.18 333 ePKP PKPdf 18 15 37.2 +0.1
NRDL Niedersach Rie 134.26 340 ePKPdf PKiKP 18 15 38.6 +0.2
baz=37,slow=1.9
MBAR Mbarara 134.36 258c iPKIKP PKiKP 18 15 41.3 +1.2
KRUC Moravsky 134.45 332 ePKP PKPdf 18 15 37.9 +0.3
MODS Modra-Piesok 134.53 331 ePKIKP PKiKP 18 15 39.9 +0.7
MODS Modra-Piesok 134.53 331 ePKP PKiKP 18 15 39.9 +0.7

MDVR Moldovita 134.57 325 ⇓P PKPdf 18 15 38.2 +0.2
PRU Pruhonice 134.57 335 ePKIKP PKiKP 18 15 39.4 +0.2
PRU Pruhonice 134.57 335 ePKPDF PKiKP 18 15 39.4 +0.2
CLZ Clausthal 134.71 339 ePKPdf PKiKP 18 15 39.3 -0.1
baz=37,slow=1.9
NEUB Neuenburg 134.72 338 ePKPdf PKiKP 18 15 39.0 -0.4
baz=37,slow=1.9
PBCC Pribram 135.03 335 ePKPDF PKPdf 18 15 39.3 +0.6
GTTG Gottingen 135.10 339 ePKPdf PKiKP 18 15 40.1 -0.1
baz=37,slow=1.9
WERD Werda 135.13 337 ePKPdf PKiKP 18 15 40.0 -0.4
baz=37,slow=1.9
PLN Plauen 135.15 337 ePKPdf PKiKP 18 15 39.9 -0.4
baz=37,slow=1.9
GUNZ Gunzen 135.18 336 ePKPdf PKiKP 18 15 40.4 -0.1
baz=37,slow=1.9
WERN Wernitzgruen 135.23 336 ePKPdf PKiKP 18 15 40.4 -0.2
baz=37,slow=1.9
MOX Moxa 135.24 337 ePKPdf PKiKP 18 15 40.1 -0.4
baz=37,slow=1.9
NKC Novy Kostel 135.24 336 ePKIKP PKPdf 18 15 39.8 +0.8
NKC Novy Kostel 135.24 336 ePKPDF PKPdf 18 15 39.8 +0.8
MORH Mrgy, Hungar 135.34 328 ⇑P PKPdf 18 15 39.3 0.0
CONA Conrad Observa 135.52 332 eP PKPdf 18 15 39.6 -0.1
CONA eS SKPab 18 19 00.5 -1.4
comp=Z,4.9nm,0.9s
MANZ Manzenberg 135.57 336 ePKPdf PKiKP 18 15 41.0 -0.3
baz=37,slow=1.9
KHC Kasperske Hory 135.63 334 ePKIKP PKPdf 18 15 40.1 +0.3
KHC Kasperske Hory 135.63 334 ePKPDF PKPdf 18 15 40.1 +0.3
KHC Kasperske Hory 135.63 334 PKPdf 18 15 39.8 0.0
ROTZ Rotzenmuhle 135.70 336 ePKPdf PKPdf 18 15 40.8 +0.9
baz=37,slow=1.9
GEC2 GERESS Array S 135.80 334 PKPdf 18 15 39.9 -0.4
GEC2 GERESS Array S 135.80 334 ePKPdf PKiKP 18 15 41.2 -0.6
baz=37,slow=1.9
GERES GERESS Array B 135.80 334 PKhKP PKPpre 18 15 28.0
comp=Z,0.9nm,0.7s,baz=28,slow=3.6,SNR=7.8
GERES PKP PKPdf 18 15 40.1 -0.1
comp=Z,6.6nm,0.8s,baz=52,slow=2.2,SNR=22
KASTN Kahler Asten 135.92 340 ePKPdf PKiKP 18 15 41.4 -0.5
baz=37,slow=1.9
DIVS Divibare 135.96 325 PKPdf PKPdf 18 15 40.5 -0.1
ARSA Arzberg 136.16 331 eP PKPdf 18 15 40.7 -0.1
comp=Z,2.0nm,0.6s
ARSA eS SKPbc 18 19 01.2 +2.1
comp=Z,2.8nm,1.1s
MOA Molln 136.30 333 eP PKPdf 18 15 41.0 -0.1
comp=Z,5.0nm,0.7s
MOA eS SKPbc 18 19 01.6 +2.0
comp=Z,7.7nm,1.0s
TNS Taunus Mts 136.74 339 ePKPdf PKiKP 18 15 43.0 -0.6
baz=37,slow=1.9
LIT Litokhoron 136.75 319 PKIKP PKPdf 18 15 41.9 -0.3
LIT Litokhoron 136.75 319 PKPdf 18 15 41.9 -0.3
MILB Miltenberg 136.76 338 ePKPdf PKiKP 18 15 42.9 -0.7
baz=37,slow=1.9
SOKA Soboth 136.81 331 eP PKPdf 18 15 41.9 -0.2
comp=Z,7.8nm,0.8s
SOKA eS SKPbc 18 19 02.9 +1.7
comp=Z,2.5nm,0.9s
BDFB Brasilia 137.01 127 PKhKP PKPpre 18 15 36.9
comp=Z,22nm,0.9s,baz=64,slow=1.6,SNR=5.2
BDFB PKP PKPdf 18 15 43.7 +0.3
comp=Z,22nm,0.9s,baz=181,slow=3.4,SNR=14
BDFB Brasilia 137.01 127 PKPdf PKPdf 18 15 41.3 -2.1
OBKA Obir 137.16 331 eP PKPdf 18 15 41.6 -1.2
comp=Z,5.9nm,1.5s
OBKA eS SKPbc 18 19 03.5 +1.2
comp=Z,4.1nm,1.0s
BTNL Ternell 137.19 341 dPKPdf PKPdf 18 15 42.9 +0.2
BTNL dPKiKP PKiKP 18 15 44.5 0.0
MEM Membach 137.21 342 dPKPdf PKPdf 18 15 43.4 +0.7
MEM dPKiKP PKiKP 18 15 44.9 +0.4
KBA Koelnbreinsper 137.30 333 eP PKPdf 18 15 42.2 -0.9
comp=Z,4.7nm,0.4s
KBA eS SKPbc 18 19 03.5 +0.7
comp=Z,2.3nm,0.6s
AGG Agios Georgios 137.42 317 PKIKP PKPdf 18 15 42.8 -0.6
AGG Agios Georgios 137.42 317 PKPdf PKPdf 18 15 42.8 -0.6
MYKA Terra Mystica 137.50 332 eP PKPdf 18 15 43.3 -0.1
comp=Z,6.4nm,0.6s
MYKA eS SKPbc 18 19 04.5 +1.3
comp=Z,3.2nm,1.0s
SNF Seneffe 137.81 343 dPKiKP PKiKP 18 15 45.6 -0.1
BMRD Maredsous 137.85 342 dPKPdf PKPdf 18 15 43.6 -0.2
BMRD dPKiKP PKiKP 18 15 45.8 0.0
WATA Walderalm 137.87 334 eP PKPdf 18 15 43.8 -0.3
comp=Z,11nm,1.1s
WTTA Wattenberg 137.90 334 eP PKPdf 18 15 44.6 +0.3
comp=Z,20nm,1.3s
WTTA eS SKPbc 18 19 03.6 -0.9
comp=Z,7.4nm,1.0s
ABTA Abfaltersbach 137.92 333 eP PKPdf 18 15 44.2 0.0
comp=Z,18nm,1.0s
ABTA eS SKPbc 18 19 05.4 +1.0
comp=Z,4.6nm,1.3s
WLF Walferdange 137.98 341 dPKiKP PKiKP 18 15 47.0 +0.9
WLF Walferdange 137.98 341 ePKPdf PKiKP 18 15 45.9 -0.2
baz=37,slow=1.9
MOTA Moosalm 138.06 335 eP PKPdf 18 15 44.3 -0.2
comp=Z,12nm,1.1s
MOTA eS SKPbc 18 19 05.5 +0.5
comp=Z,5.7nm,0.9s
RETA Reutte 138.09 335 eP PKPdf 18 15 44.1 -0.3
comp=Z,7.1nm,1.0s
RETA eS SKPbc 18 19 05.4 +0.5
comp=Z,7.1nm,1.3s
SQTA Sankt Quirin 138.12 335 eP PKPdf 18 15 44.3 -0.3
comp=Z,7.2nm,0.8s
SQTA eS SKPbc 18 19 05.2 +0.2
comp=Z,4.3nm,0.8s
UBR Ueberruh 138.21 336 ePKPdf PKPdf 18 15 45.5 +0.8
baz=37,slow=1.9
FETA Feichten 138.48 335 eP PKPdf 18 15 45.4 +0.1
comp=Z,11nm,1.2s
FETA eS SKPbc 18 19 05.9 -0.2
comp=Z,6.6nm,1.5s
DAVA Damuels 138.62 336 eP PKPdf 18 15 45.3 -0.3
comp=Z,7.2nm,0.8s
DAVA eS SKPbc 18 19 06.1 -0.4
comp=Z,7.4nm,1.2s
TUE Stuetta 139.49 335 PKPpre 18 15 39.2
SENIN Lac Senin/Sane 140.39 337 PKPpre 18 15 41.4
ZCCA Zocca 140.45 332 PKPpre 18 15 43.3
MURB Monte Urbino 140.51 329 PKPdf 18 15 47.3 -1.8
NRCA Norcia 140.53 329 PKPpre 18 15 41.0
CLF Chambon-Foret 140.63 343 PKPdf PKPdf 18 15 49.7 +0.7
INTR Introdacqua 140.69 327 PKPpre 18 15 40.2
TIP Timpagrande 140.91 321 ⇓P PKPdf 18 15 42.6 -7.2
BNI Bardonecchia 141.72 337 PKHKP PKPpre 18 15 46.2
BNI Bardonecchia 141.72 337 PKPpre 18 15 46.1
SSB Saint Sauveur 142.33 339 PKHKP PKPpre 18 15 47.8
SSB Saint Sauveur 142.33 339 PKPpre 18 15 47.8
RAFF Raffo Rosso 143.60 321 PKPbc 18 15 53.1 +0.7
CLTB Caltabellotta 144.07 322 PKPbc 18 15 54.0 +0.1
WDD Wied Dalam 144.35 319 PKPdf PKPab 18 15 54.2 -0.1
VSL Villasalto 144.89 328 PKPbc 18 15 56.1 -0.2
H07N1 FLORES T-PHASB 47.41 25 ePKiKP PKiKP 18 16 05.2 -0.6
H07S1 FLORES T-PHASB 47.64 26 ePKiKP PKPbc 18 16 05.4 +1.0
CMAH Djebel Manchou 148.05 327 P PKPdf 18 16 02.2 -0.1
ABSA Djebel Ababsia 148.28 326 P PKPbc 18 16 06.4 +0.1
CKFL Kef-Lekhel 148.59 327 P PKPbc 18 16 06.8 -0.3
PBRG Braganca 148.60 350 ePKPdf PKPdf 18 16 03.7 +0.7
PBRG Braganca 148.60 350 ePKPbc PKPbc 18 16 07.4 +0.6
PBRG Braganca 148.60 350 ePKPab PKPab 18 16 11.9 +1.2
PGAV Gavieira, Arco 148.68 352 ePKPdf PKPdf 18 16 04.3 +1.1
PGAV Gavieira, Arco 148.68 352 ePKPbc PKPbc 18 16 07.7 +0.6
PGAV Gavieira, Arco 148.68 352 ePKPab PKPab 18 16 10.9 -0.2
PCAB Cabril 148.90 352 ePKPbc PKiKP 18 16 08.3 -0.6
DFRA Djebel Bou Aff 148.93 328 P PKPdf 18 16 04.6 +0.8
CTEI Djebel Teioual 149.01 327 P PKPbc 18 16 08.8 +0.6
POLO Lamas de Olo 149.19 351 ePKPdf PKPdf 18 16 05.2 +1.2
POLO Lamas de Olo 149.19 351 ePKPbc PKiKP 18 16 09.1 -0.5
SRBC Serra Branca 149.20 22 ePKiKP PKiKP 18 16 10.1 +0.6
PGRA Graciosa 149.22 22 ePKiKP PKiKP 18 16 10.2 +0.6
MVO Moncorvo 149.28 350 ePKPdf PKPdf 18 16 05.3 +1.2
MVO Moncorvo 149.28 350 ePKPbc PKPbc 18 16 09.1 +0.5
PVRL Vila Real 149.28 351 ePKPdf PKPdf 18 16 03.7 -0.4
PVRL Vila Real 149.28 351 ePKPbc PKiKP 18 16 09.6 -0.1
PVRL Vila Real 149.28 351 ePKPab PKPab 18 16 15.0 +1.6
PCED Cedros 149.30 23 ePKiKP PKiKP 18 16 10.0 +0.3
ROSA Rosais 149.40 23 ePKiKP PKiKP 18 16 10.0 +0.1
ROSA Rosais 149.40 23 PKPdf 18 16 05.3 +1.0

SET	Setif	149.44	329	P	PKiKP	18 16 11.0	+0.8
CKHR	Kef el Ahmar	149.52	328	P	PKPdf	18 16 06.8	+2.0
PICO	Pico	149.52	23	*e*PKiKP	PKiKP	18 16 10.4	+0.1
PCAN	Candelaria	149.53	23	*e*PKiKP	PKiKP	18 16 10.7	+0.5
PMAN	Manadas	149.53	23	*e*PKiKP	PKiKP	18 16 10.6	+0.4
PSCM	Serra do Cume	149.83	21	*e*PKiKP	PKiKP	18 16 11.7	+0.9
PVIS	Viseu	149.85	351	*e*PKPbc	PKiKP	18 16 10.6	-0.3
ESBB	Sonseca Array	150.05	345		PKPdf	18 16 05.6	+0.2
ESDC	Sonseca Array	150.05	345	PKP	PKPdf	18 16 05.8	+0.4
	comp=Z,9.1nm,0.9s,baz=6.8,slow=2.5,SNR=22						
ESDC				PKPbc	PKiKP	18 16 11.1	-0.3
	comp=Z,16nm,0.8s,baz=13,slow=2.5,SNR=49						
ESDC				PKPab	PKPab	18 16 17.9	+1.2
	comp=Z,17nm,0.7s,baz=7.4,slow=4.0,SNR=21						
ESDC	Sonseca Array	150.05	345	PKPdf	PKPdf	18 16 05.4	0.0
MTE	Manteigas	150.11	351	*e*PKPdf	PKPdf	18 16 06.6	+1.1
MTE	Manteigas	150.11	351	*e*PKPbc	PKiKP	18 16 11.5	+0.1
MTE	Manteigas	150.11	351	*e*PKPab	PKPab	18 16 17.2	+0.3
MTE	Manteigas	150.11	351		PKPdf	18 16 05.9	+0.4
PAB	San Pablo	150.27	345	PKiKP	PKPdf	18 16 04.2	-1.6
PAB	San Pablo	150.27	345	PKPdf	PKPdf	18 16 04.2	-1.6
PAB					PKPbc	18 16 10.9	-0.2
COI	Coimbra	150.43	352	PKiKP	PKPbc	18 16 11.7	+0.4
COI	Coimbra	150.43	352	*e*PKPbc	PKiKP	18 16 11.9	-0.1
COI	Coimbra	150.43	352	*e*PKPab	PKPab	18 16 20.0	+1.9
COI	Coimbra	150.43	352		PKPbc	18 16 11.7	+0.4
PCAS	Casmilo, Conde	150.59	352	*e*PKPdf	PKPdf	18 16 06.4	+0.2
PCAS	Casmilo, Conde	150.59	352	*e*PKPbc	PKPbc	18 16 11.9	+0.2
PCAS	Casmilo, Conde	150.59	352	*e*PKPab	PKPab	18 16 19.5	+0.7
PCBR	Castelo Branco	150.64	350	*e*PKPdf	PKPdf	18 16 07.2	+1.0
PCBR	Castelo Branco	150.64	350	*e*PKPbc	PKiKP	18 16 12.3	-0.1
PCBR	Castelo Branco	150.64	350	*e*PKPab	PKPab	18 16 19.7	+0.7
PMRV	Marv??o	151.03	350	*e*PKPdf	PKPdf	18 16 08.0	+1.1
PMRV	Marv??o	151.03	350	*e*PKPbc	PKPbc	18 16 13.1	+0.3
PMRV	Marv??o	151.03	350	*e*PKPab	PKPab	18 16 21.9	+1.2
CART	Cartagena	151.07	339	PKPdf	PKPdf	18 16 06.5	-0.4
PSET	Sete Cidades	151.10	20	*e*PKiKP	PKiKP	18 16 14.6	+1.1
PSBE	So Bento	151.16	352	*e*PKPbc	PKiKP	18 16 14.2	+0.6
PSBE	So Bento	151.16	352	*e*PKPab	PKPab	18 16 23.1	+1.9
EBNR	Beni Rached	151.19	334	P	PKPbc	18 16 13.0	-0.3
CMLA	Cha da Macela	151.22	20	*e*PKiKP	PKiKP	18 16 14.6	+0.9
PMTG	Montargil	151.51	351	*e*PKPdf	PKPdf	18 16 08.2	+0.6
PMTG	Montargil	151.51	351	*e*PKPbc	PKiKP	18 16 14.3	0.0
PMTG	Montargil	151.51	351	*e*PKPab	PKPab	18 16 24.9	+2.2
PESTR	Estremoz	151.61	350	*e*PKPbc	PKiKP	18 16 14.5	0.0
PESTR	Estremoz	151.61	350	*e*PKPab	PKPab	18 16 24.7	+1.6
PESTR	Estremoz	151.61	350		PKPbc	18 16 14.2	+0.1
PESTR				PKPab	PKPab	18 16 23.9	+0.8
EANR	'Ain N'Sour	151.67	334	P	PKPbc	18 16 14.4	0.0
PMAFR	Mafra	151.77	353	*e*PKPbc	PKPbc	18 16 14.4	-0.1
PMAFR	Mafra	151.77	353	*e*PKPab	PKPab	18 16 25.4	+1.6
EVO	Evora	152.01	350	*e*PKPdf	PKPdf	18 16 09.7	+1.4
EVO	Evora	152.01	350	*e*PKPbc	PKiKP	18 16 15.4	+0.1
EVO	Evora	152.01	350	*e*PKPab	PKPab	18 16 26.4	+1.6
PSMA	Santa Maria	152.04	20	*e*PKiKP	PKiKP	18 16 16.4	+1.0
ETRT	Tiaret	152.05	333	P	PKiKP	18 16 18.9	+3.2
PSMN	Pico do Norte,	152.06	20	*e*PKiKP	PKiKP	18 16 16.1	+0.6
PBAR	Barrancos	152.18	349	*e*PKPdf	PKPdf	18 16 09.8	+1.2
PBAR	Barrancos	152.18	349	*e*PKPbc	PKiKP	18 16 16.0	+0.3
PBAR	Barrancos	152.18	349	*e*PKPab	PKPab	18 16 26.9	+1.4
RCBR	Riachuelo	152.36	126	PKiKP	PKPbc	18 16 16.4	-0.2
RCBR	Riachuelo	152.36	126		PKPbc	18 16 16.4	-0.2
PBEJ	Beja	152.48	350	*e*PKPdf	PKPdf	18 16 10.2	+1.1
PBEJ	Beja	152.48	350	*e*PKPbc	PKiKP	18 16 17.0	+0.7
PBEJ	Beja	152.48	350	*e*PKPab	PKPab	18 16 28.6	+1.9
PNCL	Nicolau / Gran	152.50	351	*e*PKPdf	PKPdf	18 16 10.3	+1.2
PNCL	Nicolau / Gran	152.50	351	*e*PKPbc	PKiKP	18 16 16.6	+0.3
MESJ	Messejana	152.72	350	*e*PKPdf	PKPdf	18 16 09.6	+0.2
MESJ	Messejana	152.72	350	*e*PKPdf	PKPdf	18 16 10.3	+0.9
MESJ	Messejana	152.72	350	*e*PKPbc	PKiKP	18 16 17.1	+0.3
MESJ	Messejana	152.72	350	*e*PKPab	PKPab	18 16 29.6	+1.9
PCVE	Castro Verde	152.89	350	*e*PKPdf	PKPdf	18 16 11.2	+1.5
PCVE	Castro Verde	152.89	350	*e*PKPbc	PKiKP	18 16 17.8	+0.6
PCVE	Castro Verde	152.89	350	*e*PKPab	PKPab	18 16 30.7	+2.2
PVAQ	Vaqueiros	153.06	349	*e*PKPbc	PKiKP	18 16 18.8	+1.3
PVAQ	Vaqueiros	153.06	349	*e*PKPab	PKPab	18 16 30.1	+0.9
PTEO	Sao Teotonio	153.08	351	*e*PKPdf	PKPdf	18 16 11.4	+1.5
PTEO	Sao Teotonio	153.08	351	*e*PKPbc	PKiKP	18 16 18.7	+1.2
PBDV	Barranco-do-Ve	153.25	350	*e*PKPdf	PKPdf	18 16 11.7	+1.4
PBDV	Barranco-do-Ve	153.25	350	*e*PKPbc	PKiKP	18 16 19.1	+1.1
PFVI	Vila Bisbo	153.50	351	*e*PKPbc	PKiKP	18 16 20.9	+2.5
TORD	Torodi Ar. Bea	164.76	280	PKP	PKPdf	18 16 24.2	0.0
TORD				pPKP	pPKPdf	18 17 01.8	-1.9
	comp=Z,8.9nm,0.7s,baz=16,slow=1.2,SNR=31						
TORD				pPKP			
	comp=Z,1.8nm,0.7s,baz=82,slow=2.8,SNR=1.5						
TORD				PKPab	PKPab	18 17 20.9	+0.1
	comp=Z,9.6nm,0.9s,baz=71,slow=4.3,SNR=11						
TORD				pPKPab	pPKPab	18 17 56.2	-2.7
	comp=Z,4.4nm,1.1s,baz=71,slow=3.1,SNR=2.2						
TORD	Torodi Ar. Bea	164.76	280		PKPdf	18 16 23.7	-0.5
KOWA	Kowa	169.88	292		PKPdf	18 16 27.7	-0.2
KOWA					PKPab	18 17 43.0	-0.4
DBIC	Dimbokro	170.29	245	PKiKP	PKPdf	18 16 27.1	-1.1
DBIC	Dimbokro	170.29	245		PKPdf	18 16 27.1	-1.1

KMA 29 18:00:19.4±0.2, 37°36N×125°25E, h28km±1km Error ellipse: s-maj=9.2km s-min=1.0km az=30.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DACB	Daecheong-do R	0.64	318	P	Pb	18 00 32.0	0.0
	SNR=49						
DACB	Daecheong-do R	0.64	318	P	Pb	18 00 32.0	0.0
	SNR=49						
KSDEI	Deokjeokdo	0.69	98	P	Pb	18 00 32.9	0.0
	SNR=7.1						
KSDEI	Deokjeokdo	0.69	98	P	Pb	18 00 32.9	0.0
	SNR=7.1						
KSBAR	Backryungdo	0.74	326	P	Pb	18 00 33.7	-0.1
	SNR=28						
KSBAR	Backryungdo	0.74	326	P	Pb	18 00 33.7	-0.1
	SNR=28						
KSGAH	Ganghwa	1.02	70	P	Pb	18 00 41.6	+3.2
	SNR=14						
HAWB	Hwaseong-si	1.25	102	P	Pn	18 00 41.0	0.0
	SNR=9.2						
HAWB	Hwaseong-si	1.25	102	P	Pn	18 00 41.0	0.0
	SNR=9.2						
OKCB	Cheongsan-myeo	2.28	116	P	Pn	18 00 55.1	-0.1
	SNR=13						

*IDC **29** 18:03:00.2±4.7, 2°86S×138°03E, h75km±40km, mb3.5/4, mb1 3.7/6, mb1mx3.4/37, mbtmp3.9/6, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=37.6km s-min=15.6km az=92.0*

ISC 29 18:02:55.8±1.2, 2°98S±0°10×138°2E±0°1, h35km, n6, σ2°86/8, mb3.9/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	7.27	287	P	Pn	18 04 42.2	+2.6
	5.4nm,0.3s,baz=78,slow=14,SNR=59						
SIJI				S	Sn	18 05 59.1	-1.8
	2.6nm,0.3s,baz=133,slow=23,SNR=5.6						
WRA	Warramunga Arr	17.28	192	P	P	18 06 57.7	+2.0
	0.5nm,0.3s,baz=16,slow=13,SNR=8.8						
WRA				S	Sn	18 10 01.3	-4.5
	0.4nm,0.3s,baz=359,slow=24,SNR=5.8						
WRA				LR	LR	18 14 53.2	
	comp=Z,161nm,18.6s,baz=120,slow=41						
ASAR	Alice Springs	20.98	191	P	Pn	18 07 39.2	+0.2
	0.6nm,0.4s,baz=8.6,slow=11,SNR=5.9						
ASAR				S	S	18 11 29.1	+0.8
	2.1nm,0.8s,baz=12,slow=22,SNR=7.2						
KLR	Kul'dur	52.30	355	P	P	18 12 02.1	-1.7
	0.6nm,0.5s,baz=156,slow=10.0,SNR=1.8						
MKAR	Makanchi Array	69.71	323	P	P	18 14 01.1	-1.0
	2.3nm,1.1s,baz=101,slow=7.5,SNR=3.2						
VNDA	Vanda	75.55	175	P	P	18 14 37.6	+1.3
	0.5nm,0.6s,baz=324,slow=8.4,SNR=1.9						

*TUL **29** 18:15:12.3±0.6, 36°82N±0°02×97°46W±0°02, h5km±7km, ML2.5, mb_Lg2.3/22(NEIC), Error ellipse: s-maj=2.6km s-min=2.0km az=204.0*

NEIC 29 18:15:12.3±0.5, 36°80N±0°01×97°46W±0°02, h4km±7km, Error ellipse: s-maj=2.4km s-min=1.2km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLOK	Blackwell	0.20	101		Pg	18 15 16.5	+0.3
KAN13	South Haven SW	0.22	356		Pg	18 15 16.6	+0.1
KAN13				Sg	Sg	18 15 19.5	+0.1
GC02	Grant County #	0.33	280		Pg	18 15 18.5	-0.1
KAN17	Caldwell West	0.35	315		Pg	18 15 18.7	-0.3
KAN09	Caldwell North	0.36	339		Pg	18 15 19.4	0.0
KS20	Mayfield South	0.44	350		Pg	18 15 20.7	-0.1
CROK	Carrier	0.51	236		Pg	18 15 22.5	+0.3
KAN08	Anthony NE Sta	0.59	316		Pg	18 15 23.7	0.0
OK032	Salt Plains WL	0.60	271		Pg	18 15 24.1	+0.1
KAN10	Anthony SW Sta	0.61	303	Pg	Pg	18 15 23.8	-0.2
KAN12	Harper NE Stat	0.66	319		Pg	18 15 24.8	-0.3
T35A	Sooner Cattle	0.77	81		Pg	18 15 26.8	-0.2
QUOK	Quay	0.87	136		Pg	18 15 29.0	0.0
OK031	S. Brethren Rd	0.98	149		Pg	18 15 31.1	0.0
OK029	Liberty Lake	1.00	180		Pg	18 15 31.5	0.0
BCOK	Bluff Creek, N	1.15	186	Pg	Pg	18 15 34.1	-0.1
OK025	Westminster Rd	1.22	175		Pg	18 15 35.5	-0.2
OKCFA	Oklahoma City	1.38	180	Pn	Pn	18 15 38.3	-0.1
OKCSW	OKLAHOMA CITY	1.39	179	Pn	Pn	18 15 38.5	+0.1
FNO	Franklin	1.54	178	Pn	Pn	18 15 40.8	+0.2
FNO				IAmb_Lg		18 16 00.6	
	comp=Z,22nm,0.8s						
R32A	Long Quarter,	1.90	329		Pn	18 15 46.5	+0.9
X34A	Smith Ranch, M	2.21	188	Pn	Pn	18 15 49.9	+0.1
WMOK	Wichita Mounta	2.32	208		Pn	18 15 51.4	+0.1
CBKS	Cedar Bluff	2.70	319	IAmb_Lg		18 16 44.4	
	comp=Z,8.4nm,0.8s						
X37A	Clayton	2.78	142	IAmb_Lg		18 16 44.0	
	comp=Z,6.0nm,0.7s						
HHAR	Hobbs	2.88	99	Pn	Pn	18 15 58.8	-0.2
S39A	Bolivar	3.42	74	Pn	Pn	18 16 06.2	-0.2
AMTX	Amarillo	3.93	242	IAmb_Lg		18 17 18.9	
	comp=Z,5.0nm,0.9s						
MGMO	Mountain Grove	4.17	84	IAmb_Lg		18 17 25.4	
	comp=Z,8.0nm,0.8s						
P38A	Dawn	4.19	46	Pn	Pn	18 16 17.2	+0.3
P38A				IAmb_Lg		18 17 25.4	
	comp=Z,8.0nm,0.8s						
FCAR	Ozark Folk Cen	4.40	100	IAmb_Lg		18 17 29.0	
	comp=Z,8.7nm,0.8s						
X40A	Basin Creek Fa	4.41	120	IAmb_Lg		18 17 31.1	
	comp=Z,6.8nm,0.8s						
WHAR	Wooly Hollow	4.45	108	IAmb_Lg		18 17 32.7	
	comp=Z,6.3nm,0.8s						
KSCO	Kaye Shedlock'	4.65	300	IAmb_Lg		18 17 41.9	
	comp=Z,4.9nm,0.7s						
CCM	Cathedral Cave	5.10	74	IAmb_Lg		18 18 02.0	
	comp=Z,3.8nm,0.8s						
PBMO	Poplar Bluff	5.64	88	IAmb_Lg		18 18 16.8	
	comp=Z,5.8nm,0.8s						

IDC 29 18:29:33.0±9.2, 5°21S×150°91E, h88km±64km, mb2.9/2, mb1 3.2/3, mb1mx3.0/28, mbtmp3.4/3, ML1.3/1, Error ellipse: s-maj=126.9km s-min=60.4km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.59	222	P	Pn	18 30 53.5	-0.2
	0.5nm,0.3s,baz=53,slow=5.1,SNR=2.4						
PMG				S	Sn	18 31 57.6	+1.0
	0.7nm,0.3s,baz=10,slow=14,SNR=1.8						
WRA	Warramunga Arr	21.78	226	P	P	18 34 18.3	+0.4
	0.4nm,0.5s,baz=51,slow=10,SNR=7.5						
ASAR	Alice Springs	24.60	220	P	P	18 34 44.7	-0.5
	0.7nm,0.7s,baz=59,slow=9.0,SNR=8.4						
TORD	Torodi Ar. Bea	148.64	287	PKPbc	PKPbc	18 49 10.7	-0.3
	0.2nm,0.6s,baz=66,slow=3.5,SNR=1.8						

*NEIC **29** 18:41:13.7±1.8, 37°30S±0°05×74°3W±0°1, h8km±4km, mb4.6/39, ML5.0(GUC), Error ellipse: s-maj=13.4km s-min=7.7km az=92.0*
*GUC **29** 18:41:14.8±0.5, 37°14S×74°50W, h10km±53km, ML5.0*
*IDC **29** 18:41:15.1±0.7, 37°41S×73°79W, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.2/30, mbtmp4.1/15, ML4.0/3, MS3.7/4, Ms1 3.7/4, ms1mx3.4/22, Error ellipse: s-maj=24.1km s-min=13.5km az=79.0*
*VAO **29** 18:41:15.3±0.3, 37°45S×74°09W, h10km, mb4.8*

ISC 29 18:41:14.6±0.4, 37°32S±0°04×74°23W±0°05, h10km, n162, σ1§43/162, mb4.5/20, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.02	62	*e*P	Pn	18 41 35.1	+0.1
CCSP				*e*S	Sn	18 41 49.5	+0.2
CCSP				IAML		18 41 55.1	
	comp=N,47μm,0.6s						
LC01	Cunco	2.44	131		Pn	18 41 52.7	-1.8
ML02	Panimavida	2.75	56		Pn	18 41 58.2	-0.6
GO05	Huala	2.96	40	*e*P	Pn	18 42 02.0	+0.2
GO05				*i* S	Sn	18 42 39.0	+1.5
GO05				IAML		18 43 04.5	
	comp=N,2μm,0.7s						
GO05	Huala	2.96	40		Pn	18 42 01.4	-0.4
BO03	Pichilemu	3.37	34↑	*e*P	Pn	18 42 07.0	-0.3
BO02	Sierra Bellavi	3.77	49	*e*P	Pn	18 42 12.9	0.0
BO02				*e*S	Sn	18 42 59.6	+2.3
BO02	Sierra Bellavi	3.77	49		Pn	18 42 12.1	-0.8
LL04	Puerto Octay	3.85	159		Pn	18 42 12.3	-1.7
BO01	Tunca	3.88	42↑	*i* P	Pn	18 42 15.0	+0.6
BO01	Tunca	3.88	42	Pn	Pn	18 42 14.5	+0.1
LL03	Petrohue	4.07	160	*e*P	Pn	18 42 19.5	+2.6
LL03	Petrohue	4.07	160		Pn	18 42 17.0	+0.1
LL05	Los Muermos	4.12	172	*e*P	Pn	18 42 15.8	-1.9
LL05	Los Muermos	4.12	172		Pn	18 42 15.9	-1.8
MT01	Popeta	4.22	36		Pn	18 42 18.6	-0.4
VA05	Santo Domingo	4.23	31	*e*P	Pn	18 42 18.4	-0.8
VA05	Santo Domingo	4.23	31	Pn	Pn	18 42 18.3	-0.9
MT09	Talagante	4.42	38↑	*i* P	Pn	18 42 22.1	+0.2
MT09				*i* S	Sn	18 43 12.9	-0.5
MT09	Talagante	4.42	38		Pn	18 42 21.5	-0.3
PLCA	Paso Flores	4.45	141	Pn	Pn	18 42 21.1	-1.2
	comp=N,1.7nm,0.3s,baz=312,slow=12,SNR=28						
PLCA				Pg	Pb	18 42 32.2	-0.8
	comp=N,5.6nm,0.3s,baz=318,slow=14,SNR=22						
PLCA				Lg	Lg	18 43 29.5	
	comp=N,2.0nm,0.3s,baz=62,slow=23,SNR=2.7						
PLCA	Paso Flores	4.45	141	Pn	Pn	18 42 22.0	-0.3
PLCA	Paso Flores	4.45	141	*e*P	Pn	18 42 21.2	-1.1
LMEL	Las Melosas	4.77	45	*e*P	Pn	18 42 27.4	+0.6
VA01	Torpederas	4.78	27		Pn	18 42 24.8	-1.9
MT05	Renca	4.85	37		Pn	18 42 27.2	-0.5
MT03	Universidad Ad	4.88	40	*e*P	Pn	18 42 28.1	-0.1
MT03	Universidad Ad	4.88	40		Pn	18 42 27.8	-0.4
H03S1	Juan Fernandez	5.15	311	Pn	Pn	18 42 33.9	+2.3
	baz=93,slow=10,SNR=46						
H03S1				Sn	Sn	18 43 28.7	-2.2
H03S1				T	T	18 48 08.5	
	baz=130,slow=74,SNR=1905						
H03S3	Juan Fernandez	5.17	311	Pn	Pn	18 42 34.7	+3.0
	baz=93,slow=10,SNR=65						
H03S3				T	T	18 48 11.7	
	baz=130,slow=74,SNR=1307						
H03S2	Juan Fernandez	5.17	311	Pn	Pn	18 42 34.6	+2.8
	baz=93,slow=10,SNR=49						
H03S2				T	T	18 48 04.0	
	baz=130,slow=74,SNR=1248						
LL01	San Ignacio de	5.24	165		Pn	18 42 31.1	-1.9
VA04	Juan Fernndez	5.25	313	*e*P	Pn	18 42 33.0	-0.1
H03N1	Juan Fernandez	5.44	314	Pn	Pn	18 42 38.2	+2.7
H03N1				Sn	Sn	18 43 37.6	-0.4
VA03	San Esteban	5.46	35		Pn	18 42 35.6	-0.6
LL02	Futaleuf	6.14	163	Pn	Pn	18 42 43.5	-1.9
CO02	Combarbal	6.66	25		Pn	18 42 52.4	-0.4
CO03	El Pedregal	7.10	25		Pn	18 42 58.1	-0.7
GO04	Tololo Observa	7.68	23		Pn	18 43 06.0	-0.8
COYC	Coyhaique	8.40	170		Pn	18 43 16.0	-0.4
TRQA	Tornquist	9.74	98	Pn	Pn	18 43 34.0	-0.8
TRQA	Tornquist	9.74	98	*e*P	Pn	18 43 33.5	-1.4
GO03	Copiap	10.27	20	Pn	Pn	18 43 42.1	0.0
AC02	Maricunga	11.31	24	Pn	Pn	18 43 56.4	-0.4
GO02	Mina Guanaco	12.75	19	Pn	Pn	18 44 13.8	-2.5
LPA	La Plata	13.40	85*c*	*i* P	Pn	18 44 26.8	+2.0
LPA				PPP	PPP	18 45 12.7	
LPA				S	Sn	18 46 55.1	+1.3
LPA				SS	S	18 47 13.5	-4.4
LPA				SSS	SSS	18 48 44.3	

PB15	IPOC Station P	14.65	18		Pn	18 44 40.4	-1.8
LVC	Limon Verde	15.36	19	Pn	Pn	18 44 51.4	-0.6
	comp=N,0.4nm,0.3s,baz=218,slow=7.2,SNR=1.9						
LVC				LR	LR	18 50 54.3	
	comp=N,232nm,20.9s,baz=206,slow=38						
LVC	Limon Verde	15.36	19		Pn	18 44 51.2	-0.7
LVC	Limon Verde	15.36	19	*e*P	P	18 44 53.5	-3.1
PB07	IPOC Station P	15.99	15	P	P	18 45 00.7	-2.8
PB09	IPOC Station P	16.06	17	P	Pn	18 45 01.0	+0.2
PB09				IAmb	IAmb	18 45 17.7	
	comp=Z,89nm,1.5s						
ITQB	Itaqui	16.54	68	P	Pn	18 45 06.8	+0.1
ITQB				IAmb	IAmb	18 45 18.0	
	comp=Z,37nm,1.2s						
ITQB	Itaqui	16.54	68	*e*P	Pn	18 45 06.5	-0.2
PB01	IPOC Station P	16.74	16	P	P	18 45 10.3	-1.3
PB08	IPOC Station P	17.68	16	P	P	18 45 21.2	-1.2
PLTB	Pedras Altas	17.86	78	Pn	Pn	18 45 19.8	-3.5
PB11	IPOC Station P	17.95	14		Pn	18 45 21.5	-3.0
PB11				IAmb	IAmb	18 45 46.4	
	comp=Z,76nm,1.1s						
CPUP	Villa Florida	18.04	57	P	Pn	18 45 24.7	-0.7
	comp=Z,0.3nm,0.3s,baz=227,slow=11,SNR=12						
CPUP				LR	LR	18 52 12.9	
	comp=Z,188nm,20.3s,baz=232,slow=37						
CPUP	Villa Florida	18.04	57	P	Pn	18 45 25.0	-0.3
CPUP	Villa Florida	18.04	57	*e*P	Pn	18 45 25.1	-0.3
EFI	East Falkland	18.35	147	P	Pn	18 45 29.3	+0.2
EFI				IAmb	IAmb	18 45 30.0	
	comp=Z,55nm,0.8s						
MNMC	Minye Minye	18.57	14		P	18 45 30.3	-1.8
MNMC				IAmb	IAmb	18 45 46.5	
	comp=Z,35nm,0.8s						
LPAZ	La Paz	21.64	16	P	P	18 46 09.4	+3.6
	comp=Z,9.9nm,1.1s,baz=170,slow=7.5,SNR=15						
LPAZ	La Paz	21.64	16	P	P	18 46 08.1	+2.4
LPAZ				IAmb	IAmb	18 46 20.2	
	comp=Z,17nm,0.8s						
PTGB	Pitanga	22.71	63	*e*P	P	18 46 16.1	-0.7
TER01	Tubaro-SC	22.77	75	*e*P	P	18 46 17.7	+0.5
AQDB	Aquidauana	23.27	49	P	P	18 46 21.2	-1.2
AQDB				IAmb	IAmb	18 46 34.1	
	comp=Z,20nm,0.7s						
AQDB	Aquidauana	23.27	49	*e*P	P	18 46 22.2	-0.3
TRCB	Terra Rica	23.57	58	P	P	18 46 24.3	-1.2
TRCB	Terra Rica	23.57	58	*e*P	P	18 46 25.5	0.0
SIV	San Ignacio	24.23	32	P	P	18 46 32.5	+0.8
	comp=Z,3.8nm,0.7s,baz=229,slow=11,SNR=18						
PCMB	Pacaembu	25.30	58	*e*P	P	18 46 41.1	-0.3
FRTB	Fartura	25.35	64	*e*P	P	18 46 42.1	+0.2
PTLB	Pontes e Lacer	25.57	36	*e*P	P	18 46 45.7	+1.8
PP1B	Ponte de Pedra	26.00	46	*e*P	P	18 46 48.4	+0.6
PET01	Itanhaem-SP	26.44	68	*e*P	P	18 46 52.4	+0.6
SPB	Sao Paulo	26.74	67	P	P	18 46 53.2	-1.2
SPB	Sao Paulo	26.74	67	*e*P	P	18 46 54.2	-0.2
SALV	Santo Antonio	26.92	43	*e*P	P	18 46 57.0	+0.9
ITRB	Iturama	27.23	56	*e*P	P	18 46 58.6	-0.3
VILB	Vilhena	27.32	31	*e*P	P	18 47 00.9	+1.2
RCLB	Rio Claro- Sao	27.39	65	*e*P	P	18 47 00.1	-0.3
VAO	Valinhos	27.44	66	*e*P	P	18 47 00.5	-0.4
BB19B	Bebedouro	27.55	61	*e*P	P	18 47 00.5	-1.3
PARB	Paraibuna	28.23	69	*e*P	P	18 47 07.8	0.0
ETMB	Extrema	28.32	17	*e*P	P	18 47 10.9	+2.2
ARAG	Araguaiana, MT	29.29	49	*e*P	P	18 47 18.6	+1.4
ESAR	Angra dos Reis	29.29	69	*e*P	P	18 47 16.9	-0.3
CZSB	Cruzeiro do Su	29.49	3	*e*P	P	18 47 18.6	-0.5
SAML	Samuel	29.96	22	P	P	18 47 21.9	-1.3
SAML				IAmb	IAmb	18 47 25.8	
	comp=Z,15nm,1.4s						
BSCB	Bom Sucesso	30.27	66

TORD	**Torodi Ar. Bea**	**87.00**	**71**	P	**P**		**18 54 00.6**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=233,slow=3.3,SNR=14							
TORD	**Torodi Ar. Bea**	**87.00**	**71**	P	**P**		**18 54 00.4**	**-0.1**
TORD				IAmb	IAmb		18 54 01.7	
	comp=Z,6.1nm,1.2s							
ESDC	**Sonseca Array**	**100.15**	**48**	PKiKP	**PKiKP**		**18 59 33.3**	**+5.3**
	comp=Z,0.2nm,0.4s,baz=229,slow=3.1,SNR=4.3							
AKASG	**Malin Array Be**	**125.72**	**50**	PP	PP		19 02 09.8	+1.1
	comp=Z,0.3nm,0.3s,baz=254,slow=6.8,SNR=6.5							
ARU	**Arti**	**143.40**	**43**	PKhKP	PKPpre		19 00 46.6	
	comp=Z,0.4nm,0.4s,baz=315,slow=4.3,SNR=1.9							
ARU	**Arti**	**143.40**	**43**		PKPbc		19 00 45.9	+0.1
AKTO	**Aktyubinsk**	**143.79**	**53**	PKhKP	PKPpre		19 00 48.1	
	baz=275,slow=3.5							
ZALV	**Zalesovo Beam**	**157.98**	**34**	PKP	**PKPdf**		**19 01 11.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=318,slow=1.9,SNR=3.9							
ZALV				PKPab	**pPKPab**		**19 01 45.4**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=298,slow=6.2,SNR=6.6							
MKAR	**Makanchi Array**	**160.23**	**54**	PKPab	**PKPab**		**19 01 55.0**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=282,slow=6.1,SNR=6.4							
SONM	**Songino Array**	**169.48**	**358**	PKPab	**PKPab**		**19 02 38.1**	**+3.1**
	comp=Z,0.2nm,0.4s,baz=351,slow=6.5,SNR=3.5							

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*IDC **29** 18:55:45.1±1.9, 1˚.34N×97˚.02E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.6/57, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=55.6km s-min=21.8km az=58.0*
*NEIC **29** 18:55:49.9±0.9, 1˚.4N±0˚.1×97˚.09E±0˚.09, h27km±10km, mb4.1/4, Error ellipse: s-maj=16.9km s-min=13.6km az=178.0*
*DJA **29** 18:55:52.4±1.0, 1˚N±6˚×9˚E±˚, h29km±4km, M3.8/7, MLv3.8/7*

ISC 29 18:55:49.6±1.1, 1˚.37N±0˚.09×97˚.1E±0˚.1, h28km, n31, σ1§17/24, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.44**	**98**		**Pn**	**18 56 00.8**	**+0.6**
GSI	**Gunungsitoli**	**0.44**	**98**	P	**Pn**	**18 56 00.5**	**+0.4**
GSI				S	**Sn**	**18 56 09.4**	**+2.2**
TPTI		**1.88**	**1**	P	**Pb**	**18 56 25.4**	**+2.0**
TPTI				S	**Sb**	**18 56 48.1**	**+1.6**
RPSI	**Rantau Prapat**	**2.22**	**53**		**Pn**	**18 56 25.4**	**+0.8**
MNSI	**Mandailing Nat**	**2.50**	**103**		**Pn**	**18 56 29.7**	**+1.2**
TSI	**Tuntungan**	**2.56**	**34**	P	**Pb**	**18 56 32.1**	**-2.7**
BKNI	**Bangkinang**	**4.03**	**105**	Pg	Pb	18 57 10.9	+11
TNG	**Tangerang**	**12.09**	**128**	P	P	18 59 02.0	+9.4
TNG				P	Pn	18 59 03.4	+23
CMAR	**Chiang Mai Arr**	**17.08**	**6**	P	**Pn**	**18 59 45.3**	**-1.3**
	0.1nm,0.3s,baz=173,slow=16,SNR=1.9						
SLVN	**Son La**	**20.92**	**18**	P	Pn	19 00 30.4	-2.4
SLVN				IAmb	IAmb	19 00 31.5	
	comp=Z,6.1nm,0.8s						
H08S2	**Diego Garcia H**	**26.16**	**250**	T	T	19 28 23.3	
	baz=71,slow=75,SNR=336						
H08S3	**Diego Garcia H**	**26.16**	**250**	T	T	19 28 23.3	
	baz=71,slow=75,SNR=386						
H08S1	**Diego Carcia H**	**26.18**	**250**	T	T	19 28 21.9	
	baz=71,slow=75,SNR=292						
H01W3	**Cape Leeuwin H**	**39.42**	**158**	T	T	19 44 58.0	
	baz=333,slow=75,SNR=5.5						
H01W2	**Cape Leeuwin H**	**39.43**	**158**	T	T	19 44 55.4	
	baz=333,slow=75,SNR=5.1						
H01W1	**Cape Leeuwin H**	**39.44**	**158**	T	T	19 44 57.8	
	baz=333,slow=75,SNR=6.6						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**19 03 40.3**	**0.0**
	comp=Z,1.0nm,1.0s,baz=304,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**43.54**	**127**	P	**P**	**19 03 51.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=307,slow=8.4,SNR=2.4						
KSRS	**Korea Array**	**45.75**	**35**	P	**P**	**19 04 08.7**	**0.0**
	comp=Z,1.9nm,0.9s,baz=219,slow=11,SNR=8.3						
SONM	**Songino Array**	**46.98**	**9**	P	**P**	**19 04 18.4**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=195,slow=6.2,SNR=6.7						
SONM	**Songino Array**	**46.98**	**9**	P	**P**	**19 04 17.2**	**-1.1**
SONM				IAmb	IAmb	19 04 19.5	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**19 04 19.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=164,slow=9.0,SNR=8.5						
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**19 04 18.7**	**-0.3**
USA0B	**Ussuriysk Arra**	**52.66**	**31**	P	**P**	**19 05 01.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**52.66**	**31**	P	**P**	**19 05 02.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=237,slow=6.5,SNR=8.2						
USRK	**Ussuriysk Ar.**	**52.66**	**31**	P	**P**	**19 05 01.5**	**+0.1**
ZALV	**Zalesovo Beam**	**53.39**	**351**	P	**P**	**19 05 05.4**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=184,slow=7.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**53.39**	**351**	P	**P**	**19 05 06.4**	**-0.2**
ABKAR	**Akbulak array**	**57.34**	**332**	P	**P**	**19 05 34.2**	**-1.0**
ABKAR	**Akbulak array**	**57.34**	**332**	P	**P**	**19 05 34.0**	**-1.2**
AKTO	**Aktyubinsk**	**59.06**	**332**	P	**P**	**19 05 46.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=112,slow=5.4,SNR=2.2						

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*AEIC **29** 19:02:08±2.4, 51˚.99N±0˚.07×169˚.40W±0˚.07, h30km±8km, Error ellipse: s-maj=10.2km s-min=6.6km az=174.0*
*NEIC **29** 19:02:10±1.9, 52˚.07N±0˚.05×169˚.47W±0˚.07, h27km±12km, ML3.1/27(AEIC), Error ellipse: s-maj=9.1km s-min=1.9km az=141.0*
*IDC **29** 19:02:14.4±2.4, 53˚.05N×170˚.76W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/54, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=53.2km s-min=29.9km az=171.0*

ISC 29 19:02:10.1±1.6, 52˚.0N±0˚.2×169˚.44W±0˚.09, h30km, n36, σ1§45/36, mb3.5/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.05**	**20**		**Pn**	**19 02 27.1**	**-1.7**
NIKH					**Sb**	**19 02 42.2**	**-0.8**
OKSP	**Okmok Steeple**	**1.45**	**28**		**Pn**	**19 02 32.8**	**-1.6**
OKCE	**Okmok Cone E**	**1.64**	**28**		**Pn**	**19 02 35.6**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**1.64**	**31**		**Pn**	**19 02 35.9**	**-1.1**
OKNC	**Okmok New Cone**	**1.68**	**28**		**Pn**	**19 02 36.8**	**-0.6**
OKFG	**Magazine Ridge**	**1.70**	**32**		**Pn**	**19 02 36.7**	**-1.0**
MAPS	**Pakushin South**	**2.37**	**39**		**Pn**	**19 02 45.7**	**-1.2**
MAPS					**Sn**	**19 03 14.6**	**-0.4**
MGOD	**Makushin Gods**	**2.39**	**40**		**Pn**	**19 02 46.0**	**-1.2**
MGOD					**Sn**	**19 03 16.3**	**+0.8**
MSW	**Makushin Switc**	**2.51**	**39**		**Pn**	**19 02 48.4**	**-0.5**
MNAT	**Makushin Natee**	**2.53**	**40**		**Pn**	**19 02 48.7**	**-0.4**
MNAT					**Sn**	**19 03 19.1**	**+0.2**
MTBL	**Makushin Table**	**2.59**	**39**		**Pn**	**19 02 50.0**	**-0.1**
KOFP	**Korovin Flat P**	**2.89**	**278**		**Pn**	**19 02 53.7**	**-0.4**
ATKA	**Atka Island**	**2.94**	**276**		**Pn**	**19 02 54.0**	**-0.7**
AKUT	**Akutan**	**3.09**	**44**		**Pn**	**19 02 55.6**	**-1.1**
GSIG	**Igitkin Island**	**4.01**	**273**		**Pn**	**19 03 10.5**	**+1.0**
GSTR	**Great Sitkin T**	**4.09**	**274**		**Pn**	**19 03 10.2**	**-0.4**
ADK	**Adak**	**4.49**	**272**	Pn	**Pn**	**19 03 14.6**	**-1.4**
ADK	**Adak**	**4.49**	**272**		**Pn**	**19 03 14.7**	**-1.4**
KIWB	**Kanaga Island**	**4.78**	**271**		**Pn**	**19 03 17.5**	**-2.5**
SPIA	**Saint Paul Isl**	**5.22**	**355**		**Pn**	**19 03 26.5**	**+0.4**
TASE	**Tanaga Southea**	**5.33**	**272**		**Pn**	**19 03 28.2**	**+0.6**
SDPT	**Sand Point**	**6.30**	**54**	Pn	**Pn**	**19 03 41.3**	**+0.4**
CNBA	**Chernabura Isl**	**6.54**	**60**		**Pn**	**19 03 44.0**	**-0.1**
AMKA	**Amchitka**	**7.03**	**269**		**Pn**	**19 03 49.8**	**-1.1**
CHIR	**Chirikof Islan**	**9.01**	**59**	Pn	**Pn**	**19 04 18.0**	**-0.1**
OHAK	**Old Harbor**	**10.72**	**54**	Pn	**Pn**	**19 04 39.1**	**-2.4**
KDAK	**Kodiak Island**	**11.29**	**52**	Pn	**Pn**	**19 04 52.5**	**+3.2**
	0.5nm,0.3s,baz=270,slow=13,SNR=2.0						
KDAK	**Kodiak Island**	**11.29**	**52**		**Pn**	**19 04 48.8**	**-0.4**
ILAR	**Eielson Array**	**17.29**	**34**	Pn	**P**	**19 06 10.2**	**0.0**
	0.1nm,0.3s,baz=229,slow=8.2,SNR=4.4						
PETK	**Petropavlovsk-**	**19.93**	**286**	P	**P**	**19 06 37.7**	**-1.5**
	0.4nm,0.3s,baz=88,slow=13,SNR=11						
INK	**Inuvik**	**23.69**	**33**	P	**P**	**19 07 23.4**	**+4.6**
	0.7nm,0.5s,baz=210,slow=13,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**38.31**	**218**	T	T	19 51 32.2	
	baz=23,slow=76,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**38.33**	**218**	T	T	19 51 03.9	
	baz=23,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.33**	**218**	T	T	19 51 24.3	
	baz=23,slow=76,SNR=5.7						
TXAR	**Lajitas Array**	**52.80**	**89**	P	P	19 11 37.1	+14
	0.2nm,0.4s,baz=294,slow=4.8,SNR=2.6						
FINES	**FINESS Array B**	**66.24**	**352**	P	**P**	**19 12 54.1**	**-0.5**
	1.3nm,0.9s,baz=21,slow=8.9,SNR=3.5						

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*MAN **29** 19:03:19.4, 14˚.07N×120˚.44E, h104km, mb5.2, ML4.2, MS4.3*
*IDC **29** 19:03:19.4±0.6, 14˚.00N×120˚.65E, h127km±5km, mb3.5/15, mb1 3.6/15, mb1mx3.5/50, mbtmp3.9/15, MS3.3/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=23.9km s-min=12.5km az=70.0*

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*NEIC **29** 19:03:20.1±1.0, 14˚.0N±0˚.1×120˚.7E±0˚.1, h129km±3km, mb4.3/16, Error ellipse: s-maj=20.4km s-min=16.7km az=104.0*

ISC 29 19:03:20.1±0.6, 14˚.07N±0˚.05×120˚.60E±0˚.07, h127km±6km, n70, σ2§00/70, mb4.1/28, 2C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.33**	**84**	P	**Pn**	**19 03 37.7**	**-0.4**
TGY				S	**Sn**	**19 03 52.1**	**+0.5**
LUBP	**Lubang**	**0.48**	**226**	∥eP	Pn	19 03 37.0	-1.7
PGP	**Puerto Galera**	**0.66**	**148**	∥iP	**Pn**	**19 03 38.8**	**-1.2**
PGP				*i* S	**Sn**	**19 03 53.0**	**-1.9**
LQP	**Lukban**	**0.91**	**87**	∥iP	**Pn**	**19 03 42.4**	**+0.2**
LQP				*i* S	**Sn**	**19 04 00.7**	**+1.9**
PCPH	**Palayan**	**1.56**	**18**	∥eP	**Pn**	**19 03 47.8**	**-0.9**
PCPH				*e*S	**Sn**	**19 04 13.9**	**+3.4**
GQP	**Guinayangan**	**1.80**	**95**	∥eP	**Pn**	**19 03 52.8**	**+1.3**
JCNP	**Jose Panganiba**	**2.05**	**84**	∥eP	**Pn**	**19 03 55.5**	**+1.0**
JCNP				*i* S	**Sn**	**19 04 23.4**	**+2.6**
SZP	**Santa**	**3.47**	**358**		**Pn**	**19 04 10.2**	**-2.5**
JAP	**San Jose, Anti**	**3.55**	**158**	∥eP	**Pn**	**19 04 15.0**	**+1.1**
APYP	**Conner**	**3.83**	**9**	∥eP	**Pn**	**19 04 18.2**	**+0.8**
APYP				*e*S	**Sn**	**19 04 59.9**	**-2.1**
KHON	**Khomkaen**	**17.30**	**280**	P	**Pn**	**19 07 16.4**	**+2.5**
KHON	**Khomkaen**	**17.30**	**280**	P	**Pn**	**19 07 16.5**	**+2.5**
CHAI	**Chaiyaphum**	**18.07**	**278**	P	**P**	**19 07 23.9**	**+2.0**
	264nm29nm,0.8s						
CHAI	**Chaiyaphum**	**18.07**	**278**	P	**P**	**19 07 23.9**	**+2.0**
	66nm7.2nm,0.8s						
JSU	**Suzuyama**	**19.57**	**26**	P	**P**	**19 07 37.0**	**-1.1**
CM35	**Chiang Mai Arr**	**21.07**	**285**	P	**P**	**19 07 56.0**	**+1.6**
CM36	**Chiang Mai Arr**	**21.11**	**285**	P	**P**	**19 07 57.0**	**+2.3**
CM34	**Chiang Mai Arr**	**21.11**	**286**	P	**P**	**19 07 56.0**	**+1.2**
CM09	**Chiang Mai Arr**	**21.19**	**285**	P	**P**	**19 07 58.8**	**+3.1**
	10nm,0.8s						
CM09	**Chiang Mai Arr**	**21.19**	**285**	P	**P**	**19 07 58.9**	**+3.2**
	10nm,0.8s						
CM04	**Chiang Mai Arr**	**21.20**	**285**	P	**P**	**19 07 58.9**	**+3.2**
	10nm,0.8s						
CM04	**Chiang Mai Arr**	**21.20**	**285**	P	**P**	**19 07 59.0**	**+3.2**
	10nm,0.8s						
CM05	**Chiang Mai Arr**	**21.23**	**285**	P	**P**	**19 08 01.1**	**+5.1**
	5.5nm,0.9s						
CM05	**Chiang Mai Arr**	**21.23**	**285**	P	**P**	**19 08 01.1**	**+5.1**
	5.5nm,0.9s						
CM31	**Chiang Mai Arr**	**21.24**	**285**	P	**P**	**19 07 59.4**	**+3.2**
	249nm,0.8s						
CM31	**Chiang Mai Arr**	**21.24**	**285**	P	**P**	**19 07 57.2**	**+1.0**
CM31				IAmb	IAmb	19 07 59.7	
	comp=Z,13nm,1.1s						
CMAR	**Chiang Mai Arr**	**21.24**	**285**	P	**P**	**19 07 57.4**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=94,slow=7.4,SNR=30						
CMAR	**Chiang Mai Arr**	**21.24**	**285**	P	**P**	**19 07 56.8**	**+0.6**
CM15	**Chiang Mai Arr**	**21.25**	**285**	P	**P**	**19 07 58.9**	**+2.6**
	comp=Z,100nmcomp=Z,12nm,0.8s						
CM15	**Chiang Mai Arr**	**21.25**	**285**	P	**P**	**19 07 58.0**	**+1.7**
	comp=Z,100nmcomp=Z,12nm,0.8s						
CM13	**Chiang Mai Arr**	**21.27**	**285**	P	**P**	**19 07 59.6**	**+3.2**
	comp=Z,8.2nm,1.0s						
CM13	**Chiang Mai Arr**	**21.27**	**285**	P	**P**	**19 07 59.6**	**+3.2**
	comp=Z,8.2nm,1.0s						
CMMT	**Chiang Mai**	**21.29**	**286**	P	**P**	**19 07 58.9**	**+2.2**
	comp=Z,8.8nm,1.1s						
CMMT	**Chiang Mai**	**21.29**	**286**	P	**P**	**19 07 59.0**	**+2.2**
CM33	**Chiang Mai Arr**	**21.29**	**286**	P	**P**	**19 07 58.0**	**+1.3**
CHTO	**Chiang Mai**	**21.29**	**286**	P	**P**	**19 07 58.9**	**+2.1**
	comp=Z,8.9nm,1.1s						
CHTO	**Chiang Mai**	**21.29**	**286**	P	**P**	**19 07 56.8**	**+0.1**
CM32	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**19 08 01.0**	**+3.5**
KSRS	**Korea Array**	**24.19**	**14**	P	**P**	**19 08 26.2**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=36,slow=12,SNR=3.1						
RPSI	**Rantau Prapat**	**24.20**	**244**	P	**P**	**19 08 24.8**	**-0.2**
RPSI				IAmb	IAmb	19 08 25.8	
	comp=Z,9.3nm,0.8s						
BATI	**Baumata**	**24.31**	**173**	P	**P**	**19 08 25.2**	**-0.7**
	comp=Z,18nm,0.8s,baz=281,slow=2.3,SNR=4.7						
JWT	**Wachi**	**24.98**	**30**	P	**P**	**19 08 31.5**	**-0.4**
JWT				IAmb	IAmb	19 08 37.2	
	comp=Z,12nm,1.2s						
MJAR	**Matsushiro Arr**	**27.37**	**32**	LR	LR	19 20 35.4	
	comp=Z,14nm,20.0s,baz=60,slow=38						
SHL	**Shillong**	**29.27**	**297**	P	**P**	**19 09 10.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**31.57**	**16**	P	**P**	**19 09 30.0**	**-0.4**
ULN	**Ulaanbaatar**	**35.53**	**344**	P	**P**	**19 10 05.3**	**+0.4**
ULN				IAmb	IAmb	19 10 06.2	
	comp=Z,3.9nm,0.8s						
SONM	**Songino Array**	**35.68**	**344**	P	**P**	**19 10 06.3**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=165,slow=9.7,SNR=18						
SONM	**Songino Array**	**35.68**	**344**	P	**P**	**19 10 06.4**	**+0.2**
SONM				IAmb	IAmb	19 10 07.4	
	comp=Z,3.0nm,0.8s						
KLR	**Kul'dur**	**36.24**	**12**	LR	LR	19 23 58.6	
	comp=Z,24nm,20.4s,baz=178,slow=34						
WRA	**Warramunga Arr**	**36.40**	**158**	P	**P**	**19 10 10.5**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=333,slow=10.0,SNR=7.2						
WRA				pP	**pP**	**19 10 39.1**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=331,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**36.40**	**158**	P	**P**	**19 10 10.2**	**-2.2**
WB2	**Warramunga Arr**	**36.40**	**158**	P	**P**	**19 10 10.2**	**-2.2**
WB2				IAmb	IAmb	19 10 10.4	
	comp=Z,8.5nm,1.3s						
AS31	**Alice Springs**	**39.69**	**161**	P	P	19 10 35.0	-5.1
ASAR	**Alice Springs**	**39.69**	**161**	P	**P**	**19 10 38.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=337,slow=6.8,SNR=36						
ASAR				pP	**pP**	**19 11 07.7**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=338,slow=7.1,SNR=9.2						
ASAR	**Alice Springs**	**39.69**	**161**	P	P	19 10 35.0	-5.1
MKAR	**Makanchi Array**	**45.68**	**323**	P	**P**	**19 11 28.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=105,slow=8.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**48.69**	**333**	P	**P**	**19 11 50.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=132,slow=6.2,SNR=4.2						
PETK	**Petropavlovsk-**	**48.75**	**29**	P	**P**	**19 11 51.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=324,slow=9.1,SNR=3.0						
KKAR	**Karatay Array**	**51.65**	**314**	P	**P**	**19 12 14.3**	**+0.4**
BRVK	**Borovoye**	**55.49**	**326**	P	**P**	**19 12 42.2**	**+0.5**
ABKAR	**Akbulak array**	**60.40**	**319**	P	**P**	**19 13 16.0**	**+0.1**
ABKAR				IAmb	IAmb	19 13 16.9	
	comp=Z,2.9nm,1.3s						
AKTO	**Aktyubinsk**	**61.87**	**320**	P	**P**	**19 13 25.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=102,slow=14,SNR=2.2						
ARU	**Arti**	**63.03**	**327**	P	**P**	**19 13 32.5**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=27,slow=21,SNR=4.4						
ARU	**Arti**	**63.03**	**327**	IAmb	IAmb	19 13 33.4	
	comp=Z,2.9nm,0.7s						
ILAR	**Eielson Array**	**78.47**	**26**	P	**P**	**19 15 06.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**78.71**	**339**	LR	LR	19 56 35.5	
	comp=Z,34nm,18.4s,baz=95,slow=41						
FINES	**FINESS Array B**	**79.92**	**331**	P	**P**	**19 15 13.8**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=62,slow=6.5,SNR=4.7						
FINES				LR	LR	19 52 31.6	
	comp=Z,34nm,18.1s,baz=301,slow=37						
INK	**Inuvik**	**82.79**	**21**	P	**P**	**19 15 29.2**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=273,slow=5.6,SNR=4.3						
INK	**Inuvik**	**82.79**	**21**	IAmb	IAmb	19 15 30.0	
	comp=Z,1.6nm,0.8s						
NOA	**NORSAR Array B**	**86.89**	**333**	P	**P**	**19 15 49.1**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.9,SNR=3.4						
NOA				LR	LR	19 56 10.8	
	comp=Z,18nm,18.3s,baz=270,slow=36						

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*NEIC **29** 19:18:08.3±1.1, 18˚.5N±0˚.5×68˚.73W±0˚.09, h186km±11km, Error ellipse: s-maj=67.1km s-min=10.3km az=186.0*
*RSPR **29** 19:18:08.3, 18˚.65N×68˚.74W, h183km±1km, MD3.8/12*
*OSPL **29** 19:18:09.0±1.1, 18˚.08N×68˚.92W, h178km±26km, ML2.8*

ISC 29 19:18:05.2±1.6, 18˚.4N±0˚.2×68˚.84W±0˚.09, h200km, n54, σ1§22/68, 4C-12D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.44**	**79**	∥eP	**Pn**	**19 18 32.2**	**+0.1**
PCDR	**Punta Cana, DR**	**0.44**	**79**		**Pn**	**19 18 32.2**	**+0.1**
PCDR					**Sn**	**19 18 51.9**	**-0.9**
PCDR	**Punta Cana, DR**	**0.44**	**79**	*i* P	**Pn**	**19 18 32.2**	**+0.1**
PCDR				*e*S	**Sn**	**19 18 51.1**	**-1.7**
PCDR				IAML		19 18 54.2	
	comp=Z,114nm,1.9s						
IDE	**Isla Desecheo**	**1.29**	**92**	∥eP	**Pn**	**19 18 38.5**	**+1.3**
IDE	**Isla Desecheo**	**1.29**	**92**	*e*S	**Sn**	**19 19 01.3**	**-0.6**
IDE	**Isla Desecheo**	**1.29**	**92**		**Pn**	**19 18 38.5**	**+1.3**
IDE					**Sn**	**19 19 01.3**	**-0.6**
MPR	**Mayaguez**	**1.63**	**97**	*i* P	Pn	19 18 41.7	+1.6
AGPR	**Aguadilla, PR**	**1.64**	**89**	∥eP	**Pn**	**19 18 41.3**	**+1.1**
AGPR	**Aguadilla, PR**	**1.64**	**89**		**Pn**	**19 18 41.3**	**+1.1**
AGPR					**Sn**	**19 19 06.4**	**-0.9**
AGPR	**Aguadilla, PR**	**1.64**	**89**	*i* P	**Pn**	**19 18 41.7**	**+1.5**
AGPR				*e*S	**Sn**	**19 19 06.5**	**-0.8**
AGPR				IAML		19 19 12.3	
	comp=Z,48nm,0.2s						
LSP	**Las Mesas**	**1.68**	**98**	∥eP	**Pn**	**19 18 42.1**	**+1.5**
LSP	**Las Mesas**	**1.68**	**98**	*e*S	**Sn**	**19 19 08.4**	**+0.3**
LSP	**Las Mesas**	**1.68**	**98**		**Pn**	**19 18 42.1**	**+1.5**
LSP					**Sn**	**19 19 08.4**	**+0.3**
MLPR	**Magueyes Islan**	**1.77**	**105**	∥eP	**Pn**	**19 18 41.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.77**	**105**		**Pn**	**19 18 41.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.92**	**103**	∥eP	**Pn**	**19 18 44.1**	**+1.2**
GBPR	**Guanica, Bosqu**	**1.92**	**103**		**Pn**	**19 18 44.1**	**+1.2**
AOPR	**Arecibo Observ**	**1.98**	**92**	∥eP	**Pn**	**19 18 44.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.98**	**92**	*e*S	**Sn**	**19 19 12.5**	**-0.8**
AOPR	**Arecibo Observ**	**1.98**	**92**	*e*P	**Pn**	**19 18 44.4**	**+0.8**
AOPR	**Arecibo Observ**	**1.98**	**92**		**Pn**	**19 18 44.4**	**+0.8**
AOPR					**Sn**	**19 19 12.5**	**-0.8**
OBIP	**Obispado Ponce**	**2.15**	**100**	Pn	**Pn**	**19 18 46.0**	**+0.6**
CELP	**Cerrillos**	**2.17**	**99**	∥eP	**Pn**	**19 18 46.5**	**+0.9**
CELP	**Cerrillos**	**2.17**	**99**	*e*S	**Sn**	**19 19 16.4**	**-0.6**
CELP	**Cerrillos**	**2.17**	**99**		**Pn**	**19 18 46.5**	**+0.9**
CELP					**Sn**	**19 19 16.4**	**-0.6**
EMPR	**Esperanza - Ma**	**2.19**	**88**	∥eP	**Pn**	**19 18 46.5**	**+0.8**
EMPR	**Esperanza - Ma**	**2.19**	**88**	*e*S	**Sn**	**19 19 17.0**	**-0.2**
EMPR	**Esperanza - Ma**	**2.19**	**88**		**Pn**	**19 18 46.5**	**+0.8**
EMPR					**Sn**	**19 19 17.0**	**-0.2**
SDDR	**Presa de Saban**	**2.39**	**284**	*i* P	**Pn**	**19 18 49.4**	**+1.4**
SDDR				IAML		19 19 27.8	
	comp=Z,22nm,0.3s						
IGPR	**InterUniversit**	**2.64**	**100**	∥eP	**Pn**	**19 18 50.7**	**+0.1**
IGPR	**InterUniversit**	**2.64**	**100**	*e*S	**Sn**	**19 19 25.2**	**-0.9**
PDPR	**Patillas Dam,**	**2.71**	**98**	Pn	**Pn**	**19 18 52.2**	**+0.7**
CBYP	**Canovanas**	**2.83**	**93**	∥eP	**Pn**	**19 18 53.9**	**+0.9**
CBYP	**Canovanas**	**2.83**	**93**	*e*S	**Sn**	**19 19 28.9**	**-1.4**
CBYP	**Canovanas**	**2.83**	**93**		**Pn**	**19 18 53.9**	**+0.9**
CBYP					**Sn**	**19 19 28.9**	**-1.4**
HUMP	**Col San Antoni**	**2.85**	**95**	∥eP	**Pn**	**19 18 55.0**	**+1.8**
HUMP	**Col San Antoni**	**2.85**	**95**	*e*S	**Sn**	**19 19 32.0**	**+1.5**
HUMP	**Col San Antoni**	**2.85**	**95**		**Pn**	**19 18 55.0**	**+1.8**
HUMP					**Sn**	**19 19 32.0**	**+1.5**
MTP	**Monte Pirata**	**3.14**	**96**	∥eP	**Pn**	**19 18 57.9**	**+1.3**
MTP	**Monte Pirata**	**3.14**	**96**	*e*S	**Sn**	**19 19 36.8**	**+0.2**
MTP	**Monte P

comp=Z,0.6nm,0.5s,baz=98,slow=8.2,SNR=3.8
ZALV PcP **PcP** **19 29 36.2 -0.1**
comp=Z,0.9nm,0.5s,baz=126,slow=2.4,SNR=4.9
MK31 Makanchi Array 43.49 305 P **P** **19 28 00.4 +0.3**
MKAR Makanchi Array 43.49 305 P **P** **19 28 00.3 +0.2**
comp=Z,1.9nm,0.7s,baz=87,slow=9.7,SNR=15
MKAR Makanchi Array 43.49 305 P **P** **19 28 00.2 +0.1**
MAKZ Makanchi 43.71 305 P **P** **19 28 02.1 +0.3**
MAKZ IAmb IAmb 19 28 26.1
comp=Z,5.9nm,1.1s
MTN Manton Dam 46.70 189 P **P** **19 28 24.1 -1.2**
MTN IAmb IAmb 19 28 49.5
comp=Z,34nm,1.4s
KNRA Kununurra 49.84 191 P **P** **19 28 48.6 -0.4**
KNRA IAmb IAmb 19 29 11.6
comp=Z,18nm,1.2s
KDAK Kodiak Island 51.55 40 P **P** **19 29 02.8 +1.5**
comp=Z,2.4nm,0.8s,baz=269,slow=4.9,SNR=2.1
KDAK Kodiak Island 51.55 40 IAmb IAmb 19 29 12.9
comp=Z,9.3nm,1.2s
KK31 Karatay Array 52.30 301 P **P** **19 29 07.1 +0.1**
KK31 IAmb IAmb 19 29 07.7
comp=Z,2.8nm,0.7s
KKAR Karatay Array 52.30 301 P **P** **19 29 06.9 -0.2**
KKAR Karatay Array 52.30 301 P **P** **19 29 07.1 +0.1**
KKAR IAmb IAmb 19 29 07.7
comp=Z,2.8nm,0.7s
WB0 Warramunga Arr 53.25 184 P **P** **19 29 13.3 -0.7**
WB2 Warramunga Arr 53.43 184 P **P** **19 29 14.4 -0.9**
WB2 IAmb IAmb 19 29 24.8
comp=Z,12nm,1.4s
WRA Warramunga Arr 53.43 184 P **P** **19 29 14.4 -0.9**
comp=Z,0.9nm,0.3s,baz=0.1,slow=7.6,SNR=35
WRA Warramunga Arr 53.43 184 P **P** **19 29 14.2 -1.1**
WR0 Warramunga Arr 53.43 184 P **P** **19 29 14.5 -0.9**
WR0 IAmb IAmb 19 29 42.1
comp=Z,8.2nm,1.4s
ARU Arti 56.95 319 P **P** **19 29 40.0 +0.1**
ARU IAmb IAmb 19 29 40.7
comp=Z,4.2nm,0.6s
AS31 Alice Springs 57.15 184 P **P** **19 29 39.4 -2.3**
ASAR Alice Springs 57.15 184 P **P** **19 29 41.0 -0.7**
comp=Z,0.4nm,0.3s,baz=356,slow=3.8,SNR=17
ASAR Alice Springs 57.15 184 P **P** **19 29 40.8 -0.9**
ABKAR Akbulak array 57.87 311 P **P** **19 29 46.2 -0.2**
ABKAR IAmb IAmb 19 29 47.3
comp=Z,2.5nm,0.5s
ABKAR Akbulak array 57.87 311 P **P** **19 29 46.1 -0.2**
ARCES ARCESS Array B 66.08 339 P **P** **19 30 41.2 +1.0**
comp=Z,1.6nm,0.7s,baz=64,slow=8.5,SNR=4.0
ARCES ARCESS Array B 66.08 339 IAmb IAmb 19 30 44.3
comp=Z,17nm,1.4s
FIA1 FINESS Array S 70.38 332 P **P** **19 31 07.1 +0.4**
FIA1 IAmb IAmb 19 31 07.9
comp=Z,7.8nm,1.1s
FINES FINESS Array B 70.38 332 P **P** **19 31 07.0 +0.3**
comp=Z,2.4nm,0.4s,baz=52,slow=5.9,SNR=42
KBZ Khabaz 70.82 310 P **P** **19 31 08.8 -0.9**
comp=Z,1.3nm,0.8s,baz=73,slow=5.0,SNR=3.8
AKASG Malin Array Be 75.11 321 P **P** **19 31 34.5 0.0**
comp=Z,0.8nm,0.4s,baz=49,slow=5.6,SNR=1.3
NC405 NORSAR Array S 75.87 336 P **P** **19 31 38.2 -0.4**
NB2 NORSAR Subarra 76.10 336 P **P** **19 31 40.1 +0.2**
comp=Z,0.8nm,0.6s,baz=43,slow=5.6
NOA NORSAR Array B 76.10 336 P **P** **19 31 40.1 +0.2**
comp=Z,1.2nm,0.6s,baz=45,slow=5.5,SNR=5.5
BRTR Keskin Array B 78.81 310 P **P** **19 31 56.0 +0.6**
comp=Z,0.5nm,0.4s,baz=101,slow=6.0,SNR=3.1
NVAR Mina Array Bea 79.37 51 P **P** **19 32 01.0 +2.4**
comp=Z,0.2nm,0.5s,baz=297,slow=4.0,SNR=2.2
GERES GERESS Array B 83.94 327 P **P** **19 32 22.3 +0.4**
comp=Z,0.4nm,0.6s,baz=60,slow=5.8,SNR=2.4
TXAR Lajitas Array 94.51 50 P **P** **19 33 12.2 +0.2**
comp=Z,0.2nm,0.6s,baz=304,slow=6.4,SNR=2.4
P43A Skaggs, Pawnee 94.91 35 P **P** **19 33 14.0 +0.5**
SFIN Lafayette 95.45 33 P **P** **19 33 16.5 +0.6**
T42A Van Buren 96.18 37 P **P** **19 33 19.4 +0.1**
Q51A Peebles 98.21 31 P **P** **19 33 27.6 -0.9**

*AEIC **29** 19:21:57.7±1.5, 52.°07N±0.°04×168.°65W±0.°07, h21km±5km, Error ellipse: s-maj=7.4km s-min=4.4km az=121.0*
*NEIC **29** 19:21:58.3±1.7, 52.°09N±0.°04×168.°64W±0.°07, h25km±6km, mb3.9/17, ML3.2/44(AEIC), Error ellipse: s-maj=7.4km s-min=4.2km az=121.0*
*IDC **29** 19:21:58.9±1.6, 52.°88N×169.°33W, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/46, mbtmp3.8/13, ML3.4/2, Error ellipse: s-maj=42.4km s-min=19.4km az=163.0*
ISC 29 19:21:57.9±0.9, 52.°09N±0.°09×168.°65W±0.°07, h26km, n70, σ1§16/72, mb3.8/11, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.89**	**352**		**Pb**	**19 22 14.1**	**-0.7**
NIKH					**Sn**	19 22 27.5	+0.6
OKSP	**Okmok Steeple**	**1.19**	**11**		**Pn**	19 22 18.4	-0.5
OKTU	**Okmok Mt. Tuli**	**1.35**	**16**		**Pn**	19 22 21.2	+0.1
OKCE	**Okmok Cone E**	**1.37**	**12**		**Pn**	19 22 21.5	+0.1
OKCE					**Sb**	19 22 40.6	+0.5
OKFG	**Magazine Ridge**	**1.40**	**19**		**Pn**	19 22 21.8	0.0
OKFG					**Sn**	19 22 40.7	+1.3
OKNC	**Okmok New Cone**	**1.41**	**13**		**Pn**	19 22 22.3	+0.4
MAPS	**Pakushin South**	**2.01**	**30**		**Pn**	19 22 30.1	-0.1
MAPS					**Sn**	19 22 55.4	+0.9
MGOD	**Makushin Gods**	**2.02**	**32**		**Pn**	19 22 30.3	0.0
MGOD					**Sn**	19 22 56.0	+1.3
MREP	**Makushin Rep't**	**2.08**	**33**		**Pn**	19 22 31.3	+0.2
MSW	**Makushin Switc**	**2.15**	**31**		**Pn**	19 22 32.7	+0.6
MSW					**Sn**	19 22 59.0	+1.1
MNAT	**Makushin Natee**	**2.16**	**33**		**Pn**	19 22 32.5	+0.3
UNV	**Unalaska Valle**	**2.19**	**36**		**Pn**	19 22 32.9	+0.3
UNV					**Sn**	19 22 59.6	+0.8
MTBL	**Makushin Table**	**2.23**	**32**		**Pn**	19 22 33.7	+0.5
AKRB	**Akutan Reef Bi**	**2.57**	**36**		**Pn**	19 22 39.3	+1.5
AKLV	**Akutan Long Va**	**2.64**	**37**		**Pn**	19 22 40.2	+1.4
AKGG	**Akutan Green G**	**2.65**	**36**		**Pn**	19 22 40.5	+1.5
AKUT	**Akutan**	**2.69**	**39**	Pn	**Pn**	19 22 40.1	+0.7
KOSE	**Korovin Southe**	**3.33**	**277**		**Pn**	19 22 49.3	+1.0
KOFP	**Korovin Flat P**	**3.36**	**275**		**Pn**	19 22 49.7	+1.0
ATKA	**Atka Island**	**3.42**	**274**		**Pn**	19 22 49.1	-0.4
FALS	**False Pass**	**4.18**	**46**	Pn	**Pn**	19 23 00.7	+0.8
GSTR	**Great Sitkin T**	**4.57**	**273**		**Pn**	19 23 06.0	+0.7
GSMY	**Great Sitkin M**	**4.57**	**272**		**Pn**	19 23 05.8	+0.5
GSTD	**Great Sitkin T**	**4.62**	**273**		**Pn**	19 23 06.4	+0.3
ADK	**Adak**	**4.97**	**271**	Pn	**Pn**	19 23 10.6	-0.2
SPIA	**Saint Paul Isl**	**5.18**	**350**		**Pn**	19 23 15.6	+1.9
KIWB	**Kanaga Island**	**5.26**	**271**		**Pn**	19 23 15.3	+0.5
KIKV	**Kanaga Island**	**5.27**	**271**		**Pn**	19 23 15.4	+0.5
KIMD	**Kanaga Island**	**5.32**	**270**		**Pn**	19 23 15.9	+0.3
TASE	**Tanaga Southea**	**5.81**	**271**		**Pn**	19 23 23.2	+0.9
SDPT	**Sand Point**	**5.85**	**53**	Pn	**Pn**	19 23 23.5	+0.6
CNBA	**Chernabura Isl**	**6.07**	**60**		**Pn**	19 23 26.0	+0.1
AMKA	**Amchitka**	**7.51**	**269**		**Pn**	19 23 46.3	+0.6
LSPA	**Little Sitkin**	**7.88**	**274**		**Pn**	19 23 52.5	+1.7
CHIR	**Chirikof Islan**	**8.54**	**59**		**Pn**	19 24 01.2	+1.4
SII	**Sitkinak Islan**	**9.56**	**56**		**Pn**	19 24 15.2	+1.4
OHAK	**Old Harbor**	**10.27**	**54**	Pn	**Pn**	19 24 23.5	0.0
KDAK	**Kodiak Island**	**10.85**	**52**	Pn	**Pn**	19 24 30.4	-0.9
	0.9nm,0.3s,baz=267,slow=5.6,SNR=12						
SCM	**Sheep Creek Mo**	**15.11**	**41**	Pn	**Pn**	19 25 29.2	-0.2
SCM				IAmb	IAmb	19 25 33.7	
	comp=Z,5.9nm,0.7s						
BPAW	**Bear Paw Mtn.**	**15.16**	**31**		**P**	**19 25 33.6**	**-1.3**
BPAW				IAmb	IAmb	19 25 34.7	
	comp=Z,3.9nm,0.8s						
M24K	**Tolsona, Glenn**	**15.71**	**42**	Pn	**Pn**	**19 25 36.2**	**-1.1**
MLY	**Manley**	**15.90**	**28**		**P**	**19 25 43.5**	**+0.3**
MLY				IAmb	IAmb	19 25 44.5	
	comp=Z,7.3nm,0.8s						
N25K	**Chitina, Valde**	**16.15**	**44**	Pn	**Pn**	**19 25 41.0**	**-2.0**
N25K				IAmb	IAmb	19 25 50.5	
	comp=Z,8.1nm,1.3s						
I23K	**Minto, Yukon-K**	**16.39**	**30**		**Pn**	**19 25 45.9**	**0.0**
I23K				IAmb	IAmb	19 25 49.3	
	comp=Z,9.7nm,1.4s						
GLB	**Gilahina Butte**	**16.42**	**46**	Pn	**Pn**	**19 25 44.9**	**-1.5**
WAX	**Waxell Ridge**	**16.50**	**49**		**Pn**	**19 25 46.5**	**-0.9**
CCB	**Clear Creek Bu**	**16.56**	**33**	Pn	**Pn**	**19 25 45.9**	**-2.0**
MDM	**Murphy Dome**	**16.62**	**31**		**Pn**	**19 25 48.0**	**-0.8**
ILAR	**Eielson Array**	**16.94**	**33**	Pn	**Pn**	**19 25 49.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=230,slow=9.1,SNR=6.8						
BCAR	**Beaver Creek A**	**17.96**	**42**	Pn	**Pn**	**19 26 03.2**	**-2.4**
HYT	**Haines Junctio**	**19.14**	**51**	P	**Pn**	**19 26 20.5**	**+0.6**
HYT				IAmb	IAmb	19 26 24.6	
	comp=Z,7.2nm,1.0s						
PEA0B	**Petropavlovsk-**	**20.36**	**286**	P	**P**	**19 26 31.3**	**-0.9**
PEA0B				IAmb	IAmb	19 26 32.6	
	comp=Z,20nm,1.5s						
PETK	**Petropavlovsk-**	**20.36**	**286**	P	**P**	**19 26 29.6**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=91,slow=13,SNR=52						
PETK	**Petropavlovsk-**	**20.36**	**286**	P	**P**	**19 26 30.4**	**-1.8**
EPYK	**Eagle Plains**	**21.37**	**36**	P	**P**	**19 26 41.6**	**-1.4**
INK	**Inuvik**	**23.34**	**33**	P	**P**	**19 27 02.3**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=242,slow=10.0,SNR=9.2						
INK	**Inuvik**	**23.34**	**33**	IAmb	IAmb	19 27 10.5	
	comp=Z,1.7nm,0.8s						
KSRS	**Korea Array**	**45.88**	**277**	P	**P**	**19 30 18.2**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=52,slow=7.5,SNR=4.3						
SONM	**Songino Array**	**51.82**	**301**	P	**P**	**19 31 03.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=44,slow=8.7,SNR=4.2						
TXAR	**Lajitas Array**	**52.31**	**89**	P	P	19 31 15.7	+8.3
	comp=Z,0.3nm,0.6s,baz=282,slow=6.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**57.93**	**318**	P	**P**	**19 31 48.2**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=37,slow=7.4,SNR=1.4						
ARCES	**ARCESS Array B**	**58.25**	**354**	P	**P**	**19 31 48.4**	**-1.0**
	comp=Z,5.1nm,1.0s,baz=20,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**58.25**	**354**	IAmb	IAmb	19 31 50.2	
	comp=Z,20nm,1.4s						
MKAR	**Makanchi Array**	**64.32**	**314**	P	**P**	**19 32 30.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=38,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**66.21**	**352**	P	**P**	**19 32 42.5**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=11,slow=7.6,SNR=8.8						
AKASG	**Malin Array Be**	**76.47**	**348**	P	**P**	**19 33 44.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=15,slow=5.7,SNR=4.2						
AKASG	**Malin Array Be**	**76.47**	**348**	IAmb	IAmb	19 34 01.8	
	comp=Z,1.9nm,1.4s						
CMAR	**Chiang Mai Arr**	**77.11**	**283**	P	**P**	**19 33 49.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=28,slow=6.3,SNR=2.7						
ESDC	**Sonseca Array**	**87.64**	**12**	P	**P**	**19 34 46.7**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=358,slow=4.1,SNR=2.1						
ESDC	**Sonseca Array**	**87.64**	**12**	IAmb	IAmb	19 35 12.7	
	comp=Z,1.3nm,1.2s						

*IDC **29** 19:23:35.4±10.0, 51.°30N×168.°04W, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.6/48, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=241.0km s-min=26.8km az=161.0*
*NEIC **29** 19:23:44.9±1.5, 52.°09N±0.°07×168.°69W±0.°07, h19km±9km, mb3.6/11, ML3.1/39(AEIC), Error ellipse: s-maj=10.3km s-min=5.6km az=164.0*
*AEIC **29** 19:23:44±2.2, 52.°05N±0.°08×168.°68W±0.°07, h37km±8km, Error ellipse: s-maj=11.8km s-min=5.8km az=163.0*
ISC 29 19:23:45.9±1.2, 52.°0N±0.°1×168.°61W±0.°08, h39km±7km, n57, σ0§88/59, mb3.9/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.94**	**351**		**Pn**	**19 24 01.3**	**-1.3**
NIKH					**Sn**	19 24 14.9	0.0
OKSP	**Okmok Steeple**	**1.23**	**9**		**Pn**	19 24 06.0	-0.6
OKCE	**Okmok Cone E**	**1.41**	**11**		**Pn**	19 24 08.7	-0.4
OKCE					**Sn**	19 24 26.8	+0.3
OKFG	**Magazine Ridge**	**1.44**	**17**		**Pn**	19 24 08.9	-0.4
OKFG					**Sn**	19 24 27.8	+0.9
OKNC	**Okmok New Cone**	**1.45**	**12**		**Pn**	19 24 09.3	-0.2
MAPS	**Pakushin South**	**2.04**	**29**		**Pn**	19 24 17.9	+0.3
MAPS					**Sn**	19 24 43.2	+1.3
MGOD	**Makushin Gods**	**2.05**	**30**		**Pn**	19 24 18.3	+0.5
MGOD					**Sn**	19 24 43.7	+1.5
MSW	**Makushin Switc**	**2.18**	**30**		**Pn**	19 24 20.0	+0.5
MNAT	**Makushin Natee**	**2.18**	**32**		**Pn**	19 24 20.0	+0.4
UNV	**Unalaska Valle**	**2.21**	**34**		**Pn**	19 24 20.3	+0.3
UNV					**Sn**	19 24 46.6	+0.6
MTBL	**Makushin Table**	**2.26**	**30**		**Pn**	19 24 21.2	+0.5
AKRB	**Akutan Reef Bi**	**2.59**	**35**		**Pn**	19 24 25.9	+0.7
AKUT	**Akutan**	**2.71**	**38**	Pn	**Pn**	19 24 25.4	-1.4
AKSA	**Akutan Strait**	**2.74**	**39**		**Pn**	19 24 27.7	+0.5
KOFP	**Korovin Flat P**	**3.39**	**276**		**Pn**	19 24 36.8	+0.6
ATKA	**Atka Island**	**3.45**	**275**		**Pn**	19 24 36.7	-0.3
ATKA					**Sn**	19 25 15.8	-0.7
KOKL	**Mount Kliuchef**	**3.45**	**277**		**Pn**	19 24 38.1	+1.0
GSIG	**Igitkin Island**	**4.52**	**272**		**Pn**	19 24 51.7	0.0
GSMY	**Great Sitkin M**	**4.60**	**273**		**Pn**	19 24 53.1	+0.3
GSTR	**Great Sitkin T**	**4.60**	**274**		**Pn**	19 24 52.9	+0.1
GSTD	**Great Sitkin T**	**4.65**	**273**		**Pn**	19 24 53.6	0.0
GSTD					**Sn**	19 25 46.2	-0.1
SPIA	**Saint Paul Isl**	**5.23**	**350**		**Pn**	19 25 02.4	+1.0
KIWB	**Kanaga Island**	**5.29**	**271**		**Pn**	19 25 02.8	+0.6
TASE	**Tanaga Southea**	**5.83**	**272**		**Pn**	19 25 10.7	+0.9
SDPT	**Sand Point**	**5.86**	**52**		**Pn**	19 25 11.7	+1.7
CNBA	**Chernabura Isl**	**6.07**	**59**		**Pn**	19 25 13.8	+0.8
AMKA	**Amchitka**	**7.54**	**270**		**Pn**	19 25 33.7	+0.6
OHAK	**Old Harbor**	**10.28**	**54**	Pn	**Pn**	19 26 09.6	-0.9
KDAK	**Kodiak Island**	**10.86**	**52**	Pn	**Pn**	19 26 17.4	-1.1
	0.8nm,0.3s,baz=260,slow=7.5,SNR=5.8						
KDAK	**Kodiak Island**	**10.86**	**52**	Pn	**Pn**	**19 26 16.9**	**-1.6**
HIN	**Hinchinbrook I**	**14.81**	**47**	Pn	**Pn**	**19 27 11.8**	**-0.6**
FID	**Port Fidalgo**	**14.97**	**46**	Pn	**Pn**	**19 27 13.0**	**-1.4**
SCM	**Sheep Creek Mo**	**15.12**	**41**	Pn	**Pn**	**19 27 15.6**	**-0.9**
BPAW	**Bear Paw Mtn.**	**15.19**	**31**	P	**P**	**19 27 21.8**	**0.0**
BPAW				IAmb	IAmb	19 27 23.1	
	comp=Z,1.8nm,0.5s						
HMT	**Hamilton**	**15.81**	**49**	Pn	**Pn**	**19 27 23.9**	**-1.5**
MLY	**Manley**	**15.93**	**28**	P	**P**	**19 27 30.2**	**+0.2**
N25K	**Chitina, Valde**	**16.16**	**44**	Pn	**Pn**	**19 27 27.6**	**-2.4**
N25K				IAmb	IAmb	19 27 41.1	
	comp=Z,7.1nm,1.4s						
I23K	**Minto, Yukon-K**	**16.42**	**30**	P	**P**	**19 27 34.4**	**-1.0**
I23K				IAmb	IAmb	19 27 36.6	
	comp=Z,2.6nm,0.8s						
GLB	**Gilahina Butte**	**16.44**	**45**	Pn	**Pn**	**19 27 32.3**	**-1.1**
ILAR	**Eielson Array**	**16.97**	**33**	P	**Pn**	**19 27 39.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=236,slow=11,SNR=5.4						
DOT	**Dot Lake**	**17.35**	**38**	P	**P**	**19 27 45.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**19 28 18.7**	**-0.4**
PETK	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**19 28 18.5**	**-0.6**
	comp=Z,3.4nm,0.4s,baz=90,slow=13,SNR=21						
PETK	**Petropavlovsk-**	**20.40**	**286**	P	**P**	**19 28 18.2**	**-1.0**
EPYK	**Eagle Plains**	**21.39**	**36**	P	**P**	**19 28 29.4**	**-0.4**
INK	**Inuvik**	**23.37**	**33**	P	**P**	**19 28 49.7**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=218,slow=8.6,SNR=6.1						
INK	**Inuvik**	**23.37**	**33**	P	**P**	**19 28 49.9**	**-0.5**
INK				IAmb	IAmb	19 29 18.1	
	comp=Z,2.6nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**37.49**	**220**	T	T	20 09 59.7	
	baz=22						
H11N3	**WAKE ISLAND Hy**	**37.50**	**220**	T	T	20 09 59.3	
	baz=22						
H11N1	**WAKE ISLAND Hy**	**37.51**	**220**	T	T	20 10 14.9	
	baz=22						
H11S1	**WAKE ISLAND Hy**	**38.68**	**219**	T	T	20 10 44.4	
	baz=23,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**38.69**	**219**	T	T	20 10 51.1	
	baz=23,slow=76,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**38.70**	**219**	T	T	20 10 49.3	
	baz=23,slow=76,SNR=8.6						
ARCES	**ARCESS Array B**	**58.30**	**354**	P	**P**	**19 33 36.6**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=355,slow=7.2,SNR=1.0						
MKAR	**Makanchi Array**	**64.37**	**314**	P	**P**	**19 34 18.1**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=44,slow=8.6,SNR=2.7						
FINES	**FINESS Array B**	**66.26**	**352**	P	**P**	**19 34 29.9**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=19,slow=7.3,SNR=7.7						
AKASG	**Malin Array Be**	**76.52**	**348**	P	**P**	**19 35 31.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=16,slow=6.1,SNR=5.3						

*DNK **29** 19:46:00.0±3.0, 57.°64N×11.°73E, h8km±4km, ML3.2, MW2.5, ML2.6(BER), Probable volcanic*
*NAO **29** 19:46:01.6±1.2, 57.°72N×11.°72E, ML2.9*
*HEL **29** 19:46:01.8, 57.°64N×11.°72E, h20km, ML3.2, Confirmed Earthquake*
*UPP **29** 19:46:01.6±0.1, 57.°58N×11.°92E, h21km±1km, ML2.9, Confirmed Earthquake*
*BER **29** 19:46:02.6±2.2, 57.°58N×11.°80E, h13km±3km, ML2.6, MW2.7, ML3.0(DNK), Confirmed Earthquake*
*NEIC **29** 19:46:02.6±0.9, 57.°80N±0.°07×11.°9E±0.°1, h13km±7km, ML3.4/4, Error ellipse: s-maj=11.6km s-min=5.5km az=218.0*
*IDC **29** 19:46:04.0±2.1, 57.°85N×11.°81E, h0km, mb1 3.4/3, mb1mx3.1/40, mbtmp3.4/3, ML2.2/4, Error ellipse: s-maj=16.5km s-min=12.9km az=45.0*
ISC 29 19:46:00.2±1.0, 57.°60N±0.°02×11.°84E±0.°02, h16km±8km, n159, σ1§57/306, 7C-14D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAU	**Onsala**	**0.21**	**168**	P	**Pb**	**19 46 06.5**	**+0.9**
ONAU				*i* P	**Pb**	19 46 06.5	+0.9
ONAU				S	**Sb**	19 46 09.7	+0.5
ONAU	**Onsala**	**0.21**	**168**	P	**Pb**	19 46 06.5	+0.9
ONAU				S	**Sb**	19 46 09.7	+0.5
ONAU	**Onsala**	**0.21**	**168**	*i* P	**Pb**	19 46 06.5	+0.9
ONAU	**Onsala**	**0.21**	**168**	*i* P	**Pb**	19 46 06.5	+0.9
ONAU				*i* S	**Sb**	19 46 09.7	+0.5
TJOU	**Tjoern**	**0.45**	**345**	⇓P	**Pn**	19 46 10.9	-0.9
TJOU				⇓*i* P	**Pn**	19 46 11.0	-0.9
TJOU				S	**Sb**	19 46 17.2	+1.2
TJOU	**Tjoern**	**0.45**	**345**	⇓P	**Pn**	19 46 10.9	-0.9
TJOU				S	**Sb**	19 46 17.2	+1.2
TJOU	**Tjoern**	**0.45**	**345**	⇓*i* P	**Pn**	19 46 11.0	-0.9
TJOU	**Tjoern**	**0.45**	**345**	⇓*i* P	**Pn**	19 46 10.9	-0.9
TJOU				*i* S	**Sb**	19 46 17.2	+1.2
BORU	**Boraas**	**0.50**	**86**	⇑P	**Pb**	19 46 10.6	0.0
BORU				S	**Sg**	19 46 17.2	+0.3
BORU	**Boraas**	**0.50**	**86**	⇑P	**Pb**	19 46 10.6	0.0
BORU				S	**Sg**	19 46 17.2	+0.3
BORU	**Boraas**	**0.50**	**86**	⇑*i* P	**Pb**	19 46 10.6	0.0
BORU				*i* S	**Sg**	19 46 17.2	+0.3
FABU	**Falkenberg**	**0.77**	**141**	⇓P	**Pb**	19 46 15.0	-0.1
FABU				⇓*i* P	**Pb**	19 46 15.1	-0.1
FABU				S	**Sb**	19 46 24.9	-0.4
FABU				*i* S	**Sb**	19 46 25.2	0.0
FABU	**Falkenberg**	**0.77**	**141**	⇓P	**Pb**	19 46 15.0	-0.1
FABU				S	**Sb**	19 46 24.9	-0.4
FABU	**Falkenberg**	**0.77**	**141**	⇓*i* P	**Pb**	19 46 15.1	-0.1
FABU				*i* S	**Sb**	19 46 25.2	0.0
FABU	**Falkenberg**	**0.77**	**141**	⇓*i* P	**Pb**	19 46 15.0	-0.1
FABU				*i* S	**Sb**	19 46 24.9	-0.4
VANU	**Vaenersborg**	**0.90**	**8**	P	**Pn**	19 46 18.3	+0.2
VANU				S	**Sn**	19 46 30.0	-0.8
VANU	**Vaenersborg**	**0.90**	**8**	P	**Pn**	19 46 18.3	+0.2
VANU				S	**Sn**	19 46 30.0	-0.8
VANU	**Vaenersborg**	**0.90**	**8**	*e*P	**Pn**	19 46 18.3	+0.2
VANU				*e*S	**Sn**	19 46 30.0	-0.8
FKPU	**Falk**	**1.15**	**60**	⇑P	**Pb**	19 46 21.9	+0.2
FKPU				S	**Sn**	19 46 36.9	-0.1
FKPU	**Falk**	**1.15**	**60**	⇑P	**Pb**	19 46 21.9	+0.2
FKPU				S	**Sn**	19 46 36.9	-0.1
FKPU	**Falk**	**1.15**	**60**	⇑*e*P	**Pb**	19 46 21.9	+0.2
FKPU				*e*S	**Sn**	19 46 36.9	-0.1
STRU	**Stroemstad**	**1.48**	**347**	*i* P	**Pb**	19 46 27.6	+0.4
STRU				P	**Pb**	19 46 27.6	+0.4
STRU				*e*Pg	**Pg**	19 46 28.1	-0.4
STRU				S	**Sg**	19 46 47.8	0.0
STRU				*e*Sg	**Sg**	19 46 47.8	0.0
STRU	**Stroemstad**	**1.48**	**347**	P	**Pb**	19 46 27.6	+0.4
STRU				S	**Sg**	19 46 47.8	0.0
STRU	**Stroemstad**	**1.48**	**347**	*i* P	**Pb**	19 46 27.6	+0.4
STRU				*e*Pg	**Pg**	19 46 28.1	-0.4
STRU				*e*Sg	**Sg**	19 46 47.8	0.0
STRU	**Stroemstad**	**1.48**	**347**	*e*P	**Pb**	19 46 27.6	+0.4
STRU				*e*S	**Sg**	19 46 47.8	0.0
GID	**Gilleleje**	**1.49**	**173**	*i* P	**Pb**	19 46 28.4	+1.0
GID				IAML		19 46 49.8	
	comp=Z,276nm,0.3s						
GID	**Gilleleje**	**1.49**	**173**	*i* P	**Pb**	19 46 28.4	+1.0
GID				IAML		19 46 49.8	
	comp=Z,276nm,0.3s						
NASU	**Vaermlandsnaes**	**1.51**	**28**	P	**Pb**	19 46 28.0	+0.3
NASU	**Vaermlandsnaes**	**1.51**	**28**	P	**Pb**	19 46 28.0	+0.3
NASU	**Vaermlandsnaes**	**1.51**	**28**	*e*P	**Pb**	19 46 28.0	+0.3
GOET	**G??ttrup**	**1.53**	**249**	*i* P	**Pn**	19 46 27.5	+0.8
GOET				IAML		19 46 58.5	
	comp=Z,72nm,0.3s						
GOET	**G??ttrup**	**1.53**	**249**	*i* P	**Pn**	19 46 27

OSL			IAML			19 47 20.5
	comp=Z,128nm,0.2s					
OSL			IAML			19 47 20.6
	comp=Z,127nm,0.2s					
OSL	**Oslo**	**2.41 347**	*e*P	**Pn**		**19 46 39.5 +0.6**
OSL			*e*Pg	**Pb**		**19 46 43.8 +0.7**
OSL			*e*S	**Sn**		**19 47 08.4 +0.4**
OSL			*e*Sg	**Sg**		**19 47 15.3 -2.4**
OSL			IAML			19 47 20.5
	comp=Z,128nm,0.2s					
OSL			IAML			19 47 20.6
	comp=Z,127nm,0.2s					
BLEU	**Blekinge**	**2.54 119**	*i* P	**Pn**		**19 46 41.7 +1.1**
BLEU			*i* S	**Sb**		**19 47 18.2 +2.0**
BLEU	**Blekinge**	**2.54 119**	*i* P	**Pn**		**19 46 41.7 +1.1**
BLEU			*i* S	**Sb**		**19 47 18.2 +2.0**
SNART	**Snartemo**	**2.57 289**	*e*P	**Pn**		**19 46 41.8 +0.7**
SNART			*i* P	**Pb**		**19 46 41.9 -4.0**
SNART			*e*Pg	**Pb**		**19 46 47.1 +1.3**
SNART			*e*S	**Sn**		**19 47 11.3 -0.7**
SNART			*e*Sg	**Sb**		**19 47 18.9 +1.7**
SNART			IAML			19 47 21.1
	comp=Z,125nm,0.2s					
SNART			IAML			19 47 21.1
	comp=Z,125nm,0.2s					
SNART			IAML			19 47 25.1
	comp=Z,77nm,0.3s					
SNART	**Snartemo**	**2.57 289**	*e*P	**Pn**		**19 46 41.8 +0.7**
SNART			*e*Pg	**Pb**		**19 46 47.1 +1.3**
SNART			*e*S	**Sn**		**19 47 11.3 -0.7**
SNART			*e*Sg	**Sb**		**19 47 18.9 +1.7**
SNART			IAML			19 47 21.1
	comp=Z,125nm,0.2s					
SNART			IAML			19 47 21.1
	comp=Z,125nm,0.2s					
SNART			IAML			19 47 25.1
	comp=Z,77nm,0.3s					
HFS	**Hagfors**	**2.72 20**	Pn	**Pn**		**19 46 44.5 +1.5**
	comp=Z,1.0nm,0.3s,baz=198,slow=14,SNR=37					
HFS			Pg	**Pb**		**19 46 48.1 -0.2**
	comp=Z,1.5nm,0.3s,baz=190,slow=16,SNR=8.1					
HFS			Sn	**Sn**		**19 47 11.8 -3.8**
	comp=Z,1.7nm,0.3s,baz=184,slow=21,SNR=5.3					
HFS			Lg	Lg		19 47 22.5
	comp=Z,5.0nm,0.3s,baz=206,slow=20,SNR=9.8					
BSD	**Bornholm Skovb**	**3.03 144**	*e*P	**Pn**		**19 46 47.6 +0.4**
BSD			*e*S	**Sb**		**19 47 34.0 +3.8**
BSD	**Bornholm Skovb**	**3.03 144**	*e*P	**Pn**		**19 46 47.6 +0.4**
BSD			*i* P	Pb		19 46 47.7 -5.9
BSD			*e*PB	**Pb**		**19 46 54.2 +0.6**
BSD			*e*SB	**Sb**		**19 47 29.8 -0.4**
BSD			IAML			19 47 34.9
	comp=Z,29nm,0.3s					
BSD	**Bornholm Skovb**	**3.03 144**	*i* P	**Pn**		**19 46 47.7 +0.4**
BSD			IAML			19 47 34.9
	comp=Z,29nm,0.3s					
BSD	**Bornholm Skovb**	**3.03 144**	*e*P	**Pn**		**19 46 47.6 +0.4**
BSD			*e*PB	**Pb**		**19 46 54.2 +0.6**
BSD			*e*SB	**Sb**		**19 47 29.8 -0.4**
NC602	**NORSAR Array S**	**3.15 357**	Pn	**Pn**		**19 46 49.4 +0.4**
NRA0	**NORESS Array S**	**3.15 357**	Pn	**Pn**		**19 46 50.5 +1.5**
	baz=172,slow=11					
NRA0			Pg	**Pb**		**19 46 56.4 +0.7**
	baz=180,slow=11					
NRA0			Sg	**Sb**		**19 47 35.9 +2.2**
	baz=166,slow=28					
NRA0	**NORESS Array S**	**3.15 357**	Pn	**Pn**		**19 46 50.5 +1.5**
	baz=172,slow=11					
NRA0			Pg	**Pb**		**19 46 56.4 +0.7**
	baz=180,slow=11					
NRA0			Lg	Lg		19 47 35.9
	baz=166,slow=28					
NRA0	**NORESS Array S**	**3.15 357**	Pn	**Pn**		**19 46 50.5 +1.5**
	baz=172,slow=11					
NRA0			Pg	**Pb**		**19 46 56.4 +0.7**
	baz=180,slow=11					
NRA0			Sg	**Sb**		**19 47 35.9 +2.2**
	baz=166,slow=28					
RGN	**Rugen**	**3.17 164**	Pn	**Pb**		**19 46 54.6 -1.4**
RGN			IAML			19 47 42.0
	comp=N,216nm,0.7s					
NAO01	**NORSAR Array S**	**3.29 352**	*e*P	**Pn**		**19 46 52.1 +1.2**
NAO01			*e*P	Pb		19 46 52.4 -5.7
NAO01			*e*S	**Sn**		**19 47 28.1 -1.6**
NAO01			*e*S	**Sn**		**19 47 28.6 -1.1**
NAO01			*e*Sg	**Sg**		**19 47 42.0 -3.6**
NAO01			IAML			19 47 46.3
	comp=Z,62nm,0.4s					
NAO01	**NORSAR Array S**	**3.29 352**	*e*P	**Pn**		**19 46 52.1 +1.2**
NAO01			*e*P	Pb		19 46 52.4 -5.7
NAO01			*e*S	**Sn**		**19 47 28.1 -1.6**
NAO01			*e*S	**Sn**		**19 47 28.6 -1.1**
NAO01			*e*Sg	**Sg**		**19 47 42.0 -3.6**
NAO01			IAML			19 47 46.3
	comp=Z,62nm,0.4s					
NAO01	**NORSAR Array S**	**3.29 352**	Pn	**Pn**		**19 46 51.8 +0.8**
NAO01			Sn	**Sn**		**19 47 28.8 -0.8**
NAO01	**NORSAR Array S**	**3.29 352**	*e*P	**Pn**		**19 46 52.1 +1.2**
NAO01			*e*S	**Sn**		**19 47 28.6 -1.1**
BLS5	**Blasjo**	**3.36 305**	*e*P	**Pn**		**19 46 53.0 +1.1**
BLS5			*e*Pg	**Pb**		**19 47 00.4 +1.1**
BLS5			*e*S	**Sn**		**19 47 30.6 -0.9**
BLS5			*e*Sg	**Sb**		**19 47 42.0 +2.1**
BLS5			IAML			19 47 48.0
	comp=Z,28nm,0.2s					
BLS5			IAML			19 47 49.6
	comp=Z,27nm,0.6s					
BLS5	**Blasjo**	**3.36 305**	*e*P	**Pn**		**19 46 53.0 +1.1**
BLS5			*e*Pg	**Pb**		**19 47 00.4 +1.1**
BLS5			*e*S	**Sn**		**19 47 30.6 -0.9**
BLS5			*e*Sg	**Sb**		**19 47 42.0 +2.1**
BLS5			IAML			19 47 48.0
	comp=Z,28nm,0.2s					
BLS5			IAML			19 47 49.6
	comp=Z,27nm,0.6s					
NB2	**NORSAR Subarra**	**3.46 355**	Pn	**Pn**		**19 46 54.9 +1.5**
	baz=170,slow=14					
NB2			Pg	**Pb**		**19 47 01.4 +0.3**
NB2			Sg	**Sb**		**19 47 46.4 +3.5**
	baz=171,slow=37					
NB2	**NORSAR Subarra**	**3.46 355**	Pn	**Pn**		**19 46 54.9 +1.5**
	baz=170,slow=14					
NB2			Pg	**Pb**		**19 47 01.4 +0.3**
NB2			Lg	Lg		19 47 46.4
	baz=171,slow=37					
NB2	**NORSAR Subarra**	**3.46 355**	Pn	**Pn**		**19 46 54.9 +1.5**
	baz=170,slow=14					
NB2			Pg	**Pb**		**19 47 01.4 +0.3**
NB2			Sg	**Sb**		**19 47 46.4 +3.5**
	baz=171,slow=37					
NOA	**NORSAR Array B**	**3.46 355**	Pn	**Pn**		**19 46 53.9 +0.5**
	comp=Z,0.0nm,0.3s,baz=175,slow=12,SNR=2.4					
NOA			Pg	**Pb**		**19 47 00.7 -0.4**
	comp=Z,0.1nm,0.3s,baz=174,slow=12,SNR=25					
NOA			Sn	**Sn**		**19 47 33.5 -0.5**
	comp=Z,0.4nm,0.3s,baz=194,slow=17,SNR=2.6					
NOA			Lg	Lg		19 47 43.6
	comp=Z,1.2nm,0.3s,baz=27,slow=21,SNR=5.8					
NB201	**NORSAR Array S**	**3.47 356**	Pn	**Pn**		**19 46 53.3 -0.1**
NBO00	**NORSAR Array S**	**3.48 351**	Pn	**Pn**		**19 46 52.9 -0.7**
NBO00			Sn	**Sn**		**19 47 32.0 -2.4**
STAV	**Stavanger**	**3.50 295**	*e*P	**Pn**		**19 46 54.6 +0.8**
STAV			*e*Pg	**Pb**		**19 47 01.9 +0.2**
STAV			*e*S	**Sn**		**19 47 33.5 -1.4**
STAV			*e*Sg	**Sb**		**19 47 47.6 +3.7**
STAV			IAML			19 47 54.9
	comp=Z,24nm,0.4s					
NC405	**NORSAR Array S**	**3.52 359**	Pn	**Pn**		**19 46 53.9 -0.3**
ODD1	**Odda**	**3.57 313**	*e*P	**Pn**		**19 46 56.0 +1.2**
ODD1			*e*Pg	**Pb**		**19 47 03.1 +0.3**
ODD1			*e*S	**Sn**		**19 47 35.4 -1.1**
ODD1			*e*Sg	**Sb**		**19 47 49.1 +3.2**
ODD1	**Odda**	**3.57 313**	*e*P	**Pn**		**19 46 56.0 +1.2**
ODD1			*e*Pg	**Pb**		**19 47 03.1 +0.3**
ODD1			*e*S	**Sn**		**19 47 35.4 -1.1**
ODD1			*e*Sg	**Sb**		**19 47 49.1 +3.2**
SKAR	**Skarslia**	**3.58 331**	*e*P	**Pn**		**19 46 55.7 +0.6**
SKAR			*e*Pg	**Pb**		**19 47 03.0 -0.1**
SKAR			*e*S	**Sn**		**19 47 36.1 -0.9**
SKAR			*e*Sg	**Sg**		**19 47 50.9 -4.2**
SKAR	**Skarslia**	**3.58 331**	*e*P	**Pn**		**19 46 55.7 +0.6**
SKAR			*e*Pg	**Pb**		**19 47 03.0 -0.1**
SKAR			*e*S	**Sn**		**19 47 36.1 -0.9**
SKAR			*e*Sg	**Sg**		**19 47 50.9 -4.2**
GOTU	**Gotland**	**3.62 86**	*e*P	**Pn**		**19 46 57.9 +2.5**
GOTU			*e*S	**Sn**		**19 47 39.2 +1.4**
GOTU	**Gotland**	**3.62 86**	*e*P	**Pn**		**19 46 57.9 +2.5**
GOTU			*e*S	**Sn**		**19 47 39.2 +1.4**
GOTU	**Gotland**	**3.62 86**	*e*P	**Pn**		**19 46 57.9 +2.5**
GOTU			*e*S	**Sn**		**19 47 39.2 +1.4**
NC303	**NORSAR Array S**	**3.64 356**	*e*P	**Pn**		**19 46 57.1 +1.3**
NC303			*e*Pg	**Pb**		**19 47 03.8 -0.2**
NC303			*e*S	**Sn**		**19 47 37.1 -1.3**
NC303			*e*Sg	**Sb**		**19 47 50.8 +2.8**
NC303	**NORSAR Array S**	**3.64 356**	*e*P	**Pn**		**19 46 57.1 +1.3**
NC303			*e*Pg	**Pb**		**19 47 03.8 -0.2**
NC303			*e*S	**Sn**		**19 47 37.1 -1.3**
NC303			*e*Sg	**Sb**		**19 47 50.8 +2.8**
NC303	**NORSAR Array S**	**3.64 356**	Pn	**Pn**		**19 46 56.1 +0.3**
NC300	**NORSAR Array S**	**3.68 357**	Pn	**Pn**		**19 46 56.6 +0.4**
NC204	**NORSAR Array S**	**3.73 352**	*e*P	**Pn**		**19 46 58.3 +1.3**
NC204			*e*Pg	**Pb**		**19 47 05.0 -0.6**
NC204			*e*S	**Sn**		**19 47 39.4 -1.2**
NC204	**NORSAR Array S**	**3.73 352**	*e*P	**Pn**		**19 46 58.3 +1.3**
NC204			*e*Pg	**Pb**		**19 47 05.0 -0.6**
NC204			*e*S	**Sn**		**19 47 39.4 -1.2**
NC204	**NORSAR Array S**	**3.73 352**	Pn	**Pn**		**19 46 57.8 +0.8**
UPP	**Uppsala**	**3.77 51**	*e*P	**Pb**		**19 47 03.5 -2.7**
KMY	**Karmoy**	**3.82 298**	*e*P	**Pn**		**19 46 59.4 +1.2**
KMY			*e*Pg	**Pb**		**19 47 06.5 -0.7**
KMY			*e*S	**Sn**		**19 47 41.4 -1.4**
KMY			*e*Sg	**Sb**		**19 47 57.2 +4.1**
KMY			IAML			19 47 60.0
	comp=Z,20nm,0.5s					
KMY	**Karmoy**	**3.82 298**	*e*P	**Pn**		**19 46 59.4 +1.2**
KMY			*e*Pg	**Pb**		**19 47 06.5 -0.7**
KMY			*e*S	**Sn**		**19 47 41.4 -1.4**
KMY			*e*Sg	**Sb**		**19 47 57.2 +4.1**
KMY			IAML			19 47 60.0
	comp=Z,20nm,0.5s					
NRTU	**Norrtaelje**	**4.12 57**	*e*P	**Pn**		**19 47 04.1 +1.8**
NRTU			*e*S	**Sn**		**19 47 48.9 -1.0**
NRTU	**Norrtaelje**	**4.12 57**	*e*P	**Pn**		**19 47 04.1 +1.8**
NRTU			*e*S	**Sn**		**19 47 48.9 -1.0**
NRTU	**Norrtaelje**	**4.12 57**	*e*P	**Pn**		**19 47 04.1 +1.8**
NRTU			*e*S	**Sn**		**19 47 48.9 -1.0**
BER	**Bergen**	**4.37 312**	*e*P	**Pn**		**19 47 06.2 +0.4**
BER			*e*S	**Sn**		**19 47 54.8 -1.4**
BER			IAML			19 48 07.5
	comp=Z,7.0nm,0.3s					
BER	**Bergen**	**4.37 312**	*e*P	**Pn**		**19 47 06.2 +0.4**
BER			*e*S	**Sn**		**19 47 54.8 -1.4**
BER			IAML			19 48 07.5
	comp=Z,7.0nm,0.3s					
ASK	**Askoy**	**4.48 313**	*e*P	**Pn**		**19 47 07.8 +0.5**
ASK			*e*S	**Sn**		**19 47 57.0 -2.0**
ASK			IAML			19 47 58.0
	comp=Z,14nm,1.0s					
ASK	**Askoy**	**4.48 313**	*e*P	**Pn**		**19 47 07.8 +0.5**
ASK			*e*S	**Sn**		**19 47 57.0 -2.0**
ASK			IAML			19 47 58.0
	comp=Z,14nm,1.0s					
HYA	**Hoyanger**	**4.59 323**	*e*P	**Pn**		**19 47 09.4 +0.6**
HYA			*e*S	**Sn**		**19 47 59.8 -2.0**
HYA	**Hoyanger**	**4.59 323**	*e*P	**Pn**		**19 47 09.4 +0.6**
HYA			*e*S	**Sn**		**19 47 59.8 -2.0**
DOMB	**Dombas**	**4.67 344**	*e*P	**Pn**		**19 47 10.6 +0.7**
DOMB			*e*S	**Sn**		**19 48 01.9 -1.8**
DOMB	**Dombas**	**4.67 344**	*e*P	**Pn**		**19 47 10.6 +0.7**
DOMB			*e*S	**Sn**		**19 48 01.9 -1.8**
AAL	**Aland**	**4.96 55**	*e*P	Pn		19 47 19.0 +5.3
AAL	**Aland**	**4.96 55**	*e*P	**Pn**		**19 47 15.7 +1.9**
AAL			*e*S	**Sn**		**19 48 11.5 +0.9**
ARNU	**Arnoeviken**	**4.97 32**	*e*P	**Pn**		**19 47 15.9 +1.9**
ARNU			*e*S	**Sn**		**19 48 10.4 -0.7**
ARNU	**Arnoeviken**	**4.97 32**	*e*P	**Pn**		**19 47 15.9 +1.9**
ARNU			*e*S	**Sn**		**19 48 10.4 -0.7**
ARNU	**Arnoeviken**	**4.97 32**	*e*P	**Pn**		**19 47 15.9 +1.9**
ARNU			*e*S	**Sn**		**19 48 10.4 -0.7**
AKN	**Aaknes**	**5.20 334**	*e*P	**Pn**		**19 47 18.0 +0.9**
AKN	**Aaknes**	**5.20 334**	*e*P	**Pn**		**19 47 18.0 +0.9**
SLIT	**Slitere, Latvi**	**5.62 85**	*e*P	**Pn**		**19 47 27.0 +4.1**
PBUR	**Paburge**	**5.77 102**	*e*P	**Pb**		**19 47 38.4 -1.8**
HEMU	**Hemsoen**	**5.96 29**	*e*P	**Pn**		**19 47 29.1 +1.6**
HEMU			*e*S	**Sn**		**19 48 34.8 -0.4**
RAF	**Rauma**	**6.13 52**	*e*P	**Pn**		**19 47 29.7 -0.2**
RAF			*e*S	**Sn**		**19 48 35.9 -3.7**
RAF	**Rauma**	**6.13 52**	*e*P	**Pn**		**19 47 32.4 +2.6**
RAF			*e*S	**Sn**		**19 48 37.6 -2.0**
RAF			MSN			19 49 18.9
	comp=Z,11nm,0.3s				

JETT				IAML			20 36 40.2
	comp=Z,22nm,0.3s						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**20 36 11.4**	**+0.3**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**20 36 47.6**	**+0.3**
	baz=217,slow=28						
ARA0	**ARCESS Array S**	**2.96**	**35**	Pn	**Pn**	**20 36 11.4**	**+0.3**
	baz=210,slow=16						
ARA0				Sn	**Sn**	**20 36 47.6**	**+0.3**
	baz=217,slow=28						
ARA0				IAML		20 36 55.4	
	comp=Z,3.7nm,0.4s						
ARA0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**20 36 11.4**	**+0.3**
ARA0				*e*S	**Sn**	**20 36 47.2**	**-0.1**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**20 36 11.4**	**+0.3**
	baz=217,slow=12,SNR=51						
ARCES				Sn	**Sn**	**20 36 47.4**	**+0.1**
	baz=217,slow=22,SNR=2.1						
OBF4	**Vikkela, Lumij**	**2.99**	**141**	*e*P	**Pn**	**20 36 12.0**	**+0.6**
OBF4				*e*SB	**Sb**	**20 36 53.2**	**-0.7**
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**20 36 56.1**	**+0.3**
	baz=351,slow=14						
FIA0				Sn	**Sn**	**20 38 04.8**	**-2.7**
	baz=348,slow=28						
FIA0				Lg	Lg	20 38 33.3	
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.22**	**155**	Pn	**Pn**	**20 36 56.1**	**+0.3**
	baz=351,slow=14						
FIA0				Sn	**Sn**	**20 38 04.8**	**-2.7**
	baz=348,slow=28						
FIA0				Sg	**Sb**	**20 38 33.3**	**+6.5**
	baz=348,slow=28						
FINES	**FINESS Array B**	**6.22**	**155**	Pn	**Pn**	**20 36 56.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=346,slow=13,SNR=15						
FINES				Sn	**Sn**	**20 38 05.2**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=347,slow=24,SNR=6.1						
FINES				Lg	Lg	20 38 35.8	
	comp=Z,0.4nm,0.3s,baz=348,slow=25,SNR=3.7						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**20 37 11.6**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=39,slow=13,SNR=1.7						
NOA				Sn	**Sn**	**20 38 35.6**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=32,slow=23,SNR=3.9						
NOA				Lg	Lg	20 39 14.4	
	comp=Z,0.0nm,0.3s,baz=34,slow=22,SNR=1.8						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**20 37 15.6**	**+0.6**
	baz=28,slow=14						
NRA0	**NORESS Array S**	**7.61**	**216**	Pn	**Pn**	**20 37 15.6**	**+0.6**
	baz=28,slow=14						
HFS	**Hagfors**	**7.72**	**207**	Pn	**Pn**	**20 37 14.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=11						
HFS				Pg	**Pb**	**20 37 40.8**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=12,slow=15,SNR=4.4						
HFS				Sn	**Sn**	**20 38 38.9**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=21,slow=21,SNR=7.1						
HFS				Lg	Lg	20 39 22.1	
	comp=Z,0.2nm,0.3s,baz=30,slow=30,SNR=2.3						

*IDC **29** 20:38:50.2±2.0, 5°.29S×152°.76E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/45, mbtmp3.6/6, Error ellipse: s-maj=67.0km s-min=28.4km az=119.0*

ISC 29 20:38:56.0±1.8, 5°.4S±0°.3×152°.7E±0°.3, h40km, n8, σ1§14/8, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.80**	**233**	Sn	**Sn**	**20 41 49.2**	**-0.3**
	4.0nm,0.3s,baz=237,slow=22,SNR=7.5						
WRA	**Warramunga Arr**	**23.00**	**229**	P	**P**	**20 43 58.5**	**+0.9**
	1.6nm,1.0s,baz=53,slow=9.7,SNR=3.8						
ASAR	**Alice Springs**	**25.67**	**223**	P	**P**	**20 44 22.4**	**-0.1**
	0.7nm,0.7s,baz=54,slow=8.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**58.00**	**296**	P	**P**	**20 48 44.2**	**-1.1**
	0.5nm,0.7s,baz=116,slow=6.1,SNR=2.3						
SONM	**Songino Array**	**66.72**	**328**	P	**P**	**20 49 43.0**	**-0.2**
	0.3nm,0.7s,baz=132,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**20 51 06.9**	**+2.0**
	0.3nm,0.5s,baz=106,slow=6.5,SNR=5.3						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**20 51 14.7**	**-0.6**
	0.6nm,0.9s,baz=267,slow=5.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**150.36**	**287**	PKPbc	**PKiKP**	**20 58 44.6**	**-0.4**
	0.2nm,0.4s,baz=93,slow=2.9,SNR=2.0						

*PGC **29** 20:41:00.4±1.1, 50°.37N×130°.26W, h10km, MLSn3.2/25, Mw3.8/25, 204km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **29** 20:41:03.6±1.5, 50°.49N×129°.52W, h0km, mb3.7/3, mb1 3.9/11, mb1mx3.6/58, mbtmp3.6/11, ML3.5/7, MS3.2/12, Ms1 3.2/12, ms1mx3.0/51, Error ellipse: s-maj=22.1km s-min=10.6km az=72.0*

ISC 29 20:41:00.5±3.4, 50°.45N±0°.05×130°.10W±0°.05, h7km±24km, n67, σ1§90/74, mb3.6/3, MS3.2/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**81**	Pn	**Pb**	**20 41 23.5**	**-1.3**
HOLB				Sn	**Sn**	**20 41 40.4**	**-1.6**
PACB	**Port Alice, BC**	**1.67**	**90**	Pn	**Pn**	**20 41 28.6**	**-1.5**
PACB				Sn	**Sn**	**20 41 49.2**	**-2.5**
PHC	**Port Hardy**	**1.72**	**80**	Pn	**Pn**	**20 41 30.1**	**-0.8**
PHC				Sn	**Sb**	**20 41 51.1**	**-3.2**
MAYB	**Maynard**	**1.88**	**90**	Pn	**Pn**	**20 41 31.9**	**-1.3**
HG4B	**Hotspring**	**1.97**	**340**	Pn	**Pn**	**20 41 31.8**	**-2.5**
HG4B				Sn	**Sn**	**20 41 56.7**	**-2.5**
EDB	**Eliza Dome**	**2.00**	**106**	Pn	**Pn**	**20 41 32.9**	**-1.9**
EDB				Sn	**Sn**	**20 41 57.1**	**-3.0**
TLCB	**Telegraph Cove**	**2.09**	**86**	Pn	**Pn**	**20 41 35.1**	**-0.8**
TLCB				Sn	**Sn**	**20 42 00.6**	**-1.6**
BBB	**Bella Bella**	**2.14**	**35**	Pn	**Pn**	**20 41 36.6**	**0.0**
	25nm,0.3s,baz=216,slow=6.1,SNR=307						
BBB				Sn	**Sn**	**20 42 01.2**	**-2.2**
	32nm,0.3s,baz=295,slow=23,SNR=9.1						
BBB				LR	LR	20 42 12.1	
	comp=Z,90nm,21.8s,baz=237,slow=36						
BBB	**Bella Bella**	**2.14**	**35**	Pn	**Pn**	**20 41 36.4**	**-0.2**
BBB				Sn	**Sb**	**20 42 02.8**	**-3.4**
WOSB	**Woss**	**2.28**	**96**	Pn	**Pn**	**20 41 37.8**	**-0.9**
BNB	**Barry Inlet**	**2.37**	**335**	Pn	**Pn**	**20 41 37.9**	**-1.9**
NCRB	**Newcastle Ridg**	**2.59**	**89**	Pn	**Pn**	**20 41 42.5**	**-0.4**
GDR	**Gold River**	**2.70**	**103**	Pn	**Pn**	**20 41 43.0**	**-1.3**
HG1B	**Mitchell Dam**	**2.79**	**334**	Sn	**Sn**	**20 42 16.7**	**-2.7**
BUTB	**Butedale**	**2.81**	**21**	Pn	**Pn**	**20 41 46.2**	**+0.3**
BUTB				Sn	**Sn**	**20 42 18.1**	**-1.9**
BNKB	**Banks Island**	**2.89**	**2**	Pn	**Pn**	**20 41 46.2**	**-0.8**
BNKB				Sn	**Sn**	**20 42 19.2**	**-2.7**
MOBC	**Moresby Island**	**2.94**	**337**	Pn	**Pn**	**20 41 46.5**	**-1.2**
MOBC				Sn	**Sn**	**20 42 20.3**	**-2.9**
TOFB	**Tofino**	**3.01**	**114**	Sn	**Sn**	**20 42 22.7**	**-2.2**
BNAB	**Bonilla**	**3.07**	**354**	Pn	**Pn**	**20 41 48.6**	**-0.7**
BNAB				Sn	**Sn**	**20 42 23.9**	**-2.4**
CBB	**Campbell River**	**3.07**	**96**	Pn	**Pn**	**20 41 49.1**	**-0.3**
CBB				Sn	**Sn**	**20 42 24.6**	**-1.8**
BTB	**Buttle Lake**	**3.12**	**107**	Pn	**Pn**	**20 41 49.8**	**-0.4**
DIB	**Dawson Inlet,**	**3.12**	**333**	Pn	**Pn**	**20 41 48.1**	**-2.0**
DIB				Sn	**Sn**	**20 42 24.4**	**-3.3**
H02S1	**DAWSON INLET T**	**3.12**	**333**	Pn	**Pn**	**20 41 48.1**	**-2.0**
H02S1				Sn	**Sn**	**20 42 24.3**	**-3.4**
	SNR=1207						
MWAB	**Mount Washingt**	**3.17**	**101**	Pn	**Pn**	**20 41 50.2**	**-0.7**
HWKB	**Hawksbury Isla**	**3.21**	**10**	Pn	**Pn**	**20 41 50.8**	**-0.6**
HWKB				Sn	**Sn**	**20 42 29.7**	**-0.2**
OZB	**Mount Ozzard**	**3.34**	**115**	Pn	**Pn**	**20 41 52.9**	**-0.3**
OZB				Sn	**Sn**	**20 42 29.0**	**-4.2**
GRNB	**Grenville Isla**	**3.40**	**1**	Pn	**Pn**	**20 41 53.5**	**-0.6**
GRNB				Sn	**Sn**	**20 42 33.5**	**-1.1**
TXB	**Texada**	**3.73**	**99**	Pn	**Pn**	**20 41 58.8**	**+0.3**
KITB	**Kitimat**	**3.74**	**13**	Pn	**Pn**	**20 41 59.0**	**+0.4**
MGB	**Mount Grey**	**3.80**	**110**	Pn	**Pn**	**20 41 59.5**	**-0.1**
RUBB	**Prince Rupert**	**3.88**	**359**	Pn	**Pn**	**20 42 00.4**	**-0.2**
SHB	**Sechelt**	**4.11**	**100**	Pn	**Pn**	**20 42 04.4**	**+0.6**
PFB	**Port Renfrew**	**4.14**	**115**	Pn	**Pn**	**20 42 03.8**	**-0.4**
UBRB	**Upper Baezaeko**	**4.47**	**55**	Pn	**Pn**	**20 42 10.6**	**+1.8**
UBRB				Sn	**Sn**	**20 43 02.7**	**+1.6**
GOBB	**Galiano Island**	**4.53**	**107**	Pn	**Pn**	**20 42 09.4**	**-0.1**
HNBB	**Haney**	**5.01**	**101**	Pn	**Pn**	**20 42 16.0**	**0.0**
LLLB	**Lillooet**	**5.25**	**85**	Pn	**Pn**	**20 42 19.8**	**+0.5**
FSB	**Fort Saint Jam**	**5.36**	**39**	Pn	**Pn**	**20 42 22.5**	**+1.6**
VDB	**Vedder Mountai**	**5.38**	**102**	Pn	**Pn**	**20 42 22.6**	**+1.4**
MBW	**Mount Baker**	**5.59**	**104**	Pn	**Pn**	**20 42 25.3**	**+1.2**
RPW	**Rockport**	**5.95**	**106**	Pn	**Pn**	**20 42 30.1**	**+1.1**
BMBC	**Bull Mountain**	**7.36**	**37**	Pn	**Pn**	**20 42 49.7**	**+1.2**
DLBC	**Dease Lake**	**8.00**	**0**	Pn	**Pn**	**20 43 00.4**	**+3.2**
	0.3nm,0.3s,baz=180,slow=18,SNR=5.4						
NBC5	**NorthernBC 5**	**8.32**	**29**	Pn	**Pn**	**20 43 03.8**	**+2.2**
NEW	**Newport**	**8.75**	**99**	Pn	**Pn**	**20 43 05.8**	**-1.7**
	0.2nm,0.3s,baz=294,slow=20,SNR=1.4						
NEW				Lg	Lg	20 45 25.7	
	0.4nm,0.3s,baz=334,slow=17,SNR=1.6						
YBH	**Yreka Blue Hor**	**10.11**	**147**	Pn	**Pn**	**20 43 27.2**	**+1.0**
	0.1nm,0.3s,baz=346,slow=18,SNR=2.4						
YBH				LR	LR	20 46 51.3	
	comp=Z,248nm,18.6s,baz=334,slow=35						
ELK	**Elko**	**14.20**	**127**	LR	LR	20 49 04.1	
	comp=Z,95nm,21.6s,baz=300,slow=34						
NVAR	**Mina Array Bea**	**14.65**	**141**	Pn	**Pn**	**20 44 28.8**	**+0.4**
	baz=300,slow=18,SNR=1.4						
NVAR				LR	LR	20 50 12.5	
	comp=Z,76nm,19.4s,baz=282,slow=38						
YKA	**Yellowknife Ar**	**14.74**	**29**	Pn	**Pn**	**20 44 26.1**	**-3.1**
	0.2nm,0.3s,baz=217,slow=11,SNR=1.9						
KDAK	**Kodiak Island**	**15.04**	**308**	LR	LR	20 49 14.8	
	comp=Z,79nm,21.2s,baz=100,slow=32						
PDAR	**Pinedale Array**	**16.04**	**111**	Pn	**Pn**	**20 44 47.5**	**+0.9**
	0.0nm,0.3s,baz=313,slow=12,SNR=4.0						
ILAR	**Eielson Array**	**16.85**	**335**	Pn	**P**	**20 45 01.6**	**+2.8**
	baz=149,slow=11,SNR=8.2						
ILAR				LR	LR	20 51 35.0	
	comp=Z,30nm,22.0s,baz=136,slow=37						
INK	**Inuvik**	**17.99**	**356**	P	**P**	**20 45 14.6**	**+3.3**
	0.0nm,0.3s,baz=205,slow=8.2,SNR=3.3						
PFO	**Pinyon Flats O**	**19.59**	**144**	P	**Pn**	**20 45 33.0**	**+2.5**
	0.2nm,0.3s,baz=343,slow=11,SNR=3.8						
PFO				LR	LR	20 52 38.4	
	comp=Z,35nm,20.7s,baz=306,slow=36						
ULM	**Lac du Bonnet**	**21.73**	**77**	P	**P**	**20 45 52.8**	**+0.6**
	7.3nm,0.9s,baz=265,slow=9.3,SNR=2.4						
ANMO	**Albuquerque**	**23.14**	**123**	P	**P**	**20 46 09.1**	**+1.7**
	0.8nm,0.4s,baz=312,slow=11,SNR=4.1						
ANMO				LR	LR	20 56 02.7	
	comp=Z,37nm,19.3s,baz=314,slow=39						
RES	**Resolute Bay**	**28.34**	**19**	LR	LR	20 57 32.6	
	comp=Z,45nm,21.6s,baz=104,slow=35						
TXAR	**Lajitas Array**	**29.00**	**127**	P	**P**	**20 47 04.0**	**+3.1**
	0.6nm,0.8s,baz=338,slow=6.8,SNR=5.2						
TXAR				LR	LR	20 59 32.1	
	comp=Z,68nm,18.5s,baz=0.0,slow=39						
PETK	**Petropavlovsk-**	**43.00**	**303**	LR	LR	21 04 42.8	
	comp=Z,28nm,18.6s,baz=91,slow=33						
H11N2	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 53 21.7	
	baz=42,slow=76,SNR=181						
H11N3	**WAKE ISLAND Hy**	**57.90**	**262**	T	T	21 53 25.7	
	baz=42,slow=76,SNR=176						
H11N1	**WAKE ISLAND Hy**	**57.91**	**262**	T	T	21 53 26.9	
	baz=42,slow=76,SNR=122						
H11S1	**WAKE ISLAND Hy**	**58.92**	**261**	T	T	21 54 44.8	
	baz=49,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**58.93**	**261**	T	T	21 54 41.8	
	baz=49,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**58.94**	**261**	T	T	21 54 41.5	
	baz=49,slow=75,SNR=8.0						
ARCES	**ARCESS Array B**	**59.00**	**10**	LR	LR	21 17 02.5	
	comp=Z,22nm,19.6s,baz=70,slow=37						
ROSC	**El Rosal**	**65.00**	**115**	LR	LR	21 26 05.4	
	comp=Z,44nm,18.7s,baz=76,slow=42						

*INET **29** 20:57:02.1, 10°.45N×86°.67W, h15km, MW3.0*

UCR 29 20:57:10.5±1.1, 10°.49N×86°.44W, h10km, MW3.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.83**	**121**	*e*P	Pg	20 57 26.0	-0.6
SAJU				*e*S	Sg	20 57 37.8	+0.4
GUAI	**GUAI**	**0.94**	**104**	*i* P	Pg	20 57 27.8	-0.8
GRZA	**Playa Garza**	**0.98**	**126**	*e*P	Pg	20 57 28.1	-1.2
GRZA				*e*S	Sg	20 57 41.5	-0.6
GB1A	**Borinquen Arri**	**1.07**	**72**	*i* P	Pg	20 57 29.7	-1.4
GB1A				*i* S	Sg	20 57 45.1	0.0
GPS2	**Hotel Rincn d**	**1.10**	**76**	*e*P	Pg	20 57 30.3	-1.3
INDI	**Punta indio, G**	**1.11**	**124**	*e*P	Pb	20 57 30.2	-1.6
BUAI	**Buenos Aires**	**1.15**	**71**	*i* P	Pb	20 57 31.2	-1.3
COLC	**Colonia**	**1.23**	**82**	*i* P	Pn	20 57 32.0	-1.7
CUI	**Cuipilapa**	**1.26**	**82**	*i* P	Pn	20 57 32.7	-1.6
ACAL	**Aguas Claras**	**1.39**	**84**	*i* P	Pn	20 57 34.8	-1.2
PTEN	**Parque Tenorio**	**1.44**	**81**	*i* P	Pn	20 57 35.8	-1.0
JTS	**Las Juntas de**	**1.48**	**98**	*e*P	Pn	20 57 35.8	-1.4
LAFE	**Finca La Fe, P**	**1.65**	**114**	*e*P	Pn	20 57 37.5	-2.1
ARE1	**Arenal 1**	**1.69**	**91**	*e*P	Pn	20 57 40.0	-0.2
RIMA	**Rio Macho**	**2.64**	**106**	*e*P	Pn	20 57 53.4	+0.1
CDM	**Cerro de Muert**	**2.79**	**109**	*e*P	Pn	20 57 55.9	+0.1

WEL 29 21:04:21.2, 45°S±8°×16°8E±1°0, h62km±12km, M3.6/20, ML3.8/20, MLv3.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=55.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.38**	**143**	P	Pn	21 04 33.2	+0.9
MLZ				S	Sn	21 04 42.5	+2.3
MSZ	**Milford Sound**	**0.40**	**14**	P	Pn	21 04 32.3	0.0
MSZ				S	Sn	21 04 41.4	+0.9
WHZ	**Wether Hill Ro**	**0.83**	**173**	P	Pn	21 04 37.4	+0.2
WHZ				S	Sn	21 04 50.3	+1.2
WKZ	**Wanaka**	**0.90**	**75**	P	Pn	21 04 39.9	+1.8
EAZ	**Earnscleugh**	**1.09**	**99**	P	Pn	21 04 42.5	+2.0
EAZ				S	Sn	21 04 57.8	+3.1
JCZ	**Jackson Bay**	**1.22**	**36**	P	Pn	21 04 42.7	+0.4
PYZ	**Puysegur Point**	**1.35**	**215**	P	Pn	21 04 43.6	-0.3
TUZ	**Tuapeka**	**1.57**	**125**	P	Pn	21 04 48.7	+1.8
TUZ				S	Sn	21 05 08.0	+1.8
SYZ	**Scrubby Hill**	**1.75**	**148**	P	Pn	21 04 50.1	+0.8
SYZ				S	Sn	21 05 12.2	+1.7
APZ	**The Paps**	**1.77**	**176**	P	Pn	21 04 49.4	-0.3
LBZ	**Lake Benmore**	**1.84**	**69**	P	Pn	21 04 50.9	+0.4
ODZ	**Otahua Downs**	**2.02**	**90**	P	Pn	21 04 54.0	+1.0
ODZ				S	Sn	21 05 17.8	+0.6
FOZ	**Fox Glacier**	**2.11**	**44**	P	Pn	21 04 54.0	-0.2
HHSZ	**Highcliff Hill**	**2.14**	**114**	P	Pn	21 04 56.4	+1.8
TMZ	**Timaru**	**2.39**	**75**	P	Pn	21 04 58.0	0.0
GCSZ	**Gaunt Creek Bo**	**2.53**	**47**	P	Pn	21 04 59.3	-0.5
ARCZ	**Arundel**	**2.67**	**66**	P	Pn	21 05 01.1	-0.7
RPZ	**Rata Peaks**	**2.70**	**61**	P	Pn	21 05 01.6	-0.6
WVZ	**Waitaha Valley**	**2.91**	**48**	P	Pn	21 05 05.0	0.0
WACZ	**Wakanui South**	**3.10**	**70**	P	Pn	21 05 07.1	-0.6
MHCZ	**Mount Hutt**	**3.11**	**62**	P	Pn	21 05 06.7	-1.3
OXZ	**Oxford**	**3.51**	**62**	P	Pn	21 05 11.5	-1.9
MQZ	**McQueen's Vall**	**3.74**	**70**	P	Pn	21 05 15.4	-1.0
LTZ	**Lake Taylor**	**3.96**	**56**	P	Pn	21 05 18.1	-1.4
AMCZ	**Amberley**	**3.98**	**63**	P	Pn	21 05 18.5	-1.2
OKCZ	**Okains Bay**	**4.01**	**72**	P	Pn	21 05 19.0	-1.1
GVZ	**Greta Valley S**	**4.32**	**63**	P	Pn	21 05 23.1	-1.4
DSZ	**Denniston Nort**	**4.42**	**43**	P	Pn	21 05 25.6	-0.2
THZ	**Tophouse**	**4.98**	**50**	P	Pn	21 05 31.4	-2.0
QRZ	**Quartz Range**	**5.48**	**41**	P	Pn	21 05 39.7	-0.6
DUWZ	**D'Urville Isla**	**6.20**	**49**	P	Pn	21 05 51.5	+1.4

*IDC **29** 21:08:25.4±0.9, 52°.15N×169°.45W, h0km, mb3.9/17, mb1 4.0/19, mb1mx3.9/54, mbtmp3.8/19, ML3.4/2, MS3.6/2, Ms1 3.6/2, ms1mx2.7/58, Error ellipse: s-maj=27.4km s-min=18.1km az=167.0*

*AEIC **29** 21:08:28±1.6, 51°.97N±0°.10×169°.4W±0°.1, h16km±8km, ML3.5, mb3.9/10(NEIC), Error ellipse: s-maj=14.8km s-min=8.2km az=156.0*

*NEIC **29** 21:08:30.7±1.8, 52°.1N±0°.1×169°.3W±0°.1, h36km±24km, Error ellipse: s-maj=18.5km s-min=8.1km az=151.0*

ISC 29 21:08:29.6±0.8, 52°.1N±0°.1×169°.32W±0°.07, h30km, n71, σ1§07/67, mb3.9/18, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.96**	**17**		**Pn**	**21 08 47.1**	**0.0**
OKSP	**Okmok Steeple**	**1.36**	**27**		**Pn**	**21 08 52.6**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.55**	**30**		**Pn**	**21 08 55.7**	**+0.6**
OKCE	**Okmok Cone E**	**1.55**	**27**		**Pn**	**21 08 56.5**	**+1.4**
OKNC	**Okmok New Cone**	**1.58**	**27**		**Pn**	**21 08 57.0**	**+1.4**
OKFG	**Magazine Ridge**	**1.61**	**32**		**Pn**	**21 08 56.7**	**+0.8**
MAPS	**Pakushin South**	**2.27**	**38**		**Pn**	**21 09 06.0**	**+0.9**
MGOD	**Makushin Gods**	**2.29**	**39**		**Pn**	**21 09 06.4**	**+1.0**
MSW	**Makushin Switc**	**2.42**	**38**		**Pn**	**21 09 08.2**	**+1.2**
MNAT	**Makushin Natee**	**2.43**	**40**		**Pn**	**21 09 08.5**	**+1.3**
MTBL	**Makushin Table**	**2.50**	**39**		**Pn**	**21 09 09.6**	**+1.4**
KOSE	**Korovin Southe**	**2.92**	**278**		**Pn**	**21 09 15.2**	**+1.2**
KOFP	**Korovin Flat P**	**2.95**	**276**		**Pn**	**21 09 14.9**	**+0.6**
AKUT	**Akutan**	**2.99**	**44**		**Pn**	**21 09 16.3**	**+1.4**
ATKA	**Atka Island**	**3.01**	**275**	Pn	**Pn**	**21 09 14.8**	**-0.3**
KOKL	**Mount Kliuchef**	**3.02**	**277**		**Pn**	**21 09 16.6**	**+1.3**
GSIG	**Igitkin Island**	**4.08**	**272**		**Pn**	**21 09 30.1**	**+0.2**
GSTR	**Great Sitkin T**	**4.16**	**273**	Pn	**Pn**	**21 09 31.5**	**+0.6**
GSMY	**Great Sitkin M**	**4.16**	**273**		**Pn**	**21 09 31.4**	**+0.5**
GSTD	**Great Sitkin T**	**4.21**	**273**		**Pn**	**21 09 32.2**	**+0.5**
ADK	**Adak**	**4.56**	**271**	Pn	**Pn**	**21 09 36.6**	**+0.2**
KIWB	**Kanaga Island**	**4.85**	**271**	Pn	**Pn**	**21 09 40.3**	**-0.1**
KIKV	**Kanaga Island**	**4.86**	**271**		**Pn**	**21 09 41.2**	**+0.7**
KIMD	**Kanaga Island**	**4.91**	**270**		**Pn**	**21 09 41.6**	**+0.4**
SPIA	**Saint Paul Isl**	**5.17**	**354**		**Pn**	**21 09 46.7**	**+2.0**
TAFP	**Tanaga Falls P**	**5.36**	**272**		**Pn**	**21 09 48.2**	**+0.8**
TASE	**Tanaga Southea**	**5.40**	**271**		**Pn**	**21 09 48.6**	**+0.7**
GAEA	**Gareloi East**	**5.84**	**271**		**Pn**	**21 09 55.9**	**+1.8**
SDPT	**Sand Point**	**6.20**	**54**	Pn	**Pn**	**21 10 00.1**	**+1.1**
CNBA	**Chernabura Isl**	**6.44**	**61**		**Pn**	**21 10 02.6**	**+0.4**
AMKA	**Amchitka**	**7.10**	**269**	Pn	**Pn**	**21 10 11.6**	**+0.3**
CHIR	**Chirikof Islan**	**8.92**	**60**	Pn	**Pn**	**21 10 36.6**	**+0.4**
SII	**Sitkinak Islan**	**9.93**	**57**	Pn	**Pn**	**21 10 52.2**	**+2.2**
KDAK	**Kodiak Island**	**11.20**	**53**	Pn	**Pn**	**21 11 06.5**	**-0.8**
	0.2nm,0.3s,baz=126,slow=22,SNR=1.2						
KDAK				Sn	**Sn**	**21 13 09.5**	**-1.9**
	0.1nm,0.3s,baz=301,slow=18,SNR=1.9						
KDAK	**Kodiak Island**	**11.20**	**53**	Pn	**Pn**	**21 11 06.6**	**-0.7**
CNPM	**China Poot**	**12.60**	**46**	Pn	**Pn**	**21 11 26.5**	**0.0**
PWL	**Port Wells**	**14.51**	**44**	Pn	**Pn**	**21 11 50.6**	**-2.0**
HIN	**Hinchinbrook I**	**15.12**	**48**	Pn	**Pn**	**21 11 59.4**	**-1.4**
FID	**Port Fidalgo**	**15.28**	**46**	Pn	**Pn**	**21 12 00.0**	**-2.8**
BPAW	**Bear Paw Mtn.**	**15.40**	**31**	Pn	**Pn**	**21 12 06.1**	**+1.6**
BPAW				IAmb	IAmb	21 12 10.9	
	comp=Z,4.5nm,0.7s						
SCM	**Sheep Creek Mo**	**15.41**	**42**	Pn	**Pn**	**21 12 03.3**	**-1.3**
SCM				IAmb	IAmb	21 12 22.1	
	comp=Z,5.9nm,0.8s						
KLU	**Klutina**	**15.84**	**44**	Pn	**Pn**	**21 12 08.9**	**-1.3**
KLU				IAmb	IAmb	21 12 17.3	
	comp=Z,9.6nm,1.2s						
RAGM	**Ragged Mountai**	**15.96**	**49**	Pn	**Pn**	**21 12 12.5**	**+0.8**
RAGM				IAmb	IAmb	21 12 15.4	
	comp=Z,24nm,1.3s						
M24K	**Tolsona, Glenn**	**16.02**	**42**	Pn	**Pn**	**21 12 13.0**	**+0.6**
M24K				IAmb	IAmb	21 12 25.4	
	comp=Z,8.2nm,0.7s						
MLY	**Manley**	**16.13**	**29**	Pn	**Pn**	**21 12 15.6**	**+1.8**
MLY				IAmb	IAmb	21 12 34.8	
	comp=Z,5.3nm,0.9s						
N25K	**Chitina, Valde**	**16.46**	**45**	Pn	**Pn**	**21 12 17.3**	**-0.8**
WRH	**Wood River Hil**	**16.61**	**33**	Pn	**Pn**	**21 12 19.7**	**-0.1**
ILAR	**Eielson Array**	**17.20**	**34**	P	**Pn**	**21 12 26.6**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=323,slow=33,SNR=2.7						
PETK	**Petropavlovsk-**	**19.98**	**286**	P	**P**	**21 12 58.1**	**-1.1**
	comp=Z,1.3nm,0.3s,baz=84,slow=14,SNR=5.0						
INK	**Inuvik**	**23.60**	**33**	P	**P**	**21 13

KDAK Kodiak Island 10.99 54 Pn Pn 21 16 50.6 -2.7
0.6nm,0.3s,baz=261,slow=4.9,SNR=9.1
KDAK Sn Sn 21 18 45.3 -9.3
0.1nm,0.3s,baz=89,slow=14,SNR=1.5
KDAK Kodiak Island 10.99 54 Pn 21 16 51.8 -1.5
SVW2 Sparrevohn 11.47 36 Pn Pn 21 17 00.7 +0.8
RSO Redoubt South 12.17 42 Pn Pn 21 17 10.2 +0.6
RC01 Rabbit Creek A 13.76 43 Pn Pn 21 17 31.1 +0.1
PWL Port Wells 14.25 46 Pn Pn 21 17 35.6 -2.1
SML Sawmill 14.71 42 Pn Pn 21 17 44.7 +1.0
KTH Kantishna Hill 14.74 34 Pn 21 17 45.0 +0.9
HIN Hinchinbrook I 14.89 49 Pn Pn 21 17 44.3 -1.7
BPAW Bear Paw Mtn. 15.07 32 Pn Pn 21 17 50.1 +1.6
BPAW IAmb IAmb 21 17 57.5
comp=Z,11nm,0.7s
SCM Sheep Creek Mo 15.14 43 Pn 21 17 48.0 -1.3
SCM IAmb IAmb 21 17 56.9
comp=Z,16nm,1.0s
KLU Klutina 15.58 45 Pn Pn 21 17 54.1 -1.0
KLU IAmb IAmb 21 17 57.1
comp=Z,6.7nm,0.7s
IMAR Indian Mountai 15.66 24 Pn Pn 21 17 56.8 +0.7
RAGM Ragged Mountai 15.73 50 Pn 21 17 58.1 +1.1
RAGM IAmb IAmb 21 18 11.0
comp=Z,8.9nm,0.8s
MLY Manley 15.79 30 P 21 17 59.5 -1.3
MLY IAmb IAmb 21 18 07.0
comp=Z,6.7nm,0.8s
HMT Hamilton 15.91 50 Pn Pn 21 17 58.7 -0.5
HMT IAmb IAmb 21 18 05.2
comp=Z,20nm,1.0s
BMRM Bremner River 15.96 48 Pn 21 18 00.1 +0.1
BMRM IAmb IAmb 21 18 10.4
comp=Z,8.1nm,1.0s
N25K Chitina, Valde 16.21 46 Pn Pn 21 18 02.1 -1.0
WRH Wood River Hil 16.29 34 Pn Pn 21 18 04.5 +0.5
I23K Minto, Yukon-K 16.30 31 P Pn 21 18 05.0 +0.9
CCB Clear Creek Bu 16.49 34 Pn 21 18 05.8 -0.7
MDM Murphy Dome 16.54 33 P Pn 21 18 07.8 +0.6
VRDI Verde Repeater 16.58 48 Pn Pn 21 18 06.7 -1.2
WAX Waxell Ridge 16.61 51 P P 21 18 10.2 +0.2
WAX IAmb IAmb 21 18 22.7
comp=Z,18nm,0.9s
COLA College 16.61 33 Pn 21 18 08.9 +0.9
COLA IAmb IAmb 21 18 19.0
comp=Z,11nm,0.7s
IL31 16.88 34 Pn 21 18 11.9 +0.5
ILAR Eielson Array 16.88 34 Pn Pn 21 18 09.0 -2.4
comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=9.5
ILAR Eielson Array 16.88 34 P 21 18 12.8 0.0
ISLE Juniper Island 16.90 51 P 21 18 13.2 0.0
ISLE IAmb IAmb 21 18 21.8
comp=Z,11nm,0.8s
YAH Yahtse 17.12 52 Pn 21 18 14.9 +0.4
YAH IAmb IAmb 21 18 36.0
comp=Z,10nm,0.8s
BARN Barnard Glacie 17.35 49 P Pn 21 18 17.4 -0.1
BARN IAmb IAmb 21 18 21.0
comp=Z,6.1nm,0.8s
TABL Table Mountain 17.43 52 P P 21 18 19.2 +0.1
TABL IAmb IAmb 21 18 30.7
comp=Z,14nm,0.8s
CTGM Chitina Glacie 17.48 50 P P 21 18 19.9 +0.3
CTGM IAmb IAmb 21 18 30.0
comp=Z,6.8nm,0.7s
SCRK Sand Creek 17.51 39 Pn Pn 21 18 18.2 -1.1
COLD Coldfoot 17.53 25 P 21 18 20.7 +0.7
PRP Porcupine Dome 17.79 34 P Pn 21 18 22.3 -0.4
K27K Chicken 18.28 40 P P 21 18 28.1 -0.2
EGAK Eagle 18.98 39 P Pn 21 18 36.7 -0.3
EGAK IAmb IAmb 21 18 42.9
comp=Z,5.4nm,0.9s
BMAR Burnt Mountain 19.25 29 P Pn 21 18 39.8 -0.5
HYT Haines Junctio 19.26 52 P P 21 18 39.4 +0.2
HYT IAmb IAmb 21 18 45.8
comp=Z,10nm,0.7s
PEA0B Petropavlovsk- 19.80 285 P P 21 18 45.2 +0.2
PEA0B IAmb IAmb 21 18 46.6
comp=Z,5.6nm,0.7s
PETK Petropavlovsk- 19.80 285 P P 21 18 44.5 -0.5
comp=Z,0.7nm,0.3s,baz=90,slow=13,SNR=9.9
WHY Whitehorse 20.50 53 P Pn 21 18 54.1 -1.1
WHY IAmb IAmb 21 19 03.9
comp=Z,4.5nm,0.8s
DLBC Dease Lake 22.86 59 P P 21 19 18.6 +0.7
comp=Z,2.0nm,0.7s,baz=258,slow=10,SNR=3.9
DLBC Dease Lake 22.86 59 P P 21 19 18.8 +1.0
DLBC IAmb IAmb 21 19 26.3
comp=Z,8.3nm,1.1s
INK Inuvik 23.27 33 P P 21 19 20.4 -1.3
comp=Z,1.6nm,0.4s,baz=244,slow=6.9,SNR=9.9
INK Inuvik 23.27 33 P P 21 19 20.8 -0.9
INK IAmb IAmb 21 19 21.1
comp=Z,2.8nm,0.8s
YKA Yellowknife Ar 30.20 49 P P 21 20 24.7 +0.5
comp=Z,1.0nm,0.5s,baz=271,slow=7.4,SNR=4.7
EDM Edmonton 33.13 66 P P 21 20 50.9 +0.8
WALA Waterton Lakes 34.54 73 P P 21 21 03.6 +1.1
WALA IAmb IAmb 21 21 24.7
comp=Z,3.0nm,1.0s
MCMT McKenzie Canyo 37.29 79 P P 21 21 27.1 +1.0
EGMT Eagleton 37.46 72 P P 21 21 28.8 +1.3
H11N2 WAKE ISLAND Hy 37.52 218 T T 22 01 45.3
baz=24,slow=76,SNR=35
H11N3 WAKE ISLAND Hy 37.52 218 T T 22 01 46.0
baz=24,slow=76,SNR=39
H11N1 WAKE ISLAND Hy 37.54 218 T T 22 01 46.6
baz=24,slow=76,SNR=30
NVAR Mina Array Bea 37.70 91 P P 21 21 31.4 +1.8
comp=Z,0.3nm,0.6s,baz=276,slow=8.1,SNR=2.9
NVAR Mina Array Bea 37.70 91 P P 21 21 29.9 +0.2
YHH Holmes Hill 38.50 77 P P 21 21 37.4 +0.9
YHH IAmb IAmb 21 21 38.2
comp=Z,2.9nm,0.8s
H11S1 WAKE ISLAND Hy 38.71 218 T T 22 03 17.7
baz=23,slow=76,SNR=153
H11S2 WAKE ISLAND Hy 38.72 218 T T 22 03 18.7
baz=23,slow=76,SNR=122
H11S3 WAKE ISLAND Hy 38.72 218 T T 22 03 04.1
baz=23,slow=76,SNR=98
PDAR Pinedale Array 40.41 79 P P 21 21 53.3 +1.0
comp=Z,1.8nm,0.6s,baz=309,slow=3.5,SNR=9.0
PDAR Pinedale Array 40.41 79 P P 21 21 52.4 +0.1
PV13 Radium Mtn., P 43.66 84 P P 21 22 19.0 +0.1
KSRS Korea Array 45.36 277 P P 21 22 32.4 +0.3
comp=Z,0.9nm,0.7s,baz=53,slow=8.8,SNR=4.4
T25A Trinidad 46.99 82 P P 21 22 46.2 +1.0
SONM Songino Array 51.22 301 P P 21 23 16.5 -0.8
comp=Z,0.3nm,0.4s,baz=90,slow=3.0,SNR=4.0
SONM PcP **PcP 21 24 32.1 +0.1**
comp=Z,0.4nm,0.5s,baz=59,slow=2.1,SNR=2.9
SONM Songino Array 51.22 301 P P 21 23 17.0 -0.3
P40A Paris 52.77 71 P P 21 23 28.2 -0.6
TX31 Lajitas Ar. Si 52.77 89 P P 21 23 29.7 +0.7
TXAR Lajitas Array 52.78 89 P P 21 23 29.3 +0.3
comp=Z,0.9nm,0.6s,baz=301,slow=5.1,SNR=9.8
TXAR Lajitas Array 52.78 89 P P 21 23 29.6 +0.5
SCHQ Schefferville 55.38 43 P P 21 23 47.5 0.0
comp=Z,3.3nm,0.8s,baz=278,slow=11,SNR=3.1
SCHQ Schefferville 55.38 43 P P 21 23 48.0 +0.5
ZALV Zalesovo Beam 57.32 317 P P 21 24 01.1 -0.3
comp=Z,0.3nm,0.4s,baz=64,slow=6.6,SNR=1.9
ZALV PcP **PcP 21 24 54.1 -0.9**
comp=Z,0.4nm,0.4s,baz=5.7,slow=2.9,SNR=3.7
ARCES ARCESS Array B 57.81 354 P P 21 24 03.0 -1.6
comp=Z,3.4nm,0.9s,baz=32,slow=5.7,SNR=4.0
ARCES PcP **PcP 21 24 55.1 -1.6**
comp=Z,1.9nm,0.7s,baz=4.6,slow=4.5,SNR=5.1
ARCES LR LR 21 50 52.9
comp=Z,29nm,18.6s,baz=290,slow=38
LVZ Lovozero 58.61 350 P P 21 24 09.8 -0.4
MKAR Makanchi Array 63.71 313 P P 21 24 43.2 -1.9
comp=Z,0.6nm,0.8s,baz=46,slow=6.2,SNR=2.6
MKAR Makanchi Array 63.71 313 P P 21 24 44.4 -0.7
FIA1 FINESS Array S 65.76 352 P P 21 24 57.3 -0.7
FINES FINESS Array B 65.76 352 P P 21 24 57.5 -0.6
comp=Z,1.9nm,0.6s,baz=10,slow=8.4,SNR=14
FINES PcP **PcP 21 25 29.4 +0.5**
comp=Z,2.1nm,1.0s,baz=64,slow=4.4,SNR=3.3
FINES FINESS Array B 65.76 352 P P 21 24 57.3 -0.7
NC303 NORSAR Array S 66.65 360 P P 21 25 03.6 -0.2
NOA NORSAR Array B 66.83 360 P P 21 25 04.7 -0.3
comp=Z,0.6nm,0.7s,baz=2.6,slow=6.4,SNR=3.3
HFS Hagfors 67.72 358 P P 21 25 10.1 -0.5
comp=Z,1.3nm,0.4s,baz=46,slow=4.3,SNR=18

ABKAR Akbulak array 70.33 328 P P 21 25 26.7 -0.2
ABKAR Akbulak array 70.33 328 P P 21 25 26.9 0.0
ABKAR IAmb IAmb 21 25 29.2
comp=Z,1.4nm,0.8s
SLVN Son La 71.39 281 P P 21 25 34.6 +0.7
KK31 Karatay Array 71.69 318 P P 21 25 35.9 +0.5
KK31 IAmb IAmb 21 25 39.4
comp=Z,1.3nm,1.0s
KKAR Karatay Array 71.69 318 P P 21 25 35.4 0.0
AKASG Malin Array Be 76.00 348 P P 21 25 58.5 -1.8
comp=Z,0.7nm,0.4s,baz=15,slow=5.6,SNR=3.1
CM31 Chiang Mai Arr 76.56 283 P P 21 26 04.1 0.0
CMAR Chiang Mai Arr 76.56 283 P P 21 26 04.5 +0.5
comp=Z,3.6nm,0.9s,baz=27,slow=6.7,SNR=19
CMAR Chiang Mai Arr 76.56 283 P P 21 26 04.7 +0.6
GERES GERESS Array B 79.02 358 P P 21 26 17.9 +0.5
comp=Z,1.0nm,0.8s,baz=39,slow=5.1,SNR=5.0
GERES GERESS Array B 79.02 358 P P 21 26 17.8 +0.4
BUR08 Bucovina Ar. S 79.48 350 P P 21 26 20.1 +0.1
BUR08 IAmb IAmb 21 26 33.3
comp=Z,2.5nm,1.4s
BURAR Bucovina Array 79.51 350 P P 21 26 19.5 -0.6
BURAR IAmb IAmb 21 26 21.2
comp=Z,1.0nm,1.0s
KBZ Khabaz 80.20 337 P P 21 26 24.8 +1.0
comp=Z,1.6nm,0.8s,baz=241,slow=5.8,SNR=3.6
ESDC Sonseca Array 87.36 11 P P 21 27 00.3 -0.2
comp=Z,1.3nm,0.7s,baz=350,slow=4.3,SNR=7.9
ESDC Sonseca Array 87.36 11 P P 21 27 00.6 +0.1
ESDC IAmb IAmb 21 27 01.4
comp=Z,1.0nm,0.8s
ASAR Alice Springs 90.44 230 P P 21 27 14.5 -0.5
comp=Z,0.7nm,0.9s,baz=30,slow=4.4,SNR=6.1
ASAR Alice Springs 90.44 230 P P 21 27 14.1 -0.9

*ROM **29** 21:23:33.5±0.3, 40.°60N±0.°03×15.°41E±0.°04, h306km±2km, ML2.9/39, Error ellipse: s-maj=3.7km s-min=2.3km az=55.0*
*IDC **29** 21:23:36.7±1.8, 40.°68N×15.°27E, h304km±22km, mb2.9/5, mb1 2.9/11, mb1mx2.8/40, mbtmp3.6/11, Error ellipse: s-maj=22.1km s-min=15.5km az=84.0*
ISC 29 21:23:35.3±0.7, **40.63N**±0.06×**15.64E**±0.07, **h293**km±6km, **n92**, σ1.**932**/98, **mb3.3**/4, **8C-28D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MRLC	**Muro Lucano**	**0.17**	**318**		⇓P	**Pn**	**21 24 13.4**	**+0.9**
MRLC					AML	AML		
	comp=E,76μm,0.4s							
MRLC					AML	AML		
	comp=N,100μm,0.6s							
MRLC					AML	AML		
	comp=N,100μm,0.6s							
MRLC					AML	AML		
	comp=E,76μm,0.4s							
MRLC					AML	AML		
	comp=N,100μm,0.6s							
COL3	**Colliano**	**0.24**	**284**		P	**Pn**	**21 24 13.5**	**+0.8**
RDM3	**Ruvo Del Monte**	**0.26**	**342**		P	**Pn**	**21 24 14.2**	**+1.5**
ACER	**Acerenza**	**0.28**	**56**		⇓P	**Pn**	**21 24 13.6**	**+0.9**
CDRU	**Civita di Ruta**	**0.29**	**241**		P	**Pn**	**21 24 13.2**	**+0.4**
CDRU					AML	AML		
	comp=E,45μm,0.3s							
CDRU					AML	AML		
	comp=N,35μm,0.3s							
CDRU					AML	AML		
	comp=E,45μm,0.3s							
VULT	**Monte Vulture**	**0.33**	**357**		P	**Pn**	**21 24 13.4**	**+0.6**
MCEL	**Monticello**	**0.33**	**158**		⇓P	**Pn**	**21 24 14.1**	**+1.2**
MCEL					S	**S**	**21 24 44.3**	**+1.5**
MCEL					AML	AML		
	comp=E,57μm,0.2s							
MCEL					AML	AML		
	comp=N,68μm,0.6s							
MCEL					AML	AML		
	comp=N,94μm,0.9s							
MCEL					AML	AML		
	comp=E,107μm,0.9s							
MTSN	**Montesano sull**	**0.37**	**167**		P	**Pn**	**21 24 13.6**	**+0.6**
MTSN					AML	AML		
	comp=E,51μm,1.6s							
MTSN					AML	AML		
	comp=N,79μm,0.8s							
MTSN					AML	AML		
	comp=N,79μm,0.8s							
MCRV	**Calabrutti - M**	**0.39**	**293**		P	**Pn**	**21 24 13.2**	**+0.3**
PALZ	**Palazzo San Ge**	**0.40**	**38**		⇓P	**Pn**	**21 24 14.0**	**+1.2**
PALZ					AML	AML		
	comp=E,149μm,0.7s							
PALZ					AML	AML		
	comp=N,95μm,0.5s							
PALZ					AML	AML		
	comp=N,102μm,1.1s							
CMPR	**Campora**	**0.40**	**220**		P	**Pn**	**21 24 13.2**	**+0.2**
LIO3	**Lioni**	**0.44**	**308**		P	**Pn**	**21 24 13.3**	**+0.3**
SNAL	**S. Angelo Dei**	**0.44**	**312**		⇓P	**Pn**	**21 24 13.6**	**+0.6**
SNAL					AML	AML		
	comp=N,79μm,1.3s							
SNAL					AML	AML		
	comp=E,80μm,1.3s							
SIRI	**Monte Sirino -**	**0.48**	**159**		P	**Pn**	**21 24 14.0**	**+0.7**
SIRI					S	**S**	**21 24 44.9**	**+1.5**
SIRI					AML	AML		
	comp=N,71μm,0.4s							
SIRI					AML	AML		
	comp=E,70μm,0.2s							
RSF3	**Rocca San Feli**	**0.48**	**314**		P	**Pn**	**21 24 13.4**	**+0.4**
MGR	**Morigerati**	**0.50**	**188**		⇓P	**Pn**	**21 24 13.7**	**+0.6**
MGR					S	**S**	**21 24 42.7**	**-0.5**
MGR					AML	AML		
	comp=E,38μm,1.0s							
MGR					AML	AML		
	comp=N,54μm,0.5s							
MGR					AML	AML		
	comp=E,38μm,1.0s							
CAFE	**Carife**	**0.50**	**323**		⇓P	**Pn**	**21 24 14.1**	**+0.9**
CAFE					AML	AML		
	comp=N,102μm,0.9s							
CAFE					AML	AML		
	comp=N,102μm,0.9s							
CAFE					AML	AML		
	comp=E,225μm,0.8s							
SCHR	**S. Chirico Rap**	**0.54**	**142**		⇓P	**Pn**	**21 24 14.5**	**+1.1**
SCHR					S	**S**	**21 24 44.3**	**+0.7**
CAPA	**Cerignola FG**	**0.55**	**14**		P	**Pn**	**21 24 13.8**	**+0.7**
BULG	**Bulgheria - Ca**	**0.59**	**200**		P	**Pn**	**21 24 13.9**	**+0.4**
MRVN	**Minervino Murg**	**0.60**	**44**		⇓P	**Pn**	**21 24 14.4**	**+1.0**
MIGL	**Miglionico**	**0.61**	**92**		⇓P	**Pn**	**21 24 14.8**	**+1.4**
MIGL					S	**S**	**21 24 45.1**	**+1.4**
MIGL					AML	AML		
	comp=E,119μm,0.8s							
MIGL					AML	AML		
	comp=N,172μm,0.6s							
MIGL					AML	AML		
	comp=E,298μm,1.3s							
MIGL					AML	AML		
	comp=N,216μm,1.3s							
CUC	**Castrocucco**	**0.65**	**168**		⇓P	**Pn**	**21 24 14.0**	**+0.3**
CUC					S	**S**	**21 24 43.1**	**-1.0**
CUC					AML	AML		
	comp=E,41μm,0.6s							
CUC					AML	AML		
	comp=N,56μm,1.4s							
CRAC	**Craco**	**0.66**	**113**		⇓P	**Pn**	**21 24 15.1**	**+1.5**
CRAC					S	**S**	**21 24 44.4**	**+0.4**
CRAC					AML	AML		
	comp=E,122μm,1.5s							
CRAC					AML	AML		
	comp=N,124μm,0.3s							
MRB1	**Monte Rocchett**	**0.71**	**315**		⇓P	**Pn**	**21 24 14.2**	**+0.6**
AMUR	**Altamura**	**0.78**	**69**		⇓P	**Pn**	**21 24 15.5**	**+1.5**
AMUR					S	**S**	**21 24 45.1**	**+0.4**
AMUR					AML	AML		
	comp=N,47μm,1.2s							
AMUR					AML	AML		
	comp=N,47μm,1.2s							
AMUR					AML	AML		
	comp=E,46μm,0.5s							
MATE	**Matera**	**0.81**	**88**		P	**Pn**	**21 24 15.5**	**+1.4**
MOCO	**Biccari - m.te**	**0.82**	**334**		⇓P	**Pn**	**21 24 14.7**	**+0.5**
MOCO					AML	AML		
	comp=N,30μm,0.2s							
MOCO					AML	AML		
	comp=E,54μm,0.7s							
MOCO					AML	AML		
	comp=E,55μm,0.7s							
MOCO					AML	AML		
	comp=N,30μm,0.2s							
PSB1	**Pescosannita**	**0.86**	**314**		P	**Pn**	**21 24 14.5**	**+0.3**
SALB	**San Lorenzo Be**	**0.93**	**144**		⇓P	**Pn**	**21 24 15.7**	**+0.9**
SALB					S	**S**	**21 24 47.1**	**+1.0**
SALB					AML	AML		
	comp=E,26μm,1.0s							
SALB					AML	AML		
	comp=N,21μm,1.6s							
SALB					AML	AML		
	comp=E,66μm,1.0s							
SALB					AML	AML		
	comp=N,46μm,0.9s							
VITU	**Vitulano (BN)**	**0.94**	**306**		P	**Pn**	**21 24 14.6**	**0.0**
VITU					AML	AML		
	comp=E,119μm,0.3s							
VITU					AML	AML		
	comp=N,150μm,0.4s							
VITU					AML	AML		
	comp=N,150μm,0.4s							
T0702	**Acquaformosa (**	**0.97**	**159**		P	**Pn**	**21 24 15.2**	**+0.3**
T0702					S	**S**	**21 24 45.4**	**-1.0**
GATE	**Gambatesa**	**1.04**	**328**		P	**Pn**	**21 24 15.7**	**+0.7**
GATE					AML	AML		
	comp=N,89μm,0.3s							
GATE					AML	AML		
	comp=E,180μm,0.4s							
GATE					AML	AML		
	comp=N,89μm,0.3s							
SACR	**S. Croce Del S**	**1.04**	**318**		P	**Pn**	**21 24 15.5**	**+0.4**
NOCI	**Noci**	**1.09**	**81**		⇓P	**Pn**	**21 24 17.0**	**+1.6**
NOCI					AML	AML		
	comp=E,38μm,0.9s							
NOCI					AML	AML		
	comp=N,25μm,1.5s							
MSAG	**Monte S. Angel**	**1.10**	**11**		AML	AML		
	comp=N,286μm,0.4s							
MSAG					AML	AML		
	comp=E,132μm,0.2s							
TDS	**Terranova Siba**	**1.11**	**151**		⇓P	**Pn**	**21 24 17.5**	**+2.0**
TDS					AML	AML		
	comp=N,30μm,0.8s							
TDS					AML	AML		
	comp=E,43μm,1.4s							
PTRJ	**Pietraroja**	**1.11**	**311**		P	**Pn**	**21 24 15.3**	**-0.2**
CET2	**Cetraro**	**1.13**	**167**		⇑P	**Pn**	**21 24 16.6**	**+0.9**
CET2					AML	AML		
	comp=N,145μm,0.5s							
CET2					AML	AML		
	comp=E,126μm,0.4s							
SGRT	**San Giovanni R**	**1.13**	**4**		⇑P	**Pn**	**21 24 15.0**	**-0.6**
SGRT					AML	AML		
	comp=E,180μm,0.2s							
SGRT					AML	AML		
	comp=N,110μm,1.5s							
CIGN	**Sant'Elia a Pi**	**1.16**	**332**		P	**Pn**	**21 24 15.7**	**0.0**
CIGN					AML	AML		
	comp=E,48μm,1.5s							
CIGN					AML	AML		
	comp=N,41μm,0.4s							
BSSO	**Busso**	**1.21**	**320**		⇓P	**Pn**	**21 24 16.5**	**+0.5**
BSSO					AML	AML		
	comp=N,38μm,0.3s							
BSSO					AML	AML		
	comp=E,33μm,0.9s							
SGG	**Gregorio Mates**	**1.22**	**309**		P	**Pn**	**21 24 16.1**	**0.0**
SGG					AML	AML		
	comp=N,93μm,0.4s							
SGG					AML	AML		
	comp=E,74μm,0.6s							
VAGA	**Valle Agricola**	**1.32**	**307**		P	**Pn**	**21 24 17.2**	**+0.6**
VAGA					AML	AML		
	comp=E,46μm,0.7s							
VAGA					AML	AML		
	comp=N,68μm,1.5s							
CELI	**Celico**	**1.40**	**151**		⇑P	**Pn**	**21 24 19.1**	**+1.8**
CELI					AML	AML		
	comp=E,198μm,0.9s							
CELI					AML	AML		
	comp=N,176μm,0.9s							
TRIV	**Trivento**	**1.40**	**324**		⇓P	**Pn**	**21 24 17.1**	**0.0**
TRIV					AML	AML		
	comp=N,44μm,1.6s							
TRIV					AML	AML		
	comp=E,47μm,1.5s							
SPS2	**Spezzano della**	**1.44**	**158**		P	**Pn**	**21 24 20.2**	**+2.7**
SPS2					AML	AML		
	comp=E,13μm,0.9s							
SPS2					AML	AML		
	comp=N,12μm,1.0s							
SPS2					AML	AML		
	comp=E,45μm,0.5s							
SPS2					AML	AML		
	comp=N,53μm,0.7s							
CAR1	**CAROLEI**	**1.44**	**162**		⇑P	**Pn**	**21 24 18.7**	**+1.2**
CAR1					AML	AML		
	comp=E,146μm,0.4s							
CAR1					AML	AML		
	comp=N,124μm,0.9s							
MIDA	**Miranda**	**1.46**	**314**		P	**Pn**	**21 24 17.6**	**+0.1**
MIDA					AML	AML		
	comp=N,66μm,0.6s							
MIDA					AML	AML		
	comp=E,110μm,0.8s							
PIPA	**Pietrapaola**	**1.46**	**141**		⇓P	**Pn**	**21 24 19.5**	**+1.9**
PIPA					AML	AML		
	comp=E,48μm,1.4s							
PIPA					AML	AML		
	comp=N,35μm,1.2s							
PIPA					AML	AML		
	comp=E,124μm,0.6s							
PIPA					AML	AML		
	comp=N,100μm,0.5s							
TREM	**Isole Tremiti**	**1.50**	**356**		P	**Pn**	**21 24 15.5**	**-2.1**
CERA	**Filignano**	**1.56**	**309**		AML	AML		
	comp=E,68μm,1.1s							
CERA					AML	AML		
	comp=N,58μm,0.5s							
TIP	**Timpagrande**	**1.69**	**149**		⇑P	**Pn**	**21 24 20.5**	**+1.3**
TIP					AML	AML		
	comp=E,87μm,0.4s							
TIP					AML	AML		
	comp=N,57μm,0.5s							
SERS	**Sersale**	**1.79**	**153**		⇓P	**Pn**	**21 24 21.3**	**+1.3**
SERS					AML	AML		
	comp=E,106μm,1.0s							
SERS					AML	AML		
	comp=N,150μm,0.4s							
INTR	**Introdacqua**	**1.90**	**317**		⇓P	**Pn**	**21 24 20.6**	**-0.1**
INTR					AML	AML		
	comp=E,34μm,1.2s							
INTR					AML	AML		
	comp=N,56μm,0.6s							
INTR					AML	AML		
	comp=N,66μm,0.9s							
INTR					AML	AML		
	comp=E,67μm,1.0s							
JOPP	**Joppolo**	**2.03**	**175**		⇑P	**Pn**	**21 24 22.0**	**+0.2**
JOPP					AML	AML		
	comp=E,106μm,0.4s							
JOPP					AML	AML		
	comp=N,77μm,0.4s							
PLAC	**Placanica**	**2.26**	**164**		⇑P	**Pn**	**21 24 24.5**	**+0.7**
PLAC					AML	AML		
	comp=E,187μm,0.4s							
PLAC					AML	AML		
	comp=N,124μm,0.5s							
MSRU	**Castanea**	**2.37**	**182**		⇑P	**Pn**	**21 24 24.8**	**+0.2**
MSRU					AML	AML		
	comp=E,130μm,1.3s							
MSRU					AML	AML		
	comp=N,93μm,1.3s							
SOI	**Samo**	**2.57**	**173**		⇓P	**Pn**	**21 24 27.2**	**+0.7**
MCSR	**Castroreale**	**2.58**	**187**		⇓P	**Pn**	**21 24 27.5**	**+0.8**
MCSR					AML	AML		
	comp=N,94μm,0.8s							
MCSR					AML	AML		
	comp=E,108μm,0.4s							
MPAZ	**Palizzi**	**2.69**	**174**		⇓P	**Pn**	**21 24 28.3**	**+0.7**
MPAZ					AML	AML		
	comp=E,124μm,0.2s							
MPAZ					AML	AML		
	comp=N,100μm,0.6s							
STON	**Ston**	**2.72**	**34**		⇓P	**Pn**	**21 24 29.5**	**+1.9**

ARRO	Arrone	2.91	313	S	S	21 25 11.0	-1.8
TOLF	Tolfa	3.09	299	S	S	21 25 20.0	+3.8
CLTB	Caltabellotta	3.58	213	S	S	21 25 28.0	+2.1
CPGN	Carpegna, Ital	4.01	323	S	S	21 25 39.0	+4.8
SFI	Santa Sofia	4.32	321	⇓P	Pn	21 24 47.2	+2.6
TRI	Trieste	5.26	346	P	Pn	21 24 59.3	+4.0
GEPF	Gemona	5.93	343	P	Pn	21 25 10.6	+7.3
OBKA	Obir	5.93	353	*e*Pn	Pn	21 25 04.2	+0.7
	comp=N,2.8nm,0.6s						
SOKA	Soboth	6.06	356	*e*Pn	Pn	21 25 05.7	+0.6
	comp=N,1.2nm,0.4s,SNR=4.0						
ABTA	Abfaltersbach	6.52	341	*e*Pn	Pn	21 25 10.7	+0.1
	comp=N,5.3nm,0.6s,SNR=6.1						
WTTA	Wattenberg	7.23	338	*e*Pn	Pn	21 25 19.0	-0.4
	comp=N,1.4nm,0.5s						
MOA	Molln	7.29	353	*e*Pn	Pn	21 25 20.6	+0.7
	comp=N,8.2nm,1.8s						
CONA	Conrad Observa	7.30	1	*e*Pn	Pn	21 25 22.1	+2.0
	comp=N,4.4nm,1.4s						
FETA	Feichten	7.31	333	*i* Pn	Pn	21 25 21.2	+0.9
	comp=N,4.3nm,0.6s,SNR=5.3						
WATA	Walderalm	7.32	338	*e*Pn	Pn	21 25 20.5	+0.2
	comp=N,4.2nm,0.5s						
SQTA	Sankt Quirin	7.32	336	*e*Pn	Pn	21 25 21.9	+1.4
	comp=N,1.8nm,0.3s,SNR=4.2						
DAVOX	Davos/Dischmat	7.43	328	P	Pn	21 25 22.3	+0.5
	comp=N,0.8nm,0.3s,baz=168,slow=15,SNR=9.0						
MOTA	Moosalm	7.47	336	*e*Pn	Pn	21 25 22.3	+0.1
	comp=N,8.4nm,1.1s,SNR=4.7						
RETA	Reutte	7.70	335	*e*Pn	Pn	21 25 25.8	+0.7
	comp=N,3.2nm,0.5s						
DAVA	Damuels	7.84	330	*e*Pn	Pn	21 25 26.6	-0.2
	comp=N,3.9nm,0.5s,SNR=4.4						
GERES	GERESS Array B	8.33	351	P	Pn	21 25 33.4	+0.6
	comp=N,0.4nm,0.3s,baz=166,slow=13,SNR=13						
VRAC	Vranov	8.71	4	P	P	21 25 39.3	-3.4
	comp=N,0.3nm,0.3s,baz=205,slow=12,SNR=4.4						
IDI	Anoyia	9.04	123	P	P	21 25 45.0	-1.7
	comp=N,0.4nm,0.3s,baz=335,slow=8.8,SNR=5.6						
EKA	Eskdalemuir Ar	19.26	326	P	P	21 27 37.8	-0.7
	baz=122,slow=7.6,SNR=5.4						
HFS	Hagfors	19.57	357	P	P	21 27 40.6	-1.0
	comp=N,0.2nm,0.3s,baz=174,slow=11,SNR=7.6						
NOA	NORSAR Array B	20.62	354	P	P	21 27 50.8	-1.8
	comp=N,0.2nm,0.5s,baz=165,slow=8.8,SNR=1.6						
FINES	FINESS Array B	21.80	14	P	P	21 28 04.8	+1.2
	comp=N,1.3nm,0.4s,baz=191,slow=8.6,SNR=14						
ARCES	ARCESS Array B	29.43	7	P	P	21 29 12.2	+0.4
	comp=N,0.7nm,0.6s,baz=191,slow=9.9,SNR=6.1						
TORD	Torodi Ar. Bea	29.98	208	P	P	21 29 17.0	-0.2
	comp=N,0.3nm,0.4s,baz=15,slow=9.5,SNR=5.9						
MKAR	Makanchi Array	47.27	59	P	P	21 31 42.3	+2.8
	comp=N,0.5nm,0.5s,baz=273,slow=7.9,SNR=8.1						

IDC 29 21:28:04.7±2.2, 17°.32S×174°.79W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.7/36, mbtmp3.7/5, MS3.4/6, Ms1 3.4/6, ms1mx3.0/40, Error ellipse: s-maj=137.8km s-min=26.3km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.84	266	LR	LR	21 32 19.8	
	comp=Z,645nm,19.1s,baz=80,slow=37						
RAR	Rarotonga	14.70	108	LR	LR	21 35 25.1	
	comp=Z,141nm,20.8s,baz=226,slow=30						
DZM	Mont Dzumac	18.28	252	*e*LR	LR	21 37 00.8	
	comp=Z,196nm,24.9s						
DZM	Mont Dzumac	18.28	252	LR	LR	21 38 59.8	
	comp=Z,61nm,18.7s,baz=61,slow=36						
URZ	Urewera	22.03	197	LR	LR	21 39 50.8	
	comp=Z,68nm,19.3s,baz=214,slow=32						
PAE	Paea	24.05	95	*e*T	T	21 57 09.6	
	5.4nm,0.3s						
PPT2	Papeete2	24.05	94	*e*LR	LR	21 38 52.9	
	comp=Z,221nm,26.2s						
PPT	Papeete	24.05	94	LR	LR	21 39 47.2	
	comp=Z,93nm,20.9s,baz=220,slow=29						
TBI	Tubuai	24.48	108	*e*LR	LR	21 39 07.0	
	comp=Z,186nm,27.5s						
TBI	Tubuai	24.48	108	*e*T	T	21 57 33.0	
	6.8nm,0.3s						
HNR	Honiara	25.77	284	LR	LR	21 42 29.7	
	comp=Z,121nm,20.0s,baz=79,slow=34						
TAOE	Nuku Hiva Isla	34.73	80	*e*T	T	22 10 10.8	
	18nm,0.2s						
WRA	Warramunga Arr	48.13	259	P	P	21 36 47.0	+0.1
	0.5nm,0.4s,baz=98,slow=7.2,SNR=11						
ASAR	Alice Springs	48.27	254	P	P	21 36 47.8	-0.2
	5.1nm,0.6s,baz=91,slow=7.9,SNR=38						
TXAR	Lajitas Array	82.79	56	P	P	21 40 32.9	+1.7
	0.1nm,0.6s,baz=216,slow=4.5,SNR=1.9						
PDAR	Pinedale Array	84.58	42	P	P	21 40 38.6	-1.7
	0.3nm,0.8s,baz=212,slow=3.2,SNR=1.7						
ILAR	Eielson Array	84.58	12	P	P	21 40 39.4	-0.1
	0.7nm,0.9s,baz=209,slow=7.2,SNR=3.5						

TUL 29 21:37:48±0.7, 36°.80N±0°.01×98°.02W±0°.03, h4km±2km, ML2.5, mb_Lg2.3/16(NEIC), Error ellipse: s-maj=3.0km s-min=1.8km az=95.0

NEIC 29 21:37:48.3±0.7, 36°.78N±0°.01×98°.01W±0°.02, h6km±3km, Error ellipse: s-maj=2.1km s-min=1.7km az=75.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.14	57	Pg	Pg	21 37 51.2	0.0
GC02				Sg	Sg	21 37 53.6	+0.5
OK032	Salt Plains WL	0.17	280		Pg	21 37 51.5	-0.1
OK032				Sg	Sg	21 37 53.9	+0.1
CROK	Carrier	0.27	176	Pg	Pg	21 37 53.9	+0.3
KAN17	Caldwell West	0.33	36	Pg	Pg	21 37 54.6	-0.1
KAN05	Bluff City Nor	0.35	18	Pg	Pg	21 37 55.0	-0.1
KAN10	Anthony SW Sta	0.35	349		Pg	21 37 55.0	-0.2
KAN08	Anthony NE Sta	0.45	4	Pg	Pg	21 37 56.8	-0.2
KAN13	South Haven SW	0.49	61		Pg	21 37 57.6	-0.1
KAN12	Harper NE Stat	0.52	1		Pg	21 37 58.2	-0.2
KAN12				Sg	Sg	21 38 05.2	+0.1
KS20	Mayfield South	0.58	39		Pg	21 37 59.2	-0.3
BLOK	Blackwell	0.64	91		Pg	21 38 00.5	-0.1
BLOK				Sg	Sg	21 38 09.2	+0.3
U32A	Winter Ranch,	0.89	244	Pg	Pg	21 38 04.9	-0.4
BCOK	Bluff Creek, N	1.16	164	Pg	Pg	21 38 10.4	-0.2
BCOK				Sg	Sn	21 38 26.8	-0.5
T35A	Sooner Cattle	1.21	83		Pg	21 38 10.7	-0.8
T35A				Sg	Sg	21 38 26.8	-0.3
QUOK	Quay	1.21	120		Pg	21 38 11.0	-0.5
OK031	S. Brethren Rd	1.25	131		Pg	21 38 11.9	-0.4
OK025	Westminster Rd	1.31	155		Pn	21 38 12.8	-0.3
FNO	Franklin	1.59	162	Pn	Pn	21 38 17.4	+0.4
R32A	Long Quarter,	1.74	341		Pn	21 38 19.4	+0.3
WMOK	Wichita Mounta	2.13	197	Pn	Pn	21 38 24.9	+0.6
X34A	Smith Ranch, M	2.17	176	Pn	Pn	21 38 26.0	+1.0
U38A	Gravette	2.93	95	Pn	Pn	21 38 35.8	+0.3
X37A	Clayton	3.06	135	Pn	Pn	21 38 38.0	+0.8
AMTX	Amarillo	3.53	239	IAmb_Lg		21 39 42.3	
	comp=Z,9.7nm,0.8s						
W39A	Magazine	3.77	113	IAmb_Lg		21 39 50.4	
	comp=Z,7.4nm,0.8s						
S39A	Bolivar	3.85	75	Pn	Pn	21 38 48.6	+0.5
S39A				IAmb_Lg		21 39 55.8	
	comp=Z,6.9nm,1.0s						
U40A	Yellville	4.17	94	Pn	Pn	21 38 53.4	+0.9
MIAR	Mount Ida	4.24	120	IAmb_Lg		21 40 06.6	
	comp=Z,8.5nm,1.1s						
MGMO	Mountain Grove	4.61	84	Pn	Pn	21 38 58.8	+0.2
MGMO				IAmb_Lg		21 40 14.3	
	comp=Z,3.7nm,0.9s						
FCAR	Ozark Folk Cen	4.83	99	IAmb_Lg		21 40 22.1	
	comp=Z,3.6nm,0.7s						
P40A	Paris	5.44	58	IAmb_Lg		21 40 45.7	
	comp=Z,5.8nm,0.8s						
CCM	Cathedral Cave	5.53	75	IAmb_Lg		21 40 46.1	
	comp=Z,4.3nm,0.8s						

JMA 29 21:40:23.8±0.2, 22°.18N×121°.83E, h0km, M3.3
TAP 29 21:40:24.3, 21°.98N×121°.65E, h15km, ML3.0, D

ISC 29 21:40:24.0±1.1, 22°.06N±0°.04×121°.68E±0°.03, h16km±6km, n54, σ0°.77/80, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.12	259	⇑*i*P	Pg	21 40 27.7	0.0
	baz=306						
LAY				*e*S	Sg	21 40 30.1	0.0
	baz=306						
LDUT	Ludao	0.64	342	*e*P	Pb	21 40 37.2	+0.4
	baz=357						
LDUT				*e*S	Sn	21 40 47.4	-0.8
	baz=357						
TSEB	Hengchuen, Pin	0.74	258	*e*S	Sn	21 40 50.2	-0.5
	baz=264						
TAW	Tawu	0.78	292	*e*S	Sn	21 40 50.8	-0.9
	baz=300						
TWKBT	Hengchun	0.81	262	*e*P	Pb	21 40 38.8	-0.9
	baz=284						
TWKBT				*e*S	Sb	21 40 50.5	+0.1
	baz=284						
TWK1	Hengchun	0.82	262	*e*P	Pb	21 40 39.6	-0.2
	baz=284						
TWK1				S	Sb	21 40 50.5	-0.2
	baz=284						
SLIU	Shizi	0.83	281	*e*P	Pb	21 40 40.0	0.0
	baz=288						
SLIU				*e*S	Sg	21 40 51.7	+0.6
	baz=288						
EAST	Anshuo	0.83	293	*e*P	Pg	21 40 40.4	+0.1
	baz=299						
TTN	Taitung	0.85	324	*e*S	Sn	21 40 53.8	+0.5
	baz=340						
ECL	Taimali	0.86	309	P	Pg	21 40 40.7	0.0
	baz=302						
ECL				*e*S	Sg	21 40 52.5	+0.6
	baz=302						
TWGBT	Beinan	0.94	324	*e*P	Pn	21 40 42.4	0.0
	baz=312						
TWGBT				*e*S	Sn	21 40 55.5	0.0
	baz=312						
TWG	Pinlang	0.94	323	*e*P	Pg	21 40 42.5	+0.2
	baz=312						
TWG				*e*S	Sn	21 40 55.5	-0.1
	baz=312						
LONT	Longtian	0.98	329	*e*S	Sn	21 40 56.6	-0.1
	baz=343						
SCZT	Fangliau	1.03	288	*e*P	Pg	21 40 44.6	+0.7
	baz=304						
CHKT	Chengkung	1.07	344	*i* P	Pb	21 40 44.0	-0.2
	baz=347						
CHKT				S	Sn	21 40 58.9	0.0
	baz=347						
MASBT	Mashibuluo	1.11	300	*e*P	Pn	21 40 45.0	+0.1
	baz=315						
SSD	Sandimen	1.19	305	*e*P	Pg	21 40 46.7	-0.2
	baz=319						
FULB	Fuli	1.19	343	*e*P	Pb	21 40 46.1	0.0
	baz=356						
FULB				*e*S	Sg	21 41 02.7	+0.2
	baz=356						
ECBN	Changbin	1.27	350	S	Sn	21 40 03.8	+0.1
	baz=2.0						
ELDTW	Lidau	1.28	331	*e*P	Pg	21 40 48.3	-0.3
	baz=343						
TWF1	Yuli	1.33	345	P	Pn	21 40 48.2	+0.3
	baz=331						
TWF1				*e*S	Sg	21 41 07.6	+0.6
	baz=331						
YULB	Yu-li	1.37	345	P	Pb	21 40 49.1	-0.1
	baz=332						
YULB				*e*S	Sg	21 41 07.6	-0.7
	baz=332						
STYH	Taoyuan	1.38	323	*e*P	Pg	21 40 50.5	-0.1
	baz=327						
STYT	Tauyuan	1.39	322	*e*P	Pg	21 40 50.6	-0.1
	baz=326						
STYT				*e*S	Sg	21 41 09.1	+0.3
	baz=326						
SGST	Jiashian	1.44	315	*e*P	Pg	21 40 51.7	+0.1
	baz=326						
HGSD	Ruisui	1.44	351	*e*P	Pn	21 40 49.3	-0.1
	baz=1.0						
WTP	Ta-pu	1.54	320	*e*P	Pg	21 40 53.4	-0.1
	baz=334						
CHN1	Nanshi	1.54	317	*e*P	Pb	21 40 52.5	+0.3
	baz=320						
CHN1				*e*S	Sg	21 41 12.9	-0.9
	baz=320						
TWK	Hsinying	1.63	318	*e*P	Pg	21 40 55.6	+0.3
	baz=322						
TEGC	Jichi Village	1.64	356	*e*S	Sb	21 41 14.4	0.0
	baz=356						
ALS	Alishan	1.65	331	*e*P	Pb	21 40 55.0	+0.8
	baz=334						
CHN5	Tsauling	1.79	329	*e*P	Pg	21 40 57.8	-0.5
	baz=332						
SSLB	Suanglung	1.84	339	*e*P	Pb	21 40 57.8	+0.5
	baz=353						
ETM	Tongmen	1.90	355	*e*S	Sb	21 41 21.1	-0.7
	baz=4.0						
SMLT	Sun Moon Lake	1.95	339	*e*P	Pb	21 40 58.8	-0.4
	baz=351						
TYC	Yuchr	1.98	338	*e*P	Pb	21 40 59.7	+0.1
	baz=351						
CHGB	Renai	2.04	347	*e*P	Pb	21 41 00.0	-0.8
	baz=358						
NACB	Ninganchiao	2.10	358	*e*P	Pn	21 40 59.1	+0.6
	baz=7.0						
NACB				*e*S	Sn	21 41 25.9	+1.6
	baz=7.0						
WHF	Hehuan Shan	2.11	350	*e*P	Pb	21 41 00.9	-1.1
	baz=350						
WHF				*e*S	Sb	21 41 27.4	-0.8
	baz=350						
TDCB	Techi	2.23	348	*e*P	Pb	21 41 02.6	-1.4
	baz=357						
TDCB				*e*S	Sn	21 41 29.5	+1.8
	baz=357						
NNSB	Datong	2.37	353	*e*S	Sb	21 41 33.8	-1.7
	baz=4.0						
YHNB	Yeheng	2.61	354	*e*P	Pn	21 41 08.1	+2.5
	baz=3.0						
YHNB				*e*S	Sb	21 41 39.9	-2.4
	baz=3.0						
JYNG	Yonagunijimaku	2.65	26	P	Pn	21 41 07.7	+1.7
JYNG				S	Sn	21 41 37.9	+0.1
YOJ	Yonaguni jima	2.68	27	P	Pn	21 41 07.8	+1.3
YOJ				*e*S	Sn	21 41 39.8	+1.1
HATJ	Hateruma jima	2.79	44	P	Pn	21 41 08.4	+0.5
HATJ				S	Sn	21 41 41.2	0.0
IRIF	Iriomote-Funau	2.94	39	P	Pn	21 41 10.8	+0.7
IRIF				S	Sn	21 41 46.1	+1.0
JKRS	Kuro-shima	3.05	44	P	Pn	21 41 12.3	+0.8
JKRS				*e*S	Sn	21 41 47.8	+0.2
JIJ	Ishigaki jima	3.22	44	P	Pn	21 41 14.2	+0.3
JIJ				S	Sn	21 41 51.3	-0.6
JISG	Ishigakijimahi	3.49	43	P	Pn	21 41 17.9	+0.4
JISG				S	Sn	21 41 58.5	0.0
JTJ	Tarama	3.78	47	P	Pn	21 41 21.9	+0.3
JTJ				S	Sn	21 42 05.2	-0.5
JIRB	Irabujima	4.23	49	S	Sn	21 42 16.1	-0.6
JMJ2	Miyako jima3	4.28	51	*e*S	Sn	21 42 18.0	-0.1
JIKM	Ikemajima	4.34	48	*e*S	Sn	21 42 20.2	+0.7
JOGS	Gusukube	4.35	51	*e*S	Sn	21 42 20.1	+0.3

JMA 29 21:40:28.8±0.1, 33°.15N×138°.19E, h366km, M3.1
IDC 29 21:40:34.0±0.7, 33°.31N×138°.23E, h326km±14km, mb3.2/5, mb1 3.2/8, mb1mx2.9/56, mbtmp3.8/8, Error ellipse: s-maj=45.7km s-min=12.2km az=64.0

ISC 29 21:40:33.1±0.8, 33°.22N±0°.07×138°.29E±0°.08, h350km, n32, σ3°.07/36, mb3.3/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	Tokai 2	0.85	329	P	Pn	21 41 16.0	-2.0
TTO3	TONANKAI O.B.S	0.98	311	P	Pn	21 41 16.6	-1.9
TTO4	TONANKAI O.B.S	1.01	322	P	Pn	21 41 16.3	-2.2
TTO5	TONANKAI O.B.S	1.14	335	P	Pn	21 41 17.2	-2.0
TTO2	TONANKAI O.B.S	1.17	296	P	Pn	21 41 17.2	-2.0
TK04	Tokai 4	1.22	344	P	Pn	21 41 17.9	-1.7
JHJ	Hachijo jima 2	1.26	94	P	Pn	21 41 19.2	-0.8
	7.6nm,0.3s,baz=86,slow=23,SNR=17						
JHJ				S	S	21 41 54.8	-2.8
	13nm,0.3s,baz=279,slow=23,SNR=2.2						
JHJ2	Mitsune	1.29	94	P	Pn	21 41 19.2	-0.9
TTO1	TONANKAI O.B.S	1.32	288	P	Pn	21 41 17.3	-2.6
JIE	Ise	1.76	312	P	Pn	21 41 19.9	-2.9
JOD2	Odawara 2	2.15	18	P	Pn	21 41 24.3	-1.1
JYN	Shimob	2.29	5	P	Pn	21 41 24.7	-1.8
JTNC	Tanabenakahech	2.32	286	P	Pn	21 41 23.4	-3.3
JWY	Kouya	2.46	295	P	Pn	21 41 25.1	-2.8
BSO1	Boso 1	2.66	57	P	Pn	21 41 26.8	-2.0
BSO1				X		21 42 09.7	
JYTA	Yamagatataniai	2.70	332	P	Pn	21 41 27.3	-2.4
JRY	Ryogami san	2.84	10	P	Pn	21 41 29.7	-1.3
JWT	Wachi	3.16	312	P	Pn	21 41 31.1	-2.7
JWT				S	S	21 42 15.5	-7.2
JAI	Aioi	3.26	281	P	Pn	21 41 31.7	-3.1
MJAR	Matsushiro Arr	3.32	359	P	Pn	21 41 32.3	-3.0
	0.3nm,0.3s,baz=189,slow=9.9,SNR=27						
MAT	Matsushiro	3.32	359	P	Pn	21 41 33.4	-1.9
MAT				S	S	21 42 19.4	-6.1
MAT	Matsushiro	3.32	359	P	Pn	21 41 33.3	-2.0
JAG	Ashikaga	3.34	16	P	Pn	21 41 33.1	-2.4
JCJ	Chichijima	6.97	150	P	Pn	21 42 12.3	-2.9
	2.6nm,0.3s,baz=13,slow=22,SNR=7.1						
JCJ				S	S	21 43 31.4	-6.8
	12nm,0.3s,baz=311,slow=23,SNR=8.5						
KSRS	Korea Array	9.46	299	P	Pn	21 42 44.0	-0.6
	0.3nm,0.3s,baz=116,slow=12,SNR=11						
USRK	Ussuriysk Ar.	12.01	338	P	Pn	21 43 16.0	+1.1
	baz=150,slow=9.3,SNR=5.0						
SONM	Songino Array	28.06	311	P	P	21 45 55.9	+2.4
	1.1nm,0.7s,baz=118,slow=9.1,SNR=9.8						
MKAR	Makanchi Array	44.09	305	P	P	21 48 09.6	+1.8
	0.4nm,0.5s,baz=87,slow=9.9,SNR=6.9						
KURBB	Kurchatov Arra	46.43	311	P	P	21 48 27.7	+1.9
	baz=93,slow=9.8						
WRA	Warramunga Arr	52.99	185	P	P	21 49 18.5	+3.4
	1.1nm,0.3s,baz=360,slow=7.5,SNR=36						
ASAR	Alice Springs	56.72	185	P	P	21 49 45.4	+3.9
	0.4nm,0.5s,baz=20,slow=11,SNR=7.8						
FINES	FINESS Array B	70.98	332	P	P	21 51 15.4	+2.3
	1.2nm,0.9s,baz=27,slow=8.8,SNR=5.4						

IDC 29 21:46:11.5±0.4, 16°.30N×119°.78E, h0km, mb4.4/31, mb1 4.4/34, mb1mx4.3/71, mbtmp4.4/34, ML3.9/3, MS3.7/13, Ms1 3.7/13, ms1mx3.5/40, Error ellipse: s-maj=16.9km s-min=9.9km az=77.0
MAN 29 21:46:13.6, 16°.41N×119°.44E, h6km, mb4.8, ML3.7, MS3.6
BJI 29 21:46:16.6±0.0, 16°.38N×119°.63E, h28km, mB4.6/37, mb4.4/50, Ms4.3/49, Ms7 4.1/46
GCMT 29 21:46:17.7±0.5, 16°.50N±0°.03×119°.42E±0°.04, h28km±1km, MW4.8/65, Moment Tensor Solution. s14,c15; s65,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}1.48±.15; $M_{\theta\theta}$-0.22±.09; $M_{\phi\phi}$-1.27±.10; $M_{r\theta}$-0.84±.13; $M_{\theta\phi}$-0.56±.05; $M_{\phi r}$-1.41±.15; Best double couple: $M_0$2.22200×10^16 NP1:ϕ_s18.00000°, δ21.00000°, λ80.00000°. NP2: ϕ_s209.00000°, δ69.00000°, λ94.00000°. Principal axes: T 2.2130, Plg66.0000°, Azm126.0000°; N 0.0120, Plg4.0000°, Azm27.0000°; P -2.2310, Plg24.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC 29 21:46:17.7±1.1, 16°.31N±0°.05×119°.84E±0°.08, h37km±4km, mb4.8/97 Error ellipse: s-maj=12.1km s-min=6.7km az=113.0

ISC 29 21:46:16.7±0.3, 16°.35N±0°.03×119°.66E±0°.05, h30km, n282, σ1°.49/273, mb4.7/83, MS3.9/19, 7C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZP	Santa	1.42	32		Pn	21 46 39.6	-0.8
SZP				Sn	Sn	21 46 57.8	-0.4
PCPH	Palayan	1.59	119	⇓*e*P	Pn	21 46 43.0	+0.2
PCPH				*e*S	Sn	21 47 08.2	+5.9
SIPP	Brgy, Tapao	1.74	26	⇓*i*P	Pn	21 46 44.5	-0.4
SIPP				*i* S	Sb	21 47 28.6	+19
APYP	Conner	2.14	45	⇓*e*P	Pn	21 46 50.2	-0.2
APYP				*e*S	Sn	21 47 17.9	+2.0
CVP	Callao Caves	2.47	57	⇓*e*P	Pn	21 46 56.7	+1.8
CVP				*i* S	Sb	21 47 32.1	+1.6
LUBP	Lubang	2.66	168	⇓*e*P	Pn	21 46 59.1	+1.6
LQP	Lukban	2.87	141	⇓*e*P	Pn	21 47 03.3	+2.7
LQP				*i* S	Sb	21 47 44.7	+2.5
PGP	Puerto Galera	3.09	156	⇑*e*P	Pn	21 47 06.3	+2.8
PGP				*i* S	Sb	21 47 50.9	+2.5
JCNP	Jose Panganiba	3.58	125	⇓*e*P	Pn	21 47 12.9	+2.8
JCNP				*i* S	Sn	21 47 58.5	+7.0
GQP	Guinayangan	3.63	132	⇓*e*P	Pn	21 47 14.2	+3.3
TWG	Pinlang	6.58	11		Pn	21 47 51.6	+0.2
TPUB	Ta-pu	6.98	7		Pn	21 47 56.9	0.0
CNOP	Candoni, Negro	7.10	156	⇑*e*P	Pn	21 48 05.1	+6.5
YULB	Yu-li	7.18	12		Pn	21 48 00.1	+0.4
SSLB	Suanglung	7.50	9	Pn	Pn	21 48 04.5	+0.4
NACB	Ninganchiao	8.00	13		Pn	21 48 11.6	+0.7
YHNB	Yeheng	8.43	11		Pn	21 48 18.1	+1.1
PAGZ	Pagadian	9.20	156	⇑*e*P	Pn	21 48 33.3	+5.9
QIZ	Qiongzhong	9.73	287	P	Pn	21 48 37.3	+2.6
QIZ				S	Sn	21 50 27.3	+4.4
QIZ				LR	LR		
	comp=N,300nm,10.4s						
QIZ				LR	LR		
	comp=E,490nm,12.0s						
QIZ				LR	LR		
	comp=Z,640nm,16.1s						
BUKP	Musuan	9.94	147	⇑*e*P	Pn	21 48 44.7	+7.1
DAV	Davao City (W)	10.89	147	LR	LR	21 54 24.9	
	comp=Z,4.3nm,18.4s,baz=47,slow=46						
JOW	Kunigami	13.15	36	Pn	Pn	21 49 19.6	-1.8
	0.6nm,0.3s,baz=271,slow=17,SNR=1.9						
JOW	Kunigami	13.15	36		Pn	21 49 20.3	-1.1
WHN	Wuhan	14.94	342	⇑P	Pn	21 49 46.0	+0.2
WHN				LR	LR		
	comp=N,1μm,13.7s						
WHN				LR	LR		
	comp=E,810nm,15.9s						
WHN				LR	LR		
	comp=Z,2μm,16.1s						
TOLI2	Tolitoli	15.18	176	P	P	21 49 51.8	-2.1
NJ2	Nanjing	15.65	357	*e*P	P	21 49 57.0	-2.0
NJ2				S	Sn	21 52 52.5	+4.9
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=N,700nm,15.7s						
NJ2				LR	LR		
	comp=E,310nm,14.1s					

KMI LR LR
comp=Z,510nm,16.4s
STKI Sintang 18.08 207 P **P** **21 50 28.2 +2.2**
UTTA Uttaradit 18.32 277 P P 21 50 42.6 +14
TTSI Tana Toraja 19.27 180 P **P** **21 50 39.2 +0.2**
957nm34nm,0.7s
JNU Nakatsue 19.54 29 P **P** **21 50 41.5 -0.4**
0.4nm,0.3s,baz=196,slow=22,SNR=18
JNU Nakatsue 19.54 29 P **P** **21 50 41.2 -0.8**
JNU Nakatsue 19.54 29 S **P** **21 50 40.9 -1.0**
CM35 Chiang Mai Arr 19.69 280 P Pn 21 50 59.0 +14
KBKI Kotabaru 19.82 190 P **Pn** **21 50 46.0 -0.8**
34nm,0.9s
CM09 Chiang Mai Arr 19.83 279 P Pn 21 51 01.0 +14
CM09 Chiang Mai Arr 19.83 279 P Pn 21 51 01.0 +14
CM04 Chiang Mai Arr 19.84 279 P **Pn** **21 50 49.9 +2.9**
11nm,1.0s
CM04 Chiang Mai Arr 19.84 279 P **Pn** **21 50 50.0 +2.9**
11nm,1.0s
CM01 Chiang Mai Arr 19.86 279 P Pn 21 51 02.3 +15
CM02 Chiang Mai Arr 19.87 279 P Pn 21 50 51.5 +4.1
9.4nm,1.2s
CM02 Chiang Mai Arr 19.87 279 P **Pn** **21 50 51.0 +3.6**
9.4nm,1.2s
CM05 Chiang Mai Arr 19.87 279 P Pn 21 50 51.8 +4.4
7.8nm,1.0s
CM05 Chiang Mai Arr 19.87 279 P **Pn** **21 50 51.0 +3.6**
7.8nm,1.0s
CM31 Chiang Mai Arr 19.88 279 P Pn 21 51 02.6 +15
CM31 Chiang Mai Arr 19.88 279 P **Pn** **21 50 47.4 0.0**
CMAR Chiang Mai Arr 19.88 279 P **Pn** **21 50 47.7 +0.2**
0.2nm,0.3s,baz=89,slow=9.1,SNR=20
CMAR PcP **PcP** **21 55 03.0 +0.5**
0.1nm,0.3s,baz=59,slow=1.0,SNR=4.4
CMAR LR LR 21 58 47.0
comp=Z,266nm,18.6s,baz=138,slow=38
CMAR Chiang Mai Arr 19.88 279 P **Pn** **21 50 47.5 +0.1**
CMMT Chiang Mai 19.89 280 P Pn 21 50 52.3 +4.6
8.9nm,1.5s
CMMT Chiang Mai 19.89 280 P Pn 21 50 52.4 +4.7
CM15 Chiang Mai Arr 19.89 279 P **Pn** **21 50 49.5 +1.8**
8.1nm,0.8s
CM15 Chiang Mai Arr 19.89 279 P **Pn** **21 50 49.5 +1.8**
8.1nm,0.8s
CHTO Chiang Mai 19.90 280 P **Pn** **21 50 47.5 -0.2**
CM13 Chiang Mai Arr 19.91 279 P **Pn** **21 50 50.2 +2.3**
8.0nm,0.8s
CM13 Chiang Mai Arr 19.91 279 P **Pn** **21 50 50.0 +2.1**
8.0nm,0.8s
TIA Tai'an 19.91 354 P **P** **21 50 44.3 -1.6**
TIA S **Sn** **21 54 33.3 +2.6**
TIA LR LR
comp=N,380nm,18.9s
TIA LR LR
comp=E,250nm,19.9s
TIA LR LR
comp=Z,540nm,14.5s
XAN Xi'an 20.09 333 P **Pn** **21 50 48.3 -1.6**
XAN pP sP 21 50 57.0 -2.0
XAN sP pwP 21 51 01.5 +3.5
XAN PP **PnPn** **21 51 10.5 +5.8**
XAN S **Sn** **21 54 33.8 -1.4**
XAN sS pS 21 54 46.5 -1.1
XAN pmax pmax
comp=Z,12nm,1.1s
XAN pmax pmax
comp=Z,110nm,5.2s
XAN LR LR
comp=N,720nm,14.4s
XAN LR LR
comp=E,530nm,15.2s
XAN LR LR
comp=Z,1μm,15.5s
XAN Xi'an 20.09 333 **Pn** **21 50 51.2 +1.3**
BBKI Banjar Baru 20.25 194 P Pn 21 50 50.7 -1.1
43nm,0.9s
CD2 Chengdu 20.51 318 P Pn 21 50 53.3 -1.6
CD2 S Sn 21 54 44.0 -1.4
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,140nm,5.7s
CD2 LR LR
comp=N,550nm,17.3s
CD2 LR LR
comp=E,600nm,13.5s
CD2 LR LR
comp=Z,870nm,15.1s
SIJI Sorong 20.59 145 P **P** **21 50 50.5 -2.9**
12nm,0.6s,baz=139,slow=22,SNR=1.9
KAPI Kappang 21.23 180 LR LR 22 00 07.6
comp=Z,131nm,20.2s,baz=40,slow=40
BKSI Bulukumba 21.54 179 P **P** **21 51 03.7 +0.1**
40nm,0.7s
JHS Saijyo 22.14 30 P **P** **21 51 09.0 -1.0**
JHS IAmb IAmb 21 51 28.6
comp=Z,39nm,1.5s
KSAR Wonju Array Be 22.23 18 P **P** **21 51 10.6 -0.3**
KSRS Korea Array 22.26 18 P **P** **21 51 09.8 -1.4**
comp=Z,5.0nm,1.0s,baz=196,slow=11,SNR=11
KSRS LR LR 22 00 26.8
comp=Z,285nm,19.5s,baz=202,slow=38
KS19 Wonju Array Si 22.29 17 P **P** **21 51 11.1 -0.4**
FAKI Fak Fak 22.83 146 P **P** **21 51 15.7 -1.8**
FAKI IAmb IAmb 21 51 43.4
comp=Z,53nm,1.2s
JCJ Chichijima 23.46 59 P **P** **21 51 22.1 -1.7**
comp=Z,19nm,0.5s,baz=276,slow=19,SNR=1.7
JCJ Chichijima 23.46 59 P **P** **21 51 22.1 -1.7**
BJT Baijiatuau 23.78 353 **P** **21 51 27.3 +0.6**
BJT IAmb IAmb 21 51 37.3
comp=Z,28nm,1.4s
LZH Lanzhou 24.18 327 *e*P **P** **21 51 32.5 +1.8**
LZH pP sP 21 51 41.8 -0.5
LZH sP pwP 21 51 44.8 +3.6
LZH PP PnPn 21 52 09.5 +8.8
LZH S **S** **21 55 47.3 +0.2**
LZH sS sS 21 56 03.5 +3.4
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,110nm,4.6s
LZH LR LR
comp=Z,780nm,11.9s
LZH LR LR
comp=Z,680nm,11.4s
LZH LR LR
comp=Z,800nm,13.6s
BKNI Bangkinang 24.30 231 P **P** **21 51 32.3 +0.5**
BKNI IAmb IAmb 21 51 34.9
comp=Z,29nm,0.7s
RPSI Rantau Prapat 24.50 239 P **P** **21 51 34.7 +1.2**
GUMO Guam 24.50 93 LR LR 22 00 21.8
comp=Z,134nm,18.6s,baz=279,slow=35
MMRI Maumere 24.95 174 P **P** **21 51 36.5 -1.1**
MMRI Maumere 24.95 174 P **P** **21 51 37.7 +0.1**
comp=Z,111nm,0.8s
EDFI Ende, Flores 25.02 175 P **P** **21 51 38.1 -0.2**
comp=Z,883nmcomp=Z,106nm,0.7s
PLAI Plampang 25.08 184 P **P** **21 51 39.3 +0.5**
comp=Z,68nm,1.0s
HHC Hu-ho-hao-te 25.40 346 *e*P **P** **21 51 44.8 +3.2**
HHC PP **PnPn** **21 52 25.0 +7.6**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,52nm,8.6s
HHC LR LR
comp=Z,340nm,16.8s
HHC LR LR
comp=Z,190nm,15.9s
HHC LR LR
comp=Z,380nm,16.6s
BTO Baotou 25.58 343 *e*P **P** **21 51 46.5 +3.3**
BTO S **S** **21 56 12.0 +2.7**
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,760nm,18.3s
UGM Wanagama 25.74 201 P **P** **21 51 44.2 -0.7**
MDSI Maura Dua 25.75 218 P **P** **21 51 46.4 +1.5**
comp=Z,12nm,1.1s
LEM Lembang 25.93 208 LR LR 22 03 38.7
comp=Z,93nm,18.9s,baz=110,slow=40
MJAR Matsushiro Arr 25.99 36 P **P** **21 51 47.7 +0.7**
comp=Z,0.8nm,0.6s,baz=203,slow=8.6,SNR=2.0

BATI Baumata 26.68 171 P **P** **21 51 52.3 -1.0**
comp=Z,38nm,0.8s,baz=32,slow=1.6,SNR=7.9
SHL Shillong 27.46 294 P **P** **21 52 01.9 +1.4**
SHL IAmb IAmb 21 52 11.0
comp=Z,18nm,0.9s
GTA Gaotai 28.78 327 *e*P **P** **21 52 13.3 +1.3**
GTA pP sP 21 52 22.3 -1.4
GTA sP pwP 21 52 26.5 +3.9
GTA S S 21 57 06.8 +6.9
GTA sS sS 21 57 16.5 +3.3
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,33nm,8.4s
GTA LR LR
comp=Z,290nm,16.7s
GTA LR LR
comp=Z,480nm,17.1s
GTA LR LR
comp=Z,680nm,17.9s
LSA Lhasa 29.32 302 P **P** **21 52 18.7 +1.4**
LSA IAmb IAmb 21 52 30.0
comp=Z,20nm,1.5s
USRK Ussuriysk Ar. 29.66 18 P **P** **21 52 19.5 -0.2**
comp=Z,1.1nm,0.7s,baz=192,slow=12,SNR=2.4
USRK LR LR 22 04 50.7
comp=Z,169nm,19.6s,baz=171,slow=38
USRK Ussuriysk Ar. 29.66 18 P **P** **21 52 18.9 -0.7**
KNRA Kununurra 33.07 164 P **P** **21 52 47.9 -2.0**
ULN Ulaanbaatar 33.10 344 P **P** **21 52 49.8 -0.2**
SONM Songino Array 33.25 344 P **P** **21 52 51.6 +0.3**
comp=Z,4.6nm,0.6s,baz=165,slow=9.8,SNR=39
SONM LR LR 22 07 18.2
comp=Z,269nm,19.0s,baz=154,slow=38
SONM Songino Array 33.25 344 P **P** **21 52 51.2 -0.1**
KLR Kul'dur 34.24 14 P **P** **21 52 58.9 -1.0**
comp=Z,2.4nm,0.7s,baz=223,slow=8.6,SNR=7.9
PSA00 Pilbara Seismi 37.69 180 P **P** **21 53 28.2 -1.3**
PSA00 Pilbara Seismi 37.69 180 P **P** **21 53 28.0 -1.6**
PSA00 IAmb IAmb 21 53 30.2
comp=Z,16nm,1.0s
WMQ Urumqi 38.50 322 *e*P P 21 53 39.5 +3.1
WMQ LR LR
comp=Z,650nm,15.5s
WMQ LR LR
comp=Z,550nm,16.5s
WMQ LR LR
comp=Z,280nm,18.1s
WB0 Warramunga Arr 38.70 157 P **P** **21 53 35.5 -2.6**
WB0 IAmb IAmb 21 53 36.6
comp=Z,20nm,0.8s
WRAB Tennant Creek 38.84 158 P **P** **21 53 37.0 -2.3**
WRA Warramunga Arr 38.84 158 P **P** **21 53 36.9 -2.4**
comp=Z,24nm,0.9s,baz=341,slow=9.0,SNR=145
WRA PcP **PcP** **21 55 50.1 -0.1**
comp=Z,2.3nm,0.8s,baz=340,slow=3.4,SNR=5.5
WRA Warramunga Arr 38.84 158 P **P** **21 53 36.3 -3.0**
GIRL Giralia 39.11 188 P **P** **21 53 41.5 0.0**
PALK Pallekele 39.12 261 LR LR 22 09 03.3
comp=Z,77nm,18.1s,baz=159,slow=35
AS31 Alice Springs 42.14 160 P **P** **21 54 04.8 -1.8**
ASAR Alice Springs 42.14 160 P **P** **21 54 04.8 -1.7**
comp=Z,19nm,0.8s,baz=338,slow=6.8,SNR=140
ASAR PcP **PcP** **21 56 00.3 -0.6**
comp=Z,4.8nm,0.9s,baz=342,slow=3.0,SNR=8.1
ASAR Alice Springs 42.14 160 P **P** **21 54 04.6 -1.9**
ASAR **PcP** **21 56 00.4 -0.4**
CTA Charters Tower 44.65 143 P **P** **21 54 24.5 -2.4**
comp=Z,4.1nm,0.6s,baz=315,slow=5.7,SNR=2.2
CTAO Charters Tower 44.65 143 P **P** **21 54 25.3 -1.6**
CTAO IAmb IAmb 21 54 27.0
comp=Z,35nm,1.4s
NIL Nilore 45.05 301 P **P** **21 54 30.2 +0.2**
NIL IAmb IAmb 21 54 40.7
comp=Z,14nm,0.8s
MORW Morawa 45.28 184 P **P** **21 54 30.9 -0.8**
MORW IAmb IAmb 21 54 32.6
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 46.26 332 P **P** **21 54 40.4 +1.2**
ZALV Zalesovo Beam 46.26 332 P **P** **21 54 40.4 +1.2**
PETK Petropavlovsk- 47.23 30 P **P** **21 54 45.9 -0.9**
comp=Z,2.5nm,0.9s,baz=201,slow=7.8,SNR=3.8
PETK LR LR 22 15 32.3
comp=Z,67nm,18.8s,baz=232,slow=37
PETK Petropavlovsk- 47.23 30 P **P** **21 54 46.0 -0.8**
DRK Karamyk 47.49 309 P **P** **21 54 50.2 +0.7**
DRK IAmb IAmb 21 55 03.4
comp=Z,6.7nm,0.6s
FORT Forrest 47.55 170 P **P** **21 54 48.6 -0.9**
GAR Garm 48.49 308 P **P** **21 54 57.8 +0.8**
GAR IAmb IAmb 21 55 07.2
comp=Z,14nm,0.9s
KBL Kabul 48.64 302 P **P** **21 54 59.1 +0.8**
NWAO Narrogin (SRO) 49.05 183 P **P** **21 54 59.5 -1.6**
comp=Z,9.1nm,0.8s,baz=0.5,slow=8.0,SNR=5.9
NWAO Narrogin (SRO) 49.05 183 P **P** **21 55 00.2 -0.9**
CHGR Chuyangaron 49.30 307 P **P** **21 55 03.6 +0.5**
CHGR IAmb IAmb 21 55 07.2
comp=Z,8.4nm,0.6s
KK31 Karatay Array 49.43 313 P **P** **21 55 04.6 +0.6**
KK31 IAmb IAmb 21 55 14.6
comp=Z,7.2nm,1.1s
KKAR Karatay Array 49.43 313 P **P** **21 55 04.7 +0.7**
BBOO Buckleboo 51.34 162 P **P** **21 55 16.7 -1.7**
STKA Stephens Creek 52.36 156 P **P** **21 55 24.1 -2.0**
comp=Z,14nm,0.5s,baz=333,slow=7.7,SNR=37
STKA LR LR 22 19 20.2
comp=Z,64nm,18.9s,baz=13,slow=38
STKA Stephens Creek 52.36 156 P **P** **21 55 24.5 -1.6**
BRVK Borovoye 53.10 325 P **P** **21 55 31.8 +0.5**
BRVK IAmb IAmb 21 55 40.8
comp=Z,10nm,1.1s
ARMA Armidale 55.76 146 P **P** **21 55 50.9 -0.2**
ARMA IAmb IAmb 21 56 02.2
comp=Z,9.4nm,1.3s
NRIK Noril'sk 56.62 347 P **P** **21 55 56.2 -0.3**
comp=Z,2.3nm,0.5s,baz=165,slow=6.3,SNR=3.9
NRIK Noril'sk 56.62 347 P **P** **21 55 57.1 +0.5**
NRIK IAmb IAmb 21 56 06.6
comp=Z,6.3nm,0.8s
GEYT Alibeck 57.79 305 P **P** **21 56 06.2 +0.8**
comp=Z,2.7nm,0.5s,baz=180,slow=10,SNR=4.6
GYA0B ALIBECK ARRAY 57.79 305 P **P** **21 56 07.1 +1.7**
GYA0B IAmb IAmb 21 56 19.9
comp=Z,6.7nm,0.9s
ABKAR Abkulak array 58.09 318 P **P** **21 56 07.2 0.0**
ABKAR Abkulak array 58.09 318 P **P** **21 56 07.3 0.0**
TOO Toolangi 58.88 156 P **P** **21 56 12.2 -0.7**
AKTO Aktyubinsk 59.56 319 P **P** **21 56 17.6 +0.2**
comp=Z,1.6nm,0.6s,baz=139,slow=9.0,SNR=3.1
DZM Mont Dzumac 59.65 128 P **P** **21 56 17.5 -1.1**
comp=Z,3.8nm,0.5s,baz=246,slow=12,SNR=6.2
DZM Mont Dzumac 59.65 128 P **P** **21 56 17.3 -1.2**
ARU Arti 60.63 326 P **P** **21 56 24.0 -0.7**
comp=Z,1.0nm,0.5s,baz=118,slow=3.7,SNR=3.4
ARU Arti 60.63 326 P **P** **21 56 24.0 -0.7**
ARU IAmb IAmb 21 56 33.2
comp=Z,8.4nm,1.1s
ADK Adak 61.08 39 P **P** **21 56 26.0 -1.8**
ADK IAmb IAmb 21 56 39.9
comp=Z,5.8nm,0.8s
BELG Belogornoye 66.26 320 P **P** **21 57 02.9 +0.9**
comp=Z,3.9nm,0.8s,baz=201,slow=8.5,SNR=2.8
ONI Oni 69.04 310 P **P** **21 57 20.0 +0.2**
ONI IAmb IAmb 21 57 41.4
comp=Z,7.9nm,1.0s
KBZ Khabaz 69.39 311 P **P** **21 57 21.7 -0.1**
comp=Z,2.5nm,1.0s,baz=35,slow=6.7,SNR=4.1
KIV Kislovodsk 69.53 311 P **P** **21 57 23.0 +0.2**
KIV IAmb IAmb 21 57 34.1
comp=Z,14nm,1.1s
GURO Guroymak-BITLI 70.43 306 P **P** **21 57 28.8 +0.3**
GURO IAmb IAmb 21 57 40.7
comp=Z,7.9nm,1.0s
SDPT Sand Point 70.97 36 P **P** **21 57 32.1 +0.8**
baz=271
KLMR Klimovskoe 71.07 329 *e*P **P** **21 57 29.3 -2.5**
KLMR AMP 21 57 36.5
comp=Z,9.0nm,1.2s
CNBA Chernabura Isl 71.49 37 P **P** **21 57 33.3 -1.2**
CNBA IAmb IAmb 21 57 54.8
comp=Z,14nm,1.2s
N18K Kilae Creek 73.19 31 P **P** **21 57 45.0 +0.5**
baz=273
SVW2 Sparrevohn 73.32 30 P **P** **21 57 45.9 +0.6**

O18K Koktuh Hills 73.58 32 P **P** **21 57 47.6 +0.7**
baz=274
L19K White Mountain 73.59 29 P **P** **21 57 47.6 +0.7**
baz=274
J20K Nowinta River 73.78 27 P **P** **21 57 48.5 +0.7**
baz=274,SNR=11
IMAR Indian Mountai 73.82 25 P **P** **21 57 48.2 +0.1**
K20K Telida 73.87 28 P **P** **21 57 49.3 +0.8**
baz=274,SNR=7.6
N19K Bonanza Creek 73.87 31 P **P** **21 57 49.2 +0.6**
baz=274
CHUM Lake Minchumin 74.61 27 P **P** **21 57 53.5 +0.8**
baz=275
I21K Tanana 74.62 26 P **P** **21 57 53.4 +0.6**
baz=275
RSO Redoubt South 74.75 31 P **P** **21 57 54.1 +0.2**
PPLA Purkeypile 74.76 28 P **P** **21 57 54.2 +0.3**
baz=276
OHAK Old Harbor 74.84 34 P **P** **21 57 54.5 +0.3**
baz=276
OHAK Old Harbor 74.84 34 P **P** **21 57 53.7 -0.5**
OHAK IAmb IAmb 21 58 06.0
comp=Z,10nm,1.0s
SPCR Spurr Chakacha 74.94 30 P **P** **21 57 54.7 -0.1**
baz=276
COLD Coldfoot 75.12 24 P **P** **21 57 56.2 +0.5**
baz=276
KDAK Kodiak Island 75.15 34 P **P** **21 57 55.2 -0.8**
KDAK IAmb IAmb 21 58 07.5
comp=Z,9.2nm,0.8s
MLY Manley 75.16 26 P **P** **21 57 56.5 +0.5**
baz=276,SNR=13
MLY Manley 75.16 26 P **P** **21 57 56.1 +0.1**
MLY IAmb IAmb 21 57 57.4
comp=Z,7.3nm,0.8s
BPAW Bear Paw Mtn. 75.16 27 P **P** **21 57 56.3 +0.4**
baz=277
SKT Skwentna 75.17 29 P **P** **21 57 55.2 -0.9**
baz=277,SNR=5.3
SKT Skwentna 75.17 29 P **P** **21 57 55.5 -0.6**
SKT IAmb IAmb 21 57 56.4
comp=Z,12nm,1.1s
TOLK Toolik Lake Re 75.19 22 P **P** **21 57 56.6 +0.5**
baz=277
KTH Kantishna Hill 75.26 28 P **P** **21 57 56.6 0.0**
KTH IAmb IAmb 21 58 08.2
comp=Z,5.1nm,0.8s
CAPN Captain Cook N 75.50 30 P **P** **21 57 58.2 +0.3**
baz=277
TRF Thorofare Moun 75.55 28 P **P** **21 57 58.6 +0.1**
baz=277
H23K Yukon River 75.56 25 P **P** **21 57 59.1 +0.8**
baz=277,SNR=11
SUA Susitna One 75.60 30 P **P** **21 57 58.0 -0.7**
baz=277,SNR=6.6
SUA Susitna One 75.60 30 P **P** **21 57 58.2 -0.5**
CNPM China Poot 75.62 32 P **P** **21 57 58.5 -0.2**
CNPM IAmb IAmb 21 58 12.5
comp=Z,9.2nm,1.0s
I23K Minto, Yukon-K 75.72 26 P **P** **21 57 59.2 +0.1**
baz=278,SNR=6.6
BRSE Bradley Lake S 75.84 31 P **P** **21 57 59.7 -0.2**
baz=278
NEA2 Nenana 75.93 26 P **P** **21 57 59.9 -0.4**
baz=278,SNR=6.7
NEA2 Nenana 75.93 26 P **P** **21 58 00.6 +0.3**
NEA2 IAmb IAmb 21 58 01.3
comp=Z,6.7nm,0.8s
LBZ Lake Benmore 75.96 145 P **P** **21 58 00.5 -0.3**
RPZ Rata Peaks 76.01 144 P **P** **21 58 00.9 -0.2**
MCK McKinley 76.11 27 P **P** **21 58 01.1 -0.3**
baz=278
RC01 Rabbit Creek A 76.14 30 P **P** **21 58 00.5 -1.1**
baz=278
RC01 Rabbit Creek A 76.14 30 P **P** **21 58 01.3 -0.3**
RC01 IAmb IAmb 21 58 03.5
comp=Z,16nm,1.3s
RND Reindeer 76.20 28 P **P** **21 58 01.5 -0.5**
RND IAmb IAmb 21 58 02.2
comp=Z,14nm,1.0s
H24K Noodor Dome 76.23 25 P **P** **21 58 02.5 +0.4**
baz=279
O22K Cooper Landing 76.24 31 P **P** **21 58 01.7 -0.4**
baz=279
ARCES ARCESS Array B 76.27 339 P **P** **21 58 01.6 -0.5**
comp=Z,3.2nm,0.9s,baz=87,slow=5.0,SNR=5.1
PMR Palmer 76.35 29 P **P** **21 58 02.2 -0.5**
baz=279
PMR Palmer 76.35 29 P **P** **21 58 01.6 -1.2**
PMR IAmb IAmb 21 58 12.8
comp=Z,13nm,1.0s
WRH Wood River Hil 76.36 26 P **P** **21 58 02.5 -0.3**
WRH IAmb IAmb 21 58 15.5
comp=Z,6.4nm,1.0s
WAT1 Susitna Watana 76.42 28 P **P** **21 58 02.7 -0.5**
baz=279
SEW Seward 76.43 31 P **P** **21 58 03.0 -0.2**
baz=279
CCB Clear Creek Bu 76.46 26 P **P** **21 58 02.6 -0.7**
CCB IAmb IAmb 21 58 04.5
comp=Z,7.8nm,1.4s
URZ Urewera 76.46 137 LR LR 22 32 06.4
comp=Z,68nm,21.1s,baz=236,slow=36
MMAI Mount Meron Ar 76.56 301 LR LR 22 35 31.3
comp=Z,36nm,19.7s,baz=220,slow=39
BKZ Black Stump Fm 76.56 138 P **P** **21 58 03.8 -0.5**
SML Sawmill 76.69 29 P **P** **21 58 04.2 -0.6**
baz=279,SNR=5.4
KNK Knik Glacier 76.70 30 P **P** **21 58 04.6 -0.2**
baz=279
IL31 76.82 26 P **P** **21 58 04.3 -1.1**
ILAR Eielson Array 76.82 26 P **P** **21 58 03.9 -1.6**
comp=Z,0.9nm,0.4s,baz=260,slow=4.1,SNR=15
ILAR Eielson Array 76.82 26 P **P** **21 58 04.1 -1.3**
WAT6 Susitna Watana 76.83 28 P **P** **21 58 05.0 -0.7**
baz=280,SNR=7.9
PWL Port Wells 76.85 30 P **P** **21 58 05.2 -0.5**
HDA Harding Lake 76.86 26 P **P** **21 58 04.4 -1.3**
baz=280,SNR=5.5
HDA Harding Lake 76.86 26 P **P** **21 58 04.7 -1.0**
HDA IAmb IAmb 21 58 05.2
comp=Z,8.5nm,1.3s
SCM Sheep Creek Mo 77.16 29 P **P** **21 58 07.2 -0.3**
BMAR Burnt Mountain 77.24 23 P **P** **21 58 08.4 +0.7**
FIA1 FINESS Array S 77.49 331 P **P** **21 58 08.8 -0.4**
FIA1 IAmb IAmb 21 58 24.1
comp=Z,9.6nm,1.3s
FINES FINESS Array B 77.50 331 P **P** **21 58 08.4 -0.7**
comp=Z,1.1nm,0.5s,baz=72,slow=6.8,SNR=9.8
FINES FINESS Array B 77.50 331 P **P** **21 58 08.6 -0.6**
M24K Tolsona, Glenn 77.64 29 P **P** **21 58 10.5 +0.4**
baz=281,SNR=7.5
M24K Tolsona, Glenn 77.64 29 P **P** **21 58 10.4 +0.2**
PAX Paxson 77.78 28 P **P** **21 58 10.5 -0.4**
baz=282,SNR=6.1
AKASG Malin Array Be 77.80 319 P **P** **21 58 10.1 -1.1**
comp=Z,0.2nm,0.3s,baz=70,slow=4.1,SNR=1.9
CSS Mathiatis 77.87 303 P **P** **21 58 12.2 +0.3**
CSS IAmb IAmb 21 58 26.0
comp=Z,11nm,1.2s
KLU Klutina 77.88 29 P **P** **21 58 11.4 -0.1**
baz=282
RIDG Independent Ri 77.90 27 P **P** **21 58 10.9 -0.6**
baz=282,SNR=7.0
RIDG Independent Ri 77.90 27 P **P** **21 58 11.1 -0.4**
RIDG IAmb IAmb 21 58 11.9
comp=Z,11nm,1.2s
EYAK Cordova Ski Ar 78.16 30 P **P** **21 58 13.1 +0.2**
baz=282
SCRK Sand Creek 78.22 27 P **P** **21 58 13.0 -0.4**
baz=283
SCRK Sand Creek 78.22 27 P **P** **21 58 12.9 -0.5**
N25K Chitina, Valde 78.48 29 P **P** **21 58 15.0 +0.2**
baz=283
BMRM Bremner River 78.62 30 P **P** **21 58 15.5 0.0**
baz=283
GLB Gilahina Butte 78.88 29 P **P** **21 58 16.2 -0.8**
GLB IAmb IAmb 21 58 18.2
comp=Z,6.6nm,0.9s
K27K Chicken 79.03 26 P **P** **21 58 18.3 +0.7**
baz=284
K27K Chicken 79.03 26 P **P** **21 58 17.9 +0.3**
M26K Nabesna, AK 79.03 28 P **P** **21 58 18.1 +0.3**
baz=284
EGAK Eagle 79.22 26 P **P** **21 58 18.6 0.0**
baz=285
EGAK Eagle 79.22 26 P **P** **21 58 18.3 -0.4**

L27K	Beaver Creek,	79.38	27	P		P	21 58 20.4	+0.8
	baz=285							
L27K	Beaver Creek,	79.38	27	P		P	21 58 19.9	+0.2
L27K				IAmb		IAmb	21 58 21.5	
	comp=Z,9.1nm,1.0s							
BCAR	Beaver Creek A	79.40	27	P		P	21 58 19.7	-0.1
M27K	Edge Creek, AK	79.54	28	P		P	21 58 21.0	+0.3
	baz=285							
BARN	Barnard Glacie	79.98	29	P		P	21 58 23.1	-0.1
BARN				IAmb		IAmb	21 58 30.9	
	comp=Z,5.9nm,0.8s							
MESA	MESA	80.08	30	P		P	21 58 24.3	+0.6
	baz=285							
CTG	Chitna Glacier	80.16	29	P		P	21 58 24.9	+0.8
	baz=286							
CTGM	Chitina Glacie	80.16	29	P		P	21 58 24.6	+0.5
CTGM				IAmb		IAmb	21 58 26.2	
	comp=Z,16nm,1.0s							
INK	Inuvik	81.00	21	P		P	21 58 27.6	-0.6
	comp=Z,2.2nm,0.6s,baz=302,slow=2.4,SNR=7.4							
INK	Inuvik	81.00	21	P		P	21 58 27.9	-0.3
	baz=291							
INK	Inuvik	81.00	21	P		P	21 58 27.7	-0.5
BURAR	Bucovina Array	81.04	317	P		P	21 58 28.9	-0.1
BUR08	Bucovina Ar. S	81.05	317	P		P	21 58 29.0	0.0
MLR	Muntele Rosu	81.08	315	P		P	21 58 29.4	+0.1
	comp=Z,1.3nm,0.6s,baz=147,slow=18,SNR=2.0							
MLR	Muntele Rosu	81.08	315	P		P	21 58 29.4	+0.1
KOLS	Kolonicke sedl	82.59	319	eP		P	21 58 40.9	+3.9
KARP	Karpathos	82.66	305	P		P	21 58 37.4	-0.2
CASY	Casey	82.67	184	P		P	21 58 36.6	-0.2
CASY				IAmb		IAmb	21 58 37.9	
	comp=Z,10.0nm,1.1s							
NB2	NORSAR Subarra	84.46	332	P		P	21 58 51.5	+5.1
	comp=Z,1.5nm,0.8s,baz=42,slow=6.2							
NOA	NORSAR Array B	84.46	332	P		P	21 58 45.1	-1.3
	comp=Z,0.4nm,0.7s,baz=83,slow=6.2,SNR=2.0							
IDI	Anoyia	84.51	305	P		P	21 58 47.2	0.0
IDI				IAmb		IAmb	21 59 14.9	
	comp=Z,5.3nm,1.1s							
NC204	NORSAR Array S	84.56	333	P		P	21 58 46.1	-0.8
NC204				IAmb		IAmb	21 59 04.5	
	comp=Z,7.6nm,1.1s							
DLBC	Dease Lake	86.41	30	P		P	21 58 56.7	+0.5
	comp=Z,2.1nm,0.7s,baz=304,slow=8.5,SNR=3.2							
RAR	Rarotonga	87.36	113	LR		LR	22 34 02.1	
	comp=Z,55nm,18.1s,baz=230,slow=33							
YKA	Yellowknife Ar	90.72	22	P		P	21 59 16.2	-0.3
	comp=Z,2.4nm,0.9s,baz=317,slow=4.4,SNR=4.9							
VNDA	Vanda	96.80	172	P		P	21 59 44.5	+0.6
	comp=Z,1.3nm,0.9s,baz=301,slow=5.1,SNR=6.9							
TXAR	Lajitas Array	118.26	43	PKP		PKiKP	22 05 01.9	0.0
	comp=Z,0.9nm,0.7s,baz=267,slow=2.5,SNR=12							
WVT	Waverly	121.69	26	P		PKPdf	22 05 07.3	-0.8
	baz=328							
PLCA	Paso Flores	154.14	162	PKPbc		PKiKP	22 06 14.7	+0.6
	comp=Z,4.5nm,0.8s,baz=194,slow=4.2,SNR=10							
PLCA	Paso Flores	154.14	162			PKiKP	22 06 13.8	-0.3
CPUP	Villa Florida	169.68	195	PKPab		PKPab	22 07 35.2	-0.4
	comp=Z,1.1nm,0.6s,baz=22,slow=2.6,SNR=3.5							
LPAZ	La Paz	172.52	91	PKP		PKPdf	22 06 24.1	-0.3
	comp=Z,1.1nm,0.7s,baz=52,slow=4.1,SNR=3.9							

JMA 29 21:50:29.4, 33°.07N×130°.49E, h13km±1km, M0.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	Tamana	0.11	161	P	Pg	21 50 32.5	0.0
JTA				S	Sg	21 50 34.8	0.0
JNU	Nakatsue	0.33	81	P	Pg	21 50 36.2	0.0

SOME 29 21:52:18.0, 46°.15N×86°.28E, h15km
NNC 29 21:52:19.7±3.8, 49°.27N×85°.41E, h8km±23km, mb3.6, mpv3.4, Error ellipse: s-maj=24.2km s-min=9.7km az=97.0

ISC 29 21:52:20.1±1.7, 49°.28N±0°.05×85°.48E±0°.05, h13km±14km, n26, σ1=57/40, 8C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	Jazzator, Alta	1.34	71	Pg		Pn	21 52 44.1	-0.6
DGZ				Sg		Sb	21 53 01.4	-0.9
CHBI	Chibit, Altay	1.67	51	Pg		Pg	21 52 51.9	-0.3
CHBI				Sg		Sg	21 53 14.1	+0.3
UKR	Ust'-Kan	1.72	345	Pg		Pb	21 52 51.6	0.0
UKR				Sg		Sg	21 53 16.2	+0.9
AKAR	Aktash	1.73	52	Pg		Pb	21 52 52.2	+0.3
AKAR				Sg		Sb	21 53 15.0	+1.3
ZSN	Zaisan	1.88	193	⇓eP		Pn	21 52 51.8	-0.3
ZSN	27nm,0.3s							
ZSN				eS		Sn	21 53 15.9	+0.2
	147nm,0.6s							
ZSN	Zaisan	1.88	193	P		Pn	21 52 51.8	-0.3
ZSN	27nm,0.3s							
ZSN				S		Sn	21 53 15.9	+0.2
	147nm,0.6s							
CUR	Chagan-Uzun	2.04	65	Pg		Pb	21 52 56.9	-0.2
CUR				Sg		Sg	21 53 24.8	-0.8
ULGR	Ulagan, Altay	2.09	49	Pg		Pb	21 52 59.2	+1.2
ARTR	Artybash	2.77	24	Pg		Pb	21 53 10.1	+0.6
ARTR				Sg		Sg	21 53 47.9	-1.1
MK31	Makanchi Array	3.28	222	Pn		Pn	21 53 12.3	+1.0
	0.9nm,0.4s,baz=45,slow=12,SNR=143							
MK31				Sn		Sn	21 53 52.2	+1.9
	4.6nm,0.5s,baz=37,slow=16,SNR=10							
MKAR	Makanchi Array	3.28	222	Pg		Pn	21 53 12.0	+0.7
MKAR				Sg		Sn	21 53 52.5	+2.2
MAKZ	Makanchi	3.41	225	Pg		Pn	21 53 13.9	+0.7
MAKZ				Sg		Sn	21 53 55.6	+2.2
MAKZ	Makanchi	3.41	225	⇑Pn		Pn	21 53 13.9	+0.7
	2.7nm,0.6s							
MAKZ				⇑Sn		Sn	21 53 54.6	+1.1
	18nm,0.6s							
KURBB	Kurchatov Arra	4.68	289	⇑Pn		Pn	21 53 28.5	-2.0
	1.6nm,0.6s							
KURBB				⇑Sn		Sn	21 54 23.4	-1.3
	2.7nm,0.2s							
KURBB				⇑Lg		Lg	21 54 45.4	
	58nm,0.8s							
ZAA0	Zalesovo Array	4.69	355	⇓Pn		Pn	21 53 32.0	+1.4
	0.7nm,0.9s							
ZAA0				⇑Sn		Sn	21 54 27.0	+2.1
	0.7nm,0.3s							
ZAA0				⇑Lg		Lg	21 54 48.4	
	2.3nm,0.8s							
KAPS	Kapalarasan	5.77	228	eP		Pn	21 53 45.9	+0.3
KAPS	0.2nm,0.2s							
KAPS				eS		Sn	21 54 49.9	-1.8
	0.6nm,0.5s							
KAPS	Kapalarasan	5.77	228	Pg		Pn	21 53 45.9	+0.3
KAPS	0.2nm,0.2s							
KAPS				Lg		Lg	21 54 50.2	
	0.6nm,0.5s							
PDGK	Podgornoye	7.25	217	⇓Lg		Lg	21 56 08.6	
	5.1nm,0.8s							
SHLS	Shalkode	7.41	216	eP		Pn	21 54 00.1	-8.1
	2.7nm,0.2s							
SHLS				eS		Sn	21 55 13.7	-18
	5.1nm,0.4s							
SHLS	Shalkode	7.41	216	Pg		Pn	21 54 00.1	-8.1
	2.7nm,0.2s							
SHLS				Lg		Lg	21 55 13.7	
	5.1nm,0.4s							
KPKS	Kokpek	7.48	221	eP		Pn	21 54 09.3	+0.3
	5.4nm,0.1s							
KPKS				eS		Sn	21 55 29.1	-4.6
	8.3nm,0.6s							
UZB	Uzynbulak	7.59	219	eP		Pn	21 54 11.1	+0.5
	1.6nm,0.2s							
UZB				eS		Sn	21 55 33.2	-3.4
	4.7nm,0.2s							
UZB	Uzynbulak	7.59	219	Pg		Pn	21 54 11.1	+0.5
	1.6nm,0.2s							
UZB				Lg		Lg	21 55 33.2	
	4.7nm,0.2s							
SATY	Saty	7.92	221	eP		Pn	21 54 16.8	+1.6
	1.4nm,0.2s							
SATY				eS		Sn	21 55 41.6	-3.1
	8.6nm,0.3s							
SATY	Saty	7.92	221	Pg		Pn	21 54 16.8	+1.6
	1.4nm,0.2s							
SATY				Lg		Lg	21 55 41.6	
	8.6nm,0.3s							
OTUK	Ortayu	8.75	268	⇑Lg		Lg	21 56 54.7	
	2.8nm,0.6s							

PDG 29 22:00:22.2, 35°.00N×37°.40E, h33km, mb5.0/1
BGR 29 22:00:45.4±0.0, 35°.95N×35°.68E, h27km±7km, mb4.9, Ms4.1
MOS 29 22:00:51.2±1.2, 36°.56N×34°.98E, h10km, mb5.3/27, Error ellipse: s-maj=4.2km s-min=2.9km az=99.4
BJI 29 22:00:51.0±0.0, 36°.50N×34°.90E, h10km, mB5.0/37, mb5.4/74, Ms4.6/51, Ms7 4.4/50
NIC 29 22:00:54.0±0.0, 36°.29N×35°.12E, h20km±31km, Ml5.2/4
MED_RC 29 22:00:54.0±0.3, 36°.58N×34°.94E, h24km±1km, MW4.9/34, Moment Tensor Solution. Mantle waves: s34,c62; Duration: 1s3 Moment tensor: Scale 10^16 Nm; Mrr=2.09±.19; Mθθ=0.45±.10; Mφφ=2.54±.12; Mrθ=0.75±.15; Mθφ=0.14±.06; Mφr=2.18±.11; Best double couple: M0=3.29000×10^16 NP1:φs=338.00000°, δ=26.00000°, λ=122.00000°. NP2:φs=193.00000°, δ=68.00000°, λ=75.00000°. Principal axes: T 3.4100, Plg=22.0000°, Azm=272.0000°; N -0.2400, Plg=14.0000°, Azm=8.0000°; P -3.1600, Plg=64.0000°, Azm=127.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
DDA 29 22:00:54.7, 36°.57N×35°.04E, h30km, MW5.0
ISK 29 22:00:54.2, 36°.51N×35°.06E, h20km, ML5.2/55
DSN 29 22:00:55.5±0.9, 36°.42N×35°.07E, h10km, mb5.7/17, Error ellipse: s-maj=15.1km s-min=5.1km az=95.0
NEIC 29 22:00:55.8±1.8, 36°.57N±0°.05×34°.98E±0°.06, h30km±4km, mb5.2/209, Mwr4.9/21, Error ellipse: s-maj=7.6km s-min=6.5km az=149.0
GCMT 29 22:00:55.8±0.3, 36°.44N±0°.02×34°.87E±0°.02, h33km, MW5.0/90, Moment Tensor Solution. s44,c55; s90,c150; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.63±.17; Mθθ=0.85±.11; Mφφ=3.48±.10; Mrθ=0.74±.14; Mφφ=0.15±.07; Mφr=2.08±.11; Best double couple: M0=3.79600×10^16 NP1:φs=345.00000°, δ=30.00000°, λ=-116.00000°. NP2: φs=195.00000°, δ=64.00000°, λ=-76.00000°. Principal axes: T 4.1470, Plg=17.0000°, Azm=274.0000°; N -0.7070, Plg=13.0000°, Azm=8.0000°; P -3.4440, Plg=68.0000°, Azm=133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
IDC 29 22:00:56.6±1.1, 36°.67N×34°.89E, h35km±8km, mb4.6/41, mb1 4.6/52, mb1mx4.6/61, mbtmp4.8/52, ML4.1/8, MS4.2/36, Ms1 4.2/36, ms1mx4.1/50 Error ellipse: s-maj=8.3km s-min=7.6km az=105.0
THE 29 22:00:56.5, 36°.30N×34°.86E, h8km±24km, ML5.2/5, Error ellipse: s-maj=33.7km s-min=2.3km az=105.0
NEIC 29 22:00:56.4, 36°.58N×34°.95E, h34km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=2.45; Mθθ=0.84; Mφφ=3.28; Mrθ=-1.24; Mφθ=-0.37; Mφr=0.21; Fault plane solution: M0=3.23000×10^16 NP1:φs=20.63000°, δ=52.65000°, λ=-52.64000°. NP2:φs=149.10000°, δ=50.81000°, λ=-128.49000°. Principal axes: T 3.3180, Plg=1.0000°, Azm=85.0000°; N -0.1802, Plg=29.0000°, Azm=176.0000°; P -3.1378, Plg=61.0000°, Azm=353.0000°;
HLW 29 22:00:57.2, 36°.42N×34°.60E, h24km±19km, Md5.1, Ml4.9
GRAL 29 22:00:59.0±0.4, 36°.31N×34°.84E, h13km±999km, MD4.6
GII 29 22:01:00.0±0.0, 36°.26N×34°.52E, h20km, mb4.8/5, MD4.8/5, Mm4.5/5

ISC 29 22:00:55.9±0.4, 36°.52N±0°.02×34°.97E±0°.02, h32km±2km, h32km: pP-P, n1432, σ1=55/1610, mb5.2/279, MS4.2/44, 261C-220D, Fault plane solution: NP1:φs=190.92069°, δ=89.28581°, λ=-59.35444°. NP2:φs=282.12592°, δ=30.65307°, λ=-178.59908°. Principal axes: T Plg=36.8333°, Azm=254.1563°; N Plg=30.6429°, Azm=10.4976°; P Plg=38.1059°, Azm=128.1824°; **Fault plane solution: NP1:φs=78.65342°, δ=14.84724°, λ=-14.35736°. NP2: φs=182.55031°, δ=86.35696°, λ=-104.40311°. Principal axes:** T Plg=39.6852°, Azm=285.7623°; N Plg=14.3734°, Azm=183.4852°; P Plg=46.7548°, Azm=77.6745°; **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DED	Mersin	0.46	343	⇓iP		Pb	22 01 04.7	-1.2
DED				i S		Sb	22 01 11.3	-1.3
DED				IAML			22 01 12.0	
	comp=N,128μm,0.4s							
DED				IAML			22 01 12.0	
	comp=E,201μm,0.6s							
MERS	Mersin	0.50	314	PG		Pb	22 01 06.1	-0.3
MERS				SG		Sn	22 01 14.0	-0.4
KIZK	Mersin	0.66	267	⇑iP		Pn	22 01 09.6	+0.5
KIZK				IAML			22 01 20.0	
	comp=N,122μm,0.6s							
KIZK				i S		Sn	22 01 20.2	+1.8
KIZK				IAML			22 01 21.0	
	comp=E,78μm,0.6s							
KIZK	Mersin	0.66	267	PG		Pn	22 01 09.6	+0.5
KIZK				SG		Sn	22 01 20.2	+1.8
ASUZ	Hatay-Arsuz	0.70	109	⇑iP		Pb	22 01 08.4	-1.3
ASUZ				i S		Sn	22 01 19.7	+0.4
GULE	Gulek	0.78	349	⇓iP		Pn	22 01 10.1	-0.8
GULE				i S		Sb	22 01 21.1	-0.3
GULE				IAML			22 01 22.0	
	comp=N,262μm,0.9s							
GULE				IAML			22 01 22.0	
	comp=E,262μm,0.9s							
CEYT	Ceyhan	0.80	52	PG		Pn	22 01 09.3	-1.6
CEYT				SG		Sb	22 01 19.8	-1.9
SLFK	Silifke-Mersin	0.83	261	PG		Pb	22 01 12.1	+0.2
SLFK				SG		Sb	22 01 24.9	+2.2
SILI	Silifke-Mersin	0.85	260	PG		Pb	22 01 12.6	+0.4
SILI				SG		Sb	22 01 25.6	+2.2
TAHT	Tahtakopru-Hat	0.99	98	PG		Pn	22 01 12.6	-1.0
TAHT				SG		Sn	22 01 26.0	-0.6
KEBE	Keben-Mersin	1.01	266	PN		Pb	22 01 15.2	+0.3
KEBE				SN		Sb	22 01 30.3	+2.4
AKO	Adana	1.01	22	⇓iP		Pn	22 01 12.7	-1.2
AKO				i S		Sn	22 01 26.0	-1.1
YAYL	Yayladag	1.04	117	⇑iP		Pn	22 01 13.5	-0.9
YAYL				i S		Sb	22 01 30.2	+1.3
YAYL				IAML			22 01 32.0	
	comp=N,205μm,0.6s							
YAYL				IAML			22 01 33.0	
	comp=E,37μm,0.3s							
YAYL	Yayladag	1.04	117	PG		Pn	22 01 14.0	-0.4
IKL	Isikli	1.07	255	PN		Pb	22 01 15.7	-0.2
TISA	Tisan-Mersin	1.10	251	PN		Pb	22 01 15.8	-0.5
YESI	Yesilovacik-Me	1.12	253	PN		Pb	22 01 16.1	-0.5
KERG	Konya-Eregli	1.12	323	⇑iP		Pn	22 01 15.8	+0.3
KERG				i S		Sb	22 01 30.6	-0.4
KERG				IAML			22 01 33.0	
	comp=N,102μm,0.6s							
KERG				IAML			22 01 33.0	
	comp=E,93μm,0.8s							
CMRD	Camardi-Nigde	1.14	1	PN		Pn	22 01 15.1	-0.7
KOZT	Kozan	1.18	36	PN		Pn	22 01 14.8	-1.4
EREN	Erenkoy	1.18	213	⇓iP		Pn	22 01 16.5	+0.3
EREN				i S		Sb	22 01 43.8	+11
EREN	Erenkoy	1.18	213	PN		Pn	22 01 16.6	+0.4
TEPK	Tepekoy-MERSIN	1.18	256	PN		Pb	22 01 17.4	-0.4
TEPK				SN		Sb	22 01 33.4	+0.6
GULN	MERSIN_Gulnar	1.20	254	⇑iP		Pn	22 01 17.0	+0.6
GULN				i S		Sb	22 01 33.9	+0.8
AKKU	Akkuyu-Mersin	1.20	253	PN		Pb	22 01 17.2	-0.8
AKK2	Akkuyu-Mersin	1.21	252	PN		Pn	22 01 17.2	+0.7
AKK1	Akkuyu-Mersin	1.21	252	PN		Pb	22 01 17.6	-0.6
TEVE	Tevekalti-Mers	1.23	266	PN		Pb	22 01 18.3	-0.3
OREN	Orenkoy-Mersin	1.26	256	PN		Pb	22 01 18.1	-0.9
YORU	Yoruktepe-Mers	1.31	254	PN		Pn	22 01 18.9	+0.9
BERE	Bereket-Mersin	1.42	263	PN		Pb	22 01 20.9	-0.9
NIDE	Nigde/Merkez-G	1.48	354	⇓iP		Pn	22 01 20.7	+0.2
NIDE				i S		Sb	22 01 40.3	-1.2
NIDE				IAML			22 01 41.0	
	comp=E,48μm,0.6s							
NIDE				IAML			22 01 47.0	
	comp=N,34μm,0.7s							
KRMN	Karaman	1.51	296	PN		Pb	22 01 22.4	-1.0
KAMA	Osmaniye	1.52	64	⇑iP		Pn	22 01 19.6	-1.3
KAMA				i S		Sn	22 01 38.7	-1.0
ANDN	Andirin	1.53	46	⇓iP		Pn	22 01 18.8	-2.3
ANDN				i S		Sn	22 01 39.7	-0.2
TEKE	Tekeli-Mersin	1.54	256	PN		Pn	22 01 22.3	+1.1
TEKE				SN		Sb	22 01 43.1	+0.1
YESY	Yesilyurt	1.59	323	PN		Pn	22 01 23.3	+1.3
YAHY	KAYSERI_Yahyal	1.60	11	⇓iP		Pn	22 01 21.7	-0.4
YAHY				i S		Sb	22 01 44.3	-0.5
NIG	Nigde	1.61	350	PN		Pn	22 01 23.1	+0.7
ERMK	Ermenek	1.66	275	⇑iP		Pb	22 01 24.9	-1.0
ERMK				i S		Sb	22 01 51.4	+5.0
BOZY	Bozyazi-Mersin	1.66	256	PN		Pn	22 01 24.2	+1.5
LFK	Lefkose	1.70	224	PN		Pn	22 01 23.8	+0.4
PARAL	Paralimni	1.70	207	P		Pn	22 01 21.9	-1.4
PARAL				S		Sn	22 01 40.5	-3.5
PARAL				AML		AML	22 01 48.8	
	comp=N,156nm,0.6s							
PARAL				AML		AML	22 01 48.8	
	comp=N,156nm,0.6s							
PARAL				AML		AML	22 01 49.5	
	comp=N,162nm,0.6s							
PARAL				AML		AML	22 01 49.5	
	comp=N,162nm,0.6s							
SAIM	ADANA	1.70	31	⇓iP		Pn	22 01 21.3	-2.2
SAIM				i S		Sn	22 01 45.3	+1.0
KUZU	Kuzuini	1.71	81	⇑iP		Pn	22 01 23.6	0.0
KUZU				i S		Sn	22 01 44.0	-0.5
KUZU				IAML			22 01 46.0	
	comp=N,70μm,0.5s							
KUZU				IAML			22 01 47.0	
	comp=E,59μm,0.4s							
HCB	Kahramanmara	1.76	62	⇓iP		Pn	22 01 23.6	-0.6
HCB				i S		Sn	22 01 44.5	-1.0
HCB				IAML			22 01 45.0	
	comp=E,36μm,0.4s							
HCB				IAML			22 01 46.0	
	comp=N,21μm,0.5s							
KKBE	Karaman, Kazim	1.77	294	⇑iP		Pn	22 01 26.0	+1.6
KKBE				i S		Sb	22 01 48.9	-0.7
KMRS	Kahramanmaras	1.83	57	PN		Pn	22 01 24.6	-0.6
MVOU	Mavrovouni	1.85	216	⇓P		Pn	22 01 23.8	-1.6
MVOU				S		Sn	22 01 45.1	-2.6
MVOU				AML		AML	22 01 53.0	
	comp=N,30nm,0.4s							
MVOU				AML		AML	22 01 53.0	
	comp=N,30nm,0.4s							
MVOU				AML		AML	22 01 53.5	
	comp=N,46nm,0.4s							
MVOU				AML		AML	22 01 53.5	
	comp=N,46nm,0.4s							
ATHAL	Athalassa	1.88	223	P		Pn	22 01 24.6	-1.1
ATHAL				S		Sn	22 01 47.1	-1.2
KAHM	Kahramanmaras,	1.90	58	⇓iP		Pn	22 01 25.4	-0.7
KAHM				i S		Sn	22 01 47.0	-2.0
GULA	Gulagac	1.91	343	PN		Pn	22 01 27.6	+1.3
GAZ	Gaziantep	1.92	70	PN		Pn	22 01 25.8	-0.6
GAZ	Gaziantep	1.92	70			Pn	22 01 25.7	-0.6
GAZ				Sn		Sn	22 01 48.5	-1.0
GAZ	Gaziantep	1.92	70	⇑P		Pn	22 01 25.8	-0.6
GAZ				S		Sn	22 01 48.7	-0.8
GAZ				AML		AML	22 01 49.9	
	comp=N,111nm,0.4s							
GAZ				AML		AML	22 01 49.9	
	comp=N,111nm,0.4s							
GAZ				AML		AML	22 01 51.2	
	comp=N,80nm,0.5s							
GAZ				AML		AML	22 01 51.2	
	comp=N,80nm,0.5s							
AKIN	Akıncılar- Kıb	1.94	219	PN		Pn	22 01 26.1	-0.5
AKDN	Akdeniz- Kıbrı	2.03	234	PN		Pn	22 01 28.3	+0.4
SULT	Sultanhani-AKS	2.03	326	PN		Pn	22 01 28.9	+0.9
CSS	Mathiatis	2.05	221	Pn		Pn	22 01 25.4	-2.7
CSS	Mathiatis	2.05	221	Pn		Pn	22 01 26.2	-2.0
CSS	Mathiatis	2.05	221	⇑P		Pn	22 01 26.1	-2.0
CSS				S		Sn	22 01 49.5	-3.1
GAZI	Gazipasa	2.16	263	⇑iP		Pn	22 01 31.7	+2.1
GAZI				i S		Sb	22 02 00.2	-0.4
GAZI				IAML			22 02 22.0	
	comp=N,15μm,1.0s							
GAZI	Gazipasa	2.16	263	PN		Pn	22 01 31.4	+1.8
LEF	Lefka	2.19	231	i P		Pn	22 01 28.9	-1.2
LEF				i S		Sn	22 01 53.9	-2.2
LEF	Lefka	2.19	231	PN		Pn	22 01 29.3	-0.8
SARI	SarD1z-Kayseri	2.21	31	PN		Pn	22 01 30.6	+0.1
ASGA	Asgata	2.23	219	P		Pn	22 01 28.2	-2.4
ASGA				AML		AML	22 02 02.4	
	comp=N,32nm,1.0s							
ASGA				AML		AML	22 02 03.6	
	comp=N,28nm,0.8s							
GZT	Gaziantep	2.24	67	⇓iP		Pn	22 01 30.7	-0.3
GZT				i S		Sn	22 01 56.3	-1.3
AVNS	Nevsehir-Avano	2.28	358	⇓iP		Pn	22 01 31.8	+0.3
AVNS				i S		Sb	22 02 04.7	+0.4
AKSY	AKSARAY - Alti	2.33	336	⇓iP		Pn	22 01 32.6	+0.5
AKSY				i S		Sb	22 02 10.2	+4.6
ALFC	Alefka	2.36	235	⇑P		Pn	22 01 30.8	-1.7
ALFC				S		Sn	22 01 58.1	-2.2
BNN	Bunyan	2.43	16	PN		Pn	22 01 33.4	-0.1
BNN	Bunyan	2.43	16	Pn		Pn	22 01 32.6	-0.9
ALIN	Konya, Altinte	2.43	318	⇑iP		Pn	22 01 34.2	+0.7
ALIN				i S		Sb	22 02 10.2	+1.7
GUNE	Kayseri	2.43	12	⇓iP		Pn	22 01 33.3	-0.2
GUNE				i S		Sb	22 02 16.7	+8.1
SZAC	Souni	2.45	225	⇑P		Pn	22 01 32.7	-0.9
KONT	Konya--Tatoy	2.52	305	⇑iP		Pn	22 01 36.7	+2.1
KONT				i S		Sb	22 02 13.3	+2.3
KONT	Konya--Tatoy	2.52	305	PN		Pn	22 01 36.8	+2.1
YAYX	Yaylak	2.58	340	PN		Pn	22 01 36.5	+0.9
AKMS	Akamas	2.61	236	P		Pn	22 01 35.4	-0.5
NATA	Nata	2.61	229	P		Pn	22 01 35.5	-0.4
CHBY	Cihanbeyli	2.64	322	PN		Pn	22 01 37.4	+1.1
SEYD	Seydisehir-KON	2.66	290	PN		Pn	22 01 38.5	+1.9
SERE	Sereflikochisa	2.66	336	PN		Pn	22 01 38.0	+1.3
LADK	Ladik-KONYA	2.67	310	PN		Pn	22 01 38.5	+1.8
BHL	Bhannes	2.67	168	eP		Pn	22 01 38.1	+1.3
BHL				eS		Sn	22 02 07.1	-1.0
BEYL	Beirut	2.68	171	eP		Pn	22 01 38.2	+1.4
KEPZ	Antalya-Kepez	2.73	279	⇑iP		Pn	22 01 40.2	+2.7
KEPZ				i S		Sb	22 02 32.3	+15
SEDI	Konya, Seydise	2.73	291	⇑iP		Pn	22 01 39.9	+2.2
SEDI				i S		Sb	22 02 18.9	+1.6

ANTB	Antalya	3.48 278	PN	Pn	22 01 49.7	+1.8
MMA0B	Mount Meron ar	3.52 174	Pn	Pn	22 01 50.0	+1.6
MMA0B			Sn	Sn	22 02 28.7	-0.2
MMAI	Mount Meron Ar	3.52 174	Pn	Pn	22 01 50.0	+1.6
	comp=N,1µm,0.3s,baz=357,slow=13,SNR=7648					
MMAI			Sn	Sn	22 02 29.0	+0.1
	comp=N,1µm,0.3s,baz=344,slow=25,SNR=14					
MMAI			LR	LR	22 03 38.9	
	comp=N,2µm,20.9s,baz=210,slow=44					
MMAI	Mount Meron Ar	3.52 174		Pn	22 01 50.0	+1.6
DELI	KIRIKKALE	3.57 347	⇓P	Pn	22 01 50.2	+1.1
CKRK	Yozgat, Cekere	3.57 7	⇓P	Pn	22 01 49.3	+0.2
BUCA	Burdur, Bucak-	3.62 284	⇑P	Pn	22 01 52.1	+2.3
BCK	Bucak	3.63 286	PN	Pn	22 01 52.7	+2.8
BAGO	Egridir - ISPA	3.64 295	⇑P	Pn	22 01 52.6	+2.5
CORM	Corum	3.66 356	PN	Pn	22 01 51.8	+1.4
ARPR	Arapgir-MALATY	3.70 45	PN	Pn	22 01 51.4	+0.4
COAL	Corum-Alaca	3.73 0	⇓P	Pn	22 01 52.2	+0.8
AKUM	Antalya-Kumluc	3.73 268	⇑P	Pn	22 01 52.8	+1.5
KORT	Korkueli	3.74 279	⇑P	Pn	22 01 52.1	+0.7
KORT	Korkueli	3.74 279	PN	Pn	22 01 53.5	+2.0
BR231	Keskin MP Arra	3.74 333		Pn	22 01 53.0	+1.5
SCER	sogukcermik	3.75 26	⇓P	Pn	22 01 51.0	-0.6
SVSK	Karacayir	3.75 25	PN	Pn	22 01 51.6	+0.1
ANTO	Ankara	3.75 334	P	Pn	22 01 53.0	+1.4
ANTO	Ankara	3.75 334	PN	Pn	22 01 53.8	+2.1
ANTO	Ankara	3.75 334	Pn	Pn	22 01 53.0	+1.4
ELZG	Elazig	3.75 57	*i* P	Pn	22 01 51.8	0.0
ISP	Isparta	3.78 291	P	Pn	22 01 54.6	+2.6
ISP	Isparta	3.78 291	Pn	Pn	22 01 54.0	+2.0
ISP	Isparta	3.78 291	PN	Pn	22 01 54.4	+2.4
ISP	Isparta	3.78 291	Pn	Pn	22 01 54.6	+2.6
BLGI	Bet Lehem HaGe	3.78 177	Pn	Pn	22 01 53.5	+1.5
BLGI			Sn	Sn	22 02 35.4	0.0
LOD	Lodumlu	3.78 333	PN	Pn	22 01 53.9	+1.8
OFRI	`Ofer	3.89 180	Pn	Pn	22 01 54.6	+1.1
OFRI			Sn	Sn	22 02 37.5	-0.6
KEMA	Kemaliye	3.91 44	⇓*i*P	Pn	22 01 53.4	-0.5
SVRC	Sivrice-ELAZID	3.92 60	PN	Pn	22 01 53.9	-0.1
TOKA	Tokat	3.98 17	*i* P	Pn	22 01 54.3	-0.4
SVRH	Sivrihisar-ESK	3.99 318	PN	Pn	22 01 57.2	+2.3
TOKT	Tokat	3.99 18	PN	Pn	22 01 55.2	+0.3
CUZAR	Zara_SIVAS	4.02 32	⇓*i*P	Pn	22 01 55.2	-0.2
SHUT	Suhut-Afyon	4.05 301	PN	Pn	22 01 58.1	+2.3
ELL	Elmali	4.07 275	P	Pn	22 01 57.6	+1.5
ELL	Elmali	4.07 275	PN	Pn	22 01 58.5	+2.4
ELL	Elmali	4.07 275	Pn	Pn	22 01 57.6	+1.5
ELL	Elmali	4.07 275	P	Pn	22 01 57.7	+1.6
ILIC	ilic-Erzincan	4.08 43	PN	Pn	22 01 56.4	+0.2
MMLI	Mount Malkishu	4.09 175	Pn	Pn	22 01 58.2	+1.9
MMLI			Sn	Sn	22 02 43.2	+0.1
MMLI	Mount Malkishu	4.09 175	PN	Pn	22 01 57.8	+1.5
BRDR	BURDUR-Merkez	4.09 288	⇑*i*P	Pn	22 01 58.5	+2.2
OSC2	CSNet OBS 4	4.09 214	P	Pn	22 01 54.1	-2.1
CTAK	Corum_Osmancik	4.12 358	⇓*i*P	Pn	22 01 58.2	+1.4
REFA	Refahiye_ERZN	4.15 45	⇓*i*P	Pn	22 02 02.1	+4.9
BASM	Basmaki-Afyon	4.16 291	PN	Pn	22 01 59.8	+2.5
CIFT	Cifteler, Eski	4.19 314	PN	Pn	22 01 59.7	+2.1
CANT	Cankiri	4.21 346	PN	Pn	22 01 59.8	+1.9
KZIL	AFYON_Kizioren	4.21 296	⇑*i*P	Pn	22 02 00.2	+2.2
SLTI	Sal'it	4.27 179	Pn	Pn	22 02 00.0	+1.3
SLTI			Sn	Sn	22 02 47.6	+0.1
OSC1	CSNet OBS 1	4.27 226	P	Pn	22 01 59.4	+0.7
HMDT	Nahal Hemdat	4.28 174	Pn	Pn	22 02 01.0	+2.1
HMDT			Sn	Sn	22 02 48.6	+0.9
RSDY	Resadiye-TOKAT	4.29 25	PN	Pn	22 01 59.8	+0.8
AKAS	Kas	4.33 268	⇑*i*P	Pn	22 02 00.7	+1.0
AFYO	Afyonkarahisar	4.34 303	⇑*i*P	Pn	22 02 02.3	+2.6
KSL	Kastellorizon	4.36 267	P	Pn	22 02 00.8	+0.9
KSL			S	Sn	22 02 49.6	0.0
	comp=N,2µm,1.8s					
KSL	Kastellorizon	4.36 267	⇑P	Pn	22 02 00.7	+0.7
GOLH	Golhisar	4.39 281	⇑*i*P	Pn	22 02 01.6	+1.2
CMDR	Camlidere-ANKA	4.42 335	⇑*i*P	Pn	22 02 03.1	+2.2
SGAZ	Eskisehir, Sey	4.43 314	⇑*i*P	Pn	22 02 02.6	+1.6
TNCL	Tunceli-Merkez	4.45 53	⇓*i*P	Pn	22 02 01.0	-0.3
SUSE	Susehri	4.47 34	⇓*i*P	Pn	22 02 01.6	0.0
MAZI	Mazidag	4.49 76	PN	Pn	22 02 01.5	-0.3
CAEL	Denizli, Camel	4.57 279	⇑*i*P	Pn	22 02 05.5	+2.6
KAGI	orum-Kargı	4.63 355	⇓*i*P	Pn	22 02 05.0	+1.4
ILGA	Ilgaz	4.63 348	⇓*i*P	Pn	22 02 05.2	+1.4
MARD	Mardin	4.72 79	⇓*i*P	Pn	22 02 04.5	-0.5
PASA	Karahalli, USA	4.72 294	⇑*i*P	Pn	22 02 06.8	+1.8
FETY	Fethiye	4.74 273	P	Pn	22 02 07.1	+2.0
FETY	Fethiye	4.74 273	⇑*i*P	Pn	22 02 07.3	+2.2
FETY			*i* S	Sn	22 02 57.2	-1.7
BCAM	Yenicaga	4.85 333	⇑*i*P	Pn	22 02 09.0	+2.3
BORA	Eskisehir	4.89 315	⇑*i*P	Pn	22 02 08.9	+1.7
MDUB	Mudurnu	4.93 324	Pn	Pn	22 02 09.7	+1.9
TAVA	DENIZLI_Tavas	4.94 283	⇑*i*P	Pn	22 02 10.0	+2.1
PELI	Kastamonı-Ara	4.94 345	⇓*i*P	Pn	22 02 10.0	+1.9
PELI			*i* S	Sn	22 03 07.2	+3.0
PELI			IAML		22 03 37.0	
	comp=E,436nm,1.2s					
DSI	Dead Sea	4.95 176	Pn	Pn	22 02 09.8	+1.8
DSI			Sn	Sn	22 03 04.3	+0.1
AMAZ	Amatzia	4.98 180	Pn	Pn	22 02 10.7	+2.3
AMAZ			Sn	Sn	22 03 04.9	0.0
ANDZ	Kutahya, Merke	4.99 308	⇑*i*P	Pn	22 02 10.5	+1.8
BOYA	Sinop/Boyabat-	5.01 358	⇓*i*P	Pn	22 02 10.4	+1.5
GDZ	Gediz	5.04 302	⇑*i*P	Pn	22 02 11.2	+1.8
DALY	Dalyan (Mula)	5.08 275	⇑*i*P	Pn	22 02 12.1	+2.3
DIKM	Dikmen	5.13 2	⇑P	Pn	22 02 12.9	+2.4
YTIR	Yattir	5.15 179	Pn	Pn	22 02 13.1	+2.3
YTIR			Sn	Sn	22 03 09.0	-0.2
USAK	Uak-Merkez	5.20 297	⇑*i*P	Pn	22 02 13.7	+2.1
GHAJ	Ghor Haditha	5.23 174	Pn	Pn	22 02 13.6	+1.7
GHAJ	Ghor Haditha	5.23 174	Pn	Pn	22 02 13.5	+1.7
MULA	Mugla, Merkez-	5.38 280	⇑*i*P	Pn	22 02 16.0	+2.0
SLHN	Bingol, Solhan	5.38 61	⇓*i*P	Pn	22 02 15.0	+0.9
SAHE	Sakarya_HENDEK	5.39 325	*i* P	Pn	22 02 15.0	+1.0
KULA	Kula-Manisa	5.39 294	P	Pn	22 02 16.1	+1.9
YER	Yerkesik	5.39 279	P	Pn	22 02 16.5	+2.3
YER	Yerkesik	5.39 279	P	Pn	22 02 16.7	+2.5
BILE	Bilecik/Merkez	5.41 314	⇑*i*P	Pn	22 02 16.2	+1.8
TURN	Turunc	5.41 275	⇑*i*P	Pn	22 02 16.2	+1.9
MANT	Manisa	5.46 293	⇑*i*P	Pn	22 02 17.0	+1.8
BZK	Bozkurt	5.48 352	⇑P	Pn	22 02 17.2	+1.8
BZK	Bozkurt	5.48 352	Pn	Pn	22 02 17.1	+1.8
SINO	SINOP_Merkez	5.49 2	⇓*i*P	Pn	22 02 16.1	+0.6
SNOP	Sinop	5.49 2	Pn	Pn	22 02 16.4	+0.9
ARG	Arkhangelos	5.53 269	P	Pn	22 02 16.4	+0.5
ARG			S	Sn	22 03 18.3	-0.1
	comp=E,1µm,0.4s					
ARG	Arkhangelos	5.53 269	P	Pn	22 02 16.8	+0.9
KOPT	Kop Dagi	5.58 50	⇓*i*P	Pn	22 02 17.4	+0.5
BAYB	BAYBURT	5.58 46	*i* P	Pn	22 02 18.3	+1.3
KZIT	Kziot	5.62 185	Pn	Pn	22 02 18.9	+1.6
KZIT			Sn	Sn	22 03 20.0	-0.7
AYDN	Tasoluk	5.78 283	*i* P	Pn	22 02 20.7	+1.3
KTUT	Trabzon	5.83 39	⇑P	Pn	22 02 21.7	+1.6
ULDT	Uludag	5.84 310	⇑*i*P	Pn	22 02 22.3	+2.0
IGD	Bursa	5.87 311	⇑*i*P	Pn	22 02 22.4	+1.8
EMRE	Erzurum,Aziziy	5.88 52	*i* P	Pn	22 02 20.7	-0.3
DAT	Datca	5.95 274	P	Pn	22 02 23.1	+1.3
DAT			S	Sn	22 03 29.5	+0.6
ZFRI	Zfri	5.95 178	Pn	Pn	22 02 23.5	+1.7
GURO	Guroymak-BITLI	5.97 68		Pn	22 02 21.7	-0.5
DURS	Dursunbey	5.97 303	*i* P	Pn	22 02 24.0	+1.8
BDRM	Kayabasi	6.06 277	*i* P	Pn	22 02 24.3	+1.0
BDRM			*i* P	Pb	22 02 24.8	-16
BDRM			*i* S	Sn	22 03 29.2	-2.3
SIRT	Sirnak	6.06 78	Pn	Pn	22 02 23.3	0.0
AKHS	Akhisar	6.14 295	*i* P	Pn	22 02 26.4	+2.0
PRNI	Paran	6.15 180	Pn	Pn	22 02 26.4	+1.8
PRNI			Sn	Sn	22 03 33.7	-0.2
BODT	Bodrum	6.17 277	P	Pn	22 02 25.8	+1.0
BODT			S	Sn	22 03 35.4	+1.2
NIS1	Nisyros Isl.	6.27 273	P	Pn	22 02 27.0	+0.9
BUY	Buyukada	6.29 315	*i* P	Pn	22 02 25.6	-0.8
KRMI	Paran Flat	6.39 182	Pn	Pn	22 02 29.4	+1.5
BALB	Balikesir	6.40 301	Pn	Pn	22 02 30.1	+2.2
KARP	Karpathos	6.40 264	P	Pn	22 02 28.4	+0.5
KARP			S	Sn	22 03 38.5	-1.4
	comp=E,2µm,0.6s					
KARP	Karpathos	6.40 264	Pn	Pn	22 02 28.4	+0.5
HRFI	Mount Harif	6.47 179	Pn	Pn	22 02 30.6	+1.7
HRFI			Sn	Sn	22 03 42.1	+0.4
ISK	Istanbul-Kandi	6.47 316	P	Pn	22 02 30.7	+1.8
SMG	Samos	6.60 283	P	Pn	22 02 31.8	+1.1
EDC	Edincik	6.76 307	P	Pn	22 02 35.5	+2.7
EIL	Elat	6.83 180	Pn	Pn	22 02 35.6	+1.7
	comp=E,5.0nm,0.3s,baz=29,slow=7.8,SNR=43					
EIL			Sn	Sn	22 03 50.7	+0.1
	comp=E,25nm,0.3s,baz=150,slow=2.9,SNR=7.3					
EIL			LR	LR	22 05 43.3	
	comp=E,1µm,20.5s,baz=342,slow=41					
EIL	Elat	6.83 180	Pn	Pn	22 02 35.6	+1.7
SUZ	Suez	6.90 196	P	Pn	22 02 35.1	+0.3
	baz=194					
HHAG	Hagoal	6.98 201	P	Pn	22 02 35.8	-0.1
	baz=199					
HHAG			AMP		22 03 00.0	
	baz=199					
HHAG			S	Sn	22 03 47.4	-6.8
	baz=199					
KOT	Kottamia	7.08 203	P	Pn	22 02 37.2	-0.1
	baz=201					
BCA	Borcka	7.14 44	⇓P	Pn	22 02 38.8	+0.6
ZKR	Zakros	7.25 261	P	Pn	22 02 39.4	-0.1
ZKR			S	Sn	22 03 58.8	-1.9
	comp=E,1µm,0.7s					
HBST	Basata	7.29 182	P	Pn	22 02 41.4	+1.2
	baz=179					
STIA	Sitia Lasithi	7.33 262	P	Pn	22 02 41.1	+0.5
CHOS	Chios island	7.33 287	P	Pn	22 02 42.5	+1.8
ZNM	Zenema	7.34 194	P	Pn	22 02 41.1	+0.2
	baz=193					
PRK	Paraskevi	7.39 294	P	Pn	22 02 45.3	+3.8
GLL	Jalalah	7.44 202	P	Pn	22 02 42.1	-0.2
	baz=201					
HSAF	As Saff	7.45 204	P	Pn	22 02 42.3	-0.1
	baz=202					
NUB	Nuweibaa	7.48 182	P	Pn	22 02 44.9	+2.1
	baz=179					
HMYD	Mayadein	7.56 209	P	Pn	22 02 43.1	-0.8
	baz=207					
EZN	Ezine	7.56 298	P	Pn	22 02 46.8	+2.9
KARS	Kars	7.56 55	P	Pn	22 02 46.5	+2.5
KARS	Kars	7.56 55	Pn	Pn	22 02 46.5	+2.5
APE	Apeiranthos	7.59 277	⇑P	Pn	22 02 45.4	+1.1
APE	Apeiranthos	7.59 277	P	Pn	22 02 46.1	+1.8
THR8	Santorini-Mono	7.64 272	P	Pn	22 02 45.4	+0.4
SANT	Santorini	7.66 272	⇑P	Pn	22 02 45.2	-0.2
SANT	Santorini	7.66 272	P	Pn	22 02 45.6	+0.3
SANT	Santorini	7.66 272	Pn	Pn	22 02 44.8	-0.5
THR7	Fira-Santorini	7.69 272	P	Pn	22 02 46.4	+0.8
SIGR	SIGRI	7.69 293	P	Pn	22 02 47.9	+2.3
NPS	Neapolis	7.69 263	P	Pn	22 02 45.6	-0.1
NPS			S	Sn	22 04 09.2	-2.6
	comp=E,1µm,0.5s					
CMBO	Columbo, Santo	7.70 272	P	Pn	22 02 46.4	+0.6
THR3	Thira Island,	7.71 272	P	Pn	22 02 46.1	+0.2
SNT5	Nea Kammeni, S	7.71 272	P	Pn	22 02 46.4	+0.5
THR6	Thira Island,	7.71 272	P	Pn	22 02 46.5	+0.5
THR9	Santorini-Faro	7.75 272	P	Pn	22 02 46.6	+0.2
THR5	Thira Island,	7.75 272	P	Pn	22 02 47.2	+0.7
HNAT	Natroun	7.78 209	P	Pn	22 02 46.3	-0.6
	baz=208					
HDHB	Dhahab	7.78 182	P	Pn	22 02 48.4	+1.5
	baz=179					
LAST	Lasithi	7.82 263	P	Pn	22 02 47.8	+0.2
HRDS	Abu Rudays	7.91 191	P	Pn	22 02 49.2	+0.5
	baz=189					
SOC	Sochi	7.94 26	*eP*	Pn	22 02 44.7	-4.3
SOC			*e*		22 04 14.2	
SOC			MLR	MLR		
	comp=Z,1µm,14.0s					
YAL	Yalta	7.98 356	⇑*i*P	Pn	22 02 50.0	+0.4
HKAT	Jabal Katrina	8.02 186	P	Pn	22 02 51.3	+0.9
	baz=184					
SEV	Sevastopol'	8.08 353	⇑*i*P	Pn	22 02 52.2	+1.3
ENEZ	Enez	8.08 304	P	Pn	22 02 53.5	+2.6
HRKL	Herakleio	8.09 264	P	Pn	22 02 50.6	-0.6
KSTL	Kastelli Herak	8.12 264	P	Pn	22 02 49.8	-1.7
KSTL			S	Sn	22 04 17.1	-5.1
ALU	Alushta	8.16 357	*eP*	Pn	22 02 52.6	+0.5
TR2	Tor 2	8.18 188	P	Pn	22 02 52.9	+0.5
	baz=186					
ALN	Alexandroupoli	8.23 305	P	Pn	22 02 53.8	+0.8
ALN	Alexandroupoli	8.23 305	P	Pn	22 02 54.7	+1.7
ALN	Alexandroupoli	8.23 305	Pn	Pn	22 02 54.7	+1.7
AKH	Akhalkalaki	8.24 51	P	Pn	22 02 57.6	+4.2
IDI	Anoyia	8.27 264	Pn	Pn	22 02 53.0	-0.7
	comp=Z,53nm,0.3s,baz=64,slow=15,SNR=248					
IDI			Sn	Sn	22 04 21.5	-4.5
	comp=Z,54nm,0.3s,baz=210,slow=10,SNR=3.7					
IDI	Anoyia	8.27 264	⇑P	Pn	22 02 52.5	-1.1
IDI	Anoyia	8.27 264	P	Pn	22 02 52.6	-1.1
IDI	Anoyia	8.27 264	Pn	Pn	22 02 52.5	-1.1
CHVG	Ch'k'valeri	8.27 39	⇓P	Pn	22 02 55.0	+1.4
EDRB	Edirne	8.31 312	P	Pn	22 02 55.5	+1.4
SIVA	Sivas	8.39 263	P	Pn	22 02 55.5	+0.3
GRB	Gharib	8.43 193	P	Pn	22 02 56.1	+0.2
	baz=192					
SIM	Simferopol'	8.44 356	*eP*	Pn	22 02 56.2	+0.3
SIM			*eS*	Sn	22 04 34.3	+4.2
SIM			pmax	pmax		
	comp=Z,86nm,1.1s					
NBNS	Bani Suef	8.46 202	P	Pn	22 02 55.6	-0.7
	baz=201					
ANN	Anapa	8.48 12	*eP*	Pn	22 02 55.5	-0.9
ANN			*eS*	Sn	22 04 37.7	+6.8
ANN			pmax	pmax		
	comp=Z,28nm,0.8s					
ANN			MLR	MLR		
	comp=Z,547nm,11.0s					
GNI	Garni	8.49 62	Pn	Pn	22 02 59.0	+2.2
	comp=Z,1.2nm,0.3s,baz=304,slow=5.1,SNR=9.9					
GNI			LR	LR	22 06 56.0	
	comp=Z,2µm,19.8s,baz=256,slow=42					
GNI	Garni	8.49 62	P	Pn	22 02 59.2	+2.4
GNI	Garni	8.49 62	P	Pn	22 02 59.0	+2.2
GNI	Garni	8.49 62	Pn	Pn	22 02 58.6	+1.8
GNI	Garni	8.49 62	P	Pn	22 02 59.1	+2.4
GNI			S	Sn	22 04 31.1	-0.5
FEO	Feodosiya	8.49 2	*eP*	Pn	22 03 00.4	+3.8
TR1	Tor 1	8.53 186	P	Pn	22 02 57.9	+0.6
	baz=184					
MANR	Mangalia	8.77 328	⇓P	Pn	22 03 02.8	+2.4
KZRT	Kazreti	8.81 54	P	Pn	22 03 05.5	+4.5
ONI	Oni	8.92 45	P	Pn	22 03 05.7	+3.1
IMMV	Iera Moni Meta	8.97 266	P	Pn	22 03 03.0	-0.1
NEY	Neytrino	8.98 39	*i* P	Pn	22 03 02.2	-1.3
SHA1	Shidzhatmaz	9.30 37	*i* P	Pn	22 03 07.2	-0.8
ZEI	Tsey	9.30 45	*eP*	Pn	22 03 11.0	+3.0
ZEI			pmax	pmax		
	comp=Z,29nm,1.0s					
HHRG	Al Ghardaqah	9.35 188	P	Pn	22 03 10.8	+2.3
	baz=186					
ICOR	Ion Corvin	9.35 326	⇑P	Pn	22 03 10.7	+2.3
TIRR	Tirgusor	9.36 330	⇑P	Pn	22 03 10.6	+2.1
TIRR	Tirgusor	9.36 330	P	Pn	22 03 10.3	+1.8
TIRR	Tirgusor	9.36 330	Pn	Pn	22 03 10.3	+1.8
KBZ	Khabaz	9.41 38	Pn	Pn	22 03 13.3	+4.1
	comp=Z,0.1nm,0.3s,baz=236,slow=11,SNR=7.9					
KBZ			LR	LR	22 07 22.5	
	comp=Z,2µm,20.4s,baz=228,slow=41					
KBZ	Khabaz	9.41 38	P	Pn	22 03 13.3	+4.1
CVDA	Cernavoda	9.42 328	⇓P	Pn	22 03 11.8	+2.5
TAMRE	El Minia	9.46 202	P	Pn	22 03 09.6	-0.3
	baz=201					
KIV	Kislovodsk	9.48 36	⇑P	Pn	22 03 12.1	+1.8
KIV	Kislovodsk	9.48 36	P	Pn	22 03 12.8	+2.6
KIV	Kislovodsk	9.48 36	*eP*	Pn	22 03 11.8	+1.5
KIV			pmax	pmax		
	comp=Z,17nm,1.0s					
KIV			MLR	MLR		
	comp=Z,309nm,11.0s					
KIV	Kislovodsk	9.48 36	Pn	Pn	22 03 11.5	+1.3
KIV	Kislovodsk	9.48 36	P	Pn	22 03 11.6	+1.3
KVAR	Kislovodsk Arr	9.49 36	Pn	Pn	22 03 13.3	+3.0
	baz=240,slow=20,SNR=4.2					
KVAR			LR	LR	22 07 09.0	
	comp=Z,859nm,20.7s,baz=168,slow=40					
KRND	KRANIDI	9.50 279	P	Pn	22 03 12.3	+1.9
SLUM	Salum	9.52 241	P	Pn	22 03 10.0	-0.8
	baz=241					
RAZG	Razgrad	9.56 320	⇑P	Pn	22 03 14.2	+2.9
KTHA	Kythira Island	9.60 272	P	Pn	22 03 11.9	0.0
TPGR	Topolog	9.69 331	⇑P	Pn	22 03 15.5	+2.4
HARR	Harsova	9.75 329	⇑P	Pn	22 03 16.6	+2.8
GANJ	Ganja	9.80 62	P	Pn	22 03 18.8	+4.2
TLCR		9.83 334	⇑P	Pn	22 03 16.8	+1.9
CFR	Carcaliu	10.07 331	⇓P	Pn	22 03 20.3	+2.0
THE	Thessaloniki	10.25 297	P	Pn	22 03 24.5	+3.8
	baz=300					
AGG	Agios Georgios	10.31 288	P	Pn	22 03 23.7	+2.1
AGG	Agios Georgios	10.31 288	Pn	Pn	22 03 23.7	+2.1
MNGR	Mingechevir, A	10.38 62	P	Pn	22 03 27.0	+4.5
ZKTA	Zakatala	10.40 57	P	Pn	22 03 27.0	+4.2
LIT	Litokhoron	10.43 294	P	Pn	22 03 25.6	+2.3
LIT	Litokhoron	10.43 294		Pn	22 03 25.6	+2.3
ITM	Ithomi	10.47 277		Pn	22 03 25.4	+1.6
GOF	Gofitskoye	10.49 33	⇑*eP*	Pn	22 03 28.2	+4.2
GOF			pmax	pmax		
	comp=Z,28nm,1.1s					
SEKA	Sheki	10.62 60	P	Pn	22 03 30.2	+4.3
BTLR	Botlikh	10.63 51	*i* P	Pn	22 03 25.3	-0.7
GROC	Groznyy	10.66 48	*eP*	Pn	22 03 29.0	+2.7
GROC			pmax	pmax		
	comp=Z,27nm,0.7s					
ISR	Istrita	10.69 326	⇓P	Pn	22 03 29.4	+2.6
ISR	Istrita	10.69 326	P	Pn	22 03 30.6	+3.8
PURM	Purcari	10.70 341	⇑P	Pn	22 03 29.1	+2.2
VAY	Valandovo	10.78 300	*i* P	Pn	22 03 32.4	+4.5
SWA2		10.79 230	P	Pn	22 03 27.5	-0.6
	baz=230					
BISRI	Bisoca	10.96 328	⇓P	Pn	22 03 33.7	+3.2
ODBI	Odobesti	10.98 330	⇓P	Pn	22 03 33.7	+3.0
HUMR	Humele	11.03 320	⇑P	Pn	22 03 32.4	+1.1
NEHR	Nehoiu	11.04 326	⇑P	Pn	22 03 34.4	+2.8
AKT	Akhty	11.10 60	*eP*	Pn	22 03 35.8	+3.4
AKT			*eS*	Sn	22 05 44.7	+9.3
AKT			pmax	pmax		
	comp=Z,16nm,0.7s					
AKT			smax	smax		
	comp=E,3.0nm,0.5s					
AKT			smax	smax		
	comp=N,8.0nm,0.7s					
NADB	Abo Dabab	11.15 182	P	Pn	22 03 35.1	+1.9
	baz=181					
STIP	Stip	11.19 301	*i* P	Pn	22 03 35.1	+1.6
VRI	Vrincioaia	11.20 329	⇑P	Pn	22 03 35.5	+1.8
PLOR	Plostina	11.22 329	⇑P	Pn	22 03 37.1	+3.0
MLR	Muntele Rosu	11.25 326	Pn	Pn	22 03 37.5	+3.0
	comp=N,0.6nm,0.3s,baz=137,slow=5.2,SNR=20					
MLR			LR	LR	22 09 09.8	
	comp=N,3µm,18.6s,baz=158,slow=44					
MLR	Muntele Rosu	11.25 326	⇓P	Pn	22 03 37.3	+2.8
MLR	Muntele Rosu	11.25 326	P	Pn	22 03 36.8	+2.3
MLR	Muntele Rosu	11.25 326	Pn	Pn	22 03 36.8	+2.3
KIS	Kishinev	11.43 338	*eP*	Pn	22 03 38.0	+1.3
KIS	Kishinev	11.43 338	*e*PP	Pn	22 03 46.0	+9.3
KIS			*eS*	Sn	22 05 48.0	+4.8
KIS			*e*LR	LR	22 07 55.0	
	comp=N,300nm,14.0s					
KIS	Kishinev	11.43 338	*eP*	Pn	22 03 38.0	+1.3
KIS			*eS*	Sn	22 05 48.0	+4.8
KIS			MLR	MLR		
	comp=Z,300nm,14.0s					
LKD2	Lefkada island	11.57 286	P	Pn	22 03 41.8	+3.1
	baz=264					
MAK	Makhachkala	11.59 52	*eP*	Pn	22 03 35.6	-3.5
MAK			*eS*	Sn	22 05 43.3	-4.0
MAK			pmax	pmax		
	comp=Z,226nm,1.4s					
MAK			MLR	MLR		
	comp=Z,2µm,20.0s					
VOIR		11.63 323	⇑P	Pn	22 03 42.5	+2.8
TESR	Tescani	11.76 331	⇑P	Pn	22 03 43.5	+2.2
ARR	Arges	11.79 322	⇓P	Pn	22 03 43.4	+1.7
OZUR		11.79 327	⇓P	Pn	22 03 44.5	+2.7
SKO	Skopje	11.81 302	*i* P	Pn	22 03 47.3	+5.2
KBN	Korca	11.83 295	P	Pn	22 03 46.2	+3.8
	baz=290					
LSK	Leskovik	11.85 292	P	Pn	22 03 48.4	+5.7
	baz=283					
DOPR	Dopca	11.87 326	⇓P	Pn	22 03 45.5	+2.7
IGT	Igoumenitsa	11.93 289	P	Pn	22 03 48.1	+4.4
	baz=274					
HDK1	Dakhla	11.93 205	P	Pn	22 03 43.9	0.0
	baz=204					
OHR	Ohrid	11.96 297	*i* P	Pn	22 03 48.2	+4.1
IAS	Iasi	12.00 335	⇑P	Pn	22 03 46.6	+2.0
SRN	Sarande	12.24 290	P	Pn	22 03 53.8	+5.9
	ba

UZH	**Uzhgorod**	**15.26**	**326**	*e*P	**P**	**22 04 31.8**	**-1.6**
UZH				*e*S	**Sn**	**22 07 22.1**	**+5.4**
UZH				MLR	MLR		
	comp=N,140nm,17.0s						
UZH				MLR	MLR		
	comp=E,200nm,17.0s						
UZH				MLR	MLR		
	comp=Z,180nm,17.0s						
VORR	**Voronezh**	**15.45**	**10**	*e*P	**Pn**	**22 04 30.0**	**-1.3**
VORR				pmax	pmax		
	comp=Z,250nm,1.4s						
VRH	**Novokhopyorsk**	**15.45**	**16**	*e*P	**Pn**	**22 04 33.0**	**+1.6**
VRH				pmax	pmax		
	comp=Z,130nm,0.6s						
VRH				MLR	MLR		
	comp=Z,340nm,13.0s						
LVV	**L'vov**	**15.48**	**333**	*e*P	**Pn**	**22 04 32.3**	**+0.6**
LVV				*e*S	**Sn**	**22 07 23.8**	**+1.8**
LVV				MLR	MLR		
	comp=E,200nm,14.0s						
LVV				MLR	MLR		
	comp=N,300nm,15.0s						
LVV				MLR	MLR		
	comp=Z,400nm,14.0s						
KOLS	**Kolonicke sedl**	**15.49**	**327**	*e*P	**P**	**22 04 34.8**	**-1.2**
KOLS	**Kolonicke sedl**	**15.49**	**327**	*e*PN	**P**	**22 04 34.8**	**-1.2**
KOLS	**Kolonicke sedl**	**15.49**	**327**	*e*P	P	22 04 43.4	+7.4
MORH	**Mrgy, Hungar**	**15.59**	**313**	⇑P	**Pn**	**22 04 34.7**	**+1.5**
MORH	**Mrgy, Hungar**	**15.59**	**313**	*e*P	**P**	**22 04 35.3**	**-1.8**
MORH	**Mrgy, Hungar**	**15.59**	**313**	*e*P	**Pn**	**22 04 33.4**	**+0.2**
BLY	**Banja Luka**	**15.78**	**307**	*e*P	**P**	**22 04 38.7**	**-0.5**
SGRT	**San Giovanni R**	**15.79**	**295**	Pn	**Pn**	**22 04 34.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**15.83**	**326**	*e*P	**P**	**22 04 38.8**	**-1.0**
CRVS	**Cervenica-Dubn**	**15.83**	**326**	*e*PN	**P**	**22 04 38.8**	**-1.0**
CRVS	**Cervenica-Dubn**	**15.83**	**326**	*e*P	**P**	**22 04 44.6**	**+4.8**
KOVH	**Kovagotottos**	**15.85**	**312**	*e*P	**P**	**22 04 39.9**	**0.0**
PSZ	**Piszkesteto**	**15.91**	**320**	‖P	**Pn**	**22 04 38.8**	**+1.3**
PSZ	**Piszkesteto**	**15.91**	**320**	*e*P	**Pn**	**22 04 38.2**	**+0.8**
PSZ	**Piszkesteto**	**15.91**	**320**	P	**Pn**	**22 04 37.3**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,89nm,1.3s						
PSZ	**Piszkesteto**	**15.91**	**320**		**Pn**	**22 04 37.3**	**-0.1**
KECS	**Kecovo**	**15.99**	**323**	*e*P	**P**	**22 04 45.6**	**+4.0**
KECS	**Kecovo**	**15.99**	**323**	*e*P	**P**	**22 04 45.6**	**+4.0**
MRAK	**Mrakovica**	**16.08**	**307**	*e*P	**P**	**22 04 42.4**	**-0.2**
BUD	**Budapest**	**16.10**	**318**	*e*P	**P**	**22 04 43.7**	**+0.9**
STHS	**Stebnicka Huta**	**16.30**	**327**	*e*P	**P**	**22 04 46.5**	**+1.5**
STHS	**Stebnicka Huta**	**16.30**	**327**	*e*PN	**P**	**22 04 46.5**	**+1.5**
STHS	**Stebnicka Huta**	**16.30**	**327**	*e*P	P	22 04 52.8	+7.8
LPSR	**Galich'ya Gora**	**16.32**	**9**	*e*P	**Pn**	**22 04 42.1**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,200nm,1.5s						
LPSR				MLR	MLR		
	comp=Z,280nm,13.0s						
VAE	**Valguarnera**	**16.45**	**279**	Pn	**Pn**	**22 04 43.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=84,slow=3.6,SNR=15						
VAE				LR	LR	22 12 08.8	
	comp=Z,627nm,18.6s,baz=43,slow=41						
RAFF	**Raffo Rosso**	**16.50**	**279**		**Pn**	**22 04 42.1**	**-2.8**
RAFF				IAmb	IAmb	22 05 03.2	
	comp=Z,140nm,0.8s						
WDD	**Wied Dalam**	**16.52**	**274**		**Pn**	**22 04 42.5**	**-2.6**
PAOL	**Paolisi**	**16.52**	**292**	P	**Pn**	**22 04 45.8**	**+0.5**
MPLH	**Magyarpolny**	**16.75**	**315**	*e*P	**P**	**22 04 49.7**	**-0.2**
VYHS	**Vyhne**	**16.83**	**320**	*e*P	**P**	**22 04 56.8**	**+6.0**
VYHS	**Vyhne**	**16.83**	**320**	*e*P	**P**	**22 04 56.8**	**+6.0**
BEHE	**Becsehely**	**16.83**	**312**	*e*P	**P**	**22 04 50.7**	**-0.2**
BEHE	**Becsehely**	**16.83**	**312**	*e*P	**Pn**	**22 04 49.4**	**+0.4**
SAKB	**Bahrain**	**16.94**	**124**	P	**Pn**	**22 04 50.9**	**+0.4**
LANS	**Liptovska Anna**	**16.94**	**323**	*e*P	**P**	**22 04 53.6**	**+1.5**
LANS	**Liptovska Anna**	**16.94**	**323**	*e*PN	**P**	**22 04 53.6**	**+1.5**
SHMA	**Al-Shehemyia**	**17.31**	**123**	P	**Pn**	**22 04 55.2**	**+0.1**
CORL	**Corleone**	**17.31**	**281**		**Pn**	**22 04 54.8**	**-0.3**
BOJS	**Bojanci**	**17.34**	**307**	*e*P	**Pn**	**22 04 53.6**	**-1.8**
CRES	**Cresnjev**	**17.34**	**308**	*e*P	**Pn**	**22 04 54.9**	**-0.5**
CLTB	**Caltabellotta**	**17.39**	**280**		**Pn**	**22 04 55.2**	**-1.0**
OJC	**Ojcow**	**17.53**	**326**	*e*P	**P**	**22 04 59.2**	**+0.6**
OJC	**Ojcow**	**17.53**	**326**	P	**Pn**	**22 04 57.8**	**+0.1**
OJC				pmax	pmax		
	comp=Z,61nm,1.3s						
OJC	**Ojcow**	**17.53**	**326**	P	**Pn**	**22 04 57.8**	**+0.1**
MODS	**Modra-Piesok**	**17.58**	**318**	*e*P	**P**	**22 05 00.4**	**+1.3**
MODS	**Modra-Piesok**	**17.58**	**318**	*e*PN	**P**	**22 05 00.4**	**+1.3**
MODS	**Modra-Piesok**	**17.58**	**318**	*e*P	**P**	**22 05 05.8**	**+6.7**
SMOL	**Smolenice**	**17.58**	**318**	*e*P	**P**	**22 04 59.7**	**+0.6**
SMOL	**Smolenice**	**17.58**	**318**	*e*PN	**P**	**22 04 59.7**	**+0.6**
SOP	**Sopron**	**17.59**	**315**	*e*P	**P**	**22 05 01.2**	**+2.0**
AQU	**L'Aquila**	**17.63**	**296**	P	**P**	**22 04 59.5**	**-0.3**
AQU				pmax	pmax		
	comp=Z,98nm,1.1s						
AQU	**L'Aquila**	**17.63**	**296**	*e*P	**P**	**22 04 59.7**	**-0.1**
AQU	**L'Aquila**	**17.63**	**296**	P	**P**	**22 04 59.5**	**-0.3**
JAVC	**Velka Javorina**	**17.66**	**320**	*e*P	**P**	**22 05 00.1**	**0.0**
ARSA	**Arzberg**	**17.96**	**313**	*e*Pn	**Pn**	**22 05 03.2**	**+0.1**
	comp=Z,8.5nm,0.7s						
CEY	**Cerknica**	**17.96**	**307**	*e*P	**Pn**	**22 05 02.2**	**-0.9**
SOKA	**Soboth**	**17.99**	**311**	*e*Pn	**P**	**22 05 04.0**	**+0.2**
	comp=Z,7.9nm,0.9s						
LJU	**Ljubljana**	**18.02**	**308**	*e*P	**Pn**	**22 05 02.4**	**-1.4**
OKC	**Ostrava-Krasne**	**18.04**	**323**	*e*P	**P**	**22 05 06.7**	**+2.5**
OKC				*e*S	**S**	**22 08 27.7**	**-1.7**
OKC				MLR	MLR		
	comp=Z,900nm,15.9s						
OKC	**Ostrava-Krasne**	**18.04**	**323**	*e*P	**P**	**22 05 06.7**	**+2.5**
OKC				*e*S	**S**	**22 08 27.7**	**-1.7**
OKC				AMS	AMS	22 13 10.0	
	comp=Z,900nm,15.9s						
CONA	**Conrad Observa**	**18.11**	**315**	*e*Pn	**P**	**22 05 05.8**	**+0.6**
	comp=Z,3.4nm,0.6s						
OBKA	**Obir**	**18.21**	**310**	*e*Pn	**P**	**22 05 06.7**	**+0.5**
	comp=Z,19nm,0.8s						
BELG	**Belogornoye**	**18.22**	**25**	P	**Pn**	**22 05 02.9**	**-3.1**
	comp=Z,5.7nm,0.3s,baz=48,slow=2.1,SNR=98						
BELG				LR	LR	22 13 55.5	
	comp=Z,386nm,18.1s,baz=229,slow=43						
BELG	**Belogornoye**	**18.22**	**25**	*i* P	**Pn**	**22 05 05.6**	**-0.5**
BELG				pmax	pmax		
	comp=Z,57nm,1.0s						
TRNA	**Turayna**	**18.23**	**126**	P	**P**	**22 05 06.5**	**+0.1**
MORC	**Moravsky Berou**	**18.30**	**322**	⇑P	**Pn**	**22 05 08.8**	**+1.6**
MORC	**Moravsky Berou**	**18.30**	**322**	P	**P**	**22 05 06.7**	**-0.4**
MORC				pmax	pmax		
	comp=Z,14nm,1.0s						
MORC	**Moravsky Berou**	**18.30**	**322**	P	**P**	**22 05 06.7**	**-0.4**
MORC	**Moravsky Berou**	**18.30**	**322**	*e*P	**P**	**22 05 06.8**	**-0.4**
KRUC	**Moravsky**	**18.45**	**319**	*e*P	**P**	**22 05 08.6**	**-0.2**
GEYT	**Alibeck**	**18.49**	**79**	P	**Pn**	**22 05 10.2**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=258,slow=11,SNR=8.1						
GEYT				LR	LR	22 14 36.5	
	comp=Z,740nm,18.1s,baz=45,slow=44						
GEYT	**Alibeck**	**18.49**	**79**	P	**Pn**	**22 05 10.2**	**+0.6**
VRAC	**Vranov**	**18.50**	**319**	P	**P**	**22 05 08.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=128,slow=11,SNR=8.7						
VRAC				LR	LR	22 13 29.4	
	comp=Z,876nm,21.3s,baz=132,slow=41						
VRAC	**Vranov**	**18.50**	**319**	‖P	**Pn**	**22 05 11.1**	**+1.6**
VRAC	**Vranov**	**18.50**	**319**	P	**P**	**22 05 08.6**	**-0.6**
VRAC	**Vranov**	**18.50**	**319**	*e*P	**P**	**22 05 08.8**	**-0.4**
OBN	**Obninsk**	**18.63**	**3**	P	**P**	**22 05 09.4**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=139,slow=7.2,SNR=6.9						
OBN	**Obninsk**	**18.63**	**3**	*ce*P	**P**	**22 05 09.2**	**-1.4**
OBN				pmax	pmax		
	comp=Z,63nm,1.3s						
OBN				MLR	MLR		
	comp=Z,421nm,17.0s						
OBN	**Obninsk**	**18.63**	**3**		**P**	**22 05 09.1**	**-1.5**
MNK	**Minsk**	**18.64**	**347**	*i* P	**P**	**22 05 08.7**	**-2.0**
MNK				*i* S	**S**	**22 08 41.0**	**-0.1**
MNK				pmax	pmax		
	comp=N,60nm,1.2s						
MNK				pmax	pmax		
	comp=E,55nm,1.2s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,545nm,19.0s						
MNK				MLR	MLR		
	comp=Z,733nm,19.0s						
MNK				MLR	MLR		
	comp=E,53nm,20.0s						
MNK	**Minsk**	**18.64**	**347**	*i* P	**P**	**22 05 08.8**	**-1.9**
MNK				*i* P	**P**	**22 05 08.8**	**-1.9**
	comp=N,60nm,1.2s						
MNK				*i* P	**P**	**22 05 08.8**	**-1.9**
	comp=Z,55nm,1.2s,baz=345						
MNK				*i* PP	**pP**	**22 05 20.8**	**+1.7**
MNK				*i* S	**S**	**22 08 41.0**	**-0.1**
MNK				*i* SS	**SnSn**	**22 08 56.6**	**+4.1**
MNK				*i* LQ	LQ	22 10 40.9	
MNK				*i* LR	LR	22 12 05.5	
MNK				*i* LRM	MLR	22 14 03.6	
	comp=N,545nm,19.4s						
MNK				*i* LRM	MLR	22 14 07.0	
	comp=Z,733nm,19.0s						
MNK				*i* LRM	MLR	22 14 25.3	
	comp=E,53nm,20.0s						
MYKA	**Terra Mystica**	**18.83**	**309**	*i* Pn	**Pn**	**22 05 13.7**	**+0.1**
	comp=E,52nm,1.3s,SNR=11						
KRLC	**Kraliky**	**18.87**	**322**	AMS	AMS	22 13 00.0	
	comp=E,800nm,19.5s						
MOA	**Molln**	**19.00**	**313**	*i* Pn	**Pn**	**22 05 15.4**	**-0.3**
	comp=E,29nm,0.8s,SNR=14						
SLWR	**Sila**	**19.01**	**126**	P	**Pn**	**22 05 15.7**	**-0.2**
TREC	**Trest**	**19.07**	**318**	*e*P	**Pn**	**22 05 16.7**	**+0.1**
TREC				MLR	MLR		
	comp=Z,900nm,14.9s						
TREC	**Trest**	**19.07**	**318**	*e*P	**Pn**	**22 05 16.7**	**+0.1**
TREC				AMS	AMS	22 15 00.0	
	comp=Z,900nm,14.9s						
JRN	**Qarnain Island**	**19.19**	**122**	P	**Pn**	**22 05 18.1**	**+0.1**
SNR=10.0							
KBA	**Koelnbreinsper**	**19.20**	**310**	*e*Pn	**P**	**22 05 17.5**	**+0.4**
	comp=Z,15nm,0.7s						
ZOU	**Zoufplan**	**19.22**	**308**	P	**P**	**22 05 17.3**	**0.0**
STAL	**STALIGIAL**	**19.27**	**307**	P	**P**	**22 05 17.1**	**-0.6**
DPC	**Dobruska-Polom**	**19.27**	**322**	*e*P	**P**	**22 05 17.5**	**-0.3**
DPC				*e*S	**Sn**	**22 08 53.0**	**-1.0**
DPC				MLR	MLR		
	comp=Z,900nm,15.6s						
DPC	**Dobruska-Polom**	**19.27**	**322**	*e*P	**P**	**22 05 17.5**	**-0.3**
DPC				*ep*P	**sP**	**22 05 29.7**	**-0.5**
DPC				*e*S	**Sn**	**22 08 53.0**	**-1.0**
DPC				AMS	AMS	22 13 50.0	
	comp=Z,900nm,15.6s						
MOS	**Moscow**	**19.31**	**5**	*e*P	**P**	**22 05 15.4**	**-2.6**
MOS				*e*S	**S**	**22 08 55.0**	**+0.4**
MOS				pmax	pmax		
	comp=Z,105nm,0.9s						
MOS				pmax	pmax		
	comp=Z,200nm,1.2s						
SUW	**Suwalki**	**19.31**	**339**	*e*P	**P**	**22 05 17.1**	**-1.0**
SUW	**Suwalki**	**19.31**	**339**	*e*P	**P**	**22 05 17.1**	**-1.0**
SUW	**Suwalki**	**19.31**	**339**	P	**P**	**22 05 17.0**	**-1.0**
SUW				pmax	pmax		
	comp=Z,186nm,1.1s						
SUW	**Suwalki**	**19.31**	**339**	P	**P**	**22 05 17.0**	**-1.1**
SUW				IAmb	IAmb	22 05 39.4	
	comp=Z,186nm,1.1s						
OSSC	**Osservatorio P**	**19.43**	**298**		**P**	**22 05 18.4**	**-1.1**
OSSC				IAmb	IAmb	22 06 14.9	
	comp=Z,206nm,1.9s						
OSTC	**Ostas**	**19.45**	**322**	*e*P	**P**	**22 05 19.4**	**-0.4**
OSTC				*e*S	**S**	**22 08 57.5**	**-0.3**
OSTC				AMS	AMS	22 14 00.0	
	comp=Z,1μm,17.6s						
CKRC	**Cesky Krumlov**	**19.46**	**316**	*e*P	**P**	**22 05 20.2**	**+0.3**
CKRC				*e*S	**S**	**22 08 51.7**	**-6.3**
CKRC				AMS	AMS	22 15 10.0	
	comp=Z,600nm,17.9s						
UPC	**Upice**	**19.53**	**322**	AMS	AMS	22 13 40.0	
	comp=Z,1μm,21.0s						
CASP	**Castiglione de**	**19.55**	**296**		**P**	**22 05 19.9**	**-0.9**
CASP				IAmb	IAmb	22 05 21.9	
	comp=Z,127nm,0.8s						
CHVC	**Chvalec**	**19.55**	**322**	*e*P	**P**	**22 05 20.8**	**-0.1**
ABTA	**Abfaltersbach**	**19.58**	**308**	*i* Pn	**P**	**22 05 21.4**	**+0.1**
	comp=Z,19nm,0.7s,SNR=9.8						
KSP	**Ksiaz**	**19.60**	**323**	*e*P	**P**	**22 05 21.5**	**+0.2**
IDID	**Didziasalis**	**19.62**	**346**	*e*P	**P**	**22 05 21.7**	**+0.3**
IDID				IAmb	IAmb	22 05 33.6	
	comp=Z,27nm,0.8s						
TEOL	**Teolo**	**19.64**	**304**	P	**P**	**22 05 21.2**	**-0.5**
IIGN	**Ignalina**	**19.76**	**345**	*e*P	**P**	**22 05 22.6**	**-0.4**
IIGN				IAmb	IAmb	22 05 26.4	
	comp=Z,17nm,0.7s						
ZCCA	**Zocca**	**19.82**	**301**	P	**Pn**	**22 05 24.7**	**-0.8**
ZCCA				IAmb	IAmb	22 05 43.2	
	comp=Z,124nm,0.9s						
GEC2	**GERESS Array S**	**19.82**	**315**	P	**P**	**22 05 23.8**	**0.0**
GEC2	**GERESS Array S**	**19.82**	**315**	*e*P	**P**	**22 05 24.3**	**+0.4**
	comp=Z,56nm,0.7s,baz=120,slow=10						
GERES	**GERESS Array B**	**19.82**	**315**	P	**P**	**22 05 24.3**	**+0.4**
	comp=Z,4.9nm,0.3s,baz=119,slow=11,SNR=299						
GERES				PcP	**PcP**	**22 09 40.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=122,slow=3.6,SNR=1.4						
GERES				ScP	**ScP**	**22 13 13.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=130,slow=2.1,SNR=9.2						
GERES				LR	LR	22 13 33.0	
	comp=Z,346nm,22.0s,baz=134,slow=38						
GERES	**GERESS Array B**	**19.82**	**315**	P	**P**	**22 05 24.3**	**+0.4**
GERES	**GERESS Array B**	**19.82**	**315**	P	**P**	**22 05 23.4**	**-0.5**
GHWR	**Ruwais**	**19.86**	**124**	P	**Pn**	**22 05 26.1**	**+0.1**
CTI	**Castel Tesino**	**19.88**	**306**	P	**P**	**22 05 24.3**	**-0.2**
CTI				pmax	pmax		
	comp=Z,74nm,1.0s						
CTI	**Castel Tesino**	**19.88**	**306**	P	**P**	**22 05 24.3**	**-0.2**
CTI				IAmb	IAmb	22 05 41.6	
	comp=Z,74nm,1.0s						
PRU	**Pruhonice**	**19.98**	**319**	*e*P	**P**	**22 05 25.8**	**+0.4**
PRU				*e*S	S	22 08 57.2	-11
PRU				MLR	MLR		
	comp=Z,700nm,16.1s						
PRU	**Pruhonice**	**19.98**	**319**	*e*P	**P**	**22 05 25.8**	**+0.4**
PRU				*ep*P	**pP**	**22 05 32.5**	**-1.3**
PRU				*e*S	S	22 08 57.2	-11
PRU				AMS	AMS	22 14 20.0	
	comp=Z,700nm,16.1s						
KHC	**Kasperske Hory**	**20.04**	**316**	P	**P**	**22 05 25.9**	**-0.2**
KHC				pmax	pmax		
	comp=Z,31nm,0.9s						
KHC	**Kasperske Hory**	**20.04**	**316**	*e*P	**P**	**22 05 25.8**	**-0.3**
KHC				AMS	AMS	22 16 30.0	
	comp=Z,600nm,15.8s						
KHC	**Kasperske Hory**	**20.04**	**316**	P	**P**	**22 05 25.9**	**-0.2**
PRA	**Prague**	**20.08**	**319**	*e*P	**P**	**22 05 27.1**	**+0.6**
PRA	**Prague**	**20.08**	**319**	*e*P	**P**	**22 05 27.1**	**+0.6**
PBCC	**Pribram**	**20.10**	**317**	*e*P	**P**	**22 05 26.5**	**-0.3**
PVCC	**Panska Ves**	**20.27**	**320**	*e*P	**P**	**22 05 28.5**	**-0.1**
PVCC				MLR	MLR		
	comp=Z,600nm,17.9s						
PVCC	**Panska Ves**	**20.27**	**320**	*e*P	**P**	**22 05 28.5**	**-0.1**
PVCC				AMS	AMS	22 14 20.0	
	comp=Z,600nm,17.9s						
WTTA	**Wattenberg**	**20.34**	**309**	*i* Pn	**P**	**22 05 29.4**	**-0.2**
	comp=Z,28nm,0.7s,SNR=15						
VSL	**Villasalto**	**20.36**	**286**	P	**P**	**22 05 29.6**	**-0.1**
VSL				IAmb	IAmb	22 05 35.2	
	comp=Z,98nm,0.8s						
PRMA	**PARMA**	**20.38**	**301**	P	**P**	**22 05 29.8**	**-0.1**
PRMA				IAmb	IAmb	22 05 31.8	
	comp=Z,93nm,0.8s						
WATA	**Walderalm**	**20.41**	**309**	*i* Pn	**P**	**22 05 30.0**	**-0.3**
	comp=Z,81nm,1.2s,SNR=15						
PABE	**Paberze**	**20.42**	**342**	*e*P	**P**	**22 05 29.7**	**-0.4**
PABE				IAmb	IAmb	22 05 41.7	
	comp=Z,83nm,0.7s						
PABE	**Paberze**	**20.42**	**342**	P	**P**	**22 05 29.0**	**-1.1**
PABE				IAmb	IAmb	22 05 47.4	
	comp=Z,91nm,0.6s						
WET	**Wettzell**	**20.44**	**315**	*e*P	**P**	**22 05 30.1**	**-0.4**
	comp=Z,43nm,1.0s,baz=120,slow=10						
SALO	**Salr**	**20.48**	**304**	P	**P**	**22 05 30.7**	**-0.3**
SQTA	**Sankt Quirin**	**20.59**	**309**	*i* Pn	**P**	**22 05 32.0**	**-0.3**
	comp=Z,24nm,1.1s,SNR=13						
KEST	**Kesra**	**20.70**	**275**	LR	LR	22 14 59.6	
	comp=Z,610nm,21.1s,baz=16,slow=41						
KEST	**Kesra**	**20.70**	**275**	P	**P**	**22 05 34.2**	**+0.7**
KEST				IAmb	IAmb	22 05 49.9	
	comp=Z,75nm,0.8s						
MOTA	**Moosalm**	**20.70**	**309**	*i* Pn	**P**	**22 05 32.9**	**-0.6**
	comp=Z,41nm,1.1s,SNR=15						
BRG	**Berggiesshubel**	**20.80**	**320**	*e*P	**P**	**22 05 33.6**	**-0.7**
BRG				Amp		22 05 37.7	
	comp=Z,6.5nm,0.9s						
BRG	**Berggiesshubel**	**20.80**	**320**	P	Pn	22 05 40.2	+3.4
BRG				Amp		22 05 44.0	
	comp=Z,38nm,0.9s						
BRG	**Berggiesshubel**	**20.80**	**320**	S	**S**	**22 09 27.0**	**+2.4**
BRG				Amp		22 15 09.0	
	comp=E,0.5nm,12.7s						
BRG				Amp		22 15 12.0	
	comp=N,0.8nm,16.6s						
BRG				Amp		22 15 18.0	
	comp=Z,0.8nm,16.8s						
BRG	**Berggiesshubel**	**20.80**	**320**	*e*P	**P**	**22 05 34.0**	**-0.3**
	comp=Z,33nm,1.2s,baz=120,slow=10						
FETA	**Feichten**	**20.82**	**308**	*i* Pn	**P**	**22 05 35.0**	**+0.2**
	comp=Z,44nm,1.0s,SNR=15						
GKP	**Gorka Klasztor**	**20.84**	**329**	*e*P	**P**	**22 05 35.2**	**+0.5**
GKP	**Gorka Klasztor**	**20.84**	**329**	*e*P	P	22 05 24.4	-10
SHME	**Shamm**	**20.85**	**114**	*i* P	**P**	**22 05 35.4**	**+0.3**
SNR=7.1							
SHME	**Shamm**	**20.85**	**114**	P	**P**	**22 05 35.8**	**+0.7**
AJN	**Ajban**	**20.91**	**119**	*i* P	Pn	22 05 37.5	-1.0
SNR=8.9							
AJN	**Ajban**	**20.91**	**119**	P	Pn	22 05 37.6	-0.8
SNR=12							
AJN				S	**S**	**22 09 25.9**	**-1.3**
FUR	**Furstenfeldbru**	**20.93**	**311**	*e*P	**P**	**22 05 35.0**	**-0.9**
	comp=Z,187nm,1.8s,baz=120,slow=10						
RETA	**Reutte**	**20.97**	**309**	*i* Pn	**P**	**22 05 35.3**	**-1.1**
	comp=Z,28nm,0.5s,SNR=12						
BANOM	**Banah**	**21.04**	**114**	*i* P	**P**	**22 05 38.3**	**+1.1**
SNR=18							
BANOM	**Banah**	**21.04**	**114**	P	**P**	**22 05 38.2**	**+1.1**
SNR=6.9							
BANOM				S	**S**	**22 09 29.6**	**-0.2**
ASUD	**Al Ashush, Dub**	**21.12**	**118**	*i* P	**P**	**22 05 39.8**	**+1.9**
SNR=49							
ASUD	**Al Ashush, Dub**	**21.12**	**118**	P	**P**	**22 05 40.0**	**+2.0**
SNR=16							
NAZ	**Nazwa, Dubai**	**21.13**	**117**	*i* P	**P**	**22 05 40.1**	**+1.9**
SNR=75							
NAZ	**Nazwa, Dubai**	**21.13**	**117**	P	**P**	**22 05 40.0**	**+1.9**
SNR=26							
NAZ				S	**S**	**22 09 28.4**	**-3.1**
ROTZ	**Rotzenmuhle**	**21.13**	**316**	*e*P	**P**	**22 05 37.5**	**-0.5**
	comp=Z,90nm,1.4s,baz=120,slow=10						
ROTZ				*ep*P	**pP**	**22 05 44.3**	**-2.1**
	baz=120,slow=10						
FAQ	**Al Faqa, Dubai**	**21.23**	**118**	*i* P	**P**	**22 05 41.0**	**+1.8**
SNR=66							
FAQ	**Al Faqa, Dubai**	**21.23**	**118**	P	**P**	**22 05 40.8**	**+1.6**
SNR=23							
FAQ				S	**S**	**22 09 34.2**	**+0.7**
NKC	**Novy Kostel**	**21.24**	**317**	*e*P	**P**	**22 05 38.5**	**-0.6**
NKC				*e*S	**S**	**22 09 34.5**	**+1.1**
NKC				MLR	MLR		
	comp=Z,600nm,15.4s						
NKC	**Novy Kostel**	**21.24**	**317**	*e*P	**P**	**22 05 38.5**	**-0.6**
NKC				*e*S	**S**	**22 09 34.5**	**+1.1**
NKC				AMS	AMS	22 15 00.0	
	comp=Z,600nm,15.4s						
MASF	**Masafi**	**21.26**	**116**	P	**P**	**22 05 40.8**	**+1.3**
SNR=8.4							
MASF				S	**S**	**22 09 29.4**	**-4.8**
MSFE	**Esma-Masafi**	**21.27**	**116**	*i* P	**P**	**22 05 40.9**	**+1.3**
SNR=30							
DAVOX	**Davos/Dischmat**	**21.28**	**307**	P	**P**	**22 05 39.7**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=117,slow=8.6,SNR=16						
DAVOX				LR	LR	22 15 56.5	
	comp=Z,1μm,20.6s,baz=100,slow=43						
DAVOX	**Davos/Dischmat**	**21.28**	**307**	P	**P**	**22 05 39.7**	**-0.1**
MANZ	**Manzenberg**	**21.30**	**316**	*e*P	**P**	**22 05 39.4**	**-0.3**
	comp=Z,42nm,1.3s,baz=120,slow=10						
MANZ				*ep*P	**pP**	**22 05 45.9**	**-2.3**
	baz=120,slow=10						
WERN	**Wernitzgruen**	**21.31**	**317**	*e*P	**P**	**22 05 39.6**	**-0.2**
	comp=Z,32nm,1.4s,baz=120,slow=10						
WERN				*ep*P	**pP**	**22 05 46.1**	**-2.2**
	baz=120,slow=10						
GUNZ	**Gunzen**	**21.37**	**317**	*e*P	**P**	**22 05 40.4**	**-0.1**
	comp=Z,135nm,2.0s,baz=120,slow=10						
GUNZ				*ep*P	**pP**	**22 05 46.8**	**-2.2**
	baz=120,slow=10						
MDH	**Madha**	**21.40**	**116**	*i* P	**P**	**22 05 42.0**	**+1.0**
SNR=31							
MDH	**Madha**	**21.40**	**116**	P	**P**	**22 05 42.0**	**+1.0**
SNR=9.3							
MDH				S	**S**	**22 09 34.3**	**-2.7**
PBUR	**Paburge**	**21.42**	**340**	*e*P	**P**	**22 05 41.7**	**+0.8**
WERD	**Werda**	**21.43**	**318**	*e*P	**P**	**22 05 40.8**	**-0.3**
	comp=Z,156nm,2.0s,baz=120,slow=10						
WERD				*ep*P	**pP**	**22 05 47.4**	**-2.2**
	baz=120,slow=10						
DAVA	**Damuels**	**21.46**	**308**	*i* Pn	**P**	**22 05 40.4**	**-1.2**
	comp=

MOX *eL* L 22 16 08.4
comp=Z,560nm,18.0s
CMAH Djebel Manchou 22.10 279 P **P** **22 05 49.3 +0.8**
ABSA Djebel Ababsia 22.10 278 P **P** **22 05 49.7 +1.1**
NEUB Neuenburg 22.12 319 *eP* **P** **22 05 47.8 -0.7**
comp=Z,35nm,0.9s,baz=120,slow=10
NEUB *epP* **pP** **22 05 54.4 -2.6**
baz=120,slow=10
ABKAR Akbulak array 22.17 47 P **P** **22 05 48.5 -0.6**
ABKAR Akbulak array 22.17 47 P **P** **22 05 48.7 -0.4**
ABKAR IAmb IAmb 22 05 53.4
comp=Z,48nm,0.6s
UMZA Um Al Zommool 22.25 123 P **P** **22 05 50.4 +0.3**
UMZA S **S** **22 09 56.1 +2.9**
SOHO SOHO 22.28 118 *i* P **P** **22 05 50.9 +0.5**
SNR=32
SOHO SOHO 22.28 118 P **P** **22 05 50.9 +0.5**
SOHO S **S** **22 09 53.2 -0.5**
HRA Herat 22.30 87 **P** **22 05 51.3 +0.5**
HRA IAmb IAmb 22 06 05.4
comp=Z,51nm,0.9s
STU Stuttgart 22.44 311 P **P** **22 05 50.1 -1.9**
STU pmax pmax
comp=Z,33nm,0.6s
STU Stuttgart 22.44 311 P **P** **22 05 50.1 -1.9**
STU IAmb IAmb 22 06 12.5
comp=Z,33nm,0.6s
STU Stuttgart 22.44 311 *eP* **P** **22 05 50.6 -1.4**
comp=Z,37nm,0.9s,baz=120,slow=10
STU *epP* **pP** **22 05 57.3 -3.2**
baz=120,slow=10
VSU Vasula 22.61 349 *eP* **P** **22 05 54.5 +0.8**
VSU Vasula 22.61 349 *i* P **P** **22 05 51.8 -1.9**
CKFL Kef-Lekhel 22.69 278 P **P** **22 05 55.6 +0.7**
ARQ Araqi 22.78 119 P **P** **22 05 56.3 +0.5**
SNR=15
BFO Black Forest 22.81 309 P **P** **22 05 54.4 -1.5**
BFO pmax pmax
comp=Z,32nm,0.8s
BFO Black Forest 22.81 309 P **P** **22 05 54.4 -1.5**
BFO Black Forest 22.81 309 *eP* **P** **22 05 54.9 -1.0**
comp=Z,36nm,0.9s,baz=120,slow=10
BFO *epP* **pP** **22 05 59.7 -4.7**
baz=120,slow=10
MILB Miltenberg 22.83 314 *eP* **P** **22 05 54.4 -1.7**
comp=Z,30nm,0.7s,baz=120,slow=10
MILB *epP* **pP** **22 06 01.4 -3.1**
baz=120,slow=10
SENIN Lac Senin/Sane 22.85 304 P **P** **22 05 54.4 -2.1**
SENIN IAmb IAmb 22 05 57.1
comp=Z,35nm,0.6s
UBBA Unterbreizbach 22.88 316 *eP* **P** **22 05 55.4 -1.1**
comp=Z,111nm,2.0s,baz=120,slow=10
UBBA *epP* **pP** **22 06 02.5 -2.5**
baz=120,slow=10
BNI Bardonecchia 22.96 301 P **P** **22 05 56.5 -1.2**
BNI pmax pmax
comp=Z,110nm,1.3s
BNI Bardonecchia 22.96 301 P **P** **22 05 56.5 -1.2**
BNI IAmb IAmb 22 06 22.5
comp=Z,110nm,1.3s
CTEI Djebel Teioual 22.99 277 P **P** **22 05 58.7 +0.6**
FLTG Flechtingen 23.02 321 *eP* **P** **22 05 56.0 -1.9**
comp=Z,37nm,0.9s,baz=120,slow=10
FLTG *epP* **pP** **22 06 02.9 -3.6**
baz=120,slow=10
LPL La Plagne 23.02 302 *eP* **P** **22 05 56.7 -1.7**
LPL pmax pmax
comp=Z,20nm,0.5s
BSD Bornholm Skovb 23.11 330 *i* P **P** **22 05 55.0 -3.9**
BSD *i* P **P** **22 05 55.8 -3.1**
BSD IAmb IAmb 22 05 58.9
comp=Z,26nm,0.8s
BSD Bornholm Skovb 23.11 330 *i* P **P** **22 05 55.8 -3.1**
BSD pmax pmax
comp=Z,26nm,0.8s
HOQ Hoqain 23.18 118 P **P** **22 06 00.4 +0.5**
SNR=13
ASSE Asse, Remlinge 23.20 320 *ep*P pP 22 06 04.8 -3.5
baz=120,slow=10
CLZ Clausthal 23.20 319 *eP* **P** **22 05 58.5 -1.4**
comp=Z,50nm,0.9s,baz=120,slow=10
CLZ *epP* **pP** **22 06 05.2 -3.3**
baz=120,slow=10
GTTG Gottingen 23.26 318 *eP* **P** **22 05 59.3 -1.1**
comp=Z,66nm,1.2s,baz=120,slow=10
GTTG *epP* **pP** **22 06 06.1 -3.0**
baz=120,slow=10
DFRA Djebel Bou Aff 23.34 279 P **P** **22 06 02.5 +1.0**
MTSE Matsula 23.38 345 *eP* **P** **22 06 02.6 +1.2**
TNS Taunus Mts 23.49 314 *eP* **P** **22 06 01.2 -1.6**
comp=Z,38nm,1.1s,baz=120,slow=10
TNS *epP* **pP** **22 06 07.9 -3.7**
baz=120,slow=10
BSY Bisya 23.63 119 P **P** **22 06 06.2 +1.8**
SNR=7.9
BLEU Blekinge 23.64 333 *i* P **P** **22 06 01.2 -2.8**
BIDO Bidbid 23.80 117 P **P** **22 06 07.2 +1.3**
KASTN Kahler Asten 23.95 316 *eP* **P** **22 06 05.8 -1.3**
comp=Z,40nm,1.1s,baz=120,slow=10
KASTN *epP* **pP** **22 06 12.4 -3.8**
baz=120,slow=10
KIRV Kirov 24.03 19 P **P** **22 06 06.7 -0.9**
comp=Z,104nm,0.7s,baz=237,slow=0.6,SNR=49
KIRV LR LR 22 17 26.3
comp=Z,336nm,20.1s,baz=214,slow=41
KIRV Kirov 24.03 19*ceP* **P** **22 06 06.6 -1.1**
SMDO Samad 24.03 118 P **P** **22 06 08.7 +0.5**
SNR=12
LUNU Lund 24.07 329 *i* P **P** **22 06 06.0 -2.2**
WSAR Wadi Sarin 24.34 116 P **P** **22 06 12.4 +1.5**
comp=Z,18nm,0.8s,baz=301,slow=8.7,SNR=24
WSAR LR LR 22 18 00.0
comp=Z,412nm,21.9s,baz=330,slow=42
WSAR Wadi Sarin 24.34 116 P **P** **22 06 12.1 +1.2**
BSEG Bad Segeberg 24.39 323 *epP* **P** **22 06 15.4 +4.4**
baz=120,slow=10
AHRW Bad Neuenahr-A 24.42 314 *eP* **P** **22 06 10.3 -1.1**
baz=120,slow=10
SSB Saint Sauveur 24.49 300 P **P** **22 06 10.4 -1.7**
SSB pmax pmax
comp=Z,20nm,0.6s
SSB Saint Sauveur 24.49 300 P **P** **22 06 10.4 -1.7**
DEL Delary 24.49 331 *i* P **P** **22 06 10.1 -1.9**
JMDO Jabal Madar 24.51 119 P **P** **22 06 13.6 +1.1**
KLMR Klimovskoe 24.52 5 *eP* **P** **22 06 10.4 -1.8**
KLMR *eS* **S** **22 10 31.7 +1.2**
KLMR pmax pmax
comp=Z,238nm,0.9s
KLMR Klimovskoe 24.52 5 *eP* **P** **22 06 10.5 -1.8**
KLMR AMP 22 06 13.1
comp=Z,238nm,0.9s
KLMR *eS* **S** **22 10 31.7 +1.2**
KLMR *eS* **S** **22 10 31.7 +1.2**
KLMR LQ LQ 22 14 37.7
KLMR LQ LQ 22 14 37.7
KLMR LR LR 22 15 41.0
DOK Doka 24.55 131 P **P** **22 06 14.3 +1.5**
BJUU Bjuv 24.55 330 *i* P **P** **22 06 12.2 -0.3**
WLF Walferdange 24.63 311 *dP* **P** **22 06 11.1 -2.2**
WLF Walferdange 24.63 311 P **P** **22 06 11.8 -1.5**
WLF pmax pmax
comp=Z,19nm,0.7s
WLF Walferdange 24.63 311 P **P** **22 06 11.8 -1.5**
WLF Walferdange 24.63 311 *eP* **P** **22 06 11.9 -1.4**
baz=120,slow=10
MEF Metsahovi 24.67 347 *eP* **P** **22 06 12.5 -1.0**
WHFO Wadi Hawf 24.88 133 P **P** **22 06 17.1 +1.3**
BTNL Ternell 24.99 313 *dP* **P** **22 06 15.4 -1.2**
MEM Membach 25.07 313 *dP* **P** **22 06 16.4 -0.9**
MEM *dx* x 22 06 28.3
FABU Falkenberg 25.32 331 *i* P **P** **22 06 18.7 -0.8**
MHTO MHTO 25.33 121 P **P** **22 06 21.4 +1.5**
BCLA Clavier 25.42 312 *dP* **P** **22 06 22.3 +1.9**
BCLA *dPP* **PnPn** **22 06 56.9 +0.8**
ARU Arti 25.47 31 P **P** **22 06 20.7 -0.1**
comp=Z,21nm,0.7s,baz=220,slow=8.8,SNR=64
ARU LR LR 22 19 11.4
comp=Z,226nm,18.2s,baz=232,slow=43
ARU Arti 25.47 31*dP* **P** **22 06 20.1 -0.8**
ARU PPP PPP 22 07 01.4
ARU S **S** **22 10 47.5 +1.7**
ARU SS **SnSn** **22 11 41.8 +2.0**
ARU SSS SSS 22 11 59.5
ARU pmax pmax
comp=Z,94nm,0.9s
ARU MLR MLR
comp=Z,256nm,22.0s
ARU Arti 25.47 31 P **P** **22 06 20.3 -0.5**
BGES Gesves 25.53 312 *dP* **P** **22 06 22.8 +1.3**
AAL Aland 25.55 343 *eP* **P** **22 06 20.3 -1.2**
FINES FINESS Array B 25.57 350 P **P** **22 06 20.1 -1.5**
comp=Z,19nm,0.5s,baz=152,slow=10,SNR=116
FINES PcP **PcP** **22 09 51.3 -0.7**
comp=Z,2.5nm,0.5s,baz=126,slow=2.6,SNR=4.1
FINES ScP **ScP** **22 13 27.5 -1.5**
comp=Z,3.9nm,1.0s,baz=82,slow=10.0,SNR=4.0
FINES FINESS Array B 25.57 350 P **P** **22 06 20.1 -1.5**
FINES 22 09 51.3
FINES FINESS Array B 25.57 350 P **P** **22 06 19.9 -1.7**
FIA1 FINESS Array S 25.57 350 P **P** **22 06 20.1 -1.6**
JLN Jalan Bani Buh 25.58 117 P **P** **22 06 23.7 +1.5**
SNR=5.3
BMRD Maredsous 25.69 312 *dP* **P** **22 06 21.8 -1.1**
BMRD *dx* x 22 06 31.8
DOU Dourbes 25.72 311 *dP* **P** **22 06 22.5 -0.7**
DOU *dPP* **PnPn** **22 06 58.7 -1.6**
BORU Boraas 25.75 332 *i* P **P** **22 06 22.8 -0.6**
ATD Arta Tunnel 25.88 162 P **P** **22 06 27.9 +2.9**
comp=Z,8.8nm,0.8s,baz=305,slow=8.9,SNR=6.1
ATD LR LR 22 16 01.7
comp=Z,479nm,19.5s,baz=350,slow=35
ATD Arta Tunnel 25.88 162 **P** **22 06 25.2 +0.3**
UPP Uppsala 25.89 340 *eP* **P** **22 06 23.6 -1.0**
ONAU Onsala 25.91 331 *i* P **P** **22 06 24.7 -0.1**
RAF Rauma 25.92 345 *eP* **P** **22 06 24.8 +0.1**
PRGR Permogore 26.02 12 *eP* **P** **22 06 24.2 -1.5**
PRGR pmax pmax
comp=Z,75nm,0.7s
SNF Seneffe 26.05 312 *dP* **P** **22 06 24.5 -1.6**
CAF Calviac 26.17 299 *eP* **P** **22 06 26.2 -1.2**
CAF pmax pmax
comp=Z,15nm,1.1s
MUD Monsted U'grnd 26.43 327 *i* P **P** **22 06 31.0 +1.5**
MUD *i* P **pP** **22 06 31.1 -7.4**
MUD IAmb IAmb 22 06 37.7
comp=Z,64nm,1.1s
MUD Monsted U'grnd 26.43 327 *i* P **P** **22 06 31.0 +1.5**
MUD pmax pmax
comp=Z,64nm,1.1s
TJOU Tjoern 26.46 332 *i* P **P** **22 06 28.6 -1.2**
CLF Chambon-Foret 26.59 306 P **P** **22 06 30.1 -1.0**
SVE Sverdlovsk 26.61 32*ceP* **P** **22 06 31.5 +0.4**
SVE *eS* **S** **22 11 04.7 +1.0**
SVE pmax pmax
comp=Z,207nm,0.9s
CHGR Chuyangaron 27.09 75 P **P** **22 06 36.5 +0.8**
LFF La Frestale 27.10 299 *eP* **P** **22 06 34.2 -1.5**
LFF pmax pmax
comp=Z,17nm,0.8s
HFS Hagfors 27.29 337 P **P** **22 06 35.8 -1.4**
comp=Z,11nm,0.7s,baz=144,slow=10,SNR=29
HFS ScP **ScP** **22 13 33.2 -0.9**
comp=Z,3.0nm,0.8s,baz=276,slow=2.8,SNR=3.5
HFS LR LR 22 19 54.8
comp=Z,651nm,18.7s,baz=144,slow=42
HFS Hagfors 27.29 337 P **P** **22 06 35.8 -1.4**
FURI Furi 27.71 172 P **P** **22 06 43.4 +1.7**
KBL Kabul 27.72 84 P **P** **22 06 41.9 +0.3**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 27.72 84 P **P** **22 06 41.9 +0.3**
KBL Kabul 27.72 84 P **P** **22 06 42.8 +1.1**
SNR=10
HOMB Homborsund 27.85 330 *i* P **P** **22 06 43.6 +1.4**
HOMB Homborsund 27.85 330 *eP* **P** **22 06 43.2 +1.0**
MFF Saint Martin d 27.93 302 *eP* **P** **22 06 41.0 -2.1**
MFF pmax pmax
comp=Z,34nm,0.9s
KK31 Karatay Array 27.93 65 P **P** **22 06 43.3 +0.1**
KK31 pmax pmax
comp=Z,38nm,0.9s
KK31 Karatay Array 27.93 65 P **P** **22 06 43.3 +0.1**
KK31 IAmb IAmb 22 06 45.1
comp=Z,38nm,0.9s
KKAR Karatay Array 27.93 65 P **P** **22 06 43.9 +0.7**
KKAR pmax pmax
comp=Z,38nm,0.9s
KKAR Karatay Array 27.93 65 P **P** **22 06 43.9 +0.7**
KKAR IAmb IAmb 22 06 45.1
comp=Z,38nm,0.9s
KKAR Karatay Array 27.93 65 P **P** **22 06 43.6 +0.3**
GAR Garm 27.95 74 P **P** **22 06 44.6 +1.0**
GAR IAmb IAmb 22 06 46.2
comp=Z,52nm,0.7s
OSL Oslo 28.14 334 *eP* **P** **22 06 43.4 -1.4**
BTK Batken 28.24 72 P **P** **22 06 46.8 +0.7**
BTK pmax pmax
comp=Z,18nm,0.9s
BTK Batken 28.24 72 P **P** **22 06 46.8 +0.7**
KONO Kongsberg 28.35 333 P **P** **22 06 45.0 -1.7**
KONO pmax pmax
comp=Z,28nm,1.2s
KONO Kongsberg 28.35 333 *eP* **P** **22 06 45.5 -1.1**
KONO Kongsberg 28.35 333 P **P** **22 06 45.0 -1.7**
SNART Snartemo 28.43 329 *eP* **P** **22 06 46.4 -1.0**
NC602 NORSAR Array S 28.45 336 *eP* **P** **22 06 47.8 +0.2**
NC602 NORSAR Array S 28.45 336 P **P** **22 06 45.6 -2.0**
NC602 IAmb IAmb 22 07 46.6
comp=Z,149nm,2.0s
DZA Taraz 28.53 66 *eP* **P** **22 06 47.9 -0.7**
baz=66
NB2 NORSAR Subarra 28.78 336 P **P** **22 06 48.1 -2.5**
comp=Z,3.6nm,0.6s,baz=138,slow=9.3
NB2 NORSAR Subarra 28.78 336 P **P** **22 06 48.1 -2.5**
baz=138,slow=9.3
NOA NORSAR Array B 28.78 336 P **P** **22 06 48.8 -1.8**
comp=Z,2.4nm,0.7s,baz=136,slow=8.6,SNR=18
NOA PcP **PcP** **22 09 59.0 -0.8**
comp=Z,2.4nm,0.9s,baz=129,slow=2.3,SNR=4.0
NOA ScP **ScP** **22 13 37.0 -1.8**
comp=Z,3.7nm,1.0s,baz=124,slow=3.4,SNR=4.1
NOA LR LR 22 20 50.2
comp=Z,672nm,19.1s,baz=150,slow=42
NOA NORSAR Array B 28.78 336 P **P** **22 06 48.8 -1.8**
NOA 22 09 59.0
DRK Karamyk 29.05 73 P **P** **22 06 55.1 +1.6**
DRK IAmb IAmb 22 06 56.5
comp=Z,64nm,1.4s
BLS5 Blasjo 29.41 330 *eP* **P** **22 06 56.4 +0.3**
SKAR Skarslia 29.53 333 *eP* **P** **22 06 57.0 -0.2**
BRVK Borovoye 29.64 45*ceP* **P** **22 06 58.1 -0.1**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 29.64 45 P **P** **22 06 58.4 +0.2**
BRVK IAmb IAmb 22 07 11.0
comp=Z,46nm,1.4s
BRVK Borovoye 29.64 45 P **P** **22 06 58.7 +0.5**
ODD1 Odda 29.65 331 *eP* **P** **22 06 57.6 -0.7**
SOCY Socotra 29.67 140 P **P** **22 06 57.7 -1.2**
BVAR Borovoye Array 29.69 45 P **P** **22 06 58.6 0.0**
comp=Z,6.5nm,0.7s,baz=231,slow=19,SNR=38
BVAR Borovoye Array 29.69 45 P **P** **22 06 58.6 0.0**
FIGM Figuig 30.12 272 P 22 07 03.5
DOMB Dombas 30.22 336 *eP* **P** **22 07 04.5 +1.2**
BRZS Berezniki 30.24 52⇓*iP* **P** **22 07 03.9 +0.3**
comp=Z,15nm,1.1s,baz=52
AML Almayashu 30.29 67 P **P** **22 07 07.2 +2.6**
SNR=18
AML Almayashu 30.29 67 *i* P **P** **22 07 06.1 +1.5**
SNR=18
AML Almayashu 30.29 67 P **P** **22 07 05.5 +0.9**
EKS2 Erkin-Say 30.34 66 P **P** **22 07 06.3 +1.6**
SNR=15
BER Bergen 30.45 331 *eP* **P** **22 07 06.0 +0.8**
TDRA Tendrara 30.46 274 P 22 07 08.0
BTLS Baital 30.55 62⇓*iP* **P** **22 07 06.9 +0.5**
comp=Z,14nm,1.1s,baz=62
ASK Askoy 30.57 331 *eP* **P** **22 07 06.8 +0.5**
HYA Hoyanger 30.62 333 *eP* **P** **22 07 06.2 -0.6**
ESBB Sonseca Array 30.63 288 P **P** **22 07 06.6 -0.6**
ESBB IAmb IAmb 22 07 07.8
comp=Z,25nm,1.0s
ESDC Sonseca Array 30.64 288 P **P** **22 07 06.8 -0.5**
comp=Z,20nm,0.8s,baz=75,slow=8.9,SNR=118
ESDC PcP **PcP** **22 10 04.9 -0.1**
comp=Z,1.0nm,0.7s,baz=35,slow=3.4,SNR=2.9
ESDC ScP **ScP** **22 13 44.3 -0.9**
comp=Z,0.7nm,0.8s,baz=70,slow=2.6,SNR=5.0
ESDC LR LR 22 20 45.6
comp=Z,473nm,19.6s,baz=80,slow=39
ESDC Sonseca Array 30.64 288 P **P** **22 07 06.5 -0.7**
GOG Mont Gurugu 30.66 279 P 22 07 09.0
USP Ospenovka 30.85 65 P **P** **22 07 09.8 +0.6**
SNR=11
AAK Ala-Archa 30.86 66 P **P** **22 07 10.1 +0.8**
comp=Z,9.9nm,0.6s,baz=262,slow=9.9,SNR=13
AAK Ala-Archa 30.86 66 P **P** **22 07 10.8 +1.4**
AAK Ala-Archa 30.86 66*ceP* **P** **22 07 11.1 +1.7**
AAK pmax pmax
comp=Z,108nm,1.7s
AAK Ala-Archa 30.86 66 **P** **22 07 10.2 +0.8**
SGDS Sogindy 30.95 65⇓*iP* **P** **22 07 10.1 +0.1**
baz=65
PAB San Pablo 30.95 288 P **P** **22 07 09.3 -0.8**
PAB pmax pmax
comp=Z,14nm,0.7s
PAB San Pablo 30.95 288 P **P** **22 07 09.2 -0.8**
PAB San Pablo 30.95 288 P 22 07 09.6
FRU1 Bishkek 30.96 66 P **P** **22 07 11.3 +1.2**
FRU1 pmax pmax
comp=Z,27nm,1.0s
FRU1 Bishkek 30.96 66 P **P** **22 07 11.3 +1.2**
FRU1 IAmb IAmb 22 07 14.4
comp=Z,27nm,0.9s
AKN Aaknes 31.01 335 *eP* **P** **22 07 10.3 0.0**
CHMS Chumysh 31.04 66 P **P** **22 07 12.2 +1.4**
SNR=27
MOL Molde 31.09 336 *eP* **P** **22 07 10.4 -0.6**
KBK Karagaybulak 31.20 66 P **P** **22 07 14.2 +1.9**
SNR=11
NSS Namsos 31.25 341 *eP* **P** **22 07 13.3 +1.1**
NIL Nilore 31.32 84 P **P** **22 07 14.4 +1.0**
NIL pmax pmax
comp=Z,66nm,0.8s
NIL Nilore 31.32 84 P **P** **22 07 14.4 +1.0**
LVZ Lovozero 31.43 360*ceP* **P** **22 07 12.8 -1.1**
LVZ pmax pmax
comp=Z,23nm,1.0s
LVZ Lovozero 31.43 360 P **P** **22 07 13.1 -0.7**
LVZ IAmb IAmb 22 07 14.3
comp=Z,38nm,0.8s
TKM2 Tokmak 2 31.66 66 P **P** **22 07 17.7 +1.2**
SNR=28
BOOM Boomskoye usch 31.94 66 P **P** **22 07 20.7 +1.8**
BOOM pmax pmax
comp=Z,51nm,1.5s
BOOM Boomskoye usch 31.94 66 P **P** **22 07 20.7 +1.8**
BOOM IAmb IAmb 22 07 22.1
comp=Z,50nm,1.5s
MOR8 Moi Rana 32.01 344 *eP* **P** **22 07 17.7 -1.3**
ULHL Ulahol 32.18 67 P **P** **22 07 23.1 +2.2**
SNR=12
KUU Kurty 32.18 64⇓*iP* **P** **22 07 21.7 +1.0**
comp=Z,60nm,1.3s,baz=64
KSH Kashi 32.25 72 P **P** **22 07 20.8 -0.8**
KSH sP pP 22 07 28.3 -2.5
KSH S **S** **22 12 30.3 -2.6**
KSH pmax pmax
comp=Z,21nm,0.7s
KSH pmax pmax
comp=Z,130nm,2.7s
KSH LR LR
comp=Z,360nm,9.5s
KSH LR LR
comp=Z,220nm,9.9s
KSH LR LR
comp=Z,140nm,4.0s
STOK Stokkvaagen 32.46 344 *eP* **P** **22 07 22.8 -0.1**
PBRG Braganca 32.53 292 *eP* **P** **22 07 22.9 -1.0**
comp=Z,20nm,1.3s
CHEFC Chefchaouen 32.55 280 P 22 07 25.0
KONS Konsvik 32.58 344 *eP* **P** **22 07 22.8 -1.1**
MDT Midelt 32.60 275 P **P** **22 07 25.1 +0.4**
comp=Z,4.3nm,0.7s,baz=73,slow=6.7,SNR=16
MDT Midelt 32.60 275 P 22 07 25.6
AAA Alma-Ata 32.62 65 *eP* **P** **22 07 24.6 0.0**
baz=65
NBB13 Alf Garage 32.64 344 *eP* **P** **22 07 23.5 -0.9**
CHKK Chushkaly 32.65 64 *eP* **P** **22 07 25.2 +0.3**
baz=64
MDOK Medeo 32.72 65 *i* P **P** **22 07 26.4 +0.8**
baz=65
N2ST Straumen 32.79 346 *eP* **P** **22 07 24.8 -1.0**
MVO Moncorvo 32.80 291 *eP* **P** **22 07 25.6 -0.7**
comp=Z,57nm,1.0s
MVO *epP* **pP** **22 07 35.5 0.0**
MVO *eLR* LR 22 15 35.0
comp=Z,244nm,18.0s
NBB05 Inndyr 32.84 345 *eP* **P** **22 07 25.2 -1.0**
FAUS Fauske 32.88 346 *eP* **P** **22 07 25.5 -1.1**
LODK Lodwar 32.94 179 P **P** **22 07 29.6 +2.0**
NBB08 Skaug oppvekst 33.01 346 *eP* **P** **22 07 27.6 -0.1**
N2TV T¥rnvik 33.07 346 *eP* **P** **22 07 27.2 -1.0**
KTK1 Kautokeino 33.19 352 *eP* **P** **22 07 27.6 -1.6**
PBAR Barrancos 33.23 286 *eP* **P** **22 07 29.4 -0.6**
comp=Z,34nm,1.2s
PBAR *epP* **pP** **22 07 39.1 -0.1**
N2IH Innhavet 33.27 347 *eP* **P** **22 07 28.9 -1.0**
MTE Manteigas 33.28 290 *eP* **P** **22 07 30.1 -0.4**
comp=Z,63nm,0.9s
MTE *epP* **pP** **22 07 40.1 +0.4**
MTE *eLR* LR 22 16 40.6
comp=Z,420nm,20.0s
MTE Manteigas 33.28 290 **P** **22 07 29.9 -0.5**
PMRV Marv??o 33.30 288 *eP* **P** **22 07 29.7 -0.9**
comp=Z,29nm,1.4s
PMRV *epP* **pP** **22 07 39.5 -0.3**
PMRV Marv??o 33.30 288 *eLR* LR 22 17 55.0
comp=Z,439nm,20.0s
PCBR Castelo Branco 33.30 289 *eP* **P** **22 07 30.0 -0.6**
comp=Z,72nm,0.9s
PCBR *epP* **pP** **22 07 39.8 0.0**
PVRL Vila Real 33.31 291 *eP* **P** **22 07 30.0 -0.7**
comp=Z,37nm,1.3s
PVRL *epP* **pP** **22 07 40.4 +0.5**
POLO Lamas de Olo 33.35 292 *eP* **P** **22 07 30.5 -0.7**
comp=Z,20nm,1.2s
STEI Steigen 33.37 347 *eP* **P** **22 07 29.8 -1.0**
TARG Taragay, Kyrgy 33.38 68 P **P** **22 07 33.2 +1.4**
TARG IAmb IAmb 22 07 35.0
comp=Z,36nm,1.2s
ARA0 ARCESS Array S 33.47 354 *eP* **P** **22 07 30.7 -1.1**
ARCES ARCESS Array B 33.47 354 P **P** **22 07 30.5 -1.2**
comp=Z,6.4nm,0.4s,baz=174,slow=9.6,SNR=86
ARCES LR LR 22 22 54.0
comp=Z,300nm,19.1s,baz=175,slow=40
ARCES ARCESS Array B 33.47 354 P **P** **22 07 30.3 -1.5**
ARCES pmax pmax
comp=Z,61nm,1.7s
ARCES ARCESS Array B 33.47 354 **P** **22 07 30.3 -1.5**
ARCES IAmb IAmb 22 07 41.4
comp=Z,61nm,1.7s
PCAB Cabril 33.49 292 *eP* **P** **22 07 31.6 -0.7**
comp=Z,43nm,1.1s
PCAB *epP* **pP** **22 07 42.3 +0.8**
PVIS Viseu 33.50 290 *eP* **P** **22 07 32.1 -0.3**
comp=Z,39nm,1.4s
PVIS *i* LQ LQ 22 07 44.5
PESTR Estremoz 33.54 287 *eP* **P** **22 07 31.7 -1.0**
comp=Z,45nm,1.1s
PESTR *epP* **pP** **22 07 41.7 -0.2**
PESTR Estremoz 33.54 287 **P** **22 07 31.4 -1.3**
PESTR IAmb IAmb 22 07 32.6
comp=Z,21nm,0.8s
PESTR Estremoz 33.54 287 P 22 07 31.9
TDK Taldyqorghan 33.64 62 *eP* **P** **22 07 32.3 -1.2**
baz=62
PGAV Gavieira, Arco 33.65 293 *eP* **P** **22 07 33.4 -0.3**
comp=Z,56nm,1.0s
PGAV *epP* **pP** **22 07 43.8 +0.9**
PGAV Gavieira, Arco 33.65 293 *eLR* LR 22 18 10.1
comp=Z,474nm,18.0s
SATY Saty 33.72 65⇓*iP* **P** **22 07 35.5 +1.2**
comp=Z,27nm,1.3s,baz=65
PRZ Przheval'sk 33.75 66 P **P** **22 07 36.4 +1.6**
PRZ pmax pmax
comp=Z,24nm,0.7s
PRZ Przheval'sk 33.75 66 P **P** **22 07 36.4 +1.6**
PRZ IAmb IAmb 22 07 37.3
comp=Z,24nm,0.7s
LOF Lofoten 33.87 346 *eP* **P** **22 07 33.4 -1.7**
KPKS Kokpek 33.89 64⇓*iP* **P** **22 07 35.5 -0.3**
comp=Z,26nm,1.7s,baz=65

PBEJ	Beja	33.90	286	eP		P	22 07 35.3	-0.5
	comp=Z,48nm,0.9s							
PBEJ				epP		pP	22 07 45.1	+0.1
PVAQ	Vaqueiros	33.91	285	eP		P	22 07 35.3	-0.6
	comp=Z,7.5nm,1.8s							
PVAQ				epP		pP	22 07 45.1	0.0
PVAQ	Vaqueiros	33.91	285	P		P	22 07 35.2	-0.7
PVAQ	Vaqueiros	33.91	285	P			22 07 35.5	
EVO	Evora	33.92	287	eP		P	22 07 35.3	-0.7
	comp=Z,27nm,2.1s							
EVO				epP		pP	22 07 45.3	+0.1
COI	Coimbra	33.96	290	eP		P	22 07 36.7	+0.4
	comp=Z,51nm,1.7s							
COI				epP		pP	22 07 46.2	+0.7
PMTG	Montargil	33.99	288	eP		P	22 07 35.3	-1.3
	comp=Z,32nm,1.5s							
PMTG				epP		pP	22 07 45.8	0.0
JETT	Jettan, Norway	34.03	351	eP		P	22 07 36.6	-0.1
TZRR	Tazzarine	34.04	272	P			22 07 39.0	
PCAS	Casmilo, Conde	34.05	289	eP		P	22 07 36.6	-0.5
	comp=Z,35nm,2.0s							
PCAS				epP		pP	22 07 46.8	+0.5
PBDV	Barranco-do-Ve	34.10	284	eP		P	22 07 37.1	-0.5
	comp=Z,72nm,1.1s							
PBDV				epP		pP	22 07 47.6	+0.7
PCVE	Castro Verde	34.11	285	eP		P	22 07 37.1	-0.5
	comp=Z,54nm,1.2s							
PCVE				epP		pP	22 07 47.1	+0.2
UZB	Uzynbulak	34.16	65	⇓iP		P	22 07 38.7	+0.5
	comp=Z,8.8nm,1.2s,baz=65							
MESJ	Messejana	34.21	285	eP		P	22 07 37.8	-0.7
MESJ					IAmb	IAmb	22 07 39.3	
	comp=Z,51nm,1.3s							
MESJ	Messejana	34.21	285	eP		P	22 07 37.8	-0.7
MESJ					pmax	pmax		
	comp=Z,51nm,1.3s							
MESJ	Messejana	34.21	285	eP		P	22 07 37.7	-0.8
	comp=Z,49nm,1.1s							
MESJ				epP		pP	22 07 47.4	-0.3
TRO	Tromso	34.30	350	eP		P	22 07 39.5	+0.6
PSBE	So Bento	34.35	289	epP		pP	22 07 49.5	+0.5
PNCL	Nicolau / Gran	34.40	286	eP		P	22 07 39.9	-0.2
	comp=Z,23nm,0.9s							
PNCL				epP		pP	22 07 49.7	+0.4
SHLS	Shalkode	34.48	65	⇓iP		P	22 07 44.5	+3.5
	comp=Z,9.1nm,0.7s,baz=65							
PTEO	Sao Teotonio	34.66	285	eP		P	22 07 42.1	-0.3
	comp=Z,69nm,1.8s							
PTEO				epP		pP	22 07 52.1	+0.5
HAMF	Hammerfest	34.71	353	eP		P	22 07 41.5	-0.9
PMAFR	Mafra	34.82	288	eP		P	22 07 43.7	-0.1
	comp=Z,84nm,1.5s							
PMAFR				epP		pP	22 07 53.0	0.0
PFVI	Vila Bisbo	34.83	284	eP		P	22 07 44.0	+0.1
	comp=Z,109nm,2.1s							
PFVI				epP		pP	22 07 54.3	+1.2
SEM	Semipalatinsk	35.11	52	⇓iP		P	22 07 47.0	+0.6
	comp=Z,26nm,0.7s,baz=52							
MAKZ	Makanchi	36.11	58	P		P	22 07 55.8	+1.0
MAKZ					pmax	pmax		
	comp=Z,52nm,0.6s							
MAKZ	Makanchi	36.11	58	P		P	22 07 55.8	+1.0
MK31	Makanchi Array	36.32	59	P		P	22 07 57.3	+0.7
MK31					pmax	pmax		
	comp=Z,46nm,0.7s							
MK31	Makanchi Array	36.32	59	P		P	22 07 57.3	+0.7
MKAR	Makanchi Array	36.32	59	P		P	22 07 57.7	+1.1
	comp=Z,45nm,0.6s,baz=266,slow=8.3,SNR=385							
MKAR					ScP	ScP	22 14 03.8	-1.1
	comp=Z,2.6nm,1.0s,baz=264,slow=5.6,SNR=3.8							
MKAR					LR	LR	22 25 05.6	
	comp=Z,226nm,19.8s,baz=269,slow=40							
MKAR	Makanchi Array	36.32	59	P		P	22 07 57.7	+1.1
MKAR	Makanchi Array	36.32	59	P		P	22 07 57.7	+1.1
MBAR	Mbarara	37.14	187	P		P	22 08 05.7	+1.7
	comp=Z,3.6nm,0.7s,baz=28,slow=3.6,SNR=7.3							
MBAR	Mbarara	37.14	187	P		P	22 08 04.8	+0.8
MBAR					pmax	pmax		
	comp=Z,20nm,1.4s							
MBAR	Mbarara	37.14	187	P		P	22 08 04.8	+0.8
KMBO	Kilima Mbogo	37.52	176	P		P	22 08 09.5	+2.3
	comp=Z,0.8nm,0.5s,baz=28,slow=15,SNR=2.4							
KMBO					PcP	PcP	22 10 25.9	+0.8
	comp=Z,0.4nm,0.3s,baz=24,slow=5.6,SNR=3.6							
KMBO					LR	LR	22 23 12.0	
	comp=Z,199nm,20.7s,baz=86,slow=36							
KMBO	Kilima Mbogo	37.52	176	P		P	22 08 09.5	+2.3
TORD	Torodi Ar. Bea	37.81	241	P		P	22 08 09.8	+0.2
	comp=Z,9.1nm,0.5s,baz=39,slow=9.3,SNR=95							
TORD					LR	LR	22 28 06.9	
	comp=Z,140nm,21.1s,baz=50,slow=43							
TORD	Torodi Ar. Bea	37.81	241	P		P	22 08 09.5	0.0
ZSN	Zaisan	38.06	57	⇓iP		P	22 08 12.0	+0.6
	comp=Z,12nm,1.0s,baz=58							
ZAA0	Zalesovo Array	38.28	47	P		P	22 08 12.8	-0.3
ZALV	Zalesovo Beam	38.28	47	P		P	22 08 13.0	-0.1
	comp=Z,16nm,0.5s,baz=264,slow=9.2,SNR=95							
ZALV	Zalesovo Beam	38.28	47	P		P	22 08 13.0	-0.1
ZALV	Zalesovo Beam	38.28	47	P		P	22 08 12.9	-0.1
BJO1	Bjornoya	38.84	353	eP		P	22 08 17.4	-0.1
DGZ	Jazzator, Alta	39.71	54	iP		P	22 08 25.2	-0.1
DGZ					pmax	pmax		
	comp=Z,26nm,0.5s							
HOPEN	Hopen	40.34	356	eP		P	22 08 29.6	-0.4
WMQ	Urumqi	40.37	63	eP		P	22 08 32.3	+1.6
WMQ				sP		pP	22 08 39.0	-1.1
WMQ				PP		PnPn	22 10 12.0	+4.3
WMQ					pmax	pmax		
	comp=Z,100nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,170nm,3.7s							
WMQ					LR	LR		
	comp=Z,410nm,20.5s							
WMQ					LR	LR		
	comp=Z,270nm,18.1s							
WMQ					LR	LR		
	comp=Z,340nm,19.3s							
KOWA	Kowa	41.07	248	P		P	22 08 37.2	+0.5
	comp=Z,8.7nm,0.7s,baz=39,slow=9.7,SNR=14							
KOWA	Kowa	41.07	248	P		P	22 08 36.6	-0.1
KOWA					IAmb	IAmb	22 08 48.1	
	comp=Z,22nm,0.7s							
KOWA	Kowa	41.07	248	P			22 08 37.3	
PYUN	Piuthan	41.10	88	eP		P	22 08 37.9	+0.8
HSPB	Hornsund (broa	41.49	353	eP		P	22 08 40.1	+0.7
DANN	Dangsing	41.62	87	eP		P	22 08 42.6	+1.2
	comp=Z,345nm,0.6s							
KOLN	Koldanda	41.73	88	eP		P	22 08 42.8	+0.6
	comp=Z,63nm,0.7s							
PMAR	Madeira	42.44	281	epP		pP	22 08 57.4	0.0
GKN	Gorkha	42.46	87	eP		P	22 08 49.0	+0.8
	comp=Z,339nm,0.6s							
SPA0	Spitsbergen Ar	42.50	354	eP		P	22 08 47.7	0.0
SPITS	Spitsbergen Ar	42.50	354	P		P	22 08 47.4	-0.3
SPITS					pmax	pmax		
	comp=Z,47nm,0.6s							
HYB	Hyderabad	42.83	104	iP		P	22 08 52.0	+0.8
HYB				esP		sP	22 09 05.0	+0.7
DMN	Daman	43.00	87	eP		P	22 08 53.5	+0.8
	comp=Z,126nm,0.6s							
KKN	Kakani	43.07	87	eP		P	22 08 53.9	+0.7
	comp=Z,179nm,0.6s							
PKIN	Phulchoki	43.25	87	eP		P	22 08 55.4	+0.7
	comp=Z,129nm,0.7s							
PKI	Pulchoki	43.26	87	eP		P	22 08 55.5	+0.6
	comp=Z,92nm,0.5s							
NRIK	Noril'sk	43.31	24	P		P	22 08 55.3	+1.0
	comp=Z,18nm,0.4s,baz=225,slow=4.3,SNR=36							
NRIK	Noril'sk	43.31	24	P		P	22 08 54.7	+0.4
NRIK					pmax	pmax		
	comp=Z,49nm,1.1s							
NRIK	Noril'sk	43.31	24	P		P	22 08 54.7	+0.4
NRIK					IAmb	IAmb	22 09 07.4	
	comp=Z,49nm,1.1s							
KBS	Kingsbay	43.56	354	ceP		P	22 08 56.7	+0.5
KBS					pmax	pmax		
	comp=Z,19nm,1.0s							
KBS	Kingsbay	43.56	354	eP		P	22 08 56.0	-0.2
KBS	Kingsbay	43.56	354	P		P	22 08 55.6	-0.6
KBS					IAmb	IAmb	22 08 57.3	
	comp=Z,90nm,1.6s							
JIRN	Jiri	43.85	86	eP		P	22 09 00.6	+0.9
	comp=Z,217nm,0.6s							
RAMN	Ramite	44.49	87	eP		P	22 09 05.1	+0.5
	comp=Z,329nm,0.6s							
SCO	Scoresbysund	45.10	337	eP		P	22 09 09.3	+0.7
SCO	Scoresbysund	45.10	337	P		P	22 09 09.8	+1.2
SCO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SCO	Scoresbysund	45.10	337	P		P	22 09 09.8	+1.2
TAPN	Taplejung	45.21	86	eP		P	22 09 11.0	+0.6
	comp=Z,78nm,0.5s							
DBIC	Dimbokro	46.93	241	P		P	22 09 23.4	-0.3
DBIC	Dimbokro	46.93	241	P		P	22 09 23.4	-0.3
LSA	Lhasa	46.99	81	P		P	22 09 25.0	+0.4
LSA				pmax		pmax		
	comp=Z,95nm,1.1s							
LSA	Lhasa	46.99	81	P		P	22 09 25.3	+0.6
LSA	Lhasa	46.99	81	P		P	22 09 25.0	+0.4
LSA				pmax		pmax		
	comp=Z,18nm,0.8s							
LSA	Lhasa	46.99	81	P		P	22 09 25.0	+0.4
LSA				IAmb		IAmb	22 09 26.4	
	comp=Z,18nm,0.8s							
TIC	Toumodi	47.06	241	ePKP2		P	22 09 25.5	+0.7
KIC	Kosan Boka	47.06	240	ePKP2		P	22 09 25.7	+0.9
	comp=Z,62nm,0.8s							
LIC	Lamto	47.36	240	ePKP2		P	22 09 26.8	-0.3
	comp=Z,86nm,0.9s							
MOY	Mondy	48.13	50	eP		P	22 09 34.4	+1.6
MOY				pmax		pmax		
	comp=Z,66nm,1.5s							
NOR	Nord	48.73	351	iP		P	22 09 35.5	-1.4
NOR				IAmb		IAmb	22 09 36.6	
	comp=Z,18nm,0.5s							
NOR	Nord	48.73	351	iP		P	22 09 35.5	-1.4
NOR				pmax		pmax		
	comp=Z,18nm,0.5s							
SHL	Shillong	49.35	86	P		P	22 09 41.9	-0.7
SHL				pmax		pmax		
	comp=Z,37nm,0.9s							
SHL	Shillong	49.35	86	P		P	22 09 41.9	-0.7
SHL	Shillong	49.35	86	P		P	22 09 41.7	-0.8
	SNR=5.1							
ZAK	Zakamensk	49.78	51	eP		P	22 09 45.9	+0.5
ZAK				pmax		pmax		
	comp=Z,25nm,1.1s							
IRK	Irkutsk	50.03	49	eP		P	22 09 46.6	-0.6
IRK				pmax		pmax		
	comp=Z,41nm,1.7s							
GTA	Gaotai	50.22	66	⇓P		P	22 09 49.8	+0.9
GTA				pP		pP	22 09 55.3	-3.2
GTA				sP		sP	22 09 58.5	-3.8
GTA				PcP		PcP	22 11 07.0	-0.8
GTA				pmax		pmax		
	comp=Z,53nm,0.9s							
GTA				pmax		pmax		
	comp=Z,120nm,9.2s							
GTA				LR		LR		
	comp=Z,200nm,19.5s							
GTA				LR		LR		
	comp=Z,120nm,15.9s							
GTA				LR		LR		
	comp=Z,200nm,17.5s							
SUMG	Summit	50.63	338	eP		P	22 09 53.4	+1.4
SUMG	Summit	50.63	338	P		P	22 09 51.9	0.0
SUMG				pmax		pmax		
	comp=Z,8.0nm,1.0s							
SUMG	Summit	50.63	338	P		P	22 09 51.9	0.0
PALK	Pallekele	50.78	114	P		P	22 09 54.8	+1.4
	comp=Z,6.5nm,0.5s,baz=69,slow=7.6,SNR=8.4							
PALK	Pallekele	50.78	114	P		P	22 09 54.3	+0.9
PALK				pmax		pmax		
	comp=Z,91nm,1.8s							
PALK	Pallekele	50.78	114	P		P	22 09 54.3	+0.9
ICESG	Greenland Ices	50.97	334	iP		P	22 09 54.1	-0.3
ICESG				IAmb		IAmb	22 09 55.8	
	comp=Z,9.2nm,0.8s							
LSZ	Lusaka	51.91	188	P		P	22 10 02.9	+1.2
LSZ				pmax		pmax		
	comp=Z,26nm,0.8s							
LSZ	Lusaka	51.91	188	P		P	22 10 02.9	+1.2
LSZ				IAmb		IAmb	22 10 14.7	
	comp=Z,26nm,0.8s							
SONM	Songino Array	52.36	54	P		P	22 10 05.3	+0.5
	comp=Z,18nm,0.8s,baz=287,slow=6.9,SNR=103							
SONM				LR		LR	22 35 14.7	
	comp=Z,2μm,18.8s,baz=290,slow=39							
SONM	Songino Array	52.36	54	P		P	22 10 05.0	+0.1
SONM				pmax		pmax		
	comp=Z,22nm,0.9s							
SONM	Songino Array	52.36	54	P		P	22 10 05.0	+0.1
SONM				IAmb		IAmb	22 10 06.8	
	comp=Z,22nm,0.9s							
ULN	Ulaanbaatar	52.78	54	cePP		P	22 10 08.6	+0.6
ULN				pmax		pmax		
	comp=Z,53nm,1.0s							
ULN	Ulaanbaatar	52.78	54	P		P	22 10 08.8	+0.8
ULN	Ulaanbaatar	52.78	54	P		P	22 10 08.2	+0.2
DY2G	Dye2	53.70	331	IAmb		IAmb	22 10 14.8	
	comp=Z,14nm,0.7s							
NEEM	North Greenlan	53.82	344	iP		P	22 10 14.7	-0.7
LZH	Lanzhou	54.37	68	⇓P		P	22 10 20.5	+0.7
LZH				pP		pP	22 10 26.0	-3.5
LZH				sP		sP	22 10 29.8	-3.4
LZH				PP		PP	22 12 26.8	+5.0
LZH				pmax		pmax		
	comp=Z,85nm,1.2s							
LZH				pmax		pmax		
	comp=Z,140nm,5.8s							
LZH				LR		LR		
	comp=Z,200nm,14.1s							
LZH				LR		LR		
	comp=Z,280nm,14.1s							
LZH				LR		LR		
	comp=Z,180nm,16.8s							
BOD	Bodaibo	54.37	40	eP		P	22 10 18.7	-0.6
BOD				pmax		pmax		
	comp=Z,39nm,0.8s							
OPO	Ambohidratompo	56.00	166	P		P	22 10 33.7	+2.1
	baz=4.1,slow=5.9							
CD2	Chengdu	56.40	74	P		P	22 10 34.5	+0.1
CD2				pmax		pmax		
	comp=Z,130nm,0.8s							
CD2				LR		LR		
	comp=Z,220nm,12.9s							
CD2				LR		LR		
	comp=Z,260nm,15.9s							
CD2				LR		LR		
	comp=Z,300nm,14.9s							
ABPO	Ambohimpanom	56.44	166	P		P	22 10 36.5	+1.7
ABPO				pmax		pmax		
	comp=Z,19nm,1.4s							
ABPO	Ambohimpanom	56.44	166	P		P	22 10 36.5	+1.7
MATP	Matopo	56.97	187	P		P	22 10 40.0	+1.6
	comp=Z,12nm,0.8s,baz=9.8,slow=7.4,SNR=34							
MATP	Matopo	56.97	187	P		P	22 10 40.0	+1.6
TIXI	Tiksi	57.00	22	cePP		P	22 10 38.1	+0.2
TIXI	Tiksi	57.00	22	P		P	22 10 37.7	-0.3
TIXI				IAmb		IAmb	22 10 38.3	
	comp=Z,15nm,0.6s							
BTO	Baotou	57.16	61	eP		P	22 10 39.5	-0.2
BTO				S		S	22 18 34.5	+1.5
BTO				LR		LR		
	comp=Z,1μm,20.2s							
BTO				LR		LR		
	comp=Z,590nm,23.1s							
MHMT	Maesarieng	57.87	90	P		P	22 10 45.1	+0.3
	comp=Z,85nm,1.1s							
MHMT	Maesarieng	57.87	90	P		P	22 10 45.2	+0.3
	comp=Z,85nm,1.1s							
HHC	Hu-ho-hao-te	58.15	60	eP		P	22 10 47.5	+0.8
HHC				pmax		pmax		
	comp=Z,91nm,1.6s							
HHC				pmax		pmax		
	comp=Z,90nm,9.8s							
HHC				LR		LR		
	comp=Z,220nm,15.0s							
HHC				LR		LR		
	comp=Z,140nm,15.8s							
HHC				LR		LR		
	comp=Z,190nm,16.9s							
KMI	Kunming	58.24	81	⇓P		P	22 10 47.5	-0.2
KMI				sP		pP	22 10 53.3	-4.1
KMI				S		S	22 18 50.0	+2.2
KMI				pmax		pmax		
	comp=Z,35nm,1.0s							
CHTO	Chiang Mai	58.35	89	P		P	22 10 47.8	-0.5
CHTO				pmax		pmax		
	comp=Z,27nm,0.9s							
CHTO	Chiang Mai	58.35	89	P		P	22 10 47.9	-0.4
	comp=Z,41nm,1.3s							
CHTO	Chiang Mai	58.35	89	P		P	22 10 47.8	-0.5
CHTO				IAmb		IAmb	22 10 49.0	
	comp=Z,27nm,0.9s							
CHTO	Chiang Mai	58.35	89	P		P	22 10 47.9	-0.4
CMMT	Chiang Mai	58.36	89	P		P	22 10 47.9	-0.4
	comp=Z,41nm,1.2s							
CMMT	Chiang Mai	58.36	89	P		P	22 10 48.0	-0.4
	comp=Z,41nm,1.2s							
CM15	Chiang Mai Arr	58.53	90	P		P	22 10 49.3	-0.2
	comp=Z,345nmcomp=Z,47nm,0.8s							
CM13	Chiang Mai Arr	58.53	90	P		P	22 10 49.2	-0.3
	comp=Z,380nmcomp=Z,48nm,0.8s							
CM13	Chiang Mai Arr	58.53	90	P		P	22 10 49.2	-0.3
	comp=Z,380nmcomp=Z,48nm,0.8s							
CM31	Chiang Mai Arr	58.54	90	P		P	22 10 49.2	-0.3
CM31	Chiang Mai Arr	58.54	90	P		P	22 10 49.5	-0.1
	SNR=7.7							
CMAR	Chiang Mai Arr	58.54	90	P		P	22 10 49.4	-0.2
	comp=Z,33nm,0.8s,baz=296,slow=8.4,SNR=192							
CMAR				LR		LR	22 40 06.4	
	comp=Z,181nm,20.9s,baz=356,slow=40							
CMAR	Chiang Mai Arr	58.54	90	P		P	22 10 49.4	-0.2
CMAR	Chiang Mai Arr	58.54	90	P		P	22 10 49.4	-0.2
CM02	Chiang Mai Arr	58.55	90	P		P	22 10 49.6	-0.1
	comp=Z,404nmcomp=Z,58nm,0.8s							
CM05	Chiang Mai Arr	58.57	90	P		P	22 10 49.7	-0.1
	comp=Z,348nmcomp=Z,45nm,0.8s							
CM05	Chiang Mai Arr	58.57	90	P		P	22 10 49.0	-0.8
	comp=Z,348nmcomp=Z,45nm,0.8s							
CM01	Chiang Mai Arr	58.57	90	P		P	22 10 49.8	0.0
	comp=Z,397nmcomp=Z,54nm,0.8s							
CM01	Chiang Mai Arr	58.57	90	P		P	22 10 49.0	-0.8
	comp=Z,397nmcomp=Z,54nm,0.8s							
CM09	Chiang Mai Arr	58.59	90	P		P	22 10 49.9	0.0
	comp=Z,387nmcomp=Z,53nm,0.8s							
CM04	Chiang Mai Arr	58.60	90	P		P	22 10 50.0	0.0
	comp=Z,463nmcomp=Z,65nm,0.9s							
XAN	Xi'an	59.00	69	P		P	22 10 52.5	-0.2
XAN				pP		pP	22 10 56.0	-6.4
XAN				S		S	22 18 59.3	+2.1
XAN				pmax		pmax		
	comp=Z,60nm,0.8s							
XAN				pmax		pmax		
	comp=Z,150nm,3.9s							
XAN				LR		LR		
	comp=Z,180nm,20.6s							
XAN				LR		LR		
	comp=Z,220nm,17.9s							
XAN				LR		LR		
	comp=Z,320nm,18.4s							
LAMP	Lampang	59.06	89	P		P	22 10 53.5	+0.3
	comp=Z,1μmcomp=Z,168nm,0.8s							
LAMP	Lampang	59.06	89	P		P	22 10 53.6	+0.3
	comp=Z,325nmcomp=Z,42nm,0.8s							
VOI	Vohitsoka	59.18	167	P		P	22 10 54.8	+0.9
UMPA	Umpang Tak	59.68	92	P		P	22 10 58.3	+0.9
	comp=Z,956nmcomp=Z,131nm,0.8s							
UMPA	Umpang Tak	59.68	92	P		P	22 10 58.4	+0.9
	comp=Z,237nmcomp=Z,32nm,0.8s							
TIY	Taiyuan	60.03	63	eP		P	22 11 01.8	+2.1
TIY				pmax		pmax		
	comp=Z,31nm,0.6s							
TIY				LR		LR		
	comp=Z,54nm,4.6s							
TIY				LR		LR		
	comp=Z,63nm,4.2s							
TIY				LR		LR		
	comp=Z,150nm,22.2s							
UTTA	Uttaradit	60.21	89	P		P	22 11 01.0	-0.1
	comp=Z,610nmcomp=Z,74nm,0.8s							
UTTA	Uttaradit	60.21	89	P		P	22 11 01.1	-0.1
	comp=Z,152nmcomp=Z,18nm,0.8s							
HIA	Hailar	60.28	49	P		P	22 11 01.5	+0.3
HIA				pmax		pmax		
	comp=Z,23nm,1.0s							
HIA	Hailar	60.28	49	P		P	22 11 01.5	+0.3
HIA				IAmb		IAmb	22 11 02.9	
	comp=Z,22nm,1.0s							
PHIT	Phitsanulok	60.40	90	P		P	22 11 02.8	+0.4
	comp=Z,2μmcomp=Z,255nm,1.0s							
PHIT	Phitsanulok	60.40	90	P		P	22 11 02.8	+0.4
	comp=Z,464nmcomp=Z,63nm,1.0s							
UTHA	Uthaitani	60.50	92	P		P	22 11 03.4	+0.3
	comp=Z,152nmcomp=Z,20nm,0.9s							
YAK	Yakutsk	60.57	33	P		P	22 11 01.6	-1.3
	comp=Z,6.4nm,0.4s,baz=188,slow=1.9,SNR=5.2							
YAK	Yakutsk	60.57	33	eP		P	22 11 01.5	-1.4
YAK				e			22 11 51.9	
YAK				e			22 13 16.0	
YAK				eS		S	22 19 14.4	-2.0
YAK				e*SS		sS	22 19 35.5	+3.1
YAK				e			22 20 54.9	
YAK				eSS		SS	22 23 14.9	+0.7
YAK				pmax		pmax		
	comp=Z,13nm,0.8s							
YAK				pmax		pmax		
	comp=E,5.0nm,1.1s							
YAK				pmax		pmax		
	comp=N,2.0nm,1.0s							
YAK				pmax		pmax		
	comp=Z,97nm,3.3s							
YAK				pmax		pmax		
	comp=N,77nm,3.0s							
YAK				pmax		pmax		
	comp=E,20nm,2.0s							
YAK				smax		smax		
	comp=E,28nm,1.9s							
YAK				smax		smax		
	comp=N,13nm,2.0s							
YAK				MLR		MLR		
	comp=Z,234nm,18.0s							
YAK				MLR		MLR		
	comp=E,99nm,18.0s							
YAK	Yakutsk	60.57	33	P		P	22 11 01.8	-1.0
YAK				IAmb		IAmb	22 11 02.7	
	comp=Z,18nm,0.7s							
GYA	Guiyang	60.70	77	⇓P		P	22 11 04.0	-0.5
GYA				sP		pP	22 11 14.0	-0.3
GYA				pmax		pmax		
	comp=Z,140nm,3.5s							
SLVN	Son La	61.04	84	P		P	22 11 06.9	+0.1
ENH	Enshi	61.11	72	P		P	22 11 06.2	-0.9
BJI	Beijing	61.69	60	P		P	22 11 11.3	+0.4
BJI				pmax		pmax		
	comp=Z,47nm,0.8s							
BJI				LR		LR		
	comp=Z,190nm,16.8s							
BJI				LR		LR		
	comp=Z,220nm,16.8s							
BJT	Baijiatuau	61.70	60	P		P	22 11 10.6	-0.3
BJT				pmax		pmax		
	comp=Z,29nm,0.7s							
BJT	Baijiatuau	61.70	60	P		P	22 11 10.6	-0.3
LBTB	Lobatse	61.84	190	P		P	22 11 13.6	+1.6
LBTB				pmax		pmax		
	comp=Z,135nm,2.0s							
LBTB	Lobatse	61.84	190	P		P	22 11 13.6	+1.6
PHET	Kaeng Krachan	62.12	94	P		P	22 11 14.1	0.0
	comp=Z,875nmcomp=Z,110nm,0.8s							
PHET	Kaeng Krachan	62.12	94	P		P	22 11 14.2	+0.1
	comp=Z,225nmcomp=Z,28nm,0.8s							
NONG	Nongkai	62.13

PKDT	Phuket	63.99	100	P	P	22 11 26.2	-0.3
	comp=Z,64nm,0.8s						
TIA	Tai'an	64.06	63	⇓P	P	22 11 26.8	+0.1
TIA				pmax	pmax		
	comp=Z,38nm,0.8s						
SURA	Surathani	64.27	98	P	P	22 11 40.7	+12
WHN	Wuhan	64.68	70	⇓P	P	22 11 31.0	+0.2
WHN				pmax	pmax		
	comp=Z,90nm,0.6s						
WHN				LR	LR		
	comp=Z,640nm,18.7s						
WHN				LR	LR		
	comp=Z,350nm,15.2s						
WHN				LR	LR		
	comp=Z,470nm,16.5s						
BOSA	Boshof	65.43	189	P	P	22 11 37.4	+1.7
	comp=Z,29nm,0.7s,baz=9.8,slow=6.2,SNR=69						
BOSA				LR	LR	22 42 24.0	
	comp=Z,145nm,18.6s,baz=8.5,slow=38						
BOSA	Boshof	65.43	189	P	P	22 11 37.3	+1.7
BOSA				pmax	pmax		
	comp=Z,38nm,0.8s						
BOSA	Boshof	65.43	189	P	P	22 11 37.3	+1.7
DL2	Dalian	65.97	59	P	P	22 11 39.0	0.0
DL2				S	S	22 20 21.5	-3.0
DL2				pmax	pmax		
	comp=Z,53nm,1.0s						
DL2				LR	LR		
	comp=Z,200nm,28.1s						
DL2				LR	LR		
	comp=Z,170nm,24.7s						
DL2				LR	LR		
	comp=Z,390nm,32.7s						
CN2	Changchun	66.19	52	*e*P	P	22 11 39.8	-0.6
CN2				*e*S	S	22 20 27.5	+0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
CN2				LR	LR		
	comp=Z,400nm,17.2s						
SKLT	Songkhla	66.23	99	P	P	22 11 40.2	-0.8
	comp=Z,94nm,0.8s						
SKLT	Songkhla	66.23	99	P	P	22 11 40.2	-0.8
QIZ	Qiongzhong	66.99	83	P	P	22 11 45.7	-0.2
SCHQ	Schefferville	67.17	322	P	P	22 11 44.8	-1.7
	comp=Z,4.5nm,0.5s,baz=54,slow=3.9,SNR=7.3						
SCHQ				LR	LR	22 41 20.9	
	comp=Z,186nm,19.9s,baz=70,slow=36						
SCHQ	Schefferville	67.17	322	P	P	22 11 45.0	-1.5
SCHQ				IAmb	IAmb	22 11 56.3	
	comp=Z,22nm,1.2s						
NJ2	Nanjing	67.31	66	⇑P	P	22 11 47.3	-0.4
NJ2				pmax	pmax		
	comp=Z,30nm,1.1s						
KLR	Kul'dur	67.35	45	*ce*P	P	22 11 47.8	+0.1
KULM	Kulim	67.38	101	P	P	22 11 47.0	-1.4
GSI	Gunungsitoli	67.43	106	P	P	22 11 48.8	+0.1
PSI	Prapat	67.54	104	P	P	22 11 49.4	-0.2
PSI				pmax	pmax		
	comp=Z,106nm,1.1s						
RPSI	Rantau Prapat	67.61	104	P	P	22 11 49.4	-0.4
IPM	Ipoh	68.17	101	P	P	22 11 53.0	-0.4
MNSI	Mandailing Nat	69.30	105	P	P	22 12 00.0	-0.4
	comp=Z,62nm,0.9s						
BILL	Bilibino	69.57	18	*c i*P	P	22 12 01.1	-0.2
BILL				*e*		22 12 27.5	
BILL				*e*		22 14 38.5	
BILL				pmax	pmax		
	comp=Z,27nm,1.3s						
BILL				MLR	MLR		
	comp=Z,89nm,22.0s						
BILL	Bilibino	69.57	18	P	P	22 12 01.3	0.0
JRMM	Jerantut	69.68	101	P	P	22 12 02.0	-0.7
SUR	Sutherland	69.81	193	P	P	22 12 05.0	+1.7
USA0B	Ussuriysk Arra	70.07	49	P	P	22 12 04.0	-0.8
USA0B				pmax	pmax		
	comp=Z,16nm,1.0s						
USA0B	Ussuriysk Arra	70.07	49	P	P	22 12 04.0	-0.8
USA0B				IAmb	IAmb	22 12 15.9	
	comp=Z,16nm,0.9s						
USRK	Ussuriysk Ar.	70.07	49	P	P	22 12 03.9	-0.9
	comp=Z,9.4nm,0.7s,baz=292,slow=5.1,SNR=25						
USRK	Ussuriysk Ar.	70.07	49	P	P	22 12 03.9	-0.9
USRK	Ussuriysk Ar.	70.07	49	P	P	22 12 03.8	-0.9
INCN	Inchon	70.10	58	P	P	22 12 04.7	-0.4
INCN				pmax	pmax		
	comp=Z,28nm,0.8s						
INCN	Inchon	70.10	58	P	P	22 12 04.7	-0.4
MSHR	Mys Shultsa	70.41	51	*ce*P	P	22 12 06.4	-0.4
MSHR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MA2	Magadan	70.63	29	*ce*P	P	22 12 08.9	+1.0
MA2				pmax	pmax		
	comp=Z,36nm,1.7s						
MA2	Magadan	70.63	29	P	P	22 12 08.0	+0.1
BKNI	Bangkinang	70.73	104	P	P	22 12 08.3	-0.9
BKNI	Bangkinang	70.73	104	P	P	22 12 08.8	-0.4
	comp=Z,2µmcomp=Z,206nm,1.1s						
HAL	Halifax	70.77	312	P	P	22 12 08.4	-0.6
HAL				pmax	pmax		
	comp=Z,38nm,0.7s						
HAL	Halifax	70.77	312	P	P	22 12 08.4	-0.6
LMN	Caledonia Moun	70.84	313	P	P	22 12 08.7	-0.8
LMN				IAmb	IAmb	22 12 20.0	
	comp=Z,24nm,0.8s						
KS19	Wonju Array Si	70.93	57	P	P	22 12 09.7	-0.4
KSAR	Wonju Array Be	70.97	57	P	P	22 12 09.6	-0.7
KSAR	Wonju Array Be	70.97	57	P	P	22 12 09.6	-0.7
KSRS	Korea Array	70.99	57	P	P	22 12 10.1	-0.4
	comp=Z,18nm,0.7s,baz=295,slow=5.5,SNR=63						
KSRS				LR	LR	22 47 14.6	
	comp=Z,496nm,18.6s,baz=306,slow=39						
KSRS	Korea Array	70.99	57	P	P	22 12 10.1	-0.4
TJN	Taejon	71.17	58	*ce*P	P	22 12 11.7	+0.1
D63A	Stockholm	72.08	316	P	P	22 12 15.9	-0.9
	baz=55						
A21K	Barrow	72.14	4	P	P	22 12 16.9	+0.2
	baz=350						
PQI	Presque Isle	72.24	315	P	P	22 12 16.9	-1.0
PQI				IAmb	IAmb	22 12 24.4	
	comp=Z,16nm,0.9s						
E64A	Bridgewater	72.28	315	P	P	22 12 17.7	-0.3
	baz=55						
TYV	Tymovskoe	72.35	39	*e*P	P	22 12 18.9	+0.5
TYV				pmax	pmax		
	comp=Z,14nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,9.8s						
GGN	Saint George	72.44	313	P	P	22 12 19.0	0.0
GGN				IAmb	IAmb	22 12 25.4	
	comp=Z,26nm,0.9s						
D62A	Allapoint, All	72.59	316	P	P	22 12 19.5	-0.4
	baz=55,SNR=11						
E63A	Oxbow	72.61	315	P	P	22 12 19.4	-0.6
	baz=55						
E63A	Oxbow	72.61	315	P	P	22 12 19.3	-0.8
E63A				IAmb	IAmb	22 12 30.9	
	comp=Z,26nm,0.7s						
G65A	Princeton	72.81	314	P	P	22 12 20.4	-0.8
	baz=55						
F64A	Sherman	72.89	315	P	P	22 12 21.1	-0.6
	baz=55						
H66A	Whiting	72.90	313	P	P	22 12 21.0	-0.7
	baz=55						
LMQ	La Malbaie	73.03	317	P	P	22 12 21.5	-1.0
LMQ				IAmb	IAmb	22 12 32.7	
	comp=Z,9.7nm,0.6s						
EMMW	East Machias	73.03	313	P	P	22 12 22.0	-0.6
EMMW				IAmb	IAmb	22 12 29.2	
	comp=Z,14nm,0.9s						
E62A	Clayton Lake	73.12	316	P	P	22 12 22.5	-0.5
	baz=54,SNR=10						
E62A	Clayton Lake	73.12	316	P	P	22 12 22.4	-0.7
E62A				IAmb	IAmb	22 12 33.9	
	comp=Z,20nm,0.8s						
SSLB	Suanglung	73.19	73	P	P	22 12 23.4	-0.5
SSLB				IAmb	IAmb	22 12 28.3	
	comp=Z,19nm,1.0s						
TPUB	Ta-pu	73.20	73		P	22 12 23.8	-0.1
C36M	Paulatuk	73.31	352	P	P	22 12 23.1	-0.6
	baz=18						
C36M	Paulatuk	73.31	352	P	P	22 12 23.2	-0.6
C36M				IAmb	IAmb	22 12 30.7	
	comp=Z,29nm,0.9s						
F63A	Nahmakanta, Br	73.41	315	P	P	22 12 24.4	-0.5
	baz=54						
F63A	Nahmakanta, Br	73.41	315	P	P	22 12 24.4	-0.5
F63A				IAmb	IAmb	22 12 36.0	
	comp=Z,13nm,0.7s						
G64A	Maxfield	73.47	314	P	P	22 12 24.8	-0.3
	baz=55						
H65A	Eastbrook	73.50	314	P	P	22 12 25.0	-0.3
	baz=55						
YULB	Yu-li	73.66	73		P	22 12 26.9	+0.2
YULB				IAmb	IAmb	22 12 28.6	
	comp=Z,28nm,0.8s						
CHGQ	Chibougamau	73.77	321	P	P	22 12 26.2	-0.6
	baz=52						
PKME	Peaks-Kenny Pk	73.78	315	P	P	22 12 27.1	+0.1
	baz=54						
PKME	Peaks-Kenny Pk	73.78	315	P	P	22 12 27.2	+0.3
TWG	Pinlang	73.80	73	P	P	22 12 27.4	0.0
G63A	Kingsbury	74.05	315	P	P	22 12 28.5	-0.1
	baz=54						
H64A	Troy	74.10	314	P	P	22 12 28.8	0.0
	baz=54						
LATQ	La Tuque	74.46	318	P	P	22 12 31.2	+0.3
	baz=53						
G62A	West of Eustis	74.51	315	P	P	22 12 31.4	+0.2
	baz=54						
H63A	New Sharon	74.56	314	P	P	22 12 31.6	+0.1
	baz=54						
YSS	Yuzh-Sakhalins	74.75	43	*de*P	P	22 12 32.7	+0.2
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS	Yuzh-Sakhalins	74.75	43	P	P	22 12 32.8	+0.2
RDOG	Red Dog Mine	74.88	7	P	P	22 12 33.7	+0.8
	baz=345						
TOLK	Toolik Lake Re	75.10	2	P	P	22 12 34.6	+0.3
	baz=356,SNR=12						
TOLK	Toolik Lake Re	75.10	2	P	P	22 12 34.1	-0.2
TOLK				IAmb	IAmb	22 12 35.9	
	comp=Z,14nm,0.9s						
INK	Inuvik	75.13	356	P	P	22 12 33.8	-0.6
	comp=Z,4.8nm,0.9s,baz=7.9,slow=8.6,SNR=7.8						
INK	Inuvik	75.13	356	P	P	22 12 33.5	-0.9
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	Inuvik	75.13	356	P	P	22 12 33.4	-0.9
	baz=9.6						
INK	Inuvik	75.13	356	P	P	22 12 33.5	-0.9
I63A	Otisfield	75.23	314	P	P	22 12 35.2	-0.2
	baz=53						
H62A	Milan	75.25	315	P	P	22 12 34.0	-1.6
	baz=53						
H62A	Milan	75.25	315	P	P	22 12 35.6	0.0
H62A				IAmb	IAmb	22 12 46.7	
	comp=Z,12nm,0.8s						
JNU	Nakatsue	75.37	60	P	P	22 12 36.2	-0.3
JNU				IAmb	IAmb	22 12 57.4	
	comp=Z,54nm,1.6s						
MOQ	Mont Orford	75.43	316	P	P	22 12 36.3	-0.3
MATQ	Matagami	75.51	322	P	P	22 12 35.5	-1.4
	baz=50						
H61A	Lyndonville	75.72	315	P	P	22 12 38.2	-0.1
	baz=52						
I62A	Tamworth	75.78	314	P	P	22 12 38.8	+0.2
	baz=53						
LBNH	Lisbon	75.89	315	P	P	22 12 39.5	+0.3
LBNH				pmax	pmax		
	comp=Z,14nm,0.8s						
LBNH	Lisbon	75.89	315	P	P	22 12 38.9	-0.4
	baz=52,SNR=5.7						
LBNH	Lisbon	75.89	315	P	P	22 12 39.5	+0.3
LBNH				IAmb	IAmb	22 12 50.9	
	comp=Z,14nm,0.8s						
J63A	Strafford	75.98	314	P	P	22 12 40.1	+0.4
	baz=53						
H60A	Morristown	76.14	315	P	P	22 12 40.6	-0.1
	baz=52						
MDSI	Maura Dua	76.17	106	P	P	22 12 39.2	-2.0
BMAR	Burnt Mountain	76.37	360	P	P	22 12 42.0	+0.5
ASAJ	Asahikawa	76.39	45	P	P	22 12 41.4	-0.6
ASAJ				pmax	pmax		
	comp=Z,19nm,1.3s						
JKA	Kamikawa-asahi	76.39	45	P	P	22 12 41.4	-0.6
LWLI	Liwa	76.42	107	P	P	22 12 41.6	-1.1
	comp=Z,4µmcomp=Z,49nm,0.6s						
HNH	Hanover	76.42	315	P	P	22 12 42.4	+0.2
HNH				IAmb	IAmb	22 12 53.9	
	comp=Z,19nm,0.8s						
J62A	Henniker	76.44	314	P	P	22 12 42.5	+0.1
	baz=52						
FRNY	Flat Rock	76.47	316	P	P	22 12 42.2	-0.2
FRNY				IAmb	IAmb	22 12 53.2	
	comp=Z,15nm,0.8s						
COLD	Coldfoot	76.50	2	P	P	22 12 42.2	0.0
	baz=356,SNR=23						
COLD	Coldfoot	76.50	2	P	P	22 12 42.2	0.0
M66A	Nantucket	76.64	312	P	P	22 12 43.2	-0.3
	baz=53						
H59A	Cadyville	76.64	316	P	P	22 12 43.1	-0.4
	baz=52						
TNA	Tin City	76.70	10	P	P	22 12 43.5	+0.1
	baz=341						
J61A	Chester	76.80	314	P	P	22 12 44.2	-0.2
	baz=52						
H58A	Gabriels	77.06	316	P	P	22 12 45.4	-0.5
	baz=51						
JMN	Monobe	77.09	58	P	P	22 12 45.3	-0.9
M64A	Tiverton	77.11	312	P	P	22 12 45.9	-0.2
	baz=52						
L63A	North Scituate	77.16	313	P	P	22 12 45.2	-1.1
	baz=52						
LONY	Lake Ozonia	77.16	316	P	P	22 12 45.8	-0.5
	baz=51,SNR=6.4						
JWT	Wachi	77.21	56	P	P	22 12 46.0	-0.8
JWT				IAmb	IAmb	22 12 49.0	
	comp=Z,34nm,1.5s						
I59A	Olmsteadville	77.27	315	P	P	22 12 46.9	-0.1
	baz=51						
KSM	Kuching	77.36	98	P	P	22 12 47.0	-0.9
J60A	Lant Hill Farm	77.36	315	P	P	22 12 47.2	-0.3
	baz=51						
JTM	Tenmabayashi	77.53	48	P	P	22 12 47.4	-1.1
JTM				IAmb	IAmb	22 13 09.6	
	comp=Z,39nm,1.2s						
IMAR	Indian Mountai	77.60	4	P	P	22 12 48.2	-0.2
H57A	Richville	77.70	317	P	P	22 12 49.1	-0.3
	baz=50						
J59A	Piesco	77.84	315	P	P	22 12 50.3	0.0
PETK	Petropavlovsk-	77.87	31	P	P	22 12 48.9	-1.3
	comp=Z,4.0nm,1.0s,baz=15,slow=6.2,SNR=6.7						
PETK				LR	LR	22 52 10.6	
	comp=Z,58nm,19.5s,baz=312,slow=40						
PETK	Petropavlovsk-	77.87	31	P	P	22 12 48.9	-1.3
PETK	Petropavlovsk-	77.87	31	P	P	22 12 48.7	-1.5
H23K	Yukon River	77.92	2	P	P	22 12 50.0	-0.3
	baz=356,SNR=24						
H24K	Noodor Dome	77.95	1	P	P	22 12 49.8	-0.6
	baz=358,SNR=8.5						
I58A	Old Forge	77.96	316	P	P	22 12 50.4	-0.5
	baz=51						
ANM	Nome	77.98	9	P	P	22 12 50.3	-0.3
ANM				pmax	pmax		
	comp=Z,33nm,0.9s						
ANM	Nome	77.98	9	P	P	22 12 50.2	-0.3
	baz=343						
ANM	Nome	77.98	9	P	P	22 12 50.3	-0.3
ANM				IAmb	IAmb	22 13 01.4	
	comp=Z,33nm,0.9s						
ERM	Erimo	78.01	46	*ce*P	P	22 12 52.9	+1.8
ERM				pmax	pmax		
	comp=Z,38nm,1.7s						
ERM	Erimo	78.01	46	P	P	22 12 52.1	+1.0
ERM				IAmb	IAmb	22 12 55.5	
	comp=Z,50nm,1.6s						
I57A	Carthage	78.19	316	P	P	22 12 51.3	-0.8
	baz=50						
NBPV	Pedro Velho	78.19	253	*e*P	P	22 12 54.1	+1.6
SBUM	Sibu	78.30	96	P	P	22 12 54.0	+0.8
MAJO	Matsushiro	78.31	53	P	P	22 12 51.9	-1.0
MAJO				pmax	pmax		
	comp=Z,15nm,1.1s						
MAJO	Matsushiro	78.31	53	P	P	22 12 51.9	-1.0
MAT	Matsushiro	78.31	53	P	P	22 12 52.4	-0.5
MJAR	Matsushiro Arr	78.31	53	P	P	22 12 52.4	-0.6
	comp=Z,13nm,1.0s,baz=316,slow=4.0,SNR=29						
MJAR				LR	LR	22 51 07.3	
	comp=Z,389nm,19.1s,baz=290,slow=38						
MJAR	Matsushiro Arr	78.31	53	P	P	22 12 51.9	-1.1
MJAR				pmax	pmax		
	comp=Z,13nm,1.0s						
MJAR	Matsushiro Arr	78.31	53	P	P	22 12 51.9	-1.1
YKA	Yellowknife Ar	78.33	346	P	P	22 12 51.8	-0.7
	comp=Z,10.0nm,1.0s,baz=29,slow=6.0,SNR=18						
YKA	Yellowknife Ar	78.33	346	P	P	22 12 52.2	-0.3
YKA	Yellowknife Ar	78.33	346	P	P	22 12 52.2	-0.3
J58A	Remsen	78.34	316	P	P	22 12 52.9	-0.1
	baz=50						
I21K	Tanana	78.48	3	P	P	22 12 53.6	+0.3
	baz=354,SNR=28						
I23K	Minto, Yukon-K	78.61	2	P	P	22 12 54.2	+0.2
	baz=356,SNR=8.6						
I23K	Minto, Yukon-K	78.61	2	P	P	22 12 54.0	0.0
POKR	Poker Plat Res	78.67	1	P	P	22 12 54.6	+0.2
	baz=358,SNR=10						
POKR	Poker Plat Res	78.67	1	P	P	22 12 54.6	+0.2
POKR				IAmb	IAmb	22 12 55.9	
	comp=Z,27nm,1.1s						
MLY	Manley	78.68	2	P	P	22 12 54.7	+0.2
	baz=355,SNR=26						
MDM	Murphy Dome	78.82	1	P	P	22 12 55.3	0.0
MDM				IAmb	IAmb	22 12 56.4	
	comp=Z,35nm,1.1s						
DELO	Deloro Mine	78.89	318	P	P	22 12 55.6	-0.4
DELO				IAmb	IAmb	22 13 06.9	
	comp=Z,14nm,0.8s						
COLA	College	78.91	1	P	P	22 12 55.4	-0.3
	baz=358						
TCOL	CIGO, UAF Yank	78.91	1	P	P	22 12 55.7	0.0
	baz=358						
SKR	Severo-Kuril's	78.92	34	*e*P	P	22 12 58.9	+2.9
SKR				*e*S	S	22 23 02.0	+10
SKR				pmax	pmax		
	comp=Z,26nm,1.0s						
SKR				pmax	pmax		
	comp=Z,100nm,4.6s						
SKR				MLR	MLR		
	comp=Z,100nm,17.0s						
SKR				MLR	MLR		
	comp=Z,100nm,18.0s						
EGAK	Eagle	78.99	358	P	P	22 12 55.9	-0.2
	baz=3.2						
EGAK	Eagle	78.99	358	P	P	22 12 55.7	-0.4
EGAK				IAmb	IAmb	22 12 57.2	
	comp=Z,12nm,0.7s						
IL31		79.03	1	P	P	22 12 56.1	-0.2
ILAR	Eielson Array	79.03	1	P	P	22 12 56.4	0.0
	comp=Z,3.7nm,0.9s,baz=321,slow=3.4,SNR=30						
ILAR				PKKPbc	PKKPbc	22 31 56.6	+8.1
	comp=Z,0.4nm,0.6s,baz=217,slow=2.6,SNR=4.7						
ILAR	Eielson Array	79.03	1	P	P	22 12 56.4	0.0
ILAR	Eielson Array	79.03	1	P	P	22 12 56.1	-0.3
STKI	Sintang	79.13	98	P	P	22 12 59.0	+1.3
	comp=Z,8µmcomp=Z,49nm,0.9s						
CCB	Clear Creek Bu	79.14	1	P	P	22 12 56.3	-0.6
CCB				IAmb	IAmb	22 12 57.4	
	comp=Z,16nm,0.9s						
JMM	Marumori	79.15	51	P	P	22 12 56.6	-0.9
JMM				IAmb	IAmb	22 13 08.2	
	comp=Z,21nm,0.9s						
NBCL	Cascavel-CE	79.16	257	*e*P	P	22 12 59.1	+1.2
NEA2	Nenana	79.17	2	P	P	22 12 56.5	-0.6
	baz=357,SNR=5.0						
NEA2	Nenana	79.17	2	P	P	22 12 56.7	-0.4
J56A	Wolcott	79.28	316	P	P	22 12 57.5	-0.6
J56A				IAmb	IAmb	22 13 09.1	
	comp=Z,24nm,0.8s						
WRH	Wood River Hil	79.31	1	P	P	22 12 57.0	-0.9
WRH				IAmb	IAmb	22 12 58.3	
	comp=Z,16nm,0.8s						
J20K	Nowinta River	79.38	4	P	P	22 12 58.5	+0.2
	baz=353,SNR=36						
HDA	Harding Lake	79.39	1	P	P	22 12 57.4	-1.0
	baz=358,SNR=16						
HDA	Harding Lake	79.39	1	P	P	22 12 57.6	-0.7
HDA				IAmb	IAmb	22 12 58.6	
	comp=Z,18nm,0.8s						
DBJI	Dramaga	79.45	106	P	P	22 12 57.8	-1.7
BINY	Binghamton	79.48	315	P	P	22 12 58.8	-0.6
	baz=50						
L58A	Harry Jones Me	79.51	315	P	P	22 12 59.1	-0.3
	baz=50						
SADO	Sadowa	79.54	319	P	P	22 13 00.5	+1.0
	comp=Z,9.6nm,1.0s,baz=90,slow=2.0,SNR=2.9						
BPAW	Bear Paw Mtn.	79.60	3	P	P	22 12 58.9	-0.6
	baz=355,SNR=23						
BPAW	Bear Paw Mtn.	79.60	3	P	P	22 12 58.6	-0.9
BPAW				IAmb	IAmb	22 12 59.9	
	comp=Z,17nm,0.9s						
DAWY	Dawson	79.65	357	P	P	22 12 59.6	-0.3
DAWY				IAmb	IAmb	22 13 16.5	
	comp=Z,26nm,1.4s						
K27K	Chicken	79.76	359	P	P	22 13 00.4	+0.1
	baz=2.4						
K27K	Chicken	79.76	359	P	P	22 13 00.4	+0.1
CHUM	Lake Minchumin	79.77	3	P	P	22 13 00.3	0.0
	baz=354,SNR=19						
SCRK	Sand Creek	79.83	360	P	P	22 13 01.0	+0.1
	baz=0.8,SNR=27						
K56A	Middlesex	79.91	316	P	P	22 13 00.9	-0.7
	baz=49						
MCK	McKinley	80.03	2	P	P	22 13 01.1	-0.8
	baz=357,SNR=5.0						
RIDG	Independent Ri	80.08	360	P	P	22 13 01.9	-0.2
	baz=0.1,SNR=27						
RIDG	Independent Ri	80.08	360	P	P	22 13 01.9	-0.2
RIDG				IAmb	IAmb	22 13 03.1	
	comp=Z,28nm,0.8s						
KTH	Kantishna Hill	80.15	3	P	P	22 13 02.1	-0.5
KTH				IAmb	IAmb	22 13 03.7	
	comp=Z,17nm,0.9s						
DOT	Dot Lake	80.16	360	P	P	22 13 02.6	0.0
DOT				IAmb	IAmb	22 13 03.9	
	comp=Z,13nm,0.8s						
N59A	State Game Lan	80.19	314	P	P	22 13 02.4	-0.7
	baz=50						
K20K	Telida	80.20	4	P	P	22 13 02.7	-0.1
	baz=353,SNR=20						
TRF	Thorofare Moun	80.28	2	P	P	22 13 02.7	-0.7
	baz=356,SNR=5.5						
TRF	Thorofare Moun	80.28	2	P	P	22 13 02.9	-0.5
SPMM	Sapulut	80.39	91	P	P	22 13 05.0	+0.4
L56A	Greenwood	80.41	316	P	P	22 13 03.9	-0.5
L56A				IAmb	IAmb	22 13 15.2	
	comp=Z,27nm,0.8s						
BCAR	Beaver Creek A	80.72	359	P	P	22 13 05.7	+0.1
L27K	Beaver Creek,	80.72	359	P	P	22 13 05.8	+0.1
	baz=2.6,SNR=27						
L27K	Beaver Creek,	80.72	359	P	P	22 13 05.7	+0.1
L27K				IAmb	IAmb	22 13 07.0	
	comp=Z,13nm,0.8s						
PPLA	Purkeypile	80.76	3	P	P	22 13 06.1	+0.2
	baz=354,SNR=12						
PPLA	Purkeypile	80.76	3	P	P	22 13 05.7	-0.3
PPLA				IAmb	IAmb	22 13 06.9	
	comp=Z,22nm,0.6s						
L26K	Log Cabin Wild	80.78	359	P	P	22 13 05.9	-0.1
	baz=1.4,SNR=6.2						
PAX	Paxson	80.85	0	P	P	22 13 05.6	-0.8
	baz=360,SNR=6.8						
NBPB	Pedra_Branca-C	80.98	256	*e*P	P	22 13 08.5	+0.8
NBAN	Anadia - AL	80.99	251	*e*P	P	22 13 08.5	+0.7
WAT6	Susitna Watana	81.22	1	P	P	22 13 07.5	-0.9
	baz=358,SNR=18						
L19K	White Mountain	81.32	5	P	P	22 13 09.2	+0.4
	baz=352						
M26K	Nabesna, AK	81.41	359	P	P	22 13 09.3	0.0
	baz=1.6,SNR=9.5						
HARP	HAARP	81.42	0	P	P	22 13 09.1	-0.2
	baz=360						
M27K	Edge Creek,

comp=Z,18nm,0.9s
SKT Skwentna 81.70 3 P **P 22 13 09.6 -1.3**
baz=355
SKT Skwentna 81.70 3 P **P 22 13 09.8 -1.0**
M24K Tolsona, Glenn 81.71 1 P **P 22 13 10.9 0.0**
baz=359,SNR=7.9
M24K Tolsona, Glenn 81.71 1 P **P 22 13 11.0 0.0**
M24K IAmb IAmb 22 13 12.2
comp=Z,36nm,1.0s
NBPS Pedro II - PI 81.74 258 *e*P **P 22 13 12.6 +0.7**
ERPA Erie 81.78 317 P **P 22 13 11.2 -0.4**
ERPA IAmb IAmb 22 13 22.1
comp=Z,19nm,0.7s
FFC Flin Flon 81.88 336 P **P 22 13 11.1 -0.8**
FFC pmax pmax
comp=Z,22nm,1.0s
FFC Flin Flon 81.88 336 P **P 22 13 11.1 -0.8**
FFC IAmb IAmb 22 13 18.6
comp=Z,22nm,1.0s
SML Sawmill 81.98 2 P **P 22 13 11.6 -0.8**
baz=357,SNR=14
SML Sawmill 81.98 2 P **P 22 13 11.8 -0.5**
SML IAmb IAmb 22 13 12.7
comp=Z,25nm,0.8s
M54A Oil Creek Stat 82.01 316 P **P 22 13 12.0 -0.8**
baz=48
PMR Palmer 82.17 2 P **P 22 13 12.5 -0.7**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 82.17 2 P **P 22 13 12.7 -0.5**
baz=357
PMR Palmer 82.17 2 P **P 22 13 12.5 -0.7**
PMR IAmb IAmb 22 13 13.8
comp=Z,16nm,0.8s
N25K Chitina, Valde 82.22 360 P **P 22 13 13.0 -0.6**
baz=0.3,SNR=5.8
SUA Susitna One 82.25 3 P **P 22 13 13.5 -0.3**
baz=355
SUA Susitna One 82.25 3 P **P 22 13 13.2 -0.6**
SUA IAmb IAmb 22 13 14.4
comp=Z,20nm,0.8s
KLU Klutina 82.33 0 P **P 22 13 14.1 -0.1**
baz=359,SNR=5.7
SVW2 Sparrevohn 82.35 5 P **P 22 13 14.2 0.0**
SVW2 IAmb IAmb 22 13 15.0
comp=Z,12nm,0.7s
KNK Knik Glacier 82.37 2 P **P 22 13 14.3 -0.1**
baz=357,SNR=9.8
GLB Gilahina Butte 82.38 359 P **P 22 13 13.8 -0.6**
P57A Homestead Farm 82.42 314 P **P 22 13 14.6 -0.4**
P57A IAmb IAmb 22 13 25.4
comp=Z,18nm,0.8s
MCARA McCarthy VSAT 82.43 359 P **P 22 13 14.1 -0.5**
baz=1.6
SPCR Spurr Chakacha 82.45 3 P **P 22 13 14.3 -0.5**
baz=354
RC01 Rabbit Creek A 82.66 2 P **P 22 13 15.4 -0.4**
baz=356,SNR=11
N19K Bonanza Creek 82.70 5 P **P 22 13 16.4 +0.2**
baz=352
N18K Kilae Creek 82.74 5 P **P 22 13 16.9 +0.7**
baz=351
WHY Whitehorse 82.81 355 P **P 22 13 16.1 -0.7**
baz=8.2
CTG Chitna Glacier 82.81 358 P **P 22 13 16.5 -0.3**
baz=3.0,SNR=5.8
CTGM Chitina Glacie 82.81 358 P **P 22 13 17.0 +0.2**
CTGM IAmb IAmb 22 13 17.9
comp=Z,16nm,1.0s
BMRM Bremner River 82.86 360 P **P 22 13 16.3 -0.6**
baz=0.3
CRQE Cirque 83.06 359 P **P 22 13 17.9 -0.2**
baz=1.6,SNR=7.1
EYAK Cordova Ski Ar 83.28 0 P **P 22 13 19.2 +0.2**
baz=359,SNR=6.7
EYMN Ely 83.29 327 P **P 22 13 19.5 +0.1**
baz=41
ULM Lac du Bonnet 83.33 331 P **P 22 13 17.3 -2.2**
comp=Z,7.7nm,0.7s,baz=37,slow=3.7,SNR=5.9
ULM LR LR 22 52 46.7
comp=Z,213nm,18.6s,baz=54,slow=37
ULM Lac du Bonnet 83.33 331 P **P 22 13 18.3 -1.2**
ULM pmax pmax
comp=Z,15nm,0.8s
ULM Lac du Bonnet 83.33 331 P **P 22 13 18.2 -1.2**
ULM IAmb IAmb 22 13 29.7
comp=Z,15nm,0.8s
YAH Yahtse 83.43 358 P **P 22 13 20.2 +0.2**
JSRW J. Sargeant Re 83.53 313 P **P 22 13 20.0 -0.7**
O18K Koktuh Hills 83.61 5 P **P 22 13 20.7 -0.1**
baz=352
MESA MESA 83.62 358 P **P 22 13 21.3 +0.3**
baz=2.5
PINM Pinnacle 83.65 358 P **P 22 13 20.7 -0.4**
baz=3.9,SNR=6.3
SEW Seward 83.66 2 P **P 22 13 20.5 -0.4**
baz=356
KAIM Kayak Island 83.90 360 P **P 22 13 23.2 +0.9**
baz=0.5
P19K Oil Pt 83.94 4 P **P 22 13 23.0 +0.6**
baz=353
BRLK Bradley Lake 83.94 3 P **P 22 13 21.7 -0.8**
BRLK IAmb IAmb 22 13 22.8
comp=Z,27nm,1.1s
BRSE Bradley Lake S 83.97 3 P **P 22 13 21.6 -1.0**
baz=355
CNPM China Point 84.17 3 P **P 22 13 22.7 -0.9**
CNPM IAmb IAmb 22 13 34.3
comp=Z,19nm,1.0s
SPIA Saint Paul Isl 84.26 13 P **P 22 13 24.8 +0.8**
baz=340
PWJI Pagerwojo 84.29 104 P **P 22 13 26.7 +1.8**
comp=Z,64nm,1.4s
P53A Whipple 84.34 316 P **P 22 13 24.2 -0.7**
DLBC Dease Lake 84.57 352 P **P 22 13 25.9 +0.2**
baz=215,slow=12
NBPN Ponto Novo - B 84.73 252 *e*P **P 22 13 29.6 +2.5**
N49A Columbus Grove 84.88 318 P **P 22 13 26.3 -1.2**
KBKI Kotabaru 84.89 98 P **P 22 13 29.3 +1.4**
comp=Z,1μmcomp=Z,67nm,1.0s
O49A Covington 85.48 318 P **P 22 13 29.2 -1.4**
MPSI Mapaga 85.72 93 P **P 22 13 32.5 +0.4**
F36A Milaca 85.78 327 P **P 22 13 30.6 -1.4**
F36A IAmb IAmb 22 13 41.4
comp=Z,19nm,0.9s
TMAB Tom-Au,PA,Br 85.82 264 *e*P **P 22 13 33.7 +1.1**
KDAK Kodiak Island 85.84 4 P **P 22 13 31.8 -0.2**
KDAK pmax pmax
comp=Z,28nm,0.7s
KDAK Kodiak Island 85.84 4 P **P 22 13 32.1 +0.1**
baz=354
KDAK Kodiak Island 85.84 4 P **P 22 13 31.8 -0.2**
SPMN Marine on St. 85.95 326 P **P 22 13 31.3 -1.5**
baz=40
TOLI2 Tolitoli 85.98 92 P **P 22 13 32.6 -0.8**
GDU01 Guandu, BA 86.04 250 *e*P **P 22 13 34.5 +0.9**
P49A Miami Univ. Ec 86.15 318 P **P 22 13 32.4 -1.5**
baz=44
P49A Miami Univ. Ec 86.15 318 P **P 22 13 32.5 -1.5**
OHAK Old Harbor 86.36 4 P **P 22 13 34.7 +0.2**
baz=353
OHAK Old Harbor 86.36 4 P **P 22 13 34.2 -0.4**
EDM Edmonton 86.49 342 P **P 22 13 34.6 -0.8**
EDM pmax pmax
comp=Z,58nm,0.8s
EDM Edmonton 86.49 342 P **P 22 13 34.6 -0.8**
WRAK Wrangell Islan 86.79 353 P **P 22 13 36.9 +0.2**
baz=10
L42A Oliver, Polo 86.91 322 P **P 22 13 37.0 -0.6**
SII Sitkinak Islan 86.95 5 P **P 22 13 37.8 +0.2**
baz=353
CMC01 Camacan, BA 87.03 249 *e*P **P 22 13 40.9 +2.5**
SDPT Sand Point 87.54 9 P **P 22 13 39.1 -1.2**
baz=348
SDPT Sand Point 87.54 9 P **P 22 13 39.3 -1.0**
CHIR Chirikof Islan 87.58 6 P **P 22 13 41.0 +0.5**
baz=352
TZTN Tazewell 87.61 315 P **P 22 13 40.5 -0.6**
baz=45
TZTN Tazewell 87.61 315 P **P 22 13 40.7 -0.4**
MCPB Macapa, AP 87.81 268 *e*P **P 22 13 43.5 +1.1**
TKL Tuckaleechee C 88.37 314 P **P 22 13 43.8 -0.9**
comp=Z,2.0nm,0.6s,baz=135,slow=5.7,SNR=4.3
TKL Tuckaleechee C 88.37 314 P **P 22 13 43.8 -0.9**
NIKH Nikolski High 88.50 14 P **P 22 13 44.4 -0.6**
baz=341

SMTB Santa Maria do 89.28 259 *e*P **P 22 13 50.7 +1.4**
SDBA SAO DESIDERIO 89.32 254 *e*P **P 22 13 50.9 +1.4**
PRPB Parauapebas 89.45 262 *e*P **P 22 13 51.6 +1.5**
RIB01 Linhares ES 90.14 246 *e*P **P 22 13 53.8 +0.6**
BSFB Barra de Sao F 90.18 247 *e*P **P 22 13 54.8 +1.5**
WALA Waterton Lakes 90.42 340 P **P 22 13 53.1 -1.2**
WALA IAmb IAmb 22 14 04.2
comp=Z,13nm,0.8s
JANB Januaria 90.47 252 *e*P **P 22 13 56.6 +1.9**
MALB Monte Alegre 90.47 268 *e*P **P 22 13 56.6 +1.8**
LLLB Lillooet 90.87 345 P **P 22 13 55.4 -0.8**
LLLB IAmb IAmb 22 14 07.8
comp=Z,13nm,0.8s
MC01 Montes Claros 91.19 250 *e*P **P 22 13 59.7 +1.6**
ALF01 Guarapari-ES 91.20 245 *e*P **P 22 13 59.2 +1.3**
PEXB Peixe 91.78 256 *e*P **P 22 14 01.7 +0.8**
DIAM Diamantina, MG 91.95 249 *e*P **P 22 14 03.1 +1.3**
NEW Newport 91.99 342 P **P 22 14 00.8 -0.6**
baz=22,SNR=6.4
DWPF Disney Wildern 92.21 308 P **P 22 14 02.2 -0.5**
baz=46
MSO Missoula 92.45 339 P **P 22 14 02.8 -0.9**
baz=24
MSO Missoula 92.45 339 P **P 22 14 02.8 -0.9**
MSO IAmb IAmb 22 14 14.5
comp=Z,18nm,1.4s
RLMT Red Lodge 92.54 336 P **P 22 14 03.7 -0.6**
baz=28
CAM01 Campos-RJ 92.63 245 *e*P **P 22 14 06.0 +1.4**
U40A Yellville 92.81 320 P **P 22 14 04.2 -1.2**
baz=39
BOZ Bozeman (W) 92.88 337 P **P 22 14 05.1 -0.6**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 92.88 337 P **P 22 14 04.6 -1.1**
baz=26
BOZ Bozeman (W) 92.88 337 P **P 22 14 05.1 -0.6**
BOZ IAmb IAmb 22 14 16.4
comp=Z,6.9nm,0.9s
LRM Limekiln Ridge 92.93 338 P **P 22 14 05.3 -0.7**
BOAV Boa Vista 93.00 275 *e*P **P 22 14 07.4 +0.8**
ITTB Itaituba 93.13 267 *e*P **P 22 14 08.3 +1.1**
B05A Bryant 93.14 345 P **P 22 14 05.3 -1.4**
baz=18
DUB01 Friburgo-RJ 93.31 245 *e*P **P 22 14 09.6 +1.8**
YHH Holmes Hill 93.35 336 P **P 22 14 07.5 -0.6**
YHH IAmb IAmb 22 14 19.1
comp=Z,8.1nm,1.2s
BDFB Brasilia 93.66 253 P **P 22 14 11.4 +1.8**
comp=Z,1.7nm,0.5s,baz=47,slow=5.1,SNR=4.2
BDFB LR LR 22 59 14.3
comp=Z,71nm,19.4s,baz=349,slow=37
BDFB Brasilia 93.66 253 P **P 22 14 11.4 +1.8**
E09A Wood Farm, Sta 93.88 342 P **P 22 14 09.6 -0.5**
E09A IAmb IAmb 22 14 20.7
comp=Z,7.2nm,0.8s
SNDB Serra Nova Dou 94.06 258 *e*P **P 22 14 13.6 +2.3**
VAS01 Vassouras-RJ 94.21 245 *e*P **P 22 14 13.5 +1.6**
NPGB Novo Progresso 94.40 265 *e*P **P 22 14 14.2 +1.2**
BSCB Bom Sucesso 94.42 247 *e*P **P 22 14 14.9 +1.9**
MIAR Mount Ida 94.58 320 P **P 22 14 12.3 -1.2**
baz=39
PDAR Pinedale Array 94.71 335 P **P 22 14 13.0 -1.3**
comp=Z,0.3nm,0.5s,baz=332,slow=37,SNR=2.1
PDAR PKKPbc **PKKPbc 22 31 10.8 -0.1**
comp=Z,0.5nm,0.7s,baz=197,slow=3.1,SNR=5.1
PDAR LR LR 23 01 34.4
comp=Z,98nm,18.5s,baz=30,slow=38
PDAR Pinedale Array 94.71 335 P **P 22 14 13.2 -1.2**
BMO Blue Mountains 95.20 341 P **P 22 14 15.0 -1.4**
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 95.20 341 P **P 22 14 14.9 -1.4**
BMO IAmb IAmb 22 14 26.3
comp=Z,7.2nm,0.9s
IPMB Ipameri, GO 95.21 252 *e*P **P 22 14 18.2 +1.6**
ESAR Ångra dos Reis 95.39 245 *e*P **P 22 14 18.2 +1.0**
MFID Camas Ranch 96.12 339 P **P 22 14 19.9 -0.7**
MFID IAmb IAmb 22 14 31.3
comp=Z,11nm,0.9s
NVAR Mina Array Bea 101.44 339 PKKPbc PKKPbc 22 30 53.0 +0.6
comp=Z,0.4nm,0.5s,baz=168,slow=2.9,SNR=4.1
WRA Warramunga Arr 108.92 101 Pdiff **Pdif 22 15 16.6 -1.2**
comp=Z,0.5nm,0.5s,baz=314,slow=4.1,SNR=7.4
WRA PKiKP **PKiKP 22 19 21.6 -0.8**
comp=Z,0.6nm,0.8s,baz=324,slow=1.8,SNR=6.4
WRA PP **PP 22 19 48.7 -1.5**
comp=Z,1.3nm,0.9s,baz=304,slow=8.2,SNR=4.8
WRA PKKP PKKPdf 22 30 53.4 +8.9
comp=Z,0.9nm,0.7s,baz=124,slow=3.8,SNR=5.8
ASAR Alice Springs 110.56 105 Pdiff **Pdif 22 15 24.7 -0.4**
comp=Z,0.4nm,0.7s,baz=298,slow=4.1,SNR=3.1
ASAR PKiKP **PKiKP 22 19 24.6 -0.8**
comp=Z,1.1nm,0.6s,baz=309,slow=1.3,SNR=17
ASAR Alice Springs 110.56 105 *i* PKIKP **PKiKP 22 19 24.7 -0.8**
STKA Stephens Creek 120.50 109 PKP **PKPdf 22 19 43.6 -0.6**
comp=Z,5.3nm,0.9s,baz=342,slow=3.2,SNR=7.1
STKA Stephens Creek 120.50 109 PKIKP **PKPdf 22 19 43.6 -0.6**
PLCA Paso Flores 123.29 241 PKP **PKiKP 22 19 49.9 +0.3**
comp=Z,1.2nm,0.8s,baz=337,slow=2.7,SNR=4.0
PLCA Paso Flores 123.29 241 PKIKP **PKiKP 22 19 49.9 +0.3**
PMSA Palmer Station 126.12 212 PKP **PKPdf 22 19 54.0 +0.1**
comp=Z,1.8nm,0.5s,baz=50,slow=3.8,SNR=4.0
QSPA South Pole Qui 126.36 180 PKP **PKPdf 22 19 53.2 -1.2**
comp=Z,8.4nm,1.0s,baz=249,slow=2.4,SNR=3.6
VNDA Vanda 133.12 166 PKP **PKPdf 22 20 06.5 -0.4**
comp=Z,0.6nm,0.7s,baz=290,slow=4.7,SNR=2.6
VNDA Vanda 133.12 166 PKIKP **PKPdf 22 20 06.5 -0.4**

IDC 29 22:02:00.1±2.3, 7°.08S×129°.88E, h129km±27km, mb3.6/1, mb1 3.4/5, mb1mx3.1/39, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/30 Error ellipse: s-maj=39.2km s-min=23.3km az=93.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.32**	**13**	P		Pn		22 03 31.5	+0.5
	1.1nm,0.3s,baz=148,slow=6.7,SNR=15								
SIJI				S		Sn		22 04 37.8	-4.2
	1.5nm,0.3s,baz=233,slow=22,SNR=1.8								
BATI	**Baumata**	**6.89**	**243**	P		Pn		22 03 38.1	-0.5
	9.9nm,0.3s,baz=97,slow=1.9,SNR=8.7								
BATI				S		Sn		22 04 50.6	-5.1
	3.0nm,0.3s,baz=164,slow=21,SNR=2.0								
WRA	**Warramunga Arr**	**13.50**	**162**	P		Pn		22 05 05.5	-1.1
	0.2nm,0.3s,baz=356,slow=15,SNR=9.7								
WRA				S		Sn		22 07 27.0	-8.6
	0.8nm,0.3s,baz=334,slow=22,SNR=9.9								
ASAR	**Alice Springs**	**16.94**	**167**	P		Pn		22 05 51.0	+1.5
	0.1nm,0.3s,baz=342,slow=9.1,SNR=4.1								
ASAR				S		Sn		22 08 53.0	-5.5
	0.2nm,0.3s,baz=350,slow=24,SNR=6.6								
DZM	**Mont Dzumac**	**38.26**	**117**	LR		LR		22 25 30.2	
	comp=Z,83nm,19.3s,baz=52,slow=37								
MKAR	**Makanchi Array**	**68.23**	**327**	P		P		22 12 46.8	-0.1
	0.8nm,0.5s,baz=122,slow=7.5,SNR=6.9								

MAN 29 22:36:50.7, 9°.99N×121°.94E, h28km, mb4.1, ML2.9, MS2.5, Sulu Sea

*IDC **29** 22:44:02.7±2.8, 50°.44N×130°.13W, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.4/33, mbtmp3.2/5, ML3.3/4, MS3.3/5, Ms1 3.3/5, ms1mx2.9/35, Error ellipse: s-maj=45.6km s-min=19.5km az=78.0*

*PGC **29** 22:44:02.7±2.3, 50°.31N×130°.25W, h10km, MLSn2.9/18, Mw3.5/18, 205km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 29 22:44:01.3±2.8, 50°.38N±0°.06×130°.18W±0°.05, h4km±18km, n44, σ1.46/50, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.33**	**78**	Pn		Pn		22 44 25.8	-0.9
HOLB						Sn		22 44 42.4	-1.6
PACB	**Port Alice, BC**	**1.72**	**87**	Pn		Pn		22 44 31.0	-0.9
PACB						Sn		22 44 51.4	-2.9
PHC	**Port Hardy**	**1.78**	**78**	Pn		Pn		22 44 32.4	-0.4
PHC						Sn		22 44 54.1	-1.8
MAYB	**Maynard**	**1.92**	**88**	Pn		Pn		22 44 34.2	-0.7
HG4B	**Hotspring**	**2.02**	**342**	Pn		Pn		22 44 34.8	-1.3
HG4B						Sn		22 44 59.5	-2.2
EDB	**Eliza Dome**	**2.03**	**103**	Pn		Pn		22 44 35.2	-1.0
EDB				Sn		Sn		22 44 58.9	-3.1
TLCB	**Telegraph Cove**	**2.14**	**84**	Sn		Sn		22 45 02.7	-2.0
BBB	**Bella Bella**	**2.22**	**35**	Pn		Pn		22 44 39.0	+0.1
	6.7nm,0.3s,baz=225,slow=5.7,SNR=49								
BBB				LR		LR		22 45 37.0	
	comp=Z,297nm,21.8s,baz=192,slow=44								
BBB	**Bella Bella**	**2.22**	**35**	Pn		Pn		22 44 39.0	+0.1
BBB				Sn		Sn		22 45 05.0	-1.7
WOSB	**Woss**	**2.32**	**94**	Pn		Pn		22 44 40.2	-0.1
BNB	**Barry Inlet**	**2.41**	**336**	Pn		Pn		22 44 40.5	-1.0
BNB				Sn		Sn		22 45 09.4	-2.0
GDR	**Gold River**	**2.74**	**101**	Pn		Pn		22 44 45.8	-0.1
HG1B	**Mitchell Dam**	**2.83**	**335**	Pn		Pn		22 44 46.3	-0.9
BUTB	**Butedale**	**2.89**	**21**	Pn		Pn		22 44 49.1	+1.0
BUTB				Sn		Sn		22 45 23.4	+0.1
BNKB	**Banks Island**	**2.96**	**3**	Pn		Pn		22 44 48.7	-0.4
BNKB				Sn		Sn		22 45 23.7	-1.3
MOBC	**Moresby Island**	**2.98**	**339**	Pn		Pn		22 44 49.1	-0.3
MOBC				Sn		Sn		22 45 24.2	-1.3
CBB	**Campbell River**	**3.11**	**95**	Pn		Pn		22 44 51.0	-0.1
CBB				Sn		Sn		22 45 27.0	-1.7
BNAB	**Bonilla**	**3.13**	**355**	Pn		Pn		22 44 50.9	-0.4
BNAB				Sn		Sn		22 45 27.1	-1.9
BTB	**Buttle Lake**	**3.15**	**105**	Pn		Pn		22 44 51.7	0.0
BTB				Sn		Sn		22 45 28.7	-1.1
DIB	**Dawson Inlet,**	**3.16**	**334**	Pn		Pn		22 44 52.1	+0.3
DIB				Sn		Sn		22 45 27.7	-2.3
H02S1	**DAWSON INLET T**	**3.16**	**334**	Pn		Pn		22 44 50.7	-1.1
	SNR=81								
H02S1				Sn		Sn		22 45 29.0	-0.9
HWKB	**Hawksbury Isla**	**3.28**	**11**	Sn		Sn		22 45 31.5	-1.5
OZB	**Mount Ozzard**	**3.36**	**113**	Sn		Sn		22 45 32.7	-2.2
GRNB	**Grenville Isla**	**3.47**	**2**	Pn		Pn		22 44 56.1	0.0
GRNB				Sn		Sn		22 45 36.0	-1.6
TXB	**Texada**	**3.76**	**98**	Pn		Pn		22 44 59.9	-0.2
MGB	**Mount Grey**	**3.82**	**109**	Pn		Pn		22 45 01.1	+0.2
SHB	**Sechelt**	**4.14**	**99**	Pn		Pn		22 45 05.9	+0.5
UBRB	**Upper Baezaeko**	**4.55**	**54**	Pn		Pn		22 45 13.0	+2.0
LLLB	**Lillooet**	**5.30**	**84**	Pn		Pn		22 45 21.4	+0.2
FSB	**Fort Saint Jam**	**5.44**	**39**	Pn		Pn		22 45 23.2	+0.1
YBH	**Yreka Blue Hor**	**10.08**	**146**	LR		LR		22 49 54.6
	comp=Z,146nm,20.1s,baz=6.0,slow=35								
NVAR	**Mina Array Bea**	**14.63**	**140**	Pn		P		**22 47 34.3**	**-1.4**
	0.1nm,0.3s,baz=305,slow=14,SNR=2.4								
KDAK	**Kodiak Island**	**15.04**	**308**	LR		LR		22 51 47.9
	comp=Z,155nm,20.6s,baz=38,slow=31								
PDAR	**Pinedale Array**	**16.06**	**110**	Pn		Pn		**22 47 50.7**	**+2.6**
	0.0nm,0.3s,baz=308,slow=8.7,SNR=3.8								
ILAR	**Eielson Array**	**16.89**	**335**	Pn		Pn		**22 47 59.2**	**+1.0**
	0.0nm,0.3s,baz=156,slow=9.7,SNR=2.6								
TXAR	**Lajitas Array**	**29.00**	**126**	P		P		**22 50 05.1**	**+3.0**
	0.5nm,0.9s,baz=329,slow=8.8,SNR=4.3								
SCHQ	**Schefferville**	**37.55**	**58**	LR		LR		23 06 51.2
	comp=Z,60nm,19.7s,baz=162,slow=36								
H11N2	**WAKE ISLAND Hy**	**57.84**	**262**	T		T		23 56 27.0
	baz=42,slow=76,SNR=63								
H11N3	**WAKE ISLAND Hy**	**57.84**	**262**	T		T		23 56 25.7
	baz=42,slow=76,SNR=54								
H11N1	**WAKE ISLAND Hy**	**57.86**	**262**	T		T		23 56 26.6
	baz=42,slow=76,SNR=45								
H11S1	**WAKE ISLAND Hy**	**58.87**	**261**	T		T		23 57 53.1
	baz=34,slow=75,SNR=5.4								
H11S2	**WAKE ISLAND Hy**	**58.88**	**261**	T		T		23 57 47.2
	baz=34,slow=75,SNR=6.4								
H11S3	**WAKE ISLAND Hy**	**58.89**	**261**	T		T		23 57 45.8
	baz=34,slow=75,SNR=5.8								
FINES	**FINESS Array B**	**66.91**	**12**	LR		LR		23 23 50.8
	comp=Z,24nm,18.3s,baz=56,slow=36								

*OSPL **29** 23:04:14.6±0.3, 17°.75N×67°.42W, h29km±2km, ML2.0*
*RSPR **29** 23:04:15.0, 17°.91N×67°.65W, h31km±5km, MD2.9/7*
*NEIC **29** 23:04:15.3±2.2, 17°.93N±0°.06×67°.54W±0°.02, h29km±7km, Error ellipse: s-maj=8.5km s-min=2.8km az=187.0*

ISC 29 23:04:15.0±1.5, 17°.93N±0°.07×67°.53W±0°.04, h28km±11km, n37, σ0.62/47, 6C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.46**	**7**	‖ *e*P		**Pb**		**23 04 24.2**	**-0.5**
IDE	**Isla Desecheo**	**0.46**	**7**	*e*S		**Sb**		**23 04 31.7**	**+0.4**
IDE	**Isla Desecheo**	**0.46**	**7**			**Pb**		**23 04 24.2**	**-0.5**
IDE						**Sb**		**23 04 31.7**	**+0.4**
MLPR	**Magueyes Islan**	**0.47**	**85**			**Pb**		**23 04 23.2**	**-1.7**
MLPR				IAML				23 04 31.5
	comp=N,172nm,0.5s								
MLPR				IAML				23 04 33.2
	comp=E,125nm,0.3s								
MPR	**Mayaguez**	**0.47**	**53**			**Pb**		**23 04 24.5**	**-0.4**
MPR				IAML				23 04 32.9
	comp=N,242nm,0.5s								
MPR	**Mayaguez**	**0.47**	**53**	*i* P		**Pb**		**23 04 24.7**	**-0.2**
MPR				*e*S		**Sb**		**23 04 32.1**	**+0.5**
MPR				IAML				23 04 36.2
	comp=Z,76nm,0.1s								
LSP	**Las Mesas**	**0.49**	**60**	‖ *e*P		**Pb**		**23 04 25.2**	**0.0**
LSP	**Las Mesas**	**0.49**	**60**	*e*S		**Sn**		**23 04 33.7**	**-0.2**
LSP	**Las Mesas**	**0.49**	**60**			**Pb**		**23 04 25.2**	**0.0**
LSP						**Sn**		**23 04 33.7**	**-0.2**
GBPR	**Guanica, Bosqu**	**0.62**	**85**	‖ *e*P		**Pb**		**23 04 27.4**	**0.0**
GBPR	**Guanica, Bosqu**	**0.62**	**85**			**Pb**		**23 04 27.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.67**	**37**	↑ *e*P		**Pb**		**23 04 27.8**	**-0.5**
AGPR	**Aguadilla, PR**	**0.67**	**37**			**Pb**		**23 04 27.8**	**-0.5**
AGPR						**Sb**		**23 04 38.1**	**+0.8**
AGPR	**Aguadilla, PR**	**0.67**	**37**	IAML				23 04 40.6
	comp=E,98nm,0.4s								
AGPR				IAML				23 04 41.2
	comp=N,130nm,0.5s								
AGPR	**Aguadilla, PR**	**0.67**	**37**	*i* P		**Pb**		**23 04 28.1**	**-0.1**
AGPR				*e*S		**Sn**		**23 04 38.2**	**-0.1**
AGPR				IAML				23 04 40.3
	comp=Z,68nm,1.2s								
AOPR	**Arecibo Observ**	**0.85**	**60**	‖ *e*P		**Pn**		**23 04 30.7**	**-0.5**
AOPR	**Arecibo Observ**	**0.85**	**60**	*e*S		**Sb**		**23 04 42.8**	**+0.4**
AOPR	**Arecibo Observ**	**0.85**	**60**			**Pn**		**23 04 30.7**	**-0.5**
AOPR						**Sb**		**23 04 42.8**	**+0.4**
OBIP	**Obispado Ponce**	**0.89**	**82**	↑ *e*P		**Pn**		**23 04 31.6**	**-0.1**
OBIP	**Obispado Ponce**	**0.89**	**82**	*e*S		**Sb**		**23 04 44.0**	**+0.6**
OBIP	**Obispado Ponce**	**0.89**	**82**			**Pn**		**23 04 31.6**	**-0.1**
OBIP						**Sb**		**23 04 44.0**	**+0.6**
CELP	**Cerrillos**	**0.92**	**81**	↑ *e*P		**Pn**		**23 04 32.1**	**-0.1**
CELP	**Cerrillos**	**0.92**	**81**	*e*S		**Sb**		**23 04 44.6**	**+0.3**
CELP	**Cerrillos**	**0.92**	**81**			**Pn**		**23 04 32.1**	**-0.1**
CELP						**Sb**		**23 04 44.6**	**+0.3**
PCDR	**Punta Cana, DR**	**1.00**	**306**	Pn		**Pn**		**23 04 32.7**	**-0.4**
PCDR				IAML				23 04 39.0
	comp=E,63nm,1.4s								
PCDR				IAML				23 04 57.2
	comp=N,138nm,1.9s								
PCDR	**Punta Cana, DR**	**1.00**	**306**	*i* P		**Pb**		**23 04 33.9**	**+0.2**
EMPR	**Esperanza - Ma**	**1.10**	**60**	↑ *e*P		**Pn**		**23 04 34.0**	**-0.6**
EMPR	**Esperanza - Ma**	**1.10**	**60**	*e*S		**Sn**		**23 04 48.7**	**-0.2**
EMPR	**Esperanza - Ma**	**1.10**	**60**			**Pb**		**23 04 35.2**	**-0.2**
EMPR						**Sb**		**23 04 50.3**	**+0.9**
EMPR				IAML				23 04 56.4
	comp=E,118nm,0.6s								
GCPR	**Guaynabo City**	**1.43**	**74**	Pn		**Pn**		**23 04 40.1**	**+1.0**
GCPR						**Sb**		**23 04 59.9**	**+1.0**
GCPR				IAML				23 05 04.0
	comp=E,26nm,1.3s								
PDPR	**Patillas Dam,**	**1.44**	**86**	Pn		**Pb**		**23 04 41.0**	**-0.3**
PDPR				IAML				23 05 22.1
	comp=E,41nm,1.0s								
HUMP	**Col San Antoni**	**1.62**	**82**	Pn		**Pb**		**23 04 43.8**	**-0.4**
HUMP				IAML				23 05 10.5
	comp=E,21nm,0.3s								
HUMP				IAML				23 05 11.8
	comp=N,21nm,0.2s								
CBYP	**Canovanas**	**1.63**	**78**	Pn		**Pb**		**23 04 43.6**	**-0.9**
MTP	**Monte Pirata**	**1.89**	**85**	‖ *e*P		**Pn**		**23 04 45.1**	**-0.4**
MTP	**Monte Pirata**	**1.89**	**85**	*e*S		**Sn**		**23 05 09.1**	**+0.7**
MTP	**Monte Pirata**	**1.89**	**85**			**Pn**		**23 04 47.0**	**+1.5**

Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHC	**Mount Hamilton**	**0.09**	**54**		Pg	23 07 36.5	-0.5
SCCB	**Santa Clara Co**	**0.11**	**268**		Pg	23 07 36.5	-0.5
GHS	**Gilroy Hot Spr**	**0.30**	**131**		Pg	23 07 38.6	-1.1
WENL	**Wente Vineyard**	**0.33**	**356**		Pg	23 07 39.6	-0.6
CMPM	**Mikes Peak**	**0.33**	**78**		Pg	23 07 38.8	-1.4
COSM	**Mount Oso**	**0.36**	**52**		Pg	23 07 39.3	-1.4
JRSC	**Jasper Ridge**	**0.42**	**286**		Pg	23 07 41.5	-0.2
C055	**Cottonwood Ave**	**0.47**	**320**		Pb	23 07 42.5	-0.2
HSFM	**Saint Francis**	**0.51**	**159**		Pg	23 07 43.9	+0.5
SAO	**San Andreas Ge**	**0.57**	**157**		Pg	23 07 44.7	+0.3
CMCM	**Mills College**	**0.60**	**324**		Pg	23 07 45.4	+0.3
BDM	**Black Diamond**	**0.67**	**351**		Pb	23 07 45.9	-0.1
MOBB	**Monterey Bay O**	**0.69**	**210**		Pn	23 07 47.4	-0.2
BKS	**Berkeley--Byer**	**0.71**	**326**		Pb	23 07 46.7	0.0
BL67	**Building 67, L**	**0.72**	**325**		Pb	23 07 47.0	+0.1
VAK	**Adit at Lawren**	**0.72**	**325**		Pb	23 07 46.9	+0.1
VAK					Sn	23 07 58.0	-0.5
BRK	**Berkeley--Havi**	**0.72**	**324**		Pb	23 07 46.8	0.0
SCZ	**Santa Cruz**	**0.74**	**159**		Pb	23 07 46.8	-0.4
SCZ					Sg	23 07 57.3	-0.2
RFSB	**Richmond Field**	**0.79**	**322**		Pb	23 07 48.2	+0.1
BJCM	**Johnson Can.**	**0.79**	**160**		Pb	23 07 47.6	-0.4
HERB	**Hercules**	**0.83**	**330**		Pb	23 07 48.9	+0.1
HAST	**Hastings Reser**	**0.91**	**171**		Pb	23 07 50.1	-0.1
BSMM	**Soledad Missio**	**0.94**	**165**		Pb	23 07 50.4	-0.2
BBNM	**San Benito**	**0.94**	**146**		Pb	23 07 50.4	-0.2
LRV	**Little Rabbit**	**1.04**	**146**		Pb	23 07 51.9	-0.3
FARB	**Farallon Islan**	**1.09**	**292**		Pn	23 07 52.0	-1.1
CVS	**Carmenet Viney**	**1.20**	**331**		Pn	23 07 54.5	-0.2
MCCM	**Marconi Confer**	**1.25**	**313**		Pn	23 07 54.0	-1.3
MCCM	**Marconi Confer**	**1.25**	**313**	IAML		23 08 18.9	
	comp=N,387nm,0.7s						
MCCM				IAML		23 08 19.5	
	comp=E,475nm,0.7s						
CMB	**Columbia Colle**	**1.30**	**55**		Pn	23 07 55.7	-0.4
CMB	**Columbia Colle**	**1.30**	**55**	IAML		23 08 13.3	
	comp=N,353nm,0.5s						
CMB				IAML		23 08 13.3	
	comp=E,292nm,0.8s						
PMPB	**Monarch Peak**	**1.31**	**145**		Pn	23 07 55.8	-0.4
PAPM	**Alder Peak**	**1.41**	**168**		Pn	23 07 57.4	-0.3
PDRM	**Domengine Ranc**	**1.45**	**131**		Pn	23 07 57.5	-0.6
PKD	**Bear Valley Ra**	**1.65**	**144**		Pn	23 08 00.3	-0.6
FTR	**Fort Ross**	**1.67**	**318**		Pn	23 08 00.6	-0.7
MNRC	**McLaughlin Min**	**1.68**	**341**		Pn	23 08 01.3	-0.1
GDXM	**Geysers**	**1.73**	**331**		Pn	23 08 01.4	-0.6
GSGM	**Seigler Mounta**	**1.75**	**334**		Pn	23 08 02.3	+0.1
AFDM	**Forest Hills D**	**1.76**	**20**	Pn	Pn	23 08 01.7	-0.7
RAMR	**Ramage Ranch**	**1.79**	**157**		Pn	23 08 02.5	-0.3
SUTB	**Sutter Butte**	**1.94**	**359**		Pn	23 08 03.9	-0.9
HOPS	**Hopland Field**	**2.00**	**328**		Pn	23 08 05.1	-0.6
MDPB	**Devils Postpil**	**2.14**	**80**		Pn	23 08 08.6	+0.8
MDPB				IAML		23 08 40.5	
	comp=E,179nm,0.5s						
MDPB				IAML		23 08 40.8	
	comp=N,177nm,0.7s						
MRDM	**Red Cones**	**2.15**	**81**		Pn	23 08 09.5	+1.5
RUBR	**Rubicon Trail**	**2.15**	**35**	Pn	Pn	23 08 08.3	+0.4
RUBR				IAML		23 08 53.9	
	comp=E,179nm,0.7s						
MDCM	**Deadman Creek**	**2.18**	**78**		Pn	23 08 09.8	+1.4
WAKR	**Walker**	**2.18**	**56**		Pn	23 08 09.2	+0.8
WAKR				IAML		23 08 41.8	
	comp=N,130nm,0.7s						
HELL	**Mitchell Peak,**	**2.25**	**105**		Pn	23 08 08.7	-0.5
ORV	**Oroville**	**2.27**	**4**	Pn	Pn	23 08 08.8	-0.6
GNAM	**Navarro Ridge**	**2.42**	**322**		Pn	23 08 11.0	-0.5
PNTR	**Pine Nut**	**2.46**	**42**		Pn	23 08 13.3	+1.1
MTUM	**Tungsten Hills**	**2.52**	**88**		Pn	23 08 15.0	+1.9
YERR	**Yerington**	**2.59**	**48**		Pn	23 08 15.1	+1.1
KCPM	**Cahto Peak**	**2.80**	**329**	Pn	Pn	23 08 17.3	+0.5
KCPM				IAML		23 08 38.5	
	comp=E,46nm,4.5s						
KCPM				IAML		23 08 47.6	
	comp=N,35nm,1.9s						
RYN	**Ryan**	**2.86**	**61**		Pn	23 08 18.3	+0.6
RYN				IAML		23 09 04.3	
	comp=E,68nm,0.6s						
RYN				IAML		23 09 05.9	
	comp=N,60nm,0.7s						
NVAR	**Mina Array Bea**	**2.94**	**66**	Pn	Pn	23 08 19.5	+0.7
PAHR	**Pah Rah Range**	**3.03**	**37**	Pn	Pn	23 08 21.2	+1.2
PAHR				IAML		23 09 10.7	
	comp=N,33nm,1.0s						
NV11	**Mina Array Sit**	**3.05**	**67**		Pn	23 08 21.1	+0.8
NV11				IAML		23 09 11.4	
	comp=N,34nm,1.6s						
ISA	**Isabella, Lake**	**3.09**	**121**	Pn	Pn	23 08 20.5	-0.2
ISA				IAML		23 09 16.8	
	comp=E,30nm,0.6s						
ISA				IAML		23 09 18.0	
	comp=N,30nm,0.8s						
WDC	**Whiskeytown Da**	**3.34**	**349**	Pn	Pn	23 08 25.3	+1.1
KVN	**Kaiserville**	**3.36**	**57**	Pn	Pn	23 08 25.2	+0.7
KVN				IAML		23 09 19.7	
	comp=N,34nm,0.6s						
KVN				IAML		23 09 21.3	
	comp=E,30nm,1.4s						
MWC	**Mount Wilson**	**4.28**	**135**	Pn	Pn	23 08 37.6	+0.4
MWC				IAML		23 09 59.2	
	comp=N,14nm,3.6s						
MWC				IAML		23 11 21.4	
	comp=E,15nm,0.1s						
TPNV	**Topopah Spring**	**4.39**	**93**		Pn	23 08 40.4	+1.6
TPNV				IAML		23 09 57.8	
	comp=E,24nm,1.1s						
TPNV				IAML		23 09 57.8	
	comp=E,16nm,1.2s						
GSC	**Goldstone, Bar**	**4.44**	**115**	Pn	Pn	23 08 39.4	0.0
GSC				IAML		23 09 40.2	
	comp=E,18nm,0.1s						
GSC				IAML		23 09 48.5	
	comp=N,13nm,0.1s						
KRMB	**Red Mountain**	**4.55**	**339**	Pn	Pn	23 08 43.6	+2.8
KBO	**Bosley Butte**	**5.28**	**339**	Pn	Pn	23 08 53.4	+2.6
PFO	**Pinyon Flats O**	**5.65**	**129**	Pn	Pn	23 08 57.5	+1.5
ELK	**Elko**	**6.12**	**54**	Pn	Pn	23 09 04.7	+2.2

PGC 29 23:30:03.4±1.2, 50°.37N×130°.23W, h10km, MLSn3.2/6, Mw3.8/6, 202km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.37**	**78**	Pn	Pn	23 30 26.3	-2.3
HOLB				Sn	Sb	23 30 43.0	-3.7
PACB	**Port Alice, BC**	**1.75**	**87**	Pn	Pn	23 30 31.3	-2.5
PACB				Sn	Sn	23 30 51.5	-4.6
PHC	**Port Hardy**	**1.82**	**78**	Pn	Pn	23 30 32.8	-1.9
PHC				Sn	Sn	23 30 53.9	-3.9
MAYB	**Maynard**	**1.96**	**88**	Pn	Pn	23 30 34.7	-2.1
MAYB				Sn	Sn	23 30 56.6	-4.8
BBB	**Bella Bella**	**2.25**	**35**	Pn	Pn	23 30 39.2	-1.4
BBB				Sn	Sn	23 31 04.5	-4.0
WOSB	**Woss**	**2.36**	**94**	Pn	Pn	23 30 41.1	-1.1
WOSB				Sn	Sn	23 31 08.2	-3.0
BNB	**Barry Inlet**	**2.41**	**337**	Pn	Pn	23 30 40.7	-2.1

*PGC **29** 23:30:55.9±1.0, 50°.40N×130°.25W, h10km, MLSn3.5/28, Mw4.4, 202km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **29** 23:30:56.6±1.6, 50°.50N×130°.07W, h0km, mb3.9/3, mb1 3.9/11, mb1mx3.7/69, mbtmp3.7/11, ML3.6/8, MS3.5/15, Ms1 3.5/15, ms1mx3.3/64, Error ellipse: s-maj=25.8km s-min=10.9km az=78.0*

*NEIC **29** 23:30:58.3±2.0, 50°.65N±0°.08×129°.9W±0°.1, h10km±1km, mb4.0/62, ML3.4/14, Mwr4.1(OTT), Error ellipse: s-maj=16.3km s-min=5.7km az=217.0*

ISC 29 23:30:57.2±2.9, 50°.51N±0°.04×130°.08W±0°.04, h13km±20km, n193, σ1$58/207, mb4.1/7, MS3.5/6, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.25**	**83**	Pn	**Pb**	**23 31 18.8**	**-1.9**
HOLB				Sn	**Sn**	**23 31 36.0**	**-1.1**
PACB	**Port Alice, BC**	**1.66**	**92**	Pn	**Pn**	**23 31 23.9**	**-2.1**
PACB				Sn	**Sn**	**23 31 44.6**	**-2.5**
PACB	**Port Alice, BC**	**1.66**	**92**	Pn	**Pn**	**23 31 23.9**	**-2.1**
PACB				Sn	**Sn**	**23 31 44.6**	**-2.5**
PHC	**Port Hardy**	**1.70**	**82**	Pn	**Pn**	**23 31 25.3**	**-1.2**
PHC				Sn	**Sn**	**23 31 46.9**	**-1.3**
MAYB	**Maynard**	**1.86**	**92**	Pn	**Pn**	**23 31 27.0**	**-2.0**
MAYB	**Maynard**	**1.86**	**92**	Pn	**Pn**	**23 31 27.0**	**-2.0**
HG4B	**Hotspring**	**1.92**	**339**	Pn	**Pn**	**23 31 26.9**	**-2.6**
HG4B				Sn	**Sn**	**23 31 51.4**	**-2.2**
HG4B	**Hotspring**	**1.92**	**339**	Pn	**Pn**	**23 31 26.9**	**-2.6**
HG4B				Sn	**Sn**	**23 31 51.4**	**-2.2**
EDB	**Eliza Dome**	**2.01**	**107**	Pn	**Pn**	**23 31 28.5**	**-2.3**
EDB				Sn	**Sn**	**23 31 52.3**	**-3.5**
EDB	**Eliza Dome**	**2.01**	**107**	Pn	**Pn**	**23 31 28.5**	**-2.3**
EDB				Sn	**Sn**	**23 31 52.3**	**-3.5**
TLCB	**Telegraph Cove**	**2.07**	**88**	Pn	**Pn**	**23 31 30.4**	**-1.3**
TLCB				Sn	**Sn**	**23 31 56.0**	**-1.3**
TLCB	**Telegraph Cove**	**2.07**	**88**	Pn	**Pn**	**23 31 30.4**	**-1.3**
TLCB				Sn	**Sn**	**23 31 56.0**	**-1.3**
BBB	**Bella Bella**	**2.08**	**36**	Pn	**Pn**	**23 31 31.6**	**-0.2**
	45nm,0.3s,baz=237,slow=6.5,SNR=253						
BBB				Sn	**Sb**	**23 31 57.1**	**-3.4**
	61nm,0.3s,baz=321,slow=19,SNR=9.9						
BBB	**Bella Bella**	**2.08**	**36**	Pn	**Pn**	**23 31 31.6**	**-0.2**
BBB				Sn	**Sb**	**23 31 56.7**	**-3.8**
BBB	**Bella Bella**	**2.08**	**36**	Pn	**Pn**	**23 31 31.5**	**-0.3**
BBB				IAML		23 32 15.4	
	comp=E,292nm,0.7s						
WOSB	**Woss**	**2.28**	**98**	Pn	**Pn**	**23 31 33.1**	**-1.5**
WOSB	**Woss**	**2.28**	**98**	Pn	**Pn**	**23 31 33.1**	**-1.5**
BNB	**Barry Inlet**	**2.31**	**334**	Pn	**Pn**	**23 31 32.5**	**-2.6**
BNB	**Barry Inlet**	**2.31**	**334**	Pn	**Pn**	**23 31 32.5**	**-2.6**
NCRB	**Newcastle Ridg**	**2.57**	**91**	Pn	**Pn**	**23 31 37.5**	**-1.2**
GDR	**Gold River**	**2.71**	**104**	Pn	**Pn**	**23 31 38.3**	**-2.1**
HG1B	**Mitchell Dam**	**2.74**	**333**	Sn	**Sn**	**23 32 11.3**	**-2.5**
BUTB	**Butedale**	**2.74**	**21**	Pn	**Pn**	**23 31 41.2**	**+0.2**
BUTB				Sn	**Sn**	**23 32 12.6**	**-1.6**
BNKB	**Banks Island**	**2.83**	**2**	Pn	**Pn**	**23 31 41.2**	**-0.8**
BNKB				Sn	**Sn**	**23 32 13.8**	**-2.2**
MOBC	**Moresby Island**	**2.88**	**337**	Pn	**Pn**	**23 31 41.4**	**-1.5**
MOBC				Sn	**Sn**	**23 32 15.8**	**-1.7**
MOBC	**Moresby Island**	**2.88**	**337**	Pn	**Pn**	**23 31 41.2**	**-1.7**
MOBC				IAML		23 32 20.3	
	comp=N,196nm,0.8s						
MOBC				IAML		23 32 21.5	
	comp=E,143nm,0.9s						
BNAB	**Bonilla**	**3.00**	**354**	Pn	**Pn**	**23 31 43.2**	**-1.3**
BNAB				Sn	**Sn**	**23 32 17.9**	**-2.5**
CBB	**Campbell River**	**3.06**	**97**	Pn	**Pn**	**23 31 44.4**	**-1.0**
CBB				Sn	**Sn**	**23 32 19.8**	**-2.0**
DIB	**Dawson Inlet,**	**3.08**	**332**	Pn	**Pn**	**23 31 43.4**	**-2.1**
DIB				Sn	**Sn**	**23 32 18.7**	**-3.4**
DIB	**Dawson Inlet,**	**3.08**	**332**	Pn	**Pn**	**23 31 43.4**	**-2.1**
DIB				IAML		23 32 23.5	
	comp=N,114nm,0.7s						
H02S1	**DAWSON INLET T**	**3.08**	**332**	Pn	**Pn**	**23 31 43.6**	**-1.9**
	SNR=2397						
H02S1				Sn	**Sn**	**23 32 20.6**	**-1.5**
BTB	**Buttle Lake**	**3.12**	**108**	Pn	**Pn**	**23 31 44.9**	**-1.4**
HWKB	**Hawksbury Isla**	**3.14**	**10**	Pn	**Pn**	**23 31 46.1**	**-0.3**
HWKB				Sn	**Sn**	**23 32 23.6**	**-0.3**
GRNB	**Grenville Isla**	**3.34**	**1**	Pn	**Pn**	**23 31 48.7**	**-0.5**
GRNB				Sn	**Sn**	**23 32 27.4**	**-1.3**
OZB	**Mount Ozzard**	**3.36**	**116**	Pn	**Pn**	**23 31 48.4**	**-1.0**
KITB	**Kitimat**	**3.68**	**13**	Pn	**Pn**	**23 31 54.4**	**+0.6**
KITB				Sn	**Sn**	**23 32 37.5**	**+0.5**
TXB	**Texada**	**3.72**	**100**	Pn	**Pn**	**23 31 53.2**	**-1.3**
MGB	**Mount Grey**	**3.81**	**111**	Pn	**Pn**	**23 31 55.1**	**-0.6**
RUBB	**Prince Rupert**	**3.82**	**358**	Pn	**Pn**	**23 31 55.6**	**-0.1**
RUBB				Sn	**Sn**	**23 32 40.0**	**-0.5**
RUBB	**Prince Rupert**	**3.82**	**358**	Pn	**Pn**	**23 31 55.2**	**-0.5**
RUBB				IAML		23 33 09.8	
	comp=N,51nm,1.7s						
RUBB				IAML		23 33 11.2	
	comp=E,93nm,2.1s						
NDB	**Naden**	**3.87**	**334**	Pn	**Pn**	**23 31 55.8**	**-0.7**
SHB	**Sechelt**	**4.10**	**101**	Pn	**Pn**	**23 31 58.7**	**-1.0**
SHB				Sn	**Sn**	**23 32 46.3**	**-1.3**
NLLB	**Nanaimo Lost L**	**4.14**	**106**	Pn	**Pn**	**23 32 00.2**	**0.0**
NLLB				Sn	**Sn**	**23 32 46.8**	**-1.7**
PFB	**Port Renfrew**	**4.15**	**116**	Pn	**Pn**	**23 31 59.6**	**-0.7**
LIB	**Langara Island**	**4.17**	**335**	Pn	**Pn**	**23 31 59.3**	**-1.2**
UBRB	**Upper Baezaeko**	**4.42**	**55**	Pn	**Pn**	**23 32 05.7**	**+1.6**
WPB	**Watts Point**	**4.51**	**98**	Pn	**Pn**	**23 32 04.3**	**-0.9**
GOBB	**Galiano Island**	**4.54**	**108**	Pn	**Pn**	**23 32 05.4**	**-0.2**
WSLR	**Whistler**	**4.60**	**92**	Pn	**Pn**	**23 32 06.3**	**-0.3**
PGC	**Sidney**	**4.70**	**111**	Pn	**Pn**	**23 32 07.0**	**-0.8**
PGC	**Sidney**	**4.70**	**111**	Pn	**Pn**	**23 32 08.4**	**+0.6**
PGC				IAML		23 34 57.8	
	comp=E,23nm,4.2s						
HNBB	**Haney**	**5.00**	**101**	Pn	**Pn**	**23 32 12.1**	**+0.1**
LLLB	**Lillooet**	**5.23**	**86**	Pn	**Pn**	**23 32 15.2**	**+0.1**
LLLB	**Lillooet**	**5.23**	**86**	Pn	**Pn**	**23 32 15.2**	**+0.1**
LLLB				IAML		23 33 59.6	
	comp=E,42nm,1.5s						
CRAG	**Craig**	**5.29**	**341**	Pn	**Pn**	**23 32 15.0**	**-1.0**
FSB	**Fort Saint Jam**	**5.30**	**39**	Pn	**Pn**	**23 32 17.7**	**+1.6**
VDB	**Vedder Mountai**	**5.38**	**103**	Pn	**Pn**	**23 32 17.5**	**+0.4**
A05A	**Maple Falls**	**5.40**	**103**	Pn	**Pn**	**23 32 17.6**	**+0.1**
MBW	**Mount Baker**	**5.59**	**105**	Pn	**Pn**	**23 32 20.7**	**+0.5**
JCW	**Jim Creek**	**5.81**	**110**	Pn	**Pn**	**23 32 23.6**	**+0.5**
B06A	**Marblemount**	**5.94**	**106**		**Pn**	**23 32 25.6**	**+0.7**
RPW	**Rockport**	**5.95**	**107**	Pn	**Pn**	**23 32 25.9**	**+0.8**
FMW	**Mount Fremont**	**6.62**	**120**	Pn	**Pn**	**23 32 35.0**	**+0.7**
LTY	**Liberty**	**7.01**	**114**	Pn	**Pn**	**23 32 40.6**	**+1.1**
SIT	**Sitka**	**7.25**	**337**	Pn	**Pn**	**23 32 42.4**	**-0.5**
BMBC	**Bull Mountain**	**7.30**	**38**	Pn	**Pn**	**23 32 45.6**	**+1.9**
B08A	**Colville Reser**	**7.33**	**103**	Pn	**Pn**	**23 32 44.0**	**0.0**
B08A	**Colville Reser**	**7.33**	**103**	Pn	**Pn**	**23 32 44.2**	**+0.2**
NBC4	**NorthernBC 4**	**7.68**	**44**	Pn	**Pn**	**23 32 50.4**	**+1.7**
H04A	**Detroit Lake**	**7.90**	**135**	Pn	**Pn**	**23 32 55.0**	**+3.2**
DLBC	**Dease Lake**	**7.94**	**0**	Pn	**Pn**	**23 32 54.0**	**+1.6**
	comp=E,0.7nm,0.3s,baz=195,slow=14,SNR=4.5						
DLBC				Sn	**Sn**	**23 34 23.4**	**+1.3**
	comp=E,0.5nm,0.3s,baz=180,slow=17,SNR=1.9						
DLBC				Lg	Lg	23 35 12.4	
	baz=268,slow=22,SNR=1.6						
DLBC	**Dease Lake**	**7.94**	**0**	Pn	**Pn**	**23 32 54.3**	**+1.9**
DLBC	**Dease Lake**	**7.94**	**0**	Pn	**Pn**	**23 32 53.8**	**+1.5**
C09A	**Chrisman Ranch**	**8.20**	**105**	Pn	**Pn**	**23 32 56.1**	**+0.2**
NEW	**Newport**	**8.75**	**100**	LR	LR	23 36 02.0	
	comp=E,111nm,18.9s,baz=290,slow=35						
NEW	**Newport**	**8.75**	**100**	Pn	**Pn**	**23 33 04.2**	**+0.8**
E09A	**Wood Farm, Sta**	**8.87**	**112**	Pn	**Pn**	**23 33 07.4**	**+2.3**
YBH	**Yreka Blue Hor**	**10.16**	**147**	LR	LR	23 36 47.5	
	comp=E,584nm,20.5s,baz=333,slow=35						
WHY	**Whitehorse**	**10.52**	**347**	Pn	**Pn**	**23 33 29.7**	**+2.0**
WALA	**Waterton Lakes**	**10.56**	**92**	Pn	**Pn**	**23 33 29.4**	**+1.1**
PLID	**Pearl Lake**	**10.91**	**114**	Pn	**Pn**	**23 33 35.7**	**+2.5**
ISLE	**Juniper Island**	**12.24**	**330**		**Pn**	**23 33 50.5**	**-0.7**
BARN	**Barnard Glacie**	**12.39**	**333**		**Pn**	**23 33 55.1**	**+1.8**
ORV	**Oroville**	**12.51**	**148**	Pn	**Pn**	**23 33 56.7**	**+1.8**
CRQM	**Cirque**	**12.61**	**329**		**Pn**	**23 33 57.1**	**+0.8**
DLMT	**Dillon**	**12.80**	**107**		**Pn**	**23 34 00.1**	**+1.2**
MCMT	**McKenzie Canyo**	**12.92**	**109**	Pn	**Pn**	**23 34 01.7**	**+1.0**
VRDI	**Verde Repeater**	**13.07**	**330**	Pn	**Pn**	**23 34 02.1**	**-0.4**
PAHR	**Pah Rah Range**	**13.17**	**141**	Pn	**Pn**	**23 34 06.2**	**+2.2**
AFDM	**Forest Hills D**	**13.24**	**147**	Pn	**Pn**	**23 34 06.5**	**+1.6**
GLB	**Gilahina Butte**	**13.34**	**330**	Pn	**Pn**	**23 34 07.3**	**+1.2**
EGMT	**Eagleton**	**13.50**	**93**	Pn	**Pn**	**23 34 09.4**	**+1.0**
BCAR	**Beaver Creek A**	**14.09**	**338**	Pn	**Pn**	**23 34 17.7**	**+1.4**
YHH	**Holmes Hill**	**14.15**	**106**		**Pn**	**23 34 19.1**	**+1.5**
WAKR	**Walker**	**14.19**	**144**		**Pn**	**23 34 17.8**	**-0.2**
ELK	**Elko**	**14.23**	**128**	LR	LR	23 39 40.5	
	comp=E,152nm,20.1s,baz=314,slow=37						
IMW	**Indian Meadow**	**14.57**	**110**		**Pn**	**23 34 25.2**	**+1.8**
YKA	**Yellowknife Ar**	**14.68**	**29**	Pn	**Pn**	**23 34 21.8**	**-2.5**
	comp=E,0.2nm,0.3s,baz=224,slow=11,SNR=3.0						
YKA				LR	LR	23 40 51.7	
	comp=E,78nm,20.2s,baz=0.0,slow=40						
NVAR	**Mina Array Bea**	**14.69**	**141**	Pn	**Pn**	**23 34 26.3**	**+1.4**
	comp=E,0.5nm,0.3s,baz=324,slow=10,SNR=6.8						
NVAR	**Mina Array Bea**	**14.69**	**141**		**Pn**	**23 34 27.4**	**+2.5**
NV11	**Mina Array Sit**	**14.75**	**140**		**Pn**	**23 34 27.5**	**+1.8**
TPAW	**Teton Pass**	**14.80**	**111**		**Pn**	**23 34 29.2**	**+2.8**
REDW	**Red Top Meadow**	**14.93**	**111**		**Pn**	**23 34 30.9**	**+2.8**
LOHW	**Long Hollow**	**14.94**	**110**		**Pn**	**23 34 31.0**	**+2.9**
RLMT	**Red Lodge**	**14.97**	**103**		**Pn**	**23 34 31.3**	**+2.7**
K27K	**Chicken**	**14.98**	**339**		**Pn**	**23 34 29.3**	**+0.8**
KDAK	**Kodiak Island**	**15.01**	**308**	LR	LR	23 38 49.8	
	comp=E,496nm,19.6s,baz=96,slow=32						
AHID	**Auburn Hatcher**	**15.14**	**113**		**Pn**	**23 34 34.5**	**+3.7**
AHID				IAmb	IAmb	23 34 40.6	
	comp=Z,13nm,1.2s						
SCRK	**Sand Creek**	**15.40**	**336**	Pn	**Pn**	**23 34 36.1**	**+2.1**
SCRK				IAmb	IAmb	23 34 43.4	
	comp=Z,6.1nm,1.2s						
RIDG	**Independent Ri**	**15.43**	**335**	P	**Pn**	**23 34 36.6**	**+2.2**
RIDG				IAmb	IAmb	23 34 51.8	
	comp=Z,8.9nm,1.2s						
TPH	**Tonopah**	**15.44**	**139**		**Pn**	**23 34 36.4**	**+1.5**
EGAK	**Eagle**	**15.44**	**342**	Pn	**Pn**	**23 34 36.6**	**+2.1**
HWUT	**Hardware Ranch**	**15.60**	**118**	Pn	**Pn**	**23 34 39.2**	**+2.2**
HWUT				IAmb	IAmb	23 34 49.2	
	comp=Z,9.0nm,1.4s						
DUG	**Dugway, Tooele**	**15.89**	**124**	Pn	**Pn**	**23 34 43.0**	**+2.3**
R11A	**Troy Canyon, C**	**15.93**	**134**		**Pn**	**23 34 44.0**	**+2.7**
SPR3	**Spring Creek 3**	**16.01**	**130**	Pn	**Pn**	**23 34 45.3**	**+2.9**
BW06	**Boulder Array**	**16.05**	**111**	Pn	**Pn**	**23 34 44.4**	**+1.6**
PD31	**Pinedale Array**	**16.05**	**111**		**Pn**	**23 34 44.3**	**+1.5**
PDAR	**Pinedale Array**	**16.05**	**111**	Pn	**P**	**23 34 45.8**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=310,slow=9.5,SNR=12						
PDAR				LR	LR	23 40 37.3	
	comp=Z,111nm,19.8s,baz=312,slow=36						
PDAR	**Pinedale Array**	**16.05**	**111**	Pn	**Pn**	**23 34 44.1**	**+1.4**
LAO	**LASA Array**	**16.21**	**94**	Pn	**Pn**	**23 34 45.9**	**+1.2**
LAO				IAmb	IAmb	23 34 58.7	
	comp=Z,13nm,1.4s						
MCK	**McKinley**	**16.64**	**330**		**Pn**	**23 34 50.2**	**+0.3**
MCK				IAmb	IAmb	23 34 58.0	
	comp=Z,9.7nm,1.0s						
IL31	**Eielson Array**	**16.80**	**335**		**Pn**	**23 34 51.7**	**-0.1**
ILAR	**Eielson Array**	**16.80**	**335**	Pn	**Pn**	**23 34 52.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=142,slow=12,SNR=7.2						
ILAR				LR	LR	23 40 45.6	
	comp=Z,303nm,21.4s,baz=147,slow=35						
ILAR	**Eielson Array**	**16.80**	**335**	Pn	**Pn**	**23 34 52.1**	**+0.2**
TPNV	**Topopah Spring**	**16.80**	**139**		**Pn**	**23 34 53.3**	**+0.9**
TPNV				IAmb	IAmb	23 35 00.1	
	comp=Z,19nm,1.4s						
TRF	**Thorofare Moun**	**16.90**	**328**	Pn	**Pn**	**23 34 52.6**	**-0.8**
TRF				IAmb	IAmb	23 35 01.8	
	comp=Z,12nm,1.1s						
WRH	**Wood River Hil**	**16.91**	**333**	Pn	**Pn**	**23 34 53.8**	**+0.4**
PRN	**Pahroc Range**	**16.95**	**135**		**Pn**	**23 34 55.3**	**+1.2**
PRN				IAmb	IAmb	23 35 21.8	
	comp=Z,8.0nm,1.2s						
CCB	**Clear Creek Bu**	**16.96**	**333**	P	**Pn**	**23 34 55.1**	**+1.1**
ISA	**Isabella, Lake**	**17.06**	**146**		**Pn**	**23 34 57.3**	**+1.8**
ISA				IAmb	IAmb	23 35 02.8	
	comp=Z,24nm,1.5s						
KTH	**Kantishna Hill**	**17.18**	**327**	Pn	**Pn**	**23 34 57.1**	**+0.3**
KTH				IAmb	IAmb	23 35 03.5	
	comp=Z,19nm,1.3s						
NEA2	**Nenana**	**17.29**	**332**		**Pn**	**23 34 57.9**	**-0.3**
NEA2				IAmb	IAmb	23 35 04.7	
	comp=Z,8.9nm,1.4s						
MDM	**Murphy Dome**	**17.32**	**334**		**Pn**	**23 34 57.4**	**-1.0**
MSU	**Marysvale**	**17.46**	**127**		**Pn**	**23 35 01.1**	**+0.4**
FFC	**Flin Flon**	**17.52**	**65**		**Pn**	**23 35 01.1**	**+0

MOQ	Mont Orford	38.26	75	P		P	23 38 17.4 +0.5
H11N2	WAKE ISLAND Hy	57.92	262	T		T	00 43 21.5
	baz=42,slow=75,SNR=311						
H11N3	WAKE ISLAND Hy	57.92	262	T		T	00 43 16.8
	baz=42,slow=75,SNR=372						
H11N1	WAKE ISLAND Hy	57.94	262	T		T	00 43 22.6
	baz=42,slow=75,SNR=256						
H11S1	WAKE ISLAND Hy	58.95	261	T		T	00 44 34.0
	baz=40,slow=74,SNR=25						
H11S2	WAKE ISLAND Hy	58.96	261	T		T	00 44 37.2
	baz=40,slow=74,SNR=23						
H11S3	WAKE ISLAND Hy	58.97	261	T		T	00 44 34.8
	baz=40,slow=74,SNR=21						
HFS	Hagfors	65.89	19	LR		LR	00 09 18.7
	comp=Z,57nm,18.2s,baz=316,slow=35						
MKAR	Makanchi Array	79.12	338	P		P	23 43 01.5 +0.2

BGR ***29*** *23:41:32.2±0.0, 28°.46S×156°.50E, h34km±3km, Ms5.0*
MOS ***29*** *23:41:38.9±0.9, 25°.30S×154°.11E, h12km, mb5.8/34, MS5.2/9, Error ellipse: s-maj=8.0km s-min=5.3km az=105.6*
BJI ***29*** *23:41:38.4±0.0, 25°.13S×154°.43E, h9km, mB5.6/72, mb5.5/86, Ms5.1/73, Ms7 4.7/66*
IDC ***29*** *23:41:38.3±0.3, 25°.34S×154°.20E, h0km, mb5.4/26, mb1 5.3/31, mb1mx5.3/35, mbtmp5.4/31, ML5.2/4, MS4.7/17, Ms1 4.7/17, ms1mx4.5/24, Error ellipse: s-maj=14.8km s-min=10.5km az=67.0*
NOU ***29*** *23:41:38.7, 25°.35S×154°.28E, h0km, mB5.8/75, Near East Coast of Australia*
NEIC ***29*** *23:41:39.5, 25°.39S×154°.20E, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.34; Mθθ-0.73; Mφφ-0.61; Mrθ0.76; Mrφ0.76; Mθφ0.12; Fault plane solution: M0 1.59000×10^17^ NP1:φs331.78000°, δ38.88000°, λ122.95000°. NP2:φs112.00000°, δ58.22000°, λ66.32000°. Principal axes: T 1.6505, Plg67.0000°, Azm334.0000°; N -0.1249, Plg20.0000°, Azm125.0000°; P -1.5256, Plg10.0000°, Azm219.0000°;*
NEIC ***29*** *23:41:40.4±1.4, 25°.37S±0°.07×154°.23E±0°.07, h9km±1km, mb5.7/92, Ms_20 5.6/518, Mwb5.4/24, Mww5.5, ML5.3(AUST), Mwc5.5(GCMT) Error ellipse: s-maj=11.2km s-min=10.4km az=26.0*
GCMT ***29*** *23:41:43.4±0.1, 25°.18S±0°.01×154°.31E, h12km, MW5.5/154, Moment Tensor Solution. s143,c260; s154,c307; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr2.17±.02; Mθθ-0.77±.02; Mφφ-1.40±.02; Mrθ-0.14±.04; Mrφ1.12±.01; Mθr-0.36±.04; Best double couple: M0 2.24400×10^17^ NP1:φs314.00000°, δ43.00000°, λ77.00000°. NP2:φs151.00000°, δ48.00000°, λ102.00000°. Principal axes: T 2.2280, Plg81.0000°, Azm126.0000°; N 0.0270, Plg9.0000°, Azm324.0000°; P -2.2590, Plg3.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *23:41:43, 25°.13S×154°.36E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.30; Mθθ-0.74; Mφφ-1.56; Mrθ-0.84; Mrφ1.21; Mθr0.60; Fault plane solution: M0 2.58000×10^17^ NP1:φs152.00000°, δ34.00000°, λ103.00000°. NP2:φs317.00000°, δ57.00000°, λ81.00000°. Principal axes: T 2.5372, Plg77.0000°, Azm200.0000°; N 0.0862, Plg7.0000°, Azm322.0000°; P -2.6234, Plg11.0000°, Azm53.0000°;*
NEIC ***29*** *23:41:48, 25°.43S×154°.22E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr2.74; Mθθ-1.05; Mφφ-1.69; Mrθ0.01; Mrφ1.13; Mθr-0.17; Fault plane solution: M0 2.65000×10^17^ NP1:φs321.00000°, δ43.00000°, λ87.00000°. NP2:φs145.00000°, δ46.00000°, λ92.00000°. Principal axes: T 2.7436, Plg88.0000°, Azm104.0000°; N -0.1971, Plg2.0000°, Azm323.0000°; P -2.5465, Plg1.0000°, Azm233.0000°;*
ISC 29 23:41:39.8±0.2, 25°.36S±0°.04×154°.21E±0°.03, h10km, n1266, σ1948/1086, mb5.7/174, MS5.5/306, 82C-62D, Fault plane solution: NP1:φs309.83923°, δ42.06221°, λ44.85334°. NP2:φs183.38867°, δ61.80311°, λ122.60723°. Principal axes: T Plg59.2133°, Azm141.5009°; N Plg28.3547°, Azm346.5706°; P Plg11.0029°, Azm250.5474°; Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	Eidsvold	2.83	269	P	Pn	23 42 24.9	-0.1
	baz=2.8,SNR=1000						
EIDS				S	Sn	23 42 59.5	+0.2
	baz=2.8						
EIDS	Eidsvold	2.83	269		Pn	23 42 25.0	-0.1
RMQ	Roma	5.04	256	P	Pn	23 42 56.2	+0.7
	baz=5.0,SNR=258						
RMQ	Roma	5.04	256		Pn	23 42 55.4	-0.1
ARMA	Armidale	5.53	204	P	Pn	23 43 02.8	+0.5
	baz=5.5,SNR=13						
ARMA	Armidale	5.53	204		Pn	23 43 02.2	-0.1
LHI	Lord Howe Isla	7.47	146	P	Pn	23 43 26.3	-2.6
	baz=7.4,SNR=66						
LHI				S	Sn	23 44 40.0	-14
	baz=7.4						
LHI	Lord Howe Isla	7.47	146		Pn	23 43 26.4	-2.5
LHI	Lord Howe Isla	7.47	146	P	Pn	23 43 26.4	-2.5
	716nm,0.7s						
RIV	Riverview	8.84	197	P	Pn	23 43 49.2	+1.5
	baz=8.8,SNR=5.8						
RIV	Riverview	8.84	197	P	Pn	23 43 48.7	+1.0
CTA	Charters Tower	9.03	304	Pn	Pn	23 43 50.7	+0.4
	5.1nm,0.3s,baz=118,slow=16,SNR=32						
CTA				Sn	Sn	23 45 29.0	-3.1
	11nm,0.3s,baz=102,slow=17,SNR=3.1						
CTA				Lg	Lg	23 46 19.6	
	26nm,0.3s,baz=141,slow=5.0,SNR=5.9						
CTA				LR	LR	23 47 39.3	
	comp=Z,4μm,20.4s,baz=124,slow=40						
CTA	Charters Tower	9.03	304	P	Pn	23 43 51.5	+1.3
	baz=9.1						
CTA	Charters Tower	9.03	304	P	Pn	23 43 50.7	+0.4
CTAO	Charters Tower	9.03	304	P	Pn	23 43 48.7	-1.6
CTAO	Charters Tower	9.03	304	Pn	Pn	23 43 48.7	-1.6
QLP	Quilpie	9.06	260	P	Pn	23 43 51.4	+0.8
	baz=9.0,SNR=57						
QLP				S	Sn	23 45 29.9	-2.9
	baz=9.0						
CMSA	Cobar Meteorol	9.70	229	P	Pn	23 43 59.2	-0.2
	baz=9.6,SNR=96						
KOUNC	Koumac, New Ca	10.44	65	P	Pn	23 44 09.3	-0.4
	127nm,1.4s						
CAN	Canberra	10.89	203	P	Pn	23 44 18.9	+3.1
NOUC	Port Laguerre	11.54	76	P	Pn	23 44 21.9	-2.8
ONTNC	Ouen Toro	11.61	77	P	Pn	23 44 24.5	-1.1
DZM	Mont Dzumac	11.68	76	ePn	Pn	23 44 23.0	-3.6
	13nm,0.2s						
DZM				eSn	Sn	23 46 22.4	-15
	11nm,0.3s						
DZM				eLR	LR	23 47 04.5	
	comp=Z,16μm,27.9s						
DZM				eT	T	23 56 16.2	
	11nm,0.2s						
DZM	Mont Dzumac	11.68	76	Pn	Pn	23 44 23.1	-3.5
	2.5nm,0.3s,baz=277,slow=13,SNR=38						
DZM				LR	LR	23 48 13.3	
	comp=Z,6μm,20.0s,baz=266,slow=34						
DZM	Mont Dzumac	11.68	76	P	Pn	23 44 24.2	-2.4
OUENC	Ouen Island, N	11.92	78	P	Pn	23 44 28.7	-1.2
YATNC	Mamie plateau,	12.07	77	P	Pn	23 44 29.8	-2.2
PINNC	Pines Island,	12.40	80	P	Pn	23 44 35.1	-1.4
NFK	Norfolk Island	12.75	110	P	Pn	23 44 41.8	+0.6
	baz=13						
LIFNC	LIFOU	12.83	72	P	Pn	23 44 41.1	-1.2
STKA	Stephens Creek	12.84	237	Pn	Pn	23 44 40.1	-2.2
	16nm,0.3s,baz=71,slow=11,SNR=76						
STKA				Sn	Sn	23 47 00.8	-4.6
	8.7nm,0.3s,baz=320,slow=19,SNR=3.5						
STKA				Lg	Lg	23 48 19.8	
	3.1nm,0.3s,baz=175,slow=22,SNR=3.3						
STKA				LR	LR	23 49 23.2	
	comp=Z,8μm,20.8s,baz=54,slow=36						
STKA	Stephens Creek	12.84	237	P	Pn	23 44 40.0	-2.4
	baz=13,SNR=176						
STKA	Stephens Creek	12.84	237	P	Pn	23 44 40.3	-2.1
MARNC	Mare, Loyalty	13.26	76	P	Pn	23 44 46.8	-1.4
TOO	Toolangi	14.25	209	P	Pn	23 45 02.1	+0.3
TOO	Toolangi	14.25	209		Pn	23 45 02.0	+0.3
QIS	Mount Isa	14.28	287	P	Pn	23 45 03.5	+1.4
	baz=14,SNR=11						
SANVU	Saraoutou	15.66	53	P	Pn	23 45 19.8	-0.9
HNR	Honiara	16.76	20	Pn	P	23 45 37.5	+0.5
	16nm,0.3s,baz=168,slow=5.5,SNR=7.2						
HNR				LR	LR	23 50 37.9	
	comp=Z,956nm,19.9s,baz=198,slow=32						
HNR	Honiara	16.76	20	P	Pn	23 45 33.3	-1.5
HNR				pmax	pmax		
	comp=Z,2μm,1.5s						
HNR	Honiara	16.76	20		Pn	23 45 33.3	-1.5
PMG	Port Moresby	17.23	336	P	Pn	23 45 41.7	+1.0
	comp=Z,3.5nm,0.3s,baz=158,slow=6.7,SNR=15						
PMG				LR	LR	23 51 52.6	
	comp=Z,5μm,18.4s,baz=163,slow=36						
PMG	Port Moresby	17.23	336	P	Pn	23 45 41.7	+1.0
PMG	Port Moresby	17.23	336		Pn	23 45 40.4	-0.3
BBOO	Buckleboo	17.50	241		Pn	23 45 43.1	-1.0
TAU	Tasmania Unive	18.40	196	P	Pn	23 45 54.1	-0.8
TAU				pmax	pmax		
	comp=Z,278nm,1.2s						
TAU	Tasmania Unive	18.40	196		Pn	23 45 54.1	-0.8
AS31	Alice Springs	18.56	271	P	P	23 45 57.6	+0.7
ASAR	Alice Springs	18.56	271	P	P	23 45 57.9	+1.0
	comp=Z,3.8nm,0.3s,baz=95,slow=12,SNR=261						
ASAR				S	S	23 49 28.7	0.0
	comp=Z,0.6nm,0.3s,baz=119,slow=23,SNR=1.9						
ASAR				Lg	Lg	23 51 29.6	
	baz=106,slow=24,SNR=4.2						
ASAR	Alice Springs	18.56	271	P	P	23 45 57.9	+1.0
ASAR	Alice Springs	18.56	271	P	P	23 45 57.6	+0.7
WRAB	Tennant Creek	19.11	282	P	P	23 46 03.6	+0.7
WRAB				pmax	pmax		
	comp=Z,302nm,1.1s						
WRAB	Tennant Creek	19.11	282	P	P	23 46 03.6	+0.7
WRA	Warramunga Arr	19.11	282	P	P	23 46 03.5	+0.5
	comp=Z,7.5nm,0.3s,baz=108,slow=9.8,SNR=352						
WRA				S	Sn	23 49 39.0	+0.9
	comp=Z,0.3nm,0.3s,baz=121,slow=21,SNR=3.0						
WRA				Lg	Lg	23 51 34.3	
	comp=Z,0.5nm,0.3s,baz=122,slow=27,SNR=5.0						
WRA				LR	LR	23 53 24.0	
	comp=Z,5μm,18.1s,baz=105,slow=37						
WRA	Warramunga Arr	19.11	282	P	P	23 46 03.5	+0.5
WRA	Warramunga Arr	19.11	282	P	P	23 46 03.5	+0.5
WB0	Warramunga Arr	19.12	283	P	P	23 46 03.5	+0.3
WB0				IAmb	IAmb	23 46 16.9	
	comp=Z,287nm,0.9s						
RABL	Rabaul	21.14	354	P	P	23 46 25.0	-0.1
RABL				IAmb	IAmb	23 46 51.3	
	comp=Z,238nm,0.9s						
URZ	Urewera	23.25	129	P	P	23 46 48.9	+1.6
	comp=Z,70nm,0.9s,baz=308,slow=3.4,SNR=18						
URZ				LR	LR	23 55 08.0	
	comp=Z,2μm,18.1s,baz=332,slow=35						
SNZO	South Karori	23.28	138	P	P	23 46 48.7	+1.2
MSVF	Nonsavu	23.41	76	P	P	23 46 50.8	+1.6
	comp=Z,109nm,0.7s,baz=240,slow=9.7,SNR=31						
MSVF				S	S	23 51 04.8	+2.2
	comp=Z,12nm,1.0s,baz=82,slow=14,SNR=2.1						
MSVF				LR	LR	23 54 54.6	
	comp=Z,2μm,18.8s,baz=225,slow=34						
MSVF	Nonsavu	23.41	76	P	P	23 46 50.3	+1.1
MSVF				pmax	pmax		
	comp=Z,326nm,1.0s						
MSVF	Nonsavu	23.41	76	P	P	23 46 50.3	+1.1
MSVF				IAmb	IAmb	23 47 05.1	
	comp=Z,326nm,1.0s						
MSVF	Nonsavu	23.41	76	P	P	23 46 50.4	+1.2
FORT	Forrest	23.67	251	P	P	23 46 51.1	-0.5
MANU	Manus Island	24.11	343	P	P	23 46 56.1	+0.3
MANU				IAmb	IAmb	23 46 58.7	
	comp=Z,288nm,1.6s						
RAO	Raoul Island	25.04	105	LR	LR	23 54 42.3	
	comp=Z,1μm,21.2s,baz=312,slow=31						
MTN	Manton Dam	25.06	296	P	P	23 47 04.3	-0.3
KNRA	Kununurra	25.67	287	P	P	23 47 10.2	+0.2
KNRA				IAmb	IAmb	23 47 43.3	
	comp=Z,106nm,0.9s						
GENI	Genyem	26.37	327	P	P	23 47 18.3	+1.9
	comp=Z,4μmcomp=Z,186nm,0.8s						
PSA00	Pilbara Seismi	31.70	270	P	P	23 48 03.5	-0.3
PSA00	Pilbara Seismi	31.70	270	P	P	23 48 03.5	-0.3
MBWA	Marble Bar	31.90	270	IAMs_20	IAMs_20	00 02 33.0	
	comp=Z,7μm,18.0s						
BATI	Baumata	32.65	292	LR	LR	00 03 00.7	
	comp=Z,3μm,18.2s,baz=140,slow=39						
MSAI	Masohi	32.72	308	P	P	23 48 26.0	+13
SIJI	Sorong	32.92	314	P	P	23 48 12.7	-1.8
	comp=Z,211nm,1.2s,baz=120,slow=5.5,SNR=33						
NWAO	Narrogin (SRO)	33.04	248	P	P	23 48 15.3	-0.2
	comp=Z,36nm,0.8s,baz=91,slow=7.9,SNR=19						
NWAO	Narrogin (SRO)	33.04	248	P	P	23 48 15.3	-0.2
NWAO	Narrogin (SRO)	33.04	248	IAMs_20	IAMs_20	00 02 12.6	
	comp=Z,8μm,18.0s						
MORW	Morawa	34.05	255	P	P	23 48 24.2	-0.1
NLAI	Namlea	34.11	306	P	P	23 48 26.5	+1.6
	comp=Z,3μmcomp=Z,63nm,0.8s						
SANI	Sanana	35.73	306	P	P	23 48 38.2	-0.7
	comp=Z,1μmcomp=Z,58nm,0.7s						
GIRL	Giralia	36.53	266	P	P	23 48 46.0	+0.3
GIRL				IAmb	IAmb	23 48 58.4	
	comp=Z,312nm,1.8s						
WBSI	Waikabubak, Su	36.56	289	P	P	23 48 47.4	+1.3
	comp=Z,2μmcomp=Z,131nm,1.4s						
TNTI	Ternate	36.73	311	P	P	23 48 48.4	+0.9
	comp=Z,2μmcomp=Z,220nm,0.9s						
BKSI	Bulukumba	38.25	296	P	P	23 49 00.1	-0.3
	comp=Z,600nmcomp=Z,24nm,1.0s						
PLAI	Plampang	38.34	289	P	P	23 49 01.2	0.0
	comp=Z,2μmcomp=Z,158nm,0.9s						
KAPI	Kappang	38.73	296	P	P	23 49 04.5	+0.1
KAPI				pmax	pmax		
	comp=Z,94nm,1.3s						
KAPI	Kappang	38.73	296	P	P	23 49 04.5	+0.1
TWSI	Taliwang, Sumb	39.16	288	P	P	23 49 08.2	+0.2
	comp=Z,57nm,0.9s						
APSI	Ampana	39.73	303	P	P	23 49 12.9	+0.2
	comp=Z,1μmcomp=Z,30nm,1.4s						
GTOI	Gorontalo	39.73	306	P	P	23 49 14.4	+1.7
	comp=Z,670nmcomp=Z,59nm,0.8s						
KNTN	Kanton	39.73	61	P	P	23 49 12.9	+0.2
GUMO	Guam	39.77	346	LR	LR	00 05 34.8	
	comp=Z,283nm,19.1s,baz=162,slow=36						
GUMO	Guam	39.77	346	P	P	23 49 13.2	+0.2
GUMO				pmax	pmax		
	comp=Z,413nm,1.5s						
GUMO	Guam	39.77	346	P	P	23 49 13.2	+0.2
GUMO				IAmb	IAmb	23 49 14.8	
	comp=Z,413nm,1.4s						
SGSI	Sangihe	40.10	312	P	P	23 49 15.2	-0.7
	comp=Z,13μmcomp=Z,135nm,0.8s						
MRSI	Marisa	40.41	305	P	P	23 49 16.4	-2.0
	comp=Z,48nm,1.4s						
MPSI	Mapaga	41.86	302	P	P	23 49 30.0	-0.4
	comp=Z,1μmcomp=Z,1μmcomp=Z,91nm,1.4s						
ANA2	Anatahan	42.27	348	P	P	23 49 33.2	-0.4
ANA2				IAmb	IAmb	23 49 44.8	
	comp=Z,80nm,0.7s						
RAR	Rarotonga	42.31	94	P	P	23 49 33.8	-0.2
RAR				pmax	pmax		
	comp=Z,70nm,1.1s						
RAR	Rarotonga	42.31	94	P	P	23 49 33.8	-0.2
DAV	Davao City (W)	42.61	315	P	P	23 49 36.4	0.0
KBKI	Kotabaru	42.64	295	P	P	23 49 37.3	+0.6
	comp=Z,1μmcomp=Z,54nm,0.9s						
BBKI	Banjar Baru	43.64	293	P	P	23 49 46.4	+1.6
	comp=Z,3μmcomp=Z,198nm,1.2s						
PWJI	Pagerwojo	43.90	286	P	P	23 49 48.5	+1.6
	comp=Z,122nm,1.4s						
PCJI	Pacitan	44.36	285	P	P	23 49 51.2	+0.6
	comp=Z,235nm,1.2s						
MTKI	Muara Teweh, K	45.02	296	P	P	23 49 56.6	+0.7
	comp=Z,35nm,0.9s						
SMRI	Semarang	45.54	286	P	P	23 50 00.7	+0.6
	comp=Z,128nm,1.0s						
KPJI	Karang Pucung	46.73	285	P	P	23 50 09.9	+0.5
	comp=Z,2μmcomp=Z,161nm,1.2s						
SPMM	Sapulut	47.29	304	P	P	23 50 15.0	+1.2
JCJI	Jatiwangi	47.70	285	P	P	23 50 27.7	+11
CNJI	Cibinong	48.32	283	P	P	23 50 23.3	+1.5
	comp=Z,260nm,0.8s						
STKI	Sintang	48.39	295	P	P	23 50 23.0	+0.7
	comp=Z,56nm,0.9s						
CASY	Casey	49.13	202	P	P	23 50 27.3	0.0
CASY				IAmb	IAmb	23 50 38.4	
	comp=Z,96nm,1.5s						
SBUM	Sibu	49.18	298	P	P	23 50 30.0	+1.6
KSM	Kuching	50.15	295	P	P	23 50 36.0	+0.2
TBI	Tubuai	51.03	100	eS	S	23 57 58.6	-1.3
	comp=Z,846nm,30.0s						
TBI				eLQ	LQ	00 03 07.1	
	comp=Z,1μm,38.8s						
TBI				eLR	LR	00 05 07.6	
	comp=Z,2μm,36.2s,baz=246						
KASI	Kota Agung	51.46	284	P	P	23 50 45.6	-0.1
	comp=Z,1μmcomp=Z,117nm,0.9s						
PPBI	Pangkal Pinang	51.68	289	P	P	23 50 48.8	+1.5
LWLI	Liwa	52.08	284	P	P	23 50 51.3	+0.8
	comp=Z,145nm,1.0s						
MDSI	Maura Dua	52.23	285	P	P	23 50 51.1	-0.3
	comp=Z,625nmcomp=Z,56nm,0.9s						
VNDA	Vanda	52.35	178	P	P	23 50 51.8	+0.4
	comp=Z,21nm,0.8s,baz=342,slow=8.2,SNR=103						
VNDA				LR	LR	00 09 15.9	
	comp=Z,447nm,19.2s,baz=359,slow=32						
VNDA	Vanda	52.35	178	P	P	23 50 51.5	+0.1
VNDA				pmax	pmax		
	comp=Z,42nm,1.0s						
VNDA	Vanda	52.35	178	P	P	23 50 51.5	+0.1
PAE	Paea	52.54	93	eP	P	23 50 53.8	+0.1
	comp=Z,18nm,1.1s						
PPT2	Papeete2	52.56	93	eP	P	23 50 54.6	+0.6
	comp=Z,76nm,1.1s						
PPT2				eS	S	23 58 19.9	-1.4
	comp=Z,1μm,28.0s						
PPT2				eLQ	LQ	00 03 48.0	
	comp=Z,1μm,25.0s						
PPT2				eLR	LR	00 06 03.5	
	comp=Z,3μm,27.5s,baz=246						
PPT	Papeete	52.57	93	P	P	23 50 55.1	+1.1
	comp=Z,67nm,0.9s,baz=306,slow=2.5,SNR=5.0						
PPT				LR	LR	00 10 55.0	
	comp=Z,301nm,18.0s,baz=258,slow=33						
PPT	Papeete	52.57	93	P	P	23 50 55.1	+1.1
TIAR	Tiarei	52.78	93	eP	P	23 50 56.2	+0.7
	comp=Z,19nm,0.8s						
SBA	Scott Base	52.88	177	P	P	23 50 56.3	+0.9
SBA				pmax	pmax		
	comp=Z,66nm,1.2s						
SBA	Scott Base	52.88	177	P	P	23 50 56.3	+0.9
LHSI	Lahat	53.12	285	P	P	23 50 59.3	+1.3
	comp=Z,2μmcomp=Z,114nm,0.8s						
JCJ	Chichijima	53.43	347	P	P	23 50 58.6	-1.3
	comp=Z,54nm,1.0s,baz=304,slow=22,SNR=2.9						
JOHN	Johnston Islan	54.75	44	P	P	23 51 10.1	+0.3
PMOR	Pomariorio Ree	54.95	91	eP	P	23 51 12.2	+0.8
	comp=Z,320nm,1.0s						
VAH	Vaihoa	55.11	91	eP	P	23 51 13.2	+0.7
	comp=Z,270nm,0.9s						
BKNI	Bangkinang	57.33	288	P	P	23 51 28.6	+0.2
BKNI				IAmb	IAmb	23 52 12.1	
	comp=Z,50nm,1.0s						
JOW	Kunigami	57.61	332	P	P	23 51 30.1	0.0
	comp=Z,24nm,0.8s,baz=187,slow=5.3,SNR=16						
JRMM	Jerantut	57.97	292	P	P	23 51 33.0	+0.1
MNSI	Mandailing Nat	58.82	288	P	P	23 51 38.4	-0.5
	comp=Z,34nm,0.9s						
IPM	Ipoh	59.51	292	P	P	23 51 44.0	+0.4
JHJ	Hachijo jima 2	59.76	346	P	P	23 51 44.0	-0.9
	comp=Z,90nm,0.7s,baz=130,slow=4.9,SNR=5.6						
KULM	Kulim	60.26	293	P	P	23 51 48.0	-0.8
QZH	Quanzhou	60.73	323	||P	P	23 51 53.0	+1.3
QZH				pmax	pmax		
	comp=Z,31nm,0.7s						
QZH				pmax	pmax		
	comp=Z,610nm,5.1s						
QZH				LR	LR		
	comp=Z,240nm,17.5s						
QZH				LR	LR		
	comp=Z,280nm,16.1s						
TSI	Tuntungan	61.07	290	P	P	23 51 55.4	+1.1
	comp=Z,14μmcomp=Z,212nm,1.0s						
SKLT	Songkhla	61.31	294	P	P	23 51 56.8	+0.9
	comp=Z,1μmcomp=Z,62nm,1.1s						
SKLT	Songkhla	61.31	294	P	P	23 51 56.9	+0.9
	comp=Z,1μmcomp=Z,62nm,1.1s						
QIZ	Qiongzhong	61.72	311	P	P	23 51 59.3	+0.7
QIZ				PP	PP	23 54 13.3	-1.4
QIZ				pmax	pmax		
	comp=Z,50nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,430nm,5.9s						
QIZ				LR	LR		
	comp=Z,310nm,16.2s						
QIZ				LR	LR		
	comp=Z,270nm,18.6s						
QIZ				LR	LR		
	comp=Z,370nm,13.3s						
QIZ	Qiongzhong	61.72	311	P	P	23 51 59.1	+0.5
QIZ				IAmb	IAmb	23 52 10.7	
	comp=Z,61nm,1.0s						
JNU	Nakatsue	62.26	338	P	P	23 52 02.9	+0.9
	comp=Z,150nm,1.1s,baz=123,slow=4.2,SNR=45						
MJAR	Matsushiro Arr	63.40	346	P	P	23 52 08.0	-1.5
	comp=Z,31nm,0.7s,baz=168,slow=7.5,SNR=85						
MJAR	Matsushiro Arr	63.40	346	P	P	23 52 08.2	-1.3
MJAR				pmax	pmax		
	comp=Z,37nm,0.8s						
MJAR	Matsushiro Arr	63.40	346	P	P	23 52 08.2	-1.3
MJAR				IAmb	IAmb	23 52 09.6	
	comp=Z,37nm,0.8s						
MAJO	Matsushiro	63.40	346	P	P	23 52 08.9	-0.6
MAJO				pmax	pmax		
	comp=Z,67nm,0.8s						
MAJO	Matsushiro	63.40	346	P	P	23 52 08.9	-0.6
MAJO				IAmb	IAmb	23 52 09.6	
	comp=Z,67nm,0.8s						
MAT	Matsushiro	63.40	346	P	P	23 52 08.9	-0.6
MAT				S	S	00 00 39.4	-2.7
PKDT	Phuket	63.60	294	P	P	23 52 21.8	+11
PKDT	Phuket	63.60	294	P	P	23 52 21.9	+11
	comp=Z,41nm,0.9s						
SURT	Suratani	63.80	295	P	P	23 52 25.4	+13
SURT	Suratani	63.80	295	P	P	23 52 25.4	+13
TAOE	Nuku Hiva Isla	64.28	88	eP	P	23 52 16.4	+0.5
	comp=Z,388nm,1.1s						
TAOE				eS	S	00 00 52.5	-1.8
	comp=Z,450nm,31.7s						
TAOE	Nuku Hiva Isla	64.28	88	eLR	LR	00 11 23.1	
	comp=Z,1μm,29.9s						
SSE	Sheshan	64.42	329	P	P	23 52 16.3	0.0
SSE				pmax	pmax		
	comp=Z,12nm,0.6s						
SSE				pmax	pmax		
	comp=Z,210nm,6.6s						
SSE				LR	LR		
	comp=Z,190nm,18.0s						
SSE				LR	LR		
	comp=

NJ2			LR	LR		
	comp=Z,320nm,20.1s					
NJ2			LR	LR		
	comp=Z,450nm,15.2s					
TJN	**Taejon**	**66.43 337**	*ce*P	**P**	**23 52 29.0**	**-0.2**
LOEI	**Loei**	**66.87 304**	P	**P**	**23 52 32.4**	**0.0**
	comp=Z,54nm,0.9s					
UTHA	**Uthaitani**	**67.08 301**	P	**P**	**23 52 35.0**	**+1.2**
	comp=Z,329nmcomp=Z,40nm,0.8s					
KSRS	**Korea Array**	**67.20 338**	P	**P**	**23 52 34.4**	**+0.4**
	comp=Z,39nm,1.0s,baz=156,slow=7.0,SNR=90					
KSRS	**Korea Array**	**67.20 338**	P	**P**	**23 52 34.4**	**+0.4**
KSAR	**Wonju Array Be**	**67.20 337**	P	**P**	**23 52 34.3**	**+0.3**
KSAR	**Wonju Array Be**	**67.20 337**	P	**P**	**23 52 34.3**	**+0.3**
KS19	**Wonju Array Si**	**67.26 338**	P	**P**	**23 52 34.4**	**0.0**
KS19			IAmb	IAmb	23 52 35.7	
	comp=Z,102nm,1.4s					
PHIT	**Phitsanulok**	**67.31 303**	P	**P**	**23 52 36.5**	**+1.3**
	comp=Z,1μmcomp=Z,187nm,0.9s					
PHIT	**Phitsanulok**	**67.31 303**	P	**P**	**23 52 36.5**	**+1.3**
	comp=Z,368nmcomp=Z,46nm,0.9s					
MAW	**Mawson**	**67.33 205**	P	**P**	**23 52 35.4**	**+0.9**
	comp=Z,38nm,0.7s,baz=103,slow=8.0,SNR=48					
MAW			LR	LR	00 18 32.1	
	comp=Z,320nm,19.8s,baz=85,slow=33					
MAW	**Mawson**	**67.33 205**	P	**P**	**23 52 35.1**	**+0.5**
MAW			pmax	pmax		
	comp=Z,30nm,1.2s					
MAW	**Mawson**	**67.33 205**	P	**P**	**23 52 35.1**	**+0.5**
WHN	**Wuhan**	**67.44 323**	⇑P	**P**	**23 52 37.3**	**+1.6**
WHN			pmax	pmax		
	comp=Z,2μm,6.3s					
WHN			LR	LR		
	comp=Z,480nm,14.9s					
WHN			LR	LR		
	comp=Z,710nm,14.7s					
WHN			LR	LR		
	comp=Z,900nm,15.1s					
UTTA	**Uttaradit**	**67.55 304**	P	**P**	**23 52 37.6**	**+0.9**
	comp=Z,468nmcomp=Z,57nm,0.9s					
INCN	**Inchon**	**67.68 337**	P	**P**	**23 52 37.2**	**+0.1**
INCN			pmax	pmax		
	comp=Z,118nm,1.5s					
INCN	**Inchon**	**67.68 337**	P	**P**	**23 52 37.2**	**+0.1**
INCN			IAmb	IAmb	23 52 38.7	
	comp=Z,118nm,1.4s					
ERM	**Erimo**	**67.81 351**	P	**P**	**23 52 38.1**	**+0.3**
ERM			pmax	pmax		
	comp=Z,29nm,0.7s					
ERM	**Erimo**	**67.81 351**	P	**P**	**23 52 38.1**	**+0.3**
ERM			IAmb	IAmb	23 52 42.2	
	comp=Z,30nm,0.7s					
UMPA	**Umpang Tak**	**67.91 301**	P	**P**	**23 52 40.0**	**+1.0**
	comp=Z,139nm,0.9s					
UMPA	**Umpang Tak**	**67.91 301**	P	**P**	**23 52 40.0**	**+1.0**
	comp=Z,34nm,0.9s					
LAMP	**Lampang**	**68.72 304**	P	**P**	**23 52 45.9**	**+1.9**
	comp=Z,672nmcomp=Z,75nm,0.9s					
LAMP	**Lampang**	**68.72 304**	P	**P**	**23 52 46.0**	**+1.9**
	comp=Z,158nmcomp=Z,19nm,0.9s					
GYA	**Guiyang**	**68.98 315**	⇑P	**P**	**23 52 46.3**	**+0.6**
GYA			sP	pwP	23 52 56.5	+3.5
GYA			pmax	pmax		
	comp=Z,22nm,1.1s					
GYA			pmax	pmax		
	comp=Z,410nm,4.3s					
GYA			LR	LR		
	comp=Z,260nm,21.4s					
GYA			LR	LR		
	comp=Z,270nm,17.7s					
GYA			LR	LR		
	comp=Z,290nm,15.7s					
CM36	**Chiang Mai Arr**	**69.12 304**	P	**P**	**23 52 47.0**	**+0.5**
CM04	**Chiang Mai Arr**	**69.13 303**	P	**P**	**23 52 48.1**	**+1.4**
	comp=Z,689nmcomp=Z,102nm,0.9s					
CM04	**Chiang Mai Arr**	**69.13 303**	P	**P**	**23 52 48.0**	**+1.4**
	comp=Z,689nmcomp=Z,102nm,0.9s					
CM09	**Chiang Mai Arr**	**69.15 303**	P	**P**	**23 52 48.2**	**+1.5**
	comp=Z,475nmcomp=Z,68nm,0.8s					
CM09	**Chiang Mai Arr**	**69.15 303**	P	**P**	**23 52 48.2**	**+1.5**
	comp=Z,475nmcomp=Z,68nm,0.8s					
CM05	**Chiang Mai Arr**	**69.16 303**	P	**P**	**23 52 48.0**	**+1.2**
	comp=Z,460nmcomp=Z,66nm,0.9s					
CM01	**Chiang Mai Arr**	**69.16 303**	P	**P**	**23 52 48.3**	**+1.5**
	comp=Z,562nmcomp=Z,82nm,0.9s					
CM35	**Chiang Mai Arr**	**69.17 304**	P	**P**	**23 52 47.0**	**+0.1**
CM02	**Chiang Mai Arr**	**69.18 303**	P	**P**	**23 52 48.3**	**+1.4**
	comp=Z,489nmcomp=Z,77nm,0.9s					
CM02	**Chiang Mai Arr**	**69.18 303**	P	**P**	**23 52 48.0**	**+1.1**
	comp=Z,489nmcomp=Z,77nm,0.9s					
CM31	**Chiang Mai Arr**	**69.19 303**	P	**P**	**23 52 48.2**	**+1.2**
	comp=Z,15μmcomp=Z,2μm,0.9s					
CM31	**Chiang Mai Arr**	**69.19 303**	P	**P**	**23 52 47.7**	**+0.7**
CM31			IAmb	IAmb	23 52 59.3	
	comp=Z,74nm,0.9s					
CMAR	**Chiang Mai Arr**	**69.19 303**	P	**P**	**23 52 48.1**	**+1.1**
	comp=Z,18nm,0.9s,baz=140,slow=4.8,SNR=77					
CMAR			LR	LR	00 26 52.2	
	comp=Z,398nm,18.1s,baz=195,slow=39					
CMAR	**Chiang Mai Arr**	**69.19 303**	P	**P**	**23 52 48.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**69.19 303**	P	**P**	**23 52 47.0**	**0.0**
CM13	**Chiang Mai Arr**	**69.20 303**	P	**P**	**23 52 48.3**	**+1.2**
	comp=Z,515nmcomp=Z,78nm,0.9s					
CM13	**Chiang Mai Arr**	**69.20 303**	P	**P**	**23 52 48.0**	**+0.9**
	comp=Z,515nmcomp=Z,78nm,0.9s					
CM15	**Chiang Mai Arr**	**69.21 303**	P	**P**	**23 52 48.4**	**+1.3**
	comp=Z,500nmcomp=Z,76nm,0.8s					
CM15	**Chiang Mai Arr**	**69.21 303**	P	**P**	**23 52 48.4**	**+1.3**
	comp=Z,500nmcomp=Z,76nm,0.8s					
CM34	**Chiang Mai Arr**	**69.28 304**	P	**P**	**23 52 48.0**	**+0.5**
CM32	**Chiang Mai Arr**	**69.39 304**	P	**P**	**23 52 49.0**	**+0.8**
CMMT	**Chiang Mai**	**69.41 304**	P	**P**	**23 52 49.1**	**+0.8**
	comp=Z,1μmcomp=Z,74nm,1.1s					
CMMT	**Chiang Mai**	**69.41 304**	P	**P**	**23 52 49.2**	**+0.9**
	comp=Z,1μmcomp=Z,74nm,1.1s					
CHTO	**Chiang Mai**	**69.41 304**	P	**P**	**23 52 48.9**	**+0.6**
CHTO			pmax	pmax		
	comp=Z,52nm,0.9s					
CHTO	**Chiang Mai**	**69.41 304**	P	**P**	**23 52 48.9**	**+0.6**
CHTO			IAmb	IAmb	23 53 00.4	
	comp=Z,52nm,0.9s					
CM33	**Chiang Mai Arr**	**69.41 304**	P	**P**	**23 52 48.0**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**69.48 354**	*i* P	**P**	**23 52 49.1**	**+0.9**
MHMT	**Maesarieng**	**69.80 303**	P	**P**	**23 52 52.1**	**+1.3**
	comp=Z,1μmcomp=Z,108nm,0.9s					
MHMT	**Maesarieng**	**69.80 303**	P	**P**	**23 52 52.0**	**+1.3**
	comp=Z,1μmcomp=Z,108nm,0.9s					
ASAJ	**Asahikawa**	**69.96 351**	P	**P**	**23 52 51.0**	**-0.1**
	comp=Z,44nm,0.9s,baz=226,slow=9.4,SNR=29					
ASAJ	**Asahikawa**	**69.96 351**	P	**P**	**23 52 51.0**	**-0.1**
ENH	**Enshi**	**69.98 320**	P	**P**	**23 52 51.7**	**0.0**
ENH			IAmb	IAmb	23 53 03.2	
	comp=Z,53nm,0.9s					
KUR	**Kuril'sk**	**70.49 355**	*c i* P	**P**	**23 52 55.7**	**+1.3**
KUR			*i*		23 53 18.0	
KUR			*e*		23 55 30.7	
KUR			*e*S	**S**	**00 02 15.3**	**+7.9**
KUR			*e*		00 02 52.1	
KUR			pmax	pmax		
	comp=Z,449nm,1.4s					
KUR			pmax	pmax		
	comp=N,117nm,1.8s					
KUR			MLR	MLR		
	comp=Z,269nm,18.0s					
TIA	**Tai'an**	**70.54 329**	⇑P	**P**	**23 52 55.5**	**+0.6**
TIA			pmax	pmax		
	comp=Z,87nm,1.2s					
TIA			pmax	pmax		
	comp=Z,510nm,8.2s					
TIA			LR	LR		
	comp=Z,210nm,18.2s					
TIA			LR	LR		
	comp=Z,150nm,15.1s					
TIA			LR	LR		
	comp=Z,410nm,20.1s					
KMI	**Kunming**	**70.67 311**	⇑P	**P**	**23 52 58.0**	**+1.8**
KMI			pP	sP	23 53 01.5	+2.6
KMI			PcP	**PcP**	**23 53 17.8**	**+0.6**
KMI			pmax	pmax		
	comp=Z,64nm,1.4s					
KMI			pmax	pmax		
	comp=Z,410nm,3.5s					
KMI			LR	LR		
	comp=Z,230nm,16.5s					
KMI			LR	LR		
	comp=Z,500nm,18.0s					
KMI			LR	LR		
	comp=Z,320nm,18.7s					
DL2	**Dalian**	**70.83 334**	P	**P**	**23 52 57.0**	**+0.4**
DL2			pmax	pmax		
	comp=Z,74nm,1.3s					
DL2			pmax	pmax		
	comp=Z,460nm,6.6s					
DL2			LR	LR		
	comp=Z,310nm,20.1s					
DL2			LR	LR		
	comp=Z,470nm,15.9s					
DL2			LR	LR		
	comp=Z,450nm,24.5s					
MSHR	**Mys Shultsa**	**70.87 342**	*ce*P	**P**	**23 52 57.4**	**+0.6**
MSHR			pmax	pmax		
	comp=Z,47nm,1.5s					
USA0B	**Ussuriysk Arra**	**72.16 343**	P	**P**	**23 53 04.9**	**+0.4**
USA0B			pmax	pmax		
	comp=Z,276nm,1.6s					
USA0B	**Ussuriysk Arra**	**72.16 343**	P	**P**	**23 53 04.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**72.16 343**	P	**P**	**23 53 05.2**	**+0.7**
	comp=Z,36nm,0.8s,baz=180,slow=4.8,SNR=116					
USRK	**Ussuriysk Ar.**	**72.16 343**	P	**P**	**23 53 05.2**	**+0.7**
SNY	**Shenyang**	**72.62 336**	⇑P	**P**	**23 53 07.3**	**0.0**
SNY			PP	**PP**	**23 55 46.5**	**-2.7**
SNY			pmax	pmax		
	comp=Z,22nm,0.8s					
SNY			LR	LR		
	comp=Z,250nm,22.0s					
SNY			LR	LR		
	comp=Z,140nm,19.2s					
SNY			LR	LR		
	comp=Z,480nm,18.0s					
YSS	**Yuzh-Sakhalins**	**72.72 352**	*ce*P	**P**	**23 53 08.4**	**+0.6**
YSS			*e**SP	**PcP**	**23 53 25.7**	**+0.7**
YSS			*e*		23 55 44.5	
YSS			*e*S	**S**	**00 02 26.6**	**-6.4**
YSS			pmax	pmax		
	comp=Z,70nm,1.0s					
YSS			pmax	pmax		
	comp=Z,600nm,5.3s					
YSS	**Yuzh-Sakhalins**	**72.72 352**	P	**P**	**23 53 08.1**	**+0.3**
YSS			IAmb	IAmb	23 53 09.1	
	comp=Z,81nm,1.1s					
XAN	**Xi'an**	**73.07 322**	P	**P**	**23 53 10.8**	**+0.5**
XAN			pP	pwP	23 53 21.0	+3.5
XAN			sP	PcP	23 53 25.3	-1.7
XAN			PP	**PP**	**23 55 54.0**	**+0.7**
XAN			pmax	pmax		
	comp=Z,100nm,1.3s					
XAN			pmax	pmax		
	comp=Z,810nm,6.5s					
XAN			LR	LR		
	comp=Z,160nm,18.4s					
XAN			LR	LR		
	comp=Z,240nm,17.9s					
XAN			LR	LR		
	comp=Z,330nm,18.4s					
MDJ	**Mudanjiang**	**73.19 342**	P	**P**	**23 53 11.3**	**+0.7**
MDJ			pmax	pmax		
	comp=Z,63nm,1.2s					
MDJ			pmax	pmax		
	comp=Z,530nm,5.5s					
MDJ	**Mudanjiang**	**73.19 342**	P	**P**	**23 53 11.2**	**+0.5**
MDJ			IAmb	IAmb	23 53 12.9	
	comp=Z,176nm,1.6s					
CN2	**Changchun**	**73.72 339**	*e*P	**P**	**23 53 13.5**	**-0.2**
CN2			pmax	pmax		
	comp=Z,40nm,1.5s					
CN2			pmax	pmax		
	comp=Z,400nm,7.0s					
CN2			LR	LR		
	comp=Z,200nm,18.0s					
CN2			LR	LR		
	comp=Z,200nm,18.0s					
CN2			LR	LR		
	comp=Z,300nm,21.3s					
CD2	**Chengdu**	**73.90 316**	⇑P	**P**	**23 53 16.0**	**+0.8**
CD2			pP	sP	23 53 19.5	+1.6
CD2			pmax	pmax		
	comp=Z,70nm,1.4s					
CD2			pmax	pmax		
	comp=Z,490nm,7.5s					
CD2			LR	LR		
	comp=Z,300nm,15.9s					
CD2			LR	LR		
	comp=Z,460nm,19.4s					
CD2			LR	LR		
	comp=Z,440nm,16.5s					
TIY	**Taiyuan**	**74.00 327**	*e*P	**P**	**23 53 17.0**	**+1.3**
TIY			pmax	pmax		
	comp=Z,45nm,0.8s					
TIY			pmax	pmax		
	comp=Z,510nm,7.2s					
TIY			LR	LR		
	comp=Z,130nm,11.3s					
TIY			LR	LR		
	comp=Z,160nm,10.0s					
TIY			LR	LR		
	comp=Z,230nm,15.2s					
BJT	**Baijiatuau**	**74.08 331**	P	**P**	**23 53 16.8**	**+0.8**
BJT			pmax	pmax		
	comp=Z,38nm,0.9s					
BJT	**Baijiatuau**	**74.08 331**	P	**P**	**23 53 16.8**	**+0.8**
SYO	**Syowa Base**	**74.83 200**	⇑*e*P	**P**	**23 53 20.4**	**+0.4**
SYO	**Syowa Base**	**74.83 200**	⇑*e*pP	pP	23 53 23.2	+1.2
SKR	**Severo-Kuril's**	**75.73 1**	*c i* P	**P**	**23 53 25.7**	**+0.5**
SKR			*e*S	**S**	**00 03 09.4**	**+2.8**
SKR			pmax	pmax		
	comp=Z,300nm,5.0s					
SKR			pmax	pmax		
	comp=Z,67nm,1.2s					
SKR			pmax	pmax		
	comp=Z,100nm,6.9s					
SKR			MLR	MLR		
	comp=Z,200nm,17.0s					
SKR			MLR	MLR		
	comp=Z,200nm,17.0s					
TYV	**Tymovskoe**	**76.58 352**	*e*P	**P**	**23 53 31.6**	**+1.6**
TYV			*e*S	**S**	**00 03 19.9**	**+3.9**
TYV			pmax	pmax		
	comp=Z,71nm,1.2s					
TYV			pmax	pmax		
	comp=Z,800nm,4.3s					
TYV			smax	smax		
	comp=N,600nm,8.5s					
LKP	**Lekhapani**	**76.85 309**	*e*P	**P**	**23 53 32.1**	**0.0**
LKP			IAmb	IAmb	23 53 33.6	
	comp=Z,37nm,0.7s					
LKP			*i* x	x	23 53 43.1	
HHC	**Hu-ho-hao-te**	**76.87 328**	*e*P	**P**	**23 53 33.8**	**+1.7**
HHC			sP	PcP	23 53 43.8	+0.6
HHC			pmax	pmax		
	comp=Z,65nm,1.2s					
HHC			pmax	pmax		
	comp=Z,440nm,6.5s					
HHC			LR	LR		
	comp=Z,250nm,17.3s					
HHC			LR	LR		
	comp=Z,310nm,17.0s					
HHC			LR	LR		
	comp=Z,320nm,15.7s					
KLR	**Kul'dur**	**76.92 345**	P	**P**	**23 53 32.8**	**+0.8**
	comp=Z,37nm,1.1s,baz=187,slow=2.7,SNR=62					
KLR	**Kul'dur**	**76.92 345**	*ce*P	**P**	**23 53 32.7**	**+0.7**
KLR			pmax	pmax		
	comp=Z,101nm,1.4s					
KOHI	**KOHIMA**	**77.12 307**	*e*P	**P**	**23 53 34.0**	**0.0**
KOHI			IAmb	IAmb	23 53 37.2	
	comp=Z,555nm,2.1s					
MOKO	**MOKOCHONG**	**77.18 307**	*e*P	**P**	**23 53 34.6**	**+0.3**
GRNR	**Gornyy**	**77.41 349**	⇑*i*P	**P**	**23 53 35.5**	**+0.7**
GRNR			pmax	pmax		
	comp=Z,20nm,1.2s					
GRNR			MLR	MLR		
	comp=E,300nm,18.0s					
GRNR			MLR	MLR		
	comp=N,320nm,16.0s					
BTO	**Baotou**	**77.43 327**	*e*P	**P**	**23 53 37.0**	**+1.7**
BTO			LR	LR		
	comp=N,1μm,16.6s					
BTO			LR	LR		
	comp=N,890nm,19.3s					
LZH	**Lanzhou**	**77.43 320**	⇑P	**P**	**23 53 37.3**	**+1.8**
LZH			pP	pwP	23 53 43.8	+1.0
LZH			sP	PcP	23 53 47.5	+1.6
LZH			PP	**PP**	**23 56 33.3**	**+2.9**
LZH			pmax	pmax		
	comp=N,110nm,1.3s					
LZH			pmax	pmax		
	comp=N,680nm,6.7s					
LZH			LR	LR		
	comp=N,310nm,15.2s					
LZH			LR	LR		
	comp=N,400nm,15.0s					
LZH			LR	LR		
	comp=N,470nm,17.5s					
PET	**Petropavlovsk**	**78.15 3**	⇑*i*P	**P**	**23 53 38.9**	**+0.1**
PET			*e*		23 53 49.0	
PET			*e*S	**S**	**00 03 31.6**	**-1.4**
PET			*e*PS	**PnS**	**00 04 14.2**	**0.0**
PET			*e*PPS	PPS	00 04 28.8	
PET			*e*SS	**SS**	**00 08 36.7**	**+1.1**
PET			pmax	pmax		
	comp=Z,79nm,1.3s					
PET			pmax	pmax		
	comp=Z,400nm,8.0s					
PET			pmax	pmax		
	comp=Z,500nm,8.6s					
PET	**Petropavlovsk**	**78.15 3**	P	**P**	**23 53 39.0**	**+0.1**
PET			IAmb	IAmb	23 53 40.4	
	comp=Z,118nm,1.4s					
PEA0B	**Petropavlovsk-**	**78.20 2**	P	**P**	**23 53 39.5**	**+0.4**
PEA0B			pmax	pmax		
	comp=Z,192nm,1.4s					
PEA0B	**Petropavlovsk-**	**78.20 2**	P	**P**	**23 53 39.5**	**+0.4**
PETK	**Petropavlovsk-**	**78.20 2**	P	**P**	**23 53 39.1**	**0.0**
	comp=Z,24nm,0.7s,baz=142,slow=5.6,SNR=52					
PETK			LR	LR	00 23 18.8	
	comp=Z,506nm,21.9s,baz=143,slow=32					
PETK	**Petropavlovsk-**	**78.20 2**	P	**P**	**23 53 39.1**	**0.0**
PETK	**Petropavlovsk-**	**78.20 2**	P	**P**	**23 53 38.9**	**-0.2**
ITAN	**ITANAGAR**	**78.24 308**	*e*P	**P**	**23 53 42.0**	**+2.1**
PALK	**Pallekele**	**78.39 284**	P	**P**	**23 53 40.7**	**-0.5**
PALK			pmax	pmax		
	comp=Z,55nm,0.9s					
PALK	**Pallekele**	**78.39 284**	P	**P**	**23 53 40.7**	**-0.5**
PALK			IAmb	IAmb	23 53 53.1	
	comp=Z,55nm,0.9s					
SHL	**Shillong**	**78.66 305**	*e*P	**P**	**23 53 43.1**	**+0.5**
SHL			*i* pP	**PcP**	**23 53 53.2**	**+1.8**
NKL	**Nikolayevsk**	**79.06 352**	*e*P	**P**	**23 53 43.4**	**-0.4**
NKL			*e*S	**S**	**00 03 47.9**	**+5.2**
NKL			pmax	pmax		
	comp=E,20nm,1.2s					
NKL			pmax	pmax		
	comp=N,680nm,0.9s					
NKL			pmax	pmax		
	comp=Z,109nm,1.3s					
NKL			smax	smax		
	comp=E,41nm,3.6s					
NKL			smax	smax		
	comp=N,848nm,4.2s					
HIA	**Hailar**	**80.41 338**	P	**P**	**23 53 51.5**	**+0.2**
HIA			pmax	pmax		
	comp=Z,106nm,1.9s					
HIA	**Hailar**	**80.41 338**	P	**P**	**23 53 51.5**	**+0.2**
HIA			IAmb	IAmb	23 53 53.2	
	comp=Z,106nm,1.9s					
ADK	**Adak**	**81.05 18**	P	**P**	**23 53 54.8**	**+0.2**
ADK			pmax	pmax		
	comp=Z,49nm,1.0s					
ADK	**Adak**	**81.05 18**	P	**P**	**23 53 54.8**	**+0.2**
ADK			IAmb	IAmb	23 53 56.0	
	comp=Z,49nm,1.0s					
VIS	**Vishakhapatnam**	**81.17 294**	*e*P	**P**	**23 53 52.8**	**-3.3**
VIS			IAmb	IAmb	23 54 08.2	
	comp=Z,114nm,1.4s					
MDRS	**Chennai**	**81.50 289**	IAmb	IAmb	23 54 09.4	
	comp=Z,46nm,1.1s					
LSA	**Lhasa**	**81.57 308**	P	**P**	**23 53 59.0**	**+0.4**
LSA			pmax	pmax		
	comp=Z,88nm,1.6s					
LSA	**Lhasa**	**81.57 308**	P	**P**	**23 53 58.9**	**+0.4**
LSA			pmax	pmax		
	comp=Z,49nm,1.3s					
LSA	**Lhasa**	**81.57 308**	P	**P**	**23 53 58.9**	**+0.4**
SNAA	**Sanae**	**81.92 187**	P	**P**	**23 53 58.8**	**-0.5**
SNAA	**Sanae**	**81.92 187**	PcP	**PcP**	**23 54 09.4**	**+4.5**
SNAA	**Sanae**	**81.92 187**	P	**P**	**23 53 58.8**	**-0.5**
	comp=Z,33nm,0.9s,baz=154,slow=4.5,SNR=95					
SNAA	**Sanae**	**81.92 187**	*ce*P	**P**	**23 53 59.4**	**+0.1**
SNAA			pmax	pmax		
	comp=Z,141nm,1.7s					
GTA	**Gaotai**	**82.03 321**	⇑P	**P**	**23 54 02.0**	**+1.7**
GTA			pP	pwP	23 54 08.3	+0.7
GTA			sP	PcP	23 54 12.3	+6.5
GTA			pmax	pmax		
	comp=Z,75nm,1.2s					
GTA			pmax	pmax		
	comp=Z,580nm,7.6s					
GTA			LR	LR		
	comp=Z,210nm,16.3s					
GTA			LR	LR		
	comp=Z,380nm,16.7s					
GTA			LR	LR		
	comp=Z,250nm,16.3s					
ATKA	**Atka Island**	**82.04 19**	P	**P**	**23 53 59.5**	**-0.3**
ATKA			IAmb	IAmb	23 54 00.8	
	comp=Z,54nm,1.0s					
ZEA	**Zeya**	**82.16 344**	*ce*P	**P**	**23 54 01.4**	**+0.9**
ZEA			*e*		23 54 01.4	
ZEA			*e*		23 57 08.8	
ZEA			*e*S	**S**	**00 04 18.4**	**+3.2**
ZEA			*e*SS	**SS**	**00 09 38.1**	**+2.4**
ZEA			pmax	pmax		
	comp=N,30nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,50nm,1.2s					
ZEA			pmax	pmax		
	comp=E,100nm,4.9s					
ZEA			pmax	pmax		
	comp=N,200nm,5.0s					
ZEA			pmax	pmax		
	comp=Z,300nm,6.0s					
ZEA			pmax	pmax		
	comp=Z,100nm,4.2s					
ZEA			smax	smax		
	comp=E,200nm,10.7s					
VNA3	**Neumayer Olymp**	**83.00 185**	P	**P**	**23 54 04.2**	**-0.6**
VNA3	**Neumayer Olymp**	**83.00 185**	PcP	**PcP**	**23 54 14.6**	**+5.0**
VNA2	**Neumayer--Watz**	**83.10 186**	P	**P**	**23 54 05.1**	**-0.3**
	baz=158,slow=5.2					
VNA2	**Neumayer--Watz**	**83.10 186**	PcP	**PcP**	**23 54 15.4**	**+5.4**
VNA1	**Neumayer--Stat**	**83.45 186**	P	**P**	**23 54 06.8**	**-0.4**
VNA1	**Neumayer--Stat**	**83.45 186**	PcP	**PcP**	**23 54 17.1**	**+5.7**
JIRN	**Jiri**	**84.05 304**	*e*P	**P**	**23 54 12.0**	**+0.6**
	comp=E,504nm,1.7s					
ULN	**Ulaanbaatar**	**84.30 330**	P	**P**	**23 54 12.9**	**+1.0**
ULN			pmax	pmax		
	comp=Z,150nm,1.4s					
ULN	**Ulaanbaatar**	**84.30 330**	P	**P**	**23 54 12.9**	**+1.0**
NIKH	**Nikolski High**	**84.37 21**	P	**P**	**23 54 11.6**	**-0.3**
	baz=213					
NIKH	**Nikolski High**	**84.37 21**	P	**P**	**23 54 11.8**	**0.0**
NIKH			IAmb	IAmb	23 54 12.9	
	comp=Z,75nm,1.2s					
SONM	**Songino Array**	**84.58 330**	P	**P**	**23 54 14.3**	**+1.0**
	comp=Z,29nm,1.0s,baz=152,slow=5.2,SNR=118					
SONM			PP	**PP**	**23 57 28.0**	**-1.2**
	comp=Z,8.5nm,1.2s,baz=149,slow=8.1,SNR=5.3					
SONM			PKKPbc	**PKKPbc**	**00 12 24.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=336,slow=3.3,SNR=4.8					
SONM			PKPPKP	**P'P'df**	**00 20 31.6**	**+6.3**
	comp=Z,0.3nm,0.3s,baz=259,slow=1.5,SNR=5.6					
SONM	**Songino Array**	**84.58 330**	P	**P**	**23 54 14.3**	**+1.0**
SONM	**Songino Array**	**84.58 330**	P	**P**	**23 54 13.8**	**+0.6**
PKI	**Pulchoki**	**84.59 304**	*e*P	**P**	**23 54 14.3**	**+0.2**
	comp=Z,382nm,1.5s					
PKIN	**Phulchoki**	**84.61 304**	*e*P	**P**	**23 54 14.4**	**+0.3**
	comp=Z,358nm,1.5s					
MA2	**Magadan**	**84.67 358**	P	**P**	**23 54 12.7**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=196,slow=6.8,SNR=7.2					
MA2			LR	LR	00 28 02.7	
	comp=Z,117nm,21.0s,baz=169,slow=33					
MA2	**Magadan**	**84.67 358**	*ce*P	**P**	**23 54 12.6**	**-0.7**
MA2			pmax	pmax		
	comp=Z,4.0nm,0.4s					
MA2	**Magadan**	**84.67 358**	P	**P**	**23 54 13.1**	**-0.1**
MA2			IAmb	IAmb	23 54 14.5	
	comp=Z,91nm,1.6s					

KKN	Kakani	84.81	304	eP		P		23 54 15.6	+0.6
	comp=Z,420nm,1.4s								
DMN	Daman	84.84	304	eP		P		23 54 15.7	+0.5
HYB	Hyderabad	85.00	292	i P		P		23 54 15.0	-1.0
HYB				ep	P	PcP		23 54 20.0	+0.8
HYB	Hyderabad	85.00	292	eP		P		23 54 15.7	-0.2
HYB				i x		x		23 54 26.1	
PMSA	Palmer Station	85.38	165	P		P		23 54 16.9	-0.1
GKN	Gorkha	85.40	304	eP		P		23 54 18.2	+0.3
	comp=Z,478nm,1.3s								
UNV	Unalaska Valle	85.88	22	P		P		23 54 19.3	-0.1
	baz=215								
KOLN	Koldanda	86.06	303	eP		P		23 54 21.4	+0.1
	comp=Z,525nm,1.4s								
DANN	Dangsing	86.24	304	eP		P		23 54 21.9	-0.4
AKUT	Akutan	86.37	22	P		P		23 54 22.0	+0.2
AKUT				IAmb		IAmb		23 54 23.1	
	comp=Z,87nm,1.2s								
SPIA	Saint Paul Isl	87.50	18	P		P		23 54 28.0	+0.7
	baz=212								
FALS	False Pass	87.77	23	P		P		23 54 28.6	0.0
	baz=218								
FALS	False Pass	87.77	23	P		P		23 54 29.1	+0.5
FALS				IAMs_20		IAMs_20		00 41 25.0	
	comp=Z,1μm,20.0s								
ZAK	Zakamensk	87.83	330	eP		P		23 54 29.0	-0.2
ZAK				pmax		pmax			
	comp=Z,38nm,1.6s								
GOA	Goa	88.13	288	eP		P		23 54 32.1	+0.8
BHPL	Bhopal	88.68	296	eP		P		23 54 33.3	-0.5
BHPL				i pP		pwP		23 54 43.7	+2.6
IRK	Irkutsk	88.74	332	eP		P		23 54 32.4	-0.9
IRK				pmax		pmax			
	comp=Z,83nm,2.9s								
CNBA	Chernabura Isl	89.14	25	P		P		23 54 35.2	+0.1
CNBA				IAmb		IAmb		23 54 36.9	
	comp=Z,74nm,1.5s								
CNBA				IAMs_20		IAMs_20		00 40 15.5	
	comp=Z,2μm,20.0s								
CHNA	Chernabura Isl	89.15	25	P		P		23 54 35.4	+0.3
	baz=221								
SDPT	Sand Point	89.22	24	P		P		23 54 35.3	-0.1
	baz=220								
SDPT	Sand Point	89.22	24	P		P		23 54 35.5	+0.1
SDPT				IAMs_20		IAMs_20		00 40 55.2	
	comp=Z,1μm,19.0s								
YAK	Yakutsk	89.29	349	P		P		23 54 35.4	-0.2
	comp=Z,11nm,0.4s,baz=294,slow=0.7,SNR=8.8								
YAK	Yakutsk	89.29	349	eP		P		23 54 35.0	-0.6
YAK				e*PP		pwP		23 54 44.9	+2.0
YAK				eS		SKSac		00 05 01.4	-3.8
YAK				e*SS		SKKSac		00 05 19.2	+1.9
YAK				pmax		pmax			
	comp=Z,70nm,1.0s								
YAK				pmax		pmax			
	comp=N,22nm,1.2s								
YAK				pmax		pmax			
	comp=E,8.0nm,1.0s								
YAK				smax		smax			
	comp=N,60nm,2.8s								
YAK				smax		smax			
	comp=E,41nm,2.0s								
YAK	Yakutsk	89.29	349	P		P		23 54 35.3	-0.3
BOD	Bodaibo	89.43	340	eP		P		23 54 34.8	-1.6
BOD				pmax		pmax			
	comp=Z,31nm,1.2s								
CHIR	Chirikof Islan	91.41	26	P		P		23 54 46.3	+0.6
	baz=224								
WMQ	Urumqi	91.89	318	eP		P		23 54 49.0	+0.7
WMQ				sP		pwP		23 54 59.3	+3.7
WMQ				pmax		pmax			
	comp=Z,68nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,400nm,4.1s								
SII	Sitkinak Islan	92.50	26	P		P		23 54 51.9	+1.2
	baz=225								
SII	Sitkinak Islan	92.50	26	P		P		23 54 51.7	+0.9
SMLA	Simla	92.59	303	eP		P		23 54 51.5	-0.3
SMLA				i x		x		23 55 01.7	
OHAK	Old Harbor	93.32	26	P		P		23 54 54.9	+0.5
	baz=226,SNR=8.2								
OHAK	Old Harbor	93.32	26	P		P		23 54 55.1	+0.6
OHAK				IAmb		IAmb		23 54 56.5	
	comp=Z,46nm,1.2s								
BILL	Bilibino	93.55	5d	i P		P		23 54 55.5	+0.2
BILL				e				23 58 37.3	
BILL				ePPP		PPP		00 00 40.4	
BILL				i S		SKSac		00 05 24.0	-5.3
BILL				pmax		pmax			
	comp=Z,114nm,1.7s								
BILL				MLR		MLR			
	comp=Z,144nm,16.0s								
BILL	Biiibino	93.55	5	P		P		23 54 55.8	+0.5
KDAK	Kodiak Island	93.98	25	P		P		23 54 58.3	+0.8
	comp=Z,20nm,1.1s,baz=229,slow=1.1,SNR=9.9								
KDAK	Kodiak Island	93.98	25	P		P		23 54 58.1	+0.6
KDAK				pmax		pmax			
	comp=Z,40nm,1.3s								
KDAK				MLR		MLR			
	comp=Z,4μm,21.0s								
KDAK	Kodiak Island	93.98	25	P		P		23 54 58.4	+0.8
	baz=226								
KDAK	Kodiak Island	93.98	25	P		P		23 54 58.0	+0.6
KDAK				IAmb		IAmb		23 54 59.5	
	comp=Z,40nm,1.3s								
O18K	Koktuh Hills	94.46	23	P		P		23 54 59.8	+0.1
	baz=224								
N18K	Kilae Creek	94.82	22	P		P		23 55 02.3	+0.9
	baz=224,SNR=13								
ANM	Nome	94.98	16	P		P		23 55 02.8	+0.8
	baz=216								
P19K	Oil Pt	95.03	24	P		P		23 55 02.5	+0.2
	baz=226								
SVW2	Sparrevohn	95.22	22	P		P		23 55 04.0	+0.8
SVW2				IAmb		IAmb		23 55 05.6	
	comp=Z,23nm,1.1s								
SVW2				IAMs_20		IAMs_20		00 40 25.9	
	comp=Z,1μm,20.0s								
DGZ	Jazzator, Alta	95.30	323	i P		P		23 55 04.2	+0.2
DGZ				pmax		pmax			
	comp=Z,42nm,1.4s								
N19K	Bonanza Creek	95.40	23	P		P		23 55 04.3	+0.2
	baz=225								
ZSN	Zaisan	95.53	320⇑	eP		P		23 55 03.7	-1.2
	comp=Z,13nm,1.2s,baz=320								
ZSN	Zaisan	95.53	320c	eP		P		23 55 03.7	-1.2
ZSN				pmax		pmax			
	comp=Z,13nm,1.2s								
O20K	Slope Mountain	95.55	24	P		P		23 55 04.8	0.0
	baz=227								
HOM	Homer	95.62	24	IAMs_20		IAMs_20		00 38 58.9	
	comp=Z,3μm,19.0s								
CNPM	China Poot	95.69	25	P		P		23 55 05.5	+0.2
RSO	Redoubt South	95.77	23	P		P		23 55 05.2	-0.7
BRLK	Bradley Lake	95.98	25	IAMs_20		IAMs_20		00 38 49.0	
	comp=Z,2μm,19.0s								
BRSE	Bradley Lake S	96.02	25	P		P		23 55 07.5	+0.6
	baz=226								
L19K	White Mountain	96.24	21	P		P		23 55 08.4	+0.5
	baz=225,SNR=12								
ABPO	Ambohimpanom	96.43	246	IAMs_20		IAMs_20		00 35 11.6	
	comp=Z,1μm,19.0s								
SPCR	Spurr Chakacha	96.47	23	P		P		23 55 08.9	0.0
	baz=227								
CAPN	Captain Cook N	96.55	24	IAMs_20		IAMs_20		00 39 10.6	
	comp=Z,3μm,20.0s								
SHLS	Shalkode	96.67	315⇑	i P		P		23 55 08.7	-1.7
	comp=Z,32nm,1.6s,baz=315								
SHLS	Shalkode	96.67	315c	i P		P		23 55 08.7	-1.7
SHLS				pmax		pmax			
	comp=Z,32nm,1.6s								
MK31	Makanchi Array	96.70	319	P		P		23 55 10.3	0.0
MK31				pmax		pmax			
	comp=Z,58nm,1.5s								
MK31	Makanchi Array	96.70	319	P		P		23 55 10.3	0.0
MKAR	Makanchi Array	96.70	319	P		P		23 55 10.3	0.0
	comp=Z,14nm,0.7s,baz=98,slow=6.3,SNR=83								
MKAR				PKKPbc		PKKPbc		00 11 53.7	-0.9
	comp=Z,1.3nm,0.8s,baz=305,slow=3.4,SNR=6.1								
MKAR				PKPPKP		P'P'df		00 20 04.1	+0.1
	comp=Z,1.3nm,1.1s,baz=310,slow=7.5,SNR=3.5								
MKAR	Makanchi Array	96.70	319	P		P		23 55 10.3	0.0
MKAR	Makanchi Array	96.70	319	P		P		23 55 10.1	-0.2
SEW	Seward	96.75	25	P		P		23 55 10.2	+0.2
	baz=229								
O22K	Cooper Landing	96.89	24	IAMs_20		IAMs_20		00 38 48.3	
	comp=Z,3μm,20.0s								
MAKZ	Makanchi	96.89	319	P		P		23 55 10.3	-0.8
MAKZ				pmax		pmax			
	comp=Z,29nm,0.9s								
MAKZ	Makanchi	96.89	319	P		P		23 55 10.3	-0.8
MAKZ				IAmb		IAmb		23 55 22.3	
	comp=Z,29nm,0.8s								
UZB	Uzynbulak	96.95	315	eP		P		23 55 11.6	-0.1
UZB				pmax		pmax			
	comp=Z,20nm,1.5s								
TARG	Taragay, Kyrgy	97.08	313	P		P		23 55 12.4	-0.2
FIS	Fire Island	97.15	24	IAMs_20		IAMs_20		00 39 16.9	
	comp=Z,2μm,18.0s								
SUA	Susitna One	97.17	23	P		P		23 55 11.9	-0.2
	baz=228								
SUA	Susitna One	97.17	23	P		P		23 55 11.8	-0.3
SUA				IAmb		IAmb		23 55 13.3	
	comp=Z,35nm,1.2s								
SUA				IAMs_20		IAMs_20		00 39 20.8	
	comp=Z,2μm,21.0s								
SKT	Skwentna	97.23	23	P		P		23 55 11.2	-1.1
	baz=228								
SKT	Skwentna	97.23	23	P		P		23 55 11.5	-0.8
SKT				IAMs_20		IAMs_20		00 39 51.6	
	comp=Z,2μm,19.0s								
RC01	Rabbit Creek A	97.29	24	P		P		23 55 13.2	+0.6
	baz=229								
RC01	Rabbit Creek A	97.29	24	P		P		23 55 12.9	+0.4
RC01				IAmb		IAmb		23 55 14.2	
	comp=Z,47nm,1.4s								
RC01				IAMs_20		IAMs_20		00 38 60.0	
	comp=Z,2μm,21.0s								
SATY	Saty	97.31	314	eP		P		23 55 12.7	-0.6
	comp=Z,15nm,1.7s,baz=314								
SATY	Saty	97.31	314	eP		P		23 55 12.6	-0.6
SATY				pmax		pmax			
	comp=Z,15nm,1.7s								
KSH	Kashi	97.32	310	P		Pdif		23 55 14.3	+0.8
KSH				sP		pwP		23 55 24.5	+3.8
KSH				pmax		pmax			
	comp=Z,17nm,0.8s								
KSH				pmax		pmax			
	comp=Z,97nm,3.7s								
KSH				LR		LR			
	comp=Z,290nm,9.0s								
KSH				LR		LR			
	comp=Z,170nm,4.7s								
KSH				LR		LR			
	comp=Z,120nm,3.4s								
KPKS	Kokpek	97.32	315⇑	i P		P		23 55 12.3	-1.0
	comp=Z,32nm,1.6s,baz=315								
KPKS	Kokpek	97.32	315c	i P		P		23 55 12.2	-1.0
KPKS				pmax		pmax			
	comp=Z,32nm,1.6s								
K20K	Telida	97.33	21	P		P		23 55 13.3	+0.6
	baz=226,SNR=11								
Q23K	Middleton Isla	97.53	26	IAMs_20		IAMs_20		00 37 35.4	
	comp=Z,2μm,19.0s								
MID	Middleton Isla	97.53	26	IAMs_20		IAMs_20		00 37 35.5	
	comp=Z,2μm,19.0s								
PPLA	Purkeypile	97.63	22	P		P		23 55 13.5	-0.7
	baz=227								
PPLA	Purkeypile	97.63	22	IAMs_20		IAMs_20		00 40 19.1	
	comp=Z,2μm,21.0s								
PWL	Port Wells	97.66	25	P		P		23 55 14.9	+0.6
PWL				IAmb		IAmb		23 55 16.9	
	comp=Z,34nm,1.2s								
PWL				IAMs_20		IAMs_20		00 38 38.3	
	comp=Z,2μm,20.0s								
KDJ	Kajisay	97.68	313	P		P		23 55 14.6	-0.5
KDJ	Kajisay	97.68	313	P		P		23 55 14.6	-0.5
PMR	Palmer	97.84	24	P		P		23 55 15.7	+0.7
PMR				pmax		pmax			
	comp=Z,32nm,1.2s								
PMR				MLR		MLR			
	comp=Z,2μm,21.0s								
PMR	Palmer	97.84	24	P		P		23 55 15.7	+0.7
PMR				IAmb		IAmb		23 55 16.7	
	comp=Z,32nm,1.2s								
PMR				IAMs_20		IAMs_20		00 39 05.5	
	comp=Z,2μm,21.0s								
J20K	Nowinta River	97.88	20	P		P		23 55 15.8	+0.7
	baz=226								
CUT	Chulitna	97.96	23	P		P		23 55 15.1	-0.4
	baz=229								
CUT	Chulitna	97.96	23	IAMs_20		IAMs_20		00 39 36.9	
	comp=Z,2μm,22.0s								
KNK	Knik Glacier	97.97	24	P		P		23 55 16.3	+0.6
	baz=230								
KNK	Knik Glacier	97.97	24	P		Pdif		23 55 16.4	+0.8
KNK				IAMs_20		IAMs_20		00 38 53.6	
	comp=Z,2μm,21.0s								
GHO	Glory Hole Cre	98.03	24	P		P		23 55 16.5	+0.5
GHO				IAmb		IAmb		23 55 17.8	
	comp=Z,46nm,1.5s								
GHO				IAMs_20		IAMs_20		00 39 09.4	
	comp=Z,2μm,20.0s								
GLI	Glacier Island	98.14	25	IAMs_20		IAMs_20		00 38 27.3	
	comp=Z,2μm,20.0s								
TDK	Taldyqorghan	98.21	316	eP		P		23 55 15.1	-2.1
	baz=316								
TDK	Taldyqorghan	98.21	316	eP		P		23 55 15.0	-2.1
ARXS	Arharly	98.22	315	eP		P		23 55 16.6	-0.7
MDOK	Medeo	98.24	314	eP		P		23 55 15.6	-1.9
	baz=314								
MDOK	Medeo	98.24	314	eP		P		23 55 15.6	-1.9
CHUM	Lake Minchumin	98.26	21	P		P		23 55 17.1	+0.2
	baz=227								
SML	Sawmill	98.27	24	P		P		23 55 17.4	+0.4
	baz=230								
SML	Sawmill	98.27	24	IAMs_20		IAMs_20		00 39 04.5	
	comp=Z,2μm,21.0s								
FID	Port Fidalgo	98.30	25	IAMs_20		IAMs_20		00 38 19.1	
	comp=Z,2μm,19.0s								
RDOG	Red Dog Mine	98.37	15	P		Pdif		23 55 19.0	+1.7
	baz=218								
RDOG	Red Dog Mine	98.37	15	IAMs_20		IAMs_20		00 45 12.6	
	comp=Z,1μm,19.0s								
EYAK	Cordova Ski Ar	98.46	26	P		P		23 55 18.4	+0.6
	baz=232								
KTH	Kantishna Hill	98.50	22			P		23 55 17.2	-0.8
KTH				IAmb		IAmb		23 55 18.7	
	comp=Z,17nm,1.2s								
KTH				IAMs_20		IAMs_20		00 40 22.0	
	comp=Z,2μm,20.0s								
CHKK	Chushkaly	98.59	314	eP		P		23 55 16.9	-2.1
	baz=315								
CHKK	Chushkaly	98.59	314	eP		P		23 55 16.8	-2.1
KAIM	Kayak Island	98.61	27	IAMs_20		IAMs_20		00 37 26.7	
	comp=Z,2μm,21.0s								
TRF	Thorofare Moun	98.64	22	P		P		23 55 18.4	-0.5
	baz=229								
TRF	Thorofare Moun	98.64	22	IAMs_20		IAMs_20		00 40 56.3	
	comp=Z,2μm,18.0s								
SCM	Sheep Creek Mo	98.65	24	P		P		23 55 19.1	+0.3
SCM				pmax		pmax			
	comp=Z,16nm,0.6s								
SCM				MLR		MLR			
	comp=Z,2μm,22.0s								
SCM	Sheep Creek Mo	98.65	24	P		P		23 55 19.1	+0.3
SCM				IAmb		IAmb		23 57 27.0	
	comp=Z,16nm,0.6s								
SCM				IAMs_20		IAMs_20		00 38 55.7	
	comp=Z,2μm,22.0s								
BPAW	Bear Paw Mtn.	98.84	21	P		P		23 55 18.7	-0.8
	baz=228,SNR=6.7								
BPAW	Bear Paw Mtn.	98.84	21			P		23 55 18.9	-0.7
BPAW				IAMs_20		IAMs_20		00 40 53.6	
	comp=Z,2μm,19.0s								
WAT1	Susitna Watana	98.84	23	P		P		23 55 19.5	0.0
	baz=230								
ZAA0	Zalesovo Array	98.94	326	P		P		23 55 19.0	-1.1
ZALV	Zalesovo Beam	98.94	326	P		P		23 55 19.2	-0.9
	comp=Z,1.3nm,0.6s,baz=120,slow=2.6,SNR=7.9								
ZALV				PKKPbc		PKKPbc		00 11 45.9	-2.7
	comp=Z,0.9nm,0.7s,baz=316,slow=8.3,SNR=4.3								
ZALV	Zalesovo Beam	98.94	326	P		P		23 55 19.2	-0.9
KLU	Klutina	98.97	25	P		P		23 55 19.7	-0.5
	baz=232								
KLU	Klutina	98.97	25	IAMs_20		IAMs_20		00 38 33.5	
	comp=Z,2μm,21.0s								
WAT6	Susitna Watana	98.97	23	P		P		23 55 20.5	+0.2
	baz=231								
KUU	Kurty	99.03	314⇑	i P		Pdif		23 55 19.4	-1.5
	comp=Z,39nm,1.3s,baz=314								
KUU	Kurty	99.03	314c	i P		Pdif		23 55 19.3	-1.5
KUU				pmax		pmax			
	comp=Z,39nm,1.3s								
RND	Reindeer	99.11	22	P		Pdif		23 55 21.0	+0.2
RND				pmax		pmax			
	comp=Z,17nm,1.2s								
RND				MLR		MLR			
	comp=Z,2μm,21.0s								
RND	Reindeer	99.11	22	P		Pdif		23 55 21.0	+0.2
RND				IAmb		IAmb		23 55 22.1	
	comp=Z,17nm,1.2s								
RND				IAMs_20		IAMs_20		00 39 58.6	
	comp=Z,2μm,21.0s								
BMRM	Bremner River	99.16	26	P		Pdif		23 55 21.2	+0.2
	baz=233								
BMRM	Bremner River	99.16	26	P		Pdif		23 55 21.4	+0.4
BMRM				IAmb		IAmb		23 55 32.4	
	comp=Z,41nm,1.6s								
BMRM				IAMs_20		IAMs_20		00 38 08.5	
	comp=Z,2μm,19.0s								
BERG	Berg Lake	99.18	26	IAMs_20		IAMs_20		00 37 44.7	
	comp=Z,2μm,18.0s								
I21K	Tanana	99.25	20	P		Pdif		23 55 21.8	+0.6
	baz=228								
M24K	Tolsona, Glenn	99.25	24	P		Pdif		23 55 22.2	+0.8
	baz=232								
M24K	Tolsona, Glenn	99.25	24	IAMs_20		IAMs_20		00 39 02.9	
	comp=Z,1μm,20.0s								
IMAR	Indian Mountai	99.26	19	P		Pdif		23 55 21.4	+0.1
MCK	McKinley	99.29	22	P		Pdif		23 55 21.7	+0.2
MCK				pmax		pmax			
	comp=Z,28nm,1.2s								
MCK				MLR		MLR			
	comp=Z,2μm,19.0s								
MCK	McKinley	99.29	22	P		Pdif		23 55 21.1	-0.4
	baz=230,SNR=7.0								
MCK	McKinley	99.29	22	P		Pdif		23 55 21.7	+0.2
MCK				IAmb		IAmb		23 55 23.4	
	comp=Z,28nm,1.2s								
MCK				IAMs_20		IAMs_20		00 40 18.5	
	comp=Z,2μm,19.0s								
BWN	Browne	99.39	22	IAMs_20		IAMs_20		00 40 59.7	
	comp=Z,2μm,19.0s								
MLY	Manley	99.54	21	P		Pdif		23 55 22.4	-0.2
	baz=229								
MLY	Manley	99.54	21			Pdif		23 55 22.7	+0.1
MLY				IAMs_20		IAMs_20		00 41 08.0	
	comp=Z,2μm,22.0s								
N25K	Chitina, Valde	99.54	25	P		Pdif		23 55 23.3	+0.5
	baz=233								
N25K	Chitina, Valde	99.54	25			Pdif		23 55 23.8	+1.0
N25K				IAmb		IAmb		23 55 32.7	
	comp=Z,22nm,1.8s								
N25K				IAMs_20		IAMs_20		00 38 27.3	
	comp=Z,2μm,22.0s								
CRQM	Cirque	99.61	26	IAMs_20		IAMs_20		00 37 51.7	
	comp=Z,2μm,20.0s								
CRQE	Cirque	99.63	26	P		Pdif		23 55 23.3	0.0
	baz=235								
SEM	Semipalatinsk	99.64	321	eP		Pdif		23 55 21.4	-2.3
	baz=322								
SEM	Semipalatinsk	99.64	321	eP		Pdif		23 55 21.3	-2.3
GLB	Gilahina Butte	99.75	25	IAMs_20		IAMs_20		00 38 16.8	
	comp=Z,3μm,22.0s								
MESA	MESA	99.77	27	P		Pdif		23 55 23.9	0.0
	baz=235								
VRDI	Verde Repeater	99.77	26	IAMs_20		IAMs_20		00 38 07.2	
	comp=Z,3μm,22.0s								
NEA2	Nenana	99.80	21	P		Pdif		23 55 23.2	-0.6
	baz=230,SNR=5.7								
NEA2	Nenana	99.80	21	IAMs_20		IAMs_20		00 40 44.9	
	comp=Z,2μm,22.0s								
SGDS	Sogindy	99.95	313	eP		Pdif		23 55 22.8	-2.2
	baz=313								
SGDS	Sogindy	99.95	313	eP		Pdif		23 55 22.8	-2.2
MCARA	McCarthy VSAT	100.02	26	P		Pdif		23 55 25.3	+0.5
	baz=235								
PAX	Paxson	100.04	24	P		Pdif		23 55 25.1	+0.1
	baz=233								
PAX	Paxson	100.04	24	IAMs_20		IAMs_20		00 39 22.3	
	comp=Z,2μm,21.0s								
WRH	Wood River Hil	100.05	22	IAMs_20		IAMs_20		00 40 45.5	
	comp=Z,2μm,20.0s								
I23K	Minto, Yukon-K	100.06	21	P		Pdif		23 55 24.7	-0.1
	baz=230								
I23K	Minto, Yukon-K	100.06	21	IAMs_20		IAMs_20		00 40 59.8	
	comp=Z,3μm,22.0s								
CCB	Clear Creek Bu	100.25	22	IAMs_20		IAMs_20		00 40 45.9	
	comp=Z,2μm,21.0s								
MDM	Murphy Dome	100.31	21	IAMs_20		IAMs_20		00 40 56.4	
	comp=Z,2μm,21.0s								
GDXM	Geysers	100.35	52	IAMs_20		IAMs_20		00 37 47.8	
	comp=Z,3μm,21.0s								
TCOL	CIGO, UAF Yank	100.38	22	IAMs_20		IAMs_20		00 40 52.2	
	comp=Z,3μm,21.0s								
COLA	College	100.38	22	IAMs_20		IAMs_20		00 40 52.2	
	comp=Z,2μm,21.0s								
HDA	Harding Lake	100.39	22	P		Pdif		23 55 26.3	-0.1
	baz=232,SNR=6.8								
HDA	Harding Lake	100.39	22	IAMs_20		IAMs_20		00 40 22.7	
	comp=Z,3μm,22.0s								
H23K	Yukon River	100.44	20	P		Pdif		23 55 27.0	+0.4
	baz=230								
CTG	Chitna Glacier	100.46	27	P		Pdif		23 55 27.4	+0.5
	baz=236								
SAO	San Andreas Ge	100.50	54	IAMs_20		IAMs_20		00 39 05.8	
	comp=Z,2μm,18.0s								
M26K	Nabesna, AK	100.62	25	P		Pdif		23 55 28.4	+0.9
	baz=235								
ILAR	Eielson Array	100.64	22	P		Pdif		23 55 26.0	-1.5
	comp=Z,2.7nm,0.9s,baz=249,slow=4.2,SNR=21								
ILAR				PP		PP		23 59 29.1	-6.0
	comp=Z,4.1nm,1.2s,baz=227,slow=7.4,SNR=8.3								
ILAR				PKKPab		PKKPdf		00 12 15.7	+26
	comp=Z,1.1nm,0.9s,baz=49,slow=3.3,SNR=6.8								
ILAR	Eielson Array	100.64	22	P		Pdif		23 55 26.0	-1.5
KURK	Kurchatov	100.70	321	P		Pdif		23 55 26.9	-1.2
KURK	Kurchatov	100.70	321			Pdif		23 55 26.9	-1.2
KURBB	Kurchatov Arra	100.71	321	P		Pdif		23 55 26.9	-1.2
	comp=Z,2.1nm,1.2s,baz=123,slow=3.2,SNR=9.4								
KURBB				PP		PP		23 59 31.0	-4.9
	comp=Z,4.4nm,1.1s,baz=120,slow=6.8,SNR=7.5								
RIDG	Independent Ri	100.72	23	P		Pdif		23 55 28.6	+

GSC	Goldstone, Bar	103.41	57	IAMs_20	IAMs_20	00 41 43.0		
	comp=Z,2μm,21.0s							
NVAR	Mina Array Bea	103.44	54	Pdiff	Pdif	23 55 42.8	+1.9	
	comp=Z,0.3nm,0.6s,baz=226,slow=6.1,SNR=4.3							
NVAR				PP	PP	23 59 54.3	-2.8	
	comp=Z,1.2nm,1.0s,baz=218,slow=9.3,SNR=5.3							
NVAR				PKKPab	PKKPdf	00 12 04.3	+20	
	comp=Z,1.5nm,1.0s,baz=80,slow=4.3,SNR=7.4							
NVAR	Mina Array Bea	103.44	54		Pdif	23 55 42.4	+1.5	
GUVIX	Guadalupe Vict	103.66	61	IAMs_20	IAMs_20	00 42 55.8		
	comp=Z,1μm,18.0s							
KVN	Kaiserville	103.82	53	IAMs_20	IAMs_20	00 34 34.7		
	comp=Z,992nm,19.0s							
BRZS	Berezniki	103.85	319	*e*PKiKP	PKiKP	23 59 58.6	-1.3	
	baz=319							
GLA	Glamis	104.12	60	IAMs_20	IAMs_20	00 43 28.9		
	comp=Z,1μm,21.0s							
DLBC	Dease Lake	104.20	32	IAMs_20	IAMs_20	00 35 34.7		
	comp=Z,967nm,19.0s							
TPNV	Topopah Spring	104.43	56	IAMs_20	IAMs_20	00 41 09.8		
	comp=Z,2μm,20.0s							
SHPR	Sheep Range	105.09	57	IAMs_20	IAMs_20	00 41 34.5		
	comp=Z,1μm,20.0s							
214A	Organ Pipe Nat	105.33	62	P	PKiKP	00 00 03.4	+0.2	
	baz=249							
214A	Organ Pipe Nat	105.33	62	IAMs_20	IAMs_20	00 44 45.8		
	comp=Z,1μm,20.0s							
R11A	Troy Canyon, C	105.41	55	IAMs_20	IAMs_20	00 40 39.8		
	comp=Z,2μm,20.0s							
NRIK	Noril'sk	105.73	340	Pdiff	Pdif	23 55 51.5	+1.5	
	comp=Z,3.7nm,0.6s,baz=131,slow=6.1,SNR=6.1							
NRIK				PKiKP	PKiKP	00 00 01.7	-1.0	
	comp=Z,1.7nm,0.8s,baz=346,slow=4.2,SNR=2.2							
NRIK	Noril'sk	105.73	340	*i* P	Pdif	23 55 49.8	-0.2	
NRIK				MLR	MLR			
	comp=Z,300nm,20.0s							
NRIK	Noril'sk	105.73	340	Pdif	Pdif	23 55 49.8	-0.2	
HSIG		105.81	65	IAMs_20	IAMs_20	00 45 53.7		
	comp=Z,1μm,21.0s							
BVAR	Borovoye Array	106.30	321	Pdiff	Pdif	23 55 52.2	-0.7	
	comp=Z,1.2nm,0.9s,baz=211,slow=23,SNR=5.2							
BVAR				PP	PP	00 00 07.7	-10	
	comp=Z,1.1nm,0.8s,baz=196,slow=9.9,SNR=3.6							
ELK	Elko	106.47	52	IAMs_20	IAMs_20	00 39 36.9		
	comp=Z,2μm,21.0s							
SPR3	Spring Creek 3	106.56	54	IAMs_20	IAMs_20	00 40 45.1		
	comp=Z,2μm,20.0s							
INK	Inuvik	107.04	22	PKiKP	PKiKP	00 00 04.0	-1.2	
	comp=Z,3.1nm,1.1s,baz=278,slow=1.0,SNR=3.0							
INK	Inuvik	107.04	22	P	PKiKP	00 00 07.2	+2.0	
	baz=244							
TUC	Tucson	107.06	62	P	PKiKP	00 00 07.7	+1.3	
	baz=250							
TUC	Tucson	107.06	62	IAMs_20	IAMs_20	00 45 09.8		
	comp=Z,1μm,19.0s							
NEW	Newport	107.63	45	P	PKiKP	00 00 07.8	+0.8	
	baz=252							
WUAZ	Wupatki	107.65	59	P	PKiKP	00 00 08.4	+0.9	
	baz=251							
WUAZ	Wupatki	107.65	59	IAMs_20	IAMs_20	00 43 08.2		
	comp=Z,2μm,20.0s							
HLID	Hailey	107.96	50	P	PKiKP	00 00 08.2	+0.3	
	baz=252							
DUG	Dugway, Tooele	108.05	54	P	PKiKP	00 00 08.6	+0.5	
	baz=252							
DUG	Dugway, Tooele	108.05	54	IAMs_20	IAMs_20	00 40 49.6		
	comp=Z,2μm,20.0s							
W18A	Petrified Fore	108.79	59	P	PKiKP	00 00 10.3	+0.5	
	baz=252							
W18A	Petrified Fore	108.79	59	IAMs_20	IAMs_20	00 44 07.6		
	comp=Z,2μm,20.0s							
MSO	Missoula	109.25	47	IAMs_20	IAMs_20	00 36 55.2		
	comp=Z,934nm,20.0s							
121A	Cookes Peak, D	109.54	63	P	PKiKP	00 00 11.8	+0.6	
	baz=252							
121A	Cookes Peak, D	109.54	63	IAMs_20	IAMs_20	00 45 44.3		
	comp=Z,1μm,21.0s							
GEYT	Alibeck	109.68	303	PKiKP	PKiKP	00 00 11.1	0.0	
	comp=Z,2.3nm,0.8s,baz=50,slow=12,SNR=4.6							
AHID	Auburn Hatcher	110.04	51	IAMs_20	IAMs_20	00 39 54.2		
	comp=Z,2μm,21.0s							
PV10	Paradox Valley	110.30	56	IAMs_20	IAMs_20	00 44 29.7		
	comp=Z,2μm,21.0s							
PV19	Morning Glory	110.32	56	IAMs_20	IAMs_20	00 42 38.0		
	comp=Z,1μm,22.0s							
TPAW	Teton Pass	110.35	51	IAMs_20	IAMs_20	00 39 41.3		
	comp=Z,1μm,22.0s							
PV18	Skein Mesa, Pa	110.36	56	IAMs_20	IAMs_20	00 43 19.0		
	comp=Z,2μm,18.0s							
PV16	Nyswonger Mesa	110.38	56	IAMs_20	IAMs_20	00 42 56.3		
	comp=Z,1μm,21.0s							
MVCO	Mesa Verde	110.38	58	P	PKiKP	00 00 12.7	0.0	
	baz=253							
MVCO	Mesa Verde	110.38	58	IAMs_20	IAMs_20	00 43 45.6		
	comp=Z,1μm,20.0s							
REDW	Red Top Meadow	110.38	51	IAMs_20	IAMs_20	00 39 46.4		
	comp=Z,1μm,18.0s							
PV11	David Mesa, Pa	110.41	56	IAMs_20	IAMs_20	00 42 39.1		
	comp=Z,1μm,22.0s							
BOZ	Bozeman (W)	110.45	48	IAMs_20	IAMs_20	00 39 12.0		
	comp=Z,2μm,21.0s							
PV12	Saucer Basin,	110.46	56	IAMs_20	IAMs_20	00 42 38.6		
	comp=Z,2μm,22.0s							
SNOW	Snow King Moun	110.47	51	IAMs_20	IAMs_20	00 40 06.7		
	comp=Z,2μm,19.0s							
PV01	Paradox Valley	110.59	57	IAMs_20	IAMs_20	00 43 30.9		
	comp=Z,1μm,18.0s							
LOHW	Long Hollow	110.62	51	IAMs_20	IAMs_20	00 40 16.8		
	comp=Z,2μm,20.0s							
FLWY	Flagg Ranch	110.68	50	IAMs_20	IAMs_20	00 40 06.4		
	comp=Z,2μm,20.0s							
Y22D	IRIS PASSCAL I	110.69	61	IAMs_20	IAMs_20	00 45 07.1		
	comp=Z,1μm,20.0s							
PV15	Paradox Valley	110.71	56	IAMs_20	IAMs_20	00 43 23.2		
	comp=Z,2μm,20.0s							
ZAIG	Zacatecas	110.79	74	IAMs_20	IAMs_20	00 52 26.9		
	comp=Z,2μm,20.0s							
BW06	Boulder Array	111.13	52	P	PKiKP	00 00 15.0	+1.0	
	baz=254							
PDAR	Pinedale Array	111.13	52	Pdiff	Pdif	23 56 24.5	+10	
	comp=Z,0.2nm,0.6s,baz=235,slow=7.5,SNR=1.7							
PDAR				PKiKP	PKiKP	00 00 13.8	-0.1	
	comp=Z,0.3nm,0.6s,baz=148,slow=2.7,SNR=4.3							
PDAR				PKKPab	PKKPdf	00 11 31.4	+1.5	
	comp=Z,0.1nm,0.3s,baz=90,slow=1.5,SNR=3.9							
MNTX	Cornudas Mount	111.23	64	P	PKiKP	00 00 15.0	+0.8	
	baz=252							
MNTX	Cornudas Mount	111.23	64	IAMs_20	IAMs_20	00 47 18.4		
	comp=Z,1μm,21.0s							
ANMO	Albuquerque	111.31	60	PKKPbc	PKKPbc	00 11 19.4	+9.1	
	comp=Z,0.5nm,0.6s,baz=190,slow=4.4,SNR=3.8							
ANMO	Albuquerque	111.31	60	P	PKiKP	00 00 15.1	+0.6	
	baz=253							
O20A	White River Ci	111.38	55	P	PKiKP	00 00 15.5	+1.0	
	baz=254							
O20A	White River Ci	111.38	55	IAMs_20	IAMs_20	00 35 24.2		
	comp=Z,1μm,19.0s							
S22A	4UR Ranch, Cre	111.80	57	P	PKiKP	00 00 16.2	+0.7	
	baz=254							
TXAR	Lajitas Array	111.93	67	PKiKP	PKiKP	00 00 15.9	+0.2	
	comp=Z,1.4nm,0.7s,baz=210,slow=2.8,SNR=13							
TXAR				PKKPbc	PKKPbc	00 11 08.7	+0.7	
	comp=Z,0.5nm,0.8s,baz=75,slow=6.6,SNR=3.5							
TXAR	Lajitas Array	111.93	67	*i* PKIKP	PKiKP	00 00 15.9	+0.2	
RLMT	Red Lodge	111.94	49	P	PKiKP	00 00 16.0	+0.6	
	baz=256							
RLMT	Red Lodge	111.94	49	IAMs_20	IAMs_20	00 39 42.6		
	comp=Z,1μm,20.0s							
SMCO	Snowmass	112.07	56	IAMs_20	IAMs_20	00 43 54.5		
	comp=Z,2μm,21.0s							
EGMT	Eagleton	112.31	46	P	PKiKP	00 00 16.7	+0.9	
	baz=256							
TLIG	Tlapa	112.54	81	IAMs_20	IAMs_20	00 57 17.3		
	comp=Z,1μm,18.0s							
RWWY	Rawlins	112.54	53	IAMs_20	IAMs_20	00 41 09.7		
	comp=Z,1μm,22.0s							
YKA	Yellowknife Ar	112.70	30	PKiKP	PKiKP	00 00 15.4	-0.5	
	comp=Z,1.5nm,0.6s,baz=244,slow=0.9,SNR=5.5							
YKA				PKKPab	PKKPdf	00 11 20.2	-6.9	
	comp=Z,3.4nm,0.9s,baz=82,slow=6.0,SNR=6.7							
YKA	Yellowknife Ar	112.70	30	*i* PKIKP	PKiKP	00 00 15.5	-0.5	
SVE	Sverdlovsk	112.76	323	*e*PKiKP	PKiKP	00 00 16.1	-0.2	
SVE				pmax	pmax			
	comp=Z,12nm,1.1s							
SDCO	Great Sand Dun	112.82	58	P	PKiKP	00 00 18.0	+0.6	
	baz=255							
SDCO	Great Sand Dun	112.82	58	IAMs_20	IAMs_20	00 43 37.2		
	comp=Z,1μm,22.0s							
AKTO	Aktyubinsk	112.95	316	PKiKP	PKiKP	00 00 16.7	-0.2	
	comp=Z,2.8nm,0.7s,baz=109,slow=2.6,SNR=10							
AKTO				PKKPbc	PKKPab	00 11 14.6	+4.4	
	comp=Z,0.6nm,0.6s,baz=290,slow=2.3,SNR=3.6							
AKTO	Aktyubinsk	112.95	316	*i* PKIKP	PKiKP	00 00 16.7	-0.2	
ISCO	Idaho Springs	113.25	56	P	PKiKP	00 00 19.1	+0.9	
	baz=256							
K22A	Casper	113.27	52	P	PKiKP	00 00 19.3	+1.4	
	baz=256							
K22A	Casper	113.27	52	IAMs_20	IAMs_20	00 42 14.9		
	comp=Z,2μm,19.0s							
N23A	Red Feather La	113.27	54	P	PKiKP	00 00 18.3	+0.2	
	baz=256							
T25A	Trinidad	113.50	59	P	PKiKP	00 00 19.3	+0.7	
	baz=255							
T25A	Trinidad	113.50	59	IAMs_20	IAMs_20	00 45 09.3		
	comp=Z,2μm,19.0s							
KMBO	Kilima Mbogo	113.69	257	PKiKP	PKiKP	00 00 19.4	-0.3	
	comp=Z,0.4nm,0.4s,baz=234,slow=8.1,SNR=3.5							
KMBO	Kilima Mbogo	113.69	257	*i* PKIKP	PKiKP	00 00 19.4	-0.3	
ARU	Arti	113.81	323	PKiKP	PKiKP	00 00 17.6	-0.7	
	comp=Z,0.5nm,0.4s,baz=49,slow=0.8,SNR=4.7							
ARU				PKKPbc	PKKPab	00 11 07.8	+1.7	
	comp=Z,0.6nm,0.6s,baz=302,slow=9.0,SNR=3.0							
ARU	Arti	113.81	323	*i* PKIKP	PKiKP	00 00 18.2	-0.1	
ARU						00 01 07.6		
ARU						00 07 30.4		
ARU				SP	SP	00 10 53.9	+7.3	
MSTX	Muleshoe	113.97	62	P	PKiKP	00 00 20.1	+0.6	
	baz=255							
MSTX	Muleshoe	113.97	62	IAMs_20	IAMs_20	00 46 57.9		
	comp=Z,2μm,21.0s							
LAO	LASA Array	114.36	48	P	PKiKP	00 00 20.6	+0.8	
	baz=258							
KSCO	Kaye Shedlock'	115.31	57	IAMs_20	IAMs_20	00 40 30.3		
	comp=Z,871nm,20.0s							
JCT	Junction City	115.47	67	P	PKPdf	00 00 22.1	-0.3	
	baz=254							
ABTX	Abilene, Hawle	116.16	65	P	PKPdf	00 00 23.5	-0.1	
	baz=255							
OGNE	Ogallala	116.17	55	IAMs_20	IAMs_20	00 39 57.0		
	comp=Z,935nm,21.0s							
KVTX	Kingsville	116.28	70	IAMs_20	IAMs_20	00 51 04.2		
	comp=Z,990nm,18.0s							
735A	Kenedy	116.71	69	IAMs_20	IAMs_20	00 51 27.5		
	comp=Z,2μm,18.0s							
FURI	Furi	116.80	267	IAMs_20	IAMs_20	00 45 35.3		
	comp=Z,838nm,21.0s							
WMOK	Wichita Mounta	117.36	62	PKiKP	PKPdf	00 00 25.4	-0.5	
WMOK	Wichita Mounta	117.36	62	P	PKPdf	00 00 25.6	-0.3	
	baz=257							
WMOK	Wichita Mounta	117.36	62		PKPdf	00 00 25.4	-0.5	
CBKS	Cedar Bluff	117.47	58	P	PKPdf	00 00 25.5	-0.5	
	baz=258							
CBKS	Cedar Bluff	117.47	58	IAMs_20	IAMs_20	00 46 09.5		
	comp=Z,1μm,20.0s							
WHTX	Lake Whitney,	117.80	66	P	PKPdf	00 00 26.4	-0.4	
	baz=256							
WHTX	Lake Whitney,	117.80	66	IAMs_20	IAMs_20	00 50 03.3		
	comp=Z,2μm,18.0s							
R32A	Long Quarter,	118.19	58	IAMs_20	IAMs_20	00 46 38.4		
	comp=Z,896nm,22.0s							
OK032	Salt Plains WL	118.26	60	IAMs_20	IAMs_20	00 48 00.3		
	comp=Z,1μm,21.0s							
Z35A	Perchaven, San	118.28	64		PKPdf	00 00 26.7	-0.9	
AKT	Akhty	118.29	305	*e*PKIKP	PKPdf	00 00 28.0	+0.4	
AKT				*e*		00 01 43.2		
AKT				pmax	pmax			
	comp=Z,11nm,0.8s							
CROK	Carrier	118.37	61	IAMs_20	IAMs_20	00 46 53.4		
	comp=Z,1μm,19.0s							
BCOK	Bluff Creek, N	118.50	62	IAMs_20	IAMs_20	00 49 03.7		
	comp=Z,1μm,18.0s							
OKCFA	Oklahoma City	118.57	62	IAMs_20	IAMs_20	00 52 00.7		
	comp=Z,2μm,22.0s							
HKT	Hockley	118.66	68	IAMs_20	IAMs_20	00 51 41.0		
	comp=Z,2μm,20.0s							
KS20	Mayfield South	118.86	60	IAMs_20	IAMs_20	00 47 39.1		
	comp=Z,1μm,18.0s							
K31A	O'Neill	118.88	54	IAMs_20	IAMs_20	00 45 52.7		
	comp=Z,1μm,19.0s							
KIRV	Kirov	118.94	325	PKP	PKPdf	00 00 27.7	-0.4	
	comp=Z,13nm,0.7s,baz=168,slow=18,SNR=5.5							
KIRV	Kirov	118.94	325	PKIKP	PKPdf	00 00 27.7	-0.4	
QUOK	Quay	119.32	61	IAMs_20	IAMs_20	00 48 20.4		
	comp=Z,1μm,18.0s							
N33A	J Bar K, Exete	119.55	56	IAMs_20	IAMs_20	00 46 06.3		
	comp=Z,2μm,22.0s							
T35A	Sooner Cattle	119.61	60	IAMs_20	IAMs_20	00 48 08.2		
	comp=Z,1μm,18.0s							
MBAR	Mbarara	119.64	254	PKIKP	PKPdf	00 00 29.9	-1.2	
MBAR				MLR	MLR			
	comp=Z,900nm,19.0s							
MBAR	Mbarara	119.64	254		PKPdf	00 00 29.9	-1.2	
MBAR	Mbarara	119.64	254	IAMs_20	IAMs_20	00 48 54.5		
	comp=Z,947nm,19.0s							
EUNU	Eureka	119.78	10	IAMs_20	IAMs_20	00 51 25.8		
	comp=Z,1μm,22.0s							
KSU1	Kansas State U	119.92	58	P	PKPdf	00 00 29.8	-0.9	
	baz=260							
KSU1	Kansas State U	119.92	58	PKPdf	PKPdf	00 00 30.2	-0.4	
GROC	Groznyy	119.97	307	*i* PKIKP	PKPdf	00 00 30.4	-0.2	
GROC				*e*		00 01 59.7		
GROC				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TUL1	Leonard	120.00	62	P	PKPdf	00 00 30.3	-0.6	
	baz=259							
CPUP	Villa Florida	120.27	147	PKP	PKPdf	00 00 31.6	-0.2	
	comp=Z,3.8nm,0.7s,baz=214,slow=0.3,SNR=14							
CPUP				PKKPbc	PKKPbc	00 10 37.9	-0.9	
	comp=Z,1.4nm,0.7s,baz=47,slow=8.3,SNR=3.5							
CPUP	Villa Florida	120.27	147	PKIKP	PKPdf	00 00 31.6	-0.2	
CPUP	Villa Florida	120.27	147		PKPdf	00 00 31.2	-0.6	
GNI	Garni	120.31	303	PKKPbc	PKKPbc	00 10 40.7	+1.8	
	comp=Z,2.4nm,0.7s,baz=168,slow=4.9,SNR=4.4							
GNI	Garni	120.31	303	PKIKP	PKPdf	00 00 31.1	-0.5	
GNI	Garni	120.31	303		PKPdf	00 00 31.1	-0.5	
ECSD	EROS Data Cent	120.59	53	P	PKPdf	00 00 30.9	-0.9	
	baz=263							
ECSD	EROS Data Cent	120.59	53		PKPdf	00 00 31.0	-0.8	
ECSD	EROS Data Cent	120.59	53	IAMs_20	IAMs_20	00 45 21.8		
	comp=Z,1μm,18.0s							
PRGR	Permogore	120.80	328	*e*PKIKP	PKPdf	00 00 29.2	-2.4	
PRGR				*e*		00 01 57.7		
PRGR				pmax	pmax			
	comp=Z,68nm,1.5s							
F33A	5 Mile Ranch,	121.04	50		PKPdf	00 00 32.0	-0.6	
F33A				IAMs_20	IAMs_20	00 44 37.7		
	comp=Z,866nm,19.0s							
ALE	Alert	121.18	5	IAMs_20	IAMs_20	00 54 56.6		
	comp=Z,1μm,18.0s							
U38A	Gravette	121.21	61		PKPdf	00 00 32.6	-0.6	
ZEI	Tsey	121.30	306	*i* PKIKP	PKiKP	00 00 35.3	+1.7	
ZEI				pmax	pmax			
	comp=Z,18nm,1.2s							
TGUH	Tegucigalpa,Un	121.46	89	IAMs_20	IAMs_20	01 02 03.9		
	comp=Z,744nm,20.0s							
W39A	Magazine	121.47	63	P	PKPdf	00 00 33.4	-0.3	
	baz=259							
MIAR	Mount Ida	121.52	64	P	PKPdf	00 00 33.5	-0.4	
	baz=259							
MIAR	Mount Ida	121.52	64	IAMs_20	IAMs_20	00 50 13.1		
	comp=Z,837nm,20.0s							
AGMN	Agassiz Nation	121.53	47	IAMs_20	IAMs_20	00 45 12.5		
	comp=Z,2μm,18.0s							
HHAR	Hobbs	121.54	62	PKPdf	PKPdf	00 00 33.0	-0.9	
LPAZ	La Paz	121.56	131	PKP	PKPdf	00 00 34.7	-0.6	
	comp=Z,4.6nm,0.9s,baz=184,slow=1.1,SNR=15							
LPAZ				PKKPbc	PKKPab	00 10 44.0	+6.8	
	comp=Z,1.6nm,0.9s,baz=41,slow=3.6,SNR=4.1							
LPAZ	La Paz	121.56	131	PKIKP	PKPdf	00 00 34.7	-0.6	
LPAZ	La Paz	121.56	131		PKPdf	00 00 34.5	-0.8	
ULM	Lac du Bonnet	121.63	45	PKP	PKPdf	00 00 32.0	-1.5	
	comp=Z,13nm,0.8s,baz=319,slow=2.6,SNR=8.3							
ULM	Lac du Bonnet	121.63	45	PKIKP	PKPdf	00 00 32.3	-1.3	
ULM	Lac du Bonnet	121.63	45	PKPdf	PKPdf	00 00 32.3	-1.3	
342A	Flagon Creek P	121.93	68	IAMs_20	IAMs_20	00 52 48.0		
	comp=Z,1μm,20.0s							
KBZ	Khabaz	122.13	307	PKP	PKPdf	00 00 34.7	0.0	
	comp=Z,4.2nm,0.9s,baz=9.6,slow=6.1,SNR=12							
KBZ				PKKPbc	PKKPbc	00 10 45.9	+14	
	comp=Z,1.0nm,0.7s,baz=286,slow=4.9,SNR=3.7							
KBZ	Khabaz	122.13	307	*c* *i* PKIKP	PKPdf	00 00 34.9	+0.2	
S39A	Bolivar	122.25	60		PKPdf	00 00 34.4	-0.7	
S39A				IAMs_20	IAMs_20	00 47 55.3		
	comp=Z,683nm,18.0s							
KIV	Kislovodsk	122.30	307	*i* PKIKP	PKPdf	00 00 34.9	-0.3	
KIV				*e*		00 02 09.3		
KIV				*e*PS	PS	00 12 03.6	-2.4	
KIV				*e*SS	SS	00 18 48.7	-2.9	
KIV				pmax	pmax			
	comp=Z,25nm,1.1s							
KIV	Kislovodsk	122.30	307		PKPdf	00 00 34.9	-0.3	
P38A	Dawn	122.36	58	PKPdf	PKPdf	00 00 34.6	-0.7	
P38A				IAMs_20	IAMs_20	00 47 55.1		
	comp=Z,1μm,20.0s							
U40A	Yellville	122.41	62	P	PKPdf	00 00 34.6	-0.9	
	baz=261							
U40A	Yellville	122.41	62		PKPdf	00 00 34.8	-0.7	
W41B	Gary Mavity, V	122.71	63	P	PKPdf	00 00 35.5	-0.6	
	baz=260							
N38A	Joes South For	122.73	56		PKPdf	00 00 35.3	-0.7	
SCIA	State Center	122.87	55	P	PKPdf	00 00 35.7	-0.5	
	baz=264							
SCIA	State Center	122.87	55	IAMs_20	IAMs_20	00 47 10.4		
	comp=Z,1μm,21.0s							
F36A	Milaca	122.97	50	PKPdf	PKPdf	00 00 34.9	-1.4	
MGMO	Mountain Grove	123.00	61	PKPdf	PKPdf	00 00 35.8	-0.8	
MGMO				IAMs_20	IAMs_20	00 49 26.2		
	comp=Z,1μm,18.0s							
K38A	Parkersburg	123.27	54	IAMs_20	IAMs_20	00 47 15.9		
	comp=Z,2μm,18.0s							
VRH	Novokhopyorsk	123.29	316	*e*PKIKP	PKPdf	00 00 34.1	-2.6	
VRH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
OTAV	Otavalo	123.40	108	PKIKP	PKPdf	00 00 38.0	-0.7	
OTAV	Otavalo	123.40	108		PKPdf	00 00 38.0	-0.7	
SPMN	Marine on St.	123.44	51	P	PKPdf	00 00 36.2	-1.0	
	baz=266							
SPMN	Marine on St.	123.44	51	IAMs_20	IAMs_20	00 44 52.2		
	comp=Z,860nm,20.0s							
P40A	Paris	123.49	58	IAMs_20	IAMs_20	00 47 31.9		
	comp=Z,886nm,18.0s							
VBMS	Vicksburg	123.60	67	IAMs_20	IAMs_20	00 52 40.4		
	comp=Z,1μm,18.0s							
SPA0	Spitsbergen Ar	123.72	350	*e*PKPdf	PKPdf	00 00 36.6	-0.3	
SPITS	Spitsbergen Ar	123.72	350	PKP	PKPdf	00 00 36.7	-0.1	
	comp=Z,21nm,0.8s,baz=121,slow=7.9,SNR=10							
SPITS				PKKPbc	PKKPbc	00 10 26.4	+0.1	
	comp=Z,10nm,0.9s,baz=331,slow=8.5,SNR=3.6							
SPITS	Spitsbergen Ar	123.72	350	PKIKP	PKPdf	00 00 36.7	-0.1	
KLMR	Klimovskoe	123.81	328	*e*PKIKP	PKPdf	00 00 34.2	-3.2	
KLMR				*e*		00 02 18.9		
KLMR				pmax	pmax			
	comp=Z,86nm,1.5s							
KLMR	Klimovskoe	123.81	328	*e*PKPdf	PKPdf	00 00 34.2	-3.2	
KLMR				AMP		00 00 38.0		
	comp=Z,86nm,1.5s							
KLMR				*e*PP	PP	00 02 18.9	-1.8	
T42A	Van Buren	123.91	61		PKPdf	00 00 37.4	-1.0	
CCM	Cathedral Cave	123.93	60	PKIKP	PKPdf	00 00 37.4	-0.9	
CCM	Cathedral Cave	123.93	60	P	PKPdf	00 00 37.7	-0.7	
	baz=263							
CCM	Cathedral Cave	123.93	60		PKPdf	00 00 37.4	-0.9	
346A	Big Creek Wild	124.33	68	IAMs_20	IAMs_20	00 52 57.6		
	comp=Z,865nm,18.0s							
SOC	Sochi	124.42	307	*i* PKIKP	PKPdf	00 00 35.3	-3.8	
SOC				*e*PPP	PPP	00 05 01.6		
SOC				*e*PS	PS	00 12 15.5	-9.0	
SOC				*e*SSS	SSS	00 23 46.2		
EYMN	Ely	124.44	48	P	PKPdf	00 00 37.7	-1.4	
	baz=269							
EYMN	Ely	124.44	48	IAMs_20	IAMs_20	00 46 50.6		
	comp=Z,1μm,18.0s							
N41A	Harden Midland	124.52	57		PKPdf	00 00 38.8	-0.6	
N41A				IAMs_20	IAMs_20	00 48 35.2		
	comp=Z,2μm,21.0s							
CACAO	El Cacao, Vera	124.60	99	*e*P	PKPdf	00 00 39.1	-1.3	
VORD	Divnog

ARA0	ARCESS Array S	126.71	340	*e*PKPdf	PKPdf	00 00 42.6	-0.2		
ARCES	ARCESS Array B	126.71	340	PKP	PKPdf	00 00 42.8	0.0		
	comp=Z,11nm,0.8s,baz=158,slow=1.3,SNR=21								
ARCES	ARCESS Array B	126.71	340	PKIKP	PKPdf	00 00 42.8	0.0		
ARCES	ARCESS Array B	126.71	340		PKPdf	00 00 42.5	-0.3		
USIN	University of	126.73	60		PKPdf	00 00 43.2	-0.5		
USIN				IAMs_20	IAMs_20	00 50 21.9			
	comp=Z,733nm,20.0s								
F42A	Maple Grove Fa	126.74	51	IAMs_20	IAMs_20	00 48 31.5			
	comp=Z,2μm,19.0s								
L44A	Lake County Fo	126.83	55	P	PKPdf	00 00 43.0	-0.7		
	baz=268								
L44A	Lake County Fo	126.83	55	IAMs_20	IAMs_20	00 48 59.1			
	comp=Z,1μm,18.0s								
MARP	Paez Belalcaza	126.86	107	*e*P	PKPdf	00 00 44.0	-1.0		
SPB	Sao Paulo	127.01	155	*e*P	PKPdf	00 00 45.3	+0.5		
YOTC	Yotoco, Valle	127.07	105	*e*P	PKPdf	00 00 44.7	-0.6		
T47A	Sharon Grove	127.08	62	IAMs_20	IAMs_20	00 50 51.9			
	comp=Z,837nm,19.0s								
250A	Grady	127.11	68	IAMs_20	IAMs_20	00 53 46.4			
	comp=Z,924nm,20.0s								
PCMB	Pacaembu	127.16	150	*e*P	PKPdf	00 00 44.9	-0.2		
V48A	Smith Brothers	127.17	63		PKPdf	00 00 43.3	-1.4		
V48A				IAMs_20	IAMs_20	00 50 05.7			
	comp=Z,601nm,18.0s								
P46A	Rosedale	127.22	58		PKPdf	00 00 44.0	-0.7		
Y49A	Blount Mountai	127.27	66		PKPdf	00 00 44.0	-0.9		
SFIN	Lafayette	127.35	57	P	PKPdf	00 00 44.2	-0.7		
	baz=267								
SFIN	Lafayette	127.35	57	PKPdf	PKPdf	00 00 44.1	-0.7		
SFIN				IAMs_20	IAMs_20	00 50 19.2			
	comp=Z,1μm,18.0s								
E43A	Lone Tree Farm	127.52	50	IAMs_20	IAMs_20	00 46 47.1			
	comp=Z,744nm,20.0s								
KTK1	Kautokeino	127.67	340	*e*PKPdf	PKPdf	00 00 44.1	-0.5		
BLO	Bloomington	127.72	59	IAMs_20	IAMs_20	00 49 13.0			
	comp=Z,707nm,21.0s								
WCI	Wyandotte Cave	127.83	60	PKIKP	PKPdf	00 00 45.1	-0.7		
WCI	Wyandotte Cave	127.83	60	P	PKPdf	00 00 45.2	-0.7		
	baz=266								
WCI	Wyandotte Cave	127.83	60		PKPdf	00 00 45.1	-0.7		
WCI	Wyandotte Cave	127.83	60	IAMs_20	IAMs_20	00 51 34.0			
	comp=Z,2μm,18.0s								
PARB	Paraibuna	127.91	157	*e*P	PKPdf	00 00 46.2	-0.4		
ORTC	Ortega, Tolima	127.99	106	*e*P	PKPdf	00 00 46.5	-0.4		
PTLB	Pontes e Lacer	128.03	138	*e*P	PKPdf	00 00 47.2	+0.3		
RCLB	Rio Claro- Sao	128.03	154	*e*P	PKPdf	00 00 47.0	+0.2		
U49A	Red Boiling Sp	128.09	62		PKPdf	00 00 45.8	-0.6		
U49A				IAMs_20	IAMs_20	00 51 01.7			
	comp=Z,979nm,19.0s								
I45A	Fountain	128.09	53	IAMs_20	IAMs_20	00 48 23.4			
	comp=Z,914nm,18.0s								
Z51A	Franklin	128.22	67		PKPdf	00 00 46.3	-0.4		
TOLC	Tolima	128.25	105	*e*P	PKPdf	00 00 46.8	-1.0		
MACC	Macarena, Meta	128.32	109	*e*P	PKPdf	00 00 47.1	-0.5		
W50A	Signal Mountai	128.34	64	IAMs_20	IAMs_20	00 51 35.2			
	comp=Z,685nm,18.0s								
N47A	Urbana	128.44	57	IAMs_20	IAMs_20	00 49 47.8			
	comp=Z,978nm,19.0s								
SIM	Simferopol'	128.47	308	*i* PKIKP	PKPdf	00 00 46.3	-0.5		
SIM				pmax	pmax				
	comp=Z,13nm,1.0s								
152A	Waverly Hall	128.51	67		PKPdf	00 00 46.5	-0.8		
152A				IAMs_20	IAMs_20	00 53 53.0			
	comp=Z,1μm,20.0s								
GUY2C	Guyana, Caldas	128.52	104	*e*P	PKPdf	00 00 47.3	-1.1		
P48A	Milroy	128.59	59	IAMs_20	IAMs_20	00 51 18.7			
	comp=Z,1μm,18.0s								
DBBC	Dabeiba	128.60	102	*e*P	PKPdf	00 00 48.2	0.0		
TRO	Tromso	128.62	342	*e*Pdif	Pdif	23 57 31.7	-0.1		
R49A	Shelbyville	128.72	60	IAMs_20	IAMs_20	00 52 20.2			
	comp=Z,1μm,20.0s								
PP1B	Ponte de Pedra	128.75	144	*e*P	PKPdf	00 00 48.5	+0.2		
BR131	Keskin Array S	128.76	302	PKIKP	PKPdf	00 00 47.1	-0.6		
BR131	Keskin Array S	128.76	302		PKPdf	00 00 47.1	-0.6		
BRTR	Keskin Array B	128.76	302	PKP	PKPdf	00 00 47.5	-0.3		
	comp=Z,5.9nm,0.9s,baz=148,slow=2.8,SNR=22								
BRTR	Keskin Array B	128.76	302	PKIKP	PKPdf	00 00 47.5	-0.3		
BRTR	Keskin Array B	128.76	302		PKPdf	00 00 47.1	-0.7		
HELC	Santa Helena	128.82	103	*e*P	PKPdf	00 00 47.9	-1.0		
BB19B	Bebedouro	128.83	152	*e*P	PKPdf	00 00 48.9	+0.5		
T50A	Nancy	128.89	62		PKPdf	00 00 47.3	-0.6		
P49A	Miami Univ. Ec	129.14	59	P	PKPdf	00 00 47.8	-0.5		
	baz=267								
P49A	Miami Univ. Ec	129.14	59	IAMs_20	IAMs_20	00 51 26.3			
	comp=Z,1μm,19.0s								
Y52A	Lilburn	129.21	66	IAMs_20	IAMs_20	00 53 38.4			
	comp=Z,1μm,21.0s								
ITRB	Iturama	129.23	150	*e*P	PKPdf	00 00 49.3	+0.1		
GLMI	Grayling	129.24	52	IAMs_20	IAMs_20	00 50 14.6			
	comp=Z,2μm,19.0s								
ROSC	El Rosal	129.25	105	PKP	PKPdf	00 00 49.3	-0.5		
	comp=Z,11nm,0.5s,baz=77,slow=22,SNR=5.0								
ROSC	El Rosal	129.25	105	PKIKP	PKPdf	00 00 49.3	-0.5		
VILB	Vilhena	129.25	135	*e*P	PKPdf	00 00 50.1	+0.8		
TIGA	Tifton	129.28	69	P	PKPdf	00 00 48.7	0.0		
	baz=261								
R50A	Paris	129.38	60	IAMs_20	IAMs_20	00 52 10.7			
	comp=Z,1μm,20.0s								
ANTO	Ankara	129.42	302	PKIKP	PKPdf	00 00 48.8	-0.1		
ANTO	Ankara	129.42	302		PKPdf	00 00 48.8	-0.1		
W52A	Murphy	129.45	64		PKPdf	00 00 49.1	+0.1		
W52A				IAMs_20	IAMs_20	00 52 39.8			
	comp=Z,755nm,22.0s								
UREC	San Jos de Ur	129.53	101	*e*P	PKPdf	00 00 48.0	-1.7		
N49A	Columbus Grove	129.59	57		PKPdf	00 00 49.0	0.0		
N49A				IAMs_20	IAMs_20	00 49 46.1			
	comp=Z,983nm,19.0s								
TKL	Tuckaleechee C	129.63	64	PKIKP	PKPdf	00 00 48.9	-0.5		
TKL	Tuckaleechee C	129.63	64		PKPdf	00 00 48.9	-0.5		
TKL				IAMs_20	IAMs_20	00 52 07.5			
	comp=Z,956nm,19.0s								
VAS01	Vassouras-RJ	129.64	159	*e*P	PKPdf	00 00 50.9	+1.0		
GOGA	Godfrey	129.65	67	PKIKP	PKPdf	00 00 48.9	-0.5		
GOGA	Godfrey	129.65	67	P	PKPdf	00 00 48.9	-0.5		
	baz=263								
GOGA	Godfrey	129.65	67		PKPdf	00 00 48.9	-0.5		
CHIC	Chingaza	129.66	106	*e*P	PKPdf	00 00 49.8	-0.8		
SALV	Santo Antonio	129.69	141	*e*P	PKPdf	00 00 50.7	+0.7		
V52A	Sevierville	129.79	63		PKPdf	00 00 49.6	-0.1		
V52A				IAMs_20	IAMs_20	00 53 16.7			
	comp=Z,2μm,18.0s								
MOTC	Monteria, Cord	129.86	100	*e*P	PKPdf	00 00 48.7	-1.7		
TZTN	Tazewell	129.88	63	PKPdf	PKPdf	00 00 49.5	-0.3		
S51A	Beattyville	129.92	61		PKPdf	00 00 49.4	-0.4		
S51A				IAMs_20	IAMs_20	00 52 38.2			
	comp=Z,1μm,21.0s								
FIA1	FINESS Array S	129.94	330		PKPdf	00 00 49.0	0.0		
FINES	FINESS Array B	129.95	330	PKP	PKPdf	00 00 48.5	-0.6		
	comp=Z,9.3nm,0.6s,baz=81,slow=2.9,SNR=36								
FINES	FINESS Array B	129.95	330	PKIKP	PKPdf	00 00 48.9	-0.2		
FINES	FINESS Array B	129.95	330		PKPdf	00 00 48.9	-0.2		
AAM	Ann Arbor	129.99	55	PKIKP	PKPdf	00 00 49.1	-0.7		
AAM	Ann Arbor	129.99	55	P	PKPdf	00 00 49.7	-0.1		
	baz=270								
AAM	Ann Arbor	129.99	55		PKPdf	00 00 49.1	-0.7		
AAM				IAMs_20	IAMs_20	00 49 03.6			
	comp=Z,857nm,22.0s								
ZARC	Zaragoza, Cauc	130.01	102	*e*P	PKPdf	00 00 49.0	-1.7		
SAML	Samuel	130.11	128	PKIKP	PKPdf	00 00 50.2	-0.7		
SAML	Samuel	130.11	128		PKPdf	00 00 50.2	-0.7		
DUB01	Friburgo-RJ	130.17	160	*e*P	PKiKP	00 00 52.7	+1.0		
BSCB	Bom Sucesso	130.36	156	*e*P	PKPdf	00 00 51.7	+0.3		
V53A	Saluda	130.41	64	IAMs_20	IAMs_20	00 53 29.2			
	comp=Z,2μm,19.0s								
ACSO	Alum Creek Sta	130.49	58		PKPdf	00 00 49.8	-1.0		
I49A	Point Hope	130.56	53	IAMs_20	IAMs_20	00 51 11.5			
	comp=Z,1μm,18.0s								
DWPF	Disney Wildern	130.59	74	P	PKPdf	00 00 50.8	-0.6		
	baz=260								
CAM01	Campos-RJ	130.63	160	*e*P	PKPdf	00 00 52.0	+0.4		
VSU	Vasula	130.68	327	*e*P	PKPdf	00 00 50.6	+0.1		
STEI	Steigen	130.72	341	*e*PKPdf	PKPdf	00 00 49.5	-0.8		
K50A	Casco	130.74	54	IAMs_20	IAMs_20	00 50 06.6			
	comp=Z,2μm,21.0s								
SJCC	San Jacinto, C	130.76	99	*e*P	PKPdf	00 00 52.0	-0.2		
RUSC	La Rusia	130.83	105	*e*P	PKPdf	00 00 51.5	-1.4		
N51A	Ashland	130.96	57	IAMs_20	IAMs_20	00 49 58.4			
	comp=Z,697nm,18.0s								
FAUS	Fauske	131.05	340	*e*PKPdf	PKPdf	00 00 51.2	+0.2		
LOF	Lofoten	131.08	342	*e*PKPdf	PKPdf	00 00 50.7	-0.3		
P52A	Corning	131.14	59	P	PKPdf	00 00 51.1	-0.9		
	baz=269								
MNK	Minsk	131.20	321	*i* PKIKP	PKPdf	00 00 51.3	-0.4		
MNK				*i*		00 03 10.5			
MNK				*i* PPP	PPP	00 05 56.8			
MNK				*i*		00 08 02.8			
MNK				*i* PS	PS	00 13 23.8	+0.5		
MNK				*i* SS	SS	00 20 43.7	+2.2		
MNK				pmax	pmax				
	comp=N,6.0nm,0.9s								
MNK				pmax	pmax				
	comp=E,1.0nm,1.1s								
MNK				pmax	pmax				
	comp=Z,26nm,0.9s								
MNK				MLR	MLR				
	comp=E,17nm,18.0s								
MNK				MLR	MLR				
	comp=N,108nm,25.0s								
MNK				MLR	MLR				
	comp=Z,237nm,23.0s								
AKASG	Malin Array Be	131.20	316	PKP	PKPdf	00 00 52.2	+0.4		
	comp=Z,4.5nm,0.6s,baz=72,slow=1.7,SNR=17								
AKASG				PP	PP	00 03 09.5	-0.2		
	comp=Z,0.5nm,0.3s,baz=68,slow=6.2,SNR=8.9								
AKASG	Malin Array Be	131.20	316	PKIKP	PKPdf	00 00 52.2	+0.4		
AKBB	Malin Array Si	131.20	316	*c i* PKIKP	PKPdf	00 00 52.4	+0.6		
U54A	Nelsons Funny	131.27	63	IAMs_20	IAMs_20	00 53 37.9			
	comp=Z,1μm,19.0s								
KMSC	Kings Mountain	131.57	65	P	PKPdf	00 00 52.6	-0.4		
	baz=266								
KMSC	Kings Mountain	131.57	65	IAMs_20	IAMs_20	00 53 18.0			
	comp=Z,743nm,20.0s								
IDID	Didziasalis	131.62	323	*e*P	PKPdf	00 00 52.9	+0.5		
IPMB	Ipameri, GO	131.70	151	*e*P	PKPdf	00 00 54.2	+0.3		
OCAC	Ocana	131.70	102	*e*P	PKPdf	00 00 53.4	-0.7		
M52A	Chesterland	131.72	56	IAMs_20	IAMs_20	00 50 20.4			
	comp=Z,996nm,20.0s								
V55A	Taylorsville	131.72	64	IAMs_20	IAMs_20	00 54 12.8			
	comp=Z,1μm,19.0s								
S54A	Dingess, Beckl	131.74	61	IAMs_20	IAMs_20	00 52 59.1			
	comp=Z,930nm,18.0s								
O53A	New Philadelph	131.85	58	P	PKPdf	00 00 52.9	-0.5		
	baz=270								
O53A	New Philadelph	131.85	58	IAMs_20	IAMs_20	00 50 36.0			
	comp=Z,731nm,18.0s								
IIGN	Ignalina	131.89	323	*e*P	PKPdf	00 00 53.0	+0.1		
ARAG	Araguaiana, MT	131.94	145	*e*P	PKPdf	00 00 54.8	+0.5		
ALF01	Guarapari-ES	132.04	161	*e*P	PKPdf	00 00 53.9	-0.5		
M53A	WI Miller and	132.23	56	P	PKPdf	00 00 53.3	-0.8		
	baz=272								
M53A	WI Miller and	132.23	56	IAMs_20	IAMs_20	00 52 41.1			
	comp=Z,961nm,19.0s								
KONS	Konsvik	132.27	340	*e*PKPdf	PKPdf	00 00 53.6	+0.3		
U56A	King	132.42	63	IAMs_20	IAMs_20	00 54 49.3			
	comp=Z,779nm,18.0s								
BLA	Blacksburg	132.42	62	PKIKP	PKPdf	00 00 54.5	-0.1		
BLA	Blacksburg	132.42	62	P	PKPdf	00 00 54.0	-0.7		
	baz=268								
BLA	Blacksburg	132.42	62	PKPdf	PKPdf	00 00 54.5	-0.1		
BLA				IAMs_20	IAMs_20	00 52 01.4			
	comp=Z,589nm,19.0s								
O54A	Avella	132.49	58	IAMs_20	IAMs_20	00 50 44.9			
	comp=Z,1μm,19.0s								
W57A	Gilead	132.67	65	IAMs_20	IAMs_20	00 54 44.0			
	comp=Z,1μm,19.0s								
ERPA	Erie	132.72	55	P	PKPdf	00 00 53.8	-1.2		
	baz=273								
N54A	Moraine State	132.76	57	P	PKPdf	00 00 54.3	-0.8		
	baz=272								
N54A	Moraine State	132.76	57		PKPdf	00 00 54.4	-0.7		
N54A				IAMs_20	IAMs_20	00 51 04.2			
	comp=Z,981nm,18.0s								
MCWV	Mont Chateau	132.90	59	P	PKPdf	00 00 54.3	-1.1		
	baz=271								
MCWV	Mont Chateau	132.90	59	IAMs_20	IAMs_20	00 50 39.9			
	comp=Z,732nm,22.0s								
M54A	Oil Creek Stat	132.99	56	P	PKPdf	00 00 54.9	-0.7		
	baz=272								
M54A	Oil Creek Stat	132.99	56		PKPdf	00 00 54.9	-0.7		
M54A				IAMs_20	IAMs_20	00 53 00.1			
	comp=Z,2μm,19.0s								
PABE	Paberze	133.07	324	*e*P	PKPdf	00 00 55.1	-0.1		
SADO	Sadowa	133.13	52	IAMs_20	IAMs_20	00 50 39.6			
	comp=Z,1μm,20.0s								
AAL	Aland	133.18	331	*e*P	PKPdf	00 00 54.8	-0.5		
DIAM	Diamantina, MG	133.24	156	*e*P	PKPdf	00 00 57.1	+0.2		
MATQ	Matagami	133.37	45	P	PKPdf	00 00 54.6	-1.3		
	baz=282								
RIB01	Linhares ES	133.37	161	*e*P	PKPdf	00 00 57.6	+0.6		
V58A	Windy Hill, Pi	133.42	64	IAMs_20	IAMs_20	00 52 11.9			
	comp=Z,590nm,19.0s								
Y59A	Loris	133.52	66	IAMs_20	IAMs_20	00 56 07.4			
	comp=Z,1μm,18.0s								
S57A	Dark Hollow, R	133.60	61	IAMs_20	IAMs_20	00 53 20.6			
	comp=Z,747nm,18.0s								
CLDB	Colider	133.61	137	*e*P	PKPdf	00 00 57.5	-0.1		
J54A	Appleton	133.63	54	IAMs_20	IAMs_20	00 52 19.0			
	comp=Z,1μm,19.0s								
M55A	Ridgway	133.67	56	IAMs_20	IAMs_20	00 53 30.0			
	comp=Z,980nm,18.0s								
BSFB	Barra de Sao F	133.69	160	*e*P	PKPdf	00 00 57.2	-0.4		
SJMB	Sao Joao De Ma	133.71	160	*e*P	PKPdf	00 00 57.9	+0.3		
ALGO	Algonquin Park	133.75	50	P	PKPdf	00 00 56.9	+0.1		
	baz=278								
BDFB	Brasilia	133.85	150	PKP	PKPdf	00 00 58.1	0.0		
	comp=Z,11nm,0.6s,baz=170,slow=2.4,SNR=18								
BDFB	Brasilia	133.85	150	PKIKP	PKPdf	00 00 58.1	0.0		
BDFB	Brasilia	133.85	150		PKPdf	00 00 57.6	-0.4		
O56A	Blue Knob Stat	133.87	58	P	PKPdf	00 00 57.1	-0.2		
	baz=272								
O56A	Blue Knob Stat	133.87	58	IAMs_20	IAMs_20	00 51 28.5			
	comp=Z,984nm,20.0s								
SOCV	Socops	133.90	104	*e*P	PKPdf	00 00 54.5	-3.6		
NSS	Namsos	133.90	338	*e*Pdif	Pdif	23 57 54.2	-1.2		
LSQQ	Lebel-sur-Quev	133.94	45	P	PKPdf	00 00 57.5	+0.4		
	baz=282								
SUW	Suwalki	133.98	322	*e*PKPdf	PKPdf	00 00 58.1	+1.1		
SUW	Suwalki	133.98	322	*e*P	PKPdf	00 00 57.7	+0.8		
MLR	Muntele Rosu	134.18	310	PP	PP	00 03 28.9	-0.3		
	comp=Z,1.8nm,1.0s,baz=302,slow=2.9,SNR=3.1								
J55A	Hilton	134.23	53	IAMs_20	IAMs_20	00 51 31.8			
	comp=Z,1μm,22.0s								
BURAR	Bucovina Array	134.34	313		PKPdf	00 00 58.9	+0.9		
BUR08	Bucovina Ar. S	134.34	313		PKPdf	00 00 58.9	+0.9		
SDV	Santo Domingo	134.37	103	PKP	PKPdf	00 00 59.3	+0.1		
	comp=Z,7.4nm,0.3s,baz=220,slow=2.6,SNR=8.8								
SSPA	Standing Stone	134.37	57	P	PKPdf	00 00 57.6	-0.6		
	baz=273								
SSPA	Standing Stone	134.37	57	IAMs_20	IAMs_20	00 54 10.8			
	comp=Z,1μm,18.0s								
JSRW	J. Sargeant Re	134.46	61		PKPdf	00 00 58.1	-0.3		
U59A	Littleton	134.51	63	IAMs_20	IAMs_20	00 54 17.7			
	comp=Z,837nm,19.0s								
L56A	Greenwood	134.52	55	IAMs_20	IAMs_20	00 52 58.6			
	comp=Z,820nm,18.0s								
PLVO	Plevna	134.56	51	PKPdf	PKPdf	00 00 58.3	0.0		
MC01	Montes Claros	134.60	155	*e*P	PKPdf	00 00 59.7	+0.3		
K56A	Middlesex	134.65	54	P	PKPdf	00 00 58.2	-0.4		
	baz=275								
NAN01	Guarapari, ES	134.84	161	*e*P	PKPdf	00 00 60.0	+0.2		
J56A	Wolcott	134.93	53	IAMs_20	IAMs_20	00 51 57.2			
	comp=Z,1μm,19.0s								
N58A	Sunbury	135.25	57	IAMs_20	IAMs_20	00 54 29.9			
	comp=Z,861nm,18.0s								
SNDB	Serra Nova Dou	135.33	143	*e*P	PKPdf	00 01 00.9	+0.2		
T60A	Surry	135.37	62	IAMs_20	IAMs_20	00 53 07.3			
	comp=Z,575nm,18.0s								
CHGQ	Chibougamau	135.39	44	P	PKPdf	00 00 59.5	-0.3		
	baz=285								
V61A	Roper	135.48	64	IAMs_20	IAMs_20	00 55 01.5			
	comp=Z,1μm,19.0s								
J57A	Williamstown	135.53	53	IAMs_20	IAMs_20	00 52 42.3			
	comp=Z,1μm,18.0s								
IDI	Anoyia	135.56	295	PKP	PKPdf	00 01 00.4	-0.2		
	comp=Z,8.5nm,0.6s,baz=122,slow=6.3,SNR=14								
MVL	Millersville	135.58	58	IAMs_20	IAMs_20	00 54 52.8			
	comp=Z,1μm,19.0s								
SFJD	Kangerlussuaq	135.60	14	IAMs_20	IAMs_20	00 55 11.6			
	comp=Z,786nm,19.0s								
BINY	Binghamton	135.68	55	P	PKPdf	00 00 59.6	-1.0		
	baz=276								
I57A	Carthage	135.71	52	P	PKPdf	00 01 00.2	-0.3		
	baz=278								
L58A	Harry Jones Me	135.79	55	P	PKPdf	00 01 00.8	0.0		
	baz=276								
H57A	Richville	135.83	51	P	PKPdf	00 01 00.1	-0.6		
	baz=279								
KSPA	Keystone Colle	135.90	56	IAMs_20	IAMs_20	00 51 38.2			
	comp=Z,699nm,22.0s								
HFS	Hagfors	135.91	333	PKP	PKPdf	00 01 00.7	+0.3		
	comp=Z,3.2nm,0.7s,baz=37,slow=0.7,SNR=7.9								
HFS	Hagfors	135.91	333	PKIKP	PKPdf	00 01 00.7	+0.3		
JANB	Januaria	135.95	154	*e*P	PKPdf	00 01 01.8	-0.1		
N59A	State Game Lan	135.96	57	P	PKPdf	00 01 00.2	-0.9		
	baz=275								
N59A	State Game Lan	135.96	57	IAMs_20	IAMs_20	00 53 15.7			
	comp=Z,1μm,18.0s								
KOLS	Kolonicke sedl	135.97	315	*e*PKIKP	PKiKP	00 01 02.6	+0.1		
BEL	Belsk	136.05	320	*e*PKPdf	PKiKP	00 01 02.8	+0.3		
J58A	Remsen	136.06	53	P	PKPdf	00 01 01.4	+0.2		
	baz=278								
J58A	Remsen	136.06	53	IAMs_20	IAMs_20	00 52 27.0			
	comp=Z,1μm,18.0s								
GUA01	Guaratinga, BA	136.13	160	*e*P	PKPdf	00 01 02.4	+0.2		
P60A	Greenville	136.14	58	P	PKPdf	00 01 01.0	-0.4		
	baz=274								
P60A	Greenville	136.14	58		PKPdf	00 01 01.0	-0.4		
P60A				IAMs_20	IAMs_20	00 55 18.6			
	comp=Z,1μm,18.0s								
WUPA	West Chester U	136.16	58	IAMs_20	IAMs_20	00 55 18.0			
	comp=Z,690nm,18.0s								
S61A	Accomac	136.21	61	IAMs_20	IAMs_20	00 53 30.4			
	comp=Z,699nm,21.0s								
I58A	Old Forge	136.24	53	P	PKPdf	00 01 01.4	-0.1		
	baz=278								
LUPA	Lehigh Univers	136.28	57	IAMs_20	IAMs_20	00 53 31.4			
	comp=Z,1μm,18.0s								
NB2	NORSAR Subarra	136.37	335	PKPdf	PKPdf	00 01 00.0	-1.3		
	comp=Z,37nm,1.7s,baz=52,slow=1.9								
NB2	NORSAR Subarra	136.37	335	PKPdf	PKPdf	00 01 00.0	-1.3		
	baz=52,slow=1.9								
NOA	NORSAR Array B	136.37	335	PKP	PKPdf	00 01 00.9	-0.4		
	comp=Z,2.1nm,0.8s,baz=54,slow=1.9,SNR=5.1								
NOA	NORSAR Array B	136.37	335	PKIKP	PKPdf	00 01 00.9	-0.4		
LONY	Lake Ozonia	136.37	51	P	PKPdf	00 01 01.3	-0.5		
	baz=279								
LONY	Lake Ozonia	136.37	51	IAMs_20	IAMs_20	00 51 35.1			
	comp=Z,1μm,21.0s								
L59A	Walton	136.38	55	IAMs_20	IAMs_20	00 52 22.5			
	comp=Z,1μm,19.0s								
Q61A	Milford	136.43	60	P	PKPdf	00 01 01.8	-0.2		
	baz=273								
CRVS	Cervenica-Dubn	136.50	315	*e*PKIKP	PKPdf	00 01 01.4	-0.5		
CRVS				*e*		00 03 44.8			
LTVH	Ltavrtes, Hu	136.59	313	*e*P	PKPdf	00 00 59.0	-3.0		
J59A	Piesco	136.61	53	IAMs_20	IAMs_20	00 53 29.4			
	comp=Z,1μm,21.0s								
MOL	Molde	136.69	338	*e*Pdif	Pdif	23 58 07.2	-0.6		
H58A	Gabriels	136.69	51	P	PKPdf	00 01 01.9	-0.5		
	baz=280								
NCB	Newcomb	136.73	52	IAMs_20	IAMs_20	00 53 24.9			
	comp=Z,1μm,20.0s								
PEXB	Peixe

DPC	**Dobruska-Polom**	**139.21**	**319**	*e*PKP	PKPdf	00 00 59.7	-7.2
DPC				*ex*	x	00 01 09.6	
DPC				*e*PP	**PP**	**00 03 58.1**	**-2.2**
DPC				AMS	AMS	01 17 00.0	
	comp=Z,300nm,15.1s						
CHVC	**Chvalec**	**139.28**	**319**	*e*PKP	**PKPdf**	**00 01 00.0**	**-6.9**
CHVC				*ex*	x	00 01 09.9	
I63A	**Otisfield**	**139.30**	**51**	P	**PKPdf**	**00 01 06.4**	**-0.7**
	baz=282						
M64A	**Tiverton**	**139.30**	**55**	P	**PKPdf**	**00 01 07.1**	**0.0**
	baz=279						
M64A	**Tiverton**	**139.30**	**55**	IAMs_20	IAMs_20	00 54 32.9	
	comp=Z,1µm,20.0s						
MODS	**Modra-Piesok**	**139.31**	**316**	*e*PKIKP	**PKiKP**	**00 01 10.6**	**+1.3**
UPC	**Upice**	**139.33**	**319**	AMS	AMS	01 14 50.0	
	comp=Z,400nm,20.3s						
E62A	**Clayton Lake**	**139.40**	**47**	P	**PKPdf**	**00 01 06.2**	**-1.1**
	baz=286						
VRAC	**Vranov**	**139.42**	**317**	PKP	**PKPdf**	**00 01 08.5**	**+1.3**
	comp=Z,5.3nm,1.0s,baz=40,slow=4.0,SNR=5.8						
VRAC				PP	**PP**	**00 04 01.4**	**-0.2**
	comp=Z,6.0nm,1.1s,baz=88,slow=11,SNR=4.1						
VRAC	**Vranov**	**139.42**	**317**	PKIKP	**PKPdf**	**00 01 08.5**	**+1.3**
VRAC	**Vranov**	**139.42**	**317**	*e*PKP	PKPdf	00 00 57.9	-9.3
KOVH	**Kovagotottos**	**139.44**	**312**	*e*P	PKPdf	00 00 59.3	-8.0
ZST	**Bratislava**	**139.47**	**316**	*e*PKIKP	**PKiKP**	**00 01 10.4**	**+0.8**
MPLH	**Magyarpolny**	**139.51**	**314**	*e*P	**PKPdf**	**00 01 08.2**	**+0.8**
BOAV	**Boa Vista**	**139.51**	**119**	*e*P	**PKPdf**	**00 01 08.6**	**+0.1**
L64A	**Middleborough**	**139.51**	**54**	P	**PKPdf**	**00 01 07.0**	**-0.6**
	baz=280						
D62A	**Allapoint, All**	**139.58**	**46**	P	**PKPdf**	**00 01 07.1**	**-0.5**
	baz=287						
KRUC	**Moravsky**	**139.63**	**317**	*e*PKP	PKPdf	00 00 58.8	-8.8
M65A	**Busby, Falmout**	**139.72**	**55**	IAMs_20	IAMs_20	00 54 44.0	
	comp=Z,1µm,22.0s						
G63A	**Kingsbury**	**139.72**	**49**	P	**PKPdf**	**00 01 07.2**	**-0.7**
	baz=284						
SMTB	**Santa Maria do**	**139.90**	**145**	*e*P	**PKPdf**	**00 01 09.8**	**+0.6**
PKME	**Peaks-Kenny Pk**	**139.91**	**49**	P	**PKPdf**	**00 01 07.5**	**-0.7**
	baz=285						
F63A	**Nahmakanta, Br**	**139.93**	**48**	P	**PKPdf**	**00 01 07.6**	**-0.7**
	baz=285						
F63A	**Nahmakanta, Br**	**139.93**	**48**	PKPdf	**PKPdf**	**00 01 08.5**	**+0.2**
I64A	**Boothbay**	**139.99**	**51**	P	**PKPdf**	**00 01 08.3**	**-0.1**
	baz=283						
TREC	**Trest**	**140.10**	**318**	AMS	AMS	01 19 10.0	
	comp=Z,300nm,20.9s						
H64A	**Troy**	**140.12**	**50**	P	**PKPdf**	**00 01 08.9**	**+0.3**
	baz=284						
PVCC	**Panska Ves**	**140.17**	**320**	*e*PP	PP	00 04 03.1	-3.0
PVCC				AMS	AMS	01 17 00.0	
	comp=Z,300nm,16.5s						
E63A	**Oxbow**	**140.18**	**47**	P	**PKPdf**	**00 01 09.3**	**+0.6**
	baz=287						
D63A	**Stockholm**	**140.21**	**46**	P	**PKPdf**	**00 01 09.0**	**+0.4**
	baz=288						
G64A	**Maxfield**	**140.28**	**49**	P	**PKPdf**	**00 01 09.0**	**+0.2**
	baz=285						
CONA	**Conrad Observa**	**140.35**	**316**	*e*P	**PKPdf**	**00 01 08.8**	**-0.3**
	comp=Z,15nm,2.1s						
CONA				*e*P	**PP**	**00 04 11.5**	**+4.1**
	comp=Z,16nm,1.7s						
PQI	**Presque Isle**	**140.38**	**47**	IAMs_20	IAMs_20	00 55 38.6	
	comp=Z,2µm,21.0s						
F64A	**Sherman**	**140.39**	**48**	P	**PKPdf**	**00 01 09.4**	**+0.3**
	baz=286						
BRG	**Berggiesshubel**	**140.39**	**321**	*e*PP	PP	00 04 18.6	+11
	baz=64,slow=6.4						
PRU	**Pruhonice**	**140.41**	**319**	*e*PKHKP	PKPpre	00 01 01.9	
PRU				*e*		00 01 09.4	
PRU				*e*		00 04 05.6	
PRU				MLR	MLR		
	comp=Z,300nm,16.1s						
PRU	**Pruhonice**	**140.41**	**319**	*e*PKP	PKPdf	00 01 01.9	-7.1
PRU				*ex*	x	00 01 09.4	
PRU				*e*PP	**PP**	**00 04 05.6**	**-2.0**
PRU				AMS	AMS	01 18 20.0	
	comp=Z,300nm,16.1s						
E64A	**Bridgewater**	**140.57**	**47**	P	**PKPdf**	**00 01 09.8**	**+0.5**
	baz=287						
CLL	**Collm**	**140.74**	**322**	*i* PKPdf	**PKPdf**	**00 01 08.4**	**-1.1**
	comp=Z,21nm,1.4s						
CLL				*i*		00 01 18.8	
	comp=Z,16nm,1.0s						
CLL				*i* PP	**PP**	**00 04 08.7**	**-0.8**
CLL				*i*		00 04 18.9	
CLL				*i* SKPdf	**SKPdf**	**00 04 42.0**	**-2.4**
CLL				*e*		00 06 37.0	
CLL				*e*SKKPdf	**SKKPdf**	**00 14 11.0**	**+2.6**
CLL				*e*PPS	PPS	00 16 30.0	
CLL				*e*SS	SS	00 22 48.0	+12
CLL				*e*SSS	SSS	00 27 42.0	
CLL				*e*SSSS		00 31 48.0	
CLL				LmV		01 16 00.0	
	comp=Z,200nm,18.2s						
CLL	**Collm**	**140.74**	**322**	*i* PKIKP	**PKPdf**	**00 01 08.4**	**-1.1**
CLL				*i*		00 04 08.7	
CLL				pmax	pmax		
	comp=Z,21nm,1.4s						
CLL	**Collm**	**140.74**	**322**	*e*PP	PP	00 04 20.3	+11
	baz=64,slow=6.4						
H65A	**Eastbrook**	**140.77**	**50**	P	**PKPdf**	**00 01 09.6**	**-0.1**
	baz=285						
ARSA	**Arzberg**	**140.79**	**315**	*e*P	**PKPdf**	**00 01 09.5**	**-0.3**
	comp=Z,9.3nm,1.5s						
ARSA				*e*P	**PP**	**00 04 12.4**	**+2.3**
	comp=Z,0.1nm,0.3s						
PRPB	**Parauapebas**	**140.90**	**140**	*e*P	**PKPdf**	**00 01 11.4**	**+0.3**
CKRC	**Cesky Krumlov**	**141.00**	**317**	*e*PP	PP	00 04 08.9	-2.4
CKRC				*e*SS	SS	00 22 40.0	+1.1
CKRC				AMS	AMS	01 13 50.0	
	comp=Z,300nm,21.1s						
G65A	**Princeton**	**141.11**	**49**	P	**PKPdf**	**00 01 10.2**	**-0.1**
	baz=286						
FLTG	**Flechtingen**	**141.23**	**324**	*e*PP	PP	00 04 23.4	+11
	baz=64,slow=6.4						
SOKA	**Soboth**	**141.29**	**314**	*e*P	**PKPdf**	**00 01 10.0**	**-0.8**
	comp=Z,15nm,1.4s						
KHC	**Kasperske Hory**	**141.32**	**318**	*e*PKIKP	**PKPdf**	**00 01 05.9**	**-4.8**
KHC				*e*		00 01 11.1	
KHC				*e*		00 04 12.2	
KHC				*e*SS	SS	00 22 42.5	-0.2
KHC				MLR	MLR		
	comp=Z,300nm,22.5s						
KHC	**Kasperske Hory**	**141.32**	**318**	*e*PKP	**PKPdf**	**00 01 05.9**	**-4.8**
KHC				*ex*	x	00 01 11.1	
KHC				*e*PP	**PP**	**00 04 12.2**	**-1.1**
KHC				*e*SS	SS	00 22 42.5	-0.2
KHC				AMS	AMS	01 15 10.0	
	comp=Z,300nm,22.5s						
GEC2	**GERESS Array S**	**141.36**	**318**		**PKPdf**	**00 01 10.4**	**-0.5**
GEC2	**GERESS Array S**	**141.36**	**318**	*e*PKPbc	**PKPdf**	**00 01 06.6**	**-4.3**
	baz=64,slow=3.2						
GEC2				*e*PP	PP	00 04 24.6	+11
	baz=64,slow=6.4						
GERES	**GERESS Array B**	**141.36**	**318**	PKhKP	PKPpre	00 01 06.5	
	comp=Z,1.2nm,0.5s,baz=64,slow=3.1,SNR=12						
GERES				PKP	**PKPdf**	**00 01 12.4**	**+1.6**
	comp=Z,4.0nm,0.7s,baz=105,slow=1.5,SNR=16						
GERES				PP	**PP**	**00 04 10.3**	**-3.2**
	comp=Z,2.8nm,1.1s,baz=87,slow=5.5,SNR=6.1						
GERES	**GERESS Array B**	**141.36**	**318**	PKIKP	**PKPdf**	**00 01 12.5**	**+1.6**
GERES	**GERESS Array B**	**141.36**	**318**		**PKPdf**	**00 01 10.8**	**-0.1**
NBPN	**Ponto Novo - B**	**141.37**	**157**	*e*P	**PKPdf**	**00 01 12.6**	**+0.7**
MALB	**Monte Alegre**	**141.37**	**130**	*e*P	**PKPdf**	**00 01 12.6**	**+0.7**
MOA	**Molln**	**141.38**	**316**	*e*P	**PKPdf**	**00 01 09.7**	**-1.1**
	comp=Z,9.6nm,1.2s						
H66A	**Whiting**	**141.39**	**49**	P	**PKPdf**	**00 01 10.9**	**0.0**
	baz=286						
WERD	**Werda**	**141.52**	**321**	*e*PKPbc	**PKPdf**	**00 01 06.1**	**-4.9**
	baz=64,slow=3.2						
WERD				*e*PP	PP	00 04 25.3	+11
	baz=64,slow=6.4						
NKC	**Novy Kostel**	**141.53**	**320**	*e*PKIKP	**PKPdf**	**00 01 06.3**	**-4.7**
NKC	**Novy Kostel**	**141.53**	**320**	*e*PKP	**PKPdf**	**00 01 06.3**	**-4.7**
GUNZ	**Gunzen**	**141.54**	**321**	*e*PP	PP	00 04 25.6	+11
	baz=64,slow=6.4						
WERN	**Wernitzgruen**	**141.55**	**320**	*e*PP	PP	00 04 25.8	+11
	baz=64,slow=6.4						
PLN	**Plauen**	**141.59**	**321**	*e*PP	PP	00 04 25.7	+11
	baz=64,slow=6.4						
ASSE	**Asse, Remlinge**	**141.63**	**324**	*e*PKPbc	**PKPdf**	**00 01 07.5**	**-3.5**
	baz=64,slow=3.2						
OBKA	**Obir**	**141.66**	**314**	*e*P	**PKPdf**	**00 01 07.5**	**-4.0**
	comp=Z,11nm,1.3s						
WET	**Wettzell**	**141.74**	**319**	*e*PKPbc	**PKPdf**	**00 01 07.9**	**-3.5**
	baz=64,slow=3.2						
WET				*e*PP	PP	00 04 27.2	+11
	baz=64,slow=6.4						
NRDL	**Niedersach Rie**	**141.74**	**325**	*e*PP	PP	00 04 27.8	+12
	baz=64,slow=6.4						
MOX	**Moxa**	**141.82**	**321**	*e*PKPbc	**PKPdf**	**00 01 07.0**	**-4.5**
	baz=64,slow=3.2						
MOX				*e*PP	PP	00 04 27.3	+11
	baz=64,slow=6.4						
MOX				*e*L	L	01 15 06.6	
	comp=Z,291nm,18.9s						
MANZ	**Manzenberg**	**141.83**	**320**	*e*PP	PP	00 04 27.7	+11
	baz=64,slow=6.4						
ROTZ	**Rotzenmuhle**	**141.87**	**320**	*e*PKPbc	**PKPdf**	**00 01 08.6**	**-3.1**
	baz=64,slow=3.2						
ROTZ				*e*PP	PP	00 04 28.0	+11
	baz=64,slow=6.4						
SJG	**San Juan**	**141.93**	**93**	PKIKP	**PKPdf**	**00 01 12.0**	**-0.6**
SJG	**San Juan**	**141.93**	**93**		**PKPdf**	**00 01 12.0**	**-0.6**
CLZ	**Clausthal**	**141.93**	**324**	*e*PKPbc	**PKPdf**	**00 01 08.9**	**-2.8**
	baz=64,slow=3.2						
CLZ				*e*PP	PP	00 04 28.9	+12
	baz=64,slow=6.4						
MYKA	**Terra Mystica**	**142.21**	**314**	*e*P	**PKPdf**	**00 01 10.4**	**-2.1**
	comp=Z,2.2nm,0.6s						
KBA	**Koelnbreinsper**	**142.24**	**315**	*e*P	**PKPdf**	**00 01 09.4**	**-3.2**
	comp=Z,7.4nm,0.9s						
KBA				*e*P	**PP**	**00 04 21.6**	**+2.5**
	comp=Z,17nm,1.5s						
GTTG	**Gottingen**	**142.30**	**323**	*e*PKPbc	**PKPdf**	**00 01 10.0**	**-2.3**
	baz=64,slow=3.2						
GRF	**Grafenberg Arr**	**142.48**	**320**	*e*PKPbc	**PKPdf**	**00 01 10.6**	**-2.1**
	baz=64,slow=3.2						
GRF				*e*PP	PP	00 04 31.8	+12
	baz=64,slow=6.4						
GRF				*e*L	L	01 11 36.2	
	comp=Z,211nm,20.5s						
LMN	**Caledonia Moun**	**142.75**	**47**	IAMs_20	IAMs_20	00 57 59.4	
	comp=Z,1µm,20.0s						
ABTA	**Abfaltersbach**	**142.90**	**315**	*e*P	**PKPdf**	**00 01 09.2**	**-4.5**
	comp=Z,13nm,1.0s						
ABTA				*e*P	**PP**	**00 04 23.5**	**+0.5**
	comp=Z,14nm,1.4s						
IBBN	**Ibbenburen**	**143.06**	**326**	*e*PKPbc	PKPbc	00 01 12.3	+1.8
	baz=64,slow=3.2						
IBBN				*ep*PKPbc	**PKiKP**	**00 01 21.2**	**+4.4**
	baz=62,slow=3.4						
FUR	**Furstenfeldbru**	**143.11**	**318**	*ep*PKPbc	**PKiKP**	**00 01 22.1**	**+4.9**
	baz=62,slow=3.4						
FUR				*e*PP	PP	00 04 35.4	+11
	baz=64,slow=6.4						
WTTA	**Wattenberg**	**143.25**	**316**	*i* P	PKPab	00 01 11.0	+0.8
	comp=Z,31nm,0.9s,SNR=10						
WTTA				*e*P	**PP**	**00 04 26.2**	**+1.0**
	comp=Z,18nm,1.5s						
WATA	**Walderalm**	**143.26**	**316**	*i* P	PKPbc	00 01 11.6	+0.2
	comp=Z,28nm,0.9s,SNR=11						
WATA				*e*P	**PP**	**00 04 24.3**	**-0.9**
	comp=Z,23nm,1.7s						
KASTN	**Kahler Asten**	**143.31**	**324**	*e*PKPbc	PKPbc	00 01 12.7	+1.4
	baz=64,slow=3.2						
KASTN				*ep*PKPbc	**PKiKP**	**00 01 22.8**	**+5.3**
	baz=62,slow=3.4						
MILB	**Miltenberg**	**143.52**	**321**	*e*PKPbc	PKPbc	00 01 13.1	+1.2
	baz=64,slow=3.2						
MILB				*ep*PKPbc	**PKiKP**	**00 01 23.2**	**+5.3**
	baz=62,slow=3.4						
SQTA	**Sankt Quirin**	**143.54**	**316**	*i* P	PKPab	00 01 12.3	+1.1
	comp=Z,18nm,0.8s,SNR=9.4						
SQTA				*e*P	**PP**	**00 04 26.2**	**-0.6**
	comp=Z,18nm,1.5s						
MOTA	**Moosalm**	**143.55**	**317**	*i* P	PKPab	00 01 12.5	+1.2
	comp=Z,34nm,1.5s,SNR=6.1						
MOTA				*e*P	**PP**	**00 04 26.3**	**-0.7**
	comp=Z,16nm,1.6s						
RETA	**Reutte**	**143.71**	**317**	*i* P	PKPab	00 01 12.6	+0.8
	comp=Z,26nm,1.5s,SNR=5.2						
RETA				*e*P	**PP**	**00 04 28.9**	**+1.1**
	comp=Z,15nm,1.4s						
BUG	**Bochum--Univer**	**143.79**	**325**	*e*PKPbc	PKPbc	00 01 14.2	+1.7
	baz=64,slow=3.2						
TNS	**Taunus Mts**	**143.80**	**322**	*e*PKPbc	PKPbc	00 01 14.4	+1.7
	baz=64,slow=3.2						
TNS				*ep*PKPbc	**PKiKP**	**00 01 24.6**	**+6.1**
	baz=62,slow=3.4						
VAE	**Valguarnera**	**143.89**	**299**	PKP	**PKPdf**	**00 01 16.6**	**+0.9**
	comp=Z,5.1nm,0.7s,baz=339,slow=20,SNR=2.0						
FETA	**Feichten**	**143.92**	**316**	*i* P	PKPab	00 01 13.7	+0.9
	comp=Z,120nm,1.3s,SNR=35						
FETA				*e*P	**PP**	**00 04 29.5**	**+0.3**
	comp=Z,10nm,1.4s						
MCD	**Coleburn Disti**	**144.00**	**339**	*e*P	**PKPab**	**00 01 12.8**	**+0.3**
UBR	**Ueberruh**	**144.03**	**318**	*e*PKPbc	PKPbc	00 01 14.6	+1.1
	baz=64,slow=3.2						
UBR				*ep*PKPbc	**PKiKP**	**00 01 25.0**	**+5.9**
	baz=62,slow=3.4						
STU	**Stuttgart**	**144.08**	**320**	*e*PKPbc	PKPbc	00 01 14.9	+1.4
	baz=64,slow=3.2						
STU				*ep*PKPbc	**PKiKP**	**00 01 25.3**	**+6.2**
	baz=62,slow=3.4						
DAVA	**Damuels**	**144.33**	**317**	*i* P	**PKPab**	**00 01 14.9**	**+0.6**
	comp=Z,148nm,1.1s,SNR=30						
DAVA				*e*P	**PP**	**00 04 33.3**	**+1.7**
	comp=Z,16nm,1.3s						
AHRW	**Bad Neuenahr-A**	**144.38**	**324**	*e*PKPbc	**PKPdf**	**00 01 16.3**	**+0.3**
	baz=64,slow=3.2						
AHRW				*ep*PKPbc	**PKiKP**	**00 01 26.4**	**+6.8**
	baz=62,slow=3.4						
MDO	**Dochfour**	**144.47**	**340**	*e*P	**PKPab**	**00 01 13.7**	**-0.6**
DAVOX	**Davos/Dischmat**	**144.55**	**316**	PKP	**PKPab**	**00 01 15.9**	**+0.8**
	comp=Z,128nm,0.8s,baz=105,slow=1.9,SNR=144						
DAVOX	**Davos/Dischmat**	**144.55**	**316**	PKIKP	**PKPab**	**00 01 15.9**	**+0.8**
LEWI	**Lewis, Hebride**	**144.59**	**343**	*e*P	**PKPab**	**00 01 14.5**	**-0.2**
LEWI				IAmb	IAmb	00 01 15.4	
	comp=Z,246nm,1.7s						
KAC	**Achnashellach**	**144.70**	**341**	*e*P	**PKPab**	**00 01 14.9**	**-0.2**
SKI	**Saint Kitts**	**144.76**	**96**	*e*P	**PKPab**	**00 01 13.4**	**-3.1**
BFO	**Black Forest**	**144.80**	**320**	PKIKP	**PKPab**	**00 01 15.7**	**-0.1**
BFO	**Black Forest**	**144.80**	**320**	PKPdf	**PKPab**	**00 01 15.7**	**-0.1**
BFO	**Black Forest**	**144.80**	**320**	*e*PKPbc	PKPbc	00 01 17.1	+1.2
	baz=64,slow=3.2						
BFO				*ep*PKPbc	**PKiKP**	**00 01 27.2**	**+6.6**
	baz=62,slow=3.4						
BTNL	**Ternell**	**144.86**	**324**	*d*PKPdf	**PKPab**	**00 01 16.5**	**+0.5**
BTNL				*dx*	x	00 01 26.6	
MEM	**Membach**	**144.91**	**324**	*d*PKPdf	**PKPab**	**00 01 16.3**	**+0.2**
MEM				*dx*	x	00 01 26.9	
KPL	**Plockton**	**144.94**	**341**	*e*P	**PKPab**	**00 01 15.9**	**0.0**
KPL				IAmb	IAmb	00 01 16.7	
	comp=Z,110nm,0.7s						
BEBN	**Eben Emael**	**144.98**	**325**	*d*PKPdf	PKPbc	00 01 16.8	+0.5
BEBN				*dx*	x	00 01 26.5	
BHOU	**Houvegnez**	**145.06**	**324**	*d*PKPdf	**PKPbc**	**00 01 16.9**	**+0.3**
BHOU				*dx*	x	00 01 26.5	
ESY	**Stoneypath**	**145.12**	**337⇑**	*e*P	**PKPbc**	**00 01 16.5**	**-0.1**
BSTI	**Sart Tilman**	**145.16**	**325**	*d*PKPdf	**PKPbc**	**00 01 17.0**	**+0.1**
BSTI				*dx*	x	00 01 27.3	
INVG	**Invergeldie, C**	**145.19**	**339**	*e*P	**PKPbc**	**00 01 16.5**	**-0.3**
BIM	**Bigot**	**145.22**	**101**		**PKPbc**	**00 01 16.9**	**-1.3**
FDF	**Fort de France**	**145.24**	**101**	*e*P	**PKPbc**	**00 01 17.2**	**-1.1**
DSLB	**Salisbury**	**145.27**	**100**	*e*P	**PKPbc**	**00 01 18.4**	**+0.1**
CBE	**Ff, Capester**	**145.34**	**98**	*e*P	**PKPbc**	**00 01 18.3**	**-0.3**
WLF	**Walferdange**	**145.35**	**323**	*d*PKPdf	**PKPab**	**00 01 18.5**	**+0.8**
WLF				*dx*	x	00 01 28.4	
WLF	**Walferdange**	**145.35**	**323**	*e*PKPbc	**PKPab**	**00 01 20.0**	**+2.2**
	baz=64,slow=3.2						
BBSR	**BB Station**	**145.36**	**69**		**PKPbc**	**00 01 17.8**	**-0.3**
EBL	**Broad Law**	**145.38**	**337⇑**	*e*P	**PKPbc**	**00 01 17.6**	**+0.2**
BPA	**Boggy Peak**	**145.46**	**97**	*e*P	**PKPbc**	**00 01 17.1**	**-1.8**
ANOC	**Antigua Open C**	**145.50**	**97**	*e*P	**PKPdf**	**00 01 17.3**	**-1.7**
BGES	**Gesves**	**145.53**	**325**	*d*PKPdf	**PKPdf**	**00 01 18.4**	**+0.4**
BGES				*dx*	x	00 01 28.1	
ANBD	**Bethesda, Anti**	**145.54**	**97**	*e*P	**PKPdf**	**00 01 17.7**	**-1.3**
RCHB	**Rochefort**	**145.58**	**324**	*d*PKPdf	**PKPdf**	**00 01 18.8**	**+0.7**
RCHB				*dx*	x	00 01 28.0	
MAGL	**Barre de l'ile**	**145.58**	**99**	*e*P	**PKPab**	**00 01 20.2**	**+0.7**
ABD	**La Joyeuse, An**	**145.59**	**98**	*e*P	**PKPdf**	**00 01 18.5**	**-0.6**
GDLE	**Glaisdale, N Y**	**145.59**	**334**	*e*P	**PKPdf**	**00 01 17.8**	**-0.1**
UCC	**Uccle**	**145.66**	**326**	*d*PKPdf	**PKPdf**	**00 01 19.0**	**+0.8**
UCC				*dx*	x	00 01 28.9	
DRLN	**Deer Lake**	**145.70**	**38**		**PKPdf**	**00 01 18.4**	**0.0**
EDMD	**Edmundbyers**	**145.72**	**335**	*e*P	**PKPdf**	**00 01 18.3**	**+0.1**
ANWB	**Willy Bob**	**145.73**	**96**		**PKPdf**	**00 01 18.4**	**-0.9**
BMRD	**Maredsous**	**145.74**	**325**	*d*PKPdf	**PKPdf**	**00 01 18.4**	**+0.1**
BMRD				*dx*	x	00 01 29.5	
EKA	**Eskdalemuir Ar**	**145.77**	**337**	PKPbc	**PKPdf**	**00 01 18.8**	**+0.5**
	comp=Z,56nm,0.9s,baz=31,slow=2.7,SNR=63						
EKA	**Eskdalemuir Ar**	**145.77**	**337**	PKP2	**PKPdf**	**00 01 18.8**	**+0.5**
ESK	**Eskdalemuir**	**145.80**	**337⇑**	*e*P	**PKPdf**	**00 01 18.8**	**+0.5**
ESK				IAmb	IAmb	00 01 20.0	
	comp=Z,406nm,1.6s						
ESK	**Eskdalemuir**	**145.80**	**337**	PKP2	**PKPdf**	**00 01 18.5**	**+0.2**
ESK	**Eskdalemuir**	**145.80**	**337**		**PKPdf**	**00 01 18.4**	**+0.2**
PGBU	**Glenifferbraes**	**145.84**	**339**	*e*P	**PKPdf**	**00 01 18.9**	**+0.5**
PGBU				IAmb	IAmb	00 01 20.1	
	comp=Z,301nm,1.3s						
SNF	**Seneffe**	**145.87**	**325**	*d*PKPdf	**PKPdf**	**00 01 19.0**	**+0.4**
SNF				*dx*	x	00 01 29.9	
DOU	**Dourbes**	**145.95**	**324**	*d*PKPdf	**PKPdf**	**00 01 18.6**	**-0.1**
DOU				*dx*	x	00 01 30.4	
HPK	**Haverah Park**	**146.25**	**334**	*e*P	**PKPdf**	**00 01 19.8**	**+0.7**
HPK				IAmb	IAmb	00 01 21.8	
	comp=Z,258nm,1.5s						
NEWG	**New Galloway**	**146.31**	**338**	*e*P	**PKPdf**	**00 01 19.8**	**+0.7**
NEWG				IAmb	IAmb	00 01 21.3	
	comp=Z,55nm,1.1s						
GAL1	**Galloway**	**146.68**	**338**	*e*P	**PKPdf**	**00 01 21.1**	**+1.3**
LBWR	**Ladybower, Pea**	**146.71**	**334**	*e*P	**PKPbc**	**00 01 21.9**	**+0.3**
LBWR				IAmb	IAmb	00 01 22.7	
	comp=Z,377nm,1.4s						
CLGH	**Cloghs, Cushen**	**146.97**	**339**	*e*P	**PKPdf**	**00 01 21.9**	**+1.6**
CWF	**Charnwood Fore**	**147.02**	**332**	*e*P	**PKPbc**	**00 01 22.5**	**0.0**
MDP	**Montagnes des**	**147.31**	**124**	PKPbc	**PKPdf**	**00 01 21.9**	**-0.3**
	comp=Z,32nm,0.9s,baz=212,slow=5.7,SNR=9.8						
RCBR	**Riachuelo**	**147.47**	**161**	PKPbc	**PKPbc**	**00 01 25.0**	**+0.1**
	comp=Z,53nm,1.0s,baz=96,slow=3.0,SNR=9.6						
RCBR	**Riachuelo**	**147.47**	**161**	PKIKP	**PKPdf**	**00 01 23.3**	**+0.8**
RCBR	**Riachuelo**	**147.47**	**161**		**PKPdf**	**00 01 23.3**	**+0.8**
FOEL	**Foel Wylfa**	**147.68**	**334**	*e*P	**PKPbc**	**00 01 24.6**	**+0.3**
FOEL				IAmb	IAmb	00 01 25.6	
	comp=Z,361nm,1.7s						
WME	**Myndd Eilian**	**147.71**	**336**	*e*P	**PKPbc**	**00 01 24.4**	**0.0**
WLF1	**Llynfaes**	**147.83**	**336**	*e*P	**PKPbc**	**00 01 24.6**	**-0.1**
WLF1				IAmb	IAmb	00 01 25.9	
	comp=Z,740nm,1.5s						
HLM1	**Long Mynd**	**147.83**	**333**	*e*P	**PKPbc**	**00 01 24.9**	**+0.1**
HLM1				IAmb	IAmb	00 01 26.0	
	comp=Z,158nm,1.5s						
LLW	**Llanuwychllyn**	**147.89**	**335**	*e*P	**PKPbc**	**00 01 25.2**	**+0.3**
YRC	**Rhoscolyn**	**147.92**	**336**	*e*P	**PKPbc**	**00 01 24.6**	**-0.3**
STRD	**Stroud**	**148.08**	**332**	*e*P	**PKPbc**	**00 01 25.4**	**0.0**
STRD				IAmb	IAmb	00 01 26.4	
	comp=Z,427nm,1.6s						
KEST	**Kesra**	**148.18**	**297**	PKP	**PKPdf**	**00 01 21.9**	**-1.1**
	comp=Z,87nm,0.9s,baz=210,slow=4.1,SNR=4.5						
KEST				PKPbc	**PKPbc**	**00 01 26.9**	**+0.6**
	comp=Z,87nm,0.9s,baz=283,slow=0.9,SNR=87						
KEST	**Kesra**	**148.18**	**297**		**PKPdf**	**00 01 22.1**	**-1.0**
MCH1	**Michaelchurch**	**148.27**	**333**	*e*P	**PKPbc**	**00 01 25.6**	**-0.3**
OLDB	**Oldbury-Upon-S**	**148.33**	**332**	*e*P	**PKPbc**	**00 01 26.1**	**0.0**
CMAH	**Djebel Manchou**	**149.54**	**300**	P	**PKPbc**	**00 01 29.7**	**-0.1**
ABSA	**Djebel Ababsia**	**149.57**	**299**	P	**PKPbc**	**00 01 30.4**	**+0.5**
DYA	**Yadsworthy**	**149.82**	**332**	*e*P	**PKPbc**	**00 01 29.8**	**-0.1**
DYA				IAmb	IAmb	00 01 30.8	
	comp=Z,278nm,1.4s						
JSA	**Saint Aubin**	**149.93**	**328**	*e*P	**PKPbc**	**00 01 29.7**	**-0.4**
JSA				IAmb	IAmb	00 01 31.4	
	comp=Z,78nm,0.9s						
CKFL	**Kef-Lekhel**	**150.14**	**299**	P	**PKPbc**	**00 01 31.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.93**	**168**	P	P	00 00 22.2	+0.5
	0.1nm,0.3s,baz=348,slow=12,SNR=1.6						
ASAR	**Alice Springs**	**23.50**	**171**	P	P	00 00 59.1	-0.7
	0.6nm,0.6s,baz=356,slow=7.6,SNR=5.0						
ASAJ	**Asahikawa**	**45.61**	**13**	LR	LR	00 22 46.7	
	comp=Z,177nm,18.6s,baz=186,slow=36						
YAK	**Yakutsk**	**62.19**	**360**	LR	LR	00 35 49.5	
	comp=Z,60nm,18.4s,baz=233,slow=39						
MKAR	**Makanchi Array**	**62.80**	**325**	P	P	00 06 15.8	+0.3
	0.4nm,0.8s,baz=108,slow=9.2,SNR=2.0						
ZALV	**Zalesovo Beam**	**65.72**	**333**	LR	LR	00 38 30.6	
	comp=Z,136nm,18.7s,baz=107,slow=39						

DJA 30 00:12:06.3±0.5, 9°S±4°×11°2E±°, h10km, M3.9/11, mb4.3/2, MLv3.7/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.31**	**333**	P	Pb	00 12 30.9	-0.1
PWJI				S	Sb	00 12 47.8	0.0
PCJI	**Pacitan**	**1.57**	**309**	P	Pn	00 12 34.6	+0.4
PCJI				S	Sn	00 12 53.4	-1.2
JAGI	**Jajag, Banyuwa**	**1.86**	**68**	P	Pn	00 12 39.4	+1.1
JAGI				S	Sn	00 13 01.6	-0.4
UGM	**Wanagama**	**2.26**	**304**	P	Pn	00 12 43.8	+0.1
ABJI	**Asem Bagus**	**2.27**	**53**	Pg	Pg	00 12 49.1	-0.9
ABJI				S	Sn	00 13 13.0	+0.9
SRBI	**Singaraja**	**2.98**	**69**	P	Pn	00 12 54.6	+0.9
TWSI	**Taliwang, Sumb**	**4.44**	**85**	P	Pn	00 13 13.8	0.0
PLAI	**Plampang**	**5.31**	**87**	P	Pn	00 13 26.3	+0.5
	0.2nm32nm,1.5s						

*JMA **30** 00:18:44.3, 24°.59N×122°.57E, h11km±1km, M2.3*
*TAP **30** 00:18:44.6, 24°.71N×122°.61E, h40km±1km, ML2.9, D*
ISC 30 00:18:43.7±1.0, 24°.64N±0°.03×122°.60E±0°.02, h14km±9km, n57, σ0°.53/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**115**	P	Pb	00 18 52.5	-0.4
YOJ				eS	Sg	00 18 58.3	+0.6
YOJ	**Yonaguni jima**	**0.42**	**115**	eP	Pb	00 18 52.7	-0.2
	baz=125						
YOJ				eS	Sn	00 19 01.7	-1.1
	baz=125						
TWB1	**Santiao Chiao**	**0.66**	**304**	P	Pb	00 18 56.9	-0.1
	baz=297						
TWB1				S	Sb	00 19 05.4	-0.6
	baz=297						
TWC	**Suao**	**0.68**	**267**	P	Pg	00 18 56.5	-0.5
	baz=261						
TWC				S	Sb	00 19 06.3	-0.2
	baz=261						
NTC	**Toucheng**	**0.73**	**287**	P	Pn	00 18 58.7	-0.9
	baz=270						
NTC				S	Sb	00 19 08.1	+0.2
	baz=270						
EWUT	**Wuta**	**0.77**	**255**	P	Pb	00 18 58.9	+0.1
	baz=259						
EWUT				S	Sb	00 19 09.0	-0.1
	baz=259						
TIPB	**Shuangxi**	**0.77**	**295**	P	Pb	00 18 59.1	+0.2
	baz=296						
TIPB				S	Sb	00 19 09.7	+0.4
	baz=296						
ILA	**Ilan**	**0.78**	**279**	eP	Pb	00 18 59.2	+0.2
	baz=273						
NDS	**Dongshan**	**0.80**	**270**	P	Pb	00 18 59.5	+0.1
	baz=264						
NDS				S	Sb	00 19 10.2	+0.1
	baz=264						
TWE	**Neicheng**	**0.85**	**276**	P	Pg	00 19 00.3	+0.2
	baz=270						
TWE				S	Sg	00 19 11.2	0.0
	baz=270						
NWF	**Wu-fen Shan**	**0.85**	**300**	eP	Pg	00 19 00.5	+0.3
	baz=301						
NWF				eS	Sg	00 19 11.9	+0.4
	baz=301						
WFSB	**Wu-fen Shan**	**0.85**	**300**	eP	Pn	00 19 00.5	-0.7
	baz=299						
WFSB				eS	Sg	00 19 11.9	+0.4
	baz=299						
TNOU	**National Taiwa**	**0.90**	**304**	eP	Pn	00 19 01.5	-0.4
	baz=298						
TNOU				eS	Sg	00 19 12.8	-0.2
	baz=298						
ENTT	**Nioudou**	**0.94**	**270**	P	Pg	00 19 01.8	0.0
	baz=265						
ENTT				S	Sg	00 19 14.4	+0.4
	baz=265						
TWA	**Mucha**	**0.98**	**290**	eP	Pn	00 19 03.2	+0.1
	baz=284						
TWA				S	Sg	00 19 15.4	0.0
	baz=284						
NDT	**Datong Townshi**	**0.98**	**268**	P	Pn	00 19 02.9	-0.2
	baz=263						
NDT				S	Sg	00 19 15.9	+0.3
	baz=263						
NWLT	**Wulai**	**1.00**	**278**	P	Pn	00 19 03.1	-0.3
	baz=272						
NWLT				eS	Sb	00 19 15.7	-0.2
	baz=272						
ETL	**Fush Village**	**1.01**	**242**	eP	Pb	00 19 02.1	-0.8
	baz=238						
ETL				eS	Sb	00 19 15.3	-0.7
	baz=238						
NHDH	**Xindian Distri**	**1.02**	**288**	eP	Pg	00 19 03.8	+0.4
	baz=283						
NHDH				eS	Sg	00 19 16.8	-0.1
	baz=283						
NACB	**Ninganchiao**	**1.02**	**243**	eP	Pb	00 19 02.7	-0.5
	baz=236						
NACB				eS	Sb	00 19 16.3	-0.2
	baz=236						
YM01	**YM01**	**1.06**	**299**	eP	Pn	00 19 03.7	-0.5
	baz=284						
YM01				eS	Sg	00 19 17.5	-0.4
	baz=284						
YM08	**YM08**	**1.06**	**301**	eP	Pn	00 19 03.7	-0.4
	baz=284						
YM08				eS	Sb	00 19 16.8	-0.8
	baz=284						
IRIF	**Iriomote-Funau**	**1.08**	**106**	P	Pg	00 19 04.3	-0.2
IRIF				S	Sg	00 19 18.7	+0.1
PCYT	**Pengchaiyu**	**1.09**	**334**	eP	Pg	00 19 05.2	+0.5
	baz=320						
ETLH	**Xiulin Townshi**	**1.10**	**247**	eP	Pn	00 19 04.6	-0.2
	baz=249						
ETLH				eS	Sb	00 19 18.6	-0.3
	baz=249						
YHNB	**Yeheng**	**1.11**	**272**	P	Pg	00 19 04.8	-0.2
	baz=267						
YHNB				S	Sg	00 19 19.3	-0.3
	baz=267						
NNSB	**Datong**	**1.12**	**259**	P	Pn	00 19 04.8	-0.3
	baz=260						
NNSB				eS	Sb	00 19 19.1	-0.4
	baz=260						
NNSH	**Datong**	**1.12**	**259**	eP	Pb	00 19 04.8	-0.2
	baz=260						
NNSH				eS	Sb	00 19 19.0	-0.5
	baz=260						
NSK	**Sanguang**	**1.13**	**272**	P	Pn	00 19 05.0	-0.1
	baz=267						
NSK				S	Sb	00 19 19.4	-0.1
	baz=267						
HATJ	**Hateruma jima**	**1.25**	**118**	P	Pb	00 19 07.1	+0.1
HATJ				S	Sg	00 19 23.9	-0.1
FUSS	**Fushou**	**1.29**	**253**	eP	Pb	00 19 08.1	+0.2
	baz=237						
FUSS				eS	Sb	00 19 24.4	-0.1
	baz=237						
WHF	**Hehuan Shan**	**1.31**	**248**	eP	Pb	00 19 08.1	-0.2
	baz=245						
WHF				eS	Sb	00 19 24.8	-0.3
	baz=245						
ESL	**Shilin**	**1.34**	**232**	eP	Pn	00 19 07.4	-0.7
	baz=230						
ESL				eS	Sb	00 19 26.4	+0.6
	baz=230						
TWT	**Tachien**	**1.35**	**254**	eP	Pg	00 19 09.5	-0.1
	baz=239						
TWT				eS	Sg	00 19 26.7	-0.6
	baz=239						
JKRS	**Kuro-shima**	**1.35**	**107**	P	Pb	00 19 09.0	+0.3
JKRS				S	Sb	00 19 26.2	+0.3
TDCB	**Techi**	**1.36**	**254**	eP	Pb	00 19 09.1	0.0
	baz=239						
TDCB				eS	Sb	00 19 26.6	+0.1
	baz=239						
CHGB	**Renai**	**1.42**	**246**	eP	Pb	00 19 09.8	-0.3
	baz=230						
CHGB				eS	Sn	00 19 27.8	-0.1
	baz=230						
JIJ	**Ishigaki jima**	**1.44**	**101**	P	Pb	00 19 10.2	0.0
LIOB	**Emei**	**1.44**	**270**	eP	Pb	00 19 10.1	-0.2
	baz=278						
LIOB				eS	Sb	00 19 28.7	+0.3
	baz=278						
NSTT	**Nanjuang**	**1.45**	**270**	eP	Pb	00 19 10.4	-0.1
	baz=277						
NSTT				eS	Sb	00 19 28.6	-0.2
	baz=277						
WHP	**Taichung City**	**1.55**	**257**	eP	Pb	00 19 12.2	0.0
	baz=244						
WHP				eS	Sb	00 19 31.1	-0.5
	baz=244						
JISG	**Ishigakijimahi**	**1.56**	**92**	S	Sg	00 19 33.6	-0.4
HGSD	**Ruisui**	**1.57**	**223**	eP	Pn	00 19 11.3	+0.2
	baz=214						
HGSD				eS	Sb	00 19 32.2	+0.1
	baz=214						
EHY	**Hungye**	**1.62**	**226**	eP	Pn	00 19 12.5	+0.6
	baz=224						
WCS	**Beigang Elemen**	**1.64**	**250**	eP	Pb	00 19 13.1	-0.6
	baz=236						
WCS				eS	Sn	00 19 33.3	+0.3
	baz=236						
ECBN	**Changbin**	**1.68**	**219**	eP	Pb	00 19 13.6	-0.9
	baz=217						
YULB	**Yu-li**	**1.72**	**224**	eP	Pn	00 19 13.1	-0.1
	baz=235						
YULB				eS	Sn	00 19 35.0	0.0
	baz=235						
SMLT	**Sun Moon Lake**	**1.72**	**244**	eP	Pn	00 19 14.0	+0.6
	baz=231						
SMLT				eS	Sn	00 19 35.2	+0.1
	baz=231						
SSLB	**Suanglung**	**1.72**	**241**	eP	Pb	00 19 14.6	-0.5
	baz=229						
SSLB				eS	Sn	00 19 35.7	+0.6
	baz=229						
TYC	**Yuchr**	**1.75**	**245**	eP	Pb	00 19 14.6	-0.9
	baz=232						
TYC				eS	Sb	00 19 36.6	-0.7
	baz=232						
TWF1	**Yuli**	**1.75**	**223**	eS	Sb	00 19 36.6	-0.8
	baz=235						
CHN5	**Tsauling**	**2.04**	**240**	eP	Pn	00 19 18.7	+1.0
	baz=239						
CHN5				eS	Sn	00 19 43.7	+0.7
	baz=239						
ELDTW	**Lidau**	**2.04**	**225**	eP	Pn	00 19 17.9	+0.2
	baz=225						
ELDTW				eS	Sn	00 19 43.7	+0.5
	baz=225						
LDUT	**Ludao**	**2.21**	**208**	eS	Sn	00 19 46.1	-1.1
	baz=209						
CHN1	**Nanshi**	**2.38**	**233**	eS	Sn	00 19 52.1	+0.7
	baz=232						
SLGT	**Liugui**	**2.42**	**228**	eS	Sn	00 19 53.6	+1.2
	baz=228						
MASBT	**Mashibuluo**	**2.71**	**222**	eP	Pn	00 19 28.9	+2.1
	baz=223						
MASBT				eS	Sn	00 20 00.8	+1.5
	baz=223						

*IDC **30** 00:31:01.7±0.6, 50°.42N×130°.21W, h0km, mb4.3/16, mb1 4.4/27, mb1mx4.4/43, mbtmp4.3/27, ML4.0/11, MS4.3/38, Ms1 4.3/38, ms1mx4.3/47, Error ellipse: s-maj=13.3km s-min=8.7km az=56.0*
*NEIC **30** 00:31:03.7, 50°.56N×130°.09W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.66; $M_{\theta\theta}$0.64; $M_{\phi\phi}$0.01; $M_{r\theta}$-0.10; $M_{\theta\phi}$1.68; $M_{\phi r}$0.07; Fault plane solution: $M_0$1.81000×10^{16} NP1:ϕ_s94.90000°, δ84.06000°, λ-6.98000°. NP2:ϕ_s185.62000°, δ83.06000°, λ-174.01000°. Principal axes: T 2.0415, Plg1.0000°, Azm140.0000°; N -0.6368, Plg81.0000°, Azm235.0000°; P -1.4047, Plg9.0000°, Azm50.0000°;*
*PGC **30** 00:31:03.7±0.5, 50°.56N×130°.09W, h10km, mb4.8, MLSn4.2/49, Mw5.0, 189km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*NEIC **30** 00:31:04.8±1.5, 50°.66N±0°.06×129°.98W±0°.08, h7km±3km, Error ellipse: s-maj=10.5km s-min=4.7km az=216.0*
*NEIC **30** 00:31:05, 50°.56N×130°.09W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.03; $M_{\theta\theta}$1.17; $M_{\phi\phi}$-0.48; $M_{r\theta}$-1.10; $M_{\theta\phi}$3.83; $M_{\phi r}$-0.81; Fault plane solution: $M_0$4.20000×10^{16} NP1:ϕ_s278.00000°, δ77.00000°, λ15.00000°. NP2:ϕ_s184.00000°, δ75.00000°, λ166.00000°. Principal axes: T 4.1935, Plg20.0000°, Azm141.0000°; N -0.0430, Plg70.0000°, Azm319.0000°; P -4.1505, Plg1.0000°, Azm51.0000°;*
*GCMT **30** 00:31:05.7±0.2, 50°.32N±0°.01×130°.39W±0°.02, h17km, MW5.1/124, Moment Tensor Solution. s41,c56; s124,c212; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.02±.17; $M_{\theta\theta}$1.35±.14; $M_{\phi\phi}$-0.33±.14; $M_{r\theta}$1.08±.34; $M_{\theta\phi}$5.72±.12; $M_{\phi r}$-1.96±.39; Best double couple: $M_0$6.26100×10^{16} NP1:ϕ_s272.00000°, δ71.00000°, λ-14.00000°. NP2:ϕ_s7.00000°, δ77.00000°, λ-161.00000°. Principal axes: T 6.3220, Plg4.0000°, Azm138.0000°; N -0.1230, Plg67.0000°, Azm40.0000°; P -6.2010, Plg23.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 00:31:03.3±1.8, 50°.50N±0°.04×130°.09W±0°.04, h7km±11km, n714, σ1s54/742, mb4.8/68, MS4.4/34, 1D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.26**	**83**	P	Pn	00 31 25.4	-1.9
HOLB				S	Sb	00 31 41.4	-2.4
PACB	**Port Alice, BC**	**1.66**	**91**	Pn	Pn	00 31 30.5	-2.3
PACB				Sn	Sn	00 31 50.8	-3.6
PACB	**Port Alice, BC**	**1.66**	**91**	Pn	Pn	00 31 30.5	-2.3
PACB				Sn	Sn	00 31 50.8	-3.6
PHC	**Port Hardy**	**1.71**	**82**	Pn	Pn	00 31 32.0	-1.5
PHC				Sn	Sn	00 31 53.3	-2.2
MAYB	**Maynard**	**1.87**	**92**	Pn	Pn	00 31 33.5	-2.4
MAYB				Sn	Sn	00 31 54.6	-5.1
MAYB	**Maynard**	**1.87**	**92**	Pn	Pn	00 31 33.5	-2.4
HG4B	**Hotspring**	**1.93**	**339**	Pn	Pn	00 31 33.4	-3.1
HG4B				Sn	Sn	00 31 57.4	-3.6
HG4B	**Hotspring**	**1.93**	**339**	Pn	Pn	00 31 33.4	-3.1
HG4B				Sn	Sn	00 31 57.4	-3.6
EDB	**Eliza Dome**	**2.01**	**107**	Pn	Pn	00 31 34.7	-2.9
EDB				Sn	Sn	00 31 58.8	-4.2
EDB	**Eliza Dome**	**2.01**	**107**	Pn	Pn	00 31 34.7	-2.9
TLCB	**Telegraph Cove**	**2.08**	**87**	Pn	Pn	00 31 37.2	-1.4
TLCB				Sn	Sn	00 32 01.9	-2.8
TLCB	**Telegraph Cove**	**2.08**	**87**	Pn	Pn	00 31 37.2	-1.4
TLCB				Sn	Sn	00 32 01.9	-2.8
BBB	**Bella Bella**	**2.09**	**36**	Pn	Pn	00 31 38.3	-0.5
	134nm,0.3s,baz=230,slow=8.4,SNR=798						
BBB				Sn	Sn	00 32 04.5	-0.6
	178nm,0.3s,baz=196,slow=18,SNR=4.7						
BBB				LR	LR	00 32 16.2	
	comp=Z,2μm,21.9s,baz=200,slow=34						
BBB	**Bella Bella**	**2.09**	**36**	Pn	Pn	00 31 38.2	-0.6
BBB	**Bella Bella**	**2.09**	**36**		Pn	00 31 38.2	-0.6
BBB				IAML		00 32 31.3	
	comp=E,2μm,0.8s						
BBB				IAML		00 32 39.2	
	comp=N,1μm,1.4s						
WOSB	**Woss**	**2.28**	**97**	Pn	Pn	00 31 39.6	-1.9
WOSB				Sn	Sn	00 32 06.5	-3.3
WOSB	**Woss**	**2.28**	**97**	Pn	Pn	00 31 39.6	-1.9
WOSB				Sn	Sn	00 32 06.5	-3.3
BNB	**Barry Inlet**	**2.33**	**334**	Pn	Pn	00 31 38.9	-3.2
BNB				Sn	Sn	00 32 07.4	-3.5
BNB	**Barry Inlet**	**2.33**	**334**	Pn	Pn	00 31 38.9	-3.2
BNB				Sn	Sn	00 32 07.4	-3.5
ETB	**Estevan Point**	**2.56**	**115**	Pn	Pn	00 31 42.6	-2.5
NCRB	**Newcastle Ridg**	**2.58**	**91**	Pn	Pn	00 31 44.0	-1.6
KEMF	**NEPTUNE Canada**	**2.63**	**165**	Pn	Pn	00 31 44.3	-1.7
GDR	**Gold River**	**2.71**	**104**	Pn	Pn	00 31 44.8	-2.5
BUTB	**Butedale**	**2.76**	**21**	Pn	Pn	00 31 47.6	-0.5
NC89	**ODP889**	**2.79**	**130**	Pn	Pn	00 31 47.4	-0.9
BNKB	**Banks Island**	**2.84**	**2**	Pn	Pn	00 31 47.7	-1.4
BNKB				Sn	Sn	00 32 21.6	-2.0
MOBC	**Moresby Island**	**2.90**	**337**	Pn	Pn	00 31 47.6	-2.3
MOBC				Sn	Sn	00 32 23.2	-1.8
MOBC	**Moresby Island**	**2.90**	**337**		Pn	00 31 47.9	-2.0
MOBC				IAML		00 32 37.0	
	comp=E,637nm,1.2s						
SPLB	**Strathcona Par**	**2.92**	**100**	Pn	Pn	00 31 48.8	-1.3
BNAB	**Bonilla**	**3.02**	**354**	Pn	Pn	00 31 49.7	-1.8
TOFB	**Tofino**	**3.02**	**115**	Pn	Pn	00 31 50.3	-1.3
TOFB				Sn	Sn	00 32 25.2	-2.8
CBB	**Campbell River**	**3.07**	**97**	Pn	Pn	00 31 50.8	-1.4
CBB				Sn	Sn	00 32 26.8	-2.4
DIB	**Dawson Inlet,**	**3.09**	**332**	Pn	Pn	00 31 49.6	-2.8
DIB				Sn	Sn	00 32 26.4	-3.2
DIB	**Dawson Inlet,**	**3.09**	**332**	Pn	Pn	00 31 50.0	-2.4
DIB				IAML		00 32 37.1	
	comp=N,555nm,0.8s						
H02S1	**DAWSON INLET T**	**3.09**	**332**	Pn	Pn	00 31 50.4	-2.1
	SNR=130						
H02S1				Sn	Sn	00 32 26.8	-2.7
BTB	**Buttle Lake**	**3.12**	**108**	Pn	Pn	00 31 50.9	-2.2
HWKB	**Hawksbury Isla**	**3.16**	**10**	Pn	Pn	00 31 52.1	-1.4
HWKB				Sn	Sn	00 32 30.3	-1.1
MWAB	**Mount Washingt**	**3.17**	**102**	Pn	Pn	00 31 52.2	-1.5
MWAB				Sn	Sn	00 32 28.1	-3.8
B012	**Ucluelet**	**3.34**	**116**	Pn	Pn	00 31 55.6	-0.4
B012				Sn	Sn	00 32 32.9	-3.1
GRNB	**Grenville Isla**	**3.35**	**1**	Pn	Pn	00 31 55.1	-1.0
GRNB				Sn	Sn	00 32 30.9	-5.4
OZB	**Mount Ozzard**	**3.36**	**116**	Pn	Pn	00 31 55.3	-1.0
OZB				Sn	Sn	00 32 31.2	-5.2
BFSB	**Bamfield**	**3.62**	**115**	Pn	Pn	00 31 59.7	-0.2
B928	**Bamfield**	**3.62**	**115**	Pn	Pn	00 31 59.6	-0.2
B927	**Port Alberni**	**3.65**	**109**	P	Pn	00 32 00.0	-0.1
B927				Sn	Sn	00 32 40.2	-3.2
KITB	**Kitimat**	**3.69**	**13**	Pn	Pn	00 32 00.7	-0.1
KITB				Sn	Sn	00 32 42.1	-2.4
MASB	**Masset**	**3.72**	**342**	Pn	Pn	00 31 59.5	-1.5
TXB	**Texada**	**3.73**	**100**	Pn	Pn	00 32 00.1	-1.3
MGB	**Mount Grey**	**3.81**	**111**	Pn	Pn	00 32 01.7	-0.8
RUBB	**Prince Rupert**	**3.83**	**359**	Pn	Pn	00 32 01.2	-1.5
RUBB	**Prince Rupert**	**3.83**	**359**		Pn	00 32 01.4	-1.3
RUBB				IAML		00 33 40.1	
	comp=E,518nm,4.6s						
NDB	**Naden**	**3.88**	**334**	Pn	Pn	00 32 01.9	-1.5
NDB				Sn	Sn	00 32 47.0	-2.3
GHNB	**Nanoose**	**3.97**	**105**	Pn	Pn	00 32 03.5	-1.0
GHNB				Sn	Sn	00 32 49.5	-1.8
SHB	**Sechelt**	**4.11**	**100**	Pn	Pn	00 32 05.0	-1.6
SHB				Sn	Sn	00 32 50.6	-4.2
NLLB	**Nanaimo Lost L**	**4.15**	**106**	Pn	Pn	00 32 06.5	-0.5
NLLB				Sn	Sn	00 32 54.4	-1.3
PFB	**Port Renfrew**	**4.15**	**116**	Pn	Pn	00 32 06.2	-0.9
LIB	**Langara Island**	**4.18**	**335**	Pn	Pn	00 32 05.8	-1.6
LIB				Sn	Sn	00 32 53.8	-2.7
OCP	**Olym-Cheeka Pk**	**4.19**	**120**	Pn	Pn	00 32 07.0	-0.7
OCP				Sn	Sn	00 32 55.3	-1.6
B926	**Mesachie Lake**	**4.22**	**111**	Pn	Pn	00 32 07.0	-1.0
UBRB	**Upper Baezaeko**	**4.44**	**55**	Pn	Pn	00 32 12.6	+1.4
WPB	**Watts Point**	**4.51**	**98**	Pn	Pn	00 32 11.6	-0.5
BIB	**Bowen Island**	**4.51**	**101**	Pn	Pn	00 32 11.2	-0.9
GOBB	**Galiano Island**	**4.54**	**107**	Pn	Pn	00 32 12.4	0.0
GOBB				Sn	Sn	00 33 05.0	-0.5
WSLR	**Whistler**	**4.61**	**92**	Pn	Pn	00 32 13.3	-0.2
OBC	**Olympics--Boni**	**4.64**	**120**	Pn	Pn	00 32 13.7	-0.2
OBC				Sn	Sn	00 33 05.5	-2.6
B010	**North Saanich**	**4.70**	**111**	Pn	Pn	00 32 14.4	-0.2
B010				Sn	Sn	00 33 06.1	-3.2
B009	**North Saanich**	**4.70**	**111**	Pn	Pn	00 32 14.2	-0.4
B009				Sn	Sn	00 33 06.1	-3.2
PA02	**PA02 Ocean**	**4.70**	**111**	Pn	Pn	00 32 14.6	0.0
PA02				Sn	Sn	00 33 05.2	-4.1
PGC	**Sidney**	**4.70**	**111**	Pn	Pn	00 32 14.4	-0.2
PGC				Sn	Sn	00 33 06.6	-2.7
PGC	**Sidney**	**4.70**	**111**	Pn	Pn	00 32 14.6	0.0
PGC				IAML		00 34 02.8	
	comp=N,154nm,2.0s						
PGC				IAML		00 35 05.2	
	comp=E,179nm,4.8s						
PA01	**PA01 North**	**4.70**	**111**	Pn	Pn	00 32 14.1	-0.5
PA01				Sn	Sn	00 33 05.3	-4.0
PA12	**PA12 Sannich**	**4.70**	**111**	Pn	Pn	00 32 14.3	-0.3
B011	**North Saanich**	**4.70**	**111**	Pn	Pn	00 32 14.3	-0.4
B011				Sn	Sn	00 33 07.1	-2.3
PA05	**PA05 Willingdo**	**4.70**	**111**	Sn	Sn	00 33 05.2	-4.2
STW	**Striped Peak**	**4.81**	**117**	Pn	Pn	00 32 16.0	-0.1
SNB	**Saturna Island**	**4.81**	**108**	Pn	Pn	00 32 15.5	-0.7
SNB				Sn	Sn	00 33 10.6	-1.7
VGZ	**Gonzales**	**4.88**	**113**	Pn	Pn	00 32 17.1	0.0
VGZ				Sn	Sn	00 33 09.9	-3.9
OSD	**Olympics--Snow**	**4.97**	**120**	Pn	Pn	00 32 18.6	0.0
HNBB	**Haney**	**5.01**	**101**	Pn	Pn	00 32 18.0	-0.9
HNBB				Sn	Sn	00 33 16.6	-0.4
MCW	**Mount Constitu**	**5.06**	**108**	Pn	Pn	00 32 20.1	+0.5
MCW				Sn	Sn	00 33 16.2	-2.1
A04D	**Lummi Island**	**5.12**	**108**	P	Pn	00 32 20.9	+0.5
	baz=294,SNR=28						
NLWA	**Neilton Lookou**	**5.14**	**125**		Pn	00 32 21.2	+0.4
LLLB	**Lilloet**	**5.23**	**86**	Pn	Pn	00 32 21.8	-0.2
LLLB	**Lilloet**	**5.23**	**86**		Pn	00 32 21.7	-0.4
CRAG	**Craig**	**5.30**	**341**	P	Pn	00 32 21.4	-1.5
	baz=158,SNR=9.4						
CRAG	**Craig**	**5.30**	**341**	Pn	Pn	00 32 21.6	-1.4
CRAG				IAML		00 33 28.0	
	comp=E,162nm,0.5s						
FSB	**Fort Saint Jam**	**5.32**	**39**	Pn	Pn	00 32 23.5	+0.3
FSB				Sn	Sn	00 33 25.0	+0.4
WISH	**Wishkah**	**5.37**	**127**	Pn	Pn	00 32 24.9	+1.0
WISH				Sn	Sn	00 33 23.1	-2.8
VDB	**Vedder Mountai**	**5.38**	**103**	Pn	Pn	00 32 24.3	+0.2
VDB				Sn	Sn	00 33 25.0	-1.2
A05A	**Maple Falls**	**5.40**	**103**	Pn	Pn	00 32 25.1	+0.9
A05A				Sn	Sn	00 33 24.5	-2.1
A05A	**Maple Falls**	**5.40**	**103**		Pn	00 32 25.1	+0.9
HDW	**Hoodsport**	**5.43**	**119**	Pn	Pn	00 32 25.1	+0.3
D03D	**Eldon**	**5.48**	**120**	P	Pn	00 32 25.9	+0.6
	baz=306						
MBW	**Mount Baker**	**5.59**	**105**	Pn	Pn	00 32 27.3	+0.3
MBW				Sn	Sn	00 33 30.6	-0.9
CMW	**Cultus Mountai**	**5.60**	**109**	Pn	Pn	00 32 27.6	+0.6
CMW		

LTY Sn Sn 00 34 03.9 -2.4
LTY Liberty 7.01 114 Pn Pn 00 32 47.8 +1.4
SIT Sitka 7.26 337 P Pn 00 32 49.3 -0.5
baz=152
SIT Sitka 7.26 337 Pn Pn 00 32 49.5 -0.2
BMBC Bull Mountain 7.32 38 Pn Pn 00 32 50.5 -0.2
BMBC Sn Sn 00 34 10.2 -3.8
B08A Colville Reser 7.33 103 Pn Pn 00 32 51.1 +0.3
B08A Colville Reser 7.33 103 Pn Pn 00 32 50.5 -0.3
F05D White Salmon 7.38 125 P Pn 00 32 52.9 +1.4
baz=312
COR Corvallis 7.49 140 Pn Pn 00 32 55.1 +2.3
MNB Mounoet Dainar 7.53 72 Pn Pn 00 32 53.0 -0.7
SLEB Sale Mountain 7.60 80 Pn Pn 00 32 55.1 +0.4
I02D Swisshome 7.67 144 P Pn 00 32 57.2 +1.8
baz=329
NBC4 NorthernBC 4 7.69 44 Pn Pn 00 32 56.8 +1.1
NBC4 Sn Sn 00 34 22.6 -0.5
H04D Lebanon 7.78 137 P Pn 00 32 59.2 +2.3
baz=323,SNR=16
E07A Sunnyside 7.85 116 Pn 00 32 58.9 +0.9
H04A Detroit Lake 7.89 134 Pn Pn 00 32 59.9 +1.3
G05D Wamic, OR 7.90 128 P Pn 00 32 59.5 +0.9
baz=315
BUCK Buck Mountain 7.94 140 Pn Pn 00 33 01.9 +2.8
DLBC Dease Lake 7.96 0 Pn Pn 00 33 00.3 +1.0
comp=E,2.0nm,0.3s,baz=182,slow=12,SNR=14
DLBC Sn Sn 00 34 31.7 +2.1
comp=E,0.7nm,0.3s,baz=151,slow=20,SNR=1.2
DLBC LR LR 00 35 05.7
comp=E,253nm,20.5s,baz=176,slow=30
DLBC Lg Lg 00 35 11.6
baz=51,slow=8.0,SNR=4.2
DLBC Dease Lake 7.96 0 Pn Pn 00 33 00.7 +1.4
DLBC Sn Sn 00 34 29.4 -0.2
DLBC Dease Lake 7.96 0 Pn Pn 00 33 00.7 +1.4
HAWA Hanford 8.13 116 Pn Pn 00 33 02.6 +0.9
D08A Wollman Farm, 8.14 111 Pn Pn 00 33 01.6 -0.3
C09A Chrisman Ranch 8.20 105 Pn Pn 00 33 03.2 +0.5
C09A Chrisman Ranch 8.20 105 Pn Pn 00 33 02.6 -0.1
I03D Drain, OR 8.21 143 P Pn 00 33 05.0 +2.2
baz=329,SNR=8.6
NBC5 NorthernBC 5 8.28 29 Pn Pn 00 33 05.1 +1.3
NBC5 Sn Sn 00 34 34.1 -3.4
E08A Dider Farm, El 8.35 114 Pn 00 33 06.3 +1.6
J01E Myrtle Point 8.46 148 P Pn 00 33 07.6 +1.3
baz=333
I04A Tendick Farm, 8.50 139 P Pn 00 33 08.9 +2.0
baz=325,SNR=17
I05D Terrebonne, OR 8.55 133 P Pn 00 33 09.2 +1.6
baz=320
KEBM Edson Butte 8.59 150 Pn Pn 00 33 10.6 +2.5
NEW Newport 8.75 100 Pn Pn 00 33 10.5 +0.2
comp=E,3.1nm,0.3s,baz=300,slow=13,SNR=26
NEW Lg Lg 00 35 28.1
baz=332,slow=2.6,SNR=4.3
NEW LR LR 00 36 55.9
comp=E,1µm,21.6s,baz=284,slow=40
NEW Newport 8.75 100 Pn Pn 00 33 10.1 -0.2
K02D Willamette Mer 8.97 148 P Pn 00 33 16.0 +2.7
baz=333,SNR=16
J04D Umpqua Nationa 9.08 140 P Pn 00 33 17.5 +2.5
baz=326,SNR=26
G08A Pilot Rock 9.11 121 Pn Pn 00 33 16.8 +1.5
PINE Pine Mountain 9.15 134 Pn 00 33 18.4 +2.4
KBO Bosley Butte 9.22 152 Pn Pn 00 33 19.5 +2.7
HUMO Hull Mountain 9.29 145 Pn Pn 00 33 20.7 +3.0
J05D Fort Rock, OR 9.42 137 P Pn 00 33 22.0 +2.5
baz=323,SNR=15
L02E Cave Junction 9.47 149 P Pn 00 33 22.9 +2.8
baz=334,SNR=22
SKAG Skagway 9.47 344 P Pn 00 33 20.2 +0.2
baz=159
SKAG Skagway 9.47 344 Pn Pn 00 33 19.8 -0.2
NBC6 NorthernBC 6 9.56 29 Pn Pn 00 33 23.3 +2.1
NBC6 Sn Sn 00 35 06.8 -2.0
I07A Izee 9.63 128 Pn Pn 00 33 24.6 +2.1
F10A Beach Ranch, E 9.70 113 Pn 00 33 24.9 +1.5
K04D Chiloquin, OR 9.74 141 P Pn 00 33 26.3 +2.4
baz=327
L04D Klamath Falls 9.87 144 P Pn 00 33 27.9 +2.2
baz=330,SNR=35
KRMB Red Mountain 9.95 152 Pn 00 33 29.0 +2.2
K05A Summer Lake 10.02 137 Pn Pn 00 33 30.3 +2.6
PRDA Priddis 10.04 82 Pn Pn 00 33 29.5 +1.5
YBH Yreka Blue Hor 10.15 147 Pn Pn 00 33 32.3 +2.8
comp=E,0.7nm,0.3s,baz=339,slow=11,SNR=55
YBH LR LR 00 36 54.5
comp=E,6µm,20.3s,baz=336,slow=35
BMO Blue Mountains 10.30 118 Pn 00 33 32.2 +0.6
BHMT Big Hole Peak 10.30 101 Pn Pn 00 33 31.0 -0.7
BSMT Bassoo Peak 10.37 99 Pn Pn 00 33 33.0 +0.4
M02C Callahan 10.40 148 P Pn 00 33 36.1 +3.2
baz=334,SNR=23
M04C Macdoel 10.42 144 P Pn 00 33 35.9 +2.6
baz=330,SNR=20
WHY Whitehorse 10.54 347 Pn Pn 00 33 34.9 +0.2
WHY Whitehorse 10.54 347 P Pn 00 33 36.0 +1.3
baz=163,SNR=17
WHY Whitehorse 10.54 347 Pn Pn 00 33 35.1 +0.4
WALA Waterton Lakes 10.56 92 Pn Pn 00 33 37.2 +2.0
WALA Waterton Lakes 10.56 92 Pn Pn 00 33 36.4 +1.2
KHMM Horse Mountain 10.60 153 Pn 00 33 39.0 +3.3
PNL Peninsula 10.61 334 Pn Pn 00 33 37.3 +1.6
PNL Sn Sn 00 35 34.2 -0.4
EDM Edmonton 10.71 69 Pn Pn 00 33 37.5 +0.5
EDM Edmonton 10.71 69 Pn 00 33 38.9 +1.8
JTMT Jette 10.72 99 Pn 00 33 38.1 +0.7
JTMT Jette 10.72 99 Pn 00 33 37.9 +0.5
FBMT Ferry Basin 10.76 101 Pn Pn 00 33 38.7 +0.8
N02D Trinity Center 10.83 149 P Pn 00 33 42.4 +3.6
baz=334,SNR=24
YBMT Yellow Bay 10.85 98 Pn Pn 00 33 40.2 +1.1
BCPM Bancas Point 10.92 334 Pn 00 33 41.5 +1.7
MOD Modoc Plateau 10.94 138 Pn 00 33 43.0 +2.6
SWMT Swartz Lake 10.98 100 Pn Pn 00 33 41.4 +0.5
HYT Haines Junctio 11.15 341 Pn Pn 00 33 42.6 -0.6
HYT Haines Junctio 11.15 341 Pn Pn 00 33 42.8 -0.4
KMRM Mail Ridge 11.21 154 Pn Pn 00 33 47.6 +3.6
PINM Pinnacle 11.21 333 P Pn 00 33 45.3 +1.4
baz=144,SNR=11
PCA Pinnacle 11.21 333 Pn Pn 00 33 43.5 -0.5
PCA Sn Sn 00 35 31.2 -18
PCA Pinnacle 11.21 333 Pn 00 33 44.7 +0.7
WDC Whiskeytown Da 11.24 149 Pn 00 33 46.3 +2.0
WVOR Wild Horse Val 11.28 131 Pn 00 33 47.2 +2.2
MSO Missoula 11.29 103 Pn 00 33 44.9 -0.2
SAMH Samovar Hills 11.39 332 Pn Pn 00 33 46.8 +0.4
SAMH Sn Sn 00 35 22.9 -31
SLMT Seeley Lake 11.40 100 Pn Pn 00 33 46.5 -0.2
O02D Mt. Diablo Mer 11.52 151 P Pn 00 33 51.9 +3.6
baz=336,SNR=13
O03E Paynes Creek 11.74 147 P Pn 00 33 53.8 +2.6
baz=333,SNR=19
BPMT Black Pine Rid 11.77 104 Pn Pn 00 33 52.1 +0.3
OVMT Ovando 11.79 100 Pn Pn 00 33 52.4 +0.5
YAH Yahtse 11.87 331 Pn 00 33 54.0 +0.9
LOGN Logan Glacier 12.02 334 Pn Pn 00 33 56.1 +1.1
LOGN Sg Sn 00 35 35.4 -34
LOGN Logan Glacier 12.02 334 Pn 00 33 56.6 +1.5
MFID Camas Ranch 12.04 121 Pn Pn 00 33 58.2 +2.9
CTGM Chitina Glacie 12.23 333 Pn Pn 00 33 59.3 +1.3
CTGM Chitina Glacie 12.23 333 Pn 00 33 58.9 +0.9
CTG Chitna Glacier 12.23 333 P Pn 00 33 58.4 +0.5
baz=144,SNR=11
ISLE Juniper Island 12.25 330 Pn 00 33 59.0 +0.9
LYMT Lyon Mountain 12.27 100 Pn 00 33 58.6 +0.1
ELMT Elliston 12.32 102 Pn Pn 00 33 59.8 +0.5
BARN Barnard Glacie 12.40 333 Pn 00 34 01.6 +1.3
KAIM Kayak Island 12.47 325 P Pn 00 34 01.6 +0.6
baz=133
KIAG Kiagna River 12.50 331 Pn Pn 00 34 01.0 -0.7
KIAG Sn Sn 00 35 37.5 -44
ORV Oroville 12.51 148 Pn Pn 00 34 04.1 +2.5
TGL Tana Glacier 12.52 330 Pn 00 34 02.6 +0.8
BERG Berg Lake 12.54 327 Pn 00 34 02.0 0.0
HBMT Mount Humbug 12.58 105 Pn Pn 00 34 03.0 +0.1
BALM Baldy 12.59 332 Pn Pn 00 34 03.4 +0.6
BALM Sn Sn 00 35 48.2 -35
CRQE Cirque 12.60 330 P Pn 00 34 04.8 +1.8
baz=139,SNR=27
CRQM Cirque 12.62 330 Pn 00 34 02.7 -0.5
HRY Holter Researc 12.66 100 Pn Pn 00 34 04.9 +1.1

LRM Limekiln Ridge 12.66 105 Pn Pn 00 34 04.3 +0.2
LRM Limekiln Ridge 12.66 105 Pn 00 34 04.0 0.0
HLID Hailey 12.73 117 Pn 00 34 07.0 +2.1
PTPK Patty Peak 12.74 332 Pn Pn 00 34 05.5 +0.6
PTPK Sn Sn 00 35 55.5 -31
YUK2 White River 12.78 336 Pn Pn 00 34 04.0 -1.3
YUK2 S Sn 00 36 09.5 -18
GDXM Geysers 12.78 153 Pn 00 34 08.9 +3.4
DLMT Dillon 12.80 107 Pn Pn 00 34 06.1 +0.3
RAGM Ragged Mountai 12.88 326 Pn 00 34 06.8 +0.1
Q23K Middleton Isla 12.90 320 P Pn 00 34 07.2 +0.4
baz=127
MCMT McKenzie Canyo 12.92 109 Pn 00 34 07.8 +0.3
MCARA McCarthy VSAT 13.06 332 P Pn 00 34 09.2 +0.1
baz=141,SNR=7.1
VRDI Verde Repeater 13.08 330 Pn 00 34 09.9 +0.4
PAHR Pah Rah Range 13.16 141 Pn 00 34 13.3 +2.6
AFDM Forest Hills D 13.23 147 Pn Pn 00 34 13.4 +1.8
BMRM Bremner River 13.26 328 P Pn 00 34 11.7 -0.2
baz=136,SNR=7.8
BOZ Bozeman (W) 13.28 105 Pn 00 34 13.4 +1.1
GLB Gilahina Butte 13.35 330 Pn Pn 00 34 13.5 +0.4
EYAK Cordova Ski Ar 13.38 325 P Pn 00 34 13.5 +0.1
baz=132
VCNR Virginia City 13.41 143 Pn 00 34 16.6 +2.4
EGMT Eagleton 13.51 93 Pn 00 34 16.4 +1.1
M27K Edge Creek, AK 13.53 336 P Pn 00 34 15.4 -0.2
baz=146,SNR=10
HIN Hinchinbrook I 13.56 323 Pn 00 34 15.9 0.0
PNTR Pine Nut 13.61 143 Pn 00 34 19.9 +3.0
N25K Chitina, Valde 13.73 330 P Pn 00 34 18.0 -0.2
baz=138,SNR=19
N25K Chitina, Valde 13.73 330 Pn Pn 00 34 19.5 +1.3
QLMT Earthquake Lak 13.78 107 Pn 00 34 20.1 +0.9
M26K Nabesna, AK 13.86 334 P Pn 00 34 20.8 +0.7
baz=143
KLU Klutina 14.09 327 P Pn 00 34 23.2 0.0
baz=134,SNR=12
KLU Klutina 14.09 327 Pn 00 34 23.1 0.0
GLI Glacier Island 14.10 324 P Pn 00 34 22.4 -0.8
baz=130
BCAR Beaver Creek A 14.10 338 Pn 00 34 24.1 +0.8
L27K Beaver Creek, 14.11 338 P Pn 00 34 22.1 -1.3
baz=148,SNR=8.8
L27K Beaver Creek, 14.11 338 Pn 00 34 24.1 +0.7
YMR Madison River 14.15 107 Pn 00 34 24.4 +0.1
WAKR Walker 14.18 144 Pn 00 34 27.5 +2.8
ELK Elko 14.23 128 Pn Pn 00 34 28.8 +3.4
comp=E,0.1nm,0.3s,baz=310,slow=15,SNR=6.7
ELK LR LR 00 39 57.2
comp=E,2µm,19.3s,baz=316,slow=38
ELK Elko 14.23 128 Pn 00 34 26.9 +1.5
CMB Columbia Colle 14.25 147 Pn 00 34 26.3 +0.8
GCMT Greycliff 14.41 101 Pn 00 34 29.7 +1.9
YPP Pitchstone Pla 14.45 108 Pn 00 34 30.7 +2.2
L26K Log Cabin Wild 14.46 335 P Pn 00 34 28.4 +0.1
baz=144,SNR=7.3
DAWY Dawson 14.48 343 P P 00 34 33.4 -2.0
HARP HAARP 14.49 331 P Pn 00 34 28.3 -0.4
baz=138,SNR=5.8
H17A Grant Village 14.53 107 P Pn 00 34 32.2 +2.7
baz=302
H17A Grant Village 14.53 107 Pn 00 34 31.2 +1.7
LKWY Lake 14.55 106 Pn 00 34 32.0 +2.2
PWL Port Wells 14.56 322 Pn Pn 00 34 30.5 +0.9
SEW Seward 14.57 319 P Pn 00 34 29.4 -0.4
baz=123
SEW Seward 14.57 319 Pn 00 34 30.1 +0.3
IMW Indian Meadow 14.58 110 Pn 00 34 32.4 +2.2
M24K Tolsona, Glenn 14.61 329 P Pn 00 34 30.2 0.0
baz=135
FLWY Flagg Ranch 14.62 109 Pn 00 34 32.6 +1.9
NVAR Mina Array Bea 14.69 141 Pn Pn 00 34 33.5 +1.9
comp=E,0.1nm,0.3s,baz=316,slow=9.3,SNR=30
NVAR LR LR 00 39 51.8
comp=E,3µm,21.6s,baz=326,slow=36
NVAR Mina Array Bea 14.69 141 Pn 00 34 33.8 +2.2
YKA Yellowknife Ar 14.69 29 Pn Pn 00 34 28.6 -2.8
comp=E,0.5nm,0.3s,baz=218,slow=12,SNR=17
YKA LR LR 00 40 54.5
comp=E,1µm,21.8s,baz=0.0,slow=40
YKA Yellowknife Ar 14.69 29 Pn Pn 00 34 31.4 +0.1
NV11 Mina Array Sit 14.74 140 Pn 00 34 34.4 +2.1
SCM Sheep Creek Mo 14.81 327 Pn 00 34 33.0 -0.1
O22K Cooper Landing 14.89 320 P Pn 00 34 32.9 -1.2
baz=123
LOHW Long Hollow 14.94 110 P P 00 34 38.6 -2.2
BRSE Bradley Lake S 14.95 316 P Pn 00 34 33.6 -1.2
baz=119
KNK Knik Glacier 14.95 324 P Pn 00 34 34.1 -0.7
baz=129,SNR=6.3
KNK Knik Glacier 14.95 324 Pn Pn 00 34 33.9 -0.9
RLMT Red Lodge 14.97 103 Pn Pn 00 34 37.1 +1.7
K27K Chicken 14.99 339 P Pn 00 34 34.2 -1.2
baz=149,SNR=10
KDAK Kodiak Island 15.01 308 Pn Pn 00 34 33.3 -2.4
comp=E,0.2nm,0.3s,baz=138,slow=7.9,SNR=8.4
KDAK LR LR 00 38 56.9
comp=E,4µm,20.3s,baz=92,slow=32
KDAK Kodiak Island 15.01 308 P Pn 00 34 34.7 -1.0
baz=109
KDAK Kodiak Island 15.01 308 Pn 00 34 34.7 -1.0
BRLK Bradley Lake 15.02 316 Pn Pn 00 34 37.0 +1.2
PAX Paxson 15.02 332 P Pn 00 34 36.8 +0.9
PAX Paxson 15.02 332 P Pn 00 34 35.9 0.0
baz=139,SNR=12
PAX Paxson 15.02 332 Pn 00 34 35.8 0.0
CNPM China Poot 15.06 315 Pn 00 34 36.0 -0.4
CNPM IAmb IAmb 00 34 45.6
comp=Z,36nm,1.1s
SAO San Andreas Ge 15.07 152 Pn Pn 00 34 37.8 +1.2
SAO IAmb IAmb 00 34 53.1
comp=Z,37nm,1.2s
MDPB Devils Postpil 15.08 144 Pn 00 34 37.9 +0.9
MDPB IAmb IAmb 00 34 54.0
comp=Z,28nm,0.9s
SML Sawmill 15.15 325 P Pn 00 34 37.3 -0.2
baz=130,SNR=7.9
SML Sawmill 15.15 325 Pn 00 34 39.0 +1.4
SML IAmb IAmb 00 34 47.3
comp=Z,81nm,1.4s
DOT Dot Lake 15.16 336 P P 00 34 40.5 -2.4
MLAC Mammoth, Mammo 15.17 144 P Pn 00 34 40.2 +2.0
baz=332
OHAK Old Harbor 15.20 305 P Pn 00 34 36.7 -1.5
baz=106
OHAK Old Harbor 15.20 305 Pn Pn 00 34 37.8 -0.4
OHAK IAmb IAmb 00 34 47.0
comp=Z,76nm,1.4s
RC01 Rabbit Creek A 15.24 322 P Pn 00 34 37.6 -1.1
baz=125
RC01 Rabbit Creek A 15.24 322 Pn Pn 00 34 38.5 -0.3
RC01 IAmb IAmb 00 34 51.3
comp=Z,54nm,1.3s
BGU Big Grassy Mou 15.25 122 Pn 00 34 41.5 +2.4
SPUT South Promonto 15.30 120 P P 00 34 43.5 -1.2
PMR Palmer 15.31 324 P Pn 00 34 39.0 -0.6
baz=128
PMR Palmer 15.31 324 Pn 00 34 39.6 0.0
PMR IAmb IAmb 00 34 51.4
comp=Z,50nm,1.4s
GHO Glory Hole Cre 15.35 325 Pn 00 34 39.4 -0.8
GHO IAmb IAmb 00 34 53.4
comp=Z,56nm,1.2s
SCRK Sand Creek 15.41 336 P Pn 00 34 40.6 -0.4
baz=145,SNR=17
TPH Tonopah 15.43 139 Pn 00 34 43.5 +1.9
RIDG Independent Ri 15.44 335 P Pn 00 34 40.9 -0.6
baz=142,SNR=24
EGAK Eagle 15.45 342 P 00 34 43.1 -3.0
EGAK IAmb IAmb 00 34 51.8
comp=Z,32nm,1.1s
WAT6 Susitna Watana 15.46 328 P Pn 00 34 41.0 -0.8
baz=133,SNR=10
SII Sitkinak Islan 15.51 302 P Pn 00 34 39.5 -2.8
baz=103
HWUT Hardware Ranch 15.60 118 Pn 00 34 45.9 +2.2
CAPN Captain Cook N 15.64 319 P Pn 00 34 42.7 -1.3
baz=122
SUA Susitna One 15.86 322 P Pn 00 34 46.0 -1.0
baz=124,SNR=18
DUG Dugway, Tooele 15.89 124 P Pn 00 34 48.2 +0.8
baz=316
DUG Dugway, Tooele 15.89 124 Pn 00 34 49.5 +2.0
WAT1 Susitna Watana 15.90 328 P Pn 00 34 47.5 +0.1

baz=132
TIN Tinemaha, Big 15.91 143 P P 00 34 50.3 -1.1
baz=332
R11A Troy Canyon, C 15.93 134 P Pn 00 34 49.0 +0.9
baz=325,SNR=26
R11A Troy Canyon, C 15.93 134 Pn 00 34 49.6 +1.5
O20K Slope Mountain 15.94 316 P Pn 00 34 45.7 -2.3
baz=117
P19K Oil Pt 16.03 314 P Pn 00 34 48.5 -0.6
baz=114,SNR=6.0
PD31 Pinedale Array 16.05 111 Pn Pn 00 34 51.1 +1.5
PDAR Pinedale Array 16.05 111 Pn P 00 34 52.2 -0.8
comp=Z,0.2nm,0.3s,baz=318,slow=11,SNR=23
PDAR LR LR 00 41 48.0
comp=Z,1µm,18.1s,baz=309,slow=40
PDAR Pinedale Array 16.05 111 P Pn 00 34 51.5 +1.9
CHIR Chirikof Islan 16.16 299 P Pn 00 34 45.8 -4.9
baz=98
RSO Redoubt South 16.18 317 Pn 00 34 51.3 +0.2
LAO LASA Array 16.22 94 Pn 00 34 52.4 +0.8
CUT Chulitna 16.23 325 P Pn 00 34 51.2 -0.5
baz=128
CUT Chulitna 16.23 325 P P 00 34 52.9 -1.8
CUT IAmb IAmb 00 35 03.0
comp=Z,156nm,1.3s
GRAC Grapevine Rang 16.30 141 P Pn 00 34 53.8 +1.1
baz=330,SNR=24
SPCR Spurr Chakacha 16.31 320 P Pn 00 34 52.0 -0.7
baz=121
JLU Jordanelle 16.34 120 P P 00 34 56.3 -0.1
RND Reindeer 16.40 329 P P 00 34 54.7 -1.9
NLU North Lily Min 16.45 123 P P 00 34 56.5 -1.1
SKT Skwentna 16.46 322 P Pn 00 34 54.2 -0.3
baz=124,SNR=8.2
CWC Cottonwood Cre 16.50 144 P P 00 34 58.0 -0.1
baz=332
HDA Harding Lake 16.55 334 P Pn 00 34 55.6 0.0
baz=139,SNR=7.0
HDA Harding Lake 16.55 334 P P 00 34 56.9 -1.4
PSUT Pine Spring 16.60 130 P P 00 34 58.7 -0.5
MCK McKinley 16.65 330 P P 00 34 57.7 -1.7
baz=134,SNR=21
VES Vestal, Richgr 16.68 147 P P 00 34 59.6 -0.2
baz=335
TPNV Topopah Spring 16.80 138 Pn 00 35 00.7 +1.5
TPNV IAmb IAmb 00 35 17.0
comp=Z,98nm,1.2s
IL31 16.81 335 Pn 00 34 58.3 -0.6
ILAR Eielson Array 16.81 335 Pn P 00 34 59.8 -1.3
comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=42
ILAR LR LR 00 40 52.6
comp=Z,3µm,20.8s,baz=144,slow=35
ILAR Eielson Array 16.81 335 P Pn 00 34 58.8 -0.1
SMMC Simmler 16.86 150 P P 00 35 01.5 -0.4
baz=338
TRF Thorofare Moun 16.91 328 P P 00 35 00.8 -1.6
baz=131,SNR=23
PRN Pahroc Range 16.94 135 P Pn 00 35 02.1 +1.2
FURC Furnace Creek, 16.96 141 P P 00 35 03.0 +0.1
baz=330,SNR=7.0
O18K Koktuh Hills 17.03 313 P Pn 00 35 00.6 -1.1
baz=112
ISA Isabella, Lake 17.05 146 P Pn 00 35 02.9 +0.7
baz=334,SNR=30
ISA Isabella, Lake 17.05 146 P P 00 35 04.6 +0.5
ISA IAmb IAmb 00 35 10.4
comp=Z,123nm,1.4s
PRP Porcupine Dome 17.05 338 P P 00 35 03.2 -0.8
baz=144,SNR=5.5
N19K Bonanza Creek 17.10 316 P Pn 00 35 01.8 -0.9
baz=116,SNR=17
TCOL CIGO, UAF Yank 17.16 334 P Pn 00 35 03.0 -0.2
baz=139
KTH Kantishna Hill 17.19 327 P P 00 35 04.7 -0.8
KTH IAmb IAmb 00 35 10.6
comp=Z,80nm,1.1s
POKR Poker Plat Res 17.22 335 P P 00 35 04.3 -1.4
baz=140
POKR Poker Plat Res 17.22 335 P Pn 00 35 04.0 -0.1
PPLA Purkeypile 17.24 324 P Pn 00 35 03.6 -0.9
baz=126,SNR=12
PPLA Purkeypile 17.24 324 P Pn 00 35 04.4 -0.1
PPLA IAmb IAmb 00 35 19.6
comp=Z,93nm,1.5s
TCRU Three Creeks R 17.25 127 P P 00 35 07.9 +1.4
NEA2 Nenana 17.30 332 P Pn 00 35 04.1 -1.0
baz=136,SNR=25
PKM Mcpherson Peak 17.30 150 P P 00 35 06.8 -0.2
baz=338,SNR=11
ARVC Arvin 17.41 148 P P 00 35 08.0 0.0
baz=336
RDMU Red Mountain 17.42 117 P P 00 35 08.8 +0.5
DHRN Dharma Camp 17.42 14 P P 00 35 07.7 -0.2
MVU Marysvale 17.45 127 P P 00 35 09.5 +0.8
MVU IAmb IAmb 00 35 17.6
comp=Z,120nm,1.2s
MSU Marysvale 17.46 126 P P 00 35 09.2 +0.4
LRMC Laurel Mtn Rad 17.50 144 P P 00 35 10.9 +1.8
baz=333
FFC Flin Flon 17.53 65 Pn Pn 00 35 07.3 -0.7
FFC IAmb IAmb 00 35 12.5
comp=Z,77nm,0.9s
BPAW Bear Paw Mtn. 17.57 329 P P 00 35 08.4 -1.1
baz=131,SNR=34
SHPR Sheep Range 17.64 137 P 00 35 10.7 +0.1
N18K Kilae Creek 17.67 315 P Pn 00 35 08.8 -0.9
baz=114,SNR=47
SHOC Shoshone, Teco 17.68 140 P P 00 35 12.7 +1.7
baz=330
SVW2 Sparrevohn 17.70 317 Pn 00 35 09.7 -0.4
SVW2 IAmb IAmb 00 35 12.6
comp=Z,50nm,1.0s
SBC Santa Barbara 17.75 151 P P 00 35 12.6 +1.0
baz=338
I23K Minto, Yukon-K 17.79 333 P P 00 35 11.5 -0.4
baz=136,SNR=23
CHUM Lake Minchumin 17.88 327 P P 00 35 12.7 -0.3
baz=128,SNR=68
L19K White Mountain 17.89 320 P P 00 35 12.7 -0.4
baz=119,SNR=64
H24K Noodor Dome 17.90 336 P P 00 35 13.9 +0.7
baz=141,SNR=20
OSI Osito Audit: C 17.91 148 P P 00 35 14.7 +1.1
baz=336
OSI Osito Audit: C 17.91 148 P P 00 35 16.0 +2.5
EDW2 Edwards Air Fo 17.92 146 P P 00 35 15.3 +1.6
baz=334,SNR=9.2
INK Inuvik 17.94 356 P P 00 35 14.8 +1.2
comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=11
INK LR LR 00 41 43.3
comp=Z,1µm,18.6s,baz=176,slow=36
INK Inuvik 17.94 356 P P 00 35 14.7 +1.1
INK Inuvik 17.94 356 P P 00 35 13.2 -0.4
baz=173,SNR=17
INK Inuvik 17.94 356 P P 00 35 12.7 -0.9
K22A Casper 17.95 107 P P 00 35 15.4 +1.4
baz=304,SNR=20
K22A Casper 17.95 107 P 00 35 14.2 +0.2
K22A IAmb IAmb 00 35 22.7
comp=Z,53nm,1.0s
GSC Goldstone, Bar 17.99 143 P P 00 35 16.5 +2.1
baz=332,SNR=29
GSC Goldstone, Bar 17.99 143 P P 00 35 16.6 +2.1
MLY Manley 18.12 331 P P 00 35 16.5 +0.9
baz=134,SNR=38
MLY Manley 18.12 331 P P 00 35 15.7 +0.1
SCZ2 Santa Cruz Isl 18.19 151 P P 00 35 17.9 +1.3
baz=338
K20K Telida 18.21 324 P P 00 35 15.9 -0.7
baz=124,SNR=63
PKCU Pink Cliffs 18.21 129 P P 00 35 18.8 +1.6
PKCU IAmb IAmb 00 35 35.0
comp=Z,58nm,1.2s
TUQ Turquoise Moun 18.23 140 P P 00 35 18.8 +1.7
baz=330,SNR=22
RRX Edison Barstow 18.30 144 P P 00 35 20.8 +3.0
baz=333
CNBA Chernabura Isl 18.34 295 P Pn 00 35 17.3 -0.6
CHNA Chernabura Isl 18.34 295 P Pn 00 35 16.6 -1.3
baz=91
H23K Yukon River 18.34 334 P P 00 35 18.0 0.0
baz=137,SNR=14
DECC Green Verdugo 18.37 148 P Pn 00 35 20.8 +2.2
baz=336
BMAR Burnt Mountain 18.46 342 Pn 00 35 20.6 +1.2
O20A White River Ci 18.46 116 P Pn 00 35 21.8 +2.0

baz=312,SNR=20
O20A White River Ci 18.46 116 Pn 00 35 22.1 +2.2
MWC Mount Wilson 18.50 147 P Pn 00 35 23.0 +2.8
MWC IAmb IAmb 00 35 29.5
comp=Z,53nm,1.1s
HEC Hector,Ludlow 18.59 142 P Pn 00 35 22.9 +1.6
baz=332,SNR=12
I21K Tanana 18.61 330 P Pn 00 35 22.7 +1.5
baz=132,SNR=26
J20K Nowinta River 18.70 326 P Pn 00 35 23.0 +0.7
baz=126,SNR=49
RSSD Black Hills 18.73 100 P P 00 35 22.8 +0.1
SDPT Sand Point 18.86 297 P P 00 35 22.6 -1.2
baz=92
SDPT Sand Point 18.86 297 P Pn 00 35 24.6 +0.3
SDPT IAmb IAmb 00 35 36.9
comp=Z,76nm,1.1s
BBRC Big Bear Solar 18.87 144 P Pn 00 35 25.1 +0.3
baz=334
FMP Fort Macarthur 18.88 148 P P 00 35 24.5 +0.4
baz=336
KUKN Kugluktuk,NWT 18.90 18 P Pn 00 35 26.4 +1.8
GMRC Granite Mounta 18.90 141 P Pn 00 35 27.0 +1.9
baz=331,SNR=14
CIS Catalina Islan 19.12 149 P Pn 00 35 29.7 +2.1
baz=337
C36M Paulatuk 19.13 7 P P 00 35 26.1 -0.5
C36M Paulatuk 19.13 7 P Pn 00 35 27.7 +0.3
baz=192,SNR=6.3
C36M Paulatuk 19.13 7 P Pn 00 35 26.4 -1.0
PV14 Lion Creek, Pa 19.24 121 P Pn 00 35 30.4 +1.1
PV14 IAmb IAmb 00 35 36.5
comp=Z,40nm,1.1s
N23A Red Feather La 19.33 110 P Pn 00 35 31.4 +1.0
baz=308
NEE2 Needles Airpor 19.35 138 P Pn 00 35 31.9 +1.6
baz=329
MURC Murrieta 19.36 146 P Pn 00 35 32.4 +1.8
baz=335,SNR=7.1
PHWY Pilot Hill 19.38 109 P P 00 35 30.4 +0.5
BELC Belle Mtn. Jos 19.45 143 P Pn 00 35 33.5 +1.7
baz=332,SNR=43
SCI2 San Clemente I 19.47 150 P Pn 00 35 32.7 +1.0
baz=338
COLD Coldfoot 19.57 336 P Pn 00 35 35.8 +3.1
COLD Coldfoot 19.57 336 P Pn 00 35 33.7 +1.0
baz=139,SNR=42
PFO Pinyon Flats O 19.62 144 P P 00 35 31.3 -1.1
comp=Z,0.1nm,0.3s,baz=314,slow=9.0,SNR=3.4
PFO LR LR 00 42 52.4
comp=Z,903nm,18.1s,baz=329,slow=36
PFO Pinyon Flats O 19.62 144 P Pn 00 35 35.1 +1.4
baz=334,SNR=13
PFO Pinyon Flats O 19.62 144 P Pn 00 35 34.9 +1.2
PFO IAmb IAmb 00 35 38.8
comp=Z,60nm,1.3s
TPFO Pinon Flats 19.63 144 P Pn 00 35 34.9 +1.0
baz=334,SNR=20
IRM Iron Mountain 19.65 141 P Pn 00 35 36.2 +2.1
baz=331,SNR=29
IMAR Indian Mountai 19.69 331 P Pn 00 35 34.8 +0.5
E28A Huff 19.79 90 P Pn 00 35 35.0 -0.6
E28A IAmb IAmb 00 35 38.8
comp=Z,35nm,0.8s
SMCO Snowmass 19.83 116 P P 00 35 35.8 +0.8
PDMCI Parker Dam,Lak 19.95 138 P Pn 00 35 38.0 +0.6
baz=329,SNR=26
109C Camp Elliot, M 20.04 147 P Pn 00 35 38.8 +0.3
109C IAmb IAmb 00 35 44.4
comp=Z,76nm,1.3s
MDND Maddock 20.04 86 P Pn 00 35 39.0 +0.5
baz=289,SNR=16
MDND Maddock 20.04 86 Pn 00 35 38.5 0.0
WUAZ Wupatki 20.20 131 P P 00 35 39.6 +0.8
WUAZ IAmb IAmb 00 35 50.6
comp=Z,27nm,1.0s
ISCO Idaho Springs 20.21 113 P Pn 00 35 41.6 +0.7
baz=310
ISCO Idaho Springs 20.21 113 Pn 00 35 41.2 +0.3
MONP2 Monument Peak 20.28 145 P Pn 00 35 41.7 0.0
baz=334,SNR=23
BAR Barrett 20.38 146 P Pn 00 35 43.3 +0.7
BAR IAmb IAmb 00 35 47.8
comp=Z,43nm,1.2s
SWSC Sam W. Stewart 20.46 144 P P 00 35 42.6 +1.2
baz=333,SNR=9.5
TOLK Toolik Lake Re 20.52 340 P Pn 00 35 44.8 +0.8
baz=142,SNR=15
FALS False Pass 20.55 295 P P 00 35 41.9 -0.3
baz=88
IKP In-Ko-Pah, Jac 20.61 145 P Pn 00 35 45.9 +0.6
baz=334,SNR=17
RMX La Rumorosa 20.67 145 P Pn 00 35 46.9 +0.8
CBX Cerro Bola 20.71 146 P Pn 00 35 46.4 -0.2
GLA Glamis 20.75 141 P P 00 35 45.9 +1.4
baz=332,SNR=9.2
S22A 4UR Ranch, Cre 20.90 119 P Pn 00 35 48.4 -0.6
baz=315
Q24A Divide 21.03 114 P P 00 35 48.9 +1.0
baz=312,SNR=6.4
CCX Cicese 21.12 147 P P 00 35 50.7 +2.2
W18A Petrified Fore 21.32 128 P P 00 35 52.7 +1.7
baz=323,SNR=28
W18A Petrified Fore 21.32 128 P P 00 35 52.3 +1.4
W18A IAmb IAmb 00 36 01.3
comp=Z,74nm,1.1s
SDCO Great Sand Dun 21.65 117 P P 00 35 55.4 +0.8
OGNE Ogallala 21.68 105 P P 00 35 55.2 +0.7
OGNE IAmb IAmb 00 36 02.0
comp=Z,51nm,0.8s
ULM Lac du Bonnet 21.71 77 P P 00 35 54.6 -0.2
comp=Z,91nm,1.0s,baz=288,slow=9.5,SNR=16
ULM LR LR 00 44 39.7
comp=Z,2μm,18.6s,baz=280,slow=38
ULM Lac du Bonnet 21.71 77 P P 00 35 54.3 -0.5
ULM Lac du Bonnet 21.71 77 P P 00 35 54.2 -0.5
SUSD Miller 21.79 94 P P 00 35 54.2 -1.6
baz=297
SUSD Miller 21.79 94 P P 00 35 57.0 +1.2
SUSD IAmb IAmb 00 36 00.1
comp=Z,42nm,0.8s
D32A Dogwood Acres, 21.93 86 P P 00 35 57.9 +0.7
D32A IAmb IAmb 00 36 06.3
comp=Z,56nm,1.1s
AKUT Akutan 21.96 293 P P 00 35 57.4 0.0
AKUT IAmb IAmb 00 36 08.5
comp=Z,28nm,1.0s
FCC Fort Churchill 22.18 54 P P 00 35 59.2 -0.5
FCC Fort Churchill 22.18 54 P P 00 36 00.4 +0.7
AGMN Agassiz Nation 22.27 82 P P 00 36 01.6 +0.7
UNV Unalaska Valle 22.42 293 P P 00 36 01.7 -0.7
baz=84
KSCO Kaye Shedlock' 22.50 110 P P 00 36 03.7 +0.3
baz=310,SNR=12
KSCO Kaye Shedlock' 22.50 110 P P 00 36 04.9 +1.5
214A Organ Pipe Nat 22.53 139 P P 00 36 06.1 +2.4
baz=331,SNR=17
T25A Trinidad 22.70 116 P P 00 36 07.5 +1.8
baz=314,SNR=11
F33A 5 Mile Ranch, 22.89 89 P P 00 36 07.4 0.0
TUC Tucson 23.12 135 P P 00 36 12.3 +2.4
ANMO Albuquerque 23.16 123 P P 00 36 09.4 -1.0
comp=Z,11nm,1.0s,baz=317,slow=11,SNR=22
ANMO LR LR 00 44 51.6
comp=Z,733nm,21.6s,baz=310,slow=36
ANMO Albuquerque 23.16 123 P P 00 36 11.4 +0.9
ANMO IAmb IAmb 00 36 14.9
comp=Z,34nm,1.2s
ANM Nome 23.19 321 P P 00 36 10.4 0.0
baz=110
EPLO Experimental L 23.20 78 P P 00 36 11.2 +0.6
Y22D IRIS PASSCAL I 23.58 125 P P 00 36 16.8 +2.1
baz=321
B35A Bob, Littlefor 23.60 81 P P 00 36 14.9 +0.3
B35A IAmb IAmb 00 36 22.8
comp=Z,40nm,0.9s
ECSD EROS Data Cent 23.62 94 P P 00 36 15.3 +0.5
ECSD IAmb IAmb 00 36 20.4
comp=Z,50nm,1.2s
BNM Barren Site 23.68 125 P P 00 36 16.7 +1.0
RDOG Red Dog Mine 23.82 330 P P 00 36 16.1 -0.4
baz=121
BGNE Belgrade 23.84 100 P P 00 36 16.9 -0.1
baz=304
NIKH Nikolski High 23.94 291 P P 00 36 16.9 -0.9
baz=80

SOLO Sioux Lookout 24.13 76 P P 00 36 19.3 -0.4
A21K Barrow 24.14 339 P P 00 36 20.1 +0.7
baz=136
121A Cookes Peak, D 24.36 129 P P 00 36 22.8 +0.7
baz=324,SNR=12
TNA Tin City 24.55 322 P P 00 36 23.7 +0.4
baz=109
PKLO Pickle Lake 24.82 72 P P 00 36 25.9 0.0
EYMN Ely 25.15 81 P P 00 36 29.7 +0.8
EYMN IAmb IAmb 00 36 32.6
comp=Z,23nm,0.8s
SPMN Marine on St. 25.38 87 P P 00 36 31.0 +0.1
baz=296,SNR=9.3
SPMN Marine on St. 25.38 87 P P 00 36 31.8 +0.9
I37A Lemond, Waseca 25.54 90 P P 00 36 33.0 +0.6
I37A IAmb IAmb 00 36 58.0
comp=Z,34nm,1.1s
GAMB Gambell 25.64 317 P P 00 36 33.0 -0.1
baz=101
N35A Tabor 25.72 99 P P 00 36 35.1 +1.0
AMTX Amarillo 25.85 116 P P 00 36 36.2 +0.7
HSIG 25.87 139 P P 00 36 37.0 +1.5
HSIG IAmb IAmb 00 36 43.4
comp=Z,31nm,1.2s
MSTX Muleshoe 25.90 119 P P 00 36 37.2 +1.2
baz=318
KSU1 Kansas State U 26.12 103 P P 00 36 39.0 +1.1
TBO Thunder Bay 26.22 78 P P 00 36 38.1 -0.5
MNTX Cornudas Mount 26.25 126 P P 00 36 39.8 +0.8
MNTX IAmb IAmb 00 36 46.3
comp=Z,30nm,1.1s
G40A Rib Lake 27.02 86 P P 00 36 46.5 +0.6
G40A IAmb IAmb 00 36 49.4
comp=Z,17nm,1.0s
N38A Joes South For 27.28 96 P P 00 36 48.3 +0.1
I40A Norwalk 27.37 89 P P 00 36 49.2 +0.2
T35A Sooner Cattle 27.55 107 P P 00 36 51.4 +0.8
WMOK Wichita Mounta 27.64 113 P P 00 36 52.4 +0.8
WMOK IAmb IAmb 00 36 55.8
comp=Z,27nm,1.1s
BCOK Bluff Creek, N 27.71 110 P P 00 36 53.0 +0.8
P38A Dawn 27.75 99 P P 00 36 52.8 +0.4
JFWS Jewell Farm 28.08 90 P P 00 36 56.1 +0.8
JFWS IAmb IAmb 00 37 04.5
comp=Z,22nm,0.8s
RES Resolute Bay 28.29 19 LR LR 00 49 39.1
comp=Z,185nm,21.0s,baz=240,slow=39
E43A Lone Tree Farm 28.58 81 P P 00 37 00.6 +0.8
TUL1 Leonard 28.64 107 P P 00 37 00.4 0.0
baz=312,SNR=9.6
ABTX Abilene, Hawle 28.66 117 P P 00 37 00.3 -0.3
baz=318
ABTX Abilene, Hawle 28.66 117 P P 00 37 01.5 +0.8
ABTX IAmb IAmb 00 37 03.2
comp=Z,8.3nm,0.8s
ADK Adak 28.85 291 P P 00 37 01.9 -0.2
ADK IAmb IAmb 00 37 04.7
comp=Z,28nm,1.4s
L42A Oliver, Polo 28.91 91 P P 00 37 03.5 +0.8
TX31 Lajitas Ar. Si 29.02 127 P P 00 37 05.7 +1.7
TXAR Lajitas Array 29.02 127 P P 00 37 04.6 +0.6
comp=Z,5.4nm,0.8s,baz=324,slow=6.2,SNR=43
TXAR LR LR 00 49 27.2
comp=Z,2μm,18.5s,baz=0.0,slow=38
TXAR Lajitas Array 29.02 127 P P 00 37 05.4 +1.4
U38A Gravette 29.16 105 P P 00 37 05.7 +0.7
U38A IAmb IAmb 00 37 07.4
comp=Z,16nm,1.4s
Z35A Perchaven, San 29.53 113 P P 00 37 08.7 +0.4
L44A Lake County Fo 29.94 90 P P 00 37 12.0 +0.1
baz=301
MGMO Mountain Grove 30.02 102 P P 00 37 13.1 +0.4
CCM Cathedral Cave 30.11 99 P P 00 37 13.8 +0.3
CCM IAmb IAmb 00 37 15.7
comp=Z,19nm,1.3s
U40A Yellville 30.16 104 P P 00 37 14.0 +0.1
baz=310,SNR=11
U40A Yellville 30.16 104 P P 00 37 14.3 +0.4
U40A IAmb IAmb 00 37 16.9
comp=Z,28nm,1.3s
JCT Junction City 30.18 120 P P 00 37 14.8 +0.7
JCT IAmb IAmb 00 37 17.4
comp=Z,28nm,1.2s
W39A Magazine 30.34 106 P P 00 37 15.5 0.0
baz=312,SNR=5.4
WHTX Lake Whitney, 30.38 115 P P 00 37 16.6 +0.8
baz=317
WHTX Lake Whitney, 30.38 115 P P 00 37 16.7 +0.8
WHTX IAmb IAmb 00 37 19.4
comp=Z,16nm,1.1s
MIAR Mount Ida 30.90 107 P P 00 37 21.0 +0.5
MIAR IAmb IAmb 00 37 24.5
comp=Z,24nm,1.2s
435B Jarrell 31.20 117 P P 00 37 24.3 +1.3
baz=319
W41B Gary Mavity, V 31.30 105 P P 00 37 24.2 +0.3
baz=311,SNR=7.2
X40A Basin Creek Fa 31.39 106 P P 00 37 25.9 +1.2
baz=312
LCAR Lake Charles 31.40 102 P P 00 37 25.1 +0.3
LCAR IAmb IAmb 00 37 30.7
comp=Z,8.5nm,0.7s
SFIN Lafayette 31.41 92 P P 00 37 24.9 0.0
baz=304
SIUC Southern Illin 31.60 98 P P 00 37 26.9 +0.4
SIUC IAmb IAmb 00 37 29.3
comp=Z,19nm,1.1s
OLIL Olney 31.70 95 P P 00 37 28.5 +1.0
WLAR White Oak Lake 31.76 108 P P 00 37 29.8 +1.8
N47A Urbana 32.04 90 P P 00 37 30.7 +0.3
833A Chaparral WMA, 32.08 122 P P 00 37 32.5 +1.6
baz=322
Z41A Richland Creek 32.25 108 P P 00 37 34.2 +2.0
baz=314
KILO Kirkland Lake 32.27 74 P P 00 37 33.1 +0.8
HKT Hockley 32.82 116 P P 00 37 38.5 +1.3
HKT IAmb IAmb 00 37 42.3
comp=Z,14nm,1.2s
P48A Milroy 32.99 92 P P 00 37 38.9 +0.2
MATQ Matagami 33.05 71 P P 00 37 37.5 -1.7
baz=292
P49A Miami Univ. Ec 33.40 91 P P 00 37 42.0 -0.4
baz=305,SNR=6.2
WVT Waverly 33.45 99 P P 00 37 42.8 0.0
WVT IAmb IAmb 00 37 45.1
comp=Z,13nm,1.1s
143A Socs Landing, 33.48 107 P P 00 37 44.0 +1.0
OXF Oxford 33.49 103 P P 00 37 43.7 +0.5
LSQQ Lebel-sur-Quev 33.72 71 P P 00 37 43.6 -1.4
baz=293
LG4Q La Grande 4 33.81 63 P P 00 37 45.7 0.0
SADO Sadowa 34.24 79 P P 00 37 50.4 +0.9
SADO IAmb IAmb 00 37 52.0
comp=Z,18nm,1.1s
ALGO Algonquin Park 34.37 77 P P 00 37 50.1 -0.6
baz=297,SNR=8.9
FRB Frobisher Bay 34.46 44 P P 00 37 48.4 -2.8
Q51A Peebles 34.57 91 P P 00 37 53.0 +0.6
CHGQ Chibougamau 34.95 69 P P 00 37 54.1 -1.5
baz=293
P52A Corning 35.00 89 P P 00 37 55.8 -0.4
baz=304
ZAIG Zacatecas 35.03 132 P P 00 37 58.0 +1.1
O53A New Philadelph 35.24 88 P P 00 37 56.0 -2.3
baz=304
PLVO Plevna 35.41 78 P P 00 37 59.9 +0.3
PLVO IAmb IAmb 00 38 02.0
comp=Z,8.7nm,1.1s
M54A Oil Creek Stat 35.55 85 P P 00 37 59.3 -1.6
baz=302
N54A Moraine State 35.63 86 P P 00 38 00.1 -1.6
baz=303
N54A Moraine State 35.63 86 P P 00 38 02.2 +0.5
N54A IAmb IAmb 00 38 03.2
comp=Z,13nm,1.1s
VABQ Val Des Bois 35.91 76 P P 00 38 02.3 -1.7
GAC Glen Almond 36.09 76 P P 00 38 03.0 -2.5
M55A Ridgway 36.14 84 P P 00 38 06.3 +0.3
M55A IAmb IAmb 00 38 08.6
comp=Z,11nm,1.1s
Q54A Coxs Mills 36.20 89 P P 00 38 06.8 +0.4
Q54A IAmb IAmb 00 38 08.9
comp=Z,24nm,1.1s
K56A Middlesex 36.41 81 P P 00 38 07.6 -0.7
baz=301

H57A Richville 36.73 78 P P 00 38 10.7 -0.2
baz=300
I57A Carthage 36.83 79 P P 00 38 11.4 -0.4
baz=300
J57A Williamstown 36.88 80 P P 00 38 12.4 +0.1
O56A Blue Knob Stat 36.92 86 P P 00 38 12.3 -0.4
baz=304
LATQ La Tuque 36.97 72 P P 00 38 13.3 +0.4
baz=297
250A Grady 37.14 103 P P 00 38 15.3 +0.7
M57A Sunshine Farm, 37.25 83 P P 00 38 15.4 0.0
M57A IAmb IAmb 00 38 16.8
comp=Z,12nm,1.1s
J58A Remsen 37.35 79 P P 00 38 16.2 -0.1
baz=301
I58A Old Forge 37.38 79 P P 00 38 16.4 -0.2
baz=300
SCHQ Schefferville 37.45 58 LR LR 00 54 28.9
comp=Z,1μm,19.6s,baz=295,slow=38
H58A Gabriels 37.51 77 P P 00 38 17.6 0.0
baz=300
FRNY Flat Rock 37.67 76 P P 00 38 18.9 0.0
FRNY IAmb IAmb 00 38 20.1
comp=Z,8.7nm,0.8s
L58A Harry Jones Me 37.68 81 P P 00 38 17.6 -1.5
baz=302
H59A Cadyville 37.70 76 P P 00 38 18.9 -0.3
baz=300
I59A Olmsteadville 38.01 78 P P 00 38 21.4 -0.5
baz=301
KMSC Kings Mountain 38.19 95 P P 00 38 23.7 +0.3
baz=309
MOQ Mont Orford 38.26 75 P P 00 38 24.2 +0.2
MOQ Mont Orford 38.26 75 P P 00 38 24.5 +0.5
N59A State Game Lan 38.34 83 P P 00 38 24.0 -0.7
baz=303
I60A Shoreham 38.35 77 P P 00 38 23.8 -0.9
baz=301
H60A Morristown 38.36 76 P P 00 38 23.3 -1.5
baz=300
J60A Lant Hill Farm 38.58 78 P P 00 38 26.8 +0.2
baz=301
H61A Lyndonville 38.85 76 P P 00 38 28.2 -0.7
baz=300
K61A Williamstown 38.98 79 P P 00 38 30.1 +0.2
baz=302
P60A Greenville 39.04 84 P P 00 38 31.3 +0.8
baz=305
D62A Allapoint, All 39.37 71 P P 00 38 33.3 +0.1
baz=298
G62A West of Eustis 39.37 74 P P 00 38 33.3 0.0
baz=300
T59A Double "B" Far 39.47 89 P P 00 38 35.2 +1.1
T59A IAmb IAmb 00 38 36.3
comp=Z,28nm,1.4s
J62A Henniker 39.59 77 P P 00 38 35.7 +0.6
baz=302
H63A New Sharon 39.95 74 P P 00 38 38.5 +0.4
baz=301
D63A Stockholm 39.95 70 P P 00 38 37.2 -0.9
baz=299,SNR=5.1
G63A Kingsbury 39.98 74 P P 00 38 38.7 +0.3
baz=300
F63A Nahmakanta, Br 40.00 72 P P 00 38 39.1 +0.6
baz=300
J63A Strafford 40.02 77 P P 00 38 39.4 +0.8
baz=302
F64A Sherman 40.38 72 P P 00 38 42.5 +0.9
baz=300
E64A Bridgewater 40.42 71 P P 00 38 41.9 0.0
baz=300
L63A North Scituate 40.45 79 P P 00 38 43.0 +0.8
baz=303
H64A Troy 40.47 74 P P 00 38 42.7 +0.4
baz=301
I64A Boothbay 40.58 75 P P 00 38 43.5 +0.3
baz=302
M64A Tiverton 40.87 79 P P 00 38 46.0 +0.4
baz=304
SFJD Kangerlussuaq 41.11 36 P P 00 38 49.2 +1.9
SFJD IAmb IAmb 00 38 51.1
comp=Z,16nm,1.1s
G65A Princeton 41.19 72 P P 00 38 49.4 +1.1
baz=301
LMN Caledonia Moun 42.52 70 P P 00 39 00.4 +1.2
LMN IAmb IAmb 00 39 23.8
comp=Z,24nm,1.4s
PETK Petropavlovsk- 42.98 303 P P 00 39 02.7 -0.2
comp=Z,4.1nm,0.8s,baz=86,slow=12,SNR=8.9
PETK LR LR 00 54 05.1
comp=Z,352nm,21.8s,baz=75,slow=32
PETK Petropavlovsk- 42.98 303 P P 00 39 02.2 -0.6
DRLN Deer Lake 45.04 62 P P 00 39 19.4 0.0
DRLN IAmb IAmb 00 39 21.9
comp=Z,15nm,1.1s
NRIK Noril'sk 57.32 345 P P 00 40 51.5 +0.2
comp=Z,1.1nm,0.3s,baz=52,slow=5.9,SNR=2.2
NRIK LR LR 01 06 52.2
comp=Z,341nm,20.0s,baz=35,slow=38
NRIK Noril'sk 57.32 345 P P 00 40 51.6 +0.4
NRIK IAmb IAmb 00 41 03.5
comp=Z,9.5nm,1.1s
H11N2 WAKE ISLAND Hy 57.91 262 T T 01 43 22.1
baz=42,slow=76,SNR=1960
H11N3 WAKE ISLAND Hy 57.91 262 T T 01 43 25.9
baz=42,slow=76,SNR=1651
H11N1 WAKE ISLAND Hy 57.93 262 T T 01 43 26.0
baz=42,slow=76,SNR=2338
WAKE Wake Island 58.40 262 P P 00 41 00.3 +0.9
H11S1 WAKE ISLAND Hy 58.94 261 T T 01 44 40.6
baz=42,slow=76,SNR=212
ARCES ARCESS Array B 58.95 10 LR LR 01 07 30.3
comp=Z,209nm,18.5s,baz=330,slow=37
H11S2 WAKE ISLAND Hy 58.95 261 T T 01 44 41.4
baz=42,slow=76,SNR=159
H11S3 WAKE ISLAND Hy 58.96 261 T T 01 44 57.2
baz=42,slow=76,SNR=106
TAOE Nuku Hiva Isla 59.75 192 eLR LR 00 58 19.6
comp=Z,628nm,24.3s
TAOE Nuku Hiva Isla 59.75 192 eT T 01 45 21.5
comp=Z,25nm,0.2s
USRK Ussuriysk Ar. 61.88 306 P P 00 41 22.1 -1.0
comp=Z,2.4nm,0.9s,baz=49,slow=4.4,SNR=4.8
USRK LR LR 01 08 28.9
comp=Z,174nm,19.5s,baz=37,slow=36
USRK Ussuriysk Ar. 61.88 306 P P 00 41 22.7 -0.4
MJAR Matsushiro Arr 63.84 296 LR LR 01 11 32.1
comp=Z,55nm,18.8s,baz=55,slow=38
NB2 NORSAR Subarra 64.56 20 P P 00 41 40.8 +0.2
comp=Z,18nm,1.7s,baz=334,slow=6.5
NOA NORSAR Array B 64.56 20 P P 00 41 40.6 0.0
comp=Z,1.9nm,0.9s,baz=334,slow=6.2,SNR=4.9
NOA LR LR 01 08 41.6
comp=Z,248nm,19.2s,baz=350,slow=35
ROSC El Rosal 65.01 115 LR LR 01 14 47.0
comp=Z,165nm,18.1s,baz=40,slow=40
OTAV Otavalo 66.45 121 P P 00 41 54.5 +0.6
FIA1 FINESS Array S 66.79 12 P P 00 41 54.9 -0.1
FIA1 IAmb IAmb 00 41 56.8
comp=Z,10nm,1.1s
FINES FINESS Array B 66.79 12 P P 00 41 54.5 -0.4
comp=Z,3.7nm,0.8s,baz=339,slow=10,SNR=9.6
FINES FINESS Array B 66.79 12 P P 00 41 54.9 0.0
PMOR Pomariorio Ree 67.07 199 eT T 01 54 29.0
comp=Z,30nm,0.3s
KSRS Korea Array 68.87 303 LR LR 01 13 29.8
comp=Z,90nm,18.1s,baz=0.0,slow=37
TIAR Tiarei 69.85 200 eT T 01 57 57.5
comp=Z,1.9nm,0.2s
PPT Papeete 69.91 200 LR LR 01 06 06.8
comp=Z,150nm,18.0s,baz=354,slow=30
PPT2 Papeete2 69.93 200 eLR LR 01 03 10.9
comp=Z,434nm,29.8s,baz=13
PPT2 Papeete2 69.93 200 eT T 01 58 03.0
comp=Z,6.7nm,0.3s
PAE Paea 70.00 200 eT T 01 58 08.4
comp=Z,2.0nm,0.3s
SONM Songino Array 70.67 323 P P 00 42 19.6 0.0
comp=Z,0.9nm,0.6s,baz=64,slow=6.2,SNR=5.6
SONM LR LR 01 13 53.8
comp=Z,608nm,19.9s,baz=34,slow=36
SONM Songino Array 70.67 323 P P 00 42 20.2 +0.7
ZAA0 Zalesovo Array 71.87 339 P P 00 42 27.0 +0.4
ZAA0 IAmb IAmb 00 42 37.6
comp=Z,9.0nm,1.4s
ZALV Zalesovo Beam 71.87 339 P P 00 42 25.5 -1.0
comp=Z,1.4nm,0.7s,baz=15,slow=7.3,SNR=5.9

ZALV				LR	LR	01 15 56.2		
	comp=Z,416nm,21.6s,baz=14,slow=38							
ZALV	**Zalesovo Beam**	**71.87**	**339**	P	**P**	**00 42 26.3**	**-0.2**	
ARU	**Arti**	**73.20**	**355**	P	**P**	**00 42 34.5**	**+0.1**	
ARU				IAmb	IAmb	00 42 43.6		
	comp=Z,5.9nm,0.9s							
MNK	**Minsk**	**73.75**	**13**	*i* P	**P**	**00 42 39.0**	**+1.3**	
	comp=E,2.0nm,0.7s							
MNK				*i* P	**P**	**00 42 39.0**	**+1.3**	
	comp=N,7.0nm,0.6s							
MNK				*i* P	**P**	**00 42 39.0**	**+1.3**	
	comp=Z,15nm,0.5s,baz=346							
MNK				*i* PP	**PP**	**00 45 23.6**	**+2.3**	
MNK				*i* PPP	PPP	00 47 08.5		
MNK				*i* S	**SKiKP**	**00 52 06.7**	**-0.5**	
MNK				*i* SS	**SS**	**00 56 55.6**	**+4.8**	
MNK				*i* SSS	SSS	01 00 16.9		
MNK				*i* LR	LR	01 15 39.9		
MNK				*i* LRM	MLR	01 17 37.5		
	comp=E,16nm,16.6s							
MNK				*i* LRM	MLR	01 17 38.8		
	comp=Z,274nm,17.9s							
MNK				*i* LRM	MLR	01 17 50.2		
	comp=N,104nm,17.9s							
CLL	**Collm**	**73.83**	**23**	*e*P	**P**	**00 42 37.0**	**-1.2**	
CLL				*e*		00 42 46.0		
OBN	**Obninsk**	**74.17**	**8**	P	**P**	**00 42 40.5**	**+0.4**	
HHC	**Hu-ho-hao-te**	**74.25**	**316**	*e*P	**P**	**00 42 42.0**	**+1.0**	
HHC				pmax	pmax			
	comp=Z,24nm,0.9s							
HHC				pmax	pmax			
	comp=Z,170nm,5.8s							
BRG	**Berggiesshubel**	**74.46**	**23**	*e*P	**P**	**00 42 43.7**	**+1.8**	
BRG				Amp		00 42 48.3		
	comp=Z,9.4nm,1.5s							
BRG				Amp		01 17 01.0		
	comp=Z,0.3nm,14.4s							
PTCN	**Pitcairn Islan**	**75.23**	**180**	P	**P**	**00 42 48.0**	**+1.5**	
BRVK	**Borovoye**	**75.39**	**347**	P	**P**	**00 42 47.2**	**0.0**	
TBI	**Tubuai**	**75.50**	**198**	*e*LR	LR	01 05 39.7		
	comp=Z,230nm,35.0s							
TBI	**Tubuai**	**75.50**	**198**	*e*T	T	02 05 04.3		
	comp=Z,6.8nm,0.3s							
GERES	**GERESS Array B**	**76.27**	**24**	P	**P**	**00 42 53.0**	**+0.5**	
	comp=Z,0.9nm,0.8s,baz=347,slow=5.5,SNR=6.4							
GERES	**GERESS Array B**	**76.27**	**24**	P	**P**	**00 42 53.0**	**+0.5**	
AKASG	**Malin Array Be**	**77.65**	**13**	P	**P**	**00 43 00.1**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=352,slow=5.4,SNR=17							
AKASG				LR	LR	01 17 44.8		
	comp=Z,229nm,18.6s,baz=335,slow=36							
AKASG	**Malin Array Be**	**77.65**	**13**	P	**P**	**00 42 59.9**	**-0.1**	
AKBB	**Malin Array Si**	**77.65**	**13**	P	**P**	**00 43 00.1**	**+0.1**	
AKBB				IAmb	IAmb	00 43 01.7		
	comp=Z,20nm,1.4s							
NJ2	**Nanjing**	**77.79**	**306**	*e*P	**P**	**00 43 02.3**	**+1.2**	
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ESDC	**Sonseca Array**	**78.54**	**40**	P	**P**	**00 43 04.6**	**-0.7**	
	comp=Z,4.5nm,1.2s,baz=327,slow=5.8,SNR=10							
ESDC	**Sonseca Array**	**78.54**	**40**	P	**P**	**00 43 05.8**	**+0.5**	
ESDC				IAmb	IAmb	00 43 09.9		
	comp=Z,10nm,1.4s							
MK31	**Makanchi Array**	**79.13**	**338**	P	**P**	**00 43 07.9**	**-0.4**	
MKAR	**Makanchi Array**	**79.13**	**338**	P	**P**	**00 43 08.2**	**-0.2**	
	comp=Z,2.7nm,0.8s,baz=30,slow=4.3,SNR=12							
MKAR				LR	LR	01 22 12.6		
	comp=Z,413nm,19.9s,baz=10,slow=39							
MKAR	**Makanchi Array**	**79.13**	**338**	P	**P**	**00 43 08.4**	**0.0**	
MAKZ	**Makanchi**	**79.19**	**338**	P	**P**	**00 43 08.7**	**0.0**	
MAKZ				IAmb	IAmb	00 43 18.2		
	comp=Z,10nm,0.9s							
AKTO	**Aktyubinsk**	**79.21**	**355**	LR	LR	01 21 21.8		
	comp=Z,109nm,18.3s,baz=5.7,slow=38							
BURAR	**Bucovina Array**	**79.97**	**17**	P	**P**	**00 43 13.7**	**+0.7**	
ABKAR	**Akbulak array**	**80.25**	**353**	P	**P**	**00 43 14.4**	**0.0**	
WMQ	**Urumqi**	**80.47**	**333**	*e*P	**P**	**00 43 19.0**	**+3.3**	
WMQ				LR	LR			
	comp=N,380nm,20.9s							
WMQ				LR	LR			
	comp=E,130nm,15.7s							
WMQ				LR	LR			
	comp=Z,290nm,22.7s							
XAN	**Xi'an**	**81.04**	**314**	P	**P**	**00 43 20.5**	**+1.6**	
XAN				pP	PcP	00 43 26.5	+1.1	
XAN	**Xi'an**	**81.04**	**314**	S	**S**	**00 53 30.5**	**+1.9**	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,46nm,4.6s							
XAN				LR	LR			
	comp=N,220nm,19.0s							
XAN				LR	LR			
	comp=E,290nm,15.2s							
XAN				LR	LR			
	comp=Z,260nm,18.2s							
LZH	**Lanzhou**	**81.56**	**319**	*e*P	**P**	**00 43 20.5**	**-1.3**	
LZH				sP	pwP	00 43 27.0	+0.9	
LZH				sP	PcP	00 43 30.8	+3.0	
LZH	**Lanzhou**	**81.56**	**319**	*e*S	**S**	**00 53 30.5**	**-3.7**	
LZH	**Lanzhou**	**81.56**	**319**	sS	sS	00 53 37.0	+0.2	
LZH	**Lanzhou**	**81.56**	**319**	SS	SS	00 58 48.0	-1.7	
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,170nm,7.2s							
LZH				LR	LR			
	comp=N,590nm,16.4s							
LZH				LR	LR			
	comp=E,320nm,16.2s							
LZH				LR	LR			
	comp=Z,470nm,18.5s							
KDJ	**Kajisay**	**84.72**	**340**	P	**P**	**00 43 38.3**	**+0.2**	
KDJ				IAmb	IAmb	00 43 40.6		
	comp=Z,4.9nm,0.8s							
TARG	**Taragay, Kyrgy**	**84.96**	**339**	P	**P**	**00 43 40.2**	**+0.6**	
TARG				IAmb	IAmb	00 43 57.4		
	comp=Z,5.3nm,1.1s							
KK31	**Karatay Array**	**85.06**	**345**	P	**P**	**00 43 39.2**	**-0.3**	
KKAR	**Karatay Array**	**85.06**	**345**	P	**P**	**00 43 39.5**	**-0.1**	
KIV	**Kislovodsk**	**85.72**	**5**	P	**P**	**00 43 42.8**	**-0.1**	
KIV				IAmb	IAmb	00 43 47.0		
	comp=Z,5.3nm,1.1s							
LPAZ	**La Paz**	**85.77**	**122**	P	**P**	**00 43 42.5**	**-1.5**	
	comp=Z,7.0nm,1.1s,baz=13,slow=7.9,SNR=9.1							
LPAZ				LR	LR	01 25 31.5		
	comp=Z,73nm,19.4s,baz=333,slow=38							
LPAZ	**La Paz**	**85.77**	**122**	P	**P**	**00 43 43.4**	**-0.6**	
LPAZ				IAmb	IAmb	00 43 49.2		
	comp=Z,10nm,1.1s							
KBZ	**Khabaz**	**85.95**	**5**	P	**P**	**00 43 41.8**	**-2.1**	
	comp=Z,0.4nm,0.4s,baz=28,slow=6.3,SNR=2.2							
KBZ				LR	LR	01 23 23.2		
	comp=Z,185nm,21.4s,baz=344,slow=36							
GYA	**Guiyang**	**88.44**	**311**	‖P	**P**	**00 43 56.0**	**-0.5**	
GYA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRTR	**Keskin Array B**	**89.02**	**12**	P	**P**	**00 43 59.0**	**0.0**	
	comp=Z,0.4nm,0.5s,baz=336,slow=3.2,SNR=3.8							
BRTR				LR	LR	01 24 58.7		
	comp=Z,153nm,20.2s,baz=20,slow=36							
GNI	**Garni**	**89.62**	**4**	LR	LR	01 26 33.6		
	comp=Z,132nm,21.8s,baz=0.5,slow=37							
DZM	**Mont Dzumac**	**91.31**	**236**	*e*LR	LR	01 13 01.1		
	comp=Z,265nm,32.0s							
GEYT	**Alibeck**	**91.65**	**354**	LR	LR	01 28 57.1		
	comp=Z,101nm,19.0s,baz=230,slow=38							
CMAR	**Chiang Mai Arr**	**98.93**	**313**	LR	LR	01 32 53.0		
	comp=Z,138nm,19.1s,baz=62,slow=38							
CPUP	**Villa Florida**	**99.77**	**120**	LR	LR	01 33 55.3		
	comp=Z,43nm,21.2s,baz=348,slow=38							
VNA3	**Neumayer Olymp**	**146.38**	**150**	PKPdf	**PKPdf**	**00 50 42.7**	**+0.5**	
VNA1	**Neumayer--Stat**	**146.91**	**149**	PKPdf	**PKPbc**	**00 50 44.4**	**-0.5**	
VNA2	**Neumayer--Watz**	**147.16**	**149**	PKPdf	**PKPbc**	**00 50 45.3**	**-0.4**	
SNAA	**Sanae**	**148.46**	**151**	PKPdf	**PKPbc**	**00 50 48.6**	**-0.6**	
BOSA	**Boshof**	**151.27**	**50**	PKPbc	**PKPbc**	**00 50 56.6**	**-0.9**	
	comp=Z,5.1nm,0.9s,baz=330,slow=4.9,SNR=6.5							

*BER **30** 00:37:16.7±0.4, 71°.50N×11°.50W, h0km±999km, ML2.6, Confirmed Earthquake*
*DNK **30** 00:37:17.7±7.3, 71°.52N×11°.54W, h36km±107km, ML1.6*
ISC 30 00:37:11.2±0.9, 71°.74N±0°.07×11°.69W±0°.06, h10km, n8, σ2s62/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.25**	**129**	*e*P	**Pg**	**00 37 35.9**	**+0.7**
JMI				*e*S	**Sn**	**00 37 50.0**	**-1.6**
JMI				IAML		00 37 55.1	
	comp=Z,86nm,0.4s						
JNW	**Jan Mayen West**	**1.27**	**123**	*e*P	**Pg**	**00 37 36.6**	**+1.2**
JNW				*e*S	**Sn**	**00 37 50.5**	**-1.4**
JNW				IAML		00 37 59.5	
	comp=Z,106nm,0.3s						
JMIC	**Jan Mayen**	**1.27**	**125**	*e*P	**Pg**	**00 37 36.1**	**+0.6**
JMIC				*e*S	**Sn**	**00 37 50.5**	**-1.5**
JMIC				IAML		00 37 51.6	
	comp=Z,126nm,0.3s						
JNE	**Jan Mayen East**	**1.32**	**123**	*e*P	**Pg**	**00 37 37.0**	**+0.4**
JNE				*e*S	**Sn**	**00 37 51.8**	**-1.5**
SCO	**Scoresbysund**	**3.57**	**254**	*i* P	**Pn**	**00 38 08.7**	**+2.3**
SCO				*i* S	**Sn**	**00 38 45.3**	**-3.2**
SCO				IAML		00 38 49.0	
	comp=Z,2.4nm,0.3s						
DBG	**Daneborg**	**3.59**	**320**	*e*	**Pn**	**00 38 10.6**	**+3.8**
	baz=141,slow=12						
DBG				*i* P	**Pb**	**00 38 11.0**	**-3.7**
DBG				*i* S	**Sn**	**00 38 49.7**	**+0.5**
DBG				IAML		00 38 54.3	
	comp=Z,7.5nm,0.4s						
SUMG	**Summit**	**8.22**	**288**	*i* P	Pn	00 39 17.2	+6.5
SUMG				*i* S	**Sn**	**00 40 45.0**	**+1.3**
SUMG				IAML		00 40 51.1	
	comp=Z,0.9nm,0.4s						
NOR	**Nord**	**9.98**	**356**	*i* P	**Pn**	**00 39 38.2**	**+3.9**
NOR				*i* S	**Sn**	**00 41 22.0**	**-4.2**

*JMA **30** 00:39:53.2±0.6, 35°.10N×127°.91E, h0km, M2.9*
*KMA **30** 00:39:54.9±0.2, 35°.17N×128°.01E, h16km±1km, Error ellipse: s-maj=1.2km s-min=0.8km az=154.0*
ISC 30 00:39:55.1±0.9, 35°.18N±0°.03×128°.00E±0°.02, h16km±6km, n24, σ0s30/37, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJIN	**Jinju**	**0.03**	**121**	P	**Pg**	**00 39 58.0**	**0.0**
KSJIN				S	**Sg**	**00 39 59.8**	**-0.2**
KSHAD	**HADONG**	**0.21**	**243**	P	**Pg**	**00 40 00.1**	**+0.1**
KSHAD				S	**Sg**	**00 40 03.5**	**+0.1**
KSSAC	**SANCHEONG**	**0.25**	**336**	P	**Pg**	**00 40 01.0**	**+0.2**
EURB	**Uiryeong-eup**	**0.28**	**58**	P	**Pg**	**00 40 01.1**	**0.0**
	SNR=50						
EURB				S	**Sg**	**00 40 05.0**	**-0.2**
EURB	**Uiryeong-eup**	**0.28**	**58**	P	**Pg**	**00 40 01.1**	**0.0**
	SNR=50						
EURB				S	**Sg**	**00 40 05.0**	**-0.2**
KSYSU	**YEOSU**	**0.34**	**258**	P	**Pg**	**00 40 02.3**	**+0.1**
	SNR=167						
KSYSU				S	**Sg**	**00 40 06.9**	**-0.1**
KSYSU	**YEOSU**	**0.34**	**258**	P	**Pg**	**00 40 02.3**	**+0.1**
	SNR=167						
GWYB	**Gwangyang**	**0.34**	**228**	P	**Pg**	**00 40 02.3**	**0.0**
	SNR=22						
GWYB				S	**Sg**	**00 40 06.9**	**-0.2**
GWYB	**Gwangyang**	**0.34**	**228**	P	**Pg**	**00 40 02.3**	**0.0**
	SNR=22						
GWYB				S	**Sg**	**00 40 06.9**	**-0.2**
HAMB	**Hamyang**	**0.40**	**328**	P	**Pg**	**00 40 03.1**	**0.0**
	SNR=40						
HAMB	**Hamyang**	**0.40**	**328**	P	**Pg**	**00 40 03.1**	**0.0**
	SNR=40						
KSKCH	**Geochang**	**0.44**	**351**	P	**Pg**	**00 40 04.0**	**-0.1**
	SNR=45						
KSKCH				S	**Sg**	**00 40 10.2**	**0.0**
KSKCH	**Geochang**	**0.44**	**351**	P	**Pg**	**00 40 04.0**	**-0.1**
	SNR=45						
KSKCH				S	**Sg**	**00 40 10.2**	**0.0**
KSMAS	**Masan**	**0.47**	**90**	P	**Pg**	**00 40 04.3**	**-0.2**
	SNR=14						
KSMAS				S	**Sg**	**00 40 10.6**	**-0.3**
KSMAS	**Masan**	**0.47**	**90**	P	**Pg**	**00 40 04.3**	**-0.2**
	SNR=14						
KSMAS				S	**Sg**	**00 40 10.6**	**-0.3**
KSTOY	**TONGYEONG**	**0.49**	**133**	P	**Pg**	**00 40 04.6**	**-0.2**
	SNR=51						
NAWB	**Namwon**	**0.55**	**297**	P	**Pg**	**00 40 05.8**	**-0.3**
	SNR=5.6						
KUJA	**Jangpyeong**	**0.57**	**120**	P	**Pg**	**00 40 06.1**	**-0.3**
	SNR=44						
KSSCH	**SUNCHEON**	**0.63**	**260**	P	**Pg**	**00 40 07.3**	**-0.2**
	SNR=14						
SUCA	**Sunchang**	**0.73**	**286**	P	**Pg**	**00 40 09.1**	**-0.4**
	SNR=11						
BOSB	**Boseong-gun**	**0.77**	**238**	P	**Pb**	**00 40 09.6**	**-0.5**
	SNR=147						
JTU	**Tsushima**	**1.32**	**119**	P	**Pn**	**00 40 19.0**	**+0.2**
JTU				S	**Sb**	**00 40 36.5**	**+0.4**
JTSM	**Tsushimamitsus**	**1.41**	**126**	P	**Pn**	**00 40 20.1**	**0.0**
JTSM				S	**Sb**	**00 40 39.3**	**+0.5**
JII	**Iki**	**1.98**	**133**	S	**Sb**	**00 40 56.4**	**+1.1**

*NEIC **30** 01:16:34.5±1.8, 19°.41N±0°.10×65°.41W±0°.05, h40km±46km, Error ellipse: s-maj=14.6km s-min=6.5km az=187.0*
RSPR 30 01:16:33.2, 19°.39N×65°.39W, h89km±2km, MD3.6/14, 12C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.08**	**175**	⇑*e*P	Pn	01 16 53.5	-0.2
CUPR	**Culebra, Puert**	**1.08**	**175**	*e*S	Sn	01 17 09.1	-0.1
CUPR	**Culebra, Puert**	**1.08**	**175**		Pn	01 16 53.5	-0.2
CUPR					Sn	01 17 09.1	-0.1
STVI	**Saint Thomas**	**1.11**	**158**	⇑*e*P	Pn	01 16 53.6	-0.5
STVI	**Saint Thomas**	**1.11**	**158**	*e*S	Sn	01 17 09.3	-0.5
STVI	**Saint Thomas**	**1.11**	**158**		Pn	01 16 53.6	-0.5
STVI					Sn	01 17 09.3	-0.5
CBYP	**Canovanas**	**1.20**	**202**	⇑*e*P	Pn	01 16 54.5	-0.7
CBYP	**Canovanas**	**1.20**	**202**	*e*S	Sn	01 17 11.3	-0.6
CBYP	**Canovanas**	**1.20**	**202**		Pn	01 16 54.5	-0.7
CBYP					Sn	01 17 11.3	-0.6
TBVI	**Tortola**	**1.21**	**143**	‖*e*P	Pn	01 16 54.8	-0.6
TBVI	**Tortola**	**1.21**	**143**	*e*S	Sn	01 17 11.8	-0.2
TBVI	**Tortola**	**1.21**	**143**		Pn	01 16 54.8	-0.6
TBVI					Sn	01 17 11.8	-0.2
GCPR	**Guaynabo City**	**1.26**	**212**	⇑*e*P	Pn	01 16 55.5	-0.5
GCPR	**Guaynabo City**	**1.26**	**212**	*e*S	Sn	01 17 12.7	-0.4
GCPR	**Guaynabo City**	**1.26**	**212**		Pn	01 16 55.5	-0.5
GCPR					Sn	01 17 12.7	-0.4
VGBI	**Virgin Gorda,**	**1.29**	**134**	⇑*e*P	Pn	01 16 55.6	-0.7
VGBI	**Virgin Gorda,**	**1.29**	**134**	*e*S	Sn	01 17 13.4	-0.4
VGBI	**Virgin Gorda,**	**1.29**	**134**		Pn	01 16 55.6	-0.7
VGBI					Sn	01 17 13.4	-0.4
MTP	**Monte Pirata**	**1.30**	**187**	⇑*e*P	Pn	01 16 55.7	-0.6
MTP	**Monte Pirata**	**1.30**	**187**	*e*S	Sn	01 17 13.4	-0.4
MTP	**Monte Pirata**	**1.30**	**187**		Pn	01 16 55.7	-0.6
MTP					Sn	01 17 13.4	-0.4
HUMP	**Col San Antoni**	**1.32**	**200**	⇑*e*P	Pn	01 16 56.0	-0.6
HUMP	**Col San Antoni**	**1.32**	**200**	*e*S	Sn	01 17 13.8	-0.5
HUMP	**Col San Antoni**	**1.32**	**200**		Pn	01 16 56.0	-0.6
HUMP					Sn	01 17 13.8	-0.5
EMPR	**Esperanza - Ma**	**1.41**	**230**	⇑*e*P	Pn	01 16 57.1	-0.7
EMPR	**Esperanza - Ma**	**1.41**	**230**	*e*S	Sn	01 17 16.1	-0.2
EMPR	**Esperanza - Ma**	**1.41**	**230**		Pn	01 16 57.1	-0.7
EMPR					Sn	01 17 16.1	-0.2
SJG	**San Juan**	**1.47**	**210**		Pn	01 16 58.3	-0.2
SJG				IAML		01 17 23.3	
	62nm,0.4s						
SJG				IAML		01 17 30.3	
	54nm,0.4s						
IGPR	**InterUniversit**	**1.57**	**206**	⇑*e*P	Pn	01 16 59.3	-0.6
IGPR	**InterUniversit**	**1.57**	**206**	*e*S	Sn	01 17 20.0	-0.1
IGPR	**InterUniversit**	**1.57**	**206**		Pn	01 17 00.0	-0.1
AOPR	**Arecibo Observ**	**1.66**	**232**	‖*e*P	Pn	01 17 00.7	-0.3
AOPR	**Arecibo Observ**	**1.66**	**232**	*e*S	Sn	01 17 21.7	-0.3
AOPR	**Arecibo Observ**	**1.66**	**232**		Pn	01 17 00.7	-0.3
AOPR					Sn	01 17 21.7	-0.3
CELP	**Cerrillos**	**1.73**	**221**	⇑*e*P	Pn	01 17 01.3	-0.6
CELP	**Cerrillos**	**1.73**	**221**	*e*S	Sn	01 17 23.4	-0.3
CELP	**Cerrillos**	**1.73**	**221**		Pn	01 17 01.3	-0.6
CELP					Sn	01 17 23.4	-0.3
OBIP	**Obispado Ponce**	**1.77**	**221**	‖*e*P	Pn	01 17 01.9	-0.5
OBIP	**Obispado Ponce**	**1.77**	**221**	*e*S	Sn	01 17 24.2	-0.4
OBIP	**Obispado Ponce**	**1.77**	**221**		Pn	01 17 01.9	-0.5
OBIP					Sn	01 17 24.2	-0.4
AGPR	**Aguadilla, PR**	**1.87**	**241**	⇑*e*P	Pn	01 17 03.2	-0.6
AGPR	**Aguadilla, PR**	**1.87**	**241**	*e*S	Sn	01 17 26.7	-0.3
AGPR	**Aguadilla, PR**	**1.87**	**241**		Pn	01 17 03.2	-0.6
AGPR					Sn	01 17 26.7	-0.3
LSP	**Las Mesas**	**2.01**	**233**	‖*e*P	Pn	01 17 05.2	-0.4
LSP	**Las Mesas**	**2.01**	**233**		Pn	01 17 05.2	-0.4
IDE	**Isla Desecheo**	**2.22**	**244**	⇑*e*P	Pn	01 17 08.0	-0.3
IDE	**Isla Desecheo**	**2.22**	**244**		Pn	01 17 08.0	-0.3

*IDC **30** 01:17:11.2±2.5, 52°.10N×168°.90W, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/39, mbtmp3.6/7, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/44, Error ellipse: s-maj=57.8km s-min=22.7km az=166.0*
*AEIC **30** 01:17:17.1±2.0, 52°.03N±0°.07×169°.29W±0°.07, h36km±8km, ML3.1/37, mb3.7/6(NEIC), Error ellipse: s-maj=10.7km s-min=6.0km az=171.0*
*NEIC **30** 01:17:18.6±1.9, 52°.10N±0°.06×169°.36W±0°.08, h53km±11km, Error ellipse: s-maj=9.6km s-min=6.5km az=162.0*
ISC 30 01:17:16.4±1.9, 51°.9N±0°.1×169°.23W±0°.07, h49km±16km, n47, σ1s49/53, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.07**	**12**		**Pn**	**01 17 34.5**	**-0.5**
NIKH					**Sn**	**01 17 49.1**	**+0.4**
OKSP	**Okmok Steeple**	**1.44**	**23**		**Pn**	**01 17 40.1**	**0.0**
OKSP					**Sn**	**01 17 58.6**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**1.63**	**26**		**Pn**	**01 17 43.3**	**+0.7**
OKTU					**Sn**	**01 18 03.6**	**+1.2**
OKCE	**Okmok Cone E**	**1.63**	**23**		**Pn**	**01 17 43.2**	**+0.5**
OKNC	**Okmok New Cone**	**1.67**	**23**		**Pn**	**01 17 44.2**	**+1.0**
OKFG	**Magazine Ridge**	**1.69**	**28**		**Pn**	**01 17 44.0**	**+0.6**
OKFG					**Sn**	**01 18 05.1**	**+1.3**
MAPS	**Pakushin South**	**2.34**	**36**		**Pn**	**01 17 53.0**	**+0.7**
MAPS					**Sn**	**01 18 21.0**	**+1.2**
MGOD	**Makushin Gods**	**2.35**	**37**		**Pn**	**01 17 53.2**	**+0.6**
MGOD					**Sn**	**01 18 21.3**	**+1.1**
MSW	**Makushin Switc**	**2.48**	**36**		**Pn**	**01 17 55.3**	**+1.1**
MNAT	**Makushin Natee**	**2.49**	**37**		**Pn**	**01 17 55.5**	**+1.1**
UNV	**Unalaska Valle**	**2.53**	**40**		**Pn**	**01 17 56.0**	**+1.1**
UNV					**Sn**	**01 18 25.6**	**+1.1**
MTBL	**Makushin Table**	**2.56**	**36**		**Pn**	**01 17 57.2**	**+1.8**
AKRB	**Akutan Reef Bi**	**2.92**	**40**		**Pn**	**01 18 02.7**	**+2.4**
AKBBA	**Akutan Broad B**	**2.95**	**41**		**Pn**	**01 18 03.0**	**+2.3**
KOFP	**Korovin Flat P**	**3.02**	**278**		**Pn**	**01 18 02.7**	**+1.0**
AKUT	**Akutan**	**3.04**	**42**	Pn	**Pn**	**01 18 03.5**	**+1.6**
ATKA	**Atka Island**	**3.08**	**277**		**Pn**	**01 18 02.8**	**+0.5**
KOKL	**Mount Kliuchef**	**3.09**	**279**		**Pn**	**01 18 04.2**	**+1.5**
GSMY	**Great Sitkin M**	**4.22**	**274**		**Pn**	**01 18 19.1**	**+1.0**
GSTR	**Great Sitkin T**	**4.22**	**275**		**Pn**	**01 18 19.4**	**+1.3**
GSTR				Sn	**Sn**	**01 19 06.2**	**0.0**
GSTD	**Great Sitkin T**	**4.28**	**274**		**Pn**	**01 18 19.8**	**+0.9**
ADK	**Adak**	**4.62**	**272**		**Pn**	**01 18 24.6**	**+1.1**
ADK				Sn	**Sn**	**01 19 14.8**	**-1.0**
KIWB	**Kanaga Island**	**4.91**	**272**		**Pn**	**01 18 28.7**	**+1.2**
SPIA	**Saint Paul Isl**	**5.29**	**354**		**Pn**	**01 18 33.0**	**+0.3**
TASE	**Tanaga Southea**	**5.46**	**272**		**Pn**	**01 18 37.0**	**+2.0**
SDPT	**Sand Point**	**6.23**	**53**		**Pn**	**01 18 48.1**	**+2.5**
CNBA	**Chernabura Isl**	**6.46**	**60**		**Pn**	**01 18 50.1**	**+1.4**
AMKA	**Amchitka**	**7.16**	**270**		**Pn**	**01 19 00.2**	**+1.8**
KDAK	**Kodiak Island**	**11.23**	**52**	Pn	**Pn**	**01 19 53.2**	**-0.8**
	0.5nm,0.3s,baz=243,slow=4.5,SNR=7.7						
KDAK				Sn	**Sn**	**01 21 54.5**	**-3.3**
	0.2nm,0.3s,baz=97,slow=7.3,SNR=1.9						
KDAK	**Kodiak Island**	**11.23**	**52**		**Pn**	**01 19 53.9**	**-0.1**
HIN	**Hinchinbrook I**	**15.17**	**47**	Pn	**Pn**	**01 20 47.3**	**+0.2**
SCM	**Sheep Creek Mo**	**15.46**	**42**	Pn	**Pn**	**01 20 49.5**	**-1.5**
SCM				IAmb	IAmb	01 20 51.9	
	comp=Z,4.3nm,0.7s						
BPAW	**Bear Paw Mtn.**	**15.48**	**31**	Pn	**Pn**	**01 20 51.3**	**+0.1**
BPAW				IAmb	IAmb	01 20 57.2	
	comp=Z,2.4nm,0.7s						
KLU	**Klutina**	**15.89**	**44**	Pn	**Pn**	**01 20 55.8**	**-0.7**
KLU				IAmb	IAmb	01 21 08.7	
	comp=Z,7.3nm,1.2s						
N25K	**Chitina, Valde**	**16.51**	**45**	Pn	**Pn**	**01 21 03.5**	**-0.8**
ILAR	**Eielson Array**	**17.27**	**33**	Pn	**Pn**	**01 21 09.0**	**-4.7**
	comp=Z,0.0nm,0.3s,baz=233,slow=8.0,SNR=1.9						
PETK	**Petropavlovsk-**	**20.06**	**286**	P	**Pn**	**01 21 46.0**	**-1.4**
	comp=Z,2.6nm,0.4s,baz=87,slow=14,SNR=8.2						
INK	**Inuvik**	**23.67**	**33**	P	**P**	**01 22 20.9**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=200,slow=1.6,SNR=4.4						
INK	**Inuvik**	**23.67**	**33**	P	**P**	**01 22 22.8**	**-0.1**
INK				IAmb	IAmb	01 22 25.5	
	comp=Z,1.6nm,0.7s						

comp=Z,0.2nm,0.6s,baz=232,slow=4.4,SNR=2.8
PDAR Pinedale Array 82.27 41 P **P 01 49 46.6 +2.5**
comp=Z,0.1nm,0.3s,baz=202,slow=3.6,SNR=4.1
PDAR Pinedale Array 82.27 41 P **P 01 49 42.5 -1.7**
MLY Manley 82.58 9 P **P 01 49 46.9 +2.0**
MLY IAmb IAmb 01 49 49.7
comp=Z,3.6nm,1.4s
CCB Clear Creek Bu 82.71 10 P **P 01 49 45.3 -0.3**
CCB IAmb IAmb 01 49 49.3
comp=Z,2.5nm,0.7s
ILAR Eielson Array 82.98 11 P **P 01 49 48.8 +1.8**
comp=Z,0.5nm,0.7s,baz=228,slow=6.2,SNR=7.9
ILAR Eielson Array 82.98 11 P **P 01 49 46.2 -0.8**
SONM Songino Array 95.88 318 P **P 01 50 50.8 +1.7**
comp=Z,0.5nm,0.5s,baz=116,slow=6.7,SNR=2.1
SONM Songino Array 95.88 318 P **P 01 50 49.1 -0.1**
BRTR Keskin Array B 147.19 321 PKPbc **PKPbc 01 57 06.4 +0.3**
comp=Z,1.3nm,0.9s,baz=205,slow=4.9,SNR=4.3

*IDC **30** 01:57:20.0±2.8, 5°.76S×147°.10E, h80km±25km, mb3.9/11, mb1 4.1/16, mb1mx4.0/29, mbtmp4.3/16, MS3.4/6, Ms1 3.4/6, ms1mx3.1/24, Error ellipse: s-maj=27.5km s-min=13.5km az=88.0*
*NEIC **30** 01:57:20.1±1.2, 5°.87S±0°.07×147°.50E±0°.07, h89km±7km, mb4.2/12, Error ellipse: s-maj=10.7km s-min=9.1km az=119.0*
ISC 30 01:57:18.5±0.5, 5°.86S±0°.05×147°.34E±0°.07, h77km, n51, σ1§58/52, mb4.2/13, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**183**	P	**Pn**	**01 58 12.5**	**+1.5**
	13nm,0.3s,baz=353,slow=5.8,SNR=27						
PMG				S	**Sn**	**01 58 49.8**	**-1.8**
	23nm,0.3s,baz=2.2,slow=14,SNR=4.7						
PMG				LR	LR	01 59 50.8	
	comp=Z,473nm,18.4s,baz=338,slow=42						
PMG	**Port Moresby**	**3.53**	**183**	Pn	**Pn**	**01 58 12.6**	**+1.5**
PMG				Sn	**Sn**	**01 58 54.3**	**+2.6**
MANU	**Manus Island**	**3.79**	**0**	Pn	**Pn**	**01 58 16.6**	**+2.1**
RABL	**Rabaul**	**5.08**	**71**	Pn	**Pn**	**01 58 31.7**	**-0.5**
RABL				Sn	**Sn**	**01 59 27.7**	**-2.0**
CTA	**Charters Tower**	**14.19**	**184**	P	**P**	**02 00 39.9**	**-1.1**
	0.5nm,0.3s,baz=5.6,slow=15,SNR=7.2						
CTAO	**Charters Tower**	**14.19**	**184**		**P**	**02 00 40.2**	**-0.7**
SIJI	**Sorong**	**16.79**	**287**	P	**Pn**	**02 01 07.3**	**-1.5**
	1.1nm,0.3s,baz=123,slow=21,SNR=3.9						
MTN	**Manton Dam**	**17.43**	**245**		**Pn**	**02 01 16.5**	**-0.2**
WB0	**Warramunga Arr**	**18.70**	**221**	P	**P**	**02 01 32.4**	**+1.5**
WB0				IAmb	IAmb	02 01 37.2	
	comp=Z,12nm,0.7s						
WR0	**Warramunga Arr**	**18.75**	**220**	P	**P**	**02 01 32.5**	**+1.1**
WR0				IAmb	IAmb	02 01 38.2	
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**18.85**	**221**	P	**P**	**02 01 33.5**	**+1.0**
WRAB				IAmb	IAmb	02 01 39.2	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**18.86**	**221**	P	**P**	**02 01 33.3**	**+0.7**
WB2				IAmb	IAmb	02 01 39.4	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**18.86**	**221**	P	**P**	**02 01 32.7**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=41,slow=11,SNR=40						
WRA				S	**S**	**02 04 56.3**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=25,SNR=3.5						
WRA				LR	LR	02 09 56.3	
	comp=Z,163nm,20.3s,baz=50,slow=40						
WRA	**Warramunga Arr**	**18.86**	**221**	P	**P**	**02 01 33.0**	**+0.3**
GUMO	**Guam**	**19.47**	**353**	P	**P**	**02 01 39.7**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=168,slow=14,SNR=4.8						
KNRA	**Kununurra**	**20.68**	**240**	P	**P**	**02 01 54.0**	**+1.6**
AS31	**Alice Springs**	**21.93**	**215**	P	**P**	**02 02 06.4**	**+0.7**
ASAR	**Alice Springs**	**21.93**	**215**	P	**P**	**02 02 06.6**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=49,slow=8.4,SNR=41						
ASAR				S	**S**	**02 06 00.2**	**-3.5**
	comp=Z,1.4nm,0.9s,baz=33,slow=21,SNR=6.0						
ASAR				LR	LR	02 10 47.2	
	comp=Z,66nm,20.2s,baz=46,slow=37						
ASAR	**Alice Springs**	**21.93**	**215**	P	**P**	**02 02 06.9**	**+1.1**
ASAR					**S**	**02 06 01.8**	**-1.9**
BATI	**Baumata**	**23.83**	**258**	P	**P**	**02 02 24.6**	**-0.2**
	comp=Z,74nm,0.6s,baz=125,slow=4.3,SNR=7.1						
STKA	**Stephens Creek**	**26.44**	**191**	LR	LR	02 13 07.7	
	comp=Z,113nm,20.4s,baz=24,slow=36						
H11S3	**WAKE ISLAND Hy**	**30.82**	**38**	T	T	02 35 49.1	
	baz=220,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**30.82**	**38**	T	T	02 35 50.6	
	baz=220,slow=74,SNR=7.6						
H11S1	**WAKE ISLAND Hy**	**30.83**	**38**	T	T	02 35 50.6	
	baz=220,slow=74,SNR=6.1						
PSA00	**Pilbara Seismi**	**30.86**	**237**	P	**P**	**02 03 27.0**	**-0.6**
PSA00				IAmb	IAmb	02 03 29.1	
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**43.03**	**349**	P	**P**	**02 05 11.0**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=161,slow=8.7,SNR=8.3						
MJAR	**Matsushiro Arr**	**43.03**	**349**	P	**P**	**02 05 09.3**	**-1.2**
MJAR				IAmb	IAmb	02 05 12.7	
	comp=Z,5.2nm,1.4s						
KSRS	**Korea Array**	**46.74**	**339**	P	**P**	**02 05 40.9**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=152,slow=5.7,SNR=5.4						
KSRS				LR	LR	02 23 31.9	
	comp=Z,34nm,19.9s,baz=339,slow=34						
USRK	**Ussuriysk Ar.**	**51.71**	**346**	P	**P**	**02 06 17.7**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=174,slow=5.4,SNR=5.0						
USRK	**Ussuriysk Ar.**	**51.71**	**346**	P	**P**	**02 06 17.9**	**+0.1**
KLR	**Kul'dur**	**56.52**	**348**	LR	LR	02 28 00.8	
	comp=Z,28nm,21.8s,baz=292,slow=33						
PETK	**Petropavlovsk-**	**59.39**	**7**	P	**P**	**02 07 13.8**	**+1.1**
	comp=Z,4.8nm,0.9s,baz=190,slow=7.5,SNR=9.1						
PETK	**Petropavlovsk-**	**59.39**	**7**	P	**P**	**02 07 13.0**	**+0.2**
SONM	**Songino Array**	**64.44**	**331**	P	**P**	**02 07 46.1**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=149,slow=6.7,SNR=6.6						
SONM	**Songino Array**	**64.44**	**331**	P	**P**	**02 07 46.5**	**-0.4**
VNDA	**Vanda**	**72.04**	**177**	P	**P**	**02 08 35.9**	**+2.2**
	comp=Z,3.7nm,0.9s,baz=322,slow=6.2,SNR=14						
MKAR	**Makanchi Array**	**77.60**	**320**	P	**P**	**02 09 05.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=100,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**77.60**	**320**	P	**P**	**02 09 06.2**	**-0.2**
ZALV	**Zalesovo Beam**	**79.07**	**328**	P	**P**	**02 09 13.3**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=104,slow=6.3,SNR=4.2						
ILAR	**Eielson Array**	**85.22**	**23**	P	**P**	**02 09 46.5**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=13,slow=4.9,SNR=4.2						
ILAR	**Eielson Array**	**85.22**	**23**	P	**P**	**02 09 45.6**	**-0.6**
NRIK	**Noril'sk**	**85.24**	**342**	P	**P**	**02 09 45.8**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=132,slow=4.8,SNR=3.6						
NRIK	**Noril'sk**	**85.24**	**342**	P	**P**	**02 09 47.0**	**+0.8**
GERES	**GERESS Array B**	**121.98**	**326**	PKP	**PKPdf**	**02 16 05.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=95,slow=1.2,SNR=4.1						
GERES	**GERESS Array B**	**121.98**	**326**		**PKPdf**	**02 16 03.8**	**-0.5**
PLCA	**Paso Flores**	**122.06**	**147**	PKP	**PKPdf**	**02 16 06.2**	**+1.4**
	comp=Z,3.2nm,0.8s,baz=255,slow=3.0,SNR=9.8						
CPUP	**Villa Florida**	**140.05**	**144**	PKP	**PKPdf**	**02 16 40.8**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=244,slow=8.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.38**	**285**	PKPbc	**PKPbc**	**02 16 48.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=76,slow=4.1,SNR=16						
TORD	**Torodi Ar. Bea**	**145.38**	**285**	PKPdf	**PKPbc**	**02 16 47.8**	**-0.8**
BDFB	**Brasilia**	**153.78**	**145**	PKPbc	**PKiKP**	**02 17 11.5**	**+1.5**
	comp=Z,6.8nm,0.7s,baz=189,slow=4.5,SNR=11						
BDFB	**Brasilia**	**153.78**	**145**		**PKPbc**	**02 17 10.2**	**+0.2**

*IDC **30** 01:58:57.7±2.8, 25°.61S×154°.35E, h0km, mb1 4.0/3, mb1mx3.7/22, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=92.7km s-min=52.5km az=2.0*
ISC 30 01:59:01.6±2.0, 25°.5S±0°.2×154°.1E±0°.1, h10km, n11, σ1§45/11, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**2.71**	**273**	P	**Pn**	**01 59 44.8**	**-0.5**
	baz=2.8						
EIDS				S	**Sn**	**02 00 19.0**	**+0.8**
	baz=2.8						
RMQ	**Roma**	**4.88**	**258**	P	**Pn**	**02 00 16.1**	**+0.9**
	baz=5.0						
RMQ				S	**Sg**	**02 01 37.2**	**-1.3**
	baz=5.0						
ARMA	**Armidale**	**5.34**	**203**	P	**Pn**	**02 00 22.7**	**+1.3**
	baz=5.5						
LHI	**Lord Howe Isla**	**7.41**	**145**	P	Pn	02 00 44.8	-5.0
	baz=7.4						
LHI				S	Sn	02 02 01.7	-12
	baz=7.4						
QLP	**Quilpie**	**8.92**	**261**	P	**Pn**	**02 01 11.2**	**+0.6**
	baz=9.0						
CTA	**Charters Tower**	**9.02**	**305**	Sn	Sn	02 03 02.9	+9.3
	0.3nm,0.3s,baz=337,slow=7.9,SNR=1.5						
CMSA	**Cobar Meteorol**	**9.50**	**229**	P	**Pn**	**02 01 19.4**	**+0.9**
	baz=9.7						
STKA	**Stephens Creek**	**12.65**	**237**	Pn	**Pn**	**02 02 00.0**	**-1.6**
	0.4nm,0.3s,baz=55,slow=16,SNR=5.1						
STKA				Lg	Lg	02 05 50.9	
	0.2nm,0.3s,baz=304,slow=24,SNR=1.1						
ASAR	**Alice Springs**	**18.44**	**271**	P	**Pn**	**02 03 19.5**	**+2.0**
	baz=93,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**19.03**	**283**	P	**P**	**02 03 23.2**	**-0.7**
	0.1nm,0.3s,baz=109,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.25**	**250**	PKPbc	**PKPbc**	**02 18 54.2**	**-1.9**
	1.0nm,0.5s,baz=111,slow=1.6,SNR=9.1						

*IDC **30** 02:13:22.5±1.4, 52°.55N×169°.19W, h0km, mb3.7/12, mb1 3.8/15, mb1mx3.7/54, mbtmp3.7/15, ML3.1/3, Error ellipse: s-maj=37.5km s-min=16.9km az=175.0*
*NEIC **30** 02:13:26.6±1.9, 52°.13N±0°.07×169°.35W±0°.08, h43km±2km, Error ellipse: s-maj=9.8km s-min=7.0km az=182.0*
*AEIC **30** 02:13:26.2±2.1, 52°.16N±0°.06×169°.35W±0°.04, h40km±7km, ML3.3/30, mb3.8/12(NEIC), Error ellipse: s-maj=9.6km s-min=3.1km az=189.0*
ISC 30 02:13:25.6±0.9, 52°.0N±0°.1×169°.22W±0°.07, h36km±2km, n60, σ1§25/59, mb3.8/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.99**	**13**		**Pn**	**02 13 42.0**	**-0.8**
OKSP	**Okmok Steeple**	**1.36**	**24**		**Pn**	**02 13 47.8**	**-0.3**
OKSP					**Sn**	**02 14 05.3**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**1.55**	**27**		**Pn**	**02 13 51.0**	**+0.3**
OKCE	**Okmok Cone E**	**1.56**	**24**		**Pn**	**02 13 51.0**	**+0.3**
OKNC	**Okmok New Cone**	**1.59**	**24**		**Pn**	**02 13 52.0**	**+0.8**
OKFG	**Magazine Ridge**	**1.61**	**29**		**Pn**	**02 13 51.6**	**+0.2**
MAPS	**Pakushin South**	**2.27**	**37**		**Pn**	**02 14 00.9**	**+0.4**
MAPS					**Sn**	**02 14 29.1**	**+2.0**
MGOD	**Makushin Gods**	**2.28**	**38**		**Pn**	**02 14 01.0**	**+0.2**
MGOD					**Sn**	**02 14 29.5**	**+1.9**
MSW	**Makushin Switc**	**2.41**	**37**		**Pn**	**02 14 03.3**	**+0.8**
MSW					**Sn**	**02 14 31.8**	**+1.1**
MNAT	**Makushin Natee**	**2.42**	**38**		**Pn**	**02 14 03.6**	**+1.0**
UNV	**Unalaska Valle**	**2.46**	**41**		**Pn**	**02 14 03.8**	**+0.6**
UNV					**Sn**	**02 14 33.0**	**+1.1**
MTBL	**Makushin Table**	**2.49**	**37**		**Pn**	**02 14 04.9**	**+1.3**
AKRB	**Akutan Reef Bi**	**2.85**	**41**		**Pn**	**02 14 09.8**	**+1.3**
AKUT	**Akutan**	**2.97**	**43**		**Pn**	**02 14 10.7**	**+0.5**
KOFP	**Korovin Flat P**	**3.02**	**277**		**Pn**	**02 14 11.7**	**+0.8**
ATKA	**Atka Island**	**3.07**	**275**		**Pn**	**02 14 11.3**	**-0.3**
GSTR	**Great Sitkin T**	**4.22**	**274**		**Pn**	**02 14 27.6**	**+0.2**
GSTD	**Great Sitkin T**	**4.28**	**273**		**Pn**	**02 14 28.1**	**-0.1**
ADK	**Adak**	**4.62**	**271**		**Pn**	**02 14 32.8**	**+0.1**
KIWB	**Kanaga Island**	**4.91**	**271**		**Pn**	**02 14 36.0**	**-0.8**
SPIA	**Saint Paul Isl**	**5.21**	**354**		**Pn**	**02 14 42.8**	**+2.0**
TASE	**Tanaga Southea**	**5.46**	**272**		**Pn**	**02 14 45.3**	**+0.9**
KDAK	**Kodiak Island**	**11.17**	**52**	Pn	**Pn**	**02 16 01.5**	**-1.1**
	0.3nm,0.3s,baz=251,slow=24,SNR=1.2						
KDAK				Sn	**Sn**	**02 18 01.0**	**-5.0**
	0.2nm,0.3s,baz=158,slow=15,SNR=1.9						
GLI	**Glacier Island**	**15.04**	**45**	Pn	**Pn**	**02 16 54.6**	**-0.7**
HIN	**Hinchinbrook I**	**15.10**	**47**	Pn	**Pn**	**02 16 55.2**	**-0.9**
FID	**Port Fidalgo**	**15.26**	**46**	Pn	**Pn**	**02 16 56.0**	**-2.1**
SCM	**Sheep Creek Mo**	**15.39**	**42**	Pn	**Pn**	**02 16 58.2**	**-1.7**
SCM				IAmb	IAmb	02 16 59.7	
	comp=Z,5.0nm,0.6s						
BPAW	**Bear Paw Mtn.**	**15.40**	**31**	Pn	**Pn**	**02 16 59.7**	**-0.3**
BPAW				IAmb	IAmb	02 17 04.9	
	comp=Z,3.2nm,0.8s						
KLU	**Klutina**	**15.82**	**44**	Pn	**Pn**	**02 17 03.8**	**-1.6**
KLU				IAmb	IAmb	02 17 09.5	
	comp=Z,3.9nm,0.5s						
MLY	**Manley**	**16.13**	**29**	Pn	**Pn**	**02 17 08.9**	**-0.4**
N25K	**Chitina, Valde**	**16.45**	**45**	Pn	**Pn**	**02 17 11.6**	**-1.8**
N25K				IAmb	IAmb	02 17 22.7	
	comp=Z,9.1nm,1.5s						
VRDI	**Verde Repeater**	**16.80**	**47**	Pn	**Pn**	**02 17 16.1**	**-1.9**
ILAR	**Eielson Array**	**17.20**	**33**	Pn	Pn	02 17 15.3	-7.4
	comp=Z,0.0nm,0.3s,baz=238,slow=8.6,SNR=1.8						
BARN	**Barnard Glacie**	**17.56**	**48**	P	**Pn**	**02 17 28.0**	**+0.5**
HYT	**Haines Junctio**	**19.45**	**51**	Pn	**Pn**	**02 17 51.7**	**+1.4**
HYT				IAmb	IAmb	02 18 07.8	
	comp=Z,12nm,1.4s						
BMAR	**Burnt Mountain**	**19.60**	**29**		**P**	**02 17 50.1**	**-0.2**
PEA0B	**Petropavlovsk-**	**20.05**	**286**	P	**P**	**02 17 54.3**	**-1.0**
PEA0B				IAmb	IAmb	02 17 55.7	
	comp=Z,5.7nm,0.7s						
PETK	**Petropavlovsk-**	**20.05**	**286**	P	**P**	**02 17 54.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=86,slow=14,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**37.23**	**219**	T	T	03 00 51.7	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.24**	**219**	T	T	03 00 57.8	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.25**	**219**	T	T	03 01 12.8	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.42**	**219**	T	T	03 02 02.7	
	baz=23,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**38.43**	**219**	T	T	03 02 03.8	
	baz=23,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**38.44**	**219**	T	T	03 01 54.5	
	baz=23,slow=76,SNR=5.4						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**02 21 01.4**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=289,slow=4.5,SNR=3.5						
PDAR	**Pinedale Array**	**40.38**	**79**	P	**P**	**02 20 59.8**	**-0.2**
KSRS	**Korea Array**	**45.54**	**277**	P	**P**	**02 21 42.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=60,slow=7.1,SNR=1.8						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**02 22 38.1**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=312,slow=7.5,SNR=5.9						
TXAR	**Lajitas Array**	**52.66**	**89**	P	**P**	**02 22 36.5**	**+0.3**
ARCES	**ARCESS Array B**	**58.28**	**354**	P	**P**	**02 23 15.2**	**-0.8**
	comp=Z,3.7nm,1.1s,baz=19,slow=8.7,SNR=1.2						
KURK	**Kurchatov**	**62.70**	**319**	P	**P**	**02 23 47.0**	**+0.6**
KURBB	**Kurchatov Arra**	**62.81**	**318**	P	**P**	**02 23 47.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=45,slow=7.2,SNR=7.5						
BVAR	**Borovoye Array**	**64.05**	**325**	P	**P**	**02 23 55.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=1.9						
MKAR	**Makanchi Array**	**64.12**	**314**	P	**P**	**02 23 55.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=55,slow=9.4,SNR=2.0						
FINES	**FINESS Array B**	**66.23**	**352**	P	**P**	**02 24 09.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=4.6,slow=9.6,SNR=6.8						
FINES	**FINESS Array B**	**66.23**	**352**	P	**P**	**02 24 08.9**	**-0.4**
NOA	**NORSAR Array B**	**67.30**	**360**	P	**P**	**02 24 14.3**	**-1.8**
	comp=Z,0.8nm,0.9s,baz=0.4,slow=6.3,SNR=3.3						
AKTO	**Aktyubinsk**	**70.36**	**330**	P	**P**	**02 24 35.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=52,slow=4.7,SNR=5.3						
AKASG	**Malin Array Be**	**76.47**	**348**	P	**P**	**02 25 10.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=23,slow=5.5,SNR=2.9						
ESDC	**Sonseca Array**	**87.79**	**11**	P	**P**	**02 26 11.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.7,SNR=2.1						

IDC 30 02:21:34.9±5.1, 9°.13S×128°.39E, h0km, mb3.9/1, mb1 4.1/4, mb1mx3.6/37, mbtmp4.0/4, ML4.2/3, Error ellipse: s-maj=88.0km s-min=33.7km az=27.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.78**	**257**	Pn	Pn	02 22 49.2	+0.9
	12nm,0.3s,baz=46,slow=6.9,SNR=4.5						
BATI				Sn	Sn	02 23 35.8	-8.7
	24nm,0.3s,baz=152,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**12.19**	**152**	Pn	Pn	02 24 30.6	+0.7
	1.5nm,0.3s,baz=324,slow=13,SNR=45						
WRA				Sn	Sn	02 26 50.0	+3.4
	2.0nm,0.3s,baz=331,slow=22,SNR=17						
ASAR	**Alice Springs**	**15.38**	**161**	Pn	Pn	02 25 14.0	+0.5
	0.6nm,0.3s,baz=332,slow=9.4,SNR=30						
ASAR				Sn	Sn	02 28 05.6	+0.8
	0.3nm,0.3s,baz=336,slow=19,SNR=6.9						
STKA	**Stephens Creek**	**25.74**	**153**	P	P	02 27 06.5	-0.8
	1.4nm,0.5s,baz=325,slow=13,SNR=4.4						

IDC 30 02:28:48.8±4.5, 3°.31S×148°.76E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/35, mbtmp3.4/2, Error ellipse: s-maj=159.0km s-min=53.1km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.71**	**219**	P	P	02 33 41.0	-0.7
	0.4nm,0.4s,baz=46,slow=12,SNR=12						
ASAR	**Alice Springs**	**24.81**	**214**	P	P	02 34 13.5	+0.6
	1.0nm,0.6s,baz=41,slow=7.2,SNR=10						
TORD	**Torodi Ar. Bea**	**146.01**	**289**	PKPbc	PKPdf	02 48 30.7	-0.3
	0.3nm,0.7s,baz=54,slow=3.9,SNR=1.6						

*IDC **30** 02:39:02.9±0.9, 31°.37N×35°.44E, h0km, mb3.9/12, mb1 4.0/17, mb1mx3.8/49, mbtmp3.9/17, ML3.8/5, MS3.1/10, Ms1 3.1/10, ms1mx2.8/45, Error ellipse: s-maj=17.4km s-min=12.3km az=90.0*
*SGS **30** 02:39:04.8, 31°.58N×35°.29E, h20km, Ml4.9*
*NEIC **30** 02:39:05.7±1.8, 31°.41N±0°.01×35°.50E±0°.04, h16km±3km, Error ellipse: s-maj=4.8km s-min=1.1km az=102.0*
*GRAL **30** 02:39:05.8±0.3, 31°.37N×35°.58E, h2km±3km, MD4.2*
*GII **30** 02:39:05.8±0.1, 31°.40N×35°.47E, h15km, mb4.4/4, MD4.4/7, Mm4.1/6*
*JSO **30** 02:39:05.3±0.7, 31°.N±3°.×3°.6E±°, h9km±5km, Mjma4.0/22, ML4.3/12, MLv4.2/24*
*HLW **30** 02:39:06.2, 31°.31N×35°.40E, h10km±18km, Md4.3, Ml4.8*
ISC 30 02:39:05.7±0.6, 31°.40N±0°.02×35°.44E±0°.02, h18km±2km, n243, σ1§14/269, mb4.0/28, MS2.9/8, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDBI	**Mazsada**	**0.11**	**220**	Pg	**Pg**	**02 39 09.6**	**+0.1**
MDBI				Sg	**Sg**	**02 39 12.2**	**+0.2**
MDBI	**Mazsada**	**0.11**	**220**	P	**Pg**	**02 39 09.6**	**+0.1**
GHAJ	**Ghor Haditha**	**0.14**	**131**	Pg	**Pg**	**02 39 09.7**	**-0.2**
GHAJ				Sg	**Sg**	**02 39 12.9**	**+0.2**
GHAJ	**Ghor Haditha**	**0.14**	**131**	Pg	**Pb**	**02 39 09.2**	**+0.2**
GHAJ				Sg	**Sg**	**02 39 13.2**	**+0.5**
DSI	**Dead Sea**	**0.18**	**343**	Pg	**Pg**	**02 39 10.7**	**+0.3**
DSI				Sg	**Sg**	**02 39 14.4**	**+0.8**
DSI	**Dead Sea**	**0.18**	**343**	P	**Pg**	**02 39 11.0**	**+0.6**
YTIR	**Yattir**	**0.28**	**263**	Pg	**Pb**	**02 39 12.6**	**+0.4**
YTIR				Sg	**Sb**	**02 39 17.8**	**+1.2**
YTIR	**Yattir**	**0.28**	**263**	Pg	**Pb**	**02 39 12.6**	**+0.4**
YTIR				Sg	**Sb**	**02 39 17.9**	**+1.3**
AMAZ	**Amatzia**	**0.47**	**287**	Pg	**Pb**	**02 39 15.9**	**+0.4**
AMAZ				Sg	**Sb**	**02 39 23.5**	**+1.4**
AMAZ	**Amatzia**	**0.47**	**287**	Pg	**Pb**	**02 39 15.9**	**+0.4**
AMAZ				Sg	**Sb**	**02 39 23.5**	**+1.4**
AMAZ	**Amatzia**	**0.47**	**287**	P	**Pb**	**02 39 16.0**	**+0.4**
HMDT	**Nahal Hemdat**	**0.85**	**5**	Pg	**Pb**	**02 39 21.6**	**-0.5**
HMDT				Sg	**Sg**	**02 39 33.7**	**-0.1**
HMDT	**Nahal Hemdat**	**0.85**	**5**	Pg	**Pb**	**02 39 21.6**	**-0.5**
HMDT				Sg	**Sg**	**02 39 33.7**	**-0.1**
HMDT	**Nahal Hemdat**	**0.85**	**5**	P	**Pb**	**02 39 21.7**	**-0.4**
ZFRI	**Zfri**	**0.87**	**195**	Pg	**Pb**	**02 39 22.1**	**-0.2**
ZFRI				Sg	**Sg**	**02 39 34.5**	**+0.2**
ZFRI	**Zfri**	**0.87**	**195**	Pg	**Pb**	**02 39 22.1**	**-0.2**
ZFRI				Sg	**Sg**	**02 39 34.2**	**-0.1**
SLTI	**Sal'it**	**0.91**	**338**	Pg	**Pb**	**02 39 22.6**	**-0.3**
SLTI				Sg	**Sg**	**02 39 35.7**	**+0.3**
SLTI	**Sal'it**	**0.91**	**338**	Pg	**Pb**	**02 39 22.6**	**-0.3**
SLTI				Sg	**Sg**	**02 39 35.4**	**0.0**
SLTI	**Sal'it**	**0.91**	**338**	P	**Pb**	**02 39 22.6**	**-0.3**
KZIT	**Kziot**	**1.02**	**242**	Pg	**Pn**	**02 39 25.1**	**-0.1**
KZIT				Sg	**Sn**	**02 39 39.7**	**+0.7**
KZIT	**Kziot**	**1.02**	**242**	Pg	**Pn**	**02 39 25.0**	**-0.1**
KZIT				Sg	**Sn**	**02 39 39.7**	**+0.7**
KZIT	**Kziot**	**1.02**	**242**	P	**Pg**	**02 39 25.4**	**-0.2**
MMLI	**Mount Malkishu**	**1.04**	**359**	P	**Pb**	**02 39 24.5**	**-0.7**
MMLI				S	**Sg**	**02 39 39.7**	**+0.2**
MMLI	**Mount Malkishu**	**1.04**	**359**	Pg	**Pb**	**02 39 24.5**	**-0.7**
MMLI				Sg	**Sn**	**02 39 39.2**	**-0.3**
MMLI	**Mount Malkishu**	**1.04**	**359**	Pg	**Pb**	**02 39 24.5**	**-0.7**
MMLI				Sg	**Sn**

QLABS **Al Qalibar** 4.14 148 P Pn 02 40 07.8 -0.3
LFK **Lefkose** 4.19 338 *e*P Pn 02 40 09.6 +0.9
URD13 **Abu Rakah** 4.23 155 P Pn 02 40 09.2 -0.2
EREN **Erenkoy** 4.25 346 *e*P Pn 02 40 11.7 +2.1
LEF **Lefka** 4.28 331 *e*P Pn 02 40 11.7 +1.7
HMYD **Mayadein** 4.31 249 P Pn 02 40 10.1 -0.2
baz=251
AKDN **Akdeniz- Kıbrı** 4.41 333 *e*P Pn 02 40 13.6 +1.9
URD14 **Abu Rakah** 4.42 152 P Pn 02 40 11.9 -0.1
HHRG **Al Ghardaqah** 4.47 202 P Pn 02 40 13.5 +0.9
baz=201
URD15 **Abu Rakah** 4.49 156 P Pn 02 40 13.0 0.0
HNAT **Natroun** 4.52 248 P Pn 02 40 13.3 0.0
baz=250
NBNS **Bani Suef** 4.54 233 P Pn 02 40 13.9 +0.4
baz=235
URD04 **Abu Rakah** 4.59 159 P Pn 02 40 14.4 +0.1
YAYL **Yayladag** 4.66 7 *e*P Pn 02 40 19.5 +4.2
BIDS **Bi'r al Bayda'** 4.71 163 P Pn 02 40 15.8 0.0
WJHS 4.72 170 P Pn 02 40 16.3 +0.2
AKKU **Akkuyu-Mersin** 5.00 342 *e*P Pn 02 40 21.9 +2.0
TAHT **Tahtakopru-Hat** 5.00 7 *e*P Pn 02 40 24.3 +4.4
URD03 **Al Ula** 5.03 159 P Pn 02 40 20.2 -0.1
IKL **Isikli** 5.04 344 *e*P Pn 02 40 21.7 +1.2
TEKE **Tekeli-Mersin** 5.11 338 *e*P Pn 02 40 22.2 +0.8
BOZY **Bozyazi-Mersin** 5.12 337 *e*P Pn 02 40 22.3 +0.7
KRTS **Karatas** 5.16 359 *e*P Pn 02 40 25.3 +3.2
URD02 **Al Ula** 5.21 155 P Pn 02 40 23.1 +0.2
KEBE **Keben-Mersin** 5.24 345 *e*P Pn 02 40 23.4 +0.2
BERE **Bereket-Mersin** 5.27 340 *e*P Pn 02 40 25.2 +1.5
EWJHS **Al Wajh** 5.33 168 P Pn 02 40 24.6 +0.1
TAMRE **El Minia** 5.41 228 P Pn 02 40 25.1 -0.4
baz=229
OLAS **OLAS** 5.48 159 P Pn 02 40 26.4 -0.2
GAZI **Gazipasa** 5.48 333 *e*P Pn 02 40 27.6 +1.1
MERS **Mersin** 5.51 352 *e*P Pn 02 40 28.0 +1.1
CEYT **Ceyhan** 5.60 3 *e*P Pn 02 40 31.0 +2.9
SARAR **Arar** 5.67 99 P Pn 02 40 28.7 -0.4
GAZ **Gaziantep** 5.94 14 *e*P Pn 02 40 37.7 +4.8
GAZ **Gaziantep** 5.94 14 Pn 02 40 33.0 +0.1
NUMJS **Khuff** 5.97 164 P Pn 02 40 32.8 -0.4
KRMN **Karaman** 6.04 343 *e*P Pn 02 40 37.7 +3.5
KOZT **Kozan** 6.08 3 *e*P Pn 02 40 38.1 +3.4
HIL03 **Ash Shuqayq** 6.24 130 P Pn 02 40 36.4 -0.6
CMRD **Camardi-Nigde** 6.26 357 *e*P Pn 02 40 39.1 +1.8
KBR13 **Birmah** 6.36 151 P Pn 02 40 38.2 -0.4
UMJS **Umm Lajj** 6.36 165 P Pn 02 40 37.6 -1.0
LNY03 **LNY03** 6.36 160 P Pn 02 40 39.2 +0.6
LNY11 **LNY11** 6.40 161 P Pn 02 40 38.8 -0.4
LNY15 **LNY15** 6.46 161 P Pn 02 40 39.6 -0.4
MURBA **Al Muraba'a** 6.46 157 P Pn 02 40 40.0 0.0
KBR09 **Khaybar** 6.50 144 P Pn 02 40 40.2 -0.4
YESY **Yesilyurt** 6.52 348 *e*P Pn 02 40 44.1 +3.2
URFA **Urfa** 6.64 24 *e*P Pn 02 40 48.0 +5.5
KBR08 **Khaybar** 6.68 147 P Pn 02 40 42.8 -0.3
LNY08 **LNY08** 6.69 161 P Pn 02 40 43.1 -0.1
KBR12 **Shajwa** 6.74 152 P Pn 02 40 43.3 -0.5
KBR03 **Khaybar** 6.82 143 P Pn 02 40 44.9 -0.3
KBR04 **Khaybar** 6.87 141 P Pn 02 40 45.1 -0.6
TRAS **Al Qrash** 6.89 156 P Pn 02 40 45.6 -0.2
ELL **Elmali** 7.04 321 Pn Pn 02 40 47.8 -0.2
KBR01 **Khaybar** 7.04 146 P Pn 02 40 47.8 -0.3
KBR07 **Khaybar** 7.07 149 P Pn 02 40 48.3 -0.2
KBR11 **Shajwa** 7.14 152 P Pn 02 40 49.5 +0.1
KBR05 **Khaybar** 7.21 142 P Pn 02 40 50.0 -0.4
HIL04 **Ash Shaalaniya** 7.33 118 P Pn 02 40 52.5 +0.5
RHT07 **RHT07** 7.42 154 P Pn 02 40 53.2 -0.1
FETY **Fethiye** 7.42 316 P Pn 02 40 52.6 -0.6
KBR02 **Khaybar** 7.46 144 P Pn 02 40 53.7 -0.1
ISP **Isparta** 7.58 329 Pn Pn 02 40 55.4 -0.1
YOBS 7.60 157 P Pn 02 40 55.8 +0.2
HIL01 **Al Amaaer** 7.99 132 P Pn 02 41 01.4 +0.4
NGAL **NGAL** 8.30 197 P Pn 02 41 05.7 +0.4
baz=198
SIRT **Sirnak** 8.39 42 Pn Pn 02 41 07.5 +1.0
DAT **Datca** 8.41 311 P Pn 02 41 05.6 -1.2
BRTR **Keskin Array B** 8.44 350 Pn Pn 02 41 08.5 +1.3
0.2nm,0.3s,baz=174,slow=16,SNR=4.4
BRTR LR LR 02 44 43.0
comp=Z,148nm,18.3s,baz=172,slow=40
GURO **Guroymak-BITLI** 8.95 35 Pn Pn 02 41 15.1 +0.8
LAST **Lasithi** 9.14 297 P Pn 02 41 15.6 -1.2
IDI **Anoyia** 9.64 297 Pn Pn 02 41 21.9 -1.7
2.4nm,0.3s,baz=69,slow=14,SNR=22
IDI Sn Sn 02 43 03.2 -8.3
2.3nm,0.3s,baz=24,slow=23,SNR=6.9
IDI **Anoyia** 9.64 297 P Pn 02 41 22.5 -1.1
IDI **Anoyia** 9.64 297 Pn Pn 02 41 23.5 -0.1
THR3 **Thira Island,** 9.72 304 P Pn 02 41 22.4 -2.3
AFFS **`Afif** 10.01 136 P Pn 02 41 17.5 -11
IMMV **Iera Moni Meta** 10.40 296 P Pn 02 41 33.7 -0.2
ANKY **Antikythira Is** 11.05 297 P Pn 02 41 42.4 -0.5
VLI **Veliai** 11.64 300 P Pn 02 41 47.8 -3.2
ITM **Ithomi** 12.57 301 Pn Pn 02 42 02.8 -0.9
AGG **Agios Georgios** 13.13 309 Pn Pn 02 42 12.6 +1.2
KBN **Korca** 14.99 312 P P 02 42 43.1 +0.9
KBN IAmb IAmb 02 42 51.4
comp=Z,11nm,1.1s
MLR **Muntele Rosu** 15.90 335 Pn Pn 02 42 49.1 +0.5
comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=3.1
MLR **Muntele Rosu** 15.90 335 Pn Pn 02 42 48.4 -0.2
SCTE **Santa Cesarea** 16.25 307 Pn Pn 02 42 52.8 -0.3
SCTE IAmb IAmb 02 43 18.6
comp=Z,24nm,1.0s
TIP **Timpagrande** 17.10 302 Pn Pn 02 43 01.5 -2.3
DIVS **Divibare** 17.57 321 P Pn 02 43 10.0 +0.3
BURAR **Bucovina Array** 17.99 337 P P 02 43 16.8 +1.6
RAFF **Raffo Rosso** 18.34 294 Pn 02 43 19.5 +0.3
RAFF IAmb IAmb 02 43 34.2
comp=Z,13nm,1.0s
SGRT **San Giovanni R** 18.86 309 P Pn 02 43 26.6 +1.1
SGRT IAmb IAmb 02 43 29.2
comp=Z,20nm,1.2s
LTVH **Ltavrtes, Hu** 19.04 331 *e*P Pn 02 43 27.6 0.0
MORH **Mrgy, Hungar** 19.69 323 *e*P Pn 02 43 35.8 +0.5
GEYT **Alibeck** 19.73 65 P P 02 43 35.1 +0.7
comp=Z,0.3nm,0.3s,baz=202,slow=0.8,SNR=5.5
GEYT LR LR 02 51 55.4
comp=Z,34nm,19.7s,baz=50,slow=39
AKASG **Malin Array Be** 19.83 348 P P 02 43 35.0 -0.3
comp=Z,0.3nm,0.3s,baz=160,slow=9.3,SNR=5.4
KOVH **Kovagotottos** 19.89 322 *e*P Pn 02 43 37.2 -0.5
KOLS **Kolonicke sedl** 20.15 334 *e*P Pn 02 43 41.2 +0.5
PSZ **Piszkesteto** 20.32 329 *e*P P 02 43 41.0 +0.2
PSZ **Piszkesteto** 20.32 329 P P 02 43 41.8 +1.0
PSZ IAmb IAmb 02 43 43.0
comp=Z,9.4nm,0.7s
CSKK **Cskako** 20.68 325 *e*P Pn 02 43 51.1 +4.1
MPLH **Magyarpolny** 20.90 324 *e*P Pn 02 43 50.2 +0.6
ATD **Arta Tunnel** 20.93 159 LR LR 02 50 57.9
comp=Z,50nm,19.7s,baz=220,slow=34
NRCA **Norcia** 21.08 309 P P 02 43 50.2 +1.1
NRCA IAmb IAmb 02 43 55.9
comp=Z,17nm,1.2s
VYHS **Vyhne** 21.22 328 *e*P P 02 43 51.9 +1.4
LANS **Liptovska Anna** 21.44 330 *e*P P 02 43 55.5 +2.7
MODS **Modra-Piesok** 21.86 326 *e*P P 02 43 59.6 +2.3
SMOL **Smolenice** 21.88 327 *e*P P 02 43 59.0 +1.4
SOKA **Soboth** 21.91 320 *e*P P 02 44 00.2 +2.2
comp=Z,8.6nm,1.2s
ARSA **Arzberg** 21.99 322 *e*P P 02 43 59.2 +0.4
comp=Z,4.6nm,0.9s
JAVC **Velka Javorina** 22.02 327 *e*P P 02 44 00.1 +1.1
WSAR **Wadi Sarin** 22.12 106 LR LR 02 54 23.4
comp=Z,132nm,18.1s,baz=296,slow=42
OJC **Ojcow** 22.14 333 P P 02 44 01.7 +1.5
OJC IAmb IAmb 02 44 03.8
comp=Z,8.7nm,1.0s
CONA **Conrad Observa** 22.25 323 *e*P P 02 44 02.7 +1.0
comp=Z,6.2nm,1.2s
MORC **Moravsky Berou** 22.74 329 P P 02 44 07.1 +0.3
MORC IAmb IAmb 02 44 08.4
comp=Z,9.2nm,1.4s
MORC **Moravsky Berou** 22.74 329 *e*P P 02 44 07.0 +0.3
KRUC **Moravsky** 22.75 326 *e*P P 02 44 07.2 +0.3
BELG **Belogornoye** 22.79 20 P P 02 44 07.3 +0.2
comp=Z,67nm,1.0s,baz=252,slow=1.0,SNR=19
BELG LR LR 02 53 09.2
comp=Z,24nm,21.3s,baz=255,slow=37
VRAC **Vranov** 22.83 327 P P 02 44 07.2 -0.5
comp=Z,1.4nm,0.5s,baz=141,slow=7.8,SNR=3.5
VRAC LR LR 02 55 05.1
comp=Z,24nm,21.1s,baz=148,slow=42

VRAC **Vranov** 22.83 327 *e*P P 02 44 08.1 +0.4
MOA **Molln** 23.03 322 *e*P P 02 44 11.6 +1.8
comp=Z,5.5nm,1.5s
KRLC **Kraliky** 23.30 329 *e*P P 02 44 13.0 +0.5
KRLC *e*pP sP 02 44 20.5 +0.5
CKRC **Cesky Krumlov** 23.62 324 *e*P P 02 44 16.4 +0.7
CKRC *e*x x 02 44 24.7
DPC **Dobruska-Polom** 23.70 329 *e*P P 02 44 16.0 -0.4
DPC *e*pP sP 02 44 24.0 0.0
OSTC **Ostas** 23.89 329 *e*P P 02 44 19.1 +0.8
GEC2 **GERESS Array S** 23.95 323 P P 02 44 19.9 +1.0
GERES **GERESS Array B** 23.95 323 P P 02 44 19.1 +0.2
comp=Z,4.1nm,0.7s,baz=125,slow=8.0,SNR=32
GERES **GERESS Array B** 23.95 323 P P 02 44 20.0 +1.2
UPC **Upice** 23.95 328 *e*P P 02 44 19.3 +0.5
CHVC **Chvalec** 23.99 329 *e*P P 02 44 19.5 +0.3
CHVC *e*x x 02 44 25.6
WTTA **Wattenberg** 24.15 318 *e*P P 02 44 21.7 +0.8
comp=Z,20nm,1.5s
KHC **Kasperske Hory** 24.19 323 *e*P P 02 44 19.4 -1.7
KHC *e*pP sP 02 44 29.8 +1.1
WATA **Walderalm** 24.23 318 *e*P P 02 44 22.8 +1.2
comp=Z,3.6nm,0.9s
PRU **Pruhonice** 24.27 326 *e*P P 02 44 22.1 +0.4
SQTA **Sankt Quirin** 24.38 317 *e*P P 02 44 24.1 +1.2
comp=Z,12nm,1.8s
MOTA **Moosalm** 24.50 317 *e*P P 02 44 24.4 +0.4
comp=Z,7.7nm,1.3s
DAVOX **Davos/Dischmat** 24.94 315 LR LR 02 57 20.4
comp=Z,32nm,18.5s,baz=128,slow=44
BRG **Berggiesshubel** 25.15 327 *e*P P 02 44 30.5 +0.8
BRG Amp 02 44 31.5
comp=Z,7.6nm,0.8s
AKTO **Aktyubinsk** 25.38 35 P P 02 44 32.0 +0.3
comp=Z,6.3nm,0.8s,baz=234,slow=10,SNR=24
AKTO LR LR 02 56 00.2
comp=Z,28nm,19.9s,baz=207,slow=40
ABKAR **Akbulak array** 25.65 39 P P 02 44 34.0 -0.2
ABKAR IAmb IAmb 02 44 35.5
comp=Z,3.2nm,1.1s
CLL **Collm** 25.88 327 *i*P P 02 44 36.7 +0.4
comp=Z,8.0nm,1.1s
CLL *i*sP sP 02 44 43.6 -0.4
BNI **Bardonecchia** 26.23 309 P P 02 44 43.2 +3.5
SENIN **Lac Senin/Sane** 26.34 313 P P 02 44 40.9 0.0
FINES **FINESS Array B** 30.68 351 P P 02 45 19.6 +0.7
comp=Z,0.7nm,0.7s,baz=153,slow=9.4,SNR=3.6
FINES **FINESS Array B** 30.68 351 P P 02 45 18.4 -0.6
ESDC **Sonseca Array** 32.90 296 P P 02 45 38.9 0.0
comp=Z,1.6nm,0.9s,baz=86,slow=9.1,SNR=8.7
TORD **Torodi Ar. Bea** 35.92 247 LR LR 03 02 37.8
comp=Z,40nm,18.2s,baz=55,slow=39
KURBB **Kurchatov Arra** 37.11 46 P P 02 46 15.2 +0.2
comp=Z,0.3nm,0.6s,baz=264,slow=8.5,SNR=4.3
ARCES **ARCESS Array B** 38.60 354 P P 02 46 26.7 -0.6
comp=Z,1.9nm,0.9s,baz=165,slow=11,SNR=4.8
MKAR **Makanchi Array** 38.88 53 P P 02 46 29.8 -0.1
comp=Z,0.5nm,0.8s,baz=264,slow=8.0,SNR=1.9
MKAR **Makanchi Array** 38.88 53 P P 02 46 30.0 0.0
KOWA **Kowa** 39.79 254 P P 02 46 37.6 -0.3
KOWA IAmb IAmb 02 47 04.5
comp=Z,4.9nm,1.2s
ZALV **Zalesovo Beam** 41.65 42 P P 02 46 52.8 +0.1
comp=Z,0.6nm,0.4s,baz=291,slow=9.1,SNR=1.5
ZALV LR LR 03 06 49.8
comp=Z,21nm,21.1s,baz=16,slow=40
WMQ **Urumqi** 42.56 58 *e*P P 02 47 02.3 +1.8
NRIK **Noril'sk** 47.85 22 P P 02 47 40.5 -1.6
comp=Z,3.3nm,0.7s,baz=270,slow=6.0,SNR=2.2
NRIK **Noril'sk** 47.85 22 P P 02 47 40.7 -1.4
SONM **Songino Array** 55.17 51 P P 02 48 37.2 -0.1
comp=Z,0.4nm,0.4s,baz=292,slow=4.5,SNR=5.4
HHC **Hu-ho-hao-te** 60.44 58 *e*P P 02 49 15.3 +0.9
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,50nm,4.8s
KSRS **Korea Array** 73.47 56 P P 02 50 37.0 -0.2
comp=Z,1.3nm,0.8s,baz=271,slow=7.3,SNR=4.6

IDC 30 02:39:07.4±2.1, 4°.69N×122°.44E, h610km±24km, mb3.0/5, mb1 3.2/5, mb1mx2.7/49, mbtmp4.1/5, Error ellipse: s-maj=180.7km s-min=13.0km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.14**	**155**	P	P	02 44 03.1	-0.8
	2.4nm,0.4s,baz=331,slow=11,SNR=82						
WRA				ScP	ScP	02 49 47.8	+0.6
	0.4nm,0.8s,baz=340,slow=3.2,SNR=2.2						
ASAR	**Alice Springs**	**30.33**	**159**	P	P	02 44 31.9	+0.4
	0.9nm,0.3s,baz=340,slow=7.1,SNR=21						
ASAR				ScP	ScP	02 49 55.6	-1.9
	0.4nm,0.8s,baz=353,slow=4.6,SNR=4.5						
STKA	**Stephens Creek**	**40.69**	**155**	P	P	02 45 57.1	+0.4
	1.0nm,0.3s,baz=341,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**54.37**	**327**	P	P	02 47 38.6	+0.2
	0.7nm,0.3s,baz=123,slow=7.6,SNR=14						
KURBB	**Kurchatov Arra**	**58.66**	**329**	P	P	02 48 07.2	-0.4
	1.0nm,0.7s,baz=123,slow=7.2,SNR=7.5						

*NEIC **30** 02:40:31.4±0.7, 19°.8N±0°.1×64°.61W±0°.09, h38km±56km, Error ellipse: s-maj=16.1km s-min=10.2km az=210.0*
*RSPR **30** 02:40:32.4, 19°.81N×64°.61W, h35km±13km, MD3.3/8*
ISC 30 02:40:20.3±2.5, 20°.1N±0°.1×64°.47W±0°.06, h13km, n32, σ0$89/41, 7C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VGBI	**Virgin Gorda,**	**1.60**	**178**	*e*P	**Pg**	**02 40 53.3**	**+2.2**
VGBI	**Virgin Gorda,**	**1.60**	**178**	*e*S	**Sb**	**02 41 09.1**	**-0.8**
VGBI	**Virgin Gorda,**	**1.60**	**178**		**Pg**	**02 40 53.3**	**+2.2**
VGBI					**Sb**	**02 41 09.1**	**-0.8**
TBVI	**Tortola**	**1.68**	**185**	*e*P	**Pg**	**02 40 53.8**	**+1.2**
TBVI	**Tortola**	**1.68**	**185**	*e*S	**Sb**	**02 41 11.3**	**-0.9**
TBVI	**Tortola**	**1.68**	**185**		**Pg**	**02 40 53.8**	**+1.2**
TBVI					**Sb**	**02 41 11.3**	**-0.9**
STVI	**Saint Thomas**	**1.80**	**195**	*e*P	**Pg**	**02 40 55.4**	**+0.5**
STVI	**Saint Thomas**	**1.80**	**195**	*e*S	**Sn**	**02 41 13.2**	**-0.5**
STVI	**Saint Thomas**	**1.80**	**195**		**Pg**	**02 40 55.4**	**+0.5**
STVI					**Sn**	**02 41 13.2**	**-0.5**
CUPR	**Culebra, Puert**	**1.94**	**203**	*e*P	**Pg**	**02 40 57.3**	**-0.2**
CUPR	**Culebra, Puert**	**1.94**	**203**	*e*S	**Sn**	**02 41 16.8**	**-0.4**
CUPR	**Culebra, Puert**	**1.94**	**203**		**Pg**	**02 40 57.3**	**-0.2**
CUPR					**Sn**	**02 41 16.8**	**-0.4**
MTP	**Monte Pirata**	**2.24**	**207**	*e*P	**Pb**	**02 41 01.6**	**+0.9**
MTP	**Monte Pirata**	**2.24**	**207**	*e*S	**Sn**	**02 41 24.5**	**-0.1**
MTP	**Monte Pirata**	**2.24**	**207**		**Pb**	**02 41 01.6**	**+0.9**
MTP					**Sn**	**02 41 24.5**	**-0.1**
HUMP	**Col San Antoni**	**2.34**	**214**	*e*P	**Pb**	**02 41 03.2**	**+0.8**
HUMP	**Col San Antoni**	**2.34**	**214**	*e*S	**Sn**	**02 41 26.9**	**-0.3**
HUMP	**Col San Antoni**	**2.34**	**214**		**Pb**	**02 41 03.2**	**+0.8**
HUMP					**Sn**	**02 41 26.9**	**-0.3**
CDVI	**St. Croix**	**2.35**	**187**	*e*P	**Pg**	**02 41 03.9**	**-1.5**
CDVI	**St. Croix**	**2.35**	**187**	*e*S	**Sn**	**02 41 27.7**	**+0.3**
CDVI	**St. Croix**	**2.35**	**187**		**Pg**	**02 41 03.9**	**-1.5**
CDVI					**Sn**	**02 41 27.7**	**+0.3**
SJG	**San Juan**	**2.54**	**219**	Pn	**Pb**	**02 41 04.5**	**-1.2**
SJG				Sn	**Sn**	**02 41 31.8**	**-0.1**
SJG				IAML		02 41 47.9	
	26nm,0.7s						
SJG				IAML		02 41 49.2	
	30nm,0.6s						
IGPR	**InterUniversit**	**2.63**	**216**	*e*P	**Pb**	**02 41 07.2**	**-0.1**
IGPR	**InterUniversit**	**2.63**	**216**	*e*S	**Sn**	**02 41 34.4**	**+0.3**
IGPR	**InterUniversit**	**2.63**	**216**		**Sn**	**02 41 34.4**	**+0.3**
CELP	**Cerrillos**	**2.83**	**225**	*e*P	**Pb**	**02 41 10.3**	**-0.4**
CELP	**Cerrillos**	**2.83**	**225**	*e*S	**Sn**	**02 41 39.7**	**+0.4**
CELP	**Cerrillos**	**2.83**	**225**		**Pb**	**02 41 10.3**	**-0.4**
CELP					**Sn**	**02 41 39.7**	**+0.4**
BPA	**Boggy Peak**	**3.92**	**140**	*e*P	**Pb**	**02 41 28.2**	**-1.1**
ANBD	**Bethesda, Anti**	**3.97**	**139**	*e*P	**Pb**	**02 41 29.6**	**-0.6**
CBE	**Ff, Capester**	**4.84**	**145**	*e*P	**Pn**	**02 41 33.0**	**0.0**
DSLB	**Salisbury**	**5.47**	**147**	*e*P	**Pn**	**02 41 42.6**	**+1.0**

*IDC **30** 02:57:44.0±6.1, 31°.53S×68°.78W, h83km±46km, mb3.3/3, mb1 3.6/7, mb1mx3.4/25, mbtmp3.7/7, ML3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/10, Error ellipse: s-maj=52.8km s-min=29.1km az=34.0*
ISC 30 02:57:46.7±1.2, 31°.4S±0°.1×68°.5W±0°.1, h100km, n11, σ1$41/12, mb3.4/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**8.72**	**358**	P	**Pn**	**02 59 51.1**	**+0.7**
	1.0nm,0.3s,baz=174,slow=9.6,SNR=7.9						
LVC				S	**Sn**	**03 01 25.6**	**-1.7**
	0.4nm,0.3s,baz=6.9,slow=19,SNR=1.1						
CPUP	**Villa Florida**	**11.01**	**66**	P	**Pn**	**03 00 21.8**	**+0.6**
	0.2nm,0.3s,baz=249,slow=16,SNR=3.3						
CPUP				S	**Sn**	**03 02 20.7**	**-1.7**
	0.2nm,0.3s,baz=215,slow=5.4,SNR=2.0						
LPAZ	**La Paz**	**15.01**	**1**	P	**Pn**	**03 01 15.1**	**+0.9**
	0.0nm,0.3s,baz=193,slow=9.7,SNR=1.8						
SIV	**San Ignacio**	**16.74**	**26**	P	**P**	**03 01 37.5**	**+1.6**
	0.1nm,0.3s,baz=221,slow=12,SNR=8.1						
SJG	**San Juan**	**49.24**	**3**	LR	LR	03 31 46.6	
	comp=Z,26nm,18.4s,baz=88,slow=41						
TXAR	**Lajitas Array**	**69.00**	**327**	P	**P**	**03 08 40.9**	**-0.6**
	0.3nm,0.6s,baz=152,slow=8.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**80.50**	**68**	P	**P**	**03 09 49.1**	**+1.0**
	1.3nm,0.7s,baz=283,slow=7.1,SNR=11						
PDAR	**Pinedale Array**	**82.83**	**331**	P	**P**	**03 10 00.6**	**+0.6**
	0.2nm,0.4s,baz=146,slow=5.5,SNR=2.6						
WRA	**Warramunga Arr**	**124.47**	**206**	PKP	**PKPdf**	**03 16 32.4**	**-2.4**
	0.4nm,0.6s,baz=169,slow=1.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**150.41**	**32**	PKPbc	**PKPbc**	**03 17 25.5**	**-0.5**
	1.7nm,0.5s,baz=280,slow=3.9,SNR=7.1						
MKAR	**Makanchi Array**	**152.80**	**47**	PKPab	**PKPab**	**03 17 42.8**	**-0.2**
	0.4nm,0.5s,baz=278,slow=4.3,SNR=4.2						

*NEIC **30** 03:18:58.8±0.2, 18°.3N±0°.2×67°.30W±0°.05, h89km±3km, Error ellipse: s-maj=32.7km s-min=5.1km az=189.0*
RSPR 30 03:18:59.0, 18°.31N×67°.30W, h90km, MD2.5/5, 1C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.18**	**295**	*e*P	Pn	03 19 11.5	-0.4
IDE	**Isla Desecheo**	**0.18**	**295**	*e*S	Sn	03 19 21.1	-0.4
IDE	**Isla Desecheo**	**0.18**	**295**		Pn	03 19 11.5	-0.4
IDE					Sn	03 19 21.1	-0.4
AGPR	**Aguadilla, PR**	**0.24**	**49**	*e*P	Pn	03 19 11.7	-0.5
AGPR	**Aguadilla, PR**	**0.24**	**49**	*e*S	Sn	03 19 21.6	-0.3
AGPR	**Aguadilla, PR**	**0.24**	**49**		Pn	03 19 11.7	-0.5
AGPR					Sn	03 19 21.6	-0.3
AGPR	**Aguadilla, PR**	**0.24**	**49**	IAML		03 19 41.4	
	comp=N,61nm,1.9s						
AGPR				IAML		03 19 42.9	
	comp=E,53nm,2.1s						
LSP	**Las Mesas**	**0.24**	**123**	*e*P	Pn	03 19 11.8	-0.4
LSP	**Las Mesas**	**0.24**	**123**	*e*S	Sn	03 19 21.7	-0.3
LSP	**Las Mesas**	**0.24**	**123**		Pn	03 19 11.8	-0.4
LSP					Sn	03 19 21.7	-0.3
AOPR	**Arecibo Observ**	**0.52**	**86**	*e*P	Pn	03 19 13.3	-0.6
AOPR	**Arecibo Observ**	**0.52**	**86**	*e*S	Sn	03 19 24.6	-0.5
AOPR	**Arecibo Observ**	**0.52**	**86**		Pn	03 19 13.3	-0.6
AOPR					Sn	03 19 24.6	-0.5
AOPR	**Arecibo Observ**	**0.52**	**86**	IAML		03 19 25.1	
	comp=N,40nm,0.2s						
CELP	**Cerrillos**	**0.73**	**109**	*e*P	Pn	03 19 15.4	-0.4
CELP	**Cerrillos**	**0.73**	**109**	*e*S	Sn	03 19 27.9	-0.4
CELP	**Cerrillos**	**0.73**	**109**		Pn	03 19 15.4	-0.4
CELP					Sn	03 19 27.9	-0.4
EMPR	**Esperanza - Ma**	**0.75**	**77**	*e*S	Sn	03 19 28.5	-0.1
EMPR	**Esperanza - Ma**	**0.75**	**77**		Sn	03 19 28.5	-0.1
CBYP	**Canovanas**	**1.37**	**91**	*e*P	Pn	03 19 22.3	-0.9
CBYP	**Canovanas**	**1.37**	**91**	*e*S	Sn	03 19 40.8	-0.8
CBYP	**Canovanas**	**1.37**	**91**		Pn	03 19 22.3	-0.9
CBYP					Sn	03 19 40.8	-0.8
CBYP	**Canovanas**	**1.37**	**91**	IAML		03 19 42.1	
	comp=E,19nm,0.2s						
CBYP				IAML		03 20 23.8	
	comp=N,17nm,0.2s						
HUMP	**Col San Antoni**	**1.39**	**97**	*e*P	Pn	03 19 23.1	-0.3
HUMP	**Col San Antoni**	**1.39**	**97**	*e*S	Sn	03 19 41.3	-0.5
HUMP	**Col San Antoni**	**1.39**	**97**		Pn	03 19 23.1	-0.3
HUMP					Sn	03 19 41.3	-0.5
MTP	**Monte Pirata**	**1.68**	**97**	*e*P	Pn	03 19 26.7	-0.3
MTP	**Monte Pirata**	**1.68**	**97**	*e*S	Sn	03 19 47.9	-0.4
MTP	**Monte Pirata**	**1.68**	**97**		Pn	03 19 26.7	-0.3
MTP					Sn	03 19 47.9	-0.4
MTP	**Monte Pirata**	**1.68**	**97**	IAML		03 20 33.6	
	comp=E,14nm,1.4s						

*RSPR **30** 03:19:49.3, 19°.66N×65°.41W, h81km±9km, MD3.0/4*
NEIC 30 03:19:48.0±0.3, 19°.77N±0°.05×65°.4W±0°.2, h38km±47km, 1C-3D, Error ellipse: s-maj=29.8km s-min=3.7km az=103.0, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.46**	**174**	*e*P	Pn	03 20 12.3	+0.3
CUPR	**Culebra, Puert**	**1.46**	**174**	*e*S	Sn	03 20 29.7	-0.1
CUPR	**Culebra, Puert**	**1.46**	**174**		Pn	03 20 12.3	+0.3
CUPR					Sn	03 20 29.7	-0.1
CBYP	**Canovanas**	**1.55**	**195**	*e*P	Pn	03 20 13.4	+0.3
CBYP	**Canovanas**	**1.55**	**195**	*e*S	Sn	03 20 31.9	0.0
CBYP	**Canovanas**	**1.55**	**195**		Pn	03 20 13.4	+0.3
CBYP					Sn	03 20 31.9	0.0
GCPR	**Guaynabo City**	**1.58**	**203**	Pn	Pn	03 20 13.3	-0.2
GCPR				IAML		03 21 01.9	
	comp=E,11nm,2.0s						
HUMP	**Col San Antoni**	**1.67**	**194**	*e*P	Pn	03 20 14.7	0.0
HUMP	**Col San Antoni**	**1.67**	**194**	*e*S	Sn	03 20 35.0	0.0
HUMP	**Col San Antoni**	**1.67**	**194**		Pn	03 20 14.7	0.0
HUMP					Sn	03 20 35.0	0.0
HUMP	**Col San Antoni**	**1.67**	**194**	IAML		03 20 36.0	
	comp=E,10nm,2.0s						
HUMP				IAML		03 20 38.6	
	comp=N,12nm,1.6s						
MTP	**Monte Pirata**	**1.67**	**184**	*e*P	Pn	03 20 14.7	-0.1
MTP	**Monte Pirata**	**1.67**	**184**	*e*S	Sn	03 20 34.9	0.0
MTP	**Monte Pirata**	**1.67**	**184**		Pn	03 20 14.7	-0.1
MTP	**Monte Pirata**	**1.67**	**184**		Sn	03 20 34.9	0.0
MTP	**Monte Pirata**	**1.67**	**184**	IAML		03 20 39.9	
	comp=N,16nm,2.5s						

*NEIC **30** 03:22:51.9±1.2, 52°.05N±0°.03×168°.70W±0°.07, h31km±11km, ML3.1/25(AEIC), Error ellipse: s-maj=7.0km s-min=2.1km az=54.0*
*AEIC **30** 03:22:51.4±1.0

0.5nm,0.5s,baz=17,slow=7.3,SNR=4.2

*IDC **30** 03:23:55.6±1.2,52°.26N×168°.85W,h0km,mb3.8/13, mb1 4.0/14,mb1mx3.7/49,mbtmp3.8/14,ML3.2/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/43,Error ellipse: s-maj=32.2km s-min=18.8km az=168.0*

*AEIC **30** 03:23:57.7±1.9,52°.03N±0°.03×168°.68W±0°.08,h34km±4km, ML3.1/13,mb3.9/16(NEIC),Error ellipse: s-maj=7.1km s-min=4.7km az=73.0*

*NEIC **30** 03:23:58.1±1.7,52°.06N±0°.04×168°.67W±0°.06,h22km±4km, Error ellipse: s-maj=6.1km s-min=4.4km az=139.0*

ISC 30 03:23:58.8±0.7,52°.12N±0°.07×168°.67W±0°.06,h26km,n55, σ1§17/55,mb3.8/12,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.86**	**353**		**Pn**	**03 24 14.8**	**-0.4**
NIKH	**Nikolski High**	**0.86**	**353**		**Sn**	**03 24 28.2**	**+1.2**
NIKH	**Nikolski High**	**0.86**	**353**		**Sb**	**03 24 27.3**	**+1.0**
OKTU	**Okmok Mt. Tuli**	**1.32**	**17**		**Pn**	**03 24 21.4**	**-0.3**
OKER	**Okmok East Rim**	**1.39**	**15**		**Pn**	**03 24 23.0**	**+0.5**
OKRE	**Okmok R'deer P**	**1.44**	**12**		**Pn**	**03 24 23.6**	**+0.4**
MSW	**Makushin Switc**	**2.13**	**32**		**Pn**	**03 24 33.3**	**+0.6**
UNV	**Unalaska Valle**	**2.17**	**36**		**Pn**	**03 24 33.4**	**+0.3**
UNV					**Sn**	**03 25 00.7**	**+1.5**
AKUT	**Akutan**	**2.67**	**40**	Pn	**Pn**	**03 24 40.6**	**+0.6**
AKUT				Sn	**Sn**	**03 25 12.1**	**+0.6**
KOFP	**Korovin Flat P**	**3.34**	**275**		**Pn**	**03 24 50.2**	**+0.8**
ATKA	**Atka Island**	**3.41**	**274**		**Pn**	**03 24 48.8**	**-1.3**
GSTR	**Great Sitkin T**	**4.56**	**273**	Pn	**Pn**	**03 25 06.5**	**+0.5**
ADK	**Adak**	**4.96**	**270**		**Pn**	**03 25 11.5**	**0.0**
SPIA	**Saint Paul Isl**	**5.15**	**350**	Pn	**Pn**	**03 25 14.3**	**+0.2**
KDAK	**Kodiak Island**	**10.84**	**52**	Pn	**Pn**	**03 26 31.6**	**-0.4**
	0.8nm,0.3s,baz=256,slow=8.3,SNR=7.0						
KDAK				Sn	**Sn**	**03 28 26.9**	**-5.4**
	0.1nm,0.3s,baz=276,slow=18,SNR=2.2						
KDAK	**Kodiak Island**	**10.84**	**52**		**Pn**	**03 26 32.2**	**+0.2**
SCM	**Sheep Creek Mo**	**15.09**	**42**	Pn	**Pn**	**03 27 28.2**	**-1.8**
BPAW	**Bear Paw Mtn.**	**15.14**	**31**	Pn	**Pn**	**03 27 31.3**	**+0.6**
BPAW				IAmb	IAmb	03 27 35.5	
	comp=Z,3.1nm,0.8s						
KLU	**Klutina**	**15.51**	**44**	Pn	**Pn**	**03 27 33.9**	**-1.7**
KLU				IAmb	IAmb	03 27 39.1	
	comp=Z,4.6nm,0.6s						
KAIM	**Kayak Island**	**15.57**	**50**		**Pn**	**03 27 37.2**	**+0.9**
MLY	**Manley**	**15.88**	**29**	P	**P**	**03 27 43.5**	**-0.3**
MLY				IAmb	IAmb	03 27 45.3	
	comp=Z,9.7nm,0.9s						
N25K	**Chitina, Valde**	**16.13**	**45**	Pn	**Pn**	**03 27 43.0**	**-0.6**
I23K	**Minto, Yukon-K**	**16.37**	**30**		**Pn**	**03 27 47.0**	**+0.5**
I23K				IAmb	IAmb	03 27 50.1	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**16.41**	**46**	Pn	**Pn**	**03 27 44.9**	**-2.2**
GLB				IAmb	IAmb	03 27 58.7	
	comp=Z,8.6nm,1.3s						
VRDI	**Verde Repeater**	**16.49**	**47**	Pn	**Pn**	**03 27 47.2**	**-1.0**
VRDI				IAmb	IAmb	03 27 58.8	
	comp=Z,18nm,1.8s						
ILAR	**Eielson Array**	**16.92**	**33**	Pn	**Pn**	**03 27 51.6**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=6.9						
SCRK	**Sand Creek**	**17.51**	**38**		**Pn**	**03 28 00.1**	**-0.8**
COLD	**Coldfoot**	**17.66**	**24**	Pn	**P**	**03 28 04.3**	**+0.9**
K27K	**Chicken**	**18.26**	**39**	Pn	**Pn**	**03 28 10.5**	**+0.5**
EGAK	**Eagle**	**18.97**	**37**	P	**P**	**03 28 17.9**	**+0.1**
BMAR	**Burnt Mountain**	**19.34**	**28**	Pn	**Pn**	**03 28 22.8**	**-0.3**
PEA0B	**Petropavlovsk-**	**20.34**	**286**	P	**P**	**03 28 32.4**	**-0.4**
PEA0B				IAmb	IAmb	03 28 33.1	
	comp=Z,6.5nm,0.5s						
PETK	**Petropavlovsk-**	**20.34**	**286**	P	**P**	**03 28 32.3**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=93,slow=13,SNR=14						
PETK	**Petropavlovsk-**	**20.34**	**286**	P	**P**	**03 28 32.2**	**-0.7**
INK	**Inuvik**	**23.32**	**33**	P	**P**	**03 29 03.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=249,slow=10,SNR=4.7						
INK				LR	LR	03 39 30.8	
	comp=Z,50nm,19.6s,baz=205,slow=40						
INK	**Inuvik**	**23.32**	**33**	P	**P**	**03 29 03.4**	**-1.0**
INK				IAmb	IAmb	03 29 16.1	
	comp=Z,4.2nm,1.1s						
H11S1	**WAKE ISLAND Hy**	**38.71**	**219**	T	T	04 13 21.6	
	baz=22,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.73**	**219**	T	T	04 13 14.5	
	baz=22,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.73**	**219**	T	T	04 13 12.1	
	baz=22						
PDAR	**Pinedale Array**	**40.03**	**79**	P	**P**	**03 31 33.4**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=316,slow=2.5,SNR=4.5						
PDAR	**Pinedale Array**	**40.03**	**79**	P	**P**	**03 31 32.0**	**+0.4**
KSRS	**Korea Array**	**45.86**	**277**	P	**P**	**03 32 19.2**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=52,slow=8.3,SNR=4.0						
KSRS				LR	LR	03 52 21.2	
	comp=Z,13nm,19.9s,baz=148,slow=37						
SONM	**Songino Array**	**51.80**	**301**	P	**P**	**03 33 03.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=48,slow=6.4,SNR=3.6						
SONM	**Songino Array**	**51.80**	**301**	P	**P**	**03 33 04.0**	**-0.2**
TXAR	**Lajitas Array**	**52.32**	**89**	P	**P**	**03 33 09.9**	**+1.7**
	comp=Z,0.3nm,0.9s,baz=293,slow=7.7,SNR=2.6						
TXAR	**Lajitas Array**	**52.32**	**89**	P	**P**	**03 33 08.9**	**+0.7**
ARCES	**ARCESS Array B**	**58.22**	**354**	P	**P**	**03 33 49.6**	**-0.4**
	comp=Z,3.2nm,0.9s,baz=6,3,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**64.29**	**314**	P	**P**	**03 34 31.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=55,slow=7.0,SNR=4.8						
MKAR	**Makanchi Array**	**64.29**	**314**	P	**P**	**03 34 30.5**	**-1.0**
FINES	**FINESS Array B**	**66.18**	**352**	P	**P**	**03 34 43.3**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=0.8,slow=9.7,SNR=8.3						
FINES	**FINESS Array B**	**66.18**	**352**	P	**P**	**03 34 43.5**	**+0.1**
NOA	**NORSAR Array B**	**67.19**	**0**	P	**P**	**03 34 50.2**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=1.6,slow=6.5,SNR=3.3						
AKASG	**Malin Array Be**	**76.44**	**348**	P	**P**	**03 35 45.3**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=13,slow=5.7,SNR=3.6						
ESDC	**Sonseca Array**	**87.62**	**12**	P	**P**	**03 36 45.7**	**+1.2**
	comp=Z,0.5nm,1.0s,baz=5,7,slow=5.2,SNR=2.5						
ASAR	**Alice Springs**	**90.57**	**231**	P	**P**	**03 36 58.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=28,slow=4.4,SNR=2.4						

TAP 30 03:50:08.8,24°.09N×121°.71E,h9km,ML2.1,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.10**	**309**	P	Pg	03 50 11.7	+0.4
	baz=307						
ETL				S	Sg	03 50 13.6	+0.4
	baz=307						
TWD	**Chiawan**	**0.11**	**263**	P	Pg	03 50 11.7	+0.3
	baz=272						
TWD				S	Sg	03 50 13.6	+0.4
	baz=272						
NACB	**Ninganchiao**	**0.14**	**307**	P	Pg	03 50 12.1	+0.3
	baz=306						
NACB				S	Sg	03 50 14.3	+0.4
	baz=306						
ETM	**Tongmen**	**0.24**	**238**	*eP*	Pg	03 50 13.9	+0.3
	baz=242						
ETM				*eS*	Sg	03 50 17.3	+0.5
	baz=242						
ETLH	**Xiulin Townshi**	**0.24**	**298**	*eP*	Pg	03 50 14.0	+0.3
	baz=298						
ETLH				*eS*	Sg	03 50 17.7	+0.7
	baz=298						
TEYL	**Yanliau Villag**	**0.25**	**205**	*eP*	Pg	03 50 13.9	+0.1
	baz=224						
EWUT	**Wuta**	**0.36**	**10**	*eP*	Pg	03 50 16.1	+0.3
	baz=7.0						
EWUT				*eS*	Sg	03 50 21.1	+0.6
	baz=7.0						
ESL	**Shilin**	**0.38**	**223**	*eP*	Pb	03 50 17.0	-0.7
	baz=233						
ESL				*eS*	Sb	03 50 22.8	-0.9
	baz=233						
WHF	**Hehuan Shan**	**0.41**	**277**	*eP*	Pg	03 50 17.3	+0.3
	baz=278						
WHF				*eS*	Sg	03 50 23.4	+1.0
	baz=278						
TEGC	**Jichi Village**	**0.41**	**203**	*eP*	Pb	03 50 18.0	-0.3
	baz=205						
NNSB	**Datong**	**0.45**	**318**	P	Pg	03 50 18.1	+0.5
	baz=316						
NNSB				S	Sg	03 50 24.4	+0.8
	baz=316						
NNSH	**Datong**	**0.45**	**318**	*eP*	Pg	03 50 18.2	+0.5
	baz=316						
NNSH				*eS*	Sg	03 50 24.4	+0.9
	baz=316						
FUSS	**Fushou**	**0.46**	**290**	*eP*	Pg	03 50 18.4	+0.6
	baz=290						
FUSS				*eS*	Sg	03 50 24.9	+1.1
	baz=290						
NNS	**Nan Shan**	**0.46**	**318**	*eP*	Pg	03 50 18.3	+0.4
	baz=317						
NNS				*eS*	Sg	03 50 24.7	+0.7
	baz=317						
CHGB	**Renai**	**0.49**	**266**	*eP*	Pg	03 50 19.1	+0.7
	baz=260						
CHGB				*eS*	Sg	03 50 26.0	+1.0
	baz=260						
OWD	**Renai**	**0.51**	**254**	*eP*	Pg	03 50 19.3	+0.6
	baz=257						
TWT	**Tachien**	**0.52**	**288**	*eP*	Pb	03 50 19.8	-0.4
	baz=287						
TWC	**Suao**	**0.53**	**14**	*eP*	Pg	03 50 19.4	+0.4
	baz=3.0						
TDCB	**Techi**	**0.53**	**288**	*eP*	Pb	03 50 20.2	-0.2
	baz=288						
TDCB				*eS*	Sb	03 50 27.3	-1.0
	baz=288						
NDS	**Dongshan**	**0.54**	**0**	*eP*	Pg	03 50 19.7	+0.4
	baz=356						
NDS				*eS*	Sb	03 50 27.3	-1.0
	baz=356						
NDT	**Datong Townshi**	**0.54**	**340**	*eP*	Pg	03 50 19.8	+0.5
	baz=335						
ENTT	**Nioudou**	**0.56**	**346**	*eP*	Pg	03 50 19.9	+0.3
	baz=343						
ENTT				*eS*	Sg	03 50 27.8	+0.7
	baz=343						
TWE	**Neicheng**	**0.63**	**356**	*eP*	Pg	03 50 21.3	+0.3
	baz=353						
YHNB	**Yeheng**	**0.65**	**332**	*eP*	Pb	03 50 21.9	-0.5
	baz=328						
NSK	**Sanguang**	**0.67**	**331**	*eP*	Pb	03 50 22.4	-0.3
	baz=328						
EHY	**Hungye**	**0.69**	**212**	*eP*	Pb	03 50 22.6	-0.3
	baz=214						
NWLT	**Wulai**	**0.71**	**344**	*eP*	Pg	03 50 22.8	+0.4
	baz=342						
NWLT				*eS*	Sg	03 50 32.4	+0.7
	baz=342						
WHP	**Taichung City**	**0.72**	**285**	*eS*	Sb	03 50 33.4	-0.4
	baz=285						
WCS	**Beigang Elemen**	**0.73**	**267**	*eP*	Pg	03 50 23.2	+0.3
	baz=269						
SSLB	**Suanglung**	**0.76**	**247**	*eP*	Pg	03 50 23.7	+0.3
	baz=259						
SSLB				*eS*	Sb	03 50 34.6	0.0
	baz=259						
SMLT	**Sun Moon Lake**	**0.77**	**254**	*eP*	Pb	03 50 24.7	+0.2
	baz=262						
TYC	**Yuchr**	**0.81**	**257**	*eP*	Pb	03 50 25.3	+0.4
	baz=259						
TIPB	**Shuangxi**	**0.88**	**7**	*eP*	Pb	03 50 26.2	-0.1
	baz=352						

TAP 30 03:50:17.9,23°.00N×121°.31E,h11km,ML2.5,B,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.02**	**196**	P	Pg	03 50 19.7	-0.3
	baz=195						
EDH				S	Sg	03 50 21.3	-0.1
	baz=195						
CHKT	**Chengkung**	**0.11**	**26**	P	Pg	03 50 21.0	+0.1
	baz=29						
CHKT				S	Sg	03 50 23.6	+0.6
	baz=29						
ECS	**Chishang**	**0.13**	**319**	*eP*	Pg	03 50 21.3	+0.1
	baz=319						
LONT	**Longtian**	**0.19**	**242**	P	Pg	03 50 21.9	-0.2
	baz=241						
FULB	**Fuli**	**0.20**	**356**	*eP*	Pg	03 50 22.1	-0.2
	baz=355						
TWGBT	**Beinan**	**0.28**	**230**	*eP*	Pg	03 50 23.5	-0.2
	baz=230						
TWGBT				*eS*	Sg	03 50 28.4	+0.9
	baz=230						
TWG	**Pinlang**	**0.28**	**232**	*eP*	Pg	03 50 23.4	-0.3
	baz=230						
TWG				*eS*	Sg	03 50 28.4	+0.8
	baz=230						
TTN	**Taitung**	**0.28**	**212**	*eP*	Pg	03 50 23.8	0.0
	baz=210						
TTN				*eS*	Sb	03 50 28.9	-0.8
	baz=210						
ELDTW	**Lidau**	**0.33**	**305**	P	Pg	03 50 24.3	-0.4
	baz=305						
ELDTW				S	Sg	03 50 29.2	0.0
	baz=305						
ECBN	**Changbin**	**0.34**	**22**	*eP*	Pg	03 50 24.6	-0.2
	baz=189						
ECBN	**Changbin**	**0.34**	**22**	*eP*	Pg	03 50 24.6	-0.2
	baz=22						
ECBN				*eS*	Sg	03 50 30.4	+0.9
	baz=22						
EYUL	**Yuli**	**0.35**	**1**	*eP*	Pg	03 50 25.0	0.0
	baz=224						
EYUL	**Yuli**	**0.35**	**1**	*eP*	Pg	03 50 24.9	-0.1
	baz=1.0						
LDUT	**Ludao**	**0.35**	**156**	*eP*	Pg	03 50 24.6	-0.5
	baz=155						
LDUT				*eS*	Sg	03 50 30.2	+0.5
	baz=155						
TWF1	**Yuli**	**0.35**	**358**	*eP*	Pg	03 50 24.9	-0.2
	baz=223						
TWF1	**Yuli**	**0.35**	**358**	*eP*	Pg	03 50 24.9	-0.2
	baz=359						
TWF1				*eS*	Sg	03 50 30.7	+0.9
	baz=359						
YULB	**Yu-li**	**0.40**	**358**	*eP*	Pg	03 50 24.9	-0.9
	baz=226						
YULB	**Yu-li**	**0.40**	**358**	*eP*	Pg	03 50 25.3	-0.5
	baz=358						
YULB				*eS*	Sg	03 50 31.2	+0.1
	baz=358						
HGSD	**Ruisui**	**0.51**	**12**	*eP*	Pg	03 50 27.7	-0.1
	baz=11						
EHY	**Hungye**	**0.51**	**1**	*eP*	Pg	03 50 27.4	-0.5
	baz=1.0						
STYH	**Taoyuan**	**0.52**	**290**	P	Pg	03 50 27.6	-0.5
	baz=289						
STYH				S	Sg	03 50 35.2	+0.1
	baz=289						
STYT	**Tauyuan**	**0.54**	**288**	*eP*	Pg	03 50 27.9	-0.6
	baz=288						
STYT				*eS*	Sg	03 50 35.8	+0.2
	baz=288						
SLGT	**Liugui**	**0.61**	**270**	*eP*	Pg	03 50 29.5	-0.4
	baz=269						
SLGT				*eS*	Sg	03 50 38.3	+0.3
	baz=269						
SSD	**Sandimen**	**0.67**	**248**	*eP*	Pg	03 50 30.2	-0.8
	baz=247						
WTP	**Ta-pu**	**0.69**	**291**	*eP*	Pg	03 50 31.1	-0.2
	baz=291						
ALS	**Alishan**	**0.69**	**318**	*eP*	Pg	03 50 30.7	-0.8
	baz=318						
ALS				*eS*	Sg	03 50 41.1	+0.5
	baz=318						
TPUB	**Ta-pu**	**0.70**	**296**	*eP*	Pg	03 50 31.2	-0.3
	baz=295						
TPUB				*eS*	Sg	03 50 40.9	+0.3
	baz=295						
MASBT	**Mashibuluo**	**0.73**	**239**	*eP*	Pg	03 50 30.8	-1.3
	baz=238						
CHN1	**Nanshi**	**0.74**	**285**	*eP*	Pg	03 50 32.4	0.0
	baz=284						
CHN1				*eS*	Sb	03 50 44.2	+1.1
	baz=284						
EAST	**Anshuo**	**0.74**	**215**	*eP*	Pg	03 50 30.8	-1.6
	baz=214						
TWK	**Hsinying**	**0.80**	**290**	*eP*	Pg	03 50 33.2	-0.3
	baz=289						
SLIU	**Shizi**	**0.91**	**211**	*eP*	Pg	03 50 34.7	-0.8
	baz=211						

*IDC **30** 04:31:56.9±1.9,52°.21N×168°.93W,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.5/44,mbtmp3.5/7,MS3.2/4,Ms1 3.2/4, ms1mx2.7/45,Error ellipse: s-maj=50.7km s-min=24.9km az=6.0*

*NEIC **30** 04:32:01.6±1.5,52°.12N±0°.04×168°.70W±0°.03,h35km±6km, mb3.7/7,ML2.9/26(AEIC),Error ellipse: s-maj=6.4km s-min=1.6km az=158.0*

*AEIC **30** 04:32:01±1.9,52°.14N±0°.07×168°.68W±0°.06,h38km±7km, Error ellipse: s-maj=10.1km s-min=5.5km az=175.0*

ISC 30 04:32:00.1±3.2,52°.1N±0°.1×168°.71W±0°.06,h25km±22km, n43,σ1§47/41,mb3.7/5,MS3.3/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.86**	**354**		**Pn**	**04 32 16.5**	**-0.1**
NIKH					**Sn**	**04 32 29.3**	**+1.0**
OKSP	**Okmok Steeple**	**1.16**	**12**		**Pn**	**04 32 20.8**	**0.0**
OKSP					**Sb**	**04 32 36.3**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**1.33**	**18**		**Pn**	**04 32 23.6**	**+0.5**
OKRE	**Okmok R'deer P**	**1.44**	**13**		**Pn**	**04 32 25.3**	**+0.7**
MGOD	**Makushin Gods**	**2.01**	**33**		**Pn**	**04 32 33.4**	**+0.9**
MREP	**Makushin Rep't**	**2.07**	**34**		**Pn**	**04 32 33.8**	**+0.5**
MSW	**Makushin Switc**	**2.14**	**32**		**Pn**	**04 32 35.2**	**+1.0**
MSW					**Sn**	**04 33 01.6**	**+1.6**
UNV	**Unalaska Valle**	**2.18**	**37**		**Pn**	**04 32 35.4**	**+0.6**
UNV					**Sn**	**04 33 01.7**	**+0.8**
MTBL	**Makushin Table**	**2.22**	**33**		**Pn**	**04 32 36.5**	**+1.1**
AKBBA	**Akutan Broad B**	**2.59**	**39**		**Pn**	**04 32 41.2**	**+0.8**
AKUT	**Akutan**	**2.68**	**40**	Pn	**Pn**	**04 32 41.9**	**+0.2**
AKUT				Sn	**Sn**	**04 33 13.7**	**+0.4**
KOFP	**Korovin Flat P**	**3.32**	**275**		**Pn**	**04 32 51.8**	**+1.4**
ATKA	**Atka Island**	**3.38**	**274**		**Pn**	**04 32 51.5**	**+0.3**
GSTR	**Great Sitkin T**	**4.53**	**273**	Pn	**Pn**	**04 33 07.9**	**+0.8**
GSTR				Sn	**Sn**	**04 33 59.3**	**+0.4**
GSMY	**Great Sitkin M**	**4.53**	**272**		**Pn**	**04 33 07.9**	**+0.9**
ADK	**Adak**	**4.93**	**270**	Pn	**Pn**	**04 33 12.8**	**+0.2**
ADK				Sn	**Sn**	**04 34 08.1**	**-0.7**
SPIA	**Saint Paul Isl**	**5.14**	**351**		**Pn**	**04 33 17.9**	**+2.5**
KIMD	**Kanaga Island**	**5.29**	**269**		**Pn**	**04 33 18.1**	**+0.7**
CNBA	**Chernabura Isl**	**6.08**	**60**		**Pn**	**04 33 28.2**	**0.0**
KDAK	**Kodiak Island**	**10.86**	**52**	Pn	**Pn**	**04 34 32.8**	**-0.9**
	0.4nm,0.3s,baz=233,slow=2.7,SNR=8.2						
KDAK				Sn	**Sn**	**04 36 28.2**	**-5.9**
	0.0nm,0.3s,baz=164,slow=19,SNR=1.7						
SCM	**Sheep Creek Mo**	**15.10**	**42**	Pn	**Pn**	**04 35 30.0**	**-1.6**
SCM				IAmb	IAmb	04 35 36.4	
	comp=Z,6.0nm,0.7s						
KLU	**Klutina**	**15.53**	**44**	Pn	**Pn**	**04 35 34.8**	**-2.4**
KLU				IAmb	IAmb	04 35 36.4	
	comp=Z,3.8nm,1.0s						
M24K	**Tolsona, Glenn**	**15.71**	**42**	Pn	**Pn**	**04 35 38.5**	**-1.1**
GLB	**Gilahina Butte**	**16.43**	**46**	Pn	**Pn**	**04 35 47.5**	**-1.2**
GLB				IAmb	IAmb	04 36 01.1	
	comp=Z,5.0nm,1.3s						
VRDI	**Verde Repeater**	**16.50**	**47**	Pn	**Pn**	**04 35 47.9**	**-1.9**
ILAR	**Eielson Array**	**16.93**	**33**	Pn	**Pn**	**04 35 53.9**	**-1.1**
	baz=234,slow=11,SNR=4.1						
EGAK	**Eagle**	**18.99**	**38**		**Pn**	**04 36 20.6**	**+0.4**
EGAK				IAmb	IAmb	04 36 25.1	
	comp=Z,3.7nm,1.4s						
PETK	**Petropavlovsk-**	**20.32**	**286**	P	**P**	**04 36 33.3**	**-0.7**
	comp=Z,2.2nm,0.5s,baz=94,slow=13,SNR=6.4						
MA2	**Magadan**	**23.62**	**304**	LR	LR	04 46 57.2	
	comp=Z,23nm,18.4s,baz=189,slow=38						
BBB	**Bella Bella**	**24.68**	**74**	LR	LR	04 43 50.0	
	comp=Z,117nm,19.5s,baz=162,slow=29						
H11N2	**WAKE ISLAND Hy**	**37.52**	**220**	T	T	05 20 00.5	
	baz=26						
H11N3	**WAKE ISLAND Hy**	**37.52**	**220**	T	T	05 20 04.2	
	baz=26						
H11N1	**WAKE ISLAND Hy**	**37.53**	**220**	T	T	05 19 54.4	
	baz=26						
H11S1	**WAKE ISLAND Hy**	**38.70**	**219**	T	T	05 21 08.0	
	baz=23						
H11S2	**WAKE ISLAND Hy**	**38.72**	**219**	T	T	05 21 17.9	
	baz=23						
H11S3	**WAKE ISLAND Hy**	**38.72**	**219**	T	T	05 21 06.6	
	baz=23						
PDAR	**Pinedale Array**	**40.05**	**79**	P	**P**	**04 39 35.9**	**+2.6**
	comp=Z,0.1nm,0.4s,baz=285,slow=3.5,SNR=2.4						
TXAR	**Lajitas Array**	**52.34**	**89**	P	**P**	**04 41 10.6**	**+0.7**
	comp=Z,0.2nm,0.8s,baz=312,slow=5.4,SNR=2.4						
TXAR				LR	LR	05 01 33.6	
	comp=Z,20nm,18.3s,baz=0.0,slow=34						
SCHQ	**Schefferville**	**55.34**	**44**	LR	LR	05 06 07.8	
	comp=Z,32nm,21.9s,baz=108,slow=37						
MKAR	**Makanchi Array**	**64.27**	**314**	P	**P**	**04 42 32.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=27,slow=6.8,SNR=2.3						
FINES	**FINESS Array B**	**66.17**	**352**	P	**P**	**04 42 44.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=55,slow=7.2,SNR=4.9						
AKASG	**Malin Array Be**	**76.43**	**348**	P	**P**	**04 43 46.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=11,slow=5.5,SNR=4.0						
AKASG	**Malin Array Be**	**76.43**	**348**	IAmb	IAmb	04 43 47.3	
	comp=Z,2.2nm,1.5s						

*NEIC **30** 04:34:27.7±0.9,21°.3S±0°.1×178°.7W±0°.1,h528km±6km, mb4.3/15,Error ellipse: s-maj=22.3km s-min=13.0km az=128.0*

*NOU **30** 04:34:28.2,20°.92S×178°.75W,h590km,MLv4.0/14,Fiji Islands Region*

*IDC **30** 04:34:28.3±2.1,21°.47S×178°.73W,h532km±23km,mb3.1/7, mb1 3.4/9,mb1mx3.1/31,mbtmp4.0/9,Error ellipse: s-maj=31.5km s-min=17.2km az=143.0*

ISC 30 04:34:29.3±0.6,21°.2S±0°.1×178°.80W±0°.10,h550km,n43, σ1§36/41,mb3.8/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**319**	P	**P**	**04 35 55.2**	**-0.7**
	1.4nm,0.3s,baz=221,slow=0.9,SNR=7.9						
MSVF	**Nonsavu**	**4.58**	**319**	P	**P**	**04 35 55.3**	**-0.6**
MSVF	**Nonsavu**	**4.58**	**319**	P	**P**	**04 35 55.5**	**-0.4**
NIUE	**Niue**	**8.60**	**77**	P	**P**	**04 36 29.5**	**-3.6**
NIUE	**Niue**	**8.60**	**77**	P	**P**	**04 36 31.7**	**-1.4**
AFI	**Afiamalu**	**9.89**	**44**	P	P	04 36 41.1	-5.2
ONTNC	**Ouen Toro**	**13.75**	**263**	P	**P**	**04 37 24.6**	**-1.3**
ONTNC	**Ouen Toro**	**13.75**	**263**	P	**P**	**04 37 25.2**	**-0.7**
DZM	**Mont Dzumac**	**13.75**	**264**	P	**P**	**04 37 24.8**	**-1.2**
DZM	**Mont Dzumac**	**13.75**	**264**	P	**P**	**04 37 25.3**	**-0.7**
NOUC	**Port Laguerre**	**13.88**	**264**	P	**P**	**04 37 26.2**	**-1.1**
NFK	**Norfolk Island**	**14.30**	**234**	P	**P**	**04 37

WRH	Wood River Hil	88.68	13	P	P	04 46 24.5	+0.8
WRH				IAmb	IAmb	04 46 24.8	
comp=Z,2.2nm,0.7s							
ILAR	Eielson Array	89.20	13	P	P	04 46 25.9	-0.2
comp=Z,0.7nm,0.7s,baz=225,slow=5.2,SNR=5.2							
PDAR	Pinedale Array	90.01	44	P	P	04 46 31.6	+0.9
comp=Z,0.8nm,0.6s,baz=251,slow=2.8,SNR=8.1							
ARCES	ARCESS Array B	129.51	349	PKP	PKiKP	04 52 35.4	-0.5
comp=Z,1.5nm,0.8s,baz=83,slow=2.2,SNR=4.3							
ARCES	ARCESS Array B	129.51	349	PKPdf	PKiKP	04 52 35.7	-0.2
AKASG	Malin Array Be	143.29	330	PKP	PKPbc	04 52 59.5	+0.1
comp=Z,0.4nm,0.4s,baz=45,slow=4.2,SNR=5.7							
GERES	GERESS Array B	150.70	343	PKPbc	PKiKP	04 53 20.8	+0.8
comp=Z,0.5nm,0.5s,baz=20,slow=3.1,SNR=4.4							

*PGC **30** 04:42:14.7±0.3, 50°.26N×130°.31W, h10km, MLSn2.8/23, Mw3.4/23, 210km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **30** 04:42:16.8±2.3, 50°.48N×130°.06W, h0km, mb3.3/2, mb1 3.6/5, mb1mx3.4/46, mbtmp3.3/5, ML3.7/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/16, Error ellipse: s-maj=34.7km s-min=17.0km az=88.0*
ISC 30 04:42:15.0±2.7, 50°.38N±0°.05×130°.14W±0°.05, h10km±17km, n57, σ1°80/77, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.31	78	P	Pn	04 42 38.9	-0.4
HOLB				S	Sg	04 42 55.8	-1.3
PACB	Port Alice, BC	1.69	87	Pn	Pn	04 42 43.9	-0.7
PACB				Sn	Sn	04 43 04.8	-1.4
PHC	Port Hardy	1.76	78	Pn	Pn	04 42 45.5	0.0
PHC				Sn	Sn	04 43 07.1	-0.7
MAYB	Maynard	1.90	88	Pn	Pn	04 42 47.1	-0.5
MAYB				Sn	Sn	04 43 09.6	-1.9
EDB	Eliza Dome	2.01	103	Pn	Pn	04 42 48.0	-0.9
EDB				Sn	Sn	04 43 12.1	-2.0
HG4B	Hotspring	2.03	341	Pn	Pn	04 42 47.9	-1.3
HG4B				Sn	Sn	04 43 12.1	-2.5
TLCB	Telegraph Cove	2.12	84	Pn	Pn	04 42 50.6	+0.2
TLCB				Sn	Sn	04 43 16.0	-0.7
BBB	Bella Bella	2.21	34	Pn	Pn	04 42 52.0	+0.3
9.3nm,0.3s,baz=215,slow=6.1,SNR=220							
BBB				Sn	Sn	04 43 18.5	-0.5
5.4nm,0.3s,baz=319,slow=19,SNR=6.7							
BBB	Bella Bella	2.21	34	Pn	Pn	04 42 52.0	+0.3
WOSB	Woss	2.30	94	Pn	Pn	04 42 52.8	-0.2
BNB	Barry Inlet	2.42	336	Pn	Pn	04 42 52.8	-1.8
BNB				Sn	Sn	04 43 21.3	-3.0
NCRB	Newcastle Ridg	2.61	88	Pn	Pn	04 42 56.9	-0.5
GDR	Gold River	2.71	101	Pn	Pn	04 42 58.4	-0.2
HG1B	Mitchell Dam	2.84	335	Sn	Sn	04 43 33.1	-1.6
BUTB	Butedale	2.88	21	Pn	Pn	04 43 01.8	+0.7
BUTB				Sn	Sn	04 43 35.0	-0.8
BNKB	Banks Island	2.96	3	Pn	Pn	04 43 01.5	-0.5
BNKB				Sn	Sn	04 43 35.5	-2.1
MOBC	Moresby Island	3.00	338	Pn	Pn	04 43 01.8	-0.7
MOBC				Sn	Sn	04 43 37.3	-1.2
TOFB	Tofino	3.00	112	Pn	Pn	04 43 01.3	-1.3
TOFB				Sn	Sn	04 43 36.0	-2.6
CBB	Campbell River	3.09	95	Pn	Pn	04 43 03.6	-0.1
CBB				Sn	Sn	04 43 39.1	-1.5
BTB	Buttle Lake	3.12	105	Pn	Pn	04 43 04.2	-0.1
BTB				Sn	Sn	04 43 39.5	-2.3
BNAB	Bonilla	3.13	355	Pn	Pn	04 43 03.5	-0.8
BNAB				Sn	Sn	04 43 40.1	-1.6
DIB	Dawson Inlet,	3.18	334	Pn	Pn	04 43 03.8	-1.2
DIB				Sn	Sn	04 43 41.0	-1.9
H02S1	DAWSON INLET T	3.18	334	Pn	Pn	04 43 03.5	-1.5
H02S1				Sn	Sn	04 43 40.9	-2.0
HWKB	Hawksbury Isla	3.28	10	Pn	Pn	04 43 06.3	-0.2
HWKB				Sn	Sn	04 43 44.1	-1.5
OZB	Mount Ozzard	3.33	113	Pn	Pn	04 43 06.3	-0.9
OZB				Sn	Sn	04 43 43.8	-3.0
GRNB	Grenville Isla	3.48	2	Pn	Pn	04 43 09.1	0.0
GRNB				Sn	Sn	04 43 49.1	-1.2
TXB	Texada	3.74	98	Pn	Pn	04 43 11.5	-1.3
MGB	Mount Grey	3.80	109	Pn	Pn	04 43 12.5	-1.1
KITB	Kitimat	3.82	13	Pn	Pn	04 43 13.5	-0.3
KITB				Sn	Sn	04 43 56.2	-2.4
RUBB	Prince Rupert	3.96	359	Pn	Pn	04 43 15.1	-0.5
SHB	Sechelt	4.12	99	Pn	Pn	04 43 17.2	-0.8
SHB				Sn	Sn	04 44 03.2	-3.0
PFB	Port Renfrew	4.13	114	Sn	Sn	04 44 05.0	-1.5
NLLB	Nanaimo Lost L	4.15	104	Pn	Pn	04 43 17.0	-1.3
NLLB				Sn	Sn	04 44 03.6	-3.1
LIB	Langara Island	4.28	336	Pn	Pn	04 43 18.3	-1.7
WPB	Watts Point	4.53	97	Pn	Pn	04 43 22.8	-0.7
GOBB	Galiano Island	4.54	106	Pn	Pn	04 43 22.2	-1.4
GOBB				Sn	Sn	04 44 12.6	-3.8
HNBB	Haney	5.02	100	Pn	Pn	04 43 29.9	-0.3
MCW	Mount Constitu	5.05	107	Pn	Pn	04 43 30.1	-0.6
LLLB	Lillooet	5.28	84	Pn	Pn	04 43 33.2	-0.6
FSB	Fort Saint Jam	5.43	39	Pn	Pn	04 43 34.9	-1.0
FSB				Sn	Sn	04 44 35.8	-2.7
CMW	Cultus Mountai	5.59	107	Pn	Pn	04 43 37.5	-0.7
MBW	Mount Baker	5.59	103	Pn	Pn	04 43 36.6	-1.7
JCW	Jim Creek	5.80	109	Pn	Pn	04 43 39.7	-1.3
RPW	Rockport	5.95	106	Pn	Pn	04 43 41.4	-1.7
RPW				Sn	Sn	04 44 46.8	-4.5
NBC5	NorthernBC 5	8.40	29	Pn	Pn	04 44 16.1	-0.7
NBC5				Sn	Sn	04 45 45.8	-5.7
KDAK	Kodiak Island	15.06	308	LR	LR	04 50 08.3	
comp=Z,70nm,20.2s,baz=157,slow=31							
PDAR	Pinedale Array	16.04	110	Pn	P	04 46 06.4	+2.3
0.1nm,0.3s,baz=316,slow=12,SNR=5.1							
ILAR	Eielson Array	16.90	335	Pn	P	04 46 14.1	+0.7
baz=152,slow=9.5,SNR=4.6							
INK	Inuvik	18.06	356	LR	LR	04 53 42.9	
comp=Z,61nm,19.9s,baz=196,slow=38							
ANMO	Albuquerque	23.12	123	P	P	04 47 24.1	+2.9
0.5nm,0.6s,baz=304,slow=12,SNR=2.1							
ANMO				LR	LR	04 57 28.8	
comp=Z,33nm,19.7s,baz=306,slow=39							
TXAR	Lajitas Array	26.97	127	P	P	04 48 17.9	+3.3
0.5nm,1.0s,baz=335,slow=8.0,SNR=3.6							
H11N2	WAKE ISLAND Hy	57.86	262	T	T	05 54 44.5	
baz=42,slow=75,SNR=69							
H11N3	WAKE ISLAND Hy	57.87	262	T	T	05 54 40.2	
baz=42,slow=75,SNR=76							
H11N1	WAKE ISLAND Hy	57.88	262	T	T	05 54 48.2	
baz=42,slow=75,SNR=39							
H11S1	WAKE ISLAND Hy	58.89	261	T	T	05 55 55.9	
baz=42,slow=76,SNR=5.6							
H11S2	WAKE ISLAND Hy	58.90	261	T	T	05 55 55.9	
baz=42,slow=76,SNR=6.7							
H11S3	WAKE ISLAND Hy	58.91	261	T	T	05 55 57.5	
baz=42,slow=76,SNR=4.4							

*IDC **30** 04:48:00.5±0.9, 11°.17S×163°.14E, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.1/39, mbtmp4.2/13, ML4.2/3, MS3.6/10, Ms1 3.6/10, ms1mx3.4/31, Error ellipse: s-maj=24.6km s-min=19.1km az=102.0*
*NEIC **30** 04:48:05.4±1.9, 11°.21S±0°.08×163°.23E±0°.08, h31km±6km, mb4.4/17, Error ellipse: s-maj=13.6km s-min=9.2km az=215.0*
ISC 30 04:48:05.2±0.6, 11°.19S±0°.08×163°.22E±0°.07, h34km, n52, σ1°04/40, mb4.2/16, MS3.6/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.67	298	Pn	Pn	04 48 59.1	-0.4
109nm,0.3s,baz=198,slow=2.0,SNR=24							
HNR				Sn	Sn	04 49 43.5	+1.9
40nm,0.3s,baz=216,slow=19,SNR=2.0							
HNR				LR	LR	04 50 35.7	
comp=Z,989nm,19.3s,baz=120,slow=43							
HNR	Honiara	3.67	298	Pn	Pn	04 48 59.4	-0.2
HNR				Sn	Sn	04 49 43.0	+1.4
SANVU	Saraoutou	5.74	138	Pn	Pn	04 49 27.7	-0.3
SANVU				Sn	Sn	04 50 33.2	+0.5
DZM	Mont Dzumac	11.25	164	eLR	LR	04 53 19.0	
comp=Z,387nm,23.4s							
DZM	Mont Dzumac	11.25	164	Pn	Pn	04 50 44.1	+0.3
0.4nm,0.3s,baz=346,slow=4.2,SNR=2.0							
DZM	Mont Dzumac	11.25	164		Pn	04 50 43.5	-0.3
PINNC	Pines Island,	12.05	161	Pn	Pn	04 50 54.9	+0.2
FUNA	Funafuti	15.96	82	Pn	Pn	04 51 47.1	-0.3
EIDS	Eidsvold	18.19	218		P	04 52 15.7	+0.5
CTA	Charters Tower	18.56	239	P	Pn	04 52 20.0	+0.2
0.4nm,0.3s,baz=76,slow=14,SNR=6.5							
CTAO	Charters Tower	18.56	239		Pn	04 52 20.0	+0.2
CTAO				IAmb	IAmb	04 52 31.8	
comp=Z,34nm,1.1s							
ARMA	Armidale	21.95	208	P	P	04 52 57.3	+1.1
ARMA				IAmb	IAmb	04 53 01.5	
comp=Z,13nm,1.1s							
STKA	Stephens Creek	28.67	221	P	P	04 53 59.5	+0.4
comp=Z,5.8nm,0.8s,baz=32,slow=13,SNR=6.6							
STKA				LR	LR	05 04 31.8	
comp=Z,149nm,20.7s,baz=29,slow=35							
STKA	Stephens Creek	28.67	221	P	P	04 53 59.5	+0.4
WB0	Warramunga Arr	29.02	249	P	P	04 54 00.4	-1.9
WB0				IAmb	IAmb	04 54 05.4	
comp=Z,7.0nm,0.9s							
WRAB	Tennant Creek	29.10	249	P	P	04 54 01.1	-1.9
WRAB				IAmb	IAmb	04 54 10.6	
comp=Z,8.3nm,1.0s							
WB2	Warramunga Arr	29.10	249	P	P	04 54 01.6	-1.5
WB2				IAmb	IAmb	04 54 10.7	
comp=Z,5.2nm,0.9s							
WRA	Warramunga Arr	29.11	249	P	P	04 54 01.2	-1.9
comp=Z,3.8nm,0.8s,baz=81,slow=9.2,SNR=12							
WRA	Warramunga Arr	29.11	249	P	P	04 54 02.6	-0.5
URZ	Urewera	29.68	158	LR	LR	05 04 23.5	
comp=Z,123nm,18.5s,baz=347,slow=33							
H11S2	WAKE ISLAND Hy	29.70	7	T	T	05 25 12.8	
baz=188,slow=76,SNR=48							
H11S3	WAKE ISLAND Hy	29.70	7	T	T	05 25 12.6	
baz=188,slow=76,SNR=25							
H11S1	WAKE ISLAND Hy	29.71	7	T	T	05 25 12.7	
baz=188,slow=76,SNR=23							
ASAR	Alice Springs	30.52	242	P	P	04 54 13.8	-1.8
comp=Z,1.3nm,0.6s,baz=63,slow=10,SNR=25							
ASAR				LR	LR	05 06 08.0	
comp=Z,171nm,18.2s,baz=72,slow=36							
ASAR	Alice Springs	30.52	242	P	P	04 54 14.8	-0.8
GUMO	Guam	30.62	323	LR	LR	05 05 34.9	
comp=Z,120nm,19.8s,baz=159,slow=34							
H11N1	WAKE ISLAND Hy	30.92	7	T	T	05 26 37.1	
baz=188,slow=76,SNR=16							
H11N3	WAKE ISLAND Hy	30.93	7	T	T	05 26 45.4	
baz=188,slow=76,SNR=16							
H11N2	WAKE ISLAND Hy	30.94	7	T	T	05 26 45.9	
baz=188,slow=76,SNR=14							
BBOO	Buckleboo	32.94	225	P	P	04 54 36.9	+0.1
SIJI	Sorong	33.35	286	LR	LR	05 08 07.4	
comp=Z,128nm,21.2s,baz=164,slow=36							
KNRA	Kununurra	33.78	259	P	P	04 54 42.5	-1.7
RAR	Rarotonga	36.82	110	LR	LR	05 06 44.3	
comp=Z,89nm,21.6s,baz=283,slow=30							
LUWI	Luwuk	41.40	281	P	P	04 55 49.1	+0.4
PPT	Papeete	46.07	104	LR	LR	05 13 38.1	
comp=Z,33nm,19.3s,baz=310,slow=33							
PPT2	Papeete2	46.07	104	eLQ	LQ	05 07 32.5	
comp=Z,334nm,24.0s							
PPT2				eLR	LR	05 09 30.6	
comp=Z,92nm,25.0s							
TBI	Tubuai	46.58	112	eLR	LR	05 09 48.8	
comp=Z,118nm,28.5s							
MORW	Morawa	47.38	241	P	P	04 56 35.9	-0.5
MORW				IAmb	IAmb	04 56 45.3	
comp=Z,10.0nm,0.9s							
KSRS	Korea Array	58.63	327	P	P	04 57 59.2	+0.1
comp=Z,0.4nm,0.3s,baz=144,slow=6.8,SNR=2.8							
KSRS				LR	LR	05 21 12.6	
comp=Z,61nm,19.4s,baz=124,slow=34							
USRK	Ussuriysk Ar.	62.00	335	P	P	04 58 22.9	+0.9
comp=Z,1.9nm,0.7s,baz=173,slow=4.8,SNR=4.9							
USRK	Ussuriysk Ar.	62.00	335	P	P	04 58 22.7	+0.7
RPSI	Rantau Prapat	65.41	278	P	P	04 58 43.5	-1.7
RPSI				IAmb	IAmb	04 58 46.0	
comp=Z,7.3nm,1.1s							
VNDA	Vanda	66.32	180	P	P	04 58 52.0	+2.0
comp=Z,0.8nm,1.0s,baz=356,slow=9.8,SNR=4.1							
VNDA	Vanda	66.32	180	P	P	04 58 49.7	-0.2
VNDA				IAmb	IAmb	04 59 07.8	
comp=Z,2.1nm,1.0s							
SONM	Songino Array	77.34	325	P	P	04 59 57.7	+1.0
comp=Z,2.4nm,0.9s,baz=136,slow=4.4,SNR=7.9							
SONM	Songino Array	77.34	325	P	P	04 59 56.9	+0.3
SONM				IAmb	IAmb	05 00 13.5	
comp=Z,2.0nm,0.7s							
QSPA	South Pole Qui	78.81	180	P	P	05 00 05.2	+0.6
ILAR	Eielson Array	84.45	19	P	P	05 00 33.2	-0.9
comp=Z,0.3nm,0.5s,baz=218,slow=5.0,SNR=3.0							
NVAR	Mina Array Bea	88.02	50	P	P	05 00 53.2	+0.7
comp=Z,0.4nm,0.8s,baz=224,slow=5.3,SNR=4.0							
MKAR	Makanchi Array	91.94	317	P	P	05 01 10.0	-0.4
comp=Z,1.0nm,0.7s,baz=111,slow=5.2,SNR=7.6							
MKAR	Makanchi Array	91.94	317	P	P	05 01 09.9	-0.4
ZALV	Zalesovo Beam	92.23	325	LR	LR	05 41 16.8	
comp=Z,19nm,20.1s,baz=88,slow=35							

*IDC **30** 04:53:46.5±1.2, 11°.27S×163°.13E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/38, mbtmp4.1/9, ML4.7/1, MS3.8/2, Ms1 3.8/2, ms1mx3.0/26, Error ellipse: s-maj=33.4km s-min=22.5km az=132.0*
*NEIC **30** 04:53:52.0±1.2, 11°.3S±0°.1×163°.2E±0°.1, h37km±10km, mb4.5/14, Error ellipse: s-maj=19.8km s-min=11.1km az=219.0*
ISC 30 04:53:51.5±0.7, 11°.33S±0°.10×163°.15E±0°.09, h35km, n38, σ1°12/32, mb4.3/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.67	301	Pn	Pn	04 54 45.6	-0.3
62nm,0.3s,baz=197,slow=19,SNR=15							
HNR				Sn	Sn	04 55 30.5	+2.5
37nm,0.3s,baz=43,slow=21,SNR=2.1							
HNR	Honiara	3.67	301		Pn	04 54 46.0	+0.1
HNR					Sn	04 55 28.7	+0.7
SANVU	Saraoutou	5.68	137		Pn	04 55 14.2	+0.7
LIFNC	LIFOU	10.18	158	Pn	Pn	04 56 13.1	-2.1
DZM	Mont Dzumac	11.14	164	Pn	Pn	04 56 31.5	+3.1
0.9nm,0.3s,baz=330,slow=14,SNR=6.5							
DZM	Mont Dzumac	11.14	164		Pn	04 56 29.4	+1.0
PMG	Port Moresby	15.85	275	LR	LR	05 03 43.8	
comp=Z,207nm,18.7s,baz=108,slow=38							
PMG	Port Moresby	15.85	275	Pn	Pn	04 57 31.1	-1.0
PMG				IAmb	IAmb	04 57 41.1	
comp=Z,63nm,1.1s							
STKA	Stephens Creek	28.53	221	P	P	04 59 45.2	+1.3
comp=Z,5.6nm,0.8s,baz=27,slow=11,SNR=6.8							
STKA	Stephens Creek	28.53	221	P	P	04 59 43.9	0.0
WR0	Warramunga Arr	28.82	249	P	P	04 59 45.7	-1.0
WR0				IAmb	IAmb	04 59 58.3	
comp=Z,9.6nm,1.4s							
WB0	Warramunga Arr	28.91	250	P	P	04 59 46.9	-0.6
WB0				IAmb	IAmb	05 00 05.8	
comp=Z,18nm,1.4s							
WB2	Warramunga Arr	28.99	249	P	P	04 59 47.4	-0.9
WB2				IAmb	IAmb	04 59 57.3	
comp=Z,13nm,1.4s							
WRA	Warramunga Arr	29.00	249	P	P	04 59 47.7	-0.6
comp=Z,1.1nm,0.5s,baz=81,slow=9.2,SNR=12							
WRA	Warramunga Arr	29.00	249	P	P	04 59 47.2	-1.1
H11S2	WAKE ISLAND Hy	29.84	7	T	T	05 30 57.4	
baz=188,slow=76,SNR=24							
H11S3	WAKE ISLAND Hy	29.84	7	T	T	05 30 49.4	
baz=188,slow=76,SNR=22							
H11S1	WAKE ISLAND Hy	29.85	7	T	T	05 31 00.1	
baz=188,slow=76,SNR=22							
ASAR	Alice Springs	30.40	242	P	P	05 00 00.3	-0.4
comp=Z,1.6nm,0.5s,baz=64,slow=10,SNR=24							
H11N1	WAKE ISLAND Hy	31.06	7	T	T	05 32 27.6	
baz=189							
H11N3	WAKE ISLAND Hy	31.07	7	T	T	05 32 17.0	
baz=188							
H11N2	WAKE ISLAND Hy	31.08	7	T	T	05 32 30.6	
baz=188							
BBOO	Buckleboo	32.80	225	P	P	05 00 20.7	-1.0
KNRA	Kununurra	33.69	259	P	P	05 00 28.9	-0.7
FORT	Forrest	37.81	234	P	P	05 01 05.3	+0.5
PSA00	Pilbara Seismi	42.64	250	P	P	05 01 44.6	-0.3
USRK	Ussuriysk Ar.	62.09	335	P	P	05 04 07.8	-0.9
comp=Z,1.3nm,0.8s,baz=101,slow=5.1,SNR=2.0							
USRK	Ussuriysk Ar.	62.09	335	P	P	05 04 08.2	-0.6
SONM	Songino Array	77.41	325	P	P	05 05 43.1	-0.1
comp=Z,1.0nm,0.7s,baz=134,slow=6.2,SNR=5.1							
SONM	Songino Array	77.41	325	P	P	05 05 43.0	-0.2
SONM				IAmb	IAmb	05 05 46.6	
comp=Z,2.5nm,1.2s							
HDA	Harding Lake	84.34	20	P	P	05 06 19.6	0.0
HDA				IAmb	IAmb	05 06 30.1	
comp=Z,3.2nm,0.8s							
ILAR	Eielson Array	84.60	19	P	P	05 06 22.4	+1.5
comp=Z,0.5nm,0.8s,baz=215,slow=3.5,SNR=4.4							
ILAR	Eielson Array	84.60	19	P	P	05 06 20.9	-0.1
K27K	Chicken	85.76	21	P	P	05 06 28.0	+1.2
K27K				IAmb	IAmb	05 06 37.7	
comp=Z,2.4nm,1.0s							
EGAK	Eagle	86.53	21	P	P	05 06 30.9	+0.4
EGAK				IAmb	IAmb	05 06 44.0	
comp=Z,4.8nm,1.1s							
NVAR	Mina Array Bea	88.16	50	P	P	05 06 39.8	+0.4
comp=Z,0.2nm,0.3s,baz=217,slow=7.4,SNR=4.1							
INK	Inuvik	91.00	19	LR	LR	05 49 33.2	
comp=Z,80nm,18.5s,baz=132,slow=37							
MKAR	Makanchi Array	91.99	317	P	P	05 06 56.0	-0.8
comp=Z,1.2nm,0.7s,baz=106,slow=5.3,SNR=3.9							

*IDC **30** 04:56:40.8±1.6, 0°.91N×121°.28E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/41, mbtmp3.6/4, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/22, Error ellipse: s-maj=74.1km s-min=26.8km az=67.0*
*NEIC **30** 04:56:49.4±1.3, 0°.72N±0°.08×120°.72E±0°.07, h81km±9km, mb4.0/5, Error ellipse: s-maj=13.1km s-min=8.0km az=217.0*
*DJA **30** 04:56:50.4±0.6, 1°.N±8°.×12°.1E±°, h34km±17km, M4.1/6, MLv4.1/6*
ISC 30 04:56:48.3±0.9, 0°.62N±0°.06×120°.68E±0°.05, h55km, n21, σ2°10/23, mb3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	Tolitoli	0.50	12		Pn	04 57 01.6	+1.7
TOLI2				Sn	Sn	04 57 11.5	+3.3
MPSI	Mapaga	0.83	250	P	Pn	04 57 06.6	+2.6
MRSI	Marisa	1.27	96	P	Pn	04 57 11.8	+2.0
APSI	Ampana	1.80	148	P	Pn	04 57 18.6	+1.6
GTOI	Gorontalo	2.33	90	P	Pn	04 57 24.5	+0.3
LUWI	Luwuk	2.67	128	Pn	Pn	04 57 31.0	+2.2
LUWI				Sn	Sn	04 58 02.1	+2.2
TTSI	Tana Toraja	3.74	193	P	Pn	04 57 45.4	+1.8
BKB	Balikpapan	4.22	244	Pn	Pn	04 57 51.7	+1.5
BKB				Sn	Sn	04 58 38.9	+0.7
BKB	Balikpapan	4.22	244	P	Pn	04 57 51.7	+1.5
KAPI	Kappang	5.67	189	Pn	Pn	04 58 12.1	+2.0
5.0nm,0.3s,baz=14,slow=15,SNR=11							
WRAB	Tennant Creek	24.43	147	P	P	05 02 00.5	-1.5
WRAB				IAmb	IAmb	05 02 03.4	
comp=Z,12nm,1.2s							
WRA	Warramunga Arr	24.43	148	P	P	05 02 00.7	-1.3
comp=Z,0.6nm,0.7s,baz=322,slow=11,SNR=6.6							
WRA	Warramunga Arr	24.43	148	P	P	05 02 00.8	-1.2
WR0	Warramunga Arr	24.55	147	P	P	05 02 02.3	-0.9
WR0				IAmb	IAmb	05 02 10.9	
comp=Z,11nm,1.3s							
AS31	Alice Springs	27.35	153	P	P	05 02 24.4	-4.1
AS31				IAmb	IAmb	05 02 25.4	
comp=Z,2.9nm,1.4s							
ASAR	Alice Springs	27.35	153	P	P	05 02 27.8	-0.6
comp=Z,0.3nm,0.5s,baz=326,slow=8.0,SNR=2.3							
ASAR	Alice Springs	27.35	153	P	P	05 02 25.4	-3.0
PALK	Pallekele	40.40	280	P	P	05 04 19.1	-2.4
MKAR	Makanchi Array	56.88	329	P	P	05 06 27.8	+0.2
comp=Z,0.6nm,0.7s,baz=120,slow=8.5,SNR=4.2							
MKAR	Makanchi Array	56.88	329	P	P	05 06 27.0	-0.6
MSVF	Nonsavu	59.30	111	LR	LR	05 33 45.1	
comp=Z,76nm,18.3s,baz=163,slow=38							

*NEIC **30** 04:58:23.8±0.5, 19°.5N±0°.1×66°.29W±0°.04, h33km±17km, Error ellipse: s-maj=16.3km s-min=5.7km az=182.0*
*OSPL **30** 04:58:24.1±0.3, 19°.34N×66°.21W, h7km±3km, ML2.8*
*RSPR **30** 04:58:24.4, 19°.50N×66°.29W, h47km±8km, MD3.4/11*
ISC 30 04:58:18.9±2.0, 19°.54N±0°.09×66°.28W±0°.03, h19km, n52, σ0°77/60, 10C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	Esperanza - Ma	1.09	193	‖ eP	Pg	04 58 41.9	+1.9
EMPR	Esperanza - Ma	1.09	193	eS	Sg	04 58 55.5	+1.2
EMPR	Esperanza - Ma	1.09	193		Pg	04 58 41.9	+1.9
EMPR					Sg	04 58 55.5	+1.2
EMPR	Esperanza - Ma	1.09	193	IAML		04 59 03.7	
comp=N,797nm,0.9s							
GCPR	Guaynabo City	1.24	171	⇑ eP	Pg	04 58 43.6	+0.6
GCPR	Guaynabo City	1.24	171	eS	Sg	04 58 58.8	-0.5
GCPR	Guaynabo City	1.24	171		Pg	04 58 43.6	+0.6
GCPR					Sg	04 58 58.8	-0.5
GCPR	Guaynabo City	1.24	171	IAML		04 59 00.1	
comp=E,351nm,0.6s							
GCPR				IAML		04 59 00.5	
comp=N,376nm,0.8s							
AOPR	Arecibo Observ	1.27	201	‖ eP	Pg	04 58 43.8	+0.2
AOPR	Arecibo Observ	1.27	201	eS	Sg	04 58 59.8	-0.4
AOPR	Arecibo Observ	1.27	201		Pg	04 58 43.8	+0.2

IDE	**Isla Desecheo**	**1.61 225**	⇑*eP*	**Pg**	**04 58 49.2**	**-0.7**
IDE	**Isla Desecheo**	**1.61 225**	*eS*	**Sb**	**04 59 08.1**	**0.0**
IDE	**Isla Desecheo**	**1.61 225**		**Pg**	**04 58 49.2**	**-0.7**
IDE				**Sb**	**04 59 08.1**	**0.0**
ICMP	**Isla Caja de M**	**1.67 188**	Pn	**Pg**	**04 58 50.0**	**-0.9**
ICMP			IAML		04 59 25.3	
	comp=N,165nm,1.2s					
ICMP			IAML		04 59 25.9	
	comp=E,234nm,0.8s					
MLPR	**Magueyes Islan**	**1.73 205**	Pn	**Pb**	**04 58 49.9**	**-0.1**
MLPR			IAML		04 59 20.0	
	comp=E,161nm,0.7s					
STVI	**Saint Thomas**	**1.73 133**	⇑*eP*	**Pb**	**04 58 50.8**	**+0.8**
STVI	**Saint Thomas**	**1.73 133**	*eS*	**Sb**	**04 59 11.3**	**0.0**
STVI	**Saint Thomas**	**1.73 133**		**Pb**	**04 58 50.8**	**+0.8**
STVI				**Sb**	**04 59 11.3**	**0.0**
PCDR	**Punta Cana, DR**	**2.23 243**	*i* P	**Pb**	**04 58 59.5**	**+0.8**
PCDR			*eS*	**Sb**	**04 59 25.6**	**-0.3**
PCDR			IAML		04 59 30.5	
	comp=Z,144nm,1.0s					
SDDR	**Presa de Saban**	**4.76 264**		Pn	04 59 35.3	+5.5

*JMA **30** 05:25:01.5±0.1, 23°.53N×121°.57E, h33km±2km, M3.2*
*TAP **30** 05:25:02.5, 23°.57N×121°.54E, h28km, ML3.6, C*
ISC 30 05:25:02.5±0.9, 23°.56N±0°.02×121°.60E±0°.02, h30km±4km, n112, σ1§01/188, 6C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.16**	**340**	⇑*iP*	**Pb**	**05 25 08.1**	**-0.2**
TEGC	baz=349			S	**Sb**	**05 25 12.8**	**+0.5**
HGSD	**Ruisui**	**0.17**	**247**	⇑*iP*	**Pb**	**05 25 08.3**	**-0.2**
HGSD	baz=243			S	**Sb**	**05 25 12.3**	**-0.3**
EGFH	**Guangfu**	**0.19**	**305**	⇓*iP*	**Pb**	**05 25 08.3**	**-0.3**
EGFH	baz=312			*i* S	**Sb**	**05 25 12.2**	**-0.6**
EHY	**Hungye**	**0.26**	**258**	⇓*iP*	**Pb**	**05 25 08.6**	**-0.8**
EHY	baz=261			*i* S	**Sb**	**05 25 12.7**	**-1.5**
ECBN	**Changbin**	**0.28**	**209**	P	**Pb**	**05 25 09.8**	**+0.2**
ECBN	baz=193			S	**Sn**	**05 25 15.1**	**-0.5**
ESL	**Shilin**	**0.29**	**329**	⇓*iP*	**Pb**	**05 25 09.2**	**-0.8**
ESL	baz=329			S	**Sb**	**05 25 14.1**	**-0.9**
TEYL	**Yanliau Villag**	**0.31**	**0**	⇑*iP*	**Pn**	**05 25 10.6**	**-0.3**
TEYL	baz=15			*i* S	**Sn**	**05 25 17.1**	**+0.8**
YULB	**Yu-li**	**0.32**	**239**	⇓*iP*	**Pb**	**05 25 09.7**	**-0.6**
YULB	baz=244			S	**Sb**	**05 25 14.3**	**-1.3**
EYUL	**Yuli**	**0.33**	**230**	*eP*	**Pb**	**05 25 10.2**	**-0.3**
TWF1	**Yuli**	**0.34**	**233**	⇑*iP*	**Pb**	**05 25 10.1**	**-0.5**
TWF1	baz=240			*i* S	**Sb**	**05 25 15.3**	**-0.8**
ETM	**Tongmen**	**0.41**	**347**	P	**Pb**	**05 25 11.0**	**-0.6**
ETM	baz=344			S	**Sb**	**05 25 17.5**	**-0.3**
HWA	**Hwalien**	**0.41**	**1**	⇓P	**Pb**	**05 25 11.7**	**+0.1**
HWA	baz=14			*eS*	**Sn**	**05 25 19.0**	**-0.1**
FULB	**Fuli**	**0.46**	**218**	P	**Pb**	**05 25 12.4**	**+0.2**
FULB	baz=228			*eS*	**Sn**	**05 25 21.1**	**+1.0**
CHKT	**Chengkung**	**0.51**	**205**	⇓*iP*	**Pb**	**05 25 13.1**	**0.0**
CHKT	baz=183			*i* S	**Sn**	**05 25 21.7**	**+0.4**
TWD	**Chiawan**	**0.52**	**360**	⇓*iP*	**Pb**	**05 25 12.9**	**-0.3**
TWD	baz=352			S	**Sn**	**05 25 21.4**	**-0.1**
OWD	**Renai**	**0.55**	**316**	⇓*iP*	**Pb**	**05 25 12.9**	**-0.9**
OWD	baz=316			S	**Sb**	**05 25 19.8**	**-1.8**
ECS	**Chishang**	**0.58**	**217**	*eP*	**Pb**	**05 25 13.6**	**-0.6**
ECS	baz=226			*eS*	**Sn**	**05 25 24.7**	**+1.6**
ETL	**Fush Village**	**0.60**	**2**	*eP*	**Pb**	**05 25 13.9**	**-0.6**
NACB	**Ninganchiao**	**0.61**	**360**	⇓*iP*	**Pb**	**05 25 13.9**	**-0.9**
NACB	baz=352			S	**Sn**	**05 25 23.5**	**-0.4**
CHGB	**Renai**	**0.63**	**322**	⇓*iP*	**Pb**	**05 25 14.5**	**-0.7**
CHGB	baz=324			S	**Sb**	**05 25 23.6**	**-0.4**
SSLB	**Suanglung**	**0.63**	**291**	⇓*iP*	**Pb**	**05 25 13.9**	**-1.2**
SSLB	baz=298			S	**Sb**	**05 25 21.4**	**-2.4**
EDH	**Donghe**	**0.64**	**205**	P	**Pb**	**05 25 14.9**	**-0.4**
EDH	baz=188			S	**Sn**	**05 25 24.6**	**0.0**
ELDTW	**Lidau**	**0.65**	**235**	⇑*iP*	**Pb**	**05 25 14.1**	**-1.3**
ELDTW	baz=234			S	**Sb**	**05 25 21.7**	**-2.6**
ETLH	**Xiulin Townshi**	**0.65**	**351**	P	**Pb**	**05 25 14.4**	**-1.1**
ETLH	baz=352			*eS*	**Sb**	**05 25 23.4**	**-1.0**
WHF	**Hehuan Shan**	**0.66**	**332**	⇓*iP*	**Pb**	**05 25 14.6**	**-1.2**
WHF	baz=335			S	**Sb**	**05 25 24.6**	**-0.3**
WHYT	**Xinyi Township**	**0.70**	**281**	*eP*	**Pb**	**05 25 15.6**	**-0.6**
SMLT	**Sun Moon Lake**	**0.71**	**297**	⇓*iP*	**Pb**	**05 25 15.6**	**-0.9**
SMLT	baz=301			S	**Sb**	**05 25 24.7**	**-1.5**
ALS	**Alishan**	**0.73**	**266**	*eP*	**Pb**	**05 25 16.4**	**-0.5**
ALS	baz=272			*eS*	**Sb**	**05 25 25.2**	**-1.5**
WPL	**Puli Township**	**0.74**	**308**	*eP*	**Pb**	**05 25 15.8**	**-1.1**
FUSS	**Fushou**	**0.76**	**335**	⇓*iP*	**Pb**	**05 25 16.6**	**-0.8**
FUSS	baz=336			*eS*	**Sb**	**05 25 26.4**	**-1.1**
TYC	**Yuchr**	**0.76**	**297**	⇓*iP*	**Pb**	**05 25 16.2**	**-1.0**
TYC	baz=302			S	**Sb**	**05 25 26.7**	**-0.5**
LONT	**Longtian**	**0.78**	**214**	P	**Pb**	**05 25 16.0**	**-1.6**
LONT	baz=214			*eS*	**Sn**	**05 25 29.4**	**+1.4**
TWT	**Tachien**	**0.79**	**331**	*eP*	**Pb**	**05 25 16.2**	**-1.6**
TDCB	**Techi**	**0.80**	**330**	⇓*iP*	**Pb**	**05 25 17.3**	**-0.7**
TDCB	baz=330			S	**Sb**	**05 25 26.6**	**-1.9**
WCS	**Beigang Elemen**	**0.80**	**308**	P	**Pb**	**05 25 17.1**	**-0.8**
WJS	**Zhushan**	**0.84**	**288**	P	**Pn**	**05 25 18.7**	**+0.5**
WJS	baz=288			S	**Sb**	**05 25 29.4**	**-0.1**
CHN5	**Tsauling**	**0.84**	**273**	*eP*	**Pb**	**05 25 18.4**	**-0.3**
CHN5	baz=273			S	**Sb**	**05 25 28.9**	**-0.9**
STYH	**Taoyuan**	**0.85**	**243**	*eP*	**Pb**	**05 25 17.8**	**-0.9**
STYH	baz=241			*eS*	**Sb**	**05 25 28.8**	**-1.0**
STYT	**Tauyuan**	**0.87**	**243**	P	**Pb**	**05 25 18.3**	**-0.8**
STYT	baz=241			*eS*	**Sb**	**05 25 29.0**	**-1.4**
TWGBT	**Beinan**	**0.88**	**213**	*eP*	**Pb**	**05 25 16.9**	**-2.3**
TWG	**Pinlang**	**0.88**	**213**	*eP*	**Pb**	**05 25 17.1**	**-2.1**
NNSB	**Datong**	**0.89**	**347**	P	**Pb**	**05 25 18.3**	**-1.2**
NNSB	baz=348			*eS*	**Sb**	**05 25 28.3**	**-2.7**
LDUT	**Ludao**	**0.89**	**188**	P	**Pb**	**05 25 17.7**	**-1.7**
LDUT	baz=171			*eS*	**Sb**	**05 25 30.8**	**-0.2**
EWUT	**Wuta**	**0.90**	**11**	*eP*	**Pb**	**05 25 18.7**	**-0.8**
EWUT	baz=356			*eS*	**Sn**	**05 25 31.4**	**+0.5**
NNS	**Nan Shan**	**0.90**	**347**	P	**Pb**	**05 25 18.6**	**-1.1**
NNS	baz=348			S	**Sb**	**05 25 29.5**	**-1.9**
WNT1	**Nantou City**	**0.91**	**292**	*eP*	**Pn**	**05 25 20.0**	**+0.8**
WNT1	baz=292			*eS*	**Sn**	**05 25 32.0**	**+0.7**
TPUB	**Ta-pu**	**0.93**	**254**	P	**Pb**	**05 25 19.6**	**-0.4**
TPUB	baz=251			S	**Sb**	**05 25 31.7**	**-0.3**
WHP	**Taichung City**	**0.93**	**320**	P	**Pb**	**05 25 19.4**	**-0.8**
WHP	baz=324			*eS*	**Sb**	**05 25 31.6**	**-0.6**
WWF	**Wufeng**	**0.95**	**300**	*eP*	**Pn**	**05 25 20.6**	**+0.8**
WWF	baz=300			*eS*	**Sn**	**05 25 33.6**	**+1.3**
WTP	**Ta-pu**	**0.96**	**251**	*eP*	**Pb**	**05 25 20.0**	**-0.5**
WTP	baz=251			*eS*	**Sb**	**05 25 32.5**	**-0.4**
WGK	**Gukeng**	**0.96**	**278**	*eP*	**Pb**	**05 25 19.9**	**-0.7**
WGK	baz=278			S	**Sb**	**05 25 33.0**	**+0.1**
WDLH	**Douliu**	**0.98**	**278**	*eP*	**Pn**	**05 25 20.9**	**+0.8**
WDLH	baz=278			*eS*	**Sb**	**05 25 32.7**	**-0.7**
WYL	**Yuanlin Townsh**	**1.01**	**293**	*eS*	**Sn**	**05 25 35.2**	**+1.4**
CHN2	**Minshiung**	**1.03**	**269**	*eS*	**Sn**	**05 25 36.1**	**+1.9**
NDT	**Datong Townshi**	**1.04**	**356**	*eP*	**Pn**	**05 25 21.0**	**0.0**
SLGT	**Liugui**	**1.04**	**237**	P	**Pn**	**05 25 21.3**	**+0.3**
SLGT	baz=239			*eS*	**Sb**	**05 25 34.4**	**-0.8**
SGST	**Jiashian**	**1.05**	**243**	P	**Pn**	**05 25 20.8**	**-0.2**
SGST	baz=244			*eS*	**Sn**	**05 25 35.7**	**+1.0**
CHN1	**Nanshi**	**1.05**	**249**	P	**Pn**	**05 25 21.7**	**+0.6**
CHN1	baz=250			S	**Sn**	**05 25 36.1**	**+1.3**
TWK	**Hsinying**	**1.06**	**254**	P	**Pn**	**05 25 21.8**	**+0.5**
TWK	baz=255			S	**Sb**	**05 25 35.2**	**-0.6**
TWC	**Suao**	**1.07**	**12**	*eP*	**Pb**	**05 25 22.1**	**-0.3**
TWC	baz=358			*eS*	**Sn**	**05 25 37.1**	**+2.0**
NDS	**Dongshan**	**1.07**	**6**	*eP*	**Pn**	**05 25 21.9**	**+0.4**
NDS	baz=353			*eS*	**Sn**	**05 25 36.9**	**+1.6**
ENTT	**Nioudou**	**1.07**	**358**	*eP*	**Pn**	**05 25 21.3**	**-0.2**
CHY	**Chiayi**	**1.08**	**267**	*eP*	**Pn**	**05 25 20.9**	**-0.6**
CHY	baz=267			S	**Sn**	**05 25 36.6**	**+1.2**
WCHH	**Zhanghua**	**1.08**	**299**	*eP*	**Pb**	**05 25 22.5**	**-0.2**
WCHH	baz=298			*eS*	**Sn**	**05 25 36.7**	**+1.2**
TWQ1	**Liyutan**	**1.09**	**316**	P	**Pb**	**05 25 22.7**	**0.0**
TWQ1	baz=324			S	**Sn**	**05 25 37.9**	**+2.2**
WTK	**Tuku**	**1.12**	**277**	*eS*	**Sn**	**05 25 37.2**	**+0.9**
YHNB	**Yeheng**	**1.12**	**350**	P	**Pn**	**05 25 22.1**	**0.0**
YHNB	baz=349			*eS*	**Sb**	**05 25 35.8**	**-1.9**
ECL	**Taimali**	**1.13**	**212**	*eP*	**Pn**	**05 25 20.6**	**-1.5**
NSK	**Sanguang**	**1.13**	**349**	⇑*iP*	**Pn**	**05 25 22.5**	**+0.2**
NSK	baz=348			S	**Sb**	**05 25 36.5**	**-1.4**
NSY	**Sanyi**	**1.15**	**318**	P	**Pb**	**05 25 23.7**	**0.0**
NSY	baz=318			S	**Sn**	**05 25 39.8**	**+2.7**
WRL	**Guolierlin Hig**	**1.17**	**287**	*eP*	**Pb**	**05 25 24.3**	**+0.3**
WRL	baz=287			*eS*	**Sn**	**05 25 38.5**	**+0.8**
WDJ	**Dajia District**	**1.18**	**312**	*eP*	**Pb**	**05 25 24.3**	**+0.1**
WDJ	baz=311			*eS*	**Sb**	**05 25 39.7**	**+0.6**
NSTT	**Nanjuang**	**1.20**	**333**	P	**Pb**	**05 25 24.1**	**-0.5**
NSTT	baz=344			S	**Sn**	**05 25 38.5**	**+0.1**
SSD	**Sandimen**	**1.20**	**228**	*eP*	**Pn**	**05 25 23.1**	**-0.1**
SSD	baz=229			*eS*	**Sb**	**05 25 39.8**	**0.0**
LIOB	**Emei**	**1.20**	**334**	P	**Pb**	**05 25 24.3**	**-0.4**
LIOB	baz=345			*eS*	**Sb**	**05 25 40.0**	**+0.1**
NWLT	**Wulai**	**1.21**	**356**	*eP*	**Pn**	**05 25 23.3**	**-0.1**
SCST	**Cishan**	**1.22**	**237**	*eP*	**Pb**	**05 25 25.1**	**+0.2**
SCST	baz=253			*eS*	**Sb**	**05 25 42.0**	**+1.7**
NMLH	**Miaoli**	**1.22**	**323**	*eP*	**Pb**	**05 25 24.7**	**-0.2**
NMLH	baz=322			*eS*	**Sb**	**05 25 40.6**	**+0.3**
TSMG	**Majia**	**1.22**	**226**	*eP*	**Pb**	**05 25 24.4**	**-0.6**
TSMG	baz=226			*eS*	**Sb**	**05 25 40.5**	**+0.1**
ICHU	**Yijhu**	**1.23**	**261**	*eP*	**Pn**	**05 25 24.2**	**+0.7**
ICHU	baz=262			*eS*	**Sn**	**05 25 40.0**	**+0.9**
CHN8	**Yiju**	**1.29**	**261**	*eP*	**Pn**	**05 25 25.1**	**+0.7**
CHN8	baz=262			*eS*	**Sb**	**05 25 42.2**	**-0.2**
MASBT	**Mashibuluo**	**1.30**	**223**	*eP*	**Pn**	**05 25 24.3**	**-0.2**
MASBT	baz=225			*eS*	**Sb**	**05 25 42.2**	**-0.4**
NTC	**Toucheng**	**1.31**	**9**	*eP*	**Pb**	**05 25 26.0**	**-0.4**
EAST	**Anshuo**	**1.36**	**211**	*eP*	**Pn**	**05 25 24.8**	**-0.6**
NHDH	**Xindian Distri**	**1.40**	**357**	*eP*	**Pn**	**05 25 26.3**	**+0.4**
TWA	**Mucha**	**1.41**	**359**	*eP*	**Pn**	**05 25 27.0**	**+0.9**
TIPB	**Shuangxi**	**1.42**	**8**	*eP*	**Pn**	**05 25 26.7**	**+0.5**
TWB1	**Santiao Chiao**	**1.48**	**14**	*eP*	**Pb**	**05 25 28.4**	**-1.0**
SCZT	**Fangliau**	**1.49**	**217**	P	**Pb**	**05 25 29.1**	**-0.3**
SCZT	baz=208			*eS*	**Sn**	**05 25 46.7**	**+1.3**
NWF	**Wu-fen Shan**	**1.51**	**6**	*eP*	**Pn**	**05 25 28.1**	**+0.6**
WFSB	**Wu-fen Shan**	**1.51**	**6**	*eP*	**Pn**	**05 25 28.1**	**+0.6**
SLIU	**Shizi**	**1.53**	**209**	*eP*	**Pb**	**05 25 29.2**	**-1.0**
YOJ	**Yonaguni jima**	**1.57**	**55**	P	**Pb**	**05 25 29.6**	**-1.3**
YOJ				*eS*	**Sb**	**05 25 49.0**	**-1.4**
YOJ	**Yonaguni jima**	**1.57**	**55**	*eP*	**Pb**	**05 25 29.7**	**-1.3**
YM01	**YM01**	**1.58**	**359**	*eP*	**Pn**	**05 25 29.1**	**+0.7**
WLCH	**Liuqiu**	**1.65**	**223**	*eP*	**Pb**	**05 25 32.4**	**+0.2**
TWK1	**Hengchun**	**1.77**	**205**	*eP*	**Pb**	**05 25 33.0**	**-1.3**
TWKBT	**Hengchun**	**1.77**	**204**	*eP*	**Pb**	**05 25 33.1**	**-1.1**
TSEB	**Hengchuen, Pin**	**1.77**	**201**	*eP*	**Pn**	**05 25 32.5**	**+1.4**
WDGT	**Dungji**	**1.81**	**261**	*eP*	**Pn**	**05 25 31.6**	**+0.2**
PHUB	**P'eng-hu**	**1.86**	**269**	*eP*	**Pn**	**05 25 32.5**	**+0.3**
PHUB				*eS*	**Sn**	**05 25 53.5**	**-1.2**
PNG	**Penghu**	**1.87**	**271**	*eP*	**Pn**	**05 25 32.7**	**+0.3**
PNG	baz=272			*eS*	**Sn**	**05 25 54.3**	**-0.7**
VCHM	**Qimei**	**2.02**	**260**	*eP*	**Pn**	**05 25 34.5**	**+0.1**
HATJ	**Hateruma jima**	**2.08**	**76**	P	**Pn**	**05 25 36.2**	**+0.9**
HATJ				S	**Sn**	**05 26 01.0**	**+0.8**
IRIF	**Iriomote-Funau**	**2.10**	**68**	P	**Pn**	**05 25 37.1**	**+1.6**
IRIF				S	**Sn**	**05 26 02.3**	**+1.7**
JKRS	**Kuro-shima**	**2.31**	**73**	P	**Pn**	**05 25 40.2**	**+1.8**
JKRS				S	**Sn**	**05 26 07.1**	**+1.3**
JIJ	**Ishigaki jima**	**2.46**	**71**	S	**Sn**	**05 26 10.1**	**+0.5**
JISG	**Ishigakijimahi**	**2.68**	**67**	P	**Pn**	**05 25 44.4**	**+0.9**
JISG				S	**Sn**	**05 26 15.7**	**+0.7**
PTMZ	**Houxiangcun**	**2.70**	**304**	*eP*	**Pn**	**05 25 45.5**	**+1.7**
PTMZ	baz=303			*eS*	**Sn**	**05 26 14.8**	**-0.6**
MATB	**Ma-tsu**	**2.98**	**330**	*eP*	**Pn**	**05 25 47.4**	**-0.3**
JTJ	**Tarama**	**3.03**	**69**	S	**Sn**	**05 26 25.2**	**+1.5**
AXDP	**Jialang**	**3.57**	**293**	*eP*	**Pn**	**05 25 57.1**	**+1.3**
	baz=293						

*NOU **30** 05:35:44.9, 14°.34S×167°.32E, h113km, MLv5.0/10, Vanuatu Islands*
*IDC **30** 05:35:46.4±5.4, 14°.59S×167°.32E, h114km±48km, mb3.5/6, mb1 3.7/7, mb1mx3.5/35, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=37.0km s-min=31.8km az=149.0*
ISC 30 05:35:45.2±1.1, 14°.48S±0°.10×167°.3E±0°.2, h100km, n18, σ1§41/20, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.97**	**184**	P	**Pn**	**05 36 07.6**	**+2.3**
LIFNC	**LIFOU**	**6.27**	**180**	P	**Pn**	**05 37 16.3**	**+1.1**
KOUNC	**Koumac, New Ca**	**6.68**	**205**	P	**Pn**	**05 37 22.1**	**+1.4**
MARNC	**Mare, Loyalty**	**7.00**	**174**	P	**Pn**	**05 37 26.1**	**+0.9**
YATNC	**Mamie plateau,**	**7.55**	**183**	P	**Pn**	**05 37 33.7**	**+1.1**
DZM	**Mont Dzumac**	**7.59**	**186**	P	**Pn**	**05 37 33.4**	**0.0**
	12nm,0.3s,baz=36,slow=18,SNR=42						
DZM				S	**Sn**	**05 38 56.3**	**-1.5**
	1.4nm,0.3s,baz=302,slow=24,SNR=1.4						
DZM				LR	LR	05 40 09.5	
	comp=Z,112nm,18.2s,baz=292,slow=35						
DZM	**Mont Dzumac**	**7.59**	**186**	P	**Pn**	**05 37 34.2**	**+0.9**
NOUC	**Port Laguerre**	**7.64**	**187**	P	**Pn**	**05 37 35.3**	**+1.5**
ONTNC	**Ouen Toro**	**7.83**	**186**	P	**Pn**	**05 37 38.6**	**+2.2**
OUENC	**Ouen Island, N**	**7.91**	**183**	P	**Pn**	**05 37 39.5**	**+2.0**
PINNC	**Pines Island,**	**8.10**	**179**	P	**Pn**	**05 37 41.9**	**+1.9**
STKA	**Stephens Creek**	**29.15**	**229**	P	**P**	**05 41 37.5**	**+0.4**
	1.6nm,0.5s,baz=58,slow=9.7,SNR=4.9						
WRA	**Warramunga Arr**	**31.88**	**255**	P	**P**	**05 42 00.9**	**-0.4**
	0.4nm,0.8s,baz=82,slow=7.5,SNR=5.6						
ASAR	**Alice Springs**	**32.76**	**249**	P	**P**	**05 42 07.5**	**-1.5**
	0.5nm,0.5s,baz=79,slow=9.1,SNR=2.8						
ASAR				pP	**pP**	**05 42 32.0**	**+0.5**
	0.4nm,0.7s,baz=73,slow=10.0,SNR=1.9						
VNDA	**Vanda**	**63.11**	**181**	P	**P**	**05 46 00.3**	**-1.5**
	0.7nm,0.7s,baz=3.2,slow=6.6,SNR=3.6						
ILAR	**Eielson Array**	**86.29**	**18**	P	**P**	**05 48 14.9**	**-0.5**
	0.5nm,0.7s,baz=238,slow=6.0,SNR=5.6						
MKAR	**Makanchi Array**	**97.02**	**316**	P	**P**	**05 49 06.7**	**+0.9**
	0.3nm,0.7s,baz=91,slow=5.8,SNR=2.3						
ARCES	**ARCESS Array B**	**120.01**	**345**	PKP	**PKPdf**	**05 54 23.2**	**-0.4**
	3.1nm,0.9s,baz=35,slow=3.3,SNR=4.8						

IDC 30 06:56:46.7±2.3, 5°.15S×152°.03E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=184.4km s-min=28.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**228**	P	P	07 01 48.7	-0.9
	0.7nm,1.0s,baz=52,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**25.38**	**222**	P	P	07 02 16.3	+0.4
	0.9nm,0.9s,baz=55,slow=9.1,SNR=7.7						
ILAR	**Eielson Array**	**82.77**	**22**	P	P	07 09 12.6	+0.2
	0.4nm,0.7s,baz=243,slow=5.3,SNR=7.6						

*IDC **30** 07:15:05.1±5.3, 21°.54N×108°.76W, h0km, mb3.6/2, mb1 3.9/6, mb1mx3.7/40, mbtmp3.6/6, ML3.2/4, MS3.6/14, Ms1 3.6/14, ms1mx3.5/38, Error ellipse: s-maj=77.6km s-min=34.3km az=146.0*
*NEIC **30** 07:15:05.2±2.8, 21°.30N±0°.10×108°.8W±0°.1, h10km±2km, mb4.1/28, Error ellipse: s-maj=21.5km s-min=12.9km az=235.0*
ISC 30 07:15:04.2±1.7, 21°.3N±0°.1×108°.9W±0°.1, h10km, n69, σ1§87/58, MS3.5/11, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**2.55**	**337**	Pn	**Pn**	**07 15 43.3**	**-2.5**
SLBS				Sn	**Sn**	**07 16 14.4**	**-2.6**
LPIG	**La Paz**	**3.07**	**334**	Pn	**Pn**	**07 15 52.2**	**-0.6**
	5.1nm,0.3s,baz=157,slow=14,SNR=5.3						
LPIG				Sn	**Sn**	**07 16 25.3**	**-4.3**
	9.2nm,0.3s,baz=140,slow=17,SNR=8.0						
ZAIG	**Zacatecas**	**6.01**	**75**	Pn	**Pn**	**07 16 32.1**	**-1.5**
HPIG		**6.30**	**27**		**Pn**	**07 16 37.8**	**+0.3**
TX31	**Lajitas Ar. Si**	**9.25**	**29**		**Pn**	**07 17 18.4**	**+0.5**
TX32	**Lajitas Array**	**9.25**	**29**	Pn	**Pn**	**07 17 18.9**	**+1.0**
TXAR	**Lajitas Array**	**9.25**	**29**	Pn	**Pn**	**07 17 18.4**	**+0.5**
	0.1nm,0.3s,baz=207,slow=13,SNR=31						
TXAR				Lg	Lg	07 19 49.1	
	0.0nm,0.3s,baz=207,slow=30,SNR=1.3						
TXAR				LR	LR	07 20 52.8	
	comp=Z,522nm,18.1s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**9.25**	**29**	Pn	**Pn**	**07 17 18.6**	**+0.8**
319A	**Douglas**	**10.02**	**358**		**Pn**	**07 17 30.5**	**+2.1**
TLIG	**Tlapa**	**10.41**	**109**	Pn	**Pn**	**07 17 32.1**	**-1.6**
MNTX	**Cornudas Mount**	**10.79**	**16**	Pn	**Pn**	**07 17 40.1**	**+1.3**
TUC	**Tucson**	**11.07**	**351**	Pn	**Pn**	**07 17 45.0**	**+2.2**
121A	**Cookes Peak, D**	**11.20**	**5**	Pn	**Pn**	**07 17 46.9**	**+2.2**
113A	**Mohawk Valley,**	**12.20**	**340**		**Pn**	**07 17 59.5**	**+1.3**
GLA	**Glamis**	**12.82**	**337**	Pn	**Pn**	**07 18 09.4**	**+2.7**
LENM	**Lemitar**	**12.90**	**7**		**Pn**	**07 18 08.0**	**+0.1**
Y14A	**Wickenburg**	**13.09**	**345**		**Pn**	**07 18 13.0**	**+2.7**
X18A	**Snowflake**	**13.19**	**356**		**Pn**	**07 18 13.7**	**+1.9**
X16A	**Lo Mia Camp, P**	**13.24**	**351**		**Pn**	**07 18 15.3**	**+2.8**
ANMO	**Albuquerque**	**13.73**	**8**	Pn	**Pn**	**07 18 22.5**	**+3.3**
	0.1nm,0.3s,baz=172,slow=14,SNR=13						
ANMO				LR	LR	07 23 34.5	
	comp=Z,401nm,19.8s,baz=192,slow=38						

ANMO	Albuquerque	13.73	8	Pn	Pn	07 18 22.0	+2.7
ABTX	Abilene, Hawle	13.93	34		Pn	07 18 22.6	+0.9
PFO	Pinyon Flats O	13.96	333	LR	LR	07 23 29.4	
	comp=Z,378nm,19.2s,baz=150,slow=36						
WUAZ	Wupatki	14.31	352		Pn	07 18 29.9	+2.8
W13A	Hualapai Mount	14.41	343	Pn	Pn	07 18 27.6	-1.0
HKT	Hockley	14.54	51		Pn	07 18 30.0	-0.2
AMTX	Amarillo	14.91	24		Pn	07 18 37.0	+1.8
MVCO	Mesa Verde	15.83	1	Pn	Pn	07 18 49.4	+1.9
MVCO				IAmb	IAmb	07 18 52.0	
	comp=Z,20nm,1.1s						
KNB	Kanab	16.01	348	P	Pn	07 18 52.7	+3.0
WMOK	Wichita Mounta	16.04	31		Pn	07 18 50.0	+0.1
LCMT	Little Creek M	16.09	347	P	P	07 18 54.3	+0.2
LCMT				IAmb	IAmb	07 18 57.2	
	comp=Z,41nm,1.7s						
T25A	Trinidad	16.23	13	P	Pn	07 18 54.6	+2.1
PKCU	Pink Cliffs	16.34	350	P	Pn	07 18 56.8	+2.7
SDCO	Great Sand Dun	16.62	9	P	Pn	07 19 00.1	+2.4
SZCU	Shurtz Canyon	16.62	348	P	Pn	07 18 60.0	+2.4
SZCU				IAmb	IAmb	07 19 04.9	
	comp=Z,26nm,1.7s						
CCUT	Cedar City	16.63	347		Pn	07 19 00.1	+2.4
CCUT				IAmb	IAmb	07 19 05.2	
	comp=Z,21nm,1.7s						
TPNV	Topopah Spring	16.84	339		Pn	07 19 02.6	+2.3
TPNV				IAmb	IAmb	07 19 09.0	
	comp=Z,22nm,1.5s						
MTPU	Mount Pierson	16.91	351	P	P	07 19 04.2	+0.9
PV14	Lion Creek, Pa	16.99	360	P	Pn	07 19 04.0	+1.7
PV04	Paradox Valley	17.01	360	P	Pn	07 19 04.6	+2.2
BCOK	Bluff Creek, N	17.35	32	P	Pn	07 19 07.8	+1.3
OK029	Liberty Lake	17.54	32	P	Pn	07 19 08.7	-0.1
OK029				IAmb	IAmb	07 19 19.6	
	comp=Z,37nm,1.5s						
PSUT	Pine Spring	17.68	347	P	P	07 19 13.4	+1.6
SMCO	Snowmass	17.87	5	P	P	07 19 16.4	+2.3
SMCO				IAmb	IAmb	07 19 23.9	
	comp=Z,15nm,1.4s						
P17A	Butcher Ranch,	18.16	355	P	Pn	07 19 18.2	+1.5
QUOK	Quay	18.20	33	P	Pn	07 19 17.0	-0.1
SPR3	Spring Creek 3	18.23	346	P	P	07 19 19.7	+1.7
KSCO	Kaye Shedlock'	18.42	16	P	P	07 19 20.0	+0.1
KSCO				IAmb	IAmb	07 19 25.1	
	comp=Z,35nm,1.4s						
KAN13	South Haven SW	18.50	30	P	P	07 19 21.1	+0.5
ISCO	Idaho Springs	18.62	8		Pn	07 19 24.6	+2.1
ISCO				IAmb	IAmb	07 19 47.6	
	comp=Z,13nm,1.6s						
O20A	White River Ci	18.76	1	P	P	07 19 24.3	+0.7
O20A				IAmb	IAmb	07 19 38.0	
	comp=Z,46nm,1.9s						
T35A	Sooner Cattle	18.89	32	P	Pn	07 19 26.2	+0.8
T35A				IAmb	IAmb	07 19 29.7	
	comp=Z,20nm,1.2s						
NVAR	Mina Array Bea	18.89	337	P	P	07 19 26.6	+1.5
	comp=Z,0.0nm,0.3s,baz=151,slow=13,SNR=9.8						
MTO3	Montecristo	19.79	107	P	P	07 19 34.5	-0.6
MTO3				IAmb	IAmb	07 19 38.0	
	comp=Z,26nm,1.4s						
ELK	Elko	20.10	346	P	P	07 19 39.3	+0.9
	comp=Z,0.1nm,0.3s,baz=165,slow=9.5,SNR=6.1						
ELK				LR	LR	07 27 10.4	
	comp=Z,134nm,18.4s,baz=172,slow=36						
PDAR	Pinedale Array	21.39	359	P	P	07 19 52.3	0.0
	comp=Z,1.7nm,0.8s,baz=175,slow=10,SNR=13						
PDAR				LR	LR	07 28 20.8	
	comp=Z,106nm,18.8s,baz=193,slow=38						
YBH	Yreka Blue Hor	23.46	333	LR	LR	07 29 41.2	
	comp=Z,160nm,18.5s,baz=154,slow=38						
JTS	Las Juntas de	25.45	112	LR	LR	07 30 22.5	
	comp=Z,60nm,18.4s,baz=25,slow=36						
NEW	Newport	27.68	348	LR	LR	07 32 48.6	
	comp=Z,66nm,20.5s,baz=173,slow=39						
ULM	Lac du Bonnet	30.63	16	LR	LR	07 33 55.0	
	comp=Z,253nm,19.5s,baz=200,slow=37						
SADO	Sadowa	33.85	39	LR	LR	07 35 28.1	
	comp=Z,90nm,20.3s,baz=254,slow=36						
ROSC	El Rosal	37.29	111	LR	LR	07 37 42.7	
	comp=Z,66nm,18.3s,baz=54,slow=36						
YKA	Yellowknife Ar	41.33	356	LR	LR	07 41 22.5	
	comp=Z,109nm,21.2s,baz=0.0,slow=38						
SCHQ	Schefferville	45.93	33	LR	LR	07 43 24.2	
	comp=Z,118nm,21.8s,baz=126,slow=37						
ILAR	Eielson Array	50.10	340	P	P	07 23 60.0	+0.7
	comp=Z,0.9nm,0.7s,baz=145,slow=7.9,SNR=7.0						
H03N2	Juan Fernandez	61.49	152	T	T	08 31 50.9	
	baz=330,slow=77,SNR=19						
H03N1	Juan Fernandez	61.50	152	T	T	08 31 50.1	
	baz=330,slow=77,SNR=18						
H03N3	Juan Fernandez	61.51	152	T	T	08 31 49.3	
	baz=330,slow=77,SNR=16						
NOA	NORSAR Array B	84.93	25	LR	LR	08 05 48.1	
	comp=Z,47nm,18.7s,baz=40,slow=36						

NOU ***30*** *07:42:19.2, 27°.46S×175°.38W, h0km, ML5.4/77, Kermadec Islands Region*

IDC ***30*** *07:42:24.2±0.4, 27°.03S×176°.37W, h0km, mb5.2/29, mb1 5.2/30, mb1mx5.2/36, mbtmp5.2/30, ML5.8/1, MS5.1/25, Ms1 5.1/25, ms1mx5.0/32, Error ellipse: s-maj=14.6km s-min=12.3km az=93.0*

NEIC ***30*** *07:42:24.2, 27°.03S×176°.11W, h4km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.35; Mθθ-0.70; Mφφ-0.65; Mrθ1.62; Mφθ0.25; Mφr2.42; Fault plane solution: Mo3.15000×10^17^ NP1:φs202.34000°, δ8.66000°, λ79.71000°. NP2:φs32.75000°, δ81.48000°, λ91.56000°. Principal axes: T 3.5070, Plg53.0000°, Azm305.0000°; N -0.9145, Plg2.0000°, Azm213.0000°; P -2.5925, Plg36.0000°, Azm121.0000°;*

NEIC ***30*** *07:42:25.4±2.3, 27°.03S±0°.06×176°.05W±0°.09, h10km±1km, mb5.5/80, Ms_20 5.3/344, Mwb5.6/44, Mwc5.5(GCMT) Error ellipse: s-maj=14.0km s-min=9.9km az=119.0*

MOS ***30*** *07:42:25.9±1.3, 27°.05S×176°.39W, h20km, mb5.5/40, MS5.2/22, Error ellipse: s-maj=10.1km s-min=8.0km az=107.3*

BJI ***30*** *07:42:26.0±0.0, 26°.70S×175°.73W, h24km, mB5.8/50, mb5.5/58, Ms5.3/64, Ms7 5.1/59*

GCMT ***30*** *07:42:30.4±0.1, 27°.08S±0°.01×176°.01W±0°.01, h17km, MW5.5/145, Moment Tensor Solution. s127,c223; s145,c276; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr1.78±.03; Mθθ-0.12±.02; Mφφ-1.66±.02; Mrθ0.36±.05; Mφθ-0.59±.01; Mφr1.59±.06; Best double couple: Mo2.44400×10^17^ NP1:φs203.00000°, δ24.00000°, λ98.00000°. NP2:φs15.00000°, δ66.00000°, λ86.00000°. Principal axes: T 2.4080, Plg69.0000°, Azm278.0000°; N 0.0710, Plg3.0000°, Azm16.0000°; P -2.4800, Plg21.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *07:42:31, 27°.06S×176°.01W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.72; Mθθ-0.06; Mφφ-1.66; Mrθ0.42; Mφθ-0.61; Mφr1.47; Fault plane solution: Mo2.36000×10^17^ NP1:φs201.00000°, δ25.00000°, λ93.00000°. NP2:φs17.00000°, δ65.00000°, λ88.00000°. Principal axes: T 2.2850, Plg70.0000°, Azm284.0000°; N 0.1455, Plg1.0000°, Azm18.0000°; P -2.4305, Plg20.0000°, Azm108.0000°;*

ISC 30 07:42:25.8±0.5, 27°.07S±0°.04×176°.04W±0°.04, h16km±2km, h16km:pP-P, n890, σ1$80/757, mb5.5/127, MS5.3/231, 62C-19D, Fault plane solution: NP1:φs355.40323°, δ81.35575°, λ58.30980°. **NP2:**φs251.72084°, δ32.72921°, λ163.85991°. **Principal axes:** T Plg44.5170°, Azm234.0070°; N Plg31.2892°, Azm0.7046°; P Plg29.2464°, Azm110.6002°; **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.73	217	Pn	Pn	07 43 09.1	0.0
	2μm,0.3s,baz=72,slow=9.0,SNR=120						
RAO				Sn	Sn	07 43 41.2	-0.6
	2μm,0.3s,baz=74,slow=21,SNR=12						
RAO				LR	LR	07 44 07.1	
	comp=Z,11μm,21.4s,baz=52,slow=40						
RAO	Raoul Island	2.73	217	P	Pn	07 43 08.9	-0.1
RAO						07 43 41.2	
RAO	Raoul Island	2.73	217	Pn	Pn	07 43 08.9	-0.1
RAO	Raoul Island	2.73	217		Sn	07 43 41.2	-0.6
NIUE	Niue	9.74	37	P	Pn	07 44 39.8	-5.6
	baz=9.6,SNR=39						
NIUE				S	Sn	07 46 18.8	-16
	baz=9.6						
NIUE	Niue	9.74	37	Pn	Pn	07 44 41.7	-3.8
NIUE	Niue	9.74	37	P	Pn	07 44 39.9	-5.5
MSVF	Nonsavu	10.78	328	Pn	Pn	07 45 00.0	+0.4
	2.0nm,0.3s,baz=123,slow=12,SNR=14						
MSVF				LR	LR	07 48 35.1	
	comp=Z,15μm,19.0s,baz=140,slow=35						
MSVF	Nonsavu	10.78	328	P	Pn	07 45 01.1	+1.4
MSVF	Nonsavu	10.78	328	Pn	Pn	07 45 01.1	+1.4
MSVF	Nonsavu	10.78	328	P	Pn	07 45 02.5	+2.8
OUZ	Omahuta	12.02	225	Pn	Pn	07 45 17.5	+0.9
URZ	Urewera	12.55	206	Pn	Pn	07 45 14.2	-10
	2.2nm,0.3s,baz=16,slow=7.4,SNR=14						
URZ				Sn	Sn	07 47 31.3	-12
	14nm,0.3s,baz=225,slow=20,SNR=10.0						
AFI	Afiamalu	13.69	18	Pn	Pn	07 45 34.8	-4.6
	18nm,0.3s,baz=182,slow=1.2,SNR=20						
AFI				Sn	Sn	07 47 55.1	-16
	7.3nm,0.3s,baz=180,slow=20,SNR=2.2						
AFI	Afiamalu	13.69	18	P	Pn	07 45 35.2	-4.3
AFI	Afiamalu	13.69	18	Pn	Pn	07 45 35.1	-4.3
NFK	Norfolk Island	14.28	258	P	Pn	07 45 48.4	+1.0
	baz=15						
NFK	Norfolk Island	14.28	258	P	Pn	07 45 48.9	+1.4
MARNC	Mare, Loyalty	15.55	288		Pn	07 46 05.4	+0.9
MARNC	Mare, Loyalty	15.55	288	P	P	07 46 09.9	+1.2
PINNC	Pines Island,	15.63	283		Pn	07 46 06.7	+1.2
PINNC				IAmb	IAmb	07 46 38.1	
	comp=Z,406nm,1.2s						
PINNC	Pines Island,	15.63	283	P	P	07 46 10.7	+1.1
RAR	Rarotonga	15.95	72	Pn	Pn	07 46 04.6	-5.1
	comp=Z,8.6nm,0.3s,baz=236,slow=7.5,SNR=19						
RAR				Sn	Sn	07 48 47.6	-19
	comp=Z,3.0nm,0.3s,baz=343,slow=20,SNR=1.6						
RAR	Rarotonga	15.95	72	P	Pn	07 46 05.3	-4.4
RAR				pmax	pmax		
	comp=Z,289nm,1.0s						
RAR	Rarotonga	15.95	72	Pn	Pn	07 46 05.3	-4.4
RAR				IAmb	IAmb	07 46 09.9	
	comp=Z,289nm,0.9s						
OUENC	Ouen Island, N	16.22	283	P	P	07 46 17.4	+1.2
YATNC	Mamie plateau,	16.30	284	P	P	07 46 18.1	+0.9
LIFNC	LIFOU	16.51	289	P	P	07 46 21.3	+1.9
ONTNC	Ouen Toro	16.60	283	P	P	07 46 21.8	+1.4
DZM	Mont Dzumac	16.69	284	*e*P	P	07 46 21.9	+0.4
	comp=Z,937nm,1.3s						
DZM				*e*LR	LR	07 50 19.3	
	comp=Z,19μm,23.6s						
DZM	Mont Dzumac	16.69	284	Pn	P	07 46 22.2	+0.7
	comp=Z,1.3nm,0.3s,baz=100,slow=17,SNR=15						
DZM				LR	LR	07 51 32.4	
	comp=Z,15μm,19.3s,baz=140,slow=33						
DZM	Mont Dzumac	16.69	284	P	P	07 46 21.4	-0.1
DZM				IAmb	IAmb	07 46 44.4	
	comp=Z,391nm,1.2s						
DZM	Mont Dzumac	16.69	284	P	P	07 46 23.5	+2.0
NOUC	Port Laguerre	16.80	283	P	P	07 46 24.4	+1.8
KOUNC	Koumac, New Ca	19.12	286	P	Pn	07 46 51.9	+2.8
SANVU	Saraoutou	19.41	303	P	P	07 46 50.3	-1.1
SANVU				IAmb	IAmb	07 47 07.0	
	comp=Z,536nm,1.3s						
SANVU	Saraoutou	19.41	303	P	Pn	07 46 54.1	+1.5
LBZ	Lake Benmore	20.53	209	P	P	07 47 00.4	-3.0
WKZ	Wanaka	21.39	210	IAMs_20	IAMs_20	07 55 48.7	
	comp=Z,10μm,18.0s						
LHI	Lord Howe Isla	22.14	253	P	P	07 47 22.0	+1.0
	baz=22,SNR=11						
LHI	Lord Howe Isla	22.14	253	P	P	07 47 22.4	+1.5
LHI				IAmb	IAmb	07 47 39.2	
	comp=Z,247nm,1.0s						
LHI	Lord Howe Isla	22.14	253	P	P	07 47 23.2	+2.3
MLZ	Mavora Lakes	22.21	211	IAMs_20	IAMs_20	07 56 12.4	
	comp=Z,10μm,20.0s						
WHZ	Wether Hill Ro	22.69	210	IAMs_20	IAMs_20	07 56 47.1	
	comp=Z,9μm,18.0s						
PYZ	Puysegur Point	23.48	211	IAMs_20	IAMs_20	07 56 48.9	
	comp=Z,10μm,18.0s						
TBI	Tubuai	24.32	87	*e*S	S	07 51 53.2	-8.3
	comp=Z,838nm,22.8s						
TBI				*e*LQ	LQ	07 52 23.4	
	comp=Z,6μm,28.0s						
TBI				*e*LR	LR	07 53 29.9	
	comp=Z,8μm,28.5s,baz=255						
TBI	Tubuai	24.32	87	*e*T	T	08 12 48.9	
	comp=Z,23nm,0.3s						
KNTN	Kanton	24.51	10	P	P	07 47 44.1	-0.6
KNTN				IAmb	IAmb	07 47 50.8	
	comp=Z,188nm,1.1s						
PAE	Paea	26.16	75	*e*T	T	08 15 05.5	
	comp=Z,9.3nm,0.3s						
PPT2	Papeete2	26.19	74	*e*S	S	07 52 26.4	-5.2
	comp=Z,668nm,24.4s						
PPT2				*e*LQ	LQ	07 53 08.1	
	comp=Z,9μm,24.0s						
PPT2				*e*LR	LR	07 54 27.0	
	comp=Z,7μm,24.0s,baz=243						
PPT2	Papeete2	26.19	74	*e*T	T	08 15 08.7	
	comp=Z,7.8nm,0.3s						
PPT	Papeete	26.20	74	LR	LR	07 55 34.7	
	comp=Z,3μm,19.9s,baz=248,slow=30						
TIAR	Tiarei	26.40	75	*e*T	T	08 15 16.0	
	comp=Z,1.0nm,0.3s						
MEH	Mehetia	27.37	76	*e*T	T	08 16 36.7	
	comp=Z,11nm,0.3s						
ARMA	Armidale	28.49	256	P	P	07 48 20.8	+0.2
	baz=29,SNR=7.3						
ARMA	Armidale	28.49	256	P	P	07 48 21.4	+0.8
HNR	Honiara	28.68	303	LR	LR	07 58 14.1	
	comp=Z,5μm,18.9s,baz=144,slow=33						
HNR	Honiara	28.68	303	IAMs_20	IAMs_20	07 57 53.5	
	comp=Z,6μm,19.0s						
VAH	Vaihoa	28.93	72	*e*T	T	08 18 32.1	
	comp=Z,13nm,0.2s						
EIDS	Eidsvold	29.50	266	P	P	07 48 28.6	-0.9
	baz=30,SNR=6.6						
EIDS	Eidsvold	29.50	266	P	P	07 48 28.3	-1.2
CAN	Canberra	30.89	246	P	P	07 48 41.5	-0.2
CAN				pmax	pmax		
	comp=Z,49nm,1.5s						
CAN				MLR	MLR		
	comp=Z,6μm,18.0s						
CAN	Canberra	30.89	246	P	P	07 48 41.5	-0.2
CAN				IAMs_20	IAMs_20	07 59 37.7	
	comp=Z,6μm,18.0s						
MILA	Mila	30.98	243	P	P	07 48 42.2	-0.3
	baz=31,SNR=7.4						
YNG	Young	31.30	248	P	P	07 48 44.9	-0.5
	baz=32,SNR=5.3						
RMQ	Roma	31.37	263	P	P	07 48 45.2	-0.8
	baz=32,SNR=4.3						
CMSA	Cobar Meteorol	33.55	253	P	P	07 49 03.6	-1.5
	baz=34,SNR=15						
TOO	Toolangi	33.94	242	P	P	07 49 07.2	-1.3
	baz=34,SNR=6.6						
TOO	Toolangi	33.94	242	P	P	07 49 07.0	-1.5
TOO				pmax	pmax		
	comp=Z,31nm,1.0s						
TOO	Toolangi	33.94	242	P	P	07 49 07.0	-1.5
CTA	Charters Tower	35.15	273	P	P	07 49 17.6	-1.5
	comp=Z,52nm,0.5s,baz=98,slow=10,SNR=93						
CTA				LR	LR	08 02 38.8	
	comp=Z,8μm,18.1s,baz=113,slow=35						
CTA	Charters Tower	35.15	273	P	P	07 49 17.6	-1.5
CTAO	Charters Tower	35.15	273	P	P	07 49 17.9	-1.2
CTAO				pmax	pmax		
	comp=Z,63nm,0.6s						
CTAO				MLR	MLR		
	comp=Z,8μm,19.0s						
CTAO	Charters Tower	35.15	273	P	P	07 49 17.9	-1.2
CTAO				IAmb	IAmb	07 49 20.0	
	comp=Z,63nm,0.6s						
ARPS	Mount Arapiles	36.78	244	P	P	07 49 32.6	-0.3
	baz=37,SNR=7.3						
STKA	Stephens Creek	37.02	252	P	P	07 49 33.0	-1.9
	comp=Z,10nm,0.8s,baz=105,slow=9.4,SNR=14						
STKA				PcP	PcP	07 51 56.4	+0.6
	comp=Z,9.3nm,0.8s,baz=81,slow=1.7,SNR=3.0						
STKA				LR	LR	08 03 49.5	
	comp=Z,7μm,18.1s,baz=86,slow=35						
STKA	Stephens Creek	37.02	252	P	P	07 49 33.9	-1.1
	baz=37,SNR=9.6						
STKA	Stephens Creek	37.02	252	P	P	07 49 33.1	-1.9
STKA				pmax	pmax		
	comp=Z,25nm,2.0s						
STKA	Stephens Creek	37.02	252	P	P	07 49 33.1	-1.8
PMG	Port Moresby	38.92	290	P	P	07 49 49.8	-1.3
	comp=Z,34nm,0.8s,baz=62,slow=4.9,SNR=3.8						
PMG				LR	LR	08 03 59.4	
	comp=Z,5μm,19.5s,baz=130,slow=34						
PMG	Port Moresby	38.92	290	IAMs_20	IAMs_20	08 04 18.1	
	comp=Z,6μm,20.0s						
QIS	Mount Isa	40.93	269	P	P	07 50 06.0	-1.9
	baz=41,SNR=16						
BBOO	Buckleboo	41.62	250	P	P	07 50 10.7	-2.6
	baz=42,SNR=7.5						
BBOO	Buckleboo	41.62	250	P	P	07 50 11.5	-1.9
BBOO				IAmb	IAmb	07 50 26.6	
	comp=Z,182nm,1.9s						
AS31	Alice Springs	45.12	263	P	P	07 50 39.5	-2.4
ASAR	Alice Springs	45.12	263	P	P	07 50 39.3	-2.5
	comp=Z,18nm,0.9s,baz=97,slow=7.3,SNR=91						
ASAR				PcP	PcP	07 52 22.6	+0.3
	comp=Z,6.3nm,0.9s,baz=113,slow=3.5,SNR=2.6						
ASAR				ScP	ScP	07 56 17.3	+3.0
	comp=Z,3.3nm,1.2s,baz=102,slow=3.9,SNR=2.2						
ASAR				S	S	07 57 17.9	-2.9
	comp=Z,1.9nm,0.7s,baz=104,slow=15,SNR=7.8						
ASAR				LR	LR	08 08 32.0	
	comp=Z,4μm,18.3s,baz=110,slow=35						
ASAR	Alice Springs	45.12	263	P	P	07 50 39.3	-2.5
ASAR						07 52 22.6	
ASAR	Alice Springs	45.12	263	P	P	07 50 39.3	-2.5
ASAR	Alice Springs	45.12	263		PcP	07 52 22.6	+0.3
ASPA	Alice Springs	45.12	263	P	P	07 50 39.3	-2.5
	baz=46						
WR0	Warramunga Arr	45.63	268	P	P	07 50 43.3	-2.6
WR0				IAmb	IAmb	07 50 57.8	
	comp=Z,43nm,0.9s						
WC3	Warramunga Arr	45.78	268	P	P	07 50 44.9	-2.2
	baz=46						
WB2	Warramunga Arr	45.80	268	P	P	07 50 45.0	-2.2
WB2				IAmb	IAmb	07 50 47.6	
	comp=Z,70nm,0.9s						
WRAB	Tennant Creek	45.81	268	*ce*P	P	07 50 44.2	-3.1
WRAB				pmax	pmax		
	comp=Z,89nm,1.3s						
WRAB	Tennant Creek	45.81	268	IAMs_20	IAMs_20	08 07 43.6	
	comp=Z,3μm,20.0s						
WRA	Warramunga Arr	45.82	268	P	P	07 50 44.5	-2.8
	comp=Z,52nm,0.9s,baz=104,slow=7.9,SNR=173						
WRA				PcP	PcP	07 52 24.7	-0.1
	comp=Z,13nm,0.9s,baz=102,slow=4.1,SNR=4.6						
WRA				S	S	07 57 26.9	-3.9
	comp=Z,5.2nm,1.0s,baz=104,slow=13,SNR=6.9						
WRA				LR	LR	08 07 56.5	
	comp=Z,3μm,21.5s,baz=100,slow=34						
WRA	Warramunga Arr	45.82	268	P	P	07 50 44.9	-2.4
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	Warramunga Arr	45.82	268	P	P	07 50 44.9	-2.4
GENI	Genyem	48.44	293	P	P	07 51 06.1	-1.7
	comp=Z,61nm,1.2s						
FORT	Forrest	48.64	252	P	P	07 51 05.9	-3.3
	baz=49,SNR=16						
FORT	Forrest	48.64	252	P	P	07 51 06.2	-3.0
FORT				IAmb	IAmb	07 51 27.0	
	comp=Z,65nm,1.1s						
WRKA	Warakurna	49.70	259	P	P	07 51 14.0	-3.5
	baz=50,SNR=97						
KDU	Kakadu	50.16	276	P	P	07 51 20.1	-0.8
	baz=51,SNR=12						
MTN	Manton Dam	51.28	275	P	P	07 51 29.1	-0.4
	baz=52,SNR=6.3						
SBA	Scott Base	51.48	185	P	P	07 51 32.9	+2.9
SBA				pmax	pmax		
	comp=Z,88nm,1.2s						
SBA				MLR	MLR		
	comp=Z,2μm,18.0s						
SBA	Scott Base	51.48	185	P	P	07 51 32.9	+2.9
SBA				IAmb	IAmb	07 51 53.3	
	comp=Z,88nm,1.1s						
SBA	Scott Base	51.48	185	IAMs_20	IAMs_20	08 14 54.7	
	comp=Z,2μm,18.0s						
VNDA	Vanda	51.57	186	P	P	07 51 32.7	+1.9
	comp=Z,9.4nm,1.0s,baz=5.3,slow=7.6,SNR=32						
VNDA				LR	LR	08 09 34.2	
	comp=Z,1μm,20.7s,baz=20,slow=32						
VNDA	Vanda	51.57	186	P	P	07 51 32.3	+1.6
VNDA				pmax	pmax		
	comp=Z,24nm,1.0s						
VNDA	Vanda	51.57	186	P	P	07 51 32.3	+1.6
KNRA	Kununurra	52.28	271	P	P	07 51 34.5	-2.4
	baz=53,SNR=26						
KNRA	Kununurra	52.28	271	P	P	07 51 35.0	-1.8
MIDW	Midway	54.99	359	IAMs_20	IAMs_20	08 13 50.2	
	comp=Z,2μm,18.0s						
GUMO	Guam	55.44	312	P	P	07 51 57.7	-2.2
	comp=Z,35nm,0.7s,baz=165,slow=9.0,SNR=4.3						
GUMO	Guam	55.44	312	P	P	07 51 57.4	-2.5
GUMO				pmax	pmax		
	comp=Z,96nm,1.1s						
GUMO	Guam	55.44	312	P	P	07 51 57.4	-2.5
GUMO				IAmb	IAmb	07 52 12.8	
	comp=Z,96nm,1.1s						
GUMO	Guam	55.44	312	IAMs_20	IAMs_20	08 11 56.9	
	comp=Z,3μm,22.0s						
SWI	Sorong	56.83	288	P	P	07 52 07.9	-2.1
	comp=Z,92nm,1.0s						
KLBR	Kellerberrin	57.11	248	P	P	07 52 08.6	-3.2
	baz=57,SNR=4.9						
NWAO	Narrogin (SRO)	57.23	247	P	P	07 52 10.6	-2.1
	comp=Z,3.4nm,0.5s,baz=112,slow=5.4,SNR=1.5						
NWAO				LR	LR	08 13 51.5	
	comp=Z,2μm,20.1s,baz=106,slow=33						
NWAO	Narrogin (SRO)	57.23	247	P	P	07 52 10.6	-2.1
NWAO	Narrogin (SRO)	57.23	247	IAmb	IAmb	07 54 09.2	
	comp=Z,79nm,1.9s						
MEEK	Meekatharra	57.67	254	P	P	07 52 12.7	-3.1
	baz=58,SNR=11						
PSA00	Pilbara Seismi	58.14	260	P	P	07 52 15.7	-3.4
BLDU	Ballidu	58.22	249	P	P	07 52 16.4	-3.2
	baz=58,SNR=9.2						
SOEI	Soe	58.68	275	IAMs_20	IAMs_20	08 18 11.9	
	comp=Z,3μm,20.0s						
SOEI	Soe	58.68	275	P	P	07 52 22.4	-0.8
	comp=Z,1μmcomp=Z,135nm,1.0s						
CASY	Casey	58.88	207	P	P	07 52 22.8	-0.8
CASY	Casey	58.88	207	IAMs_20	I

PCJI	**Pacitan**	**71.01 270**	P	**P**	**07 53 41.9**	**-1.5**
	comp=Z,160nm,1.1s					
UGM	**Wanagama**	**71.71 270**	P	**P**	**07 53 46.1**	**-1.5**
UGM	**Wanagama**	**71.71 270**	P	**P**	**07 53 45.6**	**-2.1**
	comp=Z,130nm,1.3s					
SMRI	**Semarang**	**72.16 271**	IAMs_20	IAMs_20	08 28 32.3	
	comp=Z,2μm,18.0s					
SMRI	**Semarang**	**72.16 271**	P	**P**	**07 53 50.2**	**-0.2**
	comp=Z,89nm,1.4s					
SPMM	**Sapulut**	**72.34 285**	P	**P**	**07 53 50.0**	**-1.4**
PBKI	**Pangkalan Bun**	**73.01 276**	P	**P**	**07 53 54.4**	**-1.0**
	comp=Z,276nm,1.0s					
JHJ2	**Mitsune**	**73.09 322**	P	**P**	**07 53 55.0**	**-0.4**
JHJ	**Hachijo jima 2**	**73.11 322**	P	**P**	**07 53 55.2**	**-0.3**
	comp=Z,189nm,1.1s,baz=182,slow=6.2,SNR=7.0					
JHJ			LR	LR	08 19 01.6	
	comp=Z,343nm,20.6s,baz=148,slow=30					
JHJ	**Hachijo jima 2**	**73.11 322**	P	**P**	**07 53 55.2**	**-0.3**
KPJI	**Karang Pucung**	**73.39 270**	P	**P**	**07 53 55.5**	**-2.1**
	comp=Z,52nm,0.8s					
CISI	**Cisompet, Garu**	**74.28 269**	IAMs_20	IAMs_20	08 26 01.4	
	comp=Z,1μm,20.0s					
STKI	**Sintang**	**74.46 278**	P	**P**	**07 54 03.2**	**-0.7**
	comp=Z,81nm,0.9s					
LEM	**Lembang**	**74.78 270**	P	**P**	**07 54 04.9**	**-1.1**
	comp=Z,900nmcomp=Z,88nm,1.0s					
SBUM	**Sibu**	**74.93 281**	P	**P**	**07 54 05.0**	**-1.6**
JSG	**Sagara**	**75.15 322**	P	**P**	**07 54 07.2**	**-0.1**
JYT	**Yasato**	**75.27 325**	P	**P**	**07 54 07.9**	**-0.1**
JYT			IAmb	IAmb	07 54 09.5	
	comp=Z,89nm,1.2s					
DBJI	**Dramaga**	**75.67 270**	P	**P**	**07 54 10.0**	**-0.9**
	comp=Z,9μmcomp=Z,62nm,0.9s					
JOW	**Kunigami**	**75.76 310**	P	**P**	**07 54 11.1**	**-0.1**
	comp=Z,63nm,0.8s,baz=154,slow=4.6,SNR=19					
JOW			LR	LR	08 23 34.5	
	comp=Z,801nm,20.6s,baz=129,slow=33					
JOW	**Kunigami**	**75.76 310**	P	**P**	**07 54 10.9**	**-0.1**
MAW	**Mawson**	**76.01 200**	P	**P**	**07 54 13.1**	**+1.2**
	comp=Z,23nm,0.8s,baz=123,slow=6.9,SNR=41					
MAW			LR	LR	08 27 51.4	
	comp=Z,2μm,18.6s,baz=116,slow=36					
MAW	**Mawson**	**76.01 200**	P	**P**	**07 54 13.1**	**+1.2**
	baz=76,SNR=28					
MAW	**Mawson**	**76.01 200**	P	**P**	**07 54 12.7**	**+0.8**
MAW			pmax	pmax		
	comp=Z,13nm,1.1s					
MAW	**Mawson**	**76.01 200**	P	**P**	**07 54 12.7**	**+0.8**
KSM	**Kuching**	**76.15 279**	P	**P**	**07 54 12.0**	**-1.6**
JMM	**Marumori**	**76.23 326**	P	**P**	**07 54 13.9**	**+0.4**
JMM			IAmb	IAmb	07 54 15.3	
	comp=Z,62nm,1.1s					
INU	**Inuyama**	**76.29 322**	P	**P**	**07 54 14.4**	**+0.5**
JGF	**Kuroka**	**76.30 322**	P	**P**	**07 54 13.3**	**-0.7**
JGF			IAmb	IAmb	07 54 15.1	
	comp=Z,44nm,1.1s					
MJAR	**Matsushiro Arr**	**76.54 324**	P	**P**	**07 54 14.8**	**-0.6**
	comp=Z,73nm,1.1s,baz=155,slow=6.8,SNR=80					
MJAR			LR	LR	08 22 17.7	
	comp=Z,563nm,21.8s,baz=140,slow=31					
MJAR	**Matsushiro Arr**	**76.54 324**	P	**P**	**07 54 14.7**	**-0.6**
MJAR			pmax	pmax		
	comp=Z,60nm,1.0s					
MJAR	**Matsushiro Arr**	**76.54 324**	P	**P**	**07 54 14.7**	**-0.6**
MJAR			IAmb	IAmb	07 54 16.5	
	comp=Z,60nm,1.0s					
MAJO	**Matsushiro**	**76.54 324**	P	**P**	**07 54 15.0**	**-0.3**
MAJO			pmax	pmax		
	comp=Z,77nm,1.1s					
MAJO	**Matsushiro**	**76.54 324**	P	**P**	**07 54 14.9**	**-0.3**
MAJO			IAmb	IAmb	07 54 16.6	
	comp=Z,77nm,1.1s					
MAT	**Matsushiro**	**76.54 324**	P	**P**	**07 54 14.9**	**-0.4**
MAT			S	**S**	**08 03 58.6**	**-2.2**
MJB9	**Matsu-Tunnel**	**76.55 324**	P	**P**	**07 54 14.9**	**-0.4**
JMN	**Monobe**	**76.90 319**	P	**P**	**07 54 16.7**	**-0.7**
JWT	**Wachi**	**77.14 321**	P	**P**	**07 54 18.4**	**-0.3**
JSU	**Suzuyama**	**77.43 315**	P	**P**	**07 54 19.5**	**-0.9**
BLSI	**Bandar Lampung**	**77.53 270**	P	**P**	**07 54 19.6**	**-1.9**
JSD	**Sado**	**77.64 325**	P	**P**	**07 54 21.4**	**0.0**
H06S1	**SOCORRO T**	**77.79 62**	T	T	09 19 13.4	
	SNR=22					
KASI	**Kota Agung**	**78.13 270**	P	**P**	**07 54 20.8**	**-4.0**
	comp=Z,45nm,0.8s					
PPBI	**Pangkal Pinang**	**78.17 274**	P	**P**	**07 54 24.1**	**-0.9**
	comp=Z,22μmcomp=Z,41nm,0.9s					
JHS	**Saijyo**	**78.24 319**	P	**P**	**07 54 24.3**	**-0.6**
JNU	**Nakatsue**	**78.27 317**	P	**P**	**07 54 25.5**	**+0.4**
	comp=Z,93nm,1.1s,baz=87,slow=3.9,SNR=26					
JTM	**Tenmabayashi**	**78.38 328**	P	**P**	**07 54 26.3**	**+0.9**
ERM	**Erimo**	**78.40 330**	P	**P**	**07 54 26.8**	**+1.3**
ERM			pmax	pmax		
	comp=Z,96nm,1.4s					
ERM	**Erimo**	**78.40 330**	P	**P**	**07 54 26.8**	**+1.3**
ERM			IAmb	IAmb	07 54 38.6	
	comp=Z,96nm,1.4s					
ERM	**Erimo**	**78.40 330**	IAMs_20	IAMs_20	08 24 49.6	
	comp=Z,1μm,20.0s					
KIWB	**Kanaga Island**	**78.59 359**	P	**P**	**07 54 26.6**	**+0.3**
YULB	**Yu-li**	**78.61 304**	IAMs_20	IAMs_20	08 23 50.9	
	comp=Z,1μm,20.0s					
ADK	**Adak**	**78.61 360**	P	**P**	**07 54 26.8**	**+0.3**
ADK			pmax	pmax		
	comp=Z,71nm,1.0s					
ADK	**Adak**	**78.61 360**	P	**P**	**07 54 26.8**	**+0.3**
ADK			IAmb	IAmb	07 54 44.7	
	comp=Z,71nm,0.9s					
LWLI	**Liwa**	**78.75 270**	P	**P**	**07 54 25.9**	**-2.4**
	comp=Z,138nm,0.8s					
MDSI	**Maura Dua**	**78.88 271**	P	**P**	**07 54 26.1**	**-2.8**
	comp=Z,966nmcomp=Z,68nm,1.0s					
YUK	**Yuzh-Kuril'sk**	**78.90 333**	*i* P	**P**	**07 54 28.8**	**+0.6**
ATKA	**Atka Island**	**78.95 1**	P	**P**	**07 54 28.1**	**-0.2**
TPUB	**Ta-pu**	**79.05 303**	P	**P**	**07 54 29.7**	**+0.1**
TPUB			IAmb	IAmb	07 54 51.3	
	comp=Z,31nm,0.8s					
SSLB	**Suanglung**	**79.09 304**	P	**P**	**07 54 28.2**	**-1.6**
SSLB			IAMs_20	IAMs_20	08 24 47.7	
	comp=Z,1μm,20.0s					
KUR	**Kuril'sk**	**79.12 335**	*c i* P	**P**	**07 54 30.0**	**+0.6**
KUR			*i* S	**S**	**08 04 34.6**	**+6.5**
KUR			pmax	pmax		
	comp=Z,700nm,4.7s					
KUR			pmax	pmax		
	comp=Z,210nm,1.3s					
YHNB	**Yeheng**	**79.30 305**	IAMs_20	IAMs_20	08 27 58.2	
	comp=Z,1μm,20.0s					
TATO	**Taipei**	**79.40 305**	IAMs_20	IAMs_20	08 27 24.6	
	comp=Z,1μm,19.0s					
LHSI	**Lahat**	**79.75 271**	P	**P**	**07 54 30.5**	**-3.2**
	comp=Z,3μmcomp=Z,52nm,1.1s					
NIKH	**Nikolski High**	**79.95 4**	P	**P**	**07 54 34.0**	**+0.3**
	baz=186,SNR=10					
NIKH	**Nikolski High**	**79.95 4**	P	**P**	**07 54 34.0**	**+0.3**
NIKH			IAmb	IAmb	07 54 49.0	
	comp=Z,74nm,1.0s					
COYC	**Coyhaique**	**80.15 136**	P	**P**	**07 54 36.0**	**+0.7**
COYC			IAmb	IAmb	07 54 50.5	
	comp=Z,25nm,0.9s					
JKA	**Kamikawa-asahi**	**80.33 331**	P	**P**	**07 54 36.6**	**+0.6**
JKA			IAmb	IAmb	07 54 54.8	
	comp=Z,65nm,1.0s					
ASAJ	**Asahikawa**	**80.33 331**	P	**P**	**07 54 37.6**	**+1.6**
	comp=Z,21nm,0.8s,baz=213,slow=16,SNR=13					
ASAJ	**Asahikawa**	**80.33 331**	P	**P**	**07 54 36.6**	**+0.6**
ASAJ			pmax	pmax		
	comp=Z,65nm,1.0s					
SNCC	**San Nicolas Is**	**80.49 45**	P	**P**	**07 54 37.2**	**0.0**
	baz=229					
JMBI	**JAMBI**	**80.63 273**	P	**P**	**07 54 38.8**	**+0.4**
KSI	**Kapahiang**	**80.66 271**	P	**P**	**07 54 37.2**	**-1.5**
	comp=Z,106nm,0.9s					
SYO	**Syowa Base**	**80.73 192** ‖	*e*P	**P**	**07 54 36.4**	**-1.5**
SYO	**Syowa Base**	**80.73 192** ‖	*ep*P	pP	07 54 40.4	-1.0
SYO	**Syowa Base**	**80.73 192** ‖	*e*PcP	**PcP**	**07 54 44.9**	**+0.3**
H03S2	**Juan Fernandez**	**80.85 123**	T	T	09 23 45.1	
	baz=242,slow=74,SNR=4.6					
H03S1	**Juan Fernandez**	**80.87 123**	T	T	09 24 02.6	
	baz=242,slow=74,SNR=3.7					
H03S3	**Juan Fernandez**	**80.87 123**	T	T	09 24 02.9	
	baz=242,slow=74,SNR=5.7					
SCZ2	**Santa Cruz Isl**	**80.91 44**	P	**P**	**07 54 41.3**	**+1.9**
	baz=229					
UNV	**Unalaska Valle**	**81.00 6**	P	**P**	**07 54 39.4**	**+0.1**
	baz=189,SNR=7.2					
SBC	**Santa Barbara**	**81.16 44**	P	**P**	**07 54 41.6**	**+0.9**
	baz=229					
MASI	**Maura Aman, Be**	**81.20 271**	P	**P**	**07 54 40.3**	**-1.2**
	comp=Z,4μmcomp=Z,302nm,1.2s					
SKR	**Severo-Kuril's**	**81.24 343**	*e*P	**P**	**07 54 40.6**	**-0.1**
SKR			*e*S	**S**	**08 04 53.4**	**+3.3**
SKR			pmax	pmax		
	comp=Z,100nm,6.3s					
SKR			MLR	MLR		
	comp=Z,500nm,18.0s					
SLBS	**Sierra La Lagu**	**81.35 58**	IAMs_20	IAMs_20	08 22 31.6	
	comp=Z,2μm,19.0s					
PKM	**Mcpherson Peak**	**81.39 44**	P	**P**	**07 54 44.6**	**+2.4**
	baz=228					
SNAA	**Sanae**	**81.41 178**	P	**P**	**07 54 41.8**	**+0.1**
SNAA	**Sanae**	**81.41 178**	pP	pP	07 54 51.5	+6.3
SNAA	**Sanae**	**81.41 178**	P	**P**	**07 54 41.8**	**+0.1**
	comp=Z,16nm,1.0s,baz=190,slow=7.9,SNR=45					
SNAA	**Sanae**	**81.41 178**	P	**P**	**07 54 41.6**	**-0.1**
SNAA			pmax	pmax		
	comp=Z,31nm,1.0s					
SNAA			MLR	MLR		
	comp=Z,1μm,19.0s					
SNAA	**Sanae**	**81.41 178**	P	**P**	**07 54 41.6**	**-0.1**
SNAA			IAmb	IAmb	07 54 48.4	
	comp=Z,31nm,1.0s					
SNAA			IAMs_20	IAMs_20	08 30 44.7	
	comp=Z,1μm,19.0s					
VNA3	**Neumayer Olymp**	**81.49 176**	P	**P**	**07 54 41.9**	**-0.1**
VNA3	**Neumayer Olymp**	**81.49 176**	pP	pP	07 54 50.8	+5.3
QZH	**Quanzhou**	**81.51 303** ⇑	*i*P	**P**	**07 54 42.5**	**-0.3**
QZH			S	**S**	**08 04 49.8**	**-4.4**
QZH			pmax	pmax		
	comp=Z,400nm,10.2s					
QZH			LR	LR		
	comp=Z,330nm,14.4s					
QZH			LR	LR		
	comp=Z,470nm,17.6s					
QZH			LR	LR		
	comp=Z,680nm,17.7s					
SMMC	**Simmler**	**81.56 43**	P	**P**	**07 54 45.5**	**+2.6**
	baz=228					
109C	**Camp Elliot, M**	**81.81 47**	IAMs_20	IAMs_20	08 27 10.5	
	comp=Z,2μm,19.0s					
ARVC	**Arvin**	**82.16 44**	P	**P**	**07 54 47.2**	**+1.2**
	baz=229					
VNA1	**Neumayer--Stat**	**82.17 176**	P	**P**	**07 54 45.9**	**+0.4**
MURC	**Murrieta**	**82.20 46**	P	**P**	**07 54 48.3**	**+2.0**
	baz=230					
MONP2	**Monument Peak**	**82.26 47**	P	**P**	**07 54 48.4**	**+1.6**
	baz=231					
IKP	**In-Ko-Pah, Jac**	**82.31 47**	P	**P**	**07 54 47.9**	**+1.0**
	baz=231					
KRJI	**Kerinci**	**82.37 272**	P	**P**	**07 54 45.3**	**-2.4**
RGRI	**Rengat**	**82.38 274**	P	**P**	**07 54 47.9**	**+0.2**
VES	**Vestal, Richgr**	**82.47 43**	P	**P**	**07 54 47.9**	**+0.4**
	baz=229,SNR=9.6					
EDW2	**Edwards Air Fo**	**82.52 45**	P	**P**	**07 54 49.6**	**+1.6**
	baz=230,SNR=8.4					
YSS	**Yuzh-Sakhalins**	**82.54 333**	*ce*P	**P**	**07 54 48.4**	**+0.8**
YSS			*e**SP	**pwP**	**07 54 57.1**	**-0.9**
YSS			*e*		07 57 54.8	
YSS			*e*S	**S**	**08 05 03.0**	**-0.8**
YSS			*e*SS	**SS**	**08 10 20.6**	**-5.5**
YSS			pmax	pmax		
	comp=Z,50nm,1.2s					
YSS			pmax	pmax		
	comp=Z,600nm,4.7s					
YSS			MLR	MLR		
	comp=Z,600nm,17.0s					
YSS			MLR	MLR		
	comp=N,400nm,15.0s					
YSS			MLR	MLR		
	comp=E,300nm,18.0s					
YSS	**Yuzh-Sakhalins**	**82.54 333**	P	**P**	**07 54 48.4**	**+0.8**
TJN	**Taejon**	**82.59 317**	*ce*P	**P**	**07 54 48.4**	**+0.2**
TPFO	**Pinon Flats**	**82.69 47**	P	**P**	**07 54 48.7**	**-0.3**
	baz=231					
PFO	**Pinyon Flats O**	**82.69 47**	P	**P**	**07 54 48.6**	**-0.3**
PFO			pmax	pmax		
	comp=Z,18nm,1.2s					
PFO	**Pinyon Flats O**	**82.69 47**	P	**P**	**07 54 48.7**	**-0.3**
	baz=231					
PFO	**Pinyon Flats O**	**82.69 47**	P	**P**	**07 54 48.6**	**-0.3**
SWSC	**Sam W. Stewart**	**82.70 47**	P	**P**	**07 54 50.1**	**+1.3**
	baz=231					
ISA	**Isabella, Lake**	**82.72 44**	P	**P**	**07 54 50.4**	**+1.4**
ISA			pmax	pmax		
	comp=Z,21nm,1.1s					
ISA	**Isabella, Lake**	**82.72 44**	P	**P**	**07 54 50.9**	**+1.8**
	baz=229,SNR=11					
ISA	**Isabella, Lake**	**82.72 44**	P	**P**	**07 54 50.4**	**+1.4**
ISA			IAmb	IAmb	07 55 10.8	
	comp=Z,21nm,1.1s					
PET	**Petropavlovsk**	**82.75 345**	*e*P	**P**	**07 54 48.6**	**0.0**
PET			*e*S	**S**	**08 05 04.2**	**-1.4**
PET			*e*PS	**PnS**	**08 05 57.5**	**+0.5**
PET			*e*PPS	PPS	08 06 14.8	
PET			*e*SS	**SS**	**08 10 27.9**	**-1.0**
PET			pmax	pmax		
	comp=Z,400nm,12.1s					
PET			pmax	pmax		
	comp=Z,500nm,14.6s					
CNBA	**Chernabura Isl**	**82.78 10**	P	**P**	**07 54 49.5**	**+0.8**
CNBA			IAmb	IAmb	07 54 51.2	
	comp=Z,40nm,1.2s					
CNBA			IAMs_20	IAMs_20	08 28 46.2	
	comp=Z,1μm,20.0s					
CHNA	**Chernabura Isl**	**82.79 10**	P	**P**	**07 54 49.4**	**+0.7**
	baz=195					
BBRC	**Big Bear Solar**	**82.80 46**	P	**P**	**07 54 50.3**	**+0.7**
	baz=230					
KSRS	**Korea Array**	**82.97 318**	P	**P**	**07 54 51.0**	**+0.9**
	comp=Z,21nm,1.0s,baz=139,slow=5.6,SNR=52					
KSRS			LR	LR	08 25 41.9	
	comp=Z,437nm,21.4s,baz=128,slow=31					
KSAR	**Wonju Array Be**	**82.99 318**	P	**P**	**07 54 50.6**	**+0.4**
KSAR	**Wonju Array Be**	**82.99 318**	P	**P**	**07 54 50.6**	**+0.4**
JCC	**Jacoby Creek,**	**83.01 37**	IAMs_20	IAMs_20	08 36 05.2	
	comp=Z,1μm,18.0s					
KS19	**Wonju Array Si**	**83.04 318**	P	**P**	**07 54 50.6**	**+0.1**
KS19			IAmb	IAmb	07 54 52.6	
	comp=Z,61nm,1.2s					
PEA0B	**Petropavlovsk-**	**83.05 344**	P	**P**	**07 54 50.3**	**+0.1**
PEA0B			pmax	pmax		
	comp=Z,87nm,1.2s					
PEA0B	**Petropavlovsk-**	**83.05 344**	P	**P**	**07 54 50.3**	**+0.1**
PETK	**Petropavlovsk-**	**83.05 344**	P	**P**	**07 54 50.3**	**+0.1**
	comp=Z,14nm,0.9s,baz=124,slow=7.4,SNR=33					
PETK			LR	LR	08 25 27.1	
	comp=Z,718nm,21.8s,baz=162,slow=31					
PETK	**Petropavlovsk-**	**83.05 344**	P	**P**	**07 54 49.8**	**-0.4**
LRMC	**Laurel Mtn Rad**	**83.10 44**	P	**P**	**07 54 52.9**	**+1.9**
	baz=230					
CMB	**Columbia Colle**	**83.14 41**	P	**P**	**07 54 53.4**	**+2.3**
CMB			pmax	pmax		
	comp=Z,23nm,1.3s					
CMB	**Columbia Colle**	**83.14 41**	P	**P**	**07 54 53.4**	**+2.3**
CMB			IAmb	IAmb	07 55 02.2	
	comp=Z,23nm,1.3s					
CMB			IAMs_20	IAMs_20	08 24 29.9	
	comp=Z,1μm,20.0s					
SDPT	**Sand Point**	**83.16 9**	P	**P**	**07 54 51.2**	**+0.5**
	baz=194					
BELC	**Belle Mtn. Jos**	**83.23 46**	P	**P**	**07 54 53.9**	**+2.2**
	baz=231					
O02D	**Mt. Diablo Mer**	**83.23 38**	P	**P**	**07 54 54.5**	**+2.9**
	baz=226,SNR=14					
SSE	**Sheshan**	**83.26 310**	P	**P**	**07 54 52.0**	**+0.2**
SSE			S	**S**	**08 05 15.8**	**+4.0**
SSE			pmax	pmax		
	comp=Z,25nm,0.8s					
SSE			pmax	pmax		
	comp=Z,230nm,9.5s					
SSE			LR	LR		
	comp=Z,170nm,18.4s					
GLA	**Glamis**	**83.40 48**	P	**P**	**07 54 54.8**	**+2.2**
	baz=232					
CWC	**Cottonwood Cre**	**83.47 43**	P	**P**	**07 54 55.4**	**+2.4**
	baz=229					
PLCA	**Paso Flores**	**83.50 133**	P	**P**	**07 54 54.7**	**+1.6**
	comp=Z,8.9nm,1.0s,baz=233,slow=5.5,SNR=12					
PLCA			LR	LR	08 25 41.0	
	comp=Z,860nm,19.0s,baz=248,slow=31					
PLCA	**Paso Flores**	**83.50 133**	P	**P**	**07 54 54.0**	**+0.8**
PLCA			pmax	pmax		
	comp=Z,19nm,1.0s					
PLCA	**Paso Flores**	**83.50 133**	P	**P**	**07 54 54.0**	**+0.8**
PLCA			IAmb	IAmb	07 55 08.1	
	comp=Z,19nm,1.0s					
ORV	**Oroville**	**83.52 39**	P	**P**	**07 54 52.3**	**-0.7**
ORV			pmax	pmax		
	comp=Z,17nm,1.3s					
ORV	**Oroville**	**83.52 39**	P	**P**	**07 54 52.2**	**-0.7**
HEC	**Hector,Ludlow**	**83.53 46**	P	**P**	**07 54 54.8**	**+1.6**
	baz=231					
MDPB	**Devils Postpil**	**83.64 42**	P	**P**	**07 54 53.7**	**-0.2**
WDC	**Whiskeytown Da**	**83.65 38**	P	**P**	**07 54 56.0**	**+2.4**
WDC			pmax	pmax		
	comp=Z,23nm,1.1s					
WDC	**Whiskeytown Da**	**83.65 38**	P	**P**	**07 54 56.0**	**+2.4**
WDC			IAmb	IAmb	07 55 21.7	
	comp=Z,23nm,1.1s					
TIN	**Tinemaha, Big**	**83.78 43**	P	**P**	**07 54 56.1**	**+1.6**
	baz=229					
MLAC	**Mammoth, Mammo**	**83.79 42**	P	**P**	**07 54 57.7**	**+3.1**
	baz=229					
PDSI	**Padang**	**83.79 272**	P	**P**	**07 54 52.3**	**-2.7**
	comp=Z,22μmcomp=Z,14μmcomp=Z,24nm,1.0s					
N02D	**Trinity Center**	**83.83 38**	P	**P**	**07 54 57.1**	**+2.5**
	baz=226,SNR=7.8					
BKNI	**Bangkinang**	**83.84 274**	P	**P**	**07 54 54.2**	**-1.0**
O03E	**Paynes Creek**	**83.86 39**	P	**P**	**07 54 56.4**	**+1.7**
	baz=227,SNR=8.2					
IRM	**Iron Mountain**	**83.88 47**	P	**P**	**07 54 56.7**	**+1.8**
	baz=232					
GMRC	**Granite Mounta**	**83.94 46**	P	**P**	**07 54 57.7**	**+2.4**
	baz=231					
WAKR	**Walker**	**84.01 41**	P	**P**	**07 54 57.4**	**+1.7**
WAKR			IAmb	IAmb	07 55 07.2	
	comp=Z,30nm,1.3s					
M02C	**Callahan**	**84.04 37**	P	**P**	**07 54 57.5**	**+1.8**
	baz=226,SNR=9.5					
214A	**Organ Pipe Nat**	**84.09 50**	P	**P**	**07 54 58.3**	**+2.2**
	baz=233					
TUQ	**Turquoise Moun**	**84.18 45**	P	**P**	**07 54 58.7**	**+2.1**
	baz=231,SNR=7.7					
L02E	**Cave Junction**	**84.18 36**	P	**P**	**07 54 58.2**	**+2.0**
	baz=225					
JRMM	**Jerantut**	**84.19 277**	P	**P**	**07 54 56.0**	**-1.0**
FURC	**Furnace Creek,**	**84.24 44**	P	**P**	**07 54 58.5**	**+1.8**
	baz=230,SNR=9.5					
SHOC	**Shoshone, Teco**	**84.25 45**	P	**P**	**07 54 58.4**	**+1.7**
	baz=231					
GRAC	**Grapevine Rang**	**84.27 43**	P	**P**	**07 54 59.3**	**+2.4**
	baz=230,SNR=9.6					
CHIR	**Chirikof Islan**	**84.38 11**	P	**P**	**07 54 57.5**	**+0.6**
	baz=198					
K02D	**Willamette Mer**	**84.52 36**	P	**P**	**07 54 58.7**	**+0.6**
	baz=225					
UGL	**Uglegorsk**	**84.53 334**	*e*P	**P**	**07 55 01.6**	**+3.8**
UGL			*e*S	**S**	**08 05 28.7**	**+5.0**
UGL			pmax	pmax		
	comp=Z,110nm,1.0s					
UGL			smax	smax		
	comp=E,850nm,8.0s					
UGL			smax	smax		
	comp=N,1μm,12.0s					
UGL			MLR	MLR		
	comp=E,810nm,15.0s					
UGL			MLR	MLR		
	comp=N,500nm,18.0s					
NEE2	**Needles Airpor**	**84.60 47**	P	**P**	**07 55 00.4**	**+1.8**
	baz=232					
EFI	**East Falkland**	**84.62 146**	P	**P**	**07 54 59.0**	**+0.5**
EFI			pmax	pmax		
	comp=Z,55nm,1.1s					
EFI	**East Falkland**	**84.62 146**	P	**P**	**07 54 59.0**	**+0.5**
EFI			IAmb	IAmb	07 55 02.8	
	comp=Z,55nm,1.1s					
EFI	**East Falkland**	**84.62 146**	IAMs_20	IAMs_20	08 23 50.5	
	comp=Z,1μm,21.0s					
PDMCI	**Parker Dam,Lak**	**84.62 47**	P	**P**	**07 55 00.6**	**+2.0**
	baz=232					
NVAR	**Mina Array Bea**	**84.63 42**	P	**P**	**07 55 01.1**	**+2.2**
	comp=Z,8.9nm,0.9s,baz=222,slow=8.2,SNR=64					
NVAR			PKPPKP	**P'P'df**	**08 21 18.1**	**+6.6**
	comp=Z,0.6nm,1.0s,baz=56,slow=0.3,SNR=3.1					
NVAR			LR	LR	08 26 51.0	
	comp=Z,1μm,18.8s,baz=234,slow=31					
NVAR	**Mina Array Bea**	**84.63 42**	P	**P**	**07 55 00.8**	**+1.9**
MSHR	**Mys Shultsa**	**84.66 324**	*ce*P	**P**	**07 55 00.2**	**+1.5**
MSHR			pmax	pmax		
	comp=Z,29nm,1.7s					
J01E	**Myrtle Point**	**84.71 35**	P	**P**	**07 55 00.9**	**+2.0**
	baz=225					
NV11	**Mina Array Sit**	**84.72 42**	P	**P**	**07 54 59.5**	**+0.3**
PAHR	**Pah Rah Range**	**84.83 40**	P	**P**	**07 55 00.8**	**+1.0**
PAHR			IAmb	IAmb	07 55 10.0	
	comp=Z,23nm,1.2s					
M04C	**Macdoel**	**84.86 38**	P	**P**	**07 55 00.9**	**+1.0**
	baz=226					
L04D	**Klamath Falls**	**84.91 37**	P	**P**	**07 55 02.3**	**+2.2**
	baz=226,SNR=6.3					
QIZ	**Qiongzhong**	**85.17 294**	P	**P**	**07 55 01.5**	**-0.3**
QIZ			sP	**pwP**	**07 55 11.0**	**-1.2**
QIZ			S	**S**	**08 05 32.0**	**+0.5**
QIZ			sS	**ScS**	**08 05 44.5**	**+2.6**
QIZ			pmax	pmax		
	comp=Z,260nm,3.0s					
QIZ			LR	LR		
	comp=Z,250nm,14.7s					
QIZ			LR	LR		
	comp=Z,510nm,16.9s					
QIZ			LR	LR		
	comp=Z,380nm,15.5s					
SII	**Sitkinak Islan**	**85.34 12**	P	**P**	**07 55 03.2**	**+1.4**
	baz=199					
SII	**Sitkinak Islan**	**85.34 12**	IAMs_20	IAMs_20	08 30 20.9	
	comp=Z,2μm,19.0s					
MNSI	**Mandailing Nat**	**85.35 273**	P	**P**	**07 55 00.9**	**-1.9**
	comp=Z,34nm,0.6s					
USRK	**Ussuriysk Ar.**	**85.38 325**	P	**P**	**07 55 02.9**	**+0.7**
	comp=Z,12nm,0.9s,baz=124,slow=4.0,SNR=35					
USRK			LR	LR	08 26 55.0	
	comp=Z,700nm,21.5s,baz=132,slow=31					
I03D	**Drain, OR**	**85.39 35**	P	**P**	**07 55 04.5**	**+2.2**
	baz=225					
NJ2	**Nanjing**	**85.43 309**	⇑P	**P**	**07 55 03.5**	**+0.7**
NJ2			sP	**pwP**	**07 55 15.8**	**+2.6**
NJ2			SKS	S	08 05 25.3	-8.2
NJ2			S	**SKKSac**	**08 05 33.0**	**-1.1**
NJ2			sS	**ScS**	**08 05 47.0**	**+3.6**
NJ2			pmax	pmax		
	comp=Z,21nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,510nm,3.5s					
NJ2			LR	LR		
	comp=Z,250nm,18.0s					

RPSI	Rantau Prapat	86.79	275	IAMs_20	IAMs_20	08 34 46.9	
	comp=Z,2μm,20.0s						
KDAK	Kodiak Island	86.79	12	P	P	07 55 10.1	+1.2
KDAK				pmax	pmax		
	comp=Z,19nm,1.2s						
KDAK	Kodiak Island	86.79	12	P	P	07 55 10.7	+1.8
	baz=201						
KDAK	Kodiak Island	86.79	12	P	P	07 55 10.1	+1.2
KDAK	Kodiak Island	86.79	12	IAMs_20	IAMs_20	08 31 07.3	
	comp=Z,1μm,20.0s						
I05D	Terrebonne, OR	86.88	36	P	P	07 55 10.0	+0.3
	baz=227						
MDJ	Mudanjiang	86.89	324	P	P	07 55 10.8	+1.1
MDJ				S	S	08 05 45.8	-1.5
MDJ				pmax	pmax		
	comp=Z,23nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,700nm,8.7s						
MDJ				LR	LR		
	comp=Z,470nm,16.8s						
MDJ				LR	LR		
	comp=Z,380nm,19.0s						
MDJ				LR	LR		
	comp=Z,560nm,20.5s						
WVOR	Wild Horse Val	87.06	39	IAMs_20	IAMs_20	08 28 55.6	
	comp=Z,1μm,19.0s						
WUAZ	Wupatki	87.17	48	IAMs_20	IAMs_20	08 30 11.4	
	comp=Z,1μm,18.0s						
SZCU	Shurtz Canyon	87.30	45	P	P	07 55 12.8	+0.6
SKLT	Songkhla	87.33	279	P	P	07 55 14.8	+2.2
	comp=Z,18nm,1.4s						
GSI	Gunungsitoli	87.36	273	P	P	07 55 12.0	-0.8
GSI	Gunungsitoli	87.36	273	P	P	07 55 12.0	-0.8
	comp=Z,145nm,0.9s						
NLWA	Neilton Lookou	87.74	32	IAMs_20	IAMs_20	08 27 55.4	
	comp=Z,1μm,19.0s						
WHN	Wuhan	87.76	306	⇑P	P	07 55 15.0	+0.8
WHN				pmax	pmax		
	comp=Z,170nm,0.9s						
WHN				LR	LR		
	comp=Z,2μm,16.8s						
WHN				LR	LR		
	comp=Z,2μm,18.7s						
WHN				LR	LR		
	comp=Z,4μm,23.8s						
E04D	Cinebar	87.79	34	P	P	07 55 16.3	+2.3
	baz=226						
121A	Cookes Peak, D	87.89	52	P	P	07 55 16.4	+1.3
	baz=236						
ELK	Elko	87.93	42	IAMs_20	IAMs_20	08 28 04.3	
	comp=Z,2μm,20.0s						
W18A	Petrified Fore	88.02	49	P	P	07 55 18.1	+2.4
	baz=235						
D04E	Lakebay	88.12	33	P	P	07 55 18.4	+2.9
	baz=226						
GRNR	Gornyy	88.13	332	⇑*i*P	P	07 55 17.0	+1.5
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GRNR				MLR	MLR		
	comp=E,200nm,18.0s						
GRNR				MLR	MLR		
	comp=N,320nm,16.0s						
D03D	Eldon	88.22	33	P	P	07 55 18.0	+2.0
	baz=225						
O18K	Koktuh Hills	88.29	10	P	P	07 55 16.8	+0.8
	baz=198,SNR=18						
NKL	Nikolayevsk	88.30	336	*e*P	P	07 55 14.9	-1.3
NKL				pmax	pmax		
	comp=N,1μm,0.9s						
NKL				pmax	pmax		
	comp=E,45nm,1.3s						
NKL				pmax	pmax		
	comp=Z,47nm,1.3s						
NKL				MLR	MLR		
	comp=E,203nm,12.0s						
NKL				MLR	MLR		
	comp=N,23μm,16.0s						
NKL				MLR	MLR		
	comp=Z,953nm,20.0s						
EPT	El Paso	88.38	53	IAMs_20	IAMs_20	08 27 19.6	
	comp=Z,949nm,19.0s						
P19K	Oil Pt	88.43	11	P	P	07 55 16.8	+0.1
	baz=200						
CN2	Changchun	88.57	322	*e*P	P	07 55 17.5	-0.2
CN2				*e*S	S	08 05 53.3	-10
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,400nm,3.3s						
CN2				LR	LR		
	comp=Z,200nm,19.0s						
CN2				LR	LR		
	comp=Z,600nm,19.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
TPTI		88.60	274	P	P	07 55 17.0	-1.6
	comp=Z,12nm,1.1s						
CNPM	China Poot	88.68	12	IAMs_20	IAMs_20	08 32 18.1	
	comp=Z,1μm,19.0s						
HOM	Homer	88.72	12	P	P	07 55 19.1	+1.0
	baz=202						
HOM	Homer	88.72	12	IAMs_20	IAMs_20	08 32 20.3	
	comp=Z,1μm,20.0s						
O19K	Port Alsworth	88.76	11	P	P	07 55 18.7	+0.5
	baz=199						
O20K	Slope Mountain	88.94	11	P	P	07 55 19.9	+0.7
	baz=201						
BRLK	Bradley Lake	88.97	12	IAMs_20	IAMs_20	08 32 35.3	
	comp=Z,1μm,20.0s						
N18K	Kilae Creek	88.97	10	P	P	07 55 20.0	+0.8
	baz=198,SNR=7.2						
BRSE	Bradley Lake S	88.97	13	P	P	07 55 20.9	+1.6
	baz=202,SNR=12						
TIA	Taiʻan	89.00	312	⇑P	P	07 55 21.0	+1.0
TIA				S	S	08 05 59.3	-8.5
TIA				pmax	pmax		
	comp=Z,66nm,1.2s						
TIA				pmax	pmax		
	comp=Z,460nm,3.7s						
TIA				LR	LR		
	comp=Z,350nm,17.3s						
TIA				LR	LR		
	comp=Z,330nm,15.3s						
TIA				LR	LR		
	comp=Z,720nm,19.1s						
DUG	Dugway, Tooele	89.05	43	IAMs_20	IAMs_20	08 34 00.0	
	comp=Z,1μm,18.0s						
KLR	Kulʻdur	89.06	329	P	P	07 55 20.7	+0.7
	comp=Z,13nm,0.9s,baz=129,slow=3.8,SNR=34						
KLR	Kulʻdur	89.06	329	*ce*P	P	07 55 21.0	+1.1
KLR				pmax	pmax		
	comp=Z,28nm,1.4s						
TXAR	Lajitas Array	89.14	56	P	P	07 55 23.0	+2.1
	comp=Z,2.8nm,0.9s,baz=213,slow=7.0,SNR=38						
TXAR				PKKPbc	PKKPbc	08 12 59.6	+1.0
	comp=Z,0.2nm,0.8s,baz=73,slow=4.1,SNR=2.4						
TXAR				LR	LR	08 27 49.1	
	comp=Z,771nm,20.5s,baz=0.0,slow=30						
TXAR	Lajitas Array	89.14	56	P	P	07 55 23.0	+2.1
B05A	Bryant	89.21	33	P	P	07 55 22.6	+2.0
	baz=226,SNR=9.0						
HAWA	Hanford	89.21	35	IAMs_20	IAMs_20	08 38 06.3	
	comp=Z,981nm,18.0s						
A04D	Lummi Island	89.23	32	P	P	07 55 22.7	+2.0
	baz=226,SNR=16						
N19K	Bonanza Creek	89.32	10	P	P	07 55 21.2	+0.2
	baz=199,SNR=11						
Y22D	IRIS PASSCAL I	89.35	51	IAMs_20	IAMs_20	08 33 52.3	
	comp=Z,1μm,18.0s						
BMO	Blue Mountains	89.37	37	IAMs_20	IAMs_20	08 38 37.7	
	comp=Z,874nm,18.0s						
SEW	Seward	89.56	13	P	P	07 55 22.4	+0.5
	baz=204,SNR=6.1						
Q23K	Middleton Isla	89.61	15	P	P	07 55 24.4	+2.2
	baz=206						
KHON	Khomkaen	89.69	288	P	P	07 55 25.3	+1.7
	comp=Z,4μmcomp=Z,91nm,0.8s						
LHMI	Lhok Sumawe	89.69	276	IAMs_20	IAMs_20	08 36 24.9	
	comp=Z,1μm,19.0s						
PATY	Pattaya	89.77	285	P	P	07 55 27.0	+2.9
CAPN	Captain Cook N	89.85	12	P	P	07 55 25.6	+2.3
	baz=202						
O22K	Cooper Landing	89.86	13	P	P	07 55 24.5	+1.2
	baz=203						
CRAG	Craig	90.02	23	P	P	07 55 26.3	+2.1
	baz=217						
MVCO	Mesa Verde	90.04	48	IAMs_20	IAMs_20	08 29 33.4	
	comp=Z,1μm,20.0s						
ANMO	Albuquerque	90.15	50	IAMs_20	IAMs_20	08 29 09.4	
	comp=Z,1μm,20.0s						
HLID	Hailey	90.16	40	IAMs_20	IAMs_20	08 29 54.8	
	comp=Z,846nm,19.0s						
CHAI	Chaiyaphum	90.20	288	P	P	07 55 26.6	+0.6
	comp=Z,54nm,0.7s						
NONG	Nongkai	90.23	290	P	P	07 55 27.1	+1.0
	comp=Z,5μmcomp=Z,122nm,1.2s						
M19K	Big River Lodg	90.37	10	P	P	07 55 26.2	+0.4
	baz=199						
RC01	Rabbit Creek A	90.41	12	P	P	07 55 26.5	+0.5
	baz=203,SNR=14						
PWL	Port Wells	90.48	13	IAMs_20	IAMs_20	08 33 14.8	
	comp=Z,909nm,19.0s						
KAIM	Kayak Island	90.50	15	P	P	07 55 27.3	+0.9
	baz=208						
TRQA	Tornquist	90.52	134	P	P	07 55 28.2	+0.8
TRQA				pmax	pmax		
	comp=Z,27nm,1.5s						
TRQA	Tornquist	90.52	134	P	P	07 55 28.2	+0.8
TRQA				IAmb	IAmb	07 55 44.5	
	comp=Z,27nm,1.5s						
TRQA	Tornquist	90.52	134	IAMs_20	IAMs_20	08 30 28.4	
	comp=Z,1μm,18.0s						
L19K	White Mountain	90.56	10	P	P	07 55 26.4	-0.3
	baz=199,SNR=21						
SIT	Sitka	90.57	21	P	P	07 55 26.6	-0.2
	baz=216						
MA2	Magadan	90.57	344	P	P	07 55 26.3	-0.4
	comp=Z,7.7nm,0.9s,baz=138,slow=6.7,SNR=4.3						
MA2	Magadan	90.57	344	*ce*P	P	07 55 25.8	-0.9
MA2				pmax	pmax		
	comp=Z,18nm,1.2s						
SUA	Susitna One	90.57	12	P	P	07 55 26.4	-0.4
	baz=202,SNR=5.6						
SUA	Susitna One	90.57	12	IAMs_20	IAMs_20	08 33 51.1	
	comp=Z,1μm,19.0s						
HWUT	Hardware Ranch	90.65	43	IAMs_20	IAMs_20	08 30 13.4	
	comp=Z,1μm,20.0s						
EYAK	Cordova Ski Ar	90.75	14	P	P	07 55 28.9	+1.4
	baz=207,SNR=7.2						
GLI	Glacier Island	90.75	14	P	P	07 55 28.8	+1.3
	baz=206,SNR=7.4						
FID	Port Fidalgo	90.77	14	IAMs_20	IAMs_20	08 32 59.2	
	comp=Z,797nm,18.0s						
PHET	Kaeng Krachan	90.83	284	P	P	07 55 31.2	+2.2
	comp=Z,916nmcomp=Z,72nm,1.0s						
RAGM	Ragged Mountai	90.85	15	IAMs_20	IAMs_20	08 32 35.5	
	comp=Z,993nm,20.0s						
SKT	Skwentna	90.91	11	P	P	07 55 27.8	-0.5
	baz=202,SNR=5.0						
SKT	Skwentna	90.91	11	IAMs_20	IAMs_20	08 33 44.1	
	comp=Z,1μm,20.0s						
KNK	Knik Glacier	90.96	13	P	P	07 55 28.2	-0.3
	baz=204,SNR=7.9						
PMR	Palmer	90.99	13	P	P	07 55 28.2	-0.4
	baz=204,SNR=15						
ENH	Enshi	91.18	304	P	P	07 55 30.5	+0.2
SML	Sawmill	91.34	13	P	P	07 55 30.5	+0.2
	baz=204						
BMRM	Bremner River	91.38	15	P	P	07 55 32.2	+1.6
	baz=208,SNR=16						
GYA	Guiyang	91.42	299	⇓P	P	07 55 32.8	+1.1
GYA				pP	pwP	07 55 43.0	+0.9
GYA				pmax	pmax		
	comp=Z,32nm,1.4s						
GYA				LR	LR		
	comp=Z,360nm,18.7s						
GYA				LR	LR		
	comp=Z,220nm,17.4s						
GYA				LR	LR		
	comp=Z,420nm,21.4s						
S22A	4UR Ranch, Cre	91.44	48	P	P	07 55 31.6	-0.2
	baz=236						
CUT	Chulitna	91.53	12	P	P	07 55 31.2	+0.1
	baz=203						
CUT	Chulitna	91.53	12	IAMs_20	IAMs_20	08 34 12.5	
	comp=Z,1μm,20.0s						
YAH	Yahtse	91.53	16	IAMs_20	IAMs_20	08 31 00.5	
	comp=Z,1μm,19.0s						
CRQM	Cirque	91.53	15	IAMs_20	IAMs_20	08 40 39.9	
	comp=Z,759nm,18.0s						
CRQE	Cirque	91.54	15	P	P	07 55 33.2	+1.8
	baz=209,SNR=6.0						
KLU	Klutina	91.56	14	P	P	07 55 32.9	+1.5
	baz=207,SNR=7.4						
ISLE	Juniper Island	91.59	16	IAMs_20	IAMs_20	08 40 58.4	
	comp=Z,862nm,18.0s						
TGL	Tana Glacier	91.61	16	IAMs_20	IAMs_20	08 40 49.6	
	comp=Z,932nm,18.0s						
AHID	Auburn Hatcher	91.61	42	IAMs_20	IAMs_20	08 30 02.9	
	comp=Z,1μm,20.0s						
PPLA	Purkeypile	91.66	11	P	P	07 55 32.1	+0.2
	baz=201						
NEW	Newport	91.67	35	IAMs_20	IAMs_20	08 35 28.6	
	comp=Z,1μm,18.0s						
PINM	Pinnacle	91.68	17	P	P	07 55 32.4	+0.4
	baz=211						
ANM	Nome	91.71	5	P	P	07 55 33.1	+1.2
	baz=190						
BCPM	Bancas Point	91.72	17	IAMs_20	IAMs_20	08 34 26.8	
	comp=Z,978nm,18.0s						
TABL	Table Mountain	91.75	16	IAMs_20	IAMs_20	08 30 57.5	
	comp=Z,1μm,19.0s						
BJI	Beijing	91.79	315	P	P	07 55 33.5	+0.6
BJI				pP	pwP	07 55 40.0	-3.3
BJI				sP	sP	07 55 43.5	+5.9
BJI				SKS	SKSac	08 06 05.0	0.0
BJI				S	S	08 06 34.3	+1.1
BJI				sS	sS	08 06 48.0	+8.5
BJI				pmax	pmax		
	comp=Z,19nm,1.5s						
BJI				pmax	pmax		
	comp=Z,350nm,3.0s						
BJI				LR	LR		
	comp=Z,320nm,18.6s						
BJI				LR	LR		
	comp=Z,230nm,19.6s						
K20K	Telida	91.79	10	P	P	07 55 33.2	+0.8
	baz=200,SNR=7.1						
833A	Chaparral WMA,	91.84	59	P	P	07 55 32.7	-0.7
	baz=240						
SRDT	SRDT	91.93	285	P	P	07 55 37.4	+3.3
	comp=Z,27nm,1.5s						
N25K	Chitina, Valde	91.95	14	P	P	07 55 35.0	+1.8
	baz=208,SNR=11						
M24K	Tolsona, Glenn	92.06	14	P	P	07 55 34.7	+1.0
	baz=206						
MCARA	McCarthy VSAT	92.11	15	P	P	07 55 35.5	+1.7
	baz=209,SNR=6.3						
REDW	Red Top Meadow	92.11	41	IAMs_20	IAMs_20	08 30 48.0	
	comp=Z,1μm,20.0s						
LOGN	Logan Glacier	92.11	16	IAMs_20	IAMs_20	08 31 29.1	
	comp=Z,866nm,20.0s						
PHIT	Phitsanulok	92.12	288	P	P	07 55 36.9	+2.0
TPAW	Teton Pass	92.13	41	IAMs_20	IAMs_20	08 30 46.5	
	comp=Z,1μm,20.0s						
SMCO	Snowmass	92.13	47	IAMs_20	IAMs_20	08 31 45.8	
	comp=Z,1μm,21.0s						
CTG	Chitna Glacier	92.15	16	P	P	07 55 35.5	+1.3
	baz=210,SNR=5.4						
BARN	Barnard Glacie	92.16	16	IAMs_20	IAMs_20	08 41 06.2	
	comp=Z,803nm,18.0s						
WAT6	Susitna Watana	92.17	13	P	P	07 55 35.2	+0.9
	baz=205,SNR=9.2						
MSTX	Muleshoe	92.20	53	P	P	07 55 34.9	-0.3
	baz=239						
SNOW	Snow King Moun	92.23	41	IAMs_20	IAMs_20	08 30 42.1	
	comp=Z,1μm,19.0s						
WAT1	Susitna Watana	92.24	12	P	P	07 55 34.8	+0.4
	baz=204						
DLMT	Dillon	92.29	39	IAMs_20	IAMs_20	08 32 24.1	
	comp=Z,888nm,19.0s						
SDCO	Great Sand Dun	92.32	48	IAMs_20	IAMs_20	08 30 37.8	
	comp=Z,994nm,20.0s						
IMW	Indian Meadow	92.37	41	IAMs_20	IAMs_20	08 31 06.3	
	comp=Z,898nm,20.0s						
LOHW	Long Hollow	92.40	41	IAMs_20	IAMs_20	08 29 58.8	
	comp=Z,979nm,20.0s						
KTH	Kantishna Hill	92.48	11	IAMs_20	IAMs_20	08 34 55.5	
	comp=Z,1μm,20.0s						
TRF	Thorofare Moun	92.49	11	P	P	07 55 36.4	+0.6
	baz=203,SNR=14						
SKAG	Skagway	92.53	19	P	P	07 55 37.9	+2.1
	baz=216						
HARP	HAARP	92.53	14	P	P	07 55 36.7	+0.9
	baz=207						
BW06	Boulder Array	92.54	43	IAMs_20	IAMs_20	08 31 25.4	
	comp=Z,1μm,19.0s						
PDAR	Pinedale Array	92.54	43	P	P	07 55 37.8	+1.2
	comp=Z,3.3nm,0.8s,baz=214,slow=3.4,SNR=28						
PDAR				PP	PP	07 59 20.8	+2.4
	comp=Z,1.6nm,1.1s,baz=235,slow=5.2,SNR=4.6						
PDAR				LR	LR	08 31 45.9	
	comp=Z,954nm,19.1s,baz=250,slow=32						
PDAR	Pinedale Array	92.54	43	P	P	07 55 37.1	+0.5
TNA	Tin City	92.54	3	P	P	07 55 36.6	+0.9
	baz=187						
J20K	Nowinta River	92.56	9	P	P	07 55 36.9	+1.1
	baz=199,SNR=11						
CHUM	Lake Minchumin	92.56	10	P	P	07 55 35.8	-0.1
	baz=201						
JCT	Junction City	92.60	57	IAMs_20	IAMs_20	08 29 27.5	
	comp=Z,1μm,20.0s						
FLWY	Flagg Ranch	92.62	41	IAMs_20	IAMs_20	08 31 24.9	
	comp=Z,958nm,20.0s						
RND	Reindeer	92.71	12	IAMs_20	IAMs_20	08 34 37.6	
	comp=Z,1μm,20.0s						
GCSA	Galena City Sc	92.73	8	P	P	07 55 37.2	+0.7
	baz=197						
T25A	Trinidad	92.73	49	P	P	07 55 38.2	+0.6
	baz=238						
H17A	Grant Village	92.88	41	P	P	07 55 38.4	+0.3
	baz=234,SNR=9.0						
TIY	Taiyuan	92.96	311	*e*P	P	07 55 39.5	+1.0
TIY				pP	pwP	07 55 48.0	-0.9
TIY				sP	sP	07 55 51.8	+8.5
TIY				SKS	SKSac	08 06 11.5	-0.4
TIY				S	S	08 06 40.0	-4.0
TIY				sS	sS	08 06 54.5	+4.1
TIY				LR	LR		
	comp=Z,260nm,17.7s						
TIY				LR	LR		
	comp=Z,180nm,14.6s						
TIY				LR	LR		
	comp=Z,500nm,21.8s						
PAX	Paxson	92.98	13	P	P	07 55 38.6	+0.7
	baz=207,SNR=6.1						
BPAW	Bear Paw Mtn.	92.98	11	P	P	07 55 38.4	+0.5
	baz=202						
MCK	McKinley	92.99	12	P	P	07 55 38.4	+0.5
	baz=204						
MCK	McKinley	92.99	12	IAMs_20	IAMs_20	08 34 58.2	
	comp=Z,1μm,19.0s						
M26K	Nabesna, AK	93.01	15	P	P	07 55 39.4	+1.3
	baz=209						
Q24A	Divide	93.21	48	P	P	07 55 39.0	-0.9
	baz=238						
M27K	Edge Creek, AK	93.23	15	P	P	07 55 40.7	+1.6
	baz=210						
SNET	Serv Nac Est T	93.34	76	IAMs_20	IAMs_20	08 28 23.4	
	comp=Z,1μm,21.0s						
ISCO	Idaho Springs	93.35	47	P	P	07 55 39.9	-0.7
	baz=237						
ISCO	Idaho Springs	93.35	47	IAMs_20	IAMs_20	08 31 46.1	
	comp=Z,997nm,19.0s						
RWWY	Rawlins	93.37	44	IAMs_20	IAMs_20	08 33 43.5	
	comp=Z,1μm,19.0s						
LAMP	Lampang	93.40	289	P	P	07 55 43.0	+2.2
LAMP	Lampang	93.40	289	P	P	07 55 43.0	+2.2
L26K	Log Cabin Wild	93.48	14	P	P	07 55 41.0	+0.8
	baz=209						
XAN	Xiʻan	93.50	307	P	P	07 55 41.5	+0.5
XAN				pP	pwP	07 55 49.3	-2.1
XAN				sP	sP	07 55 53.3	+7.5
XAN				PP	PP	07 59 30.5	+4.6
XAN				SKS	SKSac	08 06 14.0	-1.0
XAN				S	S	08 06 48.8	-0.1
XAN				sS	sS	08 07 02.3	+7.1
XAN				pmax	pmax		
	comp=Z,26nm,1.2s						
XAN				pmax	pmax		
	comp=Z,300nm,7.6s						
XAN				LR	LR		
	comp=Z,580nm,20.9s						
XAN				LR	LR		
	comp=Z,800nm,20.9s						
XAN				LR	LR		
	comp=Z,1μm,20.6s						
XAN	Xiʻan	93.50	307	P	P	07 55 42.3	+1.3
XAN	Xiʻan	93.50	307	P	P	07 55 42.3	+1.3
WHY	Whitehorse	93.63	19	P	P	07 55 42.4	+1.4
	baz=216						
N23A	Red Feather La	93.73	46	P	P	07 55 42.7	+0.4
	baz=237						
NEA2	Nenana	93.76	11	P	P	07 55 41.6	+0.2
	baz=204						
ABTX	Abilene, Hawle	93.78	55	P	P	07 55 42.2	-0.1
	baz=240						
RIDG	Independent Ri	93.79	13	P	P	07 55 42.0	+0.3
	baz=208,SNR=11						
RIDG	Independent Ri	93.79	13	IAMs_20	IAMs_20	08 35 09.3	
	comp=Z,900nm,19.0s						
WRH	Wood River Hil	93.82	12	IAMs_20	IAMs_20	08 35 15.1	
	comp=Z,820nm,19.0s						
I21K	Tanana	93.83	10	P	P	07 55 41.7	0.0
	baz=201,SNR=9.5						
CM36	Chiang Mai Arr	93.85	289	P	P	07 55 44.0	+1.1
L27K	Beaver Creek,	93.85	15	P	P	07 55 42.7	+0.8
	baz=210,SNR=5.9						
CM35	Chiang Mai Arr	93.87	289	P	P	07 55 44.0	+1.0
MLY	Manley	93.88	10	P	P	07 55 42.1	0.0
	baz=202,SNR=5.7						
KMI	Kunming	93.88	296	⇑P	P	07 55 44.5	+1.3
KMI				pP	pwP	07 55 53.3	-0.3
KMI				sP	sP	07 55 56.3	+8.3
KMI				SS	SS	08 13 18.0	+5.2
KMI				pmax	pmax		
	comp=Z,38nm,1.4s						
KMI				pmax	pmax		
	comp=Z,230nm,11.0s						
KMI				LR	LR		
	comp=Z,400nm,16.6s						
KMI				LR	LR		
	comp=Z,290nm,18.8s						
KMI				LR	LR		
	comp=Z,410nm,22.1s						
KMI	Kunming	93.88	296	P	P	07 55 45.0	+1.8
KMI	Kunming	93.88	296	P	P	07 55 45.0	+1.8
CM04	Chiang Mai Arr	93.89	289	P	P	07 55 45.2	+2.1
CM04	Chiang Mai Arr	93.89	289	P	P	07 55 45.0	+1.9
CM09	Chiang Mai Arr	93.90	289	P	P	07 55 45.3	+2.1
CM09	Chiang Mai Arr	93.90	289	P	P	07 55 45.0	+1.8
CM01	Chiang Mai Arr	93.92	289	P	P	07 55 45.3	+2.1
CM01	Chiang Mai Arr	93.92	289	P	P	07 55 45.0	+1.8
CM05	Chiang Mai Arr	93.92	289	P	P	07 55 45.2	+2.0
CM05	Chiang Mai Arr	93.92	289	P	P	07 55 45.3	+2.0
CM02	Chiang Mai Arr	93.94	289	P	P	07 55 45.4	+2.1
CM02	Chiang Mai Arr	93.94	289	P	P	07 55 45.5	+2.1
CM31	Chiang Mai Arr	93.95	289	P	P	07 55 46.9	+3.5
CMAR	Chiang Mai Arr	93.95	289	P	P	07 55 44.6	+1.3
	comp=Z,6.9nm,0.8s,baz=142,slow=3.4,SNR=30						
CMAR	Chiang Mai Arr	93.95	289	*i*P	P	07 55 45.0	+1.6
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CM34	Chiang Mai Arr	93.95	289	P	P	07 55 44.0	+0.6
CM15	Chiang Mai Arr	93.96	289	P	P	07 55 45.4	+2.0
CM15	Chiang Mai Arr	93.96	289	P	P	07 55 45.0	+1.6
CM13	Chiang Mai Arr	93.97	289	P	P	07 55 45.3	+1.9
CM13	Chiang Mai Arr	93.97	289	P	P	07 55 45.4	+1.9
HDA	Harding Lake	93.98	12	P	P	07 55 43.2	+0.8
	baz=206,SNR=9.4						
CCB	Clear Creek Bu	94.03	12	IAMs_20	IAMs_20	08 38 57.6	
	comp=Z,792nm,19.0s						
RLMT	Red Lodge	94.06	41	IAMs_20	IAMs_20	08 31 21.9	
	comp=Z,987nm,20.0s						
CMMT	Chiang Mai	94.11	289	P	P	07 55 45.3	+1.2
CMMT	Chiang Mai	94.11	289	P	P	07 55 45.3	+1.2
CM33	Chiang Mai Arr	94.11	289	P	P	07 55 45.0	+0.9
SCRK	Sand Creek	94.18	14	P	P	07 55 44.8	+1.3
	baz=208,SNR=11						
ZEA	Zeya	94.21	330	*e*P	P	07 55 47.5	+3.8
ZEA				*e*		07 59 26.1	
ZEA				*e*SP	SP	08 08

TCOL	CIGO, UAF Yank	94.23	12	P	P	07 55 43.6	0.0	
	baz=205							
TCOL	CIGO, UAF Yank	94.23	12	IAMs_20	IAMs_20	08 35 55.9		
	comp=Z,1µm,20.0s							
COLA	College	94.23	12	IAMs_20	IAMs_20	08 35 55.9		
	comp=Z,1µm,20.0s							
ILAR	Eielson Array	94.32	12	P	P	07 55 44.5	+0.6	
	comp=Z,3.6nm,0.9s,baz=219,slow=5.3,SNR=33							
ILAR				LR	LR	08 37 00.5		
	comp=Z,172nm,18.0s,baz=210,slow=35							
K22A	Casper	94.33	44	P	P	07 55 44.3	-0.4	
	baz=237							
435B	Jarrell	94.42	58	IAMs_20	IAMs_20	08 30 33.6		
	comp=Z,1µm,19.0s							
POKR	Poker Plat Res	94.53	12	P	P	07 55 44.9	0.0	
	baz=205							
POKR	Poker Plat Res	94.53	12	IAMs_20	IAMs_20	08 36 05.8		
	comp=Z,938nm,20.0s							
K27K	Chicken	94.64	14	P	P	07 55 46.5	+1.0	
	baz=210							
H23K	Yukon River	94.81	11	P	P	07 55 47.1	+0.8	
	baz=204							
HIA	Hailar	95.05	324	IAMs_20	IAMs_20	08 34 51.4		
	comp=Z,964nm,20.0s							
WHTX	Lake Whitney,	95.09	57	P	P	07 55 50.1	+1.8	
	baz=241							
H24K	Noodor Dome	95.11	11	P	P	07 55 47.9	+0.3	
	baz=205							
HHC	Hu-ho-hao-te	95.18	313	eP	P	07 55 49.3	+0.6	
HHC				sP	pwP	07 56 01.3	+2.2	
HHC				SKS	SKSac	08 06 26.3	+2.4	
HHC				S	ScS	08 07 07.0	+2.7	
HHC				pmax	pmax			
	comp=Z,25nm,1.0s							
HHC				pmax	pmax			
	comp=Z,260nm,7.9s							
HHC				LR	LR			
	comp=Z,320nm,17.1s							
HHC				LR	LR			
	comp=Z,420nm,17.1s							
HHC				LR	LR			
	comp=Z,570nm,18.8s							
PRP	Porcupine Dome	95.24	12	P	P	07 55 49.4	+1.0	
	baz=207,SNR=10							
DAWY	Dawson	95.28	15	P	P	07 55 48.7	+0.3	
RDOG	Red Dog Mine	95.34	5	P	P	07 55 50.7	+2.1	
	baz=192							
HKT	Hockley	95.35	59	IAMs_20	IAMs_20	08 32 33.5		
	comp=Z,824nm,19.0s							
EGMT	Eagleton	95.44	38	IAMs_20	IAMs_20	08 34 24.3		
	comp=Z,954nm,19.0s							
JTS	Las Juntas de	95.57	81	IAMs_20	IAMs_20	08 29 29.5		
	comp=Z,1000nm,18.0s							
BILL	Bilibino	95.73	353	eP	P	07 55 49.8	-0.6	
BILL				e		07 55 59.7		
BILL				e		07 59 41.0		
BILL				ePPP	PPP	08 01 46.9		
BILL				e		08 07 12.9		
BILL				eSS	SS	08 13 41.1	+4.1	
BILL				pmax	pmax			
	comp=Z,12nm,1.1s							
BILL				MLR	MLR			
	comp=Z,609nm,19.0s							
CD2	Chengdu	95.79	302	i P	P	07 55 53.3	+1.7	
CD2				pP	pwP	07 56 02.8	+0.8	
CD2				sP	sP	07 56 05.0	+8.6	
CD2				S	S	08 07 08.0	-1.0	
CD2				pmax	pmax			
	comp=Z,30nm,1.1s							
CD2				pmax	pmax			
	comp=Z,340nm,8.0s							
CD2				LR	LR			
	comp=Z,480nm,20.3s							
CD2				LR	LR			
	comp=Z,430nm,22.7s							
CD2				LR	LR			
	comp=Z,510nm,20.5s							
COLD	Coldfoot	96.00	10	P	P	07 55 52.8	+1.2	
	baz=203							
BTO	Baotou	96.06	313	eP	P	07 55 56.0	+3.3	
BTO				LR	LR			
	comp=Z,2µm,18.3s							
BTO				LR	LR			
	comp=Z,2µm,17.8s							
HDC	Heredia	96.18	82	IAMs_20	IAMs_20	08 28 28.8		
	comp=Z,981nm,22.0s							
RSSD	Black Hills	96.64	44	P	P	07 55 56.2	+0.8	
RSSD				pmax	pmax			
	comp=Z,13nm,0.9s							
RSSD				MLR	MLR			
	comp=Z,2µm,18.0s							
RSSD	Black Hills	96.64	44	P	P	07 55 56.1	+0.8	
RSSD				IAmb	IAmb	07 55 58.4		
	comp=Z,13nm,0.8s							
LAO	LASA Array	96.69	41	IAMs_20	IAMs_20	08 33 54.6		
	comp=Z,841nm,19.0s							
CBKS	Cedar Bluff	96.76	50	IAMs_20	IAMs_20	08 33 20.3		
	comp=Z,1µm,20.0s							
OK029	Liberty Lake	96.90	53	IAMs_20	IAMs_20	08 37 36.3		
	comp=Z,882nm,19.0s							
ESPN	Las Esperanzas	96.98	80	IAMs_20	IAMs_20	08 30 26.9		
	comp=Z,808nm,19.0s							
NATX	Nacogdoches	97.08	58	IAMs_20	IAMs_20	08 36 58.2		
	comp=Z,978nm,19.0s							
BMAR	Burnt Mountain	97.12	12	P	Pdif	07 55 58.3	+1.4	
TOLK	Toolik Lake Re	97.40	9	P	P	07 55 58.2	+0.2	
	baz=204							
OK031	S. Brethren Rd	97.42	53	IAMs_20	IAMs_20	08 38 28.9		
	comp=Z,969nm,19.0s							
X37A	Clayton	97.85	55	IAMs_20	IAMs_20	08 33 16.4		
	comp=Z,1µm,20.0s							
LPAZ	La Paz	97.89	113	P	Pdif	07 56 05.3	+3.1	
	comp=Z,1.5nm,0.9s,baz=250,slow=3.3,SNR=5.4							
LPAZ				LR	LR	08 31 53.2		
	comp=Z,441nm,20.5s,baz=222,slow=30							
LZH	Lanzhou	98.13	306	eP	Pdif	07 56 02.8	+0.5	
LZH				pP	sP	07 56 07.5	+0.5	
LZH				sP	pwP	07 56 11.0	-1.6	
LZH				PP	PP	08 00 04.3	+2.4	
LZH				SKS	SKSac	08 06 39.3	-0.3	
LZH				eS	ScS	08 07 32.8	+3.5	
LZH				sS	sS	08 07 38.5	+3.0	
LZH				SS	SS	08 14 09.8	-2.8	
LZH				pmax	pmax			
	comp=Z,21nm,1.4s							
LZH				pmax	pmax			
	comp=Z,170nm,8.5s							
LZH				LR	LR			
	comp=Z,470nm,17.0s							
LZH				LR	LR			
	comp=Z,780nm,17.4s							
LZH				LR	LR			
	comp=Z,630nm,19.6s							
TUL1	Leonard	98.15	54	P	Pdif	07 56 02.8	+0.7	
	baz=242							
KSU1	Kansas State U	99.04	51	IAMs_20	IAMs_20	08 39 23.8		
	comp=Z,1µm,18.0s							
MIAR	Mount Ida	99.15	56	IAMs_20	IAMs_20	08 39 41.9		
	comp=Z,872nm,18.0s							
X40A	Basin Creek Fa	99.67	56	IAMs_20	IAMs_20	08 34 09.8		
	comp=Z,741nm,20.0s							
INK	Inuvik	100.13	15	P	Pdif	07 56 11.5	+1.4	
	comp=Z,2.0nm,0.8s,baz=175,slow=2.7,SNR=3.3							
CPUP	Villa Florida	100.65	127	P	Pdif	07 56 16.2	+2.6	
	comp=Z,1.2nm,0.8s,baz=298,slow=16,SNR=3.6							
YKA	Yellowknife Ar	101.71	25	P	Pdif	07 56 19.1	+1.9	
	comp=Z,0.2nm,0.2s,baz=223,slow=4.7,SNR=1.9							
YKA				PP	PP	08 00 33.1	+4.8	
	comp=Z,0.4nm,0.8s,baz=233,slow=6.8,SNR=1.6							
SONM	Songino Array	101.84	318	P	Pdif	07 56 22.5	+4.1	
	comp=Z,0.5nm,0.5s,baz=133,slow=6.1,SNR=2.1							
OXF	Oxford	102.24	58	IAMs_20	IAMs_20	08 35 49.9		
	comp=Z,1µm,21.0s							
GTA	Gaotai	102.46	308	eP	Pdif	07 56 22.8	+1.4	
GTA				pP	sPdif	07 56 31.5	+5.3	
GTA				sP	pPdif	07 56 35.3	+10	
GTA				PP	PP	08 00 38.0	+3.3	
GTA				SKS		08 06 59.3		
GTA				sS	sS	08 08 15.5	+3.5	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,66nm,9.6s							
GTA				LR	LR			
	comp=Z,310nm,19.9s							
GTA				LR	LR			
	comp=Z,440nm,20.7s							
GTA				LR	LR			
	comp=Z,620nm,22.3s							
SCIA	State Center	102.60	49	IAMs_20	IAMs_20	08 37 12.9		
	comp=Z,750nm,19.0s							
FFC	Flin Flon	103.10	35	IAMs_20	IAMs_20	08 48 21.9		
	comp=Z,950nm,18.0s							
C36M	Paulatuk	103.20	17	IAMs_20	IAMs_20	08 47 52.2		
	comp=Z,838nm,18.0s							
PLAL	Pickwick Lake	103.44	58	IAMs_20	IAMs_20	08 36 25.5		
	comp=Z,951nm,20.0s							
WVT	Waverly	104.08	57	IAMs_20	IAMs_20	08 43 01.4		
	comp=Z,868nm,18.0s							
JFWS	Jewell Farm	105.02	49	IAMs_20	IAMs_20	08 43 54.9		
	comp=Z,815nm,18.0s							
PALK	Pallekele	105.06	271	IAMs_20	IAMs_20	08 46 35.0		
	comp=Z,851nm,19.0s							
MTDJ	Mount Denham	105.43	77	IAMs_20	IAMs_20	08 41 04.9		
	comp=Z,638nm,18.0s							
SAML	Samuel	105.80	109	IAMs_20	IAMs_20	08 35 49.6		
	comp=Z,1µm,21.0s							
EYMN	Ely	106.15	44	IAMs_20	IAMs_20	08 44 12.6		
	comp=Z,929nm,18.0s							
GOGA	Godfrey	106.36	61	IAMs_20	IAMs_20	08 38 46.9		
	comp=Z,803nm,21.0s							
TZTN	Tazewell	107.44	57	IAMs_20	IAMs_20	08 45 34.3		
	comp=Z,731nm,18.0s							
P49A	Miami Univ. Ec	107.64	54	IAMs_20	IAMs_20	08 39 30.5		
	comp=Z,1µm,20.0s							
ACSO	Alum Creek Sta	109.13	54	IAMs_20	IAMs_20	08 45 32.0		
	comp=Z,1µm,19.0s							
SPB	Sao Paulo	109.29	131	IAMs_20	IAMs_20	08 45 39.6		
	comp=Z,949nm,18.0s							
GLMI	Grayling	109.50	49	IAMs_20	IAMs_20	08 45 29.5		
	comp=Z,711nm,18.0s							
P52A	Corning	109.55	55	IAMs_20	IAMs_20	08 40 08.1		
	comp=Z,1µm,20.0s							
HATO	Hato, Curacao	110.55	87	IAMs_20	IAMs_20	08 40 05.1		
	comp=Z,638nm,20.0s							
M53A	WI Miller and	111.17	53	IAMs_20	IAMs_20	08 46 18.0		
	comp=Z,792nm,19.0s							
CNNC	Cliffs of the	111.32	60	IAMs_20	IAMs_20	08 47 27.2		
	comp=Z,860nm,19.0s							
N54A	Moraine State	111.52	54	IAMs_20	IAMs_20	08 47 05.3		
	comp=Z,974nm,18.0s							
ERPA	Erie	111.87	53	IAMs_20	IAMs_20	08 47 21.4		
	comp=Z,913nm,18.0s							
M54A	Oil Creek Stat	111.92	54	IAMs_20	IAMs_20	08 46 59.8		
	comp=Z,892nm,18.0s							
WMQ	Urumqi	112.50	309	ePKP	PKiKP	08 01 01.5	+0.2	
WMQ				LR	LR			
	comp=Z,460nm,21.9s							
WMQ				LR	LR			
	comp=Z,390nm,19.7s							
WMQ				LR	LR			
	comp=Z,440nm,26.3s							
CBN	Corbin Frederi	112.62	58	IAMs_20	IAMs_20	08 50 24.7		
	comp=Z,685nm,18.0s							
PTGA	Pitinga	112.72	103	IAMs_20	IAMs_20	08 40 50.2		
	comp=Z,715nm,20.0s							
BDFB	Brasilia	114.08	124	PKKPab	PKKPab	08 11 53.4	-0.8	
	comp=Z,2.4nm,0.7s,baz=69,slow=7.0,SNR=3.7							
P60A	Greenville	114.38	56	IAMs_20	IAMs_20	08 43 09.0		
	comp=Z,914nm,22.0s							
VOI	Vohitsoka	116.06	225	IAMs_20	IAMs_20	08 46 12.7		
	comp=Z,902nm,19.0s							
LONY	Lake Ozonia	116.32	51	IAMs_20	IAMs_20	08 45 22.2		
	comp=Z,976nm,20.0s							
ZALV	Zalesovo Beam	116.67	319	PKP	PKPdf	08 01 08.0	-0.9	
	comp=Z,4.5nm,0.7s,baz=153,slow=0.7,SNR=11							
ZALV	Zalesovo Beam	116.67	319	PKIKP	PKPdf	08 01 07.4	-1.5	
ZALV	Zalesovo Beam	116.67	319	PKPdf	PKPdf	08 01 07.4	-1.5	
MKAR	Makanchi Array	116.92	311	Pdiff	Pdif	07 57 30.1	+4.7	
	comp=Z,0.4nm,0.8s,baz=90,slow=5.8,SNR=2.7							
MKAR				PKP	PKPdf	08 01 08.8	-0.9	
	comp=Z,6.2nm,0.8s,baz=71,slow=2.8,SNR=34							
MKAR	Makanchi Array	116.92	311	PKPdf	PKPdf	08 01 08.8	-0.9	
NRIK	Noril'sk	117.29	337	PKP	PKPdf	08 01 09.5	-0.2	
	comp=Z,4.1nm,0.8s,baz=97,slow=4.3,SNR=6.4							
NRIK	Noril'sk	117.29	337	i PKIKP	PKPdf	08 01 08.7	-0.9	
HNH	Hanover	117.74	53	IAMs_20	IAMs_20	08 54 34.8		
	comp=Z,804nm,18.0s							
ABPO	Ambohimpanom	117.88	227	IAMs_20	IAMs_20	08 46 57.7		
	comp=Z,849nm,18.0s							
SEUS	St. Eustatius	117.94	84	IAMs_20	IAMs_20	08 42 20.4		
	comp=Z,528nm,19.0s							
FFD	Franklin Falls	118.14	53	IAMs_20	IAMs_20	08 47 04.5		
	comp=Z,854nm,20.0s							
I62A	Tamworth	118.45	53	IAMs_20	IAMs_20	08 49 33.5		
	comp=Z,695nm,20.0s							
I63A	Otisfield	119.02	53	IAMs_20	IAMs_20	08 51 29.6		
	comp=Z,752nm,18.0s							
G62A	West of Eustis	119.26	51	P	PKPdf	08 01 14.0	-0.2	
	baz=260							
TULEG	Thule	120.13	15	IAMs_20	IAMs_20	08 49 22.3		
	comp=Z,578nm,20.0s							
E62A	Clayton Lake	120.18	50	P	PKPdf	08 01 16.3	+0.4	
	baz=262							
E62A	Clayton Lake	120.18	50	IAMs_20	IAMs_20	08 54 27.2		
	comp=Z,777nm,18.0s							
F63A	Nahmakanta, Br	120.33	51	P	PKPdf	08 01 16.2	0.0	
	baz=261							
G64A	Maxfield	120.50	52	P	PKPdf	08 01 15.5	-1.0	
	baz=261							
D62A	Allapoint, All	120.57	49	P	PKPdf	08 01 16.3	-0.3	
	baz=262							
NIL	Nilore	120.84	295	IAMs_20	IAMs_20	08 59 46.4		
	comp=Z,569nm,19.0s							
BOSA	Boshof	120.98	202	PKP	PKiKP	08 01 19.5	+1.1	
	comp=Z,3.2nm,0.9s,baz=135,slow=2.9,SNR=2.1							
BOSA	Boshof	120.98	202		PKiKP	08 01 19.5	+1.1	
PQI	Presque Isle	121.22	50	IAMs_20	IAMs_20	08 52 57.5		
	comp=Z,880nm,19.0s							
E64A	Bridgewater	121.31	50	P	PKPdf	08 01 18.1	0.0	
	baz=262							
G65A	Princeton	121.33	52	P	PKPdf	08 01 17.9	-0.2	
	baz=262							
EMMW	East Machias	121.33	52	IAMs_20	IAMs_20	08 55 54.9		
	comp=Z,614nm,18.0s							
AAK	Ala-Archa	121.65	305	IAMs_20	IAMs_20	08 56 38.1		
	comp=Z,537nm,20.0s							
NEEM	North Greenlan	123.61	12	i P	PKPdf	08 01 22.1	+0.1	
NEEM				IAmb	IAmb	08 01 23.2		
	comp=Z,20nm,1.1s							
BVAR	Borovoye Array	125.18	317	PKP	PKPdf	08 01 24.3	-1.0	
	comp=Z,11nm,1.1s,baz=180,slow=13,SNR=17							
BVAR	Borovoye Array	125.18	317		PKPdf	08 01 24.3	-1.0	
BRVK	Borovoye	125.24	317	i PKIKP	PKPdf	08 01 24.8	-0.6	
ILULI	Ilulissat	127.24	22	IAMs_20	IAMs_20	08 54 05.8		
	comp=Z,631nm,20.0s							
KBS	Kingsbay	127.94	358	i P	PKiKP	08 01 30.9	+0.5	
KBS				IAmb	IAmb	08 01 31.6		
	comp=Z,54nm,1.2s							
SFJD	Kangerlussuaq	128.27	24	IAMs_20	IAMs_20	08 56 57.2		
	comp=Z,545nm,18.0s							
SUMG	Summit	129.05	15	i P	PKiKP	08 01 34.3	+1.0	
SUMG				IAmb	IAmb	08 01 34.6		
	comp=Z,19nm,1.3s							
SUMG	Summit	129.05	15	i PKIKP	PKiKP	08 01 34.3	+1.0	
SUMG				pmax	pmax			
	comp=Z,19nm,1.3s							
SUMG	Summit	129.05	15	IAMs_20	IAMs_20	09 05 04.1		
	comp=Z,516nm,19.0s							
RCBR	Riachuelo	129.44	124	IAMs_20	IAMs_20	08 59 04.2		
	comp=Z,564nm,19.0s							
DY2G	Dye2	130.06	24	i P	PKPdf	08 01 34.3	-0.2	
DY2G				IAmb	IAmb	08 01 37.0		
	comp=Z,22nm,1.2s							
ICESG	Greenland Ices	130.87	19	i P	PKPdf	08 01 36.5	+0.3	
ICESG				IAmb	IAmb	08 01 38.8		
	comp=Z,12nm,1.1s							
ARU	Arti	131.55	323	i PKIKP	PKPdf	08 01 38.2	+0.9	
ARU						08 03 57.3		
ARU				PPP	PPP	08 06 42.4		
ARU				MLR	MLR			
	comp=Z,551nm,21.0s							
ARU	Arti	131.55	323	IAMs_20	IAMs_20	08 58 21.8		
	comp=Z,559nm,20.0s							
NRS	Narsarsuaq	132.64	30	IAMs_20	IAMs_20	08 58 59.3		
	comp=Z,505nm,19.0s							
ANGG	Ammassalik, Gr	133.53	22	IAMs_20	IAMs_20	09 02 33.0		
	comp=Z,552nm,18.0s							
GEYT	Alibeck	133.63	298	PKP	PKPdf	08 01 42.2	+0.3	
	comp=Z,3.7nm,0.7s,baz=34,slow=8.3,SNR=4.7							
SCO	Scoresbysund	134.10	12	IAMs_20	IAMs_20	09 00 37.3		
	comp=Z,592nm,19.0s							
HAMF	Hammerfest	134.96	351	ePKPdf	PKPdf	08 01 43.7	+0.4	
KEV	Kevo	135.23	349	IAMs_20	IAMs_20	09 01 32.7		
	comp=Z,559nm,21.0s							
ARCES	ARCESS Array B	135.68	349	PKP	PKPdf	08 01 45.5	+0.8	
	comp=Z,8.6nm,0.7s,baz=15,slow=1.9,SNR=10							
PRGR	Permogore	135.71	333	ePKIKP	PKPdf	08 01 44.2	-0.7	
PRGR				e		08 04 20.9		
PRGR				pmax	pmax			
	comp=Z,51nm,1.5s							
KIBK	Kibwezi	136.01	234	IAMs_20	IAMs_20	09 05 26.6		
	comp=Z,658nm,18.0s							
JETT	Jettan, Norway	136.41	352	ePKPdf	PKPdf	08 01 46.9	+0.8	
TRO	Tromso	136.52	352	ePKPdf	PKPdf	08 01 46.7	+0.5	
MOR8	Moi Rana	140.34	353	ePKPdf	PKPdf	08 01 53.5	+0.2	
ATD	Arta Tunnel	140.36	255	IAMs_20	IAMs_20	09 05 37.2		
	comp=Z,473nm,18.0s							
H10N3	ASCENSION HYDR	140.95	150	T	T	10 39 55.9		
	baz=204,slow=75,SNR=6.5							
H10N1	ASCENSION HYDR	140.96	150	T	T	10 39 48.1		
	baz=204,slow=75,SNR=7.0							
H10N2	ASCENSION HYDR	140.97	150	T	T	10 39 27.7		
	baz=204,slow=75,SNR=6.2							
MAK	Makhachkala	141.43	306	i P	Pdif	07 59 08.7	-5.7	
MAK				i		08 01 56.2		
MAK				e		08 04 57.3		
MAK				ePPP	PPP	08 08 03.2		
MAK				e		08 09 08.5		
MAK				eSSS	SSS	08 28 49.5		
MAK				pmax	pmax			
	comp=Z,56nm,0.7s							
AKT	Akhty	141.49	303	ePKIKP	PKPdf	08 01 57.0	+0.6	
AKT				i		08 01 59.8		
AKT				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MOS	Moscow	142.47	329	ePKIKP	PKPdf	08 01 56.0	-1.5	
MOS				e		08 05 00.3		
FINES	FINESS Array B	142.55	343	PKhKP	PKPpre	08 01 53.0		
	comp=Z,2.7nm,0.6s,baz=30,slow=3.3,SNR=10							
GROC	Groznyy	142.61	307	ePKIKP	PKPdf	08 01 57.8	-0.3	
GROC				pmax	pmax			
	comp=Z,21nm,0.5s							
VRH	Novokhopyorsk	142.69	321	ePKIKP	PKPdf	08 01 55.3	-2.7	
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
OBN	Obninsk	143.32	329	PKhKP	PKPpre	08 01 56.4		
	comp=Z,4.4nm,0.3s,baz=61,slow=8.9,SNR=5.0							
OBN	Obninsk	143.32	329	ePKIKP	PKPbc	08 01 56.7	+0.6	
OBN				e		08 05 12.4		
OBN				ePPP	PPP	08 08 21.1		
OBN				eSS	SS	08 23 52.0	+2.5	
OBN				pmax	pmax			
	comp=Z,18nm,0.6s							
OBN	Obninsk	143.32	329	IAMs_20	IAMs_20	09 11 30.6		
	comp=Z,490nm,19.0s							
LPSR	Galich'ya Gora	143.55	324	ePKHKP	PKPpre	08 01 53.0		
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
RAF	Rauma	143.98	345	eP	PKPab	08 01 57.3	0.0	
MEF	Metsahovi	144.03	343	eP	PKPbc	08 01 58.6	+0.6	
ZEI	Tsey	144.06	306	i PKIKP	PKPab	08 01 58.1	-0.4	
ZEI				pmax	pmax			
	comp=Z,28nm,1.3s							
NCK	Nalchik	144.11	308	i PKIKP	PKPab	08 01 58.5	+0.1	
VORD	Divnogorie	144.16	321	ePKIKP	PKPab	08 01 57.2	-1.1	
VORD				pmax	pmax			
	comp=Z,10.0nm,0.6s							
MOL	Molde	144.42	357	ePKPdf	PKPbc	08 01 59.9	+0.7	
ONI	Oni	144.43	306	PKIKP	PKPbc	08 02 00.4	+0.5	
ONI	Oni	144.43	306	PKPdf	PKPbc	08 02 00.4	+0.5	
KBZ	Khabaz	144.55	308	PKP	PKPab	08 01 59.7	-0.3	
	comp=Z,5.7nm,0.8s,baz=95,slow=2.0,SNR=12							
KBZ	Khabaz	144.55	308	c i PKIKP	PKPab	08 02 00.0	+0.1	
KBZ	Khabaz	144.55	308		PKPab	08 01 59.7	-0.3	
KIV	Kislovodsk	144.63	309	i PKIKP	PKPab	08 01 59.6	-0.8	
KIV				pmax	pmax			
	comp=Z,17nm,1.1s							
KIV	Kislovodsk	144.63	309	IAMs_20	IAMs_20	09 12 16.3		
	comp=Z,369nm,19.0s							
SHA1	Shidzhatmaz	144.71	308	i PKIKP	PKPab	08 02 00.5	-0.4	
VSU	Vasula	144.81	339	eP	PKPab	08 02 00.1	-0.3	
VSU	Vasula	144.81	339	i PKIKP	PKPab	08 02 00.1	-0.3	
AKN	Aaknes	144.84	358	ePKPdf	PKPdf	08 02 02.1	+0.7	
DOMB	Dombas	144.87	356	ePKPab	PKPab	08 02 00.9	+0.3	
KARS	Kars	145.10	303	PKIKP	PKPbc	08 02 01.6	-0.7	
KARS	Kars	145.10	303		PKPbc	08 02 01.6	-0.7	
AAL	Aland	145.13	346	eP	PKPbc	08 02 01.4	0.0	
CHVG	Ch'k'valeri	145.38	307	⇑P	PKPab	08 02 04.0	+0.9	
CHVG	Ch'k'valeri	145.38	307	⇑PKIKP	PKPab	08 02 04.0	+0.9	
MTSE	Matsula	145.47	342	eP	PKPab	08 02 03.3	+0.5	
NB2	NORSAR Subarra	145.68	354	PKP	PKPdf	08 02 03.2	+0.2	
	comp=Z,123nm,1.2s,baz=13,slow=3.7							
NB2	NORSAR Subarra	145.68	354	PKPab	PKPdf	08 02 03.2	+0.2	
	baz=13,slow=3.7							
NOA	NORSAR Array B	145.68	354	PKPbc	PKPdf	08 02 03.1	+0.1	
	comp=Z,33nm,1.0s,baz=10,slow=2.4,SNR=43							
NOA	NORSAR Array B	145.68	354		PKPdf	08 02 03.1	+0.1	
HYA	Hoyanger	145.88	358	ePKPdf	PKPdf	08 02 02.8	-0.5	
UPP	Uppsala	145.90	348	eP	PKPdf	08 02 03.8	+0.5	
BATM	Batumi	145.92	305	⇑P	PKPbc	08 02 04.8	+0.1	
BATM	Batumi	145.92	305	⇑PKP2	PKPbc	08 02 04.8	+0.1	
NC602	NORSAR Array S	145.95	353	ePKPdf	PKPdf	08 02 03.4	0.0	
SUE	Sulen	146.02	359	ePKPab	PKPab	08 02 05.2	+0.4	
SKAR	Skarslia	146.27	356	ePKPab	PKPab	08 02 06.0	+0.1	
BER	Bergen	146.68	359	ePKPbc	PKPbc	08 02 07.2	+0.9	
SOC	Sochi	146.80	309	ce PKHKP	PKPpre	08 02 01.8		
SOC				i		08 02 06.6		

ONAU Onsala 149.17 352 *i* P **PKPbc 08 02 13.2 +0.2**
FABU Falkenberg 149.44 351 *i* P **PKPbc 08 02 13.9 +0.2**
AKASG Malin Array Be 149.56 328 PKPbc **PKPbc 08 02 13.6 -0.6**
comp=Z,26nm,0.8s,baz=39,slow=3.1,SNR=21
AKBB Malin Array Si 149.56 328*c i*PKP2 **PKPbc 08 02 14.0 -0.2**
BLEU Blekinge 149.57 347 *i* P **PKPbc 08 02 13.0 -1.0**
SUW Suwalki 149.58 337 *e*PKP **PKPbc 08 02 14.4 +0.3**
SUW Suwalki 149.58 337 *e*P **PKPbc 08 02 14.6 +0.5**
DEL Delary 149.77 349 *i* P **PKPbc 08 02 14.5 0.0**
LAWE Loch Awe, Argy 150.06 10 *e*P **PKPbc 08 02 15.9 +0.7**
INVG Invergeldie, C 150.11 9 *e*P **PKPbc 08 02 15.9 +0.6**
BJUU Bjuv 150.29 350 *i* P **PKPbc 08 02 16.1 +0.3**
EAB Aberfoyle 150.30 9 *e*P **PKPbc 08 02 16.4 +0.5**
MUD Monsted U'grnd 150.40 354 *i* P **PKiKP 08 02 17.3 +0.5**
MUD Monsted U'grnd 150.40 354 *i* PKIKP **PKiKP 08 02 17.3 +0.5**
LUNU Lund 150.64 349 *i* P **PKPbc 08 02 17.0 +0.3**
ESY Stoneypath 150.79 8 *e*P **PKPbc 08 02 17.3 +0.3**
BSD Bornholm Skovb 150.86 347 *e*P **PKiKP 08 02 18.1 +0.3**
BSD Bornholm Skovb 150.86 347 *i* P **PKiKP 08 02 18.3 +0.4**
BSD Bornholm Skovb 150.86 347 *i* PKIKP **PKiKP 08 02 18.2 +0.4**
EBL Broad Law 150.88 8 *e*P **PKiKP 08 02 18.3 +0.4**
GAL1 Galloway 151.51 11 *e*P **PKPbc 08 02 16.2 -2.5**
SORM Soroca 151.65 324 ⇑P **PKPbc 08 02 19.1 -0.1**
SORM Soroca 151.65 324 ⇑PKIKP **PKPbc 08 02 19.1 -0.1**
EDMD Edmundbyers 151.93 7 *e*P **PKPbc 08 02 19.5 -0.2**
GKP Gorka Klasztor 152.03 343 *e*PKP **PKiKP 08 02 20.8 +0.5**
GKP Gorka Klasztor 152.03 343 *e*P **PKPbc 08 02 19.1 -0.9**
BEL Belsk 152.20 337 *e*PKP **PKiKP 08 02 21.3 +0.6**
BR131 Keskin Array S 152.33 305 PKIKP **PKPdf 08 02 13.3 -1.2**
BR131 08 02 20.5
BR131 Keskin Array S 152.33 305 PKPdf **PKPdf 08 02 13.3 -1.2**
BR131 **PKPbc 08 02 20.4 -0.8**
BRTR Keskin Array B 152.33 305 PKP **PKPdf 08 02 14.3 -0.2**
comp=Z,0.3nm,0.3s,baz=132,slow=2.1,SNR=5.2
BRTR PKPbc **PKPbc 08 02 21.0 -0.3**
comp=Z,6.9nm,0.9s,baz=128,slow=2.0,SNR=21
BRTR PKPab **PKPab 08 02 30.9 -0.4**
comp=Z,15nm,0.9s,baz=104,slow=3.0,SNR=12
BRTR PP **PP 08 06 01.2 -2.6**
comp=Z,2.1nm,0.9s,baz=97,slow=5.8,SNR=4.4
BRTR Keskin Array B 152.33 305 **PKPab 08 02 30.9 -0.4**
LVV L'vov 152.54 331 *e*PKIKP **PKPbc 08 02 21.6 +0.4**
ANTO Ankara 152.90 305 IAMs_20 IAMs_20 09 22 33.4
comp=Z,378nm,21.0s
TPGR Topolog 153.57 319 ⇑P **PKPbc 08 02 24.0 +0.3**
TESR Tescani 153.58 323 ⇓P **PKPbc 08 02 24.1 +0.5**
BURAR Bucovina Array 153.58 327 ⇑P **PKiKP 08 02 25.3 +1.5**
BURAR Bucovina Array 153.58 327 ⇑PKIKP **PKiKP 08 02 25.3 +1.5**
BIZ Bicaz 153.59 324 ⇑P **PKiKP 08 02 24.7 +0.9**
TIRR Tirgusor 153.79 318 ⇑P **PKiKP 08 02 25.0 +0.8**
TIRR Tirgusor 153.79 318 ⇑PKIKP **PKiKP 08 02 25.0 +0.8**
OJC Ojcow 153.89 337 *e*PKP **PKiKP 08 02 24.9 +0.6**
OJC Ojcow 153.89 337 IAMs_20 IAMs_20 09 20 30.6
comp=Z,578nm,20.0s
VRI Vrincioaia 153.94 322 ⇑P **PKiKP 08 02 25.1 +0.6**
VRI Vrincioaia 153.94 322 ⇑PKIKP **PKiKP 08 02 25.1 +0.6**
KOLS Kolonicke sedl 153.96 332 *e*PKIKP **PKPdf 08 02 17.6 +1.2**
KOLS Kolonicke sedl 153.96 332 *e* **PKPab 08 02 38.3 +0.6**
KOLS Kolonicke sedl 153.96 332 *e*PKP **PKPdf 08 02 17.6 +1.2**
LEF Lefka 154.02 295 ⇑P **PKPab 08 02 37.3 -1.2**
UZH Uzhgorod 154.19 331 *e*PKIKP **PKPdf 08 02 17.0 +0.3**
CRVS Cervenica-Dubn 154.32 333 *e*PKIKP **PKPdf 08 02 17.8 +0.9**
CRVS Cervenica-Dubn 154.32 333 *e* **PKPab 08 02 41.2 +2.0**
CRVS Cervenica-Dubn 154.32 333 *e*PKP **PKPdf 08 02 17.8 +0.9**
KSP Ksiaz 154.47 342 *e*PKP **PKiKP 08 02 26.3 +0.9**
MLR Muntele Rosu 154.60 322 IAMs_20 IAMs_20 09 20 17.5
comp=Z,627nm,21.0s
OSTC Ostas 154.75 341 *e*PKP **PKPdf 08 02 17.5 0.0**
OSTC *e*PP **PP 08 06 11.9 -4.2**
OSTC AMS AMS 09 13 50.0
comp=Z,500nm,20.4s
CHVC Chvalec 154.76 342 AMS AMS 09 16 20.0
comp=Z,500nm,20.8s
OKC Ostrava-Krasne 154.78 338 *e*PKP2 **PKPab 08 02 37.3 -3.8**
OKC *e* 08 06 13.9
OKC MLR MLR
comp=Z,400nm,15.6s
OKC Ostrava-Krasne 154.78 338 *e*PKP **PKPab 08 02 37.3 -3.8**
OKC *e*PP **PP 08 06 13.9 -2.4**
OKC AMS AMS 09 19 20.0
comp=Z,400nm,15.6s
CLL Collm 154.84 347 *e*PKPdf **PKPdf 08 02 17.0 -0.5**
CLL *i* PKPbc **PKiKP 08 02 26.7 +0.5**
comp=Z,20nm,1.1s
CLL *e*PKPab **PKPab 08 02 41.0 -0.3**
comp=Z,23nm,1.0s
CLL *e* 08 02 48.0
CLL *e*PP **PP 08 06 12.0 -4.5**
CLL *e*PPP PPP 08 09 42.0
CLL *e*PSKS 08 16 36.0
CLL *e*(PPS) 08 19 14.0
CLL *e* 08 21 06.0
CLL *e*SS SS 08 26 12.0 +14
CLL *e* 08 30 48.0
CLL *e*(SSS) 08 32 30.0
CLL *e*SSSS 08 35 36.0
CLL Lm MLR 09 15 00.0
comp=Z,500nm,20.4s
CLL Collm 154.84 347 *e*PKIKP **PKPdf 08 02 17.0 -0.5**
CLL *i* 08 02 26.7
CLL *e* 08 02 41.0
CLL pmax pmax
comp=Z,23nm,1.0s
CLL MLR MLR
comp=Z,500nm,20.4s
CLL Collm 154.84 347 IAMs_20 IAMs_20 09 15 18.2
comp=Z,526nm,20.0s
UPC Upice 154.85 342 *e*PKP **PKPab 08 02 34.3 -7.1**
UPC *e*PP **PP 08 06 11.4 -5.2**
UPC AMS AMS 09 19 00.0
comp=Z,500nm,23.5s
DPC Dobruska-Polom 154.90 341 *e*PKIKP **PKPdf 08 02 17.5 -0.2**
DPC *e* 08 06 15.3
DPC MLR MLR
comp=Z,400nm,22.4s
DPC Dobruska-Polom 154.90 341 *e*PKP **PKPdf 08 02 17.5 -0.2**
DPC *e*PP **PP 08 06 15.3 -1.7**
DPC AMS AMS 09 19 40.0
comp=Z,400nm,22.4s
KRLC Kraliky 155.01 340 *e*PKIKP **PKPdf 08 02 16.5 -1.4**
KRLC MLR MLR
comp=Z,500nm,16.6s
KRLC Kraliky 155.01 340 *e*PKP **PKPdf 08 02 16.5 -1.4**
KRLC *e*PP PP 08 06 07.9 -10
KRLC AMS AMS 09 20 30.0
comp=Z,500nm,16.6s
MORC Moravsky Berou 155.03 339 ⇑P **PKPdf 08 02 19.0 +1.1**
MORC Moravsky Berou 155.03 339 ⇑PKIKP **PKPdf 08 02 19.0 +1.1**
MORC Moravsky Berou 155.03 339 *e*PKP **PKPdf 08 02 17.8 -0.1**
BRG Berggiesshubel 155.04 345 *e*PKP **PKPdf 08 02 18.7 +0.9**
BRG Amp 08 02 20.1
comp=Z,6.5nm,1.1s
BRG Berggiesshubel 155.04 345 P PKPdf 08 02 27.8 +10
BRG Amp 08 02 28.6
comp=Z,13nm,1.1s
BRG Berggiesshubel 155.04 345 P **PKPab 08 02 37.0 -5.2**
BRG Amp 08 02 38.7
comp=Z,21nm,1.4s
BRG Berggiesshubel 155.04 345 P **PKPab 08 02 48.7 +6.5**
BRG Amp 08 02 49.4
comp=Z,25nm,1.1s
BRG Berggiesshubel 155.04 345 PP PP 08 06 17.0 -0.6
PVCC Panska Ves 155.21 344 *e*PKIKP **PKPdf 08 02 16.5 -1.6**
PVCC *e* 08 06 16.8
PVCC MLR MLR
comp=Z,600nm,19.6s
PVCC Panska Ves 155.21 344 *e*PKP **PKPdf 08 02 16.5 -1.6**
PVCC *e*PP **PP 08 06 16.8 -1.8**
PVCC AMS AMS 09 17 50.0
comp=Z,600nm,19.6s
DRGR 155.37 328 ⇑P PKPdf 08 02 27.3 +8.8
DRGR 155.37 328 ⇑PKIKP PKPdf 08 02 27.3 +8.8
ARR Arges 155.39 323 ⇑P PKPdf 08 02 29.4 +11
PRA Prague 155.67 343 *e*PKIKP **PKPdf 08 02 15.5 -3.2**
PRA *e* 08 06 19.8
PRA MLR MLR
comp=Z,500nm,16.7s
PRA Prague 155.67 343 *e*PKP **PKPdf 08 02 15.5 -3.2**
PRA *e*PP **PP 08 06 19.8 -1.3**
PRA AMS AMS 09 22 50.0
comp=Z,500nm,16.7s
VYHS Vyhne 155.68 335 *e*PKP2 **PKPab 08 02 41.5 -3.5**
PRU Pruhonice 155.72 343 *e*PKIKP **PKPdf 08 02 13.5 -5.2**
PRU *e* 08 06 17.8
PRU MLR MLR
comp=Z,500nm,20.6s
PRU Pruhonice 155.72 343 *e*PKP **PKPdf 08 02 13.5 -5.2**
PRU *e*PP **PP 08 06 17.8 -3.6**
PRU AMS AMS 09 23 40.0
comp=Z,500nm,20.6s
PSZ Piszkesteto 155.74 333 ⇓P PKPab 08 02 57.2 +12
VRAC Vranov 155.74 340 *e*PKP **PKPdf 08 02 18.6 -0.2**
JAVC Velka Javorina 155.78 338 *e*PKP **PKPdf 08 02 19.8 +0.8**
NKC Novy Kostel 155.97 347 *e*PKIKP **PKPdf 08 02 16.5 -2.6**
NKC *e* 08 06 21.8
NKC MLR MLR
comp=Z,500nm,16.8s
NKC Novy Kostel 155.97 347 *e*PKP **PKPdf 08 02 16.5 -2.6**
NKC *e*PP **PP 08 06 21.8 -1.0**
NKC AMS AMS 09 23 10.0
comp=Z,500nm,16.8s
KRUC Moravsky 156.02 340 *e*PKP **PKPdf 08 02 19.1 -0.1**
TREC Trest 156.09 341 *e*PKIKP **PKPdf 08 02 15.5 -3.8**
TREC *e* 08 06 22.8
TREC MLR MLR
comp=Z,700nm,21.9s
TREC Trest 156.09 341 *e*PKP **PKPdf 08 02 15.5 -3.8**
TREC *e*PP **PP 08 06 22.8 -0.8**
TREC AMS AMS 09 19 40.0
comp=Z,700nm,21.9s
SMOL Smolenice 156.16 337 *e*PKP2 **PKPab 08 02 48.7 +1.6**
BTNL Ternell 156.46 357 *d*PKPdf **PKPdf 08 02 20.0 +0.3**
GRF Grafenberg Arr 156.73 348 *e*PKPab **PKPab 08 02 50.5 +1.1**
baz=29,slow=4.1
BZS Buzias 156.75 327 ⇑P **PKPdf 08 02 20.5 +0.3**
BZS Buzias 156.75 327 ⇑PKIKP **PKPdf 08 02 20.5 +0.3**
KHC Kasperske Hory 156.75 344 *e*PKIKP **PKPdf 08 02 18.8 -1.4**
KHC *e* 08 06 23.8
KHC MLR MLR
comp=Z,700nm,17.6s
KHC Kasperske Hory 156.75 344 *e*PKP **PKPdf 08 02 18.8 -1.4**
KHC *e*PP **PP 08 06 23.8 -3.4**
KHC AMS AMS 09 20 40.0
comp=Z,700nm,17.6s
BMRD Maredsous 156.79 359 *d*PKPdf **PKPdf 08 02 20.9 +0.7**
CKRC Cesky Krumlov 156.85 342 *e*PKP **PKPdf 08 02 19.5 -0.8**
CKRC *e*PP **PP 08 06 25.7 -2.0**
GERES GERESS Array B 156.98 343 PKPbc PKPdf 08 02 30.6 +10
comp=Z,0.4nm,0.4s,baz=49,slow=3.0,SNR=4.8
GERES PKPab **PKPab 08 02 50.2 -0.5**
comp=Z,3.1nm,0.9s,baz=57,slow=3.6,SNR=8.2
GERES PP **PP 08 06 34.2 +5.7**
comp=Z,0.3nm,0.3s,baz=18,slow=6.6,SNR=3.8
CONA Conrad Observa 157.19 339 *e*P **PKPab 08 02 52.9 +1.3**
comp=Z,41nm,1.8s
MDVR Moldovita 157.30 326 ⇑P PKPdf 08 02 32.6 +12
LIC Lamto 157.57 156 *e*PKP2 **PKPab 08 02 53.2 -0.8**
comp=Z,48nm,1.1s
MORH Mrgy, Hungar 157.62 332 ⇓P **PKPdf 08 02 21.6 +0.3**
MOA Molln 157.74 341 *e*P **PKPab 08 02 55.1 +1.2**
comp=Z,38nm,1.7s
KIC Kosan Boka 157.80 157 *e*PKP2 **PKPab 08 02 54.5 -0.5**
comp=Z,48nm,1.2s
ARSA Arzberg 157.90 339 *e*P **PKPab 08 02 55.7 +1.2**
comp=Z,13nm,1.0s
VTS Vitosha 157.92 320 ⇑P **PKPab 08 02 55.6 +0.5**
VTS Vitosha 157.92 320 ⇑PKP2 **PKPab 08 02 55.6 +0.5**
TIC Toumodi 157.96 156 *e*PKP2 **PKPab 08 02 54.0 -1.7**
BFO Black Forest 158.50 352 IAMs_20 IAMs_20 09 17 10.0
comp=Z,563nm,20.0s
SOKA Soboth 158.56 339 *e*P **PKPab 08 02 58.5 +0.9**
comp=Z,33nm,1.5s
DIVS Divibare 158.65 327 IAMs_20 IAMs_20 09 24 17.1
comp=Z,476nm,19.0s
KBA Koelnbreinsper 158.70 342 *e*P **PKPab 08 02 57.2 -1.1**
comp=Z,12nm,1.1s
OBKA Obir 158.86 339 *e*P **PKPab 08 02 58.4 -0.5**
comp=Z,10nm,1.0s
WATA Walderalm 158.90 345 *e*P **PKPab 08 03 00.3 +1.2**
comp=Z,29nm,1.5s
RETA Reutte 158.93 347 *e*P **PKPab 08 02 59.6 +0.5**
comp=Z,19nm,1.3s
WTTA Wattenberg 158.96 345 *e*P **PKPab 08 02 60.0 +0.6**
comp=Z,38nm,1.7s
MOTA Moosalm 159.00 346 *e*P **PKPab 08 02 59.9 +0.4**
comp=Z,27nm,1.2s
MYKA Terra Mystica 159.03 341 *e*P **PKPab 08 02 59.7 +0.1**
comp=Z,21nm,1.3s
SQTA Sankt Quirin 159.09 346 *e*P **PKPab 08 03 00.8 +0.9**
comp=Z,2.8nm,0.4s
VAY Valandovo 159.11 318 *i* P **PKPab 08 02 59.8 -0.2**
ABTA Abfaltersbach 159.23 343 *e*P **PKPab 08 03 00.9 +0.4**
comp=Z,6.0nm,0.9s
DAVA Damuels 159.29 349 *e*P **PKPab 08 03 01.0 +0.3**
comp=Z,14nm,1.2s
SKO Skopje 159.36 321 *i* P **PKPab 08 03 02.4 +1.3**
FETA Feichten 159.38 347 *e*P **PKPab 08 03 00.6 -0.6**
comp=Z,15nm,1.3s
OHR Ohrid 160.28 320 *i* P **PKPab 08 03 05.5 +0.3**
IDI Anoyia 160.33 300 ⇑P **PKPab 08 03 05.2 -0.5**
ESDC Sonseca Array 165.81 26 PKP **PKPdf 08 02 30.9 +0.8**
comp=Z,2.3nm,1.0s,baz=342,slow=2.9,SNR=8.0
ESDC PKPab **pPKPab 08 03 31.1 -2.0**
comp=Z,3.6nm,0.9s,baz=320,slow=4.2,SNR=8.3
ESDC PP **PP 08 07 19.6 +3.7**
comp=Z,0.5nm,0.6s,baz=347,slow=5.3,SNR=4.1
KEST Kesra 170.22 333 PKP **PKPdf 08 02 33.6 +0.3**
comp=Z,3.0nm,0.7s,baz=93,slow=1.2,SNR=3.0
KEST PKPab **PKPab 08 03 49.2 +0.2**
comp=Z,3.7nm,0.8s,baz=67,slow=4.6,SNR=3.7
KEST Kesra 170.22 333 **PKPdf 08 02 33.6 +0.3**

VIE 30 08:01:02.7±0.3, 49°.85N×15°.82E, h0km, mb1.9/3, ml1.9/3
Error ellipse: s-maj=2.6km s-min=2.0km az=128.0 93 km NW of Brno Suspected Mining induced., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRAC	**Vranov**	**0.74**	**137**	*e*PG	Pg	08 01 17.5	+0.7
KRUC	**Moravsky**	**0.87**	**154**	*e*PG	Pb	08 01 20.3	-0.4
MORC	**Moravsky Berou**	**1.12**	**93**	*e*PG	Pg	08 01 24.4	+0.3
CONA	**Conrad Observa**	**1.92**	**179**	*e*Pg	Pg	08 01 39.4	-0.1
	0.2nm,0.1s						
CONA				*e*Sn	Sn	08 02 00.2	-1.4
	0.5nm,0.2s						
MOA	**Molln**	**2.25**	**208**	*e*Pn	Pn	08 01 41.2	0.0
	0.3nm,0.2s						
MOA				*e*Sn	Sn	08 02 10.7	+1.2
	0.3nm,0.1s						

IDC ***30*** *08:16:13.3±0.5, 37°.09N×140°.64E, h0km, mb4.2/17, mb1 4.3/23, mb1mx4.2/47, mbtmp4. 1/23, ML3.4/5, Error ellipse: s-maj=15.8km s-min=12.2km az=105.0*
JMA ***30*** *08:16:14.7, 37°.10N×140°.68E, h8km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs=28.00000°, δ40.00000°, λ-111.00000°. NP2: φs=235.00000°, δ53.00000°, λ-74.00000°. Principal axes: T Plg7.0000°, Azm313.0000°; N Plg13.0000°, Azm45.0000°; P Plg75.0000°, Azm195.0000°;*
JMA Felt III J1.
MOS ***30*** *08:16:15.7±1.1, 37°.14N×140°.72E, h30km, mb4.4/10 Error ellipse: s-maj=9.6km s-min=6.3km az=98.1*
NEIC ***30*** *08:16:18.1±1.8, 37°.14N±0°.02×140°.77E±0°.04, h32km±5km, mb4.4/20, Error ellipse: s-maj=4.6km s-min=2.4km az=55.0*

ISC 30 08:16:14.8±0.8, 37°.13N±0°.03×140°.72E±0°.03, h10km±4km, n110, σ1§34/114, mb4.2/32, 14C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.07**	**114**	⇑P	**Pg**	**08 16 17.0**	**-0.1**
ONAJ				S	**Sg**	**08 16 18.9**	**0.0**
JFFD	**Fukushimafurud**	**0.13**	**252**	⇑P	**Pg**	**08 16 17.1**	**-0.8**
JFFD				S	**Sg**	**08 16 18.8**	**-1.3**
JFK	**Kawauchi**	**0.27**	**28**	⇑P	**Pg**	**08 16 20.9**	**+0.7**
JFK				S	**Sb**	**08 16 25.3**	**-1.0**
JFT	**Otama**	**0.49**	**322**	⇑P	**Pb**	**08 16 24.7**	**-0.8**
JFT				S	**Sb**	**08 16 31.6**	**-1.1**
JHO	**Hitachi**	**0.53**	**193**	⇑P	**Pg**	**08 16 24.2**	**-0.9**
JHO				S	**Sg**	**08 16 30.8**	**-1.4**
JSB	**Shiboa**	**0.66**	**256**	⇑P	**Pg**	**08 16 27.6**	**+0.1**
JSB				S	**Sg**	**08 16 36.4**	**+0.3**
JMM	**Marumori**	**0.74**	**5**	⇑P	**Pb**	**08 16 29.2**	**-0.4**
JMM				S	**Sn**	**08 16 39.7**	**-2.7**
JMM	**Marumori**	**0.74**	**5**		**Pb**	**08 16 29.3**	**-0.4**
JMM				Sn	**Sn**	**08 16 39.6**	**-2.8**
JFY	**Yanaizu**	**0.85**	**289**	⇑P	**Pb**	**08 16 30.9**	**-0.7**
JFY				S	**Sg**	**08 16 42.0**	**-0.3**
JYT	**Yasato**	**0.99**	**205**	Pn	**Pb**	**08 16 33.6**	**-0.4**
JYT				Sn	**Sb**	**08 16 45.0**	**-2.2**
MJAR	**Matsushiro Arr**	**2.10**	**254**	Pn	**Pn**	**08 16 49.9**	**0.0**
	2.2nm,0.3s,baz=53,slow=14,SNR=118						
MJAR				Sn	**Sn**	**08 17 17.2**	**+1.2**
	3.6nm,0.3s,baz=87,slow=27,SNR=6.3						
MJAR	**Matsushiro Arr**	**2.10**	**254**		**Pn**	**08 16 51.0**	**+1.1**
MAJO	**Matsushiro**	**2.10**	**254**	P	**Pn**	**08 16 50.9**	**+1.0**
MAJO	**Matsushiro**	**2.10**	**254**		**Pn**	**08 16 50.9**	**+1.0**
MAT	**Matsushiro**	**2.10**	**254**	P	**Pn**	**08 16 50.6**	**+0.7**
MAT				S	**Sb**	**08 17 19.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.10**	**255**		**Pn**	**08 16 50.8**	**+0.9**
JSD	**Sado**	**2.15**	**296**	Pn	**Pn**	**08 16 51.6**	**+1.0**
JGF	**Kuroka**	**3.11**	**242**		**Pn**	**08 17 05.0**	**+1.1**
INU	**Inuyama**	**3.48**	**240**		**Pn**	**08 17 10.8**	**+1.9**
JHJ	**Hachijo jima 2**	**4.08**	**191**	Pn	**Pn**	**08 17 16.9**	**-0.2**
	6.3nm,0.3s,baz=64,slow=16,SNR=12						
JHJ				Sn	**Sn**	**08 18 05.0**	**+0.2**
	6.3nm,0.3s,baz=78,slow=23,SNR=1.5						
JWT	**Wachi**	**4.68**	**248**		**Pn**	**08 17 27.4**	**+2.1**
ERM	**Erimo**	**5.23**	**20**	P	**Pn**	**08 17 33.3**	**+0.4**
ERM	**Erimo**	**5.23**	**20**		**Pn**	**08 17 33.2**	**+0.4**
ASAJ	**Asahikawa**	**7.12**	**11**	Pn	**Pn**	**08 18 01.2**	**+2.2**
	1.5nm,0.3s,baz=210,slow=11,SNR=10						
ASAJ				Sn	**Sn**	**08 19 22.9**	**+3.1**
	0.7nm,0.3s,baz=180,slow=20,SNR=2.1						
JNU	**Nakatsue**	**8.99**	**246**	Pn	**Pn**	**08 18 26.3**	**+1.6**
	0.2nm,0.3s,baz=94,slow=13,SNR=4.3						
USRK	**Ussuriysk Ar.**	**9.68**	**320**	Pn	**Pn**	**08 18 33.8**	**-0.2**
	baz=124,slow=10,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.68**	**320**		**Pn**	**08 18 37.5**	**+3.5**
USA0B	**Ussuriysk Arra**	**9.68**	**320**	P	**Pn**	**08 18 35.7**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.68**	**320**		**Pn**	**08 18 35.7**	**+1.7**
KUR	**Kuril'sk**	**9.72**	**31**	*e*P	**Pn**	**08 18 36.1**	**+1.6**
KUR				S	**Sn**	**08 20 19.3**	**-4.4**
YSS	**Yuzh-Sakhalins**	**9.93**	**8**	*ce*P	**Pn**	**08 18 38.1**	**+0.7**
YSS				pmax	pmax		
	comp=Z,17nm,1.0s						
YSS	**Yuzh-Sakhalins**	**9.93**	**8**	Pn	**Pn**	**08 18 38.6**	**+1.2**
KSRS	**Korea Array**	**10.20**	**276**	Pn	**Pn**	**08 18 45.1**	**+4.0**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=17						
KSAR	**Wonju Array Be**	**10.23**	**276**	P	**Pn**	**08 18 43.5**	**+1.9**
KSAR	**Wonju Array Be**	**10.23**	**276**	Pn	**Pn**	**08 18 43.5**	**+1.9**
UGL	**Uglegorsk**	**11.98**	**4**	*e*P	Pn	08 19 12.5	+7.1
KLR	**Kul'dur**	**13.73**	**335**	Pn	**Pn**	**08 19 31.4**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=181,slow=10,SNR=1.4						
KLR	**Kul'dur**	**13.73**	**335**	*i* P	**Pn**	**08 19 30.4**	**+1.0**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TYV	**Tymovskoe**	**13.80**	**5**	*e*P	**Pn**	**08 19 29.8**	**-0.4**
TYV				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,5.3s						
ZEA	**Zeya**	**19.05**	**335**	*e*P	**Pn**	**08 20 39.1**	**+1.5**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PETK	**Petropavlovsk-**	**19.89**	**31**	P	**P**	**08 20 45.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=195,slow=10,0,SNR=4.7						
MA2	**Magadan**	**23.38**	**13**	P	**P**	**08 21 23.9**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=174,slow=15,SNR=4.9						
MA2	**Magadan**	**23.38**	**13**	*ce*P	**P**	**08 21 23.8**	**+0.6**
MA2				pmax	pmax		
	comp=Z,20nm,2.5s						
MA2	**Magadan**	**23.38**	**13**	IAmb	IAmb	08 21 26.9	
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**27.27**	**304**	P	**P**	**08 21 59.7**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=110,slow=8.8,SNR=7.2						
SONM	**Songino Array**	**27.27**	**304**	IAmb	IAmb	08 22 02.8	
	comp=Z,1.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	08 51 56.3	
	baz=313,slow=75,SNR=359						
H11N1	**WAKE ISLAND Hy**	**28.69**	**120**	T	T	08 51 56.7	
	baz=313,slow=75,SNR=258						
H11N3	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	08 52 02.4	
	baz=313,slow=75,SNR=274						
H11S1	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	08 52 55.6	
	baz=314,slow=75,SNR=121						
H11S3	**WAKE ISLAND Hy**	**29.38**	**122**	T	T	08 52 55.7	
	baz=314,slow=75,SNR=139						
H11S2	**WAKE ISLAND Hy**	**29.40**	**122**	T	T	08 52 58.7	
	baz=314,slow=75,SNR=60						
BILL	**Bilibino**	**34.09**	**17**	*e*P	**P**	**08 22 56.1**	**-2.9**
BILL				*e*		08 24 13.5	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	**Jazzator, Alta**	**39.88**	**306**	*i* P	**P**	**08 23 47.8**	**-0.9**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAA0	**Zalesovo Array**	**41.44**	**312**	P	**P**	**08 24 01.0**	**-0.2**
ZALV	**Zalesovo Beam**	**41.44**	**312**	P	**P**	**08 24 00.8**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=108,slow=8.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.44**	**312**	P	**P**	**08 24 00.6**	**-0.6**
NRIK	**Noril'sk**	**42.95**	**335**	*i* P	**P**	**08 24 13.2**	**-0.1**
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**43.59**	**302**	P	**P**	**08 24 18.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**43.59**	**302**	P	**P**	**08 24 18.6**	**-0.3**
MKAR	**Makanchi Array**	**43.59**	**302**	P	**P**	**08 24 18.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=90,slow=10,SNR=15						
MKAR	**Makanchi Array**	**43.59**	**302**	*ce*P	**P**	**08 24 19.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
IMAR	**Indian Mountai**	**46.85**	**31**	P	**P**	**08 24 45.3**	**+0.8**
KTH	**Kantishna Hill**	**47.98**	**34**	P	**P**	**08 24 55.1**	**+1.8**
MLY	**Manley**	**48.06**	**32**	P	**P**	**08 24 55.4**	**+1.4**
MLY				IAmb	IAmb	08 24 58.5	
	comp=Z,4.4nm,0.8s						
NEA2	**Nenana**	**48.78**	**33**	P	**P**	**08 24 60.0**	**+0.5**
NEA2				IAmb	IAmb	08 25 03.4	
	comp=Z,3.4nm,1.0s						
MDM	**Murphy Dome**	**49.13**	**32**	P	**P**	**08 25 02.0**	**-0.2**
WRH	**Wood River Hil**	**49.21**	**33**	P	**P**	**08 25 03.9**	**+1.2**
WRH				IAmb	IAmb	08 25 06.7	
	comp=Z,2.0nm,0.7s						
IL31		**49.71**	**32**	P	**P**	**08 25 07.1**	**+0.6**
IL31				IAmb	IAmb	08 25 10.0	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array**	**49.71**	**32**	P	**P**	**08 25 07.5**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=272,slow=6.5,SNR=25						
ILAR	**Eielson Array**	**49.71**	**32**	P	**P**	**08 25 06.4**	**-0.1**
BRVK	**Borovoye**	**50.15**	**312**	*ce*P	**P**	**08 25 10.5**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PRP	**Porcupine Dome**	**50.24**	**31**	P	**P**	**08 25 12.1**	**+1.3**
PRP				IAmb	IAmb	08 25 15.1	
	comp=Z,2.5nm,0.7s						
BCAR	**Beaver Creek A**	**52.13**	**34**	P	**P**	**08 25 26.2**	**+1.3**
KKAR	**Karatay Array**	**52.59**	**300**	P	**P**	**08 25 28.1**	**-0.5**
KKAR	**Karatay Array**	**52.59**	**300**	P	**P**	**08 25 28.1**	**-0.5**
CHGR	**Chuyangaron**	**55.12**	**295**	P	**P**	**08 25 46.8**	**-0.4**
ARU	**Arti**	**55.92**	**318**	*d i

FINES	FINESS Array B	68.47	332	P		P	08 27 15.9	-0.6
	comp=Z,2.7nm,0.8s,baz=44,slow=8.8,SNR=5.8							
FINES	FINESS Array B	68.47	332	*i* P		P	08 27 16.7	+0.1
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STKA	Stephens Creek	68.66	179	P		P	08 27 17.7	-0.3
	comp=Z,1.8nm,0.8s,baz=0.0,slow=4.0,SNR=1.7							
STKA	Stephens Creek	68.66	179	IAmb		IAmb	08 29 47.1	
	comp=Z,9.3nm,1.8s							
KBZ	Khabaz	70.42	310	P		P	08 27 27.8	-1.1
	comp=Z,0.5nm,0.3s,baz=78,slow=9.5,SNR=2.3							
AKASG	Malin Array Be	73.88	322	P		P	08 27 49.0	-0.6
	comp=Z,0.7nm,0.4s,baz=47,slow=6.1,SNR=6.4							
AKASG	Malin Array Be	73.88	322	P		P	08 27 49.0	-0.6
AKASG	Malin Array Be	73.88	322	IAmb		IAmb	08 27 51.8	
	comp=Z,2.5nm,1.3s							
AKBB	Malin Array Si	73.88	322	*ce*P		P	08 27 50.1	+0.5
NOA	NORSAR Array B	73.88	337	P		P	08 27 48.9	-0.6
	comp=Z,0.2nm,0.6s,baz=31,slow=7.3,SNR=3.4							
LRM	Limekiln Ridge	74.47	44	P		P	08 27 55.2	+1.8
DLMT	Dillon	74.66	44	P		P	08 27 55.3	+0.8
DLMT				IAmb		IAmb	08 27 56.7	
	comp=Z,2.5nm,0.8s							
BOZ	Bozeman (W)	75.06	44	P		P	08 27 57.6	+0.8
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BOZ	Bozeman (W)	75.06	44	P		P	08 27 57.6	+0.8
BOZ				IAmb		IAmb	08 28 00.6	
	comp=Z,2.9nm,0.7s							
NVAR	Mina Array Bea	75.38	53	P		P	08 28 00.6	+1.8
	comp=Z,1.5nm,0.7s,baz=290,slow=5.8,SNR=16							
PDAR	Pinedale Array	77.99	45	P		P	08 28 14.3	+0.7
	comp=Z,0.9nm,0.6s,baz=275,slow=1.2,SNR=11							
TXAR	Lajitas Array	90.50	52	P		P	08 29 18.1	+0.9
	comp=Z,0.8nm,0.7s,baz=299,slow=3.2,SNR=12							
LPAZ	La Paz	147.12	59	PKPbc		PKPbc	08 35 59.4	+0.3
	comp=Z,2.6nm,0.7s,baz=263,slow=1.5,SNR=13							
H03N2	Juan Fernandez	147.59	95	T		T	11 20 45.0	
	baz=291,slow=76,SNR=19							
H03N3	Juan Fernandez	147.60	96	T		T	11 20 46.5	
	baz=291,slow=76,SNR=20							
H03N1	Juan Fernandez	147.60	95	T		T	11 20 48.2	
	baz=291,slow=76,SNR=21							

IDC 30 08:22:17.5±2.1, 26°.98S×176°.48W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, ML4.9/1, Error ellipse: s-maj=50.3km s-min=29.7km az=101.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.59	209	Pn	Pn	08 23 01.3	+0.5
	214nm,0.3s,baz=66,slow=11,SNR=8.3						
RAO				Sn	Sn	08 23 34.3	+1.3
	301nm,0.3s,baz=100,slow=23,SNR=6.1						
ASAR	Alice Springs	44.74	263	P	P	08 30 32.6	-0.4
	0.4nm,0.4s,baz=103,slow=7.2,SNR=11						
WRA	Warramunga Arr	45.43	268	P	P	08 30 37.8	-0.6
	1.2nm,0.8s,baz=104,slow=7.8,SNR=9.6						
WRA				PcP	PcP	08 32 18.0	+0.2
	0.8nm,1.1s,baz=105,slow=2.9,SNR=1.6						
MJAR	Matsushiro Arr	76.24	324	P	P	08 34 08.7	+0.8
	1.2nm,0.6s,baz=138,slow=5.7,SNR=4.3						
TORD	Torodi Ar. Bea	166.13	173	PKPab	PKPab	08 43 24.2	-1.4
	0.2nm,0.3s,baz=194,slow=4.4,SNR=2.4						

JMA 30 08:40:22.7±0.1, 38°.39N×144°.61E, h47km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.40	288	P	Pn	08 41 00.7	+1.2
OFUJ				*eS*	Sn	08 41 29.5	+1.8
JIKH	Ishinomakikobu	2.47	269	P	Pn	08 41 01.6	+1.1
JIKH				*eS*	Sn	08 41 29.8	+0.4
MIYJ	Miyakonagasawa	2.48	299	P	Pn	08 41 01.2	+0.7
MIYJ				*eS*	Sn	08 41 30.2	+0.7
JKMT	Kesennumamotoy	2.49	281	P	Pn	08 41 01.9	+1.2
JKMT				S	Sn	08 41 31.0	+1.1
JMK	Ichinoseki	2.71	283	P	Pn	08 41 05.4	+1.6
JMK				S	Sn	08 41 36.9	+1.6
JOM	Ohasama	2.80	294	P	Pn	08 41 06.6	+1.6
JOM				S	Sn	08 41 39.1	+1.5
JFT	Otama	3.49	257	P	Pn	08 41 16.7	+2.3
JOT	Ohata	4.05	319	P	Pn	08 41 24.0	+1.8
JOT				*eS*	Sn	08 42 07.3	-1.0
JCH	Churui	4.33	348	P	Pn	08 41 25.9	0.0
JKB	Kayabe	4.44	323	P	Pn	08 41 29.6	+2.1
BSO1	Boso 1	4.74	219	P	Pn	08 41 33.1	+2.0
NEM2	Nemuro 2	5.04	9	P	Pn	08 41 32.9	-2.8
NEM2				S	Sn	08 42 27.0	-5.7
JRY	Ryogami san	5.13	244	P	Pn	08 41 38.6	+1.5
JTKR	Abashiri--Toko	5.60	355	P	Pn	08 41 42.3	-1.1
JTKR				*eS*	Sn	08 42 42.3	-4.1
JHJ2	Mitsune	6.55	218	P	Pn	08 41 57.9	+1.4
JHJ2				S	Sn	08 43 08.1	-1.7

IDC 30 09:11:49.5±3.4, 16°.10S×14°.70W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/47, mbtmp4.0/5, MS3.9/4, Ms1 3.9/4, ms1mx3.5/27, Error ellipse: s-maj=159.1km s-min=23.8km az=146.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N1	ASCENSION HYDR	8.21	2	T	T	09 24 08.0	
	baz=187						
H10N3	ASCENSION HYDR	8.21	1	T	T	09 24 06.9	
	baz=187						
H10N2	ASCENSION HYDR	8.22	1	T	T	09 24 07.8	
	baz=187						
BDFB	Brasilia	32.03	266	P	P	09 18 18.2	+0.1
	3.3nm,0.7s,baz=124,slow=7.3,SNR=4.5						
BDFB				LR	LR	09 29 58.8	
	comp=Z,210nm,18.3s,baz=131,slow=34						
TORD	Torodi Ar. Bea	33.28	30	P	P	09 18 28.9	0.0
	2.4nm,0.7s,baz=213,slow=8.8,SNR=12						
BOSA	Boshof	38.82	116	LR	LR	09 32 11.1	
	comp=Z,219nm,18.8s,baz=348,slow=32						
CPUP	Villa Florida	40.86	248	P	P	09 19 33.2	-0.1
	1.2nm,0.8s,baz=56,slow=15,SNR=3.5						
CPUP				LR	LR	09 34 09.6	
	comp=Z,96nm,18.4s,baz=97,slow=33						
LPAZ	La Paz	51.18	262	LR	LR	09 42 00.2	
	comp=Z,167nm,18.3s,baz=76,slow=35						
BRTR	Keskin Array B	71.50	37	P	P	09 23 12.5	+0.2
	0.7nm,0.6s,baz=185,slow=3.4,SNR=4.5						
AKASG	Malin Array Be	76.85	27	P	P	09 23 42.9	-0.2
	0.8nm,0.5s,baz=222,slow=5.9,SNR=5.0						

MEX ***30*** *09:12:19.6±0.9, 19°.88N×105°.80W, h10km, MD4.4*
NEIC ***30*** *09:12:21.2±3.0, 19°.9N±0°.1×105°.8W±0°.1, h41km±14km, Error ellipse: s-maj=21.0km s-min=9.6km az=217.0*
IDC ***30*** *09:12:22.3±8.0, 20°.38N×105°.67W, h0km, mb2.9/2, mb1 3.7/3, mb1mx3.4/48, mbtmp3.2/3, ML4.2/1, Error ellipse: s-maj=139.3km s-min=45.6km az=121.0*

ISC 30 09:12:16.4±3.5, 19°.8N±0°.1×105°.80W±0°.10, h4km±26km, n39, σ1§65/38, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.76	111	*eP*	Pb	09 12 32.5	+0.2
CJM				*i* S	Sb	09 12 42.4	-0.6
R15V		1.81	109	*eP*	Pn	09 12 47.5	-1.0
R15V				*eS*	Sn	09 13 08.8	-3.3
R15V		1.81	109		Pn	09 12 47.5	-1.0
COIG	Colima	2.08	106	*eP*	Pn	09 12 51.7	-0.5
COIG				*eS*	Sn	09 13 15.3	-3.3
EZ5V		2.09	98	*eP*	Pn	09 12 53.0	+0.4
EZ5V				*eS*	Sn	09 13 18.9	-0.4
EZ5V		2.09	98		Pn	09 12 53.0	+0.4
MMIG	Aquila	2.75	122	*eP*	Pn	09 13 01.6	+0.2
MMIG				*eS*	Sb	09 13 38.7	-1.6
MMIG	Aquila	2.75	122		Pn	09 13 01.6	+0.2
MMIG					Sb	09 13 38.7	-1.6
ZAIG	Zacatecas	4.24	45	*eP*	Pn	09 13 19.1	-3.0
ZAIG	Zacatecas	4.24	45		Pn	09 13 19.1	-3.0
MOIG	Morelia	4.34	90	*eS*	Sn	09 14 18.9	+4.0
MOIG	Morelia	4.34	90		Pn	09 13 24.2	+0.6
ZIIG	Zihuatanejo	4.64	117	*eP*	Pn	09 13 27.8	+0.5
ZIIG				*eS*	Sn	09 14 24.4	+2.7
ZIIG	Zihuatanejo	4.64	117		Pn	09 13 27.8	+0.5
ZIIG					Sn	09 14 24.4	+2.7
SLBS	Sierra La Lagu	5.48	316		Pn	09 13 38.2	-0.8
HPIG		7.13	1		Pn	09 14 02.0	+0.1
TLIG	Tlapa	7.20	107		Pn	09 14 04.5	+1.8
TXAR	Lajitas Array	9.72	11	Pn	Pn	09 14 37.4	+0.2
	0.6nm,0.3s,baz=195,slow=15,SNR=37						
TXAR				Lg	Lg	09 17 09.0	
	0.1nm,0.3s,baz=300,slow=34,SNR=2.9						
TXAR	Lajitas Array	9.72	11		Pn	09 14 36.9	-0.4
TX31	Lajitas Ar. Si	9.72	11		Pn	09 14 36.9	-0.4
TX32	Lajitas Array	9.72	11		Pn	09 14 36.9	-0.3
735A	Kenedy	11.61	37		Pn	09 15 04.0	+1.0
319A	Douglas	11.97	346	Pn	Pn	09 15 08.2	+0.1
121A	Cookes Peak, D	12.83	352		Pn	09 15 20.4	+0.4
TUC	Tucson	13.26	341		Pn	09 15 25.4	-0.4
PETF	Flores	15.39	98	Pn	Pn	09 15 54.6	0.0
PETF				IAmb	IAmb	09 15 59.8	
	comp=Z,17nm,0.4s						
AMTX	Amarillo	15.49	13		P	09 16 00.3	-0.2
AMTX				IAmb	IAmb	09 16 06.3	
	comp=Z,5.9nm,0.9s						
Y14A	Wickenburg	15.50	337		P	09 15 58.7	-1.9
Y14A				IAmb	IAmb	09 15 58.9	
	comp=Z,2.1nm,1.0s						
NVAR	Mina Array Bea	21.52	332	P	P	09 17 08.4	+1.6
	comp=Z,0.5nm,0.7s,baz=149,slow=12,SNR=7.1						
PDAR	Pinedale Array	23.14	353	P	P	09 17 23.4	-0.7
	comp=Z,0.2nm,0.5s,baz=153,slow=12,SNR=1.7						
H03N2	Juan Fernandez	58.80	154	T	T	10 25 42.8	
	baz=332,slow=77,SNR=6.2						
H03N1	Juan Fernandez	58.81	154	T	T	10 25 59.6	
	baz=332,slow=77,SNR=20						
H03N3	Juan Fernandez	58.82	154	T	T	10 25 53.2	
	baz=332,slow=77,SNR=8.6						
H11N3	WAKE ISLAND Hy	81.10	288	T	T	10 54 13.9	
	baz=68,slow=75,SNR=6.8						
H11N2	WAKE ISLAND Hy	81.11	288	T	T	10 54 26.6	
	baz=68,slow=75,SNR=6.9						
H11N1	WAKE ISLAND Hy	81.12	288	T	T	10 54 14.1	
	baz=68,slow=75,SNR=6.1						
H11S1	WAKE ISLAND Hy	81.66	287	T	T	10 55 09.4	
	baz=77						
H11S2	WAKE ISLAND Hy	81.66	287	T	T	10 54 56.2	
	baz=77						
H11S3	WAKE ISLAND Hy	81.67	287	T	T	10 55 06.6	
	baz=77						

TUL ***30*** *09:15:11±1.2, 35°.74N±0°.02×97°.38W±0°.05, h5km±7km, ML2.6, mb_Lg2.4/34(NEIC), Error ellipse: s-maj=6.0km s-min=2.4km az=81.0*

NEIC 30 09:15:10.9±1.0, 35°.76N±0°.02×97°.39W±0°.03, h7km±6km, Error ellipse: s-maj=4.1km s-min=1.9km az=47.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.07	302		Pg	09 15 12.9	+0.2
OK029				Sg	Sg	09 15 14.5	+0.5
OK025	Westminster Rd	0.18	168		Pg	09 15 14.4	-0.2
OK025				Sg	Sg	09 15 17.1	-0.1
OK005	Luther M Schoo	0.19	124	Pg	Pg	09 15 13.6	-1.1
OK005				Sg	Sg	09 15 16.6	-0.8
BCOK	Bluff Creek, N	0.21	240		Pg	09 15 15.0	-0.1
BCOK				Sg	Sg	09 15 18.2	+0.3
OKCFA	Oklahoma City	0.35	189		Pg	09 15 17.4	-0.3
OKCSW	OKLAHOMA CITY	0.36	187		Pg	09 15 17.5	-0.4
OK031	S. Brethren Rd	0.48	67		Pg	09 15 20.5	+0.2
FNO	Franklin	0.50	181		Pg	09 15 20.2	-0.4
QUOK	Quay	0.69	53		Pg	09 15 24.1	0.0
CROK	Carrier	0.89	327		Pg	09 15 28.0	+0.1
BLOK	Blackwell	1.01	8		Pg	09 15 30.0	-0.2
GC02	Grant County #	1.15	341		Pg	09 15 32.6	-0.5
X34A	Smith Ranch, M	1.21	198		Pg	09 15 33.4	-0.8
KAN13	South Haven SW	1.25	357		Pn	09 15 34.5	-0.3
KAN17	Caldwell West	1.31	347		Pn	09 15 35.5	-0.2
T35A	Sooner Cattle	1.35	31	Pn	Pn	09 15 35.8	-0.5
KAN09	Caldwell North	1.38	352		Pn	09 15 36.8	+0.1
KAN05	Bluff City Nor	1.40	344		Pb	09 15 37.1	-0.2
U32A	Winter Ranch,	1.45	296	Pn	Pb	09 15 38.3	+0.1
KS20	Mayfield South	1.47	355		Pn	09 15 38.2	+0.3
WMOK	Wichita Mounta	1.53	229		Pn	09 15 38.4	-0.3
KAN12	Harper NE Stat	1.61	342		Pb	09 15 40.5	-0.4
LOOK	Love County	1.77	174	Pn	Pn	09 15 42.0	0.0
X37A	Clayton	2.02	125		Pn	09 15 46.1	+0.7
X37A				IAmb	Lg	09 16 13.4	
	comp=Z,14nm,0.9s						
Z35A	Perchaven, San	2.43	177	Pn	Pn	09 15 51.3	+0.3
U38A	Gravette	2.52	74		Pn	09 15 53.2	+0.9
HHAR	Hobbs	2.84	78	Pn	Pn	09 15 56.9	+0.2
Z38A	Mt. Pleasant	3.19	141	IAmb	Lg	09 16 57.0	
	comp=Z,13nm,0.9s						
MIAR	Mount Ida	3.35	110	Pn	Pn	09 16 04.0	+0.3
KSU1	Kansas State U	3.39	10	IAmb	Lg	09 17 08.0	
	comp=Z,11nm,0.8s						
CBKS	Cedar Bluff	3.58	329	IAmb	Lg	09 17 12.4	
	comp=Z,15nm,0.8s						
U40A	Yellville	3.72	80	Pn	Pn	09 16 08.6	-0.2
S39A	Bolivar	3.79	58	IAmb	Lg	09 17 14.9	
	comp=Z,11nm,0.7s						
X40A	Basin Creek Fa	3.94	108	Pn	Pn	09 16 11.7	-0.1
X40A				IAmb	Lg	09 17 18.1	
	comp=Z,8.7nm,0.8s						
WHAR	Wooly Hollow	4.18	95	Pn	Pn	09 16 16.1	+0.9
WHAR				IAmb	Lg	09 17 28.0	
	comp=Z,15nm,1.2s						
FCAR	Ozark Folk Cen	4.28	87	Pn	Pn	09 16 15.9	-0.5
FCAR				IAmb	Lg	09 17 37.8	
	comp=Z,9.0nm,1.1s						
MGMO	Mountain Grove	4.35	70	IAmb	Lg	09 17 32.2	
	comp=Z,9.5nm,0.7s						
R40A	Maddies Statio	4.81	57	IAmb	Lg	09 17 50.6	
	comp=Z,5.5nm,0.7s						
P38A	Dawn	4.92	37	IAmb	Lg	09 17 59.5	
	comp=Z,5.2nm,0.8s						
435B	Jarrell	4.97	182	IAmb	Lg	09 17 50.1	
	comp=Z,5.7nm,0.7s						
T42A	Van Buren	5.23	74	IAmb	Lg	09 18 01.7	
	comp=Z,4.9nm,1.0s						
CCM	Cathedral Cave	5.43	63	IAmb	Lg	09 18 06.9	
	comp=Z,7.1nm,0.7s						
JCT	Junction City	5.64	202	IAmb	Lg	09 18 19.9	
	comp=Z,8.0nm,0.9s						
P40A	Paris	5.66	47	IAmb	Lg	09 18 12.8	
	comp=Z,12nm,0.8s						
T25A	Trinidad	5.83	286	IAmb	Lg	09 18 30.7	
	comp=Z,5.7nm,0.9s						
SIUC	Southern Illin	6.84	71	IAmb	Lg	09 18 47.0	
	comp=Z,9.2nm,0.8s						

MOS ***30*** *09:17:07.9±0.0, 43°.10N×44°.21E, h11km, MPVA3.3*
NORS ***30*** *09:17:08.0±0.0, 43°.10N×44°.22E, h8km, MPVA3.3*
TIF ***30*** *09:17:08.7, 42°.97N×44°.32E, h48km±2km*

ISC 30 09:17:09.2±0.9, 43°.08N±0°.02×44°.23E±0°.02, h11km±7km, n17, σ0§93/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	Ardon	0.11	23	*i* Pg	Pg	09 17 11.5	-0.5
ARNR				*eSg*	Sg	09 17 14.0	0.0
KORR	Kora	0.12	273	*ePg*	Pg	09 17 12.0	-0.2
KORR				*eSg*	Sg	09 17 15.3	+1.1
LACR	Lac	0.26	168	*ePg*	Pb	09 17 15.9	-0.1
LACR				*eSg*	Sb	09 17 20.1	-0.4
STDR	Stavd-Durt	0.31	338	*ePg*	Pg	09 17 15.5	0.0
STDR				*i* Sg	Sb	09 17 21.5	-0.4
VLKR	Vladikavkaz	0.33	96	*ePg*	Pb	09 17 17.5	+0.3
VLKR				*eSg*	Sb	09 17 22.3	-0.2
LSNR	Lesken	0.35	304	*ePg*	Pg	09 17 16.5	+0.3
LSNR				*eSg*	Sb	09 17 23.7	+0.6
BTKR	Batakoyurt	0.37	38	*ePg*	Pb	09 17 16.7	-1.1
BTKR				*eSg*	Sb	09 17 22.7	-1.0
ZEI	Tsey	0.38	219	*ePg*	Pg	09 17 17.1	+0.3
ZEI				*eSg*	Sb	09 17 24.6	+0.6
MTEO	Meteo	0.46	150	P	Pg	09 17 18.4	+0.1
MTEO				S	Sb	09 17 25.6	-1.0
DIGR	Digorskoe uzhe	0.51	249	*ePg*	Pg	09 17 18.9	-0.3
DIGR				*eSg*	Sg	09 17 26.8	+1.0
PNSH	Pansheti	0.53	147	P	Pg	09 17 19.4	-0.1
PNSH				S	Sb	09 17 27.3	-1.0
GUDG	Gudauri	0.64	163	P	Pg	09 17 20.1	-1.6
GUDG				S	Sg	09 17 29.6	-0.6
ONI	Oni	0.75	230	P	Pg	09 17 24.0	+0.3
ONI				S	Sb	09 17 35.3	+0.7
NEY	Neytrino	1.11	279	*e*Pg	Pb	09 17 29.8	-0.8
NEY				*e*Sg	Sb	09 17 44.5	-0.7
GROC	Groznyy	1.16	83	*e*Pg	Pg	09 17 32.1	+0.7
GROC				*e*Sg	Sg	09 17 49.8	+3.4
KBZ	Khabaz	1.17	304	*e*Pg	Pg	09 17 31.3	-0.3
KBZ				*e*Sg	Sg	09 17 47.4	+0.6
SHA1	Shidzhatmaz	1.32	300	*e*Pg	Pb	09 17 33.7	-0.4
SHA1				*e*Sg	Sg	09 17 52.2	+0.5

IDC ***30*** *09:19:22.2±0.7, 41°.07N×145°.62E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.9/49, mbtmp3.9/17, ML2.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/43, Error ellipse: s-maj=18.6km s-min=17.4km az=125.0*
JMA ***30*** *09:19:23.4±0.2, 40°.99N×145°.77E, h58km±3km, M4.0*
NIED ***30*** *09:19:23.4, 40°.99N×145°.77E, h58km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.81; $M_{\theta\theta}$2.26; $M_{\phi\phi}$1.55; $M_{r\theta}$-1.07; $M_{\theta\phi}$2.16; $M_{\phi r}$1.17; Fault plane solution: $M_0$4.25000×10^{14} NP1:ϕ_s69.00000°, δ49.00000°, λ-62.00000°. NP2:ϕ_s210.00000°, δ48.00000°, λ-119.00000°.*
MOS ***30*** *09:19:24.3±1.0, 41°.06N×145°.52E, h27km, mb4.6/1 Error ellipse: s-maj=14.9km s-min=8.4km az=94.9*
NEIC ***30*** *09:19:26.9±2.4, 40°.85N±0°.08×145°.4E±0°.1, h38km±6km, mb4.3/22, Error ellipse: s-maj=16.6km s-min=11.3km az=107.0*

ISC 30 09:19:27.0±0.7, 41°.01N±0°.06×145°.65E±0°.06, h35km, n78, σ1§73/83, mb4.2/25, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	2.10	341	P	Pn	09 19 57.9	-1.8
JAK				*eS*	Sn	09 20 23.2	-1.4
ERM	Erimo	2.12	299	P	Pn	09 19 59.0	-0.9
ERM	Erimo	2.12	299		Pn	09 19 59.0	-0.9
JEM	Erimo	2.12	299	*eS*	Sn	09 20 22.9	-2.2
JTHR	Tokachihiroo	2.18	307	*eS*	Sn	09 20 24.1	-2.3
JOB	Onbets	2.32	325	P	Pn	09 20 01.4	-1.3
JOB				*eS*	Sn	09 20 29.2	-0.8
JCH	Churui	2.34	314	P	Pn	09 20 01.6	-1.3
JCH				*eS*	Sn	09 20 28.4	-2.0
NEM2	Nemuro 2	2.35	2	P	Pn	09 20 00.9	-2.1
NEM2				*eS*	Sn	09 20 28.7	-1.9
NMR	Nemuro--Hokkai	2.35	1	||*i* P	Pn	09 20 00.8	-2.3
NMR				*i* S	Sn	09 20 28.0	-2.7
JNBK	Urakawa-nobuka	2.51	301	P	Pn	09 20 04.7	-0.6
JNK	Nakash	2.66	345	P	Pn	09 20 05.6	-1.7
JNK				*eS*	Sn	09 20 35.8	-2.5
JAR	Ashorobuto	2.68	329	P	Pn	09 20 05.6	-1.9
JAR				*eS*	Sn	09 20 36.6	-2.1
JRA	Rausu	2.95	353	P	Pn	09 20 09.3	-1.9
JBT2	Biratori 2	3.02	307	P	Pn	09 20 11.0	-1.3
JBT2				*eS*	Sn	09 20 48.0	+0.8
YUK	Yuzh-Kuril'sk	3.02	3	*e*P	Pn	09 20 10.7	-1.6
YUK				*eS*	Sn	09 20 44.3	-2.9
YUK				pmax	pmax		
	comp=N,42nm,0.3s						
YUK				pmax	pmax		
	comp=Z,160nm,0.3s						
YUK				pmax	pmax		
	comp=E,30nm,0.2s						
YUK				smax	smax		
	comp=N,656nm,0.6s						
YUK				smax	smax		
	comp=E,407nm,0.3s						
RUSJ	Misakicho	3.10	355	*e*P	Pn	09 20 12.2	-1.2
RUSJ				*eS*	Sn	09 20 48.2	-1.0
JANG	Nango	3.21	260	P	Pn	09 20 11.2	-3.7
JIAM	Iburiatsuma	3.22	301	*eS*	Sn	09 20 53.9	+1.9
JTKR	Abashiri--Toko	3.22	337	P	Pn	09 20 14.1	-0.9
JTKR				*eS*	Sn	09 20 51.7	-0.5
JMP	Maruseppu	3.44	331	P	Pn	09 20 16.9	-1.1
JMP				*eS*	Sn	09 20 56.0	-1.5
JTM	Tenmabayashi	3.48	268		Pn	09 20 16.3	-2.3
JOT	Ohata	3.49	278	P	Pn	09 20 16.5	-2.2
JOT				*eS*	Sn	09 20 54.5	-4.3
JKB	Kayabe	3.58	286	P	Pn	09 20 18.4	-1.5
JEW	Eniwo	3.63	302	*eS*	Sn	09 21 01.6	-0.6
JEW	Eniwo	3.63	302		Pn	09 20 20.7	+0.1
JKA	Kamikawa-asahi	3.83	325		Pn	09 20 23.9	+0.5
ASAJ	Asahikawa	3.83	325	Pn	Pn	09 20 21.3	-2.2
	comp=E,1.2nm,0.3s,baz=145,slow=10,SNR=9.6						
ASAJ				Sn	Sn	09 21 09.0	+1.7
	comp=E,4.4nm,0.3s,baz=259,slow=31,SNR=9.8						
ASAJ				LR	LR	09 22 07.3	
	comp=E,181nm,18.4s,baz=153,slow=44						
KUR	Kuril'sk	4.52	20	P	Pn	09 20 32.3	-0.5
KUR				*i* S	Sn	09 21 20.5	-3.6
KUR				pmax	pmax		
	comp=E,20nm,0.3s						
KUR				pmax	pmax		
	comp=Z,41nm,0.3s						
KUR				pmax	pmax		
	comp=N,16nm,0.4s						
KUR				smax	smax		
	comp=N,115nm,0.3s						
KUR				smax	smax		
	comp=E,48nm,0.3s						
JMM	Marumori	4.90	232		Pn	09 20 32.7	-5.4
JSD	Sado	6.44	245	Pn	Pn	09 20 55.9	-3.3
MJAR	Matsushiro Arr	7.33	235	Pn	Pn	09 21 10.6	-0.9
	comp=E,0.1nm,0.3s,baz=80,slow=13,SNR=5.4						
JWT	Wachi	9.89	238	Pn	Pn	09 21 44.8	-1.8
USRK	Ussuriysk Ar.	10.56	292	Pn	Pn	09 21 54.2

comp=Z,2.2nm,0.7s
L27K Beaver Creek, 46.72 37 P P 09 27 53.6 +1.4
L27K IAmb IAmb 09 27 54.5
comp=Z,2.4nm,0.7s
BCAR Beaver Creek A 46.74 37 P P 09 27 53.8 +1.4
EGAK Eagle 46.81 34 P P 09 27 53.6 +0.9
EGAK IAmb IAmb 09 27 59.3
comp=Z,4.6nm,1.4s
HYT Haines Junctio 49.14 39 P P 09 28 13.3 +2.4
INK Inuvik 49.33 29 P P 09 28 12.9 +0.8
comp=Z,1.9nm,0.5s,baz=285,slow=5.2,SNR=7.4
INK Inuvik 49.33 29 P P 09 28 13.6 +1.5
INK pmax pmax
comp=Z,7.0nm,1.4s
INK Inuvik 49.33 29 P P 09 28 13.6 +1.5
INK IAmb IAmb 09 28 26.6
comp=Z,6.9nm,1.4s
WRA Warramunga Arr 61.55 192 P P 09 29 40.6 +0.1
comp=Z,1.0nm,0.8s,baz=9.3,slow=6.9,SNR=8.3
WRA Warramunga Arr 61.55 192 IAmb IAmb 09 29 49.5
comp=Z,0.2nm,1.1s
ASAR Alice Springs 65.27 192 P P 09 30 06.9 +1.8
comp=Z,0.4nm,0.6s,baz=14,slow=7.0,SNR=5.9
FINES FINESS Array B 66.81 333 P **P 09 30 13.8 -0.8**
comp=Z,1.3nm,0.5s,baz=56,slow=4.8,SNR=10
KBZ Khabaz 70.78 312 P P 09 30 40.6 +1.0
comp=Z,1.8nm,0.6s,baz=110,slow=1.8,SNR=7.2
NOA NORSAR Array B 71.75 339 P **P 09 30 45.1 -0.1**
comp=Z,0.3nm,0.5s,baz=52,slow=7.7,SNR=2.1
HFS Hagfors 71.78 337 P P 09 30 45.2 -0.1
comp=Z,3.4nm,1.0s,baz=64,slow=10,SNR=5.0
PDAR Pinedale Array 72.54 48 P P 09 30 50.4 -0.1
comp=Z,0.2nm,0.5s,baz=347,slow=3.7,SNR=2.1
AKASG Malin Array Be 73.12 323 P P 09 30 53.2 -0.3
comp=Z,0.3nm,0.4s,baz=42,slow=6.7,SNR=1.6
TXAR Lajitas Array 85.11 55 P P 09 32 00.1 +0.6
comp=Z,0.5nm,0.7s,baz=292,slow=3.9,SNR=7.8

TAP 30 09:24:49.0,24°.15N×121°.62E,h7km,ML1.1,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.01**	**9**	P	Pg	09 24 50.4	+0.1
ETL	baz=10.0			S	Sg	09 24 52.0	+0.8
NACB	**Ninganchiao**	**0.04**	**318**	P	Pg	09 24 50.8	+0.4
NACB	baz=317			S	Sg	09 24 51.5	+0.1
NACB	**Ninganchiao**	**0.04**	**318**	P	Pg	09 24 50.9	+0.5
TWD	**Chiawan**	**0.07**	**199**	*i* P	Pg	09 24 51.5	+0.7
TWD	baz=192			S	Sg	09 24 52.8	+0.7
ETLH	**Xiulin Townshi**	**0.14**	**295**	P	Pg	09 24 53.0	+1.1
ETLH	baz=294			S	Sg	09 24 55.8	+1.8
ETM	**Tongmen**	**0.21**	**213**	P	Pg	09 24 54.0	+0.8
ETM	baz=212			S	Sg	09 24 58.2	+2.1
WHF	**Hehuan Shan**	**0.33**	**270**	P	Pb	09 24 56.6	-0.8
WHF	baz=269			S	Sb	09 25 01.9	-1.2
EWUT	**Wuta**	**0.33**	**26**	P	Pb	09 24 56.6	-0.6
EWUT	baz=25			S	Sb	09 25 02.2	-0.5
NNSB	**Datong**	**0.35**	**322**	*eP*	Pg	09 24 56.0	0.0
NNSB	baz=322			S	Sb	09 25 02.4	-1.3
NNSH	**Datong**	**0.35**	**322**	P	Pb	09 24 57.3	-0.5
NNSH	baz=322			S	Sb	09 25 02.8	-0.8
FUSS	**Fushou**	**0.36**	**286**	*eP*	Pb	09 24 59.2	+1.3
FUSS	baz=286			S	Sb	09 25 03.4	-0.4
ESL	**Shilin**	**0.37**	**207**	P	Pg	09 24 56.9	+0.6
ESL	baz=206			S	Sb	09 25 03.9	-0.1
CHGB	**Renai**	**0.42**	**258**	P	Pb	09 24 58.5	-0.3
CHGB	baz=258			S	Sb	09 25 04.8	-0.7
TDCB	**Techi**	**0.44**	**284**	P	Pb	09 24 58.6	-0.5
TDCB	baz=283			S	Sb	09 25 05.4	-0.5
YHNB	**Yeheng**	**0.57**	**337**	*eP*	Pg	09 24 59.9	-0.1
YHNB	baz=336			S	Sb	09 25 10.3	+0.6
NSK	**Sanguang**	**0.58**	**336**	P	Pb	09 25 01.1	-0.5
NSK	baz=336			S	Sb	09 25 10.6	+0.6
WHP	**Taichung City**	**0.63**	**282**	P	Pb	09 25 02.3	-0.1
WHP	baz=281			S	Sb	09 25 12.0	+0.5

IDC 30 09:29:23.1±2.5,53°.59N×86°.83E,h0km,mb1 2.8/2, mb1mx2.8/39,mbtmp2.8/2,ML2.1/2,Error ellipse: s-maj=22.9km s-min=13.8km az=73.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25**	**288**	*i*		09 37 30.0	
	baz=104,slow=302,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.25**	**288**	Pg	Pg	09 29 46.3	-0.7
	1.2nm,0.3s,baz=110,slow=11,SNR=17						
ZALV				Lg	Lg	09 30 04.7	
	1.2nm,0.3s,baz=107,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**5.91**	**243**	Pn	Pn	09 30 51.3	-0.6
	0.0nm,0.3s,baz=59,slow=14,SNR=2.2						
KURBB				Lg	Lg	09 32 29.2	
	0.1nm,0.3s,baz=62,slow=33,SNR=2.8						
MKAR	**Makanchi Array**	**7.40**	**205**	Pn	Pn	09 31 14.4	+2.1
	0.1nm,0.3s,baz=27,slow=14,SNR=7.2						
MKAR				Lg	Lg	09 33 17.4	
	0.0nm,0.3s,baz=37,slow=29,SNR=3.1						

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*IDC **30** 09:33:49.6±3.5,5°.57S×145°.55E,h106km±34km,mb4.0/8, mb1 4.0/10,mb1mx3.7/27,mbtmp4.3/10,Error ellipse: s-maj=26.7km s-min=19.4km az=107.0*

ISC 30 09:33:49.1±0.7,5°.57S±0°.08×145°.6E±0°.2,h100km,n14, σ1§23/14,mb4.0/9,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.12**	**158**	P	**Pn**	**09 34 50.5**	**+0.6**
	54nm,0.3s,baz=23,slow=6.0,SNR=86						
PMG				S	**Sn**	**09 35 35.4**	**-1.8**
	8.9nm,0.3s,baz=354,slow=5.3,SNR=3.3						
CTA	**Charters Tower**	**14.45**	**177**	P	**P**	**09 37 14.5**	**+1.6**
	1.1nm,0.3s,baz=3.5,slow=14,SNR=12						
WRA	**Warramunga Arr**	**17.99**	**216**	P	**P**	**09 37 51.7**	**-0.4**
	0.3nm,0.3s,baz=33,slow=11,SNR=23						
ASAR	**Alice Springs**	**21.22**	**211**	P	**P**	**09 38 25.5**	**-1.6**
	0.5nm,0.4s,baz=43,slow=7.9,SNR=17						
BATI	**Baumata**	**22.19**	**257**	P	**P**	**09 38 36.4**	**-1.0**
	24nm,0.5s,baz=21,slow=4.8,SNR=4.2						
STKA	**Stephens Creek**	**26.44**	**188**	P	**P**	**09 39 17.9**	**+1.2**
	1.7nm,0.4s,baz=26,slow=9.7,SNR=16						
CMAR	**Chiang Mai Arr**	**51.80**	**299**	P	**P**	**09 42 48.1**	**+0.9**
	1.1nm,0.7s,baz=209,slow=31,SNR=4.7						
KLR	**Kul'dur**	**55.89**	**349**	P	**P**	**09 43 16.9**	**+0.5**
	0.7nm,0.5s,baz=169,slow=9.2,SNR=4.3						
PETK	**Petropavlovsk-**	**59.35**	**8**	P	**P**	**09 43 41.2**	**+0.7**
	2.2nm,0.7s,baz=176,slow=8.9,SNR=9.1						
MKAR	**Makanchi Array**	**76.27**	**321**	P	**P**	**09 45 26.8**	**-0.2**
	0.9nm,0.4s,baz=99,slow=7.8,SNR=14						
ZALV	**Zalesovo Beam**	**77.90**	**328**	P	**P**	**09 45 34.7**	**-1.2**
	0.9nm,0.4s,baz=124,slow=7.4,SNR=3.7						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**09 46 14.8**	**-1.6**
	1.9nm,0.7s,baz=253,slow=5.2,SNR=24						
PLCA	**Paso Flores**	**123.25**	**148**	PKP	**PKPdf**	**09 52 35.0**	**+0.2**
	1.8nm,0.9s,baz=63,slow=3.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**143.62**	**285**	PKP	PKPab	09 53 10.2	+0.1
	0.8nm,0.5s,baz=70,slow=3.2,SNR=13						

IDC 30 09:51:09.8±3.9,5°.45S×151°.25E,h0km,mb3.3/2, mb1 3.7/2,mb1mx3.3/29,mbtmp3.4/2,MS3.6/1,Ms1 3.6/1, ms1mx2.7/25,Error ellipse: s-maj=136.3km s-min=53.5km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.86**	**227**	P	P	09 56 04.1	-0.2
	0.6nm,0.4s,baz=53,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.64**	**221**	P	P	09 56 32.6	+0.3
	0.5nm,0.5s,baz=56,slow=9.0,SNR=13						
LEM	**Lembang**	**43.39**	**266**	LR	LR	10 20 54.6	
	comp=Z,67nm,18.1s,baz=134,slow=41						
TORD	**Torodi Ar. Bea**	**149.02**	**286**	PKPbc	PKPbc	10 11 00.3	-0.7
	0.4nm,0.9s,baz=99,slow=2.6,SNR=1.7						

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*ECX **30** 10:02:24.8±0.3,27°.73N×111°.70W,h14km,MD2.7*
*MEX **30** 10:02:25.7±0.4,27°.59N×111°.61W,h10km,MD3.6*

ISC 30 10:02:23.6±1.1,27°.8N±0°.1×111°.71W±0°.07,h10km,n6, σ0§32/12,1C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.65**	**227**	*eP*	**Pg**	**10 02 36.2**	**0.0**
SRIG				*eS*	**Sg**	**10 02 45.1**	**+0.4**
SRIG	**Santa Rosalia**	**0.65**	**227**	*eP*	**Pg**	**10 02 36.1**	**0.0**
SRIG				*eS*	**Sg**	**10 02 44.6**	**-0.1**
GUYB	**Guaymas**	**0.75**	**80**	*eP*	**Pg**	**10 02 38.0**	**-0.1**
GUYB				*eS*	**Sg**	**10 02 47.7**	**-0.3**
GUYB	**Guaymas**	**0.75**	**80**	⇑*eP*	**Pg**	**10 02 38.1**	**0.0**
GUYB				*eS*	**Sg**	**10 02 48.5**	**+0.5**
HSIG		**1.42**	**28**	*eP*	**Pn**	**10 02 49.1**	**-0.4**
HSIG				*eS*	**Sn**	**10 03 08.5**	**+0.3**
HSIG		**1.42**	**28**	*eP*	**Pn**	**10 02 49.4**	**-0.1**
HSIG				*eS*	**Sn**	**10 03 08.6**	**+0.3**

IDC 30 10:05:56.5±2.9,7°.34S×129°.56E,h0km,mb1 3.4/2, mb1mx3.1/50,mbtmp3.1/2,ML3.0/2,Error ellipse: s-maj=149.8km s-min=46.3km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.36**	**160**	Pn	Pn	10 09 07.5	-0.2
	0.1nm,0.3s,baz=342,slow=13,SNR=6.1						
WRA				Sn	Sn	10 11 28.5	-8.6
	0.1nm,0.3s,baz=350,slow=27,SNR=2.4						
ASAR	**Alice Springs**	**16.77**	**166**	Pn	Pn	10 09 53.1	+0.2
	0.1nm,0.3s,baz=346,slow=12,SNR=7.0						
TORD	**Torodi Ar. Bea**	**128.44**	**281**	PKP	PKPdf	10 25 06.1	-0.3
	0.4nm,0.4s,baz=90,slow=1.7,SNR=4.7						

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*NNC **30** 10:08:29.4±3.1,38°.41N×71°.56E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=24.7km s-min=18.9km az=22.0*
*IDC **30** 10:08:31.0±6.0,38°.31N×71°.67E,h33km±42km,mb3.6/13, mb1 3.8/17,mb1mx3.6/59,mbtmp3.9/17,ML3.5/4,MS3.0/2, Ms1 3.0/2,ms1mx2.5/46,Error ellipse: s-maj=33.9km s-min=15.9km az=179.0*

ISC 30 10:08:27.6±0.9,38°.22N±0°.09×71°.52E±0°.07,h10km,n29, σ1§48/35,mb3.7/12,8C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.25**	**22**	P	**Pn**	**10 09 33.4**	**+0.7**
	SNR=24						
UCH	**Uchtor**	**4.62**	**29**	P	**Pn**	**10 09 38.2**	**+0.4**
	SNR=17						
EKS2	**Erkin-Say**	**4.76**	**21**	P	**Pn**	**10 09 40.8**	**+1.2**
	SNR=22						
KK31	**Karatay Array**	**4.94**	**351**	Pn	**Pn**	**10 09 42.8**	**+0.9**
	4.6nm,0.3s,baz=178,slow=13,SNR=107						
KK31				⇓Pg	**Pb**	**10 09 55.3**	**+1.1**
	31nm,0.7s,baz=174,slow=14,SNR=3.0						
KK31				⇓Sn	**Sn**	**10 10 40.5**	**+1.4**
	46nm,0.7s,baz=171,slow=22,SNR=6.3						
KK31				⇓Lg	Lg	10 10 56.7	
	41nm,0.6s						
AAK	**Ala-Archa**	**4.97**	**26**	⇑Pn	**Pn**	**10 09 43.3**	**+0.9**
	9.1nm,0.7s						
AAK				⇓Pg	**Pb**	**10 09 55.8**	**+1.1**
	14nm,0.5s						
AAK				⇑Sn	**Sn**	**10 10 40.6**	**+0.7**
	62nm,0.8s						
AAK				⇑Lg	Lg	10 11 00.0	
	62nm,0.8s						
CHMS	**Chumysh**	**5.37**	**26**	P	**Pn**	**10 09 48.7**	**+0.9**
	SNR=13						
USP	**Ospenovka**	**5.53**	**23**	P	**Pn**	**10 09 50.7**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**5.63**	**32**	P	**Pn**	**10 09 53.1**	**+1.6**
	SNR=8.4						
TKM2	**Tokmak 2**	**5.63**	**32**	⇑Pn	**Pn**	**10 09 51.9**	**+0.4**
	4.9nm,0.5s						
TKM2				⇑Pg	**Pb**	**10 10 06.2**	**+0.1**
	7.6nm,0.5s						
TKM2				⇑Lg	Lg	10 11 20.8	
	25nm,0.8s						
MDOK	**Medeo**	**6.49**	**39**	⇓Pn	**Pn**	**10 10 06.1**	**+2.9**
	5.6nm,0.6s						
MDOK				⇓Pg	**Pb**	**10 10 21.9**	**+1.3**
	13nm,0.9s						
MDOK				⇓Lg	Lg	10 11 44.9	
	30nm,0.9s						
MKAR	**Makanchi Array**	**11.68**	**39**	Pn	**Pn**	**10 11 15.1**	**+0.8**
	0.3nm,0.3s,baz=221,slow=13,SNR=43						
KURBB	**Kurchatov Arra**	**13.37**	**20**	Pn	**Pn**	**10 11 33.3**	**-3.9**
	0.1nm,0.3s,baz=212,slow=12,SNR=4.7						
AB31	**Akbulak array**	**13.83**	**327**	⇑P	**Pn**	**10 11 40.5**	**-3.0**
	0.9nm,0.3s,baz=134,slow=14,SNR=66						
AKTO	**Aktyubinsk**	**15.54**	**326**	Pn	**Pn**	**10 12 05.5**	**-1.1**
	0.2nm,0.3s,baz=106,slow=15,SNR=2.3						
AKTO	**Aktyubinsk**	**15.54**	**326**	⇑P	**P**	**10 12 10.6**	**-0.4**
	7.3nm,0.7s						
ZALV	**Zalesovo Beam**	**18.19**	**26**	P	**Pn**	**10 12 38.3**	**-1.7**
	2.4nm,0.3s,baz=220,slow=11,SNR=26						
ARU	**Arti**	**20.16**	**339**	P	**Pn**	**10 13 03.3**	**-0.4**
	1.3nm,0.3s,baz=162,slow=9.3,SNR=5.2						
KBZ	**Khabaz**	**22.24**	**293**	P	**P**	**10 13 25.6**	**+1.2**
	1.5nm,0.8s,baz=104,slow=8.4,SNR=5.3						
KBZ				LR	LR	10 23 33.5	
	comp=Z,56nm,19.7s,baz=35,slow=40						
SONM	**Songino Array**	**27.05**	**58**	P	**P**	**10 14 09.2**	**-0.9**
	0.6nm,0.8s,baz=240,slow=8.4,SNR=4.4						
BRTR	**Keskin Array B**	**29.35**	**285**	P	**P**	**10 14 32.9**	**+2.2**
	0.4nm,0.5s,baz=106,slow=8.8,SNR=2.8						
AKASG	**Malin Array Be**	**32.22**	**307**	P	**P**	**10 14 58.0**	**+2.3**
	0.4nm,0.4s,baz=108,slow=8.3,SNR=2.0						
FINES	**FINESS Array B**	**36.31**	**325**	P	**P**	**10 15 30.1**	**-0.8**
	2.3nm,0.8s,baz=120,slow=11,SNR=6.7						
ARCES	**ARCESS Array B**	**39.73**	**337**	P	**P**	**10 15 59.9**	**+0.1**
	1.1nm,0.5s,baz=99,slow=8.0,SNR=8.3						
NOA	**NORSAR Array B**	**43.27**	**322**	P	**P**	**10 16 28.5**	**-0.5**
	0.9nm,0.8s,baz=93,slow=7.7,SNR=1.7						
NOA				LR	LR	10 36 47.1	
	comp=Z,9.6nm,18.1s,baz=345,slow=39						
KLR	**Kul'dur**	**43.81**	**55**	P	**P**	**10 16 32.5**	**-0.9**
	0.9nm,0.5s,baz=248,slow=3.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**66.18**	**268**	P	**P**	**10 19 15.4**	**-0.2**
	0.7nm,0.5s,baz=48,slow=5.6,SNR=14						
INK	**Inuvik**	**72.15**	**10**	P	**P**	**10 19 51.2**	**-0.6**
	0.9nm,0.7s,baz=343,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**79.51**	**3**	P	**P**	**10 20 32.4**	**-1.6**
	0.9nm,0.7s,baz=345,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**82.56**	**122**	P	**P**	**10 20 51.3**	**+0.5**
	0.4nm,0.9s,baz=324,slow=5.3,SNR=1.4						

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*IDC **30** 10:26:34.8±1.1,21°.10S×67°.41W,h191km±23km,mb4.0/1, mb1 3.3/3,mb1mx3.0/22,mbtmp3.9/3,Error ellipse: s-maj=46.1km s-min=13.9km az=99.0*
*GUC **30** 10:26:36.0±0.6,21°.15S×67°.60W,h209km±8km,ML4.1*
*SCB **30** 10:26:37.7±2.4,21°.15S×67°.45W,h167km±16km,ML3.5/9, Error ellipse: s-maj=6.6km s-min=5.9km az=0.0*

ISC 30 10:26:34.2±0.9,21°.13S±0°.04×67°.41W±0°.04,h187km±9km, n35,σ1§67/59,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.66**	**95**	P	**Pn**	**10 27 10.3**	**+1.6**
MOCB				S	**Sn**	**10 27 34.2**	**-1.2**
MOCB				IAML		10 27 37.7	
	175nm,0.4s						
PB08	**IPOC Station P**	**1.91**	**301**	⇑*i* P	**Pn**	**10 27 13.0**	**+1.8**
PB08				*i* S	**Sn**	**10 27 41.4**	**+1.6**
PB08	**IPOC Station P**	**1.91**	**301**	P	**Pn**	**10 27 12.7**	**+1.5**
PB08				S	**Sn**	**10 27 38.4**	**-1.4**
PB08				IAML		10 27 45.0	
	82nm,0.3s						
PB01	**IPOC Station P**	**1.94**	**272**	⇑*eP*	**Pn**	**10 27 12.2**	**+0.9**
PB01				*eS*	**Sn**	**10 27 40.0**	**+0.1**
PB01				IAML		10 27 43.0	
	comp=E,431nm,0.1s						
PB01	**IPOC Station P**	**1.94**	**272**	P	**Pn**	**10 27 12.6**	**+1.4**
LVC	**Limon Verde**	**2.03**	**223**	P	**Pn**	**10 27 14.2**	**+1.8**
	baz=36,slow=11						
LVC				S	**Sn**	**10 27 43.5**	**+1.3**
	comp=E,10nm,0.3s,baz=131,slow=22,SNR=2.6						
YJA	**Yavi**	**2.05**	**121**	P	**Pn**	**10 27 14.0**	**+1.3**
PB02	**IPOC Station P**	**2.33**	**265**	⇑*eP*	**Pn**	**10 27 16.4**	**+0.9**
PB02				*eS*	**Sn**	**10 27 46.9**	**-0.6**
PB02				IAML		10 27 48.2	
	comp=N,903nm,0.4s						
PB02	**IPOC Station P**	**2.33**	**265**	P	**Pn**	**10 27 16.6**	**+1.2**
PB02				S	**Sn**	**10 27 45.5**	**-2.0**
PB02				IAML		10 27 50.4	
	comp=N,615nm,0.2s						
PB07	**IPOC Station P**	**2.38**	**255**	*eP*	**Pn**	**10 27 16.9**	**+0.8**
PB07				*i* S	**Sn**	**10 27 47.9**	**-0.8**
PB07				IAML		10 27 49.3	
	comp=E,777nm,0.2s						
PB07	**IPOC Station P**	**2.38**	**255**	P	**Pn**	**10 27 17.2**	**+1.1**
PB07				S	**Sn**	**10 27 46.4**	**-2.3**
PB07				IAML		10 27 49.2	
	comp=E,198nm,0.3s						
PB11	**IPOC Station P**	**2.51**	**302**	⇑*eP*	**Pn**	**10 27 18.5**	**+0.9**
PB11				*eS*	**Sn**	**10 27 50.7**	**-0.5**
PB11	**IPOC Station P**	**2.51**	**302**	P	**Pn**	**10 27 18.7**	**+1.2**
PB11				S	**Sn**	**10 27 49.8**	**-1.4**
PB11				IAML		10 27 53.6	
	comp=E,122nm,0.2s						
TA01	**Diego Aracena**	**2.65**	**282**	⇑*eP*	**Pn**	**10 27 19.3**	**+0.3**
TA01				*eS*	**Sn**	**10 27 52.4**	**-1.5**
TA01				IAML		10 27 54.9	
	comp=N,219nm,0.2s						
TA02	**Huaiquique**	**2.69**	**288**	*eP*	**Pn**	**10 27 19.8**	**+0.4**
TA02				*eS*	**Sn**	**10 27 53.2**	**-1.4**
TA02				IAML		10 27 56.5	
	comp=E,976nm,0.1s						
PB04	**IPOC Station P**	**2.82**	**244**	*eP*	**Pn**	**10 27 22.0**	**+0.9**
PB04				*i* S	**Sn**	**10 27 56.6**	**-1.1**
PB04				IAML		10 27 59.4	
	comp=E,317nm,0.2s						
PB04	**IPOC Station P**	**2.82**	**244**	P	**Pn**	**10 27 22.1**	**+0.9**
PB04				S	**Sn**	**10 27 54.5**	**-3.2**
PB04				IAML		10 27 59.5	
	comp=E,148nm,0.2s						
MNMC	**Minye Minye**	**2.86**	**314**	⇑*iP*	**Pn**	**10 27 23.2**	**+1.4**
MNMC				*eS*	**Sn**	**10 27 59.3**	**+0.5**
MNMC				IAML		10 28 01.0	
	comp=N,414nm,0.1s						
MNMC	**Minye Minye**	**2.86**	**314**	P	**Pn**	**10 27 23.0**	**+1.2**
MNMC				S	**Sn**	**10 27 56.6**	**-2.2**
MNMC				IAML		10 28 01.4	
	comp=N,127nm,0.2s						
PSGC	**Pisagua**	**2.97**	**300**	*i* P	**Pn**	**10 27 22.8**	**-0.1**
PSGC				*i* S	**Sn**	**10 27 59.0**	**-1.8**
PSGC				IAML		10 28 01.7	
	comp=E,197nm,0.3s						
PSGC	**Pisagua**	**2.97**	**300**	P	**Pn**	**10 27 23.5**	**+0.6**
PSGC				S	**Sn**	**10 27 58.4**	**-2.4**
PSGC				IAML		10 28 01.2	
	comp=E,117nm,0.7s						
PB05	**IPOC Station P**	**3.11**	**236**	⇑*iP*	**Pn**	**10 27 25.5**	**+0.9**
PB05				*i* S	**Sn**	**10 28 02.1**	**-1.9**
PB05				IAML		10 28 04.7	
	comp=N,208nm,0.3s						
PB05	**IPOC Station P**	**3.11**	**236**	P	**Pn**	**10 27 25.4**	**+0.9**
PB05				S	**Sn**	**10 28 00.6**	**-3.4**
PB05				IAML		10 28 05.1	
	comp=N,104nm,0.2s						
PB10	**IPOC Station P**	**3.76**	**230**	*eP*	**Pn**	**10 27 32.8**	**+0.3**
PB10				*i* S	**Sn**	**10 28 14.5**	**-3.7**
PB10	**IPOC Station P**	**3.76**	**230**	P	**Pn**	**10 27 33.0**	**+0.5**
BBOE	**La Paz, Chanca**	**4.33**	**353**	P	**Pn**	**10 27 41.5**	**+1.2**
PB14	**IPOC Station P**	**4.44**	**218**	P	**Pn**	**10 27 42.0**	**+0.6**
GO02	**Mina Guanaco**	**4.49**	**206**	⇑*iP*	**Pn**	**10 27 42.6**	**+0.5**
GO02				*i* S	**Sn**	**10 28 33.5**	**-1.9**
BBOD	**La Paz, Gloria**	**4.61**	**346**	P	**Pn**	**10 27 44.8**	**+1.0**
LPAZ	**La Paz**	**4.86**	**352**	P	**Pn**	**10 27 49.1**	**+1.9**
	comp=N,0.4nm,0.3s,baz=178,slow=9.3,SNR=14						
LPAZ				S	**Sn**	**10 28 44.1**	**-0.3**
	comp=N,0.2nm,0.3s,baz=68,slow=5.6,SNR=1.7						
SIV	**San Ignacio**	**7.89**	**51**	S	**Sn**	**10 29 49.5**	**-5.4**
	comp=N,0.2nm,0.3s,baz=313,slow=12,SNR=3.5						
SIV	**San Ignacio**	**7.89**	**51**	P	**Pn**	**10 28 24.9**	**-1.2**
BDFB	**Brasília**	**19.19**	**77**	P	**P**	**10 30 44.6**	**+0.6**
	comp=N,0.5nm,0.3s,baz=248,slow=11,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.91**	**70**	P	**P**	**10 38 00.5**	**-0.2**
	comp=N,1.8nm,0.4s,baz=258,slow=5.4,SNR=25						
MKAR	**Makanchi Array**	**144.51**	**37**	PKP	**PKPab**	**10 45 48.8**	**+1.6**
	comp=N,0.7nm,0.6s,baz=334,slow=3.2,SNR=7.5						

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*VAO **30** 10:32:43.7±0.4,21°.28S×68°.81W,h10km,mb5.0*
*NEIC **30** 10:32:54.7,21°.20S×68°.60W,h113km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$ 1.12; $M_{r\theta}$-0.50; $M_{\theta\phi}$0.25; $M_{\phi r}$-1.51; Fault plane solution: $M_0$1.91000×10^{16} NP1:ϕ_s17.77000°, δ73.81000°,λ-84.27000°. NP2:ϕ_s177.97000°,δ17.15000°, λ-108.99000°. Principal axes: T 2.0246, Plg29.0000°, Azm103.0000°; N -0.2610, Plg6.0000°, Azm196.0000°; P -1.7636, Plg61.0000°, Azm296.0000°;*
*SJA **30** 10:32:54.3±0.7,21°.17S×68°.90W,h131km±4km,ML4.8, MW4.4*
*IDC **30** 10:32:54.5±0.9,21°.02S×68°.58W,h96km±9km,mb4.3/19, mb1 4.4/23,mb1mx4.3/31,mbtmp4.7/23,MS3.5/8, Ms1 3.5/8,ms1mx3.2/25,Error ellipse: s-maj=14.4km s-min=9.2km az=97.0*
*NEIC **30** 10:32:55.0±2.5,21°.15S±0°.05×68°.64W±0°.07,h105km±4km, mb4.9/322,Mwr4.8/33,Mww4.8,ML5.1(GUC),Error ellipse: s-maj=9.9km s-min=6.8km az=84.0*
*GUC **30** 10:32:55.8±0.5,21°.19S×68°.73W,h112km±4km,ML5.1*
*NEIC **30** 10:32:56,21°.10S×68°.80W,h110km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.14; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.70; $M_{r\theta}$-0.50; $M_{\theta\phi}$-0.26; $M_{\phi r}$-1.97; Fault plane solution: $M_0$2.14000×10^{16} NP1:ϕ_s121.00000°, δ16.00000°,λ-165.00000°. NP2:ϕ_s17.00000°,δ86.00000°, λ-74.00000°. Principal axes: T 2.2927, Plg39.0000°, Azm93.0000°; N -0.3441, Plg15.0000°, Azm196.0000°; P -1.9486, Plg47.0000°, Azm302.0

PB08 IPOC Station P 1.10 336⇑ iP Pn 10 33 18.8 +1.0
PB08 eS Sn 10 33 36.0 +1.2
PB08 IPOC Station P 1.10 336 Pn 10 33 18.7 +1.0
PB08 IPOC Station P 1.10 336 eS **Sn 10 33 37.2 +2.3**
PB08 IAML 10 33 40.2
comp=Z,10µm,0.8s
PB02 IPOC Station P 1.14 262⇑ iP Pn 10 33 17.8 0.0
PB02 eS **Sn 10 33 34.2 -0.9**
PB02 IAML 10 33 36.9
comp=E,64µm,0.4s
PB02 IPOC Station P 1.14 262 eP **Pn 10 33 15.6 -2.2**
PB02 eS **Sn 10 33 35.2 +0.2**
PB02 IAML 10 33 40.4
comp=Z,31µm,0.4s
PB07 IPOC Station P 1.26 243⇑ iP Pn 10 33 19.0 -0.1
PB07 i S **Sn 10 33 36.7 -0.7**
PB07 IAML 10 33 39.5
comp=E,33µm,0.4s
PB07 IPOC Station P 1.26 243 Pn 10 33 18.8 -0.3
PB07 IPOC Station P 1.26 243 eP **Pn 10 33 19.0 -0.1**
PB07 eS **Sn 10 33 38.6 +1.2**
PB07 IAML 10 33 41.6
comp=Z,18µm,0.6s
LVC Limon Verde 1.46 188 P **Pn 10 33 22.6 +0.9**
comp=Z,374nm,0.3s,baz=2.0,slow=8.8,SNR=1984
LVC S **Sn 10 33 43.6 +1.7**
comp=Z,1µm,0.3s,baz=89,slow=23,SNR=16
LVC LR LR 10 34 00.9
comp=Z,317nm,19.7s,baz=206,slow=41
LVC Limon Verde 1.46 188 Pn 10 33 22.8 +1.1
TA01 Diego Aracena 1.52 293⇑ iP Pn 10 33 21.8 -0.2
TA01 eS **Sn 10 33 41.7 -0.9**
TA01 IAML 10 33 42.9
comp=E,39µm,0.2s
TA01 Diego Aracena 1.52 293 Pn 10 33 21.9 0.0
TA02 Huaiquique 1.62 303⇑ eP **Pn 10 33 23.1 -0.1**
TA02 eS **Sn 10 33 44.3 -0.4**
TA02 IAML 10 33 45.0
comp=E,27µm,0.4s
TA02 Huaiquique 1.62 303 Pn 10 33 23.0 -0.1
PB11 IPOC Station P 1.66 327⇑ iP Pn 10 33 24.1 +0.2
PB11 eS **Sn 10 33 46.3 +0.4**
PB11 IPOC Station P 1.66 327 Pn 10 33 24.3 +0.4
PB11 IPOC Station P 1.66 327 eS **Sn 10 33 47.3 +1.3**
PB11 IAML 10 33 50.0
comp=Z,10µm,0.4s
PB06 IPOC Station P 1.75 208 Pn 10 33 25.1 +0.1
PB04 IPOC Station P 1.80 229 eP **Pn 10 33 25.3 -0.3**
PB04 i S **Sn 10 33 47.5 -1.4**
PB04 IPOC Station P 1.80 229 Pn 10 33 25.3 -0.3
PB04 IPOC Station P 1.80 229 eP **Pn 10 33 25.2 -0.4**
PB04 eS **Sn 10 33 47.8 -1.1**
PB04 IAML 10 33 53.5
comp=Z,9µm,0.4s
AF01 San Pedro de A 1.84 165⇑ iP Pn 10 33 28.4 +2.1
AF01 eS **Sn 10 33 54.0 +3.9**
AF01 IAML 10 34 28.7
comp=E,10µm,0.8s
PSGC Pisagua 2.06 319⇑ iP Pn 10 33 28.3 -0.5
PSGC eS **Sn 10 33 53.0 -1.7**
PSGC IAML 10 33 57.4
comp=N,10µm,0.7s
PSGCX Pisagua 2.06 319 Pn 10 33 28.5 -0.3
PSGCX Pisagua 2.06 319 eP **Pn 10 33 28.4 -0.4**
PSGCX eS **Sn 10 33 49.0 -5.7**
PSGCX IAML 10 33 55.2
comp=Z,9µm,0.6s
PB15 IPOC Station P 2.17 200 Pn 10 33 31.1 +0.8
MNMC Minye Minye 2.19 337⇑ iP Pn 10 33 31.3 +0.7
MNMC eS **Sn 10 33 59.2 +1.2**
MNMC IAML 10 34 00.9
comp=E,13µm,0.3s
MNMC Minye Minye 2.19 337 Pn 10 33 31.5 +0.8
MNMCX Minye Minye 2.19 337 eP **Pn 10 33 31.3 +0.6**
MNMCX eS **Sn 10 33 53.5 -4.5**
MNMCX IAML 10 34 01.4
comp=Z,5µm,0.3s
PB05 IPOC Station P 2.20 220⇑ iP Pn 10 33 29.9 -0.6
PB05 eS **Sn 10 33 55.1 -2.7**
PB05 IPOC Station P 2.20 220 eP **Pn 10 33 30.2 -0.4**
PB05 eS **Sn 10 33 59.8 +1.9**
PB05 IAML 10 34 03.0
comp=Z,3µm,0.3s
PB10 IPOC Station P 2.92 216 Pn **Pn 10 33 38.8 -1.0**
PB10 IPOC Station P 2.92 216 eP **Pn 10 33 39.3 -0.5**
PB10 eS Sn 10 34 02.0 -12
PB10 IAML 10 34 35.0
comp=Z,1µm,0.6s
YJA Yavi 3.12 110 eP **Pn 10 33 41.0 -1.9**
YJA eS **Sn 10 34 26.2 +6.4**
AP01 Chacalluta 3.18 330 eP **Pn 10 33 41.2 -2.1**
AP01 Chacalluta 3.18 330 Pn 10 33 41.8 -1.5
HJA Humahuaca 3.66 125 eP **Pn 10 33 47.5 -2.5**
PB14 IPOC Station P 3.80 204 Pn **Pn 10 33 51.6 -0.3**
PB14 IPOC Station P 3.80 204 eP **Pn 10 33 47.5 -4.4**
PB14 eP **Pn 10 33 52.3 +0.4**
PB14 eS Sn 10 34 18.5 -17
PB14 IAML 10 34 57.2
comp=Z,1µm,0.7s
GO02 Mina Guanaco 4.07 192 eP **Pn 10 33 54.6 -0.9**
GO02 Mina Guanaco 4.07 192 Pn **Pn 10 33 54.8 -0.8**
LPAZ La Paz 4.87 6 P **Pn 10 34 08.8 +2.2**
comp=Z,29nm,0.3s,baz=200,slow=4.9,SNR=562
LPAZ La Paz 4.87 6 Pn 10 34 08.7 +2.0
FSA Cafayete 5.52 154 eP **Pn 10 34 11.0 -3.9**
FSA eP **Pn 10 34 18.5 +3.6**
AC02 Maricunga 5.67 184 Pn **Pn 10 34 16.7 -0.5**
GO03 Copiap 6.56 192 eP **Pn 10 34 26.2 -2.7**
GO03 eS **Sn 10 35 37.0 -5.3**
VCA Vinchina 7.56 177 eP **Pn 10 34 42.3 -0.2**
VCA eS **Sn 10 36 11.6 +4.9**
VCA IAML 10 37 19.0
comp=Z,65nm,1.8s
CYA Choya 7.71 161 eP Pn 10 34 40.0 -4.5
CYA eP **Pn 10 34 47.5 +3.0**
LCO Las Campanas 8.03 193 Pn **Pn 10 34 45.6 -3.4**
AGUA GUANDACOL 8.29 179 eP **Pn 10 34 50.7 -1.8**
AGUA eS **Sn 10 36 23.7 -0.8**
AGUA IAML 10 36 25.1
comp=Z,72nm,0.5s
ACLC CERRO LA CRUZ 8.38 170 eP Pn 10 34 46.5 -7.2
ACLC eS **Sn 10 36 26.7 0.0**
SIV San Ignacio 8.86 56 P **Pn 10 34 58.0 -2.1**
comp=Z,51nm,0.3s,baz=257,slow=9.9,SNR=542
SIV S **Sn 10 36 32.1 -6.2**
baz=325,slow=14,SNR=1.7
ACDV Cuesta del Vie 8.98 182 eP **Pn 10 34 59.8 -2.1**
ACDV eP **Pn 10 35 00.6 -1.3**
ACDV eS **Sn 10 36 39.9 -1.4**
ACDV IAML 10 36 43.6
comp=Z,41nm,0.5s
AROD Rodeo 9.00 184 eP **Pn 10 35 01.5 -0.7**
AROD eS **Sn 10 36 39.6 -2.3**
GO04 Tololo Observa 9.18 192 eP Pn 10 34 59.8 -4.8
GO04 eP Pn 10 34 59.9 -4.6
GO04 eS **Sn 10 36 40.0 -6.1**
ACCO Cerro Coronel 9.40 182 eP **Pn 10 35 05.3 -2.3**
ACCO eS **Sn 10 36 47.2 -4.4**
CO03 El Pedregal 9.81 190 Pn Pn 10 35 08.2 -4.8
CO03 El Pedregal 9.81 190 eP Pn 10 35 08.4 -4.6
CO03 eS **Sn 10 36 55.3 -5.9**
ACHE Chepes 10.12 170 eP Pn 10 35 10.0 -7.3
ACHE eS **Sn 10 37 13.7 +4.7**
RTLS Leoncito 10.61 183 eP **Pn 10 35 20.4 -3.6**
AUSP Uspallata 11.04 183 eP **Pn 10 35 26.2 -3.6**
AUSP eS **Sn 10 37 24.3 -7.1**
ETMB Extrema 11.53 12 eP Pn 10 35 31.7 -4.4
CPUP Villa Florida 11.60 119 P **Pn 10 35 34.8 -2.3**
comp=Z,0.4nm,0.3s,baz=303,slow=12,SNR=14
CPUP LR LR 10 41 21.8
comp=Z,147nm,19.5s,baz=296,slow=44
CPUP Villa Florida 11.60 119 Pn 10 35 34.5 -2.5
VA03 San Esteban 11.68 188 Pn 10 35 33.1 -5.0
NNA Nana 12.01 318 LR LR 10 40 09.0
comp=Z,81nm,19.9s,baz=172,slow=36
AQDB Aquidauana 12.16 89 Pn 10 35 41.8 -2.7
AQDB Aquidauana 12.16 89 eP Pn 10 35 39.5 -5.0
SAML Samuel 13.25 24 Pn 10 35 58.1 -0.7
SAML Samuel 13.25 24 eP Pn 10 35 54.6 -4.2
BO01 Tunca 13.35 189 Pn 10 35 58.9 -1.2
SALV Santo Antonio 13.38 69 eP Pn 10 35 57.0 -3.5
PP1B Ponte de Pedra 13.50 77 eP **Pn 10 35 59.2 -2.8**

ITQB Itaqui 13.80 130 Pn 10 36 03.5 -2.2
ITQB Itaqui 13.80 130 eP Pn 10 35 59.7 -6.1
CZSB Cruzeiro do Su 13.90 343 eP Pn 10 36 02.2 -5.1
CLDB Colider 16.05 52 eP **Pn 10 36 33.2 -1.2**
CPSB Cacapava Do Su 16.52 127 eP **Pn 10 36 37.3 -2.8**
ATAH Atahualpa 16.81 325 P **Pn 10 36 43.1 -1.1**
comp=Z,0.2nm,0.3s,baz=59,slow=4.4,SNR=2.4
PLTB Pedras Altas 17.12 131 P 10 36 44.6 -2.8
PLTB Pedras Altas 17.12 131 eP **P 10 36 42.8 -4.5**
TRQA Tornquist 17.81 162 P **P 10 36 53.9 -1.0**
TIJ01 Guaruva-PR 18.55 107 eP **P 10 37 03.8 +0.6**
BB19B Bebedouro 18.81 93 eP **P 10 37 05.7 -0.3**
SNDB Serra Nova Dou 18.99 64 eP **P 10 37 07.4 -0.6**
NPGB Novo Progresso 19.05 44 eP **P 10 37 07.1 -1.5**
TER01 Tubaro-SC 19.19 116 eP **P 10 37 08.2 -1.9**
MACA Manacapuru-AM 19.51 25 eP **P 10 37 12.5 -1.1**
IPMB Ipameri, GO 19.54 84 eP **P 10 37 13.9 -0.2**
PLCA Paso Flores 19.58 184 P **Pn 10 37 16.5 -0.1**
comp=Z,0.3nm,0.3s,baz=14,slow=11,SNR=14
PLCA LR LR 10 45 16.4
comp=Z,109nm,20.4s,baz=2.5,slow=38
PLCA Paso Flores 19.58 184 P **P 10 37 14.6 +0.3**
RCLB Rio Claro- Sao 19.68 98 eP **P 10 37 15.0 -0.6**
SPB Sao Paulo 19.80 101 P **P 10 37 15.2 -1.5**
SPB IAmb IAmb 10 37 17.1
comp=Z,39nm,0.8s
SPB Sao Paulo 19.80 101 eP **P 10 37 15.8 -0.9**
LL04 Puerto Octay 19.94 188 IAmb IAmb 10 37 19.8
comp=Z,40nm,1.1s
PET01 Itanhaem-SP 19.99 103 eP **P 10 37 18.1 -0.7**
VAO Valinhos 20.21 99 eP **P 10 37 19.9 -1.4**
BDFB Brasilia 20.36 78 P **P 10 37 22.9 0.0**
comp=Z,27nm,0.5s,baz=258,slow=11,SNR=39
BDFB LR LR 10 46 39.9
comp=Z,278nm,18.6s,baz=204,slow=41
BDFB Brasilia 20.36 78 P **P 10 37 21.5 -1.4**
BDFB IAmb IAmb 10 37 24.2
comp=Z,36nm,0.7s
ITTB Itaituba 20.90 39 eP **P 10 37 27.3 -1.3**
LL01 San Ignacio de 21.39 188 P **P 10 37 32.9 -0.7**
PARB Paraibuna 21.45 100 eP **P 10 37 32.7 -1.8**
PEXB Peixe 21.48 68 eP **P 10 37 33.8 -1.1**
PTGA Pitinga 22.01 24 P **P 10 37 38.9 -1.5**
comp=Z,5.7nm,0.3s,baz=284,slow=23,SNR=21
PTGA S **S 10 41 29.4 -7.1**
comp=Z,8.8nm,0.8s,baz=328,slow=16,SNR=4.9
PTGA Pitinga 22.01 24 P **P 10 37 38.6 -1.8**
PTGA IAmb IAmb 10 37 44.3
comp=Z,63nm,0.8s
PTGA **PcP 10 41 31.2 -3.5**
LL02 Futaleuf 22.13 186 P **P 10 37 41.3 -0.2**
BSCB Bom Sucesso 22.31 94 eP **P 10 37 42.6 -1.0**
ESAR Angra dos Reis 22.54 99 eP **P 10 37 44.7 -1.1**
OTAV Otavalo 23.31 335 P **P 10 37 54.3 +0.5**
OTAV IAmb IAmb 10 38 11.8
comp=Z,83nm,1.5s
VAS01 Vassouras-RJ 23.47 97 eP **P 10 37 54.1 -0.7**
PAC1 Pacto, Paraso 23.47 334 eP **P 10 37 56.4 +1.4**
TULM Tulcn-Chalpat 23.49 337 eP **P 10 37 56.4 +0.9**
DIAM Diamantina, MG 23.71 87 eP **P 10 37 55.5 -1.5**
SMTB Santa Maria do 23.72 62 eP **P 10 37 57.2 +0.1**
GCUF Volcan Galeras 23.81 338 eP **P 10 38 02.1 +3.8**
JANB Januaria 23.93 79 eP **P 10 37 58.2 -0.8**
GARC Garzon, Huila 24.14 343 eP **P 10 38 02.1 +1.0**
SDBA SAO DESIDERIO 24.34 73 eP **P 10 38 02.0 -0.7**
SOTA Rioblanco 24.42 341 eP **P 10 38 05.9 +2.1**
BBAC Balboa, Cauca 24.52 339 eP **P 10 38 05.9 +1.5**
PCON Cinco Dias 24.53 341 eP **P 10 38 06.9 +1.9**
BETC Betania 24.60 344 eP **P 10 38 05.0 -0.1**
BOAV Boa Vista 24.73 20 eP **P 10 38 06.7 +0.5**
POPC Popayan, Colom 24.82 341 eP P 10 37 58.3 -8.9
CAM01 Campos-RJ 25.14 96 eP **P 10 38 09.2 -0.7**
VILC Villavicencio, 25.59 348 eP **P 10 38 11.6 -2.5**
YOTC Yotoco, Valle 26.09 342 eP **P 10 38 18.3 -0.3**
CHIC Chingaza 26.10 348 eP **P 10 38 17.4 -1.7**
ALF01 Guarapari-ES 26.11 94 eP **P 10 38 19.2 +0.5**
MCPB Macapa, AP 26.29 40 eP **P 10 38 20.7 +0.5**
ANIL Santa Ana 26.33 345 eP **P 10 38 22.1 +1.2**
TOLC Tolima 26.40 345 eP **P 10 38 22.1 +0.5**
ROSC El Rosal 26.42 347 P **P 10 38 22.2 +0.3**
comp=Z,5.5nm,0.3s,baz=88,slow=10,SNR=4.2
ROSC LR LR 10 51 00.3
comp=Z,73nm,20.5s,baz=232,slow=41
RIB01 Linhares ES 26.59 91 eP **P 10 38 22.6 -0.4**
PLMC San Jos del P 26.95 343 eP **P 10 38 25.9 -0.4**
GUY2C Guyana, Caldas 27.03 345 eP **P 10 38 27.8 +0.4**
NAN01 Guarapari, ES 27.10 88 eP **P 10 38 27.3 -0.3**
RUSC La Rusia 27.23 350 P **P 10 38 29.1 -0.1**
RUSC La Rusia 27.23 350 eP **P 10 38 28.8 -0.4**
NORC Norcasia 27.24 346 eP **P 10 38 27.8 -1.0**
TMAB Tom-Au,PA,Br 27.40 50 eP **P 10 38 31.2 +0.9**
GUA01 Guaratinga, BA 27.68 85 eP **P 10 38 32.6 -0.1**
CBOC Ciudad Bolivar 27.80 344 eP **P 10 38 33.6 -0.4**
BARC Barichara 27.93 350 eP **P 10 38 33.6 -1.6**
HELC Santa Helena 28.00 345 eP **P 10 38 35.5 -0.5**
CMC01 Camacan, BA 28.26 83 eP **P 10 38 38.9 +0.9**
NBIT Itapeh - BA 28.46 82 eP **P 10 38 39.5 -0.2**
DBBC Dabeiba 28.96 344 eP **P 10 38 44.0 -0.1**
ZARC Zaragoza, Cauc 29.11 347 eP **P 10 38 44.0 -1.4**
OCAC Ocana 29.57 351 eP **P 10 38 46.0 -3.7**
SDV Santo Domingo 29.92 356 P **P 10 38 52.0 -0.7**
comp=Z,9.2nm,0.3s,baz=152,slow=4.6,SNR=4.4
MOTC Monteria, Cord 30.53 346 eP **P 10 38 56.4 -1.5**
NBPS Pedro II - PI 31.26 62 eP **P 10 39 04.6 +0.1**
PCRV Puerto La Cruz 31.39 8 P **P 10 39 05.2 -0.4**
comp=Z,6.8nm,0.4s,baz=37,slow=3.1,SNR=6.8
SJCC San Jacinto, C 31.52 348 P **P 10 39 05.6 -1.0**
SJCC IAmb IAmb 10 39 09.3
comp=Z,21nm,0.9s
SJCC San Jacinto, C 31.52 348 eP **P 10 39 05.0 -1.6**
NBMA Muriti-CE 31.99 69 eP **P 10 39 11.6 +0.7**
NBPB Pedra_Branca-C 32.19 65 eP **P 10 39 13.4 +0.8**
NBAN Anadia - AL 33.19 75 eP **P 10 39 20.2 -1.2**
TOSP Speyside 33.23 15 P **P 10 39 21.9 +0.3**
NBCL Cascavel-CE 33.98 65 eP **P 10 39 28.2 +0.1**
RCBR Riachuelo 35.22 69 P **P 10 39 39.9 +1.0**
comp=Z,34nm,0.8s,baz=37,slow=3.4,SNR=8.1
RCBR Riachuelo 35.22 69 P **P 10 39 38.4 -0.6**
SJG San Juan 39.11 4 P **P 10 40 09.9 -1.6**
comp=Z,31nm,0.6s,baz=143,slow=3.8,SNR=13
SJG San Juan 39.11 4 P **P 10 40 10.0 -1.6**
GCPR Guayabo City 39.31 4 IAmb IAmb 10 40 11.7
comp=Z,23nm,0.7s
CUPR Culebra, Puert 39.36 5 P **P 10 40 11.8 -1.9**
CUPR IAmb IAmb 10 40 12.9
comp=Z,13nm,0.7s
TGUH Tegucigalpa,Un 39.47 331 IAmb IAmb 10 40 16.9
comp=Z,25nm,0.8s
DR12 Loma Pena Alta 39.71 359 P **P 10 40 15.4 -1.2**
MTO3 Montecristo 40.76 328 P **P 10 40 27.4 +1.8**
MTO3 IAmb IAmb 10 40 28.0
comp=Z,17nm,0.8s
SOR Soroa 45.86 341 P **P 10 41 06.5 +0.2**
SOR IAmb IAmb 10 41 07.7
comp=Z,23nm,0.9s
TLIG Tlapa 48.36 321 IAmb IAmb 10 41 28.4
comp=Z,11nm,0.8s
553A Crawfordville 53.25 343 P **P 10 42 03.0 +0.9**
TIGA Tifton 54.22 344 P **P 10 42 09.4 +0.2**
baz=163
ZAIG Zacatecas 54.75 321 IAmb IAmb 10 42 16.6
comp=Z,19nm,0.8s
BRAL Brewton 54.94 341 P **P 10 42 14.4 +0.1**
152A Waverly Hall 55.68 344 IAmb IAmb 10 42 20.3
comp=Z,12nm,0.8s
Y57A Sumter 55.99 348 P **P 10 42 21.9 +0.1**
JSC Jenkinsville 56.42 347 IAmb IAmb 10 42 26.3
comp=Z,9.6nm,0.8s
BIRD Birdtown, Kers 56.61 348 P **P 10 42 26.1 -0.2**
PAULI Pauline 57.05 347 IAmb IAmb 10 42 30.8
comp=Z,14nm,0.9s
Y49A Blount Mountai 57.26 342 IAmb IAmb 10 42 32.1
comp=Z,10nm,0.8s
KMSC Kings Mountain 57.27 348 P **P 10 42 31.5 +0.6**
baz=166
KMSC Kings Mountain 57.27 348 IAmb IAmb 10 42 32.3
comp=Z,17nm,0.8s
833A Chaparral WMA, 57.45 328 P **P 10 42 33.0 +0.7**
baz=146
BG3 Lake Jocassee 57.46 346 IAmb IAmb 10 42 33.5
comp=Z,8.3nm,1.0s
X51A Calhoun 57.51 344 IAmb IAmb 10 42 33.5
comp=Z,17nm,0.8s

FPAL Fort Paine 57.68 343 P **P 10 42 32.8 -1.1**
FPAL IAmb IAmb 10 42 34.3
comp=Z,21nm,1.3s
W52A Murphy 57.78 345 IAmb IAmb 10 42 35.6
comp=Z,9.9nm,0.9s
V53A Saluda 58.08 346 IAmb IAmb 10 42 37.8
comp=Z,12nm,0.8s
W50A Signal Mountai 58.23 344 P **P 10 42 37.2 -0.5**
CPCT Cooper Cave 58.27 345 IAmb IAmb 10 42 38.8
comp=Z,22nm,1.1s
TKL Tuckaleechee C 58.29 346 IAmb IAmb 10 42 38.8
comp=Z,18nm,0.8s
T59A Double "B" Far 58.42 352 P **P 10 42 39.3 +0.4**
T59A IAmb IAmb 10 42 40.0
comp=Z,15nm,0.8s
V51A Loudon 58.56 345 P **P 10 42 39.8 -0.2**
V51A IAmb IAmb 10 42 40.2
comp=Z,10nm,0.8s
435B Jarrell 58.63 331 P **P 10 42 40.9 +0.3**
baz=148
U54A Nelsons Funny 58.70 348 P **P 10 42 41.5 +0.5**
T57A Hurt 58.70 350 IAmb IAmb 10 42 41.8
comp=Z,11nm,0.8s
Z41A Richland Creek 58.81 336 P **P 10 42 42.3 +0.6**
baz=154
V48A Smith Brothers 59.14 343 P **P 10 42 43.5 -0.5**
WLAR White Oak Lake 59.30 336 P **P 10 42 45.8 +0.7**
JCT Junction City 59.42 329 IAmb IAmb 10 42 47.4
comp=Z,8.5nm,0.8s
R58B Mineral 59.44 352 IAmb IAmb 10 42 46.9
comp=Z,6.8nm,0.6s
U49A Red Boiling Sp 59.59 344 P **P 10 42 46.3 -0.7**
WHTX Lake Whitney, 59.60 332 P **P 10 42 47.8 +0.6**
baz=149
WHTX Lake Whitney, 59.60 332 P **P 10 42 47.6 +0.3**
WHTX IAmb IAmb 10 42 48.2
comp=Z,11nm,0.8s
HPIG 59.74 322 P **P 10 42 49.2 +0.7**
HPIG IAmb IAmb 10 42 50.1
comp=Z,6.3nm,0.7s
WVT Waverly 59.79 342 P **P 10 42 47.6 -0.8**
baz=159
WVT Waverly 59.79 342 P **P 10 42 47.5 -0.8**
X40A Basin Creek Fa 59.92 337 P **P 10 42 48.9 -0.4**
baz=154
Q61A Milford 60.05 354 P **P 10 42 48.0 -2.0**
baz=173
R55A Marlinton 60.09 350 P **P 10 42 51.2 +0.7**
MIAR Mount Ida 60.24 336 P **P 10 42 51.2 -0.3**
W41B Gary Mavity, V 60.32 338 P **P 10 42 51.4 -0.6**
baz=155,SNR=6.4
VNA3 Neumayer Olymp 60.33 161 P **P 10 42 52.8 +1.0**
WHAR Wooly Hollow 60.44 338 P **P 10 42 52.4 -0.4**
WHAR IAmb IAmb 10 42 53.7
comp=Z,13nm,0.9s
TXAR Lajitas Array 60.47 325 P **P 10 42 54.0 +0.7**
comp=Z,1.6nm,0.7s,baz=157,slow=9.8,SNR=29
TXAR Lajitas Array 60.47 325 P **P 10 42 54.0 +0.7**
TXAR pP **pP 10 43 21.9 +0.7**
TX31 Lajitas Ar. Si 60.47 325 IAmb IAmb 10 43 22.6
comp=Z,18nm,1.2s
VNA1 Neumayer--Stat 60.53 161 P **P 10 42 53.7 +0.7**
Q56A Snyder Ridge, 60.69 351 P **P 10 42 55.6 +1.2**
LCAR Lake Charles 60.76 339 IAmb IAmb 10 42 55.5
comp=Z,13nm,0.7s
W39A Magazine 60.90 337 P **P 10 42 55.8 -0.2**
baz=153,SNR=8.7
W39A Magazine 60.90 337 P **P 10 42 57.2 +1.2**
FCAR Ozark Folk Cen 60.93 338 IAmb IAmb 10 42 56.6
comp=Z,16nm,1.1s
P57A Homestead Farm 60.95 352 IAmb IAmb 10 42 57.9
comp=Z,11nm,0.8s
X37A Clayton 60.97 335 IAmb IAmb 10 42 58.3
comp=Z,17nm,0.8s
P60A Greenville 61.00 354 P **P 10 42 56.3 -0.2**
baz=172
ABTX Abilene, Hawle 61.12 330 P **P 10 42 57.3 -0.3**
baz=147,SNR=5.2
ABTX Abilene, Hawle 61.12 330 IAmb IAmb 10 42 59.0
comp=Z,23nm,1.2s
R49A Shelbyville 61.13 345 IAmb IAmb 10 42 57.9
comp=Z,12nm,0.8s
Q52A Bidwell 61.14 348 P **P 10 42 58.1 +0.5**
PBMO Poplar Bluff 61.17 340 P **P 10 42 57.1 -0.7**
LOOK Love County 61.19 333 IAmb IAmb 10 42 59.5
comp=Z,16nm,1.0s
MVL Millersville 61.26 353 IAmb IAmb 10 42 59.7
comp=Z,12nm,1.0s
WCI Wyandotte Cave 61.35 344 P **P 10 42 58.7 -0.3**
Q51A Peebles 61.42 347 P **P 10 42 58.2 -1.3**
Q51A IAmb IAmb 10 43 00.2
comp=Z,21nm,1.1s
P53A Whipple 61.49 349 P **P 10 42 60.0 +0.1**
U40A Yellville 61.60 338 P **P 10 43 00.3 -0.4**
baz=154,SNR=5.3
T42A Van Buren 61.62 340 IAmb IAmb 10 43 01.0
comp=Z,7.2nm,0.7s
P52A Corning 61.77 348 P **P 10 43 01.5 -0.3**
baz=166
P52A Corning 61.77 348 IAmb IAmb 10 43 02.6
comp=Z,16nm,0.8s
O56A Blue Knob Stat 61.80 351 P **P 10 43 02.6 +0.6**
baz=170,SNR=6.1
O56A Blue Knob Stat 61.80 351 IAmb IAmb 10 43 03.9
comp=Z,17nm,0.9s
P51A Williamsport 61.80 347 P **P 10 43 01.8 -0.1**
P51A IAmb IAmb 10 43 02.1
comp=Z,9.7nm,0.7s
HHAR Hobbs 61.92 337 P **P 10 43 02.7 -0.2**
O54A Avella 61.99 350 P **P 10 43 02.5 -0.7**
O54A IAmb IAmb 10 43 05.2
comp=Z,14nm,0.8s
X34A Smith Ranch, M 61.99 333 P **P 10 43 04.0 +0.6**
X34A IAmb IAmb 10 43 04.8
comp=Z,35nm,1.5s
PAL Palisades 62.03 356 P **P 10 43 03.4 -0.1**
baz=174
SSPA Standing Stone 62.07 352 P **P 10 43 04.6 +0.9**
SSPA IAmb IAmb 10 43 04.9
comp=Z,8.8nm,0.8s
N59A State Game Lan 62.11 354 P **P 10 43 04.4 +0.4**
baz=172
MGMO Mountain Grove 62.12 339 IAmb IAmb 10 43 05.0
comp=Z,16nm,0.8s
N58A Sunbury 62.13 353 IAmb IAmb 10 43 05.7
comp=Z,16nm,0.9s
O53A New Philadelph 62.20 349 P **P 10 43 04.9 +0.3**
baz=167
O53A New Philadelph 62.20 349 P **P 10 43 04.7 +0.1**
P49A Miami Univ. Ec 62.21 346 P **P 10 43 03.8 -1.0**
baz=163
U38A Gravette 62.23 337 IAmb IAmb 10 43 05.3
comp=Z,6.2nm,0.7s
TUL1 Leonard 62.29 335 P **P 10 43 05.2 -0.1**
baz=151
P48A Milroy 62.30 345 IAmb IAmb 10 43 04.8
comp=Z,13nm,0.6s
SNAA Sanae 62.53 161 P **P 10 43 07.6 +1.0**
SNAA Sanae 62.53 161 P **P 10 43 07.7 +1.1**
comp=Z,1.8nm,0.6s,baz=280,slow=8.8,SNR=16
SNAA Sanae 62.53 161 P **P 10 43 06.9 +0.3**
CCM Cathedral Cave 62.60 340 P **P 10 43 06.9 -0.4**
M57A Sunshine Farm, 62.67 353 IAmb IAmb 10 43 09.0
comp=Z,11nm,0.8s
N54A Moraine State 62.69 350 P **P 10 43 08.7 +0.8**
baz=168,SNR=5.3
OK031 S. Brethren Rd 62.75 334 IAmb IAmb 10 43 09.3
comp=Z,18nm,0.7s
L63A North Scituate 62.76 358 P **P 10 43 08.4 +0.1**
baz=177
L64A Middleborough 62.81 358 P **P 10 43 08.9 +0.4**
baz=178
L65A Cape Cod Natio 62.88 359 P **P 10 43 09.9 +0.8**
baz=178
QUOK Quay 62.88 335 IAmb IAmb 10 43 10.4
comp=Z,22nm,1.0s
P46A Rosedale 62.89 344 P **P 10 43 08.3 -0.9**
P46A IAmb IAmb 10 43 09.2
comp=Z,33nm,1.1s
M55A Ridgway 63.01 352 IAmb IAmb 10 43 11.0
comp=Z,14nm,0.7s
M54A Oil Creek Stat 63.17 351 P **P 10 43 11.4 +0.3**
baz=168,SNR=6.2
L58A Harry Jones Me 63.23 354 P **P 10 43 12.1 +0.7**
baz=172
MNTX Cornudas Mount 63.24 325 P **P 10 43 10.7 -1.1**

M53A	**WI Miller and**	63.27 350	P	P	10 43 12.1 +0.4
	baz=167				
L59A	**Walton**	63.30 355	IAmb	IAmb	10 43 13.7
	comp=Z,21nm,0.9s				
L61B	**Northampton**	63.40 357	P	P	10 43 12.8 +0.3
	baz=176				
BINY	**Binghamton**	63.40 354	IAmb	IAmb	10 43 14.3
	comp=Z,25nm,0.9s				
N49A	**Columbus Grove**	63.42 347	P	P	10 43 12.3 -0.4
T35A	**Sooner Cattle**	63.45 335	IAmb	IAmb	10 43 14.4
	comp=Z,20nm,1.1s				
L56A	**Greenwood**	63.51 353	IAmb	IAmb	10 43 14.3
	comp=Z,13nm,0.8s				
SFIN	**Lafayette**	63.58 344	P	P	10 43 12.8 -0.9
	baz=161				
SFIN	**Lafayette**	63.58 344	IAmb	IAmb	10 43 13.6
	comp=Z,16nm,0.8s				
BLOK	**Blackwell**	63.60 335	IAmb	IAmb	10 43 15.3
	comp=Z,29nm,1.1s				
MSTX	**Muleshoe**	63.72 329	P	P	10 43 14.5 -0.4
	baz=144,SNR=12				
MSTX	**Muleshoe**	63.72 329	P	P	10 43 14.6 -0.4
MSTX			IAmb	IAmb	10 43 16.1
	comp=Z,21nm,1.1s				
TRY	**Troy**	63.73 356	IAmb	IAmb	10 43 16.5
	comp=Z,21nm,0.9s				
K57A	**Scipio Center**	63.98 354	IAmb	IAmb	10 43 17.5
	comp=Z,18nm,0.8s				
K56A	**Middlesex**	64.03 353	P	P	10 43 16.8 +0.1
	baz=171				
MMNY	**Mt. Morris Dam**	64.14 352	P	P	10 43 17.8 +0.4
MMNY			IAmb	IAmb	10 43 18.2
	comp=Z,12nm,0.6s				
J63A	**Strafford**	64.16 358	P	P	10 43 17.5 0.0
	baz=177				
J61A	**Chester**	64.28 357	P	P	10 43 19.3 +1.0
	baz=176				
HDIL	**Hopedale**	64.33 343	IAmb	IAmb	10 43 18.8
	comp=Z,30nm,1.1s				
J58A	**Remsen**	64.48 355	P	P	10 43 19.6 0.0
	baz=173				
J58A	**Remsen**	64.48 355	IAmb	IAmb	10 43 22.1
	comp=Z,18nm,1.5s				
J59A	**Piesco**	64.53 355	P	P	10 43 20.3 +0.4
J59A			IAmb	IAmb	10 43 21.7
	comp=Z,19nm,0.9s				
J57A	**Williamstown**	64.60 354	IAmb	IAmb	10 43 21.6
	comp=Z,8.3nm,0.8s				
I64A	**Boothbay**	64.76 359	P	P	10 43 20.8 -0.5
	baz=179				
P38A	**Dawn**	64.77 339	P	P	10 43 21.5 -0.1
P38A			IAmb	IAmb	10 43 22.3
	comp=Z,19nm,0.7s				
I58A	**Old Forge**	64.79 355	P	P	10 43 21.9 +0.3
	baz=173,SNR=5.3				
I59A	**Olmsteadville**	64.81 356	P	P	10 43 22.2 +0.4
	baz=175,SNR=5.1				
I60A	**Shoreham**	64.82 356	P	P	10 43 22.1 +0.4
	baz=175				
I63A	**Otisfield**	64.91 358	P	P	10 43 23.4 +1.0
	baz=178				
I57A	**Carthage**	65.09 354	P	P	10 43 24.0 +0.5
	baz=173				
319A	**Douglas**	65.15 322	P	P	10 43 25.6 +1.2
319A			IAmb	IAmb	10 43 26.9
	comp=Z,17nm,0.8s				
121A	**Cookes Peak, D**	65.18 324	P	P	10 43 26.0 +1.4
	baz=140				
121A	**Cookes Peak, D**	65.18 324	IAmb	IAmb	10 43 27.4
	comp=Z,21nm,1.4s				
H61A	**Lyndonville**	65.44 357	P	P	10 43 26.0 +0.2
	baz=177				
H58A	**Gabriels**	65.45 356	P	P	10 43 25.9 0.0
	baz=174				
H62A	**Milan**	65.45 358	P	P	10 43 26.1 +0.2
	baz=177				
L44A	**Lake County Fo**	65.48 344	P	P	10 43 26.1 0.0
	baz=160				
H64A	**Troy**	65.48 360	P	P	10 43 26.1 +0.1
	baz=179				
H60A	**Morristown**	65.50 357	P	P	10 43 26.3 +0.1
	baz=176				
H65A	**Eastbrook**	65.53 0	P	P	10 43 26.2 -0.1
	baz=180				
H57A	**Richville**	65.59 355	P	P	10 43 26.9 +0.2
	baz=173				
R32A	**Long Quarter,**	65.63 334	IAmb	IAmb	10 43 28.6
	comp=Z,28nm,1.1s				
H66A	**Whiting**	65.64 1	P	P	10 43 26.9 -0.1
	baz=181				
LONY	**Lake Ozonia**	65.68 355		PcP	10 43 57.8 -0.1
N38A	**Joes South For**	65.73 340	IAmb	IAmb	10 43 28.4
	comp=Z,17nm,0.8s				
J47A	**Sunmer**	65.78 347	P	P	10 43 27.3 -0.6
DELO	**Deloro Mine**	65.86 353	IAmb	IAmb	10 43 29.8
	comp=Z,29nm,1.5s				
G63A	**Kingsbury**	65.96 359	P	P	10 43 29.1 0.0
	baz=179				
G65A	**Princeton**	66.05 1	P	P	10 43 30.1 +0.5
	baz=181				
G62A	**West of Eustis**	66.08 359	P	P	10 43 30.8 +0.9
	baz=178				
G62A	**West of Eustis**	66.08 359	IAmb	IAmb	10 43 31.3
	comp=Z,8.9nm,0.9s				
L40A	**Anamosa**	66.27 342	IAmb	IAmb	10 43 31.8
	comp=Z,18nm,0.9s				
SADO	**Sadowa**	66.30 352	P	P	10 43 31.2 -0.1
SADO			IAmb	IAmb	10 43 32.1
	comp=Z,23nm,1.2s				
PLVO	**Plevna**	66.32 354	IAmb	IAmb	10 43 33.0
	comp=Z,34nm,1.5s				
ANMO	**Albuquerque**	66.33 327	P	P	10 43 32.4 +0.4
F63A	**Nahmakanta, Br**	66.54 360	P	P	10 43 33.0 +0.2
	baz=180				
TUC	**Tucson**	66.70 322	P	P	10 43 35.7 +1.5
TUC				pP	10 44 04.5 +1.9
F64A	**Sherman**	66.70 0	P	P	10 43 34.5 +0.7
	baz=180				
F64A	**Sherman**	66.70 0	P	P	10 43 34.5 +0.7
JFWS	**Jewell Farm**	66.78 343	P	P	10 43 33.6 -0.8
JFWS			IAmb	IAmb	10 43 35.2
	comp=Z,17nm,0.8s				
T25A	**Trinidad**	67.06 330	P	P	10 43 37.9 +1.3
	baz=144				
E63A	**Oxbow**	67.26 0	P	P	10 43 38.2 +0.9
	baz=180				
E64A	**Bridgewater**	67.26 1	P	P	10 43 37.9 +0.6
	baz=181				
K38A	**Parkersburg**	67.27 341	IAmb	IAmb	10 43 37.6
	comp=Z,15nm,0.7s				
ALGO	**Algonquin Park**	67.33 353	P	P	10 43 37.8 0.0
	baz=170				
I42A	**Draeger Farm,**	67.34 344	IAmb	IAmb	10 43 38.9
	comp=Z,42nm,1.5s				
E62A	**Clayton Lake**	67.46 359	P	P	10 43 39.3 +0.7
	baz=179				
214A	**Organ Pipe Nat**	67.64 320	P	P	10 43 41.9 +1.8
	baz=135,SNR=11				
214A	**Organ Pipe Nat**	67.64 320	P	P	10 43 41.6 +1.5
214A			IAmb	IAmb	10 43 43.2
	comp=Z,20nm,1.3s				
KSCO	**Kaye Shedlock'**	67.77 332	P	P	10 43 42.1 +1.1
	baz=146				
X18A	**Snowflake**	67.87 324	IAmb	IAmb	10 43 44.7
	comp=Z,14nm,1.5s				
D63A	**Stockholm**	67.88 0	P	P	10 43 41.8 +0.6
	baz=180				
D62A	**Allapoint, All**	67.92 360	P	P	10 43 41.4 -0.1
	baz=180,SNR=6.7				
D62A	**Allapoint, All**	67.92 360	IAmb	IAmb	10 43 42.9
	comp=Z,35nm,1.4s				
BGNE	**Belgrade**	67.99 336	P	P	10 43 42.1 0.0
	baz=150,SNR=7.1				
SDCO	**Great Sand Dun**	68.06 329	IAmb	IAmb	10 43 45.4
	comp=Z,32nm,1.5s				
LIC	**Lamto**	68.09 74	eP	P	10 43 42.8 -0.5
	comp=Z,64nm,1.6s				
W18A	**Petrified Fore**	68.19 325	P	P	10 43 44.8 +1.1
	baz=139				
W18A	**Petrified Fore**	68.19 325	P	P	10 43 45.0 +1.3
W18A			IAmb	IAmb	10 43 46.5
	comp=Z,28nm,1.4s				
TIC	**Toumodi**	68.28 73	eP	P	10 43 44.9 +0.4
KIC	**Kosan Boka**	68.40 74	eP	P	10 43 45.8 +0.5
	comp=Z,52nm,0.8s				
DBIC	**Dimbokro**	68.43 73	P	P	10 43 45.1 -0.3
X16A	**Lo Mia Camp, P**	68.61 323	P	P	10 43 48.4 +2.0
I37A	**Lemond, Waseca**	68.70 341	IAmb	IAmb	10 43 46.9
	comp=Z,14nm,0.7s				
S22A	**4UR Ranch, Cre**	68.71 328	P	P	10 43 48.4 +1.4
	baz=142				
Q24A	**Divide**	68.87 330	P	P	10 43 49.3 +1.3
	baz=144				
QSPA	**South Pole Qui**	69.03 180	P	P	10 43 50.3 +1.8
	comp=Z,.8nm,0.6s,baz=183,slow=0.8,SNR=24				
QSPA	**South Pole Qui**	69.03 180	P	P	10 43 50.6 +2.1
MVCO	**Mesa Verde**	69.13 327	IAmb	IAmb	10 43 52.0
	comp=Z,26nm,1.4s				
WUAZ	**Wupatki**	69.38 324	P	P	10 43 51.8 +0.7
WUAZ			IAmb	IAmb	10 43 54.2
	comp=Z,18nm,1.0s				
ECSD	**EROS Data Cent**	69.48 339	IAmb	IAmb	10 43 52.3
	comp=Z,19nm,1.4s				
GLA	**Glamis**	69.61 320	P	P	10 43 54.7 +2.3
	baz=134				
SPMN	**Marine on St.**	69.63 342	P	P	10 43 51.7 -0.4
	baz=156				
SPMN	**Marine on St.**	69.63 342	IAmb	IAmb	10 43 52.7
	comp=Z,22nm,1.2s				
ISCO	**Idaho Springs**	69.76 330	P	P	10 43 54.8 +1.3
	baz=143				
PV01	**Paradox Valley**	69.87 327	P	P	10 43 54.9 +0.8
PV15	**Paradox Valley**	69.99 328	IAmb	IAmb	10 43 57.8
	comp=Z,17nm,1.1s				
RMX	**La Rumorosa**	70.07 319	IAmb	IAmb	10 43 58.3
	comp=Z,15nm,1.1s				
PDMCI	**Parker Dam,Lak**	70.08 321	P	P	10 43 57.1 +2.0
	baz=135				
IKP	**In-Ko-Pah, Jac**	70.12 319	P	P	10 43 57.1 +1.5
	baz=133,SNR=5.3				
SWSC	**Sam W. Stewart**	70.13 319	P	P	10 43 57.3 +1.8
	baz=133				
PV11	**David Mesa, Pa**	70.15 327	P	P	10 43 54.8 -0.9
PV11			IAmb	IAmb	10 43 58.5
	comp=Z,16nm,1.4s				
PV17	**East Wray Mesa**	70.18 327	P	P	10 43 57.5 +1.5
LSQQ	**Lebel-sur-Quev**	70.29 354	P	P	10 43 56.2 +0.1
	baz=172				
PV22	**Blue Mesa, Par**	70.29 328	P	P	10 43 57.8 +1.2
PV22			IAmb	IAmb	10 44 00.3
	comp=Z,18nm,1.3s				
F36A	**Milaca**	70.42 342	IAmb	IAmb	10 43 57.6
	comp=Z,13nm,0.8s				
MONP2	**Monument Peak**	70.48 319	P	P	10 43 59.6 +1.7
	baz=133,SNR=5.7				
BAR	**Barrett**	70.49 318	IAmb	IAmb	10 44 00.7
	comp=Z,12nm,0.9s				
U15A	**North Rim**	70.56 324	P	P	10 43 59.9 +1.5
U15A			IAmb	IAmb	10 44 01.8
	comp=Z,16nm,1.1s				
U15A			pP	pP	10 44 29.8 +2.5
IRM	**Iron Mountain**	70.57 320	P	P	10 43 59.8 +1.6
	baz=134,SNR=14				
N23A	**Red Feather La**	70.78 331	P	P	10 44 00.4 +0.8
	baz=143,SNR=6.4				
CHGQ	**Chibougamau**	70.93 356	P	P	10 43 60.0 0.0
	baz=174,SNR=8.6				
BELC	**Belle Mtn. Jos**	70.98 320	P	P	10 44 02.2 +1.4
	baz=134,SNR=6.9				
TPFO	**Pinon Flats**	70.98 319	P	P	10 44 02.8 +2.0
	baz=133,SNR=6.7				
PFO	**Pinyon Flats O**	70.99 319	P	P	10 44 03.1 +2.2
	baz=133,SNR=7.5				
PFO	**Pinyon Flats O**	70.99 319	P	P	10 44 03.2 +2.4
MATQ	**Matagami**	71.05 354	P	P	10 43 60.0 -0.7
	baz=171,SNR=7.6				
F33A	**5 Mile Ranch,**	71.24 340	IAmb	IAmb	10 44 02.6
	comp=Z,9.8nm,0.8s				
O20A	**White River Ci**	71.26 329	P	P	10 44 03.8 +1.4
	baz=141,SNR=11				
O20A	**White River Ci**	71.26 329	IAmb	IAmb	10 44 05.1
	comp=Z,14nm,0.9s				
KNB	**Kanab**	71.28 324	IAmb	IAmb	10 44 06.2
	comp=Z,39nm,1.1s				
GMRC	**Granite Mounta**	71.31 321	P	P	10 44 04.6 +1.8
	baz=134,SNR=12				
MURC	**Murrieta**	71.43 319	P	P	10 44 05.6 +2.2
	baz=133				
SRU	**San Rafael Swe**	71.61 327	IAmb	IAmb	10 44 07.0
	comp=Z,15nm,0.8s				
BBRC	**Big Bear Solar**	71.71 319	P	P	10 44 06.9 +1.6
	baz=133				
HEC	**Hector, Ludlow**	71.75 320	P	P	10 44 07.3 +1.9
	baz=134,SNR=6.2				
TUQ	**Turquoise Moun**	71.92 321	P	P	10 44 08.0 +1.5
	baz=134,SNR=7.2				
CCUT	**Cedar City**	71.96 324	P	P	10 44 08.5 +1.7
CCUT			IAmb	IAmb	10 44 10.4
	comp=Z,20nm,0.9s				
P17A	**Butcher Ranch,**	71.99 327	P	P	10 44 08.0 +1.1
P17A			IAmb	IAmb	10 44 09.4
	comp=Z,20nm,0.9s				
CIS	**Catalina Islan**	72.06 318	P	P	10 44 09.0 +1.8
	baz=132				
RDMU	**Red Mountain**	72.24 328	P	P	10 44 09.3 +1.0
MWC	**Mount Wilson**	72.38 319	P	P	10 44 11.6 +2.3
MWC			IAmb	IAmb	10 44 12.2
	comp=Z,18nm,1.3s				
PASC	**Pasadena Art C**	72.43 319	IAmb	IAmb	10 44 12.4
	comp=Z,25nm,1.2s				
SHOC	**Shoshone, Teco**	72.45 321	P	P	10 44 11.3 +1.9
	baz=134				
K22A	**Casper**	72.45 332	P	P	10 44 11.1 +1.6
	baz=143				
DECC	**Green Verdugo**	72.57 319	P	P	10 44 11.8 +1.6
	baz=132				
RSSD	**Black Hills**	72.58 334	P	P	10 44 11.4 +1.2
SNCC	**San Nicolas Is**	72.66 317	P	P	10 44 11.0 +0.3
	baz=131				
KOWA	**Kowa**	72.69 66	P	P	10 44 10.2 -1.0
KOWA			IAmb	IAmb	10 44 12.2
	comp=Z,16nm,0.8s				
EDW2	**Edwards Air Fo**	72.78 319	P	P	10 44 13.1 +1.6
	baz=132,SNR=6.1				
MPU	**Maple Canyon**	72.85 327	IAmb	IAmb	10 44 14.7
	comp=Z,14nm,1.0s				
LRMC	**Laurel Mtn Rad**	73.00 320	P	P	10 44 14.8 +2.0
	baz=133,SNR=7.8				
NLU	**North Lily Min**	73.03 326	P	P	10 44 13.9 +0.8
NLU			IAmb	IAmb	10 44 16.0
	comp=Z,14nm,1.2s				
OSI	**Osito Audit: C**	73.05 319	P	P	10 44 14.2 +1.1
	baz=132				
TPNV	**Topopah Spring**	73.16 322	IAmb	IAmb	10 44 17.3
	comp=Z,12nm,1.0s				
FURC	**Furnace Creek,**	73.18 321	P	P	10 44 15.6 +1.9
	baz=134,SNR=15				
JLU	**Jordanelle**	73.20 327	IAmb	IAmb	10 44 16.8
	comp=Z,13nm,1.0s				
AGMN	**Agassiz Nation**	73.30 341	IAmb	IAmb	10 44 15.1
	comp=Z,14nm,1.1s				
E28A	**Huff**	73.37 338	IAmb	IAmb	10 44 16.0
	comp=Z,13nm,0.8s				
DUG	**Dugway, Tooele**	73.59 326	P	P	10 44 17.8 +1.6
ISA	**Isabella, Lake**	73.60 320	P	P	10 44 18.2 +1.9
	baz=132,SNR=11				
ISA	**Isabella, Lake**	73.60 320	P	P	10 44 17.9 +1.6
ISA			IAmb	IAmb	10 44 19.5
	comp=Z,12nm,0.9s				
R11A	**Troy Canyon, C**	73.76 323	P	P	10 44 19.1 +1.8
	baz=135,SNR=6.4				
GRAC	**Grapevine Rang**	73.84 321	P	P	10 44 19.7 +2.1
	baz=133				
CWC	**Cottonwood Cre**	73.88 320	P	P	10 44 20.1 +2.0
	baz=132				
PKM	**Mcpherson Peak**	73.91 318	P	P	10 44 20.1 +1.8
	baz=131,SNR=7.1				
PDAR	**Pinedale Array**	73.92 330	P	P	10 44 18.9 +0.7
	comp=Z,1.4nm,0.7s,baz=152,slow=6.7,SNR=16				
PDAR	**Pinedale Array**	73.92 330	P	P	10 44 18.9 +0.7
PDAR			pP	pP	10 44 48.4 +0.9
VES	**Vestal, Richgr**	74.09 319	P	P	10 44 20.4 +1.4
	baz=132,SNR=7.6				
MDND	**Maddock**	74.09 339	P	P	10 44 18.9 +0.2
	baz=150,SNR=5.2				
SPUT	**South Promonto**	74.23 327	P	P	10 44 21.0 +1.1
SPUT			IAmb	IAmb	10 44 22.4
	comp=Z,12nm,0.9s				
BGU	**Big Grassy Mou**	74.24 327	P	P	10 44 21.2 +1.2
SMMC	**Simmler**	74.30 318	P	P	10 44 22.5 +2.1
	baz=131,SNR=6.7				
TPH	**Tonopah**	74.49 322	P	P	10 44 23.1 +1.5
AHID	**Auburn Hatcher**	74.65 329	IAmb	IAmb	10 44 24.7
	comp=Z,19nm,0.8s				
PAGB	**Antelope Grade**	74.73 319	IAmb	IAmb	10 44 26.0
	comp=Z,25nm,1.3s				
SNOW	**Snow King Moun**	75.02 330	IAmb	IAmb	10 44 27.1
	comp=Z,10.0nm,0.8s				
ULM	**Lac du Bonnet**	75.06 342	P	P	10 44 24.4 +0.2
	comp=Z,6.5nm,0.6s,baz=157,slow=6.0,SNR=8.9				
ULM	**Lac du Bonnet**	75.06 342	IAmb	IAmb	10 44 24.6
	comp=Z,8.4nm,0.7s				
LOHW	**Long Hollow**	75.06 330	P	P	10 44 24.1 -0.6
TPAW	**Teton Pass**	75.13 330	P	P	10 44 25.1 -0.1
NVAR	**Mina Array Bea**	75.36 322	P	P	10 44 28.6 +2.0
	comp=Z,4.9nm,0.9s,baz=152,slow=6.8,SNR=27				
NVAR	**Mina Array Bea**	75.36 322	P	P	10 44 28.1 +1.5
NVAR			pP	pP	10 44 57.0 +1.2
IMW	**Indian Meadow**	75.44 330	IAmb	IAmb	10 44 29.6
	comp=Z,14nm,1.1s				
FLWY	**Flagg Ranch**	75.47 330	IAmb	IAmb	10 44 30.1
	comp=Z,23nm,0.9s				
LAO	**LASA Array**	75.57 334	IAmb	IAmb	10 44 29.6
	comp=Z,15nm,1.0s				
RLMT	**Red Lodge**	75.62 332	IAmb	IAmb	10 44 30.5
	comp=Z,13nm,0.9s				
H17A	**Grant Village**	75.65 330	P	P	10 44 30.5 +2.3
	baz=140				
KVN	**Kaiserville**	75.66 322	P	P	10 44 29.9 +1.6
KVN			IAmb	IAmb	10 44 30.9
	comp=Z,11nm,0.9s				
SCHQ	**Schefferville**	75.70 1	P	P	10 44 28.0 +0.2
	comp=Z,9.7nm,0.8s,baz=206,slow=5.0,SNR=8.8				
SCHQ	**Schefferville**	75.70 1	IAmb	IAmb	10 44 29.0
	comp=Z,12nm,0.9s				
YMP	**Mirror Lake Pl**	75.72 331	IAmb	IAmb	10 44 49.4
	comp=Z,12nm,1.0s				
YNE	**Yellowstone No**	75.86 331	IAmb	IAmb	10 44 31.9
	comp=Z,27nm,0.9s				
YMR	**Madison River**	76.03 330	IAmb	IAmb	10 44 33.7
	comp=Z,30nm,1.2s				
WAKR	**Walker**	76.06 321	IAmb	IAmb	10 44 34.1
	comp=Z,17nm,1.4s				
YHH	**Holmes Hill**	76.07 330	P	P	10 44 32.5 +1.9
YHH			IAmb	IAmb	10 44 34.0
	comp=Z,24nm,1.1s				
YERR	**Yerington**	76.27 322	IAmb	IAmb	10 44 35.0
	comp=Z,18nm,1.4s				
PAHR	**Pah Rah Range**	76.84 322	P	P	10 44 37.0 +2.1
PAHR			IAmb	IAmb	10 44 38.0
	comp=Z,21nm,0.9s				
HLID	**Hailey**	76.87 328	IAmb	IAmb	10 44 38.2
	comp=Z,15nm,0.9s				
TORD	**Torodi Ar. Bea**	77.04 70	P	P	10 44 36.2 -0.1
	comp=Z,13nm,0.5s,baz=253,slow=5.2,SNR=108				
TORD			LR	LR	11 18 53.4
	comp=Z,30nm,19.1s,baz=195,slow=36				
VNDA	**Vanda**	77.22 190	P	P	10 44 38.5 +2.2
	comp=Z,0.8nm,0.8s,baz=76,slow=4.9,SNR=3.6				
DLMT	**Dillon**	77.32 330	P	P	10 44 38.0 +0.6
DLMT			IAmb	IAmb	10 44 40.3
	comp=Z,16nm,1.2s				
MFID	**Camas Ranch**	77.48 327	IAmb	IAmb	10 44 41.5
	comp=Z,22nm,1.4s				
ORV	**Oroville**	77.97 321	IAmb	IAmb	10 44 44.1
	comp=Z,30nm,1.3s				
O03E	**Paynes Creek**	78.62 321	P	P	10 44 44.9 +0.2
	baz=130,SNR=6.8				
PLID	**Pearl Lake**	78.76 328	P	P	10 44 46.1 +0.6
PLID			IAmb	IAmb	10 44 47.9
	comp=Z,14nm,0.9s				
MOD	**Modoc Plateau**	78.82 323	IAmb	IAmb	10 44 48.6
	comp=Z,17nm,1.1s				
O02D	**Mt. Diablo Mer**	79.12 321	P	P	10 44 48.1 +0.7
	baz=130				
BMO	**Blue Mountains**	79.25 327	IAmb	IAmb	10 44 50.6
	comp=Z,14nm,1.0s				
N02D	**Trinity Center**	79.58 321	P	P	10 44 50.6 +0.8
	baz=130				
M04C	**Macdoel**	79.61 323	P	P	10 44 51.2 +1.2
	baz=131,SNR=5.5				
K05A	**Summer Lake**	79.70 324	IAmb	IAmb	10 44 53.8
	comp=Z,29nm,1.0s				
I07A	**Izee**	79.85 325	IAmb	IAmb	10 44 54.3
	comp=Z,18nm,1.2s				
TSUM	**Tsumeb**	79.94 107	P	P	10 44 54.3 +1.9
M02C	**Callahan**	79.94 322	P	P	10 44 52.4 +0.6
	baz=130				
F10A	**Beach Ranch, E**	79.99 328	P	P	10 44 52.4 +0.4
K04D	**Chiloquin, OR**	80.11 323	P	P	10 44 54.0 +1.3
	baz=131				
L04D	**Klamath Falls**	80.15 323	P	P	10 44 53.8 +0.8
	baz=130				
J05D	**Fort Rock, OR**	80.25 324	P	P	10 44 54.8 +1.3
	baz=131,SNR=11				
G08A	**Pilot Rock**	80.39 327	IAmb	IAmb	10 44 56.7
	comp=Z,18nm,1.5s				
PINE	**Pine Mountain**	80.43 324	IAmb	IAmb	10 44 57.7
	comp=Z,26nm,1.0s				
J04D	**Umpqua Nationa**	80.71 324	P	P	10 44 57.2 +1.2
	baz=131,SNR=5.7				
L02E	**Cave Junction**	80.86 322	P	P	10 44 58.3 +1.7
	baz=129				
I05D	**Terrebonne, OR**	81.01 325	P	P	10 44 59.2 +1.8
	baz=131,SNR=11				
K02D	**Willamette Mer**	81.23 322	P	P	10 45 00.6 +1.9
	baz=129				
I04A	**Tendick Farm,**	81.23 324	P	P	10 45 00.0 +1.4
	baz=130				
HAWA	**Hanford**	81.44 327	IAmb	IAmb	10 45 02.3
	comp=Z,15nm,1.1s				
G05D	**Wamic, OR**	81.59 325	P	P	10 45 02.6 +2.1
	baz=132				
J01E	**Myrtle Point**	81.68 323	P	P	10 45 02.5 +1.7
	baz=129				
H04A	**Detroit Lake**	81.69 325	IAmb	IAmb	10 45 03.5
	comp=Z,14nm,1.1s				
C09A	**Chrisman Ranch**	81.78 329	IAmb	IAmb	10 45 03.8
	comp=Z,18nm,0.7s				
H04D	**Lebanon**	81.89 324	P	P	10 45 03.0 +1.0
	baz=130				
I02D	**Swisshome**	82.23 323	P	P	10 45 06.0 +2.3
	baz=129				
LTY	**Liberty**	82.60 327	IAmb	IAmb	10 45 08.0
	comp=Z,20nm,1.4s				
RAR	**Rarotonga**	83.54 250	LR	LR	11 14 17.7
	comp=Z,192nm,19.8s,baz=310,slow=30				
EDM	**Edmonton**	83.55 335	IAmb	IAmb	10 45 11.2
	comp=Z,32nm,1.3s				
D04E	**Lakebay**	83.62 326	P	P	10 45 11.0 +0.2
	baz=130				
B06A	**Marblemount**	83.85 328	P	P	10 45 11.7 -0.2
B06A			IAmb	IAmb	10 45 13.4
	comp=Z,12nm,0.7s				
B05A	**Bryant**	83.99 327	P	P	10 45 12.9 +0.3
	baz=131,SNR=5.1				
D03D	**Eldon**	84.02 326	P	P	10 45 14.0 +1.1
	baz=130				
A05A	**Maple Falls**	84.47 328	P	P	10 45 15.4 +0.3
A05A			IAmb	IAmb	10 45 16.8
	comp=Z,13nm,0.9s				
A04D	**Lummi Island**	84.59 327	P	P	10 45 17.1 +1.4
	baz=131				
MAW	**Mawson**	84.59 163	P	P	10 45 17.3 +1.7
	comp=Z,2.6nm,0.6s,baz=191,slow=5.2,SNR=14				
PAB	**San Pablo**	85.12 44	P	P	10 45 20.2 +1.4
LLLB	**Lillooet**	85.43 329	IAmb	IAmb	10 45 21.5
	comp=Z,15nm,1.1s				
ESDC	**Sonseca Array**	85.44 44	P	P	10 45 21.3 +1.0
	comp=Z,2.1nm,1.0s,baz=255,slow=3.8,SNR=7.9				
ESDC			LR	LR	11 22 18.9
	comp=Z,14nm,19.8s,baz=235,slow=35				
ESDC	**Sonseca Array**	85.44 44	P	P	10 45 21.6 +1.3
YKA	**Yellowknife Ar**	90.94 341	P	P	10 45 46.3 +0.5
	comp=Z,6.1nm,0.8s,baz=132,slow=4.9,SNR=21				
ASAR	**Alice Springs**	130.31 208	PKP	PKPdf	10 51 53.6 +0.6
	comp=Z,1.3nm,0.7s,baz=129,slow=1.6,SNR=12				
PETK	**Petropavlovsk-**	132.42 324	PKP	PKPdf	10 51 57.1 +1.1
	comp=Z,3.7nm,1.1s,baz=72,slow=9.8,SNR=6.6				
PETK	**Petropavlovsk-**	132.42 324	PKPdf	PKPdf	10 51 56.7 +0.8
WRA	**Warramunga Arr**	133.35 210	PKP	PKiKP	10 52 00.7 +0.6
	comp=Z,1.5nm,0.6s,baz=161,slow=1.6,SNR=20				
WRA	**Warramunga Arr**	133.35 210		PKPdf	10 51 59.4 +0.6
ZALV	**Zalesovo Beam**	141.56 25	PKP	PKPdf	10 52 13.9 +1.1
	comp=Z,4.4nm,0.5

USRK	Ussuriysk Ar.	151.34	328		PKPbc	PKPbc	10 52 35.2	-0.4
MJAR	Matsushiro Arr	152.02	309	PKPbc	PKPbc	PKPbc	10 52 38.2	+0.7
	comp=Z,3.8nm,0.8s,baz=88,slow=2.3,SNR=12							
MJAR				PKPab	PKPab	PKPab	10 52 47.8	+0.5
	comp=Z,4.9nm,1.1s,baz=93,slow=3.0,SNR=6.2							
MJAR	Matsushiro Arr	152.02	309	PKPdf	PKPdf	PKPdf	10 52 28.4	-2.5
MJAR					PKPbc	PKPbc	10 52 38.3	+0.7
MAT	Matsushiro	152.03	309	PKP	PKPbc	PKPbc	10 52 38.1	+0.6
SONM	Songino Array	153.09	7	PKP	PKPdf	PKPdf	10 52 34.2	+2.0
	comp=Z,1.2nm,0.7s,baz=6.3,slow=1.1,SNR=7.2							
SONM				PKPbc	PKiKP	PKiKP	10 52 41.7	+1.9
	comp=Z,1.7nm,0.8s,baz=324,slow=1.0,SNR=8.6							
SONM				PKPab	PKPab	PKPab	10 52 52.5	+1.1
	comp=Z,0.7nm,0.6s,baz=4.6,slow=2.9,SNR=3.5							
SONM	Songino Array	153.09	7		PKPdf	PKPdf	10 52 29.1	-3.2
KSRS	Korea Array	158.30	322		PKP	PKPdf	10 52 41.5	+2.3
	comp=Z,1.2nm,0.8s,baz=318,slow=1.7,SNR=5.8							
KSRS				PKPab	PKPab	PKPab	10 53 15.3	+1.4
	comp=Z,2.1nm,0.6s,baz=71,slow=3.9,SNR=8.2							
LZH	Lanzhou	163.75	22	ePKP	PKPdf	PKPdf	10 52 46.5	+1.1
LZH				pPKP	pPKPdf		10 53 13.8	-3.4
LZH				sPKP			10 53 28.8	
LZH				PKP	pPKPab		10 53 55.3	-13

*SOME **30** 10:38:50.5, 40.°93N×70.°00E, h10km*
*KRNET **30** 10:38:50.1±0.1, 41.°04N×69.°75E, mb3.0*
ISC 30 10:38:52.2±1.4, 41.°01N±0.°03×70.°02E±0.°06, h2km±14km, n10, σ1°76/20, 11C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	Terek-Say	0.99	58	⇑iP	Pb	10 39 12.1	-0.1
	baz=68						
TRKS				⇑iS	Sn	10 39 28.4	+0.4
	baz=68						
BTK	Batken	1.13	147	⇑iP	Pg	10 39 14.6	+0.8
	baz=40						
BTK				⇑iS	Sn	10 39 32.5	+1.3
	baz=40						
CHM	Chimkent	1.34	347	eP	Pg	10 39 18.4	+0.5
	3.4nm,0.2s						
CHM				eS	Sg	10 39 38.2	+2.8
	177nm,0.3s						
GAR	Garm	2.02	173	⇑iP	Pb	10 39 28.6	-1.1
	baz=68						
GAR				⇑iS	Sg	10 39 56.6	-0.5
	baz=68						
KK31	Karatay Array	2.12	10	Pn	Pg	10 39 30.6	-2.2
	3.7nm,0.4s,baz=201,slow=14,SNR=35						
KK31				⇑Sn	Sg	10 40 01.6	+1.1
	8.3nm,0.3s,baz=199,slow=29,SNR=16						
MNAS	Manas	2.38	51	⇑eP	Pb	10 39 34.7	-1.1
	baz=54						
MNAS				⇑iS	Sb	10 40 07.0	+1.4
	baz=54						
MRKS	Merke	2.96	53	eP	Pg	10 39 48.2	-0.7
	3.3nm,0.5s						
MRKS				eS	Sg	10 40 29.7	+2.5
	8.9nm,0.4s						
AML	Almayashu	2.98	67	⇑iP	Pb	10 39 43.8	-2.4
	baz=69						
AML				⇑iS	Sb	10 40 22.7	-0.5
	baz=69						
DGS	Degeres	4.83	61	eP	Pg	10 40 23.2	-1.4
	1.9nm,0.6s						
DGS				eS	Sg	10 41 29.9	+2.7
	5.8nm,0.3s						
BTLS	Baital	5.00	35	eP	Pg	10 40 25.8	-2.1
	1.1nm,0.3s						
BTLS				eS	Sg	10 41 34.0	+1.4
	3.8nm,0.6s						

*ISK **30** 10:43:19.8, 35.°06N×26.°86E, h19km, ML3.3/26*
*NIC **30** 10:43:19.5±0.0, 35.°00N×26.°87E, h12km±1km, Ml4.1/3*
*THE **30** 10:43:20.9, 35.°13N×26.°77E, h0km±1km, ML3.4/3, Error ellipse: s-maj=4.9km s-min=0.9km az=156.0*
*DDA **30** 10:43:20.0, 35.°03N×26.°84E, h24km±33km, MW3.5*
*ATH **30** 10:43:21.2, 35.°14N×26.°79E, h36km±6km, ML3.4/3, Error ellipse: s-maj=7.3km s-min=1.7km az=336.0*
*IDC **30** 10:43:26.3±4.4, 36.°58N×25.°37E, h90km±47km, mb3.4/2, mb1 3.3/4, mb1mx3.0/38, mbtmp3.5/4, Error ellipse: s-maj=59.6km s-min=25.1km az=148.0*
ISC 30 10:43:19.4±1.3, 35.°05N±0.°05×26.°84E±0.°03, h13km±10km, n93, σ0°86/109, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.51	278	P	Pb	10 43 30.4	+0.1
ZKR				S	Sb	10 43 38.4	+0.7
	3μm,0.4s						
ZKR	Zakros	0.51	278	P	Pb	10 43 30.5	+0.1
ZKR				S	Sb	10 43 38.7	+1.1
ZKR				AML	AML	10 43 39.5	
	comp=N,5092μm,0.4s						
ZKR				AML	AML	10 43 43.3	
	comp=E,7625μm,0.9s						
ZKR	Zakros	0.51	278	PG	Pb	10 43 30.4	+0.1
ZKR				SG	Sb	10 43 38.9	+1.2
ZKR	Zakros	0.51	278	P	Pb	10 43 30.2	-0.1
ZKR				S	Sb	10 43 38.9	+1.2
KARP	Karpathos	0.57	28	P	Pb	10 43 31.3	0.0
KARP				S	Sb	10 43 40.8	+1.5
	comp=E,13μm,0.4s						
KARP	Karpathos	0.57	28	P	Pb	10 43 31.3	0.0
KARP				S	Sb	10 43 40.8	+1.5
KARP				AML	AML	10 43 41.9	
	comp=E,32520μm,0.4s						
KARP				AML	AML	10 43 42.1	
	comp=N,19595μm,0.3s						
KARP	Karpathos	0.57	28	PG	Pb	10 43 31.2	0.0
KARP				SG	Sb	10 43 39.8	+0.5
KARP	Karpathos	0.57	28	P	Pb	10 43 31.3	0.0
KARP				S	Sb	10 43 40.3	+1.0
KARP				AML	AML	10 43 41.5	
	comp=N,33nm,0.4s						
KARP				AML	AML	10 43 41.5	
	comp=N,33nm,0.4s						
KARP				AML	AML	10 43 41.8	
	comp=N,22nm,0.4s						
KARP				AML	AML	10 43 41.8	
	comp=N,22nm,0.4s						
STIA	Sitia Lasithi	0.63	285	P	Pb	10 43 32.3	0.0
STIA				S	Sb	10 43 42.0	+1.0
FRMA	Ierapetra Chan	0.91	268	P	Pg	10 43 35.5	-1.4
NPS	Neapolis	1.03	283	P	Pb	10 43 39.4	+0.4
NPS				S	Sb	10 43 53.6	+1.1
NPS	Neapolis	1.03	283	P	Pb	10 43 39.5	+0.4
NPS				S	Sb	10 43 52.9	+0.5
NPS				AML	AML	10 43 58.7	
	comp=E,3328μm,0.5s						
NPS				AML	AML	10 43 58.9	
	comp=N,3778μm,0.5s						
LAST	Lasithi	1.12	276	P	Pg	10 43 40.5	-0.5
LAST	Lasithi	1.12	276	P	Pg	10 43 41.0	0.0
HRKL	Herakleio	1.45	281	PN	Pn	10 43 46.1	+0.8
ARG	Arkhangelos	1.57	42	P	Pb	10 43 48.6	+0.2
ARG				S	Sg	10 44 09.8	-0.2
	comp=N,692nm,0.7s						
ARG	Arkhangelos	1.57	42	P	Pb	10 43 48.6	+0.2
ARG	Arkhangelos	1.57	42	PN	Pn	10 43 47.2	+0.2
ARG	Arkhangelos	1.57	42	P	Pb	10 43 48.0	-0.4
ARG				S	Sg	10 44 09.1	-0.9
NIS1	Nisyros Isl.	1.58	10	PN	Pn	10 43 47.3	+0.1
IDI	Anoyia	1.61	279	P	Pb	10 43 49.1	0.0
IDI	Anoyia	1.61	279	P	Pb	10 43 49.3	+0.2
IDI	Anoyia	1.61	279	PN	Pn	10 43 48.7	+1.0
SIVA	Sivas	1.66	270	P	Pg	10 43 51.4	+0.1
SIVA	Sivas	1.66	270	P	Pb	10 43 50.7	+0.8
KOSK	Kos Island	1.71	4	PN	Pn	10 43 49.3	+0.4
SANT	Santorini	1.73	320	P	Pn	10 43 49.5	+0.2
SANT	Santorini	1.73	320	P	Pn	10 43 49.5	+0.2
SANT	Santorini	1.73	320	iP	Pn	10 43 49.2	-0.1
SANT				iS	Sn	10 44 11.9	+0.6
SANT	Santorini	1.73	320	PN	Pn	10 43 49.9	+0.6
THR8	Santorini-Mono	1.75	321	P	Pn	10 43 49.3	-0.2
THR6	Thira Island,	1.75	319	P	Pn	10 43 49.8	+0.2
DAT	Datca	1.79	20	P	Pn	10 43 50.0	-0.1
DAT	Datca	1.79	20	PN	Pn	10 43 50.4	+0.3
THR3	Thira Island,	1.79	320	P	Pn	10 43 50.0	-0.1
THT2	Imerovigli	1.80	321	PN	Pn	10 43 50.6	+0.4
THR5	Thira Island,	1.83	319	P	Pn	10 43 50.8	+0.2
MRSB	Marmaris-Mugla	2.00	33	PN	Pn	10 43 53.4	+0.4
BODT	Bodrum	2.05	11	P	Pn	10 43 54.1	+0.5
BODT	Bodrum	2.05	11	PN	Pn	10 43 53.9	+0.3
TURN	Turunc	2.07	33	iP	Pn	10 43 55.5	+1.6
TURN	Turunc	2.07	33	PN	Pn	10 43 54.8	+0.9
BDRM	Kayabasi	2.08	14	iP	Pn	10 43 54.5	+0.5
VAM	Vamos	2.19	280	P	Pb	10 43 57.9	-1.0
GVDS	Gavdos	2.26	266	PN	Pn	10 43 58.4	+1.8
GVD	Gavdhos	2.27	266	PN	Pn	10 43 57.6	+1.0
APE	Apeiranthos	2.28	333	P	Pn	10 43 57.5	+0.6
APE	Apeiranthos	2.28	333	iP	Pn	10 43 57.4	+0.6
APE				iS	Sn	10 44 22.4	-2.5
APE	Apeiranthos	2.28	333	PN	Pn	10 43 57.4	+0.6
APE	Apeiranthos	2.28	333	P	Pn	10 43 57.4	+0.6
DALY	Dalyan (Mula)	2.30	39	PN	Pn	10 43 57.6	+0.5
MLSB	Milas	2.37	18	PN	Pn	10 43 58.2	+0.1
IMMV	Iera Moni Meta	2.37	281	PN	Pn	10 43 58.9	+0.8
YER	Yerkesik	2.39	29	P	Pn	10 43 59.0	+0.6
YER	Yerkesik	2.39	29	PN	Pn	10 43 58.4	0.0
FETY	Fethiye	2.42	48	PN	Pn	10 43 59.3	+0.6
KSL	Kastellorizon	2.50	63	P	Pn	10 43 60.0	+0.2
KSL				S	Sn	10 44 30.3	+0.3
MULA	Mugla, Merkez-	2.51	28	iP	Pn	10 44 02.0	+1.9
AKAS	Kas	2.55	61	iP	Pn	10 44 00.8	+0.2
AKAS				iS	Sn	10 44 31.2	-0.3
AKAS	Kas	2.55	61	PN	Pn	10 44 00.9	+0.3
KNDR	Palaiochora Ch	2.59	275	PN	Pn	10 44 03.0	+2.0
GCAM	G?zelcaml?	2.67	7	PN	Pn	10 44 03.3	+1.2
AYDN	Tasoluk	2.74	18	iP	Pn	10 44 03.7	+0.5
CAME	Cameli-Denizli	2.75	46	PN	Pn	10 44 04.1	+0.6
CAEL	Denizli, Camel	2.89	43	iP	Pn	10 44 04.1	-1.2
TAVA	DENIZLI_Tavas	2.94	34	iP	Pn	10 44 06.4	+0.4
DGB	zmir	3.00	1	iP	Pg	10 44 18.6	+1.6
AYDB	Zeytinkoy-Aydi	3.02	16	PN	Pn	10 44 07.7	+0.6
ELL	Elmali	3.02	55	PN	Pn	10 44 07.3	+0.2
GOLH	Golhisar	3.11	44	iP	Pn	10 44 08.2	-0.1
AKUM	Antalya-Kumluc	3.13	65	iP	Pn	10 44 08.5	+0.1
URLA	Izmir	3.31	357	iP	Pn	10 44 10.7	-0.3
URLA	Izmir	3.31	357	PN	Pn	10 44 12.5	+1.5
CHOS	Chios island	3.39	350	PN	Pn	10 44 12.0	-0.2
KORT	Korkueli	3.45	55	PN	Pn	10 44 14.4	+1.4
VLI	Veliai	3.58	299	P	Pn	10 44 14.4	-0.2
MANT	Manisa	3.71	21	iP	Pn	10 44 15.9	-0.7
KULA	Kula-Manisa	3.76	22	PN	Pn	10 44 18.4	+1.2
USAK	Uak-Merkez	4.06	25	iP	Pn	10 44 20.3	-1.0
SIGR	SIGRI	4.23	350	PN	Pn	10 44 25.2	+1.6
BUHA	Balikesir, Bur	4.45	2	iP	Pn	10 44 26.6	-0.1
AKMS	Akamas	4.51	89	P	Pn	10 44 27.5	0.0
AKMS				AML	AML	10 45 17.3	
	comp=N,0.4nm,0.6s						
AKMS				AML	AML	10 45 18.9	
	comp=N,0.6nm,0.5s						
SEYD	Seydisehir-KON	4.68	58	PN	Pn	10 44 31.8	+1.9
BAYC	CANAKKALE_Bayr	4.69	357	iP	Pn	10 44 29.3	-0.7
ALFC	Alefka	4.73	87	P	Pn	10 44 31.4	+1.0
ALFC				AML	AML	10 45 22.2	
	comp=N,0.6nm,0.6s						
ALFC				AML	AML	10 45 22.2	
	comp=N,0.8nm,1.0s						
BALY	Balya	4.73	7	iP	Pn	10 44 31.8	+1.3
DURS	Dursunbey	4.73	16	iP	Pn	10 44 29.9	-0.6
TVSB	Tavsanli	4.87	25	PN	Pn	10 44 34.3	+1.8
ASGA	Asgata	5.28	91	P	Pn	10 44 38.6	+0.6
BRTR	Keskin Array B	7.15	47	P	Pn	10 45 09.6	+5.7
	comp=N,0.1nm,0.3s,baz=232,slow=14,SNR=2.4						
BRTR				S	Sn	10 46 23.5	-1.6
	comp=N,0.1nm,0.3s,baz=206,slow=19,SNR=1.6						
GERES	GERESS Array B	16.86	329	P	Pn	10 46 51.8	-23
	comp=N,0.4nm,0.3s,baz=106,slow=16,SNR=2.7						
TORD	Torodi Ar. Bea	31.49	232	P	P	10 49 40.2	-0.9
	comp=N,0.8nm,0.5s,baz=32,slow=8.2,SNR=6.3						
MKAR	Makanchi Array	42.69	57	P	P	10 51 15.3	-0.6
	comp=N,0.3nm,0.3s,baz=268,slow=7.9,SNR=7.1						

IDC 30 11:12:00.3±3.5, 53.°70N×90.°64E, h0km, mb1 3.0/3, mb1mx2.9/52, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=31.5km s-min=23.9km az=37.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.46	277	i		11 34 04.5	
	baz=91,slow=306,SNR=5.6						
ZALV	Zalesovo Beam	3.46	277	Pn	Pn	11 12 54.4	-0.9
	0.4nm,0.3s,baz=92,slow=15,SNR=2.2						
ZALV				Pg	Pb	11 13 01.6	-0.8
	0.9nm,0.3s,baz=92,slow=15,SNR=8.3						
ZALV				Lg	Lg	11 13 50.3	
	1.5nm,0.3s,baz=91,slow=28,SNR=8.0						
KURBB	Kurchatov Arra	8.05	252	Pn	Pn	11 13 58.9	+0.4
	0.1nm,0.3s,baz=63,slow=14,SNR=7.3						
KURBB				Sn	Sn	11 15 29.0	-1.2
	baz=67,slow=25,SNR=6.5						
KURBB				Lg	Lg	11 16 16.1	
	0.0nm,0.3s,baz=65,slow=34,SNR=6.1						
MKAR	Makanchi Array	8.73	221	Pn	Pn	11 14 08.4	+0.6
	0.1nm,0.3s,baz=42,slow=14,SNR=5.3						
MKAR				Lg	Lg	11 16 35.1	
	baz=32,slow=34,SNR=4.0						
SONM	Songino Array	11.56	114	Lg	Lg	11 17 58.1	
	0.3nm,0.3s,baz=303,slow=28,SNR=6.0						

*IDC **30** 11:18:49.9±1.3, 32.°02S×178.°63W, h0km, mb4.3/6, mb1 4.5/8, mb1mx4.0/34, mbtmp4.3/8, ML4.4/2, Error ellipse: s-maj=30.3km s-min=25.6km az=109.0*
*NEIC **30** 11:18:55.5±0.8, 31.°92S±0.°08×178.°6W±0.°2, h33km±7km, mb4.5/13, Error ellipse: s-maj=28.3km s-min=9.9km az=104.0*
ISC 30 11:18:55.9±0.8, 31.°89S±0.°08×178.°8W±0.°1, h35km, n29, σ1°72/30, mb4.5/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.73	16	Pn	Pn	11 19 37.6	+0.4
	56nm,0.3s,baz=73,slow=19,SNR=1.8						
RAO				Sn	Sn	11 20 05.9	-3.0
	148nm,0.3s,baz=216,slow=23,SNR=5.6						
URZ	Urewera	7.20	207	Pn	Pn	11 20 35.5	-3.2
	7.8nm,0.3s,baz=272,slow=3.3,SNR=29						
URZ				Sn	Sn	11 21 56.3	-2.8
	6.3nm,0.3s,baz=16,slow=23,SNR=11						
URZ	Urewera	7.20	207		Pn	11 20 38.1	-0.5
RPZ	Rata Peaks	14.27	211	Pn	Pn	11 22 16.4	+1.0
CTA	Charters Tower	33.42	282	P	P	11 25 32.7	+1.2
	1.6nm,0.4s,baz=119,slow=5.1,SNR=5.2						
CTAO	Charters Tower	33.42	282	P	P	11 25 33.3	+1.9
STKA	Stephens Creek	33.52	259	P	P	11 25 32.4	+0.1
	3.1nm,1.1s,baz=112,slow=10,SNR=4.3						
STKA	Stephens Creek	33.52	259	P	P	11 25 33.2	+0.9
STKA				IAmb	IAmb	11 25 52.4	
	comp=Z,3.6nm,1.5s						
BBOO	Buckleboo	37.95	256	P	P	11 26 10.4	+0.1
AS31	Alice Springs	42.39	269	P	P	11 26 47.2	0.0
ASAR	Alice Springs	42.39	269	P	P	11 26 47.0	-0.2
	comp=Z,3.6nm,0.6s,baz=103,slow=7.5,SNR=54						
WR0	Warramunga Arr	43.34	274	P	P	11 26 54.5	-0.3
WR0				IAmb	IAmb	11 26 54.9	
	comp=Z,12nm,1.2s						
WB2	Warramunga Arr	43.51	274	P	P	11 26 56.1	-0.2
WRAB	Tennant Creek	43.51	274	P	P	11 26 56.0	-0.3
WRAB				IAmb	IAmb	11 26 56.6	
	comp=Z,7.3nm,0.7s						
WRA	Warramunga Arr	43.52	274	P	P	11 26 56.1	-0.2
	comp=Z,6.3nm,0.4s,baz=112,slow=8.0,SNR=160						
WRA	Warramunga Arr	43.52	274	P	P	11 26 56.1	-0.2
WB0	Warramunga Arr	43.55	274	P	P	11 26 56.4	-0.2
WB0				IAmb	IAmb	11 26 56.9	
	comp=Z,9.4nm,0.7s						
FORT	Forrest	45.04	257	P	P	11 27 07.7	-0.8
MTN	Manton Dam	49.58	281	P	P	11 27 43.3	-0.6
KNRA	Kununurra	50.18	276	P	P	11 27 48.5	+0.1
KNRA				IAmb	IAmb	11 27 59.2	
	comp=Z,13nm,1.3s						
QSPA	South Pole Qui	58.23	180	P	P	11 28 46.3	-0.3
	comp=Z,0.5nm,0.5s,baz=77,slow=3.3,SNR=1.7						
QSPA	South Pole Qui	58.23	180	IAmb	IAmb	11 28 52.0	
	comp=Z,4.3nm,1.0s						
SNAA	Sanae	76.69	179	P	P	11 30 45.5	+2.5
VNA3	Neumayer Olymp	76.87	176	P	P	11 30 46.9	+2.9
VNA2	Neumayer--Watz	77.30	177	P	P	11 30 49.6	+3.3
	baz=181,slow=4.6						
VNA1	Neumayer--Stat	77.53	177	P	P	11 30 50.8	+3.2
ILAR	Eielson Array	99.52	13	P	Pdif	11 32 35.7	+1.2
	comp=Z,0.2nm,0.6s,baz=226,slow=3.6,SNR=2.2						
FINES	FINESS Array B	146.30	339	PKPbc	PKPdf	11 38 29.6	-1.2
	comp=Z,2.7nm,0.6s,baz=64,slow=4.3,SNR=12						
TORD	Torodi Ar. Bea	161.34	181	PKPab	PKPab	11 39 35.0	-2.3
	comp=Z,0.5nm,0.6s,baz=175,slow=4.1,SNR=4.5						

*IDC **30** 11:21:37.9±1.3, 19.°61S×172.°93W, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.1/32, mbtmp4.2/11, ML4.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/40, Error ellipse: s-maj=53.5km s-min=19.5km az=148.0*
*NEIC **30** 11:21:39.9±1.4, 19.°40S±0.°05×172.°5W±0.°1, h32km±8km, mb4.6/20, Error ellipse: s-maj=15.9km s-min=3.7km az=69.0*
ISC 30 11:21:43.8±0.9, 19.°5S±0.°2×173.°0W±0.°2, h35km, n37, σ0°88/33, mb4.4/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.94	82		Pn	11 22 17.2	-11
AFI	Afiamalu	5.68	12	Pn	Pn	11 22 59.8	-5.9
	2.8nm,0.3s,baz=261,slow=19,SNR=1.9						
AFI				Sn	Sn	11 23 55.9	-14
	4.7nm,0.3s,baz=240,slow=20,SNR=1.3						
RAR	Rarotonga	12.53	100	Pn	Pn	11 24 29.3	-10
	3.2nm,0.3s,baz=282,slow=8.7,SNR=25						
RAR				LR	LR	11 27 54.2	
	comp=Z,78nm,21.7s,baz=184,slow=30						
PINNC	Pines Island,	18.51	257	P	Pn	11 25 58.9	+1.4
DZM	Mont Dzumac	19.38	259	P	P	11 26 05.9	-1.0
	0.7nm,0.3s,baz=92,slow=22,SNR=6.6						
DZM	Mont Dzumac	19.38	259	IAmb	IAmb	11 26 10.6	
	comp=Z,24nm,1.0s						
PPT	Papeete	22.30	89	LR	LR	11 33 43.0	
	comp=Z,40nm,18.8s,baz=230,slow=33						
QRZ	Quartz Range	24.60	207	P	P	11 27 01.8	+1.1
ARMA	Armidale	33.73	244	P	P	11 28 22.6	+0.4
ARMA				IAmb	IAmb	11 28 43.2	
	comp=Z,5.3nm,0.9s						
CAN	Canberra	36.98	237	P	P	11 28 49.8	-0.2
CAN				IAmb	IAmb	11 29 01.8	
	comp=Z,21nm,1.4s						
CTA	Charters Tower	38.27	262	P	P	11 28 59.8	-1.3
	comp=Z,3.7nm,0.4s,baz=95,slow=8.7,SNR=2.4						
CTAO	Charters Tower	38.27	262	P	P	11 29 00.6	-0.5
CTAO				IAmb	IAmb	11 29 08.3	
	comp=Z,14nm,1.4s						
TOO	Toolangi	40.29	235	P	P	11 29 17.9	+0.1
TOO				IAmb	IAmb	11 29 40.6	
	comp=Z,34nm,1.4s						
STKA	Stephens Creek	42.45	244	P	P	11 29 34.8	-0.7
	comp=Z,2.8nm,0.7s,baz=82,slow=14,SNR=3.8						
STKA	Stephens Creek	42.45	244	IAmb	IAmb	11 29 38.0	
	comp=Z,0.7nm,0.8s						
BBOO	Buckleboo	47.19	243	P	P	11 30 12.0	-1.3
WR0	Warramunga Arr	49.20	260	P	P	11 30 28.5	-0.5
AS31	Alice Springs	49.32	255	P	P	11 30 29.3	-0.5
ASAR	Alice Springs	49.32	255	P	P	11 30 29.4	-0.4
	comp=Z,4.9nm,0.8s,baz=96,slow=7.6,SNR=32						
ASAR				PcP	PcP	11 31 52.8	+0.5
	comp=Z,0.8nm,0.8s,baz=99,slow=5.7,SNR=2.4						
ASAR	Alice Springs	49.32	255	P	P	11 30 29.3	-0.5
WB0	Warramunga Arr	49.37	260	P	P	11 30 29.8	-0.5
WB0				IAmb	IAmb	11 30 30.0	
	comp=Z,5.3nm,0.7s						
WB2	Warramunga Arr	49.38	260	P	P	11 30 29.3	-1.1
WB2				IAmb	IAmb	11 30 30.2	
	comp=Z,8.5nm,0.9s						
WRAB	Tennant Creek	49.39	260	P	P	11 30 29.4	-1.0
WRAB				IAmb	IAmb	11 30 29.7	
	comp=Z,3.3nm,0.8s						
WRA	Warramunga Arr	49.40	260	P	P	11 30 29.6	-0.9
	comp=Z,4.6nm,0.8s,baz=96,slow=7.6,SNR=26						
WRA				PcP	PcP	11 31 53.2	+0.6
	comp=Z,0.9nm,1.0s,baz=99,slow=5.6,SNR=1.9						
WRA	Warramunga Arr	49.40	260	P	P	11 30 28.8	-1.6
FORT	Forrest	53.99	246	P	P	11 31 04.7	0.0
KNRA	Kununurra	55.42	264	P	P	11 31 15.0	-0.2
PSA00	Pilbara Seismi	62.47	255	P	P	11 32 04.0	0.0
PSA00				IAmb	IAmb	11 32 04.6	
	comp=Z,4.7nm,0.8s						
MORW	Morawa	64.54	246	P	P	11 32 16.9	-0.8
GIRL	Giralia	67.34	253	P	P	11 32 37.6	+1.8
MJAR	Matsushiro Arr	72.31	321	P	P	11 33 06.1	+0.2
	comp=Z,1.9nm,0.9s,baz=140,slow=6.3,SNR=6.1						
PETK	Petropavlovsk-	76.62	342	P	P	11 33 31.4	+0.8
	comp=Z,0.9nm,0.8s,baz=146,slow=8.0,SNR=2.7						
NVAR	Mina Array Bea	77.13	41	P	P	11 33 33.5	-0.6
	comp=Z,0.6nm,0.9s,baz=218,slow=7.3,SNR=5.0						
KSRS	Korea Array	79.34	316	P	P	11 33 47.4	+1.4
	comp=Z,1.7nm,0.8s,baz=130,slow=6.6,SNR=6.1						
TXAR	Lajitas Array	82.59	55	P	P	11 34 03.6	-0.1
	comp=Z,0.2nm,0.7s,baz=201,slow=6.6,SNR=4.0						
ILAR	Eielson Array	86.37	11	P	P	11 34 21.2	-0.6
	comp=Z,0.6nm,0.6s,baz=225,slow=5.8,SNR=12						
BRTR	Keskin Array B	149.48	317	PKPbc	PKPbc	11 41 29.6	-0.1
	comp=Z,0.9nm,0.8s,baz=116,slow=2.9,SNR=3.8						

*IDC **30** 11:25:13.3±1.4, 26.°17S×177.°72W, h182km±13km, mb3.8/12, mb1 4.0/14, mb1mx3.9/24, mbtmp4.3/14, Error ellipse: s

comp=Z,1.1nm,0.7s,baz=164,slow=2.2,SNR=5.9
BRTR PKPab **PKPab** **11 44 50.9 -0.8**
comp=Z,2.6nm,0.6s,baz=91,slow=3.9,SNR=12
TORD Torodi Ar. Bea 167.10 177 PKP **PKPdf** **11 44 57.0 -1.2**
comp=Z,0.6nm,0.7s,baz=191,slow=1.5,SNR=2.7
TORD PKPab **PKPab** **11 46 02.2 -0.7**
comp=Z,0.4nm,0.7s,baz=194,slow=3.0,SNR=2.4

IDC 30 11:37:17.0±11.0, 11°79S×166°58E, h305km±128km, mb3.2/5, mb1 3.4/6, mb1mx3.1/30, mbtmp3.8/6, Error ellipse: s-maj=107.7km s-min=26.5km az=163.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.23**	**181**	P	Pn	11 39 38.3	+0.3
	0.4nm,0.3s,baz=290,slow=18,SNR=1.2						
WRA	**Warramunga Arr**	**32.01**	**251**	P	P	11 43 15.6	-0.3
	0.9nm,0.6s,baz=83,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**33.21**	**245**	P	P	11 43 26.0	-0.2
	0.6nm,0.6s,baz=74,slow=10,SNR=7.7						
ILAR	**Eielson Array**	**83.95**	**18**	P	P	11 49 12.3	-0.5
	0.9nm,0.8s,baz=228,slow=5.5,SNR=8.8						
MKAR	**Makanchi Array**	**94.62**	**317**	P	P	11 50 04.5	+0.9
	0.4nm,0.6s,baz=106,slow=4.4,SNR=3.5						
TXAR	**Lajitas Array**	**95.46**	**61**	P	P	11 50 07.8	-0.1
	0.1nm,0.4s,baz=242,slow=5.6,SNR=1.4						

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*KRNET **30** 11:48:45.4±0.1, 41°.11N×69°.70E, mb2.7*
*SOME **30** 11:48:48.3, 41°.10N×70°.03E, h0km*
*NNC **30** 11:48:49.5±2.8, 40°.99N×70°.04E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=19.8km s-min=12.5km az=25.0*

ISC 30 11:48:47.6±1.7, 41°.09N±0°.05×69°.89E±0°.08, h10km, n14, σ2°96/23, 9C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.04**	**64**	⇑*iP*	**Pb**	**11 49 07.1**	**-0.7**
	baz=72						
TRKS				⇑*iS*	**Sb**	**11 49 23.1**	**+1.6**
	baz=72						
BTK	**Batken**	**1.25**	**145**	⇑*iP*	**Pb**	**11 49 10.9**	**-0.3**
	baz=41						
BTK				⇑*iS*	**Sn**	**11 49 28.6**	**+0.6**
	baz=41						
KK31	**Karatay Array**	**2.07**	**13**	⇑Pn	**Pg**	**11 49 25.6**	**-1.7**
	2.6nm,0.4s,baz=200,slow=16,SNR=44						
KK31				Sn	**Sg**	**11 49 55.5**	**+1.5**
	10nm,0.5s,baz=194,slow=26,SNR=25						
MNAS	**Manas**	**2.40**	**53**	⇑*eP*	**Pn**	**11 49 28.4**	**+1.3**
	baz=56						
MNAS				⇑*iS*	**Sb**	**11 50 00.0**	**-0.8**
	baz=56						
MRKS	**Merke**	**2.99**	**55**	*eP*	**Pg**	**11 49 43.0**	**-1.9**
	2.1nm,0.5s						
MRKS				*eS*	**Sb**	**11 50 21.2**	**+3.6**
	7.7nm,0.7s						
MRKS	**Merke**	**2.99**	**55**	Pg	**Pg**	**11 49 43.0**	**-1.9**
	2.1nm,0.5s						
MRKS				Lg	Lg	11 50 21.2	
	7.7nm,0.7s						
AML	**Almayashu**	**3.04**	**69**	⇑*eP*	**Pn**	**11 49 37.5**	**+1.5**
	baz=70						
AML				⇑*iS*	**Sn**	**11 50 15.9**	**+3.3**
	baz=70						
SGDS	**Sogindy**	**4.24**	**54**	Pg	**Pg**	**11 50 06.9**	**-1.8**
	0.8nm,0.2s						
SGDS				Lg	Lg	11 51 02.5	
	3.1nm,0.5s						
DGS	**Degeres**	**4.87**	**62**	*eP*	**Pg**	**11 50 19.3**	**-1.6**
	1.4nm,0.3s						
DGS				*eS*	**Sg**	**11 51 23.6**	**-0.4**
	2.6nm,0.3s						
DGS	**Degeres**	**4.87**	**62**	Pg	**Pg**	**11 50 19.3**	**-1.6**
	1.4nm,0.3s						
DGS				Lg	Lg	11 51 23.6	
	2.6nm,0.3s						
KST	**Kastek**	**4.92**	**65**	*eP*	**Pg**	**11 50 19.3**	**-2.6**
	2.4nm,0.4s						
KST				*eS*	**Sg**	**11 51 24.0**	**-1.6**
	4.1nm,0.5s						
KST	**Kastek**	**4.92**	**65**	Pg	**Pg**	**11 50 19.3**	**-2.6**
	2.4nm,0.4s						
KST				Lg	Lg	11 51 24.0	
	4.1nm,0.5s						
BTLS	**Baital**	**4.99**	**36**	*eP*	**Pg**	**11 50 20.5**	**-2.6**
	1.2nm,0.5s						
BTLS				*eS*	**Sg**	**11 51 25.6**	**-2.1**
	3.8nm,0.4s						
BTLS	**Baital**	**4.99**	**36**	Pg	**Pg**	**11 50 20.5**	**-2.6**
	1.2nm,0.5s						
BTLS				Lg	Lg	11 51 25.6	
	3.8nm,0.4s						

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*IDC **30** 11:50:07.5±0.6, 27°.00S×176°.42W, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.1/37, mbtmp4.1/14, ML5.3/1, Error ellipse: s-maj=21.4km s-min=16.6km az=113.0*
*NEIC **30** 11:50:14.1±2.1, 27°.1S±0°.1×176°.5W±0°.2, h39km±6km, mb4.6/25, Error ellipse: s-maj=22.3km s-min=13.7km az=117.0*
*GCMT **30** 11:50:15.1±0.3, 26°.81S±0°.03×176°.01W±0°.02, h22km, MW5.0/83, Moment Tensor Solution. s47,c55; s83,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.45±.22; $M_{\theta\theta}$0.12±.15; $M_{\phi\phi}$-3.57±.15; $M_{r\theta}$-0.87±.29; $M_{\phi\theta}$-0.71±.11; $M_{\phi r}$1.31±.20; Best double couple: $M_0$3.91200×10^{16} NP1:ϕ_s206.00000°, δ38.00000°, λ116.00000°. NP2: ϕ_s355.00000°, δ56.00000°, λ71.00000°. Principal axes: T 3.9400, Plg72.0000°, Azm217.0000°; N -0.0580, Plg16.0000°, Azm6.0000°; P -3.8840, Plg9.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 11:50:12.9±0.6, 27°.09S±0°.08×176°.3W±0°.1, h35km, n65, σ1°53/60, mb4.5/25, MS4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.57**	**213**	Pn	**Pn**	**11 50 51.8**	**-0.2**
	547nm,0.3s,baz=77,slow=9.9,SNR=30						
RAO				Sn	**Sn**	**11 51 24.9**	**+2.8**
	894nm,0.3s,baz=18,slow=22,SNR=8.0						
RAO	**Raoul Island**	**2.57**	**213**		**Pn**	**11 50 52.2**	**+0.2**
OUZ	**Omahuta**	**11.83**	**224**	Pn	**Pn**	**11 52 58.8**	**-0.3**
URZ	**Urewera**	**12.43**	**205**	Pn	Pn	11 52 59.2	-8.0
	0.3nm,0.3s,baz=217,slow=11,SNR=1.5						
URZ				Sn	Sn	11 55 13.6	-11
	1.8nm,0.3s,baz=144,slow=19,SNR=2.1						
BKZ	**Black Stump Fm**	**13.45**	**205**	Pn	**Pn**	**11 53 18.4**	**-2.9**
RAR	**Rarotonga**	**16.20**	**72**	Pn	Pn	11 53 49.6	-8.3
	2.6nm,0.3s,baz=237,slow=12,SNR=6.0						
TUWZ	**Tuamarina**	**16.39**	**207**	Pn	**Pn**	**11 53 58.0**	**-2.2**
DZM	**Mont Dzumac**	**16.45**	**284**	Pn	**P**	**11 54 07.2**	**+3.7**
	0.1nm,0.3s,baz=69,slow=19,SNR=2.5						
THZ	**Tophouse**	**17.09**	**208**	Pn	**Pn**	**11 54 04.8**	**-4.3**
TBI	**Tubuai**	**24.57**	**87**	*eS*	S	11 59 26.3	-22
	147nm,28.5s						
TBI				*eLR*	LR	12 01 10.2	
	comp=Z,839nm,29.2s						
TBI	**Tubuai**	**24.57**	**87**	*eT*	T	12 20 12.4	
	13nm,0.4s						
PAE	**Paea**	**26.41**	**75**	*eT*	T	12 22 44.9	
	4.4nm,0.3s						
PPT2	**Papeete2**	**26.44**	**75**	*eLQ*	LQ	12 01 00.2	
	750nm,23.5s						
PPT2				*eLR*	LR	12 02 08.8	
	comp=Z,747nm,24.8s,baz=244						
PPT2	**Papeete2**	**26.44**	**75**	*eT*	T	12 22 48.4	
	2.4nm,0.3s						
EIDS	**Eidsvold**	**29.24**	**266**	P	**P**	**11 56 11.1**	**-0.6**
EIDS				IAmb	IAmb	11 56 20.9	
	comp=Z,22nm,1.4s						
CTA	**Charters Tower**	**34.90**	**273**	P	**P**	**11 57 01.8**	**+0.4**
	comp=Z,6.1nm,0.4s,baz=93,slow=11,SNR=19						
CTAO	**Charters Tower**	**34.90**	**273**	P	**P**	**11 57 02.5**	**+1.1**
TAOE	**Nuku Hiva Isla**	**38.70**	**69**	*eS*	S	12 03 17.7	-11
	comp=Z,85nm,25.5s						
TAOE				*eLR*	LR	12 07 47.9	
	comp=Z,312nm,24.4s						
AS31	**Alice Springs**	**44.86**	**263**	P	**P**	**11 58 23.1**	**-1.1**
ASAR	**Alice Springs**	**44.87**	**263**	P	**P**	**11 58 22.2**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=99,slow=6.6,SNR=30						
ASAR				PcP	**PcP**	**12 00 04.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=106,slow=3.7,SNR=1.3						
WR0	**Warramunga Arr**	**45.38**	**268**	P	**P**	**11 58 26.2**	**-2.0**
WB2	**Warramunga Arr**	**45.55**	**268**	P	**P**	**11 58 27.9**	**-1.7**
WB2				IAmb	IAmb	11 58 55.5	
	comp=Z,7.4nm,1.1s						
WRAB	**Tennant Creek**	**45.55**	**268**	P	**P**	**11 58 27.8**	**-1.8**
WRAB				IAmb	IAmb	11 58 50.3	
	comp=Z,6.3nm,1.0s						
WRA	**Warramunga Arr**	**45.56**	**268**	P	**P**	**11 58 27.8**	**-1.9**
	comp=Z,1.1nm,0.4s,baz=103,slow=8.4,SNR=32						
WRA				PcP	**PcP**	**12 00 07.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=108,slow=3.2,SNR=1.6						
WRA	**Warramunga Arr**	**45.56**	**268**	P	**P**	**11 58 28.0**	**-1.7**
WB0	**Warramunga Arr**	**45.57**	**268**	P	**P**	**11 58 27.8**	**-2.0**
WB0				IAmb	IAmb	11 58 33.7	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**51.52**	**186**	P	**P**	**11 59 17.0**	**+2.3**
	comp=Z,1.5nm,0.9s,baz=13,slow=4.5,SNR=4.5						
VNDA	**Vanda**	**51.52**	**186**	P	**P**	**11 59 16.5**	**+1.8**
VNDA				IAmb	IAmb	11 59 22.1	
	comp=Z,8.8nm,1.4s						
KNRA	**Kununurra**	**52.02**	**271**	P	**P**	**11 59 18.1**	**-1.2**
CASY	**Casey**	**58.74**	**207**	P	**P**	**12 00 07.0**	**+0.1**
QSPA	**South Pole Qui**	**63.01**	**180**	P	**P**	**12 00 36.6**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=29,slow=0.5,SNR=16						
QSPA	**South Pole Qui**	**63.01**	**180**	P	**P**	**12 00 37.2**	**+1.1**
JOW	**Kunigami**	**75.58**	**311**	P	**P**	**12 01 53.9**	**-0.4**
MAW	**Mawson**	**75.91**	**200**	P	**P**	**12 01 55.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=121,slow=5.3,SNR=6.6						
MJAR	**Matsushiro Arr**	**76.41**	**324**	P	**P**	**12 01 59.0**	**+0.2**
	comp=Z,4.2nm,1.0s,baz=167,slow=5.6,SNR=9.3						
MJAR	**Matsushiro Arr**	**76.41**	**324**	P	**P**	**12 01 57.9**	**-0.9**
MJAR				IAmb	IAmb	12 02 00.3	
	comp=Z,6.0nm,1.2s						
MAJO	**Matsushiro**	**76.41**	**324**	P	**P**	**12 01 58.6**	**-0.2**
MAJO				IAmb	IAmb	12 01 59.9	
	comp=Z,6.1nm,0.9s						
MAT	**Matsushiro**	**76.41**	**324**	P	**P**	**12 01 59.3**	**+0.5**
KSRS	**Korea Array**	**82.82**	**318**	P	**P**	**12 02 33.3**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=141,slow=4.4,SNR=7.0						
KSAR	**Wonju Array Be**	**82.83**	**318**	P	**P**	**12 02 34.1**	**+0.5**
WAKR	**Walker**	**84.19**	**41**	P	**P**	**12 02 41.8**	**+0.9**
NVAR	**Mina Array Bea**	**84.81**	**42**	P	**P**	**12 02 45.3**	**+1.3**
	comp=Z,1.4nm,1.0s,baz=220,slow=8.0,SNR=8.6						
TPNV	**Topopah Spring**	**85.12**	**44**	P	**P**	**12 02 47.7**	**+2.2**
TPNV				IAmb	IAmb	12 03 05.6	
	comp=Z,4.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**85.25**	**326**	P	**P**	**12 02 46.4**	**+0.6**
KVN	**Kaiserville**	**85.34**	**42**	P	**P**	**12 02 47.8**	**+1.2**
TUC	**Tucson**	**85.90**	**51**	P	**P**	**12 02 51.1**	**+1.7**
TUC				IAmb	IAmb	12 03 04.4	
	comp=Z,3.8nm,1.1s						
PRN	**Pahroc Range**	**86.15**	**44**	P	**P**	**12 02 52.5**	**+1.9**
PRN				IAmb	IAmb	12 03 17.8	
	comp=Z,4.8nm,1.2s						
X16A	**Lo Mia Camp, P**	**86.68**	**49**	P	**P**	**12 02 55.2**	**+1.8**
X16A				IAmb	IAmb	12 03 15.8	
	comp=Z,5.1nm,1.3s						
U15A	**North Rim**	**87.31**	**47**	P	**P**	**12 02 59.6**	**+3.2**
U15A				IAmb	IAmb	12 03 00.0	
	comp=Z,4.9nm,1.4s						
KLR	**Kul'dur**	**88.95**	**329**	P	**P**	**12 03 03.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=148,slow=2.6,SNR=2.5						
TXAR	**Lajitas Array**	**89.36**	**56**	P	**P**	**12 03 06.7**	**+0.6**
	comp=Z,0.8nm,1.1s,baz=212,slow=4.4,SNR=5.8						
ANMO	**Albuquerque**	**90.36**	**50**	P	**P**	**12 03 09.1**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=186,slow=4.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**93.72**	**289**	P	**P**	**12 03 26.0**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=132,slow=1.3,SNR=2.2						
CCB	**Clear Creek Bu**	**94.11**	**12**	P	**P**	**12 03 27.4**	**+0.3**
CCB				IAmb	IAmb	12 03 29.8	
	comp=Z,2.9nm,1.3s						
ILAR	**Eielson Array**	**94.39**	**12**	P	**P**	**12 03 28.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=216,slow=4.5,SNR=4.2						
MKAR	**Makanchi Array**	**116.75**	**311**	PKP	**PKPdf**	**12 08 52.2**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=64,slow=3.4,SNR=3.5						
KURK	**Kurchatov**	**119.79**	**315**		**PKPdf**	**12 08 58.1**	**-0.9**
KURBB	**Kurchatov Arra**	**119.84**	**315**	PKP	**PKPdf**	**12 08 58.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=98,slow=1.6,SNR=2.5						
FINES	**FINESS Array B**	**142.50**	**342**	PKP	**PKPdf**	**12 09 41.7**	**+0.3**
	comp=Z,2.8nm,1.1s,baz=86,slow=4.5,SNR=1.6						
NB2	**NORSAR Subarra**	**145.68**	**353**	PKP	**PKPdf**	**12 09 47.0**	**0.0**
	comp=Z,24nm,1.7s,baz=13,slow=3.0						
NOA	**NORSAR Array B**	**145.68**	**353**	PKPbc	**PKPdf**	**12 09 47.1**	**0.0**
	comp=Z,3.3nm,1.0s,baz=13,slow=4.5,SNR=4.0						
AKASG	**Malin Array Be**	**149.44**	**327**	PKPbc	**PKPbc**	**12 09 57.1**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=42,slow=3.2,SNR=11						
AKASG	**Malin Array Be**	**149.44**	**327**	PKPbc	**PKPbc**	**12 09 57.3**	**-0.7**
BRTR	**Keskin Array B**	**152.13**	**305**	PKPab	**PKPab**	**12 10 13.8**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=139,slow=3.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**166.00**	**172**	PKPab	**PKPab**	**12 11 14.1**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=196,slow=4.1,SNR=4.5						

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*IDC **30** 11:53:44.7±0.7, 27°.09S×176°.54W, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.1/40, mbtmp4.1/14, ML4.9/2, Error ellipse: s-maj=23.7km s-min=19.6km az=100.0*
*NEIC **30** 11:53:49.9±1.3, 27°.02S±0°.08×176°.6W±0°.1, h35km±2km, mb4.5/14, Error ellipse: s-maj=20.4km s-min=13.8km az=88.0*

ISC 30 11:53:49.8±0.6, 27°.17S±0°.07×176°.5W±0°.1, h35km, n53, σ1°85/41, mb4.1/18, MS4.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.41**	**210**	Pn	**Pn**	**11 54 28.2**	**+1.4**
	264nm,0.3s,baz=105,slow=23,SNR=9.7						
RAO	**Raoul Island**	**2.41**	**210**	Pn	**Pn**	**11 54 28.4**	**+1.6**
MSVF	**Nonsavu**	**10.64**	**331**	Pn	**Pn**	**11 56 18.1**	**-1.8**
	0.3nm,0.3s,baz=160,slow=16,SNR=1.6						
MSVF	**Nonsavu**	**10.64**	**331**	Pn	**Pn**	**11 56 15.7**	**-4.3**
OUZ	**Omahuta**	**11.65**	**224**	Pn	**Pn**	**11 56 35.8**	**+2.2**
URZ	**Urewera**	**12.29**	**204**	Sn	**Sn**	**11 58 51.2**	**-6.7**
	2.3nm,0.3s,baz=173,slow=22,SNR=1.4						
URZ	**Urewera**	**12.29**	**204**	Pn	**Pn**	**11 56 42.0**	**-0.2**
HIZ	**Hauiti**	**13.43**	**210**	Pn	**Pn**	**11 56 56.8**	**-1.0**
AFI	**Afiamalu**	**13.92**	**20**	Pn	Pn	11 56 55.7	-8.9
	3.9nm,0.3s,baz=84,slow=22,SNR=4.3						
AFI				Sn	Sn	11 59 20.7	-17
	2.4nm,0.3s,baz=256,slow=19,SNR=1.5						
DZM	**Mont Dzumac**	**16.29**	**284**	*eLR*	LR	11 57 40.7	
	comp=Z,2μm,24.1s						
DZM	**Mont Dzumac**	**16.29**	**284**	*eLR*	LR	12 02 09.4	
	comp=Z,3μm,23.4s						
DZM	**Mont Dzumac**	**16.29**	**284**	P	**P**	**11 57 42.4**	**+3.7**
	0.2nm,0.3s,baz=77,slow=18,SNR=1.7						
RAR	**Rarotonga**	**16.39**	**72**	Pn	Pn	11 57 25.6	-12
	1.2nm,0.3s,baz=244,slow=14,SNR=2.1						
RAR				Sn	Sn	12 00 22.1	-16
	2.3nm,0.3s,baz=0.6,slow=22,SNR=2.8						
TBI	**Tubuai**	**24.75**	**87**	*eLR*	LR	12 04 23.3	
	comp=Z,1μm,28.5s,baz=257						
TBI	**Tubuai**	**24.75**	**87**	*eT*	T	12 22 26.0	
	4.7nm,0.2s						
PAE	**Paea**	**26.60**	**75**	*eT*	T	12 25 07.0	
	1.7nm,0.2s						
PPT2	**Papeete2**	**26.63**	**75**	*eLR*	LR	12 05 21.7	
	comp=Z,1μm,24.5s,baz=245						
PPT2	**Papeete2**	**26.63**	**75**	*eT*	T	12 25 10.6	
	0.8nm,0.2s						
CTA	**Charters Tower**	**34.73**	**274**	P	**P**	**12 00 37.8**	**+1.0**
	5.2nm,0.4s,baz=94,slow=11,SNR=12						
CTAO	**Charters Tower**	**34.73**	**274**	P	**P**	**12 00 38.5**	**+1.8**
TAOE	**Nuku Hiva Isla**	**38.89**	**69**	*eLR*	LR	12 11 06.8	
	comp=Z,526nm,24.5s,baz=239						
TAOE	**Nuku Hiva Isla**	**38.89**	**69**	*eT*	T	12 40 40.5	
	21nm,0.1s						
PTCN	**Pitcairn Islan**	**41.56**	**98**	P	**P**	**12 01 34.2**	**-0.1**
ASAR	**Alice Springs**	**44.68**	**263**	P	**P**	**12 01 58.4**	**-1.3**
	0.7nm,0.6s,baz=94,slow=6.6,SNR=10						
WR0	**Warramunga Arr**	**45.20**	**268**	P	**P**	**12 02 02.5**	**-1.3**
WR0				IAmb	IAmb	12 02 06.0	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**45.37**	**268**	P	**P**	**12 02 03.4**	**-1.7**
WB2				IAmb	IAmb	12 02 10.8	
	comp=Z,5.8nm,1.1s						
WRAB	**Tennant Creek**	**45.38**	**268**	P	**P**	**12 02 03.8**	**-1.3**
WRAB				IAmb	IAmb	12 02 08.0	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**45.38**	**268**	P	**P**	**12 02 04.0**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=104,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**45.38**	**268**	IAmb	IAmb	12 02 08.1	
	comp=Z,0.3nm,1.0s						
WB0	**Warramunga Arr**	**45.39**	**268**	P	**P**	**12 02 04.3**	**-1.0**
FORT	**Forrest**	**48.20**	**252**	P	**P**	**12 02 26.2**	**-0.9**
MTN	**Manton Dam**	**50.86**	**275**	P	**P**	**12 02 49.0**	**+1.4**
KNRA	**Kununurra**	**51.85**	**271**	P	**P**	**12 02 56.3**	**+1.4**
KNRA				IAmb	IAmb	12 02 57.8	
	comp=Z,7.9nm,0.8s						
CASY	**Casey**	**58.60**	**207**	P	**P**	**12 03 42.8**	**0.0**
CASY				IAmb	IAmb	12 03 50.9	
	comp=Z,7.6nm,1.3s						
QSPA	**South Pole Qui**	**62.93**	**180**	P	**P**	**12 04 13.2**	**+0.7**
	comp=Z,6.5nm,1.1s,baz=326,slow=0.4,SNR=7.0						
QSPA	**South Pole Qui**	**62.93**	**180**	P	**P**	**12 04 13.4**	**+0.8**
JOW	**Kunigami**	**75.50**	**311**	P	**P**	**12 05 29.6**	**-1.1**
JOW				IAmb	IAmb	12 05 32.5	
	comp=Z,6.7nm,0.9s						
MAW	**Mawson**	**75.78**	**200**	P	**P**	**12 05 32.1**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=51,slow=4.7,SNR=3.0						
MAW	**Mawson**	**75.78**	**200**	P	**P**	**12 05 32.8**	**+1.1**
MJAR	**Matsushiro Arr**	**76.36**	**324**	P	**P**	**12 05 34.9**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=167,slow=5.8,SNR=3.5						
JHS	**Saijyo**	**78.03**	**320**	P	**P**	**12 05 42.4**	**-2.4**
SNAA	**Sanae**	**81.34**	**178**	P	**P**	**12 06 03.2**	**+0.8**
	comp=Z,2.9nm,1.2s,baz=204,slow=4.2,SNR=3.6						
KSRS	**Korea Array**	**82.76**	**319**	P	**P**	**12 06 11.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=125,slow=6.1,SNR=3.0						
NVAR	**Mina Array Bea**	**84.99**	**42**	P	**P**	**12 06 22.0**	**+0.2**
	comp=Z,1.0nm,1.0s,baz=221,slow=7.1,SNR=4.9						
PDAR	**Pinedale Array**	**92.90**	**43**	P	**P**	**12 07 00.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=236,slow=4.2,SNR=1.7						
CMAR	**Chiang Mai Arr**	**93.57**	**289**	P	**P**	**12 07 04.0**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=126,slow=4.6,SNR=1.8						
ILAR	**Eielson Array**	**94.50**	**12**	P	**P**	**12 07 04.4**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=230,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**116.66**	**311**	PKP	**PKPdf**	**12 12 29.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=82,slow=4.0,SNR=1.9						
KBZ	**Khabaz**	**144.27**	**308**	PKP	**PKPdf**	**12 13 23.1**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=119,slow=19,SNR=1.4						
NOA	**NORSAR Array B**	**145.73**	**353**	PKPbc	**PKPab**	**12 13 25.3**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=8.7,slow=2.7,SNR=3.7						
AKASG	**Malin Array Be**	**149.40**	**327**	PKPbc	**PKPbc**	**12 13 35.2**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=42,slow=3.7,SNR=4.5						
GERES	**GERESS Array B**	**156.95**	**343**	PKPab	**PKPab**	**12 14 10.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=45,slow=0.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**165.95**	**173**	PKPab	**PKPab**	**12 14 51.3**	**-0.2**
	comp=Z,1.7nm,1.0s,baz=187,slow=2.8,SNR=2.5						

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*IDC **30** 11:54:01.7±0.4, 27°.11S×176°.33W, h0km, mb4.6/23, mb1 4.8/25, mb1mx4.7/40, mbtmp4.6/25, ML5.3/2, MS4.0/1, Ms1 4.0/1, ms1mx3.6/8, Error ellipse: s-maj=16.9km s-min=13.7km az=111.0*
*GCMT **30** 11:54:06.0±0.2, 27°.07S±0°.02×175°.93W±0°.01, h22km, MW5.1/104, Moment Tensor Solution. s57,c76; s104,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.96±.20; $M_{\theta\theta}$-0.22±.13; $M_{\phi\phi}$-4.74±.13; $M_{r\theta}$0.19±.23; $M_{\phi\theta}$-0.83±.08; $M_{\phi r}$2.61±.17; Best double couple: $M_0$5.57600×10^{16} NP1:ϕ_s193.00000°, δ31.00000°, λ95.00000°. NP2:ϕ_s7.00000°, δ59.00000°, λ87.00000°. Principal axes: T 5.6180, Plg76.0000°, Azm269.0000°; N -0.0810, Plg2.0000°, Azm9.0000°; P -5.5350, Plg14.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 11:54:07.0±2.2, 27°.07S±0°.07×176°.3W±0°.1, h30km±4km, mb4.8/101 Error ellipse: s-maj=14.2km s-min=9.0km az=121.0*

ISC 30 11:54:06.0±0.3, 27°.11S±0°.06×176°.17W±0°.08, h31km, n195, σ1°67/175, mb4.8/82, 2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.64**	**215**	Pn	**Pn**	**11 54 46.2**	**-0.2**
	554nm,0.3s,baz=85,slow=8.3,SNR=18						
RAO				LR	LR	11 55 43.2	
	comp=Z,3μm,18.1s,baz=70,slow=40						
RAO	**Raoul Island**	**2.64**	**215**	Pn	**Pn**	**11 54 46.4**	**0.0**
RAO	**Raoul Island**	**2.64**	**215**		**Pn**	**11 54 46.8**	**+0.4**
NIUE	**Niue**	**9.84**	**37**	Pn	**Pn**	**11 56 26.1**	**+0.7**
NIUE	**Niue**	**9.84**	**37**	Pn	Pn	11 56 00.3	-25
MSVF	**Nonsavu**	**10.75**	**329**	Pn	**Pn**	**11 56 37.1**	**-0.8**
	0.7nm,0.3s,baz=161,slow=22,SNR=2.3						
MSVF	**Nonsavu**	**

comp=Z,17nm,1.0s,baz=159,slow=6.0,SNR=25
MJAR Matsushiro Arr 76.50 324 P **P 12 05 53.3 +0.3**
MJAR IAmb IAmb 12 05 54.8
comp=Z,15nm,1.1s
MAJO Matsushiro 76.50 324 P **P 12 05 53.6 +0.6**
MAT Matsushiro 76.50 324 P **P 12 05 53.5 +0.5**
JHS Saijyo 78.19 320 P **P 12 06 03.1 +0.6**
JTM Tenmabayashi 78.35 328 P **P 12 06 03.7 +0.6**
NIKH Nikolski High 79.99 4 P **P 12 06 12.2 +0.4**
JKA Kamikawa-asahi 80.30 331 P **P 12 06 16.1 +2.4**
JKA IAmb IAmb 12 06 17.0
comp=Z,21nm,1.2s
SYO Syowa Base 80.67 192‖ *e*P **P 12 06 15.7 +0.2**
SYO Syowa Base 80.67 192‖ *e*PcP **PcP 12 06 22.5 +0.3**
SNAA Sanae 81.38 178 P **P 12 06 18.4 -0.9**
SNAA Sanae 81.38 178 P **P 12 06 18.7 -0.7**
comp=Z,7.0nm,0.9s,baz=212,slow=3.7,SNR=9.8
SNAA Sanae 81.38 178 IAmb IAmb 12 06 26.6
comp=Z,13nm,1.0s
VNA3 Neumayer Olymp 81.46 176 P **P 12 06 18.2 -1.6**
VNA2 Neumayer--Watz 81.92 176 P **P 12 06 22.1 0.0**
baz=157,slow=3.8
VNA1 Neumayer--Stat 82.14 176 P **P 12 06 23.3 +0.1**
YSS Yuzh-Sakhalins 82.52 333 P **P 12 06 24.7 -0.7**
ISA Isabella, Lake 82.83 44 P **P 12 06 28.6 +1.2**
ISA IAmb IAmb 12 06 34.9
comp=Z,8.2nm,1.1s
CNBA Chernabura Isl 82.83 10 P **P 12 06 28.7 +1.9**
CNBA IAmb IAmb 12 06 29.7
comp=Z,14nm,1.1s
KSRS Korea Array 82.92 318 P **P 12 06 29.3 +1.6**
comp=Z,7.5nm,0.9s,baz=138,slow=5.7,SNR=21
KSAR Wonju Array Be 82.94 318 P **P 12 06 28.1 +0.2**
PETK Petropavlovsk- 83.06 344 P **P 12 06 27.6 -0.5**
comp=Z,13nm,1.0s,baz=119,slow=7.3,SNR=15
PETK Petropavlovsk- 83.06 344 **P 12 06 27.2 -0.9**
CMB Columbia Colle 83.24 41 P **P 12 06 31.0 +1.6**
AFDM Forest Hills D 83.51 40 P **P 12 06 30.3 -0.5**
AFDM IAmb IAmb 12 06 33.5
comp=Z,7.0nm,1.3s
PLCA Paso Flores 83.56 133 P **P 12 06 32.2 +0.9**
comp=Z,2.6nm,0.9s,baz=212,slow=8.9,SNR=3.4
MDPB Devils Postpil 83.75 42 P **P 12 06 33.1 +0.7**
WAKR Walker 84.11 41 IAmb IAmb 12 06 38.0
comp=Z,6.7nm,1.1s
214A Organ Pipe Nat 84.20 50 P **P 12 06 35.3 +0.8**
214A IAmb IAmb 12 06 42.9
comp=Z,7.0nm,1.1s
PNTR Pine Nut 84.40 41 P **P 12 06 36.8 +1.2**
PNTR IAmb IAmb 12 06 44.3
comp=Z,7.7nm,0.9s
YBH Yreka Blue Hor 84.45 37 P **P 12 06 37.2 +1.6**
comp=Z,4.2nm,1.0s,baz=179,slow=6.1,SNR=7.4
VCNR Virginia City 84.51 41 P **P 12 06 37.2 +1.1**
VCNR IAmb IAmb 12 06 44.8
comp=Z,7.1nm,1.1s
RYN Ryan 84.73 42 P **P 12 06 38.1 +0.9**
NVAR Mina Array Bea 84.73 42 P **P 12 06 38.5 +1.2**
comp=Z,3.1nm,0.9s,baz=222,slow=7.0,SNR=13
NV11 Mina Array Sit 84.82 42 P **P 12 06 39.4 +1.8**
NV11 IAmb IAmb 12 06 46.4
comp=Z,5.5nm,1.0s
PAHR Pah Rah Range 84.94 40 IAmb IAmb 12 06 46.7
comp=Z,5.1nm,1.0s
TPNV Topopah Spring 85.03 44 P **P 12 06 40.2 +1.5**
TPNV IAmb IAmb 12 06 46.2
comp=Z,12nm,1.1s
TPH Tonopah 85.15 43 P **P 12 06 41.3 +2.0**
KVN Kaiserville 85.26 42 P **P 12 06 41.1 +1.2**
Y14A Wickenburg 85.26 48 P **P 12 06 44.3 +4.4**
USRK Ussuriysk Ar. 85.34 325 P **P 12 06 41.3 +1.4**
comp=Z,8.0nm,1.1s,baz=128,slow=3.2,SNR=11
USRK Ussuriysk Ar. 85.34 325 **P 12 06 40.0 +0.2**
SHPR Sheep Range 85.43 45 P **P 12 06 43.7 +2.9**
TUC Tucson 85.80 51 P **P 12 06 44.0 +1.4**
TUC IAmb IAmb 12 06 52.7
comp=Z,5.5nm,1.0s
PRN Pahroc Range 86.06 44 IAmb IAmb 12 06 49.1
comp=Z,7.4nm,1.0s
K05A Summer Lake 86.11 37 IAmb IAmb 12 06 54.8
comp=Z,8.8nm,1.1s
X16A Lo Mia Camp, P 86.58 48 IAmb IAmb 12 06 54.5
comp=Z,6.1nm,1.2s
RPSI Rantau Prapat 86.68 275 P **P 12 06 45.6 -1.7**
PINE Pine Mountain 86.81 37 P **P 12 06 48.8 +1.3**
PINE IAmb IAmb 12 06 55.7
comp=Z,12nm,1.1s
LCMT Little Creek M 86.96 46 P **P 12 06 50.5 +2.3**
CCUT Cedar City 87.21 45 P **P 12 06 51.0 +1.4**
U15A North Rim 87.22 46 P **P 12 06 52.2 +2.5**
U15A IAmb IAmb 12 07 06.5
comp=Z,7.0nm,1.0s
KNB Kanab 87.23 46 P **P 12 06 52.0 +2.4**
KNB IAmb IAmb 12 07 07.0
comp=Z,14nm,1.4s
GSI Gunungsitoli 87.25 273 P **P 12 06 50.3 +0.2**
SZCU Shurtz Canyon 87.41 45 IAmb IAmb 12 06 59.2
comp=Z,6.4nm,1.2s
PSUT Pine Spring 87.50 44 IAmb IAmb 12 06 58.0
comp=Z,4.3nm,1.0s
PKCU Pink Cliffs 87.81 46 P **P 12 06 54.8 +2.1**
PKCU IAmb IAmb 12 06 58.2
comp=Z,7.9nm,1.1s
ELK Elko 88.03 42 P **P 12 06 54.7 +1.2**
comp=Z,1.2nm,0.7s,baz=307,slow=3.4,SNR=6.2
MTPU Mount Pierson 88.25 45 IAmb IAmb 12 07 08.2
comp=Z,4.7nm,1.1s
D05A Enumclaw 88.61 34 P **P 12 06 56.6 +1.0**
CNPM China Poot 88.74 12 P **P 12 06 54.6 -1.5**
G08A Pilot Rock 88.87 36 IAmb IAmb 12 07 01.5
comp=Z,5.6nm,1.1s
KLR Kul'dur 89.03 329 P **P 12 06 59.2 +1.6**
comp=Z,4.0nm,0.9s,baz=74,slow=2.5,SNR=7.6
TX31 Lajitas Ar. Si 89.25 56 P **P 12 07 01.1 +1.8**
TX31 IAmb IAmb 12 07 03.5
comp=Z,8.8nm,1.1s
TX32 Lajitas Array 89.25 56 P **P 12 07 00.7 +1.4**
TXAR Lajitas Array 89.25 56 P **P 12 07 01.0 +1.7**
comp=Z,2.1nm,1.0s,baz=218,slow=5.9,SNR=11
TXAR Lajitas Array 89.25 56 P **P 12 06 57.5 -1.8**
HAWA Hanford 89.30 35 IAmb IAmb 12 07 02.6
comp=Z,8.3nm,1.1s
LTY Liberty 89.31 34 IAmb IAmb 12 07 06.8
comp=Z,5.9nm,1.1s
BMO Blue Mountains 89.47 38 P **P 12 07 01.0 +1.1**
TMUT Trail Mountain 89.61 45 P **P 12 07 03.1 +2.1**
TMUT IAmb IAmb 12 07 10.8
comp=Z,6.6nm,1.0s
SRU San Rafael Swe 89.93 45 P **P 12 07 04.6 +2.2**
SPUT South Promonto 90.04 42 P **P 12 07 04.7 +1.9**
SPUT IAmb IAmb 12 07 08.3
comp=Z,4.3nm,1.0s
D08A Wollman Farm, 90.06 35 P **P 12 07 03.5 +1.0**
D08A IAmb IAmb 12 07 07.1
comp=Z,12nm,1.0s
E09A Wood Farm, Sta 90.10 36 IAmb IAmb 12 07 06.3
comp=Z,8.6nm,1.0s
F10A Beach Ranch, E 90.23 37 IAmb IAmb 12 07 06.7
comp=Z,6.7nm,0.9s
ANMO Albuquerque 90.26 50 P **P 12 07 05.1 +1.1**
comp=Z,1.8nm,0.9s,baz=186,slow=5.1,SNR=6.8
ANMO Albuquerque 90.26 50 P **P 12 07 04.5 +0.5**
HLID Hailey 90.26 40 P **P 12 07 05.7 +1.9**
PLID Pearl Lake 90.33 38 IAmb IAmb 12 07 08.2
comp=Z,6.5nm,1.1s
PV13 Radium Mtn., P 90.47 47 P **P 12 07 05.7 +0.7**
PWL Port Wells 90.54 13 P **P 12 07 04.3 -0.1**
MA2 Magadan 90.57 344 P **P 12 07 04.4 -0.1**
comp=Z,3.0nm,0.8s,baz=211,slow=13,SNR=2.8
MA2 Magadan 90.57 344 IAmb IAmb 12 07 05.4
comp=Z,7.1nm,1.1s
PV12 Saucer Basin, 90.57 47 IAmb IAmb 12 07 11.7
comp=Z,5.9nm,1.1s
C09A Chrisman Ranch 90.88 35 IAmb IAmb 12 07 09.9
comp=Z,4.6nm,0.8s
SLVN Son La 91.06 293 P **P 12 07 08.9 +1.0**
BCYI Bear Canyon 91.30 40 P **P 12 07 09.8 +1.1**
BMRM Bremner River 91.44 15 P **P 12 07 08.3 -0.4**
BMRM IAmb IAmb 12 07 11.3
comp=Z,11nm,1.1s
KLU Klutina 91.62 14 P **P 12 07 08.8 -0.7**
KLU IAmb IAmb 12 07 11.9
comp=Z,13nm,1.4s
MCMT McKenzie Canyo 91.93 40 P **P 12 07 12.7 +1.1**
REDW Red Top Meadow 92.21 42 IAmb IAmb 12 07 16.8
comp=Z,6.2nm,1.1s
BARN Barnard Glacie 92.22 16 IAmb IAmb 12 07 16.4
comp=Z,5.6nm,1.0s
SMCO Snowmass 92.24 47 P **P 12 07 15.1 +1.7**
SNOW Snow King Moun 92.33 42 IAmb IAmb 12 07 21.2
comp=Z,8.1nm,1.1s
DLMT Dillon 92.39 39 P **P 12 07 14.9 +1.3**
DLMT IAmb IAmb 12 07 16.9
comp=Z,3.7nm,1.1s
IMW Indian Meadow 92.47 41 P **P 12 07 15.8 +1.6**
IMW IAmb IAmb 12 07 23.2
comp=Z,3.3nm,0.9s
TRF Thorofare Moun 92.55 11 P **P 12 07 15.0 +1.1**
TRF IAmb IAmb 12 07 19.8
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 92.64 43 P **P 12 07 16.4 +1.4**
comp=Z,1.0nm,0.8s,baz=205,slow=3.1,SNR=7.5
FLWY Flagg Ranch 92.72 41 P **P 12 07 17.4 +2.2**
FLWY IAmb IAmb 12 07 19.9
comp=Z,5.6nm,0.8s
YHH Holmes Hill 93.05 40 P **P 12 07 19.1 +2.2**
YHH IAmb IAmb 12 07 25.1
comp=Z,4.6nm,1.2s
BOZ Bozeman (W) 93.08 39 IAmb IAmb 12 07 22.3
comp=Z,3.6nm,0.9s
PB04 IPOC Station P 93.24 117 P **P 12 07 16.3 -1.9**
MENT Mentasta 93.38 14 P **P 12 07 19.1 +1.5**
MENT IAmb IAmb 12 07 24.5
comp=Z,2.8nm,0.8s
YNE Yellowstone No 93.66 41 IAmb IAmb 12 07 24.3
comp=Z,5.6nm,1.0s
RIDG Independent Ri 93.85 13 IAmb IAmb 12 07 22.0
comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 93.86 289 P **P 12 07 21.1 +0.4**
comp=Z,2.4nm,0.8s,baz=120,slow=2.9,SNR=10
WRH Wood River Hil 93.88 12 P **P 12 07 17.5 -2.2**
WRH IAmb IAmb 12 07 22.1
comp=Z,8.0nm,1.2s
DOT Dot Lake 93.94 14 IAmb IAmb 12 07 23.4
comp=Z,4.5nm,1.1s
CHTO Chiang Mai 94.02 289 P **P 12 07 22.5 +1.0**
HDA Harding Lake 94.04 12 IAmb IAmb 12 07 26.6
comp=Z,3.3nm,0.8s
CCB Clear Creek Bu 94.09 12 IAmb IAmb 12 07 25.7
comp=Z,2.9nm,1.0s
MDM Murphy Dome 94.30 12 P **P 12 07 19.6 -2.1**
MDM IAmb IAmb 12 07 24.2
comp=Z,3.5nm,1.0s
ILAR Eielson Array 94.38 12 P **P 12 07 21.3 -0.8**
comp=Z,2.2nm,1.1s,baz=226,slow=5.5,SNR=12
ILAR Eielson Array 94.38 12 P **P 12 07 22.1 +0.1**
IMAR Indian Mountai 94.38 9 P **P 12 07 21.8 -0.2**
RSSD Black Hills 96.75 44 P **P 12 07 34.0 +0.3**
RSSD IAmb IAmb 12 07 36.8
comp=Z,4.8nm,0.9s
ZALV Zalesovo Beam 116.62 319 PKP **PKPdf 12 12 46.5 0.0**
comp=Z,0.6nm,0.4s,baz=219,slow=0.9,SNR=4.5
MKAR Makanchi Array 116.86 311 PKP **PKPdf 12 12 47.0 -0.3**
comp=Z,0.7nm,0.7s,baz=90,slow=2.9,SNR=7.7
MKAR Makanchi Array 116.86 311 PKPdf **PKPdf 12 12 46.7 -0.6**
BRVK Borovoye 125.19 317 PKPdf **PKPdf 12 13 01.2 -1.9**
ARU Arti 131.51 323 PKP **PKPdf 12 13 13.5 -1.5**
comp=Z,0.7nm,0.3s,baz=116,slow=20,SNR=1.8
ARU Arti 131.51 323 **PKPdf 12 13 12.0 -3.0**
AKTO Aktyubinsk 133.00 315 PKP **PKiKP 12 13 18.8 -0.4**
comp=Z,1.8nm,0.9s,baz=39,slow=0.9,SNR=5.3
ARCES ARCESS Array B 135.69 349 PKP **PKiKP 12 13 23.6 -0.5**
comp=Z,2.5nm,0.7s,baz=8.5,slow=1.8,SNR=2.3
KBZ Khabaz 144.48 308 PKP **PKPdf 12 13 38.9 -0.3**
comp=Z,3.2nm,0.8s,baz=23,slow=3.0,SNR=4.2
AAL Aland 145.13 346 *e*P **PKPbc 12 13 39.1 -0.1**
MTSE Matsula 145.47 342 *e*P **PKPab 12 13 41.3 +0.7**
NC405 NORSAR Array S 145.58 353 PKPdf **PKPdf 12 13 40.2 -0.3**
NB2 NORSAR Subarra 145.71 354 PKP **PKPab 12 13 41.4 -0.2**
comp=Z,54nm,1.4s,baz=12,slow=2.8
NB2 NORSAR Subarra 145.71 354 PKP **PKPab 12 13 41.4 -0.2**
baz=12,slow=2.8
NOA NORSAR Array B 145.71 354 PKPbc **PKPbc 12 13 41.2 0.0**
comp=Z,14nm,1.1s,baz=8.2,slow=2.4,SNR=10
IDID Didziasalis 147.27 336 *e*P **PKPbc 12 13 44.8 -1.1**
ISAL Salakas 147.29 336 *e*P **PKPbc 12 13 46.5 +0.6**
IIGN Ignalina 147.43 336 *e*P **PKPbc 12 13 45.8 -0.6**
MNK Minsk 147.45 334 *i* PKP **PKPab 12 13 47.6 -0.8**
comp=E,4.0nm,1.1s
MNK *i* PKP **PKPab 12 13 47.6 -0.8**
comp=N,18nm,0.7s
MNK *i* PKP **PKPab 12 13 47.6 -0.8**
comp=Z,44nm,1.1s,baz=43
MNK *i* PP **PP 12 17 16.7 +4.4**
MNK *i* PPP PPP 12 20 35.3
MNK *i* SKS **SKSdf 12 20 53.5 +3.5**
MNK *i* SKKS **SKKSdf 12 29 53.9 +0.9**
MNK *i* SS **SS 12 36 21.0 +8.3**
MNK *i* SSS SSS 12 41 34.2
MNK *i* LR LR 13 14 48.7
PABE Paberze 148.09 338 *e*P **PKiKP 12 13 49.5 -0.3**
AKASG Malin Array Be 149.53 327 PKPbc **PKPbc 12 13 51.6 -0.3**
comp=Z,11nm,0.9s,baz=39,slow=3.2,SNR=12
AKASG Malin Array Be 149.53 327 PKPdf **PKPdf 12 13 46.4 -1.0**
BRTR Keskin Array B 152.25 305 PKP **PKPdf 12 13 52.9 +0.8**
comp=Z,4.3nm,1.0s,baz=142,slow=4.9,SNR=4.4
BRTR PKPbc **PKPbc 12 13 57.8 -1.1**
comp=Z,4.4nm,1.0s,baz=151,slow=3.3,SNR=9.8
BRTR Keskin Array B 152.25 305 PKPdf **PKPdf 12 13 51.6 -0.5**
CRVS Cervenica-Dubn 154.31 333 *e*PKP **PKPab 12 14 23.0 +6.0**
CLL Collm 154.85 346 *e*PKPdf **PKPdf 12 13 56.0 +0.7**
CLL *e*PKPbc **sPKPdf 12 14 08.0 +0.8**
CLL *e*PKPab **PKPab 12 14 18.0 -1.1**
comp=Z,11nm,1.1s
CLL *i* pPKPab **pPKPab 12 14 25.5 -2.3**
CLL *e*PP **PP 12 17 50.0 -4.4**
CLL LmV 13 27 00.0
comp=Z,100nm,20.0s
MODS Modra-Piesok 156.32 337 *e*PKP **PKPab 12 14 28.5 +2.9**
GERES GERESS Array B 156.98 343 PKPab **PKPab 12 14 28.4 -0.1**
comp=Z,0.3nm,0.5s,baz=74,slow=9.8,SNR=3.7
GERES GERESS Array B 156.98 343 PKPdf **PKPdf 12 13 58.3 -0.1**
ESDC Sonseca Array 165.89 25 PKPab **PKPab 12 15 08.3 +0.7**
comp=Z,0.3nm,0.3s,baz=345,slow=5.1,SNR=5.5
TORD Torodi Ar. Bea 165.97 171 PKP **PKPdf 12 14 08.3 -0.3**
comp=Z,1.2nm,0.8s,baz=3.2,slow=1.0,SNR=4.5
TORD PKPab **PKPab 12 15 08.3 -0.1**
comp=Z,12nm,1.1s,baz=181,slow=3.5,SNR=12

*IDC **30** 11:56:39.3±1.2, 26°.98S×176°.30W, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/38, mbtmp4.2/8, ML5.0/1, Error ellipse: s-maj=31.3km s-min=25.9km az=110.0*
ISC 30 11:56:44.7±1.0, 27°.0S±0°.1×176°.3W±0°.2, h35km, n9, σ1§14/10, mb4.2/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.68**	**212**	Pn	**Pn**	**11 57 24.4**	**-1.0**
	237nm,0.3s,baz=96,slow=19,SNR=7.2						
RAO				Sn	**Sn**	**11 57 58.1**	**+1.5**
	278nm,0.3s,baz=92,slow=23,SNR=2.8						
CTA	**Charters Tower**	**34.92**	**273**	P	**P**	**12 03 34.3**	**+1.0**
	5.0nm,0.6s,baz=95,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**44.91**	**263**	P	**P**	**12 04 55.2**	**-1.1**
	1.4nm,0.8s,baz=103,slow=6.6,SNR=2.3						
WRA	**Warramunga Arr**	**45.59**	**268**	P	**P**	**12 05 00.6**	**-1.1**
	2.0nm,0.9s,baz=110,slow=7.6,SNR=2.1						
QSPA	**South Pole Qui**	**63.12**	**180**	P	**P**	**12 07 08.6**	**-0.1**
	2.6nm,0.8s,baz=89,slow=0.8,SNR=2.4						
MJAR	**Matsushiro Arr**	**76.33**	**324**	P	**P**	**12 08 29.7**	**-0.5**
	3.7nm,1.0s,baz=153,slow=6.8,SNR=6.3						
TXAR	**Lajitas Array**	**89.27**	**56**	P	**P**	**12 09 38.4**	**+0.9**
	0.5nm,0.9s,baz=235,slow=3.2,SNR=3.3						
CMAR	**Chiang Mai Arr**	**93.70**	**289**	P	**P**	**12 09 59.0**	**+0.8**
	0.6nm,0.6s,baz=123,slow=3.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**166.11**	**172**	PKPab	**PKPab**	**12 17 46.2**	**-0.9**
	0.8nm,0.8s,baz=198,slow=4.6,SNR=3.4						

*IDC **30** 12:04:10.8±0.9, 26°.91S×176°.44W, h0km, mb3.7/6, mb1 4.1/7, mb1mx3.8/28, mbtmp3.8/7, ML4.8/1, Error ellipse: s-maj=37.7km s-min=22.1km az=131.0*
ISC 30 12:04:16.0±0.9, 26°.9S±0°.2×176°.5W±0°.2, h35km, n10, σ0§76/12, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.69**	**208**	Pn	**Pn**	**12 04 56.1**	**-0.7**
	177nm,0.3s,baz=120,slow=8.6,SNR=7.4						
RAO				Sn	**Sn**	**12 05 29.2**	**+1.1**
	136nm,0.3s,baz=100,slow=22,SNR=1.8						
ASAR	**Alice Springs**	**44.75**	**263**	P	**P**	**12 12 26.6**	**+0.2**
	0.4nm,0.4s,baz=97,slow=6.9,SNR=8.4						
ASAR				PcP	**PcP**	**12 14 07.0**	**-1.2**
	0.2nm,0.6s,baz=120,slow=3.7,SNR=1.2						
WRA	**Warramunga Arr**	**45.42**	**268**	P	**P**	**12 12 31.9**	**+0.2**
	0.7nm,0.7s,baz=103,slow=7.9,SNR=12						
MAW	**Mawson**	**76.07**	**200**	P	**P**	**12 15 59.9**	**+0.4**
	1.5nm,0.8s,baz=145,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**84.75**	**42**	P	**P**	**12 16 47.0**	**+0.3**
	0.2nm,0.6s,baz=228,slow=8.6,SNR=4.1						
PDAR	**Pinedale Array**	**92.66**	**43**	P	**P**	**12 17 25.2**	**+0.7**
	0.1nm,0.5s,baz=205,slow=4.0,SNR=1.7						
ILAR	**Eielson Array**	**94.20**	**12**	P	**P**	**12 17 31.1**	**+0.4**
	0.4nm,0.9s,baz=226,slow=3.6,SNR=2.7						
MKAR	**Makanchi Array**	**116.49**	**311**	PKP	**PKPdf**	**12 22 55.8**	**-0.2**
	0.2nm,0.4s,baz=131,slow=4.0,SNR=2.5						
AKASG	**Malin Array Be**	**149.17**	**327**	PKPbc	**PKiKP**	**12 24 01.4**	**-0.2**
	0.5nm,0.4s,baz=44,slow=3.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.25**	**173**	PKPab	**PKPab**	**12 25 18.1**	**-0.9**
	0.9nm,0.7s,baz=179,slow=3.0,SNR=4.6						

*NOU **30** 12:07:26.4, 13°.49S×168°.72E, h87km, MLv4.2/8, Vanuatu Islands*
*IDC **30** 12:07:51.5±1.8, 15°.51S×167°.46E, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.6/25, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=53.2km s-min=33.7km az=145.0*
ISC 30 12:07:56.4±1.4, 15°.63S±0°.09×167°.5E±0°.2, h35km, n12, σ1§30/13, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.32**	**304**	P	**Pn**	**12 08 04.3**	**-0.3**
MARNC	**Mare, Loyalty**	**5.85**	**175**	P	**Pn**	**12 09 19.8**	**-0.8**
YATNC	**Mamie plateau,**	**6.42**	**185**	P	**Pn**	**12 09 29.3**	**+0.8**
DZM	**Mont Dzumac**	**6.48**	**189**	Pn	**Pn**	**12 09 29.9**	**+0.5**
	3.9nm,0.3s,baz=5.9,slow=23,SNR=30						
DZM				Sn	**Sn**	**12 10 39.8**	**-2.4**
	0.6nm,0.3s,baz=102,slow=23,SNR=1.5						
DZM	**Mont Dzumac**	**6.48**	**189**	P	**Pn**	**12 09 30.6**	**+1.2**
NOUC	**Port Laguerre**	**6.54**	**190**	P	**Pn**	**12 09 31.6**	**+1.6**
ONTNC	**Ouen Toro**	**6.71**	**188**	P	**Pn**	**12 09 34.6**	**+2.1**
OUENC	**Ouen Island, N**	**6.78**	**185**	P	**Pn**	**12 09 34.3**	**+0.9**
PINNC	**Pines Island,**	**6.95**	**180**	P	**Pn**	**12 09 35.4**	**-0.3**
WRA	**Warramunga Arr**	**31.82**	**257**	P	**P**	**12 14 17.8**	**-0.2**
	0.3nm,0.8s,baz=80,slow=6.0,SNR=1.4						
ASAR	**Alice Springs**	**32.55**	**250**	P	**P**	**12 14 25.2**	**+0.7**
	1.0nm,0.6s,baz=80,slow=8.9,SNR=11						
NVAR	**Mina Array Bea**	**87.70**	**49**	P	**P**	**12 20 42.2**	**+0.3**
	0.4nm,0.8s,baz=226,slow=5.3,SNR=3.8						

*TUL **30** 12:16:54±1.6, 35°.50N±0°.02×97°.13W±0°.02, h5km±4km, ML2.2, mb_Lg1.7/4(NEIC), Error ellipse: s-maj=3.5km s-min=1.3km az=132.0*
NEIC 30 12:16:54.7±1.3, 35°.51N±0°.02×97°.13W±0°.02, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.8km az=138.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK025	**Westminster Rd**	**0.18**	**293**	Pg	Pg	12 16 58.4	+0.2
OK025				Sg	Sg	12 17 01.7	+1.0
OKCSW	**OKLAHOMA CITY**	**0.27**	**247**	Pg	Pg	12 16 59.5	-0.4
OKCSW				Sg	Sg	12 17 04.0	+0.5
OKCFA	**Oklahoma City**	**0.28**	**250**	Pg	Pg	12 16 59.9	-0.2
OKCFA				Sg	Sg	12 17 04.2	+0.5
FNO	**Franklin**	**0.34**	**221**	Pg	Pg	12 17 00.8	-0.4
FNO				Sg	Sg	12 17 05.7	+0.1
OK029	**Liberty Lake**	**0.39**	**317**	Pg	Pg	12 17 02.2	0.0
BCOK	**Bluff Creek, N**	**0.41**	**291**	Pg	Pg	12 17 02.6	-0.1
BCOK				Sg	Sg	12 17 08.9	+0.8
OK031	**S. Brethren Rd**	**0.50**	**28**	Pg	Pg	12 17 04.2	-0.2
OK031				Sg	Sg	12 17 11.3	+0.4
QUOK	**Quay**	**0.74**	**28**	Pg	Pg	12 17 08.4	-0.5
QUOK				Sg	Sg	12 17 18.8	+0.1
X34A	**Smith Ranch, M**	**1.07**	**212**		Pg	12 17 14.4	-0.9
CROK	**Carrier**	**1.21**	**325**	Pg	Pg	12 17 16.8	-1.1
CROK				Sg	Sg	12 17 33.5	0.0
T35A	**Sooner Cattle**	**1.49**	**20**	Pn	Pn	12 17 20.7	-1.4
WMOK	**Wichita Mounta**	**1.56**	**241**		Pn	12 17 21.5	-1.5
WMOK				IAmb_Lg		12 17 44.4	
	comp=Z,2.8nm,0.7s						
X37A	**Clayton**	**1.71**	**122**	IAmb_Lg		12 17 52.6	
	comp=Z,7.0nm,0.8s						

RHSSO 30 12:24:18.7±0.6, 44°.93N×17°.00E, h4km±3km, ML1.4/4, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRAK	**Mrakovica**	**0.11**	**318**⇑	*i*Pg	Pg	12 24 20.5	-0.5
MRAK				*e*Sg	Sg	12 24 23.0	+0.5
PRIJ	**Prijedor**	**0.21**	**282**	*e*Sg	Sg	12 24 26.7	+1.2
BLY	**Banja Luka**	**0.22**	**145**⇑	*i*Pg	Pg	12 24 23.0	-0.1
BLY				*e*Sg	Sg	12 24 27.0	+1.0
MGRS	**Mrkonjic Grad**	**0.52**	**173**	*e*Pg	Pg	12 24 27.7	-0.9
MGRS				*e*Sg	Sg	12 24 35.7	+0.3
BOJS	**Bojanci**	**1.36**	**295**	*e*Sg	Sb	12 25 01.9	-0.6
CRES	**Cresnjev**	**1.41**	**310**	*e*Pg	Pn	12 24 44.5	-0.6
CRES				*e*Sg	Sb	12 25 03.4	-0.4

BUC 30 12:27:46.0±0.7, 44°.05N×28°.22E, h30km±3km, ml1.4/6, 6C-11D, Error ellipse: s-maj=9.9km s-min=2.9km az=69.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFTR	**Murfatlar**	**0.19**	**47**	⇓P	Pn	12 27 52.6	-0.4
MFTR				⇓S	Sb	12 27 56.2	-0.1
MFTR	**Murfatlar**	**0.19**	**47**	⇓P	Pn	12 27 52.6	-0.4
MFTR	**Murfatlar**	**0.19**	**47**	⇓S	Sb	12 27 56.2	-0.1
MANR	**Mangalia**	**0.35**	**131**	⇓S	Sb	12 27 60.0	+0.4
MANR	**Mangalia**	**0.35**	**131**	⇓S	Sb	12 27 60.0	+0.4
TIRR	**Tirgusor**	**0.43**	**18**	⇓P	Pb	12 27 55.2	-0.2
TIRR				⇓S	Sn	12 28 02.6	-0.6
TIRR	**Tirgusor**	**0.43**	**18**	⇓P	Pb	12 27 55.2	-0.2
TLBR	**Topalu**	**0.51**	**346**	⇑S	Sb	12 28 04.3	+0.3
TLBR	**Topalu**	**0.51**	**346**	⇑S	Sb	12 28 04.3	+0.3
TPGR	**Topolog**	**0.82**	**10**	⇓P	Pb	12 28 02.1	+0.3
TPGR				⇑S	Sn	12 28 13.9	+1.1
TPGR	**Topolog**	**0.82**	**10**	⇓P	Pb	12 28 02.1	+0.3
CFR	**Carcaliu**	**1.13**	**357**	⇑P	Pn	12 28 06.2	+0.3
CFR				⇑S	Sn	12 28 20.2	-0.3
CFR	**Carcaliu**	**1.13**	**357**	⇑P	Pn	12 28 06.2	+0.3

JMA 30 12:32:35.8±0.1, 24°.50N×122°.98E, h68km±1km, M1.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.05**	**144**	P	Pn	12 32 45.8	+0.1
YOJ				*e*S	Sn	12 32 52.8	-0.1
JYNG	**Yonagunijimaku**	**0.06**	**213**	P	Pn	12 32 45.7	0.0
JYNG				*e*S	Sn	12 32 53.0	+0.1
IRIF	**Iriomote-Funau**	**0.70**	**103**	P	Pn	12 32 50.7	+0.1
IRIF				S	Sn	12 33 01.6	+0.1
HATJ	**Hateruma jima**	**0.87**	**120**	*e*S	Sn	12 33 05.6	+0.6
JKRS	**Kuro-shima**	**0.97**	**105**	P	Pn	12 32 54.4	+0.6
JKRS				*e*S	Sn	12 33 08.1	+0.8
JIJ	**Ishigaki jima**	**1.07**	**97**	P	Pn	12 32 55.2	+0.1
JIJ				S	Sn	12 33 08.9	-0.5
**JIS

	baz=1.0					
ENTT	Nioudou	0.11 269	⇑P		Pg	12 32 40.4 +0.5
	baz=267					
ENTT			eS		Sg	12 32 42.1 +0.7
	baz=267					
TWC	Suao	0.15 102	eP		Pg	12 32 41.1 +0.4
	baz=110					
TWC			eS		Sg	12 32 43.9 +1.1
	baz=110					
NDT	Datong Townshi	0.16 256	eP		Pg	12 32 41.4 +0.6
	baz=256					
EWUT	Wuta	0.21 156	eP		Pg	12 32 41.9 +0.1
	baz=149					
EWUT			eS		Sg	12 32 45.1 +0.5
	baz=149					
NWLT	Wulai	0.21 310	eP		Pg	12 32 42.4 +0.6
	baz=310					
YHNB	Yeheng	0.28 276	eP		Pg	12 32 43.6 +0.6
	baz=274					
YHNB			eS		Sg	12 32 48.2 +1.4
	baz=274					
NNSH	Datong	0.35 232	eP		Pg	12 32 44.7 +0.4
	baz=222					
NNSH			eS		Sg	12 32 50.0 +1.1
	baz=222					

IASPEI ***30*** *12:51:29.2±0.9, 38°.26N±0°.02×20°.52E±0°.03, h19km±2km, Error ellipse: s-maj=4.9km s-min=2.9km az=73.9, GT5 selection from ISC bulletin GT5 identified by Bondr and McLaughlin (2009) selection criteria Bondr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ATH ***30*** *12:51:29.1, 38°.25N×20°.51E, h19km±1km, ML2.9/8, Error ellipse: s-maj=2.4km s-min=0.9km az=255.0*

TIR ***30*** *12:51:30.1, 38°.31N×20°.58E, h16km±1km, Md2.8, Ml3.1*

THE ***30*** *12:51:30.1, 38°.26N×20°.56E, h6km±1km, ML2.7/9, Error ellipse: s-maj=1.5km s-min=0.6km az=248.0*

ISC 30 12:51:28.5±0.7, 38°.28N±0°.02×20°.53E±0°.02, h9km, n58, σ2s14/93, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	Livadi, Kephal	0.08	258	P	Pg	12 51 32.5	+1.8
KEF4				S	Sg	12 51 34.9	+2.6
KEF4	Livadi, Kephal	0.08	258	P	Pg	12 51 32.5	+1.8
KEF4				S	Sg	12 51 35.1	+2.8
ARG2	Argostoli	0.10	197	P	Pg	12 51 32.4	+1.4
ARG2				S	Sg	12 51 34.6	+1.9
LXRA	Lixouri, Kepha	0.10	223	P	Pg	12 51 32.7	+1.7
LXRA				S	Sg	12 51 35.5	+2.8
ARGA	Argostoli. Kep	0.10	200	P	Pg	12 51 33.4	+2.4
VLS	Valsamata	0.11	152	P	Pg	12 51 32.5	+1.3
VLS				S	Sg	12 51 34.7	+1.7
VLS	Valsamata	0.11	152	P	Pg	12 51 32.5	+1.3
VLS				S	Sg	12 51 35.1	+2.1
VLS				AML	AML	12 51 35.2	
	comp=E,73943μm,0.1s						
VLS				AML	AML	12 51 35.2	
	comp=N,44134μm,0.1s						
DMLN	Damoulianata-K	0.12	253	P	Pg	12 51 32.8	+1.4
DMLN				S	Sg	12 51 35.4	+2.0
KEF3	Kipouria, Keph	0.16	243	P	Pg	12 51 32.8	+0.9
KEF3				S	Sg	12 51 35.9	+1.7
KEF3	Kipouria, Keph	0.16	243	P	Pg	12 51 32.9	+0.9
PSDA	Pessada-Kefalo	0.17	164	P	Pg	12 51 33.2	+1.1
PSDA				S	Sg	12 51 36.3	+1.8
PSDA	Pessada-Kefalo	0.17	164	P	Pg	12 51 33.2	+1.1
PSDA				S	Sg	12 51 36.4	+1.9
FSK	Fiskardo	0.19	9	P	Pg	12 51 34.0	+1.6
FSK				S	Sg	12 51 37.4	+2.3
	comp=N,8μm,0.3s						
FSK	Fiskardo	0.19	9	P	Pg	12 51 34.0	+1.6
FSK				S	Sg	12 51 37.8	+2.7
FSK				AML	AML	12 51 38.0	
	comp=E,20694μm,0.2s						
FSK				AML	AML	12 51 38.3	
	comp=N,10184μm,0.3s						
EVGI	Lefkada island	0.36	17	P	Pg	12 51 36.8	+1.1
EVGI				S	Sg	12 51 42.6	+2.1
EVGI	Lefkada island	0.36	17	P	Pg	12 51 36.8	+1.1
EVGI				S	Sb	12 51 42.9	0.0
DRAG	Dragano-Lefkad	0.41	5	P	Pg	12 51 37.3	+0.7
DRAG				S	Sb	12 51 44.7	+0.3
	comp=N,8μm,0.2s						
VLMS	Volimes, Zakyn	0.41	165	P	Pg	12 51 36.9	+0.3
VLMS				S	Sg	12 51 43.3	+1.3
VLMS	Volimes, Zakyn	0.41	165	P	Pg	12 51 36.9	+0.3
VLMS				S	Sb	12 51 43.5	-0.9
VLMS				AML	AML	12 51 43.9	
	comp=E,11082μm,0.1s						
VLMS				AML	AML	12 51 50.3	
	comp=N,11294μm,0.4s						
NYDR	Nydri-Lefkada	0.46	17	P	Pg	12 51 38.4	+0.9
NYDR				S	Sb	12 51 45.8	+0.1
	comp=N,695nm,0.2s						
LKD2	Lefkada island	0.52	11	P	Pg	12 51 39.5	+0.8
LKD2				S	Sb	12 51 48.9	+1.2
	comp=N,890nm,0.3s						
LKD2	Lefkada island	0.52	11	P	Pg	12 51 39.4	+0.6
LKD2				AML	AML	12 51 52.2	
	comp=E,1981μm,0.2s						
LKD2				AML	AML	12 51 55.2	
	comp=N,1721μm,0.3s						
LKD2	Lefkada island	0.52	11	P	Pg	12 51 39.5	+0.8
	baz=7.0						
LKD2				S	Sb	12 51 47.8	+0.1
	baz=7.0						
TSLK	Tsoukalades, L	0.56	11	P	Pg	12 51 40.4	+1.0
TSLK				S	Sb	12 51 49.0	+0.4
	comp=N,860nm,0.4s						
TSLK	Tsoukalades, L	0.56	11	P	Pg	12 51 40.3	+0.9
LTHK	Lithakia	0.62	156	P	Pg	12 51 40.4	0.0
LTHK				S	Sg	12 51 49.5	+1.0
	comp=N,2μm,0.2s						
LTHK	Lithakia	0.62	156	P	Pg	12 51 40.1	-0.3
VTN	Vitineika	0.63	124	P	Pg	12 51 41.1	+0.4
RLS	Riolos of Patr	0.77	106	P	Pg	12 51 43.3	-0.1
RLS				S	Sb	12 51 55.5	+0.7
RLS	Riolos of Patr	0.77	106	P	Pg	12 51 43.5	+0.1
RLS				AML	AML	12 52 02.1	
	comp=E,934μm,0.5s						
RLS				AML	AML	12 52 03.2	
	comp=N,724μm,0.3s						
PVO	Paravola	0.86	66	P	Pb	12 51 46.0	+0.4
PVO	Paravola	0.86	66	P	Pb	12 51 46.1	+0.4
EFP	Efpalio	1.10	82	P	Pg	12 51 49.2	-0.4
EFP	Efpalio	1.10	82	P	Pg	12 51 49.2	-0.4
EFP				AML	AML	12 52 11.5	
	comp=N,673μm,0.4s						
EFP				AML	AML	12 52 12.2	
	comp=E,905μm,0.5s						
AMT	Artemida-Makis	1.19	128	P	Pn	12 51 52.2	+0.7
AMT	Artemida-Makis	1.19	128	P	Pb	12 51 51.6	+0.2
AMT				AML	AML	12 52 15.3	
	comp=N,948μm,0.5s						
AMT				AML	AML	12 52 20.8	
	comp=E,498μm,0.4s						
SERG	Sergoula	1.21	83	P	Pb	12 51 51.5	-0.2
SERG	Sergoula	1.21	83	P	Pb	12 51 51.0	-0.6
SERG				AML	AML	12 52 14.5	
	comp=E,833μm,0.3s						
SERG				AML	AML	12 52 14.8	
	comp=N,890μm,0.4s						
IGT	Igoumenitsa	1.27	353	P	Pn	12 51 52.9	+0.5
IGT				S	Sn	12 52 11.6	+2.0
	comp=N,340nm,0.4s						
IGT	Igoumenitsa	1.27	353	P	Pn	12 51 52.9	+0.5
IGT	Igoumenitsa	1.27	353	P	Pn	12 51 52.9	+0.5
	baz=351						
IGT				S	Sn	12 52 11.2	+1.7
	baz=351						
KLV	Kalavryta, Ach	1.30	100	P	Pn	12 51 52.7	-0.3
KLV				S	Sn	12 52 11.8	+1.3
	comp=N,135nm,0.4s						
KLV	Kalavryta, Ach	1.30	100	P	Pn	12 51 52.6	-0.3
KEK	Kerkira	1.54	339	P	Pn	12 51 56.7	+0.5
KEK				S	Sg	12 52 21.7	+3.5
	comp=N,190nm,0.7s						
KEK	Kerkira	1.54	339	P	Pn	12 51 56.6	+0.4
ITM	Ithomi	1.56	134	P	Pn	12 51 57.4	+0.9
ITM	Ithomi	1.56	134	P	Pn	12 51 57.4	+0.9
SRN	Sarande	1.65	346	P	Pb	12 52 00.9	+1.7
	baz=345						
SRN				S	Sg	12 52 23.8	+2.0
	baz=345						
SRN				AMP			
	comp=E,0.3nm,0.5s,baz=345						
VLX	Vlachokerasia	1.72	121	P	Pb	12 52 00.7	+0.3
THL	Klokotos Trika	1.73	42	P	Pb	12 52 01.1	+0.5
LSK	Leskovik	1.87	2	P	Pb	12 52 04.6	+1.6
	baz=0.0						
LSK				S	Sg	12 52 29.7	+0.9
	baz=0.0						
LSK				AMP			
	comp=N,0.9nm,0.6s,baz=0.0						
LTK	Loutraki	1.94	97	P	Pn	12 52 03.3	+1.6
STON	Ston	5.07	336	ePn	Pn	12 52 43.5	-1.1
STON				Sn	Sn	12 53 37.0	-6.3
HVAR	Hvar	5.79	329	ePn	Pn	12 52 53.8	-0.8
HVAR				Sn	Sn	12 53 55.1	-6.0
RICI	Ricice	5.81	335	ePn	Pn	12 52 53.7	-1.2
RICI				Sn	Sn	12 53 55.3	-6.4
ZIRJ	Zirje	6.52	327	ePn	Pn	12 53 03.4	-1.2
ZIRJ				Sn	Sn	12 54 11.6	-7.5
MORI	Morici	6.67	328	ePn	Pn	12 53 06.3	-0.3
MORI				Sn	Sn	12 54 16.1	-6.6
DUGI	Dugi Otok	7.04	326	ePn	Pn	12 53 11.0	-0.9
DUGI				Sn	Sn	12 54 25.6	-6.4

IDC ***30*** *12:53:38.2±0.7, 36°.20S×99°.99W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.3/29, mbtmp4.2/10, MS3.8/12, Ms1 3.8/12, ms1mx3.6/22, Error ellipse: s-maj=25.3km s-min=18.2km az=102.0*

GCMT ***30*** *12:53:42.2±0.3, 36°.22S±0°.02×99°.84W±0°.02, h22km±1km, MW4.9/96, Moment Tensor Solution. s24,c25; s96,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.23±.14; Mθθ=0.33±.11; Mφφ=0.56±.10; Mrθ=0.46±.17; Mrφ=-2.52±.09; Mθφ=-0.27±.15; Best double couple: M=2.60900×10^16 NP1:φs=185.00000°, δ80.00000°, λ3.00000°. NP2: φs=95.00000°, δ87.00000°, λ170.00000°. Principal axes: T 2.7610, Plg10.0000°, Azm50.0000°; N -0.3040, Plg79.0000°, Azm256.0000°; P -2.4570, Plg5.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***30*** *12:53:42.2±1.3, 36°.2S±0°.1×100°.0W±0°.2, h19km±4km, mb4.4/31 Error ellipse: s-maj=24.8km s-min=18.2km az=109.0*

ISC 30 12:53:40.9±0.6, 36°.2S±0°.1×99°.9W±0°.1, h14km, n60, σ1s23/35, mb4.3/26, MS3.9/11, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	12.14	316	LR	LR	12 59 37.9	
	comp=Z,577nm,21.7s,baz=106,slow=30						
H03S2	Juan Fernandez	17.32	88	T	T	13 15 39.5	
	baz=254,slow=75,SNR=88						
H03S1	Juan Fernandez	17.33	88	T	T	13 15 39.4	
	baz=254,slow=75,SNR=70						
H03S3	Juan Fernandez	17.33	88	T	T	13 15 43.4	
	baz=254,slow=75,SNR=75						
H03N2	Juan Fernandez	17.41	87	T	T	13 15 43.5	
	baz=247,slow=72,SNR=47						
H03N3	Juan Fernandez	17.41	87	T	T	13 15 45.6	
	baz=247,slow=72,SNR=38						
H03N1	Juan Fernandez	17.43	87	T	T	13 15 45.4	
	baz=247,slow=72,SNR=78						
PLCA	Paso Flores	23.33	110	P	P	12 58 50.0	+1.3
	2.5nm,0.9s,baz=285,slow=18,SNR=2.9						
PLCA				LR	LR	13 05 12.5	
	comp=Z,190nm,21.9s,baz=272,slow=30						
BO02	Sierra Bellavi	23.68	95	P	P	12 58 52.7	+0.5
BO02				IAmb	IAmb	12 59 12.9	
	comp=Z,12nm,0.9s						
GO04	Tololo Observa	25.01	84	P	P	12 59 05.3	+0.6
AC02	Maricunga	27.73	79	P	P	12 59 30.1	+0.5
AC02				IAmb	IAmb	12 59 38.9	
	comp=Z,4.8nm,0.8s						
GO02	Mina Guanaco	28.17	75	P	P	12 59 33.5	+0.2
LPAZ	La Paz	34.48	63	P	P	13 00 29.8	+0.7
	comp=Z,3.8nm,0.8s,baz=227,slow=9.8,SNR=10						
LPAZ				LR	LR	13 11 08.3	
	comp=Z,132nm,20.1s,baz=208,slow=30						
LPAZ	La Paz	34.48	63	P	P	13 00 30.2	+1.0
ATAH	Atahualpa	35.00	39	P	P	13 00 34.1	+0.7
	comp=Z,7.0nm,0.7s,baz=22,slow=17,SNR=3.0						
CPUP	Villa Florida	37.42	87	LR	LR	13 13 47.1	
	comp=Z,59nm,20.6s,baz=225,slow=32						
SIV	San Ignacio	39.90	70	P	P	13 01 13.6	-1.0
	comp=Z,3.0nm,0.5s,baz=245,slow=7.6,SNR=8.8						
AQDB	Aquidauana	41.55	80	P	P	13 01 26.6	-1.5
AQDB				IAmb	IAmb	13 01 36.5	
	comp=Z,7.8nm,0.8s						
SAML	Samuel	42.99	60	P	P	13 01 39.3	-0.6
SAML				IAmb	IAmb	13 01 47.1	
	comp=Z,8.1nm,1.1s						
ROSC	El Rosal	47.35	36	LR	LR	13 19 01.6	
	comp=Z,161nm,19.6s,baz=231,slow=32						
QSPA	South Pole Qui	53.97	180	P	P	13 03 03.9	-0.1
	comp=Z,3.3nm,1.0s,baz=167,slow=0.9,SNR=5.5						
SBA	Scott Base	55.59	195	P	P	13 03 15.9	+0.5
SBA				IAmb	IAmb	13 03 16.4	
	comp=Z,5.3nm,0.9s						
VNA3	Neumayer Olymp	56.22	157	P	P	13 03 19.8	-0.3
VNDA	Vanda	56.69	195	P	P	13 03 23.6	+0.3
	comp=Z,2.3nm,1.0s,baz=118,slow=6.0,SNR=6.4						
VNDA				LR	LR	13 21 30.9	
	comp=Z,71nm,21.5s,baz=96,slow=30						
VNDA	Vanda	56.69	195	P	P	13 03 23.5	+0.2
VNDA				IAmb	IAmb	13 03 32.4	
	comp=Z,3.0nm,0.9s						
VNA1	Neumayer--Stat	56.81	157	P	P	13 03 22.2	-2.1
VNA2	Neumayer--Watz	57.01	157	P	P	13 03 24.9	-0.8
	baz=242,slow=4.0						
SNAA	Sanae	58.19	158	P	P	13 03 36.1	+2.1
SNAA	Sanae	58.19	158	P	P	13 03 34.0	-0.1
SNAA				IAmb	IAmb	13 03 38.4	
	comp=Z,7.1nm,1.5s						
MPR	Mayaguez	62.38	35	P	P	13 04 02.2	-1.0
TXAR	Lajitas Array	65.33	356	P	P	13 04 21.5	-1.1
	comp=Z,1.0nm,0.9s,baz=181,slow=8.3,SNR=5.9						
PFO	Pinyon Flats O	71.20	345	LR	LR	13 28 30.0	
	comp=Z,38nm,20.8s,baz=146,slow=29						
CCUT	Cedar City	74.48	349	P	P	13 05 18.8	-0.1
CCUT				IAmb	IAmb	13 05 29.1	
	comp=Z,2.4nm,0.8s						
SMCO	Snowmass	75.33	354	IAmb	IAmb	13 05 27.2	
	comp=Z,6.0nm,1.3s						
MAW	Mawson	75.65	173	P	P	13 05 24.7	-0.3
	comp=Z,4.5nm,1.1s,baz=214,slow=5.6,SNR=4.6						
MAW				LR	LR	13 37 51.8	
	comp=Z,68nm,18.2s,baz=232,slow=35						
MAW	Mawson	75.65	173	P	P	13 05 27.2	+2.1
TMUT	Trail Mountain	75.89	351	IAmb	IAmb	13 05 40.2	
	comp=Z,2.5nm,0.8s						
SPR3	Spring Creek 3	76.05	348	P	P	13 05 28.1	+0.1
NV11	Mina Array Sit	76.20	345	IAmb	IAmb	13 05 32.9	
	comp=Z,3.0nm,0.9s						
NVAR	Mina Array Bea	76.23	345	P	P	13 05 28.9	0.0
	comp=Z,2.1nm,0.8s,baz=180,slow=6.9,SNR=12						
BW06	Boulder Array	79.13	353	IAmb	IAmb	13 05 53.7	
	comp=Z,2.4nm,0.8s						
PDAR	Pinedale Array	79.13	353	P	P	13 05 44.0	-1.0
	comp=Z,1.1nm,0.7s,baz=158,slow=4.8,SNR=10						
PDAR	Pinedale Array	79.13	353	P	P	13 05 44.8	-0.2
ECSD	EROS Data Cent	79.66	2	P	P	13 05 51.1	+3.6
ECSD				IAmb	IAmb	13 05 55.7	
	comp=Z,4.4nm,0.8s						
TPAW	Teton Pass	80.00	352	IAmb	IAmb	13 05 57.9	
	comp=Z,6.5nm,1.2s						
YBH	Yreka Blue Hor	80.37	343	LR	LR	13 33 08.3	
	comp=Z,91nm,19.1s,baz=175,slow=30						
HLID	Hailey	80.53	349	IAmb	IAmb	13 05 56.3	
	comp=Z,4.0nm,0.8s						
FLWY	Flagg Ranch	80.55	352	IAmb	IAmb	13 06 06.1	
	comp=Z,4.9nm,0.9s						
F36A	Milaca	81.93	4	P	P	13 06 01.3	+1.7
PINE	Pine Mountain	81.93	345	P	P	13 05 59.7	-0.3
PLID	Pearl Lake	82.26	349	IAmb	IAmb	13 06 10.0	
	comp=Z,2.9nm,0.9s						
STKA	Stephens Creek	91.10	228	LR	LR	13 39 28.5	
	comp=Z,82nm,20.9s,baz=176,slow=30						
SCHQ	Schefferville	95.05	18	LR	LR	13 45 02.0	
	comp=Z,75nm,18.6s,baz=234,slow=32						
BOSA	Boshof	97.38	134	LR	LR	13 42 32.5	
	comp=Z,38nm,21.9s,baz=197,slow=30						
H01W1	Cape Leeuwin H	102.45	208	T	T	15 02 38.8	
	baz=151,slow=76,SNR=20						
H01W2	Cape Leeuwin H	102.45	208	T	T	15 02 42.8	
	baz=151,slow=76,SNR=16						
H01W3	Cape Leeuwin H	102.47	208	T	T	15 02 41.2	
	baz=151,slow=76,SNR=17						
KBZ	Khabaz	150.69	64	PKPbc	PKPbc	13 13 30.1	-2.1
	comp=Z,2.2nm,0.8s,baz=120,slow=1.7,SNR=3.3						
CMAR	Chiang Mai Arr	155.73	228	PKPab	PKPab	13 13 59.7	-1.5
	comp=Z,0.9nm,0.6s,baz=182,slow=2.1,SNR=5.4						
MKAR	Makanchi Array	169.34	352	PKPab	PKPab	13 14 59.4	-0.5
	comp=Z,0.4nm,0.9s,baz=26,slow=1.2,SNR=2.0						

IDC ***30*** *12:55:10.9±2.2, 26°.96S×176°.26W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/34, mbtmp3.9/5, ML4.6/1, Error ellipse: s-maj=44.3km s-min=32.2km az=53.0*

ISC 30 12:55:15.7±1.8, 26°.9S±0°.2×176°.3W±0°.3, h35km, n6, σ0s72/6, mb3.9/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.72	211	Pn	Pn	12 55 56.5	-0.4
	105nm,0.3s,baz=190,slow=23,SNR=9.2						
RAO				Sn	Sn	12 56 29.0	+0.5
	89nm,0.3s,baz=82,slow=22,SNR=8.9						
CTA	Charters Tower	34.88	273	P	P	13 02 06.3	+2.3
	1.7nm,0.4s,baz=85,slow=11,SNR=5.7						
ASAR	Alice Springs	44.88	263	P	P	13 03 27.1	0.0
	0.2nm,0.4s,baz=91,slow=6.8,SNR=11						
WRA	Warramunga Arr	45.56	268	P	P	13 03 32.5	0.0
	0.3nm,0.4s,baz=104,slow=8.5,SNR=8.3						
QSPA	South Pole Qui	63.19	180	P	P	13 05 39.6	-0.5
	1.8nm,1.0s,baz=0.0,slow=1.0,SNR=2.8						
TORD	Torodi Ar. Bea	166.18	172	PKPab	PKPab	13 16 19.4	+1.0
	0.2nm,0.4s,baz=183,slow=4.5,SNR=2.1						

IDC ***30*** *12:58:24.5±0.4, 13°.74N×144°.71E, h134km±4km, mb3.6/16, mb1 3.7/17, mb1mx3.5/52, mbtmp4.0/17, Error ellipse: s-maj=19.5km s-min=11.4km az=84.0*

NEIC ***30*** *12:58:26.4±1.9, 13°.73N±0°.09×144°.6E±0°.1, h141km±6km, mb4.4/22, Error ellipse: s-maj=18.8km s-min=11.3km az=111.0*

ISC 30 12:58:24.7±0.5, 13°.74N±0°.09×144°.6E±0°.1, h129km, n52, σ0s95/45, mb4.0/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.34	117	P	Pn	12 58 45.0	+2.2
	1μm,0.3s,baz=353,slow=22,SNR=1472						
GUMO				S	Sn	12 58 57.6	+1.0
	1μm,0.3s,baz=346,slow=23,SNR=13						
GUMO	Guam	0.34	117		Pn	12 58 45.1	+2.2
PATS	Pohnpei	15.17	116		P	13 01 54.6	+0.3
JHJ2	Mitsune	19.76	348		P	13 02 45.8	+1.3
JHJ	Hachijo jima 2	19.77	348	P	P	13 02 45.0	+0.3
	2.7nm,0.3s,baz=87,slow=14,SNR=1.9						
JOW	Kunigami	20.04	313	P	P	13 02 49.2	+1.6
	2.5nm,0.3s,baz=114,slow=20,SNR=11						
JOW	Kunigami	20.04	313	IAmb	IAmb	13 02 52.6	
	comp=Z,18nm,1.3s						
FAKI	Fak Fak	20.57	217		Pn	13 02 58.1	+1.1
H11S3	WAKE ISLAND Hy	21.77	75	T	T	13 25 51.8	
	baz=269,slow=75,SNR=6.2						
H11S1	WAKE ISLAND Hy	21.79	75	T	T	13 25 54.7	
	baz=269,slow=75,SNR=5.5						
H11S2	WAKE ISLAND Hy	21.79	75	T	T	13 25 54.7	
	baz=269,slow=75,SNR=8.0						
H11N1	WAKE ISLAND Hy	22.19	71	T	T	13 26 22.2	
	baz=256,slow=75,SNR=16						
H11N2	WAKE ISLAND Hy	22.20	71	T	T	13 26 22.2	
	baz=256,slow=75,SNR=6.4						
H11N3	WAKE ISLAND Hy	22.20	71	T	T	13 26 21.7	
	baz=256,slow=75,SNR=13						
JNU	Nakatsue	22.97	329	P	P	13 03 17.6	-0.4
	comp=Z,6.2nm,0.8s,baz=299,slow=10.0,SNR=2.6						
MJAR	Matsushiro Arr	23.41	347	P	P	13 03 21.2	-0.9
	comp=Z,3.1nm,0.6s,baz=168,slow=6.8,SNR=10						
MJAR	Matsushiro Arr	23.41	347	P	P	13 03 22.0	0.0
MAJO	Matsushiro	23.41	347	P	P	13 03 21.8	-0.3
MAJO				IAmb	IAmb	13 03 23.6	
	comp=Z,7.6nm,0.6s						
YULB	Yu-li	24.02	297	P	P	13 03 27.8	+0.1
YULB				IAmb	IAmb	13 03 28.4	
	comp=Z,7.5nm,0.5s						
JMM	Marumori	24.26	353	P	P	13 03 29.9	+0.2
JMM				IAmb	IAmb	13 03 40.6	
	comp=Z,12nm,1.0s						
SSLB	Suanglung	24.44	298	P	P	13 03 31.2	-0.4
SSLB				IAmb	IAmb	13 03 36.0	
	comp=Z,13nm,0.7s						
JSD	Sado	24.84	348	P	P	13 03 34.4	-0.6
KSRS	Korea Array	27.88	331	P	P	13 04 01.4	-0.9
	comp=Z,1.1nm,0.5s,baz=138,slow=9.9,SNR=9.5						
USRK	Ussuriysk Ar.	32.20	343	P	P	13 04 41.1	+0.7
	comp=Z,1.0nm,0.6s,baz=146,slow=10,SNR=2.7						
WB0	Warramunga Arr	34.77	197	P	P	13 05 02.3	-0.6
WB0				IAmb	IAmb	13 05 28.1	
	comp=Z,7.0nm,1.2s						
WR0	Warramunga Arr	34.91	197	P	P	13 05 03.6	-0.5
WR0				IAmb	IAmb	13 05 26.9	
	comp=Z,15nm,1.5s						
WB2	Warramunga Arr	34.95	197	P	P	13 05 03.9	-0.5
WB2				IAmb	IAmb	13 05 06.9	
	comp=Z,9.6nm,1.4s						
WRA	Warramunga Arr	34.95	197	P	P	13 05 03.9	-0.6
	comp=Z,1.3nm,0.4s,baz=19,slow=9.0,SNR=21						
WRA	Warramunga Arr	34.95	197	P	P	13 05 04.2	-0.2
KLR	Kul'dur	36.92	346	P	P	13 05 20.9	0.0
	comp=Z,1.8nm,0.7s,baz=144,slow=7.8,SNR=6.0						
AS31	Alice Springs	38.61	196	P	P	13 05 35.3	-0.2
ASAR	Alice Springs	38.61	196	P	P	13 05 34.4	-1.1
	comp=Z,0.6nm,0.5s,baz=17,slow=12,SNR=19						
ASAR	Alice Springs	38.61	196	P	P	13 05 35.1	-0.3
CMAR	Chiang Mai Arr	43.99	282	P	P	13 06 20.1	+0.6
	comp=Z,1.3nm,0.7s,baz=94,slow=5.7,SNR=8.5						
STKA	Stephens Creek	45.45	184	P	P	13 06 29.9	-0.8
	comp=Z,1.1nm,0.4s,baz=10,slow=9.2,SNR=7.8						
STKA	Stephens Creek	45.45	184	P	P	13 06 30.1	-0.8
BBOO	Buckleboo	47.00	190	P	P	13 06 42.2	-0.7
BBOO				IAmb	IAmb	13 07 10.5	
	comp=Z,21nm,1.4s						
MORW	Morawa	50.70	213	P	P	13 07 11.9	+0.7
MORW				IAmb	IAmb	13 07 31.0	
	comp=Z,23nm,1.4s						
TOO	Toolangi	51.05

CAPC	**Capurgana**	**0.48 351**	⇓*iP*	Pg	13 21 37.9	-0.6
CAPC			*eS*	Sg	13 21 44.8	-0.2
CAPC			*i*		13 21 45.3	
	comp=Z,671nm,0.2s					
UPD2	**Meteti**	**0.83 298**	*eP*	Pg	13 21 44.2	-0.9
UPD2			*eS*	Sg	13 21 55.9	0.0
UPD2			*i*		13 21 59.9	
	comp=Z,432nm,0.5s					
UPD2	**Meteti**	**0.83 298**	*eP*	Pg	13 21 44.1	-0.9
UPD2			*eS*	Sg	13 21 55.3	-0.6
UPD2			*i*		13 22 00.0	
	comp=Z,432nm,0.5s					
PTAC	**Punta Ardita,**	**1.13 208**	*eP*	Pb	13 21 48.7	-1.7
PTAC			*eS*	Sb	13 22 03.6	-1.4
PTAC			*i*		13 22 06.5	
	comp=Z,293nm,0.1s					
PTAC	**Punta Ardita,**	**1.13 208**	*eP*	Pb	13 21 48.4	-2.0
PTAC			*eS*	Sb	13 22 04.0	-1.0
PTAC			*i*		13 22 05.9	
	comp=Z,341nm,0.1s					
LCBC	**Los crdobas,**	**1.14 52**	*eP*	Pg	13 21 51.8	+0.8
LCBC			*eS*	Sn	13 22 08.4	+2.4
LCBC			*i*		13 22 11.8	
	comp=Z,113nm,0.4s					
LCBC	**Los crdobas,**	**1.14 52**	*eP*	Pg	13 21 51.0	0.0
LCBC			*eS*	Sn	13 22 09.9	+4.0
LCBC			*i*		13 22 11.8	
	comp=Z,113nm,0.4s					
DBBC	**Dabeiba**	**1.55 137**	*eP*	Pn	13 21 56.7	+0.4
DBBC			*eS*	Sn	13 22 15.9	-0.3
DBBC			*i*		13 22 26.7	
	comp=Z,191nm,0.5s					
DBBC	**Dabeiba**	**1.55 137**	*eP*	Pn	13 21 56.7	+0.4
DBBC			*eS*	Sn	13 22 15.8	-0.5
DBBC			*i*		13 22 27.0	
	comp=Z,189nm,0.4s					
MOTC	**Monteria, Cord**	**1.71 69**	*eP*	Pn	13 21 58.0	-0.5
MOTC			*eS*	Sn	13 22 20.1	0.0
BCIP	**Isla Barro Col**	**2.72 292**	*eP*	Pn	13 22 12.6	+0.3
AZU	**Azuero**	**2.99 263**	*eS*	Sn	13 22 49.8	-1.8

*SOME **30** 13:30:41.1,39.°73N×76.°07E,h10km*
*NNC **30** 13:30:41.1±1.4,39.°72N×75.°90E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=9.0km s-min=8.1km az=161.0
*KRNET **30** 13:30:47.8±0.1,39.°88N×75.°86E,mb3.0*
ISC 30 13:30:50.6±2.4,40.0N±0.°1×75.°90E±0.°04,h10km,n43,
σ2§49/65,15C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.12**	**347**	⇑*eP*	**Pb**	**13 31 28.5**	**-0.8**
	baz=48						
KZA				⇑*iS*	**Sg**	**13 31 58.4**	**-0.3**
	baz=48						
KZA	**Kyzart**	**2.12**	**347**	P	**Pb**	**13 31 28.5**	**-0.8**
	SNR=10.0						
ARLS	**Aral**	**2.20**	**328**	⇓*eP*	**Pb**	**13 31 29.1**	**-1.4**
	baz=30						
ARLS				⇓*iS*	**Sb**	**13 31 59.4**	**+1.5**
	baz=30						
ULHL	**Ulahol**	**2.24**	**6**	⇑*iP*	**Pb**	**13 31 29.8**	**-1.5**
	baz=7.0						
ULHL				⇑*iS*	**Sb**	**13 32 01.0**	**+1.8**
	baz=7.0						
KDJ	**Kajisay**	**2.32**	**24**	⇓*iP*	**Pb**	**13 31 32.2**	**-0.5**
	baz=24						
KDJ				⇓*iS*	**Sb**	**13 32 04.3**	**+2.8**
	baz=24						
UCH	**Uchtor**	**2.45**	**335**	⇑*eP*	**Pb**	**13 31 33.0**	**-1.9**
	baz=37						
UCH				⇑*iS*	**Sb**	**13 32 06.2**	**+0.9**
	baz=37						
UCH	**Uchtor**	**2.45**	**335**	P	**Pb**	**13 31 33.7**	**-1.2**
	SNR=13						
BOOM	**Boomskoye usch**	**2.47**	**1**	⇑*iP*	**Pb**	**13 31 33.2**	**-2.0**
	baz=1.0						
BOOM				⇑*iS*	**Sb**	**13 32 06.5**	**+0.7**
	baz=1.0						
AML	**Almayashu**	**2.69**	**322**	⇑*iP*	**Pb**	**13 31 36.3**	**-2.8**
	baz=25						
AML				⇑*iS*	**Sb**	**13 32 11.8**	**-0.5**
	baz=25						
AML	**Almayashu**	**2.69**	**322**	P	**Pb**	**13 31 37.9**	**-1.2**
	SNR=6.6						
KBK	**Karagaybulak**	**2.73**	**345**	⇑*iP*	**Pb**	**13 31 36.9**	**-2.8**
	baz=46						
KBK				⇑*iS*	**Sb**	**13 32 13.0**	**-0.3**
	baz=46						
KBK	**Karagaybulak**	**2.73**	**345**	P	**Pb**	**13 31 39.9**	**+0.3**
	SNR=6.0						
AAK	**Ala-Archa**	**2.83**	**338**	⇓Pg	**Pb**	**13 31 38.1**	**-3.1**
	3.2nm,0.3s						
AAK				⇑Lg	Lg	13 32 20.1	
	8.7nm,0.4s						
TKM2	**Tokmak 2**	**2.91**	**356**	P	**Pb**	**13 31 40.9**	**-1.9**
	SNR=8.3						
KST	**Kastek**	**3.03**	**1**	*eP*	**Pb**	**13 31 42.2**	**-2.4**
	7.9nm,0.3s						
KST				*eS*	**Sg**	**13 32 28.1**	**+0.4**
	7.7nm,0.5s						
KST	**Kastek**	**3.03**	**1**	Pg	**Pb**	**13 31 42.2**	**-2.4**
	7.9nm,0.3s						
KST				Lg	Lg	13 32 28.1	
	7.7nm,0.5s						
IZV	**Izvestkoviy**	**3.06**	**10**	*eP*	**Pb**	**13 31 42.7**	**-2.6**
	2.2nm,0.3s						
IZV				*eS*	**Sg**	**13 32 29.1**	**0.0**
	11nm,0.4s						
IZV	**Izvestkoviy**	**3.06**	**10**	Pg	**Pb**	**13 31 42.7**	**-2.6**
	2.2nm,0.3s						
IZV				Lg	Lg	13 32 29.0	
	11nm,0.4s						
ANVS	**Anan'yevo**	**3.07**	**25**	⇓*iP*	**Pb**	**13 31 42.5**	**-2.9**
	baz=25						
ANVS				⇓*iS*	**Sb**	**13 32 21.5**	**-1.4**
	baz=25						
TNSS	**Tian-Shan**	**3.12**	**14**	Pg	**Pb**	**13 31 43.8**	**-2.6**
	2.5nm,0.3s						
TNSS				Lg	Lg	13 32 31.1	
	8.4nm,0.5s						
DGS	**Degeres**	**3.23**	**358**	*eP*	**Pb**	**13 31 45.3**	**-2.7**
	6.3nm,0.6s						
DGS				*eS*	**Sg**	**13 32 33.8**	**-0.4**
	9.1nm,0.5s						
DGS	**Degeres**	**3.23**	**358**	Pg	**Pb**	**13 31 45.3**	**-2.7**
	6.3nm,0.6s						
DGS				Lg	Lg	13 32 33.8	
	9.1nm,0.5s						
MDOK	**Medeo**	**3.26**	**15**	*eP*	**Pb**	**13 31 45.1**	**-3.5**
	1.4nm,0.2s						
MDOK				*eS*	**Sb**	**13 32 33.2**	**+4.8**
	4.9nm,0.6s						
MDOK	**Medeo**	**3.26**	**15**	⇓Pg	**Pb**	**13 31 49.0**	**+0.4**
	3.2nm,0.6s						
MDOK				Lg	Lg	13 32 33.9	
	4.0nm,0.5s						
MDOK	**Medeo**	**3.26**	**15**	Pg	**Pb**	**13 31 45.1**	**-3.5**
	1.4nm,0.2s						
MDOK				Lg	Lg	13 32 33.2	
	4.9nm,0.6s						
MRKS	**Merke**	**3.39**	**324**	*eP*	**Pb**	**13 31 47.5**	**-3.3**
	2.0nm,0.5s						
MRKS				*eS*	**Sg**	**13 32 37.5**	**-1.9**
	6.7nm,0.3s						
MRKS	**Merke**	**3.39**	**324**	Pg	**Pb**	**13 31 47.5**	**-3.3**
	2.0nm,0.5s						
MRKS				Lg	Lg	13 32 37.5	
	6.7nm,0.3s						
USP	**Ospenovka**	**3.42**	**343**	P	**Pb**	**13 31 47.3**	**-3.9**
	SNR=6.1						
MNAS	**Manas**	**3.56**	**315**	⇑*iP*	**Pn**	**13 31 47.8**	**+1.8**
	baz=17						
MNAS				⇑*iS*	**Sn**	**13 32 31.5**	**+3.4**
	baz=17						
SGDS	**Sogindy**	**3.56**	**345**	Pg	**Pb**	**13 31 50.8**	**-2.9**
	1.4nm,0.2s						
SGDS				Lg	Lg	13 32 43.0	
	4.8nm,0.5s						
SATY	**Saty**	**3.58**	**31**	*eP*	**Pb**	**13 31 51.0**	**-2.9**
	1.5nm,0.2s						
SATY				*eS*	**Sg**	**13 32 43.4**	**-2.0**
	3.4nm,0.3s						
SATY	**Saty**	**3.58**	**31**	Pg	**Pb**	**13 31 51.0**	**-2.9**
	1.5nm,0.2s						
SATY				Lg	Lg	13 32 43.4	
	3.4nm,0.3s						

KRBS	**Karabastau**	**3.68**	**357**	*eP*	**Pb**	**13 31 52.6**	**-3.1**
	1.7nm,0.4s						
KRBS				*eS*	**Sg**	**13 32 46.2**	**-2.6**
	5.9nm,0.6s						
KRBS	**Karabastau**	**3.68**	**357**	Pg	**Pb**	**13 31 52.6**	**-3.1**
	1.7nm,0.4s						
KRBS				Lg	Lg	13 32 46.2	
	5.9nm,0.6s						
KTBS	**Karatobe**	**3.74**	**9**	*eP*	**Pb**	**13 31 54.2**	**-2.5**
	3.7nm,0.7s						
KTBS				*eS*	**Sg**	**13 32 48.8**	**-1.9**
	9.0nm,0.6s						
KTBS	**Karatobe**	**3.74**	**9**	Pg	**Pb**	**13 31 54.2**	**-2.5**
	3.7nm,0.7s						
KTBS				Lg	Lg	13 32 48.8	
	9.0nm,0.6s						
KUU	**Kurty**	**3.89**	**5**	*eP*	**Pb**	**13 31 56.3**	**-2.9**
	0.3nm,0.2s						
KUU				*eS*	**Sg**	**13 32 52.5**	**-2.9**
	12nm,1.1s						
KUU	**Kurty**	**3.89**	**5**	Pg	**Pb**	**13 31 56.3**	**-2.9**
	0.3nm,0.2s						
KUU				Lg	Lg	13 32 52.5	
	12nm,1.1s						
KPKS	**Kokpek**	**4.03**	**30**	*eP*	**Pb**	**13 31 58.6**	**-3.1**
	2.4nm,0.2s						
KPKS				*eS*	**Sb**	**13 32 56.4**	**+6.0**
	10nm,0.6s						
ARXS	**Arharly**	**4.43**	**18**	*eP*	**Pb**	**13 32 06.5**	**-2.1**
	1.4nm,0.3s						
ARXS				*eS*	**Sg**	**13 33 09.7**	**-3.2**
	2.8nm,0.4s						
ARXS	**Arharly**	**4.43**	**18**	Pg	**Pb**	**13 32 06.5**	**-2.1**
	1.4nm,0.3s						
ARXS				Lg	Lg	13 33 09.7	
	2.8nm,0.4s						
BTLS	**Baital**	**5.21**	**345**	*eP*	**Pb**	**13 32 21.8**	**+0.1**
	0.6nm,0.3s						
BTLS				*eS*	**Sg**	**13 33 36.0**	**-1.7**
	2.0nm,0.4s						
BTLS	**Baital**	**5.21**	**345**	Pg	**Pb**	**13 32 21.8**	**+0.1**
	0.6nm,0.3s						
BTLS				Lg	Lg	13 33 36.0	
	2.0nm,0.4s						

*NEIC **30** 13:40:18.5±1.5,4.°96S±0.°09×129.°6E±0.°2,h252km±10km,*
mb4.2/11,Error ellipse: s-maj=35.6km s-min=9.0km
az=72.0
*IDC **30** 13:40:22.2±1.3,5.°27S×129.°23E,h292km±17km,mb3.4/4,*
mb1 3.7/8,mb1mx3.3/36,mbtmp4.3/8,Error ellipse:
s-maj=26.0km s-min=12.9km az=85.0
ISC 30 13:40:21.9±0.7,5.°31S±0.°06×129.°14E±0.°09,h300km,n24,
σ1§57/28,mb3.8/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.90**	**26**	P	**Pn**	**13 41 39.0**	**+0.7**
	14nm,0.3s,baz=33,slow=14,SNR=99						
SIJI				S	**S**	**13 42 37.4**	**-2.3**
	6.3nm,0.3s,baz=272,slow=24,SNR=8.1						
SOEI	**Soe**	**6.54**	**227**	Pn	**Pn**	**13 41 59.0**	**+1.1**
BATI	**Baumata**	**7.29**	**228**	P	**Pn**	**13 42 07.7**	**+0.8**
	24nm,0.3s,baz=79,slow=1.8,SNR=25						
BATI				S	**S**	**13 43 28.7**	**-3.0**
	1.6nm,0.3s,baz=332,slow=20,SNR=1.5						
MTN	**Manton Dam**	**7.74**	**165**	Pn	**Pn**	**13 42 13.1**	**+0.8**
KNRA	**Kununurra**	**10.31**	**182**	Pn	**Pn**	**13 42 44.8**	**+1.0**
WB0	**Warramunga Arr**	**15.25**	**161**		**Pn**	**13 43 43.1**	**-0.2**
WB0				IAmb	IAmb	13 43 45.7	
	comp=Z,7.8nm,1.1s						
WRAB	**Tennant Creek**	**15.39**	**161**		**P**	**13 43 44.6**	**+1.3**
WRAB				IAmb	IAmb	13 43 46.9	
	comp=Z,6.1nm,0.5s						
WRA	**Warramunga Arr**	**15.40**	**161**	P	**P**	**13 43 44.6**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=340,slow=11,SNR=89						
WRA				S	**S**	**13 46 27.5**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=335,slow=21,SNR=7.5						
WRA	**Warramunga Arr**	**15.40**	**161**	P	**P**	**13 43 43.2**	**-0.2**
WB2	**Warramunga Arr**	**15.40**	**161**		**P**	**13 43 44.6**	**+1.2**
WB2				IAmb	IAmb	13 43 46.9	
	comp=Z,6.7nm,0.4s						
WR0	**Warramunga Arr**	**15.48**	**161**	P	**P**	**13 43 45.4**	**+1.1**
WR0				IAmb	IAmb	13 43 48.0	
	comp=Z,4.7nm,1.1s						
AS31	**Alice Springs**	**18.82**	**166**		**P**	**13 44 22.0**	**+1.6**
AS31				IAmb	IAmb	13 44 22.4	
	comp=Z,4.2nm,0.3s						
ASAR	**Alice Springs**	**18.82**	**166**	P	**P**	**13 44 22.1**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=344,slow=11,SNR=79						
ASAR				S	**S**	**13 47 36.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=350,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**18.82**	**166**	P	**P**	**13 44 21.9**	**+1.5**
FORT	**Forrest**	**25.36**	**182**	P	**P**	**13 45 23.4**	**+1.2**
BBOO	**Buckleboo**	**28.11**	**168**	P	**P**	**13 45 47.7**	**+1.0**
BBOO				IAmb	IAmb	13 46 04.1	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**28.89**	**158**	P	**P**	**13 45 53.4**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=319,slow=9.3,SNR=3.1						
STKA	**Stephens Creek**	**28.89**	**158**	P	**P**	**13 45 53.6**	**0.0**
CMAR	**Chiang Mai Arr**	**38.00**	**309**	P	**P**	**13 47 13.2**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=128,slow=6.8,SNR=5.9						
SONM	**Songino Array**	**56.58**	**342**	P	**P**	**13 49 31.3**	**-2.7**
MK31	**Makanchi Array**	**66.35**	**327**	P	**P**	**13 50 40.2**	**+1.3**
MK31				IAmb	IAmb	13 50 41.2	
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**66.35**	**327**	P	**P**	**13 50 40.4**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=111,slow=9.1,SNR=15						
MKAR	**Makanchi Array**	**66.35**	**327**	P	**P**	**13 50 40.2**	**+1.3**
ZALV	**Zalesovo Beam**	**69.70**	**334**	P	**P**	**13 50 59.9**	**+0.6**
	comp=Z,0.6nm,0.2s,baz=110,slow=11,SNR=2.0						

ASRS 30 13:45:59.5±0.3,50.°N±3.°×9.°7E±.°,h10km,MLh3.8/13,
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNGR	**Kungurtug, Tuv**	**0.51**	**63**	P	Pg	13 46 08.3	-1.2
KNGR				S	Sg	13 46 14.7	-1.5
ERNS	**Erzin**	**1.06**	**265**	P	Pg	13 46 19.1	-0.8
ERNS				S	Sb	13 46 34.3	+0.3
KZLR	**Kyzyl**	**1.99**	**313**	P	Pn	13 46 32.8	-0.5
KZLR				S	Sn	13 46 58.9	+0.7
MOY	**Mondy**	**2.94**	**62**	P	Pn	13 46 47.9	+1.4
MOY				S	Sn	13 47 24.2	+2.3
ARDR	**Aradan**	**3.05**	**318**	P	Pn	13 46 49.9	+2.0
ARDR				S	Sn	13 47 27.5	+3.0
ZAK	**Zakamensk**	**4.15**	**87**	P	Pn	13 47 03.4	+0.5
ZAK				S	Sn	13 47 53.1	+1.6
DJOS	**Djoyskaya Sosn**	**4.15**	**308**	P	Pn	13 47 03.4	+0.5
DJOS				S	Sn	13 47 51.5	0.0
CERR	**Cheremushki**	**4.17**	**309**	P	Pn	13 47 04.1	+0.9
CERR				S	Sn	13 47 53.1	+1.0
DJO	**Djoy, Khakassi**	**4.23**	**307**	P	Pn	13 47 04.4	+0.3
DJO				S	Sn	13 47 53.1	-0.4
TBTR	**Tabat**	**4.57**	**306**	P	Pn	13 47 08.0	-0.7
TBTR				S	Sn	13 48 02.6	+0.8
ORY	**Orie**	**4.75**	**348**	P	Pn	13 47 11.7	+0.6
ORY				S	Sn	13 48 08.0	+1.8
CUR	**Chagan-Uzun**	**5.43**	**270**	P	Pn	13 47 19.2	-1.4
CUR				S	Sn	13 48 25.5	+2.3
ULGR	**Ulagan, Altay**	**5.65**	**276**	P	Pn	13 47 20.2	-3.3
ULGR				S	Sn	13 48 28.5	0.0
SHRR	**Shira**	**5.79**	**318**	P	Pn	13 47 25.5	+0.1
SHRR				S	Sn	13 48 30.6	-1.1
AKAR	**Aktash**	**5.88**	**273**	P	Pn	13 47 26.8	+0.1
DGZ	**Jazzator, Alta**	**6.08**	**267**	P	Pn	13 47 30.1	+0.6

*NEIC **30** 13:52:36.9±2.6,27.°2S±0.°1×175.°9W±0.°2,h10km±2km,*
mb4.7/9,Error ellipse: s-maj=32.6km s-min=13.3km
az=130.0
*IDC **30** 13:52:38.3±1.7,26.°94S×176.°40W,h0km,mb3.9/4,*
mb1 4.2/5,mb1mx3.8/23,mbtmp4.0/5,ML4.7/1,MS3.3/4,
Ms1 3.3/4,ms1mx2.9/28,Error ellipse: s-maj=46.1km
s-min=26.9km az=109.0
ISC 30 13:52:40.9±0.9,26.°9S±0.°1×176.°0W±0.°2,h35km,n32,
σ1§55/20,mb4.5/9,MS3.1/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.85**	**215**	Pn	**Pn**	**13 53 23.7**	**-0.2**
	150nm,0.3s,baz=243,slow=21,SNR=8.9						
RAO				Sn	**Sn**	**13 53 56.5**	**-0.5**
	198nm,0.3s,baz=92,slow=21,SNR=7.3						
RAO	**Raoul Island**	**2.85**	**215**	Pn	Pn	13 53 19.8	-4.1
NIUE	**Niue**	**9.63**	**37**	Pn	**Pn**	**13 54 56.1**	**-0.9**
URZ	**Urewera**	**12.68**	**205**	Pn	Pn	13 55 28.1	-11
	0.2nm,0.3s,baz=72,slow=14,SNR=1.5						
AFI	**Afiamalu**	**13.55**	**18**	Pn	**Pn**	**13 55 47.5**	**-3.3**
	2.9nm,0.3s,baz=2.1,slow=4.9,SNR=4.6						
AFI	**Afiamalu**	**13.55**	**18**	Pn	**Pn**	**13 55 50.5**	**-0.3**
RAR	**Rarotonga**	**15.90**	**72**	LR	LR	14 00 28.7	
	comp=Z,72nm,22.0s,baz=288,slow=29						
DZM	**Mont Dzumac**	**16.66**	**283**	*e*LR	LR	14 00 33.5	
	comp=Z,194nm,23.2s						
DZM	**Mont Dzumac**	**16.66**	**283**	LR	LR	14 01 36.4	
	comp=Z,179nm,18.5s,baz=60,slow=33						
TBI	**Tubuai**	**24.30**	**87**	*e*LR	LR	14 03 50.9	
	comp=Z,83nm,26.8s						
TBI	**Tubuai**	**24.30**	**87**	*e*T	T	14 22 45.3	
	2.4nm,0.3s						
PAE	**Paea**	**26.11**	**75**	*e*T	T	14 25 07.8	
	1.1nm,0.2s						
PPT2	**Papeete2**	**26.14**	**75**	*e*LR	LR	14 04 43.7	
	comp=Z,86nm,24.0s,baz=241						
PPT2	**Papeete2**	**26.14**	**75**	*e*T	T	14 25 12.0	
	1.1nm,0.3s						
PPT	**Papeete**	**26.15**	**75**	LR	LR	14 06 57.1	
	comp=Z,39nm,18.1s,baz=246,slow=32						
CTAO	**Charters Tower**	**35.15**	**273**	P	**P**	**13 59 32.5**	**+1.0**
CTAO				IAmb	IAmb	13 59 47.9	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**37.07**	**252**	LR	LR	14 13 55.6	
	comp=Z,74nm,18.0s,baz=32,slow=35						
BBOO	**Buckleboo**	**41.68**	**250**	P	**P**	**14 00 23.7**	**-2.6**
AS31	**Alice Springs**	**45.15**	**263**	P	**P**	**14 00 54.0**	**-0.4**
ASAR	**Alice Springs**	**45.15**	**263**	P	**P**	**14 00 54.0**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=98,slow=6.9,SNR=28						
ASAR	**Alice Springs**	**45.15**	**263**	P	**P**	**14 00 53.8**	**-0.6**
WR0	**Warramunga Arr**	**45.65**	**268**	P	**P**	**14 00 57.9**	**-0.5**
WR0				IAmb	IAmb	14 01 01.9	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**45.82**	**268**	P	**P**	**14 00 59.2**	**-0.5**
WB2				IAmb	IAmb	14 01 02.3	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**45.83**	**268**	P	**P**	**14 00 59.3**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=104,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**45.83**	**268**	IAmb	IAmb	14 01 02.3	
	comp=Z,0.3nm,1.1s						
MTN	**Manton Dam**	**51.28**	**275**	P	**P**	**14 01 43.1**	**+1.3**
KNRA	**Kununurra**	**52.29**	**271**	P	**P**	**14 01 50.0**	**+0.7**
KNRA				IAmb	IAmb	14 02 03.1	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**63.17**	**180**	P	**P**	**14 03 04.5**	**-0.7**
QSPA				IAmb	IAmb	14 03 20.9	
	comp=Z,3.9nm,0.9s						
MJAR	**Matsushiro Arr**	**76.43**	**324**	P	**P**	**14 04 29.3**	**+2.4**
	comp=Z,1.8nm,0.9s,baz=156,slow=6.4,SNR=4.6						
KSRS	**Korea Array**	**82.87**	**318**	P	**P**	**14 05 04.1**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=112,slow=5.4,SNR=2.7						
AKASG	**Malin Array Be**	**149.44**	**328**	PKPbc	**PKiKP**	**14 12 27.6**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=40,slow=3.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**166.12**	**171**	PKPab	**PKPab**	**14 13 45.8**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=174,slow=3.8,SNR=3.3						

*TAP **30** 14:15:30.4,23.°97N×122.°45E,h45km,ML2.7,D*
*JMA **30** 14:15:31.8±0.1,24.°01N×122.°42E,h23km,M2.2*
ISC 30 14:15:31.2±1.0,23.°98N±0.°02×122.°43E±0.°02,h33km±11km,
n89,σ0§68/173,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**45**	P	**Pb**	**14 15 44.2**	**-0.3**
JYNG				*eS*	**Sn**	**14 15 52.5**	**-1.2**
YOJ	**Yonaguni jima**	**0.72**	**48**	P	**Pb**	**14 15 45.1**	**-0.2**
YOJ				*eS*	**Sn**	**14 15 54.0**	**-0.9**
YOJ	**Yonaguni jima**	**0.72**	**48**	*eP*	**Pn**	**14 15 44.8**	**-0.2**
	baz=45						
YOJ				*eS*	**Sb**	**14 15 55.0**	**0.0**
	baz=45						
EWUT	**Wuta**	**0.75**	**308**	*eP*	**Pb**	**14 15 45.7**	**-0.2**
	baz=307						
EWUT				*eS*	**Sb**	**14 15 56.3**	**+0.4**
	baz=307						
ETL	**Fush Village**	**0.76**	**284**	*eP*	**Pn**	**14 15 45.6**	**0.0**
	baz=284						
ETL				*eS*	**Sb**	**14 15 57.1**	**+1.0**
	baz=284						
TEYL	**Yanliau Villag**	**0.77**	**262**	*eP*	**Pn**	**14 15 45.5**	**-0.1**
	baz=265						
TEYL				*eS*	**Sb**	**14 15 57.9**	**+1.6**
	baz=265						
TWD	**Chiawan**	**0.77**	**278**	*eP*	**Pn**	**14 15 45.6**	**0.0**
	baz=278						
TWD				S	**Sb**	**14 15 57.0**	**+0.8**
	baz=278						
NACB	**Ninganchiao**	**0.78**	**285**	*eP*	**Pb**	**14 15 46.5**	**+0.1**
	baz=284						
NACB				*eS*	**Sb**	**14 15 57.6**	**+0.8**
	baz=284						
TWC	**Suao**	**0.82**	**320**	*eP*	**Pn**	**14 15 46.3**	**-0.1**
	baz=319						
TWC				*eS*	**Sb**	**14 15 57.4**	**-0.4**
	baz=319						
ETM	**Tongmen**	**0.85**	**269**	*eP*	**Pn**	**14 15 46.9**	**0.0**
	baz=269						
ETM				*eS*	**Sb**	**14 15 59.7**	**+0.9**
	baz=269						
ETLH	**Xiulin Townshi**	**0.89**	**285**	*eP*	**Pn**	**14 15 47.5**	**0.0**
	baz=285						
ETLH				*eS*	**Sb**	**14 16 00.4**	**+0.4**
	baz=285						
NDS	**Dongshan**	**0.92**	**315**	*eP*	**Pb**	**14 15 48.6**	**-0.1**
	baz=314						
NDS				*eS*	**Sb**	**14 16 00.6**	**-0.1**
	baz=314						
ESL	**Shilin**	**0.92**	**260**	*eP*	**Pn**	**14 15 47.6**	**-0.3**
	baz=260						
ESL				*eS*	**Sn**	**14 16 00.2**	**+0.3**
	baz=260						
EGFH	**Guangfu**	**0.96**	**252**	*eS*	**Sb**	**14 16 01.9**	**0.0**
	baz=252						
TWE	**Neicheng**	**1.01**	**317**	*eP*	**Pb**	**14 15 49.6**	**-0.7**
	baz=316						
TWE

FUSS	**Fushou**	**1.11 284**	*e*P	**Pn**	**14 15 51.1**	**+0.4**
	baz=284					
FUSS			*e*S	**Sn**	**14 16 05.4**	**+0.4**
	baz=284					
EHY	**Hungye**	**1.11 245**	*e*P	**Pn**	**14 15 50.8**	**+0.3**
	baz=245					
EHY			*e*S	**Sn**	**14 16 05.2**	**+0.4**
	baz=245					
TIPB	**Shuangxi**	**1.13 331**	*e*P	**Pb**	**14 15 51.5**	**-0.7**
	baz=330					
TIPB			*e*S	**Sb**	**14 16 06.0**	**-0.7**
	baz=330					
OWD	**Renai**	**1.14 269**	*e*P	**Pn**	**14 15 50.9**	**-0.1**
	baz=269					
OWD			*e*S	**Sn**	**14 16 05.9**	**+0.3**
	baz=269					
CHGB	**Renai**	**1.15 274**	*e*P	**Pn**	**14 15 51.6**	**+0.5**
	baz=274					
CHGB			*e*S	**Sn**	**14 16 06.6**	**+0.8**
	baz=274					
NWLT	**Wulai**	**1.16 314**	*e*P	**Pb**	**14 15 53.0**	**+0.3**
	baz=312					
NWLT			*e*S	**Sb**	**14 16 06.6**	**-0.8**
	baz=312					
TWT	**Tachien**	**1.18 284**	*e*P	**Pn**	**14 15 51.4**	**-0.1**
	baz=283					
TWT			*e*S	**Sn**	**14 16 07.0**	**+0.6**
	baz=283					
YHNB	**Yeheng**	**1.18 306**	*e*P	**Pb**	**14 15 52.5**	**-0.6**
	baz=305					
YHNB			*e*S	**Sn**	**14 16 07.2**	**+0.7**
	baz=305					
YULB	**Yu-li**	**1.19 241**	*e*P	**Pn**	**14 15 51.9**	**+0.4**
	baz=241					
YULB			*e*S	**Sn**	**14 16 07.1**	**+0.6**
	baz=241					
TDCB	**Techi**	**1.19 284**	*e*P	**Pb**	**14 15 52.5**	**-0.8**
	baz=283					
TDCB			*e*S	**Sn**	**14 16 07.4**	**+0.7**
	baz=283					
EYUL	**Yuli**	**1.19 238**	*e*P	**Pn**	**14 15 51.9**	**+0.3**
	baz=239					
EYUL			*e*S	**Sn**	**14 16 07.3**	**+0.7**
	baz=239					
NSK	**Sanguang**	**1.20 306**	*e*P	**Pb**	**14 15 52.5**	**-0.9**
	baz=305					
NSK			*e*S	**Sb**	**14 16 07.7**	**-0.9**
	baz=305					
TWF1	**Yuli**	**1.21 239**	*e*P	**Pn**	**14 15 52.6**	**+0.8**
	baz=239					
TWF1			*e*S	**Sn**	**14 16 07.5**	**+0.4**
	baz=239					
NWF	**Wu-fen Shan**	**1.24 332**	*e*P	**Pb**	**14 15 53.3**	**-0.8**
	baz=330					
NWF			*e*S	**Sn**	**14 16 08.5**	**+0.6**
	baz=330					
WFSB	**Wu-fen Shan**	**1.24 332**	*e*P	**Pn**	**14 15 52.3**	**+0.2**
	baz=330					
WFSB			*e*S	**Sn**	**14 16 08.3**	**+0.6**
	baz=330					
IRIF	**Iriomote-Funau**	**1.24 73**	P	**Pb**	**14 15 54.5**	**+0.4**
IRIF			S	**Sb**	**14 16 11.2**	**+1.4**
TWA	**Mucha**	**1.26 323**	*e*P	**Pn**	**14 15 52.7**	**+0.2**
	baz=322					
TWA			*e*S	**Sn**	**14 16 08.6**	**+0.3**
	baz=322					
HATJ	**Hateruma jima**	**1.26 86**	S	**Sb**	**14 16 11.0**	**+0.6**
NHDH	**Xindian Distri**	**1.28 320**	*e*P	**Pn**	**14 15 52.8**	**+0.1**
	baz=319					
NHDH			*e*S	**Sb**	**14 16 10.0**	**-0.8**
	baz=319					
FULB	**Fuli**	**1.30 233**	*e*P	**Pn**	**14 15 53.2**	**+0.2**
	baz=234					
FULB			*e*S	**Sn**	**14 16 09.6**	**+0.4**
	baz=234					
CHKT	**Chengkung**	**1.31 228**	*e*P	**Pn**	**14 15 53.1**	**0.0**
	baz=228					
CHKT			*e*S	**Sn**	**14 16 09.5**	**+0.1**
	baz=228					
TNOU	**National Taiwa**	**1.31 333**	*e*P	**Pn**	**14 15 52.9**	**-0.3**
	baz=332					
TNOU			*e*S	**Sn**	**14 16 10.3**	**+0.8**
	baz=332					
WPL	**Puli Township**	**1.34 272**	*e*P	**Pn**	**14 15 53.9**	**+0.2**
	baz=271					
WPL			*e*S	**Sn**	**14 16 11.5**	**+1.1**
	baz=271					
SSLB	**Suanglung**	**1.36 262**	*e*P	**Pn**	**14 15 54.1**	**+0.2**
	baz=262					
SSLB			*e*S	**Sn**	**14 16 11.5**	**+0.7**
	baz=262					
WHP	**Taichung City**	**1.39 283**	*e*P	**Pn**	**14 15 55.4**	**+1.1**
	baz=282					
WHP			*e*S	**Sb**	**14 16 13.8**	**-0.1**
	baz=282					
WCS	**Beigang Elemen**	**1.39 274**	*e*S	**Sb**	**14 16 13.7**	**-0.3**
	baz=273					
SMLT	**Sun Moon Lake**	**1.40 266**	*e*P	**Pb**	**14 15 55.9**	**-0.9**
	baz=266					
SMLT			*e*S	**Sn**	**14 16 12.1**	**+0.2**
	baz=266					
YM01	**YM01**	**1.40 326**	*e*P	**Pn**	**14 15 54.7**	**+0.3**
	baz=325					
YM01			*e*S	**Sn**	**14 16 12.1**	**+0.2**
	baz=325					
ECS	**Chishang**	**1.41 232**	*e*P	**Pn**	**14 15 54.0**	**-0.6**
	baz=232					
ECS			*e*S	**Sn**	**14 16 12.3**	**+0.3**
	baz=232					
YM08	**YM08**	**1.43 328**	*e*P	**Pn**	**14 15 54.6**	**-0.1**
	baz=327					
YM08			*e*S	**Sn**	**14 16 12.9**	**+0.5**
	baz=327					
EDH	**Donghe**	**1.44 226**	*e*P	**Pn**	**14 15 55.1**	**+0.2**
	baz=226					
EDH			*e*S	**Sn**	**14 16 12.6**	**0.0**
	baz=226					
TYC	**Yuchr**	**1.44 267**	*e*P	**Pb**	**14 15 57.2**	**-0.2**
	baz=267					
TYC			*e*S	**Sb**	**14 16 15.5**	**+0.2**
	baz=267					
TWS1	**Kuangyinshan**	**1.45 321**	*e*P	**Pn**	**14 15 54.9**	**-0.1**
	baz=320					
TWS1			*e*S	**Sb**	**14 16 14.5**	**-1.1**
	baz=320					
LIOB	**Emei**	**1.45 298**	*e*P	**Pb**	**14 15 56.6**	**-1.0**
	baz=297					
LIOB			*e*S	**Sn**	**14 16 13.8**	**+0.8**
	baz=297					
NSTT	**Nanjuang**	**1.45 297**	*e*P	**Pn**	**14 15 56.0**	**+0.9**
	baz=296					
NSTT			*e*S	**Sn**	**14 16 14.0**	**+0.9**
	baz=296					
JKRS	**Kuro-shima**	**1.47 80**	P	**Pb**	**14 15 57.7**	**-0.2**
JKRS			*e*S	**Sb**	**14 16 17.1**	**+0.8**
ELDTW	**Lidau**	**1.51 239**	*e*P	**Pn**	**14 15 56.3**	**+0.2**
	baz=239					
ELDTW			*e*S	**Sn**	**14 16 13.3**	**-1.4**
	baz=239					
TWQ1	**Liyutan**	**1.55 284**	*e*P	**Pn**	**14 15 56.6**	**0.0**
	baz=283					
TWQ1			*e*S	**Sn**	**14 16 16.0**	**+0.5**
	baz=283					
ALS	**Alishan**	**1.56 253**	*e*P	**Pn**	**14 15 56.6**	**-0.2**
	baz=253					
ALS			*e*S	**Sn**	**14 16 15.5**	**-0.5**
	baz=253					
LDUT	**Ludao**	**1.57 214**	*e*P	**Pn**	**14 15 57.1**	**+0.4**
	baz=215					
LDUT			*e*S	**Sn**	**14 16 15.5**	**-0.3**
	baz=215					
LONT	**Longtian**	**1.60 228**	*e*P	**Pn**	**14 15 57.1**	**-0.1**
	baz=228					
LONT			*e*S	**Sn**	**14 16 16.7**	**+0.1**
	baz=228					
WNT1	**Nantou City**	**1.60 268**	*e*P	**Pn**	**14 15 57.2**	**+0.1**
	baz=267					
WNT1			*e*S	**Sn**	**14 16 16.7**	**+0.1**
	baz=267					
TCU	**Taichung**	**1.61 276**	*e*P	**Pn**	**14 15 57.1**	**-0.2**
	baz=276					
TCU			*e*S	**Sn**	**14 16 17.3**	**+0.4**
	baz=276					
JIJ	**Ishigaki jima**	**1.61 76**	S	**Sb**	**14 16 18.6**	**-1.8**
CHN5	**Tsauling**	**1.65 257**	*e*P	**Pn**	**14 15 57.5**	**-0.3**
	baz=257					
CHN5			*e*S	**Sn**	**14 16 18.4**	**+0.5**
	baz=257					
PCYT	**Pengchaiyu**	**1.68 349**	*e*P	**Pn**	**14 15 58.3**	**+0.1**
	baz=348					
PCYT			*e*S	**Sn**	**14 16 19.1**	**+0.6**
	baz=348					
TWGBT	**Beinan**	**1.69 227**	*e*P	**Pn**	**14 15 58.5**	**+0.1**
	baz=227					
TWGBT			*e*S	**Sn**	**14 16 18.9**	**0.0**
	baz=227					
TWG	**Pinlang**	**1.69 227**	*e*P	**Pn**	**14 15 59.0**	**+0.5**
	baz=227					
TWG			*e*S	**Sn**	**14 16 18.8**	**-0.2**
	baz=227					
STYH	**Taoyuan**	**1.71 242**	*e*P	**Pn**	**14 15 58.8**	**+0.1**
	baz=242					
STYH			*e*S	**Sn**	**14 16 20.0**	**+0.5**
	baz=242					
WGK	**Gukeng**	**1.73 261**	*e*P	**Pn**	**14 15 59.1**	**+0.1**
	baz=260					
WGK			*e*S	**Sn**	**14 16 19.9**	**0.0**
	baz=260					
STYT	**Tauyuan**	**1.73 242**	*e*P	**Pn**	**14 15 59.8**	**+0.7**
	baz=242					
STYT			*e*S	**Sn**	**14 16 21.0**	**+0.9**
	baz=242					
TPUB	**Ta-pu**	**1.78 248**	*e*P	**Pn**	**14 16 00.5**	**+0.9**
	baz=248					
TPUB			*e*S	**Sb**	**14 16 24.1**	**-1.0**
	baz=248					
WTP	**Ta-pu**	**1.81 247**	*e*P	**Pn**	**14 16 00.2**	**+0.1**
	baz=246					
WTP			*e*S	**Sn**	**14 16 21.8**	**-0.2**
	baz=246					
JISG	**Ishigakijimahi**	**1.82 70**	P	**Pn**	**14 16 01.7**	**+1.5**
WRL	**Guolierlin Hig**	**1.88 268**	*e*P	**Pn**	**14 16 00.7**	**-0.2**
	baz=268					
WRL			*e*S	**Sn**	**14 16 24.1**	**+0.6**
	baz=268					
SLGT	**Liugui**	**1.91 239**	*e*P	**Pn**	**14 16 03.2**	**+1.9**
	baz=239					
SLGT			*e*S	**Sb**	**14 16 27.2**	**-1.5**
	baz=239					
CHN1	**Nanshi**	**1.91 246**	*e*P	**Pn**	**14 16 03.5**	**+2.0**
	baz=246					
CHN1			*e*S	**Sn**	**14 16 25.9**	**+1.5**
	baz=246					
SGST	**Jiashian**	**1.91 243**	*e*P	**Pn**	**14 16 02.7**	**+1.2**
	baz=242					
SGST			*e*S	**Sb**	**14 16 27.0**	**-2.0**
	baz=242					
TWK	**Hsinying**	**1.91 249**	*e*P	**Pn**	**14 16 02.7**	**+1.2**
	baz=248					
TWK			*e*S	**Sn**	**14 16 26.8**	**+2.3**
	baz=248					
SSD	**Sandimen**	**2.05 234**	*e*P	**Pn**	**14 16 03.5**	**0.0**
	baz=233					
SSD			*e*S	**Sn**	**14 16 27.8**	**-0.1**
	baz=233					
TSMG	**Majia**	**2.07 233**	*e*P	**Pn**	**14 16 03.4**	**-0.3**
	baz=232					
TSMG			*e*S	**Sn**	**14 16 28.1**	**-0.1**
	baz=232					
LAY	**Lan-yu**	**2.09 203**	*e*P	**Pn**	**14 16 03.7**	**-0.2**
	baz=203					
LAY			*e*S	**Sn**	**14 16 28.0**	**-0.8**
	baz=203					
MASBT	**Mashibuluo**	**2.14 231**	*e*P	**Pn**	**14 16 05.0**	**+0.5**
	baz=231					
MASBT			*e*S	**Sn**	**14 16 29.8**	**-0.2**
	baz=231					
EAST	**Anshuo**	**2.15 223**	*e*P	**Pn**	**14 16 04.5**	**-0.3**
	baz=222					
EAST			*e*S	**Sn**	**14 16 29.9**	**-0.5**
	baz=222					

*IDC **30** 14:26:15.4±3.0, 52.°09N×173.°55E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.2/70, mbtmp3.2/3, Error ellipse: s-maj=95.9km s-min=31.2km az=2.0*
*NEIC **30** 14:26:20.9±2.1, 52.°38N±0.°05×173.°5E±0.°1, h36km±13km, mb3.7/11, Error ellipse: s-maj=10.4km s-min=6.8km az=100.0*

ISC 30 14:26:20.8±1.1, **52.°3N**±0.°1×**173.°56E**±0.°08, **h33**km, **n29**, σ**1**§**20**/24, **mb3.7**/10, **Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.52**	**39**		**Pb**	**14 26 31.7**	**+0.1**
SMY					**Sb**	**14 26 40.0**	**+1.0**
AMKA	**Amchitka**	**3.69**	**103**	Pn	**Pn**	**14 27 15.4**	**0.0**
PEA0B	**Petropavlovsk-**	**9.66**	**281**	Sn	**Sn**	**14 30 23.6**	**-1.0**
SPIA	**Saint Paul Isl**	**10.53**	**56**	Pn	**Pn**	**14 28 47.9**	**-1.3**
OHAK	**Old Harbor**	**19.61**	**62**	P	**P**	**14 30 44.8**	**-1.1**
KDAK	**Kodiak Island**	**20.00**	**61**	P	**P**	**14 30 49.5**	**-0.6**
CNPM	**China Poot**	**20.79**	**56**	P	**P**	**14 30 58.4**	**-0.4**
CNPM				IAmb	IAmb	14 31 03.0	
	comp=Z,4.4nm,1.0s						
IMAR	**Indian Mountai**	**21.28**	**38**	P	**P**	**14 31 04.1**	**0.0**
RC01	**Rabbit Creek A**	**21.70**	**52**	P	**P**	**14 31 06.1**	**-2.4**
RC01				IAmb	IAmb	14 31 19.1	
	comp=Z,3.7nm,1.0s						
MDM	**Murphy Dome**	**23.11**	**42**	P	**P**	**14 31 22.6**	**-0.9**
CCB	**Clear Creek Bu**	**23.21**	**43**	P	**P**	**14 31 25.1**	**+0.7**
ILAR	**Eielson Array**	**23.63**	**43**	P	**P**	**14 31 29.5**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=250,slow=8.7,SNR=4.1						
TOLK	**Toolik Lake Re**	**23.86**	**33**	P	**P**	**14 31 31.1**	**+0.4**
TOLK				IAmb	IAmb	14 31 36.2	
	comp=Z,3.0nm,0.8s						
RIDG	**Independent Ri**	**24.31**	**46**	P	**P**	**14 31 32.6**	**-2.4**
RIDG				IAmb	IAmb	14 31 45.8	
	comp=Z,3.0nm,1.2s						
PRP	**Porcupine Dome**	**24.36**	**41**	P	**P**	**14 31 34.1**	**-1.3**
PRP				IAmb	IAmb	14 31 40.2	
	comp=Z,1.6nm,0.7s						
BMAR	**Burnt Mountain**	**25.20**	**37**	P	**P**	**14 31 43.6**	**+0.6**
K27K	**Chicken**	**25.57**	**46**	P	**P**	**14 31 44.9**	**-1.3**
K27K				IAmb	IAmb	14 31 55.7	
	comp=Z,2.7nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**32.95**	**192**	T	T	15 07 40.8	
	baz=7.5,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**32.96**	**192**	T	T	15 07 39.7	
	baz=7.5,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy**	**32.97**	**192**	T	T	15 07 40.2	
	baz=7.5,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**34.18**	**192**	T	T	15 09 13.6	
	baz=7.2,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**34.20**	**192**	T	T	15 09 13.5	
	baz=7.2,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**34.20**	**192**	T	T	15 09 13.5	
	baz=7.2,slow=76,SNR=12						
KURK	**Kurchatov**	**54.84**	**309**	P	**P**	**14 35 48.7**	**+1.4**
KURBB	**Kurchatov Arra**	**54.94**	**309**	P	**P**	**14 35 48.7**	**+0.6**
	comp=Z,1.6nm,0.2s,baz=51,slow=6.3,SNR=2.0						
MK31	**Makanchi Array**	**55.64**	**304**	P	**P**	**14 35 55.2**	**+2.0**
MK31				IAmb	IAmb	14 36 13.7	
	comp=Z,0.8nm,1.2s						
MKAR	**Makanchi Array**	**55.64**	**304**	P	**P**	**14 35 53.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=53,slow=8.2,SNR=1.7						
MKAR	**Makanchi Array**	**55.64**	**304**	P	**P**	**14 35 52.6**	**-0.6**
TXAR	**Lajitas Array**	**63.11**	**76**	P	**P**	**14 36 45.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=305,slow=4.4,SNR=3.9						

*IDC **30** 14:33:49.6±0.9, 27.°55N×86.°08E, h0km, mb3.9/13, mb1 4.0/15, mb1mx3.7/72, mbtmp3.8/15, ML4.1/1, Error ellipse: s-maj=29.0km s-min=16.2km az=54.0*
*DMN **30** 14:33:51.7±0.1, 27.°63N×86.°10E, h10km, Ml4.5/6, Error ellipse: s-maj=6.6km s-min=1.4km az=10.0*

ISC 30 14:33:51.2±1.1, **27.°55N**±0.°05×**86.°05E**±0.°03, **h9**km±7km, **n33**, σ**1**§**45**/42, **mb3.9**/13, **Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**0.17**	**49**	*e*Pg	**Pg**	**14 33 54.4**	**-0.6**
PKI	**Pulchoki**	**0.57**	**272**	*e*Pg	**Pb**	**14 34 03.7**	**+0.2**
PKIN	**Phulchoki**	**0.58**	**273**	*e*Pg	**Pb**	**14 34 03.9**	**+0.2**
PKIN				*e*Sg	**Sb**	**14 34 12.6**	**+0.5**
KKN	**Kakani**	**0.72**	**290**	*e*Pg	**Pb**	**14 34 06.3**	**+0.2**
RAMN	**Ramite**	**0.77**	**140**	*e*Pg	**Pg**	**14 34 05.8**	**-0.4**
DMN	**Daman**	**0.84**	**274**	*e*Pg	**Pb**	**14 34 09.1**	**+1.0**
DMN				*e*Sg	**Sg**	**14 34 19.3**	**+1.0**
GKN	**Gorkha**	**1.33**	**290**	*e*Pg	**Pg**	**14 34 17.5**	**+0.8**
GKN				*e*Sg	**Sg**	**14 34 34.1**	**+0.1**
	524nm,0.2s						
ODAN	**Odare**	**1.38**	**120**	*e*Pg	**Pg**	**14 34 17.7**	**0.0**
ODAN				*e*Sg	**Sn**	**14 34 35.9**	**+0.5**
	567nm,0.3s						
TAPN	**Taplejung**	**1.49**	**97**	*e*Pg	**Pg**	**14 34 19.2**	**-0.7**
TAPN				*e*Sg	**Sn**	**14 34 37.7**	**-0.6**
TAPN				*e*Sg	**Sg**	**14 34 39.0**	**-0.3**
	2μm,0.3s						
DANN	**Dangsing**	**2.17 292**	*e*Pg	**Pg**	**14 34 32.0**	**-0.9**
DANN				*e*Sg	**Sg**	**14 35 00.7**	**-0.5**
	1μm,0.5s						
KOLN	**Koldanda**	**2.18 276**	*e*Pg	**Pg**	**14 34 32.5**	**-0.6**
KOLN				*e*Sg	**Sg**	**14 35 02.5**	**+1.1**
	874nm,0.4s						
PYUN	**Piuthan**	**2.76 282**	*e*Pg	**Pg**	**14 34 43.0**	**-1.2**
PYUN				*e*Sg	**Sg**	**14 35 19.8**	**-0.2**
	718nm,0.3s						
HYB	**Hyderabad**	**12.23 216**	*i* P	**Pn**	**14 36 46.0**	**+0.3**
CHCP	**Chirah Chowk**	**12.58 302**	P	**Pn**	**14 36 48.4**	**-2.0**
THW	**Thamme Wali**	**13.43 296**	P	**Pn**	**14 37 00.4**	**-1.7**
CEP	**Cherat**	**13.67 301**	P	**Pn**	**14 37 02.6**	**-2.9**
CMAR	**Chiang Mai Arr**	**14.92 125**	Pn	**Pn**	**14 37 23.3**	**+0.9**
	baz=300,slow=12,SNR=4.5					
WMQ	**Urumqi**	**16.29 4**	*e*P	**P**	**14 37 48.8**	**+5.5**
GTA	**Gaotai**	**16.46 41**	*e*P	**P**	**14 37 48.8**	**+3.4**
GTA			pP	sP	14 37 53.5	+3.8
GTA			sP	pP	14 37 56.5	+8.1
GTA			pmax	pmax		
	comp=Z,5.0nm,0.6s					
MKAR	**Makanchi Array**	**19.44 352**	P	**Pn**	**14 38 18.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=31					
KURBB	**Kurchatov Arra**	**23.74 348**	P	**P**	**14 39 04.7**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=169,slow=9.5,SNR=16					
SONM	**Songino Array**	**25.73 33**	P	**P**	**14 39 21.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=239,slow=10,SNR=5.0					
ZALV	**Zalesovo Beam**	**26.39 358**	P	**P**	**14 39 26.1**	**-1.7**
	comp=Z,1.4nm,0.3s,baz=190,slow=6.7,SNR=5.0					
BVAR	**Borovoye Array**	**27.98 340**	P	**P**	**14 39 41.5**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=179,slow=8.4,SNR=2.2					
AKTO	**Aktyubinsk**	**31.25 325**	P	**P**	**14 40 12.0**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=107,slow=6.2,SNR=2.7					
KSRS	**Korea Array**	**36.42 63**	P	**P**	**14 40 54.1**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=266,slow=7.8,SNR=5.1					
HFS	**Hagfors**	**57.79 326**	P	**P**	**14 43 42.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=87,slow=7.8,SNR=1.6					
GERES	**GERESS Array B**	**58.45 312**	P	**P**	**14 43 48.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=8.5,SNR=1.6					
WRA	**Warramunga Arr**	**66.44 130**	P	**P**	**14 44 41.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=322,slow=6.4,SNR=25					
ASAR	**Alice Springs**	**68.74 133**	P	**P**	**14 44 55.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=314,slow=5.7,SNR=8.1					
TORD	**Torodi Ar. Bea**	**79.10 279**	P	**P**	**14 45 54.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=46,slow=4.6,SNR=2.3					
ILAR	**Eielson Array**	**79.26 20**	P	**P**	**14 45 56.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=303,slow=5.1,SNR=7.3					
KDAK	**Kodiak Island**	**81.90 28**	P	**P**	**14 46 11.2**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=341,slow=6.0,SNR=7.1					

*DNK **30** 14:35:39.0±1.7, 51.°47N×16.°03E, h0km±74km, ML2.5*
*IPEC **30** 14:35:39.5±0.3, 51.°48N×16.°31E, h1km, ML3.0/3, Error ellipse: s-maj=3.0km s-min=1.6km az=63.0*
*IDC **30** 14:35:40.6±0.6, 51.°42N×16.°17E, h0km, mb3.5/1, mb1 3.6/10, mb1mx3.3/55, mbtmp3.5/10, ML3.2/9, Error ellipse: s-maj=14.2km s-min=6.1km az=104.0*
*UPP **30** 14:35:40.1±3.3, 51.°44N×15.°67E, h0km, ML2.2, Suspected explosion*
*BGR **30** 14:35:40.9±0.4, 51.°41N×16.°21E, h1km, ML3.2/12, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*VIE **30** 14:35:42.1±0.4, 51.°33N×16.°01E, h0km, mb3.0/6, ml3.2/6, Error ellipse: s-maj=4.8km s-min=2.3km az=45.0 74 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 14:35:38.6±0.6, **51.°51N**±0.°03×**16.17E**±0.°02, **h0**km, **n77**, σ**1**§**39**/144, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**174**	*i* Pg	**Pg**	**14 35 52.1**	**+0.7**
KSP				*e*		14 35 59.2	
KSP				*e*Sg	**Sg**	**14 36 00.1**	**-0.1**
KSP	**Ksiaz**	**0.67**	**174**	*e*Pg	**Pg**	**14 35 52.2**	**+0.7**
KSP				*e*Sg	**Sg**	**14 35 59.6**	**-0.6**
CHVC	**Chvalec**	**0.93**	**185**	*e*PG	**Pg**	**14 35 56.9**	**+0.5**
CHVC				*e*SG	**Sg**	**14 36 08.1**	**-0.2**
	comp=Z,136nm,0.5s						
OSTC	**Ostas**	**0.95**	**178**	*e*PG	**Pg**	**14 35 57.6**	**+0.7**
OSTC				*e*SG	**Sg**	**14 36 09.0**	**-0.3**
	comp=Z,226nm,0.9s						
UPC	**Upice**	**1.01**	**186**	*e*PG	**Pg**	**14 35 58.4**	**+0.5**
UPC				*e*SG	**Sg**	**14 36 11.0**	**0.0**
	comp=Z,361nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**14 36 01.1**	**+0.1**
DPC				*e*SG	**Sg**	**14 36 15.2**	**-0.8**
	comp=Z,149nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*Pg	**Pg**	**14 36 01.1**	**+0.1**
DPC				*e*Sg	**Sg**	**14 36 15.3**	**-0.7**
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pb**	**14 36 06.4**	**+0.6**
PVCC				*e*SG	**Sn**	**14 36 25.3**	**+0.4**
	comp=Z,536nm,0.4s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	**Pn**	**14 36 06.3**	**-0.4**
KRLC				*e*SG	**Sg**	**14 36 25.9**	**-0.5**
	comp=Z,90nm,0.6s						
BRG	**Berggiesshubel**	**1.54**	**246**	Pn	**Pn**	**14 36 07.7**	**+0.4**
BRG				Pg	**Pg**	**14 36 09.4**	**+1.3**
BRG				Sg	**Sg**	**14 36 29.8**	**+1.6**
BRG				Amp		14 36 31.8	
	comp=Z,107nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**246**	*e*Pn	**Pn**	**14 36 07.8**	**+0.4**
BRG				*e*Pg	**Pg**	**14 36 09.4**	**+1.3**
BRG				*e*Sg	**Sg**	**14 36 29.0**	**+0.9**
PRA	**Prague**	**1.82**	**218**	*e*PG	**Pn**	**14 36 12.1**	**+1.0**
PRA				*e*SG	**Sb**	**14 36 36.6**	**+0.6**
	comp=Z,81nm,0.8s						
PRU	**Pruhonice**	**1.84**	**215**	*e*PG	**Pn**	**14 36 12.5**	**+1.0**
PRU				*e*SG	**Sb**	**14 36 37.0**	**+0.2**
	comp=Z,93nm,0.6s						
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	**Pn**	**14 36 12.6**	**-0.3**
	baz=336						
MORC				*e*Sg	**Sn**	**14 36 38.6**	**+0.6**
	comp=Z,99nm,0.7s,baz=336						
MORC	**Moravsky Berou**	**1.94**	**153**	*e*PN	**Pn**	**14 36 12.7**	**-0.2**
MORC				*e*SG	**Sn**	**14 36 38.6**	**+0.6**
MORC	**Moravsky Berou**	**1.94**	**153**	*e*Pn	**Pn**	**14 36 12.9**	**-0.1**
MORC				*e*Sg	**Sn**	**14 36 38.0**	**0.0**
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**14 36 14.0**	**+0.4**
CLL				*e*Pg	**Pg**	**14 36 17.0**	**+0.1**
CLL				*i*		14 36 32.6	
CLL				*e*Sg	**Sg**	**14 36 45.0**	**+2.3**
	comp=Z,67nm,0.6s						
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**14 36 14.2**	**+0.6**
CLL				*e*Pg	**Pg**	**14 36 17.7**	**+0

JAVC	**Velka Javorina**	**2.82 159**	*e*PN	**Pn**	**14 36 25.2**	**+0.2**
JAVC			*e*SG	**Sb**	**14 37 05.6**	**+0.6**
KHC	**Kasperske Hory**	**2.91 216**	*e*PN	**Pn**	**14 36 26.7**	**+0.6**
KHC			*e*PG	**Pb**	**14 36 33.1**	**+1.8**
KHC			*e*SG	**Sg**	**14 37 10.8**	**-1.1**
	comp=Z,34nm,0.4s					
CKRC	**Cesky Krumlov**	**2.95 205**	*e*PN	**Pn**	**14 36 28.0**	**+1.3**
CKRC			*e*PG	**Pb**	**14 36 33.7**	**+1.7**
CKRC			*e*SG	**Sg**	**14 37 12.1**	**-1.2**
MANZ	**Manzenberg**	**3.00 241**	*e*Pn	**Pn**	**14 36 28.8**	**+1.3**
MANZ			*e*Pg	**Pg**	**14 36 36.4**	**+0.3**
MANZ			*e*Sg	**Sg**	**14 37 15.6**	**+0.6**
MOX	**Moxa**	**3.00 255**	*e*Pn	**Pn**	**14 36 28.5**	**+1.1**
MOX			*e*Pg	**Pg**	**14 36 37.3**	**+1.2**
MOX			*e*Sg	**Sg**	**14 37 16.1**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.07 237**	*e*Pn	**Pn**	**14 36 29.8**	**+1.4**
ROTZ			*e*Sg	**Sg**	**14 37 17.4**	**+0.2**
GEC2	**GERESS Array S**	**3.10 212**	*e*Pn	**Pn**	**14 36 30.2**	**+1.3**
GEC2			*e*Sg	**Sg**	**14 37 16.7**	**-1.7**
GERES	**GERESS Array B**	**3.10 212**	Pn	**Pn**	**14 36 30.2**	**+1.3**
	comp=Z,2.2nm,0.3s,baz=36,slow=13,SNR=39					
GERES			Pg	**Pb**	**14 36 36.3**	**+1.6**
	comp=Z,21nm,0.3s,baz=30,slow=17,SNR=69					
GERES			Sn	**Sn**	**14 37 00.4**	**-6.4**
	comp=Z,5.6nm,0.3s,baz=33,slow=26,SNR=6.3					
GERES			Lg	Lg	14 37 15.6	
	comp=Z,12nm,0.3s,baz=32,slow=25,SNR=7.3					
SMOL	**Smolenice**	**3.11 164**	*e*SG	**Sg**	**14 37 19.2**	**+0.8**
SMOL			*e*LG	Lg	14 37 24.2	
LANS	**Liptovska Anna**	**3.17 137**	*e*PG	**Pg**	**14 36 39.5**	**+0.2**
LANS			*e*SG	**Sg**	**14 37 21.1**	**+0.8**
LANS			*e*LG	Lg	14 37 35.5	
WET	**Wettzell**	**3.17 223**	*e*Pn	**Pn**	**14 36 30.9**	**+1.1**
WET			*e*Sg	**Sg**	**14 37 18.8**	**-1.8**
MODS	**Modra-Piesok**	**3.22 167**	*e*PG	**Pg**	**14 36 41.0**	**+0.7**
MODS			*e*SG	**Sg**	**14 37 22.9**	**+0.9**
MODS			*e*LG	Lg	14 37 26.7	
ZST	**Bratislava**	**3.37 169**	*e*PG	**Pg**	**14 36 42.6**	**-0.6**
ZST			*e*SG	**Sg**	**14 37 26.3**	**-0.6**
VYHS	**Vyhne**	**3.47 149**	*e*PN	**Pn**	**14 36 33.9**	**0.0**
VYHS			*e*PG	**Pg**	**14 36 45.6**	**+0.4**
CONA	**Conrad Observa**	**3.59 183**	*e*Pn	**Pn**	**14 36 36.5**	**+0.9**
	comp=Z,2.8nm,0.4s,SNR=7.9					
CONA			Sg	**Sg**	**14 37 33.7**	**-0.2**
	comp=Z,38nm,0.4s					
GRF	**Grafenberg Arr**	**3.64 242**	*e*Sg	**Sg**	**14 37 35.8**	**+0.2**
BSD	**Bornholm Skovb**	**3.69 349**	*i* P	**Pn**	**14 36 37.4**	**+0.5**
BSD			*i* S	**Sn**	**14 37 21.1**	**+0.1**
BSD			IAML		14 37 23.7	
	comp=Z,5.0nm,0.4s					
STHS	**Stebnicka Huta**	**3.86 121**	*e*PG	**Pg**	**14 36 52.9**	**+0.4**
STHS			*e*SG	**Sg**	**14 37 46.6**	**+4.1**
MOA	**Molln**	**3.87 199**	*e*Pn	**Pn**	**14 36 40.0**	**+0.7**
	comp=Z,4.8nm,0.3s,SNR=9.4					
CRVS	**Cervenica-Dubn**	**4.28 125**	*e*PG	**Pg**	**14 37 04.1**	**+3.4**
CRVS			*e*SG	**Sg**	**14 38 00.9**	**+4.8**
ARSA	**Arzberg**	**4.29 186**	*e*Pn	**Pn**	**14 36 47.4**	**+2.3**
	comp=Z,2.0nm,0.3s					
LUNU	**Lund**	**4.44 340**	*i* P	**Pn**	**14 36 47.2**	**+0.1**
LUNU			P	Pb	14 36 47.3	-10
LUNU			S	**Sn**	**14 37 38.7**	**-0.7**
LUNU	**Lund**	**4.44 340**	P	**Pn**	**14 36 47.3**	**+0.2**
LUNU			S	**Sn**	**14 37 38.7**	**-0.7**
KOLS	**Kolonicke sedl**	**4.69 121**	*e*PN	**Pn**	**14 36 51.2**	**+0.6**
KOLS			*e*PG	**Pg**	**14 37 11.9**	**+3.5**
KBA	**Koelnbreinsper**	**4.81 204**	*e*Pn	**Pn**	**14 36 52.8**	**+0.4**
	comp=Z,5.2nm,0.5s					
BLEU	**Blekinge**	**4.81 358**	*i* P	**Pn**	**14 36 53.3**	**+1.1**
BLEU			P	Pb	14 36 53.3	-10
BLEU			*e*S	**Sn**	**14 37 47.9**	**-0.6**
BLEU	**Blekinge**	**4.81 358**	P	**Pn**	**14 36 53.3**	**+1.1**
BJUU	**Bjuv**	**4.94 339**	P	**Pn**	**14 36 54.2**	**+0.2**
BJUU			*i* P	**Pn**	**14 36 54.2**	**+0.2**
BJUU	**Bjuv**	**4.94 339**	P	**Pn**	**14 36 54.2**	**+0.2**
DEL	**Delary**	**5.15 346**	*e*	**Pn**	**14 36 56.6**	**-0.3**
	baz=162,slow=14					
DEL			P	**Pn**	**14 36 57.5**	**+0.5**
DEL			*i* P	**Pn**	**14 36 57.7**	**+0.8**
DEL			*i* S	**Sn**	**14 37 54.7**	**-2.4**
WTTA	**Wattenberg**	**5.18 217**	*e*Pn	**Pn**	**14 36 59.2**	**+1.6**
	comp=Z,2.1nm,0.3s					
VXJU	**Vaexsjoe**	**5.47 353**	P	**Pn**	**14 37 02.6**	**+1.3**
VXJU	**Vaexsjoe**	**5.47 353**	P	**Pn**	**14 37 02.6**	**+1.3**
OSKU	**Oskarshamn**	**5.70 360**	P	**Pn**	**14 37 05.7**	**+1.3**
OSKU	**Oskarshamn**	**5.70 360**	P	**Pn**	**14 37 05.7**	**+1.3**
FABU	**Falkenberg**	**5.86 341**	*i* P	**Pn**	**14 37 07.3**	**+0.6**
DAVOX	**Davos/Dischmat**	**6.28 224**	Pn	**Pn**	**14 37 15.3**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=329,slow=12,SNR=3.0					
DAVOX			Lg	Lg	14 38 57.2	
	comp=Z,0.8nm,0.3s,baz=35,slow=19,SNR=3.6					
ONAU	**Onsala**	**6.40 339**	*i* P	**Pn**	**14 37 15.7**	**+1.7**
BORU	**Boraas**	**6.45 343**	*i* P	**Pn**	**14 37 16.1**	**+1.4**
AKASG	**Malin Array Be**	**8.26 91**	Pn	**Pn**	**14 37 38.9**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=279,slow=12,SNR=2.4					
HFS	**Hagfors**	**8.76 352**	Pn	**Pn**	**14 37 47.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=172,slow=14,SNR=8.6					
HFS			Sn	**Sn**	**14 39 24.9**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=163,slow=25,SNR=2.8					
NOA	**NORSAR Array B**	**9.94 346**	Pn	**Pn**	**14 38 02.1**	**-0.5**
	comp=Z,0.0nm,0.3s,baz=158,slow=12,SNR=5.1					
FINES	**FINESS Array B**	**11.35 25**	Pn	**Pn**	**14 38 20.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=214,slow=11,SNR=12					
FINES			Sn	**Sn**	**14 40 22.6**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=197,slow=23,SNR=1.7					
EKA	**Eskdalemuir Ar**	**12.14 296**	Pn	**Pn**	**14 38 31.7**	**-1.0**
	baz=101,slow=14,SNR=1.8					
IDI	**Anoyia**	**17.39 155**	Pn	**Pn**	**14 39 41.7**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=315,slow=2.9,SNR=1.4					
ARCES	**ARCESS Array B**	**18.61 10**	Pn	**P**	**14 39 54.5**	**-2.8**
	baz=199,slow=13,SNR=13					
TORD	**Torodi Ar. Bea**	**40.02 202**	P	**P**	**14 43 14.8**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=3.3,slow=7.5,SNR=3.3					

IDC 30 14:47:29.4±9.0, 25°82S×179°80E, h503km±105km, mb3.2/3, mb1 3.4/4, mb1mx3.0/20, mbtmp4.2/4, Error ellipse: s-maj=77.0km s-min=41.5km az=16.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.61**	**190**	P	P	14 50 14.6	+0.4
	1.2nm,0.3s,baz=230,slow=4.2,SNR=7.5						
URZ				S	S	14 52 29.2	-0.8
	0.2nm,0.3s,baz=132,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**41.58**	**263**	P	P	14 54 32.9	0.0
	1.8nm,0.4s,baz=94,slow=7.3,SNR=74						
WRA	**Warramunga Arr**	**42.13**	**268**	P	P	14 54 36.9	-0.4
	1.8nm,0.5s,baz=104,slow=8.2,SNR=37						
KSRS	**Korea Array**	**79.60**	**320**	P	P	14 58 44.3	+0.5
	2.3nm,1.1s,baz=138,slow=6.1,SNR=4.4						
HFS	**Hagfors**	**144.38**	**348**	PKP	PKPbc	15 06 06.4	-0.8
	1.0nm,0.5s,baz=64,slow=3.4,SNR=8.6						

*IDC **30** 15:04:05.8±0.6, 34°30N×33°70E, h0km, mb4.5/35, mb1 4.6/44, mb1mx4.5/57, mbtmp4.5/44, ML4.3/8, MS3.3/19, Ms1 3.4/19, ms1mx3.2/53, Error ellipse: s-maj=12.7km s-min=10.0km az=15.0*

*ISK **30** 15:04:08.1, 34°27N×33°79E, h15km, ML4.7/23*

*HLW **30** 15:04:08.9, 34°37N×33°69E, h8km±8km, Ml4.7*

*NIC **30** 15:04:09.5±0.0, 34°27N×33°74E, h20km±1km, Ml4.7/7*

*MOS **30** 15:04:09.1±1.0, 34°29N×33°64E, h37km, mb4.9/42, Error ellipse: s-maj=5.0km s-min=3.1km az=104.4*

*MED_RC **30** 15:04:10.0±2.4, 34°13N×33°64E, h37km±3km, MW4.5/12, Moment Tensor Solution.Mantle waves: s12,c15; Duration: 1s1 Moment tensor: Scale 1015Nm; Mrr3.67±1.44; Mθθ3.06±.89; Mφφ-6.74±.73; Mrθ1.39±.69; Mθφ1.04±.70; Mφr0.87±.70; Best double couple: M0:5.92000×1015 NP1:φs141.00000°, δ54.00000°, λ38.00000°. NP2:φs26.00000°, δ60.00000°, λ137.00000°. Principal axes: T 4.9400, Plg50.0000°, Azm350.0000°; N 1.9500, Plg40.0000°, Azm178.0000°; P -6.9000, Plg4.0000°, Azm85.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*GRAL **30** 15:04:11.5±0.6, 34°42N×33°87E, h41km±53km, MD4.5*

*NEIC **30** 15:04:11.5±1.5, 34°32N±0°05×33°66E±0°07, h36km±6km, mb4.8/152, ML4.7(ISK), ML4.8(NIC), Error ellipse: s-maj=8.9km s-min=5.8km az=58.0*

*THE **30** 15:04:12.4, 34°25N×33°31E, h6km±36km, ML4.6/3, Error ellipse: s-maj=50.5km s-min=2.9km az=115.0*

*GII **30** 15:04:12.7±0.0, 34°24N×33°69E, h31km, mb4.4/8, MD4.3/8, Mm3.9/12*

ISC 30 15:04:10.3±0.8, 34°26N±0°02×33°68E±0°02, h33km±3km, n727, σ1°25/781, mb4.8/162, MS3.4/19, 97C-54D, Fault plane solution: NP1:φs141.94972°, δ66.38822°, λ46.82179°. NP2:φs28.83431°, δ48.07340°, λ147.42822°. Principal axes: T Plg49.0862°, Azm4.3211°; N Plg38.8279°, Azm162.5481°; P Plg10.9091°, Azm261.4716°; **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.64**	**326**	P	**Pb**	**15 04 22.5**	**-0.6**
ASGA				S	**Sn**	**15 04 32.7**	**+0.7**
ASGA				AML	AML	15 04 33.1	
	226nm,0.4s						
ASGA				AML	AML	15 04 33.1	
	226nm,0.4s						
ASGA				AML	AML	15 04 33.6	
	130nm,0.5s						
ASGA				AML	AML	15 04 33.6	
	130nm,0.5s						
MVOU	**Mavrovouni**	**0.76**	**357**	P	**Pn**	**15 04 23.7**	**-0.9**
MVOU				S	**Sn**	**15 04 35.3**	**+0.4**
MVOU				AML	AML	15 04 37.1	
	48nm,0.6s						
MVOU				AML	AML	15 04 37.1	
	48nm,0.6s						
MVOU				AML	AML	15 04 40.0	
	35nm,0.4s						
MVOU				AML	AML	15 04 40.0	
	35nm,0.4s						
CSS	**Mathiatis**	**0.76**	**338**	Pg	**Pn**	**15 04 23.7**	**-1.0**
CSS				Sg	**Sn**	**15 04 35.3**	**+0.3**
CSS	**Mathiatis**	**0.76**	**338**	PG	**Pn**	**15 04 23.8**	**-1.0**
CSS				SG	**Sn**	**15 04 35.1**	**+0.1**
CSS	**Mathiatis**	**0.76**	**338**		**Pn**	**15 04 23.7**	**-1.0**
CSS					**Sn**	**15 04 35.3**	**+0.3**
CSS	**Mathiatis**	**0.76**	**338**	P	**Pn**	**15 04 23.8**	**-1.0**
CSS				S	**Sn**	**15 04 35.6**	**+0.6**
AKIN	**Akıncılar- Kıb**	**0.77**	**347**	PG	**Pn**	**15 04 24.3**	**-0.6**
AKIN				SG	**Sn**	**15 04 35.5**	**+0.1**
PARAL	**Paralimni**	**0.79**	**22**	⇓*i*P	**Pn**	**15 04 24.6**	**-0.5**
PARAL				S	**Sn**	**15 04 35.5**	**-0.3**
PARAL				AML	AML	15 04 37.2	
	71nm,0.6s						
PARAL				AML	AML	15 04 37.2	
	71nm,0.6s						
PARAL				AML	AML	15 04 43.5	
	52nm,0.5s						
PARAL				AML	AML	15 04 43.5	
	52nm,0.5s						
SZAC	**Souni**	**0.82**	**307**	⇓*i*P	**Pb**	**15 04 26.1**	**-0.1**
SZAC				S	**Sn**	**15 04 38.8**	**+2.1**
SZAC				AML	AML	15 04 39.9	
	309nm,0.5s						
SZAC				AML	AML	15 04 39.9	
	309nm,0.5s						
SZAC				AML	AML	15 04 42.2	
	218nm,0.5s						
SZAC				AML	AML	15 04 42.2	
	218nm,0.5s						
ATHAL	**Athalassa**	**0.91**	**345**	⇑*e*P	**Pb**	**15 04 27.0**	**-0.6**
LFK	**Lefkose**	**1.02**	**353**	PG	**Pb**	**15 04 28.3**	**-1.3**
LFK				SG	**Sb**	**15 04 43.1**	**+0.3**
NATA	**Nata**	**1.05**	**300**	⇓*e*P	**Pb**	**15 04 29.6**	**-0.5**
NATA				S	**Sb**	**15 04 47.0**	**+3.4**
NATA				AML	AML	15 04 48.1	
	184nm,1.1s						
NATA				AML	AML	15 04 48.1	
	184nm,1.1s						
NATA				AML	AML	15 04 49.9	
	178nm,0.4s						
NATA				AML	AML	15 04 49.9	
	178nm,0.4s						
LEF	**Lefka**	**1.08**	**323**	PN	**Pb**	**15 04 30.0**	**-0.4**
LEF				SN	**Sb**	**15 04 46.2**	**+2.0**
AKDN	**Akdeniz- Kıbrı**	**1.19**	**331**	PN	**Pb**	**15 04 31.3**	**-1.0**
AKDN				SN	**Sb**	**15 04 48.1**	**+0.7**
ALFC	**Alefka**	**1.26**	**315**	P	**Pb**	**15 04 32.5**	**-1.1**
ALFC				AML	AML	15 04 49.7	
	244nm,0.8s						
ALFC				AML	AML	15 04 49.7	
	244nm,0.8s						
ALFC				S	**Sb**	**15 04 50.0**	**+0.5**
ALFC				AML	AML	15 04 51.0	
	245nm,0.4s						
ALFC				AML	AML	15 04 51.0	
	245nm,0.4s						
EREN	**Erenkoy**	**1.33**	**17**	PN	**Pn**	**15 04 32.3**	**-0.2**
AKMS	**Akamas**	**1.34**	**305**	⇓*i*P	**Pb**	**15 04 33.6**	**-1.3**
AKMS				S	**Sb**	**15 04 52.2**	**+0.4**
AKMS				AML	AML	15 04 57.2	
	68nm,0.5s						
AKMS				AML	AML	15 04 57.2	
	68nm,0.5s						
AKMS				AML	AML	15 04 57.5	
	62nm,0.6s						
AKMS				AML	AML	15 04 57.5	
	62nm,0.6s						
BEYL	**Beirut**	**1.55**	**104**	*e*P	**Pn**	**15 04 35.0**	**-0.6**
BEYL				*e*S	**Sn**	**15 04 51.1**	**-3.4**
DQRL	**Deir Qamar**	**1.66**	**109**	*e*P	**Pn**	**15 04 36.3**	**-0.9**
DQRL				*e*S	**Sn**	**15 04 55.3**	**-2.2**
OSC2	**CSNet OBS 4**	**1.67**	**225**	⇓*e*P	**Pn**	**15 04 36.3**	**-1.0**
OSC2				S	**Sn**	**15 04 59.6**	**+2.2**
BHL	**Bhannes**	**1.67**	**102**	*e*P	**Pn**	**15 04 36.2**	**-1.2**
BHL				*e*S	**Sn**	**15 04 54.5**	**-3.3**
HNTI	**Hanita**	**1.71**	**133**	Pn	**Pn**	**15 04 37.8**	**0.0**
HNTI				Sn	**Sn**	**15 04 57.4**	**-1.1**
QRWL	**Qaraoun**	**1.81**	**113**	*e*P	**Pn**	**15 04 38.9**	**-0.3**
AKK2	**Akkuyu-Mersin**	**1.88**	**357**	PN	**Pn**	**15 04 40.4**	**+0.4**
AKK2				SN	**Sb**	**15 04 5.4.5**	**-2.5**
AKK1	**Akkuyu-Mersin**	**1.88**	**356**	PN	**Pn**	**15 04 40.7**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.90**	**357**	PN	**Pn**	**15 04 40.7**	**+0.4**
AKKU				SN	**Sn**	**15 05 04.2**	**+1.1**
TISA	**Tisan-Mersin**	**1.90**	**360**	PN	**Pn**	**15 04 40.7**	**+0.4**
TISA				SN	**Sb**	**15 05 04.5**	**-3.1**
MMA0B	**Mount Meron ar**	**1.90**	**130**	Pn	**Pn**	**15 04 40.6**	**+0.2**
MMA0B				Sn	**Sn**	**15 05 02.1**	**-1.1**
MMAI	**Mount Meron Ar**	**1.90**	**130**	Pn	**Pn**	**15 04 40.6**	**+0.2**
	1μm,0.3s,baz=313,slow=12,SNR=2661						
MMAI				Sn	**Sn**	**15 05 03.8**	**+0.6**
	1μm,0.3s,baz=306,slow=29,SNR=29						
MMAI				LR	LR	15 05 42.4	
	comp=Z,1μm,19.4s,baz=325,slow=50						
YORU	**Yoruktepe-Mers**	**1.90**	**353**	PN	**Pn**	**15 04 41.0**	**+0.6**
YORU				SN	**Sb**	**15 05 04.7**	**-3.1**
BOZY	**Bozyazi-Mersin**	**1.93**	**343**	PN	**Pn**	**15 04 41.5**	**+0.7**
YESI	**Yesilovacik-Me**	**1.93**	**359**	PN	**Pn**	**15 04 41.1**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.94**	**346**	PN	**Pn**	**15 04 41.4**	**+0.5**
RCY	**Rachaya**	**1.95**	**112**	*e*P	**Pn**	**15 04 40.8**	**-0.4**
OREN	**Orenkoy-Mersin**	**1.95**	**355**	PN	**Pn**	**15 04 41.4**	**+0.3**
GEM	**Giv'at Ha'Em**	**1.96**	**122**	Pn	**Pn**	**15 04 41.1**	**0.0**
GEM				Sn	**Sn**	**15 05 02.9**	**-1.6**
TEPK	**Tepekoy-MERSIN**	**1.96**	**357**	PN	**Pn**	**15 04 41.9**	**+0.6**
OFRI	**`Ofer**	**1.96**	**146**	Pn	**Pn**	**15 04 41.3**	**0.0**
OFRI				Sn	**Sn**	**15 05 03.4**	**-1.4**
IKL	**Isikli**	**1.97**	**0**	PN	**Pn**	**15 04 41.8**	**+0.4**
BLGI	**Bet Lehem HaGe**	**1.98**	**140**	Pn	**Pn**	**15 04 41.6**	**+0.2**
BLGI				Sn	**Sn**	**15 05 03.8**	**-1.3**
SILI	**Silifke-Mersin**	**2.11**	**5**	PN	**Pn**	**15 04 43.9**	**+0.6**
BERE	**Bereket-Mersin**	**2.12**	**350**	PN	**Pn**	**15 04 43.9**	**+0.4**
SLFK	**Silifke-Mersin**	**2.14**	**6**	PN	**Pn**	**15 04 43.9**	**+0.3**
OSC1	**CSNet OBS 1**	**2.14**	**250**	⇓*e*P	**Pn**	**15 04 44.5**	**+0.8**
OSC1				S	**Sb**	**15 05 12.2**	**-2.3**
TEVE	**Tevekalti-Mers**	**2.18**	**355**	PN	**Pn**	**15 04 44.7**	**+0.4**
KEBE	**Keben-Mersin**	**2.18**	**1**	PN	**Pn**	**15 04 44.6**	**+0.3**
KIZK	**Mersin**	**2.25**	**10**	PN	**Pn**	**15 04 45.4**	**+0.3**
GAZI	**Gazipasa**	**2.27**	**331**	PN	**Pn**	**15 04 46.1**	**+0.7**
SLTI	**Sal'it**	**2.31**	**150**	Pn	**Pn**	**15 04 45.9**	**-0.2**
SLTI				Sn	**Sn**	**15 05 12.0**	**-1.4**
MMLI	**Mount Malkishu**	**2.33**	**141**	Pn	**Pn**	**15 04 46.9**	**+0.6**
MMLI				Sn	**Sn**	**15 05 13.2**	**-0.6**
MMLI	**Mount Malkishu**	**2.33**	**141**	PN	**Pn**	**15 04 46.5**	**+0.2**
MMLI	**Mount Malkishu**	**2.33**	**141**	P	**Pn**	**15 04 46.8**	**+0.6**
MMLI				S	**Sn**	**15 05 13.2**	**-0.6**
HMDT	**Nahal Hemdat**	**2.53**	**142**	Pn	**Pn**	**15 04 50.1**	**+1.1**
HMDT				Sn	**Sn**	**15 05 18.4**	**-0.3**
YAYL	**Yayladag**	**2.66**	**48**	PN	**Pn**	**15 04 50.6**	**-0.4**
KRTS	**Karatas**	**2.69**	**30**	PN	**Pn**	**15 04 51.4**	**+0.2**
MERS	**Mersin**	**2.69**	**15**	PN	**Pn**	**15 04 51.7**	**+0.4**
AMAZ	**Amatzia**	**2.91**	**159**	Pn	**Pn**	**15 04 55.2**	**+0.9**
AMAZ				Sn	**Sn**	**15 05 27.4**	**-0.8**
AMAZ	**Amatzia**	**2.91**	**159**	P	**Pn**	**15 04 55.2**	**+0.9**
AMAZ				S	**Sn**	**15 05 27.1**	**-1.1**
KRMN	**Karaman**	**2.93**	**353**	PN	**Pn**	**15 04 55.7**	**+1.1**
TAHT	**Tahtakopru-Hat**	**2.94**	**43**	PN	**Pn**	**15 04 54.8**	**+0.1**
DSI	**Dead Sea**	**3.04**	**152**	Pn	**Pn**	**15 04 57.1**	**+1.0**
DSI				Sn	**Sn**	**15 05 30.5**	**-0.8**
YTIR	**Yattir**	**3.13**	**157**	Pn	**Pn**	**15 04 58.4**	**+1.0**
YTIR				Sn	**Sn**	**15 05 33.1**	**-0.6**
CEYT	**Ceyhan**	**3.22**	**31**	PN	**Pn**	**15 04 59.1**	**+0.6**
MDBI	**Mazsada**	**3.26**	**154**	Pn	**Pn**	**15 05 00.0**	**+0.9**
MDBI				Sn	**Sn**	**15 05 36.1**	**-0.6**
GHAJ	**Ghor Haditha**	**3.35**	**151**	Pn	**Pn**	**15 05 02.0**	**+1.7**
GHAJ				Sn	**Sn**	**15 05 39.8**	**+0.9**
KZIT	**Kziot**	**3.40**	**170**	Pn	**Pn**	**15 05 01.7**	**+0.6**
KZIT				Sn	**Sn**	**15 05 39.4**	**-0.8**
KZIT	**Kziot**	**3.40**	**170**	P	**Pn**	**15 05 01.6**	**+0.6**
KZIT				S	**Sn**	**15 05 38.9**	**-1.3**
RMNI	**Mount Ramon**	**3.77**	**166**	Pn	**Pn**	**15 05 07.0**	**+0.9**
KSL	**Kastellorizon**	**3.85**	**300**	P	**Pn**	**15 05 07.2**	**0.0**
KORT	**Korkueli**	**3.85**	**316**	PN	**Pn**	**15 05 09.8**	**+2.4**
AKAS	**Kas**	**3.87**	**302**		**Pn**	**15 05 07.1**	**-0.5**
ZFRI	**Zfri**	**3.91**	**161**	Pn	**Pn**	**15 05 08.7**	**+0.7**
ZFRI				Sn	**Sn**	**15 05 51.3**	**-1.4**
ELL	**Elmali**	**3.95**	**310**	P	**Pn**	**15 05 09.2**	**+0.4**
ELL	**Elmali**	**3.95**	**310**	PN	**Pn**	**15 05 10.4**	**+1.6**
ELL	**Elmali**	**3.95**	**310**	Pn	**Pn**	**15 05 09.2**	**+0.4**
PRNI	**Paran**	**4.05**	**164**	Pn	**Pn**	**15 05 11.4**	**+1.3**
GAZ	**Gaziantep**	**4.08**	**44**	PN	**Pn**	**15 05 10.7**	**+0.2**
GAZ	**Gaziantep**	**4.08**	**44**		**Pn**	**15 05 09.6**	**-0.9**
GAZ	**Gaziantep**	**4.08**	**44**	P	**Pn**	**15 05 09.7**	**-0.8**
KRMI	**Paran Flat**	**4.22**	**168**	Pn	**Pn**	**15 05 13.4**	**+1.0**
HRFI	**Mount Harif**	**4.37**	**164**	Pn	**Pn**	**15 05 15.1**	**+0.8**
ISP	**Isparta**	**4.38**	**325**	P	**Pn**	**15 05 15.2**	**+0.6**
ISP	**Isparta**	**4.38**	**325**	Pn	**Pn**	**15 05 15.8**	**+1.2**
ISP	**Isparta**	**4.38**	**325**	Pn	**Pn**	**15 05 15.2**	**+0.6**
FETY	**Fethiye**	**4.44**	**304**	P	**Pn**	**15 05 15.8**	**+0.5**
SUZ	**Suez**	**4.47**	**190**	P	**Pn**	**15 05 16.7**	**+1.0**
	baz=190						
MBRI	**Mt Berech**	**4.57**	**166**	Pn	**Pn**	**15 05 18.4**	**+1.1**
KOT	**Kottamia**	**4.60**	**201**	P	**Pn**	**15 05 18.3**	**+0.7**
	baz=201						
KOT				AMP		15 06 00.0	
	baz=201						
EIL	**Elat**	**4.70**	**166**	Pn	**Pn**	**15 05 20.2**	**+1.3**
	16nm,0.3s,baz=155,slow=6.0,SNR=27						
EIL				Sn	**Sn**	**15 06 11.7**	**-0.7**
	96nm,0.3s,baz=49,slow=13,SNR=13						
EIL				LR	LR	15 07 22.0	
	comp=Z,382nm,20.1s,baz=329,slow=42						
EIL	**Elat**	**4.70**	**166**	Pn	**Pn**	**15 05 19.9**	**+1.0**
EIL				Sn	**Sn**	**15 06 11.5**	**-0.8**
BNN	**Bunyan**	**4.90**	**20**	Pn	**Pn**	**15 05 21.9**	**+0.1**
ARG	**Arkhangelos**	**4.95**	**295**	P	**Pn**	**15 05 21.8**	**-0.5**
ARG				S	**Sn**	**15 06 16.1**	**-2.3**
	1μm,0.9s						
ARG	**Arkhangelos**	**4.95**	**295**	P	**Pn**	**15 05 21.8**	**-0.5**
ARG				S	**Sn**	**15 06 16.1**	**-2.3**
GLL	**Jalalah**	**4.96**	**200**	P	**Pn**	**15 05 23.1**	**+0.5**
	baz=200						
HSAF	**As Saff**	**4.97**	**202**	P	**Pn**	**15 05 23.1**	**+0.4**
	baz=202						
ZAF	**Zafarana**	**5.06**	**191**	P	**Pn**	**15 05 24.7**	**+0.9**
	baz=192						
HMYD	**Mayadein**	**5.08**	**210**	P	**Pn**	**15 05 25.5**	**+1.4**
	baz=210						
YER	**Yerkesik**	**5.25**	**305**	P	**Pn**	**15 05 27.1**	**+0.7**
YER				S	**Sn**	**15 06 23.6**	**-2.2**
YER	**Yerkesik**	**5.25**	**305**	P	**Pn**	**15 05 27.1**	**+0.7**
YER				S	**Sn**	**15 06 23.6**	**-2.2**
HNAT	**Natroun**	**5.30**	**210**	P	**Pn**	**15 05 28.0**	**+0.8**
	baz=210						
BRTR	**Keskin Array B**	**5.45**	**360**	Pn	**Pn**	**15 05 31.1**	**+1.7**
	2.8nm,0.3s,baz=193,slow=14,SNR=16						
BRTR				LR	LR	15 08 05.4	
	comp=Z,520nm,20.3s,baz=180,slow=44						
BRTR	**Keskin Array B**	**5.45**	**360**	P	**Pn**	**15

AGG Agios Georgios 10.28 301 P Pn 15 06 35.8 +0.3
AGG Agios Georgios 10.28 301 Pn 15 06 35.8 +0.3
SOC Sochi 10.42 25 *eP* **Pn 15 06 35.3 -2.1**
SOC *e* 15 08 31.9
SOC MLR MLR
comp=Z,131nm,16.0s
GNI Garni 10.59 53 Pn **Pn 15 06 43.7 +3.8**
comp=Z,0.1nm,0.3s,baz=238,slow=2.8,SNR=6.5
GNI LR LR 15 11 21.8
comp=Z,128nm,20.4s,baz=242,slow=41
GNI Garni 10.59 53 *i* P **Pn 15 06 41.1 +1.2**
GNI Garni 10.59 53 Pn 15 06 43.0 +3.2
LIT Litokhoron 10.66 306 P **Pn 15 06 41.1 +0.5**
LIT Litokhoron 10.66 306 Pn 15 06 41.1 +0.5
CHVG Ch'k'valeri 10.70 35 ⇑P **Pn 15 06 45.3 +4.1**
CHVG Ch'k'valeri 10.70 35 ⇑P **Pn 15 06 45.3 +4.1**
ANN Anapa 10.91 14 *eP* **Pn 15 06 41.8 -2.3**
ANN *eS* **Sn 15 08 44.3 -0.6**
ANN pmax pmax
comp=Z,23nm,0.8s
TIRR Tirgusor 10.97 340 ⇑P **Pn 15 06 45.4 +0.6**
TIRR Tirgusor 10.97 340 ⇑P **Pn 15 06 45.4 +0.6**
TIRR Tirgusor 10.97 340 Pn **Pn 15 06 44.8 0.0**
VAY Valandovo 11.26 312 *i* P **Pn 15 06 51.0 +2.2**
ONI Oni 11.30 40 P **Pn 15 06 49.8 +0.3**
ONI Oni 11.30 40 Pn 15 06 49.8 +0.3
VTS Vitosha 11.68 319 P **Pn 15 06 53.3 -1.5**
VTS Vitosha 11.68 319 Pn **Pn 15 06 53.3 -1.5**
CFR Carcaliu 11.71 340 ⇑P **Pn 15 06 56.3 +1.4**
CFR Carcaliu 11.71 340 ⇑P **Pn 15 06 56.3 +1.4**
STIP Stip 11.71 313 *i* P **Pn 15 06 56.2 +1.2**
FNA Florina 11.73 307 P **Pn 15 06 55.1 -0.3**
FNA Florina 11.73 307 Pn 15 06 55.1 -0.3
SHA1 Shidzhatmaz 11.75 34 *i* P **Pn 15 06 55.2 -0.6**
KBZ Khabaz 11.86 34 Pn **Pn 15 07 00.1 +3.2**
comp=Z,0.1nm,0.3s,baz=221,slow=14,SNR=6.2
KBZ Khabaz 11.86 34*ceP* **Pn 15 06 57.7 +0.8**
KIV Kislovodsk 11.93 33 *eP* **Pn 15 06 59.4 +1.3**
KIV *eS* **Sn 15 09 13.2 +3.1**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,49nm,11.0s
KIV Kislovodsk 11.93 33 Pn **Pn 15 07 00.8 +2.7**
NCK Nalchik 12.02 37 *i* P **Pn 15 07 00.8 +1.6**
NCK pmax pmax
comp=Z,9.0nm,1.0s
KBN Korca 12.05 306 P **Pn 15 07 01.9 +2.2**
KBN Korca 12.05 306 Pn **Pn 15 07 01.9 +2.2**
MLR Muntele Rosu 12.68 334 Pn **Pn 15 07 08.7 +0.2**
comp=Z,0.1nm,0.3s,baz=349,slow=17,SNR=6.9
MLR Muntele Rosu 12.68 334 ⇓P **Pn 15 07 09.1 +0.7**
MLR Muntele Rosu 12.68 334 P **Pn 15 07 08.9 +0.5**
MLR Muntele Rosu 12.68 334 Pn 15 07 08.9 +0.5
VRI Vrincioaia 12.75 337 ⇑P **Pn 15 07 09.0 -0.2**
VRI Vrincioaia 12.75 337 ⇑P **Pn 15 07 09.0 -0.2**
PLOR Plostina 12.76 337 ⇑P **Pn 15 07 10.5 +1.2**
PLOR Plostina 12.76 337 ⇑P **Pn 15 07 10.5 +1.1**
VLO Vlora 12.87 303 P **Pn 15 07 12.1 +1.3**
VLO Vlora 12.87 303 Pn **Pn 15 07 12.1 +1.3**
VOIR 12.97 332 ⇑P **Pn 15 07 12.9 +0.6**
VOIR 12.97 332 ⇑P **Pn 15 07 12.9 +0.6**
GROC Groznyy 12.99 43 *eP* **P 15 07 20.2 -2.3**
GROC pmax pmax
comp=Z,28nm,0.4s
TIR Tirane 13.01 307 P **Pn 15 07 12.7 0.0**
TIR Tirane 13.01 307 Pn **Pn 15 07 12.7 0.0**
ARR Arges 13.08 331 ⇑P **Pn 15 07 14.9 +1.2**
AKT Akhty 13.22 53 *eP* **Pn 15 07 19.1 +3.3**
AKT pmax pmax
comp=Z,7.0nm,0.9s
DOPR Dopca 13.29 334 ⇑P **Pn 15 07 16.5 -0.1**
SCTE Santa Cesarea 13.44 300 Pn 15 07 16.1 -2.6
LOT Lotru 13.51 329 ⇑P **Pn 15 07 20.3 +0.7**
BIZ Bicaz 13.90 338 ⇑P **Pn 15 07 26.4 +1.5**
GZR Gura Zlata 13.91 326 ⇑P **Pn 15 07 24.4 -0.6**
PDG Podgorica 13.94 310 ⇑P **Pn 15 07 25.3 -0.1**
PDG Podgorica 13.94 310 Pn 15 07 26.0 +0.6
MDVR Moldovita 13.97 322 ⇓P **Pn 15 07 25.1 -0.8**
TIP Timpagrande 14.43 295 Pn 15 07 27.3 -4.9
DIVS Divibare 14.45 317 Pn 15 07 30.2 -2.2
BURAR Bucovina Array 14.78 337 ⇑P **Pn 15 07 37.8 +0.9**
BURAR Bucovina Array 14.78 337 ⇑P **Pn 15 07 37.8 +0.9**
BURAR Bucovina Array 14.78 337 Pn 15 07 35.6 -1.4
BUR08 Bucovina Ar. S 14.81 337 Pn 15 07 37.4 +0.1
DRGR 15.02 330 ⇓P **Pn 15 07 39.7 -0.4**
DRGR 15.02 330 ⇓P **Pn 15 07 39.7 -0.4**
VAE Valguarnera 15.95 287 Pn **P 15 07 54.3 -1.2**
comp=Z,2.6nm,0.3s,baz=84,slow=8.0,SNR=6.0
VAE Sn Sn 15 10 36.2 -12
comp=Z,2.7nm,0.3s,baz=40,slow=9.6,SNR=2.5
RAFF Raffo Rosso 15.96 286 Pn 15 07 48.3 -4.1
RAFF IAmb IAmb 15 08 01.7
comp=Z,52nm,0.7s
PAOL Paolisi 16.56 300 Pn **Pn 15 07 57.3 -2.7**
UZH Uzhgorod 16.68 333 *eP* **P 15 08 02.1 -1.3**
AKASG Malin Array Be 16.75 350 Pn **Pn 15 08 00.5 -1.8**
comp=Z,4.6nm,0.3s,baz=169,slow=11,SNR=15
AKASG Malin Array Be 16.75 350 P **Pn 15 08 00.9 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 16.75 350 Pn **Pn 15 08 00.8 -1.4**
AKBB Malin Array Si 16.75 350*ceP* **Pn 15 08 01.1 -1.1**
AKBB Malin Array Si 16.75 350 Pn 15 07 59.7 -2.6
CORL Corleone 16.87 288 P **Pn 15 08 01.9 -2.0**
CORL IAmb IAmb 15 08 12.0
comp=Z,43nm,0.9s
CLTB Caltabellotta 16.90 287 P **Pn 15 08 02.8 -1.5**
KOLS Kolonicke sedl 16.93 333 *eP* **P 15 08 07.0 +0.7**
KOLS Kolonicke sedl 16.93 333 *eP* **P 15 08 07.0 +0.7**
LVV L'vov 17.10 338 *eP* **P 15 08 07.2 -0.8**
PSZ Piszkesteto 17.11 327 *eP* **P 15 08 09.9 +1.5**
PSZ Piszkesteto 17.11 327 P **Pn 15 08 04.9 -2.0**
PSZ pmax pmax
comp=Z,19nm,1.1s
PSZ Piszkesteto 17.11 327 P **Pn 15 08 04.8 -2.0**
CRVS Cervenica-Dubn 17.22 332 *eP* **P 15 08 09.7 +0.3**
CRVS Cervenica-Dubn 17.22 332 *eP* **P 15 08 09.7 +0.3**
INTR Introdacqua 17.35 302 P **Pn 15 08 08.9 -1.0**
AQU L'Aquila 17.82 303 P **P 15 08 16.6 +0.4**
AQU pmax pmax
comp=Z,32nm,0.9s
AQU L'Aquila 17.82 303 P **P 15 08 16.6 +0.4**
VRH Novokhopyorsk 17.91 17 *eP* **P 15 08 18.1 +1.1**
VRH pmax pmax
comp=Z,50nm,0.8s
VYHS Vyhne 18.02 327 *eP* **P 15 08 18.6 +0.3**
VYHS Vyhne 18.02 327 *eP* **P 15 08 18.6 +0.3**
NRCA Norcia 18.19 304 P **Pn 15 08 19.8 -0.4**
MODS Modra-Piesok 18.67 324 *eP* **Pn 15 08 28.6 +2.7**
MODS Modra-Piesok 18.67 324 *eP* **Pn 15 08 28.6 +2.7**
LPSR Galich'ya Gora 18.71 10 *eP* **Pn 15 08 25.7 -0.7**
LPSR pmax pmax
comp=Z,40nm,0.8s
MURB Monte Urbino 18.75 305 P **Pn 15 08 27.5 +0.5**
SOKA Soboth 18.79 317 *ePn* **Pn 15 08 28.0 +0.5**
comp=Z,4.5nm,0.9s
JAVC Velka Javorina 18.82 326 *eP* **Pn 15 08 29.5 +1.7**
ARSA Arzberg 18.85 319 *ePn* **Pn 15 08 28.9 +0.8**
comp=Z,7.4nm,0.7s
OJC Ojcow 18.92 332 *eP* **Pn 15 08 30.2 +1.2**
OJC Ojcow 18.92 332 P **P 15 08 26.6 -1.5**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 18.92 332 P **P 15 08 26.6 -1.5**
MORC Moravsky Berou 19.53 327 P **P 15 08 32.2 -2.7**
MORC pmax pmax
comp=Z,14nm,1.4s
MORC Moravsky Berou 19.53 327 P **P 15 08 32.2 -2.7**
MORC Moravsky Berou 19.53 327 *eP* **P 15 08 34.9 0.0**
MYKA Terra Mystica 19.56 315 *ePn* **Pn 15 08 36.9 +0.2**
comp=Z,6.8nm,0.5s,SNR=8.1
KRUC Moravsky 19.57 324 *eP* **P 15 08 34.6 -0.6**
VRAC Vranov 19.64 325 P **Pn 15 08 37.1 -0.4**
comp=Z,0.7nm,0.3s,baz=146,slow=7.9,SNR=4.4
VRAC LR LR 15 19 14.2
comp=Z,37nm,18.6s,baz=103,slow=46
VRAC Vranov 19.64 325 *eP* **P 15 08 35.3 -0.7**
ZOU Zoufplan 19.92 314 P **P 15 08 38.6 -0.7**
KEST Kesra 19.98 281 P **Pn 15 08 41.6 -0.2**
comp=Z,0.4nm,0.3s,baz=290,slow=0.6,SNR=21
KEST LR LR 15 19 43.1
comp=Z,45nm,18.9s,baz=234,slow=47
KEST Kesra 19.98 281 P **P 15 08 40.2 +0.2**
KEST IAmb IAmb 15 08 45.9
comp=Z,23nm,0.9s
GEYT Alibeck 20.07 72 P Pn 15 08 42.1 -0.7
comp=Z,123nm,0.7s,baz=256,slow=12,SNR=12
GYA0 ALIBECK ARRAY 20.07 72 P Pn 15 08 42.1 -0.7
GYA0 pmax pmax
comp=Z,22nm,0.9s
GYA0B ALIBECK ARRAY 20.07 72 P Pn 15 08 42.1 -0.6
KRLC Kraliky 20.09 327 *eP* **P 15 08 41.6 +0.6**
KRLC Kraliky 20.09 327 *eP* **P 15 08 41.6 +0.6**
VSL Villasalto 20.11 292 P **P 15 08 41.7 +0.5**
VSL IAmb IAmb 15 08 45.2
comp=Z,43nm,0.9s
TEOL Teolo 20.15 310 P **P 15 08 41.1 -0.5**
TEOL IAmb IAmb 15 09 01.1
comp=Z,24nm,0.8s
ABTA Abfaltersbach 20.29 314 *eP* **P 15 08 43.9 +0.7**
comp=Z,6.8nm,0.9s
CKRC Cesky Krumlov 20.45 321 *eP* **P 15 08 45.1 +0.2**
CKRC *ex* x 15 08 49.2
CTI Castel Tesino 20.47 312 P **P 15 08 44.7 -0.6**
CTI pmax pmax
comp=Z,15nm,0.9s
CTI Castel Tesino 20.47 312 P **P 15 08 44.7 -0.6**
DPC Dobruska-Polom 20.49 327 *eP* **P 15 08 45.6 +0.2**
DPC Dobruska-Polom 20.49 327 *eP* **P 15 08 45.6 +0.2**
MNK Minsk 20.64 350 *i* P **P 15 08 44.8 -2.1**
MNK *i* 15 09 03.3
MNK *i* S **S 15 12 30.1 -5.5**
MNK *i* SS **SnSn 15 12 57.3 +1.3**
MNK *i* SSS SSS 15 13 12.9
MNK pmax pmax
comp=N,18nm,1.0s
MNK pmax pmax
comp=Z,34nm,1.3s
MNK MLR MLR
comp=N,424nm,23.0s
MNK MLR MLR
comp=Z,199nm,22.0s
MNK MLR MLR
comp=E,69nm,22.0s
MNK Minsk 20.64 350 *i* P **P 15 08 44.8 -2.0**
comp=E,2.0nm,0.9s
MNK *i* P **P 15 08 44.8 -2.0**
comp=N,18nm,1.1s
MNK *i* P **P 15 08 44.8 -2.0**
comp=Z,34nm,1.3s,baz=166
MNK *i* PP **PnPn 15 09 03.4 -1.8**
MNK *i* S **S 15 12 30.2 -5.4**
MNK *i* SS **SnSn 15 12 57.4 +1.4**
MNK *i* SSS SSS 15 13 13.0
MNK *i* LR LR 15 16 14.2
MNK *i* LRM MLR 15 17 44.6
comp=N,424nm,22.9s
MNK *i* LRM MLR 15 17 47.1
comp=Z,199nm,21.6s
MNK *i* LRM MLR 15 17 54.7
comp=E,69nm,21.6s
OSTC Ostas 20.69 327 *eP* Pn 15 08 50.9 +1.0
UPC Upice 20.75 327 *eP* **P 15 08 48.4 +0.4**
UPC Upice 20.75 327 *eP* **P 15 08 48.4 +0.4**
CHVC Chvalec 20.78 327 *eP* **P 15 08 48.8 +0.3**
GEC2 GERESS Array S 20.79 321 P **P 15 08 47.9 -0.7**
GEC2 IAmb IAmb 15 08 54.6
comp=Z,18nm,0.7s
GEC2 GERESS Array S 20.79 321 *eP* Pn 15 08 52.6 +1.4
comp=Z,22nm,1.0s,baz=125,slow=9.2
GERES GERESS Array B 20.79 321 P **P 15 08 48.8 +0.2**
comp=Z,11nm,0.5s,baz=109,slow=9.9,SNR=59
GERES GERESS Array B 20.79 321 P **P 15 08 47.6 -1.0**
KSP Ksiaz 20.86 328 *eP* **P 15 08 49.2 0.0**
OBN Obninsk 20.95 5 P **P 15 08 49.7 -0.4**
comp=Z,14nm,0.5s,baz=0.6,slow=12,SNR=10
OBN Obninsk 20.95 5 *eP* **P 15 08 49.4 -0.7**
OBN *e* 15 09 05.7
OBN *e* 15 12 55.0
OBN pmax pmax
comp=Z,44nm,0.5s
OBN MLR MLR
comp=Z,35nm,18.0s
OBN Obninsk 20.95 5 P **P 15 08 49.7 -0.4**
SALO Salr 20.99 310 P **P 15 08 50.4 -0.4**
SALO IAmb IAmb 15 08 59.9
comp=Z,31nm,0.8s
KHC Kasperske Hory 21.03 321 P **P 15 08 50.5 -0.7**
KHC pmax pmax
comp=Z,9.0nm,0.7s
KHC Kasperske Hory 21.03 321 *eP* **P 15 08 50.4 -0.7**
KHC Kasperske Hory 21.03 321 P **P 15 08 50.5 -0.7**
WTTA Wattenberg 21.07 315 *eP* **P 15 08 51.5 -0.2**
comp=Z,9.2nm,0.6s
PRU Pruhonice 21.08 324 *eP* **P 15 08 53.6 +1.9**
PRU Pruhonice 21.08 324 *eP* **P 15 08 53.6 +1.9**
SUW Suwalki 21.09 343 *eP* **P 15 08 51.9 +0.2**
SUW Suwalki 21.09 343 P **P 15 08 51.5 -0.2**
SUW pmax pmax
comp=Z,29nm,0.8s
SUW Suwalki 21.09 343 P **P 15 08 51.5 -0.2**
SUW IAmb IAmb 15 09 07.5
comp=Z,29nm,0.8s
WATA Walderalm 21.14 315 *ePn* **P 15 08 54.3 +1.9**
comp=Z,21nm,0.9s
PBCC Pribram 21.16 323 *eP* **P 15 08 52.0 -0.5**
MSSA Maissana 21.16 306 P **P 15 08 52.5 -0.1**
MSSA IAmb IAmb 15 09 38.2
comp=Z,64nm,1.3s
MOTA Moosalm 21.42 314 *eP* **P 15 08 57.8 +2.3**
comp=Z,9.5nm,0.7s
FETA Feichten 21.49 313 *eP* **P 15 08 56.1 -0.1**
comp=Z,22nm,1.0s,SNR=11
IDID Didziasalis 21.60 349 *eP* **P 15 08 57.1 0.0**
UOSS Minazif 21.63 109 P **P 15 08 57.5 -0.3**
UOSS IAmb IAmb 15 09 22.0
comp=Z,26nm,1.0s
MOS Moscow 21.65 6 *eP* **P 15 08 56.2 -1.4**
MOS *e* 15 09 07.0
MOS pmax pmax
comp=Z,74nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.9s
RETA Reutte 21.69 314 *eP* **P 15 08 58.7 +0.4**
comp=Z,12nm,0.6s,SNR=13
IIGN Ignalina 21.72 348 *eP* **P 15 08 58.3 -0.1**
DAVOX Davos/Dischmat 21.90 312 P **P 15 09 01.1 +0.4**
comp=Z,7.3nm,0.6s,baz=159,slow=17,SNR=12
DAVOX LR LR 15 19 23.3
comp=Z,95nm,18.3s,baz=84,slow=42
ISAL Salakas 21.95 348 *eP* **P 15 09 01.0 +0.2**
BRG Berggiesshubel 21.96 325 *eP* **P 15 09 02.8 +1.7**
BRG Amp 15 09 06.2
comp=Z,15nm,1.5s
BRG Berggiesshubel 21.96 325 *eP* **P 15 09 03.0 +2.0**
comp=Z,19nm,1.6s,baz=125,slow=9.2
TUE Stuetta 22.09 311 P **P 15 09 02.2 -0.5**
ROTZ Rotzenmuhle 22.12 321 *eP* **P 15 09 04.9 +2.0**
comp=Z,12nm,1.1s,baz=125,slow=9.2
DAVA Damuels 22.13 313 *eP* **P 15 09 02.2 -0.8**
comp=Z,12nm,0.8s
PABE Paberze 22.29 345 *eP* **P 15 09 05.2 +0.8**
PABE Paberze 22.29 345 P **P 15 09 04.4 -0.1**
PABE IAmb IAmb 15 09 23.0
comp=Z,25nm,0.8s
MANZ Manzenberg 22.31 321 *eP* **P 15 09 06.6 +1.7**
comp=Z,9.1nm,1.2s,baz=125,slow=9.2
WERN Wernitzgruen 22.35 322 *eP* **P 15 09 07.2 +1.9**
comp=Z,25nm,1.8s,baz=125,slow=9.2
GUNZ Gunzen 22.42 322 *eP* **P 15 09 08.0 +2.0**
comp=Z,11nm,1.1s,baz=125,slow=9.2
CLL Collm 22.69 325 *eP* **P 15 09 09.0 +0.2**
CLL *i* 15 09 15.0
CLL *es*P **sP 15 09 22.0 +1.0**
CLL *e* 15 09 28.0
CLL *eS* **S 15 13 22.0 +7.1**
CLL Collm 22.69 325 *eP* **P 15 09 09.0 +0.2**
CLL *i* 15 09 15.0
CLL Collm 22.69 325 P **P 15 09 07.4 -1.4**
MOX Moxa 22.95 322 P **P 15 09 11.3 -0.3**
MOX pmax pmax
comp=Z,24nm,1.4s
MOX Moxa 22.95 322 *eP* **P 15 09 13.0 +1.4**
comp=Z,80nm,1.9s,baz=125,slow=9.2
STU Stuttgart 23.24 316 P **P 15 09 13.4 -1.1**
STU pmax pmax
comp=Z,18nm,0.9s
STU Stuttgart 23.24 316 P **P 15 09 13.4 -1.1**
STU IAmb IAmb 15 09 14.2
comp=Z,18nm,0.9s
BNI Bardonecchia 23.31 306 P **P 15 09 15.8 +0.3**
BNI pmax pmax
comp=Z,15nm,1.2s
BNI Bardonecchia 23.31 306 P **P 15 09 15.8 +0.3**
SENIN Lac Senin/Sane 23.35 309 P **P 15 09 15.2 -0.8**
LPL La Plagne 23.43 307 *eP* **P 15 09 17.6 +0.9**
LPL pmax pmax
comp=Z,5.0nm,0.6s
BFO Black Forest 23.53 314 P **P 15 09 16.6 -0.9**
BFO pmax pmax
comp=Z,16nm,0.7s
BFO Black Forest 23.53 314 P **P 15 09 16.6 -0.9**
BFO IAmb IAmb 15 09 18.7
comp=Z,16nm,0.7s
BFO Black Forest 23.53 314 *eP* **P 15 09 17.6 +0.2**
comp=Z,19nm,0.9s,baz=125,slow=9.2
HRA Herat 23.56 82 P **P 15 09 19.9 +1.9**
MILB Miltenberg 23.72 318 *eP* **P 15 09 19.3 +0.1**
comp=Z,21nm,1.0s,baz=125,slow=9.2
AKTO Aktyubinsk 24.02 40 P **P 15 09 22.0 0.0**
comp=Z,7.2nm,0.5s,baz=245,slow=12,SNR=27
AKTO LR LR 15 21 26.8
comp=Z,113nm,19.1s,baz=241,slow=43
AKTO Aktyubinsk 24.02 40 P **P 15 09 22.0 0.0**
ATD Arta Tunnel 24.12 158 LR LR 15 17 55.0
comp=Z,72nm,20.6s,baz=359,slow=34
CLZ Clausthal 24.30 323 *eP* **P 15 09 24.9 +0.3**
comp=Z,50nm,1.8s,baz=125,slow=9.2
GTTG Gottingen 24.33 322 *eP* **P 15 09 25.2 +0.4**
comp=Z,17nm,1.1s,baz=125,slow=9.2
WSAR Wadi Sarin 24.41 110 P **P 15 09 27.1 +1.2**
comp=Z,3.0nm,0.8s,baz=79,slow=21,SNR=1.0
ABKAR Abkulak array 24.50 44 P **P 15 09 26.0 -0.3**
ABKAR Abkulak array 24.50 44 P **P 15 09 26.3 -0.1**
ABKAR IAmb IAmb 15 09 59.7
comp=Z,4.3nm,0.7s
VSU Vasula 24.65 351 *eP* **P 15 09 27.8 +0.2**
CAF Calviac 26.44 303 *eP* **P 15 09 48.3 +4.3**
CAF pmax pmax
comp=Z,17nm,1.4s
KIRV Kirov 26.50 19 P **P 15 09 44.4 +0.1**
comp=Z,34nm,0.6s,baz=36,slow=15,SNR=12
KIRV LR LR 15 22 08.2
comp=Z,40nm,18.8s,baz=211,slow=41
KIRV Kirov 26.50 19*c i* P **P 15 09 43.6 -0.8**
CLF Chambon-Foret 27.15 310 P **P 15 09 50.2 -0.1**
CLF IAmb IAmb 15 10 19.0
comp=Z,17nm,1.1s
FINES FINESS Array B 27.64 352 P **P 15 09 53.9 -0.6**
comp=Z,4.0nm,0.6s,baz=154,slow=11,SNR=23
FINES LR LR 15 22 49.1
comp=Z,67nm,18.2s,baz=214,slow=41
FINES FINESS Array B 27.64 352 *i* P **P 15 09 54.5 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 27.64 352 P **P 15 09 53.8 -0.7**
FIA1 FINESS Array S 27.64 352 P **P 15 09 54.5 0.0**
FIA1 IAmb IAmb 15 09 55.9
comp=Z,21nm,1.3s
ARU Arti 27.95 30 P **P 15 09 57.8 +0.3**
comp=Z,4.8nm,0.6s,baz=217,slow=6.4,SNR=20
ARU LR LR 15 23 08.0
comp=Z,45nm,20.5s,baz=143,slow=41
ARU Arti 27.95 30*c i* P **P 15 09 57.7 +0.3**
ARU 15 10 48.8
ARU S **S 15 14 45.7 +6.7**
ARU SS **SnSn 15 15 59.4 +4.9**
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 27.95 30 P **P 15 09 57.0 -0.5**
ARU IAmb IAmb 15 09 58.5
comp=Z,14nm,0.7s
PRGR Permogore 28.44 12 *eP* **P 15 09 59.1 -2.6**
PRGR pmax pmax
comp=Z,22nm,1.5s
HFS Hagfors 28.99 339 P **P 15 10 06.7 +0.1**
comp=Z,5.7nm,0.9s,baz=142,slow=7.5,SNR=5.3
HFS LR LR 15 23 18.7
comp=Z,85nm,21.9s,baz=154,slow=40
SVE Sverdlovsk 29.08 31⇑*eP* **P 15 10 08.4 +1.0**
SVE pmax pmax
comp=Z,16nm,1.0s
KK31 Karatay Array 29.88 62 P **P 15 10 15.4 +0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 29.88 62 P **P 15 10 15.4 +0.7**
KKAR Karatay Array 29.88 62 P **P 15 10 15.4 +0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 29.88 62 P **P 15 10 15.3 +0.6**
KKAR Karatay Array 29.88 62 P **P 15 10 15.4 +0.6**
BTK Batken 30.00 68 P **P 15 10 16.3 +0.3**
BTK pmax pmax
comp=Z,5.0nm,1.2s
BTK Batken 30.00 68 P **P 15 10 16.3 +0.3**
NAO01 NORSAR Array S 30.40 338 P **P 15 10 18.9 -0.2**
NAO01 IAmb IAmb 15 10 19.7
comp=Z,31nm,1.1s
ESBB Sonseca Array 30.40 291 P **P 15 10 20.3 +0.9**
ESDC Sonseca Array 30.41 291 P **P 15 10 20.4 +0.9**
comp=Z,2.1nm,0.7s,baz=80,slow=8.8,SNR=15
ESDC Sonseca Array 30.41 291 P **P 15 10 19.5 0.0**
NB201 NORSAR Array S 30.44 339 P **P 15 10 19.1 -0.4**
NB2 NORSAR Subarra 30.45 338 P **P 15 10 18.5 -1.1**
comp=Z,7.9nm,1.1s,baz=141,slow=9.3
NOA NORSAR Array B 30.45 338 P **P 15 10 19.1 -0.6**
comp=Z,3.2nm,0.9s,baz=140,slow=8.9,SNR=8.1
NOA LR LR 15 25 30.0
comp=Z,54nm,19.1s,baz=155,slow=42
NBO00 NORSAR Array S 30.58 338 P **P 15 10 20.2 -0.5**
NBO00 IAmb IAmb 15 10 25.3
comp=Z,28nm,1.1s
PAB San Pablo 30.71 291 P **P 15 10 23.0 +0.8**
PAB pmax pmax
comp=Z,14nm,1.3s
PAB San Pablo 30.71 291 P **P 15 10 23.0 +0.8**
PAB IAmb IAmb 15 10 34.9
comp=Z,14nm,1.2s
BRVK Borovoye 31.99 43*ceP* **P 15 10 33.8 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 31.99 43 P **P 15 10 33.6 +0.4**
NIL Nilore 32.69 80 P **P 15 10 40.3 +0.7**
NIL pmax pmax
comp=Z,12nm,0.9s
NIL Nilore 32.69 80 P **P 15 10 40.2 +0.7**
NIL IAmb IAmb 15 10 42.5
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 33.01 321 P **P 15 10 40.9 -1.1**
comp=Z,1.7nm,0.6s,baz=113,slow=9.4,SNR=5.7
APA Apatity 33.35 360⇑*i P* **P 15 10 41.1 -3.8**
APA *i* 15 12 17.0
APA *i* S **S 15 15 55.0 -8.3**
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,200nm,16.0s
PVAQ Vaqueiros 33.52 288 P **P 15 10 45.6 -1.1**
BOOM Boomskoye usch 33.85 63 P **P 15 10 51.3 +1.5**
BOOM pmax pmax
comp=Z,4.0nm,0.8s
BOOM Boomskoye usch 33.85 63 P **P 15 10 51.3 +1.5**
KDJ Kajisay 34.77 64 P **P 15 10 57.7 -0.1**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 34.77 64 P **P 15 10 57.7 -0.1**
ARCES ARCESS Array B 35.62 355 P **P 15 11 03.9 -0.6**
comp=Z,4.9nm,0.5s,baz=168,slow=7.4,SNR=44
ARCES LR LR 15 28 03.8
comp=Z,65nm,18.4s,baz=225,slow=40
ARCES ARCESS Array B 35.62 355 P **P 15 11 04.1 -0.4**
ARCES pmax pmax
comp=Z,15nm,1.3s
ARCES ARCESS Array B 35.62 355 P **P 15 11 04.1 -0.4**
ARCES IAmb IAmb 15 11 40.6
comp=Z,15nm,1.3s
KEV Kevo 35.74 356 P **P 15 11 05.0 -0.5**
KEV pmax pmax
comp=Z,47nm,1.5s
KEV Kevo 35.74 356 P **P 15 11 05.0 -0.5**
TORD Torodi Ar. Bea 35.81 242 P **P 15 11 07.1 +0.3**

comp=Z,1.2nm,0.7s,baz=75,slow=6.3,SNR=8.6
TORD PcP **PcP** **15 13 34.0 0.0**
comp=Z,1.2nm,0.8s,baz=46,slow=3.3,SNR=3.9
TORD LR LR 15 28 13.2
comp=Z,74nm,20.0s,baz=335,slow=40
TORD Torodi Ar. Bea 35.81 242 P **P** **15 11 06.2 -0.5**
MAKZ Makanchi 38.21 56 P **P** **15 11 27.5 +0.6**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 38.21 56 P **P** **15 11 27.5 +0.6**
MAKZ IAmb IAmb 15 11 28.4
comp=Z,4.6nm,0.6s
MK31 Makanchi Array 38.42 56 P **P** **15 11 29.3 +0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 38.42 56 P **P** **15 11 29.3 +0.6**
MKAR Makanchi Array 38.42 56 P **P** **15 11 29.5 +0.8**
comp=Z,2.5nm,0.6s,baz=259,slow=7.4,SNR=34
MKAR PcP **PcP** **15 13 41.5 0.0**
comp=Z,1.5nm,0.6s,baz=260,slow=2.3,SNR=5.8
MKAR Makanchi Array 38.42 56 P **P** **15 11 28.9 +0.2**
KOWA Kowa 39.27 249 P **P** **15 11 37.6 +1.5**
comp=Z,1.6nm,0.4s,baz=49,slow=12,SNR=4.2
KOWA Kowa 39.27 249 P **P** **15 11 37.2 +1.1**
KOWA IAmb IAmb 15 11 52.0
comp=Z,23nm,1.8s
ZAA0 Zalesovo Array 40.61 45 P **P** **15 11 46.2 -0.5**
ZALV Zalesovo Beam 40.61 45 P **P** **15 11 46.3 -0.4**
comp=Z,2.5nm,0.5s,baz=264,slow=9.3,SNR=10
ZALV LR LR 15 31 23.0
comp=Z,47nm,19.5s,baz=244,slow=40
DGZ Jazzator, Alta 41.91 52 *i* P **P** **15 11 58.1 +0.4**
DGZ pmax pmax
comp=Z,2.0nm,0.7s
PYUN Piuthan 42.30 84 *e*P **P** **15 12 02.8 +1.6**
comp=Z,54nm,0.7s
WMQ Urumqi 42.36 60 *e*P **P** **15 12 02.8 +1.5**
WMQ pmax pmax
comp=Z,17nm,0.6s
WMQ pmax pmax
comp=Z,49nm,4.3s
DANN Dangsing 42.84 84 *e*P **P** **15 12 07.6 +1.9**
comp=Z,138nm,0.8s
KOLN Koldanda 42.92 85 *e*P **P** **15 12 07.7 +1.4**
comp=Z,45nm,0.9s
GKN Gorkha 43.69 84 *e*P **P** **15 12 13.8 +1.4**
comp=Z,98nm,0.7s
KKN Kakani 44.30 84 *e*P **P** **15 12 18.7 +1.3**
comp=Z,70nm,0.6s
PKIN Phulchoki 44.47 84 *e*P **P** **15 12 20.0 +1.2**
comp=Z,57nm,0.9s
PKI Pulchoki 44.49 84 *e*P **P** **15 12 20.2 +1.2**
comp=Z,70nm,0.9s
SPITS Spitsbergen Ar 44.65 355 P **P** **15 12 19.1 -0.2**
comp=Z,4.2nm,0.4s,baz=143,slow=8.4,SNR=15
SPITS Spitsbergen Ar 44.65 355 P **P** **15 12 19.5 +0.2**
SPITS pmax pmax
comp=Z,76nm,1.7s
DBIC Dimbokro 44.91 241 P **P** **15 12 22.3 +0.2**
DBIC Dimbokro 44.91 241 P **P** **15 12 22.3 +0.2**
KIC Kosan Boka 45.04 241 *e*PKP2 **P** **15 12 24.9 +1.8**
comp=Z,4.7nm,0.6s
TIC Toumodi 45.05 241 *e*PKP2 **P** **15 12 23.8 +0.6**
JIRN Jiri 45.10 84 *e*P **P** **15 12 25.3 +1.4**
comp=Z,98nm,0.6s
LIC Lamto 45.34 241 *e*PKP2 **P** **15 12 25.6 +0.1**
comp=Z,42nm,1.4s
KBS Kingsbay 45.69 354 *ce*P **P** **15 12 26.8 -0.7**
KBS pmax pmax
comp=Z,35nm,2.5s
KBS Kingsbay 45.69 354 P **P** **15 12 27.3 -0.2**
KBS IAmb IAmb 15 12 28.8
comp=Z,9.0nm,0.9s
NRIK Noril'sk 45.80 24 P **P** **15 12 29.6 +1.2**
comp=Z,2.5nm,0.4s,baz=258,slow=8.2,SNR=5.9
NRIK Noril'sk 45.80 24 P **P** **15 12 29.2 +0.8**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 45.80 24 P **P** **15 12 29.2 +0.8**
NRIK IAmb IAmb 15 12 30.7
comp=Z,6.8nm,1.0s
TAPN Taplejung 46.46 83 *e*P **P** **15 12 35.4 +0.8**
comp=Z,54nm,0.8s
SCO Scoresbysund 46.77 338 P **P** **15 12 37.6 +1.6**
SCO pmax pmax
comp=Z,17nm,1.0s
SCO Scoresbysund 46.77 338 P **P** **15 12 37.6 +1.6**
SCO IAmb IAmb 15 12 38.6
comp=Z,17nm,1.0s
LSA Lhasa 48.41 79 P **P** **15 12 49.4 -0.5**
LSA pmax pmax
comp=Z,5.0nm,1.0s
LSA Lhasa 48.41 79 P **P** **15 12 49.4 -0.5**
SHL Shillong 50.60 83 P **P** **15 13 05.3 -1.1**
SHL pmax pmax
comp=Z,10.0nm,0.7s
SHL Shillong 50.60 83 P **P** **15 13 05.3 -1.1**
SHL IAmb IAmb 15 13 06.7
comp=Z,9.6nm,0.7s
NOR Nord 50.80 352 *i* P **P** **15 13 06.2 -0.7**
NOR Nord 50.80 352 *i* P **P** **15 13 06.2 -0.7**
ZAK Zakamensk 52.02 50 *e*P **P** **15 13 16.6 0.0**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
GTA Gaotai 52.12 64 *e*P **P** **15 13 17.8 +0.3**
GTA pP pP 15 13 27.0 +0.1
GTA sP sP 15 13 31.0 +0.5
GTA PcP **PcP** **15 14 30.0 +0.9**
GTA pmax pmax
comp=Z,2.0nm,0.9s
SUMG Summit 52.35 339 *i* P **P** **15 13 19.7 +0.6**
SUMG IAmb IAmb 15 13 21.5
comp=Z,10.0nm,0.8s
SUMG Summit 52.35 339 *i* P **P** **15 13 19.6 +0.6**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 52.35 339 P **P** **15 13 19.6 +0.6**
ICESG Greenland Ices 52.53 334⇑ *i*P **P** **15 13 20.6 +0.3**
ICESG IAmb IAmb 15 13 21.7
comp=Z,12nm,0.7s
SONM Songino Array 54.55 52 P **P** **15 13 36.1 +0.8**
comp=Z,5.0nm,0.7s,baz=286,slow=7.2,SNR=29
SONM LR LR 15 40 10.8
comp=Z,155nm,19.1s,baz=278,slow=40
SONM Songino Array 54.55 52 P **P** **15 13 35.5 +0.3**
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 54.55 52 P **P** **15 13 35.5 +0.3**
SONM IAmb IAmb 15 13 37.0
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 54.98 52 P **P** **15 13 39.0 +0.6**
ULN Ulaanbaatar 54.98 52 P **P** **15 13 39.0 +0.6**
ULN IAmb IAmb 15 13 40.0
comp=Z,8.2nm,0.8s
DY2G Dye2 55.16 331⇑ *i*P **P** **15 13 39.8 +0.4**
DY2G IAmb IAmb 15 13 40.7
comp=Z,17nm,0.9s
NEEM North Greenlan 55.71 345 *i* P **P** **15 13 43.1 -0.2**
NEEM IAmb IAmb 15 13 45.7
comp=Z,9.1nm,1.1s
LZH Lanzhou 56.20 66 *e*P **P** **15 13 47.8 +0.5**
LZH pP pP 15 13 57.0 +0.2
LZH sP sP 15 14 00.0 -0.4
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,89nm,5.7s
LZH LR LR
comp=N,160nm,14.6s
LZH LR LR
comp=E,170nm,15.7s
LZH LR LR
comp=Z,190nm,17.3s
BOD Bodaibo 56.78 39⇑ *i*P **P** **15 13 50.6 -0.2**
BOD pmax pmax
comp=Z,29nm,0.7s
CM15 Chiang Mai Arr 59.63 87 P **P** **15 14 12.5 +1.1**
comp=Z,6.4nm,0.7s
CM31 Chiang Mai Arr 59.65 87 P **P** **15 14 11.5 0.0**
CM31 IAmb IAmb 15 14 12.8
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 59.65 87 P **P** **15 14 11.8 +0.2**
comp=Z,3.9nm,0.7s,baz=292,slow=8.6,SNR=26
CMAR Chiang Mai Arr 59.65 87 P **P** **15 14 11.5 0.0**
CM02 Chiang Mai Arr 59.66 87 P **P** **15 14 12.5 +0.9**
comp=Z,8.8nm,0.8s
CM01 Chiang Mai Arr 59.68 88 P **P** **15 14 12.5 +0.8**
comp=Z,12nm,0.9s
CM09 Chiang Mai Arr 59.69 87 P **P** **15 14 12.8 +1.0**
comp=Z,8.8nm,0.8s
CM04 Chiang Mai Arr 59.70 88 P **P** **15 14 12.8 +0.9**
comp=Z,7.5nm,0.7s
LAMP Lampang 60.18 87 P **P** **15 14 16.6 +1.4**
comp=Z,28nm,0.7s
HHC Hu-ho-hao-te 60.20 59 *e*P **P** **15 14 16.5 +1.4**
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,55nm,5.5s
HIA Hailar 62.57 47 P **P** **15 14 32.0 +1.1**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 62.57 47 P **P** **15 14 32.0 +1.1**
YAK Yakutsk 63.04 32 *ce*P **P** **15 14 32.9 -0.8**
YAK pmax pmax
comp=Z,11nm,0.7s
BJI Beijing 63.76 58 P **P** **15 14 39.8 +0.9**
BJI pmax pmax
comp=Z,14nm,0.8s
ZEA Zeya 65.16 41 *e*P **P** **15 14 48.9 +1.1**
DRLN Deer Lake 65.66 314 P **P** **15 14 51.5 +0.3**
PSI Prapat 68.06 102 P **P** **15 15 07.4 +0.3**
PSI pmax pmax
comp=Z,10.0nm,1.0s
RPSI Rantau Prapat 68.12 102 P **P** **15 15 07.4 +0.1**
RPSI IAmb IAmb 15 15 08.2
comp=Z,10nm,1.0s
SCHQ Schefferville 68.31 322 P **P** **15 15 08.0 +0.1**
comp=Z,14nm,0.6s,baz=66,slow=5.4,SNR=19
SCHQ Schefferville 68.31 322 P **P** **15 15 08.1 +0.1**
CN2 Changchun 68.41 51 *e*P **P** **15 15 08.8 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 Nanjing 69.20 65 *e*P **P** **15 15 14.3 +0.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
KLR Kul'dur 69.70 44 *ce*P **P** **15 15 15.2 -1.4**
KLR pmax pmax
comp=Z,7.0nm,1.0s
GBN Guysborough 69.82 312 P **P** **15 15 18.6 +1.2**
HAL Halifax 71.49 312 P **P** **15 15 28.6 +1.0**
HAL pmax pmax
comp=Z,25nm,0.7s
HAL Halifax 71.49 312 P **P** **15 15 28.6 +1.0**
LMN Caledonia Moun 71.62 313 P **P** **15 15 29.3 +0.9**
BILL Bilibino 72.04 17 *e*P **P** **15 15 27.9 -2.6**
BILL *e* 15 15 42.8
BILL *e* 15 18 07.3
BILL pmax pmax
comp=Z,11nm,1.1s
BILL MLR MLR
comp=Z,31nm,17.0s
USA0B Ussuriysk Arra 72.35 48 P **P** **15 15 32.4 -0.3**
USA0B pmax pmax
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 72.35 48 P **P** **15 15 32.4 -0.3**
USA0B IAmb IAmb 15 15 33.2
comp=Z,6.9nm,0.9s
USRK Ussuriysk Ar. 72.35 48 P **P** **15 15 32.3 -0.5**
comp=Z,4.4nm,0.7s,baz=298,slow=4.6,SNR=12
USRK Ussuriysk Ar. 72.35 48 P **P** **15 15 32.5 -0.3**
USRK Ussuriysk Ar. 72.35 48 P **P** **15 15 32.5 -0.3**
D63A Stockholm 72.96 316 P **P** **15 15 37.3 +0.9**
comp=58
KS19 Wonju Array Si 73.04 56 P **P** **15 15 37.0 0.0**
KS19 IAmb IAmb 15 15 40.7
comp=Z,9.5nm,0.9s
KSAR Wonju Array Be 73.09 56 P **P** **15 15 37.1 -0.2**
KSAR Wonju Array Be 73.09 56 P **P** **15 15 37.1 -0.2**
PQI Presque Isle 73.10 315 P **P** **15 15 38.1 +0.9**
PQI IAmb IAmb 15 15 39.1
comp=Z,11nm,1.0s
KSRS Korea Array 73.11 56 P **P** **15 15 37.4 0.0**
comp=Z,7.7nm,0.8s,baz=293,slow=5.3,SNR=30
KSRS LR LR 15 52 09.6
comp=Z,52nm,19.1s,baz=282,slow=40
MA2 Magadan 73.11 28 *ce*P **P** **15 15 37.1 +0.1**
MA2 pmax pmax
comp=Z,21nm,2.5s
MA2 Magadan 73.11 28 P **P** **15 15 37.6 +0.6**
MA2 IAmb IAmb 15 15 39.2
comp=Z,9.7nm,0.9s
E64A Bridgewater 73.12 315 P **P** **15 15 38.4 +1.0**
comp=58
GGN Saint George 73.22 313 P **P** **15 15 38.6 +0.7**
E63A Oxbow 73.47 315 P **P** **15 15 40.4 +1.0**
comp=58
E63A Oxbow 73.47 315 P **P** **15 15 40.2 +0.8**
E63A IAmb IAmb 15 15 41.1
comp=Z,12nm,0.8s
D62A Allapoint, All 73.48 316 P **P** **15 15 40.6 +1.1**
comp=57
D62A Allapoint, All 73.48 316 P **P** **15 15 40.2 +0.8**
G65A Princeton 73.61 314 P **P** **15 15 40.5 +0.3**
comp=58
H66A Whiting 73.68 313 P **P** **15 15 41.3 +0.6**
comp=58
F64A Sherman 73.73 315 P **P** **15 15 41.4 +0.5**
comp=58
F64A Sherman 73.73 315 P **P** **15 15 42.2 +1.3**
F64A IAmb IAmb 15 16 26.3
comp=Z,22nm,1.7s
EMMW East Machias 73.81 313 P **P** **15 15 41.9 +0.5**
EMMW IAmb IAmb 15 15 58.2
comp=Z,17nm,1.3s
LMQ La Malbaie 73.96 317 P **P** **15 15 41.6 -0.6**
LMQ IAmb IAmb 15 15 43.7
comp=Z,7.2nm,0.7s
E62A Clayton Lake 74.00 316 P **P** **15 15 42.9 +0.4**
comp=57
E62A Clayton Lake 74.00 316 P **P** **15 15 43.6 +1.1**
E62A IAmb IAmb 15 15 44.6
comp=Z,14nm,0.9s
F63A Nahmakanta, Br 74.26 315 P **P** **15 15 44.6 +0.6**
comp=57
H65A Eastbrook 74.29 314 P **P** **15 15 44.6 +0.4**
comp=57
G64A Maxfield 74.30 314 P **P** **15 15 45.0 +0.7**
comp=57
A21K Barrow 74.46 3 P **P** **15 15 45.6 +0.9**
comp=351
PKME Peaks-Kenny Pk 74.61 314 P **P** **15 15 46.6 +0.6**
comp=57
TATO Taipei 74.69 70 P **P** **15 15 47.5 +0.6**
YHNB Yeheng 74.76 70 P **P** **15 15 48.0 +0.6**
CHGQ Chibougamau 74.84 320 P **P** **15 15 47.9 +0.6**
comp=55
TPUB Ta-pu 74.87 72 P **P** **15 15 49.2 +1.2**
TPUB IAmb IAmb 15 15 50.1
comp=Z,14nm,0.8s
G63A Kingsbury 74.88 314 P **P** **15 15 48.7 +1.0**
comp=56
H64A Troy 74.91 314 P **P** **15 15 48.6 +0.8**
comp=57
YULB Yu-li 75.35 72 P **P** **15 15 51.5 +0.8**
YULB IAmb IAmb 15 15 53.4
comp=Z,13nm,0.7s
G62A West of Eustis 75.36 315 P **P** **15 15 51.1 +0.6**
comp=56
H63A New Sharon 75.38 314 P **P** **15 15 51.6 +1.1**
comp=56
C36M Paulatuk 75.41 352 P **P** **15 15 50.5 +0.4**
comp=19
I64A Boothbay 75.55 313 P **P** **15 15 51.1 -0.3**
comp=56
H62A Milan 76.09 315 P **P** **15 15 55.5 +0.9**
comp=56
MOQ Mont Orford 76.31 316 P **P** **15 15 56.9 +1.0**
H61A Lyndonville 76.57 315 P **P** **15 15 58.4 +1.0**
comp=55
I62A Tamworth 76.60 314 P **P** **15 15 58.4 +0.9**
comp=55
MATQ Matagami 76.63 322 P **P** **15 15 58.1 +0.6**
comp=52
LBNH Lisbon 76.74 315 P **P** **15 15 59.1 +0.8**
comp=55
J63A Strafford 76.78 313 P **P** **15 15 59.7 +1.2**
comp=55
H60A Morristown 77.00 315 P **P** **15 16 01.1 +1.3**
comp=54
YSS Yuzh-Sakhalins 77.12 42 *i* P **P** **15 15 59.6 -0.7**
YSS pmax pmax
comp=Z,6.0nm,1.0s
RDOG Red Dog Mine 77.24 6 P **P** **15 16 01.4 +0.7**
baz=346
RDOG Red Dog Mine 77.24 6 P **P** **15 16 01.9 +1.3**
RDOG IAmb IAmb 15 16 03.4
comp=Z,9.2nm,0.9s
J62A Henniker 77.25 314 P **P** **15 16 00.9 -0.3**
baz=55
INK Inuvik 77.30 355 P **P** **15 16 01.0 +0.2**
comp=Z,3.5nm,1.0s,baz=355,slow=7.6,SNR=5.0
INK Inuvik 77.30 355 P **P** **15 16 01.1 +0.2**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 77.30 355 P **P** **15 16 01.7 +0.8**
baz=11
INK Inuvik 77.30 355 P **P** **15 16 01.1 +0.2**
TOLK Toolik Lake Re 77.38 1 P **P** **15 16 02.4 +0.9**
baz=357,SNR=14
TOLK Toolik Lake Re 77.38 1 P **P** **15 16 02.4 +0.9**
TOLK IAmb IAmb 15 16 04.0
comp=Z,14nm,1.1s
K63A Dunstable 77.39 313 P **P** **15 16 02.5 +0.6**
baz=55
L64A Middleborough 77.40 312 P **P** **15 16 02.2 +0.2**
baz=55
JNU Nakatsue 77.43 59 P **P** **15 16 02.7 +0.4**
JNU IAmb IAmb 15 16 03.9
comp=Z,15nm,1.0s
HRV Adam Dziewonsk 77.51 313 P **P** **15 16 03.5 +0.9**
baz=55
H59A Cadyville 77.53 316 P **P** **15 16 03.2 +0.5**
baz=54
J61A Chester 77.62 314 P **P** **15 16 04.8 +1.6**
baz=54
I60A Shoreham 77.77 315 P **P** **15 16 04.6 +0.5**
baz=54
K62A Royalston 77.83 313 P **P** **15 16 05.7 +1.3**
baz=54
M64A Tiverton 77.85 312 P **P** **15 16 04.4 -0.1**
baz=55
L63A North Scituate 77.91 313 P **P** **15 16 04.8 0.0**
baz=55
H58A Gabriels 77.95 316 P **P** **15 16 06.2 +1.1**
baz=54
LONY Lake Ozonia 78.06 316 P **P** **15 16 06.9 +1.2**
baz=53
I59A Olmsteadville 78.14 315 P **P** **15 16 07.2 +1.1**
baz=54
J60A Lant Hill Farm 78.20 314 P **P** **15 16 07.9 +1.5**
baz=54
L61B Northampton 78.22 313 P **P** **15 16 06.4 -0.2**
baz=54
K61A Williamstown 78.44 314 P **P** **15 16 09.0 +1.2**
baz=54
BMAR Burnt Mountain 78.62 359 P **P** **15 16 09.5 +1.2**
H57A Richville 78.62 316 P **P** **15 16 09.6 +0.9**
baz=53
COLD Coldfoot 78.78 2 P **P** **15 16 10.1 +0.9**
baz=357,SNR=5.4
I58A Old Forge 78.84 316 P **P** **15 16 11.3 +1.3**
baz=53
JOW Kunigami 78.91 65 P **P** **15 16 10.4 -0.2**
I57A Carthage 79.09 316 P **P** **15 16 12.3 +0.9**
baz=53
ALGO Algonquin Park 79.19 319 P **P** **15 16 12.7 +0.9**
baz=52
JMN Monobe 79.19 57 P **P** **15 16 11.7 -0.5**
JMN IAmb IAmb 15 16 14.8
comp=Z,12nm,0.9s
J58A Remsen 79.22 315 P **P** **15 16 13.5 +1.4**
baz=53
FYU Fort Yukon 79.49 360 P **P** **15 16 13.8 +0.7**
FYU IAmb IAmb 15 16 15.3
comp=Z,7.5nm,1.0s
L59A Walton 79.78 314 P **P** **15 16 15.3 +0.1**
PAL Palisades 79.81 313 P **P** **15 16 15.3 0.0**
baz=53
DELO Deloro Mine 79.84 317 P **P** **15 16 16.2 +0.8**
DELO IAmb IAmb 15 16 17.4
comp=Z,11nm,0.7s
IMAR Indian Mountai 79.91 3 P **P** **15 16 15.8 +0.4**
H23K Yukon River 80.21 1 P **P** **15 16 18.5 +1.4**
baz=357,SNR=13
H24K Noodor Dome 80.22 1 P **P** **15 16 18.2 +1.1**
baz=359
GAMB Gambell 80.23 11 P **P** **15 16 18.3 +1.1**
baz=339
YKA Yellowknife Ar 80.26 346 P **P** **15 16 17.4 +0.1**
comp=Z,3.1nm,0.9s,baz=36,slow=5.3,SNR=6.7
BINY Binghamton 80.33 315 P **P** **15 16 18.8 +0.6**
baz=52
PETK Petropavlovsk- 80.34 30 P **P** **15 16 17.3 -0.7**
comp=Z,1.9nm,0.8s,baz=242,slow=3.2,SNR=8.6
PETK Petropavlovsk- 80.34 30 P **P** **15 16 16.6 -1.3**
L58A Harry Jones Me 80.35 315 P **P** **15 16 19.2 +0.9**
baz=52
ANM Nome 80.37 8 P **P** **15 16 18.6 +0.7**
baz=344
MAT Matsushiro 80.51 52 P **P** **15 16 19.1 -0.1**
MAJO Matsushiro 80.51 52 P **P** **15 16 18.9 -0.3**
MAJO pmax pmax
comp=Z,12nm,1.0s
MAJO Matsushiro 80.51 52 P **P** **15 16 18.9 -0.3**
MAJO IAmb IAmb 15 16 21.0
comp=Z,12nm,0.9s
MJAR Matsushiro Arr 80.51 52 P **P** **15 16 19.9 +0.7**
comp=Z,10nm,0.9s,baz=313,slow=4.3,SNR=24
MJAR Matsushiro Arr 80.51 52 P **P** **15 16 19.5 +0.3**
MJAR pmax pmax
comp=Z,9.0nm,0.9s
MJAR Matsushiro Arr 80.51 52 P **P** **15 16 19.5 +0.3**
MJAR IAmb IAmb 15 16 20.7
comp=Z,8.8nm,0.9s
SADO Sadowa 80.53 318 P **P** **15 16 19.4 +0.3**
comp=Z,5.3nm,0.8s,baz=16,slow=5.5,SNR=3.7
SADO Sadowa 80.53 318 IAmb IAmb 15 16 22.1
comp=Z,13nm,1.1s
PRP Porcupine Dome 80.54 360 P **P** **15 16 19.8 +0.8**
baz=0.7
PRP Porcupine Dome 80.54 360 P **P** **15 16 20.0 +1.0**
I21K Tanana 80.79 2 P **P** **15 16 21.2 +1.1**
baz=355,SNR=13
K56A Middlesex 80.81 316 P **P** **15 16 21.7 +1.0**
baz=52
I23K Minto, Yukon-K 80.89 1 P **P** **15 16 21.6 +0.9**
baz=358,SNR=6.7
I23K Minto, Yukon-K 80.89 1 P **P** **15 16 20.9 +0.3**
I23K IAmb IAmb 15 16 22.8
comp=Z,16nm,1.7s
POKR Poker Plat Res 80.94 0 P **P** **15 16 21.9 +0.9**
baz=359,SNR=6.5
POKR Poker Plat Res 80.94 0 P **P** **15 16 21.2 +0.2**
POKR IAmb IAmb 15 16 23.2
comp=Z,12nm,0.9s
MLY Manley 80.97 2 P **P** **15 16 21.9 +0.7**
baz=356,SNR=14
MLY Manley 80.97 2 P **P** **15 16 22.1 +0.9**
MLY IAmb IAmb 15 16 23.2
comp=Z,5.6nm,0.8s
N59A State Game Lan 80.99 314 P **P** **15 16 22.8 +1.1**
baz=52
MDM Murphy Dome 81.10 1 P **P** **15 16 22.4 +0.6**
MDM IAmb IAmb 15 16 23.8
comp=Z,15nm,0.9s
TCOL CIGO, UAF Yank 81.19 1 P **P** **15 16 22.7 +0.5**
baz=359
EGAK Eagle 81.21 358 P **P** **15 16 22.7 +0.4**
baz=4.3
EGAK Eagle 81.21 358 P **P** **15 16 22.7 +0.4**
EGAK IAmb IAmb 15 16 24.3
comp=Z,6.5nm,0.8s
L56A Greenwood 81.29 315 P **P** **15 16 23.7 +0.4**
IL31 81.29 0 P **P** **15 16 23.5 +0.8**
ILAR Eielson Array 81.29 0 P **P** **15 16 23.6 +0.7**
comp=Z,2.7nm,1.0s,baz=313,slow=3.7,SNR=19
ILAR Eielson Array 81.29 0 P **P** **15 16 23.4 +0.5**
CCB Clear Creek Bu 81.41 1 P **P** **15 16 23.6 +0.1**
CCB IAmb IAmb 15 16 24.7
comp=Z,8.3nm,0.9s
NEA2 Nenana 81.45 1 P **P** **15 16 23.8 +0.2**
baz=358
P60A Greenville 81.59 313 P **P** **15 16 24.9 +0.1**
baz=52
WRH Wood River Hil 81.59 1 P **P** **15 16 24.4 0.0**
WRH IAmb IAmb 15 16 25.6
comp=Z,7.7nm,0.8s
HDA Harding Lake 81.66 0 P **P** **15 16 24.5 -0.3**

	baz=360						
HDA	Harding Lake	81.66	0	P	P	15 16 25.0	+0.2
HDA				IAmb	IAmb	15 16 25.9	
	comp=Z,9.3nm,1.0s						
J20K	Nowinta River	81.70	3	P	P	15 16 25.5	+0.6
	baz=354,SNR=15						
DAWY	Dawson	81.85	357	P	P	15 16 26.4	+0.6
DAWY				IAmb	IAmb	15 16 27.7	
	comp=Z,7.9nm,1.1s						
BWN	Browne	81.87	1	P	P	15 16 25.8	-0.1
BPAW	Bear Paw Mtn.	81.90	2	P	P	15 16 26.2	+0.1
	baz=356,SNR=9.1						
BPAW	Bear Paw Mtn.	81.90	2	P	P	15 16 26.2	+0.1
BPAW				IAmb	IAmb	15 16 27.2	
	comp=Z,8.4nm,0.9s						
MVL	Millersville	81.90	313	P	P	15 16 27.0	+0.5
MVL				IAmb	IAmb	15 16 28.6	
	comp=Z,15nm,0.9s						
K27K	Chicken	81.98	358	P	P	15 16 27.1	+0.6
	baz=3.6						
CHUM	Lake Minchumin	82.07	3	P	P	15 16 27.7	+0.8
	baz=355,SNR=8.0						
SCRK	Sand Creek	82.08	359	P	P	15 16 27.4	+0.3
	baz=2.0						
SCRK	Sand Creek	82.08	359	P	P	15 16 27.9	+0.8
SCRK				IAmb	IAmb	15 16 29.3	
	comp=Z,12nm,1.0s						
MCK	McKinley	82.32	1	P	P	15 16 28.2	-0.1
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MCK	McKinley	82.32	1	P	P	15 16 28.5	+0.3
	baz=358						
MCK	McKinley	82.32	1	P	P	15 16 28.1	-0.1
MCK				IAmb	IAmb	15 16 29.3	
	comp=Z,8.6nm,1.0s						
RIDG	Independent Ri	82.32	359	P	P	15 16 28.5	+0.1
	baz=1.3						
SSPA	Standing Stone	82.43	314	P	P	15 16 29.9	+0.6
	baz=51						
KTH	Kantishna Hill	82.45	2	IAmb	IAmb	15 16 31.4	
	comp=Z,11nm,0.9s						
K20K	Telida	82.52	4	P	P	15 16 29.6	+0.3
	baz=354,SNR=5.8						
TRF	Thorofare Moun	82.57	2	P	P	15 16 29.8	0.0
	baz=357,SNR=8.0						
TRF	Thorofare Moun	82.57	2	P	P	15 16 30.0	+0.2
TRF				IAmb	IAmb	15 16 31.0	
	comp=Z,6.7nm,0.9s						
M54A	Oil Creek Stat	82.91	316	P	P	15 16 32.5	+0.7
	baz=50						
BCAR	Beaver Creek A	82.94	358	P	P	15 16 32.4	+0.8
L27K	Beaver Creek,	82.94	358	P	P	15 16 31.9	+0.3
	baz=3.8						
L27K	Beaver Creek,	82.94	358	IAmb	IAmb	15 16 33.8	
	comp=Z,7.8nm,0.8s						
L26K	Log Cabin Wild	83.02	359	P	P	15 16 32.4	+0.5
	baz=2.5						
O56A	Blue Knob Stat	83.06	314	P	P	15 16 33.4	+0.8
	baz=50						
PPLA	Purkeypile	83.06	3	P	P	15 16 32.6	+0.3
	baz=355						
PAX	Paxson	83.10	360	P	P	15 16 32.7	+0.2
	baz=0.7						
MENT	Mentasta	83.11	359	IAmb	IAmb	15 16 34.5	
	comp=Z,6.5nm,1.1s						
N54A	Moraine State	83.45	316	P	P	15 16 34.3	-0.2
	baz=50						
WAT6	Susitna Watana	83.49	1	P	P	15 16 34.2	-0.4
	baz=359						
M26K	Nabesna, AK	83.64	358	P	P	15 16 35.5	+0.4
	baz=2.8						
L19K	White Mountain	83.65	4	P	P	15 16 36.0	+0.8
	baz=353,SNR=6.4						
M27K	Edge Creek, AK	83.65	358	P	P	15 16 35.9	+0.5
	baz=3.7						
M19K	Big River Lodg	83.95	4	P	P	15 16 37.1	+0.4
	baz=353,SNR=7.0						
M24K	Tolsona, Glenn	83.97	360	P	P	15 16 36.7	-0.1
	baz=0.1						
SKT	Skwentna	84.00	2	P	P	15 16 37.3	+0.3
	baz=356						
SKT	Skwentna	84.00	2	IAmb	IAmb	15 16 53.6	
	comp=Z,8.1nm,1.3s						
M20K	Styx River	84.04	3	P	P	15 16 36.9	-0.4
	baz=354,SNR=5.5						
MCWV	Mont Chateau	84.20	315	P	P	15 16 38.8	+0.4
	baz=50						
SML	Sawmill	84.26	1	P	P	15 16 38.1	-0.3
	baz=358						
PMR	Palmer	84.46	1	P	P	15 16 39.0	-0.2
	baz=358						
N25K	Chitina, Valde	84.46	359	P	P	15 16 38.9	-0.5
	baz=1.5						
SUA	Susitna One	84.55	2	P	P	15 16 39.5	-0.4
	baz=356						
SUA	Susitna One	84.55	2	P	P	15 16 40.5	+0.6
SUA				IAmb	IAmb	15 16 41.3	
	comp=Z,7.3nm,0.9s						
KLU	Klutina	84.59	360	P	P	15 16 40.3	+0.2
	baz=0.4						
EYMN	Ely	84.60	326	P	P	15 16 40.0	-0.3
	baz=43						
O53A	New Philadelph	84.62	316	P	P	15 16 40.7	+0.1
	baz=49						
KNK	Knik Glacier	84.65	1	P	P	15 16 40.6	+0.3
	baz=358						
KNK	Knik Glacier	84.65	1	IAmb	IAmb	15 16 42.0	
	comp=Z,8.4nm,0.8s						
MCARA	McCarthy VSAT	84.66	358	P	P	15 16 40.2	-0.1
	baz=2.8						
SVW2	Sparrevohn	84.68	5	IAmb	IAmb	15 16 43.1	
	comp=Z,7.9nm,1.3s						
ULM	Lac du Bonnet	84.78	330	P	P	15 16 40.7	-0.4
	comp=Z,2.9nm,0.8s,baz=53,slow=6.0,SNR=4.0						
RC01	Rabbit Creek A	84.95	2	P	P	15 16 42.2	+0.4
	baz=357						
HYT	Haines Junctio	84.98	356	P	P	15 16 43.0	+0.9
HYT				IAmb	IAmb	15 16 44.1	
	comp=Z,8.5nm,0.9s						
CTG	Chitna Glacier	85.03	358	P	P	15 16 42.8	+0.4
	baz=4.2						
N19K	Bonanza Creek	85.03	4	P	P	15 16 42.9	+0.6
	baz=353,SNR=6.3						
N18K	Kilae Creek	85.08	5	P	P	15 16 42.6	+0.2
	baz=352,SNR=5.7						
BMRM	Bremner River	85.10	359	P	P	15 16 42.6	0.0
	baz=1.4						
PWL	Port Wells	85.21	1	IAmb	IAmb	15 16 44.5	
	comp=Z,7.3nm,0.9s						
CRQE	Cirque	85.29	358	P	P	15 16 44.0	+0.4
	baz=2.7						
EYAK	Cordova Ski Ar	85.53	360	P	P	15 16 45.3	+0.7
	baz=0.5						
ACSO	Alum Creek Sta	85.64	317	P	P	15 16 46.1	+0.5
	baz=48						
ACSO	Alum Creek Sta	85.64	317	P	P	15 16 46.1	+0.5
PINM	Pinnacle	85.86	357	P	P	15 16 46.2	-0.2
	baz=5.0						
O18K	Koktuh Hills	85.94	4	P	P	15 16 46.6	-0.2
	baz=353						
SEW	Seward	85.94	2	P	P	15 16 46.9	+0.2
	baz=357						
BLA	Blacksburg	86.14	313	P	P	15 16 48.3	+0.1
	baz=49						
KAIM	Kayak Island	86.14	359	P	P	15 16 47.4	-0.3
	baz=1.6						
P19K	Oil Pt	86.26	4	P	P	15 16 48.4	+0.1
	baz=354						
BRSE	Bradley Lake S	86.27	2	P	P	15 16 48.4	0.0
	baz=356						
P49A	Miami Univ. Ec	87.10	317	P	P	15 16 52.9	+0.1
	baz=47						
SFIN	Lafayette	87.83	319	P	P	15 16 56.5	+0.2
	baz=45						
KMSC	Kings Mountain	88.05	312	P	P	15 16 58.4	+1.0
	baz=48						
KDAK	Kodiak Island	88.16	3	P	P	15 16 57.8	+0.3
KDAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KDAK	Kodiak Island	88.16	3	P	P	15 16 57.6	+0.1
	baz=355						
KDAK	Kodiak Island	88.16	3	P	P	15 16 57.8	+0.3
TZTN	Tazewell	88.45	314	P	P	15 16 59.5	+0.2
	baz=47						
SIT	Sitka	88.56	354	P	P	15 16 59.8	+0.4
	baz=9.1						
OHAK	Old Harbor	88.68	4	P	P	15 16 59.7	-0.3
	baz=354						
OHAK	Old Harbor	88.68	4	P	P	15 17 01.1	+1.2
TKL	Tuckaleechee C	89.19	314	P	P	15 17 03.8	+1.0
	comp=Z,2.6nm,0.7s,baz=96,slow=4.5,SNR=4.0						
SII	Sitkinak Islan	89.29	4	P	P	15 17 02.4	-0.5
	baz=354						
ECSD	EROS Data Cent	90.13	326	P	P	15 17 07.0	-0.1
	baz=39						
CHNA	Chernabura Isl	90.53	8	P	P	15 17 07.9	-0.8
	baz=349						
NIKH	Nikolski High	90.94	13	P	P	15 17 09.9	-0.7
	baz=342						
LAO	LASA Array	91.70	334	P	P	15 17 14.7	+0.3
	baz=32						
CCM	Cathedral Cave	91.74	320	P	P	15 17 13.9	-0.7
	baz=43						
BGNE	Belgrade	92.65	326	P	P	15 17 19.3	+0.4
	baz=38						
MGMO	Mountain Grove	92.95	320	P	P	15 17 20.4	+0.1
RSSD	Black Hills	93.01	331	P	P	15 17 20.4	-0.3
	baz=34						
NEW	Newport	93.80	341	P	P	15 17 23.3	-0.7
	comp=Z,3.4nm,0.7s,baz=177,slow=2.0,SNR=4.0						
NEW	Newport	93.80	341	P	P	15 17 22.8	-1.2
	baz=24						
NEW	Newport	93.80	341	IAmb	IAmb	15 17 25.5	
	comp=Z,4.1nm,0.9s						
U40A	Yellville	93.86	319	P	P	15 17 24.4	-0.1
	baz=42						
X43A	Marvell	94.12	317	P	P	15 17 25.6	-0.1
	baz=43						
W41B	Gary Mavity, V	94.40	318	P	P	15 17 27.2	+0.2
	baz=42						
BOZ	Bozeman (W)	94.54	336	P	P	15 17 26.9	-0.7
	baz=28						
W39A	Magazine	95.23	319	P	P	15 17 30.4	-0.3
	baz=41						
K22A	Casper	95.23	332	P	P	15 17 30.1	-0.7
	baz=32						
MIAR	Mount Ida	95.60	319	P	P	15 17 31.3	-1.2
	baz=41						
TUL1	Leonard	95.75	321	P	P	15 17 33.0	-0.1
	baz=40						
PDAR	Pinedale Array	96.29	334	P	P	15 17 35.2	-0.5
	comp=Z,0.4nm,0.7s,baz=104,slow=3.8,SNR=2.9						
N23A	Red Feather La	96.48	330	P	P	15 17 36.0	-0.8
	baz=33						
WMOK	Wichita Mounta	98.20	322	P	P	15 17 43.6	-0.7
	baz=38						

*ISK **30** 15:22:25.5, 40°.45N×31°.79E, h10km±1km, ML2.5/4*
*DDA **30** 15:22:26.3, 40°.43N×31°.72E, h7km±1km, ML1.9*
ISC 30 15:22:26.1±0.9, **40°.46N**±0°.04×**31°.75E**±0°.02, **h11**km±6km, **n15**, σ0°.48/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUVA	Yuva-Kibriscik	0.08	214	PG	Pg	15 22 28.3	-0.4
YUVA				SG	Sg	15 22 30.5	-0.1
KIBS	BOLU	0.09	114	*i* P	Pg	15 22 28.8	0.0
KIBS				*i* S	Sg	15 22 31.3	+0.5
KIBS				IAML		15 22 32.0	
	comp=N,840nm,0.3s						
KIBS				IAML		15 22 34.0	
	comp=E,1μm,0.5s						
MDUB	Mudurnu	0.42	272	PG	Pg	15 22 34.7	+0.3
MDUB				SG	Sb	15 22 41.7	-0.3
BCAM	Yenicaga	0.43	34	*i* P	Pg	15 22 34.8	+0.1
BCAM				*i* S	Sb	15 22 42.1	-0.4
BCAM				IAML		15 22 45.0	
	comp=N,69nm,0.3s						
YIGI	Dzce	0.55	336	*i* P	Pg	15 22 36.3	-0.7
YIGI				*i* S	Sb	15 22 46.1	+0.3
CMDR	Camlidere-ANKA	0.56	86	*i* P	Pb	15 22 37.5	-0.4
CMDR				*i* S	Sb	15 22 47.4	+1.4
CMDR				IAML		15 22 52.0	
	comp=N,54nm,0.6s						
CMDR				IAML		15 22 53.0	
	comp=E,54nm,0.6s						
BTAS	Taskesti	0.58	282	*i* P	Pg	15 22 37.7	+0.3
BTAS				*i* S	Sb	15 22 46.4	-0.2
BTAS				IAML		15 22 47.0	
	comp=E,56nm,0.5s						
BTAS				IAML		15 22 52.0	
	comp=N,86nm,0.6s						
SAHE	Sakarya_HENDEK	0.79	301	*i* P	Pg	15 22 41.1	-0.2
SAHE				IAML		15 22 52.0	
	comp=N,88nm,1.4s						
GULT	Gulveren	0.94	269	PG	Pb	15 22 44.7	+0.2
SRCK	Saricakaya, Es	0.95	245	PG	Pb	15 22 44.7	+0.1
ANTO	Ankara	0.99	126	PG	Pg	15 22 44.5	-0.8
BORA	Eskisehir	1.15	240	*i* P	Pg	15 22 47.6	-0.5
BORA				*i* S	Sn	15 23 04.2	+0.4
BORA	Eskisehir	1.15	240	PN	Pn	15 22 48.2	0.0
KAYN	Sakarya, Kayna	1.18	296	*i* P	Pb	15 22 48.4	-0.1
KAYN				*i* S	Sg	15 23 04.0	-0.2
ELDT	Eldivan	1.28	88	*i* P	Pg	15 22 50.8	0.0

*IDC **30** 15:22:49.7±1.4, 14°.08N×120°.95E, h0km, mb3.4/4,*
mb1 3.7/4, mb1mx3.4/42, mbtmp3.5/4, Error ellipse:
s-maj=58.9km s-min=22.3km az=59.0
*MAN **30** 15:23:03.5, 14°.05N×120°.51E, h106km, mb4.3, ML3.1,*
MS2.8
ISC 30 15:23:03.3±0.9, **13°.92N**±0°.08×**120°.4E**±0°.1, **h120**km, **n8**, σ1s**86**/11, **mb3.4/4, 2C-2D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.25	222	⇓*i*P	Pn	15 23 17.9	-2.1
LUBP				*i* S	Sn	15 23 33.8	+1.2
PGP	Puerto Galera	0.67	128	⇑*e*P	Pn	15 23 23.1	+0.7
PGP				*i* S	Sn	15 23 35.9	-1.0
LQP	Lukban	1.11	80	⇑*i*P	Pn	15 23 26.6	0.0
LQP				*i* S	Sn	15 23 31.7	-13
PCPH	Palayan	1.76	22	⇓*e*P	Pn	15 23 31.9	-1.9
PCPH				*e*S	Sn	15 23 59.0	+1.9
CMAR	Chiang Mai Arr	21.10	285	P	P	15 27 41.7	+3.2
	1.6nm,0.9s,baz=96,slow=7.5,SNR=8.2						
SONM	Songino Array	35.77	344	P	P	15 29 49.9	-0.9
	0.6nm,0.6s,baz=160,slow=8.7,SNR=5.2						
WRA	Warramunga Arr	36.33	158	P	P	15 29 54.5	-1.2
	0.2nm,0.4s,baz=330,slow=10,SNR=9.2						
ASAR	Alice Springs	39.62	160	P	P	15 30 23.4	+0.1
	0.4nm,0.5s,baz=336,slow=6.9,SNR=14						

*KRNET **30** 15:29:05.5±0.1, 39°.47N×72°.12E, h20km, mb3.8*
*SOME **30** 15:29:05.5, 39°.72N×72°.10E, h5km*
*NNC **30** 15:29:07.9±0.8, 39°.63N×72°.26E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=7.4km s-min=4.4km az=163.0
ISC 30 15:29:06.7±1.5, **39°.33N**±0°.06×**72°.04E**±0°.03, **h18**km±9km, **n52**, σ1s**93**/81, **27C-16D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.23	309	⇓*i*P	Pb	15 29 10.8	-1.8
	baz=73						
DRK				⇓*i*S	Sg	15 29 14.9	-1.4
	baz=73						
BTK	Batken	1.19	308	⇓*i*P	Pn	15 29 27.2	-1.3
	baz=1.0						
BTK				⇓*i*S	Sb	15 29 42.7	-1.2
	baz=1.0						
SFK	Sufi-Kurgan	1.32	59	⇑*i*P	Pn	15 29 26.7	-3.8
	baz=62						
SFK				⇑*i*S	Sn	15 29 43.5	-4.3
	baz=62						
OHH	Osh	1.32	26	⇑*i*P	Pn	15 29 26.5	-3.9
	baz=26						
OHH				⇑*i*S	Sn	15 29 42.5	-5.2
	baz=26						
GAR	Garm	1.38	257	⇑*i*P	Pb	15 29 32.6	+0.6
	baz=52						
GAR				⇑*i*S	Sg	15 29 52.4	+1.2
	baz=52						
TRKS	Terek-Say	2.30	343	⇑*i*P	Pn	15 29 43.0	-0.9
	baz=40						
TRKS				⇑*i*S	Sn	15 30 10.2	-1.7
	baz=40						
CHGR	Chuyangaron	2.34	254	⇑*i*P	Pb	15 29 47.6	-0.8
	baz=52						
CHGR				⇑*i*S	Sb	15 30 17.5	+0.4
	baz=52						
TAS	Tashkent	2.89	314	⇑*i*P	Pn	15 29 53.0	+1.1
	baz=12						
TAS				⇑*i*S	Sn	15 30 27.2	+1.0
	baz=12						
AML	Almayashu	3.07	24	⇓*i*P	Pn	15 29 54.9	+0.2
	baz=24						
AML				⇓*i*S	Sn	15 30 29.9	-1.3
	baz=24						
AML	Almayashu	3.07	24	P	Pn	15 29 55.7	+1.1
	SNR=57						
ARLS	Aral	3.07	34	⇑*i*P	Pn	15 29 54.1	-0.4
	baz=34						
ARLS				⇑*i*S	Sn	15 30 28.8	-2.1
	baz=34						
MNAS	Manas	3.17	6	⇓*e*P	Pn	15 29 55.8	-0.1
	baz=5.0						
MNAS				⇓*i*S	Sn	15 30 32.3	-1.1
	baz=5.0						
UCH	Uchtor	3.45	32	⇑*i*P	Pn	15 29 59.7	-0.3
	baz=33						
UCH				⇑*i*S	Sn	15 30 39.3	-1.4
	baz=33						
UCH	Uchtor	3.45	32	P	Pn	15 29 59.8	-0.3
	SNR=21						
MRKS	Merke	3.53	14	*e*P	Pb	15 30 06.7	-2.0
	20nm,0.5s						
MRKS				*e*S	Sb	15 30 51.2	0.0
	58nm,0.5s						
MRKS	Merke	3.53	14	Pg	Pb	15 30 06.7	-2.0
	20nm,0.5s						
MRKS				Lg	Lg	15 30 51.2	
	58nm,0.5s						
EKS2	Erkin-Say	3.58	21	⇓*i*P	Pn	15 30 01.2	-0.3
	baz=21						
EKS2				⇓*i*S	Sn	15 30 41.7	-1.7
	baz=21						
EKS2	Erkin-Say	3.58	21	P	Pn	15 30 02.4	+1.0
	SNR=8.8						
KZA	Kyzart	3.67	41	⇑*i*P	Pn	15 30 03.2	+0.2
	baz=41						
KZA				⇑*i*S	Sn	15 30 44.7	-1.4
	baz=41						
AAK	Ala-Archa	3.79	29	Pg	Pb	15 30 09.6	-3.6
	7.3nm,0.4s						
AAK				⇓Lg	Lg	15 30 57.4	
	54nm,0.8s						
KK31	Karatay Array	3.94	344	⇑Pn	Pn	15 30 06.3	0.0
	2.0nm,0.2s,baz=134,slow=12,SNR=101						
KK31				⇑Pg	Pb	15 30 16.6	+0.9
	3.0nm,0.3s,baz=176,slow=20,SNR=14						
KK31				⇓Lg	Lg	15 31 05.2	
	9.7nm,0.3s,baz=136,slow=29,SNR=4.7						
KBK	Karagaybulak	3.99	33	⇓*i*P	Pn	15 30 07.3	+0.2
	baz=33						
KBK				⇓*i*S	Sn	15 30 51.4	-2.1
	baz=33						
FRU1	Bishkek	3.99	29	⇑*e*P	Pn	15 30 06.6	-0.5
	baz=28						
FRU1				⇑*i*S	Sn	15 30 51.6	-1.8
	baz=28						
CHMS	Chumysh	4.20	28	⇑*i*P	Pn	15 30 09.7	-0.2
	baz=29						
CHMS				⇑*i*S	Sn	15 30 56.6	-1.9
	baz=29						
CHMS	Chumysh	4.20	28	P	Pn	15 30 10.4	+0.5
	SNR=23						
USP	Ospenovka	4.35	24	P	Pn	15 30 12.4	+0.4
	SNR=9.1						
TKM2	Tokmak 2	4.48	36	⇓Pn	Pn	15 30 13.8	-0.2
	0.8nm,0.2s						
TKM2				⇓Pg	Pb	15 30 23.8	-1.2
	4.9nm,0.6s						
TKM2				⇑Lg	Lg	15 31 19.5	
	10nm,0.5s						
SGDS	Sogindy	4.56	25	Pg	Pb	15 30 24.1	-2.0
SGDS				Lg	Lg	15 31 21.3	
KST	Kastek	4.75	37	*e*P	Pb	15 30 28.5	-1.0
	6.0nm,0.6s						
KST				*e*S	Sb	15 31 28.6	+2.3
	26nm,0.6s						
KST	Kastek	4.75	37	Pg	Pb	15 30 28.5	-1.0
	6.0nm,0.6s						
KST				Lg	Lg	15 31 28.7	
	26nm,0.6s						
DGS	Degeres	4.81	35	*e*P	Pb	15 30 29.8	-0.8
	7.5nm,0.7s						
DGS				*e*S	Sb	15 31 30.6	+2.3
	22nm,0.6s						
DGS	Degeres	4.81	35	Pg	Pb	15 30 29.8	-0.8
	7.5nm,0.7s						
DGS				Lg	Lg	15 31 30.6	
	22nm,0.6s						
IZV	Izvestkoviy	5.06	42	*e*P	Pb	15 30 33.9	-0.9
	3.8nm,0.5s						
IZV				*e*S	Sb	15 31 37.9	+2.5
	26nm,0.7s						
IZV	Izvestkoviy	5.06	42	Pg	Pb	15 30 33.9	-0.9
	3.8nm,0.5s						
IZV				Lg	Lg	15 31 37.9	
	26nm,0.7s						
TNSS	Tian-Shan	5.24	43	Pg	Pb	15 30 38.1	+0.1
	4.9nm,0.4s						
TNSS				Lg	Lg	15 31 44.6	
	22nm,0.8s						
MDOK	Medeo	5.38	43	*e*P	Pb	15 30 39.8	-0.4
	3.4nm,0.6s						
MDOK				*e*S	Sb	15 31 47.4	+2.9
	9.8nm,0.6s						
MDOK	Medeo	5.38	43	Pg	Pb	15 30 39.8	-0.4
	3.4nm,0.6s						
MDOK				Lg	Lg	15 31 47.4	
	9.8nm,0.6s						
KUU	Kurty	5.58	34	*e*P	Pb	15 30 43.1	-0.5
	1.8nm,0.1s						
KUU				*e*S	Sb	15 31 53.4	+3.1
	15nm,0.6s						
KUU	Kurty	5.58	34	Pg	Pb	15 30 43.1	-0.5
	1.8nm,0.1s						
KUU				Lg	Lg	15 31 53.4	
	15nm,0.6s						
KTBS	Karatobe	5.60	37	*e*P	Pb	15 30 43.7	-0.1
	1.6nm,0.5s						
KTBS				*e*S	Sb	15 31 54.5	+3.9
	20nm,0.7s						
KTBS	Karatobe	5.60	37	Pg	Pb	15 30 43.7	-0.1
	1.6nm,0.5s						
KTBS				Lg	Lg	15 31 54.5	
	20nm,0.7s						
CHKK	Chushkaly	5.85	38	*e*P	Pb	15 30 48.4	+0.3
	1.4nm,0.2s						
CHKK				*e*S	Sb	15 32 02.4	+4.5
	7.8nm,0.4s						
CHKK	Chushkaly	5.85	38	Pg	Pb	15 30 48.4	+0.3
	1.4nm,0.2s						
CHKK				Lg	Lg	15 32 02.4	
	7.8nm,0.4s						
BTLS	Baital	5.90	14	*e*P	Pb	15 30 49.4	+0.4
	1.7nm,0.3s						
BTLS				*e*S	Sb	15 32 04.0	+4.7
	14nm,0.5s						
BTLS	Baital	5.90	14	Pg	Pb	15 30 49.4	+0.4
	1.7nm,0.3s						
BTLS				Lg	Lg	15 32 04.0	
	14nm,0.5s						
SATY	Saty	6.08	50	*e*P	Pb	15 30 52.8	+0.7
	3.8nm,0.1s						
SATY				*e*S	Sb	15 32 10.1	+5.5
	11nm,0.9s						
SATY	Saty	6.08	50	Pg	Pb	15 30 52.8	+0.7
	3.8nm,0.1s						
SATY				Lg	Lg	15 32 10.1	
	11nm,0.9s						
ARXS	Arharly	6.52	40	*e*P	Pb	15 31 01.5	+1.8
	3.0nm,0.3s						
ARXS				*e*S	Sb	15 32 24.8	+7.6
	6.3nm,0.4s						
ARXS	Arharly	6.52	40	Pg	Pb	15 31 01.5	+1.8
	3.0nm,0.3s						
ARXS				Lg	Lg	15 32 24.8	
	6.3nm,0.4s						
PDGK	Podgornoye	6.89	52	Pg	Pb	15 31 07.0	+1.1
	0.7nm,0.4s						
PDGK				Lg	Lg	15 32 34.2	
	3.1nm,0.7s						
AB31	Akbulak array	13.15	323	⇑P	Pn	15 32 12.7	+0.2
	0.4nm,0.3s,baz=129,slow=14,SNR=28						
AKTO	Aktyubinsk	14.87	323	⇑P	Pn	15 32 36.8	+0.8
	1.4nm,0.7s						

*IDC **30** 15:32:53.7±2.1, 11°.50S×162°.77E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/34, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=46.2km s-min=28.4km az=67.0*
*NEIC **30** 15:32:55.3±0.9, 11°.6S±0°.1×162°.8E±0°.1, h7km±6km, mb4.5/10, Error ellipse: s-maj=19.7km s-min=10.1km az=223.0*
ISC 30 15:32:57.5±1.1, 11°.6S±0°.1×162°.9E±0°.1, h35km, n18, σ1§09/18, mb3.9/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.61**	**305**	Pn	**Pn**	15 33 50.3	-0.6
	29nm,0.3s,baz=341,slow=1.6,SNR=13						
HNR				Sn	**Sn**	15 34 33.2	+0.8
	33nm,0.3s,baz=158,slow=20,SNR=3.0						
SANVU	**Saraoutou**	**5.68**	**133**		**Pn**	15 34 18.7	-0.8
DZM	**Mont Dzumac**	**10.99**	**163**	Pn	**Pn**	15 35 34.9	+2.5
	0.2nm,0.3s,baz=280,slow=22,SNR=6.3						
DZM				Sn	**Sn**	15 37 33.8	-0.4
	0.2nm,0.3s,baz=308,slow=21,SNR=1.2						
DZM	**Mont Dzumac**	**10.99**	**163**		**Pn**	15 35 33.6	+1.2
CTAO	**Charters Tower**	**18.13**	**240**	Pn	**Pn**	15 37 04.7	-2.1
CTAO				IAmb	IAmb	15 37 17.1	
	comp=Z,52nm,1.6s						
WR0	**Warramunga Arr**	**28.53**	**249**	P	**P**	15 38 50.2	+0.1
WR0				IAmb	IAmb	15 38 58.0	
	comp=Z,15nm,1.5s						
WB0	**Warramunga Arr**	**28.63**	**250**	P	**P**	15 38 50.5	-0.5
WB0				IAmb	IAmb	15 38 58.0	
	comp=Z,5.9nm,1.2s						
WB2	**Warramunga Arr**	**28.70**	**250**	P	**P**	15 38 51.5	-0.1
WB2				IAmb	IAmb	15 39 25.3	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**28.71**	**250**	P	**P**	15 38 51.2	-0.6
	comp=Z,0.4nm,0.6s,baz=78,slow=8.9,SNR=2.1						
WRA	**Warramunga Arr**	**28.71**	**250**	P	**P**	15 38 51.8	0.0
ASAR	**Alice Springs**	**30.10**	**242**	P	**P**	15 39 04.2	+0.1
	comp=Z,0.4nm,0.6s,baz=63,slow=10,SNR=11						
BBOO	**Buckleboo**	**32.49**	**225**	P	**P**	15 39 25.0	+0.1
MQZ	**McQueen's Vall**	**33.12**	**167**	P	**P**	15 39 29.9	-0.4
KNRA	**Kununurra**	**33.43**	**259**	P	**P**	15 39 32.9	-0.4
SONM	**Songino Array**	**77.46**	**325**	P	**P**	15 44 51.2	+1.7
	comp=Z,0.5nm,0.8s,baz=123,slow=5.3,SNR=3.0						
SONM	**Songino Array**	**77.46**	**325**	IAmb	IAmb	15 44 59.8	
	comp=Z,3.6nm,1.6s						
QSPA	**South Pole Qui**	**78.45**	**180**	P	P	15 44 59.9	+5.2
QSPA				IAmb	IAmb	15 45 10.0	
	comp=Z,8.2nm,1.6s						
MKAR	**Makanchi Array**	**92.01**	**317**	P	**P**	15 46 02.5	-0.3
	comp=Z,0.2nm,0.8s,baz=114,slow=5.5,SNR=2.4						

*IDC **30** 15:42:11.6±1.6, 24°.05S×67°.02W, h173km±20km, mb3.2/1, mb1 3.4/7, mb1mx3.2/28, mbtmp3.8/7, Error ellipse: s-maj=27.4km s-min=21.9km az=180.0*
*GUC **30** 15:42:12.0±0.6, 24°.23S×67°.63W, h198km±7km, ML4.3*
ISC 30 15:42:10.6±0.9, 24°.22S±0°.06×67°.24W±0°.09, h179km±13km, n21, σ1§62/36, 8C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.22**	**316**	P	**Pn**	15 42 51.8	+1.4
	17nm,0.3s,baz=125,slow=7.8,SNR=180						
LVC				S	**Sn**	15 43 22.1	+0.7
	66nm,0.3s,baz=12,slow=21,SNR=71						
LVC	**Limon Verde**	**2.22**	**316**	↑P	**Pn**	15 42 51.7	+1.2
LVC				*i* S	**Sn**	15 43 22.0	+0.6
PB15	**IPOC Station P**	**2.28**	**296**	*e*P	**Pn**	15 42 51.7	+0.7
PB15				*e*S	**Sn**	15 43 21.9	-0.4
GO02	**Mina Guanaco**	**2.33**	**246**	↑*i*P	**Pn**	15 42 51.9	+0.2
GO02				*i* S	**Sn**	15 43 23.1	-0.5
GO02				IAML		15 43 27.7	
	comp=N,686nm,0.1s						
PB06	**IPOC Station P**	**2.62**	**305**	↑*i*P	**Pn**	15 42 56.0	+1.1
PB06				*i* S	**Sn**	15 43 28.7	-0.6
PB06				IAML		15 43 30.1	
	comp=E,894nm,0.2s						
PB14	**IPOC Station P**	**2.91**	**261**	↑*i*P	**Pn**	15 42 58.3	-0.2
PB14				*i* S	**Sn**	15 43 33.8	-1.9
PB09	**IPOC Station P**	**3.04**	**322**	↑*i*P	**Pn**	15 43 01.6	+1.7
PB09				*e*S	**Sn**	15 43 38.9	+0.6
PB09				IAML		15 43 40.3	
	comp=N,400nm,0.5s						
PB05	**IPOC Station P**	**3.04**	**296**	↑*i*P	**Pn**	15 43 00.3	+0.4
PB05				*i* S	**Sn**	15 43 36.4	-1.8
PB05				IAML		15 43 40.2	
	comp=N,291nm,0.2s						
PB10	**IPOC Station P**	**3.12**	**282**	↑*i*P	**Pn**	15 43 00.6	0.0
PB10				*i* S	**Sn**	15 43 37.0	-2.6
PB04	**IPOC Station P**	**3.27**	**305**	↓*i*P	**Pn**	15 43 03.5	+0.7
PB04				*i* S	**Sn**	15 43 41.6	-1.8
PB04				IAML		15 43 44.1	
	comp=E,606nm,0.5s						
PB07	**IPOC Station P**	**3.48**	**315**	↑*i*P	**Pn**	15 43 06.0	+0.6
PB07				*e*S	**Sn**	15 43 46.2	-1.9
PB07				IAML		15 43 47.7	
	comp=E,506nm,0.3s						
PB01	**IPOC Station P**	**3.79**	**326**	↓*i*P	**Pn**	15 43 09.4	+0.3
PB01				*i* S	**Sn**	15 43 53.3	-1.5
PB01				IAML		15 43 54.2	
	comp=E,310nm,0.2s						
PB02	**IPOC Station P**	**3.79**	**319**	*e*P	**Pn**	15 43 10.6	+1.4
PB02				*i* S	**Sn**	15 43 52.9	-2.0
PB02				IAML		15 43 57.9	
	comp=E,424nm,0.1s						
PB08	**IPOC Station P**	**4.43**	**336**	↓*i*P	**Pn**	15 43 18.9	+1.3
PB08				*e*P	**Pn**	15 43 20.9	+3.2
PB08				*i* S	**Sn**	15 44 09.6	-0.5
PB08				IAML		15 44 11.3	
	comp=E,79nm,0.3s						
LPAZ	**La Paz**	**7.94**	**354**	P	**Pn**	15 44 04.6	+0.8
	comp=E,2.2nm,0.3s,baz=161,slow=9.9,SNR=46						
CPUP	**Villa Florida**	**9.21**	**105**	P	**Pn**	15 44 18.0	-1.8
	comp=E,0.2nm,0.3s,baz=279,slow=13,SNR=2.9						
SIV	**San Ignacio**	**10.03**	**36**	P	**Pn**	15 44 27.8	-2.9
	comp=E,0.2nm,0.3s,baz=216,slow=14,SNR=3.9						
PLCA	**Paso Flores**	**16.70**	**189**	P	**Pn**	15 45 58.7	+4.4
	comp=E,0.1nm,0.3s,baz=5.4,slow=10,SNR=4.8						
BDFB	**Brasilia**	**19.97**	**68**	P	**P**	15 46 28.8	-0.6
	comp=E,0.6nm,0.3s,baz=244,slow=13,SNR=4.8						
TORD	**Torodi Ar. Bea**	**76.85**	**69**	P	**P**	15 53 43.1	-0.1
	comp=E,0.7nm,0.9s,baz=257,slow=5.0,SNR=5.2						
WRA	**Warramunga Arr**	**131.33**	**207**	PKP	**PKiKP**	16 01 03.6	+0.3
	comp=E,0.4nm,0.7s,baz=162,slow=1.6,SNR=1.9						

*NEIC **30** 15:47:43.0±1.5, 0°.33N±0°.09×122°.08E±0°.08, h170km±8km, mb4.1/14, Error ellipse: s-maj=15.3km s-min=8.9km az=216.0*
*IDC **30** 15:47:44.5±4.7, 0°.30N×122°.15E, h196km±48km, mb3.3/7, mb1 3.4/8, mb1mx3.2/34, mbtmp3.8/8, Error ellipse: s-maj=66.8km s-min=12.4km az=61.0*
*DJA **30** 15:47:46.0±0.7, 0°.N±6°×12°.2E±°, h161km±7km, M3.9/6, mb4.4/1, MLv3.7/6*
ISC 30 15:47:43.1±0.6, 0°.36N±0°.06×122°.06E±0°.07, h170km, n28, σ1§54/32, mb3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.17**	**317**	P	**Pn**	15 48 07.7	+2.0
MRSI				S	**Sn**	15 48 24.9	+1.8
GTOI	**Gorontalo**	**0.99**	**74**	P	**Pn**	15 48 11.7	+2.0
GTOI				S	**Sn**	15 48 32.6	+2.4
APSI	**Ampana**	**1.32**	**198**	P	**Pn**	15 48 14.7	+2.2
TOLI2	**Tolitoli**	**1.48**	**301**		**Pn**	15 48 15.3	+1.3
TOLI2				Sn	**Sn**	15 48 38.0	+0.2
MPSI	**Mapaga**	**2.16**	**270**	P	**Pn**	15 48 23.2	+2.0
TTSI	**Tana Toraja**	**4.05**	**213**	P	**Pn**	15 48 46.3	+1.8
BNSI	**Bone**	**5.11**	**202**	P	**Pn**	15 49 00.3	+2.0
TNTI	**Ternate**	**5.33**	**86**	Pn	**Pn**	15 49 01.7	+0.5
KAPI	**Kappang**	**5.81**	**203**	P	**Pn**	15 49 08.7	+1.2
	0.9nm,0.3s,baz=41,slow=10,SNR=4.2						
MTN	**Manton Dam**	**15.91**	**146**		**Pn**	15 51 16.1	-1.7
WB0	**Warramunga Arr**	**23.37**	**150**		**P**	15 52 35.1	-1.5
WB0				IAmb	IAmb	15 53 12.7	
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**23.49**	**150**	P	**P**	15 52 36.0	-1.6
	comp=Z,0.9nm,0.5s,baz=324,slow=11,SNR=16						
WRA				pP	**pP**	15 53 11.0	+0.8
	comp=Z,0.5nm,0.6s,baz=325,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**23.49**	**150**	IAmb	IAmb	15 52 40.0	
	comp=Z,0.3nm,1.4s						
WB2	**Warramunga Arr**	**23.50**	**150**	P	**P**	15 52 36.5	-1.2
WB2				IAmb	IAmb	15 53 09.5	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**23.61**	**149**	P	**P**	15 52 37.6	-1.1
WR0				IAmb	IAmb	15 53 01.0	
	comp=Z,12nm,1.5s						
ASAR	**Alice Springs**	**26.51**	**155**	P	**P**	15 53 03.3	-1.6
	comp=Z,0.4nm,0.5s,baz=332,slow=8.7,SNR=13						
ASAR				pP	**pP**	15 53 42.5	+2.6
	comp=Z,0.4nm,0.8s,baz=337,slow=8.6,SNR=2.2						
ASAR				PcP	**PcP**	15 56 23.1	-2.4
	comp=Z,0.3nm,0.3s,baz=348,slow=2.1,SNR=17						
CMAR	**Chiang Mai Arr**	**28.96**	**310**	P	**P**	15 53 27.8	+1.0
	comp=Z,0.3nm,0.3s,baz=128,slow=5.8,SNR=2.8						
JCJ	**Chichijima**	**32.88**	**34**	P	**P**	15 54 01.2	+0.1
JHJ2	**Mitsune**	**36.62**	**25**	P	**P**	15 54 33.6	+0.6
STKA	**Stephens Creek**	**37.01**	**152**	P	**P**	15 54 35.2	-1.2
	comp=Z,2.0nm,0.8s,baz=311,slow=8.2,SNR=3.9						
CAN	**Canberra**	**43.49**	**147**	P	**P**	15 55 29.6	-0.2
SONM	**Songino Array**	**49.21**	**346**	P	**P**	15 56 13.8	-0.3
	comp=Z,2.4nm,0.6s,baz=166,slow=9.1,SNR=17						
SONM	**Songino Array**	**49.21**	**346**	IAmb	IAmb	15 56 14.8	
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**57.82**	**329**	P	**P**	15 57 16.2	-0.6
MK31				IAmb	IAmb	15 57 17.0	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**57.82**	**329**	P	**P**	15 57 16.2	-0.5
	comp=Z,1.0nm,0.3s,baz=124,slow=8.6,SNR=27						
MAKZ	**Makanchi**	**57.99**	**329**	P	**P**	15 57 17.6	-0.4
KBL	**Kabul**	**59.99**	**310**	P	**P**	15 57 31.7	-0.5
ZALV	**Zalesovo Beam**	**61.60**	**336**	P	**P**	15 57 40.8	-1.6
	comp=Z,1.0nm,0.5s,baz=112,slow=6.6,SNR=5.1						

*TUL **30** 16:04:16.5±1.8, 36°.36N±0°.01×96°.77W±0°.02, h5km±6km, ML2.7, mb_Lg2.5/34(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=91.0*
NEIC 30 16:04:16.9±1.6, 36°.36N±0°.01×96°.83W±0°.02, h8km±6km, Error ellipse: s-maj=2.3km s-min=1.7km az=52.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.21**	**153**		Pg	16 04 20.7	-0.3
QUOK				Sg	Sg	16 04 23.6	-0.3
OK031	**S. Brethren Rd**	**0.40**	**182**		Pg	16 04 24.8	0.0
OK031				Sg	Sg	16 04 30.5	+0.5
BLOK	**Blackwell**	**0.51**	**322**		Pg	16 04 27.1	+0.3
BLOK				Sg	Sg	16 04 34.3	+0.8
T35A	**Sooner Cattle**	**0.61**	**24**		Pg	16 04 27.8	-0.9
T35A				Sg	Sg	16 04 35.8	-0.9
OK029	**Liberty Lake**	**0.76**	**223**		Pg	16 04 31.5	+0.1
OK029				Sg	Sb	16 04 42.2	-0.6
KAN13	**South Haven SW**	**0.84**	**321**		Pg	16 04 33.1	+0.1
KAN13				Sg	Sg	16 04 43.1	-0.9
OK025	**Westminster Rd**	**0.88**	**208**		Pg	16 04 33.5	-0.3
BCOK	**Bluff Creek, N**	**0.94**	**223**		Pg	16 04 34.9	-0.1
BCOK				Sg	Sb	16 04 48.2	0.0
CROK	**Carrier**	**0.95**	**279**		Pb	16 04 35.4	-0.2
CROK				Sg	Sg	16 04 45.4	-2.0
GC02	**Grant County #**	**0.97**	**301**		Pg	16 04 35.6	+0.1
GC02				Sg	Sg	16 04 48.3	+0.2
KAN09	**Caldwell North**	**1.01**	**321**		Pg	16 04 36.2	0.0
KAN09				Sg	Sg	16 04 49.2	0.0
KAN17	**Caldwell West**	**1.02**	**313**		Pg	16 04 36.5	0.0
KS20	**Mayfield South**	**1.05**	**326**		Pg	16 04 36.9	-0.1
KS20				Sg	Sg	16 04 50.5	-0.2
OKCFA	**Oklahoma City**	**1.07**	**209**	Pg	Pg	16 04 36.6	-0.7
OKCFA				Sg	Sb	16 04 51.5	-0.2
OKCSW	**OKLAHOMA CITY**	**1.07**	**208**	Pg	Pg	16 04 36.8	-0.7
KAN05	**Bluff City Nor**	**1.13**	**312**	Pg	Pg	16 04 38.1	-0.5
KAN05				Sg	Sb	16 04 53.5	0.0
KAN05				IAmb_Lg		16 04 53.9	
	comp=Z,31nm,0.9s						
FNO	**Franklin**	**1.19**	**203**		Pg	16 04 38.7	-1.0
FNO				Sg	Sg	16 04 53.7	-1.6
OK032	**Salt Plains WL**	**1.20**	**292**		Pb	16 04 39.9	-0.1
KAN08	**Anthony NE Sta**	**1.27**	**314**		Pn	16 04 40.9	-0.1
KAN10	**Anthony SW Sta**	**1.28**	**307**		Pb	16 04 41.2	0.0
KAN12	**Harper NE Stat**	**1.33**	**315**		Pb	16 04 42.0	-0.1
U32A	**Winter Ranch,**	**1.76**	**271**	Pn	Pb	16 04 49.1	-0.3
U32A				IAmb_Lg		16 05 15.0	
	comp=Z,38nm,0.8s						
X34A	**Smith Ranch, M**	**1.94**	**205**	Pn	Pb	16 04 51.7	-0.7
U38A	**Gravette**	**1.97**	**87**		Pn	16 04 50.9	+0.3
X37A	**Clayton**	**2.12**	**146**	Pn	Pn	16 04 53.5	+0.7
X37A				IAmb_Lg		16 05 25.7	
	comp=Z,15nm,0.8s						
WMOK	**Wichita Mounta**	**2.27**	**225**		Pn	16 04 56.3	+1.6
WMOK				IAmb_Lg		16 05 31.4	
	comp=Z,13nm,0.8s						
HHAR	**Hobbs**	**2.33**	**91**	Pn	Pn	16 04 56.1	+0.5
LOOK	**Love County**	**2.38**	**187**	Pn	Pn	16 04 57.3	+1.1
R32A	**Long Quarter,**	**2.55**	**324**	Pn	Pn	16 04 59.7	+1.1
R32A				IAmb_Lg		16 05 41.8	
	comp=Z,13nm,0.8s						
W39A	**Magazine**	**2.73**	**114**	Pn	Pn	16 05 01.7	+0.6
Z35A	**Perchaven, San**	**3.04**	**187**	Pn	Pn	16 05 06.3	+1.0
S39A	**Bolivar**	**3.10**	**64**		Pn	16 05 06.3	+0.2
S39A				IAmb_Lg		16 05 59.1	
	comp=Z,17nm,0.7s						
U40A	**Yellville**	**3.21**	**89**		Pn	16 05 06.7	-0.9
MIAR	**Mount Ida**	**3.21**	**123**		Pn	16 05 06.2	-1.5
CBKS	**Cedar Bluff**	**3.37**	**318**	Pn	Pn	16 05 10.8	+0.9
MGMO	**Mountain Grove**	**3.74**	**76**	IAmb_Lg		16 06 16.3	
	comp=Z,19nm,0.8s						
X40A	**Basin Creek Fa**	**3.75**	**119**	Pn	Pn	16 05 13.3	-1.8
FCAR	**Ozark Folk Cen**	**3.83**	**96**	Pn	Pn	16 05 14.3	-1.9
FCAR				IAmb_Lg		16 06 18.3	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**3.84**	**105**		Pn	16 05 14.4	-1.8
WHAR				IAmb_Lg		16 06 17.8	
	comp=Z,9.8nm,0.7s						
R40A	**Maddies Statio**	**4.11**	**61**	IAmb_Lg		16 06 25.9	
	comp=Z,11nm,0.7s						
P38A	**Dawn**	**4.17**	**38**	Pn	Pn	16 05 19.2	-1.7
AMTX	**Amarillo**	**4.22**	**251**	Pn	Pn	16 05 20.8	-0.8
N35A	**Tabor**	**4.59**	**11**		Pn	16 05 25.5	-1.2
N35A				IAmb_Lg		16 06 52.4	
	comp=Z,17nm,0.8s						
LCAR	**Lake Charles**	**4.59**	**92**	Pn	Pn	16 05 24.6	-2.1
LCAR				IAmb_Lg		16 06 40.8	
	comp=Z,6.5nm,0.8s						
T42A	**Van Buren**	**4.66**	**80**	Pn	Pn	16 05 25.1	-2.4
P40A	**Paris**	**4.93**	**49**	IAmb_Lg		16 06 52.6	
	comp=Z,13nm,0.7s						
PBMO	**Poplar Bluff**	**5.17**	**83**	IAmb_Lg		16 06 59.8	
	comp=Z,13nm,0.8s						
N38A	**Joes South For**	**5.25**	**31**	IAmb_Lg		16 07 08.6	
	comp=Z,10nm,0.8s						
T25A	**Trinidad**	**6.14**	**280**	IAmb_Lg		16 07 49.9	
	comp=Z,5.2nm,0.9s						
JCT	**Junction City**	**6.37**	**204**	IAmb_Lg		16 07 50.4	
	comp=Z,5.7nm,0.9s						
T50A	**Nancy**	**9.65**	**83**	IAmb_Lg		16 09 40.1	
	comp=Z,5.4nm,1.1s						

KMA 30 16:33:02.0±0.3, 35°.72N×127°.76E, h18km±6km, Error ellipse: s-maj=6.5km s-min=2.0km az=106.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSKCH	**Geochang**	**0.17**	**128**	P	Pb	16 33 06.7	+0.2
	SNR=38						
KSKCH				S	Sb	16 33 09.6	+0.1
KSKCH	**Geochang**	**0.17**	**128**	P	Pb	16 33 06.7	+0.2
	SNR=38						
KSKCH	**Geochang**	**0.17**	**128**	P	Pb	16 33 06.7	+0.2
	SNR=38						
HAMB	**Hamyang**	**0.20**	**183**	P	Pb	16 33 07.2	0.0
	SNR=28						
HAMB	**Hamyang**	**0.20**	**183**	P	Pb	16 33 07.2	0.0
	SNR=28						
KSGIC	**Gimchen**	**0.46**	**37**	P	Pg	16 33 11.4	+0.1
	SNR=8.2						
KSGIC	**Gimchen**	**0.46**	**37**	P	Pg	16 33 11.4	+0.1
	SNR=8.2						
KSGIC	**Gimchen**	**0.46**	**37**	P	Pg	16 33 11.4	+0.1
	SNR=8.2						
OKCB	**Cheongsan-myeo**	**0.63**	**3**	P	Pg	16 33 14.2	-0.2
	SNR=16						
OKCB	**Cheongsan-myeo**	**0.63**	**3**	P	Pg	16 33 14.2	-0.2
	SNR=16						
OKCB	**Cheongsan-myeo**	**0.63**	**3**	P	Pg	16 33 14.2	-0.2
	SNR=16						
KSHAD	**HADONG**	**0.64**	**179**	P	Pg	16 33 14.4	-0.2
	SNR=14						
KSHAD	**HADONG**	**0.64**	**179**	P	Pg	16 33 14.4	-0.2
	SNR=14						
KSHAD	**HADONG**	**0.64**	**179**	P	Pg	16 33 14.4	-0.2
	SNR=14						
KSJEU	**Jeongeup**	**0.71**	**252**	P	Pb	16 33 15.8	0.0
	SNR=10						
KSJEU	**Jeongeup**	**0.71**	**252**	P	Pb	16 33 15.8	0.0
	SNR=10						
KSJEU	**Jeongeup**	**0.71**	**252**	P	Pb	16 33 15.8	0.0
	SNR=10						
KSBON	**Boeun**	**0.78**	**2**	P	Pn	16 33 17.9	-0.3
	SNR=31						

*NEIC **30** 16:40:00.5±1.0, 62°.27N±0°.03×150°.72W±0°.07, h62km±11km, Error ellipse: s-maj=4.5km s-min=4.2km az=61.0*
*ANF **30** 16:40:00.8±0.2, 62°.29N×150°.72W, h58km±4km, ML3.7/54, Error ellipse: s-maj=2.0km s-min=1.7km az=91.0*
*AEIC **30** 16:40:01.3±0.9, 62°.27N±0°.03×150°.71W±0°.05, h60km±8km, ML3.3/113, ML3.6/122(NEIC), Error ellipse: s-maj=4.3km s-min=2.5km az=148.0*
ISC 30 16:40:00.5±1.1, 62°.29N±0°.03×150°.73W±0°.03, h67km±7km, n195, σ0§72/217, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.24**	**61**	P	**Pn**	16 40 10.7	-0.2
	baz=236,SNR=671						
CUT				S	**Sn**	16 40 18.5	0.0
	baz=236						
CUT	**Chulitna**	**0.24**	**61**		**Pn**	16 40 10.7	-0.2
CUT					**Sn**	16 40 18.9	+0.3
CUT				IAML		16 40 19.2	
	comp=N,4μm,0.4s						
CUT				IAML		16 40 19.3	
	comp=E,6μm,0.5s						
SKT	**Skwentna**	**0.49**	**231**	P	**Pn**	16 40 12.4	-0.5
	baz=53,SNR=500						
SKT				S	**Sn**	16 40 21.3	-0.7
	baz=53						
SKT	**Skwentna**	**0.49**	**231**		**Pn**	16 40 12.4	-0.5
SKT					**Sn**	16 40 21.4	-0.7
SKT				IAML		16 40 22.2	
	comp=N,4μm,0.2s						
SKT				IAML		16 40 22.7	
	comp=E,3μm,0.3s						
SUA	**Susitna One**	**0.83**	**181**	P	**Pn**	16 40 16.3	-0.5
	baz=1.2,SNR=222						
SUA				S	**Sn**	16 40 28.1	-0.7
	baz=1.2						
SUA	**Susitna One**	**0.83**	**181**		**Pn**	16 40 16.2	-0.5
SUA				Sn	**Sn**	16 40 27.7	-1.1
HUR	**Hurricane**	**0.86**	**36**		**Pn**	16 40 17.1	+0.1
PPLA	**Purkeypile**	**0.91**	**313**	P	**Pn**	16 40 17.9	+0.1
	baz=132,SNR=108						
PPLA				S	**Sn**	16 40 30.7	0.0
	baz=132						
PPLA	**Purkeypile**	**0.91**	**313**	Pn	**Pn**	16 40 18.0	+0.1
PPLA	**Purkeypile**	**0.91**	**313**		**Sn**	16 40 30.7	0.0
STLK	**Strandline Lak**	**0.95**	**214**		**Pn**	16 40 17.8	-0.4
WAT7	**Susitna Watana**	**1.03**	**57**		**Pn**	16 40 19.2	0.0
WAT7					**Sn**	16 40 33.0	-0.2
PMR	**Palmer**	**1.03**	**132**	P	**Pn**	16 40 18.6	-0.5
	baz=313,SNR=46						
PMR				S	**Sn**	16 40 32.9	-0.1
	baz=313						
PMR	**Palmer**	**1.03**	**132**		**Pn**	16 40 18.5	-0.5
PMR	**Palmer**	**1.03**	**132**		**Sn**	16 40 32.8	-0.1
PMR	**Palmer**	**1.03**	**132**	IAML		16 40 34.3	
	comp=N,1μm,0.3s						
PMR				IAML		16 40 34.4	
	comp=E,1μm,0.6s						
WAT1	**Susitna Watana**	**1.14**	**61**	P	**Pn**	16 40 20.6	-0.1
	baz=241						
WAT1				S	**Sn**	16 40 35.5	-0.2
	baz=241						
WAT1	**Susitna Watana**	**1.14**	**61**		**Pn**	16 40 20.6	-0.1
WAT1					**Sn**	16 40 35.5	-0.2
FIS	**Fire Island**	**1.17**	**168**		**Pn**	16 40 22.0	+1.0
FIS				IAML		16 40 43.9	
	comp=E,1μm,0.5s						
SPCG	**Spurr Capps Gl**	**1.17**	**212**		**Pn**	16 40 20.6	-0.5
TRF	**Thorofare Moun**	**1.18**	**10**	P	**Pn**	16 40 21.7	+0.4
	baz=189,SNR=238						
TRF				S	**Sn**	16 40 37.4	+0.5
	baz=189						
TRF	**Thorofare Moun**	**1.18**	**10**		**Sn**	16 40 37.4	+0.5
TRF	**Thorofare Moun**	**1.18**	**10**	Pn	**Pn**	16 40 21.6	+0.3
TRF	**Thorofare Moun**	**1.18**	**10**	IAML		16 40 38.5	
	comp=N,1μm,0.5s						
TRF				IAML		16 40 40.0	
	comp=E,1μm,0.4s						
M20K	**Styx River**	**1.20**	**251**		**Pn**	16 40 21.4	-0.1
SML	**Sawmill**	**1.23**	**112**	P	**Pn**	16 40 21.6	-0.1
	baz=293,SNR=207						
SML				S	**Sn**	16 40 38.1	+0.4
	baz=293						
SML	**Sawmill**	**1.23**	**112**	Pn	**Pn**	16 40 21.7	-0.1
SML				IAML		16 40 40.3	
	comp=E,2μm,0.8s						
SML				IAML		16 40 43.5	
	comp=N,1μm,0.7s		

	baz=155,SNR=235					
CHUM			S	Sn	16 40 49.5	-0.6
	baz=155					
CHUM	**Lake Minchumin**	1.76 336		Pn	16 40 29.2	+0.5
CHUM				Sn	16 40 49.5	-0.6
M19K	**Big River Lodg**	1.77 259	P	Pn	16 40 28.6	-0.3
	baz=76,SNR=40					
M19K	**Big River Lodg**	1.77 259		Pn	16 40 28.6	-0.3
SLKM	**Skilak Lake**	1.80 172		Pn	16 40 29.4	0.0
BPAW	**Bear Paw Mtn.**	1.82 356	P	Pn	16 40 29.8	+0.1
	baz=176,SNR=158					
BPAW	**Bear Paw Mtn.**	1.82 356	Pn	Pn	16 40 29.7	+0.1
PWL	**Port Wells**	1.83 140		Pn	16 40 28.9	-0.9
PWL			IAML		16 40 57.0	
	comp=N,766nm,0.5s					
PWL			IAML		16 40 58.5	
	comp=E,608nm,0.3s					
K20K	**Telida**	1.87 306	P	Pn	16 40 30.5	+0.2
	baz=124,SNR=119					
K20K	**Telida**	1.87 306		Pn	16 40 30.5	+0.2
O22K	**Cooper Landing**	1.88 165	P	Pn	16 40 31.4	+1.1
	baz=346					
O22K	**Cooper Landing**	1.88 165		Pn	16 40 30.0	-0.3
L19K	**White Mountain**	1.94 269	P	Pn	16 40 31.2	0.0
	baz=86,SNR=104					
L19K	**White Mountain**	1.94 269		Pn	16 40 31.1	0.0
DFR	**Drift River**	1.95 210		Pn	16 40 31.4	0.0
BWN	**Browne**	1.98 16		Pn	16 40 32.1	+0.5
BWN			IAML		16 41 05.9	
	comp=N,348nm,0.6s					
BWN			IAML		16 41 12.5	
	comp=E,410nm,1.0s					
NCT	**North Crescent**	2.03 212		Pn	16 40 32.7	+0.2
RDWB	**Redoubt West**	2.07 210		Pn	16 40 33.5	+0.4
RSO	**Redoubt South**	2.08 209		Pn	16 40 33.7	+0.4
M24K	**Tolsona, Glenn**	2.14 93	P	Pn	16 40 34.6	+0.6
	baz=276,SNR=50					
M24K	**Tolsona, Glenn**	2.14 93		Pn	16 40 34.5	+0.6
GLI	**Glacier Island**	2.24 128	P	Pn	16 40 34.4	-0.9
	baz=310					
GLI	**Glacier Island**	2.24 128		Pn	16 40 34.4	-0.9
GLI			IAML		16 41 09.7	
	comp=N,514nm,0.5s					
SEW	**Seward**	2.28 164	P	Pn	16 40 35.2	-0.5
	baz=345					
SEW	**Seward**	2.28 164		Pn	16 40 34.5	-1.2
N19K	**Bonanza Creek**	2.33 232	P	Pn	16 40 36.2	-0.3
	baz=49,SNR=14					
N19K	**Bonanza Creek**	2.33 232		Pn	16 40 36.3	-0.3
O20K	**Slope Mountain**	2.40 203		Pn	16 40 37.8	+0.3
KLU	**Klutina**	2.41 107	P	Pn	16 40 36.9	-0.7
	baz=291,SNR=64					
KLU	**Klutina**	2.41 107		Pn	16 40 36.9	-0.7
KLU			IAML		16 41 13.1	
	comp=E,292nm,0.3s					
KLU			IAML		16 41 15.1	
	comp=N,364nm,0.5s					
NEA2	**Nenana**	2.43 17	P	Pn	16 40 37.7	-0.2
	baz=198,SNR=26					
NEA2			S	Sn	16 41 04.2	-2.3
	baz=198					
NEA2	**Nenana**	2.43 17		Pn	16 40 37.6	-0.2
J20K	**Nowinta River**	2.45 322	P	Pn	16 40 38.4	+0.3
	baz=139,SNR=144					
J20K			S	Sn	16 41 05.7	-1.2
	baz=139					
J20K	**Nowinta River**	2.45 322		Pn	16 40 38.3	+0.3
WRH	**Wood River Hil**	2.49 27		Pn	16 40 38.7	+0.1
PAX	**Paxson**	2.52 72	P	Pn	16 40 40.0	+0.8
	baz=256,SNR=73					
PAX	**Paxson**	2.52 72		Pn	16 40 40.0	+0.8
BRLK	**Bradley Lake**	2.53 182		Pn	16 40 39.8	+0.5
BRLK			IAML		16 41 14.4	
	comp=E,232nm,0.4s					
BRLK			IAML		16 41 16.2	
	comp=N,239nm,0.3s					
IVE	**Iliamna Volcan**	2.54 207		Pn	16 40 39.5	+0.1
FID	**Port Fidalgo**	2.55 125		Pn	16 40 38.1	-1.4
FID			IAML		16 41 19.4	
	comp=N,438nm,0.4s					
BRSE	**Bradley Lake S**	2.56 180	P	Pn	16 40 40.1	+0.5
	baz=0.3,SNR=25					
BRSE	**Bradley Lake S**	2.56 180		Pn	16 40 40.5	+0.9
HARP	**HAARP**	2.60 85	P	Pn	16 40 41.0	+0.9
	baz=270,SNR=24					
HARP	**HAARP**	2.60 85		Pn	16 40 41.0	+0.9
ILS	**Iliamna Low So**	2.60 207		Pn	16 40 40.6	+0.4
DIV	**Divide**	2.63 114		Pn	16 40 39.6	-1.0
HOM	**Homer**	2.68 190		Pn	16 40 40.5	-0.6
CCB	**Clear Creek Bu**	2.71 28		Pn	16 40 41.4	-0.1
HDA	**Harding Lake**	2.73 37	P	Pn	16 40 42.0	+0.1
	baz=220,SNR=101					
HDA	**Harding Lake**	2.73 37		Pn	16 40 41.9	+0.1
HDA			IAML		16 41 30.0	
	comp=N,184nm,0.5s					
O19K	**Port Alsworth**	2.73 221	P	Pn	16 40 41.7	-0.1
	baz=38					
MLY	**Manley**	2.75 360	P	Pn	16 40 42.4	+0.1
	baz=180,SNR=156					
MLY			S	Sn	16 41 12.4	-2.0
	baz=180					
MLY	**Manley**	2.75 360		Pn	16 40 42.4	+0.1
MLY			IAML		16 41 14.6	
	comp=N,198nm,0.5s					
CNPM	**China Poot**	2.78 185		Pn	16 40 43.3	+0.6
CNPM			IAML		16 41 23.2	
	comp=E,357nm,0.5s					
HIN	**Hinchinbrook I**	2.78 131		Pn	16 40 41.5	-1.1
PS08	**TAPS Pump Stn8**	2.86 36		Pn	16 40 43.9	+0.2
TCOL	**CIGO, UAF Yank**	2.89 25	P	Pn	16 40 44.4	+0.2
	baz=207,SNR=27					
TCOL	**CIGO, UAF Yank**	2.89 25		Pn	16 40 44.3	+0.2
COLA	**College**	2.90 25	P	Pn	16 40 44.3	+0.2
	baz=207					
COLA	**College**	2.90 25		Pn	16 40 44.3	+0.2
MDM	**Murphy Dome**	2.90 21		Pn	16 40 44.4	+0.2
OPT	**Oil Point**	2.91 206		Pn	16 40 45.3	+0.9
P19K	**Oil Pt**	2.91 206	P	Pn	16 40 45.4	+0.9
	baz=24					
P19K	**Oil Pt**	2.91 206		Pn	16 40 45.0	+0.6
I23K	**Minto, Yukon-K**	2.94 11	P	Pn	16 40 44.9	+0.3
	baz=192,SNR=91					
I23K			S	Sn	16 41 16.7	-2.0
	baz=192					
I23K	**Minto, Yukon-K**	2.94 11		Pn	16 40 44.9	+0.3
N18K	**Kilae Creek**	2.96 239	P	Pn	16 40 44.5	-0.5
	baz=55,SNR=13					
N18K	**Kilae Creek**	2.96 239		Pn	16 40 44.5	-0.5
I21K	**Tanana**	2.96 350	P	Pn	16 40 45.2	+0.2
	baz=168,SNR=62					
I21K	**Tanana**	2.96 350		Pn	16 40 45.1	+0.2
EYAK	**Cordova Ski Ar**	2.96 124	P	Pn	16 40 44.2	-0.8
	baz=308					
EYAK	**Cordova Ski Ar**	2.96 124		Pn	16 40 44.5	-0.5
N25K	**Chitina, Valde**	2.98 101	P	Pn	16 40 44.8	-0.5
	baz=286,SNR=33					
N25K	**Chitina, Valde**	2.98 101		Pn	16 40 44.8	-0.5
N25K			IAML		16 41 32.8	
	comp=N,123nm,0.8s					
IL31		3.03 33		Pn	16 40 46.0	+0.1
ILAR	**Eielson Array**	3.03 33		Pn	16 40 46.1	+0.1
RIDG	**Independent Ri**	3.05 59	P	Pn	16 40 47.8	+1.5
	baz=244,SNR=197					
RIDG	**Independent Ri**	3.05 59		Pn	16 40 47.5	+1.2
RIDG			IAML		16 41 32.5	
	comp=N,216nm,0.9s					
POKR	**Poker Plat Res**	3.20 26	P	Pn	16 40 48.6	+0.4
	baz=208,SNR=15					
POKR	**Poker Plat Res**	3.20 26		Pn	16 40 48.6	+0.4
BMRM	**Bremner River**	3.21 112	P	Pn	16 40 47.2	-1.3
	baz=297,SNR=9.0					
BMRM	**Bremner River**	3.21 112		Pn	16 40 47.2	-1.3
BMRM			IAML		16 41 42.1	
	comp=E,160nm,0.3s					
BMRM			IAML		16 41 42.4	
	comp=N,179nm,0.4s					
O18K	**Koktuh Hills**	3.27 224	P	Pn	16 40 49.2	-0.1
	baz=40,SNR=9.1					
O18K	**Koktuh Hills**	3.27 224		Pn	16 40 49.2	-0.1
DOT	**Dot Lake**	3.33 63		Pn	16 40 50.6	+0.5
GLB	**Gilahina Butte**	3.38 101		Pn	16 40 50.1	-0.7
GLB			IAML		16 41 42.1	
	comp=N,100nm,0.5s					
GLB			IAML		16 41 43.6	
	comp=E,109nm,0.5s					
L26K	**Log Cabin Wild**	3.48 74	P	Pn	16 40 52.7	+0.5
	baz=261					
RAGM	**Ragged Mountai**	3.48 121		Pn	16 40 51.7	-0.5
SCRK	**Sand Creek**	3.50 58	P	Pn	16 40 52.9	+0.5
	baz=244,SNR=115					
SCRK	**Sand Creek**	3.50 58		Pn	16 40 53.0	+0.5
SCRK			IAML		16 41 37.7	
	comp=N,110nm,0.4s					
SCRK			IAML		16 41 37.9	
	comp=E,99nm,0.5s					
Q23K	**Middleton Isla**	3.58 141	Pn	Pn	16 40 54.0	+0.6
Q23K			IAML		16 41 59.8	
	comp=N,93nm,1.0s					
Q23K			IAML		16 42 01.0	
	comp=E,144nm,1.5s					
H23K	**Yukon River**	3.59 8	P	Pn	16 40 54.0	+0.4
	baz=189,SNR=53					
H23K	**Yukon River**	3.59 8		Pn	16 40 54.2	+0.6
PS06	**TAPS Pump Stn6**	3.61 6		Pn	16 40 54.3	+0.5
VRDI	**Verde Repeater**	3.62 104		Pn	16 40 54.7	+0.5
VRDI			IAML		16 41 55.9	
	comp=N,72nm,1.0s					
HMT	**Hamilton**	3.68 119		Pn	16 40 53.6	-1.3
MCARA	**McCarthy VSAT**	3.76 101		Pn	16 40 55.5	-0.5
H24K	**Noodor Dome**	3.78 18	P	Pn	16 40 56.3	+0.2
	baz=200,SNR=31					
H24K	**Noodor Dome**	3.78 18		Pn	16 40 56.4	+0.2
NICHA	**Nichawak Mount**	3.86 119		Pn	16 40 55.8	-1.5
KAIM	**Kayak Island**	3.87 125	Pn	Pn	16 40 56.8	-0.6
KAIM			IAML		16 42 06.5	
	comp=E,87nm,1.3s					
KAIM			IAML		16 42 37.0	
	comp=N,89nm,1.3s					
BERG	**Berg Lake**	3.88 116		Pn	16 40 57.5	-0.1
IM05	**Indian Mountai**	3.93 342		Pn	16 40 58.5	+0.3
IMAR	**Indian Mountai**	3.94 342		Pn	16 40 58.9	+0.5
PRP	**Porcupine Dome**	3.97 33	P	Pn	16 40 59.4	+0.5
	baz=217,SNR=63					
PRP	**Porcupine Dome**	3.97 33		Pn	16 40 58.6	-0.3
PRP			IAML		16 41 43.8	
	comp=N,56nm,0.5s					
PTPK	**Patty Peak**	4.08 102		Pn	16 40 59.8	-0.7
TGL	**Tana Glacier**	4.08 109		Pn	16 41 00.4	0.0
TGL			IAML		16 42 03.1	
	comp=N,112nm,0.7s					
TGL			IAML		16 42 05.4	
	comp=E,131nm,0.6s					
M27K	**Edge Creek, AK**	4.13 85	P	Pn	16 41 01.2	+0.1
	baz=273,SNR=8.5					
L27K	**Beaver Creek,**	4.17 75	P	Pn	16 41 01.6	0.0
	baz=263,SNR=28					
L27K	**Beaver Creek,**	4.17 75		Pn	16 41 01.4	-0.2
BALM	**Baldy**	4.19 104		Pn	16 41 00.8	-1.0
BCAR	**Beaver Creek A**	4.20 75		Pn	16 41 01.7	-0.2
WAX	**Waxell Ridge**	4.21 112		Pn	16 41 01.5	-0.7
KIAG	**Kiagna River**	4.22 105		Pn	16 41 01.1	-1.4
K27K	**Chicken**	4.29 62		Pn	16 41 03.6	+0.4
K27K			IAML		16 41 57.6	
	comp=N,46nm,0.5s					
ISLE	**Juniper Island**	4.37 109		Pn	16 41 02.9	-1.5
ISLE			IAML		16 42 15.0	
	comp=N,84nm,0.7s					
ISLE			IAML		16 42 15.4	
	comp=E,76nm,0.4s					
BARN	**Barnard Glacie**	4.49 102		Pn	16 41 05.6	-0.5
BARN			IAML		16 42 15.5	
	comp=N,54nm,0.8s					
BARN			IAML		16 42 16.1	
	comp=E,81nm,0.5s					
KDAK	**Kodiak Island**	4.62 192	P	Pn	16 41 08.6	+1.0
	baz=11					
KDAK	**Kodiak Island**	4.62 192		Pn	16 41 07.0	-0.6
KDAK			IAML		16 42 14.5	
	comp=E,42nm,1.0s					
KDAK			IAML		16 42 17.6	
	comp=E,45nm,0.9s					
KABU	**Katmai Buttres**	4.62 211		Pn	16 41 07.7	-0.1
CTG	**Chitna Glacier**	4.67 102	P	Pn	16 41 09.1	+0.6
	baz=290					
CTGM	**Chitina Glacie**	4.67 102		Pn	16 41 07.8	-0.8
CTGM			IAML		16 42 20.6	
	comp=N,43nm,0.5s					
YAH	**Yahtse**	4.74 110	Pn	Pn	16 41 08.3	-1.1
YAH			IAML		16 42 24.8	
	comp=E,74nm,0.7s					
YAH			IAML		16 42 26.6	
	comp=N,53nm,0.7s					
LOGN	**Logan Glacier**	4.88 103	Pn	Pn	16 41 10.4	-0.9
LOGN			IAML		16 42 29.3	
	comp=N,35nm,0.9s					
FYU	**Fort Yukon**	4.91 27		Pn	16 41 11.6	0.0
FYU			IAML		16 42 23.2	
	comp=E,31nm,3.5s					
FYU			IAML		16 42 34.3	
	comp=N,43nm,2.3s					
EGAK	**Eagle**	4.96 56	P	Pn	16 41 12.5	+0.3
	baz=244					
EGAK	**Eagle**	4.96 56	Pn	Pn	16 41 12.1	-0.1
EGAK			IAML		16 42 31.9	
	comp=N,42nm,0.8s					
EGAK			IAML		16 42 34.8	
	comp=N,50nm,0.7s					
COLD	**Coldfoot**	4.96 2	P	Pn	16 41 13.5	+1.1
	baz=183,SNR=98					
COLD	**Coldfoot**	4.96 2		Pn	16 41 12.8	+0.4
DAWY	**Dawson**	5.43 66		Pn	16 41 19.0	+0.2
PCA	**Pinnacle**	5.52 109	Pn	Pn	16 41 19.8	-0.2
BM03	**Burnt Mountain**	5.77 24		Pn	16 41 24.0	+0.6
BMAR	**Burnt Mountain**	5.79 24		Pn	16 41 24.2	+0.6
BCPM	**Bancas Point**	5.86 109	Pn	Pn	16 41 24.5	-0.2
SII	**Sitkinak Islan**	6.01 199	Pn	Pn	16 41 27.9	+1.1
TOLK	**Toolik Lake Re**	6.40 4	P	Pn	16 41 33.6	+1.6
	baz=185,SNR=16					
TOLK	**Toolik Lake Re**	6.40 4		Pn	16 41 34.3	+2.3
ANM	**Nome**	6.95 296	Pn	Pn	16 41 39.7	+0.2
CHIR	**Chirikof Islan**	6.96 203	Pn	Pn	16 41 40.7	+1.1
TNA	**Tin City**	8.25 301	Pn	Pn	16 41 58.6	+1.5
SDPT	**Sand Point**	8.59 220	Pn	Pn	16 42 04.5	+2.6
CNBA	**Chernabura Isl**	8.80 216	Pn	Pn	16 42 06.3	+1.6
A21K	**Barrow**	9.36 348	Pn	Pn	16 42 11.9	-0.3
INK	**Inuvik**	9.37 42		Pn	16 42 12.0	-0.4

*HEL **30** 17:02:22.7±0.1, 67°.06N×20°.88E, h0km, ML2.2, ML2.0(UPP), Explosion*
*UPP **30** 17:02:22.2±0.1, 67°.06N×20°.92E, h1km, ML2.0, Explosion*
*IDC **30** 17:02:24.0±1.3, 67°.18N×21°.37E, h0km, mb1 3.0/3, mb1mx2.9/39, mbtmp2.9/3, ML1.8/3, Error ellipse: s-maj=21.3km s-min=8.3km az=104.0*
*NAO **30** 17:02:24.3±1.1, 67°.12N×21°.21E, ML2.5*
*BER **30** 17:02:26.8±3.7, 67°.08N×20°.85E, h0km, ML2.2, ML2.5(NAO), Suspected explosion*

ISC 30 17:02:22.6±0.8, 67°.08N±0°.02×20°.94E±0°.03, h0km, n39, σ1°.08/58, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	0.56	47	P	Pg	17 02 33.0	-0.3
MASU	**Masugnsbyn**	0.56	47	*i* P	Pg	17 02 33.0	-0.3
ERTU	**Ertsjaerv**	0.72	136	P	Pg	17 02 35.5	-0.9
ERTU	**Ertsjaerv**	0.72	136	*e*P	Pg	17 02 35.4	-1.1
PAJU	**Pajala**	0.85	93	P	Pg	17 02 37.9	-1.1
PAJU	**Pajala**	0.85	93	*e*P	Pg	17 02 37.9	-1.1
PAJU				*e*S	Sg	17 02 50.3	+0.3
KUA	**Kurravaara**	0.91	345	P	Pg	17 02 39.2	-0.8
KUA	**Kurravaara**	0.91	345	*e*P	Pg	17 02 39.2	-0.8
HARU	**Harads**	0.92	179	P	Pg	17 02 38.7	-1.5
HARU	**Harads**	0.92	179	*e*P	Pg	17 02 38.7	-1.5
LANU	**Lannavaara**	1.05	22	P	Pg	17 02 42.4	-0.4
LANU	**Lannavaara**	1.05	22	*e*P	Pg	17 02 41.9	-0.9
LANU				*e*S	Sb	17 02 58.2	+0.1
KOVU	**Salmi**	1.19	346	P	Pg	17 02 44.7	-0.7
KOVU	**Salmi**	1.19	346	*e*P	Pg	17 02 44.7	-0.7
KLF	**Kolari**	1.19	81	*e*P	Pg	17 02 44.4	-1.0
KLF				*e*S	Sg	17 03 01.1	+0.3
TOF	**Tornio**	1.68	125	*e*P	Pn	17 02 52.8	-0.5
TOF				*e*S	Sn	17 03 15.7	+0.2
HEF	**Hetta**	1.69	37	Pg	Pn	17 02 52.7	-0.7
HEF				Lg	Lg	17 03 15.5	
HEF	**Hetta**	1.69	37	*e*P	Pn	17 02 53.2	-0.2
HEF				*e*S	Sg	17 03 17.9	+1.0
HEF	**Hetta**	1.69	37	*e*P	Pn	17 02 52.8	-0.7
HEF				*e*S	Sn	17 03 15.6	-0.1
HEF				MSG		17 03 20.9	
	comp=Z,11nm,0.1s						
LILU	**Lilltraesk**	1.86	194	P	Pn	17 02 55.5	-0.2
LILU	**Lilltraesk**	1.86	194	*e*P	Pn	17 02 55.5	-0.2
KIF	**Kilpisjarvi**	1.94	358	Pn	Pb	17 02 58.5	-0.2
KIF				Sn	Sg	17 03 25.8	+1.1
KIF	**Kilpisjarvi**	1.94	358	Pn	Pb	17 02 58.5	-0.2
KIF				Sn	Sg	17 03 25.8	+1.1
KIF	**Kilpisjarvi**	1.94	358	*e*PG	Pb	17 02 58.4	-0.4
KIF				*e*SG	Sg	17 03 24.4	-0.3
KIF				MSG		17 03 31.9	
	comp=Z,24nm,0.1s						
RNF	**Rovaniemi**	2.06	101	*e*P	Pn	17 02 58.8	+0.3
RNF				*e*SG	Sb	17 03 27.1	+0.2
RNF				MSG		17 03 37.4	
	comp=Z,19nm,0.1s						
KTK1	**Kautokeino**	2.12	23	*e*P	Pb	17 03 01.0	-1.0
KTK1				*e*S	Sg	17 03 30.4	-0.4
KTK1				IAML		17 03 34.7	
	comp=Z,104nm,0.3s						
SGF	**Sodankyl**	2.20	78	*e*P	Pn	17 03 01.1	+0.7
SGF				*e*SG	Sb	17 03 31.2	+0.2
SGF				MSG		17 03 42.4	
	comp=Z,14nm,0.1s						
FAUS	**Fauske**	2.22	280	*e*P	Pb	17 03 02.2	-1.3
JETT	**Jettan, Norway**	2.50	356	Pn	Pb	17 03 07.2	-1.1
JETT				Sn	Sb	17 03 37.5	-2.1
JETT				Sg	Sg	17 03 43.9	+1.2
ARA0	**ARCESS Array S**	2.99	32	Pn	Pn	17 03 11.4	+0.1
	baz=212,slow=16						
ARA0				Sn	Sn	17 03 48.2	+0.4
	baz=218,slow=22						
ARA0	**ARCESS Array S**	2.99	32	Pn	Pn	17 03 11.4	+0.1
	baz=212,slow=16						
ARA0				Sn	Sn	17 03 48.2	+0.4
	baz=218,slow=22						
ARCES	**ARCESS Array B**	2.99	32	Pn	Pn	17 03 11.5	+0.2
	baz=212,slow=14,SNR=20						
ARCES				Lg	Lg	17 03 51.3	
	baz=217,slow=23,SNR=10						
LOF	**Lofoten**	3.02	294	*e*P	Pn	17 03 14.0	+2.3
LOF				IAML		17 04 09.1	
	comp=Z,5.2nm,0.2s						
KONS	**Konsvik**	3.15	263	*e*P	Pn	17 03 14.4	+1.0
KEV	**Kevo**	3.50	37	*e*P	Pn	17 03 18.1	-0.1
FIA0	**FINESS Array S**	6.08	156	Pn	Pn	17 03 56.3	+2.6
	baz=352,slow=16						
FIA0				Sn	Sn	17 05 05.3	+1.5
	baz=348,slow=22						
FIA0	**FINESS Array S**	6.08	156	Pn	Pn	17 03 56.3	+2.6
	baz=352,slow=16						
FIA0				Sn	Sn	17 05 05.3	+1.5
	baz=348,slow=22						
FINES	**FINESS Array B**	6.08	156	Pn	Pn	17 03 56.3	+2.6
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=2.4						
FINES				Sn	Sn	17 05 04.2	+0.3
	comp=Z,0.2nm,0.3s,baz=357,slow=22,SNR=1.5						
FINES				Lg	Lg	17 05 36.6	
	comp=Z,0.3nm,0.3s,baz=354,slow=24,SNR=2.4						
NOA	**NORSAR Array B**	7.40	220	Pn	Pn	17 04 13.5	+1.6
	comp=Z,0.0nm,0.3s,baz=101,slow=16,SNR=2.1						

*IDC **30** 17:06:05.1±2.2, 2°.59N×127°.77E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, MS2.5/1, Ms1 2.5/1, ms1mx2.3/21, Error ellipse: s-maj=153.2km s-min=26.9km az=67.0*
*DJA **30** 17:06:25.7±1.7, 2°.1N±10°.1×12°.8E±1°.2, h158km±7km, M3.8/6, mb3.9/2, MLv3.8/6*

ISC 30 17:06:21.5±1.7, 2°.6N±0°.1×128°.4E±0°.2, h150km, n7, σ0°.98/7, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	3.06	292	P	Pn	17 07 11.0	+1.3
SGSI				S	Sn	17 07 46.8	-0.2
SIJI	**Sorong**	4.46	140	LR	LR	17 09 10.9	
	comp=Z,50nm,20.8s,baz=248,slow=38						
SANI	**Sanana**	5.16	208	P	Pn	17 07 37.7	+0.6
APSI	**Ampana**	7.56	243	P	Pn	17 08 08.8	-0.3
WRA	**Warramunga Arr**	23.11	166	P	P	17 11 14.9	+0.5
	1.0nm,0.4s,baz=344,slow=11,SNR=19						
ASAR	**Alice Springs**	26.61	169	P	P	17 11 46.4	+0.2
	0.3nm,0.9s,baz=342,slow=8.0,SNR=1.3						
MKAR	**Makanchi Array**	59.46	325	P	P	17 16 07.5	-1.2
	0.2nm,0.5s,baz=114,slow=8.3,SNR=4.4						

IDC 30 17:20:21.7±4.1, 56°.87S×141°.37W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/29, mbtmp3.6/3, MS3.6/6, Ms1 3.5/6, ms1mx3.3/17, Error ellipse: s-maj=142.9km s-min=41.3km az=38.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	28.21	203	LR	LR	17 34 03.3	
	comp=Z,101nm,19.9s,baz=78,slow=29						
QSPA	**South Pole Qui**	33.28	180	LR	LR	17 37 56.3	
	comp=Z,163nm,20.8s,baz=71,slow=32						
TBI	**Tubuai**	34.01	347	*e*LR	LR	17 35 43.3	
	comp=Z,284nm,29.0s						
TBI	**Tubuai**	34.01	347	*e*T	T	18 02 39.9	
	19nm,0.4s						
RAR	**Rarotonga**	38.12	331	LR	LR	17 41 58.6	
	comp=Z,32nm,18.2s,baz=190,slow=34						
PPT2	**Papeete2**	39.70	348	*e*LR	LR	17 38 19.9	
	comp=Z,340nm,28.0s						
PPT	**Papeete**	39.72	348	LR	LR	17 39 50.2	
	comp=Z,85nm,19.7s,baz=146,slow=29						
VAH	**Vaihoa**	41.83	351	*e*T	T	18 12 24.7	
	6.4nm,0.3s						
H03S2	**Juan Fernandez**	47.57	89	T	T	18 20 03.8	
	baz=219,slow=74,SNR=37						
H03S1	**Juan Fernandez**	47.58	89	T	T	18 20 05.1	
	baz=219,slow=74,SNR=32						
H03S3	**Juan Fernandez**	47.59	89	T	T	18 20 04.3	
	baz=219,slow=74,SNR=38						
H03N3	**Juan Fernandez**	47.86	88	T	T	18 20 22.9	
	baz=222,slow=72,SNR=62						
H03N2	**Juan Fernandez**	47.87	88	T	T	18 20 19.4	
	baz=222,slow=72,SNR=56						
H03N1	**Juan Fernandez**	47.88	88	T	T	18 20 21.9	
	baz=222,slow=72,SNR=65						
TAOE	**Nuku Hiva Isla**	47.91	2

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
RAO				Sn	**Sn**	**17 33 58.8**	**+3.2**
	248nm,0.3s,baz=87,slow=21,SNR=14						
RAO	**Raoul Island**	**2.54**	**212**		**Pn**	**17 33 25.2**	**-0.6**
NIUE	**Niue**	**9.95**	**38**		Pn	17 34 59.3	-8.2
MSVF	**Nonsavu**	**10.63**	**330**	LR	LR	17 38 42.0	
	comp=Z,150nm,18.8s,baz=4.9,slow=34						
THZ	**Tophouse**	**17.07**	**208**	Pn	**Pn**	**17 36 37.1**	**-5.9**
THZ				IAmb	IAmb	17 36 37.5	
	comp=Z,15nm,1.2s						
KHZ	**Kahutara**	**17.37**	**206**	Pn	**Pn**	**17 36 41.5**	**-5.0**
KHZ				IAmb	IAmb	17 37 05.1	
	comp=Z,42nm,1.4s						
LTZ	**Lake Taylor**	**18.18**	**208**	Pn	**Pn**	**17 36 51.0**	**-5.6**
LTZ				IAmb	IAmb	17 37 05.6	
	comp=Z,23nm,1.2s						
CTA	**Charters Tower**	**34.84**	**273**	P	**P**	**17 39 37.1**	**+2.2**
	comp=Z,4.2nm,0.4s,baz=94,slow=11,SNR=8.9						
AS31	**Alice Springs**	**44.81**	**263**	P	**P**	**17 40 57.0**	**-0.8**
ASAR	**Alice Springs**	**44.81**	**263**	P	**P**	**17 40 57.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=94,slow=6.8,SNR=27						
WR0	**Warramunga Arr**	**45.32**	**268**	P	**P**	**17 41 00.8**	**-1.1**
WR0				IAmb	IAmb	17 41 18.9	
	comp=Z,4.8nm,1.2s						
WB2	**Warramunga Arr**	**45.49**	**268**	P	**P**	**17 41 02.8**	**-0.5**
WRA	**Warramunga Arr**	**45.50**	**268**	P	**P**	**17 41 02.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=106,slow=7.8,SNR=16						
WB0	**Warramunga Arr**	**45.51**	**268**	P	**P**	**17 41 02.4**	**-1.0**
WB0				IAmb	IAmb	17 41 09.1	
	comp=Z,5.0nm,1.1s						
CASY	**Casey**	**58.72**	**207**	P	**P**	**17 42 41.2**	**+0.3**
CASY				IAmb	IAmb	17 42 53.6	
	comp=Z,2.3nm,0.7s						
QSPA	**South Pole Qui**	**63.02**	**180**	P	**P**	**17 43 11.7**	**+1.4**
BELA	**Belgrano 2**	**72.87**	**172**		**P**	**17 44 14.6**	**+2.7**
BELA				IAmb	IAmb	17 44 17.4	
	comp=Z,2.8nm,0.8s						
NVAR	**Mina Array Bea**	**84.85**	**42**	P	**P**	**17 45 17.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=224,slow=7.6,SNR=3.1						
AKASG	**Malin Array Be**	**149.40**	**327**	PKPbc	**PKPbc**	**17 52 31.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=37,slow=3.6,SNR=6.3						

IDC 30 17:39:00.4±12.0, 7°.08S×129°.64E, h105km±113km, mb3.5/2, mb1 3.7/4, mb1mx3.2/24, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=253.5km s-min=39.2km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.57**	**161**	P	Pn	17 42 08.1	-0.6
	1.0nm,0.3s,baz=336,slow=14,SNR=26						
WRA				S	Sn	17 44 27.9	-10
	0.7nm,0.3s,baz=338,slow=21,SNR=12						
ASAR	**Alice Springs**	**16.99**	**167**	P	P	17 42 53.6	+1.7
	0.4nm,0.3s,baz=343,slow=9.5,SNR=44						
ASAR				S	Sn	17 45 51.5	-9.3
	0.2nm,0.3s,baz=354,slow=26,SNR=2.6						
STKA	**Stephens Creek**	**27.08**	**157**	P	P	17 44 32.6	-0.6
	1.6nm,0.6s,baz=331,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**68.10**	**327**	P	P	17 49 49.0	+0.1
	0.3nm,0.5s,baz=129,slow=8.0,SNR=5.9						

*SOME **30** 17:56:37.7, 40°.27N×77°.13E, h0km*
*NNC **30** 17:56:38.8±0.9, 40°.19N×77°.17E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=5.8km s-min=5.0km az=156.0*
*KRNET **30** 17:56:39.1±0.1, 40°.17N×77°.45E, mb3.4*

ISC 30 17:56:45.5±1.9, 40°.45N±0°.09×77°.18E±0°.03, h10km, n64, σ1§42/97, 24C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.36**	**20**	⇑*iP*	**Pn**	**17 57 08.4**	**-2.6**
	baz=9.0						
TARG				⇑*iS*	**Sg**	**17 57 30.0**	**+0.5**
	baz=9.0						
KDJ	**Kajisay**	**1.68**	**0**	⇑*iP*	**Pn**	**17 57 14.8**	**-0.4**
	baz=54						
KDJ				⇑*iS*	**Sg**	**17 57 40.6**	**+1.0**
	baz=54						
ULHL	**Ulahol**	**1.93**	**339**	⇑*iP*	**Pn**	**17 57 19.3**	**+0.7**
	baz=37						
ULHL				⇑*iS*	**Sg**	**17 57 48.4**	**+0.8**
	baz=37						
ULHL	**Ulahol**	**1.93**	**339**	P	**Pn**	**17 57 19.1**	**+0.5**
	SNR=47						
KZA	**Kyzart**	**2.18**	**319**	⇑*eP*	**Pn**	**17 57 22.7**	**+0.4**
	baz=20						
KZA				⇑*iS*	**Sg**	**17 57 54.8**	**-0.9**
	baz=20						
KZA	**Kyzart**	**2.18**	**319**	P	**Pn**	**17 57 22.4**	**+0.1**
	SNR=48						
PRZ	**Przheval'sk**	**2.23**	**24**	⇑*iP*	**Pn**	**17 57 21.8**	**-0.9**
	baz=17						
PRZ				⇑*iS*	**Sb**	**17 57 52.6**	**-1.2**
	baz=17						
BOOM	**Boomskoye usch**	**2.24**	**336**	⇑*iP*	**Pn**	**17 57 23.4**	**+0.5**
	baz=34						
BOOM				⇑*iS*	**Sg**	**17 57 56.2**	**-1.4**
	baz=34						
ANVS	**Anan'yevo**	**2.36**	**9**	⇑*iP*	**Pn**	**17 57 24.4**	**-0.1**
	baz=3.0						
ANVS				⇑*iS*	**Sb**	**17 57 56.7**	**-0.9**
	baz=3.0						
ARLS	**Aral**	**2.58**	**304**	⇓*eP*	**Pn**	**17 57 27.5**	**0.0**
	baz=7.0						
ARLS				⇓*iS*	**Sb**	**17 58 03.5**	**-0.2**
	baz=7.0						
TNSS	**Tian-Shan**	**2.59**	**356**	Pg	**Pb**	**17 57 31.3**	**-1.0**
	25nm,0.3s						
TNSS				Lg	Lg	17 58 09.9	
	125nm,0.8s						
IZV	**Izvestkoviy**	**2.62**	**351**	*eP*	**Pb**	**17 57 31.5**	**-1.2**
	26nm,0.5s						
IZV				*eS*	**Sg**	**17 58 10.4**	**+0.6**
	96nm,0.5s						
IZV	**Izvestkoviy**	**2.62**	**351**	Pg	**Pb**	**17 57 31.5**	**-1.2**
	26nm,0.5s						
IZV				Lg	Lg	17 58 10.4	
	96nm,0.5s						
UCH	**Uchtor**	**2.68**	**312**	⇑*eP*	**Pn**	**17 57 29.5**	**+0.3**
	baz=14						
UCH				⇑*iS*	**Sb**	**17 58 06.8**	**-0.2**
	baz=14						
UCH	**Uchtor**	**2.68**	**312**	P	**Pn**	**17 57 29.1**	**-0.1**
	SNR=18						
MDOK	**Medeo**	**2.71**	**358**	*eP*	**Pb**	**17 57 33.3**	**-0.9**
	20nm,0.5s						
MDOK				*eS*	**Sg**	**17 58 13.3**	**+0.6**
	91nm,0.6s						
MDOK	**Medeo**	**2.71**	**358**	Pg	**Pb**	**17 57 34.0**	**-0.3**
	18nm,0.6s						
MDOK				Lg	Lg	17 58 13.5	
	86nm,0.6s						
MDOK	**Medeo**	**2.71**	**358**	Pg	**Pb**	**17 57 33.3**	**-0.9**
	20nm,0.5s						
MDOK				Lg	Lg	17 58 13.3	
	91nm,0.6s						
TKM2	**Tokmak 2**	**2.74**	**335**	⇓*eP*	**Pn**	**17 57 30.3**	**+0.5**
	baz=34						
TKM2				⇓*iS*	**Sb**	**17 58 08.1**	**-0.4**
	baz=34						
TKM2	**Tokmak 2**	**2.74**	**335**	P	**Pn**	**17 57 30.6**	**+0.9**
	SNR=16						
KST	**Kastek**	**2.75**	**341**	*eP*	**Pb**	**17 57 33.7**	**-1.1**
	13nm,0.3s						
KST				*eS*	**Sg**	**17 58 14.2**	**+0.4**
	37nm,0.6s						
KST	**Kastek**	**2.75**	**341**	Pg	**Pb**	**17 57 33.7**	**-1.1**
	13nm,0.3s						
KST				Lg	Lg	17 58 14.2	
	37nm,0.6s						
SATY	**Saty**	**2.77**	**19**	*eP*	**Pb**	**17 57 33.9**	**-1.3**
	24nm,0.6s						
SATY				*eS*	**Sg**	**17 58 14.3**	**-0.1**
	41nm,0.8s						
SATY	**Saty**	**2.77**	**19**	Pg	**Pb**	**17 57 33.9**	**-1.3**
	24nm,0.6s						
SATY				Lg	Lg	17 58 14.3	
	41nm,0.8s						
KBK	**Karagaybulak**	**2.77**	**324**	⇓*eP*	**Pn**	**17 57 31.0**	**+0.9**
	baz=24						
KBK				⇓*iS*	**Sb**	**17 58 09.0**	**-0.3**
	baz=24						
KBK	**Karagaybulak**	**2.77**	**324**	P	**Pb**	**17 57 34.6**	**-0.6**
	SNR=10						
KNDC	**Almaty**	**2.77**	**357**	⇑Pg	**Pb**	**17 57 34.4**	**-0.8**
	30nm,0.6s						
KNDC				⇑Lg	Lg	17 58 15.4	
	171nm,0.5s						
AAK	**Ala-Archa**	**2.97**	**318**	⇑*iP*	**Pn**	**17 57 33.8**	**+0.9**
	baz=19						
AAK				⇑*iS*	**Sb**	**17 58 13.6**	**-1.5**
	baz=19						
DGS	**Degeres**	**2.98**	**340**	*eP*	**Pb**	**17 57 37.9**	**-0.9**
	7.7nm,0.5s						
DGS				*eS*	**Sg**	**17 58 21.7**	**+0.3**
	28nm,0.6s						
DGS	**Degeres**	**2.98**	**340**	Pg	**Pb**	**17 57 37.9**	**-0.9**
	7.7nm,0.5s						
DGS				Lg	Lg	17 58 21.7	
	28nm,0.6s						
FRU1	**Bishkek**	**3.04**	**322**	⇓*iP*	**Pn**	**17 57 35.2**	**+1.5**
	baz=22						
FRU1				⇓*iS*	**Sb**	**17 58 15.8**	**-1.0**
	baz=22						
AML	**Almayashu**	**3.12**	**304**	P	**Pn**	**17 57 35.2**	**+0.1**
	SNR=11						
KURS	**Kuram**	**3.13**	**13**	*eP*	**Pb**	**17 57 40.5**	**-0.7**
	21nm,0.5s						
KURS				*eS*	**Sg**	**17 58 26.0**	**0.0**
	24nm,0.6s						
KURS	**Kuram**	**3.13**	**13**	Pg	**Pb**	**17 57 40.5**	**-0.7**
	21nm,0.5s						
KURS				Lg	Lg	17 58 26.0	
	24nm,0.6s						
CHMS	**Chumysh**	**3.13**	**325**	⇓*iP*	**Pn**	**17 57 35.7**	**+0.8**
	baz=25						
CHMS				⇓*iS*	**Sb**	**17 58 17.3**	**-2.2**
	baz=25						
CHMS	**Chumysh**	**3.13**	**325**	P	**Pn**	**17 57 35.2**	**+0.2**
	SNR=16						
SHLS	**Shalkode**	**3.20**	**31**	*eP*	**Pb**	**17 57 43.9**	**+1.4**
	15nm,0.4s						
SHLS				*eS*	**Sg**	**17 58 31.3**	**+3.0**
	61nm,0.6s						
KPKS	**Kokpek**	**3.22**	**20**	*eP*	**Pb**	**17 57 41.8**	**-1.0**
	17nm,0.2s						
KPKS				*eS*	**Sg**	**17 58 28.1**	**-0.8**
	50nm,0.4s						
KTBS	**Karatobe**	**3.28**	**354**	*eP*	**Pb**	**17 57 43.1**	**-0.8**
	7.1nm,0.3s						
KTBS				*eS*	**Sg**	**17 58 30.5**	**-0.4**
	42nm,0.6s						
KTBS	**Karatobe**	**3.28**	**354**	Pg	**Pb**	**17 57 43.1**	**-0.8**
	7.1nm,0.3s						
KTBS				Lg	Lg	17 58 30.5	
	42nm,0.6s						
PDGK	**Podgornoye**	**3.36**	**30**	Pg	**Pb**	**17 57 43.7**	**-1.5**
	6.9nm,0.5s						
PDGK				Lg	Lg	17 58 31.4	
	19nm,0.6s						
EKS2	**Erkin-Say**	**3.38**	**312**	⇑*eP*	**Pn**	**17 57 39.3**	**+0.9**
	baz=13						
EKS2				⇑*iS*	**Sb**	**17 58 23.3**	**-3.4**
	baz=13						
EKS2	**Erkin-Say**	**3.38**	**312**	P	**Pn**	**17 57 39.2**	**+0.7**
	SNR=9.4						
CHKK	**Chushkaly**	**3.41**	**358**	*eP*	**Pb**	**17 57 45.5**	**-0.5**
	8.7nm,0.6s						
CHKK				*eS*	**Sg**	**17 58 34.6**	**-0.4**
	69nm,0.3s						
CHKK	**Chushkaly**	**3.41**	**358**	Pg	**Pb**	**17 57 45.5**	**-0.5**
	8.7nm,0.6s						
CHKK				Lg	Lg	17 58 34.6	
	69nm,0.3s						
KRBS	**Karabastau**	**3.43**	**341**	*eP*	**Pb**	**17 57 46.0**	**-0.4**
	7.4nm,0.6s						
KRBS				*eS*	**Sg**	**17 58 35.4**	**-0.4**
	14nm,0.4s						
KRBS	**Karabastau**	**3.43**	**341**	Pg	**Pb**	**17 57 46.0**	**-0.4**
	7.4nm,0.6s						
KRBS				Lg	Lg	17 58 35.4	
	14nm,0.4s						
USP	**Ospenovka**	**3.46**	**326**	P	**Sb**	**17 58 34.9**	**+6.1**
	SNR=10.0						
KUU	**Kurty**	**3.50**	**350**	*eP*	**Pb**	**17 57 46.9**	**-0.6**
	3.9nm,0.4s						
KUU				*eS*	**Sg**	**17 58 36.6**	**-1.3**
	38nm,0.6s						
KUU	**Kurty**	**3.50**	**350**	Pg	**Pb**	**17 57 46.9**	**-0.6**
	3.9nm,0.4s						
KUU				Lg	Lg	17 58 36.6	
	38nm,0.6s						
SGDS	**Sogindy**	**3.55**	**329**	Pg	**Pb**	**17 57 47.7**	**-0.8**
	2.1nm,0.2s						
SGDS				Lg	Lg	17 58 38.1	
	12nm,0.5s						
MRKS	**Merke**	**3.75**	**309**	*eP*	**Pb**	**17 57 50.4**	**-1.5**
	2.3nm,0.2s						
MRKS				*eS*	**Sg**	**17 58 42.6**	**-3.3**
	8.3nm,0.6s						
MRKS	**Merke**	**3.75**	**309**	Pg	**Pb**	**17 57 50.4**	**-1.5**
	2.3nm,0.2s						
MRKS				Lg	Lg	17 58 42.6	
	8.3nm,0.6s						
ARXS	**Arharly**	**3.79**	**7**	*eP*	**Pb**	**17 57 52.3**	**-0.3**
	11nm,0.6s						
ARXS				*eS*	**Sg**	**17 58 46.1**	**-1.2**
	24nm,0.6s						
ARXS	**Arharly**	**3.79**	**7**	Pg	**Pb**	**17 57 52.3**	**-0.3**
	11nm,0.6s						
ARXS				Lg	Lg	17 58 46.1	
	24nm,0.6s						
MNAS	**Manas**	**4.06**	**302**	⇑*iP*	**Pn**	**17 57 48.9**	**+1.1**
	baz=4.0						
MNAS				⇑*iS*	**Sn**	**17 58 39.8**	**+4.3**
	baz=4.0						
DJR	**Jarkent**	**4.34**	**26**	*eP*	**Pb**	**17 58 01.5**	**-0.4**
	0.4nm,0.3s						
DJR				*eS*	**Sg**	**17 59 01.7**	**-3.1**
	1.5nm,0.5s						
DJR	**Jarkent**	**4.34**	**26**	Pg	**Pb**	**17 58 01.5**	**-0.4**
	0.4nm,0.3s						
DJR				Lg	Lg	17 59 01.7	
	1.5nm,0.5s						
KAPS	**Kapalarasan**	**5.09**	**18**	*eP*	**Pb**	**17 58 15.9**	**+1.2**
	0.3nm,0.5s						
KAPS				*eS*	**Sg**	**17 59 26.6**	**-2.4**
	0.7nm,0.4s						
KAPS	**Kapalarasan**	**5.09**	**18**	Pg	**Pb**	**17 58 15.9**	**+1.2**
	0.3nm,0.5s						
KAPS				Lg	Lg	17 59 26.6	
	0.7nm,0.4s						
BTLS	**Baital**	**5.14**	**334**	*eP*	**Pb**	**17 58 16.2**	**+0.7**
	1.5nm,0.3s						
BTLS				*eS*	**Sg**	**17 59 26.9**	**-3.4**
	5.1nm,0.5s						
BTLS	**Baital**	**5.14**	**334**	Pg	**Pb**	**17 58 16.2**	**+0.7**
	1.5nm,0.3s						
BTLS				Lg	Lg	17 59 26.9	
	5.1nm,0.5s						
KK31	**Karatay Array**	**5.65**	**300**	⇓Pg	**Pb**	**17 58 23.2**	**-0.9**
	0.2nm,0.3s,baz=130,slow=16,SNR=4.5						
KK31				Lg	Lg	17 59 38.3	
	0.5nm,0.3s,baz=121,slow=31,SNR=3.6						
MK31	**Makanchi Array**	**7.35**	**29**	⇓Pg	**Pb**	**17 58 55.0**	**+1.9**
	0.5nm,0.6s						
MK31				⇓Lg	Lg	18 00 42.9	
	0.5nm,0.5s,baz=214,slow=26,SNR=3.6						

*NOU **30** 18:35:12.1, 27°.57S×175°.19W, h0km, MLv6.0/20, Kermadec Islands Region*
*IDC **30** 18:35:17.1±0.5, 27°.05S×176°.37W, h0km, mb5.0/25, mb1 5.0/27, mb1mx4.9/40, mbtmp4.9/27, ML4.9/2, MS5.0/18, Ms1 5.0/18, ms1mx4.7/47, Error ellipse: s-maj=15.6km s-min=13.2km az=96.0*
*BJI **30** 18:35:17.2±0.0, 26°.75S×175°.69W, h15km, mB5.8/52, mb5.2/55, Ms5.3/61, Ms7 5.0/56*
*MOS **30** 18:35:18.0±1.2, 27°.08S×176°.35W, h15km, mb5.3/18, MS5.2/15, Error ellipse: s-maj=9.9km s-min=7.5km az=106.3*
*NEIC **30** 18:35:19.0±2.0, 27°.07S±0°.08×176°.3W±0°.1, h13km±3km, mb5.2/161, Error ellipse: s-maj=15.2km s-min=11.0km az=112.0*
*GCMT **30** 18:35:22.0±0.1, 27°.10S±0°.01×175°.91W±0°.01, h17km, MW5.5/130, Moment Tensor Solution. s110,c202; s130,c223; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.46±.03; $M_{\theta\theta}$-0.12±.02; $M_{\phi\phi}$-1.34±.02; $M_{r\theta}$0.31±.05; $M_{\theta\phi}$-0.40±.01; $M_{r\phi}$1.33±.06; Best double couple: $M_0$1.99900×10^{17} NP1:ϕ_s199.00000°, δ24.00000°, λ94.00000°. NP2:ϕ_s14.00000°, δ67.00000°, λ88.00000°. Principal axes: T 2.0000, Plg68.0000°, Azm281.0000°; N -0.0020, Plg2.0000°, Azm15.0000°; P -1.9970, Plg22.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 18:35:17.9±0.5, 27°.24S±0°.04×176°.16W±0°.05, h12km±2km, h12km:pP-P, n690, σ1§95/717, mb5.2/144, MS5.0/55, 48C-6D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.53**	**217**	Pn	**Pb**	**18 36 01.7**	**-1.6**
	827nm,0.3s,baz=148,slow=7.4,SNR=26						
RAO				Sn	**Sb**	**18 36 34.1**	**-0.4**
	2μm,0.3s,baz=276,slow=23,SNR=10						
RAO				LR	LR	18 36 49.8	
	comp=Z,12μm,18.1s,baz=55,slow=36						
RAO	**Raoul Island**	**2.53**	**217**	P	**Pn**	**18 36 00.9**	**+2.0**
RAO						18 36 34.1	
RAO	**Raoul Island**	**2.53**	**217**		**Pn**	**18 36 00.9**	**+2.0**
RAO	**Raoul Island**	**2.53**	**217**	P	**Pb**	**18 36 01.5**	**-1.8**
NIUE	**Niue**	**9.94**	**36**	P	Pn	18 37 33.4	-7.4
	baz=9.6,SNR=10						
NIUE				S	Sn	18 39 09.9	-22
	baz=9.6						
NIUE	**Niue**	**9.94**	**36**		Pn	18 37 33.4	-7.4
NIUE	**Niue**	**9.94**	**36**	P	Pn	18 37 32.3	-8.4
MSVF	**Nonsavu**	**10.87**	**329**	Pn	**Pn**	**18 37 51.0**	**-2.4**
	0.2nm,0.3s,baz=319,slow=22,SNR=3.2						
MSVF				LR	LR	18 41 30.0	
	comp=Z,9μm,19.5s,baz=143,slow=35						
MSVF	**Nonsavu**	**10.87**	**329**	P	**Pn**	**18 37 53.8**	**+0.3**
MSVF	**Nonsavu**	**10.87**	**329**	Pn	**Pn**	**18 37 51.5**	**-2.0**
MSVF	**Nonsavu**	**10.87**	**329**	P	**Pn**	**18 37 56.0**	**+2.5**
OUZ	**Omahuta**	**11.83**	**225**	Pn	**Pn**	**18 38 07.8**	**+1.3**
URZ	**Urewera**	**12.35**	**206**	Pn	Pn	18 38 07.7	-5.9
	0.9nm,0.3s,baz=289,slow=4.1,SNR=7.3						
URZ				Sn	**Sn**	**18 40 24.6**	**-6.6**
	8.4nm,0.3s,baz=71,slow=22,SNR=14						
AFI	**Afiamalu**	**13.88**	**18**	Pn	Pn	18 38 29.1	-5.6
	17nm,0.3s,baz=274,slow=4.0,SNR=9.1						
AFI				Sn	Sn	18 40 48.4	-20
	3.1nm,0.3s,baz=217,slow=20,SNR=3.0						
AFI	**Afiamalu**	**13.88**	**18**	P	**Pn**	**18 38 31.3**	**-3.4**
AFI	**Afiamalu**	**13.88**	**18**	Pn	Pn	18 38 26.8	-8.0
AFI	**Afiamalu**	**13.88**	**18**	P	**Pn**	**18 38 32.5**	**-2.2**
BFZ	**Birch Farm**	**14.80**	**203**	P	Pn	18 38 42.1	-5.0
MARNC	**Mare, Loyalty**	**15.50**	**288**	P	**Pn**	**18 38 57.6**	**+1.1**
PINNC	**Pines Island,**	**15.57**	**284**	P	**P**	**18 39 00.4**	**-1.2**
MSWZ	**Moikau Station**	**15.80**	**204**		**Pn**	**18 38 58.3**	**-2.0**
PLWZ	**Palliser**	**15.94**	**204**		**Pn**	**18 38 56.6**	**-5.5**
BHW	**Baring Head**	**15.94**	**205**	Pn	Pn	18 38 53.5	-8.6
RAR	**Rarotonga**	**16.10**	**72**	Pn	Pn	18 38 56.5	-7.7
	5.8nm,0.3s,baz=240,slow=5.0,SNR=24						
RAR				Sn	Sn	18 41 39.7	-23
	1.5nm,0.3s,baz=66,slow=20,SNR=2.4						
RAR				LR	LR	18 44 31.8	
	comp=Z,4μm,18.5s,baz=238,slow=34						
RAR	**Rarotonga**	**16.10**	**72**	P	Pn	18 38 55.6	-8.6
RAR				pmax	pmax		
	comp=Z,96nm,0.9s						
RAR	**Rarotonga**	**16.10**	**72**	Pn	Pn	18 38 55.6	-8.6
RAR	**Rarotonga**	**16.10**	**72**	P	Pn	18 38 51.1	-13
OUENC	**Ouen Island, N**	**16.16**	**284**	P	**Pn**	**18 39 02.4**	**-2.5**
OUENC	**Ouen Island, N**	**16.16**	**284**	P	**P**	**18 39 11.8**	**+3.6**
YATNC	**Mamie plateau,**	**16.25**	**285**	P	**P**	**18 39 14.7**	**+5.5**
TUWZ	**Tuamarina**	**16.32**	**207**		**Pn**	**18 39 00.5**	**-6.5**
NNZ	**Nelson**	**16.39**	**209**	Pn	Pn	18 38 59.8	-8.0
DZM	**Mont Dzumac**	**16.63**	**284**	*e*Pn	**P**	**18 39 17.5**	**+4.0**
	comp=Z,280nm,1.1s						
DZM				*e*LR	LR	18 43 17.2	
	comp=Z,14μm,23.4s						
DZM	**Mont Dzumac**	**16.63**	**284**	Pn	**P**	**18 39 14.6**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=94,slow=16,SNR=9.8						
DZM				LR	LR	18 44 35.9	
	comp=Z,12μm,18.9s,baz=134,slow=34						
DZM	**Mont Dzumac**	**16.63**	**284**	P	**P**	**18 39 12.7**	**-0.8**
DZM	**Mont Dzumac**	**16.63**	**284**	P	**P**	**18 39 18.0**	**+4.5**
NOUC	**Port Laguerre**	**16.74**	**284**	P	**P**	**18 39 19.8**	**+5.2**
THZ	**Tophouse**	**17.04**	**209**	Pn	**Pn**	**18 39 11.5**	**-4.5**
KHZ	**Kahutara**	**17.32**	**206**	P	**Pn**	**18 39 18.4**	**-1.1**
OXZ	**Oxford**	**18.68**	**208**	P	**P**	**18 39 33.9**	**-2.0**
MQZ	**McQueen's Vall**	**18.75**	**206**	P	**P**	**18 39 34.3**	**-2.4**
SANVU	**Saraoutou**	**19.41**	**304**		**P**	**18 39 42.1**	**-2.0**
RPZ	**Rata Peaks**	**19.42**	**209**	P	**P**	**18 39 41.2**	**-2.8**
FOZ	**Fox Glacier**	**19.83**	**211**	P	**P**	**18 39 48.0**	**-0.5**
LBZ	**Lake Benmore**	**20.33**	**209**	P	**P**	**18 39 52.0**	**-2.0**
ODZ	**Otahua Downs**	**20.67**	**207**	P	**P**	**18 39 56.9**	**-0.7**
WKZ	**Wanaka**	**21.19**	**210**	P	**P**	**18 40 01.2**	**-2.1**
LHI	**Lord Howe Isla**	**21.99**	**253**	P	**P**	**18 40 15.1**	**+3.1**
LHI				IAmb	IAmb	18 40 37.4	
	comp=Z,147nm,1.0s						
WHZ	**Wether Hill Ro**	**22.49**	**210**	P	**P**	**18 40 15.2**	**-2.1**
TBI	**Tubuai**	**24.43**	**87**	*e*S	**S**	**18 44 53.1**	**-3.3**
	comp=Z,790nm,22.5s						
TBI				*e*LQ	LQ	18 45 12.2	
	comp=Z,5μm,28.0s						
TBI				*e*LR	LR	18 46 29.6	
	comp=Z,6μm,28.8s,baz=254						
TBI	**Tubuai**	**24.43**	**87**	*e*T	T	19 05 28.2	
	comp=Z,14nm,0.2s						
KNTN	**Kanton**	**24.70**	**11**	P	**P**	**18 40 38.1**	**-1.0**
KNTN				IAmb	IAmb	18 40 50.9	
	comp=Z,93nm,1.1s						
PAE	**Paea**	**26.30**	**74**	*e*T	T	19 07 42.7	
	comp=Z,6.9nm,0.3s						
PPT2	**Papeete2**	**26.34**	**74**	*e*LQ	LQ	18 46 10.6	
	comp=Z,6μm,23.2s						
PPT2				*e*LR	LR	18 47 19.9	
	comp=Z,5μm,24.5s,baz=251						
PPT	**Papeete**	**26.35**	**74**	LR	LR	18 49 54.4	
	comp=Z,3μm,18.8s,baz=246,slow=33						
TIAR	**Tiarei**	**26.55**	**74**	*e*P	**P**	**18 40 57.7**	**+1.8**
	comp=Z,7.2nm,0.9s						
HNR	**Honiara**	**28.68**	**304**	P	**P**	**18 41 13.2**	**-1.8**
	comp=Z,60nm,0.8s,baz=175,slow=11,SNR=2.4						
HNR				LR	LR	18 51 27.0	
	comp=Z,4μm,18.5s,baz=154,slow=34					

comp=Z,2µm,21.1s,baz=110,slow=34
WRA Warramunga Arr 45.71 268 P P 18 43 36.7 -2.5
WB0 Warramunga Arr 45.72 268 P P 18 43 36.5 -2.7
WB0 IAmb IAmb 18 43 42.2
comp=Z,24nm,0.9s
FORT Forrest 48.49 252 P P 18 43 58.9 -1.8
KDU Kakadu 50.07 276 P P 18 44 11.7 -1.3
baz=50,SNR=11
MTN Manton Dam 51.19 275 P P 18 44 21.6 +0.1
baz=52,SNR=6.7
SBA Scott Base 51.30 185 P P 18 44 25.6 +4.2
SBA pmax pmax
comp=Z,55nm,1.2s
SBA Scott Base 51.30 185 P P 18 44 25.6 +4.2
SBA IAmb IAmb 18 44 31.8
comp=Z,55nm,1.2s
VNDA Vanda 51.39 186 P P 18 44 25.2 +3.1
comp=Z,3.6nm,0.9s,baz=20,slow=7.4,SNR=12
VNDA Vanda 51.39 186 P P 18 44 24.0 +1.9
VNDA pmax pmax
comp=Z,29nm,1.4s
VNDA Vanda 51.39 186 P P 18 44 24.0 +1.9
VNDA IAmb IAmb 18 44 48.7
comp=Z,29nm,1.4s
KNRA Kununurra 52.18 271 P P 18 44 27.2 -1.6
KNRA IAmb IAmb 18 44 39.6
comp=Z,40nm,0.8s
GUMO Guam 55.48 312 LR LR 19 06 29.6
comp=Z,744nm,19.7s,baz=127,slow=34
GUMO Guam 55.48 312 P P 18 44 50.7 -2.2
GUMO pmax pmax
comp=Z,48nm,1.0s
GUMO Guam 55.48 312 P P 18 44 50.7 -2.2
SIJI Sorong 56.78 288 P P 18 45 02.2 -0.1
comp=Z,16nm,0.7s,baz=159,slow=10,SNR=4.9
KLBR Kellerberrin 56.95 249 P P 18 45 02.2 -1.2
baz=57,SNR=4.7
MEEK Meekatharra 57.52 254 P P 18 45 06.5 -1.0
baz=58,SNR=7.3
PSA00 Pilbara Seismi 58.01 261 P P 18 45 07.1 -3.9
SOEI Soe 58.59 275 P P 18 45 14.4 -0.9
SOEI Soe 58.59 275 P P 18 45 14.4 -0.9
comp=Z,60nm,0.9s
CASY Casey 58.68 207 P P 18 45 13.6 -1.3
BATI Baumata 58.93 274 LR LR 19 11 28.6
comp=Z,7µm,18.4s,baz=146,slow=37
MORW Morawa 59.03 251 P P 18 45 17.7 -0.3
baz=59,SNR=3.8
EDFI Ende, Flores 61.32 275 P P 18 45 33.6 -0.4
comp=Z,427nmcomp=Z,14nm,1.0s
GIRL Giralia 62.55 257 P P 18 45 41.7 -0.4
baz=63,SNR=4.0
QSPA South Pole Qui 62.86 180 P P 18 45 45.9 +2.4
comp=Z,22nm,0.8s,baz=52,slow=1.6,SNR=40
QSPA South Pole Qui 62.86 180 P P 18 45 44.4 +0.8
KAPI Kappang 64.72 278 LR LR 19 14 36.1
comp=Z,695nm,18.4s,baz=168,slow=37
TOLI2 Tolitoli 66.76 284 P P 18 46 06.3 -3.3
MPSI Mapaga 67.14 283 P P 18 46 11.8 -0.3
comp=Z,370nmcomp=Z,15nm,0.9s
JCJ Chichijima 67.25 320 LR LR 19 11 31.5
comp=Z,553nm,20.6s,baz=145,slow=32
JCJ Chichijima 67.25 320 P P 18 46 10.8 -1.6
SPMM Sapulut 72.29 285 P P 18 46 44.0 +0.2
BELA Belgrano 2 72.68 172 P P 18 46 45.3 +0.1
BELA IAmb IAmb 18 46 54.3
comp=Z,43nm,1.5s
JHJ2 Mitsune 73.16 322 P P 18 46 47.1 -1.4
JHJ Hachijo jima 2 73.18 322 P P 18 46 47.7 -1.0
comp=Z,96nm,1.1s,baz=140,slow=14,SNR=6.3
JHJ LR LR 19 15 14.4
comp=Z,379nm,19.2s,baz=139,slow=33
CISI Cisompet, Garu 74.18 270 P P 18 46 54.6 -0.5
CISI IAmb IAmb 18 47 01.4
comp=Z,38nm,1.2s
STKI Sintang 74.38 278 P P 18 46 56.4 +0.2
comp=Z,7µmcomp=Z,20nm,0.6s
LEM Lembang 74.67 270 P P 18 46 58.0 -0.1
comp=Z,51nm,0.8s,baz=67,slow=2.1,SNR=9.2
LEM Lembang 74.67 270 P P 18 46 57.8 -0.3
comp=Z,798nmcomp=Z,43nm,0.8s
SBUM Sibu 74.86 281 P P 18 46 59.0 0.0
JSG Sagara 75.22 322 P P 18 47 00.8 +0.2
JYT Yasato 75.34 325 P P 18 47 00.7 -0.4
JYT IAmb IAmb 18 47 05.9
comp=Z,30nm,1.0s
JOW Kunigami 75.79 311 P P 18 47 03.9 -0.1
comp=Z,28nm,0.9s,baz=162,slow=5.7,SNR=23
JOW LR LR 19 16 39.2
comp=Z,669nm,20.3s,baz=126,slow=33
JOW Kunigami 75.79 311 P P 18 47 03.5 -0.5
JOW IAmb IAmb 18 47 06.4
comp=Z,33nm,0.9s
MAW Mawson 75.82 200 P P 18 47 05.3 +1.8
comp=Z,6.7nm,0.8s,baz=110,slow=7.1,SNR=8.8
MAW Mawson 75.82 200 P P 18 47 04.9 +1.4
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 75.82 200 P P 18 47 04.9 +1.4
KSM Kuching 76.07 279 P P 18 47 05.0 -0.9
JMM Marumori 76.31 326 P P 18 47 05.6 -1.1
INU Inuyama 76.36 322 P P 18 47 05.8 -1.2
JGF Kuroka 76.37 323 P P 18 47 06.1 -1.0
JGF IAmb IAmb 18 47 28.4
comp=Z,33nm,1.4s
MJAR Matsushiro Arr 76.62 324 P P 18 47 08.3 -0.2
comp=Z,23nm,1.0s,baz=156,slow=5.9,SNR=44
MJAR LR LR 19 15 23.7
comp=Z,406nm,21.9s,baz=135,slow=32
MJAR Matsushiro Arr 76.62 324 P P 18 47 07.8 -0.7
MJAR pmax pmax
comp=Z,30nm,1.1s
MJAR Matsushiro Arr 76.62 324 P P 18 47 07.8 -0.7
MJAR IAmb IAmb 18 47 13.5
comp=Z,30nm,1.1s
MAJO Matsushiro 76.62 324 P P 18 47 07.3 -1.2
MAJO pmax pmax
comp=Z,46nm,1.1s
MAJO Matsushiro 76.62 324 P P 18 47 07.3 -1.2
MAT Matsushiro 76.62 324 P P 18 47 07.7 -0.8
MAT S S 18 56 56.8 +2.1
JMN Monobe 76.96 319 P P 18 47 10.9 +0.4
JWT Wachi 77.21 321 P P 18 47 10.9 -0.9
JWT IAmb IAmb 18 47 14.9
comp=Z,31nm,1.0s
JSU Suzuyama 77.48 315 P P 18 47 12.0 -1.4
YOJ Yonaguni jima 78.00 306 P P 18 47 15.2 -1.2
YOJ pmax pmax
comp=Z,56nm,1.1s
YOJ Yonaguni jima 78.00 306 P P 18 47 15.2 -1.2
JHS Saijyo 78.30 320 P P 18 47 17.5 -0.5
JNU Nakatsue 78.32 317 P P 18 47 17.8 -0.4
comp=Z,40nm,1.0s,baz=96,slow=3.8,SNR=18
JNU Nakatsue 78.32 317 P P 18 47 16.7 -1.4
JTM Tenmabayashi 78.47 328 P P 18 47 16.6 -2.1
ERM Erimo 78.49 330 *i* P **P 18 47 20.6 +1.8**
ERM pmax pmax
comp=Z,28nm,1.0s
ERM Erimo 78.49 330 P P 18 47 16.8 -1.9
ERM IAmb IAmb 18 47 27.3
comp=Z,26nm,1.0s
MDSI Maura Dua 78.77 271 P P 18 47 18.8 -2.3
comp=Z,869nmcomp=Z,19nm,1.0s
ADK Adak 78.78 360 P P 18 47 19.7 -0.4
ADK pmax pmax
comp=Z,38nm,1.1s
ADK Adak 78.78 360 P P 18 47 19.7 -0.4
ADK IAmb IAmb 18 47 21.2
comp=Z,38nm,1.1s
YUK Yuzh-Kuril'sk 79.00 333 *i* P **P 18 47 22.8 +1.3**
TPUB Ta-pu 79.06 303 P P 18 47 21.1 -1.3
TPUB IAmb IAmb 18 47 35.2
comp=Z,15nm,0.7s
SSLB Suanglung 79.10 304 P P 18 47 20.4 -2.2
KUR Kuril'sk 79.23 335*c i* P **P 18 47 23.3 +0.6**
KUR *e* 18 47 30.0
KUR *e*S **S 18 57 27.5 +5.1**
KUR *e* 18 57 43.7
KUR *e*SS **SS 19 02 29.8 +0.1**
KUR pmax pmax
comp=Z,600nm,3.7s
YHNB Yeheng 79.31 305 P P 18 47 23.6 -0.2
YHNB IAmb IAmb 18 47 38.5
comp=Z,16nm,0.9s
JEW Eniwo 79.91 330 P P 18 47 27.9 +1.4

NIKH Nikolski High 80.13 4 P P 18 47 26.2 -1.2
baz=186,SNR=7.6
NIKH Nikolski High 80.13 4 P P 18 47 27.1 -0.3
NIKH IAmb IAmb 18 47 53.2
comp=Z,33nm,1.0s
JKA Kamikawa-asahi 80.42 331 P P 18 47 29.7 +0.4
JKA IAmb IAmb 18 47 33.0
comp=Z,23nm,1.0s
ASAJ Asahikawa 80.43 331 P P 18 47 30.3 +1.0
comp=Z,21nm,1.1s,baz=218,slow=7.8,SNR=13
ASAJ Asahikawa 80.43 331 P P 18 47 29.7 +0.4
ASAJ pmax pmax
comp=Z,23nm,1.0s
SYO Syowa Base 80.54 192‖ *e*P **P 18 47 29.0 -0.7**
SYO Syowa Base 80.54 192‖ *e*pP pP 18 47 34.8 +2.7
SYO Syowa Base 80.54 192‖ *e*sP sP 18 47 35.7 +2.8
SNCC San Nicolas Is 80.69 45 P P 18 47 30.1 -0.9
baz=229
SCZ2 Santa Cruz Isl 81.11 45 P P 18 47 32.0 -1.3
baz=229
SCI2 San Clemente I 81.13 46 P P 18 47 33.3 -0.1
baz=229
SNAA Sanae 81.25 178 P P 18 47 33.8 +0.2
SNAA Sanae 81.25 178 sP sP 18 47 38.7 +2.0
SNAA Sanae 81.25 178*ce*P **P 18 47 34.2 +0.6**
SNAA pmax pmax
comp=Z,21nm,1.7s
SNAA Sanae 81.25 178 P P 18 47 34.6 +1.0
SNAA IAmb IAmb 18 47 44.5
comp=Z,27nm,1.2s
VNA3 Neumayer Olymp 81.33 176 P P 18 47 34.1 +0.2
SKR Severo-Kuril's 81.37 343 *e*P **P 18 47 31.9 -2.2**
SKR *e*PPP PPP 18 52 36.3
SKR *e*S **S 18 57 45.2 +0.5**
SKR pmax pmax
comp=Z,200nm,6.7s
SKR pmax pmax
comp=Z,100nm,9.7s
SKR MLR MLR
comp=Z,400nm,18.0s
SKR MLR MLR
comp=Z,400nm,17.0s
QZH Quanzhou 81.52 304↑ *i*P **P 18 47 35.8 +0.2**
QZH S **S 18 57 48.5 +1.1**
QZH pmax pmax
comp=Z,460nm,10.3s
QZH LR LR
comp=Z,330nm,16.0s
QZH LR LR
comp=Z,440nm,18.5s
QZH LR LR
comp=Z,580nm,18.2s
PKM Mcpherson Peak 81.58 44 P P 18 47 36.5 +0.6
baz=228
SMMC Simmler 81.75 43 P P 18 47 38.6 +2.0
baz=228
VNA2 Neumayer--Watz 81.78 176 P P 18 47 36.8 +0.5
baz=166,slow=4.1
VNA2 Neumayer--Watz 81.78 176 sP sP 18 47 41.7 +2.2
MYKOM Kota Tinggi 81.92 276 P P 18 47 38.0 0.0
VNA1 Neumayer--Stat 82.00 176 P P 18 47 38.1 +0.7
DECC Green Verdugo 82.09 45 P P 18 47 38.5 +0.1
baz=229
MONP2 Monument Peak 82.45 47 P P 18 47 41.0 +0.4
baz=231
YSS Yuzh-Sakhalins 82.65 333*ce*P **P 18 47 40.0 -0.9**
YSS *e**SP **pwP 18 47 48.9 -0.1**
YSS *e*S **S 18 57 52.9 -5.1**
YSS *e* 18 58 00.0
YSS *e*SS **SS 19 03 17.0 -3.7**
YSS pmax pmax
comp=Z,500nm,5.7s
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 82.65 333 P P 18 47 41.1 +0.2
TJN Taejon 82.65 317*ce*P **P 18 47 41.6 +0.4**
VES Vestal, Richgr 82.66 43 P P 18 47 41.3 0.0
baz=229
EDW2 Edwards Air Fo 82.71 45 P P 18 47 42.4 +0.7
baz=230
PFO Pinyon Flats O 82.88 47 P P 18 47 43.1 +0.4
baz=231
TPFO Pinon Flats 82.88 47 P P 18 47 44.1 +1.4
baz=231
PET Petropavlovsk 82.89 345 *e*P **P 18 47 40.8 -1.2**
PET *e*S **S 18 57 56.5 -3.7**
PET *e*SS **SS 19 03 24.6 +0.5**
PET pmax pmax
comp=Z,12nm,0.9s
PET pmax pmax
comp=Z,400nm,11.4s
PET pmax pmax
comp=Z,500nm,11.9s
SWSC Sam W. Stewart 82.89 47 P P 18 47 43.8 +1.3
baz=231
ISA Isabella, Lake 82.92 44 P P 18 47 42.7 -0.1
ISA pmax pmax
comp=Z,19nm,1.2s
ISA Isabella, Lake 82.92 44 P P 18 47 44.4 +1.6
baz=229
ISA Isabella, Lake 82.92 44 P P 18 47 42.7 -0.1
ISA IAmb IAmb 18 47 50.7
comp=Z,19nm,1.2s
CNBA Chernabura Isl 82.96 10 P P 18 47 42.0 -0.3
CNBA IAmb IAmb 18 47 45.5
comp=Z,22nm,1.0s
CHNA Chernabura Isl 82.97 10 P P 18 47 43.1 +0.7
baz=195
BBRC Big Bear Solar 82.99 46 P P 18 47 44.2 +0.8
baz=230
KSRS Korea Array 83.03 318 P P 18 47 43.5 +0.3
comp=Z,13nm,1.0s,baz=138,slow=5.8,SNR=28
KSRS LR LR 19 22 44.5
comp=Z,356nm,18.8s,baz=140,slow=34
KSAR Wonju Array Be 83.05 318 P P 18 47 43.3 0.0
KSAR Wonju Array Be 83.05 318 P P 18 47 43.3 0.0
KS19 Wonju Array Si 83.10 318 P P 18 47 43.6 0.0
KS19 IAmb IAmb 18 47 50.7
comp=Z,28nm,1.2s
PEA0B Petropavlovsk- 83.19 344 P P 18 47 44.4 +0.8
PEA0B pmax pmax
comp=Z,47nm,1.4s
PEA0B Petropavlovsk- 83.19 344 P P 18 47 44.4 +0.8
PETK Petropavlovsk- 83.19 344 P P 18 47 43.8 +0.2
comp=Z,14nm,0.9s,baz=165,slow=7.5,SNR=23
PETK Petropavlovsk- 83.19 344 P P 18 47 42.9 -0.7
SSE Sheshan 83.29 310 P P 18 47 45.8 +1.1
SSE S **S 18 58 08.5 +3.2**
SSE SS **SS 19 03 36.5 +5.6**
SSE pmax pmax
comp=Z,14nm,0.6s
SSE pmax pmax
comp=Z,220nm,9.5s
SSE LR LR
comp=Z,160nm,18.1s
LRMC Laurel Mtn Rad 83.29 44 P P 18 47 45.2 +0.4
baz=230
CMB Columbia Colle 83.33 41 P P 18 47 45.3 +0.4
CMB pmax pmax
comp=Z,20nm,1.3s
CMB Columbia Colle 83.33 41 P P 18 47 45.3 +0.4
CMB IAmb IAmb 18 48 02.4
comp=Z,20nm,1.2s
RRX Edison Barstow 83.33 45 P P 18 47 45.6 +0.7
baz=230
SDPT Sand Point 83.35 9 P P 18 47 45.0 +0.7
baz=194
SDPT Sand Point 83.35 9 P P 18 47 44.2 -0.1
BELC Belle Mtn. Jos 83.42 47 P P 18 47 44.8 -0.7
baz=231
O02D Mt. Diablo Mer 83.43 38 P P 18 47 45.6 +0.3
baz=226
PLCA Paso Flores 83.46 133 P P 18 47 49.3 +3.5
comp=Z,3.5nm,0.9s,baz=205,slow=3.4,SNR=4.6
GLA Glamis 83.60 48 P P 18 47 46.0 -0.3
baz=232
AFDM Forest Hills D 83.61 40 P P 18 47 46.3 +0.1
AFDM IAmb IAmb 18 47 53.8
comp=Z,16nm,1.3s
CWC Cottonwood Cre 83.67 44 P P 18 47 48.2 +1.5
baz=229
HEC Hector,Ludlow 83.73 46 P P 18 47 47.2 +0.2

baz=231
WDC Whiskeytown Da 83.85 38 P P 18 47 47.3 0.0
WDC pmax pmax
comp=Z,25nm,1.2s
WDC Whiskeytown Da 83.85 38 P P 18 47 47.3 0.0
WDC IAmb IAmb 18 47 58.3
comp=Z,25nm,1.1s
MLAC Mammoth, Mammo 83.98 42 P P 18 47 49.2 +0.7
baz=229
N02D Trinity Center 84.03 38 P P 18 47 49.7 +1.4
baz=226
O03E Paynes Creek 84.06 39 P P 18 47 49.8 +1.3
baz=226
IRM Iron Mountain 84.07 47 P P 18 47 49.8 +1.1
baz=231
JRMM Jerantut 84.10 277 P P 18 47 50.0 +0.7
GMRC Granite Mounta 84.13 46 P P 18 47 49.7 +0.6
baz=231
WAKR Walker 84.20 41 P P 18 47 51.1 +1.6
SPIA Saint Paul Isl 84.23 3 P P 18 47 50.0 +1.2
baz=185
M02C Callahan 84.24 37 P P 18 47 50.5 +1.1
baz=226
214A Organ Pipe Nat 84.28 50 P P 18 47 51.2 +1.4
baz=233
TUQ Turquoise Moun 84.37 45 P P 18 47 50.2 -0.1
baz=231
L02E Cave Junction 84.38 36 P P 18 47 49.7 -0.3
baz=225
SHOC Shoshone, Teco 84.44 45 P P 18 47 50.5 0.0
baz=230
GRAC Grapevine Rang 84.46 43 P P 18 47 52.0 +1.3
baz=230
YBH Yreka Blue Hor 84.55 37 P P 18 47 52.9 +1.8
YBH pmax pmax
comp=Z,25nm,1.3s
YBH Yreka Blue Hor 84.55 37 P P 18 47 52.9 +1.8
YBH IAmb IAmb 18 48 01.4
comp=Z,25nm,1.3s
CHIR Chirikof Islan 84.57 11 P P 18 47 51.6 +1.0
baz=198
UGL Uglegorsk 84.63 334 *e*P **P 18 47 53.7 +2.6**
UGL *e*S **S 18 58 22.6 +4.7**
UGL pmax pmax
comp=Z,30nm,1.0s
UGL smax smax
comp=N,940nm,9.0s
UGL MLR MLR
comp=Z,2µm,16.0s
K02D Willamette Mer 84.72 36 P P 18 47 51.8 0.0
baz=225
MSHR Mys Shultsa 84.74 324*ce*P **P 18 47 52.3 +0.5**
MSHR pmax pmax
comp=Z,20nm,1.7s
NEE2 Needles Airpor 84.79 47 P P 18 47 50.9 -1.4
baz=232
PDMCI Parker Dam,Lak 84.81 47 P P 18 47 53.9 +1.5
baz=232
NVAR Mina Array Bea 84.83 42 P P 18 47 53.8 +1.1
comp=Z,7.2nm,1.0s,baz=221,slow=9.0,SNR=10
NVAR Mina Array Bea 84.83 42 P P 18 47 52.6 0.0
J01E Myrtle Point 84.91 35 P P 18 47 54.0 +1.4
baz=225
NV11 Mina Array Sit 84.92 42 P P 18 47 53.2 +0.2
NV11 IAmb IAmb 18 48 03.7
comp=Z,20nm,1.3s
PAHR Pah Rah Range 85.03 40 P P 18 47 51.9 -1.6
PAHR IAmb IAmb 18 48 04.2
comp=Z,18nm,1.2s
M04C Macdoel 85.06 38 P P 18 47 55.1 +1.5
baz=226
L04D Klamath Falls 85.11 37 P P 18 47 54.0 +0.1
baz=226
TPNV Topopah Spring 85.12 44 P P 18 47 53.7 -0.4
TPNV pmax pmax
comp=Z,20nm,1.2s
TPNV Topopah Spring 85.12 44 P P 18 47 54.7 +0.6
baz=230
TPNV Topopah Spring 85.12 44 P P 18 47 53.7 -0.4
TPNV IAmb IAmb 18 48 05.2
comp=Z,20nm,1.2s
QIZ Qiongzhong 85.14 294 P P 18 47 55.3 +0.9
QIZ sP **pwP 18 48 01.3 -1.2**
QIZ S **S 18 58 25.5 +1.1**
QIZ sS **ScS 18 58 33.0 -1.9**
QIZ pmax pmax
comp=Z,230nm,2.1s
QIZ LR LR
comp=Z,250nm,19.0s
QIZ LR LR
comp=Z,370nm,16.1s
QIZ LR LR
comp=Z,400nm,17.2s
TPH Tonopah 85.24 43 P P 18 47 56.0 +1.2
TPH pmax pmax
comp=Z,103nm,1.2s
TPH Tonopah 85.24 43 P P 18 47 56.0 +1.2
KVN Kaiserville 85.35 42 P P 18 47 55.4 +0.2
KVN pmax pmax
comp=Z,14nm,1.2s
KVN Kaiserville 85.35 42 P P 18 47 55.4 +0.2
KVN IAmb IAmb 18 48 05.7
comp=Z,14nm,1.2s
USA0B Ussuriysk Arra 85.46 325 P P 18 47 55.0 -0.4
USA0B pmax pmax
comp=Z,50nm,1.5s
USA0B Ussuriysk Arra 85.46 325 P P 18 47 55.0 -0.4
USRK Ussuriysk Ar. 85.46 325 P P 18 47 56.9 +1.5
comp=Z,15nm,1.0s,baz=141,slow=6.0,SNR=22
USRK Ussuriysk Ar. 85.46 325 P P 18 47 55.4 0.0
NJ2 Nanjing 85.46 309 *e*P **P 18 47 56.3 +0.6**
NJ2 sP **pwP 18 48 03.3 -0.5**
NJ2 SKS **S 18 58 20.5 -6.4**
NJ2 S **ScS 18 58 32.5 -4.3**
NJ2 SS **SS 19 04 04.3 +1.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,490nm,4.0s
NJ2 LR LR
comp=Z,260nm,14.7s
NJ2 LR LR
comp=Z,310nm,14.2s
NJ2 LR LR
comp=Z,540nm,17.5s
W13A Hualapai Mount 85.47 47 P P 18 47 53.1 -2.9
SHPR Sheep Range 85.52 45 P P 18 47 55.6 -0.6
SHPR IAmb IAmb 18 48 04.4
comp=Z,24nm,1.4s
SII Sitkinak Islan 85.53 12 P P 18 47 55.7 +0.3
baz=199
I03D Drain, OR 85.59 35 P P 18 47 55.8 -0.2
baz=225
IPM Ipoh 85.66 277 P P 18 47 58.0 +0.8
TYV Tymovskoe 85.85 335 *e*P **P 18 47 57.4 +0.3**
TYV *e*S **S 18 58 30.3 +0.4**
TYV pmax pmax
comp=Z,300nm,5.6s
TYV pmax pmax
comp=Z,12nm,1.0s
TYV smax smax
comp=E,200nm,9.1s
TUC Tucson 85.88 51 P P 18 47 58.7 +0.8
TUC pmax pmax
comp=Z,23nm,1.3s
TUC Tucson 85.88 51 P P 18 47 56.8 -1.0
baz=234
TUC Tucson 85.88 51 P P 18 47 58.7 +0.8
TUC IAmb IAmb 18 48 06.3
comp=Z,23nm,1.3s
I04A Tendick Farm, 86.14 36 P P 18 47 58.5 -0.4
baz=226
PRN Pahroc Range 86.15 44 P P 18 48 00.3 +1.2
PRN IAmb IAmb 18 48 17.5
comp=Z,27nm,1.2s
OHAK Old Harbor 86.32 12 P P 18 47 58.3 -1.0
baz=200
KULM Kulim 86.36 278 P P 18 48 00.0 -0.6
R11A Troy Canyon, C 86.41 43 P P 18 48 00.1 -0.5
baz=231
R11A Troy Canyon, C 86.41 43 P P 18 47 59.5 -1.0
J05D Fort Rock, OR 86.41 37 P P 18 47 59.2 -1.1
baz=227
X16A Lo Mia Camp, P 86.67 48 P P 18 48 02.1 +0.2
X16A IAmb IAmb 18 48 10.4
comp=Z,21nm,1.3s

G03D	McMinnville, O	86.70	34	P	P	18 48 00.8	-0.6
	baz=225						
MDJ	Mudanjiang	86.97	325	P	P	18 48 03.3	+0.5
MDJ				S	S	18 58 37.5	-3.7
MDJ				pmax	pmax		
	comp=Z,22nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,640nm,8.4s						
MDJ				LR	LR		
	comp=Z,480nm,20.5s						
MDJ				LR	LR		
	comp=Z,260nm,19.6s						
MDJ				LR	LR		
	comp=Z,850nm,21.7s						
MDJ	Mudanjiang	86.97	325	P	P	18 48 03.0	+0.2
MDJ				IAmb	IAmb	18 48 06.0	
	comp=Z,19nm,1.0s						
KDAK	Kodiak Island	86.98	12	*i* P	P	18 48 03.7	+1.2
KDAK				pmax	pmax		
	comp=Z,15nm,1.0s						
KDAK	Kodiak Island	86.98	12	P	P	18 48 02.8	+0.3
	baz=201						
I05D	Terrebonne, OR	87.08	36	P	P	18 48 03.9	+0.4
	baz=227						
GSI	Gunungsitoli	87.27	273	P	P	18 48 04.8	-0.3
CCUT	Cedar City	87.30	45	P	P	18 48 06.0	+1.0
CCUT				IAmb	IAmb	18 48 23.3	
	comp=Z,14nm,1.3s						
U15A	North Rim	87.30	46	P	P	18 48 03.3	-1.7
U15A				IAmb	IAmb	18 48 23.3	
	comp=Z,20nm,1.1s						
KNB	Kanab	87.32	46	P	P	18 48 05.9	+0.9
KNB				pmax	pmax		
	comp=Z,24nm,1.4s						
KNB	Kanab	87.32	46	P	P	18 48 05.9	+0.9
KNB				IAmb	IAmb	18 48 13.3	
	comp=Z,24nm,1.4s						
WUAZ	Wupatki	87.36	48	P	P	18 48 06.0	+0.8
	baz=234						
F04D	Rainier, OR	87.44	34	P	P	18 48 05.8	+0.8
	baz=225						
G05D	Wamic, OR	87.71	35	P	P	18 48 08.1	+1.7
	baz=227						
DL2	Dalian	87.76	316	P	P	18 48 03.5	-3.3
DL2				S	S	18 58 39.0	-10
DL2				pmax	pmax		
	comp=Z,22nm,1.2s						
DL2				pmax	pmax		
	comp=Z,390nm,4.0s						
DL2				LR	LR		
	comp=Z,360nm,16.6s						
DL2				LR	LR		
	comp=Z,260nm,17.1s						
DL2				LR	LR		
	comp=Z,470nm,20.6s						
WHN	Wuhan	87.77	306	⇓P	P	18 48 08.3	+1.3
WHN				S	S	18 58 39.5	-10
WHN				pmax	pmax		
	comp=Z,62nm,0.9s						
WHN				pmax	pmax		
	comp=Z,960nm,11.0s						
WHN				LR	LR		
	comp=Z,1μm,14.3s						
WHN				LR	LR		
	comp=Z,890nm,17.9s						
WHN				LR	LR		
	comp=Z,2μm,24.8s						
E04D	Cinebar	87.99	34	P	P	18 48 08.4	+0.8
	baz=226						
121A	Cookes Peak, D	88.08	52	P	P	18 48 07.7	-1.0
	baz=236						
121A	Cookes Peak, D	88.08	52	P	P	18 48 09.1	+0.3
121A				IAmb	IAmb	18 48 25.4	
	comp=Z,16nm,1.2s						
ELK	Elko	88.12	42	P	P	18 48 06.7	-2.1
ELK				pmax	pmax		
	comp=Z,11nm,1.5s						
ELK	Elko	88.12	42	P	P	18 48 06.7	-2.1
W18A	Petrified Fore	88.21	49	P	P	18 48 09.7	+0.4
	baz=235						
GRNR	Gornyy	88.23	332	⇓*i* P	P	18 48 10.7	+1.9
GRNR				pmax	pmax		
	comp=N,8.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				MLR	MLR		
	comp=Z,350nm,16.0s						
MTPU	Mount Pierson	88.34	45	P	P	18 48 10.0	-0.1
MTPU				IAmb	IAmb	18 48 18.8	
	comp=Z,24nm,1.5s						
NKL	Nikolayevsk	88.41	336	*e*P	P	18 48 08.4	-1.1
NKL				pmax	pmax		
	comp=E,53nm,0.9s						
NKL				pmax	pmax		
	comp=Z,16nm,1.4s						
NKL				MLR	MLR		
	comp=E,2μm,21.0s						
D03D	Eldon	88.42	33	P	P	18 48 09.9	+0.2
	baz=225						
O18K	Koktuh Hills	88.48	10	P	P	18 48 09.4	-0.3
	baz=198,SNR=24						
P19K	Oil Pt	88.62	11	P	P	18 48 09.9	-0.5
	baz=200,SNR=6.3						
CN2	Changchun	88.64	322	*e*P	P	18 48 11.3	+0.5
CN2				pmax	pmax		
	comp=E,10.0nm,1.4s						
CN2				pmax	pmax		
	comp=E,400nm,3.3s						
CN2				LR	LR		
	comp=E,300nm,18.0s						
CN2				LR	LR		
	comp=E,400nm,18.0s						
CN2				LR	LR		
	comp=E,500nm,19.2s						
CNPM	China Poot	88.87	12	P	P	18 48 11.9	+0.4
CNPM				IAmb	IAmb	18 48 32.1	
	comp=Z,19nm,1.0s						
G08A	Pilot Rock	88.97	36	P	P	18 48 11.6	-0.9
G08A				IAmb	IAmb	18 48 20.0	
	comp=Z,17nm,1.1s						
TIA	Tai'an	89.04	312	⇑P	P	18 48 13.5	+0.6
TIA				pmax	pmax		
	comp=Z,390nm,3.7s						
TIA				LR	LR		
	comp=Z,350nm,18.6s						
TIA				LR	LR		
	comp=Z,320nm,15.7s						
TIA				LR	LR		
	comp=Z,610nm,18.1s						
KLR	Kul'dur	89.15	329	P	P	18 48 13.6	+0.5
	comp=Z,9.4nm,0.9s,baz=132,slow=1.7,SNR=26						
KLR	Kul'dur	89.15	329	*c i* P	P	18 48 13.3	+0.2
KLR				pmax	pmax		
	comp=Z,11nm,0.9s						
BRLK	Bradley Lake	89.16	12	P	P	18 48 12.8	-0.1
BRLK				IAmb	IAmb	18 48 19.2	
	comp=Z,17nm,1.0s						
N18K	Kilae Creek	89.16	10	P	P	18 48 13.4	+0.5
	baz=198						
BRSE	Bradley Lake S	89.16	13	P	P	18 48 12.3	-0.7
	baz=202,SNR=8.9						
DUG	Dugway, Tooele	89.24	43	P	P	18 48 12.5	-1.4
	baz=233						
TX31	Lajitas Ar. Si	89.32	56	P	P	18 48 16.0	+1.5
TX32	Lajitas Array	89.32	56	P	P	18 48 15.6	+1.1
TX32				IAmb	IAmb	18 48 30.7	
	comp=Z,26nm,1.4s						
TXAR	Lajitas Array	89.32	56	P	P	18 48 15.8	+1.3
	comp=Z,1.6nm,1.0s,baz=212,slow=4.4,SNR=8.1						
TXAR				LR	LR	19 20 41.3	
	comp=Z,660nm,20.5s,baz=0.0,slow=30						
TXAR	Lajitas Array	89.32	56	P	P	18 48 15.3	+0.8
MNTX	Cornudas Mount	89.33	54	P	P	18 48 15.6	+1.2
	baz=237						
MNTX	Cornudas Mount	89.33	54	P	P	18 48 15.7	+1.2
B05A	Bryant	89.41	33	P	P	18 48 14.1	-0.2
	baz=226						
A04D	Lummi Island	89.43	32	P	P	18 48 14.6	+0.3
	baz=226						
RSO	Redoubt South	89.46	11	P	P	18 48 15.6	+1.0
N19K	Bonanza Creek	89.50	10	P	P	18 48 14.5	-0.1
	baz=199,SNR=8.8						
SVW2	Sparrevohn	89.60	10	P	P	18 48 13.3	-1.6
TMUT	Trail Mountain	89.70	45	P	P	18 48 15.9	-0.4
TMUT				IAmb	IAmb	18 48 41.3	
	comp=Z,12nm,1.0s						
PATY	Pattaya	89.71	285	P	P	18 48 29.4	+13
SEW	Seward	89.75	13	P	P	18 48 15.7	+0.1
	baz=203						
SEW	Seward	89.75	13	P	P	18 48 15.7	+0.1
SEW				IAmb	IAmb	18 48 25.4	
	comp=Z,22nm,1.2s						
BNM	Barren Site	89.78	51	P	P	18 48 16.5	-0.2
CHAI	Chaiyaphum	90.15	288	P	P	18 48 20.8	+2.2
D08A	Wollman Farm,	90.16	35	P	P	18 48 17.8	-0.1
D08A				IAmb	IAmb	18 48 28.5	
	comp=Z,24nm,1.0s						
NONG	Nongkai	90.19	290	P	P	18 48 21.2	+2.5
E09A	Wood Farm, Sta	90.21	36	P	P	18 48 18.4	+0.3
E09A				IAmb	IAmb	18 48 35.8	
	comp=Z,22nm,1.1s						
MVCO	Mesa Verde	90.23	48	P	P	18 48 18.8	0.0
	baz=235						
SPU	Mount Spurr	90.26	11	P	P	18 48 17.9	-0.2
F10A	Beach Ranch, E	90.34	37	P	P	18 48 18.8	-0.1
F10A				IAmb	IAmb	18 48 28.7	
	comp=Z,18nm,1.0s						
ANMO	Albuquerque	90.34	50	*i* P	P	18 48 19.6	+0.3
ANMO				pmax	pmax		
	comp=Z,14nm,1.4s						
ANMO	Albuquerque	90.34	50	P	P	18 48 19.9	+0.6
	baz=236						
ANMO	Albuquerque	90.34	50	P	P	18 48 18.9	-0.5
ANMO				IAmb	IAmb	18 48 41.1	
	comp=Z,12nm,1.1s						
HLID	Hailey	90.36	40	P	P	18 48 19.8	+0.7
	baz=232						
PLID	Pearl Lake	90.43	38	P	P	18 48 20.6	+1.1
PLID				IAmb	IAmb	18 48 29.7	
	comp=Z,21nm,1.2s						
RC01	Rabbit Creek A	90.60	12	P	P	18 48 20.0	+0.4
	baz=203						
RC01	Rabbit Creek A	90.60	12	P	P	18 48 20.1	+0.4
PWL	Port Wells	90.67	13	P	P	18 48 19.9	0.0
L19K	White Mountain	90.74	10	P	P	18 48 21.0	+0.7
	baz=199,SNR=9.1						
SUA	Susitna One	90.76	12	P	P	18 48 19.9	-0.5
	baz=202,SNR=5.2						
SUA	Susitna One	90.76	12	P	P	18 48 21.2	+0.7
SUA				IAmb	IAmb	18 48 22.8	
	comp=Z,19nm,0.8s						
SIT	Sitka	90.76	21	P	P	18 48 21.0	+0.6
	baz=216						
B08A	Colville Reser	90.82	34	P	P	18 48 21.6	+0.5
B08A				IAmb	IAmb	18 48 30.8	
	comp=Z,9.8nm,1.1s						
EYAK	Cordova Ski Ar	90.94	14	P	P	18 48 21.5	+0.3
	baz=207						
EYAK	Cordova Ski Ar	90.94	14	P	P	18 48 21.6	+0.5
EYAK				IAmb	IAmb	18 48 44.4	
	comp=Z,15nm,1.0s						
GLI	Glacier Island	90.94	14	P	P	18 48 21.4	+0.2
	baz=206,SNR=7.9						
GLI	Glacier Island	90.94	14	P	P	18 48 20.8	-0.4
C09A	Chrisman Ranch	90.98	35	P	P	18 48 21.9	+0.2
C09A				IAmb	IAmb	18 48 32.0	
	comp=Z,16nm,1.1s						
SKT	Skwentna	91.10	11	P	P	18 48 22.0	0.0
	baz=202						
SLVN	Son La	91.12	293	P	P	18 48 22.2	-0.9
SLVN				IAmb	IAmb	18 48 38.2	
	comp=Z,17nm,1.1s						
KNK	Knik Glacier	91.15	13	P	P	18 48 21.3	-0.9
	baz=204						
PMR	Palmer	91.18	13	P	P	18 48 23.3	+1.0
	baz=204						
ENH	Enshi	91.18	304	P	P	18 48 23.1	-0.1
WRAK	Wrangell Islan	91.23	23	P	P	18 48 23.6	+1.0
	baz=218						
BERG	Berg Lake	91.27	15	P	P	18 48 23.4	+0.7
GYA	Guiyang	91.41	299	⇓P	P	18 48 25.5	+1.1
GYA				PP	PP	18 52 03.0	+0.6
GYA				SKS	SKSac	18 58 58.0	+1.0
GYA				S	S	18 59 24.5	+0.6
GYA				pmax	pmax		
	comp=Z,12nm,1.4s						
GYA				pmax	pmax		
	comp=Z,320nm,7.6s						
GYA				LR	LR		
	comp=Z,280nm,20.4s						
GYA				LR	LR		
	comp=Z,250nm,21.7s						
GYA				LR	LR		
	comp=Z,410nm,21.2s						
LOEI	Loei	91.51	289	P	P	18 48 27.7	+2.8
SML	Sawmill	91.53	13	P	P	18 48 23.5	-0.5
	baz=204						
BMRM	Bremner River	91.57	15	P	P	18 48 23.3	-0.9
	baz=208,SNR=8.1						
BMRM	Bremner River	91.57	15	P	P	18 48 25.6	+1.5
BMRM				IAmb	IAmb	18 48 41.1	
	comp=Z,14nm,0.8s						
S22A	4UR Ranch, Cre	91.63	48	P	P	18 48 25.7	+0.3
	baz=236						
YAH	Yahtse	91.72	16	P	P	18 48 26.7	+1.6
YAH				IAmb	IAmb	18 48 45.6	
	comp=Z,17nm,1.0s						
CRQE	Cirque	91.73	16	P	P	18 48 24.4	-0.7
	baz=209						
KLU	Klutina	91.75	14	P	P	18 48 25.0	0.0
	baz=206						
KLU	Klutina	91.75	14	P	P	18 48 25.1	0.0
KLU				IAmb	IAmb	18 48 34.9	
	comp=Z,15nm,1.3s						
SCM	Sheep Creek Mo	91.76	13	P	P	18 48 25.6	+0.5
SCM				pmax	pmax		
	comp=Z,17nm,0.8s						
SCM	Sheep Creek Mo	91.76	13	P	P	18 48 25.6	+0.5
ISLE	Juniper Island	91.78	16	P	P	18 48 26.6	+1.4
BJT	Baijiatuau	91.83	315	P	P	18 48 26.4	+0.6
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
BJT	Baijiatuau	91.83	315	P	P	18 48 26.4	+0.6
BJT				IAmb	IAmb	18 48 36.0	
	comp=Z,16nm,1.1s						
BJI	Beijing	91.83	315	P	P	18 48 27.3	+1.5
BJI				pP	sP	18 48 31.5	+2.1
BJI				SKS	SKSac	18 58 58.3	-0.2
BJI				S	ScS	18 59 29.5	+0.1
BJI				pmax	pmax		
	comp=Z,12nm,1.7s						
BJI				LR	LR		
	comp=Z,230nm,15.5s						
BJI				LR	LR		
	comp=Z,210nm,15.5s						
NEW	Newport	91.87	35	P	P	18 48 25.7	-0.2
	baz=230						
PINM	Pinnacle	91.87	17	P	P	18 48 26.4	+0.8
	baz=211						
ANM	Nome	91.89	5	P	P	18 48 26.0	+0.5
	baz=190						
K20K	Telida	91.98	10	P	P	18 48 26.0	0.0
	baz=199						
833A	Chaparral WMA,	92.02	59	P	P	18 48 26.7	-0.3
	baz=240						
MCMT	McKenzie Canyo	92.03	40	P	P	18 48 25.8	-1.2
O20A	White River Ci	92.05	45	P	P	18 48 25.1	-2.0
	baz=236						
VRDI	Verde Repeater	92.06	15	P	P	18 48 26.1	-0.5
VRDI				IAmb	IAmb	18 48 45.0	
	comp=Z,14nm,1.1s						
N25K	Chitina, Valde	92.14	14	P	P	18 48 27.1	+0.2
	baz=208						
N25K	Chitina, Valde	92.14	14	P	P	18 48 28.0	+1.2
N25K				IAmb	IAmb	18 48 34.1	
	comp=Z,10nm,1.1s						
GLB	Gilahina Butte	92.17	15	P	P	18 48 28.3	+1.3
GLB				IAmb	IAmb	18 48 45.1	
	comp=Z,8.6nm,1.0s						
UTTA	Uttaradit	92.22	289	P	P	18 48 33.7	+5.6
MCARA	McCarthy VSAT	92.30	15	P	P	18 48 28.0	+0.5
	baz=209						
MCARA	McCarthy VSAT	92.30	15	P	P	18 48 28.1	+0.5
CTG	Chitna Glacier	92.34	16	P	P	18 48 28.4	+0.5
	baz=210						
CTGM	Chitina Glacie	92.35	16	P	P	18 48 27.7	-0.2
CTGM				IAmb	IAmb	18 48 53.6	
	comp=Z,14nm,1.2s						
BARN	Barnard Glacie	92.35	16	P	P	18 48 28.8	+0.9
BARN				IAmb	IAmb	18 48 50.9	
	comp=Z,13nm,1.0s						
WAT6	Susitna Watana	92.36	13	P	P	18 48 27.9	-0.1
	baz=205						
MSTX	Muleshoe	92.39	53	P	P	18 48 28.3	-0.4
	baz=238						
SDCO	Great Sand Dun	92.51	48	P	P	18 48 28.4	-1.1
	baz=237						
IMW	Indian Meadow	92.57	41	P	P	18 48 29.3	-0.3
IMW				IAmb	IAmb	18 48 47.0	
	comp=Z,12nm,1.2s						
KTH	Kantishna Hill	92.67	11	P	P	18 48 28.5	-0.7
KTH				IAmb	IAmb	18 48 30.7	
	comp=Z,8.7nm,0.9s						
TRF	Thorofare Moun	92.68	11	P	P	18 48 28.4	-1.0
	baz=203						
TRF	Thorofare Moun	92.68	11	P	P	18 48 29.7	+0.3
TRF				IAmb	IAmb	18 48 31.7	
	comp=Z,11nm,0.8s						
HARP	HAARP	92.72	14	P	P	18 48 30.1	+0.7
	baz=207						
BW06	Boulder Array	92.73	43	P	P	18 48 30.5	+0.3
	baz=235						
PDAR	Pinedale Array	92.73	43	P	P	18 48 31.1	+0.8
	comp=Z,1.3nm,1.0s,baz=224,slow=2.5,SNR=6.1						
PDAR	Pinedale Array	92.73	43	P	P	18 48 29.6	-0.6
J20K	Nowinta River	92.74	9	P	P	18 48 30.1	+0.7
	baz=199						
JCT	Junction City	92.78	57	P	P	18 48 29.9	-0.7
	baz=240						
FLWY	Flagg Ranch	92.82	41	P	P	18 48 31.0	+0.4
RND	Reindeer	92.90	12	P	P	18 48 29.7	-0.6
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
RND	Reindeer	92.90	12	P	P	18 48 29.7	-0.6
RND				IAmb	IAmb	18 48 33.2	
	comp=Z,15nm,1.0s						
GCSA	Galena City Sc	92.91	8	P	P	18 48 29.5	-0.7
	baz=197						
T25A	Trinidad	92.92	49	P	P	18 48 29.4	-1.8
	baz=238						
TIY	Taiyuan	92.99	311	*e*P	P	18 48 33.3	+1.9
TIY				S	S	18 59 37.5	0.0
TIY				LR	LR		
	comp=Z,140nm,13.2s						
TIY				LR	LR		
	comp=Z,310nm,19.0s						
TIY				LR	LR		
	comp=Z,430nm,21.7s						
YHH	Holmes Hill	93.14	40	P	P	18 48 33.4	+1.2
YHH				IAmb	IAmb	18 48 44.0	
	comp=Z,10nm,1.2s						
BPAW	Bear Paw Mtn.	93.16	11	P	P	18 48 31.4	0.0
	baz=202						
PAX	Paxson	93.17	14	P	P	18 48 32.3	+0.7
PAX				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PAX	Paxson	93.17	14	P	P	18 48 32.2	+0.6
	baz=207						
PAX	Paxson	93.17	14	P	P	18 48 32.3	+0.7
BOZ	Bozeman (W)	93.18	39	P	P	18 48 31.9	-0.3
BOZ				pmax	pmax		
	comp=Z,11nm,1.2s						
BOZ	Bozeman (W)	93.18	39	P	P	18 48 31.8	-0.3
	baz=234						
BOZ	Bozeman (W)	93.18	39	P	P	18 48 31.9	-0.3
BOZ				IAmb	IAmb	18 48 52.4	
	comp=Z,11nm,1.1s						
MCK	McKinley	93.18	12	P	P	18 48 32.4	+0.9
MCK				pmax	pmax		
	comp=Z,24nm,1.5s						
MCK	McKinley	93.18	12	P	P	18 48 33.0	+1.5
	baz=204						
MCK	McKinley	93.18	12	P	P	18 48 32.4	+0.9
M26K	Nabesna, AK	93.20	15	P	P	18 48 32.6	+0.9
	baz=209						
LAMP	Lampang	93.36	289	P	P	18 48 37.0	+3.6
Q24A	Divide	93.40	48	P	P	18 48 32.5	-1.1
	baz=237						
BWN	Browne	93.49	11	P	P	18 48 30.1	-2.8
MENT	Mentasta	93.51	14	P	P	18 48 33.5	+0.4
XAN	Xi'an	93.52	307	P	P	18 48 34.5	+0.7
XAN				pP	sP	18 48 38.8	+1.4
XAN				sP	pwP	18 48 42.3	+0.3
XAN				PP	PP	18 52 26.0	+7.2
XAN				SKS	SKSac	18 59 08.0	-0.3
XAN				S	ScS	18 59 44.5	+0.7
XAN				sS	sS	18 59 54.0	+7.5
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,280nm,5.4s						
XAN				LR	LR		
	comp=Z,360nm,20.1s						
XAN				LR	LR		
	comp=Z,560nm,22.2s						
XAN				LR	LR		
	comp=Z,980nm,22.2s						
ISCO	Idaho Springs	93.55	47	P	P	18 48 34.0	-0.2
	baz=237						
WHY	Whitehorse	93.83	19	P	P	18 48 37.0	+2.3
	baz=216						
CM09	Chiang Mai Arr	93.86	289	P	P	18 48 42.4	+6.7
	comp=Z,9.4nm,0.9s						
CM09	Chiang Mai Arr	93.86	289	P	P	18 48 42.4	+6.7
KMI	Kunming	93.86	296	⇓P	P	18 48 37.5	+1.6
KMI				pP	sP	18 48 41.5	+2.1
KMI				S	S	18 59 47.3	+1.3
KMI				sS	sS	18 59 52.5	+2.2
KMI				SS	SS	19 06 10.3	+4.7
KMI				pmax	pmax		
	comp=Z,14nm,1.6s						
KMI				pmax	pmax		
	comp=Z,220nm,8.0s						
KMI				LR	LR		
	comp=Z,340nm,17.6s						
KMI				LR	LR		
	comp=Z,250nm,18.8s						
KMI				LR	LR		
	comp=Z,380nm,24.6s						
CM05	Chiang Mai Arr	93.88	289	P	P	18 48 42.3	+6.5
	comp=Z,5.5nm,0.9s						
CM05	Chiang Mai Arr	93.88	289	P	P	18 48 42.3	+6.5
CM02	Chiang Mai Arr	93.89	289	P	P	18 48 39.5	+3.6
	comp=Z,11nm,0.9s						
CM02	Chiang Mai Arr	93.89	289	P	P	18 48 39.5	+3.6
CMAR	Chiang Mai Arr	93.91	289	P	P	18 48 37.4	+1.4
	comp=Z,3.7nm,0.9s,baz=130,slow=3.1,SNR=17						
CMAR	Chiang Mai Arr	93.91	289	P	P	18 48 35.4	-0.6
CM15	Chiang Mai Arr	93.92	289	P	P	18 48 44.1	+8.1
	comp=Z,6.3nm,0.9s						
CM15	Chiang Mai Arr	93.92	289	P	P	18 48 44.1	+8.1
CM13	Chiang Mai Arr	93.92	289	P	P	18 48 43.7	+7.7
	comp=Z,9.3nm,0.8s						
CM13	Chiang Mai Arr	93.92	289	P	P	18 48 43.7	+7.7
RIDG	Independent Ri	93.98	13	P	P	18 48 36.5	+1.2
	baz=208						
RIDG	Independent Ri	93.98	13	P	P	18 48 35.8	+0.6
I21K	Tanana	94.01	10	P	P	18 48 35.7	+0.4
	baz=201						
WRH	Wood River Hil	94.01	12	P	P	18 48 34.3	-1.0
WRH				IAmb	IAmb	18 48 37.5	
	comp=Z,8.6nm,0.9s						
L27K	Beaver Creek,	94.04	15	P	P	18 48 35.5	0.0
	baz=210						
CMMT	Chiang Mai	94.06	289	P	P	18 48 39.6	+2.9
DOT	Dot Lake	94.06	14	P	P	18 48 35.4	-0.2
CHTO	Chiang Mai	94.07	289	P	P	18 48 36.9	+0.2
CHTO				pmax	pmax		
	comp=Z,14nm,1.1s						
CHTO	Chiang Mai	94.07	289	P	P	18 48 39.6	+2.9
CHTO	Chiang Mai	94.07	289	P	P	18 48 39.6	+2.9
CHTO	Chiang Mai	94.07	289	P	P	18 48 36.9	+0.2
CHTO				IAmb	IAmb	18 48 40.4	
	comp=Z,14nm,1.1s						
MLY	Manley	94.07	11	P	P	18 48 35.7	+0.1
	baz=202						
MLY	Manley	94.07	11	P	P	18 48 35.1	-0.5
HDA	Harding Lake	94.17	12	P	P	18 48 36.5	+0.5
	baz=206						
HDA	Harding Lake	94.17	12	P	P	18 48 35.4	-0.6
HDA				IAmb	IAmb	18 48 38.1	
	comp=Z,6.6nm,0.8s						
CCB	Clear Creek Bu	94.22	12	P	P	18 48 36.1	-0.2
RLMT	Red Lodge	94.25	41	P	P	18 48 36.7	-0.5
	baz=235						
ZEA	Zeya	94.30	330	*e*P	P	18 48 37.9	+1.0
ZEA				*e*		18 52 20.1	
ZEA				*e*		18 59 16.7	

ZEA				*e*S	**S**	**18 59 50.4**	**+2.3**
ZEA				*e*PS	**PS**	**19 01 07.7**	**+2.8**
ZEA				*e*		19 06 20.2	
ZEA				pmax	pmax		
	comp=Z,100nm,14.3s						
ZEA				pmax	pmax		
	comp=Z,100nm,7.2s						
ZEA				smax	smax		
	comp=E,200nm,8.5s						
ZEA				smax	smax		
	comp=N,500nm,10.2s						
SCRK	**Sand Creek**	**94.37**	**14**	P	**P**	**18 48 38.1**	**+0.9**
	baz=208						
SCRK	**Sand Creek**	**94.37**	**14**	P	**P**	**18 48 38.4**	**+1.3**
I23K	**Minto, Yukon-K**	**94.41**	**11**	P	**P**	**18 48 38.1**	**+1.0**
	baz=204						
TCOL	**CIGO, UAF Yank**	**94.42**	**12**	P	**P**	**18 48 37.5**	**+0.4**
	baz=205						
COLA	**College**	**94.42**	**12**	P	**P**	**18 48 36.5**	**-0.6**
	baz=205						
MDM	**Murphy Dome**	**94.43**	**12**	P	**P**	**18 48 37.5**	**+0.2**
IL31		**94.50**	**12**	P	**P**	**18 48 36.6**	**-0.9**
IL31				IAmb	IAmb	18 48 54.6	
	comp=Z,10nm,1.3s						
ILAR	**Eielson Array**	**94.50**	**12**	P	**P**	**18 48 37.1**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=204,slow=5.8,SNR=17						
IMAR	**Indian Mountai**	**94.51**	**9**	P	**P**	**18 48 36.9**	**-0.7**
K27K	**Chicken**	**94.83**	**14**	P	**P**	**18 48 39.5**	**+0.5**
	baz=210						
K27K	**Chicken**	**94.83**	**14**	P	**P**	**18 48 38.6**	**-0.5**
H23K	**Yukon River**	**95.00**	**11**	P	**P**	**18 48 39.5**	**-0.3**
	baz=204						
HHC	**Hu-ho-hao-te**	**95.22**	**313**	*e*P	**P**	**18 48 43.0**	**+1.4**
HHC				sP	pwP	18 48 50.0	+0.3
HHC				SKS	**SKSac**	**18 59 19.3**	**+1.9**
HHC				S	**ScS**	**19 00 02.0**	**+4.1**
HHC				sS	sS	19 00 05.5	+4.2
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,230nm,7.7s						
PRP	**Porcupine Dome**	**95.43**	**12**	P	**P**	**18 48 42.4**	**+0.4**
	baz=207						
PRP	**Porcupine Dome**	**95.43**	**12**	P	**P**	**18 48 41.6**	**-0.3**
PRP				IAmb	IAmb	18 48 44.8	
	comp=Z,6.6nm,0.9s						
RDOG	**Red Dog Mine**	**95.52**	**5**	P	**P**	**18 48 43.6**	**+1.4**
	baz=192						
EGMT	**Eagleton**	**95.64**	**38**	P	**P**	**18 48 43.2**	**0.0**
	baz=235						
EGAK	**Eagle**	**95.68**	**14**	P	**P**	**18 48 43.4**	**+0.5**
CD2	**Chengdu**	**95.79**	**302**	P	**P**	**18 48 46.0**	**+1.6**
CD2				pP	sP	18 48 48.3	+0.4
CD2				sP	pwP	18 48 50.8	-1.7
CD2				SKS	**SKSac**	**18 59 20.8**	**+0.1**
CD2				S	**ScS**	**19 00 04.8**	**+1.9**
CD2				SS	**SS**	**19 06 36.0**	**+3.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,320nm,7.1s						
CD2				LR	LR		
	comp=Z,590nm,15.7s						
CD2				LR	LR		
	comp=Z,650nm,18.4s						
CD2				LR	LR		
	comp=Z,560nm,17.7s						
BILL	**Bilibino**	**95.89**	**353**	*e*P	**P**	**18 48 44.3**	**+0.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BTO	**Baotou**	**96.10**	**313**	*e*P	**P**	**18 48 48.3**	**+2.7**
BTO				SKS	**SKSac**	**18 59 24.8**	**+2.8**
BTO				S	**ScS**	**19 00 07.0**	**+1.8**
BTO				LR	LR		
	comp=Z,1μm,20.6s						
BTO				LR	LR		
	comp=Z,860nm,18.2s						
COLD	**Coldfoot**	**96.19**	**10**	P	**P**	**18 48 45.8**	**+0.6**
	baz=203						
RSSD	**Black Hills**	**96.84**	**44**	P	**P**	**18 48 47.6**	**-1.4**
RSSD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RSSD	**Black Hills**	**96.84**	**44**	P	**P**	**18 48 48.5**	**-0.5**
	baz=238						
RSSD	**Black Hills**	**96.84**	**44**	P	**P**	**18 48 47.6**	**-1.4**
RSSD				IAmb	IAmb	18 49 09.0	
	comp=Z,10nm,0.9s						
BMAR	**Burnt Mountain**	**97.31**	**12**	P	Pdif	18 48 50.6	+0.1
TOLK	**Toolik Lake Re**	**97.58**	**10**	P	**P**	**18 48 51.1**	**-0.4**
	baz=204						
LZH	**Lanzhou**	**98.15**	**306**	*e*P	Pdif	18 48 56.0	+0.9
LZH				pP	sP	18 48 59.5	+0.9
LZH				sP	pwP	18 49 01.5	-1.7
LZH				PP	**PP**	**18 52 58.0**	**+3.2**
LZH				SKS	**SKSac**	**18 59 33.5**	**+0.6**
LZH				*e*S	**ScS**	**19 00 25.0**	**+2.4**
LZH				sS	sS	19 00 30.0	+3.2
LZH				SS	**SS**	**19 07 02.8**	**-3.1**
LZH				pmax	pmax		
	comp=Z,24nm,1.4s						
LZH				pmax	pmax		
	comp=Z,140nm,8.5s						
LZH				LR	LR		
	comp=Z,390nm,17.9s						
LZH				LR	LR		
	comp=Z,660nm,16.3s						
LZH				LR	LR		
	comp=Z,550nm,18.4s						
INK	**Inuvik**	**100.32**	**15**	P	**Pdif**	**18 49 04.5**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=11,slow=5.2,SNR=2.3						
SONM	**Songino Array**	**101.89**	**318**	P	**Pdif**	**18 49 12.7**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=134,slow=8.3,SNR=3.0						
WMQ	**Urumqi**	**112.53**	**309**	*e*PKP	**PKiKP**	**18 53 55.8**	**+1.7**
WMQ				LR	LR		
	comp=Z,320nm,17.5s						
WMQ				LR	LR		
	comp=Z,340nm,18.9s						
WMQ				LR	LR		
	comp=Z,390nm,27.9s						
DGZ	**Jazzator, Alta**	**114.26**	**315**	*i* PKIKP	**PKiKP**	**18 53 58.2**	**+0.8**
ZALV	**Zalesovo Beam**	**116.73**	**319**	PKP	**PKPdf**	**18 53 59.9**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=22,slow=1.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**116.73**	**319**	PKIKP	**PKPdf**	**18 54 00.0**	**-1.8**
ZALV	**Zalesovo Beam**	**116.73**	**319**	PKPdf	**PKPdf**	**18 53 60.0**	**-1.8**
MK31	**Makanchi Array**	**116.96**	**311**	PKIKP	**PKPdf**	**18 54 00.9**	**-1.6**
MK31	**Makanchi Array**	**116.96**	**311**		**PKPdf**	**18 54 00.9**	**-1.6**
MKAR	**Makanchi Array**	**116.96**	**311**	PKP	**PKPdf**	**18 54 01.3**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=146,slow=0.5,SNR=14						
MAKZ	**Makanchi**	**117.17**	**311**	PKIKP	**PKPdf**	**18 54 01.1**	**-1.8**
MAKZ	**Makanchi**	**117.17**	**311**		**PKPdf**	**18 54 01.1**	**-1.8**
NRIK	**Noril'sk**	**117.41**	**337**	*i* PKIKP	**PKiKP**	**18 54 03.4**	**+0.8**
BTK	**Batken**	**124.00**	**302**	PKIKP	**PKiKP**	**18 54 16.6**	**0.0**
BTK	**Batken**	**124.00**	**302**	PKPdf	**PKiKP**	**18 54 16.6**	**0.0**
KK31	**Karatay Array**	**124.63**	**305**	PKIKP	**PKPdf**	**18 54 16.6**	**-0.8**
KK31	**Karatay Array**	**124.63**	**305**	PKPdf	**PKPdf**	**18 54 16.6**	**-0.8**
KKAR	**Karatay Array**	**124.63**	**305**	PKIKP	**PKPdf**	**18 54 15.5**	**-1.9**
KKAR						18 54 15.8	
KKAR	**Karatay Array**	**124.63**	**305**	PKPdf	**PKPdf**	**18 54 15.8**	**-1.6**
KKAR	**Karatay Array**	**124.63**	**305**		**PKPdf**	**18 54 15.5**	**-1.9**
BRVK	**Borovoye**	**125.30**	**317**	*i* PKIKP	**PKPdf**	**18 54 18.3**	**0.0**
BRVK	**Borovoye**	**125.30**	**317**	PKPdf	**PKPdf**	**18 54 17.0**	**-1.3**
SVE	**Sverdlovsk**	**130.42**	**323**	*e*PKIKP	**PKiKP**	**18 54 30.4**	**+1.7**
ARU	**Arti**	**131.63**	**323**	*i* PKIKP	**PKPdf**	**18 54 30.0**	**-0.2**
ARU						18 56 48.7	
ARU				SS	SS	19 14 15.2	-9.1
ARU	**Arti**	**131.63**	**323**	PKPdf	**PKPdf**	**18 54 29.6**	**-0.6**
KIRV	**Kirov**	**135.59**	**328**	*i* PKIKP	**PKiKP**	**18 54 39.1**	**0.0**
ARCES	**ARCESS Array B**	**135.83**	**349**	PKP	**PKPdf**	**18 54 36.8**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=45,slow=3.6,SNR=6.0						
MAK	**Makhachkala**	**141.44**	**306**	*i* P	**Pdif**	**18 52 08.5**	**+1.3**
MAK				*i*		18 54 47.2	
MAK				*e*		18 57 52.2	
MAK				pmax	pmax		
	comp=Z,24nm,0.5s						
AKT	**Akhty**	**141.50**	**303**	*e*PKIKP	**PKPdf**	**18 54 48.1**	**-1.0**
AKT				*e*		18 57 53.0	
AKT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MOS	**Moscow**	**142.56**	**329**	*e*PKIKP	**PKPdf**	**18 54 48.1**	**-2.3**
MOS				*e*		18 57 58.6	
FINES	**FINESS Array B**	**142.68**	**343**	PKhKP	PKPpre	18 54 44.3	
	comp=Z,1.2nm,0.5s,baz=72,slow=2.4,SNR=13						
FINES	**FINESS Array B**	**142.68**	**343**	PKHKP	PKPpre	18 54 44.0	
FINES	**FINESS Array B**	**142.68**	**343**		PKPpre	18 54 44.0	

VRH	**Novokhopyorsk**	**142.75**	**320**	*e*PKIKP	**PKPdf**	**18 54 50.7**	**-0.2**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OBN	**Obninsk**	**143.42**	**329**	*e*PKIKP	**PKPdf**	**18 54 53.2**	**+1.3**
OBN				*e*		18 58 06.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LPSR	**Galich'ya Gora**	**143.63**	**324**	*e*PKIKP	PKPab	18 54 48.7	-0.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEI	**Tsey**	**144.08**	**306**	*i* PKIKP	**PKPdf**	**18 54 52.9**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VORD	**Divnogorie**	**144.23**	**321**	*e*PKIKP	**PKPab**	**18 54 50.4**	**-0.9**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ONI	**Oni**	**144.44**	**306**	PKIKP	PKPbc	18 54 53.3	+0.5
ONI	**Oni**	**144.44**	**306**		PKPbc	18 54 53.3	+0.5
KBZ	**Khabaz**	**144.57**	**308**	PKP	PKPbc	18 54 53.2	+0.2
	comp=Z,3.0nm,0.9s,baz=59,slow=5.2,SNR=6.1						
AKH	**Akhalkalaki**	**144.65**	**304**	⇑P	PKPbc	18 54 54.0	+0.4
KIV	**Kislovodsk**	**144.66**	**308**	*i* PKIKP	**PKPab**	**18 54 53.0**	**-0.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,284nm,25.0s						
SHA1	**Shidzhatmaz**	**144.74**	**308***c*	*i* PKIKP	PKPbc	18 54 53.9	0.0
VSU	**Vasula**	**144.93**	**339**	*e*P	PKPbc	18 54 54.0	+0.3
KARS	**Kars**	**145.10**	**303**	PKIKP	**PKPbc**	**18 54 55.0**	**-0.1**
KARS	**Kars**	**145.10**	**303**		**PKPbc**	**18 54 55.0**	**-0.1**
AAL	**Aland**	**145.27**	**346**	*e*P	**PKPbc**	**18 54 53.7**	**-1.0**
CHVG	**Ch'k'valeri**	**145.40**	**307**	⇑P	**PKiKP**	**18 54 58.4**	**-1.4**
CHVG	**Ch'k'valeri**	**145.40**	**307**	⇑PKIKP	**PKiKP**	**18 54 58.4**	**-1.4**
GEVA	**Gevas**	**145.46**	**299**		**PKPab**	**18 54 56.7**	**+0.1**
MTSE	**Matsula**	**145.60**	**342**	*e*P	**PKPab**	**18 54 55.9**	**-0.2**
NC300	**NORSAR Array S**	**145.64**	**354**		**PKPdf**	**18 54 55.0**	**-0.7**
NC204	**NORSAR Array S**	**145.65**	**354**		**PKPab**	**18 54 56.5**	**+0.1**
NC405	**NORSAR Array S**	**145.72**	**353**	PKPdf	**PKPdf**	**18 54 55.9**	**+0.1**
NB201	**NORSAR Array S**	**145.82**	**354**	PKPdf	**PKPbc**	**18 54 56.2**	**-0.3**
NB2	**NORSAR Subarra**	**145.84**	**354**	PKP	**PKPdf**	**18 54 55.5**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**145.84**	**354**	PKPbc	**PKPdf**	**18 54 55.8**	**-0.2**
	comp=Z,18nm,1.0s,baz=8.7,slow=2.4,SNR=12						
NBO00	**NORSAR Array S**	**145.89**	**354**		**PKPdf**	**18 54 55.4**	**-0.7**
BATM	**Batumi**	**145.94**	**305**	⇑P	**PKPab**	**18 54 58.5**	**+0.6**
BATM	**Batumi**	**145.94**	**305**	⇑PKP2	**PKPab**	**18 54 58.5**	**+0.6**
UPP	**Uppsala**	**146.04**	**348**	*e*P	**PKPdf**	**18 54 56.3**	**0.0**
NAO01	**NORSAR Array S**	**146.07**	**354**		**PKPdf**	**18 54 55.3**	**-1.1**
NC602	**NORSAR Array S**	**146.11**	**353**		**PKPdf**	**18 54 56.7**	**+0.3**
SOC	**Sochi**	**146.83**	**309**	*e*PKIKP	**PKPdf**	**18 54 56.0**	**-2.2**
SOC				*e*		18 58 30.3	
SOC				*e*PPP	PPP	19 01 59.8	
SOC				*e*SS	SS	19 17 16.2	-7.8
SOC				*e*SSS	SSS	19 22 48.0	
KOPT	**Kop Dagi**	**147.16**	**302**		**PKPdf**	**18 54 58.8**	**-0.4**
KONO	**Kongsberg**	**147.36**	**355**	PKP2	**PKPbc**	**18 54 59.9**	**-1.1**
KONO	**Kongsberg**	**147.36**	**355**		**PKPbc**	**18 54 59.9**	**-1.1**
MARD	**Mardin**	**147.37**	**297**		**PKPdf**	**18 54 59.9**	**+0.4**
IDID	**Didziasalis**	**147.40**	**336**	*e*P	**PKiKP**	**18 55 03.6**	**+0.1**
ISAL	**Salakas**	**147.42**	**336**	*e*P	**PKPab**	**18 55 02.7**	**-0.5**
KTUT	**Trabzon**	**147.49**	**304**	⇑P	**PKPbc**	**18 55 01.8**	**-0.1**
IIGN	**Ignalina**	**147.56**	**336**	*e*P	**PKPbc**	**18 55 01.9**	**+0.3**
MNK	**Minsk**	**147.57**	**334**	*i* PKP2	**PKPbc**	**18 55 01.8**	**+0.1**
MNK				*i*		18 58 29.6	
MNK				*i* PPP	PPP	19 01 48.2	
MNK				*i*		19 02 10.4	
MNK				*i*		19 11 11.3	
MNK				*i* SS	SS	19 17 23.9	-7.0
MNK				*i* SSS	SSS	19 23 09.4	
MNK				pmax	pmax		
	comp=E,1.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,17nm,1.0s						
MNK				pmax	pmax		
	comp=Z,51nm,0.9s						
MNK	**Minsk**	**147.57**	**334**	*i* PKP	**PKPbc**	**18 55 01.8**	**+0.1**
	comp=E,1.0nm,0.7s						
MNK				*i* PKP	**PKPbc**	**18 55 01.8**	**+0.1**
	comp=N,17nm,1.0s						
MNK				*i* PKP	**PKPbc**	**18 55 01.8**	**+0.1**
	comp=Z,51nm,0.9s,baz=43						
MNK				*i* PP	**PP**	**18 58 29.7**	**+1.8**
MNK				*i* SKP		18 58 35.8	
MNK				*i* PKS	**PKSdf**	**18 58 37.0**	**+3.0**
MNK				*i* PPP	PPP	19 01 48.2	
MNK				*i* SKS	**SKSdf**	**19 02 10.5**	**+3.2**
MNK				*i* SKKS	**SKKSdf**	**19 11 11.3**	**+1.5**
MNK				*i* SS	**SS**	**19 17 24.0**	**-6.9**
MNK				*i* SSS	SSS	19 23 09.4	
MNK				*i* LR	LR	19 57 56.7	
MNK				*i* LRM	MLR	20 03 41.1	
	comp=Z,427nm,18.1s						
MNK				*i* LRM	MLR	20 04 14.8	
	comp=N,65nm,20.7s						
MNK				*i* LRM	MLR	20 04 17.4	
	comp=E,52nm,20.7s						
ANN	**Anapa**	**147.97**	**312**	*i* PKP2	**PKPbc**	**18 55 03.6**	**+0.5**
ANN				pmax	pmax		
	comp=Z,47nm,1.2s						
PABE	**Paberze**	**148.22**	**338**	*e*P	**PKPbc**	**18 55 03.9**	**+0.5**
PABE	**Paberze**	**148.22**	**338**	PKPdf	**PKPdf**	**18 54 60.0**	**-0.1**
AKASG	**Malin Array Be**	**149.65**	**327**	PKP	**PKPdf**	**18 55 02.7**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=41,slow=3.2,SNR=8.0						
AKASG				PKPbc	**sPKPdf**	**18 55 06.5**	**+0.7**
	comp=Z,19nm,1.0s,baz=38,slow=3.1,SNR=30						
AKASG	**Malin Array Be**	**149.65**	**327**	PKPdf	**PKPdf**	**18 55 01.8**	**-0.8**
AKBB	**Malin Array Si**	**149.65**	**327**	PKP2	**PKPbc**	**18 55 06.3**	**-0.9**
AKBB	**Malin Array Si**	**149.65**	**327**		**PKPbc**	**18 55 06.3**	**-0.9**
SUW	**Suwalki**	**149.70**	**337**	*e*PKP	**PKPbc**	**18 55 06.7**	**-0.6**
SUW	**Suwalki**	**149.70**	**337**	*e*P	**PKiKP**	**18 55 08.7**	**+0.5**
SUW	**Suwalki**	**149.70**	**337**	PKP2	**PKPbc**	**18 55 06.9**	**-0.3**
SUW	**Suwalki**	**149.70**	**337**		**PKPbc**	**18 55 06.9**	**-0.3**
GAZ	**Gaziantep**	**150.21**	**298**		**PKPbc**	**18 55 09.1**	**-0.1**
BNN	**Bunyan**	**150.92**	**302**		**PKiKP**	**18 55 11.8**	**+0.3**
SORM	**Soroca**	**151.73**	**324**	⇑P	**PKPbc**	**18 55 11.6**	**-0.6**
SORM	**Soroca**	**151.73**	**324**	⇑PKIKP	**PKPbc**	**18 55 11.6**	**-0.6**
ILGA	**Ilgaz**	**151.85**	**307**		**PKiKP**	**18 55 13.8**	**+0.4**
GHAJ	**Ghor Haditha**	**152.08**	**286**	PKPdf	**PKPdf**	**18 55 06.8**	**-0.1**
MILM	**Milestii Mici**	**152.22**	**322**	⇑P	**PKPbc**	**18 55 12.5**	**-0.8**
BR131	**Keskin Array S**	**152.34**	**304**	PKIKP	**PKPdf**	**18 55 07.4**	**+0.1**
BR131	**Keskin Array S**	**152.34**	**304**		**PKPdf**	**18 55 07.3**	**+0.1**
BRTR	**Keskin Array B**	**152.34**	**304**	PKPbc	**PKPbc**	**18 55 13.4**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=164,slow=3.9,SNR=10						
BRTR				PKPab	**PKPab**	**18 55 23.9**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=115,slow=2.7,SNR=9.4						
BRTR	**Keskin Array B**	**152.34**	**304**	PKPdf	**PKPdf**	**18 55 06.2**	**-1.0**
EIL	**Elat**	**152.58**	**282**	PKPbc	**PKiKP**	**18 55 15.7**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=107,slow=3.4,SNR=6.6						
EIL				PKPab	**PKPab**	**18 55 25.7**	**+0.4**
	comp=Z,9.8nm,0.8s,baz=123,slow=2.7,SNR=8.1						
LVV	**L'vov**	**152.64**	**331**	*e*PKIKP	**PKiKP**	**18 55 15.3**	**+0.8**
TLCR		**153.21**	**319**	⇑P	**PKPbc**	**18 55 15.2**	**-0.4**
TLCR		**153.21**	**319**	⇑PKIKP	**PKPbc**	**18 55 15.2**	**-0.4**
CFR	**Carcaliu**	**153.61**	**319**	⇑P	**PKPbc**	**18 55 15.6**	**-0.9**
CFR	**Carcaliu**	**153.61**	**319**	⇑PKIKP	**PKPbc**	**18 55 15.6**	**-0.9**
TPGR	**Topolog**	**153.63**	**318**	⇑P	**PKiKP**	**18 55 17.5**	**+0.8**
BUR08	**Bucovina Ar. S**	**153.65**	**326**		**PKPbc**	**18 55 16.6**	**-0.1**
BIZ	**Bicaz**	**153.66**	**324**	⇑P	**PKPbc**	**18 55 16.0**	**-0.6**
BURAR	**Bucovina Array**	**153.67**	**326**	⇑P	**PKPbc**	**18 55 16.3**	**-0.4**
BURAR	**Bucovina Array**	**153.67**	**326**	⇑PKIKP	**PKPbc**	**18 55 16.3**	**-0.4**
BURAR	**Bucovina Array**	**153.67**	**326**		**PKPbc**	**18 55 16.5**	**-0.2**
CSS	**Mathiatis**	**153.67**	**294**	PKPab	**PKPab**	**18 55 29.6**	**-0.1**
OJC	**Ojcow**	**154.01**	**336**	*e*PKP	**PKPdf**	**18 55 07.5**	**-1.7**
OJC	**Ojcow**	**154.01**	**336**	PKIKP	**PKPdf**	**18 55 09.3**	**+0.1**
OJC	**Ojcow**	**154.01**	**336**		**PKPdf**	**18 55 09.3**	**+0.1**
VRI	**Vrincioaia**	**154.01**	**322**	⇑P	**PKiKP**	**18 55 21.7**	**+4.3**
PLOR	**Plostina**	**154.06**	**322**	⇑P	**PKiKP**	**18 55 24.0**	**+6.4**
KOLS	**Kolonicke sedl**	**154.06**	**332**	*e*PKIKP	**PKPdf**	**18 55 11.3**	**+2.0**
KOLS	**Kolonicke sedl**	**154.06**	**332**	*e*PKP	**PKPdf**	**18 55 11.3**	**+2.0**
UZH	**Uzhgorod**	**154.29**	**331**	*e*PKIKP	**PKPdf**	**18 55 11.5**	**+1.9**
UZH				*e*		18 55 17.3	
OZUR		**154.38**	**323**	⇑P	**PKiKP**	**18 55 21.7**	**+3.5**
CRVS	**Cervenica-Dubn**	**154.43**	**332**	*e*PKIKP	**PKiKP**	**18 55 18.9**	**+0.7**
CRVS	**Cervenica-Dubn**	**154.43**	**332**	*e*PKP	**PKiKP**	**18 55 18.9**	**+0.7**
KSP	**Ksiaz**	**154.60**	**341**	*e*PKP	**PKPdf**	**18 55 13.9**	**+3.9**
DOPR	**Dopca**	**154.67**	**323**	⇑P	**PKiKP**	**18 55 21.4**	**+2.6**
MLR	**Muntele Rosu**	**154.67**	**322**	⇑P	**PKiKP**	**18 55 19.6**	**+0.6**
MLR	**Muntele Rosu**	**154.67**	**322**	⇑PKIKP	**PKiKP**	**18 55 19.6**	**+0.6**
OSTC	**Ostas**	**154.87**	**341**	*e*PKP	**PKPdf**	**18 55 08.2**	**-2.2**
OSTC				*e*PP	**PP**	**18 59 04.5**	**-5.1**
OSTC				*e*SS	SS	19 18 56.2	+4.8
OSTC				AMS	AMS	20 30 20.0	

	comp=Z,600nm,20.2s						
CHVC	**Chvalec**	**154.89**	**341**	*e*PKP	**PKPdf**	**18 55 06.8**	**-3.6**
CHVC				*e*PP	**PP**	**18 59 06.1**	**-3.6**
CHVC				AMS	AMS	20 11 40.0	
	comp=Z,400nm,17.2s						
OKC	**Ostrava-Krasne**	**154.90**	**338**	*e*PKIKP	**PKPdf**	**18 55 08.6**	**-1.8**
OKC				*e*		18 59 06.0	
OKC				MLR	MLR		
	comp=Z,500nm,20.2s						
OKC	**Ostrava-Krasne**	**154.90**	**338**	*e*PKP	**PKPdf**	**18 55 08.6**	**-1.8**
OKC				*e*PP	**PP**	**18 59 06.0**	**-3.7**
OKC				AMS	AMS	20 23 10.0	
	comp=Z,500nm,20.2s						
UPC	**Upice**	**154.98**	**341**	*e*PKP	PKPdf	18 54 51.9	-19
UPC				*e*PP	**PP**	**18 59 08.7**	**-1.4**
UPC				*e*SS	SS	19 18 45.2	-7.2
UPC				AMS	AMS	20 21 10.0	
	comp=Z,500nm,21.8s						
CLL	**Collm**	**154.98**	**346**	*e*PKPdf	**PKPdf**	**18 55 09.0**	**-1.5**
CLL				*e*PKPbc	**PKiKP**	**18 55 20.0**	**+0.8**
	comp=Z,45nm,2.0s						
CLL				*i* PKPab	**PKPab**	**18 55 35.0**	**+0.4**
	comp=Z,17nm,1.2s						
CLL				*i*		18 55 44.5	
CLL				*e*PKSdf	**PKSdf**	**18 58 47.0**	**+2.6**
CLL				*e*PP	**PP**	**18 59 11.0**	**+1.0**
CLL				*e*PPP	PPP	19 02 38.0	
CLL				*e*SKKSac	SKKSac	19 06 12.0	+12
CLL				*e*PSKS		19 09 34.0	
CLL				*e*		19 10 38.0	
CLL				*e*PPS	PPS	19 12 14.0	
CLL				*e*		19 14 06.0	
CLL				*e*SS	**SS**	**19 18 45.0**	**-7.3**
CLL				*e*SSS	SSS	19 24 30.0	
CLL				*e*SSSS		19 28 42.0	
CLL				Lm	MLR	20 14 00.0	
	comp=N,400nm,19.0s						
CLL				Lm	MLR	20 14 00.0	
	comp=E,200nm,20.2s						
CLL	**Collm**	**154.98**	**346**	*e*PKIKP	**PKPdf**	**18 55 09.0**	**-1.5**
CLL				pmax	pmax		
	comp=Z,45nm,2.0s						
CLL				MLR	MLR		
	comp=Z,600nm,17.9s						
CLL	**Collm**	**154.98**	**346**		**PKPdf**	**18 55 09.4**	**-1.1**
CLL	**Collm**	**154.98**	**346**	*e*PKPdf	**PKPbc**	**18 55 15.7**	**-3.5**
	baz=14,slow=1.2						
DPC	**Dobruska-Polom**	**155.03**	**341**	*e*PKIKP	**PKPdf**	**18 55 08.4**	**-2.3**
DPC				*e*SS	SS	19 18 48.2	-4.9
DPC				MLR	MLR		
	comp=Z,400nm,20.0s						
DPC	**Dobruska-Polom**	**155.03**	**341**	*e*PKP	**PKPdf**	**18 55 08.4**	**-2.3**
DPC				*e*PP	**PP**	**18 59 04.1**	**-6.4**
DPC				*e*SS	SS	19 18 48.2	-4.9
DPC				AMS	AMS	20 13 30.0	
	comp=Z,400nm,20.0s						
KRLC	**Kraliky**	**155.13**	**340**	*e*PKIKP	**PKPdf**	**18 55 09.4**	**-1.4**
KRLC				*e*		18 59 07.5	
KRLC				MLR	MLR		
	comp=Z,400nm,20.0s						
KRLC	**Kraliky**	**155.13**	**340**	*e*PKP	**PKPdf**	**18 55 09.4**	**-1.4**
KRLC				*e*PP	**PP**	**18 59 07.5**	**-3.6**
KRLC				AMS	AMS	20 26 40.0	
	comp=Z,400nm,20.0s						
MORC	**Moravsky Berou**	**155.15**	**339**	*e*PKP	**PKPdf**	**18 55 12.9**	**+2.1**
BRG	**Berggiesshubel**	**155.18**	**345**	*e*PKP	PKPdf	18 55 21.3	+11
BRG				Amp		18 55 25.9	
	comp=Z,9.6nm,1.2s						
BRG	**Berggiesshubel**	**155.18**	**345**	P	**PKPab**	**18 55 37.1**	**+1.6**
BRG				Amp		18 55 37.9	
	comp=Z,13nm,1.0s						
BRG	**Berggiesshubel**	**155.18**	**345**	PP

comp=Z,0.3nm,0.6s,baz=29,slow=2.2,SNR=3.0
GERES PKPab **PKPab 18 55 44.3 +0.3**
comp=Z,1.8nm,1.0s,baz=137,slow=2.7,SNR=5.8
GERES GERESS Array B 157.12 343 PKPdf 18 55 11.8 -1.7
CONA Conrad Observa 157.31 339 *eP* **PKPdf 18 55 16.6 +2.8**
comp=Z,8.8nm,1.6s
CONA *eP* **PKPab 18 55 45.0 +0.2**
comp=Z,5.8nm,1.1s
VTS Vitosha 157.98 319 ⇑P **PKPab 18 55 45.0 -3.1**
VTS Vitosha 157.98 319 ⇑PKP2 **PKPab 18 55 45.0 -3.1**
ARSA Arzberg 158.02 338 *eP* **PKPab 18 55 47.5 -0.4**
comp=Z,2.7nm,1.0s
SOKA Soboth 158.68 338 *eP* **PKPab 18 55 51.2 +0.4**
RETA Reutte 159.07 347 *eP* **PKPab 18 55 53.1 +0.6**
comp=Z,6.5nm,1.1s
MOTA Moosalm 159.14 346 *eP* **PKPab 18 55 52.9 +0.1**
comp=Z,7.1nm,1.2s
ABTA Abfaltersbach 159.36 343 *eP* **PKPdf 18 55 20.0 +3.7**
comp=Z,7.9nm,1.4s
ABTA *eP* **PKPab 18 55 53.8 0.0**
comp=Z,11nm,1.0s
FETA Feichten 159.52 346 *eP* **PKPdf 18 55 21.6 +5.0**
comp=Z,6.1nm,1.4s
FETA P **PKPab 18 55 55.5 +1.0**
comp=Z,2.9nm,1.0s
LIT Litokhoron 159.92 314 PKP2 **PKPab 18 55 55.7 -0.7**
LIT Litokhoron 159.92 314 PKPab **PKPab 18 55 55.7 -0.7**
TORD Torodi Ar. Bea 165.83 171 PKP **PKPdf 18 55 23.8 +0.2**
comp=Z,2.0nm,1.0s,baz=307,slow=0.5,SNR=6.7
TORD PKPab **PKPab 18 56 23.8 +1.1**
comp=Z,5.6nm,0.8s,baz=194,slow=3.8,SNR=10
TORD Torodi Ar. Bea 165.83 171 PKPdf 18 55 23.2 -0.3
TORD PKPab **PKPab 18 56 23.3 +0.6**
ESDC Sonseca Array 166.00 26 PKPdf 18 55 23.4 +0.4
comp=Z,1.1nm,1.0s,baz=325,slow=6.4,SNR=3.4
ESDC PKPab **PKPab 18 56 23.1 0.0**
comp=Z,1.3nm,1.0s,baz=293,slow=3.7,SNR=3.3

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*IDC **30** 18:51:06.0±0.6, 57.°12S×141.°62W, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.4/28, mbtmp4.4/9, MS5.0/14, Ms1 5.0/14, ms1mx4.7/24, Error ellipse: s-maj=25.1km s-min=18.3km az=26.0*
*NEIC **30** 18:51:05.8, 57.°00S×141.°32W, h23km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.16; $M_{\theta\theta}$=2.71; $M_{\phi\phi}$=-2.54; $M_{r\theta}$=0.10; $M_{\theta\phi}$=2.60; $M_{\phi r}$=0.09; Fault plane solution: M_0=3.70000×10^{17} NP1:ϕ_s=23.00000°, δ=89.00000°, λ=178.00000°. NP2:ϕ_s=113.00000°, δ=88.00000°, λ=1.00000°. Principal axes: T 3.7821, Plg2.0000°, Azm338.0000°; N -0.1698, Plg88.0000°, Azm180.0000°; P -3.6123, Plg1.0000°, Azm68.0000°;*
*NEIC **30** 18:51:05.7±2.6, 57.°0S±0.°1×141.°0W±0.°2, h9km±3km, mb5.1/40, Ms_20 5.4/72, Mwb5.6/10, Mww5.7, Mwc5.6/10(GCMT) Error ellipse: s-maj=19.9km s-min=14.4km az=186.0*
*NEIC **30** 18:51:06.7, 56.°97S×140.°95W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.08; $M_{\theta\theta}$=2.23; $M_{\phi\phi}$=-2.15; $M_{r\theta}$=-0.30; $M_{\theta\phi}$=1.84; $M_{\phi r}$=-0.29; Fault plane solution: M_0=2.89000×10^{17} NP1:ϕ_s=204.83000°, δ=87.42000°, λ=172.39000°. NP2:ϕ_s=295.18000°, δ=82.39000°, λ=2.61000°. Principal axes: T 2.9449, Plg7.0000°, Azm160.0000°; N -0.1130, Plg82.0000°, Azm6.0000°; P -2.8319, Plg4.0000°, Azm250.0000°;*
*BJI **30** 18:51:07.5±0.0, 57.°00S×140.°90W, h10km, mB5.2/1, Ms5.4/1, Ms7 5.2/1*
*GCMT **30** 18:51:10.7±0.1, 57.°03S±0.°01×141.°34W±0.°01, h23km, MW5.6/147, Moment Tensor Solution. s127,c233; s147,c269; Duration: 1*6 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.28±.04; $M_{\theta\theta}$=2.69±.05; $M_{\phi\phi}$=-2.41±.04; $M_{r\theta}$=0.08±.07; $M_{\theta\phi}$=2.49±.04; $M_{\phi r}$=0.15±.07; Best double couple: M_0=3.56800×10^{17} NP1:ϕ_s=293.00000°, δ=87.00000°, λ=0.00000°. NP2:ϕ_s=23.00000°, δ=90.00000°, λ=-177.00000°. Principal axes: T 3.7080, Plg2.0000°, Azm158.0000°; N -0.2750, Plg87.0000°, Azm25.0000°; P -3.4280, Plg2.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 18:51:16, 57.°06S×141.°90W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.13; $M_{\theta\theta}$=1.97; $M_{\phi\phi}$=-2.11; $M_{r\theta}$=0.18; $M_{\theta\phi}$=3.18; $M_{\phi r}$=2.11; Fault plane solution: M_0=4.33000×10^{17} NP1:ϕ_s=105.00000°, δ=61.00000°, λ=-2.00000°. NP2:ϕ_s=196.00000°, δ=88.00000°, λ=-151.00000°. Principal axes: T 4.0977, Plg18.0000°, Azm327.0000°; N 0.4407, Plg61.0000°, Azm200.0000°; P -4.5384, Plg21.0000°, Azm65.0000°;*

ISC 30 18:51:06.0±0.4, 56.°95S±0.°09×141.°00W±0.°07, h10km, n146, σ1°61/80, mb5.0/25, MS5.4/54, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.30**	**201**	P	**P**	**18 56 47.5**	**-2.7**
THZ	**Tophouse**	**32.93**	**277**	P	**P**	**18 57 41.0**	**+0.7**
THZ	comp=Z,28nm,1.2s			IAmb	IAmb	18 57 43.7	
QSPA	**South Pole Qui**	**33.21**	**180**	P	**P**	**18 57 44.4**	**+1.7**
	comp=Z,21nm,1.1s,baz=80,slow=4.7,SNR=25						
QSPA	**South Pole Qui**	**33.21**	**180**	P	**P**	**18 57 43.9**	**+1.2**
QSPA	comp=Z,38nm,1.1s			IAmb	IAmb	18 57 47.2	
QSPA	**South Pole Qui**	**33.21**	**180**	IAMs_20	IAMs_20	19 09 53.8	
	comp=Z,5μm,18.0s						
TBI	**Tubuai**	**34.13**	**346**	*eS*	**S**	**19 03 15.5**	**-1.1**
TBI	comp=Z,982nm,28.3s			*eLR*	LR	19 06 39.7	
TBI	**Tubuai**	**34.13**	**346**	*eT*	T	19 33 01.7	
	comp=Z,71nm,0.3s						
RAO	**Raoul Island**	**37.86**	**301**	P	**P**	**18 58 23.5**	**+0.8**
	comp=Z,361nm,0.3s,baz=144,slow=22,SNR=5.5						
RAO	**Raoul Island**	**37.86**	**301**	P	**P**	**18 58 23.2**	**+0.4**
BELA	**Belgrano 2**	**38.28**	**161**		**P**	**18 58 23.8**	**-2.0**
MEH	**Mehetia**	**39.37**	**349**	*eT*	T	19 39 37.4	
	comp=Z,30nm,0.3s						
PAE	**Paea**	**39.75**	**347**	*eT*	T	19 40 03.7	
	comp=Z,3.2nm,0.3s						
PPT2	**Papeete2**	**39.82**	**347**	*eS*	**S**	**19 04 41.6**	**-2.0**
PPT2	comp=Z,1μm,23.2s			*eLR*	LR	19 09 15.5	
	comp=Z,9μm,28.5s,baz=177						
TIAR	**Tiarei**	**39.82**	**348**	*eT*	T	19 40 09.2	
	comp=Z,1.5nm,0.3s						
PPT	**Papeete**	**39.84**	**347**	LR	LR	19 10 42.6	
	comp=Z,2μm,19.3s,baz=197,slow=30						
VAH	**Vaihoa**	**41.94**	**350**	*eT*	T	19 42 50.0	
	comp=Z,27nm,0.2s						
PMOR	**Pomariorio Ree**	**42.19**	**350**	*eT*	T	19 43 09.5	
	comp=Z,5.0nm,0.4s						
EFI	**East Falkland**	**45.85**	**121**	P	**P**	**18 59 28.2**	**+0.4**
CASY	**Casey**	**45.99**	**212**	P	**P**	**18 59 29.7**	**+1.0**
CASY	comp=Z,13nm,1.2s			IAmb	IAmb	18 59 45.3	
PLCA	**Paso Flores**	**46.91**	**101**	P	**P**	**18 59 40.1**	**+3.7**
	comp=Z,1.8nm,0.8s,baz=197,slow=11,SNR=2.6						
H03S2	**Juan Fernandez**	**47.37**	**88**	T	T	19 50 50.0	
	baz=219,slow=74,SNR=453						
H03S1	**Juan Fernandez**	**47.38**	**88**	T	T	19 50 52.1	
	baz=219,slow=74,SNR=491						
H03S3	**Juan Fernandez**	**47.39**	**88**	T	T	19 50 51.7	
	baz=219,slow=74,SNR=376						
VNA3	**Neumayer Olymp**	**47.59**	**161**	P	**P**	**18 59 40.8**	**-0.5**
H03N3	**Juan Fernandez**	**47.66**	**88**	T	T	19 51 05.2	
	baz=222,slow=72,SNR=647						
H03N2	**Juan Fernandez**	**47.66**	**88**	T	T	19 51 08.4	
	baz=222,slow=72,SNR=657						
H03N1	**Juan Fernandez**	**47.67**	**88**	T	T	19 51 06.1	
	baz=222,slow=72,SNR=892						
TAOE	**Nuku Hiva Isla**	**47.98**	**1**	*eLR*	LR	19 13 13.4	
	comp=Z,5μm,28.4s,baz=195						
VNA2	**Neumayer--Watz**	**48.26**	**161**	P	**P**	**18 59 46.2**	**-0.2**
	baz=211,slow=7.6						
VNA1	**Neumayer--Stat**	**48.34**	**161**	P	**P**	**18 59 46.8**	**-0.1**
SNAA	**Sanae**	**48.37**	**164**	P	**P**	**18 59 47.0**	**-0.3**
SNAA	**Sanae**	**48.37**	**164**	P	**P**	**18 59 47.4**	**+0.1**
	comp=Z,12nm,0.9s,baz=227,slow=6.5,SNR=28						
SNAA	**Sanae**	**48.37**	**164**	P	**P**	**18 59 47.0**	**-0.3**
SNAA	comp=Z,24nm,1.2s			IAmb	IAmb	18 59 50.3	
CAN	**Canberra**	**50.60**	**264**	P	**P**	**19 00 03.6**	**-1.2**
TOO	**Toolangi**	**50.84**	**259**	P	**P**	**19 00 04.7**	**-1.9**
TOO	comp=Z,61nm,1.6s			IAmb	IAmb	19 00 30.7	
DZM	**Mont Dzumac**	**51.57**	**290**	*eS*	**S**	**19 07 35.2**	**+2.3**
	comp=Z,1μm,28.2s						
DZM	comp=Z,4μm,26.0s			*eLQ*	LQ	19 12 59.2	
DZM	comp=Z,2μm,25.6s			*eLR*	LR	19 15 17.3	
ARMA	**Armidale**	**52.88**	**270**	P	**P**	**19 00 23.2**	**+1.3**
ARMA	comp=Z,18nm,1.1s			IAmb	IAmb	19 00 29.7	
TRQA	**Tornquist**	**53.42**	**105**	P	**P**	**19 00 25.6**	**-0.1**
TRQA	comp=Z,20nm,1.5s			IAmb	IAmb	19 00 55.6	
SYO	**Syowa Base**	**54.35**	**180**	‖*es*P	sP	19 00 34.4	0.0
MAW	**Mawson**	**54.51**	**191**	P	**P**	**19 00 33.9**	**+0.8**
	comp=Z,5.1nm,1.0s,baz=195,slow=12,SNR=4.9						
MAW	comp=Z,4μm,18.9s,baz=151,slow=33			LR	LR	19 21 00.9	
MAW	**Mawson**	**54.51**	**191**	P	**P**	**19 00 33.2**	**+0.1**
GO04	**Tololo Observa**	**54.61**	**92**	P	**P**	**19 00 35.1**	**+0.3**
GO04	comp=Z,26nm,1.4s			IAmb	IAmb	19 00 47.4	
AC04	**Llanos de Chal**	**55.99**	**90**	P	**P**	**19 00 42.5**	**-1.9**
AC04	comp=Z,42nm,1.8s			IAmb	IAmb	19 01 47.7	
EIDS	**Eidsvold**	**57.13**	**273**	P	**P**	**19 00 51.1**	**-1.4**
EIDS	comp=Z,16nm,0.9s			IAmb	IAmb	19 00 53.3	
STKA	**Stephens Creek**	**57.23**	**261**	P	**P**	**19 00 53.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=132,slow=7.7,SNR=14						
STKA	comp=Z,1μm,20.5s,baz=132,slow=31			LR	LR	19 20 37.7	
STKA	**Stephens Creek**	**57.23**	**261**	P	**P**	**19 00 53.7**	**+0.5**
AC02	**Maricunga**	**58.13**	**91**	P	**P**	**19 01 00.2**	**0.0**
AC02	comp=Z,46nm,1.9s			IAmb	IAmb	19 01 07.5	
GO02	**Mina Guanaco**	**59.20**	**89**	P	**P**	**19 01 06.0**	**-1.5**
GO02	comp=Z,38nm,1.6s			IAmb	IAmb	19 01 34.9	
BBOO	**Buckleboo**	**59.48**	**256**	P	**P**	**19 01 09.3**	**+0.3**
LVC	**Limon Verde**	**61.61**	**88**	P	**P**	**19 01 23.8**	**-0.2**
PLTB	**Pedras Altas**	**62.65**	**107**	P	**P**	**19 01 29.8**	**-0.7**
CTA	**Charters Tower**	**64.00**	**273**	LR	LR	19 27 19.4	
	comp=Z,422nm,18.1s,baz=125,slow=34						
CTAO	**Charters Tower**	**64.00**	**273**	P	**P**	**19 01 39.4**	**-0.1**
MNMC	**Minye Minye**	**64.04**	**85**	P	**P**	**19 01 39.2**	**-0.9**
MNMC	comp=Z,9.3nm,0.8s			IAmb	IAmb	19 01 58.7	
CPUP	**Villa Florida**	**64.96**	**100**	P	**P**	**19 01 48.4**	**+2.7**
	comp=Z,1.5nm,0.8s,baz=212,slow=12,SNR=3.1						
CPUP	comp=Z,690nm,19.6s,baz=223,slow=32			LR	LR	19 26 01.4	
CPUP	**Villa Florida**	**64.96**	**100**	P	**P**	**19 01 47.9**	**+2.2**
CPUP	comp=Z,18nm,1.6s			IAmb	IAmb	19 01 56.5	
FORT	**Forrest**	**65.28**	**251**	P	**P**	**19 01 47.6**	**-0.1**
HNR	**Honiara**	**65.53**	**292**	LR	LR	19 26 14.3	
	comp=Z,544nm,18.2s,baz=168,slow=32						
LPAZ	**La Paz**	**67.16**	**85**	P	**P**	**19 02 00.5**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=189,slow=5.1,SNR=5.6						
LPAZ	**La Paz**	**67.16**	**85**	P	**P**	**19 02 00.6**	**-0.1**
LPAZ	comp=Z,24nm,1.7s			IAmb	IAmb	19 02 15.6	
AS31	**Alice Springs**	**67.86**	**260**	P	**P**	**19 02 03.4**	**-1.0**
ASAR	**Alice Springs**	**67.86**	**260**	P	**P**	**19 02 02.6**	**-1.8**
	comp=Z,5.3nm,0.8s,baz=140,slow=6.4,SNR=55						
ASAR	comp=Z,750nm,21.9s,baz=161,slow=32			LR	LR	19 26 34.7	
ASAR	**Alice Springs**	**67.86**	**260**	P	**P**	**19 02 02.0**	**-2.4**
H01W1	**Cape Leeuwin H**	**68.84**	**238**	T	T	20 17 44.2	
	baz=144,slow=76,SNR=482						
H01W2	**Cape Leeuwin H**	**68.85**	**238**	T	T	20 17 44.0	
	baz=144,slow=76,SNR=454						
H01W3	**Cape Leeuwin H**	**68.86**	**238**	T	T	20 17 46.0	
	baz=144,slow=76,SNR=458						
NWAO	**Narrogin (SRO)**	**68.99**	**242**	LR	LR	19 25 15.2	
	comp=Z,1μm,19.5s,baz=132,slow=30						
WR0	**Warramunga Arr**	**70.51**	**263**	P	**P**	**19 02 19.8**	**-1.0**
WR0	comp=Z,16nm,1.2s			IAmb	IAmb	19 02 34.5	
WB2	**Warramunga Arr**	**70.63**	**263**	P	**P**	**19 02 18.8**	**-2.8**
WB2	comp=Z,14nm,1.1s			IAmb	IAmb	19 02 34.5	
WRA	**Warramunga Arr**	**70.64**	**263**	P	**P**	**19 02 20.4**	**-1.2**
	comp=Z,4.7nm,0.8s,baz=146,slow=5.6,SNR=26						
WRA	comp=Z,1μm,20.4s,baz=105,slow=33			LR	LR	19 29 14.2	
WRA	**Warramunga Arr**	**70.64**	**263**	P	**P**	**19 02 20.6**	**-1.0**
WB0	**Warramunga Arr**	**70.75**	**263**	P	**P**	**19 02 20.8**	**-1.4**
WB0	comp=Z,13nm,1.1s			IAmb	IAmb	19 02 39.1	
SIV	**San Ignacio**	**71.26**	**91**	LR	LR	19 30 32.8	
	comp=Z,671nm,18.8s,baz=210,slow=33						
OTAV	**Otavalo**	**75.57**	**66**	P	**P**	**19 02 49.1**	**-2.2**
SAML	**Samuel**	**75.90**	**85**	P	**P**	**19 02 49.4**	**-3.3**
PSA00	**Pilbara Seismi**	**77.02**	**251**	P	**P**	**19 02 58.4**	**-0.5**
KNRA	**Kununurra**	**77.15**	**261**	P	**P**	**19 03 01.3**	**+1.6**
KNRA	comp=Z,33nm,1.4s			IAmb	IAmb	19 03 18.1	
MTN	**Manton Dam**	**78.19**	**265**	P	**P**	**19 03 03.7**	**-1.9**
ORTG	**Ortega, Santa**	**81.05**	**55**	P	**P**	**19 03 21.4**	**+0.4**
LPIG	**La Paz**	**84.78**	**28**	LR	LR	19 33 59.7	
	comp=Z,1μm,21.3s,baz=264,slow=30						
KAPI	**Kappang**	**90.87**	**260**	IAMs_20	IAMs_20	19 41 24.3	
	comp=Z,1μm,20.0s						
TXAR	**Lajitas Array**	**91.56**	**32**	P	P	19 04 17.4	+4.8
	comp=Z,0.1nm,0.4s,baz=214,slow=6.1,SNR=1.6						
BOSA	**Boshof**	**93.98**	**168**	LR	LR	19 41 08.1	
	comp=Z,1μm,21.9s,baz=178,slow=32						
HKT	**Hockley**	**94.60**	**38**	IAMs_20	IAMs_20	19 40 14.0	
	comp=Z,1μm,18.0s						
NVAR	**Mina Array Bea**	**96.93**	**18**	LR	LR	19 38 48.8	
	comp=Z,665nm,20.4s,baz=194,slow=29						
YBH	**Yreka Blue Hor**	**99.51**	**14**	LR	LR	19 39 06.7	
	comp=Z,934nm,21.9s,baz=180,slow=29						
H10S3	**ASCENSION HYDR**	**101.04**	**126**	T	T	20 58 34.3	
	baz=207,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**101.04**	**126**	T	T	20 58 35.7	
	baz=13,slow=74,SNR=7.5						
H10N3	**ASCENSION HYDR**	**102.09**	**125**	T	T	20 59 55.9	
	baz=206,slow=75,SNR=36						
H10N1	**ASCENSION HYDR**	**102.10**	**125**	T	T	20 59 57.8	
	baz=206,slow=75,SNR=56						
H10N2	**ASCENSION HYDR**	**102.11**	**125**	T	T	20 59 57.5	
	baz=206,slow=75,SNR=38						
ADK	**Adak**	**112.37**	**337**	IAMs_20	IAMs_20	19 45 24.8	
	comp=Z,772nm,22.0s						
KDAK	**Kodiak Island**	**114.76**	**353**	IAMs_20	IAMs_20	19 48 36.7	
	comp=Z,1μm,19.0s						
HOM	**Homer**	**116.57**	**354**	IAMs_20	IAMs_20	19 47 14.5	
	comp=Z,1μm,22.0s						
H62A	**Milan**	**116.75**	**49**	IAMs_20	IAMs_20	19 43 45.1	
	comp=Z,1μm,19.0s						
WVL	**Waterville**	**117.36**	**50**	IAMs_20	IAMs_20	19 48 55.3	
	comp=Z,1μm,18.0s						
BMRM	**Bremner River**	**117.61**	**358**	IAMs_20	IAMs_20	19 54 00.0	
	comp=Z,632nm,18.0s						
FIS	**Fire Island**	**117.98**	**355**	IAMs_20	IAMs_20	19 46 56.7	
	comp=Z,1μm,18.0s						
GLB	**Gilahina Butte**	**118.07**	**358**	IAMs_20	IAMs_20	19 47 53.2	
	comp=Z,606nm,20.0s						
EMMW	**East Machias**	**118.41**	**51**	IAMs_20	IAMs_20	19 50 50.9	
	comp=Z,862nm,18.0s						
F63A	**Nahmakanta, Br**	**118.52**	**49**	IAMs_20	IAMs_20	19 45 28.8	
	comp=Z,1μm,18.0s						
G65A	**Princeton**	**118.76**	**51**	IAMs_20	IAMs_20	19 50 18.2	
	comp=Z,1μm,18.0s						
F64A	**Sherman**	**118.96**	**50**	IAMs_20	IAMs_20	19 45 28.5	
	comp=Z,1μm,18.0s						
PETK	**Petropavlovsk-**	**120.58**	**322**	PKP	**PKiKP**	**19 09 58.0**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=100,slow=1.6,SNR=2.7						
PETK	**Petropavlovsk-**	**120.58**	**322**		**PKiKP**	**19 09 58.0**	**+1.3**
KIBK	**Kibwezi**	**120.90**	**179**	IAMs_20	IAMs_20	19 54 42.5	
	comp=Z,1μm,22.0s						
ILAR	**Eielson Array**	**121.48**	**357**	PKP	**PKiKP**	**19 10 00.5**	**+2.4**
	comp=Z,1.9nm,1.0s,baz=217,slow=1.4,SNR=9.5						
ILAR	**Eielson Array**	**121.48**	**357**		**PKiKP**	**19 10 00.5**	**+2.4**
CMAR	**Chiang Mai Arr**	**121.59**	**255**	PKP	**PKiKP**	**19 09 59.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=219,slow=2.3,SNR=3.2						
IMAR	**Indian Mountai**	**122.99**	**354**		**PKiKP**	**19 10 02.3**	**+1.3**
LODK	**Lodwar**	**126.55**	**175**	IAMs_20	IAMs_20	20 00 43.7	
	comp=Z,772nm,21.0s						
KLR	**Kul'dur**	**127.92**	**304**	PKP	**PKiKP**	**19 10 14.1**	**+2.7**
	comp=Z,1.1nm,0.9s,baz=32,slow=7.7,SNR=4.1						
KLR	**Kul'dur**	**127.92**	**304**		**PKiKP**	**19 10 14.1**	**+2.7**
MA2	**Magadan**	**128.07**	**323**	IAMs_20	IAMs_20	19 55 36.4	
	comp=Z,651nm,19.0s						
A21K	**Barrow**	**128.45**	**354**	IAMs_20	IAMs_20	19 56 03.7	
	comp=Z,998nm,21.0s						
ATD	**Arta Tunnel**	**134.59**	**185**	IAMs_20	IAMs_20	20 00 55.9	
	comp=Z,771nm,19.0s						
SONM	**Songino Array**	**139.47**	**287**	PKP	**PKPdf**	**19 10 32.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=145,slow=3.5,SNR=2.1						
COI	**Coimbra**	**145.27**	**98**	IAMs_20	IAMs_20	20 15 17.3	
	comp=Z,599nm,19.0s						
MTE	**Manteigas**	**145.88**	**99**	IAMs_20	IAMs_20	20 27 15.3	
	comp=Z,629nm,19.0s						
PAB	**San Pablo**	**146.99**	**103**	IAMs_20	IAMs_20	20 11 08.6	
	comp=Z,902nm,19.0s						
WMQ	**Urumqi**	**147.03**	**268**	*e*PKPbc	**PKPdf**	**19 10 46.8**	**+0.8**
ESDC	**Sonseca Array**	**147.29**	**103**	PKPbc	**PKPab**	**19 10 50.0**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=197,slow=2.5,SNR=7.3						
ESDC	**Sonseca Array**	**147.29**	**103**		**PKPdf**	**19 10 47.1**	**+0.6**
CART	**Cartagena**	**147.30**	**109**	IAMs_20	IAMs_20	20 21 15.7	
	comp=Z,720nm,18.0s						
TARG	**Taragay, Kyrgy**	**150.97**	**255**		**PKPdf**	**19 10 55.3**	**+2.4**
MK31	**Makanchi Array**	**151.87**	**268**		**PKPbc**	**19 10 58.0**	**-2.0**
MKAR	**Makanchi Array**	**151.87**	**268**	PKPbc	**PKPbc**	**19 10 58.9**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=104,slow=2.5,SNR=17						
MAKZ	**Makanchi**	**152.05**	**267**		**PKPbc**	**19 10 58.6**	**-1.8**
GAR	**Garm**	**152.76**	**242**		**PKPdf**	**19 10 54.1**	**-1.2**
BTK	**Batken**	**153.33**	**244**		**PKPdf**	**19 10 56.8**	**+0.8**
VSL	**Villasalto**	**153.96**	**119**	IAMs_20	IAMs_20	20 22 42.5	
	comp=Z,607nm,20.0s						
ZAA0	**Zalesovo Array**	**154.22**	**283**	PKPdf	**PKPdf**	**19 10 53.7**	**-3.0**
ZAA0					**PKPab**	**19 11 16.3**	**-2.6**
ZALV	**Zalesovo Beam**	**154.22**	**283**	PKPbc	**PKiKP**	**19 11 08.0**	**+3.1**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=2.4						
ZALV				PKPab	**PKPab**	**19 11 17.3**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=123,slow=3.3,SNR=9.5						
ZALV	**Zalesovo Beam**	**154.22**	**283**		**PKiKP**	**19 11 07.1**	**+2.2**
SSB	**Saint Sauveur**	**155.70**	**104**	IAMs_20	IAMs_20	20 07 04.0	
	comp=Z,597nm,20.0s						
IDI	**Anoyia**	**156.32**	**150**	IAMs_20	IAMs_20	20 29 03.9	
	comp=Z,431nm,19.0s						
BNI	**Bardonecchia**	**156.67**	**107**	IAMs_20	IAMs_20	20 26 54.8	
	comp=Z,806nm,20.0s						
TIP	**Timpagrande**	**157.00**	**131**	IAMs_20	IAMs_20	20 12 38.6	
	comp=Z,863nm,22.0s						
KARP	**Karpathos**	**157.15**	**154**	IAMs_20	IAMs_20	20 19 41.6	
	comp=Z,975nm,22.0s						
SANT	**Santorini**	**157.50**	**150**	IAMs_20	IAMs_20	20 22 05.0	
	comp=Z,403nm,20.0s						
SENIN	**Lac Senin/Sane**	**157.87**	**105**	IAMs_20	IAMs_20	20 18 20.4	
	comp=Z,730nm,18.0s						
VLC	**Villacollemand**	**157.96**	**113**	IAMs_20	IAMs_20	20 15 44.8	
	comp=Z,604nm,19.0s						
AQU	**L'Aquila**	**158.09**	**121**	IAMs_20	IAMs_20	20 31 12.9	
	comp=Z,816nm,19.0s						
WLF	**Walferdange**	**159.22**	**96**	IAMs_20	IAMs_20	20 20 06.5	
	comp=Z,617nm,20.0s						
BFO	**Black Forest**	**159.64**	**102**	IAMs_20	IAMs_20	20 26 00.4	
	comp=Z,571nm,18.0s						
BRVK	**Borovoye**	**161.74**	**271**		**PKPab**	**19 11 50.9**	**-0.6**

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*SKHL **30** 18:59:54.8±0.3, 47.°80N×155.°60E, h40km±5km, mb4.2/5*
*IDC **30** 18:59:54.6±6.3, 48.°25N×154.°75E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.4/45, mbtmp3.7/5, ML2.4/1, MS4.7/1, Ms1 4.7/1, ms1mx3.0/63, Error ellipse: s-maj=144.8km s-min=28.1km az=131.0*

ISC 30 18:59:55.0±2.4, 47.°8N±0.°2×155.°6E±0.°3, h35km, n14, σ1°00/15, mb3.9/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.93**	**7**	*eP*	**Pn**	**19 00 39.0**	**0.0**
SKR	50nm,0.7s			AMB	AMB	19 00 43.5	
SKR				*eS*	**Sn**	**19 01 12.2**	**-0.8**
SKR	80nm,0.2s			A	A	19 01 14.7	
SKR	50nm,0.2s			A	A	19 01 14.7	
PAU	**Pauzhetka**	**3.78**	**12**	*eP*	**Pn**	**19 00 51.6**	**+0.9**
PAU	10.0nm,0.2s			AMB	AMB	19 00 52.0	
PAU				*eS*	**Sn**	**19 01 34.4**	**+0.5**
PAU	90nm,0.3s			A	A	19 01 35.2	
PAU	60nm,0.3s			A	A	19 01 35.2	
PETK	**Petropavlovsk-**	**5.51**	**13**	Pn	**Pn**	**19 01 15.2**	**+0.7**
	0.6nm,0.3s,baz=179,slow=12,SNR=30						
PETK	baz=246,slow=12,SNR=1.0			Sn	**Sn**	**19 02 16.2**	**-0.3**
PET	**Petropavlovsk**	**5.61**	**19**	*eP*	**Pn**	**19 01 16.1**	**+0.3**
PET	10.0nm,0.3s			AMB	AMB	19 01 16.3	
PET				*eS*	**Sn**	**19 02 17.3**	**-1.6**
PET	20nm,0.3s			A	A	19 02 19.2	
PET	30nm,0.3s			A	A	19 02 19.2	
KUR	**Kuril'sk**	**5.91**	**247**	*i* P	**Pn**	**19 01 21.5**	**+1.6**
KUR	10.0nm,0.6s			AMB	AMB	19 01 32.0	
KUR				*eS*	**Sn**	**19 02 26.2**	**-0.1**
KUR	30nm,0.2s			A	A	19 02 27

baz=271
TWC Suao 0.83 322 P Pn 19 17 50.6 -0.7
baz=320
TWC eS Sb 19 18 00.9 -0.9
baz=320
TEGC Jichi Village 0.83 253 eP Pn 19 17 51.2 -0.1
baz=250
TEGC eS Sn 19 18 02.8 +0.1
baz=250
ETM Tongmen 0.83 271 P Pn 19 17 50.8 -0.7
baz=259
ETM eS Sb 19 18 02.0 0.0
baz=259
ETLH Xiulin Townshi 0.88 287 P Pn 19 17 51.7 -0.5
baz=272
ETLH eS Sn 19 18 04.2 0.0
baz=272
ESL Shilin 0.90 261 P Pn 19 17 51.4 -0.9
baz=250
ESL eS Sb 19 18 03.8 -0.2
baz=250
NDS Dongshan 0.92 317 eP Pn 19 17 52.5 -0.2
baz=315
NDS eS Sn 19 18 04.7 -0.4
baz=315
EGFH Guangfu 0.94 253 eP Pn 19 17 52.5 -0.4
baz=249
EGFH eS Sn 19 18 04.7 -0.8
baz=249
HGSD Ruisui 1.01 243 P Pn 19 17 53.5 -0.3
baz=240
HGSD eS Sn 19 18 06.8 -0.4
baz=240
TWE Neicheng 1.02 319 P Pb 19 17 54.2 -0.1
baz=317
TWE eS Sb 19 18 07.4 +0.1
baz=317
ENTT Nioudou 1.03 312 P Pb 19 17 54.4 -0.1
baz=297
ENTT eS Sb 19 18 07.7 +0.2
baz=297
NTC Toucheng 1.04 330 eP Pb 19 17 54.4 -0.3
baz=328
NTC eS Sb 19 18 08.3 +0.4
baz=328
NDT Datong Townshi 1.04 309 eP Pb 19 17 55.1 +0.4
baz=306
NDT eS Sb 19 18 08.2 +0.3
baz=306
NNSH Datong 1.05 297 eP Pn 19 17 54.3 -0.2
baz=284
NNSH eS Sn 19 18 08.0 -0.3
baz=284
NNSB Datong 1.05 297 P Pn 19 17 54.5 0.0
baz=284
NNSB eS Sn 19 18 08.1 -0.3
baz=284
NNS Nan Shan 1.06 297 P Pn 19 17 54.6 0.0
baz=285
NNS S Sn 19 18 08.1 -0.5
baz=285
WHF Hehuan Shan 1.06 281 P Pn 19 17 54.6 -0.3
baz=267
WHF eS Sn 19 18 08.7 -0.4
baz=267
ECBN Changbin 1.08 234 eP Pn 19 17 54.8 0.0
baz=232
ECBN eS Sn 19 18 08.4 -0.5
baz=232
EHY Hungye 1.09 246 eP Pn 19 17 54.9 0.0
baz=257
EHY eS Sn 19 18 08.8 -0.3
baz=257
FUSS Fushou 1.10 286 eP Pn 19 17 55.5 +0.2
baz=283
FUSS eS Sb 19 18 10.0 +0.1
baz=283
TWB1 Santiao Chiao 1.12 340 eP Pn 19 17 55.2 -0.1
baz=354
TWB1 eS Sb 19 18 10.1 0.0
baz=354
CHGB Renai 1.13 276 P Pn 19 17 55.7 0.0
baz=262
CHGB eS Sn 19 18 09.8 -0.7
baz=262
TIPB Shuangxi 1.14 333 eP Pb 19 17 56.5 0.0
baz=331
TIPB eS Sn 19 18 09.9 -0.6
baz=331
YULB Yu-li 1.16 241 P Pn 19 17 56.0 +0.1
baz=254
YULB S Sn 19 18 10.6 -0.4
baz=254
NWLT Wulai 1.16 315 P Pn 19 17 56.3 +0.3
baz=312
NWLT eS Sb 19 18 11.6 +0.2
baz=312
TWT Tachien 1.16 285 P Pb 19 17 56.8 0.0
baz=272
TWT eS Sb 19 18 11.8 +0.2
baz=272
EYUL Yuli 1.16 239 eP Pn 19 17 56.0 0.0
baz=236
EYUL eS Sn 19 18 11.1 0.0
baz=236
TDCB Techi 1.18 285 eP Pn 19 17 56.2 -0.1
baz=272
TDCB eS Sn 19 18 11.3 -0.3
baz=272
TWF1 Yuli 1.18 240 eP Pn 19 17 56.4 +0.2
baz=227
TWF1 eS Sn 19 18 11.4 0.0
baz=227
YHNB Yeheng 1.18 307 P Pb 19 17 56.8 -0.3
baz=305
YHNB eS Sn 19 18 11.4 -0.2
baz=305
NSK Sanguang 1.20 307 P Pn 19 17 56.9 +0.4
baz=305
NSK eS Sb 19 18 12.1 -0.4
baz=305
NWF Wu-fen Shan 1.25 333 eP Pn 19 17 57.1 -0.1
baz=332
NWF eS Sb 19 18 13.6 -0.4
baz=332
WFSB Wu-fen Shan 1.25 333 eS Sb 19 18 13.5 -0.5
baz=331
FULB Fuli 1.27 234 eP Pn 19 17 57.3 -0.1
baz=221
FULB eS Sn 19 18 13.9 +0.3
baz=221
TWA Mucha 1.27 324 eP Pb 19 17 58.4 -0.1
baz=322
TWA eS Sb 19 18 14.6 +0.2
baz=322
IRIF Iriomote-Funau 1.27 72 P Pn 19 17 57.5 +0.1
IRIF eS Sb 19 18 14.7 +0.2
CHKT Chengkung 1.28 229 eP Pn 19 17 57.1 -0.5
baz=217
CHKT eS Sn 19 18 12.6 -1.3
baz=217
HATJ Hateruma jima 1.28 85 P Pn 19 17 58.0 +0.4
NHDH Xindian Distri 1.29 322 eP Pb 19 17 58.6 -0.3
baz=319
NHDH eS Sb 19 18 15.1 +0.1
baz=319
TNOU National Taiwa 1.32 334 eP Pb 19 17 58.8 -0.7
baz=333
TNOU eS Sb 19 18 15.7 -0.3
baz=333
WPL Puli Township 1.33 273 eP Pn 19 17 58.5 +0.3
baz=271
SSLB Suanglung 1.34 263 eP Pn 19 17 58.6 +0.2
baz=260
SSLB eS Sn 19 18 15.3 -0.1
baz=260
WCS Beigang Elemen 1.37 275 eP Pn 19 17 59.5 +0.7
baz=265
WCS eS Sn 19 18 16.1 0.0
baz=265
WHP Taichung City 1.37 284 eP Pb 19 17 60.0 -0.4
baz=271
WHP eS Sn 19 18 16.7 +0.4
baz=271
SMLT Sun Moon Lake 1.38 267 P Pn 19 17 59.7 +0.7
baz=264
SMLT eS Sn 19 18 16.7 +0.2
baz=264
ECS Chishang 1.38 232 eP Pn 19 17 59.7 +0.7
baz=220
ECS eS Sn 19 18 17.1 +0.6
baz=220
EDH Donghe 1.41 226 eP Pn 19 17 58.9 -0.4
baz=217
EDH S Sn 19 18 15.5 -1.5
baz=217
YM01 YM01 1.41 328 eP Pn 19 17 60.0 +0.6
baz=341
YM01 eS Sb 19 18 17.8 -0.8
baz=341
TYC Yuchr 1.42 268 P Pn 19 18 00.2 +0.8
baz=265
TYC eS Sn 19 18 17.6 +0.3
baz=265
NJD Zhudong 1.43 303 eS Sb 19 18 19.0 -0.1
baz=300
YM08 YM08 1.44 329 eP Pn 19 18 00.2 +0.5
baz=327
YM08 eS Sb 19 18 18.4 -0.9
baz=327
LIOB Emei 1.44 299 eP Pb 19 18 01.1 -0.5
baz=296
LIOB eS Sb 19 18 19.5 0.0
baz=296
WHYT Xinyi Township 1.44 260 eP Pn 19 18 00.6 +0.8
baz=247
WHYT eS Sb 19 18 19.3 -0.3
baz=247
NSTT Nanjuang 1.45 298 eP Pb 19 18 01.1 -0.5
baz=295
NSTT eS Sb 19 18 19.2 -0.4
baz=295
TWS1 Kuangyinshan 1.45 322 eP Pb 19 18 01.0 -0.7
baz=336
TWS1 eS Sb 19 18 19.6 -0.2
baz=336
ANP Anpu 1.47 327 eP Pn 19 18 00.5 +0.3
baz=340
ANP eS Sn 19 18 18.8 +0.1
baz=340
ELDTW Lidau 1.48 239 eP Pn 19 18 00.4 0.0
baz=237
ELDTW eS Sn 19 18 17.2 -1.9
baz=237
JKRS Kuro-shima 1.49 79 P Pn 19 18 01.4 +0.9
JKRS S Sb 19 18 20.8 -0.1
ALS Alishan 1.53 254 eP Pb 19 18 02.5 -0.7
baz=251
ALS eS Sn 19 18 21.3 +0.7
baz=251
LDUT Ludao 1.54 214 eP Pn 19 18 00.7 -0.4
baz=212
LDUT eS Sn 19 18 19.2 -1.0
baz=212
WJS Zhushan 1.54 265 eS Sb 19 18 23.5 +1.2
baz=263
TWQ1 Liyutan 1.54 285 P Pb 19 18 02.8 -0.4
baz=282
TWQ1 eS Sb 19 18 22.0 -0.4
baz=282
WWF Wufeng 1.56 274 eP Pb 19 18 03.8 +0.2
baz=271
WWF eS Sb 19 18 24.4 +1.5
baz=271
LONT Longtian 1.57 229 eP Pn 19 18 01.6 +0.1
baz=239
LONT eS Sn 19 18 20.9 -0.1
baz=239
NSY Sanyi 1.57 287 eP Pb 19 18 02.9 -0.8
baz=287
WNT Mingjian 1.58 268 eP Pb 19 18 03.7 -0.1
baz=265
WNT eS Sb 19 18 23.9 +0.5
baz=265
WNT1 Nantou City 1.58 269 eP Pb 19 18 04.2 +0.3
baz=266
WNT1 eS Sb 19 18 24.2 +0.8
baz=266
TCU Taichung 1.59 277 eS Sb 19 18 24.4 +0.6
baz=274
CHN5 Tsauling 1.62 258 eP Pb 19 18 04.2 -0.4
baz=246
CHN5 eS Sb 19 18 23.9 -0.8
baz=246
JIJ Ishigaki jima 1.64 75 P Pn 19 18 03.1 +0.6
JIJ S Sb 19 18 24.0 -1.1
TWGBT Beinan 1.66 227 eP Pn 19 18 02.6 -0.2
baz=237
TWGBT eS Sn 19 18 23.1 -0.3
baz=237
STYH Taoyuan 1.69 243 eP Pn 19 18 04.3 +1.2
baz=233
STYH eS Sn 19 18 24.6 +0.7
baz=233
PCYT Pengchaiyu 1.70 350 eP Pn 19 18 02.7 -0.6
baz=334
PCYT eS Sn 19 18 24.5 +0.3
baz=334
STYT Tauyuan 1.71 243 P Pn 19 18 04.5 +1.0
baz=233
STYT eS Sn 19 18 25.4 +0.9
baz=233
WGK Gukeng 1.71 261 eP Pb 19 18 05.3 -0.7
baz=259
WGK eS Sb 19 18 27.2 +0.1
baz=259
WDLH Douliu 1.73 262 eP Pb 19 18 05.6 -0.8
baz=259
WDLH eS Sb 19 18 27.8 0.0
baz=259
TPUB Ta-pu 1.75 249 eP Pb 19 18 05.9 -1.0
baz=246
TPUB eS Sb 19 18 27.4 -1.1
baz=246
WTP Ta-pu 1.79 247 P Pb 19 18 06.5 -0.9
baz=244
WTP eS Sb 19 18 28.8 -0.7
baz=244
JISG Ishigakijimahi 1.85 70 P Pn 19 18 05.4 0.0
JISG eS Sn 19 18 27.6 -0.4
WRL Guolierlin Hig 1.86 269 eP Pb 19 18 07.7 -0.9
baz=279
WRL eS Sb 19 18 31.2 -0.2
baz=279
WTK Tuku 1.87 262 eP Pb 19 18 07.8 -1.0
baz=260
WTK eS Sb 19 18 31.4 -0.3
baz=260
SLGT Liugui 1.88 240 eP Pb 19 18 07.6 +1.8
baz=230
SLGT eS Sn 19 18 30.5 +1.8
baz=230
SGST Jiashian 1.88 243 eP Pb 19 18 07.8 -1.2
baz=232
SGST eS Sb 19 18 31.4 -0.8
baz=232
CHN1 Nanshi 1.89 246 eP Pb 19 18 08.3 -0.8
baz=244
CHN1 eS Sb 19 18 31.6 -0.6
baz=244
TWK Hsinying 1.89 249 eP Pb 19 18 08.3 -0.9
baz=247
TWK eS Sb 19 18 31.5 -0.8
baz=247
ECL Taimali 1.90 225 eP Pn 19 18 06.5 +0.5
baz=222
ECL eS Sn 19 18 28.5 -0.7
baz=222
WSF Szhu 2.02 262 eP Pn 19 18 09.4 +1.6
baz=259
WSF eS Sb 19 18 34.9 -1.3
baz=259
SSD Sandimen 2.02 234 eP Pn 19 18 09.2 +1.4
baz=227
SSD eS Sn 19 18 32.9 +0.6
baz=227
TSMG Majia 2.04 233 eP Pn 19 18 09.0 +1.0
baz=226
TSMG eS Sn 19 18 33.2 +0.5
baz=226
SCST Cishan 2.05 239 eP Pb 19 18 11.6 -0.3
baz=225
SCST eS Sb 19 18 37.5 +0.5
baz=225
LAY Lan-yu 2.06 203 eP Pn 19 18 09.9 +1.6
baz=201
LAY eS Sn 19 18 32.8 -0.4
baz=201
MASBT Mashibuluo 2.11 231 eP Pn 19 18 10.1 +1.1
baz=224
MASBT eS Sn 19 18 35.8 +1.5
baz=224
EAST Anshuo 2.12 223 eP Pn 19 18 09.5 +0.3
baz=220
EAST eS Sn 19 18 34.0 -0.7
baz=220
JTJ Tarama 2.21 71 P Pn 19 18 12.0 +1.7
WDGT Dungji 2.61 255 eP Pn 19 18 17.1 +1.3
baz=242
WDGT eS Sn 19 18 48.1 +1.3
baz=242
PHUB P'eng-hu 2.63 261 P Pn 19 18 17.4 +1.3
baz=273
PHUB eS Sn 19 18 48.5 +1.3
baz=273
PNG Penghu 2.64 262 eP Pn 19 18 17.3 +1.0
baz=260
PNG eS Sn 19 18 49.0 +1.5
baz=260
VCHM Qimei 2.83 255 eP Pn 19 18 20.0 +1.1
baz=256
VWUC VWUC 2.88 292 eP Pn 19 18 20.1 +0.4
baz=292

IDC 30 19:19:23.5±4.8, 65°.23S×179°.98E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/27, mbtmp3.7/4, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx3.4/13, Error ellipse: s-maj=155.7km s-min=28.1km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	13.52	197	Pn	Pn	19 22 35.2	-0.9
	0.2nm,0.3s,baz=41,slow=17,SNR=43						
QSPA	South Pole Qui	24.86	180	P	P	19 24 47.7	+0.3
	4.0nm,0.8s,baz=42,slow=5.9,SNR=20						
URZ	Urewera	27.06	355	LR	LR	19 33 50.8	
	comp=Z,219nm,21.4s,baz=98,slow=32						
ASAR	Alice Springs	50.95	302	P	P	19 28 26.6	+0.1
	0.2nm,0.7s,baz=152,slow=8.0,SNR=1.3						
WRA	Warramunga Arr	54.22	304	P	P	19 28 50.3	-0.4
	0.4nm,0.8s,baz=157,slow=6.4,SNR=1.6						
H03S2	Juan Fernandez	64.20	115	T	T	20 40 01.2	
	baz=206,slow=74,SNR=45						
H03S1	Juan Fernandez	64.21	115	T	T	20 39 58.9	
	baz=206,slow=74,SNR=39						
H03S3	Juan Fernandez	64.22	115	T	T	20 40 02.0	
	baz=206,slow=74,SNR=35						

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*IDC **30** 19:27:15.0±0.8, 55°.63S×28°.67W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/21, mbtmp4.2/6, Error ellipse: s-maj=35.9km s-min=19.9km az=57.0*
*NEIC **30** 19:27:23.2±1.4, 55°.8S±0°.2×28°.8W±0°.2, h58km±8km, mb4.5/16, Error ellipse: s-maj=24.8km s-min=14.7km az=212.0*
ISC 30 19:27:21.4±0.8, 55°.6S±0°.1×28°.7W±0°.1, h45km, n25, σ0°90/24, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.71	284		Pn	19 28 31.1	+1.4
VNA1	Neumayer--Stat	17.49	157	P	P	19 31 22.9	+0.6
VNA3	Neumayer Olymp	17.66	160	P	P	19 31 24.4	+0.2
VNA2	Neumayer--Watz	17.89	157	P	P	19 31 26.9	+0.3
	baz=315,slow=12						
SNAA	Sanae	19.46	156	P	P	19 31 44.3	+0.4
SNAA	Sanae	19.46	156	P	P	19 31 43.6	-0.3
MG02	Cerro Sombrero	23.65	260	P	P	19 32 26.5	-1.7
QSPA	South Pole Qui	34.61	180	P	P	19 34 06.4	+0.6
	0.7nm,0.4s,baz=168,slow=1.7,SNR=9.9						
CPUP	Villa Florida	35.92	313	P	P	19 34 15.7	-1.4
	2.7nm,0.7s,baz=152,slow=11,SNR=6.0						
CPUP	Villa Florida	35.92	313	IAmb	IAmb	19 34 17.1	
	comp=Z,13nm,1.5s						
MAW	Mawson	40.97	144	P	P	19 34 58.8	-0.3
	comp=Z,0.8nm,0.6s,baz=237,slow=8.4,SNR=6.1						
GO02	Mina Guanaco	42.56	299	P	P	19 35 13.4	+0.4
LVC	Limon Verde	44.37	301	P	P	19 35 28.2	+0.6
LVC				IAmb	IAmb	19 35 28.6	
	comp=Z,5.4nm,0.8s						
PB01	IPOC Station P	45.98	302	P	P	19 35 40.3	+0.2
PB08	IPOC Station P	46.60	303	P	P	19 35 46.0	+0.8
PB08				IAmb	IAmb	19 36 06.2	
	comp=Z,4.6nm,0.9s						
SIV	San Ignacio	46.69	315	P	P	19 35 45.4	-0.2
	comp=Z,1.0nm,0.6s,baz=180,slow=10,SNR=5.9						
PSGCX	Pisagua	47.52	302	P	P	19 35 52.7	+0.5
PSGCX				IAmb	IAmb	19 36 08.1	
	comp=Z,9.7nm,1.0s						
MNMC	Minye Minye	47.67	303	P	P	19 35 54.0	+0.4
MNMC				IAmb	IAmb	19 35 55.9	
	comp=Z,6.2nm,0.7s						
LPAZ	La Paz	49.46	307	P	P	19 36 08.6	+0.9
	comp=Z,5.3nm,0.4s,baz=103,slow=5.0,SNR=28						
LPAZ	La Paz	49.46	307	P	P	19 36 08.3	+0.6
SAML	Samuel	53.92	316	P	P	19 36 39.9	-0.3
SAML				IAmb	IAmb	19 36 40.9	
	comp=Z,7.5nm,1.2s						
TORD	Torodi Ar. Bea	73.12	31	P	P	19 38 48.0	+1.1
	comp=Z,1.7nm,0.4s,baz=202,slow=6.4,SNR=22						
TORD	Torodi Ar. Bea	73.12	31	P	P	19 38 48.0	+1.1
ILAR	Eielson Array	149.22	312	PKPbc	PKPbc	19 47 01.9	-1.4
	comp=Z,0.7nm,0.7s,baz=126,slow=1.8,SNR=6.8						
SONM	Songino Array	151.54	87	PKPbc	PKPbc	19 47 08.5	-1.1
	comp=Z,0.3nm,0.5s,baz=240,slow=3.4,SNR=3.2						

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*SJA **30** 19:43:07.5±0.6, 23°.79S×66°.73W, h218km±6km, ML4.0, MW3.8*
*NEIC **30** 19:43:08.5±1.2, 23°.79S±0°.05×66°.7W±0°.1, h195km±8km, mb4.0/4, Error ellipse: s-maj=14.7km s-min=6.2km az=76.0*
*IDC **30** 19:43:08.5±1.2, 23°.71S×66°.60W, h198km±13km, mb3.6/3, mb1 3.4/8, mb1mx3.2/38, mbtmp3.9/8, Error ellipse: s-maj=22.9km s-min=17.4km az=6.0*
*GUC **30** 19:43:10.2±0.5, 23°.67S×67°.10W, h247km±4km, ML4.2*
ISC 30 19:43:08.7±0.7, 23°.74S±0°.04×66°.78W±0°.04, h214km±7km, n67, σ1°49/95, mb3.9/3, 10C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.37	67	eP	Pn	19 43 42.7	-0.4
AF01	San Pedro de A	1.51	301	eP	Pn	19 43 46.3	+2.2
AF01				eS	S	19 44 13.1	+1.7
SLA	San Lorenzo	1.52	130	eP	Pn	19 43 43.4	-0.6
SLA				eS	S	19 44 11.2	-0.2
YJA	Yavi	1.95	37	eP	Pn	19 43 48.4	0.0
YJA				eS	S	19 44 17.1	-1.8
LVC	Limon Verde	2.26	300	P	Pn	19 43 52.2	+0.8
	19nm,0.3s,baz=142,slow=7.0,SNR=131						
LVC				S	S	19 44 24.6	+0.4
	6.9nm,0.3s,baz=83,slow=2.3,SNR=3.8						
LVC	Limon Verde	2.26	300		Pn	19 43 51.9	+0.5
FSA	Cafayete	2.47	163	eP	Pn	19 43 52.4	-1.0
FSA				eS	S	19 44 25.5	-2.5
PB15	IPOC Station P	2.53	282		Pn	19 43 54.6	+0.6
PB06	IPOC Station P	2.77	291	⇑iP	Pn	19 43 57.2	+0.5
PB06				i S	S	19 44 33.0	-0.8
PB06				IAML		19 44 35.0	
	comp=N,440nm,0.1s						
PB06	IPOC Station P	2.77	291		Pn	19 43 57.1	+0.5
PB06	IPOC Station P	2.77	291	eP	Pn	19 43 57.3	+0.5
PB06				eS	S	19 44 33.3	-0.5
PB06				IAML		19 44 36.3	
	comp=Z,322nm,0.2s						
GO02	Mina Guanaco	2.92	241	⇑iP	Pn	19 43 58.8	+0.3
GO02				i S	S	19 44 36.8	-0.4
GO02	Mina Guanaco	2.92	241		Pn	19 43 58.9	+0.3
PB09	IPOC Station P	2.98	310	⇑iP	Pn	19 44 00.1	+0.9
PB09				i S	S	19 44 37.7	-0.6
PB09	IPOC Station P	2.98	310		Pn	19 44 00.1	+0.9
PB09	IPOC Station P	2.98	310	eP	Pn	19 44 00.5	+1.3
PB09				eS	S	19 44 38.8	+0.5
PB05	IPOC Station P	3.27	285	⇑iP	Pn	19 44 02.4	0.0
PB05				i S	S	19 44 41.9	-2.1
PB05				IAML		19 44 44.2	
	comp=N,238nm,0.2s						
PB05	IPOC Station P	3.27	285	eP	Pn	19 44 02.6	+0.2

PB05				eS	S	19 44 43.1	-1.0
PB04	**IPOC Station P**	**3.40 294**	⇑	iP	Pn	19 44 04.1	+0.1
PB04				i S	S	19 44 45.0	-2.1
PB04	**IPOC Station P**	**3.40 294**			Pn	19 44 04.2	+0.1
PB04	**IPOC Station P**	**3.40 294**		eP	Pn	19 44 04.3	+0.3
PB04				eS	S	19 44 46.6	-0.4
PB04				IAML		19 44 50.9	
comp=Z,268nm,0.7s							
PB14	**IPOC Station P**	**3.42 254**	⇑	iP	Pn	19 44 04.3	-0.1
PB14				i S	S	19 44 45.7	-2.0
PB14	**IPOC Station P**	**3.42 254**			Pn	19 44 04.3	-0.1
PB14	**IPOC Station P**	**3.42 254**		eP	Pn	19 44 04.3	-0.1
PB14				eS	S	19 44 46.3	-1.4
PB14				IAML		19 44 51.8	
comp=Z,252nm,0.4s							
PB10	**IPOC Station P**	**3.47 273**	⇑	iP	Pn	19 44 04.9	+0.3
PB10				i S	S	19 44 46.1	-2.1
PB10	**IPOC Station P**	**3.47 273**			Pn	19 44 04.9	+0.3
PB10	**IPOC Station P**	**3.47 273**		eP	Pn	19 44 05.0	+0.3
PB10				eS	S	19 44 46.9	-1.2
PB10				IAML		19 44 52.0	
comp=Z,108nm,0.7s							
PB07	**IPOC Station P**	**3.50 304**	⇑	iP	Pn	19 44 05.3	+0.1
PB07				eS	S	19 44 47.0	-2.2
PB07	**IPOC Station P**	**3.50 304**			Pn	19 44 05.3	+0.1
PB07	**IPOC Station P**	**3.50 304**		eP	Pn	19 44 05.4	+0.2
PB07				eS	S	19 44 48.6	-0.5
PB07				IAML		19 44 52.1	
comp=Z,196nm,0.3s							
PB01	**IPOC Station P**	**3.67 316**		eP	Pn	19 44 07.2	0.0
PB01				i S	S	19 44 51.2	-1.6
PB01	**IPOC Station P**	**3.67 316**			Pn	19 44 07.2	0.0
PB01	**IPOC Station P**	**3.67 316**		eP	Pn	19 44 07.4	+0.2
PB01				eS	S	19 44 52.0	-0.8
PB01				IAML		19 44 54.2	
comp=Z,100nm,0.2s							
AC02	**Maricunga**	**3.74 214**	⇑	iP	Pn	19 44 08.6	+0.2
AC02				eS	S	19 44 56.7	+1.8
AC02	**Maricunga**	**3.74 214**			Pn	19 44 07.2	-1.2
PB02	**IPOC Station P**	**3.76 309**		eP	Pn	19 44 08.0	-0.3
PB02				i S	S	19 44 52.2	-2.4
PB02	**IPOC Station P**	**3.76 309**		eP	Pn	19 44 08.2	0.0
PB02				eS	S	19 44 53.5	-1.1
PB02				IAML		19 44 56.4	
comp=Z,281nm,0.2s							
PB08	**IPOC Station P**	**4.21 328**	⇑	iP	Pn	19 44 15.2	+1.1
PB08				i S	S	19 45 04.6	-0.5
PB08	**IPOC Station P**	**4.21 328**			Pn	19 44 14.6	+0.5
PB08	**IPOC Station P**	**4.21 328**		eP	Pn	19 44 15.1	+1.1
PB08				eS	S	19 45 05.2	+0.1
PB08				eS	S	19 45 05.4	+0.3
TA01	**Diego Aracena**	**4.46 314**		eP	Pn	19 44 16.8	0.0
TA01				eS	S	19 45 06.9	-3.3
TA01	**Diego Aracena**	**4.46 314**	Pn		Pn	19 44 16.1	-0.7
TA02	**Huaiquique**	**4.65 317**	Pn		Pn	19 44 19.2	0.0
PB11	**IPOC Station P**	**4.78 325**	Pn		Pn	19 44 20.3	-0.7
PB11					S	19 45 13.6	-4.0
PB11	**IPOC Station P**	**4.78 325**		eS	S	19 45 15.7	-2.0
PB11				IAML		19 45 17.9	
comp=Z,60nm,0.3s							
GO03	**Copiap**	**4.94 218**	Pn		Pn	19 44 21.1	-1.7
GO03					S	19 45 17.2	-3.9
PSGCX	**Pisagua**	**5.17 322**			Pn	19 44 24.2	-1.6
PSGCX			Sn		S	19 45 20.2	-6.2
MNMC	**Minye Minye**	**5.29 330**			Pn	19 44 26.7	-0.7
MNMCX	**Minye Minye**	**5.29 330**		eP	Pn	19 44 27.3	-0.1
MNMCX				eS	S	19 45 27.2	-2.2
MNMCX				IAML		19 45 28.5	
comp=Z,150nm,0.4s							
AC04	**Llanos de Chal**	**5.89 220**	Pn		Pn	19 44 33.5	-1.2
GO04	**Tololo Observa**	**7.34 208**	Pn		Pn	19 44 51.4	-2.3
LPAZ	**La Paz**	**7.52 350**	P		Pn	19 44 55.3	-1.2
comp=Z,0.4nm,0.3s,baz=191,slow=6.2,SNR=5.7							
CO03	**El Pedregal**	**7.88 205**	Pn		Pn	19 44 58.3	-2.1
ZON	**Zonda**	**7.95 192**			Pn	19 44 55.7	-5.7
CPUP	**Villa Florida**	**8.95 109**	P		Pn	19 45 12.4	-1.9
comp=Z,0.1nm,0.3s,baz=311,slow=11,SNR=5.7							
SIV	**San Ignacio**	**9.40 36**	P		Pn	19 45 17.7	-2.5
comp=Z,0.3nm,0.3s,baz=220,slow=13,SNR=7.6							
TRQA	**Tornquist**	**14.85 165**	P		Pn	19 46 28.6	+0.1
BDFB	**Brasilia**	**19.41 69**	P		P	19 47 19.4	+0.3
comp=Z,0.5nm,0.3s,baz=194,slow=8.3,SNR=3.1							
BDFB	**Brasilia**	**19.41 69**	IAmb		IAmb	19 47 21.5	
comp=Z,3.3nm,0.8s							
SNAA	**Sanae**	**59.53 161**	P		P	19 52 50.5	+1.3
comp=Z,1.2nm,0.7s,baz=284,slow=5.6,SNR=4.0							
SNAA	**Sanae**	**59.53 161**	IAmb		IAmb	19 52 51.7	
comp=Z,6.6nm,1.5s							
TORD	**Torodi Ar. Bea**	**76.29 69**	P		P	19 54 34.4	0.0
comp=Z,0.3nm,0.4s,baz=258,slow=4.6,SNR=8.6							
TORD	**Torodi Ar. Bea**	**76.29 69**	IAmb		IAmb	19 54 37.0	
comp=Z,1.6nm,1.2s							
ULM	**Lac du Bonnet**	**78.05 341**	P		P	19 54 46.5	+3.1
comp=Z,5.4nm,0.8s,baz=104,slow=9.9,SNR=2.9							
ASAR	**Alice Springs**	**128.77 205**	PKP		**PKiKP**	20 01 52.3	+0.3
comp=Z,0.2nm,0.4s,baz=126,slow=2.4,SNR=2.2							
WRA	**Warramunga Arr**	**131.94 207**	PKP		**PKiKP**	20 01 58.4	0.0
comp=Z,0.7nm,1.0s,baz=158,slow=1.9,SNR=4.8							
MKAR	**Makanchi Array**	**146.20 39**	PKPbc		**PKPbc**	20 02 24.1	+0.3
comp=Z,0.6nm,0.5s,baz=341,slow=3.1,SNR=9.2							

*NEIC **30** 20:06:12.1±1.8, 27°.24S±0°.09×175°.8W±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=26.5km s-min=7.6km az=121.0*
*IDC **30** 20:06:12.5±1.0, 27°.07S×176°.21W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/21, mbtmp4.0/9, ML4.3/2, MS3.6/4, Ms1 3.7/4, ms1mx3.2/27, Error ellipse: s-maj=31.3km s-min=20.7km az=101.0*

ISC 30 20:06:17.3±0.7, 27°.27S±0°.09×176°.1W±0°.1, h35km, n43, σ2§31/36, mb4.1/13, MS3.5/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.53 218**			**Pn**	**Pn**	**20 06 55.7**	**-0.2**
104nm,0.3s,baz=126,slow=19,SNR=3.2								
RAO					Sn	**Sn**	**20 07 31.0**	**+5.5**
257nm,0.3s,baz=87,slow=21,SNR=14								
RAO	**Raoul Island**	**2.53 218**			**Pn**	**Pn**	**20 06 55.4**	**-0.5**
NIUE	**Niue**	**9.95 36**		Pn	Pn	Pn	20 08 28.5	-9.4
URZ	**Urewera**	**12.34 206**		Pn	**Pn**	**Pn**	**20 09 09.9**	**-0.6**
0.8nm,0.3s,baz=294,slow=18,SNR=1.1								
URZ					Sn	**Sn**	**20 11 21.0**	**-5.8**
0.9nm,0.3s,baz=194,slow=18,SNR=2.7								
URZ					LR	LR	20 13 20.0	
comp=Z,195nm,19.4s,baz=352,slow=34								
BKZ	**Black Stump Fm**	**13.37 206**		Pn	**Pn**	**Pn**	**20 09 22.3**	**-2.3**
RAR	**Rarotonga**	**16.08 71**		LR	LR	LR	20 14 03.8	
comp=Z,112nm,19.9s,baz=276,slow=29								
DZM	**Mont Dzumac**	**16.67 284**		eLR	LR	LR	20 13 31.2	
comp=Z,324nm,23.4s								
DZM	**Mont Dzumac**	**16.67 284**		LR	LR	LR	20 14 49.4	
comp=Z,247nm,20.5s,baz=132,slow=31								
THZ	**Tophouse**	**17.03 209**		Pn	**Pn**	**Pn**	**20 10 08.5**	**-4.2**
THZ					IAmb	IAmb	20 10 18.7	
comp=Z,10nm,1.0s								
KHZ	**Kahutara**	**17.30 207**		Pn	**Pn**	**Pn**	**20 10 11.1**	**-5.0**
KHZ					IAmb	IAmb	20 10 21.8	
comp=Z,21nm,0.9s								
TBI	**Tubuai**	**24.40 87**		eLR	LR	LR	20 17 26.4	
comp=Z,123nm,28.8s								
PPT2	**Papeete2**	**26.31 74**		eLR	LR	LR	20 17 53.8	
comp=Z,160nm,31.8s								
CTAO	**Charters Tower**	**35.09 274**		P	**P**	**P**	**20 13 08.8**	**+1.3**
CTAO					IAmb	IAmb	20 13 16.1	
comp=Z,26nm,1.4s								
STKA	**Stephens Creek**	**36.89 252**		P	**P**	**P**	**20 13 24.4**	**+1.7**
comp=Z,1.5nm,0.6s,baz=110,slow=14,SNR=5.3								
TAOE	**Nuku Hiva Isla**	**38.59 69**		eLR	LR	LR	20 24 18.0	
comp=Z,136nm,25.9s								
AS31	**Alice Springs**	**45.02 263**		P	**P**	**P**	**20 14 28.8**	**-1.1**
ASAR	**Alice Springs**	**45.03 263**		P	**P**	**P**	**20 14 28.9**	**-1.0**
comp=Z,0.6nm,0.5s,baz=90,slow=6.8,SNR=24								
WR0	**Warramunga Arr**	**45.55 268**		P	**P**	**P**	**20 14 33.2**	**-0.9**
WR0					IAmb	IAmb	20 14 53.2	
comp=Z,6.3nm,1.1s								
WB2	**Warramunga Arr**	**45.73 268**		P	**P**	**P**	**20 14 34.4**	**-1.0**
WB2					IAmb	IAmb	20 14 39.8	
comp=Z,8.4nm,1.4s								
WRA	**Warramunga Arr**	**45.74 268**		P	**P**	**P**	**20 14 34.4**	**-1.2**
comp=Z,1.8nm,0.8s,baz=105,slow=8.2,SNR=29								
WRA	**Warramunga Arr**	**45.74 268**		P	**P**	**P**	**20 14 34.5**	**-1.1**
WB0	**Warramunga Arr**	**45.75 268**		P	**P**	**P**	**20 14 34.9**	**-0.7**
WB0					IAmb	IAmb	20 14 43.5	
comp=Z,17nm,1.5s								
FORT	**Forrest**	**48.51 252**		P	**P**	**P**	**20 14 57.0**	**0.0**
VNDA	**Vanda**	**51.36 186**		P	**P**	**P**	**20 15 20.6**	**+2.7**
comp=Z,0.5nm,0.8s,baz=23,slow=9.2,SNR=2.4								
KNRA	**Kununurra**	**52.21 271**		P	**P**	**P**	**20 15 23.3**	**-1.8**
CASY	**Casey**	**58.66 207**		P	**P**	**P**	**20 16 11.0**	**+0.2**
QSPA	**South Pole Qui**	**62.83 180**		P	**P**	**P**	**20 16 42.6**	**+3.2**
QSPA					IAmb	IAmb	20 17 08.4	
comp=Z,5.2nm,0.9s								
PMSA	**Palmer Station**	**74.42 156**		P	**P**	**P**	**20 17 49.2**	**-2.3**
PMSA					IAmb	IAmb	20 18 11.5	
comp=Z,13nm,1.2s								
MAW	**Mawson**	**75.80 200**		P	**P**	**P**	**20 18 00.6**	**+1.3**
comp=Z,1.4nm,0.6s,baz=162,slow=2.2,SNR=3.5								
MAW	**Mawson**	**75.80 200**		P	**P**	**P**	**20 17 58.9**	**-0.4**
MJAR	**Matsushiro Arr**	**76.66 324**		P	**P**	**P**	**20 18 03.8**	**-0.8**
comp=Z,2.2nm,1.1s,baz=151,slow=6.7,SNR=5.6								
MJAR	**Matsushiro Arr**	**76.66 324**		IAmb	IAmb	IAmb	20 18 05.9	
comp=Z,1.5nm,0.9s								
SNAA	**Sanae**	**81.22 178**		P	**P**	**P**	**20 18 30.6**	**+1.4**
VNA3	**Neumayer Olymp**	**81.29 176**		P	**P**	**P**	**20 18 29.8**	**+0.1**
VNA2	**Neumayer--Watz**	**81.75 176**		P	**P**	**P**	**20 18 34.6**	**+2.6**
baz=179,slow=3.9								
KSRS	**Korea Array**	**83.08 318**		P	**P**	**P**	**20 18 40.8**	**+1.5**
comp=Z,0.7nm,0.6s,baz=134,slow=5.9,SNR=3.9								
CMAR	**Chiang Mai Arr**	**93.95 289**		LR	LR	LR	21 03 05.1	
comp=Z,54nm,18.6s,baz=285,slow=36								
MKAR	**Makanchi Array**	**117.00 311**		PKP	**PKPdf**	**PKPdf**	**20 24 57.2**	**-1.1**
comp=Z,0.2nm,0.5s,baz=63,slow=1.4,SNR=4.4								
FINES	**FINESS Array B**	**142.72 343**		PKP	**PKPdf**	**PKPdf**	**20 25 44.3**	**-1.9**
comp=Z,2.0nm,1.0s,baz=2.9,slow=5.6,SNR=1.3								
NOA	**NORSAR Array B**	**145.88 354**		PKPbc	**PKPdf**	**PKPdf**	**20 25 50.7**	**-1.1**
comp=Z,0.7nm,0.7s,baz=0.2,slow=4.0,SNR=3.1								
AKASG	**Malin Array Be**	**149.69 327**		PKPbc	**PKiKP**	**PKiKP**	**20 26 03.5**	**-0.5**
comp=Z,0.8nm,0.4s,baz=55,slow=2.8,SNR=4.1								
AKASG	**Malin Array Be**	**149.69 327**			**PKPbc**	**PKPbc**	**20 26 00.7**	**-2.3**
TORD	**Torodi Ar. Bea**	**165.80 171**		PKPab	**PKPab**	**PKPab**	**20 27 19.8**	**+1.5**
comp=Z,1.3nm,0.9s,baz=191,slow=3.1,SNR=6.1								

*IDC **30** 20:19:04.3±1.1, 47°.41S×100°.54E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, MS3.9/5, Ms1 3.9/5, ms1mx3.4/31, Error ellipse: s-maj=38.6km s-min=19.5km az=111.0*

ISC 30 20:19:05.6±1.1, 47°.4S±0°.2×100°.5E±0°.2, h10km, n16, σ0§86/9, mb4.1/7, MS4.0/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**16.13**	**44**		T	T	20 39 21.9	
baz=216,slow=74,SNR=134								
H01W3	**Cape Leeuwin H**	**16.14**	**44**		T	T	20 39 22.9	
baz=216,slow=74,SNR=185								
H01W1	**Cape Leeuwin H**	**16.14**	**44**		T	T	20 39 23.0	
baz=216,slow=74,SNR=203								
STKA	**Stephens Creek**	**34.78**	**79**		P	**P**	**20 25 56.4**	**+0.2**
2.6nm,0.8s,baz=227,slow=12,SNR=3.7								
STKA					LR	LR	20 37 27.0	
comp=Z,160nm,20.4s,baz=209,slow=32								
ASAR	**Alice Springs**	**35.61**	**60**		P	**P**	**20 26 03.4**	**-0.1**
0.4nm,0.8s,baz=217,slow=9.7,SNR=2.5								
ASAR					PcP	**PcP**	**20 28 30.6**	**-1.6**
0.2nm,0.6s,baz=204,slow=2.0,SNR=1.5								
ASAR					LR	LR	20 37 42.9	
comp=Z,64nm,19.8s,baz=182,slow=31								
VNDA	**Vanda**	**38.08**	**162**		P	**P**	**20 26 24.6**	**+0.7**
1.3nm,0.8s,baz=285,slow=9.8,SNR=10								
VNDA					LR	LR	20 40 38.7	
comp=Z,276nm,19.2s,baz=304,slow=34								
WRA	**Warramunga Arr**	**38.76**	**57**		P	**P**	**20 26 29.7**	**-0.5**
1.2nm,1.0s,baz=215,slow=10.0,SNR=3.5								
QSPA	**South Pole Qui**	**42.74**	**180**		P	**P**	**20 27 02.8**	**+0.1**
3.1nm,0.8s,baz=281,slow=2.1,SNR=15								
H08S2	**Diego Garcia H**	**46.26**	**320**		T	T	21 16 27.6	
baz=154,slow=76,SNR=20								
H08S1	**Diego Carcia H**	**46.27**	**320**		T	T	21 16 26.3	
baz=154,slow=76,SNR=19								
H08S3	**Diego Garcia H**	**46.28**	**320**		T	T	21 16 29.4	
baz=154,slow=76,SNR=21								
SNAA	**Sanae**	**49.72**	**204**		P	**P**	**20 27 56.9**	**-0.6**
2.0nm,0.9s,baz=121,slow=7.7,SNR=6.5								
PALK	**Pallekele**	**57.20**	**336**		LR	LR	20 49 19.3	
comp=Z,108nm,18.8s,baz=50,slow=32								
SUR	**Sutherland**	**60.41**	**253**		LR	LR	20 48 06.5	
comp=Z,130nm,21.9s,baz=342,slow=29								
CMAR	**Chiang Mai Arr**	**65.57**	**358**		P	**P**	**20 29 50.2**	**+0.9**
1.6nm,0.9s,baz=192,slow=5.5,SNR=7.8								
NVAR	**Mina Array Bea**	**150.44**	**93**		PKPbc	**PKiKP**	**20 38 58.2**	**+0.2**
0.5nm,0.7s,baz=187,slow=1.5,SNR=3.0								

*MAN **30** 20:42:51.4, 7°.66N×125°.49E, h7km, mb5.3, ML4.3, MS4.4*
*NEIC **30** 20:42:52.5±2.3, 7°.55N±0°.08×125°.9E±0°.1, h24km±3km, mb4.3/17, Error ellipse: s-maj=17.8km s-min=11.3km az=91.0*
*IDC **30** 20:42:53.9±2.0, 7°.60N×125°.76E, h35km±17km, mb3.8/12, mb1 3.9/13, mb1mx3.7/43, mbtmp4.0/13, ML4.6/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/40, Error ellipse: s-maj=35.7km s-min=14.2km az=74.0*

ISC 30 20:42:54.5±0.6, 7°.57N±0°.04×125°.55E±0°.07, h41km, n51, σ2§13/50, mb4.1/20, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.48 185**	⇑	eP	**Pn**	**20 43 03.3**	**-1.8**
DMPH				eS	**Sn**	**20 43 16.7**	**+4.1**
DAV	**Davao City (W)**	**0.50 177**		Pg	**Pn**	**20 43 04.6**	**-0.7**
715nm,0.3s,baz=33,slow=3.6,SNR=76								
DAV				Lg	Lg	20 43 15.6	
837nm,0.3s,baz=53,slow=20,SNR=10								
DAV	**Davao City (W)**	**0.50 177**			**Pn**	**20 43 04.1**	**-1.2**
BUKP	**Musuan**	**0.57 303**	⇑	eP	**Pn**	**20 43 01.6**	**-4.7**
BUKP				eS	**Sn**	**20 43 10.6**	**-4.1**
KCP	**Kidapawan**	**0.72 219**	⇑	iP	**Pn**	**20 43 05.5**	**-2.8**
KCP				i S	**Sn**	**20 43 17.0**	**-1.2**
CGP	**Cagayan de Oro**	**1.22 316**	⇑	iP	**Pn**	**20 43 11.6**	**-3.5**
CGP				i S	**Sn**	**20 43 31.2**	**+0.8**
PAGZ	**Pagadian**	**2.17 277**	⇓	eP	**Pn**	**20 43 32.0**	**+4.0**
PAGZ				i S	Sn	20 44 17.0	+23
SCPH	**Surigao**	**2.20 358**	⇓	eP	**Pn**	**20 43 28.3**	**-0.2**
DCPH	**Dipolog City**	**2.40 295**	⇑	eP	**Pn**	**20 43 32.7**	**+1.5**
MSLP	**Maasin**	**2.64 345**		eP	**Pn**	**20 43 33.3**	**-1.2**
LLP	**Lapu-Lapu**	**3.15 330**	⇓	iP	**Pn**	**20 43 42.2**	**+0.6**
LLP				i S	**Sn**	**20 44 21.0**	**+3.1**
CNOP	**Candoni, Negro**	**3.65 308**	⇓	eP	**Pn**	**20 43 46.9**	**-1.5**
CNOP				i S	Sn	20 44 43.2	+13
RCP	**Roxas**	**4.83 325**	⇑	eP	**Pn**	**20 44 05.5**	**+0.7**
TNTI	**Ternate**	**6.99 165**		Pn	**Pn**	**20 44 30.6**	**-3.8**
TOLI2	**Tolitoli**	**7.98 217**		Pn	**Pn**	**20 44 45.6**	**-2.4**
SIJI	**Sorong**	**10.14 146**		LR	LR	20 49 55.2	
comp=Z,103nm,18.1s,baz=114,slow=42								
KAPI	**Kappang**	**13.77 205**		LR	LR	20 53 17.7	
comp=Z,75nm,18.0s,baz=20,slow=45								
BATI	**Baumata**	**17.76 186**		P	**P**	**20 47 01.1**	**+1.8**
1.9nm,0.3s,baz=27,slow=2.3,SNR=1.7								
JAGI	**Jajag, Banyuwa**	**19.57 216**		Pn	**Pn**	**20 47 23.5**	**+2.8**
GUMO	**Guam**	**19.90 71**		LR	LR	20 55 33.4	
comp=Z,27nm,19.1s,baz=255,slow=39								
GUMO	**Guam**	**19.90 71**		Pn	**P**	**20 47 23.3**	**+0.5**
MTN	**Manton Dam**	**21.02 165**		P	**P**	**20 47 31.0**	**-3.9**
MTN					IAmb	IAmb	20 47 57.0	
comp=Z,19nm,0.9s								
KNRA	**Kununurra**	**23.32 172**		P	**P**	**20 47 57.7**	**-1.3**
JCJ	**Chichijima**	**25.03 37**		LR	LR	20 56 55.7	
comp=Z,53nm,20.3s,baz=318,slow=34								
CMAR	**Chiang Mai Arr**	**28.05 295**		P	**P**	**20 48 42.1**	**-0.1**
comp=Z,0.5nm,0.9s,baz=123,slow=6.6,SNR=4.5								
WB0	**Warramunga Arr**	**28.53 162**		P	**P**	**20 48 42.7**	**-3.7**
WB0					IAmb	IAmb	20 48 46.1	
comp=Z,8.7nm,1.1s								
WRA	**Warramunga Arr**	**28.68 163**		P	**P**	**20 48 46.8**	**-1.0**
comp=Z,0.7nm,0.4s,baz=335,slow=10,SNR=5.1								
WB2	**Warramunga Arr**	**28.68 163**		P	**P**	**20 48 45.8**	**-2.0**
WB2					IAmb	IAmb	20 49 09.9	
comp=Z,12nm,1.4s								
WR0	**Warramunga Arr**	**28.75 162**		P	**P**	**20 48 47.1**	**-1.3**
WR0					IAmb	IAmb	20 48 48.9	
comp=Z,16nm,1.4s								
AS31	**Alice Springs**	**32.10 165**		P	**P**	**20 49 14.7**	**-3.3**
ASAR	**Alice Springs**	**32.10 165**		P	**P**	**20 49 17.3**	**-0.7**
comp=Z,0.3nm,0.3s,baz=342,slow=7.1,SNR=14								
ASAR	**Alice Springs**	**32.10 165**		P	**P**	**20 49 15.0**	**-3.0**
USRK	**Ussuriysk Ar.**	**36.92 8**		P	**P**	**20 49 58.7**	**-0.7**
comp=Z,2.9nm,0.8s,baz=181,slow=11,SNR=6.1								
ASAJ	**Asahikawa**	**39.33 19**		P	**P**	**20 50 19.5**	**-0.2**
comp=Z,2.4nm,0.7s,baz=119,slow=10,SNR=2.9								
STKA	**Stephens Creek**	**42.11 159**		P	**P**	**20 50 42.7**	**-0.1**
comp=Z,5.0nm,0.9s,baz=306,slow=8.3,SNR=7.4								
STKA	**Stephens Creek**	**42.11 159**		IAmb	IAmb	20 50 43.3	
comp=Z,1.6nm,1.1s								
ULN	**Ulaanbaatar**	**43.13 342**		P	**P**	**20 50 51.5**	**+0.4**
ULN				IAmb	IAmb	20 50 58.4	
comp=Z,3.9nm,1.1s								
SONM	**Songino Array**	**43.31 341**		P	**P**	**20 50 53.0**	**+0.5**
comp=Z,1.9nm,1.1s,baz=155,slow=8.2,SNR=4.8								
SONM	**Songino Array**	**43.31 341**		P	**P**	**20 50 53.4**	**+1.0**
MK31	**Makanchi Array**	**53.76 324**		P	**P**	**20 52 13.2**	**+0.3**
MK31				IAmb	IAmb	20 52 24.2	
comp=Z,1.4nm,0.8s								
MKAR	**Makanchi Array**	**53.76 324**		P	**P**	**20 52 14.4**	**+1.6**
comp=Z,1.5nm,0.8s,baz=130,slow=8.0,SNR=12								
MKAR	**Makanchi Array**	**53.76 324**		P	**P**	**20 52 13.3**	**+0.5**
MAKZ	**Makanchi**	**53.95 324**		P	**P**	**20 52 14.3**	**+0.1**
MAKZ				IAmb	IAmb	20 52 26.7	
comp=Z,2.4nm,1.1s								
ZAA0	**Zalesovo Array**	**56.66 333**		P	**P**	**20 52 34.3**	**+0.8**
ZAA0				IAmb	IAmb	20 52 39.3	
comp=Z,4.6nm,0.9s								
ZALV	**Zalesovo Beam**	**56.66 333**		P	**P**	**20 52 33.8**	**+0.3**
comp=Z,2.4nm,0.8s,baz=140,slow=7.6,SNR=2.8								
ZALV	**Zalesovo Beam**	**56.66 333**		P	**P**	**20 52 34.4**	**+0.9**
GAR	**Garm**	**58.50 311**		P	**P**	**20 52 47.8**	**+0.9**
NRIK	**Noril'sk**	**66.44 346**		P	**P**	**20 53 40.1**	**+0.8**
comp=Z,2.7nm,0.5s,baz=140,slow=7.9,SNR=2.6								
ILAR	**Eielson Array**	**82.17 26**		P	**P**	**20 55 11.3**	**+0.4**
comp=Z,0.3nm,0.5s,baz=269,slow=5.4,SNR=3.1								
VNDA	**Vanda**	**87.36 173**		P	**P**	**20 55 35.8**	**-0.9**
comp=Z,0.4nm,0.5s,baz=272,slow=6.9,SNR=4.0								
VNDA	**Vanda**	**87.36 173**		IAmb	IAmb	20 55 36.4	
comp=Z,2.8nm,1.4s								

*IDC **30** 20:54:32.7±0.8, 3°.42N×82°.93W, h0km, mb4.0/12, mb1 4.4/16, mb1mx4.2/34, mbtmp4.2/16, ML3.4/4, MS4.0/23, Ms1 4.0/23, ms1mx3.9/31, Error ellipse: s-maj=26.8km s-min=13.4km az=50.0*
*NEIC **30** 20:54:34.6±2.1, 3°.33N±0°.05×82°.91W±0°.09, h10km±1km, mb4.6/144, Error ellipse: s-maj=16.3km s-min=6.6km az=245.0*
*GCMT **30** 20:54:37.6±0.3, 3°.28N±0°.01×82°.98W±0°.02, h20km±1km, MW4.9/96, Moment Tensor Solution. s20,c24; s96,c131; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.56±.13; $M_{\theta\theta}$0.88±.10; $M_{\phi\phi}$-0.31±.11; $M_{r\theta}$0.03±.19; $M_{r\phi}$2.61±.09; $M_{\theta\phi}$0.08±.19; Best double couple: $M_0$2.67900×10^{16} NP1:φ96.00000°, δ88.00000°, λ0.00000°. NP2: φ186.00000°, δ90.00000°, λ178.00000°. Principal axes: T 2.9600, Plg1.0000°, Azm321.0000°; N -0.5610, Plg88.0000°, Azm191.0000°; P -2.3980, Plg1.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 20:54:36.1±0.5, 3°.36N±0°.05×82°.83W±0°.06, h24km, n268, σ1§52/267, mb4.6/74, MS4.0/22, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.38**	**62**	eP	**Pn**	Pn	20 54 56.2	-3.6
MAPC				eS	Sn	Sn	20 55 08.1

SJCC	San Jacinto, C	9.99	49	Pn	Pn	20 57 01.7	+3.4
SJCC	San Jacinto, C	9.99	49	eP	Pn	20 56 59.7	+1.3
RUSC	La Rusia	10.03	75		Pn	20 57 00.9	+1.6
BARC	Barichara	10.13	71	eP	Pn	20 57 03.0	+2.7
CRIN	San Cristobal	10.18	336		Pn	20 57 01.6	+0.7
ATAH	Atahualpa	11.32	157	Pn	Pn	20 57 17.5	+0.7
	comp=Z,0.6nm,0.3s,baz=304,slow=7.3,SNR=3.9						
ATAH				LR	LR	21 01 28.8	
	comp=Z,2μm,19.0s,baz=330,slow=36						
TGUH	Tegucigalpa,Un	11.50	338	Pn	Pn	20 57 18.6	-0.5
MTO3	Montecristo	12.73	330		Pn	20 57 38.2	+2.3
ESQI	Esquipulas	12.85	330	Pn	Pn	20 57 40.1	+2.6
SDV	Santo Domingo	13.31	65	Pn	Pn	20 57 45.6	+1.8
	comp=Z,3.5nm,0.3s,baz=232,slow=13,SNR=11						
SDV				LR	LR	21 03 31.6	
	comp=Z,379nm,19.1s,baz=245,slow=40						
SDV	Santo Domingo	13.31	65	eP	Pn	20 57 45.6	+1.8
URIC	Uribia, Colomb	13.56	52	Pn	Pn	20 57 48.1	+1.0
PETF	Flores	15.15	333	P	P	20 58 12.4	-1.1
PETF				IAmb	IAmb	20 58 15.4	
	comp=Z,31nm,0.8s						
NNA	Nana	16.36	159	Pn	P	20 58 26.8	-0.4
	comp=Z,0.8nm,0.3s,baz=319,slow=6.9,SNR=5.7						
NNA				LR	LR	21 04 19.8	
	comp=Z,536nm,19.0s,baz=322,slow=36						
NNA	Nana	16.36	159	P	P	20 58 26.8	-0.4
NNA				IAmb	IAmb	20 58 30.1	
	comp=Z,52nm,1.1s						
SDDR	Presa de Saban	19.20	35	P	P	20 58 59.2	+0.8
SDDR				IAmb	IAmb	20 59 06.6	
	comp=Z,61nm,1.1s						
DR12	Loma Pena Alta	20.20	40	P	P	20 59 10.2	+0.8
TLIG	Tlapa	20.92	314	P	P	20 59 16.6	-0.7
TLIG				IAmb	IAmb	20 59 20.0	
	comp=Z,24nm,1.0s						
AOPR	Arecibo Observ	21.67	45	P	P	20 59 26.1	+0.8
SJG	San Juan	21.95	47	P	P	20 59 30.4	+2.2
	comp=Z,8.5nm,0.2s,baz=197,slow=7.2,SNR=4.6						
SJG				LR	LR	21 07 55.9	
	comp=Z,232nm,21.6s,baz=256,slow=36						
SJG	San Juan	21.95	47	P	P	20 59 29.6	+1.4
SJG				IAmb	IAmb	20 59 32.3	
	comp=Z,44nm,1.1s						
PDPR	Patillas Dam,	21.99	47	P	P	20 59 30.7	+2.1
PDPR				IAmb	IAmb	20 59 32.5	
	comp=Z,50nm,1.4s						
GCPR	Guaynabo City	22.13	47	P	P	20 59 30.7	+0.6
GCPR				IAmb	IAmb	20 59 34.3	
	comp=Z,33nm,0.9s						
HUMP	Col San Antoni	22.19	47	P	P	20 59 32.1	+1.3
HUMP				IAmb	IAmb	20 59 38.7	
	comp=Z,53nm,1.2s						
CBYP	Canovanas	22.27	47	P	P	20 59 32.8	+1.1
BOAV	Boa Vista	22.30	92	eP	P	20 59 34.6	+2.6
SAML	Samuel	23.08	122	P	P	20 59 39.3	-1.0
SAML	Samuel	23.08	122	eP	P	20 59 39.2	-1.0
PTGA	Pitinga	23.21	100	P	P	20 59 41.2	-0.3
	comp=Z,1.4nm,0.5s,baz=312,slow=17,SNR=4.3						
PTGA				LR	LR	21 08 50.2	
	comp=Z,559nm,18.4s,baz=282,slow=37						
PTGA	Pitinga	23.21	100	P	P	20 59 41.0	-0.5
PTGA				IAmb	IAmb	20 59 51.9	
	comp=Z,21nm,1.3s						
LPAZ	La Paz	24.33	144	P	P	20 59 53.6	+0.7
	comp=Z,12nm,1.1s,baz=336,slow=9.2,SNR=22						
LPAZ				LR	LR	21 10 15.6	
	comp=Z,486nm,20.8s,baz=314,slow=39						
LPAZ	La Paz	24.33	144	P	P	20 59 53.1	+0.2
LPAZ				IAmb	IAmb	20 59 56.6	
	comp=Z,30nm,1.3s						
LPAZ	La Paz	24.33	144	eP	P	20 59 53.8	+0.9
VILB	Vilhena	27.70	126	eP	P	21 00 24.3	+1.6
ITTB	Itaituba	28.14	106	eP	P	21 00 28.7	+2.0
SIV	San Ignacio	28.85	132	P	P	21 00 35.2	+2.2
	comp=Z,1.1nm,0.7s,baz=302,slow=7.5,SNR=6.7						
SIV				LR	LR	21 13 18.3	
	comp=Z,522nm,18.8s,baz=320,slow=39						
LVC	Limon Verde	29.17	153	LR	LR	21 13 13.8	
	comp=Z,265nm,19.9s,baz=338,slow=38						
LVC	Limon Verde	29.17	153	eP	P	21 00 36.3	+0.2
NPGB	Novo Progresso	29.30	111	eP	P	21 00 38.3	+1.2
GOGA	Godfrey	29.91	359	P	P	21 00 41.5	-0.6
PTLB	Pontes e Lacer	29.98	129	eP	P	21 00 43.0	0.0
MDP	Montagnes des	30.15	86	LR	LR	21 13 11.9	
	comp=Z,302nm,18.6s,baz=275,slow=37						
CLDB	Colider	30.39	118	eP	P	21 00 47.6	+1.0
HODGE	Hodges	30.72	1	P	P	21 00 48.6	-0.7
HODGE				IAmb	IAmb	21 00 50.3	
	comp=Z,10nm,0.8s						
JSC	Jenkinsville	30.80	3	P	P	21 00 49.7	-0.3
JSC				IAmb	IAmb	21 00 51.7	
	comp=Z,17nm,1.2s						
JCT	Junction City	31.39	331	P	P	21 00 55.9	+0.5
BG3	Lake Jocassee	31.48	360	P	P	21 00 56.5	+0.4
KMSC	Kings Mountain	31.66	2	P	P	21 00 58.4	+0.8
KMSC				IAmb	IAmb	21 00 58.7	
	comp=Z,13nm,1.1s						
V51A	Loudon	32.32	358	P	P	21 01 02.5	-0.9
V48A	Smith Brothers	32.44	354	P	P	21 01 03.4	-1.0
V48A				IAmb	IAmb	21 01 38.5	
	comp=Z,13nm,1.1s						
TXAR	Lajitas Array	32.54	325	P	P	21 01 05.7	+0.2
	comp=Z,0.4nm,0.7s,baz=141,slow=11,SNR=4.3						
TXAR				PcP	PcP	21 03 53.2	+1.2
	comp=Z,0.5nm,0.9s,baz=85,slow=3.0,SNR=2.9						
TXAR				LR	LR	21 15 03.1	
	comp=Z,156nm,18.2s,baz=0.0,slow=38						
WVT	Waverly	32.94	353	P	P	21 01 07.4	-1.4
WHAR	Wooly Hollow	32.96	346	P	P	21 01 08.9	-0.2
WHAR				IAmb	IAmb	21 01 09.7	
	comp=Z,10nm,0.9s						
U49A	Red Boiling Sp	33.11	356	P	P	21 01 09.6	-0.7
U49A				IAmb	IAmb	21 01 10.9	
	comp=Z,10nm,0.9s						
W39A	Magazine	33.27	344	P	P	21 01 12.1	+0.4
LCAR	Lake Charles	33.45	348	P	P	21 01 13.0	-0.2
FCAR	Ozark Folk Cen	33.50	346	P	P	21 01 12.8	-0.8
FCAR				IAmb	IAmb	21 01 14.1	
	comp=Z,8.7nm,0.9s						
T50A	Nancy	33.55	357	P	P	21 01 14.0	-0.2
U40A	Yellville	34.12	345	P	P	21 01 18.9	-0.2
U40A				IAmb	IAmb	21 01 19.9	
	comp=Z,6.0nm,0.9s						
S51A	Beattyville	34.13	359	P	P	21 01 19.1	0.0
T42A	Van Buren	34.36	348	P	P	21 01 20.6	-0.5
PP1B	Ponte de Pedra	34.55	128	eP	P	21 01 23.9	+0.8
MGMO	Mountain Grove	34.74	347	P	P	21 01 24.2	-0.3
R50A	Paris	34.79	358	P	P	21 01 24.5	-0.4
R50A				IAmb	IAmb	21 01 25.5	
	comp=Z,12nm,0.9s						
R49A	Shelbyville	34.84	357	P	P	21 01 24.5	-0.8
SNDB	Serra Nova Dou	34.85	116	eP	P	21 01 26.3	+0.6
WCI	Wyandotte Cave	34.85	355	P	P	21 01 25.8	+0.4
MNTX	Cornudas Mount	35.29	326	P	P	21 01 29.0	-0.3
MNTX				IAmb	IAmb	21 01 30.8	
	comp=Z,11nm,1.5s						
CCM	Cathedral Cave	35.38	348	P	P	21 01 29.1	-0.9
S39A	Bolivar	35.50	346	P	P	21 01 30.2	-0.8
S39A				IAmb	IAmb	21 01 31.6	
	comp=Z,14nm,0.9s						
Q51A	Peebles	35.51	359	P	P	21 01 30.6	-0.4
AQDB	Aquidauana	35.63	133	eP	P	21 01 32.8	+0.5
MSTX	Muleshoe	35.69	331	P	P	21 01 33.3	+0.5
MSTX				IAmb	IAmb	21 01 34.3	
	comp=Z,16nm,1.0s						
R40A	Maddies Statio	35.83	347	P	P	21 01 33.5	-0.3
R40A				IAmb	IAmb	21 01 34.3	
	comp=Z,7.7nm,1.1s						
AMTX	Amarillo	35.92	333	P	P	21 01 33.9	-0.9
P48A	Milroy	36.02	357	P	P	21 01 34.1	-1.3
ARAG	Araguaiana, MT	36.06	123	eP	P	21 01 35.9	-0.2
P43A	Skaggs, Pawnee	36.63	351	P	P	21 01 39.7	-0.9
P40A	Paris	36.97	348	P	P	21 01 42.6	-1.0
P40A				IAmb	IAmb	21 01 43.8	
	comp=Z,14nm,0.8s						
121A	Cookes Peak, D	37.28	324	P	P	21 01 47.2	+0.7
121A				IAmb	IAmb	21 01 49.6	
	comp=Z,13nm,1.2s						
SSPA	Standing Stone	37.38	6	P	P	21 01 45.8	-1.2
SSPA				IAmb	IAmb	21 01 48.0	
	comp=Z,12nm,1.1s						
319A	Douglas	37.38	321	P	P	21 01 43.9	-3.5
P38A	Dawn	37.39	346	P	P	21 01 44.6	-2.5
N41A	Harden Midland	37.88	350	P	P	21 01 49.8	-1.4
LENM	Lemitar	38.02	327	P	P	21 01 54.6	+1.9
ANMO	Albuquerque	38.33	328	P	P	21 01 56.5	+1.2
N38A	Joes South For	38.43	347	P	P	21 01 55.5	-0.4
CPUP	Villa Florida	38.46	142	LR	LR	21 18 52.6	
	comp=Z,372nm,21.8s,baz=334,slow=38						
L42A	Oliver, Polo	38.96	352	P	P	21 01 58.7	-1.7
L42A				IAmb	IAmb	21 02 00.5	
	comp=Z,22nm,1.1s						
T25A	Trinidad	39.03	332	P	P	21 02 01.6	+0.3
T25A				IAmb	IAmb	21 02 04.3	
	comp=Z,23nm,1.4s						
L40A	Anamosa	39.26	350	P	P	21 02 02.0	-0.8
L40A				IAmb	IAmb	21 02 02.7	
	comp=Z,14nm,0.8s						
BDFB	Brasilia	39.28	120	LR	LR	21 19 10.8	
	comp=Z,246nm,18.3s,baz=309,slow=38						
SDCO	Great Sand Dun	40.03	332	P	P	21 02 11.0	+1.3
SDCO				IAmb	IAmb	21 02 12.3	
	comp=Z,11nm,0.9s						
214A	Organ Pipe Nat	40.03	319	P	P	21 02 09.3	-0.2
IPMB	Ipameri, GO	40.17	123	eP	P	21 02 10.3	-0.5
SDBA	SAO DESIDERIO	40.81	113	eP	P	21 02 15.3	-0.8
MVCO	Mesa Verde	41.12	328	P	P	21 02 18.8	+0.2
MVCO				IAmb	IAmb	21 02 20.8	
	comp=Z,14nm,1.4s						
113A	Mohawk Valley,	41.17	319	P	P	21 02 19.1	+0.3
OGNE	Ogallala	41.23	338	P	P	21 02 19.6	+0.4
WUAZ	Wupatki	41.49	324	P	P	21 02 22.4	+0.8
WUAZ				IAmb	IAmb	21 02 24.1	
	comp=Z,12nm,1.1s						
ISCO	Idaho Springs	41.74	333	P	P	21 02 24.3	+0.6
SMCO	Snowmass	41.87	332	P	P	21 02 24.7	-0.3
PV15	Paradox Valley	41.97	329	P	P	21 02 24.9	-0.7
PV02	Paradox Valley	41.99	329	P	P	21 02 26.2	+0.4
PV02				IAmb	IAmb	21 02 28.0	
	comp=Z,12nm,1.1s						
PV13	Radium Mtn., P	42.00	329	P	P	21 02 26.0	+0.1
PV13				IAmb	IAmb	21 02 27.9	
	comp=Z,13nm,1.1s						
ECSD	EROS Data Cent	42.02	345	P	P	21 02 24.5	-1.1
PV05	Paradox Valley	42.08	329	P	P	21 02 26.8	+0.3
PV03	Paradox Valley	42.09	329	P	P	21 02 26.9	+0.4
PV12	Saucer Basin,	42.11	329	P	P	21 02 26.0	-0.7
PV12				IAmb	IAmb	21 02 28.8	
	comp=Z,12nm,1.0s						
PV18	Skein Mesa, Pa	42.11	329	P	P	21 02 25.4	-1.3
PV07	Paradox Valley	42.12	329	P	P	21 02 26.4	-0.4
PV11	David Mesa, Pa	42.13	329	P	P	21 02 26.6	-0.2
PV17	East Wray Mesa	42.16	329	P	P	21 02 27.0	-0.1
PV16	Nyswonger Mesa	42.16	329	P	P	21 02 27.6	+0.4
SPMN	Marine on St.	42.61	350	P	P	21 02 29.4	-1.0
SPMN				IAmb	IAmb	21 02 30.4	
	comp=Z,29nm,1.2s						
U15A	North Rim	42.66	324	P	P	21 02 32.2	+0.9
U15A				IAmb	IAmb	21 02 34.0	
	comp=Z,13nm,1.3s						
PHWY	Pilot Hill	42.91	335	P	P	21 02 32.9	-0.3
PHWY				IAmb	IAmb	21 02 35.3	
	comp=Z,26nm,2.0s						
TKX	Tecate	42.96	316	P	P	21 02 33.0	-0.5
G62A	West of Eustis	43.07	13	P	P	21 02 35.1	+1.0
G62A				IAmb	IAmb	21 02 38.5	
	comp=Z,21nm,1.3s						
KNB	Kanab	43.37	324	P	P	21 02 37.9	+0.9
PKCU	Pink Cliffs	43.38	325	P	P	21 02 36.5	-0.6
PKCU				IAmb	IAmb	21 02 39.8	
	comp=Z,26nm,1.3s						
SRU	San Rafael Swe	43.60	328	P	P	21 02 37.9	-0.8
MTPU	Mount Pierson	43.72	326	P	P	21 02 40.2	+0.2
MTPU				IAmb	IAmb	21 02 42.2	
	comp=Z,14nm,1.8s						
F33A	5 Mile Ranch,	43.92	346	P	P	21 02 38.4	-2.5
F33A				IAmb	IAmb	21 02 40.9	
	comp=Z,8.1nm,0.9s						
SZCU	Shurtz Canyon	43.92	325	P	P	21 02 41.9	+0.5
RWWY	Rawlins	43.98	334	P	P	21 02 42.3	+0.5
RWWY				IAmb	IAmb	21 02 43.9	
	comp=Z,9.4nm,0.9s						
MSU	Marysvale	44.05	326	P	P	21 02 41.2	-1.2
CCUT	Cedar City	44.05	324	P	P	21 02 43.8	+1.3
MVU	Marysvale	44.07	326	P	P	21 02 42.3	-0.2
RDMU	Red Mountain	44.21	331	P	P	21 02 42.6	-1.0
RDMU				IAmb	IAmb	21 02 45.1	
	comp=Z,5.5nm,0.7s						
TCRU	Three Creeks R	44.27	326	P	P	21 02 43.0	-1.2
SHPR	Sheep Range	44.43	322	P	P	21 02 45.8	+0.4
E62A	Clayton Lake	44.62	13	P	P	21 02 48.3	+1.8
RSSD	Black Hills	44.71	338	P	P	21 02 48.4	+0.8
RSSD				IAmb	IAmb	21 02 49.9	
	comp=Z,7.2nm,0.9s						
LMN	Caledonia Moun	45.16	18	P	P	21 02 52.0	+1.2
PLCA	Paso Flores	45.29	167	eP	P	21 02 52.1	0.0
TPNV	Topopah Spring	45.39	322	P	P	21 02 52.2	-0.9
TPNV				IAmb	IAmb	21 02 56.9	
	comp=Z,17nm,1.9s						
TRQA	Tornquist	45.51	157	eP	P	21 02 54.4	+0.7
SPR3	Spring Creek 3	45.60	325	P	P	21 02 55.3	+0.5
R11A	Troy Canyon, C	45.89	324	P	P	21 02 56.5	-0.5
PD31	Pinedale Array	45.90	333	P	P	21 02 55.9	-1.2
PDAR	Pinedale Array	45.90	333	P	P	21 02 56.2	-0.8
	comp=Z,1.5nm,0.9s,baz=138,slow=9.0,SNR=12						
PDAR				PcP	PcP	21 04 32.1	-1.9
	comp=Z,0.8nm,1.0s,baz=106,slow=3.2,SNR=2.3						
PDAR				LR	LR	21 23 39.4	
	comp=Z,244nm,18.2s,baz=128,slow=38						
BW06	Boulder Array	45.90	333	P	P	21 02 56.2	-0.9
HWUT	Hardware Ranch	45.98	330	P	P	21 02 56.6	-1.1
HWUT				IAmb	IAmb	21 04 42.8	
	comp=Z,5.2nm,0.7s						
ISA	Isabella, Lake	46.02	319		P	21 02 58.2	+0.2
SPUT	South Promonto	46.21	329	P	P	21 02 58.8	-0.7
BGU	Big Grassy Mou	46.23	328	P	P	21 02 59.8	+0.2
MDND	Maddock	46.62	344	P	P	21 03 02.5	+0.1
TPH	Tonopah	46.70	322	P	P	21 03 02.5	-0.9
REDW	Red Top Meadow	46.96	332	P	P	21 03 05.0	-0.4
REDW				IAmb	IAmb	21 03 06.8	
	comp=Z,14nm,1.4s						
ELK	Elko	47.30	326	P	P	21 03 07.5	-0.6
FLWY	Flagg Ranch	47.45	333	P	P	21 03 08.7	-0.5
FLWY				IAmb	IAmb	21 03 10.6	
	comp=Z,5.3nm,1.1s						
NV11	Mina Array Sit	47.49	322	P	P	21 03 10.1	+0.6
NV11				IAmb	IAmb	21 03 11.6	
	comp=Z,8.5nm,1.1s						
MDPB	Devils Postpil	47.58	321		P	21 03 10.1	-0.3
MDPB				IAmb	IAmb	21 03 12.1	
	comp=Z,4.9nm,1.0s						
NVAR	Mina Array Bea	47.59	322	P	P	21 03 11.2	+0.9
	comp=Z,4.0nm,0.8s,baz=136,slow=7.7,SNR=24						
NVAR				PcP	PcP	21 04 39.1	-0.9
	comp=Z,0.3nm,0.7s,baz=101,slow=4.7,SNR=1.7						
NVAR				LR	LR	21 22 48.5	
	comp=Z,191nm,20.2s,baz=100,slow=36						
NVAR	Mina Array Bea	47.59	322	P	P	21 03 10.7	+0.3
KVN	Kaiserville	47.85	323	P	P	21 03 12.6	+0.3
KVN				IAmb	IAmb	21 03 13.8	
	comp=Z,4.1nm,1.0s						
YNE	Yellowstone No	47.86	334	P	P	21 03 12.6	+0.3
YNE				IAmb	IAmb	21 03 13.3	
	comp=Z,4.4nm,0.9s						
ULM	Lac du Bonnet	48.02	349	P	P	21 03 12.0	-1.2
	comp=Z,2.9nm,0.7s,baz=163,slow=7.6,SNR=4.8						
ULM	Lac du Bonnet	48.02	349	P	P	21 03 12.5	-0.7
YHH	Holmes Hill	48.06	333	P	P	21 03 14.9	+0.9
YHH				IAmb	IAmb	21 03 21.4	
	comp=Z,6.5nm,1.3s						
WAKR	Walker	48.33	321	P	P	21 03 17.3	+1.2
WAKR				IAmb	IAmb	21 03 18.1	
	comp=Z,5.2nm,1.2s						
QLMT	Earthquake Lak	48.35	333	P	P	21 03 16.6	+0.4
YERR	Yerington	48.50	322	P	P	21 03 16.7	-0.7
YERR				IAmb	IAmb	21 03 19.0	
	comp=Z,4.5nm,0.9s						
HLID	Hailey	48.84	330	P	P	21 03 20.1	+0.2
HLID				IAmb	IAmb	21 03 22.9	
	comp=Z,12nm,1.6s						
BOZ	Bozeman (W)	49.03	333	P	P	21 03 21.3	0.0
BOZ				IAmb	IAmb	21 03 22.8	
	comp=Z,5.1nm,0.9s						
MFID	Camas Ranch	49.47	329	P	P	21 03 24.1	-0.5
ORV	Oroville	50.25	321	P	P	21 03 30.9	+0.4
ORV				IAmb	IAmb	21 03 32.4	
	comp=Z,6.6nm,1.0s						
WVOR	Wild Horse Val	50.33	326	P	P	21 03 30.7	-0.4
WVOR				IAmb	IAmb	21 03 32.4	
	comp=Z,14nm,1.1s						
J08A	Circle Bar Ran	50.84	327	P	P	21 03 34.5	-0.5
MSO	Missoula	51.02	333	P	P	21 03 35.6	-0.7
BMO	Blue Mountains	51.23	329	P	P	21 03 37.0	-0.9
I07A	Izee	51.88	327	P	P	21 03 42.6	-0.2
I07A				IAmb	IAmb	21 03 52.8	
	comp=Z,11nm,1.6s						
F10A	Beach Ranch, E	51.97	330	P	P	21 03 42.9	-0.5
F10A				IAmb	IAmb	21 03 46.6	
	comp=Z,7.6nm,1.1s						
E09A	Wood Farm, Sta	52.80	330	P	P	21 03 49.5	+0.1
SCHQ	Schefferville	52.94	12	LR	LR	21 25 23.2	
	comp=Z,74nm,21.8s,baz=248,slow=35						
NEW	Newport	53.53	332	P	P	21 03 54.6	-0.3
NEW				IAmb	IAmb	21 03 55.8	
	comp=Z,5.9nm,1.1s						
EDM	Edmonton	55.70	338	P	P	21 04 09.5	-1.0
EDM				IAmb	IAmb	21 04 11.0	
	comp=Z,9.2nm,0.8s						
TAOE	Nuku Hiva Isla	58.41	258	eLR	LR	21 21 49.2	
	comp=Z,119nm,24.5s						
YKA	Yellowknife Ar	63.54	344	P	P	21 05 04.1	-0.2
	comp=Z,1.8nm,0.9s,baz=137,slow=7.1,SNR=6.6						
PPT	Papeete	68.99	250	LR	LR	21 27 55.4	
	comp=Z,202nm,18.2s,baz=20,slow=29						
PPT2	Papeete2	69.00	250	eLR	LR	21 26 45.0	
	comp=Z,286nm,24.2s,baz=70						
TBI	Tubuai	70.06	244	eLR	LR	21 27 15.7	
	comp=Z,191nm,28.8s						
BCAR	Beaver Creek A	73.37	336	P	P	21 06 06.9	+1.1
L27K	Beaver Creek,	73.39	336	P	P	21 06 06.8	+0.8
GLB	Gilahina Butte	73.52	334	P	P	21 06 08.1	+1.3
GLB				IAmb	IAmb	21 06 08.6	
	comp=Z,5.9nm,1.1s						
K27K	Chicken	73.92	337	P	P	21 06 08.4	-0.6
K27K				IAmb	IAmb	21 06 10.6	
	comp=Z,13nm,1.8s						
SUMG	Summit	74.31	13	P	P	21 06 10.3	-1.3
HDA	Harding Lake	76.02	336	P	P	21 06 20.5	-0.6
HDA				IAmb	IAmb	21 06 21.9	
	comp=Z,4.3nm,1.0s						
ILAR	Eielson Array	76.13	337	P	P	21 06 21.4	-0.4
	comp=Z,0.8nm,0.9s,baz=121,slow=3.5,SNR=5.6						
ILAR				PP	PP	21 09 12.9	+0.2
	comp=Z,1.2nm,1.2s,baz=121,slow=4.6,SNR=4.2						
ILAR				LR	LR	21 42 11.1	
	comp=Z,66nm,18.1s,baz=124,slow=38						
BMAR	Burnt Mountain	76.35	340	P	P	21 06 23.3	+0.3
RND	Reindeer	76.44	335	P	P	21 06 23.9	+0.2
I23K	Minto, Yukon-K	77.25	337	P	P	21 06 27.8	-0.2
I23K				IAmb	IAmb	21 06 29.5	
	comp=Z,10nm,1.5s						
BPAW	Bear Paw Mtn.	77.56	335	P	P	21 06 29.6	-0.2
BPAW				IAmb	IAmb	21 06 43.2	
	comp=Z,4.1nm,0.8s						
MLY	Manley	77.76	336	P	P	21 06 30.9	-0.1
COLD	Coldfoot	78.28	338	P	P	21 06 34.4	+0.6
MDT	Midelt	78.29	57	LR	LR	21 35 55.9	
	comp=Z,41nm,22.0s,baz=288,slow=32						
SVW2	Sparrevohn	78.78	332	P	P	21 06 35.9	-0.8
IMAR	Indian Mountai	79.25	337	P	P	21 06 38.6	-0.5
ESDC	Sonseca Array	79.29	50	P	P	21 06 41.6	+1.6
	comp=Z,1.6nm,1.0s,baz=264,slow=6.1,SNR=5.8						
ESDC				LR	LR	21 36 51.0	
	comp=Z,33nm,21.6s,baz=270,slow=32						
ESDC	Sonseca Array	79.29	50	P	P	21 06 41.2	+1.2
ESDC				IAmb	IAmb	21 07 14.1	
	comp=Z,15nm,2.0s						
TORD	Torodi Ar. Bea	83.92	77	P	P	21 07 05.2	+0.3
	comp=Z,0.6nm,0.6s,baz=282,slow=8.1,SNR=4.1						
TORD				LR	LR	21 44 34.8	
	comp=Z,47nm,18.2s,baz=175,slow=36						
ARCES	ARCESS Array B	93.21	20	LR	LR	21 44 31.4	
	comp=Z,23nm,22.0s,baz=110,slow=32						
FINES	FINESS Array B	95.99	27	LR	LR	21 47 04.3	
	comp=Z,33nm,21.6s,baz=285,slow=33						
WRA	Warramunga Arr	140.19	243	PKP	PKPdf	21 14 03.0	-0.8
	comp=Z,0.5nm,0.9s,baz=120,slow=1.3,SNR=1.7						
H01W1	Cape Leeuwin H	144.89	205	T	T	23 56 43.3	
	baz=150,slow=76,SNR=4.4						
H01W2	Cape Leeuwin H	144.89	205	T	T	23 56 43.5	
	baz=150,slow=76,SNR=4.2						
H01W3	Cape Leeuwin H	144.90	205	T	T	23 56 44.5	
	baz=150,slow=76,SNR=4.2						

*IDC **30** 21:02:28.0±1.2,21°.88S×175°.74W,h0km,mb4.0/5, mb1 4.3/7,mb1mx4.0/23,mbtmp4.2/7,ML5.3/2,MS3.4/5, Ms1 3.4/5,ms1mx3.0/28,Error ellipse: s-maj=31.4km s-min=26.4km az=111.0*

*NEIC **30** 21:03:05.5±1.8,23°.15±0°.1×176°.86W±0°.06,h251km±12km, mb4.2/22,Error ellipse: s-maj=19.5km s-min=7.2km az=193.0*

ISC 30 21:02:47.6±1.5,22°.3S±0°.2×176°.0W±0°.2,h150km,n61,
σ1s17/34,mb4.2/16,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.49	62	Pn	Pn	21 04 53.3	+32
RAO	Raoul Island	7.18	194	Pn	Pn	21 04 36.8	+6.7
MSVF	Nonsavu	7.20	308	Pn	Pn	21 04 11.8	-19
	2.9nm,0.3s,baz=149,slow=

comp=Z,8.0nm,1.1s
CTAO Charters Tower 35.23 266 P **P** **21 09 28.4 +0.5**
CTAO IAmb IAmb 21 09 31.9
comp=Z,10nm,0.9s
TAOE Nuku Hiva Isla 36.88 75 *eT* T 21 47 36.9
comp=Z,20nm,0.3s
STKA Stephens Creek 38.77 246 P **P** **21 09 57.3 -0.3**
comp=Z,1.2nm,0.5s,baz=100,slow=11,SNR=6.1
STKA Stephens Creek 38.77 246 IAmb IAmb 21 09 58.7
comp=Z,0.6nm,0.9s
BBOO Buckleboo 43.49 245 P **P** **21 10 34.7 -1.6**
BBOO IAmb IAmb 21 10 51.8
comp=Z,6.6nm,1.1s
AS31 Alice Springs 45.98 258 P **P** **21 10 56.8 +0.8**
ASAR Alice Springs 45.98 258 P **P** **21 10 56.1 +0.1**
comp=Z,1.9nm,0.8s,baz=95,slow=6.5,SNR=14
WR0 Warramunga Arr 46.06 263 P **P** **21 10 56.4 -0.3**
WB0 Warramunga Arr 46.23 264 P **P** **21 10 57.7 -0.3**
WB0 IAmb IAmb 21 11 13.9
comp=Z,6.7nm,1.1s
WB2 Warramunga Arr 46.24 263 P **P** **21 10 57.8 -0.3**
WRA Warramunga Arr 46.25 263 P **P** **21 10 57.2 -0.9**
comp=Z,1.1nm,0.6s,baz=95,slow=8.2,SNR=29
WRA Warramunga Arr 46.25 263 P **P** **21 10 57.6 -0.6**
FORT Forrest 50.36 248 P **P** **21 11 28.9 -0.7**
KNRA Kununurra 52.44 267 P **P** **21 11 46.4 +1.3**
KNRA IAmb IAmb 21 11 58.5
comp=Z,7.4nm,0.8s
SIJI Sorong 55.51 285 LR LR 21 35 54.8
comp=Z,74nm,18.1s,baz=56,slow=36
VNDA Vanda 56.35 186 P **P** **21 12 12.6 +0.1**
comp=Z,0.9nm,0.8s,baz=2.4,slow=6.3,SNR=6.0
VNDA Vanda 56.35 186 P **P** **21 12 13.9 +1.5**
PSA00 Pilbara Seismi 59.12 257 P **P** **21 12 32.7 0.0**
PSA00 IAmb IAmb 21 12 38.9
comp=Z,7.8nm,1.1s
MORW Morawa 60.92 248 P **P** **21 12 44.0 -0.9**
CASY Casey 63.20 206 P **P** **21 12 60.0 +0.5**
CASY IAmb IAmb 21 13 00.9
comp=Z,3.3nm,0.8s
MAW Mawson 80.55 199 P **P** **21 14 43.8 +1.0**
comp=Z,2.4nm,0.6s,baz=157,slow=4.3,SNR=11
MAW Mawson 80.55 199 P **P** **21 14 43.5 +0.7**
H03S2 Juan Fernandez 83.45 124 T T 22 46 36.0
baz=246,slow=74,SNR=524
H03S1 Juan Fernandez 83.46 124 T T 22 46 33.9
baz=246,slow=74,SNR=579
H03S3 Juan Fernandez 83.47 124 T T 22 46 34.4
baz=246,slow=74,SNR=701
H03N2 Juan Fernandez 83.60 123 T T 22 46 41.4
baz=239,slow=73,SNR=250
H03N3 Juan Fernandez 83.60 123 T T 22 46 43.4
baz=239,slow=73,SNR=159
H03N1 Juan Fernandez 83.61 123 T T 22 46 40.1
baz=239,slow=73,SNR=204
AKASG Malin Array Be 145.45 331 PKPbc **PKPab** **21 22 06.9 -1.3**
comp=Z,1.6nm,0.4s,baz=45,slow=4.5,SNR=8.3
GERES GERESS Array B 152.37 346 PKPbc **PKiKP** **21 22 25.5 -0.6**
comp=Z,0.7nm,0.8s,baz=339,slow=2.4,SNR=4.3

*GII **30** 21:03:42.6±0.0, 34°.26N×33°.79E, h9km, MD2.3/2, Mm2.4/12*
*ISK **30** 21:03:44.7, 34°.44N×33°.74E, h26km, ML2.6/14*
*NIC **30** 21:03:44.0±0.0, 34°.35N×33°.70E, h20km, Ml2.9/6*
ISC 30 21:03:42.3±1.3, 34°.27N±0°.03×33°.72E±0°.03, h17km±10km, n47, σ0§59/68, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.64**	**323**	P		**Pb**		**21 03 55.5**	**+0.3**
ASGA				S		**Sn**		**21 04 05.4**	**-1.2**
MVOU	**Mavrovouni**	**0.74**	**354**	P		**Pb**		**21 03 56.9**	**+0.1**
MVOU				S		**Sb**		**21 04 06.7**	**-0.1**
MVOU				AML		AML		21 04 09.8	
	0.4nm,0.2s								
MVOU				AML		AML		21 04 09.8	
	0.4nm,0.2s								
CSS	**Mathiatis**	**0.76**	**335**	Pg		**Pg**		**21 03 56.5**	**-0.7**
CSS	**Mathiatis**	**0.76**	**335**	PG		**Pg**		**21 03 57.1**	**-0.1**
CSS				SG		**Sb**		**21 04 07.5**	**+0.3**
CSS	**Mathiatis**	**0.76**	**335**	P		**Pg**		**21 03 56.7**	**-0.5**
CSS				S		**Sb**		**21 04 07.9**	**+0.7**
CSS				AML		AML		21 04 08.6	
	0.1nm,0.3s								
CSS				AML		AML		21 04 08.6	
	0.1nm,0.3s								
PARAL	**Paralimni**	**0.77**	**20**	P		**Pb**		**21 03 57.6**	**+0.3**
PARAL				S		**Sb**		**21 04 08.5**	**+1.1**
PARAL				AML		AML		21 04 10.9	
	0.7nm,0.5s								
PARAL				AML		AML		21 04 10.9	
	0.7nm,0.5s								
AKIN	**Akıncılar- Kıb**	**0.77**	**344**	PG		**Pb**		**21 03 57.9**	**+0.6**
SZAC	**Souni**	**0.84**	**305**	P		**Pg**		**21 03 59.2**	**+0.5**
SZAC				S		**Sn**		**21 04 11.2**	**-0.4**
SZAC				AML		AML		21 04 11.8	
	5.5nm,0.3s								
SZAC				AML		AML		21 04 11.8	
	5.5nm,0.3s								
SZAC				AML		AML		21 04 12.9	
	2.0nm,0.3s								
SZAC				AML		AML		21 04 12.9	
	2.0nm,0.3s								
ATHAL	**Athalassa**	**0.91**	**343**	P		**Pg**		**21 04 00.2**	**+0.3**
LFK	**Lefkose**	**1.01**	**351**	PG		**Pb**		**21 04 01.1**	**-0.4**
LFK				SG		**Sb**		**21 04 13.1**	**-1.5**
NATA	**Nata**	**1.07**	**298**	P		**Pg**		**21 04 03.4**	**+0.2**
LEF	**Lefka**	**1.09**	**321**	PG		**Pg**		**21 04 03.5**	**+0.2**
LEF				SG		**Sg**		**21 04 17.0**	**-0.6**
AKDN	**Akdeniz- Kıbrı**	**1.20**	**329**	PG		**Pn**		**21 04 04.2**	**-0.1**
ALFC	**Alefka**	**1.28**	**314**	P		**Pn**		**21 04 05.8**	**+0.3**
ALFC				AML		AML		21 04 22.5	
	1.2nm,0.4s								
ALFC				AML		AML		21 04 22.5	
	1.2nm,0.4s								
ALFC				S		**Sn**		**21 04 22.6**	**+0.4**
ALFC				AML		AML		21 04 23.4	
	1.6nm,0.3s								
ALFC				AML		AML		21 04 23.4	
	1.6nm,0.3s								
EREN	**Erenkoy**	**1.31**	**16**	PN		**Pn**		**21 04 05.4**	**-0.4**
AKMS	**Akamas**	**1.36**	**303**	P		**Pn**		**21 04 07.0**	**+0.4**
AKMS				S		**Sb**		**21 04 24.8**	**+0.3**
AKMS				AML		AML		21 04 26.6	
	0.7nm,0.3s								
AKMS				AML		AML		21 04 26.6	
	0.7nm,0.3s								
AKMS				AML		AML		21 04 26.9	
	0.7nm,0.3s								
AKMS				AML		AML		21 04 26.9	
	0.7nm,0.3s								
DQRL	**Deir Qamar**	**1.64**	**110**	*eP*		**Pn**		**21 04 10.4**	**-0.1**
HNTI	**Hanita**	**1.70**	**134**	Pn		**Pn**		**21 04 11.2**	**0.0**
HNTI				Sn		**Sn**		**21 04 31.3**	**-1.3**
OSC2	**CSNet OBS 4**	**1.70**	**226**	P		**Pn**		**21 04 09.8**	**-1.5**
OSC2				S		**Sn**		**21 04 33.1**	**+0.4**
MMA0B	**Mount Meron ar**	**1.88**	**131**	Pn		**Pn**		**21 04 14.0**	**+0.2**
MMA0B				Sn		**Sn**		**21 04 37.2**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.89**	**356**	PN		**Pn**		**21 04 13.9**	**+0.1**
RCY	**Rachaya**	**1.92**	**113**	*eP*		**Pn**		**21 04 14.6**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.93**	**345**	PN		**Pn**		**21 04 14.4**	**0.0**
GEM	**Giv'at Ha'Em**	**1.94**	**123**	Pn		**Pn**		**21 04 14.4**	**-0.1**
GEM				Sn		**Sn**		**21 04 37.7**	**-0.7**
OFRI	**`Ofer**	**1.96**	**147**	Pn		**Pn**		**21 04 14.7**	**-0.1**
IKL	**Isikli**	**1.96**	**359**	PN		**Pn**		**21 04 14.8**	**0.0**
BLGI	**Bet Lehem HaGe**	**1.97**	**141**	Pn		**Pn**		**21 04 14.8**	**-0.1**
BLGI				Sn		**Sn**		**21 04 38.5**	**-0.7**
BERE	**Bereket-Mersin**	**2.11**	**349**	PN		**Pn**		**21 04 17.4**	**+0.4**
KEBE	**Keben-Mersin**	**2.17**	**360**	PN		**Pn**		**21 04 18.3**	**+0.5**
TEVE	**Tevekatli-Mers**	**2.17**	**354**	PN		**Pn**		**21 04 18.1**	**+0.3**
KIZK	**Mersin**	**2.23**	**9**	PN		**Pn**		**21 04 18.7**	**+0.2**
GAZI	**Gazipasa**	**2.27**	**330**	PN		**Pn**		**21 04 19.5**	**+0.4**
SLTI	**Sal'it**	**2.31**	**151**	Pn		**Pn**		**21 04 19.1**	**-0.6**
SLTI				Sn		**Sn**		**21 04 46.9**	**-0.8**
MMLI	**Mount Malkishu**	**2.32**	**142**	Pn		**Pn**		**21 04 20.3**	**+0.5**
MMLI				Sn		**Sn**		**21 04 47.6**	**-0.4**
HMDT	**Nahal Hemdat**	**2.52**	**143**	Pn		**Pn**		**21 04 23.1**	**+0.6**
HMDT				Sn		**Sn**		**21 04 52.9**	**0.0**
YAYL	**Yayladag**	**2.63**	**47**	PN		**Pn**		**21 04 24.8**	**+0.6**
MERS	**Mersin**	**2.67**	**14**	PN		**Pn**		**21 04 25.1**	**+0.4**
AMAZ	**Amatzia**	**2.91**	**159**	Pn		**Pn**		**21 04 28.8**	**+0.8**
AMAZ				Sn		**Sn**		**21 05 02.5**	**-0.1**
DSI	**Dead Sea**	**3.04**	**152**	Sn		**Sn**		**21 05 05.5**	**-0.1**
YTIR	**Yattir**	**3.13**	**158**	Pn		**Pn**		**21 04 32.1**	**+1.1**
YTIR				Sn		**Sn**		**21 05 07.7**	**-0.4**
MDBI	**Mazsada**	**3.26**	**155**	Pn		**Pn**		**21 04 33.4**	**+0.7**
MDBI				Sn		**Sn**		**21 05 10.1**	**-0.9**
KZIT	**Kziot**	**3.41**	**170**	Pn		**Pn**		**21 04 34.9**	**+0.2**
PRNI	**Paran**	**4.06**	**164**	Pn		**Pn**		**21 04 44.2**	**+0.5**
KRMI	**Paran Flat**	**4.23**	**168**	Pn		**Pn**		**21 04 46.5**	**+0.4**
HRFI	**Mount Harif**	**4.37**	**165**	Pn		**Pn**		**21 04 48.9**	**+0.9**
MBRI	**Mt Berech**	**4.58**	**167**	Pn		**Pn**		**21 04 51.4**	**+0.5**
EIL	**Elat**	**4.71**	**167**	Pn		**Pn**		**21 04 53.5**	**+0.9**

*IDC **30** 21:19:34.0±2.8, 33°.70S×179°.18W, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.6/27, mbtmp3.7/3, ML4.3/1, Error ellipse: s-maj=67.9km s-min=43.6km az=124.0*
*NEIC **30** 21:19:37.5±3.1, 34°.04S±0°.08×179°.3W±0°.1, h10km±2km, mb4.1/7, Error ellipse: s-maj=20.1km s-min=13.8km az=79.0*
ISC 30 21:19:38.5±1.6, 34°.18S±0°.08×178°.8W±0°.2, h50km, n28, σ1§96/35, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.12**	**214**	Pn		**Pn**		**21 20 39.3**	**+0.4**
MXZ				Sn		**Sn**		**21 21 30.9**	**+5.0**
URZ	**Urewera**	**5.25**	**218**	Pn		**Pn**		**21 20 55.6**	**+1.2**
	9.7nm,0.3s,baz=325,slow=1.5,SNR=40								
URZ				Sn		**Sn**		**21 21 55.7**	**+2.0**
	8.6nm,0.3s,baz=87,slow=18,SNR=15								
URZ	**Urewera**	**5.25**	**218**			**Pn**		**21 20 56.0**	**+1.5**
URZ				Sn		**Sn**		**21 21 56.0**	**+2.3**
BKZ	**Black Stump Fm**	**6.26**	**216**			**Pn**		**21 21 08.2**	**-0.1**
BKZ				Sn		**Sn**		**21 22 20.1**	**+1.5**
OUZ	**Omahuta**	**6.37**	**259**			**Pn**		**21 21 10.4**	**+0.6**
HIZ	**Hauiti**	**6.71**	**228**	Pn		**Pn**		**21 21 12.4**	**-2.1**
BFZ	**Birch Farm**	**7.60**	**210**	Pn		**Pn**		**21 21 26.2**	**-0.4**
BFZ						**Sn**		**21 22 50.9**	**-0.4**
MSWZ	**Moikau Station**	**8.63**	**211**	Pn		**Pn**		**21 21 40.1**	**-0.6**
MSWZ						**Sn**		**21 23 13.1**	**-3.6**
PLWZ	**Palliser**	**8.75**	**211**	Pn		**Pn**		**21 21 41.5**	**-0.9**
PLWZ						**Sn**		**21 23 15.9**	**-3.8**
SNZO	**South Karori**	**8.79**	**214**			**Sn**		**21 23 16.3**	**-4.1**
BHW	**Baring Head**	**8.79**	**213**	Pn		**Pn**		**21 21 42.1**	**-0.8**
BHW						**Sn**		**21 23 16.8**	**-3.7**
BSWZ	**Blackbirch Sta**	**9.49**	**216**	Pn		**Pn**		**21 21 53.6**	**+1.0**
QRZ	**Quartz Range**	**9.57**	**224**	Pn		**Pn**		**21 21 53.6**	**0.0**
KHZ	**Kahutara**	**10.20**	**214**	Pn		**Pn**		**21 22 01.1**	**-1.0**
MQZ	**McQueen's Vall**	**11.61**	**212**	Pn		**Pn**		**21 22 21.7**	**+0.3**
RPZ	**Rata Peaks**	**12.37**	**217**	Pn		**Pn**		**21 22 31.4**	**-0.5**
OUENC	**Ouen Island, N**	**17.24**	**309**			**P**		**21 23 35.6**	**-1.1**
OUENC					IAmb	IAmb		21 23 40.1	
	comp=Z,23nm,1.0s								
ASAR	**Alice Springs**	**42.40**	**271**	P		**P**		**21 27 27.4**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=113,slow=7.2,SNR=5.1								
ASAR	**Alice Springs**	**42.40**	**271**	P		**P**		**21 27 29.8**	**+1.4**
WR0	**Warramunga Arr**	**43.56**	**277**	P		**P**		**21 27 37.3**	**-0.3**
WB2	**Warramunga Arr**	**43.72**	**277**	P		**P**		**21 27 38.3**	**-0.7**
WB2					IAmb	IAmb		21 27 41.8	
	comp=Z,4.5nm,1.1s								
WRA	**Warramunga Arr**	**43.73**	**277**	P		**P**		**21 27 38.2**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=116,slow=8.2,SNR=10								
WRA	**Warramunga Arr**	**43.73**	**277**	P		**P**		**21 27 38.8**	**-0.3**
WB0	**Warramunga Arr**	**43.77**	**277**	P		**P**		**21 27 38.9**	**-0.5**
WB0					IAmb	IAmb		21 27 42.3	
	comp=Z,3.3nm,1.0s								
CASY	**Casey**	**51.51**	**209**	P		**P**		**21 28 41.7**	**+2.9**
CASY					IAmb	IAmb		21 28 48.8	
	comp=Z,2.4nm,1.1s								
NWAO	**Narrogin (SRO)**	**52.54**	**252**	P		**P**		**21 28 46.2**	**-0.7**
QSPA	**South Pole Qui**	**55.94**	**180**	P		P		21 29 17.8	+6.5
QSPA					IAmb	IAmb		21 29 28.5	
	comp=Z,1.3nm,0.9s								
FINES	**FINESS Array B**	**148.42**	**337**	PKPbc		**PKiKP**		**21 39 19.6**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=22,slow=6.2,SNR=12								

IDC 30 21:26:11.2±16.0, 4°.59S×149°.51E, h584km±144km, mb2.7/3, mb1 2.9/3, mb1mx2.5/27, mbtmp3.6/3, Error ellipse: s-maj=177.4km s-min=47.3km az=79.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.25**	**223**	P		P		21 30 15.1	-1.9
	1.3nm,0.4s,baz=49,slow=10,SNR=30								
WRA				PcP		PcP		21 33 54.6	-2.3
	0.6nm,0.8s,baz=46,slow=2.6,SNR=2.5								
ASAR	**Alice Springs**	**24.22**	**217**	P		P		21 30 45.3	+1.9
	0.3nm,0.3s,baz=47,slow=8.3,SNR=14								
MKAR	**Makanchi Array**	**78.03**	**320**	P		P		21 37 10.6	+0.3
	0.2nm,0.5s,baz=100,slow=5.1,SNR=4.1								
TORD	**Torodi Ar. Bea**	**147.12**	**287**	PKPbc		PKPbc		21 44 50.0	-0.4
	0.7nm,0.4s,baz=80,slow=2.0,SNR=12								

*IDC **30** 21:27:36.3±1.3, 34°.27N×25°.11E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.5/38, mbtmp3.6/8, ML3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/54, Error ellipse: s-maj=23.7km s-min=18.7km az=71.0*
*ISK **30** 21:27:37.8, 34°.25N×25°.09E, h10km, ML3.0/13*
*THE **30** 21:27:39.7, 34°.33N×25°.05E, h0km±1km, ML2.7/5, Error ellipse: s-maj=2.8km s-min=0.9km az=169.0*
*ATH **30** 21:27:39.2, 34°.27N×25°.03E, h14km±4km, ML2.9/7, Error ellipse: s-maj=5.5km s-min=2.0km az=355.0*
*DDA **30** 21:27:41.2, 34°.66N×25°.31E, h5km±6km, ML2.8*
ISC 30 21:27:36.7±1.7, 34°.17N±0°.06×25°.12E±0°.04, h7km±11km, n59, σ1§58/79, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.88**	**343**	P		**Pg**		**21 27 53.8**	**+0.1**
SIVA				S		**Sb**		**21 28 05.0**	**-1.3**
SIVA	**Sivas**	**0.88**	**343**	P		**Pg**		**21 27 53.8**	**+0.1**
SIVA				S		**Sb**		**21 28 05.0**	**-1.3**
SIVA				AML		AML		21 28 12.2	
	comp=E,6242μm,0.4s								
SIVA				AML		AML		21 28 16.2	
	comp=N,5872μm,0.6s								
LAST	**Lasithi**	**1.03**	**16**	P		**Pb**		**21 27 56.9**	**0.0**
LAST				S		**Sb**		**21 28 10.6**	**0.0**
	comp=N,322nm,0.5s								
LAST	**Lasithi**	**1.03**	**16**	P		**Pb**		**21 27 56.9**	**0.0**
LAST				S		**Sb**		**21 28 10.6**	**0.0**
LAST				AML		AML		21 28 17.2	
	comp=N,677μm,0.5s								
LAST				AML		AML		21 28 22.3	
	comp=E,702μm,0.9s								
GVD	**Gavdhos**	**1.08**	**308**	P		**Pg**		**21 27 57.5**	**0.0**
GVD				S		**Sb**		**21 28 12.7**	**+0.5**
	comp=E,892nm,0.5s								
GVD	**Gavdhos**	**1.08**	**308**	P		**Pg**		**21 27 57.5**	**0.0**
GVD				S		**Sg**		**21 28 09.6**	**-1.9**
GVD				AML		AML		21 28 22.2	
	comp=N,1663μm,0.3s								
GVD				AML		AML		21 28 26.8	
	comp=E,2151μm,0.4s								
GVD	**Gavdhos**	**1.08**	**308**	PG		**Pg**		**21 27 57.6**	**0.0**
GVD				SG		**Sb**		**21 28 12.4**	**+0.2**
GVDS	**Gavdos**	**1.08**	**308**	P		**Pg**		**21 27 57.8**	**+0.3**
GVDS				S		**Sn**		**21 28 13.8**	**+0.2**
	comp=E,682nm,0.4s								
GVDS	**Gavdos**	**1.08**	**308**	PG		**Pg**		**21 27 57.9**	**+0.4**
IDI	**Anoyia**	**1.13**	**350**	Pn		**Pg**		**21 27 57.9**	**-0.4**
	comp=E,16nm,0.3s,baz=299,slow=20,SNR=80								
IDI				Sn		**Sb**		**21 28 12.7**	**-0.8**
	comp=E,63nm,0.3s,baz=117,slow=18,SNR=16								
IDI	**Anoyia**	**1.13**	**350**	P		**Pg**		**21 27 58.0**	**-0.4**
IDI				S		**Sb**		**21 28 12.8**	**-0.8**
	comp=E,342nm,0.3s								
IDI	**Anoyia**	**1.13**	**350**	P		**Pg**		**21 27 58.0**	**-0.4**
IDI				AML		AML		21 28 20.1	
	comp=E,860μm,0.6s								
IDI				AML		AML		21 28 22.8	
	comp=N,647μm,0.3s								
IDI	**Anoyia**	**1.13**	**350**	PG		**Pg**		**21 27 58.1**	**-0.3**
IDI				SG		**Sb**		**21 28 13.1**	**-0.4**
KSTL	**Kastelli Herak**	**1.13**	**358**	P		**Pg**		**21 27 57.5**	**-0.9**
HRKL	**Herakleio**	**1.14**	**359**	P		**Pn**		**21 27 59.2**	**+0.2**
HRKL	**Herakleio**	**1.14**	**359**	PG		**Pb**		**21 27 58.9**	**+0.2**
HRKL				SG		**Sb**		**21 28 13.8**	**+0.1**
NPS	**Neapolis**	**1.16**	**20**	P		**Pn**		**21 27 59.6**	**+0.2**
NPS	**Neapolis**	**1.16**	**20**	P		**Pn**		**21 27 59.6**	**+0.2**
NPS				AML		AML		21 28 17.7	
	comp=E,881μm,0.6s								
NPS				AML		AML		21 28 18.0	
	comp=N,499μm,0.5s								
STIA	**Sitia Lasithi**	**1.30**	**38**	P		**Pn**		**21 28 03.0**	**+1.7**
ZKR	**Zakros**	**1.30**	**44**	P		**Pn**		**21 28 02.7**	**+1.4**
ZKR				S		**Sn**		**21 28 21.3**	**+2.3**
	comp=N,222nm,0.5s								
ZKR	**Zakros**	**1.30**	**44**	P		**Pn**		**21 28 02.7**	**+1.4**
ZKR				AML		AML		21 28 30.7	
	comp=N,284μm,0.5s								
ZKR				AML		AML		21 28 33.5	
	comp=E,768μm,0.6s								
ZKR	**Zakros**	**1.30**	**44**	PN		**Pn**		**21 28 02.3**	**+1.0**
VAM	**Vamos**	**1.45**	**329**	P		**Pn**		**21 28 03.5**	**+0.2**
VAM	**Vamos**	**1.45**	**329**	P		**Pn**		**21 28 03.5**	**+0.2**
VAM				AML		AML		21 28 34.4	
	comp=E,1201μm,0.5s								
VAM				AML		AML		21 28 37.9	
	comp=N,886μm,0.7s								
KNDR	**Palaiochora Ch**	**1.59**	**312**	PN		**Pn**		**21 28 06.3**	**+1.1**
IMMV	**Iera Moni Meta**	**1.59**	**324**	P		**Pn**		**21 28 05.6**	**+0.3**
IMMV	**Iera Moni Meta**	**1.59**	**324**	P		**Pn**		**21 28 05.6**	**+0.3**
IMMV	**Iera Moni Meta**	**1.59**	**324**	PN		**Pn**		**21 28 05.6**	**+0.3**
KARP	**Karpathos**	**2.16**	**50**	PN		**Pn**		**21 28 14.5**	**+1.3**
THR3	**Thira Island,**	**2.24**	**6**	P		**Pn**		**21 28 14.4**	**+0.2**
THR5	**Thira Island,**	**2.25**	**5**	P		**Pn**		**21 28 14.8**	**+0.5**
APE	**Apeiranthos**	**2.91**	**6**	PN		**Pn**		**21 28 24.3**	**+0.8**
ARG	**Arkhangelos**	**3.19**	**49**	PN		**Pn**		**21 28 29.2**	**+1.9**
DAT	**Datca**	**3.24**	**37**	*i* P		**Pn**		**21 28 29.4**	**+1.3**
DAT				*i* S		**Sn**		**21 29 04.9**	**-2.2**
DAT	**Datca**	**3.24**	**37**	PN		**Pn**		**21 28 29.5**	**+1.3**
TURN	**Turunc**	**3.64**	**44**	*i* P		**Pn**		**21 28 34.9**	**+1.5**
TURN				*i* S		**Sn**		**21 29 14.3**	**-2.2**
TURN	**Turunc**	**3.64**	**44**	PN		**Pn**		**21 28 35.1**	**+1.7**
DALY	**Dalyan (Mula)**	**3.91**	**47**	*i* P		**Pn**		**21 28 39.3**	**+2.2**
DALY				*i* S		**Sn**		**21 29 26.1**	**+3.0**
DALY				IAML				21 29 27.0	
	comp=N,18nm,0.9s								
DALY	**Dalyan (Mula)**	**3.91**	**47**	PN		**Pn**		**21 28 39.4**	**+2.3**
YER	**Yerkesik**	**3.92**	**40**	PN		**Pn**		**21 28 39.4**	**+2.1**
FETY	**Fethiye**	**4.06**	**52**	PN		**Pn**		**21 28 41.9**	**+2.6**
AYDN	**Tasoluk**	**4.14**	**32**	*i* P		**Pn**		**21 28 42.6**	**+2.2**
AKAS	**Kas**	**4.21**	**59**	*i* P		**Pn**		**21 28 42.7**	**+1.3**
AKAS				*i* S		**Sn**		**21 29 27.3**	**-3.5**
AKAS				IAML				21 29 40.0	
	comp=E,15nm,1.0s								
AKAS				IAML				21 29 59.0	
	comp=N,52nm,1.7s								
AKAS	**Kas**	**4.21**	**59**	PN		**Pn**		**21 28 42.8**	**+1.4**
CAME	**Cameli-Denizli**	**4.39**	**50**	PN		**Pn**		**21 28 46.4**	**+2.5**
TAVA	**DENIZLI_Tavas**	**4.50**	**42**	*i* P		**Pn**		**21 28 48.9**	**+3.4**
TAVA				*i* S		**Sn**		**21 29 37.2**	**-0.8**
ELL	**Elmali**	**4.67**	**55**	PN		**Pn**		**21 28 50.0**	**+2.2**
GOLH	**Golhisar**	**4.73**	**48**	*i* P		**Pn**		**21 28 49.6**	**+1.0**
GOLH				*i* S		**Sn**		**21 29 41.3**	**-2.5**
GOLH				IAML				21 29 57.0	
	comp=N,10nm,0.5s								
GOLH				IAML				21 29 59.0	
	comp=E,153nm,1.0s								
AKUM	**Antalya-Kumluc**	**4.78**	**62**	*i* P		**Pn**		**21 28 50.6**	**+1.5**
AKUM				*i* S		Sn		21 29 34.7	-10
AKUM				IAML				21 29 50.0	
	comp=E,11nm,0.8s								
PASA	**Karahalli, USA**	**5.46**	**39**	*i* P		**Pn**		**21 28 59.8**	**+1.2**
MMAI	**Mount Meron Ar**	**8.65**	**95**	Pn		**Pn**		**21 29 42.7**	**+0.3**
	comp=E,0.5nm,0.3s,baz=280,slow=16,SNR=2.0								
MMAI				Sn		**Sn**		**21 31 15.4**	**-4.9**
	comp=E,1.0nm,0.3s,baz=281,slow=23,SNR=3.0								
EIL	**Elat**	**9.48**	**116**	Pn		**Pn**		**21 29 54.6**	**+0.9**
	comp=E,1.1nm,0.3s,baz=177,slow=2.4,SNR=14								
EIL				Sn		**Sn**		**21 31 36.0**	**-4.6**
	comp=E,0.6nm,0.3s,baz=71,slow=19,SNR=4.2								
EIL				LR		LR		21 34 19.4	
	comp=E,51nm,21.5s,baz=86,slow=42								
AKASG	**Malin Array Be**	**16.79**	**9**	Pn		**Pn**		**21 31 32.5**	**+0.3**
	comp=E,1.0nm,0.3s,baz=201,slow=11,SNR=4.5								
GERES	**GERESS Array B**	**16.94**	**333**	Pn		**Pn**		**21 31 35.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=9.0								
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P		**P**		**21 33 45.7**	**+1.0**
	comp=E,0.4nm,0.4s,baz=32,slow=8.2,SNR=8.5								
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**		**21 35 48.0**	**+0.5**
	comp=E,0.5nm,0.6s,baz=268,slow=7.8,SNR=5.8								
ZALV	**Zalesovo Beam**	**45.71**	**45**	P		**P**		**21 35 57.3**	**-

OK031 S. Brethren Rd 0.05 95 Pg Pg 22 03 14.9 -0.3
OK031 Sg Sg 22 03 16.0 -0.3
QUOK Quay 0.27 37 Pg 22 03 18.7 -0.2
OK005 Luther M Schoo 0.38 218 Pg Pg 22 03 19.9 -1.1
OK029 Liberty Lake 0.47 250 Pg Pg 22 03 23.3 +0.5
OK025 Westminster Rd 0.52 223 Pg 22 03 23.2 -0.3
BCOK Bluff Creek, N 0.65 243 Pg Pg 22 03 26.0 0.0
OKCFA Oklahoma City 0.70 220 Pg Pg 22 03 27.3 +0.3
FNO Franklin 0.81 210 Pg 22 03 28.4 -0.7
BLOK Blackwell 0.84 343 Pb 22 03 30.2 -0.4
T35A Sooner Cattle 1.01 18 Pg 22 03 32.3 -0.6
CROK Carrier 1.03 302 Pb 22 03 33.6 -0.2
CROK IAmb_Lg 22 03 44.4
comp=Z,30nm,0.8s
GC02 Grant County # 1.18 319 Pg 22 03 36.1 -0.1
OK032 Salt Plains WL 1.35 309 Pn 22 03 38.4 -0.5
KS20 Mayfield South 1.37 338 IAmb_Lg 22 03 56.9
comp=Z,29nm,0.7s
KAN05 Bluff City Nor 1.39 326 Pn 22 03 38.4 -1.0
KS21 Milan North St 1.46 336 IAmb_Lg 22 03 58.4
comp=Z,44nm,0.8s
KAN10 Anthony SW Sta 1.51 321 Pg 22 03 42.8 +0.3
X34A Smith Ranch, M 1.55 210 Pn 22 03 41.8 +0.1
U32A Winter Ranch, 1.75 285 Pn Pn 22 03 44.4 0.0
X37A Clayton 1.85 137 Pn 22 03 46.2 +0.4
LOOK Love County 1.97 187 Pn Pn 22 03 48.3 +0.8
U38A Gravette 2.09 76 Pn Pn 22 03 49.7 +0.5
HHAR Hobbs 2.42 81 Pn Pn 22 03 54.0 +0.3
W39A Magazine 2.66 106 Pn Pn 22 03 57.1 +0.3
R32A Long Quarter, 2.85 330 Pn 22 03 57.5 -2.2
R32A IAmb_Lg 22 04 45.0
comp=Z,11nm,0.8s
X40A Basin Creek Fa 3.64 113 IAmb_Lg 22 05 16.3
comp=Z,7.5nm,0.7s
FCAR Ozark Folk Cen 3.88 90 IAmb_Lg 22 05 16.2
comp=Z,11nm,0.8s
MGMO Mountain Grove 3.92 71 IAmb_Lg 22 05 20.4
comp=Z,8.1nm,0.7s
AMTX Amarillo 4.04 256 IAmb_Lg 22 05 30.7
comp=Z,11nm,0.8s
R40A Maddies Statio 4.38 56 IAmb_Lg 22 05 33.6
comp=Z,6.6nm,0.8s
LCAR Lake Charles 4.66 87 IAmb_Lg 22 05 44.1
comp=Z,7.7nm,0.8s
T42A Van Buren 4.80 75 IAmb_Lg 22 05 55.1
comp=Z,5.8nm,0.8s
CCM Cathedral Cave 4.99 64 IAmb_Lg 22 05 50.2
comp=Z,4.8nm,0.7s
PBMO Poplar Bluff 5.29 79 IAmb_Lg 22 06 04.4
comp=Z,9.8nm,0.8s
T25A Trinidad 6.16 283 IAmb_Lg 22 06 40.9
comp=Z,5.3nm,0.7s

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*IDC **30** 22:03:52.4±0.6, 15°.61S×173°.72W, h0km, mb4.2/11, mb1 4.5/12, mb1mx4.2/38, mbtmp4.2/12, ML4.4/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/43, Error ellipse: s-maj=32.1km s-min=14.9km az=135.0*
*NEIC **30** 22:03:56.1±1.3, 15°.68S±0°.06×173°.50W±0°.07, h23km±5km, mb4.6/29, Error ellipse: s-maj=10.8km s-min=8.4km az=120.0*
*NOU **30** 22:04:00.0, 15°.61S×173°.09W, h15km, ML4.7/9, Tonga Islands*

ISC 30 22:03:57.6±0.4, 15°.70S±0°.05×173°.48W±0°.06, h42km, n69, σ1§57/60, mb4.4/24, MS3.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.42**	**43**	Pn	**Pn**	**22 04 34.6**	**-0.2**
	74nm,0.3s,baz=198,slow=3.5,SNR=101						
AFI				Sn	**Sn**	**22 04 59.3**	**-4.0**
	92nm,0.3s,baz=48,slow=23,SNR=3.7						
AFI				LR	LR	22 05 34.3	
	comp=Z,210nm,18.9s,baz=196,slow=40						
AFI	**Afiamalu**	**2.42**	**43**		**Pn**	**22 04 34.7**	**-0.2**
AFI				Sn	**Sn**	**22 04 59.7**	**-3.6**
AFI	**Afiamalu**	**2.42**	**43**	P	**Pn**	**22 04 34.7**	**-0.2**
NIUE	**Niue**	**4.77**	**135**		**Pn**	**22 05 06.9**	**0.0**
NIUE				Sn	**Sn**	**22 05 55.4**	**-5.6**
NIUE	**Niue**	**4.77**	**135**	P	**Pn**	**22 05 07.3**	**+0.3**
MSVF	**Nonsavu**	**8.37**	**255**	Pn	Pn	22 06 05.5	+9.0
	1.0nm,0.3s,baz=110,slow=12,SNR=8.6						
MSVF				LR	LR	22 08 47.5	
	comp=Z,257nm,20.5s,baz=152,slow=36						
MSVF	**Nonsavu**	**8.37**	**255**	Pn	**Pn**	**22 05 56.8**	**+0.3**
MSVF	**Nonsavu**	**8.37**	**255**	P	Pn	22 06 06.6	+10
FUNA	**Funafuti**	**10.11**	**314**	Pn	**Pn**	**22 06 19.1**	**-1.2**
KNTN	**Kanton**	**12.96**	**8**	Pn	**Pn**	**22 06 58.7**	**-0.7**
KNTN	**Kanton**	**12.96**	**8**	P	**Pn**	**22 07 00.5**	**+1.2**
RAR	**Rarotonga**	**14.10**	**115**	Pn	**Pn**	**22 07 12.7**	**-2.1**
	1.2nm,0.3s,baz=292,slow=16,SNR=3.0						
RAR				Sn	Sn	22 09 38.7	-11
	1.6nm,0.3s,baz=54,slow=14,SNR=2.1						
RAR	**Rarotonga**	**14.10**	**115**		**Pn**	**22 07 15.7**	**+0.8**
RAR	**Rarotonga**	**14.10**	**115**	P	**Pn**	**22 07 16.4**	**+1.5**
MARNC	**Mare, Loyalty**	**18.44**	**249**		**P**	**22 08 06.4**	**-3.3**
SANVU	**Saraoutou**	**18.62**	**268**	P	**P**	**22 08 09.1**	**-2.6**
DZM	**Mont Dzumac**	**20.02**	**248**	LR	LR	22 14 22.6	
	comp=Z,50nm,18.4s,baz=48,slow=32						
OUZ	**Omahuta**	**22.63**	**208**	P	**P**	**22 08 55.0**	**+0.1**
OUZ				IAmb	IAmb	22 09 09.3	
	comp=Z,32nm,1.5s						
PAE	**Paea**	**22.97**	**98**	*e*T	T	22 32 18.0	
	comp=Z,2.0nm,0.3s						
PPT	**Papeete**	**22.97**	**98**	LR	LR	22 17 33.8	
	comp=Z,33nm,18.1s,baz=178,slow=35						
PPT2	**Papeete2**	**22.97**	**98**	*e*LR	LR	22 14 17.0	
	comp=Z,181nm,27.2s						
TBI	**Tubuai**	**23.85**	**112**	*e*LR	LR	22 14 45.3	
	comp=Z,204nm,29.8s						
TBI	**Tubuai**	**23.85**	**112**	*e*T	T	22 33 27.7	
	comp=Z,10nm,0.3s						
URZ	**Urewera**	**23.95**	**198**	P	**P**	**22 09 08.5**	**+0.5**
	comp=Z,4.7nm,0.4s,baz=332,slow=1.8,SNR=1.9						
URZ	**Urewera**	**23.95**	**198**	P	**P**	**22 09 08.4**	**+0.5**
URZ				IAmb	IAmb	22 09 15.9	
	comp=Z,25nm,1.2s						
PMOR	**Pomariorio Ree**	**24.68**	**92**	*e*T	T	22 34 25.2	
	comp=Z,2.2nm,0.3s						
BFZ	**Birch Farm**	**26.44**	**198**	P	**P**	**22 09 29.0**	**-1.6**
HNR	**Honiara**	**26.66**	**280**	LR	LR	22 18 40.3	
	comp=Z,112nm,19.5s,baz=95,slow=34						
QRZ	**Quartz Range**	**27.82**	**203**	P	**P**	**22 09 42.9**	**-0.1**
TOO	**Toolangi**	**42.22**	**231**	P	**P**	**22 11 47.8**	**+1.0**
STKA	**Stephens Creek**	**43.82**	**240**	P	**P**	**22 11 58.6**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=99,slow=13,SNR=5.0						
STKA	**Stephens Creek**	**43.82**	**240**	P	**P**	**22 11 59.5**	**-0.3**
BBOO	**Buckleboo**	**48.60**	**240**	P	**P**	**22 12 36.6**	**-0.7**
WR0	**Warramunga Arr**	**49.52**	**257**	P	**P**	**22 12 44.0**	**-0.5**
WR0				IAmb	IAmb	22 12 46.7	
	comp=Z,9.2nm,1.3s						
WB0	**Warramunga Arr**	**49.67**	**257**	P	**P**	**22 12 44.6**	**-1.1**
WB0				IAmb	IAmb	22 12 48.2	
	comp=Z,4.3nm,1.1s						
WB2	**Warramunga Arr**	**49.69**	**257**	P	**P**	**22 12 44.7**	**-1.2**
WB2				IAmb	IAmb	22 12 55.2	
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**49.70**	**257**	P	**P**	**22 12 43.7**	**-2.2**
WRAB				IAmb	IAmb	22 12 44.0	
	comp=Z,9.7nm,1.4s						
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**22 12 44.9**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=96,slow=7.7,SNR=62						
AS31	**Alice Springs**	**49.95**	**252**	IAmb	IAmb	22 12 50.2	
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**22 12 46.9**	**-1.0**
	comp=Z,13nm,0.9s,baz=88,slow=7.3,SNR=92						
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**22 12 47.1**	**-0.7**
FORT	**Forrest**	**55.22**	**243**	P	**P**	**22 13 25.8**	**-0.8**
PSA00	**Pilbara Seismi**	**63.05**	**254**	P	**P**	**22 14 20.6**	**-0.4**
PSA00				IAmb	IAmb	22 14 22.5	
	comp=Z,3.3nm,0.9s						
PSA00	**Pilbara Seismi**	**63.05**	**254**	P	**P**	**22 14 20.8**	**-0.2**
PSA00				IAmb	IAmb	22 14 23.6	
	comp=Z,6.9nm,0.9s						
VNDA	**Vanda**	**63.07**	**186**	P	**P**	**22 14 22.4**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=15,slow=6.7,SNR=6.5						
VNDA	**Vanda**	**63.07**	**186**	P	**P**	**22 14 21.8**	**+1.6**
YBH	**Yreka Blue Hor**	**73.88**	**37**	P	**P**	**22 15 30.4**	**+2.0**
	comp=Z,3.3nm,0.8s,baz=68,slow=1.9,SNR=8.2						
YBH	**Yreka Blue Hor**	**73.88**	**37**	IAmb	IAmb	22 15 31.6	
	comp=Z,5.4nm,0.9s						
NVAR	**Mina Array Bea**	**74.60**	**42**	P	**P**	**22 15 34.5**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=224,slow=9.6,SNR=14						
U15A	**North Rim**	**77.56**	**46**	P	**P**	**22 15 51.6**	**+1.8**
TMUT	**Trail Mountain**	**79.74**	**44**	P	**P**	**22 16 01.0**	**-0.7**
TXAR	**Lajitas Array**	**80.84**	**56**	P	**P**	**22 16 09.5**	**+1.9**
	comp=Z,2.4nm,1.1s,baz=224,slow=7.0,SNR=9.9						
WRH	**Wood River Hil**	**82.26**	**11**	P	**P**	**22 16 15.2**	**+1.0**
WRH				IAmb	IAmb	22 16 15.7	
	comp=Z,4.7nm,1.0s						
MLY	**Manley**	**82.33**	**10**	P	**P**	**22 16 15.4**	**+0.8**
HDA	**Harding Lake**	**82.42**	**11**	P	**P**	**22 16 16.0**	**+1.0**
HDA				IAmb	IAmb	22 16 16.9	
	comp=Z,3.3nm,0.7s						
CCB	**Clear Creek Bu**	**82.47**	**11**	P	**P**	**22 16 16.1**	**+0.9**
CCB				IAmb	IAmb	22 16 16.6	
	comp=Z,4.2nm,0.7s						
PDAR	**Pinedale Array**	**82.54**	**42**	P	**P**	**22 16 17.7**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=210,slow=4.6,SNR=6.7						
PDAR	**Pinedale Array**	**82.54**	**42**	P	**P**	**22 16 17.2**	**+0.8**
SCRK	**Sand Creek**	**82.62**	**13**	P	**P**	**22 16 17.5**	**+1.3**
SCRK				IAmb	IAmb	22 16 17.5	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**82.75**	**11**	P	**P**	**22 16 17.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=229,slow=6.3,SNR=18						
PRP	**Porcupine Dome**	**83.68**	**11**	P	**P**	**22 16 23.0**	**+1.3**
PRP				IAmb	IAmb	22 16 23.6	
	comp=Z,3.9nm,0.7s						
BELA	**Belgrano 2**	**83.71**	**172**	P	**P**	**22 16 22.5**	**+0.9**
BELA				IAmb	IAmb	22 16 23.3	
	comp=Z,6.3nm,1.3s						
MAW	**Mawson**	**87.48**	**199**	P	**P**	**22 16 41.5**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=130,slow=4.6,SNR=9.3						
MAW	**Mawson**	**87.48**	**199**	P	**P**	**22 16 41.6**	**+1.0**
ARCES	**ARCESS Array B**	**124.90**	**352**	PKP	**PKiKP**	**22 22 52.8**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=25,slow=3.2,SNR=4.7						
KMBO	**Kilima Mbogo**	**145.34**	**244**	PKPbc	**PKiKP**	**22 23 35.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=24,slow=3.2,SNR=3.9						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	**PKPab**	**22 23 35.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=163,slow=2.1,SNR=7.2						
GERES	**GERESS Array B**	**146.43**	**351**	PKPbc	**PKPbc**	**22 23 34.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=183,slow=4.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**174.68**	**118**	PKPab	**PKPab**	**22 25 37.9**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=256,slow=4.1,SNR=3.0						

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*IDC **30** 22:03:54.8±0.7, 48°.27N×156°.88E, h0km, mb3.8/18, mb1 4.0/22, mb1mx3.9/52, mbtmp3.8/22, ML3.2/4, MS3.1/6, Ms1 3.1/6, ms1mx2.7/43, Error ellipse: s-maj=21.7km s-min=12.9km az=156.0*
*MOS **30** 22:03:57.0±0.8, 48°.22N×156°.99E, h29km, mb4.6/6, Error ellipse: s-maj=10.8km s-min=3.6km az=84.5*
*KRSC **30** 22:03:59.0±3.1, 48°.57N×157°.72E, h16km±36km, ML4.8*
*SKHL **30** 22:03:59.0±0.6, 48°.30N×156°.90E, h42km±4km, mb4.5/7*
*NEIC **30** 22:04:00.7±1.3, 48°.3N±0°.1×156°.9E±0°.2, h33km±8km, mb4.4/23, Error ellipse: s-maj=22.6km s-min=11.3km az=139.0*

ISC 30 22:03:60.0±0.6, 48°.27N±0°.07×157°.02E±0°.06, h35km, n161, σ1§47/181, mb4.2/35, MS3.1/4, 6C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**347**	*e*PN	**Pn**	**22 04 36.1**	**-1.8**
SKR				*e*S	**Sn**	**22 05 05.1**	**-1.9**
SKR				pmax	pmax		
	comp=Z,27nm,0.4s						
SKR				smax	smax		
	comp=E,741nm,0.3s						
SKR				smax	smax		
	comp=N,904nm,0.2s						
SKR	**Severo-Kuril's**	**2.49**	**347**	*e*P	**Pn**	**22 04 36.1**	**-1.8**
SKR				AMB	AMB	22 04 37.0	
	comp=N,30nm,0.4s						
SKR				*i* S	**Sn**	**22 05 04.3**	**-2.7**
SKR				A	A	22 05 06.0	
	comp=N,900nm,0.3s						
SKR				A	A	22 05 06.0	
	comp=N,740nm,0.3s						
ALID	**Alaid**	**2.77**	**340**	PN	**Pn**	**22 04 41.5**	**-0.5**
ALID				S	**Sn**	**22 05 13.8**	**-0.5**
ALID	**Alaid**	**2.77**	**340**	*e*P	**Pn**	**22 04 41.5**	**-0.5**
ALID				*e*S	**Sn**	**22 05 13.8**	**-0.5**
PAU	**Pauzhetka**	**3.20**	**358**	PN	**Pn**	**22 04 47.3**	**-0.5**
PAU	**Pauzhetka**	**3.20**	**358**	*e*P	**Pn**	**22 04 47.3**	**-0.5**
PAU				*e*S	**Sn**	**22 05 22.8**	**-1.9**
PAU	**Pauzhetka**	**3.20**	**358**	*e*P	**Pn**	**22 04 47.3**	**-0.5**
PAU				AMB	AMB	22 04 49.1	
	comp=N,80nm,0.4s						
PAU				*i* S	**Sn**	**22 05 23.0**	**-1.7**
PAU				A	A	22 05 25.2	
	comp=N,940nm,0.2s						
PAU				A	A	22 05 25.2	
	comp=N,640nm,0.2s						
KDTR	**Khodutka, Kamc**	**3.61**	**10**	PN	**Pn**	**22 04 51.6**	**-1.7**
KDTR	**Khodutka, Kamc**	**3.61**	**10**	*e*P	**Pn**	**22 04 51.6**	**-1.7**
KDTR				*e*S	**Sn**	**22 05 31.5**	**-3.1**
MIPR	**Malaya Ipel'ka**	**4.01**	**358**	PN	**Pn**	**22 04 58.9**	**0.0**
MIPR	**Malaya Ipel'ka**	**4.01**	**358**	*e*P	**Pn**	**22 04 58.9**	**0.0**
MIPR				*e*S	**Sn**	**22 05 44.4**	**-0.3**
MTVR	**Mutnovka**	**4.28**	**10**	PN	**Pn**	**22 05 02.3**	**-0.4**
MTVR	**Mutnovka**	**4.28**	**10**	*e*P	**Pn**	**22 05 02.3**	**-0.4**
MTVR				*e*S	**Sn**	**22 05 49.6**	**-1.9**
GRL	**Gorelyy**	**4.34**	**8**	PN	**Pn**	**22 05 02.8**	**-0.7**
GRL	**Gorelyy**	**4.34**	**8**	*e*P	**Pn**	**22 05 02.8**	**-0.7**
KRMR	**Karymshinskiy**	**4.62**	**8**	PN	**Pn**	**22 05 09.3**	**+2.1**
KRMR				S	**Sn**	**22 06 01.9**	**+2.3**
KRMR	**Karymshinskiy**	**4.62**	**8**	*e*P	**Pn**	**22 05 09.3**	**+2.1**
KRMR				*e*S	**Sn**	**22 06 01.9**	**+2.3**
APC	**Apacha**	**4.66**	**1**	PN	**Pn**	**22 05 07.6**	**-0.2**
APC	**Apacha**	**4.66**	**1**	*e*P	**Pn**	**22 05 07.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**4.86**	**5**	PN	**Pn**	**22 05 10.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**4.86**	**5**		**Pn**	**22 05 10.7**	**+0.1**
PETK	**Petropavlovsk-**	**4.86**	**5**	Pn	**Pn**	**22 05 10.4**	**-0.2**
	comp=N,1.9nm,0.3s,baz=182,slow=16,SNR=24						
PETK				Sn	**Sn**	**22 06 08.3**	**+2.7**
	comp=N,2.3nm,0.3s,baz=113,slow=36,SNR=2.5						
PETK				LR	LR	22 07 12.8	
	comp=N,142nm,21.5s,baz=208,slow=41						
PETK	**Petropavlovsk-**	**4.86**	**5**		**Pn**	**22 05 10.6**	**0.0**
PET	**Petropavlovsk**	**4.87**	**12**	PN	**Pn**	**22 05 10.5**	**-0.2**
PET	**Petropavlovsk**	**4.87**	**12**	*e*P	**Pn**	**22 05 10.5**	**-0.2**
PET				*e*S	**Sn**	**22 06 03.6**	**-2.1**
PET	**Petropavlovsk**	**4.87**	**12**		**Pn**	**22 05 10.4**	**-0.3**
PET					**Sn**	**22 06 04.6**	**-1.2**
PET	**Petropavlovsk**	**4.87**	**12**	*e*P	**Pn**	**22 05 10.5**	**-0.2**
PET				AMB	AMB	22 05 12.3	
	comp=N,90nm,0.5s						
PET				*e*S	**Sn**	**22 06 04.3**	**-1.4**
PET				A	A	22 06 07.8	
	comp=N,190nm,0.5s						
PET				A	A	22 06 07.8	
	comp=N,180nm,0.5s						
PET				AMS	AMS	22 06 50.6	
	comp=N,200nm,12.0s						
DALK	**Dalny**	**4.89**	**12**	PN	**Pn**	**22 05 10.0**	**-0.9**
DALK	**Dalny**	**4.89**	**12**	*e*P	**Pn**	**22 05 10.0**	**-0.9**
DALK				*e*S	**Sn**	**22 06 03.3**	**-3.0**
UGLR	**Uglovaya**	**5.08**	**12**	PN	**Pn**	**22 05 13.3**	**-0.3**
UGLR	**Uglovaya**	**5.08**	**12**	*e*P	**Pn**	**22 05 13.3**	**-0.3**
UGLR				*e*S	**Sn**	**22 06 10.2**	**-0.8**
AVH	**Avacha**	**5.12**	**12**	PN	**Pn**	**22 05 14.6**	**+0.5**
AVH	**Avacha**	**5.12**	**12**	*e*P	**Pn**	**22 05 14.6**	**+0.5**
AVH				*e*S	**Sn**	**22 06 11.5**	**-0.5**
NLC	**Nalytchevo**	**5.12**	**16**	*e*S	**Sn**	**22 06 07.3**	**-4.7**
SMAR	**Somma**	**5.12**	**12**	PN	**Pn**	**22 05 15.3**	**+0.9**
SMAR	**Somma**	**5.12**	**12**	*e*P	**Pn**	**22 05 15.3**	**+0.9**
SMAR				*e*S	**Sn**	**22 06 13.0**	**+0.7**
KOK	**Koryaka**	**5.13**	**11**	PN	**Pn**	**22 05 14.6**	**+0.3**
KOK	**Koryaka**	**5.13**	**11**	*e*P	**Pn**	**22 05 14.6**	**+0.3**
KOK				*e*S	**Sn**	**22 06 12.1**	**-0.2**
KOK	**Koryaka**	**5.13**	**11**	*e*P	**Pn**	**22 05 14.6**	**+0.3**
SDLR	**Sedlovina**	**5.15**	**13**	PN	**Pn**	**22 05 14.5**	**-0.1**
SDLR	**Sedlovina**	**5.15**	**13**	*e*P	**Pn**	**22 05 14.5**	**-0.1**
KRER	**Koryakskii**	**5.16**	**12**	PN	**Pn**	**22 05 14.9**	**+0.1**
KRER	**Koryakskii**	**5.16**	**12**	*e*P	**Pn**	**22 05 14.9**	**+0.1**
KRER				*e*S	**Sn**	**22 06 11.6**	**-1.5**
SPN	**Mys Shipunski**	**5.20**	**20**	PN	**Pn**	**22 05 14.3**	**-0.8**
SPN	**Mys Shipunski**	**5.20**	**20**	*e*P	**Pn**	**22 05 14.3**	**-0.8**
SPN				*e*S	**Sn**	**22 06 09.6**	**-4.2**
SPN	**Mys Shipunski**	**5.20**	**20**	*e*P	**Pn**	**22 05 14.3**	**-0.8**
KRX	**Arik**	**5.20**	**11**	PN	**Pn**	**22 05 15.9**	**+0.6**
KRX	**Arik**	**5.20**	**11**	*e*P	**Pn**	**22 05 15.9**	**+0.6**
KII	**Karymskiy**	**5.97**	**14**	PN	**Pn**	**22 05 27.8**	**+1.9**
KII	**Karymskiy**	**5.97**	**14**	*e*P	**Pn**	**22 05 27.8**	**+1.9**
MKZ	**Mys Kozlova**	**6.95**	**23**	PN	**Pn**	**22 05 37.3**	**-1.8**
MKZ	**Mys Kozlova**	**6.95**	**23**	*e*P	**Pn**	**22 05 37.3**	**-1.8**
MKZ				*e*S	**Sn**	**22 06 50.8**	**-6.0**
KUR	**Kuril'sk**	**6.99**	**248**	*e*P	**Pn**	**22 05 39.5**	**-0.2**
KUR				AMB	AMB	22 05 40.3	
	comp=N,30nm,0.4s						
KZV	**Kizimen**	**7.15**	**15**	PN	**Pn**	**22 05 43.6**	**+1.6**
KZV	**Kizimen**	**7.15**	**15**	*e*P	**Pn**	**22 05 43.6**	**+1.6**
KZV				*e*S	**Sn**	**22 06 59.5**	**-2.5**
TUMD	**Tumrok D**	**7.25**	**16**	*e*P	**Pn**	**22 05 42.4**	**-1.0**
TUMD				*e*S	**Sn**	**22 07 01.2**	**-3.2**
TUMR	**Tumrok**	**7.29**	**14**	PN	**Pn**	**22 05 42.4**	**-1.5**
TUMR	**Tumrok**	**7.29**	**14**	*e*P	**Pn**	**22 05 45.0**	**+1.1**
KMNR	**Kamenistaya**	**7.75**	**14**	PN	**Pn**	**22 05 53.4**	**+3.1**
KMNR	**Kamenistaya**	**7.75**	**14**	*e*P	**Pn**	**22 05 53.4**	**+3.1**
BZWR	**Bezymyannyi-We**	**8.00**	**14**	PN	**Pn**	**22 05 56.7**	**+3.0**
BZWR	**Bezymyannyi-We**	**8.00**	**14**	*e*P	**Pn**	**22 05 56.7**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**8.01**	**15**	PN	**Pn**	**22 05 55.3**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**8.01**	**15**	*e*P	**Pn**	**22 05 55.3**	**+1.5**
BDR	**Baidarnaya**	**8.69**	**15**	PN	**Pn**	**22 06 05.1**	**+1.9**
BDR	**Baidarnaya**	**8.69**	**15**	*e*P	**Pn**	**22 06 05.1**	**+1.9**
KBTR	**Krutoberegovo**	**8.71**	**22**	PN	**Pn**	**22 06 02.7**	**-0.5**
KBTR	**Krutoberegovo**	**8.71**	**22**	*e*P	**Pn**	**22 06 02.7**	**-0.5**
SMKR	**Semkarok**	**8.76**	**16**	PN	**Pn**	**22 06 05.9**	**+1.9**
SMKR	**Semkarok**	**8.76**	**16**	*e*P	**Pn**	**22 06 05.9**	**+1.9**
SRKR	**Sorokina**	**8.77**	**15**	PN	**Pn**	**22 06 05.1**	**+0.9**
SRKR	**Sorokina**	**8.77**	**15**	*e*P	**Pn**	**22 06 05.1**	**+0.9**
TYV	**Tymovskoe**	**9.69**	**291**	*e*P	**Pn**	**22 06 15.7**	**-1.1**
TYV				AMB	AMB	22 06 17.7	
	comp=N,30nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.73**	**268**	*ce*PN	**Pn**	**22 06 17.8**	**+0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
YSS	**Yuzh-Sakhalins**	**9.73**	**268**	*e*P	**Pn**	**22 06 16.7**	**-0.6**
YSS				AMB	AMB	22 06 18.9	
	comp=Z,10.0nm,0.5s						
JKA	**Kamikawa-asahi**	**10.83**	**253**		**Pn**	**22 06 31.1**	**-1.3**
JKA	**Kamikawa-asahi**	**10.83**	**253**	*e*P	**Pn**	**22 06 31.1**	**-1.3**
ASAJ	**Asahikawa**	**10.83**	**253**	Pn	**Pn**	**22 06 31.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=49,slow=9.8,SNR=5.6						
MA2	**Magadan**	**11.90**	**344**	LR	LR	22 10 41.6	
	comp=Z,79nm,21.6s,baz=133,slow=34						
EKMR	**Ekimchan**	**15.97**	**297**	*e*P	**Pn**	**22 07 37.4**	**-4.3**
EKMR				AMB	AMB	22 07 45.0	
	comp=Z,10.0nm,0.7s						
KLR	**Kul'dur**	**16.68**	**283**	Pn	**Pn**	**22 07 50.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=77,slow=11,SNR=12						
KLR	**Kul'dur**	**16.68**	**283**	*ce*P	**Pn**	**22 07 50.7**	**-0.1**
KLR	**Kul'dur**	**16.68**	**283**	*e*P	**Pn**	**22 07 46.8**	**-4.0**
JSD	**Sado**	**17.05**	**240**	Pn	**Pn**	**22 07 55.3**	**-0.2**
MJAR	**Matsushiro Arr**	**18.12**	**237**	P	**Pn**	**22 08 05.4**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=41,slow=9.7,SNR=2.7						
BMKR	**Bomnak**	**18.61**	**301**	*e*P	**P**	**22 08 14.9**	**+0.8**
ZEA	**Zeya**	**19.43**	**298**	*e*P	**P**	**22 08 24.2**	**+1.1**
KROS	**Kirovskiy**	**19.66**	**300**	*e*P	**P**	**22 08 27.3**	**+1.8**
BILL	**Bilibino**	**20.37**	**10**	*e*P	**P**	**22 08 34.1**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YAK	**Yakutsk**	**20.61**	**322**	*i* P	**P**	**22 08 36.1**	**+0.3**
YAK	**Yakutsk**	**20.61**	**322**	*e*P	**P**	**22 08 36.1**	**+0.3**
KSRS	**Korea Array**	**23.77**	**254**	P	**P**	**22 09 08.1**	**-1.0**
	comp=Z,3.0nm,0.9s,baz=55,slow=9.7,SNR=11						
JTU	**Tsushima**	**24.70**	**246**	P	**P**	**22 09 17.4**	**-0.2**
JTU				IAmb	IAmb	22 09 23.4	
	comp=Z,34nm,1.2s						
CNBA	**Chernabura Isl**	**27.40**	**60**	P	**P**	**22 09 42.6**	**+0.8**
CHIR	**Chirikof Islan**	**29.58**	**57**	P	**P**	**22 10 01.4**	**+0.2**
H11S1	**WAKE ISLAND Hy**	**30.71**	**162**	T	T	22 42 35.1	
	baz=347,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**30.72**	**162**	T	T	22 42 38.6	
	baz=347,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND

CHGR	**Chuyangaron**	**61.16**	**297**	P	**P**	**22 14 11.3**	**+0.4**
PDAR	**Pinedale Array**	**61.70**	**57**	P	**P**	**22 14 16.3**	**+1.6**
comp=Z,0.3nm,0.6s,baz=300,slow=3.3,SNR=3.7							
FINES	**FINESS Array B**	**63.76**	**336**	P	**P**	**22 14 28.2**	**+0.5**
comp=Z,0.9nm,0.5s,baz=30,slow=8.0,SNR=13							
OBN	**Obninsk**	**65.52**	**327**	*eP*	**P**	**22 14 39.2**	**-0.1**
OBN				pmax	pmax		
comp=Z,4.0nm,0.9s							
OBN	**Obninsk**	**65.52**	**327**	*eP*	**P**	**22 14 39.2**	**-0.1**
NOA	**NORSAR Array B**	**67.60**	**343**	P	**P**	**22 14 53.2**	**+0.7**
comp=Z,1.0nm,0.8s,baz=25,slow=6.4,SNR=3.3							
NOA				LR	LR	22 48 25.3	
comp=Z,8.0nm,19.6s,baz=55,slow=40							
AKT	**Akhty**	**71.03**	**311**	*eP*	**P**	**22 15 14.8**	**+0.6**
AKT				*e*		22 15 34.5	
AKT				pmax	pmax		
comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**71.59**	**316**	*eP*	**P**	**22 15 18.6**	**+1.1**
KIV				pmax	pmax		
comp=Z,3.0nm,1.0s							
KBZ	**Khabaz**	**71.67**	**316**	P	**P**	**22 15 19.3**	**+1.5**
comp=Z,3.5nm,0.9s,baz=198,slow=2.8,SNR=6.9							
KBZ	**Khabaz**	**71.67**	**316**	*ceP*	**P**	**22 15 18.5**	**+0.7**
KBZ				pmax	pmax		
comp=Z,3.0nm,0.9s							
KBZ	**Khabaz**	**71.67**	**316**	*eP*	**P**	**22 15 18.5**	**+0.7**
AKASG	**Malin Array Be**	**71.71**	**328**	P	**P**	**22 15 17.3**	**-0.7**
comp=Z,0.4nm,0.4s,baz=34,slow=6.9,SNR=6.2							
SHA1	**Shidzhatmaz**	**71.77**	**316**	*i P*	**P**	**22 15 19.4**	**+0.6**
TXAR	**Lajitas Array**	**74.44**	**63**	P	**P**	**22 15 35.1**	**+0.5**
comp=Z,0.5nm,0.5s,baz=305,slow=4.4,SNR=8.5							
ASAR	**Alice Springs**	**74.55**	**202**	P	**P**	**22 15 34.6**	**-0.4**
comp=Z,0.4nm,0.6s,baz=19,slow=5.9,SNR=3.6							
BUR08	**Bucovina Ar. S**	**75.71**	**329**	P	**P**	**22 15 42.4**	**+0.7**
BUR08				IAmb	IAmb	22 15 57.1	
comp=Z,3.7nm,1.5s							
CLL	**Collm**	**76.12**	**338**	*eP*	P	22 15 50.0	+6.2
GERES	**GERESS Array B**	**78.19**	**336**	P	**P**	**22 15 54.0**	**-1.6**
comp=Z,0.3nm,0.6s,baz=44,slow=5.8,SNR=2.5							
GERES				LR	LR	22 54 19.8	
comp=Z,20nm,18.5s,baz=335,slow=39							
GERES	**GERESS Array B**	**78.19**	**336**	P	**P**	**22 15 54.0**	**-1.6**
ESDC	**Sonseca Array**	**90.82**	**345**	P	**P**	**22 16 58.6**	**-1.0**
comp=Z,0.9nm,0.9s,baz=1.4,slow=5.1,SNR=5.1							

*IDC **30** 22:11:15.8±1.3, 7°.08N×77°.64W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/30, mbtmp3.8/4, ML2.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/34, Error ellipse: s-maj=43.5km s-min=29.8km az=39.0*

*RSNC **30** 22:11:19.1±1.2, 7°.16N×77°.40W, h33km±6km, ML3.3, Mw3.7*

ISC 30 22:11:16.1±1.2, 7°.21N±0°.02×77°.35W±0°.02, h5km±9km, n42, σ1§60/71, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.46**	**263**	⇓*iP*	**Pb**	**22 11 26.9**	**0.0**
PTAC				*eS*	**Sb**	**22 11 34.3**	**+0.3**
PTAC				*i*		22 11 35.6	
comp=Z,5μm,0.2s							
SOLC	**Bahia Solano**	**0.97**	**184**	*e*Pg	**Pg**	**22 11 34.4**	**-0.5**
SOLC				*eP*	**Pb**	**22 11 35.7**	**+0.1**
SOLC				*eS*	**Sg**	**22 11 48.1**	**+0.6**
SOLC				*i*		22 11 59.1	
comp=Z,634nm,0.5s							
DBBC	**Dabeiba**	**1.14**	**99**	*eP*	**Pg**	**22 11 36.9**	**-1.2**
DBBC				*eS*	**Sg**	**22 11 52.1**	**-0.8**
CAPC	**Capurgana**	**1.42**	**360**	*e*Pn	**Pn**	**22 11 41.7**	**-1.0**
CAPC				*e*Pg	**Pg**	**22 11 43.7**	**+0.3**
UPD2	**Meteti**	**1.49**	**334**	*eP*	**Pb**	**22 11 44.3**	**0.0**
UPD2				*eS*	**Sg**	**22 12 04.3**	**+0.3**
UREC	**San Jos de Ur**	**1.88**	**73**	*eP*	**Pn**	**22 11 49.1**	**+0.1**
UREC				*eS*	**Sn**	**22 12 12.2**	**-0.8**
UREC				*i*		22 12 23.4	
comp=Z,353nm,0.7s							
CBOC	**Ciudad Bolivar**	**1.88**	**135**	*eP*	**Pn**	**22 11 46.7**	**-2.4**
CBOC				*eS*	**Sn**	**22 12 11.9**	**-1.4**
LCBC	**Los crdobas,**	**1.91**	**30**	*eP*	**Pb**	**22 11 50.7**	**-0.7**
LCBC				*eS*	**Sg**	**22 12 17.3**	**-0.1**
LCBC				*i*		22 12 41.2	
comp=Z,114nm,0.5s							
HELC	**Santa Helena**	**2.07**	**119**	*eP*	**Pn**	**22 11 51.4**	**-0.5**
HELC				*eS*	**Sn**	**22 12 17.9**	**-0.3**
HELC				*i*		22 12 20.4	
comp=Z,142nm,0.6s							
MOTC	**Monteria, Cord**	**2.28**	**47**	*eP*	**Pn**	**22 11 54.5**	**-0.1**
MOTC				*eS*	**Sn**	**22 12 22.0**	**-1.0**
ZARC	**Zaragoza, Cauc**	**2.48**	**83**	*eP*	**Pn**	**22 11 58.1**	**+0.8**
ZARC				*eS*	**Sn**	**22 12 26.7**	**-1.3**
ZARC				*i*		22 12 32.0	
comp=Z,392nm,0.3s							
PLMC	**San Jos del P**	**2.52**	**155**	*eP*	**Pn**	**22 11 56.0**	**-1.8**
PLMC				*eS*	**Sn**	**22 12 25.7**	**-3.3**
PLMC				*i*		22 12 31.8	
comp=Z,80nm,0.5s							
GUY2C	**Guyana, Caldas**	**2.78**	**135**	*eP*	**Pn**	**22 12 01.9**	**0.0**
GUY2C				*eS*	**Sn**	**22 12 34.5**	**-1.6**
GUY2C				*i*		22 12 40.9	
comp=Z,117nm,0.6s							
UPA	**Univ. de Panam**	**2.79**	**309**	*eP*	**Pn**	**22 12 01.0**	**-0.5**
UPA				*eS*	**Sn**	**22 12 35.8**	**+0.1**
UPA				*i*		22 12 49.8	
comp=Z,44nm,0.5s							
NORC	**Norcasia**	**2.95**	**123**	*eP*	**Pn**	**22 12 04.7**	**+0.9**
NORC				*eS*	**Sn**	**22 12 37.8**	**-1.8**
NORC				*i*		22 12 43.7	
comp=Z,46nm,0.5s							
AZU	**Azuero**	**2.96**	**282**	*eP*	**Pn**	**22 12 04.5**	**+0.7**
AZU				*eS*	**Sn**	**22 12 36.5**	**-3.3**
AZU				*i*		22 12 42.2	
comp=Z,116nm,0.6s							
BCIP	**Isla Barro Col**	**3.14**	**308**	*eP*	**Pn**	**22 12 07.5**	**+1.2**
BCIP				*eS*	**Sn**	**22 12 45.3**	**+1.0**
BCIP				*i*		22 13 02.0	
comp=Z,71nm,0.5s							
TOLC	**Tolima**	**3.29**	**142**	*eP*	**Pn**	**22 12 10.1**	**+1.4**
TOLC				*eS*	**Sn**	**22 12 50.1**	**+1.7**
TOLC				*i*		22 13 01.2	
comp=Z,31nm,0.6s							
ANIL	**Santa Ana**	**3.32**	**144**	*eP*	**Pn**	**22 12 10.3**	**+1.3**
ANIL				*eS*	**Sn**	**22 12 49.2**	**+0.2**
ANIL				*i*		22 13 00.9	
comp=Z,94nm,0.3s							
YOTC	**Yotoco, Valle**	**3.35**	**163**	*eP*	**Pn**	**22 12 07.7**	**-1.7**
YOTC				*eS*	**Sn**	**22 12 46.5**	**-3.2**
SJCC	**San Jacinto, C**	**3.43**	**39**	*eP*	**Pn**	**22 12 11.2**	**+0.9**
SJCC				*eS*	**Sn**	**22 12 51.6**	**+0.2**
SJCC				*i*		22 12 57.1	
comp=Z,24nm,0.6s							
BRRC	**Barranca, Sant**	**3.61**	**91**	*eP*	**Pn**	**22 12 15.2**	**+2.5**
BRRC				*eS*	**Sn**	**22 12 56.7**	**+1.0**
BRRC				*i*		22 13 06.7	
comp=Z,54nm,0.5s							
ROSC	**El Rosal**	**3.82**	**128**	Pn	**Pn**	**22 12 17.0**	**+1.0**
comp=Z,12nm,0.3s,baz=153,slow=19,SNR=7.1							
ROSC				Sn	**Sn**	**22 13 02.6**	**+1.1**
comp=Z,6.7nm,0.3s,baz=22,slow=22,SNR=4.4							
ROSC	**El Rosal**	**3.82**	**128**	*eP*	**Pn**	**22 12 18.2**	**+2.2**
ROSC				*eS*	**Sn**	**22 12 59.2**	**-2.3**
ROSC				*i*		22 13 11.9	
comp=Z,26nm,0.5s							
ORTC	**Ortega, Tolima**	**3.88**	**147**	*eP*	**Pn**	**22 12 17.9**	**+1.3**
ORTC				*eS*	**Sn**	**22 13 03.0**	**+0.3**
ORTC				*i*		22 13 29.6	
comp=Z,21nm,0.6s							
GMAL	**Guarumal, Vera**	**3.90**	**278**	*eP*	**Pn**	**22 12 18.3**	**+1.6**
GMAL				*eS*	**Sn**	**22 12 59.6**	**-3.3**
OCAC	**Ocana**	**4.12**	**75**	*eP*	**Pn**	**22 12 20.8**	**+0.9**
OCAC				*eS*	**Sn**	**22 13 07.3**	**-1.3**
BARC	**Barichara**	**4.18**	**98**	*eP*	**Pn**	**22 12 22.6**	**+1.7**
BARC				*eS*	**Sn**	**22 13 09.7**	**-0.5**
BARC				*i*		22 13 12.7	
comp=Z,53nm,0.3s							
CHIC	**Chingaza**	**4.41**	**125**	*eP*	**Pn**	**22 12 27.5**	**+3.3**
CHIC				*eS*	**Sb**	**22 13 29.3**	**+1.2**
RUSC	**La Rusia**	**4.43**	**107**	*eP*	**Pn**	**22 12 26.7**	**+2.2**
RUSC				*eS*	**Sn**	**22 13 18.8**	**+2.0**
RUSC				*i*		22 13 43.6	
comp=Z,40nm,0.8s							
MARP	**Paez Belalcaza**	**4.55**	**162**	*eP*	**Pn**	**22 12 28.1**	**+2.1**
PAMC	**Pamplona, Colo**	**4.61**	**88**	*eP*	**Pn**	**22 12 29.2**	**+2.2**
PAMC				*eS*	**Sn**	**22 13 17.5**	**-3.7**
PAMC				*i*		22 13 25.4	
comp=Z,56nm,0.5s							
POPC	**Popayan, Colom**	**4.68**	**172**	*eP*	Pn	22 12 19.0	-8.7
POPC				*eS*	Sn	22 13 09.0	-14
CRJC	**Cerrejon, Guaj**	**5.81**	**49**	*eP*	**Pn**	**22 12 43.1**	**0.0**
CRJC				*eS*	**Sn**	**22 13 47.0**	**-3.4**
CRJC				*i*		22 13 54.8	
comp=Z,22nm,0.4s							
SDV	**Santo Domingo**	**6.85**	**75**	Pn	Pn	22 13 02.6	+5.1
comp=Z,3.1nm,0.3s,baz=297,slow=4.5,SNR=3.2							
SDV				Sn	**Sn**	**22 14 14.8**	**-1.3**
comp=Z,6.8nm,0.3s,baz=85,slow=23,SNR=7.5							
JTS	**Las Juntas de**	**8.12**	**293**	LR	LR	22 15 57.2	
comp=Z,56nm,21.5s,baz=164,slow=36							
ATAH	**Atahualpa**	**14.28**	**184**	LR	LR	22 20 52.5	
comp=Z,85nm,19.4s,baz=329,slow=41							
LPAZ	**La Paz**	**25.06**	**159**	P	**P**	**22 16 43.4**	**+1.1**
comp=Z,0.4nm,0.3s,baz=315,slow=7.1,SNR=2.4							
NEW	**Newport**	**52.97**	**328**	LR	LR	22 48 01.2	
comp=Z,54nm,18.0s,baz=232,slow=42							
ILAR	**Eielson Array**	**74.86**	**335**	P	**P**	**22 22 58.1**	**+0.5**
comp=Z,0.5nm,0.9s,baz=106,slow=5.9,SNR=3.3							
ASAR	**Alice Springs**	**145.84**	**238**	PKPbc	**PKPdf**	**22 30 56.8**	**-0.3**
comp=Z,0.7nm,0.8s,baz=108,slow=4.1,SNR=5.2							
WRA	**Warramunga Arr**	**146.78**	**244**	PKPbc	**PKPdf**	**22 30 57.9**	**-0.7**
comp=Z,0.6nm,0.9s,baz=104,slow=3.5,SNR=2.4							

*KRSC **30** 22:28:34.5±2.8, 48°.79N×156°.48E, h7km±42km, ML4.2*

*IDC **30** 22:28:40.0±3.1, 48°.98N×154°.84E, h87km±28km, mb3.4/5, mb1 3.6/8, mb1mx3.2/51, mbtmp3.8/8, MS3.1/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=42.6km s-min=18.4km az=142.0*

ISC 30 22:28:35.0±1.0, 48°.6N±0°.1×155°.4E±0°.1, h35km, n31, σ1§83/37, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.11**	**13**	*eP*	**Pn**	**22 29 07.0**	**-0.7**
SKR				*eS*	**Sn**	**22 29 30.2**	**-2.4**
ALID	**Alaid**	**2.24**	**3**	*eP*	**Pn**	**22 29 09.1**	**-0.5**
PAU	**Pauzhetka**	**2.98**	**18**	*eS*	**Sn**	**22 29 53.8**	**-0.4**
KDTR	**Khodutka, Kamc**	**3.62**	**28**	*eP*	**Pn**	**22 29 28.3**	**-0.2**
KDTR				*eS*	**Sn**	**22 30 07.8**	**-2.2**
MIPR	**Malaya Ipel'ka**	**3.75**	**13**	*eP*	**Pn**	**22 29 31.4**	**+1.1**
MTVR	**Mutnovka**	**4.25**	**24**	*eP*	**Pn**	**22 29 38.3**	**+1.0**
MTVR				*eS*	**Sn**	**22 30 25.0**	**-0.7**
GRL	**Gorelyy**	**4.29**	**23**	*eP*	**Pn**	**22 29 39.2**	**+1.5**
GRL				*eS*	**Sn**	**22 30 27.0**	**+0.5**
KRMR	**Karymshinskiy**	**4.55**	**22**	*eP*	**Pn**	**22 29 45.2**	**+3.9**
PETK	**Petropavlovsk-**	**4.72**	**17**	P	**Pn**	**22 29 45.9**	**+2.3**
1.3nm,0.3s,baz=195,slow=22,SNR=12							
PETK				LR	LR	22 31 46.2	
comp=Z,52nm,20.5s,baz=180,slow=41							
PET	**Petropavlovsk**	**4.86**	**24**	*eS*	**Sn**	**22 30 40.0**	**-0.6**
DALK	**Dalny**	**4.90**	**25**	*eP*	**Pn**	**22 29 46.8**	**+0.8**
DALK				*eS*	**Sn**	**22 30 39.8**	**-1.6**
UGLR	**Uglovaya**	**5.08**	**24**	*eP*	**Pn**	**22 29 50.1**	**+1.5**
KOK	**Koryaka**	**5.10**	**23**	*eP*	**Pn**	**22 29 51.6**	**+2.7**
AVH	**Avacha**	**5.10**	**24**	*eP*	**Pn**	**22 29 50.8**	**+1.9**
SMAR	**Somma**	**5.12**	**24**	*eP*	**Pn**	**22 29 52.2**	**+2.9**
SMAR				*eS*	**Sn**	**22 30 48.3**	**+1.1**
KRER	**Koryakskii**	**5.14**	**23**	*eP*	**Pn**	**22 29 51.6**	**+2.0**
SDLR	**Sedlovina**	**5.15**	**24**	*eP*	**Pn**	**22 29 50.5**	**+0.8**
KRX	**Arik**	**5.17**	**23**	*eP*	**Pn**	**22 29 51.8**	**+2.0**
KRX				*eS*	**Sn**	**22 30 48.3**	**+0.1**
GNL	**Ganaly**	**5.32**	**17**	*eP*	**Pn**	**22 29 54.1**	**+2.2**
SPN	**Mys Shipunski**	**5.36**	**32**	*eP*	**Pn**	**22 29 52.5**	**+0.2**
MKZ	**Mys Kozlova**	**7.13**	**31**	*eP*	**Pn**	**22 30 15.5**	**-1.2**
KZV	**Kizimen**	**7.17**	**23**	*eP*	**Pn**	**22 30 20.9**	**+3.6**
TUMR	**Tumrok**	**7.28**	**22**	*eP*	**Pn**	**22 30 21.7**	**+2.8**
KBTR	**Krutoberegovo**	**8.84**	**28**	*eP*	**Pn**	**22 30 40.8**	**+0.7**
ASAJ	**Asahikawa**	**9.90**	**248**	P	**Pn**	**22 30 57.2**	**+2.5**
1.4nm,0.3s,baz=63,slow=12,SNR=14							
USRK	**Ussuriysk Ar.**	**16.69**	**263**	P	**Pn**	**22 32 23.6**	**-2.3**
baz=60,slow=12,SNR=3.1							
KSRS	**Korea Array**	**22.82**	**251**	P	**P**	**22 33 34.0**	**-0.8**
0.8nm,0.5s,baz=46,slow=11,SNR=3.6							
CMAR	**Chiang Mai Arr**	**54.28**	**257**	P	**P**	**22 37 56.6**	**-1.0**
1.2nm,0.8s,baz=21,slow=8.2,SNR=5.6							
FINES	**FINESS Array B**	**62.96**	**335**	P	P	22 38 52.8	-4.6
2.2nm,1.0s,baz=90,slow=3.8,SNR=3.6							
WRA	**Warramunga Arr**	**70.81**	**201**	P	**P**	**22 39 47.0**	**-0.7**
0.3nm,0.5s,baz=15,slow=6.4,SNR=2.7							
TXAR	**Lajitas Array**	**75.26**	**62**	P	**P**	**22 40 14.9**	**+0.5**
0.2nm,0.7s,baz=316,slow=6.3,SNR=3.4							
TXAR				LR	LR	23 16 16.8	
comp=Z,46nm,18.2s,baz=0.0,slow=38							

*TRN **30** 22:28:56.2, 18°.06N×62°.89W, h34km, MD4.3*

TRN Felt in Saint Martin MMI III, Sint Maarten IV, and Anguilla III.

*NEIC **30** 22:28:58.1±1.4, 18°.05N±0°.07×62°.91W±0°.04, h32km±5km, ML3.8/48, Error ellipse: s-maj=10.3km s-min=5.9km az=189.0*

ISC 30 22:28:57.7±1.3, 18°.10N±0°.06×62°.87W±0°.04, h34km±2km, n55, σ0§76/68, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.20**	**257**	*i P*	**Pb**	**22 29 04.4**	**0.0**
SMRT				*eS*	**Sb**	**22 29 09.0**	**0.0**
SMRT	**St. Maarten**	**0.20**	**257**	Pg	**Pb**	**22 29 04.4**	**0.0**
SMRT				Sg	**Sb**	**22 29 09.0**	**0.0**
SABA	**Saba**	**0.59**	**217**	*eP*	**Pn**	**22 29 09.7**	**+0.1**
SABA				*eS*	**Sn**	**22 29 18.1**	**0.0**
SABA	**Saba**	**0.59**	**217**		**Pn**	**22 29 09.3**	**-0.3**
SABA					**Sn**	**22 29 17.7**	**-0.4**
SABA				IAML		22 29 23.1	
comp=N,5μm,0.3s							
SABA				IAML		22 29 27.8	
comp=E,6μm,0.5s							
SEUS	**St. Eustatius**	**0.61**	**190**	*eP*	**Pn**	**22 29 09.7**	**-0.1**
SEUS				*eS*	**Sn**	**22 29 18.7**	**+0.2**
SEUS	**St. Eustatius**	**0.61**	**190**		**Pn**	**22 29 09.9**	**0.0**
SEUS					**Sn**	**22 29 18.9**	**+0.4**
SEUS				IAML		22 29 19.0	
comp=E,8μm,0.3s							
SKI	**Saint Kitts**	**0.77**	**170**	*eP*	**Pb**	**22 29 12.0**	**-0.8**
SKI				*eS*	**Sb**	**22 29 23.5**	**+0.5**
SKI	**Saint Kitts**	**0.77**	**170**		**Pb**	**22 29 12.2**	**-0.5**
NVDO	**Nevis, Disaste**	**1.00**	**166**	*eP*	**Pb**	**22 29 15.4**	**-1.2**
ANWB	**Willy Bob**	**1.12**	**112**	*eP*	**Pn**	**22 29 16.8**	**-0.1**
ANWB				*eS*	**Sb**	**22 29 33.2**	**+0.3**
ANWB	**Willy Bob**	**1.12**	**112**	Pn	**Pn**	**22 29 17.1**	**+0.2**
ANOC	**Antigua Open C**	**1.39**	**134**	*eP*	**Pn**	**22 29 20.6**	**0.0**
ANOC				*eS*	**Sn**	**22 29 38.2**	**+0.4**
BPA	**Boggy Peak**	**1.42**	**137**	*i P*	**Pn**	**22 29 21.0**	**-0.2**
BPA				*eS*	**Sn**	**22 29 38.5**	**-0.3**
ANBD	**Bethesda, Anti**	**1.48**	**134**	*eP*	**Pn**	**22 29 21.9**	**-0.1**
ANBD				*eS*	**Sn**	**22 29 40.6**	**+0.4**
ABVI	**Anegada Island**	**1.52**	**295**	Pn	**Pn**	**22 29 22.3**	**-0.2**
CDVI	**St. Croix**	**1.83**	**260**	*eP*	**Pn**	**22 29 26.8**	**0.0**
CDVI	**St. Croix**	**1.83**	**260**	Pn	**Pn**	**22 29 27.0**	**+0.2**
CDVI				IAML		22 30 06.6	
comp=N,1μm,0.9s							
STVI	**Saint Thomas**	**2.00**	**278**		**Pn**	**22 29 28.2**	**-0.8**
STVI				IAML		22 29 55.0	
comp=N,829nm,0.3s							
STVI				IAML		22 29 55.2	
comp=E,784nm,0.4s							
CUPR	**Culebra, Puert**	**2.30**	**276**		**Pn**	**22 29 32.7**	**-0.5**
TDBA	**Terre de Bas,**	**2.53**	**152**	*eP*	**Pn**	**22 29 34.9**	**-1.4**
MTP	**Monte Pirata**	**2.55**	**270**		**Pn**	**22 29 36.6**	**0.0**
MTP				IAML		22 30 08.8	
comp=N,649nm,0.3s							
MTP				IAML		22 30 10.6	
comp=E,665nm,0.2s							
HUMP	**Col San Antoni**	**2.83**	**271**		**Pn**	**22 29 40.8**	**+0.3**
HUMP				IAML		22 30 16.0	
comp=E,356nm,0.2s							
HUMP				IAML		22 30 18.0	
comp=N,336nm,0.4s							
CBYP	**Canovanas**	**2.84**	**274**	Pn	**Pn**	**22 29 40.4**	**-0.4**
DSLB	**Salisbury**	**2.99**	**152**	*eP*	**Pn**	**22 29 43.3**	**+0.6**
DSLB				*eS*	**Sn**	**22 30 16.9**	**-0.5**
PDPR	**Patillas Dam,**	**3.00**	**269**	Pn	**Pn**	**22 29 43.1**	**+0.3**
PDPR				IAML		22 30 20.7	
comp=E,211nm,0.3s							
GCPR	**Guaynabo City**	**3.06**	**274**		**Pn**	**22 29 43.1**	**-0.5**
GCPR				IAML		22 30 20.9	
comp=E,196nm,0.4s							
SJG	**San Juan**	**3.12**	**271**	*eP*	**Pn**	**22 29 44.7**	**+0.3**
SJG	**San Juan**	**3.12**	**271**		**Pn**	**22 29 44.8**	**+0.4**
SJG				IAML		22 30 23.2	
comp=E,230nm,0.6s							
SJG				IAML		22 30 27.3	
comp=E,233nm,0.5s							
DLPL	**La Plaine**	**3.16**	**150**	*eP*	**Pn**	**22 29 43.8**	**-1.3**
DLPL	**La Plaine**	**3.16**	**150**	Pn	**Pn**	**22 29 45.4**	**+0.3**
ICMP	**Isla Caja de M**	**3.48**	**267**	Pn	**Pn**	**22 29 49.6**	**+0.1**
ICMP				IAML		22 30 29.9	
comp=E,135nm,0.3s							
EMPR	**Esperanza - Ma**	**3.50**	**277**	Pn	**Pn**	**22 29 49.3**	**-0.4**
EMPR				IAML		22 30 37.6	
comp=N,185nm,0.7s							
EMPR				IAML		22 30 47.4	
comp=E,190nm,0.9s							
OBIP	**Obispado Ponce**	**3.55**	**270**		**Pn**	**22 29 50.6**	**+0.2**
SVN	**Savane Anatole**	**3.62**	**153**	Pn	**Pn**	**22 29 52.0**	**+0.5**
AOPR	**Arecibo Observ**	**3.70**	**274**	*eP*	**Pn**	**22 29 52.1**	**-0.4**
AOPR	**Arecibo Observ**	**3.70**	**274**	Pn	**Pn**	**22 29 52.1**	**-0.4**
AOPR				IAML		22 30 45.0	
comp=N,246nm,0.4s							
FDF	**Fort de France**	**3.73**	**153**	Pn	**Pn**	**22 29 53.6**	**+0.7**
FDF				IAML		22 30 44.2	
comp=E,117nm,1.2s							
ILAM	**Ilet Lapin Mar**	**3.82**	**150**	Pn	**Pn**	**22 29 54.3**	**+0.2**
ILAM				IAML		22 30 26.7	
comp=E,111nm,1.4s							
ILAM				IAML		22 30 44.2	
comp=N,113nm,1.1s							
MLPR	**Magueyes Islan**	**3.97**	**269**	Pn	**Pn**	**22 29 55.2**	**-1.0**
AGPR	**Aguadilla, PR**	**4.04**	**276**	Pn	**Pn**	**22 29 56.6**	**-0.6**
AGPR				IAML		22 30 45.2	
comp=N,101nm,0.3s							
AGPR				IAML		22 30 59.7	
comp=E,111nm,1.5s							
MPOM	**Morne Pois Mar**	**4.11**	**152**	*eP*	**Pn**	**22 29 58.9**	**+0.7**
MPOM				*eS*	**Sn**	**22 30 43.3**	**-1.8**
MPOM	**Morne Pois Mar**	**4.11**	**152**	Pn	**Pn**	**22 29 58.9**	**+0.7**
MPOM				IAML		22 31 05.5	
comp=N,83nm,1.9s							
SLBI	**Saint Lucia, B**	**4.44**	**155**	*eP*	**Pn**	**22 30 02.7**	**+0.1**
MCLT	**Moule a Chique**	**4.74**	**157**	*eP*	**Pn**	**22 30 06.3**	**-0.5**
MCLT	**Moule a Chique**	**4.74**	**157**	Pn	**Pn**	**22 30 06.7**	**-0.1**
SVV	**Soufriere Volc**	**5.01**	**161**	*eP*	**Pn**	**22 30 11.6**	**+1.0**
SVB	**Belmont**	**5.04**	**162**	Pn	**Pn**	**22 30 11.5**	**+0.5**
PCDR	**Punta Cana, DR**	**5.25**	**275**	Pn	**Pn**	**22 30 14.2**	**+0.4**
GRGR	**Grenville**	**6.04**	**169**	Pn	**Pn**	**22 30 24.6**	**-0.2**
DR12	**Loma Pena Alta**	**6.22**	**277**	Pn	**Pn**	**22 30 25.1**	**-2.1**
TOSP	**Speyside**	**7.12**	**161**	*eP*	**Pn**	**22 30 39.8**	**+0.2**
SDDR	**Presa de Saban**	**8.03**	**278**	Pn	**Pn**	**22 30 52.7**	**+0.7**
GRTK	**Grand Turk**	**8.49**	**295**	Pn	**Pn**	**22 30 55.2**	**-3.0**
SJCC	**San Jacinto, C**	**14.45**	**237**	P	**P**	**22 32 26.5**	**+0.2**
XAN	**Xi'an**	**127.57**	**9**	SKS	**SKSdf**	**22 55 11.5**	**+2.1**

*NOU **30** 22:31:36.3, 22°.91S×174°.27W, h5km, MLv5.3/5, Tonga Islands Region*

*MOS **30** 22:31:38.2±2.8, 22°.55S×174°.44W, h29km, mb5.1/10, Error ellipse: s-maj=11.0km s-min=9.8km az=53.7*

*IDC **30** 22:31:38.5±0.5, 22°.57S×174°.94W, h0km, mb4.7/23, mb1 4.9/26, mb1mx4.7/44, mbtmp4.7/26, ML4.1/2, MS4.1/20, Ms1 4.1/20, ms1mx3.9/38, Error ellipse: s-maj=19.6km s-min=13.5km az=136.0*

*NEIC **30** 22:31:39.5±2.0, 22°.55S±0°.07×174°.31W±0°.04, h40km±6km, mb5.0/73, Error ellipse: s-maj=11.1km s-min=2.1km az=149.0*

*GCMT **30** 22:31:43.5±0.4, 22°.82S±0°.04×174°.50W±0°.03, h21km±1km, MW4.9/75, Moment Tensor Solution. s30,c33; s75,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.48±.20; $M_{\theta\theta}$-1.75±.15; $M_{\phi\phi}$-0.72±.12; $M_{r\theta}$0.49±.27; $M_{\theta\phi}$-1.76±.09; $M_{\phi r}$-0.14±.20; Best double couple: $M_0$2.83400×10^{16} NP1:ϕ_s221.00000°, λ83.00000°, λ73.00000°. NP2: ϕ_s64.00000°, δ49.00000°, λ105.00000°. Principal axes: T 2.5800, Plg78.0000°, Azm38.0000°; N 0.5110, Plg12.0000°, Azm234.0000°; P -3.0880, Plg3.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface wa

ODZ IAmb IAmb 22 37 24.3
comp=Z,36nm,1.4s
WHZ Wether Hill Ro 27.11 207 P P 22 37 19.4 -2.5
WHZ IAmb IAmb 22 37 30.4
comp=Z,64nm,1.4s
HNR Honiara 27.50 294 LR LR 22 47 49.9
comp=Z,251nm,18.4s,baz=141,slow=36
ARMA Armidale 30.90 248 P **P 22 37 55.1 -0.9**
ARMA IAmb IAmb 22 37 58.2
comp=Z,12nm,0.8s
EIDS Eidsvold 31.20 258 P **P 22 37 58.8 +0.3**
TAOE Nuku Hiva Isla 35.98 73 *e*LR LR 22 48 19.4
comp=Z,312nm,21.0s
CTAO Charters Tower 36.26 267 P **P 22 38 42.9 +0.4**
CTAO pmax pmax
comp=Z,27nm,1.4s
CTAO Charters Tower 36.26 267 P **P 22 38 42.9 +0.4**
CTAO IAmb IAmb 22 39 02.5
comp=Z,27nm,1.4s
PMG Port Moresby 38.69 284 LR LR 22 53 50.3
comp=Z,187nm,18.2s,baz=146,slow=34
PMG Port Moresby 38.69 284 P **P 22 39 01.5 -1.7**
PMG pmax pmax
comp=Z,79nm,1.1s
PMG Port Moresby 38.69 284 P **P 22 39 01.5 -1.7**
JOHN Johnston Islan 39.46 8 P P 22 39 03.3 -6.1
STKA Stephens Creek 39.59 247 P **P 22 39 09.8 -0.8**
comp=Z,5.3nm,0.7s,baz=99,slow=13,SNR=9.2
STKA LR LR 22 55 15.5
comp=Z,555nm,18.4s,baz=65,slow=36
STKA Stephens Creek 39.59 247 P **P 22 39 09.3 -1.3**
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 39.59 247 P **P 22 39 09.3 -1.3**
PTCN Pitcairn Islan 40.86 103 P P 22 39 11.8 -9.3
BBOO Buckleboo 44.30 246 P **P 22 39 48.6 -0.4**
BBOO IAmb IAmb 22 40 10.7
comp=Z,56nm,1.5s
AS31 Alice Springs 46.93 258 P **P 22 40 08.8 -1.2**
ASAR Alice Springs 46.93 258 P **P 22 40 09.4 -0.6**
comp=Z,19nm,0.9s,baz=91,slow=8.2,SNR=86
ASAR S **S 22 46 56.5 -2.7**
comp=Z,0.8nm,0.7s,baz=101,slow=14,SNR=5.7
ASAR Alice Springs 46.93 258 P **P 22 40 09.2 -0.8**
ASAR Alice Springs 46.93 258 P **P 22 40 09.2 -0.8**
WR0 Warramunga Arr 47.06 263 P **P 22 40 09.9 -1.1**
WR0 IAmb IAmb 22 40 28.4
comp=Z,17nm,1.4s
WB0 Warramunga Arr 47.24 264 P **P 22 40 10.5 -1.9**
WB0 IAmb IAmb 22 40 11.8
comp=Z,9.2nm,0.8s
WB2 Warramunga Arr 47.24 263 P **P 22 40 10.8 -1.6**
WB2 IAmb IAmb 22 40 11.9
comp=Z,14nm,0.9s
WRAB Tennant Creek 47.24 263 P **P 22 40 10.9 -1.5**
WRAB pmax pmax
comp=Z,16nm,1.0s
WRAB Tennant Creek 47.24 263 P **P 22 40 10.9 -1.5**
WRAB IAmb IAmb 22 40 11.8
comp=Z,16nm,1.0s
WRA Warramunga Arr 47.25 263 P **P 22 40 11.3 -1.2**
comp=Z,8.7nm,0.8s,baz=94,slow=8.3,SNR=48
WRA Warramunga Arr 47.25 263 P **P 22 40 10.9 -1.6**
WRA Warramunga Arr 47.25 263 P **P 22 40 10.9 -1.6**
FORT Forrest 51.19 248 P **P 22 40 41.5 -0.9**
MTN Manton Dam 52.13 271 P **P 22 40 48.0 -1.8**
MTN IAmb IAmb 22 40 50.7
comp=Z,40nm,1.4s
GUMO Guam 53.42 308 P **P 22 40 59.3 +0.2**
comp=Z,29nm,0.6s,baz=182,slow=9.2,SNR=4.8
GUMO Guam 53.42 308 P **P 22 40 57.5 -1.6**
GUMO pmax pmax
comp=Z,64nm,1.0s
GUMO Guam 53.42 308 P **P 22 40 57.5 -1.6**
KNRA Kununurra 53.47 267 P **P 22 40 59.0 -0.5**
KNRA IAmb IAmb 22 41 16.7
comp=Z,26nm,1.1s
VNDA Vanda 56.09 186 P **P 22 41 20.9 +3.3**
comp=Z,3.1nm,1.1s,baz=7.2,slow=6.4,SNR=14
VNDA LR LR 23 01 01.5
comp=Z,92nm,20.2s,baz=27,slow=31
SIJI Sorong 56.62 285 LR LR 23 06 10.8
comp=Z,184nm,18.5s,baz=188,slow=37
SWI Sorong 56.63 285 P **P 22 41 22.3 -0.1**
comp=Z,57nm,1.1s
SOEI Soe 59.51 272 P **P 22 41 41.9 -0.8**
SOEI Soe 59.51 272 P **P 22 41 44.2 +1.5**
MORW Morawa 61.76 248 P **P 22 41 56.8 -1.0**
MMRI Maumere 61.77 272 P **P 22 41 56.7 -1.3**
CASY Casey 63.32 206 P **P 22 42 06.9 -0.6**
CASY IAmb IAmb 22 42 16.6
comp=Z,12nm,0.9s
JCJ Chichijima 64.57 318 LR LR 23 04 24.0
comp=Z,90nm,22.0s,baz=144,slow=30
TOLI2 Tolitoli 66.92 281 P **P 22 42 29.5 -2.3**
TOLI2 IAmb IAmb 22 42 32.4
comp=Z,14nm,1.0s
MJAR Matsushiro Arr 73.67 322 P **P 22 43 13.0 +0.4**
comp=Z,3.3nm,0.7s,baz=158,slow=5.5,SNR=10
MJAR Matsushiro Arr 73.67 322 P **P 22 43 08.6 -4.0**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR Matsushiro Arr 73.67 322 P **P 22 43 08.6 -4.0**
MAT Matsushiro 73.67 322 P **P 22 43 12.8 +0.2**
JOW Kunigami 73.78 309 LR LR 23 09 37.7
comp=Z,70nm,21.8s,baz=84,slow=31
JWT Wachi 74.43 320 P **P 22 43 13.9 -3.1**
JWT IAmb IAmb 22 43 22.0
comp=Z,13nm,1.1s
JTM Tenmabayashi 75.23 327 P **P 22 43 19.7 -1.8**
NIKH Nikolski High 75.46 4 P **P 22 43 22.8 +0.3**
baz=186
ASAJ Asahikawa 77.01 330 P **P 22 43 34.1 +2.6**
comp=Z,24nm,0.9s,baz=229,slow=8.6,SNR=19
CHNA Chernabura Isl 78.24 9 P **P 22 43 38.4 +0.3**
baz=195
MONP2 Monument Peak 78.44 47 P **P 22 43 40.3 +0.2**
baz=234
VES Vestal, Richgr 78.50 43 P **P 22 43 40.4 +0.4**
baz=231
IKP In-Ko-Pah, Jac 78.51 47 P **P 22 43 40.5 +0.1**
baz=234
KMRM Mail Ridge 78.59 37 P P 22 43 33.3 -7.3
EDW2 Edwards Air Fo 78.60 45 P **P 22 43 40.8 +0.1**
baz=232
SDPT Sand Point 78.62 8 P **P 22 43 40.6 +0.4**
baz=194
SDPT Sand Point 78.62 8 P P 22 43 35.0 -5.3
ISA Isabella, Lake 78.77 44 P **P 22 43 41.7 0.0**
baz=232
PET Petropavlovsk 78.78 344 *e*P **P 22 43 44.3 +3.2**
PET *e*S **S 22 53 33.0 -3.3**
PET *e**SS ScS 22 54 11.9 +12
PET pmax pmax
comp=Z,17nm,1.3s
PET MLR MLR
comp=Z,200nm,17.0s
PFO Pinyon Flats O 78.84 46 P **P 22 43 44.5 +2.3**
comp=Z,2.5nm,0.8s,baz=243,slow=4.1,SNR=6.9
PFO Pinyon Flats O 78.84 46 P **P 22 43 42.1 -0.1**
baz=233
TPFO Pinon Flats 78.84 46 P **P 22 43 42.1 -0.1**
baz=233
SWSC Sam W. Stewart 78.89 47 P **P 22 43 42.7 +0.4**
baz=234
O02D Mt. Diablo Mer 79.08 38 P **P 22 43 43.9 +0.6**
baz=228,SNR=5.1
PEA0B Petropavlovsk- 79.10 344 P **P 22 43 39.9 -3.1**
PEA0B pmax pmax
comp=Z,67nm,1.5s
PEA0B Petropavlovsk- 79.10 344 P **P 22 43 39.9 -3.1**
PETK Petropavlovsk- 79.10 344 P **P 22 43 43.9 +0.9**
comp=Z,18nm,0.9s,baz=126,slow=7.5,SNR=36
PETK LR LR 23 13 54.5
comp=Z,104nm,20.3s,baz=148,slow=32
YSS Yuzh-Sakhalins 79.12 332 *ce*P **P 22 43 45.2 +2.0**
YSS *e*S **S 22 53 33.8 -6.5**
YSS *e* 22 53 51.0
YSS pmax pmax
comp=Z,200nm,3.3s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=Z,200nm,13.0s
LRMC Laurel Mtn Rad 79.17 44 P **P 22 43 44.5 +0.6**
baz=232

BELC Belle Mtn. Jos 79.38 46 P **P 22 43 45.8 +0.6**
baz=234
SPIA Saint Paul Isl 79.58 3 P **P 22 43 45.5 0.0**
baz=185
GLA Glamis 79.62 48 P **P 22 43 46.7 +0.4**
baz=235
HEC Hector,Ludlow 79.65 45 P **P 22 43 47.0 +0.5**
baz=233
N02D Trinity Center 79.66 37 P **P 22 43 46.5 +0.2**
baz=228
O03E Paynes Creek 79.72 38 P **P 22 43 47.0 +0.2**
baz=229,SNR=9.9
M02C Callahan 79.85 37 P **P 22 43 47.9 +0.5**
baz=228
L02E Cave Junction 79.96 36 P **P 22 43 49.2 +1.3**
baz=227
MDSI Maura Dua 79.97 269 P **P 22 43 49.0 +0.4**
comp=Z,12nm,1.0s
IRM Iron Mountain 80.05 47 P **P 22 43 48.9 +0.3**
baz=234
GMRC Granite Mounta 80.07 46 P **P 22 43 49.5 +0.6**
baz=234
YBH Yreka Blue Hor 80.16 37 P **P 22 43 50.7 +1.6**
comp=Z,4.0nm,0.9s,baz=26,slow=2.0,SNR=9.0
YBH Yreka Blue Hor 80.16 37 P P 22 43 41.7 -7.4
YBH pmax pmax
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 80.16 37 P P 22 43 41.7 -7.4
PNTR Pine Nut 80.23 40 P P 22 43 42.6 -7.1
PNTR IAmb IAmb 22 43 54.7
comp=Z,30nm,1.4s
TUQ Turquoise Moun 80.29 45 P **P 22 43 50.6 +0.6**
baz=234
K02D Willamette Mer 80.29 36 P **P 22 43 50.9 +1.1**
baz=227
214A Organ Pipe Nat 80.39 50 P **P 22 43 51.7 +1.2**
baz=236
KSRS Korea Array 80.43 317 P **P 22 43 52.9 +2.4**
comp=Z,7.5nm,1.0s,baz=142,slow=6.0,SNR=21
KSRS LR LR 23 17 44.5
comp=Z,51nm,18.3s,baz=134,slow=34
MAW Mawson 80.55 199 P **P 22 43 53.1 +2.3**
comp=Z,5.9nm,0.8s,baz=145,slow=7.1,SNR=15
MAW LR LR 23 18 22.2
comp=Z,193nm,18.6s,baz=83,slow=35
MAW Mawson 80.55 199 P **P 22 43 48.1 -2.7**
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 80.55 199 P **P 22 43 48.1 -2.7**
NVAR Mina Array Bea 80.60 42 P **P 22 43 53.3 +1.6**
comp=Z,8.3nm,1.1s,baz=224,slow=8.7,SNR=19
NVAR LR LR 23 13 11.3
comp=Z,200nm,19.7s,baz=252,slow=31
NVAR Mina Array Bea 80.60 42 P **P 22 43 48.6 -3.1**
HUMO Hull Mountain 80.62 36 P **P 22 43 48.8 -2.7**
HUMO IAmb IAmb 22 43 56.9
comp=Z,24nm,1.4s
M04C Macdoel 80.68 37 P **P 22 43 52.8 +0.8**
baz=229
L04D Klamath Falls 80.71 37 P **P 22 43 52.9 +0.7**
baz=228
TPNV Topopah Spring 80.98 44 P **P 22 43 50.4 -3.3**
TPNV pmax pmax
comp=Z,15nm,1.4s
TPNV Topopah Spring 80.98 44 P **P 22 43 54.9 +1.1**
baz=233
TPNV Topopah Spring 80.98 44 P **P 22 43 50.4 -3.3**
TPNV IAmb IAmb 22 43 57.9
comp=Z,14nm,1.4s
KVN Kaiserville 81.11 41 P P 22 43 49.4 -5.0
KVN pmax pmax
comp=Z,12nm,1.3s
KVN Kaiserville 81.11 41 P P 22 43 49.4 -5.0
I03D Drain, OR 81.15 35 P **P 22 43 55.5 +1.3**
baz=227
JMBI JAMBI 81.54 272 P **P 22 43 57.7 +0.7**
comp=Z,97nm,0.4s
OHAK Old Harbor 81.58 12 P **P 22 43 57.5 +1.3**
baz=200
I04A Tendick Farm, 81.71 35 P **P 22 43 58.7 +1.4**
baz=228
MSHR Mys Shultsa 81.77 323 *ce*P **P 22 43 57.6 +0.1**
MSHR pmax pmax
comp=Z,22nm,1.3s
J05D Fort Rock, OR 82.01 36 P **P 22 43 59.9 +0.9**
baz=229
TUC Tucson 82.02 50 P **P 22 44 00.3 +1.1**
baz=237
G03D McMinnville, O 82.22 34 P **P 22 44 01.2 +1.4**
baz=227
KDAK Kodiak Island 82.24 12 P **P 22 44 00.7 +1.1**
comp=Z,17nm,1.3s,baz=228,slow=9.1,SNR=5.9
KDAK Kodiak Island 82.24 12 P **P 22 43 56.4 -3.2**
KDAK pmax pmax
comp=Z,30nm,1.5s
KDAK Kodiak Island 82.24 12 P **P 22 44 00.4 +0.8**
baz=201
KDAK Kodiak Island 82.24 12 P **P 22 43 56.4 -3.2**
KDAK IAmb IAmb 22 44 04.8
comp=Z,30nm,1.4s
R11A Troy Canyon, C 82.24 43 P **P 22 44 01.4 +1.1**
baz=233
USRK Ussuriysk Ar. 82.38 324 P **P 22 44 03.3 +2.6**
comp=Z,26nm,1.0s,baz=134,slow=3.2,SNR=42
USRK LR LR 23 17 29.6
comp=Z,110nm,19.5s,baz=148,slow=33
USRK Ussuriysk Ar. 82.38 324 P **P 22 43 58.5 -2.2**
USRK Ussuriysk Ar. 82.38 324 P **P 22 43 58.5 -2.2**
PINE Pine Mountain 82.50 36 P P 22 43 56.7 -5.0
I05D Terrebonne, OR 82.65 36 P **P 22 44 03.8 +1.6**
baz=229
WVOR Wild Horse Val 82.92 38 P P 22 43 57.5 -6.2
WVOR pmax pmax
comp=Z,21nm,1.3s
WVOR Wild Horse Val 82.92 38 P P 22 43 57.5 -6.2
WVOR IAmb IAmb 22 44 08.6
comp=Z,21nm,1.3s
CCUT Cedar City 83.19 45 **P 22 44 07.9 +2.5**
RGRI Rengat 83.24 272 P **P 22 44 08.6 +2.7**
KNB Kanab 83.24 45 P P 22 44 00.5 -5.1
KNB pmax pmax
comp=Z,39nm,1.5s
KNB Kanab 83.24 45 P P 22 44 00.5 -5.2
U15A North Rim 83.26 46 P P 22 43 59.5 -6.4
U15A IAmb IAmb 22 44 11.3
comp=Z,31nm,1.4s
G05D Wamic, OR 83.26 35 P **P 22 44 07.4 +2.1**
baz=229
WUAZ Wupatki 83.37 47 P **P 22 44 07.9 +1.6**
baz=236
SZCU Shurtz Canyon 83.40 45 P **P 22 44 02.2 -4.3**
SZCU IAmb IAmb 22 44 12.6
comp=Z,16nm,1.3s
PSUT Pine Spring 83.45 44 P P 22 43 59.5 -7.1
I07A Izee 83.48 37 P P 22 44 01.2 -5.4
I07A IAmb IAmb 22 44 11.7
comp=Z,19nm,1.4s
E04D Cinebar 83.50 33 P **P 22 44 07.9 +1.5**
baz=228
NJ2 Nanjing 83.50 308 *e*P **P 22 44 09.0 +2.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
F05D White Salmon 83.61 34 P **P 22 44 08.3 +1.2**
baz=228
O18K Koktuh Hills 83.74 10 P **P 22 44 08.3 +0.9**
baz=198,SNR=11
PKCU Pink Cliffs 83.82 45 P P 22 44 03.5 -5.3
P19K Oil Pt 83.88 11 P **P 22 44 09.4 +1.2**
baz=200
ELK Elko 83.89 41 P **P 22 44 09.9 +1.0**
comp=Z,4.2nm,1.1s,baz=221,slow=4.5,SNR=13
D03D Eldon 83.90 32 P **P 22 44 09.4 +0.9**
baz=227
MDJ Mudanjiang 83.95 324 P **P 22 44 11.3 +2.5**
MDJ pmax pmax
comp=Z,24nm,1.1s
MDJ pmax pmax
comp=Z,240nm,3.9s
MDJ Mudanjiang 83.95 324 P **P 22 44 07.4 -1.4**
MTPU Mount Pierson 84.24 45 P P 22 44 05.3 -5.6
121A Cookes Peak, D 84.29 51 P **P 22 44 11.6 +0.6**
baz=239
BRSE Bradley Lake S 84.42 12 P **P 22 44 11.4 +0.5**
baz=202
MSU Marysvale 84.51 44 P **P 22 44 07.8 -4.3**
MSU Marysvale 84.51 44 P **P 22 44 07.8 -4.3**

G08A Pilot Rock 84.56 36 P P 22 44 06.7 -5.3
G08A IAmb IAmb 22 44 16.9
comp=Z,28nm,1.3s
N19K Bonanza Creek 84.77 10 P **P 22 44 13.2 +0.5**
baz=199,SNR=9.2
SYO Syowa Base 85.28 192 ‖ *e*PcP **P 22 44 15.4 +0.2**
TMUT Trail Mountain 85.58 44 P P 22 44 12.2 -5.4
TMUT IAmb IAmb 22 44 22.2
comp=Z,20nm,1.2s
MNTX Cornudas Mount 85.62 53 P **P 22 44 17.8 +0.2**
baz=240
MNTX Cornudas Mount 85.62 53 P P 22 44 12.7 -4.9
MNTX IAmb IAmb 22 44 21.5
comp=Z,13nm,1.3s
PLCA Paso Flores 85.68 132 LR LR 23 16 28.9
comp=Z,124nm,18.9s,baz=238,slow=31
TXAR Lajitas Array 85.76 56 P **P 22 44 19.9 +1.4**
comp=Z,5.8nm,1.1s,baz=210,slow=8.1,SNR=24
TXAR Lajitas Array 85.76 56 P **P 22 44 14.6 -3.8**
TXAR Lajitas Array 85.76 56 P **P 22 44 14.6 -3.8**
CN2 Changchun 85.78 321 *e*P **P 22 44 19.0 +1.0**
CN2 Changchun 85.78 321 *e*S S 22 55 00.3 +12
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,14.0s
CN2 LR LR
comp=E,100nm,14.0s
CN2 LR LR
comp=Z,100nm,16.0s
SNAA Sanae 85.79 177 P **P 22 44 19.2 +1.3**
SNAA Sanae 85.79 177 *ce*P **P 22 44 18.5 +0.6**
SNAA pmax pmax
comp=Z,21nm,1.7s
VNA3 Neumayer Olymp 85.81 175 P **P 22 44 18.8 +0.8**
VNA3 Neumayer Olymp 85.81 175 PcP **PcP 22 44 23.0 +2.3**
RC01 Rabbit Creek A 85.86 12 P **P 22 44 18.6 +0.6**
baz=203
KLR Kul'dur 85.86 328 *ce*P **P 22 44 20.4 +2.1**
comp=Z,4.8nm,1.0s,baz=118,slow=5.6,SNR=9.3
KLR Kul'dur 85.86 328 *ce*P **P 22 44 20.1 +1.8**
KLR pmax pmax
comp=Z,30nm,3.0s
SRU San Rafael Swe 85.92 45 P **P 22 44 14.7 -4.4**
SRU pmax pmax
comp=Z,28nm,1.4s
SRU San Rafael Swe 85.92 45 P **P 22 44 14.7 -4.4**
SPUT South Promonto 85.93 42 P **P 22 44 14.5 -4.6**
SPUT IAmb IAmb 22 44 23.8
comp=Z,18nm,1.5s
P17A Butcher Ranch, 85.98 44 P **P 22 44 15.6 -3.8**
P17A IAmb IAmb 22 44 24.4
comp=Z,23nm,1.4s
L19K White Mountain 86.01 9 P **P 22 44 19.9 +1.1**
baz=199
HLID Hailey 86.06 39 P **P 22 44 20.0 +0.4**
baz=234
HLID Hailey 86.06 39 P P 22 44 14.7 -5.0
HLID IAmb IAmb 22 44 23.9
comp=Z,8.9nm,1.4s
GAMB Gambell 86.15 1 P **P 22 44 20.2 +0.9**
baz=183
GLI Glacier Island 86.20 13 P **P 22 44 20.2 +0.5**
baz=206
MNSI Mandailing Nat 86.22 272 P **P 22 44 20.9 0.0**
comp=Z,28nm,0.9s
SKT Skwentna 86.36 11 P **P 22 44 21.3 +0.8**
baz=202
KNK Knik Glacier 86.40 12 P **P 22 44 21.9 +1.1**
baz=204
ANMO Albuquerque 86.47 50 P **P 22 44 23.4 +1.5**
comp=Z,4.8nm,1.0s,baz=213,slow=3.9,SNR=16
ANMO Albuquerque 86.47 50 P P 22 44 17.0 -5.0
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO Albuquerque 86.47 50 P **P 22 44 23.0 +1.1**
baz=240
ANMO Albuquerque 86.47 50 P P 22 44 17.0 -5.0
ANMO IAmb IAmb 22 44 26.1
comp=Z,15nm,1.3s
VNA1 Neumayer--Stat 86.50 176 P **P 22 44 22.7 +1.4**
C09A Chrisman Ranch 86.52 34 P **P 22 44 17.4 -4.2**
C09A IAmb IAmb 22 44 28.8
comp=Z,8.9nm,1.4s
WRAK Wrangell Islan 86.53 22 P **P 22 44 23.1 +1.7**
baz=219
SML Sawmill 86.79 12 P **P 22 44 23.9 +1.3**
baz=205
BMRM Bremner River 86.82 14 P **P 22 44 24.2 +1.4**
baz=208
CUT Chulitna 86.97 11 P **P 22 44 24.7 +1.3**
baz=203
CRQE Cirque 86.98 15 P **P 22 44 25.2 +1.4**
baz=209
KLU Klutina 87.00 13 P **P 22 44 25.3 +1.6**
baz=207
SCM Sheep Creek Mo 87.01 13 P P 22 44 17.8 -6.0
SCM pmax pmax
comp=Z,14nm,1.3s
SCM Sheep Creek Mo 87.01 13 P P 22 44 17.8 -6.0
SCM IAmb IAmb 22 44 41.2
comp=Z,14nm,1.3s
PPLA Purkeypile 87.11 10 P **P 22 44 25.9 +1.7**
baz=201
PINM Pinnacle 87.13 17 P **P 22 44 26.3 +1.9**
baz=212
K20K Telida 87.25 9 P **P 22 44 26.9 +2.1**
baz=199
N25K Chitina, Valde 87.39 14 P **P 22 44 26.8 +1.2**
baz=208
NEW Newport 87.41 34 P **P 22 44 26.7 +0.7**
baz=232
M24K Tolsona, Glenn 87.50 13 P **P 22 44 27.0 +0.9**
baz=207
CTG Chitna Glacier 87.60 16 P **P 22 44 26.8 +0.1**
baz=211
WAT6 Susitna Watana 87.61 12 P **P 22 44 26.2 -0.5**
baz=205,SNR=7.0
S22A 4UR Ranch, Cre 87.65 47 P **P 22 44 27.0 -0.7**
baz=239
WAT1 Susitna Watana 87.68 12 P **P 22 44 26.8 -0.1**
baz=204
TRF Thorofare Moun 87.94 11 P **P 22 44 27.9 -0.4**
baz=203
TRF Thorofare Moun 87.94 11 P P 22 44 22.8 -5.6
TRF IAmb IAmb 22 44 35.6
comp=Z,9.9nm,1.0s
O20A White River Ci 87.95 45 P **P 22 44 28.2 -0.8**
baz=238
HARP HAARP 87.97 13 P **P 22 44 28.4 +0.1**
baz=208
SKAG Skagway 87.99 19 P **P 22 44 28.8 +0.5**
baz=216
CHUM Lake Minchumin 88.01 10 P **P 22 44 28.4 0.0**
baz=201
J20K Nowinta River 88.01 9 P **P 22 44 28.7 +0.2**
baz=199
GSI Gunungsitoli 88.26 272 P **P 22 44 33.6 +2.8**
comp=Z,87nm,1.2s
PAX Paxson 88.42 13 P **P 22 44 30.9 +0.4**
baz=207,SNR=5.5
BPAW Bear Paw Mtn. 88.43 10 P **P 22 44 30.2 -0.3**
baz=202
MCK McKinley 88.44 11 P **P 22 44 31.1 +0.7**
baz=204
M26K Nabesna, AK 88.45 14 P **P 22 44 31.5 +0.9**
baz=209
BW06 Boulder Array 88.53 42 P **P 22 44 31.9 +0.2**
baz=237
PDAR Pinedale Array 88.53 42 P **P 22 44 32.2 +0.6**
comp=Z,1.0nm,0.8s,baz=228,slow=4.2,SNR=8.1
PDAR LR LR 23 22 49.6
comp=Z,111nm,18.1s,baz=266,slow=35
SDCO Great Sand Dun 88.55 48 P **P 22 44 31.6 -0.4**
baz=240
833A Chaparral WMA, 88.62 59 P **P 22 44 31.8 -0.3**
baz=244
MSTX Muleshoe 88.64 52 P **P 22 44 32.6 +0.3**
baz=242
M27K Edge Creek, AK 88.67 15 P **P 22 44 32.3 +0.5**
baz=210,SNR=7.9
BOZ Bozeman (W) 88.86 39 P **P 22 44 33.0 -0.1**
baz=236
YHH Holmes Hill 88.86 40 P P 22 44 26.0 -7.2
DLBC Dease Lake 88.89 22 P **P 22 44 35.4 +2.6**

comp=Z,1.2nm,0.3s,baz=342,slow=20,SNR=6.1
L26K Log Cabin Wild 88.92 14 P **P 22 44 33.9 +1.1**
baz=209
T25A Trinidad 89.01 49 P **P 22 44 33.8 -0.2**
baz=241
WHY Whitehorse 89.09 18 P **P 22 44 34.0 +0.2**
baz=217
RIDG Independent Ri 89.23 13 P **P 22 44 34.8 +0.5**
baz=208,SNR=6.5
I21K Tanana 89.28 9 P **P 22 44 34.7 +0.3**
baz=201
L27K Beaver Creek, 89.29 14 P **P 22 44 34.7 +0.2**
baz=210,SNR=6.3
MLY Manley 89.33 10 P **P 22 44 35.1 +0.4**
baz=202
TPTI 89.38 274 P **P 22 44 38.2 +2.2**
HDA Harding Lake 89.42 12 P **P 22 44 36.1 +1.0**
baz=206
BJI Beijing 89.47 314 P **P 22 44 37.8 +2.0**
BJI Beijing 89.47 314 S **S 22 55 24.0 0.0**
BJI pmax pmax
comp=Z,8.0nm,1.2s
SCRK Sand Creek 89.62 13 P **P 22 44 36.9 +0.7**
baz=208
I23K Minto, Yukon-K 89.67 10 P **P 22 44 37.0 +0.8**
baz=204
TCOL CIGO, UAF Yank 89.68 11 P **P 22 44 37.7 +1.5**
baz=205
COLA College 89.68 11 *i* P **P 22 44 36.9 +0.7**
COLA pmax pmax
comp=Z,12nm,1.4s
ILAR Eielson Array 89.76 12 P **P 22 44 37.5 +0.9**
comp=Z,4.0nm,1.1s,baz=219,slow=5.9,SNR=19
GYA Guiyang 90.25 299 ⇓P **P 22 44 42.0 +2.0**
GYA pmax pmax
comp=Z,15nm,1.2s
H23K Yukon River 90.26 10 P **P 22 44 40.2 +1.2**
baz=204
ABTX Abilene, Hawle 90.35 55 P **P 22 44 40.9 +0.7**
baz=243
PRP Porcupine Dome 90.69 12 P **P 22 44 42.7 +1.6**
baz=207
EGAK Eagle 90.93 14 P **P 22 44 43.8 +1.8**
baz=211
EGMT Eagleton 91.27 38 P **P 22 44 45.3 +1.1**
baz=237
MTO3 Montecristo 91.37 75 P P 22 44 38.5 -7.1
MTO3 IAmb IAmb 22 44 47.7
comp=Z,8.6nm,0.9s
BILL Bilibino 91.47 353 *e*P **P 22 44 45.5 +1.0**
BILL *e* 22 48 23.4
BILL pmax pmax
comp=Z,11nm,1.3s
WHTX Lake Whitney, 91.73 56 P **P 22 44 47.5 +0.9**
baz=244
XAN Xi'an 91.75 306 P **P 22 44 48.5 +1.8**
XAN pP pwP 22 45 13.8 +12
XAN Xi'an 91.75 306 S **S 22 55 40.0 -5.4**
XAN pmax pmax
comp=Z,27nm,1.1s
XAN pmax pmax
comp=Z,150nm,5.2s
BMAR Burnt Mountain 92.57 11 P **P 22 44 46.2 -3.5**
RSSD Black Hills 92.67 43 P **P 22 44 51.5 +0.6**
baz=241
KMI Kunming 92.92 296 ⇓P **P 22 44 55.5 +2.9**
KMI pmax pmax
comp=Z,18nm,1.0s
HHC Hu-ho-hao-te 92.94 313 *e*P **P 22 44 53.8 +1.7**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,51nm,7.1s
CM04 Chiang Mai Arr 93.53 288 P **P 22 44 58.8 +3.6**
comp=Z,140nmcomp=Z,16nm,1.1s
CM09 Chiang Mai Arr 93.54 288 P **P 22 44 59.2 +4.0**
comp=Z,114nmcomp=Z,16nm,1.1s
CM01 Chiang Mai Arr 93.56 288 P **P 22 44 59.0 +3.7**
comp=Z,105nmcomp=Z,13nm,1.1s
CM05 Chiang Mai Arr 93.56 288 P **P 22 44 59.2 +3.8**
comp=Z,91nmcomp=Z,11nm,1.1s
CM02 Chiang Mai Arr 93.57 288 P **P 22 44 59.3 +3.9**
comp=Z,104nmcomp=Z,13nm,1.1s
CMAR Chiang Mai Arr 93.58 288 P **P 22 44 58.5 +3.0**
comp=Z,11nm,1.0s,baz=121,slow=3.0,SNR=40
CMAR LR LR 23 27 27.8
comp=Z,33nm,19.1s,baz=185,slow=36
CM15 Chiang Mai Arr 93.60 288 P **P 22 44 59.3 +3.8**
comp=Z,112nmcomp=Z,12nm,1.1s
CM13 Chiang Mai Arr 93.60 288 P **P 22 44 59.1 +3.6**
comp=Z,87nmcomp=Z,11nm,1.0s
CHTO Chiang Mai 93.72 289 P **P 22 44 58.9 +2.8**
CD2 Chengdu 94.41 302 *e*P **P 22 44 59.0 0.0**
CD2 LR LR
comp=N,120nm,16.1s
CD2 LR LR
comp=E,180nm,19.4s
CD2 LR LR
comp=Z,190nm,15.5s
INK Inuvik 95.57 14 P **P 22 45 04.6 +1.2**
baz=218
LZH Lanzhou 96.39 306 ⇑P **P 22 45 09.3 +1.2**
LZH pP pwP 22 45 35.0 +12
LZH sP sP 22 45 46.0 +26
LZH PP **PP 22 48 59.3 -3.1**
LZH pmax pmax
comp=Z,16nm,1.5s
LZH pmax pmax
comp=Z,100nm,8.6s
YKA Yellowknife Ar 97.23 24 LR LR 23 24 23.9
comp=Z,64nm,19.1s,baz=0.0,slow=33
ECSD EROS Data Cent 97.29 46 P Pdif 22 45 12.8 +0.9
baz=246
LPAZ La Paz 98.54 112 LR LR 23 23 34.1
comp=Z,83nm,18.0s,baz=322,slow=32
ULN Ulaanbaatar 98.89 318 *i* P Pdif 22 45 19.5 +0.4
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 99.29 318 LR LR 23 26 44.9
comp=Z,32nm,19.8s,baz=70,slow=33
WMQ Urumqi 110.54 310 PKP **PKiKP 22 50 11.3 0.0**
WMQ PP **PP 22 50 49.5 +1.7**
MKAR Makanchi Array 114.79 312 PKP PKPdf 22 50 18.5 -0.7
comp=Z,0.4nm,0.7s,baz=52,slow=2.0,SNR=5.2
MKAR Makanchi Array 114.79 312 *c i* PKIKP **PKiKP 22 50 19.3 0.0**
BRVK Borovoye 122.66 319 *i* PKIKP **PKiKP 22 50 34.9 +0.6**
ARU Arti 128.62 325 *i* PKIKP **PKiKP 22 50 45.7 -0.4**
ARU 22 52 53.1
ARU 22 57 47.0
ARU SS SS 23 10 03.6 -2.6
ARCES ARCESS Array B 131.51 351 PKP **PKiKP 22 50 52.1 +0.5**
comp=Z,1.6nm,0.8s,baz=3.8,slow=2.7,SNR=3.8
FINES FINESS Array B 138.60 345 PKP **PKiKP 22 51 07.0 +0.8**
comp=Z,2.7nm,1.0s,baz=66,slow=4.8,SNR=3.8
FINES FINESS Array B 138.60 345 *c i* PKIKP **PKiKP 22 51 06.9 +0.8**
FINES pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 140.01 332 *e*PKIKP **PKPdf 22 51 06.9 +0.2**
OBN *e* 22 54 05.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 140.82 237 PKP **PKiKP 22 51 11.8 -0.7**
comp=Z,1.4nm,1.0s,baz=55,slow=14,SNR=3.5
KIV Kislovodsk 142.54 314 *i* PKIKP **PKPdf 22 51 12.2 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
AKH Akhalkalaki 142.87 309 ⇓P **PKPdf 22 51 09.6 -3.1**
BCA Borcka 144.18 310 ⇓P **PKPdf 22 51 14.4 -0.3**
ANN Anapa 145.57 318 *i* PKP2 **PKPab 22 51 18.4 +1.0**
ANN pmax pmax
comp=Z,48nm,1.0s
SUW Suwalki 145.83 341 *e*PKP **PKPab 22 51 18.3 +0.2**
MBAR Mbarara 146.03 231 *i* PKP2 **PKPdf 22 51 18.7 -0.2**
AKASG Malin Array Be 146.27 332 PKPbc **PKPab 22 51 19.4 -0.4**
comp=Z,11nm,0.9s,baz=41,slow=4.2,SNR=24
BEL Belsk 148.44 341 *e*PKP **PKiKP 22 51 27.4 +0.7**
BSEG Bad Segeberg 148.50 354 *e*PKPbc **PKPab 22 51 29.2 +0.7**
baz=11,slow=2.4
SORM Soroca 148.53 330 ⇓P **PKPbc 22 51 25.8 +0.4**
SORM Soroca 148.53 330 ⇓PKP2 **PKPbc 22 51 25.8 +0.4**
LVV L'vov 149.06 336 *e*PKP2 **PKiKP 22 51 28.1 +0.1**
BZK Bozkurt 149.14 315 ⇓P PKPab 22 51 39.2 +7.6
NRDL Niedersach Rie 149.94 354 *e*PKPbc **PKPab 22 51 32.8 -1.5**
baz=11,slow=2.4
FLTG Flechtingen 149.98 353 *e*PKPbc **PKPab 22 51 32.7 -1.9**
baz=11,slow=2.4
FLTG *ep*PKPbc **pPKPab 22 51 42.6 -1.2**
OJC Ojcow 150.16 341 *e*PKP **PKPbc 22 51 28.3 -1.2**
ASSE Asse, Remlinge 150.24 353 *e*PKPbc **PKPab 22 51 33.5 -2.1**
baz=11,slow=2.4
IBBN Ibbenburen 150.30 357 *e*PKPbc **PKPab 22 51 33.6 -2.3**
baz=11,slow=2.4
BURAR Bucovina Array 150.33 332 ⇓P **PKiKP 22 51 32.0 +1.1**
BURAR Bucovina Array 150.33 332 ⇓PKIKP **PKiKP 22 51 32.0 +1.1**
BRTR Keskin Array B 150.44 312 PKPbc **PKPbc 22 51 30.8 +0.1**
comp=Z,4.7nm,1.0s,baz=158,slow=4.0,SNR=13
BRTR Keskin Array B 150.44 312 *c i* PKIKP **PKiKP 22 51 31.3 -0.1**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 150.44 337 *e*PKIKP **PKiKP 22 51 32.1 +1.2**
KOLS Kolonicke sedl 150.44 337 *e*PKP **PKiKP 22 51 32.1 +1.2**
BIZ Bicaz 150.44 330 ⇓P **PKiKP 22 51 32.2 +1.3**
TESR Tescani 150.50 329 ⇓P **PKiKP 22 51 30.9 -0.3**
KSP Ksiaz 150.53 346 *e*PKP **PKiKP 22 51 32.4 +1.3**
CLZ Clausthal 150.56 353 *e*PKPbc **PKPab 22 51 34.6 -2.5**
baz=11,slow=2.4
UZH Uzhgorod 150.69 336 *e*PKIKP **PKPbc 22 51 30.3 -0.4**
UZH *i* 22 51 34.3
CFR Carcaliu 150.70 326 ⇓P **PKiKP 22 51 32.3 +0.8**
CFR Carcaliu 150.70 326 ⇓PKIKP **PKiKP 22 51 32.3 +0.8**
CLL Collm 150.73 350 *e*PKPbc **PKPbc 22 51 31.0 +0.3**
comp=Z,54nm,1.7s
CLL *i* 22 51 40.9
CLL *i* 22 51 44.8
CLL Collm 150.73 350 *e*PKIKP **PKPbc 22 51 31.0 +0.3**
CLL *i* 22 51 37.4
CLL *i* 22 51 40.6
CLL pmax pmax
comp=Z,54nm,1.7s
CLL Collm 150.73 350 **PKiKP 22 51 31.8 +0.4**
CLL Collm 150.73 350 *e*PKPbc **PKPab 22 51 34.7 -3.1**
baz=11,slow=2.4
CLL *ep*PKPbc **sPKPbc 22 51 44.9 +1.5**
CRVS Cervenica-Dubn 150.76 338 *e*PKIKP **PKiKP 22 51 33.2 +1.6**
CRVS Cervenica-Dubn 150.76 338 *e*PKP **PKiKP 22 51 33.2 +1.6**
TPGR Topolog 150.77 325 ⇓P **PKiKP 22 51 34.4 +2.7**
OSTC Ostas 150.81 345 *e*PKP **PKiKP 22 51 32.8 +1.2**
CHVC Chvalec 150.82 346 *e*PKP **PKiKP 22 51 31.9 +0.2**
GTTG Gottingen 150.89 354 *e*PKPbc **PKPab 22 51 35.0 -3.4**
baz=11,slow=2.4
VRI Vrincioaia 150.93 328 ⇓P **PKiKP 22 51 32.6 +0.5**
VRI Vrincioaia 150.93 328 ⇓PKIKP **PKiKP 22 51 32.6 +0.5**
ANTO Ankara 150.95 313 PKPab **PKiKP 22 51 34.8 +2.4**
DPC Dobruska-Polom 150.98 345 *e*PKIKP **PKiKP 22 51 32.7 +0.7**
DPC Dobruska-Polom 150.98 345 *e*PKP **PKiKP 22 51 32.7 +0.7**
PLOR Plostina 150.98 328 ⇓P **PKPab 22 51 39.9 +0.9**
BRG Berggiesshubel 150.98 348 *e*PKP **PKiKP 22 51 32.5 +0.5**
BRG Amp 22 51 37.4
comp=Z,44nm,1.7s
BRG Berggiesshubel 150.98 348 *e*PKPbc **PKPab 22 51 35.4 -3.4**
baz=11,slow=2.4
BRG *ep*PKPbc **sPKPbc 22 51 45.5 +1.5**
NEUB Neuenburg 151.01 351 *e*PKPbc **PKPab 22 51 35.5 -3.4**
baz=11,slow=2.4
KRLC Kraliky 151.12 344 *e*PKIKP **PKiKP 22 51 33.0 +0.7**
KRLC *e* 22 51 46.8
KRLC Kraliky 151.12 344 *e*PKP **PKiKP 22 51 33.0 +0.7**
KRLC *ex* x 22 51 46.8
HARR Harsova 151.14 325 ⇓P **PKiKP 22 51 35.5 +3.0**
BUG Bochum--Univer 151.19 357 *e*PKPbc **PKiKP 22 51 35.5 +3.2**
baz=11,slow=2.4
PVCC Panska Ves 151.19 347 *e*PKIKP **PKiKP 22 51 33.8 +1.4**
PVCC Panska Ves 151.19 347 *e*PKP **PKiKP 22 51 33.8 +1.4**
MORC Moravsky Berou 151.20 343 ⇓P **PKPbc 22 51 31.8 -0.2**
MORC Moravsky Berou 151.20 343 ⇓PKIKP **PKPbc 22 51 31.8 -0.2**
MORC Moravsky Berou 151.20 343 *e*PKP **PKiKP 22 51 35.4 +2.9**
LANS Liptovska Anna 151.21 340 *e*PKIKP **PKiKP 22 51 33.9 +1.4**
LANS Liptovska Anna 151.21 340 *e*PKP **PKiKP 22 51 33.9 +1.4**
OZUR 151.22 329 ⇓P **PKiKP 22 51 32.5 -0.1**
KASTN Kahler Asten 151.36 356 *e*PKPbc **PKiKP 22 51 36.2 +3.4**
baz=11,slow=2.4
DOPR Dopca 151.50 330 ⇓P **PKiKP 22 51 33.6 +0.4**
MOX Moxa 151.58 351 *e*L L 00 00 55.8
comp=Z,107nm,19.6s
MOX *e*PKPbc **PKiKP 22 51 36.7 +3.5**
baz=11,slow=2.4
MLR Muntele Rosu 151.58 328 ⇓P **PKiKP 22 51 34.1 +0.5**
MLR Muntele Rosu 151.58 328 ⇓PKIKP **PKiKP 22 51 34.1 +0.5**
UBBA Unterbreizbach 151.61 354 *e*PKPbc **PKiKP 22 51 36.8 +3.7**
baz=11,slow=2.4
PLN Plauen 151.66 351 *e*PKPbc **PKiKP 22 51 37.1 +3.7**
baz=11,slow=2.4
PRU Pruhonice 151.71 347 *e*PKIKP **PKiKP 22 51 34.7 +1.2**
PRU Pruhonice 151.71 347 *e*PKP **PKiKP 22 51 34.7 +1.2**
GUNZ Gunzen 151.75 350 *e*PKPbc **PKiKP 22 51 37.4 +3.8**
baz=11,slow=2.4
WERN Wernitzgruen 151.82 350 *e*PKPbc **PKiKP 22 51 37.7 +3.9**
baz=11,slow=2.4
VRAC Vranov 151.88 344 ⇓P **PKPab 22 51 39.8 -2.8**
VRAC Vranov 151.88 344 *e*PKP **PKiKP 22 51 37.0 +3.1**
JAVC Velka Javorina 152.00 342 *e*PKP **PKiKP 22 51 38.2 +4.0**
DRGR 152.03 334 ⇓P **PKPbc 22 51 33.6 -0.4**
DRGR 152.03 334 ⇓PKIKP **PKPbc 22 51 33.6 -0.4**
VOIR 152.05 329 PKIKP **PKiKP 22 51 35.8 +1.4**
PSZ Piszkesteto 152.14 339 ⇓P **PKPab 22 51 45.0 +1.1**
MANZ Manzenberg 152.15 350 *e*PKPbc **PKiKP 22 51 38.3 +3.8**
baz=11,slow=2.4
KRUC Moravsky 152.16 344 *e*PKP **PKiKP 22 51 37.5 +3.1**
TREC Trest 152.16 345 *e*PKP **PKPab 22 51 44.3 +0.5**
ARR Arges 152.30 330 ⇓P **PKiKP 22 51 36.6 +1.7**
ROTZ Rotzenmuhle 152.35 350 *e*PKPbc **PKiKP 22 51 38.4 +3.6**
baz=11,slow=2.4
MODS Modra-Piesok 152.55 342 *e*PKP **PKiKP 22 51 39.5 +4.2**
GRF Grafenberg Arr 152.57 351 *e*L L 00 05 25.9
comp=Z,82nm,20.6s
GRF *e*PKPbc **PKiKP 22 51 38.9 +3.6**
baz=11,slow=2.4
MILB Miltenberg 152.66 354 *e*PKPbc **PKiKP 22 51 39.1 +3.7**
baz=11,slow=2.4
KHC Kasperske Hory 152.72 348 *e*PKIKP **PKiKP 22 51 36.4 +0.7**
KHC *e* 22 51 44.7
KHC Kasperske Hory 152.72 348 *e*PKP **PKiKP 22 51 36.4 +0.7**
KHC *ex* x 22 51 44.7
WET Wettzell 152.84 349 *e*PKPbc **PKiKP 22 51 39.6 +3.7**
baz=11,slow=2.4
CKRC Cesky Krumlov 152.87 347 *e*PKP **PKiKP 22 51 36.6 +0.7**
CKRC *ex* x 22 51 43.6
GEC2 GERESS Array S 152.97 348 *e*PKPbc **PKiKP 22 51 39.8 +3.6**
baz=11,slow=2.4
GERES GERESS Array B 152.97 348 PKPbc **PKPbc 22 51 35.6 -0.5**
comp=Z,1.0nm,0.8s,baz=132,slow=2.0,SNR=8.9
WLF Walferdange 153.00 359 *e*PKPbc **PKiKP 22 51 40.7 +4.5**
baz=11,slow=2.4
GZR Gura Zlata 153.12 332 ⇓P **PKPbc 22 51 34.1 -2.4**
GZR Gura Zlata 153.12 332 ⇓PKIKP **PKPbc 22 51 34.1 -2.4**
CONA Conrad Observa 153.34 344 *e*P **PKiKP 22 51 37.1 +0.1**
comp=Z,1.8nm,0.9s
CONA *e*P **sPKPbc 22 51 52.1 +2.5**
comp=Z,5.9nm,1.1s
BZS Buzias 153.43 334 ⇓P **PKiKP 22 51 37.3 +0.1**
BZS Buzias 153.43 334 ⇓PKIKP **PKiKP 22 51 37.3 +0.1**
MOA Molln 153.79 346 P **PKPab 22 51 54.4 +3.7**
comp=Z,9.0nm,1.6s
ARSA Arzberg 154.05 344 *e*P **PKPab 22 51 53.5 +1.7**
comp=Z,8.0nm,1.3s
SOKA Soboth 154.71 344 *e*P **PKPab 22 51 55.9 +1.2**
comp=Z,12nm,1.6s
WATA Walderalm 154.81 350 *e*P **PKiKP 22 51 43.4 +3.2**
comp=Z,3.6nm,1.1s
WATA *e*P **PKPab 22 51 56.4 +1.2**
comp=Z,5.8nm,1.1s
WTTA Wattenberg 154.87 350 *e*P **PKiKP 22 51 43.2 +2.8**
comp=Z,5.2nm,1.1s
WTTA *e*P **PKPab 22 51 56.9 +1.4**
comp=Z,7.6nm,1.1s
MOTA Moosalm 154.88 350 *e*P **PKPab 22 51 56.1 +0.6**
comp=Z,5.0nm,1.0s

*NEIC **30** 22:37:24.2±2.5, 22°.8S±0°.2×173°.3W±0°.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=28.6km s-min=15.7km az=167.0*
*IDC **30** 22:37:33.5±2.0, 23°.34S×174°.48W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/38, mbtmp4.2/5, ML3.6/1, Error ellipse: s-maj=87.2km s-min=34.6km az=162.0*
ISC 30 22:37:23.2±1.2, 22°.7S±0°.2×173°.3W±0°.1, h10km, n19, σ1§71/14, mb4.3/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.83**	**42**	Pn	**Pn**		**22 38 35.5**	**-0.6**
MSVF	**Nonsavu**	**9.49**	**300**	Pn	**Pn**		**22 39 41.1**	**+1.0**
RAR	**Rarotonga**	**12.67**	**86**	Pn	Pn		22 40 48.5	+25
	2.8nm,0.3s,baz=245,slow=8.2,SNR=6.7							
OUENC	**Ouen Island, N**	**18.31**	**267**	Pn	**Pn**		**22 41 34.4**	**-3.1**
OUENC				IAmb	IAmb		22 41 48.3	
	comp=Z,31nm,1.0s							
DZM	**Mont Dzumac**	**18.71**	**268**		**P**		**22 41 40.4**	**-1.7**
OXZ	**Oxford**	**23.85**	**207**	P	**P**		**22 42 36.1**	**-0.5**
OXZ				IAmb	IAmb		22 42 46.6	
	comp=Z,6.7nm,0.7s							
RPZ	**Rata Peaks**	**24.59**	**208**	P	**P**		**22 42 43.4**	**-0.1**
MLZ	**Mavora Lakes**	**27.18**	**209**	P	**P**		**22 43 06.5**	**-0.5**
ASAR	**Alice Springs**	**48.27**	**258**	P	**P**		**22 46 08.0**	**+3.1**
	comp=Z,2.1nm,0.9s,baz=89,slow=8.9,SNR=8.7							
WR0	**Warramunga Arr**	**48.43**	**263**	P	**P**		**22 46 06.5**	**+0.5**
WR0				IAmb	IAmb		22 46 08.3	
	comp=Z,2.5nm,1.1s							
WB2	**Warramunga Arr**	**48.61**	**263**	P	**P**		**22 46 08.0**	**+0.6**
WB2				IAmb	IAmb		22 46 10.3	
	comp=Z,2.4nm,0.9s							
WB0	**Warramunga Arr**	**48.61**	**263**	P	**P**		**22 46 09.0**	**+1.5**
WB0				IAmb	IAmb		22 46 27.9	
	comp=Z,4.9nm,1.1s							
WRA	**Warramunga Arr**	**48.62**	**263**	P	**P**		**22 46 09.2**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=96,slow=8.2,SNR=8.5							
WRA	**Warramunga Arr**	**48.62**	**263**	P	**P**		**22 46 08.7**	**+1.1**
FORT	**Forrest**	**52.44**	**248**	P	**P**		**22 46 37.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**83.28**	**324**	P	P		22 50 01.8	+12
	comp=Z,2.9nm,1.0s,baz=116,slow=6.6,SNR=5.3							
USRK	**Ussuriysk Ar.**	**83.28**	**324**		P		22 50 01.6	+12
CMAR	**Chiang Mai Arr**	**94.94**	**288**	P	P		22 50 55.4	+9.0
	comp=Z,0.7nm,0.6s,baz=123,slow=2.7,SNR=4.6							
AKASG	**Malin Array Be**	**147.00**	**333**	PKPbc	PKiKP		22 57 17.5	+9.0
	comp=Z,0.3nm,0.3s,baz=41,slow=4.4,SNR=2.2							

*MOS **30** 22:43:25.0±0.8, 27°.71N×139°.66E, h498km, mb4.1/7, Error ellipse: s-maj=13.8km s-min=6.8km az=100.8*
*IDC **30** 22:43:26.5±0.9, 27°.79N×139°.70E, h497km±10km, mb3.3/22, mb1 3.5/29, mb1mx3.4/54, mbtmp4.2/29, Error ellipse: s-maj=14.7km s-min=8.9km az=75.0*
*NEIC **30** 22:43:26.7±1.1, 27°.77N±0°.04×139°.7E±0°.1, h492km±9km, mb4.0/55, Error ellipse: s-maj=15.5km s-min=4.8km az=75.0*
*JMA **30** 22:43:26.3±0.3, 27°.98N×140°.16E, h501km±5km, M4.1*
ISC 30 22:43:26.6±0.4, 27°.79N±0°.05×139°.73E±0°.07, h500km, n157, σ1§40/171, mb3.9/59, 1C-1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.29**	**107**	P	**P**		**22 44 31.9**	**-1.3**
CBIJ				S	**S**		**22 45 23.0**	**-4.3**
JCJ	**Chichijima**	**2.29**	**107**	P	**P**		**22 44 32.0**	**-1.2**
	148nm,0.3s,baz=288,slow=1.1,SNR=78							
JCJ				S	**S**		**22 45 23.1**	**-4.2**
	166nm,0.3s,baz=299,slow=20,SNR=5.1							
JCJ	**Chichijima**	**2.29**	**107**		**P**		**22 44 31.9**	**-1.2**
JCJ				S	**S**		**22 45 23.8**	**-3.5**
JHH2	**Haha-jima-NKT2**	**2.47**	**117**	P	**P**		**22 44 33.1**	**-1.1**
JHCJ	**Hachijojimakas**	**5.26**	**1**	P	**P**		**22 44 55.1**	**-0.7**
JHCJ				*e*S	**S**		**22 46 04.2**	**-4.6**
JHJ2	**Mitsune**	**5.30**	**1**	P	**P**		**22 44 55.4**	**-0.7**
JHJ2				*e*S	**S**		**22 46 04.9**	**-4.5**
JHJ2	**Mitsune**	**5.30**	**1**	P	**P**		**22 44 55.6**	**-0.5**
JHJ2				S	**S**		**22 46 06.9**	**-2.6**
JHJ	**Hachijo jima 2**	**5.31**	**0**	P	**P**		**22 44 55.8**	**-0.4**
	20nm,0.3s,baz=54,slow=23,SNR=42							
JHJ				S	**S**		**22 46 06.8**	**-2.8**
	37nm,0.3s,baz=72,slow=23,SNR=9.1							
TTO1	**TONANKAI O.B.S**	**6.34**	**337**	P	**P**		**22 45 08.7**	**+3.0**
BSO1	**Boso 1**	**6.92**	**9**	P	**P**		**22 45 11.3**	**+0.1**
BSO1				*e*S	**S**		**22 46 32.9**	**-4.2**
JTNC	**Tanabenakahech**	**6.97**	**330**	P	**P**		**22 45 13.6**	**+1.3**
BSO3	**Boso 3**	**7.02**	**5**	P	**P**		**22 45 11.8**	**-0.7**
JIE	**Ise**	**7.07**	**339**	*e*S	**S**		**22 46 40.3**	**-0.5**
JKN2	**Miekihoku**	**7.08**	**336**	P	**P**		**22 45 15.1**	**+1.8**
JKN2				*e*S	**S**		**22 46 40.8**	**-0.1**
HMMJ	**Hamamatsu 2**	**7.25**	**347**	P	**P**		**22 45 15.2**	**+0.1**
JOD2	**Odawara 2**	**7.47**	**356**	P	**P**		**22 45 16.2**	**-1.1**
JOD2				*e*S	**S**		**22 46 43.8**	**-4.5**
JMN	**Monobe**	**7.77**	**321**		**P**		**22 45 20.7**	**+0.2**
JTO	**Tosashimizu**	**7.83**	**312**	P	**P**		**22 45 22.9**	**+1.8**
JMZ	**Minamidaito 2**	**7.85**	**257**	P	**P**		**22 45 21.0**	**-0.5**
INU	**Inuyama**	**7.88**	**344**		**P**		**22 45 22.6**	**+1.0**
JGF	**Kuroka**	**8.04**	**346**		**P**		**22 45 24.3**	**+1.0**
JRY	**Ryogami san**	**8.23**	**355**	P	**P**		**22 45 24.5**	**-0.7**
JRY				S	**S**		**22 46 57.5**	**-5.2**
JWT	**Wachi**	**8.33**	**335**		**P**		**22 45 26.4**	**+0.2**
JYT	**Yasato**	**8.42**	**3**		**P**		**22 45 26.5**	**-0.6**
MJAR	**Matsushiro Arr**	**8.82**	**352**	P	**P**		**22 45 30.0**	**-1.3**
	0.8nm,0.3s,baz=166,slow=9.8,SNR=21							
MJAR	**Matsushiro Arr**	**8.82**	**352**	P	**P**		**22 45 30.5**	**-0.8**
MJAR	**Matsushiro Arr**	**8.82**	**352**		**P**		**22 45 30.5**	**-0.8**
MAJO	**Matsushiro**	**8.82**	**352**	P	**P**		**22 45 30.8**	**-0.5**
MAJO	**Matsushiro**	**8.82**	**352**	P	**P**		**22 45 30.8**	**-0.5**
MAT	**Matsushiro**	**8.82**	**352**	P	**P**		**22 45 30.7**	**-0.6**
MAT				S	**S**		**22 47 15.9**	**+2.0**
JSU	**Suzuyama**	**8.88**	**297**	P	**P**		**22 45 32.4**	**+0.4**
JHS	**Saijyo**	**9.14**	**323**	P	**P**		**22 45 35.1**	**+0.4**
JNU	**Nakatsue**	**9.30**	**307**	P	**P**		**22 45 38.2**	**+1.7**
	0.4nm,0.3s,baz=117,slow=5.4,SNR=10							
JNU	**Nakatsue**	**9.30**	**307**	P	**P**		**22 45 36.7**	**+0.2**
JMM	**Marumori**	**10.08**	**5**	P	**P**		**22 45 45.1**	**+0.5**
JOW	**Kunigami**	**10.23**	**267**	P	**P**		**22 45 44.5**	**-1.9**
JSD	**Sado**	**10.29**	**353**	P	**P**		**22 45 45.9**	**-0.8**
JTU	**Tsushima**	**11.10**	**310**	P	**P**		**22 45 56.0**	**+0.6**
JTM	**Tenmabayashi**	**13.01**	**5**		**P**		**22 46 16.0**	**+0.4**
KSRS	**Korea Array**	**13.84**	**317**	P	**P**		**22 46 23.8**	**-0.6**
	0.2nm,0.3s,baz=131,slow=11,SNR=4.5							
ERM	**Erimo**	**14.46**	**10**	P	**P**		**22 46 31.8**	**+0.9**
ERM	**Erimo**	**14.46**	**10**	P	**P**		**22 46 31.8**	**+0.9**
ASAJ	**Asahikawa**	**16.45**	**7**	P	**P**		**22 46 51.7**	**0.0**
	0.8nm,0.3s,baz=217,slow=8.9,SNR=5.6							
ASAJ	**Asahikawa**	**16.45**	**7**	P	**P**		**22 46 52.3**	**+0.6**
ASAJ				pmax	pmax			
	comp=Z,9.0nm,1.1s							
JKA	**Kamikawa-asahi**	**16.45**	**7**	P	**P**		**22 46 52.2**	**+0.6**
JKA				IAmb	IAmb		22 46 58.5	
	comp=Z,8.9nm,1.1s							
YULB	**Yu-li**	**17.19**	**259**	P	**P**		**22 46 58.3**	**-1.2**
YULB				IAmb	IAmb		22 47 02.4	
	comp=Z,6.9nm,0.7s							
SSLB	**Suanglung**	**17.37**	**261**	P	**P**		**22 47 00.9**	**-0.3**
USA0B	**Ussuriysk Arra**	**17.51**	**341**	P	**P**		**22 47 02.9**	**+0.7**
USA0B				pmax	pmax			
	comp=Z,12nm,0.8s							
USA0B	**Ussuriysk Arra**	**17.51**	**341**		**P**		**22 47 02.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**17.51**	**341**	P	**P**		**22 47 02.4**	**+0.1**
	baz=164,slow=10.0,SNR=27							
USRK	**Ussuriysk Ar.**	**17.51**	**341**		**P**		**22 47 02.5**	**+0.3**
KUR	**Kuril'sk**	**18.57**	**18**	*i* P	**P**		**22 47 12.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**19.27**	**6**	*i* P	**P**		**22 47 17.8**	**-0.5**
YSS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KLR	**Kul'dur**	**22.27**	**346**	P	**P**		**22 47 46.2**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=172,slow=10.0,SNR=11							
KLR	**Kul'dur**	**22.27**	**346**	*i* P	**P**		**22 47 45.2**	**-0.2**
KLR				pmax	pmax			
	comp=Z,5.0nm,1.5s							
HHC	**Hu-ho-hao-te**	**26.53**	**307**	*e*P	**P**		**22 48 24.3**	**+0.7**
HHC				pmax	pmax			
	comp=Z,21nm,1.0s							
HHC				pmax	pmax			
	comp=Z,91nm,5.2s							
PETK	**Petropavlovsk-**	**28.58**	**23**	P	**P**		**22 48 43.3**	**+2.

AMKA Amchitka 37.87 41 P **P** 22 50 00.7 +0.8
CHTO Chiang Mai 38.37 266 P **P** 22 50 04.4 0.0
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 38.37 266 P **P** 22 50 04.4 0.0
CHTO IAmb IAmb 22 50 05.4
comp=Z,3.6nm,0.8s
CMAR Chiang Mai Arr 38.49 265 P **P** 22 50 06.3 +0.8
comp=Z,1.0nm,0.3s,baz=72,slow=6.2,SNR=5.7
KIWB Kanaga Island 40.10 41 P **P** 22 50 18.8 +0.9
SOEI Soe 40.22 204 P **P** 22 50 18.1 -1.4
ADK Adak 40.38 41 P **P** 22 50 22.3 +2.1
ADK pmax pmax
comp=Z,36nm,1.2s
ADK Adak 40.38 41 P **P** 22 50 22.3 +2.1
MTN Manton Dam 41.25 193 P **P** 22 50 27.6 +0.1
MTN IAmb IAmb 22 50 43.2
comp=Z,12nm,1.1s
ATKA Atka Island 41.94 42 P **P** 22 50 33.2 +0.6
SRIT Nakonsritamara 42.38 251 P **P** 22 50 35.9 -0.6
BILL Bilibino 43.29 14 *eP* **P** 22 50 43.1 +0.1
BILL pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 44.31 355 P **P** 22 50 51.3 +0.4
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 44.31 355 P **P** 22 50 51.3 +0.4
TIXI IAmb IAmb 22 51 00.5
comp=Z,6.0nm,0.8s
WMQ Urumqi 44.40 305 *eP* **P** 22 50 54.3 +2.2
WMQ AMB AMB
comp=Z,110nm,5.3s
DGZ Jazzator, Alta 45.21 314 *i P* **P** 22 50 58.2 -0.1
DGZ pmax pmax
comp=Z,3.0nm,0.7s
PBA Port Blair 46.75 260 P P 22 51 09.3 -1.1
ZAA0 Zalesovo Array 47.53 319 P **P** 22 51 15.5 -0.2
ZAA0 IAmb IAmb 22 51 16.2
comp=Z,3.2nm,1.1s
ZALV Zalesovo Beam 47.53 319 P **P** 22 51 15.6 -0.1
comp=Z,1.6nm,0.3s,baz=111,slow=7.2,SNR=8.0
ZALV PcP **PcP** 22 52 35.6 -0.4
comp=Z,1.2nm,0.4s,baz=110,slow=4.5,SNR=5.1
WB0 Warramunga Arr 47.56 187 P **P** 22 51 16.4 0.0
WB0 IAmb IAmb 22 51 16.7
comp=Z,3.8nm,0.5s
WR0 Warramunga Arr 47.74 187 P **P** 22 51 17.6 0.0
WR0 IAmb IAmb 22 51 18.8
comp=Z,2.8nm,0.6s
WB2 Warramunga Arr 47.74 187 P **P** 22 51 17.8 +0.1
WB2 IAmb IAmb 22 51 25.1
comp=Z,3.7nm,1.1s
WRA Warramunga Arr 47.74 187 P **P** 22 51 17.6 -0.1
comp=Z,2.4nm,0.3s,baz=1.3,slow=7.7,SNR=106
WRA PcP **PcP** 22 52 38.4 +1.1
comp=Z,1.5nm,0.7s,baz=356,slow=3.6,SNR=7.1
WRA Warramunga Arr 47.74 187 P **P** 22 51 17.2 -0.5
GSI Gunungsitoli 48.16 244 P **P** 22 51 20.9 -0.1
MK31 Makanchi Array 48.35 309 IAmb IAmb 22 51 23.2
comp=Z,3.3nm,1.1s
MKAR Makanchi Array 48.35 309 P **P** 22 51 22.6 +0.6
comp=Z,1.6nm,0.5s,baz=89,slow=10.0,SNR=28
MKAR ScP **ScP** 22 55 45.5 -0.4
comp=Z,0.5nm,0.6s,baz=90,slow=4.7,SNR=5.8
MKAR Makanchi Array 48.35 309 P **P** 22 51 22.1 +0.1
MAKZ Makanchi 48.56 309 P **P** 22 51 24.1 +0.5
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 48.56 309 P **P** 22 51 24.1 +0.5
MAKZ IAmb IAmb 22 51 25.6
comp=Z,3.7nm,1.1s
SDPT Sand Point 50.56 40 P **P** 22 51 38.1 +0.1
SDPT IAmb IAmb 22 51 39.3
comp=Z,13nm,1.2s
KURK Kurchatov 50.94 314 P **P** 22 51 41.8 +0.8
KURBB Kurchatov Arra 50.99 314 P **P** 22 51 41.8 +0.4
comp=Z,8.4nm,0.6s,baz=92,slow=7.9,SNR=37
CNBA Chernabura Isl 51.00 40 P **P** 22 51 41.8 +0.4
CNBA IAmb IAmb 22 51 45.3
comp=Z,4.2nm,1.0s
AS31 Alice Springs 51.47 187 P **P** 22 51 45.3 +0.1
ASAR Alice Springs 51.47 187 P **P** 22 51 45.3 +0.1
comp=Z,1.3nm,0.5s,baz=18,slow=13,SNR=23
ASAR PcP **PcP** 22 52 52.3 +1.3
comp=Z,1.0nm,0.7s,baz=3.8,slow=3.3,SNR=7.5
PSA00 Pilbara Seismi 52.71 203 P **P** 22 51 54.3 +0.2
PSA00 IAmb IAmb 22 52 02.2
comp=Z,4.3nm,1.1s
PSA00 Pilbara Seismi 52.71 203 P **P** 22 51 53.5 -0.6
PSA00 IAmb IAmb 22 51 57.5
comp=Z,0.7nm,0.9s
BOOM Boomskoye usch 53.02 304 P **P** 22 51 57.7 +1.3
BOOM pmax pmax
comp=Z,6.0nm,0.6s
BOOM Boomskoye usch 53.02 304 P **P** 22 51 57.6 +1.3
BOOM IAmb IAmb 22 51 58.0
comp=Z,5.5nm,0.6s
CHIR Chirikof Islan 53.34 39 P **P** 22 51 59.1 +0.9
CHIR IAmb IAmb 22 52 04.6
comp=Z,16nm,1.1s
SII Sitkinak Islan 54.19 39 P **P** 22 52 05.3 +1.1
SII IAmb IAmb 22 52 23.1
comp=Z,18nm,1.0s
KDAK Kodiak Island 55.12 37 P **P** 22 52 11.5 +0.8
KDAK pmax pmax
comp=Z,3.0nm,1.2s
KDAK Kodiak Island 55.12 37 P **P** 22 52 11.5 +0.8
IMAR Indian Mountai 55.41 27 P **P** 22 52 14.0 +1.3
CNPM China Poot 55.90 35 P **P** 22 52 16.5 +0.3
CNPM IAmb IAmb 22 52 21.8
comp=Z,4.7nm,1.0s
BVAR Borovoye Array 56.05 317 P **P** 22 52 16.8 -0.5
comp=Z,5.4nm,0.5s,baz=170,slow=8.8,SNR=21
BRVK Borovoye 56.11 317 P **P** 22 52 18.4 +0.7
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 56.11 317 **P** 22 52 18.4 +0.7
BRVK IAmb IAmb 22 52 18.9
comp=Z,6.6nm,0.7s
NIL Nilore 56.58 294 P **P** 22 52 22.5 +1.2
NIL pmax pmax
comp=Z,12nm,0.5s
NIL Nilore 56.58 294 P **P** 22 52 22.5 +1.2
KK31 Karatay Array 56.91 305 IAmb IAmb 22 52 24.7
comp=Z,7.7nm,0.8s
KKAR Karatay Array 56.91 305 IAmb IAmb 22 52 24.7
comp=Z,7.7nm,0.8s
BTK Batken 57.18 302 P **P** 22 52 25.8 +0.3
BTK pmax pmax
comp=Z,3.0nm,0.9s
BTK Batken 57.18 302 P **P** 22 52 25.8 +0.3
TOLK Toolik Lake Re 57.39 24 P **P** 22 52 28.4 +2.1
MDM Murphy Dome 57.59 29 P **P** 22 52 29.1 +1.4
WRH Wood River Hil 57.62 29 P **P** 22 52 28.5 +0.6
CCB Clear Creek Bu 57.75 29 P **P** 22 52 29.4 +0.7
GAR Garm 57.76 300 P **P** 22 52 29.8 +0.3
GAR IAmb IAmb 22 52 30.4
comp=Z,11nm,0.6s
SCM Sheep Creek Mo 57.89 32 P **P** 22 52 29.6 -0.3
SCM pmax pmax
comp=Z,3.0nm,0.8s
SCM Sheep Creek Mo 57.89 32 P **P** 22 52 29.6 -0.3
ILAR Eielson Array 58.15 29 P **P** 22 52 31.4 -0.1
comp=Z,0.4nm,0.3s,baz=244,slow=5.7,SNR=6.9
CHGR Chuyangaron 58.72 300 P **P** 22 52 36.4 +0.5
RIDG Independent Ri 59.03 30 P **P** 22 52 38.4 +0.8
FORT Forrest 59.30 192 P **P** 22 52 40.2 +0.5
KAIM Kayak Island 59.35 35 P **P** 22 52 40.7 +1.1
STKA Stephens Creek 59.37 178 P **P** 22 52 38.8 -1.3
comp=Z,0.8nm,0.3s,baz=317,slow=17,SNR=3.5
SCRK Sand Creek 59.41 30 P **P** 22 52 40.6 +0.5
SCRK IAmb IAmb 22 52 41.2
comp=Z,1.5nm,0.5s
KBL Kabul 59.76 296 P **P** 22 52 43.1 0.0
KBL pmax pmax
comp=Z,5.0nm,1.0s
KBL Kabul 59.76 296 P **P** 22 52 43.1 0.0
KBL IAmb IAmb 22 52 45.2
comp=Z,5.0nm,0.9s
K27K Chicken 60.25 30 P **P** 22 52 46.3 +0.7
BBOO Buckleboo 60.37 184 P **P** 22 52 46.5 -0.3
BBOO IAmb IAmb 22 52 49.0
comp=Z,2.7nm,1.0s
MORW Morawa 60.92 204 P **P** 22 52 50.6 +0.1
MORW IAmb IAmb 22 52 58.0
comp=Z,6.6nm,1.1s
ARU Arti 62.53 322*d i* P **P** 22 52 57.5 -3.2
ARU 22 53 30.0
ARU S **S** 23 00 42.9 -5.9
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 62.53 322 P **P** 22 53 00.7 0.0
ARU IAmb IAmb 22 53 01.3
comp=Z,5.9nm,0.7s
ABKAR Akbulak array 63.04 314 **P** 22 53 04.0 -0.1
ABKAR Akbulak array 63.04 314 **P** 22 53 04.0 -0.1
ABKAR IAmb IAmb 22 53 04.8
comp=Z,5.2nm,0.7s
AKTO Aktyubinsk 64.01 315 P **P** 22 53 10.2 -0.1
comp=Z,3.3nm,0.7s,baz=76,slow=14,SNR=6.4
NWAO Narrogin (SRO) 64.06 201 P **P** 22 53 10.8 +0.1
NWAO pmax pmax
comp=Z,22nm,1.2s
NWAO Narrogin (SRO) 64.06 201 P **P** 22 53 10.8 +0.1
ARCES ARCESS Array B 72.16 340 P **P** 22 53 60.0 +0.3
comp=Z,1.9nm,0.6s,baz=71,slow=8.2,SNR=15
ARCES ARCESS Array B 72.16 340 P **P** 22 54 00.0 +0.3
OBN Obninsk 74.71 325 *eP* **P** 22 54 14.2 -0.2
OBN pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 75.93 312 P **P** 22 54 22.0 +0.6
comp=Z,2.7nm,0.8s,baz=101,slow=4.5,SNR=7.5
FINES FINESS Array B 76.35 333 P **P** 22 54 23.4 -0.1
comp=Z,5.2nm,0.3s,baz=64,slow=5.0,SNR=84
FINES FINESS Array B 76.35 333 *i P* **P** 22 54 23.2 -0.2
FINES pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 80.76 323 P **P** 22 54 46.7 -0.6
comp=Z,0.6nm,0.3s,baz=43,slow=5.0,SNR=4.7
NVAR Mina Array Bea 81.79 51 P **P** 22 54 54.5 +1.3
comp=Z,0.4nm,0.6s,baz=294,slow=4.9,SNR=5.2
NB2 NORSAR Subarra 82.14 337 P **P** 22 54 53.6 -0.7
comp=Z,1.2nm,0.6s,baz=48,slow=4.6
NOA NORSAR Array B 82.14 337 P **P** 22 54 53.6 -0.7
comp=Z,2.0nm,0.6s,baz=46,slow=4.9,SNR=7.6
BRTR Keskin Array B 83.92 312 P **P** 22 55 03.2 -0.5
comp=Z,1.0nm,0.7s,baz=74,slow=6.2,SNR=3.1
GERES GERESS Array B 89.77 328 P **P** 22 55 30.4 -0.9
comp=Z,0.1nm,0.3s,baz=0.7,slow=7.9,SNR=4.0
TXAR Lajitas Array 96.91 52 P **P** 22 56 04.8 +0.5
comp=Z,0.4nm,0.8s,baz=331,slow=7.2,SNR=4.0
TORD Torodi Ar. Bea 122.47 309 PKP **PKiKP** 23 01 24.6 -1.1
comp=Z,0.8nm,0.8s,baz=56,slow=1.6,SNR=4.4
LPAZ La Paz 151.82 72 PKPbc **PKiKP** 23 02 26.4 +0.4
comp=Z,1.2nm,0.5s,baz=281,slow=3.5,SNR=8.3
PLCA Paso Flores 151.99 125 PKPbc **PKiKP** 23 02 26.1 +1.1
comp=Z,0.6nm,0.4s,baz=290,slow=6.9,SNR=5.2

*NEIC **30** 22:48:22.1±1.2, 7°.6S±0°.1×159°.8E±0°.1, h6km±11km, mb4.2/8, Error ellipse: s-maj=24.5km s-min=11.1km az=215.0*
*IDC **30** 22:48:23.4±9.6, 7°.79S×159°.45E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.5/41, mbtmp4.0/3, Error ellipse: s-maj=162.3km s-min=29.0km az=44.0*
ISC 30 22:48:25.3±1.6, 7°.6S±0°.1×159°.9E±0°.2, h35km, n23, σ1§20/19, mb3.9/6, Bougainville-Solomon Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
HNR Honiara 1.83 177 Pn **Pn** 22 48 54.6 +0.4
32nm,0.3s,baz=311,slow=2.1,SNR=8.0
HNR Sn **Sn** 22 49 16.3 +0.1
81nm,0.3s,baz=337,slow=3.8,SNR=10.0
HNR Honiara 1.83 177 **Pn** 22 48 54.1 -0.1
HNR **Sn** 22 49 17.2 +1.0
SANVU Saraoutou 10.61 138 Pn **Pn** 22 50 53.7 -1.3
OUENC Ouen Island, N 16.20 156 Pn **Pn** 22 52 09.8 -0.5
OUENC IAmb IAmb 22 52 24.5
comp=Z,22nm,1.0s
PINNC Pines Island, 16.62 155 Pn **Pn** 22 52 13.8 -1.8
H11S2 WAKE ISLAND Hy 26.79 15 T T 23 22 33.2
baz=195,slow=76,SNR=171
H11S3 WAKE ISLAND Hy 26.79 15 T T 23 22 33.1
baz=195,slow=76,SNR=65
H11S1 WAKE ISLAND Hy 26.80 15 T T 23 22 34.3
baz=195,slow=76,SNR=300
WR0 Warramunga Arr 27.44 241 P **P** 22 54 07.7 -0.4
WR0 IAmb IAmb 22 54 17.9
comp=Z,4.9nm,1.1s
WB0 Warramunga Arr 27.49 241 P **P** 22 54 08.0 -0.6
WB0 IAmb IAmb 22 54 13.8
comp=Z,3.2nm,1.1s
WB2 Warramunga Arr 27.59 241 P **P** 22 54 09.0 -0.6
WRA Warramunga Arr 27.61 241 P **P** 22 54 09.3 -0.4
comp=Z,1.0nm,0.6s,baz=65,slow=8.8,SNR=9.7
WRA Warramunga Arr 27.61 241 P **P** 22 54 08.7 -1.0
H11N1 WAKE ISLAND Hy 28.01 14 T T 23 24 04.6
baz=195,slow=76,SNR=216
H11N3 WAKE ISLAND Hy 28.02 14 T T 23 24 05.6
baz=195,slow=76,SNR=207
H11N2 WAKE ISLAND Hy 28.03 14 T T 23 24 06.2
baz=195,slow=76,SNR=234
STKA Stephens Creek 29.55 213 P **P** 22 54 26.5 -0.3
comp=Z,1.4nm,0.5s,baz=41,slow=13,SNR=6.0
STKA Stephens Creek 29.55 213 P **P** 22 54 27.1 +0.3
ASAR Alice Springs 29.58 234 P **P** 22 54 25.8 -1.4
comp=Z,0.9nm,0.7s,baz=62,slow=9.3,SNR=8.0
BBOO Buckleboo 33.42 218 P **P** 22 54 59.6 -1.2
MSWZ Moikau Station 36.35 160 P **P** 22 55 29.2 +3.1
PLWZ Palliser 36.49 160 P **P** 22 55 27.5 +0.3
TOLI2 Tolitoli 39.92 281 P **P** 22 55 57.4 +1.0
TOLI2 IAmb IAmb 22 56 08.2
comp=Z,6.3nm,1.1s

*IDC **30** 22:54:32.6±0.8, 13°.79N×144°.69E, h111km±5km, mb3.6/7, mb1 3.8/7, mb1mx3.3/47, mbtmp4.0/7, Error ellipse: s-maj=37.6km s-min=18.5km az=72.0*
*NEIC **30** 22:54:33.0±1.4, 13°.82N±0°.06×145°.0E±0°.1, h115km±5km, mb4.3/16, Error ellipse: s-maj=15.9km s-min=7.0km az=113.0*
ISC 30 22:54:33.2±0.5, 13°.82N±0°.06×145°.0E±0°.1, h125km, n30, σ1§14/32, mb4.2/14, Mariana Islands
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
GUMO Guam 0.26 208 P **Pn** 22 54 49.6 -1.0
2μm,0.3s,baz=265,slow=0.2,SNR=580
GUMO S **Sn** 22 55 01.6 -2.1
1μm,0.3s,baz=162,slow=19,SNR=13
ANA2 Anatahan 2.60 15 **Pn** 22 55 15.0 +0.4
JCJ Chichijima 13.47 349 Pn **Pn** 22 57 41.4 +2.1
JCJ **P** 22 57 41.7 -2.5
PATS Pohnpei 14.82 117 Pn **Pn** 22 57 57.0 +0.3
PATS **P** 22 57 57.5 -1.8
FAKI Fak Fak 20.89 218 P **P** 22 59 06.5 +0.8
FAKI IAmb IAmb 22 59 22.7
comp=Z,25nm,1.1s
JMN Monobe 22.25 335 P **P** 22 59 19.9 0.0
JMN IAmb IAmb 22 59 22.4
comp=Z,15nm,1.0s
INU Inuyama 22.61 343 P **P** 22 59 22.6 -0.8
INU IAmb IAmb 22 59 24.1
comp=Z,10nm,1.1s
JGF Kuroka 22.75 344 P **P** 22 59 23.9 -1.1
CTAO Charters Tower 33.72 178 P **P** 23 01 02.8 +0.1
CTAO IAmb IAmb 23 01 19.5
comp=Z,11nm,1.1s
WB0 Warramunga Arr 34.97 198 P **P** 23 01 13.7 +0.2
WB0 IAmb IAmb 23 01 24.2
comp=Z,3.8nm,1.1s
WR0 Warramunga Arr 35.10 197 P **P** 23 01 14.8 +0.1
WB2 Warramunga Arr 35.14 198 P **P** 23 01 15.0 0.0
WB2 IAmb IAmb 23 01 17.5
comp=Z,4.2nm,0.7s
WRA Warramunga Arr 35.15 198 P **P** 23 01 15.1 0.0
comp=Z,2.2nm,0.6s,baz=13,slow=9.1,SNR=27
WRA Warramunga Arr 35.15 198 IAmb IAmb 23 01 16.5
comp=Z,0.1nm,0.6s
ASAR Alice Springs 38.80 196 P **P** 23 01 45.5 -0.4
comp=Z,0.7nm,0.6s,baz=16,slow=6.7,SNR=12
DZM Mont Dzumac 41.41 149 P **P** 23 02 09.6 +2.1
comp=Z,1.1nm,0.5s,baz=288,slow=3.2,SNR=17
DZM Mont Dzumac 41.41 149 P **P** 23 02 09.5 +1.9
ARMA Armidale 44.44 172 P **P** 23 02 31.6 -0.3
ARMA IAmb IAmb 23 02 34.8
comp=Z,7.6nm,1.1s
MHMT Maesarieng 45.35 282 P **P** 23 02 39.7 +0.4
STKA Stephens Creek 45.55 184 P **P** 23 02 40.0 -0.5
comp=Z,0.8nm,0.5s,baz=302,slow=13,SNR=3.2
ADK Adak 48.81 31 P **P** 23 03 05.4 -0.1
TOO Toolangi 51.12 179 P **P** 23 03 24.8 +1.6
MKAR Makanchi Array 61.41 316 P **P** 23 04 35.3 -0.9
comp=Z,0.3nm,0.7s,baz=94,slow=7.7,SNR=5.7
PLWZ Palliser 61.79 155 P **P** 23 04 38.7 -0.1
KHZ Kahutara 61.81 156 P **P** 23 04 37.5 -1.3
RPZ Rata Peaks 62.01 159 P **P** 23 04 39.7 -0.5
RPZ IAmb IAmb 23 04 51.3
comp=Z,2.9nm,0.8s
KURK Kurchatov 64.49 320 P **P** 23 04 57.0 +0.6
KURBB Kurchatov Arra 64.53 320 P **P** 23 04 57.0 +0.3
comp=Z,0.6nm,0.6s,baz=102,slow=6.8,SNR=3.4
VNDA Vanda 91.68 176 P **P** 23 07 27.0 +1.3
comp=Z,0.8nm,0.9s,baz=325,slow=4.0,SNR=4.5
LPAZ La Paz 147.94 99 PKPbc **PKPbc** 23 14 06.1 +0.5
comp=Z,0.9nm,0.6s,baz=304,slow=3.6,SNR=5.3

*IEPN **30** 23:37:08.0, 67°.04N×19°.92E, h10km*
*MOS **30** 23:37:09.7±1.4, 67°.12N×20°.32E, h10km, mb4.3/5, Error ellipse: s-maj=16.8km s-min=4.7km az=92.8*
*NAO **30** 23:37:11.5±0.6, 67°.13N×20°.81E, ML3.9*
*IDC **30** 23:37:11.7±0.5, 67°.19N×20°.73E, h0km, mb3.6/15, mb1 3.9/23, mb1mx3.8/49, mbtmp3.7/23, ML3.7/8, MS2.7/1, Ms1 2.7/1, ms1mx2.2/48, Error ellipse: s-maj=9.6km s-min=6.0km az=107.0*
*DNK **30** 23:37:12.1±1.8, 67°.20N×20°.71E, h0km, ML2.4, Suspected explosion*
*HEL **30** 23:37:12.2±0.0, 67°.19N×20°.67E, h1km, ML3.1, ML3.7(UPP), Confirmed Induced event*
*NEIC **30** 23:37:13.3±1.6, 67°.13N±0°.06×20°.7E±0°.2, h16km±5km, mb4.0/23, Error ellipse: s-maj=11.7km s-min=4.1km az=132.0*
*BER **30** 23:37:13.7±3.0, 67°.20N×20°.60E, h1km, ML3.2, MW3.2, ML3.9(NAO), Confirmed Induced event*
*KOLA **30** 23:37:14.5, 67°.66N×21°.16E, h0km, ML3.2, Kiruna Area, Sweden*
ISC 30 23:37:10.5±0.4, 67°.17N±0°.02×20°.69E±0°.02, h0km, n220, σ1§87/321, mb3.9/28, 14D, Sweden
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DUNU Dundret 0.07 225 P **Pg** 23 37 13.5 +1.8
DUNU S **Sg** 23 37 14.8 +2.2
DUNU Dundret 0.07 225 ⇓*i P* **Pg** 23 37 13.5 +1.8
DUNU *i* S **Sg** 23 37 14.8 +2.2
RATU Laukkuluspa 0.78 328 P **Pg** 23 37 26.0 +0.5
RATU S **Sg** 23 37 36.2 +0.7
RATU Laukkuluspa 0.78 328 ⇓*i P* **Pg** 23 37 25.9 +0.5
RATU *i* S **Sg** 23 37 36.2 +0.7
KUA Kurravaara 0.80 350 ⇓*i P* **Pg** 23 37 26.1 +0.3
KUA *i* S **Sg** 23 37 36.4 +0.3
ERTU Ertsjaerv 0.86 136 P **Pg** 23 37 27.8 +0.9
ERTU S **Sg** 23 37 39.6 +1.7
ERTU Ertsjaerv 0.86 136 *eP* **Pg** 23 37 27.8 +0.9
ERTU *eS* **Sg** 23 37 39.2 +1.3
SALU Saltoluokta 0.88 285 ⇓*i P* **Pb** 23 37 30.7 +2.2
SALU *eS* **Sb** 23 37 42.1 +1.3
NIKU Nikkaluokta 0.95 319 P **Pg** 23 37 29.0 +0.3
NIKU S **Sg** 23 37 41.9 +1.0
NIKU Nikkaluokta 0.95 319 ⇓*eP* **Pg** 23 37 29.0 +0.3
NIKU *eS* **Sg** 23 37 41.9 +1.0
PAJU Pajala 0.96 98 P **Pg** 23 37 29.6 +0.7
PAJU S **Sg** 23 37 42.7 +1.5
PAJU Pajala 0.96 98 *eP* **Pg** 23 37 29.6 +0.7
PAJU *eS* **Sg** 23 37 42.1 +0.9
LANU Lannavaara 1.01 29 P **Pg** 23 37 30.2 +0.2
LANU S **Sg** 23 37 43.1 +0.1
LANU Lannavaara 1.01 29 *eP* **Pg** 23 37 30.1 +0.2
LANU *eS* **Sg** 23 37 43.2 +0.2
HARU Harads 1.02 173 P **Pg** 23 37 30.6 +0.6
HARU S **Sg** 23 37 45.1 +2.1
HARU Harads 1.02 173 ⇓*eP* **Pg** 23 37 30.6 +0.6
HARU *eS* **Sg** 23 37 45.1 +2.1
KOVU Salmi 1.08 349 P **Pg** 23 37 31.1 0.0
KOVU Salmi 1.08 349 ⇓*eP* **Pg** 23 37 31.1 0.0
KOVU *eS* **Sg** 23 37 46.3 +1.2
KLF Kolari 1.28 86 *eP* **Pg** 23 37 35.2 +0.3
KLF *eS* **Sg** 23 37 52.1 +0.6
HEF Hetta 1.68 41 Pn **Pn** 23 37 41.6 +0.5
HEF Sn **Sn** 23 38 03.1 -0.2
HEF Hetta 1.68 41 ⇓*i P* **Pn** 23 37 41.8 +0.6
HEF *eS* **Sn** 23 38 03.1 -0.2
HEF Hetta 1.68 41 *eP* **Pn** 23 37 41.8 +0.6
HEF *eS* **Sn** 23 38 03.3 0.0
SJUU Sjulsmark 1.71 167 ⇓*eP* **Pn** 23 37 42.9 +1.4
TOF Tornio 1.82 125 *eP* **Pn** 23 37 44.8 +1.8
TOF *eS* **Sn** 23 38 08.6 +2.0
KIF Kilpisjarvi 1.84 1 Pn **Pn** 23 37 44.9 +1.7
KIF Sn **Sb** 23 38 10.0 +1.4
KIF Kilpisjarvi 1.84 1 ⇓*i P* **Pn** 23 37 45.1 +1.7
KIF *eS* **Sn** 23 38 05.2 -2.2
KIF Kilpisjarvi 1.84 1 *eP* **Pn** 23 37 45.0 +1.7
KIF *eS* **Sb** 23 38 09.7 +1.1
N2ST Straumen 1.99 278 ⇓*i P* **Pn** 23 37 47.4 +2.0
N2ST *eSg* **Sb** 23 38 13.8 +1.1
N2ST IAML 23 38 16.6
comp=Z,1μm,0.6s
N2IH Innhavet 1.99 296 ⇓*i P* **Pn** 23 37 47.7 +2.4
N2IH *eSg* **Sb** 23 38 14.7 +1.8
N2IH IAML 23 38 16.7
comp=Z,609nm,0.5s
KTK1 Kautokeino 2.08 26 Pn **Pn** 23 37 49.0 +2.3
KTK1 Sn **Sb** 23 38 16.1 +0.6
KTK1 Kautokeino 2.08 26 *eP* **Pn** 23 37 48.6 +2.0
KTK1 *eSg* **Sb** 23 38 16.7 +1.1
KTK1 IAML 23 38 17.1
comp=Z,4μm,0.3s
FAUS Fauske 2.11 278 ⇓*i P* **Pn** 23 37 49.3 +2.3
FAUS *eS* **Sn** 23 38 12.8 -1.1
FAUS *eSg* **Sb** 23 38 18.2 +2.0
FAUS IAML 23 38 19.0
comp=Z,278nm,0.6s
RNF Rovaniemi 2.17 103 *eP* **Pn** 23 37 49.9 +2.0
RNF *eS* **Sn** 23 38 18.0 +2.6
RNF MSG 23 38 20.5
comp=Z,210nm,0.3s
N2NF Nordfold 2.19 288 *eP* **Pn** 23 37 49.3 +1.3
N2NF *eS* **Sn** 23 38 14.2 -1.6
N2NF *eSg* **Sb** 23 38 20.5 +2.0
N2NF IAML 23 38 21.7
comp=Z,252nm,0.8s
N2TV Tørnvik 2.19 283 *eP* **Pn** 23 37 50.0 +1.9
N2TV *eS* **Sn** 23 38 14.3 -1.6
N2TV IAML 23 38 24.2
comp=Z,541nm,0.8s
STEI Steigen 2.23 293 Pn **Pn** 23 37 51.0 +2.4
STEI Sn **Sb** 23 38 21.1 +1.5
STEI Steigen 2.23 293 *eP* **Pn** 23 37 49.9 +1.4
STEI *eS* **Sn** 23 38 15.2 -1.5
STEI *eSg* **Sb** 23 38 21.4 +1.7
STEI IAML 23 38 24.1
comp=Z,231nm,0.5s
SGF Sodankyl 2.28 80 P **Pn** 23 37 50.6 +1.3
SGF Sodankyl 2.28 80 *eP* **Pn** 23 37 50.7 +1.4
SGF *eS* **Sn** 23 38 20.4 +2.3
SGF MSG 23 38 24.4
comp=Z,116nm,0.2s
NBB08 Skaug oppvekst 2.36 278 *eP* **Pn** 23 37 52.0 +1.5
NBB08 *eS* **Sn** 23 38 19.2 -0.8
NBB08 IAML 23 38 27.9
comp=Z,769nm,0.4s
JETT Jettan, Norway 2.40 358 Pn **Pn** 23 37 54.1 +3.0
JETT Sn **Sb** 23 38 25.5 +0.8
JETT IAML 23 38 30.6
comp=Z,450nm,0.4s
TRO Tromso 2.56 346 *eP* **Pn** 23 37 54.8 +1.6
TRO *eS* **Sn** 23 38 23.3 -1.6
TRO *eSg* **Sb** 23 38 30.8 +1.6
TRO IAML 23 38 33.0
comp=Z,263nm,0.4s
NBB17 Glomfjord BØr 2.67 265 *eP* **Pn** 23 37 56.3 +1.6
NBB17 Glomfjord BØr 2.67 265 *eS* **Sn** 23 38 26.2 -1.4
NBB17 Glomfjord BØr 2.67 265 *eSg* **Sb** 23 38 35.2 +2.9
MOR8 Moi Rana 2.68 251 Pn **Pn** 23 37 55.8 +0.9
MOR8 Sn **Sn** 23 38 30.0 +2.0
MOR8 Moi Rana 2.68 251 *eP* **Pn** 23 37 55.5 +0.6
MOR8 *ePg* **Pb** 23 37 58.4 -0.9

MOR8 IAML 23 38 33.2
comp=Z,277nm,0.5s
N2VI Vinje 2.73 298 *eP* **Pn 23 37 56.7 +1.2**
N2VI *eS* **Sn 23 38 26.9 -2.3**
N2VI *eSg* **Sb 23 38 36.5 +2.4**
N2VI IAML 23 38 41.1
comp=Z,154nm,0.4s
NBB30 Finnes 2.73 269 *eP* **Pn 23 37 56.8 +1.3**
NBB30 *ePg* **Pb 23 38 02.4 +2.3**
NBB30 *eS* **Sn 23 38 27.8 -1.4**
NBB30 *eSg* **Sb 23 38 37.3 +3.2**
NBB30 IAML 23 38 39.5
comp=Z,215nm,0.3s
NBB15 Halsa Church 2.83 265 *eP* **Pn 23 37 58.9 +2.0**
NBB15 Halsa Church 2.83 265 *ePg* **Pb 23 38 03.9 +2.1**
NBB15 Halsa Church 2.83 265 *eS* **Sn 23 38 30.4 -1.2**
NBB15 Halsa Church 2.83 265 *eSg* **Sb 23 38 39.3 +2.3**
NBB15 Halsa Church 2.83 265 IAML 23 38 54.6
comp=Z,108nm,0.5s
LOF Lofoten 2.90 293 Pn **Pn 23 37 58.5 +0.6**
LOF Pg **Pb 23 38 04.3 +1.3**
LOF Sn **Sn 23 38 35.3 +2.0**
LOF Lg Lg 23 38 44.1
LOF Lofoten 2.90 293 *eP* **Pn 23 37 58.6 +0.8**
LOF *eS* **Sn 23 38 30.6 -2.6**
LOF *eSg* **Sb 23 38 42.0 +3.1**
LOF IAML 23 38 46.9
comp=Z,138nm,0.4s
NBB13 Alf Garage 2.95 263 *eP* **Pn 23 38 01.0 +2.4**
NBB13 Alf Garage 2.95 263 *ePg* **Pb 23 38 05.7 +1.8**
NBB13 Alf Garage 2.95 263 *eS* **Sn 23 38 33.2 -1.4**
NBB13 Alf Garage 2.95 263 *eSg* **Sb 23 38 44.1 +3.6**
NBB13 IAML 23 38 49.7
comp=Z,181nm,0.6s
ARA0 ARCESS Array S 2.97 35 Pn **Pn 23 37 60.0 +1.1**
baz=210,slow=16
ARA0 Sn **Sn 23 38 36.6 +1.5**
baz=214,slow=28
ARA0 ARCESS Array S 2.97 35 Pn **Pn 23 37 60.0 +1.1**
baz=210,slow=16
ARA0 Sn **Sn 23 38 36.6 +1.5**
baz=214,slow=28
ARA0 IAML 23 38 49.6
comp=Z,78nm,0.6s
ARA0 ARCESS Array S 2.97 35 *eP* **Pn 23 38 00.0 +1.1**
ARCES ARCESS Array B 2.97 35 Pn **Pn 23 37 60.0 +1.1**
baz=211,slow=14,SNR=680
ARCES Sn **Sn 23 38 36.2 +1.0**
baz=210,slow=19,SNR=14
ARCES ARCESS Array B 2.97 35 **Pn 23 37 59.8 +1.0**
ARCES Sn **Sn 23 38 37.0 +1.9**
OBF4 Vikkela, Lumij 2.98 141 *eP* **Pn 23 38 00.7 +1.8**
OBF4 MSG 23 38 51.3
comp=Z,54nm,0.3s
OUL Oulu 2.98 132 P **Pn 23 38 00.6 +1.7**
OUL Oulu 2.98 132 *eP* **Pn 23 38 00.8 +1.9**
OUL MSG 23 38 52.7
comp=Z,88nm,0.3s
N2SV S¸rvÅgen 3.04 287 *eP* **Pn 23 37 59.8 0.0**
N2SV *eS* **Sn 23 38 34.7 -2.0**
N2SV *eSg* **Sb 23 38 46.1 +3.2**
N2SV IAML 23 38 50.5
comp=Z,58nm,0.4s
OBF0 Syolatti, Pyha 3.05 150 *eP* **Pn 23 38 01.9 +1.9**
OBF0 MSG 23 38 56.4
comp=Z,87nm,0.3s
KONS Konsvik 3.07 261 Pn **Pn 23 38 01.7 +1.6**
KONS Pg **Pb 23 38 08.0 +2.1**
KONS Sn **Sn 23 38 40.3 +2.8**
KONS Lg Lg 23 38 49.1
KONS Konsvik 3.07 261 *eP* **Pn 23 38 01.7 +1.6**
KONS *eS* **Sn 23 38 35.2 -2.3**
NBB40 Tonnes 3.11 261 *eP* **Pn 23 38 02.7 +2.1**
NBB40 *eS* **Sn 23 38 36.3 -2.1**
NBB40 *eSg* **Sb 23 38 47.4 +2.5**
NBB40 IAML 23 38 52.2
comp=Z,115nm,0.5s
N2VA Vr¸y 3.13 283 *eP* **Pn 23 38 01.1 +0.1**
N2VA *eS* **Sn 23 38 36.7 -2.2**
STOK Stokkvaagen 3.16 258 *eP* **Pn 23 38 03.3 +1.9**
STOK *ePg* **Pb 23 38 09.8 +2.4**
STOK *eS* **Sn 23 38 38.1 -1.6**
OUF Merijarvi 3.27 147 *eP* **Pn 23 38 04.7 +1.8**
N2RO R¸st 3.34 280 *eP* **Pn 23 38 04.0 +0.2**
N2RO *eS* **Sn 23 38 41.5 -2.6**
N2RO IAML 23 38 59.9
comp=Z,66nm,0.7s
KEV Kevo 3.49 39 P **Pn 23 38 06.8 +0.9**
KEV SN **Sn 23 38 48.1 +0.2**
KEV Kevo 3.49 39 Pn **Pn 23 38 07.1 +1.2**
KEV Pg **Pb 23 38 15.2 +2.2**
KEV Sn **Sn 23 38 48.0 +0.2**
KEV Lg Lg 23 39 01.1
KEV Kevo 3.49 39 *eP* **Pn 23 38 07.0 +1.2**
KEV *ePg* **Pb 23 38 14.6 +1.6**
KEV *eS* **Sn 23 38 45.5 -2.4**
KEV Kevo 3.49 39 **Pn 23 38 06.8 +0.9**
KEV Pb **Pb 23 38 14.8 +1.8**
KEV Sn **Sn 23 38 48.1 +0.2**
KEV Kevo 3.49 39 *eP* **Pn 23 38 06.6 +0.7**
KEV MSG 23 39 02.9
comp=Z,99nm,0.3s
HAMF Hammerfest 3.65 16 Pn **Pn 23 38 10.2 +2.0**
HAMF Sn **Sn 23 38 53.1 +1.2**
HAMF Lg Lg 23 39 09.1
HAMF Hammerfest 3.65 16 *eP* **Pn 23 38 09.7 +1.5**
HAMF IAML 23 39 09.3
comp=Z,130nm,0.4s
VAF Ylistaro 4.23 168 P **Pn 23 38 17.9 +1.8**
NSS Namsos 4.46 238 *eP* **Pn 23 38 20.8 +1.6**
NSS *eS* **Sn 23 39 08.4 -3.3**
NSS IAML 23 39 35.2
comp=Z,104nm,0.8s
NOD Norderasen 4.47 216 *eP* **Pn 23 38 20.5 +1.1**
NOD *eS* **Sn 23 39 10.0 -2.1**
APA0 Apatity Array 4.77 79 Pn **Pn 23 38 23.2 -0.3**
baz=270,slow=11
APA0 Sn **Sn 23 39 17.9 -1.5**
baz=282,slow=22
APA0 Lg Lg 23 39 38.7
baz=270,slow=22
APA0 Apatity Array 4.77 79 Pn **Pn 23 38 23.2 -0.3**
baz=270,slow=11
APA0 Sn **Sn 23 39 17.9 -1.5**
baz=282,slow=22
APA0 Sg **Sb 23 39 38.7 +6.0**
baz=270,slow=22
APA0 Apatity Array 4.77 79 P **Pn 23 38 23.1 -0.3**
APA0 S **Sn 23 39 14.7 -4.7**
SUF Sumiainen 5.03 150 P **Pn 23 38 29.0 +1.9**
LVZ Lovozero 5.40 76 *i P* **Pn 23 38 32.4 +0.1**
LVZ Lovozero 5.40 76 Pn **Pn 23 38 32.2 0.0**
LVZ Sn **Sn 23 39 32.9 -2.2**
JOF Joensuu 6.19 129 P **Pn 23 38 44.3 +1.3**
FIA0 FINESS Array S 6.21 155 Pn **Pn 23 38 45.2 +2.0**
baz=346,slow=14
FIA0 Sn **Sn 23 39 54.6 -0.1**
baz=346,slow=28
FIA0 Lg Lg 23 40 21.1
baz=333,slow=28
FIA0 FINESS Array S 6.21 155 Pn **Pn 23 38 45.2 +2.0**
baz=346,slow=14
FIA0 Sn **Sn 23 39 54.6 -0.1**
baz=346,slow=28
FIA1 FINESS Array S 6.21 155 **Pn 23 38 44.4 +1.2**
FINES FINESS Array B 6.21 155 Pn **Pn 23 38 45.2 +2.0**
comp=Z,2.6nm,0.3s,baz=348,slow=13,SNR=126
FINES Pg **Pb 23 38 57.8 -1.5**
comp=Z,3.1nm,0.3s,baz=347,slow=15,SNR=6.3
FINES Sn **Sn 23 39 54.1 -0.6**
comp=Z,6.1nm,0.3s,baz=346,slow=24,SNR=13
FINES Lg Lg 23 40 24.3
comp=Z,12nm,0.3s,baz=340,slow=21,SNR=14
FINES FINESS Array B 6.21 155 **Pn 23 38 45.1 +1.9**
SLVR Solovky 6.46 102 *eP* **Pn 23 38 45.6 -1.1**
SLVR *i S* **Sn 23 39 58.4 -2.7**
comp=Z,104nm,0.8s
AAL Aland 7.03 183 *eP* **Pn 23 38 54.6 +0.1**
DOMB Dombas 7.17 230 *eP* **Pn 23 38 56.3 -0.1**
MEF Metsahovi 7.17 165 *eP* **Pn 23 38 56.7 +0.3**
NC300 NORSAR Array S 7.17 219 Pn **Pn 23 38 57.1 +0.7**
NC303 NORSAR Array S 7.21 219 Pn **Pn 23 38 57.7 +0.7**
NC303 Sn **Sn 23 40 17.7 -1.8**

NC405 NORSAR Array S 7.23 217 **Pn 23 38 57.4 +0.1**
MOL Molde 7.24 237 *eP* **Pn 23 38 58.5 +1.1**
MOL *eS* **Sn 23 40 13.4 -6.9**
NC204 NORSAR Array S 7.32 221 Pn **Pn 23 38 59.0 +0.5**
NC204 Sn **Sn 23 40 20.6 -1.7**
NB201 NORSAR Array S 7.38 218 **Pn 23 39 00.3 +0.9**
NB201 Sn **Sn 23 40 19.6 -4.2**
NB2 NORSAR Subarra 7.41 218 Pn **Pn 23 39 00.6 +0.8**
baz=33,slow=14
NB2 Sn **Sn 23 40 22.6 -1.9**
baz=35,slow=28
NB2 NORSAR Subarra 7.41 218 Pn **Pn 23 39 00.6 +0.8**
baz=33,slow=14
NB2 Sn **Sn 23 40 22.6 -1.9**
baz=35,slow=28
NOA NORSAR Array B 7.41 218 Pn **Pn 23 39 00.5 +0.6**
comp=Z,0.2nm,0.3s,baz=27,slow=11,SNR=43
NOA Sn **Sn 23 40 21.3 -3.2**
comp=Z,0.3nm,0.3s,baz=37,slow=21,SNR=6.5
NOA Lg Lg 23 40 58.9
comp=Z,0.5nm,0.3s,baz=59,slow=18,SNR=7.0
UPP Uppsala 7.47 192 *eP* **Pn 23 38 59.9 -0.6**
NBO00 NORSAR Array S 7.53 220 Pn **Pn 23 39 01.3 -0.1**
NC602 NORSAR Array S 7.60 216 **Pn 23 39 02.6 +0.2**
NRA0 NORESS Array S 7.60 216 Pn **Pn 23 39 03.0 +0.6**
baz=28,slow=14
NRA0 Sn **Sn 23 40 25.9 -3.2**
baz=27,slow=28
NRA0 Lg Lg 23 41 08.2
baz=28,slow=37
NRA0 NORESS Array S 7.60 216 Pn **Pn 23 39 03.0 +0.6**
baz=28,slow=14
NRA0 Sn **Sn 23 40 25.9 -3.2**
baz=27,slow=28
NRA0 Sg **Sg 23 41 08.2 -6.1**
baz=28,slow=37
NAO01 NORSAR Array S 7.66 219 **Pn 23 39 03.5 +0.3**
AKN Aaknes 7.71 236 *eP* **Pn 23 39 03.5 -0.3**
HFS Hagfors 7.71 207 Pn **Pn 23 39 04.1 +0.2**
comp=Z,2.3nm,0.3s,baz=24,slow=13,SNR=117
HFS Sn **Sn 23 40 29.7 -2.1**
comp=Z,3.1nm,0.3s,baz=29,slow=23,SNR=7.1
HFS Lg Lg 23 41 09.1
comp=Z,2.9nm,0.3s,baz=34,slow=27,SNR=2.4
HFS LR LR 23 42 01.1
comp=Z,49nm,19.0s,baz=7.0,slow=37
SKAR Skarslia 8.48 226 *eP* **Pn 23 39 13.8 -0.6**
OSL Oslo 8.50 216 *eP* **Pn 23 39 14.2 -0.5**
VSU Vasula 9.16 160 *eP* **Pn 23 39 23.3 -0.4**
VSU Vasula 9.16 160 *i P* **Pn 23 39 23.3 -0.4**
STRU Stroemstad 9.22 212 *eP* **Pn 23 39 24.0 -0.5**
BORU Boraas 10.24 205 *i P* **Pn 23 39 37.9 -0.5**
LSH Leshukonskoye 10.41 91 *eP* **Pn 23 39 38.5 -2.4**
comp=Z,18nm,0.5s
LSH *i* S **Sn 23 41 32.4 -5.6**
ONAU Onsala 10.61 207 *i P* **Pn 23 39 42.2 -1.3**
SPA0 Spitsbergen Ar 11.14 355 Pn **Pn 23 39 51.0 +0.3**
baz=154,slow=11
SPA0 Spitsbergen Ar 11.14 355 Pn **Pn 23 39 51.0 +0.3**
baz=154,slow=11
SPITS Spitsbergen Ar 11.14 355 Pn **Pn 23 39 50.4 -0.3**
baz=158,slow=13,SNR=18
SPITS Sn **Sn 23 41 49.0 -6.7**
baz=131,slow=28,SNR=1.4
BLEU Blekinge 11.14 194 *i P* **Pn 23 39 49.2 -1.6**
BLEU *eS* Sn 23 41 47.6 -8.2
DEL Delary 11.20 200 *e* **Pn 23 39 50.9 -0.8**
baz=3.5,slow=12
DEL *i* P 23 39 51.7
DEL IAML 23 40 04.6
comp=Z,0.6nm,0.4s
BJUU Bjuv 11.70 202 *i P* **Pn 23 39 58.1 -0.4**
PABE Paberze 11.81 171 Pn **Pn 23 39 58.5 -1.4**
LUNU Lund 12.07 200 *i P* Pn 23 40 00.5 -3.0
SUW Suwalki 13.26 174 P **Pn 23 40 17.3 -2.4**
SUW Suwalki 13.26 174 **Pn 23 40 17.3 -2.4**
OBN Obninsk 14.25 140 Sn Sn 23 43 01.3 -10
comp=Z,0.3nm,0.3s,baz=261,slow=22,SNR=1.7
OBN Lg Lg 23 44 37.0
comp=Z,0.4nm,0.3s,baz=72,slow=19,SNR=1.5
OBN Obninsk 14.25 140 *eP* **Pn 23 40 32.6 -0.6**
OBN pmax pmax
comp=Z,4.0nm,0.9s
AMDE Amderma 15.05 61 *eP* **Pn 23 40 40.7 -3.4**
comp=Z,6.7nm,1.0s
AMDE *eS* Sn 23 43 20.9 -10
KIRV Kirov 15.52 110 Pn **Pn 23 40 46.3 -3.9**
comp=Z,1.9nm,0.3s,baz=325,slow=5.8,SNR=5.8
KIRV Sn Sn 23 43 29.8 -13
comp=Z,0.3nm,0.3s,baz=225,slow=20,SNR=1.8
KIRV Lg Lg 23 45 10.3
comp=Z,0.6nm,0.3s,baz=18,slow=20,SNR=5.6
EKA Eskdalemuir Ar 16.35 235 Pn **Pn 23 40 59.1 -2.1**
baz=36,slow=12,SNR=2.0
CLL Collm 16.36 197 *eP* **Pn 23 40 58.0 -3.3**
CLL *e* 23 43 35.0
CLL *eSSS* SSS 23 44 31.0
CLL Collm 16.36 197 *eP* **Pn 23 40 58.0 -3.3**
CHVC Chvalec 16.79 190 *eP* **Pn 23 41 03.2 -3.6**
OSTC Ostas 16.82 190 *eP* **Pn 23 41 04.2 -2.9**
OJC Ojcow 17.01 182 P **Pn 23 41 07.0 -2.5**
OJC pmax pmax
comp=Z,18nm,1.8s
OJC Ojcow 17.01 182 Pn **Pn 23 41 07.0 -2.5**
OJC IAmb IAmb 23 41 41.5
comp=Z,18nm,1.8s
AKASG Malin Array Be 17.06 161 Pn Pn 23 41 04.7 -5.5
comp=Z,1.3nm,0.3s,baz=342,slow=13,SNR=4.2
AKASG Lg Lg 23 45 58.9
comp=Z,0.5nm,0.3s,baz=38,slow=28,SNR=1.7
AKASG Malin Array Be 17.06 161 *i P* **Pn 23 41 11.8 +1.7**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 17.06 161 Pn **Pn 23 41 05.8 -4.4**
AKBB Malin Array Si 17.06 161 *i P* **Pn 23 41 11.2 +1.1**
AKBB Malin Array Si 17.06 161 **Pn 23 41 10.5 +0.4**
AKBB IAmb IAmb 23 41 12.7
comp=Z,13nm,0.7s
KRLC Kraliky 17.26 189 *eP* **Pn 23 41 08.7 -4.0**
KRLC Kraliky 17.26 189 *eP* **Pn 23 41 08.7 -4.0**
MORC Moravsky Berou 17.52 187 P **Pn 23 41 15.3 -0.6**
MORC pmax pmax
comp=Z,3.0nm,1.1s
MORC Moravsky Berou 17.52 187 Pn **Pn 23 41 15.3 -0.6**
KOLS Kolonicke sedl 18.31 177 *eP* **Pn 23 41 22.5 -3.1**
KOLS Kolonicke sedl 18.31 177 *ePN* **Pn 23 41 22.5 -3.1**
KHC Kasperske Hory 18.45 195 P **P 23 41 26.3 -1.1**
KHC pmax pmax
comp=Z,13nm,2.0s
KHC Kasperske Hory 18.45 195 P **P 23 41 26.3 -1.1**
KHC IAmb IAmb 23 41 31.0
comp=Z,13nm,2.0s
GERES GERESS Array B 18.72 195 P **P 23 41 29.9 -0.5**
comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=2.4
GERES GERESS Array B 18.72 195 P **P 23 41 30.8 +0.3**
GERES GERESS Array B 18.72 195 P **P 23 41 30.8 +0.3**
BUR08 Bucovina Ar. S 19.72 171 P **P 23 41 39.4 -1.9**
BURAR Bucovina Array 19.75 171 P **P 23 41 39.5 -2.2**
BURAR pmax pmax
comp=Z,3.0nm,0.7s
BURAR Bucovina Array 19.75 171 **P 23 41 39.8 -1.9**
BURAR IAmb IAmb 23 41 40.5
comp=Z,3.5nm,0.7s
ARU Arti 20.50 103 P **P 23 41 50.1 +0.5**
comp=Z,3.3nm,0.6s,baz=312,slow=9.9,SNR=16
ARU Arti 20.50 103 *d iP* **P 23 41 49.7 +0.1**
ARU PPP PPP 23 42 13.2
ARU S **S 23 45 38.5 -1.0**
ARU SS **SnSn 23 45 54.9 -2.2**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 20.50 103 P **P 23 41 50.0 +0.3**
MLR Muntele Rosu 21.91 170 P **P 23 42 06.4 +1.3**
comp=Z,1.1nm,0.5s,baz=0.0,slow=20,SNR=4.0
MLR Muntele Rosu 21.91 170 P **P 23 42 06.1 +1.0**
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 21.91 170 P **P 23 42 06.1 +1.0**
DIVS Divibare 23.13 181 P **P 23 42 18.4 +0.5**
TIRR Tirgusor 23.14 166 P **P 23 42 18.3 +0.4**
TIRR pmax pmax
comp=Z,31nm,1.3s
TIRR Tirgusor 23.14 166 P **P 23 42 18.3 +0.4**
NRIK Noril'sk 23.77 54 P **P 23 42 24.7 +0.7**
comp=Z,0.9nm,0.4s,baz=342,slow=9.2,SNR=2.0

ANN Anapa 24.13 150 *eP* **P 23 42 23.8 -3.9**
ANN *e*PP 23 42 26.1
ANN *eS* **S 23 46 40.2 -5.9**
ANN pmax pmax
comp=Z,16nm,0.8s
VTS Vitosha 24.64 175 P **P 23 42 32.7 +0.1**
VTS pmax pmax
comp=Z,2.0nm,1.0s
VTS Vitosha 24.64 175 P **P 23 42 32.7 +0.1**
VTS IAmb IAmb 23 42 34.5
comp=Z,2.2nm,1.0s
PDG Podgorica 24.80 183 P **P 23 42 35.2 +1.3**
AKTO Aktyubinsk 25.00 113 P **P 23 42 36.5 +0.9**
comp=Z,5.1nm,0.5s,baz=323,slow=9.8,SNR=19
PUK Puka 25.18 181 P **P 23 42 37.0 -0.4**
KIV Kislovodsk 26.08 142 *eP* **P 23 42 45.6 0.0**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV Kislovodsk 26.08 142 P **P 23 42 45.8 +0.2**
KIV IAmb IAmb 23 42 49.3
comp=Z,3.1nm,0.6s
KBZ Khabaz 26.35 142 P **P 23 42 51.0 +3.2**
comp=Z,1.1nm,0.7s,baz=326,slow=10.0,SNR=2.9
KBZ Khabaz 26.35 142 *i P* **P 23 42 47.8 0.0**
KBZ pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Akbulak array 26.68 113 P **P 23 42 51.8 +1.1**
ABKAR IAmb IAmb 23 43 42.8
comp=Z,8.2nm,1.9s
BRVK Borovoye 27.53 96 P **P 23 42 58.5 +0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 27.53 96 P **P 23 42 58.5 +0.1**
BRVK IAmb IAmb 23 43 05.1
comp=Z,1.9nm,0.7s
BVAR Borovoye Array 27.60 96 P **P 23 42 59.7 +0.7**
comp=Z,0.8nm,0.5s,baz=323,slow=9.3,SNR=4.9
TIP Timpagrande 28.13 186 P **P 23 43 03.8 -0.2**
TIP IAmb IAmb 23 44 00.4
comp=Z,3.4nm,1.0s
BRTR Keskin Array B 28.43 159 P **P 23 43 09.2 +2.5**
comp=Z,0.6nm,0.7s,baz=311,slow=13,SNR=2.6
GNI Garni 30.18 142 *i P* **P 23 43 23.9 +1.7**
GNI pmax pmax
comp=Z,4.0nm,1.9s
ESDC Sonseca Array 30.77 219 P **P 23 43 28.1 +0.8**
comp=Z,0.3nm,0.8s,baz=19,slow=5.4,SNR=1.5
RES Resolute Bay 32.56 334 P **P 23 43 43.3 +0.6**
RES pmax pmax
comp=Z,24nm,1.3s
KK31 Karatay Array 35.78 107 P **P 23 44 11.2 +0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 35.78 107 P **P 23 44 11.2 +0.3**
KK31 IAmb IAmb 23 44 13.3
comp=Z,1.3nm,0.7s
KKAR Karatay Array 35.78 107 P **P 23 44 11.8 +0.9**
KKAR 23 44 11.9
KKAR Karatay Array 35.78 107 P **P 23 44 11.9 +1.0**
KKAR Karatay Array 35.78 107 P **P 23 44 11.8 +0.9**
KKAR IAmb IAmb 23 44 13.3
comp=Z,1.3nm,0.7s
MKAR Makanchi Array 37.20 92 P **P 23 44 23.3 +0.3**
comp=Z,0.2nm,0.4s,baz=22,slow=6.8,SNR=4.9
MKAR Makanchi Array 37.20 92 *i P* **P 23 44 24.8 +1.8**
MKAR Makanchi Array 37.20 92 P **P 23 44 23.7 +0.7**
BOOM Boomskoye usch 38.36 102 P **P 23 44 34.9 +1.9**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 38.36 102 P **P 23 44 34.9 +1.9**
BTK Batken 38.54 109 P **P 23 44 34.4 -0.1**
BTK pmax pmax
comp=Z,2.0nm,0.7s
BTK Batken 38.54 109 P **P 23 44 34.4 -0.1**
BTK IAmb IAmb 23 44 36.7
comp=Z,2.4nm,0.7s
WMQ Khumqi 41.79 89 *eP* **P 23 45 03.8 +2.5**
BMAR Burnt Mountain 45.28 352 P **P 23 45 30.1 +1.0**
SONM Songino Array 45.57 70 P **P 23 45 33.2 +1.4**
comp=Z,0.4nm,0.4s,baz=316,slow=4.0,SNR=2.2
COLD Coldfoot 45.73 355 P **P 23 45 34.3 +1.6**
COLD IAmb IAmb 23 45 34.8
comp=Z,1.6nm,0.5s
ILAR Eielson Array 48.05 353 P **P 23 45 51.9 +1.0**
comp=Z,0.4nm,0.5s,baz=2.7,slow=5.4,SNR=5.4
DAWY Dawson 48.27 348 P **P 23 45 53.7 +1.1**
HHC Hu-ho-hao-te 53.46 71 *eP* **P 23 46 30.0 -2.1**
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,55nm,7.4s
TORD Torodi Ar. Bea 55.42 203 P **P 23 46 46.4 0.0**
comp=Z,0.5nm,0.6s,baz=10,slow=6.8,SNR=5.3
PETK Petropavlovsk- 55.77 30 P **P 23 46 49.2 +0.7**
comp=Z,0.5nm,0.5s,baz=297,slow=13,SNR=2.4
PDAR Pinedale Array 64.07 321 P **P 23 47 46.7 +0.7**
comp=Z,0.2nm,0.4s,baz=59,slow=9.5,SNR=4.7
TXAR Lajitas Array 75.14 312 P **P 23 48 54.9 +0.6**
comp=Z,0.4nm,0.5s,baz=28,slow=7.7,SNR=6.8

*HEL **30** 23:46:48.6±0.1, 67°.84N×20°.17E, h0km, ML1.8, ML2.5(UPP), Explosion*
*UPP **30** 23:46:48.4±0.2, 67°.86N×20°.32E, h0km, ML2.5, Explosion*
ISC 30 23:46:46.3±1.0, 67°.88N±0°.03×20°.02E±0°.05, h0km, n19, σ0:91/26, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOVU	**Salmi**	**0.35**	**8**	P	**Pb**	**23 46 55.4**	**-0.1**
KOVU				S	**Sb**	**23 47 00.6**	**-1.1**
KOVU	**Salmi**	**0.35**	**8**	*i* P	**Pb**	**23 46 55.4**	**-0.1**
KOVU				*i* S	**Sb**	**23 47 00.6**	**-1.1**
LANU	**Lannavaara**	**0.76**	**76**	*e*S	**Sg**	**23 47 10.9**	**+0.1**
SALU	**Saltoluokta**	**0.76**	**230**	*e*P	**Pn**	**23 47 05.0**	**+0.6**
KIF	**Kilpisjarvi**	**1.17**	**14**	MSG		23 47 26.0	
	comp=Z,11nm,0.2s						
KIF				*e*S	**Sn**	**23 47 26.6**	**+0.1**
HEF	**Hetta**	**1.46**	**67**	*e*PG	**Pg**	**23 47 14.3**	**0.0**
	baz=250						
HEF				MSG		23 47 31.7	
	comp=Z,6.4nm,0.2s						
HEF				*e*S	**Sg**	**23 47 32.5**	**-0.8**
PAJU	**Pajala**	**1.47**	**124**	P	**Pn**	**23 47 13.7**	**-0.3**
PAJU	**Pajala**	**1.47**	**124**	*e*PG	**Pn**	**23 47 13.7**	**-0.3**
	baz=306						
PAJU				*e*SB	**Sg**	**23 47 32.2**	**-1.2**
ERTU	**Ertsjaerv**	**1.57**	**147**	P	**Pb**	**23 47 16.0**	**-0.3**
ERTU	**Ertsjaerv**	**1.57**	**147**	*e*PN	**Pg**	**23 47 17.0**	**+0.6**
	baz=317						
ERTU				*e*SN	**Sg**	**23 47 36.7**	**0.0**
KLF	**Kolari**	**1.65**	**111**	*e*PN	**Pb**	**23 47 17.4**	**-0.1**
	baz=305						
KLF				*e*SN	**Sg**	**23 47 38.9**	**-0.2**
KTK1	**Kautokeino**	**1.65**	**45**	*e*P	**Pb**	**23 47 17.4**	**-0.2**
HARU	**Harads**	**1.76**	**167**	P	**Pg**	**23 47 20.0**	**0.0**
HARU	**Harads**	**1.76**	**167**	*e*P	**Pg**	**23 47 20.0**	**0.0**
TOF	**Tornio**	**2.47**	**135**	*e*PB	**Pb**	**23 47 30.3**	**-1.2**
	baz=310						
TOF				*e*		23 47 53.7	
TOF				MSG		23 48 00.2	
	comp=Z,4.8nm,0.2s						
SGF	**Sodankyl**	**2.52**	**97**	*e*PB	**Pb**	**23 47 32.0**	**-0.4**
RNF	**Rovaniemi**	**2.65**	**116**	*e*PB	**Pb**	**23 47 33.5**	**-1.2**
RNF				*e*SG	**Sb**	**23 48 07.7**	**0.0**
OUL	**Oulu**	**3.66**	**137**	*e*SB	**Sb**	**23 48 36.9**	**+0.2**
OLKF	**Oulanka, Finla**	**3.98**	**109**	*e*P	**Pn**	**23 47 51.8**	**+3.2**
OLKF				*e*		23 48 30.1	

*TAP **30** 23:50:51.3, 23°.72N×122°.52E, h3km±1km, ML3.9, D*
*JMA **30** 23:50:53.7±0.1, 23°.78N×122°.50E, h23km, M3.2*
*IDC **30** 23:50:59.3±30.0, 24°.45N×121°.43E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/57, mbtmp3.6/5, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/51, Error ellipse: s-maj=520.5km s-min=66.9km az=147.0*
ISC 30 23:50:54.2±1.3, 23°.73N±0°.05×122°.53E±0°.02, h33km±6km, n71, σ0:91/87, mb3.4/4, 8C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.81**	**28**	P	**Pn**	**23 51 08.4**	**-0.9**
JYNG				S	**Sn**	**23 51 18.0**	**-2.2**
YOJ	**Yonaguni jima**	**0.85**	**31**	P	**Pn**	**23 51 09.2**	**-0.7**

YOJ			S		Sn	23 51 18.9	-2.3
YOJ	**Yonaguni jima**	**0.85**	**31**	⇓*i*P	**Pn**	23 51 09.2	-0.7
	baz=30						
YOJ			S		**Sb**	23 51 22.7	+1.1
	baz=30						
TEYL	**Yanliau Villag**	**0.86**	**279**	⇓*i*P	**Pn**	23 51 09.7	-0.3
	baz=282						
TEYL				*i* S	**Sn**	23 51 22.3	+0.8
	baz=282						
TEGC	**Jichi Village**	**0.91**	**269**	⇓*i*P	**Pn**	23 51 10.6	-0.1
	baz=269						
TEGC			S		**Sn**	23 51 22.8	+0.2
	baz=269						
TWD	**Chiawan**	**0.92**	**292**	⇓P	**Pn**	23 51 10.0	-0.9
	baz=293						
TWD			*e*S		**Sb**	23 51 24.6	+0.9
	baz=293						
ETL	**Fush Village**	**0.93**	**297**	P	**Pn**	23 51 10.7	-0.4
	baz=297						
NACB	**Ninganchiao**	**0.96**	**297**	⇑P	**Pn**	23 51 10.8	-0.6
	baz=298						
NACB			*e*S		**Sb**	23 51 25.6	+0.8
	baz=298						
ETM	**Tongmen**	**0.98**	**284**	⇑P	**Pn**	23 51 10.9	-0.7
	baz=284						
EWUT	**Wuta**	**0.99**	**316**	*e*P	**Pn**	23 51 11.9	+0.2
	baz=316						
EWUT			*e*S		**Sb**	23 51 26.3	+0.7
	baz=316						
ESL	**Shilin**	**1.01**	**275**	⇑P	**Pn**	23 51 11.3	-0.8
	baz=275						
HGSD	**Ruisui**	**1.04**	**257**	⇑P	**Pn**	23 51 12.1	-0.5
	baz=257						
ETLH	**Xiulin Townshi**	**1.07**	**296**	⇑P	**Pn**	23 51 12.4	-0.5
	baz=297						
ETLH			*e*S		**Sn**	23 51 27.8	+1.1
	baz=297						
TWC	**Suao**	**1.07**	**325**	P	**Pn**	23 51 12.6	-0.3
	baz=325						
ECBN	**Changbin**	**1.07**	**247**	*e*P	**Pn**	23 51 13.1	+0.2
	baz=247						
EHY	**Hungye**	**1.13**	**259**	⇓P	**Pn**	23 51 13.9	+0.1
	baz=258						
NDS	**Dongshan**	**1.16**	**321**	*e*P	**Pn**	23 51 14.7	+0.5
	baz=321						
NDS			*e*S		**Sb**	23 51 31.1	+0.5
	baz=321						
EYUL	**Yuli**	**1.18**	**251**	*e*P	**Pn**	23 51 14.6	+0.3
	baz=251						
YULB	**Yu-li**	**1.18**	**254**	*e*P	**Pn**	23 51 14.6	+0.1
	baz=253						
TWF1	**Yuli**	**1.19**	**252**	*e*P	**Pn**	23 51 14.8	+0.1
	baz=251						
HATJ	**Hateruma jima**	**1.21**	**74**	P	**Pn**	23 51 15.7	+0.8
HATJ				S	**Sn**	23 51 31.3	+1.2
WHF	**Hehuan Shan**	**1.23**	**290**	P	**Pn**	23 51 15.2	-0.3
	baz=290						
ILA	**Ilan**	**1.25**	**325**	*e*S	**Sb**	23 51 33.5	+0.4
	baz=326						
IRIF	**Iriomote-Funau**	**1.25**	**61**	P	**Pn**	23 51 16.2	+0.8
IRIF				S	**Sn**	23 51 32.1	+1.0
FULB	**Fuli**	**1.25**	**245**	*e*P	**Pn**	23 51 15.4	-0.1
	baz=245						
NNSB	**Datong**	**1.26**	**304**	⇑P	**Pn**	23 51 15.6	0.0
	baz=304						
NNSH	**Datong**	**1.26**	**304**	*e*P	**Pn**	23 51 16.0	+0.4
	baz=304						
TWE	**Neicheng**	**1.26**	**322**	P	**Pn**	23 51 16.2	+0.7
	baz=322						
TWE			*e*S		**Sb**	23 51 34.1	+0.8
	baz=322						
ENTT	**Nioudou**	**1.26**	**316**	*e*P	**Pn**	23 51 16.2	+0.6
	baz=316						
NDT	**Datong Townshi**	**1.27**	**313**	P	**Pn**	23 51 16.2	+0.5
	baz=313						
NDT			S		**Sb**	23 51 34.8	+1.2
	baz=313						
NNS	**Nan Shan**	**1.27**	**304**	*e*P	**Pn**	23 51 16.1	+0.3
	baz=304						
CHGB	**Renai**	**1.28**	**285**	*e*P	**Pn**	23 51 15.8	-0.2
	baz=285						
FUSS	**Fushou**	**1.28**	**294**	⇑P	**Pn**	23 51 16.2	+0.2
	baz=294						
FUSS			*e*S		**Sb**	23 51 34.5	+0.2
	baz=294						
NTC	**Toucheng**	**1.29**	**330**	*e*P	**Pn**	23 51 16.2	+0.3
	baz=330						
TDCB	**Techi**	**1.36**	**293**	P	**Pn**	23 51 17.6	+0.5
	baz=293						
TDCB			S		**Sb**	23 51 36.2	0.0
	baz=293						
TWB1	**Santiao Chiao**	**1.36**	**339**	*e*P	**Pn**	23 51 17.5	+0.6
	baz=339						
TIPB	**Shuangxi**	**1.39**	**333**	*e*P	**Pn**	23 51 17.6	+0.2
	baz=333						
TIPB			S		**Sb**	23 51 37.6	+0.5
	baz=333						
NWLT	**Wulai**	**1.40**	**318**	*e*P	**Pn**	23 51 18.2	+0.7
	baz=318						
YHNB	**Yeheng**	**1.41**	**312**	⇑*i*P	**Pn**	23 51 18.1	+0.4
	baz=312						
YHNB			*e*S		**Sb**	23 51 38.6	+1.0
	baz=312						
NSK	**Sanguang**	**1.42**	**312**	P	**Pn**	23 51 18.3	+0.4
	baz=312						
LDUT	**Ludao**	**1.44**	**223**	*e*P	**Pn**	23 51 17.5	-0.5
	baz=222						
JKRS	**Kuro-shima**	**1.44**	**69**	P	**Pb**	23 51 19.9	-0.6
JKRS				*e*S	**Sb**	23 51 37.8	-0.8
ELDTW	**Lidau**	**1.49**	**249**	*e*P	**Pn**	23 51 18.9	+0.1
	baz=248						
NWF	**Wu-fen Shan**	**1.50**	**333**	*e*P	**Pn**	23 51 19.3	+0.4
	baz=333						
NWF			*e*S		**Sb**	23 51 40.6	+0.4
	baz=333						
WFSB	**Wu-fen Shan**	**1.50**	**333**	*e*P	**Pn**	23 51 19.2	+0.4
	baz=333						
SMLT	**Sun Moon Lake**	**1.50**	**276**	*e*P	**Pn**	23 51 19.4	+0.5
	baz=276						
TWA	**Mucha**	**1.51**	**325**	*e*P	**Pn**	23 51 20.3	+1.3
	baz=325						
WCS	**Beigang Elemen**	**1.52**	**283**	*e*P	**Pn**	23 51 20.0	+1.0
	baz=282						
TYC	**Yuchr**	**1.54**	**277**	*e*P	**Pn**	23 51 19.9	+0.6
	baz=276						
WHP	**Taichung City**	**1.55**	**291**	*e*P	**Pn**	23 51 20.4	+0.8
	baz=291						
TATO	**Taipei**	**1.56**	**323**	*e*P	**Pn**	23 51 20.6	+0.9
	baz=323						
TNOU	**National Taiwa**	**1.57**	**334**	*e*P	**Pn**	23 51 21.5	+1.7
	baz=334						
ALS	**Alishan**	**1.60**	**262**	*e*P	**Pn**	23 51 21.3	+0.9
	baz=262						
JIJ	**Ishigaki jima**	**1.60**	**67**	P	**Pn**	23 51 20.8	+0.5
JIJ				*e*S	**Sn**	23 51 41.5	+1.7
LIOB	**Emei**	**1.65**	**304**	*e*P	**Pn**	23 51 23.0	+2.1
	baz=303						
NSTT	**Nanjuang**	**1.66**	**303**	*e*P	**Pn**	23 51 22.8	+1.7
	baz=303						
YM01	**YM01**	**1.66**	**328**	*e*P	**Pn**	23 51 22.2	+1.2
	baz=328						
YM08	**YM08**	**1.68**	**330**	*e*P	**Pn**	23 51 22.2	+0.8
	baz=329						
JISG	**Ishigakijimahi**	**1.84**	**62**	P	**Pn**	23 51 23.7	+0.2
JTJ	**Tarama**	**2.18**	**65**	P	**Pn**	23 51 30.0	+1.8
JTJ				*e*S	**Sn**	23 51 56.9	+2.8
KSRS	**Korea Array**	**14.44**	**17**	Pn	**P**	23 54 21.3	-1.3
	0.3nm,0.3s,baz=199,slow=10,SNR=4.2						
KSRS				LR	LR	00 00 00.9	
	comp=Z,51nm,19.2s,baz=193,slow=38						
SONM	**Songino Array**	**27.27**	**336**	P	**P**	23 56 35.6	0.0
	0.8nm,0.9s,baz=150,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**39.52**	**316**	P	**P**	23 58 23.1	+1.2
	1.2nm,0.8s,baz=105,slow=9.8,SNR=9.2						
H11N1	**WAKE ISLAND Hy 41.28**	**87**		T	T	00 44 24.6	
	baz=283,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy 41.28**	**87**		T	T	00 44 26.8	
	baz=283,slow=74,SNR=15						
ZALV	**Zalesovo Beam**	**41.29**	**327**	P	**P**	23 58 36.1	-0.3
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.4						
H11N3	**WAKE ISLAND Hy 41.30**	**87**		T	T	00 44 28.2	
	baz=283,slow=74,SNR=21						
H11S3	**WAKE ISLAND Hy 41.40**	**89**		T	T	00 44 33.7	
	baz=284,slow=74,SNR=22						
H11S1	**WAKE ISLAND Hy 41.41**	**89**		T	T	00 44 34.1	
	baz=284,slow=74,SNR=22						
H11S2	**WAKE ISLAND Hy 41.42**	**89**		T	T	00 44 35.0	
	baz=284,slow=74,SNR=19						
KURBB	**Kurchatov Arra**	**43.24**	**320**	P	**P**	23 58 51.2	-1.2
	0.3nm,0.7s,baz=108,slow=10.0,SNR=3.1						

*IDC **30** 23:56:24.4±0.9, 19°.45N×66°.26W, h0km, mb3.7/8, mb1 4.1/9, mb1mx3.7/51, mbtmp3.9/9, ML3.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/47, Error ellipse: s-maj=30.1km s-min=14.6km az=70.0*
*NEIC **30** 23:56:27.7±1.3, 19°.40N±0°.02×66°.30W±0°.04, h16km±5km, Error ellipse: s-maj=5.9km s-min=1.8km az=117.0*
*RSPR **30** 23:56:29.7, 19°.45N×66°.34W, h50km±7km, MD3.5/15*
*OSPL **30** 23:56:30.3±0.5, 18°.38N×66°.09W, h9km±6km, ML3.3*
ISC 30 23:56:25.2±1.6, 19°.45N±0°.05×66°.28W±0°.03, h5km±11km, n76, σ0°87/77, mb3.9/7, MS3.0/3, 13C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.99**	**194**	⇓*e*P	**Pn**	**23 56 46.1**	**+0.3**
EMPR	**Esperanza - Ma**	**0.99**	**194**	*e*S	**Sb**	**23 56 59.0**	**+0.7**
EMPR	**Esperanza - Ma**	**0.99**	**194**		**Pb**	**23 56 45.3**	**+0.4**
EMPR				Sn	**Sb**	**23 56 59.4**	**+1.1**
EMPR				IAML		23 57 12.1	
	comp=E,3μm,0.7s						
EMPR				IAML		23 57 20.4	
	comp=N,2μm,0.8s						
GCPR	**Guaynabo City**	**1.15**	**171**		**Pg**	**23 56 47.4**	**+0.2**
GCPR					**Sg**	**23 57 00.1**	**-2.0**
GCPR				IAML		23 57 07.5	
	comp=E,731nm,0.6s						
GCPR				IAML		23 57 08.3	
	comp=N,1μm,0.8s						
AOPR	**Arecibo Observ**	**1.18**	**203**	⇑*e*P	**Pg**	**23 56 48.4**	**+0.5**
AOPR	**Arecibo Observ**	**1.18**	**203**	*e*S	**Sg**	**23 57 03.5**	**+0.3**
AOPR	**Arecibo Observ**	**1.18**	**203**		**Pg**	**23 56 48.4**	**+0.5**
AOPR					**Sg**	**23 57 03.5**	**+0.3**
AOPR	**Arecibo Observ**	**1.18**	**203**	IAML		23 57 16.7	
	comp=N,2μm,0.5s						
CBYP	**Canovanas**	**1.23**	**161**	⇑*e*P	**Pb**	**23 56 49.3**	**+0.3**
CBYP	**Canovanas**	**1.23**	**161**	*e*S	**Sb**	**23 57 05.8**	**+0.5**
CBYP	**Canovanas**	**1.23**	**161**		**Pb**	**23 56 49.3**	**+0.3**
CBYP					**Sb**	**23 57 05.8**	**+0.5**
CBYP	**Canovanas**	**1.23**	**161**	IAML		23 57 08.4	
	comp=E,2μm,0.2s						
AGPR	**Aguadilla, PR**	**1.25**	**219**		**Pg**	**23 56 49.9**	**+0.7**
AGPR				IAML		23 57 31.5	
	comp=E,755nm,1.0s						
AGPR	**Aguadilla, PR**	**1.25**	**219**	*i* P	**Pg**	**23 56 49.2**	**0.0**
AGPR				*e*S	**Sg**	**23 57 02.7**	**-2.8**
AGPR				IAML		23 57 13.3	
	comp=Z,288nm,0.6s						
SJG	**San Juan**	**1.33**	**175**	Pn	**Pn**	**23 56 50.8**	**+0.4**
	comp=Z,44nm,0.3s,baz=359,slow=10.0,SNR=52						
SJG				Sn	**Sg**	**23 57 08.0**	**0.0**
	comp=Z,95nm,0.3s,baz=275,slow=19,SNR=10						
SJG	**San Juan**	**1.33**	**175**		**Pn**	**23 56 50.7**	**+0.2**
SJG				IAML		23 57 15.9	
	comp=Z,802nm,0.5s						
SJG				IAML		23 57 22.0	
	comp=Z,617nm,0.8s						
HUMP	**Col San Antoni**	**1.36**	**163**	⇑*e*P	**Pg**	**23 56 51.5**	**+0.3**
HUMP	**Col San Antoni**	**1.36**	**163**	*e*S	**Sg**	**23 57 08.5**	**-0.3**
HUMP	**Col San Antoni**	**1.36**	**163**		**Pg**	**23 56 51.5**	**+0.3**
HUMP					**Sg**	**23 57 08.5**	**-0.3**
HUMP	**Col San Antoni**	**1.36**	**163**	IAML		23 57 12.2	
	comp=N,704nm,0.6s						
HUMP				IAML		23 57 20.3	
	comp=E,604nm,0.6s						
CELP	**Cerrillos**	**1.39**	**192**	⇑*e*P	**Pn**	**23 56 51.6**	**+0.3**
CELP	**Cerrillos**	**1.39**	**192**	*e*S	**Sg**	**23 57 09.0**	**-1.0**
CELP	**Cerrillos**	**1.39**	**192**		**Pn**	**23 56 51.6**	**+0.3**
CELP					**Sg**	**23 57 09.0**	**-1.0**
OBIP	**Obispado Ponce**	**1.43**	**193**	⇑*e*P	**Pn**	**23 56 52.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.43**	**193**	*e*S	**Sb**	**23 57 10.1**	**-0.8**
OBIP	**Obispado Ponce**	**1.43**	**193**		**Pn**	**23 56 52.3**	**+0.5**
OBIP					**Sb**	**23 57 10.1**	**-0.8**
OBIP	**Obispado Ponce**	**1.43**	**193**	IAML		23 57 19.6	
	comp=E,530nm,1.0s						
PDPR	**Patillas Dam,**	**1.44**	**170**	⇑*e*P	**Pg**	**23 56 53.1**	**+0.3**
PDPR	**Patillas Dam,**	**1.44**	**170**		**Pb**	**23 56 52.8**	**+0.2**
PDPR				Sn	**Sb**	**23 57 10.6**	**-0.5**
PDPR				IAML		23 57 12.6	
	comp=E,648nm,0.5s						
CUPR	**Culebra, Puert**	**1.47**	**140**	⇑*e*P	**Pn**	**23 56 52.6**	**+0.2**
CUPR	**Culebra, Puert**	**1.47**	**140**		**Pn**	**23 56 52.6**	**+0.2**
IGPR	**InterUniversit**	**1.48**	**174**	⇑*e*P	**Pn**	**23 56 53.0**	**+0.5**
IGPR	**InterUniversit**	**1.48**	**174**	*e*S	**Sb**	**23 57 11.3**	**-1.0**
IGPR	**InterUniversit**	**1.48**	**174**	Pn	**Pn**	**23 56 52.0**	**-0.5**
IGPR				IAML		23 57 22.3	
	comp=E,1μm,0.3s						
MTP	**Monte Pirata**	**1.51**	**153**	⇑*e*P	**Pn**	**23 56 53.6**	**+0.7**
MTP	**Monte Pirata**	**1.51**	**153**		**Pn**	**23 56 53.6**	**+0.7**
ICMP	**Isla Caja de M**	**1.57**	**189**	⇑*e*P	**Pb**	**23 56 55.4**	**+0.7**
ICMP	**Isla Caja de M**	**1.57**	**189**		**Pn**	**23 56 54.1**	**+0.4**
ICMP				IAML		23 57 20.5	
	comp=N,542nm,0.8s						
ICMP				IAML		23 57 39.4	
	comp=E,507nm,0.7s						
GBPR	**Guanica, Bosqu**	**1.57**	**201**	⇑*e*P	**Pb**	**23 56 55.0**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.57**	**201**		**Pb**	**23 56 55.0**	**+0.3**
MLPR	**Magueyes Islan**	**1.64**	**207**	⇑*e*P	**Pn**	**23 56 54.5**	**-0.2**
MLPR	**Magueyes Islan**	**1.64**	**207**		**Pn**	**23 56 54.5**	**-0.2**
STVI	**Saint Thomas**	**1.66**	**131**	⇓*e*P	**Pb**	**23 56 56.5**	**+0.2**
STVI	**Saint Thomas**	**1.66**	**131**	Pn	**Pn**	**23 56 55.2**	**+0.3**
STVI				IAML		23 57 23.1	
	comp=N,453nm,1.0s						
TBVI	**Tortola**	**1.87**	**123**	⇑*e*P	**Pb**	**23 56 59.4**	**-0.5**
TBVI	**Tortola**	**1.87**	**123**		**Pb**	**23 56 59.4**	**-0.5**
ABVI	**Anegada Island**	**1.97**	**111**	Pn	**Pb**	**23 57 02.0**	**+0.5**
VGBI	**Virgin Gorda,**	**2.01**	**118**	⇓*e*P	**Pb**	**23 57 01.5**	**-0.8**
VGBI	**Virgin Gorda,**	**2.01**	**118**		**Pb**	**23 57 01.5**	**-0.8**
PCDR	**Punta Cana, DR**	**2.20**	**245**	Pn	**Pn**	**23 57 03.0**	**+0.6**
PCDR				IAML		23 57 55.1	
	comp=N,485nm,0.8s						
PCDR	**Punta Cana, DR**	**2.20**	**245**	*i* P	**Pn**	**23 57 03.4**	**+1.1**
PCDR				*e*S	**Sn**	**23 57 28.5**	**-1.5**
PCDR				IAML		23 57 31.1	
	comp=Z,344nm,0.6s						
CDVI	**St. Croix**	**2.21**	**139**	Pn	**Pn**	**23 57 04.3**	**+1.7**
DR12	**Loma Pena Alta**	**3.01**	**258**		**Pn**	**23 57 14.6**	**+1.0**
SMRT	**St. Maarten**	**3.33**	**114**	Pn	**Pn**	**23 57 19.7**	**+1.7**
SMRT				IAML		23 58 08.2	
	comp=E,188nm,0.3s						
SMRT				IAML		23 58 23.1	
	comp=N,158nm,0.8s						
SKI	**Saint Kitts**	**3.96**	**121**	Pn	**Pn**	**23 57 27.3**	**+0.6**
BANI	**BANI**	**4.00**	**255**	Pn	**Pn**	**23 57 28.5**	**+1.2**
SC01	**Santiago de lo**	**4.20**	**270**		**Pn**	**23 57 30.1**	**+0.1**
ANWB	**Willy Bob**	**4.61**	**112**	Pn	**Pn**	**23 57 35.6**	**0.0**
ANWB				IAML		23 58 24.4	
	comp=N,92nm,1.4s						
SDDR	**Presa de Saban**	**4.76**	**265**	Pn	**Pn**	**23 57 39.0**	**+1.3**
SDDR				IAML		23 59 04.4	
	comp=N,89nm,1.6s						
SDDR	**Presa de Saban**	**4.76**	**265**	*i* P	**Pn**	**23 57 40.0**	**+2.3**
GRTK	**Grand Turk**	**5.00**	**295**	Pn	**Pn**	**23 57 40.4**	**-0.5**
GRTK				IAML		23 58 39.3	
	comp=N,97nm,1.2s						
ROSC	**El Rosal**	**16.50**	**209**	Pn	**Pn**	**00 00 19.6**	**+1.7**
	comp=N,1.9nm,0.3s,baz=327,slow=22,SNR=1.9						
PTGA	**Pitinga**	**20.98**	**162**	P	**P**	**00 01 08.3**	**-1.3**
	comp=N,3.5nm,0.6s,baz=327,slow=17,SNR=4.5						
TKL	**Tuckaleechee C**	**22.34**	**320**	LR	LR	00 09 21.2	
	comp=N,31nm,19.5s,baz=144,slow=35						
ATAH	**Atahualpa**	**28.99**	**205**	LR	LR	00 16 18.4	
	comp=N,38nm,18.2s,baz=319,slow=41						
TXAR	**Lajitas Array**	**35.32**	**293**	P	**P**	**00 03 20.7**	**-0.9**
	comp=N,0.9nm,0.7s,baz=109,slow=9.6,SNR=9.7						
LPAZ	**La Paz**	**35.56**	**183**	P	**P**	**00 03 24.5**	**+0.3**
	comp=N,0.4nm,0.4s,baz=51,slow=6.5,SNR=2.1						
LPAZ	**La Paz**	**35.56**	**183**	IAmb	IAmb	00 03 37.5	
	comp=Z,1.2nm,1.1s						
PDAR	**Pinedale Array**	**43.13**	**312**	P	**P**	**00 04 27.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=113,slow=6.9,SNR=5.7						
NVAR	**Mina Array Bea**	**48.63**	**304**	P	**P**	**00 05 11.1**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=89,slow=6.5,SNR=6.9						
INK	**Inuvik**	**63.71**	**338**	P	**P**	**00 06 55.9**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=130,slow=4.9,SNR=3.2						
INK	**Inuvik**	**63.71**	**338**	IAmb	IAmb	00 06 56.9	
	comp=Z,2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**65.19**	**84**	P	**P**	**00 07 08.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**65.19**	**84**	IAmb	IAmb	00 07 23.0	
	comp=Z,1.1nm,1.1s						
ILAR	**Eielson Array**	**68.59**	**333**	P	**P**	**00 07 28.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=108,slow=4.1,SNR=7.5						
MMAI	**Mount Meron Ar**	**88.91**	**55**	LR	LR	00 47 08.5	
	comp=Z,10nm,18.1s,baz=250,slow=34						

*IDC **31** 00:07:49.2±0.6, 27°.01S×176°.33W, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/29, mbtmp4.4/17, ML5.1/1, MS3.9/20, Ms1 3.9/20, ms1mx3.8/26, Error ellipse: s-maj=22.1km s-min=16.3km az=122.0*
*NEIC **31** 00:07:50.6±2.2, 27°.00S±0°.09×176°.2W±0°.1, h10km±1km, mb4.6/37, Error ellipse: s-maj=23.0km s-min=10.1km az=121.0*
ISC 31 00:07:54.0±0.4, 26°.99S±0°.06×176°.24W±0°.09, h35km, n130, σ1°53/109, mb4.5/34, MS3.9/19, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.70**	**213**	Pn	**Pn**	**00 08 33.9**	**-1.0**
	359nm,0.3s,baz=195,slow=13,SNR=22						
RAO				Sn	**Sn**	**00 09 06.9**	**+0.6**
	379nm,0.3s,baz=83,slow=22,SNR=16						
RAO				LR	LR	00 09 29.9	
	comp=Z,886nm,19.9s,baz=133,slow=38						
RAO	**Raoul Island**	**2.70**	**213**	Pn	**Pn**	**00 08 33.9**	**-1.0**
RAO				Sn	**Sn**	**00 09 07.4**	**+1.1**
NIUE	**Niue**	**9.79**	**38**	Pn	**Pn**	**00 10 10.4**	**-1.9**
MSVF	**Nonsavu**	**10.62**	**329**	LR	LR	00 14 00.7	
	comp=Z,1μm,18.2s,baz=126,slow=35						
OUZ	**Omahuta**	**11.96**	**224**	Pn	**Pn**	**00 10 41.9**	**0.0**
URZ	**Urewera**	**12.55**	**205**	Pn	Pn	00 10 44.5	-5.5
	0.5nm,0.3s,baz=160,slow=21,SNR=0.9						
URZ				Sn	Sn	00 12 56.6	-12
	4.0nm,0.3s,baz=233,slow=22,SNR=13						
URZ	**Urewera**	**12.55**	**205**	Pn	**Pn**	**00 10 48.8**	**-1.2**
BKZ	**Black Stump Fm**	**13.57**	**205**	Pn	**Pn**	**00 11 01.9**	**-2.2**
AFI	**Afiamalu**	**13.67**	**19**	Pn	Pn	00 10 58.6	-6.9
	3.4nm,0.3s,baz=349,slow=20,SNR=2.6						
AFI				Sn	Sn	00 13 14.8	-21
	1.5nm,0.3s,baz=110,slow=10,SNR=1.6						
AFI	**Afiamalu**	**13.67**	**19**	Pn	**Pn**	**00 11 02.6**	**-2.9**
HIZ	**Hauiti**	**13.71**	**211**	Pn	**Pn**	**00 11 06.1**	**+0.3**
RAR	**Rarotonga**	**16.09**	**73**	Pn	Pn	00 11 30.6	-7.0
	1.5nm,0.3s,baz=233,slow=8.8,SNR=8.1						
RAR				Sn	Sn	00 14 12.5	-22
	0.8nm,0.3s,baz=164,slow=16,SNR=1.1						
RAR				LR	LR	00 16 46.4	
	comp=Z,293nm,19.5s,baz=230,slow=33						
BHW	**Baring Head**	**16.14**	**205**	Pn	**Pn**	**00 11 37.3**	**-0.8**
PLWZ	**Palliser**	**16.14**	**204**	Pn	**Pn**	**00 11 35.1**	**-3.0**
DZM	**Mont Dzumac**	**16.50**	**284**	*e*P	**Pn**	**00 11 43.4**	**+0.5**
	128nm,1.6s						
DZM				*e*LR	LR	00 15 33.7	
	comp=Z,1μm,23.4s						
DZM	**Mont Dzumac**	**16.50**	**284**	Pn	**P**	**00 11 46.4**	**+1.1**
	0.2nm,0.3s,baz=333,slow=23,SNR=4.3						
DZM				LR	LR	00 17 06.4	
	comp=Z,968nm,18.4s,baz=98,slow=34						
TUWZ	**Tuamarina**	**16.51**	**207**	Pn	**Pn**	**00 11 41.4**	**-1.5**
NNZ	**Nelson**	**16.57**	**208**	Pn	**Pn**	**00 11 42.0**	**-1.6**
BSWZ	**Blackbirch Sta**	**16.78**	**206**	Pn	**Pn**	**00 11 45.7**	**-0.6**
THZ	**Tophouse**	**17.22**	**208**	Pn	**Pn**	**00 11 51.1**	**-0.7**
KHZ	**Kahutara**	**17.51**	**206**	Pn	**Pn**	**00 11 50.7**	**-4.6**
KHZ				IAmb	IAmb	00 11 59.5	
	comp=Z,28nm,1.0s						
LTZ	**Lake Taylor**	**18.33**	**208**	P	**P**	**00 12 03.2**	**-2.1**
OXZ	**Oxford**	**18.87**	**207**	P	**P**	**00 12 10.1**	**-1.1**
OXZ				IAmb	IAmb	00 12 24.3	
	comp=Z,21nm,1.1s						
MQZ	**McQueen's Vall**	**18.95**	**205**	P	**Pn**	**00 12 12.0**	**-0.8**
MQZ				IAmb	IAmb	00 12 30.3	
	comp=Z,19nm,1.2s						
RPZ	**Rata Peaks**	**19.60**	**208**	P	**P**	**00 12 18.3**	**-0.9**
RPZ				IAmb	IAmb	00 12 36.1	
	comp=Z,12nm,0.8s						
FOZ	**Fox Glacier**	**20.00**	**211**	P	**P**	**00 12 23.0**	**-0.5**
FOZ				IAmb	IAmb	00 12 24.5	
	comp=Z,64nm,1.2s						
ODZ	**Otahua Downs**	**20.86**	**207**	P	**P**	**00 12 32.9**	**+0.1**
WKZ	**Wanaka**	**21.37**	**210**	P	**P**	**00 12 37.4**	**-1.0**
WKZ				IAmb	IAmb	00 12 42.3	
	comp=Z,17nm,1.0s						
TBI	**Tubuai**	**24.49**	**87**	*e*LR	LR	00 19 06.2	
	comp=Z,356nm,27.8s,baz=247						
TBI	**Tubuai**	**24.49**	**87**	*e*T	T	00 38 11.6	
	comp=Z,7.4nm,0.3s						
PAE	**Paea**	**26.30**	**75**	*e*T	T	00 40 42.3	
	comp=Z,4.8nm,0.3s						
PPT2	**Papeete2**	**26.34**	**75**	*e*LR	LR	00 19 56.5	
	comp=Z,367

baz=242,slow=74,SNR=5.6
H03S1 Juan Fernandez 81.05 123 T T 01 49 15.0
baz=242,slow=74,SNR=6.5
H03S3 Juan Fernandez 81.06 123 T T 01 49 14.0
baz=242,slow=74,SNR=6.4
SNAA Sanae 81.50 178 P **P** **00 20 07.0 -0.4**
SNAA Sanae 81.50 178 PcP **PcP** **00 20 12.9 -0.4**
SNAA Sanae 81.50 178 pP pP 00 20 15.9 -1.1
VNA3 Neumayer Olymp 81.58 176 P **P** **00 20 07.6 -0.2**
VNA3 Neumayer Olymp 81.58 176 PcP **PcP** **00 20 13.6 -0.1**
VNA3 Neumayer Olymp 81.58 176 pP pP 00 20 17.6 +0.2
VNA1 Neumayer--Stat 82.25 176 P **P** **00 20 11.0 -0.2**
VNA1 Neumayer--Stat 82.25 176 PcP **P** **00 20 12.9 +1.6**
VNA1 Neumayer--Stat 82.25 176 pP pP 00 20 17.6 -3.3
KSRS Korea Array 82.80 318 P **P** **00 20 16.9 +2.3**
comp=Z,2.6nm,0.8s,baz=138,slow=6.1,SNR=14
KSRS LR LR 00 51 18.0
comp=Z,35nm,21.2s,baz=132,slow=32
PETK Petropavlovsk- 82.93 345 P **P** **00 20 15.4 +0.5**
comp=Z,2.2nm,0.8s,baz=165,slow=7.7,SNR=6.2
PETK LR LR 00 51 15.0
comp=Z,49nm,21.6s,baz=149,slow=31
PETK Petropavlovsk- 82.93 345 P **P** **00 20 15.9 +1.1**
PLCA Paso Flores 83.68 133 LR LR 00 49 37.1
comp=Z,67nm,20.7s,baz=262,slow=30
YBH Yreka Blue Hor 84.40 37 P **P** **00 20 23.3 +0.6**
comp=Z,1.3nm,0.8s,baz=247,slow=7.7,SNR=4.5
YBH Yreka Blue Hor 84.40 37 IAmb IAmb 00 20 33.4
comp=Z,3.3nm,0.9s
NVAR Mina Array Bea 84.69 42 P **P** **00 20 26.1 +1.6**
comp=Z,1.7nm,0.9s,baz=221,slow=8.4,SNR=10
KVN Kaiserville 85.21 42 P **P** **00 20 26.8 -0.3**
KVN IAmb IAmb 00 20 29.6
comp=Z,2.8nm,0.9s
USRK Ussuriysk Ar. 85.21 325 P **P** **00 20 27.0 +0.3**
comp=Z,2.2nm,0.7s,baz=134,slow=6.2,SNR=2.5
USRK LR LR 00 52 32.0
comp=Z,47nm,21.8s,baz=110,slow=32
NJ2 Nanjing 85.25 309 *e*P **P** **00 20 29.0 +1.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CN2 Changchun 88.40 322 *e*P P 00 20 48.8 +6.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TIA Tai'an 88.82 312 P **P** **00 20 46.5 +2.1**
TIA pmax pmax
comp=Z,11nm,1.2s
KLR Kul'dur 88.91 329 P **P** **00 20 45.4 +0.9**
comp=Z,2.6nm,0.9s,baz=109,slow=2.5,SNR=7.5
KLR LR LR 01 01 02.4
comp=Z,52nm,18.1s,baz=52,slow=36
TXAR Lajitas Array 89.24 56 LR LR 00 53 14.3
comp=Z,59nm,20.9s,baz=0.0,slow=30
PWL Port Wells 90.44 13 P **P** **00 20 51.9 +0.5**
MA2 Magadan 90.44 344 LR LR 00 57 33.4
comp=Z,31nm,19.1s,baz=146,slow=33
GLI Glacier Island 90.72 14 P **P** **00 20 53.8 +1.1**
BMRM Bremner River 91.35 15 P **P** **00 20 55.5 -0.1**
BMRM IAmb IAmb 00 20 58.5
comp=Z,7.0nm,1.0s
ISLE Juniper Island 91.56 16 P **P** **00 20 56.5 -0.2**
PDAR Pinedale Array 92.60 43 P **P** **00 21 03.5 +1.3**
comp=Z,0.6nm,0.8s,baz=207,slow=3.0,SNR=4.8
PDAR LR LR 00 57 11.4
comp=Z,73nm,18.8s,baz=282,slow=32
XAN Xi'an 93.31 307 P P 00 20 54.0 -11
XAN pP PcP 00 21 04.3 -1.7
KMI Kunming 93.69 296 ⇑P **P** **00 21 09.8 +2.2**
KMI pP pP 00 21 17.5 0.0
KMI pmax pmax
comp=Z,9.0nm,1.4s
CMAR Chiang Mai Arr 93.76 289 P **P** **00 21 09.4 +1.6**
comp=Z,1.0nm,0.4s,baz=146,slow=4.0,SNR=6.3
WRH Wood River Hil 93.78 12 P **P** **00 21 08.0 +1.2**
WRH IAmb IAmb 00 21 10.0
comp=Z,4.1nm,1.0s
CCB Clear Creek Bu 93.99 12 IAmb IAmb 00 21 10.6
comp=Z,1.6nm,0.8s
ILAR Eielson Array 94.28 12 P **P** **00 21 10.2 +1.1**
comp=Z,0.6nm,0.7s,baz=215,slow=5.8,SNR=6.2
CD2 Chengdu 95.61 302 P **P** **00 21 16.3 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,7.9s
LZH Lanzhou 97.95 306 *e*P Pdif 00 21 27.5 +0.8
LZH pP pP 00 21 38.3 +1.7
LZH sP pwP 00 21 43.3 +1.8
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,83nm,7.6s
LPAZ La Paz 98.08 113 LR LR 00 57 17.0
comp=Z,22nm,20.6s,baz=260,slow=30
ZALV Zalesovo Beam 116.50 319 PKP **PKPdf** **00 26 33.7 0.0**
comp=Z,0.5nm,0.4s,baz=340,slow=3.4,SNR=1.9
MKAR Makanchi Array 116.74 311 PKP **PKPdf** **00 26 34.0 -0.5**
comp=Z,0.8nm,0.8s,baz=40,slow=2.1,SNR=5.7
FINES FINESS Array B 142.43 343 PKP **PKPdf** **00 27 20.4 -1.9**
comp=Z,2.3nm,0.9s,baz=134,slow=5.5,SNR=4.4
KBZ Khabaz 144.36 308 PKP **PKPab** **00 27 24.4 -0.1**
comp=Z,1.2nm,0.8s,baz=49,slow=3.5,SNR=2.3
NB2 NORSAR Subarra 145.59 354 PKP **PKPdf** **00 27 28.4 +0.4**
comp=Z,23nm,1.4s,baz=21,slow=2.6
NOA NORSAR Array B 145.59 354 PKPbc **PKPdf** **00 27 27.8 -0.2**
comp=Z,3.6nm,0.9s,baz=9.5,slow=2.7,SNR=8.9
HFS Hagfors 146.18 351 PKPbc **PKPbc** **00 27 30.3 +0.3**
comp=Z,6.3nm,0.7s,baz=0.0,slow=0.4,SNR=10
AKASG Malin Array Be 149.40 328 PKPbc **PKPbc** **00 27 39.1 +0.1**
comp=Z,1.8nm,0.5s,baz=42,slow=3.1,SNR=16
AKASG Malin Array Be 149.40 328 **PKPbc** **00 27 39.3 +0.3**
MMAI Mount Meron Ar 152.02 290 PKPbc **PKiKP** **00 27 46.5 +0.2**
comp=Z,3.6nm,0.9s,baz=99,slow=5.4,SNR=6.3
BRTR Keskin Array B 152.14 305 PKPbc **PKPbc** **00 27 45.9 -0.2**
comp=Z,0.4nm,0.4s,baz=169,slow=1.5,SNR=3.8
EIL Elat 152.46 283 PKPbc **PKPbc** **00 27 46.4 -0.5**
comp=Z,2.7nm,0.9s,baz=160,slow=7.8,SNR=4.2
KOLS Kolonicke sedl 153.81 332 *e*PKP **PKPdf** **00 27 44.0 +2.6**
CLL Collm 154.72 346 *i* PKPbc **PKiKP** **00 27 51.8 +0.7**
CLL *e*PKPab **PKPab** **00 28 06.0 0.0**
CLL *ep*PKPab **pPKPab** **00 28 11.0 -5.0**
KHC Kasperske Hory 156.63 344 *e*PKP **PKPdf** **00 27 43.4 -1.8**
CONA Conrad Observa 157.06 339 *e*P **PKPdf** **00 27 45.9 0.0**
comp=Z,5.5nm,1.5s
MOA Molln 157.61 341 *e*P **PKPdf** **00 27 46.1 -0.4**
comp=Z,4.5nm,1.5s
ARSA Arzberg 157.76 338 *e*P **PKPab** **00 28 20.0 +0.8**
comp=Z,2.9nm,1.1s
SOKA Soboth 158.43 339 *e*P **PKPab** **00 28 26.9 +4.7**
comp=Z,9.5nm,2.1s
RETA Reutte 158.82 347 *e*P **PKPab** **00 28 19.8 -4.1**
comp=Z,6.5nm,1.7s
WTTA Wattenberg 158.84 345 *e*P **PKPdf** **00 27 48.7 +0.5**
comp=Z,4.0nm,0.6s
MOTA Moosalm 158.88 346 *e*P **PKPab** **00 28 23.3 -1.0**
comp=Z,3.4nm,1.0s
ABTA Abfaltersbach 159.10 343 *e*P **PKPdf** **00 27 51.2 +2.8**
comp=Z,3.7nm,1.0s
DAVA Damuels 159.18 348 *e*P **PKPdf** **00 27 50.8 +2.2**
comp=Z,6.5nm,1.2s
TORD Torodi Ar. Bea 166.09 172 PKP **PKPdf** **00 27 54.4 -1.7**
comp=Z,1.0nm,1.0s,baz=197,slow=1.5,SNR=3.6
TORD PKPab **PKPab** **00 28 56.4 +0.1**
comp=Z,3.0nm,1.0s,baz=195,slow=3.6,SNR=8.4

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*IDC **31** 00:25:26.8±1.1,26°.97S×176°.38W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/21,mbtmp3.8/4,MS3.2/1,Ms1 3.2/1, ms1mx2.7/25,Error ellipse: s-maj=45.3km s-min=32.5km az=156.0*

ISC 31 00:25:31.9±0.9,27°.0S±0°.2×176°.4W±0°.2,h35km,n16, σ0§68/11,mb3.8/4,MS3.2/3,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**16.22**	**73**	LR	LR	00 33 48.5	
	comp=Z,94nm,20.4s,baz=296,slow=31						
DZM	**Mont Dzumac**	**16.36**	**284**	*e*LR	LR	00 33 02.5	
	comp=Z,241nm,23.1s						
TBI	**Tubuai**	**24.62**	**87**	*e*LR	LR	00 36 40.4	
	comp=Z,83nm,26.2s						
PPT2	**Papeete2**	**26.47**	**75**	*e*LR	LR	00 37 27.0	
	comp=Z,92nm,26.5s						
TAOE	**Nuku Hiva Isla**	**38.72**	**69**	*e*LR	LR	00 43 21.7	
	comp=Z,85nm,26.2s						
ASAR	**Alice Springs**	**44.82**	**263**	P	**P**	**00 33 42.9**	**0.0**
	0.5nm,0.4s,baz=96,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**45.51**	**268**	P	**P**	**00 33 48.5**	**+0.2**
	1.0nm,1.0s,baz=108,slow=6.1,SNR=6.9						
MAW	**Mawson**	**75.99**	**200**	P	**P**	**00 37 16.0**	**+1.0**
	1.0nm,0.7s,baz=135,slow=1.4,SNR=2.6						
SNAA	**Sanae**	**81.51**	**178**	P	**P**	**00 37 45.4**	**0.0**
VNA3	**Neumayer Olymp**	**81.60**	**176**	P	**P**	**00 37 44.7**	**-1.2**
VNA1	**Neumayer--Stat**	**82.27**	**176**	P	**P**	**00 37 49.0**	**-0.3**
NVAR	**Mina Array Bea**	**84.77**	**42**	P	**P**	**00 38 03.5**	**+0.6**
	0.4nm,0.4s,baz=232,slow=7.8,SNR=2.3						
MKAR	**Makanchi Array**	**116.63**	**311**	PKP	**PKPdf**	**00 44 11.5**	**-0.7**
	0.5nm,0.9s,baz=104,slow=4.6,SNR=3.5						
HFS	**Hagfors**	**146.15**	**351**	PKPbc	**PKPab**	**00 45 08.5**	**0.0**
	4.5nm,1.0s,baz=27,slow=3.5,SNR=6.4						
AKASG	**Malin Array Be**	**149.32**	**327**	PKPbc	**PKPbc**	**00 45 16.2**	**-0.6**
	0.3nm,0.2s,baz=52,slow=1.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**166.12**	**172**	PKPab	**PKPab**	**00 46 34.2**	**-0.2**
	0.9nm,0.8s,baz=189,slow=2.5,SNR=4.8						

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*TUL **31** 00:28:46.3±1.3,36°.31N±0°.01×97°.11W±0°.02,h4km±7km, ML2.6,mb_Lg2.6/47(NEIC),Error ellipse: s-maj=2.4km s-min=1.7km az=57.0*

NEIC 31 00:28:46.5±1.0,36°.30N±0°.01×97°.13W±0°.02,h2km±7km, Error ellipse: s-maj=2.4km s-min=1.7km az=64.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUOK	**Quay**	**0.36**	**110**		Pg	00 28 53.8	+0.3
QUOK				Sg	Sg	00 28 58.6	+0.4
OK031	**S. Brethren Rd**	**0.41**	**146**		Pg	00 28 54.8	+0.3
OK031				Sg	Sg	00 29 00.7	+0.8
BLOK	**Blackwell**	**0.47**	**351**		Pg	00 28 55.7	+0.2
BLOK				Sg	Sg	00 29 03.1	+1.5
OK029	**Liberty Lake**	**0.56**	**208**		Pg	00 28 57.2	-0.2
OK029				Sg	Sg	00 29 05.4	+0.8
CROK	**Carrier**	**0.72**	**287**		Pg	00 29 00.4	0.0
CROK				Sg	Sg	00 29 10.4	+0.7
OK025	**Westminster Rd**	**0.73**	**194**		Pg	00 29 00.9	+0.3
OK025				IAmb_Lg		00 29 10.2	
BCOK	**Bluff Creek, N**	**0.75**	**212**		Pg	00 29 00.9	+0.1
KAN13	**South Haven SW**	**0.77**	**339**	Pg	Pg	00 29 01.1	-0.2
T35A	**Sooner Cattle**	**0.79**	**38**		Pg	00 29 01.6	-0.1
GC02	**Grant County #**	**0.81**	**313**		Pg	00 29 01.9	-0.2
KAN17	**Caldwell West**	**0.91**	**326**	Pg	Pg	00 29 03.6	-0.2
OKCFA	**Oklahoma City**	**0.92**	**197**		Pg	00 29 04.0	-0.1
OKCSW	**OKLAHOMA CITY**	**0.92**	**196**		Pg	00 29 04.1	-0.1
KAN09	**Caldwell North**	**0.93**	**335**	Pg	Pg	00 29 04.0	-0.3
KS20	**Mayfield South**	**0.99**	**340**	Pg	Pg	00 29 05.2	-0.3
KAN05	**Bluff City Nor**	**1.01**	**324**		Pg	00 29 05.5	-0.3
OK032	**Salt Plains WL**	**1.01**	**300**		Pg	00 29 05.8	-0.1
FNO	**Franklin**	**1.06**	**192**		Pg	00 29 06.5	-0.4
KAN10	**Anthony SW Sta**	**1.13**	**317**		Pg	00 29 07.9	-0.4
KAN08	**Anthony NE Sta**	**1.15**	**324**		Pg	00 29 08.3	-0.2
KAN12	**Harper NE Stat**	**1.22**	**325**		Pg	00 29 09.6	-0.3
U32A	**Winter Ranch,**	**1.52**	**274**	Pn	Pb	00 29 15.3	0.0
X34A	**Smith Ranch, M**	**1.79**	**199**		Pn	00 29 19.0	+0.6
X34A				IAmb_Lg		00 29 46.3	
	comp=Z,32nm,0.7s						
WMOK	**Wichita Mounta**	**2.06**	**221**		Pn	00 29 22.4	+0.2
U38A	**Gravette**	**2.22**	**86**		Pn	00 29 25.0	+0.7
X37A	**Clayton**	**2.23**	**139**		Pn	00 29 25.7	+1.3
LOOK	**Love County**	**2.30**	**181**	Pn	Pn	00 29 25.8	+0.4
R32A	**Long Quarter,**	**2.47**	**330**		Pn	00 29 28.1	+0.3
HHAR	**Hobbs**	**2.58**	**89**		Pn	00 29 28.2	-1.0
KSU1	**Kansas State U**	**2.83**	**8**		Pn	00 29 32.3	-0.4
KSU1				IAmb_Lg		00 30 23.2	
	comp=Z,20nm,0.8s						
W39A	**Magazine**	**2.93**	**111**	Pn	Pn	00 29 33.9	-0.2
W39A				IAmb_Lg		00 30 22.8	
	comp=Z,22nm,0.9s						
CBKS	**Cedar Bluff**	**3.26**	**321**		Pn	00 29 36.9	-1.8
CBKS				IAmb_Lg		00 30 33.4	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.35**	**64**		Pn	00 29 39.6	-0.2
S39A				IAmb_Lg		00 30 38.2	
	comp=Z,13nm,0.8s						
MIAR	**Mount Ida**	**3.38**	**120**	Pn	Pn	00 29 41.1	+0.7
MIAR				IAmb_Lg		00 30 38.6	
	comp=Z,10.0nm,0.7s						
U40A	**Yellville**	**3.45**	**88**		Pn	00 29 41.4	+0.1
X40A	**Basin Creek Fa**	**3.94**	**116**	IAmb_Lg		00 30 51.3	
	comp=Z,16nm,0.7s						
AMTX	**Amarillo**	**3.97**	**251**	Pn	Pn	00 29 49.0	+0.5
MGMO	**Mountain Grove**	**4.00**	**76**		Pn	00 29 48.7	-0.1
MGMO				IAmb_Lg		00 30 60.0	
	comp=Z,8.4nm,0.7s						
WHAR	**Wooly Hollow**	**4.06**	**103**	IAmb_Lg		00 30 57.9	
	comp=Z,22nm,1.0s						
ABTX	**Abilene, Hawle**	**4.21**	**210**	IAmb_Lg		00 31 03.0	
	comp=Z,11nm,1.0s						
R40A	**Maddes Statio**	**4.36**	**61**		Pn	00 29 53.3	-0.4
R40A				IAmb_Lg		00 31 04.4	
	comp=Z,12nm,0.8s						
P38A	**Dawn**	**4.37**	**39**		Pn	00 29 52.9	-1.0
P38A				IAmb_Lg		00 31 04.5	
	comp=Z,15nm,0.7s						
237A	**Washetta, Mont**	**4.42**	**165**	Pn	Pn	00 29 51.2	-3.4
N33A	**J Bar K, Exete**	**4.44**	**357**		Pg	00 30 09.4	-2.3
CCM	**Cathedral Cave**	**5.01**	**68**	IAmb_Lg		00 31 30.6	
	comp=Z,8.7nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.14**	**303**	IAmb_Lg		00 31 44.1	
	comp=Z,8.5nm,0.8s						
P40A	**Paris**	**5.15**	**50**	IAmb_Lg		00 31 40.3	
	comp=Z,14nm,0.8s						
PBMO	**Poplar Bluff**	**5.41**	**83**	IAmb_Lg		00 31 41.5	
	comp=Z,11nm,0.8s						
N38A	**Joes South For**	**5.43**	**33**	IAmb_Lg		00 31 46.4	
	comp=Z,15nm,0.7s						
JCT	**Junction City**	**6.22**	**202**	IAmb_Lg		00 32 18.9	
	comp=Z,5.0nm,0.7s						
S44A	**Carbondale**	**6.45**	**75**	IAmb_Lg		00 32 22.1	
	comp=Z,13nm,0.7s						
SIUC	**Southern Illin**	**6.49**	**75**	IAmb_Lg		00 32 21.5	
	comp=Z,12nm,0.8s						
ECSD	**EROS Data Cent**	**7.44**	**3**	IAmb_Lg		00 32 52.7	
	comp=Z,4.0nm,0.9s						
PLAL	**Pickwick Lake**	**7.49**	**97**	IAmb_Lg		00 32 46.9	
	comp=Z,4.0nm,0.8s						
SFIN	**Lafayette**	**8.87**	**60**	IAmb_Lg		00 33 28.1	
	comp=Z,8.4nm,0.9s						

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*ATH **31** 00:46:52.5,36°.49N×26°.73E,h197km±5km,ML3.5/10, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*
*ISK **31** 00:47:04.2,36°.50N×26°.81E,h126km±1km,ML2.5/16*
*THE **31** 00:47:05.9,36°.44N×26°.75E,h143km±5km,ML3.3/12, Error ellipse: s-maj=5.3km s-min=1.0km az=137.0*

ISC 31 00:47:02.9±1.5,36°.46N±0°.04×26°.78E±0°.03,h141km±10km, n60,σ1§19/80,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.33**	**29**	PG	**Pn**	**00 47 22.5**	**+0.1**
KOSK				SG	**Sn**	**00 47 36.3**	**-1.0**
NIS1	**Nisyros Isl.**	**0.35**	**66**	P	**Pn**	**00 47 22.8**	**+0.3**
NIS1	**Nisyros Isl.**	**0.35**	**66**	P	**Pn**	**00 47 22.8**	**+0.3**
NIS1	**Nisyros Isl.**	**0.35**	**66**	PG	**Pn**	**00 47 22.8**	**+0.3**
KARP	**Karpathos**	**0.96**	**161**	P	**Pn**	**00 47 26.8**	**+0.2**
KARP	**Karpathos**	**0.96**	**161**	P	**Pn**	**00 47 26.8**	**+0.2**
KARP				AML	AML	00 47 46.7	
	comp=N,2006μm,0.1s						
KARP				AML	AML	00 47 47.3	
	comp=E,1971μm,0.1s						
SANT	**Santorini**	**1.07**	**265**	P	**Pn**	**00 47 27.8**	**+0.4**
SANT	**Santorini**	**1.07**	**265**	P	**Pn**	**00 47 27.8**	**+0.4**
SANT				S	**Sn**	**00 47 52.1**	**+6.0**
SANT	**Santorini**	**1.07**	**265**	PN	**Pn**	**00 47 27.8**	**+0.4**
CMBO	**Columbo, Santo**	**1.11**	**271**	P	**Pn**	**00 47 28.1**	**+0.4**
CMBO	**Columbo, Santo**	**1.11**	**271**	P	**Pn**	**00 47 28.1**	**+0.4**
THR3	**Thira Island,**	**1.11**	**268**	P	**Pn**	**00 47 28.2**	**+0.4**
ARG	**Arkhangelos**	**1.12**	**102**	P	**Pn**	**00 47 28.7**	**+0.9**
ARG				S	**Sn**	**00 47 46.4**	**-0.4**
	comp=E,645nm,0.3s						
ARG	**Arkhangelos**	**1.12**	**102**	P	**Pn**	**00 47 28.7**	**+0.9**
ARG				AML	AML	00 47 47.3	
	comp=E,1734μm,0.4s						
ARG				AML	AML	00 47 47.5	
	comp=N,825μm,0.2s						
ARG	**Arkhangelos**	**1.12**	**102**	PN	**Pn**	**00 47 28.4**	**+0.6**
ARG				SN	**Sn**	**00 47 45.7**	**-1.1**
MLSB	**Milas**	**1.15**	**44**	PN	**Pn**	**00 47 28.4**	**+0.2**
THR5	**Thira Island,**	**1.15**	**268**	P	**Pn**	**00 47 28.9**	**+0.7**
APE	**Apeiranthos**	**1.17**	**302**	P	**Pn**	**00 47 29.9**	**+1.5**
APE	**Apeiranthos**	**1.17**	**302**	P	**Pn**	**00 47 29.8**	**+1.5**
APE	**Apeiranthos**	**1.17**	**302**	PN	**Pn**	**00 47 29.1**	**+0.7**
TURN	**Turunc**	**1.22**	**75**	PN	**Pn**	**00 47 29.1**	**+0.3**
TURN				SN	**Sn**	**00 47 47.4**	**-1.2**
SMG	**Samos**	**1.25**	**2**	P	**Pn**	**00 47 29.5**	**+0.4**
SMG	**Samos**	**1.25**	**2**	P	**Pn**	**00 47 29.5**	**+0.4**
GCAM	**G?zelcaml?**	**1.29**	**16**	PN	**Pn**	**00 47 30.0**	**+0.5**
STIA	**Sitia Lasithi**	**1.38**	**204**	P	**Pn**	**00 47 31.0**	**+0.5**
STIA				S	**Sn**	**00 47 50.4**	**-1.0**
ZKR	**Zakros**	**1.42**	**199**	P	**Pn**	**00 47 32.1**	**+1.1**
ZKR				S	**Sn**	**00 47 51.8**	**-0.5**
	comp=N,385nm,0.3s						
ZKR	**Zakros**	**1.42**	**199**	P	**Pn**	**00 47 32.1**	**+1.1**
ZKR				AML	AML	00 47 54.2	
	comp=N,252μm,0.3s						
ZKR				AML	AML	00 47 54.3	
	comp=E,1279μm,0.3s						
ZKR	**Zakros**	**1.42**	**199**	PN	**Pn**	**00 47 32.5**	**+1.6**
ZKR				SN	**Sn**	**00 47 52.6**	**+0.3**
NPS	**Neapolis**	**1.53**	**219**	P	**Pn**	**00 47 32.4**	**+0.3**
NPS				S	**Sn**	**00 47 53.0**	**-1.4**
	comp=E,655nm,0.2s						
NPS	**Neapolis**	**1.53**	**219**	P	**Pn**	**00 47 32.4**	**+0.3**
NPS				AML	AML	00 47 54.1	
	comp=E,1598μm,0.3s						
NPS				AML	AML	00 47 54.6	
	comp=N,1076μm,0.2s						
DALY	**Dalyan (Mula)**	**1.55**	**76**	PN	**Pn**	**00 47 33.4**	**+1.1**
DALY				SN	**Sn**	**00 47 53.4**	**-1.3**
LAST	**Lasithi**	**1.67**	**220**	P	**Pn**	**00 47 34.1**	**+0.3**
LAST				S	**Sn**	**00 47 56.0**	**-1.4**
	comp=N,250nm,0.3s						
LAST	**Lasithi**	**1.67**	**220**	P	**Pn**	**00 47 34.1**	**+0.3**
LAST				AML	AML	00 47 57.6	
	comp=E,460μm,0.2s						
LAST				AML	AML	00 47 57.7	
	comp=N,533μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.73**	**31**	PN	**Pn**	**00 47 35.1**	**+0.7**
HRKL	**Herakleio**	**1.78**	**230**	P	**Pn**	**00 47 35.6**	**+0.7**
HRKL				S	**Sn**	**00 47 58.4**	**-1.0**
	comp=N,435nm,0.2s						
URLA	**Izmir**	**1.90**	**356**	PN	**Pn**	**00 47 36.9**	**+0.6**
IDI	**Anoyia**	**1.93**	**233**	P	**Pn**	**00 47 36.9**	**+0.2**
IDI				S	**Sn**	**00 48 00.5**	**-2.1**
	comp=N,300nm,0.2s						
IDI	**Anoyia**	**1.93**	**233**	P	**Pn**	**00 47 36.9**	**+0.2**
IDI				AML	AML	00 48 01.5	
	comp=N,577μm,0.2s						
IDI				AML	AML	00 48 01.9	
	comp=E,599μm,0.2s						
CHOS	**Chios island**	**2.00**	**344**	PN	**Pn**	**00 47 38.3**	**+0.7**
CAME	**Cameli-Denizli**	**2.08**	**76**	PN	**Pn**	**00 47 39.3**	**+0.7**
SIVA	**Sivas**	**2.15**	**229**	P	**Pn**	**00 47 40.5**	**+1.2**
SIVA				S	**Sn**	**00 48 07.9**	**+0.6**
SIVA	**Sivas**	**2.15**	**229**	P	**Pn**	**00 47 40.5**	**+1.2**
SIVA				AML	AML	00 48 10.2	
	comp=N,590μm,0.4s						
SIVA				AML	AML	00 48 11.8	
	comp=E,722μm,0.4s						
KSL	**Kastellorizon**	**2.29**	**97**	P	**Pn**	**00 47 41.9**	**+1.0**
KSL				S	**Sn**	**00 48 09.1**	**-1.0**
	comp=E,152nm,0.3s						
KSL	**Kastellorizon**	**2.29**	**97**	P	**Pn**	**00 47 41.9**	**+1.0**
AKAS	**Kas**	**2.29**	**95**	PN	**Pn**	**00 47 42.0**	**+0.9**
VAM	**Vamos**	**2.34**	**244**	P	**Pn**	**00 47 41.9**	**+0.3**
VAM				S	**Sn**	**00 48 09.8**	**-1.6**
	comp=E,278nm,0.2s						
VAM	**Vamos**	**2.34**	**244**	P	**Pn**	**00 47 41.9**	**+0.3**
VAM				AML	AML	00 48 11.6	
	comp=N,555μm,0.3s						
VAM				AML	AML	00 48 12.8	
	comp=E,591μm,0.2s						
IMMV	**Iera Moni Meta**	**2.48**	**247**	P	**Pn**	**00 47 44.0**	**+0.7**
IMMV				S	**Sn**	**00 48 12.2**	**-2.2**
	comp=E,315nm,0.3s						
IMMV	**Iera Moni Meta**	**2.48**	**247**	P	**Pn**	**00 47 44.0**	**+0.7**
IMMV				AML	AML	00 48 18.9	
	comp=N,930μm,0.3s						
IMMV				AML	AML	00 48 21.5	
	comp=E,550μm,0.3s						
ELL	**Elmali**	**2.54**	**83**	PN	**Pn**	**00 47 45.5**	**+1.4**
KULA	**Kula-Manisa**	**2.54**	**36**	PN	**Pn**	**00 47 44.8**	**+0.7**
GVD	**Gavdhos**	**2.73**	**234**	P	**Pn**	**00 47 47.6**	**+1.2**
GVD	**Gavdhos**	**2.73**	**234**	P	**Pn**	**00 47 47.6**	**+1.2**
GVD				AML	AML	00 48 21.6	
	comp=E,557μm,0.3s						
GVD				AML	AML	00 48 25.2	
	comp=N,504μm,0.2s						
ANKY	**Antikythira Is**	**2.88**	**259**	P	**Pn**	**00 47 48.9**	**+0.6**
ANKY	**Antikythira Is**	**2.88**	**259**	P	**Pn**	**00 47 48.9**	**+0.6**
KTHA	**Kythira Island**	**3.01**	**267**	P	**Pn**	**00 47 50.7**	**+0.7**
KTHA				S	**Sn**	**00 48 24.4**	**-1.9**
	comp=N,182nm,0.2s						
KTHA	**Kythira Island**	**3.01**	**267**	P	**Pn**	**00 47 50.7**	**+0.7**
KTHR	**Kythira**	**3.05**	**267**	P	**Pn**	**00 47 52.0**	**+1.4**
KTHR				S	**Sn**	**00 48 25.9**	**-1.5**
	comp=N,142nm,0.3s						
VLI	**Veliai**	**3.10**	**276**	P	**Pn**	**00 47 51.9**	**+0.7**
VLI				S	**Sn**	**00 48 26.0**	**-2.5**
	comp=N,65nm,0.2s						
VLI	**Veliai**	**3.10**	**276**	P	**Pn**	**00 47 51.8**	**+0.7**

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*IDC **31** 01:16:51.5±0.7,17°.49S×172°.55W,h0km,mb4.1/11, mb1 4.3/12,mb1mx4.1/34,mbtmp4.1/12,ML3.2/1,MS3.5/3, Ms1 3.5/3,ms1mx3.0/44,Error ellipse: s-maj=24.9km s-min=20.5km az=124.0*
*NEIC **31** 01:16:53.6±2.8,17°.31S±0°.07×172°.56W±0°.09,h9km±4km, mb4.4/11,Error ellipse: s-maj=12.1km s-min=10.1km az=64.0*

ISC 31 01:16:54.4±0.5,17°.33S±0°.08×172°.45W±0°.09,h21km,n40, σ1§52/34,mb4.2/15,MS3.6/3,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.96**	**126**		**Pn**	**01 17 39.7**	**-0.6**
AFI	**Afiamalu**	**3.46**	**11**	Pn	Pn	01 17 40.2	-6.9

comp=Z,0.5nm,0.3s,baz=121,slow=6.3,SNR=2.7
MA2 Magadan 82.27 342 LR LR 02 06 48.7
comp=Z,27nm,18.2s,baz=68,slow=36
PD31 Pinedale Array 83.09 41 P **P** **01 29 19.3 +0.4**
PD31 IAmb IAmb 01 29 22.9
comp=Z,1.2nm,1.0s
PDAR Pinedale Array 83.09 41 P **P** **01 29 20.9 +2.0**
comp=Z,0.7nm,0.9s,baz=194,slow=1.9,SNR=4.2
PLCA Paso Flores 87.55 132 LR LR 02 00 38.0
comp=Z,26nm,18.1s,baz=240,slow=30
INK Inuvik 89.91 14 P **P** **01 29 52.0 +0.6**
comp=Z,3.1nm,1.0s,baz=180,slow=1.0,SNR=2.4
CMAR Chiang Mai Arr 94.08 288 P **P** **01 30 13.9 +2.0**
comp=Z,0.5nm,0.3s,baz=123,slow=3.3,SNR=1.4
CMAR Chiang Mai Arr 94.08 288 P **P** **01 30 10.3 -1.6**
KMBO Kilima Mbogo 145.46 241 PKPbc **PKPdf** **01 36 33.1 +0.8**
comp=Z,3.6nm,0.9s,baz=352,slow=1.9,SNR=9.0
BURAR Bucovina Array 146.48 338 PKPbc **PKPdf** **01 36 33.6 +0.7**
BNN Bunyan 147.31 317 PKPbc **PKPbc** **01 36 37.9 +0.9**
MLR Muntele Rosu 147.99 335 PKPbc **PKiKP** **01 36 39.8 -0.6**
comp=Z,3.4nm,1.0s,baz=173,slow=7.5,SNR=4.0
MLR Muntele Rosu 147.99 335 **PKPbc** **01 36 38.6 0.0**
BRTR Keskin Array B 148.21 320 PKPbc **PKiKP** **01 36 41.0 0.0**
comp=Z,2.4nm,0.9s,baz=227,slow=3.1,SNR=6.2
BRTR Keskin Array B 148.21 320 **PKPbc** **01 36 39.2 -0.1**
MMAI Mount Meron Ar 150.47 307 PKPbc **PKPbc** **01 36 45.0 0.0**
comp=Z,0.2nm,0.3s,baz=135,slow=57,SNR=2.2
DAVOX Davos/Dischmat 150.56 357 PKPbc **PKiKP** **01 36 45.8 +0.1**
comp=Z,1.4nm,0.6s,baz=204,slow=20,SNR=3.9
TORD Torodi Ar. Bea 172.99 126 PKPab **PKPab** **01 38 28.5 -1.3**
comp=Z,0.7nm,0.9s,baz=219,slow=3.7,SNR=3.0
TORD Torodi Ar. Bea 172.99 126 PKPdf **PKPdf** **01 37 01.2 -1.9**

*TUL **31** 01:39:21.4±1.2,35°.98N±0°.02×97°.56W±0°.05,h0km±6km, ML3.3,mb_Lg3.1/101(NEIC),Error ellipse: s-maj=5.8km s-min=1.5km az=70.0*

NEIC 31 01:39:21.8±1.0,36°.00N±0°.02×97°.56W±0°.05,h5km±6km, Error ellipse: s-maj=6.3km s-min=1.6km az=72.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.22**	**157**		Pg	01 39 26.2	+0.1
OK029				Sg	Sg	01 39 29.4	+0.5
BCOK	**Bluff Creek, N**	**0.34**	**187**		Pg	01 39 28.5	+0.1
BCOK				Sg	Sg	01 39 33.6	+0.7
OK025	**Westminster Rd**	**0.45**	**156**		Pg	01 39 30.5	0.0
OK025				Sg	Sg	01 39 37.0	+0.6
OK005	**Luther M Schoo**	**0.45**	**138**	Pg	Pg	01 39 29.6	-1.0
OK005				Sg	Sg	01 39 36.0	-0.5
OK001	**Jones High Sch**	**0.49**	**153**	Pg	Pg	01 39 31.3	+0.1
OKCFA	**Oklahoma City**	**0.58**	**171**		Pg	01 39 33.0	-0.1
OKCFA				IAmb_Lg		01 39 39.8	
	comp=Z,273nm,1.0s						
OKCFA				Sg	Sg	01 39 41.2	+0.5
OKCFA	**Oklahoma City**	**0.58**	**171**	P		01 39 33.0	
	baz=352,SNR=22						
OKCFA				S		01 39 41.2	
	baz=352						
OK031	**S. Brethren Rd**	**0.59**	**94**		Pg	01 39 33.2	+0.1
OK031				Sg	Sg	01 39 41.1	+0.4
OKCSW	**OKLAHOMA CITY**	**0.60**	**170**		Pg	01 39 33.2	-0.1
OKCSW				Sg	Sg	01 39 41.6	+0.6
CROK	**Carrier**	**0.61**	**326**		Pg	01 39 33.8	+0.2
QUOK	**Quay**	**0.71**	**75**		Pg	01 39 35.6	+0.1
FNO	**Franklin**	**0.75**	**170**		Pg	01 39 35.9	-0.3
FNO				Sg	Sg	01 39 46.3	+0.4
BLOK	**Blackwell**	**0.81**	**20**		Pg	01 39 37.5	0.0
BLOK				Sg	Sg	01 39 48.6	+0.6
GC02	**Grant County #**	**0.89**	**344**		Pg	01 39 38.8	-0.1
OK032	**Salt Plains WL**	**0.96**	**327**		Pg	01 39 40.1	-0.2
KAN13	**South Haven SW**	**1.02**	**4**		Pg	01 39 41.2	-0.1
KAN13				Sg	Sg	01 39 54.8	+0.2
KAN13					Sb	01 39 55.6	0.0
KAN17	**Caldwell West**	**1.06**	**351**		Pg	01 39 42.0	-0.2
KAN05	**Bluff City Nor**	**1.14**	**347**		Pg	01 39 43.4	-0.3
KAN05				Sg	Sb	01 39 58.9	-0.2
KAN09	**Caldwell North**	**1.14**	**358**		Pg	01 39 43.4	-0.3
KAN09				Sg	Sb	01 39 59.2	+0.1
KAN10	**Anthony SW Sta**	**1.21**	**339**		Pg	01 39 44.3	-0.6
U32A	**Winter Ranch,**	**1.23**	**289**		Pg	01 39 44.8	-0.6
U32A	**Winter Ranch,**	**1.23**	**289**	P		01 39 44.7	
	baz=108						
U32A				S		01 40 02.0	
	baz=108						
KS20	**Mayfield South**	**1.23**	**0**		Pg	01 39 45.1	-0.4
T35A	**Sooner Cattle**	**1.25**	**42**	Pg	Pg	01 39 45.2	-0.5
T35B	**Sooner Cattle**	**1.25**	**42**	P		01 39 45.2	
	baz=222,SNR=123						
T35B				S		01 40 01.6	
	baz=222						
X34A	**Smith Ranch, M**	**1.41**	**189**		Pn	01 39 48.2	+0.1
TUL1	**Leonard**	**1.44**	**93**	P		01 39 47.6	
	baz=273,SNR=180						
TUL1				S		01 40 07.3	
	baz=273						
WMOK	**Wichita Mounta**	**1.60**	**219**		Pn	01 39 50.5	-0.2
WMOK	**Wichita Mounta**	**1.60**	**219**	P		01 39 50.5	
	baz=38,SNR=144						
WMOK				S		01 40 11.8	
	baz=38						
LOOK	**Love County**	**2.02**	**171**		Pn	01 39 56.9	+0.3
LOOK				IAmb_Lg		01 40 29.1	
	comp=Z,64nm,0.9s						
X37A	**Clayton**	**2.27**	**127**		Pn	01 40 00.7	+0.7
X37A				IAmb_Lg		01 40 38.7	
	comp=Z,97nm,1.1s						
X37A	**Clayton**	**2.27**	**127**	P		01 40 00.6	
	baz=309,SNR=53						
R32A	**Long Quarter,**	**2.59**	**340**		Pn	01 40 05.1	+0.7
U38A	**Gravette**	**2.60**	**79**		Pn	01 40 05.1	+0.5
U38A	**Gravette**	**2.60**	**79**	P		01 40 04.9	
	baz=261,SNR=62						
Z35A	**Perchaven, San**	**2.67**	**174**	Pn	Pn	01 40 05.0	-0.4
Z35A	**Perchaven, San**	**2.67**	**174**	P		01 40 06.2	
	baz=355						
HHAR	**Hobbs**	**2.94**	**83**	Pn	Pn	01 40 09.0	-0.2
HHAR	**Hobbs**	**2.94**	**83**	P		01 40 09.4	
	baz=265						
W39A	**Magazine**	**3.18**	**103**		Pn	01 40 12.5	+0.1
W39A				IAmb_Lg		01 41 05.3	
	comp=Z,74nm,0.9s						
W39A	**Magazine**	**3.18**	**103**	S		01 40 51.6	
	baz=285						
KSU1	**Kansas State U**	**3.19**	**13**	Pn	Pn	01 40 12.8	+0.2
CBKS	**Cedar Bluff**	**3.31**	**329**	Pn	Pn	01 40 14.1	-0.1
CBKS				IAmb_Lg		01 41 15.1	
	comp=Z,48nm,0.8s						
CBKS	**Cedar Bluff**	**3.31**	**329**	S		01 40 54.6	
	baz=148						
Z38A	**Mt. Pleasant**	**3.46**	**141**	Pn	Pn	01 40 16.1	-0.2
Z38A					LR	01 41 10.5	
Z38A				IAmb_Lg		01 41 14.9	
	comp=Z,50nm,0.7s						
AMTX	**Amarillo**	**3.54**	**253**	Pn	Pn	01 40 17.4	-0.1
MIAR	**Mount Ida**	**3.57**	**113**		Pn	01 40 18.1	+0.4
MIAR				IAmb_Lg		01 41 22.2	
	comp=Z,42nm,0.7s						
MIAR	**Mount Ida**	**3.57**	**113**	P		01 40 18.3	
	baz=295,SNR=41						
MIAR				S		01 41 00.9	
	baz=295						
ABTX	**Abilene, Hawle**	**3.78**	**208**	Pn	Pn	01 40 21.0	+0.3
ABTX				IAmb_Lg		01 41 26.2	
	comp=Z,56nm,1.1s						
S39A	**Bolivar**	**3.80**	**62**		Pn	01 40 21.4	+0.5
S39A	**Bolivar**	**3.80**	**62**	P		01 40 21.3	
	baz=244,SNR=23						
U40A	**Yellville**	**3.83**	**83**		Pn	01 40 21.4	+0.1
U40A				IAmb_Lg		01 41 21.7	
	comp=Z,54nm,0.7s						
U40A	**Yellville**	**3.83**	**83**	P		01 40 21.3	
	baz=266						
U40A				P		01 40 21.3	
	baz=266						
WHTX	**Lake Whitney,**	**3.99**	**179**	Pn	Pn	01 40 23.5	-0.2
X40A	**Basin Creek Fa**	**4.15**	**110**	Pn	Pn	01 40 25.6	-0.2
X40A				IAmb_Lg		01 41 43.6	
	comp=Z,50nm,0.8s						
237A	**Washetta, Mont**	**4.24**	**159**	Pn	Pn	01 40 26.3	-0.7
237A				IAmb_Lg		01 41 43.5	
	comp=Z,28nm,1.1s						
WLAR	**White Oak Lake**	**4.32**	**121**	Pn	Pn	01 40 27.7	-0.4
WLAR				IAmb_Lg		01 41 43.0	
	comp=Z,40nm,0.9s						
WHAR	**Wooly Hollow**	**4.35**	**98**	Pn	Pn	01 40 28.4	-0.2
WHAR				IAmb_Lg		01 41 45.5	
	comp=Z,38nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.41**	**90**	Pn	Pn	01 40 28.9	-0.4
FCAR				IAmb_Lg		01 41 42.9	
	comp=Z,38nm,0.8s						
MGMO	**Mountain Grove**	**4.41**	**73**		Pn	01 40 30.0	+0.6
MSTX	**Mulshoe**	**4.73**	**246**	Pn	Pn	01 40 33.2	-0.7
N33A	**J Bar K, Exete**	**4.74**	**1**	IAmb_Lg		01 41 59.0	
	comp=Z,35nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**60**		Pn	01 40 34.5	-0.4
R40A				IAmb_Lg		01 41 59.3	
	comp=Z,24nm,0.8s						
R40A	**Maddies Statio**	**4.81**	**60**	P		01 40 34.7	
	baz=243,SNR=14						
P38A	**Dawn**	**4.83**	**40**	Pn	Pn	01 40 35.1	0.0
LCAR	**Lake Charles**	**5.19**	**87**	Pn	Pn	01 40 39.1	-1.0
LCAR				IAmb_Lg		01 42 09.6	
	comp=Z,26nm,0.9s						
435B	**Jarrell**	**5.20**	**180**	IAmb_Lg		01 42 08.4	
	comp=Z,26nm,0.8s						
CCM	**Cathedral Cave**	**5.46**	**66**	IAmb_Lg		01 42 19.9	
	comp=Z,20nm,0.7s						
P40A	**Paris**	**5.61**	**49**	Pn	Pn	01 40 45.7	-0.2
HBAR	**Harrisburg**	**5.63**	**92**		Lg	01 42 20.8	
T25A	**Trinidad**	**5.63**	**284**	IAmb_Lg		01 42 23.9	
	comp=Z,28nm,0.8s						
PBMO	**Poplar Bluff**	**5.80**	**80**	IAmb_Lg		01 42 30.2	
	comp=Z,41nm,0.7s						
JCT	**Junction City**	**5.81**	**199**	Pn	Pn	01 40 47.9	-0.8
143A	**Socs Landing,**	**6.06**	**121**	IAmb_Lg		01 42 49.2	
	comp=Z,32nm,0.9s						
OGNE	**Ogallala**	**6.06**	**326**	Pn	Pn	01 40 53.0	+0.9
OGNE				IAmb_Lg		01 42 37.6	
	comp=Z,23nm,0.8s						
OGNE	**Ogallala**	**6.06**	**326**	P		01 40 52.9	
	baz=143,SNR=9.1						
SLM	**Saint Louis**	**6.40**	**64**	IAmb_Lg		01 42 43.5	
	comp=Z,18nm,0.8s						
SDCO	**Great Sand Dun**	**6.60**	**288**	Pn	Pn	01 40 59.9	+0.2
OXF	**Oxford**	**6.83**	**100**	IAmb_Lg		01 43 05.4	
	comp=Z,22nm,0.7s						
S44A	**Carbondale**	**6.87**	**73**	IAmb_Lg		01 43 12.5	
	comp=Z,18nm,0.7s						
W45A	**Hickory Valley**	**6.88**	**95**	IAmb_Lg		01 43 16.5	
	comp=Z,28nm,0.9s						
SIUC	**Southern Illin**	**6.91**	**73**	IAmb_Lg		01 43 01.1	
	comp=Z,26nm,0.8s						
N41A	**Harden Midland**	**7.06**	**46**	Pn	Pn	01 41 05.6	-0.2
P43A	**Skaggs, Pawnee**	**7.33**	**58**	IAmb_Lg		01 43 13.8	
	comp=Z,30nm,1.1s						
Q44A	**Meyer Farm, Va**	**7.39**	**64**	IAmb_Lg		01 43 25.6	
	comp=Z,27nm,1.0s						
ISCO	**Idaho Springs**	**7.41**	**303**	IAmb_Lg		01 43 25.2	
	comp=Z,14nm,0.8s						
ECSD	**EROS Data Cent**	**7.76**	**5**	Pn	Pn	01 41 14.6	-0.8
MNTX	**Cornudas Mount**	**7.79**	**239**	Pn	Pn	01 41 15.9	0.0
146A	**Union**	**7.79**	**113**	IAmb_Lg		01 43 49.1	
	comp=Z,27nm,1.1s						
PLAL	**Pickwick Lake**	**7.80**	**95**	IAmb_Lg		01 43 36.4	
	comp=Z,15nm,1.1s						
HDIL	**Hopedale**	**7.94**	**53**	Pn	Pn	01 41 18.3	+0.5
USIN	**University of**	**8.16**	**73**	IAmb_Lg		01 43 39.0	
	comp=Z,15nm,0.9s						
O44A	**Mansfield**	**8.28**	**57**	IAmb_Lg		01 43 56.9	
	comp=Z,20nm,0.7s						
T47A	**Sharon Grove**	**8.48**	**80**	IAmb_Lg		01 44 08.7	
	comp=Z,20nm,1.0s						
L42A	**Oliver, Polo**	**8.59**	**43**	IAmb_Lg		01 43 52.2	
	comp=Z,25nm,0.8s						
V48A	**Smith Brothers**	**8.72**	**89**	IAmb_Lg		01 43 59.5	
	comp=Z,10nm,1.0s						
X48A	**Hartselle**	**8.74**	**97**	IAmb_Lg		01 43 57.5	
	comp=Z,12nm,1.1s						
JFWS	**Jewell Farm**	**8.93**	**37**	IAmb_Lg		01 44 04.9	
	comp=Z,19nm,0.8s						
P46A	**Rosedale**	**8.96**	**63**	IAmb_Lg		01 44 17.0	
	comp=Z,20nm,0.9s						
BLO	**Bloomington**	**9.32**	**67**	IAmb_Lg		01 44 29.8	
	comp=Z,20nm,0.7s						
PV11	**David Mesa, Pa**	**9.32**	**288**	IAmb_Lg		01 44 33.2	
	comp=Z,9.3nm,1.0s						
SFIN	**Lafayette**	**9.33**	**59**	IAmb_Lg		01 44 16.4	
	comp=Z,19nm,1.0s						
SWET	**Sewanee**	**9.50**	**91**	IAmb_Lg		01 44 27.5	
	comp=Z,9.4nm,0.7s						
I40A	**Norwalk**	**9.52**	**32**	IAmb_Lg		01 44 24.6	
	comp=Z,14nm,1.1s						
U49A	**Red Boiling Sp**	**9.53**	**83**	IAmb_Lg		01 44 39.8	
	comp=Z,13nm,1.3s						
K22A	**Casper**	**9.61**	**316**	IAmb_Lg		01 44 44.0	
	comp=Z,11nm,0.7s						
F33A	**5 Mile Ranch,**	**9.88**	**5**	IAmb_Lg		01 44 41.0	
	comp=Z,10nm,0.9s						

IDC 31 01:43:15.9±7.3,5°.93S×147°.27E,h68km±56km,mb3.8/2, mb1 4.0/4,mb1mx3.4/50,mbtmp4.1/4,ML4.2/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/35,Error ellipse: s-maj=70.7km s-min=48.7km az=82.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.45**	**182**	P	Pn	01 44 06.3	-1.0
	19nm,0.3s,baz=273,slow=16,SNR=7.9						
PMG				S	Sn	01 44 48.1	+1.1
	30nm,0.3s,baz=216,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**18.76**	**221**	P	P	01 47 29.1	-0.5
	0.7nm,0.3s,baz=45,slow=11,SNR=52						
ASAR	**Alice Springs**	**21.82**	**215**	P	P	01 48 02.9	+0.1
	5.1nm,0.8s,baz=52,slow=8.3,SNR=45						
STKA	**Stephens Creek**	**26.35**	**191**	P	P	01 48 45.3	-0.4
	1.4nm,0.3s,baz=360,slow=11,SNR=7.5						
USRK	**Ussuriysk Ar.**	**51.77**	**346**	LR	LR	02 10 13.9	
	comp=Z,28nm,19.8s,baz=128,slow=31						
YBH	**Yreka Blue Hor**	**93.92**	**49**	LR	LR	02 33 51.4	
	comp=Z,38nm,18.0s,baz=358,slow=32						
TORD	**Torodi Ar. Bea**	**145.33**	**284**	PKPbc	PKPbc	02 02 46.6	-0.4
	0.3nm,0.5s,baz=76,slow=3.0,SNR=6.3						
TORD				pPKPbc	sPKPab	02 03 10.3	-3.0
	1.1nm,0.8s,baz=82,slow=4.9,SNR=4.8						

*MAN **31** 01:45:08.5,6°.15N×126°.34E,h44km,mb4.1,ML2.8,MS2.5*
*IDC **31** 01:45:09.0±1.6,6°.31N×126°.44E,h64km±14km,mb4.0/19, mb1 4.2/21,mb1mx3.9/55,mbtmp4.4/21,MS2.5/1, Ms1 2.5/1,ms1mx2.2/42,Error ellipse: s-maj=23.6km s-min=10.2km az=76.0*
*DJA **31** 01:45:10.5±0.7,6°.N±6°×12°.6E±°,h67km±6km,M4.9/15, mB5.4/9,mb4.9/15,MLv5.1/6,Mw(mB)4.8/9*
*NEIC **31** 01:45:10.8±1.5,6°.34N±0°.05×126°.38E±0°.09,h65km±8km, mb4.4/24,Error ellipse: s-maj=13.2km s-min=7.5km az=80.0*

ISC 31 01:45:08.3±0.4,6°.23N±0°.05×126°.38E±0°.07,h50km,n86, σ2°07/90,mb4.3/30,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.15**	**316**	P	**Pn**	**01 45 29.5**	**+1.4**
	287nm,0.3s,baz=130,slow=0.8,SNR=28						
DAV				S	**Sn**	**01 45 43.8**	**+1.0**
	514nm,0.3s,baz=290,slow=7.8,SNR=6.5						
DAV				LR	LR	01 45 44.1	
	comp=Z,33nm,21.5s,baz=98,slow=31						
DAV	**Davao City (W)**	**1.15**	**316**	Pn	**Pn**	**01 45 30.0**	**+1.9**
DAV	**Davao City (W)**	**1.15**	**316**		**Sn**	**01 45 43.8**	**+1.0**
DAV	**Davao City (W)**	**1.15**	**316**	P	**Pn**	**01 45 30.3**	**+2.2**
KCP	**Kidapawan**	**1.50**	**301**	↓*iP*	**Pn**	**01 45 33.4**	**+0.6**
KCP				*i* S	**Sn**	**01 45 49.3**	**-2.0**
BIPH	**Bislig**	**1.94**	**359**	↑*eP*	**Pn**	**01 45 43.0**	**+4.2**
BIPH				*e*S	**Sn**	**01 46 06.6**	**+4.5**
SGSI	**Sangihe**	**2.67**	**199**	P	**Pn**	**01 45 51.1**	**+2.2**
CGP	**Cagayan de Oro**	**2.77**	**323**	↑*eP*	**Pn**	**01 45 52.6**	**+2.3**
CGP				*i* S	**Sn**	**01 46 25.6**	**+3.1**
GAMI	**Galela, Maluku**	**4.59**	**162**	P	**Pn**	**01 46 18.4**	**+3.2**
LLP	**Lapu-Lapu**	**4.71**	**330**	↓*eP*	**Pn**	**01 46 19.3**	**+2.4**
LLP				*e*S	**Sn**	**01 47 14.5**	**+4.2**
MNI	**Manado**	**5.00**	**198**	P	**Pn**	**01 46 25.3**	**+4.4**
	1.5nm162nm,0.5s						
TNTI	**Ternate**	**5.51**	**170**	Pn	**Pn**	**01 46 32.5**	**+4.5**
TNTI	**Ternate**	**5.51**	**170**	P	**Pn**	**01 46 31.0**	**+3.0**
	0.6nm2μm105nm,0.6s						
RCP	**Roxas**	**6.39**	**326**	↑*eP*	**Pn**	**01 46 43.3**	**+3.3**
GTOI	**Gorontalo**	**6.50**	**211**	P	**Pn**	**01 46 42.1**	**+0.7**
	1.4nm4μm316nm,0.5s						
MRSI	**Marisa**	**7.23**	**218**	P	**Pn**	**01 46 52.8**	**+1.3**
	1.6nm5μm370nm,0.7s						
LUWI	**Luwuk**	**8.07**	**207**		**Pn**	**01 47 06.3**	**+3.2**
LUWI	**Luwuk**	**8.07**	**207**	P	**Pn**	**01 47 07.2**	**+4.1**
	4μm350nm,0.9s						
SANI	**Sanana**	**8.24**	**183**	P	**Pn**	**01 47 05.7**	**+0.4**
	1μm97nm,0.7s						
APSI	**Ampana**	**8.52**	**214**	P	**Pn**	**01 47 13.2**	**+4.0**
	2μm192nm,1.0s						
MPSI	**Mapaga**	**8.73**	**228**	P	**Pn**	**01 47 15.1**	**+3.1**
	898nm24nm,0.6s						
NLAI	**Namlea**	**9.44**	**176**	P	**Pn**	**01 47 25.2**	**+3.5**
	3μm33nm,0.8s						
KRAI	**Karang Ratu**	**9.70**	**168**	P	**Pn**	**01 47 28.5**	**+3.2**
TTSI	**Tana Toraja**	**11.31**	**216**	P	**Pn**	**01 47 50.5**	**+3.2**
	1μm47nm,0.9s						
BNSI	**Bone**	**12.28**	**211**	P	**Pn**	**01 48 05.0**	**+4.4**
	42nm,0.9s						
KAPI	**Kappang**	**12.98**	**211**	P	**Pn**	**01 48 12.4**	**+2.2**
	2.6nm,0.3s,baz=80,slow=4.2,SNR=10						
KAPI	**Kappang**	**12.98**	**211**	Pn	**Pn**	**01 48 12.9**	**+2.7**
KAPI	**Kappang**	**12.98**	**211**	P	**Pn**	**01 48 12.7**	**+2.4**
	36nm,1.2s						
EDFI	**Ende, Flores**	**15.60**	**197**	P	**Pn**	**01 48 46.6**	**+1.4**
	14nm,1.0s						
BATI	**Baumata**	**16.55**	**189**	P	**Pn**	**01 48 56.9**	**-0.3**
	7.3nm,0.3s,baz=332,slow=3.0,SNR=4.1						
BATI	**Baumata**	**16.55**	**189**	P	**Pn**	**01 48 59.6**	**+2.4**
	56nm,0.8s						
MTN	**Manton Dam**	**19.53**	**166**		**P**	**01 49 33.2**	**+1.3**
MTN				IAmb	IAmb	01 49 40.8	
	comp=Z,48nm,1.2s						
GUMO	**Guam**	**19.61**	**67**	LR	LR	01 58 21.7	
	comp=Z,12nm,18.8s,baz=188,slow=41						
KNRA	**Kununurra**	**21.90**	**174**	P	**P**	**01 49 57.9**	**+0.6**
LEM	**Lembang**	**22.78**	**236**	P	**P**	**01 50 08.0**	**+0.9**
	comp=Z,66nm,0.8s,baz=310,slow=23,SNR=8.1						
LEM	**Lembang**	**22.78**	**236**	P	**P**	**01 50 08.5**	**+1.5**
	comp=Z,44nm,0.9s						
MDSI	**Maura Dua**	**24.59**	**245**	P	**P**	**01 50 24.7**	**+0.7**
WB0	**Warramunga Arr**	**27.01**	**163**	P	**P**	**01 50 47.5**	**+1.6**
WRAB	**Tennant Creek**	**27.16**	**163**	P	**P**	**01 50 48.8**	**+1.6**
WRAB				IAmb	IAmb	01 50 52.2	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**27.16**	**163**	P	**P**	**01 50 47.1**	**-0.1**
	comp=Z,6.4nm,0.6s,baz=345,slow=10,SNR=40						
WB2	**Warramunga Arr**	**27.17**	**163**	P	**P**	**01 50 49.0**	**+1.8**
WR0	**Warramunga Arr**	**27.24**	**163**	P	**P**	**01 50 49.0**	**+1.1**
WR0				IAmb	IAmb	01 50 55.4	
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.37**	**297**	P	**P**	**01 51 07.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=105,slow=7.7,SNR=1.5						
AS31	**Alice Springs**	**30.61**	**166**	P	**P**	**01 51 18.7**	**+0.8**
ASAR	**Alice Springs**	**30.61**	**166**	P	**P**	**01 51 17.4**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=342,slow=7.1,SNR=33						
ASAR				PcP	**PcP**	**01 54 15.6**	**0.0**
	comp=Z,0.6nm,0.4s,baz=333,slow=2.5,SNR=2.2						
ASAR	**Alice Springs**	**30.61**	**166**	P	**P**	**01 51 18.9**	**+1.0**
KSAR	**Wonju Array Be**	**31.09**	**2**	P	**P**	**01 51 22.7**	**+0.8**
XAN	**Xi'an**	**32.05**	**332**	P	**P**	**01 51 29.8**	**-0.7**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,60nm,4.9s						
MAJO	**Matsushiro**	**32.05**	**18**	P	**P**	**01 51 29.9**	**-0.6**
MJAR	**Matsushiro Arr**	**32.05**	**18**	P	**P**	**01 51 28.8**	**-1.6**
CTA	**Charters Tower**	**32.65**	**144**	P	**P**	**01 51 34.9**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=318,slow=12,SNR=1.3						
BBOO	**Buckleboo**	**39.30**	**167**	P	**P**	**01 52 38.5**	**+0.9**
STKA	**Stephens Creek**	**40.58**	**160**	P	**P**	**01 52 43.8**	**+0.5**
	comp=Z,8.7nm,0.7s,baz=340,slow=8.6,SNR=17						
STKA	**Stephens Creek**	**40.58**	**160**	P	**P**	**01 52 44.0**	**+0.8**
KLR	**Kul'dur**	**43.09**	**5**	P	**P**	**01 53 02.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=273,slow=22,SNR=2.0						
SONM	**Songino Array**	**44.83**	**341**	P	**P**	**01 53 15.4**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=165,slow=6.0,SNR=1.9						
SONM				PcP	**PcP**	**01 54 59.1**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=164,slow=2.4,SNR=4.1						
SONM	**Songino Array**	**44.83**	**341**	P	**P**	**01 53 17.2**	**-0.5**
WMQ	**Urumqi**	**50.49**	**324**	*e*P	**P**	**01 54 04.0**	**+2.4**
PETK	**Petropavlovsk-**	**53.27**	**23**	P	**P**	**01 54 19.3**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=198,slow=8.9,SNR=2.6						
MK31	**Makanchi Array**	**55.32**	**324**	P	**P**	**01 54 38.2**	**+1.1**
MKAR	**Makanchi Array**	**55.32**	**324**	P	**P**	**01 54 35.8**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=115,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**55.32**	**324**	P	**P**	**01 54 36.9**	**-0.2**
MAKZ	**Makanchi**	**55.51**	**324**	P	**P**	**01 54 39.5**	**+1.1**
MAKZ				IAmb	IAmb	01 54 40.6	
	comp=Z,1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**58.22**	**333**	P	**P**	**01 54 56.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=123,slow=5.5

GERES GERESS Array B 145.90 350 PKPbc **PKPab 02 04 32.1 -0.4**
0.4nm,0.4s,baz=36,slow=5.6,SNR=4.8

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*IDC **31** 01:49:50.6±1.0,31°.41N×140°.06E,h96km±9km,mb3.5/10, mb1 3.7/11,mb1mx3.4/52,mbtmp3.9/11,Error ellipse: s-maj=23.8km s-min=8.8km az=78.0*
*JMA **31** 01:49:53.2±0.2,31°.65N×140°.49E,h99km,M3.3*
ISC 31 01:49:51.2±0.7,31°.48N±0°.06×140°.3E±0°.1,h97km,n27, σ1§09/26,mb3.7/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.09 334**		P	**Pn**	**01 50 14.0**	**+1.6**
JHCJ	**Hachijojimakas**	**1.65 344**		P	**Pn**	**01 50 20.1**	**+0.9**
JHCJ				*eS*	**Sn**	**01 50 40.1**	**-0.3**
JHJ2	**Mitsune**	**1.68 345**		P	**Pn**	**01 50 20.5**	**+0.9**
JHJ	**Hachijo jima 2**	**1.70 344**		P	**Pn**	**01 50 21.1**	**+1.3**
	58nm,0.3s,baz=258,slow=22,SNR=31						
JHJ				S	**Sn**	**01 50 40.7**	**-0.8**
	63nm,0.3s,baz=105,slow=23,SNR=5.6						
JMKN	**Mikurajimanish**	**2.48 346**		P	**Pn**	**01 50 31.1**	**+1.1**
JMKN				*eS*	**Sn**	**01 51 00.1**	**+0.4**
BSO1	**Boso 1**	**3.21**	**10**	P	**Pn**	**01 50 39.1**	**0.0**
BSO1				*eS*	**Sn**	**01 51 15.3**	**-0.9**
TK02	**Tokai 2**	**3.28 319**		P	**Pn**	**01 50 42.3**	**+1.9**
CBIJ	**Chichi jima**	**4.66 159**		P	**Pn**	**01 51 00.0**	**+0.7**
JCJ	**Chichijima**	**4.66 159**		P	**Pn**	**01 50 59.6**	**+0.4**
	4.8nm,0.3s,baz=8.8,slow=22,SNR=14						
JCJ				S	**Sn**	**01 51 52.1**	**-0.1**
	15nm,0.3s,baz=265,slow=23,SNR=7.8						
JRY	**Ryogami san**	**4.68 346**		P	**Pn**	**01 51 00.6**	**+1.1**
JAG	**Ashikaga**	**4.98 352**		P	**Pn**	**01 51 02.8**	**-0.8**
H11N2	**WAKE ISLAND Hy 26.58 110**			T	T	02 23 30.6	
	baz=306,slow=74,SNR=3.6						
H11N1	**WAKE ISLAND Hy 26.59 110**			T	T	02 23 28.7	
	baz=306,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy 26.60 110**			T	T	02 23 31.7	
	baz=306,slow=74,SNR=3.7						
H11S3	**WAKE ISLAND Hy 27.08 112**			T	T	02 24 10.6	
	baz=304,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy 27.08 112**			T	T	02 24 06.3	
	baz=304,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy 27.09 112**			T	T	02 24 07.3	
	baz=304,slow=75,SNR=9.7						
MKAR	**Makanchi Array**	**46.51 307**		P	**P**	**01 58 06.7**	**-2.0**
	0.6nm,0.5s,baz=87,slow=11,SNR=7.9						
WRA	**Warramunga Arr**	**51.45 187**		P	**P**	**01 58 45.2**	**-1.4**
	0.7nm,0.3s,baz=5.0,slow=7.6,SNR=20						
KDAK	**Kodiak Island**	**51.90**	**39**	P	**P**	**01 58 50.2**	**+0.7**
	1.2nm,0.3s,baz=252,slow=1.7,SNR=18						
ASAR	**Alice Springs**	**55.18 187**		P	**P**	**01 59 12.7**	**-1.2**
	0.3nm,0.6s,baz=6.4,slow=8.2,SNR=2.0						
INK	**Inuvik**	**59.75**	**25**	P	**P**	**01 59 45.4**	**0.0**
	1.0nm,0.4s,baz=268,slow=4.6,SNR=8.4						
ARCES	**ARCESS Array B**	**68.88 340**		P	**P**	**02 00 44.9**	**-0.1**
	1.0nm,0.8s,baz=56,slow=6.8,SNR=1.2						
FINES	**FINESS Array B**	**73.32 333**		P	**P**	**02 01 10.9**	**-0.9**
	0.4nm,0.4s,baz=84,slow=5.9,SNR=7.7						
NVAR	**Mina Array Bea**	**79.08**	**52**	P	**P**	**02 01 46.4**	**+1.1**
	0.5nm,0.6s,baz=295,slow=6.5,SNR=5.9						
PDAR	**Pinedale Array**	**82.22**	**44**	P	**P**	**02 02 03.0**	**+1.0**
	0.2nm,0.6s,baz=288,slow=3.7,SNR=2.2						
TXAR	**Lajitas Array**	**94.23**	**52**	P	**P**	**02 03 01.0**	**+1.2**
	0.4nm,0.7s,baz=297,slow=4.4,SNR=4.8						

NNC 31 01:52:27.1±2.5,44°.04N×79°.12E,h0km,mb3.0,mpv2.7, Error ellipse: s-maj=20.1km s-min=14.3km az=25.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.95 281**		P	Pb	01 52 46.1	-0.3
	1.8nm,0.1s						
ARXS				S	Sb	01 53 00.6	+1.0
	0.9nm,0.2s						
KUU	**Kurty**	**2.02 267**		Pg	Pb	01 53 04.8	+0.2
	0.7nm,0.2s						
KST	**Kastek**	**2.50 248**		Pg	Pb	01 53 12.4	-0.6
	2.8nm,0.3s						
KST				Lg	Lg	01 53 45.5	
	5.8nm,0.6s						
DGS	**Degeres**	**2.56 253**		Pg	Pb	01 53 14.1	+0.2
	1.0nm,0.5s						
DGS				Lg	Lg	01 53 48.3	
	1.2nm,0.5s						

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*TRN **31** 01:52:33.5,18°.19N×64°.44W,h141km,M3.6(RSPR)*
*NEIC **31** 01:52:35.1±0.9,18°.3N±0°.2×64°.48W±0°.08,h140km±5km, Error ellipse: s-maj=23.1km s-min=8.8km az=197.0*
*RSPR **31** 01:52:35.5,18°.16N×64°.52W,h140km±1km,MD3.6/10*
ISC 31 01:52:34.2±2.0,18°.2N±0°.1×64°.48W±0°.06,h146km±10km, n56,σ0§50/66,21C-2D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.49 291**	⇓	*eP*	**Pn**	**01 52 55.5**	**+0.4**
STVI	**Saint Thomas**	**0.49 291**	⇓	*eP*	**Pn**	**01 52 55.5**	**+0.4**
STVI				*eS*	**Sn**	**01 53 10.6**	**-0.3**
STVI	**Saint Thomas**	**0.49 291**			**Pn**	**01 52 55.5**	**+0.4**
STVI					**Sn**	**01 53 10.6**	**-0.3**
STVI	**Saint Thomas**	**0.49 291**		IAML		01 53 10.9	
	comp=N,533nm,0.4s						
STVI				IAML		01 53 11.1	
	comp=E,554nm,0.2s						
CDVI	**St. Croix**	**0.51 213**	⇑	*eP*	**Pn**	**01 52 55.3**	**+0.1**
CDVI	**St. Croix**	**0.51 213**	⇑	*eP*	**Pn**	**01 52 55.3**	**+0.1**
CDVI				*eS*	**Sn**	**01 53 10.6**	**-0.5**
CDVI	**St. Croix**	**0.51 213**			**Pn**	**01 52 55.3**	**+0.1**
CDVI					**Sn**	**01 53 10.6**	**-0.5**
ABVI	**Anegada Island**	**0.57**	**14**	Pn	**Pn**	**01 52 55.6**	**+0.1**
CUPR	**Culebra, Puert**	**0.78 280**	⇑	*eP*	**Pn**	**01 52 57.0**	**+0.2**
CUPR	**Culebra, Puert**	**0.78 280**		*eS*	**Sn**	**01 53 13.7**	**-0.4**
CUPR	**Culebra, Puert**	**0.78 280**			**Pn**	**01 52 57.0**	**+0.2**
CUPR					**Sn**	**01 53 13.7**	**-0.4**
CUPR	**Culebra, Puert**	**0.78 280**		IAML		01 53 15.6	
	comp=E,170nm,0.4s						
MTP	**Monte Pirata**	**1.03 266**	⇑	*eP*	**Pn**	**01 52 59.2**	**+0.3**
MTP	**Monte Pirata**	**1.03 266**	⇑	*eP*	**Pn**	**01 52 59.2**	**+0.3**
MTP	**Monte Pirata**	**1.03 266**			**Pn**	**01 52 59.2**	**+0.3**
MTP	**Monte Pirata**	**1.03 266**		IAML		01 53 18.0	
	comp=N,186nm,0.2s						
MTP				IAML		01 53 20.3	
	comp=E,326nm,0.2s						
HUMP	**Col San Antoni**	**1.31 269**	⇑	*eP*	**Pn**	**01 53 01.9**	**+0.3**
HUMP	**Col San Antoni**	**1.31 269**	⇑	*eP*	**Pn**	**01 53 01.9**	**+0.3**
HUMP				*eS*	**Sn**	**01 53 22.4**	**+0.1**
HUMP	**Col San Antoni**	**1.31 269**			**Pn**	**01 53 01.9**	**+0.3**
HUMP					**Sn**	**01 53 22.4**	**+0.1**
HUMP	**Col San Antoni**	**1.31 269**		IAML		01 53 23.1	
	comp=N,171nm,0.2s						
HUMP				IAML		01 53 23.2	
	comp=E,136nm,0.2s						
CBYP	**Canovanas**	**1.32 274**	⇑	*eP*	**Pn**	**01 53 01.9**	**+0.2**
CBYP	**Canovanas**	**1.32 274**	⇑	*eP*	**Pn**	**01 53 01.9**	**+0.2**
CBYP				*eS*	**Sn**	**01 53 21.9**	**-0.7**
CBYP	**Canovanas**	**1.32 274**			**Pn**	**01 53 01.9**	**+0.2**
CBYP					**Sn**	**01 53 21.9**	**-0.7**
PDPR	**Patillas Dam,**	**1.48 264**			**Pn**	**01 53 03.5**	**+0.2**
GCPR	**Guaynabo City**	**1.53 275**			**Pn**	**01 53 03.8**	**-0.1**
IGPR	**InterUniversit**	**1.57 263**	⇑	*eP*	**Pn**	**01 53 04.3**	**+0.1**
SJG	**San Juan**	**1.59 268**			**Pn**	**01 53 04.8**	**+0.3**
SJG				IAML		01 53 27.4	
	comp=E,117nm,0.4s						
SJG				IAML		01 53 27.9	
	comp=E,111nm,0.5s						
SKI	**Saint Kitts**	**1.85 117**		Pn	**Pn**	**01 53 07.3**	**-0.2**
ICMP	**Isla Caja de M**	**1.97 262**		Pn	**Pn**	**01 53 08.3**	**-0.6**
ICMP				IAML		01 53 36.6	
	comp=N,76nm,0.1s						
ICMP				IAML		01 53 36.9	
	comp=E,71nm,0.1s						
EMPR	**Esperanza - Ma**	**1.97 279**	⇑	*eP*	**Pn**	**01 53 08.8**	**-0.1**
EMPR	**Esperanza - Ma**	**1.97 279**		*eS*	**Sn**	**01 53 35.8**	**+0.4**
EMPR	**Esperanza - Ma**	**1.97 279**			**Pn**	**01 53 08.8**	**-0.1**
EMPR					**Sn**	**01 53 35.8**	**+0.4**
EMPR	**Esperanza - Ma**	**1.97 279**		IAML		01 53 38.7	
	comp=N,146nm,0.9s						
EMPR				IAML		01 53 43.0	
	comp=E,129nm,0.6s						
CELP	**Cerrillos**	**2.00 267**	⇑	*eP*	**Pn**	**01 53 09.7**	**+0.5**
CELP	**Cerrillos**	**2.00 267**	⇑	*eP*	**Pn**	**01 53 09.7**	**+0.5**
CELP				*eS*	**Sn**	**01 53 36.3**	**+0.3**
CELP	**Cerrillos**	**2.00 267**			**Pn**	**01 53 09.7**	**+0.5**
CELP					**Sn**	**01 53 36.3**	**+0.3**
OBIP	**Obispado Ponce**	**2.03 267**			**Pn**	**01 53 09.7**	**+0.1**
AOPR	**Arecibo Observ**	**2.17 275**	⇑	*eP*	**Pn**	**01 53 11.3**	**+0.1**
AOPR	**Arecibo Observ**	**2.17 275**	⇑	*eP*	**Pn**	**01 53 11.3**	**+0.1**
AOPR				*eS*	**Sn**	**01 53 39.5**	**-0.1**
AOPR	**Arecibo Observ**	**2.17 275**			**Pn**	**01 53 11.3**	**+0.1**
AOPR					**Sn**	**01 53 39.5**	**-0.1**
AOPR	**Arecibo Observ**	**2.17 275**		IAML		01 53 41.4	
	comp=N,178nm,0.3s						
GBPR	**Guanica, Bosqu**	**2.30 265**	⇑	*eP*	**Pn**	**01 53 12.6**	**0.0**
GBPR	**Guanica, Bosqu**	**2.30 265**	⇑	*eP*	**Pn**	**01 53 12.6**	**0.0**
GBPR	**Guanica, Bosqu**	**2.30 265**			**Pn**	**01 53 12.6**	**0.0**
MLPR	**Magueyes Islan**	**2.45 266**		Pn	**Pn**	**01 53 12.5**	**-2.1**
LSP	**Las Mesas**	**2.48 270**	⇑	*eP*	**Pn**	**01 53 15.5**	**+0.5**
LSP	**Las Mesas**	**2.48 270**	⇑	*eP*	**Pn**	**01 53 15.5**	**+0.5**
LSP				*eS*	**Sn**	**01 53 46.9**	**+0.5**
LSP	**Las Mesas**	**2.48 270**			**Pn**	**01 53 15.5**	**+0.5**
LSP					**Sn**	**01 53 46.9**	**+0.5**
AGPR	**Aguadilla, PR**	**2.52 277**	⇑	*eP*	**Pn**	**01 53 15.6**	**+0.1**
AGPR	**Aguadilla, PR**	**2.52 277**	⇑	*eP*	**Pn**	**01 53 15.6**	**+0.1**
AGPR				*eS*	**Sn**	**01 53 47.8**	**+0.6**
AGPR	**Aguadilla, PR**	**2.52 277**			**Pn**	**01 53 15.6**	**+0.1**
AGPR				IAML		01 54 38.1	
	comp=N,102nm,2.4s						
AGPR	**Aguadilla, PR**	**2.52 277**			**Sn**	**01 53 47.8**	**+0.6**
AGPR	**Aguadilla, PR**	**2.52 277**		IAML		01 53 47.0	
	comp=E,113nm,0.3s						
FDF	**Fort de France**	**4.68 137**		Pn	**Pn**	**01 53 45.2**	**+1.7**
SC01	**Santiago de lo**	**6.05 283**		Pn	**Pn**	**01 54 00.8**	**-0.8**
SDDR	**Presa de Saban**	**6.51 278**		Pn	**Pn**	**01 54 07.2**	**-0.6**

SOME 31 01:53:12.1,44°.15N×77°.12E,h5km,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**0.31 198**		*eP*	Pg	01 53 18.8	+0.7
	1.0nm,0.1s						
CHKK				*eS*	Sg	01 53 23.4	+1.2
	11nm,0.2s						
ARXS	**Arharly**	**0.52**	**83**	*eP*	Pg	01 53 22.0	0.0
	2.4nm,0.1s						
ARXS				*eS*	Sg	01 53 29.0	+0.3
	0.9nm,0.1s						
KTBS	**Karatobe**	**0.54 216**		*eP*	Pg	01 53 22.8	+0.4
	0.4nm,0.1s						
KTBS				*eS*	Sg	01 53 30.1	+0.6
	8.8nm,0.2s						
KUU	**Kurty**	**0.62 246**		*eP*	Pg	01 53 24.3	+0.3
	2.2nm,0.1s						
KUU				*eS*	Sg	01 53 32.6	+0.7
	4.6nm,0.0s						
KPKS	**Kokpek**	**1.32 121**		*eP*	Pn	01 53 36.9	-0.4
	0.5nm,0.1s						
KPKS				*eS*	Sb	01 53 54.8	0.0
DGS	**Degeres**	**1.33 228**		*eP*	Pn	01 53 37.2	-0.3
	1.1nm,0.3s						
DGS				*eS*	Sg	01 53 54.5	-0.4
	2.5nm,0.4s						

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*JMA **31** 02:04:09.5±0.1,39°.98N×142°.43E,h38km±1km,M4.0*
JMA Felt I J1.
*MOS **31** 02:04:09.4±1.1,40°.07N×142°.40E,h50km,mb4.5/19,Error ellipse: s-maj=9.2km s-min=6.2km az=93.4*
*NIED **31** 02:04:09.5,39°.98N×142°.43E,h38km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-0.86; $M_{r\theta}$0.62; $M_{\theta\phi}$-0.30; $M_{\phi r}$1.00; Fault plane solution: $M_0$1.53000×10^{15} NP1:ϕ_s29.00000°, δ70.00000°,λ96.00000°. NP2:ϕ_s192.00000°,δ21.00000°, λ74.00000°.*
*NEIC **31** 02:04:11.9±1.3,40°.06N±0°.06×142°.30E±0°.10,h51km±7km, mb4.4/25 Error ellipse: s-maj=11.3km s-min=8.2km az=107.0*
*IDC **31** 02:04:12.9±2.0,39°.95N×142°.39E,h68km±17km,mb3.6/15, mb1 3.8/22,mb1mx3.7/45,mbtmp3.9/22,MS3.0/9, Ms1 3.0/9,ms1mx2.8/47,Error ellipse: s-maj=19.0km s-min=14.3km az=101.0*
ISC 31 02:04:10.2±0.6,40°.00N±0°.04×142°.50E±0°.05,h47km±4km, h47km:pP-P,n119,σ1§49/134,mb4.2/36,MS3.5/5,7C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.49 263**		P	**Pn**	**02 04 19.3**	**-1.9**
JTH				S	**Sn**	**02 04 26.2**	**-2.8**
JKEN	**Kujiedanarisaw**	**0.64 289**		P	**Pn**	**02 04 21.3**	**-1.8**
JKEN				*eS*	**Sn**	**02 04 29.5**	**-2.8**
MIYJ	**Miyakonagasawa**	**0.67 231**		P	**Pn**	**02 04 21.5**	**-2.0**
MIYJ				*eS*	**Sn**	**02 04 30.0**	**-3.0**
JANG	**Nango**	**0.84 297**		P	**Pn**	**02 04 24.1**	**-1.7**
JANG				*eS*	**Sn**	**02 04 34.3**	**-2.8**
JKZ	**Kuzumaki**	**0.90 270**		P	**Pn**	**02 04 25.5**	**-1.0**
JOM	**Ohasama**	**1.07 241**		P	**Pn**	**02 04 27.5**	**-1.3**
JOM				*eS*	**Sn**	**02 04 40.6**	**-1.9**
OFUJ	**Ofunato**	**1.12 215**		P	**Pn**	**02 04 28.1**	**-1.4**
JTM	**Tenmabayashi**	**1.35 306**		P	**Pn**	**02 04 32.1**	**-0.5**
JTM	**Tenmabayashi**	**1.35 306**			**Pn**	**02 04 31.9**	**-0.7**
JMK	**Ichinoseki**	**1.44 224**		P	**Pn**	**02 04 32.8**	**-1.0**
JAH	**Hinai**	**1.44 278**		P	**Pn**	**02 04 33.3**	**-0.6**
ERM	**Erimo**	**2.08**	**14**	*ceP*	**Pn**	**02 04 43.3**	**+0.7**
ERM				pmax	pmax		
	comp=Z,49nm,1.0s						
ERM	**Erimo**	**2.08**	**14**	Pn	**Pn**	**02 04 44.0**	**+1.4**
JMM	**Marumori**	**2.51 213**			**Pn**	**02 04 49.4**	**+0.9**
JEW	**Eniwo**	**2.95 345**			**Pn**	**02 04 55.1**	**+0.6**
JSD	**Sado**	**3.84 241**		Pn	**Pn**	**02 05 05.6**	**-1.1**
JKA	**Kamikawa-asahi**	**4.12**	**1**	Pn	**Pn**	**02 05 12.0**	**+1.4**
ASAJ	**Asahikawa**	**4.12**	**1**	P	**Pn**	**02 05 12.4**	**+1.8**
	comp=Z,5.6nm,0.3s,baz=239,slow=14,SNR=16						
ASAJ				S	**Sn**	**02 05 59.3**	**+1.9**
	comp=Z,3.3nm,0.3s,baz=313,slow=29,SNR=1.7						
ASAJ				LR	LR	02 06 29.4	
	comp=Z,64nm,19.2s,baz=194,slow=33						
ASAJ	**Asahikawa**	**4.12**	**1**	P	**Pn**	**02 05 12.0**	**+1.4**
NMR	**Nemuro--Hokkai**	**4.15**	**35**	*eP*	**Pn**	**02 05 10.5**	**-0.5**
NMR				*eS*	**Sn**	**02 05 54.9**	**-3.2**
RUSJ	**Misakicho**	**4.59**	**26**	*eP*	**Pn**	**02 05 17.2**	**+0.2**
RUSJ				*eS*	**Sn**	**02 06 07.4**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**4.75**	**31**	*eP*	**Pn**	**02 05 19.1**	**-0.1**
YUK				*eS*	**Sn**	**02 06 10.1**	**-2.8**
YUK				pmax	pmax		
	comp=Z,122nm,0.3s						
YUK				pmax	pmax		
	comp=E,39nm,0.1s						
YUK				smax	smax		
	comp=N,832nm,0.4s						
YUK				smax	smax		
	comp=E,466nm,0.5s						
MAJO	**Matsushiro**	**4.83 226**		P	**Pn**	**02 05 21.0**	**+0.6**
MAJO	**Matsushiro**	**4.83 226**		Pn	**Pn**	**02 05 21.0**	**+0.6**
MAT	**Matsushiro**	**4.83 226**		P	**Pn**	**02 05 21.9**	**+1.5**
MAT				S	**Sn**	**02 06 21.0**	**+6.0**
MJAR	**Matsushiro Arr**	**4.83 226**		P	**Pn**	**02 05 21.5**	**+1.1**
	comp=E,0.6nm,0.3s,baz=27,slow=12,SNR=31						
MJAR				LR	LR	02 07 27.4	
	comp=E,130nm,20.4s,baz=35,slow=41						
MJAR	**Matsushiro Arr**	**4.83 226**		Pn	**Pn**	**02 05 21.3**	**+0.9**
JGF	**Kuroka**	**5.99 224**		Pn	**Pn**	**02 05 37.5**	**+1.2**
INU	**Inuyama**	**6.36 225**		Pn	**Pn**	**02 05 41.3**	**0.0**
KUR	**Kuril'sk**	**6.56**	**35**	P	**Pn**	**02 05 45.4**	**+1.3**
KUR				*eS*	**Sn**	**02 06 55.9**	**-1.6**
KUR				pmax	pmax		
	comp=Z,50nm,0.3s						
KUR				smax	smax		
	comp=E,103nm,0.4s						
KUR				smax	smax		
	comp=N,28nm,0.2s						
YSS	**Yuzh-Sakhalins**	**6.96**	**1**	*eP*	**Pn**	**02 05 50.9**	**+1.4**
YSS				*eS*	**Sn**	**02 07 07.1**	**-0.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s						
JHJ	**Hachijo jima 2**	**7.20 198**		P	**Pn**	**02 05 54.7**	**+1.7**
	comp=Z,5.8nm,0.3s,baz=73,slow=21,SNR=1.4						
JHJ				S	**Sn**	**02 07 10.3**	**-3.1**
	comp=Z,3.5nm,0.3s,baz=69,slow=23,SNR=2.5						
JWT	**Wachi**	**7.34 232**			**Pn**	**02 05 55.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**8.87 302**		P	**Pn**	**02 06 18.0**	**+2.3**
	baz=104,slow=14,SNR=16						
USRK	**Ussuriysk Ar.**	**8.87 302**		P	**Pn**	**02 06 18.0**	**+2.3**
USRK	**Ussuriysk Ar.**	**8.87 302**			**Pn**	**02 06 15.0**	**-0.6**
USA0B	**Ussuriysk Arra**	**8.87 302**		P	**Pn**	**02 06 13.7**	**-2.0**
USA0B	**Ussuriysk Arra**	**8.87 302**			**Pn**	**02 06 13.7**	**-2.0**
MDJ	**Mudanjiang**	**10.61 300**		Pn	**Pn**	**02 06 38.1**	**-1.5**
JNU	**Nakatsue**	**11.59 237**		P	**Pn**	**02 06 55.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=49,slow=9.3,SNR=2.0						
KSRS	**Korea Array**	**11.66 262**		P	**Pn**	**02 06 57.1**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=68,slow=12,SNR=2.4						
KSRS				LR	LR	02 10 57.8	
	comp=Z,70nm,19.8s,baz=96,slow=35						
KLR	**Kul'dur**	**11.98 324**		P	**Pn**	**02 06 60.0**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=162,slow=9.6,SNR=1.5						
KLR				LR	LR	02 11 47.1	
	comp=Z,93nm,18.3s,baz=114,slow=38						
KLR	**Kul'dur**	**11.98 324**		*i P*	**Pn**	**02 06 56.7**	**-1.5**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
JCJ	**Chichijima**	**12.87 181**		LR	LR	02 13 38.8	
	comp=Z,23nm,20.5s,baz=316,slow=44						
PETK	**Petropavlovsk-**	**16.72**	**33**	LR	LR	02 13 55.1	
	comp=Z,72nm,19.7s,baz=200,slow=35						
BOD	**Bodaibo**	**25.56 324**		*eP*	**P**	**02 09 34.3**	**-0.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GUMO	**Guam**	**26.39 175**		LR	LR	02 19 26.0	
	comp=Z,35nm,19.4s,baz=56,slow=35						
SONM	**Songino Array**	**26.97 299**		P	**P**	**02 09 47.8**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=97,slow=7.9,SNR=5.1						
SONM				LR	LR	02 20 37.6	
	comp=Z,48nm,19.1s,baz=54,slow=37						
SONM	**Songino Array**	**26.97 299**		IAmb	IAmb	02 09 54.1	
	comp=Z,0.9nm,1.0s						
H11N2	**WAKE ISLAND Hy 29.09 127**			T	T	02 40 46.8	
	baz=319,slow=76,SNR=203						
H11N1	**WAKE ISLAND Hy 29.10 127**			T	T	02 40 47.9	
	baz=319,slow=76,SNR=182						
H11N3	**WAKE ISLAND Hy 29.11 127**			T	T	02 40 53.5	
	baz=319,slow=76,SNR=148						
H11S1	**WAKE ISLAND Hy 29.90 129**			T	T	02 41 51.2	
	baz=321,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy 29.90 129**			T	T	02 41 59.0	
	baz=321,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy 29.92 129**			T	T	02 42 01.0	
	baz=321,slow=76,SNR=47						
DGZ	**Jazzator, Alta**	**39.42 303**		*i P*	**P**	**02 11 35.8**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAA0	**Zalesovo Array**	**40.61 310**		P	**P**	**02 11 43.7**	**-1.5**
ZALV	**Zalesovo Beam**	**40.61 310**		P	**P**	**02 11 45.3**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=82,slow=8.7,SNR=5.8						
ZALV				PcP	**PcP**	**02 13 46.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=103,slow=2.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**43.12 253**		P	**P**	**02 12 05.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=49,slow=7.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**43.12 253**		*i P*	**P**	**02 12 08.3**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**43.33 300**		P	**P**	**02 12 07.0**	**-0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**43.33 300**		P	**P**	**02 12 07.0**	**-0.5**
MKAR	**Makanchi Array**	**43.33 300**		P	**P**	**02 12 07.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=85,slow=10,SNR=11						
MKAR	**Makanchi Array**	**43.33 300**		*ceP*	**P**	**02 12 07.4**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**43.33 300**		P	**P**	**02 12 07.3**	**-0.1**
MAKZ	**Makanchi**	**43.53 300**		P	**P**	**02 12 08.8**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAKZ	**Makanchi**	**43.53 300**		P	**P**	**02 12 08.8**	**-0.3**
MAKZ				IAmb	IAmb	02 12 14.9	
	comp=Z,3.7nm,0.9s						
IL31		**46.55**	**34**	P	**P**	**02 12 33.7**	**+0.9**
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**02 12 34.4**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=261,slow=6.4,SNR=6.8						
BCAR	**Beaver Creek A**	**48.98**	**36**	P	**P**	**02 12 54.1**	**+2.4**
BRVK	**Borovoye**	**49.30 311**		*ceP*	**P**	**02 12 54.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
BRVK	**Borovoye**	**49.30 311**		P	**P**	**02 12 53.4**	**-0.9**
BRVK				IAmb	IAmb	02 12 55.8	
	comp=Z,3.5nm,0.6s						
INK	**Inuvik**	**51.37**	**28**	P	**P**	**02 13 11.6**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=238,slow=6.9,SNR

comp=Z,102nm,28.0s
MNK MLR MLR
comp=N,129nm,22.0s
MNK Minsk 70.52 326 *i* P **P 02 15 18.1 -1.6**
comp=E,1.0nm,0.8s
MNK *i* P **P 02 15 18.1 -1.6**
comp=N,14nm,0.8s
MNK *i* P **P 02 15 18.1 -1.6**
comp=Z,7.0nm,0.8s,baz=48
MNK *i* pP **pP 02 15 32.3 -0.8**
MNK *i* PcP **PcP 02 15 39.3 -1.5**
MNK *i* PP **PP 02 17 54.0 -1.8**
MNK *i* PPP PPP 02 19 36.5
MNK *i* S **S 02 24 25.8 -3.5**
MNK *i* sS **sS 02 24 51.4 -0.2**
MNK *i* SS **SS 02 28 59.2 -1.1**
MNK *i* SSS SSS 02 32 00.2
MNK *i* LQ LQ 02 41 23.6
MNK *i* LR LR 02 45 16.1
MNK *i* LRM MLR 02 48 49.9
comp=E,9.0nm,21.2s
MNK *i* LRM MLR 02 48 58.2
comp=Z,102nm,28.0s
MNK *i* LRM MLR 02 49 01.6
comp=N,129nm,22.1s
GNI Garni 70.63 306 P **P 02 15 20.8 -0.1**
GNI pmax pmax
comp=Z,3.0nm,0.6s
GNI Garni 70.63 306 P **P 02 15 20.8 -0.1**
GNI IAmb IAmb 02 15 21.1
comp=Z,2.7nm,0.6s
NB2 NORSAR Subarra 71.78 337 P **P 02 15 27.5 +0.1**
comp=Z,0.8nm,0.6s,baz=37,slow=6.5
NOA NORSAR Array B 71.78 337 P **P 02 15 27.6 +0.3**
comp=Z,1.4nm,0.8s,baz=38,slow=6.0,SNR=5.3
AKASG Malin Array Be 72.48 322 P **P 02 15 31.8 +0.1**
comp=Z,1.5nm,0.4s,baz=46,slow=6.1,SNR=12
AKASG Malin Array Be 72.48 322 IAmb IAmb 02 15 32.4
comp=Z,1.5nm,1.2s
AKBB Malin Array Si 72.48 322 *ce*P **P 02 15 30.8 -0.8**
NVAR Mina Array Bea 72.55 54 P **P 02 15 33.1 +0.5**
comp=Z,0.2nm,0.5s,baz=338,slow=6.8,SNR=2.0
BUR08 Bucovina Ar. S 76.50 322 P **P 02 15 54.9 -0.3**
BUR08 IAmb IAmb 02 15 57.2
comp=Z,2.2nm,0.7s
BURAR Bucovina Array 76.51 322 P **P 02 15 54.7 -0.5**
BURAR IAmb IAmb 02 15 57.2
comp=Z,2.5nm,0.7s
K22A Casper 76.75 45 P **P 02 15 57.6 +0.8**
K22A IAmb IAmb 02 16 01.1
comp=Z,5.2nm,0.7s
GERES GERESS Array B 80.64 329 P **P 02 16 18.5 +0.6**
comp=Z,0.4nm,0.7s,baz=38,slow=5.0,SNR=4.6
VTS Vitosha 81.10 319 P **P 02 16 21.2 +0.6**
VTS pmax pmax
comp=Z,2.0nm,0.8s
VTS Vitosha 81.10 319 P **P 02 16 21.2 +0.6**
VTS IAmb IAmb 02 16 22.7
comp=Z,2.3nm,0.8s
TUE Stuetta 84.28 330 P **P 02 16 35.6 -1.5**
TUE IAmb IAmb 02 16 44.2
comp=Z,10nm,1.4s
TXAR Lajitas Array 87.65 53 P **P 02 16 54.9 +1.0**
comp=Z,0.3nm,0.6s,baz=316,slow=5.0,SNR=1.6
TXAR Lajitas Array 87.65 53 P **P 02 16 55.0 +1.0**
TORD Torodi Ar. Bea 115.80 317 PKP **PKiKP 02 22 47.0 -1.0**
comp=Z,0.2nm,0.8s,baz=31,slow=3.8,SNR=1.3

*IDC **31** 02:06:55.6±8.4, 14°.77N×91°.64W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/25, mbtmp3.9/6, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/41, Error ellipse: s-maj=198.6km s-min=88.9km az=17.0*
*GCG **31** 02:07:08.8±1.6, 15°.05N×93°.05W, h35km, MD4.2*
*NEIC **31** 02:07:10.2±2.5, 14°.88N±0°.07×92°.96W±0°.04, h74km±10km, Error ellipse: s-maj=10.1km s-min=5.1km az=192.0*
*MEX **31** 02:07:11.4±0.9, 14°.95N×92°.89W, h89km±18km, MD4.5*
ISC 31 02:07:09.9±0.9, 14°.87N±0°.06×92°.96W±0°.05, h80km±9km, n52, σ1°.9±26/61, mb4.0/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.68**	**87**	*eP*	**Pn**	**02 07 25.8**	**+0.6**
THIG				*eS*	**Sn**	**02 07 35.9**	**-0.8**
THIG		**0.68**	**87**		**Pn**	**02 07 25.8**	**+0.6**
THIG					**Sn**	**02 07 35.9**	**-0.8**
RTAL	**Retalhuleu**	**1.27**	**105**	Pn	**Pn**	**02 07 31.7**	**-0.6**
HUEH	**Huehuetenango**	**1.48**	**72**	Pn	**Pn**	**02 07 34.2**	**-1.0**
CCIG	**Comitan**	**1.61**	**29**	*eP*	**Pn**	**02 07 37.0**	**+0.1**
CCIG				*eS*	**Sn**	**02 07 57.5**	**+0.2**
CCIG	**Comitan**	**1.61**	**29**	Pn	**Pn**	**02 07 36.5**	**-0.4**
CCIG	**Comitan**	**1.61**	**29**		**Sn**	**02 07 57.5**	**+0.2**
TGIG		**1.90**	**355**	*eP*	**Pn**	**02 07 40.3**	**-0.3**
TGIG				*eS*	**Sn**	**02 08 02.0**	**-1.9**
TGIG		**1.90**	**355**		**Pn**	**02 07 40.3**	**-0.3**
TGIG					**Sn**	**02 08 02.0**	**-1.9**
FUG	**Fuego 3**	**2.10**	**101**	*eP*	**Pn**	**02 07 44.4**	**+1.2**
FUG				*eS*	**Sn**	**02 08 07.3**	**-1.3**
PCG	**Pacaya**	**2.33**	**101**	*eP*	**Pn**	**02 07 47.8**	**+1.4**
PCG				*eS*	**Sn**	**02 08 13.9**	**-0.5**
NBG	**Las Nubes**	**2.55**	**96**	*eP*	**Pn**	**02 07 50.3**	**+0.9**
NBG				*eS*	**Sn**	**02 08 17.9**	**-1.8**
HUIG	**Huatulco**	**3.16**	**287**	*eP*	**Pn**	**02 07 59.0**	**+1.6**
HUIG				*eS*	**Sn**	**02 08 32.3**	**-1.9**
HUIG	**Huatulco**	**3.16**	**287**		**Pn**	**02 07 59.0**	**+1.6**
HUIG					**Sn**	**02 08 32.3**	**-1.9**
ESQI	**Esquipulas**	**3.52**	**95**	Pn	**Pn**	**02 08 01.9**	**-0.5**
MTO3	**Montecristo**	**3.52**	**97**	Pn	**Pn**	**02 08 01.2**	**-1.3**
PETF	**Flores**	**3.61**	**55**	Pn	**Pn**	**02 08 02.1**	**-1.4**
TGUH	**Tegucigalpa,Un**	**5.57**	**98**	Pn	**Pn**	**02 08 28.5**	**-1.9**
TLIG	**Tlapa**	**6.01**	**297**	Pn	**Pn**	**02 08 33.8**	**-2.6**
CRIN	**San Cristobal**	**6.14**	**110**	Pn	**Pn**	**02 08 38.7**	**+0.7**
CNGN	**Cerro Negro**	**6.53**	**110**	Pn	**Pn**	**02 08 43.4**	**0.0**
RIMA	**Rio Macho**	**10.23**	**119**		**Pn**	**02 09 32.7**	**-1.5**
SRBA	**San Rafael, Bu**	**10.94**	**120**	Pn	**Pn**	**02 09 43.1**	**-0.6**
DRK0	**Durika**	**11.02**	**119**	Pn	**Pn**	**02 09 44.4**	**-0.4**
346A	**Big Creek Wild**	**16.75**	**10**		**Pn**	**02 10 59.4**	**-0.1**
346A				IAmb	IAmb	02 11 03.2	
comp=Z,18nm,0.9s							
TX32	**Lajitas Array**	**17.46**	**327**		**Pn**	**02 11 08.7**	**+0.3**
TXAR	**Lajitas Array**	**17.46**	**327**	P	**P**	**02 11 10.7**	**+2.2**
comp=Z,0.3nm,0.3s,baz=148,slow=13,SNR=13							
TXAR	**Lajitas Array**	**17.46**	**327**		**P**	**02 11 10.0**	**+1.5**
TX31	**Lajitas Ar. Si**	**17.46**	**327**		**Pn**	**02 11 07.9**	**-0.5**
TX31				IAmb	IAmb	02 11 12.7	
comp=Z,17nm,1.3s							
WLAR	**White Oak Lake**	**18.74**	**360**	P	**Pn**	**02 11 24.7**	**+1.1**
WLAR				IAmb	IAmb	02 11 28.8	
comp=Z,29nm,1.5s							
X48A	**Hartselle**	**20.22**	**14**	P	**P**	**02 11 37.6**	**-0.8**
X48A				IAmb	IAmb	02 11 40.9	
comp=Z,7.0nm,1.1s							
MNTX	**Cornudas Mount**	**20.23**	**328**	P	**P**	**02 11 39.5**	**+0.8**
121A	**Cookes Peak, D**	**22.16**	**325**	P	**P**	**02 12 02.1**	**+2.5**
319A	**Douglas**	**22.20**	**321**	P	**P**	**02 12 01.2**	**+1.3**
319A				IAmb	IAmb	02 12 23.4	
comp=Z,3.8nm,0.9s							
BNM	**Barren Site**	**22.82**	**330**	P	**P**	**02 12 07.9**	**+1.3**
ANMO	**Albuquerque**	**23.39**	**331**	P	**P**	**02 12 12.5**	**+0.5**
MVCO	**Mesa Verde**	**26.19**	**331**		**P**	**02 12 38.3**	**+0.9**
PV01	**Paradox Valley**	**26.97**	**332**	P	**P**	**02 12 44.8**	**+0.4**
PV01				IAmb	IAmb	02 12 46.3	
comp=Z,5.6nm,1.4s							
PV23	**Carpenter Ridg**	**27.43**	**332**	P	**P**	**02 12 50.0**	**+1.4**
PV23				IAmb	IAmb	02 12 50.5	
comp=Z,5.2nm,0.9s							
I42A	**Draeger Farm,**	**29.13**	**6**	P	**P**	**02 13 04.8**	**+1.5**
REDW	**Red Top Meadow**	**32.26**	**335**	P	**P**	**02 13 31.3**	**+0.2**
REDW				IAmb	IAmb	02 13 32.5	
comp=Z,4.5nm,0.9s							
NVAR	**Mina Array Bea**	**32.41**	**321**	P	**P**	**02 13 34.9**	**+2.4**
comp=Z,0.8nm,0.7s,baz=130,slow=8.4,SNR=6.8							
HLID	**Hailey**	**33.97**	**332**	P	**P**	**02 13 46.7**	**+0.7**
HLID				IAmb	IAmb	02 13 49.6	
comp=Z,1.3nm,0.7s							
MCMT	**McKenzie Canyo**	**34.29**	**335**	P	**P**	**02 13 50.0**	**+1.2**
J08A	**Circle Bar Ran**	**35.81**	**328**	P	**P**	**02 14 00.7**	**-1.1**
J08A				IAmb	IAmb	02 14 05.0	
comp=Z,4.1nm,1.0s							
F10A	**Beach Ranch, E**	**37.10**	**332**	P	**P**	**02 14 12.0**	**-0.7**
E09A	**Wood Farm, Sta**	**37.93**	**331**	P	**P**	**02 14 19.5**	**0.0**
E09A				IAmb	IAmb	02 14 20.5	
comp=Z,5.4nm,1.3s							

YKA	**Yellowknife Ar**	**49.97**	**347**	P	**P**	**02 15 53.5**	**-2.1**
comp=Z,0.5nm,0.5s,baz=172,slow=2.9,SNR=4.9							
DLBC	**Dease Lake**	**51.48**	**336**	P	**P**	**02 16 08.0**	**+0.8**
comp=Z,3.1nm,0.6s,baz=118,slow=12,SNR=6.5							
DLBC				LR	LR	02 41 09.1	
comp=Z,76nm,18.2s,baz=88,slow=39							
DLBC	**Dease Lake**	**51.48**	**336**	IAmb	IAmb	02 16 09.2	
comp=Z,3.9nm,0.8s							
INK	**Inuvik**	**59.35**	**344**	P	**P**	**02 17 02.0**	**-1.2**
comp=Z,1.4nm,0.5s,baz=139,slow=6.5,SNR=5.6							
ILAR	**Eielson Array**	**61.68**	**337**	P	**P**	**02 17 19.6**	**+0.3**
comp=Z,1.0nm,0.9s,baz=123,slow=4.3,SNR=7.9							

*TUL **31** 02:10:39±1.6, 35°.98N±0°.02×97°.55W±0°.01, h6km±5km, ML2.8, mb_Lg2.7/58(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=157.0*
NEIC 31 02:10:38.6±0.8, 36°.01N±0°.02×97°.57W±0°.01, h1km±5km, Error ellipse: s-maj=2.4km s-min=1.0km az=155.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.23**	**155**		**Pg**	**02 10 43.2**	**+0.2**
OK029				Sg	Sg	02 10 46.3	+0.3
BCOK	**Bluff Creek, N**	**0.35**	**185**		**Pg**	**02 10 45.7**	**+0.4**
BCOK				Sg	Sg	02 10 50.0	+0.2
OK025	**Westminster Rd**	**0.46**	**156**		**Pg**	**02 10 47.4**	**-0.1**
OK025				Sg	Sg	02 10 53.9	+0.4
OK031	**S. Brethren Rd**	**0.60**	**95**		**Pg**	**02 10 49.9**	**-0.1**
OKCFA	**Oklahoma City**	**0.60**	**171**		**Pg**	**02 10 49.6**	**-0.4**
OKCFA	**Oklahoma City**	**0.60**	**171**	P		02 10 50.1	
baz=352,SNR=9.3							
OKCFA				S		02 10 58.3	
baz=352							
CROK	**Carrier**	**0.60**	**326**		**Pg**	**02 10 50.6**	**+0.5**
OKCSW	**OKLAHOMA CITY**	**0.61**	**170**		**Pg**	**02 10 49.8**	**-0.4**
OKCSW				Sg	Sg	02 10 58.6	+0.5
QUOK	**Quay**	**0.72**	**76**		**Pg**	**02 10 52.6**	**+0.2**
FNO	**Franklin**	**0.76**	**169**		**Pg**	02 10 53.1	0.0
FNO				Sg	Sg	02 11 02.8	-0.2
BLOK	**Blackwell**	**0.81**	**21**		**Pg**	02 10 53.9	-0.2
GC02	**Grant County #**	**0.88**	**345**		**Pg**	02 10 55.9	+0.5
OK032	**Salt Plains WL**	**0.95**	**327**		**Pg**	02 10 56.8	0.0
KAN13	**South Haven SW**	**1.01**	**4**		**Pg**	02 10 57.7	-0.2
KAN17	**Caldwell West**	**1.05**	**352**		**Pg**	02 10 58.7	0.0
KAN05	**Bluff City Nor**	**1.13**	**348**		**Pg**	02 11 00.2	0.0
KAN09	**Caldwell North**	**1.13**	**358**		**Pg**	02 11 00.6	+0.3
KAN10	**Anthony SW Sta**	**1.19**	**339**		**Pg**	02 11 01.8	+0.3
U32A	**Winter Ranch,**	**1.22**	**288**		**Pg**	02 11 01.6	-0.3
U32A	**Winter Ranch,**	**1.22**	**288**	P		02 11 01.9	
baz=108							
U32A				S		02 11 19.1	
baz=108							
KS20	**Mayfield South**	**1.22**	**1**		**Pg**	02 11 01.8	-0.3
T35A	**Sooner Cattle**	**1.25**	**43**		**Pg**	02 11 01.9	-0.6
T35B	**Sooner Cattle**	**1.25**	**43**	P		02 11 02.4	
baz=222,SNR=28							
T35B				S		02 11 19.0	
baz=222							
KAN08	**Anthony NE Sta**	**1.26**	**345**		**Pg**	02 11 01.8	-1.0
KAN12	**Harper NE Stat**	**1.33**	**345**		**Pg**	02 11 03.6	-0.6
X34A	**Smith Ranch, M**	**1.42**	**189**		**Pn**	02 11 05.2	-0.2
TUL1	**Leonard**	**1.45**	**93**	P		02 11 04.8	
baz=274							
TUL1				S		02 11 24.4	
baz=274							
WMOK	**Wichita Mounta**	**1.60**	**218**		**Pn**	02 11 07.8	-0.3
WMOK	**Wichita Mounta**	**1.60**	**218**	P		02 11 07.8	
baz=38,SNR=88							
WMOK				S		02 11 29.2	
baz=38							
LOOK	**Love County**	**2.03**	**171**	Pn	**Pn**	02 11 13.8	-0.2
X37A	**Clayton**	**2.29**	**127**		**Pn**	02 11 17.3	-0.1
X37A				IAmb_Lg		02 11 55.9	
comp=Z,26nm,0.7s							
X37A	**Clayton**	**2.29**	**127**	P		02 11 17.3	
baz=309,SNR=12							
R32A	**Long Quarter,**	**2.58**	**340**	Pn	**Pn**	02 11 20.5	-1.0
R32A	**Long Quarter,**	**2.58**	**340**	S		02 11 54.5	
baz=159							
U38A	**Gravette**	**2.61**	**80**		**Pn**	02 11 22.3	+0.4
Z35A	**Perchaven, San**	**2.68**	**174**	Pn	**Pn**	02 11 22.6	-0.2
HHAR	**Hobbs**	**2.95**	**84**		**Pn**	02 11 26.9	+0.3
KSU1	**Kansas State U**	**3.18**	**14**	Pn	**Pn**	02 11 30.2	+0.4
KSU1				IAmb_Lg		02 12 23.1	
comp=Z,14nm,0.7s							
W39A	**Magazine**	**3.19**	**104**		**Pn**	02 11 29.9	+0.1
W39A				IAmb_Lg		02 12 21.8	
comp=Z,28nm,0.9s							
W39A	**Magazine**	**3.19**	**104**	P		02 11 29.9	
baz=286,SNR=9.8							
CBKS	**Cedar Bluff**	**3.29**	**329**	Pn	**Pn**	02 11 31.2	-0.1
CBKS				IAmb_Lg		02 12 29.3	
comp=Z,15nm,0.8s							
Z38A	**Mt. Pleasant**	**3.47**	**141**	IAmb_Lg		02 12 31.8	
comp=Z,14nm,0.8s							
AMTX	**Amarillo**	**3.54**	**253**	Pn	**Pn**	02 11 34.5	-0.2
MIAR	**Mount Ida**	**3.58**	**113**		**Pn**	02 11 35.2	+0.1
MIAR				IAmb_Lg		02 12 40.0	
comp=Z,14nm,0.8s							
MIAR	**Mount Ida**	**3.58**	**113**	S		02 12 18.2	
baz=295							
ABTX	**Abilene, Hawle**	**3.78**	**208**	Pn	**Pn**	02 11 38.6	+0.6
ABTX				Sg	Sb	02 12 33.2	+0.7
ABTX				IAmb_Lg		02 12 37.7	
comp=Z,12nm,0.8s							
S39A	**Bolivar**	**3.80**	**62**		**Pn**	02 11 38.4	+0.1
S39A				IAmb_Lg		02 12 41.7	
comp=Z,15nm,0.7s							
S39A	**Bolivar**	**3.80**	**62**	P		02 11 38.4	
baz=244,SNR=8.2							
U40A	**Yellville**	**3.83**	**83**		**Pn**	02 11 38.8	0.0
U40A				IAmb_Lg		02 12 38.9	
comp=Z,14nm,0.7s							
U40A	**Yellville**	**3.83**	**83**	P		02 11 38.6	
baz=266							
U40A				P		02 11 38.6	
baz=266							
X40A	**Basin Creek Fa**	**4.16**	**110**	Pn	**Pn**	02 11 43.3	+0.1
X40A				IAmb_Lg		02 12 54.3	
comp=Z,21nm,0.8s							
WHAR	**Wooly Hollow**	**4.36**	**98**	Pn	**Pn**	02 11 46.8	+0.9
WHAR				IAmb_Lg		02 13 06.4	
comp=Z,25nm,1.3s							
MGMO	**Mountain Grove**	**4.42**	**73**	IAmb_Lg		02 12 57.6	
comp=Z,14nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.42**	**90**	Pn	**Pn**	02 11 46.3	-0.4
MSTX	**Muleshoe**	**4.73**	**246**		**Pn**	02 11 49.5	-1.6
R40A	**Maddies Statio**	**4.81**	**60**	Pn	**Pn**	02 11 51.8	-0.4
R40A				IAmb_Lg		02 13 16.4	
comp=Z,9.0nm,0.7s							
P38A	**Dawn**	**4.83**	**40**	Pn	**Pn**	02 11 52.5	+0.2
P38A				IAmb_Lg		02 13 21.8	
comp=Z,12nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.02**	**308**	IAmb_Lg		02 13 24.4	
comp=Z,14nm,0.8s							
LCAR	**Lake Charles**	**5.20**	**87**	Pn	**Pn**	02 11 55.7	-1.8
435B	**Jarrell**	**5.21**	**180**	IAmb_Lg		02 13 29.5	
comp=Z,9.7nm,0.8s							
CCM	**Cathedral Cave**	**5.46**	**66**	Pn	**Pn**	02 12 01.2	+0.1
P40A	**Paris**	**5.61**	**50**	Pn	**Pn**	02 12 03.9	+0.7
P40A				IAmb_Lg		02 13 42.1	
comp=Z,16nm,0.8s							
T25A	**Trinidad**	**5.62**	**284**	Pn	**Pn**	02 12 04.2	+0.8
T25A				IAmb_Lg		02 13 46.3	
comp=Z,13nm,1.0s							
PBMO	**Poplar Bluff**	**5.81**	**80**	IAmb_Lg		02 13 48.8	
comp=Z,13nm,0.7s							
L34A	**Svendsen Farm,**	**6.03**	**9**	IAmb_Lg		02 13 55.9	
comp=Z,18nm,0.8s							
OGNE	**Ogallala**	**6.05**	**326**	IAmb_Lg		02 14 01.9	
comp=Z,11nm,0.8s							
SDCO	**Great Sand Dun**	**6.59**	**288**	IAmb_Lg		02 14 20.6	
comp=Z,7.4nm,1.2s							
SCIA	**State Center**	**6.80**	**29**	IAmb_Lg		02 14 18.1	
comp=Z,14nm,0.8s							
S44A	**Carbondale**	**6.88**	**73**	IAmb_Lg		02 14 36.0	
comp=Z,13nm,1.2s							
SIUC	**Southern Illin**	**6.91**	**73**	IAmb_Lg		02 14 29.3	
comp=Z,8.4nm,0.9s							
Q44A	**Meyer Farm, Va**	**7.39**	**64**	IAmb_Lg		02 14 37.5	
comp=Z,12nm,1.0s							
ISCO	**Idaho Springs**	**7.40**	**303**	IAmb_Lg		02 14 42.3	
comp=Z,5.8nm,0.9s							

L40A	**Anamosa**	**7.81**	**37**	IAmb_Lg		02 14 56.1	
comp=Z,9.1nm,0.7s							
BLO	**Bloomington**	**9.32**	**67**	IAmb_Lg		02 15 45.5	
comp=Z,7.8nm,0.8s							

*NEIC **31** 02:31:19.7±0.7, 19°.42N±0°.08×66°.28W±0°.04, h15km±12km, Error ellipse: s-maj=12.2km s-min=5.1km az=186.0*
*RSPR **31** 02:31:21.0, 19°.50N×66°.29W, h10km±3km, MD3.4/14*
*OSPL **31** 02:31:22.7±0.3, 18°.86N×66°.06W, h80km±44km, ML3.0*
ISC 31 02:31:21.2±1.6, 19°.38N±0°.07×66°.28W±0°.03, h19km, n57, σ0°.75/65, 13C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.93**	**195**	*eP*	**Pb**	**02 31 38.4**	**-0.3**
EMPR	**Esperanza - Ma**	**0.93**	**195**	*eS*	**Sb**	**02 31 52.7**	**+2.0**
EMPR	**Esperanza - Ma**	**0.93**	**195**		**Pb**	**02 31 38.4**	**-0.3**
EMPR					**Sb**	**02 31 52.7**	**+2.0**
EMPR	**Esperanza - Ma**	**0.93**	**195**	IAML		02 32 00.8	
comp=N,661nm,0.6s							
EMPR				IAML		02 32 04.7	
comp=E,973nm,0.7s							
GCPR	**Guaynabo City**	**1.08**	**170**	*eP*	**Pn**	**02 31 40.5**	**-0.9**
GCPR	**Guaynabo City**	**1.08**	**170**	*eS*	**Sb**	**02 31 54.9**	**-0.2**
GCPR	**Guaynabo City**	**1.08**	**170**		**Pn**	**02 31 40.5**	**-0.9**
GCPR					**Sb**	**02 31 54.9**	**-0.2**
GCPR	**Guaynabo City**	**1.08**	**170**	IAML		02 31 57.6	
comp=N,310nm,0.4s							
AOPR	**Arecibo Observ**	**1.12**	**204**	*eP*	**Pn**	**02 31 40.8**	**-1.2**
AOPR	**Arecibo Observ**	**1.12**	**204**	*eS*	**Sb**	**02 31 56.5**	**+0.2**
AOPR	**Arecibo Observ**	**1.12**	**204**		**Pn**	**02 31 40.8**	**-1.2**
AOPR					**Sb**	**02 31 56.5**	**+0.2**
CBYP	**Canovanas**	**1.17**	**160**	*eP*	**Pn**	**02 31 42.0**	**-0.7**
CBYP	**Canovanas**	**1.17**	**160**	*eS*	**Sb**	**02 31 58.4**	**+0.6**
CBYP	**Canovanas**	**1.17**	**160**		**Pn**	**02 31 42.0**	**-0.7**
CBYP					**Sb**	**02 31 58.4**	**+0.6**
AGPR	**Aguadilla, PR**	**1.20**	**221**	Pn	**Pn**	**02 31 42.5**	**-0.5**
AGPR				IAML		02 32 12.0	
comp=N,252nm,0.6s							
AGPR				IAML		02 32 13.8	
comp=E,287nm,0.9s							
AGPR	**Aguadilla, PR**	**1.20**	**221**	*i* P	**Pn**	**02 31 41.8**	**-1.2**
AGPR				IAML		02 32 14.4	
comp=Z,155nm,1.5s							
SJG	**San Juan**	**1.27**	**174**		**Pn**	**02 31 43.4**	**-0.5**
SJG				IAML		02 32 09.1	
comp=Z,293nm,0.5s							
SJG				IAML		02 32 09.6	
comp=Z,212nm,0.6s							
HUMP	**Col San Antoni**	**1.30**	**162**	*eP*	**Pn**	**02 31 43.8**	**-0.5**
HUMP	**Col San Antoni**	**1.30**	**162**	*eS*	**Sn**	**02 32 01.4**	**+0.3**
HUMP	**Col San Antoni**	**1.30**	**162**		**Pn**	**02 31 43.8**	**-0.5**
HUMP					**Sn**	**02 32 01.4**	**+0.3**
HUMP	**Col San Antoni**	**1.30**	**162**	IAML		02 32 04.6	
comp=N,283nm,0.3s							
HUMP				IAML		02 32 09.1	
comp=E,354nm,0.5s							
CELP	**Cerrillos**	**1.33**	**192**	*eP*	**Pn**	**02 31 44.2**	**-0.6**
CELP	**Cerrillos**	**1.33**	**192**	*eS*	**Sn**	**02 32 01.9**	**0.0**
CELP	**Cerrillos**	**1.33**	**192**		**Pn**	**02 31 44.2**	**-0.6**
CELP					**Sn**	**02 32 01.9**	**0.0**
OBIP	**Obispado Ponce**	**1.36**	**193**	*eP*	**Pn**	**02 31 44.7**	**-0.6**
OBIP	**Obispado Ponce**	**1.36**	**193**	*eS*	**Sn**	**02 32 03.4**	**+0.5**
OBIP	**Obispado Ponce**	**1.36**	**193**		**Pn**	**02 31 44.7**	**-0.6**
OBIP					**Sn**	**02 32 03.4**	**+0.5**
OBIP	**Obispado Ponce**	**1.36**	**193**	IAML		02 32 11.5	
comp=N,192nm,0.6s							
OBIP				IAML		02 32 12.5	
comp=E,215nm,0.5s							
PDPR	**Patillas Dam,**	**1.38**	**170**		**Pn**	**02 31 44.9**	**-0.5**
PDPR				IAML		02 32 07.8	
comp=E,238nm,0.6s							
IGPR	**InterUniversit**	**1.42**	**173**	*eP*	**Pn**	**02 31 45.3**	**-0.7**
IGPR	**InterUniversit**	**1.42**	**173**	*eS*	**Sn**	**02 32 04.9**	**+0.8**
LSP	**Las Mesas**	**1.42**	**213**	*eP*	**Pn**	**02 31 45.4**	**-0.7**
LSP	**Las Mesas**	**1.42**	**213**	*eS*	**Sn**	**02 32 03.8**	**-0.4**
LSP	**Las Mesas**	**1.42**	**213**		**Pn**	**02 31 45.4**	**-0.7**
LSP					**Sn**	**02 32 03.8**	**-0.4**
CUPR	**Culebra, Puert**	**1.43**	**138**	*eP*	**Pn**	**02 31 45.3**	**-0.8**
CUPR	**Culebra, Puert**	**1.43**	**138**	*eS*	**Sn**	**02 32 04.1**	**-0.2**
CUPR	**Culebra, Puert**	**1.43**	**138**		**Pn**	**02 31 45.3**	**-0.8**
CUPR					**Sn**	**02 32 04.1**	**-0.2**
MTP	**Monte Pirata**	**1.45**	**151**	*eP*	**Pn**	**02 31 45.9**	**-0.5**
MTP	**Monte Pirata**	**1.45**	**151**	*eS*	**Sn**	**02 32 05.3**	**+0.3**
MTP	**Monte Pirata**	**1.45**	**151**		**Pn**	**02 31 45.9**	**-0.5**
MTP					**Sn**	**02 32 05.3**	**+0.3**
IDE	**Isla Desecheo**	**1.50**	**229**	*eP*	**Pn**	**02 31 46.2**	**-0.9**
IDE	**Isla Desecheo**	**1.50**	**229**	*eS*	**Sn**	**02 32 05.6**	**-0.6**
IDE	**Isla Desecheo**	**1.50**	**229**		**Pn**	**02 31 46.2**	**-0.9**
IDE					**Sn**	**02 32 05.6**	**-0.6**
ICMP	**Isla Caja de M**	**1.50**	**189**		**Pn**	**02 31 47.9**	**+0.7**
ICMP				IAML		02 32 16.6	
comp=E,190nm,0.8s							
MLPR	**Magueyes Islan**	**1.58**	**207**	*eP*	**Pn**	**02 31 47.2**	**-1.0**
MLPR	**Magueyes Islan**	**1.58**	**207**	*eS*	**Sn**	**02 32 08.4**	**+0.4**
MLPR	**Magueyes Islan**	**1.58**	**207**		**Pn**	**02 31 47.2**	**-1.0**
MLPR					**Sn**	**02 32 08.4**	**+0.4**
MLPR	**Magueyes Islan**	**1.58**	**207**	IAML		02 32 10.1	
comp=

	baz=302						
NDS				S	Sn	02 34 56.9	+1.1
	baz=302						
ETLH	**Xiulin Townshi**	**1.07**	**284**	P	Pn	02 34 41.5	+0.4
	baz=279						
ETLH				S	Sn	02 34 55.6	-0.5
	baz=279						
IRIF	**Iriomote-Funau**	**1.08**	**70**	P	Pg	02 34 40.8	+0.1
IRIF				eS	Sg	02 34 54.9	+0.1
HATJ	**Hateruma jima**	**1.09**	**85**	P	Pn	02 34 41.7	+0.5
HATJ				S	Sn	02 34 56.4	+0.1
ESL	**Shilin**	**1.10**	**263**	i P	Pn	02 34 41.7	+0.3
	baz=252						
ESL				i S	Sb	02 34 55.5	+0.2
	baz=252						
ILA	**Ilan**	**1.13**	**315**	i P	Pn	02 34 43.2	+1.4
	baz=309						
NTC	**Toucheng**	**1.15**	**321**	i P	Pb	02 34 42.0	+0.1
	baz=327						
NTC				i S	Sg	02 34 56.5	-0.4
	baz=327						
TWE	**Neicheng**	**1.16**	**311**	i P	Pn	02 34 42.8	+0.6
	baz=305						
TWE				i S	Sn	02 34 59.6	+1.6
	baz=305						
ENTT	**Nioudou**	**1.18**	**305**	i P	Pn	02 34 43.4	+0.9
	baz=299						
HGSD	**Ruisui**	**1.19**	**247**	S	Sn	02 34 58.9	0.0
	baz=246						
TWB1	**Santiao Chiao**	**1.19**	**331**	i P	Pb	02 34 42.3	-0.4
	baz=325						
TWB1				i S	Sb	02 34 58.3	+0.1
	baz=325						
NDT	**Datong Townshi**	**1.20**	**303**	i P	Pn	02 34 43.9	+1.1
	baz=285						
NNSB	**Datong**	**1.22**	**293**	P	Pn	02 34 43.5	+0.3
	baz=287						
NNSB				S	Sn	02 35 00.0	+0.1
	baz=287						
NNSH	**Datong**	**1.22**	**293**	i P	Pn	02 34 44.1	+0.9
	baz=287						
NNSH				eS	Sn	02 35 02.6	+2.8
	baz=287						
NNS	**Nan Shan**	**1.24**	**293**	i P	Pn	02 34 43.9	+0.5
	baz=287						
TIPB	**Shuangxi**	**1.24**	**324**	i P	Pn	02 34 43.2	-0.2
	baz=331						
TIPB				i S	Sn	02 35 00.4	+0.2
	baz=331						
ECBN	**Changbin**	**1.25**	**239**	P	Pg	02 34 44.2	+0.2
	baz=227						
ECBN				S	Sb	02 34 58.6	-1.1
	baz=227						
WHF	**Hehuan Shan**	**1.25**	**279**	i P	Pn	02 34 44.3	+0.4
	baz=275						
EHY	**Hungye**	**1.27**	**249**	i P	Pg	02 34 44.7	+0.3
	baz=248						
EHY				i S	Sn	02 35 01.1	+0.2
	baz=248						
FUSS	**Fushou**	**1.29**	**283**	i P	Pg	02 34 45.2	+0.4
	baz=279						
FUSS				S	Sn	02 35 02.2	+0.5
	baz=279						
JKRS	**Kuro-shima**	**1.30**	**77**	P	Pb	02 34 44.9	+0.5
JKRS				S	Sb	02 35 01.2	+0.1
NWLT	**Wulai**	**1.31**	**309**	i P	Pg	02 34 45.1	+0.1
	baz=315						
NWLT				i S	Sn	02 35 02.5	+0.7
	baz=315						
OWD	**Renai**	**1.32**	**270**	i P	Pg	02 34 45.5	+0.1
	baz=267						
CHGB	**Renai**	**1.33**	**275**	P	Pg	02 34 45.6	+0.1
	baz=272						
CHGB				S	Sn	02 35 02.8	+0.2
	baz=272						
YHNB	**Yeheng**	**1.34**	**302**	P	Pg	02 34 45.8	+0.1
	baz=285						
YULB	**Yu-li**	**1.34**	**245**	P	Pg	02 34 45.8	+0.1
	baz=235						
YULB				S	Sn	02 35 02.8	+0.2
	baz=235						
EYUL	**Yuli**	**1.34**	**243**	i P	Pg	02 34 45.8	0.0
	baz=233						
EYUL				i S	Sn	02 35 03.5	+0.9
	baz=233						
NWF	**Wu-fen Shan**	**1.35**	**325**	i P	Pn	02 34 44.9	0.0
	baz=320						
NWF				i S	Sb	02 35 02.4	-0.2
	baz=320						
WFSB	**Wu-fen Shan**	**1.35**	**325**	P	Pn	02 34 44.6	-0.1
	baz=320						
WFSB				S	Sb	02 35 02.1	-0.4
	baz=320						
NSK	**Sanguang**	**1.36**	**302**	i P	Pg	02 34 45.9	-0.1
	baz=285						
TWF1	**Yuli**	**1.36**	**244**	i P	Pg	02 34 45.8	-0.2
	baz=233						
TWF1				i S	Sg	02 35 03.8	+0.2
	baz=233						
TDCB	**Techi**	**1.37**	**283**	P	Pg	02 34 46.3	0.0
	baz=279						
TWA	**Mucha**	**1.39**	**317**	i P	Pg	02 34 46.4	-0.2
	baz=312						
TWA				i S	Sg	02 35 04.5	-0.2
	baz=312						
NHDH	**Xindian Distri**	**1.41**	**315**	P	Pg	02 34 47.3	+0.2
	baz=323						
NHDH				i S	Sg	02 35 05.2	-0.3
	baz=323						
TNOU	**National Taiwa**	**1.42**	**327**	P	Pn	02 34 45.5	-0.2
	baz=322						
TNOU				S	Sb	02 35 02.6	-1.9
	baz=322						
FULB	**Fuli**	**1.44**	**238**	i P	Pb	02 34 46.5	-0.3
	baz=228						
CHKT	**Chengkung**	**1.44**	**234**	i P	Pb	02 34 46.7	-0.1
	baz=224						
JIJ	**Ishigaki jima**	**1.45**	**74**	P	Pn	02 34 46.3	+0.1
JIJ				eS	Sn	02 35 04.5	-0.7
TATO	**Taipei**	**1.45**	**315**	P	Pg	02 34 47.6	-0.1
	baz=323						
TATO				S	Sg	02 35 06.1	-0.5
	baz=323						
YM01	**YM01**	**1.52**	**321**	P	Pn	02 34 47.5	+0.3
	baz=316						
WPL	**Puli Township**	**1.52**	**272**	P	Pg	02 34 48.6	-0.6
	baz=270						
WPL				S	Sg	02 35 08.3	-0.7
	baz=270						
SSLB	**Suanglung**	**1.54**	**264**	P	Pg	02 34 49.0	-0.4
	baz=262						
SSLB				eS	Sg	02 35 08.7	-0.7
	baz=262						
YM08	**YM08**	**1.54**	**323**	P	Pn	02 34 47.4	-0.1
	baz=317						
ECS	**Chishang**	**1.55**	**237**	eS	Sg	02 35 09.7	-0.1
	baz=227						
EDH	**Donghe**	**1.56**	**231**	i P	Pb	02 34 48.6	-0.3
	baz=223						
EDH				i S	Sn	02 35 06.6	-1.3
	baz=223						
WHP	**Taichung City**	**1.56**	**282**	i P	Pg	02 34 50.1	+0.1
	baz=270						
WHP				i S	Sg	02 35 10.3	0.0
	baz=270						
WCS	**Beigang Elemen**	**1.57**	**274**	P	Pg	02 34 49.3	-0.7
	baz=271						
WCS				S	Sb	02 35 08.9	0.0
	baz=271						
SMLT	**Sun Moon Lake**	**1.58**	**268**	i P	Pg	02 34 49.5	-0.7
	baz=265						
SMLT				i S	Sb	02 35 09.2	-0.1
	baz=265						
TYC	**Yuchr**	**1.62**	**268**	i P	Pb	02 34 50.0	+0.2
	baz=266						
TYC				i S	Sn	02 35 09.6	+0.2
	baz=266						
LIOB	**Emei**	**1.62**	**295**	i P	Pg	02 34 50.5	-0.5
	baz=290						
NSTT	**Nanjuang**	**1.62**	**295**	i P	Pg	02 34 50.5	-0.6
	baz=290						
ELDTW	**Lidau**	**1.66**	**243**	i P	Pb	02 34 50.1	-0.6
	baz=241						
ELDTW				i S	Sn	02 35 10.3	-0.4
	baz=241						
LDUT	**Ludao**	**1.66**	**220**	i P	Pn	02 34 49.1	0.0
	baz=220						
LDUT				S	Sn	02 35 08.5	-2.0
	baz=220						
JISG	**Ishigakijimahi**	**1.66**	**68**	P	Pn	02 34 49.1	0.0
JISG				eS	Sn	02 35 09.9	-0.6
ALS	**Alishan**	**1.72**	**255**	i P	Pg	02 34 52.2	-0.9
	baz=254						
ALS				i S	Sb	02 35 13.7	0.0
	baz=254						
LONT	**Longtian**	**1.73**	**233**	i S	Sb	02 35 12.7	-0.8
	baz=225						
TWQ1	**Liyutan**	**1.73**	**283**	i P	Pb	02 34 52.1	+0.3
	baz=280						
PCYT	**Pengchaiyu**	**1.74**	**343**	i P	Pn	02 34 49.6	-0.5
	baz=340						
PCYT				i S	Sn	02 35 10.7	-1.6
	baz=340						
WJS	**Zhushan**	**1.74**	**266**	i P	Pg	02 34 53.3	-0.1
	baz=264						
WJS				i S	Sg	02 35 15.2	-0.7
	baz=264						
WWF	**Wufeng**	**1.76**	**273**	P	Pg	02 34 53.7	-0.1
	baz=271						
WWF				S	Sg	02 35 17.1	+0.4
	baz=271						
WNT1	**Nantou City**	**1.78**	**269**	P	Pg	02 34 53.7	-0.4
	baz=267						
TWGBT	**Beinan**	**1.82**	**232**	P	Pb	02 34 52.3	-1.0
	baz=224						
TWGBT				S	Sn	02 35 14.4	+0.1
	baz=224						
CHNS	**Tsauling**	**1.82**	**259**	i P	Pg	02 34 54.2	-0.7
	baz=257						
TWG	**Pinlang**	**1.82**	**232**	i P	Pb	02 34 52.3	-1.1
	baz=224						
TWG				i S	Sn	02 35 14.4	-0.1
	baz=224						
STYH	**Taoyuan**	**1.87**	**245**	eP	Pg	02 34 54.7	-1.1
	baz=238						
STYH				eS	Sb	02 35 16.8	-0.7
	baz=238						
STYT	**Tauyuan**	**1.89**	**246**	i P	Pb	02 34 54.0	-0.5
	baz=238						
STYT				S	Sb	02 35 17.5	-0.7
	baz=238						
WCHH	**Zhanghua**	**1.89**	**274**	P	Pb	02 34 54.5	-0.1
	baz=272						
TPUB	**Ta-pu**	**1.94**	**251**	P	Pg	02 34 56.0	-1.2
	baz=240						
TPUB				S	Sb	02 35 20.5	+0.8
	baz=240						
WTP	**Ta-pu**	**1.97**	**249**	i P	Pg	02 34 56.9	-1.0
	baz=240						
WTP				i S	Sb	02 35 21.5	+0.8
	baz=240						
JTJ	**Tarama**	**2.02**	**70**	P	Pn	02 34 54.5	+0.5
JTJ				eS	Sn	02 35 18.6	-0.6
ECL	**Taimali**	**2.05**	**229**	i P	Pn	02 34 55.3	+0.9
	baz=239						
ECL				i S	Sn	02 35 19.3	-0.7
	baz=239						
SLGT	**Liugui**	**2.05**	**242**	i P	Pb	02 34 57.8	+0.5
	baz=233						
SLGT				S	Sb	02 35 22.9	-0.1
	baz=233						
WRL	**Guolierlin Hig**	**2.06**	**269**	P	Pb	02 34 57.4	0.0
	baz=279						
WRL				S	Sb	02 35 22.6	-0.3
	baz=279						
WTK	**Tuku**	**2.06**	**263**	P	Pb	02 34 58.0	+0.5
	baz=261						
WTK				S	Sb	02 35 24.2	+1.0
	baz=261						
SGST	**Jiashian**	**2.06**	**245**	i P	Pb	02 34 57.7	+0.2
	baz=236						
SGST				S	Sb	02 35 23.4	+0.1
	baz=236						
CHN1	**Nanshi**	**2.07**	**249**	i P	Pb	02 34 57.9	+0.3
	baz=247						
CHN1				S	Sb	02 35 24.2	+0.7
	baz=247						
TWK	**Hsinying**	**2.08**	**251**	i P	Pb	02 34 58.4	+0.6
	baz=249						
TWK				i S	Sb	02 35 24.6	+1.0
	baz=249						
LAY	**Lan-yu**	**2.15**	**208**	i P	Pn	02 34 55.8	-0.1
	baz=208						
TSMG	**Majia**	**2.21**	**236**	eP	Pg	02 35 00.8	-1.4
	baz=231						
TSMG				eS	Sb	02 35 25.5	-1.8
	baz=231						
ICHU	**Yijhu**	**2.23**	**255**	eP	Pb	02 34 59.9	-0.4
	baz=254						
ICHU				eS	Sb	02 35 27.5	-0.5
	baz=254						
EAST	**Anshuo**	**2.26**	**226**	P	Pn	02 34 58.2	+0.8
	baz=234						
EAST				S	Sn	02 35 26.1	+0.6
	baz=234						
MASBT	**Mashibuluo**	**2.27**	**234**	P	Pb	02 34 59.7	-1.3
	baz=226						
SLIU	**Shizi**	**2.41**	**224**	eP	Pn	02 35 01.2	+1.7
	baz=224						
SCZT	**Fangliau**	**2.43**	**230**	eP	Pb	02 35 02.5	-1.2
	baz=224						
HEN	**Hengchun**	**2.61**	**222**	eP	Pb	02 35 06.4	-0.4
	baz=221						
HEN				i S	Sn	02 35 34.9	+1.1
	baz=221						
TWKBT	**Hengchun**	**2.61**	**220**	P	Pn	02 35 04.2	+2.1
	baz=219						
TWKBT				S	Sn	02 35 35.3	+1.4
	baz=219						
TWK1	**Hengchun**	**2.61**	**220**	i P	Pn	02 35 04.2	+2.0
	baz=219						
TWK1				i S	Sn	02 35 35.4	+1.4
	baz=219						
WDGT	**Dungji**	**2.81**	**256**	i P	Pn	02 35 07.1	+2.3
	baz=255						
WDGT				i S	Sn	02 35 39.5	+0.8
	baz=255						
PHUB	**P'eng-hu**	**2.83**	**262**	P	Pn	02 35 07.3	+2.1
	baz=275						
PHUB				S	Sn	02 35 40.5	+1.2
	baz=275						
PNG	**Penghu**	**2.84**	**263**	i P	Pn	02 35 07.1	+1.8
	baz=276						
PNG				i S	Sn	02 35 40.0	+0.5
	baz=276						
VCHM	**Qimei**	**3.02**	**256**	eP	Pn	02 35 09.8	+2.0
	baz=255						
VCHM				S	Sn	02 35 44.9	+0.8
	baz=255						
VWUC	**VWUC**	**3.07**	**290**	eP	Pn	02 35 08.2	-0.2
	baz=287						
MATB	**Ma-tsu**	**3.26**	**313**	eP	Pn	02 35 10.3	-0.9
	baz=308						
PTMZ	**Houxiangcun**	**3.37**	**289**	P	Pn	02 35 13.8	+1.2
	baz=287						
PTMZ				S	Sn	02 35 51.9	-0.7
	baz=287						
LYJJ	**Jianjiangzhen**	**3.66**	**315**	eP	Pn	02 35 16.4	-0.2
	baz=312						
XPSS	**Dashiqiu**	**3.69**	**324**	P	Pn	02 35 16.7	-0.2
	baz=320						
KNM	**Kinmen**	**3.85**	**278**	eP	Pn	02 35 22.3	+3.0
	baz=277						
KNM				eS	Sn	02 36 04.9	+0.3
	baz=277						
AXDP	**Jialang**	**4.34**	**283**	P	Pn	02 35 27.4	+1.4
	baz=273						
AXDP				S	Sn	02 36 15.6	-1.1
	baz=273						
ZPLA	**Ao Xicun**	**4.46**	**271**	P	Pn	02 35 28.2	+0.7
	baz=270						
ZPLA				eS	Sn	02 36 17.4	-2.1
	baz=270						

*TUL **31** 02:43:32.4±1.1, 35°.75N±0°.02×97°.36W±0°.05, h6km±7km, ML2.5, mb_Lg2.2/14(NEIC), Error ellipse: s-maj=6.1km s-min=2.6km az=87.0*

NEIC 31 02:43:32.5±1.4, 35.78N±0°.03×97°.36W±0°.04, h8km±7km, Error ellipse: s-maj=6.2km s-min=1.5km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.08**	**280**		Pg	02 43 34.5	0.0
OK025	**Westminster Rd**	**0.20**	**175**		Pg	02 43 36.2	-0.4
BCOK	**Bluff Creek, N**	**0.24**	**238**		Pg	02 43 37.2	-0.1
OKCFA	**Oklahoma City**	**0.38**	**191**		Pg	02 43 39.2	-0.6
OKCSW	**OKLAHOMA CITY**	**0.38**	**190**		Pg	02 43 39.6	-0.3
OK031	**S. Brethren Rd**	**0.46**	**68**		Pg	02 43 41.5	+0.2
FNO	**Franklin**	**0.53**	**184**		Pg	02 43 42.3	-0.3
QUOK	**Quay**	**0.66**	**54**		Pg	02 43 44.6	-0.5
CROK	**Carrier**	**0.88**	**325**	Pg	Pg	02 43 49.3	0.0
BLOK	**Blackwell**	**0.98**	**7**	Pg	Pg	02 43 50.8	-0.5
OK032	**Salt Plains WL**	**1.23**	**326**	Pg	Pb	02 43 55.5	-0.4
KAN13	**South Haven SW**	**1.23**	**356**		Pb	02 43 55.6	-0.4
X34A	**Smith Ranch, M**	**1.24**	**198**		Pn	02 43 55.6	-0.5
KAN17	**Caldwell West**	**1.30**	**346**		Pn	02 43 56.6	-0.4
T35A	**Sooner Cattle**	**1.32**	**31**		Pn	02 43 57.0	-0.3
KAN09	**Caldwell North**	**1.37**	**351**		Pg	02 43 58.5	-0.1
KAN05	**Bluff City Nor**	**1.39**	**343**		Pb	02 43 58.5	-0.1
KS20	**Mayfield South**	**1.45**	**354**		Pb	02 43 59.5	-0.3
U32A	**Winter Ranch,**	**1.46**	**295**	Pn	Pn	02 43 59.0	-0.1
KAN10	**Anthony SW Sta**	**1.46**	**336**	Pn	Pb	02 43 59.6	-0.4
KAN08	**Anthony NE Sta**	**1.52**	**341**		Pb	02 44 00.9	0.0
WMOK	**Wichita Mounta**	**1.56**	**229**		Pn	02 44 00.3	-0.3
KAN12	**Harper NE Stat**	**1.60**	**341**		Pb	02 44 01.7	-0.5
LOOK	**Love County**	**1.79**	**175**	Pn	Pn	02 44 04.4	+0.7
X37A	**Clayton**	**2.02**	**126**	Pn	Pn	02 44 06.6	-0.2
U38A	**Gravette**	**2.50**	**74**	Pn	Pn	02 44 14.0	+0.6
HHAR	**Hobbs**	**2.82**	**79**	Pn	Pn	02 44 17.3	-0.5
R32A	**Long Quarter,**	**2.85**	**338**	Pn	Pn	02 44 18.6	+0.4
W39A	**Magazine**	**2.98**	**100**	Pn	Pn	02 44 19.9	-0.1
MIAR	**Mount Ida**	**3.34**	**111**	Pn	Pn	02 44 24.5	-0.4
KSU1	**Kansas State U**	**3.37**	**10**	Pn	Pn	02 44 25.8	+0.4
CBKS	**Cedar Bluff**	**3.57**	**329**	Pn	Pn	02 44 28.5	+0.3
CBKS				IAmb_Lg		02 45 31.4	
	comp=Z,10.0nm,0.8s						
AMTX	**Amarillo**	**3.64**	**257**	Pn	Pn	02 44 30.2	+0.9
U40A	**Yellville**	**3.69**	**80**	Pn	Pn	02 44 29.9	+0.1
U40A				IAmb_Lg		02 45 32.4	
	comp=Z,5.2nm,0.8s						
S39A	**Bolivar**	**3.76**	**58**	Pn	Pn	02 44 32.0	+1.3
S39A				IAmb_Lg		02 45 32.6	
	comp=Z,8.7nm,1.1s						
X40A	**Basin Creek Fa**	**3.93**	**108**	Pn	Pn	02 44 33.7	+0.7
FCAR	**Ozark Folk Cen**	**4.25**	**87**	Pn	Pn	02 44 39.5	+1.9
FCAR				IAmb_Lg		02 45 56.7	
	comp=Z,4.8nm,0.9s						
MGMO	**Mountain Grove**	**4.33**	**70**	IAmb_Lg		02 45 53.2	
	comp=Z,5.4nm,0.8s						
R40A	**Maddies Statio**	**4.78**	**57**	Pn	Pn	02 44 45.5	+0.8
P38A	**Dawn**	**4.89**	**37**	Pn	Pn	02 44 46.6	+0.3
CCM	**Cathedral Cave**	**5.40**	**63**	IAmb_Lg		02 46 28.3	
	comp=Z,3.3nm,0.7s						
PBMO	**Poplar Bluff**	**5.69**	**78**	IAmb_Lg		02 46 46.3	
	comp=Z,4.4nm,0.8s						
PHWY	**Pilot Hill**	**8.40**	**313**	IAmb_Lg		02 48 05.1	
	comp=Z,2.1nm,0.9s						

IDC 31 02:56:37.1±5.0, 7°.44S×128°.77E, h102km±53km, mb3.5/2, mb1 3.8/5, mb1mx3.3/39, mbtmp4.0/5, Error ellipse: s-maj=87.4km s-min=21.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.98**	**21**	P	Pn	02 58 17.6	+0.7
	3.3nm,0.3s,baz=210,slow=20,SNR=2.1						
SIJI				S	Sn	02 59 25.6	-9.3
	3.0nm,0.3s,baz=210,slow=20,SNR=9.0						
WRA	**Warramunga Arr**	**13.55**	**157**	P	Pn	02 59 43.7	-1.6
	1.1nm,0.3s,baz=337,slow=13,SNR=54						
WRA				S	Sn	03 02 04.3	-10
	1.6nm,0.3s,baz=338,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.87**	**164**	P	P	03 00 28.8	+1.2
	1.0nm,0.3s,baz=344,slow=9.6,SNR=39						
ASAR				S	Sn	03 03 29.9	-4.8
	0.6nm,0.3s,baz=343,slow=25,SNR=6.3						
STKA	**Stephens Creek**	**27.10**	**156**	P	P	03 02 10.4	0.0
	0.8nm,0.4s,baz=317,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	03 07 24.7	-0.3
	0.4nm,0.5s,baz=116,slow=7.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**127.70**	**281**	PKP	PKPdf	03 15 31.6	0.0
	0.2nm,0.6s,baz=71,slow=1.5,SNR=1.7						

*IDC **31** 03:15:35.9±1.5, 27°.46N×140°.28E, h477km±20km, mb3.4/5, mb1 3.3/7, mb1mx2.8/68, mbtmp4.2/7, Error ellipse: s-maj=62.5km s-min=36.3km az=172.0*

ISC 31 03:15:37.5±1.1, 27°.9N±0°.2×140°.1E±0°.2, h450km, n8, σ1°.52/9, mb3.7/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.06**	**113**	P	**P**	**03 16 39.2**	**+0.7**
	8.5nm,0.3s,baz=291,slow=14,SNR=26						
JCJ				S	**S**	**03 17 27.6**	**-0.1**
	20nm,0.3s,baz=134,slow=23,SNR=19						
JOW	**Kunigami**	**10.53**	**267**	P	**P**	**03 18 01.3**	**+0.8**
	1.7nm,0.3s,baz=107,slow=14,SNR=6.3						
USRK	**Ussuriysk Ar.**	**17.49**	**340**	P	**P**	**03 19 17.4**	**+2.6**
	baz=146,slow=9.6,SNR=4.0						
MKAR	**Makanchi Array**	**48.49**	**309**	P	**P**	**03 23 36.9**	**-1.0**
	1.3nm,0.9s,baz=90,slow=12,SNR=0.7						
KURBB	**Kurchatov Arra**	**51.11**	**314**	P	**P**	**03 23 56.4**	**-0.7**
	2.5nm,0.5s,baz=92,slow=8.2,SNR=4.6						
BVAR	**Borovoye Array**	**56.16**	**317**	P	**P**	**03 24 32.2**	**-0.8**
	1.5nm,0.5s,baz=157,slow=4.1,SNR=4.3						
FINES	**FINESS Array B**	**76.37**	**333**	P	**P**	**03 26 37.9**	**-1.1**
	0.6nm,0.3s,baz=64,slow=5.8,SNR=9.7						
HFS	**Hagfors**	**81.92**	**336**	P	**P**	**03 27 07.1**	**-1.6**
	6.1nm,1.1s,baz=64,slow=3.4,SNR=2.8						

*BJI **31** 03:18:14.5±0.0, 30°.36N×94°.87E, h7km, mB4.6/27, mb4.6/47, ML4.1/9, Ms4.0/37, Ms7 3.7/27*

*IDC **31** 03:18:15.8±0.5, 30°.35N×94°.87E, h0km, mb4.5/39, mb1 4.5/42, mb1mx4.4/71, mbtmp4.5/42, ML4.1/3, MS3.2/5, Ms1 3.2/5, ms1mx2.7/59, Error ellipse: s-maj=13.4km s-min=10.7km az=29.0*

*MOS **31** 03:18:17.5±1.0, 30°.35N×94°.92E, h24km, mb5.1/51, Error ellipse: s-maj=6.8km s-min=3.5km az=126.5*

*NEIC **31** 03:18:17.9±1.2, 30°.38N±0°.08×94°.88E±0°.09, h10km±1km, mb4.9/117, Error ellipse: s-maj=11.8km s-min=11.0km az=205.0*

*NDI **31** 03:18:17.5±3.7, 30°.60N×94°.46E, h10km, mb4.7, mb4.9(NEIC)*

ISC 31 03:18:17.7±1.2, 30°.36N±0°.04×94°.85E±0°.03, h14km±7km, n478, σ1°.55/471, mb4.8/139, MS3.8/10, 46C-5D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIBR	**DIBRUGARH**	**2.88**	**179**	eP	**Pb**	**03 19 08.6**	**-0.2**
LSA	**Lhasa**	**3.28**	**259**	Pg	**Pn**	**03 19 12.8**	**+3.7**
LSA				Sg	**Sg**	**03 20 02.5**	**-0.6**
LSA				LR	LR		
	comp=N,5μm,3.8s						
LSA				LR	LR		
	comp=E,7μm,5.3s						
LSA	**Lhasa**	**3.28**	**259**	P	**Pn**	**03 19 10.0**	**+0.9**
LSA	**Lhasa**	**3.28**	**259**		**Pn**	**03 19 10.0**	**+0.9**
ITAN	**ITANAGAR**	**3.35**	**198**	eP	**Pb**	**03 19 13.7**	**-3.3**
MOKO	**MOKOCHONG**	**4.03**	**184**	eP	**Pn**	**03 19 21.0**	**+1.8**
KOHI	**KOHIMA**	**4.67**	**188**	eP	**Pn**	**03 19 29.1**	**+1.2**
SHL	**Shillong**	**5.45**	**210**	P	**Pn**	**03 19 38.8**	**+0.1**
SHL	**Shillong**	**5.45**	**210**	eP	**Pn**	**03 19 39.8**	**+1.1**
SHL	**Shillong**	**5.45**	**210**		**Pn**	**03 19 38.8**	**+0.1**
TAPN	**Taplejung**	**6.94**	**246**	eP	**Pn**	**03 20 02.5**	**+3.2**
	44nm,0.7s						
ODAN	**Odare**	**7.43**	**244**	eP	**Pn**	**03 20 07.5**	**+1.6**
	57nm,0.7s						
CD2	**Chengdu**	**7.69**	**84**	Pn	**Pn**	**03 20 08.8**	**-0.6**
CD2				Sn	**Sn**	**03 21 30.5**	**-5.8**
CD2				Sg	**Sg**	**03 22 17.0**	**-7.6**
CD2				smax	smax		
	comp=N,60nm,1.5s						
CD2				smax	smax		
	comp=E,50nm,1.5s						
RAMN	**Ramite**	**8.01**	**247**	eP	**Pn**	**03 20 15.7**	**+1.8**
	28nm,0.4s						
JIRN	**Jiri**	**8.05**	**253**	eP	**Pn**	**03 20 16.2**	**+1.7**
	16nm,0.4s						
KMI	**Kunming**	**8.72**

KMI pmax pmax
comp=Z,71nm,3.8s
KMI LR LR
comp=N,730nm,4.3s
KMI LR LR
comp=E,480nm,5.3s
KMI LR LR
comp=Z,280nm,6.8s
PKI Pulchoki 8.73 254 *e*P **Pn 03 20 24.5 +0.7**
68nm,0.9s
PKIN Phulchoki 8.73 254 *e*P **Pn 03 20 24.6 +0.7**
KKN Kakani 8.76 255 *e*P **Pn 03 20 24.6 +0.4**
GKN Gorkha 9.23 258 *e*P **Pn 03 20 29.9 -0.7**
32nm,0.6s
LZH Lanzhou 9.45 50 *e*P **Pn 03 20 34.8 +1.2**
LZH pP 03 20 36.8
LZH sP 03 20 38.5
LZH PP **PnPn 03 20 46.5 +5.2**
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,140nm,5.2s
LZH LR LR
comp=N,350nm,9.8s
LZH LR LR
comp=E,420nm,10.3s
DANN Dangsing 9.88 261 *e*P **Pn 03 20 38.0 -1.7**
58nm,0.6s
GTA Gaotai 9.91 23 *e*P **Pn 03 20 43.5 +3.7**
GTA pP 03 20 47.5
GTA sP 03 20 50.8
GTA S **Sn 03 22 34.0 +3.2**
GTA pmax pmax
comp=Z,4.0nm,0.7s
GTA pmax pmax
comp=Z,28nm,5.6s
GTA LR LR
comp=N,320nm,8.8s
GTA LR LR
comp=E,260nm,7.6s
GTA LR LR
comp=Z,270nm,10.0s
KOLN Koldanda 10.18 258 *e*P **Pn 03 20 43.1 -0.5**
185nm,0.9s
PYUN Piuthan 10.61 261 *e*P **Pn 03 20 48.0 -1.5**
21nm,0.4s
GYA Guiyang 11.10 108 ⇓P **Pn 03 20 57.0 +0.9**
GYA S **Sn 03 23 01.0 +0.9**
GYA pmax pmax
comp=Z,31nm,1.2s
GYA pmax pmax
comp=Z,85nm,3.5s
GYA LR LR
comp=N,170nm,3.8s
GYA LR LR
comp=E,140nm,3.9s
CM33 Chiang Mai Arr 12.07 161 P **Pn 03 21 11.0 +1.6**
CHTO Chiang Mai 12.08 161 P **Pn 03 21 09.4 -0.1**
CHTO Chiang Mai 12.08 161 P **Pn 03 21 12.0 +2.5**
13nm,1.3s
CHTO Chiang Mai 12.08 161 Pn **Pn 03 21 09.4 -0.1**
CHTO Chiang Mai 12.08 161 P **Pn 03 21 12.0 +2.5**
7.3nm,1.3s
CMMT Chiang Mai 12.08 161 P **Pn 03 21 12.0 +2.5**
13nm,1.3s
CMMT Chiang Mai 12.08 161 P **Pn 03 21 12.1 +2.5**
CMMT Chiang Mai 12.08 161 P **Pn 03 21 12.0 +2.5**
12nm,1.3s
CM34 Chiang Mai Arr 12.10 160 P **Pn 03 21 13.0 +3.2**
CM32 Chiang Mai Arr 12.20 162 P **Pn 03 21 15.0 +3.8**
CM35 Chiang Mai Arr 12.27 160 P **Pn 03 21 15.0 +3.0**
CM36 Chiang Mai Arr 12.40 161 P **Pn 03 21 16.0 +2.1**
CM31 Chiang Mai Arr 12.42 162 Pn **Pn 03 21 13.3 -0.8**
CMAR Chiang Mai Arr 12.42 162 Pn **Pn 03 21 15.0 +0.9**
0.5nm,0.3s,baz=332,slow=13,SNR=15
CMAR Chiang Mai Arr 12.42 162 P **Pn 03 21 15.0 +0.9**
CMAR Chiang Mai Arr 12.42 162 **Pn 03 21 14.3 +0.2**
CM02 Chiang Mai Arr 12.44 162 P Pn 03 21 21.4 +7.0
9.1nm,1.1s
CM02 Chiang Mai Arr 12.44 162 P Pn 03 21 21.5 +7.1
CM13 Chiang Mai Arr 12.44 162 P **Pn 03 21 18.3 +3.9**
7.8nm,1.3s
CM13 Chiang Mai Arr 12.44 162 P **Pn 03 21 18.4 +4.0**
CM01 Chiang Mai Arr 12.46 162 P **Pn 03 21 18.8 +4.2**
464nm10nm,0.9s
CM01 Chiang Mai Arr 12.46 162 P **Pn 03 21 18.0 +3.4**
XAN Xi'an 12.47 69 P **Pn 03 21 17.3 +2.5**
XAN pP 03 21 21.0
XAN S **Sn 03 23 40.3 +6.8**
XAN pmax pmax
comp=Z,5.0nm,1.1s
XAN LR LR
comp=N,180nm,7.6s
XAN LR LR
comp=E,280nm,7.9s
XAN LR LR
comp=Z,200nm,8.7s
CM05 Chiang Mai Arr 12.47 162 P Pn 03 21 25.9 +11
CM05 Chiang Mai Arr 12.47 162 P Pn 03 21 25.0 +10
CM04 Chiang Mai Arr 12.48 162 P **Pn 03 21 19.1 +4.1**
8.9nm,1.2s
CM04 Chiang Mai Arr 12.48 162 P **Pn 03 21 19.0 +4.1**
NONG Nongkai 14.38 146 P **P 03 21 49.7 +1.8**
11μm21nm,1.1s
NONG Nongkai 14.38 146 P **P 03 21 49.7 +1.8**
0.2nm11μm21nm,1.1s
WMQ Urumqi 14.59 339 *e*P **Pn 03 21 46.8 +3.0**
WMQ sP P 03 21 52.0 +1.8
WMQ pmax pmax
comp=Z,15nm,0.8s
WMQ pmax pmax
comp=Z,21nm,3.6s
WMQ LR LR
comp=N,230nm,7.3s
WMQ LR LR
comp=E,160nm,5.9s
UTHA Uthaitani 15.32 163 P **P 03 21 59.5 +1.1**
0.0nm6.2nm,1.1s
KHON Khomkaen 15.75 151 P **P 03 22 05.1 +2.1**
27nm,0.7s
KHON Khomkaen 15.75 151 P **P 03 22 05.2 +2.1**
0.1nm6.6nm,0.7s
CHAI Chaiyaphum 15.80 154 P **P 03 22 04.4 +0.7**
14nm,1.2s
CHAI Chaiyaphum 15.80 154 P **P 03 22 04.5 +0.7**
0.0nm3.6nm,1.2s
BTO Baotou 16.02 46 *e*P **Pn 03 22 01.8 -0.8**
TIY Taiyuan 16.30 59 *e*P **P 03 22 09.8 +0.6**
TIY pmax pmax
comp=Z,20nm,0.6s
TIY LR LR
comp=N,120nm,8.4s
TIY LR LR
comp=E,190nm,8.3s
TIY LR LR
comp=Z,260nm,10.2s
WHN Wuhan 16.82 84 ⇓P **Pn 03 22 11.5 -1.3**
WHN pmax pmax
comp=Z,230nm,1.8s
WHN LR LR
comp=N,640nm,10.6s
WHN LR LR
comp=E,340nm,9.2s
WHN LR LR
comp=Z,560nm,12.1s
BHPL Bhopal 17.09 250 *e*P **Pn 03 22 13.4 -2.8**
BHPL IAmb IAmb 03 22 18.7
comp=Z,60nm,1.0s
HHC Hu-ho-hao-te 17.13 48 *e*P **Pn 03 22 15.5 -1.2**
HHC pP P 03 22 19.5 +1.1
HHC S **Sn 03 25 24.0 -3.0**
HHC sS S 03 25 33.0 -3.4
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,100nm,6.1s
HHC LR LR
comp=Z,180nm,9.4s
HHC LR LR
comp=Z,160nm,10.1s
HHC LR LR
comp=Z,180nm,10.2s
QIZ Qiongzhong 17.66 126 P **Pn 03 22 21.8 -1.6**
QIZ S **Sn 03 25 39.3 -0.7**
QIZ LR LR
comp=Z,200nm,10.2s
QIZ LR LR
comp=Z,150nm,8.4s
QIZ LR LR
comp=Z,150nm,9.9s
SHLS Shalkode 17.72 320 *e*P **Pn 03 22 21.0 -3.2**
baz=321
SHLS *e*S **Sn 03 25 41.1 -0.3**
baz=321
SHLS Shalkode 17.72 320 *e*P **Pn 03 22 20.9 -3.2**
SHLS *e*S **Sn 03 25 41.0 -0.3**
TARG Taragay, Kyrgy 17.82 314 Pn **Pn 03 22 23.7 -2.0**
KSH Kashi 17.95 306 P **P 03 22 29.0 +1.5**
KSH pmax pmax
comp=Z,16nm,1.8s
KSH pmax pmax
comp=Z,93nm,3.9s
KPKS Kokpek 18.35 320 *e*P **Pn 03 22 31.0 -0.8**
baz=320
KPKS *e*S **Sn 03 25 57.0 +0.4**
baz=320
KPKS Kokpek 18.35 320 *e*P **Pn 03 22 31.0 -0.8**
KPKS *e*S **Sn 03 25 57.0 +0.4**
NIL Nilore 18.61 286 P **P 03 22 33.0 -1.7**
NIL pmax pmax
comp=Z,62nm,1.1s
NIL Nilore 18.61 286 P **P 03 22 33.0 -1.7**
ZSN Zaisan 18.73 338 *e*P **Pn 03 22 37.8 +1.5**
baz=338
ZSN *e*S **S 03 26 11.7 +3.0**
baz=338
ZSN Zaisan 18.73 338 *e*P **Pn 03 22 37.8 +1.5**
ZSN *e*S **S 03 26 11.7 +3.0**
ULHL Ulahol 19.08 314 P **Pn 03 22 42.1 +1.3**
SNR=5.9
MK31 Makanchi Array 19.09 333 P **P 03 22 39.2 -0.7**
MK31 pmax pmax
comp=Z,13nm,1.0s
MK31 Makanchi Array 19.09 333 P **P 03 22 39.1 -0.7**
MKAR Makanchi Array 19.09 333 P **P 03 22 39.5 -0.4**
comp=Z,0.5nm,0.3s,baz=141,slow=14,SNR=62
MKAR PcP **PcP 03 27 06.0 +2.0**
comp=Z,0.1nm,0.3s,baz=131,slow=3,SNR=3.6
MKAR LR LR 03 30 31.1
comp=Z,31nm,18.8s,baz=176,slow=38
MKAR Makanchi Array 19.09 333 P **P 03 22 39.2 -0.6**
MDOK Medeo 19.11 317 *e*P **P 03 22 40.7 +0.4**
baz=317
MDOK Medeo 19.11 317 *e*P **P 03 22 40.6 +0.4**
AAA Alma-Ata 19.21 317 *e*P **Pn 03 22 42.3 0.0**
baz=317
AAA Alma-Ata 19.21 317 *e*P **Pn 03 22 42.2 0.0**
MAKZ Makanchi 19.22 332 P **P 03 22 41.6 +0.3**
MAKZ pmax pmax
comp=Z,42nm,1.2s
MAKZ Makanchi 19.22 332 P **P 03 22 41.6 +0.3**
ARXS Arharly 19.31 320 *e*P **Pn 03 22 44.1 +0.7**
BOOM Boomskoye usch 19.40 314 P **Pn 03 22 44.9 +0.3**
BOOM pmax pmax
comp=Z,57nm,1.2s
BOOM Boomskoye usch 19.40 314 P **Pn 03 22 44.9 +0.3**
TIA Tai'an 19.50 67 P **Pn 03 22 46.8 +1.2**
TIA pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 19.58 24 P **P 03 22 46.0 +0.6**
comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=49
SONM S **S 03 26 28.7 +2.7**
comp=Z,0.5nm,0.3s,baz=210,slow=8.1,SNR=4.0
SONM Songino Array 19.58 24 P **P 03 22 45.9 +0.6**
SONM pmax pmax
comp=Z,21nm,1.1s
SONM Songino Array 19.58 24 **P 03 22 45.9 +0.6**
KZA Kyzart 19.62 312 P **Pn 03 22 47.9 +0.4**
SNR=27
HYB Hyderabad 19.67 233 *i*P **P 03 22 46.0 -0.4**
ULN Ulaanbaatar 19.84 25 *ce*P **P 03 22 48.5 +0.3**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 19.84 25 **P 03 22 47.0 -1.2**
ULN Ulaanbaatar 19.84 25 P **Pn 03 22 49.4 -0.4**
comp=Z,52nm,0.9s
TKM2 Tokmak 2 19.84 314 P **Pn 03 22 51.2 +1.2**
SNR=16
BJI Beijing 19.88 55 P P 03 22 41.0 -7.5
BJI S **S 03 26 27.0 -4.9**
BJI pmax pmax
comp=Z,19nm,0.4s
BJI LR LR
comp=N,240nm,10.4s
BJI LR LR
comp=E,250nm,9.2s
BJI LR LR
comp=Z,390nm,10.7s
KUU Kurty 19.95 318 *e*P **P 03 22 48.6 -0.8**
comp=Z,47nm,1.1s,baz=318
KUU Kurty 19.95 318 *e*P **P 03 22 48.5 -0.8**
KUU pmax pmax
comp=Z,47nm,1.1s
DGZ Jazzator, Alta 20.12 346 *i*P Pn 03 22 53.2 +0.1
DGZ pmax pmax
comp=Z,45nm,1.4s
UCH Uchtor 20.17 312 P Pn 03 22 54.1 +0.1
SNR=28
AAK Ala-Archa 20.39 313 P Pn 03 22 57.4 +1.0
SNR=21
AAK Ala-Archa 20.39 313 P **P 03 22 54.5 +0.3**
AAK pmax pmax
comp=Z,111nm,1.2s
AAK Ala-Archa 20.39 313 P **P 03 22 54.5 +0.3**
AAK IAmb IAmb 03 23 01.4
comp=Z,111nm,1.2s
FRU1 Bishkek 20.39 313 P **P 03 22 54.8 +0.7**
FRU1 pmax pmax
comp=Z,68nm,1.0s
FRU1 Bishkek 20.39 313 P **P 03 22 54.8 +0.7**
FRU1 IAmb IAmb 03 22 58.4
comp=Z,68nm,1.0s
CHMS Chumysh 20.41 314 P Pn 03 22 56.7 +0.2
SNR=15
NJ2 Nanjing 20.59 79 *e*P **P 03 22 56.5 +0.2**
NJ2 pmax pmax
comp=Z,12nm,0.6s
AML Almayashu 20.66 310 P Pn 03 22 59.4 -0.3
SNR=8.6
USP Ospenovka 20.71 314 P **P 03 22 55.4 -2.2**
SNR=18
SGDS Sogindy 20.73 315 *e*P **P 03 22 57.6 -0.3**
baz=315
SGDS Sogindy 20.73 315 *e*P **P 03 22 57.5 -0.3**
EKS2 Erkin-Say 20.86 312 P Pn 03 23 01.5 -0.3
SNR=17
DRK Karamyk 20.94 302 P **P 03 23 00.1 -0.2**
DRK IAmb IAmb 03 23 03.5
comp=Z,120nm,1.5s
ZAK Zakamensk 20.98 15 *e*P **P 03 23 00.4 -0.1**
ZAK pmax pmax
comp=Z,32nm,1.1s
BTK Batken 21.84 303 P **P 03 23 10.4 +0.6**
BTK pmax pmax
comp=Z,116nm,1.3s
BTK Batken 21.84 303 P **P 03 23 10.3 +0.6**
GAR Garm 21.89 300 P **P 03 23 10.4 0.0**
BTLS Baital 21.95 318 *e*P **P 03 23 10.3 -0.7**
baz=318
BTLS *e*S **S 03 27 13.0 +0.1**
baz=318
BTLS Baital 21.95 318 *e*P **P 03 23 10.2 -0.7**
BTLS *e*S **S 03 27 13.0 +0.1**
KBL Kabul 22.16 288 P **P 03 23 12.9 -0.5**
KBL pmax pmax
comp=Z,149nm,1.2s
KBL Kabul 22.16 288 P **P 03 23 12.9 -0.5**
IRK Irkutsk 22.95 15 *e*P **P 03 23 22.0 +0.6**
IRK pmax pmax
comp=Z,46nm,1.6s
KK31 Karatay Array 23.20 310 P **P 03 23 24.8 +0.7**
KK31 pmax pmax
comp=Z,33nm,1.3s
KK31 Karatay Array 23.20 310 P **P 03 23 24.8 +0.7**
KKAR Karatay Array 23.20 310 P **P 03 23 23.9 -0.2**
KKAR Karatay Array 23.20 310 P **P 03 23 23.9 -0.2**
TAS Tashkent 23.35 305 P **P 03 23 25.9 +0.2**
TAS pmax pmax
comp=Z,153nm,0.3s
TAS Tashkent 23.35 305 P **P 03 23 25.9 +0.2**
KURBB Kurchatov Arra 23.65 333 P **P 03 23 28.4 0.0**
comp=Z,27nm,1.1s,baz=142,slow=10,SNR=88
KURBB PcP **PcP 03 27 13.1 +0.4**
comp=Z,1.8nm,1.0s,baz=159,slow=2.6,SNR=4.3
KURBB S **S 03 27 47.1 +4.5**
comp=Z,0.3nm,0.9s,baz=144,slow=17,SNR=1.8
KURK Kurchatov 23.69 334 P **P 03 23 28.5 -0.3**
KURK 03 27 13.1
NACB Ninganchiao 24.52 98 P **P 03 23 36.7 -0.2**
ZALV Zalesovo Beam 24.67 346 P **P 03 23 38.4 +0.5**
comp=Z,7.7nm,0.8s,baz=159,slow=9.4,SNR=26
ZALV Zalesovo Beam 24.67 346 P **P 03 23 37.7 -0.2**
BRZS Berezniki 25.74 326 *e*P **P 03 23 48.6 +0.9**
comp=Z,32nm,1.2s,baz=326
BRZS Berezniki 25.74 326 *e*P **P 03 23 48.6 +0.9**
BRZS pmax pmax
comp=Z,32nm,1.2s
LASI Langsa, Aceh 25.93 173 P P 03 23 32.1 -18
PALK Pallekele 26.53 213 P **P 03 23 56.2 +1.1**
comp=Z,22nm,1.1s,baz=130,slow=8.0,SNR=4.2
PALK LR LR 03 38 03.0
comp=Z,65nm,18.1s,baz=192,slow=45
PALK Pallekele 26.53 213 P **P 03 23 57.5 +2.4**
PALK pmax pmax
comp=Z,53nm,1.3s
PALK Pallekele 26.53 213 P **P 03 23 57.5 +2.4**
PALK IAmb IAmb 03 23 59.6
comp=Z,53nm,1.2s
HIA Hailar 26.68 38 *i*P **P 03 23 57.5 +1.3**
HIA pmax pmax
comp=Z,20nm,1.0s
CN2 Changchun 27.68 52 *e*P **P 03 24 07.0 +1.8**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,100nm,10.0s
CN2 LR LR
comp=Z,200nm,14.0s
KSAR Wonju Array Be 28.21 67 P **P 03 24 09.2 -0.8**
KSAR Wonju Array Be 28.21 67 P **P 03 24 09.2 -0.8**
KSRS Korea Array 28.24 67 P **P 03 24 10.1 -0.2**
comp=Z,0.5nm,0.6s,baz=255,slow=8.1,SNR=1.9
KSRS LR LR 03 35 08.9
comp=Z,31nm,20.5s,baz=236,slow=36
BVAR Borovoye Array 28.84 329 P **P 03 24 16.0 +0.6**
comp=Z,7.6nm,0.9s,baz=168,slow=22,SNR=26
BVAR PcP **PcP 03 27 25.4 +0.6**
comp=Z,1.3nm,0.9s,baz=193,slow=12,SNR=4.8
BRVK Borovoye 28.91 329 *ce*P **P 03 24 17.3 +1.3**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 28.91 329 P **P 03 24 17.3 +1.3**
BRVK IAmb IAmb 03 24 19.3
comp=Z,29nm,1.1s
JOW Kunigami 29.49 88 LR LR 03 36 18.5
comp=Z,33nm,19.7s,baz=301,slow=37
GEYT Alibeck 31.18 294 P **P 03 24 37.5 +1.1**
comp=Z,8.2nm,1.0s,baz=125,slow=7.4,SNR=11
GYA0B ALIBECK ARRAY 31.18 294 P **P 03 24 36.8 +0.4**
GYA0B IAmb IAmb 03 24 39.8
comp=Z,18nm,1.1s
ABKAR Akbulak array 32.40 316 P **P 03 24 47.5 +0.6**
JMBI JAMBI 32.90 164 P **P 03 24 53.0 +1.5**
comp=Z,113nm,0.6s
ZEA Zeya 33.06 36 *e*P **P 03 24 54.1 +1.4**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,100nm,13.0s
ZEA MLR MLR
comp=N,100nm,12.0s
ZEA MLR MLR
comp=Z,100nm,13.0s
KLR Kul'dur 33.60 45 P **P 03 24 57.9 +0.5**
comp=Z,6.0nm,1.0s,baz=255,slow=8.4,SNR=12
KLR Kul'dur 33.60 45 *ce*P **P 03 24 57.7 +0.3**
KLR pmax pmax
comp=Z,12nm,1.1s
AKTO Aktyubinsk 34.01 317 P **P 03 25 01.9 +1.0**
comp=Z,4.3nm,0.9s,baz=89,slow=12,SNR=13
SVE Sverdlovsk 35.61 328 *e*P **P 03 25 16.5 +1.8**
SVE pmax pmax
comp=Z,41nm,1.1s
ARU Arti 36.37 326 P **P 03 25 21.8 +0.6**
comp=Z,2.4nm,0.5s,baz=132,slow=6.2,SNR=25
ARU Arti 36.37 326 *ce*P **P 03 25 22.4 +1.2**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 36.37 326 P **P 03 25 22.2 +0.9**
ARU IAmb IAmb 03 25 23.8
comp=Z,42nm,1.3s
MJAR Matsushiro Arr 36.46 68 P **P 03 25 22.8 +0.6**
comp=Z,0.8nm,0.4s,baz=266,slow=6.7,SNR=5.8
LKRN Lenkeran, Azer 38.53 295 P **P 03 25 41.9 +2.2**
YAK Yakutsk 38.92 25 *ce*P **P 03 25 43.2 +0.5**
YAK pmax pmax
comp=Z,30nm,1.0s
NRIK Noril'sk 39.25 356 P **P 03 25 46.0 +0.6**
comp=Z,15nm,1.2s,baz=169,slow=5.7,SNR=10
NRIK Noril'sk 39.25 356 *ce*P **P 03 25 45.5 +0.2**
NRIK pmax pmax
comp=Z,18nm,1.3s
AKT Akhty 39.31 300 *e*P **P 03 25 47.4 +1.0**
AKT *e* 03 27 18.6
AKT *e* 03 27 56.4
AKT pmax pmax
comp=Z,29nm,1.2s
SEKA Sheki 39.71 299 P **P 03 25 51.0 +1.3**
MNGR Mingechevir, A 39.79 299 P **P 03 25 52.6 +2.3**
ASAJ Asahikawa 39.87 56 P **P 03 25 51.3 +0.4**
comp=Z,4.0nm,0.7s,baz=265,slow=9.1,SNR=6.0
ASAJ Asahikawa 39.87 56 P **P 03 25 50.7 -0.2**
ASAJ pmax pmax
comp=Z,33nm,1.5s
JKA Kamikawa-asahi 39.87 56 P **P 03 25 50.7 -0.2**
JKA IAmb IAmb 03 25 53.0
comp=Z,33nm,1.5s
ZKTA Zakatala 40.14 300 P **P 03 25 55.1 +1.9**
YSS Yuzh-Sakhalins 40.24 52 *e*P **P 03 25 54.0 +0.1**
YSS *e*S **S 03 31 56.9 -3.7**
YSS pmax pmax
comp=Z,24nm,1.1s
YSS MLR MLR
comp=Z,100nm,11.0s
GANJ Ganja 40.38 298 P **P 03 25 56.9 +1.7**
DDFL Dedoflistskaro 40.52 300 P **P 03 26 00.7 +4.3**
GROC Groznyy 40.78 302 *e*P **P 03 25 57.7 -0.7**
GROC *e* 03 27 31.9
GROC pmax pmax
comp=Z,38nm,0.8s
NAX Nakhchivan 41.06 296 P **P 03 26 03.9 +3.0**
GNI Garni 41.60 298 LR LR 03 45 34.0
comp=Z,120nm,20.7s,baz=244,slow=39
GNI Garni 41.60 298 *ce*P **P 03 26 07.0 +1.6**
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 41.60 298 P **P 03 26 07.0 +1.6**
GNI IAmb IAmb 03 26 10.7
comp=Z,32nm,1.2s
GUDG Gudauri 41.74 301 P **P 03 26 07.0 +0.4**
KIRV Kirov 41.75 326 P **P 03 26 07.3 +1.1**
comp=Z,32nm,0.6s,baz=105,slow=5.0,SNR=20
KIRV Kirov 41.75 326 *ce*P **P 03 26 07.0 +0.9**
KZRT Kazreti 41.81 300 P **P 03 26 08.7 +1.7**
ZEI Tsey 42.17 302 *e*P **P 03 26 10.4 +0.3**
ZEI pmax pmax
comp=Z,17nm,1.3s
NCK Nalchik 42.39 303 *i*P **P 03 26 11.4 -0.3**
NCK pmax pmax
comp=Z,17nm,0.8s
AKH Akhalkalaki 42.50 300 ⇓P **P 03 26 15.2 +2.5**
AKH Akhalkalaki 42.50 300 P **P 03 26 15.4 +2.7**
ONI Oni 42.50 301 P **P 03 26 14.9 +2.3**
GOF Gofitskoye 42.82 305 ⇑*e*P **P 03 26 16.6 +1.5**
GOF pmax pmax
comp=Z,56nm,0.9s
KARS Kars 42.84 298 P **P 03 26 16.5 +1.0**
KARS pmax pmax
comp=Z,79nm,1.2s
KARS Kars 42.84 298 P **P 03 26 16.5 +1.0**
KBZ Khabaz 42.90 303 P **P 03 26 18.0 +2.2**
comp=Z,2.3nm,0.9s,baz=87,slow=9.6,SNR=5.8
KBZ Khabaz 42.90 303 *ce*P **P 03 26 16.5 +0.8**
KBZ pmax pmax

comp=Z,7.0nm,1.2s
NEY Neytrino 43.03 302 *i* P **P 03 26 19.0 +2.0**
NEY pmax pmax
comp=Z,7.0nm,1.2s
KIV Kislovodsk 43.05 303 *e*P **P 03 26 18.2 +1.1**
KIV pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 43.05 303 P **P 03 26 17.5 +0.4**
KIV IAmb IAmb 03 26 21.7
comp=Z,22nm,1.0s
SHA1 Shidzhatmaz 43.08 303 *i* P **P 03 26 18.5 +1.0**
CHVG Ch'k'valeri 43.51 302 ⇑P **P 03 26 23.2 +2.5**
CHVG Ch'k'valeri 43.51 302 ⇑P **P 03 26 23.2 +2.5**
GURO Guroymak-BITLI 43.81 296 IAmb IAmb 03 26 27.1
comp=Z,24nm,1.3s
VRH Novokhopyorsk 44.18 314 *e*P **P 03 26 26.6 +0.6**
VRH pmax pmax
comp=Z,30nm,1.2s
PRGR Permogore 44.65 329 *e*P **P 03 26 27.6 -2.0**
PRGR pmax pmax
comp=Z,129nm,1.3s
MARD Mardin 44.94 294 P **P 03 26 32.6 +0.2**
MARD IAmb IAmb 03 26 35.2
comp=Z,32nm,1.2s
SOC Sochi 45.21 303 *e*P **P 03 26 32.5 -1.8**
SOC *e* 03 28 17.7
SOC *e*PPP PPP 03 29 03.0
SOC *e*S **S 03 33 13.7 0.0**
SOC *e*SSS SSS 03 37 25.8
SOC pmax pmax
comp=Z,35nm,1.4s
SOC MLR MLR
comp=Z,37nm,18.0s
TIXI Tiksi 45.26 14 P **P 03 26 34.3 +0.1**
comp=Z,5.1nm,0.7s,baz=299,slow=3.4,SNR=3.2
LPSR Galich'ya Gora 46.06 315 *e*P **P 03 26 41.1 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 47.21 320 *e*P **P 03 26 49.1 -0.7**
MOS *e* 03 26 56.1
MOS pmax pmax
comp=Z,53nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.2s
KLMR Klimovskoe 47.22 327 *e*P **P 03 26 46.9 -2.9**
KLMR *e* 03 28 37.8
KLMR pmax pmax
comp=Z,62nm,1.3s
KLMR Klimovskoe 47.22 327 *e*P **P 03 26 47.0 -2.9**
KLMR AMP 03 26 52.1
comp=Z,62nm,1.3s
KLMR *e*PP **PP 03 28 37.8 -2.9**
OBN Obninsk 47.73 319 P **P 03 26 54.1 +0.3**
comp=Z,2.9nm,0.4s,baz=102,slow=14,SNR=6.7
OBN Obninsk 47.73 319 ⇓*i*P **P 03 26 54.4 +0.6**
OBN *i* 03 27 03.2
OBN pmax pmax
comp=Z,26nm,1.3s
OBN Obninsk 47.73 319 P **P 03 26 54.3 +0.4**
BR131 Keskin Array S 50.13 298 P **P 03 27 13.5 +0.8**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 50.13 298 P **P 03 27 13.5 +0.8**
BRTR Keskin Array B 50.13 298 P **P 03 27 11.8 -0.9**
comp=Z,6.3nm,1.1s,baz=98,slow=4.2,SNR=14
BRTR Keskin Array B 50.13 298 P **P 03 27 13.0 +0.3**
BRTR Keskin Array B 50.13 298 P **P 03 27 13.0 +0.3**
PETK Petropavlovsk- 50.28 44 P **P 03 27 14.3 +0.8**
comp=Z,3.7nm,1.0s,baz=212,slow=8.2,SNR=5.8
PETK Petropavlovsk- 50.28 44 P **P 03 27 13.4 -0.1**
ANTO Ankara 50.74 299 P **P 03 27 17.6 +0.3**
ANTO pmax pmax
comp=Z,55nm,1.3s
ANTO Ankara 50.74 299 P **P 03 27 17.6 +0.3**
AKASG Malin Array Be 52.06 313 P **P 03 27 26.2 -0.6**
comp=Z,18nm,1.0s,baz=78,slow=6.9,SNR=43
AKBB Malin Array Si 52.06 313 *d i*P **P 03 27 27.2 +0.4**
AKBB Malin Array Si 52.06 313 IAmb IAmb 03 27 28.5
comp=Z,29nm,1.1s
MNK Minsk 52.72 318 *i* P **P 03 27 28.1 -3.6**
MNK *i* 03 28 37.5
MNK *i* 03 29 27.5
MNK *i* PPP PPP 03 30 31.3
MNK *i* S **S 03 34 57.1 -1.9**
MNK *i* 03 37 18.0
MNK *i* SS **SS 03 38 37.2 0.0**
MNK *i* SSS SSS 03 40 23.4
MNK pmax pmax
comp=Z,22nm,1.1s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=E,4.0nm,1.2s
MNK MLR MLR
comp=E,4.0nm,14.0s
MNK MLR MLR
comp=Z,109nm,23.0s
MNK MLR MLR
comp=N,22nm,14.0s
MNK Minsk 52.72 318 *i* P **P 03 27 28.2 -3.5**
comp=E,4.0nm,1.2s
MNK *i* P **P 03 27 28.2 -3.5**
comp=N,10.0nm,1.0s
MNK *i* P **P 03 27 28.2 -3.5**
comp=Z,22nm,1.1s,baz=88
MNK *i* PcP **PcP 03 28 37.5 -3.7**
MNK *i* PP **PP 03 29 27.6 -3.2**
MNK *i* PPP PPP 03 30 31.4
MNK *i* ScP **ScP 03 32 34.9 -3.3**
MNK *i* PcS **PcS 03 32 36.2 -3.4**
MNK *i* S **S 03 34 57.1 -1.9**
MNK *i* ScS **ScS 03 37 18.1 -2.9**
MNK *i* SS **SS 03 38 37.2 0.0**
MNK *i* SSS SSS 03 40 23.5
MNK *i* LQ LQ 03 46 09.4
MNK *i* LR LR 03 48 16.9
MNK *i* LRM MLR 03 52 31.1
comp=E,4.0nm,14.4s
MNK *i* LRM MLR 03 52 48.2
comp=Z,109nm,22.9s
MNK *i* LRM MLR 03 53 06.0
comp=N,22nm,13.6s
SORM Soroca 52.83 310 ⇑P **P 03 27 33.2 +0.6**
SORM Soroca 52.83 310 ⇑P **P 03 27 33.2 +0.6**
CFR Carcaliu 53.34 306 ⇑P **P 03 27 37.3 +0.9**
CFR Carcaliu 53.34 306 ⇑P **P 03 27 37.3 +0.9**
VSU Vasula 53.34 323 *e*P **P 03 27 37.1 +1.0**
HARR Harsova 53.55 305 ⇑P **P 03 27 39.3 +1.3**
HARR Harsova 53.55 305 ⇑P **P 03 27 39.3 +1.3**
IIGN Ignalina 53.66 319 *e*P **P 03 27 40.2 +1.6**
FIA1 FINESS Array S 53.75 326 P **P 03 27 39.8 +0.7**
FIA1 IAmb IAmb 03 27 40.3
comp=Z,34nm,1.4s
FINES FINESS Array B 53.75 326 P **P 03 27 38.2 -0.9**
comp=Z,3.3nm,0.7s,baz=90,slow=6.1,SNR=9.4
SUF Sumiainen 53.78 328 P **P 03 27 40.7 +1.4**
SUF pmax pmax
comp=Z,17nm,1.2s
TESR Tescani 54.17 308 ⇑P **P 03 27 43.7 +1.1**
VRI Vrincioaia 54.22 307 ⇑P **P 03 27 44.0 +1.1**
VRI Vrincioaia 54.22 307 ⇑P **P 03 27 44.0 +1.1**
PLOR Plostina 54.27 307 ⇑P **P 03 27 44.4 +1.1**
PLOR Plostina 54.27 307 ⇑P **P 03 27 44.4 +1.1**
ISR Istrita 54.46 306 ⇑P **P 03 27 47.3 +2.6**
ISR Istrita 54.46 306 ⇑P **P 03 27 47.3 +2.6**
BIZ Bicaz 54.48 308 ⇑P **P 03 27 45.2 +0.4**
MLR Muntele Rosu 54.81 307 P **P 03 27 48.4 +1.0**
comp=Z,25nm,1.1s,baz=19,slow=5.0,SNR=20
MLR Muntele Rosu 54.81 307 ⇑P **P 03 27 48.7 +1.3**
MLR Muntele Rosu 54.81 307 ⇑P **P 03 27 48.7 +1.3**
OZUR 54.83 307 ⇑P **P 03 27 48.6 +1.2**
PABE Paberze 54.93 319 *e*P **P 03 27 49.0 +1.1**
BURAR Bucovina Array 54.98 309 ⇑P **P 03 27 49.9 +1.4**
BURAR Bucovina Array 54.98 309 ⇑P **P 03 27 49.9 +1.4**
BURAR Bucovina Array 54.98 309 P **P 03 27 48.9 +0.3**
BUR08 Bucovina Ar. S 54.99 309 P **P 03 27 48.9 +0.3**
DOPR Dopca 55.12 307 ⇑P **P 03 27 50.9 +1.4**
VOIR 55.45 307 ⇑P **P 03 27 52.8 +0.9**
VOIR 55.45 307 ⇑P **P 03 27 52.8 +0.9**
LVV L'vov 55.46 312 *e*P **P 03 27 52.6 +0.8**
SUW Suwalki 55.50 317 *e*P **P 03 27 53.2 +1.1**
ALN Alexandroupoli 55.61 301 P **P 03 27 53.3 +0.3**
ALN pmax pmax
comp=Z,14nm,1.3s

ALN Alexandroupoli 55.61 301 IAmb IAmb 03 27 55.0
comp=Z,26nm,1.4s
ARR Arges 55.75 307 ⇑P **P 03 27 54.3 +0.2**
LOT Lotru 56.33 307 ⇑P **P 03 27 58.9 +0.6**
KOLS Kolonicke sedl 56.73 311 *e*P **P 03 28 02.2 +1.3**
KOLS Kolonicke sedl 56.73 311 *e*P **P 03 28 02.2 +1.3**
UZH Uzhgorod 56.76 311 *e*P **P 03 28 01.7 +0.6**
UZH *e* 03 28 04.3
UZH *e* 03 28 16.5
DRGR 56.81 309 ⇑P **P 03 28 02.2 +0.6**
DRGR 56.81 309 ⇑P **P 03 28 02.2 +0.6**
SANT Santorini 57.15 296 ⇑P **P 03 28 03.1 -1.1**
CRVS Cervenica-Dubn 57.26 311 *e*P **P 03 28 07.3 +2.6**
CRVS pmax pmax
comp=Z,17nm,1.2s
CRVS Cervenica-Dubn 57.26 311 *e*P **P 03 28 07.3 +2.6**
VTS Vitosha 57.29 304 ⇑P **P 03 28 05.8 +0.7**
VTS Vitosha 57.29 304 ⇑P **P 03 28 05.8 +0.7**
VTS Vitosha 57.29 304 IAmb IAmb 03 28 07.1
comp=Z,20nm,1.3s
OJC Ojcow 58.09 313 P **P 03 28 12.7 +2.2**
OJC Ojcow 58.09 313 IAmb IAmb 03 28 13.7
comp=Z,16nm,1.3s
BOVS Bovan 58.15 305 ⇑P **P 03 28 11.3 +0.3**
PSZ Piszkesteto 58.47 310 P **P 03 28 13.4 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 58.47 310 P **P 03 28 13.4 +0.1**
AGG Agios Georgios 58.83 300 P **P 03 28 15.3 -0.6**
VYHS Vyhne 59.04 311 *e*P **P 03 28 18.0 +0.8**
VYHS pmax pmax
comp=Z,11nm,1.4s
VYHS Vyhne 59.04 311 *e*P **P 03 28 18.0 +0.8**
FRGS Fruska Gora 59.12 307 ⇑P **P 03 28 17.9 +0.1**
DIVS Divibare 59.25 306 IAmb IAmb 03 28 22.1
comp=Z,18nm,1.4s
MORC Moravsky Berou 59.60 313 *e*P **P 03 28 21.2 +0.1**
MORH Mrgy, Hungar 59.67 309 ⇑P **P 03 28 21.6 +0.1**
MORH Mrgy, Hungar 59.67 309 *e*P **P 03 28 22.1 +0.6**
JAVC Velka Javorina 59.72 312 *e*P **P 03 28 23.1 +1.2**
PUK Puka 59.83 304 IAmb IAmb 03 28 24.0
comp=Z,14nm,1.0s
HFS Hagfors 59.88 325 P **P 03 28 23.6 +0.9**
comp=Z,4.3nm,0.9s,baz=151,slow=6.4,SNR=5.3
SMOL Smolenice 59.95 311 *e*P **P 03 28 24.1 +0.7**
SMOL pmax pmax
comp=Z,4.0nm,1.1s
SMOL Smolenice 59.95 311 *e*P **P 03 28 24.1 +0.7**
KRLC Kraliky 60.02 313 *e*P **P 03 28 25.0 +1.1**
KRLC Kraliky 60.02 313 *e*P **P 03 28 25.0 +1.1**
KOVH Kovagotottos 60.07 309 *e*P **P 03 28 25.8 +1.5**
MODS Modra-Piesok 60.08 311 *e*P **P 03 28 25.7 +1.3**
MODS pmax pmax
comp=Z,7.0nm,1.2s
MODS Modra-Piesok 60.08 311 *e*P **P 03 28 25.7 +1.3**
PDG Podgorica 60.19 304 P **P 03 28 25.5 +0.4**
PDG IAmb IAmb 03 28 26.5
comp=Z,10nm,1.1s
MPLH Magyarpolny 60.19 310 *e*P **P 03 28 27.1 +2.1**
DPC Dobruska-Polom 60.25 314 *e*P **P 03 28 27.1 +1.6**
DPC Dobruska-Polom 60.25 314 *e*P **P 03 28 27.1 +1.6**
OSTC Ostas 60.27 314 *e*P **P 03 28 26.7 +1.1**
VRAC Vranov 60.31 312 P **P 03 28 27.3 +1.4**
comp=Z,2.6nm,0.5s,baz=84,slow=6.7,SNR=8.6
VRAC Vranov 60.31 312 ⇑P **P 03 28 26.8 +0.9**
VRAC Vranov 60.31 312 *e*P **P 03 28 26.8 +0.9**
CHVC Chvalec 60.37 314 *e*P **P 03 28 27.9 +1.6**
KRUC Moravsky 60.49 312 *e*P **P 03 28 27.5 +0.4**
NC405 NORSAR Array S 60.68 326 P **P 03 28 28.3 +0.1**
SOP Sopron 60.71 311 *e*P **P 03 28 30.8 +2.2**
NB2 NORSAR Subarra 60.93 326 P **P 03 28 29.5 -0.4**
comp=Z,12nm,1.1s,baz=79,slow=6.9
NOA NORSAR Array B 60.93 326 P **P 03 28 30.4 +0.4**
comp=Z,6.5nm,1.0s,baz=79,slow=6.7,SNR=10
NC204 NORSAR Array S 61.10 327 P **P 03 28 31.7 +0.6**
CONA Conrad Observa 61.11 311 *e*P **P 03 28 32.2 +0.7**
comp=Z,16nm,1.1s
PRU Pruhonice 61.45 314 *e*P **P 03 28 34.8 +1.2**
PRU Pruhonice 61.45 314 *e*P **P 03 28 34.8 +1.2**
ARSA Arzberg 61.50 310 *e*P **P 03 28 35.0 +1.0**
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 61.60 315 *e*P **P 03 28 35.7 +1.1**
BRG Amp 03 28 37.1
comp=Z,8.4nm,1.2s
CKRC Cesky Krumlov 61.89 312 *e*P **P 03 28 38.0 +1.4**
SOKA Soboth 61.98 310 *e*P **P 03 28 37.7 +0.4**
comp=Z,12nm,1.2s
CLL Collm 62.07 315 *i* P **P 03 28 37.3 -0.5**
comp=Z,11nm,1.4s
CLL *e*PP **PP 03 30 50.0 -4.1**
CLL Collm 62.07 315 *i* P **P 03 28 37.3 -0.5**
CLL pmax pmax
comp=Z,11nm,1.4s
LODK Lodwar 62.10 257 P **P 03 28 38.2 -0.4**
LODK IAmb IAmb 03 28 39.6
comp=Z,8.0nm,1.3s
MOA Molln 62.17 311 *e*P **P 03 28 38.4 -0.1**
comp=Z,6.4nm,1.3s
GEC2 GERESS Array S 62.27 312 IAmb IAmb 03 28 41.8
comp=Z,18nm,1.4s
GERES GERESS Array B 62.27 312 P **P 03 28 39.9 +0.6**
comp=Z,3.5nm,0.9s,baz=76,slow=7.0,SNR=25
GERES GERESS Array B 62.27 312 P **P 03 28 39.7 +0.5**
OBKA Obir 62.34 310 *e*P **P 03 28 39.4 -0.4**
comp=Z,10nm,1.4s
WB0 Warramunga Arr 62.69 138 P **P 03 28 42.5 +0.3**
WB0 IAmb IAmb 03 28 54.6
comp=Z,9.8nm,1.4s
WRAB Tennant Creek 62.80 138 *ce*P **P 03 28 42.2 -0.8**
WRAB pmax pmax
comp=Z,6.0nm,1.3s
WRAB Tennant Creek 62.80 138 P **P 03 28 40.9 -2.1**
WRAB IAmb IAmb 03 29 01.4
comp=Z,16nm,1.3s
WRA Warramunga Arr 62.80 138 P **P 03 28 42.8 -0.2**
comp=Z,1.9nm,0.8s,baz=329,slow=7.4,SNR=6.3
TIP Timpagrande 62.94 301 IAmb IAmb 03 28 45.2
comp=Z,16nm,1.3s
KMBO Kilima Mbogo 63.05 251 P **P 03 28 45.1 0.0**
comp=Z,2.1nm,1.0s,baz=7.3,slow=8.2,SNR=4.0
KMBO Kilima Mbogo 63.05 251 *i* P **P 03 28 46.0 +0.9**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KIBK Kibwezi 63.10 250 P **P 03 28 44.6 -0.6**
ABTA Abfaltersbach 63.62 310 *e*P **P 03 28 48.5 +0.2**
comp=Z,6.5nm,1.3s
STAL STALIGIAL 63.63 310 P **P 03 28 48.0 -0.3**
WTTA Wattenberg 64.04 311 *e*P **P 03 28 51.1 -0.1**
comp=Z,13nm,1.6s
WATA Walderalm 64.06 311 *e*P **P 03 28 50.3 -0.9**
comp=Z,10nm,1.4s
SQTA Sankt Quirin 64.33 311 *e*P **P 03 28 53.3 +0.3**
comp=Z,11nm,1.1s
MOTA Moosalm 64.36 311 *e*P **P 03 28 52.5 -0.8**
comp=Z,12nm,1.1s
RETA Reutte 64.54 312 *e*P **P 03 28 54.7 +0.4**
comp=Z,10nm,1.1s
FETA Feichten 64.70 311 *e*P **P 03 28 54.9 -0.5**
comp=Z,12nm,1.2s
STU Stuttgart 65.14 313 P **P 03 28 58.6 +0.5**
STU pmax pmax
comp=Z,24nm,1.3s
STU Stuttgart 65.14 313 P **P 03 28 58.6 +0.5**
DAVA Damuels 65.17 312 *e*P **P 03 28 59.2 +0.6**
comp=Z,7.3nm,1.1s
DAVOX Davos/Dischmat 65.33 311 P **P 03 28 59.1 -0.5**
comp=Z,10nm,1.0s,baz=0.4,slow=4.4,SNR=10
ASAR Alice Springs 65.50 141 P **P 03 29 00.5 -0.2**
comp=Z,2.2nm,0.9s,baz=325,slow=6.4,SNR=13
ASAR Alice Springs 65.50 141 P **P 03 29 01.0 +0.3**
ASAR Alice Springs 65.50 141 P **P 03 29 01.0 +0.3**
TUE Stuetta 65.78 311 P **P 03 29 03.0 +0.5**
TUE IAmb IAmb 03 29 15.2
comp=Z,15nm,1.3s
BFO Black Forest 65.83 313 P **P 03 29 02.5 -0.1**
BFO pmax pmax
comp=Z,10.0nm,1.2s
BFO Black Forest 65.83 313 P **P 03 29 02.5 -0.1**
BFO IAmb IAmb 03 29 04.1
comp=Z,10nm,1.2s
SENIN Lac Senin/Sane 67.15 311 IAmb IAmb 03 29 12.8
comp=Z,8.1nm,1.1s
LPL La Plagne 67.82 311 *e*P **P 03 29 16.4 +0.8**
LPL pmax pmax
comp=Z,17nm,1.0s

MBAR Mbarara 68.16 256 P **P 03 29 17.5 -0.6**
MBAR pmax pmax
comp=Z,6.0nm,1.1s
MBAR Mbarara 68.16 256 P **P 03 29 17.4 -0.6**
SSF Saint Saulge 69.32 313 *e*P **P 03 29 24.9 +0.2**
SSF pmax pmax
comp=Z,2.0nm,1.2s
KEST Kesra 69.67 300 P **P 03 29 27.8 +0.7**
comp=Z,14nm,1.2s,baz=357,slow=3.1,SNR=7.4
EUNU Eureka 69.82 0 P **P 03 29 28.5 +1.2**
EUNU IAmb IAmb 03 29 29.6
comp=Z,17nm,1.1s
EKA Eskdalemuir Ar 69.89 323 P **P 03 29 28.3 +0.3**
comp=Z,1.6nm,0.7s,baz=108,slow=5.4,SNR=4.5
TOLK Toolik Lake Re 70.66 20 P **P 03 29 33.1 +0.5**
baz=304,SNR=7.1
TOLK Toolik Lake Re 70.66 20 IAmb IAmb 03 29 35.1
comp=Z,14nm,1.2s
IMAR Indian Mountai 70.75 24 P **P 03 29 33.2 +0.1**
COLD Coldfoot 71.26 22 P **P 03 29 37.0 +0.8**
baz=304
J20K Nowinta River 71.56 26 P **P 03 29 38.6 +0.7**
baz=302,SNR=14
I21K Tanana 71.80 24 P **P 03 29 40.2 +0.8**
baz=303
K20K Telida 72.02 26 P **P 03 29 41.4 +0.6**
baz=302,SNR=8.6
H23K Yukon River 72.28 23 P **P 03 29 43.1 +0.7**
baz=305,SNR=6.6
MLY Manley 72.32 24 P **P 03 29 43.0 +0.4**
baz=304,SNR=15
MLY Manley 72.32 24 P **P 03 29 43.5 +0.9**
MLY IAmb IAmb 03 29 45.2
comp=Z,8.4nm,1.1s
L19K White Mountain 72.33 28 P **P 03 29 43.3 +0.5**
baz=302,SNR=16
CHUM Lake Minchumin 72.39 25 P **P 03 29 43.7 +0.7**
baz=303,SNR=5.1
SUMG Summit 72.49 347 P **P 03 29 44.6 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 72.49 347 P **P 03 29 44.6 +0.7**
SUMG IAmb IAmb 03 29 47.2
comp=Z,9.4nm,1.1s
SVW2 Sparrevohn 72.61 29 IAmb IAmb 03 29 47.3
comp=Z,12nm,1.2s
N18K Kilae Creek 72.70 29 P **P 03 29 45.6 +0.7**
baz=301,SNR=8.1
I23K Minto, Yukon-K 72.73 23 P **P 03 29 45.6 +0.6**
baz=305
BPAW Bear Paw Mtn. 72.76 25 P **P 03 29 45.5 +0.3**
baz=304,SNR=15
BPAW Bear Paw Mtn. 72.76 25 IAmb IAmb 03 29 47.5
comp=Z,14nm,1.2s
H24K Noodor Dome 72.83 23 P **P 03 29 46.1 +0.5**
baz=306
BMAR Burnt Mountain 72.89 20 P **P 03 29 47.0 +1.1**
PPLA Purkeypile 72.99 26 P **P 03 29 47.1 +0.4**
baz=304,SNR=14
KTH Kantishna Hill 73.09 25 IAmb IAmb 03 29 49.8
comp=Z,10nm,1.3s
NEA2 Nenana 73.16 24 P **P 03 29 47.6 +0.1**
baz=306,SNR=6.2
NEA2 Nenana 73.16 24 IAmb IAmb 03 29 49.7
comp=Z,10nm,1.1s
N19K Bonanza Creek 73.21 29 P **P 03 29 48.5 +0.5**
baz=302
MDM Murphy Dome 73.23 23 IAmb IAmb 03 29 50.4
comp=Z,13nm,1.2s
FYU Fort Yukon 73.23 21 IAmb IAmb 03 29 51.1
comp=Z,16nm,1.3s
SDPT Sand Point 73.28 35 P **P 03 29 48.2 -0.2**
baz=299
TRF Thorofare Moun 73.39 25 P **P 03 29 49.0 -0.1**
baz=305
POKR Poker Plat Res 73.41 23 P **P 03 29 49.5 +0.4**
baz=307
O18K Koktuh Hills 73.42 30 P **P 03 29 49.2 -0.1**
baz=302,SNR=5.8
SKT Skwentna 73.76 27 P **P 03 29 51.2 0.0**
baz=304,SNR=10
SKT Skwentna 73.76 27 IAmb IAmb 03 29 52.9
comp=Z,14nm,1.2s
PRP Porcupine Dome 73.80 22 P **P 03 29 51.9 +0.4**
baz=308,SNR=9.9
PRP Porcupine Dome 73.80 22 IAmb IAmb 03 29 54.1
comp=Z,12nm,1.2s
ILAR Eielson Array 73.80 23 P **P 03 29 51.5 +0.2**
comp=Z,2.9nm,0.9s,baz=293,slow=5.1,SNR=26
ILAR Eielson Array 73.80 23 P **P 03 29 50.5 -0.9**
CHNA Chernabura Isl 73.98 35 P **P 03 29 52.2 -0.3**
baz=300
HDA Harding Lake 74.00 23 P **P 03 29 52.4 -0.1**
baz=308
SUA Susitna One 74.36 27 P **P 03 29 54.4 -0.4**
baz=305
P19K Oil Pt 74.37 29 P **P 03 29 54.1 -0.7**
baz=304
O20K Slope Mountain 74.39 29 P **P 03 29 54.3 -0.6**
baz=304
WAT1 Susitna Watana 74.39 25 P **P 03 29 55.2 +0.3**
baz=307
WAT6 Susitna Watana 74.84 25 P **P 03 29 57.3 -0.3**
baz=307
PMR Palmer 74.91 26 P **P 03 29 57.5 -0.3**
baz=306,SNR=5.9
PMR Palmer 74.91 26 IAmb IAmb 03 29 59.5
comp=Z,13nm,1.2s
RC01 Rabbit Creek A 74.97 27 P **P 03 29 58.3 +0.1**
baz=306
RC01 Rabbit Creek A 74.97 27 IAmb IAmb 03 29 59.8
comp=Z,11nm,1.2s
SML Sawmill 75.09 26 P **P 03 29 59.0 +0.1**
baz=307,SNR=8.6
RIDG Independent Ri 75.15 23 P **P 03 29 58.8 -0.5**
baz=309,SNR=9.4
RIDG Independent Ri 75.15 23 P **P 03 29 58.7 -0.5**
RIDG IAmb IAmb 03 30 00.6
comp=Z,18nm,1.3s
KNK Knik Glacier 75.28 26 P **P 03 29 59.6 -0.4**
baz=307
SCRK Sand Creek 75.29 23 P **P 03 29 59.9 -0.2**
baz=310,SNR=14
SCRK Sand Creek 75.29 23 IAmb IAmb 03 30 01.9
comp=Z,12nm,1.1s
INK Inuvik 75.32 17 P **P 03 30 00.3 +0.3**
comp=Z,7.9nm,1.0s,baz=319,slow=7.7,SNR=9.2
INK Inuvik 75.32 17 P **P 03 29 59.8 -0.2**
baz=318,SNR=8.7
INK Inuvik 75.32 17 IAmb IAmb 03 30 02.2
comp=Z,15nm,1.2s
BRSE Bradley Lake S 75.36 28 P **P 03 30 00.1 -0.3**
baz=306
PAX Paxson 75.42 24 P **P 03 30 01.2 +0.4**
baz=309
SCM Sheep Creek Mo 75.45 26 IAmb IAmb 03 30 03.3
comp=Z,15nm,1.2s
EGAK Eagle 75.68 22 P **P 03 30 02.3 +0.1**
baz=312,SNR=6.9
EGAK Eagle 75.68 22 P **P 03 30 02.7 +0.5**
EGAK IAmb IAmb 03 30 04.3
comp=Z,8.8nm,1.1s
KDAK Kodiak Island 75.70 31 P **P 03 30 02.0 -0.4**
comp=Z,2.2nm,0.9s,baz=299,slow=4.9,SNR=4.5
KDAK Kodiak Island 75.70 31 P **P 03 30 01.7 -0.7**
baz=304
OHAK Old Harbor 75.71 31 P **P 03 30 02.0 -0.4**
baz=304
M24K Tolsona, Glenn 75.71 25 P **P 03 30 03.1 +0.6**
baz=309
K27K Chicken 75.89 22 P **P 03 30 03.8 +0.4**
baz=312
STKA Stephens Creek 76.13 140 P **P 03 30 06.4 +1.2**
comp=Z,3.7nm,1.1s,baz=247,slow=4.0,SNR=3.5
KLU Klutina 76.19 26 P **P 03 30 04.9 -0.3**
baz=309,SNR=7.5
KLU Klutina 76.19 26 IAmb IAmb 03 30 07.7
comp=Z,15nm,1.2s
N25K Chitina, Valde 76.60 25 P **P 03 30 07.5 -0.1**
baz=310,SNR=6.2
N25K Chitina, Valde 76.60 25 IAmb IAmb 03 30 10.3
comp=Z,9.3nm,1.1s
L27K Beaver Creek, 76.62 23 P **P 03 30 08.1 +0.5**
baz=312,SNR=13
L27K Beaver Creek, 76.62 23 IAmb IAmb 03 30 10.7
comp=Z,9.4nm,1.1s
BCAR Beaver Creek A 76.63 23 P **P 03 30 09.1 +1.4**
M26K Nabesna, AK 76.66 24 P **P 03 30 08.2 +0.3**

baz=311
DAWY Dawson 76.73 22 P **P 03 30 08.8 +0.6**
EYAK Cordova Ski Ar 76.85 26 P **P 03 30 09.3 +0.4**
baz=309
BMRM Bremner River 77.01 26 P **P 03 30 09.7 -0.2**
baz=310
BMRM Bremner River 77.01 26 IAmb IAmb 03 30 12.8
comp=Z,7.2nm,0.9s
M27K Edge Creek, AK 77.08 24 P **P 03 30 10.3 0.0**
baz=312
MCARA McCarthy VSAT 77.32 25 P **P 03 30 11.8 +0.2**
baz=311
ESDC Sonseca Array 77.44 309 P **P 03 30 12.8 +0.1**
comp=Z,5.8nm,1.2s,baz=57,slow=5.3,SNR=13
ESDC Sonseca Array 77.44 309 P **P 03 30 13.3 +0.6**
CTG Chitna Glacier 78.21 24 P **P 03 30 16.6 -0.1**
baz=313
LSZ Lusaka 78.53 245 P **P 03 30 18.3 -0.8**
LSZ pmax pmax
comp=Z,10.0nm,1.1s
LSZ Lusaka 78.53 245 P **P 03 30 18.3 -0.8**
LSZ IAmb IAmb 03 30 19.5
comp=Z,10nm,1.1s
SFJD Kangerlussuaq 79.48 347 P **P 03 30 23.2 -0.2**
comp=Z,3.4nm,0.5s,baz=349,slow=5.3,SNR=4.7
SFJD Kangerlussuaq 79.48 347 IAmb IAmb 03 30 24.6
comp=Z,12nm,0.9s
HYT Haines Junctio 79.65 23 IAmb IAmb 03 30 27.4
comp=Z,12nm,1.2s
SKAG Skagway 81.39 23 P **P 03 30 33.9 +0.2**
baz=318
SKAG Skagway 81.39 23 IAmb IAmb 03 30 37.0
comp=Z,20nm,1.2s
DLBC Dease Lake 83.94 22 P **P 03 30 46.7 -0.5**
comp=Z,2.6nm,1.0s,baz=254,slow=14,SNR=3.7
DLBC Dease Lake 83.94 22 P **P 03 30 47.6 +0.4**
YKA Yellowknife Ar 84.50 13 P **P 03 30 49.6 -0.2**
comp=Z,0.2nm,0.3s,baz=342,slow=4.4,SNR=4.0
YKA Yellowknife Ar 84.50 13 P **P 03 30 49.7 -0.1**
CRAG Craig 85.19 25 P **P 03 30 52.9 -0.5**
baz=320
TORD Torodi Ar. Bea 86.14 283 P **P 03 30 59.0 +0.1**
comp=Z,7.8nm,1.1s,baz=49,slow=3.9,SNR=21
TORD PP **PP 03 34 16.3 -3.0**
comp=Z,3.2nm,1.3s,baz=43,slow=8.4,SNR=5.2
TORD Torodi Ar. Bea 86.14 283 P **P 03 30 58.8 -0.1**
TORD IAmb IAmb 03 31 00.6
comp=Z,11nm,1.2s
O03E Paynes Creek 101.92 28 P **Pdif 03 32 10.4 -0.8**
baz=328
PDAR Pinedale Array 103.85 18 PP PKiKP 03 36 29.6 -8.1
comp=Z,0.3nm,0.6s,baz=3.4,slow=4.5,SNR=2.5
TXAR Lajitas Array 118.07 18 PKP **PKiKP 03 37 05.7 +1.0**
comp=Z,0.7nm,1.1s,baz=151,slow=2.9,SNR=4.3
ROSC El Rosal 143.50 342 PKP PKPbc 03 37 51.1 +0.7
comp=Z,6.8nm,0.6s,baz=182,slow=11,SNR=4.2
ROSC El Rosal 143.50 342 PKIKP **PKPdf 03 37 52.7 -0.5**
ROSC El Rosal 143.50 342 PKPdf **PKPdf 03 37 52.7 -0.5**
OTAV Otavalo 148.91 347 PKP2 **PKPbc 03 38 05.3 -1.1**
OTAV Otavalo 148.91 347 PKPbc **PKPbc 03 38 05.3 -1.1**
LPAZ La Paz 159.06 308 PKPab **PKPab 03 38 52.7 -0.6**
comp=Z,1.0nm,1.0s,baz=24,slow=3.1,SNR=4.0
PLCA Paso Flores 164.26 225 PKPab **PKPab 03 39 14.1 -0.7**
comp=Z,1.4nm,0.9s,baz=217,slow=19,SNR=3.0

*IDC **31** 03:35:46.9±1.0, 7°.09S×101°.83E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/44, mbtmp4.0/12, ML4.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/50, Error ellipse: s-maj=34.3km s-min=15.4km az=51.0*
*DJA **31** 03:35:50.5±0.6, 7°.5±3°×10°.2E±°, h63km±23km, M4.8/13, mb4.8/6, mB5.2/3, MLv4.8/13, Mw(mB)4.7/3*
*NEIC **31** 03:35:50.8±1.9, 7°.08S±0°.07×101°.94E±0°.08, h22km±4km, mb4.4/16, Error ellipse: s-maj=11.6km s-min=10.0km az=225.0*
ISC 31 03:35:52.1±0.6, 6°.94S±0°.06×101°.99E±0°.07, h35km, n59, σ1§53/55, mb4.1/15, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGSI	**Enggano, Bengk**	**1.60**	**10**	P	**Pn**	**03 36 17.1**	**-0.8**
EGSI				S	**Sn**	**03 36 36.2**	**-1.2**
LWLI	**Liwa**	**2.81**	**47**	P	**Pn**	**03 36 33.7**	**-0.9**
KASI	**Kota Agung**	**2.86**	**61**	P	**Pn**	**03 36 32.8**	**-2.4**
UBSI	**University, Be**	**3.17**	**5**	P	**Pn**	**03 36 38.7**	**-0.8**
UBSI				S	**Sn**	**03 37 14.5**	**-1.6**
MDSI	**Maura Dua**	**3.27**	**42**	P	**Pn**	**03 36 40.2**	**-0.6**
MDSI				S	**Sn**	**03 37 15.4**	**-3.1**
LHSI	**Lahat**	**3.45**	**26**	P	**Pn**	**03 36 43.1**	**-0.2**
LHSI				S	**Sn**	**03 37 20.4**	**-2.6**
BLSI	**Bandar Lampung**	**3.59**	**64**	P	**Pn**	**03 36 44.6**	**-0.7**
CGJI	**Cibinong**	**3.69**	**85**	P	**Pn**	**03 36 44.5**	**-2.2**
DBJI	**Dramaga**	**4.74**	**86**	P	**Pn**	**03 37 00.1**	**-1.0**
CBJI	**Citeko**	**4.86**	**84**	P	**Pn**	**03 37 03.3**	**+0.6**
PMBI	**Palembang**	**4.86**	**35**	Pn	**Pn**	**03 37 02.9**	**+0.3**
XMIS	**Christmas Isla**	**5.05**	**134**	Pn	Pn	03 36 59.2	-6.1
CNJI	**Cibinong**	**5.11**	**94**	P	**Pn**	**03 37 03.9**	**-2.3**
1.0nm5μm170nm,0.8s
LEM Lembang 5.59 89 Pn **Pn 03 37 13.9 +1.0**
34nm,0.3s,baz=144,slow=22,SNR=14
LEM Sn **Sn 03 38 20.4 +4.4**
8.3nm,0.3s,baz=148,slow=23,SNR=1.4
LEM LR LR 03 39 40.0
comp=Z,162nm,20.1s,baz=334,slow=40
LEM Lembang 5.59 89 P **Pn 03 37 11.4 -1.5**
0.3nm1μm81nm,0.8s
CISI Cisompet, Garu 5.81 96 **Pn 03 37 13.7 -2.2**
KPJI Karang Pucung 6.90 94 P **Pn 03 37 28.5 -2.3**
0.3nm52nm,0.5s
COCO West Island 7.28 224 Pn **Pn 03 37 33.8 -2.2**
UGM Wanagama 8.52 97 Pn **Pn 03 37 51.2 -1.8**
UGM Wanagama 8.52 97 P **Pn 03 37 50.7 -2.3**
144nm,2.1s
PCJI Pacitan 9.19 98 P **Pn 03 37 59.6 -2.7**
GSI Gunungsitoli 9.30 332 Pn **Pn 03 38 03.3 -0.4**
PWJI Pagerwojo 9.79 97 P **Pn 03 38 08.2 -2.3**
MMRI Maumere 20.13 96 P **P 03 40 22.0 -1.3**
TOLI2 Tolitoli 20.39 68 P **P 03 40 25.9 -0.2**
TOLI2 IAmb IAmb 03 40 26.7
comp=Z,16nm,0.8s
CM31 Chiang Mai Arr 25.41 353 P **P 03 41 17.1 +0.5**
CM31 IAmb IAmb 03 41 23.8
comp=Z,6.3nm,0.5s
CMAR Chiang Mai Arr 25.41 353 P **P 03 41 17.4 +0.8**
comp=Z,1.7nm,0.4s,baz=174,slow=8.0,SNR=8.4
PALK Pallekele 25.50 303 LR LR 03 49 54.2
comp=Z,74nm,18.6s,baz=229,slow=33
H08S2 Diego Garcia H 29.26 267 T T 04 13 31.9
baz=87
H08S3 Diego Garcia H 29.27 267 T T 04 14 47.8
baz=87,slow=74
H08S1 Diego Garcia H 29.28 267 T T 04 14 36.6
baz=87,slow=74
H01W3 Cape Leeuwin H 29.98 160 T T 04 14 46.4
baz=335
H01W2 Cape Leeuwin H 29.99 160 T T 04 14 41.3
baz=335
H01W1 Cape Leeuwin H 29.99 160 T T 04 14 50.4
baz=335
WB0 Warramunga Arr 33.93 115 P **P 03 42 33.1 +0.9**
WRA Warramunga Arr 33.93 116 P **P 03 42 32.2 -0.1**
comp=Z,0.8nm,0.5s,baz=284,slow=12,SNR=10
WR0 Warramunga Arr 34.12 116 P **P 03 42 32.9 -1.0**
ASAR Alice Springs 34.86 122 P **P 03 42 39.8 -0.5**
comp=Z,0.4nm,0.4s,baz=295,slow=7.8,SNR=6.4
STKA Stephens Creek 44.45 129 P **P 03 44 00.6 +0.6**
comp=Z,1.4nm,0.6s,baz=300,slow=9.9,SNR=5.0
KSRS Korea Array 50.37 27 P **P 03 44 47.1 +1.4**
comp=Z,0.4nm,0.3s,baz=238,slow=7.5,SNR=1.9
SONM Songino Array 54.68 4 P **P 03 45 19.8 +2.1**
comp=Z,4.1nm,0.8s,baz=183,slow=9.3,SNR=21
SONM Songino Array 54.68 4 P **P 03 45 19.2 +1.5**
SONM IAmb IAmb 03 45 20.8
comp=Z,3.1nm,0.8s
ULN Ulaanbaatar 54.75 4 P **P 03 45 19.5 +1.2**
ULN IAmb IAmb 03 45 21.1
comp=Z,2.7nm,0.7s
BTK Batken 54.90 331 P **P 03 45 19.4 -0.1**
BTK IAmb IAmb 03 45 21.6
comp=Z,3.5nm,1.1s
MK31 Makanchi Array 56.29 344 P **P 03 45 30.4 +1.1**
MKAR Makanchi Array 56.29 344 P **P 03 45 29.7 +0.5**
comp=Z,1.6nm,0.8s,baz=144,slow=8.4,SNR=12
MKAR Makanchi Array 56.29 344 P **P 03 45 30.0 +0.8**
KURBB Kurchatov Arra 60.82 343 P **P 03 46 01.2 +0.6**
comp=Z,1.3nm,0.9s,baz=162,slow=6.1,SNR=9.5
KURK Kurchatov 60.88 343 P **P 03 46 01.2 +0.2**
ZAA0 Zalesovo Array 62.36 349 P **P 03 46 10.5 -0.5**
ZAA0 IAmb IAmb 03 46 23.8
comp=Z,4.5nm,1.2s
ZALV Zalesovo Beam 62.36 349 P **P 03 46 11.5 +0.5**
comp=Z,0.5nm,0.3s,baz=176,slow=5.9,SNR=5.5
ZALV Zalesovo Beam 62.36 349 P **P 03 46 11.7 +0.7**
ABKAR Akbulak array 66.90 332 P **P 03 46 41.1 +0.4**
ARU Arti 72.50 336 P **P 03 47 15.6 +0.6**
KBZ Khabaz 73.32 320 P **P 03 47 20.1 -0.1**
comp=Z,2.0nm,1.0s,baz=104,slow=2.5,SNR=4.9
VNDA Vanda 76.96 169 P **P 03 47 40.9 +0.2**
comp=Z,0.4nm,0.8s,baz=301,slow=8.2,SNR=1.8
VNDA Vanda 76.96 169 IAmb IAmb 03 47 52.9
comp=Z,2.3nm,1.0s
BURAR Bucovina Array 86.26 319 P **P 03 48 31.5 +1.2**
TXAR Lajitas Array 147.13 44 PKPbc **PKiKP 03 55 33.8 -1.0**
comp=Z,0.3nm,0.5s,baz=231,slow=1.9,SNR=8.3

*IDC **31** 03:48:08.1±0.6, 26°.87S×176°.52W, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/33, mbtmp4.3/17, ML5.1/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/30, Error ellipse: s-maj=23.2km s-min=15.8km az=116.0*
*NEIC **31** 03:48:09.2±2.2, 26°.76S±0°.09×175°.84W±0°.08, h10km±1km, mb4.7/26, Error ellipse: s-maj=16.5km s-min=11.8km az=155.0*
ISC 31 03:48:11.9±0.4, 26°.80S±0°.06×175°.89W±0°.08, h31km, n95, σ1§86/74, mb4.5/32, MS3.8/16, 1C-1D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.03**	**216**	Pn	Pn	03 48 53.2	-4.5
346nm,0.3s,baz=105,slow=11,SNR=24
RAO Sn **Sn 03 49 25.2 -7.8**
610nm,0.3s,baz=83,slow=22,SNR=7.0
RAO Raoul Island 3.03 216 Pn 03 48 52.8 -4.9
NIUE Niue 9.45 37 Pn **Pn 03 50 23.7 -2.2**
MSVF Nonsavu 10.62 327 LR LR 03 54 25.9
comp=Z,935nm,18.7s,baz=155,slow=36
MSVF Nonsavu 10.62 327 Pn **Pn 03 50 42.6 +0.6**
URZ Urewera 12.86 206 Pn Pn 03 51 03.5 -9.0
1.0nm,0.3s,baz=320,slow=18,SNR=2.7
URZ Sn Sn 03 53 16.3 -18
3.1nm,0.3s,baz=210,slow=22,SNR=16
AFI Afiamalu 13.39 18 Pn **Pn 03 51 16.8 -3.0**
5.9nm,0.3s,baz=354,slow=5.1,SNR=5.5
AFI Sn **Sn 03 53 42.4 -5.3**
6.5nm,0.3s,baz=90,slow=17,SNR=3.6
AFI LR LR 03 56 58.4
comp=Z,82nm,18.9s,baz=190,slow=39
AFI Afiamalu 13.39 18 Pn **Pn 03 51 17.1 -2.8**
RAR Rarotonga 15.74 73 Pn **Pn 03 51 49.7 -1.6**
1.3nm,0.3s,baz=276,slow=3.8,SNR=10
RAR LR LR 03 57 07.2
comp=Z,194nm,18.6s,baz=249,slow=33
RAR Rarotonga 15.74 73 **Pn 03 51 49.5 -1.8**
RAR IAmb IAmb 03 51 54.5
comp=Z,49nm,0.9s
DZM Mont Dzumac 16.76 283 *e*Pn **Pn 03 52 06.1 +1.6**
comp=Z,96nm,1.4s
DZM *e*LR LR 03 55 58.4
comp=Z,975nm,23.4s
DZM Mont Dzumac 16.76 283 **Pn 03 52 05.1 +0.7**
DZM IAmb IAmb 03 52 20.7
comp=Z,46nm,1.2s
TUWZ Tuamarina 16.83 207 **P 03 52 09.2 +2.3**
TBI Tubuai 24.17 88 *e*LR LR 03 59 25.9
comp=Z,385nm,28.2s
TBI Tubuai 24.17 88 *e*T T 04 18 33.4
comp=Z,6.3nm,0.3s
PAE Paea 25.95 75 *e*T T 04 20 48.8
comp=Z,3.1nm,0.3s
PPT2 Papeete2 25.99 75 *e*LR LR 04 00 13.9
comp=Z,438nm,28.2s,baz=239
PPT2 Papeete2 25.99 75 *e*T T 04 20 52.3
comp=Z,2.0nm,0.3s
PPT Papeete 26.00 75 LR LR 04 01 31.3
comp=Z,142nm,18.9s,baz=240,slow=30
TIAR Tiarei 26.20 75 *e*T T 04 21 07.4
comp=Z,0.7nm,0.4s
VAH Vaihoa 28.71 72 *e*T T 04 24 15.5
comp=Z,4.0nm,0.2s
CTA Charters Tower 35.27 273 LR LR 04 08 36.5
comp=Z,520nm,19.8s,baz=56,slow=35
STKA Stephens Creek 37.23 252 P **P 03 55 18.6 -2.1**
comp=Z,1.4nm,0.8s,baz=111,slow=13,SNR=3.0
STKA LR LR 04 09 22.3
comp=Z,217nm,18.3s,baz=36,slow=35
AS31 Alice Springs 45.29 262 P **P 03 56 27.6 +0.6**
ASAR Alice Springs 45.29 262 P P 03 56 22.6 -4.4
comp=Z,1.9nm,0.9s,baz=95,slow=6.8,SNR=14
ASAR LR LR 04 15 22.8
comp=Z,320nm,18.2s,baz=91,slow=37
WB2 Warramunga Arr 45.95 268 P **P 03 56 32.9 +0.6**
WB2 IAmb IAmb 03 56 43.7
comp=Z,15nm,1.4s
WRA Warramunga Arr 45.96 268 P P 03 56 27.8 -4.6
comp=Z,2.3nm,0.5s,baz=104,slow=8.3,SNR=18
WB0 Warramunga Arr 45.97 268 P **P 03 56 32.5 +0.1**
WB0 IAmb IAmb 03 56 33.1
comp=Z,7.7nm,0.9s
SBA Scott Base 51.76 185 P **P 03 57 17.8 +1.8**
SBA IAmb IAmb 03 57 34.8
comp=Z,11nm,1.1s
VNDA Vanda 51.85 186 P **P 03 57 17.9 +1.2**
comp=Z,0.8nm,0.6s,baz=83,slow=3.9,SNR=7.0
VNDA LR LR 04 15 26.2
comp=Z,49nm,21.1s,baz=128,slow=32
VNDA Vanda 51.85 186 P **P 03 57 17.9 +1.2**
NWAO Narrogin (SRO) 57.47 247 LR LR 04 19 23.1
comp=Z,131nm,19.6s,baz=66,slow=33
TNTI Ternate 61.05 287 P **P 03 58 22.3 -0.7**
QSPA South Pole Qui 63.30 180 P **P 03 58 38.0 +0.4**
JHJ2 Mitsune 72.95 322 P **P 03 59 38.1 -0.2**
JOW Kunigami 75.69 310 P **P 03 59 53.9 -0.5**
comp=Z,20nm,1.0s,baz=135,slow=11,SNR=4.9
JOW LR LR 04 30 52.5
comp=Z,38nm,18.8s,baz=245,slow=34
JOW Kunigami 75.69 310 P **P 03 59 53.7 -0.7**
MAW Mawson 76.31 200 P **P 03 59 56.6 -0.8**
comp=Z,3.6nm,0.8s,baz=123,slow=7.6,SNR=9.7
MAW LR LR 04 32 57.9
comp=Z,73nm,18.1s,baz=67,slow=35
MAW Mawson 76.31 200 P **P 03 59 56.8 -0.6**
MJAR Matsushiro Arr 76.40 323 P **P 03 59 55.9 -2.4**
comp=Z,5.1nm,0.9s,baz=155,slow=5.9,SNR=16
MJAR Matsushiro Arr 76.40 323 P **P 03 59 57.6 -0.7**
MJAR IAmb IAmb 03 59 59.5
comp=Z,5.6nm,1.1s
MAJO Matsushiro 76.41 323 P **P 03 59 57.9 -0.4**
MAJO IAmb IAmb 03 59 59.2
comp=Z,9.5nm,0.9s
MAT Matsushiro 76.41 323 P **P 03 59 57.5 -0.8**
JWT Wachi 77.02 321 P **P 04 00 01.6 -0.1**
JWT IAmb IAmb 04 00 03.6
comp=Z,14nm,1.1s
JTM Tenmabayashi 78.22 328 P **P 04 00 09.5 +1.2**
H03S2 Juan Fernandez 80.89 123 T T 05 30 00.4
baz=242,slow=74,SNR=1.6
H03S1 Juan Fernandez 80.90 123 T T 05 30 10.7
baz=242,slow=74,SNR=4.6
H03S3 Juan Fernandez 80.91 123 T T 05 30 04.3
baz=242,slow=74,SNR=4.6
LL05 Los Muermos 81.32 132 P **P 04 00 24.4 -1.0**
SNAA Sanae 81.68 178 P **P 04 00 26.5 -0.3**
SNAA Sanae 81.68 178 P **P 04 00 27.5 +0.7**
VNA3 Neumayer Olymp 81.75 176 P **P 04 00 26.7 -0.5**
ISA Isabella, Lake 82.43 44 P **P 04 00 31.3 0.0**
ISA IAmb IAmb 04 00 43.9
comp=Z,5.6nm,1.2s
PETK Petropavlovsk- 82.83 344 P **P 04 00 33.8 +1.0**
comp=Z,1.3nm,0.7s,baz=155,slow=7.2,SNR=3.8
PETK Petropavlovsk- 82.83 344 P **P 04 00 34.0 +1.3**
KSRS Korea Array 82.86 318 P **P 04 00 34.0 +0.8**
comp=Z,3.2nm,0.8s,baz=137,slow=6.4,SNR=12
KSAR Wonju Array Be 82.88 318 P **P 04 00 34.0 +0.6**
PLCA Paso Flores 83.58 132 LR LR 04 30 07.8
comp=Z,38nm,19.2s,baz=304,slow=30
YBH Yreka Blue Hor 84.06 37 P **P 04 00 43.4 +3.9**
comp=Z,3.0nm,0.9s,baz=320,slow=2.7,SNR=6.9
NVAR Mina Array Bea 84.33 42 P **P 04 00 45.1 +4.0**
comp=Z,1.8nm,0.9s,baz=225,slow=8.1,SNR=10

TPNV Topopah Spring 84.64 44 P **P 04 00 42.3 -0.3**
TPNV IAmb IAmb 04 00 47.6
comp=Z,3.7nm,1.0s
KVN Kaiserville 84.86 41 P **P 04 00 43.7 0.0**
W13A Hualapai Mount 84.99 47 P **P 04 00 45.5 +0.9**
USRK Ussuriysk Ar. 85.23 325 P **P 04 00 46.1 +0.9**
comp=Z,0.8nm,0.5s,baz=106,slow=4.7,SNR=2.0
NJ2 Nanjing 85.36 309 *e*P **P 04 00 48.0 +1.9**
NJ2 pmax pmax
comp=Z,15nm,0.5s
WHN Wuhan 87.71 306 ⇓P **P 04 00 58.5 +0.8**
TXAR Lajitas Array 88.87 56 P **P 04 01 06.6 +3.2**
comp=Z,0.4nm,0.8s,baz=230,slow=7.7,SNR=5.5
TXAR LR LR 04 33 03.8
comp=Z,34nm,20.8s,baz=0.0,slow=30
TXAR Lajitas Array 88.87 56 P **P 04 01 04.4 +1.0**
KLR Kul'dur 88.90 329 P **P 04 01 04.3 +1.4**
comp=Z,2.5nm,0.9s,baz=45,slow=3.5,SNR=6.2
TIA Tai'an 88.92 312 P **P 04 01 03.8 +0.5**
TIA pmax pmax
comp=Z,5.0nm,0.8s
F10A Beach Ranch, E 89.84 37 P **P 04 01 07.6 +0.1**
F10A IAmb IAmb 04 01 25.0
comp=Z,5.8nm,0.9s
GLI Glacier Island 90.46 14 P **P 04 01 10.7 +0.8**
GLI IAmb IAmb 04 01 15.9
comp=Z,6.4nm,0.9s
O20A White River Ci 91.57 45 IAmb IAmb 04 01 15.6
comp=Z,5.1nm,0.9s
PDAR Pinedale Array 92.25 42 LR LR 04 37 11.3
comp=Z,41nm,18.9s,baz=268,slow=32
NNA Nana 92.58 105 LR LR 04 32 44.7
comp=Z,32nm,21.9s,baz=242,slow=29
BOZ Bozeman (W) 92.68 39 P **P 04 01 22.5 +1.7**
BOZ IAmb IAmb 04 01 25.6
comp=Z,2.8nm,0.9s
XAN Xi'an 93.45 306 P **P 04 01 25.0 +0.5**
XAN pP pP 04 01 32.5 -0.1
XAN pmax pmax
comp=Z,6.0nm,0.8s
KMI Kunming 93.89 296 ⇑P **P 04 01 27.5 +0.6**
KMI pP pP 04 01 34.0 -1.1
KMI pmax pmax
comp=Z,5.0nm,1.2s
CMAR Chiang Mai Arr 93.99 289 P **P 04 01 27.4 +0.1**
comp=Z,0.6nm,0.3s,baz=106,slow=2.0,SNR=4.3
LVC Limon Verde 94.00 118 LR LR 04 32 01.6
comp=Z,32nm,21.6s,baz=230,slow=28
ILAR Eielson Array 94.02 12 P **P 04 01 27.5 +1.2**
comp=Z,0.5nm,0.7s,baz=225,slow=5.1,SNR=4.8
HHC Hu-ho-hao-te 95.10 313 *e*P **P 04 01 34.0 +2.0**
LZH Lanzhou 98.08 306 *e*P Pdif 04 01 47.8 +2.1
LZH pP pP 04 01 55.5 +1.6
LZH sP pwP 04 02 00.5 -0.5
LZH pmax pmax
comp=Z,16nm,1.4s
LZH pmax pmax
comp=Z,69nm,7.3s
LZH LR LR
comp=N,120nm,17.0s
LZH LR LR
comp=E,130nm,16.5s
LZH LR LR
comp=Z,110nm,18.6s
MKAR Makanchi Array 116.85 311 PKP **PKPdf 04 06 52.2 -0.9**
comp=Z,0.5nm,0.7s,baz=59,slow=4.7,SNR=5.5
KURK Kurchatov 119.86 315 **PKPdf 04 06 57.8 -0.9**
KURBB Kurchatov Arra 119.91 315 PKP **PKPdf 04 06 57.8 -1.0**
comp=Z,0.5nm,0.6s,baz=85,slow=2.3,SNR=6.1
NB2 NORSAR Subarra 145.43 354 PKP **PKPab 04 07 47.1 +0.7**
comp=Z,32nm,2.0s,baz=10,slow=3.2
NOA NORSAR Array B 145.43 354 PKPbc **PKPbc 04 07 46.6 +0.4**
comp=Z,3.2nm,0.9s,baz=8.2,slow=2.5,SNR=9.4
HFS Hagfors 146.03 351 PKPbc **PKPbc 04 07 48.6 +0.6**
comp=Z,5.9nm,0.7s,baz=57,slow=5.5,SNR=8.7
AKASG Malin Array Be 149.40 328 PKP **PKPdf 04 07 52.4 -0.6**
comp=Z,2.8nm,0.7s,baz=42,slow=3.2,SNR=5.4
AKASG PKPbc **PKPbc 04 07 57.4 -0.1**
comp=Z,2.8nm,0.7s,baz=44,slow=3.2,SNR=5.2
EKA Eskdalemuir Ar 151.00 9 PKPab **PKPab 04 08 09.2 +0.5**
comp=Z,1.1nm,0.7s,baz=63,slow=3.9,SNR=3.9
BRTR Keskin Array B 152.28 305 PKPab **PKPab 04 08 13.3 -1.5**
comp=Z,0.9nm,0.4s,baz=56,slow=11,SNR=5.8
CLL Collm 154.61 347 *e*(PKPdf) **PKPbc 04 08 06.0 -3.3**
CLL *e*PKPab **PKPab 04 08 27.0 +3.0**
GERES GERESS Array B 156.76 344 PKPab **PKPab 04 08 36.0 +2.6**
comp=Z,6.0nm,0.9s,baz=340,slow=12,SNR=2.0
TORD Torodi Ar. Bea 166.23 170 PKPab **PKPab 04 09 15.2 -0.2**
comp=Z,1.6nm,0.8s,baz=190,slow=2.9,SNR=7.5

MAN 31 03:50:13.9, 11°.04N×125°.59E, h43km, mb4.1, ML2.8, MS2.5, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.25**	**184**	⇓*i*P	Pn	03 50 35.2	+0.2
SCPH *i*S Sn 03 50 50.2 -0.5
CGP Cagayan de Oro 2.72 199 ⇑*e*P Pn 03 50 56.8 +1.8
CGP *e*S Sn 03 51 28.4 +1.7

HEL 31 03:50:46.5±0.2, 69°.44N×30°.47E, h0km, ML1.0, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	**Kevo**	**1.25**	**286**	PN	Pb	03 51 10.9	0.0
KEV MSG 03 51 24.6
comp=Z,1.0nm,0.2s
VRF Varrio 1.73 191 PG Pn 03 51 17.5 -0.3
VRF MSG 03 51 38.1
comp=Z,1.0nm,0.2s
VRF SG Sn 03 51 40.0 -0.6
SGF Sodankyl 2.48 218 SG Sb 03 52 02.4 -0.6
HEF Hetta 2.67 250 MSG 03 52 05.3
comp=Z,0.3nm,0.2s
HEF SG Sb 03 52 08.4 -0.1
LANU Lannavaara 3.39 250 SB Sn 03 52 24.0 +2.5
KU6 Riekki 3.44 184 SG Sg 03 52 34.1 -2.7

*AEIC **31** 03:52:13±2.2, 63°.36N±0°.03×151°.83W±0°.03, h15km±4km, ML3.5, ML3.7/122(NEIC), Error ellipse: s-maj=4.0km s-min=2.0km az=162.0*
*ANF **31** 03:52:13.7±0.3, 63°.35N×151°.87W, h12km±3km, ML3.9/56, Error ellipse: s-maj=2.1km s-min=1.9km az=86.0*
*NEIC **31** 03:52:14.5±2.2, 63°.35N±0°.02×151°.82W±0°.04, h16km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=194.0*
*IDC **31** 03:52:17.9±2.3, 63°.51N×151°.70W, h35km±20km, mb3.3/7, mb1 3.5/10, mb1mx3.3/65, mbtmp3.5/10, ML3.1/3, Error ellipse: s-maj=21.5km s-min=14.5km az=106.0*
ISC 31 03:52:13.1±1.1, 63°.36N±0°.02×151°.81W±0°.02, h7km±8km, n246, σ1§05/241, mb3.8/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.45**	**63**		**Pb**	**03 52 22.9**	**-0.4**
KTH **Sb 03 52 29.6 -0.6**
KTH Kantishna Hill 0.45 63 IAML 03 52 30.4
comp=E,3μm,0.4s
KTH IAML 03 52 33.2
comp=N,3μm,0.7s
PPLA Purkeypile 0.49 201 P **Pg 03 52 22.7 +0.1**
baz=20,SNR=1000
PPLA S **Sg 03 52 28.5 -0.6**
baz=20
PPLA Purkeypile 0.49 201 **Pg 03 52 22.7 +0.1**
CHUM Lake Minchumin 0.57 337 P **Pb 03 52 25.9 +0.5**
baz=157,SNR=936
CHUM S **Sb 03 52 34.0 +0.2**
baz=157
CHUM Lake Minchumin 0.57 337 **Pb 03 52 25.9 +0.5**
CHUM **Sb 03 52 34.2 +0.4**
TRF Thorofare Moun 0.69 81 P **Pb 03 52 27.3 -0.2**
baz=263,SNR=443
TRF S **Sb 03 52 36.9 -0.5**
baz=263
TRF Thorofare Moun 0.69 81 **Pb 03 52 27.3 -0.2**
TRF **Sb 03 52 36.8 -0.5**
TRF Thorofare Moun 0.69 81 IAML 03 52 40.5
comp=N,3μm,0.4s
TRF IAML 03 52 40.7
comp=E,3μm,0.7s
BPAW Bear Paw Mtn. 0.83 26 P **Pb 03 52 30.2 +0.3**

	baz=207,SNR=762							
BPAW				S	Sb	03 52 41.7	+0.5	
	baz=207							
BPAW	**Bear Paw Mtn.**	**0.83**	**26**		**Pb**	**03 52 30.4**	**+0.5**	
BPAW					**Sb**	**03 52 41.7**	**+0.5**	
BPAW	**Bear Paw Mtn.**	**0.83**	**26**	IAML		03 52 44.3		
	comp=N,2μm,0.5s							
BPAW				IAML		03 52 44.6		
	comp=E,4μm,0.6s							
K20K	**Telida**	**1.02**	**271**	P	**Pg**	**03 52 32.8**	**+0.2**	
K20K				S	**Sg**	**03 52 45.6**	**-0.2**	
	baz=89							
K20K	**Telida**	**1.02**	**271**		**Pb**	**03 52 33.0**	**0.0**	
K20K					**Sb**	**03 52 46.8**	**+0.2**	
HUR	**Hurricane**	**1.06**	**110**		**Pb**	**03 52 33.5**	**-0.2**	
CUT	**Chulitna**	**1.19**	**143**	P	**Pg**	**03 52 35.8**	**-0.1**	
	baz=324,SNR=407							
CUT				S	**Sg**	**03 52 50.7**	**-0.6**	
	baz=324							
CUT	**Chulitna**	**1.19**	**143**		**Pg**	**03 52 35.7**	**-0.1**	
BWN	**Browne**	**1.32**	**51**		**Pg**	**03 52 38.4**	**-0.1**	
BWN	**Browne**	**1.32**	**51**	IAML		03 53 03.6		
	comp=N,1μm,0.7s							
BWN				IAML		03 53 08.0		
	comp=E,1μm,0.5s							
J20K	**Nowinta River**	**1.32**	**309**	P	**Pn**	**03 52 37.8**	**-0.2**	
	baz=128,SNR=1000							
J20K				Sg	**Sn**	**03 52 57.4**	**+1.6**	
	baz=128							
J20K	**Nowinta River**	**1.32**	**309**		**Pg**	**03 52 39.1**	**+0.6**	
RND	**Reindeer**	**1.33**	**87**		**Pn**	**03 52 37.9**	**-0.2**	
RND					**Sg**	**03 52 55.9**	**0.0**	
RND	**Reindeer**	**1.33**	**87**	IAML		03 52 59.8		
	comp=N,1μm,0.7s							
MCK	**McKinley**	**1.34**	**72**	P	**Pn**	**03 52 38.0**	**-0.2**	
	baz=255,SNR=154							
MCK				S	**Sn**	**03 52 56.8**	**+0.5**	
	baz=255							
MCK	**McKinley**	**1.34**	**72**		**Pn**	**03 52 38.0**	**-0.2**	
SKT	**Skwentna**	**1.39**	**175**	P	**Pn**	**03 52 38.6**	**-0.2**	
	baz=355,SNR=740							
SKT				S	**Sb**	**03 52 56.0**	**-1.2**	
	baz=355							
SKT	**Skwentna**	**1.39**	**175**		**Pn**	**03 52 38.7**	**-0.1**	
SKT					**Sb**	**03 52 56.0**	**-1.2**	
SKT	**Skwentna**	**1.39**	**175**	IAML		03 52 58.2		
	comp=E,2μm,0.7s							
WAT7	**Susitna Watana**	**1.45**	**110**		**Pb**	**03 52 40.2**	**-0.2**	
WAT1	**Susitna Watana**	**1.57**	**108**	P	**Pn**	**03 52 41.6**	**+0.2**	
	baz=291							
WAT1				S	**Sb**	**03 53 02.5**	**-0.1**	
	baz=291							
WAT1	**Susitna Watana**	**1.57**	**108**		**Pn**	**03 52 41.0**	**-0.5**	
NEA2	**Nenana**	**1.73**	**43**	P	**Pn**	**03 52 42.5**	**-1.1**	
	baz=226,SNR=65							
NEA2				Sb	**Sg**	**03 53 09.5**	**+0.7**	
	baz=226							
NEA2	**Nenana**	**1.73**	**43**		**Pn**	**03 52 42.7**	**-0.9**	
MLY	**Manley**	**1.75**	**15**	P	**Pn**	**03 52 43.8**	**0.0**	
	baz=196,SNR=291							
MLY				Sb	**Sg**	**03 53 09.7**	**+0.6**	
	baz=196							
MLY	**Manley**	**1.75**	**15**		**Pn**	**03 52 43.8**	**0.0**	
MLY	**Manley**	**1.75**	**15**	IAML		03 53 11.5		
	comp=E,711nm,0.4s							
MLY				IAML		03 53 14.0		
	comp=N,807nm,0.7s							
L19K	**White Mountain**	**1.83**	**231**	P	**Pn**	**03 52 43.3**	**-1.6**	
	baz=48,SNR=216							
L19K				Sb	**Sb**	**03 53 10.1**	**+0.2**	
	baz=48							
L19K	**White Mountain**	**1.83**	**231**		**Pn**	**03 52 43.3**	**-1.6**	
I21K	**Tanana**	**1.83**	**358**	P	**Pn**	**03 52 45.3**	**+0.4**	
	baz=178,SNR=266							
I21K	**Tanana**	**1.83**	**358**		**Pn**	**03 52 45.3**	**+0.4**	
STLK	**Strandline Lak**	**1.86**	**180**		**Pn**	**03 52 45.1**	**-0.3**	
TTA	**Tatalina**	**1.96**	**259**	Pn	**Pn**	**03 52 46.4**	**-0.3**	
TTA				IAML		03 53 15.8		
	comp=N,899nm,0.5s							
SUA	**Susitna One**	**1.96**	**165**	P	**Pn**	**03 52 46.3**	**-0.5**	
	baz=346,SNR=223							
SUA	**Susitna One**	**1.96**	**165**		**Pn**	**03 52 47.3**	**+0.4**	
SUA	**Susitna One**	**1.96**	**165**	IAML		03 53 18.6		
	comp=N,842nm,1.0s							
SUA				IAML		03 53 19.9		
	comp=E,932nm,0.7s							
TT01	**Tatalina**	**1.96**	**259**		**Pn**	**03 52 45.6**	**-1.1**	
WRH	**Wood River Hil**	**1.99**	**54**		**Pn**	**03 52 46.1**	**-0.9**	
WAT6	**Susitna Watana**	**2.02**	**111**	P	**Pn**	**03 52 47.0**	**-0.6**	
	baz=294,SNR=74							
WAT6				S	**Sn**	**03 53 13.1**	**0.0**	
	baz=294							
WAT6	**Susitna Watana**	**2.02**	**111**		**Pn**	**03 52 47.6**	**0.0**	
SPNN	**North Nagishla**	**2.04**	**192**		**Pn**	**03 52 48.4**	**+0.5**	
SPCG	**Spurr Capps Gl**	**2.08**	**183**		**Pn**	**03 52 49.0**	**+0.6**	
GHO	**Glory Hole Cre**	**2.08**	**139**		**Pn**	**03 52 47.8**	**-0.5**	
GHO				IAML		03 53 20.5		
	comp=E,625nm,0.5s							
GHO				IAML		03 53 22.4		
	comp=N,585nm,0.5s							
I23K	**Minto, Yukon-K**	**2.09**	**30**	P	**Pn**	**03 52 48.3**	**-0.2**	
	baz=212,SNR=156							
I23K	**Minto, Yukon-K**	**2.09**	**30**		**Pn**	**03 52 48.4**	**-0.1**	
I23K	**Minto, Yukon-K**	**2.09**	**30**	IAML		03 53 21.9		
	comp=E,493nm,0.5s							
I23K				IAML		03 53 26.1		
	comp=N,522nm,0.6s							
SPCP	**Crater Peak Br**	**2.10**	**185**		**Pn**	**03 52 49.6**	**+0.8**	
SPBG	**Spurr Blockage**	**2.12**	**187**		**Pn**	**03 52 50.2**	**+1.2**	
SPCN	**Chakachatna No**	**2.15**	**185**		**Pn**	**03 52 50.3**	**+1.1**	
PMR	**Palmer**	**2.16**	**144**	P	**Pn**	**03 52 49.5**	**+0.1**	
	baz=326,SNR=109							
PMR	**Palmer**	**2.16**	**144**		**Pn**	**03 52 49.5**	**+0.1**	
PMR	**Palmer**	**2.16**	**144**	IAML		03 53 22.6		
	comp=E,374nm,0.5s							
SPCR	**Spurr Chakacha**	**2.17**	**185**	P	**Pn**	**03 52 49.5**	**-0.2**	
	baz=4.6,SNR=44							
SPCR	**Spurr Chakacha**	**2.17**	**185**		**Pn**	**03 52 50.8**	**+1.1**	
SPU	**Mount Spurr**	**2.19**	**183**		**Pn**	**03 52 49.9**	**+0.1**	
CCB	**Clear Creek Bu**	**2.19**	**52**		**Pn**	**03 52 48.9**	**-1.0**	
CCB	**Clear Creek Bu**	**2.19**	**52**	IAML		03 53 25.6		
	comp=E,465nm,0.3s							
SML	**Sawmill**	**2.24**	**132**	P	**Pn**	**03 52 50.6**	**0.0**	
	baz=315,SNR=210							
SML	**Sawmill**	**2.24**	**132**		**Pn**	**03 52 50.6**	**0.0**	
SML	**Sawmill**	**2.24**	**132**	IAML		03 53 26.2		
	comp=N,430nm,0.4s							
MDM	**Murphy Dome**	**2.25**	**43**		**Pn**	**03 52 49.8**	**-0.9**	
TCOL	**CIGO, UAF Yank**	**2.31**	**47**	P	**Pn**	**03 52 50.6**	**-0.8**	
	baz=230,SNR=20							
TCOL	**CIGO, UAF Yank**	**2.31**	**47**		**Pn**	**03 52 50.7**	**-0.8**	
COLA	**College**	**2.31**	**47**	P	**Pn**	**03 52 50.6**	**-0.8**	
	baz=230							
COLA	**College**	**2.31**	**47**		**Pn**	**03 52 50.6**	**-0.8**	
FIS	**Fire Island**	**2.34**	**161**		**Pn**	**03 52 53.4**	**+1.5**	
HDA	**Harding Lake**	**2.40**	**62**	P	**Pn**	**03 52 52.0**	**-0.7**	
	baz=246,SNR=72							
HDA	**Harding Lake**	**2.40**	**62**		**Pn**	**03 52 52.6**	**-0.1**	
HDA	**Harding Lake**	**2.40**	**62**	IAML		03 53 29.5		
	comp=E,353nm,0.4s							
RC01	**Rabbit Creek A**	**2.47**	**156**	P	**Pn**	**03 52 53.8**	**+0.1**	
	baz=338,SNR=74							
RC01	**Rabbit Creek A**	**2.47**	**156**		**Pn**	**03 52 54.2**	**+0.5**	
KNK	**Knik Glacier**	**2.50**	**140**	P	**Pn**	**03 52 54.7**	**+0.6**	
	baz=323,SNR=127							
KNK	**Knik Glacier**	**2.50**	**140**		**Pn**	**03 52 55.0**	**+0.9**	
KNK	**Knik Glacier**	**2.50**	**140**	IAML		03 53 35.5		
	comp=N,339nm,0.6s							
KNK				IAML		03 53 36.4		
	comp=E,509nm,0.5s							
PS08	**TAPS Pump Stn8**	**2.50**	**59**		**Pn**	**03 52 53.4**	**-0.8**	
SCM	**Sheep Creek Mo**	**2.58**	**124**		**Pn**	**03 52 55.5**	**+0.3**	
SCM	**Sheep Creek Mo**	**2.58**	**124**	IAML		03 53 38.8		
	comp=N,373nm,0.8s							
SCM				IAML		03 53 38.9		
	comp=E,432nm,1.0s							
IL31		**2.59**	**55**		**Pn**	**03 52 54.4**	**-0.9**	
ILAR	**Eielson Array**	**2.59**	**55**	Pn	**Pn**	**03 52 54.4**	**-0.9**	
	comp=E,1.3nm,0.3s,baz=233,slow=13,SNR=31							
ILAR				Pg	**Pg**	**03 52 02.3**	**-0.4**	
	comp=E,12nm,0.3s,baz=238,slow=15,SNR=27							
ILAR				Lg	Lg	03 53 34.7		
	comp=E,36nm,0.3s,baz=234,slow=30,SNR=4.2							
POKR	**Poker Plat Res**	**2.60**	**45**	P	**Pn**	**03 52 54.9**	**-0.6**	
	baz=229							
POKR	**Poker Plat Res**	**2.60**	**45**		**Pn**	**03 52 55.1**	**-0.5**	
POKR	**Poker Plat Res**	**2.60**	**45**	IAML		03 53 41.5		
	comp=E,255nm,0.4s							
CAPN	**Captain Cook N**	**2.62**	**173**	Pb	**Pb**	**03 52 59.8**	**-0.4**	
	baz=353							
CAPN	**Captain Cook N**	**2.62**	**173**		**Pn**	**03 52 56.4**	**+0.8**	
PS06	**TAPS Pump Stn6**	**2.66**	**19**		**Pn**	**03 52 56.7**	**+0.4**	
H23K	**Yukon River**	**2.67**	**21**	P	**Pn**	**03 52 56.5**	**+0.1**	
	baz=203,SNR=57							
H23K				S	**Sn**	**03 53 29.6**	**+0.7**	
	baz=203							
H23K	**Yukon River**	**2.67**	**21**		**Pn**	**03 52 56.5**	**+0.1**	
IMAR	**Indian Mountai**	**2.77**	**343**		**Pn**	**03 52 57.8**	**+0.1**	
DFR	**Drift River**	**2.81**	**189**		**Pn**	**03 52 58.9**	**+0.5**	
N19K	**Bonanza Creek**	**2.84**	**207**	P	**Pn**	**03 52 57.7**	**-1.2**	
	baz=25,SNR=47							
N19K	**Bonanza Creek**	**2.84**	**207**		**Pn**	**03 52 57.7**	**-1.2**	
NCT	**North Crescent**	**2.85**	**191**		**Pn**	**03 52 59.6**	**+0.5**	
SVW2	**Sparrevohn**	**2.87**	**220**		**Pn**	**03 52 58.0**	**-1.2**	
SVW2	**Sparrevohn**	**2.87**	**220**	IAML		03 53 47.2		
	comp=N,294nm,0.6s							
SVW2				IAML		03 53 48.1		
	comp=E,298nm,0.7s							
M24K	**Tolsona, Glenn**	**2.88**	**113**	P	**Pn**	**03 52 59.9**	**+0.5**	
	baz=298,SNR=82							
M24K	**Tolsona, Glenn**	**2.88**	**113**		**Pn**	**03 53 00.6**	**+1.2**	
M24K	**Tolsona, Glenn**	**2.88**	**113**	IAML		03 53 56.0		
	comp=N,386nm,1.1s							
PAX	**Paxson**	**2.90**	**95**	P	**Pn**	**03 53 00.2**	**+0.4**	
	baz=280,SNR=52							
PAX	**Paxson**	**2.90**	**95**		**Pn**	**03 53 00.9**	**+1.2**	
RDWB	**Redoubt West**	**2.92**	**190**		**Pn**	**03 53 00.8**	**+0.8**	
RSO	**Redoubt South**	**2.94**	**189**		**Pn**	**03 53 01.3**	**+1.0**	
SLKM	**Skilak Lake**	**2.96**	**165**		**Pn**	**03 53 01.2**	**+0.8**	
RED	**Redoubt Volcan**	**2.98**	**189**		**Pn**	**03 53 01.8**	**+1.0**	
PWL	**Port Wells**	**2.99**	**145**		**Pn**	**03 53 01.6**	**+0.8**	
PWL	**Port Wells**	**2.99**	**145**	IAML		03 53 49.3		
	comp=N,264nm,0.7s							
PWL				IAML		03 53 49.8		
	comp=E,263nm,0.8s							
H24K	**Noodor Dome**	**3.01**	**32**	P	**Pn**	**03 53 00.6**	**-0.5**	
	baz=216,SNR=13							
H24K				S	**Sn**	**03 53 37.8**	**+0.4**	
	baz=216							
H24K	**Noodor Dome**	**3.01**	**32**		**Pn**	**03 53 00.7**	**-0.5**	
O22K	**Cooper Landing**	**3.05**	**160**	Pn	**Pn**	**03 53 00.8**	**-0.9**	
RIDG	**Independent Ri**	**3.14**	**80**		**Pn**	**03 53 04.9**	**+2.0**	
RIDG	**Independent Ri**	**3.14**	**80**	IAML		03 53 58.0		
	comp=N,254nm,0.7s							
RIDG				IAML		03 54 01.5		
	comp=E,255nm,0.7s							
PS11	**TAPS Pump St11**	**3.19**	**111**		**Pn**	**03 53 06.2**	**+2.6**	
HARP	**HAARP**	**3.20**	**105**	P	**Pn**	**03 53 05.4**	**+1.7**	
	baz=290							
HARP	**HAARP**	**3.20**	**105**		**Pn**	**03 53 05.0**	**+1.3**	
N18K	**Kilae Creek**	**3.30**	**217**	P	**Pn**	**03 53 03.8**	**-1.4**	
	baz=34,SNR=12							
N18K	**Kilae Creek**	**3.30**	**217**		**Pn**	**03 53 03.8**	**-1.4**	
O20K	**Slope Mountain**	**3.31**	**187**	P	**Pn**	**03 53 06.8**	**+1.6**	
	baz=6.3							
O20K	**Slope Mountain**	**3.31**	**187**		**Pn**	**03 53 06.4**	**+1.2**	
KLU	**Klutina**	**3.32**	**122**	P	**Pn**	**03 53 06.4**	**+1.0**	
	baz=307,SNR=30							
KLU	**Klutina**	**3.32**	**122**		**Pn**	**03 53 06.6**	**+1.2**	
GLI	**Glacier Island**	**3.33**	**136**	P	**Pn**	**03 53 06.4**	**+0.9**	
	baz=320,SNR=27							
GLI	**Glacier Island**	**3.33**	**136**		**Pn**	**03 53 06.4**	**+0.9**	
GLI	**Glacier Island**	**3.33**	**136**	IAML		03 53 58.9		
	comp=E,187nm,0.5s							
GLI				IAML		03 54 02.9		
	comp=N,197nm,0.7s							
JPK	**Jack Peak**	**3.36**	**131**		**Pn**	**03 53 07.3**	**+1.3**	
O19K	**Port Alsworth**	**3.39**	**202**	P	**Pn**	**03 53 06.1**	**-0.1**	
	baz=19							
IVE	**Iliamna Volcan**	**3.40**	**190**		**Pn**	**03 53 07.3**	**+0.7**	
SEW	**Seward**	**3.45**	**160**	P	**Pn**	**03 53 09.3**	**+2.2**	
	baz=342							
SEW	**Seward**	**3.45**	**160**		**Pn**	**03 53 09.4**	**+2.2**	
PRP	**Porcupine Dome**	**3.48**	**49**	P	**Pn**	**03 53 07.3**	**-0.4**	
	baz=234,SNR=20							
PRP	**Porcupine Dome**	**3.48**	**49**		**Pn**	**03 53 07.3**	**-0.4**	
PRP	**Porcupine Dome**	**3.48**	**49**	IAML		03 54 10.0		
	comp=N,157nm,0.6s							
DOT	**Dot Lake**	**3.49**	**82**		**Pn**	**03 53 09.5**	**+1.9**	
SCRK	**Sand Creek**	**3.54**	**76**	P	**Pn**	**03 53 08.8**	**+0.3**	
	baz=263							
SCRK				Sb	**Sb**	**03 54 02.3**	**+3.0**	
	baz=263							
SCRK	**Sand Creek**	**3.54**	**76**		**Pn**	**03 53 09.7**	**+1.2**	
SCRK	**Sand Creek**	**3.54**	**76**	IAML		03 54 06.8		
	comp=N,126nm,0.9s							
DIV	**Divide**	**3.60**	**126**		**Pn**	**03 53 10.5**	**+1.2**	
FID	**Port Fidalgo**	**3.62**	**134**		**Pn**	**03 53 10.3**	**+0.8**	
FID	**Port Fidalgo**	**3.62**	**134**	IAML		03 54 09.3		
	comp=N,119nm,0.7s							
FID				IAML		03 54 09.8		
	comp=E,129nm,0.6s							
PS12	**TAPS Pump St12**	**3.63**	**118**		**Pn**	**03 53 10.9**	**+1.2**	
BRLK	**Bradley Lake**	**3.63**	**173**		**Pn**	**03 53 10.5**	**+0.8**	
BRSE	**Bradley Lake S**	**3.66**	**171**	P	**Pn**	**03 53 11.4**	**+1.3**	
	baz=352,SNR=14							
BRSE	**Bradley Lake S**	**3.66**	**171**		**Pn**	**03 53 11.1**	**+1.0**	
MENT	**Mentasta**	**3.70**	**93**		**Pn**	**03 53 08.8**	**-1.7**	
HOM	**Homer**	**3.71**	**179**	P	**Pn**	**03 53 12.3**	**+1.6**	
	baz=359							
HOM				Sb	**Sb**	**03 54 05.9**	**+1.9**	
	baz=359							
HOM	**Homer**	**3.71**	**179**		**Pn**	**03 53 12.8**	**+2.1**	
P19K	**Oil Pt**	**3.78**	**191**	P	**Pn**	**03 53 12.7**	**+1.0**	
	baz=9.7							
P19K	**Oil Pt**	**3.78**	**191**		**Pn**	**03 53 13.2**	**+1.5**	
N25K	**Chitina, Valde**	**3.78**	**114**	P	**Pn**	**03 53 13.1**	**+1.4**	
	baz=301,SNR=63							
N25K	**Chitina, Valde**	**3.78**	**114**		**Pn**	**03 53 13.4**	**+1.6**	
L26K	**Log Cabin Wild**	**3.85**	**91**	P	**Pn**	**03 53 14.8**	**+2.1**	
	baz=279,SNR=67							
L26K	**Log Cabin Wild**	**3.85**	**91**		**Pn**	**03 53 14.8**	**+2.1**	
CNPM	**China Poot**	**3.85**	**176**		**Pn**	**03 53 14.5**	**+1.8**	
CNPM	**China Poot**	**3.85**	**176**	IAML		03 54 13.2		
	comp=E,87nm,0.6s							
O18K	**Koktuh Hills**	**3.87**	**206**	P	**Pn**	**03 53 12.6**	**-0.4**	
	baz=23							
O18K	**Koktuh Hills**	**3.87**	**206**		**Pn**	**03 53 12.6**	**-0.4**	
HIN	**Hinchinbrook I**	**3.89**	**137**		**Pn**	**03 53 14.5**	**+1.3**	
HIN	**Hinchinbrook I**	**3.89**	**137**	IAML		03 54 18.2		
	comp=N,140nm,1.0s							
HIN				IAML		03 54 26.8		
	comp=E,137nm,1.2s							
COLD	**Coldfoot**	**3.95**	**9**	P	**Pn**	**03 53 14.1**	**+0.2**	
	baz=191,SNR=27							
COLD				S	**Sn**	**03 54 00.7**	**+0.3**	
	baz=191							
COLD	**Coldfoot**	**3.95**	**9**		**Pn**	**03 53 14.6**	**+0.6**	
EYAK	**Cordova Ski Ar**	**4.01**	**132**	P	**Pn**	**03 53 16.0**	**+1.2**	
	baz=317,SNR=27							
EYAK	**Cordova Ski Ar**	**4.01**	**132**		**Pn**	**03 53 14.9**	**0.0**	
BMRM	**Bremner River**	**4.14**	**122**	P	**Pn**	**03 53 17.7**	**+1.0**	
	baz=308,SNR=39							
BMRM				Sb	**Sb**	**03 54 20.9**	**+4.4**	
	baz=308							
BMRM	**Bremner River**	**4.14**	**122**		**Pn**	**03 53 18.5**	**+1.8**	
BMRM	**Bremner River**	**4.14**	**122**	IAML		03 54 21.9		
	comp=N,140nm,1.2s							
BMRM				IAML		03 54 22.0		
	comp=E,129nm,1.2s							
GLB	**Gilahina Butte**	**4.19**	**114**		**Pn**	**03 53 18.9**	**+1.5**	
FYU	**Fort Yukon**	**4.26**	**38**	Pn	**Pn**	**03 53 17.5**	**-0.8**	
FYU				IAML		03 54 33.9		
	comp=E,71nm,0.7s							
FYU				IAML		03 54 42.0		
	comp=N,65nm,0.9s							
K27K	**Chicken**	**4.39**	**77**	P	**Pn**	**03 53 20.3**	**+0.3**	
	baz=266							
K27K	**Chicken**	**4.39**	**77**		**Pn**	**03 53 20.8**	**+0.8**	
K27K				IAML		03 54 38.0		
	comp=N,70nm,0.7s							
RAGM	**Ragged Mountai**	**4.50**	**128**		**Pn**	**03 53 22.1**	**+0.5**	
L27K	**Beaver Creek,**	**4.53**	**89**	P	**Pn**	**03 53 22.3**	**+0.3**	
	baz=278,SNR=18							
L27K	**Beaver Creek,**	**4.53**	**89**		**Pn**	**03 53 22.1**	**+0.1**	
L27K	**Beaver Creek,**	**4.53**	**89**	IAML		03 54 38.0		
	comp=N,53nm,0.8s							
MCARA	**McCarthy VSAT**	**4.54**	**112**	P	**Pn**	**03 53 23.5**	**+1.3**	
	baz=300,SNR=11							
MCARA	**McCarthy VSAT**	**4.54**	**112**		**Pn**	**03 53 22.5**	**+0.3**	
MCARA	**McCarthy VSAT**	**4.54**	**112**	IAML		03 54 38.6		
	comp=E,97nm,1.3s							
BC03		**4.55**	**89**		**Pn**	**03 53 23.7**	**+1.5**	
BCAR	**Beaver Creek A**	**4.55**	**89**		**Pn**	**03 53 22.8**	**+0.5**	
M27K	**Edge Creek, AK**	**4.66**	**98**	P	**Pn**	**03 53 25.9**	**+2.0**	
	baz=287							
HMT	**Hamilton**	**4.69**	**127**		**Pn**	**03 53 24.1**	**0.0**	
CRQM	**Cirque**	**4.84**	**119**		**Pn**	**03 53 28.0**	**+1.6**	
CRQM	**Cirque**	**4.84**	**119**	IAML		03 54 49.0		
	comp=E,84nm,1.2s							
CRQM				IAML		03 54 53.1		
	comp=N,72nm,0.8s							
BERG	**Berg Lake**	**4.85**	**124**		**Pn**	**03 53 25.6**	**-0.8**	
BERG				IAML		03 54 59.1		
	comp=N,82nm,1.1s							
CRQE	**Cirque**	**4.86**	**119**	P	**Pn**	**03 53 27.3**	**+0.6**	
	baz=306,SNR=16							
PTPK	**Patty Peak**	**4.88**	**112**		**Pn**	**03 53 28.9**	**+1.9**	
EGAK	**Eagle**	**4.89**	**68**		**Pn**	**03 53 26.1**	**-0.8**	
KAIM	**Kayak Island**	**4.92**	**131**	P	**Pn**	**03 53 27.5**	**+0.1**	
	baz=318							
KAIM	**Kayak Island**	**4.92**	**131**		**Pn**	**03 53 27.4**	**0.0**	
KAIM	**Kayak Island**	**4.92**	**131**	IAML		03 54 10.6		
	comp=N,39nm,2.6s							
TGL	**Tana Glacier**	**4.96**	**118**		**Pn**	**03 53 27.2**	**-0.9**	
TGL				IAML		03 54 49.8		
	comp=N,59nm,0.9s							
TGL				IAML		03 54 58.2		
	comp=E,57nm,1.2s							
BALM	**Baldy**	**5.01**	**113**		**Pn**	**03 53 29.7**	**+1.1**	
SUCK	**Suckling Hills**	**5.04**	**127**	Pn	**Pn**	**03 53 29.0**	**0.0**	
SUCK				IAML		03 54 54.1		
	comp=N,47nm,1.2s							
SUCK				IAML		03 55 00.1		
	comp=E,43nm,0.9s							
KIAG	**Kiagna River**	**5.06**	**115**		**Pn**	**03 53 29.9**	**+0.5**	
BM03	**Burnt Mountain**	**5.07**	**33**		**Pn**	**03 53 28.8**	**-0.6**	
BMAR	**Burnt Mountain**	**5.08**	**33**	Pn	**Pn**	**03 53 28.9**	**-0.7**	
BM01	**Burnt Mountain**	**5.11**	**33**		**Pn**	**03 53 29.5**	**-0.5**	
WAX	**Waxell Ridge**	**5.14**	**121**		**Pn**	**03 53 31.2**	**+0.8**	
WAX	**Waxell Ridge**	**5.14**	**121**	IAML		03 55 05.5		
	comp=E,65nm,1.1s							
ISLE	**Juniper Island**	**5.25**	**117**		**Pn**	**03 53 31.1**	**-0.9**	
ISLE				IAML		03 55 02.5		
	comp=E,60nm,1.5s							
BARN	**Barnard Glacie**	**5.28**	**111**		**Pn**	**03 53 33.7**	**+1.2**	
BARN	**Barnard Glacie**	**5.28**	**111**	IAML		03 55 03.0		
	comp=E,29nm,0.7s							
BARN				IAML		03 55 05.5		
	comp=N,30nm,1.6s							
YUK2	**White River**	**5.31**	**102**		**Pn**	**03 53 33.8**	**+1.0**	
TOLK	**Toolik Lake Re**	**5.39**	**9**	P	**Pn**	**03 53 35.5**	**+1.8**	
	baz=191,SNR=24							
TOLK	**Toolik Lake Re**	**5.39**	**9**		**Pn**	**03 53 35.3**	**+1.6**	
TOLK	**Toolik Lake Re**	**5.39**	**9**	IAML		03 55 19.3		
	comp=E,38nm,1.1s							
CTG	**Chitna Glacier**	**5.46**	**111**	P	**Pn**	**03 53 36.0**	**+1.1**	
	baz=301							
CTGM	**Chitina Glacie**	**5.46**	**111**		**Pn**	**03 53 36.4**	**+1.4**	
DAWY	**Dawson**	**5.57**	**77**		**Pn**	**03 53 37.0**	**+0.8**	
KDAK	**Kodiak Island**	**5.61**	**184**	Pn	**Pn**	**03 53 38.6**	**+1.9**	
	comp=E,0.6nm,0.3s,baz=42,slow=9.7,SNR=21							
KDAK				Sn	**Sn**	**03 54 44.1**	**+2.9**	
	comp=E,0.4nm,0.3s,baz=356,slow=18,SNR=1.4							
KDAK	**Kodiak Island**	**5.61**	**184**	P	**Pn**	**03 53 38.1**	**+1.4**	
	baz=3.5							
YAH	**Yahtse**	**5.63**	**118**		**Pn**	**03 53 37.5**	**+0.2**	
MESA	**MESA**	**5.66**	**120**	Pn	**Pn**	**03 53 33.0**	**-4.7**	
LOGN	**Logan Glacier**	**5.68**	**112**		**Pn**	**03 53 38.4**	**+0.5**	
TABL	**Table Mountain**	**5.83**	**115**		**Pn**	**03 53 40.3**	**+0.3**	
ANM	**Nome**	**6.09**	**287**	P	**Pn**	**03 53 43.9**	**+0.5**	
	baz=95							
ANM	**Nome**	**6.09**	**287**		**Pn**	**03 53 43.7**	**+0.3**	
OHAK	**Old Harbor**	**6.20**	**187**	Pn	**Pn**	**03 53 43.7**	**-1.1**	
PCA	**Pinnacle**	**6.39**	**116**		**Pn**	**03 53 47.3**	**-0.2**	
PINM	**Pinnacle**	**6.39**	**116**	P	**Pn**	**03 53 48.2**	**+0.6**	
	baz=306							
BCPM	**Bancas Point**	**6.72**	**115**		**Pn**	**03 53 52.8**	**+0.7**	

AKRB	Akutan Reef Bi	2.59	56		Pn	03 54 02.4 +1.6
AKMO	Akutan Morgan	2.60	57		Pn	03 54 02.7 +1.8
AKBBA	Akutan Broad B	2.64	57		Pn	03 54 03.3 +1.8
AKLV	Akutan Long Va	2.66	56		Pn	03 54 03.5 +1.6
AKGG	Akutan Green G	2.66	55		Pn	03 54 03.5 +1.6
KOSE	Korovin Southe	2.69	264		Pn	03 54 03.4 +1.2
KOFP	Korovin Flat P	2.73	262		Pn	03 54 04.1 +1.3
AKUT	Akutan	2.74	57		Pn	03 54 04.5 +1.6
AKSA	Akutan Strait	2.78	58		Pn	03 54 04.8 +1.3
KOKL	Mount Kliuchef	2.78	263		Pn	03 54 04.8 +1.2
ATKA	Atka Island	2.80	261		Pn	03 54 03.3 -0.4
WESP	Westdahl Peak	3.45	57		Pn	03 54 14.5 +1.7
GSIG	Igitkin Island	3.89	262		Pn	03 54 19.1 +0.5
SSBA	Shishaldin	3.89	56		Pn	03 54 20.8 +2.0
GSTR	Great Sitkin T	3.95	263		Pn	03 54 19.4 -0.1
GSMY	Great Sitkin M	3.96	263		Pn	03 54 20.4 +0.9
GSTD	Great Sitkin T	4.01	263		Pn	03 54 21.3 +1.0
FALS	False Pass	4.29	58	Pn	Pn	03 54 26.5 +2.4
ADK	Adak	4.37	262		Pn	03 54 26.2 +1.0
SPIA	Saint Paul Isl	4.47	356		Pn	03 54 28.3 +1.7
KIWB	Kanaga Island	4.66	262		Pn	03 54 30.1 +1.0
KIMD	Kanaga Island	4.73	261		Pn	03 54 31.4 +1.2
SDPT	Sand Point	6.04	61	Pn	Pn	03 54 49.2 +1.3
CNBA	Chernabura Isl	6.35	67	Pn	Pn	03 54 52.8 +0.5
AMKA	Amchitka	6.92	263	Pn	Pn	03 55 00.4 +0.3
LSNW	Little Sitkin	7.26	269		Pn	03 55 07.2 +2.4
SII	Sitkinak Islan	9.77	61	Pn	Pn	03 55 40.2 +1.0
KDAK	Kodiak Island	10.99	56	Pn	Pn	03 55 54.0 -1.7
	0.2nm,0.3s,baz=251,slow=19,SNR=0.8					
BPAW	Bear Paw Mtn.	14.96	33	Pn	P	03 56 52.4 -0.9
ILAR	Eielson Array	16.77	35	Pn	Pn	03 57 11.1 -1.0
	0.2nm,0.3s,baz=225,slow=10,SNR=2.8					
PETK	Petropavlovsk-	19.58	284	P	P	03 57 42.2 -2.1
	0.6nm,0.3s,baz=91,slow=14,SNR=6.8					
PETK				LR	LR	04 05 54.3
	comp=Z,35nm,19.0s,baz=92,slow=39					
DLBC	Dease Lake	22.88	60	P	P	03 58 21.4 +1.6
	3.4nm,0.9s,baz=278,slow=10,SNR=4.2					
DLBC	Dease Lake	22.88	60	P	P	03 58 22.0 +2.3
DLBC				IAmb	IAmb	03 58 24.2
	comp=Z,6.6nm,1.1s					
INK	Inuvik	23.16	34	P	P	03 58 22.5 +0.2
	comp=Z,1.6nm,0.5s,baz=321,slow=2.8,SNR=5.3					
BBB	Bella Bella	25.10	74	LR	LR	04 05 57.4
	comp=Z,36nm,20.0s,baz=34,slow=30					
NEW	Newport	33.12	76	P	P	03 59 52.9 +1.3
	comp=Z,3.6nm,0.7s,baz=309,slow=8.8,SNR=6.9					
NEW	Newport	33.12	76	P	P	03 59 52.2 +0.6
NEW				IAmb	IAmb	03 59 53.4
	comp=Z,3.5nm,0.7s					
KLR	Kul'dur	36.15	289	P	P	04 00 16.4 -1.3
	comp=Z,0.6nm,0.3s,baz=185,slow=1.6,SNR=4.6					
H11N2	WAKE ISLAND Hy	37.61	218	T	T	04 40 56.8
	baz=24,slow=76,SNR=87					
H11N3	WAKE ISLAND Hy	37.62	218	T	T	04 40 56.0
	baz=24,slow=76,SNR=120					
H11N1	WAKE ISLAND Hy	37.63	218	T	T	04 41 08.5
	baz=24,slow=76,SNR=88					
NVAR	Mina Array Bea	37.87	91	P	P	04 00 33.2 +0.5
	comp=Z,0.5nm,0.7s,baz=316,slow=8.3,SNR=3.7					
H11S1	WAKE ISLAND Hy	38.80	217	T	T	04 41 43.1
	baz=23,slow=76,SNR=303					
H11S2	WAKE ISLAND Hy	38.82	217	T	T	04 41 49.6
	baz=23,slow=76,SNR=266					
H11S3	WAKE ISLAND Hy	38.82	217	T	T	04 41 49.7
	baz=23,slow=76,SNR=160					
RLMT	Red Lodge	39.37	76	P	P	04 00 45.5 +0.4
RLMT				IAmb	IAmb	04 00 46.7
	comp=Z,2.8nm,0.9s					
PRN	Pahroc Range	40.50	90	P	P	04 00 53.7 -0.8
PRN				IAmb	IAmb	04 01 01.7
	comp=Z,8.6nm,1.3s					
BW06	Boulder Array	40.53	79	P	P	04 00 55.2 +0.3
PD31	Pinedale Array	40.53	79	P	P	04 00 55.6 +0.8
PDAR	Pinedale Array	40.53	79	P	P	04 00 55.5 +0.7
	comp=Z,1.3nm,0.6s,baz=295,slow=3.6,SNR=17					
PDAR	Pinedale Array	40.53	79	P	P	04 00 54.9 +0.1
PV16	Nyswonger Mesa	43.65	84	P	P	04 01 20.1 -0.1
PV16				IAmb	IAmb	04 01 21.5
	comp=Z,2.6nm,0.6s					
T25A	Trinidad	47.12	82	P	P	04 01 48.9 +1.2
MNTX	Cornudas Mount	50.23	88	P	P	04 02 12.1 +0.8
MNTX				IAmb	IAmb	04 02 13.6
	comp=Z,2.0nm,0.8s					
SONM	Songino Array	50.95	300	P	P	04 02 16.7 0.0
	comp=Z,0.4nm,0.4s,baz=4.3,slow=5.8,SNR=2.1					
SONM				PcP	PcP	04 03 32.5 +0.3
	comp=Z,1.3nm,0.5s,baz=82,slow=3.3,SNR=6.3					
SONM	Songino Array	50.95	300	P	P	04 02 19.8 +3.1
WMOK	Wichita Mounta	52.12	80	P	P	04 02 26.1 +0.6
WMOK				IAmb	IAmb	04 02 26.9
	comp=Z,3.1nm,0.8s					
HHC	Hu-ho-hao-te	52.61	291	eP	P	04 02 31.5 +2.4
HHC				pmax	pmax	
	comp=Z,12nm,1.0s					
HHC				pmax	pmax	
	comp=Z,76nm,4.6s					
HHC				pmax	pmax	
	comp=Z,15nm,1.0s					
HHC				pmax	pmax	
	comp=Z,79nm,5.9s					
TX31	Lajitas Ar. Si	52.94	89	P	P	04 02 31.7 0.0
TX32	Lajitas Array	52.94	89	P	P	04 02 31.3 -0.4
TX32				IAmb	IAmb	04 02 32.8
	comp=Z,2.4nm,0.7s					
TXAR	Lajitas Array	52.94	89	P	P	04 02 32.3 +0.6
	comp=Z,2.1nm,0.6s,baz=307,slow=5.9,SNR=24					
TXAR	Lajitas Array	52.94	89	P	P	04 02 32.1 +0.4
JCT	Junction City	54.47	85	P	P	04 02 42.1 -0.8
KURBB	Kurchatov Arra	62.08	318	P	P	04 03 34.7 -0.9
	comp=Z,0.4nm,0.7s,baz=44,slow=7.6,SNR=5.5					
WMQ	Urumqi	63.15	308	eP	P	04 03 48.0 +5.1
MKAR	Makanchi Array	63.41	313	P	P	04 03 45.1 +0.6
	comp=Z,0.2nm,0.6s,baz=23,slow=7.8,SNR=1.9					
FINES	FINESS Array B	65.49	352	P	P	04 03 56.5 -1.2
	comp=Z,1.8nm,1.0s,baz=64,slow=8.7,SNR=3.4					
HFS	Hagfors	67.46	358	P	P	04 04 09.8 -0.6
	comp=Z,1.2nm,0.5s,baz=29,slow=3.4,SNR=8.9					
AKASG	Malin Array Be	75.72	348	P	P	04 04 58.6 -1.5
	comp=Z,0.3nm,0.3s,baz=15,slow=5.8,SNR=2.5					
WRA	Warramunga Arr	87.07	231	P	P	04 05 59.3 -1.1
	comp=Z,0.8nm,0.8s,baz=34,slow=5.4,SNR=6.5					
ESDC	Sonseca Array	87.14	11	P	P	04 06 00.2 -0.6
	comp=Z,0.8nm,0.9s,baz=14,slow=4.8,SNR=2.3					
ESDC	Sonseca Array	87.14	11	IAmb	IAmb	04 06 01.1
	comp=Z,2.4nm,1.4s					
ASAR	Alice Springs	90.47	230	P	P	04 06 16.1 -0.3
	comp=Z,1.6nm,0.7s,baz=32,slow=4.8,SNR=12					
H03N2	Juan Fernandez	116.24	111	T	T	06 18 40.0
	baz=322,slow=77,SNR=6.8					
H03N1	Juan Fernandez	116.25	111	T	T	06 18 40.6
	baz=322,slow=77,SNR=8.1					
H03N3	Juan Fernandez	116.26	111	T	T	06 18 39.1
	baz=322,slow=77,SNR=6.6					

*IDC **31** 03:57:26.9±1.3, 11°.34S×163°.10E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/38, mbtmp4.0/8, ML4.8/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/31, Error ellipse: s-maj=29.6km s-min=25.8km az=91.0*

*NEIC **31** 03:57:32.2±1.9, 11°.2S±0°.1×163°.20E±0°.09, h36km±9km, mb4.3/13, Error ellipse: s-maj=22.0km s-min=2.5km az=215.0*

ISC 31 03:57:31.6±0.7, 11°.21S±0°.08×163°.20E±0°.10, h34km, n35, σ1§24/25, mb4.2/12, MS3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	3.65	299	Pn	Pn	03 58 25.5	-0.3
	72nm,0.3s,baz=350,slow=0.3,SNR=28						
HNR				Sn	Sn	03 59 09.3	+1.6
	104nm,0.3s,baz=1.8,slow=17,SNR=4.3						
HNR				LR	LR	04 00 01.3	
	comp=Z,571nm,19.4s,baz=132,slow=43						
HNR	Honiara	3.65	299	Pn	Pn	03 58 25.4	-0.4
SANVU	Saraoutou	5.74	138		Pn	03 58 53.8	-0.6
DZM	Mont Dzumac	11.24	164	ePn	Pn	04 00 11.5	+1.5
	1.1nm,0.2s						
DZM				eSn	Sn	04 02 14.4	-0.1
	1.4nm,0.2s						
CTA	Charters Tower	18.53	240	P	Pn	04 01 45.9	+0.1
	0.1nm,0.3s,baz=50,slow=15,SNR=2.3						
AFI	Afiamalu	24.57	99	LR	LR	04 10 28.6	
	comp=Z,91nm,18.1s,baz=262,slow=32						
STKA	Stephens Creek	28.64	221	P	P	04 03 25.0	-0.2
	3.4nm,0.8s,baz=34,slow=12,SNR=5.3						
WR0	Warramunga Arr	28.90	249	P	P	04 03 26.5	-1.1
WB0	Warramunga Arr	28.99	249	P	P	04 03 26.3	-2.2
WB2	Warramunga Arr	29.07	249	P	P	04 03 28.8	-0.3
WB2				IAmb	IAmb	04 03 51.8	
	comp=Z,7.7nm,1.2s						
WRA	Warramunga Arr	29.08	249	P	P	04 03 26.9	-2.3
	comp=Z,0.8nm,0.6s,baz=78,slow=9.0,SNR=7.2						
H11S2	WAKE ISLAND Hy	29.72	7	T	T	04 34 36.3	
	baz=188,slow=76,SNR=50						
H11S3	WAKE ISLAND Hy	29.72	7	T	T	04 34 31.9	
	baz=188,slow=76,SNR=32						
H11S1	WAKE ISLAND Hy	29.73	7	T	T	04 34 37.7	
	baz=188,slow=76,SNR=21						
AS31	Alice Springs	30.49	242	P	P	04 03 43.9	+2.1
ASAR	Alice Springs	30.49	242	P	P	04 03 40.0	-1.8
	comp=Z,0.9nm,0.8s,baz=63,slow=10,SNR=12						
H11N1	WAKE ISLAND Hy	30.95	7	T	T	04 36 10.3	
	baz=188,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy	30.95	7	T	T	04 36 16.0	
	baz=188,slow=76,SNR=19						
H11N2	WAKE ISLAND Hy	30.96	7	T	T	04 35 56.4	
	baz=188,slow=76,SNR=17						
PPT2	Papeete2	46.09	104	eLR	LR	04 19 15.8	
	comp=Z,66nm,24.8s						
TBI	Tubuai	46.59	112	eLR	LR	04 19 28.0	
	comp=Z,75nm,27.8s						
MORW	Morawa	47.35	241	P	P	04 06 02.3	-0.3
KSRS	Korea Array	58.64	327	P	P	04 07 27.1	+1.6
	comp=Z,1.1nm,0.8s,baz=146,slow=6.9,SNR=4.3						
VNDA	Vanda	66.30	180	P	P	04 08 16.6	+0.4
	comp=Z,1.5nm,1.2s,baz=12,slow=9.4,SNR=2.9						
VNDA	Vanda	66.30	180	IAmb	IAmb	04 08 40.9	
	comp=Z,4.5nm,1.4s						
ULN	Ulaanbaatar	76.98	325	P	P	04 09 19.8	-1.4
ULN				IAmb	IAmb	04 09 31.4	
	comp=Z,2.5nm,0.6s						
SONM	Songino Array	77.34	325	P	P	04 09 21.8	-1.3
SONM				IAmb	IAmb	04 09 34.9	
	comp=Z,2.8nm,1.1s						
SVW2	Sparrevohn	79.07	19	P	P	04 09 32.5	+0.3
EGAK	Eagle	86.41	21	P	P	04 10 11.0	+0.8
NVAR	Mina Array Bea	88.05	50	P	P	04 10 19.6	+0.5
	comp=Z,0.1nm,0.4s,baz=251,slow=5.6,SNR=1.5						
MK31	Makanchi Array	91.94	317	P	P	04 10 35.9	-1.0
MK31				IAmb	IAmb	04 10 59.3	
	comp=Z,1.2nm,1.0s						
MKAR	Makanchi Array	91.94	317	P	P	04 10 37.1	+0.3
	comp=Z,0.9nm,0.8s,baz=106,slow=5.8,SNR=8.1						
MAKZ	Makanchi	92.15	317	P	P	04 10 36.8	-0.9
MAKZ				IAmb	IAmb	04 10 47.3	
	comp=Z,1.3nm,0.9s						
ZALV	Zalesovo Beam	92.23	325	LR	LR	04 53 03.7	
	comp=Z,24nm,18.9s,baz=74,slow=36						
NRIK	Noril'sk	95.41	340	LR	LR	04 55 11.8	
	comp=Z,21nm,19.7s,baz=126,slow=36						

IDC 31 04:00:14.0±2.8, 24°.21S×179°.81E, h676km±79km, mb3.1/5, mb1 3.2/6, mb1mx2.9/33, mbtmp4.2/6, Error ellipse: s-maj=92.4km s-min=33.6km az=22.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	6.65	345	P	P	04 02 04.6	0.0
	1.5nm,0.3s,baz=156,slow=10.0,SNR=4.5						
CTA	Charters Tower	31.30	271	P	P	04 05 43.3	0.0
	3.6nm,0.3s,baz=91,slow=10,SNR=8.1						
STKA	Stephens Creek	34.44	249	P	P	04 06 08.2	-1.1
	0.9nm,0.4s,baz=98,slow=10,SNR=5.7						
ASAR	Alice Springs	41.81	261	P	P	04 07 08.9	+0.4
	0.5nm,0.3s,baz=89,slow=6.8,SNR=13						
WRA	Warramunga Arr	42.21	267	P	P	04 07 12.0	+0.4
	1.7nm,0.3s,baz=99,slow=6.9,SNR=68						
QSPA	South Pole Qui	65.88	180	P	P	04 09 55.7	+0.2
	2.5nm,0.9s,baz=17,slow=2.1,SNR=2.9						

*IDC **31** 04:11:49.7±1.5, 25°.47S×154°.30E, h0km, mb4.1/2, mb1 3.9/5, mb1mx3.6/37, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=42.6km s-min=36.2km az=16.0*

ISC 31 04:11:50.9±1.1, 25°.55S±0°.1×154°.3E±0°.1, h10km, n13, σ0§78/14, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	Eidsvold	2.93	271	P	Pn	04 12 36.7	-0.8
	baz=3.0,SNR=80						
RMQ	Roma	5.11	257	P	Pn	04 13 08.2	+0.6
	baz=5.2,SNR=4.6						
ARMA	Armidale	5.49	205	P	Pn	04 13 13.9	+1.0
	baz=5.5,SNR=7.8						
LHI	Lord Howe Isla	7.34	146	P	Pn	04 13 37.3	-0.9
	baz=7.3						
QLP	Quilpie	9.14	261	P	Pn	04 14 02.8	-0.1
	baz=9.2						
CMSA	Cobar Meteorol	9.71	229	P	Pn	04 14 11.4	+0.7
	baz=9.8,SNR=18						
STKA	Stephens Creek	12.87	237	Pn	Pn	04 14 53.5	-0.4
	0.4nm,0.3s,baz=62,slow=12,SNR=6.7						
STKA				Sn	Sn	04 17 16.1	-1.1
	0.3nm,0.3s,baz=17,slow=11,SNR=2.8						
STKA				Lg	Lg	04 18 42.4	
	0.1nm,0.3s,baz=168,slow=23,SNR=1.6						
ASAR	Alice Springs	18.65	271	P	Pn	04 16 10.4	+1.0
	0.1nm,0.3s,baz=95,slow=12,SNR=6.7						
WRA	Warramunga Arr	19.22	283	P	P	04 16 15.1	-0.3
	0.1nm,0.3s,baz=109,slow=10,SNR=6.4						
QSPA	South Pole Qui	64.62	180	P	P	04 22 29.0	+0.5
	2.0nm,1.1s,baz=42,slow=0.8,SNR=3.2						
MKAR	Makanchi Array	96.83	319	P	P	04 25 21.6	-0.5
	0.2nm,0.6s,baz=108,slow=7.1,SNR=2.0						
KEST	Kesra	148.30	297	PKPbc	PKPbc	04 31 38.4	+0.6
	2.5nm,0.6s,baz=50,slow=7.9,SNR=4.3						
TORD	Torodi Ar. Bea	151.47	250	PKPbc	PKPbc	04 31 46.0	-0.1
	1.5nm,0.6s,baz=87,slow=1.4,SNR=18						

IDC 31 04:14:35.9±2.3, 26°.85S×176°.33W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/36, mbtmp3.7/3, ML5.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/27, Error ellipse: s-maj=45.4km s-min=37.4km az=59.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	2.77	210	Pn	Pn	04 15 21.7	+0.1
	228nm,0.3s,baz=157,slow=4.7,SNR=10						
RAO				LR	LR	04 15 52.1	
	comp=Z,180nm,20.2s,baz=148,slow=28						
RAO				Sn	Sn	04 15 55.5	-0.3
	178nm,0.3s,baz=67,slow=23,SNR=4.0						
ASAR	Alice Springs	44.89	263	P	P	04 22 52.4	-0.2
	0.5nm,0.8s,baz=97,slow=8.1,SNR=2.4						
WRA	Warramunga Arr	45.57	268	P	P	04 22 58.0	+0.1
	0.4nm,0.5s,baz=104,slow=8.1,SNR=5.2						
QSPA	South Pole Qui	63.25	180	P	P	04 25 06.0	-0.1
	1.2nm,0.7s,baz=50,slow=2.6,SNR=4.1						
TORD	Torodi Ar. Bea	166.24	172	PKPab	PKPab	04 35 44.2	-0.3
	0.5nm,0.6s,baz=219,slow=4.3,SNR=2.6						

*NIED **31** 04:16:08.4, 40°.98N×142°.00E, h56km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}3.24; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-3.11; $M_{r\theta}$0.78; $M_{\theta\phi}$-1.58; $M_{\phi r}$2.06; Fault plane solution: $M_0$4.15000×10^14^ NP1:ϕ_s22.00000°, δ61.00000°, λ88.00000°. NP2:ϕ_s205.00000°, δ29.00000°, λ93.00000°.*

*JMA **31** 04:16:08.4±0.1, 40°.98N×142°.00E, h56km±2km, M3.6*

JMA Felt II J1.

*IDC **31** 04:16:11.2±2.5, 41°.00N×142°.04E, h90km±19km, mb3.5/9, mb1 3.5/12, mb1mx3.4/44, mbtmp3.8/12, MS2.1/1, Ms1 2.1/1, ms1mx2.0/33, Error ellipse: s-maj=24.9km s-min=16.2km az=123.0*

ISC 31 04:16:08.2±0.9, 40°.94N±0°.04×141°.97E±0°.06, h58km±8km, n38, σ1§16/36, mb3.6/9, 1C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JARK	Aomorirokkasho	0.46	278	↓P	Pn	04 16 19.9	+0.3
JARK				S	Sn	04 16 28.0	+0.1
JAHD	Aomorihigashid	0.58	304	↓P	Pn	04 16 20.9	0.0
JAHD				eS	Sn	04 16 30.1	0.0
JANG	Nango	0.67	211	↓P	Pn	04 16 22.3	+0.3
JANG				S	Sn	04 16 32.3	+0.3
JTM	Tenmabayashi	0.70	257	↓P	Pn	04 16 22.8	+0.4
JTM				S	Sn	04 16 33.1	+0.4
JKEN	Kujiedanarisaw	0.76	195	↑P	Pn	04 16 23.6	+0.5
JKEN				S	Sn	04 16 34.7	+0.7
JOT	Ohata	0.82	302	↓P	Pn	04 16 23.7	-0.2
JKB	Kayabe	1.18	323	↓P	Pn	04 16 28.3	-0.2
JAH	Hinai	1.27	234	P	Pn	04 16 30.7	+1.0
JAH				S	Sn	04 16 47.4	+1.7
JSR	Shiriuchi	1.31	297	↓P	Pn	04 16 30.5	+0.3
JEM	Erimo	1.39	39	P	Pn	04 16 32.2	+0.8
JNBK	Urakawa-nobuka	1.46	23	P	Pn	04 16 33.3	+1.0
JIW	Iwasaki	1.53	257	P	Pn	04 16 33.9	+0.6
JOM	Ohasama	1.56	200	P	Pn	04 16 34.6	+1.0
JOM				eS	Sn	04 16 53.5	+0.7
JOMM	Oshimamatsumae	1.59	292	P	Pn	04 16 34.9	+0.9
JNB	Noboribetsu	1.68	336	P	Pn	04 16 34.8	-0.4
JYM2	Yakumo 2	1.68	315	↓P	Pn	04 16 35.5	+0.3
ASAJ	Asahikawa	3.20	8	P	Pn	04 16 57.1	+1.1
	4.2nm,0.3s,baz=218,slow=7.4,SNR=17						
ASAJ				S	Sn	04 17 35.8	+2.8
	4.4nm,0.3s,baz=350,slow=30,SNR=9.1						
ASAJ				LR	LR	04 18 41.1	
	comp=Z,35nm,20.6s,baz=207,slow=48						
USRK	Ussuriysk Ar.	8.05	297	P	Pn	04 18 06.4	+4.0
	baz=97,slow=15,SNR=9.1						
KSRS	Korea Array	11.44	257	P	Pn	04 18 54.5	+5.8
	0.3nm,0.3s,baz=60,slow=13,SNR=2.4						
SONM	Songino Array	26.17	297	P	P	04 21 38.0	+0.9
	0.6nm,0.6s,baz=63,slow=9.1,SNR=2.1						
H11N2	WAKE ISLAND Hy	29.98	127	T	T	04 53 18.7	
	baz=320,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	29.99	127	T	T	04 53 47.8	
	baz=320,slow=75,SNR=25						
H11N3	WAKE ISLAND Hy	30.00	127	T	T	04 53 29.1	
	baz=320,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	30.81	129	T	T	04 55 02.6	
	baz=322,slow=76,SNR=10						
H11S3	WAKE ISLAND Hy	30.81	129	T	T	04 55 00.2	
	baz=322,slow=76,SNR=9.8						
H11S2	WAKE ISLAND Hy	30.83	129	T	T	04 54 53.5	
	baz=322,slow=76,SNR=8.8						
NRIK	Noril'sk	39.94	333	P	P	04 23 33.8	-2.4
	2.1nm,0.5s,baz=94,slow=5.5,SNR=2.0						
MKAR	Makanchi Array	42.52	299	P	P	04 23 57.6	-0.1
	0.5nm,0.4s,baz=84,slow=11,SNR=7.4						
KURBB	Kurchatov Arra	44.03	305	P	P	04 24 09.1	-0.7
	1.7nm,0.7s,baz=79,slow=8.8,SNR=9.8						
ILAR	Eielson Array	45.99	34	P	P	04 24 24.7	-0.6
	0.2nm,0.6s,baz=279,slow=5.9,SNR=2.2						
INK	Inuvik	50.73	29	P	P	04 25 01.9	+0.3
	0.6nm,0.5s,baz=315,slow=4.3,SNR=1.2						
WRA	Warramunga Arr	60.99	188	P	P	04 26 15.1	-0.4
	0.2nm,0.4s,baz=4.7,slow=6.9,SNR=8.1						
FINES	FINESS Array B	65.57	332	P	P	04 26 45.1	-0.2
	3.0nm,0.7s,baz=46,slow=7.7,SNR=16						
NB2	NORSAR Subarra	70.76	337	P	P	04 27 17.7	-0.2
	comp=Z,0.4nm,0.6s,baz=40,slow=5.9						
NOA	NORSAR Array B	70.76	337	P	P	04 27 17.5	-0.4
	comp=Z,0.9nm,0.8s,baz=29,slow=8.2,SNR=3.8						
H03N2	Juan Fernandez	146.80	90	T	T	07 20 35.9	
	baz=300,slow=76,SNR=5.5						
H03N3	Juan Fernandez	146.82	90	T	T	07 20 43.4	
	baz=300,slow=76,SNR=4.5						
H03N1	Juan Fernandez	146.82	90	T	T	07 20 41.9	
	baz=300,slow=76,SNR=5.3						

*MOS **31** 05:12:34.9±1.0, 52°.05N×169°.58W, h26km, mb5.3/60, Error ellipse: s-maj=7.7km s-min=4.8km az=97.3*

*AEIC **31** 05:12:35±2.3, 51°.91N±0°.05×169°.47W±0°.08, h17km±1km, ML4.5, mb5.0/98(NEIC), Ms_20 4.2/41(NEIC), Error ellipse: s-maj=7.9km s-min=6.6km az=155.0*

*BJI **31** 05:12:35.8±0.0, 52°.35N×170°.05W, h19km, mB4.9/44, mb5.2/71, Ms4.6/39, Ms7 4.3/37*

*IDC **31** 05:12:36.7±2.7, 52°.05N×169°.61W, h25km±17km, mb4.7/30, mb1 4.8/32, mb1mx4.8/36, mbtmp4.8/32, ML4.8/2, MS3.8/26, Ms1 3.8/26, ms1mx3.6/61, Error ellipse: s-maj=15.2km s-min=9.9km az=168.0*

*NEIC **31** 05:12:36.4±2.1, 51°.99N±0°.05×169°.52W±0°.08, h24km±4km, Error ellipse: s-maj=8.1km s-min=6.0km az=144.0*

*GCMT **31** 05:12:39.0±0.3, 51°.94N±0°.02×169°.60W±0°.05, h17km±1km, MW4.9/91, Moment Tensor Solution. s34,c43; s91,c122; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}2.13±.12; $M_{\theta\theta}$-1.72±.08; $M_{\phi\phi}$-0.41±.07; $M_{r\theta}$1.36±.22; $M_{\theta\phi}$-0.66±.06; $M_{\phi r}$-0.13±.25; Best double couple: $M_0$2.46700×10^16^ NP1:ϕ_s236.00000°, δ31.00000°, λ68.00000°. NP2: ϕ_s81.00000°, δ62.00000°, λ103.00000°. Principal axes: T 2.5980, Plg71.0000°, Azm19.0000°; N -0.2630, Plg11.0000°, Azm255.0000°; P -2.3360, Plg16.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BGR **31** 05:12:43.1±0.0, 53°.03N×169°.97W, h33km, mb5.0*

ISC 31 05:12:36.7±0.5, 52°.06N±0°.05×169°.59W±0°.04, h26km±3km, h26km:pP-P, n813, σ1§25/814, mb5.1/190, MS4.2/67, 48C-33D, Fox Islands

| Code | Station Name | Δ° | AZ

CERAA	Semis' Rag'd T	6.63	273			Pn	05 14 14.3 +1.9
CEAP	Semis' Anvil P	6.69	274			Pn	05 14 15.7 +2.5
CESW	Semis' Southwe	6.71	273			Pn	05 14 15.3 +1.8
AMKA	Amchitka	6.94	269			Pn	05 14 16.2 -0.4
LSPA	Little Sitkin	7.31	274			Pn	05 14 23.6 +1.9
LSNW	Little Sitkin	7.34	274			Pn	05 14 24.2 +2.1
LSSA	Little Sitkin	7.35	274			Pn	05 14 24.4 +2.1
VNHG	Veniaminof 1	7.41	52			Pn	05 14 24.1 +1.1
CHIR	Chirikof Islan	9.05	60	P		Pn	05 14 45.0 -0.6
	baz=250,SNR=7.5						
CHIR	Chirikof Islan	9.05	60			Pn	05 14 45.4 -0.2
SMY	Shemya	10.00	280	P		Pn	05 14 59.6 +1.1
SMY	Shemya	10.00	280			Pn	05 14 59.6 +1.1
SII	Sitkinak Islan	10.06	57	P		Pn	05 14 58.9 -0.5
	baz=249,SNR=12						
SII	Sitkinak Islan	10.06	57			Pn	05 14 59.7 +0.4
OHAK	Old Harbor	10.76	55	P		Pn	05 15 07.3 -1.6
	baz=247,SNR=11						
OHAK	Old Harbor	10.76	55			Pn	05 15 07.3 -1.6
O18K	Koktuh Hills	11.20	40	P		Pn	05 15 16.0 +1.1
	baz=231,SNR=42						
KDAK	Kodiak Island	11.32	53	Pn		Pn	05 15 14.5 -2.1
	4.2nm,0.3s,baz=261,slow=7.0,SNR=96						
KDAK	Kodiak Island	11.32	53	P		Pn	05 15 15.6 -1.0
KDAK	Kodiak Island	11.32	53	P		Pn	05 15 14.3 -2.3
	baz=246						
KDAK	Kodiak Island	11.32	53			Pn	05 15 15.6 -1.0
N18K	Kilae Creek	11.48	36	P		Pn	05 15 21.8 +3.1
	baz=226,SNR=10						
O19K	Port Alsworth	11.76	40	P		Pn	05 15 24.4 +1.8
	baz=232						
SVW2	Sparrevohn	11.88	35			Pn	05 15 27.4 +3.3
P19K	Oil Pt	11.90	44	P		Pn	05 15 24.5 -0.1
	baz=237						
N19K	Bonanza Creek	12.09	38	P		Pn	05 15 27.9 +0.8
	baz=230,SNR=16						
O20K	Slope Mountain	12.39	43	P		Pn	05 15 32.2 +0.9
	baz=236,SNR=5.0						
RSO	Redoubt South	12.55	41			Pn	05 15 34.4 +0.9
HOM	Homer	12.60	46	P		Pn	05 15 33.9 -0.1
	baz=240						
CNPM	China Poot	12.72	47			Pn	05 15 34.1 -1.6
L19K	White Mountain	12.88	32	P		Pn	05 15 39.2 +1.3
	baz=224,SNR=8.9						
BRLK	Bradley Lake	12.98	46			Pn	05 15 39.5 +0.1
BRSE	Bradley Lake S	13.04	46	P		Pn	05 15 38.8 -1.3
	baz=241,SNR=10						
SPCR	Spurr Chakacha	13.20	39	P		Pn	05 15 43.1 +0.8
	baz=233						
SPU	Mount Spurr	13.25	40			Pn	05 15 42.9 0.0
TNA	Tin City	13.57	3	P		Pn	05 15 49.0 +1.8
	baz=184						
SEW	Seward	13.78	46	P		Pn	05 15 48.7 -1.4
	baz=242,SNR=10						
SEW	Seward	13.78	46			Pn	05 15 47.9 -2.3
O22K	Cooper Landing	13.84	45	P		Pn	05 15 53.3 +2.4
	baz=241						
O22K	Cooper Landing	13.84	45			Pn	05 15 48.9 -2.0
SKT	Skwentna	13.93	37	P		Pn	05 15 52.7 +0.6
	baz=232,SNR=9.4						
SKT	Skwentna	13.93	37			Pn	05 15 53.9 +1.8
SUA	Susitna One	13.93	40	P		Pn	05 15 52.3 0.0
	baz=235,SNR=6.7						
SUA	Susitna One	13.93	40			Pn	05 15 52.2 -0.1
K20K	Telida	13.98	30	P		Pn	05 15 53.8 +0.8
	baz=222,SNR=15						
RC01	Rabbit Creek A	14.14	42	P		Pn	05 15 54.4 -0.6
	baz=238						
RC01	Rabbit Creek A	14.14	42			Pn	05 15 52.4 -2.6
PPLA	Purkeypile	14.28	34	P		Pn	05 15 57.8 +0.8
	baz=228,SNR=15						
J20K	Nowinta River	14.57	28	P		Pn	05 16 01.5 +0.6
	baz=220,SNR=18						
PWL	Port Wells	14.62	45			Pn	05 15 58.9 -2.7
KNK	Knik Glacier	14.84	43	P		Pn	05 16 02.6 -1.9
	baz=240						
KNK	Knik Glacier	14.84	43			Pn	05 16 03.0 -1.5
CHUM	Lake Minchumin	14.91	31	P		Pn	05 16 05.7 +0.3
	baz=225,SNR=13						
Q23K	Middleton Isla	14.96	51	P		Pn	05 16 04.6 -1.5
	baz=250						
SML	Sawmill	15.09	41	P		Pn	05 16 06.7 -1.2
	baz=239						
SML	Sawmill	15.09	41	P		Pn	05 16 10.3 +2.4
KTH	Kantishna Hill	15.14	33			Pn	05 16 08.9 +0.3
KTH				IAmb		IAmb	05 16 24.9
	comp=Z,54nm,0.9s						
GLI	Glacier Island	15.17	46	P		Pn	05 16 05.9 -3.1
	baz=244						
HIN	Hinchinbrook I	15.24	48			Pn	05 16 06.8 -3.1
HIN				IAmb		IAmb	05 16 30.3
	comp=Z,53nm,0.9s						
TRF	Thorofare Moun	15.29	34	P		Pn	05 16 11.4 +0.7
	baz=230,SNR=11						
TRF	Thorofare Moun	15.29	34	P		P	05 16 14.2 -1.1
BPAW	Bear Paw Mtn.	15.48	32	P		Pn	05 16 12.8 -0.3
	baz=227,SNR=73						
BPAW	Bear Paw Mtn.	15.48	32	Pn		P	05 16 15.2 -2.1
BPAW				IAmb		IAmb	05 16 18.0
	comp=Z,94nm,1.0s						
WAT1	Susitna Watana	15.55	38	P		Pn	05 16 13.3 -0.7
	baz=235						
EYAK	Cordova Ski Ar	15.64	48	P		Pn	05 16 12.1 -3.0
	baz=247,SNR=7.5						
EYAK	Cordova Ski Ar	15.64	48			Pn	05 16 12.6 -2.5
WAT6	Susitna Watana	15.73	39	P		Pn	05 16 14.8 -1.5
	baz=237						
RND	Reindeer	15.77	36	P		Pn	05 16 18.3 +1.4
RND				pmax		pmax	
	comp=Z,86nm,1.8s						
RND	Reindeer	15.77	36	P		Pn	05 16 18.3 +1.4
MCK	McKinley	15.94	35	P		Pn	05 16 19.1 +0.1
MCK				pmax		pmax	
	comp=Z,33nm,1.1s						
MCK	McKinley	15.94	35	P		Pn	05 16 19.3 +0.3
	baz=232,SNR=7.4						
MCK	McKinley	15.94	35			Pn	05 16 19.1 +0.1
I21K	Tanana	15.95	28	P		Pn	05 16 19.6 +0.6
	baz=222,SNR=58						
KLU	Klutina	15.95	44	P		Pn	05 16 15.5 -3.7
	baz=244,SNR=17						
KAIM	Kayak Island	16.05	51	P		Pn	05 16 20.3 0.0
	baz=251,SNR=5.0						
IMAR	Indian Mountai	16.09	24	P		Pn	05 16 22.4 +1.6
M24K	Tolsona, Glenn	16.12	42	P		Pn	05 16 19.4 -2.0
	baz=242,SNR=11						
MLY	Manley	16.20	29	P		Pn	05 16 23.3 +0.9
	baz=225,SNR=133						
MLY	Manley	16.20	29	P		P	05 16 24.9 -0.4
MLY				IAmb		IAmb	05 16 27.0
	comp=Z,44nm,0.7s						
BMRM	Bremner River	16.32	47	P		Pn	05 16 21.4 -2.5
	baz=248,SNR=8.4						
RDOG	Red Dog Mine	16.37	9	P		Pn	05 16 22.6 -1.8
	baz=194						
NEA2	Nenana	16.44	32	P		Pn	05 16 23.9 -1.4
	baz=229,SNR=25						
NEA2	Nenana	16.44	32			Pn	05 16 24.4 -0.9
BERG	Berg Lake	16.54	50			Pn	05 16 24.6 -2.0
BERG				IAmb		IAmb	05 16 44.2
	comp=Z,45nm,0.7s						
N25K	Chitina, Valde	16.57	45	P		Pn	05 16 24.0 -3.1
	baz=246,SNR=16						
HARP	HAARP	16.68	42	P		Pn	05 16 26.3 -2.1
	baz=242,SNR=12						
WRH	Wood River Hil	16.69	34	Pn		Pn	05 16 26.7 -1.7
I23K	Minto, Yukon-K	16.71	31	P		Pn	05 16 27.9 -0.8
	baz=227,SNR=45						
I23K	Minto, Yukon-K	16.71	31			Pn	05 16 28.6 0.0
I23K				IAmb		IAmb	05 16 56.7
	comp=Z,97nm,1.4s						
PAX	Paxson	16.82	40	P		Pn	05 16 30.1 -0.2
PAX				pmax		pmax	
	comp=Z,16nm,0.7s						
PAX	Paxson	16.82	40	P		Pn	05 16 28.9 -1.4
	baz=240						
PAX	Paxson	16.82	40	P		Pn	05 16 30.1 -0.2
GLB	Gilahina Butte	16.86	46			Pn	05 16 28.1 -2.5
CCB	Clear Creek Bu	16.89	33	P		Pn	05 16 29.9 -1.1
CRQM	Cirque	16.92	49	P		Pn	05 16 30.0 -1.6
CRQM				IAmb		IAmb	05 16 54.6
	comp=Z,68nm,1.0s						
VRDI	Verde Repeater	16.94	47	P		Pn	05 16 30.5 -1.3
CRQE	Cirque	16.94	49	P		Pn	05 16 29.3 -2.5
	baz=250,SNR=6.2						
MDM	Murphy Dome	16.95	32	P		Pn	05 16 30.6 -1.2
WAX	Waxell Ridge	16.96	50	P		Pn	05 16 30.6 -1.3
WAX				IAmb		IAmb	05 16 36.6
	comp=Z,96nm,0.6s						
TCOL	CIGO, UAF Yank	17.02	33	P		Pn	05 16 31.8 -0.8
COLA	College	17.02	33	P		Pn	05 16 31.8 -0.8
COLA				pmax		pmax	
	comp=Z,23nm,0.9s						
COLA	College	17.02	33	P		Pn	05 16 31.8 -0.8
HDA	Harding Lake	17.05	35	P		Pn	05 16 30.7 -2.3
	baz=234,SNR=12						
HDA	Harding Lake	17.05	35	P		Pn	05 16 31.1 -1.9
TGL	Tana Glacier	17.06	49	P		Pn	05 16 31.8 -1.5
TGL				IAmb		IAmb	05 16 52.8
	comp=Z,67nm,0.9s						
H23K	Yukon River	17.12	29	P		Pn	05 16 34.0 +0.1
	baz=226,SNR=43						
MCARA	McCarthy VSAT	17.19	47	P		Pn	05 16 32.6 -2.1
	baz=249,SNR=7.5						
ISLE	Juniper Island	17.25	50	P		Pn	05 16 33.5 -2.0
ILAR	Eielson Array	17.29	34	P		Pn	05 16 34.2 -1.7
	comp=Z,1.4nm,0.3s,baz=233,slow=11,SNR=43						
ILAR				PcP		PcP	05 21 17.1 -0.2
	comp=Z,0.2nm,0.3s,baz=279,slow=3.7,SNR=5.8						
ILAR				ScP		ScP	05 24 49.5 -0.7
	baz=260,slow=3.3,SNR=4.5						
ILAR	Eielson Array	17.29	34	P		Pn	05 16 34.3 -1.6
RIDG	Independent Ri	17.45	38	P		Pn	05 16 36.0 -2.0
	baz=239,SNR=11						
M26K	Nabesna, AK	17.59	44	P		Pn	05 16 37.5 -2.2
	baz=246,SNR=33						
H24K	Noodor Dome	17.63	30	P		Pn	05 16 39.0 -1.2
	baz=228,SNR=32						
L26K	Log Cabin Wild	17.71	42	P		Pn	05 16 40.0 -1.1
	baz=243,SNR=21						
CTG	Chitna Glacier	17.82	49	P		Pn	05 16 40.2 -2.6
	baz=252,SNR=18						
SCRK	Sand Creek	17.90	38	P		Pn	05 16 41.5 -2.2
	baz=240,SNR=22						
COLD	Coldfoot	17.95	25	P		Pn	05 16 43.2 -1.0
	baz=221,SNR=34						
M27K	Edge Creek, AK	18.05	44	P		Pn	05 16 43.8 -1.7
	baz=247,SNR=35						
PINM	Pinnacle	18.11	52	P		Pn	05 16 45.5 -0.7
	baz=256,SNR=17						
PRP	Porcupine Dome	18.19	33	P		Pn	05 16 44.8 -2.4
	baz=233,SNR=12						
L27K	Beaver Creek,	18.35	42	P		P	05 16 47.7 -1.3
	baz=246,SNR=22						
K27K	Chicken	18.67	39	P		P	05 16 50.8 -1.6
	baz=242						
TOLK	Toolik Lake Re	19.18	22	P		P	05 16 57.7 -0.4
	baz=220,SNR=14						
TOLK	Toolik Lake Re	19.18	22	P		Pn	05 16 58.8 -0.3
PET	Petropavlovsk	19.26	285	*ce*P		P	05 16 58.6 -0.4
PET				*e*S		Sn	05 20 27.8 -7.3
PET				pmax		pmax	
	comp=Z,48nm,0.6s						
PET				pmax		pmax	
	comp=Z,100nm,14.4s						
PET				MLR		MLR	
	comp=Z,400nm,18.0s						
PET				MLR		MLR	
	comp=Z,300nm,18.0s						
PET	Petropavlovsk	19.26	285	P		P	05 16 58.7 -0.3
PET				IAmb		IAmb	05 17 02.1
	comp=Z,26nm,0.5s						
EGAK	Eagle	19.37	38	P		P	05 16 58.6 -1.5
	baz=242,SNR=47						
EGAK	Eagle	19.37	38	P		P	05 16 59.2 -0.8
BILL	Bilibino	19.82	333	*e*P		P	05 17 03.8 -1.1
BILL				pmax		pmax	
	comp=Z,40nm,1.1s						
BILL				MLR		MLR	
	comp=Z,310nm,16.0s						
BILL	Bilibino	19.82	333	P		Pn	05 17 06.5 -0.1
PEA0B	Petropavlovsk-	19.82	286	*ce*P		P	05 17 05.6 +0.5
PEA0B	Petropavlovsk-	19.82	286	P		P	05 17 05.6 +0.5
PETK	Petropavlovsk-	19.82	286	P		P	05 17 04.8 -0.3
	comp=Z,32nm,0.3s,baz=91,slow=12,SNR=292						
PETK	Petropavlovsk-	19.82	286	P		P	05 17 04.4 -0.7
SIT	Sitka	20.34	62	P		P	05 17 09.1 -1.5
	baz=270						
SKAG	Skagway	20.46	55	P		P	05 17 13.0 +1.1
	baz=263,SNR=23						
SKAG	Skagway	20.46	55	P		P	05 17 12.2 +0.3
SKAG				IAmb		IAmb	05 17 35.1
	comp=Z,75nm,1.0s						
BESE	Bessie Mountai	20.63	58	P		P	05 17 15.0 +1.1
BESE				IAmb		IAmb	05 17 43.1
	comp=Z,61nm,1.0s						
WHY	Whitehorse	20.84	52	P		P	05 17 17.4 +1.2
	baz=261,SNR=40						
WHY	Whitehorse	20.84	52	P		Pn	05 17 17.6 -1.2
WHY				IAmb		IAmb	05 17 33.3
	comp=Z,72nm,0.8s						
JIS	Juneau Island	20.86	59	P		P	05 17 16.6 +0.3
JIS				IAmb		IAmb	05 17 40.3
	comp=Z,34nm,0.8s						
SKR	Severo-Kuril's	21.34	280	*e*P		P	05 17 20.6 -0.9
SKR				*e*S		S	05 21 20.7 +3.7
SKR				pmax		pmax	
	comp=Z,50nm,0.9s						
SKR				MLR		MLR	
	comp=Z,200nm,15.0s						
SKR				MLR		MLR	
	comp=Z,300nm,17.0s						
CRAG	Craig	21.66	66	P		P	05 17 27.5 +2.6
	baz=276						
DLBC	Dease Lake	23.16	58	P		P	05 17 42.1 +1.2
	comp=Z,16nm,1.1s,baz=265,slow=8.7,SNR=14						
DLBC				LR		LR	05 25 54.7
	comp=Z,161nm,20.4s,baz=280,slow=34						
MA2	Magadan	23.21	305	P		P	05 17 41.2 -0.1
	comp=Z,18nm,0.5s,baz=88,slow=9.0,SNR=19						
MA2	Magadan	23.21	305	*ce*P		P	05 17 42.6 +1.3
MA2				pmax		pmax	
	comp=Z,46nm,1.3s						
MA2	Magadan	23.21	305	P		P	05 17 41.6 +0.3
MA2				IAmb		IAmb	05 17 43.7
	comp=Z,36nm,0.9s						
INK	Inuvik	23.68	33	P		P	05 17 44.2 -1.5
	comp=Z,20nm,0.5s,baz=249,slow=6.5,SNR=132						
INK	Inuvik	23.68	33	P		P	05 17 44.2 -1.5
	baz=244,SNR=34						
C36M	Paulatuk	27.26	34	P		P	05 18 17.5 -0.8
	baz=254						
B05A	Bryant	30.23	78	P		P	05 18 45.9 +1.0
	baz=295						
YKA	Yellowknife Ar	30.55	48	P		P	05 18 47.4 -0.2
	comp=Z,2.9nm,0.4s,baz=64,slow=7.9,SNR=36						
YKA				ScP		ScP	05 25 26.3 +0.2
	comp=Z,1.5nm,0.8s,baz=297,slow=3.0,SNR=5.0						
YKA				LR		LR	05 33 18.4
	comp=Z,437nm,18.8s,baz=0.0,slow=41						
YKA	Yellowknife Ar	30.55	48	P		P	05 18 48.0 +0.4
D05A	Enumclaw	30.77	80	P		P	05 18 50.8 +1.1
D05A				IAmb		IAmb	05 19 05.3
	comp=Z,21nm,1.0s						
YSS	Yuzh-Sakhalins	30.91	280	*e*P		P	05 18 53.6 +2.6
YSS				*e*S		S	05 23 55.5 +2.1
YSS				pmax		pmax	
	comp=Z,20nm,1.0s						
YSS				MLR		MLR	
	comp=Z,200nm,17.0s						
B08A	Colville Reser	31.85	76	P		P	05 18 59.3 0.0
B08A				IAmb		IAmb	05 19 15.7
	comp=Z,11nm,1.0s						
I04A	Tendick Farm,	32.17	86	P		P	05 19 03.1 +0.9
	baz=302						
JKA	Kamikawa-asahi	32.40	275	P		P	05 19 03.5 -0.6
ASAJ	Asahikawa	32.40	275	P		P	05 19 03.5 -0.6
ASAJ				pmax		pmax	
	comp=Z,48nm,0.7s						
HUMO	Hull Mountain	32.48	88	IAMs_20		IAMs_20	05 31 50.5
	comp=Z,434nm,18.0s						
HAWA	Hanford	32.63	80	P		P	05 19 06.7 +0.6
TIXI	Tiksi	32.93	329	LR		LR	05 33 44.5
	comp=Z,119nm,19.1s,baz=303,slow=38						
TIXI	Tiksi	32.93	329	*i* P		P	05 19 07.1 -1.3
J05D	Fort Rock, OR	33.17	86	P		P	05 19 12.5 +1.5
	baz=302						
ERM	Erimo	33.19	271	P		P	05 19 11.3 +0.3
ERM				pmax		pmax	
	comp=Z,26nm,1.0s						
ERM	Erimo	33.19	271	P		P	05 19 11.3 +0.3
ERM				IAmb		IAmb	05 19 12.3
	comp=Z,26nm,0.9s						
NEW	Newport	33.22	75	P		P	05 19 10.8 -0.4
NEW				pmax		pmax	
	comp=Z,10.0nm,0.9s						
NEW	Newport	33.22	75	P		P	05 19 11.0 -0.2
	baz=296,SNR=12						
NEW	Newport	33.22	75	P		P	05 19 10.8 -0.4
NEW				IAmb		IAmb	05 19 12.9
	comp=Z,10nm,0.9s						
M02C	Callahan	33.22	90	P		P	05 19 12.5 +1.2
	baz=305						
YAK	Yakutsk	33.28	311	*e*P		P	05 19 10.6 -0.9
YAK				pmax		pmax	
	comp=Z,23nm,0.8s						
YAK				pmax		pmax	
	comp=N,3.0nm,0.7s						
YAK				pmax		pmax	
	comp=E,4.0nm,0.8s						
YAK	Yakutsk	33.28	311	IAMs_20		IAMs_20	05 33 23.7
	comp=Z,302nm,18.0s						
KMRM	Mail Ridge	33.37	92	P		P	05 19 14.1 +1.4
EDM	Edmonton	33.40	65	P		P	05 19 12.6 -0.1
EDM				pmax		pmax	
	comp=Z,48nm,0.7s						
EDM	Edmonton	33.40	65	P		P	05 19 12.6 -0.1
E09A	Wood Farm, Sta	33.42	79	P		P	05 19 13.2 +0.2
M04C	Macdoel	33.63	89	P		P	05 19 14.8 -0.2
	baz=304						
I07A	Izee	33.81	83	P		P	05 19 15.6 -1.0
I07A				IAmb		IAmb	05 19 48.0
	comp=Z,41nm,2.0s						
WDC	Whiskeytown Da	33.88	91	P		P	05 19 17.1 0.0
WDC				pmax		pmax	
	comp=Z,6.0nm,0.9s						
WDC	Whiskeytown Da	33.88	91	P		P	05 19 17.1 0.0
O02D	Mt. Diablo Mer	33.97	92	P		P	05 19 16.9 -1.0
	baz=306						
MOD	Modoc Plateau	34.51	87	IAMs_20		IAMs_20	05 32 51.2
	comp=Z,397nm,18.0s						
O03E	Paynes Creek	34.51	91	P		P	05 19 22.0 -0.6
	baz=306						
BMO	Blue Mountains	34.75	81	P		P	05 19 23.7 -1.0
BMO				pmax		pmax	
	comp=Z,6.0nm,1.3s						
BMO	Blue Mountains	34.75	81	P		P	05 19 23.7 -1.0
MSO	Missoula	35.79	76	P		P	05 19 32.7 -0.9
	baz=299						
KLR	Kul'dur	36.44	289	LR		LR	05 36 01.9
	comp=Z,299nm,18.1s,baz=56,slow=39						
KLR	Kul'dur	36.44	289	*ce*P		P	05 19 37.8 -1.1
KLR				pmax		pmax	
	comp=Z,13nm,0.6s						
ZEA	Zeya	37.03	298	*e*P		P	05 19 42.7 -1.2
ZEA				pmax		pmax	
	comp=N,10.0nm,0.7s						
ZEA				pmax		pmax	
	comp=Z,20nm,0.8s						
ZEA				MLR		MLR	
	comp=E,200nm,15.0s						
ZEA				MLR		MLR	
	comp=Z,200nm,16.0s						
HRY	Holter Researc	37.11	75	P		P	05 19 44.6 -0.3
H11N2	WAKE ISLAND Hy	37.13	219	T		T	05 59 38.3
	SNR=11						
H11N3	WAKE ISLAND Hy	37.13	218	T		T	06 00 26.8
	baz=25,slow=74,SNR=24						
H11N1	WAKE ISLAND Hy	37.14	219	T		T	06 00 25.6
	baz=128,slow=74,SNR=11						
HLID	Hailey	37.20	81	P		P	05 19 45.1 -0.6
	baz=303						
MCMT	McKenzie Canyo	37.47	78	P		P	05 19 47.8 -0.3
EGMT	Eagleton	37.69	72	P		P	05 19 48.9 -0.9
	baz=299,SNR=12						
NVAR	Mina Array Bea	37.79	90	P		P	05 19 51.9 +1.0
	comp=Z,2.0nm,0.7s,baz=301,slow=8.0,SNR=14						
NVAR				ScP		ScP	05 25 51.9 -0.7
	comp=Z,0.6nm,0.7s,baz=307,slow=3.7,SNR=4.1						
BOZ	Bozeman (W)	37.80	76	P		P	05 19 50.1 -0.7
	baz=301,SNR=11						
ELK	Elko	38.29	85	IAMs_20		IAMs_20	05 36 08.5
	comp=Z,322nm,20.0s						
H11S1	WAKE ISLAND Hy	38.31	218	T		T	06 01 01.8
	baz=23,slow=76,SNR=91						
H11S2	WAKE ISLAND Hy	38.33	218	T		T	06 01 01.5
	baz=23,slow=76,SNR=86						
H11S3	WAKE ISLAND Hy	38.33	218	T		T	06 01 29.4
	baz=23,slow=76,SNR=85						
JYT	Yasato	38.53	266	P		P	05 19 55.7 -1.0
JYT				IAmb		IAmb	05 20 00.3
	comp=Z,25nm,0.7s						
JSD	Sado	38.57	270	P		P	05 19 57.6 +0.4
JSD				IAmb		IAmb	05 19 59.4
	comp=Z,28nm,1.0s						
USRK	Ussuriysk Ar.	38.83	282	P		P	05 19 58.7 -0.5
	comp=Z,4.4nm,0.5s,baz=54,slow=9.8,SNR=16						
USRK				PcP		PcP	05 22 09.9 0.0
	comp=Z,3.7nm,0.7s,baz=60,slow=5.2,SNR=5.2						
USRK				LR		LR	05 35 00.4
	comp=Z,218nm,21.7s,baz=52,slow=35						
USRK	Ussuriysk Ar.	38.83	282	P		P	05 19 59.0 -0.2
H17A	Grant Village	39.07	77	P		P	05 20 00.4 -1.2
	baz=303,SNR=6.1						
CWC	Cottonwood Cre	39.19	93	P		P	05 20 02.5 0.0
	baz=310						
GRAC	Grapevine Rang	39.27	91	P		P	05 20 02.7 -0.4
	baz=310						
ISA	Isabella, Lake	39.45	94	P		P	05 20 03.9 -0.6
	baz=311						
RLMT	Red Lodge	39.47	75	P		P	05 20 04.2 -0.7
	baz=302,SNR=11						
SBC	Santa Barbara	39.49	96	P		P	05 20 04.6 -0.3
	baz=312						
R11A	Troy Canyon, C	39.52	88	P		P	05 20 05.8 +0.5
	baz=308						
MJAR	Matsushiro Arr	39.55	268	P		P	05 20 05.5 +0.1
	comp=Z,2.0nm,0.4s,baz=45,slow=7.4,SNR=9.2						
MJAR				PcP		PcP	05 22 12.7 +0.4
	comp=Z,3.0nm,0.9s,baz=108,slow=1.4,SNR=5.8						
MAJO	Matsushiro	39.55	268	P		P	05 20 05.0 -0.4
MAJO				pmax		pmax	
	comp=Z,34nm,1.3s						
MAJO	Matsushiro	39.55	268	P		P	05 20 05.0 -0.4
MAJO				IAmb		IAmb	05 20 27.3
	comp=Z,34nm,1.2s						
MAT	Matsushiro	39.55	268	P		P	05 20 05.3 -0.1
MAT				*e*S		S	05 25 55.6 -11
FURC	Furnace Creek,	39.92	92	P		P	05 20 08.3 -0.1
	baz=310						
TPNV	Topopah Spring	39.99	91	P		P	05 20 08.6 -0.6
	baz=310,SNR=14						
TPNV	Topopah Spring	39.99	91	IAMs_20		IAMs_20	05 36 00.2
	comp=Z,284nm,19.0s						
MDJ	Mudanjiang	40.04	284	IAMs_20		IAMs_20	05 39 03.8
	comp=Z,278nm,20.0s						
DUG	Dugway, Tooele	40.11	84	P		P	05 20 09.3 -0.8
	baz=307,SNR=6.

baz=305
IKP In-Ko-Pah, Jac 42.91 95 P P 05 20 32.8 -0.3
baz=313
O20A White River Ci 42.94 81 P P 05 20 32.5 -0.9
baz=307,SNR=20
CN2 Changchun 42.97 286 *e*P **P 05 20 32.5 -0.8**
CN2 *e*S **S 05 26 56.0 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,19.0s
PDMCI Parker Dam,Lak 43.01 92 P P 05 20 33.7 -0.1
baz=312
RSSD Black Hills 43.13 74 P P 05 20 34.4 -0.6
baz=305
HIA Hailar 43.26 296*c i*P **P 05 20 34.9 -0.8**
HIA pmax pmax
comp=Z,28nm,0.8s
N23A Red Feather La 43.88 79 P P 05 20 40.5 -0.5
baz=307,SNR=6.2
WUAZ Wupatki 43.92 88 P P 05 20 41.5 +0.1
baz=311,SNR=15
WUAZ Wupatki 43.92 88 IAMs_20 IAMs_20 05 41 59.4
comp=Z,260nm,18.0s
ULM Lac du Bonnet 44.41 62 P P 05 20 44.7 -0.2
comp=Z,8.0nm,0.6s,baz=300,slow=8.6,SNR=8.9
ULM LR LR 05 40 37.4
comp=Z,266nm,19.1s,baz=314,slow=38
MVCO Mesa Verde 44.60 84 P P 05 20 46.1 -0.8
baz=310,SNR=8.0
ISCO Idaho Springs 44.74 80 P P 05 20 47.4 -0.7
baz=308
SNY Shenyang 45.24 285 ⇓P **P 05 20 52.5 +1.0**
SNY S **S 05 27 26.0 -3.8**
SNY pmax pmax
comp=Z,13nm,0.5s
SNY pmax pmax
comp=Z,110nm,4.6s
SNY LR LR
comp=Z,240nm,15.2s
SNY LR LR
comp=Z,180nm,19.2s
SNY LR LR
comp=Z,320nm,17.2s
S22A 4UR Ranch, Cre 45.29 83 P P 05 20 51.9 -0.4
baz=309,SNR=11
KSRS Korea Array 45.31 277 P P 05 20 52.9 +0.7
comp=Z,19nm,0.7s,baz=55,slow=7.7,SNR=69
KSRS LR LR 05 37 41.2
comp=Z,100nm,21.8s,baz=58,slow=33
NEEM North Greenlan 45.33 16⇑*i*P **P 05 20 52.4 +0.2**
NEEM IAmb IAmb 05 20 53.0
comp=Z,37nm,0.7s
KSAR Wonju Array Be 45.34 277 P P 05 20 52.9 +0.5
KSAR Wonju Array Be 45.34 277 P P 05 20 52.9 +0.5
214A Organ Pipe Nat 45.42 93 P P 05 20 53.1 0.0
baz=314
AGMN Agassiz Nation 45.48 64 P P 05 20 52.6 -0.8
baz=304,SNR=12
AGMN Agassiz Nation 45.48 64 P P 05 20 52.7 -0.7
AGMN IAmb IAmb 05 20 53.9
comp=Z,20nm,0.9s
Q24A Divide 45.55 80 P P 05 20 54.3 -0.1
baz=309
NOR Nord 45.79 5⇑*i*P **P 05 20 55.5 0.0**
NOR IAmb IAmb 05 20 56.3
comp=Z,13nm,0.8s
NOR Nord 45.79 5⇑*i*P **P 05 20 55.4 0.0**
NOR pmax pmax
comp=Z,13nm,0.8s
SUSD Miller 45.93 70 P P 05 20 56.5 -0.5
baz=306
INCN Inchon 46.08 278 P P 05 20 57.9 -0.3
INCN pmax pmax
comp=Z,64nm,0.9s
INCN Inchon 46.08 278 P P 05 20 57.9 -0.3
SDCO Great Sand Dun 46.10 82 P P 05 20 58.0 -0.8
baz=310,SNR=11
JNU Nakatsue 46.33 270 P P 05 20 59.7 -0.6
JNU IAmb IAmb 05 21 15.4
comp=Z,26nm,1.0s
TJN Taejon 46.34 276*ce*P **P 05 21 00.3 0.0**
TUC Tucson 46.43 91 P P 05 21 01.2 0.0
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 46.43 91 P P 05 21 01.1 0.0
baz=313
TUC Tucson 46.43 91 P P 05 21 01.2 0.0
TUC IAmb IAmb 05 21 02.5
comp=Z,7.1nm,0.8s
NRIK Noril'sk 46.63 332 P P 05 21 02.4 +0.2
comp=Z,7.4nm,0.4s,baz=78,slow=7.4,SNR=10
NRIK PcP **PcP 05 22 35.3 -0.3**
comp=Z,4.5nm,0.5s,baz=202,slow=2.3,SNR=4.0
NRIK LR LR 05 44 03.6
comp=Z,130nm,18.0s,baz=64,slow=40
NRIK Noril'sk 46.63 332*ce*P **P 05 21 02.0 -0.2**
NRIK pmax pmax
comp=Z,19nm,1.0s
NRIK Noril'sk 46.63 332 P P 05 21 02.3 +0.2
KSCO Kaye Shedlock' 47.05 78 P P 05 21 04.9 -1.0
baz=309,SNR=5.2
T25A Trinidad 47.15 82 P P 05 21 06.2 -0.7
baz=310,SNR=13
ANMO Albuquerque 47.33 85 *i* P **P 05 21 06.6 -1.7**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 47.33 85 P P 05 21 07.1 -1.2
baz=311
ANMO Albuquerque 47.33 85 IAMs_20 IAMs_20 05 41 25.7
comp=Z,314nm,19.0s
UPNV Upernavik 47.33 22 *i* P **P 05 21 07.6 0.0**
UPNV IAmb IAmb 05 21 08.6
comp=Z,14nm,0.7s
ECSD EROS Data Cent 47.70 70 P P 05 21 09.3 -1.6
baz=307,SNR=7.7
EYMN Ely 48.09 62 P P 05 21 11.9 -1.9
baz=306,SNR=11
121A Cookes Peak, D 48.13 89 P P 05 21 14.3 -0.2
baz=313,SNR=9.5
BGNE Belgrade 48.23 73 P P 05 21 14.5 -0.5
baz=308
CBKS Cedar Bluff 48.91 77 P P 05 21 19.8 -0.5
baz=310
SPMN Marine on St. 48.98 66 P P 05 21 19.9 -0.7
baz=307
KBS Kingsbay 49.27 360⇑*i*P **P 05 21 23.5 +1.0**
KBS IAmb IAmb 05 21 24.2
comp=Z,64nm,0.8s
KBS Kingsbay 49.27 360*ce*P **P 05 21 23.1 +0.6**
KBS pmax pmax
comp=Z,27nm,1.0s
SPITS Spitsbergen Ar 49.98 358 P P 05 21 27.5 -0.4
SPITS pmax pmax
comp=Z,38nm,1.1s
DAG Danmarks Havn 50.12 8⇑*i*P **P 05 21 28.6 -0.3**
DAG IAmb IAmb 05 21 29.4
comp=Z,50nm,0.6s
DAG Danmarks Havn 50.12 8⇑*i*P **P 05 21 28.6 -0.3**
DAG pmax pmax
comp=Z,50nm,0.6s
MNTX Cornudas Mount 50.18 88 P P 05 21 29.9 -0.1
baz=314,SNR=34
MNTX Cornudas Mount 50.18 88 P P 05 21 29.6 -0.5
MNTX IAmb IAmb 05 21 31.7
comp=Z,14nm,0.7s
MSTX Muleshoe 50.24 84 P P 05 21 29.6 -1.0
baz=312,SNR=12
MSTX Muleshoe 50.24 84 P P 05 21 29.6 -1.0
MSTX IAmb IAmb 05 21 31.4
comp=Z,40nm,1.4s
AMTX Amarillo 50.30 82 P P 05 21 29.9 -1.1
baz=312
AMTX Amarillo 50.30 82 P P 05 21 29.2 -1.8
AMTX IAmb IAmb 05 21 43.1
comp=Z,8.0nm,0.6s
G40A Rib Lake 50.41 64 P P 05 21 30.9 -0.7
G40A IAmb IAmb 05 21 31.8
comp=Z,13nm,1.0s
COWI Conover 50.49 63 P P 05 21 30.8 -1.4
COWI IAmb IAmb 05 21 32.4
comp=Z,29nm,1.2s
KSU1 Kansas State U 50.60 74 P P 05 21 31.9 -1.1
baz=310
BJI Beijing 50.74 287 P P 05 21 35.3 +1.2
BJI S **S 05 28 48.8 +1.0**
BJI pmax pmax
comp=Z,19nm,0.8s
BJI LR LR
comp=Z,150nm,24.9s
BJI LR LR
comp=Z,120nm,26.9s
BJT Baijiatuan 50.76 287 P P 05 21 34.8 +0.5
BJT pmax pmax
comp=Z,11nm,0.7s
BJT MLR MLR
comp=Z,200nm,18.0s
BJT Baijiatuan 50.76 287 P P 05 21 34.8 +0.5
BJT IAmb IAmb 05 21 35.7
comp=Z,11nm,0.7s
BJT Baijiatuan 50.76 287 IAMs_20 IAMs_20 05 46 19.6
comp=Z,225nm,18.0s
XMAS Kiritimati 50.87 164 P P 05 21 34.5 -0.7
ILULI Ilulissat 50.97 24 IAMs_20 IAMs_20 05 47 24.9
comp=Z,175nm,18.0s
ULN Ulaanbaatar 50.98 301 P P 05 21 35.9 -0.1
ULN pmax pmax
comp=Z,15nm,0.9s
ULN MLR MLR
comp=Z,300nm,18.0s
ULN Ulaanbaatar 50.98 301 P P 05 21 35.9 -0.1
ULN IAmb IAmb 05 21 37.8
comp=Z,15nm,0.8s
SUMG Summit 51.12 17⇑*i*P **P 05 21 37.8 +0.7**
SUMG IAmb IAmb 05 21 38.5
comp=Z,50nm,0.9s
SUMG Summit 51.12 17⇑*i*P **P 05 21 37.7 +0.7**
SUMG pmax pmax
comp=Z,50nm,0.9s
SONM Songino Array 51.34 301 P P 05 21 39.2 +0.5
comp=Z,6.8nm,0.7s,baz=54,slow=7.9,SNR=43
SONM PcP **PcP 05 22 51.2 -2.0**
comp=Z,2.5nm,0.7s,baz=54,slow=3.8,SNR=2.4
SONM Songino Array 51.34 301 P P 05 21 38.9 +0.2
HOPEN Hopen 51.36 356 *e*P **P 05 21 38.7 +0.4**
ZAK Zakamensk 51.39 305 *e*P **P 05 21 38.2 -0.8**
ZAK *e* 05 22 51.8
ZAK pmax pmax
comp=Z,11nm,1.4s
JFWS Jewell Farm 51.86 67 P P 05 21 40.7 -1.7
baz=309,SNR=5.3
WMOK Wichita Mounta 52.16 80 P P 05 21 43.9 -1.0
baz=312,SNR=8.9
DBG Daneborg 52.24 10⇑*i*P **P 05 21 44.6 -0.3**
DBG IAmb IAmb 05 21 45.1
comp=Z,56nm,0.6s
TIA Tai'an 52.68 283 P P 05 21 48.8 +0.1
TIA pmax pmax
comp=Z,29nm,0.6s
TIA pmax pmax
comp=Z,49nm,4.1s
TIA LR LR
comp=Z,150nm,16.4s
TIA LR LR
comp=Z,120nm,14.5s
TIA LR LR
comp=Z,200nm,13.9s
SFJD Kangerlussuaq 52.71 26⇑*i*P **P 05 21 48.9 +0.5**
SFJD IAmb IAmb 05 21 49.7
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 52.71 26⇑*i*P **P 05 21 48.9 +0.5**
SFJD pmax pmax
comp=Z,9.0nm,0.8s
TXAR Lajitas Array 52.89 89 P P 05 21 50.3 -0.1
comp=Z,14nm,0.6s,baz=298,slow=5.5,SNR=288
TXAR LR LR 05 43 50.5
comp=Z,75nm,18.2s,baz=0.0,slow=35
HHC Hu-ho-hao-te 52.91 291 *e*P **P 05 21 51.0 +0.6**
HHC S **S 05 29 18.3 +0.5**
HHC sS sS 05 29 33.8 +4.5
HHC pmax pmax
comp=Z,21nm,1.2s
HHC pmax pmax
comp=Z,59nm,6.4s
HHC LR LR
comp=Z,120nm,16.3s
HHC LR LR
comp=Z,160nm,19.2s
HHC LR LR
comp=Z,210nm,16.8s
ABTX Abilene, Hawle 53.08 83 P P 05 21 50.6 -1.1
baz=313,SNR=6.4
TUL1 Leonard 53.19 77 P P 05 21 50.8 -1.6
baz=312
L44A Lake County Fo 53.65 66 P P 05 21 54.5 -1.2
baz=311
ICESG Greenland Ices 53.71 20⇑*i*P **P 05 21 56.1 0.0**
ICESG IAmb IAmb 05 21 56.9
comp=Z,37nm,0.7s
GLMI Grayling 53.76 62 P P 05 21 55.8 -0.7
baz=310
HDIL Hopedale 53.93 68 P P 05 21 56.3 -1.5
baz=311,SNR=5.2
HDIL Hopedale 53.93 68 IAMs_20 IAMs_20 05 46 05.2
comp=Z,256nm,20.0s
MATQ Matagami 54.19 53 P P 05 21 58.5 -1.0
baz=310,SNR=5.6
DY2G Dye2 54.25 24⇑*i*P **P 05 21 59.9 -0.1**
DY2G IAmb IAmb 05 22 01.4
comp=Z,13nm,0.7s
CCM Cathedral Cave 54.45 72 P P 05 21 59.5 -2.1
baz=312
NJ2 Nanjing 54.46 278 *e*P **P 05 22 01.0 -0.7**
NJ2 pP **pwP 05 22 13.8 +0.6**
NJ2 pmax pmax
comp=Z,23nm,0.7s
JCT Junction City 54.47 85 P P 05 22 00.3 -1.6
baz=315,SNR=8.3
NUUK Nuuk 54.49 28⇑*i*P **P 05 22 02.5 +1.1**
NUUK IAmb IAmb 05 22 03.3
comp=Z,12nm,0.8s
U40A Yellville 54.64 74 P P 05 22 01.0 -2.1
baz=312,SNR=10
U40A Yellville 54.64 74 P P 05 22 00.6 -2.4
U40A IAmb IAmb 05 22 01.6
comp=Z,8.5nm,0.6s
WHTX Lake Whitney, 54.85 82 P P 05 22 03.8 -0.8
baz=314,SNR=7.2
WHTX Lake Whitney, 54.85 82 P P 05 22 03.6 -1.0
WHTX IAmb IAmb 05 22 05.8
comp=Z,23nm,0.8s
W39A Magazine 54.87 76 P P 05 22 03.4 -1.3
baz=313
LSQQ Lebel-sur-Quev 54.97 53 P P 05 22 04.6 -0.6
baz=311
SFIN Lafayette 55.30 67 P P 05 22 06.6 -1.1
baz=312,SNR=5.6
SFIN Lafayette 55.30 67 P P 05 22 06.9 -0.8
SFIN IAmb IAmb 05 22 07.8
comp=Z,40nm,1.4s
MIAR Mount Ida 55.44 77 P P 05 22 07.7 -1.1
MIAR pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 55.44 77 P P 05 22 07.8 -1.1
baz=313,SNR=5.6
MIAR Mount Ida 55.44 77 P P 05 22 07.7 -1.1
MIAR IAmb IAmb 05 22 32.7
comp=Z,13nm,1.0s
SCO Scoresbysund 55.56 13 *i* P **P 05 22 09.5 +0.4**
SCO IAmb IAmb 05 22 10.2
comp=Z,26nm,0.7s
SCO Scoresbysund 55.56 13 *i* P **P 05 22 09.5 +0.4**
SCO pmax pmax
comp=Z,26nm,0.7s
435B Jarrell 55.61 83 P P 05 22 09.3 -0.8
435B IAmb IAmb 05 22 34.6
comp=Z,16nm,0.8s
CHGQ Chibougamau 55.68 51 P P 05 22 09.2 -1.1
baz=312,SNR=6.6
SCHQ Schefferville 55.75 43 P P 05 22 11.2 +0.4
comp=Z,12nm,0.9s,baz=333,slow=5.1,SNR=17
SCHQ LR LR 05 46 50.4
comp=Z,188nm,19.1s,baz=5.5,slow=37
X40A Basin Creek Fa 55.93 76 P P 05 22 11.4 -0.9
baz=313
AAM Ann Arbor 55.95 63 P P 05 22 10.6 -1.7
baz=312
833A Chaparral WMA, 56.24 86 P P 05 22 14.1 -0.5
baz=316
WLAR White Oak Lake 56.31 77 P P 05 22 14.2 -0.8
ALGO Algonquin Park 56.49 57 P P 05 22 15.4 -0.8
baz=312
ANGG Ammassalik, Gr 57.02 22 *i* P **P 05 22 18.9 -0.6**
ANGG IAmb IAmb 05 22 19.6
comp=Z,16nm,0.6s
WCI Wyandotte Cave 57.21 68 P P 05 22 19.4 -2.0
baz=313
P49A Miami Univ. Ec 57.22 66 P P 05 22 19.5 -2.0
baz=313,SNR=5.3
HAMF Hammerfest 57.23 355 *e*P **P 05 22 20.7 -0.3**
HKT Hockley 57.27 82 *i* P **P 05 22 22.8 +1.0**
HKT pmax pmax
comp=Z,13nm,1.5s
ZAA0 Zalesovo Array 57.56 318 P P 05 22 23.2 -0.4
ZAA0 IAmb IAmb 05 23 18.3
comp=Z,9.4nm,0.8s
ZALV Zalesovo Beam 57.56 318 P P 05 22 23.1 -0.5
comp=Z,3.9nm,0.4s,baz=39,slow=7.1,SNR=11
ZALV PcP **PcP 05 23 17.1 +0.3**
comp=Z,9.1nm,0.6s,baz=42,slow=3.0,SNR=12
ZALV LR LR 05 49 48.7
comp=Z,149nm,18.2s,baz=31,slow=39
ZALV Zalesovo Beam 57.56 318 P P 05 22 23.0 -0.6
ZALV **PcP 05 23 17.3 +0.6**
DELO Deloro Mine 57.69 58 P P 05 22 24.6 -0.1
DELO IAmb IAmb 05 22 39.8
comp=Z,18nm,1.0s
ACSO Alum Creek Sta 57.72 65 P P 05 22 23.4 -1.6
baz=313
ACSO Alum Creek Sta 57.72 65 IAMs_20 IAMs_20 05 50 09.6
comp=Z,232nm,18.0s
WVT Waverly 57.76 71 P P 05 22 23.9 -1.4
baz=314
OXF Oxford 57.95 74 P P 05 22 25.6 -1.0
baz=314
ERPA Erie 58.07 61 P P 05 22 26.8 -0.6
baz=313
M53A Wi Miller and 58.17 62 P P 05 22 26.9 -1.1
baz=313
ARA0 ARCESS Array S 58.22 354 *e*P **P 05 22 27.2 -0.8**
ARCES ARCESS Array B 58.22 354 P P 05 22 27.9 -0.1
comp=Z,14nm,0.8s,baz=14,slow=6.2,SNR=35
ARCES PcP **PcP 05 23 19.4 +0.4**
comp=Z,4.8nm,0.7s,baz=20,slow=3.9,SNR=4.7
ARCES LR LR 05 46 28.7
comp=Z,111nm,21.9s,baz=355,slow=35
WHN Wuhan 58.26 280 ⇑P **P 05 22 28.5 -0.3**
WHN pmax pmax
comp=Z,52nm,0.7s
PLAL Pickwick Lake 58.41 72 IAMs_20 IAMs_20 05 49 58.7
comp=Z,198nm,19.0s
TRO Tromso 58.46 357 *e*P **P 05 22 29.8 +0.2**
JETT Jettan, Norway 58.48 356 *e*P **P 05 22 30.9 +1.1**
P52A Corning 58.60 65 P P 05 22 29.5 -1.7
baz=314
M54A Oil Creek Stat 58.67 62 P P 05 22 30.4 -1.2
baz=314
O53A New Philadelph 58.69 64 P P 05 22 30.6 -1.1
baz=314
N54A Moraine State 58.87 62 P P 05 22 31.5 -1.5
baz=314,SNR=5.2
KTK1 Kautokeino 58.88 355 *e*P **P 05 22 32.6 +0.1**
H57A Richville 58.89 57 P P 05 22 32.2 -0.8
baz=314,SNR=6.4
LVZ Lovozero 59.00 350*ce*P **P 05 22 33.1 -0.4**
LVZ pmax pmax
comp=Z,57nm,1.0s
LVZ Lovozero 59.00 350 P P 05 22 33.3 -0.2
XAN Xi'an 59.06 287 P P 05 22 34.5 +0.1
XAN pP pwP 05 22 46.8 +1.2
XAN S **S 05 30 39.8 +0.2**
XAN pmax pmax
comp=Z,39nm,1.0s
XAN pmax pmax
comp=Z,160nm,6.2s
XAN LR LR
comp=Z,190nm,18.7s
XAN LR LR
comp=Z,210nm,18.2s
XAN LR LR
comp=Z,260nm,19.2s
XAN Xi'an 59.06 287 P P 05 22 34.7 +0.3
XAN Xi'an 59.06 287 P P 05 22 34.7 +0.3
SSLB Suanglung 59.07 270 P P 05 22 33.6 -1.0
K56A Middlesex 59.10 59 P P 05 22 33.6 -1.0
baz=314,SNR=5.4
I57A Carthage 59.11 57 P P 05 22 33.6 -1.0
baz=314,SNR=7.4
YULB Yu-li 59.15 269 P P 05 22 34.2 -1.0
YULB IAmb IAmb 05 23 09.5
comp=Z,20nm,1.2s
LONY Lake Ozonia 59.19 56 P P 05 22 33.9 -1.2
baz=314,SNR=5.5
DGZ Jazzator, Alta 59.46 313*c i*P **P 05 22 37.2 +0.1**
DGZ pmax pmax
comp=Z,13nm,0.7s
H58A Gabriels 59.54 56 P P 05 22 36.7 -0.9
baz=314
H59A Cadyville 59.63 55 P P 05 22 37.2 -0.9
baz=314
I58A Old Forge 59.64 57 P P 05 22 37.8 -0.5
baz=314,SNR=5.6
J58A Remsen 59.71 57 P P 05 22 38.3 -0.4
baz=314,SNR=8.1
MCWV Mont Chateau 59.85 63 P P 05 22 38.9 -0.9
baz=314,SNR=5.9
MOQ Mont Orford 59.88 54 P P 05 22 39.4 -0.6
N2VI Vinje 59.91 358 *e*P **P 05 22 39.9 +0.2**
TZTN Tazewell 59.95 68 P P 05 22 39.7 -0.9
baz=315
O56A Blue Knob Stat 60.13 62 P P 05 22 40.4 -1.3
baz=314,SNR=6.6
I59A Olmsteadville 60.13 56 P P 05 22 40.5 -1.2
baz=315
M57A Sunshine Farm, 60.16 60 P P 05 22 41.2 -0.6
M57A IAmb IAmb 05 22 42.6
comp=Z,11nm,0.8s
BINY Binghamton 60.16 59 P P 05 22 41.4 -0.4
baz=315,SNR=5.2
FPAL Fort Paine 60.17 71 P P 05 22 40.6 -1.5
FPAL IAmb IAmb 05 22 41.5
comp=Z,14nm,0.7s
H60A Morristown 60.19 55 P P 05 22 41.2 -0.8
baz=315
D62A Allapoint, All 60.19 51 P P 05 22 40.9 -1.0
baz=316
N2IH Innhavet 60.23 358 *e*P **P 05 22 41.4 -0.5**
SSPA Standing Stone 60.24 61 P P 05 22 41.4 -1.0
baz=315
STEI Steigen 60.28 358 *e*P **P 05 22 42.3 +0.1**
E62A Clayton Lake 60.29 51 P P 05 22 41.8 -0.8
baz=316
L58A Harry Jones Me 60.34 59 P P 05 22 42.2 -0.9
baz=315,SNR=5.3
N2SV S_rvÅgen 60.36 359 *e*P **P 05 22 42.5 -0.3**
I60A Shoreham 60.40 56 P P 05 22 42.5 -0.9
baz=315
N2NF Nordfold 60.45 358 *e*P **P 05 22 43.4 +0.1**
GTA Gaotai 60.50 297 ⇑P **P 05 22 44.0 -0.4**
GTA pP pwP 05 22 56.5 +0.9
GTA pmax pmax
comp=Z,10.0nm,0.7s
GTA pmax pmax
comp=Z,55nm,7.2s
GTA LR LR
comp=Z,180nm,15.5s
GTA LR LR
comp=Z,320nm,17.9s
GTA LR LR
comp=Z,270nm,18.3s
LZH Lanzhou 60.58 292 ⇓P **P 05 22 46.0 +1.0**
LZH pP pwP 05 22 58.0 +1.8
LZH PP **PP 05 25 03.5 +5.2**
LZH pmax pmax
comp=Z,48nm,1.3s
LZH pmax pmax
comp=Z,97nm,6.2s
LZH LR LR
comp=Z,270nm,16.3s
LZH LR LR
comp=Z,250nm,15.2s
LZH LR LR
comp=Z,250nm,17.9s
H61A Lyndonville 60.60 54 P P 05 22 43.9 -1.0

baz=315
N2TV Tyrnvik 60.65 358 *e*P **P** **05 22 44.8 +0.1**
N2RO Rust 60.74 359 *e*P **P** **05 22 44.9 -0.5**
J60A Lant Hill Farm 60.76 56 P **P** **05 22 45.1 -0.8**
baz=315
G62A West of Eustis 60.80 53 P **P** **05 22 45.0 -1.2**
baz=316
LBNH Lisbon 60.81 55 P **P** **05 22 45.7 -0.5**
baz=315
FAUS Fauske 60.83 358 *e*P **P** **05 22 46.1 +0.2**
NBB08 Skaug oppvekst 60.84 358 *e*P **P** **05 22 46.2 +0.2**
N2ST Straumen 60.85 358 *e*P **P** **05 22 46.3 +0.2**
H62A Milan 60.95 54 P **P** **05 22 46.5 -0.7**
baz=316
E63A Oxbow 60.97 51 P **P** **05 22 46.1 -1.2**
baz=316
J61A Chester 61.13 56 P **P** **05 22 47.8 -0.6**
baz=316
F63A Nahmakanta, Br 61.16 52 P **P** **05 22 48.1 -0.5**
baz=316
N59A State Game Lan 61.18 60 P **P** **05 22 48.3 -0.5**
baz=315
NBB05 Inndyr 61.20 358 *e*P **P** **05 22 48.5 0.0**
K61A Williamstown 61.24 57 P **P** **05 22 48.4 -0.8**
baz=316
E64A Bridgewater 61.25 51 P **P** **05 22 48.3 -0.9**
baz=316
BLA Blacksburg 61.26 66 P **P** **05 22 49.0 -0.4**
BLA pmax pmax
comp=Z,30nm,0.8s
BLA Blacksburg 61.26 66 P **P** **05 22 48.7 -0.8**
baz=315,SNR=8.5
BLA Blacksburg 61.26 66 P **P** **05 22 49.0 -0.4**
G63A Kingsbury 61.33 53 P **P** **05 22 48.6 -1.2**
baz=316
ENH Enshi 61.39 283 P **P** **05 22 50.1 -0.3**
F64A Sherman 61.40 51 P **P** **05 22 49.6 -0.6**
baz=316
J62A Henniker 61.59 55 P **P** **05 22 50.7 -0.8**
baz=316
NBB13 Alf Garage 61.62 359 *e*P **P** **05 22 51.1 -0.2**
KONS Konsvik 61.75 359 *e*P **P** **05 22 52.3 0.0**
K62A Royalston 61.78 56 P **P** **05 22 51.8 -1.0**
baz=316
P60A Greenville 62.04 60 P **P** **05 22 52.9 -1.7**
baz=316
MOR8 Moi Rana 62.06 358 *e*P **P** **05 22 53.5 -0.8**
PAL Palisades 62.10 58 P **P** **05 22 52.4 -2.6**
baz=316
GOGA Godfrey 62.22 71 P **P** **05 22 54.0 -1.9**
baz=316
G65A Princeton 62.27 51 P **P** **05 22 54.8 -1.2**
baz=317
JSRW J. Sargeant Re 62.33 64 P **P** **05 22 55.9 -0.7**
BCX Boston College 62.56 56 IAMs_20 IAMs_20 05 52 46.1
comp=Z,156nm,21.0s
T59A Double "B" Far 63.03 64 P **P** **05 23 01.0 -0.3**
LMN Caledonia Moun 63.10 49 P **P** **05 23 01.2 -0.4**
WMQ Urumqi 63.62 308 *e*P **P** **05 23 05.8 +0.7**
WMQ pP pwP 05 23 17.3 +0.8
WMQ PcP **PcP** **05 23 42.8 +1.5**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,270nm,19.9s
WMQ LR LR
comp=Z,310nm,20.9s
WMQ LR LR
comp=Z,150nm,18.1s
NSS Namsos 63.74 359 *e*P **P** **05 23 05.6 +0.1**
BRVK Borovoye 63.89 324 P **P** **05 23 06.3 -0.4**
BRVK pmax pmax
comp=Z,37nm,0.7s
BRVK MLR MLR
comp=Z,300nm,18.0s
BRVK Borovoye 63.89 324 P **P** **05 23 06.3 -0.4**
SVE Sverdlovsk 63.90 332 *e*P **P** **05 23 07.3 +0.6**
SVE pmax pmax
comp=Z,30nm,1.2s
MK31 Makanchi Array 63.92 313 P **P** **05 23 06.5 -0.5**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 63.92 313 P **P** **05 23 06.5 -0.5**
MK31 IAmb IAmb 05 23 07.2
comp=Z,5.9nm,0.9s
MKAR Makanchi Array 63.92 313 P **P** **05 23 06.2 -0.8**
comp=Z,2.7nm,0.3s,baz=52,slow=6.8,SNR=63
MKAR LR LR 05 54 23.2
comp=Z,137nm,18.5s,baz=32,slow=39
MKAR Makanchi Array 63.92 313 P **P** **05 23 06.5 -0.6**
MKAR Makanchi Array 63.92 313 P **P** **05 23 06.5 -0.6**
ARU Arti 64.84 333 *c i*P **P** **05 23 12.8 0.0**
ARU 05 23 43.1
ARU S **S** **05 31 52.5 +0.7**
ARU SS **SS** **05 35 57.7 -4.6**
ARU pmax pmax
comp=Z,35nm,1.0s
KLMR Klimovskoe 65.05 345 *e*P **P** **05 23 12.6 -1.5**
KLMR pmax pmax
comp=Z,25nm,1.2s
KLMR Klimovskoe 65.05 345 *e*P **P** **05 23 12.6 -1.5**
KLMR AMP 05 23 14.6
comp=Z,25nm,1.2s
KIRV Kirov 65.24 339 *c e*P **P** **05 23 15.7 +0.3**
BRZS Berezniki 65.47 321 *e*P **P** **05 23 16.7 -0.3**
BRZS pmax pmax
comp=Z,11nm,0.8s
MOL Molde 65.69 1 *e*P **P** **05 23 18.4 +0.1**
GYA Guiyang 65.87 282 ⇓P **P** **05 23 20.5 +0.4**
GYA pmax pmax
comp=Z,23nm,1.1s
AKN Aaknes 66.08 2 *e*P **P** **05 23 21.6 +0.8**
FINES FINESS Array B 66.16 352 P **P** **05 23 21.0 -0.3**
comp=Z,23nm,0.7s,baz=14,slow=8.3,SNR=86
FINES LR LR 05 51 54.3
comp=Z,66nm,21.6s,baz=3.5,slow=36
FINES FINESS Array B 66.16 352 P **P** **05 23 21.0 -0.3**
DOMB Dombas 66.24 1 *e*P **P** **05 23 21.9 0.0**
FOO Floro 66.61 3 *e*P **P** **05 23 23.6 -0.5**
RAF Rauma 66.90 354 *e*P **P** **05 23 26.2 +0.2**
HYA Hoyanger 67.08 2 *e*P **P** **05 23 27.6 +0.5**
NB2 NORSAR Subarra 67.25 360 P **P** **05 23 27.9 -0.4**
comp=Z,4.9nm,0.6s,baz=360,slow=6.2
NB2 NORSAR Subarra 67.25 360 P **P** **05 23 27.9 -0.4**
baz=360,slow=6.2
NOA NORSAR Array B 67.25 360 P **P** **05 23 28.2 -0.1**
comp=Z,8.1nm,0.7s,baz=0.5,slow=6.3,SNR=34
MEF Metsahovi 67.51 352 *e*P **P** **05 23 30.4 +0.5**
NC602 NORSAR Array S 67.56 359 *e*P **P** **05 23 30.3 +0.1**
SKAR Skarslia 67.60 1 *e*P **P** **05 23 30.8 +0.3**
ASK Askoy 67.73 3 *e*P **P** **05 23 31.2 0.0**
BER Bergen 67.84 3 *e*P **P** **05 23 32.2 +0.2**
ARXS Arharly 67.91 314 *e*P **P** **05 23 32.6 -0.2**
KPKS Kokpek 68.11 313 *e*P **P** **05 23 34.4 +0.3**
KPKS pmax pmax
comp=Z,14nm,0.7s
HFS Hagfors 68.13 358 LR LR 05 52 55.8
comp=Z,31nm,19.7s,baz=356,slow=36
OSL Oslo 68.36 360 *e*P **P** **05 23 35.7 +0.5**
KONO Kongsberg 68.65 0 *e*P **P** **05 23 37.3 +0.3**
BLS5 Blasjo 68.83 2 *e*P **P** **05 23 38.1 -0.1**
BTLS Baital 68.88 317 *e*P **P** **05 23 38.8 0.0**
BTLS pmax pmax
comp=Z,4.0nm,0.3s
VSU Vasula 69.04 351 *e*P **P** **05 23 40.3 +0.8**
VSU Vasula 69.04 351 *i*P **P** **05 23 38.8 -0.7**
VSU pmax pmax
comp=Z,87nm,0.7s
MTSE Matsula 69.05 353 *e*P **P** **05 23 36.7 -2.8**
KMI Kunming 69.22 284 ⇑P **P** **05 23 42.0 +0.6**
KMI pP pwP 05 23 54.5 +1.4
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,66nm,4.0s
STRU Stroemstad 69.26 360 *i*P **P** **05 23 41.6 +0.8**
TKM2 Tokmak 2 69.92 315 P **P** **05 23 46.0 +0.5**
SNR=11
SNART Snartemo 69.93 2 *e*P **P** **05 23 45.2 +0.2**
HOMB Homborsund 70.02 1 *e*P **P** **05 23 45.8 +0.3**
BOOM Boomskoye usch 70.11 314 P **P** **05 23 47.1 +0.5**
BOOM pmax pmax
comp=Z,29nm,0.8s

BOOM Boomskoye usch 70.11 314 P **P** **05 23 47.1 +0.5**
USP Ospenovka 70.12 316 P **P** **05 23 47.2 +0.7**
SNR=24
ULHL Ulahol 70.17 314 P **P** **05 23 47.6 +0.6**
SNR=12
CHMS Chumysh 70.22 315 P **P** **05 23 47.7 +0.6**
SNR=7.0
MOS Moscow 70.23 344 *e*P **P** **05 23 44.0 -2.9**
SLIT Slitere, Latvi 70.24 353 *e*P **P** **05 23 47.3 +0.4**
TJOU Tjoern 70.27 359 *i*P **P** **05 23 47.8 +0.8**
KBK Karagaybulak 70.41 315 P **P** **05 23 49.3 +0.8**
SNR=7.2
AAK Ala-Archa 70.63 315 P **P** **05 23 50.5 +0.8**
SNR=8.3
ABKAR Akbulak array 70.63 328 P **P** **05 23 49.2 -0.3**
BORU Boraas 70.65 359 *i*P **P** **05 23 49.9 +0.5**
KZA Kyzart 70.75 314 P **P** **05 23 51.7 +0.8**
SNR=17
ONAU Onsala 70.90 359 *i*P **P** **05 23 51.3 +0.4**
EKS2 Erkin-Say 70.92 316 P **P** **05 23 52.3 +0.9**
SNR=25
UCH Uchtor 70.95 315 P **P** **05 23 52.8 +0.7**
SNR=9.2
OBN Obninsk 71.01 344 LR LR 05 57 00.5
comp=Z,11nm,21.2s,baz=39,slow=38
OBN Obninsk 71.01 344⇑ *e*P **P** **05 23 50.5 -1.1**
OBN pmax pmax
comp=Z,12nm,0.4s
SLVN Son La 71.36 281 P **P** **05 23 54.9 +0.5**
SLVN IAmb IAmb 05 24 11.3
comp=Z,14nm,1.1s
AML Almayashu 71.38 315 P **P** **05 23 55.1 +0.5**
SNR=18
PPT Papeete 71.49 160 LR LR 05 47 26.6
comp=Z,64nm,20.8s,baz=343,slow=29
PPT2 Papeete2 71.51 160 *e*S **S** **05 33 06.0 -6.2**
comp=Z,263nm,25.2s
PPT2 Papeete2 71.51 160 *e*LR LR 05 45 21.3
comp=Z,211nm,31.8s
DEL Delary 71.80 358 *i*P **P** **05 23 56.0 -0.4**
DEL *i*P **pP** **05 23 57.0 -6.5**
BLEU Blekinge 71.91 357 *i*P **P** **05 23 57.2 +0.1**
KK31 Karatay Array 71.93 318 P **P** **05 23 57.0 -0.5**
KK31 pmax pmax
comp=Z,29nm,0.7s
KK31 Karatay Array 71.93 318 P **P** **05 23 57.0 -0.5**
KKAR Karatay Array 71.93 318 P **P** **05 23 57.2 -0.2**
KKAR pmax pmax
comp=Z,29nm,0.7s
KKAR Karatay Array 71.93 318 P **P** **05 23 57.2 -0.2**
IDID Didziasalis 72.14 350 *e*P **P** **05 23 58.5 +0.1**
IIGN Ignalina 72.16 351 *e*P **P** **05 23 58.8 +0.3**
PABE Paberze 72.22 352 *e*P **P** **05 23 59.3 +0.4**
LSA Lhasa 72.47 296 P **P** **05 24 02.2 +0.8**
LSA pmax pmax
comp=Z,37nm,0.9s
LSA Lhasa 72.47 296 P **P** **05 24 02.2 +0.8**
KSH Kashi 72.49 312 P **P** **05 24 04.5 +3.5**
KSH sP PcP 05 24 16.8 -1.8
KSH pmax pmax
comp=Z,26nm,0.8s
LUNU Lund 72.65 358 *i*P **P** **05 24 02.4 +0.9**
MNK Minsk 72.82 349 *i*P **P** **05 24 02.5 0.0**
MNK *i* 05 24 15.2
MNK *i*S **S** **05 33 23.9 -2.5**
MNK *i* 05 34 06.2
MNK *i*SS **SS** **05 38 03.1 -2.1**
MNK *i*SSS SSS 05 41 23.6
MNK pmax pmax
comp=E,2.0nm,0.8s
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=Z,42nm,0.9s
MNK MLR MLR
comp=E,42nm,25.0s
MNK MLR MLR
comp=N,322nm,21.0s
MNK MLR MLR
comp=Z,174nm,21.0s
MNK Minsk 72.82 349 *i*P **P** **05 24 02.5 +0.1**
comp=E,2.0nm,0.8s
MNK *i*P **P** **05 24 02.5 +0.1**
comp=N,15nm,0.7s
MNK *i*P **P** **05 24 02.5 +0.1**
comp=Z,42nm,0.9s,baz=191
MNK *i*PcP **pwP** **05 24 15.2 +1.3**
MNK *i*PP PP 05 26 32.6 -11
MNK *i*PPP PPP 05 28 19.4
MNK *i*S **S** **05 33 23.9 -2.5**
MNK *i*ScS **SKKSac** **05 34 06.3 +0.4**
MNK *i*SS **SS** **05 38 03.1 -2.0**
MNK *i*SSS SSS 05 41 23.6
MNK *i*LQ LQ 05 50 57.1
MNK *i*LR LR 05 54 09.3
MNK *i*LRM MLR 05 58 04.2
comp=E,42nm,25.4s
MNK *i*LRM MLR 05 58 05.9
comp=N,322nm,21.2s
MNK *i*LRM MLR 05 58 28.8
comp=Z,174nm,21.2s
LPSR Galich'ya Gora 73.00 342 *e*P **P** **05 24 02.7 -0.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
BSD Bornholm Skovb 73.13 357 *i*P **P** **05 24 04.9 +0.5**
BSD Bornholm Skovb 73.13 357 *i*P **P** **05 24 04.8 +0.5**
FAKI Fak Fak 73.41 242 P **P** **05 24 06.0 -0.5**
BBSR BB Station 73.45 59 P **P** **05 24 07.5 +0.9**
BBSR IAmb IAmb 05 24 17.7
comp=Z,19nm,1.1s
RAR Rarotonga 73.46 170 LR LR 05 50 24.8
comp=Z,38nm,20.1s,baz=335,slow=31
SUW Suwalki 73.76 352 *e*P **P** **05 24 07.9 -0.1**
VRH Novokhopyorsk 73.77 340 *e*P **P** **05 24 07.5 -0.6**
VRH pmax pmax
comp=Z,20nm,0.7s
NONG Nongkai 74.31 279 P **P** **05 24 12.1 +0.3**
comp=Z,6μmcomp=Z,26nm,0.9s
BTK Batken 74.32 316 P **P** **05 24 11.4 -0.4**
BTK pmax pmax
comp=Z,32nm,0.7s
BTK Batken 74.32 316 P **P** **05 24 11.3 -0.4**
BSEG Bad Segeberg 74.38 0 *e*P **P** **05 24 12.5 +0.9**
comp=Z,29nm,1.2s,baz=0.3,slow=5.6
VORD Divnogorie 74.48 342 *e*P **P** **05 24 11.3 -1.0**
VORD pmax pmax
comp=Z,50nm,0.4s
GAR Garm 75.42 316 P **P** **05 24 18.4 +0.2**
IBBN Ibbenburen 75.98 2 *e*P **P** **05 24 21.8 +0.8**
comp=Z,16nm,0.7s,baz=0.3,slow=5.6
ASSE Asse, Remlinge 76.19 360 *e*P **P** **05 24 22.7 +0.7**
comp=Z,8.5nm,1.0s,baz=0.3,slow=5.6
TAPN Taplejung 76.19 297 *e*P **P** **05 24 23.5 +0.6**
comp=Z,25nm,0.4s
AKASG Malin Array Be 76.38 348 P **P** **05 24 22.6 -0.7**
comp=Z,9.1nm,0.6s,baz=16,slow=5.9,SNR=25
AKASG LR LR 06 04 06.4
comp=Z,70nm,18.1s,baz=350,slow=40
AKBB Malin Array Si 76.38 348 *c e*P **P** **05 24 22.0 -1.2**
CLZ Clausthal 76.47 0 *e*P **P** **05 24 24.8 +1.0**
comp=Z,9.2nm,0.8s,baz=0.3,slow=5.6
CMAR Chiang Mai Arr 76.56 283 P **P** **05 24 25.2 +0.5**
comp=Z,6.0nm,0.7s,baz=27,slow=6.2,SNR=23
CMAR LR LR 06 03 14.1
comp=Z,81nm,18.0s,baz=98,slow=40
CMAR Chiang Mai Arr 76.56 283 P **P** **05 24 24.5 -0.2**
CM02 Chiang Mai Arr 76.57 283 P **P** **05 24 25.9 +1.1**
comp=Z,151nmcomp=Z,20nm,0.9s
CM04 Chiang Mai Arr 76.58 283 P **P** **05 24 26.2 +1.3**
comp=Z,146nmcomp=Z,21nm,1.0s
CM05 Chiang Mai Arr 76.60 283 P **P** **05 24 26.1 +1.1**
comp=Z,119nmcomp=Z,16nm,1.0s
CM13 Chiang Mai Arr 76.61 283 P **P** **05 24 26.1 +1.1**
comp=Z,122nmcomp=Z,14nm,1.0s
PHIT Phitsanulok 76.64 281 P P 05 24 32.9 +7.7
ODAN Odare 76.75 297 *e*P **P** **05 24 26.4 +0.4**
comp=Z,22nm,0.6s
GUN Gumba 76.75 298 *e*P **P** **05 24 26.9 +0.7**
comp=Z,58nm,0.4s
GTTG Gottingen 76.77 0 *e*P **P** **05 24 26.4 +0.9**
comp=Z,22nm,1.0s,baz=0.3,slow=5.6
JIRN Jiri 76.78 298 *e*P **P** **05 24 27.1 +0.7**
comp=Z,65nm,0.6s
CLL Collm 76.99 358⇑ *i*P **P** **05 24 27.0 +0.4**
CLL *e*PcP **PcP** **05 24 37.0 -0.6**

CLL *e*SS SS 05 39 36.0 +28
CLL Collm 76.99 358 P **P** **05 24 26.5 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 76.99 358 P **P** **05 24 26.5 -0.1**
CLL IAmb IAmb 05 24 27.6
comp=Z,6.8nm,0.7s
CLL Collm 76.99 358 *e*P **P** **05 24 27.1 +0.4**
comp=Z,6.8nm,0.6s,baz=0.3,slow=5.6
RAMN Ramite 77.11 297 *e*P **P** **05 24 28.7 +0.6**
comp=Z,32nm,0.4s
TBI Tubuai 77.12 161 *e*S **S** **05 34 12.0 -2.8**
comp=Z,44nm,29.2s
TBI Tubuai 77.12 161 *e*LR LR 05 47 47.9
comp=Z,120nm,34.2s
KKN Kakani 77.17 299 *e*P **P** **05 24 29.0 +0.6**
comp=Z,23nm,0.5s
PKI Pulchoki 77.28 298 *e*P **P** **05 24 29.3 +0.2**
comp=Z,42nm,0.7s
PKIN Phulchoki 77.28 298 *e*P **P** **05 24 29.3 +0.3**
comp=Z,25nm,0.5s
GKN Gorkha 77.35 299 *e*P **P** **05 24 29.7 +0.4**
comp=Z,22nm,0.5s
BRG Berggiesshubel 77.40 358 *e*P **P** **05 24 29.4 +0.5**
BRG Amp 05 24 31.5
comp=Z,9.5nm,0.7s
BRG Berggiesshubel 77.40 358 P P 05 24 36.9 +7.9
BRG Amp 05 24 38.5
comp=Z,5.0nm,0.7s
BRG Berggiesshubel 77.40 358 *e*P **P** **05 24 29.7 +0.7**
comp=Z,9.5nm,0.7s,baz=0.3,slow=5.6
DANN Dangsing 77.55 300 *e*P **P** **05 24 31.5 +0.9**
comp=Z,72nm,0.6s
ESPN Las Esperanzas 77.60 86 IAMs_20 IAMs_20 05 54 29.6
comp=Z,148nm,19.0s
CHVC Chvalec 77.62 356 *e*P **P** **05 24 31.1 +0.9**
MEM Membach 77.64 3 *d*P **P** **05 24 30.7 +0.4**
OSTC Ostas 77.64 356 *e*P **P** **05 24 31.8 +1.4**
BSTI Sart Tilman 77.65 3 *d*P **P** **05 24 31.3 +0.9**
BTNL Ternell 77.67 3 *d*P **P** **05 24 30.8 +0.2**
MOX Moxa 77.67 359 *e*P **P** **05 24 31.0 +0.5**
comp=Z,14nm,1.2s,baz=0.3,slow=5.6
UPC Upice 77.70 356 *e*P **P** **05 24 31.8 +1.1**
UPC Upice 77.70 356 *e*P **P** **05 24 31.8 +1.1**
BCLA Clavier 77.81 3 *d*P **P** **05 24 28.6 -2.7**
BCLA *d*PcP **pP** **05 24 38.6 +0.1**
BGES Gesves 77.83 3 *d*P **P** **05 24 31.5 +0.1**
BGES *d*PcP **sP** **05 24 40.7 -0.7**
LVV L'vov 77.84 351 *e*P **P** **05 24 30.8 -0.7**
DPC Dobruska-Polom 77.84 356 *e*P **P** **05 24 32.7 +1.2**
DPC Dobruska-Polom 77.84 356 *e*P **P** **05 24 32.7 +1.2**
BHOU Houvegnez 77.90 3 *d*P **P** **05 24 31.2 -0.5**
BHOU *d*PcP **PcP** **05 24 41.3 -0.3**
BMRD Maredsous 77.90 4 *d*P **P** **05 24 30.4 -1.3**
BMRD *d*PcP **PcP** **05 24 40.3 -1.2**
GUNZ Gunzen 77.94 359 *e*P **P** **05 24 33.0 +0.9**
comp=Z,13nm,1.5s,baz=0.3,slow=5.6
WERN Wernitzgruen 78.02 359 *e*P **P** **05 24 33.4 +0.9**
comp=Z,8.5nm,0.7s,baz=0.3,slow=5.6
NKC Novy Kostel 78.07 359 *e*P **P** **05 24 34.1 +1.3**
NKC MLR MLR
comp=Z,200nm,18.8s
NKC Novy Kostel 78.07 359 *e*P **P** **05 24 34.1 +1.3**
KOLN Koldanda 78.09 300 *e*P **P** **05 24 33.8 +0.3**
comp=Z,42nm,0.7s
KRLC Kraliky 78.10 356 *e*P **P** **05 24 33.9 +0.9**
KRLC Kraliky 78.10 356 *e*P **P** **05 24 33.9 +0.9**
DOU Dourbes 78.10 4 *d*P **P** **05 24 32.2 -0.7**
PYUN Piuthan 78.16 301 *e*P **P** **05 24 34.2 +0.4**
PRU Pruhonice 78.27 357 *e*P **P** **05 24 35.0 +1.2**
PRU Pruhonice 78.27 357 *e*P **P** **05 24 35.0 +1.2**
MANZ Manzenberg 78.32 359 *e*P **P** **05 24 35.0 +0.8**
comp=Z,4.8nm,0.7s,baz=0.3,slow=5.6
MORC Moravsky Berou 78.36 355 ⇓P **P** **05 24 34.9 +0.5**
MORC Moravsky Berou 78.36 355 P **P** **05 24 34.7 +0.3**
MORC pmax pmax
comp=Z,20nm,1.3s
MORC Moravsky Berou 78.36 355 P **P** **05 24 34.7 +0.3**
MORC IAmb IAmb 05 24 36.4
comp=Z,20nm,1.3s
MORC Moravsky Berou 78.36 355 *e*P **P** **05 24 35.3 +0.9**
MILB Miltenberg 78.49 1 *e*P **P** **05 24 36.0 +1.0**
comp=Z,11nm,0.7s,baz=0.3,slow=5.6
ROTZ Rotzenmuhle 78.54 359 *e*P **P** **05 24 36.4 +1.1**
comp=Z,10nm,1.0s,baz=0.3,slow=5.6
LANS Liptovska Anna 78.87 354 *e*P **P** **05 24 39.0 +1.8**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 78.87 354 *e*P **P** **05 24 39.0 +1.8**
VRAC Vranov 78.87 356 *e*P **P** **05 24 38.4 +1.2**
KOLS Kolonicke sedl 78.88 352 *e*P **P** **05 24 38.1 +0.9**
KOLS Kolonicke sedl 78.88 352 *e*P **P** **05 24 38.1 +0.9**
CRVS Cervenica-Dubn 78.98 353 *e*P **P** **05 24 38.3 +0.5**
CRVS pmax pmax
comp=Z,14nm,1.0s
CRVS Cervenica-Dubn 78.98 353 *e*P **P** **05 24 38.3 +0.5**
SORM Soroca 79.01 348 ⇓P **P** **05 24 37.4 -0.6**
SORM Soroca 79.01 348 ⇓P **P** **05 24 37.4 -0.6**
KRUC Moravsky 79.13 356 *e*P **P** **05 24 39.3 +0.7**
KHC Kasperske Hory 79.15 358 *e*P **P** **05 24 39.9 +1.1**
KHC MLR MLR
comp=Z,100nm,16.3s
KHC Kasperske Hory 79.15 358 *e*P **P** **05 24 39.9 +1.1**
KHC AMS AMS 06 03 40.0
comp=Z,100nm,16.3s
WET Wettzell 79.15 358 *e*P **P** **05 24 39.8 +1.1**
comp=Z,16nm,1.4s,baz=0.3,slow=5.6
UZH Uzhgorod 79.18 352 *e*P **P** **05 24 37.7 -1.1**
UZH *e* 05 24 41.5
UZH *e* 05 24 45.5
UZH *e* 05 24 52.4
GOF Gofitskoye 79.26 337⇑ *i*P **P** **05 24 40.5 +1.1**
GOF pmax pmax
comp=Z,135nm,0.9s
JAVC Velka Javorina 79.27 355 *e*P **P** **05 24 41.3 +1.9**
GEC2 GERESS Array S 79.44 358 *e*P **P** **05 24 41.3 +0.9**
comp=Z,26nm,1.6s,baz=0.3,slow=5.6
GERES GERESS Array B 79.44 358 P **P** **05 24 41.5 +1.1**
comp=Z,4.3nm,0.7s,baz=20,slow=4.4,SNR=34
GERES GERESS Array B 79.44 358 P **P** **05 24 41.2 +0.9**
CKRC Cesky Krumlov 79.44 357 *e*P **P** **05 24 41.0 +0.7**
KECS Kecovo 79.47 353 *e*P **P** **05 24 41.5 +1.0**
KECS Kecovo 79.47 353 *e*P **P** **05 24 41.4 +1.0**
VYHS Vyhne 79.57 354 *e*P **P** **05 24 41.9 +0.9**
VYHS pmax pmax
comp=Z,19nm,1.2s
VYHS Vyhne 79.57 354 *e*P **P** **05 24 41.9 +0.9**
SMOL Smolenice 79.63 355 *e*P **P** **05 24 43.0 +1.7**
SMOL pmax pmax
comp=Z,9.0nm,0.9s
SMOL Smolenice 79.63 355 *e*P **P** **05 24 43.0 +1.7**
MODS Modra-Piesok 79.78 355 *e*P **P** **05 24 44.7 +2.6**
MODS pmax pmax
comp=Z,33nm,1.2s
MODS Modra-Piesok 79.78 355 *e*P **P** **05 24 44.7 +2.6**
BURAR Bucovina Array 79.90 350 ⇓P **P** **05 24 43.5 +0.6**
BURAR Bucovina Array 79.90 350 ⇓P **P** **05 24 43.5 +0.6**
BURAR Bucovina Array 79.90 350 P **P** **05 24 42.2 -0.8**
ZST Bratislava 79.96 355 *e*P **P** **05 24 44.9 +1.8**
ZST pmax pmax
comp=Z,142nm,1.6s
ZST Bratislava 79.96 355 *e*P **P** **05 24 44.9 +1.8**
BFO Black Forest 79.97 1 *e*P **P** **05 24 44.1 +0.9**
comp=Z,23nm,1.5s,baz=0.3,slow=5.6
CONA Conrad Observa 80.28 356 *i*P **P** **05 24 46.4 +1.4**
comp=Z,19nm,0.8s,SNR=12
KIV Kislovodsk 80.38 337 ⇓P **P** **05 24 47.3 +1.7**
KIV Kislovodsk 80.38 337 *e*P **P** **05 24 46.4 +0.8**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 80.38 337 IAMs_20 IAMs_20 05 50 20.1
comp=Z,123nm,20.0s
MOA Molln 80.42 357 *e*P **P** **05 24 46.6 +1.0**
comp=Z,5.0nm,0.7s
BIZ Bicaz 80.47 349 ⇑P **P** **05 24 46.0 +0.1**
KBZ Khabaz 80.55 337 P **P** **05 24 47.9 +1.6**
comp=Z,11nm,0.9s,baz=60,slow=3.1,SNR=28
KBZ LR LR 06 06 33.6
comp=Z,50nm,18.1s,baz=46,slow=40
KBZ Khabaz 80.55 337 *c e*P **P** **05 24 47.0 +0.7**
KBZ pmax pmax
comp=Z,16nm,0.9s
NCK Nalchik 80.59 336 *i*P **P** **05 24 46.9 +0.3**
NCK pmax pmax

comp=Z,42nm,1.0s
SHA1 Shidzhatmaz 80.59 337 *c iP* **P 05 24 46.1 -0.8**
UBR Ueberruh 80.64 0 *eP* **P 05 24 47.9 +1.0**
comp=Z,22nm,1.3s,baz=0.3,slow=5.6
RETA Reutte 80.83 360 *i P* **P 05 24 49.1 +1.1**
comp=Z,8.4nm,0.7s,SNR=5.3
DRGR 80.97 351 ⇓P **P 05 24 49.1 +0.5**
DRGR 80.97 351 ⇓P **P 05 24 49.1 +0.5**
ARSA Arzberg 80.97 356 *i P* **P 05 24 50.1 +1.5**
comp=Z,11nm,0.6s,SNR=6.8
MOTA Moosalm 80.97 360 *i P* **P 05 24 49.8 +1.0**
comp=Z,17nm,1.0s,SNR=6.8
WATA Walderalm 80.98 359 *eP* **P 05 24 49.8 +1.0**
comp=Z,18nm,1.0s
DAVA Damuels 81.03 0 *eP* **P 05 24 50.9 +1.8**
comp=Z,7.8nm,0.7s
WTTA Wattenberg 81.05 359 *i P* **P 05 24 50.6 +1.4**
comp=Z,17nm,0.6s,SNR=9.3
SQTA Sankt Quirin 81.10 359 *i P* **P 05 24 50.7 +1.3**
comp=Z,21nm,0.7s,SNR=5.3
ZEI Tsey 81.18 336 *eP* **P 05 24 49.4 -0.6**
ZEI pmax pmax
comp=Z,8.0nm,0.5s
GEYT Alibeck 81.20 324 P **P 05 24 50.8 +0.8**
comp=Z,14nm,0.9s,baz=347,slow=4.6,SNR=12
GEYT LR LR 06 04 29.6
comp=Z,86nm,18.4s,baz=40,slow=38
KBA Koelnbreinsper 81.21 358 *i P* **P 05 24 51.7 +1.6**
comp=Z,38nm,0.6s,SNR=14
FETA Feichten 81.30 360 *i P* **P 05 24 51.8 +1.3**
comp=Z,18nm,0.8s,SNR=10.0
MFF Saint Martin d 81.30 7 *eP* **P 05 24 50.8 +0.5**
MFF pmax pmax
comp=Z,19nm,0.8s
AKT Akhty 81.37 333 *eP* **P 05 24 51.5 +0.6**
AKT *e* 05 24 57.3
AKT pmax pmax
comp=Z,39nm,0.8s
VRI Vrincioaia 81.45 349 ⇑P **P 05 24 51.6 +0.5**
VRI Vrincioaia 81.45 349 ⇑P **P 05 24 51.6 +0.5**
PLOR Plostina 81.47 349 ⇑P **P 05 24 51.5 +0.2**
PLOR Plostina 81.47 349 ⇑P **P 05 24 51.5 +0.2**
CTA Charters Tower 81.50 221 P **P 05 24 51.0 -0.6**
comp=Z,5.0nm,0.6s,baz=42,slow=8.0
CTA Charters Tower 81.50 221 P **P 05 24 51.0 -0.6**
DOPR Dopca 81.51 350 ⇑P **P 05 24 52.4 +0.9**
ABTA Abfaltersbach 81.56 359 *i P* **P 05 24 52.7 +0.9**
comp=Z,19nm,1.3s,SNR=5.4
SOKA Soboth 81.56 357 *i P* **P 05 24 53.0 +1.2**
comp=Z,19nm,0.7s,SNR=10
PERS Pernice 81.60 357 *i P* **P 05 24 53.1 +1.1**
MYKA Terra Mystica 81.65 358 *eP* **P 05 24 54.0 +1.7**
comp=Z,6.6nm,0.7s
OBKA Obir 81.75 357 *eP* **P 05 24 54.0 +1.2**
comp=Z,14nm,0.7s
GROS Grobnik 81.76 356 *i P* **P 05 24 53.6 +0.7**
MLR Muntele Rosu 81.91 349 ⇓P **P 05 24 55.3 +1.5**
MLR Muntele Rosu 81.91 349 ⇓P **P 05 24 55.3 +1.5**
MLR Muntele Rosu 81.91 349 IAMs_20 IAMs_20 06 04 14.1
comp=Z,101nm,19.0s
VOIR 82.07 350 ⇓P **P 05 24 55.6 +1.1**
VOIR 82.07 350 ⇓P **P 05 24 55.6 +1.1**
TPGR Topolog 82.22 347 ⇑P **P 05 24 55.8 +0.5**
GZR Gura Zlata 82.34 351 ⇓P **P 05 24 56.6 +0.7**
GZR Gura Zlata 82.34 351 ⇓P **P 05 24 56.6 +0.7**
TIRR Tirgusor 82.61 347 ⇑P **P 05 24 57.4 +0.2**
TIRR Tirgusor 82.61 347 ⇑P **P 05 24 57.4 +0.2**
BOJS Bojanci 82.73 357 *i P* **P 05 24 58.6 +0.8**
LPL La Plagne 82.75 3 *eP* **P 05 25 00.7 +2.4**
LPL pmax pmax
comp=Z,8.0nm,0.8s
HERR Herculane 82.89 351 ⇓P **P 05 24 59.3 +0.6**
CAF Calviac 83.13 6 *eP* **P 05 25 00.6 +0.6**
CAF pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 83.22 3 IAMs_20 IAMs_20 06 07 42.1
comp=Z,101nm,18.0s
GNI Garni 83.43 334 *c eP* **P 05 25 02.9 +1.1**
GNI pmax pmax
comp=Z,6.0nm,0.6s
KTUT Trabzon 83.88 338 ⇑P **P 05 25 04.6 +0.7**
BOVS Bovan 84.19 352 ⇓P **P 05 25 05.0 -0.4**
VTS Vitosha 85.05 351 ⇓P **P 05 25 10.1 +0.1**
VTS Vitosha 85.05 351 ⇓P **P 05 25 10.1 +0.1**
PBRG Braganca 85.34 13 *eP* **P 05 25 11.7 +0.4**
comp=Z,24nm,1.5s
POLO Lamas de Olo 85.61 14 *eP* **P 05 25 14.2 +1.5**
comp=Z,19nm,1.8s
SKO Skopje 85.86 352 *i P* **P 05 25 14.6 +0.8**
MVO Moncorvo 85.92 13 *eP* **P 05 25 15.3 +1.1**
comp=Z,32nm,1.5s
STIP Stip 86.07 351 *i P* **P 05 25 14.5 -0.3**
PVIS Viseu 86.24 14 *eP* **P 05 25 16.6 +0.8**
comp=Z,33nm,1.6s
RDO Rodhopi 86.25 349 P **P 05 25 16.8 +1.1**
BR131 Keskin Array S 86.38 342 P **P 05 25 17.0 +0.4**
BR131 pmax pmax
comp=Z,9.0nm,1.0s
BR131 Keskin Array S 86.38 342 P **P 05 25 17.0 +0.4**
BR131 IAmb IAmb 05 25 19.7
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 86.38 342 P **P 05 25 17.5 +0.9**
comp=Z,3.3nm,0.7s,baz=25,slow=1.4,SNR=12
BRTR LR LR 06 09 02.7
comp=Z,53nm,19.2s,baz=38,slow=39
VAY Valandovo 86.40 351 *i P* **P 05 25 17.1 +0.6**
SRS Serrai 86.50 350 P **P 05 25 17.2 +0.2**
KNT Kendrikon 86.53 351 P **P 05 25 18.0 +0.9**
WRA Warramunga Arr 86.70 231 P **P 05 25 16.9 -1.2**
comp=Z,5.7nm,0.8s,baz=33,slow=5.6,SNR=36
OHR Ohrid 86.77 352 *i P* **P 05 25 19.7 +1.3**
PCAS Casmilo, Conde 86.80 14 *eP* **P 05 25 18.3 -0.2**
PCBR Castelo Branco 87.16 14 *eP* **P 05 25 20.6 +0.4**
ESDC Sonseca Array 87.79 11 P **P 05 25 23.1 -0.2**
comp=Z,4.9nm,1.0s,baz=348,slow=4.2,SNR=15
ESDC LR LR 06 09 10.5
comp=Z,72nm,18.2s,baz=305,slow=39
XOR Xorichti 88.27 350 P **P 05 25 25.1 -0.5**
EVO Evora 88.36 14 *eP* **P 05 25 25.7 -0.3**
SDV Santo Domingo 88.52 78 *eP* **P 05 25 31.3 +4.0**
EVR Evrytania 88.86 351 P **P 05 25 28.7 +0.3**
PBAR Barrancos 88.86 14 *eP* **P 05 25 27.8 -0.5**
comp=Z,16nm,1.4s
HYB Hyderabad 89.17 298 *i P* **P 05 25 30.0 -0.1**
HYB *es*P **sP 05 25 40.0 +0.1**
PCVE Castro Verde 89.24 15 *eP* **P 05 25 30.2 +0.1**
EFP Efpalio 89.33 351 P **P 05 25 31.3 +0.8**
KLV Kalavryta, Ach 89.69 351 P **P 05 25 32.1 -0.2**
ASAR Alice Springs 90.09 230 P **P 05 25 33.8 -0.4**
comp=Z,19nm,0.6s,baz=28,slow=4.8,SNR=217
ASAR Alice Springs 90.09 230 P **P 05 25 33.5 -0.7**
OTAV Otavalo 90.52 89 *eP* **P 05 25 41.3 +4.4**
IDI Anoyia 92.10 348 IAMs_20 IAMs_20 06 15 03.8
comp=Z,74nm,19.0s
LAST Lasithi 92.15 348 P **P 05 25 43.2 -0.6**
STKA Stephens Creek 93.87 220 P **P 05 25 51.3 0.0**
comp=Z,2.2nm,0.5s,baz=347,slow=7.2,SNR=6.5
RPN Rapa Nui 94.80 129 LR LR 06 01 10.9
comp=Z,16nm,18.8s,baz=298,slow=31
TORD Torodi Ar. Bea 114.63 9 PKP **PKiKP 05 31 13.6 -1.1**
comp=Z,0.4nm,0.6s,baz=339,slow=2.5,SNR=4.3
TORD PKKPbc **PKKPbc 05 41 50.4 -0.2**
comp=Z,1.7nm,0.5s,baz=175,slow=2.2,SNR=17
H03N2 Juan Fernandez 115.93 112 T T 07 38 17.3
baz=323
H03N1 Juan Fernandez 115.95 112 T T 07 38 50.5
baz=323
H03N3 Juan Fernandez 115.95 112 T T 07 38 39.2
baz=323
AQDB Aquidauana 120.53 84 *eP* **PKiKP 05 31 31.0 +5.2**
NBRF Rio Formoso - 123.06 57 *eP* **PKiKP 05 31 34.3 +3.2**
NBAN Anadia - AL 123.29 59 *eP* **PKiKP 05 31 35.7 +4.1**
GDU01 Guandu, BA 124.83 65 *eP* **PKiKP 05 31 37.3 +2.7**
PLCA Paso Flores 125.80 112 PKP **PKPdf 05 31 34.7 -0.7**
comp=Z,1.5nm,0.9s,baz=109,slow=3.8,SNR=3.2
PLTB Pedras Altas 129.98 92 *eP* **PKiKP 05 31 48.8 +4.5**
MAW Mawson 150.55 218 PKPbc **PKPbc 05 32 24.3 -0.2**
comp=Z,5.6nm,0.9s,baz=45,slow=1.6,SNR=10
MAW PKPab **PKPab 05 32 30.9 -0.4**
comp=Z,8.2nm,0.5s,baz=105,slow=4.6,SNR=32
MAW Mawson 150.55 218 PKPbc 05 32 23.8 -0.7
LBTB Lobatse 150.62 331 PKIKP **PKiKP 05 32 26.9 0.0**
LBTB Lobatse 150.62 331 PKPbc **PKiKP 05 32 26.9 0.0**
BOSA Boshof 154.09 329 PKPbc **PKiKP 05 32 34.5 +0.6**
comp=Z,5.3nm,0.8s,baz=45,slow=2.2,SNR=7.3
SNAA Sanae 159.45 168 PKPab **PKPab 05 33 07.3 -2.0**
VNA1 Neumayer--Stat 159.49 162 PKPab **PKPab 05 33 08.7 -0.7**

IDC 31 05:30:20.6±3.0, 54°39N×87°01E, h0km, mb1 2.8/2, mb1mx2.8/41, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=27.1km s-min=18.7km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**252**	*i*		05 38 10.0	
baz=68,slow=313,SNR=1.3							
ZALV	**Zalesovo Beam**	**1.36**	**252**	Pg	Pg	05 30 44.7	-2.0
0.9nm,0.3s,baz=69,slow=18,SNR=6.1							
ZALV				Lg	Lg	05 31 04.3	
0.7nm,0.3s,baz=72,slow=28,SNR=12							
KURBB	**Kurchatov Arra**	**6.40**	**237**	Pn	Pn	05 31 57.6	+1.5
0.1nm,0.3s,baz=54,slow=14,SNR=8.9							
KURBB				Lg	Lg	05 33 41.4	
baz=63,slow=34,SNR=2.9							
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	Pn	05 32 20.9	+0.5
0.1nm,0.3s,baz=24,slow=14,SNR=5.6							

*ATH **31** 05:30:33.2, 36°49N×27°00E, h19km±8km, ML2.5/3, Error ellipse: s-maj=11.4km s-min=1.6km az=331.0*
*THE **31** 05:30:34.1, 36°44N×27°11E, h5km±1km, ML2.4/3, Error ellipse: s-maj=2.1km s-min=0.8km az=51.0*

ISC 31 05:30:33.3±1.4, 36°43N±0°05×27°04E±0°07, h14km±10km, n9, σ0§26/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.19**	**22**	P	**Pg**	**05 30 37.6**	**-0.1**
NISR				S	**Sg**	**05 30 40.3**	**-0.4**
11μm,0.2s							
NISR	**Nisiros**	**0.19**	**22**	P	**Pg**	**05 30 37.5**	**-0.1**
NISR				S	**Sg**	**05 30 40.6**	**-0.1**
NISR				AML	AML	05 30 40.7	
comp=E,29421μm,0.2s							
NISR				AML	AML	05 30 40.9	
comp=N,12775μm,0.2s							
NIS1	**Nisyros Isl.**	**0.20**	**33**	P	**Pg**	**05 30 38.0**	**+0.1**
NIS1				S	**Sg**	**05 30 41.5**	**+0.5**
comp=N,1μm,0.3s							
NIS1	**Nisyros Isl.**	**0.20**	**33**	P	**Pg**	**05 30 37.9**	**0.0**
NIS1				S	**Sg**	**05 30 41.3**	**+0.3**
NIS1				AML	AML	05 30 44.9	
comp=E,2896μm,0.2s							
NIS1				AML	AML	05 30 45.1	
comp=N,2341μm,0.3s							
DAT	**Datca**	**0.52**	**56**	P	**Pg**	**05 30 43.7**	**+0.1**
DAT				S	**Sg**	**05 30 50.8**	**+0.1**
KARP	**Karpathos**	**0.89**	**174**	P	**Pg**	**05 30 50.6**	**+0.1**
ARG	**Arkhangelos**	**0.90**	**104**	P	**Pg**	**05 30 50.7**	**-0.1**
ARG				S	**Sg**	**05 31 02.8**	**+0.2**
comp=N,125nm,0.3s							
ARG	**Arkhangelos**	**0.90**	**104**	P	**Pg**	**05 30 50.4**	**-0.3**
ARG				AML	AML	05 31 06.8	
comp=N,189μm,0.3s							
ARG				AML	AML	05 31 07.8	
comp=E,305μm,0.4s							
SMG	**Samos**	**1.28**	**353**	P	**Pb**	**05 30 57.1**	**-0.1**
SMG				S	**Sg**	**05 31 15.0**	**+0.3**

IDC 31 05:31:14.8±3.8, 54°19N×87°35E, h0km, mb1 2.7/2, mb1mx2.7/41, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=36.4km s-min=22.6km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**262**	*i*		05 40 20.2	
baz=79,slow=309,SNR=2.0							
ZALV	**Zalesovo Beam**	**1.51**	**262**	Pn	Pb	05 31 43.4	-0.3
1.5nm,0.3s,baz=85,slow=12,SNR=5.4							
ZALV				Lg	Lg	05 32 02.9	
1.8nm,0.3s,baz=74,slow=29,SNR=2.3							
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	05 32 51.3	+0.1
0.1nm,0.3s,baz=55,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**8.07**	**206**	Pn	Pn	05 33 14.6	+1.4
0.1nm,0.3s,baz=27,slow=14,SNR=1.7							

IDC 31 05:42:46.4±3.6, 55°64N×86°14E, h0km, mb1 2.7/2, mb1mx2.7/69, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.4km s-min=27.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**205**	*i*		05 54 37.3	
baz=21,slow=320,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.86**	**205**	Pn	Pn	05 43 18.4	-1.1
2.2nm,0.3s,baz=27,slow=14,SNR=9.5							
ZALV				Lg	Lg	05 43 45.3	
2.0nm,0.3s,baz=27,slow=28,SNR=7.1							
KURBB	**Kurchatov Arra**	**6.79**	**225**	Pn	Pn	05 44 27.2	-0.1
0.1nm,0.3s,baz=44,slow=13,SNR=4.4							
MKAR	**Makanchi Array**	**9.18**	**197**	Pn	Pn	05 45 00.4	+0.4
0.1nm,0.3s,baz=19,slow=14,SNR=2.3							

*IDC **31** 05:44:59.1±1.3, 52°75N×169°77W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.5/75, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=42.0km s-min=26.0km az=172.0*
*AEIC **31** 05:44:59±1.8, 52°10N±0°04×169°31W±0°09, h13km±5km, ML3.0/27, mb3.8/3(NEIC), Error ellipse: s-maj=8.0km s-min=5.5km az=87.0*
*NEIC **31** 05:45:00.4±2.4, 52°15N±0°07×169°39W±0°09, h22km±10km, Error ellipse: s-maj=10.4km s-min=7.5km az=151.0*

ISC 31 05:45:02.0±1.1, 52°2N±0°1×169°39W±0°08, h30km, n39, σ1§36/35, mb3.5/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.81**	**23**		**Pn**	**05 45 16.0**	**-1.4**
NIKH					**Sb**	**05 45 30.2**	**+2.0**
OKSP	**Okmok Steeple**	**1.22**	**33**		**Pn**	**05 45 22.0**	**-1.0**
OKTU	**Okmok Mt. Tuli**	**1.42**	**35**		**Pn**	**05 45 25.0**	**-0.7**
OKNC	**Okmok New Cone**	**1.45**	**31**		**Pn**	**05 45 26.1**	**0.0**
OKFG	**Magazine Ridge**	**1.48**	**37**		**Pn**	**05 45 25.9**	**-0.7**
OKFG					**Sb**	**05 45 46.9**	**-0.4**
MAPS	**Pakushin South**	**2.17**	**42**		**Pn**	**05 45 35.6**	**-0.3**
MAPS					**Sn**	**05 46 03.6**	**+1.8**
MGOD	**Makushin Gods**	**2.18**	**43**		**Pn**	**05 45 35.9**	**-0.4**
MSW	**Makushin Switc**	**2.31**	**42**		**Pn**	**05 45 37.9**	**-0.1**
MNAT	**Makushin Natee**	**2.33**	**43**		**Pn**	**05 45 38.3**	**+0.1**
MNAT					**Sn**	**05 46 07.8**	**+2.0**
MTBL	**Makushin Table**	**2.39**	**42**		**Pn**	**05 45 40.0**	**+0.9**
AKGG	**Akutan Green G**	**2.84**	**45**		**Pn**	**05 45 46.0**	**+0.8**
AKUT	**Akutan**	**2.90**	**47**		**Pn**	**05 45 46.4**	**+0.5**
ATKA	**Atka Island**	**2.96**	**271**		**Pn**	**05 45 45.9**	**-1.0**
GSIG	**Igitkin Island**	**4.04**	**269**		**Pn**	**05 46 01.3**	**-0.4**
GSTD	**Great Sitkin T**	**4.17**	**270**		**Pn**	**05 46 03.1**	**-0.4**
ADK	**Adak**	**4.52**	**268**		**Pn**	**05 46 07.7**	**-0.5**
KIWB	**Kanaga Island**	**4.81**	**269**	Pn	**Pn**	**05 46 12.1**	**-0.2**
SPIA	**Saint Paul Isl**	**4.98**	**355**		**Pn**	**05 46 16.5**	**+1.8**
SDPT	**Sand Point**	**6.14**	**56**		**Pn**	**05 46 30.1**	**-0.4**
CNBA	**Chernabura Isl**	**6.39**	**62**		**Pn**	**05 46 33.5**	**-0.5**
AMKA	**Amchitka**	**7.07**	**268**		**Pn**	**05 46 43.4**	**+0.1**
OHAK	**Old Harbor**	**10.56**	**55**	Pn	**Pn**	**05 47 29.1**	**-2.0**
KDAK	**Kodiak Island**	**11.12**	**53**	Pn	**Pn**	**05 47 37.8**	**-1.0**
0.1nm,0.3s,baz=189,slow=5.2,SNR=13							
SCM	**Sheep Creek Mo**	**15.30**	**42**	Pn	**Pn**	**05 48 33.7**	**-2.0**
SCM				IAmb	IAmb	05 48 39.5	
comp=Z,8.4nm,1.3s							
KLU	**Klutina**	**15.74**	**45**	Pn	**Pn**	**05 48 39.2**	**-2.1**
KLU				IAmb	IAmb	05 48 57.7	
comp=Z,5.3nm,1.2s							
BMAR	**Burnt Mountain**	**19.46**	**29**	P	**Pn**	**05 49 26.3**	**-0.9**
PETK	**Petropavlovsk-**	**19.89**	**286**	P	**P**	**05 49 28.8**	**-1.8**
comp=Z,0.6nm,0.3s,baz=99,slow=13,SNR=5.6							
INK	**Inuvik**	**23.47**	**33**	P	**P**	**05 50 05.8**	**-2.7**
comp=Z,0.8nm,0.8s,baz=231,slow=6.5,SNR=1.7							
INK	**Inuvik**	**23.47**	**33**	IAmb	IAmb	05 50 20.1	
comp=Z,3.8nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	06 33 05.2	
baz=26,slow=74,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**37.34**	**219**	T	T	06 32 58.5	
baz=26,slow=74,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**37.35**	**219**	T	T	06 32 56.7	
baz=26							
H11S1	**WAKE ISLAND Hy**	**38.52**	**218**	T	T	06 33 42.3	
baz=23,slow=76,SNR=19							
H11S2	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	06 33 32.5	
baz=23,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**38.54**	**218**	T	T	06 33 31.2	
baz=23,slow=76,SNR=11							
PDAR	**Pinedale Array**	**40.44**	**79**	P	**P**	**05 52 40.2**	**+2.6**
comp=Z,0.2nm,0.5s,baz=328,slow=3.3,SNR=2.6							
TXAR	**Lajitas Array**	**52.76**	**89**	P	P	05 54 18.0	+3.9
comp=Z,0.4nm,0.6s,baz=298,slow=5.8,SNR=8.3							
HFS	**Hagfors**	**67.96**	**358**	P	**P**	**05 55 56.2**	**-1.3**
comp=Z,3.7nm,1.0s,baz=28,slow=6.5,SNR=2.6							
ASAR	**Alice Springs**	**90.30**	**230**	P	**P**	**05 58 01.6**	**+1.9**
comp=Z,0.5nm,0.5s,baz=28,slow=4.4,SNR=6.4							

*IDC **31** 06:29:00.2±1.2, 13°23N×51°38E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/28, mbtmp3.7/10, ML3.4/1, MS3.2/8, Ms1 3.3/8, ms1mx3.0/36, Error ellipse: s-maj=32.1km s-min=21.9km az=155.0*

ISC 31 06:29:01.4±0.9, 13°2N±0°2×51°4E±0°1, h10km, n15, σ0§69/10, mb3.9/9, MS3.3/8, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**19.93**	**226**	P	**Pn**	**06 33 35.3**	**-0.3**
0.1nm,0.3s,baz=46,slow=5.7,SNR=3.0							
GEYT	**Alibeck**	**25.38**	**13**	P	**P**	**06 34 28.9**	**0.0**
1.0nm,0.3s,baz=200,slow=12,SNR=1.4							
GEYT				LR	LR	06 45 42.3	
comp=Z,15nm,20.6s,baz=240,slow=40							
BRTR	**Keskin Array B**	**30.71**	**333**	LR	LR	06 47 56.2	
comp=Z,45nm,20.4s,baz=154,slow=37							
KBZ	**Khabaz**	**31.30**	**348**	LR	LR	06 50 14.8	
comp=Z,134nm,20.2s,baz=158,slow=41							
AKASG	**Malin Array Be**	**41.53**	**339**	P	**P**	**06 36 49.3**	**+0.4**
0.2nm,0.3s,baz=138,slow=7.1,SNR=1.4							
AKASG				LR	LR	06 56 13.6	
comp=Z,18nm,18.5s,baz=70,slow=39							
MKAR	**Makanchi Array**	**42.39**	**32**	P	**P**	**06 36 56.4**	**+0.3**
0.9nm,0.6s,baz=218,slow=7.3,SNR=7.8							
CMAR	**Chiang Mai Arr**	**45.99**	**77**	P	**P**	**06 37 24.4**	**-0.9**
0.9nm,0.6s,baz=272,slow=9.2,SNR=4.4							
CMAR				LR	LR	06 56 33.5	
comp=Z,28nm,18.0s,baz=170,slow=36							
TORD	**Torodi Ar. Bea**	**48.28**	**276**	P	**P**	**06 37 43.2**	**0.0**
0.8nm,0.7s,baz=79,slow=7.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**48.48**	**26**	P	**P**	**06 37 43.1**	**-1.0**
2.0nm,0.7s,baz=233,slow=8.1,SNR=6.7							
FINES	**FINESS Array B**	**51.55**	**345**	LR	LR	07 04 24.1	
comp=Z,30nm,18.3s,baz=128,slow=41							
ESDC	**Sonseca Array**	**55.12**	**309**	P	**P**	**06 38 33.9**	**-0.2**
0.5nm,0.7s,baz=101,slow=6.7,SNR=2.1							
NOA	**NORSAR Array B**	**55.93**	**338**	LR	LR	07 06 28.2	
comp=Z,23nm,18.6s,baz=130,slow=40							
SONM	**Songino Array**	**57.09**	**41**	P	**P**	**06 38 48.6**	**+0.5**
0.3nm,0.4s,baz=238,slow=8.3,SNR=1.7							
ARCES	**ARCESS Array B**	**58.65**	**350**	LR	LR	07 06 59.9	
comp=Z,29nm,19.8s,baz=50,slow=39							
WRA	**Warramunga Arr**	**87.99**	**111**	P	**P**	**06 41 53.3**	**+0.9**
0.5nm,0.9s,baz=292,slow=4.2,SNR=2.4							

*NEIC **31** 06:37:60.0±2.6, 25°07S±0°05×69°4W±0°1, h106km±6km, Error ellipse: s-maj=18.0km s-min=7.4km az=83.0*
*GUC **31** 06:38:00.4±0.6, 25°04S×69°37W, h93km±3km, ML4.2*
*IDC **31** 06:38:01.5±1.3, 24°89S×69°18W, h97km±7km, mb3.4/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.7/4, Error ellipse: s-maj=44.9km s-min=31.8km az=34.0*

ISC 31 06:37:59.6±0.7, 25°02S±0°05×69°33W±0°07, h93km±6km, n51, σ1§51/60, mb3.3/3, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.28**	**240**	*eP*	**Pn**	**06 38 13.9**	**+0.2**
GO02				*eS*	**Sn**	**06 38 24.1**	**-0.1**
GO02	**Mina Guanaco**	**0.28**	**240**		**Pn**	**06 38 14.0**	**+0.2**
PB14	**IPOC Station P**	**1.06**	**292**	⇑*iP*	**Pn**	**06 38 21.1**	**+0.6**
PB14				*eS*	**Sn**	**06 38 37.1**	**+0.9**
PB14	**IPOC Station P**	**1.06**	**292**	Pn	**Pn**	**06 38 21.1**	**+0.6**
PB15	**IPOC Station P**	**1.81**	**356**	*eP*	**Pn**	**06 38 31.4**	**+1.6**
PB15				*eS*	**Sn**	**06 38 55.5**	**+2.9**
PB15	**IPOC Station P**	**1.81**	**356**		**Pn**	**06 38 31.1**	**+1.3**
AC02	**Maricunga**	**1.81**	**174**	⇓*iP*	**Pn**	**06 38 31.1**	**+1.0**
AC02				*eS*	**Sn**	**06 38 54.9**	**+1.8**
AC02				IAML		06 39 04.6	
comp=E,2μm,0.2s							
AC02	**Maricunga**	**1.81**	**174**		**Pn**	**06 38 31.1**	**+1.1**
PB10	**IPOC Station P**	**1.88**	**323**	*eP*	**Pn**	**06 38 31.7**	**+1.3**
PB10				*i* S	**Sn**	**06 38 51.2**	**-2.5**
PB10				IAML		06 39 03.9	
comp=N,1μm,0.3s							
PB10	**IPOC Station P**	**1.88**	**323**	Pn	**Pn**	**06 38 31.5**	**+1.1**
PB05	**IPOC Station P**	**2.31**	**339**	⇓*iP*	**Pn**	**06 38 36.9**	**+0.7**
PB05				IAML		06 39 13.3	
comp=E,1μm,0.3s							
AF01	**San Pedro de A**	**2.31**	**27**	⇓*iP*	**Pn**	**06 38 38.7**	**+2.3**
PB06	**IPOC Station P**	**2.32**	**354**	*eP*	**Pn**	**06 38 37.5**	**+1.2**
PB06				IAML		06 39 14.6	
comp=E,860nm,0.3s							
PB06	**IPOC Station P**	**2.32**	**354**		**Pn**	**06 38 37.7**	**+1.3**
LVC	**Limon Verde**	**2.43**	**9**	*eP*	**Pn**	**06 38 39.6**	**+1.6**
LVC	**Limon Verde**	**2.43**	**9**	Pn	**Pn**	**06 38 39.6**	**+1.6**
GO03	**Copiap**	**2.69**	**197**	*eP*	**Pn**	**06 38 40.9**	**-0.2**
GO03				IAML		06 39 20.0	
comp=E,1μm,0.2s							
GO03	**Copiap**	**2.69**	**197**		**Pn**	**06 38 41.1**	**0.0**
PB04	**IPOC Station P**	**2.78**	**344**	*eP*	**Pn**	**06 38 42.7**	**+0.2**
PB04				IAML		06 39 31.2	
comp=N,1μm,0.3s							
PB04	**IPOC Station P**	**2.78**	**344**		**Pn**	**06 38 42.4**	**-0.1**
PB09	**IPOC Station P**	**3.21**	**1**		**Pn**	**06 38 49.5**	**+1.2**
PB07	**IPOC Station P**	**3.32**	**351**	⇓*iP*	**Pn**	**06 38 49.8**	**0.0**
PB07				IAML		06 39 42.7	
comp=E,635nm,0.2s							
PB07	**IPOC Station P**	**3.32**	**351**		**Pn**	**06 38 49.9**	**+0.1**
AC04	**Llanos de Chal**	**3.53**	**206**	*eP*	**Pn**	**06 38 50.2**	**-2.2**
AC04	**Llanos de Chal**	**3.53**	**206**	Pn	**Pn**	**06 38 50.5**	**-1.9**
PB02	**IPOC Station P**	**3.72**	**352**	*eP*	**Pn**	**06 38 55.0**	**-0.2**
PB01	**IPOC Station P**	**3.96**	**358**	*eP*	**Pn**	**06 38 58.4**	**0.0**
PB01	**IPOC Station P**	**3.96**	**358**		**Pn**	**06 38 58.3**	**0.0**
LCO	**Las Campanas**	**4.16**	**197**	*eP*	**Pn**	**06 38 60.0**	**-1.1**
LCO	**

*JMA **31** 06:50:49.8,24°.31N×122°.03E,h39km±2km,M2.1*
*TAP **31** 06:50:49.9,24°.39N×122°.04E,h17km,ML2.9,B*
ISC 31 06:50:49.9±0.9,24°.38N±0°.01×122°.07E±0°.02,h16km±7km, n103,σ0$81/183,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta** baz=282	**0.27**	**283**	P	**Pb**	**06 50 56.1**	**-0.3**
EWUT	baz=282			S	**Sb**	**06 51 00.6**	**-0.2**
TWC	**Suao** baz=322	**0.30**	**319**	*i* P	**Pb**	**06 50 56.7**	**-0.2**
TWC	baz=322			*i* S	**Sb**	**06 51 01.1**	**-0.5**
EHP	**Heping Village** baz=252	**0.31**	**256**	P	**Pb**	**06 50 57.0**	**0.0**
EHP	baz=252			S	**Sb**	**06 51 02.4**	**+0.6**
NDS	**Dongshan** baz=308	**0.41**	**308**	*e*P	**Pg**	**06 50 58.1**	**0.0**
NDS	baz=308			*e*S	**Sb**	**06 51 04.3**	**-0.4**
ETL	**Fush Village** baz=238	**0.46**	**241**	P	**Pg**	**06 50 59.4**	**+0.2**
ETL	baz=238			S	**Sb**	**06 51 08.4**	**+2.0**
NACB	**Ninganchiao** baz=241	**0.48**	**244**	⇓P	**Pg**	**06 50 59.2**	**-0.3**
NACB	baz=241			S	**Sb**	**06 51 07.3**	**+0.5**
TWE	**Neicheng** baz=314	**0.50**	**313**	*i* P	**Pg**	**06 50 59.8**	**-0.1**
TWE	baz=314			*i* S	**Sg**	**06 51 06.6**	**+0.1**
NTC	**Toucheng** baz=337	**0.52**	**335**	*e*P	**Pb**	**06 51 00.6**	**0.0**
NTC	baz=337			*e*S	**Sg**	**06 51 07.4**	**+0.3**
ENTT	**Nioudou** baz=299	**0.52**	**299**	*i* P	**Pg**	**06 51 00.4**	**+0.1**
ENTT	baz=299			*i* S	**Sg**	**06 51 07.5**	**+0.1**
TWD	**Chiawan** baz=232	**0.53**	**235**	*i* P	**Pg**	**06 51 00.1**	**-0.3**
TWD	baz=232			S	**Sb**	**06 51 08.6**	**+0.5**
NDT	**Datong Townshi** baz=293	**0.55**	**293**	*i* P	**Pb**	**06 51 01.0**	**-0.2**
NDT	baz=293			*i* S	**Sb**	**06 51 08.7**	**-0.1**
ETLH	**Xiulin Townshi** baz=250	**0.56**	**252**	P	**Pg**	**06 51 01.1**	**0.0**
ETLH	baz=250			S	**Sb**	**06 51 09.9**	**+0.6**
HWA	**Hwalien** baz=223	**0.58**	**226**	P	**Pb**	**06 51 02.0**	**+0.2**
NNSB	**Datong** baz=273	**0.62**	**274**	P	**Pg**	**06 51 02.1**	**-0.2**
NNSB	baz=273			S	**Sg**	**06 51 10.7**	**0.0**
NNSH	**Datong** baz=273	**0.62**	**274**	*i* P	**Pg**	**06 51 02.3**	**0.0**
NNSH	baz=273			*e*S	**Sb**	**06 51 11.0**	**-0.2**
TIPB	**Shuangxi** baz=341	**0.63**	**339**	*i* P	**Pg**	**06 51 02.2**	**-0.1**
TIPB	baz=341			*i* S	**Sg**	**06 51 10.1**	**-0.5**
TWB1	**Santiao Chiao** baz=356	**0.63**	**353**	*i* P	**Pb**	**06 51 02.6**	**+0.2**
TWB1	baz=356			*i* S	**Sg**	**06 51 11.0**	**+0.4**
NNS	**Nan Shan** baz=274	**0.64**	**275**	*i* P	**Pg**	**06 51 02.5**	**0.0**
NNS	baz=274			*i* S	**Sb**	**06 51 11.6**	**+0.2**
NWLT	**Wulai** baz=307	**0.65**	**307**	P	**Pg**	**06 51 02.5**	**-0.2**
NWLT	baz=307			*e*S	**Sb**	**06 51 12.4**	**+0.7**
ETM	**Tongmen** baz=229	**0.67**	**232**	P	**Pg**	**06 51 02.4**	**-0.7**
ETM	baz=229			S	**Sb**	**06 51 12.8**	**+0.5**
TEYL	**Yanliau Villag** baz=219	**0.67**	**220**	P	**Pg**	**06 51 02.9**	**-0.1**
TEYL	baz=219			*e*S	**Sg**	**06 51 11.9**	**-0.1**
YHNB	**Yeheng** baz=294	**0.69**	**294**	P	**Pg**	**06 51 03.1**	**-0.4**
YHNB	baz=294			S	**Sg**	**06 51 12.6**	**-0.1**
NSK	**Sanguang** baz=294	**0.71**	**294**	*i* P	**Pg**	**06 51 03.3**	**-0.5**
NSK	baz=294			*i* S	**Sg**	**06 51 13.3**	**0.0**
NWF	**Wu-fen Shan** baz=340	**0.73**	**339**	*i* P	**Pg**	**06 51 04.5**	**+0.2**
NWF	baz=340			*i* S	**Sb**	**06 51 14.8**	**+0.6**
WFSB	**Wu-fen Shan** baz=340	**0.73**	**339**	P	**Pg**	**06 51 04.3**	**0.0**
WFSB	baz=340			S	**Sb**	**06 51 14.8**	**+0.7**
TWA	**Mucha** baz=324	**0.74**	**324**	*i* P	**Pb**	**06 51 05.4**	**+1.0**
TWA	baz=324			S	**Sb**	**06 51 15.5**	**+1.2**
FUSS	**Fushou** baz=258	**0.76**	**260**	*i* P	**Pg**	**06 51 04.5**	**-0.4**
FUSS	baz=258			*i* S	**Sb**	**06 51 15.3**	**+0.1**
WHF	**Hehuan Shan** baz=250	**0.77**	**252**	*i* P	**Pg**	**06 51 04.3**	**-0.8**
WHF	baz=250			*i* S	**Sg**	**06 51 15.0**	**-0.3**
TATO	**Taipei** baz=319	**0.79**	**318**	P	**Pb**	**06 51 05.7**	**+0.4**
TATO	baz=319			S	**Sb**	**06 51 17.3**	**+1.5**
TNOU	**National Taiwa** baz=341	**0.81**	**341**	P	**Pb**	**06 51 06.0**	**+0.4**
TNOU	baz=341			S	**Sb**	**06 51 17.1**	**+0.8**
ESL	**Shilin** baz=223	**0.81**	**226**	P	**Pg**	**06 51 04.7**	**-1.0**
ESL	baz=223			S	**Sb**	**06 51 17.6**	**+1.3**
TEGC	**Jichi Village** baz=213	**0.83**	**216**	*e*P	**Pg**	**06 51 05.6**	**-0.4**
TEGC	baz=213			*e*S	**Sg**	**06 51 16.8**	**-0.1**
TDCB	**Techi** baz=260	**0.84**	**261**	P	**Pg**	**06 51 05.8**	**-0.5**
TDCB	baz=260			S	**Sg**	**06 51 16.6**	**-0.8**
YOJ	**Yonaguni jima**	**0.86**	**85**	P	**Pg**	**06 51 06.3**	**-0.4**
YOJ				S	**Sg**	**06 51 18.3**	**+0.2**
YOJ	**Yonaguni jima** baz=85	**0.86**	**85**	P	**Pg**	**06 51 06.0**	**-0.7**
YOJ	baz=85			S	**Sg**	**06 51 18.7**	**+0.5**
CHGB	**Renai** baz=247	**0.88**	**249**	P	**Pg**	**06 51 06.0**	**-1.0**
CHGB	baz=247			S	**Sg**	**06 51 18.0**	**-0.6**
YM01	**YM01** baz=330	**0.88**	**329**	P	**Pg**	**06 51 07.1**	**0.0**
YM01	baz=330			S	**Sb**	**06 51 19.1**	**+0.6**
YM08	**YM08** baz=332	**0.91**	**332**	*e*P	**Pg**	**06 51 07.1**	**-0.6**
YM08	baz=332			*e*S	**Sb**	**06 51 20.1**	**+0.8**
OWD	**Renai** baz=241	**0.92**	**243**	*i* P	**Pg**	**06 51 06.6**	**-1.2**
OWD	baz=241			*e*S	**Sg**	**06 51 19.2**	**-0.7**
TWS1	**Kuangyinshan** baz=321	**0.93**	**321**	*i* P	**Pg**	**06 51 07.8**	**-0.1**
TWS1	baz=321			S	**Sg**	**06 51 20.1**	**-0.1**
ANP	**Anpu** baz=329	**0.94**	**328**	P	**Pg**	**06 51 08.1**	**-0.1**
NJD	**Zhudong** baz=291	**0.96**	**292**	*e*P	**Pb**	**06 51 08.6**	**+0.5**
LIOB	**Emei** baz=285	**0.99**	**285**	*i* P	**Pg**	**06 51 08.8**	**-0.4**
LIOB	baz=285			S	**Sb**	**06 51 22.5**	**+0.9**
NSTT	**Nanjuang** baz=284	**1.00**	**284**	*i* P	**Pg**	**06 51 08.1**	**-1.3**
NSTT	baz=284			*i* S	**Sg**	**06 51 21.8**	**-0.7**
WHP	**Taichung City** baz=263	**1.03**	**264**	P	**Pb**	**06 51 10.1**	**+0.7**
WHP	baz=263			S	**Sg**	**06 51 22.4**	**-1.0**
HGSD	**Ruisui** baz=212	**1.06**	**214**	P	**Pg**	**06 51 09.2**	**-1.3**
HGSD	baz=212			*e*S	**Sb**	**06 51 24.9**	**+1.2**
SBCB	**Hsinchu** baz=292	**1.07**	**293**	P	**Pg**	**06 51 09.9**	**-0.6**
SBCB	baz=292			S	**Sn**	**06 51 25.6**	**+0.9**
WPL	**Puli Township** baz=249	**1.08**	**250**	P	**Pg**	**06 51 09.7**	**-1.2**
WCS	**Beigang Elemen** baz=252	**1.10**	**253**	*e*S	**Sn**	**06 51 26.6**	**+1.0**
EHY	**Hungye** baz=216	**1.11**	**218**	P	**Pg**	**06 51 09.9**	**-1.5**
NMLH	**Miaoli** baz=277	**1.17**	**278**	*e*P	**Pg**	**06 51 11.4**	**-1.1**
NMLH	baz=277			*e*S	**Sg**	**06 51 26.7**	**-1.2**
SMLT	**Sun Moon Lake** baz=243	**1.18**	**245**	P	**Pg**	**06 51 12.0**	**-0.7**
SMLT	baz=243			S	**Sg**	**06 51 27.1**	**-0.9**
SSLB	**Suanglung** baz=238	**1.18**	**240**	P	**Pg**	**06 51 10.5**	**-2.2**
SSLB	baz=238			S	**Sg**	**06 51 27.6**	**-0.5**
TWQ1	**Liyutan** baz=267	**1.18**	**269**	P	**Pg**	**06 51 11.6**	**-1.1**
TWQ1	baz=267			S	**Sb**	**06 51 27.7**	**+0.7**
NSY	**Sanyi** baz=271	**1.19**	**272**	P	**Pn**	**06 51 13.0**	**+1.1**
NSY	baz=271			S	**Sn**	**06 51 28.9**	**+1.1**
ECBN	**Changbin** baz=206	**1.20**	**208**	*e*P	**Pg**	**06 51 12.2**	**-1.0**
ECBN	baz=206			*e*S	**Sg**	**06 51 28.1**	**-0.7**
YULB	**Yu-li** baz=214	**1.21**	**216**	*e*P	**Pg**	**06 51 10.6**	**-2.8**
YULB	baz=214			*e*S	**Sg**	**06 51 27.4**	**-1.8**
PCYT	**Pengchaiyu** baz=1.0	**1.24**	**0**	P	**Pg**	**06 51 11.9**	**-2.0**
PCYT	baz=1.0			*e*S	**Sg**	**06 51 29.0**	**-1.1**
TWF1	**Yuli** baz=213	**1.25**	**215**	P	**Pg**	**06 51 13.3**	**-0.7**
WJS	**Zhushan** baz=244	**1.34**	**246**	*e*P	**Pn**	**06 51 12.7**	**-1.3**
WJS	baz=244			*e*S	**Sg**	**06 51 32.0**	**-1.4**
FULB	**Fuli** baz=209	**1.38**	**211**	*e*P	**Pg**	**06 51 16.1**	**-0.4**
FULB	baz=209			*e*S	**Sg**	**06 51 33.9**	**-0.5**
CHKT	**Chengkung** baz=205	**1.43**	**207**	P	**Pn**	**06 51 15.6**	**+0.3**
CHKT	baz=205			*e*S	**Sb**	**06 51 34.4**	**+0.2**
ALS	**Alishan** baz=231	**1.45**	**233**	P	**Pn**	**06 51 15.3**	**-0.4**
ALS	baz=231			*e*S	**Sb**	**06 51 34.5**	**-0.4**
CHN5	**Tsauling** baz=237	**1.49**	**239**	P	**Pn**	**06 51 16.1**	**-0.1**
CHN5	baz=237			S	**Sn**	**06 51 36.2**	**+0.9**
ECS	**Chishang** baz=210	**1.50**	**211**	*e*P	**Pb**	**06 51 17.8**	**+0.5**
ECS	baz=210			*e*S	**Sn**	**06 51 36.6**	**+1.2**
ELDTW	**Lidau** baz=217	**1.53**	**219**	*e*P	**Pn**	**06 51 17.1**	**+0.4**
ELDTW	baz=217			*e*S	**Sn**	**06 51 36.7**	**+0.4**
WGK	**Gukeng** baz=242	**1.54**	**244**	*e*S	**Sn**	**06 51 36.9**	**+0.5**
WDLH	**Douliu** baz=242	**1.56**	**244**	*e*S	**Sn**	**06 51 38.5**	**+1.6**
EDH	**Donghe** baz=205	**1.57**	**207**	*e*P	**Pn**	**06 51 17.4**	**+0.3**
EDH	baz=205			*e*S	**Sn**	**06 51 37.3**	**+0.2**
STYH	**Taoyuan** baz=223	**1.69**	**225**	*e*P	**Pn**	**06 51 17.9**	**-0.9**
STYH	baz=223			*e*S	**Sn**	**06 51 39.8**	**-0.3**
TPUB	**Ta-pu** baz=229	**1.70**	**231**	*e*P	**Pn**	**06 51 19.7**	**+0.7**
TPUB	baz=229			*e*S	**Sn**	**06 51 42.1**	**+1.7**
STYT	**Tauyuan** baz=223	**1.71**	**225**	*e*S	**Sn**	**06 51 40.5**	**-0.1**
WTP	**Ta-pu** baz=228	**1.75**	**230**	*e*P	**Pn**	**06 51 19.9**	**+0.3**
WTP	baz=228			*e*S	**Sn**	**06 51 41.8**	**+0.3**
JKRS	**Kuro-shima**	**1.78**	**94**	S	**Sn**	**06 51 42.0**	**-0.2**
LDUT	**Ludao** baz=197	**1.79**	**198**	*e*P	**Pn**	**06 51 21.5**	**+1.3**
LDUT	baz=197			*e*S	**Sn**	**06 51 42.0**	**-0.5**
TWK	**Hsinying** baz=231	**1.82**	**233**	*e*P	**Pn**	**06 51 21.2**	**+0.6**
TWK	baz=231			S	**Sn**	**06 51 42.9**	**-0.6**
CHN1	**Nanshi** baz=229	**1.85**	**230**	*e*P	**Pn**	**06 51 22.5**	**+1.5**
CHN1	baz=229			*e*S	**Sn**	**06 51 45.2**	**+1.2**
JIJ	**Ishigaki jima**	**1.89**	**90**	S	**Sn**	**06 51 43.5**	**-1.6**
SLGT	**Liugui** baz=222	**1.90**	**224**	*e*P	**Pn**	**06 51 21.5**	**-0.2**
SLGT	baz=222			*e*S	**Sn**	**06 51 46.5**	**+1.2**
ICHU	**Yijhu** baz=237	**1.93**	**238**	*e*S	**Sn**	**06 51 46.2**	**+0.3**
CHN3	**Shinhua** baz=229	**2.03**	**231**	*e*P	**Pn**	**06 51 23.8**	**+0.3**
ECL	**Taimali** baz=209	**2.05**	**210**	*e*P	**Pn**	**06 51 24.8**	**+1.1**
ECL	baz=209			*e*S	**Sn**	**06 51 49.3**	**+0.3**
JISG	**Ishigakijimahi**	**2.05**	**84**	S	**Sn**	**06 51 48.0**	**-1.1**
TAI1	**Yung-k'ang** baz=230	**2.15**	**232**	*e*P	**Pn**	**06 51 25.9**	**+0.8**
TAI1	baz=230			*e*S	**Sn**	**06 51 51.4**	**-0.1**
TWM1	**Shoushan** baz=223	**2.17**	**224**	*e*S	**Sn**	**06 51 52.1**	**+0.3**
SGLT	**Jiouru** baz=220	**2.19**	**222**	*e*S	**Sn**	**06 51 51.9**	**-0.7**
MASBT	**Mashibuluo** baz=216	**2.20**	**217**	*e*P	**Pn**	**06 51 26.9**	**+1.1**
MASBT	baz=216			*e*S	**Sn**	**06 51 52.9**	**+0.2**
TAI	**Tainan** baz=230	**2.20**	**232**	*e*S	**Sn**	**06 51 52.9**	**+0.2**
EAST	**Anshuo** baz=208	**2.29**	**210**	*e*P	**Pn**	**06 51 27.2**	**+0.2**
EAST	baz=208			*e*S	**Sn**	**06 51 55.2**	**+0.4**
KAU	**Kaohsiung** baz=221	**2.42**	**222**	*e*S	**Sn**	**06 51 58.8**	**+0.6**
PNG	**Penghu** baz=250	**2.44**	**251**	*e*P	**Pn**	**06 51 30.5**	**+1.5**
PNG	baz=250			*e*S	**Sn**	**06 51 58.8**	**+0.3**
PHUB	**P'eng-hu** baz=248	**2.44**	**250**	*e*S	**Sn**	**06 51 57.3**	**-1.4**
VWUC	**VWUC** baz=284	**2.46**	**285**	*e*P	**Pn**	**06 51 29.1**	**-0.2**
VWUC	baz=284			*e*S	**Sn**	**06 51 57.4**	**-1.6**
WDGT	**Dungji** baz=242	**2.47**	**244**	*e*P	**Pn**	**06 51 29.7**	**+0.2**
WDGT	baz=242			*e*S	**Sn**	**06 51 59.9**	**+0.5**
MATB	**Ma-tsu** baz=312	**2.61**	**313**	*e*P	**Pn**	**06 51 31.3**	**-0.1**
MATB	baz=312			*e*S	**Sn**	**06 52 02.2**	**-0.5**
MSUT	**Lienchiang** baz=312	**2.63**	**313**	*e*P	**Pn**	**06 51 31.3**	**-0.5**
MSUT	baz=312			*e*S	**Sn**	**06 52 02.9**	**-0.4**
HEN	**Hengchun** baz=206	**2.66**	**208**	*e*S	**Sn**	**06 52 03.5**	**-0.7**
VCHM	**Qimei** baz=243	**2.68**	**245**	*e*P	**Pn**	**06 51 31.8**	**-0.7**
VCHM	baz=243			*e*S	**Sn**	**06 52 05.5**	**+0.9**
TWKBT	**Hengchun** baz=204	**2.69**	**206**	*e*P	**Pn**	**06 51 33.9**	**+1.3**
TWKBT	baz=204			*e*S	**Sn**	**06 52 06.3**	**+1.5**
TSEB	**Hengchuen, Pin** baz=203	**2.69**	**204**	*e*S	**Sn**	**06 52 05.8**	**+0.9**
SNW	**Nanwan** baz=206	**2.70**	**207**	*e*P	**Pn**	**06 51 33.6**	**+0.9**
SNW	baz=206			*e*S	**Sn**	**06 52 06.3**	**+1.3**
PTMZ	**Houxiangcun** baz=283	**2.76**	**284**	*e*P	**Pn**	**06 51 33.3**	**-0.1**
PTMZ	baz=283			*e*S	**Sn**	**06 52 06.3**	**-0.2**
LYJJ	**Jianjiangzhen** baz=316	**3.00**	**316**	*e*S	**Sn**	**06 52 11.7**	**-0.8**

*NNC **31** 06:56:58.8±3.6,53°.65N×88°.26E,h0km±28km,mb3.7, mpv3.3,Error ellipse: s-maj=35.0km s-min=13.8km az=68.0,Suspected Mining explosion.*
*IDC **31** 06:56:59.1±2.9,53°.74N×88°.14E,h0km,mb1 3.4/2, mb1mx3.1/47,mbtmp3.4/2,ML3.0/2,Error ellipse: s-maj=24.3km s-min=16.1km az=56.0*
ISC 31 06:57:00.5±3.7,53°.7N±0°.1×88°.0E±0°.2,h0km,n8,σ0$72/13, 6C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=92,slow=312,SNR=3.6	**1.90**	**278**	*i*		07 09 28.9	
ZAA0	**Zalesovo Array** 4.2nm,0.6s	**1.90**	**278**	⇑Pn	**Pn**	**06 57 33.5**	**-0.6**
ZAA0	37nm,0.9s			⇑Sn	**Sg**	**06 58 02.5**	**+1.0**
ZALV	**Zalesovo Beam** 4.9nm,0.3s,baz=95,slow=14,SNR=74	**1.90**	**278**	Pg	**Pn**	**06 57 34.3**	**+0.2**
ZALV	11nm,0.3s,baz=94,slow=24,SNR=23			Lg	Lg	06 58 02.4	
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=62,slow=14,SNR=11	**6.61**	**246**	Pn	**Pn**	**06 58 39.3**	**+0.5**
KURBB	0.1nm,0.3s,baz=65,slow=29,SNR=3.4			Sn	**Sn**	**06 59 54.4**	**-0.3**
KURBB	0.1nm,0.3s,baz=238,slow=14,SNR=4.5			Lg	Lg	07 00 29.7	
KURBB	**Kurchatov Arra** 3.1nm,0.3s	**6.61**	**246**	⇓Pn	**Pn**	**06 58 38.3**	**-0.4**
KURBB	8.9nm,0.7s			⇓Sn	**Sn**	**06 59 53.8**	**-0.9**
KURBB	16nm,0.7s			⇓Lg	Lg	07 00 34.7	
MK31	**Makanchi Array** 0.8nm,0.7s,baz=28,slow=13,SNR=9.6	**7.85**	**210**	⇓Pn	**Pn**	**06 58 55.8**	**-0.1**
MK31	1.4nm,0.6s,baz=33,slow=26,SNR=6.2			⇑Sn	**Sn**	**07 00 24.7**	**-0.6**
MK31	6.9nm,0.9s,baz=25,slow=35,SNR=4.3			⇑Lg	Lg	07 01 09.4	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=31,slow=14,SNR=8.7	**7.85**	**210**	Pn	**Pn**	**06 58 56.3**	**+0.4**
MKAR	0.3nm,0.3s,baz=31,slow=25,SNR=9.6			Sn	**Sn**	**07 00 24.8**	**-0.5**
MKAR	0.1nm,0.3s,baz=29,slow=22,SNR=5.8			Lg	Lg	07 01 08.2	
MAKZ	**Makanchi** 1.3nm,0.5s	**7.93**	**212**	⇓Pn	**Pn**	**06 58 58.0**	**+1.0**
MAKZ	1.4nm,0.8s			⇑Sn	**Sn**	**07 00 26.6**	**-0.8**
MAKZ	8.4nm,1.2s			⇑Lg	Lg	07 01 11.2	

*IDC **31** 07:00:30.2±0.8,30°.36N×94°.94E,h0km,mb4.1/18, mb1 4.1/21,mb1mx4.0/52,mbtmp4.0/21,ML3.8/3,MS3.8/4, Ms1 3.8/4,ms1mx2.8/49,Error ellipse: s-maj=27.5km s-min=15.7km az=55.0*
*MOS **31** 07:00:33.3±1.3,30°.32N×95°.04E,h29km,mb4.8/19,Error ellipse: s-maj=10.5km s-min=5.6km az=120.7*
*NEIC **31** 07:00:36.2±2.1,30°.3N±0°.1×95°.04E±0°.05,h36km±7km, mb4.5/34,Error ellipse: s-maj=17.1km s-min=4.4km az=197.0*
ISC 31 07:00:34.8±0.5,30°.35N±0°.06×94°.97E±0°.06,h23km,n114, σ1$28/124,mb4.4/39,MS4.3/6,5C-5D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.37**	**260**	P	**Pn**	**07 01 29.0**	**+2.5**
LSA				S	**Sb**	**07 02 18.0**	**+3.0**
LSA	comp=N,1μm,4.6s			LR	LR		
LSA	comp=E,1μm,5.7s			LR	LR		
LSA	comp=Z,2μm,4.6s			LR	LR		
LSA	**Lhasa**	**3.37**	**260**	P	**Pn**	**07 01 28.6**	**+2.1**
LSA	**Lhasa**	**3.37**	**260**	Pn	**Pn**	**07 01 28.6**	**+2.1**
KOHI	**KOHIMA**	**4.67**	**190**	*e*P	**Pn**	**07 01 44.5**	**+0.4**
SHL	**Shillong**	**5.49**	**211**	P	**Pn**	**07 01 55.3**	**0.0**
SHL	**Shillong**	**5.49**	**211**	Pn	**Pn**	**07 01 55.3**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,0.3nm,0.3s,baz=331,slow=18,SNR=1.9	**12.38**	**162**	Pn	**Pn**	**07 03 28.4**	**-1.2**
WMQ	**Urumqi**	**14.64**	**339**	*e*P	**Pn**	**07 03 59.8**	**-0.7**
WMQ				pP	P	07 04 02.5	-4.1
WMQ	comp=N,15nm,0.5s			smax	smax		
WMQ	comp=E,18nm,0.5s			smax	smax		
WHN	**Wuhan**	**16.72**	**84**	⇑P	**P**	**07 04 35.0**	**+5.3**
TARG	**Taragay, Kyrgy**	**17.90**	**314**	P	**P**	**07 04 43.5**	**+0.3**
KSH	**Kashi**	**18.04**	**306**	P	**P**	**07 04 46.0**	**+1.6**
KSH	comp=Z,110nm,5.7s			pmax	pmax		
NIL	**Nilore**	**18.71**	**286**	P	**P**	**07 04 50.1**	**-1.6**
NIL	comp=Z,15nm,0.7s			pmax	pmax		
NIL	**Nilore**	**18.71**	**286**	P	**P**	**07 04 50.1**	**-1.6**
NIL	comp=Z,15nm,0.7s			IAmb	IAmb	07 04 53.3	
MK31	**Makanchi Array**	**19.14**	**333**	P	**P**	**07 04 55.4**	**-1.0**
MK31	comp=Z,4.0nm,1.3s			pmax	pmax		
MK31	**Makanchi Array**	**19.14**	**333**	P	**P**	**07 04 55.4**	**-1.0**
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=141,slow=14,SNR=8.3	**19.14**	**333**	P	**P**	**07 04 53.9**	**-2.5**
MKAR	**Makanchi Array**	**19.14**	**333**	*i* P	**Pn**	**07 04 58.5**	**+1.2**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**19.14**	**333**	P	**P**	**07 04 55.8**	**-0.5**
MAKZ	**Makanchi**	**19.28**	**332**	P	**P**	**07 04 57.3**	**-0.5**
MAKZ	comp=Z,12nm,1.2s			pmax	pmax		
MAKZ	**Makanchi**	**19.28**	**332**	P	**P**	**07 04 57.3**	**-0.5**
BOOM	**Boomskoye usch**	**19.48**	**314**	P	**P**	**07 05 00.8**	**+0.5**
BOOM	comp=Z,15nm,1.2s			pmax	pmax		
BOOM	**Boomskoye usch**	**19.48**	**314**	P	**P**	**07 05 00.8**	**+0.5**
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=214,slow=11,SNR=22	**19.55**	**24**	P	**P**	**07 04 59.8**	**-1.1**
SONM	**Songino Array**	**19.55**	**24**	P	**Pn**	**07 05 00.9**	**-1.4**
SONM	comp=Z,6.0nm,1.1s			pmax	pmax		
SONM	**Songino Array**	**19.55**	**24**	P	**Pn**	**07 05 00.9**	**-1.4**
ULN	**Ulaanbaatar**	**19.80**	**25**	P	**P**	**07 05 03.3**	**-0.5**
ULN	comp=Z,7.0nm,1.2s			pmax	pmax		
ULN	**Ulaanbaatar**	**19.80**	**25**	P	**P**	**07 05 03.2**	**-0.5**
DGZ	**Jazzator, Alta**	**20.15**	**346**	⇓*e*P	Pn	07 05 10.6	+1.1
DGZ	comp=Z,11nm,1.4s			pmax	pmax		

AAK	**Ala-Archa**	**20.47 312**	P	**P**	**07 05 11.8 +0.8**
AAK			pmax	pmax	
comp=Z,53nm,1.4s					
AAK	**Ala-Archa**	**20.47 312**	P	**P**	**07 05 11.8 +0.8**
AAK			IAmb	IAmb	07 05 16.8
comp=Z,53nm,1.4s					
ZAK	**Zakamensk**	**20.96 15**	*e*P	**P**	**07 05 16.9 +0.7**
ZAK			pmax	pmax	
comp=Z,11nm,1.2s					
DRK	**Karamyk**	**21.02 302**	P	**P**	**07 05 16.6 -0.6**
BTK	**Batken**	**21.93 303**	P	**P**	**07 05 26.5 -0.2**
BTK			pmax	pmax	
comp=Z,25nm,1.1s					
BTK	**Batken**	**21.93 303**	P	**P**	**07 05 26.5 -0.2**
BTK			IAmb	IAmb	07 05 29.4
comp=Z,25nm,1.1s					
GAR	**Garm**	**21.98 300**	P	**P**	**07 05 26.2 -1.1**
GAR			IAmb	IAmb	07 05 27.9
comp=Z,36nm,1.1s					
KBL	**Kabul**	**22.25 288**	P	**P**	**07 05 29.3 -1.1**
KBL			pmax	pmax	
comp=Z,29nm,1.0s					
KBL	**Kabul**	**22.25 288**	P	**P**	**07 05 29.3 -1.1**
KBL			IAmb	IAmb	07 05 32.4
comp=Z,29nm,1.0s					
CHGR	**Chuyangaron**	**22.77 298**	P	**P**	**07 05 33.9 -1.8**
KK31	**Karatay Array**	**23.28 310**	P	**P**	**07 05 41.2 +0.4**
KK31			pmax	pmax	
comp=Z,13nm,1.4s					
KK31	**Karatay Array**	**23.28 310**	P	**P**	**07 05 41.2 +0.4**
KK31			IAmb	IAmb	07 05 43.6
comp=Z,13nm,1.4s					
KKAR	**Karatay Array**	**23.28 310**	P	**P**	**07 05 41.0 +0.2**
KKAR			pmax	pmax	
comp=Z,13nm,1.4s					
KKAR	**Karatay Array**	**23.28 310**	P	**P**	**07 05 40.3 -0.5**
KKAR	**Karatay Array**	**23.28 310**	P	**P**	**07 05 41.0 +0.2**
KKAR			IAmb	IAmb	07 05 43.6
comp=Z,13nm,1.4s					
KURBB	**Kurchatov Arra**	**23.70 333**	P	**P**	**07 05 43.6 -1.1**
comp=Z,10nm,1.2s,baz=145,slow=10,SNR=25					
KURK	**Kurchatov**	**23.74 334**	P	**P**	**07 05 43.6 -1.5**
KURK	**Kurchatov**	**23.74 334**	P	**P**	**07 05 43.6 -1.5**
ZAA0	**Zalesovo Array**	**24.70 346**	P	**P**	**07 05 53.4 -0.7**
ZAA0			IAmb	IAmb	07 05 56.7
comp=Z,20nm,1.8s					
ZALV	**Zalesovo Beam**	**24.70 346**	P	**P**	**07 05 51.8 -2.3**
comp=Z,2.0nm,0.7s,baz=158,slow=9.4,SNR=6.6					
ZALV	**Zalesovo Beam**	**24.70 346**	P	**P**	**07 05 53.6 -0.4**
ZALV	**Zalesovo Beam**	**24.70 346**	P	**P**	**07 05 53.6 -0.4**
CN2	**Changchun**	**27.61 52**	*e*P	**P**	**07 06 22.0 +1.6**
CN2			pmax	pmax	
comp=Z,10.0nm,0.8s					
BVAR	**Borovoye Array**	**28.90 329**	P	**P**	**07 06 30.8 -1.0**
comp=Z,1.8nm,0.9s,baz=170,slow=18,SNR=8.0					
BRVK	**Borovoye**	**28.97 329**	*de*P	**P**	**07 06 33.2 +0.8**
BRVK			pmax	pmax	
comp=Z,11nm,1.3s					
BRVK	**Borovoye**	**28.97 329**	P	**P**	**07 06 32.5 +0.1**
BRVK			IAmb	IAmb	07 06 35.3
comp=Z,7.3nm,1.0s					
ABKAR	**Akbulak array**	**32.48 316**	P	**P**	**07 07 03.7 +0.3**
KLR	**Kul'dur**	**33.54 45⇑**	*e*P	**P**	**07 07 14.4 +1.7**
AKTO	**Aktyubinsk**	**34.08 317**	P	**P**	**07 07 16.4 -1.0**
comp=Z,1.5nm,0.8s,baz=111,slow=11,SNR=5.1					
ARU	**Arti**	**36.44 326**	P	**P**	**07 07 35.7 -1.9**
comp=Z,0.7nm,0.3s,baz=142,slow=8.2,SNR=6.0					
ARU	**Arti**	**36.44 326**	*c* *i*P	**P**	**07 07 38.4 +0.8**
ARU			S	**S**	**07 13 20.6 +2.8**
ARU			SS	**SnSn**	**07 15 43.7 -2.9**
ARU			pmax	pmax	
comp=Z,8.0nm,1.2s					
ARU	**Arti**	**36.44 326**	P	**P**	**07 07 37.7 +0.1**
ARU			IAmb	IAmb	07 07 40.5
comp=Z,7.3nm,1.1s					
NRIK	**Noril'sk**	**39.27 356**	P	**P**	**07 08 00.3 -1.0**
comp=Z,2.0nm,0.5s,baz=152,slow=5.2,SNR=4.3					
NRIK	**Noril'sk**	**39.27 356⇓**	*e*P	**P**	**07 08 01.5 +0.2**
NRIK	**Noril'sk**	**39.27 356**	P	**P**	**07 08 01.5 +0.2**
NRIK			IAmb	IAmb	07 08 03.3
comp=Z,14nm,1.4s					
YSS	**Yuzh-Sakhalins**	**40.17 52⇓**	*e*P	**P**	**07 08 12.0 +2.9**
YSS			pmax	pmax	
comp=Z,11nm,1.3s					
GNI	**Garni**	**41.69 298**	LR	LR	07 28 45.9
comp=Z,26nm,18.7s,baz=110,slow=41					
GNI	**Garni**	**41.69 298⇑**	*e*P	**P**	**07 08 24.7 +2.8**
GNI			pmax	pmax	
comp=Z,13nm,1.3s					
GNI	**Garni**	**41.69 298**	P	**P**	**07 08 23.2 +1.2**
GNI			IAmb	IAmb	07 08 26.1
comp=Z,9.5nm,0.8s					
KIRV	**Kirov**	**41.81 326**	P	**P**	**07 08 21.9 -0.6**
comp=Z,13nm,0.6s,baz=115,slow=23,SNR=4.9					
ONI	**Oni**	**42.59 301**	P	**P**	**07 08 30.7 +1.6**
ONI			pmax	pmax	
comp=Z,16nm,1.0s					
ONI	**Oni**	**42.59 301**	P	**P**	**07 08 30.7 +1.6**
ONI			IAmb	IAmb	07 08 32.9
comp=Z,16nm,1.0s					
KBZ	**Khabaz**	**42.99 303⇑**	*e*P	**P**	**07 08 34.9 +2.7**
KBZ			pmax	pmax	
comp=Z,3.0nm,1.4s					
KIV	**Kislovodsk**	**43.14 303**	*e*P	**P**	**07 08 35.3 +1.7**
KIV			pmax	pmax	
comp=Z,8.0nm,1.0s					
GURO	**Guroymak-BITLI**	**43.90 296**	P	**P**	**07 08 40.9 +1.0**
MARD	**Mardin**	**45.03 294**	P	**P**	**07 08 49.0 0.0**
ANN	**Anapa**	**46.89 305**	*e*P	**P**	**07 09 02.8 -0.5**
ANN			pmax	pmax	
comp=Z,72nm,1.5s					
KLMR	**Klimovskoe**	**47.28 327**	*e*P	**P**	**07 09 05.1 -1.0**
KLMR			*e*		07 10 38.3
KLMR			pmax	pmax	
comp=Z,19nm,1.2s					
KLMR	**Klimovskoe**	**47.28 327**	*e*P	**P**	**07 09 05.2 -0.9**
KLMR			AMP		07 09 09.4
comp=Z,19nm,1.2s					
KLMR			*e*PcP	**PcP**	**07 10 38.3 +1.4**
OBN	**Obninsk**	**47.80 319⇓**	*e*P	**P**	**07 09 11.6 +1.4**
OBN			pmax	pmax	
comp=Z,10.0nm,0.5s					
BNN	**Bunyan**	**48.66 297**	P	**P**	**07 09 17.5 +0.2**
ILGA	**Ilgaz**	**49.96 300**	P	**P**	**07 09 27.4 +0.1**
BRTR	**Keskin Array B**	**50.22 298**	P	**P**	**07 09 27.7 -1.5**
comp=Z,1.1nm,0.7s,baz=46,slow=18,SNR=4.5					
ANTO	**Ankara**	**50.84 299**	P	**P**	**07 09 33.8 0.0**
ANTO			pmax	pmax	
comp=Z,28nm,1.2s					
ANTO	**Ankara**	**50.84 299**	P	**P**	**07 09 33.8 0.0**
AKASG	**Malin Array Be**	**52.13 313**	P	**P**	**07 09 41.2 -1.9**
comp=Z,2.4nm,0.7s,baz=76,slow=6.7,SNR=10					
AKASG	**Malin Array Be**	**52.13 313**	P	**P**	**07 09 42.6 -0.6**
AKASG			pmax	pmax	
comp=Z,6.0nm,1.7s					
AKASG	**Malin Array Be**	**52.13 313**	P	**P**	**07 09 42.6 -0.6**
AKASG			IAmb	IAmb	07 09 44.9
comp=Z,5.7nm,1.6s					
AKBB	**Malin Array Si**	**52.13 313**	P	**P**	**07 09 42.4 -0.8**
AKBB			pmax	pmax	
comp=Z,11nm,1.2s					
AKBB	**Malin Array Si**	**52.13 313**	P	**P**	**07 09 42.4 -0.8**
AKBB			IAmb	IAmb	07 09 45.2
comp=Z,11nm,1.2s					
MNK	**Minsk**	**52.80 318**	*i*P	**P**	**07 09 47.8 -0.2**
MNK			*i*		07 10 57.2
MNK			*i*		07 11 47.2
MNK			*i* PPP	PPP	07 12 51.4
MNK			*i* S	**S**	**07 17 13.5 -1.5**
MNK			*i*		07 19 34.8
MNK			*i* SS	**SS**	**07 20 53.8 +0.4**
MNK			*i* SSS	SSS	07 22 41.3
MNK			pmax	pmax	
comp=E,2.0nm,0.8s					
MNK			pmax	pmax	
comp=N,16nm,0.6s					
MNK			pmax	pmax	
comp=Z,7.0nm,0.7s					
MNK			MLR	MLR	
comp=E,103nm,20.0s					
MNK			MLR	MLR	
comp=N,1μm,22.0s					
MNK			MLR	MLR	
comp=Z,135nm,19.0s					
MNK	**Minsk**	**52.80 318**	*i*P	**P**	**07 09 47.8 -0.2**
comp=E,2.0nm,0.8s					
MNK			*i*P	**P**	**07 09 47.8 -0.2**
comp=N,16nm,0.6s					
MNK			*i*P	**P**	**07 09 47.8 -0.2**
comp=Z,7.0nm,0.7s,baz=88					
MNK			*i* PcP	**PcP**	**07 10 57.3 0.0**
MNK			*i* PP	**PP**	**07 11 47.2 -0.1**
MNK			*i* PPP	PPP	07 12 51.5
MNK			*i* ScP	**ScP**	**07 14 51.9 -1.4**
MNK			*i* PcS	**PcS**	**07 14 55.9 +0.3**
MNK			*i* S	**S**	**07 17 13.5 -1.4**
MNK			*i* ScS	**ScS**	**07 19 34.8 -1.3**
MNK			*i* SS	**SS**	**07 20 53.8 +0.4**
MNK			*i* SSS	SSS	07 22 41.4
MNK			*i* LQ	LQ	07 28 29.8
MNK			*i* LR	LR	07 32 30.4
MNK			*i* LRM	MLR	07 34 50.4
comp=E,103nm,20.4s					
MNK			*i* LRM	MLR	07 34 51.0
comp=N,1μm,22.1s					
MNK			*i* LRM	MLR	07 34 51.0
comp=Z,135nm,18.7s					
FINES	**FINESS Array B**	**53.81 326**	P	**P**	**07 09 54.5 -0.9**
comp=Z,1.2nm,0.6s,baz=111,slow=4.3,SNR=5.0					
MLR	**Muntele Rosu**	**54.90 307**	P	**P**	**07 10 04.5 +0.7**
MLR			pmax	pmax	
comp=Z,19nm,1.3s					
MLR	**Muntele Rosu**	**54.90 307**	P	**P**	**07 10 04.5 +0.7**
NB2	**NORSAR Subarra**	**60.99 326**	P	**P**	**07 10 45.5 -0.6**
comp=Z,3.2nm,0.9s,baz=80,slow=7.4					
NOA	**NORSAR Array B**	**60.99 326**	P	**P**	**07 10 45.2 -0.9**
comp=Z,1.2nm,0.8s,baz=80,slow=7.2,SNR=4.3					
GERES	**GERESS Array B**	**62.35 313**	P	**P**	**07 10 55.2 -0.3**
comp=Z,2.2nm,1.1s,baz=76,slow=5.6,SNR=7.2					
GERES	**GERESS Array B**	**62.35 313**	P	**P**	**07 10 55.8 +0.2**
GERES	**GERESS Array B**	**62.35 313**	P	**P**	**07 10 55.8 +0.2**
WRA	**Warramunga Arr**	**62.73 138**	P	**P**	**07 10 57.3 -1.0**
comp=Z,0.8nm,0.9s,baz=325,slow=8.0,SNR=2.8					
ASAR	**Alice Springs**	**65.43 141**	P	**P**	**07 11 15.3 -0.6**
comp=Z,0.6nm,0.8s,baz=325,slow=6.3,SNR=7.2					
CTA	**Charters Tower**	**70.33 129**	LR	LR	07 45 01.2
comp=Z,190nm,21.1s,baz=152,slow=38					
BMAR	**Burnt Mountain**	**72.86 20**	P	**P**	**07 12 02.8 +1.2**
ILAR	**Eielson Array**	**73.77 23**	P	**P**	**07 12 05.5 -1.4**
comp=Z,1.4nm,1.1s,baz=294,slow=5.1,SNR=10					
ILAR	**Eielson Array**	**73.77 23**	P	**P**	**07 12 06.7 -0.2**
ILAR	**Eielson Array**	**73.77 23**	P	**P**	**07 12 06.7 -0.2**
RIDG	**Independent Ri**	**75.11 23**	P	**P**	**07 12 14.7 -0.1**
RIDG			IAmb	IAmb	07 12 17.4
comp=Z,5.3nm,1.2s					
INK	**Inuvik**	**75.30 17**	P	**P**	**07 12 14.9 -0.7**
comp=Z,4.3nm,1.1s,baz=317,slow=7.0,SNR=3.9					
INK	**Inuvik**	**75.30 17**	P	**P**	**07 12 16.3 +0.7**
INK			pmax	pmax	
comp=Z,6.0nm,1.2s					
INK	**Inuvik**	**75.30 17**	P	**P**	**07 12 16.3 +0.7**
INK			IAmb	IAmb	07 12 18.8
comp=Z,6.4nm,1.2s					
STKA	**Stephens Creek**	**76.06 140**	LR	LR	07 49 31.9
comp=Z,50nm,19.6s,baz=26,slow=39					
BCAR	**Beaver Creek A**	**76.60 23**	P	**P**	**07 12 23.0 -0.3**
ESDC	**Sonseca Array**	**77.52 309**	P	**P**	**07 12 27.7 -1.2**
comp=Z,1.4nm,1.0s,baz=46,slow=7.6,SNR=5.1					
TORD	**Torodi Ar. Bea**	**86.24 283**	P	**P**	**07 13 13.5 -1.6**
comp=Z,3.5nm,1.1s,baz=86,slow=4.0,SNR=8.3					
AFI	**Afiamalu**	**99.66 100**	LR	LR	07 54 36.8
comp=Z,100nm,18.8s,baz=48,slow=33					

*IDC **31** 07:01:45.5±1.0, 30°.40N×94°.93E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.7/52, mbtmp3.7/11, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/48, Error ellipse: s-maj=40.3km s-min=18.3km az=61.0*

ISC 31 07:01:49.4±0.8, 30°.4N±0°.1×94°.9E±0°.2, h23km, n13, σ0§83/12, mb3.8/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.43**	**162**	Pn		**Pn**	**Pn**	**07 04 46.0**	**+1.0**
0.1nm,0.3s,baz=339,slow=12,SNR=1.5									
WMQ	**Urumqi**	**14.58**	**339**	*e*P		**Pn**		**07 05 16.0**	**+1.7**
WMQ						smax	smax		
comp=N,12nm,0.7s									
WMQ						smax	smax		
comp=E,11nm,0.5s									
MKAR	**Makanchi Array**	**19.09**	**333**	P		**P**		**07 06 09.5**	**-0.9**
comp=E,0.0nm,0.3s,baz=150,slow=12,SNR=2.4									
SONM	**Songino Array**	**19.51**	**24**	P		**P**		**07 06 15.0**	**0.0**
comp=E,0.4nm,0.3s,baz=219,slow=11,SNR=1.9									
SONM						LR	LR	07 13 46.7	
comp=E,41nm,21.8s,baz=99,slow=37									
KURBB	**Kurchatov Arra**	**23.65**	**333**	P		**P**		**07 06 58.1**	**-0.7**
comp=E,1.2nm,0.6s,baz=144,slow=11,SNR=5.5									
ZALV	**Zalesovo Beam**	**24.65**	**346**	P		**P**		**07 07 08.0**	**-0.1**
comp=E,2.0nm,0.7s,baz=161,slow=9.4,SNR=3.7									
BVAR	**Borovoye Array**	**28.84**	**329**	P		**P**		**07 07 46.0**	**+0.1**
comp=E,0.4nm,0.6s,baz=121,slow=5.6,SNR=2.4									
AKASG	**Malin Array Be**	**52.09**	**313**	P		**P**		**07 10 56.8**	**-0.6**
comp=E,1.3nm,0.6s,baz=73,slow=7.5,SNR=5.8									
WRA	**Warramunga Arr**	**62.78**	**138**	P		**P**		**07 12 12.4**	**-0.7**
comp=E,0.7nm,0.8s,baz=326,slow=7.7,SNR=2.2									
ASAR	**Alice Springs**	**65.48**	**141**	P		**P**		**07 12 30.6**	**-0.2**
comp=E,0.6nm,0.8s,baz=325,slow=7.9,SNR=4.5									
ILAR	**Eielson Array**	**73.73**	**23**	P		**P**		**07 13 20.7**	**-0.5**
comp=E,0.3nm,0.8s,baz=298,slow=4.7,SNR=4.2									
INK	**Inuvik**	**75.26**	**17**	LR			LR	07 49 45.7	
comp=E,397nm,21.9s,baz=156,slow=38									
TORD	**Torodi Ar. Bea**	**86.21**	**283**	P		**P**		**07 14 29.0**	**-0.4**
comp=E,1.0nm,0.9s,baz=67,slow=3.7,SNR=4.3									

*NNC **31** 07:17:09.1±4.0, 54°.19N×86°.73E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=35.5km s-min=17.5km az=12.0, Suspected Mining explosion.*
*IDC **31** 07:17:12.3±2.7, 54°.12N×86°.53E, h0km, mb1 3.1/2, mb1mx2.9/50, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=21.4km s-min=14.1km az=50.0*

ISC 31 07:17:10.3±3.8, 54°.2N±0°.2×86°.6E±0°.2, h0km, n8, σ1§28/13, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**256**	*i*				07 23 40.0	
baz=81,slow=313,SNR=1.5									
ZAA0	**Zalesovo Array**	**1.08**	**256**	⇑P			**Pb**	**07 17 30.5**	**-1.4**
0.2nm,0.4s									
ZAA0				⇓S			**Sb**	**07 17 46.8**	**+0.2**
0.5nm,0.5s									
ZALV	**Zalesovo Beam**	**1.08**	**256**	Pg			**Pg**	**07 17 30.1**	**-1.0**
0.4nm,0.3s,baz=78,slow=15,SNR=6.0									
ZALV				Lg			Lg	07 17 46.0	
1.7nm,0.3s,baz=71,slow=25,SNR=8.3									
ZALV				Rg			Rg	07 17 52.1	
27nm,0.9s,baz=81,slow=35,SNR=12									
KURBB	**Kurchatov Arra**	**6.11**	**237**	Pn			**Pn**	**07 18 43.6**	**+1.9**
0.1nm,0.3s,baz=55,slow=14,SNR=15									
KURBB				Sn			**Sn**	**07 19 53.0**	**+0.7**
0.1nm,0.3s,baz=48,slow=21,SNR=5.7									
KURBB				Lg			Lg	07 20 23.3	
0.0nm,0.3s,baz=48,slow=32,SNR=1.6									
KURBB	**Kurchatov Arra**	**6.11**	**237**	⇓Pn			**Pn**	**07 18 42.9**	**+1.1**
3.8nm,0.8s									
KURBB				⇓Sn			**Sn**	**07 19 53.8**	**+1.5**
2.6nm,0.7s									
KURBB				⇓Lg			Lg	07 20 25.9	
3.8nm,0.6s									
MK31	**Makanchi Array**	**7.92**	**202**	⇓Pn			**Pn**	**07 19 07.0**	**+0.3**
0.5nm,0.6s,baz=32,slow=14,SNR=6.3									
MK31				⇑Sn			**Sn**	**07 20 36.8**	**-0.3**
0.6nm,0.7s									
MK31				⇑Lg			Lg	07 21 18.0	
4.8nm,1.2s,baz=25,slow=30									
MKAR	**Makanchi Array**	**7.92**	**202**	Pn			**Pn**	**07 19 08.0**	**+1.2**
0.2nm,0.3s,baz=24,slow=11,SNR=6.6									
MKAR				Sn			**Sn**	**07 20 36.2**	**-0.8**
0.1nm,0.3s,baz=24,slow=27,SNR=6.5									
MKAR				Lg			Lg	07 21 19.1	
0.1nm,0.3s,baz=22,slow=28,SNR=5.1									
MAKZ	**Makanchi**	**7.98**	**203**	⇓Pn			**Pn**	**07 19 09.3**	**+1.8**
2.8nm,0.5s									
MAKZ				⇑Sn			**Sn**	**07 20 37.8**	**-0.6**
1.5nm,1.1s									
MAKZ				⇑Lg			Lg	07 21 19.7	
1.4nm,0.9s									

*IDC **31** 07:23:55.7±12.0, 38°.17S×94°.06W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.8/36, mbtmp3.8/4, MS3.3/8, Ms1 3.3/8, ms1mx3.1/32, Error ellipse: s-maj=332.3km s-min=52.7km az=2.0*

ISC 31 07:23:59.9±1.2, 38°.1S±0°.2×94°.0W±0°.3, h25km, n20, σ1§43/7, mb3.8/4, MS3.4/6, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.93**	**75**	T		T	T	07 40 16.7	
baz=246,slow=74,SNR=153									
H03S1	**Juan Fernandez**	**12.95**	**75**	T		T	T	07 40 28.8	
baz=246,slow=74,SNR=128									
H03S3	**Juan Fernandez**	**12.95**	**75**	T		T	T	07 40 18.2	
baz=246,slow=74,SNR=168									
H03N2	**Juan Fernandez**	**13.09**	**74**	T		T	T	07 40 25.3	
baz=250,slow=72,SNR=66									
H03N3	**Juan Fernandez**	**13.09**	**74**	T		T	T	07 40 27.0	
baz=250,slow=72,SNR=79									
H03N1	**Juan Fernandez**	**13.11**	**74**	T		T	T	07 40 28.5	
baz=250,slow=72,SNR=56									
RPN	**Rapa Nui**	**16.93**	**306**	LR		LR	LR	07 32 25.2	
comp=Z,160nm,20.6s,baz=68,slow=30									
PLCA	**Paso Flores**	**18.29**	**106**	LR		LR	LR	07 33 55.6	
comp=Z,58nm,20.8s,baz=290,slow=33									
LPAZ	**La Paz**	**31.47**	**53**	P			**P**	**07 30 20.5**	**+0.2**
2.8nm,0.8s,baz=205,slow=9.6,SNR=3.8									
LPAZ				LR			LR	07 38 32.4	
comp=Z,21nm,21.9s,baz=242,slow=28									
CPUP	**Villa Florida**	**32.97**	**80**	LR			LR	07 42 24.4	
comp=Z,42nm,18.2s,baz=217,slow=34									
PPT	**Papeete**	**52.43**	**277**	LR			LR	07 48 42.4	
comp=Z,21nm,18.0s,baz=254,slow=28									
VNA3	**Neumayer Olymp**	**52.62**	**156**	P			**P**	**07 33 12.3**	**+1.1**
VNA1	**Neumayer--Stat**	**53.18**	**155**	P			**P**	**07 33 13.0**	**-2.4**
SNAA	**Sanae**	**54.67**	**157**	P			**P**	**07 33 27.5**	**+1.1**
MDP	**Montagnes des**	**57.63**	**51**	LR			LR	07 55 49.3	
comp=Z,40nm,20.2s,baz=276,slow=33									
RCBR	**Riachuelo**	**61.53**	**74**	LR			LR	07 59 00.8	
comp=Z,40nm,18.2s,baz=140,slow=34									
TXAR	**Lajitas Array**	**67.72**	**351**	P			**P**	**07 34 55.0**	**-0.2**
0.6nm,0.8s,baz=164,slow=7.2,SNR=8.6									
NVAR	**Mina Array Bea**	**79.41**	**341**	P			**P**	**07 36 04.2**	**+0.3**
0.7nm,0.9s,baz=166,slow=6.2,SNR=5.0									
PDAR	**Pinedale Array**	**81.75**	**348**	P			**P**	**07 36 16.1**	**-0.2**
0.7nm,0.7s,baz=150,slow=6.2,SNR=7.0									
YBH	**Yreka Blue Hor**	**83.69**	**339**	LR			LR	08 05 39.4	
comp=Z,36nm,21.0s,baz=288,slow=30									

*AEIC **31** 07:24:12±1.2, 58°.35N±0°.06×137°.44W±0°.07, h2km±6km, Error ellipse: s-maj=9.2km s-min=4.6km az=199.0*
*NEIC **31** 07:24:12.9±1.3, 58°.34N±0°.04×137°.43W±0°.06, h8km±2km, Error ellipse: s-maj=5.8km s-min=4.2km az=217.0*
*PGC **31** 07:24:13.3±0.3, 58°.35N×137°.47W, h10km, ML2.7/11, 154km Wsw of Haines, Ak Southeastern Alaska*

ISC 31 07:24:12.1±2.2, 58°.32N±0°.05×137°.43W±0°.03, h8km±15km, n91, σ1§22/101, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**1.38**	**78**	P			**Pn**	**07 24 37.8**	**+0.1**
BESE				S			**Sn**	**07 24 56.9**	**+0.8**
BESE	**Bessie Mountai**	**1.38**	**78**				**Pn**	**07 24 37.8**	**+0.1**
BESE							**Sn**	**07 24 57.1**	**+1.0**
SKAG	**Skagway**	**1.58**	**43**				**Pn**	**07 24 41.3**	**+0.9**
SKAG							**Sb**	**07 25 01.8**	**+0.2**
SKAG	**Skagway**	**1.58**	**43**	IAML				07 25 03.3	
comp=E,281nm,0.4s									
JIS	**Juneau Island**	**1.61**	**90**				**Pn**	**07 24 41.5**	**+0.8**
JIS							**Sb**	**07 25 03.6**	**+1.2**
JIS	**Juneau Island**	**1.61**	**90**	IAML				07 25 05.7	
comp=E,275nm,0.4s									
YKU2	**Yakutat**	**1.67**	**317**				**Pn**	**07 24 42.2**	**+0.6**
YKU2							**Sg**	**07 25 05.6**	**-0.1**
PNL	**Peninsula**	**1.69**	**324**	Pn			**Pn**	**07 24 41.7**	**-0.3**
PNL				Sn			**Sn**	**07 25 04.3**	**+0.4**
PNL	**Peninsula**	**1.69**	**324**				**Pn**	**07 24 41.8**	**-0.3**
SIT	**Sitka**	**1.70**	**137**				**Pn**	**07 24 42.8**	**+0.9**
SIT				IAML				07 25 11.3	
comp=E,213nm,0.6s									
BCPM	**Bancas Point**	**1.99**	**326**				**Pn**	**07 24 46.5**	**+0.5**
YUK7	**Dusty Glacier**	**2.25**	**351**	Pn			**Pn**	**07 24 49.6**	**-0.1**
YUK7				Sn			**Sn**	**07 25 16.6**	**-1.1**
YUK7	**Dusty Glacier**	**2.25**	**351**				**Pn**	**07 24 50.0**	**+0.3**
YUK7							Lg	07 25 20.2	
PCA	**Pinnacle**	**2.30**	**322**	Pn			**Pn**	**07 24 50.6**	**+0.3**
PCA				Sn			**Sn**	**07 25 18.3**	**-0.6**
PCA	**Pinnacle**	**2.30**	**322**				**Pn**	**07 24 50.9**	**+0.5**
SAMH	**Samovar Hills**	**2.50**	**318**	Pn			**Pn**	**07 24 54.0**	**+0.9**
SAMH				Sn			**Sn**	**07 25 22.4**	**-1.6**
SAMH	**Samovar Hills**	**2.50**	**318**				**Pn**	**07 24 54.6**	**+1.4**
HYT	**Haines Junctio**	**2.51**	**359**	Pn			**Pn**	**07 24 53.5**	**+0.1**
HYT				Sn			**Sn**	**07 25 23.4**	**-0.9**
HYT	**Haines Junctio**	**2.51**	**359**				**Pn**	**07 24 54.0**	**+0.7**
HYT	**Haines Junctio**	**2.51**	**359**	IAML				07 25 29.2	
comp=E,153nm,0.9s									
HYT				IAML				07 25 29.7	
comp=N,86nm,0.7s									
CHX	**Chaix Hills**	**2.58**	**314**				**Pn**	**07 24 55.7**	**+1.5**
YUK6	**Outpost Mounta**	**2.67**	**350**	Pn			**Pn**	**07 24 56.0**	**+0.4**
YUK6				Sn			**Sn**	**07 25 27.6**	**-0.7**
YUK6	**Outpost Mounta**	**2.67**	**350**				**Pn**	**07 24 56.0**	**+0.4**
WHY	**Whitehorse**	**2.68**	**28**	Pn			**Pn**	**07 24 56.2**	**+0.6**
WHY				Sn			**Sn**	**07 25 27.6**	**-0.7**
WHY				Sg			**S

DLBC	Dease Lake	3.90	85	IAML			07 26 17.5	
	comp=N,46nm,0.7s							
DLBC				IAML			07 26 18.2	
	comp=E,33nm,0.7s							
KAIM	Kayak Island	3.95	297			Pn	07 25 13.3	+0.4
KAIM	Kayak Island	3.95	297	IAML			07 26 32.0	
	comp=N,42nm,2.3s							
KAIM				IAML			07 26 43.5	
	comp=E,36nm,1.6s							
HMT	Hamilton	4.04	303			Pn	07 25 14.3	0.0
RAGM	Ragged Mountai	4.25	302			Pn	07 25 16.9	-0.2
GOAT	Goat Mountain	4.36	304			Pn	07 25 18.7	0.0
BVCY	Beaver Creek	4.45	339	Pn		Pn	07 25 19.1	-0.7
GLB	Gilahina Butte	4.49	317			Pn	07 25 21.7	+1.3
BMRM	Bremner River	4.51	309			Pn	07 25 21.4	+0.8
BMRM	Bremner River	4.51	309	IAML			07 26 41.3	
	comp=E,23nm,0.7s							
BMRM				IAML			07 26 45.2	
	comp=N,28nm,0.7s							
M27K	Edge Creek, AK	4.61	333			Pn	07 25 23.8	+1.6
N25K	Chitina, Valde	4.88	315			Pn	07 25 27.3	+1.4
DIV	Divide	5.08	307	Pn		Pn	07 25 27.8	-0.6
HIN	Hinchinbrook I	5.09	298			Pn	07 25 28.9	+0.3
HIN	Hinchinbrook I	5.09	298	IAML			07 27 07.1	
	comp=N,19nm,1.1s							
HIN				IAML			07 27 08.4	
	comp=E,20nm,0.9s							
FID	Port Fidalgo	5.21	302			Pn	07 25 30.8	+0.6
BCAR	Beaver Creek A	5.22	338	Pn		Pn	07 25 30.4	-0.1
L27K	Beaver Creek,	5.22	337			Pn	07 25 32.4	+1.9
KLU	Klutina	5.33	310			Pn	07 25 32.3	+0.4
KLU	Klutina	5.33	310	IAML			07 26 59.1	
	comp=E,11nm,0.9s							
KLU				IAML			07 27 10.4	
	comp=N,17nm,0.8s							
GLI	Glacier Island	5.54	302			Pn	07 25 34.5	-0.2
M24K	Tolsona, Glenn	5.78	315			Pn	07 25 38.9	+0.8
DIB	Dawson Inlet,	5.84	149	Pn		Pn	07 25 41.5	+2.6
DAWY	Dawson	5.84	351	Pn		Pn	07 25 39.8	+0.8
DAWY				Sn		Sn	07 26 42.1	-4.0
DAWY	Dawson	5.84	351			Pn	07 25 40.0	+1.1
MOBC	Moresby Island	6.03	147	Sn		Sn	07 26 48.1	-2.7
SCM	Sheep Creek Mo	6.08	310	Pn		Pn	07 25 43.1	+0.8
K27K	Chicken	6.15	341	Pn		Pn	07 25 43.6	+0.5
DOT	Dot Lake	6.24	332	Pn		Pn	07 25 43.5	-0.9
SML	Sawmill	6.48	307	Pn		Pn	07 25 47.7	0.0
EGAK	Eagle	6.72	346	Pn		Pn	07 25 51.9	+1.0
PMR	Palmer	6.73	304	Pn		Pn	07 25 51.6	+0.6
KDAK	Kodiak Island	8.06	273			Pn	07 26 07.8	-1.6
KTH	Kantishna Hill	8.40	314			Pn	07 26 15.5	+1.5
BMAR	Burnt Mountain	9.70	343	Pn		Pn	07 26 31.8	0.0
IMAR	Indian Mountai	10.80	322	Pn		Pn	07 26 49.0	+2.3
CNBA	Chernabura Isl	12.69	263	Pn		Pn	07 27 12.3	-0.4

*VAO **31** 07:26:07.3±0.6,20°.80S×69°.71W,h186km±5km,mb3.7*
*IDC **31** 07:26:11.6±1.4,20°.78S×68°.24W,h114km±16km,mb4.1/2,*
mb1 3.6/5,mb1mx3.3/32,mbtmp4.0/5,Error ellipse:
s-maj=37.1km s-min=15.5km az=110.0
*GUC **31** 07:26:11.0±0.6,20°.65S×68°.80W,h105km±4km,ML3.9*
ISC 31 07:26:08.5±0.7,20°.62S±0°.04×68.78W±0°.07,h113km±8km,
n47,σ2s00/57,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.59	324	⇑iP	Pn	07 26 28.3	+1.5
PB08				eS	Sn	07 26 41.5	+0.9
PB08				IAML		07 26 43.4	
	comp=E,3μm,0.3s						
PB01	IPOC Station P	0.78	238	⇑iP	Pn	07 26 28.8	+0.8
PB01				eS	Sn	07 26 43.0	+0.3
PB01				IAML		07 26 44.0	
	comp=N,10μm,0.2s						
PB11	IPOC Station P	1.19	316	⇑iP	Pn	07 26 33.4	+1.2
PB11				eS	Sn	07 26 51.0	+1.1
PB11				IAML		07 26 52.0	
	comp=E,4μm,0.1s						
PB02	IPOC Station P	1.25	236	⇑iP	Pn	07 26 33.7	+0.9
PB02				eS	Sn	07 26 51.2	0.0
PB02				IAML		07 26 52.6	
	comp=E,4μm,0.2s						
TA01	Diego Aracena	1.31	272	⇑iP	Pn	07 26 34.0	+0.6
TA01				i S	Sn	07 26 51.4	-0.8
TA01				IAML		07 26 53.9	
	comp=E,1μm,0.3s						
TA02	Huaiquique	1.32	285	eS	Sn	07 26 52.9	+0.7
PB07	IPOC Station P	1.51	223	eP	Pn	07 26 36.7	+0.9
PB07				i S	Sn	07 26 56.7	+0.2
PB07				IAML		07 26 58.6	
	comp=E,5μm,0.5s						
PSGC	Pisagua	1.62	309	⇑iP	Pn	07 26 38.0	+0.9
PSGC				i S	Sn	07 26 59.0	+0.1
PSGC				IAML		07 27 01.0	
	comp=N,836nm,0.2s						
MNMC	Minye Minye	1.67	332	⇑iP	Pn	07 26 39.9	+2.0
MNMC				i S	Sn	07 27 02.4	+2.2
MNMC				IAML		07 27 07.0	
	comp=N,2μm,0.3s						
LVC	Limon Verde	1.98	184	P	Pn	07 26 43.9	+2.2
	comp=N,15nm,0.3s,baz=35,slow=12,SNR=133						
LVC				S	Sn	07 27 09.3	+2.1
	comp=N,55nm,0.3s,baz=186,slow=13,SNR=28						
LVC	Limon Verde	1.98	184	eP	Pn	07 26 43.8	+2.1
LVC				eS	Sn	07 27 09.2	+2.1
LVC	Limon Verde	1.98	184	eP	Pn	07 26 43.6	+1.9
PB04	IPOC Station P	2.13	217	eP	Pn	07 26 44.7	+1.2
PB04				i S	Sn	07 27 09.3	-0.9
PB04				IAML		07 27 21.2	
	comp=N,654nm,0.5s						
PB06	IPOC Station P	2.20	199	eP	Pn	07 26 45.5	+1.1
PB06				IAML		07 27 19.6	
	comp=E,497nm,0.4s						
PB05	IPOC Station P	2.58	211	eP	Pn	07 26 50.2	+1.0
PB15	IPOC Station P	2.65	194	eP	Pn	07 26 51.3	+1.0
LPAZ	La Paz	4.36	8	P	Pn	07 27 17.6	+4.3
	comp=E,0.9nm,0.3s,baz=158,slow=5.2,SNR=28						
LPAZ				S	Sn	07 28 04.6	+1.2
	comp=E,0.4nm,0.3s,baz=212,slow=7.4,SNR=1.5						
LPAZ	La Paz	4.36	8	eP	Pn	07 27 19.0	+5.6
SIV	San Ignacio	8.65	59	P	Pn	07 28 09.7	-1.2
	comp=E,1.3nm,0.3s,baz=258,slow=10,SNR=33						
SIV				S	Sn	07 29 40.1	-6.6
	baz=234,slow=21,SNR=1.5						
PTLB	Pontes e Lacer	10.51	62	eP	Pn	07 28 42.7	+6.6
CPUP	Villa Florida	11.94	121	P	Pn	07 28 52.1	-3.0
	comp=E,0.1nm,0.3s,baz=294,slow=12,SNR=1.8						
CPUP	Villa Florida	11.94	121	eP	P	07 28 60.0	-3.3
AQDB	Aquidauana	12.25	92	eP	P	07 29 07.1	+0.2
SALV	Santo Antonio	13.28	71	eP	P	07 29 20.8	+2.4
PP1B	Ponte de Pedra	13.48	79	eP	P	07 29 23.1	+2.6
PCMB	Pacaembu	16.38	97	eP	P	07 29 54.5	+1.9
ARAG	Araguaiana, MT	16.84	76	eP	P	07 30 00.8	+3.0
CPSB	Cacapava Do Su	16.91	128	eP	P	07 29 59.8	+1.3
ITRB	Iturama	17.32	90	eP	Pn	07 30 06.7	+3.3
PLTB	Pedras Altas	17.54	132	eP	P	07 30 05.6	+0.1
TRQA	Tornquist	18.35	163	eP	P	07 30 09.4	-4.9
NPGB	Novo Progresso	18.74	46	eP	Pn	07 30 20.4	-0.1
BB19B	Bebedouro	18.93	95	eP	Pn	07 30 22.4	-0.3
MACA	Manacapuru-AM	19.06	25	eP	P	07 30 21.7	-0.5
RCLB	Rio Claro- Sao	19.85	99	eP	Pn	07 30 32.2	-1.2
SPB	Sao Paulo	20.00	102	eP	Pn	07 30 34.8	-0.3
PET01	Itanhaem-SP	20.20	104	eP	Pn	07 30 36.6	-0.8
VAO	Valinhos	20.39	101	eP	P	07 30 37.6	+1.0
ITTB	Itaituba	20.55	40	eP	P	07 30 38.4	+0.2
PEXB	Peixe	21.38	70	eP	P	07 30 49.3	+2.1
JANB	Januaria	23.93	81	eP	P	07 31 12.5	+0.1
BOAV	Boa Vista	24.27	20	eP	P	07 31 12.6	-2.7
SDBA	SAO DESIDERIO	24.28	74	eP	P	07 31 16.4	+0.9
DUB01	Friburgo-RJ	24.63	98	eP	P	07 31 18.7	+0.1
DBIC	Dimbokro	68.37	74	P	P	07 36 58.8	+0.4
	comp=E,3.1nm,0.8s,baz=254,slow=7.4,SNR=3.1						
TORD	Torodi Ar. Bea	76.95	70	P	P	07 37 49.8	+0.6
	comp=E,2.1nm,0.5s,baz=255,slow=5.4,SNR=22						
MKAR	Makanchi Array	144.85	35	PKP	PKPdf	07 45 34.1	+1.9
	comp=E,0.6nm,0.4s,baz=335,slow=2.3,SNR=7.9						

*NOU **31** 07:30:25.2,12°.56S×167°.98E,h178km,MLv5.2/20,Santa*
Cruz Islands
*IDC **31** 07:30:35.5±1.5,13°.51S×167°.16E,h180km±12km,*
mb4.2/22,mb1 4.3/23,mb1mx4.2/29,mbtmp4.6/23,Error
ellipse: s-maj=12.8km s-min=10.0km az=101.0

*NEIC **31** 07:30:38.2±1.9,13°.57S±0°.02×167°.3E±0°.1,h201km±7km,*
mb4.7/44,Error ellipse: s-maj=19.8km s-min=2.4km
az=91.0
ISC 31 07:30:37.9±0.3,13°.64S±0°.05×167°.21E±0°.07,h200km,
n188,σ1s48/213,mb4.7/73,2C-3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	Saraoutou	1.80	180		Pn	07 31 15.1	+0.6
KOUNC	Koumac, New Ca	7.42	202	P	Pn	07 32 28.2	+4.5
	65nm,0.8s						
MARNC	Mare, Loyalty	7.84	174	Pn	Pn	07 32 29.9	+0.7
MARNC	Mare, Loyalty	7.84	174	P	Pn	07 32 29.8	+0.7
	1.4nm,0.8s						
YATNC	Mamie plateau,	8.38	182	P	Pn	07 32 38.5	+2.3
	34nm,0.8s						
DZM	Mont Dzumac	8.42	185	ePn	Pn	07 32 40.5	+3.8
	10nm,0.3s						
DZM				eSn	Sn	07 34 10.8	-0.7
	4.9nm,0.3s						
DZM	Mont Dzumac	8.42	185	P	Pn	07 32 37.2	+0.4
	1.5nm,0.3s,baz=310,slow=11,SNR=36						
DZM				S	Sn	07 34 10.2	-1.3
	baz=299,slow=23,SNR=1.5						
DZM	Mont Dzumac	8.42	185	P	Pn	07 32 39.4	+2.7
	42nm,2.2s						
NOUC	Port Laguerre	8.46	186	P	Pn	07 32 39.9	+2.7
ONTNC	Ouen Toro	8.65	185	Pn	Pn	07 32 40.6	+0.9
ONTNC	Ouen Toro	8.65	185	P	Pn	07 32 42.0	+2.3
OUENC	Ouen Island, N	8.74	182	Pn	Pn	07 32 42.0	+1.2
OUENC	Ouen Island, N	8.74	182	P	Pn	07 32 42.5	+1.7
MSVF	Nonsavu	11.20	113	P	P	07 33 24.0	+5.2
	4.4nm,0.3s,baz=274,slow=12,SNR=15						
NFK	Norfolk Island	15.35	178	P	P	07 34 08.7	+4.1
	baz=16,SNR=3.2						
EIDS	Eidsvold	19.14	230	P	P	07 34 46.5	+0.3
	baz=19,SNR=18						
EIDS	Eidsvold	19.14	230		Pn	07 34 47.8	-1.7
EIDS				IAmb	IAmb	07 35 01.9	
	comp=Z,22nm,0.6s						
AFI	Afiamalu	20.41	93	P	P	07 35 00.8	+0.8
	comp=Z,24nm,0.8s,baz=266,slow=20,SNR=1.6						
CTA	Charters Tower	21.05	249	P	P	07 35 06.1	-0.5
	comp=Z,11nm,0.7s,baz=81,slow=12,SNR=11						
CTAO	Charters Tower	21.05	249	P	P	07 35 07.1	+0.6
RMQ	Roma	21.50	231	P	P	07 35 11.8	+0.5
	baz=21,SNR=19						
ARMA	Armidale	22.04	218	P	P	07 35 17.8	+1.1
	baz=22,SNR=7.4						
ARMA	Armidale	22.04	218	P	P	07 35 18.5	+1.9
ARMA				IAmb	IAmb	07 35 20.1	
	comp=Z,23nm,0.8s						
URZ	Urewera	26.05	162	P	P	07 35 54.2	+1.4
	comp=Z,5.8nm,0.7s,baz=254,slow=5.2,SNR=3.3						
URZ	Urewera	26.05	162	IAmb	IAmb	07 36 02.9	
	comp=Z,27nm,1.4s						
CMSA	Cobar Meteorol	26.60	224	P	P	07 35 58.3	+0.4
	baz=26,SNR=17						
YNG	Young	26.72	216	P	P	07 36 00.1	+1.2
	baz=27,SNR=5.5						
BKZ	Black Stump Fm	26.72	164	P	P	07 35 59.0	+0.2
BKZ				IAmb	IAmb	07 36 04.8	
	comp=Z,14nm,1.2s						
CNB	Canberra Magne	26.92	214	P	P	07 36 02.1	+1.3
	baz=27,SNR=12						
CAN	Canberra	27.12	214	P	P	07 36 03.6	+1.1
STKA	Stephens Creek	29.67	228	P	P	07 36 25.8	+0.8
	comp=Z,26nm,0.5s,baz=50,slow=9.2,SNR=53						
STKA				PcP	PcP	07 39 24.6	+0.3
	comp=Z,9.8nm,0.7s,baz=78,slow=5.0,SNR=9.0						
STKA				ScP	ScP	07 42 49.6	+2.2
	comp=Z,2.0nm,0.5s,baz=51,slow=5.9,SNR=5.2						
STKA	Stephens Creek	29.67	228	P	P	07 36 25.9	+0.9
	baz=30,SNR=37						
STKA	Stephens Creek	29.67	228	P	P	07 36 26.2	+1.2
STKA				IAmb	IAmb	07 36 26.5	
	comp=Z,5.0nm,0.5s						
TOO	Toolangi	30.70	215	P	P	07 36 35.2	+1.1
LBZ	Lake Benmore	30.75	176	P	P	07 36 35.5	+1.1
WR0	Warramunga Arr	31.86	254	P	P	07 36 43.5	-1.0
WR0				IAmb	IAmb	07 36 54.5	
	comp=Z,18nm,1.5s						
WB2	Warramunga Arr	32.04	254	P	P	07 36 45.4	-0.6
WRAB	Tennant Creek	32.04	254		P	07 36 44.9	-1.1
WRA	Warramunga Arr	32.05	254	P	P	07 36 45.0	-1.2
	comp=Z,4.9nm,0.6s,baz=85,slow=9.1,SNR=46						
WRA				PcP	PcP	07 39 31.1	+0.1
	comp=Z,5.3nm,0.7s,baz=85,slow=3.2,SNR=13						
WRA				S	S	07 41 39.5	-3.9
	comp=Z,1.9nm,1.1s,baz=87,slow=15,SNR=5.0						
WRA				ScP	ScP	07 42 58.0	+2.4
	comp=Z,1.7nm,0.8s,baz=88,slow=3.6,SNR=6.8						
WRA				PKiKP	PKiKP	07 46 57.5	-1.5
	comp=Z,0.4nm,0.5s,baz=355,slow=0.3,SNR=9.3						
WRA	Warramunga Arr	32.05	254	IAmb	IAmb	07 36 45.7	
	comp=Z,0.8nm,1.4s						
AS31	Alice Springs	33.02	248	P	P	07 36 53.7	-0.9
ASAR	Alice Springs	33.02	248	P	P	07 36 53.5	-1.0
	comp=Z,12nm,0.6s,baz=75,slow=9.1,SNR=233						
ASAR				PcP	PcP	07 39 33.5	-0.1
	comp=Z,6.7nm,0.6s,baz=73,slow=2.3,SNR=25						
ASAR				S	S	07 41 54.6	-3.8
	comp=Z,3.7nm,0.9s,baz=78,slow=16,SNR=14						
ASAR				ScP	ScP	07 43 00.9	+2.0
	comp=Z,2.5nm,0.9s,baz=83,slow=3.4,SNR=9.0						
ASAR				PKiKP	PKiKP	07 46 58.1	-1.4
	comp=Z,1.0nm,1.1s,baz=90,slow=2.3,SNR=4.4						
ASAR	Alice Springs	33.02	248	P	P	07 36 53.7	-0.9
KDU	Kakadu	33.82	268	P	P	07 37 00.1	-1.4
	baz=34,SNR=4.3						
TAU	Tasmania Unive	33.84	207	P	P	07 37 02.1	+0.8
BBOO	Buckleboo	34.21	231	P	P	07 37 04.8	+0.1
	baz=34,SNR=11						
BBOO	Buckleboo	34.21	231	P	P	07 37 04.5	-0.2
BBOO				IAmb	IAmb	07 37 08.3	
	comp=Z,20nm,1.1s						
MTN	Manton Dam	35.11	267	P	P	07 37 12.7	+0.2
MTN				IAmb	IAmb	07 37 18.5	
	comp=Z,29nm,1.2s						
KNRA	Kununurra	37.22	262	P	P	07 37 29.6	-0.8
	baz=37,SNR=6.8						
KNRA	Kununurra	37.22	262	P	P	07 37 30.2	-0.2
KNRA				IAmb	IAmb	07 37 30.9	
	comp=Z,25nm,0.8s						
WRKA	Warakurna	38.30	247	P	P	07 37 38.9	-0.6
	baz=38,SNR=111						
MSAI	Masohi	39.16	282	P	P	07 37 45.8	-0.9
	comp=Z,1μmcomp=Z,17nm,0.5s						
FORT	Forrest	39.81	238	P	P	07 37 51.7	-0.2
	baz=30,SNR=16						
FORT	Forrest	39.81	238	P	P	07 37 51.8	0.0
EDFI	Ende, Flores	44.87	271	P	P	07 38 32.5	-0.5
	comp=Z,11nm,0.7s						
PSA00	Pilbara Seismi	45.69	253	P	P	07 38 39.2	-0.1
PSA00				IAmb	IAmb	07 38 40.2	
	comp=Z,20nm,0.9s						
MEEK	Meekatharra	47.16	246	P	P	07 38 50.5	-0.1
	baz=47,SNR=6.9						
BNSI	Bone	47.34	277	P	P	07 38 52.2	+0.1
	comp=Z,21nm,0.9s						
KLBR	Kellerberrin	48.59	240	P	P	07 39 00.8	-0.8
	baz=48,SNR=6.5						
PLAI	Plampang	48.66	270	P	P	07 39 02.1	-0.1
	comp=Z,40nm,0.8s						
MPSI	Mapaga	48.87	283	P	P	07 39 03.5	-0.4
	comp=Z,22nm,0.8s						
NWAO	Narrogin (SRO)	49.27	238	P	P	07 39 06.1	-0.5
	baz=49,SNR=8.0						
NWAO	Narrogin (SRO)	49.27	238	P	P	07 39 06.2	-0.4
NWAO				IAmb	IAmb	07 39 06.3	
	comp=Z,16nm,0.8s						
TWSI	Taliwang, Sumb	49.54	270	P	P	07 39 09.0	0.0
	comp=Z,21nm,1.0s						
MORW	Morawa	49.70	243	P	P	07 39 09.7	-0.3
	baz=50,SNR=4.6						
MORW	Morawa	49.70	243	P	P	07 39 09.4	-0.6
MORW				IAmb	IAmb	07 39 32.8	
	comp=Z,29nm,1.5s						
GIRL	Giralia	50.91	252	P	P	07 39 18.8	-0.4
	baz=51,SNR=3.7						
GIRL	Giralia	50.91	252	P	P	07 39 19.9	+0.7
JOW	Kunigami	55.21	317	P	P	07 39 51.1	+0.8
JMN	Monobe	56.81	327	P	P	07 40 01.2	-0.4
JMN				IAmb	IAmb	07 40 03.3	
	comp=Z,23nm,1.0s						
MJAR	Matsushiro Arr	56.92	332	P	P	07 40 01.0	-1.3
	comp=Z,5.2nm,0.7s,baz=169,slow=8.3,SNR=13						
MJAR	Matsushiro Arr	56.92	332	P	P	07 40 01.5	-0.8
MAJO	Matsushiro	56.92	332	P	P	07 40 01.1	-1.2
MAJO				IAmb	IAmb	07 40 02.4	
	comp=Z,6.8nm,0.7s						
MAT	Matsushiro	56.92	332	P	P	07 40 01.3	-1.0
KPJI	Karang Pucung	57.54	270	P	P	07 40 18.7	+12
JNU	Nakatsue	58.01	324	P	P	07 40 09.6	-0.4
JNU				IAmb	IAmb	07 40 10.4	
	comp=Z,9.6nm,0.8s						
CISI	Cisompet, Garu	58.58	269	P	P	07 40 13.6	-0.8
ERM	Erimo	59.65	339	P	P	07 40 21.5	+0.5
ERM				IAmb	IAmb	07 40 41.5	
	comp=Z,8.5nm,0.8s						
KSRS	Korea Array	62.81	325	P	P	07 40 40.8	-1.5
	comp=Z,0.9nm,0.3s,baz=146,slow=7.2,SNR=7.1						
VNDA	Vanda	63.95	181	P	P	07 40 49.2	0.0
	comp=Z,1.9nm,0.5s,baz=3.8,slow=7.3,SNR=22						
VNDA	Vanda	63.95	181	P	P	07 40 49.7	+0.5
SBA	Scott Base	64.22	180	P	P	07 40 52.6	+1.6
SBA				IAmb	IAmb	07 40 53.8	
	comp=Z,17nm,1.1s						
CASY	Casey	64.51	202	P	P	07 40 52.7	-0.3
CASY				IAmb	IAmb	07 40 53.5	
	comp=Z,10nm,0.6s						
NJ2	Nanjing	64.86	315	eP	P	07 40 56.0	+0.2
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
USRK	Ussuriysk Ar.	65.89	333	P	P	07 41 01.1	-1.1
	comp=Z,4.6nm,0.8s,baz=140,slow=6.2,SNR=10						
PEA0B	Petropavlovsk-	66.97	354	P	P	07 41 09.3	+0.4
PEA0B				IAmb	IAmb	07 41 10.4	
	comp=Z,19nm,1.2s						
PETK	Petropavlovsk-	66.97	354	P	P	07 41 08.7	-0.2
	comp=Z,8.2nm,0.8s,baz=169,slow=9.1,SNR=22						
PETK	Petropavlovsk-	66.97	354	P	P	07 41 08.4	-0.5
MNSI	Mandailing Nat	68.49	276	P	P	07 41 18.7	-0.5
	comp=Z,32nm,0.7s						
CN2	Changchun	68.69	329	eP	P	07 41 20.0	+0.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SKNT	Sakolnakorn	69.45	294	P	P	07 41 25.1	+0.1
	comp=Z,25nm,0.8s						
PSI	Prapat	69.64	278	P	P	07 41 26.0	-0.5
	comp=Z,18nm,0.9s						
NONG	Nongkai	70.59	295	P	P	07 41 32.7	+0.8
	comp=Z,9μmcomp=Z,17nm,0.8s						
ENH	Enshi	70.63	309	P	P	07 41 31.1	-0.9
CHAI	Chaiyaphum	70.84	292	P	P	07 41 34.0	+0.5
	comp=Z,672nmcomp=Z,15nm,0.8s						
GYA	Guiyang	71.05	304	⇓P	P	07 41 35.0	+0.3
GYA				pmax	pmax		
	comp=Z,18nm,1.1s						
BJI	Beijing	71.39	321	P	P	07 41 36.5	+0.3
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MLSI	Meulaboh, Aceh	72.46	279	P	P	07 41 43.1	-0.1
	comp=Z,84nm,0.8s						
PHIT	Phitsanulok	72.70	293	P	P	07 41 45.4	+0.9
	comp=Z,71nm,0.8s						
UTTA	Uttaradit	72.77	294	P	P	07 41 45.8	+0.9
XAN	Xi'an	72.92	312	P	P	07 41 45.5	0.0
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN				pmax	pmax		
	comp=Z,76nm,4.6s						
XAN	Xi'an	72.92	312	P	P	07 41 46.0	+0.4
KMI	Kunming	73.69	302	⇑P	P	07 41 51.5	+1.0
KMI				pP	pP	07 42 35.8	-1.5
KMI				pmax	pmax		
	comp=Z,27nm,1.0s						
LAMP	Lampang	73.87	294	P	P	07 41 52.6	+1.2
	comp=Z,570nmcomp=Z,67nm,0.7s						
CM04	Chiang Mai Arr	74.41	294	P	P	07 41 55.7	+1.2
	comp=Z,166nmcomp=Z,23nm,1.1s						
CM09	Chiang Mai Arr	74.41	294	P	P	07 41 55.9	+1.4
	comp=Z,154nmcomp=Z,20nm,1.0s						
CM01	Chiang Mai Arr	74.43	294	P	P	07 41 56.0	+1.4
	comp=Z,151nmcomp=Z,20nm,1.2s						
CM05	Chiang Mai Arr	74.44	294	P	P	07 41 56.0	+1.3
	comp=Z,108nmcomp=Z,11nm,0.8s						
CM02	Chiang Mai Arr	74.45	294	P	P	07 41 56.1	+1.4
	comp=Z,150nmcomp=Z,19nm,1.0s						
CM31	Chiang Mai Arr	74.46	294	P	P	07 41 56.1	+1.3
CM31				IAmb	IAmb	07 41 56.6	
	comp=Z,18nm,0.8s						
CMAR	Chiang Mai Arr	74.46	294	P	P	07 41 53.8	-1.0
	comp=Z,10nm,0.8s,baz=129,slow=4.6,SNR=40						
CMAR	Chiang Mai Arr	74.46	294	P	P	07 41 55.2	+0.4
CM15	Chiang Mai Arr	74.47	294	P	P	07 41 56.2	+1.3
	comp=Z,632nmcomp=Z,19nm,0.9s						
CM13	Chiang Mai Arr	74.48	294	P	P	07 41 56.2	+1.3
	comp=Z,16nm,0.9s						
CMMT	Chiang Mai	74.58	294	P	P	07 41 56.2	+0.7
CMMT	Chiang Mai	74.58	294	P	P	07 41 56.2	+0.7
	comp=Z,16nm,0.9s						
CHTO	Chiang Mai	74.58	294	P	P	07 41 55.6	+0.1
	comp=Z,9.2nm,0.9s						
HHC	Hu-ho-hao-te	74.72	320	eP	P	07 41 56.8	+0.8
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,47nm,6.3s						
CD2	Chengdu

comp=Z,5.4nm,0.5s,baz=90,slow=6.4,SNR=69
MKAR PP **PP** **07 47 45.5 +4.8**
comp=Z,0.1nm,0.5s,baz=90,slow=8.6,SNR=3.7
MKAR PKiKP **PKiKP** **07 48 19.9 -0.9**
comp=Z,0.4nm,0.5s,baz=76,slow=0.8,SNR=6.8
MKAR Makanchi Array 96.38 316 P **P** **07 43 43.7 -0.4**
ZALV Zalesovo Beam 96.48 324 P **P** **07 43 43.3 -1.0**
comp=Z,3.1nm,0.6s,baz=104,slow=4.8,SNR=9.3
ZALV Zalesovo Beam 96.48 324 P **P** **07 43 42.9 -1.4**
NRIK Noril'sk 99.04 339 P **Pdif** **07 43 54.0 -1.4**
comp=Z,1.9nm,0.4s,baz=72,slow=3.0,SNR=4.1
LPAZ La Paz 117.75 117 PKP **PKPdf** **07 49 01.8 -0.3**
comp=Z,0.5nm,0.6s,baz=111,slow=4.8,SNR=2.5
HAMF Hammerfest 118.79 347 *e*PKPdf **PKPdf** **07 49 01.0 -0.7**
ARA0 ARCESS Array S 119.19 346 *e*PKPdf **PKPdf** **07 49 02.2 -0.4**
ARCES ARCESS Array B 119.19 346 PKP **PKPdf** **07 49 01.9 -0.7**
comp=Z,3.2nm,0.4s,baz=80,slow=1.8,SNR=46
ARCES PKKPab **PKKPab** **07 59 15.4 -3.0**
comp=Z,2.3nm,0.6s,baz=216,slow=2.6,SNR=18
KTK1 Kautokeino 120.12 346 *e*PKPdf **PKPdf** **07 49 03.4 -0.9**
JETT Jettan, Norway 120.34 347 *e*PKPdf **PKiKP** **07 49 05.0 +0.1**
TRO Tromso 120.60 348 *e*PKPdf **PKPdf** **07 49 05.0 -0.2**
CPUP Villa Florida 121.23 133 PKP **PKPdf** **07 49 07.2 -0.6**
comp=Z,1.3nm,0.8s,baz=82,slow=3.7,SNR=3.2
STEI Steigen 122.77 348 *e*PKPdf **PKPdf** **07 49 09.2 -0.2**
FAUS Fauske 123.22 347 *e*PKPdf **PKPdf** **07 49 09.8 -0.5**
GNI Garni 123.40 309 PKP **PKPdf** **07 49 10.9 -0.9**
comp=Z,7.1nm,0.4s,baz=360,slow=17,SNR=2.2
SIV San Ignacio 123.92 120 PKP **PKPdf** **07 49 12.4 -0.8**
comp=Z,0.9nm,0.4s,baz=253,slow=6.1,SNR=6.9
KBZ Khabaz 123.96 314 PKP **PKPdf** **07 49 11.6 -0.9**
comp=Z,2.4nm,0.8s,baz=105,slow=6.5,SNR=6.1
BOSA Boshof 124.16 221 PKP **PKPdf** **07 49 12.8 -0.7**
comp=Z,2.3nm,0.4s,baz=212,slow=0.8,SNR=7.7
KONS Konsvik 124.42 348 *e*PKPdf **PKPdf** **07 49 12.1 -0.5**
FINES FINESS Array B 124.69 338 PKP **PKPdf** **07 49 12.2 -1.0**
comp=Z,2.9nm,0.6s,baz=56,slow=1.2,SNR=20
NSS Namsos 126.37 347 *e*PKPdf **PKPdf** **07 49 16.2 -0.2**
KMBO Kilima Mbogo 128.29 258 PKP **PKPdf** **07 49 21.6 -0.3**
comp=Z,1.1nm,0.3s,baz=95,slow=3.9,SNR=4.3
MNK Minsk 128.34 331 *i* PKP **PKiKP** **07 49 22.6 +1.5**
comp=E,3.0nm,0.8s
MNK *i* PKP **PKiKP** **07 49 22.6 +1.5**
comp=N,28nm,0.8s
MNK *i* PKP **PKiKP** **07 49 22.6 +1.5**
comp=Z,11nm,0.7s,baz=234
MNK *i* pPKP **pPKPdf** **07 50 02.4 -9.4**
MNK *i* sPKP 07 50 18.0
MNK *i* PP **PP** **07 51 28.4 +1.1**
MNK *i* SKP 07 52 43.6
MNK *i* PKS **PKSdf** **07 52 59.2 +2.4**
MNK *i* PPP PPP 07 54 14.1
MNK *i* SKS SKSdf 07 56 32.2 +19
MNK *i* SP **SP** **08 01 19.4 +6.1**
MNK *i* PS **PS** **08 01 36.9 -0.6**
MNK *i* SS **SS** **08 08 32.2 +6.0**
MNK *i* SSS SSS 08 12 59.9
MNK *i* LRM MLR 08 45 55.9
comp=Z,132nm,17.9s
MNK *i* LRM MLR 08 46 06.1
comp=N,508nm,26.8s
MNK *i* LRM MLR 08 46 22.1
comp=E,112nm,23.6s
DOMB Dombas 129.19 347 *e*PKPdf **PKPdf** **07 49 21.3 -0.6**
AKN Aaknes 129.50 348 *e*PKPdf **PKPdf** **07 49 22.3 -0.2**
NB2 NORSAR Subarra129.56 345 PKPdf **PKPdf** **07 49 21.8 -0.9**
comp=Z,0.8nm,0.5s,baz=31,slow=1.9
NOA NORSAR Array B 129.56 345 PKP **PKPdf** **07 49 22.0 -0.7**
comp=Z,1.5nm,0.6s,baz=31,slow=2.0,SNR=7.1
NC602 NORSAR Array S 129.74 345 *e*PKPdf **PKPdf** **07 49 22.8 -0.2**
AKASG Malin Array Be 129.80 326 PKP **PKPdf** **07 49 22.2 -1.2**
comp=Z,1.9nm,0.5s,baz=51,slow=2.3,SNR=7.3
OSL Oslo 130.64 345 *e*PKPdf **PKPdf** **07 49 24.3 -0.4**
BRTR Keskin Array B 131.75 311 PKP **PKPdf** **07 49 26.9 -0.8**
comp=Z,0.6nm,0.3s,baz=32,slow=10,SNR=4.6
CLL Collm 137.04 336 *e*PKPdf **PKiKP** **07 49 39.0 +0.2**
GERES GERESS Array B 138.65 334 PKP **PKPdf** **07 49 39.4 -0.7**
comp=Z,1.1nm,0.5s,baz=64,slow=2.3,SNR=8.4
GERES SKPbc **SKPbc** **07 52 56.8 +0.8**
comp=Z,0.4nm,0.7s,baz=42,slow=2.2,SNR=4.5
RCBR Riachuelo 149.99 129 PKPbc **PKPbc** **07 50 05.1 -0.7**
comp=Z,7.3nm,0.7s,baz=148,slow=3.9,SNR=2.2
KEST Kesra 150.33 322 PKPbc **PKiKP** **07 50 06.3 -0.4**
comp=Z,23nm,0.6s,baz=217,slow=1.2,SNR=29
POLO Lamas de Olo 152.03 352 *e*PKPbc **PKiKP** **07 50 10.2 +0.1**
POLO Lamas de Olo 152.03 352 *e*PKPab **PKPab** **07 50 21.5 +1.7**
MVO Moncorvo 152.12 351 *e*PKPbc **PKiKP** **07 50 10.4 +0.2**
ESDC Sonseca Array 152.92 345 PKPbc **PKPbc** **07 50 11.2 -0.5**
comp=Z,2.0nm,0.8s,baz=13,slow=2.6,SNR=7.8
ESDC PKPab **PKPab** **07 50 23.0 -0.6**
comp=Z,2.7nm,0.8s,baz=17,slow=3.6,SNR=8.8
MTE Manteigas 152.94 351 *e*PKPbc **PKiKP** **07 50 12.1 +0.1**
PCBR Castelo Branco 153.48 351 *e*PKPbc **PKiKP** **07 50 13.1 +0.1**
PMRV Marv??o 153.87 350 *e*PKPab **PKPab** **07 50 28.9 +1.3**
PBAR Barrancos 155.03 349 *e*PKPab **PKPab** **07 50 33.0 +0.5**
PBEJ Beja 155.32 351 *e*PKPab **PKPab** **07 50 34.9 +1.1**
PCVE Castro Verde 155.73 351 *e*PKPab **PKPab** **07 50 37.2 +1.7**
TORD Torodi Ar. Bea 165.90 270 PKP **PKPdf** **07 50 19.6 -0.2**
comp=Z,3.6nm,1.0s,baz=44,slow=1.0,SNR=13
TORD PKPab **PKPab** **07 51 20.3 -0.5**
comp=Z,1.6nm,0.5s,baz=85,slow=5.1,SNR=8.3

*IDC **31** 07:54:50.0±1.4, 67.08N×135.94W, h0km, mb4.1/1, mb1 3.4/3, mb1mx3.2/72, mbtmp3.2/3, ML2.6/2, Error ellipse: s-maj=19.6km s-min=10.4km az=141.0*
*PGC **31** 07:54:53.8±0.0, 67.17N×135.84W, h20km, ML2.8/2, 67km west of Fort McPherson, Nt Nw Territories - Nunavut, Canada*

ISC 31 07:54:50.2±0.8, 67.14N±0.05×135.75W±0.05, h10km, n15, σ2.27/24, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.45**	**35**	P	**Pb**	**07 55 18.2**	**+1.0**
	22nm,0.3s,baz=217,slow=22,SNR=14						
INK				Lg	Lg	07 55 38.1	
	16nm,0.3s,baz=165,slow=8.7,SNR=14						
INK	**Inuvik**	**1.45**	**35**	P	**Pb**	**07 55 18.2**	**+1.0**
INK				Sn	**Sg**	**07 55 37.3**	**+0.6**
DAWY	**Dawson**	**3.43**	**208**	Pn	**Pn**	**07 55 45.3**	**+1.6**
DAWY				Sn	**Sn**	**07 56 24.5**	**0.0**
C36M	**Paulatuk**	**4.88**	**58**	Pn	**Pn**	**07 56 04.7**	**+1.2**
C36M				Sn	**Sn**	**07 56 57.8**	**-2.1**
DOT	**Dot Lake**	**4.93**	**229**	Pn	**Pn**	**07 56 05.9**	**+1.6**
ILAR	**Eielson Array**	**5.13**	**248**	Pn	**Pn**	**07 56 07.0**	**-0.1**
	0.1nm,0.3s,baz=59,slow=12,SNR=2.0						
ILAR				Sn	**Sn**	**07 57 03.6**	**-2.7**
	0.2nm,0.3s,baz=66,slow=16,SNR=4.4						
ILAR				Lg	Lg	07 57 25.9	
	0.4nm,0.3s,baz=259,slow=15,SNR=6.4						
BVCY	**Beaver Creek**	**5.22**	**207**	Pn	**Pn**	**07 56 09.9**	**+1.7**
BVCY				Sn	**Sn**	**07 57 06.9**	**-1.5**
COLD	**Coldfoot**	**5.63**	**278**	Pn	**Pn**	**07 56 14.0**	**+0.2**
COLD				Sn	**Sn**	**07 57 15.1**	**-3.3**
YUK2	**White River**	**5.80**	**205**	Sn	**Sn**	**07 57 21.0**	**-1.9**
YUK5	**Granite Creek**	**6.10**	**190**	Pn	**Pn**	**07 56 22.5**	**+2.1**
YUK5				Sn	**Sn**	**07 57 28.1**	**-2.1**
YUK6	**Outpost Mounta**	**6.32**	**192**	Pn	**Pn**	**07 56 25.4**	**+1.8**
DHRN	**Dharma Camp**	**6.34**	**83**	Pn	**Pn**	**07 56 25.2**	**+1.6**
DHRN				Sn	**Sn**	**07 57 32.6**	**-3.4**
HYT	**Haines Junctio**	**6.38**	**188**	Sn	**Pn**	**07 56 26.2**	**+1.9**
YKA	**Yellowknife Ar**	**10.11**	**107**	Pn	**Pn**	**07 57 14.9**	**-0.2**
	0.1nm,0.3s,baz=313,slow=10.0,SNR=2.5						
YKA				Sn	**Sn**	**07 59 02.7**	**-5.7**
	0.2nm,0.3s,baz=274,slow=32,SNR=4.1						
YKA				Lg	Lg	08 00 08.5	
	0.0nm,0.3s,baz=313,slow=32,SNR=3.0						
FINES	**FINESS Array B**	**51.03**	**11**	P	**P**	**08 03 54.3**	**+2.6**
	1.6nm,0.7s,baz=347,slow=10.0,SNR=5.7						

*DJA **31** 07:57:37.7±0.8, 6.6N±6.×12.7E±., h54km±7km, M5.0/19, mB5.5/7, mb5.0/19, MLv5.0/6, Mw(mB)4.9/7*
*IDC **31** 07:57:38.5±1.9, 6.01N×127.11E, h63km±17km, mb4.2/27, mb1 4.2/29, mb1mx4.0/64, mbtmp4.5/29, MS3.3/17, Ms1 3.3/17, ms1mx3.1/46, Error ellipse: s-maj=18.9km s-min=9.3km az=69.0*
*MAN **31** 07:57:39.3, 6.12N×127.25E, h45km, mb5.1, ML4.0, MS4.1*
*NEIC **31** 07:57:41.9±1.8, 6.00N±0.07×127.1E±0.1, h84km±7km, mb4.8/38, Error ellipse: s-maj=16.6km s-min=8.8km az=65.0*

ISC 31 07:57:38.0±0.3, 6.07N±0.04×127.30E±0.07, h52km, n141, σ1.71/128, mb4.7/49, MS3.3/18, 4C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.98**	**300**		**Pn**	**07 58 11.8**	**+2.7**
DAV	**Davao City (W)**	**1.98**	**300**	P	**Pn**	**07 58 05.5**	**-3.6**
BIPH	**Bislig**	**2.30**	**336**	↑*e*P	**Pn**	**07 58 16.2**	**+2.6**
BIPH				*e*S	**Sn**	**07 58 40.5**	**-0.2**
KCP	**Kidapawan**	**2.39**	**293**	↓*i*P	**Pn**	**07 58 15.8**	**+1.1**
KCP				*i* S	**Sn**	**07 58 43.8**	**+0.8**
SGSI	**Sangihe**	**2.95**	**217**	P	**Pn**	**07 58 24.0**	**+1.5**
GAMI	**Galela, Maluku**	**4.23**	**173**	P	**Pn**	**07 58 42.6**	**+2.6**
TNTI	**Ternate**	**5.26**	**179**		**Pn**	**07 58 57.2**	**+3.0**
TNTI	**Ternate**	**5.26**	**179**	P	**Pn**	**07 58 57.8**	**+3.7**
	0.9nm4µm212nm,1.1s						
LLP	**Lapu-Lapu**	**5.36**	**322**	*e*P	**Pn**	**07 58 58.2**	**+2.7**
LLP				*e*S	**Sn**	**07 59 56.3**	**+0.4**
KMSI	**Cibinong**	**6.38**	**211**	P	Pn	07 59 15.6	+6.1
	1.2nm316nm,0.9s						
GTOI	**Gorontalo**	**6.89**	**219**	P	**Pn**	**07 59 18.8**	**+2.3**
	0.2nm608nm45nm,0.7s						
RCP	**Roxas**	**7.08**	**321**	↑*e*P	Pn	07 59 22.8	+3.8
MRSI	**Marisa**	**7.71**	**224**	P	**Pn**	**07 59 28.6**	**+0.9**
	0.5nm2µm172nm,0.6s						
SIJI	**Sorong**	**7.95**	**150**	P	**Pn**	**07 59 32.4**	**+1.4**
	7.5nm,0.3s,baz=312,slow=12,SNR=6.0						
SIJI				S	**Sn**	**08 00 52.5**	**-7.1**
	4.0nm,0.3s,baz=202,slow=22,SNR=1.8						
SIJI	**Sorong**	**7.95**	**150**	P	**Pn**	**07 59 34.2**	**+3.2**
	24nm,0.7s						
TOLI2	**Tolitoli**	**8.16**	**233**	Pn	**Pn**	**07 59 32.6**	**-1.3**
LUWI	**Luwuk**	**8.38**	**213**	P	**Pn**	**07 59 41.6**	**+4.6**
	4µm146nm,0.7s						
MPSI	**Mapaga**	**9.33**	**233**	P	**Pn**	**07 59 53.6**	**+3.7**
	16nm,0.8s						
KRAI	**Karang Ratu**	**9.39**	**173**	P	**Pn**	**07 59 55.3**	**+4.6**
	5µm46nm,1.0s						
LQP	**Lukban**	**9.80**	**325**	↓*e*P	Pn	08 00 07.3	+11
TTSI	**Tana Toraja**	**11.74**	**220**	P	**Pn**	**08 00 26.5**	**+3.6**
	34nm,1.1s						
KAPI	**Kappang**	**13.34**	**215**	P	**Pn**	**08 00 42.1**	**-2.6**
	0.4nm,0.3s,baz=13,slow=4.2,SNR=2.5						
EDFI	**Ende, Flores**	**15.75**	**201**	P	P	08 01 32.1	+12
SOEI	**Soe**	**16.01**	**191**	P	**Pn**	**08 01 21.4**	**+1.4**
SOEI				IAmb	IAmb	08 01 43.9	
	comp=Z,80nm,1.0s						
SOEI	**Soe**	**16.01**	**191**	P	P	08 01 34.1	+11
GUMO	**Guam**	**18.84**	**65**	LR	LR	08 08 14.0	
	comp=Z,34nm,19.9s,baz=243,slow=33						
MTN	**Manton Dam**	**19.17**	**169**	P	**P**	**08 01 58.1**	**+0.7**
	baz=19,SNR=4.9						
MTN	**Manton Dam**	**19.17**	**169**	P	**P**	**08 01 57.9**	**+0.4**
MTN				IAmb	IAmb	08 02 11.3	
	comp=Z,33nm,1.1s						
KDU	**Kakadu**	**19.33**	**165**	P	**P**	**08 01 59.6**	**+0.5**
	baz=19,SNR=9.7						
JOW	**Kunigami**	**20.67**	**2**	P	**P**	**08 02 14.3**	**+0.6**
	comp=Z,8.9nm,0.5s,baz=168,slow=16,SNR=5.4						
JOW				LR	LR	08 09 39.2	
	comp=Z,55nm,21.9s,baz=209,slow=35						
JOW	**Kunigami**	**20.67**	**2**	P	Pn	08 02 16.4	-0.1
KNRA	**Kununurra**	**21.65**	**176**	P	**P**	**08 02 25.0**	**+0.7**
	baz=22,SNR=25						
KNRA	**Kununurra**	**21.65**	**176**	P	**P**	**08 02 25.0**	**+0.7**
SKNT	**Sakolnakorn**	**25.26**	**297**	P	**P**	**08 02 59.5**	**-0.1**
	comp=Z,19nm,0.9s						
JCJ	**Chichijima**	**25.26**	**32**	P	**P**	**08 03 00.1**	**+0.6**
	comp=Z,29nm,0.4s,baz=273,slow=23,SNR=11						
JCJ	**Chichijima**	**25.26**	**32**	P	**P**	**08 03 01.1**	**+1.6**
JCJ				IAmb	IAmb	08 03 03.2	
	comp=Z,38nm,0.7s						
SKLT	**Songkhla**	**26.52**	**274**	P	**P**	**08 03 12.9**	**+1.8**
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**26.75**	**165**	P	**P**	**08 03 12.6**	**-0.4**
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**08 03 12.1**	**-1.0**
	comp=Z,7.0nm,0.6s,baz=347,slow=9.8,SNR=60						
WRA				PcP	**PcP**	**08 06 34.6**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=336,slow=2.5,SNR=3.5						
WRA				ScP	**ScP**	**08 10 08.6**	**-2.8**
	comp=Z,0.6nm,0.5s,baz=348,slow=3.0,SNR=6.4						
WRA				LR	LR	08 15 59.6	
	comp=Z,45nm,18.6s,baz=145,slow=41						
WRA	**Warramunga Arr**	**26.76**	**165**	P	**P**	**08 03 13.0**	**0.0**
WR0	**Warramunga Arr**	**26.82**	**165**	P	**P**	**08 03 13.3**	**-0.4**
NJ2	**Nanjing**	**27.03**	**344**	*e*P	**P**	**08 03 17.5**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JNU	**Nakatsue**	**27.12**	**7**	P	**P**	**08 03 16.1**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=14,slow=14,SNR=2.2						
JNU				LR	LR	08 16 22.0	
	comp=Z,67nm,18.4s,baz=280,slow=41						
JNU	**Nakatsue**	**27.12**	**7**	IAmb	IAmb	08 04 06.7	
	comp=Z,14nm,0.9s						
WHN	**Wuhan**	**27.22**	**335**	↑P	P	08 03 30.5	+13
SURA	**Surathani**	**27.59**	**278**	P	**P**	**08 03 23.1**	**+2.4**
	comp=Z,122nmcomp=Z,3.7nm,1.1s						
PSA00	**Pilbara Seismi**	**28.42**	**195**	P	**P**	**08 03 28.4**	**+0.4**
QIS	**Mount Isa**	**29.09**	**156**	P	**P**	**08 03 34.0**	**+0.1**
	baz=29,SNR=34						
JHJ	**Hachijo jima 2**	**29.32**	**22**	LR	LR	08 14 05.5	
	comp=Z,32nm,20.9s,baz=334,slow=34						
JWT	**Wachi**	**30.02**	**13**	P	**P**	**08 03 43.0**	**+1.0**
JWT				IAmb	IAmb	08 04 07.2	
	comp=Z,24nm,1.7s						
KMI	**Kunming**	**30.20**	**311**	↑P	**P**	**08 03 44.5**	**+0.5**
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**30.25**	**168**	P	**P**	**08 03 44.2**	**+0.1**
ASAR	**Alice Springs**	**30.25**	**168**	P	**P**	**08 03 43.4**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=352,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**08 06 43.9**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=353,slow=2.7,SNR=13						
ASAR				LR	LR	08 18 06.4	
	comp=Z,72nm,19.6s,baz=52,slow=41						
ASAR	**Alice Springs**	**30.25**	**168**	P	**P**	**08 03 44.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.27**	**297**	P	**P**	**08 03 42.4**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=115,slow=7.7,SNR=6.4						
CMAR				LR	LR	08 16 38.8	
	comp=Z,56nm,19.5s,baz=175,slow=38						
WRKA	**Warakurna**	**30.93**	**178**	P	**P**	**08 03 50.1**	**0.0**
	baz=31,SNR=7.9						
KSRS	**Korea Array**	**31.25**	**1**	LR	LR	08 21 27.0	
	comp=Z,39nm,18.1s,baz=184,slow=46						
CTA	**Charters Tower**	**31.98**	**145**	P	**P**	**08 03 59.0**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=321,slow=11,SNR=5.9						
CTAO	**Charters Tower**	**31.98**	**145**	P	**P**	**08 04 00.7**	**+1.3**
CTAO				IAmb	IAmb	08 04 02.9	
	comp=Z,33nm,1.4s						
XAN	**Xi'an**	**32.63**	**331**	P	**P**	**08 04 03.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,62nm,5.2s						
MEEK	**Meekatharra**	**33.58**	**194**	P	**P**	**08 04 13.0**	**-0.4**
	baz=34,SNR=5.5						
JMM	**Marumori**	**33.95**	**19**	P	**P**	**08 04 18.5**	**+2.1**
JMM				IAmb	IAmb	08 04 18.8	
	comp=Z,11nm,0.7s						
BJI	**Beijing**	**35.27**	**345**	P	**P**	**08 04 29.5**	**+1.7**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FORT	**Forrest**	**36.64**	**179**	P	**P**	**08 04 39.8**	**+0.2**
	baz=37,SNR=8.6						
FORT	**Forrest**	**36.64**	**179**	P	**P**	**08 04 40.1**	**+0.4**
LZH	**Lanzhou**	**36.82**	**327**	*e*P	**P**	**08 04 40.0**	**-1.3**
LZH				pP	pwP	08 05 03.0	+1.7
LZH				sP	sP	08 05 09.8	+12
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,79nm,5.2s						
LZH				LR	LR		
	comp=N,340nm,13.7s						
LZH				LR	LR		
	comp=E,310nm,14.1s						
LZH				LR	LR		
	comp=Z,290nm,15.2s						
HHC	**Hu-ho-hao-te**	**37.39**	**340**	*e*P	**P**	**08 04 50.0**	**+4.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,55nm,5.8s						
MUN	**Mundaring**	**39.28**	**195**	P	**P**	**08 05 02.2**	**+0.3**
	baz=39,SNR=4.1						
BBOO	**Buckleboo**	**39.55**	**168**	P	**P**	**08 05 04.0**	**-0.1**
	baz=40,SNR=9.8						
BBOO	**Buckleboo**	**39.55**	**168**	P	**P**	**08 05 04.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**39.94**	**193**	P	**P**	**08 05 07.9**	**+0.6**
	baz=40,SNR=13						
NWAO	**Narrogin (SRO)**	**39.94**	**193**	P	**P**	**08 05 08.0**	**+0.6**
STKA	**Stephens Creek**	**40.12**	**161**	P	**P**	**08 05 08.3**	**-0.5**
	comp=Z,32nm,0.9s,baz=338,slow=8.0,SNR=38						
STKA				LR	LR	08 23 54.8	
	comp=Z,53nm,18.2s,baz=21,slow=39						
STKA	**Stephens Creek**	**40.12**	**161**	P	**P**	**08 05 09.1**	**+0.3**
	baz=40,SNR=26						
STKA	**Stephens Creek**	**40.12**	**161**	P	**P**	**08 05 09.6**	**+0.7**
STKA				IAmb	IAmb	08 05 10.2	
	comp=Z,6.2nm,0.8s						
ASAJ	**Asahikawa**	**40.20**	**17**	P	**P**	**08 05 10.1**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=181,slow=8.6,SNR=3.5						
JKA	**Kamikawa-asahi**	**40.21**	**17**	P	**P**	**08 05 10.1**	**+0.7**
JKA	**Kamikawa-asahi**	**40.21**	**17**	IAmb	IAmb	08 05 40.6	
	comp=Z,7.4nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.78**	**67**	T	T	08 50 00.6	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**40.79**	**67**	T	T	08 50 07.6	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**40.80**	**67**	T	T	08 50 11.8	
	baz=264						
CMSA	**Cobar Meteorol**	**41.31**	**156**	P	**P**	**08 05 18.8**	**+0.1**
	baz=41,SNR=22						
GTA	**Gaotai**	**41.42**	**327**	*e*P	**P**	**08 05 20.8**	**+1.1**
GTA				pP	pwP	08 05 39.0	-0.8
GTA				sP	sP	08 05 48.5	+12
GTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARMA	**Armidale**	**43.12**	**149**	P	**P**	**08 05 34.4**	**+0.8**
	baz=43,SNR=7.7						
KLR	**Kul'dur**	**43.18**	**4**	P	**P**	**08 05 33.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=214,slow=3.9,SNR=6.3						
ARPS	**Mount Arapiles**	**44.73**	**163**	P	**P**	**08 05 47.0**	**+0.7**
	baz=45,SNR=13						
ULN	**Ulaanbaatar**	**45.10**	**341**	P	**P**	**08 05 52.6**	**+3.3**
SONM	**Songino Array**	**45.29**	**340**	P	**P**	**08 05 50.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=162,slow=7.8,SNR=5.5						
CAN	**Canberra**	**45.96**	**155**	P	**P**	**08 05 57.3**	**+1.3**
CNB	**Canberra Magne**	**46.11**	**155**	P	**P**	**08 05 58.7**	**+1.5**
	baz=46,SNR=5.3						
DZM	**Mont Dzumac**	**47.45**	**127**	P	**P**	**08 06 08.2**	**+0.2**
	comp=Z,11nm,1.0s,baz=97,slow=15,SNR=2.5						
DZM	**Mont Dzumac**	**47.45**	**127**	P	**P**	**08 06 09.2**	**+1.2**
WMQ	**Urumqi**	**51.17**	**324**	*e*P	**P**	**08 06 38.5**	**+2.4**
WMQ				LR	LR		
	comp=N,620nm,23.5s						
WMQ				LR	LR		
	comp=E,520nm,19.9s						
WMQ				LR	LR		
	comp=Z,5.0nm,29.2s						
PETK	**Petropavlovsk-**	**53.07**	**22**	P	**P**	**08 06 49.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=209,slow=5.6,SNR=2.0						
PETK				LR	LR	08 34 50.4	
	comp=Z,16nm,18.1s,baz=208,slow=42						
MSVF	**Nonsavu**	**55.40**	**116**	P	**P**	**08 07 08.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=247,slow=23,SNR=2.9						
MK31	**Makanchi Array**	**55.99**	**324**	P	**P**	**08 07 11.3**	**0.0**
MK31				IAmb	IAmb	08 07 11.9	
	comp=Z,7.1nm,0.7s						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**08 07 10.5**	**-0.8**
	comp=Z,8.3nm,0.6s,baz=124,slow=8.2,SNR=96						
MKAR				PcP	**PcP**	**08 08 07.4**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=131,slow=3.8,SNR=4.2						
MKAR				ScP	**ScP**	**08 12 00.9**	**-3.3**
	comp=Z,1.1nm,0.9s,baz=127,slow=5.1,SNR=5.8						
MKAR				LR	LR	08 32 28.9	
	comp=Z,24nm,19.8s,baz=142,slow=37						
MKAR	**Makanchi Array**	**55.99**	**324**	P	**P**	**08 07 10.9**	**-0.4**
MAKZ	**Makanchi**	**56.18**	**324**	P	**P**	**08 07 12.7**	**0.0**
MAKZ				IAmb	IAmb	08 07 13.2	
	comp=Z,9.1nm,0.8s						
NIL	**Nilore**	**56.98**	**306**	P	**P**	**08 07 17.9**	**-0.7**
KZA	**Kyzart**	**58.31**	**316**	P	**P**	**08 07 28.6**	**+0.4**
	SNR=6.3						
TKM2	**Tokmak 2**	**58.40**	**317**	P	**P**	**08 07 28.5**	**-0.2**
	SNR=7.5						
ZAA0	**Zalesovo Array**	**58.79**	**332**	P	**P**	**08 07 29.8**	**-1.1**
ZAA0				IAmb	IAmb	08 07 30.9	
	comp=Z,5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**58.79**	**332**	P	**P**	**08 07 29.5**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=110,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**58.79**	**332**	P	**P**	**08 07 29.8**	**-1.1**
UCH	**Uchtor**	**58.87**	**316**	P	**P**	**08 07 32.5**	**+0.3**
	SNR=10						
USP	**Ospenovka**	**59.28**	**317**	P	**P**	**08 07 34.2**	**-0.3**
	SNR=9.5						
EKS2	**Erkin-Say**	**59.54**	**317**	P	**P**	**08 07 36.5**	**+0.1**
	SNR=8.1						
KURK	**Kurchatov**	**60.10**	**327**	P	**P**	**08 07 39.4**	**-0.6**
KURBB	**Kurchatov Arra**	**60.10**	**326**	P	**P**	**08 07 39.4**	**-0.6**
	comp=Z,9.1nm,0.6s,baz=123,slow=6.8,SNR=58						
KBL	**Kabul**	**

mb1 3.5/3, mb1mx3.0/39, mbtmp3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/17, Error ellipse: s-maj=116.3km s-min=48.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.72**	**217**	P	Pn	08 06 41.6	-0.4
	2.7nm,0.3s,baz=52,slow=12,SNR=5.2						
PMG				S	S	08 07 50.0	+1.3
	1.8nm,0.3s,baz=270,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**21.86**	**225**	P	P	08 09 52.6	-0.2
	2.1nm,0.6s,baz=51,slow=9.6,SNR=31						
WRA				PcP	PcP	08 13 43.9	+0.2
	0.5nm,0.8s,baz=44,slow=1.9,SNR=2.1						
ASAR	**Alice Springs**	**24.73**	**219**	P	P	08 10 19.1	+0.2
	0.8nm,0.4s,baz=52,slow=8.8,SNR=19						
AFI	**Afiamalu**	**38.13**	**106**	LR	LR	08 25 23.5	
	comp=Z,65nm,19.4s,baz=256,slow=32						
TORD	**Torodi Ar. Bea**	**148.24**	**287**	PKPbc	PKPbc	08 24 37.3	-1.2
	0.3nm,0.7s,baz=72,slow=1.1,SNR=1.5						

*GCMT **31** 08:13:17.0±0.4, 37.74S±0.05×94.07W±0.04, h18km±1km, MW4.8/76, Moment Tensor Solution. s17,c17; s76,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.17±.19; $M_{\theta\theta}$0.21±.15; $M_{\phi\phi}$1.96±.14; $M_{r\theta}$1.31±.41; $M_{\phi\phi}$0.08±.08; $M_{\theta r}$0.15±.32; Best double couple: $M_0$2.36500×10^{16} NP1:ϕ_s342.00000°, δ46.00000°, λ-124.00000°. NP2: ϕ_s206.00000°, δ53.00000°, λ-60.00000°. Principal axes: T 1.9780, Plg4.0000°, Azm275.0000°; N 0.7790, Plg23.0000°, Azm7.0000°; P -2.7510, Plg66.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 31 08:13:08.9±13.0, 38.21S×93.98W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.9/29, mbtmp3.7/4, MS3.8/9, Ms1 3.8/9, ms1mx3.6/17 Error ellipse: s-maj=340.6km s-min=53.8km az=2.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.96**	**75**	T	T	08 29 39.6	
	baz=246,slow=74,SNR=282						
H03S1	**Juan Fernandez**	**12.96**	**75**	T	T	08 29 41.7	
	baz=246,slow=74,SNR=272						
H03S3	**Juan Fernandez**	**12.96**	**75**	T	T	08 29 40.8	
	baz=246,slow=74,SNR=296						
H03N2	**Juan Fernandez**	**13.10**	**73**	T	T	08 29 46.9	
	baz=251,slow=72,SNR=132						
H03N3	**Juan Fernandez**	**13.10**	**73**	T	T	08 29 49.2	
	baz=251,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**13.12**	**73**	T	T	08 29 44.4	
	baz=251,slow=72,SNR=19						
PLCA	**Paso Flores**	**18.25**	**105**	LR	LR	08 22 48.0	
	comp=Z,537nm,20.7s,baz=268,slow=32						
LPAZ	**La Paz**	**31.51**	**53**	P	P	08 19 33.5	+0.1
	1.6nm,1.0s,baz=206,slow=8.1,SNR=3.4						
LPAZ				LR	LR	08 29 37.3	
	comp=Z,94nm,20.3s,baz=231,slow=31						
CPUP	**Villa Florida**	**32.97**	**80**	LR	LR	08 31 48.7	
	comp=Z,247nm,18.2s,baz=231,slow=34						
SIV	**San Ignacio**	**36.42**	**62**	LR	LR	08 34 18.3	
	comp=Z,112nm,18.1s,baz=288,slow=35						
BDFB	**Brasilia**	**46.16**	**74**	LR	LR	08 39 59.7	
	comp=Z,241nm,19.4s,baz=184,slow=35						
TBI	**Tubuai**	**49.23**	**271**	*e*S	S	08 28 57.0	-9.2
	61nm,26.2s						
TBI				*e*LR	LR	08 36 05.8	
	comp=Z,460nm,27.0s,baz=116						
TAOE	**Nuku Hiva Isla**	**50.70**	**293**	*e*S	S	08 29 12.3	-15
	89nm,24.8s						
TAOE				*e*LR	LR	08 36 38.0	
	comp=Z,211nm,26.9s						
PPT2	**Papeete2**	**52.44**	**277**	*e*S	S	08 29 40.5	-11
	102nm,26.0s						
PPT2				*e*LR	LR	08 37 27.8	
	comp=Z,278nm,25.2s						
PPT	**Papeete**	**52.45**	**277**	LR	LR	08 38 22.7	
	comp=Z,136nm,21.7s,baz=122,slow=29						
VNDA	**Vanda**	**55.99**	**195**	LR	LR	08 42 29.6	
	comp=Z,36nm,20.6s,baz=62,slow=31						
TXAR	**Lajitas Array**	**67.80**	**351**	P	P	08 24 08.6	0.0
	0.5nm,0.7s,baz=169,slow=7.7,SNR=8.1						
NVAR	**Mina Array Bea**	**79.48**	**341**	P	P	08 25 17.9	+0.6
	0.4nm,0.7s,baz=171,slow=6.2,SNR=4.4						
PDAR	**Pinedale Array**	**81.83**	**348**	P	P	08 25 29.4	-0.4
	0.4nm,0.6s,baz=160,slow=5.5,SNR=6.2						
DZM	**Mont Dzumac**	**83.77**	**247**	*e*LR	LR	08 52 11.4	
	comp=Z,204nm,23.1s						
BOSA	**Boshof**	**92.57**	**130**	LR	LR	09 03 40.3	
	comp=Z,34nm,19.3s,baz=192,slow=33						
STKA	**Stephens Creek**	**93.16**	**225**	LR	LR	08 59 21.9	
	comp=Z,54nm,21.2s,baz=32,slow=30						

*NEIC **31** 08:19:06.8±1.8, 13.50S±0.05×167.2E±0.2, h195km±8km, mb4.2/15, Error ellipse: s-maj=25.2km s-min=6.6km az=82.0*

*IDC **31** 08:19:08.9±2.0, 13.56S×167.05E, h211km±18km, mb3.6/12, mb1 3.8/13, mb1mx3.6/34, mbtmp4.2/13, Error ellipse: s-maj=19.6km s-min=13.7km az=118.0*

ISC 31 08:19:07.3±0.6, 13.51S±0.07×167.1E±0.1, h200km, n33, σ1906/40, mb4.1/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.93**	**176**		**Pn**	**08 19 44.0**	**-1.1**
DZM	**Mont Dzumac**	**8.53**	**184**	P	**Pn**	**08 21 07.7**	**+0.2**
	0.7nm,0.3s,baz=117,slow=21,SNR=13						
DZM				S	**Sn**	**08 22 43.9**	**+0.3**
	0.5nm,0.3s,baz=73,slow=20,SNR=1.7						
EIDS	**Eidsvold**	**19.12**	**230**	P	**Pn**	**08 23 17.7**	**-0.8**
EIDS				IAmb	IAmb	08 23 19.6	
	comp=Z,5.1nm,0.7s						
CTA	**Charters Tower**	**20.96**	**249**	P	**P**	**08 23 36.3**	**+1.3**
	comp=Z,6.7nm,1.0s,baz=66,slow=12,SNR=2.7						
ARMA	**Armidale**	**22.05**	**218**	P	**P**	**08 23 47.4**	**+1.3**
ARMA				IAmb	IAmb	08 23 48.6	
	comp=Z,5.5nm,0.8s						
BKZ	**Black Stump Fm**	**26.88**	**164**	P	**P**	**08 24 28.3**	**-1.3**
STKA	**Stephens Creek**	**29.65**	**228**	P	**P**	**08 24 55.2**	**+0.9**
	comp=Z,6.8nm,0.4s,baz=51,slow=9.5,SNR=30						
STKA				PcP	**PcP**	**08 27 52.9**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=50,slow=5.1,SNR=4.1						
STKA	**Stephens Creek**	**29.65**	**228**	IAmb	IAmb	08 24 58.9	
	comp=Z,0.7nm,0.7s						
TOO	**Toolangi**	**30.72**	**215**	P	**P**	**08 25 05.2**	**+1.6**
TOO				IAmb	IAmb	08 25 13.0	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**31.88**	**254**	P	**P**	**08 25 14.1**	**0.0**
WB0				IAmb	IAmb	08 25 14.6	
	comp=Z,22nm,1.5s						
WRAB	**Tennant Creek**	**31.94**	**254**	P	**P**	**08 25 14.7**	**+0.2**
WRAB				IAmb	IAmb	08 25 20.3	
	comp=Z,9.1nm,1.3s						
WRA	**Warramunga Arr**	**31.95**	**254**	P	**P**	**08 25 14.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=84,slow=8.7,SNR=22						
WRA				PcP	**PcP**	**08 27 59.7**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=85,slow=3.3,SNR=7.5						
AS31	**Alice Springs**	**32.94**	**247**	P	**P**	**08 25 23.1**	**-0.2**
AS31				IAmb	IAmb	08 25 23.9	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**32.94**	**247**	P	**P**	**08 25 23.1**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=75,slow=9.1,SNR=90						
ASAR				PcP	**PcP**	**08 28 02.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=75,slow=2.4,SNR=15						
ASAR				S	**S**	**08 30 25.3**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=80,slow=15,SNR=4.8						
ASAR				ScP	**ScP**	**08 31 27.0**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=84,slow=3.8,SNR=3.5						
KNRA	**Kununurra**	**37.10**	**262**	P	**P**	**08 25 59.2**	**+0.4**
SOEI	**Soe**	**42.05**	**270**	P	**P**	**08 26 36.9**	**-3.0**
KSRS	**Korea Array**	**62.63**	**326**	P	**P**	**08 29 11.0**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=140,slow=6.3,SNR=1.9						
VNDA	**Vanda**	**64.07**	**181**	P	**P**	**08 29 19.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=350,slow=8.7,SNR=5.6						
SBA	**Scott Base**	**64.35**	**180**	P	**P**	**08 29 23.8**	**+2.7**
SBA				IAmb	IAmb	08 29 25.3	
	comp=Z,4.2nm,1.2s						
CASY	**Casey**	**64.58**	**202**	P	**P**	**08 29 22.8**	**0.0**
CASY				IAmb	IAmb	08 29 41.4	
	comp=Z,6.1nm,1.5s						
PETK	**Petropavlovsk-**	**66.84**	**354**	P	**P**	**08 29 37.9**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=174,slow=7.2,SNR=4.5						
PETK	**Petropavlovsk-**	**66.84**	**354**	P	**P**	**08 29 39.3**	**+2.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**74.28**	**294**	P	**P**	**08 30 23.6**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=128,slow=4.7,SNR=8.8						
QSPA	**South Pole Qui**	**76.51**	**180**	P	**P**	**08 30 34.4**	**-0.6**
QSPA				IAmb	IAmb	08 30 37.2	
	comp=Z,6.1nm,1.0s						
SONM	**Songino Array**	**81.41**	**324**	P	**P**	**08 31 02.7**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=141,slow=6.3,SNR=3.8						
MAW	**Mawson**	**82.93**	**202**	P	**P**	**08 31 09.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=116,slow=5.6,SNR=15						
MAW	**Mawson**	**82.93**	**202**	P	**P**	**08 31 09.8**	**+0.4**
ILAR	**Eielson Array**	**85.44**	**18**	P	**P**	**08 31 21.2**	**-0.7**
	comp=Z,1.0nm,1.2s,baz=241,slow=7.1,SNR=4.4						
ILAR				pP	**pP**	**08 32 08.1**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=226,slow=6.0,SNR=5.9						
MKAR	**Makanchi Array**	**96.19**	**317**	P	**P**	**08 32 12.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=90,slow=6.3,SNR=5.4						
ARCES	**ARCESS Array B**	**119.03**	**346**	PKP	**PKPdf**	**08 37 31.5**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=64,slow=2.1,SNR=2.2						
FINES	**FINESS Array B**	**124.53**	**338**	PKP	**PKPdf**	**08 37 42.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=162,slow=14,SNR=4.2						
KEST	**Kesra**	**150.15**	**322**	PKPbc	**PKiKP**	**08 38 35.8**	**0.0**
	comp=Z,4.6nm,0.6s,baz=250,slow=5.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**165.76**	**270**	PKP	**PKPdf**	**08 38 49.0**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=114,slow=1.1,SNR=3.0						
TORD				PKPab	**PKPab**	**08 39 49.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=88,slow=5.9,SNR=3.4						

IDC 31 08:24:11.6±2.7, 15.83S×173.13W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/37, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=142.7km s-min=22.9km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**34**	Pn	Pn	08 24 51.0	-0.1
	72nm,0.3s,baz=220,slow=5.0,SNR=57						
AFI				Sn	Sn	08 25 10.8	-10
	390nm,0.3s,baz=195,slow=16,SNR=23						
H11S2	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	09 12 25.5	
	baz=147,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**39.48**	**329**	T	T	09 12 27.3	
	baz=147,slow=76,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**39.48**	**329**	T	T	09 12 42.3	
	baz=147,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**40.41**	**330**	T	T	09 13 41.2	
	baz=148,slow=74						
H11N1	**WAKE ISLAND Hy**	**40.42**	**330**	T	T	09 13 52.4	
	baz=148,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.43**	**330**	T	T	09 14 04.4	
	baz=148						
WRA	**Warramunga Arr**	**50.00**	**257**	P	P	08 33 07.9	-0.3
	0.2nm,0.3s,baz=96,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**50.23**	**252**	P	P	08 33 10.0	+0.1
	2.0nm,0.7s,baz=84,slow=8.1,SNR=27						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	P	08 35 52.3	0.0
	0.5nm,0.7s,baz=219,slow=7.0,SNR=4.9						

IDC 31 08:27:32.2±14.0, 38.85S×94.25W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/24, mbtmp3.5/4, MS3.4/9, Ms1 3.4/9, ms1mx3.4/13, Error ellipse: s-maj=393.6km s-min=56.8km az=1.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.32**	**73**	T	T	08 44 05.0	
	baz=246,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**13.33**	**73**	T	T	08 44 02.0	
	baz=246,slow=74,SNR=24						
H03S3	**Juan Fernandez**	**13.34**	**73**	T	T	08 44 00.8	
	baz=246,slow=74,SNR=22						
H03N3	**Juan Fernandez**	**13.50**	**71**	T	T	08 44 09.9	
	baz=251,slow=72,SNR=6.9						
H03N2	**Juan Fernandez**	**13.50**	**71**	T	T	08 44 05.5	
	baz=251,slow=72,SNR=7.1						
H03N1	**Juan Fernandez**	**13.51**	**71**	T	T	08 44 13.9	
	baz=251,slow=72,SNR=7.9						
RPN	**Rapa Nui**	**17.20**	**308**	LR	LR	08 36 06.4	
	comp=Z,222nm,18.2s,baz=118,slow=30						
PLCA	**Paso Flores**	**18.30**	**103**	LR	LR	08 37 10.9	
	comp=Z,105nm,21.5s,baz=276,slow=32						
LVC	**Limon Verde**	**27.01**	**61**	LR	LR	08 41 42.5	
	comp=Z,50nm,20.0s,baz=232,slow=32						
NNA	**Nana**	**30.91**	**35**	LR	LR	08 42 26.7	
	comp=Z,85nm,21.2s,baz=216,slow=29						
PMSA	**Palmer Station**	**31.39**	**156**	LR	LR	08 42 46.1	
	comp=Z,23nm,19.7s,baz=302,slow=29						
LPAZ	**La Paz**	**32.06**	**53**	P	P	08 34 01.6	0.0
	0.4nm,0.7s,baz=220,slow=6.5,SNR=1.7						
LPAZ				LR	LR	08 43 19.4	
	comp=Z,77nm,21.6s,baz=240,slow=30						
CPUP	**Villa Florida**	**33.30**	**79**	LR	LR	08 46 11.9	
	comp=Z,82nm,18.1s,baz=220,slow=34						
ROSC	**El Rosal**	**47.22**	**28**	LR	LR	08 53 30.4	
	comp=Z,84nm,19.6s,baz=226,slow=33						
VNDA	**Vanda**	**55.32**	**195**	LR	LR	08 56 24.4	
	comp=Z,36nm,19.2s,baz=300,slow=31						
TXAR	**Lajitas Array**	**68.40**	**351**	P	P	08 38 35.7	0.0
	0.4nm,0.8s,baz=179,slow=7.5,SNR=4.2						
NVAR	**Mina Array Bea**	**80.02**	**341**	P	P	08 39 44.2	+0.8
	0.4nm,0.7s,baz=176,slow=2.7,SNR=2.7						
PDAR	**Pinedale Array**	**82.42**	**349**	P	P	08 39 55.4	-0.7
	0.3nm,0.8s,baz=165,slow=7.5,SNR=2.9						

*SOF **31** 08:33:04.7, 43.35N×28.60E, h13km, MD2.5*

ISC 31 08:33:05.3±2.1, 43.39N±0.07×28.64E±0.09, h11km±8km, n20, σ0977/22, 16C-2D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALB	**Balgarevo**	**0.16**	**276**	⇓P	**Pg**	**08 33 09.4**	**+0.4**
KALB				⇑S	**Sg**	**08 33 12.6**	**+1.0**
MANR	**Mangalia**	**0.43**	**355**	⇑P	**Pg**	**08 33 13.5**	**-0.3**
MANR				⇑S	**Sg**	**08 33 18.8**	**-0.8**
PSN	**Preselentsi**	**0.44**	**312**	P	**Pg**	**08 33 13.9**	**-0.2**
PRD	**Provadia**	**0.93**	**259**	P	**Pg**	**08 33 22.6**	**-0.6**
ICOR	**Ion Corvin**	**0.95**	**320**	⇑P	**Pn**	**08 33 24.3**	**-0.3**
ICOR	**Ion Corvin**	**0.95**	**320**	⇑S	**Sg**	**08 33 34.7**	**-1.3**
ROIA	**ROIAK**	**0.97**	**253**	P	**Pg**	**08 33 23.5**	**-0.5**
TIRR	**Tirgusor**	**1.08**	**351**	⇓P	**Pg**	**08 33 26.1**	**-0.1**
TIRR	**Tirgusor**	**1.08**	**351**	⇑S	**Sg**	**08 33 39.7**	**-0.5**
TLBR	**Topalu**	**1.23**	**340**	⇑S	**Sb**	**08 33 44.5**	**-0.1**
JURR	**Jurilovca**	**1.39**	**7**	⇑P	**Pg**	**08 33 32.5**	**+0.5**
HARR	**Harsova**	**1.40**	**339**	⇑P	**Pb**	**08 33 31.3**	**-0.2**
TPGR	**Topolog**	**1.48**	**354**	⇑P	**Pb**	**08 33 32.6**	**-0.2**
TPGR	**Topolog**	**1.48**	**354**	⇑S	**Sb**	**08 33 52.2**	**+0.6**
AMRR	**Amara**	**1.54**	**323**	⇑S	**Sg**	**08 33 54.5**	**-0.5**
TLCR		**1.80**	**4**	⇑S	**Sb**	**08 34 00.6**	**-0.3**
CFR	**Carcaliu**	**1.83**	**349**	⇑S	**Sn**	**08 34 00.2**	**+0.4**
SZH	**Strazhica**	**1.98**	**267**	P	**Pb**	**08 33 41.1**	**-0.3**
ISR	**Istrita**	**2.29**	**320**	⇑S	**Sn**	**08 34 13.1**	**+1.6**
VRI	**Vrincioaia**	**2.83**	**332**	⇑S	**Sn**	**08 34 26.1**	**+1.5**

IDC 31 08:37:27.2±3.0, 54.30N×86.98E, h0km, mb1 2.9/2, mb1mx2.9/41, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.9km s-min=16.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**255**	*i*		08 45 40.0	
	baz=73,slow=311,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.32**	**255**	Pg	Pg	08 37 50.3	-2.2
	1.7nm,0.3s,baz=76,slow=17,SNR=10.0						
ZALV				Lg	Lg	08 38 09.4	
	2.3nm,0.3s,baz=78,slow=30,SNR=11						
ZALV				Rg	Rg	08 38 14.1	
	6.7nm,0.4s,baz=77,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn	Pn	08 39 02.7	+0.8
	0.1nm,0.3s,baz=55,slow=13,SNR=5.2						
KURBB				Sn	Sn	08 40 14.6	-0.3
	0.1nm,0.3s,baz=51,slow=48,SNR=1.5						
KURBB				Lg	Lg	08 40 50.8	
	0.0nm,0.3s,baz=44,slow=33,SNR=2.2						
MKAR	**Makanchi Array**	**8.09**	**204**	Pn	Pn	08 39 27.6	+1.8
	0.1nm,0.3s,baz=22,slow=14,SNR=3.1						
MKAR				Lg	Lg	08 41 44.2	
	0.1nm,0.3s,baz=22,slow=32,SNR=2.7						

IDC 31 08:50:16.4±7.6, 1.05N×99.73E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/47, mbtmp3.4/2, Error ellipse: s-maj=415.0km s-min=105.8km az=49.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.83**	**123**	P	P	08 57 51.1	-0.8
	0.3nm,0.6s,baz=296,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**41.31**	**129**	P	P	08 58 04.6	+0.5
	0.5nm,0.8s,baz=300,slow=8.4,SNR=5.4						
TXAR	**Lajitas Array**	**142.41**	**35**	PKP	PKPdf	09 09 51.2	-0.9
	0.1nm,0.6s,baz=267,slow=1.8,SNR=2.3						

IDC 31 08:50:39.4±2.5, 53.75N×86.95E, h0km, mb1 3.1/2, mb1mx3.0/51, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=21.4km s-min=13.7km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**280**	*i*		08 58 36.3	
	baz=100,slow=308,SNR=2.2						
ZALV	**Zalesovo Beam**	**1.28**	**280**	Pg	Pg	08 51 02.6	-1.2
	2.0nm,0.3s,baz=102,slow=8.9,SNR=7.9						
ZALV				Lg	Lg	08 51 20.6	
	2.1nm,0.3s,baz=97,slow=29,SNR=7.4						
KURBB	**Kurchatov Arra**	**6.05**	**242**	Pn	Pn	08 52 10.9	+0.9
	0.1nm,0.3s,baz=58,slow=14,SNR=4.9						
KURBB				Sn	Sn	08 53 19.9	-0.1
	0.0nm,0.3s,baz=101,slow=33,SNR=1.5						
KURBB				Lg	Lg	08 53 50.4	
	0.0nm,0.3s,baz=60,slow=31,SNR=3.0						
MKAR	**Makanchi Array**	**7.58**	**205**	Pn	Pn	08 52 32.2	+1.2
	0.4nm,0.3s,baz=24,slow=13,SNR=15						
MKAR				Sn	Sn	08 53 57.5	-0.1
	0.1nm,0.3s,baz=22,slow=23,SNR=2.2						
MKAR				Lg	Lg	08 54 40.2	
	0.0nm,0.3s,baz=23,slow=22,SNR=2.7						

*NNC **31** 08:54:52.5±1.7, 53.73N×86.73E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=15.8km s-min=7.1km az=50.0, Suspected Mining explosion.*

*IDC **31** 08:54:53.9±2.4, 53.67N×86.77E, h0km, mb1 3.2/2, mb1mx3.0/48, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=20.4km s-min=12.2km az=71.0*

ISC 31 08:54:53.8±3.7, 53.7N±0.1×86.7E±0.2, h0km, n8, σ0987/12, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**283**	*i*		09 02 40.0	
	baz=100,slow=306,SNR=2.9						
ZAA0	**Zalesovo Array**	**1.14**	**283**	⇓Pn	**Pb**	**08 55 15.6**	**-0.8**
	1.6nm,0.8s						
ZAA0				⇑Sn	**Sn**	**08 55 33.4**	**0.0**
	9.6nm,1.1s						
ZALV	**Zalesovo Beam**	**1.14**	**283**	Pg	**Pg**	**08 55 15.4**	**-0.2**
	1.5nm,0.3s,baz=100,slow=17,SNR=20						
ZALV				Lg	Lg	08 55 33.1	
	2.7nm,0.3s,baz=107,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**5.90**	**242**	Pn	**Pn**	**08 56 23.9**	**+1.5**
	0.1nm,0.3s,baz=59,slow=14,SNR=5.5						
KURBB				Sn	**Sn**	**08 57 30.4**	**-0.3**
	0.0nm,0.3s,baz=353,slow=40,SNR=0.9						
KURBB				Lg	Lg	08 57 59.8	
	0.1nm,0.3s,baz=63,slow=33,SNR=7.7						
KURBB	**Kurchatov Arra**	**5.90**	**242**	⇓Pn	**Pn**	**08 56 23.6**	**+1.2**
	4.0nm,0.7s						
KURBB				⇓Lg	Lg	08 58 00.8	
	8.1nm,0.8s						
MK31	**Makanchi Array**	**7.48**	**204**	⇑Pn	**Pn**	**08 56 44.3**	**+0.3**
	0.3nm,0.5s,baz=30,slow=12,SNR=7.0						
MK31				⇑Sn	**Sn**	**08 58 09.7**	**+0.3**
	3.1nm,1.1s						
MK31				⇓Lg	Lg	08 58 50.1	
	4.9nm,1.1s,baz=23,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**7.48**	**204**	Pn	**Pn**	**08 56 45.2**	**+1.2**
	0.2nm,0.3s,baz=28,slow=12,SNR=8.4						
MKAR				Sn	**Sn**	**08 58 09.1**	**-0.4**
	0.1nm,0.3s,baz=27,slow=30,SNR=2.6						
MKAR				Lg	Lg	08 58 49.1	
	0.1nm,0.3s,baz=26,slow=31,SNR=8.0						
MAKZ	**Makanchi**	**7.54**	**206**	⇓Pn	**Pn**	**08 56 44.8**	**-0.1**
	2.3nm,1.0s						
MAKZ				⇑Sn	**Sn**	**08 58 10.2**	**-0.8**
	3.5nm,1.1s						
MAKZ				⇓Lg	Lg	08 58 49.4	
	2.9nm,1.1s						

TRN 31 08:58:42.1, 15.96N×60.73W, h25km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.53**	**269**	*e*P	Pn	08 58 54.9	+0.8
MAGL				*e*S	Sn	08 59 03.7	+1.3
DLPL	**La Plaine**	**0.80**	**219**	*e*S	Sn	08 59 09.9	+1.1
DSLB	**Salisbury**	**0.84**	**232**	*e*P	Pn	08 58 59.4	+0.9
DSLB				*e*S	Sn	08 59 11.6	+1.6
CBE	**Ff, Capester**	**0.85**	**278**	*e*P	Pn	08 59 00.1	+1.5
CBE				*e*S	Sn	08 59 13.1	+2.8
TDBA	**Terre de Bas,**	**0.88**	**263**	*e*P	Pn	08 59 00.5	+1.5
ABD	**La Joyeuse

LALI IAML 09 18 15.1
comp=Z,90nm,0.3s
SJTE Alcalda de S 2.20 95 *eP* **Pn 09 17 47.2 0.0**
SJTE *eS* **Sn 09 18 13.9 -0.7**
SJTE IAML 09 18 24.5
comp=Z,111nm,0.3s
COEG Centro de Oper 2.32 95 *eP* **Pn 09 17 48.7 -0.2**
COEG *eS* **Sn 09 18 17.7 0.0**
COEG IAML 09 18 28.8
comp=Z,186nm,0.3s
COEB Comit de Eme 2.67 97 *eP* **Pn 09 17 53.6 -0.2**
COEB *eS* **Sn 09 18 25.9 -0.5**
COEB IAML 09 18 37.3
comp=Z,113nm,0.4s
LCND La Caada 3.32 99 *eP* **Pn 09 18 02.4 -0.2**
LCND *eS* **Sn 09 18 44.2 +2.0**
LCND IAML 09 18 55.5
comp=Z,76nm,0.4s

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*IDC **31** 09:19:59.2±0.9,25°.59N×66°.41E,h0km,mb4.0/19, mb1 4.1/20,mb1mx4.0/51,mbtmp4.0/20,ML3.9/1,MS3.4/10, Ms1 3.4/10,ms1mx3.2/31,Error ellipse: s-maj=21.0km s-min=17.8km az=4.0*
*NEIC **31** 09:20:04.2±2.3,25°.61N±0°.09×66°.42E±0°.09,h35km±2km, mb4.2/28,Error ellipse: s-maj=15.8km s-min=12.6km az=154.0*
ISC 31 09:20:04.4±0.6,25°.68N±0°.07×66°.67E±0°.06,h35km,n82, σ1§30/83,mb4.0/26,MS3.5/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**3.64**	**131**	*eP*	**Pn**	**09 20 57.8**	**-0.4**
BHUJ				*eS*	**Sn**	**09 21 39.5**	**-0.4**
BHUJ				IAML		09 21 42.7	
	comp=E,217nm,0.7s						
BHUJ				IAML		09 21 43.8	
	comp=N,202nm,0.7s						
WSAR	**Wadi Sarin**	**7.71**	**253**	Pn	Pn	09 21 50.2	-4.0
	comp=N,2.1nm,0.3s,baz=39,slow=8.4,SNR=15						
WSAR				Sn	Sn	09 23 07.5	-13
	comp=N,0.6nm,0.3s,baz=324,slow=13,SNR=2.0						
WSAR				LR	LR	09 25 23.5	
	comp=N,198nm,19.9s,baz=98,slow=44						
THW	**Thamme Wali**	**8.36**	**31**	P	**Pn**	**09 22 02.8**	**-0.3**
KBL	**Kabul**	**9.07**	**13**	Pn	**Pn**	**09 22 13.4**	**+0.4**
KBL				Sn	**Sn**	**09 23 54.8**	**+0.8**
KUDL	**Kundal**	**9.10**	**72**	*eP*	**Pn**	**09 22 12.1**	**-1.2**
KUDL				*eS*	**Sn**	**09 23 52.0**	**-2.5**
CEP	**Cherat**	**9.30**	**28**	P	**Pn**	**09 22 16.2**	**0.0**
HRA	**Herat**	**9.49**	**337**	Pn	**Pn**	**09 22 18.3**	**-0.4**
UOSS	**Minazif**	**9.50**	**268**	Pn	Pn	09 22 13.4	-5.3
NIL	**Nilore**	**9.79**	**34**	Pn	**Pn**	**09 22 22.6**	**-0.1**
CHCP	**Chirah Chowk**	**9.80**	**34**	P	**Pn**	**09 22 23.1**	**+0.2**
NDI	**New Delhi**	**9.86**	**70**	*eP*	**Pn**	**09 22 25.5**	**+1.8**
NDI				*eS*	**Sn**	**09 24 10.0**	**-3.1**
BHPL	**Bhopal**	**10.10**	**102**	*eP*	**Pn**	**09 22 26.5**	**-0.5**
BHPL				*eS*	**Sn**	**09 24 18.0**	**-1.0**
SMLA	**Simla**	**10.72**	**57**	*eP*	**Pn**	**09 22 34.8**	**-0.5**
SMLA				*eS*	**Sn**	**09 24 30.7**	**-3.4**
SMLA				IAML		09 24 37.6	
	comp=E,88nm,0.0s						
SMLA				IAML		09 24 37.8	
	comp=N,114nm,1.3s						
CHGR	**Chuyangaron**	**13.11**	**9**	Pn	**Pn**	**09 23 06.3**	**-1.9**
GAR	**Garm**	**13.63**	**12**	Pn	**Pn**	**09 23 13.6**	**-1.7**
GEYT	**Alibeck**	**14.20**	**331**	LR	LR	09 29 59.9	
	comp=N,60nm,19.1s,baz=190,slow=42						
GYA0B	**ALIBECK ARRAY**	**14.20**	**331**	Pn	**Pn**	**09 23 22.1**	**-0.9**
BTK	**Batken**	**14.75**	**13**	Pn	**Pn**	**09 23 29.6**	**-0.9**
PYUN	**Piuthan**	**14.76**	**77**	*eP*	**Pn**	**09 23 29.7**	**-1.2**
	comp=N,27nm,0.4s						
KOLN	**Koldanda**	**15.27**	**78**	*eP*	**Pn**	**09 23 36.4**	**-1.3**
	comp=N,25nm,0.5s						
DANN	**Dangsing**	**15.46**	**76**	*eP*	**Pn**	**09 23 39.7**	**-0.5**
PKIN	**Phulchoki**	**16.86**	**79**	*eP*	**Pn**	**09 23 57.2**	**-0.8**
	comp=N,12nm,0.5s						
PKI	**Pulchoki**	**16.86**	**79**	*eP*	**Pn**	**09 23 56.2**	**-1.9**
GUN	**Gumba**	**17.30**	**78**	*eP*	**Pn**	**09 24 01.7**	**-1.9**
JIRN	**Jiri**	**17.56**	**79**	*eP*	**Pn**	**09 24 06.0**	**-0.9**
KK31	**Karatay Array**	**17.66**	**9**		**Pn**	**09 24 08.9**	**+1.3**
KKAR	**Karatay Array**	**17.66**	**9**		**Pn**	**09 24 08.8**	**+1.1**
RAMN	**Ramite**	**17.92**	**82**	*eP*	**Pn**	**09 24 09.6**	**-1.5**
	comp=N,11nm,0.3s						
AAK	**Ala-Archa**	**18.10**	**19**	P	**Pn**	**09 24 12.7**	**-0.4**
AAK				IAmb	IAmb	09 24 19.3	
	comp=Z,19nm,1.4s						
BOOM	**Boomskoye usch**	**18.42**	**22**	P	**P**	**09 24 16.1**	**-0.8**
BOOM				IAmb	IAmb	09 24 24.1	
	comp=Z,22nm,1.4s						
TARG	**Taragay, Kyrgy**	**18.47**	**27**		**P**	**09 24 17.6**	**-0.1**
KDJ	**Kajisay**	**18.56**	**25**	P	**P**	**09 24 18.2**	**-0.1**
ODAN	**Odare**	**18.62**	**82**	*eP*	**P**	**09 24 18.6**	**-0.7**
	comp=Z,21nm,0.7s						
LSA	**Lhasa**	**22.03**	**74**	P	**P**	**09 24 58.7**	**+2.3**
LSA				IAmb	IAmb	09 25 03.3	
	comp=Z,6.5nm,0.8s						
ABKAR	**Akbulak array**	**24.11**	**349**	P	**P**	**09 25 16.7**	**0.0**
ABKAR				IAmb	IAmb	09 25 19.2	
	comp=Z,3.8nm,0.6s						
MAKZ	**Makanchi**	**24.35**	**26**	P	**P**	**09 25 19.8**	**+0.8**
GURO	**Guroymak-BITLI**	**24.41**	**308**	P	**P**	**09 25 20.5**	**+0.7**
MK31	**Makanchi Array**	**24.46**	**27**	P	**P**	**09 25 20.4**	**+0.3**
MKAR	**Makanchi Array**	**24.46**	**27**	P	**P**	**09 25 21.1**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=212,slow=10,SNR=20						
MKAR				PcP	**PcP**	**09 28 58.8**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=218,slow=1.6,SNR=2.4						
MKAR				LR	LR	09 37 06.6	
	comp=Z,163nm,20.9s,baz=214,slow=42						
MKAR	**Makanchi Array**	**24.46**	**27**	P	**P**	**09 25 20.9**	**+0.9**
ONI	**Oni**	**25.44**	**317**	P	**P**	**09 25 31.4**	**+2.4**
ONI				IAmb	IAmb	09 25 56.8	
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**25.60**	**347**	P	**P**	**09 25 30.6**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=170,slow=9.3,SNR=7.8						
KBZ	**Khabaz**	**26.42**	**319**	P	**P**	**09 25 37.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=121,slow=13,SNR=3.5						
KURBB	**Kurchatov Arra**	**26.53**	**17**	P	**P**	**09 25 39.6**	**+1.0**
	comp=Z,5.7nm,0.6s,baz=211,slow=8.8,SNR=23						
KURK	**Kurchatov**	**26.63**	**17**	P	**P**	**09 25 39.6**	**+0.1**
BVAR	**Borovoye Array**	**27.45**	**5**	P	**P**	**09 25 48.0**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=198,slow=13,SNR=9.8						
BRVK	**Borovoye**	**27.48**	**5**	P	**P**	**09 25 48.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.70**	**97**	LR	LR	09 40 21.9	
	comp=Z,92nm,18.2s,baz=315,slow=40						
ZAA0	**Zalesovo Array**	**31.30**	**21**	P	**P**	**09 26 21.7**	**+0.7**
ZAA0				IAmb	IAmb	09 26 26.6	
	comp=Z,4.6nm,1.0s						
ZALV	**Zalesovo Beam**	**31.30**	**21**	P	**P**	**09 26 21.5**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=226,slow=9.5,SNR=5.9						
ZALV				LR	LR	09 40 34.7	
	comp=Z,76nm,21.2s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**31.30**	**21**	P	**P**	**09 26 21.1**	**+0.1**
AKASG	**Malin Array Be**	**37.98**	**321**	P	**P**	**09 27 18.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=123,slow=7.7,SNR=2.6						
AKASG	**Malin Array Be**	**37.98**	**321**	P	**P**	**09 27 16.4**	**-2.3**
AKBB	**Malin Array Si**	**37.98**	**321**	P	**P**	**09 27 17.8**	**-1.0**
MLR	**Muntele Rosu**	**38.06**	**312**	P	**P**	**09 27 17.3**	**-2.3**
SONM	**Songino Array**	**38.18**	**44**	P	**P**	**09 27 23.6**	**+2.9**
	comp=Z,1.5nm,0.7s,baz=231,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**38.18**	**44**	P	**P**	**09 27 22.4**	**+1.8**
SONM				IAmb	IAmb	09 27 32.8	
	comp=Z,3.9nm,1.4s						
BURAR	**Bucovina Array**	**39.20**	**315**	P	**P**	**09 27 27.5**	**-1.7**
BURAR				IAmb	IAmb	09 27 30.7	
	comp=Z,4.4nm,1.1s						
BUR08	**Bucovina Ar. S**	**39.22**	**315**	P	**P**	**09 27 29.1**	**-0.2**
BUR08				IAmb	IAmb	09 27 30.1	
	comp=Z,3.3nm,0.9s						
FNA	**Florina**	**40.32**	**303**	P	**P**	**09 27 38.0**	**-0.5**
FNA				IAmb	IAmb	09 27 39.3	
	comp=Z,4.8nm,0.8s						
FINES	**FINESS Array B**	**44.99**	**334**	P	**P**	**09 28 15.4**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=116,slow=7.9,SNR=8.7						
FINES				LR	LR	09 50 48.5	
	comp=Z,49nm,19.9s,baz=147,slow=41						
NRIK	**Noril'sk**	**45.40**	**10**	P	**P**	**09 28 20.5**	**+1.3**
	comp=Z,2.5nm,0.5s,baz=210,slow=6.0,SNR=3.8						
NRIK	**Noril'sk**	**45.40**	**10**	P	**P**	**09 28 20.5**	**+1.3**
NRIK				IAmb	IAmb	09 28 25.5	
	comp=Z,6.6nm,1.1s						
GERES	**GERESS Array B**	**46.95**	**314**	P	**P**	**09 28 31.5**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=111,slow=7.5,SNR=4.4						
GERES	**GERESS Array B**	**46.95**	**314**	P	**P**	**09 28 31.2**	**-0.7**
CLL	**Collm**	**47.85**	**317**	*eP*	**P**	**09 28 39.0**	**+0.4**
ARCES	**ARCESS Array B**	**50.03**	**342**	P	**P**	**09 28 55.1**	**0.0**
	comp=Z,1.3nm,0.5s,baz=144,slow=7.9,SNR=15						
ARCES				LR	LR	09 52 39.3	
	comp=Z,60nm,18.9s,baz=105,slow=39						
ARCES	**ARCESS Array B**	**50.03**	**342**	P	**P**	**09 28 55.4**	**+0.3**
NB2	**NORSAR Subarra**	**51.28**	**329**	P	**P**	**09 29 03.0**	**-1.7**
	comp=Z,0.6nm,0.6s,baz=109,slow=7.4						
NOA	**NORSAR Array B**	**51.28**	**329**	P	**P**	**09 29 03.4**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=108,slow=7.5,SNR=6.0						
NOA				LR	LR	09 53 41.2	
	comp=Z,11nm,19.6s,baz=85,slow=40						
NBO00	**NORSAR Array S**	**51.48**	**329**	P	**P**	**09 29 04.5**	**-1.6**
KS19	**Wonju Array Si**	**52.63**	**61**	P	**P**	**09 29 16.2**	**+1.2**
KSRS	**Korea Array**	**52.68**	**61**	P	**P**	**09 29 18.3**	**+2.9**
	comp=Z,0.4nm,0.3s,baz=274,slow=6.0,SNR=2.3						
KSRS				LR	LR	09 52 54.5	
	comp=Z,43nm,19.9s,baz=25,slow=37						
ESDC	**Sonseca Array**	**59.67**	**302**	P	**P**	**09 30 04.1**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=71,slow=5.6,SNR=1.9						
ESDC	**Sonseca Array**	**59.67**	**302**	IAmb	IAmb	09 30 10.4	
	comp=Z,2.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**62.01**	**272**	P	**P**	**09 30 20.0**	**-1.6**
	comp=Z,0.9nm,0.9s,baz=74,slow=6.7,SNR=5.2						
TORD				LR	LR	10 01 02.3	
	comp=Z,49nm,19.4s,baz=300,slow=40						
TORD	**Torodi Ar. Bea**	**62.01**	**272**	P	P	09 30 18.8	-2.8
TORD				IAmb	IAmb	09 30 37.2	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**79.84**	**118**	P	**P**	**09 32 11.4**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=309,slow=4.6,SNR=5.2						
WRA	**Warramunga Arr**	**79.84**	**118**	P	**P**	**09 32 10.6**	**+0.9**
ASAR	**Alice Springs**	**81.48**	**121**	P	**P**	**09 32 18.3**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=292,slow=4.6,SNR=3.8						
ILAR	**Eielson Array**	**86.15**	**14**	P	**P**	**09 32 41.5**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=319,slow=3.6,SNR=3.4						
TXAR	**Lajitas Array**	**124.52**	**350**	PKP	**PKPdf**	**09 39 01.2**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=92,slow=2.2,SNR=2.5						

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*TUL **31** 09:29:14.3±1.3,36°.93N±0°.01×97°.69W±0°.01,h1km±7km, ML2.5,mb_Lg2.3/18(NEIC),Error ellipse: s-maj=1.5km s-min=1.4km az=138.0*
NEIC 31 09:29:14.8±0.9,36°.929N±0°.006×97°.67W±0°.01,h5km±6km, Error ellipse: s-maj=1.6km s-min=0.7km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.14**	**326**		Pg	09 29 17.6	-0.1
KAN17				Sg	Sg	09 29 19.2	-0.3
GC02	**Grant County #**	**0.17**	**243**		Pg	09 29 18.0	-0.2
GC02				Sg	Sg	09 29 20.4	-0.1
KAN13	**South Haven SW**	**0.17**	**61**		Pg	09 29 18.6	+0.2
KAN13				Sg	Sg	09 29 21.3	+0.7
KAN09	**Caldwell North**	**0.21**	**11**		Pg	09 29 19.1	+0.1
KAN09				Sg	Sg	09 29 22.3	+0.5
KAN05	**Bluff City Nor**	**0.24**	**318**		Pg	09 29 19.4	-0.1
KAN05				Sg	Sg	09 29 22.9	+0.1
KS20	**Mayfield South**	**0.31**	**17**		Pg	09 29 21.0	0.0
KS20				Sg	Sg	09 29 25.3	+0.2
KAN08	**Anthony NE Sta**	**0.38**	**321**		Pg	09 29 22.2	0.0
KAN08				Sg	Sg	09 29 27.8	+0.5
KAN10	**Anthony SW Sta**	**0.39**	**300**		Pg	09 29 22.3	-0.1
BLOK	**Blackwell**	**0.40**	**115**		Pg	09 29 22.8	+0.2
BLOK				Sg	Sg	09 29 29.1	+1.2
OK032	**Salt Plains WL**	**0.45**	**254**		Pg	09 29 23.1	-0.4
OK032				Sg	Sg	09 29 29.4	0.0
KAN12	**Harper NE Stat**	**0.45**	**325**		Pg	09 29 23.1	-0.5
KAN12				Sg	Sg	09 29 29.7	+0.2
CROK	**Carrier**	**0.49**	**211**		Pg	09 29 24.2	-0.1
CROK				Sg	Sb	09 29 33.0	-0.5
T35A	**Sooner Cattle**	**0.93**	**90**		Pg	09 29 32.5	-0.2
T35A				Sg	Sg	09 29 44.7	0.0
QUOK	**Quay**	**1.08**	**134**		Pg	09 29 35.2	-0.3
QUOK				Sg	Sg	09 29 49.1	-0.5
OK029	**Liberty Lake**	**1.14**	**171**		Pg	09 29 36.3	-0.5
OK029				Sg	Sg	09 29 51.7	+0.2
OK031	**S. Brethren Rd**	**1.18**	**145**		Pg	09 29 36.9	-0.6
OK031				Sg	Sg	09 29 52.7	-0.1
U32A	**Winter Ranch,**	**1.20**	**243**	Pg	Pg	09 29 36.8	-1.1
U32A				Sg	Sg	09 29 53.0	-0.5
BCOK	**Bluff Creek, N**	**1.27**	**178**		Pg	09 29 38.4	-0.8
OK025	**Westminster Rd**	**1.37**	**169**		Pn	09 29 40.3	-0.4
OKCFA	**Oklahoma City**	**1.52**	**173**	Pn	Pn	09 29 42.8	+0.1
OKCSW	**OKLAHOMA CITY**	**1.53**	**173**	Pn	Pn	09 29 43.1	+0.2
FNO	**Franklin**	**1.68**	**172**	Pn	Pn	09 29 45.1	+0.1
R32A	**Long Quarter,**	**1.71**	**331**		Pb	09 29 46.0	-0.7
KSU1	**Kansas State U**	**2.33**	**21**	Pn	Pn	09 29 53.4	-0.3
KSU1				IAmb_Lg		09 30 34.2	
	comp=Z,11nm,0.8s						
X34A	**Smith Ranch, M**	**2.33**	**183**	Pn	Pb	09 29 56.0	-1.3
WMOK	**Wichita Mounta**	**2.37**	**203**	Pn	Pn	09 29 55.0	+0.6
WMOK				IAmb_Lg		09 30 29.7	
	comp=Z,8.7nm,0.7s						
CBKS	**Cedar Bluff**	**2.49**	**320**	Pn	Pn	09 29 56.3	+0.2
CBKS				IAmb_Lg		09 30 35.0	
	comp=Z,12nm,0.9s						
U38A	**Gravette**	**2.68**	**100**	Pn	Pn	09 29 59.0	+0.2
X37A	**Clayton**	**2.99**	**141**	IAmb_Lg		09 30 55.7	
	comp=Z,7.7nm,0.7s						
HHAR	**Hobbs**	**3.07**	**101**	Pn	Pn	09 30 03.6	-0.4
S39A	**Bolivar**	**3.55**	**76**	Pn	Pn	09 30 11.4	+0.8
W39A	**Magazine**	**3.59**	**118**	Pn	Pn	09 30 10.3	-0.9
N33A	**J Bar K, Exete**	**3.81**	**3**	Pn	Pn	09 30 15.5	+1.4
N33A				IAmb_Lg		09 31 19.9	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**3.84**	**239**	Pn	Pn	09 30 13.8	-0.9
AMTX				IAmb_Lg		09 31 22.1	
	comp=Z,10nm,0.9s						
U40A	**Yellville**	**3.92**	**97**	IAmb_Lg		09 31 23.8	
	comp=Z,6.0nm,0.9s						
MIAR	**Mount Ida**	**4.09**	**124**	IAmb_Lg		09 31 32.8	
	comp=Z,4.2nm,0.7s						
L34A	**Svendsen Farm,**	**5.13**	**11**	IAmb_Lg		09 31 59.8	
	comp=Z,7.2nm,0.8s						
N38A	**Joes South For**	**5.18**	**41**	IAmb_Lg		09 32 06.6	
	comp=Z,8.8nm,0.8s						

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*TEH **31** 10:06:29.5,30°.05N×57°.61E,h9km,ML5.3*
*BGR **31** 10:06:29.6±0.0,28°.90N×56°.55E,h10km,mb5.0,Ms4.5*
*BJI **31** 10:06:29.9±0.0,30°.05N×57°.31E,h30km,mB5.2/67, mb5.0/74,Ms5.4/84,Ms7 5.1/78*
*THR **31** 10:06:30.1±1.1,30°.03N×57°.65E,h15km±6km,ML5.7*
*NEIC **31** 10:06:31.4±1.5,30°.04N±0°.05×57°.58E±0°.04,h11km±1km, mb5.2/188,Mwb5.2/21,mb_Lg5.5(TEH),Error ellipse: s-maj=7.7km s-min=5.8km az=176.0*
*MOS **31** 10:06:31.0±1.0,30°.02N×57°.68E,h25km,mb5.3/82, MS4.6/20,Error ellipse: s-maj=4.3km s-min=3.0km az=104.5*
*DSN **31** 10:06:31.8±0.5,30°.06N×57°.66E,h10km,mb5.7/1, ML5.5/12,Error ellipse: s-maj=10.2km s-min=5.2km az=104.0*
*NEIC **31** 10:06:31.7,30°.08N×57°.65E,h11km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}2.16; $M_{\theta\theta}$-6.87; $M_{\phi\phi}$4.71; $M_{r\theta}$-1.68; $M_{\theta\phi}$5.85; $M_{\phi r}$-3.33; Fault plane solution: $M_0$9.23000×10^{16} NP1:ϕ_s154.09000°, δ69.49000°,λ160.34000°. NP2:ϕ_s251.22000°,δ71.64000°, λ21.66000°. Principal axes: T 9.1317, Plg28.0000°, Azm113.0000°; N 0.1859, Plg62.0000°, Azm290.0000°; P -9.3176, Plg1.0000°, Azm22.0000°;*
*GCMT **31** 10:06:33.4±0.1,29°.94N±0°.01×57°.51E±0°.01,h24km, MW5.4/143,Moment Tensor Solution. s116,c201; s143,c282; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.09±.02; $M_{\theta\theta}$-1.21±.02; $M_{\phi\phi}$1.12±.02; $M_{r\theta}$-0.20±.03; $M_{\theta\phi}$1.06±.02; $M_{\phi r}$-0.07±.03; Best double couple: $M_0$1.59000×10^{17} NP1:ϕ_s156.00000°,δ82.00000°, λ180.00000°. NP2:ϕ_s246.00000°,δ90.00000°,λ8.00000°. Principal axes: T 1.5440, Plg6.0000°, Azm111.0000°; N 0.0890, Plg82.0000°, Azm246.0000°; P -1.6360, Plg5.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 10:06:33.9±2.6,30°.02N×57°.70E,h33km±20km,mb4.6/39, mb1 4.7/45,mb1mx4.6/53,mbtmp4.8/45,ML4.4/6,MS4.8/37, Ms1 4.8/37,ms1mx4.7/46 Error ellipse: s-maj=10.7km s-min=9.1km az=148.0*

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*OMAN **31** 10:06:34.7±1.0,30°.14N×57°.44E,h38km,mb6.4/20, ml5.8/4,ms4.0/2,Mwp5.6/16,Error ellipse: s-maj=9.3km s-min=7.1km az=93.0*
ISC 31 10:06:31.2±0.4,30°.05N±0°.02×57°.65E±0°.02,h13km±2km, h13km:pP-P,n1007,σ1§73/1143,mb5.1/274,MS4.8/85, 140C-95D,Fault plane solution: NP1:ϕ_s89.40939°, δ79.89208°,λ14.09236°. NP2:ϕ_s356.88666°,δ76.13078°, λ169.58521°. Principal axes: T Plg17.0734°, Azm313.5655°; N Plg72.7173°, Azm124.3668°; P Plg2.6021°, Azm222.7657°; **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.20**	**206**	Pg	**Pg**	**10 06 34.1**	**-1.8**
CHMN	**Cheshme madani**	**0.20**	**206**	*e*Pg	**Pg**	**10 06 34.4**	**-1.5**
TVBK	**TV Kerman**	**0.77**	**266**	Pg	**Pb**	**10 06 45.0**	**-1.7**
TVBK	**TV Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**10 06 44.8**	**-1.9**
KRBR	**Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**10 06 45.0**	**-1.6**
KRBR				*e*Sg	**Sb**	**10 06 55.4**	**-1.7**
KRBR				IAML		10 07 00.3	
	comp=E,170μm,0.2s						
KRBR				IAML		10 07 01.5	
	comp=N,144μm,0.3s						
KRBR	**Kerman**	**0.77**	**266**	*e*Pg	**Pb**	**10 06 45.1**	**-1.6**
NGRK	**Negar Kerman**	**0.89**	**244**	Pg	**Pb**	**10 06 47.0**	**-1.7**
NGRK	**Negar Kerman**	**0.89**	**244**	*e*Pg	**Pb**	**10 06 47.0**	**-1.7**
NGRK				*e*Sg	**Sb**	**10 06 58.5**	**-2.2**
NGRK				*e*		10 07 01.4	
	comp=Z,1799μm,0.4s						
KHGB	**Koh Gabri**	**1.06**	**288**	Pg	**Pb**	**10 06 49.8**	**-1.8**
KHGB				Sg	**Sb**	**10 07 03.8**	**-1.8**
KHGB	**Koh Gabri**	**1.06**	**288**	*e*Pg	**Pb**	**10 06 49.8**	**-1.8**
KHGB				*e*Sg	**Sb**	**10 07 04.3**	**-1.3**
KHGB				*e*		10 07 05.5	
	comp=Z,1650μm,0.2s						
KBAM	**BAM**	**1.15**	**142**	*e*Pg	**Pb**	**10 06 51.6**	**-1.4**
KBAM				*e*Sg	**Sn**	**10 07 08.7**	**0.0**
KHNJ	**Kahnooj**	**2.09**	**179**	Pn	**Pb**	**10 07 06.5**	**-2.5**
KHNJ	**Kahnooj**	**2.09**	**179**	*e*Pn	**Pb**	**10 07 06.6**	**-2.5**
BSRN	**Basiran**	**2.30**	**33**	*e*Pn	**Pn**	**10 07 09.5**	**+0.5**
BSRN				*e*Sg	**Sb**	**10 07 41.9**	**+0.9**
BSRN				IAML		10 07 50.8	
	comp=N,49μm,0.4s						
BSRN				IAML		10 07 50.8	
	comp=E,31μm,0.4s						
BSRN	**Basiran**	**2.30**	**33**	*e*Pn	**Pn**	**10 07 09.5**	**+0.5**
IBAF	**Bafgh**	**2.36**	**311**	Pn	**Pb**	**10 07 10.9**	**-2.8**
IBAF	**Bafgh**	**2.36**	**311**	*e*Pn	**Pb**	**10 07 10.9**	**-2.8**
NHDN	**Nehbandan**	**2.47**	**56**	Pn	**Pn**	**10 07 12.3**	**+1.0**
NHDN	**Nehbandan**	**2.47**	**56**	*e*Pn	**Pn**	**10 07 12.1**	**+0.8**
IKOO	**Kooshah**	**2.64**	**26**	*e*Pn	**Pn**	**10 07 14.2**	**+0.4**
ZHDN	**Zahedan**	**2.83**	**102**	*e*Pn	**Pn**	**10 07 17.2**	**+0.9**
IMEH	**Mehriz**	**2.94**	**298**	*e*Pn	**Pn**	**10 07 18.9**	**+1.1**
GENO	**Geno**	**2.94**	**206**	Pn	**Pn**	**10 07 19.1**	**+1.3**
GENO	**Geno**	**2.94**	**206**	*e*Pn	**Pb**	**10 07 20.5**	**-3.0**
GENO				*e*		10 07 28.4	
	comp=Z,53μm,0.7s						
ITEG	**Tejag**	**3.00**	**18**	*e*Pn	**Pn**	**10 07 19.0**	**+0.4**
TPRV	**Parvadeh(Tabas**	**3.08**	**345**	*e*Pn	**Pn**	**10 07 20.1**	**+0.4**
IDAH	**Dahanechah**	**3.29**	**35**	*e*Pn	**Pn**	**10 07 24.2**	**+1.5**
YZKH	**Yazd**	**3.51**	**313**	*e*Pn	**Pn**	**10 07 27.4**	**+1.8**
YZKH				IAML		10 08 29.6	
	comp=N,18μm,0.4s						
YZKH				IAML		10 08 33.6	
	comp=E,19μm,0.5s						
YZKH	**Yazd**	**3.51**	**313**	*e*Pn	**Pn**	**10 07 27.4**	**+1.8**
ICHK	**Chekchek**	**3.54**	**309**	Pn	**Pn**	**10 07 27.1**	**+1.0**
ICHK	**Chekchek**	**3.54**	**309**	*e*Pn	**Pn**	**10 07 28.0**	**+1.9**
AFRZ	**Afriz**	**3.57**	**19**	Pn	**Pn**	**10 07 26.5**	**+0.1**
AFRZ	**Afriz**	**3.57**	**19**	*e*Pn	**Pn**	**10 07 26.7**	**+0.3**
IMON	**Monand**	**3.58**	**28**	*e*Pn	**Pn**	**10 07 28.4**	**+1.7**
IMON				*e*		10 08 35.4	
	comp=Z,76μm,0.5s						
TKDS	**Koohdasht(Taba**	**3.58**	**353**	Pn	**Pn**	**10 07 27.2**	**+0.5**
TKDS	**Koohdasht(Taba**	**3.58**	**353**	*e*Pn	**Pn**	**10 07 26.9**	**+0.2**
TABS	**Tabas**	**3.62**	**353**	*e*Pn	**Pn**	**10 07 27.9**	**+0.8**
TABS				IAML		10 08 34.1	
	comp=N,28μm,0.7s						
TABS				IAML		10 08 36.0	
	comp=E,7μm,0.5s						
**TABS

ASUD S Sn 10 09 06.8 +3.9
HRA Herat 5.82 41 Pn Pn 10 07 59.0 +1.5
SOHO SOHO 5.97 190 *i* P Pn 10 08 00.0 +0.7
SNR=69
SOHO SOHO 5.97 190 P Pn 10 08 02.3 +3.0
SOHO P Pn 10 08 02.3 +3.0
SOHO S Sn 10 09 12.0 +4.4
SOHO S Sn 10 09 12.0 +4.4
SHRO Shahrood 6.08 347 *e*Pn Pn 10 08 02.2 +1.2
SHRO Shahrood 6.08 347 *e*Pn Pn 10 08 02.2 +1.2
KRSH Karshahi 6.10 311 *e*Pn Pn 10 08 02.7 +1.5
IKLH Kolahrood 6.11 304 *e*Pn Pn 10 08 03.1 +1.6
ALNE Al Ain 6.20 196 *i* P Pn 10 08 04.1 +1.6
SNR=86
ALNE Al Ain 6.20 196 P Pn 10 08 05.0 +2.5
ALNE P Pn 10 08 05.0 +2.5
ALNE S Sn 10 09 17.0 +3.7
ALNE S Sn 10 09 17.0 +3.7
IMOG Moghan 6.21 13 *e*Pn Pn 10 08 03.8 +0.9
SHK1 Shahrekord 6.22 293 *e*Pn Pn 10 08 05.4 +2.4
IANJ Anjilo 6.25 331 *e*Pn Pn 10 08 04.8 +1.4
JRKH Jarkhoshk 6.27 21 *e*Pn Pn 10 08 04.3 +0.7
ISFB Sefidab 6.28 315 *e*Pn Pn 10 08 05.0 +1.4
SBZV Sabzevar 6.33 360 *e*Pn Pn 10 08 05.2 +0.8
IPIR Pirpir 6.35 296 *e*Pn Pn 10 08 07.0 +2.2
ABEH Behbahan 6.41 277 *e*Pn Pn 10 08 06.4 +1.0
HOQ Hoqain 6.44 183 S Sn 10 09 21.1 +1.7
QAMS Qamsar 6.46 306 *e*Pn Pn 10 08 08.4 +2.1
IPAY Payeh 6.49 10 *e*Pn Pn 10 08 08.3 +1.7
BIDO Bidbid 6.51 176 P Pn 10 08 07.6 +0.8
SNR=16
BIDO P Pn 10 08 07.6 +0.8
SNR=16
IAKL Akhelmad 6.61 8 *e*Pn Pn 10 08 09.7 +1.4
IMYA Miami 6.61 18 *e*Pn Pn 10 08 10.3 +2.1
ILAS Lasjerd 6.63 325 *e*Pn Pn 10 08 10.0 +1.5
ISHM Shahmirzad 6.81 329 *e*Pn Pn 10 08 13.2 +2.1
WSAR Wadi Sarin 6.84 172 Pn Pn 10 08 11.6 +0.4
comp=E,21nm,0.3s,baz=16,slow=10,SNR=112
WSAR Sn Sn 10 09 22.5 -6.5
baz=28,slow=17,SNR=1.1
WSAR LR LR 10 11 13.9
comp=E,4μm,19.0s,baz=4.5,slow=41
WSAR Wadi Sarin 6.84 172 P Pn 10 08 12.1 +0.8
SNR=47
IKRD Kardeh 6.89 13 *e*Pn Pn 10 08 14.5 +2.3
IFIR Firoozkooh 6.93 325 *e*Pn Pn 10 08 13.4 +0.6
GHVR GHOM 6.96 311 *e*Pn Pn 10 08 14.8 +1.8
GHVR GHOM 6.96 311 *e*Pn Pn 10 08 14.8 +1.8
SMDO Samad 6.97 177 P Pn 10 08 14.8 +1.6
SNR=29
SMDO P Pn 10 08 14.8 +1.6
SNR=29
SMDO S Sn 10 09 34.6 +2.2
SMDO S Sn 10 09 34.6 +2.2
ISFR Sfrayin 7.00 2 *e*Pn Pn 10 08 15.2 +1.5
IVRN Varamin 7.02 316 *e*Pn Pn 10 08 15.5 +1.7
IGLO Ghaloghah 7.19 335 *e*Pn Pn 10 08 18.1 +1.9
SHMA Al-Shehemyia 7.23 236 P Pn 10 08 17.6 +1.0
SHMA S Sn 10 09 37.1 -1.6
IDMV Damavand 7.26 321 *e*Pn Pn 10 08 18.2 +0.9
BSY Bisya 7.28 183 P Pn 10 08 20.9 +3.5
SNR=55
BSY S Sn 10 09 42.5 +2.5
IQOM Qom 7.33 312 *e*Pn Pn 10 08 19.6 +1.4
IEMG Emamgholi 7.40 6 *e*Pn Pn 10 08 20.1 +0.9
GHWR Ruwais 7.40 216 P Pn 10 08 18.8 -0.2
GHWR P Pn 10 08 18.8 -0.2
GHWR S Sn 10 09 41.6 -1.2
GHWR S Sn 10 09 41.6 -1.2
IMND Minoodasht 7.43 346 *e*Pn Pn 10 08 20.7 +1.3
SAKB Bahrain 7.47 239 P Pn 10 08 20.6 +0.6
SAKB S Sn 10 09 43.0 -1.6
WBK Wadi Bani Khal 7.50 171 P Pn 10 08 20.6 +0.2
SNR=42
KHMZ Khomeyn 7.50 301 *e*Pn Pn 10 08 22.2 +1.7
KHMZ Khomeyn 7.50 301 *e*Pn Pn 10 08 22.2 +1.7
IHSB Hasanabad 7.59 317 *e*Pn Pn 10 08 23.5 +1.8
IPRN Peran 7.61 326 *e*Pn Pn 10 08 23.9 +1.9
UMZA Um Al Zommool 7.63 198 P Pn 10 08 22.6 +0.4
BJRD Bojnurd 7.64 359 *e*Pn Pn 10 08 24.3 +2.0
BJRD Bojnurd 7.64 359 *e*Pn Pn 10 08 24.3 +2.0
JMDO Jabal Madar 7.66 177 P Pn 10 08 23.8 +1.3
SNR=26
JMDO P Pn 10 08 23.8 +1.3
SNR=26
JMDO S Sn 10 09 51.2 +2.0
JMDO S Sn 10 09 51.2 +2.0
MRVT Maraveh tapeh 7.70 351 *e*Pn Pn 10 08 24.3 +1.1
MRVT Maraveh tapeh 7.70 351 *e*Pn Pn 10 08 24.3 +1.1
TEH Tehran 7.74 319 *e*Pn Pn 10 08 25.6 +1.8
TRNA Turayna 7.79 229 P Pn 10 08 24.2 -0.1
TRNA S Sn 10 09 49.8 -2.6
ASAO Ashtian 7.86 307 *e*Pn Pn 10 08 26.7 +1.3
ASAO Ashtian 7.86 307 *e*Pn Pn 10 08 26.7 +1.3
GEYT Alibeck 7.87 3 Pn Pn 10 08 26.5 +1.0
comp=E,14nm,0.3s,baz=189,slow=16,SNR=43
GEYT Sn Sn 10 09 53.9 -0.6
baz=191,slow=22,SNR=2.1
GEYT Lg Lg 10 10 41.8
comp=E,9.0nm,0.3s,baz=192,slow=40,SNR=1.7
GEYT LR LR 10 12 16.6
comp=E,4μm,21.0s,baz=190,slow=43
GEYT Alibeck 7.87 3 Pn Pn 10 08 26.1 +0.6
GYA0 ALIBECK ARRAY 7.87 3 P Pn 10 08 26.5 +1.0
GYA0B ALIBECK ARRAY 7.87 3 Pn Pn 10 08 26.5 +1.0
ASHT Ashkhabad 7.90 4 P Pn 10 08 25.8 0.0
ASHT Ashkhabad 7.90 4 Pn Pn 10 08 25.8 0.0
SLWR Sila 7.97 223 P Pn 10 08 26.3 -0.6
SLWR P Pn 10 08 26.3 -0.6
SLWR S Sn 10 09 55.2 -1.7
SLWR S Sn 10 09 55.2 -1.7
CHTH Charan 8.01 319 *e*Pn Pn 10 08 29.1 +1.6
CHTH Charan 8.01 319 *e*Pn Pn 10 08 29.1 +1.6
JLN Jalan Bani Buh 8.02 168 P Pn 10 08 27.1 -0.4
SNR=9.6
JLN P Pn 10 08 27.1 -0.4
SNR=9.6
SLWS 8.12 232 P Pn 10 08 28.9 0.0
SLWS S Sn 10 09 58.4 -2.3
IMHD Mahdasht 8.13 316 *e*Pn Pn 10 08 30.7 +1.7
THKV Tehran--Karaj 8.16 318 *e*Pn Pn 10 08 30.1 +0.6
THKV Tehran--Karaj 8.16 318 *e*Pn Pn 10 08 30.1 +0.6
BMDN Meydan 8.33 298 *e*Pn Pn 10 08 33.0 +1.2
IRAZ Razeghan 8.41 311 *e*Pn Pn 10 08 34.5 +1.5
HAGD Aghdareh 8.62 306 *e*Pn Pn 10 08 39.7 +3.8
QALM Alamut, Qazvin 8.65 319 *e*Pn Pn 10 08 38.6 +2.2
HSAM Samen 8.72 301 *e*Pn Pn 10 08 38.0 +0.7
QABG Abgarm-Qazvin 8.82 312 *e*Pn Pn 10 08 40.1 +1.4
IDOB Doab 8.87 297 *e*Pn Pn 10 08 40.4 +1.1
IGZV Ghazvin 8.87 317 *e*Pn Pn 10 08 41.5 +2.2
QCNT Qazvin 8.93 316 *e*Pn Pn 10 08 41.4 +1.4
MHTO MHTO 9.03 178 P Pn 10 08 43.9 +2.6
SNR=42
IKFM Kafar-mosalman 9.03 295 *e*Pn Pn 10 08 42.4 +1.1
SMAN Sihmah 9.29 248 P Pn 10 08 43.5 -1.5
NHRD Haradh 9.32 237 P Pn 10 08 45.1 -0.2
JIR1 Jirandeh 9.33 317 *e*Pn Pn 10 08 47.8 +2.2
IALM Almabolaq 9.33 303 *e*Pn Pn 10 08 47.7 +2.0
IBZA Bozab 9.38 301 *e*Pn Pn 10 08 46.7 +0.3
QSDN Sirdan 9.58 314 *e*Pn Pn 10 08 50.6 +1.6
QYSM Um Kedad 9.68 260 P Pn 10 08 48.6 -1.7
KCHF Cheshme Sefid, 9.93 298 *e*Pn Pn 10 08 55.1 +1.3
ZNJK Zanjan 9.98 314 *e*Pn Pn 10 08 56.4 +1.8
ZNJK Zanjan 9.98 314 *e*Pn Pn 10 08 56.4 +1.8
DQM DQM 10.07 181 P Pn 10 08 57.9 +2.3
ILIN Lien 10.24 301 *e*Pn Pn 10 08 59.9 +1.7
IGHG Ghaleghazi 10.31 297 *e*Pn Pn 10 08 59.4 +0.3
IDHR Dehrash 10.59 299 *e*Pn Pn 10 09 02.5 -0.4
RQBS RQBS 10.61 258 P Pn 10 09 00.6 -2.4
RQBS S Sn 10 10 52.4 -9.3
KBL Kabul 10.63 62 P Pn 10 09 04.8 +1.3
KBL Kabul 10.63 62 Pn Pn 10 09 04.8 +1.3
LKRN Lenkeran, Azer 11.32 322 P Pn 10 09 14.4 +1.7
ISRB Sarab 11.35 316 *e*Pn Pn 10 09 14.8 +1.6
DOK Doka 11.82 196 P Pn 10 09 19.0 -0.6
SNR=45
GRMI Germi 11.88 320 *e*Pn Pn 10 09 22.2 +1.8
GRMI Germi 11.88 320 *e*Pn Pn 10 09 22.2 +1.8
MAHB Mahabad 12.01 307 *e*Pn Pn 10 09 24.1 +1.8
IHRS Heris 12.04 316 *e*Pn Pn 10 09 24.9 +2.2
SHAO Shalim 12.11 189 P Pn 10 09 23.4 -0.2
SHAO Shalim 12.11 189 P Pn 10 09 23.7 +0.2
SNR=7.2
THW Thamme Wali 12.35 74 P Pn 10 09 29.2 +2.4
CEP Cherat 12.69 69 P Pn 10 09 34.1 +2.6
CHGR Chuyangaron 12.81 45 Pn Pn 10 09 33.6 +0.6
SARP Sargodha 13.03 78 P Pn 10 09 38.9 +2.8
NAX Nakhchivan 13.52 316 P Pn 10 09 44.9 +2.1
MNGR Mingechevir, A 13.72 324 P Pn 10 09 47.2 +1.7
GAR Garm 13.73 46 Pn 10 09 45.6 -0.2
NIL Nilore 13.74 71 P Pn 10 09 48.4 +2.5
NIL Nilore 13.74 71 Pn Pn 10 09 48.4 +2.5
CHCP Chirah Chowk 13.76 71 P Pn 10 09 48.2 +2.2
AKT Akhty 13.95 328 *e*P Pn 10 09 50.1 +1.4
AKT *e*S Sn 10 12 23.5 0.0
AKT pmax pmax
comp=Z,17nm,0.8s
AKT smax smax
comp=N,21nm,0.6s
AKT smax smax
comp=E,16nm,0.6s
SEKA Sheki 14.00 326 P Pn 10 09 49.8 +0.5
GANJ Ganja 14.03 322 P Pn 10 09 50.6 +0.9
MAKU Maku 14.13 315 *e*Pn Pn 10 09 53.4 +2.2
MAKU Maku 14.13 315 *e*Pn Pn 10 09 53.4 +2.2
GNI Garni 14.58 317 Pn P 10 09 59.9 -4.0
comp=E,0.5nm,0.3s,baz=147,slow=5.5,SNR=13
GNI Lg Lg 10 14 19.1
comp=E,1.3nm,0.3s,baz=255,slow=18,SNR=1.4
GNI LR LR 10 16 15.7
comp=E,6μm,18.7s,baz=112,slow=40
GNI Garni 14.58 317 P P 10 09 59.3 -4.6
GNI Garni 14.58 317 P P 10 09 59.4 -4.5
GNI Garni 14.58 317 Pn P 10 09 59.4 -4.5
SIRT Sirnak 14.66 304 Pn 10 09 57.6 -0.9
TAS Tashkent 14.69 37 P Pn 10 09 59.9 +1.2
TAS Tashkent 14.69 37 Pn 10 09 59.9 +1.2
DDFL Dedoflistskaro 14.71 324 P P 10 10 03.5 -1.7
DRK Karamyk 14.95 47 Pn 10 10 03.8 +1.3
GNBR Gunib 15.02 328‖ *e*P P 10 10 04.6 -4.0
MAK Makhachkala 15.23 331 *e*P P 10 10 08.6 -2.3
MAK *e*S Sn 10 12 57.5 +2.9
MAK pmax pmax
comp=Z,298nm,1.4s
MAK MLR MLR
comp=Z,4μm,16.0s
GURO Guroymak-BITLI 15.43 308 P 10 10 12.4 -0.9
GURO IAmb IAmb 10 10 22.1
comp=Z,144nm,1.0s
BTLR Botlikh 15.58 327⇑ *i*P P 10 10 12.3 -2.5
KZRT Kazreti 15.59 320 P P 10 10 13.7 -1.3
KARS Kars 15.88 316 P P 10 10 17.9 -0.3
AKH Akhalkalaki 16.12 319 P P 10 10 21.4 +0.4
GROC Groznyy 16.19 327 *e*P P 10 10 19.8 -1.7
GROC *e*S Sn 10 13 18.3 +0.5
GROC pmax pmax
comp=Z,340nm,0.6s
KK31 Karatay Array 16.61 35 P Pn 10 10 22.3 -1.4
KK31 pmax pmax
comp=Z,47nm,0.8s
KK31 Karatay Array 16.61 35 Pn Pn 10 10 22.3 -1.4
KKAR Karatay Array 16.61 35 P Pn 10 10 22.5 -1.2
KKAR Karatay Array 16.61 35 Pn 10 10 22.5 -1.2
ZEI Tsey 16.82 323 *e*P P 10 10 28.8 0.0
ZEI pmax pmax
comp=Z,294nm,1.5s
DZA Taraz 16.87 37 *e*P P 10 10 27.4 -1.7
baz=37
DZA Taraz 16.87 37 *e*P P 10 10 27.4 -1.7
ONI Oni 16.93 322 P P 10 10 28.6 -1.2
ONI pmax pmax
comp=Z,352nm,1.6s
ONI Oni 16.93 322 P 10 10 28.6 -1.2
ONI IAmb IAmb 10 10 45.1
comp=Z,352nm,1.6s
NCK Nalchik 17.48 324⇑ *e*P P 10 10 37.2 +1.3
NCK pmax pmax
comp=Z,361nm,1.8s
AML Almayashu 17.68 43 P P 10 10 38.5 0.0
SNR=23
AML Almayashu 17.68 43 *i*P P 10 10 37.5 -1.0
SNR=26
KSH Kashi 17.75 53 P Pn 10 10 33.0 -5.2
KSH S Sn 10 13 45.5 -10
KSH pmax pmax
comp=Z,720nm,2.0s
KSH pmax pmax
comp=Z,800nm,3.1s
KSH LR LR
comp=Z,10μm,9.0s
KSH LR LR
comp=Z,8μm,9.2s
KSH LR LR
comp=Z,4μm,6.4s
KBZ Khabaz 18.01 323 P P 10 10 42.3 +0.7
comp=Z,0.1nm,0.3s,baz=106,slow=11,SNR=16
KBZ Khabaz 18.01 323*d i*P P 10 10 42.1 +0.5
KBZ pmax pmax
comp=Z,27nm,1.8s
EKS2 Erkin-Say 18.05 41 P P 10 10 41.9 -0.4
SNR=31
SOCY Socotra 18.09 192 Pn 10 10 39.1 -3.3
SOCY Socotra 18.09 192 P Pn 10 10 40.6 -1.9
SNR=6.5
SHA1 Shidzhatmaz 18.14 323*d i*P P 10 10 44.8 +1.4
PYA1 Pyatigorsk 18.14 324↓‖ *e*P P 10 10 44.6 +1.4
UCH Uchtor 18.22 44 P P 10 10 44.1 -0.4
SNR=40
KVAR Kislovodsk Arr 18.27 324 P P 10 10 45.6 +1.0
baz=90,slow=20,SNR=1.6
KIV Kislovodsk 18.27 324 *i*P P 10 10 45.7 +1.0
SNR=62
KIV Kislovodsk 18.27 324 *e*P P 10 10 46.1 +1.4
KIV *e*S S 10 14 10.8 -2.7
KIV pmax pmax
comp=Z,160nm,1.1s
KIV Kislovodsk 18.27 324 P 10 10 46.7 +2.0
DOMR Dombai 18.39 320↓‖ *e*P P 10 10 49.4 +3.3
DOMR pmax pmax
comp=Z,47nm,1.0s
GAZ Gaziantep 18.43 298 P P 10 10 47.7 +1.3
AAK Ala-Archa 18.45 43 P Pn 10 10 48.4 +1.5
SNR=17
AAK Ala-Archa 18.45 43 P Pn 10 10 46.6 -0.2
AAK pmax pmax
comp=Z,79nm,1.0s
AAK Ala-Archa 18.45 43 P Pn 10 10 46.6 -0.2
KZA Kyzart 18.58 45 P Pn 10 10 49.0 +0.3
SNR=40
FRU1 Bishkek 18.64 42 P Pn 10 10 49.2 +0.2
FRU1 pmax pmax
comp=Z,376nm,1.7s
FRU1 Bishkek 18.64 42 P Pn 10 10 49.1 +0.2
FRU1 IAmb IAmb 10 11 17.4
comp=Z,376nm,1.6s
POO Poona 18.67 124 *e*P P 10 10 47.0 -2.2
KBK Karagaybulak 18.73 43 P Pn 10 10 51.2 +1.0
SNR=13
ARXR Arkhyz 18.76 320*de*P Pn 10 10 54.2 +3.6
ARXR pmax pmax
comp=Z,108nm,0.9s
USP Ospenovka 18.85 41 P Pn 10 10 53.9 +2.4
SNR=7.5
GOF Gofitskoye 18.89 327⇑ *e*P Pn 10 10 52.3 +0.3
GOF pmax pmax
comp=Z,276nm,2.0s
GHAJ Ghor Haditha 19.03 279 P Pn 10 10 54.4 +0.6
GHAJ IAmb IAmb 10 11 13.3
comp=Z,161nm,0.9s
SGDS Sogindy 19.04 41 *e*P P 10 10 52.2 -0.9
baz=41
SGDS *e*S S 10 14 31.1 +2.2
baz=41
SGDS Sogindy 19.04 41 *e*P P 10 10 52.2 -0.9
SGDS *e*S S 10 14 31.1 +2.2
MMAI Mount Meron Ar 19.18 285 P Pn 10 10 55.5 -0.2
comp=Z,2.7nm,0.3s,baz=94,slow=13,SNR=17
MMAI LR LR 10 19 44.1
comp=Z,5μm,19.7s,baz=80,slow=41
BOOM Boomskoye usch 19.23 45 P Pn 10 10 56.5 +0.2
BOOM pmax pmax
comp=Z,41nm,0.8s
BOOM Boomskoye usch 19.23 45 P Pn 10 10 56.5 +0.2
ABKAR Akbulak array 19.27 5 P Pn 10 10 55.9 -0.6
ABKAR IAmb IAmb 10 10 57.7
comp=Z,230nm,1.4s
TKM2 Tokmak 2 19.27 43 P Pn 10 10 57.2 +0.4
SNR=47
ULHL Ulahol 19.29 46 P Pn 10 10 57.4 +0.4
SNR=34
SOC Sochi 19.66 318 *e*P Pn 10 11 00.3 -0.9
SOC *e*S Sn 10 14 40.7 -1.0
SOC pmax pmax
comp=Z,65nm,1.1s
SOC MLR MLR
comp=Z,2μm,17.0s
EIL Elat 19.68 275 P Pn 10 11 02.0 +0.4
comp=Z,1.2nm,0.3s,baz=109,slow=6.2,SNR=76
EIL LR LR 10 20 31.6
comp=Z,4μm,19.0s,baz=94,slow=42
BTLS Baital 19.77 36 *e*P P 10 11 00.3 -0.7
baz=36
BTLS Baital 19.77 36 *e*P P 10 11 00.3 -0.7
KDJ Kajisay 19.81 47 P Pn 10 11 03.1 -0.1
KDJ pmax pmax
comp=Z,180nm,1.2s
KDJ Kajisay 19.81 47 P Pn 10 11 03.1 -0.1
KDJ IAmb IAmb 10 11 08.3
comp=Z,180nm,1.1s
BNN Bunyan 19.97 302 P Pn 10 11 04.7 -0.4
TARG Taragay, Kyrgy 20.02 49 Pn 10 11 05.8 -0.1
TARG IAmb IAmb 10 11 24.0
comp=Z,341nm,1.8s
KUU Kurty 20.29 42 *e*P P 10 11 06.1 -0.6
comp=Z,99nm,1.3s,baz=42
KUU *e*S Sn 10 14 55.8 -1.2
baz=42
KUU Kurty 20.29 42 *e*P Pn 10 11 06.9 -1.8
KUU *e*S Sn 10 14 55.7 -1.2
KUU pmax pmax
comp=Z,99nm,1.3s
MDOK Medeo 20.29 45 *e*P Pn 10 11 08.1 -0.7
baz=45
MDOK *e*S Sn 10 14 55.4 -1.8
baz=45
MDOK Medeo 20.29 45 *e*P Pn 10 11 08.0 -0.8
MDOK *e*S Sn 10 14 55.3 -1.9
AKTO Aktyubinsk 20.37 1 P Pn 10 11 07.7 -1.8
comp=Z,37nm,0.7s,baz=182,slow=11,SNR=109
AKTO LR LR 10 19 54.9
comp=Z,3μm,20.6s,baz=171,slow=39
CHKK Chushkaly 20.64 43 *e*P Pn 10 11 10.9 -1.9
baz=43
CHKK Chushkaly 20.64 43 *e*P Pn 10 11 10.9 -1.9
CSS Mathiatis 21.07 290 P P 10 11 16.1 +0.9
SATY Saty 21.07 46 *e*P P 10 11 15.6 +0.3
baz=46
SATY *e*S S 10 15 06.7 -2.9
baz=46
SATY Saty 21.07 46 *e*P P 10 11 15.5 +0.3
SATY *e*S S 10 15 06.6 -3.0
ARXS Arharly 21.34 43 *e*P P 10 11 19.2 +1.1
KPKS Kokpek 21.45 46 *e*P P 10 11 19.7 +0.4
comp=Z,39nm,1.1s,baz=46
KPKS *e*S S 10 15 20.4 +3.3
baz=46
KPKS Kokpek 21.45 46 *e*P P 10 11 19.7 +0.4
KPKS *e*S S 10 15 20.4 +3.3
KPKS pmax pmax
comp=Z,39nm,1.1s
SNOP Sinop 21.66 310 P P 10 11 21.7 +0.3
SNOP IAmb IAmb 10 11 43.0
comp=Z,180nm,1.5s
ANN Anapa 21.70 318*d i*P P 10 11 27.0 +5.2
ANN *e*S Sn 10 15 28.2 -2.6
ANN *e*SS SnSn 10 15 50.4 +4.3
ANN pmax pmax
comp=Z,179nm,1.2s
ANN MLR MLR
comp=Z,1μm,10.0s
SHLS Shalkode 21.79 47 *e*P P 10 11 26.0 +3.1
comp=Z,40nm,0.9s,baz=48
SHLS *e*S Sn 10 15 31.4 -1.8
baz=48
SHLS Shalkode 21.79 47 *e*P P 10 11 26.0 +3.1
SHLS *e*S Sn 10 15 31.3 -1.8
SHLS pmax pmax
comp=Z,40nm,0.9s
BR131 Keskin Array S 21.88 303 P P 10 11 24.0 +0.1
BR131 pmax pmax
comp=Z,88nm,0.8s
BR131 Keskin Array S 21.88 303 P P 10 11 24.0 +0.1
BR131 IAmb IAmb 10 11 32.3
comp=Z,88nm,0.8s
BR131 Keskin Array S 21.88 303 P P 10 11 24.6 +0.6
SNR=31
BR131 P P 10 11 24.6 +0.6
SNR=31
BR131 P P 10 11 24.6 +0.6
SNR=31
BRTR Keskin Array B 21.88 303 P P 10 11 24.1 +0.1
comp=Z,26nm,0.8s,baz=119,slow=12,SNR=50
BRTR LR LR 10 20 38.4
comp=Z,6μm,19.5s,baz=106,slow=38
BRTR Keskin Array B 21.88 303 P P 10 11 23.9 -0.1
TDK Taldyqorghan 22.14 42 *e*P P 10 11 26.0 -0.6
baz=42
TDK *i*S S 10 15 31.4 +1.1
baz=42
TDK Taldyqorghan 22.14 42 *e*P P 10 11 26.0 -0.6
TDK *i*S S 10 15 31.3 +1.1
PYUN Piuthan 22.23 89 *e*P P 10 11 29.3 +1.4
comp=Z,230nm,0.7s
BZK Bozkurt 22.44 308 P P 10 11 29.5 -0.4
ANTO Ankara 22.54 302 P P 10 11 30.5 -0.5
ANTO pmax pmax
comp=Z,83nm,0.9s
ANTO Ankara 22.54 302 P P 10 11 30.5 -0.5
ANTO IAmb IAmb 10 11 58.2
comp=Z,83nm,0.8s
BR231 Keskin MP Arra 22.54 302 P P 10 11 31.0 -0.1
BR231 IAmb IAmb 10 11 57.9
comp=Z,75nm,0.8s
KOLN Koldanda 22.82 89 *e*P P 10 11 35.3 +1.1
comp=Z,438nm,1.3s
DANN Dangsing 22.85 88 *e*P P 10 11 35.8 +1.2
comp=Z,1μm,1.2s
HYB Hyderabad 22.85 119 *i*P P 10 11 35.0 +0.6
HYB *es*P sP 10 11 41.0 +0.6
BRZS Berezniki 22.92 25 *e*P P 10 11 34.8 0.0
baz=26
BRZS *e*S S 10 15 45.5 +1.0
baz=26
BRZS Berezniki 22.92 25 *e*P P 10 11 34.8 0.0
BRZS *e*S S 10 15 45.5 +1.0
ATD Arta Tunnel 22.99 220 P P 10 11 36.5 +0.7
comp=Z,18nm,0.9s,baz=69,slow=16,SNR=1.8
ATD LR LR 10 22 07.6
comp=Z,3μm,19.8s,baz=37,slow=41
GKN Gorkha 23.67 88 *e*P P 10 11 43.9 +1.1
comp=Z,378nm,1.4s
ISP Isparta 23.75 296 P P 10 11 43.9 +0.5
ISP pmax pmax
comp=Z,89nm,0.9s
ISP Isparta 23.75 296 P P 10 11 43.9 +0.5
ISP IAmb IAmb 10 11 53.1
comp=Z,89nm,0.9s
SIM Simferopol' 23.75 315 P P 10 11 42.5 -0.7
SIM *e*S S 10 16 02.8 +4.6
SIM pmax pmax
comp=Z,1μm,3.9s
MDUB Mudurnu 23.89 303 P P 10 11 44.6 -0.1
ELL Elmali 24.05 293 P P 10 11 46.2 -0.1
ELL pmax pmax
comp=Z,255nm,0.7s
ELL Elmali 24.05 293 P P 10 11 46.1 -0.1
VRH Novokhopyorsk 24.25 335 *e*P P 10 11 46.8 -0.9
VRH *e*S S 10 16 04.3 -1.6
VRH pmax pmax
comp=Z,110nm,1.0s
VRH smax smax
comp=E,640nm,9.0s
VRH MLR MLR
comp=Z,2μm,15.0s
KKN Kakani 24.27 88 *e*P P 10 11 49.3 +0.8
comp=Z,113nm,0.8s
PKIN Phulchoki 24.42 89 *e*P P 10 11 50.5 +0.6
PKI Pulchoki 24.43 89 *e*P P 10 11 50.5 +0.4
comp=Z,267nm,1.2s
GUN Gumba 24.77 88 *e*P P 10 11 54.0 +0.8
comp=Z,359nm,1.1s
BRVK Borovoye 24.79 18*d i*P P 10 11 52.5 -0.2

BRVK pmax pmax
comp=Z,107nm,1.0s
BRVK Borovoye 24.79 18 P P 10 11 53.2 +0.5
BRVK IAmb IAmb 10 11 55.0
comp=Z,86nm,0.9s
BRVK Borovoye 24.79 18 P P 10 11 53.8 +1.1
BRVK P 10 11 53.8 +1.1
BVAR Borovoye Array 24.79 19 P P 10 11 52.7 0.0
comp=Z,60nm,0.8s,baz=192,slow=19,SNR=130
VORD Divnogorie 25.00 332 *e*P **P 10 11 57.2 +2.6**
VORD pmax pmax
comp=Z,50nm,1.2s
JIRN Jiri 25.09 88 *e*P **P 10 11 56.8 +0.7**
MAKZ Makanchi 25.21 42 P **P 10 11 57.1 +0.5**
MAKZ pmax pmax
comp=Z,112nm,1.0s
MAKZ Makanchi 25.21 42 P **P 10 11 57.1 +0.5**
MK31 Makanchi Array 25.39 42 P **P 10 11 58.7 +0.5**
MK31 pmax pmax
comp=Z,31nm,0.9s
MK31 Makanchi Array 25.39 42 P **P 10 11 58.7 +0.5**
MKAR Makanchi Array 25.39 42 P **P 10 11 58.9 +0.6**
comp=Z,28nm,0.7s,baz=226,slow=8.6,SNR=128
MKAR LR LR 10 22 34.4
comp=Z,2μm,21.1s,baz=241,slow=38
MKAR P3KPbc 10 44 55.6
comp=Z,3.3nm,1.2s,baz=49,slow=4.4,SNR=9.2
MKAR Makanchi Array 25.39 42 P **P 10 11 58.3 +0.1**
MKAR Makanchi Array 25.39 42 P **P 10 11 58.2 +0.1**
RAMN Ramite 25.60 90 *e*P **P 10 12 01.3 +0.7**
comp=Z,64nm,0.6s
KURBB Kurchatov Arra 25.84 31 P **P 10 12 03.3 +1.1**
comp=Z,35nm,1.0s,baz=230,slow=9.0,SNR=133
KURK Kurchatov 25.94 31 P **P 10 12 03.3 +0.1**
KURK Kurchatov 25.94 31 P **P 10 12 03.3 +0.1**
BALB Balikesir 26.14 300 P **P 10 12 04.0 -1.0**
BALB IAmb IAmb 10 12 55.1
comp=Z,82nm,1.0s
KARP Karpathos 26.14 290 P **P 10 12 04.6 -0.6**
ODAN Odare 26.31 90 *e*P **P 10 12 07.1 +0.1**
comp=Z,181nm,1.1s
ARU Arti 26.38 1 P **P 10 12 07.6 +0.5**
comp=Z,2.5nm,0.8s,baz=187,slow=9.9,SNR=14
ARU Arti 26.38 1*d i*P **P 10 12 07.5 +0.5**
ARU 10 12 50.0
ARU S **S 10 16 40.0 +0.1**
ARU pmax pmax
comp=Z,36nm,1.3s
ARU MLR MLR
comp=Z,2μm,20.0s
ARU Arti 26.38 1 P **P 10 12 07.2 +0.1**
ARU IAmb IAmb 10 12 24.4
comp=Z,49nm,1.1s
LPSR Galich'ya Gora 26.41 334 *e*P **P 10 12 07.1 -0.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,1μm,27.0s
TAPN Taplejung 26.47 88 *e*P **P 10 12 08.7 +0.1**
comp=Z,51nm,0.8s
SEM Semipalatinsk 26.49 33 *e*P **P 10 12 07.7 -0.7**
baz=34
SEM Semipalatinsk 26.49 33 *e*P **P 10 12 07.7 -0.7**
SVE Sverdlovsk 26.86 4 *e*P **P 10 12 12.6 +1.3**
SVE *e*S **S 10 16 47.9 +0.6**
SVE pmax pmax
comp=Z,63nm,1.6s
SVE MLR MLR
comp=Z,1μm,14.0s
JURR Jurilovca 26.99 311 ⇑P **P 10 12 13.3 +0.6**
ZSN Zaisan 27.23 43 *e*P **P 10 12 12.7 -2.3**
baz=43
ZSN *e*S **S 10 16 55.5 +1.9**
baz=43
ZSN Zaisan 27.23 43 *e*P **P 10 12 12.6 -2.3**
ZSN *e*S **S 10 16 55.5 +1.9**
TPGR Topolog 27.33 311 ⇓P **P 10 12 16.9 +1.1**
WMQ Urumqi 27.50 52 *e*P **P 10 12 19.0 +1.6**
WMQ pP sP 10 12 24.5 +0.4
WMQ S **S 10 17 01.8 +3.7**
WMQ pmax pmax
comp=Z,32nm,1.3s
WMQ pmax pmax
comp=Z,380nm,5.9s
WMQ LR LR
comp=Z,11μm,28.1s
WMQ LR LR
comp=Z,4μm,13.3s
WMQ LR LR
comp=Z,3μm,21.1s
SANT Santorini 27.58 292 ⇓P **P 10 12 18.1 0.0**
SANT Santorini 27.58 292 P **P 10 12 17.0 -1.1**
HARR Harsova 27.59 310 ⇑P **P 10 12 19.4 +1.3**
HARR Harsova 27.59 310 ⇑P **P 10 12 19.4 +1.3**
CFR Carcaliu 27.64 311 ⇑P **P 10 12 19.4 +0.9**
CFR Carcaliu 27.64 311 ⇑P **P 10 12 19.4 +0.9**
KIS Kishinev 27.98 315 ⇑*i*P **P 10 12 27.0 +5.5**
comp=Z,160nm,3.6s
KIS Kishinev 27.98 315*c i*P **P 10 12 27.0 +5.5**
KIS *e*PPP PPP 10 13 17.0
KIS *e*S **S 10 17 09.0 +3.7**
KIS pmax pmax
comp=Z,160nm,3.6s
IDI Anoyia 27.99 289 P **P 10 12 22.5 +0.6**
comp=Z,13nm,0.8s,baz=90,slow=11,SNR=8.9
IDI LR LR 10 27 02.5
comp=Z,850nm,20.2s,baz=84,slow=44
IDI Anoyia 27.99 289 ⇑P **P 10 12 22.1 +0.3**
IDI Anoyia 27.99 289 P **P 10 12 21.7 -0.1**
IDI IAmb IAmb 10 12 46.9
comp=Z,47nm,0.8s
RAZG Razgrad 28.16 307 ⇑P **P 10 12 24.4 +1.1**
ISR Istrita 28.66 310 ⇓P **P 10 12 28.7 +1.0**
ISR Istrita 28.66 310 ⇓P **P 10 12 28.7 +1.0**
BISRR Bisoca 28.71 311 ⇓P **P 10 12 30.0 +1.8**
SORM Soroca 28.79 317 ⇑P **P 10 12 29.3 +0.6**
SORM Soroca 28.79 317 ⇑P **P 10 12 29.3 +0.6**
VRI Vrincioaia 28.82 312 ⇓P **P 10 12 29.7 +0.6**
VRI Vrincioaia 28.82 312 ⇓P **P 10 12 29.7 +0.6**
PLOR Plostina 28.86 312 ⇑P **P 10 12 30.5 +1.0**
PLOR Plostina 28.86 312 ⇑P **P 10 12 30.5 +1.0**
NEHR Nehoiu 28.94 311 ⇓P **P 10 12 31.9 +1.7**
KIRV Kirov 29.09 351 P **P 10 12 31.7 +0.4**
comp=Z,19nm,0.5s,baz=115,slow=3.8,SNR=6.8
KIRV LR LR 10 26 36.0
comp=Z,1μm,18.6s,baz=169,slow=41
TESR Tescani 29.12 313 ⇑P **P 10 12 32.9 +1.2**
MLR Muntele Rosu 29.19 311 P **P 10 12 33.3 +0.8**
comp=Z,14nm,0.8s,baz=52,slow=4.8,SNR=21
MLR LR LR 10 26 30.0
comp=Z,1μm,18.4s,baz=121,slow=41
MLR Muntele Rosu 29.19 311 ⇑P **P 10 12 34.0 +1.5**
MLR Muntele Rosu 29.19 311 P **P 10 12 32.8 +0.3**
MLR pmax pmax
comp=Z,61nm,1.2s
MLR Muntele Rosu 29.19 311 P **P 10 12 32.8 +0.3**
MLR IAmb IAmb 10 13 24.1
comp=Z,61nm,1.2s
OBN Obninsk 29.24 335 P **P 10 12 32.9 +0.2**
comp=Z,6.9nm,0.3s,baz=124,slow=11,SNR=1.3
OBN Obninsk 29.24 335 ⇑P **P 10 12 34.2 +1.6**
OBN Obninsk 29.24 335*d i*P **P 10 12 33.2 +0.6**
OBN *e* 10 13 27.8
OBN *e*S **S 10 17 31.0 +6.1**
OBN *i* SS **SnSn 10 19 02.3 +12**
OBN pmax pmax
comp=Z,79nm,1.7s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 29.24 335 P **P 10 12 33.4 +0.8**
MOS Moscow 29.36 337 *e*P **P 10 12 32.7 -1.0**
MOS *e* 10 13 27.7
MOS *e* 10 13 49.2
MOS *e* 10 15 38.1
MOS *e*S **S 10 17 27.0 +0.3**
MOS pmax pmax
comp=Z,300nm,3.0s
MOS pmax pmax
comp=Z,62nm,1.4s
MOS MLR MLR
comp=Z,1μm,17.0s
OZUR 29.51 312 ⇑P **P 10 12 36.7 +1.5**
AKASG Malin Array Be 29.61 322 P **P 10 12 36.0 0.0**
comp=Z,3.9nm,0.5s,baz=123,slow=8.3,SNR=36
AKASG PcP **PcP 10 15 39.8 -0.7**
comp=Z,2.6nm,0.6s,baz=97,slow=2.6,SNR=4.4
AKASG ScP **ScP 10 19 20.8 -1.3**
comp=Z,0.3nm,0.3s,baz=90,slow=3.7,SNR=4.5
AKASG LR LR 10 26 48.3
comp=Z,1μm,18.3s,baz=120,slow=41
AKASG Malin Array Be 29.61 322 P **P 10 12 35.5 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 29.61 322 P **P 10 12 35.5 -0.5**
AKBB Malin Array Si 29.61 322 P **P 10 12 36.0 0.0**
AKBB pmax pmax
comp=Z,23nm,0.7s
AKBB Malin Array Si 29.61 322 P **P 10 12 36.0 0.0**
AKBB IAmb IAmb 10 12 42.4
comp=Z,23nm,0.7s
BIZ Bicaz 29.63 314 ⇓P **P 10 12 37.7 +1.4**
DOPR Dopca 29.72 311 ⇑P **P 10 12 37.5 +0.4**
VOIR 29.76 310 ⇑P **P 10 12 39.0 +1.5**
VOIR 29.76 310 ⇑P **P 10 12 39.0 +1.5**
DGZ Jazzator, Alta 29.83 40*d i*P **P 10 12 39.4 +1.2**
ARR Arges 30.02 310 ⇑P **P 10 12 40.8 +1.1**
VTS Vitosha 30.22 304 ⇓P **P 10 12 42.5 +0.8**
VTS Vitosha 30.22 304 P **P 10 12 41.3 -0.4**
VTS pmax pmax
comp=Z,15nm,1.0s
VTS Vitosha 30.22 304 P **P 10 12 41.3 -0.4**
VAY Valandovo 30.44 301 *i* P **P 10 12 43.7 +0.3**
ITM Ithomi 30.45 293 P **P 10 12 43.1 -0.6**
ITM IAmb IAmb 10 13 23.7
comp=Z,28nm,1.0s
BURAR Bucovina Array 30.46 314 ⇑P **P 10 12 45.1 +1.4**
BURAR Bucovina Array 30.46 314 ⇑P **P 10 12 45.1 +1.4**
BURAR Bucovina Array 30.46 314 P **P 10 12 43.9 +0.2**
BUR08 Bucovina Ar. S 30.48 314 P **P 10 12 44.2 +0.3**
STIP Stip 30.79 302 *i* P **P 10 12 44.7 -1.9**
ZAA0 Zalesovo Array 30.93 32 P **P 10 12 47.5 -0.1**
ZALV Zalesovo Beam 30.93 32 P **P 10 12 48.1 +0.5**
comp=Z,41nm,0.6s,baz=238,slow=9.4,SNR=103
ZALV LR LR 10 26 05.4
comp=Z,980nm,20.4s,baz=233,slow=38
ZALV Zalesovo Beam 30.93 32 *i* P **P 10 12 48.0 +0.4**
ZALV pmax pmax
comp=Z,41nm,0.6s
ZALV Zalesovo Beam 30.93 32 P **P 10 12 47.5 -0.1**
FNA Florina 31.24 300 P **P 10 12 50.0 -0.6**
FNA pmax pmax
comp=Z,13nm,0.8s
FNA Florina 31.24 300 P **P 10 12 50.0 -0.6**
SKO Skopje 31.39 302 *i* P **P 10 12 51.9 0.0**
BOVS Bovan 31.54 305 ⇑P **P 10 12 53.5 +0.3**
OHR Ohrid 31.72 300 *i* P P 10 12 42.5 -12
MDVR Moldovita 31.82 308 ⇑P **P 10 12 56.7 +1.0**
LVV L'vov 32.09 318 *e*P **P 10 12 57.1 -0.8**
LVV *e*S **S 10 18 07.1 -2.6**
SIRR Siria 32.27 310 ⇑P **P 10 13 00.5 +0.9**
MNK Minsk 32.47 327 *i* P **P 10 13 02.2 +1.1**
MNK *i* 10 14 10.1
MNK *i* PPP PPP 10 14 20.7
MNK *i* 10 15 48.3
MNK *i* S **S 10 18 16.1 +0.6**
MNK *i* SS **SnSn 10 20 12.1 +3.4**
MNK *i* SSS SSS 10 20 28.4
MNK *i* 10 23 28.9
MNK pmax pmax
comp=Z,49nm,0.8s
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=E,98nm,16.0s
MNK MLR MLR
comp=Z,572nm,14.0s
MNK MLR MLR
comp=N,660nm,15.0s
MNK Minsk 32.47 327 *i* P **P 10 13 02.3 +1.1**
comp=E,4.0nm,0.8s
MNK *i* P **P 10 13 02.3 +1.1**
comp=N,19nm,0.8s
MNK *i* P **P 10 13 02.3 +1.1**
comp=Z,49nm,0.8s,baz=307
MNK *i* PP **PP 10 14 10.1 -4.3**
MNK *i* PPP PPP 10 14 20.7
MNK *i* PcP **PcP 10 15 48.3 +0.3**
MNK *i* S **S 10 18 16.1 +0.7**
MNK *i* SS **SnSn 10 20 12.2 +3.5**
MNK *i* SSS SSS 10 20 28.4
MNK *i* ScS **ScS 10 23 29.0 -1.6**
MNK *i* LQ LQ 10 23 47.4
MNK *i* LR LR 10 25 52.5
MNK *i* LRM MLR 10 27 18.5
MNK *i* LRM MLR 10 27 35.6
comp=N,660nm,15.5s
MNK *i* LRM MLR 10 27 35.6
comp=Z,572nm,14.2s
PUK Puka 32.54 302 P **P 10 13 00.1 -1.9**
UZH Uzhgorod 32.66 315 *e*P **P 10 13 03.0 +0.1**
UZH *e*S **S 10 18 17.0 -1.5**
KOLS Kolonicke sedl 32.78 315 *e*P **P 10 13 05.4 +1.4**
KOLS Kolonicke sedl 32.78 315 *e*P **P 10 13 05.4 +1.4**
DIVS Divibare 32.85 306 P **P 10 13 05.2 +0.4**
KLMR Klimovskoe 33.09 344 *e*P **P 10 13 04.3 -2.2**
KLMR *e*S **S 10 18 19.8 -5.2**
KLMR pmax pmax
comp=Z,47nm,1.3s
KLMR MLR MLR
comp=Z,2μm,14.0s
KLMR Klimovskoe 33.09 344 *e*P **P 10 13 04.3 -2.2**
KLMR AMP 10 13 16.9
comp=Z,47nm,1.3s
KLMR *e*S **S 10 18 19.8 -5.2**
KLMR *e*S **S 10 18 19.8 -5.2**
KLMR LQ LQ 10 23 15.7
KLMR LQ LQ 10 23 15.7
KLMR LR LR 10 26 25.6
KLMR AMP 10 30 22.4
comp=Z,2μm,14.1s
CRVS Cervenica-Dubn 33.27 315 *e*P **P 10 13 09.0 +0.8**
CRVS pmax pmax
comp=Z,168nm,2.5s
CRVS Cervenica-Dubn 33.27 315 *e*P **P 10 13 09.0 +0.8**
LODK Lodwar 33.85 223 P **P 10 13 15.1 +1.4**
PSZ Piszkesteto 33.92 312 *e*P **P 10 13 13.7 -0.3**
PSZ Piszkesteto 33.92 312 P **P 10 13 13.3 -0.7**
PSZ pmax pmax
comp=Z,11nm,0.9s
PSZ Piszkesteto 33.92 312 P **P 10 13 13.3 -0.7**
MORH Mrgy, Hungar 34.27 309 ⇑P **P 10 13 17.9 +1.0**
MORH Mrgy, Hungar 34.27 309 *e*P **P 10 13 16.6 -0.3**
SUW Suwalki 34.51 324 P **P 10 13 18.8 -0.1**
SUW pmax pmax
comp=Z,69nm,1.0s
SUW Suwalki 34.51 324 P **P 10 13 18.8 -0.1**
LANS Liptovska Anna 34.59 314 *e*P **P 10 13 19.6 -0.1**
LANS pmax pmax
comp=Z,6.0nm,1.3s
LANS Liptovska Anna 34.59 314 *e*P **P 10 13 19.6 -0.1**
KOVH Kovagotottos 34.61 309 *e*P **P 10 13 19.6 -0.3**
TIP Timpagrande 34.62 296 ⇑P **P 10 13 20.5 +0.3**
TIP Timpagrande 34.62 296 P **P 10 13 19.6 -0.6**
TIP IAmb IAmb 10 13 55.4
comp=Z,37nm,1.3s
OJC Ojcow 34.75 316 *e*P **P 10 13 22.0 +0.9**
OJC Ojcow 34.75 316 P **P 10 13 20.8 -0.3**
OJC pmax pmax
comp=Z,28nm,0.9s
OJC Ojcow 34.75 316 P **P 10 13 20.8 -0.3**
OJC IAmb IAmb 10 13 27.1
comp=Z,28nm,0.9s
VYHS Vyhne 34.77 313 *e*P **P 10 13 22.4 +1.1**
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 34.77 313 *e*P **P 10 13 22.4 +1.1**
VYHS *e*PP **PP 10 14 47.4 +7.3**
CSKK Cskako 34.82 311 *e*P **P 10 13 21.5 -0.3**
PABE Paberze 34.90 327 P **P 10 13 22.4 +0.1**
MPLH Magyarpolny 35.24 310 *e*P **P 10 13 25.7 +0.3**
VSU Vasula 35.43 332*c e*P **P 10 13 26.9 +0.1**
VSU pmax pmax
comp=Z,70nm,1.1s
EGYH Egyhazaskeszo 35.44 311 *e*P **P 10 13 22.9 -4.1**
JAVC Velka Javorina 35.62 313 *e*P **P 10 13 29.5 +0.8**
OKC Ostrava-Krasne 35.62 315 AMS AMS 10 33 20.0
comp=Z,700nm,17.2s
GTA Gaotai 35.62 63 ⇑P **P 10 13 30.3 +1.4**
GTA pP sP 10 13 39.5 +4.3
GTA sP pP 10 13 43.5 +10
GTA S **S 10 19 06.8 +1.9**
GTA sS sS 10 19 19.5 +7.0
GTA pmax pmax
comp=Z,50nm,1.1s
GTA pmax pmax
comp=Z,260nm,10.4s
GTA LR LR
comp=Z,5μm,16.3s
GTA LR LR
comp=Z,3μm,16.3s
GTA LR LR
comp=Z,3μm,16.3s
SMOL Smolenice 35.67 313 *e*P **P 10 13 29.2 +0.1**
SMOL pmax pmax
comp=Z,8.0nm,0.9s
SMOL Smolenice 35.67 313 *e*P **P 10 13 29.2 +0.1**
SMOL *e*PP **PP 10 14 59.1 +9.1**
MODS Modra-Piesok 35.73 312 *e*P **P 10 13 30.7 +1.1**
MODS pmax pmax
comp=Z,12nm,0.9s
MODS Modra-Piesok 35.73 312 *e*P **P 10 13 30.7 +1.1**
MODS *e*PP **PP 10 14 59.2 +8.5**
MODS *e*SS SS 10 21 48.6 +6.9
ZST Bratislava 35.80 312 *e*P **P 10 13 30.7 +0.6**
ZST Bratislava 35.80 312 *e*P **P 10 13 30.7 +0.6**
ZST *e*PP PP 10 15 02.9 +12
MORC Moravsky Berou 35.98 315 P **P 10 13 31.3 -0.4**
MORC pmax pmax
comp=Z,42nm,0.9s
MORC Moravsky Berou 35.98 315 P **P 10 13 31.3 -0.4**
MORC IAmb IAmb 10 14 52.4
comp=Z,42nm,0.8s
MORC Moravsky Berou 35.98 315 *e*P **P 10 13 31.4 -0.3**
SOP Sopron 36.02 311 *e*P **P 10 13 31.8 -0.2**
GCIS Gornji Cirnik 36.24 308 *e*P **P 10 13 32.0 -2.0**
GOLS Golise 36.27 308 *e*P **P 10 13 34.1 -0.2**
PAOL Paolisi 36.40 299 P **P 10 13 34.3 -1.1**
VRAC Vranov 36.43 314 *e*P **P 10 13 35.7 +0.2**
VAE Valguarnera 36.45 293 P **P 10 13 37.2 +1.3**
comp=Z,6.4nm,0.5s,baz=73,slow=13,SNR=0.9
KRUC Moravsky 36.48 313 *e*P **P 10 13 36.2 +0.2**
RAFF Raffo Rosso 36.49 293 P **P 10 13 34.9 -1.4**
RAFF IAmb IAmb 10 14 54.5
comp=Z,45nm,1.1s
CONA Conrad Observa 36.53 311 *e*P **P 10 13 36.2 -0.3**
comp=Z,13nm,1.0s
KRLC Kraliky 36.54 315 AMS AMS 10 30 20.0
comp=Z,1μm,17.5s
KMBO Kilima Mbogo 36.60 216 P **P 10 13 38.0 +0.5**
comp=Z,8.9nm,1.1s,baz=12,slow=10,SNR=10
KMBO Kilima Mbogo 36.60 216⇑*e*P **P 10 13 39.0 +1.5**
KMBO pmax pmax
comp=Z,6.0nm,0.7s
ARSA Arzberg 36.60 310 *e*P **P 10 13 36.8 -0.2**
comp=Z,21nm,0.8s
SOKA Soboth 36.81 309 *e*P **P 10 13 39.2 +0.3**
comp=Z,7.6nm,0.8s
DPC Dobruska-Polom 36.90 315 *e*P **P 10 13 39.4 -0.2**
DPC *e**PP **sP 10 13 44.6 -1.6**
DPC *e* 10 15 11.0
DPC MLR MLR
comp=Z,1μm,22.4s
DPC Dobruska-Polom 36.90 315 *e*P **P 10 13 39.4 -0.2**
DPC *e*pP **sP 10 13 44.6 -1.6**
DPC *e*PP **PnPn 10 15 11.0 +7.4**
DPC AMS AMS 10 30 30.0
comp=Z,1μm,22.4s
OSTC Ostas 37.03 316 *e*P **P 10 13 41.8 +1.2**
OSTC AMS AMS 10 30 10.0
comp=Z,900nm,19.5s
CEY Cerknica 37.05 307 *e*P **P 10 13 38.8 -2.1**
KSP Ksiaz 37.07 316 *e*P **P 10 13 41.9 +1.0**
OBKA Obir 37.10 309 *e*P **P 10 13 41.7 +0.3**
comp=Z,15nm,0.9s
TREC Trest 37.12 313 *e*P **P 10 13 42.7 +1.3**
TREC MLR MLR
comp=Z,800nm,16.3s
TREC Trest 37.12 313 *e*P **P 10 13 42.7 +1.3**
TREC AMS AMS 10 34 50.0
comp=Z,800nm,16.3s
CHVC Chvalec 37.13 316 *e*P **P 10 13 42.3 +0.7**
CHVC *e*pP **sP 10 13 46.6 -1.5**
CHVC AMS AMS 10 30 10.0
comp=Z,900nm,21.0s
UPC Upice 37.14 315 AMS AMS 10 30 40.0
comp=Z,1μm,24.8s
KIBK Kibwezi 37.25 214 P **P 10 13 42.7 -0.2**
CORL Corleone 37.32 294 P **P 10 13 42.7 -0.6**
MOA Molln 37.56 311 *i* P **P 10 13 44.9 -0.3**
comp=Z,29nm,0.8s,SNR=14
NRCA Norcia 37.61 302 P **P 10 13 45.0 -0.8**
FINES FINESS Array B 37.64 336 P **P 10 13 45.6 0.0**
comp=Z,12nm,0.5s,baz=136,slow=9.3,SNR=116
FINES FINESS Array B 37.64 336 *i* P **P 10 13 45.7 +0.1**
FINES pmax pmax
comp=Z,12nm,0.4s
MYKA Terra Mystica 37.74 309 *e*P **P 10 13 47.1 +0.3**
comp=Z,7.8nm,0.8s
CKRC Cesky Krumlov 37.75 312 *e*P **P 10 13 46.9 +0.1**
CKRC *e*pP **sP 10 13 51.7 -1.7**
CKRC *e*PP **PnPn 10 15 19.6 +5.6**
CKRC *e*S **S 10 19 42.0 +5.0**
CKRC AMS AMS 10 29 40.0
comp=Z,1μm,22.2s
PRU Pruhonice 37.90 314 *e*P **P 10 13 49.5 +1.5**
PRU *e* 10 15 19.5
PRU *e*S **S 10 19 41.9 +2.8**
PRU MLR MLR
comp=Z,1μm,18.3s
PRU Pruhonice 37.90 314 *e*P **P 10 13 49.5 +1.5**
PRU *e*PP **PnPn 10 15 19.5 +3.8**
PRU *e*S **S 10 19 41.9 +2.8**
PRU AMS AMS 10 32 30.0
comp=Z,1μm,18.3s
PRA Prague 37.98 314 AMS AMS 10 32 40.0
comp=Z,1μm,20.1s
KBA Koelnbreinsper 38.02 309 *e*P **P 10 13 50.0 +0.7**
comp=Z,28nm,0.8s
PVCC Panska Ves 38.02 315 AMS AMS 10 31 10.0
comp=Z,2μm,25.2s
MURB Monte Urbino 38.08 303 P **P 10 13 50.1 +0.5**
MURB IAmb IAmb 10 14 16.6
comp=Z,100nm,1.4s
GEC2 GERESS Array S 38.15 312 P **P 10 13 49.5 -0.7**
GEC2 IAmb IAmb 10 13 56.2
comp=Z,36nm,0.9s
GEC2 GERESS Array S 38.15 312 *e*P **P 10 13 49.8 -0.4**
comp=Z,40nm,0.9s,baz=105,slow=8.2
GERES GERESS Array B 38.15 312 P **P 10 13 49.9 -0.4**
comp=Z,11nm,0.7s,baz=107,slow=8.7,SNR=43
GERES PcP **PcP 10 16 04.5 -0.3**
comp=Z,3.5nm,0.8s,baz=104,slow=4.1,SNR=3.2
GERES GERESS Array B 38.15 312 P **P 10 13 49.5 -0.7**
ZOU Zoufplan 38.18 308 P **P 10 13 50.1 -0.5**
KHC Kasperske Hory 38.29 313 *e*P **P 10 13 51.2 -0.2**
KHC *e**PP **sP 10 13 55.7 -2.3**
KHC *e* 10 15 24.2
KHC *e*S **S 10 19 46.5 +1.3**
KHC MLR MLR
comp=Z,900nm,16.4s
KHC Kasperske Hory 38.29 313 *e*P **P 10 13 51.2 -0.2**
KHC *e*pP **sP 10 13 55.7 -2.3**
KHC *e*PP **PnPn 10 15 24.2 +3.7**
KHC *e*S **S 10 19 46.5 +1.3**
KHC AMS AMS 10 32 40.0
comp=Z,900nm,16.4s
KHC Kasperske Hory 38.29 313 P **P 10 13 50.6 -0.8**
KHC IAmb IAmb 10 13 57.0
comp=Z,32nm,0.9s
BRG Berggiesshubel 38.50 315 *e*P **P 10 13 52.8 -0.3**
BRG Amp 10 13 54.6
comp=Z,5.7nm,1.0s
BRG Berggiesshubel 38.50 315 P P 10 13 57.7 +4.6
BRG Amp 10 13 59.1
comp=Z,10nm,0.9s
BRG Berggiesshubel 38.50 315 PP PP 10 15 23.0 +1.9
BRG Berggiesshubel 38.50 315 S **S 10 19 46.0 -2.2**
BRG Berggiesshubel 38.50 315 SS SS 10 22 46.0 +8.4

BRG Amp 10 31 40.0
comp=Z,1.4nm,22.7s
BRG Amp 10 32 02.0
comp=N,0.9nm,21.3s
BRG Amp 10 32 05.0
comp=E,1.4nm,18.4s
MOY Mondy 38.51 43 *e*P **P 10 13 55.4 +2.1**
MOY pmax pmax
comp=Z,61nm,1.3s
ABTA Abfaltersbach 38.53 309 *i* P **P 10 13 52.9 -0.6**
comp=Z,6.1nm,0.7s,SNR=14
WET Wettzell 38.74 312 *e*P **P 10 13 54.5 -0.6**
comp=Z,48nm,1.6s,baz=105,slow=8.2
LZH Lanzhou 38.90 69 ⇑P **P 10 13 58.0 +1.2**
LZH pP sP 10 14 11.0 +7.9
LZH sP pP 10 14 13.5 +12
LZH PP **PnPn 10 15 30.5 +2.4**
LZH *e*S **S 10 19 53.3 -1.6**
LZH sS sS 10 20 13.0 +11
LZH SS **SnSn 10 22 40.5 -4.6**
LZH pmax pmax
comp=Z,51nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.4s
LZH LR LR
comp=Z,4μm,13.8s
LZH LR LR
comp=Z,2μm,14.0s
LZH LR LR
comp=Z,2μm,16.3s
CTI Castel Tesino 39.01 307 P **P 10 13 55.8 -1.7**
CTI pmax pmax
comp=Z,16nm,0.8s
CTI Castel Tesino 39.01 307 P **P 10 13 55.8 -1.7**
CM32 Chiang Mai Arr 39.02 97 P **P 10 13 58.0 +0.2**
CHTO Chiang Mai 39.04 97 P **P 10 13 57.7 -0.2**
CHTO pmax pmax
comp=Z,61nm,1.4s
CHTO Chiang Mai 39.04 97 P **P 10 13 57.7 -0.2**
CHTO IAmb IAmb 10 13 59.3
comp=Z,61nm,1.4s
CHTO Chiang Mai 39.04 97 P **P 10 13 58.3 +0.4**
comp=Z,290nmcomp=Z,20nm,1.3s
CM33 Chiang Mai Arr 39.04 97 P **P 10 13 58.0 +0.1**
CMMT Chiang Mai 39.04 97 P **P 10 13 58.3 +0.3**
comp=Z,635nmcomp=Z,34nm,1.3s
CMMT Chiang Mai 39.04 97 P **P 10 13 58.4 +0.3**
comp=Z,635nmcomp=Z,34nm,1.3s
CMMT Chiang Mai 39.04 97 P **P 10 13 58.3 +0.3**
comp=Z,606nmcomp=Z,33nm,1.3s
CM13 Chiang Mai Arr 39.17 98 P **P 10 14 00.7 +1.7**
comp=Z,6.1nm,1.3s
CM13 Chiang Mai Arr 39.17 98 P **P 10 14 00.0 +1.0**
comp=Z,6.1nm,1.3s
CM31 Chiang Mai Arr 39.19 97 P **P 10 14 00.0 +0.8**
CMAR Chiang Mai Arr 39.19 97 P **P 10 13 58.7 -0.5**
comp=Z,4.4nm,0.9s,baz=302,slow=7.5,SNR=21
CMAR PcP **PcP 10 16 08.6 0.0**
comp=Z,6.5nm,1.2s,baz=307,slow=3.3,SNR=4.5
CMAR LR LR 10 34 23.6
comp=Z,2μm,18.9s,baz=324,slow=43
CMAR Chiang Mai Arr 39.19 97 *i* P **P 10 13 59.5 +0.3**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 39.19 97 P **P 10 13 58.5 -0.7**
CMAR **PcP 10 16 08.1 -0.5**
CLL Collm 39.19 316 ⇑*i*P **P 10 13 58.7 -0.1**
comp=Z,33nm,1.1s
CLL *i* sP **sP 10 14 03.5 -1.9**
comp=Z,42nm,0.9s
CLL *e*PP **PnPn 10 15 30.0 -1.2**
CLL *e*PcP **PcP 10 16 08.0 +0.1**
CLL *e*S **S 10 20 00.0 +1.4**
CLL *e* 10 21 48.0
CLL *e*SS **SS 10 22 54.0 +2.7**
CLL LmH 10 32 00.0
comp=N,2μm,21.6s
CLL LmH 10 32 00.0
comp=E,900nm,21.4s
CLL Collm 39.19 316 ⇑*i*P **P 10 13 58.7 -0.1**
CLL *i* 10 14 03.5
CLL pmax pmax
comp=Z,33nm,1.1s
CLL Collm 39.19 316 P **P 10 13 59.1 +0.3**
CLL IAmb IAmb 10 14 05.7
comp=Z,39nm,0.9s
CLL Collm 39.19 316 *e*P **P 10 13 59.4 +0.6**
comp=Z,42nm,0.9s,baz=105,slow=8.2
CM02 Chiang Mai Arr 39.20 98 P **P 10 14 00.6 +1.3**
comp=Z,104nmcomp=Z,6.0nm,0.9s
CM02 Chiang Mai Arr 39.20 98 P **P 10 14 00.0 +0.7**
comp=Z,104nmcomp=Z,6.0nm,0.9s
CM34 Chiang Mai Arr 39.20 97 P **P 10 13 59.0 -0.3**
WTTA Wattenberg 39.20 309 *i* P **P 10 13 58.3 -0.9**
comp=Z,28nm,0.7s,SNR=27
CM05 Chiang Mai Arr 39.21 98 P **P 10 14 00.8 +1.4**
comp=Z,5.3nm,1.1s
CM05 Chiang Mai Arr 39.21 98 P **P 10 14 00.9 +1.5**
comp=Z,5.3nm,1.1s
CM01 Chiang Mai Arr 39.22 98 P P 10 14 04.7 +5.3
comp=Z,6.9nm,1.1s
CM01 Chiang Mai Arr 39.22 98 P P 10 14 04.8 +5.3
comp=Z,6.9nm,1.1s
CM09 Chiang Mai Arr 39.23 97 P **P 10 14 01.1 +1.5**
comp=Z,11nm,0.9s
CM09 Chiang Mai Arr 39.23 97 P **P 10 14 01.0 +1.5**
comp=Z,11nm,0.9s
CM04 Chiang Mai Arr 39.24 98 P **P 10 14 01.5 +1.9**
comp=Z,8.4nm,1.2s
CM04 Chiang Mai Arr 39.24 98 P **P 10 14 01.6 +1.9**
comp=Z,8.4nm,1.2s
WATA Walderalm 39.25 309 *i* P **P 10 13 58.2 -1.4**
comp=Z,48nm,0.9s,SNR=18
NKC Novy Kostel 39.26 314 AMS AMS 10 34 20.0
comp=Z,1μm,15.5s
CM35 Chiang Mai Arr 39.27 97 P **P 10 14 00.0 +0.1**
CM36 Chiang Mai Arr 39.29 97 P **P 10 14 00.0 -0.1**
ZCCA Zocca 39.29 305 P **P 10 14 00.9 +1.0**
ROTZ Rotzenmuhle 39.31 313 *e*P **P 10 13 59.8 0.0**
comp=Z,20nm,1.2s,baz=105,slow=8.2
BLEU Blekinge 39.31 324 *e*P **P 10 14 00.0 +0.3**
BSD Bornholm Skovb 39.31 322 ⇓*i*P **P 10 13 58.6 -1.2**
BSD IAmb IAmb 10 14 00.5
comp=Z,30nm,0.6s
BSD Bornholm Skovb 39.31 322 ⇓*i*P **P 10 13 58.5 -1.2**
BSD pmax pmax
comp=Z,30nm,0.6s
MANZ Manzenberg 39.42 313 *e*P **P 10 14 01.4 +0.6**
comp=Z,20nm,1.4s,baz=105,slow=8.2
SQTA Sankt Quirin 39.48 309 *i* P **P 10 14 00.3 -1.1**
comp=Z,22nm,0.5s,SNR=19
CD2 Chengdu 39.53 77 ⇓*i*P **P 10 14 02.8 +0.8**
CD2 PP **PnPn 10 15 33.5 -2.2**
CD2 S **S 10 20 03.5 -0.8**
CD2 SS **SS 10 22 57.5 -1.4**
CD2 ScS **ScS 10 24 06.5 -3.9**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,300nm,10.2s
CD2 LR LR
comp=Z,7μm,25.1s
CD2 LR LR
comp=Z,3μm,14.9s
CD2 LR LR
comp=Z,4μm,14.5s
ZAK Zakamensk 39.57 46 *e*P **P 10 14 02.6 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.4s
MOTA Moosalm 39.57 309 *i* P **P 10 14 00.8 -1.4**
comp=Z,47nm,0.9s,SNR=21
FETA Feichten 39.78 309 *i* P **P 10 14 02.9 -1.1**
comp=Z,44nm,1.2s,SNR=32
RETA Reutte 39.82 309 *i* P **P 10 14 02.8 -1.5**
comp=Z,30nm,0.7s,SNR=5.1
MBAR Mbarara 39.83 225 P **P 10 14 05.2 +0.5**
comp=Z,25nm,0.8s,baz=33,slow=8.0,SNR=26
MBAR Mbarara 39.83 225 P **P 10 14 03.9 -0.8**
MBAR pmax pmax
comp=Z,20nm,0.8s
MBAR Mbarara 39.83 225 P **P 10 14 03.9 -0.8**
MOX Moxa 39.88 314 *e*L L 10 32 36.0
comp=Z,839nm,21.2s
GRA1 Grafenberg Arr 39.92 313 P **P 10 14 04.3 -0.6**
GRA1 IAmb IAmb 10 14 11.3
comp=Z,55nm,1.1s
GRF Grafenberg Arr 39.92 313 P **P 10 14 04.3 -0.6**
GRF pmax pmax
comp=Z,55nm,1.1s
GRF Grafenberg Arr 39.92 313 *e*P **P 10 14 04.3 -0.6**
comp=Z,49nm,1.1s,baz=105,slow=8.2
GRF *e*L L 10 35 25.9
comp=Z,684nm,21.1s
GRFO Grafenberg 39.92 313 P **P 10 14 03.7 -1.2**
GRFO pmax pmax
comp=Z,46nm,1.0s
GRFO Grafenberg 39.92 313 P **P 10 14 03.7 -1.2**
GRFO IAmb IAmb 10 14 11.2
comp=Z,46nm,1.0s
KMI Kunming 40.08 86 ⇑P **P 10 14 07.3 +0.5**
KMI pP sP 10 14 14.5 +1.4
KMI sP pP 10 14 19.5 +8.1
KMI PP **PnPn 10 15 43.5 +1.1**
KMI PcP **PcP 10 16 11.3 -0.2**
KMI S **S 10 20 13.8 +0.9**
KMI sS sS 10 20 28.3 +7.9
KMI pmax pmax
comp=Z,54nm,1.4s
KMI pmax pmax
comp=Z,330nm,3.5s
KMI LR LR
comp=Z,2μm,18.4s
KMI LR LR
comp=Z,740nm,18.5s
KMI LR LR
comp=Z,1μm,16.0s
APA Apatity 40.23 346 ⇓*i*P **P 10 14 06.2 -1.0**
APA *i* 10 15 38.0
APA *i* 10 16 05.0
APA *i* 10 20 08.0
APA pmax pmax
comp=Z,15nm,0.7s
LUNU Lund 40.28 322 *i* P **P 10 14 08.5 +0.7**
UBR Ueberruh 40.29 310 *e*P **P 10 14 06.2 -1.9**
comp=Z,64nm,0.9s,baz=105,slow=8.2
VSL Villasalto 40.34 297 P **P 10 14 08.7 +0.1**
VSL IAmb IAmb 10 14 13.8
comp=Z,79nm,1.4s
DEL Delary 40.37 324 *i* P **P 10 14 08.0 -0.5**
DEL *i* P **pP 10 14 08.9 -4.1**
DAVA Damuels 40.39 309 *i* P **P 10 14 07.7 -1.3**
comp=Z,84nm,0.8s,SNR=33
FLTG Flechtingen 40.52 317 *e*P **P 10 14 10.3 +0.5**
comp=Z,54nm,0.8s,baz=105,slow=8.2
IRK Irkutsk 40.62 43 *e*P **P 10 14 09.9 -0.8**
IRK pmax pmax
comp=Z,75nm,2.6s
KEST Kesra 40.63 291 P **P 10 14 12.2 +1.1**
comp=Z,19nm,0.9s,baz=40,slow=4.4,SNR=8.7
KEST LR LR 10 35 08.0
comp=Z,1μm,18.5s,baz=16,slow=42
KEST Kesra 40.63 291 P **P 10 14 11.9 +0.9**
KEST IAmb IAmb 10 14 16.9
comp=Z,118nm,1.9s
TUE Stuetta 40.65 308 P **P 10 14 10.1 -1.2**
TUE IAmb IAmb 10 14 17.3
comp=Z,38nm,0.8s
UTTA Uttaradit 40.88 97 P **P 10 14 13.9 +0.8**
comp=Z,366nmcomp=Z,43nm,1.2s
UTTA Uttaradit 40.88 97 P **P 10 14 14.0 +0.8**
comp=Z,91nmcomp=Z,11nm,1.2s
UTHA Uthaitani 40.91 101 P **P 10 14 16.0 +2.6**
comp=Z,17nm,1.1s
UTHA Uthaitani 40.91 101 P **P 10 14 16.1 +2.6**
comp=Z,4.2nm,1.1s
CLZ Clausthal 40.91 316 *e*P **P 10 14 14.0 +0.8**
comp=Z,34nm,0.9s,baz=105,slow=8.2
UBBA Unterbreizbach 40.91 314 *e*P **P 10 14 11.9 -1.1**
comp=Z,34nm,1.7s,baz=105,slow=8.2
PHIT Phitsanulok 41.00 98 P **P 10 14 15.5 +1.3**
comp=Z,875nmcomp=Z,77nm,1.0s
PHIT Phitsanulok 41.00 98 P **P 10 14 15.6 +1.3**
comp=Z,217nmcomp=Z,19nm,1.0s
SONM Songino Array 41.12 50 P **P 10 14 16.4 +1.3**
comp=Z,11nm,1.0s,baz=259,slow=9.0,SNR=40
SONM LR LR 10 32 58.4
comp=Z,4μm,20.8s,baz=260,slow=39
SONM Songino Array 41.12 50 P **P 10 14 15.7 +0.6**
SONM pmax pmax
comp=Z,18nm,1.1s
SONM Songino Array 41.12 50 P **P 10 14 15.7 +0.6**
FABU Falkenberg 41.16 324 *i* P **P 10 14 16.2 +1.2**
MILB Miltenberg 41.17 313 *e*P **P 10 14 15.0 -0.2**
comp=Z,47nm,0.8s,baz=105,slow=8.2
NRDL Niedersach Rie 41.23 317 *e*P **P 10 14 16.8 +1.2**
comp=Z,63nm,1.6s,baz=105,slow=8.2
BORU Boraas 41.37 325 *i* P **P 10 14 17.8 +1.0**
BSEG Bad Segeberg 41.47 319 *e*P **P 10 14 17.8 +0.1**
comp=Z,29nm,0.9s,baz=105,slow=8.2
ULN Ulaanbaatar 41.57 50 *c i*P **P 10 14 19.8 +1.1**
ULN pmax pmax
comp=Z,49nm,2.5s
ULN Ulaanbaatar 41.57 50 P **P 10 14 19.5 +0.8**
ULN Ulaanbaatar 41.57 50 P **P 10 14 19.9 +1.2**
comp=Z,1μmcomp=Z,72nm,1.6s
TNS Taunus Mts 41.78 313 *e*P **P 10 14 20.7 +0.4**
comp=Z,40nm,0.9s,baz=105,slow=8.2
KASTN Kahler Asten 41.97 315 *e*P **P 10 14 22.7 +0.9**
comp=Z,31nm,0.8s,baz=105,slow=8.2
SENIN Lac Senin/Sane 42.05 307 P **P 10 14 21.5 -1.3**
SLVN Son La 42.35 91 P **P 10 14 25.7 +0.4**
PHET Kaeng Krachan 42.35 104 P **P 10 14 27.3 +2.0**
comp=Z,52nm,1.0s
PHET Kaeng Krachan 42.35 104 P **P 10 14 27.0 +1.7**
comp=Z,13nm,1.0s
LPL La Plagne 42.38 306 *e*P **P 10 14 23.6 -1.9**
LPL pmax pmax
comp=Z,36nm,0.9s
BNI Bardonecchia 42.40 305 P **P 10 14 24.0 -1.6**
BNI pmax pmax
comp=Z,42nm,0.8s
BNI Bardonecchia 42.40 305 P **P 10 14 24.0 -1.6**
BNI IAmb IAmb 10 14 30.2
comp=Z,42nm,0.8s
IBBN Ibbenburen 42.59 316 *e*P **P 10 14 27.1 +0.3**
comp=Z,50nm,1.1s,baz=105,slow=8.2
AHRW Bad Neuenahr-A 42.70 313 *e*P **P 10 14 27.7 0.0**
comp=Z,19nm,0.9s,baz=105,slow=8.2
BUG Bochum--Univer 42.72 315 *e*P **P 10 14 27.8 -0.1**
comp=Z,51nm,0.9s,baz=105,slow=8.2
MUD Monsted U'grnd 42.82 322 *i* P **P 10 14 29.0 +0.4**
MUD Monsted U'grnd 42.82 322 *i* P **P 10 14 29.0 +0.4**
NRIK Noril'sk 42.91 15 P **P 10 14 29.6 +0.5**
comp=Z,20nm,1.0s,baz=208,slow=5.4,SNR=18
NRIK LR LR 10 36 06.8
comp=Z,1μm,18.6s,baz=216,slow=41
NRIK Noril'sk 42.91 15 *de*P **P 10 14 29.3 +0.2**
NRIK pmax pmax
comp=Z,34nm,1.1s
NRIK Noril'sk 42.91 15 P **P 10 14 30.2 +1.1**
CHAI Chaiyaphum 42.92 99 P **P 10 14 31.0 +1.1**
comp=Z,22nm,1.0s
CHAI Chaiyaphum 42.92 99 P **P 10 14 31.1 +1.1**
comp=Z,5.5nm,1.0s
NONG Nongkai 42.97 95 P **P 10 14 30.7 +0.4**
comp=Z,17μmcomp=Z,52nm,1.4s
NONG Nongkai 42.97 95 P **P 10 14 30.7 +0.4**
comp=Z,17μmcomp=Z,52nm,1.4s
GYA Guiyang 43.07 82 ⇓P **P 10 14 31.5 +0.3**
GYA S **S 10 20 55.5 -1.6**
GYA SS **SS 10 24 07.3 -2.1**
GYA pmax pmax
comp=Z,23nm,1.2s
GYA pmax pmax
comp=Z,230nm,5.8s
GYA LR LR
comp=Z,4μm,20.3s
GYA LR LR
comp=Z,2μm,19.7s
GYA LR LR
comp=Z,2μm,19.9s
WLF Walferdange 43.16 312 *dx* x 10 14 35.7
comp=Z,15nm,0.8s
WLF Walferdange 43.16 312 P **P 10 14 30.9 -0.6**
WLF pmax pmax
comp=Z,26nm,1.0s
WLF Walferdange 43.16 312 P **P 10 14 30.9 -0.6**
NC602 NORSAR Array S 43.17 329 *e*P **P 10 14 32.1 +0.7**
NC602 NORSAR Array S 43.17 329 P **P 10 14 31.9 +0.5**
NC602 IAmb IAmb 10 15 46.8
comp=Z,127nm,1.7s
OSL Oslo 43.23 328 *e*P **P 10 14 32.9 +1.0**
NC405 NORSAR Array S 43.25 329 P **P 10 14 31.1 -1.0**
NC405 IAmb IAmb 10 14 31.2
comp=Z,96nm,1.5s
XAN Xi'an 43.28 71 P **P 10 14 32.3 -0.5**
XAN PP **PP 10 16 15.8 +2.5**
XAN S **S 10 20 57.5 -2.4**
XAN sS sS 10 21 15.0 +7.5
XAN SS **SS 10 24 06.0 -7.2**
XAN ScS **ScS 10 24 27.0 -6.0**
XAN pmax pmax
comp=Z,49nm,1.4s
XAN pmax pmax
comp=Z,190nm,5.2s
XAN LR LR
comp=Z,4μm,19.3s
XAN LR LR
comp=Z,1μm,19.5s
XAN LR LR
comp=Z,1μm,17.9s
BTNL Ternell 43.30 313 *d*P **P 10 14 33.0 +0.3**
comp=Z,16nm,0.9s
BTNL *dx* x 10 14 37.7
MEM Membach 43.38 313 *d*P **P 10 14 34.5 +1.3**
comp=Z,22nm,0.9s
MEM *dx* x 10 14 38.5
KEV Kevo 43.39 345 P **P 10 14 34.5 +1.4**
KEV pmax pmax
comp=Z,42nm,1.3s
KEV Kevo 43.39 345 P **P 10 14 34.5 +1.4**
NB2 NORSAR Subarra 43.44 329 P **P 10 14 32.6 -1.1**
comp=Z,21nm,1.2s,baz=112,slow=7.9
NB2 NORSAR Subarra 43.44 329 P **P 10 14 32.6 -1.1**
baz=112,slow=7.9
NOA NORSAR Array B 43.44 329 P **P 10 14 32.8 -0.9**
comp=Z,3.2nm,0.6s,baz=115,slow=7.9,SNR=15
NOA LR LR 10 35 27.5
comp=Z,607nm,18.2s,baz=135,slow=40
BTO Baotou 43.45 61 *e*P **P 10 14 29.8 -4.3**
BTO S **S 10 21 01.5 -0.8**
BTO LR LR
comp=Z,7μm,13.9s
BTO LR LR
comp=Z,7μm,18.0s
NC303 NORSAR Array S 43.45 329 P **P 10 14 34.5 +0.8**
ARA0 ARCESS Array S 43.57 344 *e*P **P 10 14 35.7 +1.2**
ARCES ARCESS Array B 43.57 344 P **P 10 14 34.3 -0.2**
comp=Z,1.8nm,0.6s,baz=139,slow=9.4,SNR=16
ARCES LR LR 10 36 43.2
comp=Z,1μm,18.3s,baz=135,slow=42
ARCES ARCESS Array B 43.57 344 P **P 10 14 33.8 -0.7**
ARCES pmax pmax
comp=Z,31nm,1.4s
ARCES ARCESS Array B 43.57 344 P **P 10 14 33.8 -0.7**
KONO Kongsberg 43.65 327 *e*P **P 10 14 36.2 +0.9**
KTK1 Kautokeino 43.74 343 *e*P **P 10 14 37.1 +1.2**
BCLA Clavier 43.80 313 *d*P **P 10 14 37.3 +0.6**
comp=Z,22nm,0.8s
BCLA *dx* x 10 14 41.8
SSB Saint Sauveur 43.92 306 P **P 10 14 36.4 -1.4**
SSB pmax pmax
comp=Z,33nm,0.9s
SSB Saint Sauveur 43.92 306 P **P 10 14 36.4 -1.4**
SSB IAmb IAmb 10 14 42.4
comp=Z,33nm,0.9s
BGES Gesves 43.93 313 *d*P **P 10 14 38.2 +0.5**
comp=Z,21nm,0.9s
BGES *dx* x 10 14 43.0
BMRD Maredsous 44.12 313 *d*P **P 10 14 39.7 +0.5**
comp=Z,31nm,0.8s
BMRD *dx* x 10 14 44.3
SKNT Sakolnakorn 44.16 96 P **P 10 14 40.6 +0.7**
comp=Z,16nm,1.2s
SKNT Sakolnakorn 44.16 96 P **P 10 14 40.7 +0.7**
comp=Z,16nm,1.2s
DOU Dourbes 44.21 312 *d*P **P 10 14 40.4 +0.5**
comp=Z,31nm,1.0s
DOU *dx* x 10 14 45.1
DOU *d*PP **PP 10 16 21.7 -1.2**
MAHO Mahon 44.26 298 P P 10 14 44.4 +4.0
MAHO S **S 10 21 16.3 +2.4**
SNF Seneffe 44.46 313 *d*P **P 10 14 41.0 -0.8**
comp=Z,15nm,0.8s
SNF *dx* x 10 14 47.7
ENH Enshi 44.49 76 P **P 10 14 42.5 0.0**
ENH IAmb IAmb 10 15 01.7
comp=Z,27nm,1.1s
MOR8 Moi Rana 44.60 337 *e*P **P 10 14 43.0 +0.1**
HHC Hu-ho-hao-te 44.61 61 *e*P **P 10 14 44.5 +1.1**
HHC pP sP 10 14 53.5 +3.4
HHC S **S 10 21 20.5 +1.3**
HHC ScS **ScS 10 24 40.5 -0.8**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,290nm,4.7s
HHC LR LR
comp=Z,3μm,19.0s
HHC LR LR
comp=Z,2μm,17.5s
HHC LR LR
comp=Z,2μm,18.6s
SKAR Skarslia 44.63 328 *e*P **P 10 14 43.6 +0.4**
NSS Namsos 44.67 334 *e*P **P 10 14 43.4 0.0**
DOMB Dombas 44.79 330 *e*P **P 10 14 45.2 +0.8**
HAMF Hammerfest 44.81 345 *e*P **P 10 14 45.5 +1.1**
JETT Jettan, Norway 44.85 342 *e*P **P 10 14 46.1 +1.2**
FAUS Fauske 44.99 338 *e*P **P 10 14 46.4 +0.5**
KONS Konsvik 45.23 337 *e*P **P 10 14 48.9 +1.1**
TRO Tromso 45.29 342 *e*P **P 10 14 48.9 +0.6**
STEI Steigen 45.32 339 *e*P **P 10 14 49.4 +1.0**
TIY Taiyuan 45.58 65 *e*P **P 10 14 52.5 +1.4**
TIY S **S 10 21 32.5 -0.7**
TIY sS sS 10 21 49.5 +8.6
TIY pmax pmax
comp=Z,180nm,4.4s
TIY LR LR
comp=Z,2μm,17.2s
TIY LR LR
comp=Z,480nm,13.0s
TIY LR LR
comp=Z,2μm,17.2s
MOL Molde 45.64 330 *e*P **P 10 14 52.4 +1.2**
CAF Calviac 45.67 305 *e*P **P 10 14 50.3 -1.4**
CAF pmax pmax
comp=Z,17nm,0.8s
BER Bergen 45.92 327 *e*P **P 10 14 54.7 +1.4**
LOF Lofoten 45.96 339 *e*P **P 10 14 54.9 +1.3**
LFF La Frestale 46.61 305 *e*P **P 10 14 57.9 -1.1**
LFF pmax pmax
comp=Z,38nm,0.8s
BOD Bodaibo 47.32 37 *e*P **P 10 15 04.2 -0.2**
BOD pmax pmax
comp=Z,59nm,1.4s
BJI Beijing 48.19 61 P **P 10 15 12.8 +1.5**
BJI S **S 10 22 09.3 -0.9**
BJI ScS **ScS 10 25 02.5 -1.8**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI LR LR
comp=Z,3μm,20.6s
BJI LR LR
comp=Z,2μm,20.8s
QIZ Qiongzhong 48.38 91 P **P 10 15 13.0 -0.1**
QIZ S **S 10 22 15.5 +2.0**
QIZ SS **SS 10 25 36.5 -6.6**
QIZ pmax pmax
comp=Z,200nm,8.8s
QIZ LR LR
comp=Z,870nm,23.5s
QIZ LR LR
comp=Z,1μm,16.2s
QIZ LR LR
comp=Z,950nm,17.1s
WHN Wuhan 48.51 74 ⇑P **P 10 15 14.3 +0.3**
WHN S **S 10 22 15.5 +0.5**
WHN pmax pmax
comp=Z,420nm,4.5s
WHN LR LR
comp=Z,7μm,16.2s
WHN LR LR
comp=Z,3μm,19.7s
WHN LR LR
comp=Z,3μm,17.7s
BJO1 Bjornoya 48.55 347 *e*P **P 10 15 14.8 +1.1**
HOPEN Hopen 49.03 350 *e*P **P 10 15 18.2 +0.9**

EKA	**Eskdalemuir Ar**	**49.42**	**319**	P	**P**	**10 15 19.6**	**-1.0**
ESK	**Eskdalemuir**	**49.45**	**319**	P	**P**	**10 15 22.5**	**+1.7**
ESK				pmax	pmax		
	comp=Z,26nm,0.9s						
ESK	**Eskdalemuir**	**49.45**	**319**	P	**P**	**10 15 22.4**	**+1.7**
ESK				IAmb	IAmb	10 15 25.9	
	comp=Z,26nm,0.9s						
TIA	**Tai'an**	**49.52**	**66**	P	**P**	**10 15 22.3**	**+0.6**
TIA				pP	**sP**	**10 15 30.5**	**+2.0**
TIA				PP	**PP**	**10 17 22.0**	**+6.1**
TIA				S	**S**	**10 22 30.0**	**+0.7**
TIA				pmax	pmax		
	comp=Z,17nm,0.7s						
TIA				pmax	pmax		
	comp=Z,110nm,3.5s						
TIA				LR	LR		
	comp=Z,3μm,15.8s						
TIA				LR	LR		
	comp=Z,1μm,18.3s						
TIA				LR	LR		
	comp=Z,1μm,17.1s						
ABPO	**Ambohimpanom**	**49.80**	**193**	P	**P**	**10 15 24.6**	**+0.6**
ABPO				pmax	pmax		
	comp=Z,35nm,1.4s						
ABPO	**Ambohimpanom**	**49.80**	**193**	P	**P**	**10 15 24.6**	**+0.6**
ABPO				IAmb	IAmb	10 15 27.1	
	comp=Z,35nm,1.4s						
HIA	**Hailar**	**50.04**	**49**	P	**P**	**10 15 27.0**	**+1.5**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**50.04**	**49**	P	**P**	**10 15 27.0**	**+1.5**
ESBB	**Sonseca Array**	**50.58**	**298**	P	**P**	**10 15 28.4**	**-1.3**
ESBB				IAmb	IAmb	10 15 35.4	
	comp=Z,26nm,1.0s						
ESDC	**Sonseca Array**	**50.58**	**298**	P	**P**	**10 15 28.6**	**-1.2**
	comp=Z,7.5nm,1.0s,baz=64,slow=7.0,SNR=22						
ESDC				LR	LR	10 38 57.4	
	comp=Z,402nm,21.3s,baz=85,slow=38						
ESDC	**Sonseca Array**	**50.58**	**298**	P	**P**	**10 15 28.5**	**-1.2**
PAB	**San Pablo**	**50.90**	**298**	P	**P**	**10 15 31.4**	**-0.8**
PAB				pmax	pmax		
	comp=Z,37nm,1.0s						
PAB	**San Pablo**	**50.90**	**298**	P	**P**	**10 15 31.4**	**-0.8**
PAB				IAmb	IAmb	10 15 37.8	
	comp=Z,37nm,1.0s						
SPITS	**Spitsbergen Ar**	**51.55**	**350**	P	**P**	**10 15 36.9**	**+0.5**
SPITS				pmax	pmax		
	comp=Z,92nm,1.6s						
NJ2	**Nanjing**	**51.85**	**71**	*e*P	**P**	**10 15 39.5**	**+0.2**
NJ2				pP	**sP**	**10 15 48.3**	**+2.2**
NJ2				S	**S**	**10 22 58.5**	**-3.1**
NJ2				sS	**sS**	**10 23 13.8**	**+4.5**
NJ2				ScS	**ScS**	**10 25 27.8**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,13nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,76nm,3.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
NJ2				LR	LR		
	comp=Z,1μm,14.7s						
NJ2				LR	LR		
	comp=Z,1μm,21.8s						
PBRG	**Braganca**	**52.33**	**302**	*e*P	**P**	**10 15 42.8**	**0.0**
	comp=Z,37nm,1.5s						
MVO	**Moncorvo**	**52.65**	**301**	*e*P	**P**	**10 15 44.9**	**-0.3**
	comp=Z,39nm,1.8s						
MVO	**Moncorvo**	**52.65**	**301**	*e*SS	**SKiKP**	**10 27 12.4**	**+6.2**
VOI	**Vohitsoka**	**52.70**	**193**	P	**P**	**10 15 46.2**	**+0.6**
VOI				IAmb	IAmb	10 15 48.4	
	comp=Z,39nm,1.2s						
PVRL	**Vila Real**	**53.14**	**301**	*e*P	**P**	**10 15 49.7**	**+0.9**
	comp=Z,54nm,0.9s						
MTE	**Manteigas**	**53.17**	**300**	*e*P	**P**	**10 15 48.7**	**-0.4**
	comp=Z,66nm,0.7s						
MTE	**Manteigas**	**53.17**	**300**	*e*SS	SKiKP	10 27 20.7	+14
MTE	**Manteigas**	**53.17**	**300**	P	**P**	**10 15 48.5**	**-0.5**
POLO	**Lamas de Olo**	**53.18**	**301**	*e*P	**P**	**10 15 49.9**	**+0.7**
	comp=Z,19nm,1.1s						
PBAR	**Barrancos**	**53.21**	**297**	*e*P	**P**	**10 15 48.8**	**-0.5**
	comp=Z,63nm,1.1s						
PCBR	**Castelo Branco**	**53.22**	**299**	*e*P	**P**	**10 15 49.2**	**-0.2**
	comp=Z,77nm,0.8s						
PMRV	**Marv??o**	**53.23**	**299**	*e*P	**P**	**10 15 48.9**	**-0.6**
	comp=Z,38nm,1.1s						
PMRV	**Marv??o**	**53.23**	**299**	*e*SS	SKiKP	10 27 38.1	+31
LSZ	**Lusaka**	**53.26**	**216**	P	**P**	**10 15 50.1**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,21nm,1.1s						
LSZ	**Lusaka**	**53.26**	**216**	P	**P**	**10 15 50.1**	**+0.2**
PVIS	**Viseu**	**53.37**	**300**	*e*P	**P**	**10 15 51.2**	**+0.6**
	comp=Z,43nm,1.1s						
SNY	**Shenyang**	**53.47**	**58**	⇑P	**P**	**10 15 48.5**	**-2.6**
SNY				S	**S**	**10 23 23.0**	**-0.5**
SNY				pmax	pmax		
	comp=Z,85nm,5.0s						
SNY				LR	LR		
	comp=Z,990nm,18.4s						
SNY				LR	LR		
	comp=Z,1μm,15.9s						
SNY				LR	LR		
	comp=Z,1μm,14.5s						
PESTR	**Estremoz**	**53.50**	**298**	*e*P	**P**	**10 15 51.6**	**+0.2**
	comp=Z,26nm,2.2s						
PESTR	**Estremoz**	**53.50**	**298**	P	**P**	**10 15 50.7**	**-0.7**
QZH	**Quanzhou**	**53.76**	**80**	P	P	10 15 57.5	+4.0
QZH				S	**S**	**10 23 32.5**	**+4.7**
QZH				pmax	pmax		
	comp=Z,170nm,9.0s						
QZH				LR	LR		
	comp=Z,870nm,14.2s						
QZH				LR	LR		
	comp=Z,1μm,15.6s						
QZH				LR	LR		
	comp=Z,2μm,16.6s						
PBEJ	**Beja**	**53.88**	**297**	*e*P	**P**	**10 15 54.6**	**+0.3**
	comp=Z,40nm,1.3s						
EVO	**Evora**	**53.89**	**298**	*e*P	**P**	**10 15 53.9**	**-0.4**
	comp=Z,33nm,1.1s						
PMTG	**Montargil**	**53.94**	**298**	*e*P	P	10 15 59.4	+4.7
	comp=Z,31nm,1.0s						
PCAS	**Casmilo, Conde**	**53.95**	**300**	*e*P	**P**	**10 15 54.3**	**-0.4**
SSE	**Sheshan**	**54.03**	**72**	P	**P**	**10 15 55.8**	**+0.4**
SSE				S	**S**	**10 23 32.0**	**+0.7**
SSE				pmax	pmax		
	comp=Z,20nm,0.7s						
SSE				pmax	pmax		
	comp=Z,87nm,9.7s						
SSE				LR	LR		
	comp=Z,1μm,23.1s						
SSE				LR	LR		
	comp=Z,150nm,17.1s						
PCVE	**Castro Verde**	**54.10**	**297**	*e*P	**P**	**10 15 55.1**	**-0.8**
	comp=Z,43nm,1.4s						
PBDV	**Barranco-do-Ve**	**54.10**	**296**	*e*P	**P**	**10 15 56.9**	**+1.0**
	comp=Z,21nm,1.5s						
TORD	**Torodi Ar. Bea**	**54.16**	**265**	P	**P**	**10 15 56.0**	**-0.6**
	comp=Z,51nm,0.7s,baz=56,slow=7.0,SNR=297						
TORD				LR	LR	10 40 58.5	
	comp=Z,601nm,18.7s,baz=35,slow=38						
TORD	**Torodi Ar. Bea**	**54.16**	**265**	P	**P**	**10 15 55.8**	**-0.8**
PSBE	**So Bento**	**54.28**	**299**	*e*P	**P**	**10 15 59.7**	**+2.5**
	comp=Z,49nm,1.5s						
PNCL	**Nicolau / Gran**	**54.37**	**297**	*e*P	**P**	**10 15 56.8**	**-1.0**
	comp=Z,49nm,1.4s						
CN2	**Changchun**	**54.49**	**55**	*e*P	**P**	**10 15 59.0**	**+0.4**
CN2				*es*P	sP	10 16 13.0	+7.6
CN2				*e*S	**S**	**10 23 33.5**	**-3.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,8.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,16.0s						
ZEA	**Zeya**	**54.53**	**43**	*e*P	**P**	**10 16 00.0**	**+1.3**
ZEA				*e*S	**S**	**10 23 39.0**	**+1.5**
ZEA				pmax	pmax		
	comp=Z,20nm,0.9s						
ZEA				pmax	pmax		
	comp=E,100nm,5.1s						
ZEA				pmax	pmax		
	comp=Z,200nm,4.9s						
ZEA				smax	smax		
	comp=Z,100nm,5.5s						
ZEA				smax	smax		
	comp=E,100nm,8.3s						
ZEA				smax	smax		
	comp=N,200nm,6.0s						
ZEA				MLR	MLR		
	comp=E,800nm,12.0s						
ZEA				MLR	MLR		
	comp=N,600nm,11.0s						
ZEA				MLR	MLR		
	comp=Z,900nm,13.0s						
PTEO	**Sao Teotonio**	**54.65**	**297**	*e*P	P	10 16 04.8	+4.9
	comp=Z,57nm,1.9s						
PMAFR	**Mafra**	**54.77**	**299**	*e*P	P	10 16 06.0	+5.3
	comp=Z,99nm,1.9s						
PFVI	**Vila Bisbo**	**54.83**	**296**	*e*P	**P**	**10 16 00.9**	**-0.2**
	comp=Z,53nm,0.9s						
PFVI	**Vila Bisbo**	**54.83**	**296**	P	**P**	**10 16 00.7**	**-0.5**
YAK	**Yakutsk**	**55.57**	**33**	*e*P	P	10 16 10.9	+4.8
YAK				*e**PP	sP	10 16 15.2	+2.3
YAK				*e*		10 18 15.4	
YAK				*e*PPP	PPP	10 19 20.5	
YAK				*e*S	**S**	**10 23 57.0**	**+5.9**
YAK				*e**SS	sS	10 24 03.8	+5.4
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,62nm,1.7s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.6s						
YAK				pmax	pmax		
	comp=E,21nm,1.5s						
YAK				smax	smax		
	comp=N,75nm,3.5s						
YAK				smax	smax		
	comp=E,80nm,3.3s						
YAK				MLR	MLR		
	comp=Z,2μm,17.0s						
YAK				MLR	MLR		
	comp=N,441nm,17.0s						
YAK				MLR	MLR		
	comp=E,2μm,17.0s						
TIXI	**Tiksi**	**55.88**	**21**⇑	*e*P	**P**	**10 16 09.8**	**+1.6**
TIXI	**Tiksi**	**55.88**	**21**	P	**P**	**10 16 08.2**	**0.0**
TIXI				IAmb	IAmb	10 16 10.2	
	comp=Z,26nm,1.3s						
TPUB	**Ta-pu**	**56.08**	**81**	P	**P**	**10 16 09.9**	**-0.5**
SSLB	**Suanglung**	**56.18**	**80**	P	**P**	**10 16 10.5**	**-0.6**
MDSI	**Maura Dua**	**56.22**	**119**	P	P	10 16 20.2	+8.8
YHNB	**Yeheng**	**56.23**	**79**	P	**P**	**10 16 12.1**	**+0.6**
YHNB				IAmb	IAmb	10 16 14.0	
	comp=Z,49nm,1.3s						
YULB	**Yu-li**	**56.62**	**80**	P	**P**	**10 16 14.3**	**+0.1**
YULB				IAmb	IAmb	10 16 16.9	
	comp=Z,35nm,1.3s						
TWG	**Pinlang**	**56.63**	**81**	P	**P**	**10 16 14.2**	**-0.1**
TJN	**Taejon**	**57.54**	**64**⇑	*e*P	**P**	**10 16 19.0**	**-1.5**
KSAR	**Wonju Array Be**	**57.66**	**62**	P	**P**	**10 16 20.9**	**-0.5**
KSAR	**Wonju Array Be**	**57.66**	**62**	P	**P**	**10 16 20.9**	**-0.5**
KSRS	**Korea Array**	**57.69**	**62**	P	**P**	**10 16 20.8**	**-0.8**
	comp=Z,7.1nm,1.0s,baz=277,slow=6.3,SNR=19						
KSRS				LR	LR	10 43 15.7	
	comp=Z,618nm,19.3s,baz=299,slow=38						
DAG	**Danmarks Havn**	**57.85**	**345**	*i* P	**P**	**10 16 21.7**	**-0.5**
DAG				IAmb	IAmb	10 16 28.4	
	comp=Z,13nm,0.7s						
DAG	**Danmarks Havn**	**57.85**	**345**	*i* P	**P**	**10 16 21.6**	**-0.5**
DAG				pmax	pmax		
	comp=Z,13nm,0.7s						
KLR	**Kul'dur**	**57.87**	**48***c*	*i*P	**P**	**10 16 22.2**	**-0.5**
KLR				pmax	pmax		
	comp=Z,20nm,0.9s						
KOWA	**Kowa**	**58.49**	**269**	P	**P**	**10 16 27.3**	**-0.3**
USA0B	**Ussuriysk Arra**	**59.04**	**54**	P	**P**	**10 16 30.5**	**-0.4**
USA0B				pmax	pmax		
	comp=Z,9.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**59.04**	**54**	P	**P**	**10 16 30.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**59.04**	**54**	P	**P**	**10 16 30.0**	**-0.9**
	comp=Z,5.2nm,0.9s,baz=286,slow=6.5,SNR=8.7						
USRK				LR	LR	10 44 11.4	
	comp=Z,3μm,18.5s,baz=272,slow=38						
USRK	**Ussuriysk Ar.**	**59.04**	**54**	P	**P**	**10 16 30.3**	**-0.6**
USRK	**Ussuriysk Ar.**	**59.04**	**54**	P	**P**	**10 16 30.3**	**-0.6**
GRNR	**Gornyy**	**60.53**	**46**⇑	*i*P	**P**	**10 16 41.0**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,570nm,14.0s						
GRNR				MLR	MLR		
	comp=N,780nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,950nm,15.0s						
JNU	**Nakatsue**	**61.26**	**66**	LR	LR	10 47 14.6	
	comp=Z,990nm,18.4s,baz=282,slow=40						
JOW	**Kunigami**	**61.27**	**74**	P	**P**	**10 16 45.8**	**-0.7**
JOW				IAmb	IAmb	10 17 02.7	
	comp=Z,28nm,1.3s						
TSUM	**Tsumeb**	**62.34**	**223**	P	**P**	**10 16 53.9**	**+0.2**
TSUM				IAmb	IAmb	10 16 55.3	
	comp=Z,23nm,1.1s						
LBTB	**Lobatse**	**62.79**	**213**	P	**P**	**10 16 57.1**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,24nm,0.8s						
LBTB	**Lobatse**	**62.79**	**213**	P	**P**	**10 16 57.1**	**+0.5**
KIC	**Kosan Boka**	**62.98**	**261**	*e*PKP1	**P**	**10 16 59.1**	**+1.0**
	comp=Z,47nm,0.9s						
TIC	**Toumodi**	**63.08**	**262**	*e*PKP1	**P**	**10 16 59.7**	**+0.9**
LIC	**Lamto**	**63.30**	**261**	*e*PKP1	**P**	**10 17 00.1**	**-0.1**
	comp=Z,72nm,0.9s						
JMN	**Monobe**	**63.43**	**65**	P	**P**	**10 17 01.3**	**+0.4**
JMN				IAmb	IAmb	10 17 05.9	
	comp=Z,15nm,0.9s						
SUMG	**Summit**	**63.43**	**340**	*i* P	**P**	**10 17 01.0**	**+0.3**
SUMG				IAmb	IAmb	10 17 09.2	
	comp=Z,26nm,0.9s						
SUMG	**Summit**	**63.43**	**340**	*i* P	**P**	**10 17 01.0**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,26nm,0.9s						
SUMG	**Summit**	**63.43**	**340**	P	**P**	**10 17 00.8**	**+0.1**
SUMG				IAmb	IAmb	10 17 09.4	
	comp=Z,26nm,0.9s						
JWT	**Wachi**	**64.09**	**63**	P	**P**	**10 17 05.1**	**-0.1**
JWT				IAmb	IAmb	10 17 10.4	
	comp=Z,15nm,0.8s						
TYV	**Tymovskoe**	**64.33**	**44**	*e*P	**P**	**10 17 07.0**	**+0.5**
TYV				*e*S	**S**	**10 25 44.0**	**-0.2**
TYV				pmax	pmax		
	comp=Z,200nm,5.5s						
TYV				pmax	pmax		
	comp=Z,14nm,1.0s						
TYV				smax	smax		
	comp=E,200nm,8.7s						
UGL	**Uglegorsk**	**64.48**	**46**	*e*P	P	10 17 13.2	+5.7
UGL				*e*S	**S**	**10 25 44.3**	**-1.8**
UGL				smax	smax		
	comp=E,100nm,0.8s						
UGL				MLR	MLR		
	comp=E,2μm,15.0s						
UGL				MLR	MLR		
	comp=N,2μm,17.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
ICESG	**Greenland Ices**	**64.82**	**337**	*i* P	**P**	**10 17 09.7**	**-0.1**
ICESG				IAmb	IAmb	10 17 12.1	
	comp=Z,13nm,1.0s						
NEEM	**North Greenlan**	**64.83**	**347**	*i* P	**P**	**10 17 09.5**	**-0.2**
NEEM				IAmb	IAmb	10 17 13.9	
	comp=Z,23nm,1.0s						
INU	**Inuyama**	**65.31**	**62**	P	**P**	**10 17 11.9**	**-1.2**
INU				IAmb	IAmb	10 17 14.0	
	comp=Z,18nm,1.1s						
YSS	**Yuzh-Sakhalins**	**65.57**	**49***ce*	P	**P**	**10 17 14.4**	**-0.2**
YSS				*e**SP	**sP**	**10 17 20.0**	**-1.4**
YSS				*e*		10 17 43.0	
YSS				*e*S	**S**	**10 25 55.3**	**-4.3**
YSS				*e*		10 26 24.0	
YSS				*e*SS	**SS**	**10 30 14.0**	**+1.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,3.1s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**65.57**	**49**	P	**P**	**10 17 13.5**	**-1.1**
MAJO	**Matsushiro**	**65.81**	**61**⇑	*e*P	**P**	**10 17 15.5**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MAT	**Matsushiro**	**65.81**	**61**	P	**P**	**10 17 15.1**	**-1.3**
MAT				S	**S**	**10 26 02.4**	**-0.5**
MJAR	**Matsushiro Arr**	**65.81**	**61**	P	**P**	**10 17 15.1**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=254,slow=2.4,SNR=6.4						
MJAR				LR	LR	10 48 22.4	
	comp=Z,333nm,19.6s,baz=280,slow=38						
MJAR	**Matsushiro Arr**	**65.81**	**61**	P	**P**	**10 17 16.6**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**65.81**	**61**	P	**P**	**10 17 16.6**	**+0.2**
MPSI	**Mapaga**	**66.01**	**104**	P	**P**	**10 17 17.7**	**-0.2**
	comp=Z,421nmcomp=Z,31nm,1.2s						
BOSA	**Boshof**	**66.02**	**211**	P	**P**	**10 17 17.4**	**-0.3**
	comp=Z,21nm,0.6s,baz=30,slow=6.2,SNR=35						
BOSA				LR	LR	10 47 46.4	
	comp=Z,674nm,19.8s,baz=24,slow=37						
BOSA	**Boshof**	**66.02**	**211**	P	**P**	**10 17 17.9**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,22nm,0.7s						
BOSA	**Boshof**	**66.02**	**211**	P	**P**	**10 17 17.9**	**+0.1**
ASAJ	**Asahikawa**	**66.39**	**52**	P	**P**	**10 17 19.4**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.9s						
JKA	**Kamikawa-asahi**	**66.39**	**52**	P	**P**	**10 17 19.4**	**-0.5**
JKA				IAmb	IAmb	10 17 38.2	
	comp=Z,12nm,0.9s						
ERM	**Erimo**	**67.50**	**54**⇓	*e*P	**P**	**10 17 27.0**	**0.0**
ERM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
DY2G	**Dye2**	**68.12**	**335**	*i* P	**P**	**10 17 30.9**	**+0.1**
DY2G				IAmb	IAmb	10 17 37.6	
	comp=Z,23nm,0.8s						
UPNV	**Upernavik**	**68.20**	**343**	*i* P	**P**	**10 17 31.8**	**+0.9**
UPNV				IAmb	IAmb	10 17 35.0	
	comp=Z,13nm,0.9s						
EUNU	**Eureka**	**68.38**	**354**	P	**P**	**10 17 32.6**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**68.62**	**51**	*e*P	**P**	**10 17 32.3**	**-1.7**
YUK				*i*		10 20 10.0	
YUK				pmax	pmax		
	comp=Z,135nm,1.0s						
YUK				pmax	pmax		
	comp=N,72nm,1.1s						
YUK				pmax	pmax		
	comp=E,78nm,0.9s						
TULEG	**Thule**	**68.68**	**348**	*i* P	**P**	**10 17 32.7**	**-1.2**
BILL	**Bilibino**	**69.06**	**22***de*	P	**P**	**10 17 37.3**	**+0.9**
BILL				*i*		10 17 41.3	
BILL				*e*		10 20 11.2	
BILL				*e*S	**S**	**10 26 35.4**	**-5.5**
BILL				pmax	pmax		
	comp=Z,21nm,1.3s						
BILL				MLR	MLR		
	comp=Z,764nm,14.0s						
SFJD	**Kangerlussuaq**	**69.44**	**337**	LR	LR	10 48 37.0	
	comp=Z,646nm,20.9s,baz=66,slow=36						
SFJD	**Kangerlussuaq**	**69.44**	**337**	P	**P**	**10 17 38.1**	**-0.6**
SFJD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SFJD	**Kangerlussuaq**	**69.44**	**337**	P	**P**	**10 17 38.1**	**-0.6**
NUUK	**Nuuk**	**71.22**	**334**	*i* P	**P**	**10 17 48.7**	**-0.9**
SUR	**Sutherland**	**71.23**	**212**	LR	LR	10 49 11.2	
	comp=Z,1μm,19.5s,baz=25,slow=36						
PEA0B	**Petropavlovsk-**	**72.17**	**39**	P	**P**	**10 17 54.1**	**-1.5**
PEA0B				pmax	pmax		
	comp=Z,13nm,1.1s						
PEA0B	**Petropavlovsk-**	**72.17**	**39**	P	**P**	**10 17 54.1**	**-1.5**
PETK	**Petropavlovsk-**	**72.17**	**39**	P	**P**	**10 17 53.5**	**-2.1**
	comp=Z,3.0nm,0.9s,baz=180,slow=0.4,SNR=7.2						
PETK				LR	LR	10 52 01.5	
	comp=Z,746nm,19.3s,baz=289,slow=38						
PETK	**Petropavlovsk-**	**72.17**	**39**	P	**P**	**10 17 54.0**	**-1.6**
PETK	**Petropavlovsk-**	**72.17**	**39**	P	**P**	**10 17 54.0**	**-1.6**
SKR	**Severo-Kuril's**	**72.36**	**41**	*e*P	P	10 17 49.1	-7.6
SKR				pmax	pmax		
	comp=Z,34nm,1.2s						
SKR				pmax	pmax		
	comp=Z,100nm,3.3s						
SKR				MLR	MLR		
	comp=Z,600nm,18.0s						
A21K	**Barrow**	**76.07**	**11**	P	**P**	**10 18 18.5**	**+0.5**
	baz=330						
RDOG	**Red Dog Mine**	**77.64**	**14**	P	**P**	**10 18 26.5**	**-0.5**
	baz=325						
RDOG	**Red Dog Mine**	**77.64**	**14**	P	**P**	**10 18 27.1**	**+0.1**
RDOG				IAmb	IAmb	10 18 29.6	
	comp=Z,45nm,1.4s						
TNA	**Tin City**	**78.44**	**18**	P	**P**	**10 18 31.4**	**+0.1**
	baz=321						
GAMB	**Gambell**	**78.73**	**20**	P	**P**	**10 18 31.8**	**-1.2**
	baz=318						
TOLK	**Toolik Lake Re**	**79.57**	**10**	P	**P**	**10 18 37.7**	**+0.1**
	baz=336,SNR=34						
TOLK	**Toolik Lake Re**	**79.57**	**10**	P	**P**	**10 18 37.8**	**+0.1**
TOLK				IAmb	IAmb	10 18 39.8	
	comp=Z,33nm,0.8s						
ANM	**Nome**	**79.89**	**17**	P	**P**	**10 18 39.4**	**0.0**
	baz=323						
COLD	**Coldfoot**	**80.77**	**11**	P	**P**	**10 18 44.4**	**+0.3**
	baz=336,SNR=22						
COLD	**Coldfoot**	**80.77**	**11**	P	**P**	**10 18 43.9**	**-0.2**
COLD				IAmb	IAmb	10 18 46.0	
	comp=Z,18nm,0.8s						
C36M	**Paulatuk**	**80.89**	**1**	P	**P**	**10 18 43.9**	**-0.7**
	baz=358,SNR=7.5						
C36M	**Paulatuk**	**80.89**	**1**	P	**P**	**10 18 43.5**	**-1.1**
IMAR	**Indian Mountai**	**81.28**	**12**	P	**P**	**10 18 46.5**	**-0.3**
BMAR	**Burnt Mountain**	**81.39**	**8**	P	**P**	**10 18 47.6**	**+0.1**
INK	**Inuvik**	**81.59**	**4**	P	**P**	**10 18 47.8**	**-0.6**
	comp=Z,16nm,1.1s,baz=9.9,slow=8.9,SNR=18						
INK	**Inuvik**	**81.59**	**4**	P	**P**	**10 18 48.0**	**-0.4**
INK				pmax	pmax		
	comp=Z,25nm,1.3s						
INK	**Inuvik**	**81.59**	**4**	P	**P**	**10 18 48.2**	**-0.2**
	baz=350,SNR=12						
INK	**Inuvik**	**81.59**	**4**	P	**P**	**10 18 48.0**	**-0.4**
INK				IAmb	IAmb	10 18 49.3	
	comp=Z,24nm,1.2s						
GCSA	**Galena City Sc**	**81.75**	**14**	P	**P**	**10 18 49.2**	**0.0**
	baz=330						
FYU	**Fort Yukon**	**82.12**	**9**	P	**P**	**10 18 52.1**	**+0.9**
FYU				IAmb	IAmb	10 18 53.0	
	comp=Z,42nm,1.3s						
H23K	**Yukon River**	**82.16**	**11**	P	**P**	**10 18 52.1**	**+0.6**
	baz=336,SNR=40						
I21K	**Tanana**	**82.33**	**12**	P	**P**	**10 18 52.2**	**-0.2**
	baz=334,SNR=14						
H24K	**Noodor Dome**	**82.42**	**10**	P	**P**	**10 18 53.1**	**+0.2**
	baz=338,SNR=19						
MLY	**Manley**	**82.69**	**12**	P	**P**	**10 18 53.9**	**-0.4**
	baz=336,SNR=26						
MLY	**Manley**	**82.69**	**12**	P	**P**	**10 18 54.9**	**+0.6**
MLY				IAmb	IAmb	10 18 55.5	
	comp=Z,16nm,1.1s						
J20K	**Nowinta River**	**82.82**	**13**	P	**P**	**10 18 54.5**	**-0.4**
	baz=333,SNR=26						
I23K	**Minto, Yukon-K**	**82.82**	**11**	P	**P**	**10 18 54.6**	**-0.3**
	baz=337,SNR=19						
I23K	**Minto, Yukon-K**	**82.82**	**11**	P	**P**	**10 18 55.5**	**+0.6**
I23K				IA

COLA **College** **83.32** **11***c iP* **P** **10 18 57.5 0.0**
COLA pmax pmax
comp=Z,16nm,1.0s
COLA **College** **83.32** **11** P **P** **10 18 56.4 -1.1**
baz=338
COLA **College** **83.32** **11** P **P** **10 18 57.8 +0.3**
COLA IAmb IAmb 10 18 58.3
comp=Z,14nm,0.8s
NEA2 **Nenana** **83.38** **11** P **P** **10 18 57.0 -0.8**
baz=337,SNR=12
NEA2 **Nenana** **83.38** **11** P **P** **10 18 57.7 -0.1**
NEA2 IAmb IAmb 10 19 07.8
comp=Z,13nm,0.8s
CHUM **Lake Minchumin** **83.44** **13** P **P** **10 18 57.7 -0.4**
baz=334,SNR=13
BPAW **Bear Paw Mtn.** **83.49** **12** P **P** **10 18 57.9 -0.6**
baz=335,SNR=27
BPAW **Bear Paw Mtn.** **83.49** **12** P **P** **10 18 58.6 +0.1**
CCB **Clear Creek Bu** **83.54** **11** P **P** **10 18 57.6 -1.0**
K20K **Telida** **83.56** **14** P **P** **10 18 58.9 +0.1**
baz=333,SNR=29
ILAR **Eielson Array** **83.57** **10** P **P** **10 18 58.0 -0.8**
comp=Z,3.1nm,0.6s,baz=323,slow=4.5,SNR=34
ILAR LR LR 11 00 55.0
comp=Z,396nm,18.9s,baz=338,slow=39
ILAR **Eielson Array** **83.57** **10** P **P** **10 18 57.9 -0.9**
WRH **Wood River Hil** **83.66** **11** P **P** **10 18 58.8 -0.4**
WRH IAmb IAmb 10 18 59.3
comp=Z,22nm,1.5s
HDA **Harding Lake** **83.90** **10** P **P** **10 18 58.5 -1.9**
baz=339,SNR=9.0
HDA **Harding Lake** **83.90** **10** P **P** **10 18 59.4 -1.1**
HDA IAmb IAmb 10 19 07.8
comp=Z,10nm,0.8s
KTH **Kantishna Hill** **84.00** **12** P **P** **10 19 00.5 -0.6**
KTH IAmb IAmb 10 19 12.6
comp=Z,12nm,0.8s
MCK **McKinley** **84.20** **12** P **P** **10 19 02.3 +0.2**
MCK pmax pmax
comp=Z,31nm,1.2s
MCK **McKinley** **84.20** **12** P **P** **10 19 00.9 -1.1**
baz=337,SNR=10
MCK **McKinley** **84.20** **12** P **P** **10 19 02.3 +0.2**
MCK IAmb IAmb 10 19 03.2
comp=Z,31nm,1.2s
TRF **Thorofare Moun** **84.22** **12** P **P** **10 19 01.6 -0.7**
baz=336,SNR=7.4
TRF **Thorofare Moun** **84.22** **12** P **P** **10 19 02.3 -0.1**
TRF IAmb IAmb 10 19 11.6
comp=Z,14nm,1.0s
EGAK **Eagle** **84.35** **8** P **P** **10 19 02.7 -0.1**
baz=344,SNR=24
EGAK **Eagle** **84.35** **8** P **P** **10 19 03.1 +0.3**
EGAK IAmb IAmb 10 19 04.4
comp=Z,22nm,1.0s
PPLA **Purkeypile** **84.36** **13** P **P** **10 19 01.8 -1.2**
baz=334,SNR=9.2
PPLA **Purkeypile** **84.36** **13** P **P** **10 19 03.0 0.0**
L19K **White Mountain** **84.44** **15** P **P** **10 19 02.5 -0.9**
baz=332,SNR=16
RND **Reindeer** **84.51** **12** P **P** **10 19 02.9 -0.8**
RND pmax pmax
comp=Z,25nm,1.0s
RND **Reindeer** **84.51** **12** P **P** **10 19 02.9 -0.8**
RND IAmb IAmb 10 19 04.4
comp=Z,24nm,1.0s
SCRK **Sand Creek** **84.75** **9** P **P** **10 19 04.9 -0.1**
baz=341,SNR=44
SCRK **Sand Creek** **84.75** **9** P **P** **10 19 05.1 +0.1**
M19K **Big River Lodg** **84.79** **15** P **P** **10 19 04.8 -0.3**
baz=332
GENI **Genyem** **84.82** **96** P **P** **10 19 06.9 +0.9**
RIDG **Independent Ri** **84.85** **10** P **P** **10 19 04.5 -0.8**
baz=341,SNR=7.6
RIDG **Independent Ri** **84.85** **10** P **P** **10 19 05.1 -0.3**
RIDG IAmb IAmb 10 19 14.4
comp=Z,12nm,1.0s
K27K **Chicken** **84.96** **9** P **P** **10 19 05.7 -0.1**
baz=343
K27K **Chicken** **84.96** **9** P **P** **10 19 06.4 +0.5**
DOT **Dot Lake** **85.05** **10** P **P** **10 19 04.7 -1.7**
DOT IAmb IAmb 10 19 07.3
comp=Z,17nm,1.0s
M20K **Styx River** **85.08** **14** P **P** **10 19 05.9 -0.7**
baz=334
WAT1 **Susitna Watana** **85.10** **12** P **P** **10 19 05.7 -1.0**
baz=337
CUT **Chulitna** **85.18** **13** P **P** **10 19 05.6 -1.4**
baz=336
CUT **Chulitna** **85.18** **13** P **P** **10 19 06.5 -0.5**
SVW2 **Sparrevohn** **85.24** **15** P **P** **10 19 07.7 +0.4**
DAWY **Dawson** **85.25** **7** P **P** **10 19 07.3 -0.1**
SKT **Skwentna** **85.32** **13** P **P** **10 19 07.0 -0.7**
baz=335,SNR=15
SKT **Skwentna** **85.32** **13** P **P** **10 19 07.2 -0.5**
WAT6 **Susitna Watana** **85.47** **11** P **P** **10 19 08.4 -0.3**
baz=338,SNR=9.6
PAX **Paxson** **85.48** **10** P **P** **10 19 08.5 -0.1**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX **Paxson** **85.48** **10** P **P** **10 19 07.9 -0.7**
baz=340,SNR=6.6
PAX **Paxson** **85.48** **10** P **P** **10 19 08.5 -0.1**
N18K **Kilae Creek** **85.53** **16** P **P** **10 19 09.1 +0.3**
baz=331,SNR=11
N19K **Bonanza Creek** **85.74** **15** P **P** **10 19 09.0 -1.0**
baz=332,SNR=13
L26K **Log Cabin Wild** **85.75** **9** P **P** **10 19 09.7 -0.1**
baz=342,SNR=15
MENT **Mentasta** **85.78** **10** P **P** **10 19 10.2 +0.2**
MENT IAmb IAmb 10 19 19.8
comp=Z,12nm,0.9s
L27K **Beaver Creek,** **85.92** **9** P **P** **10 19 10.7 -0.1**
baz=343,SNR=31
L27K **Beaver Creek,** **85.92** **9** P **P** **10 19 11.3 +0.6**
L27K IAmb IAmb 10 19 12.9
comp=Z,18nm,1.0s
BCAR **Beaver Creek A** **85.92** **9** P **P** **10 19 10.9 +0.2**
SUA **Susitna One** **85.95** **13** P **P** **10 19 10.6 -0.4**
baz=336,SNR=11
GHO **Glory Hole Cre** **86.01** **12** P **P** **10 19 11.7 +0.4**
HARP **HAARP** **86.07** **10** P **P** **10 19 11.2 -0.3**
baz=340,SNR=6.4
SML **Sawmill** **86.09** **12** P **P** **10 19 11.1 -0.5**
baz=338,SNR=15
SML **Sawmill** **86.09** **12** P **P** **10 19 11.5 -0.1**
PMR **Palmer** **86.14** **12** P **P** **10 19 12.1 +0.3**
PMR pmax pmax
comp=Z,34nm,1.1s
PMR **Palmer** **86.14** **12** P **P** **10 19 11.6 -0.2**
baz=337,SNR=22
PMR **Palmer** **86.14** **12** P **P** **10 19 12.1 +0.3**
M24K **Tolsona, Glenn** **86.18** **11** P **P** **10 19 11.6 -0.4**
baz=340,SNR=9.2
M24K **Tolsona, Glenn** **86.18** **11** P **P** **10 19 13.1 +1.0**
SCM **Sheep Creek Mo** **86.24** **12** P **P** **10 19 12.7 +0.3**
SCM pmax pmax
comp=Z,13nm,0.9s
SCM **Sheep Creek Mo** **86.24** **12** P **P** **10 19 12.7 +0.3**
SCM IAmb IAmb 10 19 34.8
comp=Z,13nm,0.9s
O19K **Port Alsworth** **86.33** **15** P **P** **10 19 11.9 -0.8**
baz=333
M26K **Nabesna, AK** **86.39** **9** P **P** **10 19 13.1 0.0**
baz=342,SNR=9.4
KNK **Knik Glacier** **86.43** **12** P **P** **10 19 12.7 -0.6**
baz=338
KNK **Knik Glacier** **86.43** **12** P **P** **10 19 12.9 -0.3**
RC01 **Rabbit Creek A** **86.49** **13** P **P** **10 19 13.0 -0.5**
baz=336,SNR=16
RC01 **Rabbit Creek A** **86.49** **13** P **P** **10 19 13.5 0.0**
M27K **Edge Creek, AK** **86.59** **9** P **P** **10 19 14.9 +0.8**
baz=343,SNR=29
KLU **Klutina** **86.80** **11** P **P** **10 19 15.5 +0.4**
baz=340,SNR=15
KLU **Klutina** **86.80** **11** P **P** **10 19 15.6 +0.4**
KLU IAmb IAmb 10 19 29.9
comp=Z,16nm,0.8s
O20K **Slope Mountain** **86.81** **15** P **P** **10 19 14.9 -0.3**
baz=334
N25K **Chitina, Valde** **86.91** **10** P **P** **10 19 15.0 -0.7**
baz=341,SNR=5.9
N25K **Chitina, Valde** **86.91** **10** P **P** **10 19 15.5 -0.1**
PWL **Port Wells** **86.97** **12** P **P** **10 19 15.8 0.0**
PWL IAmb IAmb 10 19 28.3
comp=Z,21nm,0.9s

O22K **Cooper Landing** **87.05** **13** P **P** **10 19 14.1 -2.1**
baz=336
P19K **Oil Pt** **87.06** **15** P **P** **10 19 14.8 -1.6**
baz=334
GLI **Glacier Island** **87.17** **12** P **P** **10 19 15.5 -1.3**
baz=339
GLB **Gilahina Butte** **87.19** **10** P **P** **10 19 17.2 +0.2**
MCARA **McCarthy VSAT** **87.36** **10** P **P** **10 19 17.3 -0.4**
baz=342
HOM **Homer** **87.41** **14** P **P** **10 19 16.9 -1.1**
baz=335
VRDI **Verde Repeater** **87.44** **10** P **P** **10 19 18.4 0.0**
VRDI IAmb IAmb 10 19 27.7
comp=Z,9.7nm,0.9s
SEW **Seward** **87.45** **13** P **P** **10 19 17.8 -0.3**
baz=337,SNR=8.2
SEW **Seward** **87.45** **13** P **P** **10 19 18.3 +0.2**
BRLK **Bradley Lake** **87.47** **14** P **P** **10 19 17.9 -0.4**
BRLK IAmb IAmb 10 19 25.5
comp=Z,22nm,1.0s
BMRM **Bremner River** **87.51** **11** P **P** **10 19 18.1 -0.4**
baz=341,SNR=16
BMRM **Bremner River** **87.51** **11** P **P** **10 19 18.2 -0.4**
BRSE **Bradley Lake S** **87.52** **14** P **P** **10 19 17.7 -0.9**
baz=336
YKA **Yellowknife Ar** **87.58** **356** P **P** **10 19 18.4 -0.3**
comp=Z,6.2nm,0.9s,baz=2.6,slow=4.4,SNR=17
YKA LR LR 11 05 19.3
comp=Z,329nm,19.0s,baz=0.0,slow=40
YKA **Yellowknife Ar** **87.58** **356** *i P* **P** **10 19 18.8 +0.1**
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA **Yellowknife Ar** **87.58** **356** P **P** **10 19 19.0 +0.2**
CNPM **China Poot** **87.61** **14** P **P** **10 19 18.4 -0.6**
CNPM IAmb IAmb 10 19 19.1
comp=Z,16nm,1.1s
EYAK **Cordova Ski Ar** **87.72** **11** P **P** **10 19 19.5 +0.1**
baz=340,SNR=5.6
EYAK **Cordova Ski Ar** **87.72** **11** P **P** **10 19 20.3 +0.8**
EYAK IAmb IAmb 10 19 30.0
comp=Z,12nm,0.8s
BARN **Barnard Glacie** **87.87** **9** P **P** **10 19 21.1 +0.7**
BARN IAmb IAmb 10 19 30.3
comp=Z,11nm,0.8s
CRQM **Cirque** **87.94** **10** P **P** **10 19 20.6 -0.2**
CRQM IAmb IAmb 10 19 48.6
comp=Z,11nm,1.0s
NIKH **Nikolski High** **87.95** **26** P **P** **10 19 19.8 -0.9**
baz=321
CRQE **Cirque** **87.95** **10** P **P** **10 19 19.8 -0.9**
baz=342
CTG **Chitna Glacier** **88.00** **9** P **P** **10 19 20.5 -0.5**
baz=344
CTGM **Chitina Glacie** **88.00** **9** P **P** **10 19 21.7 +0.7**
CTGM IAmb IAmb 10 19 31.5
comp=Z,14nm,0.9s
RAGM **Ragged Mountai** **88.05** **11** P **P** **10 19 22.5 +1.4**
RAGM IAmb IAmb 10 19 23.5
comp=Z,17nm,1.0s
HMT **Hamilton** **88.17** **11** P **P** **10 19 22.1 +0.5**
HMT IAmb IAmb 10 19 23.7
comp=Z,21nm,1.2s
LOGN **Logan Glacier** **88.18** **9** P **P** **10 19 22.5 +0.6**
LOGN IAmb IAmb 10 19 33.2
comp=Z,18nm,0.9s
ISLE **Juniper Island** **88.21** **10** P **P** **10 19 22.3 +0.3**
ISLE IAmb IAmb 10 19 31.5
comp=Z,10nm,0.9s
YAH **Yahtse** **88.52** **10** P **P** **10 19 24.4 +0.8**
YAH IAmb IAmb 10 19 34.0
comp=Z,11nm,0.8s
KAIM **Kayak Island** **88.53** **11** P **P** **10 19 23.8 +0.5**
baz=341
TABL **Table Mountain** **88.53** **9** P **P** **10 19 24.0 +0.4**
TABL IAmb IAmb 10 19 33.1
comp=Z,11nm,0.8s
HYT **Haines Junctio** **88.61** **7** P **P** **10 19 24.5 +0.6**
Q23K **Middleton Isla** **88.67** **12** P **P** **10 19 22.8 -1.2**
baz=339
KDAK **Kodiak Island** **88.89** **16** P **P** **10 19 24.6 -0.4**
comp=Z,13nm,0.8s,baz=24,slow=4.3,SNR=25
KDAK **Kodiak Island** **88.89** **16***c iP* **P** **10 19 25.0 -0.1**
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK **Kodiak Island** **88.89** **16** P **P** **10 19 23.8 -1.2**
baz=334
KDAK **Kodiak Island** **88.89** **16** P **P** **10 19 24.8 -0.3**
KDAK IAmb IAmb 10 19 26.4
comp=Z,15nm,0.9s
WRA **Warramunga Arr** **88.92** **114** P **P** **10 19 24.1 -1.7**
comp=Z,4.5nm,1.0s,baz=318,slow=3.8,SNR=13
WRA PKKPbc **PKKPbc** **10 37 03.8 -0.6**
comp=Z,0.9nm,0.9s,baz=115,slow=2.6,SNR=4.9
WRA LR LR 11 02 24.9
comp=Z,113nm,20.5s,baz=285,slow=38
WRA **Warramunga Arr** **88.92** **114** P **P** **10 19 24.5 -1.3**
WRA pmax pmax
comp=Z,5.0nm,2.0s
WRA **Warramunga Arr** **88.92** **114** P **P** **10 19 24.5 -1.3**
WRAB **Tennant Creek** **88.92** **114***d iP* **P** **10 19 24.9 -0.9**
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WB2 **Warramunga Arr** **88.93** **114** P **P** **10 19 24.9 -0.9**
PCA **Pinnacle** **88.99** **9** P **P** **10 19 26.0 +0.4**
OHAK **Old Harbor** **89.23** **16** P **P** **10 19 25.5 -1.1**
baz=334
OHAK **Old Harbor** **89.23** **16** P **P** **10 19 26.5 -0.2**
OHAK IAmb IAmb 10 19 34.0
comp=Z,19nm,1.0s
SII **Sitkinak Islan** **89.60** **17** P **P** **10 19 27.2 -1.3**
baz=333
CHNA **Chernabura Isl** **89.61** **20** P **P** **10 19 27.2 -1.2**
baz=328
G65A **Princeton** **90.06** **325** P **P** **10 19 30.4 -0.4**
baz=45
ASAR **Alice Springs** **90.57** **117** P **P** **10 19 31.1 -2.4**
comp=Z,2.1nm,0.9s,baz=302,slow=4.7,SNR=12
ASAR LR LR 11 04 22.2
comp=Z,146nm,18.5s,baz=298,slow=38
ASAR **Alice Springs** **90.57** **117** P **P** **10 19 32.5 -1.0**
ASAR **Alice Springs** **90.57** **117** P **P** **10 19 32.5 -1.0**
G63A **Kingsbury** **91.14** **326** P **P** **10 19 35.0 -0.9**
baz=44
DLBC **Dease Lake** **91.62** **4** P **P** **10 19 38.2 +0.3**
comp=Z,2.9nm,1.0s,baz=288,slow=6.4,SNR=3.2
DLBC **Dease Lake** **91.62** **4** P **P** **10 19 37.7 -0.2**
DLBC IAmb IAmb 10 19 43.0
comp=Z,32nm,1.9s
PMG **Port Moresby** **94.22** **98**⇑*eP* **P** **10 19 48.0 -2.5**
PMG pmax pmax
comp=Z,28nm,1.0s
NBPV **Pedro Velho** **95.71** **266** *eP* **P** **10 19 58.4 +1.0**
ULM **Lac du Bonnet** **96.68** **343** LR LR 11 06 31.6
comp=Z,214nm,18.5s,baz=22,slow=37
MAW **Mawson** **97.43** **178** LR LR 10 58 47.5
comp=Z,335nm,19.3s,baz=10,slow=32
PDAR **Pinedale Array** **106.60** **350** PKiKP **PKiKP** **10 24 54.1 -2.4**
comp=Z,0.2nm,0.6s,baz=42,slow=2.8,SNR=2.1
NVAR **Mina Array Bea** **111.77** **357** PKiKP **PKiKP** **10 25 07.0 +0.7**
comp=Z,0.9nm,0.7s,baz=44,slow=1.0,SNR=8.0
DZM **Mont Dzumac** **116.44** **101** *e*LR LR 11 00 35.8
comp=Z,400nm,24.0s
MNTX **Cornudas Mount** **116.51** **344** P **PKiKP** **10 25 14.8 -0.5**
baz=16
MNTX **Cornudas Mount** **116.51** **344** PKPdf **PKiKP** **10 25 14.4 -0.9**
TX31 **Lajitas Ar. Si** **118.32** **341** **PKiKP** **10 25 18.3 -0.7**
TX32 **Lajitas Array** **118.32** **341** PKPdf **PKiKP** **10 25 18.3 -0.7**
TXAR **Lajitas Array** **118.32** **341** PKP **PKiKP** **10 25 18.1 -0.8**
comp=Z,1.1nm,0.8s,baz=205,slow=1.7,SNR=12
PTLB **Pontes e Lacer** **120.57** **269** *e*P **PKiKP** **10 25 23.9 +0.5**
CPUP **Villa Florida** **123.25** **257** PKP **PKiKP** **10 25 27.3 -1.1**
comp=Z,0.8nm,0.4s,baz=34,slow=7.3,SNR=1.4
LPAZ **La Paz** **128.73** **273** PKP **PKiKP** **10 25 39.5 -0.9**
comp=Z,0.9nm,0.8s,baz=135,slow=4.3,SNR=2.7
AC02 **Maricunga** **133.43** **260** PKPdf **PKiKP** **10 25 49.8 +0.4**
PLCA **Paso Flores** **136.99** **241** PKhKP PKPpre 10 25 48.3
comp=Z,1.6nm,1.0s,baz=121,slow=5.9,SNR=1.8
PLCA **Paso Flores** **136.99** **241** *e*P **PKPdf** **10 25 53.1 -0.8**
PPT2 **Papeete2** **152.26** **70** *e*LR LR 11 17 17.1
comp=Z,393nm,26.5s
TAOE **Nuku Hiva Isla** **153.14** **42** *e*LR LR 11 17 26.0
comp=Z,1μm,33.2s
TBI **Tubuai** **154.92** **81** *e*LR LR 11 18 27.8
comp=Z,308nm,24.5s

NNC ***31*** *10:16:29.2±2.1,43°.63N×69°.82E,h0km,mb3.8,mpv3.3*
Error ellipse: s-maj=11.9km s-min=8.2km az=110.0,
Suspected Mining explosion.
KRNET ***31*** *10:16:33.9±0.1,43°.28N×69°.68E,mb3.0*
ISC 31 10:16:29.9±2.9,43°.58N±0°.07×69°.9E±0°.1,h0km,n14,
σ1°04/19,9C-5D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.67**	**135**	⇓P	**Pg**	**10 16 42.4**	**-0.4**
	2.9nm,0.5s,baz=319,slow=16,SNR=115						
KK31				⇑S	**Sb**	**10 16 53.7**	**-0.7**
	11nm,0.3s,baz=320,slow=22,SNR=19						
MNAS	**Manas**	**2.23**	**118**	⇑*iP*	**Pg**	**10 17 13.4**	**+0.8**
	baz=10.0						
MNAS				⇑*iS*	**Sg**	**10 17 42.3**	**+0.8**
	baz=10.0						
TRKS	**Terek-Say**	**2.26**	**155**	⇑*iP*	**Pb**	**10 17 12.1**	**+0.4**
	baz=48						
TRKS				⇑*iS*	**Sb**	**10 17 39.9**	**-0.3**
	baz=48						
EKS2	**Erkin-Say**	**3.01**	**106**	⇑*eP*	**Pb**	**10 17 25.4**	**+0.9**
	baz=0.0						
EKS2				⇑*iS*	**Sb**	**10 18 02.5**	**+0.6**
	baz=0.0						
AML	**Almayashu**	**3.17**	**116**	⇓*iP*	**Pb**	**10 17 26.7**	**-0.7**
	baz=10.0						
AML				⇓*eS*	**Sb**	**10 18 05.6**	**-1.1**
	baz=10.0						
BTLS	**Baital**	**3.34**	**63**	Pg	**Pb**	**10 17 31.0**	**+0.9**
	10nm,0.6s						
BTLS				Lg	Lg	10 18 11.8	
	25nm,1.5s						
SGDS	**Sogindy**	**3.47**	**90**	Pg	**Pg**	**10 17 36.9**	**+0.4**
	16nm,0.9s						
SGDS				Lg	Lg	10 18 21.9	
	7.9nm,0.7s						
AAK	**Ala-Archa**	**3.52**	**104**	⇓Pg	**Pg**	**10 17 36.3**	**-1.1**
	10nm,0.9s						
AAK				⇑Lg	Lg	10 18 23.5	
	5.8nm,0.6s						
TKM2	**Tokmak 2**	**4.24**	**97**	⇓Pg	**Pb**	**10 17 46.3**	**+0.7**
	2.7nm,0.8s						
TKM2				⇑Lg	Lg	10 18 45.5	
	9.7nm,1.0s						
DGS	**Degeres**	**4.32**	**92**	Pg	**Pg**	**10 17 52.6**	**-0.2**
	12nm,1.6s						
DGS				Lg	Lg	10 18 48.0	
	7.9nm,0.5s						
KST	**Kastek**	**4.49**	**95**	Pg	**Pg**	**10 17 57.3**	**+1.3**
	66nm,2.8s						
KST				Lg	Lg	10 18 56.4	
	13nm,1.1s						
KUU	**Kurty**	**4.71**	**84**	Pg	**Pg**	**10 17 58.1**	**-2.0**
	17nm,3.6s						
KUU				Lg	Lg	10 18 59.0	
	15nm,0.4s						
KTBS	**Karatobe**	**4.95**	**86**	Pg	**Pg**	**10 18 03.6**	**-1.2**
	5.3nm,0.9s						
KTBS				Lg	Lg	10 19 07.8	
	12nm,0.9s						
IZV	**Izvestkoviy**	**4.96**	**94**	Pg	**Pg**	**10 18 03.5**	**-1.4**
	4.2nm,0.5s						
IZV				Lg	Lg	10 19 07.4	
	11nm,0.2s						

IDC 31 10:19:11.1±3.3,53°.49N×87°.66E,h0km,mb1 2.9/2,
mb1mx2.8/51,mbtmp2.9/2,ML2.6/2,Error ellipse:
s-maj=33.5km s-min=18.7km az=83.0,Southwestern
Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.75**	**286**	*i*		**10 30 23.0**	
	baz=102,slow=306,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.75**	**286**	Pn	Pn	10 19 42.1	-0.6
	0.6nm,0.3s,baz=101,slow=16,SNR=5.7						
ZALV				Sn	Sg	10 20 07.9	+0.6
	2.2nm,0.3s,baz=111,slow=24,SNR=15						
KURBB	**Kurchatov Arra**	**6.32**	**247**	Pn	Pn	10 20 46.1	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.3						
KURBB				Lg	Lg	10 22 28.7	
	0.0nm,0.3s,baz=64,slow=32,SNR=4.1						
MKAR	**Makanchi Array**	**7.53**	**209**	Pn	Pn	10 21 03.5	+1.4
	0.2nm,0.3s,baz=30,slow=14,SNR=5.9						
MKAR				Sn	Sn	10 22 27.6	-0.6
	0.1nm,0.3s,baz=28,slow=24,SNR=2.7						
MKAR				Lg	Lg	10 23 10.9	
	0.0nm,0.3s,baz=26,slow=30,SNR=5.4						

KNET ***31*** *10:21:15.5±0.7,43°.32N×74°.72E,h0km,ml1.7,Error*
ellipse: s-maj=6.0km s-min=2.0km az=4.0
NNC ***31*** *10:21:15.5±0.6,43°.24N×74°.67E,h0km,mb2.7,mpv2.6,*
Error ellipse: s-maj=5.8km s-min=2.4km az=46.0,
Suspected Mining explosion.
SOME ***31*** *10:21:16.0,43°.35N×74°.72E*
ISC 31 10:21:15.5±0.8,43°.30N±0°.03×74°.72E±0°.03,h0km,n16,
σ0°73/26,10C-3D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.16**	**258**	⇑P	**Pg**	**10 21 18.7**	**+0.1**
	126nm,0.1s,SNR=226						
USP				⇑S	**Sg**	**10 21 20.9**	**+0.2**
	116nm,0.3s						
SGDS	**Sogindy**	**0.17**	**338**	P	**Pg**	**10 21 19.2**	**+0.5**
	34nm,0.1s						
SGDS				S	**Sg**	**10 21 22.2**	**+1.3**
	244nm,0.3s						
CHMS	**Chumysh**	**0.30**	**175**	⇑P	**Pg**	**10 21 22.1**	**+0.8**
	6.8nm,0.1s,SNR=14						
CHMS				⇓S	**Sg**	**10 21 26.5**	**+1.3**
	13nm,0.1s						
KBK	**Karagaybulak**	**0.67**	**165**	⇑P	**Pb**	**10 21 29.4**	**-0.7**
	5.3nm,0.1s						
TKM2	**Tokmak 2**	**0.75**	**120**	P	**Pg**	**10 21 30.4**	**+0.5**
	1.9nm,0.1s,SNR=13						
TKM2				⇓S	**Sb**	**10 21 40.9**	**-1.5**
	7.1nm,0.1s						
TKM2	**Tokmak 2**	**0.75**	**120**	⇑P	**Pg**	**10 21 29.8**	**-0.1**
	0.4nm,0.3s						
TKM2				⇑S	**Sg**	**10 21 40.7**	**+1.1**
	3.3nm,0.4s						
DGS	**Degeres**	**0.77**	**94**	P	**Pb**	**10 21 31.4**	**-0.6**
	3.0nm,0.2s						
DGS				S	**Sb**	**10 21 42.7**	**-0.4**
	5.8nm,0.3s						
KST	**Kastek**	**0.95**	**105**	P	**Pb**	**10 21 35.0**	**0.0**
	3.2nm,0.3s						
KST				S	**Sb**	**10 21 48.9**	**+0.8**
	13nm,1.0s						
UCH	**Uchtor**	**1.08**	**188**	⇑P	**Pb**	**10 21 36.6**	**-0.8**
	1.9nm,0.1s,SNR=8.6						
KUU	**Kurty**	**1.32**	**63**	P	**Pg**	**10 21 40.7**	**-0.1**
	2.6nm,0.4s						
KUU				S	**Sn**	**10 21 59.0**	**-0.6**
	7.1nm,0.4s						
AML	**Almayashu**	**1.39**	**213**	⇓P	**Pn**	**10 21 42.0**	**-0.5**
	0.9nm,0.1s						
KTBS	**Karatobe**	**1.49**	**73**	P	**Pb**	**10 21 43.9**	**-0.2**
	2.2nm,0.4s						
KTBS				S	**Sn**	**10 22 04.3**	**+0.5**
	11nm,0.5s						
ULHL	**Ulahol**	**1.54**	**133**	⇑P	**Pb**	**10 21 44.9**	**-0.2**
	0.9nm,0.1s,SNR=6.4						
MDOK	**Medeo**	**1.71**	**94**	Pg	**Pg**	**10 21 48.5**	**+0.1**
	3.9nm,0.5s						
MDOK				Lg	Lg	10 22 11.9	
	4.7nm,0.4s						
BTLS	**Baital**	**1.81**	**345**	P	**Pg**	**10 21 49.8**	**-0.4**
	2.0nm,0.3s						
BTLS				S	**Sg**	**10 22 14.2**	**+0.6**
	2.0nm,0.3s						
KK31	**Karatay Array**	**3.08**	**268**	⇑Pg	**Pb**	**10 22 11.5**	**+0.3**
	0.6nm,0.6s,baz=78,slow=16,SNR=4.1						
KK31				⇑Lg	Lg	10 22 50.8	
	1.1nm,0.7s,baz=86,slow=24,SNR=4.9						

IDC ***31*** *10:21:21.4±6.9,37°.12N×78°.62E,h0km,mb3.8/2,*
mb1 3.7/3,mb1mx3.3/46,mbtmp3.7/3,ML3.5/1,Error
ellipse: s-maj=162.5km s-min=40.5km az=124.0
NNC ***31*** *10:21:31.6±2.3,37°.76N×77°.93E,h30km±18km,mb4.1,*
mpv3.7,Error ellipse: s-maj=23.3km s-min=15.8km

az=80.0

ISC 31 10:21:30.8±2.2, 37°.7N±0°.1×77°.89E±0°.08, h10km, n17, σ3°.04/14, 2C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.33	321	Sn	Sg	10 22 47.3	+1.6
KSH	Kashi	2.33	321	smax	smax		
	comp=E,420nm,0.3s						
KSH	Kashi	2.33	321	smax	smax		
	comp=N,500nm,0.4s						
KSH	Kashi	2.33	321	Pn	Pb	10 22 13.3	+0.3
MDOK	Medeo	5.47	354	Pg	Pb	10 23 11.0	+4.6
	comp=N,5.5nm,0.5s						
MDOK				Lg	Lg	10 24 29.2	
	comp=N,56nm,0.9s						
MDOK	Medeo	5.47	354	Pg	Pb	10 23 10.9	+4.5
	comp=N,8.6nm,0.6s						
MDOK				Lg	Lg	10 24 26.3	
	comp=N,14nm,0.6s						
TKM2	Tokmak 2	5.47	342	⇑Pg	Pg	10 23 12.4	-3.2
	comp=N,5.4nm,0.9s						
TKM2				⇑Lg	Lg	10 24 27.1	
	comp=N,25nm,0.9s						
AAK	Ala-Archa	5.55	333	Pg	Pb	10 23 11.5	+3.7
	comp=N,4.2nm,0.6s						
AAK				Lg	Lg	10 24 28.2	
	comp=N,39nm,1.1s						
PDGK	Podgornoye	5.73	12	⇓Pg	Pb	10 23 14.7	+3.8
	comp=N,6.3nm,0.7s						
PDGK				⇓Lg	Lg	10 24 32.3	
	comp=N,27nm,0.9s						
DGS	Degeres	5.74	344	Pg	Pb	10 23 15.4	+4.3
	comp=N,8.0nm,0.4s						
DGS				Lg	Lg	10 24 32.6	
	comp=N,15nm,1.2s						
SGDS	Sogindy	6.23	338	Pg	Pb	10 23 24.4	+5.0
	comp=N,4.5nm,0.8s						
SGDS				Lg	Lg	10 24 48.3	
	comp=N,4.7nm,0.3s						
MAKZ	Makanchi	9.56	17	⇓Pn	Pn	10 23 47.5	-1.0
	comp=N,3.8nm,1.1s						
MAKZ				⇓Sn	Sn	10 25 32.8	-3.2
	comp=N,2.1nm,0.7s						
WMQ	Urumqi	9.61	48	*e*P	Pn	10 23 49.8	+0.7
WMQ				smax	smax		
	comp=N,34nm,0.7s						
WMQ				smax	smax		
	comp=E,15nm,0.7s						
MK31	Makanchi Array	9.63	18	Pn	Pn	10 23 48.7	-0.7
	comp=E,0.4nm,0.3s,baz=198,slow=12,SNR=34						
MK31				⇓Sn	Sn	10 25 33.9	-3.7
	comp=E,2.8nm,0.8s,baz=191,slow=23,SNR=6.5						
MKAR	Makanchi Array	9.63	18	Pn	Pn	10 23 48.6	-0.8
	comp=E,0.4nm,0.3s,baz=195,slow=13,SNR=22						
MKAR				Sn	Sn	10 25 33.9	-3.7
	comp=E,0.7nm,0.3s,baz=191,slow=26,SNR=5.5						
FINES	FINESS Array B	39.65	324	P	P	10 29 01.3	-1.1
	comp=E,2.4nm,1.0s,baz=104,slow=12,SNR=3.6						
TORD	Torodi Ar. Bea	71.21	272	P	P	10 32 46.3	-4.0
	comp=E,0.3nm,0.6s,baz=42,slow=5.5,SNR=4.7						

IDC 31 10:40:53.8±1.5, 46°.13S×34°.48E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.7/3, MS4.2/1, Ms1 4.2/1, ms1mx3.3/33, Error ellipse: s-maj=84.4km s-min=35.4km az=56.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	52.44	167	P	P	10 50 07.4	-0.1
	0.6nm,0.8s,baz=246,slow=6.3,SNR=3.7						
VNDA				LR	LR	11 12 10.4	
	comp=Z,204nm,19.4s,baz=246,slow=36						
TORD	Torodi Ar. Bea	65.98	325	P	P	10 51 41.9	0.0
	1.0nm,1.1s,baz=155,slow=7.5,SNR=3.3						
ASAR	Alice Springs	79.49	113	P	P	10 53 02.5	+0.1
	0.5nm,0.7s,baz=220,slow=5.2,SNR=6.6						

*IDC **31** 11:17:38.7±1.2, 31°.03N×103°.20E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/45, mbtmp3.5/6, Error ellipse: s-maj=47.8km s-min=20.7km az=52.0*

ISC 31 11:17:41.0±1.4, 31°.1N±0°.2×103°.2E±0°.2, h15km, n6, σ0°.17/6, mb3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	21.36	66	P	P	11 22 27.8	+0.1
	0.6nm,0.6s,baz=246,slow=10,SNR=4.1						
MKAR	Makanchi Array	22.53	320	P	P	11 22 40.4	+0.1
	0.4nm,0.8s,baz=129,slow=11,SNR=4.9						
ZALV	Zalesovo Beam	26.45	335	P	P	11 23 16.9	-0.2
	0.4nm,0.3s,baz=158,slow=9.0,SNR=2.1						
KURBB	Kurchatov Arra	26.83	324	P	P	11 23 20.8	+0.1
	0.7nm,0.7s,baz=129,slow=9.5,SNR=5.0						
WRA	Warramunga Arr	58.86	145	P	P	11 27 39.3	+0.1
	0.3nm,0.5s,baz=339,slow=7.5,SNR=6.1						
ASAR	Alice Springs	61.84	148	P	P	11 27 59.6	-0.1
	0.5nm,0.9s,baz=335,slow=6.3,SNR=2.0						

*IDC **31** 11:27:07.1±1.3, 8°.62S×75°.32W, h0km, mb3.4/3, mb1 3.8/7, mb1mx3.6/34, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=33.3km s-min=27.8km az=21.0*

ISC 31 11:27:11.7±0.8, 8°.70S±0°.08×75°.4W±0°.1, h35km, n10, σ1°.15/10, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	3.37	297	Pn	Pn	11 28 01.9	-0.3
	0.7nm,0.3s,baz=96,slow=10,SNR=2.8						
ATAH				Lg	Lg	11 28 49.0	
	3.4nm,0.3s,baz=63,slow=14,SNR=1.7						
NNA	Nana	3.57	204	Pn	Pn	11 28 05.9	+1.2
	7.7nm,0.3s,baz=19,slow=17,SNR=17						
NNA				Sn	Sn	11 28 44.0	-1.7
	2.3nm,0.3s,baz=292,slow=2.5,SNR=1.5						
LPAZ	La Paz	10.34	138	Lg	Lg	11 32 26.4	
	0.1nm,0.3s,baz=292,slow=17,SNR=2.5						
SIV	San Ignacio	15.73	119	Pn	Pn	11 30 49.4	-1.4
	0.3nm,0.3s,baz=294,slow=14,SNR=12						
SIV				Lg	Lg	11 35 23.0	
	baz=28,slow=18,SNR=2.1						
PTGA	Pitinga	17.27	64	P	Pn	11 31 09.8	-0.5
	baz=253,slow=19,SNR=1.2						
TXAR	Lajitas Array	46.61	325	P	P	11 35 37.8	+1.1
	0.2nm,0.4s,baz=145,slow=9.8,SNR=2.9						
TORD	Torodi Ar. Bea	79.54	75	P	P	11 39 16.6	+0.9
	0.2nm,0.5s,baz=270,slow=5.8,SNR=1.9						
ILAR	Eielson Array	90.08	336	P	P	11 40 07.0	-0.6
	0.2nm,0.6s,baz=117,slow=3.1,SNR=2.9						
ASAR	Alice Springs	136.94	221	PKP	PKPdf	11 46 31.8	+0.1
	0.6nm,0.9s,baz=124,slow=1.8,SNR=5.4						
WRA	Warramunga Arr	139.19	226	PKP	PKPdf	11 46 36.3	+0.4
	0.7nm,0.7s,baz=140,slow=2.2,SNR=4.9						

*TUL **31** 11:38:32.9±1.3, 36°.15N±0°.01×97°.49W±0°.02, h4km±7km, ML2.9, mb_Lg2.6/33(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=78.0*

NEIC 31 11:38:33.1±1.1, 36°.16N±0°.01×97°.506W±0°.007, h4km±7km, Error ellipse: s-maj=1.6km s-min=0.8km az=178.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.36	173	Pg	Pg	11 38 40.2	+0.2
OK029				Sg	Sg	11 38 45.3	+0.5
BCOK	Bluff Creek, N	0.51	190	Pg	Pg	11 38 42.5	-0.2
BCOK				Sg	Sg	11 38 49.7	+0.4
CROK	Carrier	0.52	312	Pg	Pg	11 38 43.4	+0.3
CROK				Sg	Sg	11 38 51.0	+1.2
OK005	Luther M Schoo	0.56	153	Pg	Pg	11 38 43.0	-0.9
OK031	S. Brethren Rd	0.58	110		Pg	11 38 44.1	0.0
OK031				Sg	Sg	11 38 51.8	+0.2
OK009	Oakdale Elemen	0.58	173	Pg	Pg	11 38 44.6	+0.5
OK025	Westminster Rd	0.59	167	Pg	Pg	11 38 44.4	0.0
OK025				Sg	Sg	11 38 52.8	+0.7
OK001	Jones High Sch	0.62	163	Pg	Pg	11 38 44.5	-0.4
QUOK	Quay	0.65	88		Pg	11 38 45.5	0.0
QUOK				Sg	Sg	11 38 54.4	+0.5
BLOK	Blackwell	0.65	21	Pg	Pg	11 38 45.7	+0.2
BLOK				Sg	Sg	11 38 54.6	+0.7
OKCFA	Oklahoma City	0.74	177	Pg	Pg	11 38 47.2	0.0
OKCFA				Sg	Sg	11 38 57.3	+0.5
GC02	Grant County #	0.75	338	Pg	Pg	11 38 47.7	+0.3
GC02				Sg	Sg	11 38 56.8	-0.4
OKCSW	OKLAHOMA CITY	0.75	176	Pg	Pg	11 38 47.6	+0.1
OKCSW				Sg	Sg	11 38 57.8	+0.6
KAN13	South Haven SW	0.85	2	Pg	Pg	11 38 49.5	0.0
KAN13				Sg	Sg	11 39 01.3	+0.7
OK032	Salt Plains WL	0.86	319	Pg	Pg	11 38 49.3	-0.3
FNO	Franklin	0.90	175	Pg	Pg	11 38 49.9	-0.4
FNO				Sg	Sg	11 39 02.5	+0.5
KAN17	Caldwell West	0.91	347	Pg	Pg	11 38 50.5	-0.1
KAN17				Sg	Sg	11 39 03.1	+0.7
OK011	Prague	0.94	135	Pg	Pg	11 38 50.6	-0.5
KAN09	Caldwell North	0.98	355	Pg	Pg	11 38 51.7	-0.2
KAN05	Bluff City Nor	0.99	343	Pg	Pg	11 38 52.1	-0.1
KS20	Mayfield South	1.07	358	Pg	Pg	11 38 53.5	-0.2
KAN10	Anthony SW Sta	1.08	334	Pg	Pg	11 38 53.4	-0.3
T35A	Sooner Cattle	1.10	46		Pg	11 38 53.9	-0.4
KAN08	Anthony NE Sta	1.13	341	Pg	Pg	11 38 54.6	-0.2
KAN12	Harper NE Stat	1.21	341	Pg	Pg	11 38 55.8	-0.4
U32A	Winter Ranch,	1.23	281	Pg	Pg	11 38 55.8	-0.8
X34A	Smith Ranch, M	1.57	190	Pn	Pn	11 39 01.4	-0.4
WMOK	Wichita Mounta	1.76	217	Pn	Pn	11 39 04.3	0.0
LOOK	Love County	2.17	173	Pn	Pn	11 39 09.9	-0.1
X37A	Clayton	2.34	131	Pn	Pn	11 39 12.0	-0.4
R32A	Long Quarter,	2.46	337	Pn	Pn	11 39 13.6	-0.4
U38A	Gravette	2.54	83	Pn	Pn	11 39 14.5	-0.6
HHAR	Hobbs	2.89	86	Pn	Pn	11 39 19.7	-0.1
KSU1	Kansas State U	3.02	13	Pn	Pn	11 39 20.3	-1.4
KSU1				IAmb_Lg		11 40 16.6	
	comp=Z,17nm,0.8s						
W39A	Magazine	3.18	106	IAmb_Lg		11 40 19.2	
	comp=Z,17nm,0.7s						
CBKS	Cedar Bluff	3.19	327	Pn	Pn	11 39 24.9	+0.8
MIAR	Mount Ida	3.59	115	Pn	Pn	11 39 28.9	-0.7
MIAR				IAmb_Lg		11 40 31.6	
	comp=Z,15nm,0.8s						
AMTX	Amarillo	3.63	251	Pn	Pn	11 39 30.7	+0.5
S39A	Bolivar	3.69	64	Pn	Pn	11 39 31.0	+0.2
S39A				IAmb_Lg		11 40 34.0	
	comp=Z,11nm,0.7s						
U40A	Yellville	3.77	86	Pn	Pn	11 39 30.9	-1.1
ABTX	Abilene, Hawle	3.94	207	Pn	Pn	11 39 34.6	+0.2
WHTX	Lake Whitney,	4.16	179	Pn	Pn	11 39 37.4	+0.1
X40A	Basin Creek Fa	4.17	112	Pn	Pn	11 39 37.7	+0.2
X40A				IAmb_Lg		11 40 49.7	
	comp=Z,16nm,0.7s						
MGMO	Mountain Grove	4.33	75	IAmb_Lg		11 40 52.8	
	comp=Z,15nm,1.1s						
WHAR	Wooly Hollow	4.33	100	Pn	Pn	11 39 39.3	-0.4
WHAR				IAmb_Lg		11 40 58.3	
	comp=Z,12nm,0.7s						
FCAR	Ozark Folk Cen	4.37	92	IAmb_Lg		11 40 53.9	
	comp=Z,13nm,1.0s						
WLAR	White Oak Lake	4.37	123	Pn	Pn	11 39 41.2	+0.9
R40A	Maddies Statio	4.69	61	Pn	Pn	11 39 45.0	+0.4
MSTX	Muleshoe	4.84	245	Pn	Pn	11 39 46.6	-0.2
KSCO	Kaye Shedlock'	4.97	307	IAmb_Lg		11 41 24.2	
	comp=Z,8.8nm,0.8s						
LCAR	Lake Charles	5.14	89	Pn	Pn	11 39 51.2	+0.3
T42A	Van Buren	5.23	79	Pn	Pn	11 39 51.2	-0.9
T42A				IAmb_Lg		11 41 29.1	
	comp=Z,6.8nm,0.9s						
P40A	Paris	5.48	50	IAmb_Lg		11 41 33.5	
	comp=Z,7.7nm,0.8s						
T25A	Trinidad	5.64	282	IAmb_Lg		11 41 32.7	
	comp=Z,8.9nm,0.9s						
N38A	Joes South For	5.71	35	IAmb_Lg		11 41 34.2	
	comp=Z,10nm,0.7s						
PBMO	Poplar Bluff	5.74	82	IAmb_Lg		11 41 32.7	
	comp=Z,6.5nm,0.7s						
OGNE	Ogallala	5.95	325	IAmb_Lg		11 41 48.9	
	comp=Z,12nm,0.9s						
SDCO	Great Sand Dun	6.60	286	IAmb_Lg		11 42 04.4	
	comp=Z,5.5nm,1.1s						
SIUC	Southern Illin	6.82	74	IAmb_Lg		11 42 27.6	
	comp=Z,9.8nm,0.8s						

IDC 31 11:58:34.8±5.5, 46°.22N×53°.63E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, ML3.8/1, 1C-1D, Error ellipse: s-maj=86.3km s-min=34.9km az=121.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	5.14	33	⇓Pg	Pn	11 59 56.9	+4.0
	0.6nm,0.3s						
AKTO				⇑Lg	Lg	12 00 56.4	
	2.8nm,0.5s						
AB31	Akbulak array	5.24	52	Pg	Pn	12 00 00.1	+5.8
	0.3nm,0.2s,baz=233,slow=12,SNR=26						
AB31				Lg	Lg	12 01 03.2	
	0.6nm,0.2s,baz=222,slow=25,SNR=6.7						
KBZ	Khabaz	8.00	256	Pn	Pn	12 00 31.8	-0.5
	1.2nm,0.3s,baz=67,slow=15,SNR=15						
KBZ				Sn	Sn	12 01 54.1	-9.3
	baz=282,slow=21,SNR=1.2						
FINES	FINESS Array B	22.04	324	P	P	12 03 30.6	0.0
	1.1nm,0.4s,baz=132,slow=12,SNR=16						
TORD	Torodi Ar. Bea	54.57	250	P	P	12 08 04.7	-0.1
	0.1nm,0.3s,baz=48,slow=7.0,SNR=2.1						

IDC 31 12:20:12.0±414.0, 58°.58N×30°.53E, h0km, Error ellipse: s-maj=109.5km s-min=31.4km az=156.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.05	115	*i*		12 48 20.0	
	baz=301,slow=315,SNR=0.6						
I37NO	I37NO	11.74	339	*i*		13 32 00.0	
	baz=148,slow=320,SNR=2.9						
I26DE	FREYUNG INFRAS	13.89	233	*i*		13 41 20.0	
	baz=45,slow=319,SNR=1.6						

*PDG **31** 12:23:14.9±0.2, 43°.02N×18°.22E, h9km±1km, MD2.6/1, ML2.3/10, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*RHSSO **31** 12:23:14.4±0.2, 43°.06N×18°.11E, h5km±2km, ML2.2/10*

ISC 31 12:23:12.9±1.0, 43°.04N±0°.02×18°.10E±0°.02, h10km±9km, n33, σ0°.81/63, 8C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	Ston	0.34	240	*e*Pg	Pb	12 23 20.7	-0.2
STON				*e*Sg	Sb	12 23 26.6	+0.3
STON	Ston	0.34	240	*e*Pg	Pb	12 23 20.7	-0.2
STON				Sg	Sb	12 23 26.1	-0.3
BRY	Bratogost	0.35	113	⇑*i*Pg	Pb	12 23 20.8	-0.6
BRY				*e*Sg	Sb	12 23 26.4	-0.6
BRY	Bratogost	0.35	113	*e*Pg	Pg	12 23 19.8	-0.2
BRY				*i* Sg	Sg	12 23 24.2	-0.5
TREB	Trebinje	0.37	150	⇑*i*Pg	Pb	12 23 21.1	-0.5
TREB				*e*Sg	Sb	12 23 27.0	-0.4
UPM	Unac-Piva	0.61	74	⇑*i*Pg	Pg	12 23 25.1	+0.2
UPM				*e*Sg	Sb	12 23 34.3	-0.3
UPM	Unac-Piva	0.61	74	*e*Pg	Pg	12 23 24.8	-0.1
UPM				*i* Sg	Sg	12 23 33.6	+0.6
HCY	Herceg Novi	0.66	154	*e*Pg	Pb	12 23 26.3	-0.2
HCY				*e*Sg	Sn	12 23 36.8	-1.9
HCY	Herceg Novi	0.66	154	⇑*i*Pg	Pb	12 23 25.9	-0.6
HCY				*i* Sg	Sb	12 23 35.8	+0.1
NKME	Niksic	0.69	113	⇑*i*Pg	Pg	12 23 25.8	-0.4
NKME				*i* Sg	Sg	12 23 35.3	+0.1
CEME	Cevo	0.78	129	⇓*i*Pg	Pb	12 23 27.6	-1.0
CEME				*i* Sg	Sb	12 23 38.9	-0.3
RICI	Ricice	0.84	303	*e*Pg	Pb	12 23 29.4	-0.2
RICI				Sg	Sn	12 23 42.0	-1.1
BUM	Brajici-Budva	0.94	141	⇓*i*Pg	Pb	12 23 30.8	-0.6
BUM				*i* Sg	Sn	12 23 44.9	-0.9
PDG	Podgorica	1.05	125	*e*Pg	Pn	12 23 33.9	+0.3
PDG				*e*Sg	Sn	12 23 48.6	+0.3
TTG	Podgorica	1.05	125	⇓*i*Pg	Pg	12 23 32.5	-0.6
TTG				*i* Sg	Sn	12 23 47.9	-0.4
KOME	Kolasin	1.06	100	⇓*i*Pg	Pb	12 23 32.7	-0.7
KOME				*i* Sg	Sn	12 23 48.1	-0.6
RUDO	Rudo	1.09	58	*e*Pg	Pg	12 23 34.0	0.0
RUDO				*e*Sg	Sb	12 23 48.0	-0.3
DRME	Dracevica, Mon	1.17	136	*e*Pg	Pg	12 23 35.5	+0.1
DRME				*e*Sg	Sn	12 23 52.2	+0.9
DRME	Dracevica, Mon	1.17	136	⇓*i*Pg	Pg	12 23 34.9	-0.5
DRME				*i* Sg	Sn	12 23 52.4	+1.1
HVAR	Hvar	1.21	277	*e*Pg	Pg	12 23 36.5	+0.2
HVAR				Sg	Sn	12 23 53.6	+1.2
BBLS	Lizašći	1.26	49	⇑*i*Pg	Pg	12 23 37.4	+0.2
BBLS				*e*Sg	Sg	12 23 54.4	+0.8
IVA	Berane	1.33	97	⇓*i*Pg	Pb	12 23 37.7	-0.3
IVA				*i* Sg	Sg	12 23 57.4	+1.7
ULC	Ulcinj	1.37	141	⇑*i*Pg	Pg	12 23 38.7	-0.5
ULC				*i* Sg	Sg	12 23 59.3	+2.3
MGRS	Mrkonjic Grad	1.56	332	*e*Sn	Sg	12 24 03.7	+0.5
DIVS	Divibare	1.74	52	⇑*i*Pn	Pb	12 23 44.1	-0.9
DIVS				*e*Sn	Sb	12 24 06.7	-0.1
BLY	Banja Luka	1.83	339	*e*Pn	Pb	12 23 46.5	0.0
BLY				*e*Sn	Sb	12 24 09.4	-0.1
ZIRJ	Zirje	1.89	290	*e*Pn	Pb	12 23 46.9	-0.7
ZIRJ				Sn	Sg	12 24 12.8	-0.9
MORI	Morici	1.93	296	*e*Pn	Pb	12 23 47.7	-0.4
MORI				Sn	Sg	12 24 13.9	-1.0
MRAK	Mrakovica	2.15	337	*e*Pn	Pb	12 23 51.2	-0.8
MRAK				*e*Sn	Sb	12 24 17.4	-1.4
PRIJ	Prijedor	2.18	333	*e*Pn	Pb	12 23 50.8	-1.6
PRIJ				*e*Sn	Sb	12 24 18.5	-0.9
UDBI	Udbina	2.25	312	Sn	Sb	12 24 22.4	+0.8
DUGI	Dugi Otok	2.41	294	*e*Pn	Pb	12 23 55.1	-1.2
DUGI				Sn	Sb	12 24 26.1	+0.1
MOSL	Moslavina	2.75	340	*e*Pn	Pn	12 23 58.8	+1.8

KMA 31 12:59:45.7±0.2, 34°.49N×128°.60E, h0km±1km, Error ellipse: s-maj=3.2km s-min=1.1km az=320.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHB	KOHEUNG	1.10	277	P	Pg	13 00 06.6	-0.1
	SNR=32						
KOHB	KOHEUNG	1.10	277	P	Pg	13 00 06.6	-0.1
	SNR=32						
BOSB	Boseong-gun	1.17	284	P	Pg	13 00 08.0	-0.2
	SNR=49						
BOSB	Boseong-gun	1.17	284	P	Pg	13 00 08.0	-0.2
	SNR=49						
HAMB	Hamyang	1.23	326	P	Pn	13 00 10.0	-0.2
	SNR=11						
HAMB	Hamyang	1.23	326	P	Pn	13 00 10.0	-0.2
	SNR=11						
KSDAG	Daegu	1.30	11	P	Pg	13 00 10.4	-0.1
	SNR=11						
KSDAG	Daegu	1.30	11	P	Pg	13 00 10.4	-0.1
	SNR=11						
KSKWJ	Gwangju	1.48	297	P	Pg	13 00 13.8	-0.2
	SNR=16						
KSKWJ	Gwangju	1.48	297	P	Pg	13 00 13.8	-0.2
	SNR=16						
GOCB	Gochang-gun	1.85	298	P	Pb	13 00 20.0	-0.3
	SNR=8.8						

IDC 31 13:14:52.8±1.4, 6°.13S×106°.57E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse: s-maj=58.3km s-min=30.3km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.27	120	P	P	13 21 05.5	-0.3
	0.3nm,0.3s,baz=297,slow=9.9,SNR=9.2						
ASAR	Alice Springs	31.55	126	P	P	13 21 17.6	+0.5
	0.3nm,0.4s,baz=302,slow=7.9,SNR=7.9						
MKAR	Makanchi Array	56.93	340	P	P	13 24 39.8	+0.1
	0.2nm,0.4s,baz=149,slow=7.3,SNR=2.3						
VNDA	Vanda	76.90	169	P	P	13 26 46.6	+0.2
	0.9nm,1.0s,baz=291,slow=4.5,SNR=3.8						
QSPA	South Pole Qui	83.86	180	P	P	13 27 23.9	-0.4
	0.5nm,0.9s,baz=315,slow=1.4,SNR=1.3						

*NEIC **31** 13:26:55.8±1.0, 36°.07N±0°.01×97°.25W±0°.02, h3km±6km, Error ellipse: s-maj=2.9km s-min=1.4km az=111.0*
*ANF **31** 13:26:55.7±0.3, 36°.02N×97°.23W, h0km, ML3.7/8, Error ellipse: s-maj=4.2km s-min=1.9km az=171.0*
*TUL **31** 13:26:55.7±1.1, 36°.06N±0°.01×97°.25W±0°.02, h2km±7km, ML3.3, mb_Lg3.1/88(NEIC), Error ellipse: s-maj=2.8km s-min=1.7km az=109.0*

ISC 31 13:26:55.1±1.1, 36°.04N±0°.02×97°.25W±0°.02, h5km±11km, n84, σ1°.32/52, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.30	214		Pg	13 27 02.0	+1.1
OK031	S. Brethren Rd	0.35	105		Pb	13 27 02.9	-0.9
OK031				Sg	Sb	13 27 07.9	-1.7
OK005	Luther M Schoo	0.39	173	Pg	Pg	13 27 02.9	+0.2
QUOK	Quay	0.46	74		Pg	13 27 04.8	+0.9
QUOK				Sg	Sg	13 27 10.9	+1.0
OK025	Westminster Rd	0.47	189		Pb	13 27 05.3	-0.6
OK001	Jones High Sch	0.48	184		Pb	13 27 05.5	-0.6
OK009	Oakdale Elemen	0.48	197		Pb	13 27 05.6	-0.5
BCOK	Bluff Creek, N	0.48	217		Pg	13 27 05.4	+1.0
OKCFA	Oklahoma City	0.65	195		Pb	13 27 08.5	-0.4
OKCFA	Oklahoma City	0.65	195	P		13 27 08.5	
	baz=13,SNR=34						
OKCFA				S		13 27 17.8	
	baz=13						
OKCSW	OKLAHOMA CITY	0.66	193		Pb	13 27 08.6	-0.5
BLOK	Blackwell	0.72	2		Pg	13 27 09.3	+0.4
CROK	Carrier	0.75	308		Pg	13 27 10.0	+0.5
FNO	Franklin	0.80	189		Pb	13 27 11.0	-0.4
FNO				IAmb_Lg		13 27 22.2	
	comp=Z,350nm,0.8s						
GC02	Grant County #	0.94	329		Pg	13 27 13.5	+0.3
KAN13	South Haven SW	0.98	349		Pg	13 27 14.2	+0.2
T35A	Sooner Cattle	1.05	34		Pg	13 27 15.3	0.0
T35B	Sooner Cattle	1.05	34	P		13 27 15.4	
T35B				S		13 27 29.4	
	baz=216						
KAN17	Caldwell West	1.08	338		Pb	13 27 15.7	-0.6
OK032	Salt Plains WL	1.08	315		Pb	13 27 15.9	-0.5
KAN09	Caldwell North	1.13	345		Pb	13 27 16.8

baz=288,SNR=16
Z38A Mt. Pleasant 3.35 145 IAmb_Lg 13 28 48.6
comp=Z,49nm,0.7s
MIAR Mount Ida 3.36 115 S **Sn** **13 28 31.0 +2.5**
baz=298
MIAR Mount Ida 3.36 115 IAmb_Lg 13 28 47.7
comp=Z,45nm,0.8s
MIAR Mount Ida 3.36 115 P 13 27 49.8
baz=298,SNR=5.3
CBKS Cedar Bluff 3.40 325 Sb **Sg** **13 28 44.0 -0.4**
baz=144
CBKS Cedar Bluff 3.40 325 Pn **Pb** **13 27 58.4 +2.5**
S39A Bolivar 3.55 61 **Pn** **13 27 51.9 +1.0**
S39A IAmb_Lg 13 28 45.9
comp=Z,28nm,0.7s
S39A Bolivar 3.55 61 P 13 27 51.8
baz=244,SNR=13
U40A Yellville 3.57 84 P **Pn** **13 27 51.6 +0.4**
baz=267
U40A Yellville 3.57 84 **Pn** **13 27 51.5 +0.3**
U40A Yellville 3.57 84 P 13 27 51.5
baz=267,SNR=15
U40A P 13 27 51.5
baz=267,SNR=15
AMTX Amarillo 3.80 254 Pb **Pb** **13 28 03.3 +0.6**
baz=70
AMTX Sb **Sg** **13 28 53.6 -3.5**
baz=70
AMTX Amarillo 3.80 254 Pn **Pb** **13 28 00.7 -2.0**
X40A Basin Creek Fa 3.93 112 IAmb_Lg 13 29 12.2
comp=Z,26nm,0.8s
X40A Basin Creek Fa 3.93 112 P 13 27 57.2
baz=295,SNR=9.7
X40A P 13 27 57.2
baz=295,SNR=9.7
ABTX Abilene, Hawle 3.94 211 IAmb_Lg 13 29 03.4
comp=Z,26nm,1.0s
WHTX Lake Whitney, 4.05 182 Sb **Sb** **13 28 60.0 +3.9**
baz=2.1
WHAR Wooly Hollow 4.11 99 **Pb** **13 28 07.4 -0.6**
WHAR IAmb_Lg 13 29 10.0
comp=Z,49nm,1.1s
WLAR White Oak Lake 4.14 123 IAmb_Lg 13 29 17.6
comp=Z,34nm,1.0s
MGMO Mountain Grove 4.16 73 **Pb** **13 28 08.7 -0.1**
MGMO IAmb_Lg 13 29 14.6
comp=Z,46nm,0.8s
W41B Gary Mavity, V 4.17 101 P 13 27 59.9
baz=284,SNR=12
237A Washetta, Mont 4.21 163 IAmb_Lg 13 29 06.1
comp=Z,29nm,0.9s
R40A Maddies Statio 4.57 59 IAmb_Lg 13 29 21.6
comp=Z,52nm,0.8s
R40A Maddies Statio 4.57 59 P 13 28 05.9
baz=242,SNR=9.8
P38A Dawn 4.63 38 IAmb_Lg 13 29 26.2
comp=Z,38nm,0.7s
T42A Van Buren 5.05 77 IAmb_Lg 13 29 35.6
comp=Z,38nm,0.7s
KSCO Kaye Shedlock' 5.20 306 IAmb_Lg 13 29 49.1
comp=Z,26nm,0.8s
CCM Cathedral Cave 5.21 66 IAmb_Lg 13 29 38.2
comp=Z,48nm,0.8s
435B Jarrell 5.25 183 IAmb_Lg 13 29 53.9
comp=Z,19nm,0.9s
HBAR Harrisburg 5.38 93 IAmb_Lg 13 29 47.5
comp=Z,57nm,0.8s
P40A Paris 5.39 48 IAmb_Lg 13 29 46.1
comp=Z,42nm,0.8s
BGNE Belgrade 5.40 353 IAmb_Lg 13 29 57.8
comp=Z,42nm,0.9s
T25A Trinidad 5.86 283 IAmb_Lg 13 30 18.0
comp=Z,18nm,1.0s
143A Socs Landing, 5.87 123 IAmb_Lg 13 30 16.7
comp=Z,24nm,0.8s
JCT Junction City 5.95 202 IAmb_Lg 13 30 12.6
comp=Z,18nm,0.7s
L34A Svendsen Farm, 5.95 6 IAmb_Lg 13 30 09.7
comp=Z,54nm,1.0s
SLM Saint Louis 6.16 63 IAmb_Lg 13 30 08.9
comp=Z,37nm,0.7s
OGNE Ogallala 6.16 324 IAmb_Lg 13 30 25.2
comp=Z,25nm,0.8s
SCIA State Center 6.64 27 IAmb_Lg 13 30 34.7
comp=Z,24nm,0.8s
K31A O'Neill 6.67 350 IAmb_Lg 13 30 38.5
comp=Z,30nm,0.8s
L40A Anamosa 7.62 36 IAmb_Lg 13 30 57.4
comp=Z,29nm,0.9s
WVT Waverly 7.63 87 IAmb_Lg 13 31 05.3
comp=Z,11nm,0.8s
L42A Oliver, Polo 8.38 42 IAmb_Lg 13 31 24.7
comp=Z,21nm,0.8s
V48A Smith Brothers 8.47 89 IAmb_Lg 13 31 24.5
comp=Z,14nm,1.1s
I37A Lemond, Waseca 8.49 19 IAmb_Lg 13 31 37.5
comp=Z,12nm,0.7s
JFWS Jewell Farm 8.74 36 IAmb_Lg 13 31 33.9
comp=Z,23nm,0.8s
CLTN Cedars of Leba 8.84 86 IAmb_Lg 13 31 35.2
comp=Z,14nm,1.0s
WCI Wyandotte Cave 9.02 73 IAmb_Lg 13 31 40.6
comp=Z,25nm,0.9s
SFIN Lafayette 9.09 59 IAmb_Lg 13 31 47.5
comp=Z,27nm,0.8s
U49A Red Boiling Sp 9.28 84 IAmb_Lg 13 31 49.8
comp=Z,8.7nm,0.8s
L44A Lake County Fo 9.49 47 IAmb_Lg 13 32 00.5
comp=Z,27nm,0.8s
K43A Burlington 9.58 43 IAmb_Lg 13 32 02.8
comp=Z,25nm,0.9s
RSSD Black Hills 9.59 329 IAmb_Lg 13 32 05.8
comp=Z,8.6nm,1.0s
K22A Casper 9.75 315 IAmb_Lg 13 32 21.4
comp=Z,14nm,0.9s
W50A Signal Mountai 9.76 91 IAmb_Lg 13 32 15.5
comp=Z,18nm,1.1s

*NNC **31** 13:34:44.6±0.6, 50.°01N×78.°74E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=11.4km s-min=3.2km az=76.0, Suspected Mining explosion.*
*IDC **31** 13:34:45.8±1.0, 50.°06N×78.°71E, h0km, mb1 2.6/2, mb1mx2.6/50, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=13.8km s-min=6.2km az=67.0*
ISC 31 13:34:46.0±0.9, 50.°01N±0.°05×78.°69E±0.°05, h0km, n9, σ1§09/14, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**351**	Pg	**Pg**	**13 34 56.6**	**-1.2**
	1.4nm,0.3s,baz=166,slow=19,SNR=114						
KURBB				Lg	Lg	13 35 05.5	
	2.0nm,0.3s,baz=166,slow=30,SNR=24						
KURBB	**Kurchatov Arra**	**0.62**	**351**	⇓P	**Pg**	**13 34 56.6**	**-1.2**
	14nm,0.4s						
KURBB				⇑S	**Sg**	**13 35 06.0**	**+0.1**
	53nm,0.6s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pg	**Pb**	**13 35 55.1**	**-0.3**
	2.0nm,0.6s						
MAKZ				⇓Lg	Lg	13 36 45.5	
	6.3nm,0.8s						
MK31	**Makanchi Array**	**4.02**	**142**	⇑Pn	**Pn**	**13 35 48.6**	**-0.2**
	0.2nm,0.4s,baz=255,slow=42,SNR=11						
MK31				⇑Pg	**Pb**	**13 35 57.2**	**-0.4**
	0.3nm,0.3s,baz=322,slow=15,SNR=11						
MK31				⇑Lg	Lg	13 36 51.5	
	7.7nm,0.7s,baz=330,slow=28,SNR=16						
MKAR	**Makanchi Array**	**4.02**	**142**	Pn	**Pn**	**13 35 49.0**	**+0.2**
	0.1nm,0.3s,baz=321,slow=10,SNR=16						
MKAR				Pg	**Pb**	**13 35 56.4**	**-1.2**
	0.4nm,0.3s,baz=327,slow=15,SNR=9.4						
MKAR				Sn	**Sn**	**13 36 38.5**	**+1.9**
	0.4nm,0.3s,baz=324,slow=23,SNR=5.7						
MKAR				Lg	Lg	13 36 49.8	
	0.7nm,0.3s,baz=332,slow=28,SNR=7.8						
OTUK	**Ortayu**	**4.53**	**249**	⇑Pn	**Pn**	**13 35 55.6**	**-0.2**
	0.8nm,0.3s						
OTUK				⇑Pg	**Pb**	**13 36 07.1**	**+0.7**
	2.8nm,1.0s						
OTUK				⇓Lg	Lg	13 37 09.9	
	2.9nm,0.7s						
ZALV	**Zalesovo Beam**	**5.46**	**42**	Pn	**Pn**	**13 36 09.5**	**+0.8**
	0.3nm,0.3s,baz=224,slow=12,SNR=2.9						
ZALV				Sn	**Sn**	**13 37 13.8**	**+1.7**
	0.3nm,0.3s,baz=230,slow=22,SNR=2.8						
ZALV				Lg	Lg	13 37 38.5	
	0.5nm,0.3s,baz=220,slow=26,SNR=4.2						
BVAR	**Borovoye Array**	**5.99**	**303**	Sn	**Sn**	**13 37 24.6**	**-0.6**
	0.7nm,0.3s,baz=139,slow=24,SNR=11						
I31KZ	**AKTYUBINSK INF**	**13.23**	**280**	*i*		14 52 20.0	
	baz=84,slow=312,SNR=1.9						

*NIED **31** 13:37:12.2, 38.°10N×143.°89E, h40km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=1.20; Mθθ0.13; Mφφ1.07; Mrθ0.01; Mθφ0.22; Mφr0.23; Fault plane solution: M0 1.18000×10^14 NP1: φs191.00000°, δ51.00000°, λ-92.00000°. NP2:φs14.00000°, δ40.00000°, λ-87.00000°.*
JMA 31 13:37:12.2±0.2, 38.°10N×143.°88E, h40km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.91**	**277**	P	Pn	13 37 43.3	+1.0
JIKH				*e*S	Sn	13 38 05.8	+0.7
OFUJ	**Ofunato**	**1.99**	**300**	P	Pn	13 37 44.7	+1.4
OFUJ				S	Sn	13 38 08.7	+1.7
JKMT	**Kesennumamotoy**	**2.02**	**291**	P	Pn	13 37 44.9	+1.2
JKMT				S	Sn	13 38 09.1	+1.4
JIO	**Ouri**	**2.02**	**281**	P	Pn	13 37 45.0	+1.2
JIO				S	Sn	13 38 09.0	+1.2
JMK	**Ichinoseki**	**2.25**	**293**	P	Pn	13 37 48.7	+1.8
JMK				S	Sn	13 38 15.6	+2.1
JOM	**Ohasama**	**2.44**	**305**	P	Pn	13 37 51.5	+1.9
JOM				S	Sn	13 38 20.2	+2.0
JFT	**Otama**	**2.87**	**259**	P	Pn	13 37 57.4	+2.0
JFT				S	Sn	13 38 30.8	+2.1
JYK	**Kaneyama**	**2.88**	**288**	P	Pn	13 37 58.0	+2.4
JYK				*e*S	Sn	13 38 32.6	+3.6
JANG	**Nango**	**2.92**	**322**	P	Pn	13 37 57.5	+1.4
JANG				S	Sn	13 38 30.7	+0.7
JAG	**Ashikaga**	**3.91**	**246**	P	Pn	13 38 11.5	+1.8
JAG				*e*S	Sn	13 38 55.9	+1.6
JOT	**Ohata**	**3.94**	**327**	P	Pn	13 38 12.8	+2.7
BSO1	**Boso 1**	**4.16**	**215**	P	Pn	13 38 12.2	-0.5
JKB	**Kayabe**	**4.37**	**331**	P	Pn	13 38 18.1	+2.1
JKB				*e*S	Sn	13 39 05.2	-0.4
JRY	**Ryogami san**	**4.49**	**244**	P	Pn	13 38 19.1	+1.3
JRY				*e*S	Sn	13 39 08.2	-0.6
JCH	**Churui**	**4.53**	**355**	P	Pn	13 38 18.2	0.0
JCH				*e*S	Sn	13 39 06.9	-2.6
JOD2	**Odawara 2**	**4.78**	**235**	*e*S	Sn	13 39 13.9	-1.9
NEM2	**Nemuro 2**	**5.45**	**14**	P	Pn	13 38 28.3	-2.5
NEM2				*e*S	Sn	13 39 27.2	-4.9

KMA 31 13:59:52.3±0.3, 37.°64N×125.°74E, h0km, Error ellipse: s-maj=4.1km s-min=2.7km az=32.0, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDEI	**Deokjeokdo**	**0.48**	**142**	P	Pg	14 00 01.4	0.0
	SNR=9.3						
KSDEI	**Deokjeokdo**	**0.48**	**142**	P	Pg	14 00 01.4	0.0
	SNR=9.3						
KSGAH	**Ganghwa**	**0.57**	**82**	P	Pg	14 00 03.1	0.0
	SNR=15						
KSGAH	**Ganghwa**	**0.57**	**82**	P	Pg	14 00 03.1	0.0
	SNR=15						
DACB	**Daecheong-do R**	**0.84**	**284**	P	Pg	14 00 09.1	+0.7
	SNR=8.5						
DACB	**Daecheong-do R**	**0.84**	**284**	P	Pg	14 00 09.1	+0.7
	SNR=8.5						
KSMUS	**Musan**	**0.85**	**72**	P	Pg	14 00 08.8	+0.3
	SNR=8.8						
KSBAR	**Backryungdo**	**0.88**	**293**	P	Pg	14 00 09.1	-0.1
	SNR=9.9						
KSBAR	**Backryungdo**	**0.88**	**293**	P	Pg	14 00 09.1	-0.1
	SNR=9.9						
HAWB	**Hwaseong-si**	**0.99**	**123**	P	Pg	14 00 11.3	0.0
	SNR=16						
HAWB	**Hwaseong-si**	**0.99**	**123**	P	Pg	14 00 11.3	0.0
	SNR=16						
KSSES	**Seosan**	**1.02**	**146**	P	Pg	14 00 11.8	0.0
	SNR=7.3						
KSSES	**Seosan**	**1.02**	**146**	P	Pg	14 00 11.8	0.0
	SNR=7.3						
KSCHC	**Chuncheon**	**1.65**	**84**	P	Sg	14 00 46.7	+1.4
	SNR=11						
SEHB	**SEOHWA**	**2.09**	**72**	P	Pg	14 00 40.1	+7.8
	SNR=22						
SEHB	**SEOHWA**	**2.09**	**72**	P	Pg	14 00 40.1	+7.8
	SNR=22						
SEHB	**SEOHWA**	**2.09**	**72**	P	Pg	14 00 40.1	+7.8
	SNR=22						
KSSKC	**Sokcho**	**2.29**	**73**	P	Pg	14 00 36.4	+0.1
	SNR=8.2						
KSSKC	**Sokcho**	**2.29**	**73**	P	Pg	14 00 36.4	+0.1
	SNR=8.2						
KSSKC	**Sokcho**	**2.29**	**73**	P	Pg	14 00 36.4	+0.1
	SNR=8.2						
KSDGY	**Daegwallyong**	**2.33**	**88**	P	Pg	14 00 38.4	+1.5
	SNR=19						
KSDGY	**Daegwallyong**	**2.33**	**88**	P	Pg	14 00 38.4	+1.5
	SNR=19						
KSDGY	**Daegwallyong**	**2.33**	**88**	P	Pg	14 00 38.4	+1.5
	SNR=19						
KSJMJ	**Jumunjin**	**2.40**	**83**	P	Pb	14 00 35.2	-1.2
	SNR=41						
KSJMJ	**Jumunjin**	**2.40**	**83**	P	Pb	14 00 35.2	-1.2
	SNR=41						
KSJMJ	**Jumunjin**	**2.40**	**83**	P	Pb	14 00 35.2	-1.2
	SNR=41						
IMWB	**Imwonan-gil**	**2.90**	**97**	P	Pb	14 00 42.3	-2.5
	SNR=13						
IMWB	**Imwonan-gil**	**2.90**	**97**	P	Pb	14 00 42.3	-2.5
	SNR=13						
IMWB	**Imwonan-gil**	**2.90**	**97**	P	Pb	14 00 42.3	-2.5
	SNR=13						
KSULJ	**Uljin**	**3.08**	**107**	P	Pg	14 00 51.6	+0.3

IDC 31 14:50:24.2±9.2, 2.°08N×95.°19E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.5/3, Error ellipse: s-maj=442.6km s-min=31.2km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**24.62**	**247**	T	T	15 22 22.7	
	baz=68,slow=76,SNR=140						
H08S3	**Diego Garcia H**	**24.62**	**247**	T	T	15 22 24.1	
	baz=68,slow=76,SNR=99						
H08S1	**Diego Garcia H**	**24.64**	**247**	T	T	15 22 23.0	
	baz=68,slow=76,SNR=174						
H01W3	**Cape Leeuwin H**	**40.84**	**156**	T	T	15 41 11.1	
	baz=332,slow=76,SNR=104						
H01W2	**Cape Leeuwin H**	**40.85**	**156**	T	T	15 41 10.9	
	baz=332,slow=76,SNR=91						
H01W1	**Cape Leeuwin H**	**40.85**	**156**	T	T	15 41 12.2	
	baz=332,slow=76,SNR=102						
WRA	**Warramunga Arr**	**44.20**	**122**	P	P	14 58 35.9	+0.4
	1.4nm,1.3s,baz=299,slow=8.8,SNR=2.2						
ASAR	**Alice Springs**	**45.52**	**127**	P	P	14 58 45.3	-0.7
	0.4nm,1.0s,baz=296,slow=7.8,SNR=1.3						
MKAR	**Makanchi Array**	**45.94**	**348**	P	P	14 58 48.7	-0.1
	0.3nm,0.4s,baz=162,slow=7.6,SNR=5.1						

*IDC **31** 14:59:40.2±0.6, 11.°13S×163.°12E, h0km, mb4.6/21, mb1 4.7/24, mb1mx4.6/32, mbtmp4.6/24, ML4.5/3, MS4.3/26, Ms1 4.3/26, ms1mx4.2/31, Error ellipse: s-maj=20.3km s-min=13.5km az=99.0*
*NEIC **31** 14:59:45.5±1.7, 11.°14S±0.°07×163.°16E±0.°08, h34km±5km, mb4.9/35, Error ellipse: s-maj=11.6km s-min=10.2km az=81.0*
*GCMT **31** 14:59:45.5±0.2, 11.°05S±0.°01×163.°03E±0.°02, h12km, MW5.0/103, Moment Tensor Solution. s57, c79; s103, c159; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.45±.14; Mθθ-3.76±.10; Mφφ0.30±.10; Mrθ2.45±.28; Mθφ1.01±.07; Mφr-0.66±.32; Best double couple: M0 4.50500×10^16 NP1:φs282.00000°, δ28.00000°, λ88.00000°. NP2:φs104.00000°, δ62.00000°, λ91.00000°. Principal axes: T 4.2330, Plg73.0000°, Azm17.0000°; N 0.5440, Plg1.0000°, Azm284.0000°; P -4.7780, Plg17.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

Triangular moment-rate function
ISC 31 14:59:45.3±0.4, 11.°23S±0.°05×163.°22E±0.°06, h34km, n217, σ1§52/209, mb4.8/55, MS4.5/47, 1C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.68**	**299**	Pn	**Pn**	**15 00 38.8**	**-1.1**
	179nm,0.3s,baz=177,slow=2.5,SNR=100						
HNR				Sn	**Sn**	**15 01 24.1**	**+2.0**
	348nm,0.3s,baz=171,slow=22,SNR=2.0						
HNR				LR	LR	15 02 05.7	
	comp=Z,4μm,20.4s,baz=148,slow=41						
HNR	**Honiara**	**3.68**	**299**	Pn	**Pn**	**15 00 39.0**	**-0.9**
HNR	**Honiara**	**3.68**	**299**	P	**Pn**	**15 00 40.7**	**+0.9**
SANVU	**Saraoutou**	**5.71**	**138**	Pn	**Pn**	**15 01 08.1**	**+0.3**
SANVU	**Saraoutou**	**5.71**	**138**	P	**Pn**	**15 01 08.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**9.33**	**174**	P	**Pn**	**15 01 58.4**	**+1.0**
LIFNC	**LIFOU**	**10.25**	**158**	Pn	**Pn**	**15 02 10.2**	**+0.1**
MARNC	**Mare, Loyalty**	**11.19**	**156**	Pn	**Pn**	**15 02 22.4**	**-0.5**
DZM	**Mont Dzumac**	**11.22**	**164**	*e*Pn	**Pn**	**15 02 24.5**	**+1.1**
	34nm,0.7s						
DZM				*e*LQ	LQ	15 04 31.6	
	1μm,22.9s						
DZM				*e*LR	LR	15 05 06.3	
	comp=Z,4μm,25.9s						
DZM	**Mont Dzumac**	**11.22**	**164**	Pn	**Pn**	**15 02 24.7**	**+1.3**
	1.7nm,0.3s,baz=12,slow=9.6,SNR=50						
DZM				Sn	**Sn**	**15 04 23.7**	**-4.0**
	0.3nm,0.3s,baz=135,slow=16,SNR=1.2						
DZM				LR	LR	15 06 33.8	
	comp=Z,1μm,18.5s,baz=345,slow=36						
DZM	**Mont Dzumac**	**11.22**	**164**		**Pn**	**15 02 24.4**	**+1.1**
ONTNC	**Ouen Toro**	**11.45**	**165**	Pn	**Pn**	**15 02 27.3**	**+0.9**
OUENC	**Ouen Island, N**	**11.66**	**163**	Pn	**Pn**	**15 02 31.8**	**+2.5**
PINNC	**Pines Island,**	**12.02**	**161**	Pn	**Pn**	**15 02 36.2**	**+1.9**
MSVF	**Nonsavu**	**15.74**	**116**	LR	LR	15 08 44.0	
	comp=Z,302nm,20.6s,baz=160,slow=34						
PMG	**Port Moresby**	**15.91**	**275**	Pn	**Pn**	**15 03 27.6**	**+0.8**
	1.3nm,0.3s,baz=89,slow=4.4,SNR=11						
PMG				LR	LR	15 10 01.6	
	comp=Z,4μm,18.2s,baz=119,slow=39						
PMG	**Port Moresby**	**15.91**	**275**	P	**P**	**15 03 29.6**	**-0.5**
PMG				IAmb	IAmb	15 03 34.8	
	comp=Z,148nm,1.1s						
PMG	**Port Moresby**	**15.91**	**275**	P	**Pn**	**15 03 27.1**	**+0.4**
	comp=Z,133nm,1.1s						
CTA	**Charters Tower**	**18.55**	**240**	Pn	**Pn**	**15 04 00.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=8.3						
CTA				LR	LR	15 11 08.6	
	comp=Z,1μm,18.7s,baz=68,slow=37						
CTAO	**Charters Tower**	**18.55**	**240**		**Pn**	**15 04 00.2**	**+0.5**
PATS	**Pohnpei**	**18.60**	**345**	P	**P**	**15 03 58.8**	**-1.0**
ARMA	**Armidale**	**21.93**	**208**	P	**P**	**15 04 36.0**	**+0.1**
ARMA				IAmb	IAmb	15 04 40.3	
	comp=Z,22nm,0.8s						
GENI	**Genyem**	**24.42**	**289**	P	**P**	**15 04 56.3**	**-4.7**
	comp=Z,17nm,0.8s						
RAO	**Raoul Island**	**25.13**	**138**	LR	LR	15 13 14.7	
	comp=Z,808nm,21.9s,baz=282,slow=32						
STKA	**Stephens Creek**	**28.65**	**221**	P	**P**	**15 05 38.8**	**-0.2**
	comp=Z,16nm,0.8s,baz=36,slow=11,SNR=20						
STKA				LR	LR	15 16 24.4	
	comp=Z,946nm,20.3s,baz=34,slow=35						
STKA	**Stephens Creek**	**28.65**	**221**	P	**P**	**15 05 38.7**	**-0.2**
WR0	**Warramunga Arr**	**28.92**	**249**	P	**P**	**15 05 39.5**	**-2.0**
WB0	**Warramunga Arr**	**29.01**	**249**	P	**P**	**15 05 40.5**	**-1.8**
WB0				IAmb	IAmb	15 05 46.5	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**29.09**	**249**	P	**P**	**15 05 41.2**	**-1.7**
WB2	**Warramunga Arr**	**29.09**	**249**	P	**P**	**15 05 41.0**	**-1.9**
WRA	**Warramunga Arr**	**29.10**	**249**	P	**P**	**15 05 41.2**	**-1.9**
	comp=Z,5.6nm,0.8s,baz=78,slow=8.8,SNR=18						
WRA				PcP	**PcP**	**15 08 49.3**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=86,slow=3.2,SNR=3.0						
WRA				ScP	**ScP**	**15 12 33.3**	**+3.4**
	comp=Z,1.2nm,0.9s,baz=62,slow=2.7,SNR=3.8						
WRA	**Warramunga Arr**	**29.10**	**249**	P	**P**	**15 05 40.8**	**-2.3**
URZ	**Urewera**	**29.65**	**158**	LR	LR	15 17 11.9	
	comp=Z,350nm,18.4s,baz=341,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.73**	**7**	T	T	15 36 49.0	
	baz=188,slow=76,SNR=350						
H11S3	**WAKE ISLAND Hy**	**29.73**	**7**	T	T	15 36 46.0	
	baz=188,slow=76,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.74**	**7**	T	T	15 36 50.6	
	baz=188,slow=76,SNR=84						
AS31	**Alice Springs**	**30.51**	**242**	P	**P**	**15 05 54.2**	**-1.4**
ASAR	**Alice Springs**	**30.51**	**242**	P	**P**	**15 05 53.9**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=63,slow=10.0,SNR=42						
ASAR				PcP	**PcP**	**15 08 54.3**	**0.0**
	comp=Z,0.9nm,0.9s,baz=94,slow=3.7,SNR=2.0						
ASAR				ScP	**ScP**	**15 12 38.0**	**+3.5**
	comp=Z,1.9nm,0.9s,baz=63,slow=3.4,SNR=9.0						
ASAR				LR	LR	15 18 08.1	
	comp=Z,590nm,18.7s,baz=74,slow=36						
ASAR	**Alice Springs**	**30.51**	**242**	P	**P**	**15 05 55.6**	**0.0**
GUMO	**Guam**	**30.65**	**323**	P	**P**	**15 05 55.4**	**-1.3**
	comp=Z,43nm,1.0s,baz=108,slow=20,SNR=3.7						
GUMO				LR	LR	15 18 20.6	
	comp=Z,208nm,18.4s,baz=146,slow=37						
TOO	**Toolangi**	**30.69**	**208**	P	**P**	**15 05 57.8**	**+0.8**
TOO				IAmb	IAmb	15 06 00.2	
	comp=Z,18nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.96**	**7**	T	T	15 38 15.0	
	baz=188,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**30.96**	**7**	T	T	15 38 26.5	
	baz=188,slow=76,SNR=52						
H11N2	**WAKE ISLAND Hy**	**30.97**	**7**	T	T	15 38 19.4	
	baz=188,slow=76,SNR=46						
MTN	**Manton Dam**	**31.41**	**264**	P	**P**	**15 06 02.0**	**-1.6**
MTN				IAmb	IAmb	15 06 03.8	
	comp=Z,24nm,1.2s						
SAUI	**Saumlaki**	**31.63**	**273**	P	**P**	**15 06 03.9**	**-1.5**
BBOO	**Buckleboo**	**32.92**	**225**	P	**P**	**15 06 16.4**	**-0.2**
KNRA	**Kununurra**	**33.78**	**259**	P	**P**	**15 06 22.2**	**-2.1**
KNRA				IAmb	IAmb	15 06 34.1	
	comp=Z,20nm,0.7s						
FORT	**Forrest**	**37.93**	**234**	P	**P**	**15 06 59.2**	**-0.5**
PSA00	**Pilbara Seismi**	**42.74**	**250**	P	**P**	**15 07 38.8**	**-0.9**
PSA00	**Pilbara Seismi**	**42.74**	**250**	P	**P**	**15 07 37.2**	**-2.4**
PSA00				IAmb	IAmb	15 07 43.6	
	comp=Z,20nm,1.1s						
JCJ	**Chichijima**	**43.22**	**332**	P	**P**	**15 07 42.4**	**-1.0**
	comp=Z,38nm,0.8s,baz=152,slow=5.6,SNR=6.8						
JCJ				LR	LR	15 23 19.3	
	comp=Z,243nm,21.4s,baz=161,slow=33						
JCJ	**Chichijima**	**43.22**	**332**	P	**P**	**15 07 41.2**	**-2.2**
PPT	**Papeete**	**46.06**	**104**	LR	LR	15 26 08.0	
	comp=Z,133nm,19.1s,baz=318,slow=34						
PPT2	**Papeete2**	**46.06**	**104**	*e*S	**S**	**15 14 52.3**	**+2.3**
	comp=Z,250nm,26.0s						
PPT2				*e*LQ	LQ	15 19 19.4	
	comp=Z,317nm,24.0s						
PPT2				*e*LR	LR	15 21 11.9	
	comp=Z,95nm,21.2s						
TBI	**Tubuai**	**46.56**	**112**	*e*S	**S**	**15 14 59.3**	**+2.4**
	comp=Z,60nm,24.8s						
TBI				*e*LQ	LQ	15 19 31.1	
	comp=Z,681nm,28.5s						
TBI				*e*LR	LR	15 21 24.5	
	comp=Z,208nm,34.0s						
JOW	**Kunigami**	**50.82**	**319**	P	**P**	**15 08 42.9**	**+0.1**
JOW				IAmb	IAmb	15 08 46.9	
	comp=Z,13nm,0.7s						
JMN	**Monobe**	**52.71**	**329**	P	**P**	**15 08 56.0**	**-0.8**
MJAR	**Matsushiro Arr**	**53.03**	**335**	P	**P**	**15 08 57.3**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=173,slow=9.5,SNR=7.3						
MJAR				LR	LR	15 31 22.1	
	comp=Z,165nm,19.8s,baz=160,slow=36						
MAT	**Matsushiro**	**53.03**	**335**	P	**P**	**15 08 58.0**	**-1.1**
MAT				S	**S**	**15 16 26.4**	**-0.4**
JWT	**Wachi**	**53.22**	**332**	P	**P**	**15 08 58

QZH pmax pmax
comp=Z,150nm,3.6s
QZH LR LR
comp=N,110nm,14.0s
QZH LR LR
comp=E,110nm,14.7s
QZH LR LR
comp=Z,160nm,17.5s
ASAJ Asahikawa 58.18 343 P **P** **15 09 35.8 -0.1**
comp=Z,12nm,0.9s,baz=223,slow=12,SNR=13
KSRS Korea Array 58.66 327 P **P** **15 09 38.7 -0.6**
comp=Z,3.2nm,0.9s,baz=139,slow=7.1,SNR=13
KSRS LR LR 15 33 43.6
comp=Z,225nm,18.9s,baz=127,slow=35
NJ2 Nanjing 60.43 317 *e*P **P** **15 09 51.3 -0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
QIZ Qiongzhong 60.59 299 P **P** **15 09 53.8 +0.7**
QIZ S **S** **15 18 09.3 +2.0**
QIZ LR LR
comp=N,170nm,18.2s
QIZ LR LR
comp=E,200nm,13.1s
QIZ LR LR
comp=Z,210nm,17.5s
USA0B Ussuriysk Arra 62.03 335 P **P** **15 10 02.2 -0.1**
USRK Ussuriysk Ar. 62.03 335 P **P** **15 10 02.3 0.0**
comp=Z,10nm,0.9s,baz=147,slow=5.8,SNR=18
USRK LR LR 15 36 32.1
comp=Z,122nm,20.0s,baz=138,slow=36
WHN Wuhan 62.68 313 ⇑P **P** **15 10 06.8 -0.1**
WHN S **S** **15 18 35.5 +2.2**
WHN LR LR
comp=N,180nm,6.7s
WHN LR LR
comp=E,430nm,14.7s
WHN LR LR
comp=Z,460nm,21.2s
MDJ Mudanjiang 63.38 334 P **P** **15 10 11.8 +0.5**
MDJ pP sP 15 10 22.3 -1.2
MDJ sP pwP 15 10 26.5 -1.7
MDJ S **S** **15 18 44.0 +2.4**
MDJ sS sS 15 18 59.5 +3.1
MDJ ScS **SKSac** **15 20 01.0 -0.9**
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,99nm,6.7s
MDJ LR LR
comp=N,160nm,16.4s
MDJ LR LR
comp=E,220nm,14.4s
MDJ LR LR
comp=Z,300nm,15.7s
TIA Tai'an 64.12 320 P **P** **15 10 15.5 -0.9**
TIA PP **PP** **15 12 35.0 -2.8**
TIA S **S** **15 18 53.5 +2.4**
TIA Tai'an 64.12 320 SS SS 15 23 04.3 +3.3
TIA pmax pmax
comp=Z,6.0nm,0.9s
TIA pmax pmax
comp=Z,79nm,3.9s
TIA LR LR
comp=N,150nm,17.7s
TIA LR LR
comp=E,160nm,17.2s
TIA LR LR
comp=Z,190nm,15.2s
PETK Petropavlovsk- 64.25 356 P **P** **15 10 16.4 -0.5**
comp=Z,5.5nm,0.9s,baz=145,slow=8.3,SNR=8.7
PETK LR LR 15 32 48.8
comp=Z,306nm,21.6s,baz=171,slow=31
PETK Petropavlovsk- 64.25 356 P **P** **15 10 15.8 -1.1**
CN2 Changchun 64.65 331 *e*P **P** **15 10 19.3 -0.3**
CN2 *e*S **S** **15 18 54.0 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,300nm,21.0s
SKNT Sakolnakorn 64.91 295 P **P** **15 10 23.4 +1.5**
comp=Z,6.7nm,0.9s
NONG Nongkai 66.05 296 P **P** **15 10 32.7 +3.5**
comp=Z,12nm,0.8s
VNDA Vanda 66.29 180 P **P** **15 10 31.8 +2.1**
comp=Z,4.2nm,0.9s,baz=347,slow=6.9,SNR=22
VNDA LR LR 15 33 58.9
comp=Z,192nm,21.4s,baz=7.5,slow=31
VNDA Vanda 66.29 180 P **P** **15 10 32.1 +2.4**
VNDA IAmb IAmb 15 10 43.3
comp=Z,9.6nm,1.2s
GYA Guiyang 66.48 305 ⇓P **P** **15 10 35.0 +3.0**
GYA pmax pmax
comp=Z,7.0nm,1.0s
SBA Scott Base 66.64 179 P **P** **15 10 34.9 +2.9**
SBA IAmb IAmb 15 10 38.0
comp=Z,12nm,1.1s
PHIT Phitsanulok 68.17 294 P **P** **15 10 45.3 +2.6**
XAN Xi'an 68.43 314 P **P** **15 10 43.5 -0.6**
XAN pP pP 15 10 53.8 +1.1
XAN PP **PP** **15 13 18.0 +2.4**
XAN S **S** **15 19 43.8 +0.2**
XAN sS sS 15 20 00.8 +2.0
XAN ScS **SKiKP** **15 20 37.5 +1.8**
XAN Xi'an 68.43 314 SS SS 15 24 10.5 +2.4
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,98nm,6.0s
XAN LR LR
comp=N,180nm,17.6s
XAN LR LR
comp=E,290nm,17.9s
XAN LR LR
comp=Z,480nm,17.4s
KMI Kunming 69.11 302 ⇓P **P** **15 10 51.0 +2.3**
KMI pP sP 15 10 59.8 -1.0
KMI sP pwP 15 11 03.8 -1.2
KMI S **S** **15 19 58.3 +5.9**
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,61nm,3.5s
KMI LR LR
comp=N,140nm,17.3s
KMI LR LR
comp=E,190nm,18.3s
KMI LR LR
comp=Z,300nm,19.2s
CM36 Chiang Mai Arr 69.81 295 P **P** **15 10 56.0 +3.1**
CM35 Chiang Mai Arr 69.81 295 P **P** **15 10 55.0 +2.1**
CM05 Chiang Mai Arr 69.90 294 P **P** **15 10 57.0 +3.5**
comp=Z,5.2nm,1.1s
CMAR Chiang Mai Arr 69.92 294 P **P** **15 10 53.1 -0.4**
comp=Z,3.0nm,0.8s,baz=119,slow=4.6,SNR=12
CM15 Chiang Mai Arr 69.94 294 P **P** **15 10 57.5 +3.9**
comp=Z,6.4nm,0.9s
CM13 Chiang Mai Arr 69.94 294 P **P** **15 10 57.0 +3.3**
comp=Z,4.9nm,1.1s
CMMT Chiang Mai 70.04 295 P **P** **15 10 59.0 +4.7**
CM33 Chiang Mai Arr 70.04 295 P **P** **15 10 54.0 -0.3**
HHC Hu-ho-hao-te 70.39 321 *e*P **P** **15 10 57.5 +1.4**
HHC sP pwP 15 11 14.8 +1.9
HHC S **S** **15 20 13.0 +6.4**
HHC SKS **ScS** **15 20 57.0 +0.3**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,84nm,6.0s
HHC LR LR
comp=N,250nm,14.8s
HHC LR LR
comp=E,220nm,15.8s
HHC LR LR
comp=Z,280nm,17.4s
CD2 Chengdu 70.76 308 P **P** **15 10 58.3 -0.2**
CD2 S **S** **15 20 10.8 -0.3**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,70nm,6.9s
CD2 LR LR
comp=N,160nm,11.3s
CD2 LR LR
comp=E,230nm,16.1s
CD2 LR LR
comp=Z,270nm,17.7s
SPIA Saint Paul Isl 71.59 15 P **P** **15 11 02.6 -0.2**
baz=208
CHNA Chernabura Isl 72.88 21 P **P** **15 11 10.3 -0.3**
baz=218
SDPT Sand Point 72.97 21 P **P** **15 11 10.7 -0.4**
baz=217
LZH Lanzhou 73.06 313 *e*P **P** **15 11 13.0 +0.6**
LZH pP sP 15 11 24.3 +0.2
LZH sP PcP 15 11 30.0 +0.9
LZH *e*S **S** **15 20 38.0 +0.3**
LZH sS sS 15 20 54.3 +1.3
LZH Lanzhou 73.06 313 SS SS 15 25 22.3 +2.9
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,160nm,6.5s
LZH LR LR
comp=N,220nm,16.3s
LZH LR LR
comp=E,360nm,16.0s
LZH LR LR
comp=Z,370nm,18.2s
SII Sitkinak Islan 76.18 23 P **P** **15 11 28.7 -1.1**
baz=223
OHAK Old Harbor 77.00 23 P **P** **15 11 33.7 -0.7**
baz=224
SONM Songino Array 77.36 325 P **P** **15 11 37.3 +0.4**
comp=Z,10nm,0.9s,baz=138,slow=5.0,SNR=19
SONM LR LR 15 47 57.6
comp=Z,202nm,18.2s,baz=124,slow=38
SONM Songino Array 77.36 325 P **P** **15 11 34.7 -2.2**
SONM IAmb IAmb 15 11 42.0
comp=Z,15nm,1.1s
GTA Gaotai 77.41 315 ⇓P **P** **15 11 37.5 +0.2**
GTA pP pP 15 11 42.0 -4.0
GTA sP PcP 15 11 44.5 -3.2
GTA S **S** **15 21 28.0 +2.2**
GTA Gaotai 77.41 315 SS SS 15 26 29.5 +4.2
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,7.2s
GTA LR LR
comp=N,110nm,15.9s
GTA LR LR
comp=E,140nm,16.3s
GTA LR LR
comp=Z,170nm,18.3s
KDAK Kodiak Island 77.67 22 P **P** **15 11 37.8 -0.4**
comp=Z,4.0nm,0.9s,baz=80,slow=6.3,SNR=4.9
KDAK Kodiak Island 77.67 22 P **P** **15 11 38.0 -0.2**
baz=224
N18K Kilae Creek 78.66 19 P **P** **15 11 43.5 -0.1**
baz=221
P19K Oil Pt 78.79 21 P **P** **15 11 44.0 -0.4**
baz=224
SVW2 Sparrevohn 79.07 19 P **P** **15 11 46.1 +0.3**
SVW2 IAmb IAmb 15 11 49.9
comp=Z,17nm,1.0s
N19K Bonanza Creek 79.22 20 P **P** **15 11 46.2 -0.6**
baz=222
TNA Tin City 79.54 12 P **P** **15 11 47.9 -0.3**
baz=209
BRSE Bradley Lake S 79.74 22 P **P** **15 11 48.8 -0.7**
baz=226
M19K Big River Lodg 80.06 19 P **P** **15 11 50.7 -0.5**
baz=222,SNR=19
L19K White Mountain 80.12 19 P **P** **15 11 51.4 -0.1**
baz=222,SNR=14
M20K Styx River 80.44 19 P **P** **15 11 52.8 -0.6**
baz=223
SEW Seward 80.46 22 P **P** **15 11 52.9 -0.4**
baz=227
SUA Susitna One 80.94 20 P **P** **15 11 55.3 -0.8**
baz=226
Q23K Middleton Isla 81.19 23 P **P** **15 11 56.6 -0.6**
baz=230
K20K Telida 81.23 18 P **P** **15 11 57.0 -0.5**
baz=222,SNR=6.7
KNK Knik Glacier 81.71 21 P **P** **15 12 00.3 +0.2**
baz=228
J20K Nowinta River 81.82 17 P **P** **15 12 00.9 +0.3**
baz=222,SNR=5.4
SML Sawmill 82.02 21 P **P** **15 12 01.1 -0.6**
baz=228
TRF Thorofare Moun 82.49 19 P **P** **15 12 03.8 -0.5**
baz=226
WAT1 Susitna Watana 82.63 20 P **P** **15 12 05.1 +0.2**
baz=228
KLU Klutina 82.68 22 P **P** **15 12 05.1 -0.1**
baz=230
RDOG Red Dog Mine 82.70 12 P **P** **15 12 05.0 -0.1**
baz=214
BPAW Bear Paw Mtn. 82.72 19 P **P** **15 12 05.4 +0.1**
baz=225
WAT6 Susitna Watana 82.74 21 P **P** **15 12 05.8 +0.2**
baz=228
BMRM Bremner River 82.84 23 P **P** **15 12 06.6 +0.6**
baz=231
M24K Tolsona, Glenn 82.98 21 P **P** **15 12 07.5 +0.7**
baz=230
MCK McKinley 83.12 19 P **P** **15 12 07.3 -0.1**
baz=227
I21K Tanana 83.19 17 P **P** **15 12 07.0 -0.7**
baz=224,SNR=17
N25K Chitina, Valde 83.24 22 P **P** **15 12 08.1 0.0**
baz=231
IMAR Indian Mountai 83.28 16 P **P** **15 12 07.7 -0.4**
CRQE Cirque 83.29 23 P **P** **15 12 07.9 -0.5**
baz=233
MLY Manley 83.46 18 P **P** **15 12 09.0 -0.1**
baz=225,SNR=9.4
HARP HAARP 83.54 22 P **P** **15 12 09.6 +0.1**
baz=231
MAW Mawson 83.62 202 P **P** **15 12 10.3 +0.3**
comp=Z,6.0nm,1.0s,baz=104,slow=4.2,SNR=8.1
MAW LR LR 15 45 19.8
comp=Z,124nm,20.7s,baz=64,slow=33
MAW Mawson 83.62 202 P **P** **15 12 09.2 -0.8**
NEA2 Nenana 83.67 19 P **P** **15 12 10.6 +0.5**
baz=227
WRH Wood River Hil 83.89 19 P **P** **15 12 09.9 -1.4**
WRH IAmb IAmb 15 12 14.8
comp=Z,7.3nm,1.0s
I23K Minto, Yukon-K 83.96 18 P **P** **15 12 11.4 -0.2**
baz=227
PINM Pinnacle 84.04 25 P **P** **15 12 12.0 -0.3**
baz=235
CTG Chitna Glacier 84.11 24 P **P** **15 12 12.4 -0.2**
baz=234
HDA Harding Lake 84.22 19 P **P** **15 12 12.4 -0.6**
baz=229,SNR=12
TCOL CIGO, UAF Yank 84.24 19 P **P** **15 12 12.1 -0.9**
baz=228
COLA College 84.24 19 P **P** **15 12 12.5 -0.5**
baz=228
M26K Nabesna, AK 84.33 22 P **P** **15 12 13.1 -0.6**
baz=233,SNR=6.2
H23K Yukon River 84.37 18 P **P** **15 12 13.5 -0.2**
baz=226,SNR=8.8
ILAR Eielson Array 84.48 19 P **P** **15 12 13.1 -1.2**
comp=Z,4.2nm,1.1s,baz=236,slow=5.0,SNR=18
ILAR LR LR 15 45 27.3
comp=Z,318nm,20.1s,baz=246,slow=32
POKR Poker Plat Res 84.54 19 P **P** **15 12 13.9 -0.7**
baz=228
L26K Log Cabin Wild 84.58 22 P **P** **15 12 14.6 -0.3**
baz=232
M27K Edge Creek, AK 84.72 23 P **P** **15 12 15.6 -0.1**
baz=234,SNR=15
H24K Noodor Dome 84.88 18 P **P** **15 12 16.2 -0.2**
baz=228
SCRK Sand Creek 84.94 21 P **P** **15 12 16.0 -0.8**
baz=232,SNR=5.2
SCRK Sand Creek 84.94 21 P **P** **15 12 16.5 -0.3**
SCRK IAmb IAmb 15 12 20.5
comp=Z,5.5nm,1.0s
L27K Beaver Creek, 85.16 22 P **P** **15 12 17.2 -0.6**
baz=234,SNR=11
COLD Coldfoot 85.16 16 P **P** **15 12 17.4 -0.2**
baz=226
BCAR Beaver Creek A 85.17 22 P **P** **15 12 17.8 -0.1**
O02D Mt. Diablo Mer 85.24 48 P **P** **15 12 17.6 -1.2**
baz=251
N02D Trinity Center 85.56 47 P **P** **15 12 19.3 -1.1**
baz=251
M02C Callahan 85.58 46 P **P** **15 12 19.2 -1.3**
baz=251
PKM Mcpherson Peak 85.88 53 P **P** **15 12 21.0 -1.2**
baz=253
O03E Paynes Creek 85.99 48 P **P** **15 12 21.6 -0.9**
baz=252
L04D Klamath Falls 86.24 46 P **P** **15 12 22.7 -1.0**
baz=251
TOLK Toolik Lake Re 86.32 16 P **P** **15 12 23.1 -0.3**
baz=226
EGAK Eagle 86.41 21 P **P** **15 12 24.0 +0.2**
baz=234,SNR=25
M04C Macdoel 86.43 46 P **P** **15 12 24.5 -0.2**
baz=252
H04D Lebanon 86.69 44 P **P** **15 12 25.4 -0.3**
baz=251
ISA Isabella, Lake 87.15 53 P **P** **15 12 28.3 0.0**
baz=254
EDW2 Edwards Air Fo 87.32 54 P **P** **15 12 28.3 -0.8**
baz=254
J05D Fort Rock, OR 87.32 45 P **P** **15 12 29.1 +0.1**
baz=252
WMQ Urumqi 87.48 315 *e*P **P** **15 12 30.0 +0.3**
WMQ pP sP 15 12 40.3 -1.4
WMQ sP pwP 15 12 43.5 -2.8
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=N,180nm,20.7s
WMQ LR LR
comp=E,300nm,17.3s
WMQ LR LR
comp=Z,180nm,29.1s
CWC Cottonwood Cre 87.67 52 P **P** **15 12 30.6 -0.3**
baz=254
NVAR Mina Array Bea 88.04 50 P **P** **15 12 33.3 +0.6**
comp=Z,2.5nm,0.9s,baz=233,slow=6.6,SNR=13
NVAR LR LR 15 44 54.4
comp=Z,209nm,19.8s,baz=270,slow=31
MONP2 Monument Peak 88.07 56 P **P** **15 12 32.4 -0.5**
baz=256
BELC Belle Mtn. Jos 88.69 55 P **P** **15 12 35.0 -0.7**
baz=256
TUQ Turquoise Moun 89.10 54 P **P** **15 12 37.5 -0.1**
baz=256
GMRC Granite Mounta 89.15 54 P **P** **15 12 38.1 +0.2**
baz=256
TPNV Topopah Spring 89.22 52 P **P** **15 12 37.5 -0.7**
baz=256
IRM Iron Mountain 89.41 55 P **P** **15 12 38.7 -0.3**
baz=256
R11A Troy Canyon, C 90.08 51 P **P** **15 12 41.5 -0.7**
baz=256
PDMCI Parker Dam,Lak 90.25 55 P **P** **15 12 43.3 +0.5**
baz=257
SYO Syowa Base 90.88 197 ⇓*e*P **P** **15 12 44.0 -1.1**
INK Inuvik 90.88 19 P **P** **15 12 46.6 +1.6**
baz=241
MK31 Makanchi Array 91.97 317 P **P** **15 12 49.7 -0.8**
MK31 IAmb IAmb 15 12 53.6
comp=Z,6.9nm,0.8s
MKAR Makanchi Array 91.97 317 P **P** **15 12 50.1 -0.4**
comp=Z,8.2nm,0.7s,baz=102,slow=5.4,SNR=27
HLID Hailey 92.18 46 P **P** **15 12 52.6 +0.7**
baz=257
ZALV Zalesovo Beam 92.26 325 P **P** **15 12 50.9 -0.8**
comp=Z,1.9nm,0.6s,baz=117,slow=5.2,SNR=9.0
ZALV LR LR 15 56 52.4
comp=Z,101nm,18.1s,baz=107,slow=37
KURBB Kurchatov Arra 95.24 320 P **P** **15 13 05.1 -0.4**
comp=Z,1.0nm,0.9s,baz=112,slow=3.3,SNR=2.7
NRIK Noril'sk 95.43 340 LR LR 15 53 37.0
comp=Z,164nm,21.8s,baz=123,slow=34
PDAR Pinedale Array 95.50 48 P **P** **15 13 07.5 +0.3**
comp=Z,0.4nm,0.9s,baz=1.9,slow=2.7,SNR=3.7
PDAR LR LR 15 50 28.8
comp=Z,94nm,18.9s,baz=276,slow=32
YKA Yellowknife Ar 96.27 28 LR LR 15 53 30.4
comp=Z,275nm,18.0s,baz=0.0,slow=34
SNAA Sanae 96.76 184 P **P** **15 13 13.0 +0.8**
VNA3 Neumayer Olymp 97.58 182 P Pdif 15 13 16.3 +0.4
VNA2 Neumayer--Watz 97.79 183 P Pdif 15 13 17.4 +0.6
TXAR Lajitas Array 98.09 62 LR LR 15 53 39.2
comp=Z,111nm,18.1s,baz=0.0,slow=33
VNA1 Neumayer--Stat 98.11 183 P Pdif 15 13 19.1 +0.9
OKC Ostrava-Krasne 131.93 330 AMS AMS 16 19 20.0
comp=Z,200nm,18.6s
OSTC Ostas 132.37 332 AMS AMS 16 15 00.0
comp=Z,200nm,23.9s
CHVC Chvalec 132.42 332 AMS AMS 16 16 00.0
comp=Z,200nm,14.7s
KRLC Kraliky 132.43 331 AMS AMS 16 18 30.0
comp=Z,200nm,20.0s
DPC Dobruska-Polom 132.46 332 AMS AMS 16 16 00.0
comp=Z,300nm,14.9s
UPC Upice 132.49 332 AMS AMS 16 16 30.0
comp=Z,200nm,21.4s
PVCC Panska Ves 133.13 333 AMS AMS 16 18 00.0
comp=Z,200nm,19.8s
PRA Prague 133.52 333 AMS AMS 16 18 30.0
comp=Z,200nm,25.4s
PRU Pruhonice 133.53 332 AMS AMS 16 23 30.0
comp=Z,200nm,17.6s
CKRC Cesky Krumlov 134.46 331 AMS AMS 16 19 50.0
comp=Z,200nm,20.6s
KHC Kasperske Hory 134.58 332 AMS AMS 16 24 40.0
comp=Z,200nm,16.9s
KEST Kesra 146.01 320 PKPbc **PKPbc** **15 19 21.9 -0.2**
comp=Z,7.4nm,0.9s,baz=53,slow=3.9,SNR=6.5
ESDC Sonseca Array 149.47 340 PKPbc **PKPbc** **15 19 30.1 -1.3**
comp=Z,0.5nm,0.8s,baz=7.4,slow=3.7,SNR=2.2

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*IDC **31** 15:14:16.2±1.3, 11°.37S×163°.26E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.7/30, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=34.3km s-min=27.6km az=138.0*
ISC 31 15:14:21.5±0.9, 11°.4S±0°.1×163°.2E±0°.2, h35km, n14, σ0§42/8, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.78**	**301**	Pn	**Pn**	**15 15 17.3**	**0.0**
	10nm,0.3s,baz=217,slow=2.2,SNR=13						
HNR				Sn	Sn	15 16 08.7	+8.1
	28nm,0.3s,baz=83,slow=22,SNR=5.9						
DZM	**Mont Dzumac**	**11.03**	**164**	Pn	**Pn**	**15 16 56.7**	**-0.2**
	0.1nm,0.3s,baz=107,slow=22,SNR=1.2						
WRA	**Warramunga Arr**	**29.03**	**249**	P	**P**	**15 20 18.2**	**-0.3**
	1.3nm,1.1s,baz=78,slow=8.7,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**29.93**	**7**	T	T	15 51 44.7	
	baz=188,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.93**	**7**	T	T	15 51 46.3	
	baz=188,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.94**	**7**	T	T	15 51 38.3	
	baz=188,slow=76						
ASAR	**Alice Springs**	**30.42**	**242**	P	**P**	**15 20 31.5**	**+0.7**
	0.3nm,0.4s,baz=63,slow=10,SNR=11						
H11N1	**WAKE ISLAND Hy**	**31.15**	**7**	T	T	15 53 29.4	
	baz=188,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.16**	**7**	T	T	15 53 14.1	
	baz=188,slow=76						
H11N2	**WAKE ISLAND Hy**	**31.17**	**7**	T	T	15 53 22.2	
	baz=188,slow=76						
SONM	**Songino Array**	**77.53**	**325**	P	**P**	**15 26 13.8**	**0.0**
	0.6nm,0.6s,baz=111,slow=7.9,SNR=1.7						
ILAR	**Eielson Array**	**84.67**	**19**	P	**P**	**15 26 51.4**	**+0.1**
	0.2nm,0.8s,baz=243,slow=4.0,SNR=1.8						
NVAR	**Mina Array Bea**	**88.17**	**50**	P	**P**	**15 27 09.5**	**+0.2**
	0.1nm,0.4s,baz=240,slow=7.1,SNR=1.0						
MKAR	**Makanchi Array**	**92.11**	**317**	P	**P**	**15 27 26.8**	**-0.5**
	0.3nm,0.6s,baz=88,slow=8.6,SNR=4.1						

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*IDC **31** 15:14:34.6±1.1, 11°.40S×163°.13E, h0km, mb4.1/7, mb1 4.3/9, mb1mx3.9/30, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=28.3km s-min=23.6km az=131.0*
ISC 31 15:14:39.9±0.9, 11°.4S±0°.1×163°.1E±0°.1, h35km, n15, σ1§13/10, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.70**	**302**	Pn	**Pn**	**15 15 33.2**	**-1.3**
	20nm,0.3s,baz=180,slow=14,SNR=6.4						
HNR				Sn	**Sn**	**15 16 18.7**	**+1.8**
	32nm,0.3s,baz=196,slow=22,SNR=4.5						
DZM	**Mont Dzumac**	**11.04**	**164**	Pn	**Pn**	**15 17 16.4**	**+0.8**
	0.4nm,0.3s,baz=205,slow=23,SNR=2.3						
STKA	**Stephens Creek**	**28.42**	**221**	P	**P**	**15 20 30.6**	**-0.7**
	2.4nm,0.8s,baz=53,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**28.93**	**249**	P	**P**	**15 20 36.1**	**0.0**
	1.4nm,0.8s,baz=78,slow=8.8,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**29.95**	**7**	T	T	15 52 30.9	
	baz=189						
H11S3	**WAKE ISLAND Hy**	**29.95**	**7**	T	T	15 52 27.7	
	baz=189						
H11S1	**WAKE ISLAND Hy**	**29.96**	**7**	T	T	15 52 32.6	
	baz=189						
ASAR	**Alice Springs**	**30.32**	**242**	P	**P**	**15 20 47.8**	**-0.6**
	0.9nm,0.6s,baz=64,slow=10,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**31.18**	**7**	T	T	15 54 04.4	
	baz=188						
H11N3	**WAKE ISLAND Hy**	**31.18**	**7**	T	T	15 54 07.2	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**31.19**	**7**	T	T	15 54 03.4	
	baz=188						
SONM	**Songino Array**	**77.47**	**325**	P	**P**	**15 26 32.8**	**+0.8**
	1.2nm,0.7s,baz=111,slow=8.1,SNR=4.0						
ILAR	**Eielson Array**	**84.72**	**19**	P	**P**	**15 27 08.8**	**-1.1**
	0.7nm,0.9s,baz=241,slow=4.5,SNR=6.4						
NVAR	**Mina Array Bea**	**88.25**	**50**	P	**P**	**15 27 28.4**	**+0.3**
	0.8nm,0.8s,baz=238,slow=7.1,SNR=5.5						
MKAR	**Makanchi Array**	**92.05**	**317**	P	**P**	**15 27 46.1**	**+0.7**
	2.0nm,0.7s,baz=101,slow=5.7,SNR=18						

*IDC **31** 15:18:28.6±0.8, 11°.26S×163°.15E, $h0^{km}$, mb4.1/11, mb1 4.3/13, mb1mx4.1/29, mbtmp4.2/13, ML4.1/2, Error ellipse: s-maj=24.9km s-min=20.7km az=120.0*

*NEIC **31** 15:18:34.8±1.5, 11°.2S±0°.1×163°.16E±0°.09, h41km±9km, mb4.4/15, Error ellipse: s-maj=16.2km s-min=11.9km az=197.0*

ISC 31 15:18:34.0±0.7, 11°.27S±0°.10×163°.17E±0°.09, h35km, n38, σ1§07/35, mb4.3/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.65**	**300**	Pn	**Pn**	**15 19 28.3**	**+0.2**
	23nm,0.3s,baz=192,slow=0.7,SNR=8.8						
HNR				Sn	**Sn**	**15 20 12.8**	**+2.8**
	30nm,0.3s,baz=202,slow=22,SNR=6.0						
SANVU	**Saraoutou**	**5.72**	**137**		**Pn**	**15 19 56.9**	**+0.4**
CTA	**Charters Tower**	**18.48**	**240**	Pn	**Pn**	**15 22 48.0**	**+0.4**
	0.3nm,0.3s,baz=68,slow=15,SNR=5.5						
CTAO	**Charters Tower**	**18.48**	**240**		**Pn**	**15 22 47.2**	**-0.3**
CTAO				IAmb	IAmb	15 22 50.5	
	comp=Z,14nm,1.1s						
ARMA	**Armidale**	**21.87**	**208**	P	**P**	**15 23 24.9**	**+0.9**
ARMA				IAmb	IAmb	15 23 29.0	
	comp=Z,9.9nm,0.9s						
STKA	**Stephens Creek**	**28.58**	**221**	P	**P**	**15 24 27.2**	**+0.3**
	comp=Z,6.0nm,0.9s,baz=30,slow=13,SNR=7.7						
STKA	**Stephens Creek**	**28.58**	**221**	P	**P**	**15 24 27.3**	**+0.3**
WR0	**Warramunga Arr**	**28.86**	**249**	P	**P**	**15 24 28.5**	**-1.0**
WR0				IAmb	IAmb	15 24 40.6	
	comp=Z,9.5nm,1.4s						
WB0	**Warramunga Arr**	**28.95**	**249**	P	**P**	**15 24 29.5**	**-0.8**
WB0				IAmb	IAmb	15 24 34.1	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**29.02**	**249**	P	**P**	**15 24 30.0**	**-1.0**
WRA	**Warramunga Arr**	**29.04**	**249**	P	**P**	**15 24 29.9**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=80,slow=9.2,SNR=8.9						
WRA				PcP	**PcP**	**15 27 39.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=82,slow=4.0,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**29.77**	**7**	T	T	15 55 34.5	
	baz=188,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.77**	**7**	T	T	15 55 37.0	
	baz=188,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.79**	**7**	T	T	15 55 33.3	
	baz=188,slow=76,SNR=15						
AS31	**Alice Springs**	**30.44**	**242**	P	**P**	**15 24 42.8**	**-0.8**
ASAR	**Alice Springs**	**30.44**	**242**	P	**P**	**15 24 42.6**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=64,slow=9.9,SNR=22						
ASAR				PcP	**PcP**	**15 27 42.1**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=69,slow=2.3,SNR=2.8						
ASAR	**Alice Springs**	**30.44**	**242**	P	**P**	**15 24 42.4**	**-1.2**
TOO	**Toolangi**	**30.63**	**208**	P	**P**	**15 24 45.5**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**31.00**	**7**	T	T	15 57 12.8	
	baz=188,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**31.01**	**7**	T	T	15 57 12.4	
	baz=188,slow=76,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**31.02**	**7**	T	T	15 57 13.9	
	baz=188,slow=76,SNR=11						
BBOO	**Buckleboo**	**32.86**	**225**	P	**P**	**15 25 05.4**	**+0.7**
BBOO				IAmb	IAmb	15 25 06.2	
	comp=Z,18nm,0.9s						
KNRA	**Kununurra**	**33.72**	**259**	P	**P**	**15 25 10.5**	**-1.8**
KNRA				IAmb	IAmb	15 25 11.6	
	comp=Z,7.8nm,0.6s						
PSA00	**Pilbara Seismi**	**42.67**	**250**	P	**P**	**15 26 25.9**	**-1.9**
PSA00				IAmb	IAmb	15 26 29.3	
	comp=Z,3.6nm,1.0s						
NWAO	**Narrogin (SRO)**	**47.25**	**235**	P	**P**	**15 27 03.6**	**-0.4**
MORW	**Morawa**	**47.30**	**241**	P	**P**	**15 27 04.1**	**-0.4**
VNDA	**Vanda**	**66.25**	**180**	P	**P**	**15 29 17.4**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=344,slow=7.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**69.89**	**294**	P	**P**	**15 29 41.2**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=132,slow=5.1,SNR=4.2						
SONM	**Songino Array**	**77.36**	**325**	P	**P**	**15 30 24.2**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=132,slow=4.3,SNR=2.2						
QSPA	**South Pole Qui**	**78.74**	**180**	P	**P**	**15 30 34.3**	**+1.5**
QSPA				IAmb	IAmb	15 30 35.5	
	comp=Z,14nm,1.4s						
IMAR	**Indian Mountai**	**83.33**	**16**	P	**P**	**15 30 56.5**	**-0.4**
MAW	**Mawson**	**83.56**	**202**	P	**P**	**15 30 59.8**	**+1.6**
	comp=Z,3.9nm,1.0s,baz=75,slow=9.1,SNR=3.8						
ILAR	**Eielson Array**	**84.54**	**19**	P	**P**	**15 31 04.8**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=232,slow=4.6,SNR=7.1						
NVAR	**Mina Array Bea**	**88.10**	**50**	P	**P**	**15 31 21.4**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=234,slow=8.2,SNR=7.3						
MK31	**Makanchi Array**	**91.96**	**317**	P	**P**	**15 31 39.0**	**-0.1**
MK31				IAmb	IAmb	15 31 41.6	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**91.96**	**317**	P	**P**	**15 31 38.5**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=98,slow=6.1,SNR=14						
MKAR	**Makanchi Array**	**91.96**	**317**	P	**P**	**15 31 38.2**	**-0.9**
ZALV	**Zalesovo Beam**	**92.26**	**325**	P	**P**	**15 31 40.1**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.4,SNR=2.4						

*IDC **31** 15:32:18.5±1.2, 6°.61N×77°.60W, $h0^{km}$, mb3.4/5, mb1 3.8/6, mb1mx3.5/26, mbtmp3.4/6, ML2.5/1, MS3.1/5, Ms1 3.1/5, ms1mx2.9/22, Error ellipse: s-maj=61.5km s-min=29.0km az=50.0*

*RSNC **31** 15:32:22.3±1.5, 6°.78N×77°.03W, $h20^{km}\pm5^{km}$, ML3.5, Mw3.9, Fault plane solution: NP1:φs82.00000°, δ68.00000°, λ-169.00000°.*

ISC 31 15:32:17.9±1.6, 6.72N±0°.03×77°.11W±0°.03, $h5^{km}\pm11^{km}$, n41, σ1§67/59, mb3.4/5, 6C-7D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.57**	**211**	⇑iP	**Pn**	**15 32 33.9**	**+1.2**
SOLC				eS	**Sn**	**15 32 44.1**	**+1.6**
SOLC				i		15 32 47.1	
	comp=Z,4μm,0.3s						
PTAC	**Punta Ardita,**	**0.81**	**302**	⇓eP	**Pn**	**15 32 37.7**	**+1.6**
PTAC				eS	**Sn**	**15 32 48.9**	**+0.4**
PTAC				i		15 32 52.4	
	comp=Z,3μm,0.5s						
DBBC	**Dabeiba**	**0.94**	**71**	⇑iP	**Pb**	**15 32 37.2**	**+0.3**
DBBC				eS	**Sb**	**15 32 49.1**	**-0.6**
CBOC	**Ciudad Bolivar**	**1.38**	**128**	eP	**Pn**	**15 32 43.7**	**-0.4**
CBOC				i		15 32 57.0	
	comp=Z,555nm,0.5s						
HELC	**Santa Helena**	**1.66**	**108**	⇓eP	**Pb**	**15 32 48.7**	**-0.5**
HELC				eS	**Sn**	**15 33 09.0**	**-0.9**
HELC				i		15 33 13.5	
	comp=Z,427nm,0.5s						
PIZC	**Pizarro, Choco**	**1.76**	**188**	eP	**Pg**	**15 32 52.1**	**+0.5**
PIZC				i		15 33 03.6	
	comp=Z,304nm,0.4s						
UREC	**San Jos de Ur**	**1.87**	**57**	⇑eP	**Pb**	**15 32 51.7**	**-1.0**
UREC				eS	**Sn**	**15 33 13.8**	**-1.0**
UREC				i		15 33 16.4	
	comp=Z,588nm,0.3s						
CAPC	**Capurgana**	**1.92**	**353**	eP	**Pb**	**15 32 52.4**	**-1.1**
CAPC				i		15 33 26.8	
	comp=Z,228nm,0.3s						
PLMC	**San Jos del P**	**1.98**	**155**	eP	**Pn**	**15 32 51.7**	**-0.5**
PLMC				eS	**Sn**	**15 33 13.2**	**-4.3**
PLMC				i		15 33 32.6	
	comp=Z,232nm,0.2s						
UPD2	**Meteti**	**2.03**	**334**	⇓eP	**Pg**	**15 32 56.3**	**-0.6**
UPD2				eS	**Sn**	**15 33 19.1**	**+0.5**
UPD2				i		15 33 30.5	
	comp=Z,766nm,0.5s						
LCBC	**Los crdobas,**	**2.25**	**19**	eP	**Pb**	**15 32 58.1**	**-1.0**
LCBC				i		15 32 59.9	
	comp=Z,401nm,0.3s						
LCBC				eS	**Sn**	**15 33 22.7**	**-1.4**
GUY2C	**Guyana, Caldas**	**2.28**	**130**	⇓eP	**Pb**	**15 32 58.6**	**-1.3**
GUY2C				i		15 33 12.2	
	comp=Z,463nm,0.6s						
GUY2C				eS	**Sn**	**15 33 25.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**2.37**	**71**	⇑iP	**Pb**	**15 32 59.4**	**-1.7**
ZARC				eS	**Sn**	**15 33 25.7**	**-1.2**
ZARC				i		15 33 28.1	
	comp=Z,423nm,0.5s						
MOTC	**Monteria, Cord**	**2.50**	**35**	⇑iP	**Pn**	**15 33 00.1**	**+0.8**
MOTC				eS	**Sn**	**15 33 28.0**	**-2.2**
NORC	**Norcasia**	**2.51**	**117**	eP	**Pb**	**15 33 02.5**	**-1.0**
NORC				eS	**Sn**	**15 33 30.4**	**0.0**
NORC				i		15 33 37.2	
	comp=Z,139nm,0.5s						
TOLC	**Tolima**	**2.77**	**140**	eP	**Pb**	**15 33 05.8**	**-2.3**
TOLC				i		15 34 01.6	
	comp=Z,69nm,0.7s						
ANIL	**Santa Ana**	**2.79**	**142**	eP	**Pn**	**15 33 06.1**	**+2.5**
ANIL				eS	**Sn**	**15 33 39.5**	**+1.8**
ANIL				i		15 33 43.7	
	comp=Z,184nm,0.3s						
YOTC	**Yotoco, Valle**	**2.82**	**164**	⇑eP	**Pn**	**15 33 04.4**	**+0.6**
YOTC				eS	**Sn**	**15 33 34.4**	**-3.9**
AZU	**Azuero**	**3.31**	**289**	⇓eP	**Pn**	**15 33 12.6**	**+2.1**
AZU				eS	**Sn**	**15 33 48.1**	**-2.3**
ROSC	**El Rosal**	**3.34**	**124**	Pn	**Pb**	**15 33 17.2**	**-0.8**
	comp=Z,8.0nm,0.3s,baz=136,slow=23,SNR=3.6						
ROSC				Sn	**Sb**	**15 33 58.6**	**-0.6**
	comp=Z,13nm,0.3s,baz=212,slow=16,SNR=4.6						
ROSC	**El Rosal**	**3.34**	**124**	eP	**Pb**	**15 33 18.6**	**+0.6**
ROSC				i		15 33 35.5	
	comp=Z,93nm,0.4s						
ORTC	**Ortega, Tolima**	**3.35**	**146**	eP	**Pn**	**15 33 14.4**	**+3.4**
ORTC				i		15 34 13.0	
	comp=Z,68nm,0.7s						
BRRC	**Barranca, Sant**	**3.40**	**83**	eP	**Pn**	**15 33 14.2**	**+2.5**
BRRC				eS	**Sn**	**15 33 52.1**	**-0.3**
BRRC				i		15 34 09.7	
	comp=Z,94nm,0.6s						
BCIP	**Isla Barro Col**	**3.64**	**312**	eP	**Pn**	**15 33 15.7**	**+0.8**
BCIP				eS	**Sn**	**15 33 57.2**	**-1.1**
BCIP				i		15 34 23.7	
	comp=Z,74nm,0.7s						
CACAO	**El Cacao, Vera**	**3.77**	**280**	⇓eP	**Pn**	**15 33 18.3**	**+1.5**
CACAO				eS	**Sn**	**15 33 58.1**	**-3.6**
CACAO				i		15 34 04.5	
	comp=Z,71nm,0.5s						
BARC	**Barichara**	**3.90**	**92**	eP	**Pn**	**15 33 21.3**	**+2.4**
BARC				eS	**Sn**	**15 34 05.3**	**0.0**
BARC				i		15 34 24.2	
	comp=Z,132nm,0.5s						
GMAL	**Guarumal, Vera**	**4.22**	**285**	⇓eP	**Pn**	**15 33 25.8**	**+2.8**
GMAL				eS	**Sn**	**15 34 13.7**	**+1.0**
PCON	**Cinco Dias**	**4.42**	**171**	eP	**Pb**	**15 33 36.1**	**-0.3**
PCON				i		15 33 54.2	
	comp=Z,24nm,0.7s						
PAMC	**Pamplona, Colo**	**4.42**	**82**	eP	**Pn**	**15 33 29.1**	**+3.0**
PAMC				eS	**Sn**	**15 34 17.7**	**-0.6**
PAMC				i		15 34 22.3	
	comp=Z,131nm,0.6s						
SDV	**Santo Domingo**	**6.77**	**71**	LR	LR	15 37 01.2	
	comp=Z,242nm,18.6s,baz=243,slow=39						
JTS	**Las Juntas de**	**8.53**	**295**	LR	LR	15 37 51.1	
	comp=Z,110nm,21.2s,baz=223,slow=41						
SJG	**San Juan**	**15.57**	**42**	LR	LR	15 42 02.6	
	comp=Z,35nm,20.5s,baz=165,slow=37						
NNA	**Nana**	**18.58**	**179**	LR	LR	15 44 30.1	
	comp=Z,51nm,21.8s,baz=2.5,slow=40						
PTGA	**Pitinga**	**18.64**	**113**	LR	LR	15 44 19.9	
	comp=Z,67nm,18.2s,baz=302,slow=38						
TXAR	**Lajitas Array**	**33.65**	**315**	P	**P**	**15 38 58.4**	**-1.6**
	comp=Z,0.1nm,0.6s,baz=126,slow=4.6,SNR=1.8						
TXAR				PcP	**PcP**	**15 41 40.9**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=146,slow=6.6,SNR=2.6						
PDAR	**Pinedale Array**	**45.91**	**327**	P	**P**	**15 40 41.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=122,slow=8.6,SNR=2.9						
NVAR	**Mina Array Bea**	**48.78**	**317**	P	**P**	**15 41 04.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=113,slow=6.9,SNR=2.5						
YKA	**Yellowknife Ar**	**62.04**	**341**	P	**P**	**15 42 40.9**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=125,slow=8.4,SNR=3.7						
ILAR	**Eielson Array**	**75.40**	**335**	P	**P**	**15 44 02.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=107,slow=4.7,SNR=3.7						
ASAR	**Alice Springs**	**145.78**	**237**	PKPbc	**PKPdf**	**15 51 58.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=125,slow=3.7,SNR=6.3						
WRA	**Warramunga Arr**	**146.78**	**244**	PKPbc	**PKPdf**	**15 52 01.1**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=99,slow=3.5,SNR=1.7						

IDC 31 15:47:36.4±6.7, 30°.72N×141°.51E, $h0^{km}$, mb3.2/3, mb1 3.3/4, mb1mx3.2/32, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=263.2km s-min=22.8km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.81**	**329**	Pn	Pn	15 48 22.0	-0.6
	2.8nm,0.3s,baz=257,slow=21,SNR=1.6						
JHJ				Sn	Sn	15 48 56.2	-1.0
	3.2nm,0.3s,baz=62,slow=22,SNR=1.3						
MKAR	**Makanchi Array**	**47.77**	**307**	P	P	15 56 15.9	+0.6
	0.3nm,0.7s,baz=99,slow=9.2,SNR=2.9						
WRA	**Warramunga Arr**	**50.84**	**189**	P	P	15 56 38.7	-0.2
	0.1nm,0.3s,baz=7.1,slow=7.8,SNR=7.0						
ASAR	**Alice Springs**	**54.56**	**189**	P	P	15 57 06.2	-0.3
	0.2nm,0.9s,baz=360,slow=5.3,SNR=5.1						

*IDC **31** 15:51:40.3±0.7, 36°.32N×141°.79E, $h0^{km}$, mb4.0/20, mb1 4.1/29, mb1mx4.0/56, mbtmp4.0/29, ML3.0/7, MS3.3/8, Ms1 3.3/8, ms1mx3.0/43, Error ellipse: s-maj=16.3km s-min=14.0km az=117.0*

*NEIC **31** 15:51:45.1±2.7, 36°.33N±0°.06×141°.7E±0°.1, $h28^{km}\pm6^{km}$, mb4.4/5, Error ellipse: s-maj=14.3km s-min=7.5km az=110.0*

*JMA **31** 15:51:45.0±0.1, 36°.32N×141°.54E, $h54^{km}\pm3^{km}$, M3.8*

*NIED **31** 15:51:45.0, 36°.32N×141°.54E, $h54^{km}$, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.97; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-1.11; $M_{r\theta}$1.06; $M_{\theta\phi}$-0.62; $M_{\phi r}$1.33; Fault plane solution: $M_0$2.07000×10^{15} NP1:φs37.00000°, δ74.00000°, λ102.00000°. NP2:φs180.00000°, δ20.00000°, λ55.00000°.*

ISC 31 15:51:44.0±0.5, 36°.31N±0°.05×141°.72E±0°.06, $h26^{km}$, n72, σ1§21/70, mb4.1/23, MS3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.92**	**272**	P	**Pn**	**15 52 00.0**	**-1.2**
CHOJ	**Chosi**	**0.93**	**229**	P	**Pn**	**15 52 00.7**	**-0.6**
CHOJ				eS	**Sb**	**15 52 12.4**	**-0.9**
JHO	**Hitachi**	**0.98**	**288**	P	**Pn**	**15 52 00.6**	**-1.4**
JHU	**Itakohorinouch**	**1.03**	**251**	P	**Pn**	**15 52 01.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.09**	**317**	P	**Pn**	**15 52 02.6**	**-1.0**
ONAJ				eS	**Sn**	**15 52 15.4**	**-2.4**
JYT	**Yasato**	**1.24**	**267**		**Pn**	**15 52 04.1**	**-1.5**
JFK	**Kawauchi**	**1.26**	**327**	P	**Pn**	**15 52 05.3**	**-0.6**
JFT	**Otama**	**1.64**	**318**	P	**Pn**	**15 52 11.6**	**+0.4**
JMM	**Marumori**	**1.72**	**335**	P	**Pn**	**15 52 12.3**	**0.0**
JMM	**Marumori**	**1.72**	**335**		**Pn**	**15 52 11.5**	**-0.8**
BSO1	**Boso 1**	**1.76**	**200**	P	**Pn**	**15 52 12.8**	**+0.5**
JAG	**Ashikaga**	**1.84**	**274**	P	**Pn**	**15 52 12.8**	**-1.0**
JFY	**Yanaizu**	**1.96**	**305**	P	**Pn**	**15 52 15.9**	**+0.4**
JKT	**Katashina**	**2.04**	**284**	P	**Pn**	**15 52 16.7**	**-0.1**
MJAR	**Matsushiro Arr**	**2.84**	**276**	Pn	**Pn**	**15 52 27.1**	**-0.6**
	4.1nm,0.3s,baz=113,slow=9.8,SNR=150						
MJAR				LR	LR	15 53 39.1	
	comp=Z,426nm,19.7s,baz=100,slow=42						
MAJO	**Matsushiro**	**2.84**	**276**	Pn	**Pn**	**15 52 28.4**	**+0.7**
MAT	**Matsushiro**	**2.84**	**276**	P	**Pn**	**15 52 27.9**	**+0.2**
MAT				S	**Sn**	**15 53 02.8**	**+1.6**
JSD	**Sado**	**3.26**	**303**	Pn	**Pn**	**15 52 33.9**	**+0.5**
JSG	**Sagara**	**3.31**	**242**		**Pn**	**15 52 35.6**	**+1.5**
JHJ2	**Mitsune**	**3.56**	**207**	Pn	**Pn**	**15 52 38.2**	**+0.8**
JHJ	**Hachijo jima 2**	**3.56**	**207**	Pn	**Pn**	**15 52 38.1**	**+0.6**
	50nm,0.3s,baz=328,slow=23,SNR=50						
JHJ				Sn	**Sn**	**15 53 17.4**	**-1.4**
	47nm,0.3s,baz=24,slow=23,SNR=8.8						
JHJ				LR	LR	15 54 19.7	
	comp=Z,202nm,18.7s,baz=348,slow=44						
JGF	**Kuroka**	**3.61**	**260**	Pn	**Pn**	**15 52 40.2**	**+1.9**
INU	**Inuyama**	**3.94**	**257**	Pn	**Pn**	**15 52 45.2**	**+2.4**
JTM	**Tenmabayashi**	**4.50**	**354**	Pn	**Pn**	**15 52 52.4**	**+1.9**
JWT	**Wachi**	**5.24**	**261**	Pn	**Pn**	**15 53 02.3**	**+1.6**
ERM	**Erimo**	**5.81**	**11**	Pn	**Pn**	**15 53 08.6**	**+0.2**
JHS	**Saijyo**	**7.13**	**262**	Pn	**Pn**	**15 53 29.6**	**+3.0**
ASAJ	**Asahikawa**	**7.83**	**5**	Pn	**Pn**	**15 53 34.9**	**-1.2**
	0.5nm,0.3s,baz=192,slow=13,SNR=2.9						
ASAJ				Sn	**Sn**	**15 55 00.8**	**-3.0**
	0.5nm,0.3s,baz=28,slow=26,SNR=2.4						
JCJ	**Chichijima**	**9.19**	**177**	Pn	**Pn**	**15 53 52.3**	**-2.6**
	4.5nm,0.3s,baz=35,slow=20,SNR=11						
JCJ				Sn	Sn	15 55 27.5	-10
	11nm,0.3s,baz=103,slow=24,SNR=5.7						
JNU	**Nakatsue**	**9.48**	**254**	Pn	**Pn**	**15 53 58.9**	**0.0**
	0.1nm,0.3s,baz=46,slow=16,SNR=2.3						
USRK	**Ussuriysk Ar.**	**10.83**	**320**	Pn	**Pn**	**15 54 16.9**	**-0.3**
	baz=125,slow=12,SNR=5.3						
USRK				LR	LR	15 58 19.8	
	comp=Z,228nm,18.4s,baz=130,slow=37						
USRK	**Ussuriysk Ar.**	**10.83**	**320**		**Pn**	**15 54 18.8**	**+1.5**
KSRS	**Korea Array**	**11.11**	**280**	Pn	**Pn**	**15 54 23.2**	**+2.0**
	0.1nm,0.3s,baz=93,slow=14,SNR=3.2						
KSRS				LR	LR	15 58 23.3	
	comp=Z,177nm,19.5s,baz=77,slow=36						
KLR	**Kul'dur**	**14.83**	**334**	Pn	**Pn**	**15 55 10.2**	**-1.7**
	0.1nm,0.3s,baz=152,slow=15,SNR=2.0						
KLR				LR	LR	16 00 48.4	
	comp=Z,174nm,19.0s,baz=147,slow=37						
JOW	**Kunigami**	**14.84**	**234**	Pn	**Pn**	**15 55 11.1**	**-1.0**
	0.1nm,0.3s,baz=268,slow=28,SNR=1.6						
MA2	**Magadan**	**24.01**	**11**	LR	LR	16 06 30.0	
	comp=Z,42nm,18.2s,baz=118,slow=37						
YAK	**Yakutsk**	**26.83**	**347**	P	**P**	**15 57 22.5**	**+0.6**
	7.7nm,0.6s,baz=254,slow=0.5,SNR=12						
ENH	**Enshi**	**27.53**	**267**	P	**P**	**15 57 26.3**	**-2.3**
ENH				IAmb	IAmb	15 57 28.8	
	comp=Z,11nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.57**	**120**	T	T	16 26 22.6	
	baz=312,slow=75,SNR=37						
H11N1	**WAKE ISLAND Hy**	**27.57**	**120**	T	T	16 26 20.2	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.58**	**120**	T	T	16 26 22.4	
	baz=312,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	16 27 12.6	
	baz=314,slow=75,SNR=47						
H11S3	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	16 27 10.0	
	baz=314,slow=75,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.28**	**122**	T	T	16 27 12.6	
	baz=314,slow=75,SNR=22						
SONM	**Songino Array**	**28.40**	**305**	P	**P**	**15 57 37.1**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=104,slow=9.2,SNR=7.1						
CMAR	**Chiang Mai Arr**	**41.56**	**256**	P	**P**	**15 59 30.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=5.7,SNR=6.3						
CMAR				LR	LR	16 17 08.6	
	comp=Z,33nm,18.1s,baz=195,slow=37						
ZALV	**Zalesovo Beam**	**42.59**	**313**	P	**P**	**15 59 38.5**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=95,slow=7.0,SNR=14						
MK31	**Makanchi Array**	**44.72**	**303**	P	**P**	**15 59 53.9**	**-1.0**
MK31				IAmb	IAmb	15 59 58.1	
	comp=Z,3.7nm,0.9s						
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**15 59 55.6**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=84,slow=11,SNR=13						
MAKZ	**Makanchi**	**44.93**	**303**	P	**P**	**15 59 56.3**	**-0.3**
MAKZ				IAmb	IAmb	15 59 58.8	
	comp=Z,5.8nm,1.1s						
KDAK	**Kodiak Island**	**

SIVA AML AML 16 05 06.7
PRNS Prines Rethymn 0.42 23 P **Pb** **16 04 52.4 -0.4**
PRNS S **Sb** **16 04 59.3 -0.1**
VAM Vamos 0.44 350 P **Pn** **16 04 54.0 +0.7**
VAM S **Sn** **16 05 02.6 +2.6**
119μm,0.3s
VAM Vamos 0.44 350 P **Pn** **16 04 54.3 +1.0**
VAM S **Sn** **16 05 02.7 +2.6**
VAM AML AML 16 05 03.4
VAM AML AML 16 05 03.4
VAM Vamos 0.44 350 P **Pn** **16 04 54.2 +1.0**
IMMV Iera Moni Meta 0.55 332 P **Pb** **16 04 55.6 +0.9**
IMMV S **Sn** **16 05 04.7 +2.0**
38μm,0.8s
IMMV Iera Moni Meta 0.55 332 P **Pb** **16 04 56.1 +1.3**
IMMV S **Sn** **16 05 05.1 +2.5**
IMMV AML AML 16 05 05.5
comp=N,38944μm,0.4s
IMMV AML AML 16 05 06.3
IMMV Iera Moni Meta 0.55 332 PG **Pb** **16 04 55.7 +1.0**
IMMV SG **Sn** **16 05 04.5 +1.8**
KNDR Palaiochora Ch 0.56 298 P **Pb** **16 04 56.4 +1.5**
KNDR S **Sn** **16 05 06.5 +3.5**
comp=N,13μm,0.2s
KNDR Palaiochora Ch 0.56 298 PG **Pb** **16 04 57.0 +2.1**
IDI Anoyia 0.58 57 Pg **Pb** **16 04 55.9 +0.6**
comp=N,1μm,0.3s,baz=232,slow=14,SNR=5395
IDI Lg Lg 16 05 03.9
comp=N,4μm,0.3s,baz=149,slow=19,SNR=42
IDI Anoyia 0.58 57 ⇑P **Pb** **16 04 55.8 +0.6**
IDI Anoyia 0.58 57 P **Pb** **16 04 55.8 +0.6**
IDI S **Sn** **16 05 04.7 +1.2**
comp=N,20μm,0.4s
IDI Anoyia 0.58 57 P **Pb** **16 04 56.1 +0.8**
IDI S **Sn** **16 05 05.0 +1.5**
IDI AML AML 16 05 07.1
comp=E,37851μm,0.3s
IDI AML AML 16 05 07.2
comp=N,42691μm,0.6s
IDI Anoyia 0.58 57 PG **Pb** **16 04 55.9 +0.6**
IDI SG **Sb** **16 05 03.9 +0.4**
IDI Anoyia 0.58 57 **Pb** **16 04 55.7 +0.4**
KSTL Kastelli Herak 0.71 62 P **Pb** **16 05 02.1 +4.7**
KSTL S **Sb** **16 05 14.6 +7.6**
IACM Heraklion 0.72 62 P **Pb** **16 04 58.7 +1.3**
IACM Heraklion 0.72 62 P **Pb** **16 04 58.9 +1.5**
IACM S **Sb** **16 05 09.9 +2.8**
HRKL Herakleio 0.74 63 P **Pb** **16 04 59.1 +1.3**
HRKL S **Sb** **16 05 10.4 +2.7**
comp=N,43μm,0.8s
HRKL Herakleio 0.74 63 PG **Pb** **16 04 58.7 +0.9**
LAST Lasithi 0.99 79 P **Pb** **16 05 02.7 +0.7**
LAST S **Sb** **16 05 17.0 +2.2**
comp=N,5μm,0.6s
LAST Lasithi 0.99 79 P **Pb** **16 05 03.0 +1.0**
LAST S **Sb** **16 05 17.2 +2.4**
LAST AML AML 16 05 21.4
comp=N,11409μm,0.5s
LAST AML AML 16 05 22.8
comp=E,8453μm,0.5s
NPS Neapolis 1.12 75 P **Pb** **16 05 05.2 +1.1**
NPS Neapolis 1.12 75 P **Pb** **16 05 05.4 +1.3**
NPS S **Sb** **16 05 20.4 +1.9**
NPS AML AML 16 05 25.4
comp=N,9758μm,0.7s
NPS AML AML 16 05 26.5
comp=E,14065μm,0.7s
NPS Neapolis 1.12 75 P **Pb** **16 05 05.2 +1.1**
NPS S **Sb** **16 05 20.3 +1.9**
FRMA Ierapetra Chan 1.18 88 P **Pb** **16 05 07.9 +2.7**
STIA Sitia Lasithi 1.49 81 P **Pb** **16 05 11.7 +1.3**
ZKR Zakros 1.58 84 P **Pb** **16 05 12.2 +0.3**
ZKR Zakros 1.58 84 P **Pb** **16 05 12.3 +0.4**
KTHA Kythira Island 1.63 322 P **Pb** **16 05 13.2 +0.5**
KTHA Kythira Island 1.63 322 P **Pb** **16 05 13.0 +0.3**
KTHA S **Sb** **16 05 34.4 +1.4**
KTHA AML AML 16 05 40.1
comp=N,5311μm,0.9s
KTHA AML AML 16 05 49.9
comp=E,7115μm,0.4s
KTHA Kythira Island 1.63 322 PN **Pb** **16 05 13.3 +0.5**
KTHR Kythira 1.66 321 P **Pb** **16 05 13.8 +0.5**
THR5 Thira Island, 1.68 30 P **Pb** **16 05 12.4 -1.1**
SANT Santorini 1.69 34 ⇓P **Pn** **16 05 12.5 +2.2**
SANT Santorini 1.69 34 P **Pn** **16 05 12.2 +1.8**
SANT Santorini 1.69 34 PN **Pn** **16 05 12.2 +1.8**
SANT Santorini 1.69 34 **Pn** **16 05 11.8 +1.5**
THR3 Thira Island, 1.69 32 P **Pn** **16 05 12.3 +1.9**
MHLO Agia Marina, M 1.71 3 P **Pn** **16 05 12.9 +2.2**
THT2 Imerovigli 1.72 32 PN **Pb** **16 05 13.2 -1.1**
VLI Velial 2.06 328 P **Pn** **16 05 18.1 +2.6**
APE Apeiranthos 2.32 25 ⇑P **Pn** **16 05 21.1 +2.0**
APE Apeiranthos 2.32 25 P **Pn** **16 05 21.1 +2.0**
APE Apeiranthos 2.32 25 P **Pn** **16 05 21.1 +2.0**
APE Apeiranthos 2.32 25 PN **Pn** **16 05 21.4 +2.3**
KARP Karpathos 2.41 75 P **Pn** **16 05 23.2 +2.8**
KARP Karpathos 2.41 75 PN **Pn** **16 05 23.2 +2.8**
KARP Karpathos 2.41 75 **Pn** **16 05 23.2 +2.8**
KRND KRANIDI 2.58 339 P **Pn** **16 05 25.2 +2.6**
ITM Ithomi 2.92 320 P **Pn** **16 05 29.3 +2.0**
ITM Ithomi 2.92 320 **Pn** **16 05 29.3 +2.0**
ATH Athens Observa 3.03 351 P **Pn** **16 05 32.8 +4.0**
DION Dionisos Attik 3.11 355 P **Pn** **16 05 32.0 +2.0**
DAT Datca 3.19 56 PN **Pn** **16 05 33.9 +2.8**
ARG Arkhangelos 3.36 67 PN **Pn** **16 05 36.7 +3.4**
SLUM Salum 3.56 167 P **Pn** **16 05 37.1 +1.0**
baz=174
SLUM S **Sn** **16 06 15.5 -1.4**
baz=174
YER Yerkesik 3.88 55 P **Pn** **16 05 43.8 +3.2**
YER Yerkesik 3.88 55 P **Pn** **16 05 43.6 +3.0**
AGG Agios Georgios 4.34 339 P **Pn** **16 05 49.5 +2.7**
AGG Agios Georgios 4.34 339 Pn **Pn** **16 05 49.5 +2.7**
MATC Matruh 4.38 145 P **Pn** **16 05 47.4 +0.1**
baz=149
ELL Elmali 4.89 67 P **Pn** **16 05 56.6 +2.1**
ELL Elmali 4.89 67 Pn **Pn** **16 05 56.6 +2.1**
ISP Isparta 5.77 59 P **Pn** **16 06 07.9 +1.3**
ISP Isparta 5.77 59 Pn **Pn** **16 06 07.9 +1.3**
SWA2 5.80 170 P **Pn** **16 06 07.8 +0.9**
baz=174
FNA Florina 6.24 339 P **Pn** **16 06 14.6 +1.6**
FNA Florina 6.24 339 **Pn** **16 06 14.6 +1.6**
KBN Korca 6.29 335 P **Pn** **16 06 16.4 +2.8**
KBN Korca 6.29 335 Pn **Pn** **16 06 16.4 +2.8**
VAY Valandovo 6.48 348 *i* Pn Pn 16 06 20.9 +4.7
OHR Ohrid 6.72 337 *i* Pn **Pn** **16 06 22.1 +2.6**
SCTE Santa Cesarea 6.88 319 Pn **Pn** **16 06 23.3 +1.6**
STIP Stip 6.91 347 *i* Pn Pn 16 06 27.2 +5.1
TIP Timpagrande 7.34 307 ⇑P **Pn** **16 06 28.6 +0.5**
TIP Timpagrande 7.34 307 Pn **Pn** **16 06 27.7 -0.4**
CSS Mathiatis 7.42 88 Pn **Pn** **16 06 27.4 -1.7**
HMYD Mayadein 7.54 131 P **Pn** **16 06 31.4 +0.5**
baz=133
HNAT Natroun 7.55 133 P **Pn** **16 06 30.9 0.0**
baz=135
VTS Vitosha 7.68 354 ⇑P **Pn** **16 06 33.8 +1.0**
VTS Vitosha 7.68 354 P **Pn** **16 06 35.0 +2.2**
VTS Vitosha 7.68 354 Pn **Pn** **16 06 35.0 +2.2**
MDUB Mudurnu 7.75 43 Pn **Pn** **16 06 37.1 +3.4**
RYAN Fayoum 7.76 138 P **Pn** **16 06 32.8 -1.0**
baz=139
HSAF As Saff 8.14 129 P **Pn** **16 06 38.2 -0.8**
baz=130
GLL Jalalah 8.26 129 P **Pn** **16 06 39.5 -1.3**
baz=130
RAFF Raffo Rosso 8.35 288 Pn **Pn** **16 06 42.1 +0.3**
PDG Podgorica 8.42 334 Pn **Pn** **16 06 42.8 -0.1**
HFRF Wahat Farafira 8.53 155 P **Pn** **16 06 43.7 -0.6**
baz=157
RAZG Razgrad 8.75 11 ⇑P **Pn** **16 06 49.5 +2.2**
BR131 Keskin Array S 8.82 55 P **Pn** **16 06 50.0 +1.5**
BR131 Keskin Array S 8.82 55 Pn **Pn** **16 06 50.0 +1.5**
BRTR Keskin Array B 8.82 55 Pn **Pn** **16 06 50.6 +2.2**
comp=E,0.7nm,0.3s,baz=230,slow=14,SNR=19
BRTR LR LR 16 10 55.0
comp=E,421nm,20.1s,baz=258,slow=43
BRTR Keskin Array B 8.82 55 *i* P **Pn** **16 06 50.9 +2.4**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
SUZ Suez 8.84 123 P **Pn** **16 06 47.5 -1.2**
baz=124
BOVS Bovan 8.88 348 ⇑P **Pn** **16 06 50.3 +1.2**

TAMRE El Minia 9.21 140 P **Pn** **16 06 53.3 -0.4**
baz=142
STON Ston 9.41 329 *e*Pn **Pn** **16 06 54.0 -2.3**
STON Sn Sn 16 08 29.5 -11
MMAI Mount Meron Ar 9.43 99 Pn **Pn** **16 06 54.8 -1.9**
comp=Z,6.1nm,0.3s,baz=299,slow=12,SNR=26
GRB Gharib 9.85 130 P **Pn** **16 07 00.6 -1.8**
baz=132
MDVR Moldovita 9.99 349 ⇓P **Pn** **16 07 05.8 +1.3**
HERR Herculane 10.00 352 ⇑P **Pn** **16 07 07.0 +2.5**
GHAJ Ghor Haditha 10.13 108 Pn **Pn** **16 07 05.1 -1.1**
RICI Ricice 10.16 329 *e*Pn **Pn** **16 07 05.1 -1.5**
RICI Sn Sn 16 08 49.4 -10
HVAR Hvar 10.21 326 *e*Pn **Pn** **16 07 05.7 -1.6**
HVAR Sn Sn 16 08 49.5 -11
ISR Istrita 10.28 9 ⇓P **Pn** **16 07 10.6 +2.3**
ISR Istrita 10.28 9 P **Pn** **16 07 12.1 +3.8**
TR2 Tor 2 10.37 127 P **Pn** **16 07 07.5 -2.1**
baz=128
HDK1 Dakhla 10.38 153 P **Pn** **16 07 09.8 0.0**
baz=155
ARR Arges 10.39 1 ⇑P **Pn** **16 07 12.1 +2.3**
EIL Elat 10.45 117 Pn **Pn** **16 07 09.2 -1.4**
comp=Z,4.5nm,0.3s,baz=202,slow=7.5,SNR=41
HKAT Jabal Katrina 10.46 125 P **Pn** **16 07 08.6 -2.4**
baz=126
HKAT S Sn 16 08 54.5 -13
baz=126
VOIR 10.47 3 ⇓P **Pn** **16 07 13.3 +2.4**
VOIR 10.47 3 P **Pn** **16 07 14.6 +3.7**
LOT Lotru 10.47 358 ⇑P **Pn** **16 07 12.6 +1.5**
GZR Gura Zlata 10.47 354 ⇑P **Pn** **16 07 11.9 +0.9**
NEHR Nehoiu 10.55 8 ⇑P **Pn** **16 07 14.0 +2.0**
MLR Muntele Rosu 10.58 6 LR LR 16 11 51.7
comp=Z,273nm,21.4s,baz=167,slow=41
MLR Muntele Rosu 10.58 6 ⇑P **Pn** **16 07 14.4 +1.9**
MLR Muntele Rosu 10.58 6 P **Pn** **16 07 15.7 +3.2**
NUB Nuweibaa 10.60 121 P **Pn** **16 07 11.2 -1.5**
baz=122
HDHB Dhahab 10.76 123 P **Pn** **16 07 13.1 -1.9**
baz=123
ZIRJ Zirje 10.95 325 *e*Pn **Pn** **16 07 15.4 -2.0**
ZIRJ Sn Sn 16 09 09.1 -10
PLOR Plostina 11.01 9 ⇑P **Pn** **16 07 20.4 +2.0**
PLOR Plostina 11.01 9 P **Pn** **16 07 20.3 +2.0**
DOPR Dopca 11.01 4 ⇑P **Pn** **16 07 20.5 +2.2**
VRI Vrincioaia 11.04 9 ⇑P **Pn** **16 07 20.6 +2.0**
VRI Vrincioaia 11.04 9 P Pn 16 07 23.5 +4.8
HHRG Al Ghardaqah 11.08 132 P **Pn** **16 07 20.0 +0.7**
baz=133
MORI Morici 11.08 326 *e*Pn **Pn** **16 07 18.1 -1.2**
MORI Sn Sn 16 09 11.9 -10
DUGI Dugi Otok 11.48 324 *e*Pn **Pn** **16 07 23.5 -1.3**
DUGI Sn Sn 16 09 22.2 -10
UDBI Udbina 11.57 328 *e*Pn **Pn** **16 07 25.1 -0.9**
UDBI Sn Sn 16 09 24.3 -10
NVLJ Novalja 12.00 326 *e*Pn **Pn** **16 07 30.5 -1.3**
NVLJ Sn Sn 16 09 34.2 -10
KOVH Kovagotottos 12.06 339 *e*P P 16 07 50.3 +5.4
MOSL Moslavina 12.08 334 *e*Pn **Pn** **16 07 31.1 -1.8**
RABC Rab 12.19 326 *e*Pn **Pn** **16 07 33.1 -1.3**
KEST Kesra 12.23 278 Pn **Pn** **16 07 31.7 -3.4**
comp=Z,0.8nm,0.3s,baz=12,slow=4.0,SNR=5.1
KEST LR LR 16 13 09.8
comp=Z,80nm,19.5s,baz=359,slow=42
OZLJ Ozalj 12.58 330 *e*Pn **Pn** **16 07 38.7 -0.9**
BURAR Bucovina Array 12.65 3 ⇑P **Pn** **16 07 43.4 +2.6**
BURAR Bucovina Array 12.65 3 P **Pn** **16 07 43.3 +2.6**
SOKA Soboth 13.62 332 *e*Pn **Pn** **16 07 53.7 -0.3**
comp=Z,1.6nm,0.2s
OBKA Obir 13.68 330 *e*Pn **Pn** **16 07 54.1 -0.7**
comp=Z,0.8nm,0.2s
ARSA Arzberg 13.92 334 *e*Pn **Pn** **16 07 56.7 -1.4**
comp=Z,0.6nm,0.3s
SOP Sopron 13.96 338 *e*P **P** **16 08 08.5 +2.5**
KOLS Kolonicke sedl 14.03 354 *e*P **P** **16 08 05.3 -1.6**
KOLS Kolonicke sedl 14.03 354 *e*PN **P** **16 08 05.3 -1.6**
MYKA Terra Mystica 14.15 329 *e*Pn **Pn** **16 08 01.7 +0.5**
comp=Z,0.4nm,0.2s
MODS Modra-Piesok 14.37 341 *e*P **P** **16 08 12.5 +1.8**
MODS Modra-Piesok 14.37 341 *e*PN **P** **16 08 12.5 +1.8**
ZOU Zoufplan 14.39 327 Pn **Pn** **16 08 01.6 -3.0**
CONA Conrad Observa 14.39 337 *e*Pn **Pn** **16 08 05.6 +1.1**
comp=Z,1.9nm,0.6s
KBA Koelnbreinsper 14.63 329 *e*Pn **Pn** **16 08 10.8 +2.9**
comp=Z,4.8nm,0.6s
CTI Castel Tesino 14.64 323 P **Pn** **16 08 06.7 -1.2**
CTI Castel Tesino 14.64 323 **Pn** **16 08 06.7 -1.2**
SOC Sochi 14.70 50 *e*P **Pn** **16 08 06.5 -2.1**
SOC *e* 16 10 50.0
SOC MLR MLR
comp=Z,129nm,17.0s
JAVC Velka Javorina 14.72 343 *e*P **P** **16 08 16.9 +2.3**
ABTA Abfaltersbach 14.74 326 *e*Pn **Pn** **16 08 08.0 -1.3**
comp=Z,3.6nm,0.5s
MOA Molln 14.88 333 *e*Pn **Pn** **16 08 11.0 -0.1**
comp=Z,1.4nm,0.2s
KRUC Moravsky 15.24 340 *e*P **P** **16 08 19.8 -0.5**
VRAC Vranov 15.41 341 Pn **Pn** **16 08 19.3 +1.3**
comp=Z,1.4nm,0.3s,baz=22,slow=2.8,SNR=4.1
VRAC Vranov 15.41 341 P **P** **16 08 22.7 +0.5**
VRAC Vranov 15.41 341 *e*P **P** **16 08 22.3 +0.1**
WTTA Wattenberg 15.52 326 *e*Pn **Pn** **16 08 19.2 -0.5**
comp=Z,2.1nm,0.3s
MORC Moravsky Berou 15.60 344 P **Pn** **16 08 18.9 -1.7**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 15.60 344 Pn **Pn** **16 08 18.9 -1.7**
WATA Waderalm 15.60 326 *e*Pn **Pn** **16 08 20.2 -0.5**
comp=Z,3.2nm,0.5s
CKRC Cesky Krumlov 15.69 335 *e*P **P** **16 08 26.6 +1.3**
SQTA Sankt Quirin 15.69 325 *e*Pn **Pn** **16 08 22.4 +0.6**
comp=Z,0.6nm,0.2s
TREC Trest 15.71 338 *e*P **P** **16 08 26.6 +1.0**
TREC Trest 15.71 338 *e*P **P** **16 08 26.6 +1.0**
FETA Feichten 15.78 324 Pn **Pn** **16 08 23.3 +0.4**
comp=Z,0.9nm,0.4s,SNR=5.6
MOTA Moosalm 15.83 325 *i* Pn **Pn** **16 08 23.1 -0.5**
comp=Z,0.9nm,0.5s,SNR=4.0
GERES GERESS Array B 15.92 334 Pn **Pn** **16 08 26.0 +1.3**
comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=52
GERES GERESS Array B 15.92 334 P **P** **16 08 29.0 +0.9**
GERES GERESS Array B 15.92 334 P **P** **16 08 29.0 +0.9**
DAVOX Davos/Dischmat 16.03 322 Pn **Pn** **16 08 27.5 +1.2**
comp=Z,0.2nm,0.3s,baz=332,slow=22,SNR=2.0
RETA Reutte 16.09 325 *e*Pn **Pn** **16 08 26.3 -0.6**
comp=Z,0.2nm,0.2s
TUE Stuetta 16.10 320 **Pn** **16 08 27.3 +0.1**
TUE IAmb IAmb 16 08 50.5
comp=Z,15nm,0.7s
AKASG Malin Array Be 16.12 11 Pn **Pn** **16 08 25.5 -1.6**
comp=Z,5.2nm,0.3s,baz=201,slow=10,SNR=38
AKASG Malin Array Be 16.12 11 Pn **Pn** **16 08 27.3 +0.1**
AKBB Malin Array Si 16.12 11 *c e*P **Pn** **16 08 28.2 +1.1**
AKBB Malin Array Si 16.12 11 **Pn** **16 08 28.5 +1.3**
AKBB IAmb IAmb 16 08 29.3
comp=Z,18nm,0.9s
KHC Kasperske Hory 16.21 334 *e*P **P** **16 08 31.1 0.0**
KHC Kasperske Hory 16.21 334 *e*P **P** **16 08 31.1 0.0**
DAVA Damuels 16.38 323 *i* Pn **P** **16 08 34.1 +1.0**
comp=Z,9.3nm,0.7s,SNR=4.9
DPC Dobruska-Polom 16.43 342 *e*P **P** **16 08 33.4 -0.2**
DPC Dobruska-Polom 16.43 342 *e*P **P** **16 08 33.4 -0.2**
PBCC Pribram 16.53 336 *e*P **P** **16 08 35.1 +0.4**
PRU Pruhonice 16.62 338 *e*P **P** **16 08 36.4 +0.8**
PRU Pruhonice 16.62 338 *e*P **P** **16 08 36.4 +0.8**
SHA1 Shidzhatmaz 16.65 53 *d i*P **P** **16 08 36.6 +0.3**
PRA Prague 16.72 337 *e*P **P** **16 08 38.5 +1.7**
PRA Prague 16.72 337 *e*P **P** **16 08 38.5 +1.7**
KIV Kislovodsk 16.77 52 *e*P **P** **16 08 38.5 +1.1**
KIV pmax pmax
comp=Z,40nm,1.0s
KVAR Kislovodsk Arr 16.77 52 Pn **P** **16 08 37.3 -0.2**
baz=280,slow=6.1,SNR=3.5
KBZ Khabaz 16.81 53 Pn **P** **16 08 37.5 -0.2**
comp=Z,0.4nm,0.3s,baz=256,slow=7.9,SNR=49
KBZ Khabaz 16.81 53 *c e*P **Pn** **16 08 37.1 +1.2**
GNI Garni 17.00 66 P **Pn** **16 08 39.1 +0.6**
comp=Z,1.2nm,0.3s,baz=307,slow=10,SNR=3.7
GNI Garni 17.00 66 *c e*P **Pn** **16 08 39.3 +0.7**
GNI pmax pmax
comp=Z,10.0nm,1.0s
ZEI Tsey 17.12 57 *e*P **P** **16 08 41.2 -0.2**
ZEI pmax pmax

comp=Z,13nm,1.1s
NCK Nalchik 17.18 55 ⇑ *e*P **P** **16 08 42.2 +0.3**
NCK pmax pmax
comp=Z,12nm,1.0s
NAX Nakhchivan 17.42 70 P **P** **16 08 45.8 +1.1**
GOF Gofitskoye 17.50 49 ⇑ *e*P **P** **16 08 45.6 +0.2**
GOF pmax pmax
comp=Z,47nm,0.6s
BRG Berggiesshubel 17.58 338 *e*P **P** **16 08 46.5 +0.2**
BRG Amp 16 08 48.2
comp=Z,6.0nm,1.0s
BRG Amp 16 24 15.0
comp=Z,0.3nm,16.6s
BRG Amp 16 24 20.0
comp=E,0.1nm,20.2s
BRG Amp 16 24 28.0
comp=N,0.2nm,15.7s
MOX Moxa 18.17 333 P **P** **16 08 54.2 +1.4**
CLL Collm 18.25 337 *e*P **P** **16 08 53.0 -0.6**
comp=Z,8.0nm,0.9s
CLL *e*PP **sP** **16 09 06.0 -0.1**
CLL *e*pPP 16 09 13.0
CLL Lm MLR 16 23 00.0
comp=N,100nm,20.8s
CLL Lm MLR 16 23 00.0
comp=E,100nm,19.6s
CLL Lm MLR 16 23 00.0
comp=Z,200nm,19.2s
CLL Collm 18.25 337 *e*P **P** **16 08 53.0 -0.6**
CLL pmax pmax
comp=Z,8.0nm,0.9s
GANJ Ganja 18.28 65 P **Pn** **16 08 56.3 +2.1**
ZKTA Zakatala 18.72 63 P **Pn** **16 09 01.5 +2.1**
MNGR Mingechevir, A 18.88 65 P **Pn** **16 09 02.7 +1.3**
SEKA Sheki 19.05 64 P **Pn** **16 09 05.5 +2.0**
SUW Suwalki 19.05 358 *e*P **P** **16 09 03.2 +0.8**
SUW Suwalki 19.05 358 P **P** **16 09 01.9 -0.5**
SUW pmax pmax
comp=Z,119nm,0.9s
SUW Suwalki 19.05 358 P **P** **16 09 01.9 -0.5**
MNK Minsk 19.69 6 *i* P **P** **16 09 07.2 -2.1**
MNK *i* S **Sn** **16 12 51.7 +0.8**
MNK pmax pmax
comp=Z,12nm,0.6s
MNK pmax pmax
comp=E,3.0nm,1.0s
MNK pmax pmax
comp=N,18nm,0.9s
MNK MLR MLR
comp=N,56nm,20.0s
MNK MLR MLR
comp=E,14nm,20.0s
MNK MLR MLR
comp=Z,266nm,19.0s
MNK Minsk 19.69 6 *i* P **P** **16 09 07.2 -2.1**
comp=E,3.0nm,1.0s
MNK *i* P **P** **16 09 07.2 -2.1**
comp=N,18nm,0.9s
MNK *i* P **P** **16 09 07.2 -2.1**
comp=Z,12nm,0.6s,baz=189
MNK *i* PP **PnPn** **16 09 23.8 -1.1**
MNK *i* S **Sn** **16 12 51.8 +0.9**
MNK *i* SS **SnSn** **16 13 10.5 +5.1**
MNK *i* SSS SSS 16 13 24.3
MNK *i* LQ LQ 16 15 14.0
MNK *i* LR LR 16 17 11.8
MNK *i* LRM MLR 16 18 16.6
comp=N,56nm,19.8s
MNK *i* LRM MLR 16 18 43.5
comp=E,14nm,19.8s
MNK *i* LRM MLR 16 18 52.1
comp=Z,266nm,19.2s
WLF Walferdange 19.81 323 *d*P **Pn** **16 09 13.2 +0.7**
LKRN Lenkeran, Azer 19.93 72 P **Pn** **16 09 13.5 -0.4**
IDID Didzisalis 20.41 4 *e*P **P** **16 09 16.4 -0.8**
IIGN Ignalina 20.42 3 *e*P **P** **16 09 16.4 -0.9**
BTNL Ternell 20.44 325 κP Pn 16 09 19.0 -0.9
MEM Membach 20.51 325 *d*P Pn 16 09 20.1 -0.5
PABE Paberze 20.53 359 *e*P **P** **16 09 17.6 -0.9**
PABE Paberze 20.53 359 P **P** **16 09 16.1 -2.3**
BSTI Sart Tilman 20.70 325 *d*P Pn 16 09 22.3 -0.6
BGES Gesves 20.80 324 *d*P **P** **16 09 22.5 +1.0**
DOU Dourbes 20.86 322 *d*P **P** **16 09 22.5 +0.4**
comp=Z,24nm,0.9s
BMRD Maredsous 20.91 323 κP **P** **16 09 23.3 +0.7**
SNF Seneffe 21.28 323 κP **P** **16 09 27.6 +1.1**
OBN Obninsk 21.86 19 P **P** **16 09 32.5 -0.3**
comp=Z,2.5nm,0.4s,baz=10,slow=21,SNR=3.1
OBN Obninsk 21.86 19 *c e*P **P** **16 09 33.3 +0.5**
OBN pmax pmax
comp=Z,26nm,1.7s
ESBB Sonseca Array 22.91 290 P **P** **16 09 45.4 +1.2**
ESBB IAmb IAmb 16 09 47.4
comp=Z,13nm,0.8s
ESDC Sonseca Array 22.91 290 P **P** **16 09 42.6 -1.6**
comp=Z,9.9nm,0.7s,baz=82,slow=9.3,SNR=46
ESDC Sonseca Array 22.91 290 P **P** **16 09 45.2 +1.0**
MDT Midelt 24.05 273 P **P** **16 09 54.3 -1.2**
comp=Z,3.8nm,0.7s,baz=92,slow=12,SNR=8.7
BELG Belogornoye 24.07 37 P **P** **16 09 53.8 -1.5**
comp=Z,23nm,0.9s,baz=53,slow=3.7,SNR=8.4
BELG Belogornoye 24.07 37 *d e*P **P** **16 09 54.3 -0.9**
BELG pmax pmax
comp=Z,5.0nm,1.0s
HFS Hagfors 26.10 348 P **P** **16 10 12.8 -0.8**
comp=Z,2.1nm,0.3s,baz=162,slow=9.9,SNR=17
FINES FINESS Array B 26.51 2 P **P** **16 10 15.7 -1.6**
comp=Z,4.8nm,0.8s,baz=168,slow=11,SNR=5.2
FINES PcP **PcP** **16 13 41.4 +0.2**
comp=Z,2.6nm,1.0s,baz=113,slow=2.5,SNR=4.0
FINES LR LR 16 21 58.6
comp=Z,180nm,19.1s,baz=106,slow=39
FINES FINESS Array B 26.51 2 *i* P **P** **16 10 19.7 +2.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
NAO01 NORSAR Array S 27.29 346 P **P** **16 10 22.0 -2.4**
NB201 NORSAR Array S 27.40 346 P **P** **16 10 24.6 -0.7**
NB201 IAmb IAmb 16 10 28.4
comp=Z,41nm,1.4s
NB2 NORSAR Subarra 27.40 346 P **P** **16 10 24.3 -1.1**
comp=Z,1.1nm,0.5s,baz=152,slow=9.3
NOA NORSAR Array B 27.40 346 P **P** **16 10 24.3 -1.1**
comp=Z,2.4nm,0.8s,baz=154,slow=8.3,SNR=12
KLMR Klimovskoe 27.69 16 *e*P **P** **16 10 24.2 -3.7**
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 27.69 16 *e*P **P** **16 10 24.2 -3.7**
KLMR AMP 16 10 32.0
comp=Z,14nm,1.3s
EKA Eskdalemuir Ar 27.79 326 P **P** **16 10 26.8 -2.0**
comp=Z,5.5nm,0.9s,baz=127,slow=9.5,SNR=8.3
AKTO Aktyubinsk 28.90 47 P **P** **16 10 37.6 -1.2**
comp=Z,3.5nm,0.7s,baz=248,slow=8.9,SNR=11
ABKAR Akbulak array 29.74 50 P **P** **16 10 45.2 -1.0**
TORD Torodi Ar. Bea 29.83 229 P **P** **16 10 49.0 +1.7**
comp=Z,2.9nm,0.6s,baz=35,slow=8.8,SNR=22
TORD Torodi Ar. Bea 29.83 229 P **P** **16 10 48.9 +1.5**
TORD IAmb IAmb 16 10 50.2
comp=Z,3.1nm,0.7s
PRGR Permogore 29.93 20 *e*P **P** **16 10 45.3 -2.4**
PRGR *e*SP **sP** **16 10 59.4 -1.1**
PRGR pmax pmax
comp=Z,17nm,0.6s
ARU Arti 31.62 37 *c i*P **P** **16 11 01.6 -1.2**
ARU 16 12 05.5
ARU S **S** **16 16 11.9 +2.5**
ARU SS **SnSn** **16 17 55.6 -1.2**
ARU pmax pmax
comp=Z,9.0nm,1.0s
SVE Sverdlovsk 32.83 37 *e*P **P** **16 11 13.3 0.0**
ARCES ARCESS Array B 34.62 1 P **P** **16 11 26.6 -2.2**
comp=Z,0.7nm,0.4s,baz=186,slow=9.7,SNR=11
ARCES PcP **PcP** **16 14 02.7 +0.2**
comp=Z,1.2nm,0.7s,baz=150,slow=4.0,SNR=1.6
ARCES LR LR 16 26 04.6
comp=Z,152nm,21.2s,baz=135,slow=37
ARCES ARCESS Array B 34.62 1 P **P** **16 11 29.0 +0.2**
ARCES pmax pmax
comp=Z,13nm,1.3s
ARCES ARCESS Array B 34.62 1 P **P** **16 11 28.9 +0.2**
ARCES IAmb IAmb 16 11 46.7
comp=Z,13nm,1.2s
KKAR Karatay Array 36.42 63 P **P** **16 11 46.3 +1.7**
KKAR Karatay Array 36.42 63 P **P** **16 11 46.3 +1.7**
BRVK Borovoye 36.93 46 ⇓ *e*P **P** **16 11 48.7 -0.1**

BRVK pmax pmax
comp=Z,6.0nm,1.7s
TIC Toumodi 39.02 231 *e*P **P 16 12 08.9 +2.1**
KIC Kosan Boka 39.06 230 *e*P **P 16 12 09.4 +2.2**
comp=Z,9.5nm,0.5s
LIC Lamto 39.35 230 *e*P **P 16 12 10.8 +1.3**
comp=Z,62nm,1.3s
AAK Ala-Archa 39.37 63 P **P 16 12 07.6 -2.1**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 39.37 63 P **P 16 12 07.6 -2.1**
AAK IAmb IAmb 16 12 11.6
comp=Z,5.9nm,0.9s
MAKZ Makanchi 44.25 56 P **P 16 12 48.7 -0.6**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MAKZ Makanchi 44.25 56 P **P 16 12 48.7 -0.6**
MAKZ IAmb IAmb 16 12 50.4
comp=Z,4.5nm,1.1s
MK31 Makanchi Array 44.47 56 P **P 16 12 50.8 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 44.47 56 P **P 16 12 50.8 -0.3**
MK31 IAmb IAmb 16 12 52.0
comp=Z,8.3nm,1.2s
MKAR Makanchi Array 44.47 56 P **P 16 12 51.3 +0.2**
comp=Z,3.5nm,0.6s,baz=277,slow=7.1,SNR=39
MKAR PcP **PcP 16 14 34.6 +0.5**
comp=Z,1.3nm,0.7s,baz=265,slow=2.6,SNR=2.8
ZAA0 Zalesovo Array 45.64 46 IAmb IAmb 16 13 00.1
comp=Z,5.1nm,0.6s
ZALV Zalesovo Beam 45.64 46 P **P 16 12 59.4 -0.8**
comp=Z,3.9nm,0.4s,baz=269,slow=9.0,SNR=19
ZALV Zalesovo Beam 45.64 46 P **P 16 12 58.8 -1.4**
DGZ Jazzator, Alta 47.55 52|| *e*P **P 16 13 15.3 -0.2**
DGZ pmax pmax
comp=Z,6.0nm,1.5s
NRIK Noril'sk 48.35 25 P **P 16 13 19.9 -1.3**
comp=Z,1.5nm,0.5s,baz=212,slow=4.3,SNR=4.9
NRIK LR LR 16 36 07.4
comp=Z,65nm,18.3s,baz=300,slow=39
ZAK Zakamensk 57.40 48 *e*P **P 16 14 28.4 +0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 58.67 61 *e*P **P 16 14 37.8 +0.3**
GTA pP pP 16 14 42.0 -5.6
GTA sP sP 16 14 45.5 -6.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 60.15 50 P **P 16 14 48.0 +0.5**
comp=Z,6.5nm,0.7s,baz=282,slow=9.2,SNR=20
SONM Songino Array 60.15 50 P **P 16 14 47.5 0.0**
SONM pmax pmax
comp=Z,7.0nm,0.9s
SONM Songino Array 60.15 50 P **P 16 14 47.5 0.0**
SONM IAmb IAmb 16 14 48.7
comp=Z,6.9nm,0.9s
ULN Ulaanbaatar 60.55 50 P **P 16 14 50.2 -0.1**
ULN pmax pmax
comp=Z,12nm,0.7s
ULN Ulaanbaatar 60.55 50 P **P 16 14 50.2 -0.1**
BOD Bodaibo 61.04 38 *e*P **P 16 14 51.5 -1.7**
BOD pmax pmax
comp=Z,10.0nm,0.9s
SCHQ Schefferville 62.87 319 P **P 16 15 06.0 +0.4**
comp=Z,10nm,0.8s,baz=63,slow=4.9,SNR=9.3
SCHQ Schefferville 62.87 319 P **P 16 15 04.7 -0.9**
BOSA Boshof 63.25 179 P **P 16 15 09.2 +0.7**
comp=Z,4.6nm,1.1s,baz=338,slow=11,SNR=1.8
E64A Bridgewater 66.99 311 P **P 16 15 32.9 +0.4**
baz=63
CMAR Chiang Mai Arr 67.30 83 P **P 16 15 34.9 0.0**
comp=Z,2.2nm,0.9s,baz=296,slow=8.0,SNR=12
E63A Oxbow 67.35 312 P **P 16 15 35.4 +0.5**
baz=63
G65A Princeton 67.38 310 P **P 16 15 35.8 +0.8**
baz=63
H66A Whiting 67.41 310 P **P 16 15 35.5 +0.3**
baz=63
D62A Allapoint, All 67.43 312 P **P 16 15 36.0 +0.7**
baz=62
F64A Sherman 67.56 311 P **P 16 15 36.7 +0.5**
baz=62
E62A Clayton Lake 67.93 312 P **P 16 15 38.4 -0.1**
baz=62
H65A Eastbrook 68.04 310 P **P 16 15 39.5 +0.3**
baz=62
PKME Peaks-Kenny Pk 68.43 311 P **P 16 15 42.0 +0.4**
baz=62
G63A Kingsbury 68.70 311 P **P 16 15 43.4 0.0**
baz=61
CHGQ Chibougamau 69.19 317 P **P 16 15 46.6 +0.4**
baz=60
G62A West of Eustis 69.22 311 P **P 16 15 46.6 0.0**
baz=61
I64A Boothbay 69.28 310 P **P 16 15 47.0 +0.1**
baz=61
LBNH Lisbon 70.56 311 P **P 16 15 56.4 +1.5**
baz=60
H60A Morristown 70.88 311 P **P 16 15 57.0 +0.2**
baz=60
I61A Oroboro, Fairl 70.89 311 P **P 16 15 57.1 +0.3**
baz=60
J62A Henniker 71.00 310 P **P 16 15 57.1 -0.4**
baz=60
L64A Middleborough 71.03 308 P **P 16 15 57.5 -0.1**
baz=60
MATQ Matagami 71.08 318 P **P 16 15 58.6 +0.7**
baz=58
LSQQ Lebel-sur-Quev 71.09 317 P **P 16 15 58.9 +1.0**
baz=58
K63A Dunstable 71.09 309 P **P 16 15 58.9 +0.9**
baz=60
HRV Adam Dziewonsk 71.20 309 P **P 16 15 59.3 +0.5**
baz=60
J61A Chester 71.41 310 P **P 16 16 01.1 +1.1**
baz=59
H59A Cadyville 71.45 312 P **P 16 16 00.1 -0.1**
baz=59
M64A Tiverton 71.46 308 P **P 16 15 59.7 -0.6**
baz=59
K62A Royalston 71.55 309 P **P 16 16 00.5 -0.4**
baz=59
K61A Williamstown 72.20 310 P **P 16 16 05.3 +0.5**
baz=59
H57A Richville 72.58 312 P **P 16 16 07.2 +0.3**
baz=58
I57A Carthage 73.02 312 P **P 16 16 09.5 -0.1**
baz=58
ALGO Algonquin Park 73.36 315 P **P 16 16 11.6 0.0**
baz=57
C36M Paulatuk 73.42 349 P **P 16 16 10.7 -0.7**
baz=27
BINY Binghamton 74.16 311 P **P 16 16 16.0 -0.4**
baz=57
KLR Kul'dur 74.37 40 *c i*P **P 16 16 17.1 -0.3**
KLR pmax pmax
comp=Z,9.0nm,0.8s
K56A Middlesex 74.72 312 P **P 16 16 19.4 -0.2**
baz=56
INK Inuvik 75.70 352 P **P 16 16 24.3 -0.4**
baz=19
SSPA Standing Stone 76.22 310 P **P 16 16 27.8 -0.3**
baz=56
TOLK Toolik Lake Re 76.60 358 P **P 16 16 29.3 -0.6**
baz=5.1
ERPA Erie 76.67 312 P **P 16 16 30.0 -0.7**
baz=55
M54A Oil Creek Stat 76.83 312 P **P 16 16 31.6 -0.1**
baz=55
YKA Yellowknife Ar 77.41 342 P **P 16 16 32.4 -2.0**
comp=Z,1.0nm,0.6s,baz=37,slow=5.4,SNR=5.2
USRK Ussuriysk Ar. 77.47 45 P **P 16 16 35.0 -0.2**
comp=Z,14nm,0.8s,baz=292,slow=4.8,SNR=68
USRK Ussuriysk Ar. 77.47 45 P **P 16 16 34.9 -0.2**
M53A Wt Miller and 77.48 312 P **P 16 16 35.2 -0.2**
baz=54
COLD Coldfoot 78.03 358 P **P 16 16 36.8 -1.1**
baz=4.6,SNR=9.3
COLD Coldfoot 78.03 358 P **P 16 16 38.1 +0.2**
COLD IAmb IAmb 16 16 39.7
comp=Z,5.2nm,0.9s
FYU Fort Yukon 78.46 356 P **P 16 16 42.1 +1.8**
FYU IAmb IAmb 16 16 42.8
comp=Z,15nm,1.2s
KSAR Wonju Array Be 78.94 52 P **P 16 16 43.1 -0.3**
KSAR Wonju Array Be 78.94 52 P **P 16 16 43.1 -0.3**
KSRS Korea Array 78.96 52 P **P 16 16 43.9 +0.4**
comp=Z,2.4nm,0.7s,baz=307,slow=4.7,SNR=12
H24K Noodor Dome 79.33 357 P **P 16 16 44.1 -1.1**
baz=6.5
IMAR Indian Mountai 79.36 359 P **P 16 16 46.1 +0.9**
H23K Yukon River 79.41 357 P **P 16 16 45.7 +0.2**
baz=5.1,SNR=11
PRP Porcupine Dome 79.52 356 P **P 16 16 46.4 +0.1**
baz=8.4
EGAK Eagle 79.92 354 P **P 16 16 48.5 +0.2**
baz=12
POKR Poker Plat Res 80.03 356 P **P 16 16 48.5 -0.4**
baz=6.8
I23K Minto, Yukon-K 80.08 357 P **P 16 16 49.2 +0.1**
baz=5.2,SNR=7.1
I21K Tanana 80.13 358 P **P 16 16 49.5 +0.1**
baz=3.1,SNR=10
MLY Manley 80.25 358 P **P 16 16 49.6 -0.6**
baz=4.1,SNR=11
ILAR Eielson Array 80.34 356 P **P 16 16 50.1 -0.5**
comp=Z,1.6nm,0.9s,baz=357,slow=4.8,SNR=14
ANM Nome 80.50 4 P **P 16 16 51.2 -0.2**
baz=352
GCSA Galena City Sc 80.61 1 P **P 16 16 51.7 -0.2**
baz=359
NEA2 Nenana 80.63 357 P **P 16 16 51.8 -0.3**
baz=5.5
HDA Harding Lake 80.71 356 P **P 16 16 52.0 -0.5**
baz=7.2
K27K Chicken 80.74 354 P **P 16 16 52.4 -0.3**
baz=11
SCRK Sand Creek 80.94 355 P **P 16 16 53.2 -0.8**
baz=9.7,SNR=7.0
J20K Nowinta River 81.17 359 P **P 16 16 55.1 +0.1**
baz=1.3,SNR=9.5
BPAW Bear Paw Mtn. 81.19 358 P **P 16 16 54.8 -0.3**
baz=3.9,SNR=12
RIDG Independent Ri 81.24 355 P **P 16 16 55.0 -0.5**
baz=9.0,SNR=5.2
CHUM Lake Minchumin 81.44 358 P **P 16 16 55.7 -0.7**
baz=2.8,SNR=9.6
MCK McKinley 81.48 357 P **P 16 16 56.0 -0.7**
baz=5.6
YSS Yuzh-Sakhalins 81.51 38 *e*P **P 16 16 57.3 +0.2**
YSS pmax pmax
comp=Z,20nm,1.0s
L27K Beaver Creek, 81.67 354 P **P 16 16 57.5 -0.2**
baz=11,SNR=9.6
TRF Thorofare Moun 81.82 358 P **P 16 16 58.0 -0.6**
baz=4.5
L26K Log Cabin Wild 81.84 354 P **P 16 16 57.9 -0.6**
baz=10
SFIN Lafayette 81.99 314 P **P 16 16 58.9 -0.9**
baz=50
K20K Telida 82.00 359 P **P 16 16 59.0 -0.4**
baz=1.3,SNR=10
PAX Paxson 82.05 355 P **P 16 16 58.9 -0.8**
baz=8.4
WAT1 Susitna Watana 82.36 357 P **P 16 17 00.7 -0.7**
baz=5.9
M27K Edge Creek, AK 82.37 354 P **P 16 17 00.5 -1.1**
baz=11
M26K Nabesna, AK 82.42 354 P **P 16 17 00.9 -0.8**
baz=10
PPLA Purkeypile 82.43 358 P **P 16 17 01.0 -0.8**
baz=2.9,SNR=6.7
WAT6 Susitna Watana 82.57 356 P **P 16 17 01.6 -1.0**
baz=6.5,SNR=6.8
CUT Chulitna 82.86 357 P **P 16 17 03.4 -0.5**
baz=4.5
WCI Wyandotte Cave 82.87 312 P **P 16 17 04.2 -0.2**
baz=51
L19K White Mountain 83.18 360 P **P 16 17 05.1 -0.6**
baz=0.7,SNR=9.1
SKT Skwentna 83.33 358 P **P 16 17 05.7 -0.7**
baz=3.4,SNR=9.2
N25K Chitina, Valde 83.34 355 P **P 16 17 05.1 -1.4**
baz=9.1
SML Sawmill 83.38 356 P **P 16 17 05.6 -1.0**
baz=6.0
PETK Petropavlovsk- 83.39 26 P **P 16 17 05.3 -1.5**
comp=Z,1.6nm,0.9s,baz=293,slow=5.8,SNR=3.8
M20K Styx River 83.46 359 P **P 16 17 06.3 -0.8**
baz=2.1
KLU Klutina 83.55 355 P **P 16 17 06.3 -1.3**
baz=8.0
CTG Chitna Glacier 83.69 353 P **P 16 17 06.9 -1.4**
baz=12
SUA Susitna One 83.82 358 P **P 16 17 08.2 -0.8**
baz=4.0
BMRM Bremner River 83.97 355 P **P 16 17 09.1 -0.6**
baz=9.1
GOGA Godfrey 84.08 307 P **P 16 17 11.1 +0.4**
baz=52
RC01 Rabbit Creek A 84.16 357 P **P 16 17 10.1 -0.5**
baz=4.9
EYAK Cordova Ski Ar 84.47 355 P **P 16 17 12.8 +0.7**
baz=8.2
N19K Bonanza Creek 84.55 359 P **P 16 17 11.6 -1.2**
baz=1.0
N18K Kilae Creek 84.69 0 P **P 16 17 12.6 -0.7**
baz=360
KAIM Kayak Island 84.99 354 P **P 16 17 14.0 -0.8**
baz=9.2
ECSD EROS Data Cent 84.99 321 P **P 16 17 14.8 -0.4**
baz=45
TIGA Tifton 85.38 305 P **P 16 17 17.4 +0.1**
baz=52
O18K Koktuh Hills 85.52 360 P **P 16 17 17.0 -0.5**
baz=0.4
BRSE Bradley Lake S 85.54 357 P **P 16 17 17.4 -0.2**
baz=4.0
SUSD Miller 85.66 323 P **P 16 17 18.5 0.0**
baz=43
CCM Cathedral Cave 85.94 314 P **P 16 17 19.8 -0.2**
baz=48
MJAR Matsushiro Arr 85.97 48 P **P 16 17 20.6 +0.4**
comp=Z,2.5nm,0.8s,baz=299,slow=4.9,SNR=6.8
LAO LASA Array 87.33 328 P **P 16 17 26.6 -0.1**
baz=38
KDAK Kodiak Island 87.56 358 P **P 16 17 27.1 -0.4**
baz=2.5
EGMT Eagleton 87.73 331 P **P 16 17 28.3 -0.3**
baz=36
OHAK Old Harbor 88.14 359 P **P 16 17 29.6 -0.6**
baz=1.9
W39A Magazine 89.38 314 P **P 16 17 36.1 -0.4**
baz=46
SDPT Sand Point 89.94 3 P **P 16 17 37.9 -0.8**
baz=356
NEW Newport 90.25 335 P **P 16 17 39.8 -0.6**
baz=31
CHNA Chernabura Isl 90.50 2 P **P 16 17 41.0 -0.3**
baz=357
K22A Casper 90.62 326 P **P 16 17 42.1 -0.3**
baz=38
N23A Red Feather La 91.72 325 P **P 16 17 47.3 -0.4**
baz=39
PDAR Pinedale Array 91.89 328 P **P 16 17 47.4 -1.0**
comp=Z,0.4nm,0.6s,baz=91,slow=5.9,SNR=4.1
TXAR Lajitas Array 99.38 316 P **Pdif 16 18 22.4 -0.1**
comp=Z,0.2nm,0.6s,baz=79,slow=4.7,SNR=3.8
CWC Cottonwood Cre 100.78 330 P **Pdif 16 18 27.9 -0.8**
baz=30
WRA Warramunga Arr 117.27 96 PKP **PKPdf 16 23 25.2 -0.3**
comp=Z,0.6nm,0.5s,baz=320,slow=2.0,SNR=12
ASAR Alice Springs 118.71 100 PKP **PKPdf 16 23 27.9 -0.2**
comp=Z,0.8nm,0.6s,baz=330,slow=1.6,SNR=17
ASAR Alice Springs 118.71 100 PKIKP **PKiKP 16 23 28.4 +0.2**
ASAR Alice Springs 118.71 100 **PKiKP 16 23 28.4 +0.2**
QSPA South Pole Qui 124.83 180 PKP **PKPdf 16 23 38.5 -0.1**
comp=Z,0.6nm,0.7s,baz=314,slow=0.7
QSPA South Pole Qui 124.83 180 **PKiKP 16 23 39.2 +0.3**
STKA Stephens Creek 128.34 105 PKP **PKPdf 16 23 46.3 0.0**
comp=Z,2.2nm,0.8s,baz=310,slow=22,SNR=3.1

NEIC ***31*** *16:22:47.8±2.4, 56.°4S±0.°3×143.°52W±0.°08, h10km±1km, mb4.6/8, Error ellipse: s-maj=43.5km s-min=5.3km az=6.0*
IDC ***31*** *16:22:47.8±1.2, 56.°58S×143.°64W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/28, mbtmp4.1/4, MS3.9/7, Ms1 3.8/7, ms1mx3.5/26, Error ellipse: s-maj=44.1km s-min=31.3km az=10.0*
GCMT ***31*** *16:22:49.8±0.3, 56.°76S±0.°02×142.°76W±0.°03, h24km±1km, MW5.0/64, Moment Tensor Solution. s25,c28; s64,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.24±.22; Mθθ3.39±.23; Mφφ-3.15±.18; Mrθ-0.36±.39; Mrφ1.62±.12; Mθφ0.87±.38; Best double couple: M0 3.77500×10^16 NP1:φs213.00000°, δ78.00000°, λ-171.00000°. NP2: φs121.00000°, δ81.00000°, λ-12.00000°. Principal axes: T 3.7760, Plg2.0000°, Azm167.0000°; N 0.0000, Plg75.0000°, Azm266.0000°; P -3.7740, Plg15.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 16:22:47.2±0.8, 56.°3S±0.°1×143.°5W±0.°1, h10km, n43, σ1§84/15, mb4.4/7, MS3.9/9, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.26**	**202**	LR	LR	16 36 33.0	
	comp=Z,194nm,21.7s,baz=75,slow=30						
KHZ	**Kahutara**	**30.68**	**279**	P	**P**	**16 29 01.8**	**+0.1**
KHZ				IAmb	IAmb	16 29 04.9	
	comp=Z,15nm,1.1s						
TBI	**Tubuai**	**33.24**	**350**	*e*T	T	17 04 17.3	
	comp=Z,94nm,0.3s						
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**16 29 29.5**	**+0.3**
	comp=Z,4.0nm,1.0s,baz=77,slow=2.1,SNR=9.7						
QSPA	**South Pole Qui**	**33.82**	**180**	P	**P**	**16 29 29.3**	**+0.1**
QSPA				IAmb	IAmb	16 29 32.6	
	comp=Z,12nm,1.4s						
RAO	**Raoul Island**	**36.36**	**304**	LR	LR	16 41 55.6	
	comp=Z,88nm,18.7s,baz=166,slow=32						
RAR	**Rarotonga**	**37.10**	**334**	LR	LR	16 40 52.7	
	comp=Z,175nm,18.9s,baz=224,slow=29						
MEH	**Mehetia**	**38.55**	**353**	*e*T	T	17 10 54.0	
	comp=Z,37nm,0.2s						
PAE	**Paea**	**38.88**	**351**	*e*T	T	17 11 19.4	
	comp=Z,3.8nm,0.2s						
PPT2	**Papeete2**	**38.95**	**351**	*e*S	**S**	**16 36 09.2**	**-2.6**
	comp=Z,122nm,26.8s						
PPT2				*e*LR	LR	16 40 38.1	
	comp=Z,666nm,28.5s,baz=178						
PPT2	**Papeete2**	**38.95**	**351**	*e*T	T	17 11 24.6	
	comp=Z,7.5nm,0.3s						
TIAR	**Tiarei**	**38.96**	**351**	*e*T	T	17 11 25.3	
	comp=Z,1.5nm,0.3s						
PPT	**Papeete**	**38.97**	**351**	LR	LR	16 42 15.6	
	comp=Z,180nm,19.4s,baz=174,slow=30						
VAH	**Vaihoa**	**41.14**	**354**	*e*T	T	17 14 08.3	
	comp=Z,62nm,0.3s						
PMOR	**Pomariorio Ree**	**41.39**	**354**	*e*T	T	17 14 26.7	
	comp=Z,4.6nm,0.2s						
LL01	**San Ignacio de**	**46.25**	**104**	P	**P**	**16 31 12.8**	**+0.5**
TAOE	**Nuku Hiva Isla**	**47.44**	**5**	*e*LR	LR	16 44 40.4	
	comp=Z,422nm,28.2s						
H03S2	**Juan Fernandez**	**48.75**	**91**	T	T	17 23 50.3	
	baz=220,slow=74,SNR=45						
H03S1	**Juan Fernandez**	**48.76**	**91**	T	T	17 23 53.3	
	baz=220,slow=74,SNR=50						
H03S3	**Juan Fernandez**	**48.77**	**91**	T	T	17 23 48.3	
	baz=220,slow=74,SNR=51						
H03N3	**Juan Fernandez**	**49.03**	**91**	T	T	17 23 54.4	
	baz=223,slow=72,SNR=55						
H03N2	**Juan Fernandez**	**49.04**	**91**	T	T	17 23 48.4	
	baz=223,slow=72,SNR=59						
H03N1	**Juan Fernandez**	**49.05**	**91**	T	T	17 23 53.4	
	baz=223,slow=72,SNR=88						
SNAA	**Sanae**	**49.33**	**165**	P	**P**	**16 31 33.1**	**-2.9**
SNAA				IAmb	IAmb	16 31 44.8	
	comp=Z,4.2nm,1.1s						
TOO	**Toolangi**	**49.58**	**261**	P	**P**	**16 31 37.1**	**-1.1**
MT09	**Talagante**	**53.20**	**97**	P	**P**	**16 32 03.9**	**-1.6**
MT09				IAmb	IAmb	16 32 08.4	
	comp=Z,15nm,1.5s						
MAW	**Mawson**	**54.83**	**192**	LR	LR	16 52 39.5	
	comp=Z,129nm,21.7s,baz=165,slow=33						
STKA	**Stephens Creek**	**55.95**	**262**	LR	LR	16 51 38.1	
	comp=Z,118nm,21.8s,baz=45,slow=31						
ASAR	**Alice Springs**	**66.59**	**262**	P	**P**	**16 33 38.8**	**+1.3**
	comp=Z,2.0nm,1.0s,baz=145,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**66.59**	**262**	P	**P**	**16 33 37.8**	**+0.3**
H01W1	**Cape Leeuwin H**	**67.97**	**240**	T	T	17 48 49.5	
	baz=143,slow=75,SNR=228						
H01W2	**Cape Leeuwin H**	**67.97**	**240**	T	T	17 48 49.9	
	baz=143,slow=75,SNR=244						
H01W3	**Cape Leeuwin H**	**67.98**	**240**	T	T	17 48 51.0	
	baz=143,slow=75,SNR=261						
LPAZ	**La Paz**	**68.50**	**87**	P	**P**	**16 33 52.8**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=236,slow=3.6,SNR=3.7						
LPAZ	**La Paz**	**68.50**	**87**	P	**P**	**16 33 51.4**	**+1.1**
WRA	**Warramunga Arr**	**69.32**	**265**	P	**P**	**16 33 56.2**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=154,slow=5.2,SNR=4.8						
WRA	**Warramunga Arr**	**69.32**	**265**	IAmb	IAmb	16 34 02.9	
	comp=Z,0.3nm,1.4s						
BOSA	**Boshof**	**94.85**	**170**	LR	LR	17 13 40.5	
	comp=Z,63nm,19.4s,baz=124,slow=32						
H10N3	**ASCENSION HYDR**	**103.57**	**128**	T	T	18 33 06.8	
	baz=205,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**103.58**	**128**	T	T	18 33 02.9	
	baz=205,slow=75,SNR=17						
H10N2	**ASCENSION HYDR**	**103.59**	**128**	T	T	18 33 03.3	
	baz=205,slow=75,SNR=14						
MKAR	**Makanchi Array**	**150.49**	**271**	PKPbc	**PKiKP**	**16 42 40.1**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=128,slow=2.3,SNR=20						
ZALV	**Zalesovo Beam**	**152.73**	**286**	PKPbc	**PKiKP**	**16 42 45.9**	**+2.9**
	comp=Z,0.5nm,0.3s,baz=129,slow=3.9,SNR=1.6						

IDC ***31*** *16:26:15.2±0.7, 51.°75N×171.°77W, h0km, mb4.1/27, mb1 4.3/29, mb1mx4.2/49, mbtmp4.1/29, ML3.6/2, MS3.9/15, Ms1 3.9/15, ms1mx3.6/48, Error ellipse: s-maj=20.5km s-min=11.8km az=173.0*
MOS ***31*** *16:26:16.8±1.2, 51.°69N×171.°76W, h22km, mb4.8/26, MS4.0/7, Error ellipse: s-maj=10.3km s-min=6.9km az=98.8*
AEIC ***31*** *16:26:16±3.1, 51.°39N±0.°08×171.°67W±0.°05, h26km±4km, Error ellipse: s-maj=11.3km s-min=4.7km az=181.0*
NEIC ***31*** *16:26:18.7±2.6, 51.°66N±0.°06×171.°81W±0.°08, h28km±6km, mb4.1/35, ML3.9(AEIC), Error ellipse: s-maj=9.2km s-min=5.8km az=146.0*
ANF ***31*** *16:26:21.7±1.7, 51.°66N×171.°45W, h43km±9km, ML4.0/1, Error ellipse: s-maj=17.8km s-min=7.9km az=62.0*

ISC 31 16:26:16.7±0.5, 51.°72N±0.°08×171.°78W±0.°03, h10km, n294, σ1§48/284, mb4.5/70, MS4.2/26, 8C-11D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.54**	**292**		**Pn**	**16 26 46.2**	**+2.0**
ATKA	**Atka Island**	**1.57**	**289**		**Pn**	**16 26 45.5**	**+1.0**
ATKA	**Atka Island**	**1.57**	**289**		**Sn**	**16 27 07.0**	**+2.0**
KOKL	**Mount Kliuchef**	**1.61**	**293**		**Pn**	**16 26 47.1**	**+1.9**
NIKH	**Nikolski High**	**2.19**	**54**	P	**Pn**	**16 26 54.2**	**+1.1**
	baz=228,SNR=11						
NIKH				S	**Sn**	**16 27 21.2**	**+0.9**
	baz=228						
NIKH	**Nikolski High**	**2.19**	**54**		**Pn**	**16 26 54.4**	**+1.3**
NIKH	**Nikolski High**	**2.19**	**54**		**Sn**	**16 27 22.2**	**+1.9**
GSMY	**Great Sitkin M**	**2.67**	**279**		**Pn**	**16 27 00.6**	**+0.9**
GSTR	**Great Sitkin T**	**2.68**	**280**		**Pn**	**16 27 01.4**	**+1.6**
GSTD	**Great Sitkin T**	**2.73**	**279**		**Pn**	**16 27 01.8**	**+1.2**
OKSO	**Okmok South**	**2.76**	**52**		**Pn**	**16 27 02.8**	**+1.9**
OKCE	**Okmok Cone E**	**2.79**	**51**		**Pn**	**16 27 03.2**	**+1.8**
OKTU	**Okmok Mt. Tuli**	**2.83**	**52**		**Pn**	**16 27 03.5**	**+1.5**
OKNC	**Okmok New Cone**	**2.83**	**51**		**Pn**	**16 27 04.2**	**+2.2**
ADK	**Adak**	**3.05**	**275**	P	**Pn**	**16 27 05.2**	**+0.4**
ADK	**Adak**	**3.05**	**275**		**Pn**	**16 27 05.2**	**+0.4**
KIWB	**Kanaga Island**	**3.34**	**274**		**Pn**	**16 27 10.1**	**+1.2**
KICM	**Kanaga Island**	**3.37**	**276**		**Pn**	**16 27 10.2**	**+1.0**
KIMD	**Kanaga Island**	**3.39**	**273**		**Pn**	**16 27 09.9**	**+0.3**
MAPS	**Pakushin South**	**3.61**	**53**		**Pn**	**16 27 14.1**	**+1.5**
MAPS					**Sn**	**16 27 58.5**	**+3.3**
MSW	**Makushin Switc**	**3.75**	**52**		**Pn**	**16 27 15.9**	**+1.4**
MNAT	**Makushin Natee**	**3.78**	**53**		**Pn**	**16 27 17.0**	**+2.1**
UNV	**Unalaska Valle**	**3.85**	**54**		**Pn**	**16 27 17.4**	**+1.6**
TAFP	**Tanaga Falls P**	**3.85**	**275**		**Pn**	**16 27 17.4**	**+1.4**
TASE	**Tanaga Southea**	**3.89**	**274**		**Pn**	**16 27 17.8**	**+1.3**
AKRB	**Akutan Reef Bi**	**4.22**	**53**		**Pn**	**16 27 23.4**	**+2.4**
AKGG	**Akutan Green G**	**4.29**	**52**		**Pn**	**16 27 24.5**	**+2.5**
GAEA	**Gareloi East**	**4.33**	**274**		**Pn**	**16 27 23.6**	**+1.2**
SPIA	**Saint Paul Isl**	**5.54**	**9**	P	**Pn**	**16 27 42.3**	**+3.2**
	baz=189						
AMKA	**Amchitka**	**5.57**	**270**	Pn	**Pn**	**16 27 40.0**	**+0.5**
FALS	**False Pass**	**5.92**	**55**	P	**Pn**	**16 27 44.2**	**-0.1**
	baz=238						
FALS				S	**Sn**	**16 28 55.0**	**+2.9**
	baz=238						

FALS **False Pass** 5.92 55 Pn 16 27 46.2 +1.9
LSNW **Little Sitkin** 6.02 276 Pn 16 27 46.6 +0.9
SDPT **Sand Point** 7.66 57 P Pn 16 28 08.7 +0.7
baz=244,SNR=9.9
SDPT S Sn 16 29 34.4 -0.3
baz=244
SDPT **Sand Point** 7.66 57 Pn Pn 16 28 09.7 +1.6
CNBA **Chernabura Isl** 7.94 62 Pn Pn 16 28 12.6 +0.6
CHNA **Chernabura Isl** 7.95 62 P Pn 16 28 11.9 -0.2
baz=250,SNR=13
CHIR **Chirikof Islan** 10.41 60 P Pn 16 28 45.0 -0.8
baz=252
CHIR **Chirikof Islan** 10.41 60 Pn Pn 16 28 45.6 -0.2
SII **Sitkinak Islan** 11.39 58 P Pn 16 28 58.3 -1.0
baz=251
SII **Sitkinak Islan** 11.39 58 Pn 16 28 58.5 -0.8
OHAK **Old Harbor** 12.07 56 P Pn 16 29 06.8 -1.7
baz=249
OHAK **Old Harbor** 12.07 56 Pn Pn 16 29 06.0 -2.5
N18K **Kilae Creek** 12.57 38 P Pn 16 29 16.3 +0.9
baz=230
KDAK **Kodiak Island** 12.62 54 Pn Pn 16 29 12.5 -3.5
0.6nm,0.3s,baz=257,slow=8.8,SNR=11
KDAK **Kodiak Island** 12.62 54 P Pn 16 29 15.1 -0.9
KDAK **Kodiak Island** 12.62 54 P Pn 16 29 15.2 -0.9
baz=248
KDAK **Kodiak Island** 12.62 54 Pn Pn 16 29 15.1 -0.9
P19K **Oil Pt** 13.10 45 P Pn 16 29 22.8 +0.1
baz=240
N19K **Bonanza Creek** 13.20 40 P Pn 16 29 25.0 +0.9
baz=233
ANM **Nome** 13.31 12 P Pn 16 29 28.2 +2.8
baz=197
O20K **Slope Mountain** 13.58 44 P Pn 16 29 30.0 +0.8
baz=239
L19K **White Mountain** 13.92 35 P Pn 16 29 37.0 +3.3
baz=228
BRSE **Bradley Lake S** 14.27 48 P Pn 16 29 38.1 -0.5
baz=244
M20K **Styx River** 14.36 38 P Pn 16 29 41.2 +1.3
baz=232
K20K **Telida** 14.98 32 P Pn 16 29 49.5 +1.3
baz=226
SEW **Seward** 15.01 47 P Pn 16 29 48.3 -0.3
baz=245
SKT **Skwentna** 15.04 39 P Pn 16 29 50.2 +1.2
baz=235
PPLA **Purkeypile** 15.33 36 P Pn 16 29 53.4 +0.4
baz=231
J20K **Nowinta River** 15.53 30 P Pn 16 29 56.6 +1.2
baz=224,SNR=7.4
CHUM **Lake Minchumin** 15.91 33 P Pn 16 30 02.0 +1.6
baz=228
KNK **Knik Glacier** 16.02 44 P Pn 16 30 00.9 -0.9
baz=242
KTH **Kantishna Hill** 16.19 35 Pn 16 30 03.9 -0.1
KTH IAmb IAmb 16 30 20.0
comp=Z,27nm,1.2s
SML **Sawmill** 16.25 42 P Pn 16 30 04.6 -0.2
baz=241
SML **Sawmill** 16.25 42 Pn Pn 16 30 04.8 0.0
TRF **Thorofare Moun** 16.35 36 P Pn 16 30 06.3 +0.1
baz=233
TRF **Thorofare Moun** 16.35 36 Pn 16 30 06.3 +0.1
TRF IAmb IAmb 16 30 22.6
comp=Z,14nm,1.4s
GLI **Glacier Island** 16.39 46 P Pn 16 30 05.7 -0.8
baz=246
HIN **Hinchinbrook I** 16.48 48 Pn Pn 16 30 06.8 -1.0
HIN IAmb IAmb 16 30 23.9
comp=Z,18nm,1.2s
BPAW **Bear Paw Mtn.** 16.50 33 P Pn 16 30 08.9 +0.9
baz=230,SNR=21
BPAW **Bear Paw Mtn.** 16.50 33 P Pn 16 30 11.2 +3.3
BPAW IAmb IAmb 16 30 24.2
comp=Z,20nm,1.0s
FID **Port Fidalgo** 16.62 47 Pn Pn 16 30 07.6 -1.9
FID IAmb IAmb 16 30 22.5
comp=Z,12nm,0.9s
SCM **Sheep Creek Mo** 16.69 43 P Pn 16 30 11.5 +1.1
SCM pmax pmax
comp=Z,20nm,1.2s
SCM **Sheep Creek Mo** 16.69 43 P Pn 16 30 11.5 +1.1
SCM IAmb IAmb 16 30 23.4
comp=Z,20nm,1.2s
WAT6 **Susitna Watana** 16.86 41 P Pn 16 30 12.0 -0.7
baz=240
EYAK **Cordova Ski Ar** 16.89 48 P Pn 16 30 11.5 -1.3
baz=249
I21K **Tanana** 16.90 29 P Pn 16 30 12.8 -0.1
baz=226,SNR=6.0
MCK **McKinley** 17.01 36 P Pn 16 30 14.5 +0.1
baz=235
KLU **Klutina** 17.15 45 P Pn 16 30 14.7 -1.5
baz=246,SNR=6.4
KLU **Klutina** 17.15 45 Pn 16 30 14.7 -1.5
MLY **Manley** 17.19 31 P Pn 16 30 17.7 +1.0
baz=228,SNR=22
MLY **Manley** 17.19 31 P Pn 16 30 19.4 +2.8
MLY IAmb IAmb 16 30 32.8
comp=Z,10nm,0.9s
M24K **Tolsona, Glenn** 17.30 43 P Pn 16 30 17.6 -0.5
baz=244
M24K **Tolsona, Glenn** 17.30 43 P Pn 16 30 17.5 -0.5
M24K IAmb IAmb 16 30 28.3
comp=Z,33nm,1.2s
KAIM **Kayak Island** 17.32 51 P Pn 16 30 17.0 -1.3
baz=253
RAGM **Ragged Mountai** 17.34 49 Pn 16 30 18.5 0.0
RAGM IAmb IAmb 16 30 37.1
comp=Z,33nm,1.1s
NEA2 **Nenana** 17.47 34 P Pn 16 30 20.5 +0.4
baz=232
BMRM **Bremner River** 17.56 48 P Pn 16 30 19.9 -1.3
baz=249
BMRM **Bremner River** 17.56 48 Pn 16 30 19.2 -2.1
I23K **Minto, Yukon-K** 17.71 32 P Pn 16 30 24.0 +0.9
baz=230,SNR=19
I23K **Minto, Yukon-K** 17.71 32 P Pn 16 30 25.2 +2.2
I23K IAmb IAmb 16 30 37.6
comp=Z,15nm,0.8s
WRH **Wood River Hil** 17.74 35 P Pn 16 30 23.8 +0.3
N25K **Chitina, Valde** 17.78 46 P Pn 16 30 23.2 -0.9
baz=248
BERG **Berg Lake** 17.80 50 Pn 16 30 22.0 -2.2
BERG IAmb IAmb 16 30 39.8
comp=Z,12nm,0.9s
HARP **HAARP** 17.85 43 P Pn 16 30 24.5 -0.4
baz=244
CCB **Clear Creek Bu** 17.94 35 P Pn 16 30 24.8 -1.1
PAX **Paxson** 17.97 41 P Pn 16 30 26.1 -0.3
PAX pmax pmax
comp=Z,3.0nm,0.7s
PAX **Paxson** 17.97 41 P Pn 16 30 26.7 +0.3
baz=242
PAX **Paxson** 17.97 41 Pn 16 30 26.1 -0.3
MDM **Murphy Dome** 17.98 33 P Pn 16 30 27.0 +0.6
PET **Petropavlovsk** 18.05 286 *e*P Pn 16 30 27.9 +0.6
PET *e*S Sn 16 33 46.3 -2.1
PET pmax pmax
comp=Z,100nm,15.3s
PET pmax pmax
comp=Z,200nm,11.4s
PET MLR MLR
comp=Z,300nm,18.0s
COLA **College** 18.05 34⇑ *e*P Pn 16 30 29.2 +1.9
COLA pmax pmax
comp=Z,3.0nm,1.0s
GLB **Gilahina Butte** 18.08 47 P Pn 16 30 27.2 -0.5
GLB IAmb IAmb 16 30 41.9
comp=Z,14nm,1.3s
H23K **Yukon River** 18.09 30 P Pn 16 30 27.8 +0.1
baz=229,SNR=8.6
HDA **Harding Lake** 18.11 36 P Pn 16 30 27.4 -0.6
baz=236
HDA **Harding Lake** 18.11 36 P Pn 16 30 26.6 -1.4
HDA IAmb IAmb 16 30 40.5
comp=Z,5.5nm,0.5s
CRQM **Cirque** 18.17 49 P Pn 16 30 27.8 -1.2
CRQM IAmb IAmb 16 30 45.6
comp=Z,18nm,0.8s
CRQE **Cirque** 18.19 49 P Pn 16 30 27.6 -1.5
baz=252
IL31 18.34 35 P P 16 30 30.2 -0.5
ILAR **Eielson Array** 18.34 35 P Pn 16 30 30.9 +0.1
comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=24
ILAR LR LR 16 38 01.3
comp=Z,397nm,19.1s,baz=232,slow=39
MCARA **McCarthy VSAT** 18.42 47 P P 16 30 30.2 -1.6
baz=250
RIDG **Independent Ri** 18.57 39 P P 16 30 33.3 -0.3
baz=241
PEA0B **Petropavlovsk-** 18.61 286 P P 16 30 34.2 +0.3
PEA0B pmax pmax
comp=Z,28nm,1.3s
PEA0B **Petropavlovsk-** 18.61 286 P P 16 30 34.2 +0.3
PEA0B IAmb IAmb 16 30 50.8
comp=Z,28nm,1.3s
PETK **Petropavlovsk-** 18.61 286 P P 16 30 34.5 +0.7
comp=Z,0.3nm,0.3s,baz=94,slow=12,SNR=11
PETK LR LR 16 37 37.0
comp=Z,222nm,20.9s,baz=94,slow=37
PETK **Petropavlovsk-** 18.61 286 P P 16 30 34.8 +0.9
PETK **Petropavlovsk-** 18.61 286 P P 16 30 34.8 +0.9
H24K **Noodor Dome** 18.62 31 P P 16 30 33.5 -0.6
baz=231,SNR=14
M26K **Nabesna, AK** 18.78 44 P P 16 30 34.7 -1.1
baz=248
DOT **Dot Lake** 18.84 40 P P 16 30 36.5 0.0
DOT IAmb IAmb 16 30 45.8
comp=Z,12nm,1.1s
COLD **Coldfoot** 18.85 26 P P 16 30 35.9 -0.6
baz=224,SNR=10
L26K **Log Cabin Wild** 18.87 42 P P 16 30 36.9 +0.1
baz=246
SCRK **Sand Creek** 19.02 39 P P 16 30 38.0 -0.5
baz=242,SNR=11
SCRK **Sand Creek** 19.02 39 P P 16 30 38.8 +0.3
SCRK IAmb IAmb 16 30 46.7
comp=Z,11nm,1.0s
TABL **Table Mountain** 19.04 51 Pn P 16 30 40.9 +2.1
CTG **Chitna Glacier** 19.07 49 P P 16 30 37.8 -1.3
baz=254,SNR=9.1
CTGM **Chitina Glacie** 19.08 49 Pn P 16 30 41.6 +2.4
CTGM IAmb IAmb 16 30 56.9
comp=Z,19nm,0.7s
PRP **Porcupine Dome** 19.23 34 P P 16 30 40.4 -0.4
baz=236,SNR=11
PRP **Porcupine Dome** 19.23 34 P P 16 30 40.6 -0.2
PRP IAmb IAmb 16 30 53.6
comp=Z,14nm,1.4s
M27K **Edge Creek, AK** 19.25 45 P P 16 30 39.8 -1.3
baz=249
PINM **Pinnacle** 19.39 52 P P 16 30 40.8 -1.8
baz=258
L27K **Beaver Creek,** 19.52 43 P P 16 30 43.8 -0.1
baz=248,SNR=8.2
BILL **Bilibino** 19.53 335*d* iP P 16 30 46.7 +2.8
BILL *e*S S 16 34 20.9 -3.2
BILL pmax pmax
comp=Z,37nm,1.0s
BILL MLR MLR
comp=Z,382nm,16.0s
BILL **Bilibino** 19.53 335 Pn P 16 30 45.1 +1.2
TOLK **Toolik Lake Re** 20.03 24 P P 16 30 49.7 +0.3
baz=223,SNR=21
SKR **Severo-Kuril's** 20.06 280 *e*P P 16 30 43.4 -6.4
SKR pmax pmax
comp=Z,100nm,4.6s
SKR MLR MLR
comp=Z,200nm,14.0s
SKR MLR MLR
comp=Z,200nm,14.0s
EGAK **Eagle** 20.48 39 P P 16 30 53.9 -0.4
baz=244,SNR=24
EGAK **Eagle** 20.48 39 P P 16 30 55.0 +0.8
BMAR **Burnt Mountain** 20.64 30 P P 16 30 57.5 +1.5
SKAG **Skagway** 21.77 55 P P 16 31 05.9 -2.2
baz=264
WHY **Whitehorse** 22.12 52 P P 16 31 11.2 -0.9
baz=262
MA2 **Magadan** 22.29 305 LR LR 16 40 18.6
comp=Z,341nm,18.1s,baz=106,slow=38
DLBC **Dease Lake** 24.50 58 P P 16 31 37.4 +1.6
comp=Z,14nm,1.1s,baz=295,slow=9.4,SNR=13
INK **Inuvik** 24.71 33 P P 16 31 37.0 -0.6
comp=Z,8.0nm,0.6s,baz=235,slow=9.1,SNR=18
INK **Inuvik** 24.71 33 P P 16 31 37.9 +0.4
INK pmax pmax
comp=Z,11nm,0.8s
INK **Inuvik** 24.71 33 P P 16 31 37.3 -0.2
baz=247,SNR=10.0
INK **Inuvik** 24.71 33 P P 16 31 37.9 +0.4
YSS **Yuzh-Sakhalins** 29.63 279 *e*P P 16 32 22.6 +0.8
YSS pmax pmax
comp=Z,10.0nm,1.1s
YKA **Yellowknife Ar** 31.79 48 P P 16 32 39.2 -1.6
comp=Z,1.8nm,0.8s,baz=277,slow=9.9,SNR=6.2
YKA LR LR 16 47 42.6
comp=Z,353nm,18.2s,baz=0.0,slow=40
YKA **Yellowknife Ar** 31.79 48 *i* P P 16 32 42.5 +1.7
YKA pmax pmax
comp=Z,2.0nm,0.9s
YAK **Yakutsk** 32.48 312⇓ *e*P P 16 32 47.2 +0.3
YAK pmax pmax
comp=Z,3.0nm,0.6s
NEW **Newport** 34.62 74 P P 16 33 04.1 -1.6
comp=Z,1.9nm,0.5s,baz=316,slow=8.1,SNR=3.4
I07A **Izee** 35.20 81 P P 16 33 09.7 -1.2
KLR **Kul'dur** 35.26 289⇓ *e*P P 16 33 10.5 -0.7
KLR pmax pmax
comp=Z,7.0nm,1.0s
ZEA **Zeya** 35.99 298 *e*P P 16 33 16.4 -0.9
ZEA *e* 16 43 28.1
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=N,100nm,16.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
H11N2 **WAKE ISLAND Hy** 36.03 216 T T 17 11 51.4
baz=21,slow=76,SNR=13
H11N3 **WAKE ISLAND Hy** 36.04 216 T T 17 11 50.1
baz=21,slow=76,SNR=15
H11N1 **WAKE ISLAND Hy** 36.05 216 T T 17 11 53.6
baz=21,slow=76,SNR=7.8
H11S1 **WAKE ISLAND Hy** 37.23 215 T T 17 13 19.2
baz=19,slow=74
H11S2 **WAKE ISLAND Hy** 37.24 215 T T 17 13 19.2
baz=19
H11S3 **WAKE ISLAND Hy** 37.24 215 T T 17 13 19.2
baz=19,slow=74
USRK **Ussuriysk Ar.** 37.56 281 P P 16 33 29.0 -1.8
comp=Z,1.6nm,0.9s,baz=60,slow=6.9,SNR=6.2
MJAR **Maushiro Arr** 38.17 267 P P 16 33 36.2 +0.1
comp=Z,0.7nm,0.5s,baz=59,slow=14,SNR=2.2
MAJO **Matsushiro** 38.18 267⇑ *e*P P 16 33 35.8 -0.4
MAJO pmax pmax
comp=Z,6.0nm,1.2s
MAT **Matsushiro** 38.18 267 P P 16 33 33.9 -2.3
MAT *e*S S 16 39 30.2 +0.8
MCMT **McKenzie Canyo** 38.88 76 P P 16 33 42.5 +0.3
MSHR **Mys Shultsa** 38.95 280⇓ *e*P P 16 33 42.8 +0.2
MSHR pmax pmax
comp=Z,4.0nm,1.0s
NVAR **Mina Array Bea** 39.16 88 P P 16 33 44.8 +0.1
comp=Z,1.3nm,0.9s,baz=295,slow=8.3,SNR=9.9
NVAR LR LR 16 48 36.5
comp=Z,72nm,18.1s,baz=293,slow=34
PKM **Mcpherson Peak** 40.46 94 P P 16 33 52.8 -2.7
baz=311
CWC **Cottonwood Cre** 40.54 91 P P 16 33 53.9 -2.2
baz=309
ISA **Isabella, Lake** 40.79 92 P P 16 33 57.1 -0.9
baz=310
RLMT **Red Lodge** 40.87 74 P P 16 33 57.7 -1.0
baz=302
R11A **Troy Canyon, C** 40.90 86 P P 16 33 58.3 -0.7
baz=308
BOD **Bodaibo** 41.24 309 *e*P P 16 33 59.1 -2.3
BOD pmax pmax
comp=Z,11nm,1.3s
FURC **Furnace Creek,** 41.28 90 P P 16 34 00.2 -1.7
baz=309
TPNV **Topopah Spring** 41.35 88 P P 16 34 02.0 -0.8
baz=309
DUG **Dugway, Tooele** 41.50 82 P P 16 34 03.4 -0.5
baz=306
CN2 **Changchun** 41.74 285 *e*P P 16 34 05.8 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
BW06 **Boulder Array** 42.00 77 P P 16 34 07.0 -1.0
baz=304
PDAR **Pinedale Array** 42.00 77 P P 16 34 08.3 +0.3
comp=Z,2.5nm,0.8s,baz=306,slow=5.1,SNR=14
PDAR LR LR 16 51 23.9
comp=Z,102nm,18.1s,baz=326,slow=36
GMRC **Granite Mounta** 43.11 90 P P 16 34 16.2 -0.9
baz=311
BELC **Belle Mtn. Jos** 43.41 92 P P 16 34 15.9 -3.6
baz=311
IRM **Iron Mountain** 43.84 91 P P 16 34 19.7 -3.2
baz=311
MONP2 **Monument Peak** 43.89 93 P P 16 34 20.2 -3.3
baz=312
KSRS **Korea Array** 43.99 276 P P 16 34 25.7 +1.8
comp=Z,0.7nm,0.9s,baz=59,slow=7.4,SNR=2.9
KSRS LR LR 16 52 36.4
comp=Z,83nm,20.3s,baz=60,slow=36
WUAZ **Wupatki** 45.30 86 P P 16 34 32.8 -1.9
baz=310
NEEM **North Greenlan** 46.02 15 *i* P P 16 34 40.4 +0.4
NEEM IAmb IAmb 16 34 42.2
comp=Z,8.2nm,0.7s
NRIK **Noril'sk** 46.28 331 P P 16 34 41.9 +0.1
comp=Z,2.7nm,0.9s,baz=84,slow=4.5,SNR=4.7
NRIK **Noril'sk** 46.28 331⇓ *e*P P 16 34 42.4 +0.6
NRIK pmax pmax
comp=Z,9.0nm,1.5s
AGMN **Agassiz Nation** 46.85 63 P P 16 34 44.7 -1.9
baz=304
SDCO **Great Sand Dun** 47.50 80 P P 16 34 49.3 -2.8
baz=309
ANMO **Albuquerque** 48.72 83⇓ *e*P P 16 35 06.9 +5.5
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO **Albuquerque** 48.72 83 P P 16 34 59.8 -1.5
baz=311
ECSD **EROS Data Cent** 49.10 68 P P 16 35 02.4 -1.5
baz=307
ULN **Ulaanbaatar** 49.97 300*c*eP P 16 35 10.8 0.0
ULN pmax pmax
comp=Z,6.0nm,1.3s
SPITS **Spitsbergen Ar** 50.27 358 P P 16 35 13.0 +0.5
comp=Z,3.3nm,0.6s,baz=32,slow=8.5,SNR=5.3
SPITS **Spitsbergen Ar** 50.27 358 P P 16 35 13.0 +0.5
SONM **Songino Array** 50.34 300 P P 16 35 14.2 +0.7
comp=Z,1.9nm,0.7s,baz=47,slow=7.3,SNR=9.8
SONM LR LR 16 57 46.0
comp=Z,210nm,18.6s,baz=60,slow=38
ZAK **Zakamensk** 50.46 304 *e*P P 16 35 13.9 -0.5
ZAK pmax pmax
comp=Z,7.0nm,1.3s
DAG **Danmarks Havn** 50.65 8 *i* P P 16 35 15.8 +0.5
DAG IAmb IAmb 16 35 16.1
comp=Z,10nm,1.1s
DAG **Danmarks Havn** 50.65 8 *i* P P 16 35 15.8 +0.5
DAG pmax pmax
comp=Z,10.0nm,1.1s
MOY **Mondy** 50.85 307 *e*P P 16 35 17.6 +0.3
MOY pmax pmax
comp=Z,16nm,1.3s
HHC **Hu-ho-hao-te** 51.75 290 *e*P P 16 35 23.5 -0.7
HHC pP pwP 16 35 35.0 +4.0
HHC S S 16 42 41.0 -4.9
HHC sS sS 16 43 00.0 +11
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,95nm,6.4s
HHC LR LR
comp=N,72nm,15.1s
HHC LR LR
comp=E,230nm,15.8s
HHC LR LR
comp=Z,190nm,16.4s
SUMG **Summit** 51.83 16 *i* P P 16 35 21.7 -3.0
SUMG **Summit** 51.83 16 *i* P P 16 35 21.6 -3.1
TX32 **Lajitas Array** 54.26 87 P P 16 35 42.5 -0.3
TXAR **Lajitas Array** 54.26 87 P P 16 35 43.0 +0.1
comp=Z,1.1nm,0.8s,baz=299,slow=5.5,SNR=14
TXAR **Lajitas Array** 54.26 87 P P 16 35 43.0 +0.1
TXAR **Lajitas Array** 54.26 87 P P 16 35 42.6 -0.2
JCT **Junction City** 55.85 83 P P 16 35 51.6 -2.7
baz=314
ZALV **Zalesovo Beam** 56.89 317 P P 16 36 01.5 +0.3
comp=Z,1.0nm,0.5s,baz=15,slow=6.2,SNR=5.2
ZALV **Zalesovo Beam** 56.89 317 *i* P P 16 36 03.5 +2.3
ZALV pmax pmax
comp=Z,1.0nm,0.6s
SCHQ **Schefferville** 56.92 42 P P 16 36 02.3 +0.8
comp=Z,7.0nm,0.8s,baz=324,slow=9.1,SNR=4.6
SCHQ LR LR 17 03 40.4
comp=Z,298nm,18.1s,baz=318,slow=40
XAN **Xi'an** 57.85 285 P P 16 36 07.8 -0.6
XAN pP pwP 16 36 18.0 +2.9
XAN S S 16 44 07.0 -0.8
XAN sS sS 16 44 23.5 +12
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN pmax pmax
comp=Z,69nm,3.8s
XAN LR LR
comp=N,130nm,16.3s
XAN LR LR
comp=E,190nm,17.1s
XAN LR LR
comp=Z,160nm,19.0s
SADO **Sadowa** 58.06 57 LR LR 17 02 12.3
comp=Z,160nm,19.2s,baz=323,slow=37
ARCES **ARCESS Array B** 58.40 353 P P 16 36 11.1 -0.6
comp=Z,3.4nm,0.8s,baz=19,slow=12,SNR=6.9
ARCES LR LR 17 03 36.7
comp=Z,53nm,18.0s,baz=160,slow=38
ARCES **ARCESS Array B** 58.40 353 P P 16 36 10.6 -1.1
ARCES pmax pmax
comp=Z,9.0nm,1.2s
ARCES **ARCESS Array B** 58.40 353 P P 16 36 10.6 -1.1
DGZ **Jazzator, Alta** 58.68 312⇓ *e*P P 16 36 14.6 +0.5
DGZ pmax pmax
comp=Z,4.0nm,1.1s
GTA **Gaotai** 59.44 296 *e*P P 16 36 19.8 +0.3
GTA pP sP 16 36 25.5 +3.2
GTA sP pwP 16 36 28.8 +2.5
GTA pmax pmax
comp=Z,7.0nm,1.3s
TKL **Tuckaleechee C** 61.84 67 LR LR 17 03 45.4
comp=Z,195nm,19.7s,baz=324,slow=36
WMQ **Urumqi** 62.74 307 *e*P P 16 36 43.8 +2.0
PRGR **Permogore** 63.13 341 *e*P P 16 36 43.6 -0.3
PRGR *e**PP pwP 16 36 53.7 +2.9
PRGR pmax pmax
comp=Z,30nm,0.4s
MKAR **Makanchi Array** 63.16 312 P P 16 36 43.9 -0.6
comp=Z,0.5nm,0.3s,baz=46,slow=6.7,SNR=15
MKAR **Makanchi Array** 63.16 312 *i* P P 16 36 44.0 -0.4
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR **Makanchi Array** 63.16 312 P P 16 36 42.7 -1.7
BRVK **Borovoye** 63.37 323*c* iP P 16 36 46.1 +0.5
BRVK pmax pmax
comp=Z,17nm,1.3s
SVE **Sverdlovsk** 63.55 331 *e*P P 16 36 47.8 +1.0
SVE pmax pmax
comp=Z,16nm,1.4s
ARU **Arti** 64.51 332*c* iP P 16 36 53.5 +0.4
ARU *PP pwP 16 37 03.0 +3.0
ARU PPP PPP 16 40 46.5
ARU S S 16 45 32.7 +0.9
ARU SS SS 16 49 39.5 -1.5
ARU pmax pmax
comp=Z,19nm,1.1s
KIRV **Kirov** 65.06 338*d* iP P 16 36 57.4 +0.8
FINES **FINESS Array B** 66.29 351 P P 16 37 03.7 -0.8
comp=Z,3.7nm,0.9s,baz=13,slow=7.3,SNR=7.5
FINES **FINESS Array B** 66.29 351 *i* P P 16 37 05.0 +0.5
FINES pmax pmax
comp=Z,4.0nm,0.9s
NB2 **NORSAR Subarra** 67.57 358 P P 16 37 12.2 -0.6
comp=Z,1.0nm,0.6s,baz=1.2,slow=6.5
NOA **NORSAR Array B** 67.57 358 P P 16 37 12.4 -0.3

comp=Z,1.1nm,0.5s,baz=1.4,slow=6.3,SNR=7.8
NOA LR LR 17 08 23.3
comp=Z,23nm,18.4s,baz=335,slow=37
ABKAR Akbulak array 70.19 327 P P 16 37 29.8 +0.6
ABKAR Akbulak array 70.19 327 P P 16 37 30.0 +0.8
ABKAR IAmb IAmb 16 37 30.9
comp=Z,10nm,0.9s
OBN Obninsk 70.96 343⇑ *e*P P 16 37 34.4 +0.7
OBN pmax pmax
comp=Z,5.0nm,0.5s
BELG Belogornoye 71.09 336 *d* iP P 16 37 35.3 +0.7
BELG pmax pmax
comp=Z,7.0nm,1.0s
PPT Papeete 71.67 158 LR LR 17 01 35.9
comp=Z,54nm,19.7s,baz=315,slow=30
MNK Minsk 72.89 348 *i* P P 16 37 41.9 -3.5
MNK *i* 16 37 58.9
MNK *i* 16 40 23.5
MNK *i* PPP PPP 16 42 08.1
MNK *i* S **S 16 47 05.3 -6.0**
MNK *i* 16 47 46.3
MNK *i* SS **SS 16 51 46.0 -4.1**
MNK *i* SSS SSS 16 55 06.8
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,33nm,0.9s
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK MLR MLR
comp=Z,228nm,21.0s
MNK MLR MLR
comp=N,197nm,24.0s
MNK MLR MLR
comp=E,17nm,21.0s
MNK Minsk 72.89 348 *i* P P 16 37 41.9 -3.5
comp=E,1.0nm,0.7s
MNK *i* P P 16 37 41.9 -3.5
comp=N,33nm,0.8s
MNK *i* P P 16 37 41.9 -3.5
comp=Z,9.0nm,0.7s,baz=192
MNK *i* PcP pwP 16 37 59.0 +6.7
MNK *i* PP **PP 16 40 23.5 -3.2**
MNK *i* PPP PPP 16 42 08.1
MNK *i* S **S 16 47 05.3 -5.9**
MNK *i* ScS **SKSac 16 47 46.4 -4.1**
MNK *i* SS **SS 16 51 46.0 -4.1**
MNK *i* SSS SSS 16 55 06.8
MNK *i* LR LR 17 10 18.2
MNK *i* LRM MLR 17 13 57.9
comp=Z,228nm,20.6s
MNK *i* LRM MLR 17 14 04.8
comp=N,197nm,24.1s
MNK *i* LRM MLR 17 14 27.1
comp=E,17nm,20.6s
CMAR Chiang Mai Arr 75.29 281 P **P 16 38 02.1 +2.2**
comp=E,1.1nm,0.9s,baz=27,slow=6.0,SNR=5.6
AKASG Malin Array Be 76.41 346 P **P 16 38 05.3 -0.6**
comp=E,0.7nm,0.3s,baz=18,slow=6.5,SNR=5.8
AKBB Malin Array Si 76.41 346 *d* iP P 16 38 05.6 -0.3
TBI Tubuai 77.27 159 *e*LR LR 16 38 02.8
comp=E,623nm,29.0s,baz=177
CLL Collm 77.27 357 *e*P **P 16 38 10.0 -0.7**
CLL Collm 77.27 357 *e*P **P 16 38 10.0 -0.7**
BRG Berggiesshubel 77.67 356 *e*P **P 16 38 13.6 +0.6**
BRG Amp 16 38 14.9
comp=Z,8.6nm,1.2s
DPC Dobruska-Polom 78.08 355 *e*P **P 16 38 16.9 +1.6**
DPC MLR MLR
comp=Z,100nm,13.9s
DPC Dobruska-Polom 78.08 355 *e*P **P 16 38 16.9 +1.6**
DPC AMS AMS 17 20 10.0
comp=Z,100nm,13.9s
KRLC Kraliky 78.32 354 *e*P **P 16 38 17.7 +1.0**
KRLC Kraliky 78.32 354 *e*P **P 16 38 17.7 +1.0**
OKC Ostrava-Krasne 78.47 353 AMS AMS 17 22 50.0
comp=Z,200nm,15.8s
PRU Pruhonice 78.53 356 AMS AMS 17 19 00.0
comp=Z,100nm,15.6s
MORC Moravsky Berou 78.57 354 *e*P **P 16 38 18.6 +0.5**
PBCC Pribram 78.86 356 *e*P **P 16 38 20.8 +1.2**
GOF Gofitskoye 79.03 336⇑ *e*P **P 16 38 21.9 +1.3**
GOF pmax pmax
comp=Z,56nm,1.0s
VRAC Vranov 79.10 354 *e*P **P 16 38 22.4 +1.5**
KRUC Moravsky 79.36 355 *e*P **P 16 38 24.0 +1.7**
KHC Kasperske Hory 79.43 356 *e*P **P 16 38 24.0 +1.3**
KHC MLR MLR
comp=Z,100nm,17.5s
KHC Kasperske Hory 79.43 356 *e*P **P 16 38 24.0 +1.3**
KHC AMS AMS 17 20 10.0
comp=Z,100nm,17.5s
JAVC Velka Javorina 79.48 354 *e*P **P 16 38 24.3 +1.3**
CKRC Cesky Krumlov 79.71 356 AMS AMS 17 19 40.0
comp=Z,100nm,21.0s
GERES GERESS Array B 79.71 356 P **P 16 38 24.9 +0.6**
comp=Z,1.8nm,0.8s,baz=15,slow=5.5,SNR=14
MODS Modra-Piesok 79.99 354 *e*P **P 16 38 26.8 +1.0**
MODS Modra-Piesok 79.99 354 *e*P **P 16 38 26.8 +1.0**
KIV Kislovodsk 80.15 335 *e*P **P 16 38 28.0 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 80.31 335 P **P 16 38 27.3 -0.2**
comp=Z,4.6nm,0.9s,baz=184,slow=1.1,SNR=7.9
KBZ Khabaz 80.31 335⇓ *e*P **P 16 38 28.9 +1.4**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
NCK Nalchik 80.34 335⇑ *i*P **P 16 38 29.4 +1.6**
NCK pmax pmax
comp=Z,18nm,1.0s
CONA Conrad Observa 80.52 355 *e*P **P 16 38 29.9 +1.1**
comp=Z,7.4nm,1.2s
MOA Molln 80.68 356 *e*P **P 16 38 31.0 +1.5**
comp=Z,4.9nm,1.4s
AKT Akhty 81.03 331 *e*P **P 16 38 32.6 +1.0**
AKT *e* 16 38 38.9
AKT pmax pmax
comp=Z,11nm,0.8s
RETA Reutte 81.15 358 *e*P **P 16 38 33.4 +1.3**
comp=Z,5.5nm,1.2s
ARSA Arzberg 81.21 355 *e*P **P 16 38 33.8 +1.5**
comp=Z,5.0nm,1.0s
WATA Walderalm 81.28 358 *e*P **P 16 38 34.3 +1.4**
comp=Z,11nm,1.3s
MOTA Moosalm 81.29 358 *e*P **P 16 38 34.5 +1.5**
comp=Z,9.1nm,1.1s
WTTA Wattenberg 81.36 358 *e*P **P 16 38 35.4 +2.0**
comp=Z,4.9nm,1.0s
DAVA Damuels 81.37 359 *e*P **P 16 38 34.5 +1.1**
comp=Z,5.6nm,1.0s
SQTA Sankt Quirin 81.41 358 *e*P **P 16 38 35.6 +2.0**
comp=Z,14nm,1.6s
KBA Koelnbreinsper 81.49 356 *e*P **P 16 38 36.2 +2.2**
comp=Z,14nm,0.9s
FETA Feichten 81.62 358 *e*P **P 16 38 36.3 +1.6**
comp=Z,8.6nm,1.0s
SOKA Soboth 81.81 355 *e*P **P 16 38 37.3 +1.7**
comp=Z,11nm,1.5s
ABTA Abfaltersbach 81.85 357 *e*P **P 16 38 38.0 +2.2**
comp=Z,6.0nm,1.1s
MYKA Terra Mystica 81.92 356 *e*P **P 16 38 37.5 +1.3**
OBKA Obir 82.00 356 *e*P **P 16 38 39.3 +2.7**
comp=Z,8.4nm,1.1s
SJG San Juan 85.27 67 LR LR 17 17 53.7
comp=Z,126nm,19.2s,baz=20,slow=36
WRA Warramunga Arr 85.44 230 P **P 16 38 55.6 +1.3**
comp=Z,0.5nm,1.0s,baz=33,slow=5.7,SNR=2.0
BRTR Keskin Array B 86.27 341 P **P 16 38 59.2 +0.6**
comp=Z,1.5nm,0.8s,baz=38,slow=6.3,SNR=7.0
BRTR Keskin Array B 86.27 341 *i* P **P 16 39 00.2 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 88.37 9 P **P 16 39 08.7 +0.1**
comp=Z,2.4nm,1.1s,baz=345,slow=4.4,SNR=5.4
ASAR Alice Springs 88.84 228 P **P 16 39 09.4 -1.4**
comp=Z,0.5nm,0.7s,baz=26,slow=5.1,SNR=20
ASAR Alice Springs 88.84 228 P **P 16 39 09.0 -1.7**
MAW Mawson 149.44 218 PKPbc **PKPbc 16 46 04.4 0.0**
comp=Z,1.1nm,0.5s,baz=348,slow=9.3,SNR=1.9

IDC 31 16:54:18.7±4.3, 29°.76S×179°.10W, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.4/27, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=85.3km s-min=54.9km az=82.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.05**	**199**	Pn	Pn	16 56 30.5	0.0
	0.1nm,0.3s,baz=24,slow=20,SNR=1.7						
URZ				Sn	Sn	16 57 53.5	-20
	0.4nm,0.3s,baz=32,slow=10,SNR=1.9						
ASAR	**Alice Springs**	**42.20**	**267**	P	P	17 02 12.6	-0.9
	0.2nm,0.9s,baz=104,slow=8.5,SNR=1.2						
WRA	**Warramunga Arr**	**43.12**	**272**	P	P	17 02 21.6	+0.5
	0.1nm,0.3s,baz=112,slow=7.8,SNR=5.4						
FINES	**FINESS Array B**	**144.21**	**340**	PKP	PKPdf	17 13 55.2	-0.6
	0.7nm,0.7s,baz=64,slow=6.3,SNR=1.3						

*IDC **31** 16:57:40.6±1.8, 33°.77S×72°.40W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.4/25, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=54.5km s-min=32.4km az=87.0*
*GUC **31** 16:57:42.5±0.7, 33°.96S×72°.52W, h35km±3km, ML3.6*
ISC 31 16:57:42.3±1.8, 33°.93S±0°.05×72°.45W±0°.08, h16km±10km, n22, σ1°.33/21, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.69**	**144⇓**	*i*P	**Pg**	**16 57 55.2**	**-0.7**
BO03				*i* S	**Sg**	**16 58 04.8**	**-0.2**
VA05	**Santo Domingo**	**0.75**	**69⇓**	*i*P	**Pg**	**16 57 57.0**	**+0.1**
VA05				*i* S	**Sg**	**16 58 07.9**	**+1.1**
VA05				IAML		16 58 09.4	
	comp=E,5μm,0.2s						
VA01	**Torpederas**	**1.13**	**37**	*e*P	**Pn**	**16 58 02.9**	**-0.6**
GO05	**Huala**	**1.16**	**158⇑**	*i*P	**Pn**	**16 58 02.3**	**-1.5**
GO05				*i* S	**Sb**	**16 58 17.1**	**-1.6**
GO05				IAML		16 58 22.6	
	comp=E,1μm,0.2s						
MT09	**Talagante**	**1.22**	**83**	*e*P	**Pn**	**16 58 04.1**	**-0.8**
MT09				*i* S	**Sb**	**16 58 20.7**	**-0.1**
MT09				IAML		16 58 23.4	
	comp=N,2μm,0.1s						
MT05	**Renca**	**1.52**	**70**	*e*P	**Pn**	**16 58 09.1**	**+0.1**
MT05				IAML		16 58 40.7	
	comp=E,2μm,0.9s						
ROCH	**El Roble**	**1.54**	**52**	*e*P	**Pn**	**16 58 09.3**	**0.0**
ROCH				IAML		16 58 42.0	
	comp=N,1μm,0.7s						
MT03	**Universidad Ad**	**1.67**	**75**	*e*P	**Pn**	**16 58 10.9**	**-0.1**
MT03				*i* S	**Sn**	**16 58 33.0**	**+0.8**
MT03				IAML		16 58 41.4	
	comp=N,1μm,0.6s						
LMEL	**Las Melosas**	**1.87**	**88⇑**	*i*P	**Pn**	**16 58 14.1**	**+0.3**
LMEL				*i* S	**Sn**	**16 58 38.2**	**+1.1**
LMEL				IAML		16 58 43.0	
	comp=N,572nm,0.3s						
VA03	**San Esteban**	**1.97**	**54**	*e*P	**Pn**	**16 58 15.6**	**+0.4**
VA03				IAML		16 58 52.7	
	comp=N,1μm,0.5s						
H03S1	**Juan Fernandez**	**5.37**	**269**	T	T	17 04 26.6	
	baz=89,slow=73,SNR=157						
H03S3	**Juan Fernandez**	**5.38**	**269**	T	T	17 04 30.1	
	baz=89,slow=73,SNR=134						
H03S2	**Juan Fernandez**	**5.39**	**269**	T	T	17 04 28.3	
	baz=89,slow=73,SNR=158						
H03N1	**Juan Fernandez**	**5.41**	**273**	T	T	17 04 36.2	
	baz=89,slow=73,SNR=5.5						
H03N3	**Juan Fernandez**	**5.42**	**273**	T	T	17 04 36.2	
	baz=89,slow=73,SNR=5.6						
H03N2	**Juan Fernandez**	**5.43**	**273**	T	T	17 04 36.2	
	baz=89,slow=73,SNR=4.5						
PLCA	**Paso Flores**	**6.95**	**168**	Pn	**Pn**	**16 59 27.9**	**+4.3**
	comp=N,0.2nm,0.3s,baz=351,slow=18,SNR=2.0						
PLCA				Lg	Lg	17 01 17.0	
	comp=N,0.0nm,0.3s,baz=243,slow=21,SNR=3.0						
LVC	**Limon Verde**	**11.70**	**16**	Lg	Lg	17 03 40.8	
	comp=N,0.3nm,0.3s,baz=295,slow=7.6,SNR=3.9						
LPAZ	**La Paz**	**18.00**	**14**	P	**Pn**	**17 01 52.2**	**-0.3**
	comp=N,0.0nm,0.3s,baz=202,slow=8.5,SNR=4.3						
SIV	**San Ignacio**	**20.60**	**33**	P	**P**	**17 02 20.9**	**0.0**
	comp=N,1.9nm,0.8s,baz=224,slow=10.0,SNR=6.5						
TXAR	**Lajitas Array**	**69.51**	**331**	P	**P**	**17 08 50.3**	**+0.1**
	comp=N,0.3nm,0.6s,baz=148,slow=7.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.51**	**70**	P	**P**	**17 10 13.7**	**-1.1**
	comp=N,0.5nm,0.7s,baz=246,slow=6.1,SNR=2.5						

IDC 31 17:13:16.3±4.9, 62°.24S×152°.59E, h0km, mb3.4/2, mb1 4.1/3, mb1mx3.8/31, mbtmp3.8/3, ML4.7/1, Error ellipse: s-maj=381.7km s-min=40.7km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.64**	**173**	Pn	Pn	17 16 57.7	+0.1
	2.6nm,0.3s,baz=339,slow=13,SNR=62						
VNDA				Sn	Sn	17 19 36.4	-15
	0.1nm,0.3s,baz=32,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**40.59**	**333**	P	P	17 20 56.7	-0.8
	0.3nm,0.7s,baz=163,slow=9.5,SNR=6.9						
WRA	**Warramunga Arr**	**44.12**	**335**	P	P	17 21 27.0	+0.8
	0.8nm,0.9s,baz=165,slow=6.8,SNR=2.4						

*IDC **31** 17:16:38.3±1.7, 11°.34S×162°.77E, h0km, mb3.9/5, mb1 4.1/8, mb1mx3.8/44, mbtmp4.0/8, ML3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=38.8km s-min=27.3km az=95.0*
*NEIC **31** 17:16:42.8±2.4, 11°.4S±0°.1×163°.1E±0°.1, h40km±10km, mb4.5/14, Error ellipse: s-maj=23.4km s-min=10.9km az=45.0*
ISC 31 17:16:42.1±0.9, 11°.34S±0°.10×163°.1E±0°.1, h35km, n32, σ1°.21/26, mb4.4/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.61**	**301**	Pn	**Pn**	**17 17 34.1**	**-1.4**
	36nm,0.3s,baz=159,slow=4.4,SNR=34						
HNR				Sn	**Sn**	**17 18 18.1**	**+1.2**
	52nm,0.3s,baz=196,slow=24,SNR=6.0						
HNR				LR	LR	17 19 10.0	
	comp=Z,325nm,19.8s,baz=112,slow=45						
HNR	**Honiara**	**3.61**	**301**		**Pn**	**17 17 34.9**	**-0.6**
SANVU	**Saraoutou**	**5.73**	**136**	Pn	**Pn**	**17 18 04.0**	**-0.7**
DZM	**Mont Dzumac**	**11.15**	**164**	Pn	**Pn**	**17 19 21.1**	**+2.0**
	0.2nm,0.3s,baz=25,slow=9.9,SNR=10						
DZM				Sn	**Sn**	**17 21 22.4**	**-0.3**
	0.2nm,0.3s,baz=336,slow=20,SNR=1.6						
PMG	**Port Moresby**	**15.76**	**276**	LR	LR	17 25 25.1	
	comp=Z,120nm,18.8s,baz=108,slow=34						
CTA	**Charters Tower**	**18.36**	**240**	P	**P**	**17 20 53.2**	**-0.6**
	0.2nm,0.3s,baz=45,slow=16,SNR=2.2						
CTAO	**Charters Tower**	**18.36**	**240**	P	**Pn**	**17 20 55.3**	**+1.3**
CTAO				IAmb	IAmb	17 20 56.6	
	comp=Z,43nm,1.6s						
ARMA	**Armidale**	**21.75**	**208**	P	**P**	**17 21 30.7**	**-0.1**
STKA	**Stephens Creek**	**28.46**	**221**	P	**P**	**17 22 34.3**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=61,slow=13,SNR=2.1						
WR0	**Warramunga Arr**	**28.73**	**249**	P	**P**	**17 22 35.4**	**-1.1**
WR0				IAmb	IAmb	17 22 37.8	
	comp=Z,14nm,1.6s						
WB0	**Warramunga Arr**	**28.83**	**250**	P	**P**	**17 22 35.8**	**-1.5**
WB0				IAmb	IAmb	17 23 12.2	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**28.90**	**249**	P	**P**	**17 22 35.7**	**-2.3**
WB2				IAmb	IAmb	17 23 01.5	
	comp=Z,23nm,1.6s						
WRA	**Warramunga Arr**	**28.91**	**249**	P	**P**	**17 22 36.0**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=81,slow=9.2,SNR=8.4						
H11S2	**WAKE ISLAND Hy**	**29.86**	**7**	T	T	17 53 45.7	
	baz=188,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.86**	**7**	T	T	17 53 28.2	
	baz=188,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.88**	**7**	T	T	17 53 29.4	
	baz=188,slow=76,SNR=30						
AS31	**Alice Springs**	**30.32**	**242**	P	**P**	**17 22 49.5**	**-1.0**
ASAR	**Alice Springs**	**30.32**	**242**	P	**P**	**17 22 48.8**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=64,slow=9.9,SNR=23						
ASAR	**Alice Springs**	**30.32**	**242**	P	**P**	**17 22 49.6**	**-0.9**
H11N1	**WAKE ISLAND Hy**	**31.09**	**7**	T	T	17 55 24.5	
	baz=188,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**31.10**	**7**	T	T	17 55 15.6	
	baz=188,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**31.11**	**7**	T	T	17 55 11.9	
	baz=188,slow=76,SNR=17						
MTN	**Manton Dam**	**31.25**	**264**	P	**P**	**17 22 58.1**	**-0.6**
MTN				IAmb	IAmb	17 22 59.0	
	comp=Z,18nm,1.1s						
BBOO	**Buckleboo**	**32.73**	**225**	P	**P**	**17 23 11.6**	**0.0**
KNRA	**Kununurra**	**33.60**	**259**	P	**P**	**17 23 18.0**	**-1.4**
MORW	**Morawa**	**47.18**	**241**	P	**P**	**17 25 11.6**	**0.0**
JOW	**Kunigami**	**50.80**	**319**	P	**P**	**17 25 40.1**	**+0.8**
JOW				IAmb	IAmb	17 26 05.6	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**77.37**	**325**	P	**P**	**17 28 33.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=142,slow=4.9,SNR=1.7						
SONM	**Songino Array**	**77.37**	**325**	IAmb	IAmb	17 28 52.1	
	comp=Z,2.8nm,1.3s						
QSPA	**South Pole Qui**	**78.66**	**180**	P	**P**	**17 28 40.3**	**-0.1**
QSPA				IAmb	IAmb	17 28 42.1	
	comp=Z,6.6nm,1.6s						
MKAR	**Makanchi Array**	**91.94**	**317**	P	**P**	**17 29 48.3**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=94,slow=3.9,SNR=4.1						
ESDC	**Sonseca Array**	**149.52**	**340**	PKPbc	**PKiKP**	**17 36 29.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=62,slow=4.1,SNR=2.5						

*IDC **31** 17:17:52.4±0.9, 8°.48S×72°.65W, h0km, mb4.0/5, mb1 4.3/12, mb1mx3.9/40, mbtmp4.2/12, ML4.0/7, MS3.7/2, Ms1 3.7/2, ms1mx2.8/37, Error ellipse: s-maj=21.8km s-min=16.5km az=47.0*
*NEIC **31** 17:17:54.0±2.5, 8°.51S±0°.04×72°.67W±0°.07, h5km±2km, mb4.4/9, Error ellipse: s-maj=9.8km s-min=5.4km az=89.0*
*VAO **31** 17:17:56.8±0.3, 8°.29S×72°.56W, h10km, mbR4.1*
ISC 31 17:17:57.3±0.5, 8°.41S±0°.05×72°.71W±0°.05, h35km, n65, σ2°.04/67, mb4.2/8, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**0.67**	**0**	*e*P	**Pn**	**17 18 08.5**	**-1.8**
TBTG	**Tabatinga, AM**	**5.03**	**34**	*e*P	**Pn**	**17 19 11.9**	**+1.7**
NNA	**Nana**	**5.41**	**228**	Pn	**Pn**	**17 19 15.2**	**-0.3**
	13nm,0.3s,baz=46,slow=12,SNR=29						
NNA				Sn	**Sn**	**17 20 16.3**	**-0.3**
	20nm,0.3s,baz=330,slow=20,SNR=8.9						
NNA	**Nana**	**5.41**	**228**		**Pn**	**17 19 15.1**	**-0.3**
NNA				Sn	**Sn**	**17 20 15.2**	**-1.4**
ATAH	**Atahualpa**	**5.77**	**282**	Pn	**Pn**	**17 19 20.6**	**-0.2**
	2.1nm,0.3s,baz=45,slow=14,SNR=36						
ATAH				Sn	**Sn**	**17 20 25.6**	**-0.5**
	5.8nm,0.3s,baz=187,slow=21,SNR=4.6						
ETMB	**Extrema**	**6.56**	**103**	*e*P	**Pn**	**17 19 31.6**	**+0.2**
ETMB				*e*S	**Sn**	**17 20 47.9**	**+2.8**
PTLC	**Puerto Leguiza**	**8.77**	**346**	*e*P	Pn	17 19 57.7	-4.0
LPAZ	**La Paz**	**9.02**	**151**	Pn	**Pn**	**17 20 04.4**	**-1.3**
	1.0nm,0.3s,baz=338,slow=11,SNR=12						
LPAZ				Lg	Lg	17 22 34.7	
	2.5nm,0.3s,baz=41,slow=20,SNR=3.7						
LPAZ	**La Paz**	**9.02**	**151**		**Pn**	**17 20 05.4**	**-0.2**
LPAZ	**La Paz**	**9.02**	**151**	*e*P	**Pn**	**17 20 04.9**	**-0.7**
LPAZ	**La Paz**	**9.02**	**151**	*e*S	**Sn**	**17 21 51.0**	**+4.7**
SAML	**Samuel**	**9.43**	**94**		**Pn**	**17 20 11.3**	**+0.5**
SAML	**Samuel**	**9.43**	**94**	*e*P	**Pn**	**17 20 09.0**	**-1.7**
SAML				*e*S	**Sn**	**17 21 54.4**	**-1.3**
OTAV	**Otavalo**	**10.32**	**326**		**Pn**	**17 20 23.2**	**-0.1**
OTAV	**Otavalo**	**10.32**	**326**	*e*P	**Pn**	**17 20 22.8**	**-0.5**
OTAV	**Otavalo**	**10.32**	**326**	*e*P	**Pn**	**17 20 25.1**	**+1.8**
CUSE	**Cuicocha Este**	**10.35**	**326**	*e*P	**Pn**	**17 20 25.5**	**+1.8**
MACC	**Macarena, Meta**	**10.54**	**354**	*e*P	**Pn**	**17 20 27.8**	**+1.8**
GCUF	**Volcan Galeras**	**10.62**	**334**	*e*P	**Pn**	**17 20 30.3**	**+2.7**
GARC	**Garzon, Huila**	**10.88**	**345**	*e*P	**Pn**	**17 20 32.6**	**+1.7**
MNMC	**Minye Minye**	**11.08**	**165**	Pn	**Pn**	**17 20 32.3**	**-1.3**
BBAC	**Balboa, Cauca**	**11.30**	**336**	*e*P	**Pn**	**17 20 38.6**	**+2.0**
PSGCX	**Pisagua**	**11.40**	**168**	Pn	**Pn**	**17 20 36.6**	**-1.2**
PB11	**IPOC Station P**	**11.67**	**166**	Pn	**Pn**	**17 20 37.6**	**-3.9**
MACA	**Manacapuru-AM**	**13.04**	**67**	*e*P	**Pn**	**17 21 00.5**	**+0.3**
VILB	**Vilhena**	**13.09**	**111**	*e*P	**Pn**	**17 21 02.3**	**+1.4**
VILB				*e*S	**Sn**	**17 23 28.3**	**+2.9**
ROSC	**El Rosal**	**13.26**	**353**	Pn	**Pn**	**17 21 04.7**	**+1.3**
	6.9nm,0.3s,baz=221,slow=19,SNR=2.6						
ROSC				Lg	Lg	17 24 47.2	
	2.8nm,0.3s,baz=115,slow=21,SNR=1.4						
SIV	**San Ignacio**	**13.64**	**125**	Pn	**Pn**	**17 21 06.5**	**-1.9**
	0.9nm,0.3s,baz=312,slow=12,SNR=10						
SIV				Sn	**Sn**	**17 23 41.0**	**+2.2**
	1.1nm,0.3s,baz=266,slow=19,SNR=2.0						
SIV				Lg	Lg	17 24 57.4	
	2.6nm,0.3s,baz=238,slow=19,SNR=7.7						
LVC	**Limon Verde**	**14.59**	**166**	Pn	**Pn**	**17 21 17.8**	**-3.8**
	0.6nm,0.3s,baz=2.4,slow=20,SNR=5.1						
LVC	**Limon Verde**	**14.59**	**166**	*e*P	**P**	**17 21 24.7**	**-3.0**
PTGA	**Pitinga**	**14.81**	**60**	Pn	**Pn**	**17 21 21.7**	**-2.5**
	1.2nm,0.3s,baz=246,slow=16,SNR=8.6						
PTGA				Sn	**Sn**	**17 24 03.0**	**-4.2**
	1.5nm,0.3s,baz=238,slow=19,SNR=2.1						
PTGA				Lg	Lg	17 25 39.0	
	1.5nm,0.3s,baz=314,slow=23,SNR=1.5						
PTGA	**Pitinga**	**14.81**	**60**		**Pn**	**17 21 20.8**	**-3.5**
PB15	**IPOC Station P**	**15.04**	**168**	Pn	**Pn**	**17 21 23.5**	**-4.1**
BOAV	**Boa Vista**	**16.21**	**49**	*e*P	**Pn**	**17 21 42.6**	**+0.1**
CLDB	**Colider**	**16.85**	**100**	*e*P	**P**	**17 21 51.5**	**-1.0**
NPGB	**Novo Progresso**	**17.25**	**87**	*e*P	**P**	**17 21 56.5**	**-0.4**
SDV	**Santo Domingo**	**17.30**	**7**	Lg	Lg	17 27 05.6	
	3.7nm,0.3s,baz=114,slow=20,SNR=1.4						
SDV	**Santo Domingo**	**17.30**	**7**	*e*P	**Pn**	**17 21 55.9**	**-0.5**
ITTB	**Itaituba**	**17.34**	**78**	*e*P	**Pn**	**17 21 56.9**	**+0.2**
SALV	**Santo Antonio**	**18.22**	**116**	*e*P	**P**	**17 22 09.3**	**+1.8**
MALB	**Monte Alegre**	**19.48**	**71**	*e*P	**P**	**17 22 21.8**	**+0.4**
PP1B	**Ponte de Pedra**	**19.61**	**120**	*e*P	**Pn**	**17 22 25.0**	**+0.7**
PCRV	**Puerto La Cruz**	**20.13**	**24**	Lg	Lg	17 28 34.2	
	4.8nm,0.7s,baz=210,slow=20,SNR=1.6						
PCRV				LR	LR	17 31 18.8	
	comp=Z,355nm,21.0s,slow=40						
AQDB	**Aquidauana**	**20.35**	**128**	P	**P**	**17 22 30.8**	**-0.1**
AQDB	**Aquidauana**	**20.35**	**128**	*e*P	Pn	17 22 32.3	-0.8
SNDB	**Serra Nova Dou**	**21.37**	**101**	*e*P	**P**	**17 22 42.8**	**+0.9**
MCPB	**Macapa, AP**	**22.07**	**70**	*e*P	**P**	**17 22 50.5**	**+1.0**
MCPB				*e*S	**S**	**17 26 54.1**	**+3.0**
PRPB	**Parauapebas**	**22.82**	**86**	*e*P	**P**	**17 22 58.9**	**+1.5**
MDP	**Montagnes des**	**24.09**	**57**	Lg	Lg	17 30 31.5	
	2.6nm,0.6s,baz=164,slow=24,SNR=1.6						
ITRB	**Ituiutaba**	**24.38**	**120**	*e*P	**P**	**17 23 14.2**	**+1.7**
SMTB	**Santa Maria do**	**24.84**	**93**	*e*P	**P**	**17 23 17.8**	**+1.1**
BDFB	**Brasilia**	**25.18**	**109**	P	**P**	**17 23 20.7**	**+0.8**
	6.8nm,0.5s,baz=268,slow=12,SNR=8.8						
BDFB				Lg	Lg	17 31 03.9	
	2.0nm,0.5s,baz=190,slow=18,SNR=1.5						
BDFB	**Brasilia**	**25.18**	**109**	P	**P**	**17 23 18.2**	**-1.7**
MT09	**Talagante**	**25.30**	**177**	P	**P**	**17 23 20.6**	**-0.2**
MT09				IAmb	IAmb	17 23 26.1	
	comp=Z,14nm,1.2s						
TRQA	**Tornquist**	**31.07**	**163**	P	**P**	**17 24 11.2**	**-0.9**
PLCA	**Paso Flores**	**32.25**	**177**	P	**P**	**17 24 22.1**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=326,slow=7.2,SNR=2.5						
TXAR	**Lajitas Array**	**47.93**	**323**	P	**P**	**17 26 34.5**	**+1.9**
	comp=Z,0.3nm,0.7s,baz

SIJI S **Sn** **17 25 10.2 -2.6**
baz=246,slow=23,SNR=1.2
WRA Warramunga Arr 13.47 158 P **Pn** **17 25 23.5 +1.7**
0.1nm,0.3s,baz=338,slow=14,SNR=2.5
WRA S **Sn** **17 27 48.0 -2.6**
0.4nm,0.3s,baz=332,slow=22,SNR=9.8
ASAR Alice Springs 16.80 164 P **Pn** **17 26 07.5 +4.0**
0.2nm,0.3s,baz=337,slow=10,SNR=32
ASAR S **Sn** **17 29 07.6 -3.3**
0.1nm,0.3s,baz=322,slow=22,SNR=5.2
MKAR Makanchi Array 68.04 327 P **P** **17 32 59.3 -1.9**
0.2nm,0.3s,baz=124,slow=8.1,SNR=4.2

IDC 31 17:24:09.2±5.2,50°43N×131°13W,h0km,mb3.3/1, mb1 3.7/4,mb1mx3.4/41,mbtmp3.3/4,ML3.8/3,MS3.6/1, Ms1 3.6/1,ms1mx2.9/12,Error ellipse: s-maj=74.6km s-min=22.3km az=101.0,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**2.58**	**46**	Pn	Pn	17 24 51.5	-0.7
5.9nm,0.3s,baz=226,slow=6.2,SNR=42							
BBB				Sn	Sn	17 25 23.4	-1.0
12nm,0.3s,baz=232,slow=15,SNR=7.8							
H02S1	**DAWSON INLET T**	**2.90**	**344**	Pn	Pb	17 25 02.8	+1.1
NVAR	**Mina Array Bea**	**15.07**	**138**	Pn	P	17 27 47.7	-1.4
0.1nm,0.3s,baz=315,slow=11,SNR=1.6							
PDAR	**Pinedale Array**	**16.65**	**109**	Pn	Pn	17 28 04.3	+0.3
0.1nm,0.3s,baz=312,slow=9.5,SNR=2.1							
INK	**Inuvik**	**17.97**	**357**	LR	LR	17 35 53.8	
comp=Z,217nm,21.8s,baz=176,slow=39							
TXAR	**Lajitas Array**	**29.52**	**125**	P	P	17 30 15.0	-0.3
0.3nm,0.8s,baz=339,slow=4.8,SNR=3.0							

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*PGC **31** 17:24:33.7±4.4,50°33N×130°29W,h10km,mb4.1, MLSn3.2/24,Mw3.9/24,207km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **31** 17:24:34.3±0.8,50°50N×130°24W,h0km,mb4.1/10, mb1 4.1/21,mb1mx4.0/50,mbtmp4.0/21,ML3.5/10,MS3.5/3, Ms1 3.5/3,ms1mx2.9/49,Error ellipse: s-maj=16.7km s-min=10.4km az=55.0*
*NEIC **31** 17:24:35.8±2.2,50°66N±0°08×130°1W±0°1,h13km±5km, mb4.1/122,Mwr3.9(OTT),Error ellipse: s-maj=15.7km s-min=8.0km az=49.0*
ISC 31 17:24:33.1±3.3,50°38N±0°05×130°24W±0°05,h2km±22km, n441,σ1970/431,mb4.1/15,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.37**	**78**	Pn	**Pn**	**17 24 57.1**	**-2.1**
PACB	**Port Alice, BC**	**1.76**	**87**	Pn	**Pn**	**17 25 02.1**	**-2.4**
PACB				Sn	**Sn**	**17 25 22.6**	**-4.8**
PHC	**Port Hardy**	**1.82**	**79**	Pn	**Pn**	**17 25 03.5**	**-1.9**
PHC				Sn	**Sn**	**17 25 25.3**	**-3.7**
MAYB	**Maynard**	**1.96**	**88**	Pn	**Pn**	**17 25 05.3**	**-2.1**
HG4B	**Hotspring**	**2.00**	**343**	Pn	**Pn**	**17 25 05.8**	**-2.0**
HG4B				Sn	**Sn**	**17 25 30.0**	**-3.5**
EDB	**Eliza Dome**	**2.07**	**103**	Pn	**Pn**	**17 25 06.3**	**-2.5**
BBB	**Bella Bella**	**2.25**	**36**	Pn	**Pn**	**17 25 09.7**	**-1.4**
16nm,0.3s,baz=233,slow=11,SNR=12							
BBB				Sn	**Sn**	**17 25 36.6**	**-2.7**
15nm,0.3s,baz=239,slow=15,SNR=6.1							
BBB	**Bella Bella**	**2.25**	**36**	Pn	**Pn**	**17 25 09.8**	**-1.4**
BBB				Sn	**Sn**	**17 25 36.7**	**-2.7**
WOSB	**Woss**	**2.37**	**94**	Pn	**Pn**	**17 25 11.0**	**-1.9**
BNB	**Barry Inlet**	**2.39**	**337**	Pn	**Pn**	**17 25 11.2**	**-2.0**
BNB				Sn	**Sn**	**17 25 40.2**	**-2.9**
ETB	**Estevan Point**	**2.60**	**111**	Pn	**Pn**	**17 25 13.2**	**-2.8**
NCRB	**Newcastle Ridg**	**2.68**	**88**	Pn	**Pn**	**17 25 16.1**	**-1.2**
GDR	**Gold River**	**2.78**	**101**	Pn	**Pn**	**17 25 16.4**	**-2.1**
HG1B	**Mitchell Dam**	**2.81**	**336**	Pn	**Pn**	**17 25 17.3**	**-1.6**
BUTB	**Butedale**	**2.90**	**22**	Pn	**Pn**	**17 25 20.9**	**+0.6**
BUTB				Sn	**Sn**	**17 25 53.9**	**-1.9**
BNKB	**Banks Island**	**2.96**	**4**	Pn	**Pn**	**17 25 20.0**	**-1.0**
MOBC	**Moresby Island**	**2.97**	**339**	Pn	**Pn**	**17 25 20.0**	**-1.2**
MOBC				Sn	**Sn**	**17 25 55.8**	**-1.5**
MOBC	**Moresby Island**	**2.97**	**339**		**Pn**	**17 25 18.5**	**-2.6**
BNAB	**Bonilla**	**3.12**	**356**	Pn	**Pn**	**17 25 21.0**	**-2.2**
DIB	**Dawson Inlet,**	**3.15**	**335**	Pn	**Pn**	**17 25 22.0**	**-1.6**
DIB	**Dawson Inlet,**	**3.15**	**335**		**Pn**	**17 25 21.2**	**-2.4**
H02S1	**DAWSON INLET T**	**3.15**	**335**	Pn	**Pn**	**17 25 21.2**	**-2.3**
H02S1				Sn	**Sn**	**17 25 58.0**	**-3.6**
SNR=113							
CBB	**Campbell River**	**3.15**	**95**	Pn	**Pn**	**17 25 22.3**	**-1.4**
OZB	**Mount Ozzard**	**3.40**	**113**	Pn	**Pn**	**17 25 25.8**	**-1.3**
GRNB	**Grenville Isla**	**3.47**	**3**	Pn	**Pn**	**17 25 27.5**	**-0.6**
TXB	**Texada**	**3.81**	**98**	Pn	**Pn**	**17 25 32.2**	**-0.4**
MGB	**Mount Grey**	**3.86**	**109**	Pn	**Pn**	**17 25 33.2**	**-0.3**
NDB	**Naden**	**3.94**	**336**	Pn	**Pn**	**17 25 33.3**	**-1.3**
NDB				Sn	**Sn**	**17 26 20.6**	**-0.8**
RUBB	**Prince Rupert**	**3.95**	**360**	Pn	**Pn**	**17 25 32.0**	**-2.5**
RUBB	**Prince Rupert**	**3.95**	**360**		**Pn**	**17 25 31.8**	**-2.8**
SHB	**Sechelt**	**4.18**	**98**	Pn	**Pn**	**17 25 36.3**	**-1.6**
PFB	**Port Renfrew**	**4.20**	**113**	Pn	**Pn**	**17 25 37.3**	**-0.7**
OCP	**Olym-Cheeka Pk**	**4.22**	**117**	Pn	**Pn**	**17 25 36.3**	**-2.1**
B926	**Mesachie Lake**	**4.27**	**109**	Pn	**Pn**	**17 25 38.6**	**-0.4**
UBRB	**Upper Baezaeko**	**4.58**	**54**	Pn	**Pn**	**17 25 44.4**	**+0.9**
UBRB				Sn	**Sn**	**17 26 37.4**	**+0.2**
PGC	**Sidney**	**4.75**	**109**	Pn	**Pn**	**17 25 46.6**	**+1.0**
HNBB	**Haney**	**5.08**	**100**	Pn	**Pn**	**17 25 49.5**	**-0.6**
NLWA	**Neilton Lookou**	**5.16**	**123**	Pn	**Pn**	**17 25 52.6**	**+1.4**
A04D	**Lummi Island**	**5.18**	**106**	P	**Pn**	**17 25 51.1**	**-0.4**
baz=290							
LLLB	**Lillooet**	**5.34**	**84**	Pn	**Pn**	**17 25 53.5**	**-0.3**
LLLB	**Lillooet**	**5.34**	**84**	Pn	**Pn**	**17 25 53.1**	**-0.6**
CRAG	**Craig**	**5.38**	**342**	P	**Pn**	**17 25 53.4**	**-0.9**
baz=161							
CRAG	**Craig**	**5.38**	**342**		**Pn**	**17 25 53.3**	**-0.9**
FSB	**Fort Saint Jam**	**5.47**	**39**	Pn	**Pn**	**17 25 56.3**	**+0.9**
A05A	**Maple Falls**	**5.47**	**102**		**Pn**	**17 25 55.8**	**+0.3**
D03D	**Eldon**	**5.51**	**118**	P	**Pn**	**17 25 54.1**	**-1.8**
baz=303							
CMW	**Cultus Mountai**	**5.65**	**107**	Pn	**Pn**	**17 25 59.3**	**+1.2**
MBW	**Mount Baker**	**5.66**	**103**	Pn	**Pn**	**17 25 59.2**	**+0.9**
B05A	**Bryant**	**5.73**	**109**	P	**Pn**	**17 25 57.5**	**-1.5**
baz=294							
E03A	**Lebam**	**5.87**	**128**	Pn	**Pn**	**17 26 03.5**	**+2.6**
D04E	**Lakebay**	**5.89**	**120**	P	**Pn**	**17 26 00.1**	**-1.1**
baz=305							
B06A	**Marblemount**	**6.01**	**105**		**Pn**	**17 26 02.9**	**+0.1**
RPW	**Rockport**	**6.02**	**105**	Pn	**Pn**	**17 26 04.1**	**+1.0**
WRAK	**Wrangell Islan**	**6.18**	**349**	P	**Pn**	**17 26 05.7**	**+0.6**
baz=166							
LON	**Longmire**	**6.67**	**120**		**Pn**	**17 26 12.7**	**+0.6**
LTY	**Liberty**	**7.05**	**113**	Pn	**Pn**	**17 26 18.9**	**+1.6**
B08A	**Colville Reser**	**7.41**	**102**	Pn	**Pn**	**17 26 21.9**	**-0.2**
H04D	**Lebanon**	**7.76**	**136**	P	**Pn**	**17 26 25.4**	**-1.5**
baz=321							
H04A	**Detroit Lake**	**7.89**	**133**	Pn	**Pn**	**17 26 31.9**	**+3.2**
G05D	**Wamic, OR**	**7.91**	**127**	P	**Pn**	**17 26 26.4**	**-2.6**
baz=313							
BUCK	**Buck Mountain**	**7.91**	**139**	Pn	**Pn**	**17 26 32.9**	**+3.8**
DLBC	**Dease Lake**	**8.07**	**1**	Pn	**Pn**	**17 26 32.0**	**+0.7**
0.3nm,0.3s,baz=194,slow=14,SNR=3.7							
DLBC				Lg	Lg	17 28 41.7	
baz=88,slow=18,SNR=2.7							
I03D	**Drain, OR**	**8.18**	**142**	P	**Pn**	**17 26 29.3**	**-3.4**
baz=327							
C09A	**Chrisman Ranch**	**8.27**	**104**	Pn	**Pn**	**17 26 34.4**	**+0.4**
I04A	**Tendick Farm,**	**8.48**	**138**	P	**Pn**	**17 26 34.7**	**-2.2**
baz=323							
NEW	**Newport**	**8.83**	**99**	Pn	**Pn**	**17 26 42.3**	**+0.6**
0.3nm,0.3s,baz=279,slow=11,SNR=2.7							
NEW				Lg	Lg	17 29 08.7	
0.4nm,0.3s,baz=287,slow=19,SNR=2.1							
NEW	**Newport**	**8.83**	**99**	P	**Pn**	**17 26 40.3**	**-1.3**
baz=288							
NEW	**Newport**	**8.83**	**99**	Pn	**Pn**	**17 26 42.0**	**+0.4**
E09A	**Wood Farm, Sta**	**8.92**	**111**		**Pn**	**17 26 44.1**	**+1.3**
K02D	**Willamette Mer**	**8.92**	**147**	P	**Pn**	**17 26 40.1**	**-2.8**
baz=331							
J04D	**Umpqua Nationa**	**9.06**	**139**	P	**Pn**	**17 26 42.8**	**-2.1**
baz=324,SNR=6.1							
G08A	**Pilot Rock**	**9.14**	**120**	Pn	**Pn**	**17 26 50.1**	**+4.2**
PINE	**Pine Mountain**	**9.15**	**133**	Pn	Pn	17 26 53.2	+7.0
HUMO	**Hull Mountain**	**9.26**	**144**	Pn	**Pn**	**17 26 50.8**	**+3.3**
J05D	**Fort Rock, OR**	**9.40**	**136**	P	**Pn**	**17 26 46.5**	**-3.1**
baz=322							
L02E	**Cave Junction**	**9.42**	**148**	P	**Pn**	**17 26 45.9**	**-3.8**
baz=333							
I07A	**Izee**	**9.64**	**127**		**Pn**	**17 26 56.5**	**+3.7**
L04D	**Klamath Falls**	**9.84**	**143**	P	**Pn**	**17 26 53.4**	**-2.1**
baz=328							
KRMB	**Red Mountain**	**9.89**	**151**	Pn	**Pn**	**17 26 59.3**	**+3.0**
K05A	**Summer Lake**	**10.00**	**136**	Pn	**Pn**	**17 27 01.7**	**+3.9**
YBH	**Yreka Blue Hor**	**10.11**	**146**	Pn	**Pn**	**17 27 02.8**	**+3.6**
0.1nm,0.3s,baz=342,slow=9.9,SNR=7.3							
YBH	**Yreka Blue Hor**	**10.11**	**146**	Pn	**Pn**	**17 27 02.3**	**+3.1**
M02C	**Callahan**	**10.36**	**147**	P	**Pn**	**17 26 59.1**	**-3.5**
baz=332							
M04C	**Macdoel**	**10.39**	**143**	P	**Pn**	**17 26 59.9**	**-3.2**
baz=328							
WHY	**Whitehorse**	**10.63**	**348**	Pn	**Pn**	**17 27 08.0**	**+1.7**
WHY	**Whitehorse**	**10.63**	**348**	P	**Pn**	**17 27 05.8**	**-0.4**
baz=164,SNR=6.7							
WHY	**Whitehorse**	**10.63**	**348**	Pn	**Pn**	**17 27 03.9**	**-2.4**
WALA	**Waterton Lakes**	**10.66**	**91**	Pn	**Pn**	**17 27 06.2**	**-0.5**
J08A	**Circle Bar Ran**	**10.68**	**127**	Pn	**Pn**	**17 27 07.8**	**+0.8**
N02D	**Trinity Center**	**10.78**	**148**	P	**Pn**	**17 27 05.9**	**-2.5**
baz=333							
JTMT	**Jette**	**10.80**	**98**	Pn	**Pn**	**17 27 09.8**	**+1.1**
MOD	**Modoc Plateau**	**10.92**	**137**		**Pn**	**17 27 13.6**	**+3.2**
KMRM	**Mail Ridge**	**11.15**	**153**		**Pn**	**17 27 16.4**	**+3.0**
WDC	**Whiskeytown Da**	**11.19**	**148**	Pn	Pn	17 27 18.6	+4.8
PINM	**Pinnacle**	**11.27**	**334**	P	**Pn**	**17 27 14.7**	**-0.3**
baz=146							
PCA	**Pinnacle**	**11.27**	**334**		**Pn**	**17 27 13.3**	**-1.7**
WVOR	**Wild Horse Val**	**11.28**	**130**		**Pn**	**17 27 17.7**	**+2.5**
MSO	**Missoula**	**11.36**	**102**	P	**Pn**	**17 27 13.6**	**-2.8**
baz=294							
MSO	**Missoula**	**11.36**	**102**	Pn	**Pn**	**17 27 16.0**	**-0.4**
O02D	**Mt. Diablo Mer**	**11.47**	**150**	P	**Pn**	**17 27 15.3**	**-2.5**
baz=335,SNR=9.0							
O03E	**Paynes Creek**	**11.70**	**146**	P	**Pn**	**17 27 19.2**	**-1.8**
baz=332							
TABL	**Table Mountain**	**11.81**	**333**		**Pn**	**17 27 22.3**	**-0.2**
MESA	**MESA**	**11.85**	**330**	P	**Pn**	**17 27 22.2**	**-0.8**
baz=141							
MESA	**MESA**	**11.85**	**330**		**Pn**	**17 27 20.9**	**-2.1**
YAH	**Yahtse**	**11.93**	**331**	Pn	**Pn**	**17 27 23.7**	**-0.4**
MFID	**Camas Ranch**	**12.06**	**120**	Pn	**Pn**	**17 27 28.8**	**+2.8**
LOGN	**Logan Glacier**	**12.08**	**334**	Pn	**Pn**	**17 27 29.1**	**+2.9**
LOGN	**Logan Glacier**	**12.08**	**334**		**Pn**	**17 27 26.0**	**-0.2**
CTGM	**Chitina Glacie**	**12.29**	**334**	Pn	**Pn**	**17 27 32.4**	**+3.3**
CTGM	**Chitina Glacie**	**12.29**	**334**		**Pn**	**17 27 28.5**	**-0.5**
CTG	**Chitna Glacier**	**12.29**	**334**	P	**Pn**	**17 27 29.0**	**-0.1**
baz=145,SNR=7.3							
ISLE	**Juniper Island**	**12.30**	**331**		**Pn**	**17 27 29.5**	**+0.4**
SUCK	**Suckling Hills**	**12.38**	**327**	Pn	**Pn**	**17 27 29.9**	**-0.2**
BARN	**Barnard Glacie**	**12.46**	**333**		**Pn**	**17 27 32.6**	**+1.2**
ORV	**Oroville**	**12.46**	**147**	Pn	**Pn**	**17 27 35.3**	**+4.0**
HOPS	**Hopland Field**	**12.47**	**153**		Pn	17 27 35.5	+4.0
KIAG	**Kiagna River**	**12.56**	**332**	Pn	**Pn**	**17 27 34.3**	**+1.6**
TGL	**Tana Glacier**	**12.57**	**331**		**Pn**	**17 27 32.5**	**-0.3**
BALM	**Baldy**	**12.64**	**332**	Pn	**Pn**	**17 27 35.3**	**+1.5**
CRQE	**Cirque**	**12.65**	**330**	P	**Pn**	**17 27 32.4**	**-1.5**
baz=140,SNR=11							
CRQM	**Cirque**	**12.67**	**330**		**Pn**	**17 27 34.5**	**+0.2**
GDXM	**Geysers**	**12.72**	**153**		**Pn**	**17 27 38.2**	**+3.2**
LRM	**Limekiln Ridge**	**12.73**	**104**	Pn	**Pn**	**17 27 36.1**	**+0.9**
HMT	**Hamilton**	**12.74**	**327**		**Pn**	**17 27 37.5**	**+2.5**
YUK3	**Moose Creek**	**12.74**	**338**	Pn	**Pn**	**17 27 38.1**	**+2.9**
HLID	**Hailey**	**12.77**	**116**	P	**Pn**	**17 27 32.5**	**-3.1**
baz=307							
HLID	**Hailey**	**12.77**	**116**	Pn	**Pn**	**17 27 38.3**	**+2.7**
PTPK	**Patty Peak**	**12.80**	**332**	Pn	**Pn**	**17 27 38.6**	**+2.6**
YUK2	**White River**	**12.85**	**337**	Pn	**Pn**	**17 27 40.3**	**+3.7**
Q23K	**Middleton Isla**	**12.93**	**321**	P	**Pn**	**17 27 34.9**	**-2.6**
baz=128							
MCMT	**McKenzie Canyo**	**12.97**	**109**		**Pn**	**17 27 39.3**	**+0.7**
MCARA	**McCarthy VSAT**	**13.12**	**332**	P	**Pn**	**17 27 41.4**	**+1.3**
baz=142							
VRDI	**Verde Repeater**	**13.13**	**331**		**Pn**	**17 27 40.0**	**-0.5**
PAHR	**Pah Rah Range**	**13.13**	**140**	Pn	**Pn**	**17 27 43.8**	**+3.2**
AFDM	**Forest Hills D**	**13.19**	**147**	Pn	**Pn**	**17 27 43.9**	**+2.7**
BMRM	**Bremner River**	**13.31**	**328**	P	**Pn**	**17 27 44.1**	**+1.3**
baz=137							
BMRM	**Bremner River**	**13.31**	**328**		**Pn**	**17 27 42.3**	**-0.5**
BOZ	**Bozeman (W)**	**13.35**	**104**	P	**Pn**	**17 27 42.6**	**-0.8**
baz=297							
VCNR	**Virginia City**	**13.38**	**142**	Pn	**Pn**	**17 27 47.9**	**+3.9**
GLB	**Gilahina Butte**	**13.40**	**331**	Pn	**Pn**	**17 27 43.4**	**-0.8**
PNTR	**Pine Nut**	**13.57**	**142**	Pn	**Pn**	**17 27 50.5**	**+3.8**
M27K	**Edge Creek, AK**	**13.59**	**336**	P	**Pn**	**17 27 47.9**	**+1.1**
baz=147							
HIN	**Hinchinbrook I**	**13.60**	**324**	Pn	**Pn**	**17 27 47.4**	**+0.7**
EGMT	**Eagleton**	**13.60**	**92**	P	**Pn**	**17 27 45.6**	**-1.2**
baz=287							
EGMT	**Eagleton**	**13.60**	**92**		**Pn**	**17 27 48.9**	**+2.1**
N25K	**Chitina, Valde**	**13.78**	**330**	P	**Pn**	**17 27 49.1**	**-0.2**
baz=139,SNR=7.9							
N25K	**Chitina, Valde**	**13.78**	**330**	Pn	**Pn**	**17 27 49.4**	**+0.2**
YERR	**Yerington**	**13.81**	**141**		**Pn**	**17 27 53.5**	**+3.6**
QLMT	**Earthquake Lak**	**13.84**	**106**	Pn	**Pn**	**17 27 51.0**	**+0.7**
M26K	**Nabesna, AK**	**13.92**	**335**	P	**Pn**	**17 27 52.2**	**+1.0**
baz=144							
GLI	**Glacier Island**	**14.13**	**324**	P	**Pn**	**17 27 53.7**	**-0.3**
baz=131							
KLU	**Klutina**	**14.13**	**328**	P	**Pn**	**17 27 54.1**	**+0.1**
baz=135,SNR=6.0							
KLU	**Klutina**	**14.13**	**328**		**Pn**	**17 27 53.9**	**-0.1**
WAKR	**Walker**	**14.14**	**143**		**P**	**17 27 58.3**	**-4.0**
BCAR	**Beaver Creek A**	**14.17**	**338**		**Pn**	**17 27 54.5**	**0.0**
L27K	**Beaver Creek,**	**14.18**	**338**	P	**Pn**	**17 27 55.1**	**+0.5**
baz=149,SNR=5.7							
L27K	**Beaver Creek,**	**14.18**	**338**		**Pn**	**17 27 54.7**	**+0.1**
CMB	**Columbia Colle**	**14.21**	**147**		**Pn**	**17 27 56.9**	**+1.7**
YHH	**Holmes Hill**	**14.22**	**106**		**Pn**	**17 27 55.8**	**+0.3**
KVN	**Kaiserville**	**14.22**	**138**		**P**	**17 27 59.4**	**-3.8**
ELK	**Elko**	**14.23**	**127**	Pn	**P**	**17 28 02.4**	**-0.9**
0.1nm,0.3s,baz=307,slow=20,SNR=1.8							
ELK	**Elko**	**14.23**	**127**	Pn	**Pn**	**17 27 59.0**	**+3.3**
RYN	**Ryan**	**14.40**	**140**		**P**	**17 28 01.2**	**-3.9**
GCMT	**Greycliff**	**14.48**	**101**		**Pn**	**17 28 00.6**	**+1.5**
YPP	**Pitchstone Pla**	**14.51**	**107**	P	**Pn**	**17 28 01.9**	**+2.3**
HARP	**HAARP**	**14.55**	**331**	P	**Pn**	**17 28 00.3**	**+0.5**
baz=139							
MENT	**Mentasta**	**14.56**	**335**	Pn	**Pn**	**17 27 59.2**	**-0.6**
LKWY	**Lake**	**14.61**	**106**	Pn	**Pn**	**17 28 01.0**	**+0.1**
IMW	**Indian Meadow**	**14.63**	**109**		**Pn**	**17 28 01.4**	**+0.2**
M24K	**Tolsona, Glenn**	**14.65**	**329**	P	**Pn**	**17 28 00.3**	**-0.9**
baz=136							
NVAR	**Mina Array Bea**	**14.66**	**140**	Pn	**P**	**17 28 05.7**	**-2.4**
0.1nm,0.3s,baz=315,slow=12,SNR=14							
NVAR	**Mina Array Bea**	**14.66**	**140**	Pn	**P**	**17 28 04.3**	**-3.8**
YMP	**Mirror Lake Pl**	**14.67**	**105**	P	**Pn**	**17 28 04.3**	**+2.6**
FLWY	**Flagg Ranch**	**14.68**	**108**		**Pn**	**17 28 03.5**	**+1.7**
NV11	**Mina Array Sit**	**14.72**	**140**		**P**	**17 28 06.2**	**-2.5**
YKA	**Yellowknife Ar**	**14.84**	**29**	Pn	**Pn**	**17 28 03.5**	**-0.2**
0.1nm,0.3s,baz=217,slow=11,SNR=1.6							
TPAW	**Teton Pass**	**14.85**	**110**		**Pn**	**17 28 05.8**	**+1.6**
SCM	**Sheep Creek Mo**	**14.85**	**327**		**Pn**	**17 28 01.4**	**-2.5**
BRSE	**Bradley Lake S**	**14.96**	**317**	P	**Pn**	**17 28 04.8**	**-0.6**
baz=126							
REDW	**Red Top Meadow**	**14.98**	**110**		**P**	**17 28 08.7**	**-2.9**
KNK	**Knik Glacier**	**14.98**	**324**	P	**Pn**	**17 28 04.6**	**-1.0**
baz=130							
KNK	**Knik Glacier**	**14.98**	**324**		**Pn**	**17 28 07.1**	**+1.5**
LOHW	**Long Hollow**	**14.99**	**109**	P	**P**	**17 28 10.6**	**-1.1**
KDAK	**Kodiak Island**	**15.01**	**308**	Pn	**Pn**	**17 28 05.6**	**-0.3**
0.1nm,0.3s,baz=121,slow=8.7,SNR=2.8							
KDAK	**Kodiak Island**	**15.01**	**308**	P	**Pn**	**17 28 04.8**	**-1.1**
baz=110							
KDAK	**Kodiak Island**	**15.01**	**308**		**Pn**	**17 28 06.5**	**+0.6**
BRLK	**Bradley Lake**	**15.04**	**317**		**Pn**	**17 28 06.8**	**+0.5**
RLMT	**Red Lodge**	**15.04**	**102**	P	**Pn**	**17 28 06.4**	**-0.2**
baz=286							
RLMT	**Red Lodge**	**15.04**	**102**		**Pn**	**17 28 08.6**	**+1.9**
MDPB	**Devils Postpil**	**15.04**	**144**		**P**	**17 28 10.6**	**-1.7**
MDPB				IAmb	IAmb	17 28 17.7	
comp=Z,12nm,1.0s							
K27K	**Chicken**	**15.06**	**340**		**Pn**	**17 28 06.2**	**-0.5**
PAX	**Paxson**	**15.08**	**333**	P	**Pn**	**17 28 06.8**	**-0.2**
baz=140							
PAX	**Paxson**	**15.08**	**333**		**Pn**	**17 28 06.2**	**-0.8**
AHID	**Auburn Hatcher**	**15.18**	**113**		**Pn**	**17 28 09.2**	**+0.7**
AHID				IAmb	IAmb	17 28 18.9	
comp=Z,17nm,1.1s							
OHAK	**Old Harbor**	**15.19**	**306**	P	**Pn**	**17 28 08.2**	**-0.1**
baz=107							
OHAK	**Old Harbor**	**15.19**	**306**	Pn	**Pn**	**17 28 08.0**	**-0.3**
OHAK				IAmb	IAmb	17 28 18.0	
comp=Z,11nm,1.1s							
SML	**Sawmill**	**15.19**	**326**	P	**Pn**	**17 28 06.7**	**-1.7**
baz=131							
SML	**Sawmill**	**15.19**	**326**		**Pn**	**17 28 07.8**	**-0.6**
SML				IAmb	IAmb	17 28 18.2	
comp=Z,19nm,1.3s							
DOT	**Dot Lake**	**15.22**	**336**		**Pn**	**17 28 10.0**	**+1.1**
DOT				IAmb	IAmb	17 28 18.9	
comp=Z,10nm,1.1s							
BGU	**Big Grassy Mou**	**15.27**	**122**		**Pn**	**17 28 11.5**	**+1.8**
RC01	**Rabbit Creek A**	**15.27**	**322**	Pn	**Pn**	**17 28 08.9**	**-0.6**
RC01				IAmb	IAmb	17 28 21.9	
comp=Z,8.9nm,1.0s							
TPH	**Tonopah**	**15.41**	**138**		**P**	**17 28 14.7**	**-1.7**
SCRK	**Sand Creek**	**15.47**	**337**	P	**Pn**	**17 28 11.7**	**-0.5**
baz=146,SNR=8.5							
SCRK	**Sand Creek**	**15.47**	**337**	Pn	**Pn**	**17 28 10.4**	**-1.8**
SCRK				IAmb	IAmb	17 28 21.7	
comp=Z,9.1nm,1.0s							
RIDG	**Independent Ri**	**15.51**	**335**	P	**Pn**	**17 28 13.1**	**+0.5**
baz=143,SNR=13							
RIDG	**Independent Ri**	**15.51**	**335**	Pn	**Pn**	**17 28 11.2**	**-1.4**
RIDG				IAmb	IAmb	17 28 22.1	
comp=Z,17nm,1.0s							
WAT6	**Susitna Watana**	**15.51**	**329**	P	**Pn**	**17 28 13.4**	**+0.8**
baz=134							
EGAK	**Eagle**	**15.53**	**342**	P	**Pn**	**17 28 14.1**	**+1.3**
baz=153,SNR=8.5							
EGAK	**Eagle**	**15.53**	**342**	Pn	**Pn**	**17 28 11.3**	**-1.5**
EGAK				IAmb	IAmb	17 28 22.1	
comp=Z,11nm,1.2s							
HWUT	**Hardware Ranch**	**15.63**	**117**	Pn	**P**	**17 28 16.4**	**-2.4**
PMPB	**Monarch Peak**	**15.72**	**151**		**P**	**17 28 18.8**	**-0.9**
SUA	**Susitna One**	**15.89**	**322**	P	**Pn**	**17 28 14.6**	**-3.0**
baz=125							
DUG	**Dugway, Tooele**	**15.90**	**123**	P	**Pn**	**17 28 16.4**	**-1.5**
baz=315							
DUG	**Dugway, Tooele**	**15.90**	**123**		**P**	**17 28 20.6**	**-1.2**
R11A	**Troy Canyon, C**	**15.92**	**134**	P	**Pn**	**17 28 14.4**	**-3.8**
baz=324							
R11A	**Troy Canyon, C**	**15.92**	**134**	P	**P**	**17 28 21.1**	**-0.8**
WAT1	**Susitna Watana**	**15.95**	**328**	P	**Pn**	**17 28 19.5**	**+1.2**
baz=133							
O20K	**Slope Mountain**	**15.96**	**316**	P	**Pn**	**17 28 17.1**	**-1.4**
baz=118							
SPR3	**Spring Creek 3**	**16.01**	**129**	P	**P**	**17 28 24.9**	**+1.8**
SPR3				IAmb	IAmb	17 28 29.4	
comp=Z,15nm,1.5s							
P19K	**Oil Pt**	**16.04**	**314**	P	**Pn**	**17 28 19.5**	**0.0**
baz=116							
BW06	**Boulder Array**	**16.10**	**110**	P	**Pn**	**17 28 20.5**	**-0.1**
baz=305							
BW06	**Boulder Array**	**16.10**	**110**	P	**P**	**17 28 22.5**	**-1.6**
BW06				IAmb	IAmb	17 28 29.7	
comp=Z,18nm,1.8s							
PD31	**Pinedale Array**	**16.10**	**110**		**P**	**17 28 23.4**	**-0.6**
PDAR	**Pinedale Array**	**16.10

SRU	San Rafael Swe	17.92 121	P	Pn	17 28 42.4	-1.1
L19K	White Mountain	17.92 321	P	P	17 28 44.2	+0.4
	baz=120,SNR=16					
CHUM	Lake Minchumin	17.93 327	P	Pn	17 28 42.4	-0.8
	baz=129					
FYU	Fort Yukon	17.93 340	P	Pn	17 28 42.6	-0.6
FYU			IAmb	IAmb	17 28 49.4	
	comp=Z,24nm,1.2s					
H24K	Noodor Dome	17.96 336	P	Pn	17 28 41.8	-1.8
	baz=141					
K22A	Casper	18.01 106	P	Pn	17 28 43.5	-1.1
	baz=303					
K22A	Casper	18.01 106		P	17 28 46.6	+1.5
K22A			IAmb	IAmb	17 28 49.4	
	comp=Z,13nm,1.1s					
INK	Inuvik	18.05 356	P	P	17 28 46.0	+0.9
	comp=Z,0.0nm,0.3s,baz=163,slow=8.4,SNR=5.1					
INK	Inuvik	18.05 356	P	Pn	17 28 45.0	+0.3
	baz=173					
INK	Inuvik	18.05 356	P	Pn	17 28 43.6	-1.0
LCMT	Little Creek M	18.10 131	P	P	17 28 48.3	+2.3
LCMT			IAmb	IAmb	17 28 50.9	
	comp=Z,13nm,1.0s					
SCZ2	Santa Cruz Isl	18.13 151	P	P	17 28 45.3	-1.0
	baz=338					
MLY	Manley	18.17 332	P	P	17 28 47.0	+0.4
	baz=134,SNR=9.7					
MLY	Manley	18.17 332		P	17 28 46.9	+0.3
MLY			IAmb	IAmb	17 28 50.4	
	comp=Z,12nm,1.1s					
TUQ	Turquoise Moun	18.20 140	P	Pn	17 28 46.2	-0.7
	baz=329,SNR=8.5					
PKCU	Pink Cliffs	18.22 128	P	P	17 28 50.7	+3.1
PKCU			IAmb	IAmb	17 28 54.9	
	comp=Z,27nm,1.2s					
K20K	Telida	18.24 324	P	Pn	17 28 46.6	-0.5
	baz=125					
CHNA	Chernabura Isl	18.30 295	P	Pn	17 28 46.1	-1.7
	baz=92					
KNB	Kanab	18.30 130	P	P	17 28 51.7	+3.4
H23K	Yukon River	18.40 334	P	P	17 28 48.6	-0.4
	baz=138					
O20A	White River Ci	18.50 115	P	P	17 28 48.3	-2.3
	baz=311					
BMAR	Burnt Mountain	18.54 343		Pn	17 28 52.7	+2.0
HEC	Hector,Ludlow	18.56 142	P	P	17 28 50.2	-0.9
	baz=331,SNR=6.1					
I21K	Tanana	18.66 331	P	P	17 28 51.5	-0.4
	baz=132					
J20K	Nowinta River	18.75 326	P	P	17 28 52.6	-0.2
	baz=126,SNR=11					
SDPT	Sand Point	18.83 297	P	P	17 28 52.5	-1.3
	baz=93					
SDPT	Sand Point	18.83 297	P	Pn	17 28 54.1	-0.1
SDPT			IAmb	IAmb	17 29 07.8	
	comp=Z,18nm,1.2s					
GMRC	Granite Mounta	18.87 140	P	Pn	17 28 55.0	-0.1
	baz=330					
U15A	North Rim	19.03 130	P	Pn	17 28 58.6	+1.6
U15A			IAmb	IAmb	17 29 02.5	
	comp=Z,9.1nm,1.0s					
PV21	Cone Mtn., Par	19.16 120	P	Pn	17 28 59.8	+1.2
PV23	Carpenter Ridg	19.22 120	P	Pn	17 28 59.8	+0.4
PV23			IAmb	IAmb	17 29 19.4	
	comp=Z,11nm,1.0s					
C36M	Paulatuk	19.26 7	P	Pn	17 28 59.4	+0.1
	baz=192					
PV14	Lion Creek, Pa	19.27 120	P	Pn	17 28 59.6	-0.3
PV14			IAmb	IAmb	17 29 02.8	
	comp=Z,9.0nm,1.0s					
PV22	Blue Mesa, Par	19.28 120	P	P	17 28 58.3	-0.8
PV22			IAmb	IAmb	17 29 10.8	
	comp=Z,8.4nm,0.9s					
PV04	Paradox Valley	19.32 120	P	Pn	17 29 00.5	0.0
PV04			IAmb	IAmb	17 29 08.7	
	comp=Z,6.5nm,0.9s					
PV20	West Nyswonger	19.32 120	P	P	17 28 59.0	-0.5
PV20			IAmb	IAmb	17 29 14.4	
	comp=Z,15nm,1.2s					
W13A	Hualapai Mount	19.37 136	P	Pn	17 29 01.2	+0.1
PV17	East Wray Mesa	19.37 121	P	Pn	17 29 00.7	-0.4
PV17			IAmb	IAmb	17 29 13.3	
	comp=Z,15nm,1.2s					
PV16	Nyswonger Mesa	19.37 120	P	Pn	17 29 01.3	+0.2
PV16			IAmb	IAmb	17 29 15.6	
	comp=Z,12nm,1.2s					
N23A	Red Feather La	19.38 110	P	P	17 28 59.0	-1.3
	baz=307					
PV11	David Mesa, Pa	19.40 120	P	Pn	17 29 00.8	-0.7
PV11			IAmb	IAmb	17 29 16.0	
	comp=Z,11nm,1.0s					
SCI2	San Clemente I	19.42 149	P	P	17 28 58.5	-1.9
	baz=337					
BELC	Belle Mtn. Jos	19.42 142	P	P	17 28 59.3	-1.3
	baz=332					
PV12	Saucer Basin,	19.43 120	P	Pn	17 29 01.4	-0.4
PV12			IAmb	IAmb	17 29 07.4	
	comp=Z,9.0nm,1.0s					
PV07	Paradox Valley	19.43 120	P	P	17 29 00.7	-0.1
PV03	Paradox Valley	19.45 120	P	Pn	17 29 02.1	+0.1
PV13	Radium Mtn., P	19.53 121	P	Pn	17 29 02.7	-0.4
PV13			IAmb	IAmb	17 29 15.2	
	comp=Z,7.4nm,0.9s					
PV02	Paradox Valley	19.54 120	P	Pn	17 29 02.4	-0.8
PFO	Pinyon Flats O	19.59 144	P	Pn	17 29 06.6	+2.9
	comp=Z,0.2nm,0.3s,baz=321,slow=8.6,SNR=8.1					
PFO	Pinyon Flats O	19.59 144	P	P	17 29 00.7	-1.7
	baz=333					
PFO	Pinyon Flats O	19.59 144	P	Pn	17 29 04.9	+1.2
PFO			IAmb	IAmb	17 29 09.2	
	comp=Z,23nm,1.4s					
PV15	Paradox Valley	19.59 120	P	Pn	17 29 03.5	-0.3
PV15			IAmb	IAmb	17 29 11.6	
	comp=Z,6.2nm,0.8s					
TPFO	Pinon Flats	19.59 144	P	Pn	17 29 02.8	-0.9
	baz=333					
IRM	Iron Mountain	19.63 140	P	Pn	17 29 03.6	-0.5
	baz=330					
COLD	Coldfoot	19.63 337	P	Pn	17 29 08.0	+4.2
COLD	Coldfoot	19.63 337	P	Pn	17 29 04.2	+0.4
	baz=140,SNR=8.5					
COLD	Coldfoot	19.63 337		P	17 29 02.5	0.0
COLD			IAmb	IAmb	17 29 09.3	
	comp=Z,14nm,1.2s					
PV01	Paradox Valley	19.68 120	P	Pn	17 29 04.5	-0.4
PV01			IAmb	IAmb	17 29 10.8	
	comp=Z,7.2nm,0.9s					
IMAR	Indian Mountai	19.75 331	P	P	17 29 02.8	-1.0
SMCO	Snowmass	19.87 115	P	Pn	17 29 06.4	-0.9
PDMCI	Parker Dam,Lak	19.93 138	P	Pn	17 29 06.2	-1.4
	baz=328,SNR=6.2					
MDND	Maddock	20.15 85	P	P	17 29 08.8	+0.5
	baz=288					
MDND	Maddock	20.15 85	P	P	17 29 08.1	-0.2
WUAZ	Wupatki	20.20 130	P	P	17 29 08.5	-0.6
	baz=323					
WUAZ	Wupatki	20.20 130	P	Pn	17 29 10.8	-0.2
WUAZ			IAmb	IAmb	17 29 14.1	
	comp=Z,14nm,1.1s					
MONP2	Monument Peak	20.24 144	P	Pn	17 29 09.9	-1.6
	baz=334					
ISCO	Idaho Springs	20.26 112	P	P	17 29 08.9	-1.0
	baz=309					
BAR	Barrett	20.34 145	P	Pn	17 29 13.7	+1.2
BAR			IAmb	IAmb	17 29 22.9	
	comp=Z,7.5nm,0.9s					
MVCO	Mesa Verde	20.39 122	P	P	17 29 09.2	-2.0
	baz=317					
MVCO	Mesa Verde	20.39 122	P	Pn	17 29 12.5	-0.8
MVCO			IAmb	IAmb	17 29 19.3	
	comp=Z,26nm,1.6s					
SWSC	Sam W. Stewart	20.43 143	P	P	17 29 11.6	+0.2
	baz=333					
IKP	In-Ko-Pah, Jac	20.57 144	P	Pn	17 29 13.9	-1.4
	baz=333					
TOLK	Toolik Lake Re	20.59 340	P	Pn	17 29 14.3	-0.9
	baz=143,SNR=6.6					
TOLK	Toolik Lake Re	20.59 340		P	17 29 13.1	+0.1
TOLK			IAmb	IAmb	17 29 20.0	
	comp=Z,20nm,1.4s					
RMX	La Rumorosa	20.63 144	P	Pn	17 29 16.5	+0.5
RMX			IAmb	IAmb	17 29 25.7	
	comp=Z,17nm,1.2s					
CBX	Cerro Bola	20.67 146	P	Pn	17 29 15.8	-0.7
CBX			IAmb	IAmb	17 29 25.9	
	comp=Z,6.0nm,1.0s					
GLA	Glamis	20.72 141	P	Pn	17 29 15.8	-1.1
	baz=331					
GLA	Glamis	20.72 141	P	Pn	17 29 16.5	-0.4
GLA			IAmb	IAmb	17 29 26.3	
	comp=Z,18nm,1.0s					
S22A	4UR Ranch, Cre	20.93 118	P	P	17 29 17.9	+0.7
	baz=314,SNR=5.8					
X16A	Lo Mia Camp, P	21.05 132	P	P	17 29 19.7	+1.3
X16A			IAmb	IAmb	17 29 29.8	
	comp=Z,9.5nm,1.0s					
W18A	Petrified Fore	21.33 128	P	P	17 29 22.1	+0.8
	baz=322					
W18A	Petrified Fore	21.33 128	P	P	17 29 23.4	+2.1
SDCO	Great Sand Dun	21.69 116	P	P	17 29 25.0	-0.3
	baz=313					
SDCO	Great Sand Dun	21.69 116	P	P	17 29 26.7	+1.4
X18A	Snowflake	21.69 129	P	P	17 29 27.2	+2.0
OGNE	Ogallala	21.74 105	P	P	17 29 26.0	+0.3
	baz=305					
ULM	Lac du Bonnet	21.84 77	P	P	17 29 29.0	+2.5
	comp=Z,16nm,1.0s,baz=281,slow=12,SNR=7.3					
ULM	Lac du Bonnet	21.84 77	P	P	17 29 31.6	+5.1
ULM	Lac du Bonnet	21.84 77	P	P	17 29 25.1	-1.4
214A	Organ Pipe Nat	22.51 138	P	P	17 29 33.8	-0.1
	baz=330					
214A	Organ Pipe Nat	22.51 138	P	P	17 29 34.8	+0.9
214A			IAmb	IAmb	17 29 44.2	
	comp=Z,19nm,1.6s					
KSCO	Kaye Shedlock'	22.55 110	P	P	17 29 33.9	-0.5
	baz=309					
T25A	Trinidad	22.73 116	P	P	17 29 36.9	+0.4
	baz=314					
F33A	5 Mile Ranch,	22.99 88	P	P	17 29 38.5	-0.3
TUC	Tucson	23.11 134	P	P	17 29 40.4	+0.2
	baz=327					
TUC	Tucson	23.11 134	P	P	17 29 41.8	+1.6
ANMO	Albuquerque	23.18 123	P	P	17 29 43.0	+2.0
	comp=Z,4.3nm,1.0s,baz=318,slow=10.0,SNR=10					
ANMO	Albuquerque	23.18 123	P	P	17 29 40.1	-0.9
	baz=319					
ANMO	Albuquerque	23.18 123	P	P	17 29 42.7	+1.6
ANMO			IAmb	IAmb	17 29 45.3	
	comp=Z,11nm,1.2s					
LENM	Lemitar	23.50 125	P	P	17 29 47.0	+2.8
BNM	Barren Site	23.69 124	P	P	17 29 47.7	+1.5
ECSD	EROS Data Cent	23.71 93	P	P	17 29 45.3	-0.8
	baz=298					
ECSD	EROS Data Cent	23.71 93	P	P	17 29 46.8	+0.7
A21K	Barrow	24.21 340	P	P	17 29 50.0	-0.5
	baz=136					
SPIA	Saint Paul Isl	24.31 302	P	P	17 29 51.5	0.0
	baz=89					
121A	Cookes Peak, D	24.37 129	P	P	17 29 51.8	-0.8
	baz=324					
319A	Douglas	24.59 133	P	P	17 29 57.0	+2.5
F36A	Milaca	24.75 86	P	P	17 29 56.0	+0.3
F36A			IAmb	IAmb	17 29 58.2	
	comp=Z,7.9nm,1.0s					
EYMN	Ely	25.26 80	P	P	17 30 01.3	+0.9
	baz=290					
N35A	Tabor	25.80 98	P	P	17 30 06.2	+1.0
AMTX	Amarillo	25.89 116	P	P	17 30 07.2	+0.9
	baz=315					
AMTX	Amarillo	25.89 116	P	P	17 30 07.7	+1.5
MNTX	Cornudas Mount	26.26 126	P	P	17 30 10.2	+0.7
	baz=322					
MNTX	Cornudas Mount	26.26 126	P	P	17 30 11.4	+1.9
T35A	Sooner Cattle	27.61 106	P	P	17 30 22.2	+0.6
WMOK	Wichita Mounta	27.69 112	P	P	17 30 21.3	-1.1
	baz=314					
WMOK	Wichita Mounta	27.69 112	P	P	17 30 22.8	+0.4
JFWS	Jewell Farm	28.18 90	P	P	17 30 26.7	+0.1
	baz=299					
TUL1	Leonard	28.70 107	P	P	17 30 30.7	-0.7
	baz=311					
TX31	Lajitas Ar. Si	29.03 126	P	P	17 30 36.7	+2.3
TX32	Lajitas Array	29.03 126	P	P	17 30 36.5	+2.0
TXAR	Lajitas Array	29.03 126	P	P	17 30 36.9	+2.4
	comp=Z,2.2nm,1.0s,baz=323,slow=10.0,SNR=12					
TXAR	Lajitas Array	29.03 126	P	P	17 30 35.9	+1.5
Z35A	Perchaven, San	29.58 113	P	P	17 30 40.2	+1.1
HHAR	Hobbs	29.60 104	P	P	17 30 39.5	+0.1
X37A	Clayton	29.84 109	P	P	17 30 43.1	+1.7
JCT	Junction City	30.21 120	P	P	17 30 43.7	-1.1
	baz=320					
JCT	Junction City	30.21 120	P	P	17 30 45.6	+0.8
U40A	Yellville	30.23 103	P	P	17 30 43.9	-1.0
	baz=309					
U40A	Yellville	30.23 103	P	P	17 30 45.6	+0.7
WHTX	Lake Whitney,	30.42 115	P	P	17 30 47.3	+0.7
	baz=317					
MIAR	Mount Ida	30.96 107	P	P	17 30 51.4	0.0
	baz=312					
MIAR	Mount Ida	30.96 107	P	P	17 30 52.8	+1.4
FCAR	Ozark Folk Cen	30.98 103	P	P	17 30 51.9	+0.3
FCAR			IAmb	IAmb	17 30 53.6	
	comp=Z,4.8nm,0.9s					
W41B	Gary Mavity, V	31.37 104	P	P	17 30 53.9	-1.0
	baz=311					
OXF	Oxford	33.56 102	P	P	17 31 12.6	-1.6
	baz=311					
OXF	Oxford	33.56 102	P	P	17 31 14.5	+0.3
Q52A	Bidwell	35.39 90	P	P	17 31 31.8	+1.8
FPAL	Fort Paine	35.94 99	P	P	17 31 34.4	-0.4
V52A	Sevierville	36.40 95	P	P	17 31 39.5	+0.8
PETK	Petropavlovsk-	42.96 303	P	P	17 32 32.2	-0.9
	comp=Z,2.5nm,1.0s,baz=67,slow=15,SNR=4.3					
H11N2	WAKE ISLAND Hy	57.80 262	T	T	18 36 51.2	
	baz=44,slow=75					
H11N3	WAKE ISLAND Hy	57.80 262	T	T	18 36 53.9	
	baz=44,slow=75,SNR=253					
H11N1	WAKE ISLAND Hy	57.81 262	T	T	18 36 59.7	
	baz=44,slow=75					
H11S1	WAKE ISLAND Hy	58.83 261	T	T	18 38 11.5	
	baz=40,slow=76					
H11S2	WAKE ISLAND Hy	58.84 261	T	T	18 38 11.5	
	baz=40,slow=76					
H11S3	WAKE ISLAND Hy	58.84 261	T	T	18 38 20.2	
	baz=40,slow=76					
SONM	Songino Array	70.70 323	P	P	17 35 51.7	+1.5
	comp=Z,0.4nm,0.4s,baz=19,slow=4.9,SNR=2.4					
SONM			LR	LR	18 06 20.7	
	comp=Z,88nm,21.5s,baz=36,slow=36					
SONM	Songino Array	70.70 323	IAmb	IAmb	17 35 51.7	
	comp=Z,2.0nm,1.3s					
ZALV	Zalesovo Beam	71.95 339	P	P	17 35 58.4	+1.0
	comp=Z,0.5nm,0.4s,baz=28,slow=3.5,SNR=5.6					
ZALV			LR	LR	18 09 50.4	
	comp=Z,37nm,19.1s,baz=358,slow=38					
ZALV	Zalesovo Beam	71.95 339	P	P	17 35 56.6	-0.9
HHC	Hu-ho-hao-te	74.27 316	*eP*	P	17 36 10.5	-1.1
HHC			pmax	pmax		
	comp=Z,23nm,1.1s					
HHC			pmax	pmax		
	comp=Z,65nm,5.7s					
AKASG	Malin Array Be	77.78 13	P	P	17 36 32.2	+1.0
	comp=Z,1.1nm,0.8s,baz=344,slow=6.3,SNR=2.8					
AKASG	Malin Array Be	77.78 13	IAmb	IAmb	17 37 46.0	
	comp=Z,2.3nm,1.4s					
ESDC	Sonseca Array	78.69 39	P	P	17 36 39.3	+2.7
	comp=Z,0.3nm,0.4s,baz=253,slow=4.3,SNR=3.1					
MKAR	Makanchi Array	79.20 338	P	P	17 36 39.4	+0.1
	comp=Z,2.1nm,0.9s,baz=34,slow=4.7,SNR=12					
WMQ	Urumqi	80.53 333	*eP*	P	17 36 48.5	+2.0
KBZ	Khabaz	86.08 5	P	P	17 37 17.7	+2.7
	comp=Z,2.5nm,1.0s,baz=271,slow=3.4,SNR=4.2					
BOSA	Boshof	151.42 50	PKPbc	PKiKP	17 44 29.1	+0.2
	comp=Z,4.6nm,1.0s,baz=14,slow=4.2,SNR=2.2					

*PGC **31** 17:45:07.6±0.9, 50.°31N×130.°30W, h10km, MLSn3.4/40, Mw4.4, 208km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **31** 17:45:08.1±0.7, 50.°39N×130.°29W, h0km, mb4.2/13, mb1 4.3/24, mb1mx4.1/49, mbtmp4.1/24, ML3.8/10, MS3.4/20, Ms1 3.5/20, ms1mx3.2/65, Error ellipse: s-maj=16.0km s-min=9.2km az=53.0*
*NEIC **31** 17:45:09.3±2.5, 50.°65N±0.°07×130.°1W±0.°1, h3km±5km, mb4.2/128, Mwr4.4(OTT), Error ellipse: s-maj=14.5km s-min=6.9km az=49.0*
*NEIC **31** 17:45:12.6, 50.°31N×130.°30W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.42; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-1.85; $M_{r\theta}$-1.81; $M_{\theta\phi}$4.17; $M_{\phi r}$0.94; Fault plane solution: $M_0$4.80000×10^{15} NP1:$\phi_0$96.00000°, δ86.00000°, λ-23.00000°. NP2:$\phi_0$188.00000°, δ67.00000°, λ-175.00000°. Principal axes: T 4.3024, Plg13.0000°, Azm144.0000°; N 0.7932, Plg66.0000°, Azm266.0000°; P -5.0955, Plg19.0000°, Azm49.0000°;*

ISC 31 17:45:07.9±2.4, 50.°39N±0.°03×130.°18W±0.°04, h11km±16km, n520, σ1^{9}71/494, mb4.2/17, MS3.6/15, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.33	78	P	Pn	17 45 31.5	-1.0
HOLB				Sn	Sb	17 45 49.4	-0.7
PACB	Port Alice, BC	1.72	87	Pn	Pn	17 45 36.5	-1.3
PACB				Sn	Sn	17 45 57.1	-2.7
PHC	Port Hardy	1.78	79	Pn	Pn	17 45 38.0	-0.7
PHC				Sn	Sn	17 45 59.4	-1.9
MAYB	Maynard	1.93	88	Pn	Pn	17 45 39.5	-1.3
MAYB				Sn	Sn	17 46 02.4	-2.6
FHRB	Fair Harbour	2.00	99	Pn	Pn	17 45 40.2	-1.4
HG4B	Hotspring	2.01	342	Pn	Pn	17 45 40.7	-1.1
HG4B				Sn	Sn	17 46 05.6	-1.3
EDB	Eliza Dome	2.04	103	Pn	Pn	17 45 40.1	-2.1
EDB				Sn	Sn	17 46 05.1	-2.5
TLCB	Telegraph Cove	2.15	85	Pn	Pn	17 45 42.2	-1.4
TLCB				Sn	Sn	17 46 08.6	-1.6
BBB	Bella Bella	2.22	35	Pn	Pn	17 45 44.8	+0.2
	39nm,0.3s,baz=230,slow=14,SNR=572						
BBB				Sn	Sn	17 46 10.5	-1.5
	65nm,0.3s,baz=295,slow=17,SNR=6.7						
BBB				LR		17 46 20.2	
	comp=Z,312nm,18.7s,baz=158,slow=32						
BBB	Bella Bella	2.22	35	Pn	Pn	17 45 44.8	+0.2
BBB	Bella Bella	2.22	35		Pn	17 45 44.5	-0.1
WOSB	Woss	2.33	94	Pn	Pn	17 45 45.5	-0.8
BNB	Barry Inlet	2.40	336	Pn	Pn	17 45 45.4	-1.8
BNB				Sn	Sn	17 46 14.1	-2.5
ETB	Estevan Point	2.57	112	Pn	Pn	17 45 48.9	-0.5
NCRB	Newcastle Ridg	2.64	88	Pn	Pn	17 45 50.1	-0.5
GDR	Gold River	2.74	101	Pn	Pn	17 45 50.7	-1.1
NC89	ODP889	2.77	127	Sn	Sn	17 46 23.9	-1.5
HG1B	Mitchell Dam	2.82	335	Pn	Pn	17 45 51.5	-1.4
BUTB	Butedale	2.88	21	Pn	Pn	17 45 53.9	0.0
BUTB				Sn	Sn	17 46 27.9	-0.7
BNKB	Banks Island	2.95	3	Pn	Pn	17 45 54.0	-0.7
BNKB				Sn	Sn	17 46 28.3	-1.9
MOBC	Moresby Island	2.97	339	Pn	Pn	17 45 54.1	-0.9
MOBC				Sn	Sn	17 46 27.1	-3.6
MOBC	Moresby Island	2.97	339		Pn	17 45 54.2	-0.9
TOFB	Tofino	3.04	112	Pn	Pn	17 45 55.0	-0.9
TOFB				Sn	Sn	17 46 31.1	-1.0
CBB	Campbell River	3.12	95	Pn	Pn	17 45 56.7	-0.3
CBB				Sn	Sn	17 46 31.9	-2.3
BNAB	Bonilla	3.12	355	Pn	Pn	17 45 56.3	-0.7
BNAB				Sn	Sn	17 46 32.0	-2.3
BTB	Buttle Lake	3.15	105	Pn	Pn	17 45 56.4	-1.2
BTB				Sn	Sn	17 46 33.2	-2.1
DIB	Dawson Inlet,	3.16	334	Pn	Pn	17 45 56.2	-1.3
DIB				Sn	Sn	17 46 33.0	-2.2
DIB	Dawson Inlet,	3.16	334	Pn	Pn	17 45 56.5	-1.0
H02S1	DAWSON INLET T	3.16	334	Pn	Pn	17 45 56.5	-1.5
H02S1				Sn	Sn	17 46 33.6	-1.5
MWAB	Mount Washingt	3.21	100	Pn	Pn	17 45 58.0	-0.3
MWAB				Sn	Sn	17 46 34.8	-1.9
HWKB	Hawksbury Isla	3.28	11	Pn	Pn	17 45 59.6	+0.3
HWKB				Sn	Sn	17 46 37.0	-1.2
OZB	Mount Ozzard	3.37	113	Pn	Pn	17 46 00.0	-0.4
GRNB	Grenville Isla	3.47	2	Pn	Pn	17 46 01.9	+0.1
GRNB				Sn	Sn	17 46 40.7	-2.2
B928	Bamfield	3.63	113	Pn	Pn	17 46 04.2	+0.2
TXB	Texada	3.77	98	Pn	Pn	17 46 05.6	-0.4
MASB	Masset	3.80	343	Pn	Pn	17 46 07.6	+1.2
KITB	Kitimat	3.81	14	Pn	Pn	17 46 06.5	-0.1
KITB				Sn	Sn	17 46 51.9	+0.6
MGB	Mount Grey	3.83	109	Pn	Pn	17 46 06.8	0.0
RUBB	Prince Rupert	3.94	359	Pn	Pn	17 46 08.7	+0.4
RUBB	Prince Rupert	3.94	359		Pn	17 46 08.5	+0.2
NDB	Naden	3.95	336	Pn	Pn	17 46 07.9	-0.6
GHNB	Nanoose	4.00	103	Pn	Pn	17 46 09.2	+0.1
GHNB				Sn	Sn	17 46 52.9	-3.0
SHB	Sechelt	4.15	99	Pn	Pn	17 46 11.0	-0.3
SHB				Sn	Sn	17 46 59.4	-0.3
PFB	Port Renfrew	4.16	114	Pn	Pn	17 46 11.4	0.0
NLLB	Nanaimo Lost L	4.18	104	Pn	Pn	17 46 11.8	+0.3
OCP	Olym-Cheeka Pk	4.19	118	Pn	Pn	17 46 12.9	+1.0
LIB	Langara Island	4.25	337	Pn	Pn	17 46 12.4	-0.2
UBRB	Upper Baezaeko	4.55	54	Pn	Pn	17 46 19.0	+2.2
UBRB				Sn	Sn	17 47 09.2	-0.5
BIB	Bowen Island	4.55	100	Pn	Pn	17 46 16.7	0.0
GOBB	Galiano Island	4.57	106	Pn	Pn	17 46 17.1	+0.2
OBC	Olympics--Boni	4.64	118	Pn	Pn	17 46 18.3	+0.2
WSLR	Whistler	4.67	90	Pn	Pn	17 46 18.2	-0.2
B010	North Saanich	4.72	109	Pn	Pn	17 46 19.1	+0.2
PGC	Sidney	4.72	109	Pn	Pn	17 46 19.8	+0.8
PGC	Sidney	4.72	109	Pn	Pn	17 46 22.3	+3.3
B009	North Saanich	4.72	109	Pn	Pn	17 46 19.6	+0.7
B011	North Saanich	4.72	109	Pn	Pn	17 46 19.7	+0.7
SNB	Saturna Island	4.84	107	Pn	Pn	17 46 21.4	+0.7
SNB				Sn	Sn	17 47 16.1	-0.6
VGZ	Gonzales	4.90	111	Pn	Pn	17 46 21.8	+0.4
OSD	Olympics--Snow	4.97	119	Pn	Pn	17 46 22.1	-0.5
HNBB	Haney	5.05	100	Pn	Pn	17 46 24.5	+1.0
HNBB				Sn	Sn	17 47 21.7	-0.1
MCW	Mount Constitu	5.08	107	Pn	Pn	17 46 24.6	+0.5
A04D	Lummi Island	5.15	106	P	Pn	17 46 24.9	0.0
	baz=291						
LLLB	Lillooet	5.30	84	Pn	Pn	17 46 27.9	+0.8
LLLB	Lillooet	5.30	84	Pn	Pn	17 46 27.9	+0.8
CRAG	Craig	5.39	342	P	Pn	17 46 28.8	+0.6
	baz=160						
CRAG				S	Sn	17 47 31.2	+1.0
	baz=160						
CRAG	Craig	5.39	342		Pn	17 46 28.7	+0.6
VDB	Vedder Mountai	5.42	101	Pn	Pn	17 46 29.6	+1.0
HDW	Hoodsport	5.43	118	Pn	Pn	17 46 29.1	+0.2
A05A	Maple Falls	5.44	102	Pn	Pn	17 46 30.5	+1.7
A05A	Maple Falls	5.44	102		Pn	17 46 30.9	+2.0
FSB	Fort Saint Jam	5.44	39	Pn	Pn	17 46 30.7	+1.8
D03D	Eldon	5.48	119	P	Pn	17 46 29.1	-0.3
	baz=303						
CMW	Cultus Mountai	5.62	107	Pn	Pn	17 46 33.9	+2.4
MBW	Mount

DLBC Sn Sn 17 48 38.6 +2.5
DLBC Dease Lake 8.07 1 Pn Pn 17 47 06.1 +1.1
HAWA Hanford 8.14 115 Pn Pn 17 47 10.4 +4.5
I03D Drain, OR 8.16 143 P Pn 17 47 04.4 -1.8
baz=327
D08A Wollman Farm, 8.16 110 Pn Pn 17 47 06.8 +0.6
F07A Phinny Hill Vi 8.20 119 Pn Pn 17 47 08.4 +1.7
C09A Chrisman Ranch 8.23 104 Pn Pn 17 47 07.9 +0.6
C09A Chrisman Ranch 8.23 104 Pn Pn 17 47 08.2 +0.9
JIS Juneau Island 8.27 344 Pn Pn 17 47 08.7 +1.0
NBC5 NorthernBC 5 8.40 29 Pn Pn 17 47 11.6 +2.0
NBC5 Sn Sn 17 48 44.8 +0.3
J01E Myrtle Point 8.40 147 P Pn 17 47 08.8 -0.8
baz=331
I04A Tendick Farm, 8.46 138 P Pn 17 47 09.7 -0.7
baz=323
NEW Newport 8.79 99 Pn Pn 17 47 16.2 +1.2
0.7nm,0.3s,baz=300,slow=9.0,SNR=3.6
NEW Lg Lg 17 49 48.5
0.2nm,0.3s,baz=273,slow=23,SNR=1.6
NEW Newport 8.79 99 P Pn 17 47 14.7 -0.3
baz=288
NEW Newport 8.79 99 Pn 17 47 15.5 +0.5
E09A Wood Farm, Sta 8.89 111 Pn 17 47 19.0 +2.7
K02D Willamette Mer 8.91 147 P Pn 17 47 15.3 -1.3
baz=332
J04D Umpqua Nationa 9.04 139 P Pn 17 47 16.8 -1.7
baz=325
G08A Pilot Rock 9.11 120 Pn Pn 17 47 24.3 +4.9
PINE Pine Mountain 9.12 133 Pn Pn 17 47 25.5 +5.9
HUMO Hull Mountain 9.24 145 Pn Pn 17 47 25.5 +4.4
J05D Fort Rock, OR 9.38 136 P Pn 17 47 21.7 -1.5
baz=322
L02E Cave Junction 9.41 149 P Pn 17 47 22.1 -1.2
baz=333
I07A Izee 9.62 127 Pn Pn 17 47 31.3 +5.0
L04D Klamath Falls 9.82 143 P Pn 17 47 28.1 -1.0
baz=329
KRMB Red Mountain 9.88 151 Pn Pn 17 47 36.0 +6.0
K05A Summer Lake 9.98 137 Pn Pn 17 47 36.7 +5.3
YBH Yreka Blue Hor 10.09 146 Pn Pn 17 47 35.7 +2.9
0.3nm,0.3s,baz=313,slow=7.8,SNR=7.5
YBH LR LR 17 50 57.5
comp=Z,296nm,20.5s,baz=322,slow=34
YBH Yreka Blue Hor 10.09 146 Pn Pn 17 47 38.3 +5.5
BMO Blue Mountains 10.30 118 Pn Pn 17 47 40.0 +4.3
M02C Callahan 10.34 148 P Pn 17 47 35.5 -0.7
baz=332
BHMT Big Hole Peak 10.35 100 Pn Pn 17 47 37.1 +0.8
M04C Macdoel 10.37 143 P Pn 17 47 35.8 -0.9
baz=328
BSMT Bassoo Peak 10.41 98 Pn Pn 17 47 38.6 +1.4
KHMM Horse Mountain 10.53 152 Pn 17 47 46.2 +7.4
WALA Waterton Lakes 10.62 91 Pn Pn 17 47 42.0 +2.0
WALA Waterton Lakes 10.62 91 Pn Pn 17 47 42.9 +2.8
WHY Whitehorse 10.63 347 Pn Pn 17 47 42.1 +2.0
WHY Whitehorse 10.63 347 P Pn 17 47 40.9 +0.8
baz=164,SNR=7.4
WHY Whitehorse 10.63 347 Pn Pn 17 47 41.7 +1.6
J08A Circle Bar Ran 10.65 127 Pn Pn 17 47 45.1 +4.5
PNL Peninsula 10.68 334 Pn Pn 17 47 43.4 +2.7
JTMT Jette 10.76 98 Pn Pn 17 47 43.8 +1.7
JTMT Jette 10.76 98 Pn 17 47 43.2 +1.2
N02D Trinity Center 10.77 148 P Pn 17 47 41.2 -0.8
baz=333
MOD Modoc Plateau 10.90 137 Pn 17 47 48.4 +4.4
PLID Pearl Lake 10.92 114 Pn Pn 17 47 46.5 +2.3
BCPM Bancas Point 10.99 334 Pn 17 47 46.6 +1.7
SWMT Swartz Lake 11.03 99 Pn Pn 17 47 47.2 +1.6
WDC Whiskeytown Da 11.17 148 Pn Pn 17 47 53.2 +5.7
HYT Haines Junctio 11.24 341 Pn Pn 17 47 50.8 +2.3
HYT Haines Junctio 11.24 341 Pn Pn 17 47 49.7 +1.3
WVOR Wild Horse Val 11.25 131 Pn 17 47 52.2 +3.5
PINM Pinnacle 11.28 333 P Pn 17 47 48.4 -0.6
baz=146,SNR=5.9
PCA Pinnacle 11.28 333 Pn Pn 17 47 51.4 +2.4
PCA Pinnacle 11.28 333 Pn 17 47 49.4 +0.4
MSO Missoula 11.33 102 P Pn 17 47 48.5 -1.2
baz=294
MSO Missoula 11.33 102 Pn Pn 17 47 50.9 +1.2
SLMT Seeley Lake 11.45 100 Pn Pn 17 47 53.1 +1.8
O02D Mt. Diablo Mer 11.46 150 P Pn 17 47 50.4 -1.1
baz=335,SNR=11
YUK6 Outpost Mounta 11.53 340 Pn Pn 17 47 53.7 +1.2
O03E Paynes Creek 11.68 147 P Pn 17 47 53.8 -0.8
baz=332
TABL Table Mountain 11.82 333 Pn 17 47 56.8 +0.3
MESA MESA 11.86 330 P Pn 17 47 56.7 -0.3
baz=141
MESA MESA 11.86 330 Pn 17 47 57.2 +0.2
YAH Yahtse 11.94 331 Pn 17 47 58.0 -0.2
YUK4 Talbot Arm 11.95 340 Pn Pn 17 48 01.4 +3.1
LOGN Logan Glacier 12.09 334 Pn Pn 17 48 02.7 +2.5
LOGN Logan Glacier 12.09 334 Pn 17 48 01.6 +1.4
CTGM Chitina Glacie 12.30 334 Pn Pn 17 48 05.5 +2.5
CTGM Chitina Glacie 12.30 334 Pn 17 48 04.3 +1.3
CTG Chitna Glacier 12.30 334 P Pn 17 48 02.9 -0.1
baz=145,SNR=11
ISLE Juniper Island 12.31 331 Pn 17 48 03.1 0.0
WAX Waxell Ridge 12.36 329 Pn Pn 17 48 04.0 +0.4
ELMT Elliston 12.36 101 Pn Pn 17 48 05.7 +1.8
ORV Oroville 12.45 147 Pn Pn 17 48 08.4 +3.5
HOPS Hopland Field 12.46 153 Pn 17 48 10.5 +5.4
BARN Barnard Glacie 12.47 333 Pn 17 48 08.0 +2.7
KAIM Kayak Island 12.52 325 P Pn 17 48 06.0 +0.2
baz=134
KAIM Kayak Island 12.52 325 Pn Pn 17 48 05.7 -0.2
KIAG Kiagna River 12.57 332 Pn Pn 17 48 09.1 +2.5
TGL Tana Glacier 12.59 330 Pn 17 48 06.1 -0.7
BERG Berg Lake 12.60 328 Pn 17 48 06.3 -0.6
BALM Baldy 12.65 332 Pn Pn 17 48 10.8 +3.0
CRQE Cirque 12.67 330 P Pn 17 48 08.3 +0.4
baz=140,SNR=16
CRQM Cirque 12.68 330 Pn 17 48 08.2 0.0
LRM Limekiln Ridge 12.70 104 Pn Pn 17 48 09.3 +0.8
LRM Limekiln Ridge 12.70 104 Pn Pn 17 48 09.1 +0.6
HLID Hailey 12.74 116 P Pn 17 48 08.5 -0.6
baz=308
HLID Hailey 12.74 116 Pn Pn 17 48 10.4 +1.4
YUK3 Moose Creek 12.75 337 Pn Pn 17 48 12.2 +3.0
HMT Hamilton 12.75 327 Pn 17 48 08.8 -0.3
PTPK Patty Peak 12.81 332 Pn Pn 17 48 12.7 +2.7
DLMT Dillon 12.82 106 Pn Pn 17 48 10.4 +0.2
YUK2 White River 12.86 337 Pn Pn 17 48 13.5 +3.0
BCYI Bear Canyon 12.89 112 Pn Pn 17 48 12.3 +1.2
RAGM Ragged Mountai 12.93 326 Pn 17 48 10.9 -0.7
MCMT McKenzie Canyo 12.94 109 Pn Pn 17 48 12.9 +1.0
PAHR Pah Rah Range 13.11 140 Pn Pn 17 48 18.5 +4.3
MCARA McCarthy VSAT 13.13 332 P Pn 17 48 13.9 -0.3
baz=142
MCARA McCarthy VSAT 13.13 332 Pn Pn 17 48 10.3 -3.9
VRDI Verde Repeater 13.14 331 Pn 17 48 16.1 +1.6
AFDM Forest Hills D 13.17 147 Pn Pn 17 48 18.6 +3.7
BOZ Bozeman (W) 13.31 104 P Pn 17 48 15.6 -1.2
baz=298
BOZ Bozeman (W) 13.31 104 Pn 17 48 18.4 +1.6
BMRM Bremner River 13.32 328 P Pn 17 48 16.2 -0.6
baz=137
BMRM Bremner River 13.32 328 Pn 17 48 16.8 -0.1
VCNR Virginia City 13.36 142 Pn Pn 17 48 22.4 +4.8
GLB Gilahina Butte 13.42 331 Pn Pn 17 48 17.7 -0.5
EYAK Cordova Ski Ar 13.43 325 P Pn 17 48 17.7 -0.5
baz=133
PNTR Pine Nut 13.56 142 Pn Pn 17 48 22.9 +2.6
EGMT Eagleton 13.56 92 P Pn 17 48 19.5 -0.6
baz=287
EGMT Eagleton 13.56 92 Pn 17 48 20.7 +0.5
M27K Edge Creek, AK 13.60 336 P Pn 17 48 20.1 -0.6
baz=147,SNR=5.8
HIN Hinchinbrook I 13.61 324 Pn Pn 17 48 19.2 -1.6
YERR Yerington 13.79 142 Pn Pn 17 48 27.2 +3.8
N25K Chitina, Valde 13.79 330 P Pn 17 48 22.6 -0.6
baz=138,SNR=12
N25K Chitina, Valde 13.79 330 Pn Pn 17 48 25.1 +1.9
QLMT Earthquake Lak 13.81 107 Pn Pn 17 48 25.6 +2.0
FID Port Fidalgo 13.84 325 Pn Pn 17 48 23.0 -0.8
DIV Divide 13.84 327 Pn Pn 17 48 25.0 +1.1
M26K Nabesna, AK 13.94 335 P Pn 17 48 24.2 -1.0
baz=144
WAKR Walker 14.13 143 Pn 17 48 31.9 +3.9
KLU Klutina 14.15 328 P Pn 17 48 27.8 -0.3
baz=135,SNR=7.0
KLU Klutina 14.15 328 Pn 17 48 28.3 +0.2

GLI Glacier Island 14.15 324 P Pn 17 48 26.6 -1.4
baz=131
BCAR Beaver Creek A 14.18 338 Pn 17 48 27.1 -1.3
YHH Holmes Hill 14.18 106 Pn 17 48 29.4 +0.5
L27K Beaver Creek, 14.18 338 P Pn 17 48 28.4 -0.2
baz=149,SNR=6.2
L27K Beaver Creek, 14.18 338 Pn 17 48 28.3 -0.2
CMB Columbia Colle 14.19 147 Pn 17 48 32.8 +4.0
KVN Kaiserville 14.20 138 Pn Pn 17 48 32.6 +3.5
ELK Elko 14.21 127 Pn P 17 48 36.1 -0.6
0.1nm,0.3s,baz=316,slow=8.8,SNR=3.3
ELK LR LR 17 53 51.8
comp=Z,113nm,21.8s,baz=317,slow=37
ELK Elko 14.21 127 Pn Pn 17 48 31.8 +2.6
YNR Norris Junctio 14.32 106 Pn Pn 17 48 32.3 +1.5
RYN Ryan 14.38 140 P 17 48 35.9 -2.7
GCMT Greycliff 14.45 101 Pn 17 48 35.1 +2.7
YPP Pitchstone Pla 14.48 108 Pn 17 48 34.8 +1.8
HARP HAARP 14.56 331 P Pn 17 48 32.3 -1.4
baz=139
DAWY Dawson 14.56 344 Pn Pn 17 48 34.2 +0.5
MENT Mentasta 14.57 335 Pn 17 48 35.0 +1.2
IMW Indian Meadow 14.60 109 P Pn 17 48 38.0 +3.4
YNE Yellowstone No 14.60 104 Pn 17 48 35.2 +0.7
SEW Seward 14.62 319 P Pn 17 48 32.5 -1.9
baz=124
YMP Mirror Lake Pl 14.64 105 P Pn 17 48 38.2 +3.1
NVAR Mina Array Bea 14.64 140 Pn P 17 48 40.0 -1.5
0.0nm,0.3s,baz=318,slow=12,SNR=14
NVAR Mina Array Bea 14.64 140 Pn P 17 48 39.3 -2.2
FLWY Flagg Ranch 14.64 108 Pn 17 48 37.3 +2.2
M24K Tolsona, Glenn 14.67 329 P Pn 17 48 33.6 -1.6
baz=136
M24K Tolsona, Glenn 14.67 329 Pn Pn 17 48 36.6 +1.4
NV11 Mina Array Sit 14.70 140 P 17 48 40.1 -2.0
TPAW Teton Pass 14.82 110 Pn 17 48 40.1 +2.5
YKA Yellowknife Ar 14.82 29 Pn Pn 17 48 37.4 +0.2
0.2nm,0.3s,baz=216,slow=12,SNR=9.0
YKA LR LR 17 53 57.6
comp=Z,122nm,20.3s,baz=0.0,slow=36
YKA Yellowknife Ar 14.82 29 Pn 17 48 35.0 -2.2
SCM Sheep Creek Mo 14.87 327 Pn 17 48 37.1 -0.8
REDW Red Top Meadow 14.95 111 Pn 17 48 40.9 +1.6
LOHW Long Hollow 14.96 109 Pn 17 48 42.5 +3.2
BRSE Bradley Lake S 14.98 317 P Pn 17 48 38.1 -1.4
baz=120
KNK Knik Glacier 15.00 324 P Pn 17 48 38.1 -1.6
baz=130
KNK Knik Glacier 15.00 324 Pn Pn 17 48 41.0 +1.4
SAO San Andreas Ge 15.00 152 Pn P 17 48 45.0 -0.2
SAO IAmb IAmb 17 48 50.8
comp=Z,16nm,1.4s
RLMT Red Lodge 15.00 102 P Pn 17 48 38.0 -2.0
baz=298
RLMT Red Lodge 15.00 102 Pn Pn 17 48 42.3 +2.3
MDPB Devils Postpil 15.03 144 Pn 17 48 43.5 +3.1
MDPB IAmb IAmb 17 48 52.2
comp=Z,12nm,1.0s
KDAK Kodiak Island 15.03 308 Pn Pn 17 48 41.0 +1.0
comp=Z,0.2nm,0.3s,baz=149,slow=19,SNR=4.2
KDAK Kodiak Island 15.03 308 P Pn 17 48 39.3 -0.8
baz=110
BRLK Bradley Lake 15.06 316 Pn 17 48 40.5 +0.1
K27K Chicken 15.07 340 Pn 17 48 39.8 -0.8
PAX Paxson 15.09 332 P Pn 17 48 42.8 +1.9
PAX Paxson 15.09 332 P Pn 17 48 39.2 -1.8
baz=140,SNR=6.1
PAX Paxson 15.09 332 Pn 17 48 40.2 -0.7
AHID Auburn Hatcher 15.15 113 P 17 48 45.5 -1.6
AHID IAmb IAmb 17 48 53.8
comp=Z,18nm,1.1s
SML Sawmill 15.21 326 P Pn 17 48 40.6 -1.8
baz=131
SML Sawmill 15.21 326 Pn 17 48 42.6 +0.2
OHAK Old Harbor 15.22 306 P Pn 17 48 39.5 -3.0
baz=107
OHAK Old Harbor 15.22 306 Pn Pn 17 48 44.3 +1.8
DOT Dot Lake 15.23 336 P Pn 17 48 44.3 +1.5
DOT Dot Lake 15.23 336 Pn 17 48 44.3 +1.5
DOT IAmb IAmb 17 48 53.2
comp=Z,5.9nm,0.8s
BGU Big Grassy Mou 15.24 122 P 17 48 46.4 -1.7
BGU IAmb IAmb 17 49 08.7
comp=Z,20nm,1.9s
RC01 Rabbit Creek A 15.29 322 P Pn 17 48 42.2 -1.3
baz=126
TPH Tonopah 15.39 138 Pn 17 48 48.1 +2.9
GHO Glory Hole Cre 15.40 325 Pn 17 48 45.5 +0.5
GHO IAmb IAmb 17 48 49.0
comp=Z,10.0nm,0.8s
SCRK Sand Creek 15.48 337 P Pn 17 48 44.5 -1.6
baz=146,SNR=12
SCRK Sand Creek 15.48 337 Pn Pn 17 48 47.0 +0.9
SCRK IAmb IAmb 17 48 56.1
comp=Z,8.3nm,0.9s
RIDG Independent Ri 15.52 335 P Pn 17 48 46.0 -0.4
baz=143,SNR=13
RIDG Independent Ri 15.52 335 Pn 17 48 46.7 +0.2
RIDG IAmb IAmb 17 48 56.5
comp=Z,15nm,0.8s
SII Sitkinak Islan 15.52 303 P Pn 17 48 44.5 -2.0
baz=104
SII Sitkinak Islan 15.52 303 Pn Pn 17 48 45.7 -0.9
SII IAmb IAmb 17 48 48.9
comp=Z,20nm,1.3s
WAT6 Susitna Watana 15.52 329 P Pn 17 48 45.4 -1.3
baz=134
EGAK Eagle 15.54 342 P Pn 17 48 47.0 +0.3
baz=153,SNR=8.7
EGAK Eagle 15.54 342 Pn Pn 17 48 46.1 -0.6
EGAK IAmb IAmb 17 48 59.6
comp=Z,9.8nm,1.1s
HWUT Hardware Ranch 15.60 117 Pn Pn 17 48 49.8 +1.9
HWUT IAmb IAmb 17 49 03.3
comp=Z,21nm,1.8s
PMPB Monarch Peak 15.71 151 P 17 48 52.2 -0.9
PMPB IAmb IAmb 17 49 16.2
comp=Z,44nm,1.4s
DUG Dugway, Tooele 15.88 123 P Pn 17 48 51.8 +0.4
baz=315
DUG Dugway, Tooele 15.88 123 Pn 17 48 52.6 +1.2
R11A Troy Canyon, C 15.90 134 P Pn 17 48 51.5 -0.2
baz=324,SNR=7.2
R11A Troy Canyon, C 15.90 134 P 17 48 54.4 -1.0
SUA Susitna One 15.91 322 P Pn 17 48 51.2 -0.4
baz=125,SNR=8.6
SUA Susitna One 15.91 322 Pn 17 48 50.2 -1.5
WAT1 Susitna Watana 15.96 328 P Pn 17 48 51.9 -0.4
baz=133
O20K Slope Mountain 15.98 316 P Pn 17 48 52.1 -0.4
baz=118
SPR3 Spring Creek 3 15.98 129 P 17 48 58.2 +1.7
P19K Oil Pt 16.06 314 P Pn 17 48 52.8 -0.8
baz=116
BW06 Boulder Array 16.07 110 P Pn 17 48 53.3 -0.6
baz=305
BW06 Boulder Array 16.07 110 P 17 48 57.5 +0.2
BW06 IAmb IAmb 17 49 15.8
comp=Z,28nm,1.9s
PD31 Pinedale Array 16.07 110 Pn P 17 48 56.9 -0.4
PD31 IAmb IAmb 17 49 15.8
comp=Z,24nm,1.9s
PDAR Pinedale Array 16.07 110 Pn P 17 48 57.9 +0.6
comp=Z,0.1nm,0.3s,baz=319,slow=8.8,SNR=16
PDAR Pinedale Array 16.07 110 Pn P 17 48 57.0 -0.4
CHIR Chirikof Islan 16.16 299 P Pn 17 48 53.9 -0.9
baz=99
CHIR Chirikof Islan 16.16 299 Pn P 17 48 57.6 -0.4
GRAC Grapevine Rang 16.25 141 P Pn 17 48 56.3 +0.2
baz=329,SNR=7.2
LAO LASA Array 16.27 94 P Pn 17 48 56.8 +0.4
baz=292
LAO LASA Array 16.27 94 Pn Pn 17 48 58.0 +1.6
LAO IAmb IAmb 17 49 31.7
comp=Z,7.8nm,0.7s
CUT Chulitna 16.29 325 Pn Pn 17 48 57.1 +0.7
PAGB Antelope Grade 16.33 150 P 17 49 01.3 +1.3
PAGB IAmb IAmb 17 49 06.7
comp=Z,28nm,1.2s
JLU Jordanelle 16.34 120 Pn P 17 49 00.4 +0.1
NLU North Lily Min 16.45 122 Pn 17 48 60.0 +1.2
CWC Cottonwood Cre 16.45 143 P Pn 17 48 59.1 +0.3
baz=332
RND Reindeer 16.46 329 Pn 17 48 58.9 +0.2
RND IAmb IAmb 17 49 07.5

comp=Z,11nm,0.9s
SKT Skwentna 16.51 323 P Pn 17 48 58.8 -0.4
baz=125
SKT Skwentna 16.51 323 Pn 17 48 58.7 -0.5
PSUT Pine Spring 16.58 129 IAmb IAmb 17 49 15.1
comp=Z,13nm,1.1s
HDA Harding Lake 16.62 334 P Pn 17 49 00.5 -0.1
baz=140,SNR=7.8
HDA Harding Lake 16.62 334 P 17 49 01.4 -1.6
MCK McKinley 16.72 330 P Pn 17 49 01.6 -0.2
baz=135,SNR=8.0
MCK McKinley 16.72 330 Pn 17 49 01.8 0.0
MCK IAmb IAmb 17 49 10.7
comp=Z,23nm,0.9s
TPNV Topopah Spring 16.76 138 P Pn 17 49 02.1 -0.6
baz=327,SNR=26
TPNV Topopah Spring 16.76 138 Pn P 17 49 06.1 +1.2
TPNV IAmb IAmb 17 49 11.7
comp=Z,27nm,1.2s
ILAR Eielson Array 16.88 335 Pn P 17 49 06.0 +0.1
comp=Z,0.2nm,0.3s,baz=151,slow=11,SNR=28
ILAR Eielson Array 16.88 335 Pn 17 49 02.1 -1.8
PRN Pahroc Range 16.91 134 P 17 49 07.6 +1.0
PRN IAmb IAmb 17 49 13.3
comp=Z,18nm,1.3s
FURC Furnace Creek, 16.91 140 P Pn 17 49 04.1 -0.3
baz=329
TRF Thorofare Moun 16.97 328 P Pn 17 49 03.6 -1.6
baz=131
ISA Isabella, Lake 16.99 146 P Pn 17 49 04.9 -0.7
baz=333,SNR=9.8
ISA Isabella, Lake 16.99 146 IAmb IAmb 17 49 14.5
comp=Z,21nm,1.2s
CCB Clear Creek Bu 17.04 334 IAmb IAmb 17 49 15.3
comp=Z,15nm,1.4s
O18K Koktuh Hills 17.06 313 P Pn 17 49 05.8 -0.4
baz=113
PRP Porcupine Dome 17.13 338 P Pn 17 49 05.9 -1.3
baz=145
N19K Bonanza Creek 17.13 317 P Pn 17 49 06.5 -0.7
baz=117,SNR=8.1
TCRU Three Creeks R 17.23 126 P P 17 49 10.9 +0.7
TCRU IAmb IAmb 17 49 31.7
comp=Z,19nm,1.4s
PKM Mcpherson Peak 17.24 150 P Pn 17 49 08.3 -0.5
baz=337
KTH Kantishna Hill 17.25 328 P 17 49 09.3 -0.8
KTH IAmb IAmb 17 49 16.2
comp=Z,21nm,1.1s
PPLA Purkeypile 17.30 325 P Pn 17 49 08.7 -0.5
baz=127
PPLA Purkeypile 17.30 325 IAmb IAmb 17 49 31.2
comp=Z,13nm,1.1s
POKR Poker Plat Res 17.30 335 P P 17 49 09.8 -0.7
baz=141
NEA2 Nenana 17.37 332 P Pn 17 49 08.7 -1.3
baz=136
TMUT Trail Mountain 17.38 122 P P 17 49 13.6 +1.6
MVU Marysvale 17.43 126 P P 17 49 13.8 +1.4
MSU Marysvale 17.45 126 P P 17 49 13.4 +0.8
LRMC Laurel Mtn Rad 17.45 144 P Pn 17 49 08.9 -2.4
baz=332
DHRN Dharma Camp 17.54 14 P P 17 49 14.4 +1.3
CCUT Cedar City 17.59 130 P P 17 49 16.8 +2.6
SHPR Sheep Range 17.60 136 P P 17 49 16.6 +2.4
FFC Flin Flon 17.63 65 Pn 17 49 12.3 -1.0
FFC IAmb IAmb 17 49 18.0
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 17.63 329 P Pn 17 49 12.0 -1.3
baz=132,SNR=14
BPAW Bear Paw Mtn. 17.63 329 IAmb IAmb 17 49 19.5
comp=Z,9.2nm,0.8s
N18K Kilae Creek 17.70 315 P Pn 17 49 13.3 -0.9
baz=114,SNR=18
SVW2 Sparrevohn 17.74 317 P 17 49 15.2 -0.2
OSI Osito Audit: C 17.85 148 P Pn 17 49 14.6 -1.6
baz=335
OSI Osito Audit: C 17.85 148 P P 17 49 20.1 +3.2
OSI IAmb IAmb 17 49 37.3
comp=Z,28nm,1.4s
I23K Minto, Yukon-K 17.86 333 P Pn 17 49 14.7 -1.4
baz=137,SNR=8.7
EDW2 Edwards Air Fo 17.87 146 P Pn 17 49 14.2 -2.2
baz=334
SRU San Rafael Swe 17.89 122 IAmb IAmb 17 49 26.5
comp=Z,24nm,1.9s
FYU Fort Yukon 17.94 340 IAmb IAmb 17 49 23.8
comp=Z,26nm,1.4s
L19K White Mountain 17.94 321 P Pn 17 49 14.9 -2.2
baz=120,SNR=43
CHUM Lake Minchumin 17.94 327 P Pn 17 49 14.3 -2.8
baz=129,SNR=43
H24K Noodor Dome 17.97 336 P Pn 17 49 14.3 -3.2
baz=141,SNR=9.3
K22A Casper 17.98 106 P Pn 17 49 16.8 -1.0
baz=304
K22A Casper 17.98 106 P 17 49 19.1 +0.7
K22A IAmb IAmb 17 50 05.4
comp=Z,12nm,0.5s
LCMT Little Creek M 18.07 131 P P 17 49 22.2 +2.8
LCMT IAmb IAmb 17 49 25.8
comp=Z,11nm,1.0s
SCZ2 Santa Cruz Isl 18.12 151 P Pn 17 49 16.0 -3.5
baz=338
TUQ Turquoise Moun 18.18 140 P Pn 17 49 17.6 -2.8
baz=329,SNR=7.0
MLY Manley 18.19 331 P Pn 17 49 17.2 -2.9
baz=134,SNR=15
PKCU Pink Cliffs 18.19 129 P P 17 49 23.1 +2.2
PKCU IAmb IAmb 17 49 27.7
comp=Z,23nm,1.1s
RRX Edison Barstow 18.25 143 P Pn 17 49 18.3 -2.7
baz=332
K20K Telida 18.26 324 P Pn 17 49 19.8 -1.3
baz=124,SNR=28
DECC Green Verdugo 18.31 147 P Pn 17 49 20.9 -0.9
baz=335
CNBA Chernabura Isl 18.33 295 P P 17 49 22.7 +0.8
CHNA Chernabura Isl 18.33 295 P Pn 17 49 18.8 -3.1
baz=92
H23K Yukon River 18.41 334 P Pn 17 49 20.7 -2.1
baz=138
MWC Mount Wilson 18.44 147 IAmb IAmb 17 49 33.1
comp=Z,10nm,1.0s
HEC Hector,Ludlow 18.54 142 P P 17 49 24.0 -0.6
baz=331,SNR=8.1
I21K Tanana 18.67 331 P Pn 17 49 25.4 -0.6
baz=132,SNR=49
J20K Nowinta River 18.76 326 P P 17 49 25.9 -0.8
baz=126,SNR=19
RSSD Black Hills 18.77 99 P P 17 49 26.9 -0.2
baz=299
RSSD Black Hills 18.77 99 P Pn 17 49 28.0 +0.5
RSSD IAmb IAmb 17 50 13.5
comp=Z,15nm,0.8s
SNCC San Nicolas Is 18.85 151 P Pn 17 49 29.1 +0.8
baz=338
GMRC Granite Mounta 18.85 140 P P 17 49 28.1 +0.1
baz=330
SDPT Sand Point 18.86 297 P Pn 17 49 27.7 -0.6
baz=93
SDPT Sand Point 18.86 297 P Pn 17 49 27.5 -0.8
SDPT IAmb IAmb 17 49 42.3
comp=Z,16nm,1.0s
U15A North Rim 19.00 130 IAmb IAmb 17 49 36.9
comp=Z,8.4nm,0.9s
PV23 Carpenter Ridg 19.19 120 IAmb IAmb 17 49 45.8
comp=Z,9.0nm,0.7s
PV14 Lion Creek, Pa 19.24 121 P Pn 17 49 33.7 +0.4
PV14 IAmb IAmb 17 49 41.4
comp=Z,18nm,1.4s
C36M Paulatuk 19.25 7 P Pn 17 49 34.4 +1.6
C36M Paulatuk 19.25 7 P P 17 49 29.9 -2.0
baz=192
PV20 West Nyswonger 19.29 121 IAmb IAmb 17 49 48.9
comp=Z,9.9nm,1.1s
PV17 East Wray Mesa 19.34 121 IAmb IAmb 17 49 50.3
comp=Z,39nm,1.8s
PV16 Nyswonger Mesa 19.34 120 IAmb IAmb 17 50 05.4
comp=Z,9.9nm,1.1s
W13A Hualapai Mount 19.34 136 P Pn 17 49 34.8 +0.2
N23A Red Feather La 19.35 110 P Pn 17 49 34.8 +0.1
baz=307
PV11 David Mesa, Pa 19.37 120 IAmb IAmb 17 49 44.3
comp=Z,9.7nm,0.9s
PV12 Saucer Basin, 19.40 120 IAmb IAmb 17 49 49.9
comp=Z,37nm,2.0s

BELC	**Belle Mtn. Jos**	**19.40**	**142**	P	**P**	**17 49 34.9 +0.8**
	baz=332,SNR=18					
PV05	**Paradox Valley**	**19.41**	**121**	IAmb	IAmb	17 50 12.7
	comp=Z,7.5nm,0.7s					
PV03	**Paradox Valley**	**19.42**	**120**	IAmb	IAmb	17 50 00.7
	comp=Z,14nm,1.5s					
PV13	**Radium Mtn., P**	**19.50**	**121**	IAmb	IAmb	17 49 52.8
	comp=Z,8.2nm,0.9s					
PV02	**Paradox Valley**	**19.51**	**120**	IAmb	IAmb	17 49 45.8
	comp=Z,10nm,1.1s					
PFO	**Pinyon Flats O**	**19.57**	**144**	P	**Pn**	**17 49 39.4 +2.2**
	comp=Z,0.2nm,0.3s,baz=295,slow=13,SNR=10					
PFO				LR	LR	17 57 04.6
	comp=Z,73nm,18.8s,baz=42,slow=36					
PFO	**Pinyon Flats O**	**19.57**	**144**	P	**P**	**17 49 35.2 -0.6**
	baz=333,SNR=7.2					
PFO	**Pinyon Flats O**	**19.57**	**144**		**P**	**17 49 36.9 +1.0**
PFO				IAmb	IAmb	17 49 43.6
	comp=Z,19nm,1.1s					
TPFO	**Pinon Flats**	**19.58**	**144**	P	**P**	**17 49 35.7 -0.2**
	baz=333,SNR=7.0					
IRM	**Iron Mountain**	**19.61**	**140**	P	**P**	**17 49 35.3 -0.8**
	baz=330,SNR=10.0					
COLD	**Coldfoot**	**19.64**	**337**	P	**Pn**	**17 49 38.8 +1.1**
COLD	**Coldfoot**	**19.64**	**337**	P	**P**	**17 49 34.7 -1.6**
	baz=140,SNR=9.4					
COLD	**Coldfoot**	**19.64**	**337**	IAmb	IAmb	17 49 43.1
	comp=Z,16nm,1.3s					
PDMCI	**Parker Dam,Lak**	**19.91**	**138**	P	**P**	**17 49 37.5 -1.9**
	baz=328,SNR=6.5					
109C	**Camp Elliot, M**	**19.98**	**146**	P	**P**	**17 49 37.2 -3.0**
	baz=335					
MDND	**Maddock**	**20.11**	**85**	P	**P**	**17 49 41.2 -0.3**
	baz=289					
MDND	**Maddock**	**20.11**	**85**	P	**P**	**17 49 42.1 +0.6**
WUAZ	**Wupatki**	**20.18**	**130**	P	**P**	**17 49 40.1 -2.4**
	baz=323,SNR=6.9					
WUAZ	**Wupatki**	**20.18**	**130**	IAmb	IAmb	17 49 48.5
	comp=Z,12nm,1.0s					
MONP2	**Monument Peak**	**20.23**	**145**	P	**P**	**17 49 41.3 -1.8**
	baz=334,SNR=5.8					
ISCO	**Idaho Springs**	**20.23**	**112**	P	**P**	**17 49 41.8 -1.4**
	baz=310					
MVCO	**Mesa Verde**	**20.36**	**122**	P	**P**	**17 49 43.6 -1.0**
	baz=317					
SWSC	**Sam W. Stewart**	**20.41**	**143**	P	**P**	**17 49 44.5 -0.4**
	baz=333					
IKP	**In-Ko-Pah, Jac**	**20.56**	**144**	P	**P**	**17 49 47.1 +0.6**
	baz=334,SNR=8.8					
TOLK	**Toolik Lake Re**	**20.60**	**340**	P	**P**	**17 49 46.1 -0.6**
	baz=143,SNR=7.9					
TOLK	**Toolik Lake Re**	**20.60**	**340**		**P**	**17 49 47.0 +0.3**
TOLK				IAmb	IAmb	17 50 06.8
	comp=Z,14nm,1.1s					
RMX	**La Rumorosa**	**20.61**	**144**	IAmb	IAmb	17 49 59.5
	comp=Z,16nm,1.1s					
CBX	**Cerro Bola**	**20.66**	**146**	P	Pn	17 49 49.9 -0.1
CBX				IAmb	IAmb	17 49 59.8
	comp=Z,6.4nm,0.9s					
GLA	**Glamis**	**20.70**	**141**	P	**P**	**17 49 46.5 -1.6**
	baz=331					
Y14A	**Wickenburg**	**20.71**	**136**	IAmb	IAmb	17 49 54.3
	comp=Z,19nm,1.1s					
S22A	**4UR Ranch, Cre**	**20.90**	**118**	P	**P**	**17 49 48.4 -2.1**
	baz=314,SNR=6.0					
X16A	**Lo Mia Camp, P**	**21.03**	**132**	IAmb	IAmb	17 50 00.8
	comp=Z,9.8nm,0.9s					
W18A	**Petrified Fore**	**21.30**	**128**	P	**P**	**17 49 54.5 -0.2**
	baz=322					
W18A	**Petrified Fore**	**21.30**	**128**	P	**P**	**17 49 56.2 +1.5**
SDCO	**Great Sand Dun**	**21.66**	**116**	P	**P**	**17 49 59.6 +0.9**
	baz=314,SNR=6.1					
ULM	**Lac du Bonnet**	**21.80**	**77**	P	**P**	**17 50 01.1 +1.4**
	comp=Z,29nm,0.9s,baz=292,slow=8.9,SNR=12					
ULM	**Lac du Bonnet**	**21.80**	**77**	P	**P**	**17 50 01.2 +1.4**
ULM	**Lac du Bonnet**	**21.80**	**77**	P	**P**	**17 49 58.9 -0.8**
AKUT	**Akutan**	**21.95**	**294**	P	**P**	**17 50 03.0 +1.8**
AGMN	**Agassiz Nation**	**22.34**	**82**	P	**P**	**17 50 06.2 +0.6**
	baz=288					
AGMN	**Agassiz Nation**	**22.34**	**82**	P	**P**	**17 50 05.0 -0.6**
UNV	**Unalaska Valle**	**22.41**	**293**	P	**P**	**17 50 06.4 +0.1**
	baz=84					
214A	**Organ Pipe Nat**	**22.49**	**138**	P	**P**	**17 50 06.5 -0.8**
	baz=330					
214A	**Organ Pipe Nat**	**22.49**	**138**	IAmb	IAmb	17 50 43.7
	comp=Z,14nm,1.5s					
F33A	**5 Mile Ranch,**	**22.95**	**88**	P	**P**	**17 50 13.3 +1.2**
TUC	**Tucson**	**23.08**	**134**	P	**P**	**17 50 12.0 -1.5**
	baz=327					
TUC	**Tucson**	**23.08**	**134**	P	**P**	**17 50 16.0 +2.4**
TUC				IAmb	IAmb	17 50 19.3
	comp=Z,11nm,0.9s					
ANMO	**Albuquerque**	**23.15**	**123**	P	**P**	**17 50 17.4 +3.0**
	comp=Z,4.4nm,0.8s,baz=316,slow=9.7,SNR=6.6					
ANMO	**Albuquerque**	**23.15**	**123**	P	**P**	**17 50 12.4 -2.0**
	baz=319					
ANMO	**Albuquerque**	**23.15**	**123**	P	**P**	**17 50 16.2 +1.8**
ANMO				IAmb	IAmb	17 50 19.7
	comp=Z,8.9nm,1.1s					
EPLO	**Experimental L**	**23.29**	**78**	P	**P**	**17 50 16.4 +1.0**
ECSD	**EROS Data Cent**	**23.67**	**93**	P	**P**	**17 50 18.1 -1.2**
	baz=298					
ECSD	**EROS Data Cent**	**23.67**	**93**	P	**P**	**17 50 19.9 +0.6**
ECSD				IAmb	IAmb	17 50 27.4
	comp=Z,6.0nm,0.7s					
NIKH	**Nikolski High**	**23.92**	**291**	P	**P**	**17 50 18.6 -3.0**
	baz=81					
SOLO	**Sioux Lookout**	**24.22**	**76**	P	**P**	**17 50 25.8 +1.4**
SPIA	**Saint Paul Isl**	**24.34**	**302**	P	**P**	**17 50 24.0 -1.4**
	baz=89					
SPIA	**Saint Paul Isl**	**24.34**	**302**	P	**P**	**17 50 27.7 +2.3**
CBKS	**Cedar Bluff**	**24.40**	**107**	P	**P**	**17 50 22.9 -3.3**
	baz=308					
CBKS	**Cedar Bluff**	**24.40**	**107**	P	**P**	**17 50 28.7 +2.5**
F36A	**Milaca**	**24.71**	**86**	P	**P**	**17 50 30.5 +1.5**
PKLO	**Pickle Lake**	**24.91**	**72**	P	**P**	**17 50 32.1 +1.4**
EYMN	**Ely**	**25.22**	**80**	P	**P**	**17 50 32.6 -1.0**
	baz=290					
EYMN	**Ely**	**25.22**	**80**	P	**P**	**17 50 35.9 +2.3**
GAMB	**Gambell**	**25.68**	**317**	P	**P**	**17 50 35.0 -2.5**
	baz=102					
AMTX	**Amarillo**	**25.86**	**116**	P	**P**	**17 50 35.5 -4.0**
	baz=316					
MSTX	**Muleshoe**	**25.90**	**119**	P	**P**	**17 50 35.1 -4.8**
	baz=318					
MNTX	**Cornudas Mount**	**26.23**	**126**	P	**P**	**17 50 39.5 -3.3**
	baz=322					
I40A	**Norwalk**	**27.43**	**88**	P	**P**	**17 50 55.5 +1.9**
GTO	**Geraldton**	**27.47**	**74**	P	**P**	**17 50 54.1 +0.3**
WMOK	**Wichita Mounta**	**27.66**	**112**	P	**P**	**17 50 52.0 -3.6**
	baz=314,SNR=9.9					
JFWS	**Jewell Farm**	**28.14**	**90**	P	**P**	**17 50 58.4 -1.4**
	baz=299					
TUL1	**Leonard**	**28.67**	**107**	P	**P**	**17 51 01.7 -2.9**
	baz=311,SNR=12					
TXAR	**Lajitas Array**	**29.00**	**126**	P	**P**	**17 51 11.4 +3.7**
	comp=Z,1.4nm,0.8s,baz=332,slow=7.0,SNR=7.2					
TXAR	**Lajitas Array**	**29.00**	**126**	P	**P**	**17 51 11.0 +3.2**
X37A	**Clayton**	**29.80**	**109**	P	**P**	**17 51 16.8 +2.1**
JCT	**Junction City**	**30.18**	**120**	P	P	17 51 13.7 -4.4
	baz=320					
W39A	**Magazine**	**30.37**	**106**	P	P	17 51 15.3 -4.4
	baz=311					
WHTX	**Lake Whitney,**	**30.39**	**115**	P	P	17 51 15.5 -4.3
	baz=317					
X40A	**Basin Creek Fa**	**31.42**	**106**	P	**P**	**17 51 26.4 -2.5**
	baz=312,SNR=5.9					
833A	**Chaparral WMA,**	**32.07**	**122**	P	**P**	**17 51 31.9 -2.8**
	baz=322					
MATQ	**Matagami**	**33.15**	**70**	P	**P**	**17 51 40.6 -3.4**
	baz=292					
OXF	**Oxford**	**33.53**	**102**	P	**P**	**17 51 44.5 -3.0**
	baz=311					
CHGQ	**Chibougamau**	**35.05**	**69**	P	**P**	**17 51 57.7 -2.7**
	baz=293					
PETK	**Petropavlovsk-**	**42.99**	**303**	P	**P**	**17 53 08.8 +1.9**
	comp=Z,3.6nm,1.0s,baz=69,slow=13,SNR=5.8					
PETK				LR	LR	18 09 44.5
	comp=Z,40nm,18.9s,baz=133,slow=34					
PETK	**Petropavlovsk-**	**42.99**	**303**	P	**P**	**17 53 08.4 +1.5**
MA2	**Magadan**	**43.68**	**314**	LR	LR	18 10 13.6
	comp=Z,60nm,19.9s,baz=131,slow=34					
JMIC	**Jan Mayen**	**52.00**	**21**	LR	LR	18 14 48.9
	comp=Z,54nm,19.3s,baz=284,slow=34					
BORG	**Borgarnes**	**52.75**	**31**	LR	LR	18 17 18.0
	comp=Z,54nm,18.1s,baz=301,slow=37					
ASAJ	**Asahikawa**	**56.27**	**300**	LR	LR	18 16 14.3
	comp=Z,19nm,20.9s,baz=39,slow=33					
H11N2	**WAKE ISLAND Hy**	**57.84**	**262**	T	T	18 57 30.2
	baz=42,slow=75,SNR=293					
H11N3	**WAKE ISLAND Hy**	**57.84**	**262**	T	T	18 57 30.4
	baz=42,slow=75,SNR=407					
H11N1	**WAKE ISLAND Hy**	**57.85**	**262**	T	T	18 57 32.8
	baz=42,slow=75,SNR=333					
KLR	**Kul'dur**	**58.58**	**310**	LR	LR	18 20 13.4
	comp=Z,28nm,18.2s,baz=3.0,slow=36					
H11S1	**WAKE ISLAND Hy**	**58.86**	**261**	T	T	18 58 49.0
	baz=41,slow=76,SNR=19					
H11S2	**WAKE ISLAND Hy**	**58.87**	**261**	T	T	18 58 44.8
	baz=41,slow=76,SNR=16					
H11S3	**WAKE ISLAND Hy**	**58.88**	**261**	T	T	18 58 48.1
	baz=41,slow=76,SNR=19					
ARCES	**ARCESS Array B**	**59.07**	**10**	P	**P**	**17 55 10.2 +2.7**
	comp=Z,3.5nm,0.9s,baz=309,slow=5.7,SNR=2.8					
ARCES				LR	LR	18 21 19.5
	comp=Z,30nm,18.1s,baz=270,slow=37					
NOA	**NORSAR Array B**	**64.68**	**20**	LR	LR	18 22 46.8
	comp=Z,36nm,19.5s,baz=340,slow=35					
FINES	**FINESS Array B**	**66.91**	**12**	P	**P**	**17 56 01.2 +1.6**
	comp=Z,2.2nm,0.9s,baz=340,slow=12,SNR=2.3					
FINES				LR	LR	18 25 10.3
	comp=Z,32nm,19.4s,baz=286,slow=36					
PPT	**Papeete**	**69.79**	**200**	LR	LR	18 20 22.8
	comp=Z,36nm,21.8s,baz=16,slow=30					
SONM	**Songino Array**	**70.72**	**323**	P	**P**	**17 56 26.1 +2.3**
	comp=Z,0.8nm,0.6s,baz=36,slow=5.9,SNR=2.1					
SONM	**Songino Array**	**70.72**	**323**	IAmb	IAmb	17 56 57.3
	comp=Z,5.5nm,1.8s					
ZALV	**Zalesovo Beam**	**71.95**	**339**	P	**P**	**17 56 31.9 +0.9**
	comp=Z,1.6nm,0.7s,baz=28,slow=5.3,SNR=8.4					
ZALV				LR	LR	18 30 23.0
	comp=Z,30nm,18.6s,baz=7.5,slow=38					
ZALV	**Zalesovo Beam**	**71.95**	**339**	P	**P**	**17 56 31.7 +0.7**
KURK	**Kurchatov**	**76.32**	**342**	P	**P**	**17 56 58.3 +1.8**
GERES	**GERESS Array B**	**76.40**	**24**	LR	LR	18 32 08.4
	comp=Z,39nm,19.4s,baz=344,slow=37					
KURBB	**Kurchatov Arra**	**76.43**	**342**	P	**P**	**17 56 58.3 +1.2**
	baz=19,slow=5.3					
AKASG	**Malin Array Be**	**77.77**	**13**	P	**P**	**17 57 06.1 +1.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=4.6,SNR=1.8					
AKASG	**Malin Array Be**	**77.77**	**13**	IAmb	IAmb	17 59 04.4
	comp=Z,6.0nm,1.9s					
ESDC	**Sonseca Array**	**78.66**	**39**	P	**P**	**17 57 13.3 +3.4**
	comp=Z,0.4nm,0.5s,baz=309,slow=5.3,SNR=2.9					
MKAR	**Makanchi Array**	**79.21**	**338**	P	**P**	**17 57 14.1 +1.3**
	comp=Z,3.1nm,0.7s,baz=29,slow=4.9,SNR=39					
MKAR	**Makanchi Array**	**79.21**	**338**	P	**P**	**17 57 13.4 +0.7**
MSVF	**Nonsavu**	**81.67**	**229**	LR	LR	18 26 52.6
	comp=Z,38nm,21.8s,baz=122,slow=31					
LPAZ	**La Paz**	**85.76**	**122**	P	**P**	**17 57 48.8 +0.9**
	comp=Z,1.6nm,0.7s,baz=302,slow=1.7,SNR=5.4					
LPAZ				LR	LR	18 38 39.5
	comp=Z,59nm,21.3s,baz=29,slow=37					
KBZ	**Khabaz**	**86.07**	**5**	P	**P**	**17 57 51.5 +3.0**
	comp=Z,1.2nm,0.7s,baz=333,slow=9.0,SNR=2.6					
GEYT	**Alibeck**	**91.75**	**353**	LR	LR	18 41 56.8
	comp=Z,18nm,19.7s,baz=145,slow=37					
BOSA	**Boshof**	**151.39**	**50**	PKPbc	**PKiKP**	**18 05 02.8 +0.6**
	comp=Z,4.0nm,0.5s,baz=333,slow=1.6,SNR=15					

RSNC 31 17:59:12.3±1.1, 5.30N×73.75W, h146km±5km, ML3.1, Mw3.5, 9C-7D, Fault plane solution: NP1: ϕ_s123.00000°, δ64.00000°, λ158.00000°, **Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	**Chingaza**	**0.66**	**179**	↓*iP*	Pn	17 59 34.2	-0.4
CHIC				*i*		17 59 34.5	
	comp=Z,206nm,0.2s						
CHIC				*eS*	Sn	17 59 50.8	-0.8
ROSC	**El Rosal**	**0.73**	**232**	↑*iP*	Pn	17 59 35.8	+0.8
ROSC				*eS*	Sn	17 59 52.1	-0.1
ROSC				*i*		17 59 57.0	
	comp=Z,381nm,0.4s						
RUSC	**La Rusia**	**0.89**	**48**	↓*eP*	Pn	17 59 36.5	+0.2
RUSC				*eS*	Sn	17 59 54.4	-0.1
RUSC				*i*		17 59 57.2	
	comp=Z,103nm,0.4s						
NORC	**Norcasia**	**1.15**	**283**	↑*eP*	Pn	17 59 37.5	-0.6
NORC				*i*		17 59 38.7	
	comp=Z,243nm,0.6s						
NORC				*eS*	Sn	17 59 57.4	-0.3
VILC	**Villavicencio,**	**1.18**	**177**	↓*iP*	Pn	17 59 37.6	-0.9
VILC				*eS*	Sn	17 59 57.7	-0.7
VILC				*i*		17 59 59.7	
	comp=Z,388nm,0.4s						
BARC	**Barichara**	**1.41**	**23**	*eP*	Pn	17 59 40.4	-0.5
BARC				*eS*	Sn	18 00 01.8	-0.9
BARC				*i*		18 00 09.3	
	comp=Z,112nm,0.4s						
GUY2C	**Guyana, Caldas**	**1.61**	**268**	↑*iP*	Pn	17 59 42.9	-0.4
GUY2C				*eS*	Sn	18 00 06.5	-0.3
GUY2C				*i*		18 00 11.5	
	comp=Z,47nm,0.4s						
TOLC	**Tolima**	**1.72**	**246**	*eP*	Pn	17 59 43.9	-0.4
TOLC				*eS*	Sn	18 00 08.0	-0.7
TOLC				*i*		18 00 10.6	
	comp=Z,153nm,0.5s						
BRRC	**Barranca, Sant**	**1.80**	**1**	↓*eP*	Pn	17 59 45.0	+0.1
BRRC				*i*		17 59 45.5	
	comp=Z,127nm,0.1s						
BRRC				*eS*	Sn	18 00 10.0	+0.1
ANIL	**Santa Ana**	**1.83**	**244**	*eP*	Pn	17 59 45.2	-0.3
ANIL				*eS*	Sn	18 00 10.3	-0.7
ANIL				*i*		18 00 11.3	
	comp=Z,183nm,0.3s						
PTGC	**Puerto Gaitan,**	**1.94**	**124**	↓*iP*	Pn	17 59 45.4	-1.1
PTGC				*eS*	Sn	18 00 10.0	-2.7
PTGC				*i*		18 00 13.5	
	comp=Z,146nm,0.4s						
HELC	**Santa Helena**	**1.98**	**297**	↑*eP*	Pn	17 59 47.0	-0.3
HELC				*eS*	Sn	18 00 13.8	-0.4
HELC				*i*		18 00 16.1	
	comp=Z,79nm,0.3s						
ORTC	**Ortega, Tolima**	**2.03**	**227**	↑*eP*	Pn	17 59 46.7	-0.9
ORTC				*eS*	Sn	18 00 13.5	-1.2
ORTC				*i*		18 00 17.0	
	comp=Z,155nm,0.4s						
TAMC	**Tame, Arauca**	**2.25**	**60**	↑*eP*	Pn	17 59 50.0	-0.3
TAMC				*i*		17 59 50.8	
	comp=Z,53nm,0.5s						
TAMC				*eS*	Sn	18 00 17.9	-1.5
PAMC	**Pamplona, Colo**	**2.28**	**27**	↓*eP*	Pn	17 59 51.5	+0.5
PAMC				*i*		17 59 51.7	
	comp=Z,52nm,0.1s						
PAMC				*eS*	Sn	18 00 20.8	0.0
CBOC	**Ciudad Bolivar**	**2.33**	**284**	*eP*	Pn	17 59 50.9	-0.3
CBOC				*i*		17 59 51.6	
	comp=Z,43nm,0.2s						
CBOC				*eS*	Sn	18 00 20.8	-0.4
ZARC	**Zaragoza, Cauc**	**2.45**	**333**	*eP*	Pn	17 59 50.5	-2.1
ZARC				*eS*	Sn	18 00 22.1	-1.5
ZARC				*i*		18 00 27.9	
	comp=Z,78nm,0.3s						
PLMC	**San Jos del P**	**2.56**	**261**	*eP*	Pn	17 59 54.5	+0.5
PLMC				*i*		17 59 57.1	
	comp=Z,21nm,0.4s						
YOTC	**Yotoco, Valle**	**2.90**	**243**	↑*eP*	Pn	17 59 57.5	-0.9
YOTC				*eS*	Sn	18 00 31.2	-2.7
OCAC	**Ocana**	**2.96**	**8**	*eP*	Pn	17 59 58.7	-0.4
OCAC				*eS*	Sn	18 00 34.5	-0.7
OCAC				*i*		18 00 45.8	
	comp=Z,141nm,0.3s						
DBBC	**Dabeiba**	**2.99**	**305**	↑*eP*	Pn	17 59 59.1	-0.4
DBBC				*eS*	Sn	18 00 33.0	-2.8
UREC	**San Jos de Ur**	**3.02**	**324**	*eP*	Pn	17 59 57.4	-2.3
UREC				*eS*	Sn	18 00 32.7	-3.7
UREC				*i*		18 00 35.1	
	comp=Z,76nm,0.4s						
SMLC	**San Martn de**	**3.50**	**355**	*eP*	Pn	18 00 03.8	-2.1
SMLC				*i*		18 00 48.3	
	comp=Z,48nm,0.1s						
MOTC	**Monteria, Cord**	**3.95**	**331**	↑*eP*	Pn	18 00 09.2	-2.6
MOTC				*eS*	Sn	18 00 53.9	-4.2
MOTC				*i*		18 00 58.7	
	comp=Z,20nm,0.2s						
SJCC	**San Jacinto, C**	**4.79**	**343**	↓*eP*	Pn	18 00 19.6	-3.3
SJCC				*eS*	Sn	18 01 11.5	-6.5
SJCC				*i*		18 01 15.7	
	comp=Z,22nm,0.4s						
CRJC	**Cerrejon, Guaj**	**5.75**	**8**	*eP*	Pn	18 00 32.7	-3.1
CRJC				*eS*	Sn	18 01 34.3	-6.7
CRJC				*i*		18 01 39.3	
	comp=Z,19nm,0.5s						

IDC 31 18:16:20.6±10.0, 0.33N×122.20E, h199km±99km, mb2.9/3, mb1 3.1/3, mb1mx2.7/50, mbtmp3.4/3, Error ellipse: s-maj=203.7km s-min=27.7km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**150**	P	P	18 21 11.6	-0.2
	1.1nm,0.5s,baz=326,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.42**	**155**	P	P	18 21 39.4	+0.3
	0.5nm,0.5s,baz=339,slow=9.6,SNR=14						
ASAR				PcP	PcP	18 24 58.7	-0.6
	0.5nm,1.1s,baz=338,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**57.92**	**329**	P	P	18 25 52.1	+0.1
	0.1nm,0.3s,baz=130,slow=8.6,SNR=1.8						

AEIC ***31*** *19:17:16±3.5, 52.37N±0.06×169.60W±0.08, h35km±4km, Error ellipse: s-maj=9.4km s-min=6.8km az=152.0*
IDC ***31*** *19:17:17.9±1.9, 52.54N×169.84W, h42km±16km, mb4.3/50, mb1 4.4/52, mb1mx4.3/74, mbtmp4.5/52, ML3.9/2, Error ellipse: s-maj=15.1km s-min=8.2km az=179.0*
NEIC ***31*** *19:17:18.6±2.1, 52.59N±0.08×169.74W±0.09, h52km±4km, mb4.8/312, ML4.9(AEIC), Error ellipse: s-maj=12.8km s-min=6.6km az=157.0*
ANF ***31*** *19:17:20.8±0.9, 52.54N×169.31W, h49km±4km, ML5.4/3, Error ellipse: s-maj=9.7km s-min=5.9km az=36.0*
BGR ***31*** *19:17:24.6±0.0, 52.47N×171.19W, h81km±3km, mb4.7*
ISC 31 19:17:18.7±0.5, 52.53N±0.06×169.65W±0.03, h52km±3km, h52km: pP-P, n803, σ1**§23**/760**, mb4.8**/227**, MS4.5**/30**, 32C-19D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.66**	**47**	P	**Pn**	**19 17 30.7**	**-1.2**
	baz=216,SNR=875						
NIKH				S	**Sn**	**19 17 40.8**	**-0.8**
	baz=216						
NIKH	**Nikolski High**	**0.66**	**47**		**Pn**	**19 17 30.6**	**-1.4**
NIKH	**Nikolski High**	**0.66**	**47**		**Sn**	**19 17 41.6**	**0.0**
OKSP	**Okmok Steeple**	**1.10**	**48**		**Pn**	**19 17 37.0**	**-0.8**
OKCE	**Okmok Cone E**	**1.27**	**44**		**Pn**	**19 17 40.1**	**0.0**
OKTU	**Okmok Mt. Tuli**	**1.30**	**48**		**Pn**	**19 17 40.3**	**-0.2**
OKFG	**Magazine Ridge**	**1.38**	**49**		**Sn**	**19 18 00.3**	**+1.7**
MAPS	**Pakushin South**	**2.08**	**51**		**Pn**	**19 17 50.9**	**-0.1**
MGOD	**Makushin Gods**	**2.10**	**52**		**Pn**	**19 17 51.1**	**-0.3**
MGOD					**Sn**	**19 18 18.4**	**+2.0**
MSW	**Makushin Switc**	**2.22**	**50**		**Pn**	**19 17 53.1**	**+0.1**
MNAT	**Makushin Natee**	**2.25**	**52**		**Pn**	**19 17 53.7**	**+0.3**
MNAT					**Sn**	**19 18 21.6**	**+1.7**
MTBL	**Makushin Table**	**2.30**	**50**		**Pn**	**19 17 54.9**	**+0.7**
UNV	**Unalaska Valle**	**2.31**	**54**		**Pn**	**19 17 54.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**2.68**	**52**		**Pn**	**19 18 00.7**	**+1.3**
AKMO	**Akutan Morgan**	**2.69**	**53**		**Pn**	**19 18 00.7**	**+1.2**
KOFP	**Korovin Flat P**	**2.73**	**266**		**Pn**	**19 17 59.8**	**-0.3**
AKLV	**Akutan Long Va**	**2.76**	**52**		**Pn**	**19 18 01.5**	**+1.1**
AKGG	**Akutan Green G**	**2.76**	**51**		**Pn**	**19 18 01.8**	**+1.4**
KOKL	**Mount Kliuchef**	**2.79**	**268**		**Pn**	**19 18 00.5**	**-0.4**
ATKA	**Atka Island**	**2.80**	**265**		**Pn**	**19 17 59.3**	**-1.7**
ATKA	**Atka Island**	**2.80**	**265**		**Sn**	**19 18 33.6**	**0.0**
AKUT	**Akutan**	**2.83**	**54**		**Pn**	**19 18 01.9**	**+0.5**
AKSA	**Akutan Strait**	**2.87**	**54**		**Pn**	**19 18 02.2**	**+0.4**
WESP	**Westdahl Peak**	**3.54**	**54**		**Pn**	**19 18 12.4**	**+1.2**
WEBT	**Westdahl Beart**	**3.58**	**53**		**Pn**	**19 18 12.7**	**+1.1**
GSTR	**Great Sitkin T**	**3.96**	**266**	Pn	**Pn**	**19 18 16.6**	**-0.2**
GSMY	**Great Sitkin M**	**3.96**	**266**		**Pn**	**19 18 16.5**	**-0.4**
SSBA	**Shishaldin**	**3.99**	**53**		**Pn**	**19 18 17.9**	**+0.7**
SSLN	**Shishaldin Nor**	**4.07**	**54**		**Pn**	**19 18 19.7**	**+1.4**
BRPK	**Brown Peak**	**4.11**	**57**		**Pn**	**19 18 20.6**	**+1.7**
ISLZ	**Isanotski Laza**	**4.17**	**56**		**Pn**	**19 18 21.5**	**+1.8**
ISNN	**Isanotski Nort**	**4.19**	**54**		**Pn**	**19 18 21.5**	**+1.5**
ADK	**Adak**	**4.37**	**264**	P	**Pn**	**19 18 21.5**	**-1.0**
ADK	**Adak**	**4.37**	**264**	Pn	**Pn**	**19 18 21.5**	**-1.0**
FALS	**False Pass**	**4.38**	**55**	P	**Pn**	**19 18 23.8**	**+1.2**
	baz=238,SNR=26						
FALS	**False Pass**	**4.38**	**55**		**Pn**	**19 18 23.7**	**+1.2**
KIWB	**Kanaga Island**	**4.66**	**265**	Pn	**Pn**	**19 18 26.3**	**-0.2**
SPIA	**Saint Paul Isl**	**4.67**	**356**	P	**Pn**	**19 18 29.0**	**+2.5**
	baz=175,SNR=162						
KICM	**Kanaga Island**	**4.68**	**266**		**Pn**	**19 18 26.7**	**0.0**
KIMD	**Kanaga Island**	**4.73**	**264**		**Pn**	**19 18 26.9**	**-0.6**
DT1	**Dutton Round H**	**5.08**	**56**		**Pn**	**19 18 33.1**	**+1.0**
TAFP	**Tanaga Falls P**	**5.16**	**266**		**Pn**	**19 18 33.9**	**+0.5**
TASE	**Tanaga Southea**	**5.21**	**266**		**Pn**	**19 18 34.8**	**+0.9**
GAEA	**Gareloi East**	**5.65**	**266**		**Pn**	**19 18 41.4**	**+1.4**
SDPT	**Sand Point**	**6.11**	**59**	P	**Pn**

baz=229,SNR=18
PPLA Purkeypile 13.91 35 Pn 19 20 35.1 +2.1
J20K Nowinta River 14.18 29 P **Pn 19 20 38.4 +2.0**
baz=221,SNR=63
CUT Chulitna 14.31 39 Pn 19 20 37.7 -0.4
PWL Port Wells 14.32 46 Pn 19 20 35.6 -2.7
PMR Palmer 14.33 43 P **Pn 19 20 37.6 -0.7**
PMR Palmer 14.33 43 Pn 19 20 37.6 -0.7
KNK Knik Glacier 14.52 44 P **Pn 19 20 41.4 +0.5**
baz=241
KNK Knik Glacier 14.52 44 Pn 19 20 37.7 -3.3
CHUM Lake Minchumin 14.53 32 P **Pn 19 20 42.1 +1.1**
baz=226,SNR=29
Q23K Middleton Isla 14.71 53 Pn **Pn 19 20 42.1 -1.2**
MID Middleton Isla 14.71 53 P **Pn 19 20 42.1 -1.3**
MID Middleton Isla 14.71 53 Pn **Pn 19 20 42.1 -1.3**
SML Sawmill 14.77 43 P **Pn 19 20 45.0 +0.9**
baz=240,SNR=22
SML Sawmill 14.77 43 Pn 19 20 42.4 -1.7
KTH Kantishna Hill 14.77 34 Pn 19 20 44.4 +0.1
GLI Glacier Island 14.88 47 P **Pn 19 20 44.0 -1.6**
baz=245
GLI Glacier Island 14.88 47 Pn 19 20 42.8 -2.8
TRF Thorofare Moun 14.93 35 P **Pn 19 20 47.7 +1.3**
baz=231,SNR=37
TRF Thorofare Moun 14.93 35 Pn 19 20 46.6 +0.2
HIN Hinchinbrook I 14.96 49 Pn 19 20 43.6 -3.1
FID Port Fidalgo 15.11 48 Pn 19 20 44.1 -4.4
FID IAmb IAmb 19 20 56.5
comp=Z,81nm,1.2s
BPAW Bear Paw Mtn. 15.11 33 P **Pn 19 20 50.3 +1.7**
baz=228,SNR=130
BPAW Bear Paw Mtn. 15.11 33 Pn 19 20 46.1 -2.5
SCM Sheep Creek Mo 15.20 43 P **Pn 19 20 47.0 -2.8**
SCM pmax pmax
comp=Z,76nm,0.8s
SCM Sheep Creek Mo 15.20 43 Pn 19 20 47.0 -2.8
SCM IAmb IAmb 19 20 57.3
comp=Z,76nm,0.8s
WAT1 Susitna Watana 15.21 39 P **Pn 19 20 50.6 +0.7**
baz=236
EYAK Cordova Ski Ar 15.36 49 Pn 19 20 48.3 -3.5
WAT6 Susitna Watana 15.39 41 P **Pn 19 20 53.1 +0.7**
baz=239,SNR=17
RND Reindeer 15.42 37 P **Pn 19 20 53.2 +0.5**
RND pmax pmax
comp=Z,67nm,0.8s
RND Reindeer 15.42 37 Pn 19 20 53.2 +0.5
RND IAmb IAmb 19 21 04.0
comp=Z,67nm,0.8s
I21K Tanana 15.55 29 P **Pn 19 20 55.2 +1.0**
baz=223,SNR=123
DIV Divide 15.57 47 Pn **Pn 19 20 49.6 -5.0**
MCK McKinley 15.58 36 P **Pn 19 20 53.6 -1.1**
MCK pmax pmax
comp=Z,38nm,0.9s
MCK McKinley 15.58 36 P **Pn 19 20 55.6 +0.9**
baz=233
MCK McKinley 15.58 36 Pn 19 20 53.6 -1.1
KLU Klutina 15.65 46 P **Pn 19 20 52.6 -3.0**
baz=245,SNR=44
KLU S **Sn 19 23 47.1 -0.7**
baz=245
KLU Klutina 15.65 46 Pn 19 20 51.9 -3.7
KLU IAmb IAmb 19 21 04.8
comp=Z,38nm,0.6s
BWN Browne 15.67 34 Pn 19 20 57.3 +1.5
BWN IAmb IAmb 19 21 03.8
comp=Z,90nm,0.8s
IMAR Indian Mountai 15.68 25 P **P 19 20 57.7 -1.4**
KAIM Kayak Island 15.79 52 P **Pn 19 20 56.0 -1.4**
baz=253,SNR=6.3
KAIM Kayak Island 15.79 52 Pn 19 20 54.9 -2.5
KAIM IAmb IAmb 19 21 04.3
comp=Z,60nm,1.0s
M24K Tolsona, Glenn 15.81 43 P **Pn 19 20 57.1 -0.5**
baz=243,SNR=16
M24K Tolsona, Glenn 15.81 43 Pn 19 20 56.3 -1.3
M24K IAmb IAmb 19 21 07.5
comp=Z,97nm,1.0s
RAGM Ragged Mountai 15.81 50 Pn 19 20 56.0 -1.6
RAGM IAmb IAmb 19 21 06.3
comp=Z,41nm,0.8s
MLY Manley 15.82 30 P **Pn 19 20 59.4 +1.6**
baz=226,SNR=46
MLY Manley 15.82 30 Pn 19 20 57.0 -0.8
RDOG Red Dog Mine 15.92 9 P **Pn 19 20 58.6 -0.3**
baz=195
RDOG Red Dog Mine 15.92 9 Pn **Pn 19 20 56.6 -2.3**
HMT Hamilton 15.99 51 Pn 19 20 57.7 -2.2
HMT IAmb IAmb 19 21 06.2
comp=Z,58nm,1.0s
BMRM Bremner River 16.04 48 P **Pn 19 20 57.5 -3.0**
baz=249,SNR=30
BMRM Bremner River 16.04 48 Pn 19 20 58.0 -2.5
BMRM IAmb IAmb 19 21 08.6
comp=Z,51nm,0.9s
NEA2 Nenana 16.07 33 P **Pn 19 21 00.5 -0.4**
baz=230,SNR=33
NEA2 Nenana 16.07 33 Pn 19 21 00.4 -0.4
SUCK Suckling Hills 16.14 52 Pn 19 21 00.6 -1.3
BERG Berg Lake 16.27 51 Pn 19 21 01.6 -1.9
N25K Chitina, Valde 16.28 46 P **Pn 19 21 01.3 -2.3**
baz=247,SNR=27
N25K Chitina, Valde 16.28 46 Pn 19 21 00.6 -3.0
WRH Wood River Hil 16.32 35 Pn 19 21 03.0 -1.1
WRH IAmb IAmb 19 21 15.6
comp=Z,89nm,1.0s
I23K Minto, Yukon-K 16.33 31 P **Pn 19 21 05.3 +1.2**
baz=228,SNR=73
I23K Minto, Yukon-K 16.33 31 Pn 19 21 03.5 -0.6
I23K IAmb IAmb 19 21 12.4
comp=Z,103nm,1.3s
HARP HAARP 16.36 43 P **Pn 19 21 03.5 -1.2**
baz=244,SNR=14
PAX Paxson 16.50 41 P **Pn 19 21 04.6 -1.7**
PAX pmax pmax
comp=Z,24nm,0.8s
PAX Paxson 16.50 41 P **Pn 19 21 06.0 -0.3**
baz=241,SNR=37
PAX Paxson 16.50 41 Pn 19 21 04.6 -1.7
CCB Clear Creek Bu 16.53 34 Pn 19 21 05.3 -1.3
CCB IAmb IAmb 19 21 18.2
comp=Z,65nm,0.9s
GLB Gilahina Butte 16.57 47 Pn 19 21 04.0 -3.2
MDM Murphy Dome 16.58 33 Pn 19 21 06.3 -1.0
CRQM Cirque 16.65 50 Pn 19 21 05.0 -3.3
CRQM IAmb IAmb 19 21 14.3
comp=Z,53nm,0.7s
TCOL CIGO, UAF Yank 16.65 34 P **Pn 19 21 08.7 +0.6**
baz=232,SNR=6.0
TCOL CIGO, UAF Yank 16.65 34 Pn **Pn 19 21 06.8 -1.3**
TCOL IAmb IAmb 19 21 19.8
comp=Z,82nm,0.9s
COLA College 16.65 34 *d iP* **Pn 19 21 07.4 -0.7**
COLA pmax pmax
comp=Z,39nm,1.0s
COLA College 16.65 34 Pn 19 21 06.1 -2.0
COLA IAmb IAmb 19 21 19.8
comp=Z,81nm,0.9s
VRDI Verde Repeater 16.65 48 Pn 19 21 05.8 -2.6
CRQE Cirque 16.67 50 P **Pn 19 21 08.2 -0.3**
baz=252,SNR=22
HDA Harding Lake 16.69 36 P **Pn 19 21 08.8 +0.1**
baz=235,SNR=8.4
HDA Harding Lake 16.69 36 Pn 19 21 07.0 -1.6
WAX Waxell Ridge 16.69 51 P **Pn 19 21 06.8 -2.0**
WAX IAmb IAmb 19 21 18.6
comp=Z,51nm,0.7s
H23K Yukon River 16.73 29 P **Pn 19 21 10.0 +0.8**
baz=226,SNR=29
TGL Tana Glacier 16.79 50 P **Pn 19 21 09.0 -1.1**
TGL IAmb IAmb 19 21 18.5
comp=Z,56nm,0.8s
MCARA McCarthy VSAT 16.90 48 P **Pn 19 21 09.0 -2.3**
baz=250,SNR=18
MCARA McCarthy VSAT 16.90 48 Pn 19 21 08.8 -2.5
MCARA IAmb IAmb 19 21 14.9
comp=Z,51nm,0.9s
IL31 16.92 35 Pn 19 21 10.3 -1.2
IL31 IAmb IAmb 19 21 23.6
comp=Z,51nm,1.0s
ILAR Eielson Array 16.92 35 P **Pn 19 21 10.1 -1.4**
comp=Z,0.3nm,0.3s,baz=226,slow=11,SNR=18
ILAR ScP **ScP 19 29 26.6 +1.1**
baz=279,slow=3.2,SNR=9.1
ILAR Eielson Array 16.92 35 Pn 19 21 09.6 -1.9
ILAR **ScP 19 29 27.0 +1.5**
POKR Poker Plat Res 16.94 33 P **Pn 19 21 11.6 -0.2**
baz=232
POKR Poker Plat Res 16.94 33 P **P 19 21 12.6 -0.5**
ISLE Juniper Island 16.98 51 P **Pn 19 21 11.5 -0.9**
ISLE IAmb IAmb 19 21 19.2
comp=Z,54nm,0.9s
RIDG Independent Ri 17.11 39 P **Pn 19 21 13.5 -0.5**
baz=240,SNR=9.9
RIDG Independent Ri 17.11 39 P **Pn 19 21 14.0 0.0**
MENT Mentasta 17.20 43 P **Pn 19 21 13.6 -1.4**
YAH Yahtse 17.20 52 P **Pn 19 21 13.6 -1.6**
YAH IAmb IAmb 19 21 23.1
comp=Z,100nm,1.1s
H24K Noodor Dome 17.25 31 P **Pn 19 21 14.9 -0.8**
baz=229,SNR=69
M26K Nabesna, AK 17.28 45 P **Pn 19 21 14.7 -1.4**
baz=247,SNR=54
DOT Dot Lake 17.38 40 P **Pn 19 21 15.0 -2.3**
BARN Barnard Glacie 17.43 50 P **Pn 19 21 16.0 -2.0**
TABL Table Mountain 17.51 52 P **Pn 19 21 17.8 -1.2**
TABL IAmb IAmb 19 21 34.9
comp=Z,50nm,1.0s
COLD Coldfoot 17.55 25 P **Pn 19 21 19.5 +0.2**
baz=222,SNR=17
COLD Coldfoot 17.55 25 P **Pn 19 21 17.4 -1.8**
CTG Chitna Glacier 17.55 50 P **Pn 19 21 18.9 -0.6**
baz=253,SNR=37
CTGM Chitina Glacie 17.55 50 P **Pn 19 21 18.4 -1.1**
CTGM IAmb IAmb 19 21 25.9
comp=Z,52nm,0.8s
SCRK Sand Creek 17.56 39 P **Pn 19 21 18.3 -1.3**
baz=241,SNR=29
SCRK Sand Creek 17.56 39 P **Pn 19 21 16.7 -2.9**
LOGN Logan Glacier 17.67 51 P **Pn 19 21 17.9 -3.0**
M27K Edge Creek, AK 17.75 45 P **Pn 19 21 20.8 -1.1**
baz=248,SNR=39
PRP Porcupine Dome 17.82 34 P **P 19 21 23.4 +0.4**
baz=234,SNR=6.2
PRP Porcupine Dome 17.82 34 P **Pn 19 21 19.3 -3.5**
PCA Pinnacle 17.86 53 P **Pn 19 21 21.9 -1.3**
PCA IAmb IAmb 19 21 30.6
comp=Z,89nm,0.8s
PINM Pinnacle 17.86 53 P **Pn 19 21 22.9 -0.3**
baz=257,SNR=23
L27K Beaver Creek, 18.04 43 P **P 19 21 24.9 -0.4**
baz=247,SNR=27
L27K Beaver Creek, 18.04 43 P **P 19 21 23.3 -1.9**
BCAR Beaver Creek A 18.05 43 P **P 19 21 23.9 -1.5**
BCPM Bancas Point 18.14 54 P **P 19 21 25.3 -0.9**
BCPM IAmb IAmb 19 21 34.3
comp=Z,46nm,0.7s
FYU Fort Yukon 18.55 31 P **P 19 21 29.7 -1.0**
TOLK Toolik Lake Re 18.77 23 P **Pn 19 21 35.6 +1.5**
baz=220,SNR=13
TOLK Toolik Lake Re 18.77 23 P **P 19 21 33.2 0.0**
EGAK Eagle 19.03 39 P **P 19 21 35.1 -0.9**
baz=243,SNR=33
EGAK Eagle 19.03 39 P **P 19 21 34.6 -1.4**
PET Petropavlovsk 19.11 284 *eP* **P 19 21 36.8 -0.1**
PET *eS* **S 19 25 02.0 -8.6**
PET pmax pmax
comp=Z,21nm,0.6s
PET MLR MLR
comp=Z,600nm,19.0s
PET Petropavlovsk 19.11 284 P **P 19 21 36.6 -0.3**
BMAR Burnt Mountain 19.28 30 P **P 19 21 38.2 -0.6**
HYT Haines Junctio 19.34 52 P **P 19 21 39.9 +0.3**
HYT IAmb IAmb 19 21 47.1
comp=Z,71nm,0.7s
BILL Bilibino 19.38 332⇓ *eP* **Pn 19 21 41.6 +0.2**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,596nm,17.0s
BILL Bilibino 19.38 332 P **Pn 19 21 41.5 +0.1**
DAWY Dawson 19.43 42 P **P 19 21 39.7 -0.8**
PEA0B Petropavlovsk- 19.65 285 *c iP* **P 19 21 42.8 -0.1**
PEA0B Petropavlovsk- 19.65 285 P **P 19 21 42.0 -1.0**
PETK Petropavlovsk- 19.65 285 P **P 19 21 42.8 -0.1**
comp=Z,2.7nm,0.3s,baz=90,slow=12,SNR=69
PETK Petropavlovsk- 19.65 285 P **P 19 21 42.0 -1.0**
PETK Petropavlovsk- 19.65 285 P **P 19 21 42.0 -1.0**
SIT Sitka 20.16 63 P Pn 19 21 50.0 -0.6
SIT pmax pmax
comp=Z,27nm,1.0s
SIT Sitka 20.16 63 P Pn 19 21 50.0 -0.6
SKAG Skagway 20.23 56 P Pn 19 21 50.7 -0.7
baz=265,SNR=36
SKAG Skagway 20.23 56 P Pn 19 21 50.6 -0.9
BESE Bessie Mountai 20.42 59 P **P 19 21 52.1 +0.8**
BESE IAmb IAmb 19 21 57.1
comp=Z,52nm,0.9s
WHY Whitehorse 20.59 53 P **P 19 21 53.2 +0.1**
baz=262,SNR=19
WHY Whitehorse 20.59 53 P **P 19 21 53.4 +0.3**
WHY IAmb IAmb 19 22 03.0
comp=Z,56nm,1.1s
JIS Juneau Island 20.66 60 P **P 19 21 54.0 +0.2**
JIS IAmb IAmb 19 22 00.4
comp=Z,70nm,0.8s
CRAG Craig 21.51 68 P **P 19 22 02.5 -0.5**
baz=277
CRAG Craig 21.51 68 P **P 19 22 05.7 +2.8**
CRAG IAmb IAmb 19 22 16.9
comp=Z,77nm,1.4s
WRAK Wrangell Islan 21.84 65 P **P 19 22 06.5 0.0**
baz=275
WRAK Wrangell Islan 21.84 65 P **P 19 22 08.1 +1.7**
DIB Dawson Inlet, 22.30 73 P 19 22 13.7 +2.3
DIB IAmb IAmb 19 22 20.3
comp=Z,67nm,1.6s
MA2 Magadan 22.91 304 P **P 19 22 18.2 +0.3**
comp=Z,9.7nm,0.9s,baz=197,slow=22,SNR=2.0
MA2 Magadan 22.91 304 P **P 19 22 17.7 -0.1**
MA2 pmax pmax
comp=Z,29nm,1.3s
MA2 Magadan 22.91 304 P **P 19 22 17.7 -0.1**
DLBC Dease Lake 22.95 59 P **P 19 22 20.6 +2.3**
comp=Z,30nm,0.9s,baz=276,slow=9.9,SNR=34
DLBC Dease Lake 22.95 59 P **P 19 22 18.7 +0.3**
DLBC IAmb IAmb 19 22 25.8
comp=Z,32nm,0.8s
INK Inuvik 23.31 34 P **P 19 22 22.9 +1.2**
comp=Z,6.1nm,0.4s,baz=239,slow=9.2,SNR=19
INK Inuvik 23.31 34 P **P 19 22 19.4 -2.2**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 23.31 34 P **P 19 22 21.4 -0.3**
baz=245,SNR=10
INK Inuvik 23.31 34 P **P 19 22 19.4 -2.2**
RUBB Prince Rupert 23.34 70 P **P 19 22 22.9 +0.8**
RUBB IAmb IAmb 19 22 25.1
comp=Z,37nm,1.1s
BBB Bella Bella 25.13 74 P **P 19 22 39.6 +1.2**
comp=Z,14nm,0.9s,baz=294,slow=6.8,SNR=6.7
BBB Bella Bella 25.13 74 P **P 19 22 38.9 +0.5**
C36M Paulatuk 26.89 34 P **P 19 22 54.7 +0.5**
baz=254
C36M Paulatuk 26.89 34 P **P 19 22 54.0 -0.2**
LLLB Lillooet 29.33 74 P **P 19 23 17.4 +1.1**
NLWA Neilton Lookou 29.50 81 P **P 19 23 19.0 +1.2**
D03D Eldon 29.91 81 P **P 19 23 22.1 +0.8**
baz=297
E03A Lebam 30.08 83 P **P 19 23 23.3 +0.5**
E03A IAmb IAmb 19 23 25.6
comp=Z,22nm,1.1s
B05A Bryant 30.18 79 P **P 19 23 24.9 +1.3**
baz=296
YKA Yellowknife Ar 30.27 49 P **P 19 23 24.8 +0.5**
comp=Z,4.5nm,0.9s,baz=287,slow=10,SNR=7.1
E04D Cinebar 30.68 82 P **P 19 23 29.1 +1.0**
baz=298
D05A Enumclaw 30.73 81 P **P 19 23 29.6 +1.0**
D05A IAmb IAmb 19 23 32.7
comp=Z,30nm,1.0s
LON Longmire 31.05 81 P **P 19 23 31.9 +0.5**
LON pmax pmax
comp=Z,4.0nm,0.8s
LON Longmire 31.05 81 P **P 19 23 31.9 +0.5**
LTY Liberty 31.49 80 P **P 19 23 35.9 +0.5**
KEBM Edson Butte 31.52 89 P **P 19 23 36.0 +0.3**
B08A Colville Reser 31.78 77 P **P 19 23 38.7 +0.8**
B08A IAmb IAmb 19 23 51.2
comp=Z,12nm,0.8s
H04A Detroit Lake 31.85 85 P **P 19 23 39.3 +0.8**
H04A IAmb IAmb 19 23 53.2
comp=Z,20nm,0.9s
G05D Wamic, OR 32.09 83 P **P 19 23 42.4 +1.8**
baz=300
I04A Tendick Farm, 32.19 87 P **P 19 23 42.6 +1.1**
baz=302
JKA Kamikawa-asahi 32.32 274 IAmb IAmb 19 23 49.1
comp=Z,28nm,1.8s
ASAJ Asahikawa 32.32 274 P **P 19 23 41.9 -0.7**
comp=Z,6.3nm,1.1s,baz=80,slow=10,SNR=3.5
I05D Terrebonne, OR 32.55 85 P **P 19 23 46.4 +1.7**
baz=302
HAWA Hanford 32.59 80 P **P 19 23 45.8 +0.8**
HAWA IAmb IAmb 19 23 59.0
comp=Z,11nm,0.7s
D08A Wollman Farm, 32.64 79 P **P 19 23 45.8 +0.4**
D08A IAmb IAmb 19 23 51.8
comp=Z,6.5nm,0.6s
GRNR Gornyy 32.86 289⇑ *iP* **P 19 23 46.0 -1.2**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
GRNR MLR MLR
comp=N,170nm,18.0s
GRNR MLR MLR
comp=E,130nm,18.0s
GRNR MLR MLR
comp=Z,240nm,16.0s
YAK Yakutsk 32.94 311 P **P 19 23 47.8 0.0**
comp=Z,2.3nm,0.5s,baz=189,slow=2.4,SNR=2.6
YAK Yakutsk 32.94 311 *deP* **P 19 23 47.9 +0.2**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK Yakutsk 32.94 311 P 19 23 47.4 -0.3
YAK IAmb IAmb 19 23 59.8
comp=Z,11nm,0.7s
NEW Newport 33.14 76 P **P 19 23 50.8 +1.0**
comp=Z,14nm,0.8s,baz=295,slow=8.3,SNR=15
NEW Newport 33.14 76 P **P 19 23 50.4 +0.7**
NEW pmax pmax
comp=Z,15nm,0.7s
NEW Newport 33.14 76 P **P 19 23 50.5 +0.7**
baz=297,SNR=15
NEW Newport 33.14 76 P **P 19 23 50.4 +0.7**
NEW IAmb IAmb 19 24 03.1
comp=Z,15nm,0.7s
ERM Erimo 33.14 271⇓ *eP* **P 19 23 48.2 -1.6**
ERM pmax pmax
comp=Z,24nm,1.7s
YBH Yreka Blue Hor 33.15 90 P **P 19 23 51.8 +1.8**
comp=Z,1.6nm,0.6s,baz=346,slow=18,SNR=2.2
YBH Yreka Blue Hor 33.15 90 P **P 19 23 49.8 -0.2**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 33.15 90 P **P 19 23 49.8 -0.2**
J05D Fort Rock, OR 33.18 86 P **P 19 23 52.1 +1.8**
baz=303
EDM Edmonton 33.24 66 P **P 19 23 51.4 +0.8**
EDM pmax pmax
comp=Z,30nm,0.7s
EDM Edmonton 33.24 66 P **P 19 23 51.4 +0.8**
M02C Callahan 33.26 91 P **P 19 23 48.6 -2.4**
baz=306
E09A Wood Farm, Sta 33.37 79 P **P 19 23 52.2 +0.5**
E09A IAmb IAmb 19 24 04.8
comp=Z,14nm,1.1s
G08A Pilot Rock 33.49 82 P **P 19 23 53.3 +0.3**
M04C Macdoel 33.66 89 P **P 19 23 52.8 -1.6**
baz=305
K05A Summer Lake 33.70 87 P **P 19 23 56.0 +1.1**
K05A IAmb IAmb 19 24 09.6
comp=Z,20nm,1.0s
I07A Izee 33.80 84 P **P 19 23 56.0 +0.4**
I07A IAmb IAmb 19 24 09.7
comp=Z,14nm,0.9s
O02D Mt. Diablo Mer 34.02 92 P **P 19 23 58.0 +0.4**
baz=307
F10A Beach Ranch, E 34.19 80 P **P 19 23 58.8 -0.2**
F10A IAmb IAmb 19 24 13.3
comp=Z,8.3nm,0.8s
MOD Modoc Plateau 34.53 88 P **P 19 24 03.1 +1.1**
MOD IAmb IAmb 19 24 16.3
comp=Z,7.2nm,0.8s
O03E Paynes Creek 34.56 91 P **P 19 24 01.5 -0.7**
baz=307
WALA Waterton Lakes 34.66 73 P **P 19 24 03.5 +0.5**
WALA IAmb IAmb 19 24 15.9
comp=Z,14nm,1.1s
BMO Blue Mountains 34.72 81 P **P 19 24 04.3 +0.7**
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 34.72 81 P **P 19 24 04.3 +0.7**
J08A Circle Bar Ran 34.82 84 P **P 19 24 05.6 +1.1**
J08A IAmb IAmb 19 24 18.3
comp=Z,12nm,0.9s
JTMT Jette 35.07 75 P **P 19 24 07.2 +0.6**
JTMT IAmb IAmb 19 24 20.3
comp=Z,8.7nm,0.7s
WVOR Wild Horse Val 35.24 86 P **P 19 24 08.1 0.0**
WVOR pmax pmax
comp=Z,16nm,0.8s
WVOR Wild Horse Val 35.24 86 P **P 19 24 08.1 0.0**
WVOR IAmb IAmb 19 24 22.1
comp=Z,16nm,0.8s
MSO Missoula 35.72 76 P **P 19 24 11.0 -1.1**
baz=300
MSO Missoula 35.72 76 P **P 19 24 12.0 -0.2**
MSO IAmb IAmb 19 24 25.5
comp=Z,8.0nm,0.9s
KLR Kul'dur 36.24 289 P **P 19 24 15.2 -1.2**
comp=Z,2.4nm,0.6s,baz=68,slow=4.9,SNR=12
KLR Kul'dur 36.24 289 *ceP* **P 19 24 15.1 -1.4**
KLR pmax pmax
comp=Z,3.0nm,0.6s
MFID Camas Ranch 36.40 82 P **P 19 24 18.3 +0.3**
MFID IAmb IAmb 19 24 31.2
comp=Z,8.9nm,0.9s
ZEA Zeya 36.77 298 *eP* **P 19 24 20.2 -0.7**
ZEA MLR MLR
comp=Z,200nm,17.0s
HRY Holter Researc 37.03 75 P **P 19 24 23.7 +0.3**
LRM Limekiln Ridge 37.12 77 P **P 19 24 23.4 -0.9**
HLID Hailey 37.17 81 P **P 19 24 25.0 +0.4**
baz=304,SNR=8.0
HLID Hailey 37.17 81 P **P 19 24 24.9 +0.2**
HLID IAmb IAmb 19 24 38.1
comp=Z,28nm,1.8s
BCYI Bear Canyon 37.36 80 P **P 19 24 23.4 -3.0**
MCMT McKenzie Canyo 37.42 79 P **P 19 24 27.4 +0.6**
H11N2 WAKE ISLAND Hy 37.47 218 T T 20 04 38.4
baz=24,slow=76,SNR=631
H11N3 WAKE ISLAND Hy 37.48 218 T T 20 04 32.3
baz=24,slow=76,SNR=897
H11N1 WAKE ISLAND Hy 37.49 218 T T 20 04 38.2
baz=24,slow=76,SNR=547
EGMT Eagleton 37.58 72 P **P 19 24 27.9 -0.1**
baz=300,SNR=6.5
NVAR Mina Array Bea 37.84 91 P **P 19 24 32.0 +1.6**
comp=Z,3.2nm,0.8s,baz=295,slow=8.2,SNR=26
NVAR PcP **PcP 19 26 46.5 +0.7**
comp=Z,0.5nm,0.5s,baz=265,slow=4.4,SNR=4.1
NVAR ScP **ScP 19 30 30.6 +1.8**
comp=Z,1.1nm,0.8s,baz=275,slow=3.8,SNR=5.7
NVAR Mina Array Bea 37.84 91 P **P 19 24 31.7 +1.3**
MDPB Devils Postpil 37.87 93 P **P 19 24 31.1 +0.3**
MDPB IAmb IAmb 19 24 45.6
comp=Z,11nm,1.0s
ELK Elko 38.29 86 P **P 19 24 34.4 +0.2**
ELK pmax pmax
comp=Z,13nm,0.8s
ELK Elko 38.29 86 P **P 19 24 34.4 +0.2**
ELK IAmb IAmb 19 24 47.8
comp=Z,13nm,0.8s
JYT Yasato 38.52 265 P **P 19 24 35.0 -0.9**
YHH Holmes Hill 38.63 77 P **P 19 24 37.5 +0.4**
H11S1 WAKE ISLAND Hy 38.66 218 T T 20 06 07.0
baz=23,slow=76,SNR=7218
H11S2 WAKE ISLAND Hy 38.67 218 T T 20 06 04.1
baz=23,slow=76,SNR=7447
H11S3 WAKE ISLAND Hy 38.68 218 T T 20 06 03.6
baz=23,slow=76,SNR=4173
USRK Ussuriysk Ar. 38.69 282 P **P 19 24 35.7 -1.4**
comp=Z,2.8nm,0.7s,baz=147,slow=43,SNR=2.3
TPH Tonopah 38.72 91 P **P 19 24 37.8 0.0**

TPH pmax pmax
comp=Z,28nm,0.9s
TPH Tonopah 38.72 91 P **P 19 24 37.8 0.0**
YNR Norris Junctio 38.77 77 P **P 19 24 39.2 +1.0**
YNR IAmb IAmb 19 24 52.9
comp=Z,18nm,0.8s
FFC Flin Flon 38.79 59 P **P 19 24 37.6 -0.3**
FFC pmax pmax
comp=Z,8.0nm,0.9s
FFC Flin Flon 38.79 59 P **P 19 24 37.6 -0.3**
FFC IAmb IAmb 19 24 40.2
comp=Z,8.3nm,0.9s
H17A Grant Village 39.01 78 IAmb IAmb 19 24 54.5
comp=Z,9.5nm,0.7s
YNE Yellowstone No 39.01 77 P **P 19 24 40.1 -0.1**
YNE IAmb IAmb 19 24 53.9
comp=Z,10nm,0.8s
IMW Indian Meadow 39.07 79 IAmb IAmb 19 24 54.9
comp=Z,8.9nm,0.8s
HVU Hansel Valley 39.18 83 P **P 19 24 42.3 +0.8**
HVU pmax pmax
comp=Z,11nm,1.0s
HVU Hansel Valley 39.18 83 P **P 19 24 42.2 +0.8**
HVU IAmb IAmb 19 24 44.4
comp=Z,11nm,1.0s
CWC Cottonwood Cre 39.25 93 P **P 19 24 42.5 +0.3**
baz=311
GRAC Grapevine Rang 39.33 92 P **P 19 24 43.9 +1.3**
baz=310
RLMT Red Lodge 39.39 76 P **P 19 24 43.8 +0.5**
baz=303,SNR=9.1
RLMT Red Lodge 39.39 76 IAmb IAmb 19 24 46.4
comp=Z,16nm,0.8s
ISA Isabella, Lake 39.52 94 P **P 19 24 44.5 +0.2**
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA Isabella, Lake 39.52 94 P **P 19 24 44.5 +0.2**
MAJO Matsushiro 39.53 267*c iP* **P 19 24 43.8 -0.5**
MAJO pmax pmax
comp=Z,8.0nm,0.7s
MAJO Matsushiro 39.53 267 P **P 19 24 43.4 -0.9**
MAJO IAmb IAmb 19 24 55.6
comp=Z,9.2nm,0.8s
MAT Matsushiro 39.53 267 P **P 19 24 43.8 -0.5**
MAT S **S 19 30 45.0 +2.0**
MJAR Matsushiro Arr 39.53 267 P **P 19 24 43.2 -1.1**
comp=Z,3.0nm,0.8s,baz=46,slow=7.7,SNR=7.6
MJAR Matsushiro Arr 39.53 267 P **P 19 24 42.5 -1.8**
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 39.53 267 P **P 19 24 42.5 -1.8**
MJB9 Matsu-Tunnel 39.53 267 P **P 19 24 43.1 -1.2**
MJB9 IAmb IAmb 19 24 55.6
comp=Z,9.2nm,0.8s
R11A Troy Canyon, C 39.55 89 P **P 19 24 46.4 +1.8**
baz=309,SNR=8.9
SPUT South Promonto 39.65 83 P **P 19 24 45.8 +0.3**
FURC Furnace Creek, 39.98 92 P **P 19 24 50.2 +2.2**
baz=311
TPNV Topopah Spring 40.04 91 P **P 19 24 50.4 +1.7**
baz=310,SNR=23
TPNV Topopah Spring 40.04 91 IAmb IAmb 19 25 02.5
comp=Z,14nm,1.0s
DUG Dugway, Tooele 40.10 85 P **P 19 24 49.8 +0.6**
DUG pmax pmax
comp=Z,26nm,1.2s
DUG Dugway, Tooele 40.10 85 P **P 19 24 50.2 +1.0**
baz=307,SNR=9.0
DUG Dugway, Tooele 40.10 85 P **P 19 24 49.8 +0.6**
DUG IAmb IAmb 19 25 02.8
comp=Z,26nm,1.2s
MSHR Mys Shultsa 40.11 280*ceP* **P 19 24 48.5 -0.5**
MSHR pmax pmax
comp=Z,10.0nm,1.1s
LAO LASA Array 40.33 72 P **P 19 24 51.5 +0.6**
baz=302
LAO LASA Array 40.33 72 IAmb IAmb 19 25 03.9
comp=Z,20nm,1.0s
CTU Camp Tracy 40.45 83 IAmb IAmb 19 25 05.7
comp=Z,11nm,1.0s
PSUT Pine Spring 40.49 87 P **P 19 24 52.2 -0.3**
PSUT IAmb IAmb 19 25 05.9
comp=Z,15nm,0.9s
BW06 Boulder Array 40.54 79 P **P 19 24 53.7 +0.8**
baz=305,SNR=9.0
BW06 Boulder Array 40.54 79 IAmb IAmb 19 25 06.4
comp=Z,11nm,0.8s
PD31 Pinedale Array 40.54 79 IAmb IAmb 19 24 55.0
comp=Z,12nm,0.9s
PDAR Pinedale Array 40.54 79 P **P 19 24 53.6 +0.7**
comp=Z,11nm,0.8s,baz=314,slow=4.7,SNR=28
JGF Kuroka 40.67 267 P **P 19 24 53.9 +0.1**
NLU North Lily Min 40.70 84 IAmb IAmb 19 25 07.5
comp=Z,12nm,0.9s
TUQ Turquoise Moun 41.23 93 P **P 19 24 59.7 +1.2**
baz=312
HEC Hector,Ludlow 41.38 94 P **P 19 25 00.3 +0.6**
baz=312
SZCU Shurtz Canyon 41.55 88 P **P 19 25 01.6 +0.4**
TMUT Trail Mountain 41.63 84 IAmb IAmb 19 25 15.6
comp=Z,25nm,0.8s
BOD Bodaibo 41.76 309*eP* **P 19 25 01.4 -1.0**
BOD pmax pmax
comp=Z,24nm,0.9s
P17A Butcher Ranch, 41.80 84 IAmb IAmb 19 25 16.7
comp=Z,13nm,0.9s
GMRC Granite Mounta 41.82 93 P **P 19 25 04.4 +1.0**
baz=312
MTPU Mount Pierson 41.82 87 IAmb IAmb 19 25 17.5
comp=Z,14nm,0.9s
LCMT Little Creek M 41.83 89 IAmb IAmb 19 25 17.3
comp=Z,12nm,0.9s
RDMU Red Mountain 41.84 82 IAmb IAmb 19 25 06.5
comp=Z,21nm,1.0s
JWT Wachi 42.07 268 P **P 19 25 04.8 -0.4**
PKCU Pink Cliffs 42.12 87 IAmb IAmb 19 25 20.0
comp=Z,14nm,0.9s
BELC Belle Mtn. Jos 42.14 94 P **P 19 25 06.2 +0.1**
baz=313
SRU San Rafael Swe 42.16 84 IAmb IAmb 19 25 20.4
comp=Z,18nm,0.9s
K22A Casper 42.43 77 P **P 19 25 08.5 +0.3**
baz=306
NEE2 Needles Airpor 42.47 92 P **P 19 25 09.6 +1.2**
baz=312
IRM Iron Mountain 42.56 93 P **P 19 25 10.2 +0.9**
baz=312
RWWY Rawlins 42.59 79 P **P 19 25 09.7 +0.1**
RWWY IAmb IAmb 19 25 25.9
comp=Z,13nm,0.8s
W13A Hualapai Mount 42.70 91 IAmb IAmb 19 25 24.0
comp=Z,11nm,0.8s
U15A North Rim 42.79 89 IAmb IAmb 19 25 25.3
comp=Z,19nm,0.7s
CN2 Changchun 42.80 285*eP* **P 19 25 10.0 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,300nm,20.0s
O20A White River Ci 42.91 81 P **P 19 25 13.1 +0.9**
baz=308,SNR=12
IKP In-Ko-Pah, Jac 43.00 96 P **P 19 25 12.5 -0.4**
baz=314
RSSD Black Hills 43.04 74 P **P 19 25 12.6 -0.6**
baz=305
PDMCI Parker Dam,Lak 43.07 92 P **P 19 25 14.5 +1.2**
baz=312
MDND Maddock 43.49 67 P **P 19 25 17.5 +1.0**
baz=303
PV10 Paradox Valley 43.52 84 IAmb IAmb 19 25 30.5
comp=Z,20nm,0.8s
PV17 East Wray Mesa 43.63 84 P **P 19 25 18.4 +0.3**
PV17 IAmb IAmb 19 25 30.9
comp=Z,26nm,0.8s
PV12 Saucer Basin, 43.71 84 IAmb IAmb 19 25 22.2
comp=Z,20nm,0.8s
PV02 Paradox Valley 43.81 84 P **P 19 25 20.0 +0.4**
PV02 IAmb IAmb 19 25 32.5
comp=Z,29nm,0.8s
N23A Red Feather La 43.83 79 P **P 19 25 20.7 +1.0**
baz=308,SNR=5.1
WUAZ Wupatki 43.95 89 P **P 19 25 22.0 +1.3**
baz=311,SNR=7.9
WUAZ Wupatki 43.95 89 IAmb IAmb 19 25 34.4
comp=Z,22nm,0.8s
PV01 Paradox Valley 43.96 84 IAmb IAmb 19 25 33.6
comp=Z,22nm,0.8s
Y14A Wickenburg 44.01 92 IAmb IAmb 19 25 34.4
comp=Z,13nm,0.9s
JMN Monobe 44.05 268 P **P 19 25 22.2 +0.9**
ULM Lac du Bonnet 44.23 62 P **P 19 25 22.8 +0.4**
comp=Z,12nm,0.8s,baz=301,slow=10.0,SNR=8.5
ULM Lac du Bonnet 44.23 62 P **P 19 25 22.2 -0.3**
ULM pmax pmax
comp=Z,21nm,1.1s
ULM Lac du Bonnet 44.23 62 P **P 19 25 22.2 -0.3**
ULM IAmb IAmb 19 25 23.5
comp=Z,20nm,1.1s
MVCO Mesa Verde 44.60 85 P **P 19 25 25.7 -0.2**
baz=310
MVCO Mesa Verde 44.60 85 IAmb IAmb 19 25 38.6
comp=Z,36nm,1.6s
X16A Lo Mia Camp, P 44.64 90 IAmb IAmb 19 25 40.2
comp=Z,12nm,0.9s
ISCO Idaho Springs 44.70 80 P **P 19 25 26.6 -0.1**
baz=308
NEEM North Greenlan 44.89 16 *i P* **P 19 25 27.7 0.0**
NEEM IAmb IAmb 19 25 29.8
comp=Z,6.4nm,0.7s
KSRS Korea Array 45.21 276 P **P 19 25 30.2 -0.2**
comp=Z,2.5nm,0.7s,baz=64,slow=7.5,SNR=10
S22A 4UR Ranch, Cre 45.27 83 P **P 19 25 30.1 -1.1**
baz=310
AGMN Agassiz Nation 45.32 64 P **P 19 25 30.9 -0.3**
baz=304,SNR=7.1
AGMN Agassiz Nation 45.32 64 P **P 19 25 30.9 -0.3**
AGMN IAmb IAmb 19 25 32.5
comp=Z,25nm,0.9s
214A Organ Pipe Nat 45.49 94 P **P 19 25 30.8 -2.0**
baz=314
214A Organ Pipe Nat 45.49 94 IAmb IAmb 19 25 46.2
comp=Z,16nm,0.8s
SUSD Miller 45.81 71 P **P 19 25 35.4 +0.3**
baz=306
SDCO Great Sand Dun 46.07 82 P **P 19 25 38.3 +0.7**
baz=310,SNR=9.2
SDCO Great Sand Dun 46.07 82 IAmb IAmb 19 25 50.9
comp=Z,11nm,1.0s
NRIK Noril'sk 46.20 331*ceP* **P 19 25 38.4 +0.6**
NRIK pmax pmax
comp=Z,7.0nm,1.2s
TJN Taejon 46.25 276⇑*eP* **P 19 25 38.6 0.0**
JNU Nakatsue 46.29 270 P **P 19 25 38.6 -0.5**
comp=Z,4.6nm,0.7s,baz=7.5,slow=3.0,SNR=7.1
JNU Nakatsue 46.29 270 P **P 19 25 38.9 -0.2**
JNU IAmb IAmb 19 25 49.1
comp=Z,12nm,1.0s
TUC Tucson 46.48 92 P **P 19 25 41.3 +0.7**
TUC pmax pmax
comp=Z,15nm,0.9s
TUC Tucson 46.48 92 P **P 19 25 41.5 +0.9**
baz=314
TUC Tucson 46.48 92 P **P 19 25 41.3 +0.7**
TUC IAmb IAmb 19 25 54.3
comp=Z,15nm,0.8s
KSCO Kaye Shedlock' 46.99 79 P **P 19 25 45.4 +0.8**
baz=310
T25A Trinidad 47.13 82 P **P 19 25 46.0 +0.2**
baz=311,SNR=8.4
ANMO Albuquerque 47.33 86 P **P 19 25 48.0 +0.7**
comp=Z,2.9nm,0.9s,baz=321,slow=14,SNR=3.0
ANMO Albuquerque 47.33 86*deP* **P 19 25 48.3 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 47.33 86 P **P 19 25 47.7 +0.3**
baz=312
ANMO Albuquerque 47.33 86 P **P 19 25 47.6 +0.2**
ANMO IAmb IAmb 19 26 01.4
comp=Z,12nm,1.3s
ECSD EROS Data Cent 47.58 70 P **P 19 25 47.6 -1.4**
baz=308
ECSD EROS Data Cent 47.58 70 P **P 19 25 48.1 -0.9**
ECSD IAmb IAmb 19 26 00.1
comp=Z,7.6nm,0.7s
EYMN Ely 47.91 62 P **P 19 25 51.3 -0.1**
baz=306,SNR=7.1
EYMN Ely 47.91 62 IAmb IAmb 19 26 03.5
comp=Z,18nm,0.9s
F36A Milaca 48.04 66 IAmb IAmb 19 26 03.7
comp=Z,11nm,0.9s
319A Douglas 48.05 91 IAmb IAmb 19 26 06.4
comp=Z,13nm,1.0s
121A Cookes Peak, D 48.16 89 P **P 19 25 55.1 +1.3**
baz=314,SNR=5.1
E38A The Farm, Brul 48.68 64 P **P 19 25 56.8 -0.5**
KBS Kingsbay 48.80 360⇑*eP* **P 19 25 59.1 +1.2**
KBS pmax pmax
comp=Z,16nm,1.7s
CBKS Cedar Bluff 48.85 77 P **P 19 25 59.1 +0.3**
baz=310
FRB Frobisher Bay 48.95 35 P **P 19 25 59.8 +0.6**
comp=Z,12nm,0.6s,baz=166,slow=8.4,SNR=3.3
I37A Lemond, Waseca 49.24 68 P **P 19 26 01.7 0.0**
SPITS Spitsbergen Ar 49.51 358 P **P 19 26 03.3 0.0**
comp=Z,1.4nm,0.4s,baz=337,slow=4.0,SNR=2.0
SPITS PcP **PcP 19 27 24.7 +0.3**
comp=Z,2.0nm,0.5s,baz=87,slow=5.9,SNR=5.2
DAG Danmarks Havn 49.66 8 *i P* **P 19 26 04.4 -0.1**
DAG IAmb IAmb 19 26 05.3
comp=Z,9.3nm,0.9s
DAG Danmarks Havn 49.66 8 *i P* **P 19 26 04.3 -0.1**
DAG pmax pmax
comp=Z,9.0nm,0.9s
MNTX Cornudas Mount 50.21 88 P **P 19 26 10.6 +1.4**
baz=314,SNR=11
MNTX Cornudas Mount 50.21 88 P **P 19 26 09.7 +0.5**
MNTX IAmb IAmb 19 26 22.8
comp=Z,15nm,0.8s
G40A Rib Lake 50.24 65 IAmb IAmb 19 26 20.7
comp=Z,13nm,0.8s
AMTX Amarillo 50.28 82 P **P 19 26 10.1 +0.3**
baz=312
COWI Conover 50.31 63 IAmb IAmb 19 26 10.8
comp=Z,10.0nm,0.8s
KSU1 Kansas State U 50.51 75 P **P 19 26 11.1 -0.3**
baz=311
SUMG Summit 50.68 17 *i P* **P 19 26 13.7 +0.9**
SUMG IAmb IAmb 19 26 15.9
comp=Z,8.6nm,0.9s
SUMG Summit 50.68 17 *i P* **P 19 26 13.6 +0.9**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 50.68 17 P **P 19 26 12.1 -0.6**
SUMG IAmb IAmb 19 26 15.7
comp=Z,19nm,1.1s
ULN Ulaanbaatar 50.70 300⇓*eP* **P 19 26 13.1 +0.2**
ULN pmax pmax
comp=Z,8.0nm,3.6s
ULN Ulaanbaatar 50.70 300 P **P 19 26 12.7 -0.3**
SONM Songino Array 51.07 301 P **P 19 26 15.6 -0.1**
comp=Z,0.6nm,0.5s,baz=47,slow=5.6,SNR=4.8
SONM PcP **PcP 19 27 30.9 +0.1**
comp=Z,1.7nm,0.6s,baz=62,slow=2.5,SNR=1.9
SONM ScP **ScP 19 31 23.7 +1.2**
comp=Z,1.4nm,0.7s,baz=46,slow=3.7,SNR=6.7
OK032 Salt Plains WL 51.08 78 IAmb IAmb 19 26 20.4
comp=Z,8.4nm,0.9s
KAN13 South Haven SW 51.37 77 P **P 19 26 17.4 -0.6**
BLOK Blackwell 51.70 77 IAmb IAmb 19 26 20.9
comp=Z,17nm,1.0s
L40A Anamosa 51.71 68 P **P 19 26 19.3 -1.1**
L40A IAmb IAmb 19 26 34.8
comp=Z,12nm,0.7s
DBG Daneborg 51.79 10*eP* **P 19 26 19.8 -0.7**
T35A Sooner Cattle 52.01 77 IAmb IAmb 19 26 35.4
comp=Z,11nm,0.8s
WMOK Wichita Mounta 52.13 80 P **P 19 26 23.6 0.0**
baz=313,SNR=16
WMOK Wichita Mounta 52.13 80 IAmb IAmb 19 26 36.6
comp=Z,15nm,0.8s
SFJD Kangerlussuaq 52.31 26*eP* **P 19 26 25.5 +1.0**
SFJD IAmb IAmb 19 26 25.8
comp=Z,7.5nm,0.9s
SFJD Kangerlussuaq 52.31 26*eP* **P 19 26 25.4 +1.0**
SFJD pmax pmax
comp=Z,8.0nm,0.9s
SFJD Kangerlussuaq 52.31 26 P **P 19 26 25.1 +0.7**
SFJD IAmb IAmb 19 26 26.0
comp=Z,12nm,0.9s
JOW Kunigami 52.33 266 P **P 19 26 25.6 +0.4**
JOW IAmb IAmb 19 26 36.3
comp=Z,19nm,1.1s
TIA Tai'an 52.54 283 P **P 19 26 27.0 +0.4**
TIA sP **sP 19 26 45.0 -1.4**
TIA S S 19 34 14.0 +25
HHC Hu-ho-hao-te 52.70 291*eP* **P 19 26 28.0 +0.1**
HHC pP pP 19 26 39.0 -2.7
HHC S **S 19 33 56.0 +4.2**
HHC sS sS 19 34 14.5 -0.1
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,72nm,5.6s
HHC LR LR
comp=N,280nm,18.5s
HHC LR LR
comp=E,270nm,18.0s
HHC LR LR
comp=Z,460nm,19.9s
TXAR Lajitas Array 52.92 89 P **P 19 26 30.2 +0.6**
comp=Z,7.4nm,0.9s,baz=298,slow=5.1,SNR=64
TXAR Lajitas Array 52.92 89 P **P 19 26 29.8 +0.2**
TXAR Lajitas Array 52.92 89 P **P 19 26 29.8 +0.2**
ABTX Abilene, Hawle 53.06 83 P **P 19 26 30.7 +0.2**
baz=314
TUL1 Leonard 53.12 77 P **P 19 26 30.7 -0.2**
baz=313
BJO1 Bjornoya 53.12 357*eP* **P 19 26 29.7 -0.6**
ICESG Greenland Ices 53.28 20 *i P* **P 19 26 31.7 -0.3**
ICESG IAmb IAmb 19 26 32.4
comp=Z,9.6nm,0.9s
S39A Bolivar 53.38 74 IAmb IAmb 19 26 43.2
comp=Z,7.8nm,0.7s
U38A Gravette 53.60 76 P **P 19 26 33.5 -0.9**
U38A IAmb IAmb 19 26 34.7
comp=Z,9.1nm,0.9s
DY2G Dye2 53.84 25*eP* **P 19 26 36.1 +0.1**
MATQ Matagami 53.94 53 P **P 19 26 35.1 -1.5**
baz=311
HHAR Hobbs 53.97 76 P **P 19 26 36.0 -1.1**
HHAR IAmb IAmb 19 26 49.1
comp=Z,8.6nm,0.9s
CCM Cathedral Cave 54.35 72 P **P 19 26 38.0 -1.8**
CCM pmax pmax
comp=Z,5.0nm,0.7s
CCM Cathedral Cave 54.35 72 P **P 19 26 37.9 -1.8**
baz=312
CCM Cathedral Cave 54.35 72 P **P 19 26 38.0 -1.8**
CCM IAmb IAmb 19 26 51.4
comp=Z,5.4nm,0.7s
NJ2 Nanjing 54.35 278*eP* **P 19 26 39.3 -0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MGMO Mountain Grove 54.36 74 IAmb IAmb 19 26 39.9
comp=Z,12nm,0.8s
U40A Yellville 54.56 75 P **P 19 26 40.1 -1.3**
baz=313
U40A Yellville 54.56 75 IAmb IAmb 19 26 52.0
comp=Z,11nm,0.7s
LSQQ Lebel-sur-Quev 54.72 54 P **P 19 26 41.9 -0.5**
baz=312
W39A Magazine 54.80 76 P **P 19 26 42.5 -0.6**
baz=313
W39A Magazine 54.80 76 IAmb IAmb 19 26 54.8
comp=Z,7.7nm,0.8s
WHTX Lake Whitney, 54.82 82 P **P 19 26 43.4 +0.1**
baz=315
SFIN Lafayette 55.16 67 P **P 19 26 45.0 -0.6**
baz=312
SFIN Lafayette 55.16 67 P **P 19 26 44.8 -0.8**
FCAR Ozark Folk Cen 55.31 75 IAmb IAmb 19 26 47.0
comp=Z,15nm,0.9s
MIAR Mount Ida 55.37 77 P **P 19 26 47.0 -0.3**
MIAR pmax pmax
comp=Z,13nm,1.0s
MIAR Mount Ida 55.37 77 P **P 19 26 46.7 -0.6**
baz=314,SNR=9.2
MIAR Mount Ida 55.37 77 P **P 19 26 47.0 -0.3**
MIAR IAmb IAmb 19 26 48.1
comp=Z,13nm,1.0s
CHGQ Chibougamau 55.42 51 P **P 19 26 46.1 -1.3**
baz=312
SCHQ Schefferville 55.44 43 P **P 19 26 47.8 +0.3**
comp=Z,16nm,0.8s,baz=324,slow=7.5,SNR=8.8
N47A Urbana 55.61 66 P **P 19 26 47.8 -1.1**
W41B Gary Mavity, V 55.73 75 P **P 19 26 48.2 -1.6**
baz=314
X40A Basin Creek Fa 55.85 76 P **P 19 26 49.7 -1.0**
baz=314
833A Chaparral WMA, 56.25 86 P **P 19 26 53.1 -0.5**
baz=316
ALGO Algonquin Park 56.27 57 P **P 19 26 52.4 -1.1**
baz=313
SADO Sadowa 56.51 59 P **P 19 26 55.3 0.0**
SADO IAmb IAmb 19 26 56.5
comp=Z,16nm,0.9s
HAMF Hammerfest 56.76 355*eP* **P 19 26 56.6 -0.1**
P49A Miami Univ. Ec 57.07 67 P **P 19 26 57.7 -1.6**
baz=313
P49A Miami Univ. Ec 57.07 67 P **P 19 26 58.2 -1.1**
P49A IAmb IAmb 19 27 09.7
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 57.19 317 P **P 19 27 00.1 +0.1**
comp=Z,0.5nm,0.4s,baz=53,slow=5.6,SNR=2.6
ZALV PcP **PcP 19 27 54.3 +0.4**
comp=Z,2.8nm,0.6s,baz=46,slow=4.3,SNR=6.8
ZALV Zalesovo Beam 57.19 317 **PcP 19 27 53.5 -0.5**
HKT Hockley 57.25 82*ceP* **P 19 27 01.1 +0.5**
HKT pmax pmax
comp=Z,6.0nm,1.0s
KEV Kevo 57.42 353 P **P 19 27 01.0 -0.3**
KEV pmax pmax
comp=Z,14nm,0.9s
KEV Kevo 57.42 353 P **P 19 27 01.0 -0.3**
KEV IAmb IAmb 19 27 03.8
comp=Z,14nm,0.9s
ACSO Alum Creek Sta 57.56 65 P **P 19 27 02.2 -0.5**
baz=314
WVT Waverly 57.65 72 P **P 19 27 02.7 -0.7**
baz=314
ARA0 ARCESS Array S 57.75 354*eP* **P 19 27 03.1 -0.5**
ARCES ARCESS Array B 57.75 354 P **P 19 27 03.0 -0.6**
comp=Z,4.7nm,0.8s,baz=22,slow=6.0,SNR=18
ARCES PcP **PcP 19 27 56.4 +0.5**
comp=Z,5.7nm,0.8s,baz=23,slow=4.9,SNR=5.0
ARCES ARCESS Array B 57.75 354 IAmb IAmb 19 27 06.1
comp=Z,7.5nm,1.1s
OXF Oxford 57.86 74 P **P 19 27 03.8 -1.1**
OXF pmax pmax
comp=Z,38nm,0.8s
OXF Oxford 57.86 74 P **P 19 27 04.2 -0.7**
baz=315
OXF Oxford 57.86 74 P **P 19 27 03.8 -1.1**
M53A WI Miller and 57.98 62 P **P 19 27 05.0 -0.7**
baz=314
TRO Tromso 57.99 356*eP* **P 19 27 05.2 -0.1**
JETT Jettan, Norway 58.01 356*eP* **P 19 27 06.0 +0.5**
R50A Paris 58.16 67 IAmb IAmb 19 27 07.5
comp=Z,9.1nm,0.8s
Q51A Peebles 58.19 66 P **P 19 27 06.6 -0.6**
PECO Prince Edward 58.21 58 P **P 19 27 07.5 +0.3**
KTK1 Kautokeino 58.41 355*eP* **P 19 27 08.7 -0.4**
M54A Oil Creek Stat 58.48 62 P **P 19 27 09.1 -0.1**
baz=314
LVZ Lovozero 58.53 349⇑*eP* **P 19 27 09.1 -0.1**
LVZ pmax pmax
comp=Z,28nm,0.7s
LVZ Lovozero 58.53 349 P **P 19 27 08.8 -0.4**
CLTN Cedars of Leba 58.54 71 IAmb IAmb 19 27 11.2
comp=Z,8.1nm,0.9s
H57A Richville 58.66 57 P **P 19 27 10.5 +0.2**
baz=314,SNR=6.4
N54A Moraine State 58.69 62 P **P 19 27 09.7 -1.0**
baz=314
T50A Nancy 58.75 69 P **P 19 27 10.5 -0.6**
T50A IAmb IAmb 19 27 22.5
comp=Z,9.0nm,0.8s
I57A Carthage 58.89 57 P **P 19 27 12.0 0.0**
baz=314,SNR=10
K56A Middlesex 58.90 59 P **P 19 27 12.9 +0.8**
baz=314,SNR=6.1
LONY Lake Ozonia 58.96 56 P **P 19 27 12.2 -0.3**
baz=315,SNR=6.5
LONY Lake Ozonia 58.96 56 IAmb IAmb 19 27 13.3

comp=Z,12nm,0.9s
DGZ Jazzator, Alta 59.11 312⇑ *e*P P 19 27 13.3 -0.3
DGZ pmax pmax
comp=Z,3.0nm,0.9s
YULB Yu-li 59.12 269 P P 19 27 12.9 -1.0
YULB IAmb IAmb 19 27 26.6
comp=Z,12nm,1.0s
X48A Hartselle 59.29 72 P P 19 27 13.6 -1.2
X48A IAmb IAmb 19 27 15.7
comp=Z,8.6nm,0.7s
H58A Gabriels 59.31 56 P P 19 27 14.2 -0.7
baz=315
H59A Cadyville 59.40 56 P P 19 27 15.1 -0.4
baz=315,SNR=6.8
I58A Old Forge 59.42 57 P P 19 27 15.6 -0.1
baz=315,SNR=6.0
J58A Remsen 59.49 58 P P 19 27 16.6 +0.5
baz=315,SNR=10.0
NCB Newcomb 59.60 56 IAmb IAmb 19 27 19.0
comp=Z,7.6nm,0.8s
Q54A Coxs Mills 59.62 65 IAmb IAmb 19 27 28.6
comp=Z,14nm,1.1s
MCWV Mont Chateau 59.68 63 P P 19 27 17.7 +0.1
baz=315
MCWV Mont Chateau 59.68 63 P P 19 27 17.8 +0.3
STEI Steigen 59.81 358 *e*P P 19 27 17.2 -0.7
TZTN Tazewell 59.82 68 P P 19 27 17.6 -0.9
baz=315
J59A Piesco 59.82 57 IAmb IAmb 19 27 19.2
comp=Z,7.0nm,0.7s
I59A Olmsteadville 59.91 56 P P 19 27 18.8 -0.2
baz=315
D62A Allapoint, All 59.93 51 P P 19 27 18.9 -0.1
baz=316
O56A Blue Knob Stat 59.95 62 P P 19 27 19.0 -0.4
baz=315
BINY Binghamton 59.95 59 P P 19 27 18.7 -0.7
baz=315,SNR=5.3
H60A Morristown 59.95 55 P P 19 27 18.7 -0.6
baz=315
M57A Sunshine Farm, 59.96 60 IAmb IAmb 19 27 20.1
comp=Z,11nm,0.8s
E62A Clayton Lake 60.03 52 P P 19 27 19.7 -0.1
baz=316
SSPA Standing Stone 60.05 61 P P 19 27 20.1 +0.1
baz=315
SSPA Standing Stone 60.05 61 P P 19 27 19.7 -0.3
Y49A Blount Mountai 60.08 72 IAmb IAmb 19 27 26.3
comp=Z,8.6nm,0.8s
L58A Harry Jones Me 60.13 59 P P 19 27 21.2 +0.7
baz=315,SNR=7.5
GTA Gaotai 60.25 297 *e*P P 19 27 22.0 +0.4
GTA pP pP 19 27 34.8 -0.9
GTA sP sP 19 27 40.8 -0.8
GTA pmax pmax
comp=Z,1.0nm,1.1s
GTA pmax pmax
comp=Z,45nm,6.8s
GTA LR LR
comp=N,220nm,23.5s
GTA LR LR
comp=E,340nm,19.9s
GTA LR LR
comp=Z,460nm,21.1s
TKL Tuckaleechee C 60.32 69 P P 19 27 21.7 -0.2
comp=Z,2.2nm,0.6s,baz=282,slow=6.8,SNR=3.7
TKL Tuckaleechee C 60.32 69 IAmb IAmb 19 27 34.5
comp=Z,10nm,1.2s
FAUS Fauske 60.36 358 *e*P P 19 27 21.5 -0.2
H61A Lyndonville 60.36 55 P P 19 27 22.1 0.0
baz=316
LZH Lanzhou 60.37 292 *e*P P 19 27 22.0 -0.5
LZH pP pP 19 27 32.0 -4.6
LZH sP sP 19 27 38.0 -4.4
LZH *e*PP **PP 19 29 43.0 +7.4**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,110nm,6.8s
LZH LR LR
comp=N,320nm,16.3s
LZH LR LR
comp=E,370nm,16.5s
LZH LR LR
comp=Z,280nm,18.1s
KSPA Keystone Colle 60.52 59 P P 19 27 23.5 +0.3
J60A Lant Hill Farm 60.53 57 P P 19 27 23.4 +0.1
baz=316,SNR=6.4
G62A West of Eustis 60.55 53 P P 19 27 23.2 -0.2
baz=316
G62A West of Eustis 60.55 53 IAmb IAmb 19 27 24.8
comp=Z,13nm,0.8s
LBNH Lisbon 60.57 55 P P 19 27 23.8 +0.2
baz=316
I61A Oroboro, Fairl 60.65 55 P P 19 27 24.4 +0.4
baz=316
E63A Oxbow 60.70 51 P P 19 27 23.6 -0.8
baz=316
H62A Milan 60.71 54 P P 19 27 24.2 -0.3
baz=316
H62A Milan 60.71 54 P P 19 27 24.2 -0.3
J61A Chester 60.90 56 P P 19 27 25.9 +0.1
baz=316
F63A Nahmakanta, Br 60.90 52 P P 19 27 25.5 -0.2
baz=316
N59A State Game Lan 60.98 60 P P 19 27 26.4 +0.1
baz=316
N59A State Game Lan 60.98 60 IAmb IAmb 19 27 28.0
comp=Z,14nm,0.9s
E64A Bridgewater 60.99 51 P P 19 27 25.8 -0.5
baz=317
K61A Williamstown 61.02 57 P P 19 27 25.3 -1.4
baz=316
G63A Kingsbury 61.08 53 P P 19 27 26.8 -0.1
baz=316
BLA Blacksburg 61.10 66 P P 19 27 27.8 +0.5
BLA pmax pmax
comp=Z,22nm,0.9s
BLA Blacksburg 61.10 66 P P 19 27 27.2 -0.1
baz=316,SNR=6.1
BLA Blacksburg 61.10 66 P P 19 27 27.8 +0.5
F64A Sherman 61.14 51 P P 19 27 26.9 -0.4
baz=317
MVL Millersville 61.33 61 P P 19 27 28.6 -0.1
MVL IAmb IAmb 19 27 30.0
comp=Z,12nm,0.9s
J62A Henniker 61.36 56 P P 19 27 28.3 -0.6
baz=316
I63A Otisfield 61.38 54 P P 19 27 29.2 +0.3
baz=316
STOK Stokkvaagen 61.45 359 *e*P P 19 27 29.0 -0.1
ODNJ Ogdensburg 61.47 59 IAmb IAmb 19 27 30.7
comp=Z,10nm,0.8s
L61B Northampton 61.48 57 P P 19 27 29.3 -0.4
baz=316
K62A Royalston 61.55 56 P P 19 27 30.7 +0.5
baz=316
MOR8 Moi Rana 61.59 358 *e*P P 19 27 28.7 -1.4
H64A Troy 61.62 53 P P 19 27 30.4 -0.2
baz=317
PAL Palisades 61.89 59 P P 19 27 32.6 +0.1
baz=316
K63A Dunstable 61.89 56 P P 19 27 32.5 +0.1
baz=317
T57A Hurt 61.90 65 P P 19 27 32.6 0.0
T57A IAmb IAmb 19 27 33.9
comp=Z,10nm,0.9s
I64A Boothbay 61.94 54 P P 19 27 32.0 -0.8
baz=317
G65A Princeton 62.01 52 P P 19 27 32.5 -0.6
baz=317
KMSC Kings Mountain 62.08 68 P P 19 27 33.3 -0.5
baz=316
KMSC Kings Mountain 62.08 68 IAmb IAmb 19 27 45.4
comp=Z,12nm,0.9s
GOGA Godfrey 62.10 71 P P 19 27 33.3 -0.7
baz=316
HODGE Hodges 62.21 69 P P 19 27 33.9 -0.8
HODGE IAmb IAmb 19 27 46.0
comp=Z,6.6nm,0.8s
KURBB Kurchatov Arra 62.25 318 P P 19 27 34.1 -0.6
comp=Z,3.7nm,0.8s,baz=44,slow=7.3,SNR=30
PRGR Permogore 62.78 342 *e*P P 19 27 36.5 -1.6
PRGR pmax pmax
comp=Z,19nm,0.4s
NSS Namsos 63.27 359 *e*P P 19 27 41.2 -0.1
WMQ Urumqi 63.30 308 *e*P P 19 27 44.3 +2.4
WMQ LR LR
comp=N,290nm,15.5s
WMQ LR LR
comp=E,370nm,21.5s
WMQ LR LR
comp=Z,260nm,26.3s
BVAR Borovoye Array 63.47 324 P P 19 27 42.4 -0.4
comp=Z,4.3nm,0.8s,baz=129,slow=12,SNR=24
BRVK Borovoye 63.48 324 *c*e*P P 19 27 42.3 -0.6
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 63.48 324 P P 19 27 42.1 -0.8
BRVK IAmb IAmb 19 27 45.0
comp=Z,5.2nm,0.9s
MKAR Makanchi Array 63.57 313 P P 19 27 42.4 -1.2
comp=Z,1.8nm,0.8s,baz=53,slow=6.5,SNR=17
MAKZ Makanchi 63.70 313 P P 19 27 43.7 -0.8
MAKZ pmax pmax
comp=Z,3.0nm,1.1s
MAKZ Makanchi 63.70 313 P P 19 27 43.7 -0.8
CD2 Chengdu 64.16 288 ⇓P P 19 27 48.0 +0.3
CD2 pP pP 19 28 01.8 -0.2
CD2 sP sP 19 28 06.5 -1.3
CD2 S **S 19 36 20.0 -1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,60nm,5.9s
CD2 LR LR
comp=N,320nm,22.5s
CD2 LR LR
comp=E,330nm,22.5s
CD2 LR LR
comp=Z,340nm,23.7s
ARU Arti 64.40 333 P P 19 27 48.2 -0.7
comp=Z,0.8nm,0.3s,baz=126,slow=6.7,SNR=5.3
ARU Arti 64.40 333 *c i*P P 19 27 49.0 +0.1
ARU S **S 19 36 27.4 +4.3**
ARU SS **SS 19 40 31.8 -0.9**
ARU pmax pmax
comp=Z,3.0nm,0.7s
ARU MLR MLR
comp=Z,250nm,18.0s
ARU Arti 64.40 333 P P 19 27 47.6 -1.2
KIRV Kirov 64.79 339 P P 19 27 50.9 -0.4
comp=Z,9.0nm,0.6s,baz=73,slow=0.5,SNR=4.4
KIRV Kirov 64.79 339 *c*e*P P 19 27 50.7 -0.6
MOL Molde 65.23 1 *e*P P 19 27 54.4 +0.3
AKN Aaknes 65.61 2 *e*P P 19 27 57.4 +0.8
FINES FINESS Array B 65.69 352 P P 19 27 56.4 -0.7
comp=Z,5.9nm,0.7s,baz=12,slow=7.1,SNR=22
GYA Guiyang 65.73 282 *e*P P 19 27 59.5 +1.4
GYA pmax pmax
comp=Z,6.0nm,0.8s
DOMB Dombas 65.77 1 *e*P P 19 27 57.2 -0.5
TAOE Nuku Hiva Isla 66.14 148 *e*LR LR 19 48 00.3
comp=Z,720nm,22.8s
TAOE Nuku Hiva Isla 66.14 148 *e*T T 20 40 15.2
comp=Z,65nm,0.2s
RAF Rauma 66.43 354 *e*P P 19 28 01.9 0.0
NB2 NORSAR Subarra 66.78 360 P P 19 28 04.0 -0.2
comp=Z,1.2nm,0.6s,baz=0.4,slow=6.2
NB2 NORSAR Subarra 66.78 360 P P 19 28 04.0 -0.2
baz=0.4,slow=6.2
NOA NORSAR Array B 66.78 360 P P 19 28 04.0 -0.2
comp=Z,1.8nm,0.7s,baz=0.4,slow=6.3,SNR=10
MEF Metsahovi 67.04 352 *e*P P 19 28 05.2 -0.6
NC602 NORSAR Array S 67.08 359 *e*P P 19 28 05.7 -0.4
SKAR Skarslia 67.13 1 *e*P P 19 28 06.4 -0.1
HFS Hagfors 67.66 358 P P 19 28 09.1 -0.6
comp=Z,4.3nm,0.4s,baz=2.4,slow=2.7,SNR=61
KONO Kongsberg 68.18 0 *e*P P 19 28 12.9 0.0
VSU Vasula 68.57 351 *e*P P 19 28 15.0 -0.4
VSU Vasula 68.57 351 *c*e*P P 19 28 15.0 -0.4
VSU pmax pmax
comp=Z,31nm,0.8s
MTSE Matsula 68.58 352 *e*P P 19 28 11.2 -4.2
KMI Kunming 69.06 284 ⇑P P 19 28 20.0 +0.7
KMI pP pP 19 28 32.3 -1.4
KMI sP sP 19 28 37.3 -2.2
KMI PcP **PcP 19 28 45.0 +1.9**
KMI S **S 19 37 18.8 -1.9**
KMI Kunming 69.06 284 SS SS 19 41 40.8 -6.0
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI pmax pmax
comp=Z,94nm,6.5s
KMI LR LR
comp=N,150nm,21.0s
KMI LR LR
comp=E,140nm,23.3s
KMI LR LR
comp=Z,170nm,19.8s
BOOM Boomskoye usch 69.75 314 P P 19 28 22.7 -0.6
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BOOM Boomskoye usch 69.75 314 P P 19 28 22.7 -0.6
SLIT Slitere, Latvi 69.77 353 *e*P P 19 28 22.2 -0.6
AKTO Aktyubinsk 69.79 330 P P 19 28 22.6 -0.5
comp=Z,2.3nm,0.5s,baz=51,slow=6.7,SNR=11
BORU Boraas 70.18 359 *i*P P 19 28 25.6 +0.2
BELG Belogornoye 70.87 337 P P 19 28 29.8 +0.1
comp=Z,10nm,0.6s,baz=343,slow=2.7,SNR=5.0
BELG Belogornoye 70.87 337 *c*e*P P 19 28 29.3 -0.3
BELG pmax pmax
comp=Z,2.0nm,0.9s
SLVN Son La 71.24 281 P P 19 28 31.9 -0.5
DEL Delary 71.33 358 *i*P P 19 28 32.0 -0.3
BLEU Blekinge 71.44 357 *i*P P 19 28 32.9 -0.2
IIGN Ignalina 71.69 351 *e*P P 19 28 34.2 -0.3
PABE Paberze 71.75 352 *e*P P 19 28 34.6 -0.3
PABE Paberze 71.75 352 IAmb IAmb 19 28 35.5
comp=Z,13nm,0.6s
EKA Eskdalemuir Ar 71.93 8 P P 19 28 35.9 -0.1
comp=Z,0.4nm,0.3s,baz=350,slow=4.5,SNR=6.3
PPT2 Papeete2 71.97 160 *e*S S 19 37 53.8 -0.2
comp=Z,90nm,25.5s
PPT2 Papeete2 71.97 160 *e*LR LR 19 50 38.7
comp=Z,600nm,24.2s,baz=352
LSA Lhasa 72.22 296 Pn P 19 28 39.0 +0.2
LSA smax smax
comp=N,31nm,0.8s
LSA smax smax
comp=E,36nm,0.9s
MNK Minsk 72.35 349 *i*P P 19 28 38.4 -0.1
MNK *i* PPP PPP 19 33 02.6
MNK *i* S **S 19 37 57.8 +0.2**
MNK *i* SSS SSS 19 45 56.4
MNK pmax pmax
comp=E,1.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK pmax pmax
comp=Z,13nm,0.8s
MNK MLR MLR
comp=E,17nm,21.0s
MNK MLR MLR
comp=Z,353nm,24.0s
MNK MLR MLR
comp=N,218nm,23.0s
MNK Minsk 72.35 349 *i*P P 19 28 38.5 0.0
comp=E,1.0nm,0.7s
MNK *i* P **P 19 28 38.5 0.0**
comp=N,6.0nm,0.7s
MNK *i* P **P 19 28 38.5 0.0**
comp=Z,13nm,0.8s,baz=191
MNK *i* PcP **PcP 19 28 56.6 +0.3**
MNK *i* PP **PP 19 31 18.6 -0.4**
MNK *i* PPP PPP 19 33 02.7
MNK *i* S **S 19 37 57.8 +0.3**
MNK *i* ScS **ScS 19 38 41.0 +0.6**
MNK *i* SS **SS 19 42 30.5 -4.6**
MNK *i* SSS SSS 19 45 56.4
MNK *i* LQ LQ 19 55 27.4
MNK *i* LR LR 20 00 56.5
MNK *i* LRM MLR 20 02 52.4
comp=E,17nm,21.2s
MNK *i* LRM MLR 20 02 52.4
comp=N,218nm,22.9s
MNK *i* LRM MLR 20 02 52.4
comp=Z,353nm,23.8s
NONG Nongkai 74.19 279 P P 19 28 51.7 +1.7
GAR Garm 75.05 316 P P 19 28 54.3 -0.5
GAR IAmb IAmb 19 28 56.1
comp=Z,26nm,1.2s
FLTG Flechtingen 75.51 359 *e*P P 19 28 56.8 -0.2
comp=Z,7.0nm,0.8s,baz=1.5,slow=5.6
AKASG Malin Array Be 75.92 348 P P 19 28 58.3 -1.0
comp=Z,0.9nm,0.3s,baz=15,slow=5.8,SNR=6.1
AKBB Malin Array Si 75.92 348⇑ *e*P P 19 28 57.7 -1.7
CM34 Chiang Mai Arr 75.99 283 P P 19 29 00.0 -0.3
UTTA Uttaradit 76.00 281 P P 19 29 01.7 +1.3
comp=Z,0.1nmcomp=Z,127nmcomp=Z,19nm,0.8s
CLZ Clausthal 76.01 360 *e*P P 19 29 01.0 +1.1
comp=Z,8.3nm,1.1s,baz=1.5,slow=5.6
CMAR Chiang Mai Arr 76.41 283 P P 19 29 02.8 0.0
comp=Z,7.5nm,0.9s,baz=26,slow=6.6,SNR=27
CLL Collm 76.52 358 *e*P P 19 29 03.0 +0.2
CLL Collm 76.52 358 *e*P P 19 29 03.0 +0.2
BRG Berggiesshubel 76.93 358 *e*P P 19 29 05.5 +0.4
CHVC Chvalec 77.15 356 *e*P P 19 29 07.3 +0.9
CHVC *e*sP **sP 19 29 28.1 +1.3**
CHVC AMS AMS 20 04 40.0
comp=Z,200nm,17.0s
DZM Mont Dzumac 77.15 203 *e*S S 19 38 50.9 -0.9
comp=Z,161nm,23.2s
DZM Mont Dzumac 77.15 203 *e*LR LR 19 53 04.4
comp=Z,711nm,22.1s
OSTC Ostas 77.17 356 AMS AMS 20 04 50.0
comp=Z,200nm,18.2s
MEM Membach 77.17 3 *d*P P 19 29 07.1 +0.6
MEM *d*PcP **PcP 19 29 16.0 -1.1**
BSTI Sart Tilman 77.19 3 *d*P P 19 29 06.8 +0.3
MOX Moxa 77.20 359 *e*P P 19 29 07.1 +0.5
comp=Z,7.0nm,1.0s,baz=1.5,slow=5.6
BTNL Ternell 77.20 3 *d*P P 19 29 07.4 +0.7
UPC Upice 77.23 356 AMS AMS 20 04 50.0
comp=Z,300nm,19.8s
PVCC Panska Ves 77.26 357 AMS AMS 20 06 30.0
comp=Z,300nm,20.3s
BCLA Clavier 77.34 3 *d*P P 19 29 07.6 +0.2
BCLA *d*PcP **PcP 19 29 17.0 -0.8**
BGES Gesves 77.37 3 *d*P P 19 29 07.6 0.0
BGES *d*PcP **PcP 19 29 17.4 -0.5**
DPC Dobruska-Polom 77.37 356 *e*P P 19 29 08.3 +0.6
DPC MLR MLR
comp=Z,200nm,22.5s
DPC Dobruska-Polom 77.37 356 *e*P P 19 29 08.3 +0.6
DPC *e*sP **sP 19 29 29.5 +1.4**
DPC AMS AMS 20 02 40.0
comp=Z,200nm,22.5s
BMRD Maredsous 77.44 4 *d*P P 19 29 08.4 +0.4
WERN Wernitzgruen 77.55 359 *e*P P 19 29 09.5 +0.9
comp=Z,5.7nm,1.1s,baz=1.5,slow=5.6
TBI Tubuai 77.58 161 *e*LR LR 19 53 17.4
comp=Z,401nm,27.8s,baz=343
TBI Tubuai 77.58 161 *e*T T 20 54 26.9
comp=Z,7.7nm,0.3s
NKC Novy Kostel 77.60 359 *e*sP **sP 19 29 30.3 +1.0
NKC AMS AMS 20 07 40.0
comp=Z,200nm,18.8s
KRLC Kraliky 77.63 356 *e*P P 19 29 09.4 +0.3
KRLC MLR MLR
comp=Z,100nm,19.2s
KRLC Kraliky 77.63 356 *e*P P 19 29 09.4 +0.3
KRLC *e*sP **sP 19 29 30.4 +0.9**
KRLC AMS AMS 20 05 40.0
comp=Z,100nm,19.2s
OKC Ostrava-Krasne 77.80 355 AMS AMS 20 07 10.0
comp=Z,400nm,22.0s
PRU Pruhonice 77.80 357 *e*P P 19 29 09.6 -0.4
PRU MLR MLR
comp=Z,200nm,19.5s
PRU Pruhonice 77.80 357 *e*P P 19 29 09.6 -0.4
PRU *e*sP **sP 19 29 31.1 +0.7**
PRU AMS AMS 20 06 50.0
comp=Z,200nm,19.5s
MORC Moravsky Berou 77.89 355 ⇓P P 19 29 11.1 +0.5
MORC Moravsky Berou 77.89 355 *e*P P 19 29 10.2 -0.4
MILB Miltenberg 78.02 1 *e*P P 19 29 11.9 +0.7
comp=Z,6.8nm,0.9s,baz=1.5,slow=5.6
PBCC Pribram 78.12 358 *e*P P 19 29 12.1 +0.3
PBCC *e*PCP **sP 19 29 33.7 +1.5**
LANS Liptovska Anna 78.40 354 *e*P P 19 29 14.7 +1.3
LANS Liptovska Anna 78.40 354 *e*P P 19 29 14.7 +1.3
VRAC Vranov 78.40 356 P P 19 29 13.7 +0.3
comp=Z,6.1nm,0.9s,baz=25,slow=4.3,SNR=8.3
VRAC Vranov 78.40 356 ⇑P P 19 29 13.1 -0.2
VRAC Vranov 78.40 356 *e*P P 19 29 13.5 +0.1
KOLS Kolonicke sedl 78.41 352 *e*P P 19 29 14.9 +1.5
KOLS Kolonicke sedl 78.41 352 *e*P P 19 29 14.9 +1.5
TREC Trest 78.46 357 AMS AMS 20 05 20.0
comp=Z,200nm,17.2s
SORM Soroca 78.55 348 ⇑P P 19 29 13.6 -0.6
KRUC Moravsky 78.66 356 *e*P P 19 29 14.8 0.0
KHC Kasperske Hory 78.68 358 *e*P P 19 29 15.9 +0.9
KHC MLR MLR
comp=Z,300nm,23.4s
KHC Kasperske Hory 78.68 358 *e*P P 19 29 15.9 +0.9
KHC *e*sP **sP 19 29 36.7 +1.3**
KHC AMS AMS 20 09 40.0
comp=Z,300nm,23.4s
UZH Uzhgorod 78.71 352 *e*P P 19 29 12.0 -3.0
JAVC Velka Javorina 78.80 355 *e*P P 19 29 16.7 +1.1
GOF Gofitskoye 78.81 337⇑ *e*P P 19 29 16.7 +1.0
GEC2 GERESS Array S 78.97 358 *e*P P 19 29 17.0 +0.5
comp=Z,3.8nm,0.9s,baz=1.5,slow=5.6
GERES GERESS Array B 78.97 358 P P **19 29 16.9 +0.3**
comp=Z,2.0nm,0.8s,baz=20,slow=4.3,SNR=16
CKRC Cesky Krumlov 78.97 357 *e*P P 19 29 16.6 +0.1
CKRC *e*sP **sP 19 29 38.3 +1.3**
CKRC AMS AMS 20 07 40.0
comp=Z,200nm,20.9s
VYHS Vyhne 79.10 354 *e*P P 19 29 18.7 +1.5
VYHS Vyhne 79.10 354 *e*P P 19 29 18.7 +1.5
MODS Modra-Piesok 79.30 355 *e*P P 19 29 21.0 +2.7
MODS Modra-Piesok 79.30 355 *e*P P 19 29 21.0 +2.7
BUR08 Bucovina Ar. S 79.40 350 P P **19 29 17.4 -1.6**
BURAR Bucovina Array 79.43 350 ⇑P P 19 29 18.5 -0.7
CONA Conrad Observa 79.81 356 *e*P P 19 29 22.1 +0.9
comp=Z,9.0nm,1.3s
KIV Kislovodsk 79.94 337 ⇑P P 19 29 23.0 +1.1
KIV Kislovodsk 79.94 337 *e*P P 19 29 22.4 +0.5
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,169nm,19.0s
MOA Molln 79.95 357 *e*P P 19 29 22.7 +0.9
comp=Z,4.8nm,1.3s
BIZ Bicaz 80.00 349 ⇑P P 19 29 22.5 +0.4
KBZ Khabaz 80.10 337 P P 19 29 23.4 +0.8
comp=Z,3.5nm,0.8s,baz=69,slow=1.7,SNR=11
KBZ Khabaz 80.10 337 *c*e*P P 19 29 24.0 +1.3
KBZ pmax pmax
comp=Z,4.0nm,0.8s
NCK Nalchik 80.15 336⇑ *e*P P 19 29 23.3 +0.3
NCK pmax pmax
comp=Z,8.0nm,0.9s
RETA Reutte 80.36 360 *e*P P 19 29 25.2 +1.1
comp=Z,3.0nm,0.7s
ARSA Arzberg 80.50 356 *e*P P 19 29 25.6 +0.7
comp=Z,5.5nm,0.9s
MOTA Moosalm 80.50 359 *e*P P 19 29 26.2 +1.2
comp=Z,8.9nm,1.3s
WATA Walderalm 80.51 359 *e*P P 19 29 26.4 +1.4
comp=Z,9.1nm,1.2s
DAVA Damuels 80.56 0 *e*P P 19 29 26.9 +1.6
comp=Z,2.7nm,0.8s
WTTA Wattenberg 80.58 359 *e*P P 19 29 26.0 +0.6
comp=Z,5.2nm,1.1s
SQTA Sankt Quirin 80.63 359 *e*P P 19 29 26.8 +1.1
comp=Z,7.6nm,0.8s
KBA Koelnbreinsper 80.74 358 *i*P P 19 29 27.6 +1.2
comp=Z,13nm,0.8s,SNR=10
GEYT Alibeck 80.80 324 P P **19 29 27.0 +0.3**
comp=Z,2.6nm,0.8s,baz=340,slow=8.3,SNR=4.8
FETA Feichten 80.83 360 *e*P P 19 29 27.7 +0.9
comp=Z,8.5nm,1.0s
MFF Saint Martin d 80.84 7 *e*P P 19 29 26.7 +0.1
MFF pmax pmax
comp=Z,14nm,1.2s
AKT Akhty 80.93 332 *e*P P 19 29 27.4 0.0
AKT pmax pmax
comp=Z,16nm,1.0s
SOC Sochi 80.97 339 *e*P P 19 29 33.4 +6.0
SOC *e*PPP PPP 19 34 25.3
SOC *e*SS SS 19 44 55.2 +10
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC MLR MLR

comp=Z,633nm,26.0s
DOPR Dopca 81.04 349 ⇑P **P 19 29 28.8 +1.0**
DAVOX Davos/Dischmat 81.07 0 P **P 19 29 28.6 +0.5**
comp=Z,2.6nm,0.5s,baz=306,slow=6.8,SNR=9.3
ABTA Abfaltersbach 81.09 358 *eP* **P 19 29 29.6 +1.5**
comp=Z,4.4nm,0.7s
SOKA Soboth 81.09 357 *i* P **P 19 29 28.9 +0.8**
comp=Z,13nm,1.8s,SNR=7.3
ZKTA Zakatala 81.09 333 P **P 19 29 27.2 -0.9**
MYKA Terra Mystica 81.18 358 *eP* **P 19 29 28.5 0.0**
comp=Z,0.4nm,0.3s
OBKA Obir 81.28 357 *eP* **P 19 29 29.6 +0.5**
comp=Z,5.9nm,0.9s
SEKA Sheki 81.33 333 P **P 19 29 28.7 -0.7**
TUE Stuetta 81.38 1 P **P 19 29 30.1 +0.4**
MLR Muntele Rosu 81.45 349 P **P 19 29 30.4 +0.4**
comp=Z,1.0nm,0.4s,baz=178,slow=7.1,SNR=3.2
MLR Muntele Rosu 81.45 349 ⇑P **P 19 29 30.8 +0.8**
VOIR 81.60 350 ⇑P **P 19 29 31.5 +0.7**
ARR Arges 81.72 350 ⇑P **P 19 29 31.5 +0.1**
MNGR Mingechevir, A 81.77 333 P **P 19 29 31.1 -0.5**
GZR Gura Zlata 81.88 351 ⇑P **P 19 29 32.6 +0.3**
GANJ Ganja 82.10 333 P **P 19 29 32.8 -0.6**
TIRR Tirgusor 82.15 347 ⇓P **P 19 29 33.8 +0.2**
SSB Saint Sauveur 82.45 4 IAmb IAmb 19 29 37.7
comp=Z,8.2nm,1.1s
LFF La Frestale 82.56 7 *eP* **P 19 29 35.7 0.0**
LFF pmax pmax
comp=Z,8.0nm,0.8s
MDVR Moldovita 82.58 352 ⇓P **P 19 29 36.1 +0.2**
CAF Calviac 82.67 6 *eP* **P 19 29 36.5 +0.2**
CAF pmax pmax
comp=Z,11nm,1.3s
BNI Bardonecchia 82.75 3 P **P 19 29 38.0 +1.1**
BNI Bardonecchia 82.75 3 P **P 19 29 38.0 +1.1**
BNI IAmb IAmb 19 29 40.6
comp=Z,8.5nm,0.9s
GNI Garni 82.99 334⇑ *eP* **P 19 29 39.4 +1.1**
GNI pmax pmax
comp=Z,3.0nm,0.9s
LKRN Lenkeran, Azer 83.19 331 P **P 19 29 38.6 -0.4**
NAX Nakhchivan 83.70 333 P **P 19 29 41.3 -0.5**
OSSC Osservatorio P 84.33 359 IAmb IAmb 19 29 46.3
comp=Z,7.6nm,0.9s
BATI Baumata 84.34 245 P **P 19 29 44.4 -0.7**
comp=Z,15nm,0.6s,baz=219,slow=22,SNR=2.3
BRTR Keskin Array B 85.92 342 P **P 19 29 54.2 +1.1**
comp=Z,1.6nm,0.7s,baz=67,slow=3.7,SNR=7.5
BRTR Keskin Array B 85.92 342 P **P 19 29 53.1 +0.1**
BRTR Keskin Array B 85.92 342 P **P 19 29 53.1 +0.1**
MARD Mardin 86.69 336 IAmb IAmb 19 29 58.9
comp=Z,13nm,1.1s
WRA Warramunga Arr 86.97 231 P **P 19 29 56.4 -1.7**
comp=Z,1.4nm,0.9s,baz=36,slow=5.9,SNR=5.7
ESDC Sonseca Array 87.34 11 P **P 19 30 00.1 +0.2**
comp=Z,4.0nm,0.9s,baz=345,slow=4.6,SNR=17
ESDC Sonseca Array 87.34 11 P **P 19 29 59.8 -0.1**
PSI Prapat 88.67 273 P **P 19 30 06.4 -0.2**
PSI pmax pmax
comp=Z,19nm,0.9s
RPSI Rantau Prapat 88.75 273 P **P 19 30 06.4 -0.4**
ASAR Alice Springs 90.36 230 P **P 19 30 13.2 -0.9**
comp=Z,2.4nm,0.8s,baz=27,slow=4.5,SNR=24
TORD Torodi Ar. Bea 114.17 9 PKKPbc PKKPbc 19 46 30.0 -0.7
comp=Z,0.2nm,0.4s,baz=171,slow=2.4,SNR=1.8
H03N2 Juan Fernandez 116.14 111 T T 21 42 57.8
baz=317,slow=77,SNR=174
H03N1 Juan Fernandez 116.16 111 T T 21 43 27.1
baz=317,slow=77,SNR=296
H03N3 Juan Fernandez 116.16 111 T T 21 43 13.6
baz=317,slow=77,SNR=154
PLCA Paso Flores 126.02 112 PKP **PKiKP 19 36 15.0 +0.2**
comp=Z,0.9nm,0.5s,baz=206,slow=14,SNR=1.5
PLCA Paso Flores 126.02 112 PKIKP **PKiKP 19 36 15.0 +0.2**
MAW Mawson 150.89 219 PKPbc **PKPbc 19 37 03.1 -0.8**
comp=Z,2.1nm,0.6s,baz=201,slow=8.0,SNR=4.1
BOSA Boshof 153.67 329 PKPbc **PKiKP 19 37 11.9 +0.3**
comp=Z,1.5nm,0.4s,baz=20,slow=4.5,SNR=6.8

*MOS **31** 19:17:35.8±1.1,52.°61N×169.°78W,h31km,mb4.7/4,Error ellipse: s-maj=9.3km s-min=7.7km az=85.1*
*GCMT **31** 19:17:37.8±0.3,52.°23N±0.°02×169.°87W±0.°03,h55km±1km, MW5.0/97,Moment Tensor Solution. s44,c52; s97,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.49±.15; M_{tt}0.-3.45±.11; M_{pp}0.96±.13; M_{rt}2.19±.10; M_{tp}0.72±.10; M_{rp}-0.14±.08; Best double couple: M_o3.74300×10^{16} NP1:φ≈286.00000°,δ27.00000°,λ101.00000°. NP2: φ≈94.00000°,δ63.00000°,λ85.00000°. Principal axes: T 3.2140, Plg71.0000°, Azm352.0000°; N 1.0600, Plg5.0000°, Azm97.0000°; P -4.2710, Plg18.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **31** 19:17:38.8±1.7,52.°7N±0.°1×169.°75W±0.°09,h37km±6km, mb5.1/245 Error ellipse: s-maj=16.2km s-min=7.2km az=164.0*
*AEIC **31** 19:17:39±3.1,52.°5N±0.°1×169.°6W±0.°1,h47km±5km,Error ellipse: s-maj=16.9km s-min=7.5km az=161.0*
*IDC **31** 19:17:39.0±1.9,52.°52N×169.°84W,h41km±16km,mb4.6/49, mb1 4.6/51,mb1mx4.5/73,mbtmp4.8/51,ML4.3/2,MS4.2/3, Ms1 4.2/3,ms1mx3.7/23,Error ellipse: s-maj=13.5km s-min=8.5km az=170.0*
ISC 31 19:17:39.2±0.9,52.°68N±0.°07×169.°73W±0.°04,h44km±7km, n442,σ1§11/398,mb5.1/201,2C-12D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.61**	**60**	Pn	**Pn**	**19 17 51.2**	**-0.3**
UNV	**Unalaska Valle**	**2.26**	**58**	Pn	**Pn**	**19 18 13.4**	**-0.7**
ATKA	**Atka Island**	**2.77**	**262**	Pn	**Pn**	**19 18 20.5**	**-0.6**
GSTR	**Great Sitkin T**	**3.92**	**264**	Pn	**Pn**	**19 18 37.0**	**+0.1**
ADK	**Adak**	**4.34**	**262**	P	**Pn**	**19 18 43.4**	**+0.8**
ADK	**Adak**	**4.34**	**262**	Pn	**Pn**	**19 18 43.4**	**+0.8**
KIWB	**Kanaga Island**	**4.63**	**263**	Pn	**Pn**	**19 18 47.7**	**+1.1**
SDPT	**Sand Point**	**6.08**	**60**	Pn	**Pn**	**19 19 05.8**	**-0.5**
AMKA	**Amchitka**	**6.89**	**263**	Pn	**Pn**	**19 19 17.1**	**-0.5**
CHIR	**Chirikof Islan**	**8.84**	**64**	Pn	**Pn**	**19 19 44.1**	**-0.1**
SII	**Sitkinak Islan**	**9.81**	**61**	Pn	**Pn**	**19 19 57.5**	**-0.1**
OHAK	**Old Harbor**	**10.49**	**58**	Pn	**Pn**	**19 20 05.8**	**-0.9**
KDAK	**Kodiak Island**	**11.03**	**56**	P	**Pn**	**19 20 13.7**	**-0.5**
	7.3nm,0.3s,baz=306,slow=13,SNR=6.5						
KDAK				S	**Sn**	**19 22 11.0**	**-5.0**
	0.8nm,0.3s,baz=88,slow=18,SNR=1.9						
KDAK	**Kodiak Island**	**11.03**	**56**	P	**Pn**	**19 20 13.0**	**-1.2**
KDAK	**Kodiak Island**	**11.03**	**56**	Pn	**Pn**	**19 20 13.0**	**-1.2**
GAMB	**Gambell**	**11.18**	**355**	Pn	**Pn**	**19 20 16.4**	**+0.3**
BRLK	**Bradley Lake**	**12.63**	**48**	Pn	**Pn**	**19 20 36.8**	**+0.8**
TNA	**Tin City**	**12.96**	**3**	Pn	**Pn**	**19 20 39.9**	**-0.5**
SEW	**Seward**	**13.43**	**48**	Pn	**Pn**	**19 20 48.1**	**+1.2**
O22K	**Cooper Landing**	**13.47**	**47**	Pn	**Pn**	**19 20 48.5**	**+1.1**
CUT	**Chulitna**	**14.22**	**39**	P	**P**	**19 21 01.6**	**-2.5**
PWL	**Port Wells**	**14.25**	**46**	P	**Pn**	**19 21 00.4**	**+2.4**
GLI	**Glacier Island**	**14.81**	**47**	P	**Pn**	**19 21 05.9**	**+0.5**
HIN	**Hinchinbrook I**	**14.90**	**50**	P	**Pn**	**19 21 05.9**	**-0.7**
BPAW	**Bear Paw Mtn.**	**15.01**	**33**	P	**P**	**19 21 13.7**	**+1.0**
BPAW				IAmb	IAmb	19 21 19.2	
	comp=Z,84nm,0.7s						
MLY	**Manley**	**15.71**	**31**	P	**P**	**19 21 19.4**	**-1.2**
RAGM	**Ragged Mountai**	**15.75**	**51**	P	**Pn**	**19 21 17.6**	**-0.1**
RAGM				IAmb	IAmb	19 21 29.0	
	comp=Z,65nm,0.7s						
HMT	**Hamilton**	**15.93**	**51**	P	**Pn**	**19 21 20.7**	**+0.7**
HMT				IAmb	IAmb	19 21 27.2	
	comp=Z,76nm,0.6s						
NEA2	**Nenana**	**15.96**	**34**	P	**Pn**	**19 21 20.8**	**+0.4**
BMRM	**Bremner River**	**15.97**	**49**	P	**Pn**	**19 21 20.8**	**+0.2**
SUCK	**Suckling Hills**	**16.09**	**52**	P	**Pn**	**19 21 21.2**	**-0.7**
BERG	**Berg Lake**	**16.21**	**51**	P	**Pn**	**19 21 24.1**	**+0.6**
BERG				IAmb	IAmb	19 21 32.2	
	comp=Z,59nm,0.6s						
GLB	**Gilahina Butte**	**16.50**	**48**	P	**Pn**	**19 21 26.3**	**-0.9**
CRQM	**Cirque**	**16.59**	**50**	P	**Pn**	**19 21 28.5**	**0.0**
CRQM				IAmb	IAmb	19 21 38.7	
	comp=Z,64nm,0.7s						
VRDI	**Verde Repeater**	**16.59**	**49**	P	**Pn**	**19 21 28.7**	**+0.2**
HDA	**Harding Lake**	**16.59**	**36**	P	**P**	**19 21 29.6**	**-0.7**
WAX	**Waxell Ridge**	**16.63**	**52**	P	**Pn**	**19 21 29.5**	**+0.5**
WAX				IAmb	IAmb	19 21 46.5	
	comp=Z,91nm,0.7s						
ILAR	**Eielson Array**	**16.82**	**35**	P	**P**	**19 21 35.0**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=231,slow=9.6,SNR=5.0						
ILAR				PcP	**PcP**	**19 26 17.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=274,slow=2.6,SNR=2.8						
ILAR				ScP	**ScP**	**19 29 48.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=264,slow=2.9,SNR=9.7						
ILAR	**Eielson Array**	**16.82**	**35**	P	**P**	**19 21 35.0**	**+2.2**
ILAR	**Eielson Array**	**16.82**	**35**		**ScP**	**19 29 48.4**	**+1.0**
POKR	**Poker Plat Res**	**16.84**	**34**	P	**Pn**	**19 21 30.9**	**-0.5**
MESA	**MESA**	**17.00**	**53**	P	**Pn**	**19 21 32.6**	**-1.0**
MESA				IAmb	IAmb	19 21 59.1	
	comp=Z,98nm,0.9s						
TABL	**Table Mountain**	**17.45**	**52**	P	**Pn**	**19 21 38.6**	**-0.6**
TABL				IAmb	IAmb	19 22 00.5	
	comp=Z,85nm,0.8s						
CTGM	**Chitina Glacie**	**17.49**	**51**	P	**Pn**	**19 21 39.2**	**-0.5**
LOGN	**Logan Glacier**	**17.61**	**51**	P	**Pn**	**19 21 40.3**	**-0.9**
PCA	**Pinnacle**	**17.80**	**54**	P	**P**	**19 21 44.0**	**+0.2**
PCA				IAmb	IAmb	19 21 50.0	
	comp=Z,103nm,0.8s						
PET	**Petropavlovsk**	**19.02**	**284**	P	**P**	**19 21 57.3**	**+0.2**
PEA0B	**Petropavlovsk-**	**19.57**	**284**	P	**Pn**	**19 22 04.1**	**-0.6**
PEA0B				pmax	pmax		
	comp=Z,88nm,1.3s						
PEA0B	**Petropavlovsk-**	**19.57**	**284**	P	**Pn**	**19 22 04.0**	**-0.6**
PEA0B				IAmb	IAmb	19 22 18.5	
	comp=Z,88nm,1.3s						
PETK	**Petropavlovsk-**	**19.57**	**284**	P	**Pn**	**19 22 04.4**	**-0.3**
	comp=Z,5.4nm,0.3s,baz=92,slow=13,SNR=20						
PETK				LR	LR	19 29 02.0	
	comp=Z,181nm,21.7s,baz=96,slow=35						
PETK	**Petropavlovsk-**	**19.57**	**284**	P	**P**	**19 22 03.8**	**+0.7**
SIT	**Sitka**	**20.14**	**64**	P	Pn	19 22 11.0	-0.3
SIT				pmax	pmax		
	comp=Z,25nm,0.8s						
SIT	**Sitka**	**20.14**	**64**	P	Pn	19 22 11.0	-0.3
SKAG	**Skagway**	**20.18**	**57**	P	**P**	**19 22 09.1**	**-0.6**
BESE	**Bessie Mountai**	**20.38**	**59**	P	**P**	**19 22 11.5**	**-0.4**
BESE				IAmb	IAmb	19 22 15.2	
	comp=Z,46nm,0.8s						
JIS	**Juneau Island**	**20.62**	**60**	P	Pn	19 22 15.8	-1.3
JIS				IAmb	IAmb	19 22 20.9	
	comp=Z,82nm,0.8s						
SKR	**Severo-Kuril's**	**21.16**	**278**	*eP*	P	19 22 12.0	-8.3
SKR				*eS*	Sn	19 26 20.5	-0.9
SKR				pmax	pmax		
	comp=Z,39nm,1.2s						
SKR				MLR	MLR		
	comp=Z,200nm,20.0s						
DIB	**Dawson Inlet,**	**22.30**	**74**	P	**P**	**19 22 31.4**	**-1.0**
MOBC	**Moresby Island**	**22.61**	**74**	P	**P**	**19 22 37.2**	**+1.4**
DLBC	**Dease Lake**	**22.92**	**60**	P	**P**	**19 22 42.2**	**+3.1**
	comp=Z,33nm,0.8s,baz=266,slow=7.7,SNR=11						
DLBC	**Dease Lake**	**22.92**	**60**	IAmb	IAmb	19 22 44.6	
	comp=Z,51nm,0.9s						
INK	**Inuvik**	**23.21**	**34**	P	**P**	**19 22 43.8**	**+2.0**
	comp=Z,12nm,0.6s,baz=248,slow=17,SNR=5.2						
INK				PcP	**PcP**	**19 26 28.9**	**+0.7**
	comp=Z,5.3nm,0.6s,baz=259,slow=4.0,SNR=3.6						
INK	**Inuvik**	**23.21**	**34**	P	**P**	**19 22 41.0**	**-0.8**
INK						19 26 28.9	
INK				pmax	pmax		
	comp=Z,18nm,0.8s						
INK	**Inuvik**	**23.21**	**34**	P	**P**	**19 22 41.0**	**-0.8**
BBB	**Bella Bella**	**25.13**	**74**	P	**P**	**19 23 01.4**	**+1.7**
	comp=Z,13nm,0.8s,baz=276,slow=10.0,SNR=6.4						
NLWA	**Neilton Lookou**	**29.52**	**82**	P	**P**	**19 23 41.4**	**+2.2**
YKA	**Yellowknife Ar**	**30.21**	**49**	P	**P**	**19 23 46.5**	**+1.5**
	comp=Z,4.5nm,0.8s,baz=270,slow=7.2,SNR=3.9						
YKA				PcP	**PcP**	**19 26 44.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=272,slow=1.8,SNR=4.3						
YSS	**Yuzh-Sakhalins**	**30.73**	**279**	*eP*	**P**	**19 23 47.6**	**-2.1**
LON	**Longmire**	**31.07**	**81**	P	**P**	**19 23 54.0**	**+1.1**
LON				pmax	pmax		
	comp=Z,11nm,0.8s						
LON	**Longmire**	**31.07**	**81**	P	**P**	**19 23 54.0**	**+1.1**
LTY	**Liberty**	**31.51**	**80**	P	**P**	**19 23 59.2**	**+2.4**
B08A	**Colville Reser**	**31.80**	**77**	P	**P**	**19 24 00.4**	**+1.2**
H04A	**Detroit Lake**	**31.88**	**85**	P	**P**	**19 23 59.8**	**-0.3**
H04A				IAmb	IAmb	19 24 14.5	
	comp=Z,22nm,0.8s						
ASAJ	**Asahikawa**	**32.27**	**274**	P	**P**	**19 24 02.3**	**-1.0**
	comp=Z,9.8nm,0.9s,baz=66,slow=5.8,SNR=6.9						
HAWA	**Hanford**	**32.61**	**81**	P	**P**	**19 24 06.1**	**-0.2**
HAWA				IAmb	IAmb	19 24 09.8	
	comp=Z,23nm,0.8s						
D08A	**Wollman Farm,**	**32.65**	**79**	P	**P**	**19 24 06.6**	**-0.1**
C09A	**Chrisman Ranch**	**32.68**	**78**	P	**P**	**19 24 07.4**	**+0.4**
C09A				IAmb	IAmb	19 24 09.0	
	comp=Z,15nm,0.9s						
YAK	**Yakutsk**	**32.80**	**311**	P	**P**	**19 24 08.8**	**+1.0**
	comp=Z,2.3nm,0.3s,baz=112,slow=0.4,SNR=7.1						
YAK				PcP	**PcP**	**19 26 51.6**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=78,slow=0.8,SNR=4.5						
YAK	**Yakutsk**	**32.80**	**311**	*eP*	P	19 24 02.7	-5.1
YAK				*e**PP	pP	19 24 12.9	-6.8
YAK				*e*PPP	PPP	19 25 24.1	
YAK				*e*		19 26 50.4	
YAK				*e*S	**S**	**19 29 17.6**	**-3.9**
YAK				*e**SS	sS	19 29 34.9	-6.4
YAK				*e*SS	**SnSn**	**19 31 15.8**	**-4.4**
YAK				*e*SSS	SSS	19 31 40.9	
YAK				*e*		19 34 32.5	
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				smax	smax		
	comp=N,11nm,1.5s						
YAK				smax	smax		
	comp=E,10.0nm,1.5s						
YAK	**Yakutsk**	**32.80**	**311**	P	**P**	**19 24 08.3**	**+0.5**
YAK				IAmb	IAmb	19 24 10.1	
	comp=Z,15nm,0.8s						
PINE	**Pine Mountain**	**33.12**	**86**		**PcP**	**19 26 53.8**	**+0.5**
NEW	**Newport**	**33.15**	**76**	P	**P**	**19 24 11.8**	**+0.8**
NEW				pmax	pmax		
	comp=Z,18nm,0.7s						
NEW	**Newport**	**33.15**	**76**	P	**P**	**19 24 11.8**	**+0.8**
NEW				IAmb	IAmb	19 24 24.1	
	comp=Z,18nm,0.7s						
EDM	**Edmonton**	**33.22**	**66**	P	**P**	**19 24 12.7**	**+1.0**
EDM				pmax	pmax		
	comp=Z,55nm,0.7s						
EDM	**Edmonton**	**33.22**	**66**	P	**P**	**19 24 12.7**	**+1.0**
E09A	**Wood Farm, Sta**	**33.38**	**80**	P	**P**	**19 24 13.2**	**+0.2**
E09A				IAmb	IAmb	19 24 16.6	
	comp=Z,20nm,0.9s						
G08A	**Pilot Rock**	**33.52**	**82**	P	**P**	**19 24 14.3**	**-0.1**
I07A	**Izee**	**33.83**	**84**	P	**P**	**19 24 18.0**	**+0.9**
I07A				IAmb	IAmb	19 24 32.0	
	comp=Z,22nm,1.1s						
F10A	**Beach Ranch, E**	**34.21**	**80**	P	**P**	**19 24 21.4**	**+1.0**
BMO	**Blue Mountains**	**34.74**	**82**	P	**P**	**19 24 25.4**	**+0.4**
BMO					**PcP**	**19 26 57.1**	**-0.6**
J08A	**Circle Bar Ran**	**34.85**	**85**	P	**P**	**19 24 26.9**	**+0.9**
J08A				IAmb	IAmb	19 24 29.2	
	comp=Z,17nm,0.9s						
WVOR	**Wild Horse Val**	**35.27**	**86**	P	**P**	**19 24 30.8**	**+1.2**
WVOR				pmax	pmax		
	comp=Z,24nm,0.8s						
WVOR	**Wild Horse Val**	**35.27**	**86**	P	**P**	**19 24 30.8**	**+1.2**
WVOR				IAmb	IAmb	19 24 43.9	
	comp=Z,24nm,0.8s						
PLID	**Pearl Lake**	**35.41**	**80**	P	**P**	**19 24 31.9**	**+1.0**
AFDM	**Forest Hills D**	**35.94**	**93**		**PcP**	**19 27 01.7**	**+0.5**
KLR	**Kul'dur**	**36.15**	**289**	P	**P**	**19 24 35.8**	**-1.1**
	comp=Z,4.9nm,0.5s,baz=62,slow=9.1,SNR=15						
MFID	**Camas Ranch**	**36.42**	**83**	P	**P**	**19 24 39.2**	**-0.2**
MFID				IAmb	IAmb	19 24 42.1	
	comp=Z,16nm,0.8s						
HRY	**Holter Researc**	**37.04**	**75**	P	**P**	**19 24 45.5**	**+0.8**
JMM	**Marumori**	**37.06**	**267**	P	**P**	**19 24 43.6**	**-1.1**
HLID	**Hailey**	**37.19**	**81**	P	**P**	**19 24 46.6**	**+0.5**
BMN	**Battle Mountai**	**37.31**	**88**	P	**P**	**19 24 47.8**	**+0.7**
BMN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BMN	**Battle Mountai**	**37.31**	**88**	P	**P**	**19 24 47.8**	**+0.7**
BCYI	**Bear Canyon**	**37.38**	**80**	P	**P**	**19 24 47.3**	**-0.4**
MCMT	**McKenzie Canyo**	**37.43**	**79**	P	**P**	**19 24 48.3**	**+0.2**
EGMT	**Eagleton**	**37.58**	**72**	P	**P**	**19 24 49.2**	**0.0**
BOZ	**Bozeman (W)**	**37.74**	**77**	P	**P**	**19 24 50.5**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,16nm,0.8s						
BOZ	**Bozeman (W)**	**37.74**	**77**	P	**P**	**19 24 50.5**	**-0.1**
BOZ				IAmb	IAmb	19 24 53.1	
	comp=Z,16nm,0.8s						
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**19 24 53.5**	**+1.4**
	comp=Z,4.8nm,0.7s,baz=292,slow=6.9,SNR=5.2						
NVAR				PcP	**PcP**	**19 27 07.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=278,slow=2.3,SNR=4.1						
NVAR				ScP	**ScP**	**19 30 50.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=288,slow=3.4,SNR=6.7						
NVAR	**Mina Array Bea**	**37.89**	**91**	P	**P**	**19 24 53.2**	**+1.2**
ELK	**Elko**	**38.33**	**86**		**PcP**	**19 27 09.0**	**+0.2**
JSD	**Sado**	**38.49**	**269**	P	**P**	**19 24 56.1**	**-0.7**
JSD				IAmb	IAmb	19 24 57.7	
	comp=Z,38nm,1.1s						
USRK	**Ussuriysk Ar.**	**38.62**	**281**	P	**P**	**19 24 57.0**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=54,slow=7.0,SNR=4.5						
USRK				PcP	**PcP**	**19 27 09.8**	**+0.6**
	comp=Z,6.9nm,0.8s,baz=76,slow=2.7,SNR=10						
YMR	**Madison River**	**38.64**	**78**	P	**P**	**19 24 58.1**	**-0.2**
YMR				IAmb	IAmb	19 25 01.1	
	comp=Z,32nm,0.8s						
YHH	**Holmes Hill**	**38.64**	**77**	P	**P**	**19 24 58.8**	**+0.4**
YHH				IAmb	IAmb	19 25 01.1	
	comp=Z,32nm,0.8s						
FFC	**Flin Flon**	**38.75**	**59**	P	**P**	**19 24 59.2**	**+0.4**
FFC				pmax	pmax		
	comp=Z,14nm,0.9s						
FFC	**Flin Flon**	**38.75**	**59**	P	**P**	**19 24 59.2**	**+0.4**
YNR	**Norris Junctio**	**38.78**	**77**	P	**P**	**19 25 00.2**	**+0.7**
YNR				IAmb	IAmb	19 25 02.9	
	comp=Z,28nm,0.7s						
YNE	**Yellowstone No**	**39.02**	**77**	P	**P**	**19 25 01.0**	**-0.5**
YNE				IAmb	IAmb	19 25 04.0	
	comp=Z,20nm,0.8s						
LKWY	**Lake**	**39.03**	**77**	P	**P**	**19 25 02.7**	**+1.1**
LKWY				pmax	pmax		
	comp=Z,33nm,0.8s						
LKWY	**Lake**	**39.03**	**77**	P	**P**	**19 25 02.7**	**+1.1**
LKWY				IAmb	IAmb	19 25 05.5	
	comp=Z,33nm,0.8s						
YMP	**Mirror Lake Pl**	**39.08**	**77**	P	**P**	**19 25 01.8**	**-0.3**
IMW	**Indian Meadow**	**39.09**	**79**	P	**P**	**19 25 02.5**	**+0.4**
IMW				IAmb	IAmb	19 25 05.2	
	comp=Z,16nm,0.8s						
HVU	**Hansel Valley**	**39.20**	**83**	P	**P**	**19 25 03.0**	**0.0**
HVU				pmax	pmax		
	comp=Z,22nm,0.7s						
HVU	**Hansel Valley**	**39.20**	**83**	P	**P**	**19 25 03.0**	**0.0**
HVU				IAmb	IAmb	19 25 05.4	
	comp=Z,22nm,0.7s						
ECR	**Eagle Creek**	**39.31**	**80**	P	**P**	**19 25 04.8**	**+0.9**
RLMT	**Red Lodge**	**39.40**	**76**	P	**P**	**19 25 05.6**	**+1.0**
RLMT				IAmb	IAmb	19 25 07.8	
	comp=Z,27nm,0.8s						
LOHW	**Long Hollow**	**39.45**	**79**	P	**P**	**19 25 05.2**	**+0.2**
MJAR	**Matsushiro Arr**	**39.49**	**267**	P	**P**	**19 25 04.6**	**-0.6**
	comp=Z,7.2nm,0.8s,baz=43,slow=7.0,SNR=9.7						
MJAR				PcP	**PcP**	**19 27 12.3**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=114,slow=3.1,SNR=5.2						
MAJO	**Matsushiro**	**39.49**	**267**	P	**P**	**19 25 04.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,25nm,1.0s						
MAJO	**Matsushiro**	**39.49**	**267**	P	**P**	**19 25 04.5**	**-0.8**
MAJO				IAmb	IAmb	19 25 07.0	
	comp=Z,25nm,0.9s						
MJB9	**Matsu-Tunnel**	**39.49**	**267**	P	**P**	**19 25 04.7**	**-0.5**
MJB9				IAmb	IAmb	19 25 06.9	
	comp=Z,25nm,0.9s						
SPUT	**South Promonto**	**39.68**	**83**	P	**P**	**19 25 07.6**	**+0.7**
TPNV	**Topopah Spring**	**40.09**	**91**	P	**P**	**19 25 11.3**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,16nm,0.8s						
TPNV	**Topopah Spring**	**40.09**	**91**	P	**P**	**19 25 11.3**	**+1.0**
TPNV				IAmb	IAmb	19 25 18.0	
	comp=Z,16nm,0.8s						
LAO	**LASA Array**	**40.33**	**72**	P	**P**	**19 25 12.3**	**+0.2**
LAO				IAmb	IAmb	19 25 17.9	
	comp=Z,16nm,0.8s						
PD31	**Pinedale Array**	**40.56**	**79**	P	**P**	**19 25 14.3**	**0.0**
PD31				IAmb	IAmb	19 25 16.8	
	comp=Z,26nm,0.8s						
PDAR	**Pinedale Array**	**40.56**	**79**	P	**P**	**19 25 14.9**	**+0.6**
	comp=Z,26nm,0.8s,baz=310,slow=4.8,SNR=16						
PDAR	**Pinedale Array**	**40.56**	**79**	P	**P**	**19 25 14.3**	**0.0**
JGF	**Kuroka**	**40.63**	**267**	P	**P**	**19 25 14.4**	**-0.3**
MPU	**Maple Canyon**	**40.96**	**84**	P	**P**	**19 25 18.1**	**+0.5**
HIA	**Hailar**	**42.92**	**295**	P	**P**	**19 25 32.6**	**-0.6**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HIA	**Hailar**	**42.92**	**295**	P	**P**	**19 25 32.6**	**-0.6**
CBX	**Cerro Bola**	**42.96**	**97**	P	**P**	**19 25 34.5**	**+0.6**
JHS	**Saijyo**	**43.61**	**270**	P	**P**	**19 25 39.3**	**+0.3**
JCJ	**Chichijima**	**43.78**	**253**	P	**P**	**19 25 39.6**	**-0.8**
	comp=Z,8.6nm,0.3s,baz=76,slow=22,SNR=2.4						
ULM	**Lac du Bonnet**	**44.20**	**62**	P	**P**	**19 25 43.8**	**+0.4**
	comp=Z,23nm,0.8s,baz=309,slow=6.3,SNR=2.9						
NEEM	**North Greenlan**	**44.75**	**16**	*e*	**P**	**19 25 48.7**	**+0.7**
KSRS	**Korea Array**	**45.15**	**276**	P	**P**	**19 25 51.2**	**+0.1**
	comp=Z,9.3nm,0.8s,baz=52,slow=7.7,SNR=18

SFJD pmax pmax
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 52.19 26 P P 19 26 45.6 +0.8
SFJD IAmb IAmb 19 26 47.0
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 52.19 26 *i* **P 19 26 45.7 +0.8**
OK029 Liberty Lake 52.22 78 P **P 19 26 45.6 +0.1**
OK029 IAmb IAmb 19 26 47.0
comp=Z,33nm,0.8s
JOW Kunigami 52.30 266 P 19 26 46.4 +0.3
JOW IAmb IAmb 19 26 51.1
comp=Z,20nm,1.0s
QUOK Quay 52.41 78 IAmb IAmb 19 26 47.8
comp=Z,21nm,0.7s
E46A Sault Ste Mari 52.70 60 P 19 26 49.1 +0.1
E46A PcP **PcP 19 27 58.8 +0.7**
N41A Harden Midland 52.79 69 IAmb IAmb 19 26 49.3
comp=Z,20nm,1.0s
TXAR Lajitas Array 52.96 89 P **P 19 26 51.7 +0.5**
comp=Z,17nm,0.8s,baz=291,slow=5.4,SNR=15
GUMO Guam 53.07 240 P **P 19 26 49.4 -2.5**
comp=Z,24nm,0.3s,baz=42,slow=3.7,SNR=6.2
ABTX Abilene, Hawle 53.08 83 P 19 26 51.1 -0.9
ABTX IAmb IAmb 19 26 53.9
comp=Z,19nm,0.8s
ICESG Greenland Ices 53.16 20 *i* **P 19 26 51.8 -0.6**
U38A Gravette 53.60 76 IAmb IAmb 19 26 56.5
comp=Z,18nm,0.8s
LOOK Love County 53.62 80 P **P 19 26 56.1 +0.2**
LOOK IAmb IAmb 19 26 58.1
comp=Z,31nm,0.7s
DY2G Dye2 53.72 25 *e* **P 19 26 55.5 -0.9**
HHAR Hobbs 53.97 76 IAmb IAmb 19 26 58.9
comp=Z,15nm,0.9s
MGMO Mountain Grove 54.36 74 IAmb IAmb 19 27 00.8
comp=Z,20nm,0.8s
SFIN Lafayette 55.14 67 IAmb IAmb 19 27 19.0
comp=Z,21nm,1.0s
SCHQ Schefferville 55.36 43 P **P 19 27 08.9 +0.7**
comp=Z,20nm,0.8s,baz=328,slow=7.7,SNR=10
SCHQ Schefferville 55.36 43 IAmb IAmb 19 27 10.0
comp=Z,20nm,0.8s
MIAR Mount Ida 55.38 77 P **P 19 27 08.2 -0.4**
MIAR pmax pmax
comp=Z,17nm,0.9s
MIAR Mount Ida 55.38 77 P **P 19 27 08.2 -0.4**
MIAR IAmb IAmb 19 27 09.2
comp=Z,17nm,0.8s
N47A Urbana 55.59 66 IAmb IAmb 19 27 22.1
comp=Z,34nm,1.1s
P46A Rosedale 55.60 68 P **P 19 27 09.1 -1.0**
P46A IAmb IAmb 19 27 11.4
comp=Z,13nm,0.7s
WHAR Wooly Hollow 55.63 75 IAmb IAmb 19 27 23.8
comp=Z,12nm,0.9s
S44A Carbondale 55.74 71 IAmb IAmb 19 27 11.5
comp=Z,17nm,0.8s
SIUC Southern Illin 55.75 71 IAmb IAmb 19 27 11.5
comp=Z,23nm,0.8s
WLAR White Oak Lake 56.26 77 P 19 27 14.2 -0.7
WLAR IAmb IAmb 19 27 16.3
comp=Z,98nm,0.7s
ANGG Ammassalik, Gr 56.48 22 IAmb IAmb 19 27 16.8
comp=Z,9.2nm,0.7s
ZAA0 Zalesovo Array 57.05 317 PcP 19 28 15.4 +0.7
ZALV Zalesovo Beam 57.05 317 P **P 19 27 20.6 +0.4**
comp=Z,2.7nm,0.8s,baz=24,slow=5.4,SNR=8.4
ZALV PcP **PcP 19 28 15.3 +0.6**
comp=Z,13nm,0.8s,baz=38,slow=3.9,SNR=15
ZALV Zalesovo Beam 57.05 317 P **P 19 27 19.5 -0.7**
ZALV **PcP 19 28 14.1 -0.7**
P49A Miami Univ. Ec 57.05 67 IAmb IAmb 19 27 20.3
comp=Z,15nm,0.8s
WCI Wyandotte Cave 57.07 69 P **P 19 27 20.2 -0.4**
WCI Wyandotte Cave 57.07 69 P 19 27 20.2 -0.4
KEV Kevo 57.27 353 P **P 19 27 21.0 -0.5**
KEV pmax pmax
comp=Z,19nm,0.8s
KEV Kevo 57.27 353 P 19 27 21.0 -0.5
KEV IAmb IAmb 19 27 24.0
comp=Z,19nm,0.8s
ARCES ARCESS Array B 57.59 354 P **P 19 27 24.7 +0.9**
comp=Z,13nm,0.8s,baz=21,slow=7.0,SNR=15
ARCES PcP **PcP 19 28 17.1 +0.5**
comp=Z,15nm,0.7s,baz=4.3,slow=4.9,SNR=14
ARCES ARCESS Array B 57.59 354 P **P 19 27 24.1 +0.2**
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES ARCESS Array B 57.59 354 P 19 27 24.1 +0.2
ARCES **PcP 19 28 16.2 -0.5**
ARCES IAmb IAmb 19 28 18.2
comp=Z,14nm,0.7s
WVT Waverly 57.65 72 P **P 19 27 23.7 -1.0**
WVT pmax pmax
comp=Z,68nm,1.2s
WVT Waverly 57.65 72 P 19 27 23.7 -1.0
M53A WI Miller and 57.95 62 P **P 19 27 26.6 -0.2**
M53A IAmb IAmb 19 27 28.3
comp=Z,23nm,0.8s
WHN Wuhan 58.07 280 ⇑P **P 19 27 26.8 -0.9**
R50A Paris 58.14 67 IAmb IAmb 19 27 29.3
comp=Z,16nm,0.8s
J55A Hilton 58.20 59 P 19 27 28.6 +0.1
N53A Lisbon 58.31 63 IAmb IAmb 19 27 30.6
comp=Z,13nm,0.9s
PLAL Pickwick Lake 58.31 73 IAmb IAmb 19 29 32.2
comp=Z,20nm,0.7s
LVZ Lovozero 58.37 349 P **P 19 27 29.8 +0.4**
LVZ pmax pmax
comp=Z,58nm,0.9s
LVZ Lovozero 58.37 349 P 19 27 29.8 +0.4
M54A Oil Creek Stat 58.45 62 IAmb IAmb 19 27 31.0
comp=Z,22nm,0.8s
MMNY Mt. Morris Dam 58.53 60 IAmb IAmb 19 27 32.6
comp=Z,15nm,0.8s
J56A Wolcott 58.70 59 P 19 27 32.0 +0.1
XAN Xi'an 58.80 286 P **P 19 27 32.8 -0.1**
XAN pP pP 19 27 44.3 -1.1
XAN sP sP 19 27 50.0 -0.5
XAN PP PP 19 29 51.5 +8.6
XAN S S 19 35 53.5 +19
XAN sS sS 19 36 15.0 +19
XAN ScS **ScS 19 37 17.8 -1.1**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,72nm,6.0s
XAN LR LR
comp=N,170nm,21.7s
XAN LR LR
comp=E,290nm,19.0s
XAN LR LR
comp=Z,410nm,22.0s
P53A Whipple 58.93 65 IAmb IAmb 19 27 35.2
comp=Z,16nm,0.9s
S51A Beattyville 59.00 68 IAmb IAmb 19 27 35.5
comp=Z,15nm,0.8s
FRNY Flat Rock 59.27 55 P 19 27 34.8 -1.1
FRNY IAmb IAmb 19 27 36.8
comp=Z,14nm,0.9s
X48A Hartselle 59.28 72 IAmb IAmb 19 27 36.7
comp=Z,20nm,0.8s
O56A Blue Knob Stat 59.91 62 IAmb IAmb 19 27 41.3
comp=Z,19nm,0.8s
M57A Sunshine Farm, 59.92 60 IAmb IAmb 19 27 41.5
comp=Z,14nm,0.8s
E62A Clayton Lake 59.98 52 P **P 19 27 40.6 -0.1**
E62A IAmb IAmb 19 27 42.2
comp=Z,11nm,0.7s
ACCN Adirondack Com 60.26 57 IAmb IAmb 19 27 44.1
comp=Z,11nm,0.8s
V52A Sevierville 60.28 69 IAmb IAmb 19 27 44.2
comp=Z,13nm,0.8s
TKL Tuckaleechee C 60.31 69 P **P 19 27 42.8 -0.4**
comp=Z,5.0nm,0.7s,baz=277,slow=4.3,SNR=4.8
N58A Sunbury 60.50 61 IAmb IAmb 19 27 46.2
comp=Z,18nm,0.8s
G62A West of Eustis 60.50 53 P 19 27 43.9 -0.4
G62A IAmb IAmb 19 27 46.1
comp=Z,22nm,0.8s
E63A Oxbow 60.64 51 P 19 27 44.6 -0.7
E63A IAmb IAmb 19 27 46.4
comp=Z,17nm,0.8s
TRY Troy 60.73 57 P **P 19 27 45.8 -0.1**
TRY IAmb IAmb 19 27 47.4
comp=Z,19nm,0.8s

P57A Homestead Farm 60.77 62 IAmb IAmb 19 27 47.1
comp=Z,16nm,0.8s
F63A Nahmakanta, Br 60.84 52 IAmb IAmb 19 27 48.6
comp=Z,19nm,0.8s
PAGS Pennsylvania G 60.93 61 P **P 19 27 46.9 -0.4**
PAGS IAmb IAmb 19 27 48.0
comp=Z,18nm,0.7s
N59A State Game Lan 60.94 60 IAmb IAmb 19 27 49.8
comp=Z,16nm,0.8s
F64A Shman 61.09 51 IAmb IAmb 19 27 49.9
comp=Z,21nm,0.9s
ENH Enshi 61.17 283 P **P 19 27 48.4 -0.7**
ENH IAmb IAmb 19 27 50.0
comp=Z,8.8nm,0.7s
Z51A Franklin 61.18 72 IAmb IAmb 19 27 48.8
comp=Z,17nm,0.7s
MVL Millersville 61.29 61 IAmb IAmb 19 27 51.0
comp=Z,21nm,0.8s
Y52A Lilburn 61.43 71 IAmb IAmb 19 27 51.4
comp=Z,12nm,0.9s
ODNJ Ogdensburg 61.43 59 P **P 19 27 50.3 -0.4**
SDMD Soldier's Deli 61.46 62 IAmb IAmb 19 27 50.9
comp=Z,10nm,0.8s
KSCT Kent School, K 61.55 58 IAmb IAmb 19 27 53.5
comp=Z,20nm,0.8s
TRNY Table Rock, Ra 61.59 59 P **P 19 27 51.3 -0.4**
TRNY IAmb IAmb 19 27 53.6
comp=Z,17nm,0.8s
PAL Palisades 61.85 59 P **P 19 27 53.6 +0.1**
PAL pmax pmax
comp=Z,17nm,0.8s
PAL Palisades 61.85 59 P **P 19 27 53.6 +0.1**
PAL IAmb IAmb 19 27 54.8
comp=Z,16nm,0.8s
R58B Mineral 61.94 64 IAmb IAmb 19 27 56.5
comp=Z,11nm,0.8s
KURK Kurchatov 62.00 318 P **P 19 27 55.5 +1.2**
KURK 19 28 35.5
KURK Kurchatov 62.00 318 P **P 19 27 55.5 +1.2**
PAULI Pauline 62.02 69 IAmb IAmb 19 27 55.6
comp=Z,12nm,0.8s
KMSC Kings Mountain 62.06 68 IAmb IAmb 19 27 55.5
comp=Z,15nm,0.8s
GOGA Godfrey 62.10 71 IAmb IAmb 19 27 55.5
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 62.11 318 P **P 19 27 55.5 +0.4**
comp=Z,12nm,0.8s,baz=44,slow=7.2,SNR=9.1
KURBB PcP **PcP 19 28 35.5 +0.6**
comp=Z,4.9nm,0.8s,baz=38,slow=4.3,SNR=5.6
WES Weston 62.17 56 P **P 19 27 56.0 +0.4**
WES pmax pmax
comp=Z,23nm,0.7s
WES Weston 62.17 56 P **P 19 27 56.0 +0.4**
HODGE Hodges 62.20 69 IAmb IAmb 19 27 55.9
comp=Z,13nm,0.8s
PRGR Permogore 62.62 342 *e* P 19 28 12.3 +14
T59A Double "B" Far 62.84 64 IAmb IAmb 19 28 01.4
comp=Z,22nm,0.8s
WMQ Urumqi 63.17 308 *eP* **P 19 28 02.8 +0.4**
WMQ PcP **PcP 19 28 40.5 +1.0**
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,100nm,3.6s
WMQ LR LR
comp=N,250nm,18.3s
WMQ LR LR
comp=E,350nm,20.7s
WMQ LR LR
comp=Z,190nm,19.5s
SVE Sverdlovsk 63.31 332 *eP* **P 19 28 04.4 +1.4**
BVAR Borovoye Array 63.33 324 P **P 19 28 04.1 +0.9**
comp=Z,12nm,0.7s,baz=282,slow=1.4,SNR=27
BVAR PcP **PcP 19 28 39.2 -0.7**
comp=Z,9.5nm,0.7s,baz=272,slow=8.3,SNR=6.7
DRLN Deer Lake 63.36 43 P **P 19 28 03.9 +0.4**
MKAR Makanchi Array 63.43 313 P **P 19 28 03.8 -0.2**
comp=Z,6.0nm,0.8s,baz=52,slow=6.2,SNR=22
MKAR PcP **PcP 19 28 41.2 +0.6**
comp=Z,3.6nm,0.7s,baz=45,slow=3.6,SNR=6.6
MAKZ Makanchi 63.56 313 P **P 19 28 03.8 -1.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 63.56 313 P **P 19 28 03.8 -1.1**
ARU Arti 64.25 333 P **P 19 28 10.0 +0.9**
comp=Z,4.4nm,0.7s,baz=0.9,slow=3.1,SNR=10
ARU Arti 64.25 333 P 19 28 09.6 +0.4
ARU IAmb IAmb 19 28 11.0
comp=Z,14nm,0.8s
ARU Arti 64.25 333 P 19 28 21.5 +12
KLMR Klimovskoe 64.43 345 *eP* **P 19 28 08.5 -1.8**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
KLMR Klimovskoe 64.43 345 *eP* **P 19 28 08.5 -1.8**
KLMR AMP 19 28 11.2
comp=Z,6.0nm,0.8s
KIRV Kirov 64.64 339 P **P 19 28 12.5 +0.9**
comp=Z,34nm,0.7s,baz=139,slow=0.7,SNR=11
FIA1 FINESS Array S 65.53 352 IAmb IAmb 19 28 18.6
comp=Z,19nm,0.8s
FINES FINESS Array B 65.53 352 P **P 19 28 18.1 +0.7**
comp=Z,18nm,0.8s,baz=28,slow=8.6,SNR=19
FINES FINESS Array B 65.53 352 P 19 28 17.4 0.0
NC405 NORSAR Array S 66.55 359 P 19 28 23.7 -0.4
NC405 IAmb IAmb 19 28 24.3
comp=Z,27nm,0.9s
NOA NORSAR Array B 66.63 360 P **P 19 28 25.1 +0.5**
comp=Z,4.0nm,0.7s,baz=0.3,slow=6.3,SNR=16
HFS Hagfors 67.51 358 P **P 19 28 30.2 +0.1**
comp=Z,5.7nm,0.4s,baz=24,slow=3.0,SNR=20
USP Ospenovka 69.61 315 P **P 19 28 44.5 +1.0**
SNR=7.7
BOOM Boonskoye usch 69.62 314 IAmb IAmb 19 28 45.7
comp=Z,15nm,0.7s
AKTO Aktyubinsk 69.63 330 P **P 19 28 43.9 +0.4**
comp=Z,10nm,0.6s,baz=45,slow=6.5,SNR=21
KBK Karagaybulak 69.91 315 P **P 19 28 46.7 +1.2**
SNR=6.0
BORU Boraas 70.03 359 *e* **P 19 28 46.8 +1.0**
KZA Kyzart 70.25 314 P **P 19 28 49.2 +1.2**
SNR=5.0
EKS2 Erkin-Say 70.41 316 P **P 19 28 49.6 +1.1**
SNR=8.4
BELG Belogornoye 70.72 337 P **P 19 28 50.9 +0.8**
comp=Z,34nm,0.7s,baz=297,slow=2.1,SNR=12
BELG LR LR 20 03 07.7
comp=Z,765nm,21.8s,baz=97,slow=38
AML Almayashu 70.88 315 P **P 19 28 52.9 +1.2**
SNR=5.7
SLVN Son La 71.16 281 IAmb IAmb 19 28 55.5
comp=Z,14nm,1.0s
DEL Delary 71.18 358 *e* **P 19 28 53.3 +0.6**
BLEU Blekinge 71.29 357 *e* **P 19 28 53.7 +0.3**
EKA Eskdalemuir Ar 71.78 8 P **P 19 28 57.2 +0.7**
comp=Z,5.4nm,0.7s,baz=358,slow=5.0,SNR=8.9
MNK Minsk 72.19 349 *i* **P 19 28 56.5 -2.4**
MNK Minsk 72.19 349 *i* 19 31 18.5
MNK Minsk 72.19 349 *i* 19 38 40.9
NONG Nongkai 74.13 279 P **P 19 29 11.0 +0.1**
comp=Z,7μmcomp=Z,40nm,0.9s
SKNT Sakolnakorn 74.46 278 P **P 19 29 12.0 -0.9**
comp=Z,0.3nmcomp=Z,54nm,0.8s
SHL Shillong 74.92 292 IAmb IAmb 19 29 16.0
comp=Z,16nm,0.6s
FLTG Flechtingen 75.36 359 *epP* **P 19 29 18.9 +1.4**
IBBN Ibbenburen 75.37 2 *epP* **P 19 29 19.3 +1.8**
KHON Khomkaen 75.65 278 P **P 19 29 20.2 +0.5**
comp=Z,102nm,1.0s
KHON Khomkaen 75.65 278 P **P 19 29 20.0 +0.3**
comp=Z,0.1nmcomp=Z,26nm,1.0s
LOEI Loei 75.68 280 P **P 19 29 19.6 -0.3**
comp=Z,14μmcomp=Z,30nm,0.9s
AKASG Malin Array Be 75.76 348 P **P 19 29 19.8 0.0**
comp=Z,2.6nm,0.4s,baz=16,slow=5.9,SNR=9.9
CLZ Clausthal 75.86 360 *epP* **P 19 29 21.8 +1.4**
LAMP Lampang 75.88 282 P **P 19 29 22.4 +1.4**
CMMT Chiang Mai 76.06 283 P **P 19 29 22.3 +0.3**
comp=Z,8.8nm,0.8s
CHTO Chiang Mai 76.06 283 P **P 19 29 21.7 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 76.06 283 P **P 19 29 22.3 +0.3**
comp=Z,8.8nm,0.8s
CHTO Chiang Mai 76.06 283 P **P 19 29 22.3 +0.3**
comp=Z,8.8nm,0.8s
CHTO Chiang Mai 76.06 283 P **P 19 29 21.7 -0.3**

CM09 Chiang Mai Arr 76.32 282 P **P 19 29 24.6 +1.1**
comp=Z,136nmcomp=Z,20nm,0.8s
CM09 Chiang Mai Arr 76.32 282 P **P 19 29 24.6 +1.1**
comp=Z,136nmcomp=Z,20nm,0.8s
CM31 Chiang Mai Arr 76.34 282 IAmb IAmb 19 29 25.1
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 76.34 282 P **P 19 29 24.0 +0.4**
comp=Z,16nm,0.9s,baz=26,slow=6.6,SNR=25
CM15 Chiang Mai Arr 76.35 282 P **P 19 29 24.3 +0.6**
comp=Z,128nmcomp=Z,19nm,1.0s
CM15 Chiang Mai Arr 76.35 282 P **P 19 29 24.3 +0.6**
comp=Z,128nmcomp=Z,19nm,1.0s
CM02 Chiang Mai Arr 76.35 282 P **P 19 29 24.5 +0.8**
comp=Z,194nmcomp=Z,27nm,1.0s
CM02 Chiang Mai Arr 76.35 282 P **P 19 29 24.5 +0.8**
comp=Z,194nmcomp=Z,27nm,1.0s
CM01 Chiang Mai Arr 76.36 282 P **P 19 29 24.5 +0.8**
comp=Z,206nmcomp=Z,34nm,0.8s
CM01 Chiang Mai Arr 76.36 282 P **P 19 29 24.5 +0.8**
comp=Z,206nmcomp=Z,34nm,0.8s
CM04 Chiang Mai Arr 76.36 282 P **P 19 29 24.7 +1.0**
comp=Z,230nmcomp=Z,39nm,0.9s
CM04 Chiang Mai Arr 76.36 282 P **P 19 29 24.7 +1.0**
comp=Z,230nmcomp=Z,39nm,0.9s
CLL Collm 76.36 358 *epP* **P 19 29 24.0 +0.8**
CM05 Chiang Mai Arr 76.38 282 P **P 19 29 24.7 +0.8**
comp=Z,189nmcomp=Z,30nm,0.9s
CM13 Chiang Mai Arr 76.39 282 P **P 19 29 24.6 +0.7**
comp=Z,177nmcomp=Z,27nm,0.9s
CM13 Chiang Mai Arr 76.39 282 P **P 19 29 24.6 +0.7**
comp=Z,177nmcomp=Z,27nm,0.9s
JIRN Jiri 76.41 298 *eP* **P 19 29 24.4 0.0**
comp=Z,41nm,0.5s
PHIT Phitsanulok 76.44 280 P **P 19 29 25.2 +1.1**
comp=Z,110nm,1.0s
PHIT Phitsanulok 76.44 280 P **P 19 29 25.3 +1.1**
NEUB Neuenburg 76.48 359 *epP* **P 19 29 24.9 +1.0**
CHAI Chaiyaphum 76.50 278 P **P 19 29 24.8 +0.3**
comp=Z,26nm,0.9s
CHAI Chaiyaphum 76.50 278 P **P 19 29 24.8 +0.3**
comp=Z,0.0nmcomp=Z,6.5nm,0.9s
RAMN Ramite 76.75 297 *eP* **P 19 29 25.9 -0.3**
comp=Z,18nm,0.4s
BRG Berggiesshubel 76.78 358 P **P 19 29 26.2 +0.6**
BRG Amp 19 29 28.3
comp=Z,6.9nm,0.8s
BRG Berggiesshubel 76.78 358 Amp 19 29 07.8
comp=Z,4.5nm,1.1s
KKN Kakani 76.80 298 *eP* **P 19 29 26.4 0.0**
comp=Z,28nm,0.7s
PKI Pulchoki 76.91 298 *eP* **P 19 29 26.9 -0.2**
comp=Z,20nm,0.8s
PKIN Phulchoki 76.91 298 *eP* **P 19 29 27.6 +0.5**
comp=Z,24nm,0.6s
GKN Gorkha 76.97 299 *eP* **P 19 29 27.2 -0.1**
comp=Z,21nm,0.4s
MEM Membach 77.03 3 *dP* **P 19 29 28.3 +1.3**
BSTI Sart Tilman 77.04 3 *dP* **P 19 29 27.3 +0.3**
BTNL Ternell 77.05 3 *dP* **P 19 29 27.8 +0.6**
SNF Seneffe 77.06 4 *dPcP* **PcP 19 29 37.4 -0.6**
SNF Seneffe 77.06 4 *dP* **P 19 29 27.2 0.0**
MHMT Maesarieng 77.16 283 P **P 19 29 29.4 +1.2**
comp=Z,42nm,0.8s
MHMT Maesarieng 77.16 283 P **P 19 29 29.0 +0.8**
DANN Dangsing 77.16 300 *eP* **P 19 29 28.8 +0.3**
BCLA Clavier 77.19 3 *dP* **P 19 29 28.2 +0.3**
PLN Plauen 77.20 359 *epP* **P 19 29 29.2 +1.2**
LVV L'vov 77.22 351 *eP* **P 19 29 28.0 -0.1**
BGES Gesves 77.22 3 *dP* **P 19 29 28.6 +0.6**
BMRD Maredsous 77.29 4 *dP* **P 19 29 28.7 +0.3**
DOU Dourbes 77.49 4 *dP* **P 19 29 30.4 +0.8**
KOLN Koldanda 77.71 300 *eP* **P 19 29 31.4 -0.1**
MORC Moravsky Berou 77.74 355 *e* **P 19 29 32.3 +1.2**
PYUN Piuthan 77.77 300 *eP* **P 19 29 31.8 0.0**
MILB Miltenberg 77.87 1 *epP* **P 19 29 33.0 +1.2**
WLF Walferdange 77.97 3 *dP* **P 19 29 33.7 +1.3**
GRF Grafenberg Arr 78.00 359 *epP* **P 19 29 34.5 +2.0**
NIL Nilore 78.07 311 P **P 19 29 33.0 -0.2**
NIL pmax pmax
comp=Z,28nm,1.0s
NIL Nilore 78.07 311 P 19 29 33.0 -0.2
NIL IAmb IAmb 19 29 35.3
comp=Z,28nm,0.9s
UMPA Umpang Tak 78.14 281 P **P 19 29 37.2 +3.5**
UMPA Umpang Tak 78.14 281 P **P 19 29 37.2 +3.5**
comp=Z,0.0nmcomp=Z,10nm,0.9s
LANS Liptovska Anna 78.25 354 *e* **P 19 29 36.0 +2.1**
VRAC Vranov 78.25 356 P **P 19 29 35.1 +1.3**
comp=Z,13nm,0.9s,baz=11,slow=6.5,SNR=12
VRAC Vranov 78.25 356 *e* **P 19 29 34.9 +1.0**
KOLS Kolonicke sedl 78.25 352 *e* **P 19 29 36.1 +2.2**
UTHA Uthaitani 78.29 280 P **P 19 29 36.2 +1.7**
comp=Z,0.0nmcomp=Z,6.0nm,0.9s
KRUC Moravsky 78.50 356 *e* **P 19 29 36.0 +0.7**
WET Wettzell 78.53 358 *epP* **P 19 29 36.4 +1.0**
UZH Uzhgorod 78.55 352 *e* P 19 29 15.1 -20
UZH Uzhgorod 78.55 352 *i* P 19 29 17.5 -18
JAVC Velka Javorina 78.64 355 *e* **P 19 29 38.4 +2.3**
GEC2 GERESS Array S 78.81 358 *epP* **P 19 29 38.3 +1.2**
GERES GERESS Array B 78.81 358 P **P 19 29 37.5 +0.4**
comp=Z,5.1nm,0.8s,baz=19,slow=4.5,SNR=16
VYHS Vyhne 78.94 354 *e* **P 19 29 39.2 +1.5**
MODS Modra-Piesok 79.15 355 *e* **P 19 29 41.8 +3.0**
KBL Kabul 79.22 314 P **P 19 29 39.1 -0.6**
KBL pmax pmax
comp=Z,11nm,0.8s
KBL Kabul 79.22 314 P 19 29 39.0 -0.6
KBL IAmb IAmb 19 29 40.5
comp=Z,10nm,0.8s
ZST Bratislava 79.34 355 *eP* **P 19 29 42.0 +2.2**
ZST Bratislava 79.34 355 *e* **P 19 29 42.0 +2.2**
BFO Black Forest 79.36 1 *epP* **P 19 29 41.0 +1.0**
CLF Chambon-Foret 79.44 5 IAmb IAmb 19 29 42.9
comp=Z,22nm,0.9s
CONA Conrad Observa 79.66 356 *i* P **P 19 29 43.3 +1.6**
comp=Z,9.5nm,0.8s,SNR=7.4
KIV Kislovodsk 79.78 337 P 19 29 43.1 +0.7
KIV IAmb IAmb 19 29 46.5
comp=Z,13nm,0.8s
MOA Molln 79.79 357 *eP* **P 19 29 43.3 +1.0**
comp=Z,4.6nm,1.1s
KBZ Khabaz 79.94 337 P **P 19 29 44.4 +1.2**
comp=Z,8.5nm,0.9s,baz=8.2,slow=2.5,SNR=10.0
RETA Reutte 80.21 360 *eP* **P 19 29 46.5 +1.8**
comp=Z,6.8nm,1.0s
ARSA Arzberg 80.35 356 *eP* **P 19 29 47.3 +1.9**
comp=Z,10nm,0.9s
MOTA Moosalm 80.35 359 *eP* **P 19 29 46.9 +1.3**
comp=Z,11nm,0.9s
WATA Walderalm 80.36 359 *eP* **P 19 29 47.3 +1.7**
comp=Z,6.2nm,0.7s
DAVA Damuels 80.41 0 *eP* **P 19 29 48.5 +2.6**
comp=Z,6.3nm,0.9s
WTTA Wattenberg 80.43 359 *i* P **P 19 29 47.4 +1.4**
comp=Z,7.8nm,0.8s,SNR=5.1
SQTA Sankt Quirin 80.48 359 *eP* **P 19 29 47.7 +1.5**
comp=Z,13nm,0.8s
KBA Koelnbreinsper 80.59 358 *eP* **P 19 29 49.1 +2.2**
comp=Z,25nm,0.7s
GEYT Alibeck 80.65 324 P **P 19 29 47.9 +0.7**
comp=Z,6.1nm,0.8s,baz=330,slow=5.1,SNR=8.4
FETA Feichten 80.68 360 *i* P **P 19 29 48.9 +1.5**
comp=Z,12nm,0.9s,SNR=8.7
AKT Akhty 80.78 332 *e* P 19 29 33.5 -14
SOC Sochi 80.81 339 *eS* **S 19 39 47.0 -5.4**
DAVOX Davos/Dischmat 80.92 0 P **P 19 29 49.9 +1.2**
comp=Z,7.4nm,0.7s,baz=343,slow=12,SNR=11
DAVOX LR LR 20 06 28.9
comp=Z,105nm,19.8s,baz=9.5,slow=36
ABTA Abfaltersbach 80.94 358 *eP* **P 19 29 49.9 +1.3**
comp=Z,8.8nm,1.1s
SOKA Soboth 80.94 357 *i* P **P 19 29 50.4 +1.8**
comp=Z,14nm,0.9s,SNR=7.3
MYKA Terra Mystica 81.03 358 *eP* **P 19 29 51.6 +2.5**
comp=Z,7.8nm,1.3s
OBKA Obir 81.12 357 *i* P **P 19 29 50.8 +1.2**
comp=Z,10nm,0.8s,SNR=5.7
MLR Muntele Rosu 81.29 349 P **P 19 29 52.2 +1.7**
comp=Z,3.0nm,0.7s,baz=217,slow=8.0,SNR=4.2
TEOL Teolo 82.33 359 P **P 19 29 57.0 +1.1**
ZCCA Zocca 83.35 359 IAmb IAmb 19 30 07.1
comp=Z,27nm,1.2s
OSSC Osservatorio P 84.17 359 IAmb IAmb 19 30 07.7
comp=Z,21nm,1.0s
NRCA Norcia 84.84 358 IAmb IAmb 19 30 12.3
comp=Z,16nm,0.9s

AQU	L'Aquila	85.31 358	IAmb	IAmb	19 30 32.0	
	comp=Z,18nm,0.9s					
INTR	Introdacqua	85.64 357	IAmb	IAmb	19 30 16.0	
	comp=Z,16nm,0.9s					
BR131	Keskin Array S	85.76 342	IAmb	IAmb	19 30 17.6	
	comp=Z,9.6nm,0.8s					
BRTR	Keskin Array B	85.76 342	P	P	19 30 15.6	+2.0
	comp=Z,3.7nm,0.8s,baz=63,slow=1.7,SNR=13					
MARD	Mardin	86.53 336	P	P	19 30 18.1	+0.7
WRA	Warramunga Arr	87.02 231	P	P	19 30 18.2	-1.5
	comp=Z,1.3nm,0.7s,baz=34,slow=5.6,SNR=5.6					
ESBB	Sonseca Array	87.20 11	IAmb	IAmb	19 30 22.6	
	comp=Z,8.4nm,0.9s					
ESDC	Sonseca Array	87.20 11	P	P	19 30 21.2	+0.7
	comp=Z,8.0nm,0.8s,baz=350,slow=4.7,SNR=20					
ESDC	Sonseca Array	87.20 11		P	19 30 21.0	+0.5
ESDC			IAmb	IAmb	19 30 22.6	
	comp=Z,7.5nm,0.9s					
PESTR	Estremoz	87.52 14		P	19 30 22.0	0.0
PESTR			IAmb	IAmb	19 30 23.3	
	comp=Z,8.2nm,0.8s					
PSI	Prapat	88.61 273	P	P	19 30 27.3	-0.4
RPSI	Rantau Prapat	88.70 273		P	19 30 27.3	-0.6
RUSC	La Rusia	89.38 81	P	P	19 30 30.7	-1.1
RUSC			IAmb	IAmb	19 30 33.4	
	comp=Z,21nm,1.2s					
ASAR	Alice Springs	90.42 230	P	P	19 30 35.4	-0.3
	comp=Z,4.3nm,0.7s,baz=29,slow=4.7,SNR=7.6					
TORD	Torodi Ar. Bea	114.03 9	PKP	PKiKP	19 36 13.0	-0.5
	comp=Z,0.8nm,0.7s,baz=338,slow=3.2,SNR=4.7					
TORD			PKKPbc	PKKPbc	19 46 52.1	-0.4
	comp=Z,1.4nm,0.9s,baz=187,slow=2.2,SNR=6.0					
KMBO	Kilima Mbogo	123.92 327	PKP	PKiKP	19 36 33.4	+0.2
	comp=Z,1.4nm,0.8s,baz=65,slow=9.7,SNR=5.0					
CPUP	Villa Florida	123.93 90	PKP	PKPdf	19 36 31.5	-0.6
	comp=Z,1.9nm,0.7s,baz=262,slow=4.0,SNR=4.3					
MAW	Mawson	150.98 219	PKPbc	PKPbc	19 37 25.4	-0.1
	comp=Z,6.2nm,0.8s,baz=212,slow=3.1,SNR=6.2					
BOSA	Boshof	153.52 329	PKPbc	PKiKP	19 37 33.4	+0.6
	comp=Z,3.0nm,0.5s,baz=275,slow=1.1,SNR=7.1					
SYO	Syowa Base	158.63 209	‖ *e*PKPdf	PKPdf	19 37 28.7	-1.5
SYO	Syowa Base	158.63 209	‖ *ep*PKPdf	pPKPdf	19 37 41.4	-2.5
SYO	Syowa Base	158.63 209	‖ *es*PKPdf	sPKPdf	19 37 46.7	-2.0
SNAA	Sanae	160.07 168	PKPab	PKPab	19 38 09.2	-2.9
	comp=Z,0.9nm,0.7s,baz=310,slow=2.8,SNR=4.1					

*IDC **31** 19:20:57.9±0.8, 11°.99N×143°.55E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/54, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=27.9km s-min=17.1km az=103.0*
*NEIC **31** 19:21:03.4±1.2, 12°.1N±0°.1×143°.5E±0°.2, h37km±7km, mb4.4/8, Error ellipse: s-maj=25.1km s-min=15.4km az=103.0*

ISC 31 19:21:01.5±0.7, 11°.96N±0°.09×143°.6E±0°.1, h25km, n37, σ19°20/30, mb4.5/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.02	36	Pn	Pn	19 21 35.0	+1.0
	38nm,0.3s,baz=136,slow=0.2,SNR=28						
GUMO				Sn	Sb	19 22 01.6	-0.6
	48nm,0.3s,baz=14,slow=22,SNR=20						
GUMO	Guam	2.02	36		Pn	19 21 35.0	+1.0
PATS	Pohnpei	15.34	108	Pn	Pn	19 24 35.3	-1.3
H11S3	WAKE ISLAND Hy 23.16	71		T	T	19 50 18.1	
	baz=251,slow=75,SNR=5.5						
H11S1	WAKE ISLAND Hy 23.17	71		T	T	19 50 24.3	
	baz=251,slow=75,SNR=4.1						
H11S2	WAKE ISLAND Hy 23.17	71		T	T	19 50 16.7	
	baz=251,slow=75,SNR=6.3						
H11N1	WAKE ISLAND Hy 23.64	68		T	T	19 51 01.2	
	baz=255,slow=75,SNR=8.5						
H11N2	WAKE ISLAND Hy 23.66	68		T	T	19 50 54.7	
	baz=255,slow=75,SNR=6.5						
H11N3	WAKE ISLAND Hy 23.66	68		T	T	19 51 00.8	
	baz=255,slow=75,SNR=8.0						
WB0	Warramunga Arr	32.81	196	P	P	19 27 33.2	+0.1
WB0				IAmb	IAmb	19 27 57.0	
	comp=Z,6.4nm,1.2s						
WR0	Warramunga Arr	32.95	196	P	P	19 27 34.3	-0.1
WR0				IAmb	IAmb	19 27 35.4	
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	32.99	196	P	P	19 27 34.6	-0.1
WRA	Warramunga Arr	32.99	196	P	P	19 27 34.9	+0.2
	comp=Z,1.1nm,0.7s,baz=19,slow=9.6,SNR=15						
WRA	Warramunga Arr	32.99	196	P	P	19 27 33.9	-0.9
ASAR	Alice Springs	36.66	195	P	P	19 28 07.0	+0.6
	comp=Z,0.2nm,0.5s,baz=20,slow=12,SNR=6.5						
DZM	Mont Dzumac	40.55	146	P	P	19 28 39.5	+0.4
	comp=Z,6.2nm,0.8s,baz=334,slow=18,SNR=2.2						
DZM	Mont Dzumac	40.55	146	IAmb	IAmb	19 29 08.0	
	comp=Z,16nm,1.1s						
CM35	Chiang Mai Arr	43.33	285	P	P	19 29 02.0	+0.1
CM04	Chiang Mai Arr	43.49	284	P	P	19 29 04.8	+1.6
	comp=Z,0.1nmcomp=Z,232nmcomp=Z,39nm,0.9s						
CM01	Chiang Mai Arr	43.51	284	P	P	19 29 05.1	+1.8
	comp=Z,0.1nmcomp=Z,206nmcomp=Z,34nm,0.8s						
CM02	Chiang Mai Arr	43.52	284	P	P	19 29 04.0	+0.6
	comp=Z,0.1nmcomp=Z,193nmcomp=Z,27nm,1.0s						
CM05	Chiang Mai Arr	43.52	284	P	P	19 29 04.0	+0.6
	comp=Z,0.1nmcomp=Z,190nmcomp=Z,31nm,0.9s						
CM31	Chiang Mai Arr	43.52	284	P	P	19 29 04.9	+1.4
	comp=Z,1.6nmcomp=Z,4μmcomp=Z,505nm,0.8s						
CM15	Chiang Mai Arr	43.54	284	P	P	19 29 04.5	+0.8
	comp=Z,0.1nmcomp=Z,127nmcomp=Z,19nm,1.0s						
CM13	Chiang Mai Arr	43.56	284	P	P	19 29 05.0	+1.3
	comp=Z,0.1nmcomp=Z,178nmcomp=Z,27nm,0.9s						
MKAR	Makanchi Array	61.84	317	P	P	19 31 19.1	+0.5
	comp=Z,0.6nm,0.7s,baz=72,slow=9.3,SNR=2.0						
KURK	Kurchatov	65.06	321	P	P	19 31 40.2	+0.4
KURBB	Kurchatov Arra	65.10	320	P	P	19 31 40.2	+0.1
	comp=Z,0.8nm,0.6s,baz=106,slow=6.6,SNR=4.3						
BVAR	Borovoye Array	70.46	322	P	P	19 32 14.0	+0.2
	comp=Z,0.7nm,0.5s,baz=343,slow=24,SNR=4.2						
ILAR	Eielson Array	70.55	25	P	P	19 32 13.2	-0.9
	comp=Z,0.5nm,0.5s,baz=253,slow=5.9,SNR=5.2						
BMAR	Burnt Mountain	72.06	23	P	P	19 32 24.7	+1.4
ABKAR	Akbulak array	76.94	318	P	P	19 32 49.1	-2.8
ABKAR	Akbulak array	76.94	318	P	P	19 32 48.9	-3.0
ABKAR				IAmb	IAmb	19 33 10.8	
	comp=Z,1.8nm,1.1s						
ARCES	ARCESS Array B	88.26	342	P	P	19 33 49.9	-0.5
	comp=Z,2.7nm,1.0s,baz=84,slow=6.2,SNR=7.0						
ARCES	ARCESS Array B	88.26	342	IAmb	IAmb	19 33 55.4	
	comp=Z,17nm,1.5s						
NVAR	Mina Array Bea	88.87	51	P	P	19 33 55.6	+1.3
	comp=Z,0.7nm,0.6s,baz=268,slow=4.4,SNR=6.6						
FINES	FINESS Array B	92.12	335	P	P	19 34 07.7	-0.9
	comp=Z,1.4nm,0.9s,baz=46,slow=4.0,SNR=1.4						

*IDC **31** 20:00:07.0±1.5, 32°.36N×70°.48E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.4/70, mbtmp3.6/10, ML3.1/2, Error ellipse: s-maj=32.2km s-min=28.8km az=97.0*

ISC 31 20:00:12.4±1.3, 32°.5N±0°.2×70°.5E±0°.2, h35km, n11, σ0°75/11, mb3.9/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	16.92	29	P	Pn	20 04 05.6	-0.9
	0.1nm,0.3s,baz=204,slow=14,SNR=3.7						
KURBB	Kurchatov Arra	19.10	16	P	P	20 04 31.4	-0.6
	0.0nm,0.3s,baz=208,slow=10,SNR=4.7						
AKTO	Aktyubinsk	20.22	336	P	P	20 04 44.2	0.0
	3.1nm,0.6s,baz=150,slow=10,SNR=12						
BVAR	Borovoye Array	20.57	360	P	P	20 04 47.9	-0.1
	0.5nm,0.6s,baz=191,slow=23,SNR=4.1						
ZALV	Zalesovo Beam	23.79	21	P	P	20 05 22.3	+0.6
	0.4nm,0.4s,baz=208,slow=10,SNR=2.9						
ARCES	ARCESS Array B	44.77	339	P	P	20 08 23.4	+1.3
	1.4nm,0.8s,baz=116,slow=10,SNR=4.3						
HFS	Hagfors	46.07	324	P	P	20 08 32.9	+0.3
	2.7nm,0.7s,baz=123,slow=7.6,SNR=4.3						
NB2	NORSAR Subarra	47.44	325	P	P	20 08 43.3	0.0
	comp=Z,1.0nm,0.7s,baz=100,slow=7.9						
NOA	NORSAR Array B	47.44	325	P	P	20 08 42.6	-0.7
	comp=Z,0.5nm,0.6s,baz=85,slow=7.7,SNR=4.0						
TORD	Torodi Ar. Bea	65.29	270	P	P	20 10 50.3	-0.8
	comp=Z,0.9nm,0.9s,baz=64,slow=5.2,SNR=4.0						
WRA	Warramunga Arr	80.21	121	P	P	20 12 19.8	+0.3
	comp=Z,0.4nm,0.9s,baz=325,slow=5.0,SNR=1.3						

*JMA **31** 20:07:25.4±0.1, 24°.47N×122°.53E, h93km±2km, M2.9*
*TAP **31** 20:07:25.9, 24°.51N×122°.53E, h85km, ML3.6, B*

ISC 31 20:07:25.6±1.2, 24°.51N±0°.03×122°.55E±0°.02, h90km±6km, n134, σ0°94/232, 15C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonaguni jima	0.36	100	P	Pn	20 07 39.8	+0.5
JYNG				S	Sn	20 07 49.9	+0.4
YOJ	Yonaguni jima	0.42	97	P	Pn	20 07 40.2	+0.5
YOJ				S	Sn	20 07 50.3	+0.1
YOJ	Yonaguni jima	0.42	97	⇓*i*P	Pn	20 07 40.2	+0.5
	baz=95						
YOJ				*i* S	Sn	20 07 50.4	+0.2
	baz=95						
TWC	Suao	0.65	279	⇓*i*P	Pn	20 07 41.5	0.0
	baz=278						
TWC				S	Sn	20 07 52.7	-0.8
	baz=278						
EWUT	Wuta	0.71	265	P	Pn	20 07 42.5	+0.4
	baz=264						
EWUT				S	Sn	20 07 54.7	+0.3
	baz=264						
TWB1	Santiao Chiao	0.71	314	P	Pn	20 07 42.3	+0.1
	baz=315						
TWB1				S	Sn	20 07 53.5	-1.0
	baz=315						
NTC	Toucheng	0.74	298	P	Pn	20 07 42.6	+0.2
	baz=298						
NTC				S	Sn	20 07 54.4	-0.6
	baz=298						
NDS	Dongshan	0.77	279	P	Pn	20 07 43.1	+0.4
	baz=279						
NDS				S	Sn	20 07 55.0	-0.6
	baz=279						
TIPB	Shuangxi	0.80	305	P	Pn	20 07 43.2	+0.1
	baz=305						
TIPB				S	Sn	20 07 55.5	-0.7
	baz=305						
TWE	Neicheng	0.83	285	⇓*i*P	Pn	20 07 43.7	+0.3
	baz=284						
TWE				S	Sn	20 07 53.7	-3.0
	baz=284						
NWF	Wu-fen Shan	0.90	309	⇓*i*P	Pn	20 07 44.6	+0.4
	baz=309						
NWF				*i* S	Sn	20 07 58.0	-0.1
	baz=309						
WFSB	Wu-fen Shan	0.90	309	⇓*i*P	Pn	20 07 44.6	+0.5
	baz=309						
WFSB				*i* S	Sn	20 07 58.0	+0.1
	baz=309						
ENTT	Nioudou	0.91	278	P	Pn	20 07 45.2	+1.0
	baz=278						
ETL	Fush Village	0.92	248	P	Pn	20 07 44.3	-0.1
	baz=246						
ETL				*e*S	Sn	20 07 57.7	-0.7
	baz=246						
NACB	Ninganchiao	0.94	249	⇑*i*P	Pn	20 07 44.2	-0.3
	baz=248						
NACB				S	Sn	20 07 58.6	-0.2
	baz=248						
NDT	Datong Townshi	0.95	276	P	Pn	20 07 45.5	+0.8
	baz=275						
NDT				*e*S	Sn	20 07 60.0	+0.9
	baz=275						
TWD	Chiawan	0.97	244	⇑*i*P	Pn	20 07 44.8	-0.1
	baz=242						
TWD				*i* S	Sn	20 07 59.2	-0.2
	baz=242						
NWLT	Wulai	0.99	286	P	Pn	20 07 45.4	+0.2
	baz=285						
NWLT				S	Sn	20 07 60.0	+0.1
	baz=285						
TWA	Mucha	1.00	298	⇓*i*P	Pn	20 07 45.3	+0.1
	baz=298						
TWA				*i* S	Sn	20 07 59.4	-0.6
	baz=298						
HWA	Hwalien	1.02	239	P	Pn	20 07 45.6	+0.2
	baz=237						
HWA				S	Sn	20 08 00.9	+0.6
	baz=237						
ETLH	Xiulin Townshi	1.02	253	⇑*i*P	Pn	20 07 45.6	0.0
	baz=252						
ETLH				S	Sn	20 08 00.2	-0.4
	baz=252						
NHDH	Xindian Distri	1.04	296	P	Pn	20 07 45.8	+0.2
	baz=296						
NHDH				S	Sn	20 07 59.8	-0.9
	baz=296						
NNSB	Datong	1.07	266	P	Pn	20 07 46.3	+0.2
	baz=265						
NNSB				*e*S	Sn	20 08 01.2	-0.5
	baz=265						
NNSH	Datong	1.07	266	P	Pn	20 07 46.4	+0.3
	baz=265						
NNSH				S	Sn	20 08 01.3	-0.3
	baz=265						
TAP1	Taipei	1.07	299	*e*P	Pn	20 07 45.9	-0.2
	baz=299						
TAP1				S	Sn	20 08 01.1	-0.3
	baz=299						
NNS	Nan Shan	1.08	266	P	Pn	20 07 46.6	+0.3
	baz=265						
NNS				S	Sn	20 08 01.9	+0.1
	baz=265						
TEYL	Yanliau Villag	1.08	234	⇑*i*P	Pn	20 07 46.1	0.0
	baz=234						
TEYL				S	Sn	20 08 01.7	0.0
	baz=234						
YHNB	Yeheng	1.08	279	⇑*i*P	Pn	20 07 46.9	+0.6
	baz=278						
YHNB				*i* S	Sn	20 08 02.0	+0.2
	baz=278						
TAP	Taipei	1.09	299	P	Pn	20 07 46.2	0.0
	baz=299						
TAP				S	Sn	20 08 00.6	-1.1
	baz=299						
IRIF	Iriomote-Funau	1.09	99	P	Pn	20 07 46.6	+0.4
IRIF				S	Sn	20 08 02.0	+0.2
YM01	YM01	1.09	305	P	Pn	20 07 46.5	+0.1
	baz=305						
YM01				S	Sn	20 08 01.8	-0.2
	baz=305						
NSK	Sanguang	1.10	279	⇑*i*P	Pn	20 07 47.0	+0.5
	baz=278						
NSK				S	Sn	20 08 02.4	+0.2
	baz=278						
YM08	YM08	1.10	308	P	Pn	20 07 46.3	-0.1
	baz=308						
YM08				*e*S	Sn	20 08 01.2	-1.0
	baz=308						
ETM	Tongmen	1.11	241	P	Pn	20 07 46.4	-0.1
	baz=240						
ANP	Anpu	1.15	306	*e*P	Pn	20 07 47.0	-0.1
	baz=306						
TWS1	Kuangyinshan	1.19	300	⇓*i*P	Pn	20 07 47.7	+0.3
	baz=300						
TWS1				S	Sn	20 08 03.9	0.0
	baz=300						
NTST	Danshui	1.19	303	*e*P	Pn	20 07 47.6	+0.1
	baz=303						
NTST				*e*S	Sn	20 08 04.1	+0.1
	baz=303						
PCYT	Pengchaiyu	1.20	339	*e*P	Pn	20 07 48.2	+0.7
	baz=339						
FUSS	Fushou	1.22	258	P	Pn	20 07 48.8	+0.7
	baz=257						
FUSS				S	Sn	20 08 04.7	-0.4
	baz=257						
TEGC	Jichi Village	1.22	229	P	Pn	20 07 48.1	+0.3
	baz=228						
TEGC				S	Sn	20 08 05.0	+0.4
	baz=228						
HATJ	Hateruma jima	1.23	111	P	Pn	20 07 48.6	+0.7
HATJ				S	Sn	20 08 05.1	+0.3
WHF	Hehuan Shan	1.23	253	⇑*i*P	Pn	20 07 48.7	+0.3
	baz=252						
WHF				*i* S	Sn	20 08 05.1	-0.4
	baz=252						
ESL	Shilin	1.24	236	⇓*i*P	Pn	20 07 47.9	-0.2
	baz=234						
ESL				S	Sn	20 08 04.0	-1.0
	baz=234						
NTY	Taoyuan	1.24	293	*e*S	Sn	20 08 05.2	+0.1
	baz=293						
TWT	Tachien	1.28	259	P	Pn	20 07 49.8	+1.1
	baz=258						
TWT				S	Sn	20 08 06.6	+0.4
	baz=258						
TDCB	Techi	1.30	259	⇑*i*P	Pn	20 07 49.8	+0.8
	baz=258						
TDCB				S	Sn	20 08 06.2	-0.3
	baz=258						
NCU	National Centr	1.32	290	*e*S	Sn	20 08 07.8	+0.9
	baz=290						
NCUH	Zhongli	1.32	290	*e*P	Pn	20 07 50.0	+0.9
	baz=290						
NCUH				*e*S	Sn	20 08 07.4	+0.5
	baz=290						
EGFH	Guangfu	1.33	231	P	Pn	20 07 49.1	0.0
	baz=230						
EGFH				*e*S	Sn	20 08 06.3	-0.7
	baz=230						
CHGB	Renai	1.34	251	⇑*i*P	Pn	20 07 50.0	+0.6
	baz=249						
CHGB				S	Sn	20 08 07.3	-0.2
	baz=249						
JKRS	Kuro-shima	1.36	101	P	Pn	20 07 50.1	+0.6
JKRS				S	Sn	20 08 08.0	+0.4
OWD	Renai	1.37	246	⇓*i*P	Pn	20 07 50.2	+0.4
	baz=245						
OWD				S	Sn	20 08 07.5	-0.7
	baz=245						
LIOB	Emei	1.41	276	P	Pn	20 07 50.7	+0.6
	baz=275						
LIOB				S	Sn	20 08 09.2	+0.5
	baz=275						
NSTT	Nanjuang	1.42	275	P	Pn	20 07 50.9	+0.7
	baz=274						
NSTT				S	Sn	20 08 09.2	+0.2
	baz=274						
HSN1	Hsinchu	1.42	281	*e*S	Sn	20 08 09.4	+0.4
	baz=280						
HGSD	Ruisui	1.45	226	⇑*i*P	Pn	20 07 50.6	-0.1
	baz=224						
HGSD				*e*S	Sn	20 08 08.7	-0.9
	baz=224						
SBCB	Hsinchu	1.45	281	*e*P	Pn	20 07 51.5	+0.9
	baz=281						
SBCB				*e*S	Sn	20 08 09.8	0.0
	baz=281						
NHW	Xinwu Township	1.45	290	*e*P	Pn	20 07 51.1	+0.4
	baz=290						
NHW				*e*S	Sn	20 08 10.8	+1.1
	baz=290						
JIJ	Ishigaki jima	1.46	96	P	Pn	20 07 50.9	+0.2
JIJ				S	Sn	20 08 09.3	-0.5
HSN	Hsinchu	1.47	282	*e*S	Sn	20 08 09.7	-0.4
	baz=282						
WHP	Taichung City	1.48	261	⇑*i*P	Pn	20 07 52.6	+1.4
	baz=260						
WHP				S	Sn	20 08 11.5	+0.9
	baz=260						
EHY	Hungye	1.51	229	P	Pn	20 07 50.9	-0.5
	baz=227						
WPL	Puli Township	1.54	251	*e*P	Pn	20 07 52.6	+0.8
	baz=250						
ECBN	Changbin	1.56	220	P	Pn	20 07 52.1	+0.1
	baz=219						
ECBN				S	Sn	20 08 11.6	-0.5
	baz=219						
WCS	Beigang Elemen	1.56	253	*e*P	Pn	20 07 53.2	+1.1
	baz=252						
WCS				*e*S	Sn	20 08 13.1	+0.9
	baz=252						
YULB	Yu-li	1.60	226	⇑*i*P	Pn	20 07 52.2	-0.4
	baz=225						
JISG	Ishigakijimahi	1.60	87	P	Pn	20 07 52.7	+0.1
JISG				S	Sn	20 08 12.7	-0.4
NMLH	Miaoli	1.60	271	P	Pn	20 07 53.2	+0.6
	baz=270						
NMLH				S	Sn	20 08 13.1	-0.1
	baz=270						
EYUL	Yuli	1.62	224	*e*P	Pn	20 07 52.7	-0.1
	baz=223						
EYUL				*e*S	Sn	20 08 13.7	+0.2
	baz=223						
SSLB	Suanglung	1.63	244	*e*P	Pn	20 07 53.5	+0.5
	baz=243						
TWF1	Yuli	1.63	225	⇑*i*P	Pn	20 07 52.8	-0.2
	baz=224						
TWQ1	Liyutan	1.63	265	*e*P	Pn	20 07 53.6	+0.6
	baz=264						
TWQ1				S	Sn	20 08 13.9	+0.2
	baz=264						
SMLT	Sun Moon Lake	1.63	248	P	Pn	20 07 54.0	+0.9
	baz=246						
SMLT				S	Sn	20 08 15.7	+1.7
	baz=246						
NSY	Sanyi	1.64	267	*e*S	Sn	20 08 14.7	+0.8
	baz=266						
TYC	Yuchr	1.66	249	*e*P	Pn	20 07 54.4	+1.0
	baz=248						
TYC				*e*S	Sn	20 08 16.0	+1.5
	baz=248						
FULB	Fuli	1.74	222	*e*P	Pn	20 07 54.2	-0.2
	baz=220						
FULB				*e*S	Sn	20 08 15.9	-0.4
	baz=220						
TCU	Taichung	1.75	258	*e*P	Pn	20 07 55.1	+0.6
	baz=257						
TCU				*e*S	Sn	20 08 17.8	+1.3
	baz=257						
WDJ	Dajia District	1.75	265	*e*P	Pn	20 07 55.4	+0.9
	baz=264						
WDJ				*e*S	Sn	20 08 16.8	+0.3
	baz=264						
WHYT	Xinyi Township	1.75	243	P	Pn	20 07 55.9	+1.3
	baz=242						
WHYT				S	Sn	20 08 18.1	+1.5
	baz=242						
WWF	Wufeng	1.75	255	*e*P	Pn	20 07 55.6	+1.1
	baz=254						
WWF				*e*S	Sn	20 08 17.9	+1.3
	baz=254						
CHKT	Chengkung	1.78	218	⇑*i*P	Pn	20 07 54.3	-0.6
	baz=216						
CHKT				S	Sn	20 08 15.6	-1.5
	baz=216						
WJS	Zhushan	1.80	248	*e*P	Pn	20 07 56.4	+1.2
	baz=247						
WJS				*e*S	Sn	20 08 19.6	+1.9
	baz=247						
WNT	Mingjian	1.82	250	*e*P	Pn	20 07 56.5	+1.1
	baz=249						
ECS	Chishang	1.87	221	*e*P	Pn	20 07 56.1	+0.1
	baz=220						
WCHH	Zhanghua	1.87	257	*e*P	Pn	20 07 56.8	+0.7
	baz=256						
WCHH				*e*S	Sn	20 08 19.6	+0.4
	baz=256						
ALS	Alishan	1.88	238	P	Pn	20 07 57.6	+1.1
	baz=237						
ALS				S	Sn	20 08 21.1	+1.0
	baz=237						
EDH	Donghe	1.91	217	P	Pn	20 07 56.2	-0.5
	baz=216						
EDH				S	Sn	20 08 18.9	-1.4
	baz=216						
ELDTW	Lidau	1.93	227	⇑*i*P	Pn	20 07 56.7	-0.2
	baz=226						
ELDTW				S	Sn	20 08 20.1	-0.6
	baz=226						
CHN5	Tsauling	1.94	242	P	Pn	20 07 58.4	+1.3
	baz=241						
CHN5				S	Sn	20 08 23.3	+2.2
	baz=241						
JTJ	Tarama	1.96	86	P	Pn	20 07 57.6	+0.4
JTJ				S	Sn	20 08 22.0	+0.6
WGK	Gukeng	2.00	246	*e*P	Pn	20 07 59.3	+1.6
	baz=245						
WGK				*e*S	Sn	20 08 24.9	+2.7
	baz=245						
WDLH	Douliu	2.02	246	*e*P	Pn	20 07 59.4	+1.5
	baz=245						
WDLH				*e*S	Sn	20 08 24.7	+2.0
	baz=245						
LONT	Longtian	2.06	219	*e*P	Pn	20 07 58.3	-0.3
	baz=218						
WRL	Guolierlin Hig	2.08	253	*e*P	Pn	20 07 59.2	+0.4
	baz=252						
WRL				*e*S	Sn

STYH				*e*S		**Sn**	**20 08 25.3 +0.5**
	baz=230						
STYT	**Tauyuan**	**2.12 231**		P		**Pn**	**20 08 00.7 +1.2**
	baz=230						
TPUB	**Ta-pu**	**2.13 236**		*e*P		**Pn**	**20 08 00.6 +1.1**
	baz=235						
TPUB				*e*S		**Sn**	**20 08 27.1 +1.5**
	baz=235						
WTK	**Tuku**	**2.14 248**		*e*P		**Pn**	**20 08 00.4 +0.8**
	baz=247						
WTK				*e*S		**Sn**	**20 08 26.3 +0.7**
	baz=247						
TWGBT	**Beinan**	**2.16 219**		*e*P		**Pn**	**20 07 59.4 -0.5**
	baz=218						
TWGBT				*e*S		**Sn**	**20 08 24.4 -1.8**
	baz=218						
TWG	**Pinlang**	**2.16 219**		P		**Pn**	**20 07 59.4 -0.5**
	baz=218						
TTN	**Taitung**	**2.17 217**		*e*P		**Pn**	**20 08 00.4 +0.4**
	baz=215						
WTP	**Ta-pu**	**2.18 235**		*e*P		**Pn**	**20 08 01.4 +1.2**
	baz=234						
WTP				*e*S		**Sn**	**20 08 29.2 +2.6**
	baz=234						
CHY	**Chiayi**	**2.19 243**		*e*P		**Pn**	**20 08 01.4 +1.1**
	baz=242						
CHY				*e*S		**Sn**	**20 08 28.8 +1.9**
	baz=242						
TWK	**Hsinying**	**2.26 237**		*e*P		**Pn**	**20 08 02.5 +1.2**
	baz=236						
TWK				*e*S		**Sn**	**20 08 30.1 +1.6**
	baz=236						
CHN1	**Nanshi**	**2.28 235**		P		**Pn**	**20 08 02.7 +1.3**
	baz=234						
SGST	**Jiashian**	**2.30 232**		*e*P		**Pn**	**20 08 02.4 +0.7**
	baz=231						
SGST				*e*S		**Sn**	**20 08 30.8 +1.4**
	baz=231						
WSF	**Szhu**	**2.30 248**		*e*P		**Pn**	**20 08 02.3 +0.6**
	baz=247						
SLGT	**Liugui**	**2.31 229**		*e*P		**Pn**	**20 08 03.6 +1.8**
	baz=228						
JIRB	**Irabujima**	**2.41 82**		P		**Pn**	**20 08 03.5 +0.4**
JIRB				S		**Sn**	**20 08 32.0 +0.1**
ECL	**Taimali**	**2.41 218**		*e*P		**Pn**	**20 08 02.2 -0.9**
	baz=216						
CHN8	**Yiju**	**2.44 242**		*e*P		**Pn**	**20 08 04.4 +0.9**
	baz=241						
CHN8				*e*S		**Sn**	**20 08 35.3 +2.6**
	baz=241						
JIKM	**Ikemajima**	**2.48 80**		P		**Pn**	**20 08 04.8 +0.6**
JIKM				S		**Sn**	**20 08 31.8 -2.0**
SCST	**Cishan**	**2.49 230**		*e*P		**Pn**	**20 08 05.8 +1.6**
	baz=229						
SSD	**Sandimen**	**2.49 225**		*e*P		**Pn**	**20 08 05.7 +1.4**
	baz=224						
TSMG	**Majia**	**2.51 225**		*e*P		**Pn**	**20 08 06.1 +1.6**
	baz=223						
JMJ	**Miyako jima 2**	**2.51 83**		*e*P		**Pn**	**20 08 05.4 +0.9**
	baz=83						
JMJ				*e*S		**Sn**	**20 08 34.3 -0.2**
	baz=83						
JMJ2	**Miyako jima3**	**2.54 84**		P		**Pn**	**20 08 05.6 +0.8**
JMJ2				S		**Sn**	**20 08 35.2 +0.2**
MASBT	**Mashibuluo**	**2.58 223**		*e*P		**Pn**	**20 08 06.3 +0.7**
	baz=222						
MASBT				*e*S		**Sn**	**20 08 36.4 +0.2**
	baz=222						
JOGS	**Gusukube**	**2.61 84**		P		**Pn**	**20 08 06.4 +0.6**
JOGS				S		**Sn**	**20 08 36.5 -0.3**
LAY	**Lan-yu**	**2.63 201**		*e*P		**Pn**	**20 08 05.1 -1.1**
	baz=199						
LAY				*e*S		**Sn**	**20 08 34.5 -2.8**
	baz=199						
EAST	**Anshuo**	**2.63 217**		*e*P		**Pn**	**20 08 05.7 -0.6**
	baz=215						
VWUC	**VWUC**	**2.86 280**		*e*P		**Pn**	**20 08 08.8 -0.4**
	baz=279						
VWUC				*e*S		**Sn**	**20 08 39.9 -2.9**
	baz=279						
MATB	**Ma-tsu**	**2.87 305**		*e*P		**Pn**	**20 08 08.5 -0.8**
	baz=304						
PNG	**Penghu**	**2.90 252**		*e*P		**Pn**	**20 08 09.0 -0.7**
	baz=250						
PHUB	**P'eng-hu**	**2.90 251**		*e*P		**Pn**	**20 08 08.8 -0.9**
	baz=249						
PHUB				*e*S		**Sn**	**20 08 41.6 -2.2**
	baz=249						
WDGT	**Dungji**	**2.93 245**		*e*P		**Pn**	**20 08 10.1 0.0**
	baz=244						
HEN	**Hengchun**	**3.00 214**		*e*P		**Pn**	**20 08 13.0 +1.9**
	baz=213						
TWKBT	**Hengchun**	**3.02 212**		*e*P		**Pn**	**20 08 10.8 -0.5**
	baz=211						
VCHM	**Qimei**	**3.14 246**		*e*P		**Pn**	**20 08 12.8 -0.2**
	baz=245						
VCHM				*e*S		**Sn**	**20 08 47.8 -1.7**
	baz=245						
PTMZ	**Houxiangcun**	**3.16 280**		*e*P		**Pn**	**20 08 13.6 +0.4**
	baz=279						
PTMZ				*e*S		**Sn**	**20 08 48.0 -2.1**
	baz=279						
KNMB	**Chin-men Tao**	**3.79 270**		*e*P		**Pn**	**20 08 21.0 -0.8**
	baz=269						
AXDP	**Jialang**	**4.18 276**		*e*P		**Pn**	**20 08 27.6 +0.5**
	baz=275						
ZPLA	**Ao Xicun**	**4.42 263**		*e*P		**Pn**	**20 08 29.8 -0.5**
	baz=262						

*IDC **31** 20:08:10.2±1.5, 43°.83N×105°.60W, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.6/50, mbtmp3.7/7, ML2.9/3, Error ellipse: s-maj=51.3km s-min=8.1km az=148.0*
*NEIC **31** 20:08:10.9±1.8, 43°.70N±0°.05×105°.24W±0°.08, h0km±2km, ML3.5/48, Error ellipse: s-maj=10.2km s-min=7.4km az=246.0*
*ANF **31** 20:08:11.1±0.7, 43°.56N×105°.20W, h14km±5km, ML3.6/11, Error ellipse: s-maj=3.4km s-min=1.7km az=134.0*
ISC 31 20:08:10.2±0.6, 43°.62N±0°.03×105°.26W±0°.03, h0km, n67, σ1§30/75, mb4.1/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**60**	P		**Pb**	**20 08 30.1 -0.7**
	baz=237						
RSSD				S		**Sb**	**20 08 44.8 0.0**
	baz=237						
RSSD	**Black Hills**	**1.02**	**60**	Pg		**Pg**	**20 08 29.9 +0.2**
K22A	**Casper**	**1.34**	**224**	P		**Pg**	**20 08 35.7 -0.1**
	baz=46,SNR=425						
K22A				S		**Sg**	**20 08 53.9 +0.7**
	baz=46						
K22A	**Casper**	**1.34**	**224**			**Pg**	**20 08 35.8 -0.1**
K22A				IAML			20 09 00.2
	comp=N,500nm,0.3s						
PHWY	**Pilot Hill**	**2.33**	**184**			**Pb**	**20 08 51.8 -1.3**
RWWY	**Rawlins**	**2.41**	**217**			**Pb**	**20 08 53.4 -1.1**
RWWY				IAML			20 09 29.6
	comp=N,269nm,0.9s						
RWWY				IAML			20 09 31.4
	comp=N,310nm,0.9s						
N23A	**Red Feather La**	**2.77**	**191**	Pb		**Pn**	**20 08 58.5 +2.4**
	baz=11,SNR=49						
N23A				Sb		**Sb**	**20 09 36.1 +0.7**
	baz=11						
LAO	**LASA Array**	**3.14**	**348**	P		**Pn**	**20 09 01.0 0.0**
	baz=167						
LAO				S		**Sn**	**20 09 39.6 +0.5**
	baz=167						
LAO	**LASA Array**	**3.14**	**348**			**Pn**	**20 09 01.0 0.0**
RLMT	**Red Lodge**	**3.24**	**299**	P		**Pn**	**20 09 02.9 +0.4**
	baz=117,SNR=22						
RLMT				Sb		**Sb**	**20 09 50.9 +2.2**
	baz=117						
RLMT	**Red Lodge**	**3.24**	**299**	Pn		**Pn**	**20 09 02.9 +0.4**
BW06	**Boulder Array**	**3.25**	**256**	P		**Pn**	**20 09 03.0 +0.3**
	baz=74,SNR=57						
BW06				Sb		**Sb**	**20 09 48.4 -0.9**
	baz=74						
BW06	**Boulder Array**	**3.25**	**256**			**Pn**	**20 09 03.5 +0.8**
BW06				IAML			20 09 53.4
	comp=N,74nm,0.7s						
PD31	**Pinedale Array**	**3.25**	**256**	Pn		**Pn**	**20 09 03.5 +0.9**
PDAR	**Pinedale Array**	**3.25**	**256**	Pn		**Pn**	**20 09 03.5 +0.9**
	comp=N,6.1nm,0.3s,baz=74,slow=16,SNR=54						
PDAR				Lg	Lg		20 09 46.7
	comp=N,9.2nm,0.3s,baz=69,slow=35,SNR=2.1						
PDAR	**Pinedale Array**	**3.25**	**256**	Pn		**Pn**	**20 09 03.2 +0.6**
OGNE	**Ogallala**	**3.59**	**137**	Pg		**Pg**	**20 09 18.5 -0.5**
	baz=319						
OGNE	**Ogallala**	**3.59**	**137**	Pn		**Pn**	**20 09 08.2 +1.0**
OGNE				IAML			20 10 18.8
	comp=N,97nm,0.8s						
GCMT	**Greycliff**	**3.81**	**306**			**Pn**	**20 09 10.4 +0.1**
LKWY	**Lake**	**3.82**	**286**			**Pn**	**20 09 11.7 +1.2**
LKWY				IAML			20 10 15.9
	comp=N,100nm,0.6s						
LKWY				IAML			20 10 20.0
	comp=N,56nm,0.3s						
ISCO	**Idaho Springs**	**3.83**	**184**	Pb		**Pb**	**20 09 18.2 -0.6**
	baz=4.6						
ISCO				Sb		**Sb**	**20 10 07.0 +1.1**
	baz=4.6						
ISCO	**Idaho Springs**	**3.83**	**184**	Pn		**Pn**	**20 09 12.9 +2.3**
LCHW	**Long Hollow**	**3.88**	**272**			**Pn**	**20 09 12.9 +1.7**
FLWY	**Flagg Ranch**	**3.96**	**279**			**Pn**	**20 09 13.8 +1.5**
SNOW	**Snow King Moun**	**4.00**	**270**			**Pn**	**20 09 14.3 +1.5**
SNOW				IAML			20 10 27.9
	comp=N,82nm,0.8s						
SNOW				IAML			20 10 29.7
	comp=N,80nm,1.0s						
REDW	**Red Top Meadow**	**4.08**	**268**			**Pn**	**20 09 15.2 +1.2**
REDW				IAML			20 10 30.1
	comp=N,86nm,0.7s						
REDW				IAML			20 10 34.9
	comp=N,63nm,0.8s						
IMW	**Indian Meadow**	**4.12**	**276**			**Pn**	**20 09 16.1 +1.4**
IMW				IAML			20 10 26.7
	comp=N,65nm,0.7s						
IMW				IAML			20 10 28.0
	comp=N,41nm,0.6s						
O20A	**White River Ci**	**4.13**	**214**			**Pn**	**20 09 16.9 +2.1**
O20A				IAML			20 10 22.3
	comp=N,79nm,1.0s						
O20A				IAML			20 10 32.9
	comp=E,61nm,1.0s						
TPAW	**Teton Pass**	**4.14**	**270**			**Pn**	**20 09 15.4 +0.6**
TPAW				IAML			20 10 25.2
	comp=E,48nm,1.0s						
TPAW				IAML			20 10 33.7
	comp=E,38nm,0.7s						
AHID	**Auburn Hatcher**	**4.35**	**261**			**Pn**	**20 09 17.1 -0.7**
AHID				IAML			20 10 33.4
	comp=N,58nm,0.7s						
AHID				IAML			20 10 43.3
	comp=E,52nm,1.1s						
E28A	**Huff**	**4.38**	**46**			**Pn**	**20 09 18.7 +0.8**
ECR	**Eagle Creek**	**4.49**	**265**			**Pn**	**20 09 20.4 +0.8**
QLMT	**Earthquake Lak**	**4.59**	**287**			**Pn**	**20 09 21.6 +0.6**
SUSD	**Miller**	**4.62**	**78**	Pb		**Pb**	**20 09 30.7 -1.4**
	baz=261						
SUSD	**Miller**	**4.62**	**78**			**Pb**	**20 09 33.1 +1.0**
SMCO	**Snowmass**	**4.62**	**197**			**Pn**	**20 09 24.9 +3.3**
SMCO				IAML			20 10 47.7
	comp=E,26nm,0.9s						
SMCO				IAML			20 10 48.0
	comp=E,31nm,0.9s						
Q24A	**Divide**	**4.66**	**179**	Pb		**Pb**	**20 09 31.3 -1.6**
	baz=360						
Q24A				Sb		**Sb**	**20 10 29.2 -0.4**
	baz=360						
BOZ	**Bozeman (W)**	**4.96**	**296**	P		**Pn**	**20 09 25.5 -0.4**
	baz=112						
BOZ				Sb		**Sb**	**20 10 42.8 +4.8**
	baz=112						
BOZ	**Bozeman (W)**	**4.96**	**296**			**Pn**	**20 09 26.2 +0.2**
BOZ				IAML			20 10 51.0
	comp=E,22nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.02**	**156**			**Pn**	**20 09 27.7 +0.8**
HWUT	**Hardware Ranch**	**5.07**	**249**			**Pn**	**20 09 27.8 +0.3**
HWUT				IAML			20 10 58.8
	comp=E,34nm,1.1s						
HWUT				IAML			20 11 17.5
	comp=E,35nm,0.9s						
EGMT	**Eagleton**	**5.40**	**326**	Pb		**Pb**	**20 09 45.9 +0.4**
	baz=143						
EGMT				S		**Sn**	**20 10 35.9 +0.9**
	baz=143						
EGMT	**Eagleton**	**5.40**	**326**			**Pn**	**20 09 31.6 -0.4**
DLMT	**Dillon**	**5.53**	**291**			**Pn**	**20 09 35.0 +1.2**
LRM	**Limekiln Ridge**	**5.57**	**296**			**Pn**	**20 09 34.6 +0.1**
HRY	**Holter Researc**	**5.58**	**306**			**Pn**	**20 09 34.9 +0.4**
MCMT	**McKenzie Canyo**	**5.58**	**285**			**Pn**	**20 09 36.3 +1.7**
MDND	**Maddock**	**5.79**	**41**	P		**Pn**	**20 09 37.3 0.0**
	baz=224						
MDND				S		**Sn**	**20 10 44.4 0.0**
	baz=224						
MDND	**Maddock**	**5.79**	**41**	Pn		**Pn**	**20 09 35.9 -1.4**
SDCO	**Great Sand Dun**	**5.88**	**182**			**Pn**	**20 09 39.0 +0.3**
ECSD	**EROS Data Cent**	**6.27**	**86**	P		**Pn**	**20 09 43.9 0.0**
	baz=271						
CBKS	**Cedar Bluff**	**6.36**	**137**	Sg		**Sg**	**20 11 38.3 +3.9**
	baz=321						
T25A	**Trinidad**	**6.51**	**174**	P		**Pn**	**20 09 46.4 -1.0**
	baz=355						
DUG	**Dugway, Tooele**	**6.59**	**241**	P		**Pn**	**20 09 47.7 -0.8**
	baz=57,SNR=6.4						
DUG	**Dugway, Tooele**	**6.59**	**241**	Pn		**Pn**	**20 09 48.5 +0.1**
HLID	**Hailey**	**6.64**	**273**	P		**Pn**	**20 09 49.6 +0.4**
	baz=87,SNR=7.6						
HLID	**Hailey**	**6.64**	**273**			**Pn**	**20 09 49.4 +0.2**
MVCO	**Mesa Verde**	**6.87**	**202**			**Pn**	**20 09 53.9 +1.6**
ELK	**Elko**	**7.95**	**252**	Pn		**Pn**	**20 10 07.8 +0.7**
	comp=E,0.1nm,0.3s,baz=62,slow=10,SNR=5.8						
ELK				Lg	Lg		20 12 13.8
	comp=E,0.1nm,0.3s,baz=64,slow=11,SNR=1.6						
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		**Pn**	**20 10 22.5 -1.9**
	comp=E,1.9nm,0.3s,baz=228,slow=11,SNR=11						
ULM				Lg	Lg		20 12 54.0
	comp=E,0.4nm,0.3s,baz=304,slow=13,SNR=2.2						
NEW	**Newport**	**9.47**	**303**	Lg	Lg		20 12 51.9
	comp=E,0.1nm,0.3s,baz=107,slow=19,SNR=1.4						
I56US	**NEWPORT INFRAS**	**9.47**	**303**	*i*			21 04 20.0
	baz=116,slow=316,SNR=2.8						
NVAR	**Mina Array Bea**	**11.13**	**247**	Pn		**Pn**	**20 10 50.7 0.0**
	comp=E,0.1nm,0.3s,baz=63,slow=11,SNR=3.2						
TXAR	**Lajitas Array**	**14.32**	**174**	Pg		P	20 12 36.9 +55
	comp=E,0.0nm,0.3s,baz=1.2,slow=13,SNR=2.3						
ARCES	**ARCESS Array B**	**61.52**	**18**	P		**P**	**20 18 27.4 -0.9**
	comp=E,6.9nm,1.3s,baz=325,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**82.42**	**354**	P		**P**	**20 20 32.4 -1.5**
	comp=E,1.1nm,0.8s,baz=18,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**89.72**	**355**	P		**P**	**20 21 09.6 -0.5**
	comp=E,0.4nm,0.8s,baz=19,slow=4.1,SNR=3.8						

*NEIC **31** 20:15:24.1±0.5, 19°.09N±0°.01×66°.48W±0°.04, h36km±49km, Error ellipse: s-maj=5.8km s-min=1.7km az=79.0*
*RSPR **31** 20:15:24.9, 19°.12N×66°.48W, h35km±5km, MD3.2/12*
ISC 31 20:15:21.8±1.3, 19°.17N±0°.06×66°.45W±0°.03, h28km, n73, σ1§04/73, 10C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.69**	**186**	⇑*i*P		**Pn**	**20 15 36.4 +0.7**
EMPR	**Esperanza - Ma**	**0.69**	**186**	*e*S		**Sn**	**20 15 45.4 0.0**
EMPR	**Esperanza - Ma**	**0.69**	**186**			**Pn**	**20 15 36.4 +0.7**
EMPR						**Sn**	**20 15 45.4 0.0**
EMPR	**Esperanza - Ma**	**0.69**	**186**	IAML			20 15 46.2
	comp=E,4μm,0.5s						
EMPR				IAML			20 16 01.1
	comp=N,1μm,0.6s						
AOPR	**Arecibo Observ**	**0.86**	**200**	⇑*i*P		**Pn**	**20 15 38.5 +0.4**
AOPR	**Arecibo Observ**	**0.86**	**200**	*e*P		**Pn**	**20 15 38.6 +0.4**
AOPR				*e*S		**Sn**	**20 15 49.4 -0.4**
AOPR	**Arecibo Observ**	**0.86**	**200**			**Pn**	**20 15 38.5 +0.4**
AOPR						**Sn**	**20 15 49.1 -0.7**
GCPR	**Guaynabo City**	**0.92**	**158**	⇑*e*P		**Pb**	**20 15 39.7 +0.6**
GCPR	**Guaynabo City**	**0.92**	**158**	*e*S		**Sn**	**20 15 51.2 0.0**
GCPR	**Guaynabo City**	**0.92**	**158**			**Sn**	**20 15 51.2 0.0**
GCPR	**Guaynabo City**	**0.92**	**158**			**Pb**	**20 15 39.5 +0.4**
GCPR	**Guaynabo City**	**0.92**	**158**	IAML			20 15 53.2
	comp=N,583nm,0.3s						
GCPR				IAML			20 15 54.9
	comp=E,481nm,0.4s						
AGPR	**Aguadilla, PR**	**0.94**	**222**	⇓*e*P		**Pb**	**20 15 39.3 -0.1**
AGPR	**Aguadilla, PR**	**0.94**	**222**			**Pb**	**20 15 38.9 -0.5**
AGPR				IAML			20 15 53.7
	comp=N,609nm,0.6s						
AGPR				IAML			20 16 00.7
	comp=E,734nm,0.6s						
CBYP	**Canovanas**	**1.05**	**148**	⇑*e*P		**Pb**	**20 15 41.7 +0.3**
CBYP	**Canovanas**	**1.05**	**148**	*e*S		**Sb**	**20 15 54.6 -0.2**
CBYP	**Canovanas**	**1.05**	**148**			**Sb**	**20 15 54.6 -0.2**
CBYP	**Canovanas**	**1.05**	**148**			**Pb**	**20 15 41.6 +0.1**
CBYP	**Canovanas**	**1.05**	**148**	IAML			20 15 56.5
	comp=E,5μm,0.2s						
CBYP				IAML			20 15 58.7
	comp=N,4μm,0.2s						
SJG	**San Juan**	**1.09**	**165**			**Pb**	**20 15 42.0 0.0**
SJG				IAML			20 15 59.1
	comp=N,551nm,0.3s						
SJG				IAML			20 16 00.1
	comp=N,534nm,0.3s						
CELP	**Cerrillos**	**1.09**	**186**	⇑*e*P		**Pb**	**20 15 41.8 -0.2**
CELP	**Cerrillos**	**1.09**	**186**	*e*S		**Sb**	**20 15 54.9 -1.0**
CELP	**Cerrillos**	**1.09**	**186**			**Pb**	**20 15 41.8 -0.2**
CELP						**Sb**	**20 15 54.9 -1.0**
OBIP	**Obispado Ponce**	**1.13**	**188**	⇑*e*P		**Pb**	**20 15 42.4 -0.3**
OBIP	**Obispado Ponce**	**1.13**	**188**	*e*S		**Sb**	**20 15 56.0 -0.9**
OBIP	**Obispado Ponce**	**1.13**	**188**			**Pb**	**20 15 42.4 -0.3**
OBIP						**Sb**	**20 15 56.0 -0.9**
OBIP	**Obispado Ponce**	**1.13**	**188**	IAML			20 15 58.4
	comp=E,403nm,0.3s						
OBIP				IAML			20 16 04.4
	comp=N,444nm,0.3s						
LSP	**Las Mesas**	**1.15**	**212**	⇑*e*P		**Pb**	**20 15 42.8 -0.3**
LSP	**Las Mesas**	**1.15**	**212**	*e*S		**Sb**	**20 15 56.9 -0.8**
LSP	**Las Mesas**	**1.15**	**212**			**Pb**	**20 15 42.8 -0.3**
LSP						**Sb**	**20 15 56.9 -0.8**
HUMP	**Col San Antoni**	**1.17**	**151**	⇓*e*P		**Pb**	**20 15 43.3 0.0**
HUMP	**Col San Antoni**	**1.17**	**151**	*e*S		**Sb**	**20 15 57.7 -0.3**
HUMP	**Col San Antoni**	**1.17**	**151**			**Sb**	**20 15 57.7 -0.3**
HUMP	**Col San Antoni**	**1.17**	**151**			**Pb**	**20 15 43.0 -0.3**
HUMP	**Col San Antoni**	**1.17**	**151**	IAML			20 15 58.0
	comp=E,1μm,0.3s						
HUMP				IAML			20 15 59.7
	comp=N,712nm,0.2s						
PDPR	**Patillas Dam,**	**1.21**	**160**			**Pb**	**20 15 43.7 -0.4**
PDPR				IAML			20 16 01.8
	comp=E,406nm,0.1s						
IGPR	**InterUniversit**	**1.24**	**165**	⇓*e*P		**Pb**	**20 15 44.3 -0.2**
IGPR	**InterUniversit**	**1.24**	**165**	*e*S		**Sb**	**20 15 59.2 -0.9**
IDE	**Isla Desecheo**	**1.24**	**232**	⇓*e*P		**Pb**	**20 15 43.8 -0.8**
IDE	**Isla Desecheo**	**1.24**	**232**			**Pb**	**20 15 43.8 -0.8**
GBPR	**Guanica, Bosqu**	**1.25**	**199**	⇑*e*P		**Pb**	**20 15 44.3 -0.4**
GBPR	**Guanica, Bosqu**	**1.25**	**199**			**Pb**	**20 15 44.3 -0.4**
ICMP	**Isla Caja de M**	**1.27**	**183**			**Pb**	**20 15 44.9 -0.3**
MLPR	**Magueyes Islan**	**1.32**	**205**	⇑*e*P		**Pb**	**20 15 44.5 -1.4**
MLPR	**Magueyes Islan**	**1.32**	**205**			**Pb**	**20 15 44.1 -1.8**
MLPR				IAML			20 16 04.8
	comp=E,339nm,0.5s						
MTP	**Monte Pirata**	**1.36**	**141**	⇓*e*P		**Pb**	**20 15 46.0 -0.7**
MTP	**Monte Pirata**	**1.36**	**141**	*e*S		**Sb**	**20 16 02.6 -1.1**
MTP	**Monte Pirata**	**1.36**	**141**			**Pb**	**20 15 45.9 -0.7**
MTP				IAML			20 16 11.9
	comp=E,314nm,0.3s						
MTP	**Monte Pirata**	**1.36**	**141**			**Sb**	**20 16 02.6 -1.1**
CUPR	**Culebra, Puert**	**1.40**	**127**	⇑*e*P		**Pb**	**20 15 46.5 -0.7**
CUPR	**Culebra, Puert**	**1.40**	**127**	*e*S		**Sb**	**20 16 03.3 -1.4**
CUPR	**Culebra, Puert**	**1.40**	**127**			**Sb**	**20 16 03.3 -1.4**
CUPR	**Culebra, Puert**	**1.40**	**127**			**Pb**	**20 15 46.2 -1.1**
CUPR	**Culebra, Puert**	**1.40**	**127**	IAML			20 16 07.0
	comp=E,178nm,0.5s						
CUPR				IAML			20 16 08.5
	comp=N,135nm,0.5s						
STVI	**Saint Thomas**	**1.63**	**119**	⇓*e*P		**Pb**	**20 15 50.2 -1.1**
STVI	**Saint Thomas**	**1.63**	**119**	*e*S		**Sb**	**20 16 09.6 -1.8**
STVI	**Saint Thomas**	**1.63**	**119**			**Pb**	**20 15 50.2 -1.1**
STVI				IAML			20 16 13.9
	comp=N,246nm,0.3s						
STVI	**Saint Thomas**	**1.63**	**119**			**Sb**	**20 16 09.6 -1.8**
TBVI	**Tortola**	**1.89**	**113**	⇑*e*P		**Pb**	**20 15 54.6 -1.0**
TBVI	**Tortola**	**1.89**	**113**			**Pb**	**20 15 54.6 -1.0**
VGBI	**Virgin Gorda,**	**2.05**	**109**	⇑*e*P		**Pb**	**20 15 56.6 -1.9**
VGBI	**Virgin Gorda,**	**2.05**	**109**			**Pb**	**20 15 56.6 -1.9**
CDVI	**St. Croix**	**2.13**	**131**	*e*P		**Pn**	**20 15 56.4 +0.9**
CDVI	**St. Croix**	**2.13**	**131**	Pn		**Pb**	**20 15 57.7 -2.0**
CDVI				IAML			20 16 36.5
	comp=N,505nm,0.5s						
CDVI				IAML			20 16 38.2
	comp=E,535nm,0.5s						
DR12	**Loma Pena Alta**	**2.80**	**263**			**Pn**	**20 16 07.4 +2.6**
SDDR	**Presa de Saban**	**4.58**	**269**			**Pn**	**20 16 30.2 +0.9**
SDDR				IAML			20 17 49.4
	comp=E,56nm,1.0s						
ANWB	**Willy Bob**	**4.67**	**108**	*e*S		**Sn**	**20 17 25.7 +1.9**
BPA	**Boggy Peak**	**4.85**	**115**	*e*P		**Pn**	**20 16 34.8 +1.8**
BPA	**Boggy Peak**	**4.85**	**115**	*e*S		**Sn**	**20 17 31.1 +2.8**
ANBD	**Bethesda, Anti**	**4.93**	**115**	*e*P		**Pn**	**20 16 35.3 +1.3**
ANBD	**Bethesda, Anti**	**4.93**	**115**	*e*S		**Sn**	**20 17 30.9 +0.8**
GRTK	**Grand Turk**	**4.97**	**299**	Pn		**Pn**	**20 16 35.7 +1.0**
BBGH	**Gun Hill**	**8.93**	**131**	Pn		**Pn**	**20 17 30.1 +1.1**

*NEIC **31** 20:19:33.2±2.8, 18°.0S±0°.2×177°.56W±0°.09, h461km±15km, mb4.2/12, Error ellipse: s-maj=30.2km s-min=4.8km az=158.0*
*IDC **31** 20:19:33.8±1.8, 18°.14S×177°.57W, h475km±22km, mb3.3/4, mb1 3.4/6, mb1mx3.0/32, mbtmp4.2/6, Error ellipse: s-maj=41.0km s-min=19.9km az=11.0*
ISC 31 20:19:33.0±1.5, 18°.1S±0°.2×177°.6W±0°.2, h450km, n18, σ1§91/17, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.20**	**274**	P		**P**	**20 20 52.7 +2.7**
	7.2nm,0.3s,baz=117,slow=13,SNR=24						
MSVF	**Nonsavu**	**4.20**	**274**	P		**P**	**20 20 52.6 +2.5**
RAR	**Rarotonga**	**17.04**	**103**	P		**P**	**20 23 05.7 0.0

baz=247,slow=75,SNR=12
H01W3 Cape Leeuwin H 49.97 107 T T 21 22 35.3
baz=247,slow=75,SNR=10
H01W1 Cape Leeuwin H 49.98 107 T T 21 22 35.5
baz=247,slow=75,SNR=12
TORD Torodi Ar. Bea 68.58 307 P P 20 31 13.6 +0.5
1.0nm,1.0s,baz=145,slow=5.3,SNR=4.1
ASAR Alice Springs 70.41 105 P P 20 31 24.6 0.0
0.4nm,0.6s,baz=230,slow=6.0,SNR=7.0
WRA Warramunga Arr 72.81 102 P P 20 31 39.3 +0.4
1.2nm,1.0s,baz=232,slow=5.0,SNR=7.1
KURBB Kurchatov Arra 91.03 17 P P 20 33 14.3 +0.5
0.3nm,0.7s,baz=218,slow=5.4,SNR=2.8
ILAR Eielson Array 150.70 16 PKPbc PKPbc 20 39 59.7 -1.6
0.3nm,0.5s,baz=330,slow=2.1,SNR=5.4

IDC 31 20:49:59.5±3.8, 11°.27S×118°.60E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/39, mbtmp3.2/3, ML2.9/2, Error ellipse: s-maj=261.8km s-min=31.5km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.43**	**122**	P	Pn	20 54 03.9	-0.4
	0.0nm,0.3s,baz=291,slow=14,SNR=2.2						
WRA				S	Sn	20 57 07.7	-11
	0.1nm,0.3s,baz=335,slow=33,SNR=4.7						
ASAR	**Alice Springs**	**19.08**	**132**	P	Pn	20 54 24.4	-0.2
	0.1nm,0.3s,baz=315,slow=13,SNR=1.3						
ASAR				S	Sn	20 57 47.5	-12
	0.0nm,0.3s,baz=307,slow=23,SNR=1.8						
MKAR	**Makanchi Array**	**66.30**	**334**	P	P	21 00 49.7	-0.1
	0.2nm,0.4s,baz=148,slow=7.0,SNR=4.2						

*IDC **31** 21:13:24.2±4.9, 27°.16S×113°.37W, h0km, mb3.9/4, mb1 4.3/4, mb1mx3.8/39, mbtmp3.9/4, MS3.5/7, Ms1 3.5/7, ms1mx3.4/18, Error ellipse: s-maj=265.1km s-min=85.8km az=109.0*

*NEIC **31** 21:13:28.8±1.4, 26°.87S±0°.08×112°.6W±0°.2, h10km±1km, mb4.6/41, Error ellipse: s-maj=29.1km s-min=10.2km az=291.0*

ISC 31 21:13:28.9±1.2, 26°.8S±0°.2×112°.4W±0°.2, h10km, n65, σ0s97/46, mb4.5/25, MS3.6/10, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**29.57**	**111**	T	T	21 51 45.7	
	baz=277,slow=74,SNR=201						
H03N3	**Juan Fernandez**	**29.58**	**111**	T	T	21 51 45.0	
	baz=277,slow=74,SNR=263						
H03N1	**Juan Fernandez**	**29.59**	**111**	T	T	21 51 46.8	
	baz=277,slow=74,SNR=337						
TAOE	**Nuku Hiva Isla**	**31.80**	**299**	*e*LR	LR	21 27 55.9	
	comp=Z,415nm,25.1s						
TBI	**Tubuai**	**33.69**	**268**	*e*LR	LR	21 28 18.8	
	comp=Z,256nm,30.5s						
TBI	**Tubuai**	**33.69**	**268**	*e*T	T	21 54 01.4	
	9.8nm,0.3s						
PPT2	**Papeete2**	**35.54**	**277**	*e*LR	LR	21 29 12.8	
	comp=Z,351nm,28.0s,baz=104						
PPT	**Papeete**	**35.55**	**277**	LR	LR	21 30 22.7	
	comp=Z,72nm,20.3s,baz=160,slow=29						
MT01	**Popeta**	**35.99**	**111**	P	**P**	**21 20 29.9**	**-0.2**
AC04	**Llanos de Chal**	**36.53**	**102**	P	**P**	**21 20 35.4**	**+0.6**
MT03	**Universidad Ad**	**36.61**	**111**	P	**P**	**21 20 34.5**	**-1.1**
PLCA	**Paso Flores**	**37.07**	**123**	LR	LR	21 31 54.8	
	comp=Z,48nm,18.9s,baz=308,slow=30						
PB15	**IPOC Station P**	**38.91**	**94**	P	**P**	**21 20 55.9**	**+0.7**
PB15				IAmb	IAmb	21 21 07.9	
	comp=Z,16nm,1.1s						
PB07	**IPOC Station P**	**38.93**	**92**	P	**P**	**21 20 55.3**	**-0.1**
TA01	**Diego Aracena**	**39.00**	**90**	P	**P**	**21 20 56.7**	**+1.0**
TA01				IAmb	IAmb	21 21 05.1	
	comp=Z,19nm,0.9s						
LPAZ	**La Paz**	**42.28**	**85**	LR	LR	21 35 52.6	
	comp=Z,98nm,19.5s,baz=254,slow=31						
CVTR	**Volcan Turrial**	**45.98**	**41**	P	**P**	**21 21 52.8**	**-0.2**
ROSC	**El Rosal**	**48.44**	**55**	LR	LR	21 40 00.8	
	comp=Z,55nm,18.5s,baz=236,slow=32						
CPUP	**Villa Florida**	**48.89**	**103**	LR	LR	21 39 31.7	
	comp=Z,45nm,20.8s,baz=232,slow=32						
TX31	**Lajitas Ar. Si**	**56.48**	**9**	P	**P**	**21 23 11.9**	**+0.7**
TX31				IAmb	IAmb	21 23 29.9	
	comp=Z,13nm,1.4s						
TX32	**Lajitas Array**	**56.48**	**9**	P	**P**	**21 23 11.3**	**+0.2**
TXAR	**Lajitas Array**	**56.48**	**9**	P	**P**	**21 23 12.4**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=185,slow=9.6,SNR=6.9						
TXAR				LR	LR	21 42 42.9	
	comp=Z,27nm,20.7s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**56.48**	**9**	P	**P**	**21 23 11.9**	**+0.7**
319A	**Douglas**	**57.97**	**3**	P	**P**	**21 23 21.9**	**+0.2**
319A				IAmb	IAmb	21 23 23.8	
	comp=Z,4.4nm,0.8s						
JCT	**Junction City**	**58.25**	**13**	P	**P**	**21 23 24.5**	**+0.9**
214A	**Organ Pipe Nat**	**58.47**	**360**	P	**P**	**21 23 25.2**	**+0.1**
214A				IAmb	IAmb	21 23 26.9	
	comp=Z,8.4nm,1.4s						
MNTX	**Cornudas Mount**	**58.59**	**7**	P	**P**	**21 23 26.4**	**+0.5**
TUC	**Tucson**	**58.84**	**2**	P	**P**	**21 23 27.5**	**-0.2**
TUC				IAmb	IAmb	21 23 41.7	
	comp=Z,4.9nm,1.4s						
121A	**Cookes Peak, D**	**59.21**	**5**	P	**P**	**21 23 30.9**	**+0.5**
121A				IAmb	IAmb	21 23 32.7	
	comp=Z,7.6nm,1.2s						
113A	**Mohawk Valley,**	**59.30**	**359**	P	**P**	**21 23 30.3**	**-0.4**
113A				IAmb	IAmb	21 23 31.7	
	comp=Z,2.9nm,0.7s						
PFO	**Pinyon Flats O**	**60.25**	**356**	P	**P**	**21 23 37.0**	**-0.4**
X16A	**Lo Mia Camp, P**	**60.93**	**1**	P	**P**	**21 23 40.9**	**-1.4**
MWC	**Mount Wilson**	**60.97**	**355**	P	**P**	**21 23 40.5**	**-2.0**
W13A	**Hualapai Mount**	**61.62**	**359**	P	**P**	**21 23 46.7**	**-0.2**
WUAZ	**Wupatki**	**62.03**	**1**	P	**P**	**21 23 48.0**	**-1.6**
WUAZ				IAmb	IAmb	21 23 59.1	
	comp=Z,2.7nm,0.8s						
U15A	**North Rim**	**62.93**	**0**	P	**P**	**21 23 55.7**	**-0.1**
U15A				IAmb	IAmb	21 23 57.5	
	comp=Z,3.5nm,1.0s						
AOPR	**Arecibo Observ**	**63.06**	**50**	P	**P**	**21 23 56.0**	**-0.7**
SHPR	**Sheep Range**	**63.06**	**357**	P	**P**	**21 23 56.4**	**0.0**
SHPR				IAmb	IAmb	21 23 58.2	
	comp=Z,3.8nm,1.1s						
QSPA	**South Pole Qui**	**63.33**	**180**	P	**P**	**21 23 57.7**	**-0.3**
QSPA				IAmb	IAmb	21 24 07.4	
	comp=Z,4.3nm,1.3s						
TPNV	**Topopah Spring**	**63.56**	**357**	P	**P**	**21 23 59.6**	**-0.1**
TPNV				IAmb	IAmb	21 24 10.0	
	comp=Z,2.9nm,0.9s						
MTP	**Monte Pirata**	**63.72**	**51**	P	**P**	**21 24 00.6**	**-0.3**
MVCO	**Mesa Verde**	**63.82**	**3**	P	**P**	**21 24 01.5**	**-0.1**
MVCO				IAmb	IAmb	21 24 03.1	
	comp=Z,6.0nm,1.2s						
PKCU	**Pink Cliffs**	**63.95**	**0**	P	**P**	**21 24 02.5**	**+0.1**
PKCU				IAmb	IAmb	21 24 04.3	
	comp=Z,6.7nm,1.5s						
PRN	**Pahroc Range**	**63.96**	**358**	P	**P**	**21 24 02.4**	**0.0**
CCUT	**Cedar City**	**64.06**	**359**	P	**P**	**21 24 01.7**	**-1.4**
CCUT				IAmb	IAmb	21 24 04.9	
	comp=Z,2.9nm,1.0s						
NV11	**Mina Array Sit**	**65.16**	**355**	P	**P**	**21 24 09.2**	**-1.0**
NV11				IAmb	IAmb	21 24 11.1	
	comp=Z,3.5nm,0.9s						
NVAR	**Mina Array Bea**	**65.17**	**355**	P	**P**	**21 24 09.8**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=182,slow=9.4,SNR=15						
NVAR				LR	LR	21 46 24.3	
	comp=Z,51nm,18.0s,baz=176,slow=30						
NVAR	**Mina Array Bea**	**65.17**	**355**	P	**P**	**21 24 09.9**	**-0.4**
KVN	**Kaiserville**	**65.77**	**355**	P	**P**	**21 24 13.5**	**-0.6**
KVN				IAmb	IAmb	21 24 15.1	
	comp=Z,3.7nm,1.1s						
RDMU	**Red Mountain**	**67.12**	**2**	P	**P**	**21 24 22.3**	**-0.6**
ELK	**Elko**	**67.29**	**358**	P	**P**	**21 24 21.9**	**-2.0**
	comp=Z,0.9nm,0.7s,baz=221,slow=9.3,SNR=4.0						
ELK	**Elko**	**67.29**	**358**	IAmb	IAmb	21 24 24.3	
	comp=Z,0.8nm,0.7s						
WVOR	**Wild Horse Val**	**69.17**	**355**	P	**P**	**21 24 35.0**	**-0.6**
WVOR				IAmb	IAmb	21 24 36.5	
	comp=Z,4.0nm,1.1s						
PDAR	**Pinedale Array**	**69.31**	**2**	P	**P**	**21 24 33.9**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=152,slow=4.1,SNR=4.6						
PDAR	**Pinedale Array**	**69.31**	**2**	P	**P**	**21 24 34.7**	**-1.9**
HLID	**Hailey**	**70.08**	**358**	P	**P**	**21 24 40.5**	**-0.7**
I07A	**Izee**	**70.88**	**355**	P	**P**	**21 24 45.3**	**-0.7**
I07A				IAmb	IAmb	21 24 46.8	
	comp=Z,5.5nm,1.1s						
G08A	**Pilot Rock**	**72.04**	**355**	P	**P**	**21 24 52.4**	**-0.6**
G08A				IAmb	IAmb	21 24 53.9	
	comp=Z,5.4nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**90.44**	**290**	T	T	23 05 16.5	
	baz=119,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**90.46**	**290**	T	T	23 05 18.7	
	baz=119,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**90.46**	**290**	T	T	23 05 21.5	
	baz=119,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**90.85**	**292**	T	T	23 05 47.7	
	baz=120,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**90.86**	**292**	T	T	23 05 53.6	
	baz=120,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**90.87**	**292**	T	T	23 05 52.0	
	baz=120,slow=76,SNR=4.1						
ZALV	**Zalesovo Beam**	**150.09**	**339**	PKPbc	**PKPdf**	**21 33 16.4**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=27,slow=4.0,SNR=5.9						

*JMA **31** 21:18:37.5±0.1, 23°.19N×121°.59E, h0km, M2.8*
*TAP **31** 21:18:40.3,23°.22N×121°.43E, h26km, ML3.2, C*
ISC 31 21:18:40.3±0.8, 23°.22N±0°.01×121°.43E±0°.02, h27km±4km, n124, σ0s53/240, 16C-35D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.09**	**13**	⇑P	**Pb**	**21 18 44.8**	**-0.3**
	baz=12						
ECBN				S	**Sb**	**21 18 48.1**	**-0.3**
	baz=12						
FULB	**Fuli**	**0.13**	**258**	*e*P	**Pb**	**21 18 45.0**	**-0.4**
	baz=258						
FULB				*e*S	**Sb**	**21 18 48.9**	**0.0**
	baz=258						
CHKT	**Chengkung**	**0.14**	**205**	⇑P	**Pb**	**21 18 45.1**	**-0.3**
	baz=202						
CHKT				S	**Sb**	**21 18 48.6**	**-0.3**
	baz=202						
EYUL	**Yuli**	**0.16**	**321**	⇓P	**Pb**	**21 18 45.5**	**-0.1**
	baz=320						
EYUL				S	**Sb**	**21 18 49.8**	**+0.5**
	baz=320						
TWF1	**Yuli**	**0.18**	**316**	⇓P	**Pb**	**21 18 45.4**	**-0.5**
	baz=318						
TWF1				S	**Sb**	**21 18 49.3**	**-0.4**
	baz=318						
YULB	**Yu-li**	**0.21**	**324**	⇓P	**Pb**	**21 18 45.7**	**-0.6**
	baz=324						
YULB				S	**Sb**	**21 18 49.6**	**-0.7**
	baz=324						
ECS	**Chishang**	**0.23**	**236**	⇓P	**Pb**	**21 18 46.7**	**+0.2**
	baz=236						
ECS				S	**Sb**	**21 18 50.7**	**0.0**
	baz=236						
HGSD	**Ruisui**	**0.27**	**359**	⇑P	**Pb**	**21 18 46.3**	**-0.6**
	baz=358						
HGSD				*e*S	**Sb**	**21 18 51.6**	**+0.1**
	baz=358						
EDH	**Donghe**	**0.28**	**205**	⇑P	**Pb**	**21 18 46.9**	**-0.2**
	baz=204						
EDH				S	**Sb**	**21 18 52.1**	**+0.4**
	baz=204						
EHY	**Hungye**	**0.30**	**341**	⇑P	**Pb**	**21 18 46.8**	**-0.7**
	baz=341						
EHY				S	**Sb**	**21 18 52.3**	**0.0**
	baz=341						
ELDTW	**Lidau**	**0.38**	**265**	⇓P	**Pb**	**21 18 47.8**	**-0.9**
	baz=264						
ELDTW				*e*S	**Sb**	**21 18 52.9**	**-1.6**
	baz=264						
LONT	**Longtian**	**0.42**	**221**	⇑P	**Pb**	**21 18 49.0**	**-0.2**
	baz=221						
LONT				S	**Sb**	**21 18 55.8**	**+0.4**
	baz=221						
EGFH	**Guangfu**	**0.44**	**360**	⇓*e*P	**Pb**	**21 18 49.5**	**-0.2**
	baz=359						
EGFH				*e*S	**Sb**	**21 18 55.8**	**-0.2**
	baz=359						
TEGC	**Jichi Village**	**0.49**	**12**	⇓*e*P	**Pb**	**21 18 50.1**	**-0.4**
	baz=12						
TEGC				*e*S	**Sb**	**21 18 58.3**	**+0.9**
	baz=12						
TWGBT	**Beinan**	**0.52**	**219**	⇑P	**Pb**	**21 18 50.0**	**-0.9**
	baz=218						
TWGBT				S	**Sb**	**21 18 58.0**	**-0.1**
	baz=218						
TWG	**Pinlang**	**0.52**	**219**	⇑P	**Pb**	**21 18 50.0**	**-0.9**
	baz=218						
TWG				S	**Sb**	**21 18 57.9**	**-0.1**
	baz=218						
TTN	**Taitung**	**0.54**	**209**	⇓*e*P	**Pn**	**21 18 51.9**	**-0.2**
	baz=208						
TTN				*e*S	**Sb**	**21 18 58.7**	**+0.2**
	baz=208						
LDUT	**Ludao**	**0.55**	**176**	⇓*e*P	**Pb**	**21 18 51.2**	**-0.2**
	baz=176						
LDUT				*e*S	**Sb**	**21 18 59.0**	**+0.1**
	baz=176						
ESL	**Shilin**	**0.59**	**0**	⇑*e*P	**Pn**	**21 18 52.8**	**-0.2**
	baz=1.0						
ESL				*e*S	**Sb**	**21 19 00.4**	**+0.4**
	baz=1.0						
STYH	**Taoyuan**	**0.60**	**265**	⇓P	**Pb**	**21 18 51.9**	**-0.4**
	baz=264						
STYH				S	**Sb**	**21 18 59.7**	**-0.7**
	baz=264						
STYT	**Tauyuan**	**0.62**	**264**	⇓P	**Pb**	**21 18 52.0**	**-0.6**
	baz=264						
STYT				S	**Sb**	**21 19 00.2**	**-0.8**
	baz=264						
ALS	**Alishan**	**0.64**	**297**	⇓P	**Pb**	**21 18 52.9**	**-0.2**
	baz=296						
ALS				S	**Sb**	**21 19 01.6**	**-0.2**
	baz=296						
TEYL	**Yanliau Villag**	**0.66**	**14**	*e*P	**Pn**	**21 18 53.8**	**-0.1**
	baz=13						
TEYL				*e*S	**Sn**	**21 19 03.2**	**-0.2**
	baz=13						
WHYT	**Xinyi Township**	**0.71**	**312**	⇓*e*P	**Pb**	**21 18 53.9**	**-0.2**
	baz=311						
WHYT				*e*S	**Sb**	**21 19 03.4**	**-0.1**
	baz=311						
SSLB	**Suanglung**	**0.71**	**322**	⇑P	**Pb**	**21 18 53.3**	**-0.8**
	baz=322						
SSLB				*e*S	**Sb**	**21 19 02.3**	**-1.3**
	baz=322						
TPUB	**Ta-pu**	**0.74**	**276**	⇓*e*P	**Pb**	**21 18 54.6**	**0.0**
	baz=275						
TPUB				*e*S	**Sb**	**21 19 04.3**	**0.0**
	baz=275						
ETM	**Tongmen**	**0.74**	**5**	*e*P	**Pb**	**21 18 53.9**	**-0.7**
	baz=4.0						
ETM				*e*S	**Sb**	**21 19 04.6**	**+0.3**
	baz=4.0						
WTP	**Ta-pu**	**0.75**	**272**	⇓*e*P	**Pb**	**21 18 54.8**	**+0.1**
	baz=271						
WTP				*e*S	**Sn**	**21 19 05.3**	**-0.4**
	baz=271						
SLGT	**Liugui**	**0.76**	**252**	⇓*e*P	**Pb**	**21 18 54.9**	**0.0**
	baz=252						
SLGT				*e*S	**Sb**	**21 19 04.6**	**-0.2**
	baz=252						
ECL	**Taimali**	**0.76**	**215**	⇑*e*P	**Pb**	**21 18 53.6**	**-1.3**
	baz=214						
ECL				*e*S	**Sb**	**21 19 05.0**	**+0.1**
	baz=214						
OWD	**Renai**	**0.76**	**342**	*e*P	**Pb**	**21 18 54.2**	**-0.9**
	baz=342						
OWD				*e*S	**Sb**	**21 19 04.5**	**-0.6**
	baz=342						
HWA	**Hwalien**	**0.77**	**12**	*e*P	**Pb**	**21 18 54.7**	**-0.3**
	baz=12						
HWA				*e*S	**Sb**	**21 19 05.1**	**0.0**
	baz=12						
CHN5	**Tsauling**	**0.78**	**298**	⇓*e*P	**Pn**	**21 18 55.5**	**-0.1**
	baz=298						
CHN5				*e*S	**Sb**	**21 19 05.8**	**+0.1**
	baz=298						
SMLT	**Sun Moon Lake**	**0.82**	**324**	⇓*e*P	**Pb**	**21 18 55.5**	**-0.4**
	baz=323						
SMLT				*e*S	**Sb**	**21 19 06.1**	**-0.5**
	baz=323						
CHN1	**Nanshi**	**0.83**	**267**	⇓*e*P	**Pn**	**21 18 56.5**	**+0.2**
	baz=267						
CHN1				*e*S	**Sb**	**21 19 06.8**	**-0.1**
	baz=267						
TYC	**Yuchr**	**0.86**	**322**	⇓*e*P	**Pb**	**21 18 56.2**	**-0.3**
	baz=322						
TYC				*e*S	**Sb**	**21 19 07.2**	**-0.4**
	baz=322						
CHGB	**Renai**	**0.86**	**344**	⇑*e*P	**Pb**	**21 18 55.9**	**-0.9**
	baz=344						
CHGB				*e*S	**Sb**	**21 19 07.9**	**-0.2**
	baz=344						
TWK	**Hsinying**	**0.87**	**273**	⇓*e*P	**Pn**	**21 18 56.9**	**+0.1**
	baz=272						
TWK				*e*S	**Sb**	**21 19 07.6**	**-0.4**
	baz=272						
SSD	**Sandimen**	**0.88**	**237**	⇑*e*P	**Pn**	**21 18 56.2**	**-0.7**
	baz=236						
SSD				*e*S	**Sb**	**21 19 07.6**	**-0.6**
	baz=236						
WJS	**Zhushan**	**0.88**	**313**	⇓*e*P	**Pn**	**21 18 56.4**	**-0.5**
	baz=312						
WJS				*e*S	**Sb**	**21 19 08.4**	**+0.2**
	baz=312						
TSMG	**Majia**	**0.89**	**235**	⇓*e*P	**Pn**	**21 18 56.5**	**-0.5**
	baz=234						
TSMG				*e*S	**Sb**	**21 19 08.6**	**0.0**
	baz=234						
WPL	**Puli Township**	**0.90**	**331**	⇑*e*P	**Pn**	**21 18 56.7**	**-0.4**
	baz=330						
WPL				*e*S	**Sn**	**21 19 09.1**	**-0.2**
	baz=330						
WGK	**Gukeng**	**0.92**	**300**	⇓*e*P	**Pn**	**21 18 57.0**	**-0.5**
	baz=300						
WGK				*e*S	**Sb**	**21 19 09.4**	**0.0**
	baz=300						
SCST	**Cishan**	**0.93**	**249**	*e*P	**Pn**	**21 18 57.2**	**-0.3**
	baz=248						
SCST				*e*S	**Sb**	**21 19 09.7**	**+0.1**
	baz=248						
CHN2	**Minshiung**	**0.93**	**289**	*e*P	**Pn**	**21 18 57.4**	**-0.2**
	baz=289						
CHN2				*e*S	**Sb**	**21 19 09.8**	**+0.1**
	baz=289						
WHF	**Hehuan Shan**	**0.93**	**351**	⇓*e*P	**Pn**	**21 18 57.2**	**-0.8**
	baz=351						
WHF				*e*S	**Sb**	**21 19 09.6**	**-0.6**
	baz=351						
WDLH	**Douliu**	**0.94**	**300**	*e*P	**Pn**	**21 18 57.4**	**-0.3**
	baz=299						
WDLH				*e*S	**Sb**	**21 19 09.9**	**-0.1**
	baz=299						
WNT	**Mingjian**	**0.94**	**314**	*e*P	**Pn**	**21 18 57.8**	**0.0**
	baz=313						
WNT				*e*S	**Sb**	**21 19 09.7**	**-0.5**
	baz=313						
ETL	**Fush Village**	**0.95**	**11**	*e*P	**Pn**	**21 18 57.6**	**-0.3**
	baz=10.0						
ETL				*e*S	**Sb**	**21 19 10.1**	**-0.2**
	baz=10.0						
MASBT	**Mashibuluo**	**0.95**	**230**	⇓*e*P	**Pn**	**21 18 57.1**	**-0.8**
	baz=230						
MASBT				*e*S	**Sb**	**21 19 10.2**	**-0.2**
	baz=230						
WCS	**Beigang Elemen**	**0.95**	**330**	⇓*e*P	**Pn**	**21 18 57.9**	**-0.1**
	baz=330						
WCS				*e*S	**Sb**	**21 19 10.5**	**0.0**
	baz=330						
NACB	**Ninganchiao**	**0.96**	**9**	⇓*e*P	**Pn**	**21 18 56.6**	**-1.4**
	baz=9.0						
NACB				*e*S	**Sb**	**21 19 10.4**	**-0.1**
	baz=9.0						
CHY	**Chiayi**	**0.96**	**287**	*e*P	**Pn**	**21 18 57.7**	**-0.4**
	baz=286						
CHY				*e*S	**Sb**	**21 19 10.3**	**-0.3**
	baz=286						
WNT1	**Nantou City**	**0.97**	**315**	*e*P	**Pn**	**21 18 57.9**	**-0.2**
	baz=314						
WNT1				*e*S	**Sb**	**21 19 10.8**	**0.0**
	baz=314						
ETLH	**Xiulin Townshi**	**0.98**	**3**	*e*P	**Pn**	**21 18 57.9**	**-0.5**
	baz=2.0						
ETLH				*e*S	**Sb**	**21 19 11.1**	**-0.1**
	baz=2.0						
CHN3	**Shinhua**	**0.99**	**262**	*e*P	**Pn**	**21 18 58.3**	**-0.1**
	baz=261						
CHN3				*e*S	**Sn**	**21 19 11.6**	**+0.1**
	baz=261						
TAW	**Tawu**	**0.99**	**210**	*e*P	**Pn**	**21 18 57.6**	**-0.9**
	baz=209						
TAW				*e*S	**Sn**	**21 19 11.6**	**0.0**
	baz=209						
EAST	**Anshuo**	**0.99**	**213**	*e*P	**Pn**	**21 18 57.3**	**-1.2**
	baz=212						
EAST				*e*S	**Sb**	**21 19 11.4**	**-0.2**
	baz=212						
TSPT	**Pingtung City**	**1.02**	**238**	*e*P	**Pn**	**21 18 58.9**	**+0.1**
	baz=237						
TSPT				*e*S	**Sb**	**21 19 12.5**	**+0.3**
	baz=237						
FUSS	**Fushou**	**1.03**	**351**	*e*P	**Pn**	**21 18 58.8**	**-0.5**
	baz=350						
FUSS				*e*S	**Sb**	**21 19 12.3**	**-0.6**
	baz=350						
TWT	**Tachien**	**1.05**	**347**	*e*S	**Sn**	**21 19 12.8**	**-0.5**
	baz=346						
TDCB	**Techi**	**1.05**	**346**	⇓*e*P	**Pn**	**21 18 59.3**	**-0.2**
	baz=346						
TDCB				*e*S	**Sn**	**21 19 13.1**	**-0.3**
	baz=346						
WWF	**Wufeng**	**1.05**	**321**	⇓*e*P	**Pn**	**21 18 59.3**	**0.0**
	baz=320						
WWF				*e*S	**Sn**	**21 19 13.2**	**0.0**
	baz=320						
WTK	**Tuku**	**1.06**	**296**	*e*P	**Pn**	**21 18 58.8**	**-0.6**
	baz=295						
WTK				*e*S	**Sb**	**21 19 13.6**	**+0.2**
	baz=295						
ICHU	**Yijhu**	**1.07**	**278**	*e*P	**Pn**	**21 18 59.5**	**0.0**
	baz=277						
ICHU				*e*S	**Sn**	**21 19 13.4**	**-0.1**
	baz=277						
WYL	**Yuanlin Townsh**	**1.07**	**313**	*e*P	**Pb**	**21 19 00.0**	**-0.1**
	baz=312						
WYL				*e*S	**Sb**	**21 19 13.7**	**-0.1**
	baz=312						
SSPT	**Xinbi**	**1.08**	**227**	*e*P	**Pn**	**21 18 59.7**	**0.0**
	baz=227						
SSPT				*e*S	**Sb**	**21 19 14.1**	**-0.1**
	baz=227						
SNJT	**Kaohsiung City**	**1.11**	**245**	*e*P	**Pn**	**21 19 00.1**	**0.0**
	baz=245						
SNJT				*e*S	**Sn**	**21 19 14.5**	**0.0**
	baz=245						
SCZT	**Fangliau**	**1.13**	**222**	*e*P	**Pn**	**21 19 00.2**	**-0.2**
	baz=221						
SCZT				*e*S	**Sn**	**21 19 14.7**	**-0.3**
	baz=221						
WHP	**Taichung City**	**1.14**	**337**	*e*P	**Pn**	**21 19 00.5**	**-0.1**
	baz=337						
WHP				*e*S	**Sn**	**21 19 15.5**	**+0.1**
	baz=337						
WCHH	**Zhanghua**	**1.17**	**317**	*e*P	**Pn**	**21 19 01.0**	**+0.1**
	baz=316						
WCHH				*e*S	**Sn**	**21 19 16.3**	**+0.3**
	baz=316						
WRL	**Guolierlin Hig**	**1.18**	**305**	*e*P	**Pn**	**21 19 00.8**	**-0.2**
	baz=304						
WRL				*e*S	**Sn**	**21 19 16.3**	**+0.1**
	baz=304						
WSF	**Szhu**	**1.18**	**291**	*e*P	**Pn**	**21 19 01.0**	**-0.1**
	baz=290						
WSF				*e*S	**Sn**	**21 19 16.2**	**-0.1**
	baz=290						
LAY	**Lan-yu**	**1.19**

WLCH	**Liuqiu**	**1.30 228**	⫼eP		**Pn**	**21 19 03.3 +0.6**
	baz=228					
WLCH			eS		**Sn**	**21 19 19.7 +0.4**
	baz=228					
TWP	**Hsiaoliuchiu**	**1.32 229**	eP		**Pn**	**21 19 03.0 +0.1**
	baz=228					
TWP			eS		**Sn**	**21 19 19.9 +0.3**
	baz=228					
WDJ	**Dajia District**	**1.33 327**	eS		**Sn**	**21 19 20.5 +0.5**
	baz=327					
NSY	**Sanyi**	**1.33 333**	⫼eP		**Pn**	**21 19 03.1 -0.1**
	baz=332					
NSY			eS		**Sn**	**21 19 19.9 -0.2**
	baz=332					
HEN	**Hengchun**	**1.37 208**	eP		**Pn**	**21 19 04.1 +0.4**
	baz=207					
HEN			eS		**Sn**	**21 19 21.2 +0.2**
	baz=207					
NDT	**Datong Townshi**	**1.37 3**	eP		**Pn**	**21 19 03.8 0.0**
	baz=3.0					
NDT			eS		**Sn**	**21 19 20.8 -0.3**
	baz=3.0					
TWK1	**Hengchun**	**1.40 204**	eP		**Pn**	**21 19 03.8 -0.3**
	baz=203					
TWK1			eS		**Sn**	**21 19 21.6 -0.1**
	baz=203					
TWKBT	**Hengchun**	**1.40 204**	eP		**Pn**	**21 19 04.3 +0.3**
	baz=204					
TWKBT			eS		**Sn**	**21 19 21.6 0.0**
	baz=204					
TSEB	**Hengchuen, Pin**	**1.41 200**	eP		**Pn**	**21 19 04.7 +0.5**
	baz=201					
TSEB			eS		**Sn**	**21 19 22.2 +0.4**
	baz=201					
ENTT	**Nioudou**	**1.42 5**	eP		**Pn**	**21 19 04.7 +0.3**
	baz=5.0					
ENTT			eS		**Sn**	**21 19 21.8 -0.3**
	baz=5.0					
NDS	**Dongshan**	**1.43 11**	eP		**Pn**	**21 19 04.7 +0.2**
	baz=10.0					
NDS			eS		**Sn**	**21 19 22.6 +0.2**
	baz=10.0					
TWC	**Suao**	**1.43 15**	eP		**Pn**	**21 19 04.8 +0.3**
	baz=15					
TWC			eS		**Sn**	**21 19 22.7 +0.2**
	baz=15					
NMLH	**Miaoli**	**1.43 336**	eP		**Pn**	**21 19 04.8 +0.3**
	baz=335					
NMLH			eS		**Sn**	**21 19 22.1 -0.4**
	baz=335					
YHNB	**Yeheng**	**1.44 358**	eS		**Sn**	**21 19 22.8 -0.1**
	baz=358					
NSK	**Sanguang**	**1.45 357**	eP		**Pn**	**21 19 04.7 -0.1**
	baz=357					
NSK			eS		**Sn**	**21 19 22.9 -0.1**
	baz=357					
NSTT	**Nanjuang**	**1.45 344**	eP		**Pn**	**21 19 05.0 +0.2**
	baz=344					
NSTT			eS		**Sn**	**21 19 23.2 +0.2**
	baz=344					
LIOB	**Emei**	**1.47 345**	eP		**Pn**	**21 19 04.9 -0.1**
	baz=345					
LIOB			eS		**Sn**	**21 19 23.5 +0.2**
	baz=345					
TWE	**Neicheng**	**1.51 8**	eP		**Pn**	**21 19 06.0 +0.4**
	baz=8.0					
TWE			eS		**Sn**	**21 19 24.4 0.0**
	baz=8.0					
NWLT	**Wulai**	**1.55 2**	eP		**Pn**	**21 19 06.2 +0.1**
	baz=2.0					
NWLT			eS		**Sn**	**21 19 25.6 +0.2**
	baz=2.0					
WDGT	**Dungji**	**1.63 272**	eP		**Pn**	**21 19 07.5 +0.3**
	baz=271					
WDGT			eS		**Sn**	**21 19 27.1 -0.2**
	baz=271					
PHUB	**P'eng-hu**	**1.73 280**	eP		**Pn**	**21 19 08.8 +0.2**
	baz=279					
PHUB			eS		**Sn**	**21 19 29.6 -0.2**
	baz=279					
PNG	**Penghu**	**1.75 282**	eP		**Pn**	**21 19 09.1 +0.1**
	baz=281					
PNG			eS		**Sn**	**21 19 30.4 0.0**
	baz=281					
TIPB	**Shuangxi**	**1.78 12**	eP		**Pn**	**21 19 09.6 +0.2**
	baz=11					
TIPB			eS		**Sn**	**21 19 31.0 -0.1**
	baz=11					
VCHM	**Qimei**	**1.84 270**	eP		**Pn**	**21 19 10.7 +0.5**
	baz=269					
VCHM			eS		**Sn**	**21 19 32.6 +0.1**
	baz=269					
JYNG	**Yonagunijimaku**	**1.85 48**	P		**Pn**	**21 19 10.6 +0.3**
JYNG			S		**Sn**	**21 19 33.4 +0.6**
NWF	**Wu-fen Shan**	**1.87 10**	eS		**Sn**	**21 19 33.3 -0.1**
	baz=9.0					
WFSB	**Wu-fen Shan**	**1.87 10**	eS		**Sn**	**21 19 33.3 +0.1**
	baz=9.0					
TWS1	**Kuangyinshan**	**1.87 360**	eP		**Pn**	**21 19 10.9 +0.3**
	baz=359					
TWS1			eS		**Sn**	**21 19 33.7 +0.4**
	baz=359					
YOJ	**Yonaguni jima**	**1.90 49**	P		**Pn**	**21 19 11.4 +0.4**
YOJ			eS		**Sn**	**21 19 34.8 +0.7**
HATJ	**Hateruma jima**	**2.33 69**	P		**Pn**	**21 19 16.7 -0.2**
HATJ			eS		**Sn**	**21 19 44.6 -0.1**
IRIF	**Iriomote-Funau**	**2.38 62**	P		**Pn**	**21 19 18.1 +0.5**
IRIF			eS		**Sn**	**21 19 47.1 +1.2**
VWUC	**VWUC**	**2.52 315**	eP		**Pn**	**21 19 20.1 +0.5**
	baz=314					
VWUC			eS		**Sn**	**21 19 49.4 -0.1**
	baz=314					
JKRS	**Kuro-shima**	**2.57 66**	P		**Pn**	**21 19 20.2 0.0**
JKRS			S		**Sn**	**21 19 51.0 +0.4**
JIJ	**Ishigaki jima**	**2.73 65**	P		**Pn**	**21 19 22.4 0.0**
JIJ			eS		**Sn**	**21 19 53.3 -1.3**
PTMZ	**Houxiangcun**	**2.78 311**	eP		**Pn**	**21 19 23.7 +0.7**
	baz=310					
PTMZ			eS		**Sn**	**21 19 55.8 +0.1**
	baz=310					
JISG	**Ishigakijimahi**	**2.97 62**	P		**Pn**	**21 19 25.5 -0.1**
JISG			eS		**Sn**	**21 19 59.5 -0.8**
KNM	**Kinmen**	**2.99 294**	eP		**Pn**	**21 19 28.3 +2.4**
	baz=292					
KNM			eS		**Sn**	**21 20 03.6 +2.7**
	baz=292					
KNMB	**Chin-men Tao**	**3.04 295**	eP		**Pn**	**21 19 27.7 +1.0**
	baz=293					
KNMB			eS		**Sn**	**21 20 01.8 -0.5**
	baz=293					
MATB	**Ma-tsu**	**3.21 335**	eP		**Pn**	**21 19 30.2 +1.2**
	baz=334					
MATB			eS		**Sn**	**21 20 06.5 +0.1**
	baz=334					
MSUT	**Lienchiang**	**3.24 335**	eP		**Pn**	**21 19 30.5 +1.1**
	baz=334					
MSUT			eS		**Sn**	**21 20 07.5 +0.5**
	baz=334					
JTJ	**Tarama**	**3.31 64**	P		**Pn**	**21 19 30.7 +0.3**
JTJ			eS		**Sn**	**21 20 08.8 0.0**
ZPLA	**Ao Xicun**	**3.45 282**⫛	eP		**Pn**	**21 19 33.5 +1.2**
	baz=281					
AXDP	**Jialang**	**3.58 299**	⫼eP		**Pn**	**21 19 35.4 +1.4**
	baz=297					
MHZQ	**Yeshan**	**3.60 323**	eP		**Pn**	**21 19 36.1 +1.8**
	baz=322					
JIRB	**Irabujima**	**3.78 64**	P		**Pn**	**21 19 36.6 -0.2**
JIRB			eS		**Sn**	**21 20 20.0 -0.4**
JMJ2	**Miyako jima3**	**3.87 66**	P		**Pn**	**21 19 38.5 +0.4**
JMJ2			eS		**Sn**	**21 20 24.0 +1.3**

DJA 31 22:00:43.3±0.3,8°S±2°×11°8E±°,h10km,M3.7/11,mb3.9/1, MLv3.6/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.84**	**208**	P	Pg	22 00 59.3	-0.3
PLAI				S	Sb	22 01 11.3	-0.2
TWSI	**Taliwang, Sumb**	**1.44**	**243**	P	Pn	22 01 09.6	+0.1
TWSI				S	Sb	22 01 29.2	+0.5
WBSI	**Waikabubak, Su**	**1.96**	**142**	P	Pn	22 01 16.8	+0.1
WBSI				S	Sn	22 01 42.3	+0.9
KLNI	**Mataram**	**2.09**	**261**	P	Pn	22 01 18.6	+0.2
KLNI				S	Sn	22 01 45.4	+0.8
SRBI	**Singaraja**	**2.94**	**270**	P	Pn	22 01 29.0	-1.1
BSSI	**Bau Bau, Buton**	**2.99**	**50**	P	Pn	22 01 30.5	-0.4
BKSI	**Bulukumba**	**3.35**	**35**	P	Pn	22 01 35.7	-0.1
KAPI	**Kappang**	**3.42**	**27**	P	Pn	22 01 36.7	-0.1
EDFI	**Ende, Flores**	**3.54**	**101**	P	Pn	22 01 38.5	+0.1
BYJI	**Banyuwangi**	**3.79**	**268**	P	Pn	22 01 41.7	-0.1
JAGI	**Jajag, Banyuwa**	**4.00**	**264**	P	Pn	22 01 44.1	-0.7
BNSI	**Bone**	**4.13**	**28**	P	Pn	22 01 46.7	+0.3
TTSI	**Tana Toraja**	**5.26**	**18**	P	Pn	22 02 02.3	+0.2

MOS ***31*** *22:26:05.1±1.0,8°.12S×118°.34E,h16km,mb5.1/19, MS4.2/4,Error ellipse: s-maj=11.3km s-min=6.0km az=102.4*

IDC ***31*** *22:26:06.9±4.1,8°.18S×118°.05E,h19km±26km,mb4.6/18, mb1 4.7/23,mb1mx4.5/38,mbtmp4.7/23,ML4.5/5,MS4.2/27, Ms1 4.2/27,ms1mx4.0/43,Error ellipse: s-maj=17.6km s-min=10.9km az=76.0*

NEIC ***31*** *22:26:07.3±1.5,8°.17S±0°.05×118°.30E±0°.04,h10km±3km, mb5.1/95,Error ellipse: s-maj=9.0km s-min=1.8km az=213.0*

DJA ***31*** *22:26:07.1±0.1,8°S±1°×11°8E±°,h10km,M5.0/49, mB5.5/24,mb5.2/49,MLv5.4/28,Mw(mB)4.9/24, MwMwp4.7/6,Mwp5.1/6*

BJI ***31*** *22:26:07.0±0.0,8°.20S×118°.30E,h20km,mB5.1/55, mb4.8/68,Ms4.7/64,Ms7 4.3/60*

KLM ***31*** *22:26:08,8°.40S×118°.11E,h10km,mb5.1*

GCMT ***31*** *22:26:08.3±0.2,8°.03S±0°.01×118°.16E±0°.02,h21km, MW5.0/94,Moment Tensor Solution. s59,c80; s94,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.39±.15; $M_{\theta\theta}$-3.47±.10; $M_{\phi\phi}$1.08±.11; $M_{r\theta}$-3.28±.22; $M_{\theta\phi}$-0.04±.07; $M_{\phi r}$-1.42±.24; Best double couple: $M_0$4.68300×10^{16} NP1:ϕ_s116.00000°,δ25.00000°,λ133.00000°. NP2: ϕ_s249.00000°,δ72.00000°,λ72.00000°. Principal axes: T 4.3630, Plg59.0000°, Azm134.0000°; N 0.6400, Plg17.0000°, Azm255.0000°; P -5.0030, Plg25.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 22:26:06.3±0.2,8°.18S±0°.03×118°.29E±0°.03,h10km,n349, σ1$78/362,mb5.0/110,MS4.2/44,16C-8D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBNI	**Kabupaten Domp**	**0.32**	**177**	P	Pb	**22 26 14.7**	**+0.5**
PLAI	**Plampang**	**0.82**	**218**	P	Pg	**22 26 22.3**	**+0.1**
PLAI				S	Sg	**22 26 34.6**	**+1.6**
TWSI	**Taliwang, Sumb**	**1.50**	**248**	P	Pn	**22 26 32.6**	**-0.7**
WBSI	**Waikabubak, Su**	**1.82**	**143**	P	Pn	**22 26 39.5**	**+1.8**
WBSI				S	Sg	**22 27 05.6**	**+0.8**
KLNI	**Mataram**	**2.19**	**263**	P	Pn	**22 26 42.6**	**-0.2**
KLNI				S	Sn	**22 27 10.4**	**+0.4**
BSSI	**Bau Bau, Buton**	**2.97**	**47**	P	Pn	**22 26 53.8**	**+0.2**
SRBI	**Singaraja**	**3.05**	**271**	P	Pn	**22 26 53.1**	**-1.5**
DNP	**Denpasar**	**3.09**	**261**	P	Pn	**22 26 55.8**	**+0.6**
MKS	**Makassar**	**3.16**	**22**	P	Pn	**22 26 56.6**	**+0.4**
BKSI	**Bulukumba**	**3.37**	**33**	P	Pn	**22 26 59.3**	**+0.3**
EDFI	**Ende, Flores**	**3.41**	**100**	P	Pn	**22 27 01.6**	**+1.9**
KAPI	**Kappang**	**3.46**	**25**	Pn	Pn	**22 26 59.9**	**-0.4**
	34nm,0.3s,baz=217,slow=7.4,SNR=200						
KAPI				Sn	**Sn**	**22 27 40.1**	**-1.2**
	111nm,0.3s,baz=324,slow=22,SNR=16						
KAPI				LR	LR	22 28 35.6	
	comp=Z,5μm,19.2s,baz=224,slow=42						
KAPI	**Kappang**	**3.46**	**25**	Pn	Pn	**22 26 59.5**	**-0.7**
KAPI	**Kappang**	**3.46**	**25**	P	Pn	**22 27 00.6**	**+0.3**
BYJI	**Banyuwangi**	**3.90**	**269**	P	Pn	**22 27 06.0**	**-0.3**
MMRI	**Maumere**	**3.93**	**97**	Pn	Pn	**22 27 07.4**	**+0.6**
MMRI	**Maumere**	**3.93**	**97**	P	Pn	**22 27 07.7**	**+0.9**
ABJI	**Asem Bagus**	**4.04**	**275**	P	Pn	**22 27 08.0**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.11**	**266**	Pn	Pn	**22 27 07.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**4.11**	**266**	P	Pn	**22 27 07.8**	**-1.4**
BNSI	**Bone**	**4.16**	**26**	P	Pn	**22 27 10.9**	**+1.0**
KMMI	**Kalianget**	**4.43**	**284**	P	Pn	**22 27 13.2**	**-0.4**
PMSI	**Majene**	**4.69**	**8**	P	Pn	**22 27 17.4**	**+0.2**
KKSI	**Kolaka, Sulawe**	**5.19**	**40**	P	Pn	**22 27 25.1**	**+1.0**
	1.7nm5μm516nm,0.7s						
KBKI	**Kotabaru**	**5.29**	**336**	P	Pn	**22 27 24.9**	**-0.5**
	4.3nm7μm599nm,1.0s						
TTSI	**Tana Toraja**	**5.32**	**17**	P	Pn	**22 27 26.4**	**+0.5**
	2.9nm8μm706nm,1.2s						
BATI	**Baumata**	**5.67**	**111**	Pn	Pn	**22 27 33.7**	**+2.9**
	44nm,0.3s,baz=258,slow=6.5,SNR=17						
BATI				Sn	**Sn**	**22 28 38.8**	**+2.7**
	baz=293,slow=12,SNR=1.5						
BATI				LR	LR	22 30 05.7	
	comp=Z,4μm,21.9s,baz=344,slow=40						
BATI	**Baumata**	**5.67**	**111**	P	Pn	**22 27 32.4**	**+1.6**
	0.9nm2μm2μm201nm,0.7s						
KRKI	**Karangkates**	**5.78**	**270**	P	Pn	**22 27 32.2**	**0.0**
	5.3nm16μm745nm,0.6s						
BBKI	**Banjar Baru**	**5.81**	**324**	P	Pn	**22 27 32.2**	**-0.4**
	3.1nm7μm333nm,1.2s						
SOEI	**Soe**	**6.11**	**105**	Pn	Pn	**22 27 37.5**	**+0.7**
SOEI	**Soe**	**6.11**	**105**	P	Pn	**22 27 38.7**	**+1.9**
	2.1nm4μm7μm395nm,0.8s						
PWJI	**Pagerwojo**	**6.43**	**271**	P	Pn	**22 27 41.3**	**+0.2**
	1.5nm2μm258nm,0.8s						
SJI	**Sawahan**	**6.48**	**273**	P	Pn	**22 27 41.4**	**-0.5**
	1.5nm8μm176nm,0.7s						
TBJI	**Tambak Boyo**	**6.53**	**281**	P	Pn	**22 27 42.1**	**-0.4**
	1.5nm4μm288nm,1.0s						
BKB	**Balikpapan**	**7.01**	**348**	Pn	Pn	**22 27 51.9**	**+2.8**
BKB	**Balikpapan**	**7.01**	**348**	P	Pn	**22 27 51.1**	**+2.0**
	3.2nm5μm245nm,0.7s						
PCJI	**Pacitan**	**7.04**	**269**	P	Pn	**22 27 49.2**	**-0.4**
	1.5nm174nm,1.0s						
PKKI	**Palangkaraya**	**7.30**	**324**	P	Pn	**22 27 52.6**	**-0.5**
	2.2nm6μm396nm,0.7s						
UGM	**Wanagama**	**7.70**	**271**	Pn	Pn	**22 27 59.0**	**+0.4**
UGM	**Wanagama**	**7.70**	**271**	P	Pn	**22 27 58.4**	**-0.2**
	2.4nm303nm,1.1s						
SMRI	**Semarang**	**7.86**	**278**	Pn	Pn	**22 28 02.6**	**+1.7**
SMRI	**Semarang**	**7.86**	**278**	P	Pn	**22 28 00.9**	**0.0**
	1.5nm214nm,0.8s						
YOGI	**Yogyakarta**	**7.93**	**272**	P	Pn	**22 28 01.6**	**-0.1**
	1.3nm141nm,0.9s						
MTKI	**Muara Teweh, K**	**7.94**	**335**	P	Pn	**22 28 00.9**	**-1.0**
	0.9nm58nm,0.8s						
APSI	**Ampana**	**7.95**	**25**	P	Pn	**22 28 03.0**	**+0.9**
	0.5nm2μm1μm94nm,0.8s						
PBKI	**Pangkalan Bun**	**8.54**	**309**	P	Pn	**22 28 08.9**	**-1.3**
	3μm128nm,1.1s						
MPSI	**Mapaga**	**8.61**	**11**	P	Pn	**22 28 09.2**	**-1.8**
	3μm45nm,1.4s						
CTJI	**Waduk Cacaban**	**9.10**	**277**	P	Pn	**22 28 16.0**	**-1.9**
	1μm79nm,1.3s						
KPJI	**Karang Pucung**	**9.31**	**275**	P	Pn	**22 28 20.7**	**-0.1**
	94nm,0.7s						
MRSI	**Marisa**	**9.33**	**23**	P	Pn	22 28 33.8	+13
TOLI2	**Tolitoli**	**9.55**	**15**	Pn	Pn	**22 28 24.5**	**+0.5**
NLAI	**Namlea**	**10.04**	**61**	P	Pn	22 28 44.8	+14
STKI	**Sintang**	**10.64**	**320**	P	Pn	**22 28 37.7**	**-1.2**
	3μm44nm,0.9s						
LEM	**Lembang**	**10.67**	**277**	Pn	Pn	**22 28 36.6**	**-2.9**
	2.5nm,0.3s,baz=135,slow=23,SNR=1.3						
LEM				LR	LR	22 34 00.4	
	comp=Z,3μm,18.7s,baz=97,slow=45						
CBJI	**Citeko**	**11.48**	**278**	P	Pn	**22 28 48.9**	**-1.6**
	168nm,0.9s						
DBJI	**Dramaga**	**11.56**	**277**	P	Pn	**22 28 52.0**	**+0.4**
	166nm,1.2s						
BNDI	**Bandanaira**	**12.10**	**73**	P	Pn	22 29 16.0	+17
KNRA	**Kununurra**	**12.66**	**127**	P	Pn	**22 29 06.8**	**+0.2**
	baz=13,SNR=22						
KNRA	**Kununurra**	**12.66**	**127**	Pn	Pn	**22 29 06.8**	**+0.2**
SAUI	**Saumlaki**	**12.88**	**90**	Pn	Pn	**22 29 10.1**	**+0.5**
SPMM	**Sapulut**	**12.93**	**352**	P	Pn	22 29 16.0	+5.7
PSA00	**Pilbara Seismi**	**13.40**	**174**	Pn	Pn	**22 29 16.0**	**-0.7**
PSA00	**Pilbara Seismi**	**13.40**	**174**		Pn	**22 29 15.6**	**-1.1**
MTN	**Manton Dam**	**13.45**	**111**	P	Pn	**22 29 16.3**	**-1.1**
	baz=14,SNR=14						
MTN				S	**Sn**	**22 31 42.2**	**-4.8**
	baz=14						
MTN	**Manton Dam**	**13.45**	**111**	Pn	Pn	**22 29 16.2**	**-1.1**
PPBI	**Pangkal Pinang**	**13.50**	**296**	P	P	**22 29 31.6**	**+4.3**
KASI	**Kota Agung**	**13.95**	**280**	P	Pn	**22 29 25.4**	**+1.2**
	128nm,1.2s						
LWLI	**Liwa**	**14.48**	**282**	P	P	22 29 44.5	+6.1
MDSI	**Maura Dua**	**14.50**	**284**	P	Pn	**22 29 33.2**	**+1.5**
	29nm,1.1s						
KDU	**Kakadu**	**14.65**	**109**	P	Pn	**22 29 32.4**	**-1.4**
	baz=15,SNR=5.5						
SWI	**Sorong**	**14.82**	**61**	P	P	**22 29 45.4**	**+3.3**
SIJI	**Sorong**	**14.82**	**61**	Pn	Pn	**22 29 36.5**	**+0.3**
	0.7nm,0.3s,baz=177,slow=19,SNR=2.3						
SIJI				Sn	**Sn**	**22 32 17.5**	**-3.1**
	1.8nm,0.3s,baz=122,slow=21,SNR=2.5						
SIJI	**Sorong**	**14.82**	**61**	P	Pn	**22 29 37.7**	**+1.5**
	647nm54nm,1.4s						
FAKI	**Fak Fak**	**14.84**	**70**	P	Pn	**22 29 37.6**	**+1.3**
FAKI	**Fak Fak**	**14.84**	**70**	P	Pn	**22 29 38.3**	**+1.9**
	124nm,0.8s						
GIRL	**Giralia**	**14.90**	**195**	P	Pn	**22 29 34.9**	**-2.3**
	baz=15,SNR=22						
GIRL				S	Sn	22 32 13.7	-8.8
	baz=15						
GIRL	**Giralia**	**14.90**	**195**	Pn	Pn	**22 29 36.6**	**-0.7**
LHSI	**Lahat**	**15.31**	**286**	P	Pn	**22 29 41.5**	**-1.1**
	2μm112nm,0.9s						
BTDF	**Bukit Timah Da**	**17.30**	**303**	P	P	**22 30 15.8**	**+6.2**
MEEK	**Meekatharra**	**18.36**	**179**	P	Pn	**22 30 20.5**	**-0.8**
	baz=18,SNR=54						
SRPI	**Serui, Papua**	**18.94**	**72**	P	Pn	22 30 38.4	+10
WRKA	**Warakurna**	**19.30**	**152**	P	P	**22 30 31.7**	**+0.1**
	baz=19,SNR=90						
WB0	**Warramunga Arr**	**19.39**	**128**	P	P	**22 30 32.0**	**-0.6**
WB0				IAmb	IAmb	22 30 46.2	
	comp=Z,62nm,0.8s						
WRA	**Warramunga Arr**	**19.45**	**129**	P	P	**22 30 33.0**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=302,slow=12,SNR=122						
WRA				S	**Sn**	**22 34 09.6**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=305,slow=22,SNR=5.2						
WRA				LR	LR	22 38 43.3	
	comp=Z,637nm,19.3s,baz=315,slow=38						
WRA	**Warramunga Arr**	**19.45**	**129**	P	P	**22 30 32.4**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WRA	**Warramunga Arr**	**19.45**	**129**	P	P	**22 30 32.4**	**-0.9**
WRAB	**Tennant Creek**	**19.45**	**129**⫼	eP	P	**22 30 33.6**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,26nm,0.8s						
WRAB	**Tennant Creek**	**19.45**	**129**	P	P	**22 30 31.0**	**-2.3**
WRAB				IAmb	IAmb	22 30 47.0	
	comp=Z,66nm,1.0s						
WB2	**Warramunga Arr**	**19.46**	**129**	P	P	**22 30 33.1**	**-0.2**
WR0	**Warramunga Arr**	**19.61**	**128**	P	P	**22 30 34.7**	**-0.3**
JRMM	**Jerantut**	**19.81**	**307**	P	P	**22 30 39.0**	**+1.8**
MNSI	**Mandailing Nat**	**20.68**	**295**	P	P	**22 30 47.7**	**+1.1**
	comp=Z,1μmcomp=Z,75nm,1.0s						
MORW	**Morawa**	**20.89**	**186**	P	P	**22 30 47.9**	**-0.9**
	baz=21,SNR=13						
MORW	**Morawa**	**20.89**	**186**	P	P	**22 30 49.1**	**+0.3**
MORW				IAmb	IAmb	22 31 10.8	
	comp=Z,83nm,1.2s						
IPM	**Ipoh**	**21.32**	**306**	P	P	**22 30 56.0**	**+2.3**
AS31	**Alice Springs**	**21.47**	**138**	P	P	**22 30 55.6**	**+0.4**
ASAR	**Alice Springs**	**21.47**	**138**	P	P	**22 30 55.6**	**+0.4**
	comp=Z,62nm,0.6s,baz=314,slow=9.3,SNR=163						
ASAR				PcP	**PcP**	**22 34 57.9**	**-0.6**
	comp=Z,5.4nm,0.7s,baz=332,slow=1.4,SNR=10						
ASAR				ScP	**ScP**	**22 38 32.6**	**-3.1**
	comp=Z,0.9nm,0.7s,baz=336,slow=2.0,SNR=3.5						
ASAR				LR	LR	22 39 46.5	
	comp=Z,884nm,18.8s,baz=320,slow=38						
KULM	**Kulim**	**22.10**	**307**	P	P	**22 31 03.0**	**+1.0**
RPSI	**Rantau Prapat**	**22.13**	**298**	P	P	**22 31 03.2**	**+0.9**
RPSI				IAmb	IAmb	22 31 21.3	
	comp=Z,82nm,1.2s						
PSI	**Prapat**	**22.18**	**299**	P	P	**22 31 03.3**	**+0.3**
PSI				pmax	pmax		
	comp=Z,82nm,1.2s						
PSI	**Prapat**	**22.18**	**299**	P	P	**22 31 05.2**	**+2.2**
BLDU	**Ballidu**	**22.37**	**184**	P	P	**22 31 05.1**	**+0.3**
	baz=22,SNR=14						
GSI	**Gunungsitoli**	**22.70**	**294**	P	P	**22 31 08.9**	**+0.5**
GSI				IAmb	IAmb	22 31 23.8	
	comp=Z,52nm,1.0s						
GSI	**Gunungsitoli**	**22.70**	**294**	P	P	**22 31 12.6**	**+4.1**
TSI	**Tuntungan**	**22.84**	**300**	P	P	**22 31 15.4**	**+5.5**
SKLT	**Songkhla**	**23.30**	**310**	P	P	**22 31 15.8**	**+1.2**
	comp=Z,62nm,1.3s						
KLBR	**Kellerberrin**	**23.30**	**181**	P	P	**22 31 13.9**	**-0.6**
	baz=23,SNR=20						
MUN	**Mundaring**	**23.76**	**184**	P	P	**22 31 17.8**	**-1.2**
	baz=24,SNR=6.0						
TPTI		**23.93**	**298**	P	P	**22 31 22.7**	**+1.9**
	comp=Z,254nmcomp=Z,14nm,1.1s						
QIS	**Mount Isa**	**24.00**	**123**	P	P	**22 31 21.3**	**-0.2**
	baz=24,SNR=30						
FORT	**Forrest**	**24.27**	**159**	P	P	**22 31 24.2**	**+0.4**
	baz=24,SNR=32						
FORT	**Forrest**	**24.27**	**159**	P	P	**22 31 23.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**24.65**	**182**	P	P	**22 31 27.1**	**-0.1**
	comp=Z,43nm,0.8s,baz=1.9,slow=8.9,SNR=20						
NWAO				LR	LR	22 40 52.8	
	comp=Z,502nm,21.6s,baz=24,slow=36						
NWAO	**Narrogin (SRO)**	**24.65**	**182**	P	P	**22 31 27.0**	**-0.3**
	baz=25,SNR=10						
NWAO	**Narrogin (SRO)**	**24.65**	**182**	P	P	**22 31 27.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,69nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.65**	**182**	P	P	**22 31 27.5**	**+0.3**
NWAO				IAmb	IAmb	22 31 29.1	
	comp=Z,68nm,1.1s						
PKDT	**Phuket**	**25.50**	**308**	P	P	**22 31 39.5**	**+4.3**
	comp=Z,36nm,1.3s						
PKDT	**Phuket**	**25.50**	**308**	P	P	**22 31 39.5**	**+4.3**
	comp=Z,36nm,1.3s						
PKDT	**Phuket**	**25.50**	**308**	P	P	**22 31 39.0**	**+3.8**
	comp=Z,36nm,1.3s						
QIZ	**Qiongzhong**	**28.29**	**343**	P	P	**22 32 02.0**	**+1.8**
QIZ				PP	**PnPn**	**22 32 55.3**	**+6.6**
QIZ				S	**S**	**22 36 50.0**	**+3.4**
QIZ				pmax	pmax		
	comp=Z,140nm,6.1s						
QIZ				LR	LR		
	comp=Z,440nm,12.7s						
QIZ				LR	LR		
	comp=Z,410nm,10.8s						
QIZ			

comp=Z,16nm,1.1s
YOJ Yonaguni jima 32.76 8 P P 22 32 40.5 +0.9
YOJ IAmb IAmb 22 32 58.3
comp=Z,16nm,1.1s
YHNB Yeheng 32.78 5 P P 22 32 40.1 +0.2
YHNB IAmb IAmb 22 32 50.2
comp=Z,29nm,1.5s
QZH Quanzhou 32.92 0 *e*P P 22 32 46.8 +5.8
QZH S **S 22 37 56.5 -2.5**
QZH LR LR
comp=Z,200nm,13.1s
QZH LR LR
comp=Z,130nm,13.3s
QZH LR LR
comp=Z,310nm,17.5s
TATO Taipei 33.10 5 P P 22 32 41.6 -0.9
TATO IAmb IAmb 22 33 07.4
comp=Z,45nm,1.1s
RMQ Roma 34.17 126 P **P 22 32 53.4 +1.4**
baz=34,SNR=6.8
CMSA Cobar Meteorol 34.51 136 P **P 22 32 56.1 +1.2**
baz=35,SNR=8.3
EIDS Eidsvold 35.60 123 P **P 22 33 02.2 -2.1**
ARPS Mount Arapiles 35.62 147 P **P 22 33 05.4 +1.1**
baz=36,SNR=8.7
JMZ Minamidaito 2 36.05 20 P **P 22 33 07.8 -0.3**
JMZ IAmb IAmb 22 33 13.2
comp=Z,55nm,1.3s
JOW Kunigami 36.12 15 P **P 22 33 04.9 -3.9**
GYA Guiyang 36.23 342 ⇓P **P 22 33 13.8 +4.0**
GYA sP sP 22 33 22.5 +8.6
GYA S **S 22 38 53.8 +3.4**
GYA pmax pmax
comp=Z,14nm,2.0s
GYA pmax pmax
comp=Z,190nm,9.2s
GYA LR LR
comp=Z,360nm,16.9s
GYA LR LR
comp=Z,290nm,16.5s
GYA LR LR
comp=Z,380nm,21.5s
KMI Kunming 36.40 336 ⇓P **P 22 33 13.0 +1.6**
KMI pP sP 22 33 20.0 +4.6
KMI sP pP 22 33 23.5 +9.2
KMI S **S 22 38 55.5 +2.3**
KMI sS sS 22 39 10.3 +13
KMI pmax pmax
comp=Z,13nm,1.6s
KMI pmax pmax
comp=Z,58nm,3.5s
KMI LR LR
comp=Z,650nm,10.8s
KMI LR LR
comp=Z,470nm,15.3s
KMI LR LR
comp=Z,660nm,12.5s
YNG Young 37.98 138 P **P 22 33 26.5 +2.0**
baz=38,SNR=9.1
ARMA Armidale 38.22 130 P **P 22 33 29.2 +2.5**
baz=38,SNR=9.6
ARMA Armidale 38.22 130 P **P 22 33 25.6 -1.1**
WHN Wuhan 38.68 355 ⇑P **P 22 33 31.3 +0.9**
WHN S **S 22 39 28.5 +1.3**
WHN LR LR
comp=Z,440nm,9.3s
WHN LR LR
comp=Z,270nm,9.3s
WHN LR LR
comp=Z,930nm,15.3s
SSE Sheshan 39.15 4 P **P 22 33 36.0 +1.8**
SSE S **S 22 39 36.0 +1.8**
SSE pmax pmax
comp=Z,14nm,0.9s
SSE pmax pmax
comp=Z,62nm,3.5s
ENH Enshi 39.15 348 P **P 22 33 34.1 -0.3**
NJ2 Nanjing 40.01 1 ⇑P **P 22 33 42.5 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
JSU Suzuyama 41.14 16 P **P 22 33 50.5 -0.4**
JSU IAmb IAmb 22 33 56.1
comp=Z,33nm,1.3s
CD2 Chengdu 41.29 341 ⇑*i*P **P 22 33 52.5 +0.4**
CD2 PP **PP 22 35 29.5 +1.9**
CD2 S **S 22 40 09.5 +3.1**
CD2 sS sS 22 40 19.3 +8.5
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,270nm,7.8s
CD2 LR LR
comp=Z,510nm,12.0s
CD2 LR LR
comp=Z,670nm,13.2s
CD2 LR LR
comp=Z,650nm,11.6s
JCJ Chichijima 42.02 33 P **P 22 33 57.7 -0.4**
SHL Shillong 42.25 323 P **P 22 33 59.7 -0.6**
SHL pmax pmax
comp=Z,37nm,0.9s
SHL Shillong 42.25 323 P **P 22 33 59.7 -0.6**
SHL IAmb IAmb 22 34 06.5
comp=Z,37nm,0.9s
JNU Nakatsue 42.78 16 P **P 22 34 04.0 -0.2**
JNU IAmb IAmb 22 34 12.2
comp=Z,24nm,1.0s
XAN Xi'an 42.91 349 P **P 22 34 05.0 -0.4**
XAN pP sP 22 34 11.0 +1.6
XAN sP pP 22 34 14.0 +5.7
XAN PP **PP 22 35 51.0 +5.9**
XAN S **S 22 40 28.8 -1.6**
XAN sS sS 22 40 39.3 +4.5
XAN SS **SS 22 43 35.5 -6.7**
XAN pmax pmax
comp=Z,17nm,1.2s
XAN pmax pmax
comp=Z,200nm,4.6s
XAN LR LR
comp=Z,350nm,17.4s
XAN LR LR
comp=Z,240nm,15.2s
XAN LR LR
comp=Z,740nm,20.6s
JTU Tsushima 43.75 13 P **P 22 34 12.1 +0.1**
JTU IAmb IAmb 22 34 18.5
comp=Z,47nm,1.1s
JMN Monobe 44.22 19 P **P 22 34 16.0 +0.1**
JMN IAmb IAmb 22 34 22.5
comp=Z,22nm,0.9s
LHI Lord Howe Isla 44.46 127 P **P 22 34 16.2 -1.6**
TJN Taejon 45.13 10⇑*e*P **P 22 34 20.6 -2.4**
JHS Saijyo 45.17 17 P **P 22 34 24.0 +0.6**
JHS IAmb IAmb 22 34 30.4
comp=Z,30nm,0.9s
LSA Lhasa 45.83 326 P **P 22 34 30.3 +1.0**
LSA pmax pmax
comp=Z,44nm,1.6s
LSA Lhasa 45.83 326 P **P 22 34 29.6 +0.3**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 45.83 326 P **P 22 34 29.6 +0.3**
LSA IAmb IAmb 22 34 39.6
comp=Z,14nm,0.8s
JHJ2 Mitsune 45.88 25 P **P 22 34 30.1 +1.0**
ODAN Odare 45.95 320 *e*P **P 22 34 30.5 +0.5**
comp=Z,171nm,1.1s
LZH Lanzhou 46.08 344 ⇓P **P 22 34 31.5 +0.7**
LZH pP sP 22 34 36.5 +1.6
LZH sP pP 22 34 39.3 +5.6
LZH PP **PP 22 36 21.8 +2.8**
LZH S **S 22 41 16.0 -0.6**
LZH sS sS 22 41 27.0 +6.0
LZH SS **SS 22 44 36.5 -5.5**
LZH pmax pmax
comp=Z,53nm,1.3s
LZH pmax pmax
comp=Z,310nm,5.2s
LZH LR LR
comp=Z,400nm,13.1s
LZH LR LR
comp=Z,480nm,13.4s
LZH LR LR
comp=Z,500nm,15.2s
INCN Inchon 46.09 9 P **P 22 34 29.7 -0.9**
INCN pmax pmax
comp=Z,42nm,1.4s
INCN Inchon 46.09 9 P **P 22 34 29.7 -0.9**
INCN IAmb IAmb 22 34 32.0
comp=Z,42nm,1.4s
TAPN Taplejung 46.09 321 *e*P **P 22 34 31.7 +0.5**
comp=Z,135nm,1.0s
JWT Wachi 46.14 19 P **P 22 34 31.2 +0.1**
JWT IAmb IAmb 22 34 37.4
comp=Z,28nm,1.1s
KSRS Korea Array 46.28 11 P **P 22 34 32.0 0.0**
comp=Z,14nm,0.9s,baz=191,slow=8.3,SNR=38
KSRS LR LR 22 55 11.3
comp=Z,154nm,20.0s,baz=188,slow=38
KS19 Wonju Array Si 46.31 11 P **P 22 34 32.7 +0.3**
KS19 IAmb IAmb 22 34 39.0
comp=Z,38nm,1.1s
RAMN Ramite 46.51 320 *e*P **P 22 34 35.2 +0.8**
comp=Z,23nm,0.6s
INU Inuyama 46.76 21 P **P 22 34 36.4 +0.5**
HYB Hyderabad 46.78 303 *i*P **P 22 34 38.0 +1.5**
JGF Kuroka 47.11 21 P **P 22 34 39.0 +0.3**
JIRN Jiri 47.27 320 *e*P **P 22 34 40.9 +0.4**
comp=Z,148nm,0.9s
PKI Pulchoki 47.70 319 *e*P **P 22 34 43.4 -0.5**
comp=Z,80nm,1.0s
PKIN Phulchoki 47.72 319 *e*P **P 22 34 43.6 -0.3**
comp=Z,68nm,1.0s
KKN Kakani 47.94 319 *e*P **P 22 34 45.7 +0.2**
BJT Baijiatuau 47.99 358 P **P 22 34 45.6 +0.2**
BJT pmax pmax
comp=Z,15nm,0.7s
BJT Baijiatuau 47.99 358 P **P 22 34 45.6 +0.2**
BJT IAmb IAmb 22 34 51.0
comp=Z,15nm,0.7s
BJI Beijing 48.01 358 P **P 22 34 45.5 -0.1**
BJI S **S 22 41 41.5 -2.2**
BJI pmax pmax
comp=Z,13nm,0.6s
BJI pmax pmax
comp=Z,220nm,6.1s
BJI LR LR
comp=Z,190nm,15.9s
BJI LR LR
comp=Z,210nm,15.5s
MAJO Matsushiro 48.26 22 P **P 22 34 46.8 -0.8**
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO Matsushiro 48.26 22 P **P 22 34 46.8 -0.8**
MAJO IAmb IAmb 22 34 53.5
comp=Z,13nm,0.9s
MAT Matsushiro 48.26 22 P **P 22 34 46.7 -0.9**
MAT S **S 22 41 44.4 -2.9**
MJAR Matsushiro Arr 48.26 22 P **P 22 34 46.3 -1.2**
comp=Z,6.4nm,1.2s,baz=185,slow=7.8,SNR=10.0
MJAR LR LR 22 53 42.0
comp=Z,162nm,22.0s,baz=210,slow=34
MJB9 Matsu-Tunnel 48.26 22 P **P 22 34 48.6 +1.0**
MJB9 IAmb IAmb 22 34 53.5
comp=Z,11nm,0.7s
DZM Mont Dzumac 48.28 112 *e*LR LR 22 48 34.5
-0.6
comp=Z,412nm,22.4s
DZM Mont Dzumac 48.28 112 P **P 22 34 48.1 -0.1**
SANVU Saraoutou 48.33 103 P **P 22 34 48.3 -0.2**
KOLN Koldanda 49.02 318 *e*P **P 22 34 53.8 -0.1**
HHC Hu-ho-hao-te 49.17 353 *e*P **P 22 34 57.5 +2.8**
HHC PP **PP 22 36 54.0 +5.4**
HHC S **S 22 41 59.3 -1.0**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.0s
HHC LR LR
comp=Z,170nm,14.9s
HHC LR LR
comp=Z,190nm,13.9s
HHC LR LR
comp=Z,190nm,13.3s
DANN Dangsing 49.30 319 *e*P **P 22 34 56.0 -0.1**
comp=Z,200nm,0.9s
JSD Sado 49.61 21 P **P 22 34 57.2 -0.7**
JSD IAmb IAmb 22 35 03.5
comp=Z,28nm,0.9s
GTA Gaotai 50.35 341 ⇑P **P 22 35 05.0 +1.3**
GTA pP sP 22 35 09.3 +1.5
GTA sP pP 22 35 12.5 +5.8
GTA S **S 22 42 17.3 +0.4**
GTA sS sS 22 42 27.8 +6.5
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,120nm,6.0s
GTA LR LR
comp=Z,170nm,23.5s
GTA LR LR
comp=Z,350nm,20.7s
GTA LR LR
comp=Z,150nm,19.9s
MSHR Mys Shultsa 51.86 12⇓*e*P **P 22 35 12.6 -2.2**
MSHR pmax pmax
comp=Z,8.0nm,1.0s
CN2 Changchun 52.14 7 *e*P **P 22 35 20.5 +3.6**
CN2 *e*S **S 22 42 43.0 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,17.0s
VLA Vladivostok 52.53 13*de*P **P 22 35 18.7 -1.1**
VLA pmax pmax
comp=Z,12nm,1.2s
MDJ Mudanjiang 53.53 10 P **P 22 35 27.1 0.0**
MDJ IAmb IAmb 22 35 33.5
comp=Z,32nm,1.1s
USA0B Ussuriysk Arra 53.59 12 IAmb IAmb 22 35 34.1
comp=Z,31nm,0.9s
USRK Ussuriysk Ar. 53.59 12 P **P 22 35 27.1 -0.4**
comp=Z,7.9nm,0.7s,baz=192,slow=7.3,SNR=46
USRK LR LR 22 58 05.4
comp=Z,104nm,21.1s,baz=185,slow=36
MCQ Macquarie Isla 56.44 153 P **P 22 35 49.0 +0.9**
MCQ Macquarie Isla 56.44 153 P **P 22 35 49.0 +0.9**
ASAJ Asahikawa 56.51 21 P **P 22 35 49.1 +0.4**
ASAJ pmax pmax
comp=Z,26nm,0.9s
JKA Kamikawa-asahi 56.51 21 P **P 22 35 49.1 +0.4**
JKA IAmb IAmb 22 35 54.8
comp=Z,26nm,0.9s
ULN Ulaanbaatar 56.68 351*ce*P **P 22 35 50.4 +0.4**
ULN pmax pmax
comp=Z,60nm,2.5s
ULN Ulaanbaatar 56.68 351 P **P 22 35 50.0 -0.1**
ULN IAmb IAmb 22 35 55.9
comp=Z,35nm,1.3s
ULN Ulaanbaatar 56.68 351 P **P 22 35 51.0 +1.0**
comp=Z,1μmcomp=Z,84nm,1.6s
WHZ Wether Hill Ro 56.72 140 P **P 22 35 50.3 0.0**
SONM Songino Array 56.75 350 P **P 22 35 50.4 -0.1**
comp=Z,9.3nm,0.9s,baz=166,slow=8.2,SNR=35
SONM LR LR 23 04 28.3
comp=Z,193nm,18.0s,baz=184,slow=41
SONM Songino Array 56.75 350 P **P 22 35 49.9 -0.7**
SONM pmax pmax
comp=Z,52nm,1.4s
SONM Songino Array 56.75 350 P **P 22 35 49.9 -0.7**
SONM IAmb IAmb 22 35 56.3
comp=Z,52nm,1.4s
RPZ Rata Peaks 57.88 137 P **P 22 35 58.7 +0.2**
CASY Casey 58.26 184 P **P 22 36 00.9 +0.1**
CASY IAmb IAmb 22 36 01.8
comp=Z,12nm,1.1s
KLR Kul'dur 58.37 10⇑*e*P **P 22 36 01.3 -0.4**
KLR pmax pmax
comp=Z,12nm,1.6s
OXZ Oxford 58.41 136 P **P 22 36 02.5 +0.2**
THZ Tophouse 58.49 134 P **P 22 36 03.5 +0.6**
WMQ Urumqi 58.71 334 *e*P **P 22 36 08.8 +4.4**
WMQ sP sP 22 36 14.3 +5.8
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.7s
WMQ LR LR
comp=Z,210nm,14.7s
WMQ LR LR
comp=Z,140nm,15.5s
WMQ LR LR
comp=Z,200nm,29.1s
HIZ Hauiti 58.97 130 P **P 22 36 06.2 0.0**
YSS Yuzh-Sakhalins 59.05 19 *e*P **P 22 36 08.7 +2.2**
YSS *e*S **S 22 44 16.0 +2.8**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 59.05 19 P **P 22 36 06.9 +0.4**
YSS IAmb IAmb 22 36 09.3
comp=Z,39nm,1.5s
TUWZ Tuamarina 59.12 134 P **P 22 36 07.0 -0.2**
KHZ Kahutara 59.15 135 P **P 22 36 07.4 +0.1**
BSWZ Blackbirch Sta 59.16 134 P **P 22 36 08.5 +1.0**
ZAK Zakamensk 59.76 349 *e*P **P 22 36 11.1 -0.4**
ZAK pmax pmax
comp=Z,18nm,1.5s
BKZ Black Stump Fm 60.37 131 P **P 22 36 16.0 0.0**
BKZ IAmb IAmb 22 36 39.5
comp=Z,19nm,1.1s
URZ Urewera 60.62 129 LR LR 23 05 17.9
comp=Z,341nm,18.4s,baz=311,slow=39
GRNR Gornyy 60.77 13⇑*i*P **P 22 36 18.5 +0.2**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
GRNR MLR MLR
comp=E,60nm,15.0s
IRK Irkutsk 61.37 350 *e*P **P 22 36 22.2 -0.1**
IRK pmax pmax
comp=Z,49nm,2.1s
MXZ Matakaoa Point 61.38 128 P **P 22 36 23.2 +0.4**
MOY Mondy 61.44 348 *e*P **P 22 36 23.0 +0.1**
MOY pmax pmax
comp=Z,73nm,2.0s
KSH Kashi 61.53 324 P **P 22 36 23.0 -0.9**
KSH sP sP 22 36 38.0 +10
KSH S **S 22 44 46.0 +0.2**
KSH sS sS 22 44 57.3 +6.3
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,160nm,5.9s
KSH LR LR
comp=Z,250nm,10.9s
KSH LR LR
comp=Z,250nm,14.0s
KSH LR LR
comp=Z,160nm,9.7s
TARG Taragay, Kyrgy 61.97 327 P **P 22 36 28.1 +1.0**
TARG IAmb IAmb 22 36 56.5
comp=Z,15nm,1.3s
ZEA Zeya 62.14 6 *e*P **P 22 36 28.5 +1.0**
ZEA *e*S **S 22 44 48.3 -4.4**
ZEA pmax pmax
comp=N,10.0nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA pmax pmax
comp=Z,100nm,4.7s
ZEA smax smax
comp=N,100nm,7.9s
MSEY Mahe Island 62.47 269 P **P 22 36 30.8 +0.2**
MSEY pmax pmax
comp=Z,43nm,1.4s
MSEY Mahe Island 62.47 269 P **P 22 36 30.8 +0.2**
KBL Kabul 63.02 315 P **P 22 36 34.9 +0.9**
KBL pmax pmax
comp=Z,9.0nm,0.9s
KBL Kabul 63.02 315 P **P 22 36 34.9 +0.9**
KBL IAmb IAmb 22 36 49.6
comp=Z,9.5nm,0.8s
MK31 Makanchi Array 63.41 333 IAmb IAmb 22 36 41.1
comp=Z,8.8nm,0.9s
MKAR Makanchi Array 63.41 333 P **P 22 36 35.3 -0.8**
comp=Z,6.8nm,0.8s,baz=141,slow=7.4,SNR=58
MKAR LR LR 23 08 09.1
comp=Z,138nm,18.1s,baz=138,slow=40
MKAR Makanchi Array 63.41 333*ce*P **P 22 36 35.2 -0.9**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
BOOM Boomskoye usch 63.51 326 IAmb IAmb 22 36 43.5
comp=Z,12nm,1.2s
MAKZ Makanchi 63.56 333 P **P 22 36 37.0 -0.2**
MAKZ pmax pmax
comp=Z,14nm,1.3s
MAKZ Makanchi 63.56 333 P **P 22 36 37.0 -0.2**
MAKZ IAmb IAmb 22 36 42.9
comp=Z,14nm,1.2s
DGZ Jazzator, Alta 63.62 338*d i*P **P 22 36 37.6 0.0**
DGZ pmax pmax
comp=Z,18nm,0.9s
DRK Karamyk 64.02 321 P **P 22 36 40.7 0.0**
DRK IAmb IAmb 22 36 57.9
comp=Z,17nm,1.1s
AAK Ala-Archa 64.41 326 P **P 22 36 43.2 +0.2**
AAK pmax pmax
comp=Z,14nm,1.3s
AAK Ala-Archa 64.41 326 P **P 22 36 43.2 +0.2**
AAK IAmb IAmb 22 37 01.5
comp=Z,14nm,1.2s
BTK Batken 64.98 321 IAmb IAmb 22 37 05.9
comp=Z,13nm,1.1s
CHGR Chuyangaron 65.21 319 P **P 22 36 47.4 -0.8**
BOD Bodaibo 65.86 357 *e*P **P 22 36 51.6 -0.3**
BOD pmax pmax
comp=Z,58nm,1.7s
KKAR Karatay Array 66.98 324 P **P 22 36 58.9 -0.5**
KKAR Karatay Array 66.98 324 P **P 22 36 58.9 -0.5**
ZAA0 Zalesovo Array 68.03 339 IAmb IAmb 22 37 11.2
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 68.03 339 P **P 22 37 04.2 -1.5**
comp=Z,13nm,0.9s,baz=143,slow=4.6,SNR=36
PEA0B Petropavlovsk- 69.61 24 P **P 22 37 15.4 -0.2**
PEA0B pmax pmax
comp=Z,37nm,1.4s
PEA0B Petropavlovsk- 69.61 24 P **P 22 37 15.4 -0.2**
PETK Petropavlovsk- 69.61 24 P **P 22 37 14.7 -0.9**
comp=Z,4.0nm,0.8s,baz=207,slow=9.6,SNR=7.2
PETK LR LR 23 05 39.9
comp=Z,54nm,21.9s,baz=221,slow=34
PETK Petropavlovsk- 69.61 24 P **P 22 37 14.9 -0.7**
PETK Petropavlovsk- 69.61 24 P **P 22 37 14.9 -0.7**
MAW Mawson 69.77 200 P **P 22 37 14.1 -2.3**
comp=Z,4.7nm,0.4s,baz=56,slow=7.3,SNR=16
MAW LR LR 23 02 14.9
comp=Z,111nm,19.3s,baz=52,slow=31
MAW Mawson 69.77 200 P **P 22 37 14.6 -1.8**
baz=70,SNR=8.1
MAW Mawson 69.77 200 P **P 22 37 15.8 -0.6**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 69.77 200 P **P 22 37 15.8 -0.6**
PET Petropavlovsk 69.94 25 *e*P P 22 37 22.5 +4.9
PET *e*S **S 22 46 30.0 +2.4**
PET pmax pmax
comp=Z,24nm,1.0s
PET MLR MLR
comp=Z,100nm,20.0s
YAK Yakutsk 70.55 6 *e*P **P 22 37 20.5 -0.7**
YAK *e**PP **pP 22 37 25.5 +1.2**
YAK *e* 22 37 38.2
YAK *e* 22 39 56.9
YAK *e*PPP PPP 22 41 37.6
YAK *e*S **S 22 46 31.7 -2.8**
YAK *e* 22 47 18.1
YAK *e*SS **SS 22 51 06.2 0.0**
YAK *e*SSS SSS 22 54 16.1
YAK pmax pmax
comp=Z,38nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,77nm,3.9s
YAK pmax pmax
comp=N,31nm,3.6s
YAK pmax pmax
comp=E,44nm,4.1s
YAK smax smax
comp=N,44nm,2.7s

YAK smax smax
comp=E,58nm,2.5s
YAK Yakutsk 70.55 6 P **P 22 37 20.5 -0.7**
GEYT Alibeck 72.37 314 LR LR 23 15 29.4
comp=E,100nm,18.0s,baz=175,slow=41
VNDA Vanda 72.91 171 P **P 22 37 35.6 +0.4**
VNDA comp=E,2.0nm,0.5s,baz=312,slow=7.4,SNR=34 LR LR 23 08 05.4
comp=E,146nm,19.5s,baz=324,slow=34
VNDA Vanda 72.91 171 P **P 22 37 35.5 +0.2**
VNDA pmax pmax
comp=Z,4.0nm,0.7s
VNDA Vanda 72.91 171 P **P 22 37 35.5 +0.2**
BRVK Borovoye 73.32 332 P **P 22 37 39.1 +1.1**
BRVK pmax pmax
comp=Z,17nm,1.5s
BRVK Borovoye 73.32 332 P **P 22 37 39.1 +1.1**
BRVK IAmb IAmb 22 38 02.3
comp=Z,17nm,1.5s
SBA Scott Base 73.91 171 P **P 22 37 42.9 +1.7**
SBA pmax pmax
comp=Z,21nm,1.5s
SBA Scott Base 73.91 171 P **P 22 37 42.9 +1.7**
SBA IAmb IAmb 22 37 53.2
comp=Z,21nm,1.5s
AKTO Aktyubinsk 78.15 325 LR LR 23 17 11.1
comp=Z,127nm,18.3s,baz=125,slow=39
SYO Syowa Base 78.36 201⇑ *e*P **P 22 38 07.2 +0.6**
SYO Syowa Base 78.36 201⇑ *e*pP pP 22 38 11.2 +1.5
SYO Syowa Base 78.36 201⇑ *e*sP sP 22 38 14.1 +3.2
TIXI Tiksi 79.97 3 P **P 22 38 15.8 +0.6**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 79.97 3 P **P 22 38 15.8 +0.6**
KIBK Kibwezi 80.02 269 P **P 22 38 16.0 -1.0**
NRIK Noril'sk 80.22 349⇓ *e*P **P 22 38 16.7 0.0**
NRIK pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 80.81 331 LR LR 23 18 27.3
comp=Z,191nm,21.3s,baz=112,slow=39
ARU Arti 80.81 331 *c i*P **P 22 38 19.5 -0.6**
ARU S **S 22 48 27.3 -0.9**
ARU pmax pmax
comp=Z,8.0nm,1.8s
ARU MLR MLR
comp=Z,139nm,17.0s
KMBO Kilima Mbogo 80.97 270 P **P 22 38 18.9 -3.4**
comp=Z,3.8nm,1.0s,baz=59,slow=10,SNR=7.9
KMBO Kilima Mbogo 80.97 270⇑ *e*P **P 22 38 20.5 -1.7**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
QSPA South Pole Qui 81.81 180 P **P 22 38 23.8 -1.7**
comp=Z,6.6nm,1.0s,baz=329,slow=2.5,SNR=13
LODK Lodwar 83.50 274 P **P 22 38 33.9 -1.3**
GURO Guroymak-BITLI 84.45 310 P **P 22 38 39.6 0.0**
KBZ Khabaz 85.20 315 P **P 22 38 39.9 -3.3**
comp=Z,0.7nm,0.5s,baz=231,slow=7.8,SNR=2.0
KBZ LR LR 23 24 51.0
comp=Z,56nm,18.1s,baz=94,slow=41
KBZ Khabaz 85.20 315⇑ *e*P **P 22 38 39.6 -3.5**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
KIV Kislovodsk 85.41 315 *e*P **P 22 38 41.6 -2.7**
KIV pmax pmax
comp=Z,3.0nm,1.1s
GOF Gofitskoye 85.47 317⇑ *e*P P 22 38 50.9 +6.4
SOC Sochi 87.40 315 *e*P **P 22 38 51.6 -2.4**
SOC *e* 22 42 13.2
SOC *e*S **SKSac 22 49 17.6 -4.3**
SOC *e*SS **SS 22 55 14.5 -5.4**
SOC *e*SSS SSS 22 58 52.9
MBAR Mbarara 87.50 270 P **P 22 38 54.1 -1.2**
MBAR pmax pmax
comp=Z,10.0nm,0.8s
MBAR Mbarara 87.50 270 P **P 22 38 54.1 -1.2**
MBAR IAmb IAmb 22 39 02.2
comp=Z,10nm,0.8s
BOSA Boshof 88.78 241 P **P 22 38 57.5 -3.7**
comp=Z,6.9nm,1.0s,baz=95,slow=6.8,SNR=3.1
BOSA LR LR 23 14 53.5
comp=Z,187nm,18.3s,baz=126,slow=33
TBI Tubuai 88.85 113 *e*LR LR 23 07 23.9
comp=Z,232nm,37.8s
PPT2 Papeete2 89.58 108 *e*LR LR 23 07 43.0
comp=Z,101nm,24.0s
BRTR Keskin Array B 91.08 310 LR LR 23 25 08.8
comp=Z,116nm,19.1s,baz=112,slow=39
SNAA Sanae 91.60 196 P **P 22 39 14.2 +0.9**
SNAA Sanae 91.60 196 IAmb IAmb 22 39 15.1
comp=Z,10nm,0.8s
KLMR Klimovskoe 91.65 331 *e*P **P 22 39 13.9 +0.4**
KLMR pmax pmax
comp=Z,13nm,1.6s
KLMR Klimovskoe 91.65 331 *e*P **P 22 39 13.9 +0.4**
KLMR AMP 22 39 25.7
comp=Z,13nm,1.6s
VNA2 Neumayer--Watz 93.23 196 P **P 22 39 21.0 +0.2**
baz=128,slow=3.5
VNA3 Neumayer Olymp 93.63 195 P **P 22 39 23.1 +0.5**
VNA1 Neumayer--Stat 93.63 196 P **P 22 39 22.8 +0.2**
AKASG Malin Array Be 95.67 320 PP **PP 22 43 23.5 -0.3**
comp=Z,0.4nm,0.4s,baz=90,slow=6.4,SNR=1.5
AKASG LR LR 23 31 59.5
comp=Z,63nm,18.2s,baz=110,slow=41
IMAR Indian Mountai 96.57 24 P **P 22 39 35.8 -0.3**
MNK Minsk 96.83 324 *i* P P 22 39 33.2 -4.2
MNK *i* 22 43 28.3
MNK *i* S **SKSac 22 50 08.8 -5.7**
MNK *i* 22 50 54.4
MNK *i* SS **SS 22 57 31.3 -3.6**
MNK *i* SSS SSS 23 01 16.4
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,1.0nm,0.8s
MNK pmax pmax
comp=Z,6.0nm,1.4s
MNK MLR MLR
comp=Z,145nm,15.0s
MNK MLR MLR
comp=E,9.0nm,19.0s
MNK MLR MLR
comp=N,126nm,20.0s
MNK Minsk 96.83 324 *i* P P 22 39 33.2 -4.2
comp=E,1.0nm,0.8s
MNK *i* P P 22 39 33.2 -4.2
comp=N,7.0nm,0.9s
MNK *i* P P 22 39 33.2 -4.2
comp=Z,6.0nm,1.4s,baz=274
MNK *i* PP **PP 22 43 28.3 -4.2**
MNK *i* PPP PPP 22 45 31.9
MNK *i* S **SKSac 22 50 08.9 -5.6**
MNK *i* SS **SS 22 57 31.3 -3.5**
MNK *i* SSS SSS 23 01 16.4
MNK *i* LQ LQ 23 17 20.7
MNK *i* LR LR 23 20 41.6
MNK *i* LRM MLR 23 23 10.4
comp=Z,145nm,15.3s
MNK *i* LRM MLR 23 23 27.0
comp=E,9.0nm,18.5s
MNK *i* LRM MLR 23 23 47.3
comp=N,126nm,20.4s
FINES FINESS Array B 98.18 331 LR LR 23 27 45.5
comp=N,55nm,19.0s,baz=91,slow=38
ARCES ARCESS Array B 98.58 339 LR LR 23 30 46.8
comp=N,199nm,19.5s,baz=320,slow=39
ILAR Eielson Array 99.40 26 LR LR 23 23 48.0
comp=N,34nm,21.7s,baz=300,slow=35
CLL Collm 105.89 321 *e*PS PS 22 53 54.0 -4.3
CLL LmV 23 38 00.0
comp=Z,100nm,18.8s
TORD Torodi Ar. Bea 117.63 281 PKP **PKPdf 22 44 50.9 -2.8**
comp=Z,0.9nm,0.6s,baz=42,slow=1.3,SNR=5.9
NVAR Mina Array Bea 121.03 50 PKP **PKPdf 22 44 59.1 -0.9**
comp=Z,0.5nm,0.6s,baz=274,slow=2.7,SNR=5.4
TXAR Lajitas Array 135.37 56 PKhKP PKPpre 22 45 20.8
comp=Z,0.2nm,0.7s,baz=252,slow=1.2,SNR=3.9
T50A Nancy 144.42 33 PKPdf **PKPab 22 45 40.2 -1.3**
T50A pPKPdf **PKPdf 22 45 45.5 +2.1**
AC02 Maricunga 144.46 169 PKPdf **PKPab 22 45 43.4 +0.8**
CPUP Villa Florida 145.44 187 PKPbc **PKPbc 22 45 45.0 -0.3**
comp=Z,7.6nm,0.5s,baz=186,slow=1.7,SNR=16
CPUP Villa Florida 145.44 187 PKIKP **PKPbc 22 45 45.6 +0.2**
CPUP Villa Florida 145.44 187 PKPbc 22 45 45.6 +0.2
T59A Double "B" Far 147.92 24 PKPdf 22 45 50.6 +1.3
LVC Limon Verde 148.60 167 PKP2 **PKPbc 22 45 56.4 +1.4**
LVC Limon Verde 148.60 167 PKPab **PKPbc 22 45 56.4 +1.4**
NHSC New Hope 149.87 32 PKPbc 22 45 58.1 +0.7
AQDB Aquidauana 150.92 192 PKPbc 22 45 59.2 -1.1
AQDB PKPab **PKPab 22 46 07.8 +0.4**
MNMC Minye Minye 151.77 164 PKPbc 22 46 03.6 +1.0
BDFB Brasilia 152.72 210 PKPbc **PKPbc 22 46 04.2 -0.4**
comp=Z,2.8nm,0.6s,baz=144,slow=6.3,SNR=5.3
LPAZ La Paz 154.88 165 PKPbc **PKPbc 22 46 10.8 +0.8**
comp=Z,0.9nm,0.6s,baz=285,slow=5.1,SNR=3.5

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*NEIC **31** 22:57:13.6±2.7, 16°.98S×0°.09×174°.0W±0°.1, h93km±12km, mb4.2/6, Error ellipse: s-maj=21.5km s-min=12.1km az=71.0*
*IDC **31** 22:57:14.5±3.5, 16°.97S×174°.26W, h98km±35km, mb3.6/5, mb1 3.8/6, mb1mx3.5/40, mbtmp4.0/6, Error ellipse: s-maj=35.7km s-min=24.2km az=132.0*
ISC 31 22:57:16.2±0.7, 16°.98S±0°.07×173°.85W±0°.09, h124km, n15, σ1§73/16, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.65**	**34**	P	**Pn**	**22 58 12.1**	**+0.8**
	14nm,0.3s,baz=120,slow=2.1,SNR=9.7						
AFI				S	**Sn**	**22 58 52.1**	**-1.7**
	40nm,0.3s,baz=71,slow=23,SNR=17						
AFI	**Afiamalu**	**3.65**	**34**	Pn	**Pn**	**22 58 11.1**	**-0.2**
AFI					**Sn**	**22 58 51.6**	**-2.2**
NIUE	**Niue**	**4.28**	**120**	Pn	**Pn**	**22 58 19.9**	**+0.4**
NIUE				Sn	**Sn**	**22 59 06.4**	**-2.3**
QRZ	**Quartz Range**	**26.52**	**204**	P	**P**	**23 02 42.4**	**+0.3**
BBOO	**Buckleboo**	**47.66**	**241**	P	**P**	**23 05 40.3**	**+0.1**
BBOO				IAmb	IAmb	23 05 54.5	
	comp=Z,9.4nm,1.1s						
WR0	**Warramunga Arr**	**48.89**	**258**	P	**P**	**23 05 47.7**	**-2.1**
WR0				IAmb	IAmb	23 05 50.4	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**49.08**	**258**	P	**P**	**23 05 48.9**	**-2.4**
	comp=Z,0.8nm,0.5s,baz=94,slow=6.9,SNR=9.4						
WRA	**Warramunga Arr**	**49.08**	**258**	IAmb	IAmb	23 05 57.7	
	comp=Z,0.2nm,1.1s						
AS31	**Alice Springs**	**49.22**	**253**	P	**P**	**23 05 50.5**	**-1.9**
AS31				IAmb	IAmb	23 05 51.4	
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**49.23**	**253**	P	**P**	**23 05 50.5**	**-1.9**
	comp=Z,5.0nm,0.6s,baz=87,slow=8.7,SNR=39						
VNDA	**Vanda**	**61.77**	**186**	P	**P**	**23 07 22.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=7.1,slow=8.1,SNR=7.9						
VNDA	**Vanda**	**61.77**	**186**	IAmb	IAmb	23 07 23.6	
	comp=Z,0.6nm,0.9s						
PETK	**Petropavlovsk-**	**74.00**	**343**	P	**P**	**23 08 38.7**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=112,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**75.79**	**42**	P	**P**	**23 08 51.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=222,slow=7.9,SNR=1.9						
CLL	**Collm**	**145.32**	**352**	*e*PKPbc	**PKPab**	**23 16 40.0**	**+0.5**

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*IDC **31** 22:58:48.4±0.8, 11°.53S×165°.11E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/40, mbtmp4.2/16, ML4.4/1, MS3.5/4, Ms1 3.4/4, ms1mx3.0/24, Error ellipse: s-maj=28.1km s-min=17.3km az=123.0*
*NEIC **31** 22:58:50.7±1.3, 11°.56S±0°.09×165°.1E±0°.1, h10km±1km, mb4.7/38, Error ellipse: s-maj=20.5km s-min=12.8km az=53.0*
ISC 31 22:58:53.5±0.5, 11°.67S±0°.06×165°.04E±0°.08, h34km, n87, σ1§09/83, mb4.6/41, MS3.7/3, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.31**	**151**		**Pn**	**22 59 56.4**	**-0.3**
HNR	**Honiara**	**5.48**	**293**	Sn	**Sn**	**23 01 13.5**	**-1.1**
	17nm,0.3s,baz=218,slow=24,SNR=1.7						
HNR				LR	LR	23 02 25.6	
	comp=Z,237nm,21.9s,baz=118,slow=40						
HNR	**Honiara**	**5.48**	**293**	Pn	**Pn**	**23 00 11.9**	**-0.9**
MARNC	**Mare, Loyalty**	**10.17**	**164**	Pn	**Pn**	**23 01 16.8**	**-0.4**
DZM	**Mont Dzumac**	**10.43**	**173**	Pn	**Pn**	**23 01 21.4**	**+0.5**
	3.2nm,0.3s,baz=312,slow=14,SNR=44						
DZM				Sn	**Sn**	**23 03 12.3**	**-4.4**
	0.2nm,0.3s,baz=257,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**10.43**	**173**	Pn	**Pn**	**23 01 21.0**	**+0.1**
ONTNC	**Ouen Toro**	**10.67**	**173**	Pn	**Pn**	**23 01 24.2**	**+0.2**
OUENC	**Ouen Island, N**	**10.83**	**171**	Pn	**Pn**	**23 01 26.8**	**+0.6**
PINNC	**Pines Island,**	**11.13**	**168**	Pn	**Pn**	**23 01 30.6**	**+0.3**
PMG	**Port Moresby**	**17.72**	**276**	LR	LR	23 08 50.7	
	comp=Z,165nm,20.5s,baz=120,slow=34						
EIDS	**Eidsvold**	**18.97**	**222**	P	**Pn**	**23 03 13.2**	**+0.2**
CTA	**Charters Tower**	**19.90**	**243**	P	**Pn**	**23 03 24.5**	**+0.4**
	9.3nm,0.9s,baz=77,slow=8.9,SNR=5.8						
CTAO	**Charters Tower**	**19.90**	**243**	P	**P**	**23 03 23.2**	**+0.9**
BKZ	**Black Stump Fm**	**29.22**	**162**	P	**P**	**23 04 53.4**	**+1.2**
BKZ				IAmb	IAmb	23 05 00.6	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**29.52**	**223**	P	**P**	**23 04 56.2**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=30,slow=11,SNR=4.3						
STKA				LR	LR	23 16 04.8	
	comp=Z,159nm,18.4s,baz=27,slow=35						
STKA	**Stephens Creek**	**29.52**	**223**	P	**P**	**23 04 56.1**	**+1.2**
H11S2	**WAKE ISLAND Hy**	**30.01**	**3**	T	T	23 36 33.6	
	baz=184,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.01**	**3**	T	T	23 36 30.2	
	baz=184,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**30.03**	**3**	T	T	23 36 32.7	
	baz=184,slow=76,SNR=12						
WR0	**Warramunga Arr**	**30.44**	**250**	P	**P**	**23 05 03.4**	**+0.2**
WR0				IAmb	IAmb	23 05 07.1	
	comp=Z,13nm,1.4s						
WB0	**Warramunga Arr**	**30.54**	**251**	P	**P**	**23 05 04.7**	**+0.6**
WB0				IAmb	IAmb	23 05 15.3	
	comp=Z,16nm,1.2s						
WRAB	**Tennant Creek**	**30.61**	**251**	P	**P**	**23 05 05.0**	**+0.3**
WRAB				IAmb	IAmb	23 05 08.7	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**30.61**	**251**	P	**P**	**23 05 04.9**	**+0.2**
WB2				IAmb	IAmb	23 05 06.0	
	comp=Z,9.5nm,1.1s						
WRA	**Warramunga Arr**	**30.62**	**251**	P	**P**	**23 05 05.0**	**+0.2**
	comp=Z,4.1nm,1.0s,baz=83,slow=8.9,SNR=11						
WRA				PcP	**PcP**	**23 08 03.5**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=80,slow=3.1,SNR=3.7						
WRA	**Warramunga Arr**	**30.62**	**251**	P	**P**	**23 05 04.8**	**0.0**
BHW	**Baring Head**	**30.86**	**165**	P	**P**	**23 05 07.7**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**31.23**	**3**	T	T	23 38 02.8	
	baz=182,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**31.24**	**3**	T	T	23 38 02.5	
	baz=182,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**31.25**	**3**	T	T	23 38 06.3	
	baz=182,slow=76,SNR=10						
LTZ	**Lake Taylor**	**31.63**	**170**	P	**P**	**23 05 14.0**	**+0.6**
ASAR	**Alice Springs**	**31.90**	**244**	P	**P**	**23 05 15.9**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=75,slow=9.2,SNR=16						
ASAR				PcP	**PcP**	**23 08 06.7**	**+0.4**
	comp=Z,1.1nm,1.1s,baz=70,slow=1.5,SNR=5.4						
ASAR	**Alice Springs**	**31.90**	**244**	P	**P**	**23 05 15.8**	**-0.2**
KNRA	**Kununurra**	**35.45**	**259**	P	**P**	**23 05 47.7**	**+0.8**
KNRA				IAmb	IAmb	23 05 49.3	
	comp=Z,7.6nm,0.8s						
JAGI	**Jajag, Banyuwa**	**50.15**	**269**	P	**P**	**23 07 44.5**	**-1.7**
JHJ2	**Mitsune**	**50.61**	**332**	P	**P**	**23 07 48.1**	**-1.2**
JGF	**Kuroka**	**53.81**	**332**	P	**P**	**23 08 11.7**	**-1.4**
JMN	**Monobe**	**54.02**	**328**	P	**P**	**23 08 14.5**	**-0.1**
MJAR	**Matsushiro Arr**	**54.21**	**333**	P	**P**	**23 08 15.0**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=164,slow=8.7,SNR=8.5						
MJAR	**Matsushiro Arr**	**54.21**	**333**	P	**P**	**23 08 14.3**	**-1.6**
MAJO	**Matsushiro**	**54.21**	**333**	P	**P**	**23 08 15.3**	**-0.6**
KSRS	**Korea Array**	**60.00**	**326**	P	**P**	**23 08 56.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=118,slow=5.0,SNR=4.2						
KSAR	**Wonju Array Be**	**60.01**	**326**	P	**P**	**23 08 55.9**	**-1.0**
NJ2	**Nanjing**	**61.98**	**316**	*e*P	**P**	**23 09 11.5**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**63.19**	**334**	P	**P**	**23 09 18.2**	**0.0**
USA0B				IAmb	IAmb	23 09 19.9	
	comp=Z,4.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**63.19**	**334**	P	**P**	**23 09 18.5**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=123,slow=7.0,SNR=6.4						
USRK	**Ussuriysk Ar.**	**63.19**	**334**	P	**P**	**23 09 18.2**	**0.0**
WHN	**Wuhan**	**64.29**	**312**	P	**P**	**23 09 21.5**	**-4.3**
PEA0B	**Petropavlovsk-**	**64.82**	**355**	P	**P**	**23 09 28.7**	**-0.1**
PETK	**Petropavlovsk-**	**64.82**	**355**	P	**P**	**23 09 27.7**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=172,slow=12,SNR=5.7						
PETK				LR	LR	23 32 30.0	
	comp=Z,26nm,21.4s,baz=209,slow=31						
PETK	**Petropavlovsk-**	**64.82**	**355**	P	**P**	**23 09 28.5**	**-0.2**
KIWB	**Kanaga Island**	**65.11**	**12**	P	**P**	**23 09 30.4**	**-0.3**
CN2	**Changchun**	**65.92**	**330**	*e*P	**P**	**23 09 36.5**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI	**Kunming**	**70.86**	**302**	⇑P	**P**	**23 10 10.0**	**+2.3**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.73**	**294**	P	**P**	**23 10 12.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=117,slow=5.2,SNR=1.5						
HHC	**Hu-ho-hao-te**	**71.86**	**320**	*e*P	**P**	**23 10 15.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,64nm,4.7s						
LZH	**Lanzhou**	**74.66**	**313**	*e*P	**P**	**23 10 31.8**	**+1.8**
LZH				pP	pP	23 10 34.0	-5.1
LZH				sP	sP	23 10 36.8	-5.7
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,73nm,7.5s						
LZH				LR	LR		
	comp=N,120nm,16.2s						
LZH				LR	LR		
	comp=E,140nm,16.5s						
LZH				LR	LR		
	comp=Z,120nm,18.6s						
SONM	**Songino Array**	**78.76**	**324**	P	**P**	**23 10 52.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=143,slow=6.1,SNR=8.5						
GTA	**Gaotai**	**78.99**	**314**	*e*P	**P**	**23 10 55.5**	**+1.2**
GTA				pP	PcP	23 11 00.3	-2.5
GTA				sP	pP	23 11 03.5	0.0
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BERG	**Berg Lake**	**82.53**	**23**	P	**P**	**23 11 12.3**	**-0.3**
N25K	**Chitina, Valde**	**82.98**	**22**	P	**P**	**23 11 14.5**	**-0.5**
N25K				IAmb	IAmb	23 11 15.8	
	comp=Z,5.2nm,0.7s						
GLB	**Gilahina Butte**	**83.16**	**22**	P	**P**	**23 11 14.9**	**-1.0**
GLB				IAmb	IAmb	23 11 16.5	
	comp=Z,3.8nm,0.7s						
WRH	**Wood River Hil**	**83.73**	**19**	P	**P**	**23 11 18.3**	**-0.4**
CTGM	**Chitina Glacie**	**83.80**	**23**	P	**P**	**23 11 18.7**	**-0.6**
HDA	**Harding Lake**	**84.05**	**19**	P	**P**	**23 11 18.8**	**-1.5**
HDA				IAmb	IAmb	23 11 20.6	
	comp=Z,3.7nm,0.9s						
RIDG	**Independent Ri**	**84.29**	**20**	P	**P**	**23 11 21.6**	**0.0**
RIDG				IAmb	IAmb	23 11 23.3	
	comp=Z,9.6nm,1.3s						
ILAR	**Eielson Array**	**84.32**	**19**	P	**P**	**23 11 20.8**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=231,slow=5.2,SNR=14						
DOT	**Dot Lake**	**84.50**	**20**	P	**P**	**23 11 22.2**	**-0.4**
DOT				IAmb	IAmb	23 11 23.6	
	comp=Z,4.8nm,0.9s						
SCRK	**Sand Creek**	**84.73**	**20**	P	**P**	**23 11 24.3**	**+0.3**
SCRK				IAmb	IAmb	23 11 25.1	
	comp=Z,5.5nm,1.0s						
HYT	**Haines Junctio**	**85.23**	**24**	P	**P**	**23 11 26.6**	**+0.1**
HYT				IAmb	IAmb	23 11 27.3	
	comp=Z,5.2nm,1.1s						
WAKR	**Walker**	**86.12**	**50**	P	**P**	**23 11 31.4**	**-0.2**
WAKR				IAmb	IAmb	23 11 32.9	
	comp=Z,6.9nm,1.3s						
MDPB	**Devils Postpil**	**86.13**	**51**	P	**P**	**23 11 30.5**	**-1.2**
MDPB				IAmb	IAmb	23 11 32.5	
	comp=Z,3.4nm,0.9s						
EGAK	**Eagle**	**86.19**	**20**	P	**P**	**23 11 31.6**	**+0.6**
EGAK				IAmb	IAmb	23 11 32.4	
	comp=Z,4.1nm,1.0s						
BMAR	**Burnt Mountain**	**86.80**	**17**	P	**P**	**23 11 35.3**	**+1.3**
NVAR	**Mina Array Bea**	**86.95**	**50**	P	**P**	**23 11 34.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=234,slow=8.0,SNR=9.5						
WMQ	**Urumqi**	**89.04**	**315**	*e*P	**P**	**23 11 47.3**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,11nm,5.3s						
CCUT	**Cedar City**	**90.47**	**52**	P	**P**	**23 11 52.2**	**-0.1**
CCUT				IAmb	IAmb	23 11 54.1	
	comp=Z,5.0nm,1.3s						
U15A	**North Rim**	**91.03**	**53**	P	**P**	**23 11 54.9**	**-0.2**
U15A				IAmb	IAmb	23 11 56.7	
	comp=Z,5.2nm,1.1s						
MTPU	**Mount Pierson**	**91.49**	**52**	P	**P**	**23 11 57.8**	**+0.6**
MVU	**Marysvale**	**91.58**	**51**	P	**P**	**23 11 56.9**	**-0.6**
HVU	**Hansel Valley**	**91.93**	**48**	P	**P**	**23 11 58.4**	**-0.6**
HVU				IAmb	IAmb	23 12 01.2	
	comp=Z,5.7nm,1.4s						
MKAR	**Makanchi Array**	**93.50**	**317**	P	**P**	**23 12 06.3**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=93,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**93.65**	**324**	P	**P**	**23 12 05.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=68,slow=5.3,SNR=4.0						
PMSA	**Palmer Station**	**95.36**	**161**	P	**P**	**23 12 15.3**	**+1.3**
TXAR	**Lajitas Array**	**96.73**	**62**	P	**P**	**23 12 21.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=212,slow=3.2,SNR=2.2						
ARCES	**ARCESS Array B**	**116.76**	**345**	PKP	**PKPdf**	**23 17 33.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=354,slow=1.2,SNR=6.1						
KEST	**Kesra**	**147.48**	**321**	PKPbc	**PKPbc**	**23 18 35.4**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=325,slow=5.2,SNR=4.5						
ESDC	**Sonseca Array**	**150.45**	**343**	PKPbc	**PKiKP**	**23 18 42.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=12,slow=3.7,SNR=5.3						

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*IDC **31** 23:01:59.6±1.7, 43°.66N×105°.42W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.4/52, mbtmp3.6/6, ML3.3/4, MS1.7/1, Ms1 1.7/1, ms1mx1.7/50, Error ellipse: s-maj=52.2km s-min=8.6km az=151.0*
*NEIC **31** 23:02:00.7±1.6, 43°.81N±0°.03×105°.31W±0°.07, h0km±2km, ML3.3/60, Error ellipse: s-maj=8.5km s-min=3.8km az=111.0*
ISC 31 23:02:00.1±0.7, 43°.82N±0°.04×105°.29W±0°.04, h0km, n91, σ1§33/104, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.95**	**71**	Pg	**Pg**	**23 02 19.2**	**+0.8**
K22A	**Casper**	**1.48**	**218**		**Pn**	**23 02 25.9**	**-2.2**
K22A				IAML		23 02 48.7	
	comp=N,451nm,0.6s						
K22A				IAML		23 02 49.5	
	comp=E,433nm,0.4s						
PHWY	**Pilot Hill**	**2.52**	**183**		**Pn**	**23 02 42.2**	**-0.3**
RWWY	**Rawlins**	**2.56**	**214**		**Pn**	**23 02 43.6**	**+0.6**
RWWY				IAML		23 03 18.7	
	comp=E,145nm,0.5s						
LAO	**LASA Array**	**2.94**	**347**		**Pn**	**23 02 48.9**	**+0.7**
RLMT	**Red Lodge**	**3.13**	**296**		**Pn**	**23 02 51.1**	**+0.2**
RLMT				IAML		23 03 44.1	
	comp=E,50nm,0.7s						
RLMT				IAML		23 04 50.0	
	comp=E,63nm,0.3s						
PD31	**Pinedale Array**	**3.29**	**253**		**Pn**	**23 02 52.8**	**-0.3**
PDAR	**Pinedale Array**	**3.29**	**253**	Pn	**Pn**	**23 02 52.9**	**-0.3**
	comp=E,3.2nm,0.3s,baz=71,slow=16,SNR=55						
PDAR				Lg	Lg	23 03 39.2	
	comp=E,14nm,0.3s,baz=73,slow=31,SNR=15						
PDAR				LR	LR	23 03 59.2	
	comp=E,15nm,22.0s,baz=13,slow=38						
BW06	**Boulder Array**	**3.29**	**253**		**Pn**	**23 02 53.3**	**+0.2**
BW06				IAML		23 03 44.3	
	comp=E,42nm,0.6s						
YNE	**Yellowstone N**	**3.58**	**291**		**Pn**	**23 02 57.6**	**+0.4**
YNE				IAML	

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LOHW                                Pg    Pb   23 03 10.4 +1.3
FLWY  Flagg Ranch      3.92 276            Pn   23 03 01.1 -0.6
FLWY                                Pg    Pb   23 03 12.5 +2.3
FLWY                                IAML       23 04 09.5
      comp=E,32nm,2.4s
YNR   Norris Junctio   3.97 285  Pn        Pn   23 03 02.1 -0.4
SNOW  Snow King Moun   3.98 267  Pn        Pn   23 03 02.5 -0.1
SNOW                                       Pb   23 03 11.6 +0.3
SNOW                                IAML       23 04 04.9
      comp=E,38nm,0.6s
SNOW                                IAML       23 04 15.6
      comp=E,33nm,0.7s
YPP   Pitchstone Pla   4.00 278            Pn   23 03 02.6 -0.4
YPP                                Pg    Pb   23 03 12.9 +1.2
ISCO  Idaho Springs    4.02 184            Pn   23 03 03.6 +0.3
REDW  Red Top Meadow   4.07 265            Pn   23 03 03.5 -0.2
REDW                                Pg    Pb   23 03 14.6 +1.9
REDW                                IAML       23 04 11.1
      comp=E,51nm,0.7s
REDW                                IAML       23 04 14.8
      comp=E,50nm,0.8s
IMW   Indian Meadow    4.09 273            Pn   23 03 05.5 +1.4
IMW                                Pb    Pb   23 03 13.2 +0.1
IMW                                IAML       23 04 13.8
      comp=E,22nm,0.6s
IMW                                IAML       23 04 14.7
      comp=E,41nm,0.6s
YHH   Holmes Hill      4.11 286            Pn   23 03 05.8 +1.4
TPAW  Teton Pass       4.12 267            Pn   23 03 05.4 +0.8
TPAW                                IAML       23 04 17.1
      comp=E,37nm,0.7s
TPAW                                IAML       23 04 20.9
      comp=E,23nm,0.8s
E28A  Huff             4.26  48  Pg        Pg   23 03 19.8 -1.9
O20A  White River Ci   4.29 212            Pn   23 03 07.1 +0.3
O20A                                IAML       23 04 16.1
      comp=E,32nm,0.7s
O20A                                IAML       23 04 20.8
      comp=N,26nm,0.7s
AHID  Auburn Hatcher   4.37 258            Pn   23 03 08.2 +0.3
AHID                                Pg    Pg   23 03 21.6 -2.2
AHID                                IAML       23 04 31.4
      comp=N,37nm,0.8s
AHID                                IAML       23 04 32.6
      comp=E,31nm,0.8s
ECR   Eagle Creek      4.49 262  Pn        Pn   23 03 08.6 -1.0
ECR                                        Pg   23 03 23.5 -2.7
QLMT  Earthquake Lak   4.52 285            Pb   23 03 23.6 +3.1
RDMU  Red Mountain     4.54 226            Pn   23 03 11.3 +1.0
RDMU                                Pg    Pb   23 03 23.8 +2.9
RDMU                                IAML       23 04 27.0
      comp=N,28nm,0.7s
RDMU                                IAML       23 04 33.0
      comp=E,25nm,0.6s
SMCO  Snowmass         4.81 196  Pg        Pb   23 03 25.9 +0.5
SMCO                                IAML       23 04 30.8
      comp=E,24nm,0.3s
SMCO                                IAML       23 04 36.4
      comp=E,19nm,0.8s
BOZ   Bozeman (W)      4.86 294  IAML       23 04 35.2
      comp=E,18nm,0.8s
HWUT  Hardware Ranch   5.12 247            Pn   23 03 18.2 -0.1
KSCO  Kaye Shedlock'   5.20 156  Pn        Pn   23 03 19.1 -0.2
KSCO                                       Pb   23 03 34.9 +2.9
EGMT  Eagleton         5.23 325            Pn   23 03 21.0 +1.3
DLMT  Dillon           5.44 289            Pg   23 03 42.6 -1.8
HRY   Holter Researc   5.45 304            Pn   23 03 22.9 +0.3
LRM   Limekiln Ridge   5.47 294  Pg        Pg   23 03 41.2 -3.8
MCMT  McKenzie Canyo   5.52 283  Pg        Pb   23 03 41.8 +4.3
JLU   Jordanelle       5.59 237  Pn        Pn   23 03 24.1 -0.6
MDND  Maddock          5.66  43  Pn        Pn   23 03 25.8 +0.4
MDND                                Pg    Pg   23 03 45.7 -2.8
CTU   Camp Tracy       5.72 239  Pn        Pg   23 03 26.7 +0.3
BGNE  Belgrade         5.79 112  Pn        Pn   23 03 26.1 -1.2
SPUT  South Promonto   5.85 247            Pn   23 03 27.9 -0.4
BCYI  Bear Canyon      5.87 278  Pn        Pn   23 03 29.6 +1.1
HVU   Hansel Valley    5.87 252            Pn   23 03 27.9 -0.6
PV22  Blue Mesa, Par   5.90 208            Pn   23 03 27.9 -1.0
PV21  Cone Mtn., Par   5.94 209            Pn   23 03 29.5 -0.1
P17A  Butcher Ranch,   5.96 225            Pn   23 03 30.2 +0.5
PV15  Paradox Valley   5.98 205  Pn        Pn   23 03 30.4 +0.3
PV23  Carpenter Ridg   6.05 209  Pn        Pn   23 03 32.2 +1.1
MPU   Maple Canyon     6.07 233  Pn        Pn   23 03 30.9 -0.3
SDCO  Great Sand Dun   6.07 182  Pn        Pn   23 03 32.1 +0.7
PV12  Saucer Basin,    6.10 207            Pn   23 03 32.1 +0.3
PV20  West Nyswonger   6.14 208  Pn        Pn   23 03 33.2 +1.0
PV16  Nyswonger Mesa   6.15 208            Pn   23 03 31.9 -0.5
PV19  Morning Glory    6.17 208  Pn        Pn   23 03 33.7 +1.0
PV02  Paradox Valley   6.18 206  Pn        Pn   23 03 33.3 +0.5
PV01  Paradox Valley   6.20 205            Pn   23 03 33.1 +0.1
PV18  Skein Mesa, Pa   6.20 207            Pn   23 03 33.3 +0.2
PV13  Radium Mtn., P   6.25 206  Pn        Pn   23 03 34.3 +0.5
ECSD  EROS Data Cent   6.28  88  Pn        Pn   23 03 35.0 +1.0
NLU   North Lily Min   6.37 235  Pn        Pn   23 03 36.0 +0.6
BGU   Big Grassy Mou   6.42 246  Pn        Pn   23 03 37.5 +1.4
CBKS  Cedar Bluff      6.52 138  Pn        Pn   23 03 37.5 +0.3
CBKS                                       Pg   23 04 01.5 -3.5
N33A  J Bar K, Exete   6.58 115  Pn        Pn   23 03 36.6 -1.4
DUG   Dugway, Tooele   6.67 240            Pn   23 03 39.5  0.0
F33A  5 Mile Ranch,    6.71  69  Pn        Pn   23 03 40.3 +0.5
MSO   Missoula         6.80 299  Pn        Pn   23 03 42.5 +1.3
MVCO  Mesa Verde       7.04 201  Pn        Pn   23 03 46.0 +1.4
R32A  Long Quarter,    7.33 135  Pn        Pn   23 03 49.8 +1.4
JTMT  Jette            7.41 305  Pn        Pn   23 03 49.5 -0.1
MSU   Marysvale        7.42 227  Pn        Pn   23 03 49.9 +0.1
MVU   Marysvale        7.45 227  Pn        Pn   23 03 50.2  0.0
TCRU  Three Creeks R   7.49 228  Pn        Pn   23 03 48.3 -2.5
MFID  Camas Ranch      7.66 271  Pn        Pn   23 03 52.8 -0.2
PLID  Pearl Lake       7.77 283  Pn        Pn   23 03 54.8 +0.2
MTPU  Mount Pierson    7.78 224  Pn        Pn   23 03 54.4 -0.5
AGMN  Agassiz Nation   7.94  52  Pn        Pn   23 03 56.3 -0.4
ELK   Elko             7.99 251  Pn        Pn   23 03 57.4 -0.2
      comp=E,0.2nm,0.3s,baz=53,slow=10,SNR=2.2
ELK                                Lg    Lg   23 06 03.7
      comp=E,0.1nm,0.3s,baz=165,slow=17,SNR=1.6
KSU1  Kansas State U   8.04 123  Pn        Pn   23 03 57.9 -0.2
PSUT  Pine Spring      8.34 234  Pn        Pn   23 04 02.6 +0.2
F36A  Milaca           8.61  72  Pn        Pn   23 04 06.1 +0.2
CCUT  Cedar City       8.76 227  Pn        Pn   23 04 07.9 -0.3
ULM   Lac du Bonnet    9.09  42  Pn        Pn   23 04 12.7 +0.2
      comp=E,1.5nm,0.3s,baz=224,slow=11,SNR=10
ULM   Lac du Bonnet    9.09  42  Pn        Pn   23 04 12.1 -0.4
NVAR  Mina Array Bea  11.19 246  Pn        Pn   23 04 42.7 +1.2
      comp=E,0.1nm,0.3s,baz=56,slow=10,SNR=5.3
TXAR  Lajitas Array   14.52 174  Lg        Lg   23 09 32.0
      comp=E,0.0nm,0.3s,baz=101,slow=41,SNR=1.7
ZALV  Zalesovo Beam   82.22 354  P         P    23 14 22.6 -0.2
      comp=E,0.6nm,0.5s,baz=349,slow=5.9,SNR=2.8
MKAR  Makanchi Array  89.52 355  P         P    23 14 58.8 -0.3
      comp=E,0.4nm,0.6s,baz=7.6,slow=3.7,SNR=3.9
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DJA 31 23:24:44.6±0.3, 8°S±3°×11°8E±°, h10km, M3.8/13, mb4.1/3, MLv3.7/13, Sumbawa region

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
DBNI  Kabupaten Domp   0.38 166  P     Pg   23 24 52.3 +0.1
PLAI  Plampang         0.82 212  P     Pg   23 25 00.2 -0.2
TWSI  Taliwang, Sumb   1.46 245  P     Pn   23 25 10.6 -0.4
WBSI  Waikabubak, Su   1.90 142  P     Pn   23 25 17.4 +0.3
KLNI  Mataram          2.12 262  P     Pn   23 25 20.4 +0.2
BSSI  Bau Bau, Buton   3.00  49  P     Pn   23 25 32.1 -0.1
DNP   Denpasar         3.03 259  P     Pn   23 25 32.8 +0.2
BKSI  Bulukumba        3.37  34  P     Pn   23 25 37.1 -0.2
KAPI  Kappang          3.45  26  P     Pn   23 25 38.4  0.0
EDFI  Ende, Flores     3.49 100  P     Pn   23 25 38.8 -0.3
BNSI  Bone             4.15  27  P     Pn   23 25 47.9 -0.2
KMMI  Kalianget        4.35 284  P     Pn   23 25 51.5 +0.7
BATI  Baumata          5.76 111  P     Pn   23 26 10.1 -0.1
      0.1nm16nm,0.9s
SOEI  Soe              6.19 106  P     Pn   23 26 16.3 +0.1
      0.1nm23nm,1.4s
PWJI  Pagerwojo        6.35 271  P     Pn   23 26 18.7 +0.3
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*GCG **31** 23:38:46.9±0.6, 12°.7N×93°.81W, h45km, MD5.0*
*INET **31** 23:39:20.6, 14°.19N×90°.87W, h184km, ML5.2, MW4.3*
*GCMT **31** 23:39:22.4±0.2, 13°.93N±0°.01×91°.75W±0°.02, h67km±1km, MW5.1/105, Moment Tensor Solution. s92,c132; s105,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.77±.12; $M_{\theta\theta}$3.59±.11; $M_{\phi\phi}$1.18±.12; $M_{r\theta}$0.44±.09; $M_{\theta\phi}$-3.40±.09; $M_{\phi r}$-0.97±.10; Best double couple: $M_0$5.49700×10^{16} NP1:ϕ_s117.00000°, δ41.00000°, λ-102.00000°. NP2:ϕ_s313.00000°, δ50.00000°, λ-79.00000°. Principal axes: T 6.0700, Plg5.0000°, Azm36.0000°; N -1.1460, Plg8.0000°, Azm126.0000°; P -4.9240, Plg81.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 23:39:23.7±0.3, 14°.29N×91°.10W, h62km±2km, mb4.5/31, mb1 4.6/32, mb1mx4.5/42, mbtmp4.8/32, MS4.1/27, Ms1 4.1/27, ms1mx4.0/32 Error ellipse: s-maj=14.6km s-min=7.0km az=55.0*
*MOS **31** 23:39:23.6±1.1, 14°.16N×91°.38W, h76km, mb5.4/10, Error ellipse: s-maj=7.9km s-min=4.1km az=108.5*
*NEIC **31** 23:39:25.1±2.6, 14°.13N±0°.06×91°.42W±0°.06, h63km±3km, mb5.1/614, Mwr5.0/18, Md5.0(SNET), Error ellipse: s-maj=9.6km s-min=7.0km az=222.0*
*NEIC **31** 23:39:25.2, 14°.09N×91°.50W, h41km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.92; $M_{\theta\theta}$-2.82; $M_{\phi\phi}$0.90; $M_{r\theta}$-1.69; $M_{\theta\phi}$1.20; $M_{\phi r}$1.60; Fault plane solution: $M_0$3.62000×10^{16} NP1:ϕ_s310.18000°, δ69.32000°, λ116.27000°. NP2:ϕ_s75.78000°, δ32.97000°, λ40.47000°. Principal axes: T 3.1769, Plg57.0000°, Azm256.0000°; N 0.7568, Plg24.0000°, Azm120.0000°; P -3.9337, Plg20.0000°, Azm21.0000°;*
*SNET **31** 23:39:26.0±1.2, 13°.94N×91°.37W, h70km±27km, ML5.0*
*UCR **31** 23:39:26.0±1.3, 14°.01N×91°.32W, h20km±7km, ML4.7, mb5.0(NEIC)*

ISC 31 23:39:23.3±0.3, 14°.15N±0°.04×91°.42W±0°.04, h62km±2km, h62km:pP-P, n1455, σ1°52/1608, mb5.1/350, 92C-203D, Fault plane solution: NP1:ϕ_s113.67638°, δ71.51231°, λ-89.09766°. NP2:ϕ_s290.83289°, δ18.50892°, λ-92.69664°. Principal axes: T Plg26.5070°, Azm202.9634°; N Plg0.8558°, Azm293.3902°; P Plg63.4770°, Azm25.1053°; **Guatemala**

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC  h m s     ISC
RTAL  Retalhuleu       0.46 325  Pn        Pn   23 39 35.5 +0.5
FUG   Fuego 3          0.64  62  ∥iP       Pn   23 39 40.5 +3.4
PCG   Pacaya           0.83  73  ∥iP       Pn   23 39 42.8 +3.3
NBG   Las Nubes        1.13  67  ∥iP       Pn   23 39 48.3 +4.9
HUEH  Huehuetenango    1.17 356  Pn        Pn   23 39 46.9 +3.0
NUBE  Las Nubes        1.61  98  eP        Pn   23 39 51.4 +1.7
NUBE                                eS        Sn   23 40 12.3 +2.7
NUBE                                IAML       23 40 16.6
      comp=Z,21μm,0.7s
NUBE  Las Nubes        1.61  98  eP        Pn   23 39 51.4 +1.7
NUBE                                eS        Sn   23 40 12.3 +2.7
NUBE                                IAML       23 40 16.6
      comp=Z,21μm,0.7s
RTR   El Retiro        1.74  98  eP        Pn   23 39 54.0 +2.5
RTR   El Retiro        1.74  98  eP        Pn   23 39 54.0 +2.5
SBLS  San Blas         1.77 100  eP        Pn   23 39 54.2 +2.3
SBLS  San Blas         1.77 100  eP        Pn   23 39 54.2 +2.3
SNJE  San Jose         1.79  99  eP        Pn   23 39 54.3 +2.2
SNJE  San Jose         1.79  99  eP        Pn   23 39 54.3 +2.2
UNIC  Universidad Ca   1.83  95  eP        Pn   23 39 54.9 +2.4
UNIC                                eS        Sn   23 40 17.9 +3.3
UNIC  Universidad Ca   1.83  95  eP        Pn   23 39 54.9 +2.4
UNIC                                eS        Sn   23 40 17.9 +3.3
MRL   Marmol           1.92  61  ∥iP       Pn   23 39 58.5 +4.5
MTO3  Montecristo      2.02  83  ∥eP       Pn   23 39 57.7 +2.5
MTO3                                eS        Sn   23 40 24.0 +4.6
MTO3  Montecristo      2.02  83  ∥eP       Pn   23 39 57.7 +2.5
MTO3                                eS        Sn   23 40 24.0 +4.6
MTO3  Montecristo      2.02  83  Pn        Pn   23 39 57.8 +2.5
ESQI  Esquipulas       2.06  78  Pn        Pn   23 39 58.5 +2.8
BOQS  Boqueron         2.12 101  eP        Pn   23 39 58.9 +2.3
BOQS  Boqueron         2.12 101  eP        Pn   23 39 58.9 +2.3
LALI  Alcalda de L     2.14 108  eP        Pn   23 39 58.3 +1.6
LALI                                IAML       23 40 32.3
      comp=Z,6μm,0.4s
LALI  Alcalda de L     2.14 108  eP        Pn   23 39 58.3 +1.6
LALI                                IAML       23 40 32.3
      comp=Z,6μm,0.4s
CPRS  Casa Presidenc   2.17 102  eP        Pn   23 39 59.0 +1.9
SNET  Serv Nac Est T   2.18 102  eP        Pn   23 39 59.3 +2.1
SNET                                eS        Sn   23 40 25.2 +2.1
SNET                                IAML       23 40 33.1
      comp=Z,15μm,0.3s
SNET  Serv Nac Est T   2.18 102  eP        Pn   23 39 59.3 +2.1
SNET                                eS        Sn   23 40 25.2 +2.1
SNET                                IAML       23 40 33.1
      comp=Z,15μm,0.3s
SNET  Serv Nac Est T   2.18 102  Pn        Pn   23 39 59.0 +1.8
SEMO  Seminario San    2.18 101  eP        Pn   23 39 59.5 +2.2
UTEC  Universidad Te   2.20 101  eP        Pn   23 40 00.1 +2.6
UTEC  Universidad Te   2.20 101  eP        Pn   23 40 00.1 +2.6
IGN   Direccin Gen     2.23 101  eP        Pn   23 40 00.2 +2.3
IGN   Direccin Gen     2.23 101  eP        Pn   23 40 00.2 +2.3
CCIG  Comitan          2.23 342  Pn        Pn   23 40 00.9 +2.8
UDBS  Universidad Do   2.24 101  eP        Pn   23 40 00.8 +2.7
UDBS                                IAML       23 40 35.6
      comp=Z,18μm,0.4s
UDBS  Universidad Do   2.24 101  eP        Pn   23 40 00.8 +2.7
UDBS                                IAML       23 40 35.6
      comp=Z,18μm,0.4s
LFU   La Fuente        2.28 100  eP        Pn   23 40 00.3 +1.7
LFU   La Fuente        2.28 100  eP        Pn   23 40 00.3 +1.7
AEIL  Aeropuerto Ilo   2.28 101  eP        Pn   23 40 01.4 +2.7
AEIL  Aeropuerto Ilo   2.28 101  eP        Pn   23 40 01.4 +2.7
LBRS  Las Brisas       2.35 100  eP        Pn   23 40 01.9 +2.3
LBRS  Las Brisas       2.35 100  eP        Pn   23 40 01.9 +2.3
LFRS  El Faro          2.35 103  eP        Pn   23 40 01.6 +1.9
LFRS  El Faro          2.35 103  eP        Pn   23 40 01.6 +1.9
SJTE  Alcalda de S     2.41 102  eP        Pn   23 40 02.2 +1.9
SJTE  Alcalda de S     2.41 102  eP        Pn   23 40 02.2 +1.9
COEG  Centro de Oper   2.52 102  eP        Pn   23 40 04.3 +2.3
COEG                                IAML       23 40 40.7
      comp=Z,11μm,0.4s
COEG  Centro de Oper   2.52 102  eP        Pn   23 40 04.3 +2.3
COEG                                IAML       23 40 40.7
      comp=Z,11μm,0.4s
UESV  Universidad de   2.61 101  eP        Pn   23 40 05.5 +2.4
UESV  Universidad de   2.61 101  eP        Pn   23 40 05.5 +2.4
TECO  Alcaldia de Te   2.64 103  eP        Pn   23 40 05.5 +2.0
TECO                                IAML       23 40 48.2
      comp=Z,2μm,0.4s
PQSS  Presa 15 de Se   2.83 100  eP        Pn   23 40 08.3 +2.3
COEB  Comit de Eme     2.88 103  eP        Pn   23 40 09.2 +2.2
COEB                                IAML       23 40 49.2
      comp=Z,5μm,0.4s
COEB  Comit de Eme     2.88 103  eP        Pn   23 40 09.2 +2.2
COEB                                IAML       23 40 49.2
      comp=Z,5μm,0.4s
ALJI  Alcalda de J     2.89 106  eP        Pn   23 40 09.0 +2.1
ALJI                                IAML       23 40 52.7
      comp=Z,5μm,0.5s
ALJI  Alcalda de J     2.89 106  eP        Pn   23 40 09.0 +2.1
ALJI                                IAML       23 40 52.7
      comp=Z,5μm,0.5s
TECA  Tecapa           2.91 103  eP        Pn   23 40 09.6 +2.3
TECA  Tecapa           2.91 103  eP        Pn   23 40 09.6 +2.3
LCY   Lacayo           3.12 103  eP        Pn   23 40 13.1 +2.9
LCY   Lacayo           3.12 103  eP        Pn   23 40 13.1 +2.9
PETF  Flores           3.13  28  Pn        Pn   23 40 13.7 +3.4
JUCU  Jucuarın         3.21 106  eP        Pn   23 40 13.3 +1.9
JUCU                                eS        Sn   23 40 48.7 +0.3
JUCU                                IAML       23 41 12.3
      comp=Z,5μm,0.4s
JUCU  Jucuarın         3.21 106  eP        Pn   23 40 13.3 +1.9
JUCU                                eS        Sn   23 40 48.7 +0.3
JUCU                                IAML       23 41 12.3
      comp=Z,5μm,0.4s
LCND  La Caada         3.53 103  eP        Pn   23 40 17.8 +2.1
LCND                                IAML       23 41 06.2
      comp=Z,5μm,0.3s
LCND  La Caada         3.53 103  eP        Pn   23 40 17.8 +2.1
LCND                                IAML       23 41 06.2
      comp=Z,5μm,0.3s
CNCH  Conchagua        3.59 104  eP        Pn   23 40 19.0 +2.3
CNCH  Conchagua        3.59 104  eP        Pn   23 40 19.0 +2.3
TGUH  Tegucigalpa,Un   4.03  91  Pn        Pn   23 40 25.0 +2.4
CRIN  San Cristobal    4.49 108  Pn        Pn   23 40 31.6 +2.7
CNGN  Cerro Negro      4.88 109  Pn        Pn   23 40 36.9 +2.7
MASN  Masaya           5.57 112  Pn        Pn   23 40 46.8 +3.2
ACON  Acoyapa          6.46 109  Pn        Pn   23 40 57.3 +1.4
HZTE  Horizontes, Gu   6.64 120  Pn        Pn   23 41 01.1 +2.9
GBS3  Finca Las Img    6.72 119  eP        Pn   23 41 02.0 +2.6
LAPC  Finca la Perla   6.75 119  eP        Pn   23 41 02.1 +2.4
GB1A  Borinquen Arri   6.75 119  eP        Pn   23 41 02.3 +2.5
BUEV  Buena Vista      6.75 119  eP        Pn   23 41 02.9 +3.0
BUAI  Buenos Aires     6.78 118  eP        Pn   23 41 04.0 +3.8
GPS2  Hotel Rincn d    6.82 119  eP        Pn   23 41 04.0 +3.2
SAJU  San Juanillo,    6.90 125  eP        Pn   23 41 03.8 +1.9
LIM1  Limonal          6.93 119  iP        Pn   23 41 05.7 +3.3
ORTG  Ortega, Santa    6.94 122            Pn   23 41 05.3 +2.9
GUAB  Guayabo de Bag   6.95 119  eP        Pn   23 41 05.0 +2.5
HORNC Hornillas        6.99 119  eP        Pn   23 41 05.7 +2.5
COLC  Colonia          6.99 119  eP        Pn   23 41 05.5 +2.4
CUI   Cuipilapa        7.03 119  eP        Pn   23 41 06.4 +2.7
GRZA  Playa Garza      7.05 126  eP        Pn   23 41 06.1 +2.2
DUNO  Dulce Nombre,    7.07 124  Pn        Pn   23 41 06.3 +2.2
ACAL  Aguas Claras     7.15 119  eP        Pn   23 41 08.3 +3.0
PTEN  Parque Tenorio   7.15 118  eP        Pn   23 41 07.7 +2.3
INDI  Punta indio, G   7.19 126  eP        Pn   23 41 08.1 +2.4
ESPN  Las Esperanzas   7.20 105  Pn        Pn   23 41 08.3 +2.3
JTS   Las Juntas de    7.39 120  P         Pn   23 41 11.0 +2.4
      comp=Z,9.9nm,0.3s,baz=20,slow=16,SNR=24
JTS                                S         Sn   23 42 29.7 -1.5
      baz=12,slow=22,SNR=0.5
JTS   Las Juntas de    7.39 120  P         Pn   23 41 11.7 +3.1
JTS   Las Juntas de    7.39 120  eP        Pn   23 41 11.7 +3.1
JTS   Las Juntas de    7.39 120            Pn   23 41 11.7 +3.1
JTS   Las Juntas de    7.39 120  eP        Pn   23 41 12.9 +4.3
ARE1  Arenal 1         7.51 118  eP        Pn   23 41 12.9 +2.7
CASO  Castillo         7.51 119  eP        Pn   23 41 13.2 +3.0
CEDE  Laguna Cedeo     7.51 118  eP        Pn   23 41 14.4 +4.2
CAO2  Cobano, Puntar   7.61 125  Pn        Pn   23 41 13.2 +1.7
COVE  Coope Vega, Sa   7.66 116  Pn        Pn   23 41 14.7 +2.5
TLIG  Tlapa            7.67 297  Pn        Pn   23 41 13.1 +0.7
LAFE  Finca La Fe, P   7.69 123  eP        Pn   23 41 14.9 +2.2
HDC   Heredia          8.25 119  Pn        Pn   23 41 22.6 +2.2
RIFO  Rio Frio, Sara   8.26 117  eP        Pn   23 41 24.2 +3.8
OCM   Ochomogo         8.43 119  eP        Pn   23 41 25.9 +2.8
LCR2  La Lucha 2       8.48 120  eP        Pn   23 41 26.6 +3.0
CVTR  Volcan Turrial   8.54 118  eP        Pn   23 41 28.2 +3.5
CVTR  Volcan Turrial   8.54 118  Pn        Pn   23 41 27.9 +3.1
RIMA  Rio Macho        8.58 120  eP        Pn   23 41 27.4 +2.4
RIMA  Rio Macho        8.58 120  Pn        Pn   23 41 28.2 +3.2
CDM   Cerro de Muert   8.78 121  eP        Pn   23 41 31.1 +3.2
BATAN Batan            8.84 116  Pn        Pn   23 41 31.6 +3.3
PEZE  Perez Zeledon,   8.94 121  Pn        Pn   23 41 32.7 +2.9
UNM   Universidad Na   9.04 306  P         Pn   23 41 33.4 +2.0
UNM   Universidad Na   9.04 306  Pn        Pn   23 41 33.4 +2.0
SRBA  San Rafael, Bu   9.28 121  Pn        Pn   23 41 37.5 +2.9
EDPN  Palmar Norte     9.35 123  eP        Pn   23 41 39.4 +4.0
DRK0  Durika           9.36 120  eP        Pn   23 41 38.9 +3.2
DRK0  Durika           9.36 120  Pn        Pn   23 41 38.6 +2.9
EDBA  Buenos Aires     9.39 121  eP        Pn   23 41 38.5 +2.5
LPLA  Las Palmas La    9.69 121  eP        Pn   23 41 43.1 +3.0
PTJ1  Puerto Jimnez    9.72 124  eP        Pn   23 41 44.3 +3.9
RGM0  Gandoca          9.74 117  Pn        Pn   23 41 44.6 +3.8
PIRO  Carate, Puerto   9.77 125  eP        Pn   23 41 45.5 +4.4
PRVC  Isla de Provid   9.80  93  Pn        Pn   23 41 44.3 +2.8
PRVC  Isla de Provid   9.80  93  eP        Pn   23 41 43.5 +2.0
EDSV  San Vito         9.83 122  eP        Pn   23 41 44.4 +2.4
CDITO Canoas           10.05 123 Pn        Pn   23 41 46.2 +1.3
BRU2  Volcan           10.07 121 eP        Pn   23 41 47.9 +2.5
MOIG  Morelia          10.84 302 Pn        Pn   23 41 57.5 +1.6
FSCY  Frank Sound, G   11.07  61 Pn        Pn   23 42 02.2 +3.4
SOR   Soroa            11.73  42 P         Pn   23 42 10.7 +2.9
SOR   Soroa            11.73  42 Pn        Pn   23 42 10.7 +2.9
GMAL  Guarumal, Vera   11.84 121 eP        Pn   23 42 16.7 +7.3
LCCY  Blossom Villag   12.16  62 Pn        Pn   23 42 16.8 +3.1
BCIP  Isla Barro Col   12.38 112 P         Pn   23 42 20.9 +4.2
BCIP  Isla Barro Col   12.38 112 Pn        Pn   23 42 20.9 +4.2
CBCY  The Bluff, Cay   12.47  62 Pn        Pn   23 42 21.3 +3.4
ZAIG  Zacatecas        13.61 311 Pn        Pn   23 42 36.0 +2.4
MTDJ  Mount Denham     13.94  71 Pn        Pn   23 42 40.0 +2.0
MTDJ  Mount Denham     13.94  71 eP        P    23 42 43.9 -0.2
KVTX  Kingsville       14.63 337 Pn        P    23 42 50.1 -1.6
PAYG  Puerto Ayora     14.77 176 Pn        Pn   23 42 50.8 +2.0
061Z  Ochoppi          15.27  39 Pn        Pn   23 42 55.9 +0.7
061Z                                IAmb       IAmb 23 42 57.8
      comp=Z,222nm,0.9s
735A  Kenedy           15.79 339 Pn        P    23 43 03.2 -1.3
735A                                IAmb       IAmb 23 43 06.2
      comp=Z,169nm,1.3s
833A  Chaparral WMA,   15.93 334 P         Pn   23 43 04.2 +0.6
      baz=151,SNR=16
HKT   Hockley          16.25 346 iP        P    23 43 08.8 -0.7
HKT                                pmax       pmax
      comp=Z,27nm,1.2s
HKT   Hockley          16.25 346 Pn        P    23 43 09.3 -0.2
SJCC  San Jacinto, C   16.44 103 Pn        P    23 43 11.3 -0.6
SJCC  San Jacinto, C   16.44 103 eP        Pn   23 43 09.8 -0.3
060A  Indiantown       16.47  37           P    23 43 12.3 +0.3
DBBC  Dabeiba          16.54 114 eP        P    23 43 12.4 -0.6
441A  DeRidder         16.61 355           P    23 43 14.6 +1.1
GTBY  Guantanamo Bay   16.62  68           P    23 43 17.1 +3.3
GTBY                                IAmb       IAmb 23 43 38.3
      comp=Z,101nm,0.9s
GTBY  Guantanamo Bay   16.62  68 eP        P    23 43 16.7 +2.9
DWPF  Disney Wildern   16.71  32 P         P    23 43 14.5 -0.3
      baz=216
DWPF  Disney Wildern   16.71  32           P    23 43 16.1 +1.4
DWPF                                IAmb       IAmb 23 43 29.2
      comp=Z,194nm,0.8s
UREC  San Jos de Ur    16.84 111 eP        Pn   23 43 13.2 -1.8
342A  Flagon Creek P   17.17 357           P    23 43 21.8 +2.1
451A  Vernon           17.20  17 Pn        P    23 43 23.6 +3.5
553A  Crawfordville    17.22  21 Pn        P    23 43 23.8 +3.5
344A  Westbrook Farm   17.24   2           P    23 43 22.5 +2.0
344A                                IAmb       IAmb 23 43 28.3
      comp=Z,157nm,0.7s
656A  Willston         17.24  27           P    23 43 21.9 +1.3
346A  Big Creek Wild   17.25   6           P    23 43 23.2 +2.5
CBOC  Ciudad Bolivar   17.25 117 eP        P    23 43 21.8 +0.7
BRAL  Brewton          17.41  13 P         P    23 43 22.7 +0.3
      baz=194,SNR=12
BRAL  Brewton          17.41  13           P    23 43 25.6 +3.1
BRAL                                IAmb       IAmb 23 43 28.6
      comp=Z,244nm,1.0s
435B  Jarrell          17.50 342 P         P    23 43 23.4 -0.1
      baz=160,SNR=6.2
435B                                S         Sn   23 46 26.2 -11
      baz=160
435B  Jarrell          17.50 342           P    23 43 25.7 +2.3
PLMC  San Jos del P    17.52 120 eP        P    23 43 23.9 +0.1
HELC  Santa Helena     17.52 115 eP        P    23 43 24.3 +0.2
TUMC  Tumaco           17.53 133 Pn        P    23 43 26.7 +2.8
ZARC  Zaragoza, Cauc   17.56 110 eP        Pn   23 43 22.9 -1.0
NATX  Nacogdoches      17.78 351 P         P    23 43 27.6 +1.1
      baz=170,SNR=7.3
NATX  Nacogdoches      17.78 351           P    23 43 28.4 +1.8
NATX                                IAmb       IAmb 23 43 53.0
      comp=Z,152nm,0.8s
SMLC  San Martn de     17.81 105 eP        P    23 43 26.3 -0.7
YOTC  Yotoco, Valle    17.98 123 eP        Pn   23 43 30.3 +1.2
JCT   Junction City    18.00 336 P         Pn   23 43 31.2 +2.0
JCT                                pmax       pmax
      comp=Z,51nm,1.1s
JCT   Junction City    18.00 336 P         P    23 43 28.7 -0.2
      baz=153,SNR=10
JCT   Junction City    18.00 336           Pn   23 43 31.2 +2.0
VBMS  Vicksburg        18.01   2 P         P    23 43 28.8 -0.2
      baz=183,SNR=7.9
VBMS  Vicksburg        18.01   2 Pn        Pn   23 43 32.3 +3.1
GUY2C Guyana, Caldas   18.13 118 eP        Pn   23 43 32.8 +1.5
237A  Washetta, Mont   18.22 348           Pn   23 43 33.3 +1.5
237A                                IAmb       IAmb 23 43 56.0
      comp=Z,111nm,1.1s
352A  Blakely          18.25  18 P         Pn   23 43 34.6 +2.4
250A  Grady            18.36  14 P         Pn   23 43 36.4 +2.8
250A                                IAmb       IAmb 23 43 43.0
      comp=Z,122nm,0.6s
NORC  Norcasia         18.39 116 eP        Pn   23 43 34.5 +0.4
HPIG                   18.41 316 P         Pn   23 43 35.0 +0.6
143A  Socs Landing,    18.47   0 P         Pn   23 43 36.8 +1.9
ANIL  Santa Ana        18.48 120 eP        Pn   23 43 37.8 +2.4
BBAC  Balboa, Cauca    18.48 129 eP        Pn   23 43 36.2 +0.8
TOLC  Tolima           18.50 119 eP        Pn   23 43 37.7 +2.0
146A  Union            18.53   6 P         Pn   23 43 38.7 +3.1
LGNH  Logne            18.57  74 P         Pn   23 43 38.4 +2.2
LGNH                                IAmb       IAmb 23 43 58.3
      comp=Z,216nm,1.3s
POPC  Popayan, Colom   18.58 127 eP        P    23 43 27.3 -8.4
WHTX  Lake Whitney,    18.60 344 P         P    23 43 34.5 -1.0
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baz=162,SNR=6.1
WHTX S Sn 23 46 52.3 -11
baz=162
WHTX Lake Whitney, 18.60 344 P Pn 23 43 37.0 +0.5
WHTX IAmb IAmb 23 43 53.0
comp=Z,152nm,1.2s
456A Hilliard 18.63 26 P Pn 23 43 38.8 +2.0
456A IAmb IAmb 23 43 57.0
comp=Z,177nm,0.8s
TIGA Tifton 18.65 21 P P 23 43 36.1 0.0
baz=204
TIGA Tifton 18.65 21 P Pn 23 43 39.3 +2.3
OCAC Ocana 18.70 106 *eP* **P 23 43 36.7 -0.3**
OTAV Otavalo 18.86 136 P Pn 23 43 41.4 +1.2
OTAV pmax pmax
comp=Z,26nm,1.1s
OTAV Otavalo 18.86 136 P Pn 23 43 41.4 +1.2
OTAV Otavalo 18.86 136 *eP* **Pn 23 43 40.5 +0.3**
SOTA Rioblanco 18.89 128 *eP* **Pn 23 43 42.8 +2.3**
TX31 Lajitas Ar. Si 18.89 325 P Pn 23 43 41.1 +1.0
TX31 IAmb IAmb 23 43 42.5
comp=Z,115nm,1.0s
TX32 Lajitas Array 18.89 325 P Pn 23 43 40.7 +0.6
TXAR Lajitas Array 18.89 325 P Pn 23 43 41.2 +1.2
comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=206
TXAR PcP **PcP 23 48 03.9 +0.7**
comp=Z,0.2nm,0.3s,baz=174,slow=1.1,SNR=4.9
TXAR pPcP 23 48 22.9
comp=Z,0.2nm,0.3s,baz=90,slow=2.5,SNR=5.2
TXAR ScP **ScP 23 51 35.5 +1.8**
comp=Z,0.2nm,0.3s,baz=145,slow=3.2,SNR=50
TXAR Lajitas Array 18.89 325 P Pn 23 43 41.0 +0.9
TXAR **PcP 23 48 03.9 +0.7**
TXAR **ScP 23 51 37.5 +3.8**
ORTC Ortega, Tolima 18.92 121 *eP* **Pn 23 43 41.4 +0.9**
PCON Cinco Dias 18.93 127 *eP* **Pn 23 43 43.0 +2.0**
GCUF Volcan Galeras 18.94 131⇑ *eP* **Pn 23 43 42.6 +1.5**
MARP Paez Belalcaza 18.96 125 *eP* **Pn 23 43 43.0 +1.9**
TULM Tulcn-Chalpat 18.98 134 *eP* **Pn 23 43 42.2 +0.7**
Z41A Richland Creek 19.07 356 P P 23 43 39.6 -1.1
baz=176,SNR=6.0
Z47A Carrollton 19.21 9 Pn 23 43 44.0 +0.3
ROSC El Rosal 19.22 117 P P 23 43 43.4 +0.5
comp=Z,3.8nm,0.3s,baz=107,slow=4.4,SNR=16
ROSC ScP **ScP 23 51 37.3 +2.3**
baz=46,slow=21,SNR=4.0
ROSC El Rosal 19.22 117 P Pn 23 43 44.8 +0.4
ROSC pmax pmax
comp=Z,72nm,1.0s
ROSC El Rosal 19.22 117 Pn 23 43 44.8 +0.4
ROSC El Rosal 19.22 117 *eP* **Pn 23 43 46.2 +1.8**
Z38A Mt. Pleasant 19.30 351 P Pn 23 43 44.8 +0.1
Z38A IAmb IAmb 23 44 10.6
comp=Z,122nm,1.0s
152A Waverly Hall 19.43 17 P Pn 23 43 46.7 +0.4
152A IAmb IAmb 23 43 52.1
comp=Z,97nm,1.1s
BARC Barichara 19.44 111 *eP* **P 23 43 45.4 +0.3**
255A Hazlehurst 19.50 23 P Pn 23 43 48.8 +1.6
WLAR White Oak Lake 19.51 356 P Pn 23 43 47.9 +0.6
WLAR IAmb IAmb 23 44 08.3
comp=Z,179nm,0.9s
PAMC Pamplona, Colo 19.59 108 *eP* **P 23 43 46.9 -0.1**
CCAR Cane Creek 19.69 359 P Pn 23 43 49.6 +0.3
CCAR IAmb IAmb 23 44 12.5
comp=Z,164nm,0.9s
Y45A Yeager Farm, C 19.71 5 Pn **Pn 23 43 50.9 +1.4**
GARC Garzon, Huila 19.72 126 *eP* **Pn 23 43 49.4 -0.7**
RUSC La Rusia 19.82 113 P P 23 43 49.6 +0.1
RUSC IAmb IAmb 23 44 13.4
comp=Z,154nm,1.5s
RUSC La Rusia 19.82 113 *eP* **P 23 43 47.9 -1.6**
Z35A Perchaven, San 19.82 345 P Pn 23 43 50.1 -0.8
Z35A IAmb IAmb 23 44 14.8
comp=Z,106nm,0.8s
CHIC Chingaza 19.83 117 *eP* **Pn 23 43 51.4 -0.3**
ABTX Abilene, Hawle 19.86 339 P P 23 43 48.7 -0.6
baz=156,SNR=13
ABTX Abilene, Hawle 19.86 339 P Pn 23 43 50.9 -0.6
ABTX IAmb IAmb 23 43 58.1
comp=Z,130nm,1.2s
SDDR Presa de Saban 19.89 73 Pn 23 43 52.4 +0.6
SDDR Presa de Saban 19.89 73 *eP* **Pn 23 43 51.3 -0.5**
154A Montrose 19.89 21 P Pn 23 43 51.8 +0.1
SLBS Sierra La Lagu 19.91 301 P Pn 23 43 51.4 -0.7
Z51A Franklin 19.91 16 P Pn 23 43 52.3 +0.3
Z51A IAmb IAmb 23 43 58.1
comp=Z,57nm,0.8s
VILC Villavicencio, 20.13 118 *eP* Pn 23 43 55.3 +0.5
257A Skidaway Islan 20.14 26 P Pn 23 43 56.5 +1.9
Y49A Blount Mountai 20.14 12 P Pn 23 43 54.5 -0.2
Y49A IAmb IAmb 23 44 17.1
comp=Z,86nm,0.8s
X40A Basin Creek Fa 20.29 357 P P 23 43 53.3 -0.6
baz=176,SNR=8.4
X40A Basin Creek Fa 20.29 357 P Pn 23 43 55.7 -0.7
OXF Oxford 20.36 5 P P 23 43 55.3 +0.6
OXF pmax pmax
comp=Z,279nm,0.9s
OXF Oxford 20.36 5 P P 23 43 54.7 0.0
baz=186,SNR=7.5
OXF Oxford 20.36 5 P P 23 43 55.3 +0.6
LPIG La Paz 20.38 302 P Pn 23 43 57.8 +0.2
comp=Z,31nm,0.4s,baz=139,slow=3.9,SNR=5.8
MIAR Mount Ida 20.40 355 P P 23 43 55.6 +0.4
MIAR pmax pmax
comp=Z,121nm,1.0s
MIAR Mount Ida 20.40 355 P P 23 43 55.3 +0.2
baz=174,SNR=24
MIAR Mount Ida 20.40 355 P P 23 43 55.6 +0.4
MIAR IAmb IAmb 23 44 23.4
comp=Z,121nm,1.0s
LOOK Love County 20.44 346 P Pn 23 43 57.4 -0.8
LOOK IAmb IAmb 23 44 20.4
comp=Z,153nm,1.0s
LOOK ScP **ScP 23 51 40.8 +3.7**
SC01 Santiago de lo 20.49 72 P Pn 23 43 57.6 -1.3
GOGA Godfrey 20.50 19 P Pn 23 43 58.3 -0.6
GOGA pmax pmax
comp=Z,129nm,1.2s
GOGA Godfrey 20.50 19 P P 23 43 56.7 +0.5
baz=203,SNR=25
GOGA S **S 23 47 38.4 -3.7**
baz=203
GOGA Godfrey 20.50 19 P Pn 23 43 58.3 -0.6
GOGA IAmb IAmb 23 44 18.5
comp=Z,129nm,1.2s
X48A Hartselle 20.60 10 P P 23 43 58.6 +1.4
X48A IAmb IAmb 23 44 21.2
comp=Z,109nm,0.8s
X37A Clayton 20.66 351 P P 23 43 59.3 +1.3
X37A IAmb IAmb 23 44 20.1
comp=Z,157nm,1.1s
Y52A Lilburn 20.73 18 P Pn 23 44 00.8 -1.0
TAMC Tame, Arauca 20.77 110 *eP* **P 23 43 58.8 -0.6**
TAMC Tame, Arauca 20.77 110 *eP* **P 23 43 57.0 -2.3**
MET Memphis--Engin 20.93 3 P Pn 23 44 03.6 -0.3
W41B Gary Mavity, V 20.95 358 P P 23 44 01.4 +0.4
baz=178,SNR=12
PLAL Pickwick Lake 20.96 8 P Pn 23 44 03.2 -1.2
PLAL IAmb IAmb 23 44 28.2
comp=Z,77nm,0.6s
FPAL Fort Paine 20.97 14 P Pn 23 44 03.3 -1.3
W45A Hickory Valley 21.02 5 P P 23 44 03.8 +2.0
SDV Santo Domingo 21.02 102 P P 23 44 01.1 -1.2
comp=Z,15nm,0.5s,baz=286,slow=7.2,SNR=6.2
SDV LR LR 23 52 48.3
comp=Z,314nm,21.8s,baz=268,slow=39
SDV Santo Domingo 21.02 102 P P 23 44 01.4 -0.9
SDV IAmb IAmb 23 44 30.9
comp=Z,52nm,0.8s
SDV Santo Domingo 21.02 102 *eP* **P 23 43 57.0 -5.3**
MACC Macarena, Meta 21.07 123 *eP* **P 23 43 57.9 -4.6**
MACC Macarena, Meta 21.07 123 *eP* **P 23 44 02.2 -0.3**
W39A Magazine 21.07 355 P P 23 44 02.7 +0.4
baz=174,SNR=7.7
W39A Magazine 21.07 355 P P 23 44 02.6 +0.4
W39A IAmb IAmb 23 44 14.2
comp=Z,79nm,1.1s
WHAR Wooly Hollow 21.07 358 P P 23 44 03.0 +0.7
WHAR IAmb IAmb 23 44 29.4
comp=Z,67nm,1.0s
X34A Smith Ranch, M 21.17 345 P P 23 44 05.1 +1.6
X34A IAmb IAmb 23 44 33.2

comp=Z,74nm,0.9s
X51A Calhoun 21.18 15 P P 23 44 05.0 +1.4
RGRS Roger Stewart 21.30 27 P P 23 44 07.9 +3.1
HBAR Harrisburg 21.33 2 P P 23 44 06.7 +1.6
LPAR Lepanto 21.39 3 P P 23 44 06.4 +0.7
CSU Charleston Sou 21.42 27 P P 23 44 08.5 +2.4
PTGC Puerto Gaitan, 21.43 116 *eP* **P 23 44 07.8 +1.4**
NHSC New Hope 21.47 27 P P 23 44 06.7 0.0
baz=211,SNR=11
NHSC New Hope 21.47 27 P P 23 44 09.1 +2.4
PTLC Puerto Leguiza 21.53 129 *eP* **P 23 44 10.1 +2.6**
WMOK Wichita Mounta 21.55 343 P P 23 44 07.9 +0.4
WMOK pmax pmax
comp=Z,82nm,1.3s
WMOK Wichita Mounta 21.55 343 P P 23 44 06.6 -1.0
baz=161,SNR=17
WMOK Wichita Mounta 21.55 343 P P 23 44 07.9 +0.4
WMOK IAmb IAmb 23 44 31.2
comp=Z,82nm,1.2s
SWET Sewanee 21.55 12 P P 23 44 08.8 +1.2
SWET IAmb IAmb 23 44 28.7
comp=Z,127nm,0.9s
DR12 Loma Pena Alta 21.63 75 P P 23 44 11.2 +2.6
HODGE Hodges 21.65 21 P P 23 44 10.2 +1.6
HODGE IAmb IAmb 23 44 30.3
comp=Z,163nm,1.3s
MNTX Cornudas Mount 21.65 326 P P 23 44 07.8 -0.8
baz=141,SNR=110
MNTX Cornudas Mount 21.65 326 P P 23 44 09.0 +0.3
MNTX IAmb IAmb 23 44 12.3
comp=Z,112nm,1.2s
MNTX ScP **ScP 23 51 43.4 +3.3**
FCAR Ozark Folk Cen 21.66 358 P P 23 44 09.1 +0.4
FCAR IAmb IAmb 23 44 34.2
comp=Z,72nm,0.9s
W50A Signal Mountai 21.67 14 P P 23 44 10.7 +1.8
FNO Franklin 21.70 347 P P 23 44 09.4 +0.3
HALT Halls 21.75 5 P P 23 44 11.0 +1.3
GNAR Gosnell 21.76 3 P P 23 44 09.7 0.0
LCAR Lake Charles 21.83 1 P P 23 44 10.4 -0.1
LCAR IAmb IAmb 23 44 30.0
comp=Z,78nm,0.6s
OKCSW OKLAHOMA CITY 21.85 347 P P 23 44 12.6 +1.9
OKCFA Oklahoma City 21.86 347 P P 23 44 12.6 +1.8
V48A Smith Brothers 21.90 10 P P 23 44 11.9 +0.8
V48A IAmb IAmb 23 44 38.6
comp=Z,110nm,0.8s
PEBM Pemiscott Bayo 21.92 3 P P 23 44 14.5 +3.1
W52A Murphy 21.92 17 P P 23 44 13.8 +2.2
W52A IAmb IAmb 23 44 32.6
comp=Z,94nm,0.8s
LNXT Lenox 21.93 4 P P 23 44 12.3 +0.8
HATO Hato, Curacao 21.96 92 P P 23 44 13.4 +1.4
OK025 Westminster Rd 22.00 347 P P 23 44 11.9 -0.4
OK025 IAmb IAmb 23 44 31.2
comp=Z,102nm,1.0s
TUL1 Leonard 22.02 351 P P 23 44 11.1 -1.5
baz=169
JSC Jenkinsville 22.06 23 P P 23 44 14.8 +1.9
JSC pmax pmax
comp=Z,35nm,0.9s
JSC Jenkinsville 22.06 23 P P 23 44 14.8 +1.9
CPCT Cooper Cave 22.10 15 P P 23 44 14.8 +1.4
CPCT IAmb IAmb 23 44 33.9
comp=Z,121nm,1.1s
GLAT Glass 22.11 5 P P 23 44 13.6 +0.1
BG3 Lake Jocassee 22.12 19 P P 23 44 15.2 +1.5
BG3 IAmb IAmb 23 44 34.9
comp=Z,78nm,0.7s
WVT Waverly 22.13 8 P P 23 44 13.4 -0.3
WVT pmax pmax
comp=Z,82nm,1.0s
WVT Waverly 22.13 8 P P 23 44 13.3 -0.3
baz=189
WVT Waverly 22.13 8 P P 23 44 13.4 -0.3
WVT IAmb IAmb 23 44 34.1
comp=Z,82nm,1.0s
WVT ScP **ScP 23 51 42.5 +1.3**
BCOK Bluff Creek, N 22.13 347 P P 23 44 14.7 +1.0
U40A Yellville 22.15 357 P P 23 44 12.8 -1.2
baz=176,SNR=24
U40A Yellville 22.15 357 P P 23 44 13.7 -0.3
U40A IAmb IAmb 23 44 37.7
comp=Z,48nm,0.9s
HHAR Hobbs 22.16 355 P P 23 44 13.5 -0.5
HHAR **PcP 23 48 09.1 0.0**
Y57A Sumter 22.17 25 P P 23 44 15.4 +1.3
UTMT University of 22.22 5 P P 23 44 16.1 +1.5
OK029 Liberty Lake 22.23 347 P P 23 44 13.8 -1.0
OK029 IAmb IAmb 23 44 42.3
comp=Z,91nm,0.8s
OK031 S. Brethren Rd 22.25 348 P P 23 44 15.1 +0.1
OK031 IAmb IAmb 23 44 41.8
comp=Z,118nm,1.3s
MSTX Muleshoe 22.26 334 P P 23 44 14.0 -1.2
baz=150,SNR=8.5
MSTX Muleshoe 22.26 334 P P 23 44 15.4 +0.2
PENMO Penman 22.27 4 P P 23 44 16.4 +1.3
CLTN Cedars of Leba 22.32 11 P P 23 44 16.9 +1.1
CLTN IAmb IAmb 23 44 37.5
comp=Z,109nm,0.9s
PAULI Pauline 22.34 21 P P 23 44 17.4 +1.4
PAULI IAmb IAmb 23 44 38.6
comp=Z,104nm,0.9s
U38A Gravette 22.36 354 P P 23 44 15.8 -0.4
Y58A Scranton 22.38 26 P P 23 44 16.6 +0.3
Y58A IAmb IAmb 23 44 30.8
comp=Z,98nm,0.9s
HICK Hickman 22.39 5 P P 23 44 17.1 +0.7
QUOK Quay 22.44 349 P P 23 44 16.9 -0.2
QUOK IAmb IAmb 23 44 41.2
comp=Z,51nm,0.7s
PARMO Parma 22.47 4 P P 23 44 18.2 +0.8
V51A Loudon 22.48 15 P P 23 44 18.6 +1.1
V51A IAmb IAmb 23 44 28.6
comp=Z,116nm,0.9s
TKL Tuckaleechee C 22.50 16 P P 23 44 18.6 +0.9
comp=Z,39nm,0.6s,baz=180,slow=10,SNR=76
TKL LR LR 23 53 51.3
comp=Z,1μm,21.9s,baz=210,slow=39
TKL Tuckaleechee C 22.50 16 P P 23 44 19.1 +1.4
TKL pmax pmax
comp=Z,131nm,1.1s
TKL Tuckaleechee C 22.50 16 P P 23 44 19.1 +1.4
TKL IAmb IAmb 23 44 44.3
comp=Z,131nm,1.1s
PCDR Punta Cana, DR 22.53 76 P P 23 44 19.6 +1.5
HENM Henderson Moun 22.54 4 P P 23 44 19.1 +0.9
PBMO Poplar Bluff 22.56 2 P P 23 44 17.7 -0.5
PBMO IAmb IAmb 23 44 36.5
comp=Z,123nm,0.9s
AMTX Amarillo 22.63 338 P P 23 44 18.0 -1.2
baz=154
AMTX Amarillo 22.63 338 P P 23 44 18.9 -0.3
AMTX IAmb IAmb 23 44 43.8
comp=Z,98nm,0.8s
BIRD Birdtown, Kers 22.69 24 P P 23 44 20.7 +1.0
BIRD IAmb IAmb 23 44 49.6
comp=Z,96nm,0.8s
V52A Sevierville 22.72 17 P P 23 44 20.9 +0.9
V52A IAmb IAmb 23 44 45.9
comp=Z,67nm,0.9s
V53A Saluda 22.79 18 P P 23 44 22.1 +1.3
Y59A Loris 22.80 28 P P 23 44 21.5 +0.7
Y59A IAmb IAmb 23 44 49.2
comp=Z,115nm,0.8s
KMSC Kings Mountain 22.80 22 P P 23 44 20.6 -0.2
baz=206,SNR=10
KMSC Kings Mountain 22.80 22 P P 23 44 21.9 +1.1
U49A Red Boiling Sp 22.84 12 P P 23 44 21.2 0.0
U49A IAmb IAmb 23 44 46.0
comp=Z,171nm,1.2s
T45A Paducah 22.91 6 P P 23 44 21.7 -0.3
MGMO Mountain Grove 22.93 358 P P 23 44 21.6 -0.5
MGMO IAmb IAmb 23 44 23.8
comp=Z,76nm,1.1s
MGMO ScP **ScP 23 51 45.2 +1.9**
CROK Carrier 23.03 346 P P 23 44 23.8 +0.7
X58A Rowland 23.07 26 P P 23 44 24.2 +0.6
X58A IAmb IAmb 23 44 43.4
comp=Z,87nm,0.9s
T47A Sharon Grove 23.07 9 P P 23 44 24.6 +1.0
BLOK Blackwell 23.11 348 P P 23 44 23.3 -0.7
Y60A Bolivia 23.11 29 P P 23 44 23.2 -0.8

T35A Sooner Cattle 23.13 350 P P 23 44 23.4 -0.8
U32A Winter Ranch, 23.16 344 P P 23 44 25.5 +1.1
W57A Gilead 23.32 24 P P 23 44 26.2 +0.2
W57A IAmb IAmb 23 44 47.6
comp=Z,64nm,0.7s
GC02 Grant County # 23.33 347 P P 23 44 27.0 +0.9
HSIG 23.37 312 P P 23 44 27.5 +0.9
TZTN Tazewell 23.39 16 P P 23 44 26.4 -0.2
baz=200,SNR=15
TZTN Tazewell 23.39 16 P P 23 44 27.4 +0.7
TZTN IAmb IAmb 23 44 51.6
comp=Z,131nm,1.0s
KAN13 South Haven SW 23.41 348 P P 23 44 26.8 0.0
KAN13 IAmb IAmb 23 44 53.5
comp=Z,50nm,0.9s
SRIG Santa Rosalia 23.42 307 P P 23 44 27.0 0.0
SRIG IAmb IAmb 23 44 30.5
comp=Z,119nm,1.2s
V55A Taylorsville 23.48 21 P P 23 44 28.7 +1.3
V55A IAmb IAmb 23 44 54.2
comp=Z,94nm,1.0s
KAN17 Caldwell West 23.50 347 P P 23 44 27.7 +0.1
KAN17 IAmb IAmb 23 44 51.6
comp=Z,52nm,0.9s
S39A Bolivar 23.51 356 P P 23 44 27.2 -0.5
S39A IAmb IAmb 23 44 29.2
comp=Z,63nm,0.7s
T50A Nancy 23.53 13 P P 23 44 27.9 0.0
T50A IAmb IAmb 23 44 51.5
comp=Z,57nm,0.8s
S44A Carbondale 23.53 4 P P 23 44 28.0 +0.1
KAN09 Caldwell North 23.55 348 P P 23 44 27.7 -0.5
KAN09 IAmb IAmb 23 44 55.0
comp=Z,83nm,1.1s
SIUC Southern Illin 23.55 4 P P 23 44 28.4 +0.3
121A Cookes Peak, D 23.62 324 P P 23 44 30.5 +1.5
baz=137,SNR=61
121A Cookes Peak, D 23.62 324 P P 23 44 31.1 +2.1
121A IAmb IAmb 23 44 33.6
comp=Z,106nm,1.1s
121A ScP **ScP 23 51 49.4 +4.0**
KS20 Mayfield South 23.63 348 P P 23 44 30.4 +1.6
KS20 IAmb IAmb 23 44 52.4
comp=Z,75nm,1.0s
KAN10 Anthony SW Sta 23.64 347 P P 23 44 30.3 +1.3
319A Douglas 23.71 319 P P 23 44 30.7 +0.9
319A IAmb IAmb 23 44 33.0
comp=Z,96nm,1.0s
KAN08 Anthony NE Sta 23.72 347 P P 23 44 30.0 +0.4
KAN08 IAmb IAmb 23 44 53.9
comp=Z,53nm,0.8s
CCM Cathedral Cave 23.81 0 P P 23 44 29.9 -0.6
CCM pmax pmax
comp=Z,161nm,1.2s
CCM Cathedral Cave 23.81 0 P P 23 44 29.8 -0.6
baz=181
CCM Cathedral Cave 23.81 0 P P 23 44 29.9 -0.6
CCM ScP **ScP 23 51 46.9 +1.4**
U54A Nelsons Funny 23.88 19 P P 23 44 32.0 +0.8
USIN University of 23.96 7 P P 23 44 32.5 +0.8
AOPR Arecibo Observ 24.04 77 P P 23 44 32.7 -0.1
R40A Maddies Statio 24.06 358 P P 23 44 32.0 -0.7
R40A IAmb IAmb 23 44 51.4
comp=Z,68nm,0.8s
BNM Barren Site 24.21 328 P P 23 44 36.3 +1.9
BNM ScP **ScP 23 51 50.7 +3.6**
U56A King 24.22 22 P P 23 44 35.5 +1.3
U56A IAmb IAmb 23 45 01.6
comp=Z,88nm,0.9s
V58A Windy Hill, Pi 24.23 25 P P 23 44 34.3 +0.1
V58A IAmb IAmb 23 44 35.6
comp=Z,73nm,0.7s
CNNC Cliffs of the 24.28 28 P P 23 44 34.8 0.0
baz=214,SNR=11
CNNC Cliffs of the 24.28 28 P P 23 44 34.9 +0.1
Y22D IRIS PASSCAL I 24.30 327 P P 23 44 34.9 -0.3
baz=141
Y22D IRIS PASSCAL I 24.30 327 P P 23 44 37.1 +1.9
Y22D IAmb IAmb 23 44 38.6
comp=Z,96nm,0.9s
LENM Lemitar 24.40 327 P P 23 44 37.7 +1.6
S51A Beattyville 24.41 15 P P 23 44 36.5 +0.6
S51A IAmb IAmb 23 45 04.7
comp=Z,77nm,0.8s
WCI Wyandotte Cave 24.41 10 P P 23 44 35.8 -0.1
WCI pmax pmax
comp=Z,138nm,0.7s
WCI Wyandotte Cave 24.41 10 P P 23 44 35.8 -0.1
baz=192
WCI Wyandotte Cave 24.41 10 P P 23 44 35.8 -0.1
SLM Saint Louis 24.41 2 P P 23 44 36.4 +0.5
SLM pmax pmax
comp=Z,134nm,0.8s
SLM Saint Louis 24.41 2 P P 23 44 36.4 +0.5
SJG San Juan 24.59 77 PcP **PcP 23 48 14.4 -0.1**
comp=Z,18nm,1.1s,baz=149,slow=6.5,SNR=3.5
SJG pPcP 23 48 29.6
comp=Z,12nm,0.7s,baz=11,slow=2.2,SNR=4.7
SJG LR LR 23 53 41.1
comp=Z,336nm,21.4s,baz=263,slow=35
OLIL Olney 24.67 6 P P 23 44 38.4 +0.2
OLIL IAmb IAmb 23 44 57.8
comp=Z,98nm,0.8s
GCPR Guaynabo City 24.67 77 P P 23 44 38.1 -0.3
R49A Shelbyville 24.68 12 P P 23 44 38.7 +0.4
R49A IAmb IAmb 23 45 07.4
comp=Z,92nm,0.8s
Q44A Meyer Farm, Va 24.75 4 P P 23 44 38.5 -0.5
Q44A IAmb IAmb 23 44 57.3
comp=Z,83nm,0.8s
ANMO Albuquerque 24.75 329 P P 23 44 40.8 +1.5
comp=Z,10nm,0.7s,baz=144,slow=11,SNR=49
ANMO ScP **ScP 23 51 51.2 +2.6**
comp=Z,15nm,1.0s,baz=166,slow=6.3,SNR=11
ANMO Albuquerque 24.75 329 *ce*P **P 23 44 40.5 +1.2**
ANMO pmax pmax
comp=Z,36nm,1.7s
ANMO Albuquerque 24.75 329 P P 23 44 39.8 +0.4
baz=143
ANMO Albuquerque 24.75 329 P P 23 44 40.7 +1.4
ANMO ScP **ScP 23 51 52.0 +3.5**
ATAH Atahualpa 24.78 148 P P 23 44 41.5 +1.6
comp=Z,25nm,1.0s,baz=297,slow=3.7,SNR=10
ATAH LR LR 23 51 47.3
comp=Z,342nm,19.8s,baz=325,slow=30
R50A Paris 24.85 13 P P 23 44 39.9 0.0
R50A IAmb IAmb 23 45 08.2
comp=Z,46nm,0.8s
BLA Blacksburg 24.98 21 P P 23 44 41.5 +0.3
BLA pmax pmax
comp=Z,110nm,1.2s
BLA Blacksburg 24.98 21 P P 23 44 41.5 +0.3
baz=206
BLA Blacksburg 24.98 21 P P 23 44 41.5 +0.3
BLA IAmb IAmb 23 45 03.6
comp=Z,110nm,1.2s
R32A Long Quarter, 25.03 346 P P 23 44 41.3 -0.2
MTP Monte Pirata 25.15 78 P P 23 44 42.9 +0.1
MTP IAmb IAmb 23 45 12.2
comp=Z,59nm,1.1s
S54A Dingess, Beckl 25.21 19 P P 23 44 43.2 -0.1
S54A IAmb IAmb 23 45 06.2
comp=Z,54nm,0.8s
T57A Hurt 25.22 23 P P 23 44 44.3 +1.1
U59A Littleton 25.26 26 P P 23 44 44.0 +0.4
KSU1 Kansas State U 25.27 351 P P 23 44 42.9 -0.9
baz=168
KSU1 Kansas State U 25.27 351 P P 23 44 43.3 -0.5
TUC Tucson 25.29 319 P P 23 44 45.1 +1.1
baz=132
TUC Tucson 25.29 319 P P 23 44 44.6 +0.6
TUC ScP **ScP 23 51 53.7 +3.8**
P40A Paris 25.29 359 P P 23 44 43.0 -0.9
P40A IAmb IAmb 23 45 11.6
comp=Z,42nm,0.8s
BLO Bloomington 25.30 9 P P 23 44 45.1 +1.1
BLO pmax pmax
comp=Z,41nm,0.8s
BLO Bloomington 25.30 9 P P 23 44 45.1 +1.1
BLO IAmb IAmb 23 45 06.3
comp=Z,41nm,0.8s
V61A Roper 25.34 29 P P 23 44 45.0 +0.6
V61A IAmb IAmb 23 44 45.6
comp=Z,77nm,0.7s
P38A Dawn 25.45 356 P P 23 44 45.0 -0.4

P43A	**Skaggs, Pawnee**	**25.45**	**3**	P	**P**	**23 44 45.0**	**-0.3**
P43A				IAmb	IAmb	23 45 05.4	
	comp=Z,49nm,0.8s						
R53A	**Hurricane**	**25.51**	**17**	P	**P**	**23 44 46.2**	**+0.4**
R53A				IAmb	IAmb	23 45 09.0	
	comp=Z,41nm,0.8s						
P46A	**Rosedale**	**25.64**	**8**	P	**P**	**23 44 47.8**	**+0.7**
CBKS	**Cedar Bluff**	**25.65**	**345**	P	**P**	**23 44 48.1**	**+0.9**
CBKS				pmax	pmax		
	comp=Z,44nm,1.2s						
CBKS	**Cedar Bluff**	**25.65**	**345**	P	**P**	**23 44 45.9**	**-1.3**
	baz=161						
CBKS	**Cedar Bluff**	**25.65**	**345**	P	**P**	**23 44 48.1**	**+0.9**
T25A	**Trinidad**	**25.66**	**335**	P	**P**	**23 44 47.0**	**-0.6**
	baz=150,SNR=9.5						
T25A	**Trinidad**	**25.66**	**335**	P	**P**	**23 44 47.4**	**-0.1**
T25A				IAmb	IAmb	23 45 13.9	
	comp=Z,67nm,1.3s						
STVI	**Saint Thomas**	**25.74**	**77**	P	**P**	**23 44 50.1**	**+1.9**
STVI				IAmb	IAmb	23 45 17.2	
	comp=Z,52nm,0.9s						
P48A	**Milroy**	**25.76**	**11**	P	**P**	**23 44 47.4**	**-0.8**
P48A				IAmb	IAmb	23 45 13.6	
	comp=Z,56nm,0.9s						
Q51A	**Peebles**	**25.79**	**15**	P	**P**	**23 44 48.8**	**+0.4**
Q51A				IAmb	IAmb	23 45 15.3	
	comp=Z,89nm,0.8s						
T59A	**Double "B" Far**	**25.88**	**26**	P	**P**	**23 44 49.8**	**+0.6**
T59A				IAmb	IAmb	23 44 50.7	
	comp=Z,61nm,0.7s						
P49A	**Miami Univ. Ec**	**25.97**	**12**	P	**P**	**23 44 49.3**	**-0.8**
	baz=195						
P49A	**Miami Univ. Ec**	**25.97**	**12**	P	**P**	**23 44 49.2**	**-0.8**
S57A	**Dark Hollow, R**	**26.00**	**23**	P	**P**	**23 44 50.3**	**-0.1**
S57A				IAmb	IAmb	23 45 16.7	
	comp=Z,64nm,1.3s						
Q52A	**Bidwell**	**26.01**	**16**	P	**P**	**23 44 50.9**	**+0.5**
Q52A				IAmb	IAmb	23 45 17.5	
	comp=Z,90nm,0.9s						
O44A	**Mansfield**	**26.04**	**5**	P	**P**	**23 44 51.1**	**+0.5**
O44A				IAmb	IAmb	23 45 09.5	
	comp=Z,45nm,0.7s						
R55A	**Marlinton**	**26.04**	**21**	P	**P**	**23 44 51.7**	**+0.9**
R55A				IAmb	IAmb	23 45 18.5	
	comp=Z,80nm,1.1s						
P51A	**Williamsport**	**26.29**	**15**	P	**P**	**23 44 53.3**	**+0.4**
P51A				IAmb	IAmb	23 45 19.7	
	comp=Z,36nm,0.8s						
X18A	**Snowflake**	**26.31**	**324**	P	**P**	**23 44 55.1**	**+1.7**
X18A					pP	23 44 55.2	-13
JSRW	**J. Sargeant Re**	**26.36**	**25**	P	**P**	**23 44 54.1**	**+0.5**
ABVI	**Anegada Island**	**26.36**	**76**	P	**P**	**23 44 54.7**	**+0.9**
HDIL	**Hopedale**	**26.38**	**4**	P	**P**	**23 44 52.9**	**-0.8**
	baz=185						
HDIL	**Hopedale**	**26.38**	**4**	P	**P**	**23 44 53.6**	**-0.1**
HDIL				IAmb	IAmb	23 45 11.6	
	comp=Z,103nm,1.1s						
T60A	**Surry**	**26.38**	**27**	P	**P**	**23 44 54.0**	**+0.2**
214A	**Organ Pipe Nat**	**26.40**	**316**	P	**P**	**23 44 55.0**	**+0.9**
	baz=128,SNR=25						
214A	**Organ Pipe Nat**	**26.40**	**316**	P	**P**	**23 44 55.5**	**+1.4**
214A				IAmb	IAmb	23 44 56.5	
	comp=Z,37nm,0.9s						
214A				ScP	**ScP**	**23 51 58.6**	**+5.6**
SFIN	**Lafayette**	**26.41**	**7**	P	**P**	**23 44 53.4**	**-0.6**
	baz=190,SNR=5.4						
SFIN	**Lafayette**	**26.41**	**7**	P	**P**	**23 44 53.5**	**-0.4**
SFIN				IAmb	IAmb	23 45 11.6	
	comp=Z,51nm,0.8s						
Q54A	**Coxs Mills**	**26.45**	**19**		**P**	**23 44 54.7**	**+0.3**
Q54A				IAmb	IAmb	23 45 19.3	
	comp=Z,116nm,1.4s						
N41A	**Harden Midland**	**26.47**	**1**	P	**P**	**23 44 53.9**	**-0.6**
N41A				IAmb	IAmb	23 45 12.1	
	comp=Z,30nm,0.8s						
N38A	**Joes South For**	**26.59**	**357**	P	**P**	**23 44 55.5**	**-0.2**
N38A				IAmb	IAmb	23 44 58.5	
	comp=Z,41nm,0.6s						
R58B	**Mineral**	**26.59**	**24**	P	**P**	**23 44 56.2**	**+0.5**
W18A	**Petrified Fore**	**26.61**	**325**	P	**P**	**23 44 56.9**	**+0.8**
	baz=138,SNR=15						
W18A	**Petrified Fore**	**26.61**	**325**	P	**P**	**23 44 57.7**	**+1.5**
W18A				IAmb	IAmb	23 45 01.3	
	comp=Z,70nm,1.2s						
SDCO	**Great Sand Dun**	**26.63**	**335**	P	**P**	**23 44 56.8**	**+0.5**
	baz=149,SNR=17						
SDCO	**Great Sand Dun**	**26.63**	**335**	P	**P**	**23 44 57.4**	**+1.0**
KSCO	**Kaye Shedlock'**	**26.67**	**340**	P	**P**	**23 44 56.1**	**-0.4**
	baz=156						
KSCO	**Kaye Shedlock'**	**26.67**	**340**	P	**P**	**23 44 58.1**	**+1.5**
KSCO				IAmb	IAmb	23 45 25.8	
	comp=Z,54nm,1.1s						
P52A	**Corning**	**26.67**	**16**	P	**P**	**23 44 56.1**	**-0.2**
	baz=200						
P52A	**Corning**	**26.67**	**16**	P	**P**	**23 44 57.3**	**+0.9**
P52A				IAmb	IAmb	23 45 22.6	
	comp=Z,50nm,1.1s						
O49A	**Covington**	**26.68**	**12**	P	**P**	**23 44 58.1**	**+1.7**
P53A	**Whipple**	**26.74**	**17**	P	**P**	**23 44 57.7**	**+0.7**
P53A				IAmb	IAmb	23 45 25.5	
	comp=Z,42nm,0.9s						
CBN	**Corbin Frederi**	**27.01**	**25**	P	**P**	**23 44 59.5**	**+0.1**
	baz=211						
CBN	**Corbin Frederi**	**27.01**	**25**	P	**P**	**23 45 00.1**	**+0.8**
CBN				IAmb	IAmb	23 45 24.4	
	comp=Z,40nm,0.8s						
N33A	**J Bar K, Exete**	**27.01**	**350**	P	**P**	**23 45 00.5**	**+1.0**
N33A				IAmb	IAmb	23 45 26.3	
	comp=Z,75nm,1.1s						
ACSO	**Alum Creek Sta**	**27.02**	**14**	P	**P**	**23 44 59.0**	**-0.5**
	baz=198						
ACSO	**Alum Creek Sta**	**27.02**	**14**	P	**P**	**23 44 59.7**	**+0.2**
ACSO				IAmb	IAmb	23 45 22.1	
	comp=Z,44nm,0.8s						
Q56A	**Snyder Ridge,**	**27.05**	**21**	P	**P**	**23 45 00.8**	**+1.0**
Q56A				IAmb	IAmb	23 45 28.4	
	comp=Z,68nm,1.3s						
N47A	**Urbana**	**27.10**	**10**	P	**P**	**23 44 59.5**	**-0.7**
N47A				IAmb	IAmb	23 45 22.4	
	comp=Z,64nm,1.0s						
X16A	**Lo Mia Camp, P**	**27.11**	**322**	P	**P**	**23 45 01.9**	**+1.2**
X16A					**PcP**	**23 48 21.6**	**+1.3**
S22A	**4UR Ranch, Cre**	**27.20**	**333**	P	**P**	**23 45 01.3**	**-0.3**
	baz=146,SNR=18						
O52A	**Adamsville**	**27.20**	**16**	P	**P**	**23 45 01.4**	**+0.3**
O52A				IAmb	IAmb	23 45 27.0	
	comp=Z,56nm,0.9s						
SFX	**San Felipe**	**27.30**	**312**	P	**P**	**23 45 03.9**	**+1.8**
MCWV	**Mont Chateau**	**27.38**	**20**	P	**P**	**23 45 02.7**	**-0.1**
	baz=205						
O53A	**New Philadelph**	**27.50**	**17**	P	**P**	**23 45 03.5**	**-0.3**
	baz=202,SNR=5.0						
O53A	**New Philadelph**	**27.50**	**17**	P	**P**	**23 45 04.0**	**+0.2**
Q24A	**Divide**	**27.53**	**336**	P	**P**	**23 45 04.5**	**0.0**
	baz=150						
113A	**Mohawk Valley,**	**27.53**	**316**	P	**P**	**23 45 05.7**	**+1.5**
113A					**PcP**	**23 48 21.7**	**+0.7**
113A				ScP	**ScP**	**23 52 00.2**	**+3.8**
SEUS	**St. Eustatius**	**27.55**	**79**	P	**P**	**23 45 06.0**	**+1.5**
MVCO	**Mesa Verde**	**27.55**	**330**	P	**P**	**23 45 06.0**	**+1.3**
	baz=142,SNR=23						
MVCO	**Mesa Verde**	**27.55**	**330**	P	**P**	**23 45 05.6**	**+1.0**
MVCO				IAmb	IAmb	23 45 07.4	
	comp=Z,47nm,1.1s						
MVCO				ScP	**ScP**	**23 52 00.7**	**+4.0**
O54A	**Avella**	**27.68**	**18**	P	**P**	**23 45 05.7**	**+0.2**
O54A				IAmb	IAmb	23 45 23.2	
	comp=Z,30nm,0.7s						
SCIA	**State Center**	**27.70**	**357**	P	**P**	**23 45 04.6**	**-1.0**
	baz=176						
SCIA	**State Center**	**27.70**	**357**	P	**P**	**23 45 07.5**	**+1.9**
SCIA				IAmb	IAmb	23 45 31.7	
	comp=Z,34nm,0.9s						
Y14A	**Wickenburg**	**27.76**	**319**	P	**P**	**23 45 07.8**	**+1.5**
Y14A					**PcP**	**23 48 22.4**	**+0.8**
SKI	**Saint Kitts**	**27.78**	**80**	P	**P**	**23 45 09.0**	**+2.4**
SKI				pmax	pmax		
	comp=Z,99nm,0.9s						
SKI	**Saint Kitts**	**27.78**	**80**	P	**P**	**23 45 09.0**	**+2.4**
L42A	**Oliver, Polo**	**27.80**	**3**	P	**P**	**23 45 06.2**	**-0.3**
L42A				IAmb	IAmb	23 45 33.1	
	comp=Z,66nm,0.9s						
L40A	**Anamosa**	**27.82**	**0**	P	**P**	**23 45 06.2**	**-0.4**
L40A				IAmb	IAmb	23 45 32.9	
	comp=Z,58nm,0.8s						
N51A	**Ashland**	**27.82**	**15**	P	**P**	**23 45 08.7**	**+2.1**
N51A				IAmb	IAmb	23 45 29.0	
	comp=Z,32nm,0.9s						
WUAZ	**Wupatki**	**27.83**	**323**	P	**P**	**23 45 06.1**	**-1.0**
	baz=135,SNR=18						
WUAZ	**Wupatki**	**27.83**	**323**	P	**P**	**23 45 08.5**	**+1.4**
WUAZ				ScP	**ScP**	**23 52 01.2**	**+3.7**
P57A	**Homestead Farm**	**27.86**	**23**	P	**P**	**23 45 08.1**	**+1.0**
P57A				IAmb	IAmb	23 45 37.5	
	comp=Z,36nm,1.0s						
N53A	**Lisbon**	**28.12**	**17**	P	**P**	**23 45 09.2**	**-0.2**
N53A				IAmb	IAmb	23 45 10.4	
	comp=Z,30nm,0.8s						
SDMD	**Soldier's Deli**	**28.25**	**24**	P	**P**	**23 45 09.8**	**-0.8**
OGNE	**Ogallala**	**28.26**	**343**	P	**P**	**23 45 09.8**	**-0.9**
	baz=158						
PV01	**Paradox Valley**	**28.32**	**331**	P	**P**	**23 45 13.5**	**+2.1**
L48A	**N Adams**	**28.35**	**11**	P	**P**	**23 45 10.4**	**-1.0**
L48A				IAmb	IAmb	23 45 33.6	
	comp=Z,41nm,0.8s						
O56A	**Blue Knob Stat**	**28.36**	**21**	P	**P**	**23 45 10.7**	**-0.8**
	baz=207,SNR=6.2						
O56A	**Blue Knob Stat**	**28.36**	**21**	P	**P**	**23 45 11.7**	**+0.2**
O56A				IAmb	IAmb	23 45 30.2	
	comp=Z,31nm,0.9s						
CPBX	**Cerro Prieto**	**28.38**	**314**	P	**P**	**23 45 11.7**	**-0.1**
CPBX				IAmb	IAmb	23 45 32.6	
	comp=Z,38nm,1.1s						
GLA	**Glamis**	**28.42**	**315**	P	**P**	**23 45 12.9**	**+0.7**
GLA				pmax	pmax		
	comp=Z,82nm,1.4s						
GLA	**Glamis**	**28.42**	**315**	P	**P**	**23 45 12.9**	**+0.7**
	baz=126,SNR=6.8						
GLA	**Glamis**	**28.42**	**315**	P	**P**	**23 45 12.9**	**+0.7**
GLA				IAmb	IAmb	23 45 14.9	
	comp=Z,82nm,1.4s						
K38A	**Parkersburg**	**28.42**	**358**	P	**P**	**23 45 12.3**	**+0.3**
ISCO	**Idaho Springs**	**28.43**	**337**	P	**P**	**23 45 11.6**	**-0.9**
	baz=150,SNR=9.2						
ISCO	**Idaho Springs**	**28.43**	**337**	P	**P**	**23 45 13.9**	**+1.4**
ISCO					**PcP**	**23 48 24.6**	**+1.1**
ISCO				ScP	**ScP**	**23 52 01.7**	**+2.2**
PV15	**Paradox Valley**	**28.44**	**331**	P	**P**	**23 45 13.6**	**+1.0**
PV15					**PcP**	**23 48 24.1**	**+0.6**
SMCO	**Snowmass**	**28.45**	**334**	P	**P**	**23 45 14.5**	**+1.7**
SMCO				ScP	**ScP**	**23 52 02.8**	**+3.1**
PV02	**Paradox Valley**	**28.46**	**331**	P	**P**	**23 45 13.8**	**+1.1**
PV02				IAmb	IAmb	23 45 16.5	
	comp=Z,50nm,1.3s						
PV13	**Radium Mtn., P**	**28.46**	**330**	P	**P**	**23 45 14.2**	**+1.6**
PV13				IAmb	IAmb	23 45 16.3	
	comp=Z,54nm,1.2s						
N54A	**Moraine State**	**28.52**	**18**	P	**P**	**23 45 12.4**	**-0.5**
	baz=204,SNR=7.7						
N54A	**Moraine State**	**28.52**	**18**	P	**P**	**23 45 13.0**	**+0.1**
N54A				IAmb	IAmb	23 45 31.7	
	comp=Z,75nm,1.1s						
PV05	**Paradox Valley**	**28.53**	**330**	P	**P**	**23 45 14.1**	**+0.8**
PV03	**Paradox Valley**	**28.55**	**330**	P	**P**	**23 45 15.5**	**+2.0**
PV03				IAmb	IAmb	23 45 16.2	
	comp=Z,50nm,1.4s						
PV18	**Skein Mesa, Pa**	**28.57**	**330**	P	**P**	**23 45 15.6**	**+2.0**
PV18				IAmb	IAmb	23 45 16.3	
	comp=Z,53nm,1.3s						
PV12	**Saucer Basin,**	**28.58**	**331**	P	**P**	**23 45 15.6**	**+1.9**
PV12				IAmb	IAmb	23 45 16.6	
	comp=Z,35nm,0.8s						
PV11	**David Mesa, Pa**	**28.59**	**330**	P	**P**	**23 45 15.9**	**+2.1**
PV11				IAmb	IAmb	23 45 17.4	
	comp=Z,42nm,1.0s						
PV07	**Paradox Valley**	**28.60**	**331**	P	**P**	**23 45 16.0**	**+2.1**
PV17	**East Wray Mesa**	**28.62**	**330**	P	**P**	**23 45 15.3**	**+1.2**
PV17				IAmb	IAmb	23 45 16.7	
	comp=Z,28nm,0.8s						
PV16	**Nyswonger Mesa**	**28.62**	**330**	P	**P**	**23 45 16.2**	**+2.0**
PV16				IAmb	IAmb	23 45 16.8	
	comp=Z,72nm,1.5s						
PV19	**Morning Glory**	**28.66**	**330**	P	**P**	**23 45 16.4**	**+1.9**
PV20	**West Nyswonger**	**28.67**	**330**	P	**P**	**23 45 16.5**	**+1.9**
JFWS	**Jewell Farm**	**28.68**	**2**	P	**P**	**23 45 13.8**	**-0.6**
JFWS				pmax	pmax		
	comp=Z,27nm,0.6s						
JFWS	**Jewell Farm**	**28.68**	**2**	P	**P**	**23 45 13.3**	**-1.0**
	baz=182,SNR=8.1						
JFWS	**Jewell Farm**	**28.68**	**2**	P	**P**	**23 45 13.8**	**-0.6**
JFWS				IAmb	IAmb	23 45 16.2	
	comp=Z,27nm,0.6s						
PV04	**Paradox Valley**	**28.68**	**331**	P	**P**	**23 45 16.1**	**+1.4**
PDMCI	**Parker Dam,Lak**	**28.72**	**318**	P	**P**	**23 45 14.1**	**-0.6**
	baz=129,SNR=16						
PV14	**Lion Creek, Pa**	**28.73**	**330**	P	**P**	**23 45 16.5**	**+1.4**
PV14					**PcP**	**23 48 25.1**	**+1.0**
PV10	**Paradox Valley**	**28.74**	**330**	P	**P**	**23 45 16.5**	**+1.3**
PV10				IAmb	IAmb	23 45 17.1	
	comp=Z,45nm,1.2s						
PV10					SS	23 52 04.0	-0.1
PV22	**Blue Mesa, Par**	**28.74**	**331**	P	**P**	**23 45 16.5**	**+1.3**
M53A	**WI Miller and**	**28.75**	**17**	P	**P**	**23 45 14.2**	**-0.8**
	baz=202						
M53A	**WI Miller and**	**28.75**	**17**	P	**P**	**23 45 14.9**	**-0.1**
M53A				IAmb	IAmb	23 45 41.5	
	comp=Z,33nm,0.8s						
PV23	**Carpenter Ridg**	**28.78**	**330**	P	**P**	**23 45 16.6**	**+1.0**
PV23					SS	23 52 04.5	-0.6
AAM	**Ann Arbor**	**28.85**	**12**	P	**P**	**23 45 14.7**	**-1.1**
	baz=196						
PV21	**Cone Mtn., Par**	**28.85**	**331**	P	**P**	**23 45 16.7**	**+0.5**
SSPA	**Standing Stone**	**28.92**	**22**	P	**P**	**23 45 15.7**	**-0.8**
	baz=208						
SSPA	**Standing Stone**	**28.92**	**22**	P	**P**	**23 45 16.4**	**0.0**
MVL	**Millersville**	**28.95**	**24**	P	**P**	**23 45 17.7**	**+1.0**
U15A	**North Rim**	**29.00**	**324**	P	**P**	**23 45 18.6**	**+1.1**
U15A					SS	23 52 04.7	-4.8
SWSC	**Sam W. Stewart**	**29.02**	**314**	P	**P**	**23 45 16.9**	**-0.5**
	baz=125,SNR=8.2						
CCX	**Cicese**	**29.05**	**312**	P	**P**	**23 45 17.6**	**-0.1**
W13A	**Hualapai Mount**	**29.06**	**320**	P	**P**	**23 45 19.3**	**+1.2**
W13A				PcP	**PcP**	**23 48 26.0**	**+1.0**
W13A					SS	23 52 05.4	-5.3
IKP	**In-Ko-Pah, Jac**	**29.08**	**314**	P	**P**	**23 45 16.4**	**-1.7**
	baz=124,SNR=12						
P60A	**Greenville**	**29.08**	**26**	P	**P**	**23 45 17.5**	**-0.3**
	baz=213						
P60A	**Greenville**	**29.08**	**26**	P	**P**	**23 45 17.6**	**-0.3**
M54A	**Oil Creek Stat**	**29.11**	**18**	P	**P**	**23 45 17.1**	**-1.1**
	baz=204						
M54A	**Oil Creek Stat**	**29.11**	**18**	P	**P**	**23 45 19.1**	**+0.9**
WUPA	**West Chester U**	**29.20**	**25**	P	**P**	**23 45 19.6**	**+0.7**
IRM	**Iron Mountain**	**29.29**	**317**	P	**P**	**23 45 19.9**	**+0.1**
	baz=127,SNR=24						
CBX	**Cerro Bola**	**29.29**	**312**	P	**P**	**23 45 21.2**	**+1.2**
NEE2	**Needles Airpor**	**29.32**	**319**	P	**P**	**23 45 20.4**	**+0.3**
	baz=129						
M55A	**Ridgway**	**29.36**	**20**	P	**P**	**23 45 20.3**	**-0.1**
TKX	**Tecate**	**29.38**	**313**	P	**P**	**23 45 21.0**	**+0.3**
MONP2	**Monument Peak**	**29.43**	**314**	P	**P**	**23 45 20.9**	**-0.5**
	baz=124,SNR=8.1						
BAR	**Barrett**	**29.49**	**313**	P	**P**	**23 45 22.8**	**+1.1**
N23A	**Red Feather La**	**29.51**	**337**	P	**P**	**23 45 21.8**	**-0.2**
	baz=151,SNR=5.5						
N58A	**Sunbury**	**29.53**	**23**	P	**P**	**23 45 22.2**	**+0.3**
ERPA	**Erie**	**29.58**	**17**	P	**P**	**23 45 22.4**	**+0.2**
	baz=203						
PHWY	**Pilot Hill**	**29.69**	**338**	P	**P**	**23 45 24.4**	**+0.8**
PHWY					**PcP**	**23 48 27.5**	**+0.9**
KNB	**Kanab**	**29.71**	**324**	P	**P**	**23 45 25.9**	**+2.1**
KNB				pmax	pmax		
	comp=Z,28nm,0.8s						
KNB	**Kanab**	**29.71**	**324**	P	**P**	**23 45 25.9**	**+2.1**
KNB				IAmb	IAmb	23 45 42.7	
	comp=Z,28nm,0.8s						
NNA	**Nana**	**29.72**	**150**	LR	LR	23 56 37.6	
	comp=Z,115nm,21.7s,baz=318,slow=35						
PKCU	**Pink Cliffs**	**29.73**	**325**	P	**P**	**23 45 26.8**	**+2.7**
PKCU				IAmb	IAmb	23 45 28.0	
	comp=Z,88nm,1.5s						
BELC	**Belle Mtn. Jos**	**29.76**	**316**	P	**P**	**23 45 24.5**	**+0.2**
	baz=126,SNR=13						
O20A	**White River Ci**	**29.79**	**333**	P	**P**	**23 45 25.4**	**+0.9**
	baz=146,SNR=10						
O20A	**White River Ci**	**29.79**	**333**	P	**P**	**23 45 26.0**	**+1.6**
O20A				ScP	**ScP**	**23 52 06.5**	**+2.9**
M57A	**Sunshine Farm,**	**29.81**	**22**	P	**P**	**23 45 24.7**	**+0.3**
M57A				IAmb	IAmb	23 45 51.2	
	comp=Z,29nm,0.9s						
I37A	**Lemond, Waseca**	**29.81**	**357**	P	**P**	**23 45 24.4**	**+0.1**
I37A				IAmb	IAmb	23 45 50.5	
	comp=Z,25nm,0.8s						
ECSD	**EROS Data Cent**	**29.82**	**352**	P	**P**	**23 45 25.6**	**+1.2**
	baz=170						
ECSD	**EROS Data Cent**	**29.82**	**352**	P	**P**	**23 45 26.4**	**+2.0**
TPFO	**Pinon Flats**	**29.85**	**315**	P	**P**	**23 45 25.7**	**+0.8**
	baz=125,SNR=8.3						
LUPA	**Lehigh Univers**	**29.86**	**25**	P	**P**	**23 45 25.5**	**+0.7**
LUPA				IAmb	IAmb	23 45 26.3	
	comp=Z,26nm,0.7s						
PFO	**Pinyon Flats O**	**29.86**	**315**	P	**P**	**23 45 25.7**	**+0.7**
	comp=Z,9.4nm,0.9s						
PFO				PcP	**PcP**	**23 48 27.2**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=112,slow=4.7,SNR=4.3						
PFO				pPcP		23 48 45.0	
	comp=Z,2.2nm,0.7s,baz=130,slow=2.5,SNR=3.9						
PFO				ScP	**ScP**	**23 52 06.2**	**+2.3**
	comp=Z,6.8nm,1.1s,baz=87,slow=4.8,SNR=5.2						
PFO	**Pinyon Flats O**	**29.86**	**315**	P	**P**	**23 45 25.7**	**+0.7**
	baz=125,SNR=8.3						
PFO	**Pinyon Flats O**	**29.86**	**315**	P	**P**	**23 45 26.1**	**+1.1**
PFO	**Pinyon Flats O**	**29.86**	**315**	ScP	**ScP**	**23 52 08.1**	**+4.2**
109C	**Camp Elliot, M**	**29.91**	**313**	P	**P**	**23 45 25.9**	**+0.5**
	baz=123						
109C	**Camp Elliot, M**	**29.91**	**313**	P	**P**	**23 45 26.3**	**+1.0**
109C				IAmb	IAmb	23 45 27.9	
	comp=Z,52nm,1.4s						
LCMT	**Little Creek M**	**29.95**	**323**	P	**P**	**23 45 26.9**	**+1.1**
N59A	**State Game Lan**	**29.96**	**24**	P	**P**	**23 45 24.8**	**-0.9**
	baz=212,SNR=5.8						
N59A	**State Game Lan**	**29.96**	**24**	P	**P**	**23 45 26.1**	**+0.3**
GMRC	**Granite Mounta**	**30.00**	**317**	P	**P**	**23 45 26.3**	**0.0**
	baz=128,SNR=25						
SRU	**San Rafael Swe**	**30.03**	**329**	P	**P**	**23 45 28.3**	**+1.7**
SRU				pmax	pmax		
	comp=Z,36nm,1.4s						
SRU	**San Rafael Swe**	**30.03**	**329**	P	**P**	**23 45 28.3**	**+1.7**
MTPU	**Mount Pierson**	**30.09**	**326**	P	**P**	**23 45 29.3**	**+2.0**
MTPU				IAmb	IAmb	23 45 31.4	
	comp=Z,26nm,0.9s						
BRNJ	**Basking Ridge**	**30.26**	**26**	P	**P**	**23 45 30.4**	**+2.1**
SZCU	**Shurtz Canyon**	**30.27**	**324**	P	**P**	**23 45 31.0**	**+2.3**
SZCU				IAmb	IAmb	23 45 33.1	
	comp=Z,44nm,1.1s						
SZCU					**PcP**	**23 48 29.4**	**+1.3**
MURC	**Murrieta**	**30.36**	**314**	P	**P**	**23 45 29.0**	**-0.4**
	baz=124						
L56A	**Greenwood**	**30.36**	**21**	P	**P**	**23 45 29.3**	**0.0**
BBSR	**BB Station**	**30.39**	**49**	P	**P**	**23 45 31.7**	**+2.1**
BBSR				IAmb	IAmb	23 45 49.7	
	comp=Z,34nm,0.8s						
CCUT	**Cedar City**	**30.40**	**324**	P	**P**	**23 45 31.5**	**+1.6**
CCUT				IAmb	IAmb	23 45 51.5	
	comp=Z,37nm,1.0s						
CCUT				ScP	**ScP**	**23 52 09.5**	**+3.8**
P17A	**Butcher Ranch,**	**30.42**	**330**	P	**P**	**23 45 31.6**	**+1.6**
P17A				IAmb	IAmb	23 45 32.6	
	comp=Z,27nm,0.9s						
MSU	**Marysvale**	**30.43**	**327**	P	**P**	**23 45 32.2**	**+2.0**
MSU				PcP	**PcP**	**23 48 29.8**	**+1.2**
MSU				ScP	**ScP**	**23 52 09.6**	**+3.8**
MVU	**Marysvale**	**30.44**	**327**	P	**P**	**23 45 32.8**	**+2.5**
HEC	**Hector,Ludlow**	**30.48**	**317**	P	**P**	**23 45 30.9**	**+0.5**
	baz=127,SNR=11						
TMUT	**Trail Mountain**	**30.52**	**329**	P	**P**	**23 45 33.0**	**+2.0**
TMUT					**PcP**	**23 48 29.8**	**+1.0**
TUQ	**Turquoise Moun**	**30.57**	**318**	P	**P**	**23 45 31.4**	**+0.1**
	baz=128,SNR=17						
ODNJ	**Ogdensburg**	**30.58**	**25**	P	**P**	**23 45 31.7**	**+0.6**
CPNY	**Central Park**	**30.61**	**27**	P	**P**	**23 45 31.5**	**+0.1**
TCRU	**Three Creeks R**	**30.65**	**327**	P	**P**	**23 45 34.5**	**+2.5**
TCRU				IAmb	IAmb	23 45 36.5	
	comp=Z,31nm,0.9s						
RWWY	**Rawlins**	**30.68**	**336**	P	**P**	**23 45 33.4**	**+1.1**
RWWY					**PcP**	**23 48 29.6**	**+0.5**
RWWY				ScP	**ScP**	**23 52 08.8**	**+2.2**
RDMU	**Red Mountain**	**30.73**	**332**	P	**P**	**23 45 34.3**	**+1.5**
RDMU					**PcP**	**23 48 30.1**	**+0.9**
SHPR	**Sheep Range**	**30.76**	**321**	P	**P**	**23 45 35.3**	**+2.3**
SHPR				PcP	**PcP**	**23 48 30.5**	**+1.2**
SHPR				ScP	**ScP**	**23 52 10.2**	**+3.3**
MMNY	**Mt. Morris Dam**	**30.78**	**20**	P	**P**	**23 45 33.0**	**+0.1**
MMNY				IAmb	IAmb	23 45 59.8	
	comp=Z,42nm,1.1s						
TRNY	**Table Rock, Ra**	**30.79**	**26**	P	**P**	**23 45 33.1**	**+0.1**
PAL	**Palisades**	**30.81**	**26**	P	**P**	**23 45 33.6**	**+0.4**
PAL				pmax	pmax		
	comp=Z,24nm,0.8s						
PAL	**Palisades**	**30.81**	**26**	P	**P**	**23 45 32.6**	**-0.5**
	baz=215						
PAL	**Palisades**	**30.81**	**26**	P	**P**	**23 45 33.6**	**+0.4**
PAL				IAmb	IAmb	23 45 35.2	
	comp=Z,24nm,0.8s						
SUSD	**Miller**	**30.87**	**349**	P	**P**	**23 45 33.1**	**-0.6**
	baz=166					

baz=126,SNR=13
RSSD Black Hills 31.76 343 P **P** **23 45 42.1 +0.3**
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD Black Hills 31.76 343 P **P** **23 45 42.2 +0.5**
baz=156
RSSD Black Hills 31.76 343 P **P** **23 45 42.1 +0.3**
RSSD ScP **ScP** **23 52 11.4 +1.3**
FURC Furnace Creek, 31.80 319 P **P** **23 45 42.5 +0.5**
baz=128,SNR=13
SNCC San Nicolas Is 31.83 312 P **P** **23 45 43.8 +1.5**
SNCC IAmb IAmb 23 45 45.5
comp=Z,34nm,1.0s
CTU Camp Tracy 31.85 330 P **P** **23 45 44.4 +1.8**
CTU IAmb IAmb 23 45 45.2
comp=Z,28nm,0.9s
SPR3 Spring Creek 3 31.95 325 P **P** **23 45 45.6 +1.9**
SPR3 IAmb IAmb 23 45 47.3
comp=Z,51nm,1.3s
SPR3 PcP **PcP** **23 48 33.6 +0.9**
SPR3 ScP **ScP** **23 52 14.4 +3.4**
M63A Gales Ferry 31.96 28 P **P** **23 45 43.9 +0.7**
M63A IAmb IAmb 23 45 44.8
comp=Z,40nm,0.8s
DUG Dugway, Tooele 32.01 328 P **P** **23 45 44.5 +0.5**
baz=138,SNR=11
DUG Dugway, Tooele 32.01 328 P **P** **23 45 44.4 +0.5**
DUG PcP **PcP** **23 48 32.9 +0.3**
DUG ScP **ScP** **23 52 13.5 +2.6**
J57A Williamstown 32.03 21 P **P** **23 45 43.6 -0.3**
J57A IAmb IAmb 23 45 44.8
comp=Z,29nm,0.7s
PECO Prince Edward 32.15 20 P **P** **23 45 44.9 0.0**
PECO IAmb IAmb 23 45 45.6
comp=Z,28nm,0.8s
R11A Troy Canyon, C 32.22 323 P **P** **23 45 47.7 +1.8**
baz=132,SNR=13
R11A Troy Canyon, C 32.22 323 P **P** **23 45 48.0 +2.1**
R11A ScP **ScP** **23 52 15.9 +4.1**
J58A Remsen 32.24 22 P **P** **23 45 44.9 -0.9**
baz=210,SNR=11
J58A Remsen 32.24 22 P **P** **23 45 45.7 -0.1**
J58A IAmb IAmb 23 45 46.9
comp=Z,25nm,0.7s
SADO Sadowa 32.26 16 P **P** **23 45 45.2 -0.7**
SADO IAmb IAmb 23 46 12.0
comp=Z,26nm,0.9s
SCZ2 Santa Cruz Isl 32.29 313 P **P** **23 45 47.5 +1.1**
baz=121
ARVC Arvin 32.33 315 P **P** **23 45 47.2 +0.6**
baz=124,SNR=8.3
TRY Troy 32.34 25 P **P** **23 45 47.5 +0.9**
TRY IAmb IAmb 23 46 05.4
comp=Z,27nm,0.8s
E38A The Farm, Brul 32.36 360 P **P** **23 45 45.6 -1.1**
E38A IAmb IAmb 23 46 12.0
comp=Z,24nm,1.0s
ISA Isabella, Lake 32.38 316 P **P** **23 45 49.0 +1.8**
ISA 23 48 34.5
ISA pmax pmax
comp=Z,20nm,1.2s
ISA Isabella, Lake 32.38 316 P **P** **23 45 48.0 +0.9**
baz=125,SNR=8.8
ISA Isabella, Lake 32.38 316 P **P** **23 45 49.0 +1.8**
ISA **PcP** **23 48 34.5 +0.9**
GRAC Grapevine Rang 32.45 319 P **P** **23 45 48.0 +0.3**
baz=128,SNR=42
K61A Williamstown 32.45 25 P **P** **23 45 47.1 -0.5**
baz=214,SNR=6.4
M64A Tiverton 32.46 29 P **P** **23 45 48.2 +0.6**
baz=219
HWUT Hardware Ranch 32.47 331 P **P** **23 45 49.5 +1.4**
HWUT IAmb IAmb 23 45 51.0
comp=Z,26nm,0.9s
HWUT **PcP** **23 48 34.3 +0.4**
DELO Deloro Mine 32.48 19 P **P** **23 45 47.5 -0.3**
DELO IAmb IAmb 23 46 06.1
comp=Z,33nm,0.9s
L61B Northampton 32.52 26 P **P** **23 45 47.6 -0.6**
baz=215
L63A North Scituate 32.52 28 P **P** **23 45 47.6 -0.6**
baz=218
L63A North Scituate 32.52 28 P **P** **23 45 48.2 0.0**
L63A IAmb IAmb 23 45 49.1
comp=Z,22nm,0.9s
BW06 Boulder Array 32.52 335 P **P** **23 45 48.5 0.0**
baz=146,SNR=7.5
BW06 Boulder Array 32.52 335 P **P** **23 45 49.7 +1.2**
BW06 **PcP** **23 48 33.9 -0.2**
PD31 Pinedale Array 32.52 335 P **P** **23 45 49.6 +1.1**
PD31 **PcP** **23 48 33.8 -0.3**
PD31 ScP **ScP** **23 52 14.5 +1.8**
PDAR Pinedale Array 32.52 335 P **P** **23 45 48.6 +0.1**
comp=Z,3.0nm,0.7s,baz=128,slow=9.1,SNR=30
PDAR pP **pP** **23 46 05.5 +1.7**
comp=Z,4.0nm,1.0s,baz=139,slow=9.2,SNR=4.8
PDAR PcP **PcP** **23 48 33.5 -0.6**
comp=Z,2.1nm,0.7s,baz=154,slow=4.4,SNR=5.9
PDAR pPcP 23 48 51.9
comp=Z,3.0nm,0.8s,baz=135,slow=6.0,SNR=5.5
PDAR ScP **ScP** **23 52 14.3 +1.6**
comp=Z,6.5nm,1.0s,baz=134,slow=4.3,SNR=18
PDAR LR LR 00 00 53.6
comp=Z,115nm,19.8s,baz=152,slow=40
CWC Cottonwood Cre 32.57 318 P **P** **23 45 48.0 -0.9**
baz=126
BRYW Bryant College 32.60 28 P **P** **23 45 49.2 +0.3**
I57A Carthage 32.61 21 P **P** **23 45 48.8 -0.2**
baz=209
J59A Piesco 32.63 23 P **P** **23 45 48.9 -0.2**
I58A Old Forge 32.64 22 P **P** **23 45 48.5 -0.8**
baz=211,SNR=23
BGU Big Grassy Mou 32.66 329 P **P** **23 45 51.3 +1.6**
BGU IAmb IAmb 23 45 52.4
comp=Z,22nm,0.9s
SPUT South Promonto 32.66 330 P **P** **23 45 51.2 +1.6**
SPUT IAmb IAmb 23 45 52.3
comp=Z,24nm,1.0s
SPUT **PcP** **23 48 34.8 +0.4**
BOAV Boa Vista 32.68 108 *e*P **P** **23 45 50.5 +0.6**
J60A Lant Hill Farm 32.86 25 P **P** **23 45 51.0 -0.2**
baz=214,SNR=5.8
PKM Mcpherson Peak 32.88 314 P **P** **23 45 51.3 -0.4**
baz=122,SNR=9.3
ACCN Adirondack Com 32.88 24 P **P** **23 45 51.8 +0.4**
K62A Royalston 32.89 27 P **P** **23 45 51.6 +0.2**
baz=216
K62A Royalston 32.89 27 P **P** **23 45 52.6 +1.2**
VES Vestal, Richgr 32.89 316 P **P** **23 45 51.0 -0.5**
baz=124,SNR=9.1
L64A Middleborough 32.94 29 P **P** **23 45 52.1 +0.3**
baz=219
L64A Middleborough 32.94 29 P **P** **23 45 52.6 +0.9**
L64A IAmb IAmb 23 45 53.4
comp=Z,37nm,0.8s
TPH Tonopah 33.03 321 P **P** **23 45 55.1 +2.2**
TPH **PcP** **23 48 36.9 +1.4**
TIN Tinemaha, Big 33.03 319 P **P** **23 45 52.1 -0.8**
baz=127
HRV Adam Dziewonsk 33.06 27 P **P** **23 45 53.0 +0.1**
HRV pmax pmax
comp=Z,27nm,1.0s
HRV Adam Dziewonsk 33.06 27 P **P** **23 45 52.8 0.0**
baz=217
HRV Adam Dziewonsk 33.06 27 P **P** **23 45 53.0 +0.1**
HRV IAmb IAmb 23 46 11.3
comp=Z,27nm,0.9s
WES Weston 33.07 28 P **P** **23 45 54.3 +1.4**
WES pmax pmax
comp=Z,44nm,1.2s
WES Weston 33.07 28 P **P** **23 45 54.3 +1.4**
WES IAmb IAmb 23 45 55.0
comp=Z,44nm,1.2s
BCX Boston College 33.09 28 P **P** **23 45 53.8 +0.6**
BCX IAmb IAmb 23 45 53.9
comp=Z,24nm,0.8s
PLVO Plevna 33.11 19 P **P** **23 45 53.0 -0.4**
PLVO IAmb IAmb 23 46 17.5
comp=Z,25nm,1.1s
I59A Olmsteadville 33.15 24 P **P** **23 45 52.7 -1.0**
baz=212
H57A Richville 33.16 21 P **P** **23 45 52.8 -0.9**
baz=209,SNR=7.8
NCB Newcomb 33.16 23 P **P** **23 45 53.4 -0.4**
NCB IAmb IAmb 23 45 54.8
comp=Z,17nm,0.7s

AHID Auburn Hatcher 33.18 333 P **P** **23 45 54.6 +0.4**
HVU Hansel Valley 33.18 330 P **P** **23 45 56.0 +1.8**
HVU 23 48 36.5
HVU pmax pmax
comp=Z,38nm,1.1s
HVU Hansel Valley 33.18 330 P **P** **23 45 56.0 +1.8**
HVU IAmb IAmb 23 45 56.9
comp=Z,38nm,1.1s
HVU **PcP** **23 48 36.5 +0.6**
K63A Dunstable 33.22 27 P **P** **23 45 53.6 -0.6**
baz=217,SNR=5.4
K63A Dunstable 33.22 27 P **P** **23 45 54.4 +0.2**
K63A IAmb IAmb 23 45 55.0
comp=Z,25nm,0.8s
SMMC Simmler 33.23 314 P **P** **23 45 55.1 +0.6**
baz=122
E28A Huff 33.25 348 P **P** **23 45 54.5 -0.1**
E28A IAmb IAmb 23 46 17.9
comp=Z,18nm,0.8s
J61A Chester 33.30 25 P **P** **23 45 53.9 -1.1**
baz=215
VOG Valley Oaks Go 33.36 316 P **P** **23 45 53.4 -2.2**
baz=124
L65A Cape Cod Natio 33.38 30 P **P** **23 45 54.7 -1.0**
baz=220
I60A Shoreham 33.42 24 P **P** **23 45 55.1 -0.9**
baz=213,SNR=12
J62A Henniker 33.52 26 P **P** **23 45 56.3 -0.6**
baz=216
ECR Eagle Creek 33.53 333 P **P** **23 45 58.6 +1.3**
REDW Red Top Meadow 33.55 334 P **P** **23 45 58.1 +0.6**
REDW IAmb IAmb 23 45 59.7
comp=Z,38nm,0.8s
H58A Gabriels 33.56 23 P **P** **23 45 55.9 -1.4**
baz=211,SNR=13
LONY Lake Ozonia 33.59 22 P **P** **23 45 56.1 -1.3**
baz=210,SNR=13
LONY Lake Ozonia 33.59 22 P **P** **23 45 57.3 -0.1**
LONY IAmb IAmb 23 45 58.5
comp=Z,35nm,0.9s
SNOW Snow King Moun 33.59 334 P **P** **23 45 59.0 +1.2**
PAGB Antelope Grade 33.63 315 P **P** **23 45 59.7 +1.7**
PAGB IAmb IAmb 23 46 01.1
comp=Z,52nm,1.3s
ALGO Algonquin Park 33.65 17 P **P** **23 45 56.0 -2.1**
baz=204,SNR=9.1
LOHW Long Hollow 33.65 334 P **P** **23 45 59.2 +0.9**
ELK Elko 33.68 326 P **P** **23 46 00.4 +1.8**
ELK PcP **PcP** **23 48 38.3 +0.9**
ELK ScP **ScP** **23 52 19.9 +3.1**
EYMN Ely 33.70 360 P **P** **23 45 56.8 -1.6**
baz=180
EYMN Ely 33.70 360 P **P** **23 45 56.8 -1.6**
TPAW Teton Pass 33.70 334 P **P** **23 45 59.7 +0.9**
TPAW IAmb IAmb 23 46 25.5
comp=Z,28nm,1.1s
MLAC Mammoth, Mammo 33.76 319 P **P** **23 45 57.0 -2.3**
baz=127
FFD Franklin Falls 33.79 26 P **P** **23 46 00.3 +1.1**
FFD IAmb IAmb 23 46 01.0
comp=Z,16nm,0.8s
NV11 Mina Array Sit 33.82 321 P **P** **23 46 02.0 +2.2**
NV11 PcP **PcP** **23 48 38.6 +0.9**
NV11 ScP **ScP** **23 52 20.4 +3.2**
J63A Strafford 33.88 27 P **P** **23 45 59.0 -1.1**
baz=217,SNR=6.1
NVAR Mina Array Bea 33.91 320 P **P** **23 46 02.9 +2.3**
comp=Z,23nm,0.7s,baz=136,slow=8.8,SNR=197
NVAR pP **pP** **23 46 18.8 +2.7**
comp=Z,58nm,0.7s,baz=133,slow=8.3,SNR=25
NVAR PcP **PcP** **23 48 38.7 +0.6**
comp=Z,6.2nm,0.7s,baz=134,slow=3.9,SNR=6.9
NVAR pPcP 23 48 57.2
comp=Z,4.3nm,0.6s,baz=138,slow=1.3,SNR=10
NVAR ScP **ScP** **23 52 19.1 +1.5**
comp=Z,11nm,0.9s,baz=136,slow=3.8,SNR=32
NVAR LR LR 00 00 24.3
comp=Z,478nm,21.8s,baz=132,slow=37
NVAR Mina Array Bea 33.91 320 P **P** **23 46 02.8 +2.1**
NVAR PcP **PcP** **23 48 38.7 +0.6**
NVAR ScP **ScP** **23 52 20.8 +3.1**
MDPB Devils Postpil 33.92 319 P **P** **23 46 02.8 +2.1**
MDPB IAmb IAmb 23 46 19.8
comp=Z,29nm,0.9s
I61A Oroboro, Fairl 33.93 25 P **P** **23 45 59.6 -0.8**
baz=215
H59A Cadyville 33.94 23 P **P** **23 45 59.3 -1.2**
baz=212,SNR=7.7
IMW Indian Meadow 34.03 334 P **P** **23 46 02.5 +0.9**
IMW PcP **PcP** **23 48 38.9 +0.6**
IMW ScP **ScP** **23 52 20.6 +2.5**
VT1 Waterbury 34.04 24 P **P** **23 46 02.3 +0.9**
VT1 IAmb IAmb 23 46 03.1
comp=Z,20nm,0.8s
FLWY Flagg Ranch 34.08 335 P **P** **23 46 02.9 +0.9**
FRNY Flat Rock 34.14 23 P **P** **23 46 02.0 -0.2**
FRNY IAmb IAmb 23 46 03.2
comp=Z,21nm,0.8s
B35A Bob, Littlefor 34.17 357 P **P** **23 46 01.2 -1.2**
RYN Ryan 34.17 321 P **P** **23 46 05.0 +2.2**
RYN IAmb IAmb 23 46 23.8
comp=Z,30nm,1.0s
KVN Kaiserville 34.17 322 P **P** **23 46 04.7 +1.8**
KVN pmax pmax
comp=Z,56nm,1.1s
KVN Kaiserville 34.17 322 P **P** **23 46 04.7 +1.8**
AGMN Agassiz Nation 34.25 355 P **P** **23 46 02.0 -1.1**
baz=172
AGMN Agassiz Nation 34.25 355 P **P** **23 46 03.6 +0.5**
I62A Tamworth 34.25 26 P **P** **23 46 02.6 -0.6**
baz=216
I62A Tamworth 34.25 26 P **P** **23 46 03.4 +0.2**
I62A IAmb IAmb 23 46 04.5
comp=Z,49nm,1.3s
H60A Morristown 34.25 24 P **P** **23 46 02.4 -0.8**
baz=214,SNR=10
PMPB Monarch Peak 34.26 315 P **P** **23 46 04.7 +1.2**
PMPB IAmb IAmb 23 46 06.1
comp=Z,43nm,1.1s
YPP Pitchstone Pla 34.28 335 P **P** **23 46 05.6 +1.8**
MDND Maddock 34.28 350 P **P** **23 46 02.7 -0.8**
baz=166
MDND Maddock 34.28 350 P **P** **23 46 03.3 -0.1**
H17A Grant Village 34.28 335 P **P** **23 46 05.5 +1.6**
LBNH Lisbon 34.30 25 P **P** **23 46 04.9 +1.2**
LBNH pmax pmax
comp=Z,23nm,1.1s
LBNH Lisbon 34.30 25 P **P** **23 46 03.6 -0.1**
baz=215
LBNH Lisbon 34.30 25 P **P** **23 46 04.9 +1.2**
LBNH IAmb IAmb 23 46 22.1
comp=Z,23nm,1.1s
LKWY Lake 34.35 336 P **P** **23 46 06.5 +2.0**
LKWY pmax pmax
comp=Z,9.0nm,0.8s
LKWY Lake 34.35 336 P **P** **23 46 06.5 +2.0**
RLMT Red Lodge 34.38 337 P **P** **23 46 03.9 -0.8**
baz=148
RLMT Red Lodge 34.38 337 P **P** **23 46 04.9 +0.3**
RLMT **PcP** **23 48 40.3 +1.1**
YMP Mirror Lake Pl 34.40 336 P **P** **23 46 07.4 +2.5**
PTGA Pitinga 34.48 113 P **P** **23 46 04.1 -1.4**
comp=Z,20nm,0.8s,baz=304,slow=9.3,SNR=48
PTGA pP **pP** **23 46 21.0 +0.1**
comp=Z,48nm,0.9s,baz=305,slow=9.2,SNR=14
PTGA PcP **PcP** **23 48 39.0 -0.8**
comp=Z,8.8nm,0.8s,baz=253,slow=2.9,SNR=4.3
PTGA pPcP 23 48 57.7
comp=Z,4.7nm,0.7s,baz=0.3,slow=4.0,SNR=4.7
PTGA ScP **ScP** **23 52 20.6 +0.8**
comp=Z,1.6nm,0.3s,baz=270,slow=7.7,SNR=4.8
PTGA Pitinga 34.48 113 P **P** **23 46 04.7 -0.9**
PTGA ScP **ScP** **23 52 23.1 +3.3**
ETMB Extrema 34.53 132 *e*P **P** **23 46 05.7 -0.2**
H61A Lyndonville 34.54 25 P **P** **23 46 05.1 -0.6**
baz=215
BMN Battle Mountai 34.56 324 P **P** **23 46 07.6 +1.5**
BMN pmax pmax
comp=Z,33nm,0.8s
BMN Battle Mountai 34.56 324 P **P** **23 46 07.6 +1.5**
BMN IAmb IAmb 23 46 25.0
comp=Z,32nm,0.8s
YNE Yellowstone No 34.57 337 P **P** **23 46 07.4 +1.1**
YNR Norris Junctio 34.59 336 P **P** **23 46 08.4 +1.9**
WAKR Walker 34.66 320 P **P** **23 46 09.3 +2.2**

WAKR IAmb IAmb 23 46 28.9
comp=Z,55nm,1.5s
I63A Otisfield 34.72 27 P **P** **23 46 06.1 -1.1**
baz=217,SNR=5.6
I63A Otisfield 34.72 27 P **P** **23 46 07.8 +0.6**
I63A IAmb IAmb 23 46 08.5
comp=Z,49nm,1.1s
YHH Holmes Hill 34.72 335 P **P** **23 46 09.4 +1.7**
YHH **PcP** **23 48 41.5 +1.2**
LAO LASA Array 34.73 342 P **P** **23 46 07.1 -0.3**
baz=154
LAO LASA Array 34.73 342 **PcP** **23 48 40.5 +0.4**
YERR Yerington 34.83 320 P **P** **23 46 10.7 +2.1**
YERR IAmb IAmb 23 46 27.6
comp=Z,32nm,0.7s
H62A Milan 34.89 26 P **P** **23 46 08.2 -0.6**
baz=216
QLMT Earthquake Lak 34.99 335 P **P** **23 46 12.2 +2.3**
QLMT **PcP** **23 48 42.7 +1.6**
CMB Columbia Colle 34.99 318 P **P** **23 46 10.9 +1.1**
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 34.99 318 P **P** **23 46 10.9 +1.1**
MACA Manacapuru-AM 34.99 117 *e*P **P** **23 46 10.1 +0.1**
SAO San Andreas Ge 35.00 316 P **P** **23 46 11.1 +1.3**
SAO pmax pmax
comp=Z,13nm,1.0s
SAO San Andreas Ge 35.00 316 P **P** **23 46 11.1 +1.3**
I64A Boothbay 35.03 28 P **P** **23 46 08.9 -1.1**
baz=219
MOQ Mont Orford 35.05 24 P **P** **23 46 10.4 +0.2**
GCMT Greycliff 35.10 338 P **P** **23 46 13.0 +2.2**
PNTR Pine Nut 35.12 320 P **P** **23 46 13.4 +2.3**
VCNR Virginia City 35.27 321 P **P** **23 46 13.6 +1.2**
VCNR IAmb IAmb 23 46 33.3
comp=Z,21nm,0.9s
HLID Hailey 35.32 331 P **P** **23 46 12.3 -0.4**
baz=139,SNR=40
HLID Hailey 35.32 331 P **P** **23 46 14.1 +1.4**
HLID IAmb IAmb 23 46 15.2
comp=Z,28nm,1.1s
HLID PcP **PcP** **23 48 43.1 +1.2**
HLID ScP **ScP** **23 52 25.9 +3.4**
PAHR Pah Rah Range 35.36 321 P **P** **23 46 15.0 +1.9**
PAHR IAmb IAmb 23 46 32.0
comp=Z,24nm,0.8s
PAHR ScP **ScP** **23 52 27.0 +4.3**
BCYI Bear Canyon 35.43 332 P **P** **23 46 15.5 +1.8**
H63A New Sharon 35.44 27 P **P** **23 46 13.2 -0.3**
baz=218
WVL Waterville 35.53 27 P **P** **23 46 14.8 +0.6**
WVL IAmb IAmb 23 46 32.4
comp=Z,21nm,0.9s
MCMT McKenzie Canyo 35.59 333 P **P** **23 46 16.6 +1.5**
G62A West of Eustis 35.67 26 P **P** **23 46 14.9 -0.6**
baz=216,SNR=9.0
G62A West of Eustis 35.67 26 P **P** **23 46 15.7 +0.2**
G62A IAmb IAmb 23 46 34.0
comp=Z,30nm,0.9s
BOZ Bozeman (W) 35.70 335 P **P** **23 46 17.0 +1.1**
BOZ pmax pmax
comp=Z,13nm,1.2s
BOZ Bozeman (W) 35.70 335 P **P** **23 46 15.2 -0.7**
baz=145,SNR=12
BOZ Bozeman (W) 35.70 335 P **P** **23 46 17.0 +1.1**
H64A Troy 35.78 27 P **P** **23 46 16.3 -0.1**
baz=219,SNR=7.6
AFDM Forest Hills D 35.90 319 P **P** **23 46 18.9 +1.4**
AFDM PcP **PcP** **23 48 44.2 +0.7**
AFDM ScP **ScP** **23 52 27.5 +3.0**
MFID Camas Ranch 35.90 329 P **P** **23 46 19.1 +1.5**
MFID IAmb IAmb 23 46 21.3
comp=Z,35nm,1.0s
MFID ScP **ScP** **23 52 27.1 +2.5**
DLMT Dillon 35.91 334 P **P** **23 46 18.6 +0.9**
DLMT IAmb IAmb 23 46 20.4
comp=Z,36nm,1.4s
DLMT ScP **ScP** **23 52 28.0 +3.4**
G63A Kingsbury 35.98 27 P **P** **23 46 17.7 -0.4**
baz=218,SNR=6.2
ULM Lac du Bonnet 36.19 355 P **P** **23 46 18.6 -1.1**
comp=Z,9.5nm,1.0s,baz=187,slow=8.1,SNR=5.5
ULM pP **pP** **23 46 34.0 -1.4**
comp=Z,7.6nm,0.8s,baz=196,slow=6.8,SNR=4.4
ULM ScP **ScP** **23 52 25.5 +0.2**
comp=Z,9.9nm,0.6s,baz=168,slow=5.8,SNR=9.1
ULM LR LR 00 04 00.3
comp=Z,213nm,21.9s,baz=146,slow=41
ULM Lac du Bonnet 36.19 355 P **P** **23 46 18.7 -1.1**
ULM ScP **ScP** **23 52 25.4 +0.2**
LRM Limekiln Ridge 36.22 335 P **P** **23 46 21.3 +0.9**
LRM **PcP** **23 48 46.0 +1.3**
SAML Samuel 36.22 128 P **P** **23 46 18.8 -1.6**
SAML pmax pmax
comp=Z,38nm,1.1s
SAML Samuel 36.22 128 P **P** **23 46 18.8 -1.6**
SAML IAmb IAmb 23 46 20.1
comp=Z,38nm,1.1s
SAML Samuel 36.22 128 *e*P **P** **23 46 19.6 -0.9**
PKME Peaks-Kenny Pk 36.24 27 P **P** **23 46 19.3 -1.0**
baz=218,SNR=5.3
PKME Peaks-Kenny Pk 36.24 27 P **P** **23 46 20.4 +0.1**
PKME IAmb IAmb 23 46 38.7
comp=Z,37nm,1.0s
H65A Eastbrook 36.27 28 P **P** **23 46 19.6 -0.9**
baz=220
G64A Maxfield 36.47 27 P **P** **23 46 21.5 -0.8**
baz=219,SNR=8.0
ORV Oroville 36.58 319 P **P** **23 46 25.1 +1.8**
ORV **PcP** **23 48 47.0 +1.4**
LATQ La Tuque 36.60 21 P **P** **23 46 23.1 -0.2**
LATQ IAmb IAmb 23 46 25.1
comp=Z,46nm,1.2s
EMMW East Machias 36.64 29 P **P** **23 46 24.2 +0.5**
EMMW IAmb IAmb 23 46 41.8
comp=Z,51nm,1.4s
F63A Nahmakanta, Br 36.67 26 P **P** **23 46 23.1 -0.9**
baz=218
F63A Nahmakanta, Br 36.67 26 P **P** **23 46 23.6 -0.4**
F63A IAmb IAmb 23 46 42.0
comp=Z,26nm,0.8s
WVOR Wild Horse Val 36.69 325 P **P** **23 46 25.9 +1.6**
WVOR 23 48 47.5
WVOR pmax pmax
comp=Z,45nm,1.3s
WVOR Wild Horse Val 36.69 325 P **P** **23 46 25.9 +1.6**
WVOR IAmb IAmb 23 46 27.8
comp=Z,45nm,1.3s
WVOR **PcP** **23 48 47.5 +1.5**
HRY Holter Researc 36.69 336 P **P** **23 46 25.7 +1.3**
H66A Whiting 36.77 29 P **P** **23 46 23.8 -1.0**
baz=221
LSQQ Lebel-sur-Quev 36.79 16 P **P** **23 46 24.0 -0.9**
baz=204
G65A Princeton 36.97 28 P **P** **23 46 25.3 -1.1**
baz=221,SNR=6.5
G65A Princeton 36.97 28 P **P** **23 46 26.7 +0.3**
GDXM Geysers 36.99 317 P **P** **23 46 28.7 +1.8**
EGMT Eagleton 37.05 339 P **P** **23 46 26.3 -0.9**
baz=150,SNR=7.1
EGMT Eagleton 37.05 339 P **P** **23 46 27.6 +0.3**
EGMT IAmb IAmb 23 46 30.1
comp=Z,37nm,1.4s
EGMT **PcP** **23 48 47.4 +0.5**
F64A Sherman 37.12 27 P **P** **23 46 27.3 -0.5**
baz=219
F64A Sherman 37.12 27 P **P** **23 46 27.6 -0.2**
F64A IAmb IAmb 23 46 45.7
comp=Z,18nm,0.9s
O03E Paynes Creek 37.20 320 P **P** **23 46 28.0 -0.7**
baz=126,SNR=11
PLID Pearl Lake 37.22 331 P **P** **23 46 30.0 +1.0**
PLID IAmb IAmb 23 46 30.7
comp=Z,42nm,0.9s
PLID **PcP** **23 48 48.4 +0.7**
E62A Clayton Lake 37.22 25 P **P** **23 46 28.2 -0.4**
baz=217,SNR=5.5
E62A Clayton Lake 37.22 25 P **P** **23 46 28.9 +0.3**
E62A IAmb IAmb 23 46 29.8
comp=Z,33nm,1.2s
J08A Circle Bar Ran 37.22 327 P **P** **23 46 30.3 +1.4**
GGN Saint George 37.24 29 P **P** **23 46 29.7 +0.9**
GGN IAmb IAmb 23 46 47.0
comp=Z,56nm,1.4s
MATQ Matagami 37.26 15 P **P** **23 46 27.7 -1.2**

baz=202,SNR=20
HOPS Hopland Field 37.28 318 P **P** **23 46 31.5 +2.2**
HOPS IAmb IAmb 23 46 32.4
comp=Z,25nm,1.2s
MOD Modoc Plateau 37.28 323 P **P** **23 46 30.6 +1.2**
MOD IAmb IAmb 23 46 32.5
comp=Z,14nm,0.8s
E63A Oxbow 37.52 26 P **P** **23 46 31.1 -0.1**
baz=218,SNR=9.6
E63A Oxbow 37.52 26 P **P** **23 46 31.1 -0.1**
E63A IAmb IAmb 23 46 49.5
comp=Z,38nm,0.9s
MSO Missoula 37.64 334 P **P** **23 46 31.7 -0.7**
baz=143,SNR=16
MSO Missoula 37.64 334 P **P** **23 46 33.3 +1.0**
MSO IAmb IAmb 23 46 34.1
comp=Z,19nm,1.1s
MSO PcP **PcP** **23 48 50.3 +1.6**
MSO ScP **ScP** **23 52 34.2 +3.3**
LMQ La Malbaie 37.65 24 P **P** **23 46 32.3 +0.1**
LMQ IAmb IAmb 23 46 33.0
comp=Z,34nm,0.9s
BMO Blue Mountains 37.67 329 P **P** **23 46 32.7 +0.1**
BMO pmax pmax
comp=Z,22nm,1.1s
BMO Blue Mountains 37.67 329 P **P** **23 46 32.7 +0.1**
BMO IAmb IAmb 23 46 34.0
comp=Z,22nm,1.1s
O02D Mt. Diablo Mer 37.75 319 P **P** **23 46 32.5 -0.9**
baz=125,SNR=6.3
E64A Bridgewater 37.78 27 P **P** **23 46 32.3 -1.1**
baz=219
D62A Allapoint, All 37.78 25 P **P** **23 46 32.7 -0.7**
baz=217,SNR=15
D62A Allapoint, All 37.78 25 P **P** **23 46 33.3 0.0**
WDC Whiskeytown Da 37.82 320 P **P** **23 46 32.9 -0.9**
WDC PcP **PcP** **23 48 49.3 0.0**
PQI Presque Isle 37.89 26 P **P** **23 46 34.1 -0.2**
PQI IAmb IAmb 23 46 52.1
comp=Z,14nm,0.7s
LPAZ La Paz 38.00 142 P **P** **23 46 35.6 -0.7**
comp=Z,4.7nm,0.8s,baz=335,slow=9.5,SNR=23
LPAZ pP **pP** **23 46 51.9 +0.1**
comp=Z,5.6nm,0.9s,baz=224,slow=7.6,SNR=4.4
LPAZ PcP **PcP** **23 48 51.0 0.0**
comp=Z,5.2nm,0.8s,baz=260,slow=5.8,SNR=4.7
LPAZ LR LR 00 02 00.5
comp=Z,198nm,21.6s,baz=312,slow=36
LPAZ La Paz 38.00 142 P **P** **23 46 35.5 -0.7**
LPAZ PcP **PcP** **23 48 51.1 +0.2**
LPAZ La Paz 38.00 142 *eP* **P** **23 46 35.8 -0.4**
M04C Macdoel 38.11 322 P **P** **23 46 36.5 +0.1**
baz=128,SNR=12
K05A Summer Lake 38.14 324 P **P** **23 46 38.9 +2.2**
K05A **PcP** **23 48 51.9 +1.4**
K05A ScP **ScP** **23 52 36.8 +3.7**
N02D Trinity Center 38.15 320 P **P** **23 46 36.1 -0.6**
baz=126
I07A Izee 38.26 327 P **P** **23 46 38.6 +0.9**
I07A ScP **ScP** **23 52 36.9 +3.5**
CHGQ Chibougamau 38.29 18 P **P** **23 46 36.2 -1.4**
baz=207,SNR=7.7
KMRM Mail Ridge 38.36 319 P **P** **23 46 39.9 +1.4**
F10A Beach Ranch, E 38.45 331 P **P** **23 46 39.5 +0.3**
M02C Callahan 38.49 321 P **P** **23 46 39.8 +0.3**
baz=126
JTMT Jette 38.51 335 **PcP** **23 48 52.1 +0.6**
K04D Chiloquin, OR 38.57 323 P **P** **23 46 40.4 +0.2**
baz=128
YBH Yreka Blue Hor 38.60 321 P **P** **23 46 41.9 +1.4**
YBH 23 52 38.0
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 38.60 321 P **P** **23 46 41.9 +1.4**
YBH ScP **ScP** **23 52 38.0 +3.3**
L04D Klamath Falls 38.65 322 P **P** **23 46 41.2 +0.3**
baz=127,SNR=14
J05D Fort Rock, OR 38.69 324 P **P** **23 46 41.3 +0.1**
baz=130,SNR=6.8
KHMM Horse Mountain 38.73 320 P **P** **23 46 43.2 +1.5**
KHMM IAmb IAmb 23 47 00.7
comp=Z,31nm,0.8s
KHMM **PcP** **23 48 54.0 +1.6**
LMN Caledonia Moun 38.75 30 P **P** **23 46 41.5 -0.1**
LMN IAmb IAmb 23 46 59.7
comp=Z,25nm,1.0s
G08A Pilot Rock 38.81 329 P **P** **23 46 42.8 +0.5**
G08A PcP **PcP** **23 48 53.4 +1.0**
G08A **S** **23 52 38.6 +3.0**
PINE Pine Mountain 38.85 325 P **P** **23 46 43.6 +1.0**
PINE IAmb IAmb 23 46 46.3
comp=Z,21nm,1.0s
PINE **S** **23 52 40.0 +3.7**
JCC Jacoby Creek, 38.89 319 P **P** **23 46 43.8 +1.0**
J04D Umpqua Nationa 39.16 324 P **P** **23 46 45.9 +0.7**
baz=129,SNR=12
KRMB Red Mountain 39.21 320 P **P** **23 46 45.4 -0.2**
MDP Montagnes des 39.22 99 PcP **PcP** **23 48 54.7 +0.5**
comp=Z,4.6nm,0.8s,baz=262,slow=2.5,SNR=4.3
MDP pPcP 23 49 11.9
comp=Z,12nm,0.8s,baz=249,slow=2.4,SNR=7.5
HUMO Hull Mountain 39.27 322 P **P** **23 46 47.9 +1.9**
E09A Wood Farm, Sta 39.28 331 P **P** **23 46 46.4 +0.4**
E09A IAmb IAmb 23 47 04.5
comp=Z,15nm,0.8s
L02E Cave Junction 39.39 321 P **P** **23 46 47.7 +0.7**
baz=126
WALA Waterton Lakes 39.42 337 P **P** **23 46 48.7 +1.5**
WALA ScP **ScP** **23 52 39.8 +2.0**
I05D Terrebonne, OR 39.42 326 P **P** **23 46 48.2 +1.0**
baz=131
MNMC Minye Minye 39.44 146 P **P** **23 46 48.5 +0.6**
MNMC IAmb IAmb 23 46 49.4
comp=Z,39nm,1.0s
I04A Tendick Farm, 39.67 324 P **P** **23 46 49.6 +0.3**
baz=129,SNR=6.2
E08A Dider Farm, El 39.71 330 P **P** **23 46 50.2 +0.7**
F07A Phinny Hill Vi 39.72 329 P **P** **23 46 51.5 +1.9**
K02D Willamette Mer 39.74 322 P **P** **23 46 51.0 +1.1**
baz=126
KBO Bosley Butte 39.80 321 P **P** **23 46 51.9 +1.5**
HAWA Hanford 39.87 329 P **P** **23 46 51.2 +0.3**
ITTB Itaituba 39.89 115 *eP* **P** **23 46 49.2 -2.3**
PB11 IPOC Station P 39.93 147 P **P** **23 46 51.9 +0.1**
PB11 IAmb IAmb 23 46 52.7
comp=Z,34nm,1.1s
PB11 **PcP** **23 48 56.8 +0.4**
G05D Wamic, OR 40.00 327 P **P** **23 46 53.9 +1.9**
baz=132,SNR=6.4
D08A Wollman Farm, 40.04 331 P **P** **23 46 53.1 +0.8**
D08A IAmb IAmb 23 46 54.0
comp=Z,27nm,1.1s
D08A ScP **ScP** **23 52 42.6 +2.6**
MALB Monte Alegre 40.10 110 *eP* **P** **23 46 52.6 -0.6**
TA02 Huaiquique 40.10 148 P **P** **23 46 53.2 +0.2**
TA02 IAmb IAmb 23 46 54.2
comp=Z,56nm,1.1s
H04A Detroit Lake 40.11 326 P **P** **23 46 54.0 +1.1**
NEW Newport 40.12 333 P **P** **23 46 53.4 +0.5**
NEW 23 48 56.3
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 40.12 333 P **P** **23 46 53.0 0.0**
baz=140,SNR=11
NEW Newport 40.12 333 P **P** **23 46 53.4 +0.5**
NEW **PcP** **23 48 56.3 -0.1**
NEW ScP **ScP** **23 52 42.7 +2.3**
E07A Sunnyside 40.14 329 P **P** **23 46 54.3 +1.1**
E07A IAmb IAmb 23 46 54.9
comp=Z,36nm,1.2s
I03D Drain, OR 40.15 323 P **P** **23 46 54.0 +0.8**
baz=128,SNR=6.1
J01E Myrtle Point 40.17 322 P **P** **23 46 54.8 +1.4**
baz=126,SNR=7.8
KEBM Edson Butte 40.24 322 P **P** **23 46 56.2 +2.1**
BUCK Buck Mountain 40.25 324 P **P** **23 46 54.8 +0.6**
BUCK IAmb IAmb 23 46 56.1
comp=Z,50nm,1.2s
C09A Chrisman Ranch 40.28 332 P **P** **23 46 55.2 +0.9**
C09A IAmb IAmb 23 46 56.1
comp=Z,40nm,0.8s
H04D Lebanon 40.31 325 P **P** **23 46 54.6 0.0**
baz=129,SNR=7.1
F05D White Salmon 40.50 327 P **P** **23 46 57.0 +0.8**
baz=132,SNR=9.0

PB08 IPOC Station P 40.51 147 P **P** **23 46 56.9 0.0**
I02D Swisshome 40.68 324 P **P** **23 46 57.2 -0.4**
baz=127
VILB Vilhena 41.01 130 *eP* **P** **23 46 59.8 -0.8**
LTY Liberty 41.03 330 P **P** **23 47 01.2 +0.7**
G03D McMinnville, O 41.03 325 P **P** **23 47 01.1 +0.6**
baz=129
PB01 IPOC Station P 41.08 148 **PcP** **23 49 00.1 +0.1**
B08A Colville Reser 41.18 332 P **P** **23 47 02.3 +0.6**
LON Longmire 41.26 328 P **P** **23 47 03.3 +0.9**
LON pmax pmax
comp=Z,31nm,1.0s
LON Longmire 41.26 328 P **P** **23 47 03.3 +0.9**
LON IAmb IAmb 23 47 04.4
comp=Z,31nm,1.0s
PB07 IPOC Station P 41.44 149 P **P** **23 47 04.7 +0.4**
F04D Rainier, OR 41.45 327 P **P** **23 47 04.8 +0.9**
baz=130
E04D Cinebar 41.52 327 P **P** **23 47 05.1 +0.7**
baz=131
C06D Leavenworth 41.60 330 P **P** **23 47 05.7 +0.6**
baz=134
D05A Enumclaw 41.64 329 P **P** **23 47 06.8 +1.4**
D05A IAmb IAmb 23 47 07.5
comp=Z,44nm,1.0s
PB04 IPOC Station P 41.82 150 P **P** **23 47 06.8 -0.6**
PB04 IAmb IAmb 23 47 19.7
comp=Z,80nm,1.3s
PB09 IPOC Station P 41.83 148 P **P** **23 47 08.4 +1.0**
PB09 IAmb IAmb 23 47 08.4
comp=Z,34nm,1.2s
E03A Lebam 42.04 327 P **P** **23 47 10.2 +1.6**
E03A IAmb IAmb 23 47 11.0
comp=Z,57nm,1.1s
E03A ScP **ScP** **23 52 51.9 +4.0**
B06A Marblemount 42.30 330 P **P** **23 47 11.5 +0.7**
B06A IAmb IAmb 23 47 12.1
comp=Z,48nm,0.9s
SIV San Ignacio 42.38 134 P **P** **23 47 11.3 -0.6**
comp=Z,38nm,0.8s,baz=310,slow=7.6,SNR=164
SIV PcP **PcP** **23 49 04.4 0.0**
comp=Z,11nm,0.8s,baz=272,slow=0.4,SNR=5.3
B05A Bryant 42.42 330 P **P** **23 47 11.5 -0.3**
baz=133,SNR=7.1
D03D Eldon 42.43 328 P **P** **23 47 11.9 0.0**
baz=131,SNR=7.7
LVC Limon Verde 42.67 149 P **P** **23 47 14.8 +0.3**
comp=Z,11nm,1.1s,baz=304,slow=6.4,SNR=5.0
LVC PcP **PcP** **23 49 05.6 0.0**
comp=Z,7.0nm,0.8s,baz=33,slow=8.3,SNR=3.9
LVC Limon Verde 42.67 149 P **P** **23 47 15.3 +0.8**
LVC pmax pmax
comp=Z,29nm,1.3s
LVC Limon Verde 42.67 149 P **P** **23 47 15.3 +0.8**
LVC IAmb IAmb 23 47 16.1
comp=Z,29nm,1.2s
LVC Limon Verde 42.67 149 *eP* **P** **23 47 12.1 -2.4**
EDM Edmonton 42.68 341 P **P** **23 47 13.0 -0.8**
EDM pmax pmax
comp=Z,22nm,0.7s
EDM Edmonton 42.68 341 P **P** **23 47 13.0 -0.8**
EDM IAmb IAmb 23 47 15.1
comp=Z,22nm,0.7s
EDM ScP **ScP** **23 52 52.5 +2.1**
NLWA Neilton Lookou 42.74 328 P **P** **23 47 16.0 +1.6**
NLWA IAmb IAmb 23 47 16.9
comp=Z,40nm,1.1s
A05A Maple Falls 42.92 330 P **P** **23 47 16.4 +0.7**
A05A IAmb IAmb 23 47 17.2
comp=Z,46nm,1.1s
A04D Lummi Island 43.03 330 P **P** **23 47 17.0 +0.3**
baz=133,SNR=8.1
PGC Sidney 43.35 329 P **P** **23 47 20.5 +1.3**
PGC IAmb IAmb 23 47 21.2
comp=Z,54nm,1.1s
PTLB Pontes e Lacer 43.40 131 *eP* **P** **23 47 18.9 -1.2**
LLLB Lillooet 43.95 332 P **P** **23 47 25.1 +1.0**
LLLB IAmb IAmb 23 47 27.5
comp=Z,33nm,1.0s
RPN Rapa Nui 44.56 203 P **P** **23 47 29.6 +0.4**
comp=Z,36nm,0.4s,baz=14,slow=4.0,SNR=4.7
RPN Rapa Nui 44.56 203 P **P** **23 47 29.6 +0.4**
RPN pmax pmax
comp=Z,220nm,1.3s
DRLN Deer Lake 44.69 31 P **P** **23 47 28.8 -1.2**
DRLN IAmb IAmb 23 47 30.4
comp=Z,26nm,0.9s
SCHQ Schefferville 44.89 20 P **P** **23 47 30.3 -1.2**
comp=Z,47nm,0.7s,baz=221,slow=6.9,SNR=63
SCHQ pP **pP** **23 47 46.6 -0.9**
comp=Z,36nm,0.8s,baz=186,slow=5.7,SNR=7.8
SCHQ LR LR 00 07 17.9
comp=Z,787nm,20.6s,baz=219,slow=38
SCHQ Schefferville 44.89 20 P **P** **23 47 30.6 -0.9**
PRPB Parauapebas 45.95 113 *eP* **P** **23 47 39.3 -1.2**
TMAB Tom-Au,PA,Br 45.97 108 *eP* **P** **23 47 40.7 +0.1**
AC02 Maricunga 46.14 152 P **P** **23 47 43.0 +0.7**
AC02 IAmb IAmb 23 47 43.3
comp=Z,21nm,1.0s
SALV Santo Antonio 46.24 129 *eP* **P** **23 47 41.7 -1.0**
SNDB Serra Nova Dou 47.49 121 *eP* **P** **23 47 51.4 -1.1**
PP1B Ponte de Pedra 47.91 130 *eP* **P** **23 47 54.9 -0.8**
BBB Bella Bella 47.91 330 P **P** **23 47 56.8 +1.6**
BBB IAmb IAmb 23 47 57.4
comp=Z,21nm,1.1s
GO04 Tololo Observa 48.34 156 P **P** **23 47 58.4 -0.6**
GO04 IAmb IAmb 23 47 59.0
comp=Z,41nm,1.1s
H03N2 Juan Fernandez 48.80 166 T T 00 40 03.0
baz=350
H03N1 Juan Fernandez 48.80 166 T T 00 39 54.3
baz=350
H03N3 Juan Fernandez 48.81 166 T T 00 39 56.9
baz=350
CO03 El Pedregal 48.97 156 P **P** **23 48 03.0 -0.8**
CO03 IAmb IAmb 23 48 04.1
comp=Z,28nm,0.9s
ARAG Araguaiana, MT 49.12 126 *eP* **P** **23 48 03.6 -1.4**
SMTB Santa Maria do 49.13 115 *eP* **P** **23 48 04.6 -0.6**
AQDB Aquidauana 49.16 134 P **P** **23 48 04.2 -1.0**
AQDB IAmb IAmb 23 48 04.4
comp=Z,20nm,0.9s
AQDB Aquidauana 49.16 134 *eP* **P** **23 48 04.5 -0.8**
CO02 Combarbal 49.17 157 P **P** **23 48 04.3 -1.0**
ROSB Rosrio 49.84 106 *eP* **P** **23 48 09.5 -1.1**
PEXB Peixe 50.07 119 *eP* **P** **23 48 11.1 -1.2**
RUBB Prince Rupert 50.25 331 P **P** **23 48 14.0 +1.0**
RUBB IAmb IAmb 23 48 15.4
comp=Z,17nm,0.8s
MOBC Moresby Island 50.37 329 P **P** **23 48 15.5 +1.5**
ZON Zonda 50.40 155 P **P** **23 48 14.8 +0.2**
ZON pmax pmax
comp=Z,37nm,1.0s
ZON Zonda 50.40 155 P **P** **23 48 14.8 +0.2**
DIB Dawson Inlet, 50.65 329 P **P** **23 48 17.9 +1.9**
DIB IAmb IAmb 23 48 18.9
comp=Z,35nm,1.1s
VA03 San Esteban 50.74 157 P **P** **23 48 16.9 -0.2**
YKA Yellowknife Ar 51.01 346 P **P** **23 48 18.1 -0.6**
comp=Z,12nm,0.8s,baz=147,slow=8.1,SNR=42
YKA pP **pP** **23 48 34.3 -0.6**
comp=Z,2.3nm,0.6s,baz=261,slow=25,SNR=6.5
YKA PcP **PcP** **23 49 33.7 -0.2**
comp=Z,5.8nm,0.7s,baz=146,slow=4.0,SNR=10
YKA ScP **ScP** **23 53 25.4 +0.3**
comp=Z,1.5nm,0.7s,baz=144,slow=5.0,SNR=6.9
YKA LR LR 00 12 47.1
comp=Z,149nm,21.9s,baz=0.0,slow=39
YKA Yellowknife Ar 51.01 346 P **P** **23 48 17.9 -0.8**
MT05 Renca 51.23 158 P **P** **23 48 20.4 -0.4**
MT03 Universidad Ad 51.40 158 P **P** **23 48 21.9 -0.2**
MT01 Popeta 51.47 158 P **P** **23 48 21.2 -1.3**
MT01 IAmb IAmb 23 48 45.0
comp=Z,20nm,1.1s
MT09 Talagante 51.48 158 P **P** **23 48 21.6 -1.1**
MT09 IAmb IAmb 23 48 22.4
comp=Z,21nm,0.9s
BO01 Tunca 52.00 159 P **P** **23 48 25.1 -1.3**
BDFB Brasilia 52.13 123 P **P** **23 48 26.8 -1.0**
comp=Z,5.6nm,0.7s,baz=284,slow=11,SNR=8.1
BDFB pP **pP** **23 48 43.4 -0.6**
comp=Z,5.4nm,0.7s,baz=255,slow=4.8,SNR=3.9
BDFB LR LR 00 11 12.3
comp=Z,184nm,21.9s,baz=330,slow=37
BDFB Brasilia 52.13 123 P **P** **23 48 27.2 -0.6**

BDFB pmax pmax
comp=Z,19nm,1.3s
BDFB Brasilia 52.13 123 P **P** **23 48 27.2 -0.6**
BDFB IAmb IAmb 23 48 44.6
comp=Z,19nm,1.3s
CPUP Villa Florida 52.14 140 P **P** **23 48 26.0 -1.6**
comp=Z,16nm,0.9s,baz=327,slow=8.2,SNR=24
CPUP PcP **PcP** **23 49 37.5 -1.2**
comp=Z,3.6nm,0.9s,baz=278,slow=5.6,SNR=3.4
CPUP LR LR 00 12 06.1
comp=Z,128nm,19.2s,baz=329,slow=38
CPUP Villa Florida 52.14 140 P **P** **23 48 25.7 -1.9**
CPUP pmax pmax
comp=Z,32nm,1.1s
CPUP Villa Florida 52.14 140 P **P** **23 48 25.6 -1.9**
CPUP IAmb IAmb 23 48 26.7
comp=Z,32nm,1.1s
CPUP Villa Florida 52.14 140 *eP* **P** **23 48 26.6 -1.0**
CRAG Craig 52.26 331 P **P** **23 48 29.6 +1.5**
baz=126,SNR=6.0
CRAG Craig 52.26 331 P **P** **23 48 30.3 +2.2**
GO05 Huala 52.27 160 P **P** **23 48 27.4 -1.0**
WRAK Wrangell Islan 52.47 333 P **P** **23 48 29.5 -0.1**
baz=127
WRAK Wrangell Islan 52.47 333 P **P** **23 48 30.9 +1.3**
WRAK IAmb IAmb 23 48 32.1
comp=Z,17nm,1.1s
BO02 Sierra Bellavi 52.47 159 P **P** **23 48 29.3 -0.7**
BO02 IAmb IAmb 23 48 29.7
comp=Z,14nm,0.9s
ITRB Iturama 52.58 129 *eP* **P** **23 48 30.2 -0.8**
DLBC Dease Lake 52.75 336 P **P** **23 48 33.1 +1.4**
DLBC ScP **ScP** **23 53 36.4 +3.6**
NBPS Pedro II - PI 52.88 107 *eP* **P** **23 48 32.4 -1.0**
PCMB Pacaembu 53.06 131 *eP* **P** **23 48 33.5 -1.0**
SDBA SAO DESIDERIO 53.11 118 *eP* **P** **23 48 34.4 -0.6**
ML02 Panimavida 53.13 160 P **P** **23 48 34.0 -0.7**
IPMB Ipameri, GO 53.25 126 *eP* **P** **23 48 34.7 -1.3**
TAOE Nuku Hiva Isla 53.47 248 *eT* T 00 45 31.2
comp=Z,42nm,0.3s
SIT Sitka 54.17 332 P **P** **23 48 42.8 +0.7**
baz=124
JIS Juneau Island 54.46 334 P **P** **23 48 45.9 +1.7**
JIS IAmb IAmb 23 48 46.7
comp=Z,38nm,1.5s
PTGB Pitanga 54.47 135 *eP* **P** **23 48 42.7 -2.1**
BB19B Bebedouro 54.76 129 *eP* **P** **23 48 46.0 -1.0**
BESE Bessie Mountai 54.84 334 P **P** **23 48 48.6 +1.6**
JANB Januaria 54.89 120 *eP* **P** **23 48 46.8 -1.2**
ITQB Itaqui 54.99 143 P **P** **23 48 47.4 -1.0**
ITQB Itaqui 54.99 143 *eP* **P** **23 48 47.1 -1.3**
FRTB Fartura 55.37 132 *eP* **P** **23 48 50.3 -1.0**
SKAG Skagway 55.55 335 P **P** **23 48 52.2 +0.3**
baz=126
LC01 Cunco 55.84 162 P **P** **23 48 53.5 -0.9**
MC01 Montes Claros 56.02 122 *eP* **P** **23 48 55.6 -0.5**
WHY Whitehorse 56.07 336 P **P** **23 48 56.6 +0.7**
baz=127
WHY Whitehorse 56.07 336 P **P** **23 48 56.7 +0.7**
RCLB Rio Claro- Sao 56.30 130 *eP* **P** **23 48 57.2 -0.8**
NBPN Ponto Novo - B 56.54 113 *eP* **P** **23 48 58.8 -1.0**
TIJ01 Guaruva-PR 56.99 133 *eP* **P** **23 49 02.9 0.0**
DIAM Diamantina, MG 57.05 123 *eP* **P** **23 49 03.4 -0.2**
VAO Valinhos 57.07 130 *eP* **P** **23 49 02.5 -0.9**
SPB Sao Paulo 57.07 131 P **P** **23 49 02.2 -1.1**
SPB IAmb IAmb 23 49 03.0
comp=Z,31nm,1.2s
SPB **pP** **23 49 20.5 +0.7**
SPB Sao Paulo 57.07 131 *eP* **P** **23 49 02.0 -1.3**
HYT Haines Junctio 57.22 335 P **P** **23 49 05.7 +1.7**
HYT IAmb IAmb 23 49 06.6
comp=Z,21nm,1.2s
CPSB Cacapava Do Su 57.44 141 *eP* **P** **23 49 04.7 -1.2**
PET01 Itanhaem-SP 57.60 131 *eP* **P** **23 49 05.8 -1.4**
BSCB Bom Sucesso 57.61 126 *eP* **P** **23 49 06.8 -0.5**
BCPM Bancas Point 57.64 334 P **P** **23 49 08.6 +1.7**
BCPM IAmb IAmb 23 49 09.3
comp=Z,31nm,1.1s
PLCA Paso Flores 57.93 161 P **P** **23 49 08.6 -0.6**
comp=Z,13nm,1.1s,baz=347,slow=9.1,SNR=7.5
PLCA pP **pP** **23 49 28.0 +2.4**
comp=Z,16nm,1.1s,baz=337,slow=7.3,SNR=6.2
PLCA LR LR 00 09 12.7
comp=Z,137nm,18.8s,baz=348,slow=31
PLCA Paso Flores 57.93 161 IAmb IAmb 23 49 09.6
comp=Z,29nm,1.2s
PLCA pP pP 23 49 29.9 +4.3
PLCA Paso Flores 57.93 161 *eP* **P** **23 49 05.6 -3.6**
PINM Pinnacle 57.98 334 P **P** **23 49 10.6 +1.2**
baz=121,SNR=11
PCA Pinnacle 57.99 334 P **P** **23 49 10.8 +1.4**
NBLV Livramento - P 58.14 108 *eP* **P** **23 49 10.1 -1.1**
PARB Paraibuna 58.27 129 *eP* **P** **23 49 11.2 -0.7**
GDU01 Guandu, BA 58.32 116 *eP* **P** **23 49 11.9 -0.5**
TABL Table Mountain 58.54 334 P **P** **23 49 15.0 +1.6**
RCBR Riachuelo 58.54 106 P **P** **23 49 12.6 -1.4**
comp=Z,13nm,0.7s,baz=303,slow=5.0,SNR=6.9
RCBR pP **pP** **23 49 29.1 -1.4**
comp=Z,9.9nm,0.8s,baz=132,slow=20,SNR=1.4
RCBR Riachuelo 58.54 106 *eP* **P** **23 49 12.5 -1.4**
LOGN Logan Glacier 58.67 334 P **P** **23 49 15.9 +1.6**
LOGN IAmb IAmb 23 49 16.7
comp=Z,30nm,1.2s
MESA MESA 58.76 333 P **P** **23 49 16.0 +1.1**
baz=119
C36M Paulatuk 58.88 347 P **P** **23 49 15.7 +0.4**
baz=142
CTGM Chitina Glacie 58.88 334 P **P** **23 49 17.4 +1.6**
CTGM IAmb IAmb 23 49 17.6
comp=Z,18nm,1.1s
CTG Chitna Glacier 58.89 334 P **P** **23 49 16.8 +1.1**
baz=120,SNR=7.6
LL01 San Ignacio de 58.91 164 P **P** **23 49 15.6 -0.2**
TER01 Tubaro-SC 58.94 136 *eP* **P** **23 49 15.3 -1.0**
ESAR Angra dos Reis 58.98 128 *eP* **P** **23 49 16.8 +0.1**
NBIT Itapeh - BA 58.98 117 *eP* **P** **23 49 17.2 +0.3**
BARN Barnard Glacie 59.07 334 P **P** **23 49 18.6 +1.5**
BARN IAmb IAmb 23 49 20.4
comp=Z,19nm,1.2s
CMC01 Camacan, BA 59.10 118 *eP* **P** **23 49 17.3 -0.4**
ISLE Juniper Island 59.14 334 P **P** **23 49 19.0 +1.5**
SJMB Sao Joao De Ma 59.29 122 *eP* **P** **23 49 18.8 -0.2**
VAS01 Vassouras-RJ 59.34 127 *eP* **P** **23 49 19.3 0.0**
TGL Tana Glacier 59.42 334 P **P** **23 49 20.7 +1.3**
GUA01 Guaratinga, BA 59.42 119 *eP* **P** **23 49 19.3 -0.6**
SUCK Suckling Hills 59.52 333 P **P** **23 49 21.8 +1.9**
CRQE Cirque 59.53 333 P **P** **23 49 21.1 +0.9**
baz=118
CRQM Cirque 59.56 333 P **P** **23 49 21.3 +0.9**
NBAN Anadia - AL 59.60 110 *eP* **P** **23 49 20.5 -0.7**
BSFB Barra de Sao F 59.63 122 *eP* **P** **23 49 21.3 0.0**
BERG Berg Lake 59.63 333 P **P** **23 49 22.4 +1.7**
KAIM Kayak Island 59.74 332 P **P** **23 49 23.1 +1.7**
baz=116
KAIM Kayak Island 59.74 332 P **P** **23 49 23.5 +2.0**
NAN01 Guarapari, ES 59.75 121 *eP* **P** **23 49 22.1 0.0**
DAWY Dawson 59.75 338 P **P** **23 49 21.4 -0.1**
MCARA McCarthy VSAT 59.80 334 P **P** **23 49 23.1 +1.2**
baz=118
MCARA McCarthy VSAT 59.80 334 P **P** **23 49 22.6 +0.7**
M27K Edge Creek, AK 59.81 335 P **P** **23 49 22.6 +0.5**
baz=120,SNR=17
LL02 Futaleuf 59.81 164 P **P** **23 49 21.6 -0.5**
LL02 IAmb IAmb 23 49 22.4
comp=Z,23nm,1.3s
HMT Hamilton 59.86 333 P **P** **23 49 23.8 +1.5**
VRDI Verde Repeater 59.91 334 P **P** **23 49 23.8 +0.9**
VRDI IAmb IAmb 23 49 24.9
comp=Z,24nm,0.9s
RAGM Ragged Mountai 60.06 333 P **P** **23 49 25.3 +1.6**
DUB01 Friburgo-RJ 60.07 126 *eP* **P** **23 49 24.0 -0.4**
BCAR Beaver Creek A 60.13 336 P **P** **23 49 24.2 +0.1**
L27K Beaver Creek, 60.14 336 P **P** **23 49 24.6 +0.4**
baz=121,SNR=38
L27K Beaver Creek, 60.14 336 P **P** **23 49 24.8 +0.6**
L27K IAmb IAmb 23 49 25.9
comp=Z,24nm,0.9s
GLB Gilahina Butte 60.17 334 P **P** **23 49 25.5 +1.1**
DY2G Dye2 60.20 19 ||*iP* **P** **23 49 22.7 -2.0**
DY2G IAmb IAmb 23 49 23.5
comp=Z,9.8nm,0.8s
RIB01 Linhares ES 60.24 122 *eP* **P** **23 49 25.1 -0.4**
M26K Nabesna, AK 60.28 335 P **P** **23 49 25.9 +0.7**
baz=119,SNR=14

BMRM	**Bremner River**	60.29	333	P	**P**	23 49 26.3 +1.0
	baz=117,SNR=18					
BMRM	**Bremner River**	60.29	333	P	**P**	23 49 26.5 +1.2
INK	**Inuvik**	60.46	343	P	**P**	23 49 25.7 -0.5
	comp=Z,13nm,0.8s,baz=122,slow=6.7,SNR=12					
INK				pP	**pP**	23 49 42.7 0.0
	comp=Z,10nm,0.8s,baz=69,slow=5.4,SNR=6.6					
INK	**Inuvik**	60.46	343	P	**P**	23 49 25.8 -0.4
INK				pmax	pmax	
	comp=Z,49nm,1.5s					
INK	**Inuvik**	60.46	343	P	**P**	23 49 25.7 -0.4
	baz=132					
INK	**Inuvik**	60.46	343	P	**P**	23 49 25.8 -0.4
CAM01	**Campos-RJ**	60.50	125	*e*P	**P**	23 49 27.1 -0.1
N25K	**Chitina, Valde**	60.58	334	P	**P**	23 49 28.2 +1.0
	baz=117,SNR=47					
N25K	**Chitina, Valde**	60.58	334	P	**P**	23 49 28.6 +1.3
EYAK	**Cordova Ski Ar**	60.61	333	P	**P**	23 49 28.6 +1.2
	baz=115,SNR=5.8					
EYAK	**Cordova Ski Ar**	60.61	333	P	**P**	23 49 28.9 +1.6
ALF01	**Guarapari-ES**	60.62	124	*e*P	**P**	23 49 27.7 -0.3
L26K	**Log Cabin Wild**	60.73	336	P	**P**	23 49 28.4 +0.2
	baz=119,SNR=12					
K27K	**Chicken**	60.73	337	P	**P**	23 49 28.6 +0.4
	baz=121					
EGAK	**Eagle**	60.78	338	P	**P**	23 49 27.9 -0.7
	baz=122					
EGAK	**Eagle**	60.78	338	P	**P**	23 49 27.8 -0.7
EGAK				IAmb	IAmb	23 49 30.0
	comp=Z,22nm,1.4s					
MENT	**Mentasta**	60.84	336	P	**P**	23 49 29.5 +0.6
MENT				IAmb	IAmb	23 49 30.0
	comp=Z,12nm,0.9s					
HIN	**Hinchinbrook I**	60.89	332	P	**P**	23 49 30.4 +1.1
FID	**Port Fidalgo**	61.02	333	P	**P**	23 49 31.4 +1.1
KLU	**Klutina**	61.09	334	P	**P**	23 49 32.0 +1.3
	baz=116					
KLU	**Klutina**	61.09	334	P	**P**	23 49 31.8 +1.1
HARP	**HAARP**	61.17	335	P	**P**	23 49 31.7 +0.5
	baz=117,SNR=12					
DOT	**Dot Lake**	61.31	336	P	**P**	23 49 32.6 +0.5
GLI	**Glacier Island**	61.35	333	P	**P**	23 49 32.5 +0.1
	baz=114					
SCRK	**Sand Creek**	61.44	336	P	**P**	23 49 33.7 +0.6
	baz=119					
SCRK	**Sand Creek**	61.44	336	P	**P**	23 49 33.5 +0.4
SCRK				IAmb	IAmb	23 49 34.9
	comp=Z,28nm,1.3s					
M24K	**Tolsona, Glenn**	61.47	334	P	**P**	23 49 33.9 +0.6
	baz=116,SNR=13					
M24K	**Tolsona, Glenn**	61.47	334	P	**P**	23 49 34.4 +1.1
PAX	**Paxson**	61.56	335	P	**P**	23 49 34.2 +0.3
PAX				pmax	pmax	
	comp=Z,29nm,0.8s					
PAX	**Paxson**	61.56	335	P	**P**	23 49 34.0 +0.1
	baz=117					
PAX	**Paxson**	61.56	335	P	**P**	23 49 34.2 +0.3
RIDG	**Independent Ri**	61.66	336	P	**P**	23 49 34.9 +0.4
	baz=118					
RIDG	**Independent Ri**	61.66	336	P	**P**	23 49 35.1 +0.6
SCM	**Sheep Creek Mo**	61.85	334	P	**P**	23 49 36.3 +0.5
SCM				pmax	pmax	
	comp=Z,41nm,0.8s					
SCM	**Sheep Creek Mo**	61.85	334	P	**P**	23 49 36.3 +0.5
PWL	**Port Wells**	61.90	332	P	**P**	23 49 36.5 +0.4
PWL				IAmb	IAmb	23 49 37.2
	comp=Z,16nm,0.8s					
SEW	**Seward**	62.13	331	P	**P**	23 49 37.7 +0.1
	baz=112					
SEW	**Seward**	62.13	331	P	**P**	23 49 38.2 +0.6
KNK	**Knik Glacier**	62.17	333	P	**P**	23 49 38.5 +0.5
	baz=113					
KNK	**Knik Glacier**	62.17	333	P	**P**	23 49 38.9 +0.9
SML	**Sawmill**	62.27	333	P	**P**	23 49 39.2 +0.5
	baz=114					
WAT6	**Susitna Watana**	62.33	334	P	**P**	23 49 39.5 +0.3
	baz=114					
PMR	**Palmer**	62.54	333	P	**P**	23 49 40.8 +0.5
PMR				pmax	pmax	
	comp=Z,29nm,0.8s					
PMR	**Palmer**	62.54	333	P	**P**	23 49 40.6 +0.2
	baz=113					
PMR	**Palmer**	62.54	333	P	**P**	23 49 40.8 +0.5
BRSE	**Bradley Lake S**	62.61	331	P	**P**	23 49 41.1 +0.2
	baz=110					
RC01	**Rabbit Creek A**	62.62	332	P	**P**	23 49 41.5 +0.6
	baz=112					
RC01	**Rabbit Creek A**	62.62	332	P	**P**	23 49 41.4 +0.4
BRLK	**Bradley Lake**	62.68	331	P	**P**	23 49 42.3 +0.9
ANGG	**Ammassalik, Gr**	62.69	22	*i* P	**P**	23 49 38.9 -2.3
ANGG				IAmb	IAmb	23 49 39.9
	comp=Z,10nm,0.7s					
PRP	**Porcupine Dome**	62.75	338	P	**P**	23 49 41.9 0.0
	baz=118					
CNPM	**China Poot**	62.77	330	P	**P**	23 49 42.9 +0.9
CNPM				pP	**pP**	23 49 59.6 +0.9
WAT1	**Susitna Watana**	62.78	334	P	**P**	23 49 41.6 -0.3
	baz=114					
HDA	**Harding Lake**	62.79	336	P	**P**	23 49 41.9 -0.1
	baz=116					
HDA	**Harding Lake**	62.79	336	P	**P**	23 49 41.8 -0.2
HDA				IAmb	IAmb	23 49 43.0
	comp=Z,34nm,1.1s					
KDAK	**Kodiak Island**	62.89	328	*d i* P	**P**	23 49 43.0 +0.3
KDAK				pmax	pmax	
	comp=Z,24nm,0.9s					
KDAK	**Kodiak Island**	62.89	328	P	**P**	23 49 43.2 +0.5
	baz=108					
KDAK	**Kodiak Island**	62.89	328	P	**P**	23 49 43.2 +0.5
KDAK				IAmb	IAmb	23 50 01.0
	comp=Z,18nm,0.8s					
PMOR	**Pomariorio Ree**	62.91	245	*e*T	T	00 57 16.8
	comp=Z,3.0nm,0.3s					
IL31		62.93	337	P	**P**	23 49 42.6 -0.3
ILAR	**Eielson Array**	62.93	337	P	**P**	23 49 42.6 -0.3
	comp=Z,30nm,1.1s,baz=128,slow=4.6,SNR=117					
ILAR				pP	**pP**	23 50 00.1 +0.6
	comp=Z,12nm,0.9s,baz=112,slow=4.6,SNR=5.7					
ILAR				LR	LR	00 19 37.1
	comp=Z,173nm,20.8s,baz=126,slow=38					
ILAR	**Eielson Array**	62.93	337	P	**P**	23 49 41.6 -1.3
OHAK	**Old Harbor**	63.09	327	P	**P**	23 49 44.9 +0.8
	baz=106					
OHAK	**Old Harbor**	63.09	327	P	**P**	23 49 45.0 +1.0
OHAK				IAmb	IAmb	23 50 02.6
	comp=Z,37nm,1.2s					
RND	**Reindeer**	63.13	335	P	**P**	23 49 44.9 +0.5
RND				pmax	pmax	
	comp=Z,97nm,1.0s					
RND	**Reindeer**	63.13	335	P	**P**	23 49 44.9 +0.5
FYU	**Fort Yukon**	63.15	339	P	**P**	23 49 45.4 +1.1
FYU				IAmb	IAmb	23 49 45.7
	comp=Z,29nm,1.4s					
FYU				PcP	**PcP**	23 50 21.9 +0.6
CAPN	**Captain Cook N**	63.15	332	P	**P**	23 49 45.7 +1.3
	baz=110					
SUA	**Susitna One**	63.21	332	P	**P**	23 49 45.7 +0.8
	baz=111					
CCB	**Clear Creek Bu**	63.23	336	P	**P**	23 49 44.3 -0.6
CCB				IAmb	IAmb	23 49 46.2
	comp=Z,11nm,0.7s					
WRH	**Wood River Hil**	63.27	336	P	**P**	23 49 44.4 -0.7
WRH				IAmb	IAmb	23 49 45.6
	comp=Z,14nm,0.9s					
POKR	**Poker Plat Res**	63.29	337	P	**P**	23 49 44.7 -0.6
	baz=116					
POKR	**Poker Plat Res**	63.29	337		**PcP**	23 50 22.1 +0.1
POKR	**Poker Plat Res**	63.29	337	P	**P**	23 49 45.1 -0.2
POKR				IAmb	IAmb	23 49 45.8
	comp=Z,17nm,0.8s					
MCK	**McKinley**	63.30	335	P	**P**	23 49 45.6 +0.2
MCK				pmax	pmax	
	comp=Z,42nm,1.0s					
MCK	**McKinley**	63.30	335	P	**P**	23 49 45.4 -0.1
	baz=114					
MCK	**McKinley**	63.30	335	P	**P**	23 49 45.6 +0.2
COLA	**College**	63.34	337	*d i* P	**P**	23 49 45.2 -0.4
COLA				pmax	pmax	
	comp=Z,23nm,0.9s					
COLA	**College**	63.34	337	P	**P**	23 49 45.1 -0.5
	baz=115					
COLA	**College**	63.34	337	P	**P**	23 49 45.6 0.0
COLA				IAmb	IAmb	23 49 46.3
	comp=Z,30nm,0.8s					
COLA				PcP	**PcP**	23 50 22.1 -0.1
CUT	**Chulitna**	63.34	334	P	**P**	23 49 45.9 +0.2
	baz=112					
CUT	**Chulitna**	63.34	334	P	**P**	23 49 45.9 +0.2
BMAR	**Burnt Mountain**	63.35	340	P	**P**	23 49 45.7 0.0
TCOL	**CIGO, UAF Yank**	63.35	337	P	**P**	23 49 44.8 -0.9
	baz=115					
TCOL	**CIGO, UAF Yank**	63.35	337	P	**P**	23 49 45.3 -0.4
TCOL				PcP	**PcP**	23 50 22.3 +0.1
SII	**Sitkinak Islan**	63.38	327	P	**P**	23 49 46.9 +0.8
	baz=105					
SII	**Sitkinak Islan**	63.38	327	P	**P**	23 49 46.7 +0.6
OPA	**Opana**	63.40	287	P	**P**	23 49 47.1 +0.3
OPA				pmax	pmax	
	comp=Z,92nm,0.8s					
OPA	**Opana**	63.40	287	P	**P**	23 49 47.1 +0.3
KIP	**Kipapa**	63.43	287	*de*P	**P**	23 49 46.7 -0.3
KIP				pmax	pmax	
	comp=Z,118nm,1.7s					
MDM	**Murphy Dome**	63.52	337	P	**P**	23 49 46.5 -0.4
MDM				IAmb	IAmb	23 49 48.5
	comp=Z,13nm,0.8s					
O20K	**Slope Mountain**	63.61	331	P	**P**	23 49 47.9 +0.3
	baz=108					
BWN	**Browne**	63.69	336	P	**P**	23 49 47.9 0.0
NEA2	**Nenana**	63.70	336	P	**P**	23 49 47.4 -0.7
	baz=114					
NEA2	**Nenana**	63.70	336	P	**P**	23 49 47.7 -0.3
NEA2				IAmb	IAmb	23 49 48.9
	comp=Z,20nm,1.0s					
SKT	**Skwentna**	63.74	333	P	**P**	23 49 48.3 0.0
	baz=110					
SKT	**Skwentna**	63.74	333	P	**P**	23 49 48.7 +0.3
TRF	**Thorofare Moun**	63.75	335	P	**P**	23 49 48.6 +0.1
	baz=112					
TRF	**Thorofare Moun**	63.75	335	P	**P**	23 49 48.7 +0.1
ICESG	**Greenland Ices**	63.76	18	⇓*i* P	**P**	23 49 47.0 -1.7
ICESG				IAmb	IAmb	23 49 47.8
	comp=Z,44nm,0.7s					
H24K	**Noodor Dome**	63.77	338	P	**P**	23 49 48.8 +0.3
	baz=116					
P19K	**Oil Pt**	63.77	330	P	**P**	23 49 48.9 +0.3
	baz=108					
SPCR	**Spurr Chakacha**	63.78	332	P	**P**	23 49 48.4 -0.3
	baz=109					
RSO	**Redoubt South**	63.80	331	P	**P**	23 49 49.1 +0.2
CHIR	**Chirikof Islan**	63.97	326	P	**P**	23 49 51.1 +1.2
	baz=104					
CHIR	**Chirikof Islan**	63.97	326	P	**P**	23 49 50.9 +1.0
CHIR				IAmb	IAmb	23 50 09.7
	comp=Z,29nm,1.0s					
I23K	**Minto, Yukon-K**	64.04	337	P	**P**	23 49 50.2 0.0
	baz=114					
I23K	**Minto, Yukon-K**	64.04	337	P	**P**	23 49 50.5 +0.3
KTH	**Kantishna Hill**	64.05	335	P	**P**	23 49 50.3 -0.1
BPAW	**Bear Paw Mtn.**	64.28	335	P	**P**	23 49 51.8 0.0
	baz=112					
BPAW	**Bear Paw Mtn.**	64.28	335	P	**P**	23 49 51.7 -0.2
PPLA	**Purkeypile**	64.35	334	P	**P**	23 49 52.4 -0.1
	baz=110					
PPLA	**Purkeypile**	64.35	334	P	**P**	23 49 52.4 -0.1
H23K	**Yukon River**	64.39	337	P	**P**	23 49 52.2 -0.4
	baz=114					
MLY	**Manley**	64.53	336	P	**P**	23 49 53.7 +0.2
	baz=113					
MLY	**Manley**	64.53	336	P	**P**	23 49 53.4 -0.1
N19K	**Bonanza Creek**	64.72	331	P	**P**	23 49 54.4 -0.4
	baz=107					
CHUM	**Lake Minchumin**	64.75	335	P	**P**	23 49 54.0 -0.8
	baz=110					
O18K	**Koktuh Hills**	64.79	330	P	**P**	23 49 55.1 -0.1
	baz=106					
I21K	**Tanana**	65.08	336	P	**P**	23 49 56.5 -0.5
	baz=112					
COLD	**Coldfoot**	65.20	338	P	**P**	23 49 58.2 +0.5
	baz=114					
COLD	**Coldfoot**	65.20	338	P	**P**	23 49 58.7 +0.9
COLD				IAmb	IAmb	23 49 59.9
	comp=Z,26nm,1.2s					
L19K	**White Mountain**	65.29	332	P	**P**	23 49 58.0 -0.5
	baz=107					
K20K	**Telida**	65.31	334	P	**P**	23 49 58.2 -0.4
	baz=109					
SVW2	**Sparrevohn**	65.31	331	P	**P**	23 49 58.2 -0.4
SVW2				IAmb	IAmb	23 49 59.1
	comp=Z,31nm,0.8s					
N18K	**Kilae Creek**	65.34	331	P	**P**	23 49 58.7 -0.1
	baz=106					
PPT	**Papeete**	65.45	243	LR	LR	00 10 00.3
	comp=Z,263nm,20.5s,baz=54,slow=28					
PPT2	**Papeete2**	65.46	243	*e*LR	LR	00 09 30.2
	comp=Z,603nm,26.5s,baz=56					
TOLK	**Toolik Lake Re**	65.57	340	P	**P**	23 50 00.4 +0.2
	baz=115					
TOLK	**Toolik Lake Re**	65.57	340	P	**P**	23 50 00.5 +0.3
J20K	**Nowinta River**	65.60	335	P	**P**	23 49 59.9 -0.5
	baz=109					
SUMG	**Summit**	65.95	15	⇓*i* P	**P**	23 50 01.9 -1.1
SUMG				IAmb	IAmb	23 50 03.5
	comp=Z,20nm,0.7s					
SUMG	**Summit**	65.95	15	⇓*i* P	**P**	23 50 01.8 -1.1
SUMG				pmax	pmax	
	comp=Z,20nm,0.7s					
SUMG	**Summit**	65.95	15	P	**P**	23 50 01.1 -1.8
SUMG				IAmb	IAmb	23 50 03.6
	comp=Z,21nm,0.6s					
EUNU	**Eureka**	65.97	1	P	**P**	23 50 01.9 -0.8
EUNU				IAmb	IAmb	23 50 02.7
	comp=Z,22nm,0.8s					
IMAR	**Indian Mountai**	66.05	337	P	**P**	23 50 02.4 -0.9
NEEM	**North Greenlan**	66.50	9	⇓*i* P	**P**	23 50 05.0 -1.4
NEEM				IAmb	IAmb	23 50 05.9
	comp=Z,27nm,1.0s					
SDPT	**Sand Point**	66.58	324	P	**P**	23 50 06.7 -0.1
	baz=99					
SDPT	**Sand Point**	66.58	324	P	**P**	23 50 06.7 -0.1
TBI	**Tubuai**	67.90	237	*e*LR	LR	00 10 41.9
	comp=Z,375nm,26.8s,baz=58					
FALS	**False Pass**	68.19	324	P	**P**	23 50 16.2 -0.8
	baz=97					
FALS	**False Pass**	68.19	324	P	**P**	23 50 17.0 0.0
AKUT	**Akutan**	69.49	323	P	**P**	23 50 24.7 -0.4
AKUT				IAmb	IAmb	23 50 42.6
	comp=Z,24nm,0.9s					
UNV	**Unalaska Valle**	69.90	322	P	**P**	23 50 27.4 -0.2
	baz=94					
UNV	**Unalaska Valle**	69.90	322	P	**P**	23 50 27.6 0.0
RDOG	**Red Dog Mine**	70.07	338	P	**P**	23 50 29.3 +0.9
	baz=102					
ANM	**Nome**	70.44	334	P	**P**	23 50 30.7 -0.1
	baz=98					
NIKH	**Nikolski High**	71.27	321	P	**P**	23 50 36.2 +0.2
	baz=91					
SPIA	**Saint Paul Isl**	72.18	326	P	**P**	23 50 41.9 +0.6
	baz=92					
SPIA	**Saint Paul Isl**	72.18	326	P	**P**	23 50 42.1 +0.8
DAG	**Danmarks Havn**	72.39	13	⇓*i* P	**P**	23 50 40.5 -1.8
DAG				IAmb	IAmb	23 50 40.9
	comp=Z,19nm,0.6s					
DAG	**Danmarks Havn**	72.39	13	⇓*i* P	**P**	23 50 40.5 -1.8
DAG				pmax	pmax	
	comp=Z,19nm,0.6s					
GAMB	**Gambell**	73.12	333	P	**P**	23 50 47.1 +0.3
	baz=92					
NOR	**Nord**	73.87	8	⇓*i* P	**P**	23 50 49.7 -1.3
NOR				IAmb	IAmb	23 50 50.1
	comp=Z,7.3nm,0.7s					
NOR	**Nord**	73.87	8	⇓*i* P	**P**	23 50 49.6 -1.3
NOR				pmax	pmax	
	comp=Z,7.0nm,0.7s					
KPL	**Plockton**	75.94	34	*e*P	**P**	23 51 01.3 -2.0
KPL				IAmb	IAmb	23 51 02.4
	comp=Z,24nm,1.0s					
ADK	**Adak**	76.10	320	P	**P**	23 51 04.2 -0.1
ADK				pmax	pmax	
	comp=Z,59nm,0.8s					
ADK	**Adak**	76.10	320	P	**P**	23 51 04.2 -0.1
MDO	**Dochfour**	76.63	34	*e*P	**P**	23 51 05.0 -2.2
BIGH	**Upper Bighouse**	76.77	33	*e*P	**P**	23 51 06.1 -1.9
BIGH				IAmb	IAmb	23 51 07.4
	comp=Z,342nm,1.8s					
INVG	**Invergeldie, C**	76.90	35	*e*P	**P**	23 51 06.5 -2.2
INVG				IAmb	IAmb	23 51 07.3
	comp=Z,15nm,0.8s					
MCD	**Coleburn Disti**	77.21	34	*e*P	**P**	23 51 08.1 -2.4
EBH	**Black Hill**	77.22	35	*e*P	**P**	23 51 08.6 -2.0
ESK	**Eskdalemuir**	77.50	36	*e*P	**P**	23 51 09.5 -2.6
ESK				IAmb	IAmb	23 51 11.0
	comp=Z,24nm,1.0s					
DRUM	**Mains of Drumt**	77.70	34	*e*P	**P**	23 51 10.8 -2.4
DRUM				IAmb	IAmb	23 51 11.9
	comp=Z,17nm,0.5s					
ESY	**Stoneypath**	77.75	35	*e*P	**P**	23 51 11.6 -1.9
KBS	**Kingsbay**	78.76	11	*i* P	**P**	23 51 18.2 -0.4
KBS				IAmb	IAmb	23 51 19.6
	comp=Z,35nm,0.8s					
KBS	**Kingsbay**	78.76	11	*de*P	**P**	23 51 18.3 -0.4
KBS				pmax	pmax	
	comp=Z,25nm,1.3s					
KBS	**Kingsbay**	78.76	11	*e*P	**P**	23 51 19.4 +0.7
ESDC	**Sonseca Array**	79.19	52	P	**P**	23 51 19.2 -2.6
	comp=Z,2.3nm,0.8s,baz=285,slow=4.9,SNR=18					
ESDC				pP	**pP**	23 51 36.6 -2.4
	comp=Z,2.9nm,0.8s,baz=287,slow=4.9,SNR=8.6					
ESDC				LR	LR	00 21 08.4
	comp=Z,96nm,21.9s,baz=240,slow=32					
ESDC	**Sonseca Array**	79.19	52	P	**P**	23 51 19.8 -2.1
SPA0	**Spitsbergen Ar**	79.83	12	*e*P	**P**	23 51 24.1 -0.4
ASK	**Askoy**	81.05	30	*e*P	**P**	23 51 31.6 +0.3
BER	**Bergen**	81.14	30	*e*P	**P**	23 51 31.9 +0.1
PMSA	**Palmer Station**	81.39	169	P	**P**	23 51 32.9 0.0
PMSA				IAmb	IAmb	23 51 55.1
	comp=Z,20nm,1.2s					
AKN	**Aaknes**	81.50	28	*e*P	**P**	23 51 34.5 +0.8
BILL	**Bilibino**	81.53	338	*c i* P	**P**	23 51 33.7 -0.1
BILL				*i*		23 51 51.8
BILL				*e*		23 54 39.3
BILL				*e*S	**S**	00 01 39.1 -1.4
BILL				pmax	pmax	
	comp=Z,63nm,1.7s					
BILL				MLR	MLR	
	comp=Z,61nm,22.0s					
MOL	**Molde**	81.65	28	*e*P	**P**	23 51 34.8 +0.3
BJO1	**Bjornoya**	81.78	15	*e*P	**P**	23 51 35.6 +0.6
BLS5	**Blasjo**	81.91	31	*e*P	**P**	23 51 35.7 -0.3
CLF	**Chambon-Foret**	82.06	43	P	**P**	23 51 38.1 +1.2
CLF				IAmb	IAmb	23 52 04.6
	comp=Z,48nm,1.2s					
LOF	**Lofoten**	82.45	21	*e*P	**P**	23 51 39.9 +1.3
DOMB	**Dombas**	82.47	28	*e*P	**P**	23 51 38.0 -0.8
SKAR	**Skarslia**	82.49	29	*e*P	**P**	23 51 39.5 +0.5
KONS	**Konsvik**	82.83	23	*e*P	**P**	23 51 41.4 +0.8
STOK	**Stokkvaagen**	82.84	23	*e*P	**P**	23 51 41.1 +0.5
NSS	**Namsos**	83.00	25	*e*P	**P**	23 51 41.9 +0.4
DOU	**Dourbes**	83.09	40	*dx*	x	23 51 57.6
DOU				*dx*	x	23 52 08.1
STEI	**Steigen**	83.12	21	*e*P	**P**	23 51 42.0 -0.1
BMRD	**Maredsous**	83.15	40	*dx*	x	23 52 08.2
BGES	**Gesves**	83.33	40	*dx*	x	23 51 58.2
BGES				*dx*	x	23 52 09.2
FAUS	**Fauske**	83.33	22	*e*P	**P**	23 51 43.4 +0.2
MOR8	**Moi Rana**	83.44	23	*e*P	**P**	23 51 43.9 +0.1
BCLA	**Clavier**	83.45	40	*dx*	x	23 51 58.9
BCLA				*dx*	x	23 52 09.8
BSTI	**Sart Tilman**	83.58	40	*dx*	x	23 52 01.0
BSTI				*dx*	x	23 52 09.7
TRO	**Tromso**	83.72	19	*e*P	**P**	23 51 45.1 0.0
NB2	**NORSAR Subarra**	83.75	29	P	**P**	23 51 44.4 -1.1
	comp=Z,3.4nm,0.8s,baz=288,slow=5.6					
NB2	**NORSAR Subarra**	83.75	29	P	**P**	23 51 44.4 -1.1
	baz=288,slow=5.6					
NOA	**NORSAR Array B**	83.75	29	P	**P**	23 51 44.6 -0.9
	comp=Z,1.9nm,0.7s,baz=290,slow=5.2,SNR=11					
NOA				pP	**pP**	23 52 01.0 -1.8
	comp=Z,1.2nm,0.7s,baz=290,slow=5.1,SNR=3.9					
NOA				LR	LR	00 27 23.1
	comp=Z,87nm,21.9s,baz=280,slow=34					
MEM	**Membach**	83.84	39	*dx*	x	23 52 01.9
MEM				*dx*	x	23 52 12.0
NC602	**NORSAR Array S**	84.00	29	*e*P	**P**	23 51 47.2 +0.5
KOWA	**Kowa**	84.09	77	P	**P**	23 51 46.2 -1.8
	comp=Z,4.6nm,0.7s,baz=297,slow=5.0,SNR=14					
KOWA	**Kowa**	84.09	77	P	**P**	23 51 47.6 -0.5
WLF	**Walferdange**	84.17	40	*dx*	x	23 52 03.4
WLF				*dx*	x	23 52 13.9
JETT	**Jettan, Norway**	84.22	19	*e*P	**P**	23 51 48.8 +1.1
HAMF	**Hammerfest**	84.74	18	*e*P	**P**	23 51 51.0 +0.7
TIC	**Toumodi**	84.93	84	*e*PKIKP	pP	23 52 10.1 +0.4
TIC	**Toumodi**	84.93	84	*e*P	**P**	23 51 52.3 -0.1
LIC	**Lamto**	85.02	85	*e*PKIKP	pP	23 52 09.8 -0.4
	comp=Z,57nm,1.4s					
LIC	**Lamto**	85.02	85	*e*P	**P**	23 51 51.9 -0.9
	comp=Z,20nm,0.8s					
DBIC	**Dimbokro**	85.08	84	P	**P**	23 51 52.2 -0.9
	comp=Z,3.1nm,0.7s,baz=294,slow=4.4,SNR=6.7					
DBIC				pP	**pP**	23 52 10.4 -0.1
	comp=Z,4.5nm,0.7s,baz=233,slow=6.0,SNR=3.9					
DBIC				LR	LR	00 27 17.8
	comp=Z,60nm,19.9s,baz=327,slow=34					
KIC	**Kosan Boka**	85.27	85	*e*PKIKP	pP	23 52 09.5 -1.9
	comp=Z,12nm,0.8s					
KIC	**Kosan Boka**	85.27	85	*e*P	**P**	23 51 53.6 -0.4
	comp=Z,7.5nm,0.6s					
KTK1	**Kautokeino**	85.37	19	*e*P	**P**	23 51 51.9 -1.6
SENIN	**Lac Senin/Sane**	85.79	43	P	**P**	23 51 55.0 -1.3
ARA0	**ARCESS Array S**	85.82	18	*e*P	**P**	23 51 54.4 -1.3
ARCES	**ARCESS Array B**	85.82	18	P	**P**	23 51 54.3 -1.4
	comp=Z,2.1nm,0.5s,baz=283,slow=4.7,SNR=25					
ARCES				pP	**pP**	23 52 12.4 -0.7
	comp=Z,2.2nm,0.6s,baz=289,slow=4.9,SNR=3.6					
ARCES				LR	LR	00 29 39.7
	comp=Z,196nm,21.7s,baz=285,slow=35					
TUE	**Stuetta**	87.12	43	P	**P**	23 52 01.6 -1.2
TUE				IAmb	IAmb	23 52 22.0
	comp=Z,11nm,0.8s					
DAVA	**Damuels**	87.22	42	*e*P	**P**	23 52 01.7 -1.5
	comp=Z,9.4nm,1.1s					
RETA	**Reutte**	87.73	42	*i* P	**P**	23 52 04.1 -1.5
	comp=Z,6.0nm,1.0s,SNR=5.3					
FETA	**Feichten**	87.86	42	*e*P	**P**	23 52 04.3 -2.0
	comp=Z,5.0nm,1.1s					
CLL	**Collm**	87.86	37	*i* pP	**pP**	23 52 22.2 -1.2
	comp=Z,6.0nm,1.1s					
CLL				*i* sP	sP	23 52 32.8 +2.6
CLL				*i*		23 52 38.7
CLL				*e*S	**SKSac**	00 02 42.0 -2.0
CLL				*e*SSSS		00 15 12.0
CLL	**Collm**

DPC	**Dobruska-Polom**	**90.17**	**38**	*e*P	**P**	**23 52 15.4**	**-1.5**
DPC				*e*		23 52 42.9	
DPC	**Dobruska-Polom**	**90.17**	**38**	*e*P	**P**	**23 52 15.4**	**-1.5**
DPC				*es*P	**sP**	**23 52 42.9**	**+1.7**
TIXI	**Tiksi**	**90.23**	**348**	*c i*P	**P**	**23 52 16.8**	**+0.1**
TIXI	**Tiksi**	**90.23**	**348**	P	**P**	**23 52 17.0**	**+0.3**
TIXI				IAmb	IAmb	23 52 17.6	
	comp=Z,9.7nm,0.7s						
KEST	**Kesra**	**90.36**	**53**	P	**P**	**23 52 15.7**	**-2.4**
	comp=Z,2.4nm,0.6s,baz=227,slow=5.2,SNR=5.7						
KEST				LR	LR	00 26 41.0	
	comp=Z,69nm,21.9s,baz=262,slow=32						
CONA	**Conrad Observa**	**90.81**	**40**	*e*P	**P**	**23 52 19.7**	**-0.3**
	comp=Z,3.3nm,1.7s						
PEA0B	**Petropavlovsk-**	**90.84**	**326**	*d i*P	**P**	**23 52 20.0**	**+0.1**
PETK	**Petropavlovsk-**	**90.84**	**326**	P	**P**	**23 52 20.4**	**+0.4**
	comp=Z,12nm,1.0s,baz=104,slow=6.3,SNR=12						
PETK				pP	**pP**	**23 52 38.1**	**+0.7**
	comp=Z,14nm,0.8s,baz=103,slow=6.5,SNR=11						
PETK				LR	LR	00 34 23.7	
	comp=Z,83nm,18.8s,baz=58,slow=36						
PETK	**Petropavlovsk-**	**90.84**	**326**	P	**P**	**23 52 19.9**	**0.0**
MA2	**Magadan**	**91.22**	**333**	P	**P**	**23 52 22.0**	**+0.5**
	comp=Z,20nm,0.8s,baz=66,slow=7.6,SNR=7.1						
MNK	**Minsk**	**94.57**	**31**	*i* P	**P**	**23 52 34.7**	**-2.4**
MNK				*i*		23 56 21.8	
MNK				*i* S	**SKSac**	**00 03 06.1**	**-0.9**
MNK				*i*		00 03 44.1	
MNK				*i* SS	**SS**	**00 10 06.3**	**-1.5**
MNK				*i* SSS	SSS	00 13 48.3	
MNK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,8.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,2.0nm,1.1s						
MNK				MLR	MLR		
	comp=E,5.0nm,18.0s						
MNK				MLR	MLR		
	comp=Z,63nm,19.0s						
MNK				MLR	MLR		
	comp=N,60nm,23.0s						
MNK	**Minsk**	**94.57**	**31**	*i* P	**P**	**23 52 34.8**	**-2.3**
	comp=E,2.0nm,1.1s						
MNK				*i* P	**P**	**23 52 34.8**	**-2.3**
	comp=N,8.0nm,0.9s						
MNK				*i* P	**P**	**23 52 34.8**	**-2.3**
	comp=Z,8.0nm,0.9s,baz=302						
MNK				*i* pP	**pP**	**23 52 47.1**	**-7.5**
MNK				*i* PP	**PP**	**23 56 21.8**	**-3.2**
MNK				*i* PPP	PPP	23 58 23.1	
MNK				*i* S	**SKSac**	**00 03 06.1**	**-0.9**
MNK				*i* sS	**SKKSac**	**00 03 27.9**	**-0.9**
MNK				*i* ScS	**S**	**00 03 44.1**	**-0.7**
MNK				*i* SS	**SS**	**00 10 06.4**	**-1.5**
MNK				*i* SSS	SSS	00 13 48.4	
MNK				*i* LQ	LQ	00 29 06.2	
MNK				*i* LR	LR	00 34 05.4	
MNK				*i* LRM	MLR	00 35 57.7	
	comp=E,5.0nm,18.1s						
MNK				*i* LRM	MLR	00 35 57.7	
	comp=Z,63nm,18.8s						
MNK				*i* LRM	MLR	00 36 25.1	
	comp=N,60nm,23.1s						
KLMR	**Klimovskoe**	**95.70**	**22**	*e*P	**P**	**23 52 38.5**	**-3.6**
KLMR				*e**PP	**pP**	**23 53 01.4**	**+1.7**
KLMR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KLMR	**Klimovskoe**	**95.70**	**22**	*e*P	**P**	**23 52 38.6**	**-3.6**
KLMR				AMP		23 52 42.0	
	comp=Z,6.0nm,1.3s						
KLMR				*e*pP	**pP**	**23 53 01.4**	**+1.7**
NRIK	**Noril'sk**	**96.73**	**0**	LR	LR	00 39 50.8	
	comp=Z,273nm,20.6s,baz=6.5,slow=38						
AKASG	**Malin Array Be**	**97.30**	**33**	LR	LR	00 39 49.3	
	comp=Z,30nm,18.1s,baz=300,slow=37						
DZM	**Mont Dzumac**	**106.25**	**251**	*e*LR	LR	00 28 31.8	
	comp=Z,243nm,23.4s						
NVL	**N'lazarevskaya**	**107.63**	**160**	*e*P	**Pdif**	**23 53 29.0**	**-6.0**
NVL				pmax	pmax		
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**112.10**	**2**	PKiKP	**PKiKP**	**23 57 50.5**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=318,slow=2.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**112.10**	**2**		**PKiKP**	**23 57 50.3**	**-1.3**
ULN	**Ulaanbaatar**	**116.10**	**346**	⇑*i*PKIKP	**PKiKP**	**23 57 59.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
SONM	**Songino Array**	**116.28**	**347**	PKP	**PKiKP**	**23 57 58.0**	**-2.0**
	comp=Z,1.0nm,0.6s,baz=260,slow=0.6,SNR=6.8						
SONM				pPKP	pPKPdf	23 58 18.2	0.0
	comp=Z,0.9nm,0.8s,baz=304,slow=0.6,SNR=3.6						
SONM				SKP		00 01 32.7	
	comp=Z,1.4nm,0.9s,baz=17,slow=2.1,SNR=4.9						
SONM				PKKPbc	**PKKPbc**	**00 08 28.0**	**-2.8**
	comp=Z,1.9nm,0.9s,baz=188,slow=3.5,SNR=6.4						
DGZ	**Jazzator, Alta**	**116.42**	**1**	⇓*i*PKIKP	**PKiKP**	**23 57 59.7**	**-0.6**
KSRS	**Korea Array**	**116.74**	**326**	PKP	**PKPdf**	**23 58 00.4**	**-0.6**
	comp=Z,4.3nm,1.0s,baz=4.8,slow=1.0,SNR=12						
KSRS				pPKP	pPKPdf	23 58 19.5	+0.4
	comp=Z,3.1nm,0.7s,baz=19,slow=1.4,SNR=5.7						
KSAR	**Wonju Array Be**	**116.77**	**326**	PKIKP	**PKPdf**	**23 58 00.2**	**-0.9**
KSAR	**Wonju Array Be**	**116.77**	**326**	PKPdf	**PKPdf**	**23 58 00.2**	**-0.9**
SYO	**Syowa Base**	**117.13**	**162**	⇑*e*Pdiff	**Pdif**	**23 54 15.5**	**-1.8**
MK31	**Makanchi Array**	**119.08**	**5**	PKIKP	**PKPdf**	**23 58 04.3**	**-1.0**
MK31	**Makanchi Array**	**119.08**	**5**	PKPdf	**PKPdf**	**23 58 04.3**	**-1.0**
MKAR	**Makanchi Array**	**119.08**	**5**	PKP	**PKPdf**	**23 58 04.2**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=11,slow=2.2,SNR=29						
MKAR				pPKP	**pPKPdf**	**23 58 22.0**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=351,slow=1.8,SNR=6.8						
MKAR				SKP		00 01 38.0	
	comp=Z,1.8nm,1.1s,baz=255,slow=2.8,SNR=3.9						
MKAR	**Makanchi Array**	**119.08**	**5**	PKPdf	**PKPdf**	**23 58 04.0**	**-1.3**
BOSA	**Boshof**	**119.91**	**115**	PKP	**PKPdf**	**23 58 06.1**	**-1.4**
	comp=Z,13nm,0.8s,baz=284,slow=2.4,SNR=17						
BOSA				pPKP	**pPKPdf**	**23 58 25.9**	**+0.3**
	comp=Z,19nm,0.9s,baz=174,slow=5.0,SNR=7.5						
GEYT	**Alibeck**	**120.83**	**28**	PKP	**PKPdf**	**23 58 08.3**	**-0.7**
	comp=Z,14nm,0.7s,baz=313,slow=3.7,SNR=11						
MBAR	**Mbarara**	**121.26**	**82**	*c i*PKIKP	**PKiKP**	**23 58 11.5**	**+0.8**
MBAR	**Mbarara**	**121.26**	**82**		**PKiKP**	**23 58 11.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**121.28**	**340**	*e*PKP	**PKiKP**	**23 58 14.5**	**+4.5**
USP	**Ospenovka**	**121.43**	**12**	P	**PKiKP**	**23 58 10.2**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**121.86**	**13**	P	**PKiKP**	**23 58 11.7**	**+0.6**
	SNR=7.0						
TKM2	**Tokmak 2**	**121.98**	**11**	P	**PKiKP**	**23 58 11.4**	**0.0**
	SNR=11						
WMQ	**Urumqi**	**122.31**	**1**	*e*PKP	**PKiKP**	**23 58 14.0**	**+2.2**
AML	**Almayashu**	**122.35**	**13**	P	**PKiKP**	**23 58 13.0**	**+0.6**
	SNR=11						
UCH	**Uchtor**	**122.43**	**12**	P	**PKiKP**	**23 58 13.3**	**+0.7**
	SNR=13						
BOOM	**Boomskoye usch**	**122.46**	**11**	PKIKP	**PKiKP**	**23 58 12.5**	**+0.2**
BOOM	**Boomskoye usch**	**122.46**	**11**	PKPdf	**PKiKP**	**23 58 12.5**	**+0.2**
KZA	**Kyzart**	**122.72**	**12**	P	**PKiKP**	**23 58 13.4**	**+0.3**
	SNR=6.3						
ULHL	**Ulahol**	**122.75**	**11**	P	**PKiKP**	**23 58 13.5**	**+0.6**
	SNR=12						
BTK	**Batken**	**123.60**	**16**	PKIKP	**PKPdf**	**23 58 13.8**	**-0.5**
BTK	**Batken**	**123.60**	**16**	PKPdf	**PKPdf**	**23 58 13.8**	**-0.5**
MAW	**Mawson**	**124.00**	**168**	PKP	**PKPdf**	**23 58 13.8**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=59,slow=12,SNR=2.8						
MAW				pPKP	**pPKPdf**	**23 58 32.3**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=250,slow=5.6,SNR=4.1						
CHGR	**Chuyangaron**	**124.42**	**18**	PKPdf	**PKiKP**	**23 58 16.1**	**-0.1**
LODK	**Lodwar**	**124.43**	**76**	PKPdf	**PKiKP**	**23 58 16.7**	**-0.1**
GAR	**Garm**	**124.44**	**17**	PKPdf	**PKiKP**	**23 58 16.4**	**+0.1**
HRA	**Herat**	**125.62**	**27**	PKPdf	**PKPdf**	**23 58 18.2**	**-0.2**
NJ2	**Nanjing**	**125.67**	**328**	*e*PKP	**PKPdf**	**23 58 17.8**	**-0.5**
GTA	**Gaotai**	**125.70**	**349**	PKP	**PKPdf**	**23 58 18.5**	**+0.1**
GTA				LR	LR		
	comp=Z,110nm,19.1s						
GTA				LR	LR		
	comp=Z,310nm,17.9s						
GTA				LR	LR		
	comp=Z,290nm,19.1s						
KMBO	**Kilima Mbogo**	**127.65**	**80**	PKP	**PKiKP**	**23 58 23.8**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=297,slow=1.6,SNR=4.6						
KMBO				pPKP	**pPKPdf**	**23 58 41.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=43,slow=23,SNR=2.1						
LZH	**Lanzhou**	**128.00**	**344**	*e*PKP	**PKPdf**	**23 58 23.0**	**+0.1**
LZH				sPKP		23 58 44.5	
LZH				LR	LR		
	comp=Z,190nm,17.9s						
LZH				LR	LR		
	comp=Z,170nm,19.7s						
KBL	**Kabul**	**128.14**	**21**	PKIKP	**PKPdf**	**23 58 23.2**	**-0.1**
KBL	**Kabul**	**128.14**	**21**	PKPdf	**PKPdf**	**23 58 23.2**	**-0.1**
STKA	**Stephens Creek**	**128.62**	**240**	PKP	**PKPdf**	**23 58 23.6**	**-0.3**
	comp=Z,9.6nm,0.8s,baz=82,slow=2.4,SNR=12						
STKA				pPKP	**pPKPdf**	**23 58 41.4**	**-0.7**
	comp=Z,9.5nm,1.0s,baz=307,slow=3.4,SNR=4.9						
STKA	**Stephens Creek**	**128.62**	**240**	PKPdf	**PKPdf**	**23 58 23.7**	**-0.2**
KIBK	**Kibwezi**	**128.75**	**82**	PKPdf	**PKiKP**	**23 58 25.7**	**+0.3**
WHN	**Wuhan**	**129.11**	**331**	⇑PKP	**PKPdf**	**23 58 25.0**	**+0.1**
SSLB	**Suanglung**	**130.77**	**320**	PKPdf	**PKiKP**	**23 58 29.0**	**-0.2**
WB2	**Warramunga Arr**	**135.96**	**256**	PKPdf	**PKPdf**	**23 58 37.8**	**-0.2**
WRAB	**Tennant Creek**	**135.96**	**256**	PKIKP	**PKPdf**	**23 58 37.9**	**-0.2**
WRAB	**Tennant Creek**	**135.96**	**256**		**PKPdf**	**23 58 37.9**	**-0.2**
GYA	**Guiyang**	**135.97**	**336**	⇓PKP	**PKiKP**	**23 58 39.5**	**-0.3**
WRA	**Warramunga Arr**	**135.97**	**256**	PKhKP	PKPpre	23 58 29.4	
	comp=Z,1.0nm,0.8s,baz=77,slow=0.8,SNR=6.3						
WRA				PKP	**PKPdf**	**23 58 37.3**	**-0.9**
	comp=Z,6.2nm,0.8s,baz=87,slow=1.9,SNR=21						
WRA				pPKP	pPKPdf	23 58 55.5	-0.7
	comp=Z,2.7nm,0.7s,baz=85,slow=1.7,SNR=3.6						
WRA				SKPab	**SKiKP**	**00 02 15.2**	**+4.5**
	comp=Z,4.9nm,0.8s,baz=87,slow=1.9,SNR=15						
WRA				SKKPbc	**SKKPbc**	**00 11 08.6**	**+4.9**
	comp=Z,0.6nm,0.7s,baz=293,slow=2.9,SNR=5.0						
WRA	**Warramunga Arr**	**135.97**	**256**		PKPpre	23 58 32.6	
WRA				PKPdf	**PKPdf**	**23 58 37.7**	**-0.4**
WRA					**SKiKP**	**00 02 14.5**	**+3.8**
ASAR	**Alice Springs**	**136.24**	**251**	PKhKP	PKPpre	23 58 27.8	
	comp=Z,1.4nm,0.7s,baz=106,slow=3.5,SNR=9.6						
ASAR				PKP	**PKPdf**	**23 58 38.0**	**-0.6**
	comp=Z,5.0nm,0.9s,baz=103,slow=2.0,SNR=19						
ASAR				pPKP	pPKPdf	23 58 56.7	0.0
	comp=Z,4.8nm,0.9s,baz=111,slow=2.1,SNR=6.1						
ASAR				SKPab	**SKiKP**	**00 02 15.4**	**+4.2**
	comp=Z,2.5nm,0.7s,baz=98,slow=2.4,SNR=11						
ASAR				SKKPbc	**SKKPbc**	**00 11 05.8**	**+2.9**
	comp=Z,0.9nm,0.7s,baz=290,slow=4.3,SNR=7.2						
ASAR	**Alice Springs**	**136.24**	**251**	PKPdf	**PKPdf**	**23 58 37.7**	**-0.9**
KMI	**Kunming**	**138.60**	**340**	PKP	**PKPdf**	**23 58 43.3**	**+0.1**
KMI				sPKP		23 59 11.8	
KMI				AMB	AMB		
	comp=Z,100nm,4.8s						
KMI				LR	LR		
	comp=Z,140nm,20.0s						
KMI				LR	LR		
	comp=Z,70nm,19.7s						
KMI				LR	LR		
	comp=Z,190nm,24.8s						
SHL	**Shillong**	**140.40**	**355**	PKIKP	**PKPdf**	**23 58 45.9**	**-0.5**
SHL	**Shillong**	**140.40**	**355**	PKPdf	**PKPdf**	**23 58 45.9**	**-0.5**
TOLI2	**Tolitoli**	**144.69**	**293**	PKPdf	**PKPab**	**23 58 52.1**	**-0.7**
SOEI	**Soe**	**144.84**	**273**	PKPdf	**PKPdf**	**23 58 54.3**	**-0.1**
CM34	**Chiang Mai Arr**	**145.59**	**342**	P	**PKPdf**	**23 58 54.0**	**-1.5**
CM33	**Chiang Mai Arr**	**145.59**	**342**	P	**PKPdf**	**23 58 54.0**	**-1.6**
CHTO	**Chiang Mai**	**145.69**	**342**	PKP	**PKPdf**	**23 58 55.0**	**-0.6**
CMMT	**Chiang Mai**	**145.69**	**342**	PKP	**PKPdf**	**23 58 55.0**	**-0.6**
CMMT	**Chiang Mai**	**145.69**	**342**	P	**PKPdf**	**23 58 55.1**	**-0.6**
	comp=Z,926nmcomp=Z,86nm,1.1s						
CM35	**Chiang Mai Arr**	**145.76**	**342**	P	**PKPdf**	**23 58 55.0**	**-0.8**
LAMP	**Lampang**	**145.76**	**341**	P	**PKPdf**	**23 58 56.0**	**+0.2**
	comp=Z,320nmcomp=Z,42nm,0.8s						
CM32	**Chiang Mai Arr**	**145.87**	**342**	P	**PKPdf**	**23 58 56.0**	**0.0**
CM36	**Chiang Mai Arr**	**145.93**	**342**	P	**PKPdf**	**23 58 56.0**	**0.0**
CM09	**Chiang Mai Arr**	**146.03**	**342**	P	**PKPbc**	**23 58 56.9**	**-0.1**
	comp=Z,1μmcomp=Z,126nm,1.0s						
CM31	**Chiang Mai Arr**	**146.03**	**342**	P	**PKPbc**	**23 58 56.7**	**-0.3**
	comp=Z,29μmcomp=Z,3μm,0.9s						
CM31	**Chiang Mai Arr**	**146.03**	**342**		**PKPbc**	**23 58 57.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**146.03**	**342**	PKPbc	**PKPdf**	**23 58 56.6**	**+0.4**
	comp=Z,70nm,0.8s,baz=337,slow=3.7,SNR=274						
CMAR				pPKPbc	pPKPbc	23 59 14.9	-0.1
	comp=Z,42nm,0.7s,baz=337,slow=3.3,SNR=11						
CMAR				SKPbc	**SKiKP**	**00 02 33.5**	**+2.0**
	comp=Z,5.0nm,0.9s,baz=329,slow=2.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	**146.03**	**342**		**PKPdf**	**23 58 56.3**	**0.0**
CM15	**Chiang Mai Arr**	**146.04**	**342**	P	**PKPbc**	**23 58 56.8**	**-0.3**
	comp=Z,855nmcomp=Z,110nm,0.9s						
CM02	**Chiang Mai Arr**	**146.05**	**342**	P	**PKPbc**	**23 58 56.8**	**-0.3**
	comp=Z,915nmcomp=Z,123nm,1.0s						
CM01	**Chiang Mai Arr**	**146.06**	**342**	P	**PKPdf**	**23 58 56.0**	**-0.3**
	comp=Z,862nmcomp=Z,111nm,0.9s						
CM04	**Chiang Mai Arr**	**146.07**	**342**	PKP	**PKPbc**	**23 58 56.9**	**-0.3**
CM04	**Chiang Mai Arr**	**146.07**	**342**	P	**PKPbc**	**23 58 57.0**	**-0.3**
	comp=Z,873nmcomp=Z,115nm,1.0s						
CM13	**Chiang Mai Arr**	**146.07**	**342**	PKP	**PKPbc**	**23 58 56.8**	**-0.4**
CM13	**Chiang Mai Arr**	**146.07**	**342**	P	**PKPdf**	**23 58 56.0**	**-0.3**
	comp=Z,773nmcomp=Z,105nm,0.9s						
CM05	**Chiang Mai Arr**	**146.08**	**342**	PKP	**PKPbc**	**23 58 56.8**	**-0.4**
CM05	**Chiang Mai Arr**	**146.08**	**342**	P	**PKPbc**	**23 58 56.9**	**-0.4**
	comp=Z,695nmcomp=Z,90nm,1.0s						
LOEI	**Loei**	**146.14**	**338**	P	PKPdf	23 58 46.6	-10
	comp=Z,116nm,1.2s						
UTTA	**Uttaradit**	**146.18**	**339**	PKP	**PKPdf**	**23 58 56.9**	**+0.5**
UTTA	**Uttaradit**	**146.18**	**339**	P	**PKPdf**	**23 58 57.0**	**+0.5**
	comp=Z,325nmcomp=Z,43nm,0.9s						
MHMT	**Maesarieng**	**146.58**	**344**	PKP	**PKPbc**	**23 58 58.4**	**-0.3**
PHIT	**Phitsanulok**	**146.74**	**339**	P	**PKPbc**	**23 58 58.8**	**-0.3**
	comp=Z,1μmcomp=Z,179nm,0.9s						
HYB	**Hyderabad**	**147.11**	**18**	*i* PKP	**PKPdf**	**23 58 56.0**	**-2.1**
PBKT	**Sadao Pong**	**147.12**	**338**	P	**PKPab**	**23 59 02.1**	**+0.3**
	comp=Z,36nm,0.9s						
PBKT	**Sadao Pong**	**147.12**	**338**		**PKPab**	**23 59 01.1**	**-0.7**
CHAI	**Chaiyaphum**	**147.33**	**336**	PKP	**PKPbc**	**23 59 00.4**	**-0.4**
CHAI	**Chaiyaphum**	**147.33**	**336**	P	**PKPbc**	**23 59 00.0**	**-0.8**
	comp=Z,142nmcomp=Z,20nm,0.8s						
KAPI	**Kappang**	**147.99**	**283**	PKP2	**PKPbc**	**23 59 02.5**	**-0.2**
KAPI	**Kappang**	**147.99**	**283**		**PKPbc**	**23 59 02.5**	**-0.2**
UMPA	**Umpang Tak**	**148.18**	**341**	PKP	**PKPbc**	**23 59 03.9**	**+0.8**
PSA00	**Pilbara Seismi**	**149.38**	**252**		**PKPbc**	**23 59 05.1**	**-1.0**
PSA00	**Pilbara Seismi**	**149.38**	**252**	PKPdf	**PKPdf**	**23 59 01.2**	**-0.4**
PSA00				PKPbc	**PKPbc**	**23 59 04.9**	**-1.1**
PATY	**Pattaya**	**150.48**	**335**	P	PKPab	23 59 28.3	+13
MORW	**Morawa**	**150.56**	**235**		**PKPbc**	**23 59 07.8**	**-1.0**
PHET	**Kaeng Krachan**	**150.97**	**337**	PKP	**PKiKP**	**23 59 10.7**	**0.0**
PSI	**Prapat**	**160.28**	**328**	PKIKP	**PKPdf**	**23 59 16.5**	**-0.5**
RPSI	**Rantau Prapat**	**160.37**	**328**	PKPdf	**PKPdf**	**23 59 16.5**	**-0.4**
RPSI				pPKPdf	**pPKPdf**	**23 59 34.4**	**-0.7**
RPSI				PKPab	**PKPab**	**23 59 57.0**	**-0.7**
GSI	**Gunungsitoli**	**162.25**	**329**	PKPdf	**PKPdf**	**23 59 18.5**	**-0.4**
GSI				pPKPdf	**pPKPdf**	**23 59 37.6**	**+0.5**
GSI					**PKPab**	**00 00 05.6**	**-0.3**

IDC ***31*** *23:44:24.3±3.4, 36°.26N×139°.95E, h79km±24km, mb3.3/3, mb1 3.4/5, mb1mx3. 1/36, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.1/27 Error ellipse: s-maj=45.2km s-min=9.8km az=61.0*

JMA ***31*** *23:44:24.4, 36°.31N×140°.02E, h72km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs189.00000°, δ28.00000°, λ102.00000°. NP2: φs355.00000°, δ62.00000°, λ83.00000°. Principal axes: T Plg72.0000°, Azm250.0000°; N Plg6.0000°, Azm358.0000°; P Plg17.0000°, Azm90.0000°;*

JMA Felt I J1.

ISC 31 23:44:24.0±1.0, 36°.29N±0°.04×140°.03E±0°.05, h77km±7km, n24, σ0s57/30, mb3.7/3, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.15**	**116**	⇑P	**Pn**	**23 44 35.3**	**+0.1**
JYT				S	**Sn**	**23 44 43.3**	**-0.2**
JAG	**Ashikaga**	**0.48**	**286**	⇓P	**Pn**	**23 44 37.2**	**-0.1**
JAG				S	**Sn**	**23 44 46.6**	**-0.5**
JKT	**Katashina**	**0.79**	**307**	⇓P	**Pn**	**23 44 40.5**	**+0.1**
JKT				S	**Sn**	**23 44 52.8**	**+0.1**
JRY	**Ryogami san**	**0.95**	**253**	⇓P	**Pn**	**23 44 42.6**	**+0.3**
JRY				S	**Sn**	**23 44 56.1**	**+0.2**
JFY	**Yanaizu**	**1.14**	**347**	P	**Pn**	**23 44 44.8**	**+0.2**
JFT	**Otama**	**1.25**	**11**	P	**Pn**	**23 44 46.4**	**+0.4**
JFT				S	**Sn**	**23 45 02.6**	**+0.1**
JFK	**Kawauchi**	**1.27**	**32**	⇑P	**Pn**	**23 44 46.2**	**0.0**
JFK				S	**Sn**	**23 45 02.9**	**-0.1**
JOD2	**Odawara 2**	**1.28**	**217**	⇓P	**Pn**	**23 44 46.6**	**+0.2**
JOD2				S	**Sn**	**23 45 02.6**	**-0.6**
JYN	**Shimob**	**1.44**	**237**	⇓P	**Pn**	**23 44 49.4**	**+0.9**
MJAR	**Matsushiro Arr**	**1.49**	**280**	P	**Pn**	**23 44 48.6**	**-0.4**
	4.6nm,0.3s,baz=87,slow=13,SNR=155						
MJAR				S	**Sn**	**23 45 06.1**	**-1.8**
	2.5nm,0.3s,baz=100,slow=15,SNR=3.8						
MAT	**Matsushiro**	**1.49**	**280**	P	**Pn**	**23 44 49.4**	**+0.4**
MAT				S	**Sn**	**23 45 08.1**	**+0.1**
MAT	**Matsushiro**	**1.49**	**280**	P	**Pn**	**23 44 49.6**	**+0.6**
MAT				*e*S	**Sn**	**23 45 08.2**	**+0.2**
JFNN	**Fujinakano**	**1.55**	**225**	P	**Pn**	**23 44 50.4**	**+0.6**
JFNN				S	**Sn**	**23 45 09.4**	**+0.1**
JHJ	**Hachijo jima 2**	**3.17**	**184**	P	**Pn**	**23 45 11.7**	**+0.1**
	17nm,0.3s,baz=322,slow=22,SNR=10						
JHJ				S	**Sn**	**23 45 48.2**	**-0.2**
	16nm,0.3s,baz=45,slow=22,SNR=7.4						
KSRS	**Korea Array**	**9.77**	**280**	P	**Pn**	**23 46 43.0**	**+1.5**
	0.3nm,0.3s,baz=90,slow=14,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.76**	**118**	T	T	00 20 23.0	
	baz=312,slow=74,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**28.77**	**118**	T	T	00 20 24.5	
	baz=312,slow=74,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**28.78**	**118**	T	T	00 20 27.3	
	baz=312,slow=74,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**29.43**	**120**	T	T	00 21 09.7	
	baz=314,slow=75,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**29.43**	**120**	T	T	00 21 19.1	
	baz=314,slow=75,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**29.44**	**120**	T	T	00 21 18.6	
	baz=314,slow=75,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.60**	**313**	P	**P**	**23 52 03.9**	**-0.1**
	0.6nm,0.5s,baz=94,slow=7.8,SNR=2.6						
ZALV				LR	LR	00 08 28.2	
	comp=Z,26nm,19.7s,baz=142,slow=35						
MKAR	**Makanchi Array**	**43.57**	**303**	P	**P**	**23 52 19.9**	**-0.2**
	0.7nm,0.8s,baz=92,slow=7.2,SNR=5.4						
WRA	**Warramunga Arr**	**56.19**	**186**	P	**P**	**23 53 55.5**	**-0.4**
	0.4nm,0.5s,baz=1.3,slow=7.5,SNR=9.8						

GCG ***31*** *23:52:13.8±0.3, 13°.87N×91°.56W, h19km±3km, MD3.8*
SNET ***31*** *23:52:15.0±0.9, 14°.08N×91°.34W, h10km±9km, ML2.6*

ISC 31 23:52:12.9±3.8, 13°.9N±0°.2×91°.7W±0°.1, h32km±17km, n10, σ0s70/15, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.63**	**356**	*e*P	**Pn**	**23 52 25.9**	**+0.3**
RTAL				*e*S	**Sn**	**23 52 34.3**	**-0.1**
FUG	**Fuego 3**	**0.95**	**55**	*e*P	**Pn**	**23 52 30.8**	**+0.6**
PCG	**Pacaya**	**1.12**	**64**	*e*P	**Pb**	**23 52 33.6**	**-0.3**
NBG	**Las Nubes**	**1.44**	**61**	*e*P	**Pb**	**23 52 38.7**	**-0.5**
NBG				*e*S	**Sb**	**23 52 58.1**	**+0.9**
NUBE	**Las Nubes**	**1.81**	**90**	*e*P	**Pn**	**23 52 41.9**	**-0.1**
NUBE				*e*S	**Sn**	**23 53 02.8**	**-1.1**
NUBE				IAML		23 53 08.7	
	comp=Z,107nm,0.2s						
RTR	**El Retiro**	**1.94**	**90**	*e*P	**Pn**	**23 52 44.8**	**+1.0**
RTR				*e*S	**Sn**	**23 53 07.6**	**+0.4**
SBLS	**San Blas**	**1.96**	**91**	*e*P	**Pn**	**23 52 44.7**	**+0.6**
SBLS				*e*S	**Sn**	**23 53 07.6**	**-0.2**
SNJE	**San Jose**	**1.98**	**91**	*e*P	**Pn**	**23 52 45.1**	**+

ISC Computed Locations for July 2015

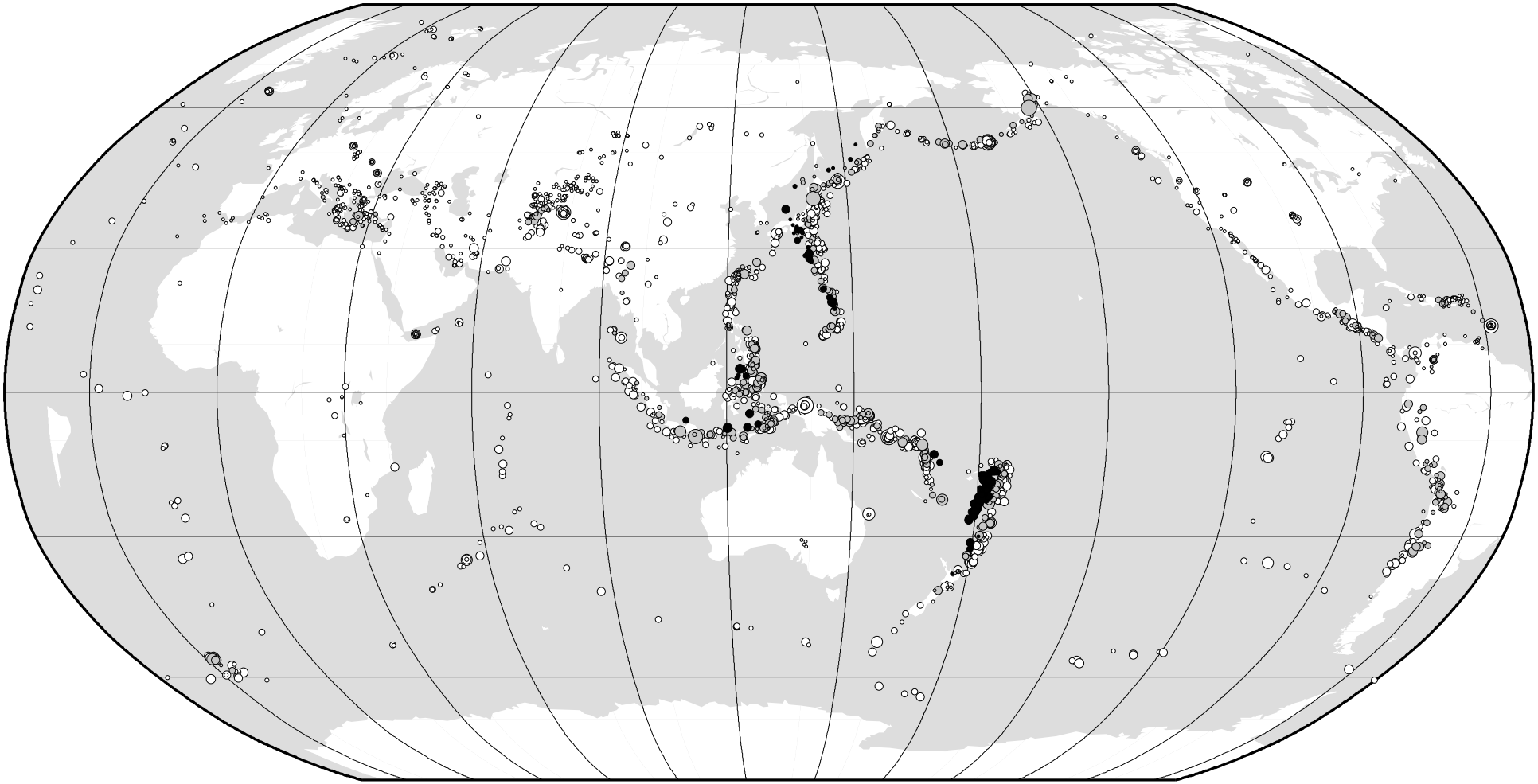

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2986 Events